Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*NEIC **01** 00:01:27.8±2.5, 57°.4S±0°.1×147°.5W±0°.2, h10km±1km, mb4.8/20, Error ellipse: s-maj=22.4km s-min=18.4km az=18.0*
*IDC **01** 00:01:29.2±1.0, 57°.61S×147°.59W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/34, mbtmp3.9/4, MS4.1/15, Ms1 4.0/15, ms1mx4.0/20, Error ellipse: s-maj=45.7km s-min=29.0km az=13.0*
*GCMT **01** 00:01:32.8±0.3, 57°.71S±0°.03×147°.76W±0°.03, h20km±2km, MW4.9/71, Moment Tensor Solution. s27,c29; s71,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.01±.16; $M_{\theta\theta}$1.87±.14; $M_{\phi\phi}$-1.88±.12; $M_{r\theta}$-0.47±.29; $M_{\theta\phi}$1.81±.11; $M_{\phi r}$-0.34±.21; Best double couple: $M_0$2.66800×10^{16} NP1:ϕ_s294.00000°, δ80.00000°, λ6.00000°. NP2: ϕ_s202.00000°, δ84.00000°, λ170.00000°. Principal axes: T 2.7170, Plg12.0000°, Azm158.0000°; N -0.1010, Plg78.0000°, Azm353.0000°; P -2.6180, Plg3.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 00:01:28.0±0.5**, 57°.4S**±0°.1×**147°.58W**±0°.09**, h10**km**, n60, σ1s.55**/30**, mb4.7**/14**, MS4.2**/18**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	26.48	202	LR	LR	00 15 13.5	
	comp=Z,270nm,18.3s,baz=75,slow=31						
VNDA	Vanda	26.48	202	P	P	00 07 02.5	-2.2
KHZ	Kahutara	28.69	284	P	P	00 07 25.1	+0.2
KHZ				IAmb	IAmb	00 07 28.6	
	comp=Z,12nm,1.0s						
RPZ	Rata Peaks	29.11	280	LR	LR	00 17 06.2	
	comp=Z,462nm,18.1s,baz=130,slow=32						
PYZ	Puysegur Point	29.87	272	P	P	00 07 34.7	-0.6
QSPA	South Pole Qui	32.79	180	P	P	00 08 01.3	+0.2
	comp=Z,1.2nm,0.7s,baz=104,slow=1.9,SNR=6.8						
QSPA	South Pole Qui	32.79	180	IAmb	IAmb	00 08 04.2	
	comp=Z,2.6nm,0.9s						
TBI	Tubuai	34.00	357	eLR	LR	00 17 07.8	
	comp=Z,646nm,29.0s						
TBI	Tubuai	34.00	357	eT	T	00 44 11.9	
	comp=Z,11nm,0.3s						
RAR	Rarotonga	37.19	341	P	P	00 08 39.5	+0.4
RAR				IAmb	IAmb	00 08 56.5	
	comp=Z,39nm,1.1s						
TVO	Taravao	39.53	357	eT	T	00 51 03.7	
	comp=Z,2.7nm,0.4s						
PPT2	Papeete2	39.73	357	eLR	LR	00 19 47.6	
	comp=Z,612nm,25.0s						
PPT	Papeete	39.75	357	LR	LR	00 21 04.2	
	comp=Z,174nm,20.8s,baz=166,slow=29						
RPN	Rapa Nui	40.49	58	LR	LR	00 22 14.0	
	comp=Z,145nm,20.5s,baz=220,slow=31						
MG01	Puerto William	42.19	122	P	P	00 09 18.4	-2.0
MG01				IAmb	IAmb	00 09 22.9	
	comp=Z,21nm,0.9s						
TAU	Tasmania Unive	42.46	261	P	P	00 09 22.6	-0.1
TAU				IAmb	IAmb	00 09 37.2	
	comp=Z,24nm,0.9s						
TAOE	Nuku Hiva Isla	48.73	10	eS	S	00 17 13.2	-2.0
	comp=Z,116nm,27.5s						
TAOE				eLR	LR	00 24 03.9	
	comp=Z,331nm,27.1s						
SNAA	Sanae	48.92	166	P	P	00 10 14.2	+0.6
PLCA	Paso Flores	50.30	106	LR	LR	00 26 37.7	
	comp=Z,120nm,19.0s,baz=215,slow=30						
H03S2	Juan Fernandez	50.95	93	T	T	01 05 41.9	
	baz=218,slow=74,SNR=31						
H03S1	Juan Fernandez	50.96	93	T	T	01 05 38.8	
	baz=218,slow=74,SNR=30						
H03S3	Juan Fernandez	50.97	93	T	T	01 05 36.9	
	baz=218,slow=74,SNR=30						
H03N3	Juan Fernandez	51.24	93	T	T	01 06 01.6	
	baz=221,slow=72,SNR=92						
H03N2	Juan Fernandez	51.25	93	T	T	01 05 51.1	
	baz=221,slow=72,SNR=107						
H03N1	Juan Fernandez	51.26	93	T	T	01 06 00.9	
	baz=221,slow=72,SNR=85						
MAW	Mawson	53.33	194	LR	LR	00 30 56.3	
	comp=Z,235nm,18.5s,baz=56,slow=33						
STKA	Stephens Creek	53.62	266	LR	LR	00 31 11.7	
	comp=Z,223nm,18.1s,baz=192,slow=33						
MT05	Renca	55.70	100	P	P	00 11 04.9	+0.5
CO03	El Pedregal	57.70	98	P	P	00 11 17.5	-1.1
CO03				IAmb	IAmb	00 11 21.8	
	comp=Z,14nm,1.1s						
CO01	Juntas del Tor	58.69	97	P	P	00 11 24.9	-0.9
CTAO	Charters Tower	60.48	279	P	P	00 11 35.8	-2.1
CTAO				IAmb	IAmb	00 11 45.5	
	comp=Z,8.7nm,1.1s						
FORT	Forrest	61.72	257	P	P	00 11 44.3	-2.0
ASAR	Alice Springs	64.25	266	P	P	00 12 05.6	+2.4
	comp=Z,0.9nm,0.8s,baz=141,slow=6.0,SNR=5.1						
H01W1	Cape Leeuwin H	65.51	243	T	T	01 23 53.1	
	baz=143,slow=76,SNR=12						
H01W2	Cape Leeuwin H	65.52	243	T	T	01 23 51.6	
	baz=143,slow=76,SNR=10						
H01W3	Cape Leeuwin H	65.53	243	T	T	01 23 55.5	
	baz=143,slow=76,SNR=11						
NWAO	Narrogin (SRO)	65.58	247	LR	LR	00 33 24.6	
	comp=Z,260nm,21.5s,baz=84,slow=29						
WRA	Warramunga Arr	67.03	269	P	P	00 12 24.2	+3.1
	comp=Z,0.8nm,0.9s,baz=146,slow=5.9,SNR=3.4						
WRA				LR	LR	00 38 35.4	
	comp=Z,136nm,19.9s,baz=195,slow=33						
CPUP	Villa Florida	68.37	105	P	P	00 12 32.4	+2.9
	comp=Z,3.1nm,1.1s,baz=169,slow=6.5,SNR=4.8						
CPUP				LR	LR	00 38 17.7	
	comp=Z,58nm,18.8s,baz=210,slow=32						
CPUP	Villa Florida	68.37	105	P	P	00 12 28.9	-0.6
MORW	Morawa	69.30	248	P	P	00 12 34.1	-1.2
MORW				IAmb	IAmb	00 12 51.2	
	comp=Z,6.1nm,1.0s						
LPAZ	La Paz	70.76	90	LR	LR	00 36 14.0	
	comp=Z,57nm,21.5s,baz=188,slow=30						
PSAD2	Pilbara Seismi	73.37	256	P	P	00 13 00.1	+0.1
PSAD2				IAmb	IAmb	00 13 01.7	
	comp=Z,8.4nm,1.1s						
MBWA	Marble Bar	73.87	256	P	P	00 13 03.0	+0.1
KIP	Kipapa	78.96	350	P	P	00 13 30.5	-1.0
BDFB	Brasilia	82.05	106	LR	LR	00 46 53.5	
	comp=Z,135nm,18.4s,baz=129,slow=33						
ROSC	El Rosal	85.12	73	LR	LR	00 44 53.7	
	comp=Z,87nm,21.5s,baz=176,slow=31						
ACON	Acoyapa	85.84	60	P	P	00 14 06.6	-1.0
ACON				IAmb	IAmb	00 14 16.1	
	comp=Z,7.0nm,0.8s						
JAGI	Jajag, Banyuwa	87.37	259	P	P	00 14 15.7	+0.4
214A	Organ Pipe Nat	93.68	29	P	P	00 14 44.7	+0.5
214A				IAmb	IAmb	00 14 49.6	
	comp=Z,3.6nm,0.9s						
TX31	Lajitas Ar. Si	93.94	37	P	P	00 14 46.3	+0.7
BOSA	Boshof	94.16	174	LR	LR	00 54 20.3	
	comp=Z,161nm,18.6s,baz=186,slow=34						
NVAR	Mina Array Bea	98.56	23	LR	LR	00 51 55.5	
	comp=Z,59nm,18.1s,baz=242,slow=31						
H10N3	ASCENSION HYDR	104.65	132	T	T	02 13 12.1	
	baz=204,slow=75,SNR=28						
H10N1	ASCENSION HYDR	104.65	132	T	T	02 13 20.4	
	baz=204,slow=75,SNR=36						
H10N2	ASCENSION HYDR	104.67	132	T	T	02 13 05.7	
	baz=204,slow=75,SNR=28						
ILAR	Eielson Array	121.80	0	PKP	PKiKP	00 20 22.6	+1.9
	comp=Z,0.3nm,0.7s,baz=200,slow=1.8,SNR=1.8						
MDT	Midelt	144.85	118	PKP	PKPdf	00 21 06.9	+2.2
	comp=Z,1.9nm,0.9s,baz=196,slow=2.1,SNR=4.3						
MKAR	Makanchi Array	148.28	272	PKPbc	PKiKP	00 21 16.2	+1.2
	comp=Z,1.0nm,0.7s,baz=112,slow=3.3,SNR=9.2						
ESDC	Sonseca Array	150.59	111	PKPbc	PKiKP	00 21 21.4	+1.4
	comp=Z,1.0nm,0.8s,baz=228,slow=2.1,SNR=8.3						

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*NEIC **01** 00:10:53.2±2.8, 15°.59S±0°.06×70°.37W±0°.08, h236km±8km, mb4.3/13, Error ellipse: s-maj=13.3km s-min=7.0km az=125.0*
*IDC **01** 00:10:58.4±1.6, 15°.85S×69°.79W, h245km±10km, mb3.6/4, mb1 3.6/8, mb1mx3.3/37, mbtmp4.2/8, Error ellipse: s-maj=28.3km s-min=14.4km az=115.0*
*VAO **01** 00:11:05.7±0.5, 15°.32S×69°.07W, h212km±4km, mb4.0*
ISC 01 00:10:53.7±0.7**, 15°.66S**±0°.05×**70°.40W**±0°.06**, h229**km±7km**, n98, σ1s.67**/116**, mb4.0**/5**, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.27	106	P	Pn	00 11 38.8	+1.0
	119nm,0.3s,baz=305,slow=7.9,SNR=2790						
LPAZ				S	S	00 12 09.6	-2.5
	15nm,0.3s,baz=176,slow=24,SNR=11						
LPAZ	La Paz	2.27	106	Pn	Pn	00 11 37.8	+0.1
LPAZ				S	S	00 12 10.1	-2.0
LPAZ	La Paz	2.27	106	eP	Pn	00 11 38.8	+1.0
AP01	Chacalluta	2.69	179	eP	Pn	00 11 43.0	+1.5
AP01				iS	S	00 12 18.8	-0.3
AP01	Chacalluta	2.69	179	Pn	Pn	00 11 42.9	+1.4
AP01				S	S	00 12 20.2	+1.1
PB16	IPOC Station P	2.79	162	Pn	Pn	00 11 43.9	+0.7
PB12	IPOC Station P	2.94	179	eP	Pn	00 11 45.5	+1.2
PB12				iS	S	00 12 23.2	-0.9
PB12				IAML		00 12 24.8	
	comp=N,1μm,0.5s						
PB12	IPOC Station P	2.94	179		Pn	00 11 45.0	+0.7
PB12				S	S	00 12 23.9	-0.2
MNMC	Minye Minye	3.54	168	eP	Pn	00 11 53.2	+1.9
MNMC				iS	S	00 12 37.0	+0.3
MNMC	Minye Minye	3.54	168	Pn	Pn	00 11 52.7	+1.4
MNMC				S	S	00 12 37.4	+0.7
PSGC	Pisagua	3.92	176	eP	Pn	00 11 56.5	+0.7
PSGC				iS	S	00 12 42.5	-2.3
PSGCX	Pisagua	3.92	176	Pn	Pn	00 11 56.2	+0.5
PSGCX				S	S	00 12 43.2	-1.6
PB11	IPOC Station P	4.14	170	eP	Pn	00 11 59.6	+1.2
PB11				iS	S	00 12 48.3	-1.2
PB11	IPOC Station P	4.14	170	Pn	Pn	00 11 59.6	+1.2
PB11				S	S	00 12 50.4	+0.9
GO01	Chusmiza	4.15	164	eP	Pn	00 12 01.0	+2.1
GO01				iS	S	00 12 52.4	+2.2
GO01	Chusmiza	4.15	164		Pn	00 12 00.8	+1.9
GO01				S	S	00 12 50.3	+0.1
PB08	IPOC Station P	4.61	165	eP	Pn	00 12 06.3	+1.9
PB08				iS	S	00 12 59.9	-0.4
PB08	IPOC Station P	4.61	165		Pn	00 12 05.9	+1.5
PB08				S	S	00 12 59.9	-0.4
TA01	Diego Aracena	4.88	178	eP	Pn	00 12 08.3	+0.9
TA01				iS	S	00 13 02.3	-3.5
TA01	Diego Aracena	4.88	178		Pn	00 12 08.2	+0.9
TA01				S	S	00 13 02.9	-2.8
PATCX	Punta Patache	5.14	177	eP	Pn	00 12 11.3	+0.6
PATCX				iS	S	00 13 08.6	-3.0
PATCX	Punta Patache	5.14	177	Pn	Pn	00 12 11.2	+0.6
PATCX					S	00 13 10.1	-1.6
PB01	IPOC Station P	5.42	171	eP	Pn	00 12 14.9	+0.7
PB01				iS	S	00 13 15.4	-2.8
PB01	IPOC Station P	5.42	171		Pn	00 12 15.1	+0.8
PB07	IPOC Station P	6.05	175	eP	Pn	00 12 23.1	+0.9
PB07				iS	S	00 13 31.0	-1.7
PB07	IPOC Station P	6.05	175	Pn	Pn	00 12 23.0	+0.7
PB09	IPOC Station P	6.20	170		Pn	00 12 25.7	+1.6
PB04	IPOC Station P	6.64	178		Pn	00 12 30.5	+0.8
PB06	IPOC Station P	7.05	174		Pn	00 12 35.9	+0.9
LVC	Limon Verde	7.05	169	P	Pn	00 12 36.1	+1.0
	comp=N,6.3nm,0.3s,baz=346,slow=8.1,SNR=39						
LVC				S	S	00 13 53.1	-3.1
	comp=N,8.8nm,0.3s,baz=275,slow=23,SNR=14						
LVC	Limon Verde	7.05	169	Pn	Pn	00 12 37.0	+1.9
LVC				S	S	00 13 54.9	-1.3
LVC	Limon Verde	7.05	169	eP	Pn	00 12 49.4	+14
ETMB	Extrema	7.10	36	eP	Pn	00 12 35.2	-0.3
NNA	Nana	7.25	299	S	S	00 14 02.5	+2.3
	comp=N,2.3nm,0.3s,baz=207,slow=23,SNR=2.1						
NNA	Nana	7.25	299	Pn	Pn	00 12 38.3	+0.9
PB15	IPOC Station P	7.56	173		Pn	00 12 42.5	+1.0
PB10	IPOC Station P	7.81	181	Pn	Pn	00 12 46.8	+2.3
PB10					S	00 14 11.8	-1.6
PB14	IPOC Station P	8.92	180	Pn	Pn	00 13 00.7	+1.7
PB14					S	00 14 38.1	-1.8
SIV	San Ignacio	8.98	93	P	Pn	00 12 57.7	-2.0
	comp=N,0.7nm,0.3s,baz=297,slow=8.1,SNR=9.6						
GO02	Mina Guanaco	9.48	176		Pn	00 13 06.8	+0.6
GO02					S	00 14 53.6	+0.5
VILB	Vilhena	10.25	76	eP	Pn	00 13 11.0	-4.8
AC01	Pan de Azucar	10.44	181	Pn	Pn	00 13 19.7	+1.6
PTLB	Pontes e Lacer	10.86	90	eP	Pn	00 13 19.9	-3.6
AC02	Maricunga	11.18	174	Pn	Pn	00 13 25.9	-2.1
AC04	Llanos de Chal	12.50	183	Pn	Pn	00 13 43.5	-0.5
AC05	El Transito	13.11	180	Pn	Pn	00 13 51.2	-0.5
SALV	Santo Antonio	14.16	93	eP	Pn	00 14 03.2	-1.4
CO01	Juntas del Tor	14.25	179	Pn	Pn	00 14 04.2	-1.6
GO04	Tololo Observa	14.45	181		P	00 14 07.9	-1.0
CO03	El Pedregal	15.11	181	P	Pn	00 14 15.5	-0.6
MACA	Manacapuru-AM	15.68	39	eP	P	00 14 22.6	+0.2
CFA	Coronel Fontan	15.99	173	P	Pn	00 14 27.4	+0.7
	comp=N,0.4nm,0.3s,baz=346,slow=9.8,SNR=5.0						
CPUP	Villa Florida	16.16	133	eP	Pn	00 14 33.3	+4.6
VA03	San Esteban	17.03	180	P	Pn	00 14 36.8	-2.1
VA03				IAmb	IAmb	00 14 43.2	
	comp=Z,9.4nm,0.6s						
NPGB	Novo Progresso	17.04	62	eP	P	00 14 36.2	-1.2
C2SB	Chapadao do Su	17.06	103	eP	P	00 14 38.7	+1.2
ROC1	El Roble	17.25	182	P	P	00 14 38.5	-1.2
MT02	Curacav	17.53	182	P	Pn	00 14 42.5	-2.3
MT02				IAmb	IAmb	00 14 45.0	
	comp=Z,10nm,1.4s						
MT05	Renca	17.66	181	P	P	00 14 42.8	-1.1
MT05				IAmb	IAmb	00 14 52.4	
	comp=Z,14nm,0.6s						
ARAG	Araguaiana, MT	17.90	93	eP	P	00 14 46.2	-0.5
PTGA	Pitinga	18.06	36	P	P	00 14 49.5	+1.1
	comp=Z,5.4nm,0.3s,baz=213,slow=15,SNR=42						
PTGA	Pitinga	18.06	36	P	P	00 14 48.4	0.0
PTGA	Pitinga	18.06	36	eP	P	00 14 49.1	+0.7
ITTB	Itaituba	18.27	54	eP	P	00 14 50.7	0.0
BO01	Tunca	18.66	182	P	P	00 14 55.0	+0.2
BO01				IAmb	IAmb	00 15 00.4	
	comp=Z,6.3nm,0.9s						
BO02	Sierra Bellavi	19.05	181	P	Pn	00 14 59.6	-3.1
BO02				IAmb	IAmb	00 15 07.9	
	comp=Z,6.1nm,0.7s						
PCMB	Pacaembu	19.07	111	eP	P	00 15 01.5	+2.2
GO05	Huala	19.32	184	P	P	00 15 01.2	-0.6
PTGB	Pitanga	19.41	121	eP	Pn	00 15 06.6	-0.4
ITRB	Iturama	19.51	105	eP	P	00 15 05.2	+1.1
ITAB	Concordia	20.51	127	eP	Pn	00 15 17.8	-2.3
MALB	Monte Alegre	21.01	51	eP	P	00 15 19.9	-0.1
IPMB	Ipameri, GO	21.36	99	eP	P	00 15 23.1	-0.5
BB19B	Bebedouro	21.43	108	eP	P	00 15 24.4	+0.2
BDFB	Brasilia	21.56	93	P	P	00 15 23.7	-1.9
	comp=Z,2.2nm,0.5s,baz=260,slow=9.9,SNR=6.0						
BDFB	Brasilia	21.56	93	P	P	00 15 22.8	-2.7
PEXB	Peixe	21.74	83	eP	P	00 15 27.8	+0.5
PLTB	Pedras Altas	22.16	139	eP	P	00 15 38.2	+7.2
TIJ01	Guaruva-PR	22.20	119	eP	P	00 15 35.9	+4.3
PRPB	Parauapebas	22.28	67	eP	P	00 15 33.2	+0.9
CNLB	Canela	22.55	130	eP	P	00 15 42.6	+7.9
SMTB	Santa Maria do	23.28	76	eP	P	00 15 42.3	+1.0
PET01	Itanhaem-SP	23.34	115	eS	S	00 19 36.7	-0.6
MCPB	Macapa, AP	23.64	52	eP	P	00 15 46.9	+2.3
PARB	Paraibuna	24.55	112	eP	P	00 15 57.1	+4.2
PAYG	Puerto Ayora	24.64	305	P	P	00 15 51.3	-2.4
BSCB	Bom Sucesso	24.88	106	eP	P	00 15 59.1	+3.2
PLCA	Paso Flores	24.98	180	P	P	00 15 59.3	+2.7
	comp=Z,1.7nm,0.6s,baz=350,slow=12,SNR=3.4						
PLCA	Paso Flores	24.98	180	P	P	00 15 55.8	-0.7
JANB	Januaria	25.16	92	eP	P	00 15 59.3	+0.9
BSFB	Barra de Sao F	28.38	101	eP	P	00 16 29.1	+2.0
X16A	Lo Mia Camp, P	63.27	323	P	P	00 20 55.9	-2.6
X16A				IAmb	IAmb	00 20 58.6	
	comp=Z,3.6nm,0.4s						
DBIC	Dimbokro	68.58	76	P	P	00 21 31.5	-0.9
	comp=Z,2.1nm,0.4s,baz=236,slow=7.0,SNR=6.6						
DBIC	Dimbokro	68.58	76	IAmb	IAmb	00 21 32.7	
	comp=Z,11nm,1.2s						
TORD	Torodi Ar. Bea	76.83	72	P	P	00 22 21.0	+0.1
	comp=Z,1.5nm,0.7s,baz=271,slow=4.6,SNR=16						
WRA	Warramunga Arr	137.07	215	PKP	PKiKP	00 29 54.3	+2.1
	comp=Z,0.4nm,0.4s,baz=135,slow=1.6,SNR=7.2						
MJAR	Matsushiro Arr	147.15	315	PKPbc	PKPab	00 30 13.2	+0.8
	comp=Z,2.5nm,0.6s,baz=115,slow=1.4,SNR=7.0						
SONM	Songino Array	147.81	4	PKPbc	PKPab	00 30 15.5	+0.8
	comp=Z,0.5nm,0.5s,baz=290,slow=3.3,SNR=2.2						

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*UCR **01** 00:22:13.6±0.3, 8°.20N×82°.93W, h30km±2km, MD3.6*
*UPA **01** 00:22:15.0±1.3, 8°.29N×82°.91W, h19km±5km, MW3.3*
ISC 01 00:22:14.8±1.7**, 8°.29N**±0°.09×**82°.92W**±0°.03**, h19**km±3km**, n11, σ0s.79**/18**, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	Carate, Puerto	0.42	286	eP	Pg	00 22 23.2	-0.5
PIRO				eS	Sg	00 22 30.1	+0.5
PIRO	Carate, Puerto	0.42	286	eP	Pg	00 22 22.9	-0.7
PTJ1	Puerto Jimnez	0.45	304	eP	Pb	00 22 25.0	+0.8
PTJ1				eS	Sb	00 22 32.1	+1.5
BRU2	Volcan	0.56	24	eP	Pb	00 22 25.8	-0.2
BRU2				eS	Sg	00 22 34.3	+0.7
BRU2	Volcan	0.56	24	eP	Pg	00 22 26.2	+0.1
BCO2	Palmira	0.58	42	eP	Pg	00 22 27.0	+0.4
BCO2				eS	Sg	00 22 35.2	+0.7
CHIR3	Chiriqui UPA,	0.60	79	eS	Sg	00 22 34.9	0.0
BC3P	Paso Ancho	0.61	30	eP	Pb	00 22 26.8	-0.1
BC3P				eS	Sn	00 22 38.4	+0.3
CHGR2	Aguacate	1.01	50	eP	Pb	00 22 33.2	-0.5
CHGR2				eS	Sb	00 22 46.3	-0.3
DRK0	Durika	1.02	342	eP	Pb	00 22 32.8	-1.2
DRK0				eS	Sb	00 22 46.2	-1.0
DRK0	Durika	1.02	342	eP	Pb	00 22 33.2	-0.8

IDC 01 00:28:38.6±4.4**, 2°.02N**×**96°.70E, h0**km**, mb3.7**/2**, mb1 3.9**/3**, mb1mx3.4**/51**, mbtmp3.7**/3**, ML4.3**/1**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.6**/39**, Error ellipse: s-maj=159.9km s-min=32.8km az=61.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.49	8	Pn	Pn	00 32 30.9	-0.6
	0.4nm,0.3s,baz=212,slow=12,SNR=6.1						
WRA	Warramunga Arr	42.89	122	P	P	00 36 39.1	-0.2
	0.4nm,0.6s,baz=297,slow=8.4,SNR=5.9						
MJAR	Matsushiro Arr	51.43	43	LR	LR	00 59 04.2	
	comp=Z,23nm,21.9s,baz=215,slow=36						
ZALV	Zalesovo Beam	52.68	351	P	P	00 37 54.8	+0.1
	0.7nm,0.6s,baz=157,slow=8.0,SNR=4.0						

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*NEIC **01** 00:38:21.1±2.8, 7°.17S±0°.08×155°.02E±0°.05, h10km±1km, mb4.8/32, Error ellipse: s-maj=13.6km s-min=7.7km az=182.0*
*IDC **01** 00:38:21.5±0.7, 6°.88S×154°.79E, h0km, mb4.2/11, mb1 4.4/14, mb1mx4.2/33, mbtmp4.2/14, ML3.4/3, MS3.6/6, Ms1 3.6/6, ms1mx3.1/34, Error ellipse: s-maj=24.3km s-min=18.1km az=119.0*
ISC 01 00:38:25.1±0.4**, 7°.08S**±0°.06×**154°.97E**±0°.06**, h41**km**, n63, σ1s.78**/61**, mb4.6**/25**, MS3.8**/3**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	4.01	316	Pn	Pn	00 39 24.2	+0.1
KRVT	Keravat (AS076	4.02	313	Pn	Pn	00 39 21.2	-3.0
	13nm,0.3s,baz=181,slow=3.1,SNR=6.4						
KRVT				Sn	Sn	00 40 05.6	-4.6
	71nm,0.3s,baz=86,slow=17,SNR=5.8						
HNR	Honiara	5.45	116	LR	LR	00 42 09.6	
	comp=Z,284nm,20.0s,baz=265,slow=40						
HNR	Honiara	5.45	116	Pn	Pn	00 39 40.4	-3.5
PMG	Port Moresby	8.06	253	Pn	Pn	00 40 19.6	-0.2
	3.5nm,0.3s,baz=79,slow=7.7,SNR=6.0						
PMG				Sn	Sn	00 41 50.0	+0.2
	2.6nm,0.3s,baz=67,slow=20,SNR=8.2						
PMG				LR	LR	00 43 35.0	
	comp=Z,272nm,18.3s,baz=82,slow=39						
PMG	Port Moresby	8.06	253		Pn	00 40 19.1	-0.7
PMG				Sn	Sn	00 41 49.6	-0.2
COEN	Coen	13.45	239	Pn	Pn	00 41 30.8	-2.8
PATS	Pohnpei	14.23	14	Pn	Pn	00 41 43.5	-0.6
CTA	Charters Tower	15.44	212	Pn	P	00 42 02.6	-1.6
	0.3nm,0.3s,baz=30,slow=16,SNR=2.0						
CTAO	Charters Tower	15.44	212	P	Pn	00 42 00.3	+0.1
EIDS	Eidsvold	18.56	191	P	P	00 42 37.7	-0.9
DZM	Mont Dzumac	18.56	145	LR	LR	00 48 01.1	
	comp=Z,112nm,19.8s,baz=223,slow=31						
DZM	Mont Dzumac	18.56	145	P	P	00 42 37.0	-1.8
DZM				IAmb	IAmb	00 43 00.9	
	comp=Z,87nm,2.0s						
FAKI	Fak Fak	23.00	279	P	P	00 43 27.1	+0.4
FAKI				IAmb	IAmb	00 43 53.6	
	comp=Z,42nm,1.2s						
ARMA	Armidale	23.42	187	P	P	00 43 31.2	+0.4
ARMA				IAmb	IAmb	00 43 36.7	
	comp=Z,22nm,1.2s						
WR0	Warramunga Arr	23.59	235	P	P	00 43 32.8	+0.5
WB0	Warramunga Arr	23.61	236	P	P	00 43 33.1	+0.4
WB2	Warramunga Arr	23.73	235	P	P	00 43 34.7	+1.0
WB2				IAmb	IAmb	00 44 12.4	
	comp=Z,51nm,1.9s						
WRA	Warramunga Arr	23.74	235	P	P	00 43 34.4	+0.5
	comp=Z,5.3nm,0.7s,baz=57,slow=9.4,SNR=31						
MTN	Manton Dam	24.15	254	P	P	00 43 35.9	-1.8
MTN				IAmb	IAmb	00 43 41.7	
	comp=Z,16nm,0.9s						
MSVF	Nonsavu	24.87	117	P	P	00 43 43.0	-1.2
MSVF				IAmb	IAmb	00 43 52.7	
	comp=Z,31nm,1.1s						
ASAR	Alice Springs	26.09	229	P	P	00 43 56.5	+1.2
	comp=Z,2.8nm,0.7s,baz=63,slow=8.6,SNR=14						
ASAR				ScP	ScP	00 51 06.5	+7.5
	comp=Z,1.7nm,1.0s,baz=78,slow=1.9,SNR=6.0						
KNRA	Kununurra	27.04	249	P	P	00 44 04.1	+0.2
KNRA				IAmb	IAmb	00 44 17.2	
	comp=Z,35nm,1.5s						
STKA	Stephens Creek	27.64	205	P	P	00 44 09.7	+0.6
FITZ	Fitzroy Crossi	30.59	246	P	P	00 44 35.7	+0.3
OUZ	Omahuta	32.82	151	P	P	00 44 54.5	-0.3
SNZO	South Karori	38.34	156	P	P	00 45 42.3	+0.2
BSWZ	Blackbirch Sta	38.36	157	P	P	00 45 42.9	+0.6
BFZ	Birch Farm	38.48	154	P	P	00 45 43.0	-0.2
OXZ	Oxford	39.09	160	P	P	00 45 47.2	-1.2
PYZ	Puysegur Point	40.23	167	P	P	00 45 55.2	-2.6
KKM	Kota Kinabalu	40.81	288	P	P	00 46 02.2	-0.9
KKM				IAmb	IAmb	00 46 07.2	
	comp=Z,19nm,1.1s						
RPSI	Rantau Prapat	56.77	278	P	P	00 48 03.5	-2.1
RPSI				IAmb	IAmb	00 48 05.5	
	comp=Z,9.8nm,1.1s						
PETK	Petropavlovsk-	60.01	2	P	P	00 48 29.4	+2.0
	comp=Z,0.5nm,0.4s,baz=156,slow=8.8,SNR=4.5						
CMAR	Chiang Mai Arr	60.80	296	P	P	00 48 35.7	+2.1
	comp=Z,1.9nm,0.3s,baz=118,slow=5.6,SNR=16						
CHTO	Chiang Mai	60.92	296	P	P	00 48 33.1	-1.2
CHTO				IAmb	IAmb	00 50 41.2	
	comp=Z,16nm,1.8s						
PBA	Port Blair	64.63	286	P	P	00 48 57.6	-1.5
NIKH	Nikolski High	67.24	23	P	P	00 49 14.3	-0.8
SONM	Songino Array	69.40	327	P	P	00 49 29.6	+0.6
	comp=Z,1.0nm,0.4s,baz=139,slow=6.1,SNR=8.4						
VNDA	Vanda	70.49	178	P	P	00 49 39.9	+4.9
	comp=Z,1.4nm,1.0s,baz=320,slow=5.6,SNR=5.7						
MID	Middleton Isla	80.89	26	P	P	00 50 33.6	-1.1
QSPA	South Pole Qui	82.89	180	P	P	00 50 46.9	+1.5
QSPA				IAmb	IAmb	00 50 53.3	
	comp=Z,7.9nm,1.1s						
GLB	Gilahina Butte	82.98	25	P	P	00 50 46.5	+0.7
GLB				IAmb	IAmb	00 50 49.8	
	comp=Z,13nm,1.7s						
MKAR	Makanchi Array	83.45	319	P	P	00 50 50.0	+1.5
	comp=Z,3.0nm,0.6s,baz=100,slow=5.4,SNR=26						
ILAR	Eielson Array	83.47	21	P	P	00 50 49.5	+1.3
	comp=Z,0.8nm,0.8s,baz=257,slow=5.4,SNR=5.5						
ILAR				LR	LR	01 25 16.4	
	comp=Z,42nm,19.4s,baz=257,slow=34						
MAKZ	Makanchi	83.66	319	P	P	00 50 49.3	-0.3
MAKZ				IAmb	IAmb	00 51 07.8	
	comp=Z,5.5nm,1.1s						
ZALV	Zalesovo Beam	84.24	326	P	P	00 50 52.1	-0.2
	comp=Z,1.1nm,0.5s,baz=110,slow=5.4,SNR=5.4						
HYT	Haines Junctio	85.47	27	P	P	00 50 58.8	+0.3
DLBC	Dease Lake	88.23	31	P	P	00 51 13.2	+1.3
DLBC				IAmb	IAmb	00 51 16.2	
	comp=Z,5.0nm,1.1s						
RYN	Ryan	91.65	51	P	P	00 51 27.3	-1.2
NVAR	Mina Array Bea	91.80	52	P	P	00 51 32.2	+2.9
	comp=Z,2.1nm,0.8s,baz=252,slow=6.6,SNR=14						
NV11	Mina Array Sit	91.91	52	P	P	00 51 29.3	-0.5
NV11				IAmb	IAmb	00 51 34.5	
	comp=Z,4.4nm,1.1s						
KVN	Kaiserville	92.04	51	P	P	00 51 30.4	+0.1
KVN				IAmb	IAmb	00 51 34.8	
	comp=Z,3.6nm,1.0s						
PDAR	Pinedale Array	98.78	48	P	Pdif	00 52 02.7	+1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.2nm,0.6s,baz=262,slow=3.0,SNR=3.7						
PDAR				LR	LR	01 30 55.7	
	comp=Z,27nm,19.5s,baz=291,slow=32						
ARU	Arti	99.40	326	LR	LR	01 37 32.6	
	comp=Z,42nm,19.7s,baz=30,slow=36						
FINES	FINESS Array B	114.01	336	PKiKP	PKiKP	00 57 01.1	+1.7
	comp=Z,1.7nm,0.9s,baz=117,slow=2.1,SNR=4.6						
AKASG	Malin Array Be	117.59	324	PKP	PKiKP	00 57 07.9	+1.2
	comp=Z,1.3nm,0.5s,baz=64,slow=2.0,SNR=4.6						
HFS	Hagfors	119.58	339	PKP	PKiKP	00 57 11.7	+1.4
	comp=Z,1.7nm,0.8s,baz=179,slow=5.9,SNR=4.1						
NOA	NORSAR Array B	119.77	341	PKP	PKiKP	00 57 12.3	+1.5
	comp=Z,0.7nm,0.7s,baz=49,slow=2.0,SNR=3.5						
CLL	Collm	125.88	331	*e*PKPdf	PKiKP	00 57 24.0	+1.0
GERES	GERESS Array B	127.11	329	PKP	PKiKP	00 57 27.0	+1.3
	comp=Z,1.1nm,0.5s,baz=50,slow=2.1,SNR=13						
BDFB	Brasilia	147.94	135	PKPbc	PKPab	00 58 11.4	+1.6
	comp=Z,1.9nm,0.5s,baz=184,slow=7.8,SNR=3.6						
TORD	Torodi Ar. Bea	153.02	285	PKPbc	PKiKP	00 58 21.1	+1.6
	comp=Z,3.9nm,0.7s,baz=81,slow=2.1,SNR=28						

IDC 01 00:50:16.5±3.8**, 6°.78S×154°.73E, h0**^{km}**, mb3.5**/3**,**
mb1 3.7/3**, mb1mx3.4**/26**, mbtmp3.5**/3**, Error ellipse:**
s-maj=136.5km s-min=40.5km az=118.0,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.72	235	P	P	00 55 30.4	-0.1
	1.0nm,0.9s,baz=58,slow=9.3,SNR=7.0						
ASAR	Alice Springs	26.12	228	P	P	00 55 52.1	-0.3
	0.9nm,1.1s,baz=58,slow=8.9,SNR=2.1						
MKAR	Makanchi Array	83.07	319	P	P	01 02 44.9	+0.8
	0.3nm,0.7s,baz=92,slow=6.5,SNR=3.0						
TORD	Torodi Ar. Bea	152.72	286	PKPbc	PKPbc	01 10 15.9	-0.5
	0.5nm,0.7s,baz=72,slow=3.0,SNR=3.2						

RHSSO ***01*** *00:59:20.9±0.7, 42°.00N×20°.17E, h4^{km}±2^{km}, ML2.7/11*
TIR ***01*** *00:59:21.8, 42°.03N×20°.07E, h17^{km}, Md2.8/6*
THE ***01*** *00:59:21.7, 42°.07N×20°.10E, h0^{km}±2^{km}, ML2.3/2, Error ellipse: s-maj=2.8km s-min=1.0km az=332.0*
SKO ***01*** *00:59:22.8, 42°.05N×20°.01E, h21^{km}*
PDG ***01*** *00:59:22.3±0.1, 42°.04N×19°.99E, h17^{km}, MD3.1/1, ML2.2/12, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0*
ISC 01 00:59:22.1±0.9**, 42°.04N**±0°.02×**20°.05E**±0°.02**, h8**^{km}±7^{km}**,**
n53, σ1^{s}31/99**, 10C-10D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PUK	Puka	0.12	274	*i* PG	Pg	00 59 25.2	+0.4
PUK				*i* SG	Sg	00 59 27.0	+0.3
BCI	Bajram Curri	0.33	2	*i* PG	Pg	00 59 29.2	+0.5
BCI				*i* SG	Sb	00 59 34.6	-1.2
PHP	Peshkopia	0.46	140	P	Pg	00 59 30.3	-0.7
PHP				S	Sb	00 59 37.6	-1.8
PHP	Peshkopia	0.46	140	*i* PG	Pg	00 59 30.3	-0.7
PHP				*i* SG	Sb	00 59 37.8	-1.6
PVY	Plav	0.56	353	⇓*i*Pg	Pg	00 59 33.0	0.0
PVY				*i* Sg	Sb	00 59 42.1	-0.5
ULC	Ulcinj	0.61	263	⇑*i*Pg	Pg	00 59 33.1	-0.7
ULC				*i* Sg	Sb	00 59 42.4	-1.3
DRME	Dracevica, Mon	0.66	283	*e*Pg	Pg	00 59 34.0	-0.9
DRME				*i* Sg	Sb	00 59 44.0	-1.3
DRME	Dracevica, Mon	0.66	283	*e*Pg	Pg	00 59 34.2	-0.7
DRME				*e*Sg	Sb	00 59 45.4	+0.1
TIR	Tirane	0.70	192	P	Pb	00 59 35.5	-1.1
TIR				S	Sb	00 59 46.9	+0.5
	160nm,0.3s						
TIR	Tirane	0.70	192	*i* PG	Pb	00 59 35.5	-1.1
TIR				*i* SG	Sb	00 59 46.9	+0.5
TIR	Tirane	0.70	192	⇑P	Pb	00 59 35.9	-0.7
TIR				S	Sb	00 59 46.9	+0.5
PDG	Podgorica	0.71	304	⇓P	Pb	00 59 36.2	-0.6
PDG				⇑S	Sb	00 59 46.1	-0.6
PDG	Podgorica	0.71	304	*e*Pg	Pg	00 59 35.2	-0.6
PDG				*e*Sg	Sb	00 59 46.1	-0.6
TTG	Podgorica	0.71	304	⇓*i*Pg	Pg	00 59 35.0	-0.8
TTG				*i* Sg	Sb	00 59 45.9	-0.8
IVA	Berane	0.84	352	⇑*i*Pg	Pg	00 59 38.0	-0.4
IVA				*i* Sg	Sb	00 59 51.2	+0.5
BUM	Brajici-Budva	0.90	287	⇓*i*Pg	Pg	00 59 38.3	-1.1
BUM				*i* Sg	Sb	00 59 52.1	-0.2
KOME	Kolasin	0.91	334	⇑*i*Pg	Pg	00 59 39.1	-0.4
KOME				*i* Sg	Sb	00 59 53.0	+0.5
CEME	Cevo	0.98	302	⇑*i*Pg	Pg	00 59 39.7	-1.3
CEME				*i* Sg	Sb	00 59 55.0	+0.3
OHR	Ohrid	1.08	148	*i* Pg	Pn	00 59 43.0	-0.6
OHR				*i* Sg	Sn	00 59 58.8	0.0
OHR				*e*Lg	Lg	00 59 58.9	
	comp=N,39nm,0.4s						
NKY	Niksic	1.10	315	*e*Pg	Pg	00 59 42.3	-1.0
NKY				*i* Sg	Sn	00 59 59.1	-0.4
HCY	Herceg Novi	1.23	290	⇓*i*Pg	Pb	00 59 44.2	-1.4
HCY				*i* Sg	Sn	01 00 03.0	+0.5
HCY	Herceg Novi	1.23	290	⇑*i*Pg	Pb	00 59 44.4	-1.2
HCY				*e*Sg	Sn	01 00 02.9	+0.5
PLE	Pljevlja	1.38	340	*e*Pg	Pn	00 59 47.6	-0.3
PLE				*i* Sg	Sg	01 00 08.0	+1.4
BRY	Bratogost	1.42	308	⇓*i*Pg	Pn	00 59 47.7	-0.6
BRY				*i* Sg	Sg	01 00 08.1	+0.5
BRY	Bratogost	1.42	308	*e*Pg	Pn	00 59 47.4	-0.9
BRY				*e*Sg	Sg	01 00 09.1	+1.5
TREB	Trebinje	1.43	299	⇑*i*Pg	Pb	00 59 48.5	-0.6
TREB				*e*Sg	Sg	01 00 09.7	+1.5
UPM	Unac-Piva	1.44	324	⇓*i*Pg	Pn	00 59 48.2	-0.5
UPM				*i* Sg	Sg	01 00 09.1	+0.6
UPM	Unac-Piva	1.44	324	*e*Pg	Pn	00 59 48.6	-0.1
UPM				*e*Sg	Sg	01 00 09.4	+0.9
DBRK	Dubrovnik	1.55	295	*e*Pn	Pn	00 59 49.9	-0.1
DBRK				Sn	Sg	01 00 14.0	+2.1
FNA	Florina	1.60	141	P	Pn	00 59 50.8	0.0
FNA				S	Sg	01 00 13.0	-0.5
	comp=N,115nm,0.4s						
FNA	Florina	1.60	141	*i* PN	Pb	00 59 51.0	-0.9
FNA				*i* SN	Sg	01 00 16.1	+2.6
RUDO	Rudo	1.66	343	⇓*i*Pg	Pb	00 59 52.0	-1.0
RUDO				*e*Sg	Sg	01 00 15.1	-0.3
BBLS	Lazići	1.89	346	*e*Pn	Pn	00 59 54.7	-0.1
BBLS				*e*Sn	Sb	01 00 19.7	-1.0
LSK	Leskovik	1.93	167	*i* PN	Pg	00 59 59.1	0.0
LSK				*i* SN	Sg	01 00 25.7	+1.6
STON	Ston	1.93	296	*e*Pn	Pb	00 59 56.3	-1.2
STON				Sn	Sg	01 00 25.0	+0.8
DIVS	Divibare	2.06	359	*e*Pn	Pn	00 59 57.1	-0.1
DIVS				*e*Sn	Sn	01 00 23.9	+0.8
VTS	Vitosha	2.43	75	⇓P	Pb	01 00 04.4	-1.8
IGT	Igoumenitsa	2.51	175	P	Pn	01 00 04.0	+0.8
MAKA	Makarska	2.56	300	*e*Pn	Pn	01 00 04.8	+0.8
MAKA				Sn	Sb	01 00 37.8	-2.2
RICI	Ricice	2.60	305	*e*Pn	Pb	01 00 06.8	-2.1
RICI				Sn	Sb	01 00 38.6	-2.4
MDVR	Moldovita	3.00	23	⇑P	Pn	01 00 10.9	+0.9
FRGS	Fruska Gora	3.13	357	*e*Pn	Pn	01 00 11.5	-0.2
FRGS				*e*Sn	Sn	01 00 49.7	+0.4
MGRS	Mrkonjic Grad	3.22	319	*e*Pn	Pn	01 00 13.2	+0.2
MGRS				*e*Sn	Sn	01 00 53.0	+1.4
HERR	Herculane	3.32	30	⇓P	Pn	01 00 15.7	+1.3
BLY	Banja Luka	3.42	323	*e*Pn	Pn	01 00 15.6	-0.2
BLY				*e*Sn	Sn	01 00 57.9	+1.3
MORI	Morici	3.68	301	*e*Pn	Pn	01 00 21.8	+2.5
MORI				Sn	Sn	01 01 07.0	+4.2
BZS	Buzias	3.75	17	⇑P	Pn	01 00 20.9	+0.5
DUGI	Dugi Otok	4.15	300	*e*Pn	Pn	01 00 28.2	+2.4
DUGI				Sn	Sn	01 01 16.4	+1.9
MORH	Mrgy, Hungar	4.30	347	*e*Pn	Pn	01 00 28.1	+0.3
MORH				*e*Sn	Sn	01 01 16.9	-1.2
CRES	Cresnjev	5.04	320	*e*Pn	Pn	01 00 38.1	+0.1
CRES				*e*Sn	Sn	01 01 35.3	-1.0
CEY	Cerknica	5.50	314	*e*Pn	Pn	01 00 43.9	-0.4
CEY				*e*Sn	Sn	01 01 46.6	-1.1
SRO2	Moca	5.85	349	*e*SN	Sn	01 02 01.9	+5.7
VYHS	Vyhne	6.51	353	*e*SN	Sn	01 02 15.7	+2.9

NIC ***01*** *01:03:41.2±0.0, 34°.00N×25°.67E, h23^{km}±4^{km}, Ml2.8/1*
ATH ***01*** *01:03:46.5, 34°.31N×25°.86E, h41^{km}±3^{km}, ML2.5/6, Error ellipse: s-maj=5.0km s-min=2.3km az=3.0*
IDC ***01*** *01:03:46.5±1.9, 34°.22N×26°.01E, h46^{km}±21^{km}, mb3.2/4, mb1 3.3/6, mb1mx3.1/41, mbtmp3.4/6, ML3.3/2, Error ellipse: s-maj=26.3km s-min=14.0km az=37.0*
THE ***01*** *01:03:50.9, 34°.50N×25°.90E, h26^{km}±10^{km}, ML2.2/2, Error ellipse: s-maj=11.6km s-min=1.0km az=116.0*
ISC 01 01:03:45.3±1.4**, 34°.25N**±0°.06×**25°.89E**±0°.04**, h32**^{km}±8^{km}**,**
n34, σ1^{s}51/45**, mb3.2**/4**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.90	17	P	Pn	01 04 03.0	+1.2
ZKR				S	Sb	01 04 13.2	-1.0
	248nm,0.6s						
ZKR	Zakros	0.90	17	P	Pn	01 04 03.0	+1.2
ZKR				S	Sn	01 04 16.0	+2.3
ZKR				AML	AML	01 04 28.5	
	comp=E,1170µm,0.6s						
ZKR				AML	AML	01 04 30.7	
	comp=N,474µm,0.6s						
STIA	Sitia Lasithi	0.96	10	P	Pn	01 04 04.4	+1.8
STIA				S	Sb	01 04 14.0	-1.9
LAST	Lasithi	0.97	340	P	Pn	01 04 04.2	+1.4
LAST				S	Sb	01 04 15.2	-1.0
	comp=N,238nm,0.8s						
LAST	Lasithi	0.97	340	P	Pn	01 04 04.2	+1.4
LAST				S	Sn	01 04 16.5	+1.1
LAST				AML	AML	01 04 23.0	
	comp=E,491µm,0.8s						
LAST				AML	AML	01 04 23.9	
	comp=N,535µm,0.9s						
NPS	Neapolis	1.03	347	P	Pn	01 04 05.1	+1.5
NPS	Neapolis	1.03	347	P	Pn	01 04 05.1	+1.5
NPS				S	Sn	01 04 18.6	+1.6
NPS				AML	AML	01 04 28.5	
	comp=N,422µm,0.6s						
NPS				AML	AML	01 04 35.1	
	comp=E,496µm,1.0s						
SIVA	Sivas	1.17	311	P	Pb	01 04 08.2	+1.2
SIVA	Sivas	1.17	311	P	Pb	01 04 07.6	+0.6
SIVA				AML	AML	01 04 35.1	
	comp=N,705µm,0.6s						
SIVA				AML	AML	01 04 37.2	
	comp=E,1295µm,0.6s						
KSTL	Kastelli Herak	1.25	327	P	Pn	01 04 06.0	-0.5
KSTL				S	Sn	01 04 17.3	-4.9
IDI	Anoyia	1.32	322	P	Pb	01 04 09.7	+0.1
	comp=E,1.8nm,0.3s,baz=152,slow=12,SNR=14						
IDI				S	Sb	01 04 27.3	+1.2
	comp=E,6.1nm,0.3s,baz=317,slow=19,SNR=9.1						
IDI	Anoyia	1.32	322	P	Pb	01 04 10.1	+0.5
IDI	Anoyia	1.32	322	P	Pb	01 04 09.5	-0.1
IDI				AML	AML	01 04 41.3	
	comp=E,225µm,0.7s						
IDI				AML	AML	01 04 48.4	
	comp=N,201µm,0.6s						
KARP	Karpathos	1.66	39	P	Pb	01 04 14.3	-1.0
KARP				AML	AML	01 04 52.3	
	comp=N,224µm,0.8s						
KARP				AML	AML	01 05 04.9	
	comp=E,227µm,1.0s						
KARP	Karpathos	1.66	39	P	Pn	01 04 13.5	+1.2
KARP				S	Sb	01 04 38.1	+2.2
KARP				AML	AML	01 04 55.2	
	comp=E,0.2nm,0.9s						
KARP				AML	AML	01 04 55.2	
	comp=E,0.2nm,0.9s						
KARP				AML	AML	01 05 04.5	
	comp=E,0.2nm,1.0s						
KARP				AML	AML	01 05 04.5	
	comp=E,0.2nm,1.0s						
VAM	Vamos	1.80	310	P	Pn	01 04 16.0	+1.7
IMMV	Iera Moni Meta	1.98	308	P	Pn	01 04 18.4	+1.8
AMGA	Amorgos Island	2.57	0	P	Pn	01 04 25.3	+0.5
APE	Apeiranthos	2.82	354	P	Pn	01 04 28.6	+0.3
KTHA	Kythira Island	3.06	312	P	Pn	01 04 32.4	+0.9
VLI	Veliai	3.44	316	P	Pn	01 04 38.0	+1.2
ELL	Elmali	4.12	52	P	Pn	01 04 47.3	+1.1
OSC1	CSNet OBS 1	4.54	98	P	Pn	01 04 51.1	-0.7
OSC1				S	Sn	01 05 44.7	+1.1
AKMS	Akamas	5.37	80	P	Pn	01 05 04.2	+1.0
OSC2	CSNet OBS 4	5.45	101	P	Pn	01 05 03.9	-0.4
OSC2				S	Sn	01 06 08.4	+2.6
ALFC	Alefka	5.60	79	P	Pn	01 05 05.9	-0.5
SZAC	Souni	5.80	83	P	Pn	01 05 09.9	+0.8
MVOU	Mavrovouni	6.43	81	P	Pn	01 05 18.4	+0.6
MMAI	Mount Meron Ar	8.03	96	P	Pn	01 05 37.9	-2.0
	comp=E,0.2nm,0.3s,baz=292,slow=12,SNR=1.4						
EIL	Elat	8.95	118	P	Pn	01 05 51.4	-1.0
	comp=E,0.7nm,0.3s,baz=148,slow=11,SNR=4.6						
TORD	Torodi Ar. Bea	30.39	232	P	P	01 09 55.1	+0.5
	comp=E,0.2nm,0.6s,baz=31,slow=7.9,SNR=1.7						
ARCES	ARCESS Array B	35.33	360	P	P	01 10 35.4	-1.9
	comp=E,1.2nm,0.8s,baz=170,slow=9.5,SNR=5.1						
KURBB	Kurchatov Arra	41.23	50	P	P	01 11 26.8	-0.2
	comp=E,0.1nm,0.3s,baz=277,slow=8.3						
MKAR	Makanchi Array	43.78	56	P	P	01 11 47.7	-0.2
	comp=E,0.3nm,0.6s,baz=279,slow=7.8,SNR=4.9						

TAP ***01*** *01:10:10.6, 24°.92N×122°.47E, h14^{km}, ML3.6, D*
JMA ***01*** *01:10:11.1±0.1, 24°.85N×122°.46E, h9^{km}, M3.2*
ISC 01 01:10:10.8±1.0**, 24°.88N**±0°.03×**122°.47E**±0°.02**, h12**^{km}±9^{km}**,**
n57, σ0^{s}42/105**, 3C, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.46	286	⇑*i*P	Pg	01 10 20.1	+0.3
	baz=280						
TWB1				*i* S	Sg	01 10 26.2	+0.3
	baz=280						
EGS		0.49	266	⇑*i*P	Pb	01 10 21.0	-0.4
	baz=249						
EGS				*i* S	Sb	01 10 29.8	+1.2
	baz=249						
TIPB	Shuangxi	0.59	279	*i* P	Pb	01 10 22.9	-0.3
	baz=274						
TIPB				*i* S	Sb	01 10 31.1	-0.5
	baz=274						
JYNG	Yonagunijimaku	0.61	135	P	Pg	01 10 22.7	0.0
JYNG				S	Sg	01 10 30.8	0.0
TWC	Suao	0.63	244	*i* P	Pg	01 10 22.8	-0.3
	baz=240						
TWC				S	Sb	01 10 33.7	+1.2
	baz=240						
YOJ	Yonaguni jima	0.65	131	P	Pg	01 10 23.2	-0.2
YOJ				S	Sg	01 10 32.1	+0.2
NWF	Wu-fen Shan	0.66	287	⇑*i*P	Pb	01 10 24.4	+0.1
	baz=283						
NWF				*i* S	Sb	01 10 33.9	+0.6
	baz=283						
WFSB	Wu-fen Shan	0.66	287	P	Pb	01 10 24.1	-0.1
	baz=283						
WFSB				S	Sb	01 10 33.1	-0.2
	baz=283						
ENAH	Nanao	0.74	234	*i* P	Pg	01 10 25.4	+0.2
	baz=232						
ENAH				S	Sb	01 10 35.4	-0.3
	baz=232						
TWE	Neicheng	0.75	258	*i* P	Pg	01 10 25.4	0.0
	baz=254						
TWE				S	Sb	01 10 36.4	+0.4
	baz=254						
ENA	Nanau	0.81	236	*i* P	Pg	01 10 26.2	-0.2
	baz=233						
ENA				S	Sb	01 10 38.2	+0.6
	baz=233						
TWA	Mucha	0.81	277	*i* P	Pb	01 10 27.3	+0.4
	baz=273						
TWA				S	Sb	01 10 38.9	+1.0
	baz=273						
PCYT	Pengchaiyu	0.83	334	P	Pb	01 10 27.1	0.0
	baz=333						
PCYT				*e*S	Sg	01 10 37.6	-0.1
	baz=333						
YM08	YM08	0.86	291	P	Pb	01 10 27.7	0.0
	baz=272						
YM08				S	Sb	01 10 38.9	-0.2
	baz=272						
YM01	YM01	0.86	288	P	Pg	01 10 27.2	-0.3
	baz=285						
YM01				*e*S	Sb	01 10 39.2	0.0
	baz=285						
YM11	YM11	0.86	289	P	Pn	01 10 28.5	-0.3
	baz=271						
YM11				*e*S	Sb	01 10 39.9	+0.6
	baz=271						
NHDH	Xindian Distri	0.86	275	*e*P	Pb	01 10 27.6	-0.1
	baz=272						
NHDH				*e*S	Sb	01 10 39.8	+0.5
	baz=272						
YM05	YM05	0.87	289	P	Pn	01 10 28.4	-0.6
	baz=271						
YM05				S	Sb	01 10 39.8	+0.3
	baz=271						
YM10	YM10	0.87	288	P	Pb	01 10 27.9	0.0
	baz=270						
YM10				*e*S	Sb	01 10 39.3	-0.2
	baz=270						
NWLT	Wulai	0.89	263	*e*P	Pb	01 10 28.6	+0.4
	baz=260						
NWLT				*e*S	Sb	01 10 40.5	+0.5
	baz=260						
YM04	YM04	0.89	288	*e*P	Pb	01 10 28.1	-0.2
	baz=270						
YM04				*e*S	Sg	01 10 39.6	-0.1
	baz=270						
YM03	YM03	0.90	289	*e*P	Pn	01 10 29.1	-0.3
	baz=287						
ANP	Anpu	0.92	289	P	Pb	01 10 29.1	+0.4
	baz=273						
ANP				*e*S	Sb	01 10 40.8	-0.1
	baz=273						
NDT	Datong Townshi	0.92	252	P	Pb	01 10 28.6	0.0
	baz=249						
NDT				S	Sb	01 10 41.4	+0.6
	baz=249						
TWS1	Kuangyinshan	0.98	283	P	Pn	01 10 30.5	+0.1
	baz=280						
TWS1				S	Sn	01 10 43.9	-0.3
	baz=280						
YHNB	Yeheng	1.02	258	*e*P	Pg	01 10 30.3	-0.3
	baz=239						
YHNB				*e*S	Sb	01 10 43.8	-0.1
	baz=239						
NSK	Sanguang	1.03	259	*i* P	Pb	01 10 30.5	-0.2
	baz=271						
NSK				S	Sb	01 10 44.3	0.0
	baz=271						
NACB	Ninganchiao	1.07	229	P	Pb	01 10 30.6	-0.7
	baz=239						
NACB				S	Sb	01 10 44.9	-0.2
	baz=239						
NNSB	Datong	1.09	246	P	Pb	01 10 31.5	-0.2
	baz=231						
NNSB				S	Sg	01 10 46.3	+0.2
	baz=231						
NNSH	Datong	1.09	246	P	Pg	01 10 31.7	-0.1
	baz=243						
NNSH				*e*S	Sg	01 10 46.1	0.0
	baz=243						
NNS	Nan Shan	1.09	246	P	Pb	01 10 31.1	-0.7
	baz=231						
NNS				S	Sg	01 10 46.2	0.0
	baz=231						
ETLH	Xiulin Townshi	1.13	233	P	Pg	01 10 32.5	-0.1
	baz=231						
ETLH				*e*S	Sn	01 10 47.7	-0.2
	baz=231						
TWD	Chiawan	1.13	225	P	Pg	01 10 32.7	+0.1
	baz=232						
TWD				*e*S	Sn	01 10 48.6	+0.7
	baz=232						
HWA	Hwalien	1.20	221	*e*P	Pg	01 10 33.8	-0.2
	baz=219						
IRIF	Iriomote-Funau	1.27	115	P	Pg	01 10 35.1	-0.1
FUSS	Fushou	1.29	241	P	Pb	01 10 35.3	+0.2
	baz=238						
FUSS				*e*S	Sg	01 10 53.2	+0.8
	baz=238						
WHF	Hehuan Shan	1.32	236	P	Pb	01 10 35.8	-0.1
	baz=234						
WHF				S	Sb	01 10 52.8	-0.1
	baz=234						
TWT	Tachien	1.34	242	P	Pg	01 10 37.3	+0.7
	baz=240						
TWT				S	Sg	01 10 55.0	+1.0
	baz=240						
LIOB	Emei	1.35	260	P	Pb	01 10 36.2	+0.2
	baz=257						
LIOB				*e*S	Sb	01 10 52.8	-0.4
	baz=257						
TDCB	Techi	1.35	243	*e*P	Pg	01 10 36.8	-0.1
	baz=240						
TDCB				*e*S	Sg	01 10 54.3	-0.1
	baz=240						
NSTT	Nanjuang	1.36	260	*e*S	Sn	01 10 53.8	+0.2
	baz=257						
HSN	Hsinchu	1.37	267	*e*P	Pn	01 10 34.8	-0.9
	baz=265						
HSN				*e*S	Sb	01 10 52.8	-1.0
	baz=265						
ESL	Shilin	1.43	222	P	Pn	01 10 36.6	+0.1
	baz=219						
ESL				S	Sb	01 10 55.6	+0.2
	baz=219						
CHGB	Renai	1.44	236	P	Pg	01 10 38.2	-0.3
	baz=246						
CHGB				*e*S	Sg	01 10 57.0	-0.3
	baz=246						
WHP	Taichung City	1.52	247	*e*P	Pb	01 10 39.1	+0.1
	baz=244						
WHP				*e*S	Sb	01 10 58.0	-0.2
	baz=244						
EGFH	Guangfu	1.54	218	*e*P	Pn	01 10 38.4	+0.2
	baz=200						
EGFH				*e*S	Sb	01 10 59.1	+0.3
	baz=200						
JKRS	Kuro-shima	1.54	114	P	Pn	01 10 38.5	+0.4
NMLH	Miaoli	1.57	258	*e*S	Sn	01 10 59.1	+0.3
	baz=255						
TWQ1	Liyutan	1.64	251	*e*P	Pn	01 10 39.3	-0.2
	baz=248						
TWQ1				*e*S	Sn	01 11 00.2	-0.2
	baz=248						
DPDB	Guoxing	1.64	239	*e*P	Pb	01 10 41.5	+0.4
	baz=237						
DPDB				*e*S	Sb	01 11 01.4	-0.5
	baz=237						
VWDT	VWDT	1.66	227	*e*P	Pb	01 10 40.6	-0.6
	baz=208						
VWDT				*e*S	Sn	01 11 00.7	-0.2
	baz=208						
PTSB	Yuanli	1.67	255	*e*P	Pn	01 10 39.7	-0.2
	baz=268						
HGSD	Ruisui	1.68	215	*e*P	Pb	01 10 41.0	-0.8
	baz=199						
HGSD				*e*S	Sb	01 11 02.9	0.0
	baz=199						
SMLT	Sun Moon Lake	1.75	236	P	Pb	01 10 42.7	-0.2
	baz=244						
SMLT				*e*S	Sn	01 11 03.5	+0.3
	baz=244						
WDJ	Dajia District	1.75	253	*e*P	Pn	01 10 41.2	+0.2
	baz=251						
SSLB	Suanglung	1.76	232	*e*S	Sb	01 11 06.0	+0.8
	baz=241						
TYC	Yuchr	1.77	237	*e*P	Pb	01 10 43.5	+0.4
	baz=234						
TYC				*e*S	Sg	01 11 07.2	-0.6
	baz=234						

JMA ***01*** *01:11:08.8±0.2, 22°.17N×121°.69E, h17^{km}, M4.2*
TAP ***01*** *01:11:10.5, 22°.15N×121°.54E, h17^{km}, ML3.9, C*
ISC 01 01:11:09.0±0.9**, 22°.14N**±0°.03×**121°.62E**±0°.03**, h18**^{km}**, n91,**
σ0^{s}89/165**, 3C-3D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.12	213	⇑*i*P	Pg	01 11 14.2	+1.1
	baz=179						
LAY				*i* S	Sg	01 11 16.8	+1.1
	baz=179						
LDUT	Ludao	0.55	345	P	Pg	01 11 20.1	+0.1
	baz=1.0						
LDUT				S	Sb	01 11 28.4	+0.8
	baz=1.0						
TAW	Tawu	0.71	288	*i* P	Pb	01 11 22.6	-0.3
	baz=290						
TAW				*i* S	Sb	01 11 31.2	-1.0
	baz=290						
TSEB	Hengchuen, Pin	0.71	250	⇑*i*P	Pg	01 11 23.7	+0.6
	baz=264						
TSEB				*i* S	Sg	01 11 33.7	+1.1
	baz=264						

TTN	**Taitung** baz=339	0.75	324	*i* P	Pg	01 11 24.2	+0.4
TTN	baz=339			*i* S	Sg	01 11 34.9	+1.0
EAST	**Anshuo** baz=291	0.76	289	⇓*i* P	Pb	01 11 23.2	-0.5
EAST	baz=291			S	Sb	01 11 32.6	-1.1
ECL	**Taimali** baz=296	0.77	306	⇓*i* P	Pb	01 11 23.3	-0.6
ECL	baz=296			*i* S	Sb	01 11 32.7	-1.3
SLIU	**Shizi** baz=277	0.77	276	⇓P	Pb	01 11 23.7	-0.2
SLIU	baz=277			S	Sb	01 11 32.7	-1.4
TWKBT	**Hengchun** baz=266	0.78	255	⇑P	Pb	01 11 23.9	-0.2
TWKBT	baz=266			S	Sb	01 11 34.1	-0.2
TWK1	**Hengchun** baz=266	0.79	256	*i* P	Pb	01 11 23.9	-0.3
TWK1	baz=266			*i* S	Sb	01 11 33.5	-1.0
HEN	**Hengchun** baz=270	0.83	261	P	Pb	01 11 25.0	0.0
HEN	baz=270			*i* S	Sb	01 11 36.0	+0.1
TWGBT	**Beinan** baz=337	0.84	323	P	Pb	01 11 24.8	-0.3
TWGBT	baz=337			*e*S	Sg	01 11 36.8	+0.2
TWG	**Pinlang** baz=337	0.85	323	*i* P	Pb	01 11 25.0	-0.2
TWG	baz=337			S	Sg	01 11 36.9	+0.1
EDH	**Donghe** baz=354	0.88	340	P	Pb	01 11 25.4	-0.4
EDH	baz=354			S	Sb	01 11 36.8	-0.4
LONT	**Longtian** baz=343	0.89	329	*e*P	Pb	01 11 25.6	-0.3
LONT	baz=343			S	Sb	01 11 37.6	+0.1
SCZT	**Fangliau** baz=285	0.96	284	*i* P	Pb	01 11 26.5	-0.6
SCZT	baz=285			S	Sb	01 11 37.6	-1.8
CHKT	**Chengkung** baz=359	0.98	346	P	Pb	01 11 27.1	-0.4
CHKT	baz=359			S	Sb	01 11 38.6	-1.6
MASBT	**Mashibuluo** baz=299	1.03	297	*e*P	Pb	01 11 27.6	-0.8
MASBT	baz=299			*e*S	Sb	01 11 39.7	-1.8
SSPT	**Xinbi** baz=299	1.03	289	P	Pb	01 11 28.5	0.0
SSPT	baz=299			*e*S	Sb	01 11 40.5	-1.2
TSMG	**Majia** baz=304	1.06	302	*e*P	Pb	01 11 27.9	-1.0
TSMG	baz=304			*e*S	Sb	01 11 41.3	-1.3
FULB	**Fuli** baz=357	1.09	344	*i* P	Pb	01 11 28.6	-0.8
FULB	baz=357			*i* S	Sb	01 11 42.2	-1.3
SSD	**Sandimen** baz=298	1.10	303	*i* P	Pb	01 11 28.6	-0.9
SSD	baz=298			S	Sb	01 11 41.4	-2.1
WLCH	**Liuqiu** baz=282	1.17	280	P	Pg	01 11 32.8	+1.0
WLCH	baz=282			*e*S	Sg	01 11 47.3	+0.1
ELDTW	**Lidau** baz=335	1.18	332	*i* P	Pn	01 11 30.3	-0.5
ELDTW	baz=335			*i* S	Sb	01 11 46.1	0.0
TWP	**Hsiaoliuchiu** baz=282	1.19	280	P	Pg	01 11 32.8	+0.7
SGLT	**Jiouru** baz=301	1.20	299	P	Pg	01 11 33.0	+0.8
SLGT	**Liugui** baz=322	1.24	313	P	Pn	01 11 31.6	+0.1
SCST	**Cishan** baz=307	1.28	305	*e*P	Pn	01 11 32.8	+0.7
SCST	baz=307			*e*S	Sg	01 11 51.2	+0.7
STYT	**Tauyuan** baz=324	1.29	322	P	Pn	01 11 32.5	+0.2
STYT	baz=324			S	Sb	01 11 49.1	-0.2
TWM1	**Shoushan** baz=303	1.30	302	P	Pg	01 11 34.5	+0.2
TWM1	baz=303			*e*S	Sg	01 11 51.4	+0.2
SNJT	**Kaohsiung City** baz=299	1.34	297	*e*P	Pg	01 11 35.3	+0.4
SNJT	baz=299			S	Sg	01 11 53.3	+0.9
SGST	**Jiashian** baz=329	1.34	314	P	Pn	01 11 33.0	+0.1
SGST	baz=329			*e*S	Sb	01 11 51.5	+0.9
HGSD	**Ruisui** baz=3.0	1.36	352	*e*P	Pn	01 11 32.8	-0.3
HGSD	baz=3.0			*e*S	Sn	01 11 49.7	-0.9
EHY	**Hungye** baz=358	1.39	348	P	Pn	01 11 33.3	-0.2
EHY	baz=358			S	Sn	01 11 50.4	-1.0
WTP	**Ta-pu** baz=322	1.44	320	P	Pb	01 11 35.9	+0.5
WTP	baz=322			*e*S	Sb	01 11 54.6	+1.1
CHN1	**Nanshi** baz=329	1.45	316	P	Pb	01 11 36.5	+0.9
CHN1	baz=329			S	Sg	01 11 56.1	+0.1
TPUB	**Ta-pu** baz=324	1.47	322	*e*P	Pb	01 11 36.7	+0.8
TPUB	baz=324			*e*S	Sb	01 11 55.2	+0.8
CHN3	**Shinhua** baz=311	1.49	309	*e*P	Pg	01 11 37.9	+0.1
CHN3	baz=311			*e*S	Sg	01 11 57.1	-0.1
SNST	**Tainan City** baz=329	1.49	316	P	Pb	01 11 37.3	+1.0
SNST	baz=329			*e*S	Sg	01 11 57.5	+0.1
EGFH	**Guangfu** baz=3.0	1.53	353	*e*P	Pn	01 11 34.5	-1.0
EGFH	baz=3.0			*e*S	Sn	01 11 55.0	0.0
ALS	**Alishan** baz=325	1.56	331	*e*P	Pn	01 11 37.0	+0.9
VWDT	**VWDT** baz=355	1.66	345	*e*P	Pn	01 11 38.5	+1.1
ESL	**Shilin** baz=5.0	1.67	354	P	Pn	01 11 37.9	+0.4
ESL	baz=5.0			S	Sn	01 11 58.1	-0.4
SCLT	**Jiali** baz=310	1.67	308	*e*S	Sb	01 12 01.1	+1.0
CHN5	**Tsauling** baz=331	1.69	329	P	Pb	01 11 39.9	+0.2
CHN5	baz=331			S	Sg	01 12 02.9	-0.7
WHYT	**Xinyi Township** baz=337	1.70	335	P	Pb	01 11 40.1	+0.3
WHYT	baz=337			*e*S	Sb	01 12 01.2	+0.2
CHY	**Chiayi** baz=323	1.75	321	*e*P	Pb	01 11 40.1	-0.4
CHY	baz=323			*e*S	Sb	01 12 02.4	+0.2
SSLB	**Suanglung** baz=351	1.75	339	*e*P	Pn	01 11 39.6	+1.0
SSLB	baz=351			*e*S	Sb	01 12 02.3	0.0
WLGB	**Puzi** baz=319	1.81	318	*e*S	Sb	01 12 03.9	0.0
WGK	**Gukeng** baz=329	1.82	328	*e*P	Pb	01 11 41.9	0.0
WGK	baz=329			*e*S	Sb	01 12 05.8	+1.4
WDLH	**Douliu** baz=312	1.84	327	*e*P	Pb	01 11 42.1	0.0
WDLH	baz=312			*e*S	Sb	01 12 06.0	+1.2
SMLT	**Sun Moon Lake** baz=352	1.86	339	*e*P	Pb	01 11 41.9	-0.7
SMLT	baz=352			*e*S	Sb	01 12 06.3	+0.8
WJS	**Zhushan** baz=335	1.86	334	*e*P	Pb	01 11 43.0	+0.4
WJS	baz=335			*e*S	Sg	01 12 08.0	-1.1
TYC	**Yuchr** baz=351	1.89	338	P	Pb	01 11 42.7	-0.3
TYC	baz=351			S	Sb	01 12 06.6	+0.3
WTK	**Tuku** baz=325	1.91	324	*e*S	Sb	01 12 06.6	-0.4
TWD	**Chiawan** baz=10.0	1.93	359	*e*P	Pn	01 11 40.4	-0.5
TWD	baz=10.0			*e*S	Sn	01 12 04.1	-0.7
WNT	**Mingjian** baz=320	1.93	334	P	Pb	01 11 43.9	+0.1
WNT	baz=320			*e*S	Sb	01 12 09.2	+1.6
CHGB	**Renai** baz=349	1.95	348	*e*P	Pn	01 11 42.1	+0.6
CHGB	baz=349			*e*S	Sn	01 12 07.2	+1.5
WSF	**Szhu** baz=321	1.97	319	*e*S	Sb	01 12 08.0	-0.6
DPDB	**Guoxing** baz=353	1.99	341	*e*P	Pb	01 11 44.7	-0.1
DPDB	baz=353			*e*S	Sb	01 12 08.9	-0.3
WHF	**Hehuan Shan** baz=352	2.02	351	*e*P	Pn	01 11 43.6	+0.9
WHF	baz=352			*e*S	Sn	01 12 09.2	+1.5
NACB	**Ninganchiao** baz=8.0	2.02	359	*e*P	Pn	01 11 41.9	-0.4
NACB	baz=8.0			*e*S	Sn	01 12 05.8	-1.3
ETLH	**Xiulin Townshi** baz=7.0	2.06	356	*e*P	Pn	01 11 43.0	+0.1
ETLH	baz=7.0			*e*S	Sb	01 12 10.3	-1.0
FUSS	**Fushou** baz=351	2.12	351	*e*P	Pb	01 11 46.4	-0.8
FUSS	baz=351			*e*S	Sb	01 12 12.0	-1.3
WDGT	**Dungji** baz=304	2.13	302	*e*P	Pn	01 11 43.9	+0.1
WDGT	baz=304			*e*S	Sn	01 12 09.2	-0.5
WHP	**Taichung City** baz=355	2.21	344	*e*P	Pb	01 11 47.8	-0.8
WHP	baz=355			*e*S	Sb	01 12 16.6	+0.8
ENA	**Nanau** baz=12	2.28	3	*e*P	Pn	01 11 45.8	0.0
NNSB	**Datong** baz=5.0	2.29	354	*e*P	Pn	01 11 47.1	+1.1
NNSB	baz=5.0			*e*S	Sn	01 12 14.4	+0.6
NNSH	**Datong** baz=5.0	2.29	354	*e*P	Pn	01 11 47.5	+1.5
NNSH	baz=5.0			*e*S	Sn	01 12 14.4	+0.6
VCHM	**Qimei** baz=300	2.29	298	*e*P	Pn	01 11 45.6	-0.4
VCHM	baz=300			*e*S	Sn	01 12 12.0	-1.6
NNS	**Nan Shan** baz=5.0	2.30	354	*e*P	Pn	01 11 47.7	+1.5
NNS	baz=5.0			*e*S	Sn	01 12 15.1	+1.0
TWQ1	**Liyutan** baz=325	2.33	341	*e*P	Pb	01 11 50.1	-0.5
TWQ1	baz=325			*e*S	Sb	01 12 18.8	-0.3
PHUB	**P'eng-hu** baz=308	2.33	306	*e*P	Pn	01 11 45.6	-1.0
PHUB	baz=308			*e*S	Sn	01 12 13.2	-1.6
WDJ	**Dajia District** baz=324	2.37	338	*e*S	Sb	01 12 20.3	0.0
PNG	**Penghu** baz=308	2.38	307	*e*S	Sn	01 12 14.3	-1.5
NSY	**Sanyi** baz=326	2.40	341	*e*P	Pb	01 11 50.7	-1.0
NSY	baz=326			*e*S	Sb	01 12 21.4	+0.4
PTSB	**Yuanli** baz=325	2.44	340	*e*S	Sb	01 12 22.6	+0.2
TWC	**Suao** baz=15	2.46	5	*e*P	Pn	01 11 49.5	+1.1
TWC	baz=15			*e*S	Sn	01 12 18.2	+0.2
YHNB	**Yeheng** baz=5.0	2.53	355	*e*P	Pn	01 11 51.0	+1.7
YHNB	baz=5.0			*e*S	Sn	01 12 20.3	+0.6
NSK	**Sanguang** baz=4.0	2.53	355	*e*P	Pn	01 11 50.4	+1.0
NSK	baz=4.0			*e*S	Sn	01 12 21.4	+1.6
JYNG	**Yonaguni jima**	2.60	28	P	Pn	01 11 50.8	+0.6
JYNG				*e*S	Sn	01 12 21.4	+0.1
YOJ	**Yonaguni jima**	2.64	29	P	Pn	01 11 51.4	+0.7
HATJ	**Hateruma jima**	2.77	46	P	Pn	01 11 53.1	+0.6
HATJ				*e*S	Sn	01 12 24.3	-1.2
IRIF	**Iriomote-Funau**	2.92	41	P	Pn	01 11 55.5	+0.9
IRIF				S	Sn	01 12 28.1	-1.1
JKRS	**Kuro-shima**	3.03	46	P	Pn	01 11 56.8	+0.7
JKRS				*e*S	Sn	01 12 31.1	-0.8
JIJ	**Ishigaki jima**	3.20	46	P	Pn	01 11 58.7	+0.2
JIJ				*e*S	Sn	01 12 33.8	-2.4
JISG	**Ishigakijimahi**	3.47	45	P	Pn	01 12 02.3	+0.2
JISG				S	Sn	01 12 39.6	-3.1
JTJ	**Tarama**	3.77	48	P	Pn	01 12 06.9	+0.7
JTJ				S	Sn	01 12 48.8	-1.3
JIRB	**Irabujima**	4.21	50	P	Pn	01 12 13.0	+0.6
JMJ2	**Miyako jima3**	4.27	52	P	Pn	01 12 13.6	+0.4
JIKM	**Ikemajima**	4.33	50	P	Pn	01 12 14.8	+0.8

ASRS 01 01:24:48.7±0.2, 52.7°N±1.°, 95.7°E±0.9, h5km, MLh3.8/17, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDJR	**Todzha**	**0.62**	**22**	Pg	Pn	01 25 07.2	+3.0
TDJR				Sg	Sn	01 25 15.1	+0.6
ORL	**Orlik**	**2.62**	**73**	Pg	Pg	01 25 40.5	+1.7
ORL				Sg	Sg	01 26 14.0	+1.3
DJOS	**Djoyskaya Sosn**	**2.82**	**292**	Pg	Pg	01 25 42.8	0.0
DJOS				Sg	Sg	01 26 23.7	+4.4
CERR	**Cheremushki**	**2.83**	**293**	Pg	Pg	01 25 45.6	+2.6
CERR				Sg	Sg	01 26 24.9	+5.3
DJO	**Djoy, Khakassi**	**2.92**	**291**	Pn	Pn	01 25 37.2	+1.4
DJO				Pg	Pg	01 25 46.5	+1.8
DJO				Sg	Sg	01 26 27.4	+4.9
MINR	**Mina**	**3.21**	**344**	Pg	Pg	01 25 52.2	+2.1
MINR				Sg	Sg	01 26 34.9	+3.2
ABNR	**Abakan**	**3.22**	**308**	Pg	Pg	01 25 52.2	+1.9
ABNR				Sg	Sg	01 26 35.6	+3.6
TBTR	**Tabat**	**3.26**	**292**	Pg	Pg	01 25 51.2	+0.2
TBTR				Sg	Sg	01 26 37.3	+4.2
MOY	**Mondy**	**3.28**	**91**	Pg	Pg	01 25 52.5	+1.0
MOY				Sg	Sg	01 26 35.1	+1.1
SHRR	**Shira**	**4.28**	**311**	Pg	Pg	01 26 07.7	-2.9
SHRR				Sg	Sg	01 27 09.1	+3.1
LUZB	**Luzhba, Kemero**	**4.53**	**297**	Pn	Pb	01 26 09.9	+1.3
LUZB				Pg	Pg	01 26 12.2	-3.2
LUZB				Sg	Sg	01 27 15.6	+1.5
SHTK	**Zheleznogorsk-**	**4.68**	**345**	Pg	Pg	01 26 17.4	-0.9
SHTK				Sg	Sg	01 27 20.3	+1.5
TASR	**Tashtagol**	**4.90**	**284**	Pg	Pg	01 26 25.7	+3.2
TASR				Sg	Sg	01 27 29.8	+3.8
ZAK	**Zakamensk**	**4.98**	**104**	Pg	Pg	01 26 25.7	+1.7
ZAK				Sg	Sg	01 27 29.1	+0.6
ULGR	**Ulagan, Altay**	**5.02**	**259**	Pg	Pg	01 26 27.3	+2.4
ULGR				Sg	Sg	01 27 31.8	+1.9
ARTR	**Artybash**	**5.24**	**273**	Pg	Pg	01 26 32.5	+3.6
ARTR				Sg	Sg	01 27 41.5	+4.8
AKAR	**Aktash**	**5.33**	**257**	Pn	Pb	01 26 19.0	-3.3
AKAR				Pg	Pg	01 26 31.8	+1.1
AKAR				Sg	Sg	01 27 41.9	+2.3
CHBI	**Chibit, Altay**	**5.40**	**257**	Pn	Pn	01 26 09.1	-0.8
CHBI				Pg	Pg	01 26 32.2	+0.2
CHBI				Sg	Sg	01 27 50.2	+8.3
DGZ	**Jazzator, Alta**	**5.67**	**251**	Pn	Pn	01 26 18.5	+4.8
DGZ				Pg	Pg	01 26 41.5	+4.1
DGZ				Sg	Sg	01 27 53.8	+3.0
ELT	**Eltsovka**	**5.96**	**288**	Pn	Pn	01 26 17.2	-0.3
ELT				Pg	Pg	01 26 41.5	-1.3
ELT				Sg	Sg	01 28 01.2	+1.3
GALT	**Gorno-Altaysk,**	**6.05**	**275**	Sg	Sg	01 28 04.4	+1.5
POMOR	**Pomortsevo, Ku**	**6.11**	**299**	Sg	Sg	01 28 03.7	-0.9
TUNR	**Tungur**	**6.16**	**258**	Pn	Pn	01 26 24.8	+4.5
TUNR				Pg	Pg	01 26 48.9	+2.3
TUNR				Sg	Sg	01 28 10.7	+4.3
SALR	**Pechorkino, Sa**	**6.56**	**297**	Pg	Pg	01 26 51.8	-2.5
SALR				Sg	Sg	01 28 20.6	+1.4
TRG	**Tyrgan**	**6.59**	**78**	Pg	Pg	01 26 50.7	-4.1
TRG				Sg	Sg	01 28 16.7	-3.3

IDC 01 02:03:14.2±543.0, 48.29N×35.39E, h0km, Error ellipse: s-maj=262.0km s-min=169.8km az=129.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON** baz=186,slow=312,SNR=1.7	**8.52**	**7**	*i*		02 57 10.0	
I26DE	**FREYUNG INFRAS** baz=87,slow=289,SNR=2.1	**14.36**	**280**	*i*		03 25 30.0	
I48TN	**KESRA INFRASON** baz=48,slow=299,SNR=1.3	**22.90**	**247**	*i*		04 25 10.0	

*NEIC **01** 02:40:11.2±2.5, 7.67S±0.07×127.58E±0.08, h168km±6km, mb4.2/5, Error ellipse: s-maj=11.6km s-min=10.1km az=71.0*
*DJA **01** 02:40:11.5±0.3, 8.°S±3.°×12.°8E±.°, h189km±10km, M4.6/8, mb4.3/6, mB4.5/1, MLv4.7/8, Mw(mB)3.7/1*
*IDC **01** 02:40:12.3±2.0, 7.65S×127.46E, h173km±18km, mb3.5/6, mb1 3.8/9, mb1mx3.5/29, mbtmp4.2/9, Error ellipse: s-maj=21.2km s-min=14.2km az=82.0*
ISC 01 02:40:12.3±0.6, 7.84S±0.05×127.66E±0.06, h200km, n40, σ2.966/45, mb3.8/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.60**	**93**	Pn	**Pn**	**02 41 08.5**	**-0.8**
SOEI	**Soe**	**3.86**	**240**	P	**Pn**	**02 41 11.3**	**-1.2**
SOEI	**Soe**	**3.86**	**240**		**Pn**	**02 41 10.6**	**-1.9**
BNDI	**Bandanaira**	**3.98**	**34**	P	**Pn**	**02 41 12.5**	**-1.4**
BNDI				S	Sn	**02 42 00.6**	**-1.6**
BATI	**Baumata** 95nm,0.3s,baz=119,slow=1.7,SNR=56	**4.60**	**239**	P	**Pn**	**02 41 21.2**	**-0.5**
BATI				S	Sn	**02 42 12.9**	**-3.4**
BATI	**Baumata** 55nm,0.3s,baz=121,slow=24,SNR=12	**4.60**	**239**	P	**Pn**	**02 41 20.7**	**-1.0**
MMRI	**Maumere**	**5.43**	**261**		**Pn**	**02 41 29.9**	**-2.3**
EDFI	**Ende, Flores** 0.0nm13nm,1.0s	**5.98**	**261**	P	**Pn**	**02 41 38.9**	**-0.6**
MTN	**Manton Dam**	**6.03**	**146**		**Pn**	**02 41 40.1**	**+0.1**
FAKI	**Fak Fak**	**6.69**	**43**	Pn	**Pn**	**02 41 45.5**	**-3.0**
BASI	**Baing, Sumba** 0.4nm9nm,0.6s	**7.39**	**251**	P	**Pn**	**02 41 57.3**	**-0.3**
SIJI	**Sorong** 4.7nm,0.3s,baz=109,slow=22,SNR=5.9	**7.80**	**28**	P	**Pn**	**02 42 01.7**	**-1.3**
SIJI				S	Sn	**02 43 24.8**	**-6.4**
KNRA	**Kununurra**	**7.87**	**172**		**Pn**	**02 42 02.9**	**-0.9**
KAPI	**Kappang**	**8.35**	**289**	Pn	**Pn**	**02 42 07.4**	**-2.8**
WBSI	**Waikabubak, Su** 27nm,0.9s	**8.37**	**257**	P	**Pn**	**02 42 08.7**	**-1.8**
KMSI	**Cibinong**	**9.13**	**336**	P	**Pn**	**02 42 18.8**	**-1.5**
PLAI	**Plampang** 37nm,0.8s	**9.83**	**264**	P	**Pn**	**02 42 28.5**	**-1.0**
FITZ	**Fitzroy Crossi** 3.9nm,0.3s,baz=9.0,slow=11,SNR=99	**10.39**	**191**	P	**Pn**	**02 42 35.4**	**-1.2**
FITZ				S	Sn	**02 44 25.7**	**-6.9**
FITZ	**Fitzroy Crossi** 3.1nm,0.3s,baz=84,slow=20,SNR=7.6	**10.39**	**191**		**Pn**	**02 42 35.5**	**-1.1**
WB0	**Warramunga Arr**	**13.54**	**152**		**Pn**	**02 43 17.0**	**+0.5**
WRAB	**Tennant Creek**	**13.66**	**152**	Pn	**Pn**	**02 43 18.2**	**+0.1**
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=322,slow=14,SNR=26	**13.66**	**152**	P	**Pn**	**02 43 18.1**	**0.0**
WRA				S	**S**	**02 45 44.0**	**-6.4**
WB2	**Warramunga Arr**	**13.67**	**152**	Pn	**P**	**02 43 19.6**	**-0.9**
WR0	**Warramunga Arr**	**13.77**	**152**	Pn	**P**	**02 43 21.5**	**-0.2**
AS31	**Alice Springs**	**16.84**	**160**	P	**Pn**	**02 43 56.5**	**-0.2**
AS31	comp=Z,3.4nm,0.4s			IAmb	IAmb	02 44 02.9	
AS31					**S**	**02 47 03.6**	**+2.5**
ASAR	**Alice Springs** comp=Z,1.5nm,0.3s,baz=342,slow=12,SNR=51	**16.84**	**160**	P	**Pn**	**02 44 00.8**	**+4.1**
ASAR				S	**S**	**02 47 01.9**	**+0.7**
STKA	**Stephens Creek** comp=Z,0.8nm,0.3s,baz=328,slow=21,SNR=8.3	**27.21**	**153**	P	**P**	**02 45 41.8**	**+4.2**
STKA	**Stephens Creek** comp=Z,4.1nm,1.0s,baz=324,slow=17,SNR=2.9	**27.21**	**153**	IAmb	IAmb	02 46 34.8	
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.4s,baz=137,slow=6.8,SNR=5.0	**38.55**	**313**	P	**P**	**02 47 16.4**	**+0.5**
SONM	**Songino Array** comp=Z,0.3nm,0.3s,baz=165,slow=6.0,SNR=2.5	**58.54**	**343**	P	**P**	**02 49 50.0**	**+2.1**
MKAR	**Makanchi Array** comp=Z,1.2nm,0.6s,baz=130,slow=7.9,SNR=10	**67.68**	**328**	P	**P**	**02 50 49.1**	**+1.1**
ZALV	**Zalesovo Beam** comp=Z,0.7nm,0.4s,baz=99,slow=4.5,SNR=2.3	**71.33**	**335**	P	**P**	**02 51 10.7**	**+0.6**
VNDA	**Vanda** comp=Z,0.5nm,0.4s,baz=317,slow=9.9,SNR=11	**71.91**	**173**	P	**P**	**02 51 17.5**	**+4.3**
VNDA	**Vanda** comp=Z,9.6nm,1.8s	**71.91**	**173**	P	P	02 51 18.1	+4.9
VNDA				IAmb	IAmb	02 52 17.5	
KURK	**Kurchatov**	**72.04**	**330**	P	**P**	**02 51 15.6**	**+1.2**
QSPA	**South Pole Qui**	**82.14**	**180**	P	**P**	**02 52 15.5**	**+2.9**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.6s,baz=70,slow=2.5,SNR=4.5	**126.69**	**281**	PKP	**PKiKP**	**02 58 55.0**	**+1.6**
CPUP	**Villa Florida** comp=Z,1.0nm,0.5s,baz=245,slow=1.1,SNR=5.3	**145.69**	**172**	PKPbc	**PKiKP**	**02 59 31.2**	**-0.5**
LPAZ	**La Paz** comp=Z,0.9nm,0.4s,baz=63,slow=2.3,SNR=15	**151.38**	**147**	PKPbc	**PKiKP**	**02 59 48.1**	**+3.5**
LPAZ	**La Paz**	**151.38**	**147**		**PKPab**	**02 59 48.6**	**-4.3**

*NNC **01** 03:04:47.7±2.7, 40.37N×76.96E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=18.1km s-min=13.5km az=171.0*
*KRNET **01** 03:04:50.0±0.1, 40.54N×77.11E, h19km, mb2.7*
*SOME **01** 03:04:49.9, 40.57N×77.02E, h0km*
ISC 01 03:04:52.2±2.1, 40.63N±0.08×77.02E±0.03, h9km±11km, n56, σ1.953/93, 39C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy** baz=24	**1.25**	**28**	⇓*i* P	**Pb**	**03 05 14.8**	**-1.4**
TARG	baz=24			⇓*i* S	**Sn**	**03 05 33.1**	**-0.3**
TARG	**Taragay, Kyrgy** baz=9.0	**1.25**	**28**	⇑*e* P	**Pb**	**03 05 14.3**	**-1.9**
TARG	baz=9.0			⇑*i* S	**Sn**	**03 05 33.0**	**-0.3**
KDJ	**Kajisay** baz=2.0	**1.50**	**5**	⇑*e* P	**Pb**	**03 05 19.8**	**-0.6**
KDJ	baz=2.0			⇑*i* S	**Sg**	**03 05 41.6**	**+1.1**
KDJ	**Kajisay** baz=54	**1.50**	**5**	⇑*i* P	**Pb**	**03 05 19.8**	**-0.6**
KDJ	baz=54			⇑*i* S	**Sg**	**03 05 42.2**	**+1.7**
ULHL	**Ulahol** baz=39	**1.71**	**340**	⇑*i* P	**Pb**	**03 05 24.2**	**+0.2**
ULHL	baz=39			⇑*i* S	**Sg**	**03 05 48.9**	**+1.5**
KZA	**Kyzart** baz=18	**1.96**	**318**	⇑*i* P	**Pb**	**03 05 28.3**	**-0.1**

KZA				⇑iS	Sg	03 05 56.5	+1.1
	baz=18						
KZA	**Kyzart**	**1.96**	**318**	⇑iP	**Pb**	**03 05 28.0**	**-0.4**
	baz=18						
KZA				⇑iS	Sg	03 05 56.6	+1.1
	baz=18						
BOOM	**Boomskoye usch**	**2.02**	**337**	⇓iP	**Pb**	**03 05 28.6**	**-0.7**
	baz=36						
BOOM				⇓iS	Sg	03 05 57.6	+0.3
	baz=36						
BOOM	**Boomskoye usch**	**2.02**	**337**	⇓iP	**Pb**	**03 05 28.7**	**-0.6**
	baz=33						
BOOM				⇓iS	Sg	03 05 57.7	+0.4
	baz=33						
PRZ	**Przheval'sk**	**2.12**	**29**	⇑iP	**Pn**	**03 05 25.7**	**-2.3**
	baz=17						
PRZ				⇑iS	Sn	03 05 52.8	-1.8
	baz=17						
ANVS	**Anan'yevo**	**2.20**	**13**	⇓eP	**Pb**	**03 05 31.0**	**-1.3**
	baz=10.0						
ANVS				⇓iS	Sg	03 06 01.2	-1.8
	baz=10.0						
ANVS	**Anan'yevo**	**2.20**	**13**	⇑eP	**Pn**	**03 05 28.9**	**-0.3**
	baz=3.0						
ANVS				⇑iS	Sb	03 05 58.0	-1.8
	baz=3.0						
ARLS	**Aral**	**2.38**	**302**	⇑iP	**Pb**	**03 05 34.2**	**-1.0**
	baz=3.0						
ARLS				⇑iS	Sb	03 06 06.4	+1.7
	baz=3.0						
ARLS	**Aral**	**2.38**	**302**	⇑iP	**Pb**	**03 05 33.7**	**-1.5**
	baz=5.0						
ARLS				⇑iS	Sb	03 06 06.6	+1.9
	baz=5.0						
TNSS	**Tian-Shan**	**2.40**	**359**	eP	**Pg**	**03 05 37.0**	**-1.2**
	8.2nm,0.4s						
TNSS				eS	Sg	03 06 10.8	+1.3
	16nm,0.4s						
TNSS	**Tian-Shan**	**2.40**	**359**	Pg	**Pg**	**03 05 37.0**	**-1.2**
	8.2nm,0.4s						
TNSS				Lg	Lg	03 06 10.8	
	16nm,0.4s						
UCH	**Uchtor**	**2.47**	**311**	⇑iP	**Pb**	**03 05 35.0**	**-2.0**
	baz=12						
UCH				⇑iS	Sb	03 06 08.2	+0.5
	baz=12						
UCH	**Uchtor**	**2.47**	**311**	⇓eP	**Pn**	**03 05 34.8**	**+1.8**
	baz=12						
UCH				⇓iS	Sb	03 06 08.5	+0.8
	baz=12						
TKM2	**Tokmak 2**	**2.52**	**336**	⇑iP	**Pb**	**03 05 36.0**	**-1.8**
	baz=35						
TKM2				⇑iS	Sb	03 06 09.7	+0.7
	baz=35						
TKM2	**Tokmak 2**	**2.52**	**336**	⇑iP	**Pn**	**03 05 35.5**	**+1.9**
	baz=33						
TKM2				⇑iS	Sb	03 06 10.0	+1.0
	baz=33						
TKM2	**Tokmak 2**	**2.52**	**336**	⇓Pg	**Pb**	**03 05 38.6**	**+0.8**
	3.1nm,0.8s						
TKM2				⇑Lg	Lg	03 06 17.9	
	2.2nm,0.3s						
MDOK	**Medeo**	**2.53**	**0**	eP	**Pb**	**03 05 39.0**	**+1.2**
	6.1nm,0.3s						
MDOK				eS	Sg	03 06 14.1	+0.7
	14nm,0.5s						
MDOK	**Medeo**	**2.53**	**0**	Pg	**Pb**	**03 05 38.8**	**+0.9**
	4.1nm,0.5s						
MDOK				Lg	Lg	03 06 18.5	
	10nm,0.5s						
MDOK	**Medeo**	**2.53**	**0**	Pg	**Pb**	**03 05 39.0**	**+1.2**
	6.1nm,0.3s						
MDOK				Lg	Lg	03 06 14.1	
	14nm,0.5s						
KST	**Kastek**	**2.53**	**342**	eP	**Pb**	**03 05 39.2**	**+1.2**
	1.3nm,0.2s						
KST				eS	Sg	03 06 15.0	+1.4
	5.2nm,0.5s						
KST	**Kastek**	**2.53**	**342**	Pg	**Pb**	**03 05 39.2**	**+1.2**
	3.5nm,0.3s						
KST				Lg	Lg	03 06 14.9	
	4.8nm,0.5s						
MTBS	**Maitube**	**2.53**	**350**	eP	**Pg**	**03 05 39.6**	**-1.1**
	2.9nm,0.1s						
MTBS				eS	Sg	03 06 15.4	+1.8
	14nm,0.2s						
MTBS	**Maitube**	**2.53**	**350**	Pg	**Pg**	**03 05 39.6**	**-1.1**
	2.9nm,0.1s						
MTBS				Lg	Lg	03 06 15.4	
	14nm,0.2s						
KBK	**Karagaybulak**	**2.55**	**323**	⇓iP	**Pb**	**03 05 36.4**	**-1.8**
	baz=23						
KBK				⇓iS	Sb	03 06 10.2	+0.5
	baz=23						
KBK	**Karagaybulak**	**2.55**	**323**	⇑eP	**Pn**	**03 05 35.7**	**+1.8**
	baz=22						
KBK				⇑iS	Sb	03 06 10.3	+0.5
	baz=22						
SATY	**Saty**	**2.64**	**23**	eP	**Pg**	**03 05 41.2**	**-1.6**
	2.0nm,0.2s						
SATY				eS	Sg	03 06 17.5	+0.6
	10nm,0.2s						
SATY	**Saty**	**2.64**	**23**	Pg	**Pb**	**03 05 40.3**	**+0.6**
	5.2nm,0.5s						
SATY				Lg	Lg	03 06 16.6	
	11nm,0.5s						
AAK	**Ala-Archa**	**2.76**	**317**	⇑iP	**Pb**	**03 05 39.4**	**-2.3**
	baz=18						
AAK				⇑iS	Sb	03 06 15.2	-0.5
	baz=18						
AAK	**Ala-Archa**	**2.76**	**317**	⇓Pg	**Pb**	**03 05 41.5**	**-0.2**
	3.5nm,0.5s						
AAK				⇓Lg	Lg	03 06 21.5	
	9.9nm,0.8s						
DGS	**Degeres**	**2.77**	**341**	eP	**Pg**	**03 05 43.6**	**-1.6**
	6.1nm,0.5s						
DGS				eS	Sg	03 06 22.5	+1.4
	5.1nm,0.4s						
DGS	**Degeres**	**2.77**	**341**	Pg	**Pg**	**03 05 43.6**	**-1.6**
	6.1nm,0.5s						
DGS				Lg	Lg	03 06 22.5	
	5.1nm,0.4s						
AML	**Almayashu**	**2.92**	**302**	⇑iP	**Pn**	**03 05 41.7**	**+2.6**
	baz=3.0						
AML				⇑iS	Sb	03 06 19.3	-1.2
	baz=3.0						
AML	**Almayashu**	**2.92**	**302**	⇓eP	**Pn**	**03 05 40.8**	**+1.7**
	baz=4.0						
AML				⇓iS	Sb	03 06 19.3	-1.2
	baz=4.0						
UZB	**Uzynbulak**	**2.92**	**30**	eP	**Pg**	**03 05 46.6**	**-1.6**
	2.5nm,0.1s						
UZB				eS	Sg	03 06 27.1	+0.9
	8.0nm,0.6s						
UZB	**Uzynbulak**	**2.92**	**30**	Pg	**Pg**	**03 05 46.6**	**-1.6**
	2.5nm,0.1s						
UZB				Lg	Lg	03 06 27.1	
	8.0nm,0.6s						
KURS	**Kuram**	**2.98**	**16**	eP	**Pg**	**03 05 47.3**	**-2.0**
	4.5nm,0.5s						
KURS				eS	Sg	03 06 28.9	+1.0
	4.4nm,0.5s						
KURS	**Kuram**	**2.98**	**16**	Pg	**Pg**	**03 05 47.3**	**-2.0**
	4.5nm,0.5s						
KURS				Lg	Lg	03 06 28.8	
	4.4nm,0.5s						
KTBS	**Karatobe**	**3.09**	**355**	eP	**Pb**	**03 05 48.6**	**+1.3**
	2.6nm,0.4s						
KTBS				eS	Sg	03 06 30.6	-0.7
	13nm,0.5s						
KTBS	**Karatobe**	**3.09**	**355**	Pg	**Pb**	**03 05 48.6**	**+1.3**
	2.6nm,0.4s						
KTBS				Lg	Lg	03 06 30.6	
	13nm,0.5s						
SHLS	**Shalkode**	**3.11**	**35**	eP	**Pg**	**03 05 52.9**	**+1.1**
	7.2nm,0.5s						
SHLS				eS	Sg	03 06 37.8	+5.6
	21nm,0.5s						
SHLS	**Shalkode**	**3.11**	**35**	Pg	**Pg**	**03 05 52.9**	**+1.1**
	7.2nm,0.5s						
SHLS				Lg	Lg	03 06 37.8	
	21nm,0.5s						
EKS2	**Erkin-Say**	**3.16**	**311**	⇑eP	**Pn**	**03 05 45.0**	**+2.7**
	baz=11						
EKS2				⇑iS	Sb	03 06 25.0	-2.4
	baz=11						
EKS2	**Erkin-Say**	**3.16**	**311**	⇑iP	**Pn**	**03 05 43.9**	**+1.6**
	baz=12						
EKS2				⇑iS	Sb	03 06 25.0	-2.4
	baz=12						
CHKK	**Chushkaly**	**3.22**	**360**	eP	**Pb**	**03 05 51.5**	**+1.9**
	3.8nm,0.3s						
CHKK				eS	Sg	03 06 35.7	+0.1
	10nm,0.2s						
CHKK	**Chushkaly**	**3.22**	**360**	Pg	**Pb**	**03 05 51.5**	**+1.9**
	3.8nm,0.3s						
CHKK				Lg	Lg	03 06 35.7	
	10nm,0.2s						
PDGK	**Podgornoye**	**3.26**	**34**	Pg	**Pb**	**03 05 51.7**	**+1.3**
	1.9nm,0.5s						
PDGK				Lg	Lg	03 06 36.0	
	4.4nm,0.6s						
PDGK	**Podgornoye**	**3.26**	**34**	⇑Pg	**Pb**	**03 05 50.8**	**+0.4**
	3.1nm,0.6s						
PDGK				⇑Lg	Lg	03 06 43.5	
	12nm,0.9s						
KUU	**Kurty**	**3.30**	**351**	eP	**Pb**	**03 05 52.4**	**+1.5**
	1.2nm,0.3s						
KUU				eS	Sg	03 06 37.1	-1.0
	7.4nm,0.6s						
KUU	**Kurty**	**3.30**	**351**	Pg	**Pb**	**03 05 52.4**	**+1.5**
	1.2nm,0.3s						
KUU				Lg	Lg	03 06 37.1	
	7.4nm,0.6s						
ARXS	**Arharly**	**3.63**	**9**	Pg	**Pg**	**03 05 59.8**	**-1.9**
	3.1nm,0.4s						
ARXS				Lg	Lg	03 06 49.6	
	6.8nm,0.6s						
KK31	**Karatay Array**	**5.45**	**299**	⇓Pg	**Pb**	**03 06 27.1**	**-0.5**
	0.3nm,0.4s,baz=130,slow=18,SNR=4.5						
KK31				⇓Lg	Lg	03 07 42.7	
	1.2nm,0.8s,baz=126,slow=29						

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*IDC **01** 03:10:03.6±0.4, 4°.49N×96°.46E, h0km, mb4.4/30, mb1 4.5/30, mb1mx4.4/42, mbtmp4.4/30, MS4.1/24, Ms1 4.1/24, ms1mx3.9/46, Error ellipse: s-maj=15.6km s-min=10.8km az=44.0*

*BJI **01** 03:10:05.0±0.0, 4°.50N×96°.40E, h11km, mB5.0/34, mb4.7/48, Ms4.7/40, Ms7 4.3/41*

*NEIC **01** 03:10:07.2±1.9, 4°.53N±0°.05×96°.48E±0°.07, h35km±3km, mb4.8/80, Error ellipse: s-maj=9.7km s-min=7.5km az=85.0*

*KLM **01** 03:10:07.0, 4°.44N×96°.52E, h14km, mb5.1*

*DJA **01** 03:10:08.0±0.2, 4°N±2°×9°7E±°, h10km, M5.0/19, mb4.9/19, mB5.5/7, MLv5.2/14, Mw(mB)4.9/7*

*GCMT **01** 03:10:08.2±0.3, 4°.48N±0°.02×96°.55E±0°.01, h21km±1km, MW5.0/98, Moment Tensor Solution. s32,c34; s98,c151; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.00±.14; Mθθ-3.10±.12; Mφφ3.10±.12; Mrθ-1.46±.26; Mθφ-0.74±.09; Mφr-0.82±.23; Best double couple: M0 3.57300×10^16 NP1:φs130.00000°, δ65.00000°, λ-172.00000°. NP2: φs37.00000°, δ83.00000°, λ-25.00000°. Principal axes: T 3.3260, Plg12.0000°, Azm86.0000°; N 0.4970, Plg64.0000°, Azm203.0000°; P -3.8210, Plg22.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 03:10:05.4±1.1, **4°.42N**±0°.04×**96°.47E**±0°.04, **h15**km±6km, **n224**, σ1°.**86**/221, **mb4.7**/86, **MS4.2**/32, **12C-6D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.17**	**204**	P	**Pb**	**03 10 10.7**	**+0.5**
MLSI				S	**Sb**	**03 10 16.4**	**+3.0**
LHMI	**Lhok Sumawe**	**0.93**	**30**	P	**Pn**	**03 10 24.2**	**+0.4**
LHMI				S	**Sn**	**03 10 37.7**	**+0.8**
LHMI	**Lhok Sumawe**	**0.93**	**30**		**Pn**	**03 10 24.0**	**+0.1**
TPTI		**1.35**	**149**	P	**Pb**	**03 10 30.3**	**-0.1**
TPTI				S	**Sb**	**03 10 48.3**	**+0.8**
KCSI	**Kotacane, Aceh**	**1.57**	**125**	P	**Pn**	**03 10 33.5**	**+0.8**
KCSI				S	**Sb**	**03 10 55.2**	**+1.3**
TSI	**Tuntungan**	**2.28**	**114**	P	**Pb**	**03 10 44.5**	**-1.7**
TSI				S	**Sg**	**03 11 18.3**	**-0.4**
RPSI	**Rantau Prapat**	**2.99**	**125**	Pn	**Pn**	**03 10 54.5**	**+2.3**
GSI	**Gunungsitoli**	**3.29**	**160**	P	**Pn**	**03 10 58.4**	**+2.1**
GSI	**Gunungsitoli**	**3.29**	**160**		**Pn**	**03 10 57.4**	**+1.1**
KULM	**Kulim**	**4.25**	**78**	Pn	**Pn**	**03 11 09.1**	**-0.5**
KULM	**Kulim**	**4.25**	**78**	P	**Pn**	**03 11 10.0**	**+0.5**
IPM	**Ipoh**	**4.54**	**89**	Pn	**Pn**	**03 11 13.8**	**+0.2**
IPM	**Ipoh**	**4.54**	**89**	P	**Pn**	**03 11 14.0**	**+0.5**
MNSI	**Mandailing Nat**	**4.75**	**139**	P	**Pn**	**03 11 19.1**	**+2.6**
PBSI	**Pulau Batu**	**4.80**	**158**	P	**Pn**	**03 11 18.9**	**+1.8**
BKNI	**Bangkinang**	**6.11**	**132**	P	**Pn**	**03 11 36.9**	**+1.7**
	2.9nm6µm297nm,0.9s						
BKNI	**Bangkinang**	**6.11**	**132**		**Pn**	**03 11 36.7**	**+1.5**
SDSI	**Sungai Dareh**	**7.27**	**137**	P	**Pn**	**03 11 53.0**	**+2.0**
MYKOM	**Kota Tinggi**	**7.81**	**109**	Pn	**Pn**	**03 11 58.7**	**+0.2**
PPSI	**Pulau Pagai**	**7.96**	**154**	P	**Pn**	**03 12 02.0**	**+1.4**
	1.1nm126nm,2.4s						
PBA	**Port Blair**	**8.08**	**333**	Pn	Pn	03 12 00.1	-2.1
DGPR	**DIGLIPUR**	**9.38**	**338**	eP	**Pn**	**03 12 23.6**	**+3.6**
MASI	**Maura Aman, Be**	**9.47**	**142**	P	**Pn**	**03 12 24.3**	**+3.0**
	143nm,0.6s						
LHSI	**Lahat**	**10.80**	**139**	P	**Pn**	**03 12 40.9**	**+1.3**
	180nm,1.0s						
MNAI	**Manna**	**10.87**	**143**	P	**Pn**	**03 12 42.0**	**+1.6**
	181nm,1.1s						
MDSI	**Maura Dua**	**11.73**	**139**	P	**Pn**	**03 12 52.3**	**+0.1**
	65nm,0.9s						
LWLI	**Liwa**	**12.05**	**141**	P	**Pn**	**03 12 58.6**	**+1.8**
	5µm105nm,0.7s						
KASI	**Kota Agung**	**12.72**	**141**	P	**Pn**	**03 13 03.7**	**-2.1**
	34nm,0.7s						
CM31	**Chiang Mai Arr**	**14.16**	**10**	Pn	**Pn**	**03 13 27.4**	**+2.0**
CMAR	**Chiang Mai Arr**	**14.16**	**10**	Pn	**Pn**	**03 13 27.6**	**+2.1**
	0.7nm,0.3s,baz=200,slow=14,SNR=25						
CMAR				Lg	Lg	03 17 13.1	
	baz=204,slow=30,SNR=4.8						
CMAR				LR	LR	03 18 40.4	
	comp=Z,327nm,20.6s,baz=232,slow=37						
CHTO	**Chiang Mai**	**14.51**	**9**	Pn	**Pn**	**03 13 29.8**	**-0.5**
LEM	**Lembang**	**15.77**	**135**	LR	LR	03 19 43.2	
	comp=Z,1µm,18.1s,baz=278,slow=37						
SBUM	**Sibu**	**15.84**	**97**	Pn	**Pn**	**03 13 46.8**	**-1.1**
PALK	**Pallekele**	**15.94**	**281**	Pn	**P**	**03 13 52.8**	**-0.1**
	0.4nm,0.3s,baz=208,slow=10,SNR=3.9						
PALK				Sn	**Sn**	**03 16 40.1**	**-5.9**
	2.5nm,0.3s,baz=236,slow=9.6,SNR=5.2						
PALK				LR	LR	03 19 14.8	
	comp=Z,504nm,21.3s,baz=203,slow=35						
PALK	**Pallekele**	**15.94**	**281**	IAmb	IAmb	03 14 00.5	
	comp=Z,69nm,0.9s						
CISI	**Cisompet, Garu**	**16.42**	**136**	Pn	**Pn**	**03 13 55.0**	**-0.5**
CISI				IAmb	IAmb	03 14 32.4	
	comp=Z,77nm,1.2s						
SMRI	**Semarang**	**18.00**	**129**		**Pn**	**03 14 14.3**	**-1.0**
SMRI				IAmb	IAmb	03 14 27.2	
	comp=Z,111nm,1.2s						
SLVN	**Son La**	**18.29**	**23**		**Pn**	**03 14 16.5**	**-2.3**
BWNR	**Bhubaneshwar**	**18.89**	**328**	eP	**Pn**	**03 14 28.2**	**+2.2**
BWNR				IAmb	IAmb	03 14 30.9	
	comp=Z,28nm,0.9s						
QIZ	**Qiongzhong**	**19.52**	**41**	P	**Pn**	**03 14 39.5**	**+5.9**
QIZ				pmax	pmax		
	comp=Z,11nm,1.1s						
QIZ				LR	LR		
	comp=Z,2µm,18.0s						
QIZ				LR	LR		
	comp=Z,1µm,17.1s						
QIZ				LR	LR		
	comp=Z,550nm,9.2s						
KKM	**Kota Kinabalu**	**19.72**	**84**	P	**P**	**03 14 33.4**	**-1.3**
BBKI	**Banjar Baru**	**19.95**	**113**	P	**Pn**	**03 14 38.9**	**+0.1**
KMI	**Kunming**	**21.45**	**16**	⇑P	**P**	**03 14 58.3**	**+4.9**
KMI				pP	sP	03 15 05.2	+5.1
KMI				S	Sn	03 18 55.6	-3.5
KMI				SS	**SnSn**	**03 19 23.2**	**+8.5**
KMI				pmax	pmax		
	comp=Z,17nm,1.4s						
KMI				pmax	pmax		
	comp=Z,250nm,4.6s						
KMI				LR	LR		
	comp=Z,430nm,12.1s						
KMI				LR	LR		
	comp=Z,630nm,14.1s						
KMI				LR	LR		
	comp=Z,710nm,14.4s						
SHL	**Shillong**	**21.48**	**349**	iP	**P**	**03 14 54.5**	**+0.8**
SHL				eP	**pP**	**03 14 54.9**	**-3.5**
SHL				eS	**S**	**03 18 49.5**	**-2.2**
SHL	**Shillong**	**21.48**	**349**	P	**P**	**03 14 53.9**	**+0.2**
HYB	**Hyderabad**	**21.80**	**308**	iP	**P**	**03 14 58.0**	**+1.0**
HYB				eS	**S**	**03 19 00.0**	**+2.2**
HYB	**Hyderabad**	**21.80**	**308**	eP	**P**	**03 14 59.9**	**+2.9**
HYB				IAmb	IAmb	03 15 11.3	
	comp=Z,113nm,1.4s						
BOK	**Bokaro**	**21.80**	**333**	ex	x	03 14 52.2	
BOK				ex	**P**	**03 14 55.3**	**-1.7**
MYLDM	**Lahad Datu**	**21.96**	**87**	P	**P**	**03 14 57.8**	**-1.0**
GYA	**Guiyang**	**23.98**	**23**	⇑P	**P**	**03 15 22.1**	**+2.5**
GYA				pmax	pmax		
	comp=Z,25nm,0.7s						
GYA				LR	LR		
	comp=Z,610nm,15.4s						
KAPI	**Kappang**	**25.07**	**112**	P	**P**	**03 15 30.4**	**+1.0**
	comp=Z,11nm,0.7s,baz=325,slow=5.5,SNR=5.5						
KAPI				LR	LR	03 26 00.4	
	comp=Z,570nm,18.1s,baz=286,slow=38						
KAPI	**Kappang**	**25.07**	**112**	P	**P**	**03 15 28.9**	**-0.5**
KAPI				IAmb	IAmb	03 16 13.2	
	comp=Z,30nm,1.1s						
LSA	**Lhasa**	**25.64**	**349**	P	**P**	**03 15 35.9**	**+0.8**
LSA				IAmb	IAmb	03 15 56.2	
	comp=Z,36nm,0.9s						
H08S2	**Diego Garcia H**	**26.76**	**243**	T	T	03 43 05.8	
	baz=62,slow=75,SNR=1141						
H08S3	**Diego Garcia H**	**26.76**	**244**	T	T	03 42 46.3	
	baz=62,slow=75,SNR=1253						
H08S1	**Diego Carcia H**	**26.78**	**243**	T	T	03 43 07.1	
	baz=62,slow=75,SNR=544						
LUWI	**Luwuk**	**26.83**	**101**	P	**P**	**03 15 45.0**	**-0.4**
CD2	**Chengdu**	**27.23**	**14**	P	**P**	**03 15 49.3**	**+0.4**
CD2				pP	sP	03 15 56.4	+0.6
CD2				sP	pP	03 16 02.0	+8.2
CD2				S	**S**	**03 20 26.4**	**-1.1**
CD2				sS	sS	03 20 40.2	+4.3
CD2				SS	SS	03 21 42.1	-40
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,330nm,4.9s						
CD2				LR	LR		
	comp=Z,1µm,12.4s						
CD2				LR	LR		
	comp=Z,2µm,15.7s						
CD2				LR	LR		
	comp=Z,1µm,11.6s						
XAN	**Xi'an**	**31.66**	**20**	P	**P**	**03 16 30.0**	**+1.8**
XAN				pP	sP	03 16 38.0	+2.9
XAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,120nm,4.3s						
XAN				LR	LR		
	comp=Z,760nm,14.1s						
XAN				LR	LR		
	comp=Z,1µm,16.3s						
XAN				LR	LR		
	comp=Z,760nm,16.3s						
SMLA	**Simla**	**32.18**	**328**	eP	**P**	**03 16 33.8**	**+1.0**
LZH	**Lanzhou**	**32.23**	**11**	eP	**P**	**03 16 34.7**	**+1.4**
LZH				pP	sP	03 16 43.5	+3.2
LZH				sP	pP	03 16 47.2	+8.9
LZH				ePP	**PnPn**	**03 17 42.6**	**+3.0**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,92nm,5.2s						
LZH				LR	LR		
	comp=Z,380nm,13.0s						
LZH				LR	LR		
	comp=Z,380nm,13.2s						
LZH				LR	LR		
	comp=Z,530nm,16.3s						
NJ2	**Nanjing**	**34.58**	**35**	eP	**P**	**03 16 54.5**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
GTA	**Gaotai**	**34.96**	**5**	eP	**P**	**03 16 59.6**	**+2.6**
GTA				pP	sP	03 17 10.7	+6.7
GTA				PP	**PnPn**	**03 18 12.8**	**-1.2**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,64nm,5.3s						
GTA				LR	LR		
	comp=Z,270nm,15.2s						
GTA				LR	LR		
	comp=Z,350nm,18.1s						
GTA				LR	LR		
	comp=Z,310nm,15.2s						
SIJI	**Sorong**	**35.16**	**98**	P	**P**	**03 16 59.1**	**+0.2**
	comp=Z,20nm,0.9s,baz=299,slow=7.6,SNR=4.7						
SIJI				LR	LR	03 31 10.4	
	comp=Z,114nm,19.8s,baz=136,slow=36						
NIL	**Nilore**	**36.24**	**326**	P	**P**	**03 17 06.2**	**-1.8**
FITZ	**Fitzroy Crossi**	**36.44**	**129**	P	**P**	**03 17 09.6**	**-0.2**
	comp=Z,5.0nm,0.8s,baz=308,slow=4.8,SNR=13						
FITZ	**Fitzroy Crossi**	**36.44**	**129**	P	**P**	**03 17 09.4**	**-0.4**
	baz=36,SNR=15						
FITZ	**Fitzroy Crossi**	**36.44**	**129**	P	**P**	**03 17 09.7**	**-0.1**
FITZ				IAmb	IAmb	03 17 25.5	
	comp=Z,12nm,0.9s						
KNRA	**Kununurra**	**37.69**	**123**	P	**P**	**03 17 20.7**	**+0.2**
KNRA				IAmb	IAmb	03 17 35.5	
	comp=Z,15nm,0.8s						
BTO	**Baotou**	**38.03**	**17**	eP	P	03 17 32.1	+8.9
BTO				S	S	03 23 06.0	-9.2
MTN	**Manton Dam**	**38.47**	**117**	P	**P**	**03 17 27.2**	**+0.1**
MTN				IAmb	IAmb	03 18 21.5	
	comp=Z,34nm,1.6s						
HHC	**Hu-ho-hao-te**	**38.72**	**18**	eP	**P**	**03 17 28.6**	**-0.4**
HHC				pmax	pmax		
	comp=Z,21nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,5.7s						
HHC				LR	LR		
	comp=Z,710nm,21.8s						
HHC				LR	LR		
	comp=Z,1µm,19.9s						
HHC				LR	LR		
	comp=Z,290nm,16.1s						
KBL	**Kabul**	**39.31**	**323**	P	**P**	**03 17 31.9**	**-2.2**
KSH	**Kashi**	**39.56**	**335**	eP	**P**	**03 17 35.0**	**-1.1**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BJT	**Baijiatuau**	**39.65**	**24**	P	**P**	**03 17 34.4**	**-2.2**
BJT				IAmb	IAmb	03 17 49.3	
	comp=Z,22nm,1.0s						
BJI	**Beijing**	**39.67**	**24**	P	**P**	**03 17 39.1**	**+2.3**
BJI				S	**S**	**03 23 39.1**	**-0.5**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BJI				LR	LR		
	comp=Z,360nm,21.4s						
BJI				LR	LR		
	comp=Z,420nm,29.1s						
WMQ	**Urumqi**	**40.00**	**350**	eP	**P**	**03 17 40.8**	**+1.3**
WMQ				sP	sP	03 17 52.5	+5.9
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
WMQ				LR	LR		
	comp=Z,230nm,20.3s						
WMQ				LR	LR		
	comp=Z,470nm,19.5s						
WMQ				LR	LR		
	comp=Z,120nm,17.9s						
WMQ	**Urumqi**	**40.00**	**350**	P	**P**	**03 17 36.6**	**-2.9**
TARG	**Taragay, Kyrgy**	**40.73**	**338**	P	**P**	**03 17 43.9**	**-2.1**
TARG				IAmb	IAmb	03 18 14.3	
	comp=Z,15nm,0.9s						
WSAR	**Wadi Sarin**	**41.04**	**301**	P	**P**	**03 17 49.6**	**+1.2**
	comp=Z,4.8nm,0.6s,baz=128,slow=9.1,SNR=7.9						
DL2	**Dalian**	**41.23**	**30**	P	**P**	**03 17 52.4**	**+2.7**
DL2				pmax	pmax		
	comp=Z,30nm,0.9s						
DL2				pmax	pmax		
	comp=Z,350nm,5.0s						
DL2				LR	LR		
	comp=Z,650nm,23.9s						
DL2				LR	LR		
	comp=Z,910nm,19.2s						
DL2				LR	LR		
	comp=Z,420nm,19.1s						
GAR	**Garm**	**41.81**	**329**	P	**P**	**03 17 53.6**	**-1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GAR				IAmb	IAmb	03 18 36.0	
	comp=Z,34nm,1.2s						
NWAO	**Narrogin (SRO)**	**42.04**	**154**	P	**P**	**03 17 57.0**	**+0.6**
	comp=Z,6.6nm,0.8s,baz=129,slow=16,SNR=1.6						
NWAO				LR	LR	03 35 05.3	
	comp=Z,325nm,20.0s,baz=321,slow=36						
CHGR	**Chuyangaron**	**42.16**	**328**	P	**P**	**03 17 56.0**	**-1.5**
ARSB	**Arslanbob**	**42.34**	**334**	IAmb	IAmb	03 18 47.4	
	comp=Z,22nm,1.0s						
BTK	**Batken**	**42.36**	**330**	IAmb	IAmb	03 18 42.9	
	comp=Z,17nm,0.8s						
H01W3	**Cape Leeuwin H**	**42.48**	**158**	T	T	04 02 09.3	
	baz=333,slow=76,SNR=8.1						
H01W2	**Cape Leeuwin H**	**42.50**	**158**	T	T	04 02 10.3	
	baz=333,slow=76,SNR=7.2						
H01W1	**Cape Leeuwin H**	**42.50**	**158**	T	T	04 02 07.2	
	baz=333,slow=76,SNR=7.3						
WRKA	**Warakurna**	**42.59**	**135**	P	**P**	**03 17 59.7**	**-1.4**
	baz=42,SNR=7.3						
AAK	**Ala-Archa**	**42.78**	**336**	P	**P**	**03 18 02.3**	**-0.2**
JNU	**Nakatsue**	**42.95**	**44**	P	**P**	**03 18 05.1**	**+1.2**
	comp=Z,13nm,0.9s,baz=289,slow=11,SNR=2.5						
JNU				LR	LR	03 37 03.5	
	comp=Z,317nm,19.3s,baz=256,slow=38						
KS19	**Wonju Array Si**	**43.67**	**37**	P	**P**	**03 18 07.3**	**-2.4**
KS19				IAmb	IAmb	03 19 04.5	
	comp=Z,27nm,1.1s						
KSRS	**Korea Array**	**43.67**	**37**	P	**P**	**03 18 10.7**	**+1.1**
	comp=Z,2.6nm,0.7s,baz=222,slow=8.9,SNR=12						
KSRS				LR	LR	03 38 08.1	
	comp=Z,314nm,18.0s,baz=231,slow=39						
MK31	**Makanchi Array**	**43.96**	**346**	P	**P**	**03 18 10.0**	**-1.8**
MKAR	**Makanchi Array**	**43.96**	**346**	P	**P**	**03 18 11.2**	**-0.7**
	comp=Z,2.2nm,0.5s,baz=158,slow=8.9,SNR=27						
MKAR				LR	LR	03 41 54.3	
	comp=Z,148nm,18.4s,baz=168,slow=44						
MAKZ	**Makanchi**	**44.05**	**346**	P	**P**	**03 18 11.0**	**-1.5**
SONM	**Songino Array**	**44.08**	**10**	P	**P**	**03 18 13.6**	**+0.7**
	comp=Z,3.0nm,0.7s,baz=188,slow=7.6,SNR=9.0						
SONM				LR	LR	03 40 17.8	
	comp=Z,286nm,18.4s,baz=188,slow=41						
ULN	**Ulaanbaatar**	**44.23**	**10**	P	**P**	**03 18 11.7**	**-2.4**
WB0	**Warramunga Arr**	**44.35**	**124**	IAmb	IAmb	03 18 31.4	
	comp=Z,19nm,0.8s						
WRA	**Warramunga Arr**	**44.39**	**124**	P	**P**	**03 18 16.0**	**+0.3**
	comp=Z,16nm,0.9s,baz=302,slow=9.2,SNR=85						
WRA				ScP	**ScP**	**03 23 51.8**	**+0.4**
	comp=Z,3.1nm,1.0s,baz=316,slow=3.7,SNR=8.9						
WRA				LR	LR	03 39 31.8	
	comp=Z,233nm,18.0s,baz=215,slow=40						
WRAB	**Tennant Creek**	**44.40**	**124**	P	**P**	**03 18 15.3**	**-0.4**
WB2	**Warramunga Arr**	**44.40**	**124**	P	**P**	**03 18 14.8**	**-1.0**
WC3	**Warramunga Arr**	**44.43**	**124**	P	**P**	**03 18 16.5**	**+0.6**
	baz=44						
WR0	**Warramunga Arr**	**44.57**	**124**	P	**P**	**03 18 15.8**	**-1.3**
KK31	**Karatay Array**	**44.87**	**333**	P	**P**	**03 18 17.6**	**-1.6**
KKAR	**Karatay Array**	**44.87**	**333**	P	**P**	**03 18 17.3**	**-1.9**
ASAR	**Alice Springs**	**45.94**	**129**	P	**P**	**03 18 27.6**	**-0.4**
	comp=Z,7.6nm,0.7s,baz=301,slow=7.6,SNR=22						
ASAR				ScP	**ScP**	**03 24 00.6**	**+2.9**
	comp=Z,1.6nm,1.0s,baz=314,slow=4.4,SNR=4.6						
ASAR				LR	LR	03 38 09.8	
	comp=Z,416nm,20.0s,baz=290,slow=37						
AS31	**Alice Springs**	**45.94**	**129**	P	**P**	**03 18 26.0**	**-2.0**
CN2	**Changchun**	**46.81**	**29**	*e*P	**P**	**03 18 38.2**	**+3.7**
CN2				*e*S	**S**	**03 25 24.9**	**+0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,600nm,22.0s						
CN2				LR	LR		
	comp=Z,700nm,22.0s						
CN2				LR	LR		
	comp=Z,300nm,12.0s						
GEYT	**Alibeck**	**48.31**	**319**	P	**P**	**03 18 47.0**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=159,slow=9.5,SNR=4.1						
GEYT				LR	LR	03 41 41.2	
	comp=Z,273nm,18.6s,baz=150,slow=39						
GYA0B	**ALIBECK ARRAY**	**48.31**	**319**	P	**P**	**03 18 44.6**	**-1.6**
GYA0B				IAmb	IAmb	03 19 03.6	
	comp=Z,9.4nm,0.8s						
KURK	**Kurchatov**	**48.51**	**345**	P	**P**	**03 18 45.8**	**-1.8**
MJB9	**Matsu-Tunnel**	**49.86**	**45**	P	**P**	**03 18 56.2**	**-2.0**
MJB9				IAmb	IAmb	03 19 04.5	
	comp=Z,6.0nm,0.7s						
MAJO	**Matsushiro**	**49.86**	**45**	P	**P**	**03 18 56.2**	**-2.0**
MAJO				IAmb	IAmb	03 19 04.6	
	comp=Z,5.9nm,0.7s						
MAT	**Matsushiro**	**49.86**	**45**	P	**P**	**03 18 58.4**	**+0.2**
MJAR	**Matsushiro Arr**	**49.86**	**45**	P	**P**	**03 18 59.6**	**+1.4**
	comp=Z,3.0nm,0.7s,baz=239,slow=9.2,SNR=8.4						
MJAR				LR	LR	03 40 44.0	
	comp=Z,214nm,20.5s,baz=245,slow=37						
ZAA0	**Zalesovo Array**	**50.28**	**351**	P	**P**	**03 18 58.5**	**-2.6**
ZALV	**Zalesovo Beam**	**50.28**	**351**	P	**P**	**03 19 00.6**	**-0.4**
	comp=Z,3.2nm,0.5s,baz=168,slow=7.6,SNR=9.3						
ZALV				LR	LR	03 43 31.4	
	comp=Z,101nm,20.3s,baz=186,slow=40						
USRK	**Ussuriysk Ar.**	**50.44**	**33**	P	**P**	**03 19 03.3**	**+1.0**
	comp=Z,2.5nm,0.6s,baz=241,slow=6.0,SNR=6.8						
USRK				LR	LR	03 41 30.7	
	comp=Z,260nm,18.9s,baz=216,slow=37						
BBOO	**Buckleboo**	**52.71**	**138**	P	**P**	**03 19 18.0**	**-1.6**
BRVK	**Borovoye**	**53.05**	**341**	P	**P**	**03 19 18.9**	**-2.8**
BRVK				IAmb	IAmb	03 19 45.5	
	comp=Z,9.1nm,0.9s						
ABKAR	**Akbulak array**	**54.35**	**331**	P	**P**	**03 19 29.8**	**-1.5**
ABKAR				IAmb	IAmb	03 20 13.6	
	comp=Z,8.8nm,0.9s						
CTAO	**Charters Tower**	**54.62**	**118**	P	**P**	**03 19 31.8**	**-2.0**
STKA	**Stephens Creek**	**56.06**	**133**	P	**P**	**03 19 46.3**	**+2.3**
	comp=Z,4.4nm,0.6s,baz=321,slow=8.0,SNR=6.7						
STKA				LR	LR	03 48 06.0	
	comp=Z,235nm,18.0s,baz=290,slow=41						
STKA	**Stephens Creek**	**56.06**	**133**	IAmb	IAmb	03 20 00.3	
	comp=Z,16nm,1.8s						
CMSA	**Cobar Meteorol**	**58.92**	**131**	P	**P**	**03 20 05.7**	**+1.5**
	baz=59,SNR=6.8						
RMQ	**Roma**	**59.16**	**124**	P	P	03 20 11.1	+5.2
	baz=59,SNR=4.1						
KMBO	**Kilima Mbogo**	**59.43**	**266**	P	**P**	**03 20 10.3**	**+2.1**
	comp=Z,2.0nm,0.6s,baz=29,slow=22,SNR=5.5						
KMBO				LR	LR	03 44 27.2	
	comp=Z,190nm,18.3s,baz=73,slow=35						
AKH	**Akhalkalaki**	**59.87**	**316**	P	**P**	**03 20 08.6**	**-2.1**
ARU	**Arti**	**59.95**	**337**	P	**P**	**03 20 09.3**	**-1.5**
ARU				IAmb	IAmb	03 20 59.7	
	comp=Z,9.2nm,1.0s						
KBZ	**Khabaz**	**61.19**	**318**	P	**P**	**03 20 19.1**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=149,slow=6.3,SNR=6.7						
KBZ				LR	LR	03 50 38.2	
	comp=Z,85nm,20.5s,baz=120,slow=40						
ARMA	**Armidale**	**63.03**	**127**	P	**P**	**03 20 28.9**	**-3.4**
GAZ	**Gaziantep**	**63.05**	**310**	P	**P**	**03 20 31.5**	**-0.8**
NRIK	**Noril'sk**	**65.09**	**357**	P	**P**	**03 20 47.0**	**+2.1**
	comp=Z,7.9nm,0.9s,baz=128,slow=6.0,SNR=2.8						
NRIK				LR	LR	03 52 33.0	
	comp=Z,97nm,19.4s,baz=188,slow=39						
CSS	**Mathiatis**	**65.57**	**306**	P	**P**	**03 20 47.7**	**-1.0**
MBAR	**Mbarara**	**65.86**	**267**	P	**P**	**03 20 51.0**	**-0.3**
MBAR				IAmb	IAmb	03 21 39.9	
	comp=Z,19nm,1.6s						
BR131	**Keskin Array S**	**66.43**	**312**	P	**P**	**03 20 52.4**	**-2.0**
BRTR	**Keskin Array B**	**66.43**	**312**	P	**P**	**03 20 53.4**	**-1.0**
	comp=Z,3.1nm,0.7s,baz=128,slow=7.1,SNR=14						
BRTR				LR	LR	03 53 57.5	
	comp=Z,59nm,18.0s,baz=107,slow=40						
ILGA	**Ilgaz**	**66.72**	**313**	P	**P**	**03 20 54.4**	**-1.9**
ILGA				IAmb	IAmb	03 21 20.7	
	comp=Z,12nm,1.0s						
ELL	**Elmali**	**68.65**	**308**	P	**P**	**03 21 07.2**	**-1.3**
MA2	**Magadan**	**68.77**	**26**	P	**P**	**03 21 07.3**	**-1.3**
MA2				IAmb	IAmb	03 23 08.7	
	comp=Z,14nm,1.2s						
PETK	**Petropavlovsk-**	**69.48**	**34**	LR	LR	03 53 09.0	
	comp=Z,172nm,20.1s,baz=242,slow=37						
KLMR	**Klimovskoe**	**70.55**	**334**	P	**P**	**03 21 17.4**	**-2.1**
KLMR				AMP		03 21 35.8	
	comp=Z,11nm,1.2s						
KARP	**Karpathos**	**70.64**	**306**	P	**P**	**03 21 21.8**	**+1.2**
SORM	**Soroca**	**72.20**	**319**	⇓P	**P**	**03 21 32.6**	**+2.9**
AKASG	**Malin Array Be**	**72.28**	**322**	P	**P**	**03 21 28.2**	**-1.9**
	comp=Z,3.3nm,0.7s,baz=91,slow=4.7,SNR=3.7						
VRI	**Vrincioaia**	**72.78**	**317**	⇓P	**P**	**03 21 33.3**	**0.0**
PLOR	**Plostina**	**72.83**	**317**	⇑P	**P**	**03 21 34.2**	**+0.5**
TESR	**Tescani**	**72.97**	**317**	⇑P	**P**	**03 21 34.9**	**+0.6**
MLR	**Muntele Rosu**	**73.25**	**316**	⇑P	**P**	**03 21 35.6**	**-0.6**
PLVB	**Pleven**	**73.81**	**314**	⇑P	**P**	**03 21 37.8**	**-1.6**
VOIR		**73.86**	**316**	⇓P	**P**	**03 21 38.5**	**-1.2**
BURAR	**Bucovina Array**	**74.15**	**318**	⇑P	**P**	**03 21 42.4**	**+1.0**
BUR08	**Bucovina Ar. S**	**74.16**	**318**	IAmb	IAmb	03 21 52.2	
	comp=Z,23nm,1.8s						
LBTB	**Lobatse**	**74.68**	**243**	P	**P**	**03 21 45.8**	**+0.8**
LBTB				IAmb	IAmb	03 21 51.3	
	comp=Z,11nm,0.8s						
VTS	**Vitosha**	**74.70**	**313**	⇑P	**P**	**03 21 41.2**	**-3.6**
VTS	**Vitosha**	**74.70**	**313**	P	**P**	**03 21 43.4**	**-1.3**
HERR	**Herculane**	**75.61**	**315**	⇓P	**P**	**03 21 49.2**	**-0.6**
MAW	**Mawson**	**75.67**	**193**	P	**P**	**03 21 47.9**	**-1.7**
BOSA	**Boshof**	**75.77**	**239**	P	**P**	**03 21 52.3**	**+1.1**
	comp=Z,5.1nm,0.8s,baz=110,slow=5.0,SNR=11						
BOSA				LR	LR	03 53 48.2	
	comp=Z,130nm,18.0s,baz=73,slow=35						
BOSA	**Boshof**	**75.77**	**239**	P	**P**	**03 21 50.5**	**-0.7**
BOSA				IAmb	IAmb	03 21 59.8	
	comp=Z,15nm,1.3s						
TRPA	**Tarpa**	**76.01**	**318**	⇑P	**P**	**03 21 52.8**	**+0.8**
MDVR	**Moldovita**	**76.09**	**315**	⇓P	**P**	**03 21 49.8**	**-2.8**
KWP	**Kalwaria Pacla**	**76.15**	**320**	P	**P**	**03 21 52.0**	**-0.8**
BZS	**Buzias**	**76.27**	**316**	⇓P	**P**	**03 21 51.3**	**-2.2**
KOLS	**Kolonicke sedl**	**76.31**	**319**	*e*P	**P**	**03 21 58.3**	**+4.6**
FINES	**FINESS Array B**	**76.83**	**332**	P	**P**	**03 21 55.0**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=104,slow=4.7,SNR=8.3						
CRVS	**Cervenica-Dubn**	**76.84**	**319**	*e*P	**P**	**03 21 58.2**	**+1.5**
PSZ	**Piszkesteto**	**77.74**	**318**	⇑P	**P**	**03 22 02.0**	**+0.1**
PSZ	**Piszkesteto**	**77.74**	**318**	P	**P**	**03 21 59.8**	**-2.1**
PSZ				IAmb	IAmb	03 22 57.9	
	comp=Z,13nm,1.2s						
VYHS	**Vyhne**	**78.51**	**318**	*e*P	**P**	**03 22 06.6**	**+0.5**
ARCES	**ARCESS Array B**	**79.28**	**340**	P	**P**	**03 22 08.8**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=89,slow=6.2,SNR=17						
JAVC	**Velka Javorina**	**79.32**	**319**	*e*P	**P**	**03 22 10.3**	**-0.2**
MORC	**Moravsky Berou**	**79.49**	**320**	*e*P	**P**	**03 22 11.0**	**-0.4**
MORC	**Moravsky Berou**	**79.49**	**320**	P	**P**	**03 22 08.5**	**-2.9**
PYZ	**Puysegur Point**	**79.66**	**138**	P	**P**	**03 22 08.9**	**-3.4**
KRLC	**Kraliky**	**80.01**	**320**	*e*P	**P**	**03 22 14.2**	**0.0**
DPC	**Dobruska-Polom**	**80.33**	**320**	*e*pP	pP	03 22 25.0	+3.6
CONA	**Conrad Observa**	**80.44**	**318**	*i* P	**P**	**03 22 16.2**	**-0.4**
ARSA	**Arzberg**	**80.62**	**317**	*i* P	**P**	**03 22 17.6**	**0.0**
	comp=Z,2.6nm,0.8s						
BOJS	**Bojanci**	**80.71**	**315**	*i* P	**P**	**03 22 18.2**	**+0.2**
PDKS	**Podkum**	**80.92**	**316**	*i* P	**P**	**03 22 19.6**	**+0.4**
SOKA	**Soboth**	**80.92**	**316**	*i* P	**P**	**03 22 19.6**	**+0.3**
	comp=Z,7.8nm,1.1s						
OBKA	**Obir**	**81.25**	**316**	*i* P	**P**	**03 22 20.2**	**-0.9**
	comp=Z,9.1nm,1.6s						
MOA	**Molln**	**81.51**	**318**	*i* P	**P**	**03 22 21.8**	**-0.5**
	comp=Z,2.5nm,0.8s						
PBCC	**Pribram**	**81.78**	**319**	*e*P	**P**	**03 22 24.2**	**+0.5**
BRG	**Berggiesshubel**	**81.87**	**321**	*e*P	**P**	**03 22 28.0**	**+3.9**
	comp=Z,4.1nm,1.4s						
BRG				*e*		03 22 33.5	
	comp=Z,5.7nm,1.0s						
MYKA	**Terra Mystica**	**81.88**	**316**	*i* P	**P**	**03 22 22.3**	**-2.0**
	comp=Z,2.7nm,1.0s						
PRED	**Cave del Predi**	**81.93**	**316**	IAmb	IAmb	03 22 34.5	
	comp=Z,8.3nm,0.7s						
GERES	**GERESS Array B**	**81.93**	**319**	P	**P**	**03 22 24.3**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=93,slow=5.9,SNR=16						
KHC	**Kasperske Hory**	**82.02**	**319**	*e*pP	pP	03 22 33.9	+3.4
KBA	**Koelnbreinsper**	**82.10**	**317**	*i* P	**P**	**03 22 23.4**	**-2.3**
	comp=Z,1.8nm,0.6s						
CLL	**Collm**	**82.48**	**321**	*e*P	**P**	**03 22 27.0**	**-0.3**
ABTA	**Abfaltersbach**	**82.66**	**316**	*i* P	**P**	**03 22 27.2**	**-1.2**
	comp=Z,3.0nm,0.9s						
SYO	**Syowa Base**	**82.83**	**198**	⇑*e*P	**P**	**03 22 27.3**	**-1.3**
SYO	**Syowa Base**	**82.83**	**198**	⇑*e*PcP	**PcP**	**03 22 33.4**	**0.0**
WTTA	**Wattenberg**	**83.27**	**317**	*i* P	**P**	**03 22 31.3**	**-0.4**
	comp=Z,4.3nm,0.7s						
WATA	**Walderalm**	**83.31**	**317**	*i* P	**P**	**03 22 29.5**	**-2.4**
	comp=Z,5.5nm,0.6s						
SQTA	**Sankt Quirin**	**83.56**	**317**	*i* P	**P**	**03 22 31.5**	**-1.6**
	comp=Z,7.0nm,1.0s						
MOTA	**Moosalm**	**83.63**	**317**	*i* P	**P**	**03 22 31.9**	**-1.7**
	comp=Z,6.8nm,1.0s						
NB2	**NORSAR Subarra**	**83.86**	**331**	P	**P**	**03 22 35.1**	**+0.8**
	comp=Z,4.9nm,1.1s,baz=93,slow=5.1						
NOA	**NORSAR Array B**	**83.86**	**331**	P	**P**	**03 22 33.7**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=83,slow=7.2,SNR=1.2						
RETA	**Reutte**	**83.87**	**317**	*i* P	**P**	**03 22 33.9**	**-0.7**
	comp=Z,11nm,1.2s						
FETA	**Feichten**	**83.89**	**317**	*i* P	**P**	**03 22 33.9**	**-1.0**
	comp=Z,5.5nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**84.21**	**316**	P	**P**	**03 22 33.8**	**-2.8**
FUORN				IAmb	IAmb	03 23 22.8	
	comp=Z,9.0nm,1.1s						
DAVA	**Damuels**	**84.47**	**317**	*i* P	**P**	**03 22 36.6**	**-1.2**
	comp=Z,6.1nm,1.1s						
KEST	**Kesra**	**85.11**	**305**	P	**P**	**03 22 41.7**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=319,slow=3.9,SNR=3.7						
SENIN	**Lac Senin/Sane**	**86.26**	**316**	P	**P**	**03 22 45.7**	**-1.2**
SENIN				IAmb	IAmb	03 22 56.4	
	comp=Z,5.3nm,0.8s						
BNI	**Bardonecchia**	**86.76**	**315**	P	**P**	**03 22 45.6**	**-3.6**
BNI				IAmb	IAmb	03 22 58.9	
	comp=Z,4.5nm,0.8s						
VNDA	**Vanda**	**89.11**	**169**	P	**P**	**03 23 01.2**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=331,slow=2.0,SNR=5.6						
VNDA				LR	LR	03 54 57.5	
	comp=Z,59nm,21.4s,baz=305,slow=30						
TAM	**Tamanrasset**	**89.18**	**293**	P	**P**	**03 23 00.1**	**-1.2**
TAM				IAmb	IAmb	03 23 19.1	
	comp=Z,5.5nm,1.2s						
TOA0	**Torodi Ar. Sit**	**93.65**	**283**	P	**P**	**03 23 18.5**	**-3.5**
TORD	**Torodi Ar. Bea**	**93.65**	**283**	P	**P**	**03 23 23.4**	**+1.5**
	comp=Z,3.1nm,0.9s,baz=79,slow=5.1,SNR=21						
ESDC	**Sonseca Array**	**95.20**	**310**	P	**P**	**03 23 29.9**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=60,slow=4.3,SNR=7.1						
ILAR	**Eielson Array**	**97.03**	**23**	P	Pdif	03 23 37.9	+1.4
	comp=Z,0.4nm,1.1s,baz=29,slow=3.3,SNR=4.2						
YPP	**Pitchstone Pla**	**125.69**	**24**		**PKPdf**	**03 29 04.0**	**-3.1**
NVAR	**Mina Array Bea**	**126.57**	**34**	PKP	**PKiKP**	**03 29 10.2**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=276,slow=2.6,SNR=4.2						
PDAR	**Pinedale Array**	**127.44**	**24**	PKP	**PKiKP**	**03 29 11.3**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=163,slow=0.9,SNR=2.4						
TXAR	**Lajitas Array**	**141.26**	**29**	PKP	**PKPdf**	**03 29 36.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=90,slow=0.9,SNR=3.4						
BDFB	**Brasilia**	**143.37**	**250**	PKP	**PKiKP**	**03 29 42.8**	**-0.9**
	comp=Z,1.7nm,0.5s,baz=77,slow=0.7,SNR=3.4						
CPUP	**Villa Florida**	**146.79**	**226**	PKPbc	**PKPbc**	**03 29 47.6**	**0.0**
	comp=Z,2.9nm,0.7s,baz=115,slow=4.0,SNR=7.5						
CPUP	**Villa Florida**	**146.79**	**226**		**PKPab**	**03 29 49.1**	**+0.3**
LPAZ	**La Paz**	**160.83**	**231**	PKP	**PKPdf**	**03 30 07.6**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=230,slow=7.9,SNR=2.6						
LPAZ				PKPab	**PKPab**	**03 30 51.4**	**+2.5**
	comp=Z,1.9nm,0.6s,baz=157,slow=4.6,SNR=10.0						

*TAP **01** 03:12:38.9, 23°.92N×121°.69E, h44km, ML3.7, C*
*JMA **01** 03:12:38.2, 23°.88N×121°.62E, h51km±1km, M2.8*
ISC 01 03:12:39.8±1.2**, 23°.91N**±0°.02×**121°.68E**±0°.02**, h41**km±6km**,**
n112, σ0ˢ.91/213**, 4C-8D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.10**	**314**	P	**Pn**	**03 12 46.4**	**-0.1**
	baz=312						
TWD	**Chiawan**	**0.19**	**335**	⇓*i*P	**Pn**	**03 12 47.3**	**+0.2**
	baz=336						
TWD				*i* S	**Sn**	**03 12 53.4**	**+1.2**
	baz=336						
ESL	**Shilin**	**0.25**	**248**	⇓*i*P	**Pn**	**03 12 47.3**	**-0.4**
	baz=245						
ESL				*i* S	**Sn**	**03 12 52.7**	**-0.4**
	baz=245						
NACB	**Ninganchiao**	**0.28**	**343**	⇓P	**Pn**	**03 12 47.6**	**-0.3**
	baz=342						
NACB				S	**Sn**	**03 12 54.0**	**+0.4**
	baz=342						
EGFH	**Guangfu**	**0.33**	**225**	P	**Pn**	**03 12 48.3**	**-0.2**
	baz=223						
EGFH				S	**Sn**	**03 12 55.5**	**+0.8**
	baz=223						
ETLH	**Xiulin Townshi**	**0.35**	**328**	P	**Pn**	**03 12 48.5**	**-0.4**
	baz=327						
ETLH				S	**Sn**	**03 12 55.1**	**-0.1**
	baz=327						
WHF	**Hehuan Shan**	**0.45**	**302**	⇓*i*P	**Pn**	**03 12 49.8**	**-0.6**
	baz=301						
WHF				S	**Sn**	**03 12 57.3**	**-0.5**
	baz=301						
OWD	**Renai**	**0.47**	**276**	P	**Pn**	**03 12 49.9**	**-0.4**
	baz=274						
OWD				*i* S	**Sn**	**03 12 57.5**	**-0.2**
	baz=274						
HGSD	**Ruisui**	**0.48**	**210**	P	**Pn**	**03 12 50.4**	**+0.1**
	baz=209						
HGSD				S	**Sn**	**03 12 59.7**	**+2.0**
	baz=209						
CHGB	**Renai**	**0.49**	**288**	⇓P	**Pn**	**03 12 50.4**	**-0.3**
	baz=287						
CHGB				S	**Sn**	**03 12 58.5**	**+0.1**
	baz=287						
EHY	**Hungye**	**0.52**	**220**	*i* P	**Pn**	**03 12 49.5**	**-1.4**
	baz=218						
EHY				S	**Sn**	**03 12 57.9**	**-0.8**
	baz=218						
ENA	**Nanau**	**0.52**	**6**	*i* P	**Pn**	**03 12 50.5**	**-0.4**
	baz=6.0						
ENA				S	**Sn**	**03 13 00.2**	**+1.4**
	baz=6.0						
VWDT	**VWDT**	**0.52**	**253**	⇓P	**Pn**	**03 12 50.5**	**-0.3**
	baz=252						
VWDT				*e*S	**Sn**	**03 12 58.5**	**-0.2**
	baz=252						
FUSS	**Fushou**	**0.53**	**310**	P	**Pn**	**03 12 51.0**	**-0.2**
	baz=309						
FUSS				S	**Sn**	**03 12 59.2**	**0.0**
	baz=309						
ENAH	**Nanao**	**0.55**	**12**	P	**Pn**	**03 12 51.1**	**-0.2**
	baz=12						
ENAH				S	**Sn**	**03 13 00.4**	**+1.0**
	baz=12						
TWT	**Tachien**	**0.58**	**307**	P	**Pn**	**03 12 51.8**	**0.0**
	baz=304						
TWT				*i* S	**Sn**	**03 13 00.5**	**+0.2**
	baz=304						
NNSB	**Datong**	**0.59**	**332**	⇑P	**Pn**	**03 12 51.2**	**-0.7**
	baz=331						
NNSB				S	**Sn**	**03 12 59.9**	**-0.5**
	baz=331						
NNSH	**Datong**	**0.59**	**332**	*i* P	**Pn**	**03 12 51.4**	**-0.5**
	baz=331						
NNSH				*i* S	**Sn**	**03 13 00.0**	**-0.5**
	baz=331						
TDCB	**Techi**	**0.59**	**306**	P	**Pn**	**03 12 51.7**	**-0.2**
	baz=304						
TDCB				S	**Sn**	**03 13 00.3**	**-0.3**
	baz=304						
NNS	**Nan Shan**	**0.60**	**332**	*i* P	**Pn**	**03 12 51.5**	**-0.6**
	baz=331						
NNS				*i* S	**Sn**	**03 13 00.3**	**-0.5**
	baz=331						
SSLB	**Suanglung**	**0.68**	**260**	P	**Pn**	**03 12 52.3**	**-0.8**
	baz=259						
SSLB				S	**Sn**	**03 13 01.5**	**-1.0**
	baz=259						
DPDB	**Guoxing**	**0.70**	**280**	*i* P	**Pn**	**03 12 53.1**	**-0.3**
	baz=279						
DPDB				S	**Sn**	**03 13 03.6**	**+0.4**
	baz=279						
NDT	**Datong Townshi**	**0.71**	**347**	⇑*i*P	**Pn**	**03 12 52.8**	**-0.7**
	baz=347						
NDT				*i* S	**Sn**	**03 13 03.5**	**+0.3**
	baz=347						
TWC	**Suao**	**0.71**	**12**	*i* P	**Pn**	**03 12 53.4**	**-0.1**
	baz=12						
TWC				*i* S	**Sn**	**03 13 04.2**	**+0.9**
	baz=12						
SMLT	**Sun Moon Lake**	**0.72**	**268**	*i* P	**Pn**	**03 12 53.2**	**-0.4**
	baz=267						
SMLT				S	**Sn**	**03 13 03.3**	**-0.3**
	baz=267						
TYC	**Yuchr**	**0.76**	**270**	⇓*i*P	**Pn**	**03 12 53.9**	**-0.1**
	baz=269						
TYC				*i* S	**Sn**	**03 13 04.6**	**+0.2**
	baz=269						
WHP	**Taichung City**	**0.77**	**299**	P	**Pn**	**03 12 54.2**	**-0.1**
	baz=298						
WHP				S	**Sn**	**03 13 05.9**	**+1.1**
	baz=298						
WHYT	**Xinyi Township**	**0.79**	**255**	P	**Pn**	**03 12 54.5**	**-0.1**
	baz=254						
WHYT				S	**Sn**	**03 13 05.7**	**+0.5**
	baz=254						
FULB	**Fuli**	**0.79**	**207**	P	**Pn**	**03 12 53.5**	**-1.1**
	baz=206						
FULB				S	**Sn**	**03 13 06.2**	**+1.0**
	baz=206						
YHNB	**Yeheng**	**0.81**	**340**	⇑P	**Pn**	**03 12 54.3**	**-0.6**
	baz=339						
YHNB				S	**Sn**	**03 13 04.8**	**-1.0**
	baz=339						
TWE	**Neicheng**	**0.81**	**359**	*i* P	**Pn**	**03 12 54.4**	**-0.4**
	baz=359						
TWE				S	**Sn**	**03 13 04.9**	**-0.7**
	baz=359						
NSK	**Sanguang**	**0.82**	**339**	⇑*i*P	**Pn**	**03 12 54.3**	**-0.7**
	baz=338						
NSK				S	**Sn**	**03 13 04.9**	**-1.1**
	baz=338						
CHKT	**Chengkung**	**0.86**	**200**	P	**Pn**	**03 12 55.1**	**-0.3**
	baz=199						
CHKT				S	**Sn**	**03 13 06.7**	**0.0**
	baz=199						
WJS	**Zhushan**	**0.88**	**265**	*i* P	**Pn**	**03 12 55.8**	**+0.1**
	baz=263						
WJS				*i* S	**Sn**	**03 13 08.6**	**+1.2**
	baz=263						
NWLT	**Wulai**	**0.88**	**349**	P	**Pn**	**03 12 55.9**	**0.0**
	baz=349						
NWLT				S	**Sn**	**03 13 08.9**	**+1.4**
	baz=349						
ALS	**Alishan**	**0.90**	**244**	⇓*i*P	**Pn**	**03 12 55.9**	**-0.4**
	baz=243						
ALS				*e*S	**Sn**	**03 13 08.0**	**-0.2**
	baz=243						
WNT	**Mingjian**	**0.92**	**268**	*i* P	**Pn**	**03 12 56.4**	**+0.1**
	baz=267						
WNT				S	**Sn**	**03 13 09.4**	**+1.2**
	baz=267						
TWQ1	**Liyutan**	**0.94**	**298**	*i* P	**Pn**	**03 12 56.3**	**-0.3**
	baz=297						
TWQ1				*i* S	**Sn**	**03 13 09.2**	**+0.3**
	baz=297						
ELDTW	**Lidau**	**0.94**	**221**	P	**Pn**	**03 12 55.8**	**-0.9**
	baz=219						
ELDTW				S	**Sn**	**03 13 07.9**	**-1.1**
	baz=219						
NSTT	**Nanjuang**	**0.95**	**319**	*i* P	**Pn**	**03 12 56.5**	**-0.3**
	baz=319						
NSTT				S	**Sn**	**03 13 09.5**	**+0.3**
	baz=319						
NTC	**Toucheng**	**0.95**	**8**	*e*P	**Pn**	**03 12 57.2**	**+0.5**
	baz=8.0						
NTC				*e*S	**Sn**	**03 13 08.9**	**-0.2**
	baz=8.0						
TCU	**Taichung**	**0.95**	**285**	*e*P	**Pn**	**03 12 56.9**	**+0.1**
	baz=284						
TCU				*e*S	**Sn**	**03 13 09.8**	**+0.6**
	baz=284						
LIOB	**Emei**	**0.95**	**320**	P	**Pn**	**03 12 56.7**	**-0.1**
	baz=320						
LIOB				S	**Sn**	**03 13 11.1**	**+1.8**
	baz=320						
EGS		**0.96**	**14**	P	**Pn**	**03 12 57.4**	**+0.6**
	baz=14						
EGS				S	**Sn**	**03 13 11.6**	**+2.3**
	baz=14						
CHN5	**Tsauling**	**0.97**	**252**	*i* P	**Pn**	**03 12 56.8**	**-0.3**
	baz=251						
CHN5				*i* S	**Sn**	**03 13 10.7**	**+0.9**
	baz=251						
NSY	**Sanyi**	**0.98**	**301**	P	**Pn**	**03 12 56.9**	**-0.3**
	baz=300						
NSY				S	**Sn**	**03 13 10.2**	**+0.3**
	baz=300						
EDH	**Donghe**	**0.99**	**201**	P	**Pn**	**03 12 57.1**	**-0.2**
	baz=200						
EDH				S	**Sn**	**03 13 10.8**	**+0.6**
	baz=200						
WLTB	**Daxi**	**1.02**	**337**	*e*P	**Pn**	**03 12 57.8**	**+0.1**
	baz=337						
WLTB				*e*S	**Sn**	**03 13 12.0**	**+1.2**
	baz=337						
NMLH	**Miaoli**	**1.03**	**308**	P	**Pn**	**03 12 57.0**	**-0.8**
	baz=307						
NMLH				*e*S	**Sn**	**03 13 11.0**	**0.0**
	baz=307						

PTSB	Yuanli	1.04	301	eP	Pn	03 12 57.2	-0.8
	baz=300						
PTSB				S	Sn	03 13 11.4	0.0
	baz=300						
WCHH	Zhanghua	1.04	280	P	Pn	03 12 58.5	+0.6
	baz=279						
WCHH				S	Sn	03 13 12.9	+1.5
	baz=279						
WDJ	Dajia District	1.05	295	P	Pn	03 12 57.9	-0.2
	baz=294						
WDJ				S	Sn	03 13 12.3	+0.8
	baz=294						
WGK	Gukeng	1.05	258	eS	Sn	03 13 12.8	+1.3
	baz=257						
NHDH	Xindian Distri	1.06	352	P	Pn	03 12 57.9	-0.3
	baz=352						
NHDH				S	Sn	03 13 11.8	0.0
	baz=352						
TIPB	Shuangxi	1.07	7	iP	Pn	03 12 58.2	-0.2
	baz=6.0						
TIPB				S	Sn	03 13 13.0	+1.0
	baz=6.0						
TWA	Mucha	1.07	355	P	Pn	03 12 58.1	-0.3
	baz=355						
TWA				S	Sn	03 13 11.9	-0.2
	baz=355						
WDLH	Douliu	1.07	258	eP	Pn	03 12 58.5	+0.1
	baz=257						
WDLH				S	Sn	03 13 14.1	+2.0
	baz=257						
LONT	Longtian	1.12	207	eP	Pn	03 12 58.0	-1.0
	baz=206						
LONT				eS	Sn	03 13 12.9	-0.4
	baz=206						
STYT	Tauyuan	1.13	229	iP	Pn	03 12 59.4	+0.1
	baz=228						
STYT				S	Sn	03 13 14.2	+0.6
	baz=228						
TWB1	Santiao Chiao	1.13	14	P	Pn	03 12 59.1	-0.1
	baz=14						
TWB1				iS	Sn	03 13 14.1	+0.6
	baz=14						
TPUB	Ta-pu	1.14	238	eP	Pn	03 12 59.3	-0.1
	baz=237						
TPUB				eS	Sn	03 13 15.1	+1.3
	baz=237						
NCUH	Zhongli	1.15	337	eS	Sn	03 13 15.7	+1.7
	baz=336						
NCU	National Centr	1.15	337	S	Sn	03 13 15.1	+1.1
	baz=336						
NWF	Wu-fen Shan	1.16	4	iP	Pn	03 12 59.5	-0.2
	baz=4.0						
NWF				S	Sn	03 13 14.1	-0.3
	baz=4.0						
WFSB	Wu-fen Shan	1.16	4	P	Pn	03 12 58.5	-1.2
	baz=4.0						
WFSB				eS	Sn	03 13 14.3	0.0
	baz=4.0						
CHN2	Minshiung	1.17	252	eS	Sn	03 13 16.1	+1.7
	baz=251						
WTP	Ta-pu	1.18	236	P	Pn	03 12 59.7	-0.2
	baz=235						
WTP				S	Sn	03 13 17.1	+2.2
	baz=235						
WTK	Tuku	1.21	260	eP	Pn	03 13 00.1	-0.1
	baz=259						
WTK				S	Sn	03 13 17.8	+2.4
	baz=259						
RLNB	Erlin	1.21	269	eP	Pn	03 12 58.9	-1.4
	baz=268						
RLNB				S	Sn	03 13 16.7	+1.2
	baz=268						
TWS1	Kuangyinshan	1.21	349	P	Pn	03 12 60.0	-0.4
	baz=348						
TWS1				S	Sn	03 13 15.8	+0.3
	baz=348						
TWGBT	Beinan	1.22	207	eP	Pn	03 12 58.9	-1.5
	baz=206						
TWGBT				S	Sn	03 13 16.1	+0.4
	baz=206						
TWG	Pinlang	1.22	208	P	Pn	03 12 59.1	-1.4
	baz=206						
TWG				S	Sn	03 13 15.3	-0.4
	baz=206						
CHY	Chiayi	1.23	251	P	Pn	03 13 00.7	+0.2
	baz=250						
CHY				eS	Sn	03 13 16.3	+0.5
	baz=250						
YM01	YM01	1.24	355	eP	Pn	03 12 59.7	-1.0
	baz=355						
YM01				eS	Sn	03 13 15.3	-0.9
	baz=355						
NHW	Xinwu Township	1.24	332	eS	Sn	03 13 16.3	+0.1
	baz=331						
LDUT	Ludao	1.25	189	eP	Pn	03 12 59.5	-1.3
	baz=189						
LDUT				S	Sn	03 13 15.5	-0.8
	baz=189						
YM10	YM10	1.25	355	eP	Pn	03 12 59.9	-1.0
	baz=354						
YM10				eS	Sn	03 13 16.9	+0.5
	baz=354						
YM04	YM04	1.25	354	eP	Pn	03 13 00.6	-0.2
	baz=353						
YM04				eS	Sn	03 13 16.3	-0.1
	baz=353						
YM05	YM05	1.25	355	P	Pn	03 12 59.9	-1.1
	baz=355						
YM05				S	Sn	03 13 15.7	-1.0
	baz=355						
YM11	YM11	1.26	355	eP	Pn	03 13 00.5	-0.5
	baz=355						
YM11				eS	Sn	03 13 15.5	-1.2
	baz=355						
TWK	Hsinying	1.27	240	P	Pn	03 13 01.3	+0.1
	baz=239						
TWK				S	Sn	03 13 18.3	+1.3
	baz=239						
YM03	YM03	1.27	354	eP	Pn	03 13 00.5	-0.7
	baz=354						
YM03				eS	Sn	03 13 17.6	+0.4
	baz=354						
JYNG	Yonagunijimaku	1.27	65	P	Pn	03 13 00.9	-0.2
JYNG				S	Sn	03 13 17.4	+0.4
YM08	YM08	1.28	356	eP	Pn	03 12 60.0	-1.3
	baz=356						
YM08				eS	Sn	03 13 15.8	-1.4
	baz=356						
CHN1	Nanshi	1.28	236	P	Pn	03 13 01.3	0.0
	baz=235						
CHN1				S	Sn	03 13 18.4	+1.1
	baz=235						
WTCT	Ta-ch'eng	1.28	268	eP	Pn	03 12 59.5	-1.8
	baz=267						
WTCT				S	Sn	03 13 18.4	+1.1
	baz=267						
SNST	Tainan City	1.29	238	P	Pn	03 13 01.5	+0.2
	baz=237						
SNST				S	Sn	03 13 18.8	+1.4
	baz=237						
SLGT	Liugui	1.32	227	P	Pn	03 13 02.5	+0.7
	baz=226						
SLGT				S	Sn	03 13 20.4	+2.2
	baz=226						
YOJ	Yonaguni jima	1.33	65	P	Pn	03 13 02.1	+0.2
YOJ				eS	Sn	03 13 19.1	+0.7
WMLT	Mailiao	1.34	266	eS	Sn	03 13 19.8	+1.1
	baz=265						
TWY	Chenhua	1.36	357	eP	Pn	03 13 02.3	-0.1
	baz=357						
TWY				S	Sn	03 13 20.6	+1.3
	baz=357						
WSF	Szhu	1.37	259	S	Sn	03 13 21.2	+1.9
	baz=258						
ICHU	Yijhu	1.40	247	P	Pn	03 13 02.7	-0.1
	baz=246						
ICHU				eS	Sn	03 13 20.8	+0.7
	baz=246						
CHN3	Shinhua	1.47	236	eP	Pn	03 13 05.0	+1.2
	baz=235						
ECL	Taimali	1.47	207	P	Pn	03 13 02.3	-1.5
	baz=206						
ECL				S	Sn	03 13 20.2	-1.6
	baz=206						
SCST	Cishan	1.49	227	eP	Pn	03 13 04.1	0.0
	baz=226						
SCST				eS	Sn	03 13 24.5	+2.0
	baz=226						
SSD	Sandimen	1.51	220	P	Pn	03 13 05.0	+0.6
	baz=219						
SSD				S	Sn	03 13 24.7	+1.9
	baz=219						
TSMG	Majia	1.53	219	P	Pn	03 13 05.5	+0.8
	baz=218						
TSMG				eS	Sn	03 13 23.4	+0.1
	baz=218						
MASBT	Mashibuluo	1.61	217	P	Pn	03 13 06.2	+0.4
	baz=216						
MASBT				eS	Sn	03 13 25.7	+0.3
	baz=216						
EAST	Anshuo	1.70	207	eP	Pn	03 13 05.8	-1.3
	baz=206						
EAST				eS	Sn	03 13 27.5	-0.1
	baz=206						
PCYT	Pengchaiyu	1.75	12	eS	Sn	03 13 30.4	+1.6
	baz=11						
SCZT	Fangliau	1.81	213	eP	Pn	03 13 10.2	+1.6
	baz=212						
SCZT				eS	Sn	03 13 32.4	+2.0
	baz=212						
SLIU	Shizi	1.87	206	eP	Pn	03 13 08.8	-0.6
	baz=205						
SLIU				eS	Sn	03 13 32.4	+0.6
	baz=205						
IRIF	Iriomote-Funau	1.92	77	P	Pn	03 13 10.7	+0.7
IRIF				eS	Sn	03 13 33.4	+0.5
HATJ	Hateruma jima	1.95	85	eS	Sn	03 13 33.9	+0.3
WDGT	Dungji	1.97	251	eP	Pn	03 13 09.6	-1.0
	baz=250						
WDGT				S	Sn	03 13 32.0	-2.1
	baz=250						
PHUB	P'eng-hu	1.98	259	eP	Pn	03 13 10.0	-0.8
	baz=258						
PHUB				eS	Sn	03 13 32.9	-1.4
	baz=258						
PNG	Penghu	1.98	261	P	Pn	03 13 09.4	-1.4
	baz=259						
PNG				S	Sn	03 13 33.2	-1.2
	baz=259						
JKRS	Kuro-shima	2.15	81	P	Pn	03 13 13.5	+0.3
JKRS				eS	Sn	03 13 39.8	+1.2
JIJ	Ishigaki jima	2.29	78	P	Pn	03 13 14.8	-0.3
JIJ				S	Sn	03 13 41.2	-0.9
JISG	Ishigakijimahi	2.49	74	P	Pn	03 13 16.8	-1.1
JISG				S	Sn	03 13 45.7	-1.3
JTJ	Tarama	2.85	75	P	Pn	03 13 22.6	-0.2
JTJ				eS	Sn	03 13 56.5	+0.6

IDC 01 03:24:42.5±1.9**, 4°85S×130°23E, h224**km±26km**, mb3.0**/2**, mb1 3.4**/6**, mb1mx3.0**/47**, mbtmp3.9**/6**, Error ellipse: s-maj=54.9km s-min=12.0km az=79.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.08	15	P	Pn	03 25 47.4	+1.1
	11nm,0.3s,baz=257,slow=23,SNR=109						
SIJI				S	S	03 26 36.0	-0.5
	27nm,0.3s,baz=80,slow=23,SNR=28						
FITZ	Fitzroy Crossi	13.91	198	P	Pn	03 27 49.4	-1.3
	0.7nm,0.3s,baz=33,slow=10,SNR=24						
FITZ				S	S	03 30 10.4	-14
	0.5nm,0.3s,baz=325,slow=19,SNR=7.0						
WRA	Warramunga Arr	15.53	165	P	P	03 28 10.0	+0.2
	0.4nm,0.3s,baz=344,slow=12,SNR=26						
WRA				S	S	03 30 55.6	-6.0
	0.7nm,0.3s,baz=337,slow=22,SNR=8.6						
ASAR	Alice Springs	19.04	170	P	P	03 28 49.5	+1.3
	0.9nm,0.3s,baz=350,slow=11,SNR=64						
ASAR				S	S	03 32 11.5	-0.8
	0.1nm,0.3s,baz=348,slow=21,SNR=12						
MKAR	Makanchi Array	66.57	326	P	P	03 35 08.5	-0.2
	0.3nm,0.5s,baz=121,slow=7.2,SNR=2.0						
KURBB	Kurchatov Arra	70.81	328	P	P	03 35 35.0	+0.2
	0.2nm,0.3s,baz=130,slow=4.6,SNR=1.8						

*IDC **01** 03:34:02.1±1.4, 7°99N×126°40E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/33, mbtmp3.5/5, Error ellipse: s-maj=27.1km s-min=15.7km az=119.0*
*MAN **01** 03:34:08.3, 7°62N×124°83E, h23km, MS3.1*
ISC 01 03:34:07.0±1.2**, 7°97N**±0°08×**125°6E**±0°1**, h23**km**, n9, σ2s56**/11**, mb3.5**/5**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	0.49	259	eP	Pb	03 34 16.4	-0.7
BUKP				eS	Sn	03 34 26.0	-0.6
DAV	Davao City (W)	0.90	178	Pg	Pn	03 34 24.9	+0.6
	298nm,0.3s,baz=5.0,slow=0.9,SNR=14						
DAV				Lg	Lg	03 34 41.9	
	36nm,0.3s,baz=296,slow=22,SNR=8.5						
DDMP	Don Marcelino,	1.86	175	eP	Pn	03 34 36.8	-0.8
DDMP				eS	Sb	03 35 07.9	+4.6
TBP	Tagbilaran	2.39	316	eP	Pn	03 34 45.2	+0.4
FITZ	Fitzroy Crossi	25.91	180	P	P	03 39 35.7	-1.8
	2.5nm,1.1s,baz=18,slow=6.6,SNR=2.7						
WRA	Warramunga Arr	29.06	163	P	P	03 40 03.2	-2.6
	0.4nm,1.0s,baz=358,slow=9.1,SNR=2.3						
ASAR	Alice Springs	32.49	166	P	P	03 40 33.2	-2.8
	0.2nm,0.4s,baz=341,slow=7.0,SNR=5.0						
MKAR	Makanchi Array	53.44	324	P	P	03 43 26.0	+0.8
	0.4nm,0.7s,baz=135,slow=7.1,SNR=2.2						
KURBB	Kurchatov Arra	57.57	326	P	P	03 43 58.1	+3.3
	0.3nm,0.6s,baz=126,slow=7.6,SNR=3.1						

*ATH **01** 03:56:26.9, 34°52N×26°39E, h21km±3km, ML2.4/1, Error ellipse: s-maj=7.4km s-min=3.1km az=339.0*
*THE **01** 03:56:27.3, 34°56N×26°42E, h0km±3km, ML2.4/3, Error ellipse: s-maj=5.8km s-min=1.6km az=132.0*
*IDC **01** 03:56:28.7±4.7, 34°51N×26°52E, h66km±42km, mb3.5/4, mb1 3.5/5, mb1mx3.2/36, mbtmp3.7/5, ML4.1/1, Error ellipse: s-maj=40.7km s-min=26.3km az=127.0*
ISC 01 03:56:22.8±1.9**, 34°51N**±0°08×**26°68E**±0°05**, h10**km±11km**, n20, σ0s82**/25**, mb3.6**/4**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.72	328	P	Pn	03 56 38.5	-0.5
ZKR				S	Sb	03 56 48.2	+0.9
	340nm,0.3s						
ZKR	Zakros	0.72	328	P	Pn	03 56 38.6	-0.4
ZKR				S	Sb	03 56 48.2	+0.9
ZKR				AML	AML	03 57 01.9	
	comp=N,625μm,0.4s						
ZKR				AML	AML	03 57 02.6	
	comp=E,1357μm,0.7s						
STIA	Sitia Lasithi	0.85	325	P	Pn	03 56 40.6	-0.2
STIA				S	Sn	03 56 53.0	-0.2
KARP	Karpathos	1.11	21	P	Pn	03 56 50.1	+5.7
KARP	Karpathos	1.11	21	P	Pn	03 56 50.0	+5.6
NPS	Neapolis	1.16	311	P	Pn	03 56 46.2	+1.1
NPS				S	Sn	03 57 00.7	-0.3
	comp=E,192nm,0.5s						
NPS	Neapolis	1.16	311	P	Pn	03 56 46.1	+1.1
LAST	Lasithi	1.19	304	P	Pg	03 56 45.1	-0.5
LAST				S	Sn	03 57 01.9	+0.2
	comp=E,238nm,0.7s						
LAST	Lasithi	1.19	304	P	Pg	03 56 45.1	-0.5
SIVA	Sivas	1.62	289	P	Pg	03 56 54.1	+0.2
IDI	Anoyia	1.67	298	P	Pn	03 56 53.1	+1.0
	comp=E,2.7nm,0.3s,baz=147,slow=8.7,SNR=18						
IDI				S	Sn	03 57 13.8	+0.2
	comp=E,4.3nm,0.3s,baz=336,slow=23,SNR=8.6						
IDI	Anoyia	1.67	298	P	Pb	03 56 54.0	+0.4
IDI				S	Sn	03 57 14.3	+0.7
IDI	Anoyia	1.67	298	P	Pb	03 56 53.9	+0.4
ANAF	Anafi Island	1.99	338	P	Pg	03 56 59.9	-1.0
ARG	Arkhangelos	2.07	34	P	Pg	03 57 03.0	+0.5
AKASG	Malin Array Be	16.29	6	P	Pn	04 00 11.4	-0.1
	comp=E,0.8nm,0.3s,baz=194,slow=12,SNR=2.0						
FINES	FINESS Array B	26.96	359	P	P	04 02 02.9	-1.2
	comp=E,1.5nm,0.8s,baz=154,slow=11,SNR=4.0						
TORD	Torodi Ar. Bea	31.06	233	P	P	04 02 39.8	-1.3
	comp=E,0.4nm,0.8s,baz=45,slow=8.8,SNR=2.2						
ARCES	ARCESS Array B	35.09	359	P	P	04 03 14.7	-1.1
	comp=E,2.5nm,0.9s,baz=178,slow=8.5,SNR=7.0						
MKAR	Makanchi Array	43.09	56	P	P	04 04 24.2	+1.2
	comp=E,0.5nm,0.6s,baz=272,slow=4.4,SNR=1.9						

*LDG **01** 04:11:15.9±0.1, 36°99N×3°10E, h10km, Ml5.3/25, ms4.8/9, Error ellipse: s-maj=3.2km s-min=2.8km az=10.0*
*IDC **01** 04:11:15.2±0.4, 36°90N×3°14E, h0km, mb5.0/34, mb1 5.1/42, mb1mx5.1/43, mbtmp5.0/42, ML4.9/8, MS4.9/40, Ms1 4.9/40, ms1mx4.9/45, Error ellipse: s-maj=10.9km s-min=9.7km az=141.0*
*CRAAG **01** 04:11:16.7, 36°85N×3°19E, Ml5.6*
*NEIC **01** 04:11:16.6, 36°87N×3°17E, h7km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr1.43; Mθθ-1.12; Mφφ-0.31; Mrθ-2.14; Mθφ-0.66; Mφr-0.59; Fault plane solution: Mo2.66000×10^{17} NP1:φs252.28000°, δ73.64000°, λ96.85000°. NP2:φs49.17000°, δ17.70000°, λ67.87000°. Principal axes: T 2.6632, Plg61.0000°, Azm172.0000°; N -0.0070, Plg7.0000°, Azm70.0000°; P -2.6563, Plg28.0000°, Azm337.0000°;*
*BJI **01** 04:11:16.0±0.0, 37°01N×3°49E, h9km, mB5.7/57, mb5.1/66, Ms5.6/63, Ms7 5.2/60*
*NEIC **01** 04:11:16.5±1.8, 36°86N±0°05×3°18E±0°05, h10km±1km, mb5.6/510, Ms_20 5.2/637, Mwb5.6/76, Mww5.5, ML5.6(ALG), Mwc5.6(GCMT), Error ellipse: s-maj=9.3km s-min=5.7km az=149.0*
*TIR **01** 04:11:17.1, 36°91N×3°13E, h10km*
*MED_RC **01** 04:11:17.0±0.2, 36°83N×3°14E, h13km, MW5.5/47, Moment Tensor Solution. Body waves: s21,c31; Mantle waves: s47,c100; Duration: 1s5 Moment tensor: Scale 10^{17}Nm; Mrr1.48±.04; Mθθ-1.47±.03; Mφφ-0.02±.02; Mrθ-1.82±.09; Mθφ-0.24±.02; Mφr-0.67±.06; Best double couple: Mo2.45000×10^{17} NP1:φs90.00000°, δ19.00000°, λ107.00000°. NP2:φs252.00000°, δ71.00000°, λ84.00000°. Principal axes: T 2.4500, Plg63.0000°, Azm153.0000°; N -0.0100, Plg5.0000°, Azm254.0000°; P -2.4400, Plg26.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*
*INMG **01** 04:11:17.9±2.5, 36°84N×3°26E, h27km±16km, ML4.0 Error ellipse: s-maj=10.5km s-min=7.4km az=101.0*
*MDD **01** 04:11:17.9±0.4, 36°90N×3°18E, h13km±5km, mb5.8/68, Error ellipse: s-maj=4.5km s-min=3.3km az=169.0, PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA -ESPAA-.
*GCMT **01** 04:11:18.5±0.1, 36°87N±0°01×3°22E±0°01, h18km, MW5.6/155, Moment Tensor Solution. s120,c199; s155,c332; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; Mrr1.70±.03; Mθθ-1.78±.02; Mφφ0.08±.02; Mrθ-2.20±.08; Mθφ-0.19±.01; Mφr-0.40±.05; Best double couple: Mo2.84000×10^{17} NP1:φs88.00000°, δ19.00000°, λ97.00000°. NP2:φs261.00000°, δ71.00000°, λ87.00000°. Principal axes: T 2.7940, Plg64.0000°, Azm166.0000°; N 0.0950, Plg2.0000°, Azm261.0000°; P -2.8850, Plg26.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DNK **01** 04:11:19.1±2.5, 37°21N×2°89E, h0km±333km, mb5.4, Ms5.3*
*MOS **01** 04:11:19.5±1.0, 36°99N×3°29E, h36km, mb5.6/85, MS5.1/56, Error ellipse: s-maj=6.3km s-min=3.0km az=60.6*
*NEIC **01** 04:11:20, 36°93N×3°21E, h17km, Moment Tensor Solution. Moment tensor: Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Fault plane solution: Mo0.00000×10^{0} NP1:φs87.00000°, δ18.00000°, λ97.00000°. NP2:φs259.00000°, δ72.00000°, λ88.00000°. Principal axes: T 0.0000, Plg90.0000°, Azm0.0000°; N 0.0000, Plg0.0000°, Azm0.0000°; P 0.0000, Plg0.0000°, Azm90.0000°;*
*IGIL **01** 04:11:20.2, 37°06N×2°98E, h2km, MS5.0*
*NEIC **01** 04:11:22, 36°85N×3°16E, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr1.59; Mθθ-1.53; Mφφ-0.06; Mrθ-2.00; Mθφ-0.27; Mφr-0.33; Fault plane solution: Mo2.57000×10^{17} NP1:φs80.00000°, δ19.00000°, λ89.00000°. NP2:φs260.00000°, δ71.00000°, λ90.00000°. Principal axes: T 2.5819, Plg64.0000°, Azm171.0000°; N -0.0167, Plg0.0000°, Azm80.0000°; P -2.5652, Plg26.0000°, Azm350.0000°;*
ISC 01 04:11:17.7±0.3**, 36°89N**±0°03×**3°21E**±0°02**, h15**km±1km**, h15**km**:pP-P, n2068, σ2s02**/2186**, mb5.5**/375**, MS5.2**/418**, 83C-76D, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	Alger-Bouzarea	0.17	238	P	Pg	04 11 21.3	-0.5
ABA	Alger-Bouzarea	0.17	238	P	Pg	04 11 21.3	-0.5
ABMS	Boumerdes	0.26	123	P	Pg	04 11 23.1	-0.1
ABMS	Boumerdes	0.26	123	P	Pg	04 11 23.1	-0.1
ADJB	Djebel Djouab	0.75	166	P	Pg	04 11 32.4	+0.1
ADJB	Djebel Djouab	0.75	166	P	Pg	04 11 32.4	+0.1
AKET	Djebel Ketaf	1.00	147	P	Pb	04 11 36.5	-0.3
AKET	Djebel Ketaf	1.00	147	P	Pb	04 11 36.5	-0.3
EBNR	Beni Rached	1.48	247	P	Pn	04 11 42.7	-1.1
ECHA	Ech Chlef	1.66	244	P	Pn	04 11 43.3	-2.9
ECHF	Ech Chlef	1.67	245	P	Pn	04 11 43.3	-3.1
SET	Setif	1.89	111	P	Pb	04 11 51.0	-1.0
SET	Setif	1.89	111	P	Pb	04 11 51.0	-1.0
EANR	'Ain N'Sour	1.94	242	P	Pn	04 11 47.4	-2.8
EANR	'Ain N'Sour	1.94	242	P	Pn	04 11 47.4	-2.8
ETRT	Tiaret	2.15	227	P	Pn	04 11 52.2	-0.9
ETRT	Tiaret	2.15	227	P	Pn	04 11 52.2	-0.9
DFRA	Djebel Bou Aff	2.17	98	P	Pn	04 11 52.8	-0.6
DFRA	Djebel Bou Aff	2.17	98	P	Pn	04 11 52.8	-0.6
OKGL	Djebel Kef Gue	2.24	248	P	Pn	04 11 52.0	-2.2
OKGL	Djebel Kef Gue	2.24	248	P	Pn	04 11 52.0	-2.2
OJGS	Djebel Guires	2.42	236	P	Pn	04 11 58.0	+1.2
OJGS	Djebel Guires	2.42	236	P	Pn	04 11 58.0	+1.2
EIBI	Ibiza	2.59	326	⇓P	Pn	04 11 58.2	-0.9
	6μm,0.5s,SNR=18						
EIBI				S	Sn	04 12 27.1	-3.2
	160μm,9.3s,SNR=7.9						
EIBI	Ibiza	2.59	326		Pn	04 11 58.2	-0.9
OJBR	Djebel Berber	2.66	241	P	Pn	04 11 53.0	-7.0
OJBR	Djebel Berber	2.66	241	P	Pn	04 11 53.0	-7.0
CTEI	Djebel Teioual	2.71	107	P	Pn	04 12 00.7	0.0
CTEI	Djebel Teioual	2.71	107	P	Pn	04 12 00.7	0.0
CASM	Ain Smara	2.71	102	P	Pn	04 12 00.2	-0.6
CASM	Ain Smara	2.71	102	P	Pn	04 12 00.2	-0.6
CKFL	Kef-Lekhel	2.87	99	P	Pn	04 12 02.4	-0.5
CKFL	Kef-Lekhel	2.87	99	P	Pn	04 12 02.4	-0.5
ETOS	Mallorca	2.89	354	⇓P	Pn	04 12 01.9	-1.3
	9μm,0.7s,SNR=18						
ETOS				S	Sn	04 12 34.1	-3.6
	99μm,7.7s						
ETOS	Mallorca	2.89	354		Pn	04 12 01.9	-1.3
CAEH	'Ain El Ouahch	2.92	91	P	Pn	04 12 02.6	-1.0
CAEH	'Ain El Ouahch	2.92	91	P	Pn	04 12 02.6	-1.0
MAHO	Mahon	3.12	15	P	Pn	04 12 03.7	-2.5
MAHO				S	Sn	04 12 38.1	-5.0
MAHO	Mahon	3.12	15	eP	Pn	04 12 03.7	-2.5
MAHO				eS	Sn	04 12 38.1	-5.0
ODJA	Bouhanifia	3.13	241	P	Pn	04 12 04.0	-2.5
ODJA	Bouhanifia	3.13	241	P	Pn	04 12 04.0	-2.5
USTO	Oran	3.25	250	P	Pg	04 12 24.0	+4.1
USTO	Oran	3.25	250	P	Pg	04 12 24.0	+4.1
ETRV	Los Montesinos	3.36	291	P	Pn	04 12 07.6	-2.0
	1μm,0.5s,SNR=7.9						
ETRV				S	Sn	04 12 43.3	-5.8
	172μm,11.6s,SNR=7.9						
ETRV	Los Montesinos	3.36	291		Pn	04 12 08.3	-1.2
CMAH	Djebel Manchou	3.39	93	P	Pn	04 12 09.1	-1.0
CMAH	Djebel Manchou	3.39	93	P	Pn	04 12 09.1	-1.0
CART	Cartagena	3.43	283	P	Pn	04 12 08.0	-2.6
CART				S	Sn	04 12 45.6	-5.3
CART	Cartagena	3.43	283	eP	Pn	04 12 08.0	-2.6
CART				eS	Sn	04 12 45.6	-5.3
CART	Cartagena	3.43	283	Pn	Pn	04 12 07.8	-2.8
AFON	Font Roja	3.46	302	⇓P	Pn	04 12 09.6	-1.5
	2μm,1.0s,SNR=18						
AFON				S	Sn	04 12 48.3	-3.6
	92μm,11.0s,SNR=6.4						
AFON	Font Roja	3.46	302		Pn	04 12 10.2	-0.8
OTSS	Djebel Tessala	3.62	245	P	Pb	04 12 21.0	-0.4
OTSS	Djebel Tessala	3.62	245	P	Pb	04 12 21.0	-0.4
EMUR	La Murta	3.67	286	P	Pn	04 12 12.6	-1.3
	332nm,0.3s,SNR=59						
EMUR				S	Sn	04 12 52.0	-5.0
	79μm,11.9s,SNR=5.9						

EMUR La Murta 3.67 286 Pn 04 12 12.4 -1.5
TLOR Lorca, Murcia 3.98 283 P Pn 04 12 17.2 -0.9
2µm,0.8s,SNR=7.9
TLOR S Sn **04 12 58.6 -6.0**
201µm,11.2s,SNR=7.9
ETOB Tobarra 4.16 296 ⇓P Pn 04 12 20.2 -0.5
1µm,0.5s,SNR=18
ETOB S Sn **04 13 05.2 -3.8**
79µm,9.4s,SNR=4.6
ETOB Tobarra 4.16 296 Pn 04 12 20.5 -0.1
ETOB **Sn 04 13 06.7 -2.3**
ECHE Chera 4.25 311 ⇓P Pn 04 12 21.6 -0.3
4µm,0.6s,SNR=18
ECHE S Sn **04 13 06.2 -5.1**
55µm,11.8s,SNR=7.9
ECHE Chera 4.25 311 P Pn 04 12 22.5 +0.6
ECHE 04 13 09.2
ECHE Chera 4.25 311 Pn 04 12 22.5 +0.6
ECHE **Sn 04 13 09.2 -2.1**
ENIJ Nijar 4.34 273 ⇓P Pn 04 12 19.6 -3.6
210nm,0.4s,SNR=18
ENIJ S Sn **04 13 09.4 -4.0**
45µm,13.6s,SNR=7.9
ENIJ Nijar 4.34 273 P Pn 04 12 20.9 -2.2
ENIJ Nijar 4.34 273 Pn 04 12 20.9 -2.2
EMOS Mosqueruela 4.51 321 P Pn 04 12 24.9 -0.7
1µm,0.8s,SNR=18
EMOS S Sn **04 13 13.3 -4.6**
87µm,8.7s
EMOS Mosqueruela 4.51 321 Pn 04 12 24.9 -0.7
ERTA Horta de San J 4.64 332 P Pn 04 12 26.0 -1.2
780nm,0.5s,SNR=133
ERTA S Sn **04 13 14.4 -6.4**
41µm,8.1s
ERTA Horta de San J 4.64 332 Pn 04 12 26.0 -1.2
SESP Santiago Espad 4.74 287 ⇓P Pn 04 12 27.8 -0.9
1µm,0.9s,SNR=18
SESP S Sn **04 13 19.2 -4.2**
55µm,12.5s,SNR=7.9
SESP Santiago Espad 4.74 287 Pn 04 12 29.3 +0.6
EPOB Poblet 4.75 340 P Pn 04 12 27.3 -1.5
269nm,0.4s,SNR=161
EPOB S Sn **04 13 18.4 -5.3**
71µm,7.5s
EPOB Poblet 4.75 340 Pn 04 12 27.3 -1.5
EBER Berja 4.89 272 P Pn 04 12 28.2 -2.6
186nm,0.4s,SNR=71
EBER S Sn **04 13 22.4 -4.8**
26µm,6.2s
CFON Fontmartina 4.90 353 ⇓P Pn 04 12 29.7 -1.2
828nm,0.2s,SNR=18
CFON S Sn **04 13 22.3 -5.1**
39µm,7.1s,SNR=22
GORA Gorafe 5.03 279 P Pn 04 12 33.5 +0.9
347nm,0.5s,SNR=7.9
GORA S Sn **04 13 26.7 -3.7**
51µm,14.5s,SNR=7.9
EQES Quesada 5.09 282 ⇓P Pn 04 12 33.1 -0.4
1µm,0.9s,SNR=18
EQES S Sn **04 13 28.6 -3.4**
71µm,9.4s,SNR=20
KEST Kesra 5.09 101 Pn Pn 04 12 32.8 -0.7
134nm,0.3s,baz=244,slow=4.6,SNR=245
KEST Sn Sn **04 13 32.5 +0.5**
80nm,0.3s,baz=340,slow=20,SNR=7.4
KEST Kesra 5.09 101 Pn Pn 04 12 32.9 -0.6
EALB Alboran 5.12 261 P Pn 04 12 34.0 +0.2
337nm,1.0s,SNR=6.2
EALB S Sn **04 13 27.0 -5.7**
96µm,8.8s,SNR=7.9
EMIR Miracle 5.18 346 P Pn 04 12 34.5 -0.2
9µm,0.5s,SNR=795
EMIR S Sn **04 13 29.6 -4.8**
51µm,8.6s,SNR=16
MELI Melilla 5.22 254 P Pn 04 12 35.7 +0.5
137nm,0.6s,SNR=7.9
MELI S Sn **04 13 30.1 -5.1**
17µm,3.2s,SNR=7.9
MELI Melilla 5.22 254 eP Pn 04 12 34.1 -1.1
MELI eS Sn **04 13 27.6 -7.6**
EMEL Melilla 5.24 254 P Pn 04 12 34.5 -0.9
75nm,0.3s,SNR=7.4
EMEL S Sn **04 13 30.3 -5.3**
68µm,10.9s
EQUE Quentar 5.33 275 P Pn 04 12 36.3 -0.5
182nm,0.6s,SNR=40
EQUE S Sn **04 13 31.7 -6.2**
32µm,12.0s,SNR=22
ELGU Los Guajares, 5.48 272 P Pn 04 12 37.5 -1.3
301nm,0.6s,SNR=7.9
ELGU S Sn **04 13 35.6 -6.0**
27µm,12.3s,SNR=7.9
VSL Villasalto 5.51 60 Pn Pn 04 12 38.1 -1.1
SJAF Saint Jean de 5.59 358 P Pn 04 12 39.8 -0.5
3µm,0.5s,SNR=18
SJAF S Sn **04 13 39.6 -4.7**
65µm,9.9s,SNR=7.9
ESAC San Caprasio 5.61 331 P Pn 04 12 40.2 -0.3
805nm,0.9s,SNR=167
ESAC S Sn **04 13 39.7 -5.0**
87µm,11.7s,SNR=17
CLLI Llivia 5.66 351 P Pn 04 12 41.5 +0.1
796nm,0.6s,SNR=18
CLLI S Sn **04 13 39.9 -6.3**
51µm,8.4s,SNR=6.4
ETOR Torete 5.68 315 ⇓P Pn 04 12 42.3 +0.7
2µm,2.0s,SNR=18
ETOR S Sn **04 13 45.3 -1.3**
6µm,9.9s,SNR=12
CSOR Sort 5.71 344 P Pn 04 12 42.2 +0.2
1µm,0.5s,SNR=1059
CSOR S Sn **04 13 41.5 -5.8**
57µm,7.8s,SNR=16
EGOR Sierra Gorda, 5.86 274 P Pn 04 12 45.1 +1.0
308nm,0.9s,SNR=7.9
EGOR S Sn **04 13 46.2 -4.9**
31µm,13.3s,SNR=7.9
UCM Universidad Co 6.10 306 P Pn 04 12 47.9 +0.6
UCM Universidad Co 6.10 306 eP Pn 04 12 47.9 +0.6
EMAL Malaga-Limoner 6.13 271 P Pn 04 12 45.6 -2.1
EMAL S Sn **04 13 53.4 -4.1**
EMAL Malaga-Limoner 6.13 271 eP Pn 04 12 45.6 -2.1
EMAL eS Sn **04 13 53.4 -4.1**
ECHI Chisagues Biel 6.22 339 P Pn 04 12 48.5 -0.5
452nm,0.8s,SNR=7.9
ECHI S Sn **04 13 54.3 -5.5**
21µm,8.5s,SNR=7.9
ESBB Sonseca Array 6.29 298 Pn Pn 04 12 48.8 -1.2
ESDC Sonseca Array 6.29 298 Pn Pn 04 12 48.7 -1.2
11nm,0.3s,baz=112,slow=13,SNR=710
ESDC Sn Sn **04 13 56.6 -4.9**
17nm,0.3s,baz=114,slow=23,SNR=4.8
ESDC LR LR 04 15 18.8
comp=Z,17µm,20.6s,baz=115,slow=39
ESDC Sonseca Array 6.29 298 ⇓P Pn 04 12 48.7 -1.2
669nm,0.8s,baz=113,slow=14,SNR=18
ESDC S Sn **04 13 54.8 -6.7**
57nm,0.5s,baz=116,slow=24,SNR=3.6
EADA Adamuz 6.32 284 P Pn 04 12 48.4 -1.9
238nm,1.2s,SNR=42
EADA S Sn **04 13 57.9 -4.3**
37µm,9.6s,SNR=19
PVLZ Peæn de 6.32 257 P Pn 04 12 57.5 +7.2
PVLZ Peæn de 6.32 257 eP Pn 04 12 57.5 +7.2
EMIJ Mijas 6.42 269 P Pn 04 12 48.5 -3.1
122nm,1.1s,SNR=35
EMIJ S Sn **04 13 56.6 -8.1**
10µm,11.1s,SNR=13
MTLF Montolieu 6.49 354 eP Pn 04 12 52.6 0.0
MTLF eSn Sn 04 13 57.2 -9.1
683nm,1.1s
MTLF Montolieu 6.49 354 P Pn 04 12 52.6 0.0
MTLF S Sn 04 13 57.2 -9.1
341nm,1.1s
PAB San Pablo 6.51 296 ⇓P Pn 04 12 51.3 -1.7
575nm,2.5s,SNR=18
PAB S Sn **04 13 59.3 -7.8**
SNR=7.9
PAB San Pablo 6.51 296 P Pn 04 12 51.3 -1.7
PAB San Pablo 6.51 296 Pn Pn 04 12 51.3 -1.7
EPF Esparros 6.52 341 eP Pn 04 12 53.3 +0.3
EPF eSn Sn 04 13 57.3 -10
155nm,0.2s
EPF Esparros 6.52 341 P Pn 04 12 53.3 +0.3
EPF S Sn 04 13 57.3 -10
78nm,0.2s
ETSF Etsaut 6.66 335 eP Pn 04 12 54.9 -0.2
ETSF eSn Sn 04 14 01.6 -9.2
486nm,0.7s
ETSF Etsaut 6.66 335 P Pn 04 12 54.9 -0.2
ETSF S Sn 04 14 01.6 -9.2
243nm,0.7s
GUD Guadarrama 6.87 305 ⇓P Pn 04 12 57.2 -0.7
543nm,1.5s,SNR=18
GUD S Sn **04 14 08.6 -7.2**
46µm,9.3s,SNR=7.9
ATE Arette 6.88 335 P Pn 04 12 57.5 -0.4
815nm,1.5s,SNR=18
ATE S Sn **04 14 09.6 -6.4**
63µm,11.0s,SNR=7.9
LMR La Mourre 6.92 20 eP Pn 04 12 57.0 -1.4
305nm,0.4s
LMR eSn Sn **04 14 08.6 -8.2**
170nm,0.2s
LMR eT T 04 19 44.1
LMR La Mourre 6.92 20 P Pn 04 12 57.0 -1.4
152nm,0.4s
LMR S Sn **04 14 08.6 -8.2**
85nm,0.2s
EORO Oroz-Betelu 6.93 331 ⇓P Pn 04 12 58.1 -0.6
562nm,0.9s,SNR=18
EORO S Sn **04 14 11.6 -5.7**
83µm,9.9s,SNR=16
EARA Aranguren 6.94 329 P Pn 04 12 59.1 +0.3
441nm,0.6s,SNR=77
EARA S Sn **04 14 11.0 -6.4**
47µm,10.9s,SNR=14
ECAB El Cabril 6.96 282 P Pn 04 12 57.2 -1.9
205nm,1.3s,SNR=95
ECAB S Sn **04 14 11.1 -6.9**
37µm,11.7s,SNR=8.2
CEU Ceuta 6.99 264 P Pn 04 12 56.6 -2.9
CEU Ceuta 6.99 264 eP Pn 04 12 56.6 -2.9
ECEU Ceuta 7.00 264 P Pn 04 13 01.5 +1.9
162nm,1.7s,SNR=4.0
ECEU S Sn **04 14 11.2 -7.6**
18µm,10.2s,SNR=7.9
SJPF Ste Jean 7.09 333 eP Pn 04 13 01.3 +0.5
842nm,0.8s
SJPF eSn Sn 04 14 11.0 -10
236nm,0.3s
SJPF Ste Jean 7.09 333 P Pn 04 13 01.3 +0.5
421nm,0.8s
SJPF S Sn 04 14 11.0 -10
118nm,0.3s
FRF La Foret Royal 7.16 20 eP Pn 04 13 00.8 -1.0
495nm,0.4s
FRF eSn Sn **04 14 14.6 -8.3**
308nm,0.3s
FRF eT T 04 19 55.4
FRF La Foret Royal 7.16 20 P Pn 04 13 00.8 -1.0
247nm,0.4s
FRF S Sn **04 14 14.6 -8.3**
154nm,0.3s
LASF Ste Croix 7.20 4 eP Pn 04 13 01.4 -0.9
LASF eSn Sn **04 14 15.0 -8.8**
953nm,0.9s
LASF Ste Croix 7.20 4 P Pn 04 13 01.4 -0.9
LASF S Sn **04 14 15.0 -8.8**
477nm,0.9s
PGF Pioggiola 7.20 36 eP Pn 04 13 01.0 -1.4
690nm,0.6s
PGF eSn Sn **04 14 16.5 -7.5**
622nm,0.4s
PGF eT T 04 20 04.3
PGF Pioggiola 7.20 36 P Pn 04 13 01.0 -1.4
345nm,0.6s
PGF S Sn **04 14 16.5 -7.5**
311nm,0.4s
ESPR Espera 7.27 273 P Pn 04 13 04.0 +0.7
430nm,2.2s,SNR=9.0
ESPR S Sn **04 14 19.2 -6.3**
18µm,7.2s,SNR=7.9
EALK Alkurruntz 7.28 332 P Pn 04 13 04.2 +0.6
732nm,0.7s,SNR=7.9
EALK S Sn **04 14 18.0 -8.0**
74µm,10.1s,SNR=7.9
SMRF Simiane la Rot 7.30 14 eP Pn 04 13 03.9 +0.1
423nm,0.5s
SMRF eSn Sn **04 14 18.3 -8.2**
766nm,1.0s
SMRF eT T 04 20 20.5
SMRF Simiane la Rot 7.30 14 P Pn 04 13 03.9 +0.1
423nm,0.5s
SMRF S Sn **04 14 18.3 -8.2**
766nm,1.0s
MDT Midelt 7.60 240 Pn Pn 04 13 07.3 -0.7
2.4nm,0.3s,baz=61,slow=16,SNR=106
MDT LR LR 04 16 19.8
comp=Z,14µm,19.7s,baz=62,slow=40
IFR Ifrane 7.61 246 eP Pn 04 13 08.8 +0.7
SBF Sospel 7.67 24 eP Pn 04 13 07.5 -1.4
313nm,0.4s
SBF eSn Sn **04 14 27.5 -8.1**
201nm,0.3s
SBF eT T 04 20 56.0
SBF Sospel 7.67 24 P Pn 04 13 07.5 -1.4
156nm,0.4s
SBF S Sn **04 14 27.5 -8.1**
100nm,0.3s
EMIN Mina Concepcio 7.92 279 P Pn 04 13 10.8 -1.5
4.4nm,0.2s,SNR=7.9
EMIN S Sn **04 14 35.5 -6.1**
24µm,9.4s,SNR=7.9
EPLA Plasencia 7.95 296 ⇓P Pn 04 13 11.3 -1.4
359nm,1.9s,SNR=18
EPLA S Sn 04 14 32.1 -10
29µm,11.8s,SNR=7.9
CLTB Caltabellotta 8.01 82 Pn Pn 04 13 12.4 -1.2
VIVF Saint-Julien-l 8.04 7 eP Pn 04 13 13.6 -0.2
VIVF eSn Sn 04 14 35.4 -9.0
398nm,0.5s
VIVF Saint-Julien-l 8.04 7 P Pn 04 13 13.6 -0.2
VIVF S Sn 04 14 35.4 -9.0
199nm,0.5s
CAF Calviac 8.07 354 eP Pn 04 13 14.5 +0.1
184nm,0.4s
CAF Calviac 8.07 354 P Pn 04 13 14.5 +0.1
92nm,0.4s
CORL Corleone 8.10 80 Pn Pn 04 13 14.4 -0.4
ELAN Lanestosa 8.13 323 ⇓P Pn 04 13 15.0 -0.1
792nm,1.2s,SNR=18
ELAN S Sn **04 14 43.7 -3.0**
49µm,10.2s,SNR=7.9
LFF La Frestale 8.26 348 eP Pn 04 13 16.8 0.0
711nm,0.5s
LFF La Frestale 8.26 348 P Pn 04 13 16.8 0.0
355nm,0.5s
ORIF Oris-en-Rattie 8.27 13 eP Pn 04 13 17.6 +0.5
ORIF eSn Sn 04 14 40.6 -10
263nm,0.8s
ORIF Oris-en-Rattie 8.27 13 P Pn 04 13 17.6 +0.5
ORIF S Sn 04 14 40.6 -10
132nm,0.8s
MBDF Montbardon 8.28 18 eP Pn 04 13 17.5 +0.2
MBDF eSn Sn **04 14 44.1 -6.5**
515nm,0.9s
MBDF Montbardon 8.28 18 P Pn 04 13 17.5 +0.2
MBDF S Sn **04 14 44.1 -6.5**
258nm,0.9s
EBAD Badajoz 8.30 286 P Pn 04 13 16.2 -1.3
390nm,1.9s,SNR=7.9
EBAD S Sn **04 14 44.2 -6.8**
30µm,13.2s,SNR=7.9
CASP Castiglione de 8.33 43 Pn Pn 04 13 17.2 -0.6
SSB Saint Sauveur 8.44 6 P Pn 04 13 19.3 -0.1
SSB Saint Sauveur 8.44 6 Pn 04 13 19.3 -0.1
RJF Les Rejaudoux 8.50 352 eP Pn 04 13 20.0 -0.2
RJF Les Rejaudoux 8.50 352 P Pn 04 13 20.0 -0.2
EGRO El Granado 8.56 278 P Pn 04 13 18.8 -2.2
120nm,1.2s,SNR=7.9
EGRO S Sn **04 14 49.0 -8.3**
25µm,12.1s,SNR=7.9
BNI Bardonecchia 8.56 17 P Pn 04 13 20.6 -0.6
BNI Bardonecchia 8.56 17 Pn Pn 04 13 20.6 -0.6
RTC Rabat Centre 8.71 254 Pn Pn 04 13 20.2 -2.9
PMRV Marv??o 8.73 290 P Pn 04 13 23.4 +0.1
PMRV Marv??o 8.73 290 ePn Pn 04 13 23.4 +0.1
PVAQ Vaqueiros 8.74 277 P Pn 04 13 21.3 -2.2
PVAQ S Sn **04 14 54.1 -7.7**
PVAQ Vaqueiros 8.74 277 ePn Pn 04 13 21.3 -2.2
PVAQ eSn Sn **04 14 54.1 -7.7**
PVAQ Vaqueiros 8.74 277 Pn Pn 04 13 21.4 -2.1

LATE Laterza 8.74 47 Pn 04 13 23.1 -0.4
MSSA Maissana 8.83 31 Pn 04 13 24.2 -0.6
PBEJ Beja 8.88 281 P Pn 04 13 24.4 -1.0
PBEJ S Sn **04 15 00.8 -4.4**
PBEJ Beja 8.88 281 ePn Pn 04 13 24.4 -1.0
PBEJ eSn Sn **04 15 00.8 -4.4**
PCBR Castelo Branco 8.90 293 P Pn 04 13 26.0 +0.4
PCBR S Sn **04 15 02.3 -3.2**
PCBR Castelo Branco 8.90 293 ePn Pn 04 13 26.0 +0.4
PCBR eSn Sn **04 15 02.3 -3.2**
PBDV Barranco-do-Ve 8.91 276 P Pn 04 13 24.9 -1.0
PBDV S Sn **04 15 00.1 -5.9**
35nm,0.6s
PBDV Barranco-do-Ve 8.91 276 ePn Pn 04 13 24.9 -1.0
PBDV eSn Sn **04 15 00.1 -5.9**
PBDV A A 04 15 05.0
35nm,0.6s
VAE Valguarnera 8.96 83 Pn Pn 04 13 29.7 +3.1
4.5nm,0.3s,baz=350,slow=21,SNR=6.0
PCVE Castro Verde 9.00 278 P Pn 04 13 26.1 -1.0
PCVE S Sn **04 15 03.3 -4.8**
PCVE Castro Verde 9.00 278 ePn Pn 04 13 26.1 -1.0
PCVE eSn Sn **04 15 03.3 -4.8**
LPG La Plagne 9.00 16 eP Pn 04 13 28.5 +1.2
352nm,0.4s
LPG eSn Sn 04 14 58.3 -10
454nm,1.0s
LPG La Plagne 9.00 16 P Pn 04 13 28.5 +1.2
176nm,0.4s
LPG S Sn 04 14 58.3 -10
227nm,1.0s
LPL La Plagne 9.02 16 eP Pn 04 13 28.7 +1.2
1µm,0.8s
LPL eSn Sn 04 14 59.2 -10
371nm,1.0s
LPL La Plagne 9.02 16 P Pn 04 13 28.7 +1.2
671nm,0.8s
LPL S Sn 04 14 59.2 -10
186nm,1.0s
OSSC Osservatorio P 9.04 40 Pn 04 13 27.9 +0.3
MVO Moncorvo 9.04 301 ⇓P Pn 04 13 26.7 -0.9
410nm,1.0s,SNR=18
MVO S Sn **04 15 02.4 -6.7**
30µm,10.5s,SNR=7.9
MVO Moncorvo 9.04 301 ePn Pn 04 13 28.4 +0.8
MVO eSn Sn **04 15 05.0 -4.1**
EVO Evora 9.04 284 P Pn 04 13 27.2 -0.5
EVO S Sn **04 15 03.5 -5.7**
38nm,0.8s
EVO Evora 9.04 284 ePn Pn 04 13 27.2 -0.5
EVO eSn Sn **04 15 03.5 -5.7**
EVO A A 04 15 19.3
38nm,0.8s
VLC Villacollemand 9.08 35 Pn Pn 04 13 27.2 -1.0
EARI Arriondas 9.09 317 ⇓P Pn 04 13 28.7 +0.4
649nm,0.6s,SNR=18
EARI S Sn **04 15 04.4 -5.9**
28µm,8.2s,SNR=7.9
MTE Manteigas 9.11 296 P Pn 04 13 29.1 +0.4
MTE S Sn **04 15 06.8 -4.2**
MTE Manteigas 9.11 296 ePn Pn 04 13 29.1 +0.4
MTE eSn Sn **04 15 06.8 -4.2**
MTE Manteigas 9.11 296 Pn Pn 04 13 28.3 -0.4
PBRG Braganca 9.14 306 P Pn 04 13 28.3 -0.7
PBRG Braganca 9.14 306 ePn Pn 04 13 28.3 -0.7
ECAL Calabor 9.20 306 P Pn 04 13 28.3 -1.6
64nm,0.2s,SNR=7.9
ECAL S Sn **04 15 04.3 -8.8**
46µm,10.6s,SNR=7.9
PMTG Montargil 9.29 287 P Pn 04 13 30.7 -0.3
PMTG S Sn **04 15 08.7 -6.5**
58nm,0.6s
PMTG Montargil 9.29 287 ePn Pn 04 13 30.7 -0.3
PMTG eSn Sn **04 15 08.7 -6.5**
PMTG A A 04 15 49.9
58nm,0.6s
PNCL Nicolau / Gran 9.41 281 P Pn 04 13 31.6 -1.0
PNCL S Sn **04 15 14.3 -3.8**
31nm,0.7s
PNCL Nicolau / Gran 9.41 281 ePn Pn 04 13 31.6 -1.0
PNCL eSn Sn **04 15 14.3 -3.8**
PNCL A A 04 15 30.2
31nm,0.7s
AVE Averroes 9.41 251 eP Pn 04 13 33.4 +0.7
TCF Toulx Ste Croi 9.42 356 eP Pn 04 13 32.9 +0.1
397nm,0.7s
TCF Toulx Ste Croi 9.42 356 P Pn 04 13 32.9 +0.1
198nm,0.7s
PVIS Viseu 9.47 297 P Pn 04 13 33.1 -0.5
PVIS S Sn **04 15 16.4 -3.4**
PVIS Viseu 9.47 297 ePn Pn 04 13 33.1 -0.5
PVIS eSn Sn **04 15 16.4 -3.4**
MORF Marmelete 9.49 276 eP Pn 04 13 30.6 -3.2
MORF AMS AMS 04 16 58.6
comp=N,18µm,20.7s
MORF Marmelete 9.49 276 P Pn 04 13 34.5 +0.7
MORF S Sn **04 15 14.4 -5.7**
MORF Marmelete 9.49 276 eP Pn 04 13 30.6 -3.2
MORF Marmelete 9.49 276 ePn Pn 04 13 34.5 +0.7
MORF eSn Sn **04 15 14.4 -5.7**
PTEO Sao Teotonio 9.54 278 P Pn 04 13 33.1 -1.4
PTEO S Sn **04 15 15.3 -6.1**
PTEO Sao Teotonio 9.54 278 ePn Pn 04 13 33.1 -1.4
PTEO eSn Sn **04 15 15.3 -6.1**
PVRL Vila Real 9.56 301 P Pn 04 13 35.2 +0.5
PVRL S Sn **04 15 19.4 -2.4**
PVRL Vila Real 9.56 301 ePn Pn 04 13 35.2 +0.5
PVRL eSn Sn **04 15 19.4 -2.4**
AQU L'Aquila 9.57 52 P Pn 04 13 35.7 +0.8
AQU L'Aquila 9.57 52 ePn Pn 04 13 33.0 -1.9
AQU L'Aquila 9.57 52 Pn Pn 04 13 35.7 +0.8
PFVI Vila Bisbo 9.63 275 ⇑P Pn 04 13 34.6 -1.1
comp=N,271nm,1.9s,SNR=18
PFVI S Sn **04 15 15.4 -8.2**
comp=N,22µm,13.3s,SNR=7.9
PFVI Vila Bisbo 9.63 275 ePn Pn 04 13 35.5 -0.2
PFVI eSn Sn **04 15 19.1 -4.5**
PFVI Vila Bisbo 9.63 275 Pn Pn 04 13 34.4 -1.3
BGF Bois d'Agland 9.66 359 eP Pn 04 13 36.4 +0.3
comp=N,1µm,0.6s
BGF Bois d'Agland 9.66 359 P Pn 04 13 36.4 +0.3
comp=N,698nm,0.6s
COI Coimbra 9.69 294 P Pn 04 13 37.1 +0.6
COI S Sn **04 15 20.2 -4.8**
COI Coimbra 9.69 294 P Pn 04 13 35.6 -0.9
COI Coimbra 9.69 294 ePn Pn 04 13 37.1 +0.6
COI eSn Sn **04 15 20.2 -4.8**
COI Coimbra 9.69 294 Pn Pn 04 13 35.6 -0.9
PCAS Casmilo, Conde 9.71 293 P Pn 04 13 37.0 +0.2
PCAS S Sn **04 15 21.1 -4.4**
PCAS Casmilo, Conde 9.71 293 ePn Pn 04 13 37.0 +0.2
PCAS eSn Sn **04 15 21.1 -4.4**
INTR Introdacqua 9.72 55 Pn Pn 04 13 35.9 -1.1
SMF Signal de Mont 9.76 3 eP Pn 04 13 37.5 +0.1
comp=N,1µm,0.6s
SMF Signal de Mont 9.76 3 P Pn 04 13 37.5 +0.1
comp=N,583nm,0.6s
PAOL Paolisi 9.76 61 04 13 37.2 -0.3
PSBE So Bento 9.81 289 ePn Pn 04 13 40.3 +2.2
PSBE eSn Sn **04 15 23.1 -4.9**
PSBE A A 04 16 09.3
comp=N,55nm,0.6s
AVF Avril sur Loir 9.89 1 eP Pn 04 13 39.5 +0.2
comp=N,1µm,0.6s
AVF Avril sur Loir 9.89 1 P Pn 04 13 39.5 +0.2
comp=N,696nm,0.6s
SENIN Lac Senin/Sane 9.95 17 Pn Pn 04 13 41.2 +1.0
CABF La Chapelle 9.95 12 eP Pn 04 13 40.0 -0.1
comp=N,910nm,0.6s
CABF La Chapelle 9.95 12 P Pn 04 13 40.0 -0.1
comp=N,455nm,0.6s
PCAB Cabril 9.95 302 P Pn 04 13 40.2 +0.1
PCAB S Sn **04 15 24.6 -6.8**
PCAB Cabril 9.95 302 ePn Pn 04 13 40.2 +0.1
PCAB eSn Sn **04 15 24.6 -6.8**
LIS Lisbon 9.95 284 eP Pn 04 13 36.6 -3.4
LIS AMS AMS 04 17 04.4
comp=N,21µm,11.5s
LIS Lisbon 9.95 284 P Pn 04 13 36.6 -3.4
LIS Lisbon 9.95 284 eP Pn 04 13 36.6 -3.4
LIS Lisbon 9.95 284 ePn Pn 04 13 40.4 +0.4
MFF Saint Martin d 10.02 347 eP Pn 04 13 40.0 -1.0
comp=N,532nm,0.6s

MFF	Saint Martin d	10.02	347	P	Pn	04 13 40.0	-1.0
	comp=N,266nm,0.6s						
ELOB	Lobios	10.04	303	⇓P	Pn	04 13 40.5	-0.9
	comp=N,332nm,2.0s,SNR=18						
ELOB				S	Sn	04 15 23.2	-11
	comp=N,26µm,12.2s,SNR=7.9						
PMAFR	Mafra	10.08	286	P	Pn	04 13 42.8	+0.9
	comp=N,1µm,2.5s,SNR=7.9						
PMAFR				S	Sn	04 15 25.2	-10
	comp=N,22µm,11.0s,SNR=7.9						
PMAFR	Mafra	10.08	286	ePn	Pn	04 13 40.6	-1.3
PMAFR				eSn	Sn	04 15 26.4	-8.3
PMAFR				A	A	04 16 25.2	
	comp=N,47nm,0.7s						
PTO	Porto	10.12	298	P	Pn	04 13 43.1	+0.7
PTO	Porto	10.12	298	ePn	Pn	04 13 43.1	+0.7
CEL	Celeste	10.16	78	Pn	Pn	04 13 42.4	-0.6
SSF	Saint Saulge	10.17	1	eP	Pn	04 13 43.4	+0.4
	comp=N,811nm,0.6s						
SSF	Saint Saulge	10.17	1	P	Pn	04 13 43.4	+0.4
	comp=N,406nm,0.6s						
EPON	Pontenova	10.21	312	P	Pn	04 13 42.6	-1.0
	comp=N,512nm,1.4s,SNR=7.9						
EPON				S	Sn	04 15 27.2	-11
	comp=N,30µm,11.1s,SNR=7.9						
EPON	Pontenova	10.21	312		Pn	04 13 43.9	+0.3
PGAV	Gavieira, Arco	10.22	303	P	Pn	04 13 43.8	-0.1
PGAV				S	Sn	04 15 29.7	-8.5
	comp=N,32nm,0.9s						
PGAV	Gavieira, Arco	10.22	303	ePn	Pn	04 13 43.8	-0.1
PGAV				eSn	Sn	04 15 29.7	-8.5
PGAV				A	A	04 15 36.7	
	comp=N,32nm,0.9s						
SALO	Salr	10.31	30	Pn	Pn	04 13 45.3	+0.3
HYF	Humbligny	10.38	358	eP	Pn	04 13 47.5	+1.6
	comp=N,211nm,0.3s						
HYF	Humbligny	10.38	358	P	Pn	04 13 47.5	+1.6
	comp=N,211nm,0.3s						
LOR	Lormes	10.38	2	eP	Pn	04 13 46.4	+0.4
	comp=N,333nm,0.4s,baz=182						
LOR	Lormes	10.38	2	P	Pn	04 13 46.4	+0.4
	comp=N,166nm,0.4s						
EZAM	Zamans	10.59	303	P	Pn	04 13 49.0	+0.2
	comp=N,233nm,1.4s,SNR=7.9						
EZAM				S	Sn	04 15 36.3	-11
	comp=N,17µm,7.9s,SNR=7.9						
TIP	Timpagrande	10.93	74	⇓P	Pn	04 13 57.1	+3.5
TIP	Timpagrande	10.93	74		Pn	04 13 53.5	0.0
CTI	Castel Tesino	11.12	32	P	Pn	04 13 56.9	+0.7
CTI	Castel Tesino	11.12	32	Pn	Pn	04 13 56.9	+0.7
EMAZ	Mazaricos	11.14	307	P	Pn	04 13 55.7	-0.7
	comp=N,181nm,1.3s,SNR=7.9						
EMAZ				S	Sn	04 15 49.3	-11
	comp=N,27µm,8.8s,SNR=7.9						
CLF	Chambon-Foret	11.15	357	Pn	Pn	04 13 56.9	+0.5
HINF	Hinteralfeld	11.25	13	eP	Pn	04 13 56.6	-1.2
	comp=N,503nm,0.5s						
HINF	Hinteralfeld	11.25	13	P	Pn	04 13 56.6	-1.2
	comp=N,252nm,0.5s						
HAU	Haudompre	11.35	11	eP	Pn	04 13 58.3	-0.9
	comp=N,362nm,0.4s						
HAU	Haudompre	11.35	11	P	Pn	04 13 58.3	-0.9
	comp=N,181nm,0.4s						
SFTF	Sexfontaines	11.39	6	eP	Pn	04 14 00.0	+0.3
	comp=N,589nm,0.5s						
SFTF	Sexfontaines	11.39	6	P	Pn	04 14 00.0	+0.3
	comp=N,589nm,0.5s						
DAVA	Damuels	11.51	23	i Pn	Pn	04 14 02.8	+1.4
	comp=N,32nm,0.6s,SNR=27						
FETA	Feichten	11.56	27	i Pn	Pn	04 14 05.5	+3.3
	comp=N,82nm,0.9s,SNR=37						
MEZF	Maizieres J'vi	11.68	6	eP	Pn	04 14 04.1	+0.4
	comp=N,263nm,0.6s,baz=186						
MEZF	Maizieres J'vi	11.68	6	P	Pn	04 14 04.1	+0.4
	comp=N,263nm,0.6s						
NVLJ	Novalja	11.70	45	P	Pn	04 14 04.9	+1.0
PAGF	Fort de Pagny	11.80	8	eP	Pn	04 14 05.5	+0.1
	comp=N,447nm,0.6s,baz=188						
GRR	Gorron	11.87	347	eP	Pn	04 14 05.8	-0.5
	comp=N,308nm,0.7s						
GRR				eSn	Sn	04 16 05.3	-13
	comp=N,128nm,0.8s						
GRR	Gorron	11.87	347	P	Pn	04 14 05.8	-0.5
	comp=N,154nm,0.7s						
GRR				S	Sn	04 16 05.3	-13
	comp=N,64nm,0.8s						
CDF	Champ du Feu	11.90	13	eP	Pn	04 14 05.5	-1.2
	comp=N,288nm,0.4s						
CDF	Champ du Feu	11.90	13	P	Pn	04 14 05.5	-1.2
	comp=N,144nm,0.4s						
SQTA	Sankt Quirin	11.90	27	i Pn	Pn	04 14 08.9	+2.0
	comp=N,99nm,1.0s,SNR=38						
UBR	Ueberruh	11.93	23	eP	Pn	04 14 07.7	+0.5
	baz=208,slow=13						
HVAR	Hvar	11.93	54	P	Pn	04 14 08.3	+1.2
RIY	Rijeka	11.96	42	P	Pn	04 14 02.4	-5.2
MOTA	Moosalm	11.97	27	i Pn	Pn	04 14 10.3	+2.5
	comp=N,94nm,0.9s,SNR=66						
RETA	Reutte	11.97	25	i Pn	Pn	04 14 09.4	+1.6
	comp=N,139nm,1.3s,SNR=40						
QUIF	Quistinic	11.98	339	eP	Pn	04 14 06.7	-1.1
	comp=N,367nm,0.6s						
QUIF				eSn	Sn	04 16 07.8	-13
	comp=N,186nm,1.0s						
QUIF	Quistinic	11.98	339	P	Pn	04 14 06.7	-1.1
	comp=N,184nm,0.6s						
QUIF				S	Sn	04 16 07.8	-13
	comp=N,93nm,1.0s						
BFO	Black Forest	12.04	17	P	Pn	04 14 07.1	-1.5
BFO	Black Forest	12.04	17	Pn	Pn	04 14 07.1	-1.5
ABTA	Abfaltersbach	12.04	32	i Pn	Pn	04 14 10.2	+1.5
	comp=N,65nm,1.0s,SNR=32						
WTTA	Wattenberg	12.10	28	i Pn	Pn	04 14 11.7	+2.1
	comp=N,105nm,1.0s,SNR=44						
SGMF	Saint Gilles	12.12	341	eP	Pn	04 14 09.3	-0.4
SGMF				eSn	Sn	04 16 11.5	-13
	comp=N,112nm,0.9s						
SGMF	Saint Gilles	12.12	341	P	Pn	04 14 09.3	-0.4
SGMF				S	Sn	04 16 11.5	-13
	comp=N,56nm,0.9s						
WATA	Walderalm	12.14	28	i Pn	Pn	04 14 11.6	+1.5
	comp=N,110nm,1.0s,SNR=45						
FLN	La Foliniere	12.17	348	eP	Pn	04 14 10.4	0.0
	comp=N,387nm,0.8s,baz=170						
FLN	La Foliniere	12.17	348	P	Pn	04 14 10.4	0.0
	comp=N,194nm,0.8s						
CADS	Cadrg	12.20	37	i Pn	Pn	04 14 11.0	+0.1
CEY	Cerknica	12.21	40	ePn	Pn	04 14 09.2	-1.7
PRED	Cave del Predi	12.28	36	Pn	Pn	04 14 12.7	+0.7
ROSF	Rostrenen	12.39	339	eP	Pn	04 14 12.7	-0.7
	comp=N,223nm,0.5s						
ROSF				eSn	Sn	04 16 17.5	-14
	comp=N,460nm,1.4s						
ROSF	Rostrenen	12.39	339	P	Pn	04 14 12.7	-0.7
	comp=N,112nm,0.5s						
ROSF				S	Sn	04 16 17.5	-14
	comp=N,230nm,1.4s						
MYKA	Terra Mystica	12.45	35	i Pn	Pn	04 14 15.6	+1.2
	comp=N,71nm,1.2s,SNR=28						
LJU	Ljubljana	12.47	39	ePn	Pn	04 14 14.9	+0.4
LJU	Ljubljana	12.47	39	ePn	Pn	04 14 14.4	-0.1
BOJS	Bojanci	12.49	43	i Pn	Pn	04 14 16.4	+1.6
STON	Ston	12.62	57	P	Pn	04 14 18.6	+2.0
KBA	Koelnbreinsper	12.66	33	i Pn	Pn	04 14 18.3	+1.1
	comp=N,81nm,1.1s,SNR=50						
OBKA	Obir	12.80	38	i Pn	Pn	04 14 20.6	+1.5
	comp=N,67nm,0.9s,SNR=22						
CRES	Cresnjev	12.81	42	ePn	Pn	04 14 18.0	-1.1
JSA	Saint Aubin	12.90	344	eP	Pn	04 14 18.5	-1.8
JSA				IAMs_20	IAMs_20	04 19 48.5	
	comp=Z,59µm,12.0s						
MGRS	Mrkonjic Grad	12.93	50	ePn	Pn	04 14 22.6	+1.7
RJOB	Jochberg	12.94	30	eP	Pn	04 14 22.7	+1.7
	baz=208,slow=13						
WLF	Walferdange	12.95	9	Pn	Pn	04 14 22.3	+1.3
WLF	Walferdange	12.95	9	P	Pn	04 14 21.7	+0.7
WLF	Walferdange	12.95	9	Pn	Pn	04 14 21.7	+0.7
TREB	Trebinje	13.01	59	ePn	Pn	04 14 23.3	+1.4
HCY	Herceg Novi	13.01	60	⇑iP	Pn	04 14 26.2	+4.3
HCY	Herceg Novi	13.01	60	ePn	Pn	04 14 23.7	+1.8
ZAG	Zagreb	13.10	43	P	Pn	04 14 23.7	+0.7
PTJ	Puntijarka	13.13	43	P	Pn	04 14 22.8	-0.8
SOKA	Soboth	13.16	38	i Pn	Pn	04 14 24.8	+0.8
	comp=Z,47nm,1.1s,SNR=37						
BLY	Banja Luka	13.16	49	ePn	Pn	04 14 22.6	-1.4
PERS	Pernice	13.17	39	i Pn	Pn	04 14 25.6	+1.5

BAIF	Baives	13.19	3	eP	Pn	04 14 25.0	+0.8
BAIF	Baives	13.19	3	P	Pn	04 14 25.0	+0.8
BRY	Bratogost	13.21	58	⇑iP	Pn	04 14 27.8	+3.1
BRY	Bratogost	13.21	58	ePn	Pn	04 14 26.2	+1.5
VLO	Vlora	13.22	69	i P	P	04 14 33.3	-1.3
DOU	Dourbes	13.24	4	⇑Pn	Pn	04 14 25.9	+0.9
BUM	Brajici-Budva	13.24	61	⇑iP	Pn	04 14 29.3	+4.2
GIVF	Givet	13.26	5	eP	Pn	04 14 26.2	+0.9
	comp=Z,1µm,0.9s						
GIVF	Givet	13.26	5	P	Pn	04 14 26.2	+0.9
	comp=Z,664nm,0.9s						
KEK	Kerkira	13.33	73	P	Pn	04 14 27.2	+0.9
CEME	Cevo	13.34	60	⇑iP	Pn	04 14 30.8	+4.3
ULC	Ulcinj	13.39	63	⇑iP	Pn	04 14 31.3	+4.2
DRME	Dracevica, Mon	13.41	62	⇑iP	P	04 14 32.5	-4.3
DRME	Dracevica, Mon	13.41	62	ePn	Pn	04 14 29.0	+1.6
BMRD	Maredsous	13.46	4	Pn	Pn	04 14 28.8	+0.9
NKY	Niksic	13.48	59	⇑iP	Pn	04 14 32.5	+4.0
SRN	Sarande	13.51	72	P	Pn	04 14 32.5	+3.8
SRN	Sarande	13.51	72	i P	Pn	04 14 31.0	+2.4
PDG	Podgorica	13.54	61	⇑P	Pn	04 14 31.3	+2.3
PDG	Podgorica	13.54	61	ePn	Pn	04 14 31.8	+2.7
PDG	Podgorica	13.54	61		Pn	04 14 29.6	+0.5
TTG	Podgorica	13.54	61	⇓iP	Pn	04 14 33.6	+4.5
BGES	Gesves	13.56	5	⇑Pn	Pn	04 14 30.0	+0.7
UPM	Unac-Piva	13.57	57	⇓iP	Pn	04 14 32.0	+2.4
UPM	Unac-Piva	13.57	57	ePn	Pn	04 14 32.1	+2.4
BCLA	Clavier	13.61	6	PmP		04 14 30.6	
BHOU	Houvegnez	13.61	8	Pn	Pn	04 14 31.1	+1.0
SNF	Seneffe	13.64	3	Pn	Pn	04 14 31.9	+1.5
MOA	Molln	13.65	33	i Pn	Pn	04 14 31.6	+1.0
	comp=Z,63nm,0.9s,SNR=38						
TIR	Tirane	13.67	66	P	P	04 14 35.9	-3.8
TIR	Tirane	13.67	66	i P	P	04 14 35.6	-4.1
TIR	Tirane	13.67	66	⇓P	Pn	04 14 34.5	+3.6
TIR	Tirane	13.67	66	P	Pn	04 14 31.6	+0.6
TIR	Tirane	13.67	66	Pn	Pn	04 14 31.6	+0.6
IGT	Igoumenitsa	13.72	74	P	Pn	04 14 32.6	+1.0
BSTI	Sart Tilman	13.79	6	Pn	Pn	04 14 33.4	+0.9
ARSA	Arzberg	13.80	38	i Pn	Pn	04 14 33.0	+0.4
	comp=Z,82nm,1.2s,SNR=27						
VLS	Valsamata	13.86	79	P	P	04 14 42.4	+0.6
KOME	Kolasin	13.86	60	⇑iP	Pn	04 14 37.5	+3.9
MEM	Membach	13.86	7	Pn	Pn	04 14 34.1	+0.6
PUK	Puka	13.87	63	i P	Pn	04 14 34.6	+0.9
EVGI	Lefkada island	13.91	78	P	Pn	04 14 34.7	+0.4
AHRW	Bad Neuenahr-A	13.93	10	eP	Pn	04 14 34.7	+0.3
	baz=208,slow=13						
UCC	Uccle	13.93	3	Pn	Pn	04 14 35.6	+1.2
PLE	Pljevlja	13.94	58	⇓iP	Pn	04 14 38.5	+3.8
BEBN	Eben Emael	14.02	6	Pn	Pn	04 14 36.7	+1.2
RUDO	Rudo	14.04	56	ePn	Pn	04 14 38.3	+2.3
GRF	Grafenberg Arr	14.05	22	eL	L	04 19 39.2	
	comp=Z,6µm,19.7s						
PVY	Plav	14.08	61	⇑iP	Pn	04 14 40.5	+3.8
BCI	Bajram Curri	14.09	62	i P	P	04 14 42.4	-1.9
IVA	Berane	14.13	60	⇓iP	P	04 14 47.1	+2.3
WET	Wettzell	14.13	27	eP	Pn	04 14 36.9	-0.2
	baz=208,slow=13						
JAN	Janina	14.13	73	P	Pn	04 14 38.4	+1.1
BBLS	Lazići	14.16	56	ePn	Pn	04 14 36.8	-0.9
PHP	Peshkopia	14.17	65	P	Pn	04 14 40.3	+2.4
PHP	Peshkopia	14.17	65	i P	Pn	04 14 39.9	+2.0
TAM	Tamanrasset	14.19	171	P	Pn	04 14 37.2	-1.1
TAM	Tamanrasset	14.19	171	Pn	Pn	04 14 37.2	-1.1
GEC2	GERESS Array S	14.19	29	eP	Pn	04 14 38.4	+0.3
	baz=208,slow=13						
GERES	GERESS Array B	14.19	29	Pn	Pn	04 14 37.5	-0.7
	comp=Z,1.0nm,0.3s,baz=206,slow=12,SNR=51						
GERES				LR	LR	04 20 04.8	
	comp=Z,7µm,18.7s,baz=228,slow=37						
OHR	Ohrid	14.31	67	i P	P	04 14 44.4	-2.4
ELSH	Elham, Standar	14.33	355	IAMs_20	IAMs_20	04 20 41.8	
	comp=Z,18µm,14.9s						
KHC	Kasperske Hory	14.38	28	deP	Pn	04 14 39.1	-1.5
KHC				pmax	pmax		
	comp=Z,276nm,1.3s						
KHC	Kasperske Hory	14.38	28	eP	Pn	04 14 39.4	-1.2
KHC				epP	P	04 14 48.4	+0.9
KHC				AMS	AMS	04 24 00.0	
	comp=Z,13µm,9.3s						
NEST	Nestorio	14.38	70	P	P	04 14 53.0	+5.4
PENT	Pentalofos	14.41	71	P	P	04 14 46.6	-1.5
CONA	Conrad Observa	14.44	36	i Pn	Pn	04 14 41.8	+0.3
	comp=Z,59nm,1.1s,SNR=32						
DYA	Yadsworthy	14.48	341	eP	Pn	04 14 39.7	-2.3
DYA				IAmb	IAmb	04 14 41.5	
	comp=Z,100nm,0.8s						
DYA				IAMs_20	IAMs_20	04 20 55.3	
	comp=Z,63µm,11.0s						
TEKS	Tekeris	14.53	53	ePn	P	04 14 48.6	-0.7
RLS	Riolos of Patr	14.55	80	P	Pn	04 14 43.5	+0.6
KPRO	Kipourio	14.56	72	P	Pn	04 14 45.2	+2.1
MANZ	Manzenberg	14.58	23	eP	Pn	04 14 42.5	-0.9
	baz=208,slow=13						
PVO	Paravola	14.60	78	P	Pn	04 14 44.4	+0.8
DIVS	Divibare	14.64	55	ePn	Pn	04 14 42.6	-1.7
FNA	Florina	14.68	69	P	Pn	04 14 46.3	+1.5
DRO	Drossia	14.74	80	P	P	04 14 50.1	-1.5
AMT	Artemida-Makis	14.76	82	P	Pn	04 14 47.2	+1.3
WOL	Wolverton	14.76	349	eP	Pn	04 14 44.5	-1.3
WOL				IAmb	IAmb	04 14 48.7	
	comp=Z,292nm,0.9s						
WOL				IAMs_20	IAMs_20	04 20 57.4	
	comp=Z,23µm,10.7s						
MORH	Mrgy, Hungar	14.82	46	ePn	Pn	04 14 44.5	-2.1
EVR	Evrytania	14.82	77	P	Pn	04 14 47.6	+0.8
PYL	PYLOS	14.83	84	P	Pn	04 14 46.5	-0.3
ANX	Ano Chora	14.90	78	P	Pn	04 14 48.8	+0.9
NKC	Novy Kostel	14.91	24	eP	Pn	04 14 47.4	-0.4
NKC				MLR	MLR		
	comp=Z,14µm,12.8s						
NKC	Novy Kostel	14.91	24	eP	Pn	04 14 47.4	-0.4
NKC				AMS	AMS	04 21 10.0	
	comp=Z,14µm,12.8s						
KZN	Kozani	14.91	71	P	P	04 14 51.6	-1.9
LAKA	Lakka	14.95	79	P	P	04 14 58.3	+4.4
ITM	Ithomi	14.96	83	P	Pn	04 14 48.7	+0.2
ITM	Ithomi	14.96	83	Pn	Pn	04 14 47.4	-1.1
SKO	Skopje	14.97	65	i P	P	04 14 52.7	-1.4
GUNZ	Gunzen	14.98	23	eP	Pn	04 14 49.7	+0.9
	baz=208,slow=13						
FRGS	Fruska Gora	14.99	51	ePn	Pn	04 14 48.5	-0.4
SERG	Sergoula	15.01	78	P	Pn	04 14 49.1	-0.1
MOX	Moxa	15.02	21	eP	Pn	04 14 49.3	+0.1
	baz=208,slow=13						
MOX				eL	L	04 20 26.5	
	comp=Z,8µm,18.3s						
THL	Klokotos Trika	15.02	74	P	Pn	04 14 50.8	+1.5
TRIZ	Trizonia	15.02	79	P	Pn	04 14 49.7	+0.4
SWN1	Swindon	15.05	348	eP	Pn	04 14 48.9	-0.7
SWN1				IAmb	IAmb	04 14 51.9	
	comp=Z,358nm,0.7s						
SWN1				IAMs_20	IAMs_20	04 21 01.2	
	comp=Z,25µm,11.6s						
MAKR	Makrakomi, Fth	15.08	76	P	Pn	04 14 51.7	+1.5
KLV	Kalavryta, Ach	15.09	80	P	Pn	04 14 50.3	0.0
HTL	Hartland	15.14	341	eP	Pn	04 14 48.9	-1.9
HTL				IAMs_20	IAMs_20	04 21 17.5	
	comp=Z,56µm,11.2s						
TRIP	Tripoli	15.21	82	P	Pn	04 14 51.5	-0.4
AGG	Agios Georgios	15.23	76	P	Pn	04 14 52.5	+0.3
GUR	Goura	15.24	80	P	Pn	04 14 54.1	+1.7
TREC	Trest	15.28	32	eP	Pn	04 14 52.6	-0.1
TREC				MLR	MLR		
	comp=Z,11µm,13.2s						
TREC	Trest	15.28	32	eP	Pn	04 14 52.6	-0.1
TREC				AMS	AMS	04 21 10.0	
	comp=Z,11µm,13.2s						
VLX	Vlachokerasia	15.30	82	P	Pn	04 14 53.0	-0.2
STRD	Stroud	15.37	347	eP	Pn	04 14 51.9	-1.9
STRD				IAmb	IAmb	04 14 53.6	
	comp=Z,568nm,0.8s						
STRD				IAMs_20	IAMs_20	04 21 18.9	
	comp=Z,25µm,12.5s						
DSF	Desfina	15.38	78	P	Pn	04 14 53.9	-0.2
GTTG	Gottingen	15.42	16	eP	Pn	04 14 56.1	+1.5
	baz=208,slow=13						
MODS	Modra-Piesok	15.43	38	eP	Pn	04 14 54.9	+0.2
MODS	Modra-Piesok	15.43	38	ePN	Pn	04 14 54.9	+0.2
LIT	Litokhoron	15.43	72	P	Pn	04 14 55.8	+1.0
LIT	Litokhoron	15.43	72	P	Pn	04 14 55.1	+0.3
LIT	Litokhoron	15.43	72	Pn	Pn	04 14 55.1	+0.3

PRU	Pruhonice	15.44	28	eP	Pn	04 14 53.5	-1.3
PRU				MLR	MLR		
	comp=Z,10µm,10.0s						
PRU	Pruhonice	15.44	28	eP	Pn	04 14 53.5	-1.3
PRU				epP	P	04 14 59.1	-0.2
PRU				AMS	AMS	04 23 30.0	
	comp=Z,10µm,10.0s						
PRA	Prague	15.46	28	eP	Pn	04 14 54.5	-0.6
PRA				MLR	MLR		
	comp=Z,7µm,10.2s						
PRA	Prague	15.46	28	eP	Pn	04 14 54.5	-0.6
PRA				AMS	AMS	04 23 00.0	
	comp=Z,7µm,10.2s						
GOPC	GO Pecny, Ondr	15.47	29	eP	Pn	04 14 55.0	-0.3
GOPC				MLR	MLR		
	comp=Z,9µm,12.4s						
GOPC	GO Pecny, Ondr	15.47	29	eP	Pn	04 14 55.0	-0.3
GOPC				epP	P	04 15 00.7	+1.0
GOPC				AMS	AMS	04 22 20.0	
	comp=Z,9µm,12.4s						
AXAR	Agios Charalam	15.48	77	P	Pn	04 14 56.2	+0.7
KRUC	Moravsky	15.50	34	⇓iPN	Pn	04 14 53.3	-2.3
KRUC	Moravsky	15.50	34	eSN	Sn	04 17 52.0	+5.1
MONM	Monmouth	15.54	346	eP	Pn	04 14 54.2	-1.9
MONM				IAmb	IAmb	04 14 55.9	
	comp=Z,305nm,0.7s						
MONM				IAMs_20	IAMs_20	04 21 24.9	
	comp=Z,24µm,13.1s						
NEUB	Neuenburg	15.57	20	eP	Pn	04 14 56.4	-0.1
	baz=208,slow=13						
SMOL	Smolenice	15.60	37	eP	Pn	04 14 58.5	+1.6
SMOL	Smolenice	15.60	37	ePN	Pn	04 14 58.5	+1.6
VAY	Valandovo	15.66	68	i P	P	04 15 00.2	-1.6
PROD	Prodromos	15.68	79	P	P	04 15 00.4	-1.6
MCH1	Michaelchurch	15.73	346	eP	Pn	04 14 56.4	-2.2
MCH1				IAMs_20	IAMs_20	04 21 38.0	
	comp=Z,22µm,12.0s						
LTK	Loutraki	15.73	80	P	Pn	04 14 57.0	-1.7
IBBN	Ibbenburen	15.75	10	eP	P	04 15 01.4	-1.2
	baz=208,slow=13						
LKR	Lokris	15.75	78	P	Pn	04 14 58.0	-0.9
VRAC	Vranov	15.77	34	Pn	Pn	04 14 58.4	-0.7
	comp=Z,0.3nm,0.3s,baz=227,slow=14,SNR=21						
VRAC				LR	LR	04 20 47.8	
	comp=Z,3µm,20.2s,baz=227,slow=36						
VRAC	Vranov	15.77	34	⇓P	Pn	04 15 00.7	+1.6
VRAC	Vranov	15.77	34	⇓iPN	Pn	04 14 57.9	-1.2
VRAC	Vranov	15.77	34	eSN	Sn	04 17 56.4	+2.9
CLZ	Clausthal	15.79	17	eP	Pn	04 14 59.8	+0.4
	baz=208,slow=13						
VLI	Veliai	15.81	85	P	Pn	04 15 00.0	+0.4
THE	Thessaloniki	15.85	70	P	Pn	04 15 00.1	-0.1
PVCC	Panska Ves	15.89	27	eP	Pn	04 14 59.4	-1.2
PVCC				MLR	MLR		
	comp=Z,13µm,10.0s						
PVCC	Panska Ves	15.89	27	eP	Pn	04 14 59.4	-1.2
PVCC				AMS	AMS	04 23 00.0	
	comp=Z,13µm,10.0s						
KRND	KRANIDI	15.91	82	P	Pn	04 15 00.9	-0.1
XOR	Xorichti	15.92	75	P	Pn	04 14 57.6	-3.5
BANR	Banloc	15.92	52	⇑P	P	04 15 03.6	-1.1
WACR	West Acre	15.94	354	eP	Pn	04 15 00.3	-0.9
WACR				IAmb	IAmb	04 15 07.2	
	comp=Z,836nm,1.4s						
WACR				IAMs_20	IAMs_20	04 21 44.7	
	comp=Z,19µm,11.4s						
NEO	Neokhori	15.94	75	P	Pn	04 15 02.0	+0.6
JAVC	Velka Javorina	15.95	37	⇓iPN	Pn	04 15 01.5	0.0
JAVC	Velka Javorina	15.95	37	eSN	Sn	04 17 57.6	-0.4
HORT	Hortiatis	15.95	70	P	P	04 15 18.5	+13
BRG	Berggiesshubel	15.95	25	i P	Pn	04 15 01.4	-0.1
	comp=Z,84nm,1.6s						
BRG				ePP	pwP	04 15 15.2	+4.0
	comp=Z,74nm,1.2s						
BRG				S	Sn	04 17 56.0	-1.9
BRG				SS	S	04 18 19.0	+7.2
	comp=N,13µm,11.2s						
	comp=E,8µm,12.3s						
	comp=Z,9µm,13.5s						
BRG	Berggiesshubel	15.95	25	i P	Pn	04 15 01.4	-0.1
BRG				S	Sn	04 17 56.0	-1.9
BRG				pmax	pmax		
	comp=Z,84nm,1.6s						
BRG				pmax	pmax		
	comp=Z,74nm,1.2s						
BRG				MLR	MLR		
	comp=N,13µm,11.2s						
BRG				MLR	MLR		
	comp=E,8µm,12.3s						
BRG				MLR	MLR		
	comp=Z,9µm,13.5s						
BRG	Berggiesshubel	15.95	25	eP	Pn	04 15 01.3	-0.1
	baz=208,slow=13						
KTHA	Kythira Island	15.96	86	P	P	04 15 05.0	-0.2
DID	Didima	15.97	82	P	Pn	04 15 00.1	-1.7
VILL	Villia	16.00	79	P	P	04 15 05.5	-0.1
CLL	Collm	16.02	23	i P	Pn	04 15 02.8	+0.6
	comp=Z,154nm,1.1s						
CLL				ePlp		04 15 06.0	
	comp=N,2µm,14.9s						
CLL				ePlp		04 15 06.0	
	comp=E,700nm,15.2s						
CLL				ePlp		04 15 06.0	
	comp=Z,2µm,14.6s						
CLL				eS	Sn	04 18 02.0	+2.6
CLL	Collm	16.02	23	i P	Pn	04 15 02.8	+0.6
CLL				eS	Sn	04 18 02.0	+2.6
CLL				pmax	pmax		
	comp=Z,154nm,1.1s						
CLL				MLR	MLR		
	comp=Z,9µm,16.4s						
CLL	Collm	16.02	23	eP	Pn	04 15 02.3	0.0
	baz=208,slow=13						
EFAM	Famara	16.02	246	S	Sn	04 17 47.7	-12
	comp=Z,14µm,7.8s,SNR=7.9						
MDVR	Moldovita	16.05	55	⇑P	P	04 15 04.9	-1.2
RSBS	Rosebush, Pemb	16.08	342	eP	Pn	04 15 02.1	-1.0
RSBS				IAMs_20	IAMs_20	04 21 55.6	
	comp=Z,39µm,11.2s						
ASSE	Asse, Remlinge	16.13	17	eP	Pn	04 15 04.4	+0.8
	baz=208,slow=13						
KKB	Krupnik	16.14	66	P	P	04 15 06.0	-1.1
CWF	Charnwood Fore	16.16	350	eP	Pn	04 15 02.3	-1.8
CWF				IAMs_20	IAMs_20	04 21 43.5	
	comp=Z,13µm,13.4s						
SOH	Sokhos	16.17	70	P	Pn	04 15 05.7	+1.3
PLG	Polygyros	16.19	71	P	Pn	04 15 03.6	-1.0
HLM1	Long Mynd	16.21	347	eP	Pn	04 15 02.7	-2.0
HLM1				IAmb	IAmb	04 15 07.0	
	comp=Z,188nm,1.0s						
HLM1				IAMs_20	IAMs_20	04 21 47.0	
	comp=Z,22µm,12.1s						
MRKA	Markates	16.21	77	P	Pn	04 15 04.6	-0.2
VYHS	Vyhne	16.29	40	eP	Pn	04 15 07.0	+1.3
VYHS	Vyhne	16.29	40	ePN	Pn	04 15 07.0	+1.3
PAIG	Paliouri	16.33	73	P	Pn	04 15 06.0	-0.3
BZS	Buzias	16.33	52	⇑P	P	04 15 08.6	-0.6
NRDL	Niedersach Rie	16.34	15	eP	Pn	04 15 07.7	+1.4
	baz=208,slow=13						
ATHU	Athens Univers	16.38	80	P	Pn	04 15 06.3	-0.7
SRS	Serrai	16.39	69	P	Pn	04 15 07.0	-0.1
VLY	Voula,Athens	16.39	80	P	Pn	04 15 06.6	-0.6
VTS	Vitosha	16.41	63	⇑P	P	04 15 09.4	-0.9
VTS	Vitosha	16.41	63	P	Pn	04 15 08.7	+1.1
KRLC	Kraliky	16.42	32	eP	Pn	04 15 07.5	+0.1
KRLC				MLR	MLR		
	comp=Z,11µm,12.7s						
KRLC	Kraliky	16.42	32	eP	Pn	04 15 07.5	+0.1
KRLC				AMS	AMS	04 23 00.0	
	comp=Z,11µm,12.7s						
UPC	Upice	16.43	30	eP	Pn	04 15 07.4	-0.1
UPC				MLR	MLR		
	comp=Z,9µm,10.4s						
UPC	Upice	16.43	30	eP	Pn	04 15 07.4	-0.1
UPC				AMS	AMS	04 24 00.0	
	comp=Z,9µm,10.4s						
DPC	Dobruska-Polom	16.43	31	eP	Pn	04 15 07.0	-0.6
DPC				MLR	MLR		
	comp=Z,12µm,14.7s						
DPC	Dobruska-Polom	16.43	31	eP	Pn	04 15 07.0	-0.6
DPC				AMS	AMS	04 21 50.0	
	comp=Z,12µm,14.7s						
PTL	Penteli	16.44	80	P	Pn	04 15 07.1	-0.7
AOS	Alonnisos	16.45	76	P	Pn	04 15 07.8	0.0
DION	Dionisos Attik	16.49	80	P	Pn	04 15 06.7	-1.8

PSZ Piszkesteto 16.49 43 ⇑P P 04 15 10.1 -1.0
PSZ Piszkesteto 16.49 43 P Pn 04 15 08.5 0.0
PSZ pmax pmax
comp=Z,229nm,1.0s
PSZ Piszkesteto 16.49 43 Pn Pn 04 15 08.5 0.0
CHVC Chvalec 16.51 30 eP Pn 04 15 08.5 -0.1
CHVC AMS AMS 04 24 00.0
comp=Z,9μm,9.9s
MORC Moravsky Berou 16.53 34 ⇑P P 04 15 10.2 -1.2
MORC Moravsky Berou 16.53 34 ⇓eP Pn 04 15 08.7 -0.2
MORC Moravsky Berou 16.53 34 eSN Sn 04 18 17.8 +5.7
OSTC Ostas 16.55 30 eP Pn 04 15 08.4 -0.7
OSTC AMS AMS 04 23 10.0
comp=Z,11μm,11.2s
HERR Herculane 16.55 55 ⇓P P 04 15 10.7 -0.9
MMB Musomiste 16.57 67 P Pn 04 15 08.5 -0.9
CFUE Fuerteventura 16.58 245 P P 04 15 11.7 -0.4
comp=Z,602nm,2.8s,SNR=7.9
CFUE S Sn 04 18 01.7 -12
comp=Z,20μm,14.8s,SNR=7.9
OUR Ouranopolis 16.59 72 P Pn 04 15 09.2 -0.4
KYMI Kymi, Euboea I 16.61 78 P Pn 04 15 08.2 -1.7
FOEL Foel Wylfa 16.62 346 eP Pn 04 15 08.9 -1.1
FOEL IAmb IAmb 04 15 12.4
comp=Z,589nm,1.0s
FOEL IAMs_20 IAMs_20 04 22 07.4
comp=Z,22μm,13.6s
NVR Nevrokopi 16.63 68 P Pn 04 15 10.2 +0.1
STNC Stoke 16.64 349 eP Pn 04 15 09.6 -0.6
STNC IAmb IAmb 04 15 12.2
comp=Z,2μm,1.6s
STNC IAMs_20 IAMs_20 04 22 32.3
comp=Z,28μm,10.2s
KNDR Palaiochora Ch 16.64 90 P P 04 15 13.1 +0.4
SIRR Siria 16.65 50 ⇑P P 04 15 12.7 -0.1
LLW Llanuwychllyn 16.67 345 eP Pn 04 15 09.8 -0.8
LLW IAmb IAmb 04 15 12.9
comp=Z,439nm,2.0s
LLW IAMs_20 IAMs_20 04 22 15.6
comp=Z,16μm,12.2s
KSP Ksiaz 16.80 30 eP Pn 04 15 11.5 -0.7
KSP eS S 04 18 31.3 +2.1
KSP eL L 04 21 31.2
comp=Z,7μm,18.4s
IMMV Iera Moni Meta 16.83 89 P P 04 15 18.1 +3.3
LBWR Ladybower, Pea 16.87 350 eP Pn 04 15 11.9 -1.2
LBWR IAmb IAmb 04 15 14.6
comp=Z,557nm,1.2s
LBWR IAMs_20 IAMs_20 04 22 06.8
comp=Z,11μm,14.6s
CHAN Chania 16.87 88 P P 04 15 15.1 -0.1
MPEP Malo Peshtene 16.96 61 P P 04 15 16.5 +0.3
MHLO Agia Marina, M 16.98 84 P P 04 15 16.4 0.0
SERI Serifos 16.99 83 P P 04 15 16.1 -0.5
VAM Vamos 17.02 89 P P 04 15 17.7 +0.8
RAC Raciborz 17.05 35 eP Pn 04 15 16.2 +0.9
RAC MLR MLR
comp=Z,11μm,16.5s
YLL Llanberis 17.05 345 eP Pn 04 15 14.8 -0.6
KAVA Kavala 17.07 70 P P 04 15 18.8 +1.5
PGB Panagyurishte 17.07 64 P P 04 15 18.1 +0.6
KECS Kecovo 17.15 42 eP P 04 15 20.0 +1.8
KECS Kecovo 17.15 42 ePN P 04 15 20.0 +1.8
THAS Thassos island 17.18 71 P Pn 04 15 16.7 -0.3
PMOZ Porto Moniz, M 17.23 262 P P 04 15 21.5 +2.1
comp=Z,2μm,3.5s,SNR=7.9
PMOZ S Sn 04 18 14.0 -15
comp=Z,9μm,19.5s,SNR=7.9
PMOZ Porto Moniz, M 17.23 262 P P 04 15 21.5 +2.1
PMOZ S Sn 04 18 14.0 -15
PMOZ Porto Moniz, M 17.23 262 Pn Pn 04 15 15.1 -2.7
WLF1 Llynfaes 17.24 344 eP Pn 04 15 17.4 -0.3
WLF1 IAmb IAmb 04 15 20.3
comp=Z,2μm,1.8s
WLF1 IAMs_20 IAMs_20 04 22 34.2
comp=Z,67μm,12.2s
YRC Rhoscolyn 17.24 344 eP Pn 04 15 17.6 -0.1
DEV Deva 17.26 53 ⇓P P 04 15 20.3 +0.8
RUE Ruedersdorf 17.27 22 eP P 04 15 18.9 -0.6
RUE Ruedersdorf 17.27 22 eP P 04 15 19.0 -0.6
baz=208,slow=13
RZN Rozhen 17.31 67 P Pn 04 15 19.4 +0.5
WME Myndd Eilian 17.32 345 eP Pn 04 15 18.3 -0.4
WPS Cémaes, Angles 17.36 344 eP Pn 04 15 19.4 +0.2
WPS IAmb IAmb 04 15 22.2
comp=Z,2μm,1.8s
WPS IAMs_20 IAMs_20 04 22 38.1
comp=Z,35μm,12.1s
PLD Plovdiv 17.37 66 P P 04 15 20.6 -0.1
HPK Haverah Park 17.40 350 eP Pn 04 15 18.7 -1.0
HPK IAmb IAmb 04 15 24.3
comp=Z,470nm,1.0s
HPK IAMs_20 IAMs_20 04 22 33.0
comp=Z,10μm,10.5s
LIA Limnos Island 17.48 73 P Pn 04 15 20.2 -0.6
SIVA Sivas 17.59 90 P P 04 15 24.0 +0.8
PLVB Pleven 17.59 62 ⇑P P 04 15 23.8 +0.7
IDI Anoyia 17.59 89 P Pn 04 15 21.9 -0.5
comp=Z,5.3nm,0.3s,baz=310,slow=15,SNR=18
IDI Anoyia 17.59 89 P Pn 04 15 21.2 -1.1
IDI Anoyia 17.59 89 ⇑P P 04 15 23.9 +0.6
IDI Anoyia 17.59 89 Pn Pn 04 15 21.8 -0.5
IDI IAmb IAmb 04 15 27.2
comp=Z,423nm,1.3s
NIE Niedzica 17.62 39 eP P 04 15 24.9 +1.4
NIE eS S 04 18 51.4 +5.4
NIE eL L 04 22 00.3
comp=Z,3μm,19.7s
DSB Dublin 17.67 341 Pn 04 15 23.2 +0.1
IOSP Ios island 17.68 84 P Pn 04 15 23.4 +0.1
BSEG Bad Segeberg 17.75 14 eP P 04 15 25.7 +1.0
baz=208,slow=13
GDLE Glaisdale, N Y 17.75 352 eP Pn 04 15 24.1 0.0
GDLE IAMs_20 IAMs_20 04 22 52.2
comp=Z,20μm,13.7s
SMTH Samothraki Isl 17.78 72 P Pn 04 15 23.0 -1.6
KDZ Kurdzhali 17.83 68 P Pn 04 15 24.9 -0.2
APE Apeiranthos 17.83 83 P Pn 04 15 24.5 -0.8
APE Apeiranthos 17.83 83 ⇑P P 04 15 25.8 -0.2
APE Apeiranthos 17.83 83 c/P Pn 04 15 24.3 -1.0
SNT1 Gialos, Santor 17.83 85 P P 04 15 26.3 +0.4
RDO Rodhopi 17.85 69 P Pn 04 15 25.4 0.0
SANT Santorini 17.86 85 ⇓P P 04 15 26.3 0.0
OJC Ojcow 17.89 37 eP P 04 15 26.5 +0.1
OJC eS S 04 18 54.4 +3.1
OJC eL L 04 23 49.2
comp=Z,9μm,13.0s
CRVS Cervenica-Dubn 17.92 42 eP P 04 15 29.6 +2.9
CRVS Cervenica-Dubn 17.92 42 eP P 04 15 29.6 +2.9
DIM Dimitrovgrad 17.97 66 P P 04 15 29.6 +2.2
SIGR SIGRI 17.98 76 P Pn 04 15 26.1 -0.9
GADA Gvkgeada 18.04 73 P Pn 04 15 26.5 -1.3
CJR Cluj-Napoca 18.05 51 ⇓P P 04 15 30.3 +2.1
PVL Pavlikeni 18.05 63 P P 04 15 28.2 0.0
EOSO Osorio 18.08 246 P P 04 15 30.2 +1.4
comp=Z,720nm,2.7s,SNR=7.9
EOSO S Sn 04 18 48.6 -1.4
comp=Z,11μm,14.3s,SNR=7.9
TRPA Tarpa 18.09 46 ⇓P P 04 15 29.9 +1.3
LAST Lasithi 18.09 89 P Pn 04 15 28.0 -0.5
WIM Isle of Man 18.10 345 eP P 04 15 28.6 0.0
ANAF Anafi Island 18.12 85 P Pn 04 15 27.6 -1.1
GGC Guia, Gran Can 18.12 247 S Sn 04 18 49.0 -1.8
comp=Z,12μm,17.3s,SNR=7.9
AMGA Amorgos Island 18.15 83 P Pn 04 15 28.5 -0.6
CHOS Chios island 18.15 78 P Pn 04 15 28.7 -0.5
NPS Neapolis 18.18 88 P P 04 15 30.3 +0.6
IOMK Kirk Michael 18.18 345 eP Pn 04 15 29.3 -0.1
IOMK IAmb IAmb 04 15 34.3
comp=Z,600nm,1.2s
IOMK IAMs_20 IAMs_20 04 23 05.8
comp=Z,61μm,12.5s
ARR Arges 18.19 56 ⇑P P 04 15 32.0 +2.2
ALN Alexandroupoli 18.21 70 P Pn 04 15 28.8 -1.0
UZH Uzhgorod 18.22 44 eP Pn 04 15 28.6 -1.2
UZH eS Sn 04 18 47.8 -5.0
UZH MLR MLR
comp=N,1μm,11.0s
UZH MLR MLR
comp=E,1μm,11.0s
UZH MLR MLR
comp=Z,900nm,11.0s
KESW Keswick, Cumbr 18.23 348 eP P 04 15 30.3 +0.2
KESW IAMs_20 IAMs_20 04 23 37.6
comp=Z,28μm,10.2s
ENEZ Enez 18.27 71 P Pn 04 15 30.1 -0.5
EDMD Edmundbyers 18.29 350 eP Pn 04 15 30.1 -0.7
EDMD IAMs_20 IAMs_20 04 25 15.3
comp=Z,13μm,9.0s
PRK Paraskevi 18.30 76 P P 04 15 32.0 +1.0
SKMB Sankelmark Bun 18.34 12 eP P 04 15 33.4 +2.1
baz=208,slow=13
KOLS Kolonicke sedl 18.38 43 eP Pn 04 15 34.9 +3.1
KOLS Kolonicke sedl 18.38 43 eP Pn 04 15 34.9 +3.1
EBAJ Bajamar 18.42 249 P Pn 04 15 34.4 +2.0
comp=Z,137nm,1.1s,SNR=7.2
EBAJ S Sn 04 18 57.8 -0.1
comp=Z,16μm,18.0s,SNR=7.9
GMM Mts of Mourne 18.47 343 eP Pn 04 15 33.1 +0.2
VOIR 18.49 56 ⇑P Pn 04 15 35.3 +2.0
SZH Strazhica 18.49 63 P Pn 04 15 34.3 +1.1
CGUI Guimar, Teneri 18.61 248 P Pn 04 15 37.3 +2.5
comp=Z,383nm,1.2s,SNR=7.9
CGUI S Sn 04 19 01.9 -0.7
comp=Z,8μm,18.5s,SNR=7.9
MACI Morro de la Ar 18.69 248 P Pn 04 15 36.3 +0.3
comp=Z,377nm,2.2s,SNR=7.9
MACI S Sn 04 19 00.7 -4.2
comp=Z,8μm,19.3s,SNR=7.9
MACI Morro de la Ar 18.69 248 P P 04 15 30.8 -4.8
ZKR Zakros 18.69 89 P Pn 04 15 36.0 +0.2
GAL1 Galloway 18.78 346 eP Pn 04 15 37.6 +0.9
GAL1 IAmb IAmb 04 15 39.5
comp=Z,229nm,1.0s
GAL1 IAMs_20 IAMs_20 04 23 32.5
comp=Z,29μm,12.0s
JMB Yambol 18.81 66 P Pn 04 15 37.3 +0.2
SMG Samos 18.81 80 P P 04 15 36.5 -0.1
EDRB Edirne 18.84 68 P P 04 15 37.0 +0.1
DOPR Dopca 18.89 54 ⇓P Pn 04 15 39.1 +1.0
NEWG New Galloway 18.93 347 eP Pn 04 15 38.5 +0.1
NEWG IAmb IAmb 04 15 41.4
comp=Z,172nm,0.9s
NEWG IAMs_20 IAMs_20 04 23 43.8
comp=Z,32μm,11.7s
ESK Eskdalemuir 18.95 349 P Pn 04 15 39.5 +0.9
ESK pmax pmax
comp=Z,548nm,1.6s
ESK Eskdalemuir 18.95 349 P Pn 04 15 39.5 +0.9
ESK IAmb IAmb 04 15 45.8
comp=Z,548nm,1.6s
EKA Eskdalemuir Ar 18.95 349 P P 04 15 38.0 0.0
baz=163,slow=14,SNR=155
EKA LR LR 04 23 30.0
comp=Z,5μm,19.9s,baz=165,slow=39
RAZG Razgrad 18.96 62 ⇓P Pn 04 15 39.9 +0.9
RGN Rugen 18.98 18 eP P 04 15 38.2 -0.2
RGN Rugen 18.98 18 P P 04 15 38.7 +0.3
KWP Kalwaria Pacla 19.00 42 eP Pn 04 15 41.1 +1.7
KWP eS S 04 19 20.2 +6.3
KWP eL L 04 23 47.9
comp=Z,6μm,18.9s
KWP Kalwaria Pacla 19.00 42 P Pn 04 15 39.4 0.0
KWP pmax pmax
comp=Z,369nm,0.9s
KWP Kalwaria Pacla 19.00 42 P Pn 04 15 39.4 0.0
KWP IAmb IAmb 04 15 43.9
comp=Z,368nm,0.9s
KOSK Kos Island 19.02 83 P P 04 15 38.5 -0.4
GKP Gorka Klasztor 19.08 26 eP Pn 04 15 41.1 +0.9
GKP eS S 04 19 15.8 +0.4
GKP eL L 04 23 24.4
comp=Z,9μm,15.4s
MLR Muntele Rosu 19.10 56 P Pn 04 15 41.1 +0.4
comp=Z,1.5nm,0.3s,baz=251,slow=7.2,SNR=19
MLR Muntele Rosu 19.10 56 ⇓P Pn 04 15 42.3 +1.6
MLR Muntele Rosu 19.10 56 P Pn 04 15 40.4 -0.3
MLR IAmb IAmb 04 15 49.4
comp=Z,427nm,1.4s
NISR Nisiros 19.16 84 P Pn 04 15 42.1 +0.7
OZUR 19.20 54 ⇓P Pn 04 15 43.1 +1.3
BODT Bodrum 19.25 82 P P 04 15 41.6 +0.1
EGOM La Gomera 19.27 249 P P 04 15 42.2 +0.5
comp=Z,2μm,4.3s,SNR=7.9
EGOM S Sn 04 19 14.5 -3.9
comp=Z,3μm,9.2s,SNR=7.9
CLGH Cloghs, Cushen 19.28 344 eP Pn 04 15 43.5 +0.8
CLGH IAMs_20 IAMs_20 04 23 54.9
comp=Z,24μm,12.9s
EBL Broad Law 19.36 349 eP P 04 15 41.9 -0.6
KARP Karpathos 19.36 87 P P 04 15 41.4 -1.3
BURAR Bucovina Array 19.43 50 ⇑P Pn 04 15 45.9 +1.2
BUR08 Bucovina Ar. S 19.43 50 P Pn 04 15 45.0 +0.3
BEL Belsk 19.45 34 eP Pn 04 15 45.9 +1.2
BEL eS S 04 19 27.6 +4.8
BEL eL L 04 23 47.3
comp=Z,12μm,16.4s
NEF NEVSHA 19.45 63 P P 04 15 44.1 +0.5
DAT Datca 19.50 83 P P 04 15 34.7 -10
EHIG Higuera 19.51 251 P Pn 04 15 46.9 +1.1
comp=Z,3μm,5.2s,SNR=7.9
EHIG S Sn 04 19 20.7 -3.8
comp=Z,11μm,8.7s,SNR=7.9
EDI Edinburgh 19.53 349 eP Pn 04 15 45.1 -0.5
EDI IAMs_20 IAMs_20 04 24 22.6
comp=Z,18μm,10.4s
PRD Provadia 19.53 64 P Pn 04 15 45.1 -0.6
BISRR Bisoca 19.63 57 ⇑P Pn 04 15 47.1 +0.1
PGBU Glenifferbraes 19.64 347 eP Pn 04 15 46.2 -0.7
PGBU IAmb IAmb 04 15 50.3
comp=Z,879nm,1.7s
PGBU IAMs_20 IAMs_20 04 24 07.0
comp=Z,26μm,11.9s
PLOR Plostina 19.68 56 ⇑P Pn 04 15 48.2 +0.6
LVV L'vov 19.82 43 i P Pn 04 15 49.2 0.0
LVV eS S 04 19 28.3 -2.0
LVV pmax pmax
comp=Z,600nm,1.2s
LVV MLR MLR
comp=Z,5μm,13.0s
TESR Tescani 19.90 54 ⇓P Pn 04 15 50.7 +0.5
BSD Bornholm Skovb 19.91 20 ⇓i P P 04 15 48.9 +0.4
comp=Z,65nm,0.8s
BSD i 04 19 31.9
comp=Z,7μm,11.0s
BSD Bornholm Skovb 19.91 20 ⇓i P P 04 15 48.9 +0.4
BSD i 04 19 31.9
BSD pmax pmax
comp=Z,65nm,0.8s
BSD MLR MLR
comp=Z,7μm,11.0s
BSD Bornholm Skovb 19.91 20 ⇓i P P 04 15 49.0 +0.5
BSD IAmb IAmb 04 15 50.5
comp=Z,65nm,0.8s
BSD i 04 19 31.9
BSD IAMs_20 IAMs_20 04 25 56.3
comp=Z,7μm,10.8s
EAB Aberfoyle 19.97 348 eP P 04 15 48.4 -0.7
MUD Monsted U'grnd 19.98 10 i P P 04 15 50.1 +0.9
comp=Z,214nm,1.0s
MUD Monsted U'grnd 19.98 10 i P P 04 15 50.1 +0.9
MUD pmax pmax
comp=Z,210nm,1.0s
MUD Monsted U'grnd 19.98 10 i P P 04 15 49.0 -0.2
MUD i P Pn 04 15 50.1 -0.9
MUD IAmb IAmb 04 15 52.1
comp=Z,214nm,1.0s
MUD IAMs_20 IAMs_20 04 27 03.8
comp=Z,11μm,9.4s
CTIG El Hierro 20.00 249 P Pn 04 15 52.4 +1.0
comp=Z,2μm,3.2s,SNR=7.9
CTIG S S 04 19 32.5 -1.6
comp=Z,7μm,7.9s,SNR=7.9
ICOR Ion Corvin 20.00 61 ⇑P Pn 04 15 51.5 +0.2
ARG Arkhangelos 20.02 84 P P 04 15 48.6 -1.2
CHIE El Hierro 20.06 249 P Pn 04 15 52.9 +0.8
comp=Z,89nm,1.2s,SNR=7.9
CCUM Cumbre, El Hie 20.10 249 P Pn 04 15 54.0 +1.3
comp=Z,146nm,0.9s,SNR=7.9
MANT Manisa 20.11 78 P P 04 15 50.2 -0.9
CRST La Restinga, E 20.12 249 P Pn 04 15 54.5 +1.7
comp=Z,480nm,1.1s,SNR=7.9
ELO Logie Almond 20.14 349 eP Pn 04 15 52.1 -0.7
INVG Invergeldie, C 20.15 348 eP P 04 15 51.7 +0.6
INVG IAmb IAmb 04 15 56.7
comp=Z,359nm,1.2s
INVG IAMs_20 IAMs_20 04 24 52.5
comp=Z,18μm,9.8s
PSN Preselentsi 20.18 63 P P 04 15 51.6 +0.1
KULA Kula-Manisa 20.19 78 P P 04 15 50.9 -0.9
HARR Harsova 20.22 60 ⇓P P 04 15 52.9 +1.0
LAWE Loch Awe, Argy 20.23 346 eP P 04 15 52.0 0.0
LAWE IAmb IAmb 04 15 58.3
comp=Z,486nm,1.2s
LAWE IAMs_20 IAMs_20 04 24 32.8
comp=Z,30μm,12.1s
DRUM Mains of Drumt 20.39 351 eP Pn 04 15 54.9 -0.9
DRUM IAmb IAmb 04 15 56.7
comp=Z,256nm,0.9s
DRUM IAMs_20 IAMs_20 04 28 28.7
comp=Z,11μm,7.6s
CFR Carcaliu 20.49 58 ⇓P P 04 15 55.2 +0.3
MANR Mangalia 20.49 62 ⇓P Pn 04 15 56.4 -0.8
ISK Istanbul-Kandi 20.50 70 P P 04 15 54.6 -0.4
TIRR Tirgusor 20.50 61 ⇓P P 04 15 55.9 +0.8
TIRR Tirgusor 20.50 61 ⇓P P 04 15 55.9 +0.8
TIRR Tirgusor 20.50 61 P P 04 15 55.0 -0.1
TIRR pmax pmax
comp=Z,1μm,1.9s
TIRR MLR MLR
comp=Z,4μm,18.0s
TIRR Tirgusor 20.50 61 P P 04 15 55.0 -0.1
TOPG Topolog 20.58 59 ⇑P P 04 15 56.5 +0.6
VASR Vaslui 20.69 54 ⇓P Pn 04 15 58.8 -0.7
FETY Fethiye 20.72 83 P P 04 15 55.5 -2.0
LEOM Leova 20.93 55 ⇓P P 04 16 00.8 +1.1
KLNR Kaliningrad 21.22 28 d/P P 04 16 03.1 +0.4
KLNR pmax pmax
comp=Z,992nm,1.2s
KPL Plockton 21.29 347 eP P 04 16 02.7 -0.7
KPL IAMs_20 IAMs_20 04 25 07.8
comp=Z,28μm,12.1s
ELL Elmali 21.36 82 P P 04 16 05.2 +0.8
ELL pmax pmax
comp=Z,809nm,1.1s
ELL MLR MLR
comp=Z,6μm,18.0s
ELL Elmali 21.36 82 P P 04 16 05.2 +0.8
KAC Achnashellach 21.38 347 eP P 04 16 02.8 -1.6
MILM Milestii Mici 21.44 54 ⇑P P 04 16 05.9 +0.8
KIS Kishinev 21.47 54 ⇓i P P 04 16 06.6 +1.1
comp=Z,1μm,3.6s
KIS Kishinev 21.47 54 ⇑P P 04 16 06.8 +1.3
KIS Kishinev 21.47 54 d/P P 04 16 06.6 +1.1
KIS e 04 16 25.0
KIS eS S 04 19 59.0 -4.1
KIS eSS SnSn 04 20 29.0 +2.7
KIS pmax pmax
comp=Z,1μm,3.6s
KIS pmax pmax
comp=N,5μm,11.0s
KIS MLR MLR
comp=E,1μm,21.0s
KIS MLR MLR
comp=Z,1μm,21.0s
SNART Snartemo 21.62 6 ⇑i P P 04 16 08.5 +1.6
SNART Snartemo 21.62 6 i P P 04 16 08.0 +1.0
SNART i P pP 04 16 08.3 -2.3
HOMB Homborsund 21.68 8 ⇑eP P 04 16 09.8 +2.3
HOMB Homborsund 21.68 8 i P P 04 16 08.9 +1.4
HOMB i P pP 04 16 12.0 +0.8
HOMB i 04 20 10.2
ISP Isparta 21.71 79 P P 04 16 07.3 -0.9
ISP pmax pmax
comp=Z,302nm,1.9s
ISP Isparta 21.71 79 P P 04 16 07.3 -0.9
MLA1 Latheron 21.86 351 eP P 04 16 09.5 -0.1
SUW Suwalki 22.00 33 eP P 04 16 10.2 -0.8
SUW eS S 04 20 12.3 -0.8
SUW eL L 04 24 60.0
comp=Z,4μm,17.8s
MDUB Mudurnu 22.10 72 P P 04 16 12.2 -0.2
BIGH Upper Bighouse 22.12 350 eP P 04 16 11.9 -0.3
BIGH IAmb IAmb 04 16 15.7
comp=Z,216nm,1.1s
BIGH IAMs_20 IAMs_20 04 26 05.4
comp=Z,20μm,11.0s
LEWI Lewis, Hebride 22.28 346 eP P 04 16 13.9 -0.1
LEWI IAmb IAmb 04 16 16.4
comp=Z,156nm,1.3s
LEWI IAMs_20 IAMs_20 04 25 46.5
comp=Z,23μm,11.9s
KMY Karmoy 22.38 3 ⇑i P P 04 16 15.7 +0.6
BART Pico Bartolome 22.55 281 eP P 04 16 16.9 -0.3
comp=Z,143nm,1.1s
PSMN Pico do Norte, 22.57 279 eP P 04 16 16.9 -0.5
comp=Z,115nm,2.1s
PSMA Santa Maria 22.62 279 eP P 04 16 20.1 +2.2
comp=Z,170nm,1.8s
BLS5 Blasjo 22.65 4 ⇑i P P 04 16 19.0 +1.0
PCALD Caldeiras da R 22.80 281 eP P 04 16 21.0 +1.2
comp=Z,73nm,1.1s
CMLA Cha da Macela 22.83 281 eP P 04 16 21.9 +1.8
comp=Z,51nm,1.4s
CMLA Cha da Macela 22.83 281 P P 04 16 18.9 -1.2
CMLA pmax pmax
comp=Z,128nm,1.5s
CMLA Cha da Macela 22.83 281 P P 04 16 18.9 -1.2
GRON Grota Negra 22.84 281 eP P 04 16 17.9 -2.3
comp=Z,141nm,1.4s
PBUR Paburge 22.94 28 eP P 04 16 20.8 -0.2
PBUR IAmb IAmb 04 16 37.6
comp=Z,222nm,1.0s
PDA Ponta Delgada 22.94 281 eP P 04 16 20.7 -0.6
comp=Z,159nm,1.8s
PSET Sete Cidades 22.98 281 eP P 04 16 22.0 +0.3
comp=Z,110nm,1.4s
ODD1 Odda 23.14 4 ⇑i P P 04 16 28.1 +4.9
KONO Kongsberg 23.15 8 d/P P 04 16 23.1 0.0
KONO pmax pmax
comp=Z,214nm,1.7s
KONO Kongsberg 23.15 8 ⇑i P P 04 16 24.2 +1.1
KONO Kongsberg 23.15 8 P P 04 16 22.8 -0.3
KONO IAmb IAmb 04 16 25.1
comp=Z,321nm,1.5s
AKASG Malin Array Be 23.15 45 P P 04 16 21.4 -1.9
comp=Z,60nm,0.5s,baz=243,slow=11,SNR=108
AKASG S S 04 20 31.8 -2.4
comp=Z,0.5nm,0.3s,baz=242,slow=17,SNR=8.3
AKASG LR LR 04 26 20.2
comp=Z,2μm,18.5s,baz=240,slow=39
AKBB Malin Array Si 23.15 45 d/P P 04 16 21.4 -1.9
ANTO Ankara 23.33 74 P P 04 16 25.8 +0.5
ANTO Ankara 23.33 74 P P 04 16 25.3 0.0
ANTO pmax pmax
comp=Z,69nm,1.3s
ANTO Ankara 23.33 74 P P 04 16 25.3 0.0
PABE Paberze 23.36 31 eP P 04 16 24.5 -0.8
PABE IAmb IAmb 04 16 28.6
comp=Z,1μm,1.0s
LRW Lerwick 23.43 354 eP P 04 16 25.4 -0.6
LRW IAmb IAmb 04 16 28.3
comp=Z,131nm,0.8s
LRW IAMs_20 IAMs_20 04 27 17.9
comp=Z,9μm,11.2s
BER Bergen 23.55 3 ⇑i P P 04 16 27.9 +0.8
OSL Oslo 23.57 9 ⇑i P P 04 16 28.5 +1.2
ASK Askoy 23.65 2 ⇑i P P 04 16 28.8 +0.7
TOA0 Torodi Ar. Sit 23.68 184 P P 04 16 27.8 -1.0
SNR=22
TOA0 Torodi Ar. Sit 23.68 184 P P 04 16 27.3 -1.4
TOA0 IAmb IAmb 04 16 29.9
comp=Z,190nm,1.2s
TORD Torodi Ar. Bea 23.68 184 P P 04 16 27.4 -1.3
comp=Z,58nm,0.7s,baz=357,slow=10,SNR=238
TORD PcP PcP 04 20 13.3 +0.2
comp=Z,6.2nm,0.7s,baz=340,slow=1.8,SNR=7.8
TORD LR LR 04 26 44.9
comp=Z,11μm,18.3s,baz=350,slow=39
TORD P3KPbc 04 49 52.3
comp=Z,1.4nm,1.0s,baz=178,slow=3.0,SNR=4.6
BR131 Keskin Array S 23.99 74 P P 04 16 31.3 -0.5
BR131 pmax pmax
comp=Z,127nm,1.9s
BR131 Keskin Array S 23.99 74 P P 04 16 31.3 -0.5
BRTR Keskin Array B 23.99 74 P P 04 16 30.9 -0.8
comp=Z,3.5nm,1.0s,baz=262,slow=8.6,SNR=13
BRTR LR LR 04 25 16.3
comp=Z,773nm,19.3s,baz=246,slow=35
BRTR Keskin Array B 23.99 74 i P P 04 16 31.8 0.0
BRTR pmax pmax
comp=Z,3.0nm,0.7s
SKAR Skarslia 24.03 6 ⇑i P P 04 16 33.0 +1.2

Sta	Name	Dist	Az	Phase	ISC phase	Time	Res
LEF	**Lefka**	**24.04**	**85**	⇓P	**P**	**04 16 32.3**	**+0.3**
NACGM	**Naroch**	**24.17**	**34**	*e*P	**P**	**04 16 32.0**	**-1.1**
NACGM				PM		04 16 36.0	
	comp=Z,0.6nm,1.0s						
NACGM				*e*PP	PnPn	04 17 14.0	+11
NACGM				*e*PPP	PPP	04 18 04.0	
NACGM				*e*S	**S**	**04 20 50.0**	**-0.5**
NACGM				*e*SS		04 22 40.0	
NACGM				*e*SSS	SSS	04 24 04.0	
NACGM				*e*LQ	LQ	04 25 26.0	
NACGM				*e*LR	LR	04 26 18.0	
NACGM				LRM	MLR	04 27 04.0	
	comp=Z,14nm,22.0s						
SUE	**Sulen**	**24.21**	**2**	⇑*i*P	**P**	**04 16 34.7**	**+1.3**
HFS	**Hagfors**	**24.22**	**13**	P	**P**	**04 16 32.6**	**-0.9**
	comp=Z,41nm,0.7s,baz=190,slow=7.5,SNR=100						
HFS				LR	LR	04 26 40.0	
	comp=Z,4µm,18.8s,baz=202,slow=38						
SLIT	**Slitere, Latvi**	**24.30**	**25**	*e*P	**P**	**04 16 34.0**	**-0.2**
ISAL	**Salakas**	**24.31**	**32**	*e*P	**P**	**04 16 35.0**	**+0.7**
ISAL				IAmb	IAmb	04 16 37.7	
	comp=Z,191nm,1.1s						
HYA	**Hoyanger**	**24.37**	**3**	⇑*i*P	**P**	**04 16 35.7**	**+0.9**
IDID	**Didziasalis**	**24.41**	**34**	*e*P	**P**	**04 16 35.9**	**+0.6**
IDID				IAmb	IAmb	04 16 38.6	
	comp=Z,176nm,1.0s						
CSS	**Mathiatis**	**24.42**	**85**	P	**P**	**04 16 35.2**	**-0.4**
CSS				IAmb	IAmb	04 16 44.9	
	comp=Z,253nm,1.5s						
MICGM	**Minsk**	**24.44**	**36**	⇑*e*P	**P**	**04 16 33.0**	**-2.6**
MICGM				*e*PP	**PnPn**	**04 17 09.0**	**+2.9**
MICGM				*e*PPP	PPP	04 17 36.0	
MICGM				*e*S	**S**	**04 20 50.0**	**-4.8**
MICGM				SM		04 21 00.0	
	comp=E,14nm,4.0s						
MICGM				*e*SS	SnSn	04 21 20.0	-19
MICGM				*e*SSS	SSS	04 22 01.0	
MICGM				*e*LQ	LQ	04 25 16.0	
MICGM				*e*LR	LR	04 26 36.0	
MICGM				LRM	MLR	04 28 10.0	
	comp=E,5.2nm,12.0s						
MICGM				LRM	MLR	04 28 18.0	
	comp=Z,6.9nm,12.0s						
MNK	**Minsk**	**24.44**	**36**	*e*P	**P**	**04 16 33.0**	**-2.6**
NAO01	**NORSAR Array S**	**24.47**	**9**	P	**P**	**04 16 36.0**	**+0.3**
IZAR	**Zarasai**	**24.48**	**32**	*e*P	**P**	**04 16 36.5**	**+0.6**
SIM	**Simferopol'**	**24.59**	**61**	*e*P	**P**	**04 16 35.7**	**-1.4**
SIM				pmax	pmax		
	comp=Z,144nm,1.0s						
SIM				MLR	MLR		
	comp=Z,1µm,19.0s						
PGRA	**Graciosa**	**24.63**	**285**	*e*P	**P**	**04 16 35.7**	**-1.8**
	comp=Z,120nm,1.2s						
SRBC	**Serra Branca**	**24.67**	**285**	*e*P	**P**	**04 16 36.7**	**-1.2**
	comp=Z,220nm,1.5s						
NB2	**NORSAR Subarra**	**24.70**	**9**	P	**P**	**04 16 38.3**	**+0.4**
	comp=Z,240nm,1.7s,baz=191,slow=9.3						
NB2	**NORSAR Subarra**	**24.70**	**9**	P	**P**	**04 16 38.3**	**+0.4**
	baz=191,slow=9.3						
NOA	**NORSAR Array B**	**24.70**	**9**	P	**P**	**04 16 37.4**	**-0.6**
	comp=Z,62nm,1.0s,baz=197,slow=10,SNR=72						
NOA				PcP	**PcP**	**04 20 13.3**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=188,slow=3.4,SNR=4.2						
PMAN	**Manadas**	**24.75**	**284**	*e*P	**P**	**04 16 38.6**	**+0.1**
	comp=Z,90nm,1.5s						
FOO	**Floro**	**24.76**	**2**	⇑*i*P	**P**	**04 16 39.4**	**+1.0**
NC405	**NORSAR Array S**	**24.84**	**10**	IAmb	IAmb	04 16 43.3	
	comp=Z,159nm,0.9s						
ROSA	**Rosais**	**24.86**	**284**	*e*P	**P**	**04 16 40.8**	**+1.2**
	comp=Z,136nm,1.3s						
ROSA	**Rosais**	**24.86**	**284**	P	**P**	**04 16 41.6**	**+2.0**
	comp=Z,141nm,1.3s,SNR=7.9						
ROSA	**Rosais**	**24.86**	**284**	P	**P**	**04 16 38.9**	**-0.6**
ROSA				IAmb	IAmb	04 16 43.3	
	comp=Z,119nm,1.2s						
NC204	**NORSAR Array S**	**24.87**	**9**	P	**P**	**04 16 40.0**	**+0.5**
NC204				IAmb	IAmb	04 16 58.5	
	comp=Z,182nm,1.1s						
PICO	**Pico**	**25.02**	**283**	*e*P	**P**	**04 16 40.4**	**-0.7**
	comp=Z,179nm,1.2s						
PCED	**Cedros**	**25.23**	**284**	*e*P	**P**	**04 16 41.5**	**-1.4**
	comp=Z,167nm,1.2s						
DOMB	**Dombas**	**25.44**	**6**	⇑*i*P	**P**	**04 16 46.1**	**+1.5**
MOL	**Molde**	**25.85**	**5**	⇑*i*P	**P**	**04 16 49.3**	**+1.1**
VSU	**Vasula**	**26.51**	**28**	*e*P	**P**	**04 16 54.6**	**+0.3**
VSU	**Vasula**	**26.51**	**28**	*d i*P	**P**	**04 16 54.7**	**+0.4**
VSU				pmax	pmax		
	comp=Z,474nm,0.9s						
DQRL	**Deir Qamar**	**26.53**	**87**	*e*P	**P**	**04 16 56.7**	**+1.8**
BHL	**Bhannes**	**26.55**	**87**	*e*P	**P**	**04 16 55.2**	**+0.2**
MMAI	**Mount Meron Ar**	**26.60**	**89**	P	**P**	**04 16 56.2**	**+0.7**
	comp=Z,45nm,0.9s,baz=295,slow=8.2,SNR=37						
MMAI				LR	LR	04 30 19.2	
	comp=Z,681nm,21.3s,baz=245,slow=43						
HWQ	**Hawqa**	**26.68**	**86**	*e*P	**P**	**04 16 57.0**	**+0.8**
TBLU	**Trondheim**	**26.74**	**7**	*e*P	**P**	**04 16 58.9**	**+2.6**
SHBL	**Chebaa**	**26.77**	**88**	*e*P	**P**	**04 16 58.1**	**+0.9**
ANN	**Anapa**	**26.91**	**62**	*e*P	**P**	**04 16 55.0**	**-3.1**
ANN				*e*		04 17 35.4	
ANN				*e*S	**S**	**04 21 29.1**	**-5.2**
ANN				*e*SSS	SSS	04 22 47.9	
ANN				pmax	pmax		
	comp=Z,324nm,1.6s						
ANN				pmax	pmax		
	comp=N,153nm,1.5s						
ANN				pmax	pmax		
	comp=E,148nm,1.7s						
GAZ	**Gaziantep**	**27.06**	**79**	IAmb	IAmb	04 17 40.0	
	comp=Z,288nm,1.9s						
EIL	**Elat**	**27.41**	**96**	P	**P**	**04 17 03.6**	**+1.0**
	comp=Z,26nm,0.9s,baz=307,slow=6.1,SNR=28						
EIL				LR	LR	04 30 54.1	
	comp=Z,2µm,18.9s,baz=288,slow=43						
ASF	**Jabal al Asfar**	**28.06**	**90**	P	**P**	**04 17 09.7**	**+1.1**
	comp=Z,28nm,1.3s,baz=228,slow=3.0,SNR=42						
NSS	**Namsos**	**28.17**	**8**	⇑*i*P	**P**	**04 17 10.2**	**+1.1**
FINES	**FINESS Array B**	**28.46**	**23**	P	**P**	**04 17 11.0**	**-0.7**
	comp=Z,37nm,0.6s,baz=219,slow=6.9,SNR=104						
FINES				PcP	**PcP**	**04 20 21.6**	**-1.7**
	comp=Z,4.6nm,1.0s,baz=176,slow=5.5,SNR=3.8						
FINES				LR	LR	04 28 54.0	
	comp=Z,2µm,18.5s,baz=220,slow=37						
FINES	**FINESS Array B**	**28.46**	**23**	P	**P**	**04 17 11.0**	**-0.7**
OBN	**Obninsk**	**29.08**	**41**	P	**P**	**04 17 17.1**	**-0.2**
	comp=Z,6.7nm,0.3s,baz=223,slow=8.7,SNR=10						
OBN				LR	LR	04 29 58.0	
	comp=Z,578nm,18.8s,baz=234,slow=39						
OBN	**Obninsk**	**29.08**	**41**	⇓*i*P	**P**	**04 17 17.3**	**0.0**
OBN				*e*		04 18 08.3	
OBN				*i* S	**S**	**04 22 00.5**	**-7.7**
OBN				*e*SS	**SnSn**	**04 23 40.7**	**+8.6**
OBN				pmax	pmax		
	comp=Z,103nm,1.3s						
OBN				MLR	MLR		
	comp=Z,2µm,13.0s						
OBN	**Obninsk**	**29.08**	**41**	IAmb	IAmb	04 17 21.7	
	comp=Z,125nm,1.3s						
VSR	**Storozhevoye**	**29.21**	**49**	*e*P	**P**	**04 17 19.0**	**+0.5**
VSR				*e*S	**S**	**04 22 05.9**	**-4.4**
VSR				pmax	pmax		
	comp=Z,20nm,0.7s						
VSR				smax	smax		
	comp=E,2µm,11.8s						
VSR				MLR	MLR		
	comp=Z,3µm,14.0s						
VORD	**Divnogorie**	**29.22**	**50**	*e*P	**P**	**04 17 18.8**	**+0.2**
VORD				*e*S	**S**	**04 22 02.1**	**-8.4**
VORD				pmax	pmax		
	comp=Z,40nm,1.4s						
VORD				smax	smax		
	comp=E,10.0nm,3.4s						
VORD				MLR	MLR		
	comp=Z,1µm,11.0s						
VORR	**Voronezh**	**29.36**	**48**	*e*P	**P**	**04 17 19.0**	**-0.8**
VORR				pmax	pmax		
	comp=Z,300nm,1.4s						
LPSR	**Galich'ya Gora**	**29.46**	**46**	*e*P	**P**	**04 17 21.2**	**+0.5**
LPSR				*e*S	**S**	**04 22 11.6**	**-2.7**
LPSR				pmax	pmax		
	comp=Z,110nm,0.8s						
LPSR				smax	smax		
	comp=E,580nm,7.5s						
LPSR				MLR	MLR		
	comp=Z,3µm,12.0s						
MOS	**Moscow**	**29.89**	**40**	*e*P	**P**	**04 17 23.2**	**-1.3**
MOS				*e*		04 18 38.3	
MOS				*e*S	**S**	**04 22 18.8**	**-2.1**
MOS				pmax	pmax		
	comp=Z,41nm,0.8s						
MOS				MLR	MLR		
	comp=Z,4µm,14.0s						
BCA	**Borcka**	**29.96**	**69**	⇓P	**P**	**04 17 25.6**	**+0.3**
KIV	**Kislovodsk**	**30.64**	**64**	*i* P	**P**	**04 17 31.1**	**-0.3**
	SNR=8.6						
KIV	**Kislovodsk**	**30.64**	**64**	*e*P	**P**	**04 17 32.0**	**+0.6**
KIV				*e*S	**S**	**04 22 34.2**	**+0.9**
KIV				pmax	pmax		
	comp=Z,44nm,1.1s						
KIV				pmax	pmax		
	comp=Z,285nm,4.3s						
KIV				MLR	MLR		
	comp=Z,2µm,15.0s						
VRH	**Novokhopyorsk**	**30.77**	**50**	*e*P	**P**	**04 17 33.0**	**+0.7**
VRH				*e*S	**S**	**04 22 33.5**	**-1.2**
VRH				pmax	pmax		
	comp=Z,60nm,0.9s						
VRH				smax	smax		
	comp=E,1µm,15.0s						
VRH				MLR	MLR		
	comp=Z,2µm,12.0s						
KBZ	**Khabaz**	**30.80**	**65**	P	**P**	**04 17 33.5**	**+0.8**
	comp=Z,2.7nm,0.5s,baz=268,slow=11,SNR=12						
KBZ				LR	LR	04 34 02.3	
	comp=Z,619nm,18.1s,baz=279,slow=44						
KBZ	**Khabaz**	**30.80**	**65**	*ce*P	**P**	**04 17 32.4**	**-0.2**
KBZ				pmax	pmax		
	comp=Z,37nm,1.4s						
GOF	**Gofitskoye**	**30.91**	**62**	⇑*e*P	**P**	**04 17 33.7**	**+0.1**
GOF				pmax	pmax		
	comp=Z,218nm,1.1s						
DBIC	**Dimbokro**	**30.97**	**196**	P	**P**	**04 17 32.7**	**-1.6**
	comp=Z,26nm,0.8s,baz=352,slow=9.9,SNR=23						
DBIC				LR	LR	04 29 17.2	
	comp=Z,2µm,19.9s,baz=358,slow=35						
DBIC	**Dimbokro**	**30.97**	**196**	P	**P**	**04 17 33.5**	**-0.8**
DBIC				pmax	pmax		
	comp=Z,55nm,1.1s						
DBIC	**Dimbokro**	**30.97**	**196**	P	**P**	**04 17 33.5**	**-0.8**
TIC	**Toumodi**	**31.03**	**196**	*e*P	**P**	**04 17 34.3**	**-0.6**
KIC	**Kosan Boka**	**31.24**	**195**	*e*P	**P**	**04 17 36.3**	**-0.5**
	comp=Z,26nm,0.9s						
LIC	**Lamto**	**31.44**	**196**	*e*P	**P**	**04 17 37.9**	**-0.6**
	comp=Z,42nm,0.6s						
LIC	**Lamto**	**31.44**	**196**	*e*P	**P**	**04 17 37.9**	**-0.6**
	comp=Z,75nm,0.7s,baz=347						
LIC				*e*pP	**pP**	**04 17 42.1**	**-1.0**
BORG	**Borgarnes**	**31.49**	**340**	IAMs_20	IAMs_20	04 30 42.9	
	comp=Z,5µm,18.0s						
ZEI	**Tsey**	**31.57**	**66**	*e*P	**P**	**04 17 39.8**	**+0.1**
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
STEI	**Steigen**	**31.82**	**9**	⇑*i*P	**P**	**04 17 41.9**	**+0.5**
KLMR	**Klimovskoe**	**33.13**	**32**	*e*P	**P**	**04 17 52.8**	**-0.1**
KLMR				*e*S	**S**	**04 23 11.3**	**-0.1**
KLMR				pmax	pmax		
	comp=Z,391nm,1.5s						
KLMR				MLR	MLR		
	comp=Z,5µm,12.0s						
KLMR	**Klimovskoe**	**33.13**	**32**	*e*P	**P**	**04 17 52.8**	**-0.1**
KLMR				AMP		04 18 02.3	
	comp=Z,391nm,1.5s						
KLMR				*e*S	**S**	**04 23 11.3**	**-0.1**
KLMR				*e*S	**S**	**04 23 11.3**	**-0.1**
KLMR				LQ	LQ	04 28 40.9	
KLMR				LQ	LQ	04 28 40.9	
KLMR				LR	LR	04 31 10.5	
KLMR				AMP		04 33 25.3	
	comp=Z,5µm,12.0s						
TRO	**Tromso**	**33.90**	**10**	⇑*i*P	**P**	**04 18 00.7**	**+1.3**
MAK	**Makhachkala**	**34.20**	**66**	*e*P	P	04 17 57.4	-5.0
MAK				*e*S	**S**	**04 23 21.6**	**-6.7**
MAK				*e*SS	**SnSn**	**04 25 33.3**	**-3.4**
MAK				pmax	pmax		
	comp=Z,139nm,0.7s						
TMCR	**Tamitsa**	**34.35**	**26**	*e*P	**P**	**04 18 02.6**	**-0.8**
TMCR				*e*S	**S**	**04 23 31.3**	**+1.2**
TMCR				pmax	pmax		
	comp=Z,39nm,0.8s						
AKT	**Akhty**	**34.52**	**68**	*e*P	**P**	**04 18 02.6**	**-2.8**
AKT				*e*		04 19 22.7	
AKT				*e*S	**S**	**04 23 29.8**	**-3.9**
AKT				pmax	pmax		
	comp=Z,46nm,1.0s						
ARCES	**ARCESS Array B**	**34.88**	**13**	P	**P**	**04 18 07.4**	**-0.6**
	comp=Z,28nm,0.7s,baz=201,slow=6.7,SNR=86						
ARCES				PcP	**PcP**	**04 20 39.6**	**-0.9**
	comp=Z,6.8nm,0.9s,baz=222,slow=1.2,SNR=3.6						
ARCES				LR	LR	04 33 06.4	
	comp=Z,3µm,18.3s,baz=222,slow=38						
APA	**Apatity**	**35.13**	**20**	⇓*i*P	**P**	**04 18 09.8**	**-0.4**
APA				*i* S	**S**	**04 23 40.0**	**-2.2**
APA				pmax	pmax		
	comp=Z,29nm,0.8s						
APA				MLR	MLR		
	comp=Z,5µm,11.0s						
KEV	**Kevo**	**35.35**	**14**	P	**P**	**04 18 11.8**	**-0.2**
KEV				pmax	pmax		
	comp=Z,77nm,0.9s						
KEV				MLR	MLR		
	comp=Z,3µm,20.0s						
KEV	**Kevo**	**35.35**	**14**	P	**P**	**04 18 11.8**	**-0.2**
KEV				IAmb	IAmb	04 18 13.3	
	comp=Z,77nm,0.9s						
HAMF	**Hammerfest**	**35.52**	**12**	⇑*i*P	**P**	**04 18 13.5**	**0.0**
LVZ	**Lovozero**	**35.70**	**20**	*ce*P	**P**	**04 18 15.9**	**+0.8**
LVZ				pmax	pmax		
	comp=Z,90nm,1.2s						
LVZ	**Lovozero**	**35.70**	**20**	P	**P**	**04 18 15.6**	**+0.5**
LVZ				IAmb	IAmb	04 18 20.0	
	comp=Z,88nm,1.2s						
PRGR	**Permogore**	**36.12**	**33**	*e*P	**P**	**04 18 19.3**	**+0.6**
PRGR				*e*S	**S**	**04 23 55.3**	**-2.2**
PRGR				pmax	pmax		
	comp=Z,126nm,0.9s						
SCO	**Scoresbysund**	**36.22**	**346**	P	**P**	**04 18 20.8**	**+1.4**
SCO				pmax	pmax		
	comp=Z,50nm,1.3s						
SCO				MLR	MLR		
	comp=Z,3µm,19.0s						
SCO	**Scoresbysund**	**36.22**	**346**	P	**P**	**04 18 20.8**	**+1.4**
SCO	**Scoresbysund**	**36.22**	**346**	IAMs_20	IAMs_20	04 34 46.0	
	comp=Z,4µm,13.6s						
ANGG	**Ammassalik, Gr**	**37.30**	**333**	*i* P	**P**	**04 18 29.7**	**+1.1**
ANGG				IAMs_20	IAMs_20	04 35 13.6	
	comp=Z,4µm,13.0s						
NRS	**Narsarsuaq**	**38.77**	**324**	*i* P	**P**	**04 18 39.9**	**-1.2**
	comp=Z,3µm,16.0s						
NRS	**Narsarsuaq**	**38.77**	**324**	*i* P	**P**	**04 18 39.9**	**-1.2**
NRS				MLR	MLR		
	comp=Z,3µm,16.0s						
NRS	**Narsarsuaq**	**38.77**	**324**	*i* P	**P**	**04 18 40.0**	**-1.2**
NRS				IAMs_20	IAMs_20	04 34 55.4	
	comp=Z,3µm,16.3s						
DBG	**Daneborg**	**39.16**	**350**	⇓*i*P	**P**	**04 18 45.8**	**+1.5**
DBG				*i*		04 20 17.5	
DBG				IAMs_20	IAMs_20	04 34 36.1	
	comp=Z,4µm,16.1s						
ICESG	**Greenland Ices**	**39.75**	**338**	*i* P	**P**	**04 18 47.7**	**-2.1**
ICESG				IAMs_20	IAMs_20	04 35 49.2	
	comp=Z,5µm,15.4s						
IVI	**Ivigtut**	**40.07**	**324**	P	**P**	**04 18 52.2**	**+0.2**
IVI				IAmb	IAmb	04 18 58.0	
	comp=Z,260nm,1.6s						
AKTO	**Aktyubinsk**	**40.98**	**53**	P	**P**	**04 18 59.1**	**-0.6**
DAG	**Danmarks Havn**	**41.15**	**353**	⇓*i*P	**P**	**04 19 01.4**	**+0.6**
	comp=Z,2µm,18.0s						
DAG	**Danmarks Havn**	**41.15**	**353**	⇓*i*P	**P**	**04 19 01.4**	**+0.6**
DAG				MLR	MLR		
	comp=Z,2µm,18.0s						
DAG	**Danmarks Havn**	**41.15**	**353**	⇓*i*P	**P**	**04 19 01.4**	**+0.6**
DAG				IAMs_20	IAMs_20	04 35 50.6	
	comp=Z,2µm,17.5s						
SUMG	**Summit**	**41.38**	**342**	*i* P	**P**	**04 19 04.7**	**+1.5**
	comp=Z,10µm,13.0s						
SUMG	**Summit**	**41.38**	**342**	P	**P**	**04 19 03.8**	**+0.6**
SUMG				pmax	pmax		
	comp=Z,43nm,0.9s						
SUMG				MLR	MLR		
	comp=Z,3µm,20.0s						
SUMG	**Summit**	**41.38**	**342**	P	**P**	**04 19 03.8**	**+0.6**
SUMG				IAMs_20	IAMs_20	04 35 19.4	
	comp=Z,3µm,20.0s						
SUMG	**Summit**	**41.38**	**342**	*i* P	**P**	**04 19 04.7**	**+1.5**
SUMG				IAMs_20	IAMs_20	04 37 53.7	
	comp=Z,10µm,12.7s						
ARU	**Arti**	**41.39**	**44**	*c i*P	**P**	**04 19 03.0**	**0.0**
ARU						04 20 39.8	
ARU				PPP	PPP	04 21 05.5	
ARU				S	**S**	**04 25 17.9**	**+0.8**
ARU				pmax	pmax		
	comp=Z,120nm,1.3s						
ARU				MLR	MLR		
	comp=Z,2µm,14.0s						
ARU	**Arti**	**41.39**	**44**	P	**P**	**04 19 02.5**	**-0.5**
SPA0	**Spitsbergen Ar**	**41.77**	**4**	P	**P**	**04 19 07.4**	**+1.6**
SPA0				IAmb	IAmb	04 19 12.4	
	comp=Z,189nm,2.0s						
TEND	**Ethiopian Broa**	**42.12**	**117**	*e*P	**P**	**04 19 10.5**	**+1.0**
AB31	**Akbulak array**	**42.30**	**54**	*i* P	**P**	**04 19 09.6**	**-0.9**
KBS	**Kingsbay**	**42.30**	**2**	*de*P	**P**	**04 19 12.4**	**+2.2**
KBS				pmax	pmax		
	comp=Z,94nm,1.3s						
KBS	**Kingsbay**	**42.30**	**2**	*i* P	**P**	**04 19 12.6**	**+2.4**
KBS				IAmb	IAmb	04 19 13.8	
	comp=Z,147nm,1.1s						
KBS				IAMs_20	IAMs_20	04 41 11.6	
	comp=Z,3µm,13.7s						
AAE	**Adis Abeba**	**42.48**	**122**	*e*P	**P**	**04 19 14.7**	**+1.9**
AAE				*e*S	S	04 25 45.5	+11
AAE	**Adis Abeba**	**42.48**	**122**	*e*P	**P**	**04 19 15.1**	**+2.4**
AAE				*e*S	**S**	**04 25 37.0**	**+2.3**
FURI	**Furi**	**42.52**	**122**	*e*P	**P**	**04 19 15.2**	**+2.2**
FURI				*e*S	**S**	**04 25 42.9**	**+7.6**
FURI	**Furi**	**42.52**	**122**	*e*P	**P**	**04 19 13.8**	**+0.7**
FURI				*e*S	S	04 25 48.4	+13
SVE	**Sverdlovsk**	**42.56**	**43**	*e*P	**P**	**04 19 13.2**	**+0.6**
SVE				*e*		04 20 58.5	
SVE				*e*S	**S**	**04 25 33.3**	**-1.1**
SVE				*e*		04 28 42.4	
SVE				pmax	pmax		
	comp=Z,77nm,1.3s						
SVE				MLR	MLR		
	comp=Z,3µm,12.0s						
SFJD	**Kangerlussuaq**	**42.65**	**332**	*i* P	**P**	**04 19 13.1**	**0.0**
	comp=Z,130nm,12.0s						
SFJD	**Kangerlussuaq**	**42.65**	**332**	P	**P**	**04 19 14.1**	**+1.0**
SFJD				pmax	pmax		
	comp=Z,173nm,1.5s						
SFJD	**Kangerlussuaq**	**42.65**	**332**	P	**P**	**04 19 14.1**	**+1.0**
SFJD				IAmb	IAmb	04 19 18.2	
	comp=Z,173nm,1.5s						
SFJD	**Kangerlussuaq**	**42.65**	**332**	*i* P	**P**	**04 19 13.2**	**+0.1**
SFJD				IAMs_20	IAMs_20	04 39 29.9	
	comp=Z,136nm,12.5s						
GEYT	**Alibeck**	**43.09**	**71**	P	**P**	**04 19 16.7**	**-0.4**
	comp=Z,5.0nm,0.8s,baz=266,slow=8.9,SNR=8.6						
GEYT				LR	LR	04 39 47.5	
	comp=Z,432nm,19.5s,baz=325,slow=40						
GYA0B	**ALIBECK ARRAY**	**43.09**	**71**	P	**P**	**04 19 16.5**	**-0.7**
ILULI	**Ilulissat**	**43.51**	**335**	⇓*i*P	**P**	**04 19 19.8**	**-0.2**
	comp=Z,164nm,1.7s						
	comp=Z,4µm,16.0s						
ILULI	**Ilulissat**	**43.51**	**335**	⇓*i*P	**P**	**04 19 19.8**	**-0.2**
ILULI				pmax	pmax		
	comp=Z,160nm,1.7s						
ILULI				MLR	MLR		
	comp=Z,4µm,16.0s						
ILULI	**Ilulissat**	**43.51**	**335**	IAMs_20	IAMs_20	04 36 54.6	
	comp=Z,2µm,19.0s						
ILULI	**Ilulissat**	**43.51**	**335**	⇓*i*P	**P**	**04 19 19.9**	**-0.2**
ILULI				IAmb	IAmb	04 19 24.7	
	comp=Z,165nm,1.7s						
ILULI				IAMs_20	IAMs_20	04 37 14.4	
	comp=Z,4µm,15.8s						
ATD	**Arta Tunnel**	**43.63**	**115**	LR	LR	04 38 47.6	
	comp=Z,2µm,19.2s,baz=322,slow=38						
ATD	**Arta Tunnel**	**43.63**	**115**	*e*P	**P**	**04 19 23.2**	**+1.5**
ATD	**Arta Tunnel**	**43.63**	**115**	*e*P	**P**	**04 19 22.0**	**+0.3**
ATD				*e*S	**S**	**04 25 59.2**	**+8.2**
ATD	**Arta Tunnel**	**43.63**	**115**	P	**P**	**04 19 22.5**	**+0.7**
ATD				IAmb	IAmb	04 19 25.7	
	comp=Z,98nm,1.2s						
ATD				IAMs_20	IAMs_20	04 40 58.7	
	comp=Z,3µm,19.0s						
DRLN	**Deer Lake**	**44.89**	**306**	IAMs_20	IAMs_20	04 34 32.9	
	comp=Z,3µm,21.0s						
NUUG	**Nuugaatsiaq**	**44.94**	**338**	*i* P	**P**	**04 19 32.6**	**+1.2**
NUUG				IAMs_20	IAMs_20	04 39 47.6	
	comp=Z,3µm,12.4s						
MBAR	**Mbarara**	**45.20**	**139**	LR	LR	04 38 54.6	
	comp=Z,2µm,21.4s,baz=334,slow=37						
MBAR	**Mbarara**	**45.20**	**139**	*ce*P	**P**	**04 19 35.2**	**+0.8**
MBAR				pmax	pmax		
	comp=Z,52nm,1.0s						
NOR	**Nord**	**45.41**	**356**	*i* P	**P**	**04 19 35.6**	**+0.5**
	comp=Z,1µm,14.0s						
NOR	**Nord**	**45.41**	**356**	*i* P	**P**	**04 19 35.6**	**+0.5**
NOR				MLR	MLR		
	comp=Z,1µm,14.0s						
NOR	**Nord**	**45.41**	**356**	*i* P	**P**	**04 19 35.6**	**+0.5**
NOR				IAMs_20	IAMs_20	04 41 52.7	
	comp=Z,1µm,13.6s						
UMQ	**Umm Al-Quwin**	**45.77**	**89**	*i* P	**P**	**04 19 39.2**	**+0.6**
	SNR=5.4						
NAZ	**Nazwa, Dubai**	**46.01**	**90**	*i* P	**P**	**04 19 40.3**	**-0.3**
	SNR=18						
NAZ	**Nazwa, Dubai**	**46.01**	**90**	P	**P**	**04 19 40.4**	**-0.3**
	SNR=13						
BANOM	**Banah**	**46.09**	**88**	P	**P**	**04 19 41.2**	**-0.1**
BANOM				P	**P**	**04 19 41.2**	**-0.1**
UPNV	**Upernavik**	**46.19**	**339**	*i* P	**P**	**04 19 41.8**	**+0.4**
UPNV				IAMs_20	IAMs_20	04 40 24.2	
	comp=Z,7µm,13.8s						
MSFE	**Esma-Masafi**	**46.24**	**89**	*i* P	**P**	**04 19 42.4**	**-0.1**
	SNR=6.2						
MDH	**Madha**	**46.38**	**89**	*i* P	**P**	**04 19 42.6**	**-0.9**
	SNR=7.2						
MDH	**Madha**	**46.38**	**89**	P	**P**	**04 19 43.4**	**-0.1**
HATD	**Hatta, Dubai**	**46.47**	**89**	*i* P	**P**	**04 19 43.3**	**-0.9**
	SNR=19						
HATD	**Hatta, Dubai**	**46.47**	**89**	P	**P**	**04 19 44.0**	**-0.2**
	SNR=11						
UOSS	**Minazif**	**46.47**	**89**	*i* P	**P**	**04 19 43.2**	**-1.1**
	SNR=10						
UOSS	**Minazif**	**46.47**	**89**	P	**P**	**04 19 43.9**	**-0.3**
ASHO	**Ashiyiah**	**46.48**	**90**	*i* P	**P**	**04 19 43.0**	**-1.3**
	SNR=6.5						
ASHO	**Ashiyiah**	**46.48**	**90**	P	**P**	**04 19 44.3**	**0.0**
	SNR=8.9						
ASHO				P	**P**	**04 19 44.3**	**0.0**
	SNR=8.9						
KULLO	**Kullorsuaq**	**47.02**	**341**	*i* P	**P**	**04 19 48.1**	**+0.3**
	comp=Z,22nm,0.9s						
	comp=Z,5µm,15.0s						
KULLO	**Kullorsuaq**	**47.02**	**341**	*i* P	**P**	**04 19 48.1**	**+0.3**
KULLO				pmax	pmax		
	comp=Z,22nm,0.9s						
KULLO				MLR	MLR		
	comp=Z,5µm,15.0s						
KULLO	**Kullorsuaq**	**47.02**	**341**	*i* P	**P**	**04 19 48.2**	**+0.3**
KULLO				IAmb	IAmb	04 19 49.5	
	comp=Z,22nm,0.9s						
KULLO				IAMs_20	IAMs_20	04 40 15.3	
	comp=Z,5µm,15.1s						
SOHO	**SOHO**	**47.12**	**90**	*i* P	**P**	**04 19 48.4**	**-0.8**
	SNR=23						
SOHO	**SOHO**	**47.12**	**90**	P	**P**	**04 19 49.2**	**-0.1**
SOHO				P	**P**	**04 19 49.2**	**-0.1**
ARQ	**Araqi**	**47.49**	**91**	P	**P**	**04 19 52.2**	**0.0**
	SNR=11						
HOQ	**Hoqain**	**48.01**	**90**	P	**P**	**04 19 55.9**	**-0.4**
	SNR=9.7						
GBN	**Guysborough**	**48.29**	**301**	IAmb	IAmb	04 20 03.0	
	comp=Z,68nm,1.0s						
BRVK	**Borovoye**	**48.31**	**48**	*ce*P	**P**	**04 19 58.7**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,111nm,2.5s						
BRVK	**Borovoye**	**48.31**	**48**	P	**P**	**04 19 58.9**	**+0.7**
BRVK				IAmb	IAmb	04 20 06.7	
	comp=Z,59nm,1.1s						
BSY	**Bisya**	**48.33**	**91**	P	**P**	**04 19 59.3**	**+0.6**
	SNR=9.2						
BSY				P	**P**	**04 19 59.3**	**+0.6**
	SNR=9.2						
BVA0	**Borovoye Array**	**48.38**	**48**	*i* P	**P**	**04 19 58.1**	**-0.6**
BIDO	**Bidbid**	**48.69**	**90**	P	**P**	**04 20 01.6**	**+0.1**

SNR=8.0
SMDO Samad 48.85 90 P P 04 20 02.5 -0.4
SNR=9.2
WSAR Wadi Sarin 49.23 90 P P 04 20 05.8 +0.1
SNR=5.2
JMDO Jabal Madar 49.23 91 P P 04 20 05.5 -0.2
SNR=5.1
KMBO Kilima Mbogo 49.27 132 P P 04 20 08.3 +2.1
comp=Z,42nm,1.0s,baz=328,slow=7.5,SNR=55
KMBO LR LR 04 42 49.3
comp=Z,1μm,18.4s,baz=316,slow=38
SCHQ Schefferville 49.77 315 P P 04 20 09.4 0.0
comp=Z,47nm,1.0s,baz=85,slow=7.0,SNR=47
SCHQ LR LR 04 38 28.6
comp=Z,2μm,19.4s,baz=100,slow=33
SCHQ Schefferville 49.77 315 IAmb IAmb 04 20 10.5
comp=Z,38nm,0.8s
SCHQ IAMs_20 IAMs_20 04 37 25.1
comp=Z,2μm,21.0s
WBK Wadi Bani Khal 49.81 90 P P 04 20 10.1 0.0
MHTO MHTO 49.83 93 P P 04 20 10.2 +0.1
SNR=6.6
HAL Halifax 49.91 301 IAmb IAmb 04 20 15.3
comp=Z,53nm,1.1s
TULEG Thule 50.28 343 IAMs_20 IAMs_20 04 41 37.8
comp=Z,4μm,16.1s
BRZS Berezniki 50.36 52⇑ eP P 04 20 13.3 -0.6
comp=Z,37nm,1.3s,baz=52
BRZS *i* S S 04 27 25.3 -0.9
baz=52
BRZS LR LR 04 43 23.9
comp=Z,571nm,11.8s,baz=52
BRZS Berezniki 50.36 52 *ce* P P 04 20 13.3 -0.6
BRZS *i* S S 04 27 25.3 -0.9
BRZS pmax pmax
comp=Z,37nm,1.3s
BRZS MLR MLR
comp=Z,571nm,12.0s
ALE Alert 50.50 351 IAMs_20 IAMs_20 04 42 04.5
comp=Z,2μm,18.0s
IUG luzhnay 50.63 62⇑ eP P 04 20 15.0 -1.2
comp=Z,32nm,1.4s,baz=62
IUG *i* S S 04 27 29.1 -1.4
baz=62
IUG luzhnay 50.63 62 *ce* P P 04 20 15.0 -1.2
IUG *i* S S 04 27 29.1 -1.4
IUG pmax pmax
comp=Z,32nm,1.4s
KK31 Karatay Array 50.69 61 *i* P P 04 20 15.2 -1.3
KKAR Karatay Array 50.69 61 P P 04 20 16.0 -0.5
KKAR pmax pmax
comp=Z,20nm,1.0s
KKAR Karatay Array 50.69 61 P P 04 20 15.9 -0.5
BATG Bathurst New B 50.88 305 IAmb IAmb 04 20 22.6
comp=Z,81nm,1.1s
CHGR Chuyangaron 51.12 67 P P 04 20 19.4 -0.5
DZA Taraz 51.33 61 *i* P P 04 20 20.6 -0.7
baz=61
DZA *i* S S 04 27 39.4 -0.6
baz=61
DZA LR LR 04 44 55.4
comp=Z,185nm,12.4s,baz=61
DZA Taraz 51.33 61 *i* P P 04 20 20.6 -0.7
DZA *i* S S 04 27 39.3 -0.6
DZA MLR MLR
comp=Z,185nm,12.0s
GAR Garm 51.86 66 IAmb IAmb 04 20 33.2
comp=Z,129nm,1.4s
GGN Saint George 51.99 302 IAMs_20 IAMs_20 04 40 41.6
comp=Z,3μm,19.0s
E64A Bridgewater 52.28 304 P P 04 20 27.5 -0.8
baz=74,SNR=19
E64A S S 04 27 51.8 -1.0
baz=74
D63A Stockholm 52.29 305 P P 04 20 26.5 -1.9
baz=74,SNR=15
D63A S S 04 27 52.1 -0.9
baz=74
PQI Presque Isle 52.33 305 P P 04 20 28.4 -0.2
PQI IAmb IAmb 04 20 30.6
comp=Z,54nm,1.0s
H66A Whiting 52.41 302 P P 04 20 28.6 -0.7
baz=72
H66A S S 04 27 53.2 -1.4
baz=72
G65A Princeton 52.46 303 P P 04 20 29.3 -0.3
baz=73,SNR=12
G65A S S 04 27 53.3 -1.9
baz=73
G65A Princeton 52.46 303 P P 04 20 29.6 0.0
G65A IAmb IAmb 04 20 34.5
comp=Z,95nm,1.2s
G65A IAMs_20 IAMs_20 04 40 47.2
comp=Z,2μm,20.0s
EMMW East Machias 52.53 302 P P 04 20 30.1 -0.1
EMMW IAMs_20 IAMs_20 04 40 49.2
comp=Z,3μm,19.0s
KBL Kabul 52.53 72 P P 04 20 30.5 -0.2
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL MLR MLR
comp=Z,800nm,21.0s
KBL Kabul 52.53 72 P P 04 20 30.5 -0.2
BTLS Baital 52.55 58⇑ iP P 04 20 29.9 -0.5
comp=Z,31nm,1.7s,baz=58
BTLS *i* S S 04 27 56.5 -0.1
baz=58
BTLS Baital 52.55 58 *c* iP P 04 20 29.8 -0.5
BTLS *i* S S 04 27 56.5 -0.1
BTLS pmax pmax
comp=Z,31nm,1.7s
E63A Oxbow 52.67 304 P P 04 20 31.1 -0.1
baz=73,SNR=15
E63A S S 04 27 57.0 -1.2
baz=73
F64A Sherman 52.79 304 P P 04 20 31.6 -0.5
baz=73,SNR=12
F64A S S 04 27 59.3 -0.5
baz=73
F64A Sherman 52.79 304 IAmb IAmb 04 20 37.1
comp=Z,71nm,1.3s
F64A IAMs_20 IAMs_20 04 41 10.9
comp=Z,2μm,19.0s
D62A Allapoint, All 52.90 305 P P 04 20 32.5 -0.3
baz=73,SNR=18
D62A S S 04 27 59.8 -1.4
baz=73
H65A Eastbrook 53.07 302 P P 04 20 33.7 -0.5
baz=72
H65A S S 04 28 03.2 -0.5
baz=72
EKS2 Erkin-Say 53.11 60 P P 04 20 35.0 +0.3
SNR=20
AML Almayashu 53.22 61 P P 04 20 36.1 +0.2
SNR=12
SHEL Horse Pasture 53.24 191 P P 04 20 36.0 +0.3
SHEL pmax pmax
comp=Z,88nm,1.2s
SHEL MLR MLR
comp=Z,3μm,18.0s
SHEL Horse Pasture 53.24 191 P P 04 20 36.0 +0.3
SHEL IAmb IAmb 04 20 38.6
comp=Z,88nm,1.1s
SHEL Horse Pasture 53.24 191 IAMs_20 IAMs_20 04 43 32.9
comp=Z,3μm,18.0s
G64A Maxfield 53.24 303 P P 04 20 35.5 0.0
baz=72,SNR=20
G64A S S 04 28 06.3 +0.3
baz=72
F63A Nahmakanta, Br 53.34 304 P P 04 20 35.4 -0.8
baz=72,SNR=13
F63A S S 04 28 06.6 -0.8
baz=72
F63A Nahmakanta, Br 53.34 304 IAmb IAmb 04 20 41.3
comp=Z,74nm,1.3s
F63A IAMs_20 IAMs_20 04 41 36.5
comp=Z,3μm,19.0s
E62A Clayton Lake 53.34 305 P P 04 20 35.2 -0.9
baz=73,SNR=8.4
E62A S S 04 28 06.3 -1.0
baz=73
E62A Clayton Lake 53.34 305 IAmb IAmb 04 20 41.9
comp=Z,72nm,1.2s
SGDS Sogindy 53.44 59⇑ *i* P P 04 20 36.0 -1.1
baz=59
SGDS *e* S S 04 28 08.3 -0.7
baz=59
SGDS Sogindy 53.44 59⇑ *i* P P 04 20 36.0 -1.1
SGDS *i* S S 04 28 07.4 -1.6
D61A St Aubert, Com 53.60 306 P P 04 20 38.1 0.0
baz=73,SNR=7.3
D61A S S 04 28 11.0 +0.2
baz=73
PKME Peaks-Kenny Pk 53.60 303 P P 04 20 38.4 +0.3
baz=72,SNR=7.5
PKME Peaks-Kenny Pk 53.60 303 IAmb IAmb 04 20 43.3
comp=Z,82nm,1.5s
PKME IAMs_20 IAMs_20 04 41 35.4
comp=Z,2μm,19.0s
AAK Ala-Archa 53.62 60 *i* P P 04 20 38.4 -0.1
SNR=15
AAK Ala-Archa 53.62 60 P P 04 20 38.9 +0.4
AAK Ala-Archa 53.62 60 P P 04 20 38.7 +0.3
AAK pmax pmax
comp=Z,40nm,1.3s
AAK MLR MLR
comp=Z,1μm,20.0s
AAK Ala-Archa 53.62 60 P P 04 20 38.7 +0.3
CHMS Chumysh 53.67 60 P P 04 20 38.5 -0.2
SNR=9.5
H64A Troy 53.75 302 P P 04 20 39.0 -0.1
baz=71,SNR=5.8
UCH Uchtor 53.77 61 P P 04 20 40.5 +0.5
SNR=15
KURBB Kurchatov Arra 53.83 50 P P 04 20 39.2 -0.5
F62A Pittston Farm, 53.85 304 P P 04 20 40.4 +0.4
baz=72,SNR=11
F62A Pittston Farm, 53.85 304 IAMs_20 IAMs_20 04 41 43.1
comp=Z,2μm,19.0s
KURK Kurchatov 53.86 50 *c* iP P 04 20 39.4 -0.5
KURK pmax pmax
comp=Z,99nm,1.1s
KURK Kurchatov 53.86 50 P P 04 20 39.9 0.0
G63A Kingsbury 53.87 303 P P 04 20 39.7 -0.4
baz=72,SNR=8.3
E61A Lac Etchemin 54.03 305 P P 04 20 41.0 -0.3
baz=72
NRIK Noril'sk 54.07 26 P P 04 20 42.4 +1.3
comp=Z,8.2nm,0.8s,baz=273,slow=4.7,SNR=6.5
NRIK LR LR 04 45 32.8
comp=Z,986nm,18.2s,baz=282,slow=38
WVL Waterville 54.07 302 IAMs_20 IAMs_20 04 40 33.9
comp=Z,2μm,21.0s
D60A Saint Jean D'O 54.17 306 P P 04 20 42.2 0.0
baz=72,SNR=10
I64A Boothbay 54.27 302 P P 04 20 42.9 0.0
baz=71
TKM2 Tokmak 2 54.28 60 P P 04 20 42.8 -0.6
SNR=10
H63A New Sharon 54.29 303 P P 04 20 42.8 -0.3
baz=71
KZA Kyzart 54.33 61 P P 04 20 44.5 +0.5
SNR=28
G62A West of Eustis 54.45 303 P P 04 20 44.1 -0.2
baz=71,SNR=17
G62A West of Eustis 54.45 303 IAmb IAmb 04 20 49.6
comp=Z,50nm,1.0s
G62A IAMs_20 IAMs_20 04 42 10.8
comp=Z,3μm,18.0s
KUU Kurty 54.47 58⇑ *i* P P 04 20 44.2 -0.3
comp=Z,69nm,1.6s,baz=58
KUU *e* S S 04 28 22.9 +0.1
baz=58
KUU Kurty 54.47 58 *c* iP P 04 20 44.2 -0.3
KUU *e* S S 04 28 22.8 +0.1
KUU pmax pmax
comp=Z,69nm,1.6s
F61A St Evariste 54.51 304 P P 04 20 44.8 +0.1
baz=71,SNR=6.8
E60A Ste Agathe de 54.68 305 P P 04 20 45.9 0.0
baz=71,SNR=10
D59A Saint-Raymond 54.73 306 P P 04 20 46.2 -0.1
baz=72,SNR=8.4
MTBS Maitube 54.79 59 *e* P P 04 20 46.1 -0.8
baz=59
MTBS Maitube 54.79 59 *e* P P 04 20 46.1 -0.8
I63A Otisfield 54.87 302 P P 04 20 46.9 -0.4
baz=70,SNR=8.5
I63A Otisfield 54.87 302 IAmb IAmb 04 20 52.7
comp=Z,52nm,1.1s
I63A IAMs_20 IAMs_20 04 41 50.9
comp=Z,2μm,19.0s
CHKK Chushkaly 54.92 58 *e* P P 04 20 47.8 0.0
CHKK Chushkaly 54.92 58 *e* P P 04 20 47.8 0.0
H62A Milan 55.08 303 P P 04 20 48.2 -0.6
baz=70,SNR=8.7
H62A S S 04 28 32.2 +1.4
baz=70
H62A Milan 55.08 303 IAMs_20 IAMs_20 04 40 53.5
comp=Z,2μm,20.0s
G61A St-Isidore-de- 55.09 304 P P 04 20 49.2 +0.3
baz=71,SNR=23
G61A S S 04 28 32.3 +1.3
baz=71
AAA Alma-Ata 55.09 59 *e* P P 04 20 49.0 -0.1
baz=59
AAA *e* S S 04 28 31.4 +0.2
baz=59
AAA LR LR 04 45 57.2
comp=Z,376nm,14.2s,baz=59
AAA Alma-Ata 55.09 59 *e* P P 04 20 48.6 -0.5
AAA *e* S S 04 28 30.5 -0.8
AAA pmax pmax
comp=Z,400nm,3.2s
AAA smax smax
comp=N,600nm,11.5s
AAA MLR MLR
comp=Z,600nm,21.0s
F60A Warwick 55.14 305 P P 04 20 49.7 +0.4
baz=71,SNR=24
F60A S S 04 28 31.8 +0.1
baz=71
TNSS Tian-Shan 55.18 59 *e* P P 04 20 49.4 -0.8
baz=59
TNSS Tian-Shan 55.18 59 *e* P P 04 20 49.3 -0.8
MDOK Medeo 55.20 59 *i* P P 04 20 49.8 -0.2
baz=59
MDOK *i* S S 04 28 32.8 -0.1
baz=59
MDOK Medeo 55.20 59 *i* P P 04 20 49.7 -0.2
MDOK *i* S S 04 28 32.8 -0.1
LATQ La Tuque 55.23 307 P P 04 20 49.7 -0.1
baz=71
E59A St. Maurice 55.34 305 P P 04 20 50.3 -0.4
baz=71
D58A Chemin du LacG 55.38 306 P P 04 20 50.2 -0.8
baz=71,SNR=16
D58A S S 04 28 34.4 -0.5
baz=71
CHGQ Chibougamau 55.43 310 P P 04 20 51.0 -0.3
baz=72,SNR=25
I62A Tamworth 55.44 302 P P 04 20 52.1 +0.6
baz=70
I62A S S 04 28 37.6 +1.9
baz=70
I62A Tamworth 55.44 302 IAMs_20 IAMs_20 04 42 08.1
comp=Z,2μm,19.0s
J63A Strafford 55.47 301 P P 04 20 51.2 -0.5
baz=70
J63A S S 04 28 37.8 +1.8
baz=70
TDK Taldyqorghan 55.49 56 *e* P P 04 20 51.4 -0.4
baz=56
TDK *e* S S 04 28 35.9 -0.5
baz=56
TDK LR LR 04 46 14.4
comp=Z,651nm,11.7s,baz=56
TDK Taldyqorghan 55.49 56 *e* P P 04 20 51.4 -0.4
TDK *e* S S 04 28 35.9 -0.5
TDK MLR MLR
comp=Z,651nm,12.0s
M66A Nantucket 55.54 299 P P 04 20 52.3 +0.1
baz=69
H61A Lyndonville 55.61 303 P P 04 20 53.4 +0.7
baz=70,SNR=8.5
H61A S S 04 28 39.8 +1.8
baz=70
KDJ Kajisay 55.66 60 P P 04 20 54.5 +1.2
KDJ pmax pmax
comp=Z,88nm,1.5s
KDJ MLR MLR
comp=Z,900nm,20.0s
KDJ Kajisay 55.66 60 P P 04 20 54.5 +1.2
KDJ IAmb IAmb 04 21 01.4
comp=Z,88nm,1.5s
G60A Masonville 55.69 304 P P 04 20 53.2 -0.1
baz=70,SNR=25
G60A S S 04 28 40.1 +1.1
baz=70
LBNH Lisbon 55.71 303 P P 04 20 52.9 -0.5
baz=70,SNR=15
LBNH Lisbon 55.71 303 IAmb IAmb 04 20 56.4
comp=Z,36nm,0.8s
LBNH IAMs_20 IAMs_20 04 41 24.3
comp=Z,2μm,21.0s
F59A Saint Guilaume 55.73 305 P P 04 20 51.9 -1.6
baz=70
F59A S S 04 28 41.1 +1.6
baz=70
KSH Kashi 55.77 63 P P 04 20 53.4 -0.7
KSH sP pP 04 20 59.6 +0.9
KSH PcP PcP 04 21 54.3 +1.2
KSH S S 04 28 36.9 -3.6
KSH ScS ScS 04 30 39.7 -3.3
KSH pmax pmax
comp=Z,130nm,1.7s
KSH pmax pmax
comp=Z,510nm,4.0s
KSH LR LR
comp=Z,1μm,16.9s
KSH LR LR
comp=Z,1μm,11.3s
KSH LR LR
comp=Z,1μm,20.1s
L64A Middleborough 55.78 300 P P 04 20 52.7 -1.3
baz=69
L64A S S 04 28 42.4 +2.2
baz=69
M65A Busby, Falmout 55.78 299 P P 04 20 52.5 -1.5
baz=69
M65A Busby, Falmout 55.78 299 IAMs_20 IAMs_20 04 44 25.2
comp=Z,2μm,18.0s
E58A La Victoria 55.88 306 P P 04 20 53.5 -1.0
baz=70,SNR=15
E58A S S 04 28 41.7 +0.2
baz=70
WES Weston 55.95 300 IAmb IAmb 04 21 00.7
comp=Z,79nm,1.2s
K63A Dunstable 55.99 301 P P 04 20 54.1 -1.3
baz=69
J62A Henniker 55.99 302 P P 04 20 54.5 -1.0
baz=69,SNR=6.4
J62A S S 04 28 45.3 +2.2
baz=69
I61A Oroboro, Fairl 56.01 303 P P 04 20 54.5 -1.1
baz=69
I61A S S 04 28 45.2 +1.9
baz=69
RCBR Riachuelo 56.04 229 *e* P P 04 20 56.3 +0.2
RCBR *e* pP pP 04 20 59.8 -0.6
RCBR Riachuelo 56.04 229 IAMs_20 IAMs_20 04 41 00.7
comp=Z,2μm,22.0s
D57A Chemin Vers le 56.06 306 P P 04 20 55.5 -0.4
baz=70,SNR=14
D57A S S 04 28 43.6 -0.2
baz=70
HRV Adam Dziewonsk 56.07 301 P P 04 20 55.2 -0.8
baz=69
HRV Adam Dziewonsk 56.07 301 P P 04 20 57.0 +0.9
HRV pmax pmax
comp=Z,46nm,1.2s
HRV Adam Dziewonsk 56.07 301 P P 04 20 57.0 +0.9
NIL Nilore 56.09 71 P P 04 20 56.2 -0.1
NIL Nilore 56.09 71 P P 04 20 56.2 -0.1
NIL IAmb IAmb 04 21 02.9
comp=Z,50nm,1.1s
H60A Morristown 56.12 303 P P 04 20 54.9 -1.4
baz=70,SNR=15
H60A S S 04 28 46.9 +2.1
baz=70
HNH Hanover 56.14 302 IAmb IAmb 04 21 02.4
comp=Z,105nm,1.7s
HNH IAMs_20 IAMs_20 04 41 37.7
comp=Z,2μm,21.0s
SATY Saty 56.17 59⇑ iP P 04 20 56.1 -0.9
comp=Z,25nm,1.9s,baz=58
SATY *i* S S 04 28 45.1 -0.6
baz=58
SATY LR LR 04 47 25.9
baz=58
SATY Saty 56.17 59 *c* iP P 04 20 56.0 -0.9
SATY *i* S S 04 28 45.1 -0.6
SATY pmax pmax
comp=Z,25nm,1.9s
SATY Saty 56.17 59 *c* iP P 04 20 56.0 -0.9
SATY *i* S S 04 28 45.1 -0.6
SATY pmax pmax
comp=Z,25nm,1.9s
M64A Tiverton 56.18 300 P P 04 20 56.4 -0.4
baz=68
M64A S S 04 28 46.7 +1.1
baz=68
VT1 Waterbury 56.24 303 IAMs_20 IAMs_20 04 43 05.2
comp=Z,2μm,19.0s
TARG Taragay, Kyrgy 56.24 60 IAmb IAmb 04 21 05.7
comp=Z,69nm,1.3s
G59A Clarenceville 56.26 304 P P 04 20 57.4 +0.1
baz=70,SNR=5.3
L63A North Scituate 56.34 300 P P 04 20 57.5 -0.5
baz=68
L63A S S 04 28 49.5 +1.7
baz=68
F58A St-Lin Laurent 56.40 305 P P 04 20 57.6 -0.7
baz=70
F58A S S 04 28 49.4 +1.0
baz=70
E57A Chemin Saint G 56.43 306 P P 04 20 58.4 -0.2
baz=70,SNR=44
E57A S S 04 28 49.6 +0.7
baz=70
J61A Chester 56.45 302 P P 04 20 59.0 +0.3
baz=69,SNR=15
J61A S S 04 28 49.7 +0.6
baz=69
K62A Royalston 56.48 301 P P 04 20 57.9 -1.0
baz=68,SNR=10
K62A S S 04 28 51.1 +1.5
baz=68
K62A Royalston 56.48 301 IAmb IAmb 04 21 04.7
comp=Z,51nm,1.1s
K62A IAMs_20 IAMs_20 04 43 25.7
comp=Z,2μm,18.0s
ZAA0 Zalesovo Array 56.55 44 P P 04 20 60.0 +0.7
ZALV Zalesovo Beam 56.55 44 P P 04 20 58.9 -0.3
comp=Z,16nm,0.8s,baz=287,slow=7.6,SNR=23
ZALV PP PP 04 23 03.6 -1.1
comp=Z,6.7nm,0.8s,baz=281,slow=8.9,SNR=3.6
ZALV LR LR 04 46 46.5
comp=Z,1μm,18.1s,baz=285,slow=38
ZALV Zalesovo Beam 56.55 44 *i* P P 04 20 59.9 +0.7
ZALV pmax pmax
comp=Z,16nm,0.8s
UZB Uzynbulak 56.56 58 *e* P P 04 20 58.7 -1.0
comp=Z,38nm,2.9s,baz=58
UZB *i* S S 04 28 50.3 -0.7
baz=58
UZB Uzynbulak 56.56 58 *e* P P 04 20 58.6 -1.0
UZB *i* S S 04 28 50.2 -0.7
UZB pmax pmax
comp=Z,38nm,2.9s
ITZ Itezhi-Tezhi 56.60 153 *e* P P 04 21 00.9 +0.8
ITZ *i* 04 21 01.2
baz=321,slow=14
ITZ *e* S S 04 29 02.1 +10
ITZ Lg Lg 04 43 47.2
D56A ZEC Mazanza, M 56.61 307 P P 04 20 58.2 -1.6
baz=70,SNR=18
D56A S S 04 28 51.0 -0.1
baz=70
FRNY Flat Rock 56.62 304 IAmb IAmb 04 21 05.0
comp=Z,49nm,1.2s
FRNY IAMs_20 IAMs_20 04 43 26.2
comp=Z,2μm,18.0s
QUA2 Belchertown 56.70 301 IAmb IAmb 04 21 07.1
comp=Z,89nm,1.5s
NBMO Morrinhos-CE 56.72 235 *e* P P 04 21 01.0 +0.1
NBMO *e* pP pP 04 21 03.9 -1.4
H59A Cadyville 56.75 304 P P 04 21 00.7 -0.2
baz=69,SNR=35
H59A S S 04 28 55.3 +2.2

	baz=69						
I60A	Shoreham	56.77	303	P	P	04 21 01.5	+0.6
	baz=69,SNR=14						
I60A				S	S	04 28 56.2	+2.8
	baz=69						
G58A	Ormstown	56.81	304	P	P	04 21 00.8	-0.5
	baz=69,SNR=8.3						
G58A				S	S	04 28 55.1	+1.2
	baz=69						
M63A	Gales Ferry	56.82	300	P	P	04 21 00.4	-0.9
	baz=68						
M63A				S	S	04 28 55.6	+1.6
	baz=68						
SHLS	Shalkode	56.85	58	eP	P	04 21 03.6	+1.8
	comp=Z,7.4nm,0.9s,baz=58						
SHLS				eS	S	04 28 58.9	+4.0
	baz=58						
SHLS				LR	LR	04 48 09.9	
	comp=Z,195nm,11.4s,baz=58						
SHLS	Shalkode	56.85	58	eP	P	04 21 03.6	+1.8
SHLS				eS	S	04 28 58.8	+4.0
SHLS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SHLS				MLR	MLR		
	comp=Z,195nm,11.0s						
L61B	Northampton	56.87	301	P	P	04 21 01.8	+0.1
	baz=68,SNR=11						
L61B				S	S	04 28 56.2	+1.5
	baz=68						
RES	Resolute Bay	56.90	342	IAMs_20	IAMs_20	04 43 54.4	
	comp=Z,2μm,21.0s						
E56A	St. Veronique	56.96	306	P	P	04 21 02.2	-0.1
	baz=70,SNR=19						
E56A				S	S	04 28 56.1	+0.3
	baz=70						
LSZ	Lusaka	56.98	151	P	P	04 21 04.1	+1.2
LSZ	Lusaka	56.98	151	P	P	04 21 03.7	+0.9
LSZ				pmax	pmax		
	comp=Z,72nm,1.1s						
LSZ				MLR	MLR		
	comp=Z,4μm,20.0s						
LSZ	Lusaka	56.98	151	P	P	04 21 03.7	+0.9
LSZ				IAmb	IAmb	04 21 06.0	
	comp=Z,72nm,1.1s						
F57A	Harrington	57.00	305	P	P	04 21 02.1	-0.5
	baz=69						
F57A				S	S	04 28 57.8	+1.5
	baz=69						
L62A	Suffield	57.01	301	P	P	04 21 02.0	-0.7
	baz=68						
D55A	Sainte-Anne-du	57.08	307	P	P	04 21 02.5	-0.6
	baz=70,SNR=27						
D55A				S	S	04 28 56.7	-0.6
	baz=70						
J60A	Lant Hill Farm	57.08	302	P	P	04 21 03.8	+0.6
	baz=68,SNR=17						
J60A				S	S	04 29 00.5	+3.0
	baz=68						
H58A	Gabriels	57.16	304	P	P	04 21 04.2	+0.4
	baz=69,SNR=20						
H58A				S	S	04 29 00.3	+1.7
	baz=69						
I59A	Olmsteadville	57.18	303	P	P	04 21 04.9	+1.0
	baz=68,SNR=10						
I59A				S	S	04 29 01.4	+2.6
	baz=68						
K61A	Williamstown	57.19	301	P	P	04 21 03.3	-0.7
	baz=68,SNR=17						
K61A				S	S	04 29 01.7	+2.7
	baz=68						
ACCN	Adirondack Com	57.20	302	IAmb	IAmb	04 21 10.8	
	comp=Z,69nm,1.3s						
MAKZ	Makanchi	57.20	53	P	P	04 21 04.1	0.0
MAKZ				pmax	pmax		
	comp=Z,53nm,1.2s						
MAKZ				MLR	MLR		
	comp=Z,1μm,20.0s						
MAKZ	Makanchi	57.20	53	P	P	04 21 04.1	0.0
MAKZ				IAmb	IAmb	04 21 11.6	
	comp=Z,53nm,1.2s						
LSQQ	Lebel-sur-Quev	57.31	310	P	P	04 21 04.3	-0.5
	baz=70						
LONY	Lake Ozonia	57.35	304	P	P	04 21 05.8	+0.6
	baz=68,SNR=14						
LONY	Lake Ozonia	57.35	304	IAmb	IAmb	04 21 11.3	
	comp=Z,108nm,1.6s						
LONY				IAMs_20	IAMs_20	04 43 38.7	
	comp=Z,2μm,20.0s						
M62A	Hamden	57.39	300	P	P	04 21 04.8	-0.6
	baz=68						
M62A				S	S	04 29 02.2	+0.6
	baz=68						
MK31	Makanchi Array	57.41	53	P	P	04 21 05.4	-0.1
MK31				pmax	pmax		
	comp=Z,27nm,0.9s						
MK31	Makanchi Array	57.41	53	P	P	04 21 05.4	-0.1
MKAR	Makanchi Array	57.41	53	P	P	04 21 05.1	-0.4
	comp=Z,15nm,0.6s,baz=285,slow=6.1,SNR=87						
MKAR				LR	LR	04 47 41.6	
	comp=Z,1μm,20.2s,baz=294,slow=38						
TSUM	Tsumeb	57.41	164	P	P	04 21 06.5	+0.7
TSUM				IAmb	IAmb	04 21 08.8	
	comp=Z,78nm,1.0s						
TRY	Troy	57.44	302	IAmb	IAmb	04 21 12.8	
	comp=Z,130nm,1.6s						
TRY				IAMs_20	IAMs_20	04 43 27.0	
	comp=Z,3μm,19.0s						
G57A	Newington	57.44	305	P	P	04 21 04.4	-1.3
	baz=69,SNR=17						
G57A				S	S	04 29 04.2	+2.0
	baz=69						
YLE	Yale	57.47	300	IAMs_20	IAMs_20	04 45 04.9	
	comp=Z,2μm,19.0s						
MATQ	Matagami	57.48	311	P	P	04 21 05.7	-0.2
	baz=70,SNR=21						
L61A	Hillsdale 1, H	57.56	301	P	P	04 21 06.7	+0.1
	baz=68,SNR=9.4						
L61A				S	S	04 29 07.1	+3.2
	baz=68						
K60A	Five Rivers En	57.63	302	P	P	04 21 06.8	-0.3
	baz=68						
K60A				S	S	04 29 08.3	+3.6
	baz=68						
E55A	Montcerf-Lytto	57.65	306	P	P	04 21 07.4	+0.2
	baz=69,SNR=12						
E55A				S	S	04 29 05.4	+0.5
	baz=69						
ORIO	Orleans, Innes	57.66	305	P	P	04 21 05.7	-1.6
	baz=68,SNR=18						
J59A	Piesco	57.73	303	P	P	04 21 07.1	-0.7
	baz=68,SNR=10						
J59A				S	S	04 29 09.2	+3.1
	baz=68						
J59A	Piesco	57.73	303	IAMs_20	IAMs_20	04 43 59.7	
	comp=Z,2μm,20.0s						
D54A	Lac Fusel, La	57.78	307	P	P	04 21 08.1	0.0
	baz=69,SNR=13						
D54A				S	S	04 29 05.2	-1.5
	baz=69						
VLDQ	Val d'Or	57.94	309	IAmb	IAmb	04 21 14.9	
	comp=Z,56nm,1.4s						
VLDQ				IAMs_20	IAMs_20	04 43 57.5	
	comp=Z,2μm,18.0s						
H57A	Richville	57.95	304	P	P	04 21 09.7	+0.4
	baz=68,SNR=12						
H57A				S	S	04 29 09.3	+0.5
	baz=68						
I58A	Old Forge	57.96	303	P	P	04 21 09.8	+0.4
	baz=68,SNR=29						
I58A				S	S	04 29 11.1	+1.9
	baz=68						
N62A	Caumsett State	57.99	300	P	P	04 21 08.6	-1.0
	baz=67						
M61A	Granite Spring	58.05	300	P	P	04 21 08.8	-1.3
	baz=67						
M61A				S	S	04 29 12.0	+1.7
	baz=67						
F55A	Otter Lake	58.07	306	P	P	04 21 10.5	+0.4
	baz=68,SNR=6.7						
F55A				S	S	04 29 11.6	+1.2
	baz=68						
L60A	Shokan	58.10	301	P	P	04 21 09.8	-0.6
	baz=67						
L60A				S	S	04 29 13.9	+3.0
	baz=67						
K59A	Cooperstown	58.23	302	P	P	04 21 12.0	+0.7
	baz=67,SNR=15						
K59A				S	S	04 29 16.0	+3.3

	baz=67						
PAL	Palisades	58.27	300	P	P	04 21 11.4	-0.1
	baz=67						
PAL				S	S	04 29 13.7	+0.6
	baz=67						
J58A	Remsen	58.30	303	P	P	04 21 11.1	-0.7
	baz=67,SNR=14						
J58A				S	S	04 29 15.7	+2.3
	baz=67						
J58A	Remsen	58.30	303	IAmb	IAmb	04 21 17.6	
	comp=Z,70nm,1.2s						
J58A				IAMs_20	IAMs_20	04 44 26.7	
	comp=Z,2μm,19.0s						
I57A	Carthage	58.33	304	P	P	04 21 12.6	+0.6
	baz=68,SNR=16						
I57A				S	S	04 29 15.5	+1.7
	baz=68						
E54A	Lac Daplat, Po	58.39	307	P	P	04 21 12.5	+0.2
	baz=68,SNR=23						
E54A				S	S	04 29 14.0	-0.5
	baz=68						
D53A	Lac Vacive, Po	58.47	308	P	P	04 21 12.9	0.0
	baz=68,SNR=35						
D53A				S	S	04 29 13.9	-1.7
	baz=68						
D53A	Lac Vacive, Po	58.47	308	IAmb	IAmb	04 21 15.4	
	comp=Z,61nm,1.1s						
D53A				IAMs_20	IAMs_20	04 43 40.3	
	comp=Z,2μm,19.0s						
H56A	Elgin	58.48	305	P	P	04 21 13.5	+0.5
	baz=68						
H56A				S	S	04 29 17.0	+1.3
	baz=68						
G55A	Calabogie	58.53	305	P	P	04 21 14.2	+0.9
	baz=68,SNR=14						
G55A				S	S	04 29 17.1	+0.7
	baz=68						
L59A	Walton	58.59	302	P	P	04 21 14.1	+0.2
	baz=67						
L59A				S	S	04 29 20.1	+2.7
	baz=67						
L59A	Walton	58.59	302	IAmb	IAmb	04 21 20.7	
	comp=Z,82nm,1.4s						
L59A				IAMs_20	IAMs_20	04 44 29.3	
	comp=Z,2μm,19.0s						
M60A	Port Jervis	58.64	300	P	P	04 21 14.1	-0.1
	baz=67						
M60A				S	S	04 29 20.5	+2.5
	baz=67						
N61A	South Mountain	58.64	300	P	P	04 21 14.9	+0.8
	baz=66,SNR=11						
N61A				S	S	04 29 20.3	+2.3
	baz=66						
E53A	Dumoine, Ponti	58.71	307	P	P	04 21 14.1	-0.5
	baz=68,SNR=25						
E53A				S	S	04 29 18.8	+0.1
	baz=68						
J57A	Williamstown	58.76	303	P	P	04 21 12.7	-2.2
	baz=67,SNR=10						
J57A				S	S	04 29 21.0	+1.6
	baz=67						
J57A	Williamstown	58.76	303	IAmb	IAmb	04 21 20.5	
	comp=Z,50nm,1.2s						
K58A	Earlville	58.77	302	P	P	04 21 13.4	-1.7
	baz=67,SNR=11						
K58A				S	S	04 29 22.3	+2.6
	baz=67						
K58A	Earlville	58.77	302	IAmb	IAmb	04 21 21.4	
	comp=Z,65nm,1.4s						
K58A				IAMs_20	IAMs_20	04 43 17.3	
	comp=Z,2μm,21.0s						
ZSN	Zaisan	58.81	52	eP	P	04 21 15.6	+0.2
	comp=Z,18nm,1.5s,baz=52						
ZSN				iS	S	04 29 20.8	+0.7
	baz=52						
ZSN				LR	LR	04 48 32.4	
	comp=Z,485nm,12.2s,baz=52						
ZSN	Zaisan	58.81	52	eP	P	04 21 15.5	+0.2
ZSN				iS	S	04 29 20.7	+0.7
ZSN				pmax	pmax		
	comp=Z,18nm,1.5s						
ZSN				MLR	MLR		
	comp=Z,485nm,12.0s						
PLVO	Plevna	58.84	305	IAmb	IAmb	04 21 21.1	
	comp=Z,82nm,1.3s						
PLVO				IAMs_20	IAMs_20	04 44 13.0	
	comp=Z,2μm,19.0s						
BRNJ	Basking Ridge	58.85	300	IAmb	IAmb	04 21 21.4	
	comp=Z,87nm,1.4s						
D52A	ZEK Kipawa Sen	58.96	308	P	P	04 21 16.2	-0.1
	baz=68,SNR=14						
D52A				S	S	04 29 21.5	-0.5
	baz=68						
O61A	Allentown	59.08	299	P	P	04 21 16.7	-0.6
	baz=66						
H55A	Tweed	59.10	305	P	P	04 21 17.7	+0.4
	baz=67,SNR=11						
H55A				S	S	04 29 24.8	+1.0
	baz=67						
M59A	Waymart	59.11	301	P	P	04 21 17.6	+0.1
	baz=66,SNR=22						
M59A				S	S	04 29 26.5	+2.4
	baz=66						
ALGO	Algonquin Park	59.12	307	P	P	04 21 17.5	+0.1
	baz=67,SNR=19						
N60A	Cedar Hill Far	59.15	300	P	P	04 21 17.3	-0.4
	baz=66,SNR=16						
N60A				S	S	04 29 26.8	+2.2
	baz=66						
ROSB	Rosrio	59.16	239	eP	P	04 21 18.5	+0.4
L58A	Harry Jones Me	59.20	302	P	P	04 21 17.0	-1.0
	baz=66,SNR=11						
L58A				S	S	04 29 27.8	+2.6
	baz=66						
PECO	Prince Edward	59.22	304	IAmb	IAmb	04 21 23.5	
	comp=Z,51nm,1.1s						
BINY	Binghamton	59.23	302	P	P	04 21 18.2	-0.1
	baz=66,SNR=8.1						
BINY	Binghamton	59.23	302	IAmb	IAmb	04 21 23.9	
	comp=Z,62nm,1.4s						
BINY				IAMs_20	IAMs_20	04 44 02.3	
	comp=Z,2μm,20.0s						
KSPA	Keystone Colle	59.33	301	IAmb	IAmb	04 21 25.7	
	comp=Z,92nm,1.5s						
KSPA				IAMs_20	IAMs_20	04 45 02.2	
	comp=Z,2μm,19.0s						
G54A	Lake Saint Pet	59.36	306	P	P	04 21 19.3	+0.2
	baz=67,SNR=20						
G54A				S	S	04 29 27.1	-0.2
	baz=67						
K57A	Scipio Center	59.37	303	P	P	04 21 19.6	+0.4
	baz=66,SNR=12						
K57A				S	S	04 29 29.5	+2.0
	baz=66						
E52A	Mattawa	59.38	307	P	P	04 21 19.5	+0.2
	baz=67,SNR=29						
E52A				S	S	04 29 26.7	-0.7
	baz=67						
J56A	Wolcott	59.39	303	P	P	04 21 18.6	-0.7
	baz=67						
J56A				S	S	04 29 29.1	+1.6
	baz=67						
J56A	Wolcott	59.39	303	IAmb	IAmb	04 21 24.8	
	comp=Z,64nm,1.4s						
DELO	Deloro Mine	59.40	305	IAmb	IAmb	04 21 25.5	
	comp=Z,67nm,1.4s						
DELO				IAMs_20	IAMs_20	04 45 33.9	
	comp=Z,2μm,18.0s						
P61A	Hammonton	59.42	299	P	P	04 21 18.1	-1.5
	baz=66						
P61A	Hammonton	59.42	299	IAMs_20	IAMs_20	04 46 35.6	
	comp=Z,2μm,18.0s						
D51A	Lot 18 Range I	59.53	308	P	P	04 21 19.8	-0.5
	baz=67,SNR=20						
D51A				S	S	04 29 28.2	-1.1
	baz=67						
DGZ	Jazzator, Alta	59.54	49	ceP	P	04 21 21.1	+0.6
DGZ				pmax	pmax		
	comp=Z,23nm,0.8s						
I55A	Frankford	59.56	305	P	P	04 21 20.7	+0.2
	baz=67,SNR=6.7						
I55A				S	S	04 29 30.8	+1.0
	baz=67						
O60A	Telford	59.59	300	P	P	04 21 21.6	+0.9
	baz=66,SNR=8.3						
O60A				S	S	04 29 32.9	+2.6
	baz=66						
N59A	State Game Lan	59.60	300	P	P	04 21 21.2	+0.4

	baz=66,SNR=16						
N59A				S	S	04 29 33.1	+2.7
	baz=66						
N59A	State Game Lan	59.60	300	IAmb	IAmb	04 21 27.6	
	comp=Z,84nm,1.3s						
PSUB	Penn St. - Bra	59.78	299	IAmb	IAmb	04 21 27.4	
	comp=Z,59nm,1.3s						
D50A	G1974 Best Tow	59.79	308	P	P	04 21 22.4	+0.3
	baz=67,SNR=14						
D50A				S	S	04 29 31.2	-1.6
	baz=67						
G53A	Haliburton	59.82	306	P	P	04 21 22.4	+0.1
	baz=67,SNR=19						
G53A				S	S	04 29 34.4	+1.3
	baz=67						
E51A	G1948 Merrick	59.82	308	P	P	04 21 22.1	-0.2
	baz=67						
E51A				S	S	04 29 33.9	+0.8
	baz=67						
M58A	Price's Panora	59.88	301	P	P	04 21 21.9	-0.9
	baz=66						
M58A				S	S	04 29 36.5	+2.4
	baz=66						
L57A	Andrews Acres	59.89	302	P	P	04 21 23.0	+0.1
	baz=66,SNR=18						
L57A				S	S	04 29 36.8	+2.5
	baz=66						
K56A	Middlesex	59.93	303	P	P	04 21 23.7	+0.6
	baz=66,SNR=20						
K56A				S	S	04 29 35.9	+1.2
	baz=66						
P60A	Greenville	59.96	299	P	P	04 21 23.4	+0.1
	baz=65,SNR=5.3						
P60A				S	S	04 29 37.0	+2.0
	baz=65						
P60A	Greenville	59.96	299	IAmb	IAmb	04 21 29.4	
	comp=Z,88nm,1.3s						
F52A	Sundridge	60.00	307	P	P	04 21 23.6	+0.1
	baz=67,SNR=9.4						
F52A				S	S	04 29 35.7	+0.2
	baz=67						
H53A	Bobcaygeon	60.01	305	P	P	04 21 23.9	+0.3
	baz=66,SNR=13						
H53A				S	S	04 29 36.4	+0.8
	baz=66						
J55A	Hilton	60.03	304	P	P	04 21 24.3	+0.5
	baz=66,SNR=8.2						
J55A				S	S	04 29 37.7	+1.9
	baz=66						
J55A	Hilton	60.03	304	IAMs_20	IAMs_20	04 45 01.6	
	comp=Z,2μm,20.0s						
Q61A	Milford	60.13	298	P	P	04 21 24.7	+0.2
	baz=65						
Q61A				S	S	04 29 41.9	+4.7
	baz=65						
O59A	Robesonia	60.13	300	P	P	04 21 24.9	+0.4
	baz=65						
O59A				S	S	04 29 39.9	+2.5
	baz=65						
N58A	Sunbury	60.28	301	P	P	04 21 26.1	+0.6
	baz=65,SNR=12						
N58A				S	S	04 29 41.6	+2.4
	baz=65						
N58A	Sunbury	60.28	301	IAmb	IAmb	04 21 31.0	
	comp=Z,73nm,1.4s						
N58A				IAMs_20	IAMs_20	04 45 24.2	
	comp=Z,1μm,18.0s						
SADO	Sadowa	60.30	306	IAmb	IAmb	04 21 30.8	
	comp=Z,61nm,1.1s						
SADO				IAMs_20	IAMs_20	04 44 47.6	
	comp=Z,2μm,20.0s						
L56A	Greenwood	60.32	302	P	P	04 21 26.5	+0.7
	baz=66,SNR=20						
L56A				S	S	04 29 41.3	+1.6
	baz=66						
L56A	Greenwood	60.32	302	IAMs_20	IAMs_20	04 44 14.2	
	comp=Z,2μm,20.0s						
F51A	Arnstein	60.33	307	P	P	04 21 26.1	+0.3
	baz=66,SNR=20						
F51A				S	S	04 29 39.7	+0.1
	baz=66						
M57A	Sunshine Farm,	60.36	301	P	P	04 21 24.7	-1.3
	baz=65,SNR=29						
M57A				S	S	04 29 42.5	+2.4
	baz=65						
M57A	Sunshine Farm,	60.36	301	IAMs_20	IAMs_20	04 45 24.2	
	comp=Z,2μm,18.0s						
R61A	Willards	60.37	298	P	P	04 21 26.3	+0.1
	baz=65						
R61A	Willards	60.37	298	IAMs_20	IAMs_20	04 46 29.8	
	comp=Z,2μm,19.0s						
K55A	Perry	60.42	303	P	P	04 21 23.2	-3.2
	baz=66,SNR=8.6						
K55A				S	S	04 29 43.2	+2.2
	baz=66						
Q60A	Greensboro	60.45	298	P	P	04 21 24.4	-2.2
	baz=65						
Q60A				S	S	04 29 45.5	+4.2
	baz=65						
Q60A	Greensboro	60.45	298	IAMs_20	IAMs_20	04 47 07.6	
	comp=Z,2μm,18.0s						
MEDO	Medina	60.50	304	IAMs_20	IAMs_20	04 45 35.9	
	comp=Z,2μm,19.0s						
PAGS	Pennsylvania G	60.54	300	IAMs_20	IAMs_20	04 45 03.1	
	comp=Z,1μm,19.0s						
J54A	Appleton	60.58	304	P	P	04 21 26.8	-0.7
	baz=66						
J54A				S	S	04 29 43.8	+0.9
	baz=66						
J54A	Appleton	60.58	304	IAmb	IAmb	04 21 33.0	
	comp=Z,60nm,1.0s						
P59A	Jarrettsville	60.60	299	P	P	04 21 27.3	-0.4
	baz=65						
P59A				S	S	04 29 46.1	+2.8
	baz=65						
E50A	Wahnapitae	60.65	308	P	P	04 21 27.0	-1.0
	baz=66,SNR=13						
E50A				S	S	04 29 43.3	-0.4
	baz=66						
D49A	Beulah Townshi	60.70	309	P	P	04 21 28.0	-0.3
	baz=66,SNR=14						
D49A				S	S	04 29 43.9	-0.5
	baz=66						
O58A	Lewisberry	60.73	300	P	P	04 21 27.8	-0.8
	baz=65						
O58A				S	S	04 29 47.6	+2.7
	baz=65						
H52A	Wyevale	60.84	306	P	P	04 21 29.0	-0.3
	baz=66						
H52A				S	S	04 29 46.9	+0.8
	baz=66						
K54A	Basiliko Farm,	60.89	303	P	P	04 21 29.1	-0.5
	baz=65						
K54A				S	S	04 29 48.0	+1.1
	baz=65						
N57A	Milroy	60.89	301	P	P	04 21 29.9	+0.2
	baz=65,SNR=31						
N57A				S	S	04 29 47.6	+0.6
	baz=65						
S61A	Accomac	60.89	297	P	P	04 21 29.2	-0.5
	baz=64						
S61A	Accomac	60.89	297	IAMs_20	IAMs_20	04 47 55.5	
	comp=Z,2μm,18.0s						
L55A	Hinsdale	60.89	303	P	P	04 21 30.4	+0.7
	baz=65,SNR=11						
L55A				S	S	04 29 49.0	+1.9
	baz=65						
WVNY	West Valley, N	60.91	303	P	P	04 21 30.3	+0.5
I53A	Kortright Cn E	60.98	305	P	P	04 21 28.9	-1.3
	baz=65,SNR=7.7						
I53A				S	S	04 29 50.2	+2.2
	baz=65						
M56A	Emporium	61.02	302	P	P	04 21 31.3	+0.7
	baz=65,SNR=23						
M56A				S	S	04 29 50.3	+1.6
	baz=65						
M56A	Emporium	61.02	302	IAMs_20	IAMs_20	04 44 46.7	
	comp=Z,2μm,21.0s						
D48A	Paudash Townsh	61.02	309	P	P	04 21 30.8	+0.3
	baz=66,SNR=10						
D48A				S	S	04 29 47.4	-1.0
	baz=66						
Q59A	Harwood	61.08	299	P	P	04 21 30.7	-0.3
	baz=64						
SSPA	Standing Stone	61.17	301	P	P	04 21 31.7	+0.1
	baz=65						
SSPA	Standing Stone	61.17	301	P	P	04 21 32.0	+0.4
O57A	Amberson	61.18	300	P	P	04 21 32.2	+0.5

baz=65,SNR=12
O57A S **S** **04 29 53.3 +2.5**
baz=65
P58A Pank, Wackersv 61.26 299 P **P** **04 21 32.1 0.0**
baz=64
P58A S **S** **04 29 53.1 +1.4**
baz=64
I52A Shelburne 61.26 305 P **P** **04 21 32.3 +0.1**
baz=65
I52A S **S** **04 29 53.1 +1.4**
baz=65
R60A Leonardtown, M 61.28 298 P **P** **04 21 31.4 -1.0**
baz=64
N56A West Decatur 61.33 301 P **P** **04 21 32.3 -0.4**
baz=65,SNR=16
N56A S **S** **04 29 54.5 +1.8**
baz=65
M55A Ridgway 61.42 302 P **P** **04 21 34.0 +0.7**
baz=65,SNR=25
M55A S **S** **04 29 56.0 +2.3**
baz=65
M55A Ridgway 61.42 302 IAMs_20 IAMs_20 04 44 48.3
comp=Z,2µm,20.0s
L54A Sinclairville 61.46 303 P **P** **04 21 33.7 +0.1**
baz=65,SNR=9.2
L54A S **S** **04 29 55.4 +1.1**
baz=65
E48A Lockeyer 61.53 308 P **P** **04 21 33.6 -0.4**
baz=65,SNR=8.5
S60A Water View 61.58 297 P **P** **04 21 33.4 -0.9**
baz=64
S60A S **S** **04 29 59.7 +3.9**
baz=64
R59A King George, V 61.69 298 P **P** **04 21 34.4 -0.7**
baz=64
R59A S **S** **04 30 00.9 +3.7**
baz=64
F49A Sandfield 61.75 308 P **P** **04 21 35.0 -0.5**
baz=65
F49A S **S** **04 29 57.8 0.0**
baz=65
P57A Homestead Farm 61.76 300 P **P** **04 21 36.1 +0.5**
baz=64,SNR=16
P57A S **S** **04 30 00.6 +2.6**
baz=64
P57A Homestead Farm 61.76 300 IAMs_20 IAMs_20 04 45 18.3
comp=Z,1µm,20.0s
Q58A Fox Den Farm, 61.76 299 P **P** **04 21 33.7 -1.9**
baz=64
Q58A S **S** **04 30 00.0 +1.9**
baz=64
O56A Blue Knob Stat 61.80 301 P **P** **04 21 36.6 +0.7**
baz=64,SNR=24
O56A S **S** **04 30 00.7 +2.0**
baz=64
N55A Marion Center 61.87 301 P **P** **04 21 36.9 +0.6**
baz=64,SNR=21
N55A S **S** **04 30 01.6 +2.1**
baz=64
CBN Corbin Frederi 61.87 298 P **P** **04 21 35.3 -1.1**
baz=64
D47A Chapleau 61.88 309 P **P** **04 21 36.0 -0.3**
baz=65,SNR=16
D47A S **S** **04 29 58.8 -0.6**
baz=65
T60A Surry 61.89 297 P **P** **04 21 35.8 -0.7**
baz=64
T60A S **S** **04 30 03.4 +3.7**
baz=64
T60A Surry 61.89 297 IAMs_20 IAMs_20 04 48 59.9
comp=Z,2µm,18.0s
I51A Listowel 61.93 305 P **P** **04 21 36.4 -0.3**
baz=65,SNR=7.0
I51A S **S** **04 30 01.3 +1.2**
baz=65
ERPA Erie 61.97 303 P **P** **04 21 36.3 -0.6**
baz=64
ERPA Erie 61.97 303 IAMs_20 IAMs_20 04 46 19.8
comp=Z,2µm,20.0s
M54A Oil Creek Stat 62.01 302 P **P** **04 21 38.0 +0.7**
baz=64,SNR=14
M54A S **S** **04 30 03.0 +1.8**
baz=64
S59A Mechanicsville 62.01 298 P **P** **04 21 37.0 -0.2**
baz=64
S59A S **S** **04 30 03.5 +2.3**
baz=64
V62A Hyde County Ai 62.04 295 IAMs_20 IAMs_20 04 45 04.8
comp=Z,1µm,20.0s
U61A Possum Corner 62.04 296 P **P** **04 21 37.4 -0.1**
baz=63
U61A Possum Corner 62.04 296 IAMs_20 IAMs_20 04 47 17.0
comp=Z,2µm,18.0s
WMQ Urumqi 62.09 55 *e*P **P** **04 21 39.9 +2.1**
WMQ pP sP 04 21 43.6 -0.7
WMQ sP pP 04 21 45.6 +3.1
WMQ PP **PP** **04 23 55.9 +1.8**
WMQ S **S** **04 30 03.4 +1.2**
WMQ sS sS 04 30 10.6 +1.3
WMQ SS **SS** **04 34 00.3 -4.1**
WMQ pmax pmax
comp=Z,27nm,1.1s
WMQ pmax pmax
comp=Z,310nm,3.7s
WMQ LR LR
comp=Z,1µm,20.5s
WMQ LR LR
comp=Z,1µm,18.9s
WMQ LR LR
comp=Z,1µm,18.9s
WMQ Urumqi 62.09 55 IAMs_20 IAMs_20 04 51 14.5
comp=Z,2µm,18.0s
F48A Evansville 62.09 308 P **P** **04 21 37.6 -0.1**
baz=65
F48A S **S** **04 30 02.3 +0.3**
baz=65
L53A Girard 62.22 303 P **P** **04 21 39.1 +0.5**
baz=64,SNR=10
L53A S **S** **04 30 05.1 +1.3**
baz=64
Q57A Strasburg 62.23 299 P **P** **04 21 39.4 +0.6**
baz=64,SNR=5.5
Q57A S **S** **04 30 07.1 +3.0**
baz=64
E47A Iron Bridge 62.24 309 P **P** **04 21 38.8 +0.1**
baz=65,SNR=14
E47A S **S** **04 30 04.3 +0.4**
baz=65
R58A Rapidan 62.27 299 P **P** **04 21 39.6 +0.5**
baz=64,SNR=5.7
R58A S **S** **04 30 07.2 +2.6**
baz=64
P56A Dayton Farm, R 62.32 300 P **P** **04 21 39.9 +0.5**
baz=64,SNR=14
P56A S **S** **04 30 07.2 +2.0**
baz=64
O55A Ligonier 62.33 301 P **P** **04 21 39.6 +0.1**
baz=64
O55A S **S** **04 30 06.4 +1.0**
baz=64
R58B Mineral 62.34 298 P **P** **04 21 39.9 +0.4**
baz=63,SNR=11
R58B S **S** **04 30 07.6 +2.2**
baz=63
R58B Mineral 62.34 298 IAmb IAmb 04 21 45.9
comp=Z,68nm,1.4s
V61A Roper 62.38 295 P **P** **04 21 40.0 +0.2**
baz=63
N54A Moraine State 62.47 302 P **P** **04 21 41.1 +0.7**
baz=64,SNR=14
N54A S **S** **04 30 08.2 +1.2**
baz=64
N54A Moraine State 62.47 302 IAMs_20 IAMs_20 04 47 58.1
comp=Z,2µm,18.0s
U60A Pendleton 62.49 296 P **P** **04 21 40.5 0.0**
baz=63
U60A S **S** **04 30 10.5 +3.1**
baz=63
D46A Sault St. Mari 62.52 309 P **P** **04 21 41.1 +0.5**
baz=64,SNR=30
D46A S **S** **04 30 07.3 -0.2**
baz=64
T59A Double "B" Far 62.55 297 P **P** **04 21 41.8 +0.9**
baz=63,SNR=5.4
T59A S **S** **04 30 10.6 +2.6**
baz=63
S58A Poland Farm, P 62.62 298 P **P** **04 21 42.3 +1.0**
baz=63,SNR=7.2
S58A S **S** **04 30 11.1 +2.2**
baz=63
S58A Poland Farm, P 62.62 298 IAmb IAmb 04 21 47.9
comp=Z,74nm,1.4s
R57A Stanardsville 62.64 299 P **P** **04 21 42.5 +1.0**
baz=63,SNR=28
R57A S **S** **04 30 11.7 +2.5**
baz=63
M53A WI Miller and 62.72 303 P **P** **04 21 42.1 +0.1**
baz=64,SNR=14
M53A S **S** **04 30 11.5 +1.3**
baz=64
Q56A Snyder Ridge, 62.77 300 P **P** **04 21 43.1 +0.7**
baz=63,SNR=14
Q56A S **S** **04 30 12.1 +1.2**
baz=63
FCC Fort Churchill 62.80 324 P **P** **04 21 41.8 -0.4**
FCC pmax pmax
comp=Z,35nm,1.2s
FCC MLR MLR
comp=Z,2µm,18.0s
FCC Fort Churchill 62.80 324 P **P** **04 21 41.8 -0.4**
FCC IAmb IAmb 04 21 43.8
comp=Z,35nm,1.1s
FCC IAMs_20 IAMs_20 04 48 34.6
comp=Z,2µm,18.0s
V60A Jim Taylor Roa 62.89 296 P **P** **04 21 43.1 -0.1**
baz=63
V60A S **S** **04 30 16.0 +3.6**
baz=63
V60A Jim Taylor Roa 62.89 296 IAMs_20 IAMs_20 04 47 35.4
comp=Z,1µm,19.0s
MCWV Mont Chateau 62.95 301 P **P** **04 21 42.1 -1.4**
baz=63
W61A Ground Anchor 62.96 295 P **P** **04 21 42.8 -0.9**
baz=62
W61A S **S** **04 30 16.9 +3.6**
baz=62
U59A Littleton 63.00 297 P **P** **04 21 43.3 -0.7**
baz=63,SNR=9.4
U59A S **S** **04 30 16.2 +2.5**
baz=63
P55A Reedsville 63.01 300 P **P** **04 21 43.2 -0.7**
baz=63,SNR=12
P55A S **S** **04 30 15.3 +1.4**
baz=63
I49A Point Hope 63.04 306 IAmb IAmb 04 21 49.3
comp=Z,46nm,1.0s
MCPB Macapa, AP 63.06 247 *e*P **P** **04 21 45.5 +0.9**
O54A Avella 63.08 301 P **P** **04 21 44.6 +0.2**
baz=63,SNR=11
O54A S **S** **04 30 16.7 +2.0**
baz=63
O54A Avella 63.08 301 IAmb IAmb 04 21 50.1
comp=Z,67nm,1.2s
N53A Lisbon 63.12 302 P **P** **04 21 44.0 -0.6**
baz=63,SNR=14
N53A S **S** **04 30 16.9 +1.8**
baz=63
N53A Lisbon 63.12 302 IAMs_20 IAMs_20 04 45 51.2
comp=Z,2µm,21.0s
M52A Chesterland 63.14 303 P **P** **04 21 44.7 -0.1**
baz=63
M52A S **S** **04 30 17.0 +1.7**
baz=63
M52A Chesterland 63.14 303 IAMs_20 IAMs_20 04 47 05.8
comp=Z,2µm,19.0s
S57A Dark Hollow, R 63.19 298 P **P** **04 21 45.3 +0.2**
baz=63
S57A Dark Hollow, R 63.19 298 IAmb IAmb 04 21 50.8
comp=Z,48nm,1.4s
R56A Bull Pasture M 63.21 299 P **P** **04 21 45.7 +0.3**
baz=63,SNR=5.4
R56A S **S** **04 30 18.5 +2.0**
baz=63
T58A Grand View Acr 63.26 297 P **P** **04 21 45.5 -0.1**
baz=63
T58A S **S** **04 30 18.9 +1.9**
baz=63
NBCP Cabaceiras do 63.35 227 *e*P **P** **04 21 47.3 +0.9**
P54A Burton 63.41 301 P **P** **04 21 47.4 +0.7**
baz=63,SNR=21
P54A S **S** **04 30 20.3 +1.4**
baz=63
Q55A Buckhannon 63.41 300 P **P** **04 21 44.4 -2.3**
baz=63,SNR=13
Q55A S **S** **04 30 21.2 +2.2**
baz=63
U58A Oxford 63.52 297 P **P** **04 21 48.1 +0.7**
baz=62,SNR=5.5
U58A S **S** **04 30 22.2 +1.9**
baz=62
W60A Pink Hill 63.55 295 P **P** **04 21 47.8 +0.2**
baz=62
CNNC Cliffs of the 63.59 295 P **P** **04 21 46.5 -1.3**
baz=62
CNNC Cliffs of the 63.59 295 IAMs_20 IAMs_20 04 47 44.8
comp=Z,1µm,19.0s
V59A Middlesex 63.59 296 P **P** **04 21 47.8 0.0**
baz=62
V59A S **S** **04 30 22.9 +1.8**
baz=62
O53A New Philadelph 63.62 302 P **P** **04 21 47.6 -0.4**
baz=63
O53A S **S** **04 30 22.8 +1.4**
baz=63
O53A New Philadelph 63.62 302 IAMs_20 IAMs_20 04 48 51.6
comp=Z,2µm,18.0s
S56A Natural Bridge 63.66 299 P **P** **04 21 47.8 -0.5**
baz=62
S56A S **S** **04 30 24.2 +2.3**
baz=62
N52A McGinn's Farm, 63.69 302 P **P** **04 21 47.4 -1.0**
baz=63,SNR=9.9
N52A S **S** **04 30 23.5 +1.2**
baz=63
T57A Hurt 63.75 298 P **P** **04 21 47.3 -1.6**
baz=62,SNR=14
T57A S **S** **04 30 25.1 +2.0**
baz=62
R55A Marlinton 63.77 299 P **P** **04 21 48.1 -0.9**
baz=62
R55A S **S** **04 30 26.1 +2.7**
baz=62
R55A Marlinton 63.77 299 P **P** **04 21 48.2 -0.9**
R55A IAmb IAmb 04 21 54.6
comp=Z,57nm,1.4s
M51A Elyria 63.79 303 P **P** **04 21 48.3 -0.7**
baz=63
M51A S **S** **04 30 24.6 +1.1**
baz=63
GLMI Grayling 63.80 308 P **P** **04 21 48.5 -0.6**
baz=63
MSEY Mahe Island 63.86 119 IAMs_20 IAMs_20 04 47 57.7
comp=Z,2µm,21.0s
Q54A Coxs Mills 63.94 300 P **P** **04 21 50.1 0.0**
baz=62,SNR=32
Q54A S **S** **04 30 26.6 +1.1**
baz=62
Q54A Coxs Mills 63.94 300 IAMs_20 IAMs_20 04 46 59.1
comp=Z,1µm,19.0s
X60A Albert Glenn T 63.96 295 P **P** **04 21 50.0 -0.2**
baz=62
W59A Clinton 64.02 296 P **P** **04 21 50.5 -0.1**
baz=62
W59A S **S** **04 30 29.0 +2.5**
baz=62
U57A Blanch 64.07 297 P **P** **04 21 51.3 +0.3**
baz=62,SNR=14
U57A S **S** **04 30 29.1 +2.0**
baz=62
P53A Whipple 64.09 301 P **P** **04 21 50.1 -1.0**
baz=62,SNR=22
P53A S **S** **04 30 28.0 +0.7**
baz=62
P53A Whipple 64.09 301 IAMs_20 IAMs_20 04 47 14.1
comp=Z,2µm,19.0s
N51A Ashland 64.10 303 P **P** **04 21 51.7 +0.5**
baz=63,SNR=13
N51A S **S** **04 30 28.1 +0.6**
baz=63
O52A Adamsville 64.11 302 P **P** **04 21 49.9 -1.3**
baz=63,SNR=18
O52A S **S** **04 30 28.6 +1.1**
baz=63
O52A Adamsville 64.11 302 IAMs_20 IAMs_20 04 46 32.5
comp=Z,1µm,20.0s
V58A Windy Hill, Pi 64.21 297 P **P** **04 21 50.6 -1.3**
baz=62
V58A S **S** **04 30 30.5 +1.6**
baz=62
V58A Windy Hill, Pi 64.21 297 IAMs_20 IAMs_20 04 49 27.3
comp=Z,2µm,18.0s
S55A Lewisburg 64.27 299 P **P** **04 21 52.6 +0.2**
baz=62,SNR=7.0
S55A S **S** **04 30 31.3 +1.6**
baz=62
T56A Rocky Mt 64.28 298 P **P** **04 21 51.4 -1.0**
baz=62,SNR=11
T56A S **S** **04 30 31.4 +1.6**
baz=62
AAM Ann Arbor 64.32 305 P **P** **04 21 52.5 0.0**
baz=63
AAM Ann Arbor 64.32 305 IAmb IAmb 04 21 57.7
comp=Z,57nm,1.2s
M50A Fremont 64.33 304 IAmb IAmb 04 21 57.7
comp=Z,76nm,1.3s
M50A IAMs_20 IAMs_20 04 47 11.3
comp=Z,2µm,20.0s
Y60A Bolivia 64.41 294 P **P** **04 21 52.8 -0.4**
baz=62
X59A McDuffie Farm, 64.42 295 P **P** **04 21 52.6 -0.7**
baz=62
R54A Victor 64.42 300 P **P** **04 21 53.4 +0.1**
baz=62,SNR=16
R54A S **S** **04 30 33.4 +1.9**
baz=62
GDU01 Guandu, BA 64.47 227 *e*P **P** **04 21 54.1 +0.3**
BLA Blacksburg 64.47 298 P **P** **04 21 53.5 -0.2**
baz=62
BLA Blacksburg 64.47 298 P **P** **04 21 53.9 +0.2**
BLA pmax pmax
comp=Z,59nm,1.4s
BLA Blacksburg 64.47 298 P **P** **04 21 53.9 +0.2**
BLA IAmb IAmb 04 21 59.1
comp=Z,59nm,1.4s
Q53A Leroy 64.47 301 P **P** **04 21 51.4 -2.3**
baz=62,SNR=12
Q53A S **S** **04 30 33.1 +1.0**
baz=62
P52A Corning 64.53 302 P **P** **04 21 54.4 +0.4**
baz=62,SNR=28
P52A S **S** **04 30 33.9 +1.2**
baz=62
P52A Corning 64.53 302 IAMs_20 IAMs_20 04 46 48.7
comp=Z,1µm,21.0s
E43A Lone Tree Farm 64.58 310 IAmb IAmb 04 21 59.2
comp=Z,53nm,0.9s
E43A IAMs_20 IAMs_20 04 46 34.8
comp=Z,2µm,19.0s
O51A Pataskala 64.62 302 P **P** **04 21 54.9 +0.4**
baz=62,SNR=33
O51A S **S** **04 30 34.4 +0.7**
baz=62
V57A Coltrane Farms 64.64 297 P **P** **04 21 55.2 +0.4**
baz=62,SNR=5.5
V57A S **S** **04 30 34.7 +0.5**
baz=62
W58A Raeford 64.66 296 P **P** **04 21 55.5 +0.6**
baz=62
W58A S **S** **04 30 36.5 +2.0**
baz=62
T55A Pulaski 64.77 299 P **P** **04 21 55.9 +0.2**
baz=62
T55A S **S** **04 30 36.9 +1.0**
baz=62
S54A Dingess, Beckl 64.82 299 P **P** **04 21 55.5 -0.4**
baz=62
S54A S **S** **04 30 37.7 +1.2**
baz=62
S54A Dingess, Beckl 64.82 299 IAmb IAmb 04 22 01.1
comp=Z,57nm,1.3s
S54A IAMs_20 IAMs_20 04 49 16.5
comp=Z,1µm,18.0s
ACSO Alum Creek Sta 64.83 302 P **P** **04 21 55.2 -0.7**
baz=62
ACSO Alum Creek Sta 64.83 302 IAMs_20 IAMs_20 04 46 43.6
comp=Z,2µm,21.0s
U56A King 64.85 298 P **P** **04 21 56.1 -0.1**
baz=62
U56A S **S** **04 30 37.9 +1.1**
baz=62
U56A King 64.85 298 IAmb IAmb 04 22 02.6
comp=Z,62nm,1.4s
U56A IAMs_20 IAMs_20 04 50 11.4
comp=Z,1µm,18.0s
Y59A Loris 64.89 295 P **P** **04 21 55.8 -0.6**
baz=61
Y59A S **S** **04 30 40.3 +3.0**
baz=61
Q52A Bidwell 64.94 301 P **P** **04 21 55.6 -1.0**
baz=62,SNR=10
Q52A S **S** **04 30 39.6 +1.8**
baz=62
X58A Rowland 64.96 295 P **P** **04 21 56.8 0.0**
baz=61
X58A S **S** **04 30 39.8 +1.7**
baz=61
X58A Rowland 64.96 295 IAMs_20 IAMs_20 04 47 04.2
comp=Z,2µm,19.0s
R53A Hurricane 65.02 300 P **P** **04 21 57.9 +0.8**
baz=62,SNR=8.5
R53A S **S** **04 30 40.4 +1.6**
baz=62
LBTB Lobatse 65.09 158 P **P** **04 21 58.1 +0.4**
LBTB pmax pmax
comp=Z,121nm,1.0s
LBTB Lobatse 65.09 158 P **P** **04 21 58.1 +0.4**
W57A Gilead 65.14 296 P **P** **04 21 58.0 0.0**
baz=61
W57A S **S** **04 30 41.5 +1.1**
baz=61
W57A Gilead 65.14 296 IAmb IAmb 04 22 03.5
comp=Z,77nm,1.6s
W57A IAMs_20 IAMs_20 04 50 05.1
comp=Z,2µm,18.0s
I45A Fountain 65.19 307 IAMs_20 IAMs_20 04 48 50.0
comp=Z,2µm,19.0s
V56A Mocksville 65.19 297 P **P** **04 21 57.7 -0.7**
baz=61
V56A S **S** **04 30 41.5 +0.6**
baz=61
TIXI Tiksi 65.24 16‖ *e*P **P** **04 22 00.2 +2.2**
TIXI pmax pmax
comp=Z,82nm,2.5s
P51A Williamsport 65.24 302 P **P** **04 21 58.5 -0.1**
baz=62
P51A S **S** **04 30 42.2 +0.8**
baz=62
P51A Williamsport 65.24 302 IAMs_20 IAMs_20 04 48 59.4
comp=Z,1µm,18.0s
U55A TA2, Sparta 65.25 298 P **P** **04 21 59.6 +0.8**
baz=61,SNR=11
U55A S **S** **04 30 42.8 +1.0**
baz=61
N49A Columbus Grove 65.31 304 IAMs_20 IAMs_20 04 47 51.4
comp=Z,2µm,19.0s
T54A Tazewell 65.36 299 P **P** **04 21 57.2 -2.3**
baz=61
T54A S **S** **04 30 42.8 -0.3**
baz=61
PRPB Parauapebas 65.44 241 *e*P **P** **04 22 00.5 +0.3**
PRPB *e*pP **pP** **04 22 02.7 -1.8**
S53A Williamson 65.45 300 P **P** **04 21 59.3 -0.7**
baz=61
S53A S **S** **04 30 45.0 +0.9**
baz=61
X57A Johnson Farm, 65.55 296 P **P** **04 22 00.3 -0.3**
baz=61
X57A S **S** **04 30 46.4 +1.1**
baz=61
F42A Maple Grove Fa 65.57 310 IAMs_20 IAMs_20 04 47 15.0
comp=Z,2µm,20.0s
W56A Indian Trail 65.58 297 P **P** **04 22 00.2 -0.7**
baz=61
W56A S **S** **04 30 46.8 +1.1**
baz=61
A36M Sachs Harbour 65.61 344 P **P** **04 22 00.4 0.0**
baz=44
Q51A Peebles 65.65 301 IAMs_20 IAMs_20 04 47 22.3
comp=Z,2µm,21.0s
V55A Taylorsville 65.68 297 P **P** **04 22 01.8 +0.3**
baz=61
V55A S **S** **04 30 47.5 +0.5**
baz=61
V55A Taylorsville 65.68 297 IAmb IAmb 04 22 07.2

V55A IAMs_20 IAMs_20 04 50 45.3
comp=Z,1µm,18.0s
MALB BIRD **Monte Alegre Birdtown, Kers** **65.69 248** *e*P **P** **04 22 02.7 +0.9** 65.73 296 IAmb IAmb 04 22 07.3
comp=Z,41nm,1.3s
BIRD IAMs_20 IAMs_20 04 49 46.5
comp=Z,2µm,19.0s
U54A **Nelsons Funny** **65.79 298** P **P** **04 22 02.8 +0.5**
baz=61,SNR=8.5
U54A **Nelsons Funny** **65.79 298** IAmb IAmb 04 22 07.6
comp=Z,80nm,1.4s
SMTB **Santa Maria do** **65.84 237** *e*P **P** **04 22 03.7 +0.9**
Z58A **St. Stephen** **65.89 294** P **P** **04 22 02.9 0.0**
baz=61
H43A **Windswept, Lux** **65.96 308** IAmb IAmb 04 22 08.3
comp=Z,90nm,1.6s
Y57A **Sumter** **65.98 295** P **P** **04 22 03.4 0.0**
baz=61
Y57A S **S** **04 30 52.0 +1.4**
baz=61
Y57A **Sumter** **65.98 295** IAmb IAmb 04 22 09.0
comp=Z,49nm,1.2s
Y57A IAMs_20 IAMs_20 04 48 48.2
comp=Z,1µm,19.0s
COWI **Conover** **66.02 310** IAMs_20 IAMs_20 04 47 53.9
comp=Z,2µm,19.0s
PYUN **Piuthan** **66.06 72** *e*P **P** **04 22 03.7 -0.7**
comp=Z,86nm,0.6s
T53A **Wise** **66.07 299** P **P** **04 22 04.6 +0.6**
baz=61,SNR=16
T53A S **S** **04 30 52.5 +0.7**
baz=61
KMSC **Kings Mountain** **66.11 297** P **P** **04 22 03.6 -0.7**
baz=61
KMSC S **S** **04 30 52.6 +0.3**
baz=61
KMSC **Kings Mountain** **66.11 297** P **P** **04 22 04.0 -0.3**
KMSC IAmb IAmb 04 22 09.8
comp=Z,49nm,1.4s
L46A **Eue Claire** **66.19 305** IAmb IAmb 04 22 09.4
comp=Z,66nm,1.2s
X56A **White Oak** **66.21 296** P **P** **04 22 05.2 +0.3**
baz=61
X56A S **S** **04 30 54.4 +1.0**
baz=61
V54A **Nebo** **66.24 298** P **P** **04 22 05.3 +0.2**
baz=61,SNR=8.8
V54A S **S** **04 30 53.9 0.0**
baz=61
NHSC **New Hope** **66.27 294** P **P** **04 22 06.4 +1.0**
baz=60,SNR=5.4
NHSC **New Hope** **66.27 294** IAMs_20 IAMs_20 04 47 09.0
comp=Z,1µm,20.0s
KLRI **Killari** **66.28 85** *e*P **P** **04 22 04.5 -1.2**
P49A **Miami Univ. Ec** **66.34 302** P **P** **04 22 05.2 -0.5**
baz=61,SNR=16
P49A S **S** **04 30 53.5 -1.4**
baz=61
P49A **Miami Univ. Ec** **66.34 302** IAMs_20 IAMs_20 04 47 29.5
comp=Z,2µm,22.0s
MOY **Mondy** **66.42 42** *e*P **P** **04 22 08.2 +2.0**
MOY pmax pmax
comp=Z,133nm,2.7s
158A **Hollywood** **66.47 294** S **S** **04 31 00.5 +3.9**
baz=60
S51A **Beattyville** **66.49 300** IAMs_20 IAMs_20 04 48 59.5
comp=Z,2µm,19.0s
DANN **Dangsing** **66.52 71** *e*P **P** **04 22 07.3 -0.1**
EYMN **Ely** **66.53 313** P **P** **04 22 06.4 -0.4**
baz=61,SNR=52
EYMN **Ely** **66.53 313** IAMs_20 IAMs_20 04 48 06.4
comp=Z,1µm,20.0s
Z57A **Bowman** **66.56 295** P **P** **04 22 07.2 0.0**
baz=60
Z57A S **S** **04 30 59.7 +2.0**
baz=60
X55A **Gracelyn & Ava** **66.66 296** P **P** **04 22 06.8 -1.0**
baz=60
X55A S **S** **04 31 00.0 +1.2**
baz=60
R50A **Paris** **66.68 301** IAmb IAmb 04 22 13.0
comp=Z,71nm,1.3s
R50A IAMs_20 IAMs_20 04 48 14.6
comp=Z,2µm,20.0s
KOLN **Koldanda** **66.70 72** *e*P **P** **04 22 07.1 -1.3**
SDBA **SAO DESIDERIO** **66.71 232** *e*P **P** **04 22 08.9 +0.6**
W54A **Cherokee Point** **66.75 297** P **P** **04 22 07.4 -1.0**
baz=60
W54A S **S** **04 31 01.3 +1.3**
baz=60
Y56A **Pelion** **66.75 296** P **P** **04 22 08.1 -0.3**
baz=60
Y56A S **S** **04 31 01.6 +1.6**
baz=60
P48A **Milroy** **66.85 303** IAmb IAmb 04 22 13.2
comp=Z,85nm,1.6s
V53A **Saluda** **66.91 298** IAmb IAmb 04 22 14.9
comp=Z,77nm,1.3s
V53A IAMs_20 IAMs_20 04 51 41.6
comp=Z,1µm,18.0s
I42A **Draeger Farm,** **66.96 308** IAmb IAmb 04 22 14.6
comp=Z,66nm,1.4s
I42A IAMs_20 IAMs_20 04 50 19.7
comp=Z,2µm,18.0s
TZTN **Tazewell** **66.99 299** P **P** **04 22 10.3 +0.4**
baz=60,SNR=8.8
TZTN **Tazewell** **66.99 299** P **P** **04 22 09.1 -0.8**
TZTN IAmb IAmb 04 22 15.4
comp=Z,58nm,1.2s
Z56A **Williston** **67.03 295** P **P** **04 22 08.9 -1.3**
baz=60
Z56A S **S** **04 31 05.0 +1.6**
baz=60
G40A **Rib Lake** **67.08 310** IAMs_20 IAMs_20 04 48 09.9
comp=Z,1µm,20.0s
Y55A **Saluda** **67.08 296** P **P** **04 22 11.1 +0.6**
baz=60
Y55A S **S** **04 31 05.1 +1.1**
baz=60
157A **Early Branch** **67.08 294** P **P** **04 22 10.5 0.0**
baz=60
157A S **S** **04 31 04.6 +0.6**
baz=60
X54A **Belton** **67.15 297** P **P** **04 22 10.9 0.0**
baz=60
X54A S **S** **04 31 04.6 -0.3**
baz=60
L44A **Lake County Fo** **67.16 306** P **P** **04 22 10.2 -0.7**
baz=60
L44A S **S** **04 31 03.6 -1.1**
baz=60
L44A **Lake County Fo** **67.16 306** IAMs_20 IAMs_20 04 48 35.2
comp=Z,2µm,20.0s
K43A **Burlington** **67.17 307** IAMs_20 IAMs_20 04 50 51.4
comp=Z,1µm,18.0s
SRSP **Sriramsagar** **67.20 83** *e*P **P** **04 22 11.2 -0.3**
R49A **Shelbyville** **67.25 301** IAmb IAmb 04 22 16.4
comp=Z,53nm,1.2s
R49A IAMs_20 IAMs_20 04 50 37.8
comp=Z,2µm,18.0s
C36M **Paulatuk** **67.26 342** P **P** **04 22 09.7 -1.3**
baz=44
C36M S **S** **04 31 07.0 +2.0**
baz=44
C36M **Paulatuk** **67.26 342** IAMs_20 IAMs_20 04 52 34.3
comp=Z,2µm,19.0s
GKN **Gorkha** **67.37 71** *e*P **P** **04 22 11.5 -1.1**
V52A **Sevierville** **67.37 298** IAmb IAmb 04 22 17.5
comp=Z,51nm,1.4s
257A **Skidaway Islan** **67.45 294** IAMs_20 IAMs_20 04 47 43.3
comp=Z,1µm,19.0s
SFIN **Lafayette** **67.52 304** P **P** **04 22 12.2 -1.0**
baz=60
SFIN S **S** **04 31 07.0 -2.0**
baz=60
TKL **Tuckaleechee C** **67.59 298** IAmb IAmb 04 22 18.8
comp=Z,56nm,1.4s
T50A **Nancy** **67.66 300** IAmb IAmb 04 22 19.3
comp=Z,72nm,1.4s
T50A IAMs_20 IAMs_20 04 49 53.4
comp=Z,2µm,18.0s
TLY **Talaya** **67.83 41** *c i*P **P** **04 22 14.7 -0.3**
TLY *e* 04 24 45.2
TLY *e*S **S** **04 31 15.9 +3.3**
TLY *e*SS **SS** **04 35 30.2 -3.1**
TLY pmax pmax
comp=Z,190nm,1.2s
TLY MLR MLR
comp=Z,4µm,16.0s
TLY **Talaya** **67.83 41** P **P** **04 22 16.7 +1.7**
TLY IAMs_20 IAMs_20 04 54 40.1
comp=Z,2µm,18.0s
ULM **Lac du Bonnet** **67.85 317** P **P** **04 22 14.7 -0.4**
comp=Z,37nm,0.9s,baz=66,slow=6.0,SNR=21
ULM LR LR 04 49 09.6
comp=Z,2µm,18.8s,baz=58,slow=34
ULM **Lac du Bonnet** **67.85 317** IAmb IAmb 04 22 19.5
comp=Z,58nm,1.0s
IRK **Irkutsk** **67.87 41** *e*P **P** **04 22 15.7 +0.5**
IRK pmax pmax
comp=Z,222nm,0.1s
DMN **Daman** **67.92 71** *e*P **P** **04 22 15.5 -0.8**
comp=Z,258nm,1.6s
KKN **Kakani** **67.96 71** *e*P **P** **04 22 15.5 -1.0**
comp=Z,31nm,0.6s
P46A **Rosedale** **67.97 304** IAmb IAmb 04 22 20.3
comp=Z,46nm,1.4s
W52A **Murphy** **67.98 298** IAmb IAmb 04 22 21.5
comp=Z,68nm,1.2s
W52A IAMs_20 IAMs_20 04 51 50.1
comp=Z,1µm,18.0s
I40A **Norwalk** **68.02 309** IAmb IAmb 04 22 21.1
comp=Z,57nm,1.1s
I40A IAMs_20 IAMs_20 04 48 42.9
comp=Z,1µm,20.0s
WCI **Wyandotte Cave** **68.05 302** P **P** **04 22 15.9 -0.7**
baz=60
WCI **Wyandotte Cave** **68.05 302** P **P** **04 22 16.0 -0.6**
WCI pmax pmax
comp=Z,40nm,1.1s
WCI **Wyandotte Cave** **68.05 302** P **P** **04 22 16.0 -0.6**
WCI IAmb IAmb 04 22 21.2
comp=Z,40nm,1.1s
PKI **Pulchoki** **68.17 71** *e*P **P** **04 22 16.9 -1.0**
HYBB **Hyderabad (bro** **68.19 84** *e*P **P** **04 22 19.1 +1.3**
HYB **Hyderabad** **68.19 84** *i*P **P** **04 22 17.0 -0.8**
HYB *e*S **S** **04 31 12.0 -5.8**
CPCT **Cooper Cave** **68.22 299** IAmb IAmb 04 22 23.0
comp=Z,57nm,1.3s
JFWS **Jewell Farm** **68.29 308** P **P** **04 22 17.7 -0.3**
baz=59,SNR=7.4
JFWS **Jewell Farm** **68.29 308** IAMs_20 IAMs_20 04 50 14.9
comp=Z,1µm,18.0s
ZAK **Zakamensk** **68.32 43** *e*P **P** **04 22 19.8 +1.6**
ZAK pmax pmax
comp=Z,43nm,1.4s
GUN **Gumba** **68.36 71** *e*P **P** **04 22 19.0 -0.1**
JANB **Januaria** **68.36 230** *e*P **P** **04 22 19.5 +0.8**
BOSA **Boshof** **68.37 159** P **P** **04 22 18.8 +0.2**
comp=Z,73nm,0.8s,baz=353,slow=6.5,SNR=72
BOSA LR LR 04 56 14.9
comp=Z,2µm,18.2s,baz=354,slow=40
BOSA **Boshof** **68.37 159** P **P** **04 22 18.8 +0.2**
BOSA pmax pmax
comp=Z,104nm,1.0s
BOSA **Boshof** **68.37 159** P **P** **04 22 18.8 +0.2**
L42A **Oliver, Polo** **68.38 307** IAmb IAmb 04 22 23.9
comp=Z,66nm,1.2s
L42A IAMs_20 IAMs_20 04 51 29.4
comp=Z,2µm,18.0s
ITTB **Itaituba** **68.46 247** *e*P **P** **04 22 18.0 -1.3**
GOGA **Godfrey** **68.50 296** P **P** **04 22 20.2 +0.7**
baz=59,SNR=12
GOGA **Godfrey** **68.50 296** IAmb IAmb 04 22 25.1
comp=Z,66nm,1.4s
GOGA **Godfrey** **68.50 296** IAMs_20 IAMs_20 04 51 22.0
comp=Z,2µm,18.0s
URV **Uravakonda** **68.52 87** *e*P **P** **04 22 21.5 +1.6**
U49A **Red Boiling Sp** **68.56 300** IAmb IAmb 04 22 24.6
comp=Z,52nm,1.3s
U49A IAMs_20 IAMs_20 04 50 57.5
comp=Z,2µm,18.0s
FFC **Flin Flon** **68.59 323** P **P** **04 22 19.8 +0.1**
FFC pmax pmax
comp=Z,19nm,1.1s
FFC **Flin Flon** **68.59 323** P **P** **04 22 19.8 +0.1**
FFC **Flin Flon** **68.59 323** IAMs_20 IAMs_20 04 50 00.6
comp=Z,1µm,19.0s
154A **Montrose** **68.65 295** IAMs_20 IAMs_20 04 49 05.9
comp=Z,1µm,20.0s
SPMN **Marine on St.** **68.68 311** P **P** **04 22 20.2 -0.3**
baz=59,SNR=15
SPMN S **S** **04 31 21.9 -0.9**
baz=59
SPMN **Marine on St.** **68.68 311** IAmb IAmb 04 22 25.1
comp=Z,55nm,1.2s
PEXB **Peixe** **68.69 235** *e*P **P** **04 22 21.5 +0.7**
Y52A **Lilburn** **68.70 297** IAMs_20 IAMs_20 04 49 52.2
comp=Z,1µm,20.0s
JIRN **Jiri** **68.72 71** *e*P **P** **04 22 20.7 -0.7**
F36A **Milaca** **68.79 312** IAmb IAmb 04 22 25.7
comp=Z,41nm,1.1s
F36A IAMs_20 IAMs_20 04 49 51.0
comp=Z,2µm,19.0s
AGMN **Agassiz Nation** **68.87 315** P **P** **04 22 20.8 -0.7**
baz=58,SNR=24
AGMN **Agassiz Nation** **68.87 315** IAmb IAmb 04 22 27.1
comp=Z,75nm,1.5s
HDIL **Hopedale** **68.87 305** P **P** **04 22 19.7 -1.9**
baz=59
HDIL **Hopedale** **68.87 305** IAmb IAmb 04 22 26.1
comp=Z,58nm,1.1s
W50A **Signal Mountai** **68.91 299** IAmb IAmb 04 22 27.1
comp=Z,65nm,1.4s
OLIL **Olney** **69.02 303** IAMs_20 IAMs_20 04 48 49.3
comp=Z,1µm,22.0s
CLTN **Cesars of Leba** **69.16 300** IAmb IAmb 04 22 28.2
comp=Z,48nm,1.2s
CLTN IAMs_20 IAMs_20 04 51 23.3
comp=Z,2µm,18.0s
YKA **Yellowknife Ar** **69.17 334** P **P** **04 22 23.4 +0.3**
comp=Z,11nm,0.7s,baz=50,slow=6.3,SNR=28
YKA LR LR 04 52 39.3
comp=Z,819nm,18.2s,baz=0.0,slow=36
SRLM **Srisailam** **69.19 85** *e*P **P** **04 22 24.8 +0.8**
T47A **Sharon Grove** **69.24 301** IAMs_20 IAMs_20 04 49 24.2
comp=Z,2µm,20.0s
PTGA **Pitinga** **69.26 253** *e*P **P** **04 22 24.0 -0.3**
PTGA **Pitinga** **69.26 253** P **P** **04 22 25.1 +0.7**
NJS **Nagarjunasagar** **69.27 85** *e*P **P** **04 22 24.7 +0.3**
BSFB **Barra de Sao F** **69.27 225** *e*P **P** **04 22 26.3 +2.0**
BSFB *e*S **S** **04 31 31.4 +1.2**
SWET **Sewanee** **69.33 299** IAmb IAmb 04 22 29.1
comp=Z,56nm,1.7s
L40A **Anamosa** **69.34 307** IAmb IAmb 04 22 28.8
comp=Z,55nm,1.0s
L40A IAMs_20 IAMs_20 04 51 06.8
comp=Z,1µm,19.0s
BOD **Bodaibo** **69.36 32** *e*P **P** **04 22 24.1 -0.2**
BOD pmax pmax
comp=Z,44nm,1.5s
SJMB **Sao Joao De Ma** **69.36 225** *e*P **P** **04 22 25.8 +1.0**
RAMN **Ramite** **69.40 71** *e*P **P** **04 22 24.3 -1.2**
comp=Z,32nm,0.7s
RIB01 **Linhares ES** **69.41 224** *e*P **P** **04 22 25.5 +0.4**
MC01 **Montes Claros** **69.41 229** *e*P **P** **04 22 26.0 +0.8**
MC01 *e*pP **pP** **04 22 27.9 -1.7**
FPAL **Fort Paine** **69.45 298** IAmb IAmb 04 22 30.2
comp=Z,44nm,1.4s
P43A **Skaggs, Pawnee** **69.50 305** IAmb IAmb 04 22 29.9
comp=Z,62nm,1.1s
P43A IAMs_20 IAMs_20 04 51 37.0
comp=Z,1µm,18.0s
Q44A **Meyer Farm, Va** **69.54 304** IAmb IAmb 04 22 30.0
comp=Z,45nm,1.0s
TIGA **Tifton** **69.61 294** P **P** **04 22 25.7 -0.6**
baz=59
TIGA S **S** **04 31 37.2 +3.0**
baz=59
TIGA **Tifton** **69.61 294** IAMs_20 IAMs_20 04 49 12.2
comp=Z,1µm,20.0s
I37A **Lemond, Waseca** **69.68 310** IAMs_20 IAMs_20 04 49 30.7
comp=Z,1µm,21.0s
V48A **Smith Brothers** **69.68 300** IAmb IAmb 04 22 31.3
comp=Z,58nm,1.2s
V48A IAMs_20 IAMs_20 04 51 49.1
comp=Z,2µm,18.0s
DWPF **Disney Wildern** **69.74 290** P **P** **04 22 26.6 -0.6**
baz=58
Z51A **Franklin** **69.78 297** IAmb IAmb 04 22 32.6
comp=Z,60nm,1.5s
Z51A IAMs_20 IAMs_20 04 50 44.7
comp=Z,1µm,19.0s
152A **Waverly Hall** **69.79 296** IAmb IAmb 04 22 32.8
comp=Z,64nm,1.3s
152A IAMs_20 IAMs_20 04 51 24.0
comp=Z,1µm,19.0s
N41A **Harden Midland** **69.81 306** IAMs_20 IAMs_20 04 50 07.3
comp=Z,2µm,20.0s
656A **Willston** **69.91 292** IAMs_20 IAMs_20 04 48 23.3
comp=Z,1µm,21.0s
NPGB **Novo Progresso** **69.99 244** *e*P **P** **04 22 28.7 -0.2**
K38A **Parkersburg** **70.01 309** IAMs_20 IAMs_20 04 52 21.6
comp=Z,1µm,20.0s
TAPN **Taplejung** **70.03 70** *e*P **P** **04 22 29.1 -0.3**
ODAN **Odare** **70.05 71** *e*P **P** **04 22 28.3 -1.2**
D32A **Dogwood Acres,** **70.15 314** IAMs_20 IAMs_20 04 50 13.1
comp=Z,2µm,19.0s
WVT **Waverly** **70.18 301** P **P** **04 22 28.2 -1.6**
baz=58
WVT **Waverly** **70.18 301** P **P** **04 22 28.2 -1.6**
WVT pmax pmax
comp=Z,25nm,1.1s
WVT **Waverly** **70.18 301** P **P** **04 22 28.2 -1.6**
WVT **Waverly** **70.18 301** IAMs_20 IAMs_20 04 52 37.2
comp=Z,2µm,18.0s
ADKI **Addanki** **70.19 85** *e*P **P** **04 22 31.5 +1.4**
MYLAV **Mylavaram** **70.22 84** *e*P **P** **04 22 29.8 -0.5**
INK **Inuvik** **70.26 344** IAMs_20 IAMs_20 04 52 21.4
comp=Z,2µm,22.0s
S44A **Carbondale** **70.33 303** IAmb IAmb 04 22 34.6
comp=Z,44nm,1.1s
Y49A **Blount Mountai** **70.38 298** IAmb IAmb 04 22 35.8
comp=Z,51nm,1.4s
Y49A IAMs_20 IAMs_20 04 52 38.5
comp=Z,1µm,18.0s
F33A **5 Mile Ranch,** **70.44 313** IAmb IAmb 04 22 35.7
comp=Z,65nm,1.4s
F33A IAMs_20 IAMs_20 04 50 33.7
comp=Z,1µm,19.0s
SLM **Saint Louis** **70.49 304** IAmb IAmb 04 22 36.1
comp=Z,48nm,1.0s
X48A **Hartselle** **70.51 299** IAmb IAmb 04 22 36.5
comp=Z,70nm,1.4s
X48A IAMs_20 IAMs_20 04 51 38.1
comp=Z,1µm,19.0s
BOK **Bokaro** **70.52 75** *e*P **P** **04 22 31.5 -0.6**
352A **Blakely** **70.56 295** IAmb IAmb 04 22 41.1
comp=Z,58nm,1.4s
352A IAMs_20 IAMs_20 04 50 03.5
comp=Z,1µm,20.0s
SCIA **State Center** **70.69 308** P **P** **04 22 31.2 -1.6**
baz=58
SCIA **State Center** **70.69 308** IAmb IAmb 04 22 36.8
comp=Z,61nm,1.5s
SCIA IAMs_20 IAMs_20 04 52 41.4
comp=Z,1µm,18.0s
PVM **Polavaram** **70.73 83** *e*P **P** **04 22 33.4 0.0**
SUR **Sutherland** **70.85 164** P **P** **04 22 34.0 +0.1**
SUR **Sutherland** **70.85 164** IAMs_20 IAMs_20 04 48 25.0
comp=Z,1µm,18.0s
553A **Crawfordville** **70.88 294** IAMs_20 IAMs_20 04 49 48.9
comp=Z,1µm,20.0s
HICK **Hickman** **70.92 302** IAMs_20 IAMs_20 04 50 23.9
comp=Z,2µm,21.0s
PLAL **Pickwick Lake** **70.95 300** IAmb IAmb 04 22 38.7
comp=Z,67nm,1.1s
PLAL IAMs_20 IAMs_20 04 52 52.7
comp=Z,1µm,18.0s
FVM **French Village** **70.97 303** IAmb IAmb 04 22 39.0
comp=Z,64nm,1.1s
GLAT **Glass** **71.11 301** IAMs_20 IAMs_20 04 50 41.8
comp=Z,2µm,22.0s
BDFB **Brasilia** **71.12 233** P **P** **04 22 36.0 +0.2**
comp=Z,14nm,1.0s,baz=56,slow=5.7,SNR=15
BDFB LR LR 04 50 25.9
comp=Z,1µm,21.2s,baz=36,slow=33
BDFB **Brasilia** **71.12 233** P **P** **04 22 36.4 +0.6**
BDFB IAMs_20 IAMs_20 04 50 25.4
comp=Z,1µm,21.0s
A21K **Barrow** **71.13 353** P **P** **04 22 34.0 -1.0**
baz=17
A21K S **S** **04 31 55.1 +4.4**
baz=17
SKHT **Srikalahasti** **71.16 87** *e*P **P** **04 22 35.7 -0.4**
P40A **Paris** **71.21 306** IAmb IAmb 04 22 40.0
comp=Z,38nm,1.1s
MDND **Maddock** **71.22 316** P **P** **04 22 35.2 -0.7**
baz=56,SNR=20
MDND **Maddock** **71.22 316** IAMs_20 IAMs_20 04 50 22.2
comp=Z,1µm,20.0s
LRAL **Lakeview Retre** **71.22 297** P **P** **04 22 35.9 -0.3**
baz=58,SNR=10.0
LRAL **Lakeview Retre** **71.22 297** IAMs_20 IAMs_20 04 53 39.0
comp=Z,1µm,18.0s
250A **Grady** **71.26 296** IAmb IAmb 04 22 42.1
comp=Z,59nm,1.2s
250A IAMs_20 IAMs_20 04 52 27.1
comp=Z,2µm,18.0s
N38A **Joes South For** **71.30 307** IAmb IAmb 04 22 40.5
comp=Z,46nm,0.9s
N38A IAMs_20 IAMs_20 04 52 17.6
comp=Z,2µm,19.0s
HALT **Halls** **71.33 301** IAMs_20 IAMs_20 04 50 47.8
comp=Z,2µm,21.0s
LSA **Lhasa** **71.36 67** P **P** **04 22 36.9 -0.8**
LSA pmax pmax
comp=Z,85nm,0.8s
LSA **Lhasa** **71.36 67** *i*P **P** **04 22 36.2 -1.5**
SNR=11
LSA **Lhasa** **71.36 67** P **P** **04 22 36.5 -1.2**
LSA pmax pmax
comp=Z,20nm,0.8s
LSA **Lhasa** **71.36 67** P **P** **04 22 36.5 -1.2**
MACA **Manacapuru-AM** **71.37 251** *e*P **P** **04 22 37.8 +0.5**
SONM **Songino Array** **71.43 44** P **P** **04 22 38.4 +1.0**
comp=Z,37nm,1.1s,baz=286,slow=6.2,SNR=20
SONM LR LR 04 57 54.7
comp=Z,1µm,18.6s,baz=303,slow=39
CCM **Cathedral Cave** **71.47 304** P **P** **04 22 35.7 -1.9**
baz=57
CCM **Cathedral Cave** **71.47 304** P **P** **04 22 36.4 -1.2**
CCM pmax pmax
comp=Z,44nm,1.0s
CCM **Cathedral Cave** **71.47 304** P **P** **04 22 36.4 -1.2**
CCM IAmb IAmb 04 22 41.8
comp=Z,44nm,1.0s
CCM **Cathedral Cave** **71.47 304** IAMs_20 IAMs_20 04 51 09.4
comp=Z,2µm,21.0s
451A **Vernon** **71.61 295** IAMs_20 IAMs_20 04 50 27.3
comp=Z,1µm,20.0s
W45A **Hickory Valley** **71.63 300** IAMs_20 IAMs_20 04 52 14.7
comp=Z,2µm,19.0s
GNAR **Gosnell** **71.77 301** IAMs_20 IAMs_20 04 51 00.3
comp=Z,2µm,21.0s
ULN **Ulaanbaatar** **71.78 43** *d i*P **P** **04 22 40.8 +1.3**
ULN pmax pmax
comp=Z,53nm,1.3s
ULN **Ulaanbaatar** **71.78 43** P **P** **04 22 40.3 +0.8**
ULN IAmb IAmb 04 22 45.4
comp=Z,55nm,1.2s
ECSD **EROS Data Cent** **71.78 311** P **P** **04 22 39.3 -0.2**
baz=56,SNR=42
Z47A **Carrollton** **71.90 298** IAMs_20 IAMs_20 04 53 52.8
comp=Z,1µm,18.0s
T42A **Van Buren** **71.92 303** IAmb IAmb 04 22 44.5
comp=Z,58nm,1.3s
CHLP **Challavanipeta** **71.97 80** *e*P **P** **04 22 41.0 +0.2**
R40A **Maddies Statio** **72.03 305** IAmb IAmb 04 22 45.4
comp=Z,46nm,1.1s
CAM01 **Campos-RJ** **72.12 224** *e*P **P** **04 22 42.7 +1.2**
P38A **Dawn** **72.12 306** IAmb IAmb 04 22 46.0
comp=Z,74nm,1.2s
OXF **Oxford** **72.13 300** P **P** **04 22 40.1 -1.6**
baz=57,SNR=12
OXF **Oxford** **72.13 300** IAMs_20 IAMs_20 04 52 20.9
comp=Z,1µm,19.0s
GTA **Gaotai** **72.15 54** ⇑P **P** **04 22 42.1 +0.2**
GTA pP pP 04 22 46.8 +0.2
GTA sP sP 04 22 49.1 +0.7
GTA S **S** **04 32 03.9 +0.1**
GTA sS SKiKP 04 32 14.8 -3.1
GTA SKS **SKSac** **04 32 41.4 -4.5**
GTA SS **SS** **04 36 41.4 +0.9**
GTA pmax pmax
comp=Z,19nm,1.1s
GTA pmax pmax
comp=Z,390nm,6.4s
GTA LR LR
comp=Z,1µm,18.4s
GTA LR LR

comp=Z,950nm,19.4s
GTA LR LR
comp=Z,840nm,15.2s
MET Memphis--Engin 72.17 301 IAMs_20 IAMs_20 04 51 13.9
comp=Z,2µm,21.0s
BRAL Brewton 72.26 296 P **P** **04 22 41.6 -0.9**
baz=57
BRAL Brewton 72.26 296 IAMs_20 IAMs_20 04 53 09.5
comp=Z,2µm,19.0s
YAK Yakutsk 72.40 23 *e*P **P** **04 22 45.1 +2.4**
YAK *e**PP **pwP** **04 22 55.0 +4.9**
YAK *e* 04 23 00.1
YAK *e* 04 25 20.9
YAK *e*S **S** **04 32 06.1 +0.6**
YAK *e* 04 32 45.5
YAK pmax pmax
comp=Z,46nm,1.1s
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,23nm,1.1s
YAK pmax pmax
comp=Z,55nm,2.1s
YAK pmax pmax
comp=E,34nm,2.1s
YAK pmax pmax
comp=N,47nm,2.2s
YAK smax smax
comp=N,348nm,3.5s
YAK smax smax
comp=E,160nm,2.7s
YAK MLR MLR
comp=Z,1µm,15.0s
YAK MLR MLR
comp=E,738nm,14.0s
YAK MLR MLR
comp=N,817nm,16.0s
LCAR Lake Charles 72.49 302 P **P** **04 22 43.0 -0.8**
LCAR IAmb IAmb 04 22 48.0
comp=Z,76nm,1.4s
E28A Huff 72.55 315 IAMs_20 IAMs_20 04 51 33.6
comp=Z,2µm,19.0s
EPYK Eagle Plains 72.56 344 P **P** **04 22 43.5 -0.2**
baz=33,SNR=7.5
EPYK S **S** **04 32 09.9 +2.5**
baz=33
EPYK Eagle Plains 72.56 344 IAMs_20 IAMs_20 04 53 16.3
comp=Z,2µm,21.0s
Y45A Yeager Farm, C 72.57 299 IAMs_20 IAMs_20 04 53 59.7
comp=Z,1µm,18.0s
L34A Svendsen Farm, 72.62 310 IAMs_20 IAMs_20 04 51 23.7
comp=Z,1µm,20.0s
MGMO Mountain Grove 72.65 304 IAmb IAmb 04 22 49.5
comp=Z,54nm,0.9s
SUSD Miller 72.78 313 P **P** **04 22 44.8 -0.6**
baz=55,SNR=10
SUSD S **S** **04 32 08.4 -2.2**
baz=55
SUSD Miller 72.78 313 IAMs_20 IAMs_20 04 52 31.7
comp=Z,1µm,18.0s
N35A Tabor 72.79 308 IAmb IAmb 04 22 49.7
comp=Z,30nm,0.8s
N35A IAMs_20 IAMs_20 04 51 41.0
comp=Z,1µm,20.0s
TOLK Toolik Lake Re 72.84 350 P **P** **04 22 43.9 -1.5**
baz=23,SNR=10
TOLK S **SKiKP** **04 32 15.3 -2.7**
baz=23
TOLK Toolik Lake Re 72.84 350 IAmb IAmb 04 22 52.0
comp=Z,50nm,1.2s
TOLK IAMs_20 IAMs_20 04 56 59.8
comp=Z,2µm,20.0s
146A Union 72.90 298 IAMs_20 IAMs_20 04 55 00.4
comp=Z,1µm,18.0s
CLDB Colider 72.93 242 *e*P **P** **04 22 45.4 -1.2**
IPMB Ipameri, GO 73.00 231 *e*P **P** **04 22 47.6 +0.6**
X43A Marvell 73.15 301 P **P** **04 22 47.4 -0.3**
baz=57
X43A S **S** **04 32 11.9 -3.0**
baz=57
X43A Marvell 73.15 301 IAMs_20 IAMs_20 04 51 43.0
comp=Z,2µm,21.0s
BSCB Bom Sucesso 73.23 226 *e*P **P** **04 22 49.2 +0.9**
FCAR Ozark Folk Cen 73.24 302 P **P** **04 22 47.4 -0.8**
FCAR IAmb IAmb 04 22 52.7
comp=Z,106nm,1.6s
FCAR IAMs_20 IAMs_20 04 51 33.3
comp=Z,2µm,22.0s
DGMT Dagmar 73.35 318 P **P** **04 22 49.3 +0.5**
baz=53
DGMT Dagmar 73.35 318 P **P** **04 22 49.1 +0.4**
U40A Yellville 73.48 303 P **P** **04 22 49.8 +0.2**
baz=56,SNR=27
U40A S **S** **04 32 15.0 -3.7**
baz=56
U40A Yellville 73.48 303 IAmb IAmb 04 22 54.4
comp=Z,57nm,1.2s
ARAG Araguaiana, MT 73.63 235 *e*P **P** **04 22 51.3 +0.7**
WHAR Wooly Hollow 73.69 302 IAmb IAmb 04 22 55.4
comp=Z,64nm,1.1s
WHAR IAMs_20 IAMs_20 04 51 48.0
comp=Z,2µm,22.0s
K31A O'Neill 73.70 311 IAmb IAmb 04 22 55.3
comp=Z,61nm,0.9s
W41B Gary Mavity, V 73.72 302 P **P** **04 22 50.6 -0.5**
baz=56,SNR=21
W41B S **SKiKP** **04 32 18.1 -2.0**
baz=56
W41B Gary Mavity, V 73.72 302 IAmb IAmb 04 22 55.6
comp=Z,62nm,1.2s
W41B IAMs_20 IAMs_20 04 52 10.0
comp=Z,2µm,21.0s
346A Big Creek Wild 73.87 297 IAmb IAmb 04 22 57.1
comp=Z,88nm,1.4s
N33A J Bar K, Exete 73.99 309 IAMs_20 IAMs_20 04 55 31.8
comp=Z,1µm,18.0s
BGNE Belgrade 74.04 310 P **P** **04 22 51.9 -1.0**
baz=55,SNR=27
BGNE S **SKiKP** **04 32 21.9 +1.4**
baz=55
CCAR Cane Creek 74.09 301 IAMs_20 IAMs_20 04 52 33.9
comp=Z,1µm,20.0s
SHL Shillong 74.14 70 *e*P **P** **04 22 52.7 -1.2**
SHL Shillong 74.14 70 P **P** **04 22 53.4 -0.5**
SHL pmax pmax
comp=Z,172nm,1.6s
SHL Shillong 74.14 70 P **P** **04 22 53.4 -0.5**
VBMS Vicksburg 74.16 298 P **P** **04 22 52.8 -0.9**
baz=56
MAN01 Angra dos Reis 74.23 225 *e*P **P** **04 22 54.8 +0.7**
MAN01 *e*pP **pP** **04 22 56.7 -1.9**
HHAR Hobbs 74.25 304 IAmb IAmb 04 22 58.6
comp=Z,61nm,1.1s
COLD Coldfoot 74.25 350 P **P** **04 22 53.4 -0.2**
baz=22,SNR=30
COLD S **S** **04 32 30.3 +3.9**
baz=22
COLD Coldfoot 74.25 350 IAMs_20 IAMs_20 04 58 35.9
comp=Z,1µm,20.0s
KSU1 Kansas State U 74.39 307 P **P** **04 22 54.5 -0.5**
baz=55,SNR=16
KSU1 Kansas State U 74.39 307 IAmb IAmb 04 23 00.2
comp=Z,74nm,1.0s
KSU1 Kansas State U 74.39 307 IAMs_20 IAMs_20 04 54 02.6
comp=Z,1µm,18.0s
U38A Gravette 74.45 304 IAmb IAmb 04 22 59.8
comp=Z,48nm,1.1s
U38A IAMs_20 IAMs_20 04 54 54.3
comp=Z,1µm,18.0s
X40A Basin Creek Fa 74.50 302 P **P** **04 22 55.3 -0.3**
baz=56,SNR=26
X40A S **S** **04 32 26.9 -3.5**
baz=56
143A Socs Landing, 74.51 299 IAMs_20 IAMs_20 04 56 25.0
comp=Z,1µm,18.0s
BILL Bilibino 74.61 7⇑ *i*P **P** **04 22 57.9 +2.2**
BILL *e* 04 23 15.1
BILL *e* 04 25 48.0
BILL *i*S **S** **04 32 31.7 +1.2**
BILL pmax pmax
comp=Z,73nm,1.7s
BILL MLR MLR
comp=Z,775nm,17.0s
BILL Bilibino 74.61 7 IAMs_20 IAMs_20 05 00 13.2
comp=Z,886nm,18.0s
344A Westbrook Farm 74.74 298 IAmb IAmb 04 23 02.8
comp=Z,66nm,1.3s
344A IAMs_20 IAMs_20 04 53 43.2
comp=Z,1µm,19.0s
W39A Magazine 74.75 303 P **P** **04 22 56.9 -0.2**
baz=56,SNR=50
W39A S **S** **04 32 31.5 -1.5**
baz=56
W39A Magazine 74.75 303 IAmb IAmb 04 23 01.9
comp=Z,73nm,1.1s
W39A IAMs_20 IAMs_20 04 52 18.4
comp=Z,2µm,22.0s
RDOG Red Dog Mine 74.85 355 IAmb IAmb 04 23 03.5
comp=Z,119nm,1.8s
SJCC San Jacinto, C 74.87 271 *e*P **P** **04 22 59.3 +1.2**
EGAK Eagle 74.88 345 IAMs_20 IAMs_20 04 55 34.6
comp=Z,2µm,22.0s
MIAR Mount Ida 74.98 302 P **P** **04 22 58.2 -0.2**
baz=56,SNR=27
MIAR Mount Ida 74.98 302 IAMs_20 IAMs_20 04 52 49.3
comp=Z,2µm,21.0s
Z41A Richland Creek 75.17 300 P **P** **04 22 59.2 -0.3**
baz=56
Z41A S **S** **04 32 36.6 -1.3**
baz=56
Z41A Richland Creek 75.17 300 IAMs_20 IAMs_20 04 53 18.7
comp=Z,2µm,21.0s
BB19B Bebedouro 75.52 229 *e*P **P** **04 23 02.6 +1.1**
BB19B *e*pP **pP** **04 23 04.5 -1.5**
RUSC La Rusia 75.53 266 *e*P **P** **04 23 02.2 -0.2**
LAO LASA Array 75.53 318 P **P** **04 23 02.6 +1.1**
baz=51
LAO LASA Array 75.53 318 IAmb IAmb 04 23 07.4
comp=Z,95nm,1.4s
PARB Paraibuna 75.54 226 *e*P **P** **04 23 02.5 +0.8**
ITRB Iturama 75.63 231 *e*P **P** **04 23 02.6 +0.4**
ITRB *e*pP **pP** **04 23 05.2 -1.5**
PALK Pallekele 75.67 92⇑ *e*P **P** **04 23 03.6 +0.9**
PALK pmax pmax
comp=Z,59nm,1.3s
PALK Pallekele 75.67 92 IAMs_20 IAMs_20 05 00 02.7
comp=Z,1µm,18.0s
TUL1 Leonard 75.69 304 P **P** **04 23 02.1 -0.4**
baz=55,SNR=17
TUL1 S **S** **04 32 40.9 -2.6**
baz=55
TUL1 Leonard 75.69 304 IAmb IAmb 04 23 07.9
comp=Z,85nm,1.3s
K27K Chicken 75.73 345 S **S** **04 32 46.1 +3.0**
baz=28
POKR Poker Flat Res 75.76 348 P **P** **04 23 03.4 +1.0**
baz=24,SNR=5.9
POKR S **S** **04 32 48.1 +4.7**
baz=24
342A Flagon Creek P 75.91 299 IAmb IAmb 04 23 09.2
comp=Z,71nm,1.4s
RSSD Black Hills 75.91 315 P **P** **04 23 03.2 -0.7**
baz=52
RSSD Black Hills 75.91 315 P **P** **04 23 04.0 +0.1**
RSSD pmax pmax
comp=Z,25nm,1.1s
RSSD Black Hills 75.91 315 P **P** **04 23 04.0 +0.1**
RSSD Black Hills 75.91 315 IAMs_20 IAMs_20 04 53 40.4
comp=Z,2µm,19.0s
RCLB Rio Claro- Sao 75.95 228 *e*P **P** **04 23 04.5 +0.5**
RCLB *e*pP **pP** **04 23 07.3 -1.2**
ILAR Eielson Array 75.99 347 P **P** **04 23 04.3 +0.7**
comp=Z,5.1nm,0.8s,baz=8.4,slow=4.9,SNR=36
ILAR PKPPKP **P'P'df** **04 50 24.1 -4.5**
comp=Z,0.8nm,0.7s,baz=245,slow=2.7,SNR=7.4
ILAR LR LR 04 59 00.7
comp=Z,854nm,20.6s,baz=38,slow=38
ZARC Zaragoza, Cauc 76.01 269 *e*P **P** **04 23 04.9 +0.3**
COLA College 76.06 348 *ce*P **P** **04 23 06.6 +2.6**
COLA pmax pmax
comp=Z,25nm,1.3s
COLA College 76.06 348 IAMs_20 IAMs_20 04 57 09.5
comp=Z,2µm,22.0s
TCOL CIGO, UAF Yank 76.06 348 P **P** **04 23 03.9 -0.2**
baz=24
TCOL S **S** **04 32 49.8 +3.2**
baz=24
VAO Valinhos 76.06 227 *e*P **P** **04 23 04.9 +0.2**
VAO *e*pP **pP** **04 23 07.9 -1.3**
R32A Long Quarter, 76.12 308 IAMs_20 IAMs_20 04 54 06.5
comp=Z,1µm,19.0s
QUOK Quay 76.14 305 IAmb IAmb 04 23 10.1
comp=Z,91nm,1.3s
SCRK Sand Creek 76.16 346 P **P** **04 23 06.6 +1.8**
baz=27,SNR=14
SCRK S **S** **04 32 52.0 +4.0**
baz=27
X37A Clayton 76.17 303 IAmb IAmb 04 23 10.6
comp=Z,76nm,1.1s
HDA Harding Lake 76.33 347 P **P** **04 23 07.0 +1.4**
baz=24,SNR=24
HDA S **S** **04 32 52.0 +2.4**
baz=24
HDA Harding Lake 76.33 347 IAmb IAmb 04 23 11.6
comp=Z,41nm,1.0s
HDA IAMs_20 IAMs_20 04 56 51.6
comp=Z,1µm,22.0s
SALV Santo Antonio 76.37 238 *e*P **P** **04 23 07.0 +0.6**
WRH Wood River Hil 76.47 348 P **P** **04 23 06.5 +0.1**
DOT Dot Lake 76.47 346 IAMs_20 IAMs_20 04 56 58.5
comp=Z,1µm,21.0s
NEA2 Nenana 76.52 348 P **P** **04 23 07.4 +0.7**
baz=23,SNR=11
NEA2 S **S** **04 32 54.5 +2.8**
baz=23
EGMT Eagleton 76.53 321 P **P** **04 23 07.8 +0.7**
baz=49,SNR=34
EGMT Eagleton 76.53 321 IAmb IAmb 04 23 13.1
comp=Z,64nm,1.1s
CBKS Cedar Bluff 76.54 308 P **P** **04 23 07.2 -0.1**
baz=53,SNR=16
CBKS Cedar Bluff 76.54 308 IAMs_20 IAMs_20 04 53 48.4
comp=Z,1µm,20.0s
RIDG Independent Ri 76.55 346 IAmb IAmb 04 23 13.8
comp=Z,82nm,1.3s
RIDG IAMs_20 IAMs_20 04 58 58.3
comp=Z,1µm,19.0s
LZH Lanzhou 76.66 55⇑ P **P** **04 23 09.8 +1.6**
LZH sP sP 04 23 15.1 +0.3
LZH PP **PP** **04 26 02.6 +2.4**
LZH S **S** **04 32 53.5 -1.1**
LZH sS sS 04 33 02.2 +0.7
LZH SS **SS** **04 37 51.1 +1.8**
LZH pmax pmax
comp=Z,74nm,1.3s
LZH pmax pmax
comp=Z,640nm,6.7s
LZH LR LR
comp=Z,1µm,16.3s
LZH LR LR
comp=Z,1µm,15.7s
LZH LR LR
comp=Z,2µm,18.6s
Z38A Mt. Pleasant 76.67 302 IAMs_20 IAMs_20 04 55 03.5
comp=Z,1µm,19.0s
CROK Carrier 76.78 306 P **P** **04 23 09.4 +0.7**
SPB Sao Paulo 76.79 227 *e*P **P** **04 23 09.8 +1.2**
SPB *e*pP **pP** **04 23 12.2 -1.0**
OK029 Liberty Lake 76.85 305 IAmb IAmb 04 23 14.3
comp=Z,84nm,1.2s
OK025 Westminster Rd 76.90 305 IAmb IAmb 04 23 14.5
comp=Z,83nm,1.4s
WHY Whitehorse 76.92 340 IAmb IAmb 04 23 16.7
comp=Z,114nm,1.9s
SAML Samuel 77.01 248 P **P** **04 23 10.6 +0.4**
SAML pmax pmax
comp=Z,17nm,1.8s
SAML Samuel 77.01 248 P **P** **04 23 10.6 +0.4**
OKCFA Oklahoma City 77.08 305 IAmb IAmb 04 23 15.4
comp=Z,48nm,1.0s
NORC Norcasia 77.15 267 *e*P **P** **04 23 10.6 -0.5**
PET01 Itanhaem-SP 77.23 226 *e*P **P** **04 23 07.9 -3.3**
BPAW Bear Paw Mtn. 77.29 349 IAMs_20 IAMs_20 05 00 34.1
comp=Z,1µm,20.0s
MCK McKinley 77.30 348 IAmb IAmb 04 23 17.1
comp=Z,118nm,1.6s
NATX Nacogdoches 77.32 300 P **P** **04 23 11.8 0.0**
baz=54
NATX Nacogdoches 77.32 300 IAMs_20 IAMs_20 04 54 45.4
comp=Z,2µm,20.0s
PAX Paxson 77.36 346 IAMs_20 IAMs_20 04 57 28.0
comp=Z,1µm,22.0s
DBBC Dabeiba 77.37 269 *e*P **P** **04 23 14.6 +2.2**
HYT Haines Junctio 77.47 341 IAmb IAmb 04 23 23.3
comp=Z,54nm,1.4s
VILB Vilhena 77.48 243 *e*P **P** **04 23 14.4 +1.6**
RND Reindeer 77.59 348 IAMs_20 IAMs_20 04 57 42.9
comp=Z,2µm,22.0s
PCMB Pacaembu 77.60 231 *e*P **P** **04 23 13.8 +0.5**
PCMB *e*pP **pP** **04 23 16.8 -1.1**
DHY Denali Highway 77.63 347 IAmb IAmb 04 23 19.4
comp=Z,67nm,1.0s
ZEA Zeya 77.63 30 *e*P **P** **04 23 14.3 +1.2**
ZEA *e* 04 26 13.0
ZEA *e*PPP PPP 04 28 03.0
ZEA *e*S **S** **04 33 03.0 -1.1**
ZEA *e*PS 04 33 34.0
ZEA *e*SS **SS** **04 38 10.0 +7.4**
ZEA pmax pmax
comp=Z,100nm,1.4s
ZEA pmax pmax
comp=Z,500nm,4.0s
ZEA pmax pmax
comp=Z,400nm,3.0s
ZEA smax smax
comp=N,500nm,8.0s
ZEA MLR MLR
comp=Z,2µm,17.0s
ZEA MLR MLR
comp=E,1µm,16.0s
ZEA MLR MLR
comp=N,900nm,18.0s
GUY2C Guyana, Caldas 77.75 267 *e*P **P** **04 23 14.8 -0.2**
TRF Thorofare Moun 77.79 348 P **P** **04 23 14.4 +0.3**
TRF IAMs_20 IAMs_20 04 58 14.2
comp=Z,2µm,22.0s
X34A Smith Ranch, M 77.81 304 IAmb IAmb 04 23 20.1
comp=Z,65nm,1.1s
BTO Baotou 77.82 48 *e*P **P** **04 23 13.1 -1.5**
FRTB Fartura 77.86 228 *e*P **P** **04 23 15.4 +0.6**
CBOC Ciudad Bolivar 77.89 268 *e*P **P** **04 23 13.5 -1.9**
WALA Waterton Lakes 77.89 323 IAmb IAmb 04 23 20.2
comp=Z,93nm,1.6s
WALA IAMs_20 IAMs_20 04 57 03.5
comp=Z,1µm,18.0s
RREF El Recreo 77.92 267 *e*P **P** **04 23 17.7 +1.5**
237A Washetta, Mont 77.97 301 IAmb IAmb 04 23 21.0
comp=Z,112nm,1.6s
SKAG Skagway 78.05 340 IAmb IAmb 04 23 21.9
comp=Z,60nm,1.7s
TOLC Tolima 78.09 267 *e*P **P** **04 23 15.2 -1.5**
RLMT Red Lodge 78.16 318 P **P** **04 23 17.5 +0.9**
baz=49,SNR=16
RLMT Red Lodge 78.16 318 IAmb IAmb 04 23 22.6
comp=Z,56nm,1.6s
Z35A Perchaven, San 78.17 303 IAmb IAmb 04 23 21.4
comp=Z,82nm,1.2s
KSCO Kaye Shedlock' 78.22 310 P **P** **04 23 17.6 +0.8**
baz=52,SNR=9.9
KSCO S **S** **04 33 10.8 -0.5**
baz=52
KSCO Kaye Shedlock' 78.22 310 P **P** **04 23 16.4 -0.4**
KSCO IAmb IAmb 04 23 22.4
comp=Z,64nm,1.1s
K22A Casper 78.24 315 P **P** **04 23 17.5 +0.5**
baz=50,SNR=24
K22A S **S** **04 33 10.4 -1.1**
baz=50
K22A Casper 78.24 315 IAmb IAmb 04 23 22.1
comp=Z,50nm,1.1s
K22A IAMs_20 IAMs_20 04 54 56.2
comp=Z,2µm,20.0s
PRAC Prado 78.26 266 *e*P **P** **04 23 17.1 -0.2**
BARN Barnard Glacie 78.27 343 IAMs_20 IAMs_20 04 56 57.0
comp=Z,2µm,22.0s
CTGM Chitina Glacie 78.28 343 IAMs_20 IAMs_20 04 57 10.2
comp=Z,967nm,20.0s
MCARA McCarthy VSAT 78.29 344 IAMs_20 IAMs_20 04 56 57.4
comp=Z,1µm,22.0s
WMOK Wichita Mounta 78.35 305 P **P** **04 23 15.9 -1.6**
baz=53,SNR=49
WMOK Wichita Mounta 78.35 305 IAmb IAmb 04 23 22.9
comp=Z,50nm,1.1s
MACC Macarena, Meta 78.37 264 *e*P **P** **04 23 16.3 -1.6**
GLB Gilahina Butte 78.41 345 IAMs_20 IAMs_20 04 57 36.5
comp=Z,1µm,22.0s
PTLB Pontes e Lacer 78.43 241 *e*P **P** **04 23 17.9 -0.1**
PTLB *e*pP **pP** **04 23 20.9 -1.7**
ORTC Ortega, Tolima 78.43 266 *e*P **P** **04 23 19.0 +0.7**
BALM Baldy 78.45 344 IAmb IAmb 04 23 25.4
comp=Z,106nm,1.8s
VRDI Verde Repeater 78.52 344 IAMs_20 IAMs_20 04 57 17.6
comp=Z,1µm,22.0s
HHC Hu-ho-hao-te 78.58 47 *e*P **P** **04 23 18.8 0.0**
HHC pP pP 04 23 23.7 +0.1
HHC S **S** **04 33 15.4 +0.3**
HHC pmax pmax
comp=Z,100nm,1.1s
HHC pmax pmax
comp=Z,580nm,6.0s
HHC LR LR
comp=Z,1µm,18.9s
HHC LR LR
comp=Z,1µm,15.5s
HHC LR LR
comp=Z,820nm,16.1s
PPLA Purkeypile 78.61 349 P **P** **04 23 19.9 +1.3**
PPLA IAmb IAmb 04 23 28.2
comp=Z,84nm,1.3s
PPLA IAMs_20 IAMs_20 05 01 25.0
comp=Z,2µm,19.0s
BESE Bessie Mountai 78.66 339 IAMs_20 IAMs_20 04 57 39.3
comp=Z,2µm,21.0s
TABL Table Mountain 78.70 343 IAMs_20 IAMs_20 04 57 10.3
comp=Z,1µm,22.0s
SCM Sheep Creek Mo 78.76 346 IAmb IAmb 04 23 30.9
comp=Z,107nm,1.4s
SCM IAMs_20 IAMs_20 04 58 22.9
comp=Z,1µm,22.0s
CUT Chulitna 78.76 348 P **P** **04 23 18.7 -0.5**
baz=21
JIS Juneau Island 78.78 339 IAMs_20 IAMs_20 04 56 58.5
comp=Z,1µm,22.0s
KLU Klutina 78.80 345 IAMs_20 IAMs_20 04 57 58.9
comp=Z,1µm,22.0s
TGL Tana Glacier 78.81 344 IAmb IAmb 04 23 26.1
comp=Z,115nm,1.5s
ISLE Juniper Island 78.83 343 IAmb IAmb 04 23 26.3
comp=Z,126nm,1.5s
ISLE IAMs_20 IAMs_20 04 57 37.8
comp=Z,1µm,22.0s
CRQM Cirque 78.87 344 IAMs_20 IAMs_20 04 57 27.7
comp=Z,2µm,22.0s
YAH Yahtse 78.91 343 IAMs_20 IAMs_20 04 57 16.9
comp=Z,2µm,22.0s
JTMT Jette 78.97 322 IAMs_20 IAMs_20 04 57 27.2
comp=Z,1µm,18.0s
SML Sawmill 78.97 347 IAmb IAmb 04 23 26.6
comp=Z,105nm,1.6s
SML IAMs_20 IAMs_20 04 59 03.5
comp=Z,1µm,21.0s
N23A Red Feather La 79.03 313 P **P** **04 23 20.7 -0.7**
baz=50,SNR=40
N23A S **S** **04 33 21.7 +1.6**
baz=50
N23A Red Feather La 79.03 313 IAmb IAmb 04 23 27.7
comp=Z,71nm,1.1s
TIJ01 Guaruva-PR 79.03 227 *e*P **P** **04 23 21.2 -0.1**
BOZ Bozeman (W) 79.10 320 P **P** **04 23 23.1 +1.5**
baz=48,SNR=45
BOZ Bozeman (W) 79.10 320 IAmb IAmb 04 23 27.9
comp=Z,55nm,1.3s
BOZ IAMs_20 IAMs_20 04 55 43.6
comp=Z,2µm,20.0s
WHTX Lake Whitney, 79.10 302 P **P** **04 23 21.7 0.0**
baz=53
WHTX S **S** **04 33 18.4 -2.3**
baz=53
GHO Glory Hole Cre 79.11 347 IAmb IAmb 04 23 27.6
comp=Z,87nm,1.6s
GHO IAMs_20 IAMs_20 04 59 18.3
comp=Z,1µm,21.0s
MESA MESA 79.12 343 IAMs_20 IAMs_20 04 57 24.4
comp=Z,1µm,21.0s
TTA Tatalina 79.13 350 IAmb IAmb 04 23 28.1
comp=Z,111nm,1.7s
YKU2 Yakutat 79.15 342 IAMs_20 IAMs_20 05 01 34.3
comp=Z,1µm,18.0s
HKT Hockley 79.19 299 P **P** **04 23 22.6 +0.5**
HKT pmax pmax
comp=Z,73nm,1.9s

HKT MLR MLR
comp=Z,2µm,19.0s
HKT Hockley 79.19 299 P **P** **04 23 22.6 +0.5**
RWWY Rawlins 79.25 314 IAmb IAmb 04 23 28.4
comp=Z,83nm,1.2s
YOTC Yotoco, Valle 79.27 267 *e*P **P** **04 23 23.0 0.0**
PMR Palmer 79.32 347 IAMs_20 IAMs_20 05 00 57.7
comp=Z,1µm,18.0s
TRCB Terra Rica 79.33 231 *e*P **P** **04 23 24.4 +1.6**
TRCB *ep*P **pP** **04 23 26.3 -1.2**
H17A Grant Village 79.34 318 P **P** **04 23 24.9 +1.8**
baz=48
KNK Knik Glacier 79.36 347 IAmb IAmb 04 23 29.0
comp=Z,55nm,1.2s
SKT Skwentna 79.37 348 IAmb IAmb 04 23 27.9
comp=Z,125nm,1.8s
MSO Missoula 79.44 322 P **P** **04 23 23.6 +0.3**
baz=46,SNR=11
MSO Missoula 79.44 322 P **P** **04 23 23.7 +0.3**
MSO IAMs_20 IAMs_20 04 55 36.5
comp=Z,1µm,19.0s
HMT Hamilton 79.50 344 IAMs_20 IAMs_20 04 57 58.7
comp=Z,1µm,22.0s
ISCO Idaho Springs 79.53 312 P **P** **04 23 25.3 +1.0**
baz=50,SNR=65
ISCO Idaho Springs 79.53 312 IAmb IAmb 04 23 30.3
comp=Z,58nm,1.2s
ISCO IAMs_20 IAMs_20 04 56 16.3
comp=Z,1µm,19.0s
RAGM Ragged Mountai 79.54 344 IAMs_20 IAMs_20 04 58 22.6
comp=Z,1µm,21.0s
FID Port Fidalgo 79.59 345 IAMs_20 IAMs_20 04 59 01.0
comp=Z,1µm,20.0s
GLI Glacier Island 79.59 346 IAmb IAmb 04 23 30.2
comp=Z,73nm,1.5s
GLI IAMs_20 IAMs_20 05 00 15.1
comp=Z,1µm,22.0s
AQDB Aquidauana 79.61 235 *e*P **P** **04 23 25.0 +0.6**
AQDB *ep*P **pP** **04 23 27.4 -1.6**
FLWY Flagg Ranch 79.62 318 IAMs_20 IAMs_20 04 55 40.4
comp=Z,2µm,20.0s
EYAK Cordova Ski Ar 79.62 345 IAmb IAmb 04 23 30.8
comp=Z,77nm,1.6s
EYAK IAMs_20 IAMs_20 04 58 47.7
comp=Z,2µm,20.0s
CD2 Chengdu 79.67 59 P **P** **04 23 23.0 -1.8**
CD2 PP **PP** **04 26 24.6 -0.7**
CD2 S **S** **04 33 25.8 -1.0**
CD2 sS pS 04 33 31.8 -0.3
CD2 ScS **ScS** **04 33 46.6 -1.9**
CD2 pmax pmax
comp=Z,60nm,1.2s
CD2 pmax pmax
comp=Z,800nm,5.2s
CD2 LR LR
comp=Z,840nm,12.8s
CD2 LR LR
comp=Z,1µm,16.7s
CD2 LR LR
comp=Z,1µm,16.7s
WRAK Wrangell Islan 79.70 337 IAMs_20 IAMs_20 04 59 28.9
comp=Z,1µm,19.0s
SUA Susitna One 79.72 348 IAMs_20 IAMs_20 05 01 42.4
comp=Z,964nm,18.0s
DLMT Dillon 79.76 320 IAmb IAmb 04 23 31.8
comp=Z,90nm,1.4s
DLMT IAMs_20 IAMs_20 04 56 06.0
comp=Z,1µm,20.0s
Q24A Divide 79.78 311 P **P** **04 23 25.8 +0.2**
baz=51
Q24A S **S** **04 33 28.6 +0.3**
baz=51
ETMB Extrema 79.84 250 *e*P **P** **04 23 25.8 0.0**
ETMB *ep*P **pP** **04 23 28.9 -1.5**
BW06 Boulder Array 79.87 316 P **P** **04 23 26.2 +0.2**
baz=49,SNR=54
BW06 Boulder Array 79.87 316 IAMs_20 IAMs_20 04 55 27.2
comp=Z,2µm,21.0s
PDAR Pinedale Array 79.87 316 P **P** **04 23 25.6 -0.4**
comp=Z,14nm,1.0s,baz=57,slow=5.5,SNR=58
PDAR LR LR 04 55 48.5
comp=Z,1µm,20.1s,baz=46,slow=34
IMW Indian Meadow 79.87 318 IAMs_20 IAMs_20 04 55 39.1
comp=Z,1µm,20.0s
KAIM Kayak Island 79.90 344 IAMs_20 IAMs_20 04 58 10.1
comp=Z,1µm,22.0s
435B Jarrell 79.91 301 P **P** **04 23 26.4 +0.3**
baz=53
435B S **S** **04 33 27.7 -1.6**
baz=53
HIN Hinchinbrook I 79.92 345 IAmb IAmb 04 23 36.3
comp=Z,80nm,1.5s
HIN IAMs_20 IAMs_20 04 58 58.5
comp=Z,1µm,21.0s
NEW Newport 79.97 324 P **P** **04 23 26.6 +0.5**
baz=45,SNR=20
NEW Newport 79.97 324 IAMs_20 IAMs_20 04 57 06.5
comp=Z,1µm,19.0s
SNOW Snow King Moun 80.06 318 IAmb IAmb 04 23 33.4
comp=Z,108nm,1.9s
SIT Sitka 80.08 338 IAMs_20 IAMs_20 05 01 01.8
comp=Z,1µm,18.0s
FLOC Florencia 80.14 265 *e*P **P** **04 23 25.5 -2.1**
TPAW Teton Pass 80.15 318 IAmb IAmb 04 23 34.8
comp=Z,72nm,1.6s
TPAW IAMs_20 IAMs_20 04 55 58.5
comp=Z,1µm,20.0s
AMTX Amarillo 80.16 306 P **P** **04 23 26.7 -0.8**
baz=52
REDW Red Top Meadow 80.18 317 IAmb IAmb 04 23 34.7
comp=Z,78nm,1.4s
ABTX Abilene, Hawle 80.20 303 P **P** **04 23 27.8 +0.2**
baz=52,SNR=12
ABTX S **S** **04 33 29.9 -2.4**
baz=52
ABTX Abilene, Hawle 80.20 303 IAMs_20 IAMs_20 04 58 25.6
comp=Z,973nm,18.0s
MA2 Magadan 80.20 16 *d i*P **P** **04 23 28.7 +1.6**
MA2 pmax pmax
comp=Z,96nm,1.7s
MA2 Magadan 80.20 16 P **P** **04 23 28.1 +1.0**
PCON Cinco Dias 80.29 266 *e*P **P** **04 23 28.0 -1.1**
PTGB Pitanga 80.40 229 *e*P **P** **04 23 29.1 +0.4**
PTGB *ep*P **pP** **04 23 32.6 -0.6**
CAPN Captain Cook N 80.45 348 P **P** **04 23 26.9 -1.5**
baz=21
O22K Cooper Landing 80.46 347 P **P** **04 23 28.9 +0.4**
baz=22
T25A Trinidad 80.48 309 P **P** **04 23 30.2 +0.8**
baz=51,SNR=11
T25A S **S** **04 33 36.2 +0.6**
baz=51
T25A Trinidad 80.48 309 IAMs_20 IAMs_20 04 56 22.7
comp=Z,1µm,19.0s
SEW Seward 80.76 347 IAmb IAmb 04 23 38.0
comp=Z,63nm,1.2s
SEW IAMs_20 IAMs_20 04 59 58.8
comp=Z,1µm,22.0s
SDCO Great Sand Dun 80.77 310 P **P** **04 23 31.6 +0.6**
baz=50,SNR=54
MID Middleton Isla 80.77 345 IAMs_20 IAMs_20 04 59 14.0
comp=Z,1µm,18.0s
SVW2 Sparrevohn 80.83 350 IAmb IAmb 04 23 38.0
comp=Z,97nm,1.5s
C09A Chrisman Ranch 80.84 324 IAmb IAmb 04 23 37.0
comp=Z,74nm,1.6s
C09A IAMs_20 IAMs_20 04 57 35.6
comp=Z,1µm,19.0s
O20A White River Ci 80.85 314 P **P** **04 23 31.6 +0.4**
baz=49,SNR=11
O20A S **S** **04 33 39.7 +0.4**
baz=49
O20A White River Ci 80.85 314 P **P** **04 23 31.1 -0.2**
O20A IAMs_20 IAMs_20 04 57 09.3
comp=Z,1µm,19.0s
B08A Colville Reser 80.93 325 IAMs_20 IAMs_20 04 57 42.8
comp=Z,843nm,18.0s
XAN Xi'an 81.21 54 P **P** **04 23 32.9 -0.2**
XAN pP sP 04 23 39.8 +0.2
XAN PP **PP** **04 26 39.6 +1.6**
XAN S **S** **04 33 40.6 -2.3**
XAN sS SKKSac 04 33 57.4 +2.8
XAN pmax pmax
comp=Z,41nm,1.3s
XAN pmax pmax
comp=Z,540nm,4.1s
XAN LR LR
comp=Z,970nm,14.1s
XAN LR LR
comp=Z,810nm,14.4s
XAN LR LR
comp=Z,1µm,13.3s
XAN Xi'an 81.21 54 P **P** **04 23 32.4 -0.7**
XAN pmax pmax
comp=Z,85nm,1.2s
XAN Xi'an 81.21 54 P **P** **04 23 32.4 -0.7**
XAN IAmb IAmb 04 23 39.5
comp=Z,85nm,1.2s
735A Kenedy 81.22 299 IAMs_20 IAMs_20 04 57 44.0
comp=Z,1µm,21.0s
BRLK Bradley Lake 81.34 347 P **P** **04 23 33.1 -0.2**
BRLK IAmb IAmb 04 23 43.5
comp=Z,55nm,1.3s
BRLK IAMs_20 IAMs_20 05 00 30.6
comp=Z,1µm,21.0s
MSTX Muleshoe 81.43 306 P **P** **04 23 34.8 +0.5**
baz=51,SNR=14
MSTX S **S** **04 33 45.0 -0.3**
baz=51
S22A 4UR Ranch, Cre 81.57 311 P **P** **04 23 36.6 +1.4**
baz=50,SNR=43
S22A S **S** **04 33 47.5 +0.5**
baz=50
S22A 4UR Ranch, Cre 81.57 311 IAmb IAmb 04 23 42.2
comp=Z,96nm,1.6s
JCT Junction City 81.62 302 P **P** **04 23 35.5 +0.2**
baz=52
JCT Junction City 81.62 302 IAmb IAmb 04 23 41.5
comp=Z,73nm,1.6s
F10A Beach Ranch, E 81.66 323 IAMs_20 IAMs_20 04 56 58.2
comp=Z,949nm,19.0s
BBB Bella Bella 81.66 332 IAMs_20 IAMs_20 04 58 20.9
comp=Z,1µm,19.0s
D08A Wollman Farm, 81.69 324 P **P** **04 23 35.0 -0.3**
D08A IAMs_20 IAMs_20 05 00 14.8
comp=Z,1µm,18.0s
E09A Wood Farm, Sta 81.71 323 IAmb IAmb 04 23 44.2
comp=Z,70nm,1.4s
E09A IAMs_20 IAMs_20 04 58 17.6
comp=Z,909nm,18.0s
HWUT Hardware Ranch 81.75 317 IAmb IAmb 04 23 41.7
comp=Z,120nm,1.8s
HWUT IAMs_20 IAMs_20 04 57 40.0
comp=Z,1µm,19.0s
BOAB BOACO BROADBAN 81.76 279 IAMs_20 IAMs_20 04 55 10.0
comp=Z,1µm,21.0s
B06A Marblemount 81.78 326 IAMs_20 IAMs_20 04 58 00.2
comp=Z,904nm,18.0s
BJI Beijing 81.79 46 P **P** **04 23 34.3 -1.6**
BJI S **S** **04 33 47.2 -1.3**
BJI SS **SS** **04 39 04.4 -1.0**
BJI LR LR
comp=Z,1µm,16.1s
HLID Hailey 81.94 319 P **P** **04 23 38.6 +1.6**
baz=46,SNR=32
C06D Leavenworth 81.96 326 P **P** **04 23 37.2 +0.5**
baz=42
A04D Lummi Island 82.16 327 P **P** **04 23 38.0 +0.3**
baz=41
B05A Bryant 82.24 327 P **P** **04 23 35.9 -2.2**
baz=41
ITAB Concordia 82.31 228 *e*P **P** **04 23 38.9 +0.2**
ITAB *ep*P **pP** **04 23 42.4 -0.8**
LTY Liberty 82.35 325 IAMs_20 IAMs_20 04 58 36.4
comp=Z,1µm,19.0s
PV01 Paradox Valley 82.36 312 IAMs_20 IAMs_20 04 59 17.3
comp=Z,1µm,21.0s
DIB Dawson Inlet, 82.39 335 IAMs_20 IAMs_20 05 00 27.2
comp=Z,1µm,19.0s
KMI Kunming 82.41 64 ⇑P **P** **04 23 40.2 +0.4**
KMI pP pP 04 23 44.5 0.0
KMI sP sP 04 23 46.3 0.0
KMI S **S** **04 33 52.9 -3.0**
KMI sS sS 04 34 03.1 +0.2
KMI SS **SS** **04 39 09.7 -6.4**
KMI pmax pmax
comp=Z,19nm,1.0s
KMI pmax pmax
comp=Z,500nm,5.1s
KMI LR LR
comp=Z,330nm,17.4s
KMI LR LR
comp=Z,530nm,18.0s
KMI LR LR
comp=Z,560nm,19.9s
PV03 Paradox Valley 82.44 313 IAMs_20 IAMs_20 04 58 41.5
comp=Z,1µm,18.0s
PV16 Nyswonger Mesa 82.45 313 IAMs_20 IAMs_20 04 57 46.6
comp=Z,838nm,18.0s
PV20 West Nyswonger 82.46 313 IAmb IAmb 04 23 45.7
comp=Z,59nm,1.1s
HAWA Hanford 82.46 324 IAMs_20 IAMs_20 04 58 42.3
comp=Z,1µm,19.0s
PV10 Paradox Valley 82.48 313 IAmb IAmb 04 23 46.2
comp=Z,66nm,1.1s
PV10 IAMs_20 IAMs_20 04 59 43.9
comp=Z,1µm,19.0s
E07A Sunnyside 82.49 324 IAmb IAmb 04 23 45.7
comp=Z,67nm,1.3s
E07A IAMs_20 IAMs_20 05 00 41.1
comp=Z,1µm,18.0s
PV19 Morning Glory 82.49 313 IAMs_20 IAMs_20 04 59 20.6
comp=Z,1µm,19.0s
PV13 Radium Mtn., P 82.49 313 IAMs_20 IAMs_20 05 01 26.8
comp=Z,892nm,20.0s
BMO Blue Mountains 82.50 322 P **P** **04 23 39.8 0.0**
BMO pmax pmax
comp=Z,41nm,1.0s
BMO MLR MLR
comp=Z,900nm,18.0s
BMO Blue Mountains 82.50 322 P **P** **04 23 39.8 0.0**
BMO IAmb IAmb 04 23 45.1
comp=Z,41nm,1.0s
BMO IAMs_20 IAMs_20 05 00 56.5
comp=Z,888nm,18.0s
833A Chaparral WMA, 82.65 300 P **P** **04 23 40.7 0.0**
baz=52
833A Chaparral WMA, 82.65 300 IAmb IAmb 04 23 47.4
comp=Z,45nm,1.4s
833A IAMs_20 IAMs_20 04 59 42.7
comp=Z,1µm,18.0s
MFID Camas Ranch 82.78 320 IAMs_20 IAMs_20 04 58 57.9
comp=Z,1µm,18.0s
KLR Kul'dur 82.88 31 ⇓ *e*P **P** **04 23 41.9 +0.4**
KLR pmax pmax
comp=Z,41nm,2.0s
MVCO Mesa Verde 82.93 312 P **P** **04 23 43.6 +1.3**
baz=49,SNR=19
MVCO Mesa Verde 82.93 312 IAmb IAmb 04 23 48.5
comp=Z,47nm,1.2s
G08A Pilot Rock 82.99 323 IAmb IAmb 04 23 48.2
comp=Z,49nm,1.6s
F07A Phinny Hill Vi 83.01 324 IAmb IAmb 04 23 48.6
comp=Z,49nm,1.3s
CNLB Canela 83.12 225 *e*P **P** **04 23 43.2 +0.3**
CNLB *ep*P **PcP** **04 23 46.8 -0.7**
ANMO Albuquerque 83.16 309 P **P** **04 23 43.4 0.0**
baz=49
ANMO Albuquerque 83.16 309 *d i*P **P** **04 23 44.7 +1.2**
ANMO pmax pmax
comp=Z,9.0nm,1.1s
ANMO Albuquerque 83.16 309 IAMs_20 IAMs_20 04 58 09.6
comp=Z,1µm,20.0s
D03D Eldon 83.23 327 P **P** **04 23 44.7 +1.4**
baz=41,SNR=19
CHTO Chiang Mai 83.36 72 P **P** **04 23 45.0 +0.5**
CHTO pmax pmax
comp=Z,38nm,1.3s
CHTO Chiang Mai 83.36 72 P **P** **04 23 45.0 +0.5**
CHTO IAmb IAmb 04 23 50.4
comp=Z,38nm,1.2s
D04E Lakebay 83.36 326 P **P** **04 23 44.9 +0.9**
baz=41
DUG Dugway, Tooele 83.41 316 P **P** **04 23 45.7 +1.1**
baz=46,SNR=19
DUG Dugway, Tooele 83.41 316 IAMs_20 IAMs_20 04 58 24.8
comp=Z,884nm,19.0s
CZSB Cruzeiro do Su 83.48 255 *e*P **P** **04 23 44.2 -0.9**
CZSB *e*S **S** **04 34 07.5 +1.1**
GRNR Gornyy 83.50 28 ⇓ *i*P **P** **04 23 45.0 +0.3**
GRNR pmax pmax
comp=Z,10.0nm,1.2s
KDAK Kodiak Island 83.51 347 P **P** **04 23 46.4 +1.8**
KDAK pmax pmax
comp=Z,119nm,1.2s
KDAK MLR MLR
comp=Z,2µm,22.0s
KDAK Kodiak Island 83.51 347 P **P** **04 23 46.4 +1.8**
CMAR Chiang Mai Arr 83.56 72 P **P** **04 23 45.1 -0.5**
comp=Z,10nm,0.9s,baz=306,slow=7.7,SNR=26
CMAR LR LR 05 06 00.0
comp=Z,181nm,21.0s,baz=346,slow=39
CMAR Chiang Mai Arr 83.56 72 *i*P **P** **04 23 47.0 +1.4**
CMAR pmax pmax
comp=Z,10.0nm,0.9s
NLWA Neilton Lookou 83.68 327 IAMs_20 IAMs_20 04 57 20.5
comp=Z,1µm,20.0s
F05D White Salmon 83.73 325 P **P** **04 23 45.6 -0.4**
baz=42
E04D Cinebar 83.73 326 P **P** **04 23 45.9 -0.1**
baz=41
ENH Enshi 83.95 57 P **P** **04 23 47.1 -0.3**
Y22D IRIS PASSCAL I 84.01 308 P **P** **04 23 48.8 +1.0**
baz=49
Y22D IRIS PASSCAL I 84.01 308 IAMs_20 IAMs_20 04 58 40.2
comp=Z,1µm,20.0s
CN2 Changchun 84.11 38 *e*P **P** **04 23 48.6 +0.7**
CN2 *e*S **S** **04 34 05.4 -6.6**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,500nm,3.0s
CN2 LR LR
comp=Z,1µm,15.0s
CN2 LR LR
comp=Z,1µm,15.0s
CN2 LR LR
comp=Z,2µm,15.0s
F04A Amboy 84.14 325 IAMs_20 IAMs_20 04 59 41.7
comp=Z,975nm,20.0s
I07A Izee 84.14 322 IAmb IAmb 04 23 55.4
comp=Z,80nm,1.6s
I07A IAMs_20 IAMs_20 05 02 48.9
comp=Z,1µm,18.0s
G05D Wamic, OR 84.15 324 P **P** **04 23 49.6 +1.4**
baz=42
G05D S **S** **04 34 16.5 +4.0**
baz=42
J08A Circle Bar Ran 84.16 321 IAMs_20 IAMs_20 04 59 40.5
comp=Z,1µm,19.0s
OHAK Old Harbor 84.17 347 IAmb IAmb 04 23 59.3
comp=Z,62nm,1.2s
OHAK IAMs_20 IAMs_20 05 04 05.9
comp=Z,1µm,21.0s
E03A Lebam 84.19 326 IAMs_20 IAMs_20 04 59 25.0
comp=Z,844nm,19.0s
F04D Rainier, OR 84.30 326 P **P** **04 23 48.7 -0.1**
baz=40
F04D S **S** **04 34 17.4 +3.6**
baz=40
GYA Guiyang 84.40 61 ⇓ P **P** **04 23 50.0 +0.2**
GYA pmax pmax
comp=Z,31nm,1.5s
GYA pmax pmax
comp=Z,540nm,5.3s
MNTX Cornudas Mount 84.57 306 P **P** **04 23 51.1 +0.6**
baz=50,SNR=26
MNTX Cornudas Mount 84.57 306 IAmb IAmb 04 23 56.1
comp=Z,60nm,1.6s
F03A Seaside 84.66 326 IAMs_20 IAMs_20 04 59 45.4
comp=Z,822nm,19.0s
CPUP Villa Florida 84.83 232 P **P** **04 23 50.9 -0.8**
comp=Z,43nm,0.9s,baz=55,slow=5.7,SNR=76
CPUP LR LR 05 01 24.3
comp=Z,1µm,18.1s,baz=53,slow=36
CPUP Villa Florida 84.83 232 P **P** **04 23 51.8 +0.2**
CPUP pmax pmax
comp=Z,58nm,1.0s
CPUP Villa Florida 84.83 232 *e*P **P** **04 23 52.4 +0.8**
CPUP *ep*P **PcP** **04 23 54.3 -0.7**
CPUP Villa Florida 84.83 232 P **P** **04 23 51.8 +0.2**
I05D Terrebonne, OR 84.83 324 P **P** **04 23 53.5 +1.9**
baz=42,SNR=5.2
I05D S **S** **04 34 20.7 +1.3**
baz=42
TIA Tai'an 84.91 48 P **P** **04 23 52.2 +0.1**
TIA pmax pmax
comp=Z,12nm,1.8s
TXAR Lajitas Array 84.95 303 P **P** **04 23 51.5 -1.0**
comp=Z,2.7nm,0.8s,baz=66,slow=5.1,SNR=28
TXAR LR LR 05 01 21.9
comp=Z,1µm,18.4s,baz=0.0,slow=35
TX32 Lajitas Array 84.95 303 IAmb IAmb 04 23 58.9
comp=Z,57nm,1.6s
H04A Detroit Lake 84.97 324 IAmb IAmb 04 23 58.0
comp=Z,38nm,1.3s
PINE Pine Mountain 85.05 323 IAMs_20 IAMs_20 05 01 30.0
comp=Z,1µm,18.0s
W18A Petrified Fore 85.06 311 P **P** **04 23 54.4 +1.2**
baz=48
G03D McMinnville, O 85.07 325 P **P** **04 23 54.4 +1.6**
baz=40,SNR=5.5
H04D Lebanon 85.35 324 P **P** **04 23 54.7 +0.5**
baz=41
H04D S **S** **04 34 28.4 +4.0**
baz=41
LPAZ La Paz 85.43 246 P **P** **04 23 54.5 -1.1**
comp=Z,1.0nm,0.7s,baz=226,slow=1.9,SNR=7.2
LPAZ LR LR 04 58 40.3
comp=Z,460nm,21.8s,baz=56,slow=33
LPAZ La Paz 85.43 246 P **P** **04 23 55.2 -0.4**
LPAZ pmax pmax
comp=Z,42nm,2.0s
LPAZ La Paz 85.43 246 *e*P **P** **04 23 54.9 -0.7**
LPAZ La Paz 85.43 246 P **P** **04 23 55.1 -0.4**
MDJ Mudanjiang 85.48 35 P **P** **04 23 54.6 -0.2**
MDJ pP PcP 04 23 58.7 +0.9
MDJ S **S** **04 34 25.4 -0.3**
MDJ pmax pmax
comp=Z,14nm,1.6s
MDJ pmax pmax
comp=Z,310nm,4.1s
MDJ LR LR
comp=Z,2µm,22.8s
MDJ LR LR
comp=Z,2µm,18.5s
MDJ LR LR
comp=Z,2µm,11.4s
MDJ Mudanjiang 85.48 35 IAMs_20 IAMs_20 05 09 10.2
comp=Z,1µm,20.0s
COR Corvallis 85.57 325 IAMs_20 IAMs_20 05 04 24.6
comp=Z,920nm,19.0s
121A Cookes Peak, D 85.57 308 P **P** **04 23 56.4 +0.6**
baz=49
121A S **S** **04 34 28.8 +1.4**
baz=49
121A Cookes Peak, D 85.57 308 IAMs_20 IAMs_20 04 59 29.5
comp=Z,1µm,20.0s
J05D Fort Rock, OR 85.57 323 P **P** **04 23 56.8 +1.3**
baz=42,SNR=28
TYV Tymovskoe 85.62 24 *e*P **P** **04 24 00.0 +4.6**
TYV pmax pmax
comp=Z,18nm,1.3s
TYV pmax pmax
comp=Z,200nm,2.9s
DL2 Dalian 85.63 43 P **P** **04 23 58.3 +2.7**
DL2 S **S** **04 34 27.1 -0.2**
DL2 pmax pmax
comp=Z,23nm,0.9s
DL2 pmax pmax
comp=Z,310nm,3.6s
DL2 LR LR
comp=Z,1µm,17.0s
DL2 LR LR
comp=Z,1µm,19.9s
DL2 LR LR
comp=Z,560nm,17.9s
U15A North Rim 85.70 313 IAmb IAmb 04 24 02.2
comp=Z,40nm,0.9s
I04A Tendick Farm, 85.75 324 P **P** **04 23 55.1 -1.1**
baz=41
WUAZ Wupatki 85.78 312 P **P** **04 23 57.0 +0.3**
baz=47,SNR=24
WUAZ Wupatki 85.78 312 IAmb IAmb 04 24 04.0
comp=Z,81nm,1.4s
WUAZ IAMs_20 IAMs_20 05 00 25.8
comp=Z,824nm,19.0s
K05A Summer Lake 85.82 322 IAMs_20 IAMs_20 04 59 23.5
comp=Z,950nm,19.0s
J04D Umpqua Nationa 86.03 323 P **P** **04 23 57.4 -0.4**
baz=41

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
I02D	Swisshome	86.19	325	P	P	04 23 58.2	-0.1
	baz=40						
R11A	Troy Canyon, C	86.23	316	P	P	04 23 59.9	+1.0
	baz=45,SNR=86						
R11A				S	S	04 34 36.3	+2.6
	baz=45						
R11A	Troy Canyon, C	86.23	316	IAMs_20	IAMs_20	05 01 54.7	
	comp=Z,937nm,18.0s						
PBKT	Sadao Pong	86.24	72	P	P	04 23 58.8	-0.2
PBKT				IAmb	IAmb	04 24 07.1	
	comp=Z,69nm,1.8s						
I03D	Drain, OR	86.27	324	P	P	04 24 00.2	+1.5
	baz=40						
K04D	Chiloquin, OR	86.32	323	P	P	04 24 00.5	+1.3
	baz=41						
PLTB	Pedras Altas	86.52	226	*e*pP	pP	04 24 03.2	-1.4
X16A	Lo Mia Camp, P	86.57	311	IAmb	IAmb	04 24 07.6	
	comp=Z,36nm,1.3s						
L04D	Klamath Falls	86.89	323	P	P	04 24 02.3	+0.3
	baz=41						
USA0B	Ussuriysk Arra	86.90	34	IAMs_20	IAMs_20	05 06 37.6	
	comp=Z,1µm,19.0s						
USRK	Ussuriysk Ar.	86.90	34	P	P	04 24 01.2	-0.6
	comp=Z,3.5nm,0.9s,baz=318,slow=2.6,SNR=9.0						
USRK				LR	LR	05 06 47.7	
	comp=Z,950nm,18.3s,baz=315,slow=38						
J01E	Myrtle Point	86.95	324	P	P	04 24 03.5	+1.5
	baz=40						
M04C	Macdoel	87.00	322	P	P	04 24 02.5	0.0
	baz=41						
K02D	Willamette Mer	87.18	324	P	P	04 24 04.0	+0.7
	baz=40						
K02D				S	S	04 34 46.0	+3.5
	baz=40						
PAHR	Pah Rah Range	87.30	319	IAmb	IAmb	04 24 10.4	
	comp=Z,41nm,1.3s						
YBH	Yreka Blue Hor	87.46	323	IAMs_20	IAMs_20	05 00 27.0	
	comp=Z,908nm,20.0s						
CNBA	Chernabura Isl	87.47	350	IAMs_20	IAMs_20	05 06 32.9	
	comp=Z,1µm,19.0s						
W13A	Hualapai Mount	87.55	313	IAmb	IAmb	04 24 12.0	
	comp=Z,48nm,1.6s						
W13A				IAMs_20	IAMs_20	05 01 05.7	
	comp=Z,1µm,19.0s						
L02E	Cave Junction	87.56	323	S	S	04 34 49.2	+3.2
	baz=40						
NV11	Mina Array Sit	87.58	318	IAMs_20	IAMs_20	05 00 36.2	
	comp=Z,1µm,20.0s						
TPNV	Topopah Spring	87.60	316	P	P	04 24 06.6	+1.0
	baz=44,SNR=11						
TUC	Tucson	87.60	309	P	P	04 24 07.6	+2.0
	baz=47						
TUC	Tucson	87.60	309	P	P	04 24 06.4	+0.8
TUC				pmax	pmax		
	comp=Z,58nm,1.8s						
TUC	Tucson	87.60	309	P	P	04 24 06.4	+0.8
TUC				IAmb	IAmb	04 24 12.0	
	comp=Z,58nm,1.8s						
NVAR	Mina Array Bea	87.66	318	P	P	04 24 07.0	+1.1
	comp=Z,1.7nm,0.6s,baz=36,slow=4.4,SNR=11						
NVAR				LR	LR	05 00 58.5	
	comp=Z,1µm,19.6s,baz=50,slow=34						
PEA0B	Petropavlovsk-	87.67	15	*ce*P	P	04 24 08.3	+2.9
PEA0B	Petropavlovsk-	87.67	15	P	P	04 24 05.7	+0.3
PEA0B				IAmb	IAmb	04 24 11.9	
	comp=Z,46nm,1.6s						
PETK	Petropavlovsk-	87.67	15	P	P	04 24 05.8	+0.4
	comp=Z,1.4nm,0.5s,baz=27,slow=3.6,SNR=7.8						
PETK				LR	LR	05 08 17.7	
	comp=Z,361nm,18.1s,baz=3.6,slow=39						
M02C	Callahan	87.79	323	P	P	04 24 07.6	+1.3
	baz=40						
M02C				S	S	04 34 50.3	+1.9
	baz=40						
Y14A	Wickenburg	87.84	312	IAmb	IAmb	04 24 12.9	
	comp=Z,31nm,1.4s						
FALS	False Pass	87.90	352	IAMs_20	IAMs_20	05 04 39.6	
	comp=Z,944nm,22.0s						
PET	Petropavlovsk	87.95	15	*e*P	P	04 24 05.5	-1.1
PET				*e*		04 27 29.1	
PET				*e*		04 34 27.3	
PET				*e*S	S	04 34 42.8	-6.4
PET				*e*PS	PnS	04 35 53.6	+2.9
PET				*e*PPS	PPS	04 36 11.4	
PET				*e*SS	SS	04 40 31.7	-3.3
PET				pmax	pmax		
	comp=Z,100nm,13.8s						
PET				MLR	MLR		
	comp=Z,400nm,20.0s						
PET				MLR	MLR		
	comp=Z,500nm,18.0s						
N02D	Trinity Center	88.03	322	P	P	04 24 07.5	+0.1
	baz=40						
N02D				S	S	04 34 51.7	+1.0
	baz=40						
O03E	Paynes Creek	88.10	321	P	P	04 24 08.2	+0.4
	baz=41						
O03E				S	S	04 34 53.9	+2.5
	baz=41						
WAKR	Walker	88.21	319	IAmb	IAmb	04 24 20.3	
	comp=Z,24nm,1.1s						
WDC	Whiskeytown Da	88.25	322	IAMs_20	IAMs_20	05 05 32.8	
	comp=Z,746nm,18.0s						
PDMCI	Parker Dam,Lak	88.26	313	P	P	04 24 10.4	+1.9
	baz=45,SNR=10						
FURC	Furnace Creek,	88.29	316	P	P	04 24 10.7	+2.1
	baz=44,SNR=14						
FURC				S	S	04 34 57.4	+4.4
	baz=44						
ZAIG	Zacatecas	88.35	297	IAMs_20	IAMs_20	05 02 52.9	
	comp=Z,777nm,20.0s						
SHOC	Shoshone, Teco	88.36	315	P	P	04 24 09.5	+0.5
	baz=44						
SHOC				S	S	04 34 57.6	+3.6
	baz=44						
TUQ	Turquoise Moun	88.50	314	P	P	04 24 08.9	-0.9
	baz=44						
TUQ				S	S	04 34 59.3	+3.9
	baz=44						
ORV	Oroville	88.50	321	IAMs_20	IAMs_20	05 01 37.5	
	comp=Z,1µm,20.0s						
MLAC	Mammoth, Mammo	88.53	318	P	P	04 24 08.4	-1.7
	baz=43						
MLAC				S	S	04 35 02.7	+6.8
	baz=43						
KHMM	Horse Mountain	88.61	323	IAmb	IAmb	04 24 17.0	
	comp=Z,49nm,1.4s						
KHMM				IAMs_20	IAMs_20	05 01 54.3	
	comp=Z,1µm,20.0s						
TIN	Tinemaha, Big	88.62	317	P	P	04 24 11.6	+1.3
	baz=43						
TIN				S	S	04 35 02.2	+5.7
	baz=43						
O02D	Mt. Diablo Mer	88.68	322	P	P	04 24 10.6	+0.1
	baz=40						
O02D				S	S	04 34 59.6	+2.8
	baz=40						
AFDM	Forest Hills D	88.69	320	IAMs_20	IAMs_20	05 02 27.4	
	comp=Z,863nm,18.0s						
NJ2	Nanjing	88.80	50	*e*P	P	04 24 10.5	-0.6
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
JCC	Jacoby Creek,	88.80	323	IAMs_20	IAMs_20	05 02 10.3	
	comp=Z,958nm,19.0s						
GMRC	Granite Mounta	88.81	314	P	P	04 24 11.0	-0.3
	baz=44,SNR=9.4						
GMRC				S	S	04 35 01.5	+3.1
	baz=44						
AKUT	Akutan	88.84	354	IAmb	IAmb	04 24 23.4	
	comp=Z,33nm,1.0s						
MPMC	Manual Prospec	88.93	316	P	P	04 24 13.3	+1.3
	baz=44,SNR=12						
MPMC				S	S	04 35 03.9	+4.3
	baz=44						
IRM	Iron Mountain	88.95	313	P	P	04 24 13.6	+1.7
	baz=45						
IRM				S	S	04 35 03.8	+4.3
	baz=45						
CWC	Cottonwood Cre	88.99	316	P	P	04 24 12.7	+0.6
	baz=43						
CWC				S	S	04 35 05.6	+5.5
	baz=43						
YSS	Yuzh-Sakhalins	89.00	26	*e*P	P	04 24 13.9	+2.2
YSS				*e**SP	sP	04 24 20.1	+1.8
YSS				*e*		04 34 33.7	
YSS				*e*S	S	04 34 58.8	-0.5
YSS				*e*PS	PS	04 36 00.8	-3.8
YSS				*e*SSS	SSS	04 44 26.8	
YSS				pmax	pmax		
	comp=Z,400nm,3.6s						
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS				MLR	MLR		
	comp=Z,1µm,17.0s						
YSS				MLR	MLR		
	comp=N,900nm,16.0s						
YSS				MLR	MLR		
	comp=E,500nm,15.0s						
214A	Organ Pipe Nat	89.09	310	P	P	04 24 13.0	+0.5
	baz=46						
214A				S	S	04 35 04.1	+3.1
	baz=46						
GSC	Goldstone, Bar	89.09	315	P	P	04 24 12.3	-0.2
	baz=44,SNR=8.0						
KMRM	Mail Ridge	89.10	322	IAMs_20	IAMs_20	05 03 05.7	
	comp=Z,1µm,19.0s						
HEC	Hector,Ludlow	89.16	314	P	P	04 24 15.2	+2.3
	baz=44						
HEC				S	S	04 35 06.9	+5.3
	baz=44						
UNV	Unalaska Valle	89.20	354	IAMs_20	IAMs_20	05 06 35.8	
	comp=Z,795nm,20.0s						
KCPM	Cahto Peak	89.45	322	IAMs_20	IAMs_20	05 02 57.5	
	comp=Z,734nm,20.0s						
LRMC	Laurel Mtn Rad	89.46	316	P	P	04 24 15.6	+1.3
	baz=43						
LRMC				S	S	04 35 09.2	+4.7
	baz=43						
BC3	Big Chuckawall	89.49	313	P	P	04 24 15.8	+1.3
	baz=45,SNR=11						
BC3				S	S	04 35 08.0	+3.2
	baz=45						
RRX	Edison Barstow	89.51	315	P	P	04 24 16.8	+2.4
	baz=44						
RRX				S	S	04 35 10.4	+5.7
	baz=44						
GLA	Glamis	89.55	312	P	P	04 24 16.7	+2.0
	baz=45						
GLA				S	S	04 35 08.0	+2.9
	baz=45						
BELC	Belle Mtn. Jos	89.56	314	P	P	04 24 16.5	+1.6
	baz=44,SNR=8.5						
BELC				S	S	04 35 08.3	+2.8
	baz=44						
SKR	Severo-Kuril's	89.59	17	*e*P	P	04 24 14.4	0.0
SKR				*e*PS	PS	04 36 15.9	+4.9
SKR				pmax	pmax		
	comp=Z,200nm,8.8s						
SKR				pmax	pmax		
	comp=Z,20nm,0.8s						
SKR				MLR	MLR		
	comp=Z,400nm,17.0s						
SKR				MLR	MLR		
	comp=Z,400nm,17.0s						
TA01	Diego Aracena	89.66	244	IAMs_20	IAMs_20	05 04 18.2	
	comp=Z,1µm,20.0s						
HOPS	Hopland Field	89.72	321	IAMs_20	IAMs_20	05 05 52.8	
	comp=Z,1µm,18.0s						
ISA	Isabella, Lake	89.77	316	P	P	04 24 17.2	+1.5
	baz=43,SNR=15						
ISA				S	S	04 35 10.4	+3.2
	baz=43						
ISA	Isabella, Lake	89.77	316	IAmb	IAmb	04 24 22.2	
	comp=Z,29nm,1.1s						
ISA				IAMs_20	IAMs_20	05 03 40.3	
	comp=Z,812nm,18.0s						
PB09	IPOC Station P	89.77	242	P	P	04 24 16.3	+0.4
PB09				IAmb	IAmb	04 26 34.0	
	comp=Z,85nm,1.9s						
VOG	Valley Oaks Go	89.79	317	P	P	04 24 17.1	+1.5
	baz=42						
BBRC	Big Bear Solar	89.91	314	P	P	04 24 18.0	+1.4
	baz=44						
VES	Vestal, Richgr	89.98	317	P	P	04 24 17.1	+0.5
	baz=43						
LVC	Limon Verde	90.06	242	P	P	04 24 17.7	+0.3
LVC				pmax	pmax		
	comp=Z,12nm,0.9s						
LVC	Limon Verde	90.06	242	*e*P	P	04 24 17.8	+0.3
LVC	Limon Verde	90.06	242	P	P	04 24 17.7	+0.3
EDW2	Edwards Air Fo	90.07	315	P	P	04 24 16.6	-0.5
	baz=43						
EDW2				S	S	04 35 13.4	+3.4
	baz=43						
KSRS	Korea Array	90.08	41	P	P	04 24 17.6	+0.6
	comp=Z,6.1nm,1.0s,baz=330,slow=3.9,SNR=7.4						
KSRS				PP	PP	04 27 50.4	+0.8
	comp=Z,3.6nm,1.1s,baz=322,slow=6.1,SNR=5.4						
KSRS				LR	LR	05 08 20.1	
	comp=Z,763nm,18.2s,baz=323,slow=38						
XPFO	Pion Flat	90.11	314	IAmb	IAmb	04 24 24.6	
	comp=Z,40nm,1.2s						
XPFO	Pion Flat	90.11	314	IAMs_20	IAMs_20	05 04 51.2	
	comp=Z,692nm,19.0s						
PFO	Pinyon Flats O	90.11	314	P	P	04 24 16.5	-0.9
	baz=44						
PFO				S	S	04 35 13.4	+2.9
	baz=44						
PFO	Pinyon Flats O	90.11	314	*ce*P	P	04 24 20.0	+2.6
PFO				pmax	pmax		
	comp=Z,20nm,1.0s						
PFO	Pinyon Flats O	90.11	314	IAmb	IAmb	04 24 24.6	
	comp=Z,40nm,1.2s						
PFO	Pinyon Flats O	90.11	314	IAMs_20	IAMs_20	05 04 50.4	
	comp=Z,688nm,19.0s						
TPFO	Pinon Flats	90.11	314	P	P	04 24 17.1	-0.3
	baz=44						
TPFO				S	S	04 35 13.6	+3.1
	baz=44						
SWSC	Sam W. Stewart	90.20	313	P	P	04 24 18.2	+0.5
	baz=44						
MCCM	Marconi Confer	90.27	320	IAMs_20	IAMs_20	05 02 22.4	
	comp=Z,871nm,19.0s						
BFSC	Mount Baldy Ra	90.35	315	P	P	04 24 20.7	+2.2
	baz=43						
BFSC				S	S	04 35 16.4	+3.6
	baz=43						
ARVC	Arvin	90.36	316	P	P	04 24 19.5	+1.1
	baz=43						
ARVC				S	S	04 35 17.1	+4.6
	baz=43						
MURC	Murrieta	90.54	314	P	P	04 24 20.4	+1.1
	baz=44						
IKP	In-Ko-Pah, Jac	90.59	313	P	P	04 24 19.7	+0.1
	baz=44						
MONP2	Monument Peak	90.60	313	P	P	04 24 20.0	+0.2
	baz=44						
PMPB	Monarch Peak	90.63	318	IAmb	IAmb	04 24 26.5	
	comp=Z,40nm,1.1s						
OSI	Osito Audit: C	90.67	316	P	P	04 24 19.4	-0.5
	baz=43						
PAGB	Antelope Grade	90.70	317	IAMs_20	IAMs_20	05 02 28.6	
	comp=Z,724nm,20.0s						
SMMC	Simmler	90.87	317	P	P	04 24 20.3	-0.5
	baz=42						
BAR	Barrett	90.90	313	IAMs_20	IAMs_20	05 03 20.2	
	comp=Z,1µm,20.0s						
ESJX	Sierra Juarez	90.95	312	IAMs_20	IAMs_20	05 03 46.7	
	comp=Z,757nm,20.0s						
109C	Camp Elliot, M	91.00	313	P	P	04 24 23.5	+2.1
	baz=44						
109C	Camp Elliot, M	91.00	313	IAMs_20	IAMs_20	05 05 47.9	
	comp=Z,1µm,18.0s						
PKM	Mcpherson Peak	91.08	316	P	P	04 24 23.5	+1.5
	baz=42						
QIZ	Qiongzhong	91.34	65	P	P	04 24 21.8	-1.4
QIZ				PP	PP	04 27 59.2	-1.1
QIZ				S	S	04 35 22.1	+0.1
QIZ				LR	LR		
	comp=Z,350nm,11.0s						
QIZ				LR	LR		
	comp=Z,530nm,16.9s						
QIZ				LR	LR		
	comp=Z,320nm,15.5s						
SPX	San Pedro Mart	91.35	311	IAMs_20	IAMs_20	05 03 25.2	
	comp=Z,958nm,20.0s						
KCSI	Kotacane, Aceh	91.56	84	P	P	04 24 24.7	+0.4
	comp=Z,20nm,0.9s						
SRIG	Santa Rosalia	91.93	307	IAMs_20	IAMs_20	05 04 45.0	
	comp=Z,1µm,19.0s						
YUK	Yuzh-Kuril'sk	92.62	26	*e*P	P	04 24 13.3	-15
YUK				*e*		04 28 10.5	
YUK				*e*PPP	PPP	04 30 08.5	
YUK				*e*		04 35 30.4	
YUK				*e*SS	SS	04 41 45.0	+2.0
YUK				*e*SSS	SSS	04 45 25.6	
YUK				pmax	pmax		
	comp=Z,106nm,1.0s						
YUK				pmax	pmax		
	comp=E,100nm,0.8s						
YUK				pmax	pmax		
	comp=N,64nm,1.0s						
YUK				pmax	pmax		
	comp=Z,107nm,1.6s						
YUK				MLR	MLR		
	comp=Z,323nm,15.0s						
YUK				MLR	MLR		
	comp=E,55nm,1.0s						
YUK				MLR	MLR		
	comp=N,775nm,16.0s						
GSI	Gunungsitoli	92.72	86	P	P	04 24 29.9	+0.3
GSI	Gunungsitoli	92.72	86	P	P	04 24 30.8	+1.1
KULM	Kulim	92.79	81	P	P	04 24 30.8	+0.9
SLBS	Sierra La Lagu	92.88	302	IAMs_20	IAMs_20	05 04 56.5	
	comp=Z,1µm,20.0s						
PSI	Prapat	92.91	84	P	P	04 24 31.7	+1.1
PSI				pmax	pmax		
	comp=Z,24nm,1.0s						
PSI				MLR	MLR		
	comp=Z,1µm,22.0s						
RPSI	Rantau Prapat	92.97	84	P	P	04 24 31.7	+0.9
RPSI				IAmb	IAmb	04 24 36.7	
	comp=Z,24nm,1.0s						
RPSI				IAMs_20	IAMs_20	05 06 55.0	
	comp=Z,1µm,22.0s						
ERM	Erimo	93.37	29	IAMs_20	IAMs_20	05 04 55.4	
	comp=Z,1µm,20.0s						
IPM	Ipoh	93.57	82	IAMs_20	IAMs_20	05 08 36.8	
	comp=Z,793nm,19.0s						
TRQA	Tornquist	95.82	226	*e*P	P	04 24 43.3	+0.1
TRQA				*e*pP	pP	04 24 46.5	-1.4
MJB9	Matsu-Tunnel	95.86	35	IAMs_20	IAMs_20	05 11 35.1	
	comp=Z,931nm,20.0s						
MAJO	Matsushiro	95.86	35	IAMs_20	IAMs_20	05 11 35.1	
	comp=Z,811nm,19.0s						
MAT	Matsushiro	95.86	35	P	P	04 24 43.6	-0.1
MJAR	Matsushiro Arr	95.87	35	P	P	04 24 43.9	+0.2
	comp=Z,1.1nm,0.4s,baz=312,slow=5.5,SNR=6.0						
MJAR				PP	PP	04 28 37.8	+2.9
	comp=Z,0.6nm,0.3s,baz=310,slow=9.6,SNR=5.5						
MJAR				LR	LR	05 10 47.8	
	comp=Z,392nm,20.8s,baz=310,slow=37						
GO04	Tololo Observa	96.18	237	P	P	04 24 44.3	-1.1
MYKOM	Kota Tinggi	97.44	82	IAMs_20	IAMs_20	05 13 02.0	
	comp=Z,658nm,18.0s						
PMBI	Palembang	101.00	85	IAMs_20	IAMs_20	05 10 39.9	
	comp=Z,1µm,19.0s						
PLCA	Paso Flores	102.60	228	*e*P	Pdif	04 25 14.1	+0.4
MYLDM	Lahad Datu	106.71	70	IAMs_20	IAMs_20	05 22 29.3	
	comp=Z,818nm,21.0s						
MAW	Mawson	113.38	159	PP	PP	04 30 44.9	-0.6
	comp=Z,3.0nm,1.0s,baz=288,slow=9.6,SNR=4.3						
FITZ	Fitzroy Crossi	126.40	86	PKP	PKiKP	04 30 20.9	+0.2
	comp=Z,6.9nm,1.0s,baz=278,slow=3.9,SNR=11						
QSPA	South Pole Qui	126.76	180	PKP	PKPdf	04 30 19.5	-0.1
	comp=Z,8.4nm,0.6s,baz=282,slow=1.0,SNR=45						
QSPA	South Pole Qui	126.76	180	PKPdf	PKPdf	04 30 19.7	+0.1
CASY	Casey	130.03	150		PKiKP	04 30 26.4	-0.2
FORT	Forrest	134.32	99	PKPdf	PKPdf	04 30 33.2	-1.8
WRA	Warramunga Arr	134.33	82	PKhKP	PKPpre	04 30 26.3	
	comp=Z,0.8nm,0.8s,baz=296,slow=2.5,SNR=3.0						
WRA				PKP	PKPdf	04 30 34.0	-1.3
	comp=Z,2.8nm,0.7s,baz=318,slow=1.6,SNR=17						
WRA				PP	PP	04 33 05.3	-2.0
	comp=Z,6.8nm,1.2s,baz=311,slow=6.4,SNR=6.8						
WRA				SKPbc	SKPbc	04 34 05.1	+0.7
	comp=Z,1.0nm,0.9s,baz=296,slow=4.4,SNR=2.0						
ASAR	Alice Springs	135.88	87	PKhKP	PKPpre	04 30 27.8	
	comp=Z,0.9nm,0.6s,baz=297,slow=1.3,SNR=6.5						
ASAR				PKP	PKPdf	04 30 38.6	+0.5
	comp=Z,5.1nm,0.9s,baz=317,slow=1.5,SNR=13						
AS31	Alice Springs	135.88	87		PKiKP	04 30 39.0	-0.8
TAOE	Nuku Hiva Isla	136.65	301	*e*LR	LR	05 14 35.9	
	comp=Z,510nm,24.4s						
PMG	Port Moresby	137.45	59	PKP	PKiKP	04 30 42.3	-0.9
	comp=Z,3.5nm,0.3s,baz=290,slow=2.0,SNR=3.5						
VNDA	Vanda	138.23	173	PKP	PKiKP	04 30 43.0	0.0
	comp=Z,2.2nm,0.8s,baz=318,slow=3.5,SNR=11						
VNDA				PP	PP	04 33 27.5	-2.9
	comp=Z,2.0nm,0.8s,baz=202,slow=6.7,SNR=3.7						
VNDA	Vanda	138.23	173	PKIKP	PKiKP	04 30 43.0	0.0
CTA	Charters Tower	143.73	73	PKP	PKPdf	04 30 53.4	+0.9
	comp=Z,24nm,1.1s,baz=288,slow=10,SNR=5.5						
CTAO	Charters Tower	143.73	73	PKIKP	PKPbc	04 30 51.2	+1.2
CTAO	Charters Tower	143.73	73	PKPdf	PKPbc	04 30 51.2	+1.2
HNR	Honiara	145.49	43	PKPbc	PKPab	04 30 56.2	+0.3
	comp=Z,216nm,0.8s,baz=270,slow=6.4,SNR=3.5						
STKA	Stephens Creek	145.49	94	PKPbc	PKPbc	04 30 55.3	0.0
	comp=Z,42nm,1.0s,baz=312,slow=4.2,SNR=31						
KNTN	Kanton	145.73	351	PKPbc	PKiKP	04 31 02.4	+2.2
PPT2	Papeete2	149.27	301	*e*SS	SS	04 53 40.6	-10
	comp=Z,510nm,24.0s						
PPT2	Papeete2	149.27	301	*e*LR	LR	05 20 25.7	
	comp=Z,581nm,26.0s						
TOO	Toolangi	150.09	103	PKIKP	PKPbc	04 31 07.2	-0.5
TOO	Toolangi	150.09	103		PKPbc	04 31 07.2	-0.5
EIDS	Eidsvold	150.33	76		PKPbc	04 31 08.9	+0.3
TBI	Tubuai	152.89	292	*e*SS	SS	04 54 28.2	-2.5
	comp=Z,314nm,27.8s						
TBI	Tubuai	152.89	292	*e*LR	LR	05 22 07.4	
	comp=Z,373nm,25.2s						
DZM	Mont Dzumac	159.29	49	*e*LR	LR	05 25 06.4	
	comp=Z,456nm,23.5s						

CRAAG ***01*** *04:20:18.4, 36.°80N×3.°20E, Ml3.9*
MDD ***01*** *04:20:18.2±0.5, 36.°98N×3.°18E, h0km, mb4.0/27, Error ellipse: s-maj=6.9km s-min=4.6km az=63.0, PRXIMO*
ISC 01 04:20:17.5±1.1, **37.°01N**±0.°06×**3.°15E**±0.°04, **h12km, n36,** σ**1.s85**/48, **Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABA	Alger-Bouzarea	0.23	204	P	Pg	04 20 22.1	-0.2
ABA	Alger-Bouzarea	0.23	204	P	Pg	04 20 22.1	-0.2
ABMS	Boumerdes	0.37	134	P	Pg	04 20 24.0	-0.9
ABMS	Boumerdes	0.37	134	P	Pg	04 20 24.0	-0.9
SET	Setif	1.98	113	P	Pg	04 20 56.0	+0.4
SET	Setif	1.98	113	P	Pg	04 20 56.0	+0.4
EIBI	Ibiza	2.47	325	P	Pn	04 20 58.9	+1.3
	14nm,0.2s,SNR=13						
EIBI				S	Sn	04 21 26.8	-0.9
	73nm,0.4s,SNR=4.6						
ETOS	Mallorca	2.77	355	P	Pn	04 21 02.9	+1.2
	7.1nm,0.2s,SNR=11						
ETOS				S	Sn	04 21 32.5	-2.6
	20nm,0.3s,SNR=7.9						
AFON	Font Roja	3.36	301	P	Pn	04 21 11.5	+1.6
	3.1nm,0.2s,SNR=7.9						
AFON				S	Sn	04 21 47.5	-2.2
	6.5nm,0.3s,SNR=7.9						
EMUR	La Murta	3.59	285	S	Sn	04 21 54.3	-1.1
	7.9nm,0.4s,SNR=7.9						
ETOB	Tobarra	4.06	295	P	Pn	04 21 20.9	+1.3
	7.3nm,0.3s,SNR=6.4						
ETOB				S	Sn	04 22 06.1	-1.0
	7.6nm,0.4s,SNR=7.9						
ECHE	Chera	4.14	310	P	Pn	04 21 22.9	+2.2
	13nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	4.39	321	P	Pn	04 21 25.5	+1.4
	2.3nm,0.2s,SNR=12						
EMOS				S	Sn	04 22 14.2	-1.0
	3.6nm,0.3s,SNR=8.8						
ERTA	Horta de San J	4.51	332	P	Pn	04 21 26.6	+0.9
	2.3nm,0.3s,SNR=7.9						
ERTA				S	Sn	04 22 15.8	-2.3
	5.4nm,0.4s,SNR=7.9						
EPOB	Poblet	4.63	340	P	Pn	04 21 28.6	+1.3
	2.0nm,0.2s,SNR=7.9						
EPOB				S	Sn	04 22 18.9	-2.1
	2.1nm,0.3s,SNR=7.9						
SESP	Santiago Espad	4.66	285	P	Pn	04 21 29.9	+2.1
	2.7nm,0.2s,SNR=7.9						
SESP				S	Sn	04 22 20.4	-1.5
	8.1nm,0.3s,SNR=7.9						
CFON	Fontmartina	4.78	354	P	Pn	04 21 29.6	+0.2
	3.0nm,0.1s,SNR=7.9						
EBER	Berja	4.84	271	P	Pn	04 21 30.1	-0.2
	2.6nm,0.3s,SNR=7.9						
GORA	Gorafe	4.96	277	S	Sn	04 22 28.3	-1.0
	22nm,0.5s,SNR=7.9						

EQES	**Quesada**	**5.01**	**281**	P	**Pn**	**04 21 34.7**	**+2.0**
	1.0nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**04 22 31.0**	**+0.3**
	26nm,0.5s,SNR=7.9						
EMIR	**Miracle**	**5.06**	**346**	P	**Pn**	**04 21 36.0**	**+2.7**
	46nm,0.3s,SNR=8.4						
EMIR				S	**Sn**	**04 22 29.5**	**-2.1**
	20nm,0.4s,SNR=8.1						
SJAF	**Saint Jean de**	**5.47**	**358**	P	**Pn**	**04 21 40.5**	**+1.6**
	2.8nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**5.48**	**330**	P	**Pn**	**04 21 39.1**	**+0.1**
	12nm,0.4s,SNR=7.9						
CLLI	**Llivia**	**5.54**	**351**	P	**Pn**	**04 21 42.7**	**+2.8**
	0.8nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.56**	**315**	P	**Pn**	**04 21 43.6**	**+3.4**
	5.2nm,0.4s,SNR=7.9						
CSOR	**Sort**	**5.58**	**344**	P	**Pn**	**04 21 43.0**	**+2.5**
	2.3nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**6.19**	**298**	P	**Pn**	**04 21 49.4**	**+0.6**
	0.3nm,0.3s,baz=110,slow=13,SNR=4.0						
PAB	**San Pablo**	**6.42**	**296**	P	**Pn**	**04 21 52.6**	**+0.6**
	0.9nm,0.3s,SNR=7.9						
ATE	**Arette**	**6.75**	**335**	P	**Pn**	**04 21 59.6**	**+3.2**
	1.7nm,0.5s,SNR=7.9						
ATE				S	**Sn**	**04 23 10.2**	**-3.0**
	1.9nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**6.76**	**305**	P	**Pn**	**04 21 58.0**	**+1.3**
	0.5nm,0.3s,SNR=7.9						
EORO	**Oroz-Betelu**	**6.80**	**331**	P	**Pn**	**04 21 59.3**	**+2.1**
	1.5nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**6.89**	**281**	P	**Pn**	**04 22 00.1**	**+1.7**
	0.3nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**04 23 13.9**	**-2.9**
	1.4nm,0.8s,SNR=7.9						
EALK	**Alkurruntz**	**7.16**	**332**	P	**Pn**	**04 22 04.1**	**+2.1**
	0.6nm,0.2s,SNR=7.9						
EALK				S	Sn	04 23 17.6	-5.7
	4.2nm,0.5s,SNR=7.9						
MVO	**Moncorvo**	**8.93**	**301**	P	**Pn**	**04 22 27.9**	**+1.4**
	0.9nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**8.97**	**317**	P	**Pn**	**04 22 30.2**	**+3.3**
	0.3nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**9.09**	**306**	P	**Pn**	**04 22 30.1**	**+1.5**
	0.9nm,0.2s,SNR=7.9						

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*NIC **01** 04:21:33.6±0.0, 34.°74N×26.°79E, h32km±22km, Ml2.5/1*
*ATH **01** 04:21:38.3, 35.°21N×26.°69E, h38km±5km, ML2.2/1, Error ellipse: s-maj=10.9km s-min=2.2km az=152.0*
*THE **01** 04:21:38.3, 35.°08N×26.°81E, h16km±1km, ML2.0/4, Error ellipse: s-maj=4.8km s-min=1.1km az=160.0*
ISC 01 04:21:33.2±3.8**, 34.°89N**±0.°07×**26.°90E**±0.°04**, h9**km±28km**, n19,** σ**0.s85**/25**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.61**	**292**	P	**Pn**	**04 21 47.5**	**-0.5**
ZKR				S	**Sb**	**04 21 55.6**	**+0.9**
	398nm,0.4s						
ZKR	**Zakros**	**0.61**	**292**	P	**Pn**	**04 21 47.5**	**-0.5**
ZKR				S	**Sb**	**04 21 55.7**	**+0.9**
ZKR				AML	AML	04 21 59.1	
	comp=N,399μm,0.3s						
ZKR				AML	AML	04 21 59.2	
	comp=E,1153μm,0.5s						
KARP	**Karpathos**	**0.69**	**18**	P	**Pn**	**04 21 49.7**	**+0.5**
KARP	**Karpathos**	**0.69**	**18**	P	**Pn**	**04 21 49.7**	**+0.5**
KARP	**Karpathos**	**0.69**	**18**	P	**Pn**	**04 21 49.6**	**+0.5**
KARP				S	**Sn**	**04 22 01.3**	**+1.2**
KARP				AML	AML	04 22 01.7	
	comp=E,0.6nm,0.5s						
KARP				AML	AML	04 22 01.7	
	comp=E,0.6nm,0.5s						
KARP				AML	AML	04 22 02.5	
	comp=E,0.5nm,0.4s						
KARP				AML	AML	04 22 02.5	
	comp=E,0.5nm,0.4s						
NPS	**Neapolis**	**1.12**	**290**	P	**Pn**	**04 21 56.1**	**+1.0**
NPS				S	**Sb**	**04 22 09.9**	**+0.4**
	comp=E,95nm,0.5s						
LAST	**Lasithi**	**1.20**	**283**	P	**Pn**	**04 21 57.2**	**+0.9**
LAST				S	**Sb**	**04 22 12.4**	**+0.6**
	comp=E,70nm,0.9s						
LAST	**Lasithi**	**1.20**	**283**	P	**Pn**	**04 21 57.2**	**+0.9**
IDI	**Anoyia**	**1.70**	**284**	P	**Pb**	**04 22 04.3**	**-0.4**
IDI				S	**Sn**	**04 22 24.7**	**-0.3**
	comp=E,55nm,1.4s						
IDI	**Anoyia**	**1.70**	**284**	P	**Pb**	**04 22 04.3**	**-0.4**
ANAF	**Anafi Island**	**1.73**	**328**	P	**Pn**	**04 22 02.8**	**-0.7**
ANAF	**Anafi Island**	**1.73**	**328**	P	**Pn**	**04 22 02.8**	**-0.7**
AMGA	**Amorgos Island**	**2.10**	**337**	P	**Pn**	**04 22 07.7**	**-1.0**
AMGA	**Amorgos Island**	**2.10**	**337**	P	**Pn**	**04 22 07.4**	**-1.2**
APE	**Apeiranthos**	**2.44**	**333**	P	**Pn**	**04 22 12.6**	**-0.8**
OSC1	**CSNet OBS 1**	**3.88**	**110**	S	**Sn**	**04 23 17.4**	**-1.3**
AKMS	**Akamas**	**4.46**	**87**	P	**Pn**	**04 22 41.9**	**+0.9**
ALFC	**Alefka**	**4.68**	**85**	P	**Pn**	**04 22 44.3**	**+0.2**
OSC2	**CSNet OBS 4**	**4.81**	**111**	S	**Sn**	**04 23 40.7**	**-0.9**

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*LDG **01** 04:26:37.6±0.3, 36.°84N×3.°22E, h10km, Ml3.7/14, Error ellipse: s-maj=7.8km s-min=3.5km az=153.0*
*IDC **01** 04:26:38.7±1.3, 36.°78N×3.°24E, h0km, mb3.7/3, mb1 3.7/8, mb1mx3.5/49, mbtmp3.7/8, ML4.0/5, MS4.0/1, Ms1 4.0/1, ms1mx3.3/39, Error ellipse: s-maj=24.8km s-min=21.1km az=143.0*
*INMG **01** 04:26:41.2±2.1, 36.°89N×3.°03E, h3km±24km, ML3.0, Error ellipse: s-maj=21.1km s-min=6.7km az=116.0*
*CRAAG **01** 04:26:41.6, 36.°81N×3.°21E, Ml4.7*
*MDD **01** 04:26:42.1±0.4, 36.°89N×3.°13E, h12km±5km, mb4.7/44, Error ellipse: s-maj=5.3km s-min=3.7km az=178.0, PRXIMO*
ISC 01 04:26:39.5±0.7**, 36.°93N**±0.°04×**3.°21E**±0.°03**, h12**km**, n175,** σ**2.s33**/214**, mb3.6**/3**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.19**	**228**	P	**Pb**	**04 26 45.3**	**+0.3**
ABA	**Alger-Bouzarea**	**0.19**	**228**	P	**Pb**	**04 26 45.3**	**+0.3**
ABMS	**Boumerdes**	**0.28**	**130**	P	**Pb**	**04 26 47.7**	**+1.2**
ABMS	**Boumerdes**	**0.28**	**130**	P	**Pb**	**04 26 47.7**	**+1.2**
ADJB	**Djebel Djouab**	**0.79**	**167**	P	**Pn**	**04 26 57.1**	**+0.5**
ADJB	**Djebel Djouab**	**0.79**	**167**	P	**Pn**	**04 26 57.1**	**+0.5**
EBNR	**Beni Rached**	**1.50**	**245**	P	**Pn**	**04 27 05.8**	**-0.4**
ECHA	**Ech Chlef**	**1.68**	**243**	P	**Pn**	**04 27 07.2**	**-1.5**
ECHF	**Ech Chlef**	**1.69**	**243**	P	**Pn**	**04 27 07.2**	**-1.7**
SET	**Setif**	**1.91**	**112**	P	**Pg**	**04 27 15.0**	**-1.1**
SET	**Setif**	**1.91**	**112**	P	**Pg**	**04 27 15.0**	**-1.1**
EANR	**'Ain N'Sour**	**1.97**	**241**	P	**Pn**	**04 27 11.8**	**-0.9**
EANR	**'Ain N'Sour**	**1.97**	**241**	P	**Pn**	**04 27 11.8**	**-0.9**
DFRA	**Djebel Bou Aff**	**2.17**	**99**	P	**Pn**	**04 27 16.8**	**+1.2**
DFRA	**Djebel Bou Aff**	**2.17**	**99**	P	**Pn**	**04 27 16.8**	**+1.2**
ETRT	**Tiaret**	**2.18**	**226**	P	**Pb**	**04 27 16.3**	**-2.7**
ETRT	**Tiaret**	**2.18**	**226**	P	**Pb**	**04 27 16.3**	**-2.7**
OKGL	**Djebel Kef Gue**	**2.25**	**247**	P	**Pg**	**04 27 25.0**	**+2.3**
OKGL	**Djebel Kef Gue**	**2.25**	**247**	P	**Pn**	**04 27 16.3**	**-0.3**
	SNR=7.9						
OJGS	**Djebel Guires**	**2.45**	**235**	P	**Pg**	**04 27 26.0**	**-0.4**
OJGS	**Djebel Guires**	**2.45**	**235**	P	**Pg**	**04 27 26.0**	**-0.4**
EIBI	**Ibiza**	**2.56**	**325**	P	**Pn**	**04 27 22.1**	**+1.3**
	87nm,0.2s,SNR=107						
EIBI				S	**Sn**	**04 27 49.7**	**-2.2**
	94nm,0.4s,SNR=5.8						
OJBR	**Djebel Berber**	**2.68**	**241**	P	**Pb**	**04 27 26.0**	**-1.4**
OJBR	**Djebel Berber**	**2.68**	**241**	P	**Pb**	**04 27 26.0**	**-1.4**
CTEI	**Djebel Teioual**	**2.71**	**108**	P	**Pb**	**04 27 26.3**	**-1.8**
CTEI	**Djebel Teioual**	**2.71**	**108**	P	**Pb**	**04 27 26.3**	**-1.8**
CASM	**Ain Smara**	**2.72**	**103**	P	**Pb**	**04 27 26.1**	**-2.0**
CASM	**Ain Smara**	**2.72**	**103**	P	**Pb**	**04 27 26.1**	**-2.0**
ETOS	**Mallorca**	**2.85**	**354**	P	**Pn**	**04 27 26.4**	**+1.5**
	35nm,0.1s,SNR=88						
ETOS				S	**Sn**	**04 27 56.1**	**-3.0**
	49nm,0.6s						
CKFL	**Kef-Lekhel**	**2.87**	**100**	P	**Pb**	**04 27 28.0**	**-2.7**
CKFL	**Kef-Lekhel**	**2.87**	**100**	P	**Pb**	**04 27 28.0**	**-2.7**
MAHO	**Mahon**	**3.07**	**15**	P	**Pn**	**04 27 27.9**	**+0.1**
MAHO				S	**Sn**	**04 28 01.0**	**-3.5**
MAHO	**Mahon**	**3.07**	**15**	*e*P	**Pn**	**04 27 27.9**	**+0.1**
MAHO				*e*S	**Sn**	**04 28 01.0**	**-3.5**
ODJA	**Bouhanifia**	**3.16**	**241**	P	Pg	04 27 45.0	+5.0
ODJA	**Bouhanifia**	**3.16**	**241**	P	Pg	04 27 45.0	+5.0
ETRV	**Los Montesinos**	**3.34**	**290**	P	**Pn**	**04 27 32.1**	**+0.5**
	90nm,0.2s,SNR=7.9						
ETRV				S	**Sn**	**04 28 09.6**	**-1.6**
	151nm,0.4s,SNR=7.9						
CMAH	**Djebel Manchou**	**3.39**	**94**	P	**Pn**	**04 27 33.0**	**+0.7**
CMAH	**Djebel Manchou**	**3.39**	**94**	P	**Pn**	**04 27 33.0**	**+0.7**
CART	**Cartagena**	**3.42**	**282**	P	**Pn**	**04 27 32.1**	**-0.6**
CART				S	**Sn**	**04 28 08.4**	**-4.8**
CART	**Cartagena**	**3.42**	**282**	*e*P	**Pn**	**04 27 32.1**	**-0.6**
CART				*e*S	**Sn**	**04 28 08.4**	**-4.8**
AFON	**Font Roja**	**3.44**	**301**	P	**Pn**	**04 27 33.8**	**+0.8**
	30nm,0.3s,SNR=23						
AFON				S	**Sn**	**04 28 13.9**	**+0.1**
	20nm,0.6s						
OTSS	**Djebel Tessala**	**3.64**	**244**	P	Pn	04 27 19.0	-17
OTSS	**Djebel Tessala**	**3.64**	**244**	P	Pn	04 27 19.0	-17
EMUR	**La Murta**	**3.66**	**286**	P	**Pn**	**04 27 36.4**	**+0.4**
	27nm,0.3s,SNR=24						
EMUR				S	**Sn**	**04 28 18.1**	**-1.0**
	11nm,0.4s						
TLOR	**Lorca, Murcia**	**3.98**	**282**	P	**Pn**	**04 27 39.5**	**-0.7**
	136nm,0.3s,SNR=7.9						
TLOR				S	**Sn**	**04 28 25.4**	**-1.5**
	SNR=7.9						
ETOB	**Tobarra**	**4.14**	**296**	P	**Pn**	**04 27 44.2**	**+1.6**
	57nm,0.2s,SNR=171						
ETOB				S	**Sn**	**04 28 29.4**	**-1.6**
	12nm,0.6s						
ECHE	**Chera**	**4.23**	**310**	P	**Pn**	**04 27 45.7**	**+2.0**
	62nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**4.34**	**272**	P	**Pn**	**04 27 44.5**	**-0.8**
	15nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**04 28 33.2**	**-2.6**
	3.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.48**	**321**	P	**Pn**	**04 27 49.0**	**+1.6**
	8.2nm,0.2s,SNR=63						
EMOS				S	**Sn**	**04 28 37.7**	**-1.8**
	79nm,1.3s						
ERTA	**Horta de San J**	**4.60**	**332**	P	**Pn**	**04 27 50.4**	**+1.5**
	2.6nm,0.1s,SNR=6.6						
ERTA				S	**Sn**	**04 28 39.2**	**-3.1**
	55nm,0.4s,SNR=11						
EPOB	**Poblet**	**4.72**	**340**	P	**Pn**	**04 27 51.6**	**+1.1**
	5.6nm,0.1s,SNR=15						
EPOB				S	**Sn**	**04 28 41.5**	**-3.7**
	12nm,0.2s						
SESP	**Santiago Espad**	**4.73**	**286**	P	**Pn**	**04 27 52.6**	**+1.9**
	31nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**04 28 44.2**	**-1.5**
	12nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**4.86**	**353**	P	**Pn**	**04 27 54.1**	**+1.5**
	21nm,0.1s,SNR=46						
CFON				S	**Sn**	**04 28 46.4**	**-2.4**
	5.7nm,0.3s						
EBER	**Berja**	**4.89**	**271**	P	**Pn**	**04 27 52.5**	**-0.5**
	11nm,0.2s,SNR=47						
EBER				S	**Sn**	**04 28 47.7**	**-1.9**
	82nm,1.5s						
GORA	**Gorafe**	**5.02**	**278**	P	**Pn**	**04 27 56.8**	**+2.0**
	33nm,0.4s,SNR=7.9						
GORA				S	**Sn**	**04 28 51.2**	**-1.6**
	45nm,0.4s,SNR=7.9						
EQES	**Quesada**	**5.08**	**282**	P	**Pn**	**04 27 56.7**	**+1.1**
	58nm,0.2s,SNR=317						
EQES				S	**Sn**	**04 28 55.2**	**+1.0**
	10nm,0.5s						
KEST	**Kesra**	**5.09**	**102**	Pn	**Pn**	**04 27 57.1**	**+1.4**
	7.4nm,0.3s,baz=67,slow=15,SNR=42						
KEST				Sn	**Sn**	**04 28 55.1**	**+0.6**
	4.0nm,0.3s,baz=178,slow=18,SNR=5.9						
EMIR	**Miracle**	**5.14**	**346**	P	**Pn**	**04 27 58.6**	**+2.2**
	98nm,0.2s,SNR=19						
EMIR				S	**Sn**	**04 28 53.5**	**-2.2**
	12nm,0.5s						
EQUE	**Quentar**	**5.33**	**275**	P	**Pn**	**04 28 00.2**	**+1.3**
	9.0nm,0.3s,SNR=14						
ELGU	**Los Guajares,**	**5.48**	**271**	P	**Pn**	**04 28 00.5**	**-0.6**
	12nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**04 29 01.6**	**-2.5**
	4.6nm,0.3s,SNR=7.9						
SJAF	**Saint Jean de**	**5.55**	**357**	P	**Pn**	**04 28 04.6**	**+2.7**
	30nm,0.3s,SNR=7.9						
SJAF				S	**Sn**	**04 29 03.4**	**-2.3**
	6.3nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**5.57**	**330**	P	**Pn**	**04 28 05.1**	**+2.9**
	36nm,0.3s,SNR=7.7						
ESAC				S	**Sn**	**04 29 04.4**	**-1.8**
	42nm,0.7s						
CLLI	**Llivia**	**5.62**	**351**	P	**Pn**	**04 28 05.9**	**+2.9**
	13nm,0.4s,SNR=7.9						
CLLI				S	**Sn**	**04 29 03.9**	**-3.7**
	1.8nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.65**	**315**	P	**Pn**	**04 28 06.7**	**+3.3**
	39nm,0.3s,SNR=14						
ETOR				S	**Sn**	**04 29 10.5**	**+2.2**
	22nm,0.8s,SNR=7.9						
CSOR	**Sort**	**5.67**	**344**	P	**Pn**	**04 28 06.1**	**+2.5**
	23nm,0.3s,SNR=7.9						
CSOR				S	**Sn**	**04 29 06.2**	**-2.5**
	14nm,0.5s,SNR=7.9						
EGOR	**Sierra Gorda,**	**5.86**	**274**	P	**Pn**	**04 28 08.3**	**+1.9**
	5.9nm,0.3s,SNR=7.9						
EGOR				S	**Sn**	**04 29 16.1**	**+2.6**
	1.2nm,0.2s,SNR=7.9						
UCM	**Universidad Co**	**6.08**	**306**	P	**Pn**	**04 28 11.3**	**+2.1**
UCM	**Universidad Co**	**6.08**	**306**	*e*P	**Pn**	**04 28 11.3**	**+2.1**
ECHI	**Chisagues Biel**	**6.18**	**339**	P	**Pn**	**04 28 12.5**	**+1.8**
	1.7nm,0.1s,SNR=7.9						
ECHI				S	**Sn**	**04 29 18.0**	**-3.3**
	4.0nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**6.27**	**298**	Pn	**Pn**	**04 28 13.1**	**+1.2**
	1.3nm,0.3s,baz=109,slow=14,SNR=29						
ESDC	**Sonseca Array**	**6.27**	**298**	P	**Pn**	**04 28 12.7**	**+0.8**
	2.8nm,0.3s,baz=110,slow=13,SNR=31						
EADA	**Adamuz**	**6.31**	**284**	P	**Pn**	**04 28 12.6**	**+0.2**
	3.4nm,0.2s,SNR=24						
EADA				S	**Sn**	**04 29 24.1**	**-0.4**
	9.2nm,0.5s,SNR=7.9						
EMIJ	**Mijas**	**6.42**	**269**	P	**Pn**	**04 28 12.8**	**-1.1**
	5.3nm,0.2s,SNR=17						
EMIJ				S	**Sn**	**04 29 23.3**	**-3.9**
	24nm,1.1s,SNR=7.9						
MTLF	**Montolieu**	**6.45**	**354**	*e*P	**Pn**	**04 28 17.1**	**+2.9**
	15nm,0.5s						
MTLF				*e*Sn	Sn	04 29 22.4	-5.3
	2.1nm,0.2s						
MTLF	**Montolieu**	**6.45**	**354**	P	**Pn**	**04 28 17.1**	**+2.9**
	7.7nm,0.5s						
MTLF				S	Sn	04 29 22.4	-5.3
	1.1nm,0.2s						
EPF	**Esparros**	**6.48**	**341**	*e*P	**Pn**	**04 28 17.7**	**+3.0**
	10.0nm,0.3s						
EPF				*e*Sn	Sn	04 29 23.1	-5.5
	12nm,0.3s						
EPF	**Esparros**	**6.48**	**341**	P	**Pn**	**04 28 17.7**	**+3.0**
	0.0nm,0.3s						
EPF				S	Sn	04 29 23.1	-5.5
	6.1nm,0.3s						
PAB	**San Pablo**	**6.50**	**296**	P	**Pn**	**04 28 15.8**	**+0.7**
	7.6nm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**6.63**	**335**	*e*P	**Pn**	**04 28 19.1**	**+2.4**
	2.0nm,0.2s						
ETSF				*e*Sn	Sn	04 29 26.9	-5.3
	5.6nm,0.2s						
ETSF	**Etsaut**	**6.63**	**335**	P	**Pn**	**04 28 19.1**	**+2.4**
	1.0nm,0.2s						
ETSF				S	Sn	04 29 26.9	-5.3
	2.8nm,0.2s						
ATE	**Arette**	**6.84**	**335**	P	**Pn**	**04 28 22.3**	**+2.7**
	4.7nm,0.3s,SNR=7.9						
ATE				S	**Sn**	**04 29 34.2**	**-3.2**
	5.3nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**6.84**	**305**	P	**Pn**	**04 28 21.1**	**+1.3**
	4.1nm,0.2s,SNR=24						
LMR	**La Mourre**	**6.87**	**21**	*e*P	**Pn**	**04 28 21.3**	**+1.2**
	10nm,0.3s						
LMR				*e*Sn	Sn	04 29 32.2	-6.0
	8.2nm,0.2s						
LMR				*e*T	T	04 35 09.0	
LMR	**La Mourre**	**6.87**	**21**	P	**Pn**	**04 28 21.3**	**+1.2**
	5.1nm,0.3s						
LMR				S	Sn	04 29 32.2	-6.0
	4.1nm,0.2s						
EORO	**Oroz-Betelu**	**6.89**	**331**	P	**Pn**	**04 28 22.4**	**+2.0**
	4.5nm,0.3s,SNR=12						
EORO				S	**Sn**	**04 29 35.2**	**-3.6**
	9.8nm,0.4s,SNR=6.9						
ECAB	**El Cabril**	**6.96**	**282**	P	**Pn**	**04 28 21.2**	**0.0**
	7.6nm,0.3s,SNR=70						
ECAB				S	**Sn**	**04 29 38.4**	**-1.9**
	4.2nm,0.5s,SNR=7.9						
SJPF	**Ste Jean**	**7.05**	**333**	*e*P	**Pn**	**04 28 24.9**	**+2.4**
	6.7nm,0.3s						
SJPF				*e*Sn	Sn	04 29 37.0	-5.6
	13nm,0.3s						
SJPF	**Ste Jean**	**7.05**	**333**	P	**Pn**	**04 28 24.9**	**+2.4**
	3.3nm,0.3s						
SJPF				S	Sn	04 29 37.0	-5.6
	6.6nm,0.3s						
FRF	**La Foret Royal**	**7.12**	**21**	*e*P	**Pn**	**04 28 24.9**	**+1.4**
	24nm,0.3s						
FRF				*e*Sn	Sn	04 29 38.0	-6.3
	6.9nm,0.2s						
FRF	**La Foret Royal**	**7.12**	**21**	P	**Pn**	**04 28 24.9**	**+1.4**
	12nm,0.3s						
FRF				S	Sn	04 29 38.0	-6.3
	3.5nm,0.2s						
LASF	**Ste Croix**	**7.15**	**4**	*e*P	**Pn**	**04 28 26.1**	**+2.2**
	28nm,0.3s						
LASF				*e*Sn	Sn	04 29 39.2	-5.9
	7.3nm,0.2s						
LASF	**Ste Croix**	**7.15**	**4**	P	**Pn**	**04 28 26.1**	**+2.2**
	14nm,0.3s						
LASF				S	Sn	04 29 39.2	-5.9
	3.7nm,0.2s						
PGF	**Pioggiola**	**7.16**	**37**	*e*P	**Pn**	**04 28 25.7**	**+1.6**
	6.9nm,0.2s						
PGF				*e*Sn	Sn	04 29 38.9	-6.6
	7.8nm,0.2s						
PGF				*e*T	T	04 35 26.3	
PGF	**Pioggiola**	**7.16**	**37**	P	**Pn**	**04 28 25.7**	**+1.6**
	3.5nm,0.2s						
PGF				S	Sn	04 29 38.9	-6.6
	3.9nm,0.2s						
EALK	**Alkurruntz**	**7.25**	**332**	P	**Pn**	**04 28 27.9**	**+2.6**
	0.7nm,0.3s,SNR=7.9						
EALK				S	**Sn**	**04 29 43.5**	**-4.1**
	11nm,0.3s,SNR=7.9						
SMRF	**Simiane la Rot**	**7.26**	**14**	*e*P	**Pn**	**04 28 28.3**	**+2.9**
	13nm,0.3s						
SMRF				*e*Sn	Sn	04 29 41.5	-6.3
	2.4nm,0.2s						
SMRF	**Simiane la Rot**	**7.26**	**14**	P	**Pn**	**04 28 28.3**	**+2.9**
	13nm,0.3s						
SMRF				S	Sn	04 29 41.5	-6.3
	2.4nm,0.2s						
MDT	**Midelt**	**7.63**	**240**	Pn	**Pn**	**04 28 30.8**	**+0.3**
	1.2nm,0.3s,baz=64,slow=9.1,SNR=38						
SBF	**Sospel**	**7.63**	**24**	*e*P	**Pn**	**04 28 31.7**	**+1.1**
	14nm,0.4s						
SBF				*e*Sn	Sn	04 29 50.5	-6.5
	12nm,0.2s						
SBF				*e*T	T	04 36 18.3	
SBF	**Sospel**	**7.63**	**24**	P	**Pn**	**04 28 31.7**	**+1.1**
	7.2nm,0.4s						
SBF				S	Sn	04 29 50.5	-6.5
	5.9nm,0.2s						
EMIN	**Mina Concepcio**	**7.92**	**279**	P	**Pn**	**04 28 34.2**	**-0.2**
	1.7nm,0.2s,SNR=19						
EMIN				S	**Sn**	**04 29 59.2**	**-4.8**
	1.3nm,0.4s,SNR=7.7						
EPLA	**Plasencia**	**7.93**	**296**	P	**Pn**	**04 28 35.3**	**+0.7**
	1.9nm,0.3s,SNR=7.9						
VIVF	**Saint-Julien-l**	**7.99**	**7**	*e*P	**Pn**	**04 28 37.9**	**+2.4**
	21nm,0.3s						
VIVF				*e*Sn	Sn	04 29 58.9	-6.9
	11nm,0.3s						
VIVF	**Saint-Julien-l**	**7.99**	**7**	P	**Pn**	**04 28 37.9**	**+2.4**
	11nm,0.3s						
VIVF				S	Sn	04 29 58.9	-6.9
	5.6nm,0.3s						
CAF	**Calviac**	**8.03**	**354**	*e*P	**Pn**	**04 28 39.5**	**+3.5**
	5.4nm,0.2s						
CAF				*e*Sn	Sn	04 30 00.2	-6.6
	1.5nm,0.3s						
CAF	**Calviac**	**8.03**	**354**	P	**Pn**	**04 28 39.5**	**+3.5**
	2.7nm,0.2s						
CAF				S	Sn	04 30 00.2	-6.6
	0.8nm,0.3s						
ELAN	**Lanestosa**	**8.09**	**323**	P	**Pn**	**04 28 39.3**	**+2.4**
	2.5nm,0.2s,SNR=14						
ELAN				S	**Sn**	**04 30 06.1**	**-2.1**
	12nm,0.9s,SNR=7.9						
LFF	**La Frestale**	**8.21**	**348**	*e*P	**Pn**	**04 28 40.2**	**+1.7**
LFF	**La Frestale**	**8.21**	**348**	P	**Pn**	**04 28 40.2**	**+1.7**
ORIF	**Oris-en-Rattie**	**8.23**	**13**	*e*P	**Pn**	**04 28 42.7**	**+3.9**
	7.6nm,0.3s						
ORIF				*e*Sn	Sn	04 30 04.6	-7.1
	3.1nm,0.4s						
ORIF	**Oris-en-Rattie**	**8.23**	**13**	P	**Pn**	**04 28 42.7**	**+3.9**
	3.8nm,0.3s						
ORIF				S	Sn	04 30 04.6	-7.1
	1.6nm,0.4s						
MBDF	**Montbardon**	**8.24**	**18**	*e*P	**Pn**	**04 28 41.8**	**+2.8**
	7.5nm,0.4s						
MBDF				*e*Sn	Sn	04 30 04.9	-7.1
	1.3nm,0.2s						
MBDF	**Montbardon**	**8.24**	**18**	P	**Pn**	**04 28 41.8**	**+2.8**
	3.8nm,0.4s						
MBDF				S	Sn	04 30 04.9	-7.1
	0.6nm,0.2s						
EBAD	**Badajoz**	**8.29**	**286**	P	**Pn**	**04 28 39.3**	**-0.3**
	1.1nm,0.3s,SNR=9.1						
EBAD				S	**Sn**	**04 30 12.1**	**-1.1**
	1.5nm,0.3s,SNR=7.9						
RJF	**Les Rejaudoux**	**8.46**	**352**	*e*P	**Pn**	**04 28 44.6**	**+2.7**
	2.0nm,0.2s						
RJF	**Les Rejaudoux**	**8.46**	**352**	P	**Pn**	**04 28 44.6**	**+2.7**
	1.0nm,0.2s						
EGRO	**El Granado**	**8.55**	**277**	P	**Pn**	**04 28 43.1**	**-0.1**
	3.8nm,0.3s,SNR=8.5						
EGRO				S	**Sn**	**04 30 14.1**	**-5.5**
	4.8nm,0.7s,SNR=7.9						
PVAQ	**Vaqueiros**	**8.74**	**276**	P	**Pn**	**04 28 45.2**	**-0.5**
PVAQ				S	**Sn**	**04 30 18.2**	**-5.9**
	12nm,0.6s						
PVAQ	**Vaqueiros**	**8.74**	**276**	*e*Pn	**Pn**	**04 28 45.2**	**-0.5**
PVAQ				*e*Sn	**Sn**	**04 30 18.2**	**-5.9**
PVAQ				A	A	04 30 23.4	
	12nm,0.6s						
LPG	**La Plagne**	**8.96**	**16**	*e*P	**Pn**	**04 28 52.7**	**+3.7**
	11nm,0.2s						
LPG	**La Plagne**	**8.96**	**16**	P	**Pn**	**04 28 52.7**	**+3.7**
	5.7nm,0.2s						
LPL	**La Plagne**	**8.98**	**16**	*e*P	**Pn**	**04 28 52.8**	**+3.7**
	12nm,0.3s						
LPL	**La Plagne**	**8.98**	**16**	P	**Pn**	**04 28 52.8**	**+3.7**
	5.9nm,0.3s						
MVO	**Moncorvo**	**9.02**	**301**	P	**Pn**	**04 28 50.7**	**+1.2**
	5.5nm,0.3s,SNR=25						
MVO				S	**Sn**	**04 30 26.8**	**-4.2**
	4.3nm,0.4s,SNR=5.5						
MVO	**Moncorvo**	**9.02**	**301**	*e*Pn	**Pn**	**04 28 50.9**	**+1.3**
MVO				A	A	04 30 26.9	
	3.7nm,0.8s						
MVO				*e*Sn	**Sn**	**04 30 27.4**	**-3.6**
EARI	**Arriondas**	**9.06**	**317**	P	**Pn**	**04 28 53.0**	**+3.0**
	17nm,0.5s,SNR=49						
EARI				S	**Sn**	**04 30 27.4**	**-4.5**
	2.1nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**9.18**	**306**	P	**Pn**	**04 28 53.2**	**+1.4**
	10nm,0.2s,SNR=34						
ECAL				S	**Sn**	**04 30 30.3**	**-4.7**
	6.2nm,0.6s,SNR=7.9						
TCF	**Toulx Ste Croi**	**9.38**	**356**	*e*P	**Pn**	**04 28 57.1**	**+2.7**
	7.3nm,0.4s						
TCF	**Toulx Ste Croi**	**9.38**	**356**	P	**Pn**	**04 28 57.1**	**+2.7**
	3.7nm,0.4s						
PNCL	**Nicolau / Gran**	**9.40**	**281**	P	**Pn**	**04 28 54.1**	**-0.7**
PNCL	**Nicolau / Gran**	**9.40**	**281**	*e*Pn	**Pn**	**04 28 54.1**	**-0.7**
PNCL				A	A	04 30 28.7	
	2.9nm,0.8s						
BGF	**Bois d'Agland**	**9.62**	**358**	*e*P	**Pn**	**04 29 00.2**	**+2.4**
BGF	**Bois d'Agland**	**9.62**	**358**	P	**Pn**	**04 29 00.2**	**+2.4**
SMF	**Signal de Mont**	**9.72**	**3**	*e*P	**Pn**	**04 29 01.2**	**+2.1**
	13nm,0.3s						
SMF	**Signal de Mont**	**9.72**	**3**	P	**Pn**	**04 29 01.2**	**+2.1**
	6.7nm,0.3s						
AVF	**Avril sur Loir**	**9.85**	**1**	*e*P	**Pn**	**04 29 03.7**	**+2.8**
	5.9nm,0.3s						
AVF	**Avril sur Loir**	**9.85**	**1**	P	**Pn**	**04 29 03.7**	**+2.8**
	3.0nm,0.3s						
CABF	**La Chapelle**	**9.91**	**12**	*e*P	**Pn**	**04 29 04.9**	**+3.2**
	16nm,0.4s						
CABF	**La Chapelle**	**9.91**	**12**	P	**Pn**	**04 29 04.9**	**+3.2**
	7.8nm,0.4s						
MFF	**Saint Martin d**	**9.98**	**347**	*e*P	**Pn**	**04 29 04.5**	**+1.8**
	5.4nm,0.3s						
MFF	**Saint Martin d**	**9.98**	**347**	P	**Pn**	**04 29 04.5**	**+1.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.7nm,0.3s						
ELOB	Lobios	10.02	303	P	Pn	04 29 05.1	+1.8
	3.3nm,0.3s,SNR=9.9						
SSF	Saint Saulge	10.12	1	eP	Pn	04 29 07.2	+2.6
SSF	Saint Saulge	10.12	1	P	Pn	04 29 07.2	+2.6
EPON	Pontenova	10.18	312	P	Pn	04 29 07.3	+1.8
	2.8nm,0.2s,SNR=15						
EPON				S	Sn	04 30 52.7	-6.8
	1.7nm,0.4s,SNR=7.9						
LOR	Lormes	10.34	2	eP	Pn	04 29 16.8	+9.2
LOR	Lormes	10.34	2	P	Pn	04 29 16.8	+9.2
HINF	Hinteralfeld	11.20	13	eP	Pn	04 29 21.1	+1.7
	8.3nm,0.4s						
HINF	Hinteralfeld	11.20	13	P	Pn	04 29 21.1	+1.7
	4.2nm,0.4s						
HAU	Haudompre	11.30	11	eP	Pn	04 29 23.0	+2.2
	12nm,0.3s						
HAU	Haudompre	11.30	11	P	Pn	04 29 23.0	+2.2
	5.9nm,0.3s						
SFTF	Sexfontaines	11.35	6	eP	Pn	04 29 24.5	+3.2
	15nm,0.3s						
SFTF	Sexfontaines	11.35	6	P	Pn	04 29 24.5	+3.2
	15nm,0.3s						
PAGF	Fort de Pagny	11.76	8	eP	Pn	04 29 28.6	+1.6
GRR	Gorron	11.83	347	eP	Pn	04 29 29.3	+1.3
GRR	Gorron	11.83	347	P	Pn	04 29 29.3	+1.3
CDF	Champ du Feu	11.85	13	eP	Pn	04 29 29.9	+1.5
	7.4nm,0.3s						
CDF	Champ du Feu	11.85	13	P	Pn	04 29 29.9	+1.5
	3.7nm,0.3s						
LDF	La Druitiere	11.91	349	eP	Pn	04 29 29.9	+0.9
QUIF	Quistinic	11.94	339	eP	Pn	04 29 31.0	+1.6
	4.4nm,0.4s						
QUIF	Quistinic	11.94	339	P	Pn	04 29 31.0	+1.6
	2.2nm,0.4s						
SGMF	Saint Gilles	12.08	341	eP	Pn	04 29 33.0	+1.6
	2.3nm,0.2s						
SGMF	Saint Gilles	12.08	341	P	Pn	04 29 33.0	+1.6
	1.2nm,0.2s						
ROSF	Rostrenen	12.35	339	eP	Pn	04 29 36.5	+1.4
	7.5nm,0.4s						
ROSF	Rostrenen	12.35	339	P	Pn	04 29 36.5	+1.4
	3.8nm,0.4s						
BAIF	Baives	13.14	3	eP	Pn	04 29 48.7	+2.8
BAIF	Baives	13.14	3	P	Pn	04 29 48.7	+2.8
GIVF	Givet	13.22	5	eP	Pn	04 29 49.5	+2.6
GIVF	Givet	13.22	5	P	Pn	04 29 49.5	+2.6
GERES	GERESS Array B	14.15	29	Pn	Pn	04 30 03.3	+3.5
	0.2nm,0.3s,baz=230,slow=14,SNR=2.3						
VRAC	Vranov	15.73	34	LR	LR	04 37 09.2	
	comp=Z,444nm,18.1s,baz=259,slow=40						
EKA	Eskdalemuir Ar	18.91	349	P	Pn	04 31 03.6	+3.1
	baz=153,slow=13,SNR=5.2						
AKASG	Malin Array Be	23.12	45	P	P	04 31 45.6	+0.3
	0.9nm,0.4s,baz=243,slow=11,SNR=4.1						
TORD	Torodi Ar. Bea	23.72	184	P	P	04 31 51.0	-0.5
	1.2nm,0.7s,baz=354,slow=11,SNR=5.9						
MKAR	Makanchi Array	57.38	53	P	P	04 36 29.1	+1.4
	1.3nm,0.7s,baz=293,slow=5.7,SNR=8.4						

*CRAAG **01** 04:32:06.5, 36°.76N×3°.16E, Ml3.2*
*MDD **01** 04:32:17.1±2.5, 37°.26N×3°.03E, h0km, mb3.8/7, Error ellipse: s-maj=25.1km s-min=15.2km az=131.0, PRXIMO*
ISC 01 04:32:00.1±2.8**, 36°.89N**±0°.10×**3°.6E**±0°.1**, h12km, n10, σ1s.99**/15**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABA	Alger-Bouzarea	0.44	259	P	Pb	04 32 09.8	0.0
ABA	Alger-Bouzarea	0.44	259	P	Pb	04 32 09.8	0.0
EIBI	Ibiza	2.77	321	P	Pg	04 32 53.8	+0.7
	4.7nm,0.2s,SNR=7.7						
EIBI				S	Sb	04 33 21.0	-2.4
	4.0nm,0.1s						
ETOS	Mallorca	2.94	349	P	Pg	04 32 57.8	+1.4
	1.8nm,0.1s,SNR=8.8						
ETOS				S	Sb	04 33 27.1	-1.2
	2.5nm,0.2s						
ETOB	Tobarra	4.42	295	P	Pb	04 33 16.7	-1.0
	1.0nm,0.1s,SNR=5.6						
ETOB				S	Sn	04 33 59.7	+1.2
	1.4nm,0.4s						
ECHE	Chera	4.48	308	P	Pb	04 33 17.8	-0.9
	1.4nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	4.70	319	P	Pb	04 33 20.8	-1.8
	0.5nm,0.1s,SNR=7.9						
EMOS				S	Sn	04 34 08.4	+2.9
	0.6nm,0.2s,SNR=8.0						
CFON	Fontmartina	4.95	350	P	Pb	04 33 25.6	-1.1
	2.3nm,0.1s,SNR=7.9						
CFON				S	Sn	04 34 14.6	+3.1
	1.1nm,0.1s,SNR=7.9						
EALB	Alboran	5.41	262	P	Pb	04 33 31.9	-2.6
	18nm,0.1s,SNR=7.9						
SJAF	Saint Jean de	5.62	355	P	Pb	04 33 35.8	-2.3
	1.0nm,0.2s,SNR=7.9						

*LDG **01** 04:34:24.7±0.5, 37°.03N×3°.16E, h10km, Ml3.5/2, Error ellipse: s-maj=11.9km s-min=5.3km az=148.0*
*CRAAG **01** 04:34:26.4, 36°.77N×3°.20E, Ml3.6*
*MDD **01** 04:34:27.4±0.8, 36°.97N×3°.08E, h4km±13km, mb4.2/35, Error ellipse: s-maj=12.1km s-min=5.2km az=130.0, PRXIMO*
ISC 01 04:34:26.3±1.3**, 37°.01N**±0°.05×**3°.12E**±0°.04**, h15km**±11km**, n122, σ1s.92**/157**, 1C-3D, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABA	Alger-Bouzarea	0.22	198	P	Pg	04 34 30.2	-1.1
ABA	Alger-Bouzarea	0.22	198	P	Pg	04 34 30.2	-1.1
ADJB	Djebel Djouab	0.89	163	P	Pg	04 34 44.2	+0.5
ADJB	Djebel Djouab	0.89	163	P	Pg	04 34 44.2	+0.5
EBNR	Beni Rached	1.47	241	P	Pb	04 34 54.0	+0.6
ECHA	Ech Chlef	1.65	239	P	Pb	04 34 56.9	+0.4
ECHF	Ech Chlef	1.67	240	P	Pb	04 34 56.9	+0.1
EANR	'Ain N'Sour	1.94	237	P	Pb	04 35 01.6	+0.1
EANR	'Ain N'Sour	1.94	237	P	Pb	04 35 01.6	+0.1
SET	Setif	2.01	113	P	Pb	04 35 04.0	+1.4
SET	Setif	2.01	113	P	Pb	04 35 04.0	+1.4
ETRT	Tiaret	2.19	223	P	Pn	04 35 02.9	+0.6
ETRT	Tiaret	2.19	223	P	Pn	04 35 02.9	+0.6
OKGL	Djebel Kef Gue	2.22	245	P	Pn	04 35 02.1	-0.6
	0.8nm,0.2s,SNR=7.9						
OKGL				S	Sn	04 35 26.6	-3.3
	97nm,0.3s,SNR=7.9						
EIBI	Ibiza	2.45	326	⇓P	Pn	04 35 07.0	+1.2
	93nm,0.3s,SNR=18						
EIBI				S	Sn	04 35 35.6	+0.1
	30nm,0.2s						
ETOS	Mallorca	2.76	355	⇓P	Pn	04 35 11.1	+1.0
	36nm,0.3s,SNR=18						
ETOS				S	Sn	04 35 41.4	-1.8
	9.1nm,0.2s						
MAHO	Mahon	3.02	17	P	Pn	04 35 11.9	-1.6
MAHO				S	Sn	04 35 45.5	-3.9
MAHO	Mahon	3.02	17	eP	Pn	04 35 11.9	-1.6
MAHO				eS	Sn	04 35 45.5	-3.9
AFON	Font Roja	3.33	301	P	Pn	04 35 19.4	+1.3
	5.7nm,0.3s,SNR=8.9						
AFON				S	Sn	04 35 59.1	+1.6
	4.5nm,0.2s						
CART	Cartagena	3.33	281	P	Pn	04 35 17.1	-0.8
CART				S	Sn	04 35 54.4	-3.0
CART	Cartagena	3.33	281	eP	Pn	04 35 17.1	-0.8
CART				eS	Sn	04 35 54.4	-3.0
EMUR	La Murta	3.57	285	P	Pn	04 35 21.9	+0.7
	4.9nm,0.3s,SNR=6.4						
EMUR				S	Sn	04 36 01.2	-1.9
	1.4nm,0.2s						
ETOB	Tobarra	4.04	295	P	Pn	04 35 29.2	+1.5
	7.9nm,0.2s,SNR=26						
ETOB				S	Sn	04 36 14.2	-0.6
	3.2nm,0.2s						
ECHE	Chera	4.12	310	P	Pn	04 35 31.2	+2.5
	32nm,0.2s,SNR=7.9						
ENIJ	Nijar	4.26	271	P	Pn	04 35 30.3	-0.5
	2.1nm,0.2s,SNR=7.9						
ENIJ				S	Sn	04 36 17.8	-2.5
	13nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	4.37	321	⇓P	Pn	04 35 33.8	+1.5
	7.1nm,0.2s,SNR=18						
EMOS				S	Sn	04 36 22.1	-1.0
	3.7nm,0.2s						
ERTA	Horta de San J	4.50	332	P	Pn	04 35 34.7	+0.8
	0.8nm,0.1s,SNR=9.9						
ERTA				S	Sn	04 36 23.9	-2.1
	4.3nm,0.2s						
EPOB	Poblet	4.61	341	P	Pn	04 35 36.9	+1.3
	2.2nm,0.2s,SNR=9.5						
EPOB				S	Sn	04 36 27.4	-1.5
	1.1nm,0.1s						
SESP	Santiago Espad	4.63	285	P	Pn	04 35 37.8	+1.8
	5.4nm,0.2s,SNR=7.9						
SESP				S	Sn	04 36 28.6	-1.0
	10nm,0.2s,SNR=7.9						
CFON	Fontmartina	4.77	354	⇑P	Pn	04 35 38.9	+1.1
	17nm,0.2s,SNR=18						
CFON				S	Sn	04 36 30.1	-2.8
	5.8nm,0.2s						
EBER	Berja	4.81	270	P	Pn	04 35 37.8	-0.7
	0.7nm,0.1s,SNR=7.9						
EBER				S	Sn	04 36 31.3	-2.8
	5.1nm,0.4s,SNR=7.9						
GORA	Gorafe	4.94	277	P	Pn	04 35 41.9	+1.8
	2.0nm,0.2s,SNR=7.9						
GORA				S	Sn	04 36 37.7	+0.7
	18nm,0.3s,SNR=7.9						
EQES	Quesada	4.99	281	P	Pn	04 35 42.7	+1.9
	7.6nm,0.3s,SNR=28						
EQES				S	Sn	04 36 38.3	-0.1
	7.4nm,0.2s						
EMIR	Miracle	5.05	346	P	Pn	04 35 44.5	+2.9
	64nm,0.2s,SNR=24						
EMIR				S	Sn	04 36 39.1	-0.6
	3.1nm,0.1s						
ELGU	Los Guajares,	5.41	270	P	Pn	04 35 46.0	-0.6
	1.3nm,0.1s,SNR=7.9						
ELGU				S	Sn	04 36 45.1	-3.4
	4.9nm,0.4s,SNR=7.9						
SJAF	Saint Jean de	5.47	358	P	Pn	04 35 49.0	+1.7
	11nm,0.2s,SNR=7.9						
SJAF				S	Sn	04 36 48.3	-1.6
	1.2nm,0.3s,SNR=7.9						
CLLI	Llivia	5.53	351	P	Pn	04 35 50.8	+2.5
	1.7nm,0.2s,SNR=19						
CLLI				S	Sn	04 36 49.9	-1.7
	1.0nm,0.2s,SNR=6.4						
ETOR	Torete	5.54	315	P	Pn	04 35 51.5	+3.1
	13nm,0.3s,SNR=16						
ETOR				S	Sn	04 36 51.5	-0.4
	2.5nm,0.4s,SNR=7.9						
CSOR	Sort	5.57	345	P	Pn	04 35 51.1	+2.3
	5.3nm,0.3s,SNR=23						
CSOR				S	Sn	04 36 52.4	-0.2
	1.8nm,0.2s,SNR=6.0						
EGOR	Sierra Gorda,	5.78	273	P	Pn	04 35 53.2	+1.4
	1.6nm,0.3s,SNR=7.9						
EGOR				S	Sn	04 36 57.9	0.0
	1.3nm,0.3s,SNR=7.9						
ECHI	Chisagues Biel	6.08	339	P	Pn	04 35 57.3	+1.5
	1.4nm,0.2s,SNR=7.9						
ECHI				S	Sn	04 37 03.6	-1.5
	0.9nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	6.17	298	P	Pn	04 35 58.1	+1.1
	0.6nm,0.2s,baz=110,slow=13,SNR=7.7						
EADA	Adamuz	6.22	283	P	Pn	04 35 57.5	-0.1
	0.3nm,0.2s,SNR=7.9						
EADA				S	Sn	04 37 08.7	+0.2
	3.7nm,0.4s,SNR=7.9						
MTLF	Montolieu	6.36	354	eP	Pn	04 36 01.7	+2.2
	3.2nm,0.2s						
MTLF	Montolieu	6.36	354	P	Pn	04 36 01.7	+2.2
	1.6nm,0.2s						
EPF	Esparros	6.38	341	eP	Pn	04 36 02.8	+3.0
	4.7nm,0.4s						
EPF	Esparros	6.38	341	P	Pn	04 36 02.8	+3.0
	2.3nm,0.4s						
PAB	San Pablo	6.39	296	P	Pn	04 36 00.4	+0.3
	2.8nm,0.3s,SNR=7.9						
ETSF	Etsaut	6.52	335	eP	Pn	04 36 04.1	+2.3
	2.0nm,0.3s						
ETSF	Etsaut	6.52	335	P	Pn	04 36 04.1	+2.3
	1.0nm,0.3s						
ATE	Arette	6.73	335	P	Pn	04 36 07.4	+2.7
	1.1nm,0.2s,SNR=7.9						
ATE				S	Sn	04 37 19.3	-1.9
	0.3nm,0.1s,SNR=7.9						
GUD	Guadarrama	6.74	305	P	Pn	04 36 06.1	+1.3
	1.0nm,0.2s,SNR=7.9						
EORO	Oroz-Betelu	6.79	331	P	Pn	04 36 07.5	+2.1
	2.2nm,0.3s,SNR=7.3						
LMR	La Mourre	6.82	21	eP	Pn	04 36 06.3	+0.4
	4.2nm,0.2s						
LMR				eSn	Sn	04 37 18.4	-4.9
	3.9nm,0.2s						
LMR	La Mourre	6.82	21	P	Pn	04 36 06.3	+0.4
	2.1nm,0.2s						
LMR				S	Sn	04 37 18.4	-4.9
	1.9nm,0.2s						
ECAB	El Cabril	6.87	281	P	Pn	04 36 06.1	-0.4
	0.6nm,0.3s,SNR=7.9						
ECAB				S	Sn	04 37 21.7	-2.7
	2.2nm,0.7s,SNR=7.9						
SJPF	Ste Jean	6.94	333	eP	Pn	04 36 10.2	+2.7
	1.6nm,0.2s						
SJPF	Ste Jean	6.94	333	P	Pn	04 36 10.2	+2.7
	0.8nm,0.2s						
FRF	La Foret Royal	7.07	21	eP	Pn	04 36 09.3	0.0
	7.0nm,0.3s						
FRF				eSn	Sn	04 37 27.2	-2.2
	5.1nm,0.3s						
FRF	La Foret Royal	7.07	21	P	Pn	04 36 09.3	0.0
	3.5nm,0.3s						
FRF				S	Sn	04 37 27.2	-2.2
	2.6nm,0.3s						
LASF	Ste Croix	7.08	4	eP	Pn	04 36 10.5	+1.1
	11nm,0.3s						
LASF	Ste Croix	7.08	4	P	Pn	04 36 10.5	+1.1
	5.6nm,0.3s						
EALK	Alkurruntz	7.14	332	P	Pn	04 36 12.8	+2.5
	0.5nm,0.2s,SNR=7.9						
EALK				S	Sn	04 37 29.0	-2.2
	8.1nm,0.5s,SNR=7.9						
SMRF	Simiane la Rot	7.20	14	eP	Pn	04 36 11.4	+0.3
	3.1nm,0.3s						
SMRF	Simiane la Rot	7.20	14	P	Pn	04 36 11.4	+0.3
	3.1nm,0.3s						
SBF	Sospel	7.59	24	eP	Pn	04 36 16.1	-0.4
	48nm,0.3s						
SBF	Sospel	7.59	24	P	Pn	04 36 16.1	-0.4
	24nm,0.3s						
EMIN	Mina Concepcio	7.83	278	P	Pn	04 36 19.3	-0.4
	0.6nm,0.3s,SNR=7.9						
VIVF	Saint-Julien-l	7.92	8	eP	Pn	04 36 22.7	+1.7
	5.6nm,0.2s						
VIVF	Saint-Julien-l	7.92	8	P	Pn	04 36 22.7	+1.7
	2.8nm,0.2s						
CAF	Calviac	7.94	355	eP	Pn	04 36 23.9	+2.6
	3.5nm,0.3s						
CAF	Calviac	7.94	355	P	Pn	04 36 23.9	+2.6
	1.8nm,0.3s						
ELAN	Lanestosa	7.98	323	P	Pn	04 36 24.7	+2.9
	0.9nm,0.2s,SNR=11						
LFF	La Frestale	8.12	348	eP	Pn	04 36 25.8	+2.2
	5.4nm,0.4s						
LFF	La Frestale	8.12	348	P	Pn	04 36 25.8	+2.2
	2.7nm,0.4s						
ORIF	Oris-en-Rattie	8.17	14	eP	Pn	04 36 26.4	+2.0
	2.3nm,0.3s						
ORIF	Oris-en-Rattie	8.17	14	P	Pn	04 36 26.4	+2.0
	1.2nm,0.3s						
MBDF	Montbardon	8.19	19	eP	Pn	04 36 24.3	-0.4
	3.4nm,0.3s						
MBDF	Montbardon	8.19	19	P	Pn	04 36 24.3	-0.4
	1.7nm,0.3s						
RJF	Les Rejaudoux	8.37	352	eP	Pn	04 36 31.3	+4.2
	1.0nm,0.2s						
RJF	Les Rejaudoux	8.37	352	P	Pn	04 36 31.3	+4.2
	0.0nm,0.2s						
LPG	La Plagne	8.90	17	eP	Pn	04 36 37.6	+2.9
	3.1nm,0.3s						
LPG	La Plagne	8.90	17	P	Pn	04 36 37.6	+2.9
	1.6nm,0.3s						
MVO	Moncorvo	8.91	301	P	Pn	04 36 36.5	+1.9
	1.4nm,0.1s,SNR=13						
LPL	La Plagne	8.92	17	eP	Pn	04 36 35.8	+1.0
	2.1nm,0.2s						
LPL	La Plagne	8.92	17	P	Pn	04 36 35.8	+1.0
	1.1nm,0.2s						
EARI	Arriondas	8.95	317	P	Pn	04 36 38.3	+3.3
	0.9nm,0.2s,SNR=16						
ECAL	Calabor	9.07	306	P	Pn	04 36 37.9	+1.1
	4.3nm,0.3s,SNR=14						
TCF	Toulx Ste Croi	9.29	356	eP	Pn	04 36 41.9	+2.1
	1.8nm,0.3s						
TCF	Toulx Ste Croi	9.29	356	P	Pn	04 36 41.9	+2.1
	0.9nm,0.3s						
BGF	Bois d'Agland	9.54	359	eP	Pn	04 36 44.5	+1.4
BGF	Bois d'Agland	9.54	359	P	Pn	04 36 44.5	+1.4
SMF	Signal de Mont	9.64	3	eP	Pn	04 36 46.3	+1.8
	4.8nm,0.3s						
SMF	Signal de Mont	9.64	3	P	Pn	04 36 46.3	+1.8
	2.4nm,0.3s						
AVF	Avril sur Loir	9.77	1	eP	Pn	04 36 48.4	+2.1
	4.1nm,0.3s						
AVF	Avril sur Loir	9.77	1	P	Pn	04 36 48.4	+2.1
	2.0nm,0.3s						
CABF	La Chapelle	9.84	12	eP	Pn	04 36 49.4	+2.1
	4.0nm,0.4s						
CABF	La Chapelle	9.84	12	P	Pn	04 36 49.4	+2.1
	2.0nm,0.4s						
ELOB	Lobios	9.91	303	P	Pn	04 36 50.0	+1.7
	3.1nm,0.2s,SNR=6.1						
SSF	Saint Saulge	10.04	2	eP	Pn	04 36 51.6	+1.6
	2.7nm,0.3s						
SSF	Saint Saulge	10.04	2	P	Pn	04 36 51.6	+1.6
	1.4nm,0.3s						
EPON	Pontenova	10.07	312	P	Pn	04 36 52.1	+1.7
	1.2nm,0.2s,SNR=6.6						
LOR	Lormes	10.26	3	eP	Pn	04 36 55.7	+2.7
	3.6nm,0.3s,baz=182						
LOR	Lormes	10.26	3	P	Pn	04 36 55.7	+2.7
	1.8nm,0.3s						
HINF	Hinteralfeld	11.14	13	eP	Pn	04 37 04.2	-0.9
	2.8nm,0.4s						
HINF	Hinteralfeld	11.14	13	P	Pn	04 37 04.2	-0.9
	1.4nm,0.4s						
HAU	Haudompre	11.24	11	eP	Pn	04 37 07.2	+0.8
	3.1nm,0.3s						
HAU	Haudompre	11.24	11	P	Pn	04 37 07.2	+0.8
	1.6nm,0.3s						
SFTF	Sexfontaines	11.27	7	eP	Pn	04 37 09.2	+2.3
	6.7nm,0.5s,baz=183						
SFTF	Sexfontaines	11.27	7	P	Pn	04 37 09.2	+2.3
	6.7nm,0.5s						
MEZF	Maizieres J’vi	11.57	6	eP	Pn	04 37 12.1	+1.2
	6.9nm,0.7s						
MEZF	Maizieres J’vi	11.57	6	P	Pn	04 37 12.1	+1.2
	6.9nm,0.7s						
CDF	Champ du Feu	11.79	14	eP	Pn	04 37 14.5	+0.5
	2.3nm,0.3s						
CDF	Champ du Feu	11.79	14	P	Pn	04 37 14.5	+0.5
	1.2nm,0.3s						
QUIF	Quistinic	11.84	339	eP	Pn	04 37 15.7	+1.2
	0.7nm,0.2s						
QUIF	Quistinic	11.84	339	P	Pn	04 37 15.7	+1.2
	0.3nm,0.2s						
SGMF	Saint Gilles	11.98	341	eP	Pn	04 37 18.6	+2.1
SGMF	Saint Gilles	11.98	341	P	Pn	04 37 18.6	+2.1
ROSF	Rostrenen	12.25	339	eP	Pn	04 37 21.7	+1.5
	1.3nm,0.2s						
ROSF	Rostrenen	12.25	339	P	Pn	04 37 21.7	+1.5
	0.6nm,0.2s						
BAIF	Baives	13.06	3	eP	Pn	04 37 32.8	+1.5
BAIF	Baives	13.06	3	P	Pn	04 37 32.8	+1.5

*IDC **01** 04:37:58.9±18.0, 23°.37N×121°.77E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/40, mbtmp3.8/4, ML3.2/1, Error ellipse: s-maj=313.1km s-min=50.9km az=155.0*
*NEIC **01** 04:38:07.8±2.7, 24°.57N±0°.06×121°.5E±0°.1, h6km±9km, mb4.1/1, ML4.1(TAP), Error ellipse: s-maj=19.8km s-min=3.9km az=112.0*
*JMA **01** 04:38:07.7±0.2, 24°.54N×121°.45E, h19km±4km, M3.7*
*TAP **01** 04:38:07.5, 24°.56N×121°.60E, h6km, ML4.0, C*
ISC 01 04:38:08.1±0.8**, 24°.57N**±0°.01×**121°.59E**±0°.01**, h7km**±6km**, n121, σ0s.70**/192**, mb3.6**/4**, 28C-16D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NDT	Datong Townshi	0.08	294	⇑iP	Pg	04 38 10.0	-0.1
	baz=298						
NDT				iS	Sg	04 38 11.4	-0.1
	baz=298						
TWE	Neicheng	0.17	24	⇑iP	Pg	04 38 11.7	+0.2
	baz=19						
TWE				S	Sg	04 38 14.3	+0.4
	baz=19						
ENA	Nanau	0.20	136	⇑iP	Pg	04 38 12.2	+0.2
	baz=134						
ENA				eS	Sg	04 38 15.5	+0.8
	baz=134						
YHNB	Yeheng	0.22	297	⇑iP	Pg	04 38 12.7	+0.2
	baz=304						
YHNB				S	Sg	04 38 15.5	0.0
	baz=304						
YHNB	Yeheng	0.22	297	Pg	Pg	04 38 11.7	-0.8
NWLT	Wulai	0.22	339	⇓iP	Pg	04 38 12.8	+0.2
	baz=332						
NWLT				S	Sg	04 38 15.5	-0.1
	baz=332						
ENAH	Nanao	0.23	121	⇑iP	Pg	04 38 12.6	-0.1
	baz=109						
ENAH				eS	Sg	04 38 15.9	0.0
	baz=109						
NNSB	Datong	0.24	234	⇑iP	Pg	04 38 12.7	-0.2
	baz=237						
NNSB				eS	Sg	04 38 16.0	-0.1
	baz=237						
NNSH	Datong	0.24	234	⇑iP	Pg	04 38 12.7	-0.2
	baz=239						
NNSH				S	Sg	04 38 15.8	-0.2
	baz=239						
TWC	Suao	0.24	80	⇑iP	Pg	04 38 12.7	-0.1
	baz=79						
TWC				eS	Sg	04 38 16.0	-0.1
	baz=79						
NNS	Nan Shan	0.24	237	⇑iP	Pg	04 38 12.7	-0.2
	baz=239						
NNS				eS	Sg	04 38 16.1	0.0
	baz=239						
NSK	Sanguang	0.24	296	⇑iP	Pg	04 38 12.9	+0.1
	baz=304						
NSK				S	Sg	04 38 15.9	-0.1
	baz=304						
ILA	Ilan	0.24	36	iP	Pg	04 38 13.2	+0.3
	baz=45						
ILA				iS	Sg	04 38 17.1	+1.0
	baz=45						
NTC	Toucheng	0.36	37	eP	Pg	04 38 14.6	-0.5
	baz=34						
ETLH	Xiulin Townshi	0.38	196	⇑iP	Pg	04 38 15.5	0.0
	baz=197						
ETLH				eS	Sg	04 38 20.3	-0.1
	baz=197						
NACB	Ninganchiao	0.39	180	P	Pg	04 38 15.9	+0.1
	baz=180						
NACB				eS	Sg	04 38 21.0	0.0
	baz=180						
NACB	Ninganchiao	0.39	180		Pg	04 38 15.5	-0.3
NHDH	Xindian Distri	0.40	351	⇓iP	Pg	04 38 16.3	+0.5
	baz=350						
NHDH				S	Sg	04 38 21.7	+0.6
	baz=350						
TWA	Mucha	0.41	359	⇓iP	Pg	04 38 16.6	+0.5
	baz=360						
TWA				eS	Sg	04 38 22.4	+0.9
	baz=360						
EGS		0.41	48	eP	Pg	04 38 16.4	+0.3
	baz=62						
EGS				eS	Sg	04 38 21.8	+0.2
	baz=62						
TATO	Taipei	0.41	347		Pg	04 38 15.7	-0.5
WLTB	Daxi	0.42	312	iP	Pb	04 38 17.4	-0.5
	baz=303						
WLTB				eS	Sb	04 38 23.5	-0.8
	baz=303						
FUSS	Fushou	0.45	225	⇑iP	Pg	04 38 16.6	-0.4
	baz=233						
FUSS				eS	Sb	04 38 24.9	-0.7
	baz=233						
TIPB	Shuangxi	0.45	28	⇓iP	Pg	04 38 17.0	0.0
	baz=15						
TIPB				eS	Sg	04 38 22.5	-0.4
	baz=15						
TAP1	Taipei	0.47	352	⇓iP	Pb	04 38 18.1	-0.6
	baz=352						
TAP1				S	Sb	04 38 24.7	-1.2

	baz=352						
TAP	Taipei	0.47	351	⇓iP	Pb	04 38 18.2	-0.6
	baz=352						
TAP				S	Sb	04 38 24.8	-1.2
	baz=352						
TWD	Chiawan	0.49	180	eP	Pg	04 38 17.6	0.0
	baz=178						
TWD				eS	Sg	04 38 24.2	+0.3
	baz=178						
TWT	Tachien	0.49	230	⇑iP	Pg	04 38 17.4	-0.3
	baz=233						
TWT				eS	Sb	04 38 26.2	-0.5
	baz=233						
TDCB	Techi	0.51	231	⇑iP	Pg	04 38 17.5	-0.4
	baz=233						
TDCB				eS	Sg	04 38 25.0	+0.4
	baz=233						
WHF	Hehuan Shan	0.52	215	⇑iP	Pg	04 38 17.8	-0.4
	baz=204						
WHF				eS	Sg	04 38 25.6	+0.6
	baz=204						
NWF	Wu-fen Shan	0.53	19	⇓iP	Pg	04 38 18.8	+0.4
	baz=29						
NWF				eS	Sg	04 38 25.4	+0.1
	baz=29						
WFSB	Wu-fen Shan	0.53	19	⇓iP	Pg	04 38 18.8	+0.4
	baz=29						
WFSB				eS	Sg	04 38 25.4	+0.1
	baz=29						
LIOB	Emei	0.53	278	⇑iP	Pb	04 38 19.1	-0.6
	baz=280						
LIOB				eS	Sg	04 38 25.9	+0.6
	baz=280						
NSTT	Nanjuang	0.54	277	⇑iP	Pb	04 38 19.2	-0.8
	baz=278						
NSTT				eS	Sg	04 38 26.0	+0.3
	baz=278						
NCU	National Centr	0.54	317	eP	Pb	04 38 19.9	-0.1
	baz=319						
NCU				eS	Sb	04 38 27.9	-0.1
	baz=319						
NCUH	Zhongli	0.54	317	eP	Pb	04 38 19.9	-0.1
	baz=319						
NCUH				eS	Sb	04 38 27.8	-0.2
	baz=319						
TWS1	Kuangyinshan	0.55	343	⇓iP	Pb	04 38 20.2	+0.1
	baz=355						
TWS1				eS	Sb	04 38 28.1	-0.2
	baz=355						
TWB1	Santiao Chiao	0.57	39	eP	Pg	04 38 18.9	-0.2
	baz=50						
TWB1				eS	Sg	04 38 25.9	-0.6
	baz=50						
YM01	YM01	0.57	358	⇓iP	Pb	04 38 20.1	-0.5
	baz=358						
YM01				eS	Sg	04 38 27.0	+0.3
	baz=358						
YM04	YM04	0.58	355	⇓iP	Pb	04 38 20.1	-0.5
	baz=355						
YM04				eS	Sg	04 38 27.8	+0.7
	baz=355						
YM10	YM10	0.58	357	⇓iP	Pb	04 38 20.3	-0.4
	baz=357						
YM10				eS	Sg	04 38 28.0	+0.9
	baz=357						
HWA	Hwalien	0.59	179	eP	Pb	04 38 19.7	-1.0
	baz=177						
HWA				eS	Sb	04 38 28.4	-0.9
	baz=177						
YM05	YM05	0.59	358	⇓iP	Pb	04 38 20.4	-0.5
	baz=358						
YM05				eS	Sg	04 38 28.2	+0.9
	baz=358						
YM11	YM11	0.59	358	eP	Pb	04 38 20.3	-0.6
	baz=358						
YM11				eS	Sb	04 38 28.4	-1.1
	baz=358						
SBCB	Hsinchu	0.59	292	eP	Pb	04 38 21.0	+0.1
	baz=293						
SBCB				eS	Sb	04 38 30.0	+0.5
	baz=293						
NTST	Danshui	0.61	348	⇓P	Pb	04 38 21.0	-0.1
	baz=2.0						
NTST				eS	Sn	04 38 31.8	-1.4
	baz=2.0						
YM03	YM03	0.61	356	⇓iP	Pb	04 38 20.6	-0.5
	baz=356						
YM03				eS	Sg	04 38 28.4	+0.6
	baz=356						
HSN	Hsinchu	0.61	292	eP	Pb	04 38 21.0	-0.2
	baz=297						
HSN				eS	Sb	04 38 29.4	-0.5
	baz=297						
YM08	YM08	0.61	360	eP	Pb	04 38 20.5	-0.8
	baz=10.0						
ANP	Anpu	0.62	354	⇓P	Pb	04 38 20.8	-0.6
	baz=354						
ANP				eS	Sg	04 38 28.5	+0.3
	baz=354						
CHGB	Renai	0.64	217	⇑iP	Pg	04 38 19.7	-0.7
	baz=208						
CHGB				eS	Sb	04 38 29.4	-1.4
	baz=208						
WHP	Taichung City	0.66	244	⇑iP	Pg	04 38 20.9	+0.1
	baz=245						
WHP				eS	Sb	04 38 30.8	-0.6
	baz=245						
TWY	Chenhua	0.70	1	eP	Pb	04 38 22.3	-0.4
	baz=13						
NMLH	Miaoli	0.73	268	⇑P	Pb	04 38 23.6	+0.4
	baz=277						
NMLH				eS	Sb	04 38 34.0	+0.6
	baz=277						
ESL	Shilin	0.77	191	eP	Pg	04 38 22.6	-0.2
	baz=191						
ESL				eS	Sb	04 38 34.2	-0.2
	baz=191						
NSY	Sanyi	0.77	259	⇑iP	Pb	04 38 24.0	+0.2
	baz=260						
NSY				eS	Sb	04 38 34.8	+0.2
	baz=260						
TWQ1	Liyutan	0.78	254	⇑iP	Pb	04 38 23.8	-0.2
	baz=254						
TWQ1				eS	Sb	04 38 34.6	-0.1
	baz=254						
DPDB	Guoxing	0.81	229	⇑iP	Pg	04 38 23.2	-0.5
	baz=238						
DPDB				eS	Sb	04 38 34.7	-1.0
	baz=238						
PTSB	Yuanli	0.82	262	⇑iP	Pn	04 38 25.2	-0.8
	baz=262						
PTSB				eS	Sn	04 38 37.2	-1.2
	baz=262						
WDJ	Dajia District	0.90	256	P	Pn	04 38 26.6	-0.5
	baz=269						
EGFH	Guangfu	0.91	190	eP	Pg	04 38 25.3	-0.3
	baz=188						
EGFH				eS	Sb	04 38 37.9	-0.7
	baz=188						
VWDT	VWDT	0.91	207	⇑iP	Pg	04 38 24.7	-0.9
	baz=213						
VWDT				eS	Sb	04 38 39.0	+0.5
	baz=213						
SMLT	Sun Moon Lake	0.93	223	⇑iP	Pg	04 38 25.3	-0.7
	baz=225						
TCU	Taichung	0.94	243	P	Pn	04 38 27.3	-0.4
	baz=254						
TCU				eS	Sn	04 38 42.0	+0.7
	baz=254						
TYC	Yuchr	0.94	225	⇑iP	Pg	04 38 25.5	-0.8
	baz=228						
SSLB	Suanglung	0.97	217	⇑iP	Pg	04 38 25.4	-1.4
	baz=211						
SSLB				eS	Sb	04 38 40.4	0.0
	baz=211						
SSLB	Suanglung	0.97	217	Pg	Pg	04 38 25.1	-1.7
WCHH	Zhanghua	1.06	243	eP	Pn	04 38 29.6	+0.2
	baz=239						
WNT	Mingjian	1.08	230	eP	Pn	04 38 29.4	-0.3
	baz=223						
WNT				eS	Sn	04 38 46.4	+1.6
	baz=223						
HGSD	Ruisui	1.08	188	eP	Pn	04 38 29.6	-0.1
	baz=185						
WJS	Zhushan	1.08	227	eP	Pn	04 38 29.2	-0.6
	baz=232						
EHY	Hungye	1.09	193	eP	Pg	04 38 28.6	-0.4
	baz=177						
EHY				eS	Sb	04 38 43.5	-0.2
	baz=177						
WHYT	Xinyi Township	1.10	218	eP	Pg	04 38 28.4	-0.8
	baz=220						
PCYT	Pengchaiyu	1.14	22	P	Pg	04 38 29.7	-0.4
	baz=12						
JYNG	Yonagunijimaku	1.24	95	P	Pg	04 38 31.1	-0.8
JYNG				S	Sb	04 38 47.6	-0.4
ALS	Alishan	1.28	214	eP	Pn	04 38 33.0	+0.3
	baz=225						
CHN5	Tsauling	1.28	221	P	Pb	04 38 33.0	+0.5
	baz=220						
WGK	Gukeng	1.29	227	eP	Pg	04 38 33.1	+0.2
	baz=223						
YOJ	Yonaguni jima	1.30	94	P	Pn	04 38 32.0	-0.6
YOJ				S	Sg	04 38 49.4	-0.5
YOJ	Yonaguni jima	1.30	94		Pn	04 38 31.8	-0.9
WDLH	Douliu	1.30	228	P	Pg	04 38 33.5	+0.4
	baz=223						
WDLH				eS	Sn	04 38 51.6	+1.2
	baz=223						
FULB	Fuli	1.39	191	eP	Pg	04 38 35.8	+1.0
	baz=186						
WTK	Tuku	1.41	232	eP	Pg	04 38 34.7	-0.4
	baz=226						
ELDTW	Lidau	1.47	201	eP	Pb	04 38 35.5	-0.4
	baz=178						
CHY	Chiayi	1.51	225	eP	Pb	04 38 35.9	-0.5
	baz=235						
TPUB	Ta-pu	1.54	215	eP	Pg	04 38 36.9	-0.7
	baz=208						
WTP	Ta-pu	1.59	214	eP	Pg	04 38 38.1	-0.6
	baz=206						
STYT	Tauyuan	1.60	209	eP	Pg	04 38 38.4	-0.4
	baz=202						
WLGB	Puzi	1.61	228	eP	Pb	04 38 37.8	-0.3
	baz=219						
EDH	Donghe	1.61	189	eP	Pn	04 38 36.5	-0.5
	baz=182						
TWK	Hsinying	1.64	218	eP	Pg	04 38 39.2	-0.5
	baz=210						
SNST	Tainan City	1.68	217	eP	Pg	04 38 39.6	-0.7
	baz=209						
CHN1	Nanshi	1.69	215	eP	Pg	04 38 39.8	-0.7
	baz=207						
ICHU	Yijhu	1.70	225	eP	Pb	04 38 39.6	-0.1
	baz=218						
ICHU				eS	Sg	04 39 03.5	+0.7
	baz=218						
LONT	Longtian	1.71	194	eP	Pn	04 38 37.8	-0.6
	baz=173						
CHN8	Yiju	1.75	226	eP	Pb	04 38 40.0	-0.6
	baz=237						
CHN8				eS	Sg	04 39 06.1	+1.5
	baz=237						
SLGT	Liugui	1.79	209	P	Pg	04 38 42.0	-0.5
	baz=192						
SLGT				eS	Sg	04 39 06.7	+0.9
	baz=192						
TWG	Pinlang	1.81	195	eP	Pn	04 38 39.9	+0.2
	baz=170						
TWG	Pinlang	1.81	195	Pg	Pg	04 38 42.0	-0.7
CHN3	Shinhua	1.86	217	eP	Pg	04 38 43.4	-0.5
	baz=209						
PTTC	Pingtan	1.89	300	eP	Pn	04 38 39.4	-1.4
	baz=304						
SCST	Cishan	1.96	211	eP	Pb	04 38 44.0	0.0
	baz=200						
IRIF	Iriomote-Funau	1.96	96	P	Pn	04 38 41.1	-0.7
IRIF				eS	Sn	04 39 07.0	+0.3
SSD	Sandimen	2.02	206	eP	Pg	04 38 46.0	-0.8
	baz=196						
TWM1	Shoushan	2.04	212	eP	Pg	04 38 46.4	-0.9
	baz=200						
TSMG	Majia	2.05	205	eP	Pb	04 38 45.1	-0.5
	baz=196						
HATJ	Hateruma jima	2.08	104	P	Pn	04 38 44.2	+0.8
PNG	Penghu	2.11	242	eP	Pn	04 38 43.1	-0.7
	baz=232						
MASBT	Mashibuluo	2.14	204	eP	Pb	04 38 46.8	-0.4
	baz=177						
WDGT	Dungji	2.20	234	eP	Pn	04 38 45.0	0.0
	baz=222						
JKRS	Kuro-shima	2.23	98	P	Pn	04 38 45.4	-0.1
JKRS				S	Sn	04 39 13.1	-0.1
JIJ	Ishigaki jima	2.33	95	P	Pn	04 38 46.5	-0.4
JIJ				S	Sn	04 39 14.0	-1.8
JISG	Ishigakijimahi	2.48	89	P	Pn	04 38 48.5	-0.3
JISG				S	Sn	04 39 20.8	+1.5
QZH	Quanzhou	2.75	278	ePn	Pn	04 38 52.0	-0.7
QZH				Sn	Sn	04 39 23.2	-3.0
QZH				smax	smax		
	comp=N,250nm,0.7s						
QZH				smax	smax		
	comp=E,100nm,0.4s						
JTJ	Tarama	2.83	88	P	Pn	04 38 53.5	-0.3
JTJ				eS	Sn	04 39 28.5	+0.4
KNMB	Chin-men Tao	2.92	269	Pn	Pb	04 39 00.7	+0.2
KSRS	Korea Array	13.94	21	Pn	P	04 41 33.8	-0.5
	comp=E,0.1nm,0.3s,baz=196,slow=12,SNR=14						
USRK	Ussuriysk Ar.	21.34	21	P	P	04 42 58.9	+3.1
	comp=E,1.3nm,0.7s,baz=195,slow=10,SNR=4.0						
ULN	Ulaanbaatar	25.95	337	P	P	04 43 41.1	-0.2
ULN				IAmb	IAmb	04 44 20.1	
	comp=Z,2.3nm,0.5s						
SONM	Songino Array	26.16	336	P	P	04 43 44.5	+1.3
	comp=Z,1.3nm,0.8s,baz=159,slow=9.2,SNR=6.5						
MKAR	Makanchi Array	38.32	315	P	P	04 45 30.2	+0.7
	comp=Z,0.8nm,0.8s,baz=102,slow=11,SNR=3.9						

IDC 01 04:40:36.6±1.9**, 5°.51S**×**130°.57E, h0**^{km}**, mb3.4**/1**, mb1 3.6**/5**, mb1mx3.4**/33**, mbtmp3.5**/5**, ML3.3**/4**, Error ellipse: s-maj=78.8km s-min=25.7km az=87.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.66	9	Pn	Pn	04 41 48.2	-0.2
	2.6nm,0.3s,baz=207,slow=23,SNR=16						
SIJI				Sn	Sn	04 42 38.7	-4.5
	10.0nm,0.3s,baz=98,slow=23,SNR=11						
FITZ	Fitzroy Crossi	13.41	201	Pn	Pn	04 43 48.8	+0.5
	0.1nm,0.3s,baz=28,slow=12,SNR=1.6						
FITZ				Sn	Sn	04 46 13.6	-4.6
	0.1nm,0.3s,baz=62,slow=17,SNR=2.5						
WRA	Warramunga Arr	14.80	166	Pn	Pn	04 44 06.3	-1.1
	0.1nm,0.3s,baz=347,slow=13,SNR=7.1						
WRA				Sn	Sn	04 46 46.6	-5.7
	0.2nm,0.3s,baz=229,slow=5.5,SNR=6.4						
ASAR	Alice Springs	18.33	170	P	P	04 44 52.8	0.0
	0.1nm,0.3s,baz=352,slow=12,SNR=2.5						
MKAR	Makanchi Array	67.31	326	P	P	04 51 33.4	+0.1
	0.2nm,0.4s,baz=118,slow=8.3,SNR=1.6						

IDC 01 05:17:26.3±782.0**, 54°.38N**×**41°.22E, h0**^{km}**, Error ellipse: s-maj=283.1km s-min=54.8km az=144.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.27	318	i		05 39 00.0	
	baz=131,slow=311,SNR=1.3						
I26DE	FREYUNG INFRAS	17.89	263	i		07 08 20.0	
	baz=66,slow=316,SNR=1.0						
I37NO	I37NO	18.03	333	i		07 06 30.0	
	baz=134,slow=319,SNR=1.3						

*IDC **01** 05:25:39.6±1.1, 15°.02S×173°.62W, h0^{km}, mb3.9/4, mb1 4.2/5, mb1mx3.8/32, mbtmp4.0/5, ML4.9/1, MS4.1/2, Ms1 4.1/2, ms1mx3.3/38, Error ellipse: s-maj=51.5km s-min=22.0km az=148.0*
*NEIC **01** 05:25:43.9±2.3, 15°.06S±0°.09×173°.5W±0°.1, h25^{km}±7^{km}, mb4.4/5, Error ellipse: s-maj=18.3km s-min=10.9km az=122.0*
ISC 01 05:25:44.9±0.8**, 15°.04S**±0°.09×**173°.4W**±0°.1**, h30**^{km}**, n15, σ1^{s}94**/14**, mb4.2**/6**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.90	54	Pn	Pn	05 26 16.2	+0.9
	391nm,0.3s,baz=187,slow=2.0,SNR=195						
AFI				Sn	Sn	05 26 36.2	-2.0
	805nm,0.3s,baz=55,slow=22,SNR=7.0						
NIUE	Niue	5.18	141	Pn	Pn	05 27 00.3	-0.2
KNTN	Kanton	12.29	8	Pn	Pn	05 28 38.6	+0.6
DZM	Mont Dzumac	20.38	247	LR	LR	05 36 08.8	
	comp=Z,278nm,20.5s,baz=318,slow=31						
URZ	Urewera	24.62	198	P	P	05 31 06.0	+3.4
URZ				IAmb	IAmb	05 31 21.8	
	comp=Z,13nm,1.4s						
RPZ	Rata Peaks	31.53	202	LR	LR	05 43 58.3	
	comp=Z,683nm,19.0s,baz=234,slow=35						
WB0	Warramunga Arr	49.93	257	P	P	05 34 35.0	-1.3
WRAB	Tennant Creek	49.96	256	P	P	05 34 37.9	+1.2
WRA	Warramunga Arr	49.97	256	P	P	05 34 34.5	-2.2
	comp=Z,0.3nm,0.4s,baz=92,slow=7.0,SNR=7.0						
AS31	Alice Springs	50.26	252	P	P	05 34 36.5	-2.4
ASAR	Alice Springs	50.27	252	P	P	05 34 35.9	-3.1
	comp=Z,3.5nm,0.7s,baz=85,slow=8.4,SNR=36						
VNDA	Vanda	63.74	186	P	P	05 36 12.6	-0.8
	comp=Z,0.8nm,0.8s,baz=16,slow=5.4,SNR=5.4						
VNDA	Vanda	63.74	186	P	P	05 36 13.9	+0.5
VNDA				IAmb	IAmb	05 36 13.9	
	comp=Z,1.9nm,1.1s						
NVAR	Mina Array Bea	74.03	42	P	P	05 37 18.6	+0.3
	comp=Z,1.1nm,0.9s,baz=208,slow=4.9,SNR=4.4						
QSPA	South Pole Qui	75.00	180	P	P	05 37 23.5	+0.1
QSPA				IAmb	IAmb	05 37 24.8	
	comp=Z,14nm,1.5s						

*CRAAG **01** 05:31:33.5, 36°.75N×3°.20E, Ml2.7*
*MDD **01** 05:31:33.1±0.9, 36°.98N×3°.19E, h0^{km}, mb3.6/5, Error ellipse: s-maj=13.4km s-min=5.9km az=88.0, PRXIMO*
ISC 01 05:31:32.5±1.2**, 37°.02N**±0°.06×**3°.21E**±0°.07**, h12**^{km}**, n10, σ1^{s}68**/15**, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	Alger-Bouzarea	0.25	213	P	Pg	05 31 37.0	-0.8
ABA	Alger-Bouzarea	0.25	213	P	Pg	05 31 37.0	-0.8
ADJB	Djebel Djouab	0.88	168	P	Pg	05 31 48.8	-0.6
ADJB	Djebel Djouab	0.88	168	P	Pg	05 31 48.8	-0.6
EIBI	Ibiza	2.49	324	P	Pn	05 32 14.7	+1.8
	2.4nm,0.2s,SNR=7.9						
EIBI				S	Sn	05 32 42.5	-0.6
	1.8nm,0.2s,SNR=7.9						
ETOS	Mallorca	2.77	354	P	Pn	05 32 18.3	+1.6
	1.2nm,0.1s,SNR=7.9						
ETOS				S	Sn	05 32 49.5	-0.5
	1.3nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.10	295	P	Pn	05 32 37.5	+2.4
	0.3nm,0.1s,SNR=7.9						
ETOB				S	Sn	05 33 22.0	-1.0
	1.3nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	4.41	320	P	Pn	05 32 40.8	+1.4
	0.7nm,0.2s,SNR=7.9						
EMOS				S	Sn	05 33 27.7	-3.2
	0.4nm,0.2s,SNR=7.9						
CFON	Fontmartina	4.78	353	P	Pn	05 32 45.8	+1.4
	1.3nm,0.2s,SNR=7.9						
CFON				S	Sn	05 33 37.7	-2.0
	1.1nm,0.2s,SNR=7.9						
EQES	Quesada	5.06	281	S	Sn	05 33 46.0	-0.7
	1.1nm,0.3s,SNR=7.9						

*IDC **01** 05:51:44.9±1.0, 9°.61N×124°.47E, h0^{km}, mb3.9/8, mb1 4.0/8, mb1mx3.7/50, mbtmp3.9/8, Error ellipse: s-maj=64.2km s-min=19.2km az=76.0*
*MAN **01** 05:51:46.8, 9°.98N×126°.22E, h67^{km}, mb4.4, ML3.3, MS3.0*
ISC 01 05:51:50.9±1.0**, 10°.09N**±0°.07×**126°.1E**±0°.1**, h54**^{km}**, n13, σ3^{s}43**/15**, mb3.7**/8**, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	1.21	272	eP	Pn	05 52 14.8	+3.2
MSLP				eS	Sn	05 52 50.0	+23
TBP	Tagbilaran	2.23	260	eP	Pn	05 52 24.1	-1.3
BUKP	Musuan	2.42	205	eP	Pn	05 52 24.1	-4.1
BUKP				eS	Sn	05 52 59.0	+2.3
KCP	Kidapawan	3.22	198	⇓eP	Pn	05 52 36.0	-3.1
KCP				i S	Sn	05 53 14.7	-1.7
DDMP	Don Marcelino,	3.98	185	eP	Pn	05 52 52.4	+2.9
DDMP				eS	Sn	05 53 42.6	+7.6
FITZ	Fitzroy Crossi	28.02	181	P	P	05 57 32.4	-4.6
	1.2nm,0.8s,baz=332,slow=4.7,SNR=5.3						
WRA	Warramunga Arr	30.93	165	P	P	05 58 04.9	+2.0
	0.2nm,0.5s,baz=345,slow=10,SNR=1.4						
ASAR	Alice Springs	34.41	167	P	P	05 58 34.4	+1.0
	0.2nm,0.5s,baz=347,slow=7.8,SNR=2.0						
SONM	Songino Array	41.12	340	P	P	05 59 29.9	+0.1
	0.5nm,0.5s,baz=140,slow=11,SNR=2.4						
PETK	Petropavlovsk-	49.87	24	P	P	06 00 48.4	+10
	2.5nm,0.6s,baz=180,slow=7.2,SNR=1.5						
MKAR	Makanchi Array	52.06	323	P	P	06 00 54.1	-1.2
	0.8nm,0.8s,baz=120,slow=9.1,SNR=5.0						
ARCES	ARCESS Array B	84.30	340	P	P	06 04 16.5	-0.2
	1.4nm,0.8s,baz=79,slow=6.9,SNR=1.8						
FINES	FINESS Array B	85.96	332	P	P	06 04 24.3	-0.8
	2.2nm,1.0s,baz=104,slow=5.9,SNR=4.4						

*BJI **01** 05:57:18.6±0.0, 47°.19N×146°.96E, h339^{km}, mB4.6/31, mb4.6/39*
*SKHL **01** 05:57:19.7±0.7, 46°.93N×147°.06E, h355^{km}±8^{km}, mb5.0/14, msh4.6/2*
*MOS **01** 05:57:19.7±0.8, 47°.02N×147°.00E, h354^{km}, mb4.3/39, Error ellipse: s-maj=7.0km s-min=5.8km az=101.5*
*NIED **01** 05:57:20.6, 46°.45N×147°.31E, h381^{km}, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.18; $M_{\theta\theta}$0.49; $M_{\phi\phi}$-2.67; $M_{r\theta}$-0.31; $M_{\theta\phi}$0.01; $M_{\phi r}$-4.05; Fault plane solution: $M_0$4.73000×10^{15} NP1: ϕ_s184.00000°, δ75.00000°, λ93.00000°. NP2: ϕ_s354.00000°, δ16.00000°, λ80.00000°.*
*JMA **01** 05:57:20.6±0.4, 46°.45N×147°.31E, h381^{km}, M4.1*
*NEIC **01** 05:57:21.3±1.6, 47°.1N±0°.1×147°.0E±0°.1, h352^{km}±4^{km}, mb4.4/280, Error ellipse: s-maj=15.8km s-min=11.6km az=145.0*
*IDC **01** 05:57:21.2±1.3, 47°.12N×146°.96E, h352^{km}±13^{km}, mb3.7/27, mb1 3.9/35, mb1mx3.7/69, mbtmp4.5/35, Error ellipse: s-maj=9.8km s-min=8.5km az=138.0*
ISC 01 05:57:20.2±0.5**, 46°.94N**±0°.04×**147°.08E**±0°.04**, h349**^{km}±4^{km}**, n674, σ1^{s}16**/621**, mb4.4**/179**, 16C-6D, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.79	162	i P	Pn	05 58 10.6	+0.6
KUR				AMB	AMB	05 58 11.0	
	130nm,0.3s						
KUR				i S	S	05 58 49.5	-0.5
KUR				A	A	05 58 50.9	
	170nm,0.7s						
KUR				A	A	05 58 50.9	
	210nm,0.7s						
KUR	Kuril'sk	1.79	162	⇑iPN	Pn	05 58 10.6	+0.6
KUR				i S	S	05 58 49.5	-0.5
KUR				pmax	pmax		
	comp=Z,126nm,0.3s						
KUR				smax	smax		
	comp=E,213nm,0.7s						
KUR				smax	smax		
	comp=N,173nm,0.5s						
YSS	Yuzh-Sakhalins	2.96	272	i P	Pn	05 58 20.7	+1.7
YSS				i P	Pn	05 58 20.7	+1.7
YSS				AMB	AMB	05 58 21.0	
	comp=N,640nm,0.9s						
YSS				eS	S	05 59 06.9	+0.5
YSS				A	A	05 59 08.0	
	comp=N,160nm,0.9s						
YSS				A	A	05 59 08.0	
	comp=N,250nm,0.9s						
YSS				A	A	05 59 09.6	
	comp=N,600nm,4.5s						
YSS				A	A	05 59 09.6	
	comp=N,1μm,4.5s						
YSS	Yuzh-Sakhalins	2.96	272	α iPN	Pn	05 58 20.7	+1.7
YSS				eS	S	05 59 06.4	0.0
YSS				pmax	pmax		
	comp=Z,640nm,0.9s						
YSS				smax	smax		
	comp=N,160nm,0.9s						
YSS				smax	smax		
	comp=E,250nm,0.9s						

YSS MLR MLR
comp=Z,100nm,19.0s
YSS Yuzh-Sakhalins 2.96 272 Pn **Pn 05 58 20.5 +1.4**
YUK Yuzh-Kuril'sk 3.02 197 *i* P **Pn 05 58 19.8 +0.1**
YUK AMB AMB 05 58 23.0
comp=Z,130nm,0.3s
YUK *i* S **S 05 59 06.9 -0.7**
YUK A A 05 59 12.0
comp=Z,120nm,0.4s
YUK A A 05 59 12.0
comp=Z,420nm,0.4s
YUK Yuzh-Kuril'sk 3.02 197 *c* iPN **Pn 05 58 19.8 +0.1**
YUK *i* S **S 05 59 06.9 -0.7**
YUK pmax pmax
comp=Z,131nm,0.3s
YUK smax smax
comp=N,124nm,0.3s
YUK smax smax
comp=E,848nm,0.4s
GRPR Tuman 3.08 198 *i* P **Pn 05 58 20.7 +0.4**
GRPR AMB AMB 05 58 22.0
comp=E,210nm,0.4s
GRPR *e*S **S 05 59 08.2 -0.4**
GRPR A A 05 59 11.0
comp=E,250nm,0.4s
GRPR A A 05 59 11.0
comp=E,320nm,0.4s
GRPR Tuman 3.08 198 ⇑ *i* PN **Pn 05 58 20.7 +0.4**
GRPR *e*S **S 05 59 08.2 -0.4**
GRPR pmax pmax
comp=Z,214nm,0.4s
GRPR smax smax
comp=E,651nm,0.4s
GRPR smax smax
comp=N,252nm,0.3s
JRA Rausu 3.30 205 P **Pn 05 58 22.4 +0.2**
NMR Nemuro--Hokkai 3.69 195 *i* P **Pn 05 58 24.1 -1.9**
NMR *i* S **S 05 59 14.8 -4.3**
NMR Nemuro--Hokkai 3.69 195 ⇓ *i* PN **Pn 05 58 24.1 -1.9**
NMR *i* S **S 05 59 14.3 -4.8**
NEM2 Nemuro 2 3.69 195 P **Pn 05 58 23.9 -2.2**
NEM2 *e*S **S 05 59 14.2 -4.9**
JSE Soyaes 3.71 239 P **Pn 05 58 27.6 +1.5**
JSE *e*S **S 05 59 20.3 +1.0**
JTKR Abashiri--Toko 3.71 218 P **Pn 05 58 26.8 +0.6**
JTKR *e*S **S 05 59 19.0 -0.4**
JWK2 Keihoku 3.95 248 P **Pn 05 58 30.7 +2.1**
JWK2 *e*S **S 05 59 25.8 +2.1**
JKA Kamikawa-asahi 4.22 230 Pn **Pn 05 58 32.7 +1.3**
ASAJ Asahikawa 4.23 230 P **Pn 05 58 33.0 +1.5**
comp=N,13nm,0.3s,baz=59,slow=8.4,SNR=72
ASAJ Asahikawa 4.23 230 PN **Pn 05 58 32.7 +1.2**
JAK Akkeshi 4.29 204 P **Pn 05 58 30.4 -1.7**
JAK *e*S **S 05 59 25.5 -4.6**
JKK2 Kamakawa 2 4.32 226 P **Pn 05 58 33.4 +0.9**
JAR Ashorobuto 4.33 214 P **Pn 05 58 32.6 +0.1**
JAR *e*S **S 05 59 30.2 -0.7**
TYV Tymovskoe 4.89 325 *e*P **Pn 05 58 39.0 +0.6**
TYV AMB AMB 05 58 51.8
comp=N,170nm,0.6s
TYV *e*S **S 05 59 40.8 -1.0**
TYV A A 05 59 41.8
comp=N,700nm,3.5s
TYV A A 05 59 43.0
comp=N,40nm,1.0s
TYV A A 05 59 43.0
comp=N,70nm,1.0s
TYV Tymovskoe 4.89 325 *e*PN **Pn 05 58 38.7 +0.3**
TYV *e*S **S 05 59 40.7 -1.0**
TYV pmax pmax
comp=Z,10.0nm,0.5s
TYV smax smax
comp=N,700nm,3.4s
TYV smax smax
comp=E,65nm,1.8s
JFR Furan 4.93 222 P **Pn 05 58 39.4 +0.4**
JCH Churui 5.07 213 P **Pn 05 58 38.9 -1.6**
JCH *e*S **S 05 59 40.2 -5.2**
JNBK Urakawa-nobuka 5.58 215 P **Pn 05 58 44.3 -2.0**
JNBK *e*S **S 05 59 49.6 -6.4**
ERM Erimo 5.66 211 PN **Pn 05 58 46.1 -1.0**
ERM Erimo 5.66 211 Pn **Pn 05 58 46.1 -1.0**
JEW Eniwo 5.72 226 P **Pn 05 58 48.4 +0.6**
JKB Kayabe 6.65 223 P **Pn 05 58 56.9 -1.5**
JKB *e*S **S 06 00 11.3 -6.9**
JOT Ohata 7.04 220 P **Pn 05 59 00.7 -2.3**
JOT *e*S S 06 00 17.5 -9.1
SKR Severo-Kuril's 7.05 55 *i* P **Pn 05 59 03.0 +0.1**
SKR AMB AMB 05 59 04.0
comp=E,390nm,0.9s
SKR *e*S **S 06 00 24.5 -1.9**
SKR A A 06 00 29.7
comp=E,80nm,0.5s
SKR A A 06 00 29.7
comp=E,130nm,0.5s
SKR Severo-Kuril's 7.05 55 ⇓ *i* PN **Pn 05 59 03.9 +1.0**
SKR pmax pmax
comp=Z,394nm,0.9s
OKH Okha 7.13 340 *e*P **Pn 05 59 05.6 +1.8**
NKL Nikolayevsk 7.46 329 *e*P **Pn 05 59 08.1 +0.4**
TEY Ternei 7.54 259 *i* P **Pn 05 59 10.0 +1.2**
TEY AMB AMB 05 59 10.8
comp=Z,10.0nm,0.8s
TEY AMB AMB 05 59 10.8
comp=Z,50nm,0.8s
TEY AMB AMB 05 59 10.8
comp=Z,60nm,0.8s
TEY Ternei 7.54 259 ⇓ *i* PN **Pn 05 59 10.0 +1.2**
TEY pmax pmax
comp=E,50nm,0.9s
TEY pmax pmax
comp=Z,60nm,0.8s
TEY pmax pmax
comp=N,10.0nm,0.6s
JANG Nango 7.70 214 P **Pn 05 59 08.3 -2.5**
JANG *e*S S 06 00 30.5 -1.0
PAU Pauzhetka 7.82 51 *e*P **Pn 05 59 12.4 +0.4**
GRNR Gornyy 8.01 303 *i* P **Pn 05 59 14.2 0.0**
GRNR AMB AMB 05 59 15.2
comp=N,10.0nm,1.0s
GRNR AMB AMB 05 59 15.2
comp=N,20nm,1.0s
GRNR AMB AMB 05 59 15.2
comp=N,30nm,1.0s
GRNR Gornyy 8.01 303 ⇑ *i* PN **Pn 05 59 14.2 0.0**
GRNR *e*S **S 06 00 44.6 -2.6**
GRNR pmax pmax
comp=E,20nm,1.1s
GRNR pmax pmax
comp=Z,30nm,1.0s
GRNR smax smax
comp=E,6.0nm,0.8s
GRNR MLR MLR
comp=E,160nm,10.0s
GRNR MLR MLR
comp=Z,120nm,11.0s
JOM Ohasama 8.57 212 P **Pn 05 59 19.3 -1.8**
JOM *e*S **S 06 00 52.9 -6.9**
JMK Ichinoseki 9.06 210 P **Pn 05 59 26.1 -0.8**
JMK *e*S **S 06 01 05.5 -5.0**
PEA0B Petropavlovsk- 9.21 44 *c* ePN **Pn 05 59 29.2 +0.7**
PEA0B Petropavlovsk- 9.21 44 **P 05 59 29.9 -0.8**
PETK Petropavlovsk- 9.21 44 P **Pn 05 59 28.2 -0.2**
comp=Z,0.7nm,0.3s,baz=219,slow=6.9,SNR=12
PET Petropavlovsk 9.62 46 *e*P **P 05 59 35.2 0.0**
PET AMB AMB 05 59 36.9
comp=Z,20nm,0.8s
PET *e*S **S 06 01 20.4 -2.1**
KLR Kul'dur 10.51 288 P **Pn 05 59 44.5 +0.4**
comp=Z,2.7nm,0.3s,baz=89,slow=10,SNR=136
KLR Kul'dur 10.51 288 *e*P **P 05 59 45.2 0.0**
KLR AMB AMB 05 59 46.7
comp=Z,70nm,0.9s
KLR Kul'dur 10.51 288 *de*PN **P 05 59 45.2 0.0**
KLR pmax pmax
comp=Z,70nm,0.9s
USA0B Ussuriysk Arra 10.93 261 PN **Pn 05 59 49.4 +0.3**
USA0B Ussuriysk Arra 10.93 261 P **Pn 05 59 49.4 +0.3**
USRK Ussuriysk Ar. 10.93 261 P **Pn 05 59 49.0 -0.1**
baz=60,slow=12,SNR=65
USRK Ussuriysk Ar. 10.93 261 PN **Pn 05 59 49.0 -0.1**
EKMR Ekimchan 10.96 309 *i* P **P 05 59 50.3 +0.2**
EKMR AMB AMB 05 59 51.3
comp=Z,30nm,0.7s

VLA Vladivostok 11.41 256 *e*P **Pn 05 59 54.6 -0.2**
VLA AMB AMB 05 59 55.6
comp=Z,40nm,0.8s
VLA Vladivostok 11.41 256 *i* PN **Pn 05 59 54.6 -0.2**
VLA pmax pmax
comp=Z,41nm,0.8s
MJB9 Matsu-Tunnel 12.30 216 P **Pn 06 00 07.3 +1.8**
MAJO Matsushiro 12.31 216 *i* PN **Pn 06 00 05.7 +0.1**
MAJO pmax pmax
comp=Z,7.0nm,0.8s
MAJO Matsushiro 12.31 216 P **Pn 06 00 07.3 +1.7**
MAT Matsushiro 12.31 216 P **Pn 06 00 06.7 +1.1**
MAT *e*S S 06 02 10.9 -11
MJAR Matsushiro Arr 12.31 216 P **Pn 06 00 06.3 +0.7**
comp=Z,0.4nm,0.3s,baz=12,slow=12,SNR=16
MDJ Mudanjiang 12.43 266 P **Pn 06 00 06.8 -0.1**
MA2 Magadan 12.85 8 *e*P **Pn 06 00 11.9 +0.2**
MA2 Magadan 12.85 8 *ce*PN **Pn 06 00 11.9 +0.2**
MA2 pmax pmax
comp=Z,11nm,1.0s
MA2 Magadan 12.85 8 P **Pn 06 00 12.4 +0.7**
INU Inuyama 13.82 217 P **Pn 06 00 24.2 +0.9**
BMKR Bomnak 13.88 311 *i* P **P 06 00 22.7 +0.4**
BMKR AMB AMB 06 00 26.0
comp=Z,30nm,0.6s
ZEA Zeya 14.35 306 *e*P **Pn 06 00 28.9 -0.3**
ZEA AMB AMB 06 00 32.5
comp=Z,40nm,1.0s
ZEA AMB AMB 06 00 32.5
comp=Z,40nm,1.0s
ZEA AMB AMB 06 00 32.5
comp=Z,50nm,1.0s
ZEA Zeya 14.35 306 *e*P **P 06 00 27.5 +0.1**
ZEA pmax pmax
comp=N,41nm,1.0s
ZEA pmax pmax
comp=E,36nm,1.2s
ZEA pmax pmax
comp=Z,46nm,1.2s
KROS Kirovskiy 14.76 308 *i* P **P 06 00 32.3 +0.4**
KROS AMB AMB 06 00 33.8
comp=Z,30nm,0.7s
KROS AMB AMB 06 00 33.8
comp=Z,40nm,0.7s
KROS AMB AMB 06 00 33.8
comp=Z,60nm,0.7s
CN2 Changchun 15.51 266 *e*P **P 06 00 38.7 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KSRS Korea Array 17.03 243 P **P 06 00 58.2 +1.6**
comp=Z,1.5nm,0.3s,baz=45,slow=10,SNR=28
KS19 Wonju Array Si 17.03 243 P **P 06 00 58.1 +1.3**
KS19 IAmb IAmb 06 01 03.1
comp=Z,13nm,0.7s
YAK Yakutsk 18.09 333 P **P 06 01 06.5 -1.2**
comp=Z,1.0nm,0.3s,baz=136,slow=3.9,SNR=11
YAK Yakutsk 18.09 333 *e*P **P 06 01 05.6 -2.1**
YAK Yakutsk 18.09 333 *e*P **P 06 01 05.6 -2.1**
YAK *e*S **S 06 04 12.1 -4.3**
YAK pmax pmax
comp=Z,41nm,1.1s
YAK pmax pmax
comp=N,17nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK smax smax
comp=E,71nm,1.1s
YAK smax smax
comp=N,31nm,0.8s
JNU Nakatsue 18.50 228 P **P 06 01 13.9 +1.4**
comp=N,0.8nm,0.3s,baz=10,slow=2.2,SNR=8.6
JNU Nakatsue 18.50 228 IAmb IAmb 06 01 16.7
comp=Z,26nm,0.9s
AMKA Amchitka 21.43 66 P **P 06 01 41.9 +0.9**
BILL Bilibino 23.33 18 *e*P **P 06 01 56.6 -1.4**
BILL Bilibino 23.33 18 *de*P **P 06 01 56.6 -1.4**
BILL *e*S **S 06 05 40.6 -3.4**
BILL pmax pmax
comp=Z,5.0nm,0.5s
BJT Baijiatuan 23.37 264 P **P 06 02 00.8 +2.1**
BJT pmax pmax
comp=Z,24nm,0.7s
BJT Baijiatuan 23.37 264 P **P 06 02 00.8 +2.1**
BJT IAmb IAmb 06 02 01.9
comp=Z,24nm,0.7s
HHC Hu-ho-hao-te 26.15 270 *e*P **P 06 02 25.7 +2.0**
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,68nm,6.6s
ULN Ulaanbaatar 26.90 287 *e*P **P 06 02 30.1 -0.3**
ULN Ulaanbaatar 26.90 287 *ce*P **P 06 02 30.1 -0.3**
ULN pmax pmax
comp=Z,20nm,1.3s
ULN Ulaanbaatar 26.90 287 P **P 06 02 30.6 +0.2**
ULN IAmb IAmb 06 02 34.5
comp=Z,10nm,0.7s
SONM Songino Array 27.34 287 P **P 06 02 34.0 -0.3**
comp=Z,4.6nm,0.5s,baz=72,slow=8.6,SNR=18
SONM Songino Array 27.34 287 P **P 06 02 34.0 -0.3**
TLY Talaya 28.39 296 *i* P **P 06 02 43.2 -0.1**
TLY Talaya 28.39 296 *i* P **P 06 02 43.2 -0.1**
TLY pmax pmax
comp=Z,11nm,1.6s
ZAK Zakamensk 28.82 293 *i* P **P 06 02 46.6 -0.6**
ZAK Zakamensk 28.82 293 *e*P **P 06 02 46.6 -0.6**
ZAK *e* 06 03 50.3
ZAK pmax pmax
comp=Z,8.0nm,1.1s
ZAK pmax pmax
comp=Z,3.0nm,1.1s
LZH Lanzhou 33.75 267 ⇑ P **P 06 03 31.5 +1.3**
LZH pP pP 06 04 40.2 +3.8
LZH PP **PnPn 06 05 01.7 +3.4**
LZH sP sP 06 05 20.1 +3.4
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,67nm,5.0s
GTA Gaotai 34.84 275 ⇓ P **P 06 03 40.4 +1.0**
GTA pP pP 06 04 49.0 +3.0
GTA ScP **ScP 06 09 15.4 +0.5**
GTA ScS **ScS 06 13 16.3 -3.2**
GTA pmax pmax
comp=Z,24nm,1.0s
GTA pmax pmax
comp=Z,56nm,5.7s
GTA LR LR
comp=Z,200nm,14.6s
GTA LR LR
comp=Z,180nm,12.7s
GTA LR LR
comp=Z,170nm,12.4s
SVW2 Sparrevohn 35.29 45 P **P 06 03 44.2 +1.4**
NRIK Noril'sk 36.46 329 *i* P **P 06 03 52.1 -0.4**
NRIK pmax pmax
comp=Z,3.0nm,1.1s
PPLA Purkeypile 36.79 42 P **P 06 03 57.0 +1.5**
OHAK Old Harbor 36.91 51 P **P 06 03 56.9 +0.5**
OHAK IAmb IAmb 06 03 57.6
comp=Z,25nm,0.9s
SKT Skwentna 37.16 43 P **P 06 03 59.0 +0.5**
KDAK Kodiak Island 37.19 50 P **P 06 03 58.3 -0.4**
KDAK pmax pmax
comp=Z,13nm,0.8s
KDAK Kodiak Island 37.19 50 P **P 06 03 58.3 -0.4**
KDAK IAmb IAmb 06 04 00.2
comp=Z,13nm,0.8s
COLD Coldfoot 37.52 35 P **P 06 04 00.9 -0.5**
baz=270
COLD Coldfoot 37.52 35 P **P 06 04 01.2 -0.2**
SUA Susitna One 37.59 44 P **P 06 04 02.8 +0.6**
BRLK Bradley Lake 37.74 47 P **P 06 04 03.7 +0.4**
BRLK IAmb IAmb 06 04 05.1
comp=Z,9.6nm,0.6s
TOLK Toolik Lake Re 37.79 32 P **P 06 04 03.0 -0.7**
baz=268
NEA2 Nenana 38.06 39 P **P 06 04 06.3 +0.3**
baz=274,SNR=9.9
RND Reindeer 38.26 41 P **P 06 04 08.4 +0.8**
RND pmax pmax
comp=Z,7.0nm,0.8s
RND Reindeer 38.26 41 P **P 06 04 08.4 +0.8**
PMR Palmer 38.34 44 P **P 06 04 08.7 +0.5**
PMR pmax pmax
comp=Z,4.0nm,0.6s
PMR Palmer 38.34 44 P **P 06 04 08.7 +0.5**
MDM Murphy Dome 38.40 38 P **P 06 04 09.2 +0.5**
GHO Glory Hole Cre 38.41 43 P **P 06 04 09.7 +0.7**
GHO IAmb IAmb 06 04 10.4
comp=Z,21nm,1.2s
WRH Wood River Hil 38.50 39 P **P 06 04 09.8 +0.3**
TCOL CIGO, UAF Yank 38.56 38 P **P 06 04 10.3 +0.3**
baz=275,SNR=5.2
COLA College 38.57 38 *i* P **P 06 04 10.4 +0.4**
COLA pmax pmax
comp=Z,14nm,0.7s
COLA College 38.57 38 P **P 06 04 10.9 +0.9**
COLA IAmb IAmb 06 04 11.4
comp=Z,18nm,0.7s
KNK Knik Glacier 38.68 44 IAmb IAmb 06 04 14.0
comp=Z,18nm,1.0s
SML Sawmill 38.69 43 IAmb IAmb 06 04 12.7
comp=Z,29nm,1.1s
POKR Poker Plat Res 38.72 38 P **P 06 04 11.4 0.0**
baz=275
DGZ Jazzator, Alta 38.86 297 *i* P **P 06 04 13.1 +0.3**
DGZ pmax pmax
comp=Z,8.0nm,0.6s
IL31 38.99 38 P **P 06 04 13.4 0.0**
IL31 IAmb IAmb 06 04 14.7
comp=Z,9.3nm,0.6s
ILAR Eielson Array 38.99 38 P **P 06 04 13.2 -0.3**
comp=Z,7.0nm,0.7s,baz=270,slow=7.4,SNR=85
ILAR PcP **PcP 06 06 14.8 -0.9**
comp=Z,0.9nm,0.6s,baz=280,slow=2.3,SNR=5.0
HDA Harding Lake 39.00 39 P **P 06 04 12.6 -1.0**
baz=276,SNR=11
ZALV Zalesovo Beam 39.11 304 P **P 06 04 14.0 -0.6**
comp=Z,3.6nm,0.5s,baz=70,slow=6.9,SNR=6.1
ZALV Zalesovo Beam 39.11 304 *i* P **P 06 04 14.6 0.0**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
RIDG Independent Ri 40.00 40 P **P 06 04 21.5 -0.3**
EYAK Cordova Ski Ar 40.13 45 P **P 06 04 24.2 +1.3**
SCRK Sand Creek 40.34 39 P **P 06 04 24.1 -0.6**
baz=279,SNR=24
WMQ Urumqi 40.96 288 *e*P **P 06 04 30.7 +0.7**
WMQ sP sP 06 06 20.3 +2.1
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ pmax pmax
comp=Z,61nm,5.3s
WMQ LR LR
comp=Z,410nm,21.7s
WMQ LR LR
comp=Z,260nm,27.3s
WMQ LR LR
comp=Z,97nm,27.3s
WMQ Urumqi 40.96 288 IAmb IAmb 06 04 32.6
comp=Z,20nm,0.6s
ZSN Zaisan 41.26 294 *e*P **P 06 04 32.3 0.0**
comp=Z,2.9nm,0.7s,baz=294
ZSN Zaisan 41.26 294 *e*P **P 06 04 32.2 0.0**
ZSN pmax pmax
comp=Z,3.0nm,0.7s
CRQM Cirque 41.35 44 IAmb IAmb 06 04 36.0
comp=Z,22nm,1.0s
EGAK Eagle 41.42 38 P **P 06 04 33.2 0.0**
EGAK IAmb IAmb 06 04 33.8
comp=Z,12nm,0.7s
BALM Baldy 41.66 44 P **P 06 04 36.7 +1.3**
BARN Barnard Glacie 41.98 44 IAmb IAmb 06 04 39.8
comp=Z,10nm,0.6s
YAH Yahtse 42.11 45 IAmb IAmb 06 04 42.5
comp=Z,16nm,0.7s
CTGM Chitina Glacie 42.16 44 P **P 06 04 40.9 +1.5**
CTGM IAmb IAmb 06 04 41.5
comp=Z,31nm,1.2s
EPYK Eagle Plains 42.91 35 P **P 06 04 45.4 +0.2**
baz=282
EPYK Eagle Plains 42.91 35 P **P 06 04 45.7 +0.5**
EPYK IAmb IAmb 06 04 46.4
comp=Z,9.8nm,0.5s
MK31 Makanchi Array 43.14 295 P **P 06 04 47.2 0.0**
MK31 pmax pmax
comp=Z,17nm,0.7s
MK31 Makanchi Array 43.14 295 P **P 06 04 47.2 0.0**
MK31 IAmb IAmb 06 04 47.7
comp=Z,17nm,0.7s
MKAR Makanchi Array 43.14 295 P **P 06 04 46.9 -0.4**
comp=Z,14nm,0.5s,baz=70,slow=7.7,SNR=144
MAKZ Makanchi 43.33 295 P **P 06 04 48.2 -0.5**
MAKZ pmax pmax
comp=Z,15nm,0.6s
MAKZ Makanchi 43.33 295 P **P 06 04 48.2 -0.5**
MAKZ IAmb IAmb 06 04 49.2
comp=Z,15nm,0.6s
INK Inuvik 43.70 32 P **P 06 04 51.2 -0.1**
INK pmax pmax
comp=Z,10.0nm,0.4s
INK Inuvik 43.70 32 P **P 06 04 51.1 -0.1**
INK IAmb IAmb 06 04 51.5
comp=Z,9.8nm,0.4s
KURK Kurchatov 43.77 301 *e*P **P 06 04 51.4 -0.7**
KURK Kurchatov 43.77 301 *ce*P **P 06 04 51.4 -0.7**
KURK pmax pmax
comp=Z,30nm,0.8s
KURK Kurchatov 43.77 301 P **P 06 04 51.2 -0.9**
KURK IAmb IAmb 06 04 52.1
comp=Z,26nm,0.7s
KURBB Kurchatov Arra 43.86 301 PcP **PcP 06 06 31.6 -0.4**
comp=Z,0.6nm,0.4s,baz=71,slow=3.1,SNR=4.1
KURBB S **S 06 10 52.8 -4.0**
comp=Z,0.6nm,0.7s,baz=64,slow=13,SNR=5.6
HYT Haines Junctio 43.99 43 IAmb IAmb 06 04 56.9
comp=Z,36nm,1.0s
TDK Taldyqorghan 46.36 294 *e*P **P 06 05 12.7 +0.2**
comp=Z,27nm,0.7s,baz=294
TDK Taldyqorghan 46.36 294 *e*P **P 06 05 12.6 +0.2**
TDK pmax pmax
comp=Z,27nm,0.7s
SHLS Shalkode 46.58 291 *e*P **P 06 05 12.0 -2.3**
comp=Z,6.4nm,0.7s,baz=291
SHLS Shalkode 46.58 291 *e*P **P 06 05 12.0 -2.3**
SHLS pmax pmax
comp=Z,6.0nm,0.7s
C36M Paulatuk 46.70 29 P **P 06 05 13.6 -1.0**
baz=290
UZB Uzynbulak 46.87 292 *e*P **P 06 05 16.4 -0.1**
comp=Z,4.9nm,0.6s,baz=291
UZB Uzynbulak 46.87 292 *e*P **P 06 05 16.4 -0.1**
UZB pmax pmax
comp=Z,5.0nm,0.6s
SATY Saty 47.30 292 *e*P **P 06 05 20.1 +0.3**
comp=Z,4.7nm,0.6s,baz=292
SATY Saty 47.30 292 *e*P **P 06 05 20.1 +0.3**
SATY pmax pmax
comp=Z,5.0nm,0.6s
SATY Saty 47.30 292 *e*P **P 06 05 20.1 +0.3**
SATY pmax pmax
comp=Z,5.0nm,0.6s
BVAR Borovoye Array 47.49 307 P **P 06 05 20.4 -0.5**
comp=Z,2.0nm,0.5s,baz=58,slow=6.6,SNR=7.0
BVAR PcP **PcP 06 06 45.3 +0.6**
comp=Z,0.8nm,0.5s,baz=64,slow=6.6,SNR=2.4
BVAR S **S 06 11 44.7 -3.5**
comp=Z,0.9nm,0.6s,baz=86,slow=4.6,SNR=4.2
BRZS Berezniki 47.53 303 *e*P **P 06 05 20.4 -1.0**
comp=Z,5.7nm,0.5s,baz=302
BRZS Berezniki 47.53 303 *e*P **P 06 05 20.3 -1.0**
BRZS pmax pmax
comp=Z,6.0nm,0.5s
BRVK Borovoye 47.53 307 *e*P **P 06 05 21.0 -0.2**
BRVK Borovoye 47.53 307 *ce*P **P 06 05 21.0 -0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 47.53 307 P **P 06 05 20.7 -0.5**
CHKK Chushkaly 47.81 293 *e*P **P 06 05 23.0 -0.6**
baz=293
CHKK Chushkaly 47.81 293 *e*P **P 06 05 22.9 -0.6**
MDOK Medeo 48.11 293 *e*P **P 06 05 26.2 +0.1**
baz=292
MDOK Medeo 48.11 293 *e*P **P 06 05 26.1 +0.1**
AAA Alma-Ata 48.17 293 *e*P **P 06 05 27.0 +0.7**
comp=Z,25nm,0.7s,baz=292
AAA Alma-Ata 48.17 293 *e*P **P 06 05 27.0 +0.7**
AAA pmax pmax
comp=Z,25nm,0.7s
KUU Kurty 48.20 294 *e*P **P 06 05 25.7 -0.7**
comp=Z,13nm,0.6s,baz=294

KUU **Kurty** 48.20 294 *e*P P 06 05 25.7 -0.7
KUU pmax pmax
comp=Z,13nm,0.6s
TNSS **Tian-Shan** 48.24 292 *e*P P 06 05 27.5 +0.2
baz=292
TNSS **Tian-Shan** 48.24 292 *e*P P 06 05 27.4 +0.2
TARG **Taragay, Kyrgy** 48.36 290 IAmb IAmb 06 05 30.4
comp=Z,14nm,0.5s
CMAR **Chiang Mai Arr** 48.45 251 P P 06 05 30.1 +1.4
comp=Z,0.7nm,0.3s,baz=31,slow=7.3,SNR=5.9
CMAR **Chiang Mai Arr** 48.45 251 *i* P P 06 05 32.2 +3.6
CMAR pmax pmax
comp=Z,1.0nm,0.3s
MTBS **Maitube** 48.52 293 *e*P P 06 05 29.2 +0.1
baz=293
MTBS **Maitube** 48.52 293 *e*P P 06 05 29.1 +0.1
KDJ **Kajisay** 48.55 291 IAmb IAmb 06 05 30.7
comp=Z,23nm,0.7s
BTLS **Baital** 49.05 296 *e*P P 06 05 32.2 -0.6
comp=Z,1.9nm,0.8s,baz=296
BTLS **Baital** 49.05 296 *e*P P 06 05 32.2 -0.6
BTLS pmax pmax
comp=Z,2.0nm,0.8s
ULHL **Ulahol** 49.09 292 P P 06 05 34.2 +0.7
SNR=11
TKM2 **Tokmak 2** 49.15 293 P P 06 05 34.2 +0.3
SNR=8.5
SGDS **Sogindy** 49.49 294 *e*P P 06 05 36.4 +0.1
comp=Z,8.0nm,0.7s,baz=294
SGDS **Sogindy** 49.49 294 *e*P P 06 05 36.3 +0.1
SGDS pmax pmax
comp=Z,8.0nm,0.7s
USP **Ospenovka** 49.66 294 P P 06 05 38.0 +0.5
SNR=17
KBK **Karagaybulak** 49.70 293 P P 06 05 38.7 +0.8
SNR=6.6
KZA **Kyzart** 49.81 292 P P 06 05 40.5 +1.4
SNR=5.8
TAPN **Taplejung** 49.95 269 *e*P P 06 05 40.8 +0.6
AAK **Ala-Archa** 49.99 293 P P 06 05 40.5 +0.4
SNR=5.7
AAK **Ala-Archa** 49.99 293 *e*P P 06 05 40.6 +0.4
AAK **Ala-Archa** 49.99 293 *ce*P P 06 05 40.6 +0.4
AAK pmax pmax
comp=Z,10.0nm,0.7s
AAK **Ala-Archa** 49.99 293 P P 06 05 40.7 +0.6
AAK IAmb IAmb 06 05 41.7
comp=Z,11nm,0.8s
EKS2 **Erkin-Say** 50.43 294 P P 06 05 44.0 +0.6
SNR=6.3
ODAN **Odare** 50.49 268 *e*P P 06 05 44.4 +0.3
comp=Z,8.1nm,0.5s
KSH **Kashi** 50.71 289 P P 06 05 50.3 +4.8
KSH pmax pmax
comp=Z,14nm,0.8s
AML **Almayashu** 50.76 293 P P 06 05 47.0 +0.8
SNR=7.0
JIRN **Jiri** 50.80 270 *e*P P 06 05 47.3 +0.8
comp=Z,36nm,0.5s
GUN **Gumba** 50.85 271 *e*P P 06 05 47.4 +0.5
comp=Z,18nm,0.3s
RAMN **Ramite** 50.97 269 *e*P P 06 05 48.0 +0.3
comp=Z,24nm,0.4s
KKN **Kakani** 51.34 271 *e*P P 06 05 51.4 +1.1
PKI **Pulchoki** 51.39 271 *e*P P 06 05 50.3 -0.6
comp=Z,6.2nm,0.3s
DMN **Daman** 51.58 271 *e*P P 06 05 53.0 +0.9
comp=Z,12nm,0.5s
GKN **Gorkha** 51.65 272 *e*P P 06 05 52.9 +0.4
comp=Z,24nm,0.3s
SPITS **Spitsbergen Ar** 51.65 349 PcP PcP 06 06 58.6 -1.1
comp=Z,3.6nm,0.8s,baz=0.0,slow=4.9,SNR=1.8
DZA **Taraz** 51.84 295 *e*P P 06 05 53.5 -0.1
baz=295
DZA **Taraz** 51.84 295 *e*P P 06 05 53.4 -0.1
ARU **Arti** 52.02 315 P P 06 05 53.7 -0.8
comp=Z,3.8nm,0.5s,baz=79,slow=2.3,SNR=12
ARU **Arti** 52.02 315 *i* P P 06 05 53.9 -0.7
ARU **Arti** 52.02 315 *ci* P P 06 05 53.9 -0.7
ARU *PP pP 06 07 06.6 -0.3
ARU 06 07 51.1
ARU SS SKiKP 06 16 26.7 -12
ARU pmax pmax
comp=Z,10.0nm,0.7s
ARU **Arti** 52.02 315 P P 06 05 53.9 -0.7
ARU IAmb IAmb 06 05 54.3
comp=Z,11nm,0.7s
DANN **Dangsing** 52.03 273 *e*P P 06 05 56.0 +0.5
comp=Z,42nm,0.5s
KK31 **Karatay Array** 52.23 296 IAmb IAmb 06 05 57.1
comp=Z,11nm,0.8s
KKAR **Karatay Array** 52.23 296 IAmb IAmb 06 05 57.1
comp=Z,11nm,0.8s
KOLN **Koldanda** 52.51 272 *e*P P 06 05 59.4 +0.6
comp=Z,7.4nm,0.3s
PYUN **Piuthan** 52.71 273 *e*P P 06 06 01.2 +0.8
comp=Z,38nm,0.4s
IUG **luzhnay** 53.05 295 *e*P P 06 06 02.9 +0.4
comp=Z,8.2nm,0.9s,baz=295
IUG **luzhnay** 53.05 295 *e*P P 06 06 02.8 +0.4
IUG pmax pmax
comp=Z,8.0nm,0.9s
YKA **Yellowknife Ar** 53.20 35 P P 06 06 02.9 -0.2
comp=Z,3.7nm,0.6s,baz=303,slow=7.3,SNR=9.9
YKA PcP PcP 06 07 05.4 -0.4
comp=Z,0.9nm,0.6s,baz=312,slow=4.3,SNR=4.5
BTK **Batken** 53.72 292 IAmb IAmb 06 06 08.8
comp=Z,18nm,0.8s
PRGR **Permogore** 54.91 325 *e*P P 06 06 13.9 -1.3
PRGR pmax pmax
comp=Z,7.0nm,0.7s
ABKAR **Akbulak array** 55.07 307 IAmb IAmb 06 06 16.4
comp=Z,6.0nm,0.5s
AKTO **Aktyubinsk** 55.45 309 P P 06 06 18.6 -0.8
comp=Z,1.3nm,0.4s,baz=70,slow=6.7,SNR=6.3
NIL **Nilore** 55.88 285 P P 06 06 23.3 +0.6
NIL pmax pmax
comp=Z,17nm,0.9s
NIL **Nilore** 55.88 285 P P 06 06 23.3 +0.6
NIL IAmb IAmb 06 06 25.2
comp=Z,17nm,0.8s
TMCR **Tamitsa** 56.17 330 *e*P P 06 06 24.2 +0.1
TMCR pmax pmax
comp=Z,9.0nm,0.7s
ARCES **ARCESS Array B** 56.25 339 P P 06 06 23.6 -1.0
comp=Z,0.9nm,0.6s,baz=47,slow=7.1,SNR=4.1
ARCES PcP PcP 06 07 17.2 -0.3
comp=Z,2.2nm,0.9s,baz=46,slow=5.2,SNR=5.6
A04D **Lummi Island** 57.04 52 P P 06 06 31.5 +1.0
baz=306
NLWA **Neilton Lookou** 57.18 54 IAmb IAmb 06 06 34.3
comp=Z,14nm,1.0s
D03D **Eldon** 57.52 53 P P 06 06 35.2 +1.4
baz=306,SNR=5.7
KBL **Kabul** 58.11 288 P P 06 06 38.4 +0.1
KBL pmax pmax
comp=Z,20nm,0.6s
KBL **Kabul** 58.11 288 P P 06 06 38.4 +0.1
E04D **Cinebar** 58.39 54 P P 06 06 41.1 +1.3
baz=307
F04A **Amboy** 58.84 55 IAmb IAmb 06 06 45.4
comp=Z,12nm,0.7s
I02D **Swisshome** 59.13 57 P P 06 06 45.6 +0.8
baz=307
H04D **Lebanon** 59.51 56 P P 06 06 48.6 +1.1
baz=308
I03D **Drain, OR** 59.66 57 P P 06 06 50.1 +1.6
baz=308
H04A **Detroit Lake** 59.73 56 IAmb IAmb 06 06 51.6
comp=Z,11nm,0.8s
G05D **Wamic, OR** 59.88 55 P P 06 06 51.7 +1.8
baz=308
C09A **Chrisman Ranch** 59.97 51 IAmb IAmb 06 06 52.6
comp=Z,8.7nm,0.8s
I04A **Tendick Farm,** 60.14 57 P P 06 06 53.1 +1.3
baz=308
NEW **Newport** 60.29 50 P P 06 06 53.5 +0.8
baz=308,SNR=11
NEW **Newport** 60.29 50 IAmb IAmb 06 06 54.9
comp=Z,6.3nm,0.8s
I05D **Terrebonne, OR** 60.42 56 P P 06 06 54.7 +1.0
baz=308
J04D **Umpqua Nationa** 60.66 57 P P 06 06 56.9 +1.4
baz=308,SNR=6.6
E09A **Wood Farm, Sta** 60.84 52 IAmb IAmb 06 06 58.8
comp=Z,10nm,0.8s
PINE **Pine Mountain** 60.98 56 P P 06 06 59.9 +2.3
PINE IAmb IAmb 06 07 00.7
comp=Z,14nm,0.8s
J05D **Fort Rock, OR** 61.13 56 P P 06 07 00.1 +1.6
baz=309,SNR=8.8
L04D **Klamath Falls** 61.18 58 P P 06 07 00.3 +1.4
baz=309,SNR=5.4
K04D **Chiloquin, OR** 61.24 57 P P 06 07 00.7 +1.4
baz=309
M02C **Callahan** 61.37 59 P P 06 07 02.0 +1.9
baz=309
WALA **Waterton Lakes** 61.45 48 P P 06 07 01.7 +1.1
K05A **Summer Lake** 61.67 57 IAmb IAmb 06 07 05.3
comp=Z,12nm,0.9s
M04C **Macdoel** 61.72 58 P P 06 07 04.1 +1.7
baz=309
N02D **Trinity Center** 61.72 59 P P 06 07 04.2 +1.8
baz=309,SNR=5.2
FINES **FINESS Array B** 62.02 332 P P 06 07 02.9 -1.0
comp=Z,3.0nm,0.5s,baz=38,slow=7.1,SNR=22
HRA **Herat** 62.58 292 P P 06 07 09.6 +1.3
HRA IAmb IAmb 06 07 10.0
comp=Z,7.4nm,0.6s
O03E **Paynes Creek** 62.68 59 P P 06 07 09.3 +0.6
baz=310
OBN **Obninsk** 62.73 323 *e*P P 06 07 06.2 -2.4
OBN **Obninsk** 62.73 323‖ *e*P P 06 07 06.2 -2.4
OBN *e*PP pP 06 08 26.0 +1.9
OBN *e* 06 09 30.9
OBN *eS* S 06 15 14.4 +5.8
OBN pmax pmax
comp=Z,5.0nm,0.9s
MSO **Missoula** 62.87 50 P P 06 07 10.7 +0.8
baz=311,SNR=14
MSO **Missoula** 62.87 50 IAmb IAmb 06 07 12.1
comp=Z,11nm,1.1s
GEYT **Alibeck** 62.90 297 P P 06 07 10.2 +0.1
comp=Z,6.3nm,0.7s,baz=17,slow=1.5,SNR=8.6
WVOR **Wild Horse Val** 63.15 56 IAmb IAmb 06 07 14.4
comp=Z,4.4nm,0.7s
FFC **Flin Flon** 63.18 37 P P 06 07 12.4 +0.7
FFC pmax pmax
comp=Z,13nm,0.8s
FFC **Flin Flon** 63.18 37 P P 06 07 12.4 +0.7
ORV **Oroville** 63.33 60 IAmb IAmb 06 07 14.5
comp=Z,5.0nm,0.8s
EGMT **Eagleton** 64.21 47 P P 06 07 19.2 +0.7
baz=312,SNR=9.6
EGMT **Eagleton** 64.21 47 IAmb IAmb 06 07 20.5
comp=Z,17nm,1.2s
LRM **Limekiln Ridge** 64.31 50 P P 06 07 20.2 +0.8
PAHR **Pah Rah Range** 64.48 59 IAmb IAmb 06 07 22.8
comp=Z,6.5nm,0.9s
DLMT **Dillon** 64.54 50 IAmb IAmb 06 07 23.2
comp=Z,7.8nm,0.8s
PNTR **Pine Nut** 64.76 59 IAmb IAmb 06 07 24.9
comp=Z,7.0nm,0.7s
HLID **Hailey** 64.76 53 P P 06 07 23.3 +1.1
baz=312,SNR=6.4
BOZ **Bozeman (W)** 64.89 49 P P 06 07 24.1 +1.1
baz=312,SNR=24
BOZ **Bozeman (W)** 64.89 49 P P 06 07 24.1 +1.1
BOZ pmax pmax
comp=Z,17nm,1.3s
BOZ **Bozeman (W)** 64.89 49 P P 06 07 24.1 +1.1
BOZ IAmb IAmb 06 07 25.3
comp=Z,17nm,1.3s
CMB **Columbia Colle** 64.98 61 IAmb IAmb 06 07 25.9
comp=Z,6.7nm,0.9s
WAKR **Walker** 65.24 60 IAmb IAmb 06 07 28.1
comp=Z,7.5nm,0.8s
KVN **Kaiserville** 65.66 58 IAmb IAmb 06 07 30.5
comp=Z,9.6nm,0.7s
RYN **Ryan** 65.69 59 IAmb IAmb 06 07 30.7
comp=Z,7.0nm,0.9s
YHH **Holmes Hill** 65.84 50 P P 06 07 30.5 +1.3
NVAR **Mina Array Bea** 65.95 59 P P 06 07 31.6 +1.6
comp=Z,5.5nm,0.7s,baz=291,slow=6.3,SNR=54
MDPB **Devils Postpil** 66.02 60 P P 06 07 31.9 +1.4
MDPB IAmb IAmb 06 07 32.9
comp=Z,5.1nm,0.7s
H17A **Grant Village** 66.25 50 IAmb IAmb 06 07 35.8
comp=Z,10.0nm,1.1s
FLWY **Flagg Ranch** 66.40 50 IAmb IAmb 06 07 35.9
comp=Z,6.7nm,1.2s
IMW **Indian Meadow** 66.40 51 IAmb IAmb 06 07 35.8
comp=Z,3.4nm,0.6s
RLMT **Red Lodge** 66.43 49 P P 06 07 34.0 +1.1
baz=314,SNR=7.1
RLMT **Red Lodge** 66.43 49 IAmb IAmb 06 07 34.9
comp=Z,5.0nm,0.6s
DGMT **Dagmar** 66.60 43 P P 06 07 34.2 +0.5
baz=315,SNR=8.9
DGMT **Dagmar** 66.60 43 P P 06 07 34.1 +0.5
NB2 **NORSAR Subarra** 66.62 338 P P 06 07 32.3 -1.2
comp=Z,1.9nm,0.5s,baz=30,slow=6.5
NOA **NORSAR Array B** 66.62 338 P P 06 07 32.5 -1.0
comp=Z,1.8nm,0.5s,baz=32,slow=6.6,SNR=17
TPAW **Teton Pass** 66.67 51 IAmb IAmb 06 07 37.5
comp=Z,10nm,1.1s
HFS **Hagfors** 66.74 337 P P 06 07 33.1 -1.2
comp=Z,2.6nm,0.4s,baz=56,slow=5.6,SNR=20
SNOW **Snow King Moun** 66.79 51 IAmb IAmb 06 07 37.7
comp=Z,4.1nm,0.7s
REDW **Red Top Meadow** 66.81 51 IAmb IAmb 06 07 37.6
comp=Z,4.8nm,0.8s
LAO **LASA Array** 66.88 46 P P 06 07 36.1 +0.6
baz=315
LAO **LASA Array** 66.88 46 IAmb IAmb 06 07 37.7
comp=Z,8.6nm,1.1s
AHID **Auburn Hatcher** 67.09 51 P P 06 07 38.0 +1.0
AHID IAmb IAmb 06 07 39.1
comp=Z,8.1nm,1.2s
CWC **Cottonwood Cre** 67.41 60 P P 06 07 40.1 +1.0
baz=313
WB2 **Warramunga Arr** 67.55 193 P P 06 07 40.8 +1.1
WB2 IAmb IAmb 06 07 41.4
comp=Z,4.9nm,0.7s
WRA **Warramunga Arr** 67.55 193 P P 06 07 40.6 +0.9
comp=Z,4.8nm,0.5s,baz=8.4,slow=6.6,SNR=56
FITZ **Fitzroy Crossi** 67.55 202 P P 06 07 42.0 +2.3
comp=Z,3.0nm,0.7s,baz=4.4,slow=5.2,SNR=5.5
FITZ **Fitzroy Crossi** 67.55 202 P P 06 07 40.8 +1.0
R11A **Troy Canyon, C** 67.59 58 P P 06 07 41.3 +1.1
baz=313,SNR=7.8
KIV **Kislovodsk** 67.62 311 *e*P P 06 07 41.5 +1.4
KIV **Kislovodsk** 67.62 311 *e*P P 06 07 41.5 +1.4
KIV pmax pmax
comp=Z,49nm,1.1s
HWUT **Hardware Ranch** 67.63 53 IAmb IAmb 06 07 42.4
comp=Z,5.0nm,0.8s
KBZ **Khabaz** 67.67 311 P P 06 07 41.0 +0.7
comp=Z,5.2nm,0.7s,baz=34,slow=5.3,SNR=11
KBZ **Khabaz** 67.67 311 *i* P P 06 07 41.3 +1.0
KBZ **Khabaz** 67.67 311 *ci* P P 06 07 41.3 +1.0
KBZ pmax pmax
comp=Z,6.0nm,0.9s
ISA **Isabella, Lake** 67.70 61 P P 06 07 41.5 +0.7
baz=313
ISA **Isabella, Lake** 67.70 61 IAmb IAmb 06 07 42.0
comp=Z,4.5nm,0.8s
BW06 **Boulder Array** 67.91 51 P P 06 07 43.0 +0.9
baz=314,SNR=16
BW06 **Boulder Array** 67.91 51 P P 06 07 43.0 +0.9
PD31 **Pinedale Array** 67.91 51 IAmb IAmb 06 07 43.9
comp=Z,7.8nm,0.6s
PDAR **Pinedale Array** 67.91 51 P P 06 07 43.0 +0.9
comp=Z,7.6nm,0.5s,baz=337,slow=0.6,SNR=115
DUG **Dugway, Tooele** 67.91 54 P P 06 07 43.6 +1.5
baz=314,SNR=13
DUG **Dugway, Tooele** 67.91 54 IAmb IAmb 06 07 44.5
comp=Z,6.8nm,0.6s
MPMC **Manual Prospec** 68.02 60 P P 06 07 44.0 +1.1
baz=313,SNR=10.0
TBLG **Delisi** 68.08 308 P P 06 07 43.5 +0.6
TBLG **Delisi** 68.08 308 P P 06 07 43.5 +0.6
FURC **Furnace Creek,** 68.12 60 P P 06 07 44.7 +1.5
baz=313,SNR=17
TPNV **Topopah Spring** 68.15 59 P P 06 07 45.0 +1.3
baz=313,SNR=13
TPNV **Topopah Spring** 68.15 59 IAmb IAmb 06 07 45.9
comp=Z,8.8nm,0.9s
LRMC **Laurel Mtn Rad** 68.30 61 P P 06 07 45.3 +0.8
baz=313
EDW2 **Edwards Air Fo** 68.52 62 P P 06 07 47.0 +1.3
baz=313,SNR=5.5
GSC **Goldstone, Bar** 68.94 61 P P 06 07 49.5 +1.1
baz=313,SNR=5.9
GSC **Goldstone, Bar** 68.94 61 IAmb IAmb 06 07 50.4
comp=Z,6.6nm,0.8s
AKASG **Malin Array Be** 68.99 323 P P 06 07 47.3 -1.0
comp=Z,1.2nm,0.4s,baz=39,slow=6.5,SNR=4.1
ULM **Lac du Bonnet** 69.00 38 P P 06 07 48.3 -0.1
comp=Z,5.2nm,0.4s,baz=313,slow=8.5,SNR=6.8
ULM **Lac du Bonnet** 69.00 38 IAmb IAmb 06 07 49.0
comp=Z,10nm,0.9s
SHPR **Sheep Range** 69.10 59 IAmb IAmb 06 07 51.9
comp=Z,4.8nm,0.8s
BFSC **Mount Baldy Ra** 69.16 62 P P 06 07 50.9 +1.1
baz=313
TUQ **Turquoise Moun** 69.38 60 P P 06 07 52.4 +1.3
baz=314,SNR=5.0
HEC **Hector,Ludlow** 69.55 61 P P 06 07 53.2 +1.1
baz=314
K22A **Casper** 69.58 49 P P 06 07 52.8 +0.5
baz=316,SNR=5.6
K22A **Casper** 69.58 49 IAmb IAmb 06 07 53.6
comp=Z,5.7nm,0.5s
BBRC **Big Bear Solar** 69.59 62 P P 06 07 53.4 +0.9
baz=314
RSSD **Black Hills** 69.79 47 P P 06 07 54.0 +0.4
baz=317
RSSD **Black Hills** 69.79 47 P P 06 07 53.7 +0.1
RSSD pmax pmax
comp=Z,7.0nm,0.6s
RSSD **Black Hills** 69.79 47 P P 06 07 53.7 +0.1
RSSD IAmb IAmb 06 07 55.0
comp=Z,7.2nm,0.6s
RWWY **Rawlins** 69.91 50 IAmb IAmb 06 07 55.0
comp=Z,10.0nm,0.9s
GMRC **Granite Mounta** 69.98 60 P P 06 07 55.9 +1.1
baz=314
PFO **Pinyon Flats O** 70.31 62 P P 06 07 57.7 +0.9
baz=314
BELC **Belle Mtn. Jos** 70.32 61 P P 06 07 57.7 +0.9
baz=314
109C **Camp Elliot, M** 70.42 63 P P 06 07 58.3 +1.0
baz=314
O20A **White River Ci** 70.46 52 P P 06 07 58.3 +0.7
baz=316,SNR=6.2
O20A **White River Ci** 70.46 52 IAmb IAmb 06 07 59.5
comp=Z,11nm,1.2s
AGMN **Agassiz Nation** 70.49 39 P P 06 07 57.1 -0.4
baz=320,SNR=5.4
AGMN **Agassiz Nation** 70.49 39 P P 06 07 56.9 -0.5
AGMN IAmb IAmb 06 07 58.1
comp=Z,9.8nm,1.1s
IRM **Iron Mountain** 70.72 61 P P 06 08 00.2 +1.1
baz=314
U15A **North Rim** 70.81 57 IAmb IAmb 06 08 02.6
comp=Z,7.6nm,0.8s
BC3 **Big Chuckawall** 70.89 61 P P 06 08 01.1 +0.9
baz=314
N23A **Red Feather La** 71.14 50 P P 06 08 02.9 +1.1
baz=316
IKP **In-Ko-Pah, Jac** 71.19 62 P P 06 08 03.0 +1.0
baz=314
PDMCI **Parker Dam,Lak** 71.22 60 P P 06 08 03.3 +1.3
baz=315
AS31 **Alice Springs** 71.27 193 P P 06 08 04.3 +2.0
ASAR **Alice Springs** 71.27 193 P P 06 08 04.0 +1.7
comp=Z,1.8nm,0.5s,baz=5.8,slow=5.6,SNR=32
PV22 **Blue Mesa, Par** 71.30 53 P P 06 08 04.2 +1.5
PV16 **Nyswonger Mesa** 71.39 54 IAmb IAmb 06 08 05.3
comp=Z,15nm,1.3s
PV11 **David Mesa, Pa** 71.42 54 IAmb IAmb 06 08 06.3
comp=Z,12nm,1.0s
PV18 **Skein Mesa, Pa** 71.44 54 IAmb IAmb 06 08 05.6
comp=Z,8.7nm,0.7s
PV07 **Paradox Valley** 71.45 53 IAmb IAmb 06 08 08.7
comp=Z,5.1nm,0.6s
PV03 **Paradox Valley** 71.47 54 IAmb IAmb 06 08 05.8
comp=Z,6.1nm,0.7s
PV15 **Paradox Valley** 71.61 53 IAmb IAmb 06 08 06.6
comp=Z,8.3nm,0.9s
GLA **Glamis** 71.68 61 P P 06 08 06.2 +1.4
baz=315
GLA **Glamis** 71.68 61 IAmb IAmb 06 08 07.1
comp=Z,5.8nm,0.8s
PV01 **Paradox Valley** 71.70 54 IAmb IAmb 06 08 06.7
comp=Z,4.8nm,0.6s
ESJX **Sierra Juarez** 71.73 63 IAmb IAmb 06 08 07.0
comp=Z,3.7nm,0.7s
WUAZ **Wupatki** 71.98 57 P P 06 08 08.3 +1.6
baz=315,SNR=5.1
WUAZ **Wupatki** 71.98 57 IAmb IAmb 06 08 09.4
comp=Z,5.5nm,0.8s
SUSD **Miller** 72.01 43 P P 06 08 07.0 +0.4
baz=319,SNR=11
ISCO **Idaho Springs** 72.11 51 P P 06 08 08.7 +1.1
baz=317,SNR=5.6
ISCO **Idaho Springs** 72.11 51 P P 06 08 08.8 +1.2
ISCO pmax pmax
comp=Z,3.0nm,1.1s
ISCO **Idaho Springs** 72.11 51 P P 06 08 08.8 +1.2
Y14A **Wickenburg** 72.14 59 IAmb IAmb 06 08 09.4
comp=Z,7.2nm,0.6s
F33A **5 Mile Ranch,** 72.18 41 P P 06 08 07.4 -0.1
F33A IAmb IAmb 06 08 08.5
comp=Z,13nm,1.2s
MVCO **Mesa Verde** 72.41 54 P P 06 08 10.3 +1.0
baz=316,SNR=7.4
MVCO **Mesa Verde** 72.41 54 IAmb IAmb 06 08 10.9
comp=Z,6.0nm,0.7s
EYMN **Ely** 72.61 37 P P 06 08 09.8 -0.1
baz=322,SNR=26
EYMN **Ely** 72.61 37 P P 06 08 09.7 -0.3
X16A **Lo Mia Camp, P** 72.72 58 IAmb IAmb 06 08 13.8
comp=Z,7.6nm,0.8s
S22A **4UR Ranch, Cre** 72.94 53 P P 06 08 13.5 +1.1
baz=317
Q24A **Divide** 72.96 51 P P 06 08 13.4 +0.9
baz=317
ECSD **EROS Data Cent** 73.65 43 P P 06 08 16.2 +0.1
baz=320,SNR=13
SDCO **Great Sand Dun** 73.66 52 P P 06 08 17.6 +1.0
baz=317,SNR=6.0
SPMN **Marine on St.** 74.20 39 P P 06 08 19.1 -0.1
baz=322
SPMN **Marine on St.** 74.20 39 P P 06 08 19.3 +0.1
SPMN IAmb IAmb 06 08 19.4
comp=Z,6.0nm,0.5s
TUC **Tucson** 74.61 59 P P 06 08 23.2 +1.3
baz=316
SCHQ **Schefferville** 74.63 20 P P 06 08 20.9 -0.6
comp=Z,1.6nm,0.7s,baz=334,slow=4.2,SNR=6.6
SCHQ **Schefferville** 74.63 20 IAmb IAmb 06 08 21.7
comp=Z,6.3nm,1.2s
T25A **Trinidad** 74.69 52 P P 06 08 23.4 +0.9
baz=318
BGNE **Belgrade** 74.70 45 P P 06 08 22.4 +0.2
baz=320
VYHS **Vyhne** 74.83 327 *e*P P 06 08 21.8 -1.0
VYHS **Vyhne** 74.83 327 *e*P P 06 08 21.8 -1.0
COWI **Conover** 75.05 37 IAmb IAmb 06 08 24.3
comp=Z,7.1nm,0.7s
EKA **Eskdalemuir Ar** 75.06 343 P P 06 08 23.0 -0.9
comp=Z,0.3nm,0.5s,baz=22,slow=4.7,SNR=4.0
EKA **Eskdalemuir Ar** 75.06 343 P P 06 08 23.0 -0.9
ANMO **Albuquerque** 75.18 55 P P 06 08 26.4 +1.1
baz=317
ANMO **Albuquerque** 75.18 55 P P 06 08 26.5 +1.3
ANMO pmax pmax
comp=Z,4.0nm,1.2s
ANMO **Albuquerque** 75.18 55 P P 06 08 26.5 +1.3
G40A **Rib Lake** 75.28 38 IAmb IAmb 06 08 26.2
comp=Z,8.9nm,1.1s
BRTR **Keskin Array B** 75.32 313 P P 06 08 26.5 +0.6
comp=Z,0.6nm,0.4s,baz=91,slow=5.8,SNR=4.5
E43A **Lone Tree Farm** 75.69 35 IAmb IAmb 06 08 28.2
comp=Z,12nm,0.9s
121A **Cookes Peak, D** 76.19 57 P P 06 08 32.3 +1.3
baz=317
121A **Cookes Peak, D** 76.19 57 IAmb IAmb 06 08 33.6
comp=Z,7.8nm,0.8s
MATQ **Matagami** 76.20 28 P P 06 08 30.0 -0.4
baz=330
GERES **GERESS Array B** 76.36 330 P P 06 08 30.8 -0.7
comp=Z,0.5nm,0.5s,baz=64,slow=3.1,SNR=4.6
D46A **Sault St. Mari** 76.41 33 P P 06 08 30.9 -0.7
baz=327,SNR=8.9
D47A **Chapleau** 76.62 33 P P 06 08 32.3 -0.6
baz=328
I42A **Draeger Farm,** 76.94 38 P P 06 08 34.8 +0.2
D48A **Paudash Townsh** 76.99 32 P P 06 08 33.9 -1.0
baz=328

E47A	**Iron Bridge** baz=327,SNR=5.9	77.06	33	P	P	06 08 34.6	-0.6
D49A	**Beulah Townshi** baz=328	77.07	32	P	P	06 08 34.7	-0.6
CHGQ	**Chibougamau** baz=332	77.08	26	P	P	06 08 34.5	-0.8
JFWS	**Jewell Farm** baz=324	77.16	39	P	P	06 08 35.0	-0.9
KSU1	**Kansas State U** baz=321	77.23	46	P	P	06 08 35.7	-0.6
E48A	**Lockeyer** baz=328,SNR=5.1	77.45	32	P	P	06 08 36.6	-0.8
VLDQ	**Val d'Or**	77.69	29	P	P	06 08 37.4	-1.2
D50A	**G1974 Best Tow** baz=329,SNR=5.1	77.70	31	P	P	06 08 37.9	-0.8
F48A	**Evansville** baz=328	77.83	33	P	P	06 08 38.9	-0.6
AMTX	**Amarillo** baz=320	77.85	52	P	P	06 08 40.4	+0.5
AMTX	**Amarillo** comp=Z,9.6nm,0.9s	77.85	52	IAmb	IAmb	06 08 41.7	
GLMI	**Grayling** baz=327	77.91	35	P	P	06 08 39.8	-0.2
D51A	**Lot 18 Range I** baz=330	77.93	30	P	P	06 08 39.0	-1.0
MSTX	**Muleshoe** baz=319	77.94	53	P	P	06 08 41.1	+0.6
MSTX	**Muleshoe** comp=Z,4.5nm,0.9s	77.94	53	IAmb	IAmb	06 08 42.0	
E50A	**Wahnapitae** baz=329	78.02	32	P	P	06 08 39.7	-0.8
F49A	**Sandfield** baz=328	78.11	33	P	P	06 08 40.2	-0.8
MNTX	**Cornudas Mount** baz=318,SNR=11	78.18	56	P	P	06 08 42.9	+1.2
MNTX	**Cornudas Mount** comp=Z,4.5nm,0.6s	78.18	56	IAmb	IAmb	06 08 43.5	
P38A	**Dawn** comp=Z,7.8nm,0.8s	78.29	43	IAmb	IAmb	06 08 43.3	
D52A	**ZEK Kipawa Sen** baz=330	78.36	30	P	P	06 08 41.6	-0.7
E51A	**G1948 Merrick** baz=330	78.37	31	P	P	06 08 41.7	-0.7
D53A	**Lac Vacive, Po** baz=331,SNR=7.1	78.51	29	P	P	06 08 42.8	-0.4
D53A	**Lac Vacive, Po** comp=Z,8.4nm,0.8s	78.51	29	IAmb	IAmb	06 08 43.6	
F51A	**Arnstein** baz=330	78.74	31	P	P	06 08 43.6	-0.8
D54A	**Lac Fusel, La** baz=331,SNR=6.5	78.79	29	P	P	06 08 44.1	-0.6
E52A	**Mattawa** baz=330	78.87	30	P	P	06 08 44.3	-0.8
T35A	**Sooner Cattle**	78.97	47	P	P	06 08 46.4	+0.6
F52A	**Sundridge** baz=330,SNR=5.2	79.06	31	P	P	06 08 45.8	-0.4
E53A	**Dumoine, Ponti** baz=331	79.13	30	P	P	06 08 45.7	-0.8
E54A	**Lac Daplat, Po** baz=331	79.25	29	P	P	06 08 46.4	-0.7
D55A	**Sainte-Anne-du** baz=332,SNR=6.8	79.30	28	P	P	06 08 47.1	-0.3
ALGO	**Algonquin Park** baz=331	79.37	30	P	P	06 08 47.3	-0.5
HDIL	**Hopedale** baz=325	79.48	40	P	P	06 08 48.5	-0.1
WMOK	**Wichita Mounta** baz=321,SNR=6.3	79.50	50	P	P	06 08 49.2	+0.5
WMOK	**Wichita Mounta** comp=Z,3.1nm,0.7s	79.50	50	IAmb	IAmb	06 08 49.8	
D56A	**ZEC Mazanza, M** baz=332,SNR=10	79.50	28	P	P	06 08 48.3	-0.2
E55A	**Montcerf-Lytto** baz=332	79.60	29	P	P	06 08 48.7	-0.3
D57A	**Chemin Vers le** baz=333,SNR=6.1	79.80	27	P	P	06 08 49.9	-0.2
LATQ	**La Tuque** baz=334	79.81	26	P	P	06 08 49.7	-0.4
G54A	**Lake Saint Pet** baz=331	79.84	31	P	P	06 08 49.6	-0.7
E56A	**St. Veronique** baz=332,SNR=6.9	79.86	28	P	P	06 08 50.1	-0.3
G53A	**Haliburton** baz=330	79.89	31	P	P	06 08 50.2	-0.5
S39A	**Bolivar** comp=Z,6.0nm,0.8s	79.93	44	IAmb	IAmb	06 08 51.4	
R40A	**Maddies Statio** comp=Z,4.5nm,0.6s	79.95	43	IAmb	IAmb	06 08 51.5	
X34A	**Smith Ranch, M** comp=Z,7.6nm,0.9s	80.10	49	IAmb	IAmb	06 08 54.4	
TUL1	**Leonard** baz=322,SNR=5.0	80.12	47	P	P	06 08 52.6	+0.7
I51A	**Listowel** baz=329	80.15	33	P	P	06 08 52.3	+0.3
E57A	**Chemin Saint G** baz=333,SNR=7.8	80.26	28	P	P	06 08 52.4	-0.1
TRQ	**Mont Tremblant**	80.30	28	P	P	06 08 52.2	-0.6
H53A	**Bobcaygeon** baz=330	80.38	31	P	P	06 08 52.3	-0.9
U38A	**Gravette** comp=Z,8.2nm,0.9s	80.40	46	IAmb	IAmb	06 08 54.5	
AAM	**Ann Arbor** baz=328	80.41	36	P	P	06 08 53.5	+0.1
D59A	**Saint-Raymond** baz=334	80.44	26	P	P	06 08 52.9	-0.5
G55A	**Calabogie** baz=332	80.44	30	P	P	06 08 52.9	-0.6
E58A	**La Victoria** baz=334	80.57	27	P	P	06 08 54.1	0.0
SFIN	**Lafayette** baz=326	80.59	39	P	P	06 08 54.5	+0.2
ABTX	**Abilene, Hawle** baz=321	80.66	52	P	P	06 08 56.0	+1.1
I53A	**Kortright Cn E** baz=330	80.67	32	P	P	06 08 54.9	+0.2
ORIO	**Orleans, Innes** baz=332	80.67	29	P	P	06 08 54.2	-0.4
HHAR	**Hobbs** comp=Z,5.7nm,0.8s	80.75	46	IAmb	IAmb	06 08 56.2	
D60A	**Saint Jean D'O** baz=335	80.79	25	P	P	06 08 55.1	-0.1
MGMO	**Mountain Grove** comp=Z,4.4nm,0.6s	80.86	44	IAmb	IAmb	06 08 56.1	
H55A	**Tweed** baz=331	80.89	30	P	P	06 08 55.9	0.0
TX32	**Lajitas Array**	80.93	57	P	P	06 08 58.1	+1.6
TX32	comp=Z,11nm,1.1s			IAmb	IAmb	06 08 58.6	
TXAR	**Lajitas Array** comp=Z,7.2nm,0.6s,baz=290,slow=3.5,SNR=110	80.93	57	P	P	06 08 57.7	+1.2
I55A	**Frankford** baz=331	81.01	31	P	P	06 08 56.1	-0.4
FVM	**French Village** comp=Z,5.4nm,0.7s	81.06	42	IAmb	IAmb	06 08 57.5	
E60A	**Ste Agathe de** baz=335	81.13	26	P	P	06 08 56.7	-0.4
G57A	**Newington** baz=332	81.15	29	P	P	06 08 57.0	-0.2
D62A	**Allapoint, All** baz=336	81.17	24	P	P	06 08 57.5	+0.2
F59A	**Saint Guilaume** baz=334	81.19	27	P	P	06 08 57.4	0.0
U40A	**Yellville** baz=323,SNR=16	81.22	45	P	P	06 08 57.9	+0.1
E61A	**Lac Etchemin** baz=335	81.36	25	P	P	06 08 57.9	-0.5
G58A	**Ormstown** baz=333	81.41	28	P	P	06 08 58.1	-0.5
E62A	**Clayton Lake** baz=336	81.46	25	P	P	06 08 58.1	-0.8
T42A	**Van Buren** comp=Z,5.8nm,0.9s	81.52	43	IAmb	IAmb	06 09 00.2	
H57A	**Richville** baz=332	81.58	29	P	P	06 08 59.1	-0.3
F61A	**St Evariste** baz=335	81.62	26	P	P	06 08 59.9	+0.3
W39A	**Magazine** baz=323	81.69	46	P	P	06 09 00.4	+0.2
W39A	**Magazine** comp=Z,11nm,1.5s	81.69	46	IAmb	IAmb	06 09 01.4	
LONY	**Lake Ozonia** baz=333	81.71	29	P	P	06 08 59.4	-0.7
G59A	**Clarenceville** baz=334	81.75	28	P	P	06 08 59.9	-0.5
FCAR	**Ozark Folk Cen**	81.94	45	P	P	06 09 01.8	+0.3
FCAR	comp=Z,7.4nm,0.8s			IAmb	IAmb	06 09 02.3	
E63A	**Oxbow** baz=336	81.95	24	P	P	06 09 00.9	-0.4
M52A	**Chesterland** baz=329	81.96	35	P	P	06 09 01.8	+0.3
H59A	**Cadyville** baz=333	81.98	28	P	P	06 09 01.0	-0.5
F62A	**Pittston Farm,** baz=336	81.99	25	P	P	06 09 01.6	0.0
G60A	**Masonville** baz=334	82.00	27	P	P	06 09 01.7	0.0
H58A	**Gabriels** baz=333,SNR=5.1	82.02	29	P	P	06 09 01.4	-0.4
L53A	**Girard** baz=330	82.03	34	P	P	06 09 02.0	+0.2
G61A	**St-Isidore-de-** baz=335	82.08	26	P	P	06 09 02.1	0.0
N51A	**Ashland** baz=328	82.09	36	P	P	06 09 02.4	+0.2
E64A	**Bridgewater** baz=337	82.12	24	P	P	06 09 02.1	-0.1
K55A	**Perry** baz=331	82.17	32	P	P	06 09 02.5	-0.1
JCT	**Junction City** baz=321,SNR=5.2	82.22	53	P	P	06 09 04.3	+1.1
JCT	**Junction City** comp=Z,7.6nm,0.7s	82.22	53	IAmb	IAmb	06 09 05.4	
P49A	**Miami Univ. Ec** baz=327	82.30	38	P	P	06 09 03.3	0.0
MIAR	**Mount Ida** baz=323,SNR=6.5	82.31	47	P	P	06 09 04.2	+0.8
MIAR	**Mount Ida** comp=Z,5.7nm,0.7s	82.31	47	IAmb	IAmb	06 09 04.9	
M53A	**WI Miller and** baz=329	82.31	34	P	P	06 09 03.5	+0.2
WHTX	**Lake Whitney,** baz=322	82.32	51	P	P	06 09 03.5	0.0
I58A	**Old Forge** baz=333	82.40	29	P	P	06 09 03.2	-0.6
F63A	**Nahmakanta, Br** baz=336	82.42	25	P	P	06 09 03.7	-0.1
ACSO	**Alum Creek Sta** baz=328	82.43	36	P	P	06 09 03.9	0.0
G62A	**West of Eustis** baz=335	82.44	26	P	P	06 09 04.1	+0.1
W41B	**Gary Mavity, V** baz=324,SNR=5.2	82.46	45	P	P	06 09 04.4	+0.3
W41B	**Gary Mavity, V** comp=Z,7.6nm,0.8s	82.46	45	IAmb	IAmb	06 09 05.3	
K56A	**Middlesex** baz=331	82.46	31	P	P	06 09 04.1	0.0
F64A	**Sherman** baz=337	82.48	24	P	P	06 09 03.3	-0.8
L55A	**Hinsdale** baz=331	82.51	32	P	P	06 09 04.1	-0.3
J58A	**Remsen** baz=332	82.59	30	P	P	06 09 04.4	-0.4
H61A	**Lyndonville** baz=334	82.64	27	P	P	06 09 05.2	+0.3
M54A	**Oil Creek Stat** baz=330	82.64	33	P	P	06 09 04.9	-0.1
O51A	**Pataskala** baz=328	82.65	36	P	P	06 09 05.3	+0.2
I59A	**Olmsteadville** baz=333	82.67	29	P	P	06 09 04.6	-0.5
WCI	**Wyandotte Cave** baz=327	82.72	40	P	P	06 09 05.8	+0.4
K57A	**Scipio Center** baz=332	82.72	31	P	P	06 09 05.0	-0.4
X40A	**Basin Creek Fa** baz=324	82.72	46	P	P	06 09 06.3	+0.8
X40A	**Basin Creek Fa** comp=Z,5.7nm,1.0s	82.72	46	IAmb	IAmb	06 09 07.1	
J59A	**Pisco** baz=333	82.76	29	P	P	06 09 05.4	-0.2
N53A	**Lisbon** baz=329	82.79	35	P	P	06 09 05.7	-0.1
G63A	**Kingsbury** baz=336	82.81	25	P	P	06 09 05.8	0.0
I60A	**Shoreham** baz=334	82.82	28	P	P	06 09 06.1	+0.2
H62A	**Milan** baz=335,SNR=5.6	82.84	26	P	P	06 09 06.3	+0.3
L56A	**Greenwood** baz=331	82.87	32	P	P	06 09 05.9	-0.3
LBNH	**Lisbon** baz=334	82.90	27	P	P	06 09 06.4	+0.2
G64A	**Maxfield** baz=336	82.93	25	P	P	06 09 06.4	+0.1
N54A	**Moraine State** baz=330	82.99	34	P	P	06 09 06.8	0.0
N54A	**Moraine State**	82.99	34	P	P	06 09 07.3	+0.5
O52A	**Adamsville** baz=329	82.99	36	P	P	06 09 06.8	0.0
K58A	**Earlville** baz=332	83.00	30	P	P	06 09 06.7	-0.2
M55A	**Ridgway** baz=330	83.01	33	P	P	06 09 06.7	-0.2
P51A	**Williamsport** baz=328	83.03	37	P	P	06 09 07.1	+0.1
I61A	**Oroboro, Fairl** baz=334	83.09	27	P	P	06 09 07.2	0.0
O53A	**New Philadelph** baz=329	83.12	35	P	P	06 09 07.5	+0.1
M56A	**Emporium** baz=331	83.21	33	P	P	06 09 07.9	0.0
L57A	**Andrews Acres** baz=332	83.24	31	P	P	06 09 08.2	+0.1
K59A	**Cooperstown** baz=333,SNR=7.5	83.26	30	P	P	06 09 08.0	-0.1
G65A	**Princeton** baz=337	83.31	24	P	P	06 09 08.2	-0.1
J60A	**Lant Hill Farm** baz=334	83.32	29	P	P	06 09 08.2	-0.1
BINY	**Binghamton** baz=332	83.37	31	P	P	06 09 08.5	-0.3
T47A	**Sharon Grove** comp=Z,7.2nm,0.7s	83.39	41	IAmb	IAmb	06 09 10.2	
I62A	**Tamworth** baz=335	83.41	27	P	P	06 09 08.6	-0.3
I63A	**Otisfield** baz=335	83.49	26	P	P	06 09 09.3	+0.1
J61A	**Chester** baz=334	83.51	28	P	P	06 09 09.5	+0.2
O54A	**Avella** baz=330	83.51	35	P	P	06 09 09.9	+0.5
N55A	**Marion Center** baz=330,SNR=6.1	83.52	33	P	P	06 09 09.7	+0.1
L58A	**Harry Jones Me** baz=332	83.56	31	P	P	06 09 09.8	+0.1
X43A	**Marvell** baz=324	83.65	45	P	P	06 09 11.0	+0.8
N56A	**West Decatur** baz=331	83.66	33	P	P	06 09 10.1	-0.1
P53A	**Whipple** baz=329	83.70	36	P	P	06 09 10.7	+0.3
L59A	**Walton** baz=333,SNR=5.9	83.71	30	P	P	06 09 10.4	0.0
M57A	**Sunshine Farm,** baz=332,SNR=6.8	83.73	32	P	P	06 09 10.6	+0.1
H66A	**Whiting** baz=337	83.77	24	P	P	06 09 09.7	-0.8
WVT	**Waverly** baz=326	83.77	42	P	P	06 09 11.2	+0.4
WVT	**Waverly**	83.77	42	P	P	06 09 10.6	-0.2
WVT	comp=Z,14nm,1.5s			pmax	pmax		
WVT	**Waverly**	83.77	42	P	P	06 09 10.6	-0.2
WVT	comp=Z,14nm,1.5s			IAmb	IAmb	06 09 12.8	
Q52A	**Bidwell** baz=329	83.80	37	P	P	06 09 11.3	+0.5
K61A	**Williamstown** baz=334	83.88	29	P	P	06 09 11.1	-0.2
O55A	**Ligonier** baz=330	83.90	34	P	P	06 09 11.1	-0.3
M58A	**Price's Panora** baz=332	83.94	31	P	P	06 09 11.7	+0.1
P54A	**Burton** baz=330	83.97	35	P	P	06 09 12.3	+0.5
NATX	**Nacogdoches** baz=323	83.97	49	P	P	06 09 12.9	+1.1
SSPA	**Standing Stone** baz=331	84.06	33	P	P	06 09 12.2	0.0
SSPA	**Standing Stone**	84.06	33	P	P	06 09 12.5	+0.3
SSPA	comp=Z,7.3nm,0.9s			IAmb	IAmb	06 09 13.2	
N57A	**Milroy** baz=331,SNR=7.1	84.08	32	P	P	06 09 12.4	+0.1
O56A	**Blue Knob Stat**	84.13	33	P	P	06 09 12.8	+0.2
M59A	**Waymart** baz=332	84.15	31	P	P	06 09 12.4	-0.3
MCWV	**Mont Chateau** baz=330	84.17	35	P	P	06 09 13.1	+0.4
L60A	**Shokan** baz=333	84.17	30	P	P	06 09 12.5	-0.3
Q53A	**Leroy** baz=329,SNR=5.3	84.19	36	P	P	06 09 13.3	+0.4
L61A	**Hillsdale 1, H** baz=334	84.21	29	P	P	06 09 13.0	+0.1
K62A	**Royalston** baz=334	84.22	28	P	P	06 09 13.2	+0.3
L61B	**Northampton** baz=334	84.27	28	P	P	06 09 13.0	-0.1
P55A	**Reedsville** baz=330	84.30	35	P	P	06 09 13.8	+0.4
N58A	**Sunbury** baz=332	84.31	32	P	P	06 09 13.3	-0.1
N58A	**Sunbury** comp=Z,8.6nm,0.8s	84.31	32	IAmb	IAmb	06 09 14.2	
OXF	**Oxford** baz=325	84.36	44	P	P	06 09 13.9	+0.2
Q54A	**Coxs Mills** baz=330	84.36	36	P	P	06 09 14.1	+0.4
K63A	**Dunstable** baz=335	84.42	28	P	P	06 09 14.1	+0.2
CLTN	**Cedars of Leba** comp=Z,5.6nm,0.6s	84.47	41	IAmb	IAmb	06 09 15.3	
O57A	**Amberson** baz=331	84.53	33	P	P	06 09 14.8	+0.3
V48A	**Smith Brothers** comp=Z,8.1nm,0.9s	84.55	41	IAmb	IAmb	06 09 15.8	
HRV	**Adam Dziewonsk** baz=335	84.58	28	P	P	06 09 14.9	+0.2
N59A	**State Game Lan** baz=332	84.58	31	P	P	06 09 14.6	-0.2
PLAL	**Pickwick Lake**	84.60	43	P	P	06 09 15.1	+0.2
PLAL	comp=Z,5.1nm,0.7s			IAmb	IAmb	06 09 15.8	
Q55A	**Buckhannon** baz=330	84.65	35	P	P	06 09 15.4	+0.2
P56A	**Dayton Farm, R** baz=331	84.69	34	P	P	06 09 15.5	+0.2
N60A	**Cedar Hill Far** baz=333	84.86	31	P	P	06 09 15.7	-0.4
O58A	**Lewisberry** baz=332	84.86	32	P	P	06 09 16.2	0.0
M61A	**Granite Spring** baz=334	84.93	30	P	P	06 09 16.5	0.0
O59A	**Robesonia** baz=332	84.97	32	P	P	06 09 16.6	-0.1
PAL	**Palisades** baz=333	85.15	30	P	P	06 09 17.7	+0.1
O60A	**Telford** baz=332	85.24	31	P	P	06 09 17.8	-0.2
R55A	**Marlinton** baz=330	85.25	35	P	P	06 09 18.8	+0.6
Q57A	**Strasburg** baz=331	85.26	34	P	P	06 09 18.8	+0.6
P58A	**Pank, Wackersv** baz=332	85.28	33	P	P	06 09 18.5	+0.3
TZTN	**Tazewell** baz=328	85.31	39	P	P	06 09 18.7	+0.2
L64A	**Middleborough** baz=335	85.32	27	P	P	06 09 18.6	+0.2
T53A	**Wise** baz=329	85.37	38	P	P	06 09 19.0	+0.2
P59A	**Jarrettsville** baz=332	85.50	32	P	P	06 09 19.7	+0.4
X48A	**Hartselle** comp=Z,3.6nm,0.7s	85.51	42	IAmb	IAmb	06 09 20.1	
S55A	**Lewisburg** baz=330	85.53	36	P	P	06 09 19.9	+0.4
Q58A	**Fox Den Farm,** baz=331	85.62	33	P	P	06 09 19.8	0.0
T54A	**Tazewell** baz=329	85.70	37	P	P	06 09 20.7	+0.2
R57A	**Stanardsville** baz=331	85.86	34	P	P	06 09 21.5	+0.4
T55A	**Pulaski** baz=330	85.98	36	P	P	06 09 21.9	+0.2
U54A	**Nelsons Funny** baz=329	86.06	37	P	P	06 09 22.6	+0.4
R58B	**Mineral** baz=331	86.40	34	P	P	06 09 24.2	+0.6
U55A	**TA2, Sparta** baz=330	86.40	37	P	P	06 09 24.2	+0.4
S58A	**Poland Farm, P** baz=331	86.64	34	P	P	06 09 24.7	-0.1
LRAL	**Lakeview Retre** baz=326	86.71	43	P	P	06 09 25.3	0.0
S60A	**Water View** baz=332	87.09	33	P	P	06 09 27.2	+0.2
W54A	**Cherokee Point** baz=329	87.13	38	P	P	06 09 27.6	+0.4
V56A	**Mocksville** baz=330	87.22	37	P	P	06 09 28.6	+0.9
KMSC	**Kings Mountain** baz=329	87.45	38	P	P	06 09 28.7	-0.1
U58A	**Oxford** baz=331	87.50	35	P	P	06 09 28.8	-0.1
X54A	**Belton** baz=329	87.51	39	P	P	06 09 29.0	-0.1
W57A	**Gilead** baz=330	88.00	37	P	P	06 09 31.6	+0.3
X56A	**White Oak** baz=330	88.13	38	P	P	06 09 32.1	+0.2
V59A	**Middlesex** baz=331	88.17	35	P	P	06 09 31.9	-0.2
Y55A	**Saluda** baz=329	88.25	39	P	P	06 09 32.4	-0.2
U61A	**Possum Corner** baz=332	88.37	34	P	P	06 09 32.7	-0.3
W58A	**Raeford** baz=330	88.42	36	P	P	06 09 33.7	+0.4
W60A	**Pink Hill** baz=331	89.00	35	P	P	06 09 36.1	+0.1
TIGA	**Tifton** baz=328	89.61	41	P	P	06 09 39.7	+0.8
Z58A	**St. Stephen** baz=330	89.64	38	P	P	06 09 39.3	+0.3
DWPF	**Disney Wildern** baz=329	93.42	42	P	P	06 09 55.4	-1.2
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,1.1s,baz=349,slow=1.4,SNR=4.5	112.63	323	PKiKP	PKiKP	06 15 14.4	-1.3
DBIC	**Dimbokro** comp=Z,1.3nm,0.4s,baz=299,slow=3.8,SNR=4.6	121.11	327	PKP	PKPdf	06 15 31.5	-0.5
DBIC	**Dimbokro**	121.11	327	PKiKP	PKPdf	06 15 31.2	-0.8
DBIC	**Dimbokro**	121.11	327		PKPdf	06 15 31.2	-0.8
VNDA	**Vanda** comp=Z,0.5nm,0.7s,baz=347,slow=5.2,SNR=6.0	124.52	176	PKP	PKiKP	06 15 37.6	+0.7
BOSA	**Boshof** comp=Z,1.1nm,0.4s,baz=112,slow=3.4,SNR=5.3	131.66	271	SKPbc	SKPbc	06 18 43.6	-0.3
LPAZ	**La Paz** comp=Z,0.8nm,0.7s,baz=32,slow=3.7,SNR=3.7	137.79	56	PKP	PKiKP	06 16 05.6	-0.7
LPAZ	**La Paz**	137.79	56	PKiKP	PKPdf	06 16 05.1	+0.8
LPAZ	**La Paz**	137.79	56		PKPdf	06 16 05.0	+0.8
AC05	**El Transito**	145.83	71		PKPab	06 16 19.6	-0.4
BDFB	**Brasilia** comp=Z,3.4nm,0.5s,baz=216,slow=8.0,SNR=7.1	146.37	27	PKPbc	PKPbc	06 16 21.1	+0.5
BDFB	**Brasilia**	146.37	27		PKPbc	06 16 20.9	+0.3
SNAA	**Sanae**	151.46	199	PKPbc	PKiKP	06 16 32.0	-0.1
SNAA	**Sanae**	151.46	199	PKiKP	PKiKP	06 16 32.0	-0.1
SNAA	**Sanae**	151.46	199		PKiKP	06 16 32.0	-0.1
CPUP	**Villa Florida** comp=Z,0.7nm,0.4s,baz=29,slow=3.9,SNR=4.9	151.80	52	PKPbc	PKPbc	06 16 33.6	-0.2
CPUP	**Villa Florida**	151.80	52		PKPbc	06 16 33.9	+0.1
CPUP				PKPab	PKPab	06 16 44.8	+0.5
PLCA	**Paso Flores** comp=Z,5.0nm,0.5s,baz=307,slow=2.5,SNR=18	152.35	91	PKPbc	PKiKP	06 16 35.4	+0.5
PLCA	**Paso Flores**	152.35	91		PKiKP	06 16 35.7	+0.8
VNA2	**Neumayer--Watz**	153.01	198	PKPbc	PKiKP	06 16 35.8	+0.6
VNA3	**Neumayer Olymp**	153.23	196	PKPbc	PKiKP	06 16 35.9	+0.2
VNA1	**Neumayer--Stat**	153.41	198	PKPbc	PKiKP	06 16 36.6	+0.6

IDC 01 05:59:32.2±1.6,**30.52N**×**140.70E**,**h0**km,**mb3.8**/3,
mb1 4.0/5,**mb1mx3.5**/64,**mbtmp3.7**/5,**ML2.9**/2,**Error ellipse: s-maj=61.5km s-min=27.5km az=86.0,**
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2** 10nm,0.3s,baz=236,slow=23,SNR=5.1	2.71	343	Pn	Pn	06 00 16.8	-0.3
JHJ				Sn	Sn	06 00 42.9	-7.7

	8.9nm,0.3s,baz=42,slow=23,SNR=2.5						
MJAR	Matsushiro Arr	6.36	342	Pn	Pn	06 01 07.3	0.0
	0.1nm,0.3s,baz=161,slow=14,SNR=5.0						
WRA	Warramunga Arr	50.54	188	P	P	06 08 32.3	-0.2
	1.0nm,1.2s,baz=5.9,slow=7.6,SNR=1.2						
ILAR	Eielson Array	55.37	30	P	P	06 09 07.3	-0.4
	0.1nm,0.3s,baz=273,slow=6.1,SNR=4.2						
TXAR	Lajitas Array	94.57	52	P	P	06 12 55.5	+0.2
	0.5nm,0.7s,baz=308,slow=3.0,SNR=5.9						

*IDC **01** 06:01:13.1±0.6, 30°.66N×140°.25E, h0km, mb4.0/21, mb1 4.1/27, mb1mx4.0/65, mbtmp3.9/27, ML3.2/6, MS3.4/6, Ms1 3.4/6, ms1mx3.1/33, Error ellipse: s-maj=18.5km s-min=13.7km az=80.0*
*NIED **01** 06:01:15.6, 30°.79N×140°.73E, h28km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.74; $M_{\theta\theta}$0.52; $M_{\phi\phi}$2.22; $M_{r\theta}$-4.22; $M_{\theta\phi}$-0.84; $M_{\phi r}$7.95; Fault plane solution: $M_0$9.39000×10^{15} NP1: ϕ_s152.00000°, δ82.00000°, λ-91.00000°. NP2: ϕ_s342.00000°, δ8.00000°, λ-80.00000°.*
*JMA **01** 06:01:15.6±0.3, 30°.79N×140°.73E, h28km, M4.3*
*BJI **01** 06:01:21.2±0.0, 30°.87N×140°.73E, h58km, mB4.9/16, mb4.5/25, Ms4.2/11, Ms7 4.0/4*
*NEIC **01** 06:01:22.5±2.2, 30°.84N±0°.02×140°.3E±0°.1, h58km±6km, mb4.6/32, Error ellipse: s-maj=16.4km s-min=1.9km az=79.0*
ISC 01 06:01:19.3±0.4, **30°.77N**±0°.04×**140°.55E**±0°.07, **h35**km, **n99**, σ**1s.86**/95, **mb4.4**/40, **MS3.9**/5, **1D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.82	339	P	Pn	06 01 46.1	-2.0
JHCJ	Hachijojimakas	2.39	345	eS	Sn	06 02 21.9	-2.0
JHJ2	Mitsune	2.42	345	P	Pn	06 01 55.1	-1.2
JHJ2				eS	Sn	06 02 24.8	0.0
JHJ2	Mitsune	2.42	345	Pn	Pn	06 01 55.7	-0.6
JHJ2				Sn	Sn	06 02 26.0	+1.2
JHJ	Hachijo jima 2	2.44	345	Pn	Pn	06 01 55.7	-0.8
	6.2nm,0.3s,baz=186,slow=19,SNR=1.2						
JHJ				LR	LR	06 02 21.9	
	comp=Z,180nm,18.4s,baz=162,slow=28						
JHJ				Sn	Sn	06 02 24.6	-0.6
	83nm,0.3s,baz=120,slow=18,SNR=9.7						
BSO1	Boso 1	3.90	5	P	Pn	06 02 14.4	-1.7
CBIJ	Chichi jima	3.93	158	eS	Sn	06 02 59.2	-2.7
JCJ	Chichijima	3.93	158	Pn	Pn	06 02 16.4	-0.7
	10nm,0.3s,baz=255,slow=20,SNR=2.2						
JCJ				Sn	Sn	06 02 58.6	-3.4
	35nm,0.3s,baz=302,slow=22,SNR=5.9						
JCJ	Chichijima	3.93	158	Pn	Pn	06 02 20.1	+3.0
BSO3	Boso 3	4.03	360	P	Pn	06 02 17.1	-1.1
BSO3				eS	Sn	06 03 01.8	-2.2
BSO4	Boso 4	4.22	358	P	Pn	06 02 20.3	-0.6
JOD2	Odawara 2	4.65	345	P	Pn	06 02 27.9	+0.9
JNY	Yasuok	5.11	334	P	Pn	06 02 33.7	+0.4
JTNC	Tanabenakahech	5.17	307	P	Pn	06 02 34.9	+0.7
JHU	Hanno	5.18	349	eS	Sn	06 03 32.3	-0.6
INU	Inuyama	5.45	328	Pn	Pn	06 02 42.8	+4.8
JHO	Hitachi	5.83	0	P	Pn	06 02 43.0	-0.2
MJAR	Matsushiro Arr	6.08	342	Pn	Pn	06 02 46.3	-0.4
	0.2nm,0.3s,baz=165,slow=12,SNR=14						
MJAR				LR	LR	06 05 03.7	
	comp=Z,181nm,19.4s,baz=215,slow=38						
MAJO	Matsushiro	6.08	342	Pn	Pn	06 02 49.5	+2.8
MAT	Matsushiro	6.08	342	P	Pn	06 02 49.2	+2.5
MAT				S	Sn	06 03 52.8	-2.3
MJB9	Matsu-Tunnel	6.09	342		Pn	06 02 50.6	+3.8
JNU	Nakatsue	8.55	288	LR	LR	06 06 10.6	
	comp=Z,519nm,21.7s,baz=166,slow=36						
KSRS	Korea Array	12.40	306	Pn	Pn	06 04 11.1	-2.2
	0.3nm,0.3s,baz=116,slow=13,SNR=1.1						
KSRS				LR	LR	06 08 24.0	
	comp=Z,153nm,21.7s,baz=116,slow=35						
USRK	Ussuriysk Ar.	15.02	336	Pn	Pn	06 04 47.8	-1.1
	baz=133,slow=10.0,SNR=1.9						
USRK				LR	LR	06 10 37.0	
	comp=Z,119nm,18.2s,baz=147,slow=38						
CN2	Changchun	17.68	322	eP	P	06 05 26.6	+3.4
CN2				eS	Sn	06 08 37.2	-1.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,12.0s						
CN2				LR	LR		
	comp=E,400nm,12.0s						
NJ2	Nanjing	18.56	280	eP	Pn	06 05 35.4	+1.9
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KLR	Kul'dur	19.61	343	P	P	06 05 42.0	-2.4
	0.1nm,0.3s,baz=162,slow=3.2,SNR=2.2						
BJT	Baijiatuau	21.86	302	P	P	06 06 09.4	+0.6
BJI	Beijing	21.86	302	P	P	06 06 12.8	+4.0
BJI				S	S	06 10 08.4	-0.1
BJI				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BJI				LR	LR		
	comp=N,230nm,14.0s						
BJI				LR	LR		
	comp=E,250nm,18.0s						
WHN	Wuhan	22.53	276	⇓P	P	06 06 22.1	+6.0
HHC	Hu-ho-hao-te	25.47	301	eP	P	06 06 47.3	+3.2
HHC				pmax	pmax		
	comp=Z,25nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,6.6s						
HHC				LR	LR		
	comp=N,210nm,14.2s						
HHC				LR	LR		
	comp=E,240nm,18.0s						
PETK	Petropavlovsk-	25.58	24	P	P	06 06 45.8	+0.9
	0.5nm,0.4s,baz=194,slow=11,SNR=1.9						
H11N2	WAKE ISLAND Hy	26.18	109	T	T	06 34 35.0	
	baz=300,slow=75,SNR=37						
H11N1	WAKE ISLAND Hy	26.18	109	T	T	06 34 34.6	
	baz=300,slow=75,SNR=40						
H11N3	WAKE ISLAND Hy	26.19	109	T	T	06 34 36.2	
	baz=300,slow=75,SNR=37						
H11S3	WAKE ISLAND Hy	26.64	111	T	T	06 35 48.5	
	baz=303,slow=75,SNR=261						
H11S1	WAKE ISLAND Hy	26.65	111	T	T	06 35 38.3	
	baz=303,slow=75,SNR=352						
H11S2	WAKE ISLAND Hy	26.66	111	T	T	06 35 39.5	
	baz=303,slow=75,SNR=232						
XAN	Xi'an	26.85	285	P	P	06 06 58.2	+1.6
XAN				pmax	pmax		
	comp=Z,17nm,1.1s						
XAN				pmax	pmax		
	comp=Z,290nm,5.4s						
XAN	Xi'an	26.85	285	P	P	06 06 59.6	+2.9
LZH	Lanzhou	30.97	290	eP	P	06 07 37.5	+4.1
LZH				pP	sP	06 07 51.0	+4.1
LZH				sP	pwP	06 07 57.2	+12
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
LZH				pmax	pmax		
	comp=Z,78nm,5.3s						
LZH				LR	LR		
	comp=N,260nm,13.1s						
LZH				LR	LR		
	comp=E,270nm,13.3s						
LZH				LR	LR		
	comp=Z,460nm,16.5s						
SONM	Songino Array	31.12	313	P	P	06 07 33.5	-1.1
	0.3nm,0.4s,baz=134,slow=10,SNR=1.7						
PBKT	Sadao Pong	38.69	258	P	P	06 08 40.6	+0.7
CHTO	Chiang Mai	39.39	262	P	P	06 08 48.7	+2.9
CHTO				IAmb	IAmb	06 08 50.4	
	comp=Z,11nm,1.0s						
CMAR	Chiang Mai Arr	39.55	262	P	P	06 08 44.2	-2.9
	comp=Z,0.8nm,0.3s,baz=55,slow=6.8,SNR=1.0						
BILL	Bilibino	40.24	15	P	P	06 08 53.2	+0.9
WMQ	Urumqi	43.33	303	eP	P	06 09 22.2	+4.3
WMQ				pP	sP	06 09 33.8	+2.2
WMQ				pmax	pmax		
	comp=Z,23nm,0.7s						
WMQ				LR	LR		
	comp=Z,170nm,11.7s						
WMQ				LR	LR		
	comp=Z,150nm,14.3s						
ZALV	Zalesovo Beam	45.81	317	PcP	PcP	06 11 13.5	-1.0
	comp=Z,1.3nm,0.6s,baz=80,slow=3.5,SNR=3.6						
MKAR	Makanchi Array	47.08	307	P	P	06 09 45.1	-2.5
	comp=Z,0.7nm,0.7s,baz=89,slow=9.1,SNR=4.4						
MKAR				PcP	PcP	06 11 18.4	-0.7
	comp=Z,0.5nm,0.6s,baz=79,slow=3.1,SNR=1.2						
NRIK	Noril'sk	48.72	338	P	P	06 09 58.2	-1.7
	comp=Z,2.2nm,0.4s,baz=106,slow=13,SNR=4.4						
KURBB	Kurchatov Arra	49.49	312	P	P	06 10 03.4	-2.7
	comp=Z,2.2nm,1.1s,baz=89,slow=7.4,SNR=7.2						
GSI	Gunungsitoli	50.12	243	P	P	06 10 14.4	+3.1
WB0	Warramunga Arr	50.59	188	P	P	06 10 15.9	+1.2
WB0				IAmb	IAmb	06 10 17.9	
	comp=Z,4.8nm,0.9s						
FITZ	Fitzroy Crossi	50.65	198	P	P	06 10 13.2	-1.9
	comp=Z,2.5nm,0.9s,baz=304,slow=4.4,SNR=2.9						
FITZ	Fitzroy Crossi	50.65	198	P	P	06 10 16.4	+1.3
WR0	Warramunga Arr	50.76	187	P	P	06 10 18.6	+2.6
WR0				IAmb	IAmb	06 10 19.3	
	comp=Z,6.9nm,1.1s						
WB2	Warramunga Arr	50.77	188	P	P	06 10 18.1	+2.1
WRA	Warramunga Arr	50.77	188	P	P	06 10 13.3	-2.7
	comp=Z,2.5nm,0.7s,baz=3.8,slow=7.6,SNR=14						
WRA				PcP	PcP	06 11 33.0	+0.3
	comp=Z,1.1nm,0.8s,baz=358,slow=3.7,SNR=2.0						
PMR	Palmer	54.15	34	P	P	06 10 42.0	+1.3
PMR				IAmb	IAmb	06 10 43.0	
	comp=Z,11nm,1.3s						
MCK	McKinley	54.30	31	P	P	06 10 43.7	+2.0
BVAR	Borovoye Array	54.40	316	P	P	06 10 39.9	-2.7
	comp=Z,0.4nm,0.5s,baz=64,slow=9.8,SNR=2.3						
KNK	Knik Glacier	54.47	34	P	P	06 10 44.4	+1.4
ASAR	Alice Springs	54.49	187	P	P	06 10 41.0	-2.6
	comp=Z,0.5nm,0.6s,baz=355,slow=5.9,SNR=3.6						
ASAR				LR	LR	06 32 28.4	
	comp=Z,99nm,18.9s,baz=160,slow=34						
MDM	Murphy Dome	54.65	30	P	P	06 10 46.5	+2.1
MDM				IAmb	IAmb	06 10 47.5	
	comp=Z,6.1nm,1.2s						
SCM	Sheep Creek Mo	55.01	33	P	P	06 10 48.9	+1.9
HDA	Harding Lake	55.19	30	P	P	06 10 49.3	+1.2
HDA				IAmb	IAmb	06 10 50.1	
	comp=Z,11nm,1.5s						
IL31		55.22	30	P	P	06 10 49.3	+1.0
ILAR	Eielson Array	55.22	30	P	P	06 10 47.6	-0.7
	comp=Z,3.5nm,1.1s,baz=263,slow=5.9,SNR=20						
DOT	Dot Lake	56.47	31	P	P	06 10 58.9	+1.5
MENT	Mentasta	56.66	32	P	P	06 11 00.7	+2.0
GLB	Gilahina Butte	56.70	34	P	P	06 11 01.4	+2.3
GLB				IAmb	IAmb	06 11 03.1	
	comp=Z,7.7nm,1.1s						
VRDI	Verde Repeater	56.89	34	P	P	06 11 02.6	+2.0
VRDI				IAmb	IAmb	06 11 04.3	
	comp=Z,4.9nm,1.0s						
INK	Inuvik	60.31	25	P	P	06 11 25.1	+1.1
	comp=Z,1.6nm,0.7s,baz=247,slow=6.3,SNR=7.9						
INK	Inuvik	60.31	25	P	P	06 11 25.1	+1.1
WHY	Whitehorse	61.11	34	P	P	06 11 30.1	+0.3
WHY				IAmb	IAmb	06 11 33.5	
	comp=Z,6.8nm,1.3s						
AKTO	Aktyubinsk	62.43	314	P	P	06 11 38.1	-0.5
	comp=Z,0.7nm,0.3s,baz=71,slow=13,SNR=1.8						
DLBC	Dease Lake	64.06	36	P	P	06 11 52.4	+3.0
DLBC				IAmb	IAmb	06 11 53.4	
	comp=Z,6.8nm,1.2s						
NWAO	Narrogin (SRO)	67.08	201	P	P	06 12 10.0	+1.0
	comp=Z,13nm,0.8s,baz=125,slow=10,SNR=6.4						
ARCES	ARCESS Array B	69.62	340	P	P	06 12 24.1	-0.4
	comp=Z,1.1nm,0.8s,baz=91,slow=8.2,SNR=1.3						
FINES	FINESS Array B	74.04	333	P	P	06 12 50.3	-0.8
	comp=Z,0.7nm,0.4s,baz=70,slow=3.6,SNR=8.8						
KBZ	Khabaz	74.48	312	P	P	06 12 52.8	-1.3
	comp=Z,1.4nm,0.7s,baz=45,slow=10.0,SNR=2.7						
SUMG	Summit	76.94	360	P	P	06 13 08.5	+0.4
SUMG				IAmb	IAmb	06 13 12.1	
	comp=Z,8.6nm,1.2s						
AKASG	Malin Array Be	78.83	323	P	P	06 13 16.9	-1.6
	comp=Z,0.9nm,0.5s,baz=41,slow=6.1,SNR=5.0						
LRM	Limekiln Ridge	79.17	43	P	P	06 13 22.5	+1.7
NVAR	Mina Array Bea	79.38	52	P	P	06 13 23.0	+1.0
	comp=Z,0.7nm,0.7s,baz=282,slow=4.5,SNR=6.7						
BRTR	Keskin Array B	82.48	312	P	P	06 13 36.8	-1.7
	comp=Z,0.6nm,0.7s,baz=38,slow=7.3,SNR=2.4						
PDAR	Pinedale Array	82.61	44	P	P	06 13 40.5	+1.3
	comp=Z,0.2nm,0.5s,baz=339,slow=2.1,SNR=3.8						
MTPU	Mount Pierson	83.65	49	P	P	06 13 47.0	+2.2
P17A	Butcher Ranch,	83.77	48	P	P	06 13 47.0	+1.8
SRU	San Rafael Swe	84.11	48	P	P	06 13 48.6	+1.6
PV01	Paradox Valley	85.92	48	P	P	06 13 57.5	+1.4
PV01				IAmb	IAmb	06 13 58.8	
	comp=Z,5.7nm,1.5s						
TX31	Lajitas Ar. Si	94.52	52	P	P	06 14 38.1	+1.5
TX32	Lajitas Array	94.52	52	P	P	06 14 38.4	+1.8
TX32				IAmb	IAmb	06 14 39.4	
	comp=Z,3.2nm,1.0s						
TXAR	Lajitas Array	94.52	52	P	P	06 14 37.8	+1.2
	comp=Z,2.1nm,0.9s,baz=299,slow=3.3,SNR=16						
TORD	Torodi Ar. Bea	121.09	312	PKP	PKPdf	06 20 08.1	-0.8
	comp=Z,0.2nm,0.4s,baz=102,slow=4.0,SNR=1.4						
H03N2	Juan Fernandez	146.58	105	T	T	09 05 09.1	
	baz=281,slow=75,SNR=6.0						
H03N3	Juan Fernandez	146.59	105	T	T	09 05 09.0	
	baz=281,slow=75,SNR=8.5						
H03N1	Juan Fernandez	146.60	105	T	T	09 05 09.7	
	baz=281,slow=75,SNR=9.8						
LPAZ	La Paz	150.12	68	PKPbc	PKPbc	06 21 07.3	-0.4
	comp=Z,2.0nm,0.8s,baz=322,slow=1.8,SNR=8.3						

ISC 01 06:19:23.9±1.3, **50°.15N**±0°.07×**19°.09E**±0°.04, **h0**km, **n5**, σ**0s.62**/10, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.46	81	ePg	Pg	06 19 32.7	0.0
OJC				eSg	Sg	06 19 39.0	+0.3
LANS	Liptovska Anna	1.03	166	ePG	Pg	06 19 43.5	-0.1
LANS				eSG	Sg	06 19 57.8	+0.8
LANS				eLG	Lg	06 19 59.6	
MORC	Moravsky Berou	1.07	250	ePG	Pg	06 19 44.8	+0.5
MORC				eSG	Sb	06 19 59.8	0.0
NIE	Niedzica	1.07	133	ePg	Pb	06 19 45.5	+0.1
NIE				eSg	Sb	06 20 00.7	+0.8
VYHS	Vyhne	1.67	186	ePN	Pn	06 19 53.6	-0.8
VYHS				eSN	Sn	06 20 15.8	-0.7

*NEIC **01** 06:19:39.8±1.9, 22°.5S±0°.1×179°.7W±0°.2, h549km±11km, mb4.4/24, Error ellipse: s-maj=26.2km s-min=12.2km az=120.0*
*IDC **01** 06:19:39.7±3.0, 22°.44S×179°.65W, h548km±34km, mb3.0/5, mb1 3.2/6, mb1mx3.0/27, mbtmp4.0/6, Error ellipse: s-maj=35.4km s-min=21.5km az=11.0*
ISC 01 06:19:42.2±0.8, **22°.7S**±0°.1×**179°.6W**±0°.1, **h579**km, **n37**, σ**1s.71**/39, **mb4.0**/14, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	6.66	167	P	P	06 21 27.6	-0.4
	110nm,0.3s,baz=103,slow=22,SNR=5.5						
RAO	Raoul Island	6.66	167	P	P	06 21 27.8	-0.2
OUZ	Omahuta	13.76	204	P	P	06 22 40.9	+2.2
URZ	Urewera	15.71	189	P	P	06 22 56.7	-0.9
	1.1nm,0.3s,baz=274,slow=4.9,SNR=7.3						
URZ				S	S	06 25 32.8	-4.3
	0.5nm,0.3s,baz=74,slow=16,SNR=2.2						
URZ	Urewera	15.71	189	P	P	06 22 55.6	-2.0
URZ				IAmb	IAmb	06 23 01.0	
	comp=Z,6.8nm,0.7s						
BKZ	Black Stump Fm	16.70	191	P	P	06 23 05.6	-1.2
BKZ				IAmb	IAmb	06 23 08.2	
	comp=Z,21nm,1.5s						
BFZ	Birch Farm	18.22	190	P	P	06 23 19.8	-0.8
BFZ				IAmb	IAmb	06 23 29.1	
	comp=Z,43nm,1.3s						
MSWZ	Moikau Station	19.11	192	P	P	06 23 29.1	+0.5
SNZO	South Karori	19.11	193	P	P	06 23 29.8	+1.2
QRZ	Quartz Range	19.20	198	P	P	06 23 32.5	+3.0
PLWZ	Palliser	19.25	192	P	P	06 23 30.6	+0.6
OXZ	Oxford	21.66	197	P	P	06 23 56.3	+4.8
OXZ				IAmb	IAmb	06 24 03.9	
	comp=Z,39nm,1.3s						
TOO	Toolangi	33.36	236	P	P	06 25 34.8	+1.2
TOO				IAmb	IAmb	06 25 50.1	
	comp=Z,36nm,1.3s						
TAU	Tasmania Unive	33.97	226	P	P	06 25 35.2	-3.4
STKA	Stephens Creek	35.47	247	P	P	06 25 51.9	+0.7
	comp=Z,2.1nm,0.6s,baz=107,slow=9.0,SNR=3.5						
STKA	Stephens Creek	35.47	247	P	P	06 25 52.2	+1.0
BBOO	Buckleboo	40.21	246	P	P	06 26 29.5	-0.2
AS31	Alice Springs	42.56	259	P	P	06 26 48.6	+0.2
ASAR	Alice Springs	42.56	259	P	P	06 26 48.1	-0.3
	comp=Z,1.4nm,0.7s,baz=100,slow=7.5,SNR=12						
WR0	Warramunga Arr	42.64	265	P	P	06 26 47.6	-1.4
WR0				IAmb	IAmb	06 26 57.8	
	comp=Z,6.8nm,1.4s						
WC3	Warramunga Arr	42.79	265	P	P	06 26 49.0	-1.3
WC3				IAmb	IAmb	06 26 59.7	
	comp=Z,11nm,1.4s						
WB0	Warramunga Arr	42.82	265	P	P	06 26 49.1	-1.3
WB0				IAmb	IAmb	06 26 56.2	
	comp=Z,13nm,1.5s						
WB2	Warramunga Arr	42.82	265	P	P	06 26 49.6	-0.8
WB2				IAmb	IAmb	06 27 05.8	
	comp=Z,9.8nm,1.5s						
WRA	Warramunga Arr	42.83	265	P	P	06 26 49.8	-0.7
	comp=Z,0.3nm,0.3s,baz=96,slow=8.2,SNR=32						
FORT	Forrest	47.03	249	P	P	06 27 22.6	+0.1
FITZ	Fitzroy Crossi	51.26	265	P	P	06 27 53.4	-0.3
VNDA	Vanda	55.55	185	P	P	06 28 25.1	+2.0
	comp=Z,0.8nm,0.7s,baz=354,slow=7.0,SNR=6.6						
VNDA	Vanda	55.55	185	P	P	06 28 25.6	+2.5
PSAA2	Pilbara Seismi	55.71	259	P	P	06 28 24.4	-0.7
PSAA2				IAmb	IAmb	06 28 33.8	
	comp=Z,24nm,1.5s						
MORW	Morawa	57.59	249	P	P	06 28 37.9	0.0
MORW				IAmb	IAmb	06 28 47.6	
	comp=Z,38nm,1.4s						
GIRL	Giralia	60.51	256	P	P	06 28 58.5	+1.0
QSPA	South Pole Qui	67.33	180	P	P	06 29 41.8	+1.6
MNTX	Cornudas Mount	89.28	55	P	P	06 31 37.4	-0.3
MNTX				IAmb	IAmb	06 31 37.7	
	comp=Z,0.9nm,0.7s						
BPAW	Bear Paw Mtn.	89.40	12	P	P	06 31 38.5	+1.1
TXAR	Lajitas Array	89.54	58	P	P	06 31 38.2	-0.8
	comp=Z,0.7nm,0.9s,baz=216,slow=6.2,SNR=6.8						
FINES	FINESS Array B	137.46	342	PKP	PKiKP	06 38 01.4	-0.8
	comp=Z,1.7nm,1.0s,baz=36,slow=2.6,SNR=3.4						
CLL	Collm	149.84	344	i PKPbc	PKPbc	06 38 26.4	-1.0
	comp=Z,5.0nm,0.8s						
CLL				ePKPab	PKPab	06 38 34.0	-1.4

*MOS **01** 06:24:56.6±0.9, 46°.93N×145°.86E, h392km, mb4.1/4, Error ellipse: s-maj=11.9km s-min=7.8km az=80.2*
*SKHL **01** 06:24:56.1±0.2, 46°.94N×145°.87E, h379km±6km, mb4.2/8, msh4.5/4*
*JMA **01** 06:24:57.4±0.5, 46°.52N×146°.10E, h405km, M3.8*
*IDC **01** 06:24:57.4±0.9, 47°.01N×145°.81E, h381km±10km, mb3.4/14, mb1 3.6/20, mb1mx3.4/38, mbtmp4.2/20, Error ellipse: s-maj=13.8km s-min=10.0km az=122.0*
ISC 01 06:24:56.9±0.5, **46°.79N**±0°.04×**145°.79E**±0°.06, **h385**km±6km, **n78**, σ**1s.62**/103, **mb3.7**/17, **3C-3D, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	2.09	276	eP	Pn	06 25 53.1	+1.2
YSS				AMB	AMB	06 25 56.2	
	40nm,0.9s						
YSS				⇓iS	S	06 26 37.4	+0.9
YSS				A	A	06 26 38.7	
	170nm,0.9s						
YSS				A	A	06 26 39.0	
	900nm,2.8s						
YSS	Yuzh-Sakhalins	2.09	276	⇑ePN	Pn	06 25 53.4	+1.5
YSS				i S	S	06 26 37.2	+0.7
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS				smax	smax		
	comp=N,170nm,0.9s						
YSS				smax	smax		
	comp=E,90µm,1.0s						
YSS				MLR	MLR		
	comp=Z,200nm,9.0s						
KUR	Kuril'sk	2.12	136	eP	Pn	06 25 53.0	+0.7
KUR				AMB	AMB	06 25 53.7	
	comp=Z,40nm,0.7s						
KUR				eS	S	06 26 37.5	+0.5
KUR				A	A	06 26 52.7	
	comp=Z,30nm,0.5s						
KUR	Kuril'sk	2.12	136	ePN	Pn	06 25 53.0	+0.7
KUR				eS	S	06 26 38.6	+1.6
KUR				pmax	pmax		
	comp=Z,38nm,0.7s						
KUR				smax	smax		
	comp=N,34nm,0.5s						
YUK	Yuzh-Kuril'sk	2.75	179	eS	S	06 26 47.0	+1.5
YUK				A	A	06 26 55.0	
	comp=N,300nm,1.0s						
YUK				A	A	06 26 55.0	
	comp=N,300nm,1.0s						
JSE	Soyaes	2.89	232	P	Pn	06 26 00.1	+2.1
JSE				eS	S	06 26 49.4	+2.0
JWK2	Keihoku	3.08	243	P	Pn	06 26 02.4	+2.8
JWK2				eS	S	06 26 53.0	+2.7
JTKR	Abashiri--Toko	3.11	206	P	Pn	06 26 01.6	+1.7
JTKR				eS	S	06 26 53.1	+2.2
UGL	Uglegorsk	3.39	314	eP	Pn	06 26 02.8	+0.6
UGL				eS	S	06 26 54.5	-0.6
UGL				A	A	06 26 55.0	
	comp=N,350nm,0.8s						
UGL				A	A	06 26 55.0	
	comp=N,320nm,0.8s						
UGL				A	A	06 26 55.0	
	comp=N,600nm,2.0s						
UGL				A	A	06 26 55.0	
	comp=N,700nm,2.0s						
UGL	Uglegorsk	3.39	314	PN	Pn	06 26 02.8	+0.6
UGL				eS	S	06 26 54.0	-1.1
UGL				smax	smax		
	comp=N,600nm,1.7s						
UGL				smax	smax		
	comp=N,345nm,0.8s						
UGL				smax	smax		
	comp=E,315nm,0.8s						
UGL				smax	smax		
	comp=E,700nm,1.7s						
NEM2	Nemuro 2	3.42	181	P	Pn	06 26 01.8	-0.9
NEM2				eS	S	06 26 52.3	-3.5
JKA	Kamikawa-asahi	3.49	221	eP	Pn	06 26 05.5	+2.2
ASAJ	Asahikawa	3.49	221	P	Pn	06 26 05.5	+2.2
	comp=E,7.2nm,0.3s,baz=35,slow=4.7,SNR=18						
ASAJ				S	S	06 26 59.4	+2.5
	comp=E,1.1nm,0.3s,baz=126,slow=33,SNR=6.5						
JKK2	Kamakawa 2	3.62	217	P	Pn	06 26 06.2	+1.7
JAR	Ashorobuto	3.77	203	P	Pn	06 26 07.6	+1.7
JAR				eS	S	06 27 02.2	+0.4
JAK	Akkeshi	3.87	192	P	Pn	06 26 06.7	-0.1
JAK				eS	S	06 27 00.7	-2.7
JCH	Churui	4.52	203	P	Pn	06 26 13.2	0.0
JCH				eS	S	06 27 11.8	-3.3
TYV	Tymovskoe	4.57	334	eP	Pn	06 26 13.4	-0.1
TYV				AMB	AMB	06 26 13.9	
	comp=E,40nm,0.7s						
TYV				eS	S	06 27 13.7	-2.1
TYV				A	A	06 27 14.9	
	comp=E,20nm,1.0s						
TYV				A	A	06 27 14.9	
	comp=E,40nm,1.0s						
TYV				A	A	06 27 14.9	
	comp=E,400nm,3.5s						
TYV	Tymovskoe	4.57	334	ePN	Pn	06 26 13.4	-0.1
TYV				eS	S	06 27 13.7	-2.1
TYV				pmax	pmax		
	comp=Z,36nm,0.7s						
TYV				smax	smax		
	comp=E,400nm,3.6s						
TYV				smax	smax		
	comp=E,42nm,1.3s						
JNBK	Urakawa-nobuka	5.00	207	P	Pn	06 26 18.1	-0.1
JNBK				eS	S	06 27 21.1	-3.1
JEW	Eniwo	5.01	220	P	Pn	06 26 20.6	+2.3
JSK	Shakotan	5.09	230	P	Pn	06 26 21.9	+2.8
ERM	Erimo	5.13	202	i PN	Pn	06 26 20.2	+0.6
JKB	Kayabe	5.97	217	P	Pn	06 26 28.9	+0.3
JKB				eS	S	06 27 39.3	-4.0
JOT	Ohata	6.39	214	P	Pn	06 26 33.2	-0.1
JOT				eS	S	06 27 47.3	-4.6
JOSM	Okushiri--Mats	6.52	226	P	Pn	06 26 35.5	+0.8
TEY	Ternei	6.64	258	i P	P	06 26 38.0	+1.1
TEY				AMB	AMB	06 26 39.2	

	comp=E,30nm,0.8s						
TEY				AMB	AMB	06 26 39.2	
	comp=E,80nm,0.8s						
TEY				AMB	AMB	06 26 39.2	
	comp=E,80nm,0.8s						
TEY	Ternei	6.64	258	⇑iPN	P	06 26 38.0	+1.1
TEY				e		06 27 54.9	
TEY				pmax	pmax		
	comp=E,80nm,0.8s						
TEY				pmax	pmax		
	comp=N,30nm,0.6s						
TEY				pmax	pmax		
	comp=Z,80nm,0.8s						
JANG	Nango	7.12	207	P	Pn	06 26 41.6	0.0
JANG				eS	S	06 28 01.6	-5.5
GRNR	Gornyy	7.36	306	i P	P	06 26 44.7	-0.2
GRNR				AMB	AMB	06 26 45.1	
	comp=Z,10.0nm,0.8s						
GRNR				AMB	AMB	06 26 45.1	
	comp=Z,10.0nm,0.8s						
GRNR	Gornyy	7.36	306	⇓iPN	P	06 26 44.7	-0.2
GRNR				eS	S	06 28 09.9	-1.8
GRNR				pmax	pmax		
	comp=E,9.0nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GRNR				smax	smax		
	comp=E,3.0nm,0.5s						
GRNR				MLR	MLR		
	comp=E,60nm,19.0s						
GRNR				MLR	MLR		
	comp=Z,70nm,16.0s						
SKR	Severo-Kuril's	7.86	57	eP	Pn	06 26 48.8	-1.0
SKR				AMB	AMB	06 26 50.0	
	comp=Z,20nm,0.6s						
SKR	Severo-Kuril's	7.86	57	ePN	Pn	06 26 49.0	-0.8
SKR				pmax	pmax		
	comp=Z,193nm,0.6s						
SKR				MLR	MLR		
	comp=Z,100nm,17.0s						
JOM	Ohasama	8.02	206	P	Pn	06 26 53.0	+1.2
PAU	Pauzhetka	8.61	53	eP	Pn	06 26 57.8	-0.6
KLR	Kul'dur	9.72	290	P	Pn	06 27 12.4	+1.0
	comp=Z,2.0nm,0.3s,baz=91,slow=11,SNR=33						
KLR	Kul'dur	9.72	290	eP	Pn	06 27 12.9	+1.4
PEA0B	Petropavlovsk-	9.94	46	i PN	P	06 27 13.7	-0.3
PETK	Petropavlovsk-	9.94	46	P	P	06 27 13.8	-0.2
	comp=Z,2.2nm,0.3s,baz=224,slow=6.2,SNR=29						
USA0B	Ussuriysk Arra	10.03	260	i PN	Pn	06 27 16.6	+1.5
USRK	Ussuriysk Ar.	10.03	260	P	P	06 27 15.6	+0.5
	baz=57,slow=14,SNR=21						
EKMR	Ekimchan	10.39	312	eP	Pn	06 27 20.1	+0.9
EKMR				AMB	AMB	06 27 23.0	
	comp=Z,5.0nm,0.7s						
MAJO	Matsushiro	11.69	212	i PN	Pn	06 27 37.5	+2.8
MAT	Matsushiro	11.69	212	P	P	06 27 31.6	-2.1
MJAR	Matsushiro Arr	11.69	212	P	Pn	06 27 36.2	+1.6
	comp=Z,0.5nm,0.3s,baz=22,slow=11,SNR=19						
MA2	Magadan	13.15	11	i P	P	06 27 49.2	-0.1
MA2	Magadan	13.15	11	i PN	P	06 27 49.2	-0.1
MA2				pmax	pmax		
	comp=Z,2.0nm,0.2s						
BMKR	Bomnak	13.32	313	i P	Pn	06 27 52.3	-1.0
BMKR				AMB	AMB	06 27 52.9	
	comp=Z,2.0nm,0.7s						
KROS	Kirovskiy	14.16	310	eP	P	06 28 01.1	+0.6
KROS				AMB	AMB	06 28 02.0	
	comp=Z,5.0nm,0.7s						
KSRS	Korea Array	16.18	241	P	Pn	06 28 25.9	-0.2
	comp=Z,0.4nm,0.3s,baz=46,slow=9.7,SNR=7.5						
KSRS	Korea Array	16.18	241	eP	Pn	06 28 26.0	-0.2
KSRS	Korea Array	16.18	241	P	Pn	06 28 26.0	-0.2
JNU	Nakatsue	17.76	225	P	Pn	06 28 43.0	-1.0
	comp=Z,0.5nm,0.3s,baz=86,slow=2.9,SNR=3.7						
YAK	Yakutsk	17.83	335	eP	P	06 28 38.7	-1.1
YAK	Yakutsk	17.83	335	eP	P	06 28 38.7	-1.1
YAK				eS	S	06 31 43.6	-1.0
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.8s						
YAK				smax	smax		
	comp=E,14nm,0.9s						
YAK				smax	smax		
	comp=N,38nm,1.0s						
BILL	Bilibino	23.75	19	eP	P	06 29 35.6	-0.3
BILL	Bilibino	23.75	19	⇓eP	P	06 29 35.6	-0.3
BILL				eS	S	06 33 23.5	+1.5
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TIXI	Tiksi	26.19	348	i P	P	06 29 59.8	+2.3
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KDAK	Kodiak Island	37.96	50	P	P	06 31 38.0	-0.8
	comp=Z,2.1nm,0.5s,baz=269,slow=0.6,SNR=12						
ILAR	Eielson Array	39.65	38	P	P	06 31 52.0	-0.6
	comp=Z,1.2nm,0.7s,baz=275,slow=8.5,SNR=16						
MKAR	Makanchi Array	42.39	294	P	P	06 32 15.4	+0.4
	comp=Z,1.3nm,0.5s,baz=69,slow=7.4,SNR=12						
MKAR				PcP	PcP	06 34 00.7	+0.8
	comp=Z,0.4nm,0.4s,baz=63,slow=5.0,SNR=5.0						
INK	Inuvik	44.29	32	P	P	06 32 28.8	-0.7
	comp=Z,0.8nm,0.3s,baz=294,slow=9.5,SNR=10						
ARU	Arti	51.50	315	i P	P	06 33 23.6	-0.6
ARU	Arti	51.50	315	c iP	P	06 33 23.6	-0.6
ARU						06 34 32.2	
ARU				*PP	pP	06 34 42.5	-0.2
ARU						06 35 22.8	
ARU				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ARCES	ARCESS Array B	56.07	339	P	P	06 33 55.9	-0.8
	comp=Z,2.0nm,0.8s,baz=43,slow=7.8,SNR=7.0						
ARCES	ARCESS Array B	56.07	339	eP	P	06 33 56.5	-0.2
FINES	FINESS Array B	61.74	332	P	P	06 34 34.5	-0.8
	comp=Z,4.5nm,0.5s,baz=42,slow=6.8,SNR=44						
NB2	NORSAR Subarra	66.42	338	P	P	06 35 05.0	-0.5
	comp=Z,1.5nm,0.5s,baz=31,slow=6.5						
NOA	NORSAR Array B	66.42	338	P	P	06 35 05.0	-0.5
	comp=Z,1.5nm,0.4s,baz=32,slow=6.6,SNR=16						
NORES	NORESS Array B	66.60	337	eP	P	06 35 05.7	-0.8
KBZ	Khabaz	67.09	310	P	P	06 35 10.8	+1.0
	comp=Z,3.9nm,0.9s,baz=50,slow=5.7,SNR=6.9						
WRA	Warramunga Arr	67.22	192	P	P	06 35 12.7	+1.8
	comp=Z,2.1nm,0.4s,baz=7.2,slow=6.7,SNR=46						
AKASG	Malin Array Be	68.57	322	P	P	06 35 18.6	-0.4
	comp=Z,2.0nm,0.5s,baz=33,slow=6.5,SNR=7.0						
ASAR	Alice Springs	70.94	192	P	P	06 35 36.2	+2.7
	comp=Z,1.3nm,0.5s,baz=6.9,slow=5.6,SNR=22						
BRTR	Keskin Array B	74.77	312	P	P	06 35 56.8	+0.9
	comp=Z,1.2nm,0.9s,baz=48,slow=20,SNR=2.1						
GERES	GERESS Array B	76.04	330	P	P	06 36 02.5	-0.2
	comp=Z,0.5nm,0.4s,baz=54,slow=10,SNR=2.4						
TXAR	Lajitas Array	81.75	56	P	P	06 36 34.6	+0.9
	comp=Z,0.1nm,0.6s,baz=275,slow=2.5,SNR=4.1						
TORD	Torodi Ar. Bea	112.21	322	PKiKP	PKiKP	06 42 47.1	-0.4
	comp=Z,0.2nm,0.3s,baz=32,slow=1.6,SNR=4.9						

IDC 01 06:44:26.7±1.3**, 61.°24S**×**156.°51W, h0**km**, mb3.6**/4**, mb1 3.9**/4**, mb1mx3.7**/23**, mbtmp3.6**/4**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx3.2**/12**, Error ellipse: s-maj=46.6km s-min=34.8km az=10.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	21.11	204	P	P	06 49 11.5	-0.8
	0.7nm,0.8s,baz=57,slow=17,SNR=6.3						
TBI	Tubuai	38.17	11	eLR	LR	07 02 40.3	
	comp=Z,208nm,27.2s						
TBI	Tubuai	38.17	11	eT	T	07 33 11.4	
	14nm,0.3s						
PPT2	Papeete2	43.87	10	eLR	LR	07 05 15.1	
	comp=Z,176nm,25.5s						
PLCA	Paso Flores	53.50	109	LR	LR	07 12 24.5	
	comp=Z,61nm,19.6s,baz=172,slow=31						
H03S2	Juan Fernandez	55.13	98	T	T	07 53 04.1	
	baz=212,slow=74,SNR=36						
H03S1	Juan Fernandez	55.14	98	T	T	07 53 02.9	
	baz=212,slow=74,SNR=35						
H03S3	Juan Fernandez	55.15	98	T	T	07 53 06.2	
	baz=212,slow=74,SNR=41						
H03N3	Juan Fernandez	55.45	98	T	T	07 53 24.0	
	baz=171,slow=78,SNR=5.1						
H03N2	Juan Fernandez	55.45	98	T	T	07 53 19.4	
	baz=171,slow=78,SNR=16						
H03N1	Juan Fernandez	55.46	98	T	T	07 53 18.7	
	baz=171,slow=78,SNR=5.0						
ASAR	Alice Springs	59.73	276	P	P	06 54 34.4	+1.3
	0.3nm,0.4s,baz=146,slow=6.7,SNR=3.3						
H01W1	Cape Leeuwin H	59.80	252	T	T	08 00 02.1	
	baz=146,slow=76,SNR=16						
H01W2	Cape Leeuwin H	59.81	252	T	T	08 00 02.3	
	baz=146,slow=76,SNR=18						
H01W3	Cape Leeuwin H	59.82	252	T	T	08 00 03.4	
	baz=146,slow=76,SNR=18						
WRA	Warramunga Arr	62.70	278	P	P	06 54 53.1	-0.1
	0.5nm,0.9s,baz=146,slow=6.0,SNR=2.7						
CPUP	Villa Florida	71.53	111	P	P	06 55 50.4	+1.2
	1.8nm,0.9s,baz=214,slow=11,SNR=2.9						
ILAR	Eielson Array	125.90	5	PKP	PKPdf	07 03 26.4	-2.4
	0.2nm,0.5s,baz=186,slow=1.8,SNR=2.0						
MKAR	Makanchi Array	143.91	274	PKP	PKPdf	07 04 01.8	-1.0
	0.9nm,0.9s,baz=134,slow=4.2,SNR=4.9						

IDC 01 06:46:25.1±1.2**, 61.°34S**×**156.°41W, h0**km**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.6**/23**, mbtmp3.6**/3**, MS3.8**/5**, Ms1 3.8**/5**, ms1mx3.6**/14**, Error ellipse: s-maj=49.4km s-min=36.1km az=163.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	21.03	204	P	P	06 51 09.2	-0.6
	1.0nm,0.8s,baz=72,slow=17,SNR=6.5						
VNDA				LR	LR	06 57 00.2	
	comp=Z,184nm,18.1s,baz=68,slow=30						
QSPA	South Pole Qui	28.78	180	LR	LR	07 01 18.6	
	comp=Z,260nm,20.3s,baz=37,slow=31						
PPT	Papeete	43.99	9	LR	LR	07 08 36.7	
	comp=Z,127nm,21.7s,baz=156,slow=30						
MAW	Mawson	48.22	199	LR	LR	07 12 56.5	
	comp=Z,131nm,18.9s,baz=66,slow=33						
H03S2	Juan Fernandez	55.07	98	T	T	07 55 04.9	
	baz=212,slow=74,SNR=22						
H03S1	Juan Fernandez	55.08	98	T	T	07 55 05.7	
	baz=212,slow=74,SNR=22						
H03S3	Juan Fernandez	55.09	98	T	T	07 55 04.1	
	baz=212,slow=74,SNR=23						
H03N3	Juan Fernandez	55.38	97	T	T	07 55 27.5	
	baz=197,slow=74,SNR=4.8						
H03N2	Juan Fernandez	55.39	97	T	T	07 55 21.0	
	baz=310,slow=74,SNR=13						
H03N1	Juan Fernandez	55.40	97	T	T	07 55 27.2	
ASAR	Alice Springs	59.79	276	P	P	06 56 32.9	+1.0
	0.5nm,0.8s,baz=143,slow=6.4,SNR=2.9						
H01W1	Cape Leeuwin H	59.81	252	T	T	08 02 01.0	
	baz=146,slow=76,SNR=17						
H01W2	Cape Leeuwin H	59.82	252	T	T	08 02 01.3	
	baz=146,slow=76,SNR=21						
H01W3	Cape Leeuwin H	59.83	252	T	T	08 02 02.2	
	baz=146,slow=76,SNR=16						
CPUP	Villa Florida	71.44	111	LR	LR	07 23 53.3	
	comp=Z,50nm,19.9s,baz=208,slow=32						
LPAZ	La Paz	75.04	96	P	P	06 58 09.6	+0.4
	1.1nm,0.9s,baz=172,slow=4.8,SNR=4.0						
ILAR	Eielson Array	126.00	5	PKP	PKPdf	07 05 25.6	-1.7
	0.6nm,0.8s,baz=202,slow=3.3,SNR=4.2						
MKAR	Makanchi Array	143.97	274	PKP	PKPab	07 05 58.5	-0.1
	0.7nm,0.8s,baz=157,slow=3.4,SNR=3.7						
ESDC	Sonseca Array	152.49	129	PKPbc	PKiKP	07 06 23.2	+0.5
	1.9nm,1.0s,baz=193,slow=1.4,SNR=7.3						

*MEX **01** 06:57:49.0±0.7, 14.°67N×92.°58W, h80km±10km, MD3.9*
*GCG **01** 06:57:51.0±0.5, 14.°54N×92.°63W, h35km±999km, MD4.1*
ISC 01 06:57:48.6±2.8**, 14.°56N**±0.°08×**92.°81W**±0.°05**, h33**km±6km**, n9, σ1.°45**/16**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		0.63	57	eP	Pn	06 58 00.4	-0.7
THIG				i S	Sb	06 58 09.8	-0.2
PCIG		1.20	341	eP	Pn	06 58 09.4	+0.3
PCIG				i S	Sn	06 58 24.6	+0.3
CCIG	Comitan	1.83	21	eP	Pn	06 58 18.3	+0.4
CCIG				i S	Sn	06 58 42.0	+2.0
FUG	Fuego 3	1.91	93	eP	Pn	06 58 19.0	0.0
PCG	Pacaya	2.14	94	eP	Pn	06 58 23.0	+0.8
PCG				eS	Sn	06 58 47.5	-0.3
TGIG		2.22	352	eP	Pn	06 58 22.6	-0.6
TGIG				i S	Sn	06 58 47.1	-2.5
IXG	Ixpaco	2.33	99	eP	Pn	06 58 25.0	+0.3
CMIG	Matias Romero	3.21	322	eP	Pn	06 58 37.7	+1.0
CMIG				i S	Sn	06 59 15.2	+1.3
HUIG	Huatulco	3.40	291	eP	Pn	06 58 40.5	+1.1
HUIG				i S	Sn	06 59 15.6	-3.0

*TIR **01** 07:30:01.5, 40.°28N×20.°78E, h8km, Md2.5/4*
*ATH **01** 07:30:02.2, 40.°29N×20.°76E, h21km±5km, ML2.1/5, Error ellipse: s-maj=5.3km s-min=1.4km az=68.0*
*THE **01** 07:30:02.6, 40.°29N×20.°75E, h12km±2km, ML2.1/6, Error ellipse: s-maj=2.2km s-min=0.5km az=96.0*
ISC 01 07:30:02.2±1.0**, 40.°29N**±0.°03×**20.°75E**±0.°03**, h14**km±7km**, n21, σ0.°48**/36**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSK	Leskovik	0.18	219	i PG	Pg	07 30 05.8	-0.7
LSK				i SG	Sg	07 30 08.9	-0.5
NEST	Nestorio	0.26	62	P	Pg	07 30 08.1	+0.3
NEST				S	Sb	07 30 12.7	-0.4
	670nm,0.3s						
NEST	Nestorio	0.26	62	P	Pg	07 30 08.1	+0.3
NEST				S	Sb	07 30 12.6	-0.4
NEST				AML	AML	07 30 13.4	
	comp=N,1610μm,0.3s						
NEST				AML	AML	07 30 13.7	
	comp=E,1184μm,0.2s						
PENT	Pentalofos	0.31	108	P	Pg	07 30 08.8	+0.1
PENT				S	Sg	07 30 13.5	+0.4
PENT	Pentalofos	0.31	108	P	Pg	07 30 08.8	+0.1
PENT				S	Sg	07 30 13.5	+0.4
PENT				AML	AML	07 30 15.1	
	comp=N,1144μm,0.4s						
PENT				AML	AML	07 30 15.6	
	comp=E,1029μm,0.2s						
KPRO	Kipourio	0.58	125	P	Pg	07 30 13.2	-0.3
KPRO				S	Sb	07 30 22.4	+0.2
	comp=E,275nm,0.3s						
KPRO	Kipourio	0.58	125	P	Pg	07 30 13.2	-0.3
KPRO				S	Sb	07 30 22.4	+0.2
KPRO				AML	AML	07 30 25.4	
	comp=N,413μm,0.2s						
KPRO				AML	AML	07 30 26.9	
	comp=E,659μm,0.4s						
JAN	Janina	0.64	173	P	Pg	07 30 14.1	-0.6
JAN				S	Sb	07 30 24.3	+0.3
	comp=E,225nm,0.4s						
FNA	Florina	0.69	44	P	Pg	07 30 15.3	-0.3
FNA				S	Sb	07 30 26.0	+0.7
	comp=E,145nm,0.2s						
FNA	Florina	0.69	44	i PG	Pg	07 30 15.4	-0.3
FNA				i SG	Sb	07 30 25.1	-0.2
FNA	Florina	0.69	44	P	Pg	07 30 15.3	-0.3
FNA				S	Sb	07 30 26.0	+0.7
FNA				AML	AML	07 30 27.9	
	comp=E,320μm,0.2s						
FNA				AML	AML	07 30 28.3	
	comp=N,256μm,0.2s						
SRN	Sarande	0.71	235	i PG	Pg	07 30 16.2	+0.2
SRN				i SG	Sb	07 30 26.4	+0.5
KZN	Kozani	0.78	89	P	Pb	07 30 17.6	0.0
KZN				S	Sn	07 30 29.4	-1.0
	comp=N,138nm,0.4s						
KZN	Kozani	0.78	89	P	Pb	07 30 17.6	0.0
KZN				AML	AML	07 30 34.5	
	comp=N,281μm,0.4s						
KZN				AML	AML	07 30 35.6	
	comp=E,286μm,0.4s						
IGT	Igoumenitsa	0.82	203	P	Pb	07 30 18.5	+0.2
IGT				S	Sb	07 30 30.6	+1.4
	comp=E,55nm,0.5s						
IGT	Igoumenitsa	0.82	203	i PG	Pb	07 30 18.4	+0.2
IGT				i SG	Sb	07 30 29.6	+0.4
IGT	Igoumenitsa	0.82	203	P	Pb	07 30 18.5	+0.2
KEK	Kerkira	0.93	232	P	Pg	07 30 19.9	-0.3
KEK	Kerkira	0.93	232	P	Pg	07 30 19.9	-0.3
THL	Klokotos Trika	1.21	126	P	Pn	07 30 24.9	+0.2
THL	Klokotos Trika	1.21	126	P	Pn	07 30 24.9	+0.2

*IDC **01** 07:48:29.5±3.9, 1.°49S×101.°46E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.7/50, mbtmp4.0/5, Error ellipse: s-maj=232.6km s-min=20.2km az=52.0*
*DJA **01** 07:48:37.0±0.5, 2°S±3°×10°1E±°, h26km±5km, M3.8/12, MLv3.8/12*
*NEIC **01** 07:48:40.7±2.2, 1.°8S±0.°1×101.°4E±0.°2, h97km±9km, mb4.1/6, Error ellipse: s-maj=27.4km s-min=2.7km az=57.0*
ISC 01 07:48:38.1±0.8**, 2.°03S**±0.°05×**100.°76E**±0.°05**, h100**km**, n33, σ1.°78**/30**, mb4.1**/8**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRJI	Kerinci	0.70	95	P	Pn	07 48 51.7	-3.9
PPSI	Pulau Pagai	1.05	226	P	Pn	07 48 55.9	-3.1
SDSI	Sungai Dareh	1.28	31	P	Pn	07 48 59.0	-2.7
SISI	Saibi	1.81	293	P	Pn	07 49 06.8	-1.5
SISI				S	Sn	07 49 29.7	-1.5
MASI	Maura Aman, Be	1.84	127	P	Pn	07 49 07.6	-1.1
RGRI	Rengat	2.29	43	S	Sn	07 49 41.7	-0.7
BKNI	Bangkinang	2.36	7	P	Pn	07 49 14.7	-0.7
BKNI	Bangkinang	2.36	7	Pn	Pn	07 49 15.3	-0.1
KSI	Kapahiang	2.44	131	P	Pn	07 49 18.6	+2.1
MNSI	Mandailing Nat	3.04	337	P	Pn	07 49 24.7	+0.2
MNAI	Manna	3.19	137	P	Pn	07 49 26.0	-0.4
MNAI	Manna	3.19	137	Pn	Pn	07 49 25.9	-0.5
DSRI	Dabo	4.11	68	P	Pn	07 49 37.2	-1.6
MDSI	Maura Dua	4.19	126	P	Pn	07 49 38.7	-1.2
GSI	Gunungsitoli	4.59	316	P	Pn	07 49 45.4	0.0
GSI	Gunungsitoli	4.59	316	Pn	Pn	07 49 51.7	+6.4
CM31	Chiang Mai Arr	20.44	355	P	P	07 53 03.8	-3.8
CM31				IAmb	IAmb	07 53 06.0	
	comp=Z,4.1nm,0.5s						
H08S2	Diego Garcia H	28.70	258	T	T	08 23 39.4	
	baz=81,slow=74,SNR=7.8						
H08S3	Diego Garcia H	28.71	258	T	T	08 23 41.6	
	baz=81,slow=74,SNR=19						
H08S1	Diego Carcia H	28.72	258	T	T	08 23 35.6	
	baz=81,slow=74,SNR=3.7						
WB0	Warramunga Arr	37.30	121	P	P	07 55 40.9	+0.1
WRA	Warramunga Arr	37.32	121	P	P	07 55 41.0	0.0
	comp=Z,0.3nm,0.3s,baz=302,slow=9.3,SNR=12						
WB2	Warramunga Arr	37.33	121	P	P	07 55 41.2	+0.1
WB2				IAmb	IAmb	07 55 57.2	
	comp=Z,7.4nm,1.4s						
WR0	Warramunga Arr	37.50	121	P	P	07 55 42.8	+0.3
ASAR	Alice Springs	38.62	127	P	P	07 55 53.1	+1.2
	comp=Z,1.9nm,0.6s,baz=302,slow=7.8,SNR=26						
AS31	Alice Springs	38.62	127	P	P	07 55 52.3	+0.3
AS31				IAmb	IAmb	07 55 53.5	
	comp=Z,0.9nm,0.6s						
MK31	Makanchi Array	51.27	344	P	P	07 57 34.0	+2.3
MKAR	Makanchi Array	51.27	344	P	P	07 57 32.9	+1.1
	comp=Z,0.7nm,0.4s,baz=151,slow=8.6,SNR=12						
KURBB	Kurchatov Arra	55.80	343	P	P	07 58 06.5	+1.8
	comp=Z,1.4nm,0.7s,baz=162,slow=7.0,SNR=9.5						
KURK	Kurchatov	55.85	343	P	P	07 58 06.7	+1.6
KURK				IAmb	IAmb	07 58 07.7	
	comp=Z,1.6nm,0.7s						
ARCES	ARCESS Array B	86.76	340	P	P	08 01 13.1	+2.4
	comp=Z,6.4nm,1.1s,baz=96,slow=5.0,SNR=3.9						
TXAR	Lajitas Array	144.26	38	PKP	PKPdf	08 08 04.5	+1.2
	comp=Z,0.3nm,0.3s,baz=333,slow=0.9,SNR=15						
JCT	Junction City	145.64	33		PKiKP	08 08 08.2	-1.4

*ROM **01** 08:01:33.8±0.2, 38.°42N±0.°02×11.°69E±0.°02, h13km±1km, ML3.4/15, Error ellipse: s-maj=2.3km s-min=0.6km az=218.0*
*LDG **01** 08:01:36.2±0.2, 38.°21N×11.°62E, h15km, Ml3.5/10, Error ellipse: s-maj=7.9km s-min=2.5km az=35.0*
ISC 01 08:01:32.9±1.5**, 38.°39N**±0.°07×**11.°65E**±0.°06**, h10**km±12km**, n46, σ1.°69**/56**, 5C-6D, Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTGR	Montagna Grand	1.00	119	⇑P	Pb	08 01 52.7	+0.3
MTGR				S	Sn	08 02 06.4	-1.0
MFNL	Monte Finestre	1.17	120	P	Pn	08 01 55.6	+0.2
CRJA	Costa Raja	1.22	118	⇑P	Pg	08 01 56.2	0.0
USI	Ustica	1.24	74	⇑P	Pn	08 01 55.8	-0.5
USI				AML	AML		
	comp=N,12900μm,0.4s						
USI				AML	AML		
	comp=E,18700μm,0.3s						
USI				AML	AML		
	comp=E,18700μm,0.3s						
MMGO	Monte Magaggia	1.27	124	P	Pn	08 01 56.5	-0.3
MPG	Monte Pellegri	1.36	99	⇓P	Pn	08 01 57.8	-0.3
MPG				AML	AML		
	comp=E,1060μm,1.4s						
MPG				AML	AML		
	comp=N,1008μm,0.5s						
MPG				AML	AML		
	comp=N,1007μm,0.5s						
MPG				AML	AML		
	comp=E,1055μm,1.4s						
CORL	Corleone	1.39	110	P	Pn	08 01 58.2	-0.3
CORL				AML	AML		
	comp=E,3025μm,0.5s						
CORL				AML	AML		
	comp=E,3020μm,0.5s						
CORL				AML	AML		
	comp=N,2735μm,1.1s						
ALJA	Alia	1.78	110	P	Pb	08 02 05.0	-0.6
ALJA				AML	AML		
	comp=E,724μm,1.1s						
ALJA				AML	AML		
	comp=N,1088μm,1.4s						
ALJA				AML	AML		
	comp=E,738μm,1.6s						
GIB	Gibilmanna	1.91	101	⇓P	Pn	08 02 05.9	+0.2
GIB				AML	AML		
	comp=N,988μm,1.0s						
GIB				AML	AML		
	comp=E,1001μm,0.6s						
VSL	Villasalto	2.09	303	P	Pn	08 02 09.3	+1.2
VSL				S	Sn	08 02 34.1	-0.1
VSL				AML	AML		
	comp=N,624μm,1.1s						
VSL				AML	AML		
	comp=E,482μm,0.2s						
CLTA	Licata	2.20	123	P	Pn	08 02 10.4	+0.9
CLTA				AML	AML		
	comp=N,522μm,1.3s						
CLTA				AML	AML		
	comp=E,352μm,1.6s						
TAMR	Tamra	2.42	237	⇑P	Pn	08 02 11.5	-1.0
TAMR	Tamra	2.42	237	AML	AML		
	comp=N,348μm,0.7s						
TAMR				AML	AML		
	comp=E,238μm,0.7s						
DGI	Dorgali Grotta	2.50	321	⇓P	Pn	08 02 15.8	+2.1
DGI				S	Sn	08 02 44.7	+0.5
HLNI	Lentini	2.75	111	⇑P	Pn	08 02 17.9	+0.8
HLNI				S	Sn	08 02 50.3	-0.1
HLNI				AML	AML		
	comp=E,192μm,0.5s						
HLNI				AML	AML		
	comp=N,190μm,1.5s						
HMDC	Modica	2.86	119	P	Pn	08 02 19.3	+0.6
HMDC				AML	AML		
	comp=E,208μm,1.0s						
HMDC				AML	AML		
	comp=N,279μm,0.5s						
HCRL	Carlentini	2.89	111	⇓P	Pn	08 02 20.1	+1.0
HCRL				AML	AML		
	comp=N,176μm,0.8s						
HCRL				AML	AML		
	comp=E,231μm,0.3s						
MEU	Monte Lauro	2.90	115	P	Pn	08 02 19.0	-0.2
MEU				S	Sn	08 02 51.3	-2.9
MEU				AML	AML		
	comp=E,398μm,1.6s						
MEU				AML	AML		
	comp=N,468μm,0.6s						
SSY	Sortino	2.98	113	⇓P	Pn	08 02 21.2	+0.9
SSY				S	Sn	08 02 56.0	0.0
SSY				AML	AML		
	comp=N,534μm,1.5s						
SSY				AML	AML		
	comp=E,320μm,0.5s						
HAVL	Avola	3.10	116	⇓P	Pn	08 02 22.5	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAVL				AML	AML		
	comp=E,192μm,1.2s						
HAVL				AML	AML		
	comp=N,312μm,0.3s						
HPAC	**Pachino**	**3.23**	**120**	AML	AML		
	comp=E,222μm,1.0s						
HPAC				AML	AML		
	comp=N,380μm,1.1s						
MGR	**Morigerati**	**3.50**	**59**	P	**Pn**	**08 02 28.4**	**+1.1**
MGR				S	**Sn**	**08 03 07.1**	**-1.8**
MGR				AML	AML		
	comp=N,57μm,0.3s						
MGR				AML	AML		
	comp=E,47μm,1.6s						
PGF	**Pioggiola**	**4.62**	**335**	ePn	**Pn**	**08 02 46.7**	**+3.7**
PGF				eSn	**Sn**	**08 03 39.0**	**+2.2**
	comp=E,31nm,0.5s						
PGF	**Pioggiola**	**4.62**	**335**	AML	AML		
	comp=E,85μm,0.7s						
PGF				AML	AML		
	comp=N,57μm,1.2s						
LMR	**La Mourre**	**6.29**	**323**	ePn	**Pn**	**08 03 07.7**	**+1.9**
LMR				eSn	**Sn**	**08 04 18.2**	**+0.4**
	comp=N,4.0nm,0.3s						
SBF	**Sospel**	**6.33**	**331**	ePn	**Pn**	**08 03 08.2**	**+1.8**
SBF				eSn	**Sn**	**08 04 15.9**	**-2.8**
	comp=N,11nm,0.4s						
SBF				eSg	**Sg**	**08 04 54.2**	**-1.8**
FRF	**La Foret Royal**	**6.41**	**325**	ePn	**Pn**	**08 03 09.6**	**+2.2**
FRF				eSn	**Sn**	**08 04 20.4**	**-0.2**
	comp=N,2.8nm,0.3s						
FRF				eSg	**Sg**	**08 04 58.3**	**-0.2**
SMRF	**Simiane la Rot**	**7.22**	**323**	ePn	**Pn**	**08 03 20.5**	**+1.9**
MBDF	**Montbardon**	**7.32**	**332**	ePn	**Pn**	**08 03 23.1**	**+3.1**
MBDF				eSn	**Sn**	**08 04 43.0**	**-0.1**
	comp=N,18nm,0.7s						
ORIF	**Oris-en-Rattie**	**7.83**	**328**	ePn	**Pn**	**08 03 24.7**	**-2.2**
LPG	**La Plagne**	**7.99**	**334**	ePn	**Pn**	**08 03 33.2**	**+3.9**
LPL	**La Plagne**	**8.01**	**334**	ePn	**Pn**	**08 03 32.3**	**+2.7**
LPL	**La Plagne**	**8.01**	**334**	eP	Pn	08 03 36.9	+7.3
LPL				eSn	**Sn**	**08 04 59.8**	**-0.5**
	comp=N,1.3nm,0.2s						
LASF	**Ste Croix**	**8.17**	**317**	ePn	**Pn**	**08 03 32.1**	**+0.5**
LASF				eSn	**Sn**	**08 05 01.4**	**-2.6**
VIVF	**Saint-Julien-l**	**8.31**	**323**	ePn	**Pn**	**08 03 35.7**	**+2.2**
VIVF				eSn	**Sn**	**08 05 06.4**	**-1.0**
	comp=N,0.9nm,0.3s						
OBKA	**Obir**	**8.39**	**14**	i Pn	**Pn**	**08 03 32.4**	**-2.3**
	comp=N,1.7nm,0.5s						
SOKA	**Soboth**	**8.65**	**16**	i Pn	**Pn**	**08 03 37.1**	**-1.2**
	comp=N,1.7nm,0.7s						
FETA	**Feichten**	**8.66**	**356**	i Pn	**Pn**	**08 03 38.2**	**-0.2**
	comp=N,3.5nm,0.9s						
MTLF	**Montolieu**	**8.69**	**308**	ePn	**Pn**	**08 03 40.2**	**+1.5**
MTLF				eSn	**Sn**	**08 05 13.5**	**-3.3**
KBA	**Koelnbreinsper**	**8.78**	**8**	i Pn	Pn	08 03 47.6	+7.5
	comp=N,9.2nm,1.1s						
WTTA	**Wattenberg**	**8.87**	**360**	i Pn	Pn	08 03 47.9	+6.6
	comp=N,5.1nm,0.8s						
WATA	**Walderalm**	**8.95**	**360**	i Pn	Pn	08 03 48.0	+5.7
	comp=N,3.0nm,0.5s						
MOTA	**Moosalm**	**8.96**	**358**	i Pn	**Pn**	**08 03 45.1**	**+2.5**
	comp=N,4.4nm,0.9s						
DAVA	**Damuels**	**8.99**	**352**	i Pn	**Pn**	**08 03 42.5**	**-0.4**
	comp=N,1.7nm,0.3s						
RETA	**Reutte**	**9.12**	**356**	i Pn	**Pn**	**08 03 44.5**	**-0.1**
	comp=N,2.3nm,0.8s						
CONA	**Conrad Observa**	**10.02**	**16**	i Pn	Pn	08 04 02.5	+5.6
	comp=N,3.6nm,0.9s						

*UPA **01** 08:18:46.1±1.2, 8°.14N×83°.29W, h8km±4km, MW4.2*
*UCR **01** 08:18:46.0±1.9, 8°.13N×83°.35W, h5km±5km, MD3.6*
ISC 01 08:18:46.8±1.4**, 8°.17N**±0°.06×**83°.25W**±0°.04**, h13**km±7km**,**
n34, σ0.s**69**/64**, 5C-8D, Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PIRO	**Carate, Puerto**	**0.25**	**340**	i P	**Pg**	**08 18 52.0**	**-0.2**
PIRO				eS	**Sg**	**08 18 56.3**	**+0.4**
PTJ1	**Puerto Jimnez**	**0.37**	**352**	⇓iP	**Pg**	**08 18 54.5**	**+0.1**
PTJ1				eS	**Sg**	**08 18 60.0**	**+0.5**
PTJ1	**Puerto Jimnez**	**0.37**	**352**	⇓iP	**Pg**	**08 18 54.5**	**+0.1**
PTJ1				eS	**Sb**	**08 19 01.7**	**+0.7**
EDSV	**San Vito**	**0.71**	**23**	eP	**Pg**	**08 19 00.9**	**+0.3**
EDSV				eS	**Sn**	**08 19 13.4**	**0.0**
MLIR3	**Monte Lirio, C**	**0.75**	**34**	⇓eP	**Pb**	**08 19 01.9**	**0.0**
MLIR3				eS	**Sn**	**08 19 14.9**	**+0.3**
BAGA3	**Bagala, Chiriq**	**0.78**	**67**	eP	**Pg**	**08 19 02.4**	**+0.5**
BAGA3				eS	**Sn**	**08 19 14.6**	**-0.4**
EDPN	**Palmar Norte**	**0.82**	**345**	⇑eP	**Pb**	**08 19 01.8**	**-1.1**
EDPN				eS	**Sb**	**08 19 14.1**	**+0.3**
BRU2	**Volcan**	**0.83**	**41**	⇓iP	**Pb**	**08 19 03.1**	**-0.2**
BRU2				eS	**Sn**	**08 19 16.6**	**-0.1**
BRU2	**Volcan**	**0.83**	**41**	⇓iP	**Pb**	**08 19 03.1**	**-0.2**
BRU2				eS	**Sn**	**08 19 16.0**	**-0.6**
DVD	**David**	**0.83**	**71**	⇑iP	**Pb**	**08 19 03.0**	**-0.2**
DVD				i S	**Sn**	**08 19 16.5**	**+0.1**
LOCO3	**Loma Colorada,**	**0.86**	**73**	i P	**Pb**	**08 19 03.4**	**-0.2**
LOCO3				eS	**Sn**	**08 19 16.4**	**-0.5**
BCO2	**Palmira**	**0.90**	**52**	i P	**Pb**	**08 19 04.4**	**-0.1**
BCO2				eS	**Sn**	**08 19 19.5**	**+1.2**
BC3P	**Paso Ancho**	**0.90**	**44**	⇓eP	**Pb**	**08 19 04.1**	**-0.4**
BC3P				eS	**Sn**	**08 19 19.1**	**+0.7**
CHIR3	**Chiriqui UPA,**	**0.94**	**76**	⇑iP	**Pb**	**08 19 04.7**	**-0.3**
CHIR3				eS	**Sn**	**08 19 19.2**	**+0.2**
EDBA	**Buenos Aires**	**0.99**	**358**	⇓eP	**Pb**	**08 19 04.8**	**-1.1**
EDBA				eS	**Sn**	**08 19 21.8**	**+1.4**
DRK0	**Durika**	**1.09**	**0**	⇓iP	**Pb**	**08 19 06.5**	**-1.2**
DRK0				eS	**Sb**	**08 19 22.4**	**+0.5**
DRK0	**Durika**	**1.09**	**0**	eP	**Pb**	**08 19 06.3**	**-1.3**
DRK0				eS	**Sb**	**08 19 22.2**	**+0.3**
EDLM	**Las Mercedes**	**1.16**	**343**	eP	**Pn**	**08 19 07.5**	**-1.3**
EDLM				eS	**Sb**	**08 19 24.2**	**+0.5**
EDDO	**Dominical**	**1.24**	**331**	⇑eP	**Pn**	**08 19 08.5**	**-1.3**
EDDO				eS	**Sb**	**08 19 25.0**	**-1.0**
CHGR2	**Aguacate**	**1.33**	**55**	eP	**Pn**	**08 19 10.9**	**-0.3**
CHGR2				eS	**Sg**	**08 19 29.9**	**-0.1**
REME3	**Remedios, Chir**	**1.40**	**87**	eP	**Pn**	**08 19 11.2**	**-0.8**
REME3				eS	**Sb**	**08 19 30.9**	**+0.1**
LCR2	**La Lucha 2**	**1.74**	**335**	eP	**Pn**	**08 19 16.1**	**-0.7**
LCR2				eS	**Sn**	**08 19 39.5**	**+0.6**
CVTR	**Volcan Turrial**	**1.91**	**345**	eP	**Pn**	**08 19 19.3**	**-0.2**
SJS	**Escuela Geolog**	**1.94**	**336**	eP	**Pn**	**08 19 19.5**	**0.0**
SJS				eS	**Sn**	**08 19 45.2**	**+1.4**
HDC	**Heredia**	**2.02**	**335**	i P	**Pn**	**08 19 21.1**	**+0.4**
HDC				i S	**Sn**	**08 19 46.7**	**+1.0**
HDC	**Heredia**	**2.02**	**335**	eP	**Pn**	**08 19 21.3**	**+0.6**
HDC				eS	**Sn**	**08 19 46.5**	**+0.8**
RSUS3	**Rio de Jesus,**	**2.08**	**95**	eS	**Sn**	**08 19 47.3**	**+0.2**
STIA3	**Santiago, Vera**	**2.25**	**91**	eS	**Sn**	**08 19 51.6**	**+0.1**
SRA1	**San Ramn**	**2.26**	**328**	eP	**Pn**	**08 19 24.3**	**+0.3**
SRA1				eS	**Sn**	**08 19 51.8**	**-0.1**
MARI3	**Mariato, Verag**	**2.29**	**103**	eP	**Pn**	**08 19 24.4**	**+0.1**
MARI3				eS	**Sn**	**08 19 53.2**	**+0.7**
CACAO	**El Cacao, Vera**	**2.50**	**109**	eP	**Pn**	**08 19 27.2**	**0.0**
CACAO				eS	**Sn**	**08 19 58.1**	**+0.5**
JTS	**Las Juntas de**	**2.70**	**322**	⇑eP	**Pn**	**08 19 30.3**	**+0.3**
CUI	**Cuipilapa**	**3.12**	**323**	eP	**Pn**	**08 19 36.6**	**+0.8**
CUI				eS	**Sn**	**08 20 13.4**	**+0.5**
ZANG	**Zanguenga, Cho**	**3.44**	**77**	eP	**Pn**	**08 19 39.7**	**-0.4**
ZANG				eS	**Sn**	**08 20 18.9**	**-1.8**

NNC 01 08:22:06.5±3.6**, 54°.01N×90°.16E, h0**km**, mb3.6, mpv3.3, 9C-5D, Error ellipse: s-maj=27.0km s-min=20.4km az=51.0, Suspected Mining explosion., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.16**	**271**	⇓Pg	Pb	08 23 04.5	+1.1
	1.5nm,1.1s						
ZAA0				⇑Lg	Lg	08 23 47.1	
	3.4nm,0.8s						
KURK	**Kurchatov**	**7.80**	**250**	⇓Pn	Pn	08 23 58.7	-2.3
	2.6nm,0.8s						
KURK				⇑Sn	Sn	08 25 31.7	+1.7
	4.5nm,0.8s						
KURK				⇑Lg	Lg	08 26 13.2	
	8.8nm,0.8s						
KURBB	**Kurchatov Arra**	**7.89**	**249**	⇓Pn	Pn	08 23 59.3	-3.0
	1.9nm,0.8s						
KURBB				⇑Sn	Sn	08 25 34.6	+2.4
	13nm,0.8s						
KURBB				⇑Lg	Lg	08 26 18.0	
	11nm,0.7s						
MK31	**Makanchi Array**	**8.79**	**218**	⇓Pn	Pn	08 24 17.6	+2.9
	1.3nm,0.8s,baz=38,slow=12,SNR=3.9						
MK31				⇑Sn	Sn	08 25 54.8	+0.2
	1.3nm,0.7s						
MK31				⇑Lg	Lg	08 26 45.9	
	3.9nm,0.9s,baz=31,slow=30,SNR=4.3						
MAKZ	**Makanchi**	**8.90**	**219**	⇑Pn	Pn	08 24 18.1	+1.9
	1.6nm,0.6s						
MAKZ				⇑Sn	Sn	08 25 57.3	+0.3
	1.5nm,0.7s						
MAKZ				⇓Lg	Lg	08 26 46.3	
	5.2nm,0.9s						

*MEX **01** 08:24:33.6±0.8, 14°.68N×92°.56W, h86km±11km, MD3.9*
*GCG **01** 08:24:35.9±0.3, 14°.69N×92°.52W, h73km±29km, MD4.1*
ISC 01 08:24:34.2±1.5**, 14°.60N**±0°.08×**92°.73W**±0°.05**, h48**km±24km**,**
n12, σ0.s**59**/20**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		**0.55**	**56**	eP	**Pn**	**08 24 45.2**	**-0.7**
THIG				i S	**Sn**	**08 24 55.2**	**+0.9**
PCIG		**1.19**	**337**	eP	**Pn**	**08 24 54.4**	**-0.1**
PCIG				i S	**Sn**	**08 25 09.8**	**+0.2**
CCIG	**Comitan**	**1.77**	**19**	i P	**Pn**	**08 25 02.8**	**+0.3**
CCIG				i S	**Sn**	**08 25 24.8**	**+0.8**
FUG	**Fuego 3**	**1.84**	**94**	eP	**Pn**	**08 25 03.5**	**0.0**
FUG				eS	**Sn**	**08 25 25.2**	**-0.5**
PCG	**Pacaya**	**2.07**	**95**	eP	**Pn**	**08 25 07.2**	**+0.4**
PCG				eS	**Sn**	**08 25 31.3**	**-0.2**
TGIG		**2.20**	**350**	eP	**Pn**	**08 25 07.3**	**-1.1**
TGIG				i S	**Sn**	**08 25 33.8**	**-0.6**
IXG	**Ixpaco**	**2.26**	**101**	eP	**Pn**	**08 25 09.5**	**+0.2**
NBG	**Las Nubes**	**2.31**	**90**	eP	**Pn**	**08 25 10.4**	**+0.3**
NBG				eS	**Sn**	**08 25 37.0**	**-0.4**
MRL	**Marmol**	**2.99**	**80**	eP	**Pn**	**08 25 19.1**	**-0.2**
CMIG	**Matias Romero**	**3.23**	**320**	eP	**Pn**	**08 25 22.8**	**+0.4**
CMIG				i S	**Sn**	**08 26 00.1**	**+0.5**
HUIG	**Huatulco**	**3.46**	**290**	eP	**Pn**	**08 25 25.0**	**-0.6**
HUIG				i S	**Sn**	**08 26 06.0**	**+0.6**
TEIG	**Tepich**	**7.03**	**37**	eP	Pn	08 26 11.0	-3.5

*IDC **01** 08:34:10.7±0.9, 35°.84N×141°.76E, h0km, mb3.7/7, mb1 3.9/10, mb1mx3.7/39, mbtmp3.7/10, ML3.4/3, MS3.0/4, Ms1 3.0/4, ms1mx2.6/39, Error ellipse: s-maj=22.6km s-min=19.0km az=124.0*
*JMA **01** 08:34:14.4±0.1, 35°.92N×141°.79E, h55km±3km, M3.4*
*NEIC **01** 08:34:16.2±2.1, 35°.86N±0°.07×141°.8E±0°.1, h39km±3km, mb4.4/8, Error ellipse: s-maj=13.6km s-min=9.3km az=104.0*
ISC 01 08:34:12.6±1.6**, 35°.85N**±0°.04×**141°.80E**±0°.06**, h11**km±10km**,**
n47, σ1.s**11**/48**, mb3.9**/11**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.78**	**260**	P	**Pn**	**08 34 29.7**	**+0.3**
CHOJ				S	**Sn**	**08 34 41.4**	**+0.4**
JIHU	**Itakohorinouch**	**1.04**	**277**	P	**Pb**	**08 34 32.8**	**+0.3**
JIHU				S	**Sg**	**08 34 46.2**	**+0.2**
JHYU	**Hitachinakayam**	**1.10**	**297**	P	**Pg**	**08 34 33.7**	**+0.1**
JHYU				S	**Sg**	**08 34 47.6**	**-0.3**
JSMT	**Sammumatsuo**	**1.11**	**260**	P	**Pn**	**08 34 34.3**	**+0.3**
JHO	**Hitachi**	**1.25**	**308**	P	**Pn**	**08 34 35.1**	**-0.9**
BSO1	**Boso 1**	**1.36**	**210**	P	**Pg**	**08 34 38.4**	**-0.3**
BSO3	**Boso 3**	**1.48**	**226**	P	**Pb**	**08 34 39.7**	**-0.2**
JAG	**Ashikaga**	**1.98**	**288**	P	**Pn**	**08 34 46.2**	**+0.2**
JAG				S	**Sn**	**08 35 09.1**	**-1.7**
JFT	**Otama**	**2.04**	**325**	P	**Pn**	**08 34 47.3**	**+0.5**
JFT				S	**Sn**	**08 35 11.1**	**-1.2**
JMM	**Marumori**	**2.17**	**339**	P	**Pn**	**08 34 48.2**	**-0.4**
JKT	**Katashina**	**2.25**	**295**	P	**Pn**	**08 34 50.3**	**+0.5**
JKT				S	**Sn**	**08 35 16.6**	**-1.0**
JFY	**Yanaizu**	**2.29**	**313**	P	**Pn**	**08 34 50.9**	**+0.6**
MJAR	**Matsushiro Arr**	**2.98**	**285**	Pn	**Pn**	**08 34 59.8**	**0.0**
	0.7nm,0.3s,baz=84,slow=9.8,SNR=21						
MJAR				Sn	**Sn**	**08 35 34.7**	**-0.8**
	0.5nm,0.3s,baz=84,slow=13,SNR=6.8						
MJAR				LR	LR	08 36 18.8	
	comp=Z,52nm,21.8s,baz=110,slow=44						
MAJO	**Matsushiro**	**2.98**	**285**		**Pn**	**08 35 01.3**	**+1.5**
MAT	**Matsushiro**	**2.98**	**285**	P	**Pn**	**08 35 01.1**	**+1.3**
MAT				eS	**Sn**	**08 35 35.7**	**+0.1**
MJB9	**Matsu-Tunnel**	**2.99**	**285**		**Pn**	**08 35 01.2**	**+1.4**
JHJ2	**Mitsune**	**3.18**	**211**	Pn	**Pn**	**08 35 02.9**	**+0.5**
JHJ	**Hachijo jima 2**	**3.19**	**212**	Pn	**Pn**	**08 35 02.5**	**0.0**
	22nm,0.3s,baz=326,slow=22,SNR=12						
JHJ				Sn	**Sn**	**08 35 38.3**	**-2.3**
	71nm,0.3s,baz=311,slow=21,SNR=15						
INU	**Inuyama**	**3.92**	**264**	Pn	**Pn**	**08 35 14.7**	**+2.0**
ERM	**Erimo**	**6.25**	**9**	Pn	**Pn**	**08 35 42.5**	**-2.1**
JKA	**Kamikawa-asahi**	**8.28**	**4**		**Pn**	**08 36 16.3**	**+3.7**
ASAJ	**Asahikawa**	**8.28**	**4**	Pn	**Pn**	**08 36 11.3**	**-1.2**
	0.9nm,0.3s,baz=246,slow=12,SNR=2.7						
ASAJ				LR	LR	08 40 02.3	
	comp=Z,64nm,18.0s,baz=172,slow=42						
JNU	**Nakatsue**	**9.41**	**256**	LR	LR	08 40 37.7	
	comp=Z,148nm,18.2s,baz=168,slow=41						
PEA0B	**Petropavlovsk-**	**20.57**	**28**	P	**P**	**08 38 50.5**	**-0.7**
H11N2	**WAKE ISLAND Hy**	**27.29**	**119**	T	T	09 08 38.0	
	baz=311,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.30**	**119**	T	T	09 08 34.7	
	baz=311,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.30**	**119**	T	T	09 08 35.1	
	baz=311,slow=75						
H11S1	**WAKE ISLAND Hy**	**27.97**	**122**	T	T	09 09 23.1	
	baz=313,slow=76						
H11S3	**WAKE ISLAND Hy**	**27.97**	**122**	T	T	09 09 16.5	
	baz=313,slow=76						
H11S2	**WAKE ISLAND Hy**	**27.98**	**122**	T	T	09 09 19.2	
	baz=313,slow=76						
SONM	**Songino Array**	**28.71**	**306**	P	**P**	**08 40 09.9**	**+0.1**
	0.4nm,0.5s,baz=98,slow=2.9,SNR=1.9						
JAY	**Jayapura**	**38.17**	**182**	LR	LR	08 55 40.6	
	comp=Z,98nm,18.5s,baz=164,slow=34						
AKUT	**Akutan**	**40.28**	**46**	P	**P**	**08 41 50.3**	**+1.0**
MKAR	**Makanchi Array**	**45.02**	**303**	P	**P**	**08 42 26.4**	**-1.6**
	0.2nm,0.6s,baz=85,slow=7.7,SNR=2.8						
KURK	**Kurchatov**	**46.91**	**309**	P	**P**	**08 42 42.9**	**+0.1**
KURK				IAmb	IAmb	08 42 57.9	
	comp=Z,3.6nm,1.1s						
KDAK	**Kodiak Island**	**47.78**	**41**	P	**P**	**08 42 49.0**	**-0.5**
	comp=Z,4.3nm,1.1s,baz=73,slow=18,SNR=1.8						
KDAK	**Kodiak Island**	**47.78**	**41**	P	**P**	**08 42 48.6**	**-0.9**
ILAR	**Eielson Array**	**50.34**	**32**	P	**P**	**08 43 09.2**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=265,slow=6.3,SNR=8.3						
EGAK	**Eagle**	**52.78**	**32**	P	**P**	**08 43 28.4**	**+1.1**
WB0	**Warramunga Arr**	**55.75**	**188**	P	**P**	**08 43 48.9**	**-0.5**
WB0				IAmb	IAmb	08 43 59.9	
	comp=Z,8.2nm,1.4s						
WR0	**Warramunga Arr**	**55.92**	**188**	P	**P**	**08 43 50.8**	**+0.3**
WR0				IAmb	IAmb	08 44 08.5	
	comp=Z,3.9nm,0.9s						
WB2	**Warramunga Arr**	**55.93**	**188**	P	**P**	**08 43 51.0**	**+0.4**
WB2				IAmb	IAmb	08 44 08.6	
	comp=Z,3.9nm,1.0s						
WRA	**Warramunga Arr**	**55.93**	**188**	P	**P**	**08 43 50.2**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=6.3,slow=7.4,SNR=6.6						
ASAR	**Alice Springs**	**59.66**	**188**	P	**P**	**08 44 16.2**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=7.3,slow=9.5,SNR=2.6						
NVAR	**Mina Array Bea**	**75.45**	**53**	P	**P**	**08 45 58.4**	**+1.5**
	comp=Z,0.6nm,0.9s,baz=299,slow=1.9,SNR=2.4						
LPAZ	**La Paz**	**147.01**	**62**	PKPbc	**PKPdf**	**08 53 55.5**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=42,slow=3.4,SNR=6.2						
LPAZ	**La Paz**	**147.01**	**62**	PKPbc	**PKPbc**	**08 53 57.1**	**+0.5**

*EAF **01** 08:34:58.2±2.8, 24°.35S×26°.52E, h134km±104km*
BUL 01 08:34:46.4±0.3**, 23°.51S×24°.20E, h15**km**, MD3.9, Botswana**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**1.97**	**140**	i P	Pn	08 35 19.4	0.0
LBTB	**Lobatse**	**1.97**	**140**	i P	Pn	08 35 19.6	+0.2
LBTB				i S	Sn	08 35 39.6	-4.4
MATP	**Matopo**	**5.04**	**53**	i P	Pn	08 36 01.7	+0.2
MATP	**Matopo**	**5.04**	**53**	i P	Pn	08 36 01.8	+0.2
MATP				i S	Sn	08 36 46.4	-13
BOSA	**Boshof**	**5.17**	**170**	i P	Pn	08 36 03.6	+0.2
BOSA	**Boshof**	**5.17**	**170**	i P	Pn	08 36 03.6	+0.2
BOSA				i S	Sn	08 36 47.7	-15

MDD 01 08:37:18.5±2.5**, 37°.16N×3°.09E, h0**km**, mb3.9**/14**, 1D, Error ellipse: s-maj=25.3km s-min=12.6km az=145.0, PRXIMO, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EIBI	**Ibiza**	**2.31**	**324**	P	Pn	08 37 56.7	-1.2
	6.5nm,0.2s,SNR=8.1						
EIBI				S	Sn	08 38 24.1	-3.0
	5.5nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**2.61**	**355**	⇓P	Pn	08 38 00.6	-1.4
	4.9nm,0.2s,SNR=18						
ETOS				S	Sn	08 38 30.7	-3.6
	2.3nm,0.2s,SNR=11						
EBEN2	**Beniarda presa**	**3.00**	**301**	P	Pn	08 38 05.9	-1.4
	4.5nm,0.1s,SNR=7.9						
EBEN2				S	Sn	08 38 37.8	-6.2
	5.1nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.95**	**293**	P	Pn	08 38 19.3	-1.2
	1.6nm,0.2s,SNR=7.9						
ETOB				S	Sn	08 39 04.7	-2.9
	1.3nm,0.2s,SNR=8.8						
ECHE	**Chera**	**4.00**	**308**	P	Pn	08 38 20.1	-1.0
	2.8nm,0.2s,SNR=7.9						
ECHE				S	Sn	08 39 06.7	-2.1
	1.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.24**	**320**	P	Pn	08 38 23.2	-1.3
	2.4nm,0.2s,SNR=7.9						
EMOS				S	Sn	08 39 10.5	-4.2
	1.3nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**4.46**	**340**	P	Pn	08 38 26.7	-0.7
	0.6nm,0.1s,SNR=7.9						
EPOB				S	Sn	08 39 14.7	-5.5
	0.6nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**4.57**	**284**	P	Pn	08 38 27.5	-1.5
	1.8nm,0.2s,SNR=7.9						
SESP				S	Sn	08 39 18.8	-4.1
	4.5nm,0.4s,SNR=7.9						
CFON	**Fontmartina**	**4.62**	**354**	P	Pn	08 38 28.3	-1.3
	2.4nm,0.2s,SNR=6.7						
CFON				S	Sn	08 39 14.9	-9.1
	5.6nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**4.90**	**346**	P	Pn	08 38 33.0	-0.4
	2.1nm,0.2s,SNR=7.9						
EMIR				S	Sn	08 39 19.4	-11
	2.5nm,0.2s,SNR=4.0						
EQES	**Quesada**	**4.94**	**279**	P	Pn	08 38 32.3	-1.7
	1.2nm,0.3s,SNR=7.9						
EQES				S	Sn	08 39 27.0	-5.0
	1.1nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**5.32**	**358**	P	Pn	08 38 38.8	-0.4
	0.9nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**5.38**	**351**	P	Pn	08 38 37.0	-3.1
	0.5nm,0.1s,SNR=7.9						
CSOR	**Sort**	**5.42**	**344**	P	Pn	08 38 40.5	-0.2
	0.6nm,0.2s,SNR=7.9						
CSOR				S	Sn	08 39 40.1	-3.7
	0.7nm,0.2s,SNR=7.9						

*IDC **01** 08:41:43.7±1.7, 55°.87N×162°.43E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/46, mbtmp3.4/5, ML2.7/1, Error ellipse: s-maj=178.1km s-min=22.0km az=142.0*
*NEIC **01** 08:41:45.7±3.0, 56°.0N±0°.2×162°.4E±0°.3, h12km±7km, mb4.0/12, Error ellipse: s-maj=31.4km s-min=13.5km az=142.0*
*KRSC **01** 08:41:45.5±1.3, 55°.19N×163°.36E, h67km±31km, ML3.9*
ISC 01 08:41:45.8±2.5**, 55°.22N**±0°.05×**163°.32E**±0°.04**, h10**km±17km**,**
n57, σ1.s**16**/64**, mb3.8**/8**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.03**	**344**	eP	**Pb**	**08 42 05.0**	**-0.7**
KBTR				eS	**Sg**	**08 42 19.9**	**+0.9**
KBG	**Krutoberegovo**	**1.10**	**342**	eP	**Pb**	**08 42 06.0**	**-0.8**
BKI	**Bering**	**1.52**	**89**	eP	**Pn**	**08 42 12.1**	**-0.9**
BKI				eS	**Sn**	**08 42 31.9**	**-0.9**
ZLN	**Zelenaya**	**1.64**	**300**	eP	**Pn**	**08 42 14.3**	**-0.4**
BZGR	**Bezymyannyi-Gr**	**1.66**	**297**	eP	**Pn**	**08 42 14.5**	**-0.5**
BZGR				eS	**Sb**	**08 42 37.3**	**-0.1**
TUMD	**Tumrok D**	**1.68**	**271**	eP	**Pn**	**08 42 13.4**	**-1.7**
CIRR	**Tsirk**	**1.71**	**303**	eP	**Pn**	**08 42 15.9**	**+0.1**
SMKR	**Semkarok**	**1.72**	**323**	eP	**Pn**	**08 42 16.1**	**+0.3**
LGNR	**Loginova**	**1.73**	**301**	eP	**Pb**	**08 42 17.4**	**-0.3**
KZV	**Kizimen**	**1.74**	**268**	eP	**Pn**	**08 42 14.2**	**-2.0**
KZV				eS	**Sn**	**08 42 35.8**	**-2.7**
BZWR	**Bezymyannyi-We**	**1.77**	**296**	eP	**Pn**	**08 42 16.4**	**-0.2**
BDR	**Baidarnaya**	**1.80**	**320**	eP	**Pn**	**08 42 16.7**	**-0.3**
TUMR	**Tumrok**	**1.82**	**273**	eP	**Pn**	**08 42 16.0**	**-1.2**
KMNR	**Kamenistaya**	**1.84**	**288**	eP	**Pn**	**08 42 17.3**	**-0.1**
KMNR				eS	**Sb**	**08 42 42.5**	**0.0**
KIRR	**Kirishev**	**1.84**	**295**	eP	**Pn**	**08 42 17.8**	**+0.2**
KRSR	**Krestovskiy**	**1.85**	**304**	eP	**Pn**	**08 42 16.9**	**-0.8**
KLY	**Klyuchi**	**1.87**	**307**	eP	**Pn**	**08 42 16.1**	**-1.6**
SRKR	**Sorokina**	**1.88**	**321**	eP	**Pn**	**08 42 18.1**	**+0.1**
SRDR	**Sredinnyy**	**2.31**	**300**	eP	**Pn**	**08 42 24.2**	**+0.2**
KII	**Karymskiy**	**2.54**	**244**	eP	**Pn**	**08 42 26.2**	**-0.9**
SPN	**Mys Shipunski**	**2.88**	**224**	eP	**Pn**	**08 42 29.8**	**-1.8**
SPN				eS	**Sn**	**08 43 04.4**	**-1.8**
NLC	**Nalytchevo**	**3.11**	**230**	eP	**Pn**	**08 42 35.5**	**+0.7**
SDLR	**Sedlovina**	**3.25**	**235**	eP	**Pn**	**08 42 36.1**	**-0.7**
KRER	**Koryakskii**	**3.30**	**236**	eP	**Pn**	**08 42 38.1**	**+0.5**
SMAR	**Somma**	**3.30**	**235**	eP	**Pn**	**08 42 37.4**	**-0.2**
KRX	**Arik**	**3.31**	**238**	eP	**Pn**	**08 42 38.2**	**+0.5**
KRX				eS	**Sn**	**08 43 19.2**	**+2.0**
UGLR	**Uglovaya**	**3.32**	**235**	eP	**Pn**	**08 42 37.3**	**-0.5**
AVH	**Avacha**	**3.33**	**236**	eP	**Pn**	**08 42 38.3**	**+0.4**
KOK	**Koryaka**	**3.36**	**237**	eP	**Pn**	**08 42 38.1**	**-0.2**
DALK	**Dalny**	**3.47**	**233**	eP	**Pn**	**08 42 39.4**	**-0.3**
DALK				eS	**Sn**	**08 43 19.5**	**-1.3**
PET	**Petropavlovsk**	**3.52**	**233**	eP	**Pn**	**08 42 41.4**	**+1.0**
PET				eS	**Sn**	**08 43 23.9**	**+1.9**
KRMR	**Karymshinskiy**	**3.88**	**234**	eP	**Pn**	**08 42 46.2**	**+0.7**
PEA0B	**Petropavlovsk-**	**3.92**	**240**		**Pn**	**08 42 45.7**	**-0.3**
PETK	**Petropavlovsk-**	**3.92**	**240**	Pn	**Pn**	**08 42 46.3**	**+0.3**
	2.8nm,0.3s,baz=74,slow=18,SNR=27						
PETK				Sn	**Sn**	**08 43 35.7**	**+3.6**
	1.2nm,0.3s,baz=108,slow=14,SNR=4.1						
OSSR	**Ossora**	**4.05**	**358**	eP	**Pn**	**08 42 48.0**	**+0.3**
MTVR	**Mutnovka**	**4.09**	**230**	eP	**Pn**	**08 42 47.9**	**-0.6**
GRL	**Gorelyy**	**4.09**	**231**	eP	**Pn**	**08 42 49.5**	**+1.0**
ASAK	**Asacha**	**4.29**	**231**	eP	**Pn**	**08 42 51.9**	**+0.8**
KDTR	**Khodutka, Kamc**	**4.63**	**225**	eP	**Pn**	**08 42 55.1**	**-0.6**
UNV	**Unalaska Valle**	**17.50**	**82**	P	**P**	**08 45 52.1**	**+1.4**
AKUT	**Akutan**	**17.84**	**81**	P	**P**	**08 45 56.7**	**+2.2**
AKUT				IAmb	IAmb	08 46 15.2	
	comp=Z,22nm,1.4s						
OHAK	**Old Harbor**	**23.91**	**67**	P	**P**	**08 46 58.9**	**-0.5**
KDAK	**Kodiak Island**	**24.15**	**66**	P	**P**	**08 47 01.7**	**+0.1**
CNPM	**China Poot**	**24.49**	**61**	P	**P**	**08 47 03.9**	**-1.0**
COLD	**Coldfoot**	**24.70**	**42**	P	**P**	**08 47 04.5**	**-2.1**
SEW	**Seward**	**25.28**	**59**	P	**P**	**08 47 13.1**	**+1.3**
SEW				IAmb	IAmb	08 47 21.1	
	comp=Z,8.7nm,1.2s						
MJAR	**Matsushiro Arr**	**25.35**	**233**	P	**P**	**08 47 11.4**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=30,slow=7.6,SNR=3.0						
CCB	**Clear Creek Bu**	**25.59**	**49**	P	**P**	**08 47 13.3**	**-1.3**
CCB				IAmb	IAmb	08 47 15.3	
	comp=Z,2.9nm,1.4s						
IL31		**25.98**	**48**	P	**P**	**08 47 17.1**	**-1.0**
IL31				IAmb	IAmb	08 47 30.3	
	comp=Z,3.4nm,1.4s						
ILAR	**Eielson Array**	**25.98**	**48**	P	**P**	**08 47 17.2**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=273,slow=9.4,SNR=7.7						
SCM	**Sheep Creek Mo**	**26.04**	**55**	P	**P**	**08 47 19.1**	**+0.3**
SCM				IAmb	IAmb	08 47 19.3	
	comp=Z,2.9nm,0.7s						
EGAK	**Eagle**	**28.42**	**48**	P	**P**	**08 47 39.3**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**35.53**	**174**	T	T	09 27 58.1	
	baz=358,slow=76						
H11N3	**WAKE ISLAND Hy**	**35.55**	**174**	T	T	09 27 59.5	
	baz=358,slow=76						
H11N1	**WAKE ISLAND Hy**	**35.55**	**174**	T	T	09 27 53.7	
	baz=358,slow=76						
PDAR	**Pinedale Array**	**54.85**	**64**	P	**P**	**08 51 16.9**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=303,slow=5.0,SNR=4.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	68.09	70	P	P	08 52 46.6	+0.9
	comp=Z,0.2nm,0.6s,baz=306,slow=7.6,SNR=4.4						

IDC 01 08:43:40.3±1.0, 9°.90N×126°.38E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/40, mbtmp3.8/8, MS3.0/2, Ms1 3.0/2, ms1mx2.6/35, Error ellipse: s-maj=61.5km s-min=19.9km az=73.0

MAN 01 08:43:44.6, 9°.96N×126°.43E, h19km, MS3.1

NEIC 01 08:43:44.7±1.0, 9°.92N±0°.06×126°.5E±0°.2, h26km±8km, mb4.3/4, Error ellipse: s-maj=33.2km s-min=6.8km az=100.0

ISC 01 08:43:46.5±0.8, 9°.95N±0°.06×126°.53E±0°.08, h42km, n28, σ0s.95/25, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSLP	Maasin	1.66	277	eP	Pn	08 44 13.4	+0.4
MSLP				eS	Sn	08 44 31.2	-1.9
BUKP	Musuan	2.51	215	eP	Pn	08 44 24.7	-0.2
BUKP				eS	Sn	08 44 54.7	+0.3
LLP	Lapu-Lapu	2.55	279	⇑eP	Pn	08 44 26.0	+0.7
LLP				i S	Sn	08 44 55.7	+0.5
TBP	Tagbilaran	2.64	265	eP	Pn	08 44 26.3	-0.3
TBP				i S	Sn	08 44 56.7	-0.7
DAV	Davao City (W)	3.01	198	LR	LR	08 45 11.4	
	comp=Z,44nm,21.1s,baz=344,slow=31						
DAV	Davao City (W)	3.01	198	Pn	Pn	08 44 30.2	-1.5
CNP	Catarman	3.14	324	eP	Pn	08 44 32.6	-0.8
CNP				eS	Sn	08 45 20.7	+11
KCP	Kidapawan	3.25	206	⇓iP	Pn	08 44 35.4	+0.4
KCP				i S	Sn	08 45 13.6	+1.1
FITZ	Fitzroy Crossi	27.88	182	P	P	08 49 32.1	-0.3
	0.7nm,0.6s,baz=358,slow=14,SNR=1.3						
FITZ	Fitzroy Crossi	27.88	182	P	P	08 49 32.4	-0.1
FITZ				IAmb	IAmb	08 49 33.5	
	comp=Z,10nm,1.5s						
WB0	Warramunga Arr	30.52	165	P	P	08 49 56.2	+0.2
WB0				IAmb	IAmb	08 50 15.8	
	comp=Z,9.3nm,1.5s						
WRA	Warramunga Arr	30.68	165	P	P	08 49 56.4	-0.9
	comp=Z,0.3nm,0.4s,baz=343,slow=9.3,SNR=2.0						
WB2	Warramunga Arr	30.68	165	P	P	08 49 56.8	-0.6
ASAR	Alice Springs	34.18	168	P	P	08 50 27.1	-0.8
	comp=Z,0.3nm,0.4s,baz=349,slow=6.8,SNR=6.9						
H11S3	WAKE ISLAND Hy	39.77	73	T	T	09 34 10.9	
	baz=262,slow=74						
H11S1	WAKE ISLAND Hy	39.78	73	T	T	09 34 08.7	
	baz=262,slow=74						
H11S2	WAKE ISLAND Hy	39.79	73	T	T	09 34 12.1	
	baz=262,slow=74						
H11N1	WAKE ISLAND Hy	40.12	71	T	T	09 34 36.8	
	baz=261,slow=74						
H11N2	WAKE ISLAND Hy	40.12	71	T	T	09 34 37.0	
	baz=261,slow=74						
H11N3	WAKE ISLAND Hy	40.13	71	T	T	09 34 38.2	
	baz=261,slow=74						
NWAO	Narrogin (SRO)	43.55	191	P	P	08 51 46.1	-0.2
MK31	Makanchi Array	52.44	323	P	P	08 52 57.3	+2.3
MKAR	Makanchi Array	52.44	323	P	P	08 52 53.8	-1.2
	comp=Z,0.5nm,0.6s,baz=124,slow=7.6,SNR=5.6						
GEYT	Alibeck	66.94	307	P	P	08 54 34.5	-0.5
	comp=Z,1.4nm,0.5s,baz=92,slow=4.3,SNR=2.6						
ILAR	Eielson Array	79.62	26	P	P	08 55 50.0	+0.8
	comp=Z,0.3nm,0.8s,baz=250,slow=4.7,SNR=2.9						
ARCES	ARCESS Array B	84.58	340	P	P	08 56 15.4	+0.3
	comp=Z,1.9nm,0.9s,baz=94,slow=6.4,SNR=5.4						
FINES	FINESS Array B	86.30	332	P	P	08 56 24.3	+0.6
	comp=Z,3.3nm,0.9s,baz=90,slow=4.2,SNR=5.1						
KMBO	Kilima Mbogo	89.48	269	LR	LR	09 35 23.6	
	comp=Z,49nm,18.2s,baz=94,slow=35						

IDC 01 09:25:23.4±2.6, 53°.71N×86°.84E, h0km, mb1 3.0/2, mb1mx2.9/35, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=23.6km s-min=13.2km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.22	282	i		09 33 16.0	
	baz=99,slow=319,SNR=1.3						
ZALV	Zalesovo Beam	1.22	282	Pg	Pg	09 25 45.2	-1.5
	1.5nm,0.3s,baz=106,slow=11,SNR=20						
ZALV				Lg	Lg	09 26 03.5	
	1.7nm,0.3s,baz=104,slow=29,SNR=10.0						
KURBB	Kurchatov Arra	5.97	242	Pn	Pn	09 26 54.5	+1.5
	0.1nm,0.3s,baz=57,slow=14,SNR=5.9						
KURBB				Lg	Lg	09 28 32.4	
	0.0nm,0.3s,baz=59,slow=7.7,SNR=2.0						
MKAR	Makanchi Array	7.51	205	Pn	Pn	09 27 15.2	+1.1
	0.2nm,0.3s,baz=24,slow=13,SNR=9.3						
MKAR				Sn	Sn	09 28 39.4	-0.6
	0.1nm,0.3s,baz=35,slow=28,SNR=1.7						

MAN 01 09:45:36.4, 8°.18N×126°.40E, h96km, MS3.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	Mati	1.23	186	eP	Pn	09 45 59.5	+0.3
MATI				eS	Sn	09 46 16.9	+0.5
BUKP	Musuan	1.35	257	eP	Pn	09 46 01.3	+0.6
BUKP				eS	Sn	09 46 19.5	+0.5
KCP	Kidapawan	1.74	228	⇓eP	Pn	09 46 06.5	+0.9
KCP				i S	Sn	09 46 27.4	-0.3
DDMP	Don Marcelino,	2.17	198	eP	Pn	09 46 11.5	+0.4
DDMP				eS	Sn	09 46 37.6	0.0
TBP	Tagbilaran	2.92	301	i P	Pn	09 46 21.7	+0.7
TBP				i S	Sn	09 46 54.8	-0.6

NEIC 01 09:46:44.6±1.5, 10°.80N±0°.08×141°.0E±0°.1, h39km±3km, mb4.4/15, Error ellipse: s-maj=21.2km s-min=10.7km az=102.0

IDC 01 09:46:49.3±6.7, 10°.77N×140°.99E, h84km±64km, mb3.8/12, mb1 4.0/13, mb1mx3.6/49, mbtmp4.2/13, ML4.3/1, MS3.1/4, Ms1 3.2/4, ms1mx2.9/30, Error ellipse: s-maj=28.6km s-min=19.3km az=83.0

ISC 01 09:46:43.4±0.6, 10°.69N±0°.07×141°.0E±0°.1, h34km, n37, σ1s.31/30, mb4.2/20, MS3.1/4, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.78	52	Pn	Pn	09 47 53.3	+0.3
JAY	Jayapura	13.12	181	P	P	09 49 53.8	-3.5
	1.7nm,0.3s,baz=325,slow=8.6,SNR=8.3						
JAY				S	Sn	09 52 13.1	+0.7
	0.8nm,0.3s,baz=147,slow=17,SNR=1.9						
FAKI	Fak Fak	16.07	213		Pn	09 50 26.2	-0.7
FAKI				IAmb	IAmb	09 50 28.7	
	comp=Z,25nm,1.0s						
COEN	Coen	24.58	175	P	P	09 52 02.0	+1.4
COEN				IAmb	IAmb	09 52 17.8	
	comp=Z,9.1nm,1.4s						
MJAR	Matsushiro Arr	25.86	355	LR	LR	10 02 37.1	
	comp=Z,29nm,18.3s,baz=190,slow=37						
H11S3	WAKE ISLAND Hy	26.04	70	T	T	10 20 43.0	
	baz=256,slow=76						
H11S1	WAKE ISLAND Hy	26.06	70	T	T	10 20 44.1	
	baz=256,slow=76						
H11S2	WAKE ISLAND Hy	26.06	70	T	T	10 20 44.0	
	baz=256,slow=76						
H11N1	WAKE ISLAND Hy	26.54	67	T	T	10 21 19.9	
	baz=254,slow=75						
H11N2	WAKE ISLAND Hy	26.55	67	T	T	10 21 20.2	
	baz=254,slow=75						
H11N3	WAKE ISLAND Hy	26.56	67	T	T	10 21 21.8	
	baz=254,slow=75						
KSRS	Korea Array	29.12	338	LR	LR	10 02 54.0	
	comp=Z,35nm,19.2s,baz=173,slow=33						
WR0	Warramunga Arr	31.11	192	P	P	09 53 00.7	+1.8
WR0				IAmb	IAmb	09 53 01.9	
	comp=Z,5.7nm,1.1s						
WRAB	Tennant Creek	31.12	192	P	P	09 53 00.9	+1.8
WRAB				IAmb	IAmb	09 53 12.0	
	comp=Z,17nm,1.1s						
WB2	Warramunga Arr	31.13	192	P	P	09 53 00.9	+1.8
WB2				IAmb	IAmb	09 53 19.7	
	comp=Z,3.3nm,0.8s						
WRA	Warramunga Arr	31.13	192	P	P	09 53 00.5	+1.3
	comp=Z,2.9nm,0.8s,baz=9.8,slow=10.0,SNR=5.4						
FITZ	Fitzroy Crossi	32.36	208	P	P	09 53 10.8	+0.8
FITZ				IAmb	IAmb	09 53 11.7	
	comp=Z,9.9nm,1.4s						
AS31	Alice Springs	34.84	191	P	P	09 53 33.1	+1.6
ASAR	Alice Springs	34.84	191	P	P	09 53 33.4	+1.8
	comp=Z,0.6nm,0.5s,baz=19,slow=12,SNR=22						
ENH	Enshi	35.16	308	P	P	09 53 33.1	-1.2
KLR	Kul'dur	39.18	350	P	P	09 54 08.0	-0.1
	comp=Z,2.2nm,0.6s,baz=154,slow=6.0,SNR=8.0						
CMAR	Chiang Mai Arr	41.33	286	P	P	09 54 27.4	+1.1
	comp=Z,1.9nm,0.5s,baz=94,slow=6.2,SNR=9.1						
CMAR				LR	LR	10 12 31.6	
	comp=Z,34nm,19.1s,baz=192,slow=37						
SONM	Songino Array	47.05	329	P	P	09 55 12.3	+0.4
	comp=Z,0.4nm,0.4s,baz=149,slow=6.7,SNR=5.4						
SONM				LR	LR	10 14 21.2	
	comp=Z,28nm,21.3s,baz=147,slow=35						
MK31	Makanchi Array	60.99	318	P	P	09 56 53.0	-0.5
MKAR	Makanchi Array	60.99	318	P	P	09 56 54.0	+0.4
	comp=Z,1.9nm,0.8s,baz=96,slow=9.9,SNR=11						
MAKZ	Makanchi	61.21	318	P	P	09 56 54.9	-0.2
MAKZ				IAmb	IAmb	09 56 56.4	
	comp=Z,4.0nm,1.1s						
ZALV	Zalesovo Beam	61.82	326	P	P	09 56 58.4	-0.6
	comp=Z,0.7nm,0.4s,baz=102,slow=3.5,SNR=2.1						
KURK	Kurchatov	64.39	321	P	P	09 57 16.4	+0.3
KURBB	Kurchatov Arra	64.42	321	P	P	09 57 16.0	-0.3
	comp=Z,3.8nm,0.8s,baz=104,slow=6.7,SNR=16						
NIL	Nilore	65.64	302	P	P	09 57 25.2	+0.6
KDAK	Kodiak Island	68.53	32	P	P	09 57 42.1	-0.3
	comp=Z,4.2nm,0.9s,baz=246,slow=10.0,SNR=1.8						
BRVK	Borovoye	69.94	323	P	P	09 57 50.5	-0.7
BRVK				IAmb	IAmb	09 57 52.4	
	comp=Z,4.5nm,0.6s						
COLD	Coldfoot	72.06	22	P	P	09 58 06.2	+2.3
COLD				IAmb	IAmb	09 58 07.1	
	comp=Z,2.0nm,0.8s						
IL31		72.80	25	P	P	09 58 07.0	-1.3
ILAR	Eielson Array	72.80	25	P	P	09 58 08.7	+0.3
	comp=Z,0.7nm,0.6s,baz=247,slow=5.7,SNR=12						
ARCES	ARCESS Array B	88.63	341	P	P	09 59 32.4	-0.5
	comp=Z,1.6nm,0.7s,baz=75,slow=7.8,SNR=6.7						
FINES	FINESS Array B	92.13	334	P	P	09 59 48.6	-0.6
	comp=Z,1.1nm,0.7s,baz=44,slow=4.2,SNR=4.6						

KRSC 01 10:44:01.6±1.4, 54°.99N×165°.39E, h30km±12km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKI	Bering	0.40	57	eP	Pb	10 44 10.7	+0.3
BKI				eS	Sb	10 44 15.5	-0.9
KBTR	Krutoberegovo	1.90	311	eP	Pn	10 44 32.5	+0.5
BDR	Baidarnaya	2.84	306	eP	Pb	10 44 48.8	-2.9
KZV	Kizimen	2.94	274	eP	Pb	10 44 50.0	-3.3
TUMR	Tumrok	3.03	278	eP	Pb	10 44 52.3	-2.5
SRDR	Sredinnyy	3.48	295	eP	Pb	10 44 58.8	-3.7
SPN	Mys Shipunski	3.69	241	eP	Pn	10 45 00.2	+3.6
SPN				eS	Sn	10 45 41.2	+2.2
NLC	Nalytchevo	4.00	245	eS	Sn	10 45 50.8	+4.2
SDLR	Sedlovina	4.20	249	eP	Pn	10 45 08.7	+5.1
SDLR				eS	Sn	10 45 55.7	+4.1
SMAR	Somma	4.25	249	eP	Pn	10 45 09.4	+5.0
KRER	Koryakskii	4.26	249	eP	Pn	10 45 09.9	+5.4
KRER				eS	Sn	10 45 58.0	+4.8
UGLR	Uglovaya	4.26	248	eP	Pn	10 45 09.7	+5.2
UGLR				eS	Sn	10 45 58.0	+4.8
AVH	Avacha	4.28	249	eP	Pn	10 45 10.0	+5.3
AVH				eS	Sn	10 45 58.3	+4.7
KRX	Arik	4.29	250	eP	Pn	10 45 10.1	+5.2
KRX				eS	Sn	10 45 58.3	+4.4
KOK	Koryaka	4.32	250	eP	Pn	10 45 10.5	+5.1
MTVR	Mutnovka	4.96	243	eS	Sn	10 46 13.2	+2.6
GRL	Gorelyy	4.98	244	eP	Pn	10 45 20.0	+5.6
ASAK	Asacha	5.16	243	eP	Pn	10 45 22.7	+5.8
ASAK				eS	Sn	10 46 20.1	+4.7

MOS 01 11:08:08.1±1.0, 41°.92N×139°.78E, h185km, mb4.0/17, Error ellipse: s-maj=8.4km s-min=6.3km az=73.5

IDC 01 11:08:08.1±1.0, 41°.91N×139°.75E, h172km±9km, mb3.6/23, mb1 3.7/27, mb1mx3.6/56, mbtmp4.0/27, MS3.4/1, Ms1 3.4/1, ms1mx2.3/45, Error ellipse: s-maj=12.6km s-min=8.6km az=149.0

NEIC 01 11:08:09.6±1.3, 41°.93N±0°.08×139°.7E±0°.1, h181km±6km, mb4.1/82, Error ellipse: s-maj=12.6km s-min=10.2km az=139.0

NIED 01 11:08:09.8, 41°.92N×139°.83E, h177km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.47; $M_{\theta\theta}$-0.16; $M_{\phi\phi}$-0.31; $M_{r\theta}$-0.01; $M_{\theta\phi}$0.57; $M_{\phi r}$-1.02; Fault plane solution: $M_0$1.24000×10^{15} NP1: ϕ_s173.00000°, δ78.00000°, λ116.00000°. NP2: ϕ_s286.00000°, δ29.00000°, λ26.00000°.

JMA 01 11:08:09.7±0.1, 41°.92N×139°.83E, h177km±1km, M3.6

ISC 01 11:08:09.3±0.5, 41°.91N±0°.04×139°.82E±0°.04, h181km±4km, n194, σ1s.13/216, mb4.0/73, 6C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOSM	Okushiri--Mats	0.31	303	P	Pn	11 08 33.3	-0.2
JOSM				eS	Sn	11 08 51.5	-0.8
JOMM	Oshimamatsumae	0.41	161	P	Pn	11 08 33.9	0.0
JOMM				eS	Sn	11 08 52.1	-0.7
JYM2	Yakumo 2	0.46	63	P	Pn	11 08 34.2	+0.2
JYM2				eS	Sn	11 08 52.6	-0.5
JHST	Hiyamasetana	0.51	4	P	Pn	11 08 34.3	+0.1
JHST				eS	Sn	11 08 52.7	-0.9
JSR	Shiriuchi	0.59	131	P	Pn	11 08 34.6	0.0
JSR				eS	Sn	11 08 53.6	-0.4
JSH	Shimam	0.75	13	P	Pn	11 08 35.5	+0.1
JSH				eS	Sn	11 08 55.6	-0.1
JKB	Kayabe	0.90	91	P	Pn	11 08 36.4	0.0
JKB				eS	Sn	11 08 57.1	-0.2
JNB	Noboribetsu	1.06	58	P	Pn	11 08 37.3	-0.2
JOT	Ohata	1.06	120	P	Pn	11 08 37.4	-0.1
JOT				eS	Sn	11 08 58.9	-0.4
JIW	Iwasaki	1.33	174	P	Pn	11 08 40.1	+0.3
JIW				eS	Sn	11 09 03.7	+0.3
JTM	Tenmabayashi	1.46	140	P	Pn	11 08 41.1	+0.1
JTM				eS	Sn	11 09 04.6	-0.9
JSK	Shakotan	1.52	18	P	Pn	11 08 41.7	+0.3
JSK				eS	Sn	11 09 06.1	-0.4
JEW	Eniwo	1.52	52	P	Pn	11 08 42.2	+0.7
JEW				eS	Sn	11 09 07.7	+1.2
JIAM	Iburiatsuma	1.71	65	P	Pn	11 08 43.9	+0.6
JISS	Ishikarishitsu	1.80	40	P	Pn	11 08 44.9	+0.7
JAH	Hinai	1.83	160	P	Pn	11 08 45.0	+0.4
JAH				eS	Sn	11 09 12.4	+0.4
JANG	Nango	2.00	140	P	Pn	11 08 45.7	-0.7
JANG				eS	Sn	11 09 13.3	-1.9
JNBK	Urakawa-nobuka	2.21	79	P	Pn	11 08 48.4	-0.3
JNBK				eS	Sn	11 09 18.4	-0.9
JHR	Hokuryu	2.30	37	P	Pn	11 08 50.6	+0.9
JFR	Furan	2.40	58	P	Pn	11 08 50.2	-0.6
ERM	Erimo	2.49	87	d iP	Pn	11 08 51.8	0.0
ERM	Erimo	2.49	87		Pn	11 08 51.9	+0.1
ERM				Sn	Sn	11 09 26.8	+1.9
ASAJ	Asahikawa	3.00	42	P	Pn	11 08 58.1	+0.3
	60nm,0.3s,baz=233,slow=11,SNR=472						
ASAJ				S	Sn	11 09 34.8	-1.1
	baz=151,slow=33,SNR=8.6						
JKA	Kamikawa-asahi	3.00	42		Pn	11 08 58.0	+0.1
NMR	Nemuro--Hokkai	4.59	70	⇓iP	Pn	11 09 15.8	-2.1
NMR				i S	Sn	11 10 05.8	-5.9
GRPR	Tuman	4.83	63	⇓iP	Pn	11 09 20.4	-0.6
GRPR				i S	Sn	11 10 15.3	-2.1
GRPR				pmax	pmax		
	comp=Z,419nm,0.3s						
GRPR				pmax	pmax		
	comp=N,128nm,0.4s						
GRPR				pmax	pmax		
	comp=E,192nm,0.4s						
GRPR				smax	smax		
	comp=E,214nm,0.2s						
GRPR				smax	smax		
	comp=N,379nm,0.4s						
YUK	Yuzh-Kuril'sk	4.91	62	d iP	Pn	11 09 21.4	-0.6
YUK				i S	Sn	11 10 17.1	-2.0
YUK				pmax	pmax		
	comp=Z,556nm,0.2s						
YUK				pmax	pmax		
	comp=E,199nm,0.3s						
YUK				pmax	pmax		
	comp=N,113nm,0.2s						
YUK				smax	smax		
	comp=E,234nm,0.3s						
YUK				smax	smax		
	comp=N,246nm,0.5s						
YSS	Yuzh-Sakhalins	5.46	22	⇓iP	Pn	11 09 29.1	0.0
YSS				eS	Sn	11 10 30.0	-1.9
YSS				pmax	pmax		
	comp=Z,210nm,0.6s						
YSS				smax	smax		
	comp=N,40nm,0.6s						
YSS				smax	smax		
	comp=E,30nm,0.4s						
YSS				MLR	MLR		
	comp=Z,100nm,14.0s						
YSS				MLR	MLR		
	comp=N,100nm,16.0s						
YSS				MLR	MLR		
	comp=E,100nm,13.0s						
YSS	Yuzh-Sakhalins	5.46	22	Pn	Pn	11 09 29.1	0.0
MJB9	Matsu-Tunnel	5.50	194		Pn	11 09 30.4	+0.5
MAJO	Matsushiro	5.51	194	i P	Pn	11 09 30.3	+0.4
MAJO				pmax	pmax		
	comp=Z,12nm,0.7s						
MAJO	Matsushiro	5.51	194		Pn	11 09 29.9	0.0
MJAR	Matsushiro Arr	5.51	194	P	Pn	11 09 30.2	+0.3
	comp=Z,0.3nm,0.3s,baz=348,slow=14,SNR=13						
VLA	Vladivostok	5.99	284	i P	Pn	11 09 34.2	-1.8
VLA				pmax	pmax		
	comp=Z,14nm,0.9s						
USA0B	Ussuriysk Arra	6.18	294	d iP	Pn	11 09 38.8	+0.3
USA0B	Ussuriysk Arra	6.18	294	Pn	Pn	11 09 38.7	+0.3
USRK	Ussuriysk Ar.	6.18	294	P	Pn	11 09 38.4	-0.1
	baz=102,slow=13,SNR=43						
KUR	Kuril'sk	6.72	58	d iP	Pn	11 09 45.2	-0.3
KUR				i S	Sn	11 11 00.8	-0.8
KUR				pmax	pmax		
	comp=Z,74nm,0.4s						
KUR				pmax	pmax		
	comp=E,20nm,0.5s						
KUR				pmax	pmax		
	comp=N,18nm,0.3s						
KUR				smax	smax		
	comp=N,42nm,0.2s						
KUR				smax	smax		
	comp=E,27nm,0.3s						
KUR				MLR	MLR		
	comp=Z,365nm,4.0s						
INU	Inuyama	6.91	199	Pn	Pn	11 09 48.5	+0.2
TYV	Tymovskoe	9.16	11	eP	Pn	11 10 17.8	+0.2
TYV				pmax	pmax		
	comp=Z,100nm,2.7s						
TYV				pmax	pmax		
	comp=Z,18nm,0.8s						
GRNR	Gornyy	9.16	346	⇑iP	Pn	11 10 18.3	+0.6
GRNR				pmax	pmax		
	comp=N,6.0nm,0.5s						
GRNR				pmax	pmax		
	comp=E,10.0nm,0.5s						
GRNR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GRNR				MLR	MLR		
	comp=E,240nm,15.0s						
GRNR				MLR	MLR		
	comp=N,80nm,18.0s						
GRNR				MLR	MLR		
	comp=Z,60nm,19.0s						
KSRS	Korea Array	10.19	248	P	Pn	11 10 31.9	+0.6
	comp=Z,0.3nm,0.3s,baz=61,slow=13,SNR=18						
HHC	Hu-ho-hao-te	21.20	277	eP	P	11 12 40.6	-0.1
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,6.6s						
ULN	Ulaanbaatar	23.85	296	ceP	P	11 13 05.5	-0.4
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	Songino Array	24.29	296	P	P	11 13 09.7	-0.2
	comp=Z,1.3nm,0.5s,baz=88,slow=9.2,SNR=7.1						
LZH	Lanzhou	28.42	270	⇑P	P	11 13 47.0	0.0
LZH				pP	pwP	11 14 33.2	+5.2
LZH				sP	sP	11 14 43.6	0.0
LZH				PP	PnPn	11 14 46.3	-0.1
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
LZH				pmax	pmax		
	comp=Z,52nm,5.2s						
BILL	Bilibino	29.77	20	⇓eP	P	11 13 57.0	-1.4
BILL				e*PP	pP	11 14 35.9	-0.1
BILL				e		11 15 05.2	
BILL				eS	S	11 18 46.7	+5.8
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DGZ	Jazzator, Alta	36.69	301	i P	P	11 14 59.2	+0.6
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WMQ	Urumqi	37.74	291	eP	P	11 15 08.1	+0.7
WMQ				sP	pwP	11 15 56.9	+7.4
ZALV	Zalesovo Beam	37.83	308	P	P	11 15 07.4	-0.6
	comp=Z,2.4nm,0.6s,baz=77,slow=6.7,SNR=5.6						
ZALV				PcP	PcP	11 17 20.2	-0.1
	comp=Z,1.6nm,0.4s,baz=111,slow=3.9,SNR=5.8						
MK31	Makanchi Array	40.64	297	P	P	11 15 31.1	-0.3
MK31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MK31	Makanchi Array	40.64	297	P	P	11 15 31.1	-0.3
MK31				IAmb	IAmb	11 15 31.9	
	comp=Z,3.5nm,0.8s						
MKAR	Makanchi Array	40.64	297	P	P	11 15 30.5	-0.9
	comp=Z,3.7nm,0.8s,baz=82,slow=9.7,SNR=31						
MKAR	Makanchi Array	40.64	297	ceP	P	11 15 31.1	-0.3
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CNBA	Chernabura Isl	40.99	50	P	P	11 15 34.3	+0.3
CMAR	Chiang Mai Arr	41.83	249	P	P	11 15 40.0	-1.4
	comp=Z,0.9nm,0.3s,baz=40,slow=6.7,SNR=4.8						
CMAR	Chiang Mai Arr	41.83	249	ceP	P	11 15 41.0	-0.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	Kurchatov	42.07	304	ceP	P	11 15 43.0	+0.1
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	Kurchatov	42.07	304	P	P	11 15 42.7	-0.2
KURK				IAmb	IAmb	11 15 44.2	
	comp=Z,4.6nm,0.7s						
KURBB	Kurchatov Arra	42.15	304	P	P	11 15 42.7	-0.9
	comp=Z,4.1nm,0.5s,baz=80,slow=8.8,SNR=19						
SVW2	Sparrevohn	42.50	41	P	P	11 15 48.1	+1.9
OHAK	Old Harbor	44.13	46	P	P	11 15 59.7	+0.5
KDAK	Kodiak Island	44.41	45	P	P	11 16 01.3	-0.1
	comp=Z,4.0nm,0.7s,baz=325,slow=1.1,SNR=17						
KDAK	Kodiak Island	44.41	45	P	P	11 16 01.9	+0.4
KDAK				pmax	pmax		
	comp=Z,25nm,1.4s						
KDAK	Kodiak Island	44.41	45	P	P	11 16 01.9	+0.4
BPAW	Bear Paw Mtn.	44.41	36	P	P	11 16 03.4	+1.9
COLD	Coldfoot	44.56	31	P	P	11 16 03.5	+0.9
TARG	Taragay, Kyrgy	45.30	292	P	P	11 16 10.1	+0.9
TARG				IAmb	IAmb	11 16 11.0	
	comp=Z,4.5nm,0.8s						
MCK	McKinley	45.35	36	P	P	11 16 10.7	+1.8
MCK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MCK	McKinley	45.35	36	P	P	11 16 10.7	+1.8
MCK				IAmb	IAmb	11 16 11.4	
	comp=Z,3.4nm,0.8s						
RND	Reindeer	45.42	37	P	P	11 16 10.2	+0.7
RND				pmax	pmax		
	comp=Z,4.0nm,1.0s						
RND	Reindeer	45.42	37	P	P	11 16 10.2	+0.7
RND				IAmb	IAmb	11 16 10.5	
	comp=Z,4.1nm,1.0s						
MDM	Murphy Dome	45.52	35	P	P	11 16 11.5	+1.3
PMR	Palmer	45.54	39	P	P	11 16 11.8	+1.5
PMR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
PMR	Palmer	45.54	39	P	P	11 16 11.8	+1.5
KDJ	Kajisay	45.58	292	P	P	11 16 11.4	+0.2
KDJ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KDJ	Kajisay	45.58	292	P	P	11 16 11.4	+0.2
JIRN	Jiri	45.58	270	eP	P	11 16 11.9	+0.3
	comp=Z,12nm,0.3s						
GHO	Glory Hole Cre	45.61	39	P	P	11 16 11.6	+0.5

GHO				IAmb	IAmb	11 16 12.4	
	comp=Z,5.6nm,0.9s						
SEW	**Seward**	**45.62**	**41**	P	**P**	**11 16 11.7**	**+0.7**
WRH	**Wood River Hil**	**45.63**	**35**	P	**P**	**11 16 12.1**	**+1.1**
RAMN	**Ramite**	**45.66**	**268**	*e*P	**P**	**11 16 12.1**	**0.0**
	comp=Z,8.5nm,0.5s						
GUN	**Gumba**	**45.68**	**270**	*e*P	**P**	**11 16 12.3**	**-0.1**
	comp=Z,36nm,0.4s						
COLA	**College**	**45.69**	**35**	P	**P**	**11 16 13.0**	**+1.6**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
COLA	**College**	**45.69**	**35**	P	**P**	**11 16 13.0**	**+1.6**
CCB	**Clear Creek Bu**	**45.73**	**35**	P	**P**	**11 16 12.8**	**+0.9**
SML	**Sawmill**	**45.88**	**39**	P	**P**	**11 16 12.8**	**-0.3**
SML				IAmb	IAmb	11 16 19.7	
	comp=Z,9.0nm,1.3s						
IL31		**46.11**	**35**	P	**P**	**11 16 15.6**	**+0.9**
IL31				IAmb	IAmb	11 16 16.0	
	comp=Z,3.9nm,0.9s						
ILAR	**Eielson Array**	**46.11**	**35**	P	**P**	**11 16 14.6**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=283,slow=6.9,SNR=37						
DHY	**Denali Highway**	**46.13**	**37**	P	**P**	**11 16 16.0**	**+0.8**
DHY				IAmb	IAmb	11 16 16.4	
	comp=Z,4.8nm,0.7s						
HDA	**Harding Lake**	**46.13**	**35**	P	**P**	**11 16 15.6**	**+0.6**
HDA				IAmb	IAmb	11 16 16.5	
	comp=Z,4.3nm,1.1s						
PKI	**Pulchoki**	**46.21**	**270**	*e*P	**P**	**11 16 16.3**	**-0.2**
SCM	**Sheep Creek Mo**	**46.35**	**39**	P	**P**	**11 16 18.1**	**+1.3**
SCM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SCM	**Sheep Creek Mo**	**46.35**	**39**	P	**P**	**11 16 18.1**	**+1.3**
DMN	**Daman**	**46.42**	**270**	*e*P	**P**	**11 16 18.1**	**+0.1**
	comp=Z,9.1nm,0.5s						
BVAR	**Borovoye Array**	**46.47**	**309**	P	**P**	**11 16 16.3**	**-1.4**
	comp=Z,1.8nm,0.4s,baz=229,slow=41,SNR=3.6						
BRVK	**Borovoye**	**46.52**	**309**	*i* P	**P**	**11 16 18.0**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GKN	**Gorkha**	**46.56**	**271**	*e*P	**P**	**11 16 18.8**	**-0.2**
GLI	**Glacier Island**	**46.63**	**40**	P	**P**	**11 16 19.7**	**+0.9**
GLI				IAmb	IAmb	11 16 20.4	
	comp=Z,4.4nm,0.7s						
FID	**Port Fidalgo**	**46.95**	**40**	P	**P**	**11 16 21.8**	**+0.5**
FID				IAmb	IAmb	11 16 31.1	
	comp=Z,11nm,1.1s						
HIN	**Hinchinbrook I**	**47.01**	**41**	P	**P**	**11 16 23.0**	**+1.1**
HIN				IAmb	IAmb	11 16 42.4	
	comp=Z,8.7nm,1.0s						
DANN	**Dangsing**	**47.03**	**272**	*e*P	**P**	**11 16 23.3**	**+0.5**
KLU	**Klutina**	**47.07**	**39**	P	**P**	**11 16 23.8**	**+1.4**
KLU				IAmb	IAmb	11 16 24.1	
	comp=Z,4.4nm,1.0s						
RIDG	**Independent Ri**	**47.15**	**36**	P	**P**	**11 16 23.3**	**+0.4**
RIDG				IAmb	IAmb	11 16 33.0	
	comp=Z,5.4nm,1.2s						
AAK	**Ala-Archa**	**47.23**	**294**	LR	LR	11 36 13.4	
	comp=Z,44nm,19.9s,baz=189,slow=36						
AAK	**Ala-Archa**	**47.23**	**294**	*i* P	**P**	**11 16 23.6**	**-0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KOLN	**Koldanda**	**47.46**	**271**	*e*P	**P**	**11 16 26.1**	**+0.1**
DOT	**Dot Lake**	**47.51**	**36**	P	**P**	**11 16 26.0**	**+0.4**
MENT	**Mentasta**	**47.80**	**37**	P	**P**	**11 16 29.5**	**+1.6**
MENT				IAmb	IAmb	11 16 30.1	
	comp=Z,5.6nm,1.0s						
RAGM	**Ragged Mountai**	**47.90**	**40**	P	**P**	**11 16 29.6**	**+0.9**
GLB	**Gilahina Butte**	**48.07**	**39**	P	**P**	**11 16 31.2**	**+1.1**
HMT	**Hamilton**	**48.11**	**40**	P	**P**	**11 16 32.1**	**+1.7**
HMT				IAmb	IAmb	11 16 36.5	
	comp=Z,8.6nm,1.1s						
VRDI	**Verde Repeater**	**48.29**	**39**	P	**P**	**11 16 33.1**	**+1.2**
EGAK	**Eagle**	**48.53**	**34**	P	**P**	**11 16 33.9**	**+0.5**
EGAK				IAmb	IAmb	11 16 35.4	
	comp=Z,4.4nm,0.8s						
BARN	**Barnard Glacie**	**49.17**	**39**	P	**P**	**11 16 39.9**	**+1.2**
BARN				IAmb	IAmb	11 16 40.8	
	comp=Z,5.5nm,0.6s						
CTGM	**Chitina Glacie**	**49.35**	**39**	P	**P**	**11 16 41.2**	**+1.3**
CTGM				IAmb	IAmb	11 16 41.5	
	comp=Z,5.1nm,0.6s						
EPYK	**Eagle Plains**	**49.96**	**32**	P	**P**	**11 16 45.5**	**+1.3**
INK	**Inuvik**	**50.65**	**29**	P	**P**	**11 16 50.0**	**+0.6**
	comp=Z,2.4nm,0.4s,baz=278,slow=6.5,SNR=22						
INK				PcP	**PcP**	**11 18 04.2**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=315,slow=5.7,SNR=1.8						
INK	**Inuvik**	**50.65**	**29**	P	**P**	**11 16 50.3**	**+0.9**
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
INK	**Inuvik**	**50.65**	**29**	P	**P**	**11 16 50.3**	**+0.9**
HYT	**Haines Junctio**	**51.19**	**39**	P	**P**	**11 16 55.8**	**+2.1**
HYT				IAmb	IAmb	11 16 56.5	
	comp=Z,5.4nm,0.9s						
ARU	**Arti**	**51.95**	**316**	*i* P	**P**	**11 17 02.3**	**+3.1**
ARU				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CHGR	**Chuyangaron**	**52.59**	**292**	P	**P**	**11 17 00.3**	**-4.1**
C36M	**Paulatuk**	**53.55**	**26**	P	**P**	**11 17 11.5**	**+0.8**
JIS	**Juneau Island**	**53.56**	**41**	P	**P**	**11 17 10.4**	**-0.5**
JIS				IAmb	IAmb	11 17 13.6	
	comp=Z,3.9nm,0.8s						
MTN	**Manton Dam**	**55.07**	**190**	P	**P**	**11 17 22.9**	**+0.6**
DLBC	**Dease Lake**	**55.60**	**40**	P	**P**	**11 17 26.2**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=293,slow=3.0,SNR=5.8						
DLBC	**Dease Lake**	**55.60**	**40**	P	**P**	**11 17 27.7**	**+2.0**
DLBC				IAmb	IAmb	11 17 28.2	
	comp=Z,1.6nm,0.8s						
KNRA	**Kununurra**	**58.20**	**193**	P	**P**	**11 17 45.0**	**+0.7**
ARCES	**ARCESS Array B**	**59.01**	**338**	P	**P**	**11 17 48.2**	**-1.1**
	comp=Z,2.5nm,1.0s,baz=59,slow=7.4,SNR=5.1						
YKA	**Yellowknife Ar**	**60.24**	**31**	P	**P**	**11 17 57.6**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=302,slow=7.5,SNR=6.6						
WB0	**Warramunga Arr**	**61.57**	**186**	P	**P**	**11 18 07.3**	**0.0**
WB2	**Warramunga Arr**	**61.75**	**186**	P	**P**	**11 18 08.4**	**0.0**
WRA	**Warramunga Arr**	**61.75**	**186**	P	**P**	**11 18 07.5**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=7.4,slow=6.9,SNR=9.3						
WR0	**Warramunga Arr**	**61.75**	**186**	P	**P**	**11 18 08.2**	**-0.2**
WR0				IAmb	IAmb	11 18 14.9	
	comp=Z,1.8nm,0.8s						
PGC	**Sidney**	**63.89**	**47**	P	**P**	**11 18 23.4**	**+1.2**
FINES	**FINESS Array B**	**63.95**	**331**	P	**P**	**11 18 21.6**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=34,slow=9.9,SNR=6.2						
FINES	**FINESS Array B**	**63.95**	**331**	*i* P	**P**	**11 18 22.2**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NLWA	**Neilton Lookou**	**64.37**	**49**	P	**P**	**11 18 27.3**	**+1.7**
ASAR	**Alice Springs**	**65.48**	**186**	P	**P**	**11 18 32.4**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=15,slow=5.4,SNR=7.2						
F04A	**Amboy**	**66.03**	**49**	P	**P**	**11 18 37.6**	**+1.5**
LTY	**Liberty**	**66.22**	**47**	P	**P**	**11 18 38.2**	**+0.8**
KIV	**Kislovodsk**	**66.84**	**309**	*e*P	**P**	**11 18 39.9**	**-1.6**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
PINE	**Pine Mountain**	**68.15**	**50**	P	**P**	**11 18 51.6**	**+1.8**
I07A	**Izee**	**68.79**	**49**	P	**P**	**11 18 54.0**	**+0.3**
I07A				IAmb	IAmb	11 19 08.9	
	comp=Z,3.9nm,1.4s						
HFS	**Hagfors**	**69.15**	**334**	P	**P**	**11 18 55.0**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=45,slow=5.3,SNR=6.3						
HFS	**Hagfors**	**69.15**	**334**	P	**P**	**11 18 55.0**	**-0.5**
NOA	**NORSAR Array B**	**69.22**	**336**	P	**P**	**11 18 55.5**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=51,slow=5.5,SNR=1.7						
JTMT	**Jette**	**69.32**	**44**	P	**P**	**11 18 58.0**	**+1.1**
JTMT				IAmb	IAmb	11 18 58.7	
	comp=Z,4.5nm,1.1s						
BMO	**Blue Mountains**	**69.54**	**48**	P	**P**	**11 18 59.3**	**+1.0**
BMO				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BMO	**Blue Mountains**	**69.54**	**48**	P	**P**	**11 18 59.3**	**+1.0**
BMO				IAmb	IAmb	11 18 59.8	
	comp=Z,4.3nm,1.3s						
AKASG	**Malin Array Be**	**69.72**	**321**	P	**P**	**11 18 58.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=60,slow=5.5,SNR=1.4						
J08A	**Circle Bar Ran**	**69.83**	**50**	P	**P**	**11 19 00.8**	**+0.8**
J08A				IAmb	IAmb	11 19 02.6	
	comp=Z,5.5nm,1.2s						
HRY	**Holter Researc**	**71.26**	**44**	P	**P**	**11 19 10.3**	**+1.6**
LRM	**Limekiln Ridge**	**71.53**	**45**	P	**P**	**11 19 11.2**	**+0.7**
DLMT	**Dillon**	**71.76**	**45**	P	**P**	**11 19 12.1**	**+0.4**
PNTR	**Pine Nut**	**71.86**	**54**	P	**P**	**11 19 14.2**	**+1.7**
HLID	**Hailey**	**71.96**	**47**	P	**P**	**11 19 14.2**	**+1.2**
BOZ	**Bozeman (W)**	**72.11**	**44**	P	**P**	**11 19 14.9**	**+1.1**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BOZ	**Bozeman (W)**	**72.11**	**44**	P	**P**	**11 19 14.9**	**+1.1**
BOZ				IAmb	IAmb	11 19 15.3	
	comp=Z,2.3nm,0.6s						
KVN	**Kaiserville**	**72.78**	**53**	P	**P**	**11 19 19.3**	**+1.3**
KVN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KVN	**Kaiserville**	**72.78**	**53**	P	**P**	**11 19 19.2**	**+1.3**
KVN				IAmb	IAmb	11 19 19.5	
	comp=Z,2.1nm,0.6s						
YHL	**Hebgen Lake**	**72.84**	**45**	P	**P**	**11 19 19.5**	**+1.2**
YHB	**Horse Butte**	**72.90**	**45**	P	**P**	**11 19 19.8**	**+1.2**
GCMT	**Greycliff**	**72.99**	**43**	P	**P**	**11 19 20.4**	**+1.4**
NVAR	**Mina Array Bea**	**73.06**	**53**	P	**P**	**11 19 20.2**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=303,slow=5.5,SNR=14						
ELK	**Elko**	**73.35**	**50**	P	**P**	**11 19 22.0**	**+0.7**
ELK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ELK	**Elko**	**73.35**	**50**	P	**P**	**11 19 22.0**	**+0.7**
YNE	**Yellowstone No**	**73.35**	**44**	P	**P**	**11 19 22.1**	**+0.8**
IMW	**Indian Meadow**	**73.62**	**45**	P	**P**	**11 19 24.5**	**+1.6**
RLMT	**Red Lodge**	**73.65**	**44**	P	**P**	**11 19 24.1**	**+1.1**
RLMT				IAmb	IAmb	11 19 24.3	
	comp=Z,2.2nm,0.7s						
FXWY	**Fox Creek**	**73.75**	**46**	P	**P**	**11 19 25.5**	**+1.9**
R11A	**Troy Canyon, C**	**74.73**	**52**	P	**P**	**11 19 30.1**	**+0.8**
BW06	**Boulder Array**	**75.12**	**45**	P	**P**	**11 19 32.2**	**+0.7**
BW06				IAmb	IAmb	11 19 32.6	
	comp=Z,3.4nm,0.8s						
PD31	**Pinedale Array**	**75.12**	**45**	P	**P**	**11 19 32.4**	**+0.8**
PD31				IAmb	IAmb	11 19 32.6	
	comp=Z,2.5nm,0.8s						
PDAR	**Pinedale Array**	**75.12**	**45**	P	**P**	**11 19 31.9**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=256,slow=1.4,SNR=33						
TPNV	**Topopah Spring**	**75.26**	**54**	P	**P**	**11 19 33.4**	**+1.1**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TPNV	**Topopah Spring**	**75.26**	**54**	P	**P**	**11 19 33.4**	**+1.1**
TPNV				IAmb	IAmb	11 19 34.1	
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**77.94**	**327**	P	**P**	**11 19 46.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=8.3,slow=7.4,SNR=2.0						
EKA	**Eskdalemuir Ar**	**78.13**	**339**	P	**P**	**11 19 47.8**	**0.0**
	comp=Z,0.3nm,0.3s,baz=34,slow=4.3,SNR=2.7						
N23A	**Red Feather La**	**78.36**	**45**	P	**P**	**11 19 51.3**	**+1.6**
N23A				IAmb	IAmb	11 19 51.5	
	comp=Z,2.0nm,0.6s						
B35A	**Bob, Littlefor**	**78.45**	**33**	P	**P**	**11 19 49.5**	**-0.2**
B35A				IAmb	IAmb	11 19 50.1	
	comp=Z,2.9nm,0.9s						
EYMN	**Ely**	**79.69**	**32**	P	**P**	**11 19 56.4**	**-0.1**
EYMN				IAmb	IAmb	11 19 56.5	
	comp=Z,2.4nm,0.6s						
ECSD	**EROS Data Cent**	**80.83**	**38**	P	**P**	**11 20 02.3**	**-0.4**
ECSD				IAmb	IAmb	11 20 03.1	
	comp=Z,3.5nm,1.1s						
BNM	**Barren Site**	**82.84**	**50**	P	**P**	**11 20 15.3**	**+1.7**
121A	**Cookes Peak, D**	**83.34**	**52**	P	**P**	**11 20 17.3**	**+1.2**
121A				IAmb	IAmb	11 20 18.3	
	comp=Z,2.5nm,0.8s						
TXAR	**Lajitas Array**	**88.08**	**51**	P	**P**	**11 20 39.2**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=306,slow=3.2,SNR=6.5						
LPAZ	**La Paz**	**144.95**	**52**	PKPbc	PKPbc	11 27 25.0	-0.5
	comp=Z,1.1nm,0.4s,baz=350,slow=1.0,SNR=8.4						
LPAZ	**La Paz**	**144.95**	**52**	PKIKP	PKPbc	11 27 25.1	-0.3
LPAZ	**La Paz**	**144.95**	**52**		PKPbc	11 27 25.1	-0.3
SNAA	**Sanae**	**144.99**	**200**	PKPdf	PKPbc	11 27 23.2	-0.2
VNA2	**Neumayer--Watz**	**146.60**	**199**	PKPdf	**PKPbc**	**11 27 28.1**	**0.0**
VNA3	**Neumayer Olymp**	**146.90**	**198**	PKPdf	**PKPbc**	**11 27 28.5**	**-0.4**
VNA1	**Neumayer--Stat**	**147.00**	**199**	PKPdf	**PKPbc**	**11 27 28.7**	**-0.4**

*IDC **01** 11:11:20.2±1.1, 34°.65N×22°.73E, h0km, mb3.8/14, mb1 3.9/19, mb1mx3.7/52, mbtmp3.8/19, ML3.9/5, MS2.9/4, Ms1 2.9/4, ms1mx2.5/59, Error ellipse: s-maj=22.1km s-min=15.5km az=8.0*
*DDA **01** 11:11:23.3, 34°.73N×23°.08E, h12km±5km, MW3.9*
*ATH **01** 11:11:23.6, 34°.62N×22°.76E, h21km±2km, ML3.4/9, Error ellipse: s-maj=4.4km s-min=2.0km az=52.0*
*ISK **01** 11:11:25.5, 34°.78N×22°.89E, h14km, ML3.7/9*
*THE **01** 11:11:25.0, 34°.62N×22°.77E, h8km±1km, ML3.4/8, Error ellipse: s-maj=2.0km s-min=0.9km az=172.0*
*GII **01** 11:11:31.0±0.0, 34°.12N×23°.56E, h10km, MD3.7/1*
ISC 01 11:11:21.7±1.6**, 34°.49N**±0°.05×**22°.84E**±0°.04**, h16**km±8km**, n91, σ2s36**/124**, mb3.7**/14**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**1.02**	**43**	P	**Pn**	**11 11 41.9**	**+0.6**
KNDR				S	**Sn**	**11 11 56.6**	**+1.4**
	1µm,0.6s						
KNDR	**Palaiochora Ch**	**1.02**	**43**	PG	**Pg**	**11 11 40.5**	**-1.0**
KNDR				SG	**Sg**	**11 11 51.4**	**-3.4**
GVD	**Gavdhos**	**1.09**	**71**	P	**Pn**	**11 11 44.9**	**+2.6**
GVD				S	**Sn**	**11 12 01.7**	**+4.7**
	2µm,0.5s						
GVD	**Gavdhos**	**1.09**	**71**	P	**Pn**	**11 11 44.9**	**+2.6**
GVD				AML	AML	11 12 15.0	
	comp=N,4885µm,0.4s						
GVD				AML	AML	11 12 15.4	
	comp=E,4654µm,0.6s						
GVD	**Gavdhos**	**1.09**	**71**	PG	**Pn**	**11 11 45.3**	**+3.0**
GVD				SG	**Sn**	**11 11 58.8**	**+1.8**
GVDS	**Gavdos**	**1.09**	**71**	P	**Pn**	**11 11 45.5**	**+3.2**
GVDS	**Gavdos**	**1.09**	**71**	PG	**Pn**	**11 11 44.6**	**+2.3**
IMMV	**Iera Moni Meta**	**1.35**	**44**	P	**Pg**	**11 11 48.4**	**+0.7**
IMMV				S	**Sg**	**11 12 06.5**	**+1.1**
	comp=E,1µm,0.6s						
IMMV	**Iera Moni Meta**	**1.35**	**44**	P	**Pg**	**11 11 48.4**	**+0.7**
IMMV				S	**Sg**	**11 12 06.4**	**+1.1**
IMMV				AML	AML	11 12 18.5	
	comp=N,2794µm,0.6s						
IMMV				AML	AML	11 12 30.2	
	comp=E,2998µm,0.7s						
IMMV	**Iera Moni Meta**	**1.35**	**44**	PN	**Pg**	**11 11 47.9**	**+0.1**
IMMV				SN	**Sb**	**11 12 03.5**	**-0.1**
ANKY	**Antikythira Is**	**1.42**	**15**	P	**Pg**	**11 11 48.1**	**-1.1**
ANKY				S	**Sg**	**11 12 07.2**	**-0.5**
	comp=E,1µm,0.6s						
ANKY	**Antikythira Is**	**1.42**	**15**	P	**Pg**	**11 11 48.1**	**-1.1**
ANKY				S	**Sg**	**11 12 07.2**	**-0.5**
ANKY				AML	AML	11 12 22.4	
	comp=N,2435µm,0.5s						
ANKY				AML	AML	11 12 23.5	
	comp=E,2735µm,0.7s						
CHAN	**Chania**	**1.43**	**44**	P	**Pg**	**11 11 49.5**	**+0.3**
VAM	**Vamos**	**1.45**	**50**	P	**Pg**	**11 11 50.0**	**+0.4**
VAM				S	**Sg**	**11 12 08.8**	**+0.4**
	comp=E,1µm,0.6s						
VAM	**Vamos**	**1.45**	**50**	P	**Pg**	**11 11 50.0**	**+0.4**
VAM				AML	AML	11 12 21.9	
	comp=N,2535µm,0.5s						
VAM				AML	AML	11 12 27.8	
	comp=E,2346µm,0.8s						
SIVA	**Sivas**	**1.71**	**72**	P	**Pg**	**11 11 55.0**	**+0.4**
SIVA	**Sivas**	**1.71**	**72**	P	**Pg**	**11 11 54.9**	**+0.4**
SIVA				AML	AML	11 12 39.7	
	comp=N,2234µm,0.8s						
SIVA				AML	AML	11 12 43.0	
	comp=E,3487µm,0.6s						
KTHA	**Kythira Island**	**1.77**	**6**	P	**Pb**	**11 11 53.9**	**+0.1**
KTHA				S	**Sb**	**11 12 15.2**	**-0.6**
	comp=E,765nm,0.7s						
KTHA	**Kythira Island**	**1.77**	**6**	P	**Pb**	**11 11 53.9**	**+0.1**
KTHA				S	**Sb**	**11 12 15.2**	**-0.6**
KTHA				AML	AML	11 12 36.1	
	comp=N,1051µm,0.8s						
KTHA				AML	AML	11 12 41.3	
	comp=E,2019µm,0.6s						
KTHA	**Kythira Island**	**1.77**	**6**	PN	**Pb**	**11 11 52.7**	**-1.1**
IDI	**Anoyia**	**1.87**	**64**	Pn	**Pb**	**11 11 55.9**	**+0.4**
	comp=E,13nm,0.3s,baz=234,slow=11,SNR=59						
IDI				Sn	**Sb**	**11 12 19.6**	**+1.0**
	comp=E,13nm,0.3s,baz=309,slow=14,SNR=9.7						
IDI				LR	LR	11 12 28.0	
	comp=E,36nm,21.3s,baz=259,slow=36						
IDI	**Anoyia**	**1.87**	**64**	P	**Pb**	**11 11 56.4**	**+0.9**
IDI	**Anoyia**	**1.87**	**64**	P	**Pb**	**11 11 56.4**	**+0.9**
IDI	**Anoyia**	**1.87**	**64**	PN	**Pb**	**11 11 55.6**	**+0.1**
HRKL	**Herakleio**	**2.04**	**66**	PN	**Pb**	**11 11 57.8**	**-0.5**
VLI	**Veliai**	**2.22**	**2**	P	**Pn**	**11 11 59.1**	**+1.2**
VLI				S	**Sn**	**11 12 26.5**	**+1.5**
	comp=E,518nm,0.8s						
VLI	**Veliai**	**2.22**	**2**	P	**Pb**	**11 12 00.6**	**-0.9**
VLI				AML	AML	11 12 48.1	
	comp=N,1211µm,0.6s						
VLI				AML	AML	11 12 59.3	
	comp=E,893µm,0.7s						
LAST	**Lasithi**	**2.27**	**72**	P	**Pb**	**11 12 02.9**	**+0.4**
LAST	**Lasithi**	**2.27**	**72**	P	**Pb**	**11 12 02.9**	**+0.4**
LAST				AML	AML	11 13 01.6	
	comp=N,610µm,1.2s						
LAST				AML	AML	11 13 14.3	
	comp=E,465µm,1.2s						
PYL	**PYLOS**	**2.56**	**340**	P	**Pn**	**11 12 03.9**	**+1.4**
PYL				S	**Sn**	**11 12 34.9**	**+1.6**
	comp=E,170nm,1.4s						
PYL	**PYLOS**	**2.56**	**340**	P	**Pn**	**11 12 03.9**	**+1.4**
PYL				AML	AML	11 13 03.1	
	comp=N,337µm,1.3s						
PYL				AML	AML	11 13 06.6	
	comp=E,429µm,1.2s						
ITM	**Ithomi**	**2.78**	**345**	P	**Pn**	**11 12 07.4**	**+1.8**
ITM	**Ithomi**	**2.78**	**345**	P	**Pn**	**11 12 07.4**	**+1.8**
ITM	**Ithomi**	**2.78**	**345**	PN	**Pn**	**11 12 06.9**	**+1.3**
SANT	**Santorini**	**2.85**	**48**	PN	**Pn**	**11 12 08.4**	**+1.9**
SANT	**Santorini**	**2.85**	**48**	*i* P	**Pn**	**11 12 07.2**	**+0.7**
SANT				*i* S	**Sn**	**11 12 39.7**	**-0.7**
ZKR	**Zakros**	**2.85**	**76**	P	**Pb**	**11 12 10.5**	**-1.7**
ZKR	**Zakros**	**2.85**	**76**	P	**Pb**	**11 12 10.5**	**-1.7**
ZKR	**Zakros**	**2.85**	**76**	PN	**Pb**	**11 12 10.3**	**-1.9**
APE	**Apeiranthos**	**3.38**	**40**	PN	**Pn**	**11 12 15.9**	**+2.1**
APE	**Apeiranthos**	**3.38**	**40**	*i* P	**Pn**	**11 12 14.1**	**+0.3**
APE				*i* S	**Sn**	**11 12 53.0**	**-0.6**
VLY	**Voula,Athens**	**3.44**	**13**	P	**Pn**	**11 12 16.2**	**+1.5**
KARP	**Karpathos**	**3.70**	**72**	PN	**Pn**	**11 12 22.0**	**+3.7**
DAT	**Datca**	**4.46**	**59**	PN	**Pn**	**11 12 31.9**	**+3.1**
AGG	**Agios Georgios**	**4.54**	**355**	PN	**Pn**	**11 12 31.4**	**+1.6**
ARG	**Arkhangelos**	**4.65**	**67**	PN	**Pn**	**11 12 35.6**	**+4.3**
CHOS	**Chios island**	**4.67**	**33**	PN	**Pn**	**11 12 34.0**	**+2.4**
AOS	**Alonnisos**	**4.74**	**10**	PN	**Pn**	**11 12 33.9**	**+1.4**
TURN	**Turunc**	**4.96**	**61**	PN	**Pn**	**11 12 38.7**	**-0.9**
TURN	**Turunc**	**4.96**	**61**	*i* P	**Pn**	**11 12 38.2**	**-1.4**
TURN				*i* S	**Sn**	**11 13 33.3**	**-6.6**
DALY	**Dalyan (Mula)**	**5.28**	**62**	PN	**Pn**	**11 12 43.4**	**+3.6**
TAVA	**DENIZLI_Tavas**	**5.75**	**57**	*i* P	**Pn**	**11 12 47.8**	**+1.4**
TAVA				*i* S	**Sn**	**11 13 54.6**	**+2.4**
AKAS	**Kas**	**5.80**	**71**	*i* P	**Pn**	**11 12 45.7**	**-1.4**
AKAS				*i* S	**Sn**	**11 13 51.9**	**-1.4**
AKAS				IAML		11 14 02.0	
	comp=N,34nm,1.3s						
AKAS				IAML		11 14 18.0	
	comp=E,22nm,0.7s						
GOLH	**Golhisar**	**6.11**	**61**	*i* P	**Pn**	**11 12 51.8**	**+0.3**
GOLH				*i* S	**Sn**	**11 14 02.5**	**+1.5**
AKUM	**Antalya-Kumluc**	**6.40**	**71**	*i* P	**Pn**	**11 12 56.6**	**+1.3**
AKUM				*i* S	**Sn**	**11 14 06.4**	**-1.5**
AKUM				IAML		11 14 16.0	
	comp=E,20nm,0.7s						
AKUM				IAML		11 14 21.0	
	comp=N,25nm,0.9s						
KORT	**Korkueli**	**6.60**	**66**	*i* P	**Pn**	**11 13 00.8**	**+2.6**
KORT				*i* S	**Sn**	**11 14 19.0**	**+5.8**
KEPZ	**Antalya-Kepez**	**7.53**	**69**	*i* P	**Pn**	**11 13 10.7**	**-0.1**
KEPZ				*i* S	**Sn**	**11 14 34.6**	**-1.2**
GAZI	**Gazipasa**	**7.94**	**75**	*i* P	**Pn**	**11 13 14.6**	**-1.8**
GAZI				*i* S	**Sn**	**11 14 38.9**	**-7.0**
MMAI	**Mount Meron Ar**	**10.57**	**94**	Pn	**Pn**	**11 13 53.2**	**+0.6**
	comp=N,2.2nm,0.3s,baz=277,slow=12,SNR=5.6						
MMAI				Sn	**Sn**	**11 15 47.3**	**-3.2**
	comp=N,1.5nm,0.3s,baz=304,slow=26,SNR=2.0						
YTIR	**Yattir**	**10.78**	**103**	Pn	**Pn**	**11 13 56.1**	**+0.6**
YTIR				Sn	**Sn**	**11 15 49.9**	**-5.9**
HMDT	**Nahal Hemdat**	**10.84**	**98**	Pn	**Pn**	**11 13 57.3**	**+1.1**
HMDT				Sn	**Sn**	**11 15 53.2**	**-4.0**
SHMJ	**Saham**	**10.92**	**96**	Pn	**Pn**	**11 13 59.3**	**+1.9**
DSI	**Dead Sea**	**10.93**	**102**	Pn	**Pn**	**11 13 57.8**	**+0.4**
DSI				Sn	**Sn**	**11 15 53.2**	**-6.0**
KRMI	**Paran Flat**	**10.96**	**110**	Pn	**Pn**	**11 13 59.4**	**+1.5**
KRMI				Sn	**Sn**	**11 15 53.7**	**-6.5**
PRNI	**Paran**	**11.08**	**109**	Pn	**Pn**	**11 14 00.2**	**+0.7**
PRNI				Sn	**Sn**	**11 15 57.4**	**-5.7**
DAMI2	**DAM2**	**11.11**	**104**	Pn	**Pn**	**11 14 00.6**	**+0.8**
ZFRI	**Zfri**	**11.13**	**107**	Pn	**Pn**	**11 14 00.5**	**+0.3**
ZFRI				Sn	**Sn**	**11 15 57.9**	**-6.4**
GHAJ	**Ghor Haditha**	**11.16**	**103**	Pn	**Pn**	**11 14 01.8**	**+1.2**
HRFI	**Mount Harif**	**11.24**	**110**	Pn	**Pn**	**11 14 03.4**	**+1.7**
HRFI				Sn	**Sn**	**11 16 01.2**	**-5.8**
MLR	**Muntele Rosu**	**11.24**	**11**	LR	LR	11 19 15.3	
	comp=N,72nm,20.3s,baz=93,slow=43						
EIL	**Elat**	**11.34**	**112**	Pn	**Pn**	**11 14 03.9**	**+0.8**
	comp=N,0.5nm,0.3s,baz=314,slow=15,SNR=6.6						
EIL				Sn	**Sn**	**11 16 05.6**	**-3.9**
	comp=N,0.8nm,0.3s,baz=348,slow=20,SNR=2.3						
EIL	**Elat**	**11.34**	**112**	Pn	**Pn**	**11 14 03.6**	**+0.5**
ASF	**Jabal al Asfar**	**11.99**	**97**	Pn	**Pn**	**11 14 13.5**	**+1.5**
	comp=N,0.4nm,0.3s,baz=218,slow=4.5,SNR=6.2						
ASF				Sn	**Sn**	**11 16 21.9**	**-3.5**
	comp=N,0.2nm,0.3s,baz=336,slow=20,SNR=1.9						
VRAC	**Vranov**	**15.51**	**345**	LR	LR	11 21 25.3	
	comp=N,39nm,18.0s,baz=172,slow=40						
GERES	**GERESS Array B**	**15.86**	**337**	Pn	**Pn**	**11 15 03.0**	**-1.4**
	comp=N,0.2nm,0.3s,baz=160,slow=12,SNR=2.1						
GERES				LR	LR	11 21 46.9	
	comp=N,40nm,18.0s,baz=132,slow=40						
KHC	**Kasperske Hory**	**16.15**	**338**	*e*P	**P**	**11 15 13.5**	**+2.4**
KHC				*e*x	x	11 15 27.0	
AKASG	**Malin Array Be**	**16.86**	**14**	Pn	**Pn**	**11 15 16.2**	**-0.7**
	comp=N,1.0nm,0.3s,baz=206,slow=9.5,SNR=2.0						
ESDC	**Sonseca Array**	**21.96**	**291**	P	**P**	**11 16 13.6**	**-1.2**
	comp=N,0.2nm,0.3s,baz=85,slow=12,SNR=1.5						
HFS	**Hagfors**	**26.34**	**350**	P	**P**	**11 16 56.2**	**-0.4**
	comp=N,1.8nm,0.5s,baz=156,slow=11,SNR=7.5						
HFS				LR	LR	11 28 34.9	
	comp=N,36nm,19.5s,baz=48,slow=40						
FINES	**FINESS Array B**	**27.05**	**3**	P	**P**	**11 17 02.0**	**-1.0**
	comp=N,0.7nm,0.6s,baz=173,slow=12,SNR=3.4						
EKA	**Eskdalemuir Ar**	**27.52**	**327**	P	**P**	**11 17 06.7**	**-0.6**
	comp=N,0.3nm,0.4s,baz=111,slow=7.9,SNR=2.1						
NOA	**NORSAR Array B**	**27.60**	**348**	P	**P**	**11 17 08.1**	**+0.1**
	comp=N,0.7nm,0.7s,baz=155,slow=9.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**28.61**	**227**	P	**P**	**11 17 19.1**	**+1.7**
	comp=N,0.5nm,0.5s,baz=35,slow=9.0,SNR=6.4						
ARCES	**ARCESS Array B**	**35.13**	**2**	P	**P**	**11 18 13.3**	**-0.7**
	comp=N,2.0nm,0.9s,baz=180,slow=9.5,SNR=5.0						
KURBB	**Kurchatov Arra**	**43.02**	**50**	P	**P**	**11 19 20.4**	**+0.1**
	comp=N,0.3nm,0.3s,baz=275,slow=8.7,SNR=5.2						
SPITS	**Spitsbergen Ar**	**43.88**	**358**	P	**P**	**11 19 25.4**	**-1.5**
	comp=N,4.4nm,0.9s,baz=173,slow=13,SNR=1.7						
MKAR	**Makanchi Array**	**45.73**	**56**	P	**P**	**11 19 42.7**	**+0.6**
	comp=N,1.2nm,0.5s,baz=270,slow=7.5,SNR=20						
ZALV	**Zalesovo Beam**	**46.84**	**46**	P	**P**	**11 19 50.3**	**-0.4**
	comp=N,1.0nm,0.3s,baz=270,slow=10,SNR=2.3						
SONM	**Songino Array**	**61.38**	**50**	P	**P**	**11 21 38.3**	**+1.3**
	comp=N,0.7nm,0.5s,baz=274,slow=3.9,SNR=3.3						
KSRS	**Korea Array**	**80.20**	**51**	P	**P**	**11 23 32.7**	**+1.3**
	comp=N,0.7nm,0.6s,baz=318,slow=5.8,SNR=4.8						
ILAR	**Eielson Array**	**80.73**	**356**	P	**P**	**11 23 34.8**	**+1.0**
	comp=N,0.2nm,0.7s,baz=350,slow=2.5,SNR=2.8						

*IDC **01** 11:36:06.2±1.3, 29°.93S×177°.46W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/27, mbtmp3.9/4, ML3.2/1, Error ellipse: s-maj=31.0km s-min=20.1km az=75.0*
*NEIC **01** 11:36:07.7±1.1, 30°.03S±0°.07×177°.49W±0°.08, h10km±1km, mb4.4/6, Error ellipse: s-maj=13.9km s-min=9.3km az=47.0*
ISC 01 11:36:11.1±1.0**, 30°.01S**±0°.09×**177°.5W**±0°.2**, h35**km**, n14, σ1s49**/16**, mb4.3**/7**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.86**	**332**	Pn	**Pn**	**11 36 24.3**	**-2.3**
	752nm,0.3s,baz=98,slow=9.5,SNR=44						
RAO				Sn	**Sn**	**11 36 37.6**	**-0.3**
	1µm,0.3s,baz=165,slow=20,SNR=19						
URZ	**Urewera**	**9.37**	**207**	Pn	**Pn**	**11 38 21.6**	**-2.0**
	0.3nm,0.3s,baz=47,slow=19,SNR=1.2						
URZ	**Urewera**	**9.37**	**207**		**Pn**	**11 38 22.3**	**-1.3**
CTAO	**Charters Tower**	**34.20**	**278**	P	**P**	**11 42 57.2**	**+3.8**
CTAO				IAmb	IAmb	11 42 59.0	
	comp=Z,8.6nm,1.1s						
AS31	**Alice Springs**	**43.59**	**266**	P	**P**	**11 44 12.0**	**-0.1**
ASAR	**Alice Springs**	**43.59**	**266**	P	**P**	**11 44 12.8**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=106,slow=7.0,SNR=18						
WB2	**Warramunga Arr**	**44.54**	**271**	P	**P**	**11 44 18.3**	**-1.4**
WB2				IAmb	IAmb	11 44 22.0	
	comp=Z,4.1nm,0.8s						
WRA	**Warramunga Arr**	**44.55**	**271**	P	**P**	**11 44 20.1**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,3.4nm,0.8s,baz=111,slow=7.4,SNR=17						
WB0	**Warramunga Arr**	**44.57**	**272**	P	**P**	**11 44 20.3**	**+0.4**
WB0				IAmb	IAmb	11 44 22.0	
	comp=Z,4.0nm,0.8s						
CASY	**Casey**	**55.70**	**208**	P	**P**	**11 45 43.0**	**-0.5**
QSPA	**South Pole Qui**	**60.09**	**180**	P	**P**	**11 46 14.9**	**+0.3**
QSPA				IAmb	IAmb	11 46 27.9	
	comp=Z,4.9nm,1.4s						
NVAR	**Mina Array Bea**	**87.64**	**42**	P	**P**	**11 48 56.8**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=225,slow=8.3,SNR=4.3						
FINES	**FINESS Array B**	**144.94**	**340**	PKP	**PKPab**	**11 55 42.5**	**-0.5**
	comp=Z,3.5nm,0.9s,baz=55,slow=3.0,SNR=7.9						
AKASG	**Malin Array Be**	**151.27**	**324**	PKPbc	**PKiKP**	**11 56 01.3**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=61,slow=2.9,SNR=5.8						
AKASG				PKPab	**sPKPdf**	**11 56 08.3**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=44,slow=3.8,SNR=6.5						

NIED ***01*** *12:06:15.7, 28°.11N×128°.03E, h16km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-0.51; Mθθ1.26; Mφφ-0.75; Mrθ-1.20; Mθφ1.35; Mφr0.30; Fault plane solution: M0 2.12000×10^15 NP1: φs104.00000°, δ82.00000°, λ-39.00000°. NP2: φs200.00000°, δ51.00000°, λ-169.00000°.*
JMA ***01*** *12:06:15.7±0.1, 28°.11N×128°.03E, h16km±2km, M3.9*
NEIC ***01*** *12:06:16.5±2.2, 28°.01N±0°.07×128°.2E±0°.1, h10km±1km, mb4.3/8, Error ellipse: s-maj=20.0km s-min=9.8km az=109.0*
IDC ***01*** *12:06:24.2±3.7, 28°.05N×128°.11E, h74km±38km, mb3.4/6, mb1 3.6/10, mb1mx3.4/37, mbtmp3.8/10, ML3.2/4, MS3.4/9, Ms1 3.4/9, ms1mx3.2/23, Error ellipse: s-maj=37.2km s-min=18.6km az=68.0*
ISC 01 12:06:17.2±1.4**, 28°.01N**±0°.04×**128°.14E**±0°.05**, h16**km±9km**, n43, σ1s.22**/46**, mb4.0**/10**, MS3.5**/7**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.75**	**107**	P	**Pg**	**12 06 31.9**	**0.0**
JTK				*e*S	**Sn**	**12 06 43.6**	**-0.5**
JOKE	**Okinoerabujima**	**0.75**	**149**	P	**Pg**	**12 06 32.4**	**+0.5**
JOKE				*e*S	**Sn**	**12 06 44.0**	**-0.1**
JAMN	**Amaminishikomi**	**0.94**	**76**	P	**Pb**	**12 06 34.7**	**-0.4**
JAMN				*e*S	**Sn**	**12 06 48.5**	**-0.3**
JIH	**Iheya**	**0.98**	**189**	P	**Pb**	**12 06 35.3**	**-0.5**
JIH				*e*S	**Sg**	**12 06 49.4**	**+0.2**
JYRO	**Yoronjima**	**1.02**	**164**	P	**Pb**	**12 06 36.5**	**+0.1**
JYRO				*e*S	**Sn**	**12 06 51.8**	**+1.1**
JOW	**Kunigami**	**1.18**	**174**	P	**Pn**	**12 06 38.8**	**-0.2**
JOW				*e*S	**Sg**	**12 06 55.5**	**+0.1**
JAM	**Amami Oshima**	**1.35**	**73**	P	**Pn**	**12 06 41.2**	**-0.2**
JAM				*e*S	**Sb**	**12 06 59.7**	**+0.5**
JTAJ	**Takarajima**	**1.47**	**39**	P	**Pn**	**12 06 41.7**	**-1.3**
JTAJ				*e*S	**Sn**	**12 07 00.7**	**-1.2**
JNTH	**Nagotoyohara**	**1.49**	**184**	P	**Pn**	**12 06 43.5**	**+0.2**
JNTH				*e*S	**Sn**	**12 07 02.6**	**+0.2**
JAGN	**Aguni-jima**	**1.63**	**210**	P	**Pn**	**12 06 44.8**	**-0.3**
JAGN				*e*S	**Sb**	**12 07 06.3**	**-0.8**
JJT3	**Tamagusuku3**	**1.89**	**190**	P	**Pb**	**12 06 50.1**	**-1.1**
JJT3				*e*S	**Sb**	**12 07 14.5**	**-0.1**
JNU	**Nakatsue**	**5.61**	**24**	P	Pn	12 07 45.5	+5.5
	6.1nm,0.3s,baz=191,slow=5.7,SNR=33						
YOJ	**Yonaguni jima**	**5.81**	**234**	Pn	**Pn**	**12 07 43.9**	**+1.3**
YHNB	**Yeheng**	**6.92**	**243**	Pn	**Pn**	**12 07 60.0**	**+1.9**
NACB	**Ninganchiao**	**7.02**	**238**	Pn	**Pn**	**12 08 00.1**	**+0.9**
SSLB	**Suanglung**	**7.72**	**239**	Pn	**Pn**	**12 08 05.8**	**-3.1**
KSRS	**Korea Array**	**9.42**	**359**	P	Pn	12 08 36.3	+4.1
	0.1nm,0.3s,baz=184,slow=13,SNR=2.8						
KSRS				LR	LR	12 12 01.0	
	comp=Z,139nm,18.3s,baz=176,slow=36						
INU	**Inuyama**	**10.52**	**44**	Pn	**Pn**	**12 08 46.6**	**-0.6**
JHJ	**Hachijo jima 2**	**11.25**	**60**	LR	LR	12 12 36.3	
	comp=Z,131nm,19.0s,baz=290,slow=33						
MAJO	**Matsushiro**	**12.03**	**42**	Pn	**Pn**	**12 09 04.5**	**-3.5**
MJAR	**Matsushiro Arr**	**12.03**	**42**	P	**Pn**	**12 09 10.9**	**+2.9**
	0.0nm,0.3s,baz=243,slow=14,SNR=2.6						
MJB9	**Matsu-Tunnel**	**12.03**	**42**	Pn	**Pn**	**12 09 04.9**	**-3.1**
USRK	**Ussuriysk Ar.**	**16.45**	**10**	P	**P**	**12 10 11.7**	**+1.8**
	baz=193,slow=11,SNR=8.0						
SONM	**Songino Array**	**26.03**	**325**	P	**P**	**12 11 50.7**	**+1.1**
	1.0nm,0.7s,baz=139,slow=9.9,SNR=5.7						
SONM				LR	LR	12 22 24.2	
	comp=Z,45nm,18.9s,baz=138,slow=37						
CMAR	**Chiang Mai Arr**	**28.40**	**257**	LR	LR	12 24 25.9	
	comp=Z,33nm,19.0s,baz=35,slow=38						
MK31	**Makanchi Array**	**40.31**	**310**	P	**P**	**12 13 53.4**	**-0.3**
MKAR	**Makanchi Array**	**40.31**	**310**	P	**P**	**12 13 53.6**	**0.0**
	1.5nm,0.8s,baz=99,slow=8.9,SNR=5.1						
ZAA0	**Zalesovo Array**	**40.80**	**322**	P	**P**	**12 13 57.5**	**0.0**
ZALV	**Zalesovo Beam**	**40.80**	**322**	P	**P**	**12 13 56.7**	**-0.8**
	0.4nm,0.5s,baz=122,slow=5.2,SNR=1.5						
KNRA	**Kununurra**	**43.43**	**179**	P	**P**	**12 14 19.7**	**+0.3**
KNRA				IAmb	IAmb	12 14 24.4	
	comp=Z,6.9nm,1.0s						
KURK	**Kurchatov**	**43.49**	**315**	P	**P**	**12 14 19.2**	**-0.4**
KURK				IAmb	IAmb	12 14 27.0	
	comp=Z,7.7nm,1.5s						
FITZ	**Fitzroy Crossi**	**45.90**	**183**	P	**P**	**12 14 39.9**	**+0.9**
FITZ				IAmb	IAmb	12 14 47.3	
	comp=Z,3.0nm,0.9s						
NRIK	**Noril'sk**	**47.54**	**342**	LR	LR	12 38 46.3	
	comp=Z,28nm,18.6s,baz=126,slow=41						
WB0	**Warramunga Arr**	**47.88**	**172**	P	**P**	**12 14 55.1**	**+0.5**
WB0				IAmb	IAmb	12 15 10.1	
	comp=Z,2.6nm,1.1s						
WRA	**Warramunga Arr**	**48.05**	**172**	P	**P**	**12 14 55.9**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=352,slow=8.3,SNR=6.3						
WB2	**Warramunga Arr**	**48.05**	**172**	P	**P**	**12 14 56.5**	**+0.6**
ASAR	**Alice Springs**	**51.68**	**173**	P	**P**	**12 15 24.4**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=357,slow=9.1,SNR=13						
ASAR				LR	LR	12 37 22.0	
	comp=Z,73nm,19.8s,baz=158,slow=36						
RND	**Reindeer**	**62.25**	**30**	P	**P**	**12 16 37.1**	**-0.9**
MDM	**Murphy Dome**	**62.32**	**29**	P	**P**	**12 16 38.5**	**+0.1**
ILAR	**Eielson Array**	**62.91**	**29**	P	**P**	**12 16 42.3**	**0.0**
	comp=Z,0.3nm,0.7s,baz=286,slow=6.3,SNR=4.5						
ARCES	**ARCESS Array B**	**68.33**	**338**	LR	LR	12 54 22.9	
	comp=Z,40nm,18.2s,baz=271,slow=42						
AKASG	**Malin Array Be**	**74.13**	**319**	LR	LR	12 52 42.1	
	comp=Z,43nm,18.0s,baz=115,slow=38						
NOA	**NORSAR Array B**	**77.69**	**334**	LR	LR	12 55 50.3	
	comp=Z,24nm,19.8s,baz=25,slow=38						

JMA ***01*** *12:40:07.5±0.1, 43°.43N×145°.34E, h83km±1km, M3.2*
SKHL ***01*** *12:40:08.9±0.7, 43°.40N×145°.25E, h72km±2km, mb4.0/4*
ISC 01 12:40:08.7±1.6**, 43°.42N**±0°.05×**145°.31E**±0°.05**, h75**km±9km**, n16, σ0s.57**/31**, 6C-3D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMR	**Nemuro--Hokkai**	**0.31**	**99**	*i* P	**Pn**	**12 40 20.2**	**-0.2**
NMR				*e*S	**Sn**	**12 40 28.0**	**-1.1**
NEM2	**Nemuro 2**	**0.32**	**99**	⇓P	**Pn**	**12 40 20.2**	**-0.3**
NEM2				*e*S	**Sn**	**12 40 29.5**	**+0.3**
JKHN	**Kushirohamanak**	**0.35**	**198**	⇓P	**Pn**	**12 40 20.8**	**+0.1**
JKHN				*e*S	**Sn**	**12 40 30.7**	**+1.2**
GLVR	**Golovnino**	**0.36**	**26**	*i* P	**Pn**	**12 40 20.7**	**-0.1**
GLVR				AMB	AMB	12 40 21.0	
	180nm,0.4s						
GLVR				*e*S	**Sn**	**12 40 29.5**	**-0.1**
GLVR				A	A	12 40 31.0	
	1μm,0.4s						
GLVR				A	A	12 40 31.0	
	2μm,0.4s						
JNSB	**Nemuroshibetsu**	**0.42**	**329**	⇑P	**Pn**	**12 40 21.1**	**-0.2**
JNSB				*e*S	**Sn**	**12 40 31.5**	**+1.0**
JNK	**Nakash**	**0.46**	**292**	⇑P	**Pn**	**12 40 21.1**	**-0.5**
JNK				*e*S	**Sn**	**12 40 31.2**	**+0.1**
JRA	**Rausu**	**0.54**	**346**	⇑P	**Pn**	**12 40 21.9**	**-0.4**
JRA				*e*S	**Sn**	**12 40 32.8**	**+0.5**
JAK	**Akkeshi**	**0.61**	**227**	⇓P	**Pn**	**12 40 22.8**	**-0.2**
JAK				*e*S	**Sn**	**12 40 34.2**	**+0.6**
GRPR	**Tuman**	**0.67**	**30**	*e*P	**Pn**	**12 40 23.3**	**-0.3**
GRPR				AMB	AMB	12 40 24.0	
	50nm,0.4s						
GRPR				*i* S	**Sn**	**12 40 34.4**	**-0.2**
GRPR				A	A	12 40 37.0	
	310nm,0.2s						
GRPR				A	A	12 40 37.0	
	940nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.74**	**33**	*e*P	**Pn**	**12 40 23.8**	**-0.5**
YUK				AMB	AMB	12 40 24.0	
	10.0nm,0.3s						
YUK				AMB	AMB	12 40 24.0	
	10.0nm,0.3s						
YUK				AMB	AMB	12 40 24.0	
	80nm,0.3s						
YUK				*i* S	**Sn**	**12 40 35.5**	**-0.4**
YUK				A	A	12 40 39.0	
	340nm,0.4s						
YUK				A	A	12 40 39.0	
	2μm,0.4s						
JAR	**Ashorobuto**	**1.13**	**264**	⇑P	**Pn**	**12 40 29.0**	**0.0**
JAR				*e*S	**Sn**	**12 40 44.9**	**+0.7**
JTKR	**Abashiri--Toko**	**1.15**	**299**	⇑P	**Pn**	**12 40 29.0**	**-0.3**
JTKR				*e*S	**Sn**	**12 40 45.0**	**+0.2**
JOB	**Onbets**	**1.19**	**245**	P	**Pn**	**12 40 29.6**	**-0.2**
JOB				*e*S	**Sn**	**12 40 46.2**	**+0.6**
JMP	**Maruseppu**	**1.53**	**293**	⇑P	**Pn**	**12 40 33.8**	**-0.4**
JCH	**Churui**	**1.64**	**241**	P	**Pn**	**12 40 34.9**	**-0.7**
JCH				*e*S	**Sn**	**12 40 55.0**	**-0.9**
KUR	**Kuril'sk**	**2.58**	**44**	*e*P	**Pn**	**12 40 49.0**	**+0.7**
KUR				AMB	AMB	12 40 58.0	
	40nm,0.3s						
KUR				*e*S	**Sn**	**12 41 19.0**	**+0.4**
KUR				A	A	12 41 25.0	
	90nm,0.3s						
KUR				A	A	12 41 25.0	
	170nm,0.3s						

BJI ***01*** *13:01:45.2±0.0, 18°.32S×173°.98W, h15km, mB5.6/17, mb5.1/21, Ms4.9/4, Ms7 4.7/4*
NEIC ***01*** *13:01:47.9±2.9, 17°.56S±0°.07×173°.65W±0°.08, h10km±1km, mb5.1/43, Error ellipse: s-maj=14.5km s-min=10.5km az=53.0*
IDC ***01*** *13:01:47.3±0.5, 17°.56S×173°.79W, h0km, mb4.7/23, mb1 4.8/25, mb1mx4.7/41, mbtmp4.7/25, ML3.8/2, MS4.1/20, Ms1 4.1/20, ms1mx4.0/26, Error ellipse: s-maj=18.4km s-min=12.7km az=129.0*
MOS ***01*** *13:01:53.0±2.2, 17°.29S×173°.54W, h33km, mb5.2/18, Error ellipse: s-maj=14.6km s-min=11.2km az=93.5*
BGR ***01*** *13:01:54.8±0.0, 16°.73S×172°.82W, h33km, Ms4.3*
GCMT ***01*** *13:01:55.9±0.2, 17°.74S±0°.02×173°.27W±0°.02, h59km±1km, MW5.0/107, Moment Tensor Solution. s50,c63; s107,c151; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.69±.15; Mθθ0.45±.12; Mφφ-3.15±.10; Mrθ-0.69±.08; Mθφ0.22±.11; Mφr-2.04±.08; Best double couple: M0 3.64700×10^16 NP1:φs341.00000°, δ30.00000°, λ64.00000°. NP2:φs190.00000°, δ64.00000°, λ104.00000°. Principal axes: T 3.5020, Plg68.0000°, Azm128.0000°; N 0.2840, Plg13.0000°, Azm4.0000°; P -3.7920, Plg17.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 13:01:52.4±0.3**, 17°.61S**±0°.04×**173°.63W**±0°.05**, h39**km**, n407, σ1s.67**/394**, mb4.9**/55**, MS4.3**/22**, 38C-4D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.81**	**113**	P	**Pn**	**13 02 47.0**	**-1.6**
	baz=3.6,SNR=272						
NIUE				S	**Sn**	**13 03 26.4**	**-5.7**
	baz=3.6						
NIUE	**Niue**	**3.81**	**113**	Pn	**Pn**	**13 02 47.0**	**-1.6**
AFI	**Afiamalu**	**4.09**	**26**	Pn	**Pn**	**13 02 50.3**	**-2.2**
	24nm,0.3s,baz=186,slow=3.2,SNR=37						
AFI				Sn	**Sn**	**13 03 31.9**	**-7.2**
	200nm,0.3s,baz=216,slow=19,SNR=13						
AFI				LR	LR	13 03 46.0	
	comp=Z,426nm,18.1s,baz=277,slow=29						
AFI	**Afiamalu**	**4.09**	**26**	P	**Pn**	**13 02 49.9**	**-2.6**
AFI						13 03 32.6	
AFI	**Afiamalu**	**4.09**	**26**	Pn	**Pn**	**13 02 49.9**	**-2.6**
AFI					**Sn**	**13 03 32.6**	**-6.5**
MSVF	**Nonsavu**	**7.93**	**268**	*d i*P	Pn	13 03 54.2	+8.9
RIZ	**Raoul Island**	**12.23**	**198**	P	**Pn**	**13 04 43.0**	**-1.1**
RAO	**Raoul Island**	**12.24**	**198**	Sn	Sn	13 06 51.7	-7.6
	40nm,0.3s,baz=89,slow=22,SNR=1.8						
GLKZ	**Green Lake**	**12.25**	**198**	P	**Pn**	**13 04 46.6**	**+2.4**
GLKZ				S	Sn	13 06 47.3	-12
GLKZ	**Green Lake**	**12.25**	**198**	P	Pn	13 04 50.3	+6.0
GLKZ				S	Sn	13 06 52.5	-7.0
RAR	**Rarotonga**	**13.55**	**108**	Pn	**Pn**	**13 05 00.1**	**-2.1**
	15nm,0.3s,baz=250,slow=6.1,SNR=21						
RAR				Sn	Sn	13 07 19.8	-12
	2.4nm,0.3s,baz=194,slow=24,SNR=2.2						
RAR				LR	LR	13 08 59.2	
	comp=Z,870nm,21.8s,baz=268,slow=32						
DZM	**Mont Dzumac**	**19.26**	**253**	*e*P	**Pn**	**13 06 17.2**	**+2.1**
	79nm,1.0s						
DZM				*e*S	**S**	**13 09 45.1**	**-4.9**
	303nm,25.2s						
DZM				*e*LR	LR	13 10 42.9	
	comp=Z,3μm,26.4s						
DZM	**Mont Dzumac**	**19.26**	**253**	P	**P**	**13 06 12.5**	**-1.3**
	0.1nm,0.3s,baz=194,slow=14,SNR=1.9						
DZM				LR	LR	13 12 30.7	
	comp=Z,2μm,21.5s,baz=88,slow=34						
DZM	**Mont Dzumac**	**19.26**	**253**	P	**P**	**13 06 13.9**	**+0.1**
OUZ	**Omahuta**	**20.91**	**210**	P	**P**	**13 06 32.5**	**+1.0**
OUZ	**Omahuta**	**20.91**	**210**	P	**P**	**13 06 31.8**	**+0.3**
OUZ	**Omahuta**	**20.91**	**210**	P	**P**	**13 06 31.8**	**+0.3**
GRZ	**Great Barrier**	**20.93**	**205**	P	**P**	**13 06 34.0**	**+2.2**
MXZ	**Matakaoa Point**	**21.11**	**198**	P	**P**	**13 06 36.9**	**+3.3**
MXZ				S	**S**	**13 10 21.1**	**-5.2**
WCZ	**Waipu Caves**	**21.14**	**208**	P	**P**	**13 06 35.2**	**+1.1**
WCZ	**Waipu Caves**	**21.14**	**208**	P	**P**	**13 06 34.6**	**+0.6**
KUZ	**Kuaotunu**	**21.26**	**204**	P	**P**	**13 06 37.8**	**+2.6**
KUZ	**Kuaotunu**	**21.26**	**204**	P	**P**	**13 06 36.7**	**+1.5**
WMGZ	**Waiomatatini S**	**21.31**	**198**	P	**P**	**13 06 39.1**	**+3.3**
WMGZ				S	**S**	**13 10 23.7**	**-6.8**
HAZ	**Te Kaha**	**21.44**	**199**	P	**P**	**13 06 37.9**	**+0.7**
HAZ				S	S	13 10 22.4	-11
HAZ	**Te Kaha**	**21.44**	**199**	S	S	13 10 23.9	-9.1
PKGZ	**Pakihiroa**	**21.48**	**198**	P	**P**	**13 06 39.8**	**+2.2**
PKGZ				S	S	13 10 23.5	-10
PKGZ	**Pakihiroa**	**21.48**	**198**	S	S	13 10 20.5	-13
WIAZ	**Waiheke Island**	**21.53**	**205**	P	**P**	**13 06 38.8**	**+0.6**
PUZ	**Puketiti**	**21.59**	**198**	P	**P**	**13 06 39.3**	**+0.4**
PUZ				S	S	13 10 24.7	-11
RUGZ	**Raukumara Rang**	**21.67**	**199**	P	**P**	**13 06 41.6**	**+1.8**
MKAZ	**Moumakai**	**21.79**	**205**	P	**P**	**13 06 42.5**	**+1.6**
KBAZ	**Karaka Road Bo**	**21.89**	**205**	P	**P**	**13 06 43.7**	**+1.7**
OPRZ	**Ohinepanea**	**21.92**	**201**	P	**P**	**13 06 44.4**	**+2.0**
TGRZ	**Tauranga**	**21.92**	**202**	P	**P**	**13 06 44.7**	**+2.3**
CNGZ	**Carnagh Statio**	**21.99**	**197**	P	**P**	**13 06 47.3**	**+4.2**
MWZ	**Matawai**	**22.05**	**199**	P	**P**	**13 06 44.8**	**+0.9**
MWZ				S	S	13 10 34.4	-11
MWZ	**Matawai**	**22.05**	**199**	S	**S**	**13 10 36.9**	**-8.0**
TKGZ	**Te Karaka**	**22.05**	**198**	P	**P**	**13 06 47.1**	**+3.3**
TKGZ				S	**S**	**13 10 37.5**	**-7.3**
URZ	**Urewera**	**22.11**	**200**	P	**P**	**13 06 43.8**	**-0.7**
	41nm,0.4s,baz=288,slow=2.6,SNR=44						
URZ				S	S	13 10 37.0	-8.9
	12nm,0.6s,baz=252,slow=23,SNR=6.2						
URZ	**Urewera**	**22.11**	**200**	P	**P**	**13 06 44.1**	**-0.4**
URZ				S	S	13 10 34.5	-11
URZ	**Urewera**	**22.11**	**200**	S	S	13 10 36.2	-10
URZ	**Urewera**	**22.11**	**200**	IAmb	IAmb	13 06 55.5	
	comp=Z,50nm,0.6s						
KMRZ	**Kaimai**	**22.14**	**202**	P	**P**	**13 06 47.0**	**+2.2**
KARZ	**Kaharoa**	**22.19**	**202**	P	**P**	**13 06 47.4**	**+2.1**
TOZ	**Tahuroa Road**	**22.20**	**203**	P	**P**	**13 06 47.3**	**+1.9**
RIGZ	**Rimuhau**	**22.32**	**198**	P	**P**	**13 06 48.4**	**+1.7**
RIGZ				S	**S**	**13 10 44.8**	**-5.1**
UTU	**Utuhina**	**22.35**	**201**	P	**P**	**13 06 51.6**	**+4.6**
RRRZ	**Republican Roa**	**22.38**	**201**	P	**P**	**13 06 51.5**	**+4.1**
PRGZ	**Paritu Road**	**22.49**	**198**	P	**P**	**13 06 51.2**	**+2.7**
HRRZ	**Handcock Road**	**22.51**	**201**	P	**P**	**13 06 50.7**	**+1.9**
SNGZ	**Shannon Statio**	**22.52**	**199**	P	**P**	**13 06 51.8**	**+2.9**
ALRZ	**Allen Road**	**22.64**	**201**	P	**P**	**13 06 51.5**	**+1.4**
KNZ	**Kokohu**	**22.64**	**198**	P	**P**	**13 06 51.2**	**+1.1**
MHGZ	**Mahia Peninsul**	**22.70**	**197**	P	**P**	**13 06 53.4**	**+2.8**
WHHZ	**Waihua**	**22.82**	**199**	P	**P**	**13 06 54.4**	**+2.4**
PAE	**Paea**	**22.92**	**94**	*e*T	T	13 30 16.3	
	comp=Z,12nm,0.3s						
PPT2	**Papeete2**	**22.93**	**94**	*e*S	**S**	**13 11 06.2**	**+5.3**
	comp=Z,662nm,31.2s						
PPT2				*e*LR	LR	13 12 23.0	
	comp=Z,2μm,25.8s,baz=259						
PPT2	**Papeete2**	**22.93**	**94**	*e*T	T	13 30 17.6	
	comp=Z,10nm,0.3s						
PPT	**Papeete**	**22.93**	**94**	LR	LR	13 13 16.7	
	comp=Z,433nm,21.2s,baz=302,slow=30						
HIZ	**Hauiti**	**23.13**	**203**	P	**P**	**13 06 56.7**	**+1.5**
BKZ	**Black Stump Fm**	**23.14**	**200**	P	**P**	**13 06 52.3**	**-3.0**
BKZ				IAmb	IAmb	13 06 55.8	
	comp=Z,74nm,1.5s						
TIAR	**Tiarei**	**23.15**	**94**	*e*T	T	13 30 33.0	
	comp=Z,4.2nm,0.3s						
TVO	**Taravao**	**23.22**	**94**	*e*T	T	13 30 29.7	
	comp=Z,3.1nm,0.3s						
MCHZ	**McNeill Hill**	**23.33**	**199**	P	**P**	**13 06 58.4**	**+1.3**
TBI	**Tubuai**	**23.34**	**108**	*e*S	**S**	**13 11 11.0**	**+3.6**
	comp=Z,640nm,28.5s						
TBI				*e*LR	LR	13 12 26.5	
	comp=Z,2μm,29.2s,baz=287						
TBI	**Tubuai**	**23.34**	**108**	*e*T	T	13 30 46.6	
	comp=Z,14nm,0.3s						
OTVZ	**Oturere**	**23.41**	**201**	P	**P**	**13 06 57.7**	**-0.4**
FWVZ	**Far West T-bar**	**23.54**	**201**	P	**P**	**13 06 59.2**	**-0.1**
KAHZ	**Kahuranaki**	**23.59**	**199**	P	**P**	**13 07 01.6**	**+1.9**
VRZ	**Vera Road**	**23.70**	**203**	P	**P**	**13 07 02.1**	**+1.4**
TUWZ	**Tuamarina**	**26.03**	**202**	P	**P**	**13 07 19.9**	**-2.0**
HNR	**Honiara**	**26.92**	**284**	LR	LR	13 16 35.2	
	comp=Z,907nm,21.0s,baz=98,slow=33						
LTZ	**Lake Taylor**	**27.81**	**203**	P	**P**	**13 07 38.4**	**+0.5**
OXZ	**Oxford**	**28.37**	**202**	P	**P**	**13 07 40.7**	**-2.2**
RPZ	**Rata Peaks**	**29.07**	**203**	P	**P**	**13 07 50.1**	**+1.0**
	comp=Z,27nm,0.7s,baz=8.8,slow=1.3,SNR=6.1						
RPZ	**Rata Peaks**	**29.07**	**203**	IAmb	IAmb	13 08 05.9	
	comp=Z,34nm,0.8s						
EIDS	**Eidsvold**	**33.66**	**251**	P	**P**	**13 08 29.7**	**0.0**
	baz=34,SNR=3.4						
TAOE	**Nuku Hiva Isla**	**33.69**	**79**	*e*S	S	13 14 02.3	+11
	comp=Z,130nm,26.1s						
TAOE				*e*LR	LR	13 17 15.1	
	comp=Z,822nm,26.4s						
TAOE	**Nuku Hiva Isla**	**33.69**	**79**	*e*T	T	13 43 44.9	
	comp=Z,92nm,0.2s						
ARMA	**Armidale**	**34.06**	**242**	P	**P**	**13 08 34.7**	**+1.4**
	baz=34,SNR=6.3						
RMQ	**Roma**	**35.86**	**249**	P	**P**	**13 08 48.0**	**-0.7**
	baz=36,SNR=14						
CNB	**Canberra Magne**	**37.26**	**234**	P	**P**	**13 09 00.8**	**+0.2**
	baz=38,SNR=7.9						
CTA	**Charters Tower**	**37.98**	**260**	P	**P**	**13 09 05.3**	**-1.6**
	comp=Z,7.4nm,0.7s,baz=92,slow=11,SNR=16						
CTAO	**Charters Tower**	**37.98**	**260**	P	**P**	**13 09 04.1**	**-2.8**
CTAO				pmax	pmax		
	comp=Z,15nm,1.1s						
CTAO	**Charters Tower**	**37.98**	**260**	P	**P**	**13 09 04.1**	**-2.8**
PMG	**Port Moresby**	**38.92**	**277**	P	**P**	**13 09 13.1**	**-1.7**
	comp=Z,8.2nm,0.8s,baz=201,slow=23,SNR=1.9						
PMG	**Port Moresby**	**38.92**	**277**	*i* P	**P**	**13 09 13.3**	**-1.5**
PMG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CMSA	**Cobar Meteorol**	**39.28**	**242**	P	**P**	**13 09 17.0**	**-0.6**
	baz=40,SNR=9.7						
MTSU	**Mount Surprise**	**39.97**	**263**	P	**P**	**13 09 23.8**	**+0.3**
	baz=40,SNR=6.1						
COEN	**Coen**	**41.66**	**269**	P	**P**	**13 09 37.6**	**+0.1**
	baz=42,SNR=8.0						
COEN	**Coen**	**41.66**	**269**	P	**P**	**13 09 36.5**	**-0.9**
STKA	**Stephens Creek**	**42.78**	**242**	P	**P**	**13 09 45.6**	**-0.8**
	comp=Z,4.1nm,0.7s,baz=90,slow=13,SNR=5.2						
STKA				LR	LR	13 26 20.3	
	comp=Z,347nm,18.6s,baz=80,slow=34						
GENI	**Genyem**	**47.71**	**283**	P	**P**	**13 10 27.1**	**+1.4**
	comp=Z,54nm,1.1s						
WRAB	**Tennant Creek**	**49.15**	**259**	*c i*P	**P**	**13 10 35.5**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WRAB				pmax	pmax		
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**49.15**	**259**	P	P	13 10 31.7	-5.1
WRA	**Warramunga Arr**	**49.16**	**259**	P	**P**	**13 10 34.8**	**-2.1**
	comp=Z,9.2nm,0.7s,baz=97,slow=8.2,SNR=38						
WRA				PcP	**PcP**	**13 12 00.6**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=96,slow=3.1,SNR=2.5						
WRA				S	S	13 17 31.8	-8.2
	comp=Z,1.7nm,0.9s,baz=95,slow=14,SNR=5.3						
WRA				LR	LR	13 29 51.4	
	comp=Z,450nm,21.7s,baz=180,slow=34						
AS31	**Alice Springs**	**49.25**	**254**	P	**P**	**13 10 36.0**	**-1.5**
AS31				IAmb	IAmb	13 10 41.8	
	comp=Z,16nm,0.7s						
ASAR	**Alice Springs**	**49.25**	**254**	P	**P**	**13 10 36.1**	**-1.4**
	comp=Z,49nm,0.6s,baz=90,slow=8.0,SNR=337						
ASAR				PcP	**PcP**	**13 12 00.5**	**+0.3**
	comp=Z,4.5nm,0.8s,baz=96,slow=4.8,SNR=1.1						
ASAR				ScP	**ScP**	**13 15 57.3**	**+4.7**
	comp=Z,1.0nm,0.8s,baz=89,slow=3.8,SNR=4.9						
ASAR				S	S	13 17 33.3	-7.9
	comp=Z,2.3nm,0.8s,baz=89,slow=14,SNR=11						
ASAR				LR	LR	13 29 30.4	
	comp=Z,193nm,21.1s,baz=100,slow=34						
WRKA	**Warakurna**	**54.26**	**252**	P	**P**	**13 11 13.8**	**-1.2**
	baz=54,SNR=52						
KNRA	**Kununurra**	**55.05**	**263**	P	**P**	**13 11 19.1**	**-1.6**
KNRA				IAmb	IAmb	13 11 36.4	
	comp=Z,20nm,0.9s						
SIJI	**Sorong**	**56.63**	**281**	P	**P**	**13 11 29.9**	**-2.1**
	comp=Z,12nm,0.7s,baz=57,slow=17,SNR=2.4						
BNDI	**Bandanaira**	**56.72**	**276**	P	**P**	**13 11 34.6**	**+2.0**
	comp=Z,244nm,1.3s						
FITZ	**Fitzroy Crossi**	**57.56**	**259**	P	**P**	**13 11 38.4**	**-0.2**
	baz=58,SNR=14						
FITZ	**Fitzroy Crossi**	**57.56**	**259**	P	**P**	**13 11 38.3**	**-0.3**
SOEI	**Soe**	**60.63**	**269**	P	**P**	**13 11 58.2**	**-1.8**
SOEI	**Soe**	**60.63**	**269**	P	**P**	**13 11 58.4**	**-1.6**
VNDA	**Vanda**	**61.17**	**186**	P	**P**	**13 12 04.5**	**+2.0**
	comp=Z,6.4nm,0.9s,baz=8.1,slow=6.3,SNR=44						
VNDA	**Vanda**	**61.17**	**186**	P	**P**	**13 12 04.4**	**+1.8**
VNDA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
VNDA	**Vanda**	**61.17**	**186**	P	**P**	**13 12 04.4**	**+1.8**
VNDA				IAmb	IAmb	13 12 05.2	
	comp=Z,8.8nm,0.9s						
PSA00	**Pilbara Seismi**	**62.38**	**254**	P	**P**	**13 12 09.8**	**-1.9**
PSA00				IAmb	IAmb	13 12 15.7	
	comp=Z,16nm,0.8s						
KLBR	**Kellerberrin**	**63.03**	**243**	P	**P**	**13 12 15.4**	**-0.5**
	baz=63,SNR=7.7						
BLDU	**Ballidu**	**64.02**	**244**	P	**P**	**13 12 22.4**	**0.0**
	baz=64,SNR=8.1						
MUN	**Mundaring**	**64.31**	**243**	P	**P**	**13 12 24.7**	**+0.5**
	baz=64,SNR=6.2						
MORW	**Morawa**	**64.76**	**246**	P	**P**	**13 12 27.4**	**+0.2**
	baz=65,SNR=4.7						
CASY	**Casey**	**68.32**	**205**	P	**P**	**13 12 48.1**	**-1.2**
CASY				IAmb	IAmb	13 12 50.7	
	comp=Z,7.2nm,0.9s						
NIKH	**Nikolski High**	**70.41**	**3**	P	**P**	**13 13 00.1**	**-2.1**
MJAR	**Matsushiro Arr**	**70.48**	**320**	P	**P**	**13 13 02.7**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=163,slow=5.7,SNR=6.3						
MJAR				LR	LR	13 38 30.4	
	comp=Z,86nm,22.0s,baz=150,slow=31						
MAT	**Matsushiro**	**70.48**	**320**	P	**P**	**13 13 02.2**	**-0.9**
MAT				*e*S	**S**	**13 22 19.0**	**+5.4**
UNV	**Unalaska Valle**	**71.42**	**4**	P	**P**	**13 13 07.1**	**-1.2**
UNV				IAmb	IAmb	13 13 08.9	
	comp=Z,11nm,0.8s						
QSPA	**South Pole Qui**	**72.45**	**180**	P	**P**	**13 13 16.0**	**+1.3**
SCI2	**San Clemente I**	**72.78**	**46**	P	**P**	**13 13 17.8**	**+0.8**
	baz=235						
PKM	**Mcpherson Peak**	**73.04**	**44**	P	**P**	**13 13 19.6**	**+0.8**
	baz=234						
ASAJ	**Asahikawa**	**73.30**	**329**	P	**P**	**13 13 21.0**	**+1.2**
	comp=Z,7.0nm,0.8s,baz=219,slow=8.5,SNR=4.0						
109C	**Camp Elliot, M**	**73.73**	**47**	P	**P**	**13 13 23.4**	**+0.8**
	baz=236						
ARVC	**Arvin**	**73.83**	**44**	P	**P**	**13 13 23.8**	**+0.6**
	baz=234						
MURC	**Murrieta**	**74.07**	**46**	P	**P**	**13 13 25.5**	**+0.8**
	baz=236						
VES	**Vestal, Richgr**	**74.08**	**43**	P	**P**	**13 13 25.4**	**+0.8**
	baz=234						
BFSC	**Mount Baldy Ra**	**74.11**	**46**	P	**P**	**13 13 25.5**	**+0.5**
	baz=235						
MONP2	**Monument Peak**	**74.21**	**47**	P	**P**	**13 13 26.4**	**+0.7**
	baz=236						
EDW2	**Edwards Air Fo**	**74.25**	**45**	P	**P**	**13 13 26.4**	**+0.7**
	baz=235						
IKP	**In-Ko-Pah, Jac**	**74.30**	**48**	P	**P**	**13 13 26.9**	**+0.8**
	baz=237						
ISA	**Isabella, Lake**	**74.38**	**44**	P	**P**	**13 13 27.4**	**+1.0**
	baz=234,SNR=8.0						

O02D Mt. Diablo Mer 74.44 38 P P 13 13 27.8 +1.1
baz=230
PFO Pinyon Flats O 74.58 47 P P 13 13 28.8 +1.1
baz=236
PEA0B Petropavlovsk- 74.66 343 P P 13 13 27.9 +0.4
PEA0B pmax pmax
comp=Z,22nm,0.9s
PEA0B Petropavlovsk- 74.66 343 P P 13 13 27.9 +0.4
PEA0B IAmb IAmb 13 13 47.2
comp=Z,22nm,0.8s
PETK Petropavlovsk- 74.66 343 P P 13 13 27.9 +0.3
comp=Z,9.0nm,0.8s,baz=132,slow=8.8,SNR=28
SWSC Sam W. Stewart 74.68 48 P P 13 13 29.1 +1.0
baz=237
LRMC Laurel Mtn Rad 74.80 44 P P 13 13 29.3 +0.3
baz=235,SNR=6.9
N02D Trinity Center 75.00 37 P P 13 13 31.5 +1.5
baz=230
CWC Cottonwood Cre 75.09 43 P P 13 13 31.8 +1.1
baz=234
O03E Paynes Creek 75.10 38 P P 13 13 31.5 +1.0
baz=231
BELC Belle Mtn. Jos 75.12 47 P P 13 13 31.5 +0.7
baz=236
M02C Callahan 75.18 37 P P 13 13 32.3 +1.3
baz=230
L02E Cave Junction 75.25 36 P P 13 13 32.6 +1.3
baz=229
MPMC Manual Prospec 75.26 44 P P 13 13 32.5 +0.8
baz=235,SNR=12
YSS Yuzh-Sakhalins 75.29 331 eP P 13 13 32.3 +1.0
YSS pmax pmax
comp=Z,10.0nm,0.9s
GSC Goldstone, Bar 75.29 45 P P 13 13 32.3 +0.6
baz=236,SNR=6.6
BC3 Big Chuckawall 75.31 47 P P 13 13 33.0 +1.1
baz=237
HEC Hector,Ludlow 75.35 46 P P 13 13 32.5 +0.5
baz=236
TIN Tinemaha, Big 75.35 43 P P 13 13 32.9 +0.9
baz=234
GLA Glamis 75.42 48 P P 13 13 33.9 +1.5
baz=237
K02D Willamette Mer 75.57 36 P P 13 13 34.5 +1.4
baz=229
J01E Myrtle Point 75.73 35 P P 13 13 35.8 +1.9
baz=229
GMRC Granite Mounta 75.78 46 P P 13 13 35.6 +1.0
baz=236
IRM Iron Mountain 75.80 47 P P 13 13 35.2 +0.6
baz=237
FURC Furnace Creek, 75.91 44 P P 13 13 36.0 +0.9
baz=235
TUQ Turquoise Moun 75.96 45 P P 13 13 36.5 +0.9
baz=236
M04C Macdoel 76.02 37 P P 13 13 36.9 +1.1
baz=230
L04D Klamath Falls 76.03 37 P P 13 13 37.0 +1.1
baz=230
NVAR Mina Array Bea 76.11 42 P P 13 13 37.9 +1.4
comp=Z,8.7nm,1.0s,baz=226,slow=9.2,SNR=45
NVAR LR LR 13 39 14.0
comp=Z,141nm,21.6s,baz=230,slow=30
214A Organ Pipe Nat 76.30 50 P P 13 13 38.5 +1.1
baz=239
I02D Swisshome 76.40 34 P P 13 13 39.5 +1.8
baz=228
I03D Drain, OR 76.41 35 P P 13 13 39.0 +1.3
baz=229
PDMCI Parker Dam,Lak 76.58 47 P P 13 13 40.0 +1.1
baz=238
TPNV Topopah Spring 76.59 44 P P 13 13 40.4 +1.2
baz=236,SNR=9.3
I04A Tendick Farm, 76.98 35 P P 13 13 41.7 +0.6
baz=230
H04D Lebanon 77.28 35 P P 13 13 43.9 +1.3
baz=229
LEM Lembang 77.28 267 P P 13 13 44.7 +1.1
comp=Z,25nm,0.8s,baz=113,slow=13,SNR=4.7
J05D Fort Rock, OR 77.32 36 P P 13 13 44.0 +0.9
baz=231
G03D McMinnville, O 77.45 34 P P 13 13 44.7 +1.1
baz=229
KSRS Korea Array 77.58 316 P P 13 13 46.3 +1.8
comp=Z,2.9nm,1.0s,baz=130,slow=6.2,SNR=7.5
KSRS LR LR 13 41 05.4
comp=Z,96nm,21.4s,baz=146,slow=30
R11A Troy Canyon, C 77.81 43 P P 13 13 46.6 +0.5
baz=236,SNR=16
TUC Tucson 77.96 50 P P 13 13 48.1 +1.2
baz=240
LCMT Little Creek M 78.64 45 P P 13 13 49.1 -1.5
E04D Cinebar 78.70 33 P P 13 13 51.8 +1.3
baz=229
D04E Lakebay 79.00 33 P P 13 13 53.9 +1.8
baz=229
USRK Ussuriysk Ar. 79.01 323 P P 13 13 54.2 +1.9
comp=Z,2.0nm,0.7s,baz=102,slow=3.5,SNR=4.6
USRK LR LR 13 42 13.3
comp=Z,139nm,21.5s,baz=130,slow=31
D03D Eldon 79.07 32 P P 13 13 54.1 +1.6
baz=229
WUAZ Wupatki 79.15 47 P P 13 13 54.6 +1.2
baz=239
B05A Bryant 80.05 32 P P 13 13 58.7 +0.9
baz=229
W18A Petrified Fore 80.10 48 P P 13 13 59.7 +1.0
baz=240
DUG Dugway, Tooele 80.62 43 P P 13 14 02.0 +0.7
baz=238
NJ2 Nanjing 81.32 307 eP P 13 14 03.9 -1.1
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
HLID Hailey 81.47 39 P P 13 14 06.3 +0.5
baz=236,SNR=8.3
MNTX Cornudas Mount 81.72 53 P P 13 14 08.4 +1.3
baz=244
MNTX Cornudas Mount 81.72 53 P P 13 14 05.2 -2.0
MNTX IAmb IAmb 13 14 09.9
comp=Z,15nm,1.4s
CUT Chulitna 81.86 11 P P 13 14 09.9 +2.7
baz=202
CRQM Cirque 81.86 15 P P 13 14 07.0 -0.5
CRQM IAmb IAmb 13 14 10.2
comp=Z,11nm,0.9s
YAH Yahtse 81.86 15 P P 13 14 07.2 -0.3
YAH IAmb IAmb 13 14 09.3
comp=Z,13nm,1.0s
SCM Sheep Creek Mo 81.89 12 P P 13 14 06.3 -1.2
SCM pmax pmax
comp=Z,17nm,1.0s
SCM Sheep Creek Mo 81.89 12 P P 13 14 06.3 -1.2
SCM IAmb IAmb 13 14 08.7
comp=Z,17nm,1.0s
TGL Tana Glacier 81.93 15 P P 13 14 06.8 -0.9
TGL IAmb IAmb 13 14 20.4
comp=Z,13nm,0.7s
MVCO Mesa Verde 82.00 47 P P 13 14 09.9 +1.1
baz=241
TXAR Lajitas Array 82.02 56 P P 13 14 10.7 +1.7
comp=Z,4.1nm,1.2s,baz=224,slow=5.2,SNR=16
TXAR LR LR 13 42 07.0
comp=Z,76nm,21.7s,baz=0.0,slow=30
MA2 Magadan 82.19 343 cP P 13 14 07.8 -1.2
MA2 pmax pmax
comp=Z,7.0nm,1.1s
VRDI Verde Repeater 82.20 14 P P 13 14 08.8 -0.4
KLR Kul'dur 82.25 327 iP P 13 14 08.4 -1.1
KLR pmax pmax
comp=Z,2.0nm,1.0s
GLB Gilahina Butte 82.30 14 P P 13 14 09.6 0.0
ANMO Albuquerque 82.39 50 P P 13 14 12.2 +1.4
baz=242
ANMO Albuquerque 82.39 50 iP P 13 14 11.6 +0.8
ANMO pmax pmax
comp=Z,14nm,1.4s
NEW Newport 82.65 34 P P 13 14 11.9 +0.2
baz=233
TRF Thorofare Moun 82.82 10 P P 13 14 12.4 0.0
S22A 4UR Ranch, Cre 83.42 47 P P 13 14 17.9 +1.6
baz=242
S22A 4UR Ranch, Cre 83.42 47 P P 13 14 16.1 -0.2
S22A IAmb IAmb 13 14 34.8
comp=Z,14nm,1.0s
MSO Missoula 83.58 37 P P 13 14 16.7 +0.1
baz=236
O20A White River Ci 83.60 45 P P 13 14 17.4 +0.4
baz=241
BW06 Boulder Array 84.05 42 P P 13 14 19.8 +0.5
baz=240
PDAR Pinedale Array 84.05 42 P P 13 14 19.4 +0.1
comp=Z,1.3nm,0.8s,baz=223,slow=3.5,SNR=17
PDAR LR LR 13 44 27.1
comp=Z,84nm,21.1s,baz=262,slow=30
NEA2 Nenana 84.09 10 P P 13 14 17.7 -1.0
baz=204,SNR=12
H03S2 Juan Fernandez 84.17 124 T T 14 47 37.6
baz=250,slow=75,SNR=263
H03S1 Juan Fernandez 84.19 124 T T 14 47 40.3
baz=250,slow=75,SNR=93
H03S3 Juan Fernandez 84.19 123 T T 14 47 36.5
baz=250,slow=75,SNR=266
DOT Dot Lake 84.20 13 P P 13 14 19.0 -0.3
DOT IAmb IAmb 13 14 20.7
comp=Z,15nm,1.0s
BOZ Bozeman (W) 84.25 39 P P 13 14 20.7 +0.6
baz=238,SNR=9.7
H03N2 Juan Fernandez 84.28 123 T T 14 47 42.7
baz=257,slow=73,SNR=35
H03N3 Juan Fernandez 84.29 123 T T 14 47 44.0
baz=257,slow=73,SNR=30
H03N1 Juan Fernandez 84.30 123 T T 14 47 48.5
baz=257,slow=73,SNR=27
HDA Harding Lake 84.30 11 P P 13 14 19.5 -0.2
baz=206,SNR=24
HDA Harding Lake 84.30 11 P P 13 14 19.6 -0.2
HDA IAmb IAmb 13 14 21.4
comp=Z,16nm,0.9s
SDCO Great Sand Dun 84.36 48 P P 13 14 21.5 +0.5
baz=243
CCB Clear Creek Bu 84.36 11 P P 13 14 19.7 -0.3
SCRK Sand Creek 84.50 13 P P 13 14 21.1 +0.2
baz=208,SNR=15
TCOL CIGO, UAF Yank 84.56 11 P P 13 14 20.7 -0.3
baz=205,SNR=13
COLA College 84.56 11 iP P 13 14 21.0 0.0
COLA pmax pmax
comp=Z,44nm,0.9s
MDM Murphy Dome 84.57 11 P P 13 14 20.6 -0.6
MDM IAmb IAmb 13 14 22.2
comp=Z,20nm,1.1s
IL31 84.64 11 P P 13 14 20.9 -0.5
ILAR Eielson Array 84.64 11 P P 13 14 21.3 -0.2
comp=Z,6.7nm,1.0s,baz=205,slow=5.7,SNR=40
MSTX Muleshoe 84.68 52 P P 13 14 23.3 +0.8
baz=245
T25A Trinidad 84.86 49 P P 13 14 24.1 +0.7
baz=244
POKR Poker Flat Res 84.86 11 P P 13 14 22.4 -0.1
baz=205,SNR=6.9
833A Chaparral WMA, 85.04 58 P P 13 14 25.3 +1.0
baz=247
Q24A Divide 85.16 47 P P 13 14 25.9 +0.8
baz=243
ISCO Idaho Springs 85.22 46 P P 13 14 26.1 +0.7
baz=242
RLMT Red Lodge 85.42 40 P P 13 14 26.8 +0.7
baz=240
N23A Red Feather La 85.50 45 P P 13 14 26.9 +0.2
baz=242
JCT Junction City 85.55 56 P P 13 14 27.3 +0.4
baz=247
MAW Mawson 85.64 199 P P 13 14 27.2 +0.6
comp=Z,3.3nm,0.6s,baz=132,slow=9.5,SNR=9.0
MAW LR LR 13 50 35.4
comp=Z,128nm,19.8s,baz=66,slow=34
MAW Mawson 85.64 199 P P 13 14 26.6 0.0
MAW pmax pmax
comp=Z,3.0nm,1.3s
MAW Mawson 85.64 199 P P 13 14 26.6 0.0
EGAK Eagle 85.81 13 P P 13 14 25.8 -1.5
EGAK IAmb IAmb 13 14 29.0
comp=Z,12nm,1.0s
AMTX Amarillo 85.88 52 P P 13 14 29.1 +0.6
baz=245
K22A Casper 85.94 43 P P 13 14 29.1 +0.4
baz=242
COLD Coldfoot 86.35 9 P P 13 14 30.7 +0.8
baz=202,SNR=14
ABTX Abilene, Hawle 86.52 54 P P 13 14 32.4 +0.8
baz=247
EGMT Eagleton 86.61 37 P P 13 14 32.3 +0.6
baz=239
BILL Bilibino 86.66 353 ciP P 13 14 31.8 +0.4
BILL e 13 17 57.9
BILL ePPP PPP 13 19 52.1
BILL eSSS SSS 13 34 25.1
BILL pmax pmax
comp=Z,15nm,0.9s
ZEA Zeya 87.19 329 eP P 13 14 34.8 +0.5
ZEA pmax pmax
comp=Z,14nm,1.2s
435B Jarrell 87.43 57 P P 13 14 36.9 +0.9
baz=248
WHTX Lake Whitney, 87.99 56 P P 13 14 39.4 +0.8
baz=248
EPYK Eagle Plains 88.15 14 P P 13 14 39.3 +0.6
baz=215
PLCA Paso Flores 88.20 132 LR LR 13 46 14.2
comp=Z,115nm,21.3s,baz=300,slow=30
HIA Hailar 88.82 323 iP P 13 14 40.5 -1.7
HIA pmax pmax
comp=Z,7.0nm,0.9s
HHC Hu-ho-hao-te 90.36 313 eP P 13 14 47.7 -2.1
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,96nm,5.7s
SYO Syowa Base 90.40 191⇑eP P 13 14 47.4 -1.9
SYO Syowa Base 90.40 191⇓ePcP P 13 14 49.4 +0.1
SYO Syowa Base 90.40 191⇓epP P 13 14 51.6 +2.3
VNA3 Neumayer Olymp 90.69 175 P P 13 14 51.3 +0.6
SNAA Sanae 90.72 177 P P 13 14 51.4 +0.4
SNAA Sanae 90.72 177 iP P 13 14 51.2 +0.3
SNAA pmax pmax
comp=Z,13nm,1.1s
SNAA Sanae 90.72 177 P P 13 14 49.2 -1.7
SNAA IAmb IAmb 13 14 52.4
comp=Z,11nm,1.0s
VNA2 Neumayer--Watz 91.18 176 P P 13 14 53.9 +1.0
VNA1 Neumayer--Stat 91.38 175 P P 13 14 54.8 +1.0
JTS Las Juntas de 91.82 80 iP P 13 14 56.2 -0.8
JTS pmax pmax
comp=Z,13nm,1.0s
MIAR Mount Ida 91.93 54 P P 13 14 58.1 +1.0
baz=250
W39A Magazine 92.00 54 P P 13 14 58.2 +0.9
baz=250
YKA Yellowknife Ar 92.20 23 P P 13 14 58.3 +0.7
comp=Z,1.0nm,0.9s,baz=246,slow=4.6,SNR=2.1
CD2 Chengdu 92.77 301 eP P 13 14 58.7 -2.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ECSD EROS Data Cent 92.97 45 P P 13 15 02.9 +1.2
baz=248
CMAR Chiang Mai Arr 93.09 288 P P 13 15 04.2 +1.4
comp=Z,3.3nm,1.0s,baz=86,slow=3.2,SNR=10
CMAR LR LR 13 53 56.3
comp=Z,50nm,19.1s,baz=166,slow=34
U40A Yellville 93.10 53 P P 13 15 02.7 +0.3
baz=250
W41B Gary Mavity, V 93.17 54 P P 13 15 03.6 +0.9
baz=251
LZH Lanzhou 94.35 306 eP P 13 15 06.5 -1.9
LZH pP PcP 13 15 09.8 +1.0
LZH ePP PP 13 18 57.0 +0.8
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,120nm,6.3s
LZH LR LR
comp=Z,170nm,17.0s
LZH LR LR
comp=Z,180nm,17.3s
LZH LR LR
comp=Z,240nm,19.7s
ULM Lac du Bonnet 95.78 39 LR LR 13 51 38.7
comp=Z,122nm,21.8s,baz=268,slow=31
SONM Songino Array 96.33 318 P P 13 15 17.9 +0.8
comp=Z,0.3nm,0.3s,baz=131,slow=4.0,SNR=2.2
SONM LR LR 13 53 22.9
comp=Z,59nm,21.0s,baz=119,slow=32
TLY Talaya 99.21 321 iP Pdif 13 15 30.1 +0.2
TLY pmax pmax
comp=Z,3.0nm,1.0s
LPAZ La Paz 99.26 110 LR LR 13 50 36.0
comp=Z,113nm,21.2s,baz=268,slow=30
ZALV Zalesovo Beam 110.82 322 PKiKP PKiKP 13 20 21.7 +0.7
comp=Z,1.3nm,0.6s,baz=333,slow=0.3,SNR=3.8
MKAR Makanchi Array 112.20 314 PKiKP PKiKP 13 20 23.9 0.0
comp=Z,1.5nm,0.7s,baz=302,slow=1.2,SNR=8.6
KURK Kurchatov 114.64 318 ciPKiKP PKPdf 13 20 29.1 +0.7
KURK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 119.53 321 ciPKiKP PKPdf 13 20 38.4 +0.7
BRVK pmax pmax
comp=Z,12nm,1.0s
ARU Arti 125.09 328 iPKiKP PKPdf 13 20 47.1 -1.2
ARU 13 27 59.0
ARCES ARCESS Array B 126.75 352 PKP PKPdf 13 20 51.3 +0.1
comp=Z,1.1nm,0.6s,baz=29,slow=2.1,SNR=9.8
BOSA Boshof 130.55 202 PKP PKPdf 13 21 01.2 +1.3
comp=Z,2.7nm,1.0s,baz=101,slow=1.7,SNR=4.5
GEYT Alibeck 130.62 305 PKP PKPdf 13 20 59.5 0.0
comp=Z,2.8nm,0.7s,baz=104,slow=4.6,SNR=2.6
FINES FINESS Array B 134.04 347 PKP PKPdf 13 21 05.9 +0.8
comp=Z,1.1nm,0.7s,baz=46,slow=4.0,SNR=1.9
OBN Obninsk 136.03 335⇑ePKiKP PKPdf 13 21 08.7 -0.3
OBN e 13 23 49.6
OBN e 13 28 12.6
OBN pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 139.73 319 iPKiKP PKPdf 13 21 15.4 -1.0
KIV pmax pmax
comp=Z,12nm,0.9s
KIV MLR MLR
comp=Z,167nm,24.0s
AKASG Malin Array Be 142.27 336 PKhKP PKPpre 13 21 16.0
comp=Z,0.7nm,0.4s,baz=37,slow=3.8,SNR=2.9
AKASG Malin Array Be 142.27 336 PKHKP PKPpre 13 21 16.0
KMBO Kilima Mbogo 144.34 242 PKP PKPdf 13 21 26.7 +1.0
comp=Z,5.2nm,0.5s,baz=77,slow=4.3,SNR=16
LVV L'vov 144.86 340 ePKiKP PKPab 13 21 24.2 0.0
IBBN Ibbenburen 145.36 359 ePKPbc PKPbc 13 21 26.6 +0.8
baz=7.1,slow=2.9
ASSE Asse, Remlinge 145.39 355 ePKPbc PKPbc 13 21 26.4 +0.6
baz=7.1,slow=2.9
CLZ Clausthal 145.70 356 ePKPbc PKPdf 13 21 27.7 +1.1
baz=7.1,slow=2.9
OJC Ojcow 145.72 345 ePKP PKPdf 13 21 27.7 +1.0
KSP Ksiaz 145.91 349 ePKP PKPbc 13 21 28.5 +0.9
CLL Collm 145.97 353 iPKPbc PKPdf 13 21 28.2 +1.2
comp=Z,53nm,1.1s
CLL iPKiKP PKiKP 13 21 31.6 +0.4
comp=Z,24nm,1.0s
CLL Collm 145.97 353 iPKP2 PKPdf 13 21 28.2 +1.2
CLL pmax pmax
comp=Z,53nm,1.1s
CLL Collm 145.97 353 ePKPbc PKPdf 13 21 28.1 +1.2
baz=7.1,slow=2.9
GTTG Gottingen 146.02 356 ePKPbc PKPdf 13 21 28.5 +1.4
baz=7.1,slow=2.9
CHVC Chvalec 146.19 349 ePKP PKPbc 13 21 29.2 +0.7
CHVC ex x 13 21 33.5
DSIG Ostas 146.20 349 ePKP PKPbc 13 21 29.4 +0.9
BUG Bochum--Univer 146.24 359 ePKPbc PKPdf 13 21 29.0 +1.6
baz=7.1,slow=2.9
BRG Berggiesshubel 146.26 351 iPKP PKPdf 13 21 29.1 +1.6
comp=Z,36nm,1.3s
BRG e 13 21 46.7
comp=Z,22nm,1.5s
BRG Berggiesshubel 146.26 351 iPKP2 PKPdf 13 21 29.1 +1.6
BRG pmax pmax
comp=Z,36nm,1.3s
BRG pmax pmax
comp=Z,22nm,1.5s
BRG Berggiesshubel 146.26 351 ePKPbc PKPdf 13 21 29.1 +1.6
baz=7.1,slow=2.9
UPC Upice 146.28 349 ePKP2 PKPbc 13 21 29.7 +0.9
UPC Upice 146.28 349 ePKP PKPbc 13 21 29.7 +0.9
UPC epPKP PKiKP 13 21 32.9 +1.0
FBE Freiberg 146.30 352 ePKPbc PKPbc 13 21 29.6 +0.9
baz=7.1,slow=2.9
BURAR Bucovina Array 146.31 337 ⇑P PKPab 13 21 30.8 +0.9
BURAR Bucovina Array 146.31 337 ⇑PKP2 PKPab 13 21 30.8 +0.9
NIE Niedzica 146.33 344 ePKP PKPbc 13 21 30.3 +1.4
DPC Dobruska-Polom 146.37 348 ePKP2 PKPbc 13 21 30.0 +0.9
DPC Dobruska-Polom 146.37 348 ePKP PKPbc 13 21 30.0 +0.9
DPC ex x 13 21 47.9
UZH Uzhgorod 146.45 341 ePKIKP PKPdf 13 21 28.4 +0.5
UZH e 13 21 31.3
UZH i 13 21 41.6
OKC Ostrava-Krasne 146.48 346 ePKIKP PKPdf 13 21 28.8 +0.9
OKC Ostrava-Krasne 146.48 346 ePKP PKPdf 13 21 28.8 +0.9
BIZ Bicaz 146.52 335 ⇑P PKPab 13 21 31.7 +1.1
KRLC Kraliky 146.54 348 ePKP2 PKPbc 13 21 30.3 +0.7
KRLC Kraliky 146.54 348 ePKP PKPbc 13 21 30.3 +0.7
KRLC ex x 13 21 45.6
MORC Moravsky Berou 146.67 347 ⇑P PKPbc 13 21 31.6 +1.6
MORC Moravsky Berou 146.67 347 eP PKPbc 13 21 30.7 +0.7
MORC Moravsky Berou 146.67 347 ⇑PKP2 PKPbc 13 21 31.6 +1.6
UBBA Unterbreizbach 146.74 356 ePKPbc PKPdf 13 21 29.9 +1.7
baz=7.1,slow=2.9
MOX Moxa 146.78 354 ePKPbc PKPbc 13 21 30.5 +0.3
baz=7.1,slow=2.9
MOX eL L 14 24 06.6
comp=Z,58nm,20.8s
PLN Plauen 146.87 353 ePKPbc PKPbc 13 21 31.0 +0.5
baz=7.1,slow=2.9
WERD Werda 146.89 353 ePKPbc PKPbc 13 21 31.1 +0.5
baz=7.1,slow=2.9
TANN Tannenbergstha 146.91 353 ePKPbc PKPbc 13 21 31.2 +0.6
baz=7.1,slow=2.9
GUNZ Gunzen 146.97 353 ePKPbc PKPbc 13 21 31.8 +1.0
baz=7.1,slow=2.9
PRU Pruhonice 147.03 350 ePKP2 PKPbc 13 21 31.9 +1.0
PRU Pruhonice 147.03 350 ePKP PKPbc 13 21 31.9 +1.0
PRU epPKP PKiKP 13 21 34.7 +1.3
PRU ex x 13 21 50.0
CFR Carcaliu 147.04 331 ⇑P PKPdf 13 21 31.2 +2.2
CFR Carcaliu 147.04 331 ⇑PKIKP PKPdf 13 21 31.2 +2.2
WERN Wernitzgruen 147.04 353 ePKPbc PKPbc 13 21 31.9 +0.9
baz=7.1,slow=2.9
MEM Membach 147.08 0 PKiKP PKPbc 13 21 31.8 +0.8
BSTI Sart Tilman 147.10 1 PKiKP PKPbc 13 21 32.2 +1.2
VRI Vrincioaia 147.13 333 ⇑P PKPbc 13 21 31.9 +0.5
VRI Vrincioaia 147.13 333 ⇑PKP2 PKPbc 13 21 31.9 +0.5
SNF Seneffe 147.13 2 PKiKP PKPbc 13 21 32.0 +0.9
TOPG Topolog 147.15 331 ⇑P PKPbc 13 21 32.5 +1.1
PLOR Plostina 147.17 333 ⇑P PKPbc 13 21 32.7 +1.2
PLOR Plostina 147.17 333 ⇑PKP2 PKPbc 13 21 32.7 +1.2
BCLA Clavier 147.26 1 PKiKP PKPbc 13 21 32.2 +0.7
VRAC Vranov 147.31 348 ⇑P PKPbc 13 21 33.7 +2.0
VRAC Vranov 147.31 348 eP PKPbc 13 21 32.7 +0.9
VRAC Vranov 147.31 348 ⇑PKP2 PKPbc 13 21 33.7 +1.9
BMRD Maredsous 147.36 2 PKiKP PKPbc 13 21 32.4 +0.6
MANZ Manzenberg 147.37 353 ePKPbc PKPbc 13 21 32.8 +0.9
baz=7.1,slow=2.9
TNS Taunus Mts 147.42 358 ePKPbc PKPbc 13 21 32.6 +0.6
baz=7.1,slow=2.9
HARR Harsova 147.50 331 ⇑P PKPbc 13 21 33.9 +1.5
HARR Harsova 147.50 331 ⇑PKP2 PKPbc 13 21 33.9 +1.5
JAVC Velka Javorina 147.50 346 eP PKPbc 13 21 34.0 +1.6
DOU Dourbes 147.56 2 PKiKP PKPbc 13 21 33.1 +0.8
VYHS Vyhne 147.56 344 ePKP2 PKPbc 13 21 33.8 +1.3
VYHS Vyhne 147.56 344 ePKP PKPbc 13 21 33.8 +1.3
VYHS e 13 21 36.1
ROTZ Rotzenmuhle 147.58 353 ePKPbc PKPbc 13 21 33.1 +0.6
baz=7.1,slow=2.9
KRUC Moravsky 147.59 348 eP PKPbc 13 21 33.0 +0.5
DOPR Dopca 147.60 335 ⇑P PKPbc 13 21 33.8 +1.2
BRTR Keskin Array B 147.69 319 PKPbc PKPbc 13 21 33.9 +0.6
comp=Z,12nm,0.8s,baz=122,slow=1.9,SNR=27
GRF Grafenberg Arr 147.76 354 eL L 14 16 37.6
comp=Z,60nm,21.0s
MLR Muntele Rosu 147.76 334 ⇑P PKPbc 13 21 33.9 +0.6
MLR Muntele Rosu 147.76 334 ⇑PKP2 PKPbc 13 21 33.9 +0.6
PSZ Piszkesteto 147.80 343 ⇑P PKPbc 13 21 34.9 +1.7
PSZ Piszkesteto 147.80 343 ⇑PKP2 PKPbc 13 21 34.9 +1.7
KHC Kasperske Hory 148.02 351 ePKP2 PKPbc 13 21 34.5 +0.8
KHC pmax pmax
comp=Z,2.0nm,0.4s
KHC Kasperske Hory 148.02 351 ePKP PKPbc 13 21 34.5 +0.8
KHC epPKP PKPab 13 21 37.5 +1.1
KHC ex x 13 21 50.8
WLF Walferdange 148.02 0 PKiKP PKPbc 13 21 35.2 +1.6
WLF Walferdange 148.02 0 ePKPbc PKPbc 13 21 34.5 +0.9
baz=7.1,slow=2.9

MODS	**Modra-Piesok**	**148.05**	**346**	*e*PKP2	**PKPbc**	**13 21 34.4**	**+0.6**
MODS	**Modra-Piesok**	**148.05**	**346**	*e*PKP	**PKPbc**	**13 21 34.4**	**+0.6**
MODS				*e*		13 21 37.4	
WET	**Wettzell**	**148.10**	**352**	*e*PKPbc	**PKPbc**	**13 21 34.4**	**+0.5**
	baz=7.1,slow=2.9						
ANTO	**Ankara**	**148.14**	**320**	⇑P	**PKPbc**	**13 21 35.0**	**+0.7**
ANTO	**Ankara**	**148.14**	**320**	⇑PKP2	**PKPbc**	**13 21 35.0**	**+0.6**
VOIR		**148.17**	**335**	⇑P	**PKPbc**	**13 21 36.2**	**+1.9**
VOIR		**148.17**	**335**	⇑PKP2	**PKPbc**	**13 21 36.2**	**+1.9**
GEC2	**GERESS Array S**	**148.28**	**351**	*e*PKPbc	**PKPbc**	**13 21 34.9**	**+0.5**
	baz=7.1,slow=2.9						
GERES	**GERESS Array B**	**148.28**	**351**	PKPbc	**PKPbc**	**13 21 34.8**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=41,slow=2.5,SNR=32						
ARR	**Arges**	**148.40**	**335**	⇑P	**PKPbc**	**13 21 36.4**	**+1.5**
SIRR	**Siria**	**148.73**	**339**	⇑P	**PKPbc**	**13 21 36.4**	**+0.8**
CONA	**Conrad Observa**	**148.78**	**348**	*i* PKiKP	**PKPbc**	**13 21 36.7**	**+0.9**
	comp=Z,23nm,1.1s,SNR=17						
MOA	**Molln**	**149.15**	**350**	*i* PKiKP	**PKPbc**	**13 21 37.2**	**+0.6**
	comp=Z,12nm,1.2s						
BZS	**Buzias**	**149.31**	**339**	⇑P	**PKPbc**	**13 21 37.8**	**+0.7**
BZS	**Buzias**	**149.31**	**339**	⇑PKP2	**PKPbc**	**13 21 37.8**	**+0.7**
BFO	**Black Forest**	**149.32**	**357**	*e*PKPbc	**PKPbc**	**13 21 37.7**	**+0.7**
	baz=7.1,slow=2.9						
ARSA	**Arzberg**	**149.49**	**348**	*i* PKiKP	**PKPbc**	**13 21 38.2**	**+0.7**
	comp=Z,11nm,1.3s						
HERR	**Herculane**	**149.66**	**337**	⇑P	**PKPbc**	**13 21 38.6**	**+0.6**
RETA	**Reutte**	**149.98**	**354**	*i* PKiKP	**PKPbc**	**13 21 39.3**	**+0.5**
	comp=Z,14nm,1.0s,SNR=6.2						
MDVR	**Moldovita**	**150.00**	**338**	⇓P	**PKPbc**	**13 21 38.9**	**0.0**
WATA	**Walderalm**	**150.04**	**353**	*i* PKiKP	**PKPbc**	**13 21 39.9**	**+0.8**
	comp=Z,22nm,1.3s						
KBA	**Koelnbreinsper**	**150.05**	**350**	*i* PKiKP	**PKPbc**	**13 21 39.4**	**+0.3**
	comp=Z,9.8nm,1.2s						
MOTA	**Moosalm**	**150.09**	**354**	*i* PKiKP	**PKPbc**	**13 21 39.9**	**+0.7**
	comp=Z,29nm,1.2s,SNR=9.6						
KOGS	**Kog**	**150.10**	**346**	*i* PKPbc	**PKPbc**	**13 21 39.1**	**+0.1**
WTTA	**Wattenberg**	**150.11**	**353**	*i* PKiKP	**PKPbc**	**13 21 40.0**	**+0.7**
	comp=Z,14nm,0.7s,SNR=8.8						
SOKA	**Soboth**	**150.14**	**348**	*i* PKiKP	**PKPbc**	**13 21 39.4**	**+0.2**
	comp=Z,16nm,1.3s,SNR=8.1						
PERS	**Pernice**	**150.16**	**348**	*i* PKPbc	**PKPbc**	**13 21 39.1**	**-0.2**
SQTA	**Sankt Quirin**	**150.20**	**353**	*i* PKiKP	**PKPbc**	**13 21 40.1**	**+0.8**
	comp=Z,23nm,1.3s						
DAVA	**Damuels**	**150.26**	**355**	*i* PKiKP	**PKPbc**	**13 21 40.7**	**+1.1**
	comp=Z,23nm,1.2s,SNR=8.0						
OBKA	**Obir**	**150.39**	**349**	*i* PKPbc	**PKPbc**	**13 21 39.3**	**-0.5**
	comp=Z,10nm,1.6s						
MYKA	**Terra Mystica**	**150.44**	**350**	*i* PKiKP	**PKPbc**	**13 21 39.8**	**-0.1**
	comp=Z,5.7nm,0.6s						
FETA	**Feichten**	**150.45**	**354**	*i* PKiKP	**PKPbc**	**13 21 40.7**	**+0.7**
	comp=Z,22nm,1.2s,SNR=7.8						
ABTA	**Abfaltersbach**	**150.50**	**351**	*i* PKiKP	**PKPbc**	**13 21 40.0**	**0.0**
	comp=Z,20nm,1.0s,SNR=8.3						
LJU	**Ljubljana**	**150.84**	**348**	*i* PKPbc	**PKPbc**	**13 21 41.3**	**+0.5**
VTS	**Vitosha**	**151.23**	**334**	⇑P	**PKPbc**	**13 21 42.7**	**+0.7**
VTS	**Vitosha**	**151.23**	**334**		**PKPbc**	**13 21 42.7**	**+0.7**
TORD	**Torodi Ar. Bea**	**173.68**	**134**	PKP	**PKPdf**	**13 21 58.0**	**-0.6**
	comp=Z,2.5nm,1.0s,baz=25,slow=1.3,SNR=7.8						
TORD				PKPab	**PKPab**	**13 23 28.6**	**+0.4**
	comp=Z,2.5nm,1.0s,baz=252,slow=1.4,SNR=6.1						

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*MAN **01** 13:01:51.3, 17°.58N×119°.98E, h1km, MS4.0*
*IDC **01** 13:01:58.2±3.0, 17°.59N×120°.39E, h96km±31km, mb3.3/11, mb1 3.4/11, mb1mx3.2/55, mbtmp3.6/11, MS3.0/4, Ms1 3.1/4, ms1mx2.8/27, Error ellipse: s-maj=35.1km s-min=16.0km az=68.0*
ISC 01 13:01:54.3±1.7**, 17°.75N**±0°.07×**119°.96E**±0°.08**, h44**km±20km**, n20,** σ2s45/24**, mb3.6**/9**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.22**	**85**	*e*P	**Pn**	**13 02 11.4**	**-3.5**
APYP				*e*S	**Sn**	**13 02 31.7**	**+1.4**
BOLP	**Bolinao**	**1.36**	**182**	*e*P	**Pn**	**13 02 14.0**	**-2.8**
BOLP				*e*S	**Sn**	**13 02 32.9**	**-0.9**
CAUP	**Cauayan**	**1.95**	**114**	*e*P	**Pn**	**13 02 25.1**	**+0.2**
CAUP				*e*S	**Sn**	**13 02 52.0**	**+3.8**
SCZP	**Santa Cruz**	**1.97**	**181**	*e*P	**Pn**	**13 02 22.8**	**-2.3**
SCZP				*e*S	**Sn**	**13 02 50.9**	**+2.3**
BALP	**Baler**	**2.53**	**142**	*e*P	**Pn**	**13 02 32.8**	**0.0**
BALP				*e*S	**Sn**	**13 03 02.2**	**-0.2**
TGY	**Tagaytay City**	**3.75**	**165**	P	**Pn**	**13 02 51.7**	**+2.1**
	44nm,0.3s,baz=188,slow=7.2,SNR=5.4						
TGY				S	**Sn**	**13 03 37.0**	**+4.5**
	34nm,0.3s,baz=184,slow=4.7,SNR=1.9						
LQP	**Lukban**	**3.92**	**157**	⇑*e*P	**Pn**	**13 02 52.4**	**+0.1**
DAV	**Davao City (W)**	**11.95**	**152**	LR	LR	13 09 41.4	
	comp=Z,91nm,18.8s,baz=140,slow=40						
JNU	**Nakatsue**	**18.18**	**31**	LR	LR	13 13 08.6	
	comp=Z,63nm,19.4s,baz=193,slow=37						
CMAR	**Chiang Mai Arr**	**19.99**	**275**	P	**Pn**	**13 06 26.2**	**+0.9**
	0.9nm,0.8s,baz=93,slow=10.0,SNR=5.4						
CMAR				LR	LR	13 13 44.8	
	comp=Z,32nm,21.0s,baz=100,slow=35						
KSRS	**Korea Array**	**20.84**	**18**	P	**P**	**13 06 30.9**	**-1.4**
	0.8nm,0.7s,baz=202,slow=9.3,SNR=5.2						
KSRS				LR	LR	13 14 39.6	
	comp=Z,36nm,21.8s,baz=206,slow=36						
SONM	**Songino Array**	**32.00**	**343**	P	**P**	**13 08 18.9**	**+2.4**
	0.4nm,0.4s,baz=150,slow=6.7,SNR=1.6						
WRA	**Warramunga Arr**	**40.03**	**159**	P	**P**	**13 09 21.4**	**-3.8**
	0.2nm,0.5s,baz=338,slow=9.3,SNR=1.9						
MKAR	**Makanchi Array**	**42.40**	**321**	P	**P**	**13 09 46.6**	**+2.1**
	1.1nm,0.8s,baz=116,slow=8.2,SNR=9.3						
ASAR	**Alice Springs**	**43.36**	**161**	P	**P**	**13 09 48.5**	**-4.0**
	0.3nm,0.7s,baz=340,slow=7.1,SNR=8.0						
ZALV	**Zalesovo Beam**	**45.17**	**331**	P	**P**	**13 10 07.0**	**+0.5**
	0.3nm,0.3s,baz=134,slow=8.2,SNR=1.7						
KURBB	**Kurchatov Arra**	**46.47**	**324**	P	**P**	**13 10 18.9**	**+2.0**
	1.4nm,0.6s,baz=121,slow=8.5,SNR=17						
FINES	**FINESS Array B**	**76.42**	**330**	P	**P**	**13 13 39.2**	**+0.2**
	1.7nm,0.9s,baz=31,slow=8.3,SNR=4.2						
HFS	**Hagfors**	**82.60**	**331**	P	**P**	**13 14 12.4**	**-0.2**
	1.6nm,0.7s,baz=70,slow=1.7,SNR=2.0						
NOA	**NORSAR Array B**	**83.36**	**332**	P	**P**	**13 14 16.1**	**-0.5**
	0.4nm,0.6s,baz=64,slow=4.7,SNR=3.4						

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*BJI **01** 13:12:54.0±0.0, 17°.72N×146°.50E, h98km, mB5.1/29, mb4.7/38*
*MOS **01** 13:12:55.3±0.9, 17°.58N×146°.42E, h114km, mb4.9/35, Error ellipse: s-maj=13.3km s-min=5.5km az=95.3*
*NEIC **01** 13:12:56.1±2.1, 17°.51N±0°.05×146°.53E±0°.10, h109km±5km, mb5.0/135, Error ellipse: s-maj=13.8km s-min=7.8km az=82.0*
*KLM **01** 13:12:57.0, 17°.47N×146°.57E, h118km, mb5.2*
*IDC **01** 13:12:57.0±1.0, 17°.52N×146°.38E, h115km±8km, mb4.4/26, mb1 4.6/28, mb1mx4.5/37, mbtmp4.8/28, MS3.7/14, Ms1 3.7/14, ms1mx3.5/33, Error ellipse: s-maj=15.0km s-min=6.9km az=93.0*
*GCMT **01** 13:12:59.1±0.2, 17°.53N±0°.01×146°.79E±0°.02, h102km±2km, MW5.0/120, Moment Tensor Solution. s52,c57; s120,c189; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.51±.12; $M_{\theta\theta}$1.30±.12; $M_{\phi\phi}$-1.81±.11; $M_{r\theta}$-2.80±.06; $M_{\theta\phi}$2.61±.09; $M_{\phi r}$0.60±.07; Best double couple: $M_0$4.19800×10^{16} NP1:ϕ_s193.00000°, δ47.00000°, λ173.00000°. NP2:ϕ_s288.00000°, δ85.00000°, λ44.00000°. Principal axes: T 4.2050, Plg33.0000°, Azm160.0000°; N -0.0170, Plg46.0000°, Azm293.0000°; P -4.1910, Plg25.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 13:12:56.2±0.6**, 17°.55N**±0°.03×**146°.50E**±0°.06**, h111**km±4km**, n342,** σ1s32/325**, mb5.0**/137**, 17C-4D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**1.42**	**212**		**Pn**	**13 13 22.0**	**-0.2**
GUMO	**Guam**	**4.24**	**202**	P	**Pn**	**13 13 59.3**	**+0.4**
	176nm,0.3s,baz=111,slow=4.8,SNR=76						
GUMO				S	**Sn**	**13 14 46.0**	**-1.5**
	589nm,0.3s,baz=318,slow=23,SNR=12						
GUMO	**Guam**	**4.24**	**202**	P	**Pn**	**13 13 59.5**	**+0.6**
GUMO	**Guam**	**4.24**	**202**		**Pn**	**13 13 59.5**	**+0.6**
JCJ	**Chichijima**	**10.30**	**338**	P	**Pn**	**13 15 21.6**	**+0.8**
	14nm,0.3s,baz=250,slow=23,SNR=2.8						
JCJ				S	**Sn**	**13 17 10.0**	**-4.3**
	20nm,0.3s,baz=123,slow=23,SNR=8.3						
JCJ	**Chichijima**	**10.30**	**338**		**Pn**	**13 15 18.3**	**-2.5**
PATS	**Pohnpei**	**15.70**	**131**	Pn	**Pn**	**13 16 27.6**	**-3.7**
PATS				IAmb	IAmb	13 16 34.8	
	comp=Z,160nm,1.0s						
JHJ	**Hachijo jima 2**	**16.64**	**340**	S	**S**	**13 19 50.5**	**-0.7**
	comp=Z,10nm,0.3s,baz=67,slow=23,SNR=2.6						
H11S3	**WAKE ISLAND Hy**	**19.22**	**84**	T	T	13 38 18.1	
	baz=271,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**19.23**	**84**	T	T	13 38 20.9	
	baz=271,slow=75,SNR=32						
H11S2	**WAKE ISLAND Hy**	**19.24**	**84**	T	T	13 38 22.2	
	baz=271,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**19.44**	**80**	T	T	13 38 31.9	
	baz=266,slow=74,SNR=38						
H11N2	**WAKE ISLAND Hy**	**19.45**	**80**	T	T	13 38 34.8	
	baz=266,slow=74,SNR=45						
H11N3	**WAKE ISLAND Hy**	**19.46**	**80**	T	T	13 38 32.5	
	baz=266,slow=74,SNR=37						
MJAR	**Matsushiro Arr**	**20.29**	**340**	P	**P**	**13 17 22.3**	**-0.9**
	comp=Z,8.3nm,0.7s,baz=164,slow=5.3,SNR=26						
MJAR				S	**S**	**13 21 01.8**	**-2.7**
	comp=Z,2.0nm,0.6s,baz=72,slow=27,SNR=2.4						
MJAR				ScP	**ScP**	**13 24 56.4**	**-2.4**
	comp=Z,1.7nm,0.8s,baz=192,slow=3.0,SNR=4.3						
MJAR				LR	LR	13 25 49.6	
	comp=Z,80nm,18.0s,baz=150,slow=38						
MAJO	**Matsushiro**	**20.29**	**340**	*i* P	**P**	**13 17 23.5**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,29nm,0.8s						
MAJO	**Matsushiro**	**20.29**	**340**	P	**P**	**13 17 22.9**	**-0.3**
MAT	**Matsushiro**	**20.29**	**340**	P	**P**	**13 17 22.2**	**-1.0**
MAT				S	**S**	**13 21 02.6**	**-2.0**
MJB9	**Matsu-Tunnel**	**20.29**	**340**	P	**P**	**13 17 22.8**	**-0.4**
JAY	**Jayapura**	**20.74**	**197**	P	**P**	**13 17 28.9**	**+0.7**
	comp=Z,72nm,0.9s,baz=348,slow=6.6,SNR=7.0						
JAY	**Jayapura**	**20.74**	**197**	P	**P**	**13 17 27.5**	**-0.7**
	comp=Z,685nmcomp=Z,61nm,1.0s						
SMPI	**Sarmi**	**20.88**	**202**	P	**P**	**13 17 30.3**	**+0.6**
	comp=Z,46nm,0.8s						
SMPI				S	**S**	**13 21 16.9**	**+0.4**
	comp=Z,46nm,0.8s						
JNU	**Nakatsue**	**20.93**	**321**	P	**P**	**13 17 30.6**	**+0.5**
	comp=Z,4.6nm,0.8s,baz=27,slow=15,SNR=1.6						
JNU	**Nakatsue**	**20.93**	**321**	P	**P**	**13 17 29.7**	**-0.4**
GENI	**Genyem**	**20.97**	**198**	P	**P**	**13 17 30.9**	**+0.3**
	comp=Z,3μmcomp=Z,128nm,1.1s						
GENI				S	**S**	**13 21 16.3**	**-1.9**
	comp=Z,3μmcomp=Z,128nm,1.1s						
RABL	**Rabaul**	**22.32**	**165**	P	**P**	**13 17 46.5**	**+1.6**
RABL				PcP	**PcP**	**13 21 35.4**	**-1.3**
KRVT	**Keravat (AS076**	**22.40**	**165**	P	**P**	**13 17 46.1**	**+0.4**
	comp=Z,115nm,0.9s,baz=209,slow=12,SNR=11						
WAMI	**Wamena**	**22.65**	**201**	P	**P**	**13 17 49.7**	**+1.5**
	comp=Z,90nm,1.0s						
SIJI	**Sorong**	**23.67**	**221**	P	**P**	**13 17 58.3**	**+0.5**
	comp=Z,116nm,0.8s,baz=38,slow=9.3,SNR=24						
ERM	**Erimo**	**24.55**	**354**	*ce*P	**P**	**13 18 03.9**	**-1.6**
ERM				pmax	pmax		
	comp=Z,44nm,1.7s						
FAKI	**Fak Fak**	**24.73**	**216**	P	**P**	**13 18 07.6**	**+0.2**
	comp=Z,57nm,0.7s						
FAKI	**Fak Fak**	**24.73**	**216**	P	**P**	**13 18 07.2**	**-0.2**
FAKI				IAmb	IAmb	13 18 10.3	
	comp=Z,41nm,0.6s						
KSRS	**Korea Array**	**25.69**	**324**	P	**P**	**13 18 15.8**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=146,slow=9.1,SNR=16						
KSRS				ScP	**ScP**	**13 25 11.4**	**-1.5**
	comp=Z,2.9nm,1.0s,baz=148,slow=2.9,SNR=6.8						
KSRS				LR	LR	13 27 23.7	
	comp=Z,158nm,20.6s,baz=126,slow=34						
YUK	**Yuzh-Kuril'sk**	**26.41**	**359**	P	**P**	**13 18 22.9**	**+0.6**
YUK				*i* *PP	**pP**	**13 18 45.3**	**0.0**
YUK				*e*S	**S**	**13 22 47.3**	**-0.2**
ASAJ	**Asahikawa**	**26.68**	**354**	P	**P**	**13 18 26.4**	**+1.6**
	comp=Z,19nm,0.9s,baz=224,slow=17,SNR=16						
PMG	**Port Moresby**	**26.80**	**179**	P	**P**	**13 18 26.2**	**+0.1**
	comp=Z,151nm,0.9s,baz=1.0,slow=6.6,SNR=27						
PMG	**Port Moresby**	**26.80**	**179**	*ce*P	**P**	**13 18 25.8**	**-0.3**
PMG				pmax	pmax		
	comp=Z,175nm,0.9s						
PMG	**Port Moresby**	**26.80**	**179**	P	**P**	**13 18 26.4**	**+0.3**
KMSI	**Cibinong**	**27.84**	**235**	P	**P**	**13 18 36.6**	**+1.1**
	comp=Z,2μmcomp=Z,64nm,0.8s						
VLA	**Vladivostok**	**28.34**	**337**	*i* P	**P**	**13 18 39.1**	**-0.5**
VLA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TEY	**Ternei**	**28.63**	**345**	*e*P	**P**	**13 18 39.4**	**-2.7**
NJ2	**Nanjing**	**28.84**	**305**	*e*P	**P**	**13 18 44.5**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**29.24**	**338**	P	**P**	**13 18 48.5**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=157,slow=13,SNR=5.7						
USRK				ScP	**ScP**	**13 25 21.1**	**-2.5**
	comp=Z,1.3nm,0.7s,baz=142,slow=5.4,SNR=2.4						
YSS	**Yuzh-Sakhalins**	**29.48**	**355**	*e*P	**P**	**13 18 50.2**	**+0.6**
YSS				*e*		13 23 39.1	
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
LUWI	**Luwuk**	**29.79**	**234**	P	**P**	**13 18 53.0**	**+0.2**
MDJ	**Mudanjiang**	**30.49**	**336**	P	**P**	**13 18 59.3**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,200nm,5.0s						
MPSI	**Mapaga**	**31.27**	**240**	P	**P**	**13 19 06.7**	**+0.9**
	comp=Z,14nm,1.0s						
COEN	**Coen**	**31.48**	**186**	P	**P**	**13 19 07.9**	**+0.3**
COEN				IAmb	IAmb	13 19 09.5	
	comp=Z,23nm,0.9s						
TYV	**Tymovskoe**	**33.37**	**356**	*e*P	**P**	**13 19 24.3**	**+0.5**
TYV				pmax	pmax		
	comp=Z,21nm,0.8s						
KLR	**Kul'dur**	**33.78**	**343**	*de*P	**P**	**13 19 27.4**	**0.0**
KLR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MTN	**Manton Dam**	**33.80**	**208**	P	**P**	**13 19 26.7**	**-1.1**
MTN				IAmb	IAmb	13 19 28.0	
	comp=Z,17nm,0.8s						
SPSI	**Sidrap Palu**	**33.96**	**233**	P	**P**	**13 19 30.0**	**+0.8**
	comp=Z,24nm,1.0s						
BNSI	**Bone**	**33.98**	**232**	P	**P**	**13 19 30.9**	**+1.5**
	comp=Z,30nm,1.4s						
GRNR	**Gornyy**	**34.10**	**349**	⇓*i*P	**P**	**13 19 31.3**	**+1.2**
GRNR				*e*S	**S**	**13 24 52.4**	**+4.6**
GRNR				pmax	pmax		
	comp=N,7.0nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GRNR				smax	smax		
	comp=E,5.0nm,0.9s						
GRNR				MLR	MLR		
	comp=E,40nm,17.0s						
GRNR				MLR	MLR		
	comp=N,60nm,13.0s						
GRNR				MLR	MLR		
	comp=Z,90nm,18.0s						
SOEI	**Soe**	**34.91**	**221**	P	**P**	**13 19 37.0**	**-0.6**
	comp=Z,28nm,1.0s						
MTKI	**Muara Teweh, K**	**36.15**	**243**	P	**P**	**13 19 49.7**	**+1.6**
	comp=Z,19nm,1.0s						
PEA0B	**Petropavlovsk-**	**36.55**	**11**	*ce*P	**P**	**13 19 52.5**	**+1.5**
PEA0B	**Petropavlovsk-**	**36.55**	**11**	P	**P**	**13 19 50.7**	**-0.3**
PEA0B				IAmb	IAmb	13 19 53.7	
	comp=Z,18nm,1.1s						
PEA0B				PcP	**PcP**	**13 22 12.9**	**+0.7**
PETK	**Petropavlovsk-**	**36.55**	**11**	P	**P**	**13 19 51.4**	**+0.4**
	comp=Z,9.2nm,0.9s,baz=185,slow=9.0,SNR=17						
PETK				PcP	**PcP**	**13 22 11.9**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=222,slow=5.8,SNR=3.1						
PETK				ScP	**ScP**	**13 25 48.9**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=152,slow=3.0,SNR=8.3						
PETK				LR	LR	13 32 49.7	
	comp=Z,88nm,21.1s,baz=235,slow=33						
PET	**Petropavlovsk**	**36.65**	**12**	⇑*i*P	**P**	**13 19 53.6**	**+1.7**
PET				*e**PP	**pP**	**13 20 15.9**	**+0.2**
PET				*e*S	**S**	**13 25 29.4**	**+2.7**
PET				*e*SS	SnSn	13 27 53.3	-16
PET				pmax	pmax		
	comp=Z,24nm,1.0s						
PET				MLR	MLR		
	comp=Z,100nm,15.0s						
PET				MLR	MLR		
	comp=Z,200nm,15.0s						
SBUM	**Sibu**	**36.84**	**250**	P	**P**	**13 19 55.1**	**+1.2**
SBUM	**Sibu**	**36.84**	**250**	P	**P**	**13 19 56.0**	**+2.0**
KNRA	**Kununurra**	**37.36**	**209**	P	**P**	**13 19 57.4**	**-0.9**
CTAO	**Charters Tower**	**37.41**	**180**	P	**P**	**13 19 58.9**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,24nm,1.1s						
CTAO	**Charters Tower**	**37.41**	**180**	P	**P**	**13 19 58.9**	**+0.3**
CTAO				IAmb	IAmb	13 19 59.5	
	comp=Z,24nm,1.1s						
HHC	**Hu-ho-hao-te**	**37.94**	**315**	*e*P	**P**	**13 20 03.0**	**-0.1**
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,5.7s						
KSM	**Kuching**	**38.98**	**250**	P	**P**	**13 20 13.0**	**+1.0**
ZEA	**Zeya**	**39.09**	**342**	*e*P	**P**	**13 20 12.6**	**+0.2**
ZEA				pmax	pmax		
	comp=Z,32nm,1.8s						
WRAB	**Tennant Creek**	**39.12**	**198**	*ce*P	**P**	**13 20 12.3**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,50nm,1.0s						
WRA	**Warramunga Arr**	**39.13**	**198**	P	**P**	**13 20 12.1**	**-1.0**
	comp=Z,32nm,0.9s,baz=19,slow=9.2,SNR=68						
WRA				PcP	**PcP**	**13 22 21.4**	**+0.8**
	comp=Z,3.3nm,1.0s,baz=13,slow=5.8,SNR=3.7						
WRA				ScP	**ScP**	**13 25 58.2**	**-0.8**
	comp=Z,3.8nm,0.9s,baz=19,slow=4.5,SNR=9.2						
TWSI	**Taliwang, Sumb**	**39.23**	**231**	P	**P**	**13 20 14.4**	**+0.4**
	comp=Z,24nm,0.9s						
PBKI	**Pangkalan Bun**	**39.81**	**243**	P	**P**	**13 20 18.8**	**-0.1**
	comp=Z,7μmcomp=Z,75nm,0.9s						
CD2	**Chengdu**	**40.94**	**297**	*e*P	**P**	**13 20 26.6**	**-1.5**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
FITZ	**Fitzroy Crossi**	**40.94**	**211**	P	**P**	**13 20 27.1**	**-0.9**
SMY	**Shemya**	**41.23**	**25**	P	**P**	**13 20 28.0**	**-2.0**
SMY						13 22 25.7	
SMY				pmax	pmax		
	comp=Z,29nm,0.9s						
SMY	**Shemya**	**41.23**	**25**	P	**P**	**13 20 28.0**	**-2.0**
SMY				IAmb	IAmb	13 20 32.5	
	comp=Z,29nm,0.9s						
SMY				PcP	**PcP**	**13 22 25.7**	**-1.1**
KMI	**Kunming**	**41.31**	**288**	⇑P	P	13 20 42.1	+11
KMI				pmax	pmax		
	comp=Z,11nm,0.6s						
LZH	**Lanzhou**	**41.92**	**305**	⇑P	**P**	**13 20 37.6**	**+1.4**
LZH				pP	pP	13 21 02.0	+1.2
LZH				sP	sP	13 21 14.3	+1.2
LZH				PP	**PnPn**	**13 22 21.5**	**+0.2**
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,97nm,6.0s						
LZH				LR	LR		
	comp=Z,350nm,13.8s						
LZH				LR	LR		
	comp=Z,380nm,14.0s						
LZH				LR	LR		
	comp=Z,490nm,16.7s						
MA2	**Magadan**	**42.08**	**3**	*ce*P	**P**	**13 20 37.8**	**+0.9**
MA2				pmax	pmax		
	comp=Z,51nm,0.9s						
MA2	**Magadan**	**42.08**	**3**	P	**P**	**13 20 38.6**	**+1.7**
AMKA	**Amchitka**	**42.59**	**30**	P	**P**	**13 20 40.5**	**-0.7**
AS31	**Alice Springs**	**42.77**	**197**	P	**P**	**13 20 42.6**	**-0.3**
ASAR	**Alice Springs**	**42.77**	**197**	P	**P**	**13 20 42.4**	**-0.6**
	comp=Z,4.7nm,0.8s,baz=22,slow=6.6,SNR=36						
ASAR				PcP	**PcP**	**13 22 33.2**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=16,slow=3.9,SNR=6.7						
ASAR				ScP	**ScP**	**13 26 12.8**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=16,slow=4.0,SNR=9.0						
ASAR				S	**S**	**13 26 57.4**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=26,slow=19,SNR=2.4						
EIDS	**Eidsvold**	**42.90**	**174**	P	**P**	**13 20 43.4**	**-0.5**
DZM	**Mont Dzumac**	**43.96**	**153**	LR	LR	13 37 00.6	
	comp=Z,151nm,20.9s,baz=18,slow=33						
DZM	**Mont Dzumac**	**43.96**	**153**	P	**P**	**13 20 51.1**	**-1.4**
DZM				PcP	**PP**	**13 22 39.9**	**+2.7**
ULN	**Ulaanbaatar**	**44.14**	**322**	*ce*P	**P**	**13 20 53.0**	**-0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**44.51**	**322**	P	**P**	**13 20 56.6**	**-0.2**
	comp=Z,4.2nm,0.6s,baz=137,slow=7.0,SNR=17						
SONM				ScP	**ScP**	**13 26 17.7**	**-2.6**
	comp=Z,0.9nm,0.7s,baz=90,slow=1.5,SNR=5.2						
SONM				LR	LR	13 39 27.9	
	comp=Z,88nm,18.8s,baz=124,slow=36						
MYKOM	**Kota Tinggi**	**44.71**	**254**	P	**P**	**13 21 01.0**	**+2.3**
CMAR	**Chiang Mai Arr**	**45.13**	**279**	P	**P**	**13 21 02.7**	**+0.7**
	comp=Z,4.8nm,1.0s,baz=70,slow=6.6,SNR=17						
CMAR	**Chiang Mai Arr**	**45.13**	**279**	*i* P	**P**	**13 21 03.4**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA	**Gaotai**	**45.85**	**308**	*e*P	**P**	**13 21 09.8**	**+2.3**
GTA				pP	pwP	13 21 35.1	-0.8
GTA				sP	sP	13 21 48.2	+3.6
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,71nm,5.1s						
GTA				LR	LR		
	comp=Z,290nm,18.4s						
GTA				LR	LR		
	comp=Z,120nm,16.5s						
GTA				LR	LR		
	comp=Z,150nm,15.9s						
YAK	**Yakutsk**	**45.98**	**349**	*e*P	**P**	**13 21 07.5**	**-0.5**
YAK				*e**PP	**pP**	**13 21 32.0**	**-0.6**
YAK				*e*		13 22 45.9	
YAK				*e*S	**S**	**13 27 45.3**	**+0.9**
YAK				*e*		13 30 50.2	
YAK				*e*SS	**SS**	**13 31 10.2**	**-0.2**
YAK				pmax	pmax		
	comp=Z,29nm,0.9s						
YAK				pmax	pmax		
	comp=N,12nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK				smax	smax		
	comp=E,42nm,1.9s						
YAK				smax	smax		
	comp=N,31nm,1.4s						
YAK	**Yakutsk**	**45.98**	**349**	P	**P**	**13 21 08.1**	**+0.1**
YAK				IAmb	IAmb	13 21 09.3	
	comp=Z,25nm,0.7s						
PSA00	**Pilbara Seismi**	**46.84**	**215**	P	**P**	**13 21 14.7**	**-0.5**
MDSI	**Maura Dua**	**47.16**	**246**	P	**P**	**13 21 19.0**	**+1.1**
	comp=Z,11nm,1.0s						
ZAK	**Zakamensk**	**47.52**	**324**	*e*P	**P**	**13 21 19.1**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
LWLI	**Liwa**	**47.52**	**246**	P	**P**	**13 21 21.3**	**+0.5**
TLY	**Talaya**	**47.93**	**325**	*i* P	**P**	**13 21 24.0**	**+0.6**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SDSI	**Sungai Dareh**	**48.02**	**252**	P	**P**	**13 21 28.9**	**+4.3**
MNSI	**Mandailing Nat**	**49.03**	**255**	P	**P**	**13 21 34.6**	**+2.3**
	comp=Z,17nm,1.0s						
STKA	**Stephens Creek**	**49.37**	**185**	P	**P**	**13 21 34.4**	**-0.2**
	comp=Z,38nm,0.9s,baz=350,slow=8.5,SNR=33						
STKA				LR	LR	13 43 22.9	
	comp=Z,99nm,18.5s,baz=222,slow=37						
STKA	**Stephens Creek**	**49.37**	**185**	P	**P**	**13 21 34.7**	**+0.2**
STKA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
STKA	**Stephens Creek**	**49.37**	**185**	P	**P**	**13 21 34.7**	**+0.2**
KCSI	**Kotacane, Aceh**	**49.73**	**259**	P	**P**	**13 21 39.5**	**+1.9**
	comp=Z,19nm,1.0s						
GSI	**Gunungsitoli**	**50.69**	**257**	P	**P**	**13 21 46.8**	**+1.9**
	comp=Z,76nm,1.0s						
GSI	**Gunungsitoli**	**50.69**	**257**	P	**P**	**13 21 45.9**	**+1.0**
SPIA	**Saint Paul Isl**	**50.96**	**29**	P	**P**	**13 21 46.5**	**+0.2**
BBOO	**Buckleboo**	**51.06**	**191**	P	**P**	**13 21 47.6**	**+0.3**
UNV	**Unalaska Valle**	**51.17**	**34**	P	**P**	**13 21 47.5**	**-0.3**
UNV				IAmb	IAmb	13 21 49.6	
	comp=Z,20nm,0.9s						
AKUT	**Akutan**	**51.69**	**34**	P	**P**	**13 21 52.0**	**+0.4**
AFI	**Afiamalu**	**51.70**	**125**	LR	LR	13 42 09.8	
	comp=Z,47nm,18.5s,baz=266,slow=34						
BILL	**Bilibino**	**52.02**	**9**	*d i*P	**P**	**13 21 55.0**	**+1.1**
BILL				*e*		13 23 53.6	
BILL				*e*S	**S**	**13 29 02.5**	**-6.2**
BILL				pmax	pmax		
	comp=Z,47nm,1.0s						
CAN	**Canberra**	**52.64**	**177**	P	**P**	**13 21 59.8**	**+0.8**
CAN				pmax	pmax		
	comp=Z,36nm,0.9s						
CAN	**Canberra**	**52.64**	**177**	P	**P**	**13 21 59.8**	**+0.8**
MORW	**Morawa**	**54.90**	**213**	P	**P**	**13 22 14.8**	**-0.8**
SDPT	**Sand Point**	**54.98**	**34**	P	**P**	**13 22 14.1**	**-1.7**

WMQ	Urumqi	55.63	311	eP	P	13 22 23.2	+2.4
WMQ				sP	sP	13 22 57.4	-1.1
WMQ				LR	LR		
	comp=Z,59nm,15.5s						
WMQ				LR	LR		
	comp=Z,140nm,21.3s						
WMQ				LR	LR		
	comp=Z,57nm,17.5s						
DGZ	Jazzator, Alta	56.88	318	iP	P	13 22 30.4	+0.7
DGZ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SII	Sitkinak Islan	58.72	34	P	P	13 22 41.6	-0.6
OHAK	Old Harbor	59.38	33	P	P	13 22 47.9	+1.2
OHAK				IAmb	IAmb	13 22 48.8	
	comp=Z,21nm,0.9s						
ZAA0	Zalesovo Array	59.38	323	P	P	13 22 45.6	-1.2
ZAA0				IAmb	IAmb	13 22 47.9	
	comp=Z,9.8nm,0.8s						
ZALV	Zalesovo Beam	59.38	323	P	P	13 22 46.6	-0.2
	comp=Z,7.5nm,0.7s,baz=100,slow=6.7,SNR=26						
ZALV	Zalesovo Beam	59.38	323	iP	P	13 22 46.9	+0.1
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SVW2	Sparrevohn	59.46	29	P	P	13 22 48.8	+1.6
SVW2				IAmb	IAmb	13 22 49.9	
	comp=Z,17nm,0.7s						
MK31	Makanchi Array	59.80	314	P	P	13 22 50.6	+0.8
MK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MK31	Makanchi Array	59.80	314	P	P	13 22 50.6	+0.8
MKAR	Makanchi Array	59.80	314	P	P	13 22 50.4	+0.6
	comp=Z,1.9nm,0.6s,baz=92,slow=7.7,SNR=16						
MKAR	Makanchi Array	59.80	314	ceP	P	13 22 50.7	+0.8
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KDAK	Kodiak Island	59.90	33	P	P	13 22 51.3	+1.0
KDAK				pmax	pmax		
	comp=Z,25nm,1.0s						
KDAK	Kodiak Island	59.90	33	P	P	13 22 51.2	+1.0
KDAK				IAmb	IAmb	13 22 52.8	
	comp=Z,25nm,0.9s						
MAKZ	Makanchi	60.02	314	P	P	13 22 52.5	+1.2
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MAKZ	Makanchi	60.02	314	P	P	13 22 52.5	+1.2
TAU	Tasmania Unive	60.17	179	P	P	13 22 50.3	-1.9
TAU				pmax	pmax		
	comp=Z,27nm,1.0s						
TAU	Tasmania Unive	60.17	179	P	P	13 22 50.3	-1.9
RSO	Redoubt South	60.57	30	P	P	13 22 53.8	-1.2
CNPM	China Poot	61.04	31	P	P	13 22 58.1	+0.1
BRLK	Bradley Lake	61.27	31	P	P	13 22 59.9	+0.2
PPLA	Purkeypile	61.56	27	P	P	13 23 03.0	+1.3
PPLA				IAmb	IAmb	13 23 03.6	
	comp=Z,18nm,1.0s						
SKT	Skwentna	61.58	28	P	P	13 23 01.2	-0.4
SKT				IAmb	IAmb	13 23 03.0	
	comp=Z,28nm,1.2s						
O22K	Cooper Landing	62.02	30	P	P	13 23 04.8	+0.2
	baz=256						
SEW	Seward	62.06	31	P	P	13 23 05.2	+0.4
CUT	Chulitna	62.27	28	P	P	13 23 06.0	-0.2
	baz=254						
BPAW	Bear Paw Mtn.	62.44	26	P	P	13 23 08.3	+0.9
TRF	Thorofare Moun	62.55	27	P	P	13 23 08.6	+0.3
PMR	Palmer	62.57	29	P	P	13 23 08.3	+0.1
PMR				pmax	pmax		
	comp=Z,12nm,1.2s						
PMR	Palmer	62.57	29	P	P	13 23 08.3	+0.1
KURK	Kurchatov	62.63	318	ceP	P	13 23 09.4	+0.6
KURK				pmax	pmax		
	comp=Z,18nm,1.3s						
KURK	Kurchatov	62.63	318	P	P	13 23 08.6	-0.1
GHO	Glory Hole Cre	62.71	29	IAmb	IAmb	13 23 10.9	
	comp=Z,20nm,0.9s						
NRIK	Noril'sk	62.94	340	P	P	13 23 10.1	-0.4
	comp=Z,16nm,0.7s,baz=112,slow=8.2,SNR=21						
NRIK				LR	LR	13 50 18.0	
	comp=Z,70nm,20.1s,baz=86,slow=36						
NRIK	Noril'sk	62.94	340⇑	eP	P	13 23 10.5	0.0
NRIK				pmax	pmax		
	comp=Z,19nm,0.7s						
MCK	McKinley	63.21	27	IAmb	IAmb	13 23 13.9	
	comp=Z,27nm,1.2s						
NEA2	Nenana	63.38	26	P	P	13 23 13.5	0.0
	baz=254,SNR=9.0						
SCM	Sheep Creek Mo	63.47	29	P	P	13 23 15.0	+0.8
SCM				pmax	pmax		
	comp=Z,89nm,1.0s						
SCM	Sheep Creek Mo	63.47	29	P	P	13 23 15.0	+0.8
HIN	Hinchinbrook I	63.56	31	IAmb	IAmb	13 23 18.1	
	comp=Z,20nm,1.0s						
FID	Port Fidalgo	63.64	30	P	P	13 23 16.0	+0.7
COLD	Coldfoot	63.70	23	P	P	13 23 16.7	+1.0
	baz=252,SNR=35						
COLD	Coldfoot	63.70	23	P	P	13 23 17.1	+1.5
COLD				IAmb	IAmb	13 23 18.5	
	comp=Z,23nm,1.0s						
DHY	Denali Highway	63.73	28	P	P	13 23 16.6	+0.5
DHY				IAmb	IAmb	13 23 18.6	
	comp=Z,18nm,0.8s						
WRH	Wood River Hil	63.76	26	P	P	13 23 14.9	-1.1
WRH				IAmb	IAmb	13 23 17.4	
	comp=Z,24nm,0.8s						
MDM	Murphy Dome	63.83	26	IAmb	IAmb	13 23 19.3	
	comp=Z,14nm,0.7s						
EYAK	Cordova Ski Ar	63.95	31	IAmb	IAmb	13 23 19.7	
	comp=Z,20nm,0.8s						
TCOL	CIGO, UAF Yank	63.95	26	P	P	13 23 17.3	0.0
	baz=255,SNR=6.3						
COLA	College	63.96	26	P	P	13 23 18.4	+1.1
COLA				pmax	pmax		
	comp=Z,17nm,0.8s						
COLA	College	63.96	26	P	P	13 23 18.4	+1.1
COLA				IAmb	IAmb	13 23 21.1	
	comp=Z,17nm,0.8s						
KLU	Klutina	64.05	30	IAmb	IAmb	13 23 20.5	
	comp=Z,34nm,1.1s						
KSH	Kashi	64.15	306	eP	P	13 23 21.2	+2.0
POKR	Poker Plat Res	64.19	25	P	P	13 23 18.7	-0.1
	baz=256						
HDA	Harding Lake	64.22	26	P	P	13 23 18.6	-0.5
	baz=256,SNR=17						
HDA	Harding Lake	64.22	26	IAmb	IAmb	13 23 20.0	
	comp=Z,21nm,0.9s						
IL31		64.33	26	IAmb	IAmb	13 23 20.6	
	comp=Z,39nm,1.1s						
ILAR	Eielson Array	64.33	26	P	P	13 23 19.7	-0.1
	comp=Z,22nm,1.0s,baz=257,slow=4.9,SNR=126						
ILAR				LR	LR	13 51 23.8	
	comp=Z,60nm,18.8s,baz=256,slow=36						
TOLK	Toolik Lake Re	64.37	21	P	P	13 23 21.4	+1.3
	baz=252,SNR=12						
TOLK	Toolik Lake Re	64.37	21	P	P	13 23 19.7	-0.3
TOLK				IAmb	IAmb	13 23 22.8	
	comp=Z,32nm,1.0s						
MSWZ	Moikau Station	64.44	156	P	P	13 23 19.0	-1.7
RAGM	Ragged Mountai	64.45	31	IAmb	IAmb	13 23 24.0	
	comp=Z,23nm,1.2s						
PAX	Paxson	64.55	28	IAmb	IAmb	13 23 23.4	
	comp=Z,25nm,0.8s						
PLWZ	Palliser	64.57	156	P	P	13 23 20.7	-0.9
HMT	Hamilton	64.64	31	IAmb	IAmb	13 23 23.9	
	comp=Z,12nm,0.8s						
KHZ	Kahutara	64.67	158	P	P	13 23 21.3	-0.9
VRDI	Verde Repeater	65.18	30	P	P	13 23 25.3	-0.2
VRDI				IAmb	IAmb	13 23 27.8	
	comp=Z,24nm,1.0s						
CRQM	Cirque	65.26	31	IAmb	IAmb	13 23 29.1	
	comp=Z,28nm,0.9s						
SCRK	Sand Creek	65.40	27	P	P	13 23 27.2	+0.3
	baz=259,SNR=45						
MCARA	McCarthy VSAT	65.40	30	IAmb	IAmb	13 23 29.7	
	comp=Z,35nm,0.9s						
YAH	Yahtse	65.89	31	IAmb	IAmb	13 23 32.9	
	comp=Z,32nm,1.1s						
BARN	Barnard Glacie	66.01	30	IAmb	IAmb	13 23 33.4	
	comp=Z,14nm,0.9s						
CTGM	Chitina Glacie	66.16	31	IAmb	IAmb	13 23 34.4	
	comp=Z,32nm,1.0s						
PCA	Pinnacle	66.59	32	IAmb	IAmb	13 23 37.0	
	comp=Z,17nm,0.8s						
EGAK	Eagle	66.74	26	P	P	13 23 36.4	+1.1
EGAK				IAmb	IAmb	13 23 38.7	
	comp=Z,11nm,0.8s						
NIL	Nilore	66.75	300	P	P	13 23 36.7	+0.7
NIL				pmax	pmax		
	comp=Z,11nm,0.7s						
NIL	Nilore	66.75	300	P	P	13 23 36.7	+0.7
NIL				IAmb	IAmb	13 23 45.2	
	comp=Z,11nm,0.7s						
BRVK	Borovoye	67.90	321	ceP	P	13 23 43.7	+0.9
BRVK				pmax	pmax		
	comp=Z,12nm,1.3s						
BRVK	Borovoye	67.90	321	P	P	13 23 43.8	+1.0
EPYK	Eagle Plains	68.76	25	P	P	13 23 48.6	+0.7
	baz=265,SNR=19						
JIS	Juneau Island	69.53	34	IAmb	IAmb	13 23 55.6	
	comp=Z,16nm,0.9s						
INK	Inuvik	70.12	23	IAmb	IAmb	13 23 58.0	
	comp=Z,27nm,0.8s						
DLBC	Dease Lake	71.82	33	IAmb	IAmb	13 24 09.9	
	comp=Z,33nm,1.1s						
PPT	Papeete	71.94	116	LR	LR	13 50 00.4	
	comp=Z,58nm,19.2s,baz=298,slow=31						
A36M	Sachs Harbour	72.91	19	P	P	13 24 13.1	+0.3
	baz=274						
SVE	Sverdlovsk	73.25	325	eP	P	13 24 15.3	+0.1
SVE				pmax	pmax		
	comp=Z,8.0nm,0.8s						
C36M	Paulatuk	73.52	22	P	P	13 24 16.9	+0.4
	baz=276						
ARU	Arti	74.44	325c	iP	P	13 24 22.2	+0.1
ARU						13 27 04.7	
ARU				S	S	13 33 49.2	+1.4
ARU				SS	SS	13 38 30.8	-5.1
ARU				pmax	pmax		
	comp=Z,11nm,0.8s						
ARU	Arti	74.44	325	P	P	13 24 21.3	-0.8
A04D	Lummi Island	77.53	43	P	P	13 24 40.9	+1.1
	baz=282						
D03D	Eldon	77.54	44	P	P	13 24 41.7	+1.8
	baz=282,SNR=10						
D04E	Lakebay	77.83	44	P	P	13 24 43.4	+2.0
	baz=283						
J01E	Myrtle Point	77.90	48	P	P	13 24 43.7	+1.7
	baz=283						
G03D	McMinnville, O	77.92	46	P	P	13 24 43.4	+1.4
	baz=283						
B05A	Bryant	78.03	43	P	P	13 24 44.2	+1.6
	baz=283,SNR=5.7						
E04D	Cinebar	78.10	45	P	P	13 24 44.5	+1.5
	baz=283,SNR=5.9						
K02D	Willamette Mer	78.20	49	P	P	13 24 45.1	+1.3
	baz=283						
I03D	Drain, OR	78.20	48	P	P	13 24 45.1	+1.5
	baz=283						
F04A	Amboy	78.34	45	IAmb	IAmb	13 24 47.0	
	comp=Z,25nm,0.8s						
L02E	Cave Junction	78.36	49	P	P	13 24 46.4	+1.7
	baz=283						
H04D	Lebanon	78.44	47	P	P	13 24 46.9	+1.9
	baz=283						
KHMM	Horse Mountain	78.56	51	IAmb	IAmb	13 24 49.2	
	comp=Z,15nm,0.7s						
YKA	Yellowknife Ar	78.64	28	P	P	13 24 46.5	+0.8
	comp=Z,13nm,0.7s,baz=291,slow=5.7,SNR=32						
YKA				LR	LR	13 59 17.1	
	comp=Z,65nm,19.7s,baz=0.0,slow=35						
H04A	Detroit Lake	78.79	47	IAmb	IAmb	13 24 49.2	
	comp=Z,22nm,1.0s						
KIRV	Kirov	78.83	328⇑	eP	P	13 24 47.7	+0.9
I04A	Tendick Farm,	78.84	48	P	P	13 24 48.4	+1.1
	baz=284,SNR=6.7						
C06D	Leavenworth	78.89	43	P	P	13 24 49.0	+1.5
	baz=284						
F05D	White Salmon	79.00	45	P	P	13 24 49.7	+1.6
	baz=284						
M02C	Callahan	79.09	50	P	P	13 24 50.7	+2.0
	baz=284,SNR=6.6						
YBH	Yreka Blue Hor	79.11	50	LR	LR	13 58 15.5	
	comp=Z,23nm,18.6s,baz=267,slow=34						
YBH	Yreka Blue Hor	79.11	50	P	P	13 24 49.7	+0.9
YBH				pmax	pmax		
	comp=Z,13nm,0.8s						
YBH	Yreka Blue Hor	79.11	50	P	P	13 24 49.7	+0.9
J04D	Umpqua Nationa	79.18	48	P	P	13 24 50.5	+1.1
	baz=284,SNR=7.6						
G05D	Wamic, OR	79.25	46	P	P	13 24 50.9	+1.5
	baz=284						
L04D	Klamath Falls	79.29	49	P	P	13 24 50.9	+1.1
	baz=284,SNR=6.4						
N02D	Trinity Center	79.29	50	P	P	13 24 51.9	+2.1
	baz=284,SNR=5.3						
O02D	Mt. Diablo Mer	79.42	51	P	P	13 24 51.6	+1.0
	baz=284,SNR=5.4						
I05D	Terrebonne, OR	79.46	47	P	P	13 24 51.8	+1.2
	baz=284						
K04D	Chiloquin, OR	79.58	49	P	P	13 24 52.9	+1.5
	baz=284						
M04C	Macdoel	79.73	49	P	P	13 24 53.6	+1.3
	baz=284,SNR=8.1						
PRGR	Permogore	79.78	332	eP	P	13 24 50.8	-1.1
J05D	Fort Rock, OR	79.79	48	P	P	13 24 54.1	+1.5
	baz=284,SNR=29						
B08A	Colville Reser	79.80	43	P	P	13 24 53.0	+0.7
B08A				IAmb	IAmb	13 24 54.7	
	comp=Z,30nm,0.8s						
PINE	Pine Mountain	79.87	47	P	P	13 24 54.6	+1.5
O03E	Paynes Creek	80.13	51	P	P	13 24 55.0	+0.7
	baz=285						
K05A	Summer Lake	80.17	48	IAmb	IAmb	13 24 57.5	
	comp=Z,32nm,0.8s						
C09A	Chrisman Ranch	80.63	43	IAmb	IAmb	13 24 59.1	
	comp=Z,18nm,0.8s						
MOD	Modoc Plateau	80.81	49	IAmb	IAmb	13 25 00.4	
	comp=Z,15nm,0.8s						
NEW	Newport	81.25	42	P	P	13 25 01.2	+1.1
	baz=286,SNR=14						
NEW	Newport	81.25	42	IAmb	IAmb	13 25 02.4	
	comp=Z,20nm,0.8s						
J08A	Circle Bar Ran	81.72	47	IAmb	IAmb	13 25 05.3	
	comp=Z,22nm,0.8s						
WVOR	Wild Horse Val	81.86	48	IAmb	IAmb	13 25 06.0	
	comp=Z,18nm,0.9s						
PNTR	Pine Nut	82.08	52	IAmb	IAmb	13 25 07.6	
	comp=Z,24nm,0.9s						
BMO	Blue Mountains	82.10	46	IAmb	IAmb	13 25 07.0	
	comp=Z,19nm,1.1s						
TMCR	Tamitsa	82.12	335	eP	P	13 25 03.6	-0.7
TMCR				pmax	pmax		
	comp=Z,20nm,0.8s						
KLMR	Klimovskoe	82.82	332	eP	P	13 25 04.9	-3.0
KLMR				pmax	pmax		
	comp=Z,11nm,1.1s						
KLMR	Klimovskoe	82.82	332	eP	P	13 25 05.0	-3.0
KLMR				AMP		13 25 10.4	
	comp=Z,11nm,1.1s						
RYN	Ryan	83.02	52	IAmb	IAmb	13 25 12.2	
	comp=Z,16nm,0.9s						
PKM	Mcpherson Peak	83.09	56	P	P	13 25 11.8	+1.6
	baz=287,SNR=5.4						
KVN	Kaiserville	83.21	51	IAmb	IAmb	13 25 13.1	
	comp=Z,19nm,0.8s						
NVAR	Mina Array Bea	83.24	52	P	P	13 25 12.2	+1.3
	comp=Z,13nm,0.7s,baz=264,slow=6.1,SNR=132						
VES	Vestal, Richgr	83.39	55	P	P	13 25 11.7	+0.3
	baz=287						
MSO	Missoula	83.73	43	P	P	13 25 13.8	+0.6
	baz=289						
SNCC	San Nicolas Is	83.79	57	P	P	13 25 14.4	+0.8
	baz=287						
ARCES	ARCESS Array B	83.81	342	P	P	13 25 12.9	0.0
	comp=Z,6.3nm,0.6s,baz=66,slow=7.1,SNR=50						
ARCES				LR	LR	14 06 58.3	
	comp=Z,35nm,19.3s,baz=12,slow=39						
ISA	Isabella, Lake	83.92	55	P	P	13 25 14.5	+0.3
	baz=287,SNR=5.1						
CWC	Cottonwood Cre	84.00	54	P	P	13 25 15.6	+0.8
	baz=287						
HLID	Hailey	84.47	46	P	P	13 25 18.0	+1.0
	baz=289,SNR=14						
EDW2	Edwards Air Fo	84.53	55	P	P	13 25 18.0	+0.6
	baz=288						
MPMC	Manual Prospec	84.57	54	P	P	13 25 18.4	+0.7
	baz=288,SNR=16						
LRMC	Laurel Mtn Rad	84.59	55	P	P	13 25 18.7	+1.0
	baz=288,SNR=12						
CIS	Catalina Islan	84.64	57	P	P	13 25 19.1	+1.2
	baz=288						
ELK	Elko	84.79	49	IAmb	IAmb	13 25 21.3	
	comp=Z,17nm,0.9s						
FURC	Furnace Creek,	84.92	53	P	P	13 25 20.6	+1.4
	baz=288,SNR=5.8						
BFSC	Mount Baldy Ra	84.98	56	P	P	13 25 20.8	+1.1
	baz=288						
TPNV	Topopah Spring	85.24	53	P	P	13 25 22.1	+1.0
	baz=288,SNR=13						
R11A	Troy Canyon, C	85.30	51	P	P	13 25 22.4	+1.1
	baz=289,SNR=24						
GSC	Goldstone, Bar	85.33	55	P	P	13 25 22.4	+1.0
	baz=288,SNR=7.2						
MURC	Murrieta	85.55	56	P	P	13 25 22.9	+0.5
	baz=288						
BOZ	Bozeman (W)	85.66	44	P	P	13 25 23.8	+0.9
	baz=291,SNR=26						
HEC	Hector,Ludlow	85.84	55	P	P	13 25 24.9	+1.0
	baz=288						
TUQ	Turquoise Moun	85.97	54	P	P	13 25 25.3	+0.7
	baz=289						
EGMT	Eagleton	85.99	41	P	P	13 25 25.0	+0.6
	baz=292,SNR=18						
PFO	Pinyon Flats O	86.13	56	P	P	13 25 26.2	+0.8
	baz=288,SNR=7.7						
BELC	Belle Mtn. Jos	86.37	56	P	P	13 25 27.1	+0.5
	baz=289,SNR=6.1						
GMRC	Granite Mounta	86.38	55	P	P	13 25 27.8	+1.2
	baz=289,SNR=8.9						
MONP2	Monument Peak	86.38	57	P	P	13 25 27.5	+0.7
	baz=289,SNR=6.1						
OBN	Obninsk	86.65	327⇑	eP	P	13 25 28.0	+0.7
OBN				e		13 28 54.4	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
IKP	In-Ko-Pah, Jac	86.71	57	P	P	13 25 29.3	+1.1
	baz=289						
DUG	Dugway, Tooele	86.72	49	P	P	13 25 29.0	+0.8
	baz=290,SNR=18						
DUG	Dugway, Tooele	86.72	49	IAmb	IAmb	13 25 30.6	
	comp=Z,12nm,0.8s						
IMW	Indian Meadow	86.73	45	IAmb	IAmb	13 25 31.2	
	comp=Z,16nm,0.8s						
FXWY	Fox Creek	86.76	45	IAmb	IAmb	13 25 31.2	
	comp=Z,12nm,1.0s						
H17A	Grant Village	86.79	44	P	P	13 25 31.1	+2.5
	baz=292,SNR=9.5						
BC3	Big Chuckawall	86.91	56	P	P	13 25 30.2	+1.0
	baz=289,SNR=7.9						
IRM	Iron Mountain	86.99	55	P	P	13 25 30.4	+0.9
	baz=289,SNR=7.0						
RLMT	Red Lodge	87.39	43	P	P	13 25 33.3	+1.9
	baz=292,SNR=9.9						
KBZ	Khabaz	87.49	315	P	P	13 25 31.9	+0.4
	comp=Z,2.1nm,0.7s,baz=219,slow=2.8,SNR=4.4						
KIV	Kislovodsk	87.55	315	eP	P	13 25 31.3	-0.7
KIV				pmax	pmax		
	comp=Z,15nm,0.9s						
GLA	Glamis	87.60	56	P	P	13 25 33.3	+0.8
	baz=289,SNR=5.9						
FFC	Flin Flon	87.64	33	P	P	13 25 33.3	+1.2
FFC				pmax	pmax		
	comp=Z,12nm,0.8s						
FFC	Flin Flon	87.64	33	P	P	13 25 33.3	+1.2
FFC				IAmb	IAmb	13 25 34.0	
	comp=Z,12nm,0.8s						
PDMCI	Parker Dam,Lak	87.72	55	P	P	13 25 34.3	+1.3
	baz=290,SNR=5.1						
BW06	Boulder Array	88.08	46	P	P	13 25 35.5	+0.7
	baz=292						
PDAR	Pinedale Array	88.08	46	P	P	13 25 35.8	+1.0
	comp=Z,1.9nm,0.7s,baz=225,slow=2.3,SNR=23						
FINES	FINESS Array B	88.24	336	P	P	13 25 33.2	-1.5
	comp=Z,4.3nm,0.6s,baz=66,slow=5.6,SNR=24						
U15A	North Rim	88.42	52	IAmb	IAmb	13 25 39.3	
	comp=Z,12nm,0.8s						
LAO	LASA Array	88.72	41	P	P	13 25 38.6	+1.1
	baz=294						
Y14A	Wickenburg	88.73	55	IAmb	IAmb	13 25 40.3	
	comp=Z,14nm,0.6s						
WUAZ	Wupatki	89.44	53	P	P	13 25 42.9	+1.6
	baz=291						
214A	Organ Pipe Nat	89.57	57	P	P	13 25 43.3	+1.6
	baz=290						
O20A	White River Ci	90.00	48	P	P	13 25 44.4	+0.6
	baz=293						
K22A	Casper	90.18	45	P	P	13 25 45.5	+1.0
	baz=294						
PV03	Paradox Valley	90.30	50	IAmb	IAmb	13 25 48.0	
	comp=Z,16nm,1.0s						
W18A	Petrified Fore	90.83	53	P	P	13 25 49.4	+1.7
	baz=292						
MVCO	Mesa Verde	90.95	50	P	P	13 25 49.3	+1.0
	baz=293						
TUC	Tucson	91.05	56	P	P	13 25 49.8	+1.1
	baz=292						
RSSD	Black Hills	91.20	43	P	P	13 25 49.6	+0.3
	baz=296						
N23A	Red Feather La	91.30	46	P	P	13 25 51.6	+1.7
	baz=295,SNR=24						
S22A	4UR Ranch, Cre	91.96	49	P	P	13 25 54.6	+1.5
	baz=294,SNR=13						
ISCO	Idaho Springs	91.98	47	P	P	13 25 54.8	+1.6
	baz=295,SNR=11						
MDND	Maddock	92.22	38	P	P	13 25 54.0	+0.3
	baz=299						
Q24A	Divide	92.66	48	P	P	13 25 57.3	+1.0
	baz=295						
AKASG	Malin Array Be	92.67	326	ceP	P	13 25 56.0	+0.3
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SDCO	Great Sand Dun	92.92	49	P	P	13 25 58.7	+1.2
	baz=295,SNR=12						
121A	Cookes Peak, D	93.32	55	P	P	13 26 01.2	+1.9
	baz=293						
ANMO	Albuquerque	93.37	52	P	P	13 26 00.8	+1.3
	baz=294						
ANMO	Albuquerque	93.37	52	deP	P	13 26 00.5	+1.0
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.3s						
NB2	NORSAR Subarra	93.90	340	P	P	13 25 59.8	-1.4
	comp=Z,0.6nm,0.6s,baz=46,slow=4.8						
NOA	NORSAR Array B	93.90	340	P	P	13 25 59.4	-1.8
	comp=Z,0.9nm,0.7s,baz=46,slow=4.5,SNR=4.4						
NOA				LR	LR	14 11 12.1	
	comp=Z,32nm,20.5s,baz=20,slow=37						
T25A	Trinidad	93.96	49	P	P	13 26 03.3	+1.1
	baz=296						
VNDA	Vanda	95.31	177	P	P	13 26 07.6	+0.6
	comp=Z,2.2nm,0.9s,baz=321,slow=6.0,SNR=15						
VNDA	Vanda	95.31	177	P	P	13 26 06.2	-0.8
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
VNDA	Vanda	95.31	177	P	P	13 26 06.2	-0.8
MNTX	Cornudas Mount	95.52	54	P	P	13 26 10.4	+1.2
	baz=294						
ECSD	EROS Data Cent	96.10	41	P	P	13 26 12.2	+0.6
	baz=301						
TXAR	Lajitas Array	97.85	56	P	Pdif	13 26 20.5	+0.6
	comp=Z,0.6nm,0.8s,baz=305,slow=4.4,SNR=4.1						
SNAA	Sanae	122.96	191	PKPdf	PKPdf	13 31 39.0	+0.1
VNA2	Neumayer--Watz	124.38	190	PKPdf	PKiKP	13 31 42.0	+0.2
VNA3	Neumayer Olymp	124.47	189	PKPdf	PKiKP	13 31 42.0	0.0
VNA1	Neumayer--Stat	124.77	190	PKPdf	PKiKP	13 31 42.9	+0.3
TORD	Torodi Ar. Bea	133.76	309	PKP	PKiKP	13 32 02.6	+0.3
	comp=Z,0.5nm,0.7s,baz=39,slow=4.1,SNR=2.3						
TORD				SKPbc	SKPbc	13 35 17.7	-2.3
	comp=Z,5.2nm,1.0s,baz=45,slow=3.6,SNR=16						
LPAZ	La Paz	146.87	93	PKPbc	PKPab	13 32 28.5	-0.4
	comp=Z,1.8nm,0.5s,baz=234,slow=3.2,SNR=8.0						
LPAZ				SKPbc	SKiKP	13 35 58.5	+2.5
	comp=Z,1.9nm,0.9s,baz=314,slow=1.8,SNR=3.1						
LPAZ	La Paz	146.87	93	PKP2	PKPab	13 32 29.3	+0.4
LPAZ	La Paz	146.87	93		PKPab	13 32 29.3	+0.4
PTGA	Pitinga	149.07	60		PKiKP	13 32 33.7	-0.1

*IDC **01** 13:35:57.4±1.4, 17.°92S×178.°46W, h556km±18km, mb3.4/12, mb1 3.6/14, mb1mx3.5/26, mbtmp4.3/14, Error ellipse: s-maj=25.3km s-min=11.3km az=148.0*

*NEIC **01** 13:35:58.9±1.6, 17.°7S±0.°1×178.°6W±0.°1, h574km±8km, mb4.7/32, Error ellipse: s-maj=20.5km s-min=14.4km az=138.0*

ISC 01 13:35:58.6±0.5, **17.°88S**±0.°10×**178.°43W**±0.°08, **h579**km, **n55**, σ1.14/57, **mb4.5**/25, **1C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.36	272		P	13 37 20.9	+2.6
AFI	Afiamalu	7.51	59	P	P	13 37 51.3	-1.4
	4.1nm,0.3s,baz=190,slow=3.7,SNR=6.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AFI				S	S	13 39 24.5	-1.6
	1.9nm,0.3s,baz=174,slow=21,SNR=1.1						
AFI	Afiamalu	7.51	59	P	P	13 37 49.2	-3.5
DZM	Mont Dzumac	14.82	251	P	P	13 39 05.4	-0.4
	1.0nm,0.3s,baz=119,slow=14,SNR=21						
KNTN	Kanton	16.39	24	P	P	13 39 18.8	-1.8
KNTN				IAmb	IAmb	13 39 20.9	
	comp=Z,35nm,0.8s						
OUZ	Omahuta	18.68	201	P	P	13 39 43.6	+2.5
OUZ				IAmb	IAmb	13 39 55.9	
	comp=Z,52nm,1.4s						
URZ	Urewera	20.68	190	P	P	13 39 57.6	-1.6
	comp=Z,4.1nm,0.6s,baz=60,slow=7.6,SNR=1.6						
EIDS	Eidsvold	29.26	250	P	P	13 41 14.7	-0.5
ARMA	Armidale	29.94	240	P	P	13 41 21.1	0.0
ARMA				IAmb	IAmb	13 42 58.3	
	comp=Z,64nm,1.6s						
CTAO	Charters Tower	33.44	260	P	P	13 41 50.3	-0.5
PATS	Pohnpei	33.62	315	P	P	13 41 51.2	-1.2
CAN	Canberra	33.71	232	P	P	13 41 52.9	-0.1
PMG	Port Moresby	34.44	280	P	P	13 41 58.5	-0.8
PMG				IAmb	IAmb	13 42 01.4	
	comp=Z,21nm,0.8s						
COEN	Coen	37.09	270	P	P	13 42 21.6	+0.5
COEN				IAmb	IAmb	13 42 22.4	
	comp=Z,13nm,0.8s						
TOO	Toolangi	37.18	231	P	P	13 42 22.0	+0.4
STKA	Stephens Creek	38.63	241	P	P	13 42 34.0	+0.6
	comp=Z,8.8nm,0.5s,baz=91,slow=10,SNR=24						
STKA	Stephens Creek	38.63	241	P	P	13 42 33.7	+0.3
JAY	Jayapura	42.88	286	P	P	13 43 07.7	+0.3
	comp=Z,17nm,0.8s,baz=116,slow=3.6,SNR=6.8						
BBOO	Buckleboo	43.41	241	P	P	13 43 10.4	-0.8
HPAH	Hawaii Prepara	43.78	32	P	P	13 43 15.2	+1.0
WR0	Warramunga Arr	44.43	260	P	P	13 43 18.2	-1.1
WB0	Warramunga Arr	44.59	260	P	P	13 43 19.6	-0.9
WB0				IAmb	IAmb	13 43 19.9	
	comp=Z,17nm,1.2s						
WB2	Warramunga Arr	44.61	260	P	P	13 43 19.8	-0.9
WRA	Warramunga Arr	44.62	260	P	P	13 43 19.7	-1.0
	comp=Z,4.6nm,0.3s,baz=93,slow=7.3,SNR=101						
WRA				PcP	PcP	13 44 51.0	+0.1
	comp=Z,0.7nm,0.4s,baz=94,slow=3.3,SNR=2.8						
AS31	Alice Springs	44.78	254	P	P	13 43 21.8	-0.1
AS31				IAmb	IAmb	13 43 22.2	
	comp=Z,13nm,0.8s						
ASAR	Alice Springs	44.78	254	P	P	13 43 21.7	-0.3
	comp=Z,39nm,0.5s,baz=87,slow=9.1,SNR=1238						
ASAR				PcP	PcP	13 44 51.1	-0.3
	comp=Z,1.0nm,0.5s,baz=103,slow=3.8,SNR=4.2						
MTN	Manton Dam	48.78	268	P	P	13 43 51.3	-0.8
MTN				IAmb	IAmb	13 45 43.5	
	comp=Z,18nm,1.2s						
FORT	Forrest	50.01	245	P	P	13 43 59.2	-1.7
FORT				IAmb	IAmb	13 45 08.2	
	comp=Z,60nm,1.2s						
KNRA	Kununurra	50.48	264	P	P	13 44 03.8	-0.6
KNRA				IAmb	IAmb	13 44 04.6	
	comp=Z,14nm,0.7s						
FITZ	Fitzroy Crossi	53.02	261	P	P	13 44 22.2	-0.5
SOEI	Soe	56.05	270	P	P	13 44 43.5	-0.6
SOEI				IAmb	IAmb	13 44 45.8	
	comp=Z,22nm,0.7s						
PSA00	Pilbara Seismi	57.90	255	P	P	13 44 54.8	-1.7
NWAO	Narrogin (SRO)	59.21	242	P	P	13 45 04.6	-0.5
NWAO				IAmb	IAmb	13 46 15.4	
	comp=Z,177nm,2.0s						
NWAO	Narrogin (SRO)	59.21	242	P	P	13 45 04.7	-0.4
NWAO				IAmb	IAmb	13 46 15.3	
	comp=Z,133nm,1.9s						
MORW	Morawa	60.48	246	P	P	13 45 12.6	-1.0
MORW				IAmb	IAmb	13 46 46.9	
	comp=Z,41nm,1.6s						
GIRL	Giralia	62.89	253	P	P	13 45 29.4	+0.1
MJAR	Matsushiro Arr	67.87	323	P	P	13 46 00.1	0.0
	comp=Z,0.8nm,0.4s,baz=156,slow=4.7,SNR=2.9						
KKM	Kota Kinabalu	68.72	284	P	P	13 46 06.8	+1.0
UGM	Wanagama	69.63	268	P	P	13 46 10.5	-0.8
UNV	Unalaska Valle	72.16	7	P	P	13 46 24.3	-0.7
QSPA	South Pole Qui	72.18	180	P	P	13 46 25.3	0.0
SSLB	Suanglung	72.20	303	P	P	13 46 24.3	-1.7
SSLB				IAmb	IAmb	13 49 12.8	
	comp=Z,86nm,1.9s						
KSM	Kuching	72.66	277	P	P	13 46 29.3	+0.4
PETK	Petropavlovsk-	73.64	345	P	P	13 46 34.4	+0.7
	comp=Z,0.4nm,0.6s,baz=125,slow=6.2,SNR=4.5						
NVAR	Mina Array Bea	79.41	44	P	P	13 47 07.2	+1.4
	comp=Z,1.0nm,0.7s,baz=223,slow=8.9,SNR=13						
SCM	Sheep Creek Mo	83.20	14	P	P	13 47 23.6	-0.8
SCM				IAmb	IAmb	13 49 28.2	
	comp=Z,29nm,2.0s						
ILAR	Eielson Array	85.86	13	P	P	13 47 36.5	-0.7
	comp=Z,0.4nm,0.4s,baz=224,slow=4.8,SNR=8.4						
TXAR	Lajitas Array	85.99	58	P	P	13 47 41.0	+2.2
	comp=Z,1.1nm,0.8s,baz=220,slow=6.4,SNR=8.0						
PDAR	Pinedale Array	87.34	43	P	P	13 47 46.0	+1.0
	comp=Z,0.7nm,0.6s,baz=227,slow=3.7,SNR=9.1						
CMAR	Chiang Mai Arr	88.86	290	P	P	13 47 54.6	+2.2
	comp=Z,0.7nm,0.6s,baz=117,slow=5.2,SNR=1.9						
SYO	Syowa Base	89.18	193⇑	eP	P	13 47 51.0	-1.8
SYO	Syowa Base	89.18	193⇓	ePcP	P	13 47 54.0	+1.2
SONM	Songino Array	93.52	319	P	P	13 48 15.3	+2.0
	comp=Z,0.4nm,0.4s,baz=131,slow=4.4,SNR=2.2						
BRTR	Keskin Array B	144.75	315	PKP	PKPdf	13 54 31.3	+0.7
	comp=Z,1.0nm,0.4s,baz=116,slow=2.9,SNR=3.7						
GERES	GERESS Array B	147.58	345	PKPbc	PKPbc	13 54 38.7	+0.2
	comp=Z,0.4nm,0.4s,baz=29,slow=3.0,SNR=3.9						

*UPA **01** 13:41:26.1±1.2, 8°.32N×82°.97W, h14km±2km, MW4.2*
*UCR **01** 13:41:26.4±1.9, 8°.32N×82°.99W, h5km, MD3.7*
ISC 01 13:41:25.5±1.3**, 8°.28N**±0°.05×**82°.98W**±0°.03**, h11**km±10km**,**
n19, σ0.s77/33**, 2C-3D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	Carate, Puerto	0.38	289	eP	Pg	13 41 33.2	+0.2
PTJ1	Puerto Jimnez	0.41	309	eP	Pb	13 41 35.0	+0.2
PTJ1				eS	Sb	13 41 40.8	-0.3
EDSV	San Vito	0.54	1	eS	Sb	13 41 45.3	+0.4
DVD	David	0.55	73⇑	iP	Pg	13 41 36.3	+0.1
DVD				i S	Sg	13 41 44.5	+1.1
LOCO3	Loma Colorada,	0.57	77	eP	Pg	13 41 36.8	+0.1
LOCO3				eS	Sb	13 41 46.4	+0.8
BRU2	Volcan	0.59	29⇓	iP	Pg	13 41 37.2	+0.2
BRU2				i S	Sb	13 41 46.2	0.0
BRU2	Volcan	0.59	29	eP	Pg	13 41 37.2	+0.2
BRU2				eS	Sb	13 41 46.3	0.0
BCO2	Palmira	0.62	46⇓	iP	Pg	13 41 37.8	+0.1
BCO2				i S	Sb	13 41 48.3	+0.9
BC3P	Paso Ancho	0.65	34⇓	iP	Pg	13 41 38.1	-0.1
BC3P				i S	Sb	13 41 49.2	+1.2
CHIR3	Chiriqui UPA,	0.65	80⇑	eP	Pg	13 41 38.1	-0.1
CHIR3				eS	Sg	13 41 47.5	+0.7
EDPN	Palmar Norte	0.83	325	eP	Pg	13 41 40.8	-0.8
EDPN				eS	Sg	13 41 52.3	0.0
DRK0	Durika	1.01	345	eP	Pg	13 41 43.9	-1.2
DRK0				eP	Pg	13 41 43.9	-1.2
DRK0				eS	Sg	13 41 57.8	-0.5
DRK0	Durika	1.01	345	eP	Pg	13 41 44.0	-1.1
CHGR2	Aguacate	1.05	51	eP	Pg	13 41 44.3	-1.6
CHGR2				eS	Sg	13 41 58.6	-0.9
REME3	Remedios, Chir	1.14	93	eP	Pb	13 41 46.3	-0.9
REME3				eS	Sb	13 42 02.1	+0.2
NANC3	Nancito, Chiri	1.23	92	eS	Sb	13 42 04.5	-0.3
LCR2	La Lucha 2	1.77	325	eP	Pn	13 41 57.6	+1.2
CVTR	Volcan Turrial	1.89	336	eP	Pn	13 41 59.2	+1.1
CACAO	El Cacao, Vera	2.29	114	eP	Pn	13 42 03.3	0.0
CACAO				eS	Sn	13 42 30.9	-0.6

*IDC **01** 14:12:00.3±2.7, 21°.10S×178°.75W, h604km±30km, mb3.3/8, mb1 3.5/9, mb1mx3.2/25, mbtmp4.3/9, Error ellipse: s-maj=28.9km s-min=20.7km az=139.0*
*NEIC **01** 14:12:03.2±1.3, 21°.1S±0°.1×179°.0W±0°.1, h636km±10km, mb4.0/15, Error ellipse: s-maj=20.4km s-min=13.0km az=162.0*
ISC 01 14:12:01.9±0.8**, 21°.1S**±0°.1×**178°.9W**±0°.1**, h619**km**, n36,**
σ0.s86/37**, mb3.9**/16**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.39	319	P	P	14 13 33.7	+1.9
URZ	Urewera	17.46	190	P	P	14 15 30.7	-0.9
	0.8nm,0.3s,baz=254,slow=3.8,SNR=8.9						
URZ	Urewera	17.46	190	IAmb	IAmb	14 15 47.2	
	comp=Z,13nm,1.1s						
CTAO	Charters Tower	32.59	265	P	P	14 17 45.5	+0.7
CTAO				IAmb	IAmb	14 17 46.1	
	comp=Z,4.7nm,0.7s						
TOO	Toolangi	34.87	234	P	P	14 18 04.3	+0.7
STKA	Stephens Creek	36.77	245	P	P	14 18 20.0	+0.7
	comp=Z,1.9nm,0.6s,baz=87,slow=12,SNR=3.3						
STKA	Stephens Creek	36.77	245	P	P	14 18 19.7	+0.4
COEN	Coen	36.77	275	P	P	14 18 19.4	-0.1
COEN				IAmb	IAmb	14 18 19.9	
	comp=Z,3.3nm,0.9s						
BBOO	Buckleboo	41.53	244	P	P	14 18 56.6	-0.7
BBOO				IAmb	IAmb	14 19 08.7	
	comp=Z,7.8nm,0.9s						
JAY	Jayapura	43.43	290	P	P	14 19 12.8	+0.4
	comp=Z,20nm,1.1s,baz=352,slow=17,SNR=4.1						
WR0	Warramunga Arr	43.49	263	P	P	14 19 12.6	-0.2
AS31	Alice Springs	43.56	257	P	P	14 19 13.7	+0.4
ASAR	Alice Springs	43.56	257	P	P	14 19 13.5	+0.2
	comp=Z,5.6nm,0.7s,baz=96,slow=7.5,SNR=107						
ASAR				PcP	PcP	14 20 46.8	+0.1
	comp=Z,0.7nm,0.6s,baz=101,slow=3.9,SNR=6.6						
ASAR				ScP	ScP	14 23 41.6	+1.4
	comp=Z,0.5nm,0.8s,baz=106,slow=4.7,SNR=4.7						
ASAR				S	S	14 24 57.2	-2.0
	comp=Z,0.6nm,0.7s,baz=91,slow=14,SNR=5.8						
WB0	Warramunga Arr	43.66	263	P	P	14 19 14.1	0.0
WB2	Warramunga Arr	43.67	263	P	P	14 19 13.9	-0.3
WRA	Warramunga Arr	43.68	263	P	P	14 19 14.2	0.0
	comp=Z,2.7nm,0.3s,baz=95,slow=4.8,SNR=38						
MTN	Manton Dam	48.32	271	P	P	14 19 49.0	-0.3
MTN				IAmb	IAmb	14 19 49.6	
	comp=Z,7.9nm,0.7s						
KNRA	Kununurra	49.77	267	P	P	14 19 59.6	-0.3
KNRA				IAmb	IAmb	14 20 08.2	
	comp=Z,4.3nm,0.9s						
FITZ	Fitzroy Crossi	52.11	263	P	P	14 20 17.4	+0.7
PSA00	Pilbara Seismi	56.71	257	P	P	14 20 48.3	-0.5
PSA00				IAmb	IAmb	14 21 04.9	
	comp=Z,7.8nm,1.1s						
NWAO	Narrogin (SRO)	57.35	244	P	P	14 20 52.7	-0.2
NWAO				IAmb	IAmb	14 21 06.9	
	comp=Z,8.0nm,0.9s						
MORW	Morawa	58.82	248	P	P	14 21 01.4	-1.5
QSPA	South Pole Qui	68.99	180	P	P	14 22 07.7	+1.0
TPUB	Ta-pu	73.58	303	P	P	14 22 32.8	-1.1
NIKH	Nikolski High	74.25	6	P	P	14 22 36.2	-0.8
UNV	Unalaska Valle	75.38	8	P	P	14 22 42.3	-0.9
UNV				IAmb	IAmb	14 22 45.3	
	comp=Z,3.7nm,1.0s						
PEA0B	Petropavlovsk-	76.61	346	P	P	14 22 50.2	+0.1
PETK	Petropavlovsk-	76.61	346	P	P	14 22 50.0	-0.1
	comp=Z,1.9nm,0.7s,baz=132,slow=6.2,SNR=8.5						
NVAR	Mina Array Bea	82.03	44	P	P	14 23 19.4	+0.3
	comp=Z,0.5nm,0.8s,baz=220,slow=8.3,SNR=3.0						
ILAR	Eielson Array	89.07	13	P	P	14 23 51.1	-0.9
	comp=Z,0.4nm,0.5s,baz=216,slow=5.3,SNR=4.9						
CMAR	Chiang Mai Arr	89.51	290	P	P	14 23 56.8	+1.7
	comp=Z,0.6nm,0.3s,baz=107,slow=1.7,SNR=5.3						
ARCES	ARCESS Array B	129.33	349	PKP	PKPdf	14 29 59.6	-1.0
	comp=Z,1.6nm,0.8s,baz=29,slow=2.8,SNR=7.4						
FINES	FINESS Array B	136.08	343	PKP	PKPdf	14 30 13.4	0.0
	comp=Z,0.9nm,0.7s,baz=48,slow=2.1,SNR=4.0						
AKASG	Malin Array Be	143.10	330	PKP	PKPab	14 30 23.7	-0.8
	comp=Z,2.3nm,0.4s,baz=41,slow=4.4,SNR=13						
BRTR	Keskin Array B	146.59	311	PKPbc	PKPbc	14 30 35.7	0.0
	comp=Z,1.2nm,0.6s,baz=140,slow=5.3,SNR=2.4						
GERES	GERESS Array B	150.51	343	PKPbc	PKPbc	14 30 44.5	-0.5
	comp=Z,0.6nm,0.5s,baz=40,slow=2.3,SNR=7.3						

*INMG **01** 14:25:51.6±1.0, 37°.13N×15°.07W, h10km, ML2.1, Error ellipse: s-maj=18.2km s-min=11.0km az=107.0*
MDD 01 14:25:50.8±6.2**, 37°.11N**×**14°.57W, h0**km**, mb4.0**/1**, Error ellipse: s-maj=91.2km s-min=38.3km az=151.0, PRXIMO SIN SOLUCIN, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	Marmelete	4.73	86	P	Pn	14 27 02.5	-0.9
MORF	Marmelete	4.73	86	ePn	Pn	14 27 02.5	-0.9
PNCL	Nicolau / Gran	4.90	76	S	Sn	14 27 58.6	-4.5
	1.3nm,0.1s						
PNCL	Nicolau / Gran	4.90	76	eSn	Sn	14 27 58.6	-4.5
PNCL				A	A	14 28 02.9	
	1.3nm,0.1s						
PMTG	Montargil	5.37	67	S	Sn	14 28 10.5	-4.3
PMTG	Montargil	5.37	67	eSn	Sn	14 28 10.5	-4.3
PVAQ	Vaqueiros	5.48	85	P	Pn	14 27 12.1	-1.5
PVAQ				S	Sn	14 28 12.7	-4.6
PVAQ	Vaqueiros	5.48	85	ePn	Pn	14 27 12.1	-1.5
PVAQ				eSn	Sn	14 28 12.7	-4.6
EGRO	El Granado	5.67	84	S	Sn	14 28 16.6	-5.4
	0.7nm,0.1s,SNR=7.9						
PMRV	Marv??o	6.10	66	S	Sn	14 28 27.0	-5.8
PMRV	Marv??o	6.10	66	eSn	Sn	14 28 27.0	-5.8
EBAD	Badajoz	6.20	72	P	Pn	14 27 28.2	+4.7
	0.7nm,0.1s,SNR=7.9						
EBAD				S	Sn	14 28 29.2	-5.9
	0.6nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	6.32	82	S	Sn	14 28 32.5	-5.6
	0.4nm,0.1s,SNR=7.9						

WEL 01 14:27:00.7, 38°S±3°×**17°6E**±°**, h162**km±6km**, M2.1**/8**, MLv2.1**/8**, Error ellipse: s-maj=0.0km s-min=0.0km az=89.6, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	Ohinepanea	0.20	25	P	Pn	14 27 22.4	-0.1
KMRZ	Kaimai	0.44	294	P	Pn	14 27 23.2	+0.1
URZ	Urewera	0.57	114	P	Pn	14 27 23.4	-0.3
URZ				S	Sn	14 27 41.0	-0.4
URZ	Urewera	0.57	114	P	Pn	14 27 22.3	-1.4
RTZ	Ruatahuna	0.72	145	P	Pn	14 27 25.0	+0.4
RTZ	Ruatahuna	0.72	145	P	Pn	14 27 23.5	-1.1
MWZ	Matawai	0.90	110	P	Pn	14 27 26.6	+0.7
HAZ	Te Kaha	1.09	76	P	Pn	14 27 27.8	+0.5
HAZ				S	Sn	14 27 46.9	-0.8
BKZ	Black Stump Fm	1.14	178	P	Pn	14 27 27.8	0.0
BKZ				S	Sn	14 27 48.2	-0.6
PKGZ	Pakihiroa	1.29	84	P	Pn	14 27 29.8	+0.6
PKGZ				S	Sn	14 27 50.6	-0.5
KNZ	Kokohu	1.38	136	P	Pn	14 27 28.6	-1.3
PUZ	Puketiti	1.43	92	P	Pn	14 27 30.2	-0.2
PUZ				S	Sn	14 27 53.2	-0.1
CNGZ	Carnagh Statio	1.46	109	P	Pn	14 27 32.1	+1.5
MHGZ	Mahia Peninsul	1.60	135	P	Pn	14 27 33.1	+1.0
KAHZ	Kahuranaki	1.79	169	P	Pn	14 27 34.8	+0.6
PXZ	Pawanui	2.02	171	P	Pn	14 27 36.8	+0.1
PXZ				S	Sn	14 28 03.6	-1.1
ANWZ	Angora Road	2.43	180	P	Pn	14 27 41.1	-0.4

IDC 01 14:27:28.5±7.2**, 25°.80N**×**109°.80W, h0**km**, mb1 3.5**/3**, mb1mx3.3**/27**, mbtmp3.0**/3**, ML3.4**/3**, Error ellipse: s-maj=87.3km s-min=26.3km az=177.0, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	6.48	56	Pn	Pn	14 29 05.8	+0.5
	0.1nm,0.3s,baz=232,slow=13,SNR=6.3						
TXAR				Lg	Lg	14 30 52.9	
	0.6nm,0.3s,baz=258,slow=29,SNR=8.1						
NVAR	Mina Array Bea	14.50	332	Pn	Pn	14 30 58.5	+3.3
	0.1nm,0.3s,baz=160,slow=11,SNR=1.3						
PDAR	Pinedale Array	16.93	1	Pn	P	14 31 28.4	-0.7
	0.0nm,0.3s,baz=169,slow=9.8,SNR=2.2						

*VAO **01** 14:48:22.7±0.3, 23°.11S×66°.80W, h223km±3km, mb4.7*
*NEIC **01** 14:48:22.1±2.2, 23°.19S±0°.06×66°.60W±0°.04, h195km±5km, mb4.6/119, Error ellipse: s-maj=9.9km s-min=4.8km az=199.0*
*IDC **01** 14:48:23.1±1.1, 23°.10S×66°.52W, h200km±9km, mb4.0/12, mb1 4.1/19, mb1mx4.0/26, mbtmp4.5/19, MS3.1/3, Ms1 3.1/3, ms1mx2.8/20, Error ellipse: s-maj=15.0km s-min=10.9km az=34.0*
*GUC **01** 14:48:24.2±0.8, 23°.14S×66°.99W, h236km±11km, ML5.4*
ISC 01 14:48:21.9±0.6**, 23°.16S**±0°.04×**66°.68W**±0°.05**, h198**km±5km**,**
n484, σ1.s07/472**, mb4.5**/62**, 7C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.13	285	P	Pn	14 49 03.8	+1.8
	734nm,0.3s,baz=99,slow=6.4,SNR=3020						
LVC				LR	LR	14 49 30.1	
	comp=Z,261nm,20.0s,baz=89,slow=30						
LVC				S	Sn	14 49 34.1	+0.9
	112nm,0.3s,baz=339,slow=21,SNR=6.8						
LVC	Limon Verde	2.13	285		Pn	14 49 03.6	+1.6
LVC	Limon Verde	2.13	285	eP	Pn	14 49 03.8	+1.8
LVC				eS	Sn	14 49 35.1	+2.0
PB15	IPOC Station P	2.57	268	eP	Pn	14 49 08.2	+1.5
PB15				i S	Sn	14 49 42.0	+0.5
PB15	IPOC Station P	2.57	268		Pn	14 49 07.6	+0.9
PB15				Sn	Sn	14 49 42.5	+1.0
PB06	IPOC Station P	2.71	279	eP	Pn	14 49 09.4	+1.2
PB06				i S	Sn	14 49 44.1	-0.1
PB06	IPOC Station P	2.71	279		Pn	14 49 09.0	+0.8
PB09	IPOC Station P	2.73	299	eP	Pn	14 49 10.4	+1.8
PB09				i S	Sn	14 49 45.5	+0.7
PB09	IPOC Station P	2.73	299		Pn	14 49 10.4	+1.8
PB09				Sn	Sn	14 49 46.8	+2.0
PB03	IPOC Station P	3.05	291	eP	Pn	14 49 13.1	+0.9
PB03				i S	Sn	14 49 50.1	-1.4
PB03				IAML		14 49 50.7	
	comp=N,2μm,0.4s						
PB05	IPOC Station P	3.26	275	eP	Pn	14 49 15.3	+0.6
PB05				i S	Sn	14 49 54.1	-1.8
PB07	IPOC Station P	3.29	295⇑	iP	Pn	14 49 16.0	+0.8
PB07				i S	Sn	14 49 54.8	-1.9
PB07				IAML		14 49 56.2	
	comp=E,6μm,0.4s						
PB07	IPOC Station P	3.29	295	Pn	Pn	14 49 15.9	+0.8
PB04	IPOC Station P	3.31	284	eP	Pn	14 49 16.0	+0.7
PB04				i S	Sn	14 49 55.7	-1.3
PB04				IAML		14 49 57.2	
	comp=N,2μm,0.4s						
PB04	IPOC Station P	3.31	284		Pn	14 49 15.9	+0.6
GO02	Mina Guanaco	3.32	233⇑	iP	Pn	14 49 16.9	+1.4
GO02				i S	Sn	14 49 57.8	+0.2
GO02				IAML		14 49 59.6	
	comp=E,8μm,0.4s						
GO02	Mina Guanaco	3.32	233	Pn	Pn	14 49 17.1	+1.5
PB01	IPOC Station P	3.35	308	eP	Pn	14 49 16.6	+0.8
PB01				i S	Sn	14 49 57.4	-0.5
PB01				IAML		14 49 59.1	
	comp=E,3μm,0.3s						
PB01	IPOC Station P	3.35	308		Pn	14 49 16.6	+0.8
PB10	IPOC Station P	3.58	264	eP	Pn	14 49 19.2	+0.8
PB10				i S	Sn	14 50 00.3	-2.3
PB10				IAML		14 50 04.2	
	comp=N,2μm,0.4s						
PB10	IPOC Station P	3.58	264	Pn	Pn	14 49 19.3	+0.9
PB14	IPOC Station P	3.71	246⇑	iP	Pn	14 49 20.9	+0.7
PB14				i S	Sn	14 50 03.8	-2.3
PB14				IAML		14 50 05.5	
	comp=E,2μm,0.2s						
PB14	IPOC Station P	3.71	246	Pn	Pn	14 49 20.9	+0.7
PB08	IPOC Station P	3.79	322	eP	Pn	14 49 23.2	+1.7
PB08				i S	Sn	14 50 07.7	-0.3
PB08				IAML		14 50 09.7	
	comp=N,2μm,0.3s						
PB08	IPOC Station P	3.79	322		Pn	14 49 23.1	+1.7
PATCX	Punta Patache	3.98	305⇑	iP	Pn	14 49 23.4	-0.1
PATCX				i S	Sn	14 50 08.9	-2.9
PATCX				IAML		14 50 14.3	
	comp=E,3μm,0.3s						
PATCX	Punta Patache	3.98	305	Pn	Pn	14 49 23.4	-0.1
TA01	Diego Aracena	4.16	308	eP	Pn	14 49 25.0	-0.6
TA01				i S	Sn	14 50 12.2	-3.3
TA01				IAML		14 50 15.1	
	comp=E,2μm,0.6s						
TA01	Diego Aracena	4.16	308		Pn	14 49 25.1	-0.5
GO01	Chusmiza	4.19	326⇑	iP	Pn	14 49 27.8	+1.1
GO01				i S	Sn	14 50 16.6	-0.6
GO01				IAML		14 50 21.4	
	comp=N,2μm,0.1s						
GO01	Chusmiza	4.19	326		Pn	14 49 27.7	+1.1
AC02	Maricunga	4.28	211	Pn	Pn	14 49 29.1	+1.5
PB11	IPOC Station P	4.38	320⇑	iP	Pn	14 49 28.3	-0.3
PB11				i S	Sn	14 50 18.0	-2.9
PB11	IPOC Station P	4.38	320	Pn	Pn	14 49 28.2	-0.3
AC01	Pan de Azucar	4.64	229	Pn	Pn	14 49 31.2	-0.5
PSGCX	Pisagua	4.79	317	Pn	Pn	14 49 32.5	-1.2
MNMC	Minye Minye	4.85	325	eP	Pn	14 49 36.3	+1.7
MNMC				eS	Sn	14 50 30.7	-1.1
MNMC	Minye Minye	4.85	325		Pn	14 49 35.1	+0.5
GO03	Copiap	5.46	215		Pn	14 49 41.3	-0.9
PB16	IPOC Station P	5.49	331		Pn	14 49 43.6	+0.5
PB12	IPOC Station P	5.67	322		Pn	14 49 43.6	-1.4
AC04	Llanos de Chal	6.40	217	Pn	Pn	14 49 52.3	-2.0
AC05	El Transito	6.51	209		Pn	14 49 55.2	-0.7
LPAZ	La Paz	6.97	348	P	Pn	14 50 03.8	+1.3
	comp=N,5.8nm,0.3s,baz=162,slow=7.9,SNR=144						
LPAZ				S	Sn	14 51 17.6	-4.5
	comp=N,2.9nm,0.3s,baz=41,slow=23,SNR=6.9						
LPAZ	La Paz	6.97	348		Pn	14 50 03.7	+1.2
LPAZ	La Paz	6.97	348	eP	Pn	14 50 01.2	-1.3
LPAZ				eS	Sn	14 51 21.5	-0.6
CO01	Juntas del Tor	7.44	204	Pn	Pn	14 50 09.3	+1.2
GO04	Tololo Observa	7.89	207		Pn	14 50 12.4	-1.5
CFA	Coronel Fontan	8.52	189	P	Pn	14 50 21.6	-0.3
	comp=N,8.9nm,0.3s,baz=47,slow=17,SNR=74						
CFA				S	Sn	14 51 50.3	-7.4
	comp=N,21nm,0.3s,baz=193,slow=15,SNR=20						
CFA				LR	LR	14 54 27.0	
	comp=N,72nm,19.2s,baz=358,slow=42						
SIV	San Ignacio	8.88	38	P	Pn	14 50 25.8	-0.9
	comp=N,5.8nm,0.3s,baz=228,slow=12,SNR=109						
SIV				S	Sn	14 51 48.9	-17
	baz=186,slow=19,SNR=0.7						
CO02	Combarbal	8.88	205		Pn	14 50 24.8	-2.0
CPUP	Villa Florida	9.06	112	P	Pn	14 50 29.3	+0.3
	comp=N,0.6nm,0.3s,baz=292,slow=12,SNR=22						
CPUP	Villa Florida	9.06	112		Pn	14 50 28.6	-0.4
PTLB	Pontes e Lacer	10.46	44	eP	Pn	14 50 46.8	-0.4
VILB	Vilhena	11.87	32	eP	Pn	14 51 06.4	+1.0
VILB				eS	S	14 53 19.0	+0.6
BO02	Sierra Bellavi	12.13	196	P	P	14 51 12.7	-0.4
SALV	Santo Antonio	12.62	57	eP	Pn	14 51 14.8	0.0
TRCB	Terra Rica	12.94	91	eP	Pn	14 51 19.1	+0.2
PTGB	Pitanga	13.45	100	eP	P	14 51 27.5	-0.4
C2SB	Chapadao do Su	13.65	74	eP	P	14 51 29.7	-0.3
ITAB	Concordia	13.78	110	eP	P	14 51 30.1	-1.3
CPSB	Cacapava Do Su	13.84	124	eP	P	14 51 31.2	-0.9
PCMB	Pacaembu	14.35	87	eP	P	14 51 37.1	-0.7
PLTB	Pedras Altas	14.41	129	eP	Pn	14 51 37.1	0.0
SAML	Samuel	14.53	14	P	Pn	14 51 38.6	0.0
SAML	Samuel	14.53	14	eP	Pn	14 51 38.7	+0.2
SAML				eS	S	14 54 19.3	-1.1
NNA	Nana	14.74	317	P	P	14 51 42.5	+0.3
	comp=N,2.5nm,0.3s,baz=154,slow=11,SNR=9.2						
NNA	Nana	14.74	317		Pn	14 51 39.0	-2.2
CNLB	Canela	15.46	117	eP	P	14 51 50.3	+0.2
ITRB	Iturama	15.58	80	eP	P	14 51 52.4	+0.9
FRTB	Fartura	15.73	94	eP	Pn	14 51 54.1	+0.9
ARAG	Araguaiana, MT	15.85	65	eP	Pn	14 51 55.0	+0.3
CLDB	Colider	16.04	42	eP	P	14 51 55.6	-1.0
TIJ01	Guaruva-PR	16.26	101	eP	Pn	14 51 59.5	-0.2
CZSB	Cruzeiro do Su	16.40	338	eP	P	14 51 58.7	-1.8
BB19B	Bebedouro	16.95	86	eP	P	14 52 06.8	+0.3
RCLB	Rio Claro- Sao	17.67	91	eP	P	14 52 15.1	+0.6
SPB	Sao Paulo	17.68	95	P	P	14 52 13.8	-0.6
SPB	Sao Paulo	17.68	95	eP	P	14 52 15.1	+0.7
PET01	Itanhaem-SP	17.80	97	eP	P	14 52 16.3	+0.5
PLCA	Paso Flores	17.82	190	P	Pn	14 52 17.1	-0.8
	comp=N,0.5nm,0.3s,baz=5.9,slow=13,SNR=6.4						
PLCA	Paso Flores	17.82	190	P	P	14 52 16.7	+0.8
PLCA	Paso Flores	17.82	190	eP	P	14 52 15.6	-0.3
IPMB	Ipameri, GO	18.04	77	eP	P	14 52 18.6	+0.1
IPMB				eS	S	14 55 35.1	0.0
VAO	Valinhos	18.14	93	eP	P	14 52 20.1	+0.5
BDFB	Brasilia	19.12	70	P	P	14 52 31.4	+1.2
	comp=N,3.6nm,0.3s,baz=245,slow=11,SNR=22						
BDFB	Brasilia	19.12	70	P	P	14 52 31.4	+1.2
PARB	Paraibuna	19.35	95	eP	P	14 52 32.9	+0.3
NPGB	Novo Progresso	19.38	36	eP	P	14 52 31.1	-1.8
ATAH	Atahualpa	19.52	323	P	Pn	14 52 37.0	-1.5
	comp=N,0.8nm,0.3s,baz=139,slow=7.6,SNR=7.1						

BSCB	Bom Sucesso	20.41	88	eP	P	14 52 44.4	+0.3
PEXB	Peixe	20.65	61	eP	P	14 52 46.2	-0.4
MAN01	Angra dos Reis	20.91	94	eP	P	14 52 49.6	+0.3
ITTB	Itaituba	21.47	31	eP	P	14 52 54.1	-1.0
MC01	Montes Claros	22.30	77	eP	P	14 53 02.2	-1.2
JANB	Januaria	22.60	73	eP	P	14 53 05.5	-0.6
CAM01	Campos-RJ	23.15	92	eP	P	14 53 10.7	-0.2
SMTB	Santa Maria do	23.17	55	eP	P	14 53 10.8	-0.4
PTGA	Pitinga	23.23	17	P	P	14 53 10.8	-0.9
	comp=N,4.6nm,0.7s,baz=195,slow=10,SNR=13						
PTGA				S	S	14 57 04.9	-4.0
	comp=N,3.2nm,0.8s,baz=307,slow=20,SNR=2.2						
PTGA	Pitinga	23.23	17	eP	P	14 53 10.6	-1.1
PTGA				eS	S	14 57 05.5	-3.4
SDBA	SAO DESIDERIO	23.30	66	eP	P	14 53 11.7	-0.7
PRPB	Parauapebas	23.44	46	eP	P	14 53 12.5	-1.1
SJMB	Sao Joao De Ma	24.21	84	eP	P	14 53 20.1	-0.5
MALB	Monte Alegre	24.37	31	eP	P	14 53 20.9	-1.1
BSFB	Barra de Sao F	24.48	85	eP	P	14 53 22.7	-0.4
RIB01	Linhares ES	24.78	86	eP	P	14 53 25.3	-0.5
NAN01	Guarapari, ES	25.41	83	eP	P	14 53 31.0	-0.4
MCPB	Macapa, AP	26.75	34	eP	P	14 53 42.2	-1.3
GDU01	Guandu, BA	27.33	75	eP	P	14 53 47.7	-1.0
RCBR	Riachuelo	34.30	65	eP	P	14 54 49.2	-0.6
PMSA	Palmer Station	41.64	178	eP	P	14 55 48.5	-1.9
MTO3	Montecristo	43.43	327	P	P	14 56 05.8	+0.1
TEIG	Tepich	48.00	332	P	P	14 56 40.9	-0.2
BRAL	Brewton	57.45	339	P	P	14 57 51.0	+0.9
	baz=158						
Z58A	St. Stephen	57.56	347	P	P	14 57 51.3	+0.5
	baz=166						
Z57A	Bowman	57.72	346	P	P	14 57 52.5	+0.6
	baz=165						
VNA3	Neumayer Olymp	57.84	161	P	P	14 57 53.5	+1.0
VNA1	Neumayer--Stat	58.03	160	P	P	14 57 54.7	+1.0
VNA2	Neumayer--Watz	58.40	161	P	P	14 57 58.1	+1.8
	baz=278,slow=7.9						
X60A	Albert Glenn T	58.42	349	P	P	14 57 57.0	+0.2
	baz=168						
GOGA	Godfrey	58.49	344	P	P	14 57 57.0	-0.3
	baz=162						
Y55A	Saluda	58.59	345	P	P	14 57 58.4	+0.4
	baz=164,SNR=6.7						
JSC	Jenkinsville	58.79	346	IAmb	IAmb	14 58 00.7	
	comp=Z,11nm,0.8s						
W61A	Ground Anchor	58.84	350	P	P	14 58 00.3	+0.6
	baz=169						
X56A	White Oak	58.94	346	P	P	14 58 00.9	+0.6
	baz=165,SNR=9.5						
X55A	Gracelyn & Ava	59.05	346	P	P	14 58 01.5	+0.4
	baz=164,SNR=9.3						
W58A	Raeford	59.08	348	P	P	14 58 01.6	+0.3
	baz=166						
LRAL	Lakeview Retre	59.15	340	P	P	14 58 01.5	-0.4
	baz=158,SNR=7.9						
X54A	Belton	59.30	345	P	P	14 58 03.3	+0.4
	baz=163,SNR=6.9						
W57A	Gilead	59.36	347	P	P	14 58 03.4	+0.2
	baz=166,SNR=6.0						
W57A	Gilead	59.36	347	P	P	14 58 03.7	+0.5
V61A	Roper	59.38	351	P	P	14 58 04.4	+1.1
	baz=169						
W56A	Indian Trail	59.46	347	P	P	14 58 04.1	+0.2
	baz=165,SNR=6.4						
V59A	Middlesex	59.62	349	P	P	14 58 05.2	+0.1
	baz=168						
KMSC	Kings Mountain	59.63	346	P	P	14 58 05.4	+0.3
	baz=164,SNR=9.0						
W54A	Cherokee Point	59.77	345	P	P	14 58 06.6	+0.5
	baz=164,SNR=9.7						
V58A	Windy Hill, Pi	59.81	348	P	P	14 58 06.4	+0.1
	baz=167						
BG3	Lake Jocassee	59.86	345	IAmb	IAmb	14 58 08.0	
	comp=Z,8.7nm,0.8s						
U61A	Possum Corner	59.89	351	P	P	14 58 06.7	-0.2
	baz=170						
V57A	Coltrane Farms	60.02	348	P	P	14 58 07.4	-0.4
	baz=166						
SNAA	Sanae	60.04	161	P	P	14 58 09.1	+1.5
SNAA	Sanae	60.04	161	P	P	14 58 09.2	+1.7
SNAA				IAmb	IAmb	14 58 11.3	
	comp=Z,8.9nm,1.0s						
V56A	Mocksville	60.09	347	P	P	14 58 08.8	+0.6
	baz=165,SNR=14						
U59A	Littleton	60.12	350	IAmb	IAmb	14 58 09.4	
	comp=Z,25nm,1.1s						
833A	Chaparral WMA,	60.13	327	P	P	14 58 09.4	+0.7
	baz=145,SNR=8.5						
U60A	Pendleton	60.13	350	P	P	14 58 08.4	-0.1
	baz=169						
V55A	Taylorsville	60.29	346	P	P	14 58 10.1	+0.5
	baz=165,SNR=13						
U58A	Oxford	60.29	349	P	P	14 58 09.4	-0.2
	baz=167						
V54A	Nebo	60.38	346	P	P	14 58 10.6	+0.3
	baz=164,SNR=9.4						
U57A	Blanch	60.47	348	P	P	14 58 11.0	+0.2
	baz=167,SNR=5.3						
U56A	King	60.59	347	P	P	14 58 12.3	+0.7
	baz=166						
T58A	Grand View Acr	60.82	349	P	P	14 58 13.5	+0.3
	baz=168						
NATX	Nacogdoches	60.83	333	P	P	14 58 14.2	+0.9
	baz=150						
U55A	TA2, Sparta	60.88	347	P	P	14 58 13.9	+0.2
	baz=165,SNR=7.0						
T57A	Hurt	61.00	349	P	P	14 58 14.7	+0.3
	baz=167						
U54A	Nelsons Funny	61.06	346	P	P	14 58 15.0	+0.1
	baz=164,SNR=8.4						
T56A	Rocky Mt	61.18	348	P	P	14 58 16.1	+0.5
	baz=166,SNR=5.7						
OXF	Oxford	61.29	339	P	P	14 58 15.4	-1.0
	baz=156						
T55A	Pulaski	61.41	347	P	P	14 58 18.0	+0.8
	baz=165,SNR=9.0						
S59A	Mechanicsville	61.42	350	P	P	14 58 18.2	+1.1
	baz=169						
BLA	Blacksburg	61.43	348	P	P	14 58 17.9	+0.5
	baz=166						
TZTN	Tazewell	61.49	345	P	P	14 58 18.2	+0.5
	baz=162						
T54A	Tazewell	61.53	346	P	P	14 58 17.9	-0.1
	baz=164						
T53A	Wise	61.66	346	P	P	14 58 18.5	-0.4
	baz=163						
S57A	Dark Hollow, R	61.69	349	P	P	14 58 19.1	+0.1
	baz=167						
R58B	Mineral	61.71	350	P	P	14 58 19.3	+0.3
	baz=168						
X43A	Marvell	61.80	337	P	P	14 58 19.8	0.0
	baz=155						
S55A	Lewisburg	61.99	348	P	P	14 58 21.8	+0.7
	baz=166,SNR=9.6						
U49A	Red Boiling Sp	62.04	343	IAmb	IAmb	14 58 21.2	
	comp=Z,6.4nm,0.6s						
R58A	Rapidan	62.05	350	P	P	14 58 21.7	+0.4
	baz=168						
JCT	Junction City	62.09	328	P	P	14 58 22.2	+0.3
	baz=145,SNR=7.7						
R57A	Stanardsville	62.14	349	P	P	14 58 22.4	+0.4
	baz=168						
S54A	Dingess, Beckl	62.18	347	P	P	14 58 22.6	+0.3
	baz=165,SNR=5.3						
WHTX	Lake Whitney,	62.25	331	P	P	14 58 23.0	+0.2
	baz=148						
T50A	Nancy	62.26	344	IAmb	IAmb	14 58 22.6	
	comp=Z,7.7nm,0.9s						
WVT	Waverly	62.27	341	P	P	14 58 22.3	-0.6
	baz=158						
R56A	Bull Pasture M	62.40	349	P	P	14 58 24.1	+0.3
	baz=167						
R55A	Marlinton	62.41	348	P	P	14 58 24.8	+0.9
	baz=166						
R54A	Victor	62.48	347	P	P	14 58 24.7	+0.4
	baz=165,SNR=5.6						
Q58A	Fox Den Farm,	62.63	350	P	P	14 58 25.4	+0.2
	baz=169						
SLBS	Sierra La Lagu	62.73	315	P	P	14 58 27.5	+1.2
SLBS				IAmb	IAmb	14 58 29.6	
	comp=Z,15nm,1.1s						
MIAR	Mount Ida	62.82	335	P	P	14 58 26.6	0.0
	baz=152,SNR=7.5						
MIAR	Mount Ida	62.82	335	IAmb	IAmb	14 58 27.1	
	comp=Z,7.9nm,0.7s						
R53A	Hurricane	62.83	347	P	P	14 58 26.5	0.0
	baz=164						

Q57A	Strasburg	62.84	350	P	P	14 58 27.4	+0.8
	baz=168						
Q56A	Snyder Ridge,	62.98	349	P	P	14 58 28.2	+0.7
	baz=167						
Q55A	Buckhannon	63.09	348	P	P	14 58 29.2	+0.9
	baz=166						
P59A	Jarrettsville	63.11	352	P	P	14 58 29.2	+0.9
	baz=170						
P58A	Pank, Wackersv	63.11	351	P	P	14 58 28.6	+0.3
	baz=169						
TXAR	Lajitas Array	63.17	324	P	P	14 58 30.0	+0.9
	comp=Z,1.9nm,0.7s,baz=152,slow=8.7,SNR=12						
P57A	Homestead Farm	63.21	350	P	P	14 58 29.8	+0.8
	baz=168						
Q54A	Coxs Mills	63.23	348	P	P	14 58 29.3	+0.1
	baz=165						
Q53A	Leroy	63.24	347	P	P	14 58 29.4	+0.2
	baz=165,SNR=6.4						
P56A	Dayton Farm, R	63.37	349	P	P	14 58 30.9	+0.9
	baz=168						
W39A	Magazine	63.48	335	P	P	14 58 31.7	+0.8
	baz=152,SNR=12						
Q52A	Bidwell	63.50	346	P	P	14 58 30.7	-0.2
	baz=164						
P55A	Reedsville	63.54	349	P	P	14 58 31.8	+0.5
	baz=166						
O58A	Lewisberry	63.68	351	P	P	14 58 32.5	+0.5
	baz=170						
MCWV	Mont Chateau	63.69	349	P	P	14 58 32.6	+0.4
	baz=166						
P54A	Burton	63.76	348	P	P	14 58 33.7	+1.0
	baz=166,SNR=5.7						
ABTX	Abilene, Hawle	63.78	329	P	P	14 58 33.2	+0.2
	baz=146						
WCI	Wyandotte Cave	63.79	343	P	P	14 58 31.6	-1.2
	baz=160						
P53A	Whipple	63.82	347	P	P	14 58 33.2	+0.1
	baz=165,SNR=6.3						
O57A	Amberson	63.87	351	P	P	14 58 33.8	+0.5
	baz=169						
O56A	Blue Knob Stat	64.07	350	P	P	14 58 35.3	+0.6
	baz=168						
P52A	Corning	64.12	347	P	P	14 58 34.8	-0.2
	baz=164						
O55A	Ligonier	64.13	349	P	P	14 58 35.8	+0.7
	baz=167						
U40A	Yellville	64.16	337	P	P	14 58 35.1	-0.2
	baz=153,SNR=6.8						
U40A	Yellville	64.16	337	IAmb	IAmb	14 58 36.0	
	comp=Z,9.7nm,1.0s						
P51A	Williamsport	64.17	346	P	P	14 58 35.1	-0.2
	baz=163						
O54A	Avella	64.30	348	P	P	14 58 36.9	+0.7
	baz=166						
SSPA	Standing Stone	64.32	351	P	P	14 58 37.1	+0.9
	baz=169						
N58A	Sunbury	64.36	352	P	P	14 58 37.1	+0.7
	baz=170						
M61A	Granite Spring	64.48	354	P	P	14 58 37.1	-0.1
	baz=173						
O52A	Adamsville	64.52	347	P	P	14 58 37.1	-0.5
	baz=165						
O53A	New Philadelph	64.52	348	P	P	14 58 37.2	-0.4
	baz=165						
M60A	Port Jervis	64.58	353	P	P	14 58 38.1	+0.2
	baz=172						
P49A	Miami Univ. Ec	64.61	345	P	P	14 58 37.5	-0.6
	baz=162						
X34A	Smith Ranch, M	64.62	332	IAmb	IAmb	14 58 39.7	
	comp=Z,14nm,0.8s						
N55A	Marion Center	64.64	350	P	P	14 58 38.8	+0.5
	baz=168,SNR=7.6						
N56A	West Decatur	64.66	350	P	P	14 58 37.9	-0.6
	baz=168						
O51A	Pataskala	64.71	347	P	P	14 58 38.5	-0.3
	baz=164						
M58A	Price's Panora	64.84	352	P	P	14 58 40.4	+0.8
	baz=170						
L63A	North Scituate	64.86	356	P	P	14 58 40.0	+0.3
	baz=175						
ACSO	Alum Creek Sta	64.87	346	P	P	14 58 39.5	-0.3
	baz=163						
M59A	Waymart	64.89	353	P	P	14 58 40.6	+0.7
	baz=171,SNR=5.8						
TUL1	Leonard	64.89	334	P	P	14 58 40.0	-0.1
	baz=150						
M57A	Sunshine Farm,	64.90	351	P	P	14 58 40.9	+0.9
	baz=169						
N54A	Moraine State	64.99	349	P	P	14 58 41.2	+0.6
	baz=166						
N53A	Lisbon	64.99	348	P	P	14 58 40.4	-0.2
	baz=166						
CCM	Cathedral Cave	65.12	339	P	P	14 58 41.0	-0.4
	baz=155						
WMOK	Wichita Mounta	65.15	331	P	P	14 58 41.6	-0.2
	baz=148						
N52A	McGinn's Farm,	65.16	347	P	P	14 58 41.6	-0.1
	baz=165						
M56A	Emporium	65.20	350	P	P	14 58 42.4	+0.4
	baz=168						
L60A	Shokan	65.20	354	P	P	14 58 42.6	+0.7
	baz=172						
M55A	Ridgway	65.27	350	P	P	14 58 42.9	+0.4
	baz=168,SNR=5.6						
L58A	Harry Jones Me	65.43	352	P	P	14 58 44.3	+0.9
	baz=171,SNR=7.2						
M54A	Oil Creek Stat	65.46	349	P	P	14 58 43.8	+0.2
	baz=167						
L59A	Walton	65.48	353	P	P	14 58 44.6	+0.9
	baz=172,SNR=8.8						
HRV	Adam Dziewonsk	65.50	356	P	P	14 58 44.3	+0.5
	baz=175						
L57A	Andrews Acres	65.51	352	P	P	14 58 44.4	+0.4
	baz=170						
L61B	Northampton	65.52	355	P	P	14 58 44.2	+0.3
	baz=174						
M53A	WI Miller and	65.57	348	P	P	14 58 44.4	+0.1
	baz=166						
BINY	Binghamton	65.60	352	P	P	14 58 45.1	+0.6
	baz=171,SNR=6.6						
R40A	Maddies Statio	65.68	338	IAmb	IAmb	14 58 45.6	
	comp=Z,11nm,0.6s						
L56A	Greenwood	65.75	351	P	P	14 58 45.9	+0.4
	baz=169,SNR=5.3						
K61A	Williamstown	65.78	355	P	P	14 58 46.0	+0.4
	baz=173						
L55A	Hinsdale	65.92	350	P	P	14 58 46.9	+0.3
	baz=168						
MNTX	Cornudas Mount	65.94	324	P	P	14 58 46.9	0.0
	baz=141,SNR=15						
MNTX	Cornudas Mount	65.94	324	IAmb	IAmb	14 58 47.9	
	comp=Z,9.3nm,0.9s						
L53A	Girard	66.00	349	P	P	14 58 46.9	-0.1
	baz=166						
SFIN	Lafayette	66.02	343	P	P	14 58 46.0	-1.1
	baz=160						
K59A	Cooperstown	66.04	353	P	P	14 58 48.1	+0.8
	baz=172,SNR=15						
ERPA	Erie	66.11	349	P	P	14 58 47.9	+0.2
	baz=167						
L54A	Sinclairville	66.11	350	P	P	14 58 48.0	+0.2
	baz=167						
K58A	Earlville	66.12	353	P	P	14 58 48.5	+0.8
	baz=171,SNR=13						
K57A	Scipio Center	66.19	352	P	P	14 58 48.3	+0.1
	baz=170						
J62A	Henniker	66.23	356	P	P	14 58 48.9	+0.5
	baz=175						
K56A	Middlesex	66.26	351	P	P	14 58 49.0	+0.3
	baz=169,SNR=5.6						
K54A	Basiliko Farm,	66.38	350	P	P	14 58 49.7	+0.2
	baz=168						
MSTX	Muleshoe	66.39	328	P	P	14 58 50.2	+0.4
	baz=144,SNR=6.3						
J61A	Chester	66.40	355	P	P	14 58 50.5	+1.0
	baz=174						
K55A	Perry	66.40	351	P	P	14 58 49.5	-0.1
	baz=169						
AMTX	Amarillo	66.60	329	P	P	14 58 50.9	-0.2
	baz=145						
AMTX	Amarillo	66.60	329	IAmb	IAmb	14 58 53.4	
	comp=Z,6.8nm,0.8s						
J58A	Remsen	66.67	353	P	P	14 58 51.4	+0.2
	baz=171						
J58A	Remsen	66.67	353	IAmb	IAmb	14 58 52.2	
	comp=Z,6.4nm,0.6s						
J59A	Piesco	66.69	354	P	P	14 58 52.2	+0.8
	baz=172,SNR=15						

J56A	Wolcott	66.77	352	P	P	14 58 52.1	+0.2
	baz=170,SNR=7.2						
J57A	Williamstown	66.80	353	P	P	14 58 52.2	+0.2
	baz=171						
HDIL	Hopedale	66.80	341	P	P	14 58 50.9	-1.2
	baz=157						
J55A	Hilton	66.89	351	P	P	14 58 52.7	+0.1
	baz=169						
I60A	Shoreham	66.95	355	P	P	14 58 53.4	+0.4
	baz=173						
I59A	Olmsteadville	66.95	354	P	P	14 58 53.2	+0.2
	baz=173						
I61A	Oroboro, Fairl	66.96	356	P	P	14 58 53.6	+0.6
	baz=174						
I58A	Old Forge	66.96	353	P	P	14 58 53.6	+0.5
	baz=172,SNR=6.1						
I63A	Otisfield	66.98	357	P	P	14 58 53.7	+0.5
	baz=176						
QSPA	South Pole Qui	67.04	180	P	P	14 58 55.8	+2.3
LBNH	Lisbon	67.25	356	P	P	14 58 55.6	+0.7
	baz=175						
DBIC	Dimbokro	67.26	72	P	P	14 58 54.4	-1.2
	comp=Z,4.6nm,0.6s,baz=212,slow=7.4,SNR=7.2						
DBIC				LR	LR	15 27 35.9	
	comp=Z,37nm,19.0s,baz=110,slow=35						
DBIC	Dimbokro	67.26	72	IAmb	IAmb	14 58 58.4	
	comp=Z,12nm,1.1s						
I57A	Carthage	67.28	353	P	P	14 58 55.7	+0.6
	baz=171						
H64A	Troy	67.51	358	P	P	14 58 56.9	+0.4
	baz=177						
H61A	Lyndonville	67.54	356	P	P	14 58 57.6	+0.9
	baz=175						
H65A	Eastbrook	67.54	359	P	P	14 58 57.2	+0.5
	baz=178						
H58A	Gabriels	67.60	354	P	P	14 58 57.5	+0.4
	baz=172,SNR=6.0						
H60A	Morristown	67.62	355	P	P	14 58 57.9	+0.7
	baz=174						
H57A	Richville	67.77	353	P	P	14 58 58.4	+0.3
	baz=171,SNR=5.4						
H59A	Cadyville	67.78	355	P	P	14 58 58.6	+0.4
	baz=173						
I55A	Frankford	67.80	351	P	P	14 58 58.5	+0.2
	baz=169,SNR=6.3						
LONY	Lake Ozonia	67.84	354	P	P	14 58 59.1	+0.5
	baz=172						
LONY	Lake Ozonia	67.84	354	IAmb	IAmb	14 59 00.8	
	comp=Z,8.8nm,0.9s						
121A	Cookes Peak, D	67.89	323	P	P	14 59 01.2	+1.9
	baz=139,SNR=10						
I51A	Listowel	67.93	349	P	P	14 58 59.1	0.0
	baz=166,SNR=5.4						
KSU1	Kansas State U	67.98	335	P	P	14 58 59.4	-0.1
	baz=150						
H56A	Elgin	67.99	353	P	P	14 58 59.9	+0.4
	baz=170						
G63A	Kingsbury	68.00	358	P	P	14 59 00.2	+0.6
	baz=177						
G65A	Princeton	68.04	359	P	P	14 59 00.3	+0.6
	baz=179						
H55A	Tweed	68.07	352	P	P	14 59 00.3	+0.4
	baz=170,SNR=5.2						
DELO	Deloro Mine	68.09	352	IAmb	IAmb	14 59 01.2	
	comp=Z,9.2nm,0.6s						
G64A	Maxfield	68.11	358	P	P	14 59 00.3	+0.1
	baz=178						
G60A	Masonville	68.13	356	P	P	14 59 00.9	+0.6
	baz=174						
PKME	Peaks-Kenny Pk	68.14	358	P	P	14 59 00.8	+0.4
	baz=177						
G62A	West of Eustis	68.14	357	P	P	14 59 00.9	+0.5
	baz=176						
G62A	West of Eustis	68.14	357	IAmb	IAmb	14 59 03.0	
	comp=Z,12nm,1.1s						
G61A	St-Isidore-de-	68.26	356	P	P	14 59 01.9	+0.7
	baz=175						
H53A	Bobcaygeon	68.28	351	P	P	14 59 01.4	+0.1
	baz=168,SNR=5.2						
G58A	Ormstown	68.31	354	P	P	14 59 02.0	+0.6
	baz=173						
G57A	Newington	68.36	354	P	P	14 59 02.0	+0.2
	baz=172						
F63A	Nahmakanta, Br	68.57	358	P	P	14 59 03.7	+0.6
	baz=178						
G55A	Calabogie	68.70	352	P	P	14 59 03.9	0.0
	baz=170						
F64A	Sherman	68.71	359	P	P	14 59 04.5	+0.6
	baz=178,SNR=5.1						
G53A	Haliburton	68.82	351	P	P	14 59 04.8	+0.1
	baz=168,SNR=5.3						
F60A	Warwick	68.97	356	P	P	14 59 05.5	0.0
	baz=175						
CBKS	Cedar Bluff	69.00	333	P	P	14 59 06.6	+0.7
	baz=148						
G54A	Lake Saint Pet	69.02	351	P	P	14 59 05.8	0.0
	baz=169						
ANMO	Albuquerque	69.02	326	P	P	14 59 07.5	+1.1
	baz=141						
ANMO	Albuquerque	69.02	326	P	P	14 59 07.7	+1.4
ANMO				IAmb	IAmb	14 59 08.9	
	comp=Z,11nm,0.9s						
JFWS	Jewell Farm	69.25	342	P	P	14 59 06.9	-0.4
	baz=157						
SCIA	State Center	69.25	339	P	P	14 59 07.1	-0.2
	baz=154						
E64A	Bridgewater	69.26	359	P	P	14 59 07.3	0.0
	baz=179						
E63A	Oxbow	69.27	359	P	P	14 59 07.7	+0.3
	baz=178						
E61A	Lac Etchemin	69.35	357	P	P	14 59 09.5	+1.6
	baz=176						
TUC	Tucson	69.42	321	P	P	14 59 10.3	+1.6
	baz=137						
E58A	La Victoria	69.46	355	P	P	14 59 09.0	+0.4
	baz=174						
E62A	Clayton Lake	69.50	358	P	P	14 59 09.5	+0.7
	baz=177						
ALGO	Algonquin Park	69.56	352	P	P	14 59 08.9	-0.2
	baz=169						
E57A	Chemin Saint G	69.58	354	P	P	14 59 09.2	0.0
	baz=173						
F52A	Sundridge	69.58	351	P	P	14 59 09.5	+0.2
	baz=168						
T25A	Trinidad	69.72	329	P	P	14 59 12.1	+1.4
	baz=143,SNR=7.9						
E56A	St. Veronique	69.79	354	P	P	14 59 10.7	+0.2
	baz=172						
F51A	Arnstein	69.81	350	P	P	14 59 11.3	+0.7
	baz=167						
D60A	Saint Jean D'O	69.85	357	P	P	14 59 10.6	-0.3
	baz=176						
D63A	Stockholm	69.88	359	P	P	14 59 11.1	0.0
	baz=179						
E54A	Lac Daplat, Po	69.92	352	P	P	14 59 11.4	+0.1
	baz=170						
E53A	Dumoine, Ponti	69.92	352	P	P	14 59 11.2	-0.1
	baz=169						
D62A	Allapoint, All	69.95	358	P	P	14 59 11.5	0.0
	baz=178						
E52A	Mattawa	69.97	351	P	P	14 59 11.5	-0.1
	baz=168						
F49A	Sandfield	70.00	349	P	P	14 59 11.5	-0.4
	baz=165,SNR=11						
D57A	Chemin Vers le	70.15	355	P	P	14 59 12.7	0.0
	baz=173						
D58A	Chemin du LacG	70.15	355	P	P	14 59 13.1	+0.4
	baz=174						
F48A	Evansville	70.17	348	P	P	14 59 12.6	-0.3
	baz=164,SNR=5.7						
D56A	ZEC Mazanza, M	70.26	354	P	P	14 59 13.3	-0.1
	baz=172						
D55A	Sainte-Anne-du	70.30	354	P	P	14 59 13.8	+0.1
	baz=171,SNR=5.6						
E51A	G1948 Merrick	70.33	351	P	P	14 59 14.0	+0.2
	baz=168						
214A	Organ Pipe Nat	70.36	319	P	P	14 59 15.7	+1.3
	baz=135						
KSCO	Kaye Shedlock'	70.41	331	P	P	14 59 15.8	+1.1
	baz=145						
E50A	Wahnapitae	70.42	350	P	P	14 59 14.2	-0.1
	baz=166						
D54A	Lac Fusel, La	70.56	353	P	P	14 59 15.0	-0.2
	baz=170						
BGNE	Belgrade	70.56	335	P	P	14 59 15.9	+0.5
	baz=149,SNR=6.1						
D52A	ZEK Kipawa Sen	70.61	352	P	P	14 59 15.6	+0.1
	baz=169						

D53A	**Lac Vacive, Po**	**70.62 352**	P	**P**	**14 59 15.4**	**-0.1**
	baz=169					
E48A	**Lockeyer**	**70.72 349**	P	**P**	**14 59 16.5**	**+0.3**
	baz=165					
SDCO	**Great Sand Dun**	**70.73 328**	P	**P**	**14 59 18.4**	**+1.5**
	baz=142,SNR=31					
SDCO	**Great Sand Dun**	**70.73 328**	IAmb	IAmb	14 59 18.9	
	comp=Z,8.5nm,0.8s					
W18A	**Petrified Fore**	**70.90 324**	P	**P**	**14 59 19.4**	**+1.7**
	baz=138,SNR=5.3					
E47A	**Iron Bridge**	**70.90 348**	P	**P**	**14 59 17.2**	**-0.1**
	baz=164,SNR=5.5					
D50A	**G1974 Best Tow**	**71.00 351**	P	**P**	**14 59 17.6**	**-0.2**
	baz=167					
X16A	**Lo Mia Camp, P**	**71.33 322**	IAmb	IAmb	14 59 23.4	
	comp=Z,11nm,1.1s					
D48A	**Paudash Townsh**	**71.33 349**	P	**P**	**14 59 19.5**	**-0.4**
	baz=165					
D49A	**Beulah Townshi**	**71.35 350**	P	**P**	**14 59 19.5**	**-0.5**
	baz=166					
S22A	**4UR Ranch, Cre**	**71.39 327**	P	**P**	**14 59 22.2**	**+1.5**
	baz=141,SNR=8.1					
D47A	**Chapleau**	**71.45 348**	P	**P**	**14 59 20.4**	**-0.2**
	baz=164					
D46A	**Sault St. Mari**	**71.47 348**	P	**P**	**14 59 20.1**	**-0.6**
	baz=163					
Q24A	**Divide**	**71.53 329**	P	**P**	**14 59 23.1**	**+1.4**
	baz=143,SNR=6.6					
Q24A	**Divide**	**71.53 329**	IAmb	IAmb	14 59 24.1	
	comp=Z,16nm,0.9s					
MVCO	**Mesa Verde**	**71.82 326**	P	**P**	**14 59 24.8**	**+1.5**
	baz=140,SNR=6.8					
ECSD	**EROS Data Cent**	**72.02 338**	P	**P**	**14 59 24.0**	**-0.1**
	baz=151,SNR=7.5					
WUAZ	**Wupatki**	**72.09 323**	P	**P**	**14 59 27.0**	**+2.1**
	baz=137,SNR=15					
GLA	**Glamis**	**72.34 319**	P	**P**	**14 59 27.8**	**+1.6**
	baz=134					
ISCO	**Idaho Springs**	**72.41 329**	P	**P**	**14 59 28.3**	**+1.4**
	baz=143,SNR=9.1					
LSQQ	**Lebel-sur-Quev**	**72.48 353**	P	**P**	**14 59 26.5**	**-0.1**
	baz=170					
IKP	**In-Ko-Pah, Jac**	**72.85 318**	P	**P**	**14 59 30.7**	**+1.4**
	baz=133					
PV22	**Blue Mesa, Par**	**72.97 327**	P	**P**	**14 59 31.2**	**+1.2**
PV22			IAmb	IAmb	14 59 32.7	
	comp=Z,15nm,1.0s					
CHGQ	**Chibougamau**	**73.07 355**	P	**P**	**14 59 31.4**	**+1.3**
	baz=173					
BC3	**Big Chuckawall**	**73.13 319**	P	**P**	**14 59 32.9**	**+1.9**
	baz=134,SNR=7.0					
MONP2	**Monument Peak**	**73.20 318**	P	**P**	**14 59 33.4**	**+1.8**
	baz=133					
U15A	**North Rim**	**73.26 323**	IAmb	IAmb	14 59 35.2	
	comp=Z,13nm,0.9s					
IRM	**Iron Mountain**	**73.30 320**	P	**P**	**14 59 33.8**	**+1.9**
	baz=134,SNR=5.7					
N23A	**Red Feather La**	**73.44 330**	P	**P**	**14 59 34.4**	**+1.6**
	baz=143,SNR=9.2					
N23A	**Red Feather La**	**73.44 330**	IAmb	IAmb	14 59 35.2	
	comp=Z,9.9nm,0.7s					
PHWY	**Pilot Hill**	**73.54 331**	IAmb	IAmb	14 59 35.2	
	comp=Z,5.8nm,0.7s					
BELC	**Belle Mtn. Jos**	**73.70 319**	P	**P**	**14 59 35.9**	**+1.6**
	baz=134					
PFO	**Pinyon Flats O**	**73.71 318**	P	**P**	**14 59 36.2**	**+1.8**
	baz=133					
O20A	**White River Ci**	**73.93 328**	P	**P**	**14 59 37.3**	**+1.7**
	baz=141,SNR=7.6					
GMRC	**Granite Mounta**	**74.04 320**	P	**P**	**14 59 38.3**	**+2.0**
	baz=134,SNR=14					
EYMN	**Ely**	**74.21 343**	P	**P**	**14 59 36.6**	**-0.2**
	baz=156					
HEC	**Hector,Ludlow**	**74.47 319**	P	**P**	**14 59 40.8**	**+2.1**
	baz=133,SNR=9.7					
TUQ	**Turquoise Moun**	**74.64 320**	P	**P**	**14 59 41.3**	**+1.6**
	baz=134					
BFSC	**Mount Baldy Ra**	**74.87 318**	P	**P**	**14 59 42.9**	**+1.8**
	baz=132					
FMP	**Fort Macarthur**	**74.91 317**	P	**P**	**14 59 41.6**	**+0.5**
	baz=132					
GSC	**Goldstone, Bar**	**75.07 319**	P	**P**	**14 59 44.2**	**+2.1**
	baz=133,SNR=5.4					
K22A	**Casper**	**75.09 331**	P	**P**	**14 59 43.6**	**+1.4**
	baz=142,SNR=5.3					
RSSD	**Black Hills**	**75.20 333**	P	**P**	**14 59 43.9**	**+1.1**
	baz=145					
RSSD	**Black Hills**	**75.20 333**	P	**P**	**14 59 43.8**	**+1.0**
RSSD			IAmb	IAmb	14 59 44.9	
	comp=Z,11nm,1.0s					
B35A	**Bob, Littlefor**	**75.21 342**	IAmb	IAmb	14 59 43.3	
	comp=Z,8.1nm,0.9s					
EDW2	**Edwards Air Fo**	**75.51 318**	P	**P**	**14 59 46.1**	**+1.5**
	baz=132					
LRMC	**Laurel Mtn Rad**	**75.72 319**	P	**P**	**14 59 46.8**	**+0.9**
	baz=133					
AGMN	**Agassiz Nation**	**75.80 340**	P	**P**	**14 59 45.7**	**-0.1**
	baz=152					
TPNV	**Topopah Spring**	**75.88 321**	P	**P**	**14 59 49.0**	**+2.2**
	baz=134,SNR=16					
TPNV	**Topopah Spring**	**75.88 321**	P	**P**	**14 59 49.2**	**+2.4**
TPNV			IAmb	IAmb	14 59 50.1	
	comp=Z,10nm,0.9s					
FURC	**Furnace Creek,**	**75.90 320**	P	**P**	**14 59 48.9**	**+2.2**
	baz=133,SNR=7.5					
E28A	**Huff**	**75.93 337**	P	**P**	**14 59 46.5**	**-0.2**
MPMC	**Manual Prospec**	**75.99 320**	P	**P**	**14 59 49.0**	**+1.5**
	baz=133,SNR=7.1					
TOA0	**Torodi Ar. Sit**	**75.99 69**	P	**P**	**14 59 47.0**	**-0.7**
TOA0			IAmb	IAmb	14 59 50.0	
	comp=Z,12nm,1.1s					
TORD	**Torodi Ar. Bea**	**75.99 69**	P	**P**	**14 59 47.0**	**-0.7**
	comp=Z,5.1nm,0.6s,baz=258,slow=5.6,SNR=36					
DUG	**Dugway, Tooele**	**76.29 325**	P	**P**	**14 59 50.8**	**+1.8**
	baz=137,SNR=9.1					
DUG	**Dugway, Tooele**	**76.29 325**	IAmb	IAmb	14 59 51.9	
	comp=Z,10nm,1.0s					
ISA	**Isabella, Lake**	**76.32 319**	P	**P**	**14 59 51.2**	**+2.0**
	baz=132,SNR=8.1					
ISA	**Isabella, Lake**	**76.32 319**	P	**P**	**14 59 51.4**	**+2.2**
ISA			IAmb	IAmb	14 59 52.2	
	comp=Z,9.0nm,0.8s					
R11A	**Troy Canyon, C**	**76.47 322**	P	**P**	**14 59 52.1**	**+2.0**
	baz=135,SNR=17					
PDAR	**Pinedale Array**	**76.58 329**	P	**P**	**14 59 51.6**	**+0.9**
	comp=Z,3.2nm,0.7s,baz=129,slow=7.7,SNR=25					
BW06	**Boulder Array**	**76.58 329**	P	**P**	**14 59 51.5**	**+0.8**
	baz=140					
BW06	**Boulder Array**	**76.58 329**	P	**P**	**14 59 51.2**	**+0.5**
CWC	**Cottonwood Cre**	**76.60 320**	P	**P**	**14 59 52.5**	**+1.6**
	baz=132					
MDND	**Maddock**	**76.63 338**	P	**P**	**14 59 51.4**	**+0.8**
	baz=149					
PKM	**Mcpherson Peak**	**76.63 317**	P	**P**	**14 59 52.5**	**+1.4**
	baz=131					
HWUT	**Hardware Ranch**	**76.69 327**	IAmb	IAmb	14 59 53.5	
	comp=Z,8.7nm,0.8s					
ULM	**Lac du Bonnet**	**77.53 341**	P	**P**	**14 59 55.4**	**-0.1**
	comp=Z,3.8nm,0.6s,baz=145,slow=5.4,SNR=3.9					
SCHQ	**Schefferville**	**77.67 360**	P	**P**	**14 59 56.5**	**+0.3**
	comp=Z,6.7nm,0.8s,baz=213,slow=4.4,SNR=4.6					
TPAW	**Teton Pass**	**77.80 329**	IAmb	IAmb	14 59 59.1	
	comp=Z,9.0nm,0.8s					
OMMB	**Old Mammoth Mi**	**77.94 320**	P	**P**	**14 59 60.0**	**+1.5**
OMMB			IAmb	IAmb	15 00 01.1	
	comp=Z,10.0nm,1.0s					
NVAR	**Mina Array Bea**	**78.08 321**	P	**P**	**15 00 00.9**	**+1.8**
	comp=Z,3.0nm,0.9s,baz=154,slow=6.5,SNR=22					
IMW	**Indian Meadow**	**78.10 329**	IAmb	IAmb	15 00 01.8	
	comp=Z,14nm,0.8s					
FLWY	**Flagg Ranch**	**78.12 329**	IAmb	IAmb	15 00 02.1	
	comp=Z,16nm,0.9s					
RLMT	**Red Lodge**	**78.26 331**	P	**P**	**15 00 01.3**	**+1.4**
	baz=141,SNR=17					
RLMT	**Red Lodge**	**78.26 331**	IAmb	IAmb	15 00 02.3	
	comp=Z,15nm,0.7s					
KVN	**Kaiserville**	**78.38 322**	IAmb	IAmb	15 00 03.1	
	comp=Z,14nm,0.9s					
DGMT	**Dagmar**	**78.82 336**	P	**P**	**15 00 04.1**	**+1.5**
	baz=145,SNR=5.0					
PNTR	**Pine Nut**	**79.27 321**	IAmb	IAmb	15 00 08.6	
	comp=Z,17nm,0.8s					
HLID	**Hailey**	**79.55 327**	P	**P**	**15 00 08.9**	**+2.0**
	baz=136,SNR=41					
HLID	**Hailey**	**79.55 327**	IAmb	IAmb	15 00 10.0	
	comp=Z,18nm,0.8s					
PAHR	**Pah Rah Range**	**79.55 321**	IAmb	IAmb	15 00 10.0	
	comp=Z,20nm,0.9s					
BOZ	**Bozeman (W)**	**79.70 330**	P	**P**	**15 00 08.8**	**+1.2**
	baz=139,SNR=6.2					
DLMT	**Dillon**	**79.98 329**	IAmb	IAmb	15 00 11.3	
	comp=Z,6.4nm,0.7s					
AFDM	**Forest Hills D**	**79.98 320**	P	**P**	**15 00 10.6**	**+1.4**
ORV	**Oroville**	**80.69 320**	IAmb	IAmb	15 00 15.7	
	comp=Z,15nm,1.1s					
EGMT	**Eagleton**	**80.71 332**	P	**P**	**15 00 13.6**	**+0.6**
	baz=140,SNR=10.0					
EGMT	**Eagleton**	**80.71 332**	IAmb	IAmb	15 00 14.6	
	comp=Z,17nm,0.9s					
BOSA	**Boshof**	**80.85 117**	P	**P**	**15 00 14.4**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=275,slow=4.8,SNR=9.3					
BOSA	**Boshof**	**80.85 117**	IAmb	IAmb	15 00 16.8	
	comp=Z,3.4nm,0.7s					
O03E	**Paynes Creek**	**81.34 321**	P	**P**	**15 00 16.4**	**0.0**
	baz=130					
J08A	**Circle Bar Ran**	**81.51 325**	IAmb	IAmb	15 00 19.5	
	comp=Z,9.6nm,0.8s					
MSO	**Missoula**	**81.69 329**	P	**P**	**15 00 19.5**	**+1.3**
	baz=137					
BMO	**Blue Mountains**	**81.93 326**	IAmb	IAmb	15 00 22.6	
	comp=Z,8.3nm,0.9s					
MAW	**Mawson**	**82.14 163**	P	**P**	**15 00 21.6**	**+1.5**
	comp=Z,2.2nm,0.6s,baz=228,slow=15,SNR=2.7					
MAW	**Mawson**	**82.14 163**	IAmb	IAmb	15 00 26.4	
	comp=Z,0.8nm,0.8s					
N02D	**Trinity Center**	**82.30 321**	P	**P**	**15 00 22.5**	**+1.1**
	baz=130					
M04C	**Macdoel**	**82.32 322**	P	**P**	**15 00 22.5**	**+0.9**
	baz=130,SNR=5.7					
M02C	**Callahan**	**82.66 321**	P	**P**	**15 00 23.8**	**+0.6**
	baz=130					
F10A	**Beach Ranch, E**	**82.67 327**	IAmb	IAmb	15 00 26.3	
	comp=Z,13nm,0.8s					
L04D	**Klamath Falls**	**82.87 322**	P	**P**	**15 00 25.3**	**+0.9**
	baz=130					
J05D	**Fort Rock, OR**	**82.96 323**	P	**P**	**15 00 26.2**	**+1.3**
	baz=131,SNR=5.9					
PINE	**Pine Mountain**	**83.13 324**	IAmb	IAmb	15 00 28.6	
	comp=Z,11nm,0.8s					
J04D	**Umpqua Nationa**	**83.42 323**	P	**P**	**15 00 28.4**	**+1.2**
	baz=130					
L02E	**Cave Junction**	**83.57 321**	P	**P**	**15 00 29.1**	**+1.2**
	baz=129					
I05D	**Terrebonne, OR**	**83.71 324**	P	**P**	**15 00 29.8**	**+1.3**
	baz=131					
TAM	**Tamanrasset**	**83.75 62**	P	**P**	**15 00 30.2**	**+0.8**
K02D	**Willamette Mer**	**83.95 322**	P	**P**	**15 00 30.9**	**+1.1**
	baz=129					
HAWA	**Hanford**	**84.13 326**	IAmb	IAmb	15 00 32.9	
	comp=Z,12nm,0.9s					
NEW	**Newport**	**84.22 329**	P	**P**	**15 00 32.9**	**+1.9**
	baz=135					
G05D	**Wamic, OR**	**84.29 325**	P	**P**	**15 00 33.0**	**+1.6**
	baz=131					
I03D	**Drain, OR**	**84.40 322**	P	**P**	**15 00 33.5**	**+1.5**
	baz=130					
LTY	**Liberty**	**85.28 326**	IAmb	IAmb	15 00 38.1	
	comp=Z,8.6nm,0.8s					
ESDC	**Sonseca Array**	**85.59 43**	P	**P**	**15 00 38.0**	**0.0**
	comp=Z,0.8nm,0.7s,baz=230,slow=4.2,SNR=4.7					
B05A	**Bryant**	**86.67 327**	P	**P**	**15 00 43.5**	**+0.5**
	baz=131					
YKA	**Yellowknife Ar**	**93.44 340**	P	**P**	**15 01 14.7**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=130,slow=4.3,SNR=6.1					
ILAR	**Eielson Array**	**106.64 334**	PP	**PP**	**15 06 40.9**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=88,slow=4.9,SNR=5.2					
ASAR	**Alice Springs**	**129.34 205**	PKP	**PKiKP**	**15 07 08.1**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=155,slow=2.3,SNR=9.1					
ASAR			SKPbc	SKPbc	15 10 10.3	0.0
	comp=Z,0.6nm,0.8s,baz=155,slow=3.7,SNR=7.3					
WRA	**Warramunga Arr**	**132.50 207**	PKP	**PKiKP**	**15 07 14.4**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=150,slow=1.4,SNR=6.6					
WRA			SKPbc	**SKPbc**	**15 10 21.9**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=152,slow=3.4,SNR=5.9					
PETK	**Petropavlovsk-**	**135.12 323**	PKhKP	PKPpre	15 07 09.6	
	comp=Z,0.5nm,0.6s,baz=128,slow=2.4,SNR=3.7					
PETK			PKP	**PKiKP**	**15 07 18.8**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=103,slow=6.4,SNR=3.7					
PETK			SKPbc	**SKPbc**	**15 10 28.6**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=64,slow=6.6,SNR=3.9					
BVAR	**Borovoye Array**	**135.95 36**	PKP	**PKiKP**	**15 07 20.4**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=246,slow=6.1,SNR=2.2					
KURK	**Kurchatov**	**141.53 36**		**PKPdf**	**15 07 28.0**	**-1.2**
KURBB	**Kurchatov Arra**	**141.53 36**	PKP	**PKPdf**	**15 07 28.0**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=302,slow=2.7,SNR=3.0					
ZALV	**Zalesovo Beam**	**142.52 28**	PKhKP	PKPpre	15 07 27.1	
	comp=Z,1.3nm,0.6s,baz=291,slow=3.3,SNR=5.0					
MAKZ	**Makanchi**	**145.50 39**		**PKPab**	**15 07 37.6**	**+0.2**
MK31	**Makanchi Array**	**145.69 39**		**PKPab**	**15 07 38.5**	**+0.4**
MKAR	**Makanchi Array**	**145.69 39**	PKPbc	**PKPab**	**15 07 38.0**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=316,slow=3.1,SNR=21					
ASAJ	**Asahikawa**	**148.16 318**	PKPbc	**PKPbc**	**15 07 44.5**	**+0.2**
	comp=Z,12nm,0.9s,baz=203,slow=5.5,SNR=10					
KLR	**Kul'dur**	**150.20 335**	PKPbc	**PKPbc**	**15 07 49.6**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=80,slow=2.7,SNR=12					
SONM	**Songino Array**	**154.77 11**	PKPbc	**PKiKP**	**15 08 00.4**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=258,slow=1.3,SNR=2.5					
SONM			PKPab	**PKPab**	**15 08 16.3**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=326,slow=4.8,SNR=4.6					
KSRS	**Korea Array**	**161.01 322**	PKPab	**PKPab**	**15 08 44.1**	**+1.5**
	comp=Z,1.9nm,1.0s,baz=22,slow=4.6,SNR=5.4					
LZH	**Lanzhou**	**164.72 30**	⇑PKP	**PKPdf**	**15 08 02.5**	**0.0**
LZH			pPKP	pPKPdf	15 08 54.1	-1.6
LZH			PKP	**PKPab**	**15 09 01.7**	**+2.6**
LZH			sPKP		15 09 14.3	
CMAR	**Chiang Mai Arr**	**165.77 107**	PKPab	**PKPab**	**15 09 05.0**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=237,slow=5.2,SNR=16					

*NDI **01** 15:01:01.8±1.5, 23°.69N×93°.82E, h38km±26km, ML3.6*
*IDC **01** 15:01:14.0±4.7, 23°.04N×94°.07E, h171km±36km, mb3.2/3, mb1 3.4/4, mb1mx2.9/45, mbtmp3.6/4, Error ellipse: s-maj=132.4km s-min=20.9km az=60.0*
ISC 01 15:01:03.7±1.2**, 23°.71N**±0°.08×**93°.51E**±0°.07**, h35**km**, n22,** σ**1.82**/33**, Myanmar-India border region**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.37 322**	*e*P	**Pn**	**15 01 41.8**	**+1.5**
SHL			*e*S	**Sn**	**15 02 09.6**	**+1.4**
SHL			IAML		15 02 13.5	
	comp=E,542nm,0.2s					
TEZP	**TEZPUR**	**2.96 348**	*e*P	**Pn**	**15 01 47.7**	**-0.6**
TEZP			*e*S	**Sn**	**15 02 20.9**	**-1.8**
TEZP			IAML		15 02 22.3	
	comp=E,167nm,0.2s					
TEZP			IAML		15 02 22.5	
	comp=N,208nm,0.1s					
GUWA	**GUWAHATI**	**2.97 327**	*e*P	**Pn**	**15 01 48.7**	**+0.3**
GUWA			*e*S	**Sn**	**15 02 22.4**	**-0.4**
GUWA			IAML		15 02 25.3	
	comp=N,392nm,0.2s					
GUWA			IAML		15 02 25.8	
	comp=E,206nm,0.4s					
ZIRO	**ZIRO**	**3.81 5**	*e*P	**Pn**	**15 01 57.2**	**-2.9**
ZIRO			*e*P		15 01 57.2	
ZIRO			*e*S	**Sn**	**15 02 39.5**	**-4.4**
ZIRO			IAML		15 02 43.3	
	comp=N,321nm,0.5s					
ZIRO			IAML		15 02 44.9	
	comp=E,347nm,0.3s					
GTK	**Tadong**	**5.71 310**	*e*P	**Pn**	**15 02 27.6**	**+1.5**
GTK			*e*S	**Sn**	**15 03 28.8**	**-1.7**
GTK			IAML		15 03 35.4	
	comp=E,100nm,0.3s					
GTK			IAML		15 03 35.5	
	comp=N,70nm,0.3s					
ODAN	**Odare**	**6.37 301**	*e*Pn	**Pn**	**15 02 35.9**	**+0.6**
ODAN			*e*Sn	**Sn**	**15 03 46.6**	**-0.3**
	comp=N,114nm,0.4s					
TAPN	**Taplejung**	**6.37 306**	*e*Pn	**Pn**	**15 02 36.0**	**+0.6**
TAPN			*e*Sn	**Sn**	**15 03 46.9**	**-0.2**
	comp=N,123nm,0.4s					
BOK	**Bokaro**	**6.99 272**	*e*P	**Pn**	**15 02 43.8**	**+0.2**
BOK			*e*S	**Sn**	**15 04 00.3**	**-1.6**
BOK			IAML		15 04 04.1	
	comp=N,23nm,0.1s					
BOK			IAML		15 04 04.6	
	comp=E,21nm,0.1s					
RAMN	**Ramite**	**7.04 299**	*e*Pn	**Pn**	**15 02 44.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**7.28 135**	P	**Pn**	**15 02 47.0**	**-0.7**
	comp=E,0.7nm,0.3s,baz=311,slow=16,SNR=5.4					
JIRN	**Jiri**	**7.69 302**	*e*Pn	**Pn**	**15 02 53.2**	**-0.3**
JIRN			*e*Sn	**Sn**	**15 04 18.9**	**-0.6**
	comp=E,82nm,0.3s					
GUN	**Gumba**	**8.05 303**	*e*Pn	**Pn**	**15 02 58.5**	**0.0**
GUN			*e*Sn	**Sn**	**15 04 27.8**	**-0.6**
	comp=E,66nm,0.4s					
PKI	**Pulchoki**	**8.26 299**	*e*Pn	**Pn**	**15 03 01.4**	**+0.1**
PKI			*e*Sn	**Sn**	**15 04 32.3**	**-1.3**
	comp=E,25nm,0.5s					
KKN	**Kakani**	**8.46 300**	*e*Pn	**Pn**	**15 03 03.8**	**-0.2**
DMN	**Daman**	**8.52 299**	*e*Pn	**Pn**	**15 03 04.9**	**+0.1**
GKN	**Gorkha**	**9.06 300**	*e*Pn	**Pn**	**15 03 11.6**	**-0.6**
GKN			*e*Sn	**Sn**	**15 04 50.2**	**-2.9**
	comp=E,64nm,0.3s					
KOLN	**Koldanda**	**9.80 296**	*e*Pn	**Pn**	**15 03 21.0**	**-1.4**
KOLN			*e*Sn	**Sn**	**15 05 07.7**	**-3.7**
	comp=E,46nm,0.4s					
DANN	**Dangsing**	**9.91 300**	*e*Pn	**Pn**	**15 03 23.1**	**-0.9**
PYUN	**Piuthan**	**10.43 297**	*e*Pn	**Pn**	**15 03 29.6**	**-1.4**
MKAR	**Makanchi Array**	**24.74 341**	P	**P**	**15 06 26.7**	**+4.9**
	comp=E,0.3nm,0.5s,baz=160,slow=8.7,SNR=5.0					
WRA	**Warramunga Arr**	**58.88 134**	P	P	15 10 48.9	-10
	comp=E,0.7nm,0.4s,baz=322,slow=7.4,SNR=8.0					
ASAR	**Alice Springs**	**61.28 137**	P	P	15 11 06.2	-10
	comp=E,0.7nm,0.5s,baz=320,slow=6.8,SNR=25					

*JMA **01** 15:05:54.4±0.2, 34°.15N×140°.75E, h41km, M2.8*
*IDC **01** 15:06:00.1±1.2, 34°.05N×139°.63E, h77km±9km, mb3.5/3, mb1 3.3/5, mb1mx3.0/36, mbtmp3.5/5, Error ellipse: s-maj=58.5km s-min=8.1km az=72.0*
ISC 01 15:05:54.9±1.2**, 34°.15N**±0°.05×**140°.75E**±0°.09**, h35**km**, n17,** σ**1.47**/18**, Near east coast of eastern Honshu**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.54 21**	P	**Pn**	**15 06 05.5**	**0.0**
BSO3	**Boso 3**	**0.68 343**	P	**Pn**	**15 06 08.3**	**+0.6**
BSO4	**Boso 4**	**0.90 338**	P	**Pn**	**15 06 11.6**	**+0.6**
BSO4			*e*X		15 06 24.5	
JMKN	**Mikurajimanish**	**1.00 255**	P	**Pn**	**15 06 12.6**	**+0.2**
JMKN			*e*S	**Sn**	**15 06 25.3**	**+0.1**
JKUC	**kamogawauchiur**	**1.10 336**	P	**Pn**	**15 06 13.9**	**+0.1**
JHJ2	**Mitsune**	**1.30 217**	P	**Pn**	**15 06 16.7**	**+0.2**
JHJ2			*e*S	**Sn**	**15 06 32.7**	**+0.1**
JHJ	**Hachijo jima 2**	**1.31 218**	P	**Pn**	**15 06 16.8**	**+0.2**
	21nm,0.3s,baz=336,slow=17,SNR=15					
JHJ			S	**Sn**	**15 06 32.9**	**0.0**
	34nm,0.3s,baz=77,slow=22,SNR=6.5					
KTJ3	**Kamata3**	**1.59 300**	P	**Pn**	**15 06 20.4**	**-0.1**
MJAR	**Matsushiro Arr**	**3.16 320**	P	**Pn**	**15 06 41.3**	**-0.9**
	0.4nm,0.3s,baz=56,slow=4.0,SNR=19					
MJAR			S	**Sn**	**15 07 14.3**	**-4.3**
	0.3nm,0.3s,baz=359,slow=16,SNR=6.0					
MAT	**Matsushiro**	**3.16 320**	P	**Pn**	**15 06 43.8**	**+1.6**
MAT			*e*S	**Sn**	**15 07 20.9**	**+2.2**
KSRS	**Korea Array**	**10.92 291**	P	Pn	15 08 22.4	-6.3
	0.4nm,0.3s,baz=74,slow=14,SNR=5.3					
H11N2	**WAKE ISLAND Hy**	**27.28 115**	T	T	15 40 32.8	
	baz=306,slow=75,SNR=3.0					
H11N1	**WAKE ISLAND Hy**	**27.29 115**	T	T	15 40 35.3	
	baz=306,slow=75,SNR=3.1					
H11N3	**WAKE ISLAND Hy**	**27.30 115**	T	T	15 40 35.2	
	baz=306,slow=75,SNR=2.8					
YAK	**Yakutsk**	**28.78 349**	P	**P**	**15 11 50.3**	**+1.3**
	4.2nm,0.5s,baz=138,slow=0.4,SNR=4.7					
WRA	**Warramunga Arr**	**54.14 187**	P	**P**	**15 15 15.0**	**-1.5**
	0.7nm,1.0s,baz=3.2,slow=7.7,SNR=2.3					
ASAR	**Alice Springs**	**57.87 187**	P	**P**	**15 15 42.8**	**-0.4**
	0.2nm,0.8s,baz=13,slow=7.8,SNR=4.8					

*NEIC **01** 15:57:21.4±3.0, 23°.3S±0°.2×115°.0W±0°.2, h10km±1km, mb4.5/3, Error ellipse: s-maj=43.1km s-min=18.6km az=216.0*
*IDC **01** 15:57:21.5±1.6, 23°.07S×114°.74W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.6/33, mbtmp3.5/3, MS3.6/6, Ms1 3.6/6, ms1mx3.3/15, Error ellipse: s-maj=57.5km s-min=43.2km az=29.0*
ISC 01 15:57:21.0±1.3**, 23°.4S**±0°.3×**114°.9W**±0°.2**, h10**km**, n25,** σ**0.46**/11**, MS3.6**/5**, Easter Island region**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.27 127**	LR	LR	16 00 53.5	
	comp=Z,819nm,18.0s,baz=294,slow=33					
RPN	**Rapa Nui**	**6.27 127**	Pn	**Pn**	**15 58 53.3**	**-0.3**
PPT	**Papeete**	**32.91 274**	LR	LR	16 12 39.2	
	comp=Z,151nm,19.0s,baz=160,slow=28					
H03N2	**Juan Fernandez**	**33.05 116**	T	T	16 38 52.5	
	baz=283,slow=75,SNR=25					
H03N3	**Juan Fernandez**	**33.06 116**	T	T	16 38 53.6	
	baz=283,slow=75,SNR=23					
H03N1	**Juan Fernandez**	**33.07 116**	T	T	16 38 55.9	
	baz=283,slow=75,SNR=24					
BO02	**Sierra Bellavi**	**39.92 117**	P	**P**	**16 04 56.2**	**+0.7**
BO02			IAmb	IAmb	16 05 00.5	
	comp=Z,19nm,1.5s					
GO03	**Copiap**	**40.39 106**	P	**P**	**16 04 58.6**	**-0.8**
GO03			IAmb	IAmb	16 05 04.1	
	comp=Z,10nm,0.9s					
PLCA	**Paso Flores**	**40.91 126**	LR	LR	16 16 15.6	
	comp=Z,22nm,21.8s,baz=312,slow=28					
AC02	**Maricunga**	**41.44 105**	P	**P**	**16 05 08.6**	**0.0**
AC02			IAmb	IAmb	16 05 09.0	
	comp=Z,16nm,1.5s					
LVC	**Limon Verde**	**42.23 98**	LR	LR	16 17 51.1	
	comp=Z,86nm,20.9s,baz=242,slow=29					
LPAZ	**La Paz**	**44.44 90**	P	**P**	**16 05 33.7**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=252,slow=6.4,SNR=2.7					
LPAZ			LR	LR	16 20 28.6	
	comp=Z,33nm,18.3s,baz=39,slow=31					
NVAR	**Mina Array Bea**	**61.60 357**	P	**P**	**16 07 39.0**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=184,slow=9.3,SNR=4.9					
VNDA	**Vanda**	**65.84 194**	LR	LR	16 31 53.8	
	comp=Z,59nm,18.4s,baz=291,slow=31					
PDAR	**Pinedale Array**	**66.04 4**	P	**P**	**16 08 08.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=159,slow=7.7,SNR=2.5					
H11S2	**WAKE ISLAND Hy**	**87.06 291**	T	T	17 46 17.4	
	baz=116,slow=75,SNR=61					
H11S1	**WAKE ISLAND Hy**	**87.07 291**	T	T	17 46 17.4	
	baz=116,slow=75,SNR=37					
H11S3	**WAKE ISLAND Hy**	**87.08 291**	T	T	17 46 16.2	
	baz=116,slow=75,SNR=35					
H11N3	**WAKE ISLAND Hy**	**87.42 293**	T	T	17 46 31.2	
	baz=116,slow=76,SNR=10					
H11N1	**WAKE ISLAND Hy**	**87.43 293**	T	T	17 46 43.2	
	baz=116,slow=76,SNR=4.5					
H11N2	**WAKE ISLAND Hy**	**87.44 293**	T	T	17 46 31.8	
	baz=116,slow=76,SNR=21					
ZALV	**Zalesovo Beam**	**146.08 339**	PKPbc	**PKPab**	**16 17 01.3**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=42,slow=4.5,SNR=2.4					
CMAR	**Chiang Mai Arr**	**148.03 268**	PKPbc	**PKPab**	**16 17 10.3**	**0.0**
	comp=Z,1.1nm,0.4s,baz=348,slow=2.0,SNR=4.7					
BRTR	**Keskin Array B**	**148.88 51**	PKPbc	**PKiKP**	**16 17 10.5**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=336,slow=3.2,SNR=2.4					
MKAR	**Makanchi Array**	**152.87 334**	PKPbc	**PKiKP**	**16 17 18.6**	**0.0**
	comp=Z,0.2nm,0.7s,baz=35,slow=3.5,SNR=2.4					

*CNRM **01** 16:01:07.7±2.5, 38°.77N×10°.48W, h152km±24km, Error ellipse: s-maj=22.8km s-min=12.6km az=114.0*
*LDG **01** 16:01:10.7±0.1, 39°.23N×9°.28W, h15km, Ml3.2/6, Error ellipse: s-maj=3.4km s-min=1.9km az=89.0*
*MDD **01** 16:01:10.4±0.3, 39°.25N×9°.19W, h11km, mbLg3.3/39, Error ellipse: s-maj=3.8km s-min=1.8km az=104.0, PRXIMO*
*SFS **01** 16:01:10.0, 39°.62N×9°.19W, h10km, ML3.2, BOMBARRAL (PORTUGAL)*
*INMG **01** 16:01:10.9±1.8, 39°.24N×9°.22W, h12km±2km, MD3.1, ML3.2, Error ellipse: s-maj=3.7km s-min=1.4km az=92.0*
*IGIL **01** 16:01:11.2, 39°.24N×9°.22W, h12km, ML3.5*
ISC 01 16:01:10.1±1.0**, 39°.23N**±0°.02×**9°.22W**±0°.03**, h22**km±9km**, n144,** σ**1.96**/238**, 4C-2D, Portugal**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**0.28 190**	⇑Pg	**Pb**	**16 01 16.3**	**-0.4**
	377nm,0.2s,SNR=18					
PMAFR			Lg	Lg	16 01 20.5	
	5μm,0.2s,SNR=7.9					
PMAFR	**Mafra**	**0.28 190**	⇑*i*Pg	**Pb**	**16 01 16.3**	**-0.4**
PMAFR			*e*Sg	**Sb**	**16 01 20.5**	**-0.6**
PMAFR			A	A	16 01 21.1	
	3μm,0.2s					

PSBE So Bento 0.43 49 *e*Pg **Pb 16 01 18.0 -1.1**
PSBE *e*Sg **Sb 16 01 25.6 +0.3**
PSBE A A 16 01 26.1
354nm,0.3s
INMG Instituto de M 0.46 171 Pg **Pb 16 01 19.8 +0.2**
INMG Lg Lg 16 01 26.5
461nm,0.4s
INMG Instituto de M 0.46 171 *e*Pg **Pb 16 01 19.8 +0.2**
INMG *e*Sg **Sb 16 01 26.5 +0.4**
INMG A A 16 01 26.9
923nm,0.4s
LIS Lisbon 0.52 174 *e*P **Pb 16 01 20.6 +0.1**
LIS *e*S **Sb 16 01 27.8 +0.2**
LIS AML AML 16 01 29.4
comp=N,3µm,0.1s
LIS Lisbon 0.52 174 Pg **Pb 16 01 20.6 +0.1**
LIS Lg Lg 16 01 28.0
comp=N,4µm,0.2s
LIS Lisbon 0.52 174 *e*Pg **Pb 16 01 20.6 +0.1**
LIS *e*Sg **Sb 16 01 28.0 +0.4**
LIS A A 16 01 29.1
comp=N,4µm,0.2s
PMTG Montargil 0.79 102 Pg **Pb 16 01 24.1 -1.1**
PMTG Lg Lg 16 01 35.9
comp=N,588nm,0.1s
PMTG Montargil 0.79 102 *e*P **Pb 16 01 24.1 -1.1**
PMTG *e*S **Sb 16 01 35.9 +0.4**
PMTG A A 16 01 37.5
comp=N,588nm,0.1s
PCAS Casmilo, Conde 0.99 34 Pg **Pb 16 01 28.3 -0.3**
PCAS Lg Lg 16 01 42.2
comp=N,315nm,0.2s
PCAS Casmilo, Conde 0.99 34 *e*P **Pb 16 01 28.3 -0.3**
PCAS *e*S **Sn 16 01 42.2 +0.2**
PCAS A A 16 01 45.8
comp=N,315nm,0.2s
COI Coimbra 1.16 32 Pg **Pb 16 01 31.4 0.0**
COI Lg Lg 16 01 46.5
comp=N,206nm,0.2s
COI Coimbra 1.16 32 *e*P **Pb 16 01 31.4 0.0**
COI *e*S **Sn 16 01 46.5 +0.4**
COI A A 16 01 51.0
comp=N,411nm,0.2s
EVO Evora 1.17 126 Pg **Pb 16 01 31.7 0.0**
EVO Lg Lg 16 01 47.4
comp=N,642nm,0.1s
EVO Evora 1.17 126 ǁ*i*P **Pb 16 01 31.7 0.0**
EVO Evora 1.17 126 *e*P **Pn 16 01 30.9 -0.3**
EVO *e*S **Sn 16 01 47.4 +0.9**
EVO A A 16 01 48.9
comp=N,642nm,0.1s
PNCL Nicolau / Gran 1.24 154 Pg **Pn 16 01 31.8 -0.3**
PNCL Lg Lg 16 01 49.4
comp=N,263nm,0.6s
PNCL Nicolau / Gran 1.24 154 *e*P **Pn 16 01 31.8 -0.3**
PNCL *e*S **Sb 16 01 49.4 +0.9**
PNCL A A 16 01 51.3
comp=N,263nm,0.6s
PMRV Marv??o 1.43 82 Pn **Pn 16 01 34.7 0.0**
PMRV Pg **Pb 16 01 36.3 +0.2**
PMRV Lg Lg 16 01 54.9
comp=N,343nm,0.3s
PMRV Marv??o 1.43 82 *e*Pn **Pn 16 01 34.7 0.0**
PMRV Marv??o 1.43 82 *e*Pg **Pb 16 01 36.3 +0.2**
PMRV *e*Sg **Sb 16 01 54.9 +1.0**
PMRV A A 16 01 57.1
comp=N,343nm,0.3s
PCBR Castelo Branco 1.48 65 Pn **Pn 16 01 35.3 -0.1**
PCBR Pg **Pb 16 01 38.2 +1.3**
PCBR Lg Lg 16 01 55.8
comp=N,57nm,0.3s
PCBR Castelo Branco 1.48 65 *e*Pn **Pn 16 01 35.3 -0.1**
PCBR Castelo Branco 1.48 65 *e*Pg **Pb 16 01 38.2 +1.3**
PCBR *e*Sg **Sb 16 01 55.8 +0.6**
PCBR A A 16 02 00.9
comp=N,114nm,0.3s
PBEJ Beja 1.60 138 Pn **Pn 16 01 37.0 -0.1**
PBEJ Pg **Pb 16 01 38.9 -0.2**
PBEJ Lg Lg 16 02 00.2
comp=N,38nm,0.3s
PBEJ Beja 1.60 138 *e*Pn **Pn 16 01 37.0 -0.1**
PBEJ Beja 1.60 138 *e*Pg **Pb 16 01 38.9 -0.2**
PBEJ *e*Sg **Sb 16 02 00.2 +1.3**
PBEJ A A 16 02 05.8
comp=N,76nm,0.3s
PTEO Sao Teotonio 1.73 167 Pn **Pn 16 01 38.8 0.0**
PTEO Pg **Pb 16 01 42.2 +1.0**
PTEO Lg Lg 16 02 03.6
comp=N,106nm,0.6s
PTEO Sao Teotonio 1.73 167 *e*Pn **Pn 16 01 38.8 0.0**
PTEO Sao Teotonio 1.73 167 *e*Pg **Pb 16 01 42.2 +1.0**
PTEO *e*Sg **Sb 16 02 03.6 +1.2**
PTEO A A 16 02 04.3
comp=N,213nm,0.6s
MTE Manteigas 1.74 47 Pn **Pn 16 01 39.0 0.0**
MTE Pg **Pb 16 01 41.3 -0.1**
MTE Lg Lg 16 02 04.3
comp=N,60nm,0.5s
MTE Manteigas 1.74 47 *e*Pn **Pn 16 01 39.0 0.0**
MTE Manteigas 1.74 47 *e*Pg **Pb 16 01 41.3 -0.1**
MTE *e*Sg **Sb 16 02 04.3 +1.5**
MTE A A 16 02 10.8
comp=N,121nm,0.5s
EBAD Badajoz 1.79 105 Pn **Pn 16 01 38.9 -0.7**
comp=N,1.3nm,0.1s,SNR=14
EBAD Pg **Pb 16 01 42.5 +0.4**
comp=N,0.8nm,0.1s,SNR=7.9
EBAD Lg Lg 16 02 04.8
comp=N,180nm,0.1s,SNR=7.9
PVIS Viseu 1.80 34 Pn **Pn 16 01 40.0 +0.2**
PVIS Pg **Pb 16 01 43.3 +0.9**
PVIS Lg Lg 16 02 06.3
comp=N,50nm,0.1s
PVIS Viseu 1.80 34 *e*Pn **Pn 16 01 40.0 +0.2**
PVIS Viseu 1.80 34 *e*Pg **Pb 16 01 43.3 +0.9**
PVIS *e*Sg **Sb 16 02 06.3 +1.8**
PVIS A A 16 02 09.5
comp=N,101nm,0.1s
PCVE Castro Verde 1.85 149 Pn **Pn 16 01 40.2 -0.2**
PCVE Pg **Pb 16 01 43.9 +0.7**
PCVE Lg Lg 16 02 08.2
comp=N,84nm,0.2s
PCVE Castro Verde 1.85 149 ǁ*e*Pn **Pn 16 01 40.2 -0.2**
PCVE Castro Verde 1.85 149 *e*Pg **Pb 16 01 43.9 +0.7**
PCVE *e*Sg **Sb 16 02 08.2 +2.3**
PCVE A A 16 02 11.3
comp=N,84nm,0.2s
PTO Porto 1.96 14 Pg **Pb 16 01 45.9 +0.8**
PTO Lg Lg 16 02 11.1
PTO Porto 1.96 14 *e*Pg **Pb 16 01 45.9 +0.8**
PTO *e*Sg **Sb 16 02 11.1 +2.0**
MORF Marmelete 1.98 167 Pn **Pn 16 01 42.9 +0.7**
MORF Pg **Pb 16 01 46.5 +1.1**
MORF Sn **Sn 16 02 06.7 +0.4**
MORF Lg Lg 16 02 12.1
comp=N,195nm,0.1s
MORF Marmelete 1.98 167 *e*Pn **Pn 16 01 42.9 +0.7**
MORF Marmelete 1.98 167 *e*Pg **Pb 16 01 46.5 +1.1**
MORF *e*Sn **Sn 16 02 06.7 +0.4**
MORF *e*Sg **Sb 16 02 12.1 +2.5**
MORF A A 16 02 14.1
comp=N,195nm,0.1s
PBAR Barrancos 2.01 121 Pn **Pn 16 01 43.5 +0.9**
PBAR Pg **Pb 16 01 46.9 +1.0**
PBAR Lg Lg 16 02 12.9
comp=N,155nm,0.5s
PBAR Barrancos 2.01 121 *e*Pn **Pn 16 01 43.5 +0.9**
PBAR Barrancos 2.01 121 *e*Pg **Pb 16 01 46.9 +1.0**
PBAR *e*Sg **Sb 16 02 12.9 +2.4**
PBAR A A 16 02 17.4
comp=N,155nm,0.5s
PFVI Vila Bisbo 2.12 171 Pn **Pn 16 01 44.7 +0.6**
comp=N,2.1nm,0.2s,SNR=7.9
PFVI Pg **Pb 16 01 49.4 +1.6**
comp=N,15nm,0.2s,SNR=11
PFVI Lg Lg 16 02 16.0
comp=N,205nm,0.3s,SNR=11
PFVI Vila Bisbo 2.12 171 S **Sb 16 02 13.1 -0.6**
PFVI Vila Bisbo 2.12 171 *e*Pn **Pn 16 01 44.8 +0.6**
PFVI Vila Bisbo 2.12 171 *e*Pg **Pb 16 01 49.5 +1.6**
PFVI *e*Sg **Sb 16 02 16.2 +2.5**
PFVI A A 16 02 18.8
comp=N,94nm,0.4s
PVAQ Vaqueiros 2.18 147 Pn **Pn 16 01 45.0 +0.1**
PVAQ Pg **Pb 16 01 49.8 +1.0**
PVAQ Lg Lg 16 02 18.2
comp=N,93nm,0.2s
PVAQ Vaqueiros 2.18 147 P **Pb 16 01 50.5 +1.7**
PVAQ S **Sb 16 02 21.7 +6.4**
PVAQ Vaqueiros 2.18 147 *e*Pn **Pn 16 01 45.0 +0.1**
PVAQ Vaqueiros 2.18 147 *e*Pg **Pb 16 01 49.8 +1.0**
PVAQ *e*Sg **Sb 16 02 18.2 +2.9**
PVAQ A A 16 02 25.1
comp=N,93nm,0.2s
EGRO El Granado 2.18 141 Pn **Pn 16 01 44.9 0.0**
comp=N,3.0nm,0.3s,SNR=24
EGRO Pg **Pb 16 01 49.9 +1.1**
comp=N,17nm,0.2s,SNR=7.9
EGRO Lg Lg 16 02 18.2
comp=N,46nm,0.1s,SNR=7.9
PBDV Barranco-do-Ve 2.23 153 Pn **Pn 16 01 46.0 +0.3**
PBDV Pg **Pb 16 01 50.8 +1.1**
PBDV Lg Lg 16 02 19.7
comp=N,69nm,0.6s
PBDV Barranco-do-Ve 2.23 153 *e*Pn **Pn 16 01 46.0 +0.3**
PBDV Barranco-do-Ve 2.23 153 *e*Pg **Pb 16 01 50.8 +1.1**
PBDV *e*Sg **Sb 16 02 19.7 +2.8**
PBDV A A 16 02 31.4
comp=N,69nm,0.6s
PVRL Vila Real 2.34 29 Pn **Pn 16 01 47.1 -0.2**
PVRL Pg **Pb 16 01 53.0 +1.3**
PVRL Lg Lg 16 02 24.8
comp=N,29nm,0.3s
PVRL Vila Real 2.34 29 *e*Pn **Pn 16 01 47.1 -0.2**
PVRL Vila Real 2.34 29 *e*Pg **Pb 16 01 53.0 +1.3**
PVRL *e*Sg **Sb 16 02 24.8 +4.6**
PVRL A A 16 02 26.9
comp=N,57nm,0.3s
EMIN Mina Concepcio 2.48 125 Pn **Pn 16 01 49.0 -0.1**
comp=N,4.7nm,0.1s,SNR=56
EMIN Pg **Pb 16 01 54.8 +0.9**
comp=N,8.7nm,0.2s,SNR=7.9
EMIN Sn **Sn 16 02 18.7 0.0**
comp=N,16nm,0.2s,SNR=5.7
EMIN Lg Lg 16 02 26.2
comp=N,38nm,0.2s,SNR=7.9
MVO Moncorvo 2.56 40 ⇑Pn **Pn 16 01 50.2 -0.1**
comp=N,10nm,0.1s,SNR=18
MVO Pg **Pb 16 01 56.9 +1.6**
comp=N,37nm,0.2s,SNR=7.9
MVO Sn **Sn 16 02 19.0 -1.8**
comp=N,34nm,0.2s,SNR=5.8
MVO Lg Lg 16 02 29.8
comp=N,81nm,0.3s,SNR=7.9
MVO Moncorvo 2.56 40 *e*Pn **Pn 16 01 50.1 -0.1**
MVO Moncorvo 2.56 40 *e*Pg **Pb 16 01 56.3 +1.0**
MVO *e*Sg **Sb 16 02 30.2 +3.8**
MVO A A 16 02 32.7
comp=N,79nm,0.2s
EPLA Plasencia 2.56 70 Pn **Pn 16 01 50.9 +0.6**
comp=N,2.5nm,0.2s,SNR=18
EPLA Pg **Pb 16 01 57.5 +2.1**
comp=N,19nm,0.2s,SNR=38
EPLA Sn **Sn 16 02 20.4 -0.4**
comp=N,36nm,0.2s,SNR=7.9
EPLA Lg Lg 16 02 29.5
comp=N,52nm,0.2s,SNR=7.9
PCAB Cabril 2.64 20 Pn **Pn 16 01 51.5 +0.2**
PCAB Lg Lg 16 02 31.8
comp=N,26nm,0.2s
PCAB Cabril 2.64 20 *e*Pn **Pn 16 01 51.5 +0.2**
PCAB *e*Sg **Sb 16 02 31.8 +3.2**
PCAB A A 16 02 33.5
comp=N,53nm,0.2s
ELOB Lobios 2.78 18 ⇑Pn **Pn 16 01 53.0 -0.3**
comp=N,3.4nm,0.2s,SNR=18
ELOB Pg **Pb 16 02 00.2 +1.1**
comp=N,12nm,0.2s,SNR=19
ELOB Sn **Sn 16 02 23.1 -3.1**
comp=N,3.8nm,0.3s,SNR=9.2
ELOB Lg Lg 16 02 36.7
comp=N,113nm,0.3s,SNR=7.9
PGAV Gavieira, Arco 2.82 15 Pn **Pn 16 01 53.9 -0.1**
PGAV Lg Lg 16 02 37.0
PGAV Gavieira, Arco 2.82 15 *e*Pn **Pn 16 01 53.9 -0.1**
PGAV *e*Sg **Sb 16 02 37.0 +2.9**
EZAM Zamans 2.94 8 Pn **Pn 16 01 55.4 -0.1**
comp=N,1.4nm,0.1s,SNR=7.9
EZAM Pg **Pb 16 02 02.7 +0.8**
comp=N,9.5nm,0.3s,SNR=7.9
EZAM Sn **Sn 16 02 28.7 -1.4**
comp=N,4.8nm,0.3s,SNR=7.9
EZAM Lg Lg 16 02 40.9
comp=N,71nm,0.3s,SNR=7.9
PBRG Braganca 3.19 36 Pn **Pn 16 01 58.6 -0.3**
PBRG Sn **Sn 16 02 34.4 -1.9**
comp=N,14nm,0.5s
PBRG Braganca 3.19 36 *e*Pn **Pn 16 01 58.6 -0.3**
PBRG *e*Sn **Sn 16 02 34.4 -1.9**
PBRG A A 16 02 54.5
comp=N,27nm,0.5s
ECAB El Cabril 3.19 110 Pn **Pn 16 01 59.0 0.0**
comp=N,1.1nm,0.1s,SNR=31
ECAB Pg **Pb 16 02 07.4 +1.2**
comp=N,6.6nm,0.2s,SNR=12
ECAB Sn **Sn 16 02 35.2 -1.1**
comp=N,12nm,0.2s,SNR=8.0
ECAB Lg Lg 16 02 49.8
comp=N,115nm,0.3s,SNR=4.0
ECAL Calabor 3.30 34 Pn **Pn 16 02 00.4 -0.1**
comp=N,35nm,0.2s,SNR=18
ECAL Pg **Pb 16 02 12.1 +4.1**
comp=N,26nm,0.2s,SNR=12
ECAL Sn **Sn 16 02 36.8 -2.3**
comp=N,12nm,0.1s,SNR=7.9
ECAL Lg Lg 16 02 53.6
comp=N,109nm,0.5s,SNR=7.9
HORN Hornachuelos 3.40 113 P **Pb 16 02 12.6 +2.9**
HORN S **Sb 16 02 57.9 +7.3**
ESPR Espera 3.55 131 Pn **Pn 16 02 05.0 +1.1**
comp=N,8.4nm,0.2s,SNR=17
ESPR Pg **Pb 16 02 15.3 +3.1**
comp=N,10.0nm,0.3s,SNR=7.9
ESPR Sn **Sn 16 02 45.5 +0.3**
comp=N,20nm,0.2s,SNR=7.9
ESPR Lg Lg 16 03 03.7
comp=N,75nm,0.4s,SNR=7.9
EMAZ Mazaricos 3.72 3 Pn **Pn 16 02 05.5 -0.7**
comp=N,2.5nm,0.1s,SNR=7.9
EMAZ Sn **Sn 16 02 44.7 -4.6**
comp=N,15nm,0.2s,SNR=7.9
EMAZ Lg Lg 16 03 04.3
comp=N,21nm,0.3s,SNR=7.9
EADA Adamuz 3.79 105 Pn **Pn 16 02 06.9 -0.2**
comp=N,1.4nm,0.2s,SNR=7.9
EADA Pg **Pb 16 02 18.0 +1.8**
comp=N,1.0nm,0.3s,SNR=7.9
EADA Sn **Sn 16 02 49.0 -2.0**
comp=N,24nm,0.3s,SNR=7.3
EADA Lg Lg 16 03 09.4
comp=N,25nm,0.3s,SNR=7.9
PAB San Pablo 3.79 84 Pn **Pn 16 02 07.3 +0.1**
comp=N,1.2nm,0.2s,SNR=7.9
PAB Pg **Pb 16 02 18.0 +1.7**
comp=N,4.1nm,0.3s,SNR=7.9
PAB Sn **Sn 16 02 49.3 -1.8**
comp=N,11nm,0.2s,SNR=7.9
PAB Lg Lg 16 03 07.0
comp=N,94nm,0.4s,SNR=7.9
ESDC Sonseca Array 4.09 82 Pn **Pn 16 02 11.3 0.0**
comp=N,1.1nm,0.1s,baz=265,slow=13,SNR=7.0
ESDC Pg **Pb 16 02 23.9 +2.4**
comp=N,11nm,0.6s,baz=264,slow=14,SNR=20
ESDC Sn **Sn 16 02 56.3 -2.3**
comp=N,6.8nm,0.2s,baz=266,slow=24,SNR=7.9
ESDC Lg Lg 16 03 15.0
comp=N,36nm,0.6s,baz=268,slow=28,SNR=7.6
GUD Guadarrama 4.14 69 Pn **Pn 16 02 11.9 -0.2**
comp=N,1.8nm,0.2s,SNR=22
GUD Pg **Pb 16 02 24.3 +1.9**
comp=N,2.5nm,0.2s,SNR=7.2
GUD Sn **Sn 16 02 57.1 -2.9**
comp=N,7.2nm,0.3s,SNR=7.9
GUD Lg Lg 16 03 18.9
comp=N,28nm,0.5s,SNR=7.9
EPON Pontenova 4.38 20 Pn **Pn 16 02 14.9 -0.3**
comp=N,3.4nm,0.3s,SNR=8.4
EPON Sn **Sn 16 03 02.3 -3.3**
comp=N,4.9nm,0.3s,SNR=7.9
EPON Lg Lg 16 03 25.5
comp=N,25nm,0.4s,SNR=7.9
EMIJ Mijas 4.41 126 Pn **Pn 16 02 16.8 +1.0**
comp=N,1.9nm,0.2s,SNR=6.5
EMIJ Sn **Sn 16 03 04.0 -2.4**
comp=N,6.3nm,0.4s,SNR=7.9
EMIJ Lg Lg 16 03 32.0
comp=N,14nm,0.3s,SNR=4.0
ECEU Ceuta 4.52 136 Pn **Pn 16 02 18.2 +1.0**
comp=N,1.4nm,0.1s,SNR=7.9
EMAL Malaga-Limoner 4.52 122 Lg Lg 16 03 25.4
EMAL Malaga-Limoner 4.52 122 *e*S **Sb 16 03 25.4 +2.8**
EGOR Sierra Gorda, 4.55 116 Pn **Pn 16 02 18.7 +1.0**
comp=N,0.5nm,0.2s,SNR=7.9
EGOR Sn **Sn 16 03 08.1 -1.9**
comp=N,7.6nm,0.3s,SNR=7.9
EGOR Lg Lg 16 03 34.4
comp=N,46nm,0.6s,SNR=4.0
UCM Universidad Co 4.73 75 Pg **Pb 16 02 35.0 +2.7**
UCM Lg Lg 16 03 38.0
UCM Universidad Co 4.73 75 *e*P **Pb 16 02 35.0 +2.7**
UCM *e*L L 16 03 38.0
EQUE Quentar 4.98 112 Pn **Pn 16 02 24.5 +0.9**
comp=N,1.0nm,0.2s,SNR=7.9
EQUE Sn **Sn 16 03 19.9 -0.7**
SNR=7.9
EQUE Lg Lg 16 03 46.0
comp=N,28nm,0.5s,SNR=7.9
ELGU Los Guajares, 5.01 116 Pn **Pn 16 02 25.9 +1.9**
comp=N,1.8nm,0.2s,SNR=7.9
ELGU Sn **Sn 16 03 19.6 -1.5**
comp=N,4.0nm,0.4s,SNR=7.9
ELGU Lg Lg 16 03 48.7
comp=N,42nm,0.6s,SNR=7.9
EQES Quesada 5.03 105 Pn **Pn 16 02 25.5 +1.2**
comp=N,0.7nm,0.2s,SNR=7.9
EQES Sn **Sn 16 03 19.5 -2.3**
comp=N,2.3nm,0.2s,SNR=7.9
EQES Lg Lg 16 03 48.9
comp=N,33nm,0.5s,SNR=8.3
EARI Arriondas 5.07 35 Pn **Pn 16 02 24.9 +0.2**
comp=N,1.8nm,0.2s,SNR=24
EARI Sn **Sn 16 03 18.9 -3.6**
comp=N,1.8nm,0.2s,SNR=4.0
EARI Lg Lg 16 03 49.6
comp=N,11nm,0.7s,SNR=5.0
GORA Gorafe 5.16 108 Lg Lg 16 03 53.9
comp=N,49nm,0.4s,SNR=7.9
SESP Santiago Espad 5.34 100 Pn **Pn 16 02 27.1 -1.5**
comp=N,2.1nm,0.2s,SNR=7.9
SESP Lg Lg 16 03 57.2
comp=N,100nm,0.6s,SNR=4.0
SESP Santiago Espad 5.34 100 P **Pb 16 02 38.8 -4.0**
SESP S **Sb 16 03 48.7 +2.2**
EBER Berja 5.51 113 Pn **Pn 16 02 31.2 +0.2**
comp=N,2.3nm,0.3s,SNR=7.9
EBER Lg Lg 16 04 05.8
comp=N,46nm,0.6s,SNR=7.9
ETOR Torete 5.72 72 Pn **Pn 16 02 33.9 +0.1**
comp=N,5.8nm,0.2s,SNR=8.9
ETOR Sn **Sn 16 03 34.1 -4.8**
comp=N,16nm,0.2s,SNR=7.9
ETOR Lg Lg 16 04 10.1
comp=N,29nm,0.7s,SNR=5.0
ELAN Lanestosa 5.92 46 Pn **Pn 16 02 35.7 -0.6**
comp=N,0.9nm,0.2s,SNR=7.4
ELAN Sn **Sn 16 03 39.7 -3.7**
comp=N,2.3nm,0.2s,SNR=4.0
ELAN Lg Lg 16 04 16.2
comp=N,5.1nm,0.3s,SNR=5.0
ENIJ Nijar 5.97 110 Lg Lg 16 04 18.5
comp=N,17nm,0.4s,SNR=7.9
ETOB Tobarra 6.01 93 Pn **Pn 16 02 37.3 -0.4**
comp=N,0.5nm,0.2s,SNR=7.9
ETOB Sn **Sn 16 03 43.4 -2.5**
comp=N,1.6nm,0.3s,SNR=7.9
ETOB Lg Lg 16 04 18.8
comp=N,24nm,0.7s,SNR=7.9
AVE Averroes 6.10 166 P Pn 16 02 31.8 -7.1
ZHG ZHG 6.14 159 P **Pn 16 02 40.3 +0.8**
ZHG S **Sn 16 03 47.6 -1.5**
ECHE Chera 6.40 84 Sn **Sn 16 03 50.6 -4.9**
comp=N,1.3nm,0.2s,SNR=7.9
ECHE Lg Lg 16 04 33.1
comp=N,22nm,0.7s,SNR=7.9
EMUR La Murta 6.41 100 Lg Lg 16 04 28.8
comp=N,27nm,0.6s,SNR=7.9
AFON Font Roja 6.79 92 Lg Lg 16 04 45.2
comp=N,66nm,1.2s,SNR=7.9
EMOS Mosqueruela 6.83 78 Pn **Pn 16 02 49.8 +0.7**
comp=N,1.0nm,0.4s,SNR=7.9
EMOS Sn **Sn 16 04 01.4 -4.8**
comp=N,1.5nm,0.2s,SNR=7.9
EMOS Lg Lg 16 04 44.1
comp=N,11nm,0.7s,SNR=7.9
EORO Oroz-Betelu 7.01 56 Pn **Pn 16 02 51.8 +0.4**
comp=N,1.1nm,0.2s,SNR=7.9
EORO Sn **Sn 16 04 07.3 -3.1**
comp=N,2.4nm,0.3s,SNR=7.9
EORO Lg Lg 16 04 50.2
comp=N,4.8nm,0.4s,SNR=7.9
EALK Alkurruntz 7.05 53 Pn **Pn 16 02 52.2 +0.3**
comp=N,1.2nm,0.2s,SNR=7.9
EALK Sn **Sn 16 04 08.1 -3.3**
comp=N,2.6nm,0.4s,SNR=7.9
EALK Lg Lg 16 04 50.3
comp=N,21nm,1.4s,SNR=7.9
EBEN2 Beniarda presa 7.06 92 Lg Lg 16 04 52.2
comp=N,54nm,0.9s,SNR=7.9
ESAC San Caprasio 7.12 67 Pn **Pn 16 02 53.7 +0.7**
comp=N,5.8nm,0.2s,SNR=7.9
ESAC Sn **Sn 16 04 10.0 -3.2**
comp=N,9.3nm,0.2s,SNR=7.9
ESAC Lg Lg 16 04 55.3
comp=N,32nm,1.0s,SNR=7.9
SJPF Ste Jean 7.17 55 *e*Pn **Pn 16 02 53.4 -0.2**
SJPF *e*Sn **Sn 16 04 10.1 -4.2**
comp=N,2.4nm,0.4s
SJPF *e*Sg Sb 16 04 55.2 +16
comp=N,4.0nm,0.5s
SJPF Ste Jean 7.17 55 Pn **Pn 16 02 53.4 -0.2**
SJPF Sn **Sn 16 04 10.1 -4.2**
comp=N,1.2nm,0.4s
SJPF Lg Lg 16 04 55.2
comp=N,2.0nm,0.5s
MD31 MD31 7.31 149 P **Pn 16 02 55.2 -0.3**
MD31 S **Sn 16 04 21.2 +3.4**
MDT Midelt 7.42 148 P **Pn 16 02 55.9 -1.2**
MDT S **Sn 16 04 21.5 +1.0**
ATE Arette 7.49 56 Pn **Pn 16 02 58.6 +0.7**
comp=N,2.0nm,0.1s,SNR=7.9
ATE Sn **Sn 16 04 18.6 -3.6**
comp=N,1.0nm,0.2s,SNR=7.9
ATE Lg Lg 16 05 05.9
comp=N,6.9nm,0.6s,SNR=7.9
ETSF Etsaut 7.50 58 *e*Pn **Pn 16 02 58.4 +0.3**
ETSF *e*Sn **Sn 16 04 19.3 -3.2**
comp=N,1.0nm,0.3s
ETSF Etsaut 7.50 58 Pn **Pn 16 02 58.4 +0.3**
ETSF Sn **Sn 16 04 19.3 -3.2**
comp=N,0.5nm,0.3s
ERTA Horta de San J 7.53 74 Pn **Pn 16 02 57.2 -1.2**
comp=N,1.5nm,0.4s,SNR=7.9
ECHI Chisagues Biel 7.91 61 Pn **Pn 16 03 04.1 +0.3**
comp=N,1.0nm,0.3s,SNR=7.9
OUK Oukaimeden 8.08 172 S Sn 16 04 26.8 -11
EPF Esparros 8.15 59 *e*Pn **Pn 16 03 07.0 -0.1**
EPF *e*Sn **Sn 16 04 34.2 -4.3**
comp=N,1.4nm,0.3s
EPF Esparros 8.15 59 Pn **Pn 16 03 07.0 -0.1**
EPF Sn **Sn 16 04 34.2 -4.3**
comp=N,0.7nm,0.3s
EPOB Poblet 8.15 72 Pn **Pn 16 03 06.0 -1.1**
comp=N,0.7nm,0.3s,SNR=7.9
CSOR Sort 8.46 65 Sn **Sn 16 04 41.3 -4.8**
comp=N,1.2nm,0.3s,SNR=7.9
OUZM OUZ 8.54 166 P Pn 16 03 04.2 -8.4
OUZM S **Sn 16 04 44.9 -3.5**
CLLI Llivia 9.08 66 Sn **Sn 16 04 56.6 -4.8**
comp=N,0.5nm,0.2s,SNR=7.9
LFF La Frestale 9.34 49 *e*Pn **Pn 16 03 22.7 -0.6**
LFF La Frestale 9.34 49 Pn **Pn 16 03 22.7 -0.6**
QUIF Quistinic 9.72 25 *e*Pn **Pn 16 03 27.9 -0.6**
QUIF Quistinic 9.72 25 Pn **Pn 16 03 27.9 -0.6**
MFF Saint Martin d 9.92 39 *e*Pn **Pn 16 03 29.9 -1.4**
MFF Saint Martin d 9.92 39 Pn **Pn 16 03 29.9 -1.4**
RJF Les Rejaudoux 10.00 49 *e*Pn **Pn 16 03 31.0 -1.4**
RJF *e*Sn **Sn 16 05 18.4 -5.5**
comp=N,2.0nm,0.3s

RJF	Les Rejaudoux	10.00	49	Pn	Pn	16 03 31.0	-1.4
RJF				Sn	Sn	16 05 18.4	-5.5
	comp=N,1.0nm,0.3s						
CAF	Calviac	10.13	52	ePn	Pn	16 03 32.8	-1.4
CAF				eSn	Sn	16 05 22.6	-4.5
	comp=N,1.2nm,0.2s						
CAF	Calviac	10.13	52	Pn	Pn	16 03 32.8	-1.4
CAF				Sn	Sn	16 05 22.6	-4.5
	comp=N,0.6nm,0.2s						
TCF	Toulx Ste Croi	10.96	46	ePn	Pn	16 03 43.8	-1.7
TCF	Toulx Ste Croi	10.96	46	Pn	Pn	16 03 43.8	-1.7

*INET **01** 16:01:24.2, 11°.33N×87°.47W, h15km, ML3.9*
*IDC **01** 16:01:24.6±1.1, 11°.87N×87°.11W, h0km, mb4.0/9, mb1 4.2/12, mb1mx3.9/46, mbtmp4.0/12, ML3.3/3, MS3.1/6, Ms1 3.1/6, ms1mx2.9/31, Error ellipse: s-maj=37.9km s-min=16.6km az=50.0*
*UCR **01** 16:01:27.5±1.8, 11°.57N×87°.37W, h35km±11km, MD4.2, ML3.5, mb4.3(NEIC)*
*NEIC **01** 16:01:28.3±2.9, 11°.62N±0°.08×87°.29W±0°.07, h37km±6km, mb4.3/15, Error ellipse: s-maj=12.2km s-min=7.9km az=213.0*
*SNET **01** 16:01:29.4±1.1, 11°.64N×87°.50W, h35km±98km, ML3.7*
ISC 01 16:01:26.3±1.1, **11°.64N**±0°.07×**87°.32W**±0°.05, **h22**km±8km, **n81**, σ**1s.16**/96, **mb4.3**/16, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRIN	San Cristobal	1.09	14		Pb	16 01 48.5	+2.0
ESTN	Estel	1.73	32		Pb	16 01 57.0	-0.3
LCND	La Caada	1.75	341	eP	Pn	16 01 56.6	+1.2
LCND				eS	Sn	16 02 17.5	+0.4
LCND				IAML		16 02 28.4	
	comp=Z,1μm,0.3s						
LCND	La Caada	1.75	341	eP	Pn	16 01 56.6	+1.2
LCND				eS	Sn	16 02 17.5	+0.4
LCND				IAML		16 02 28.4	
	comp=Z,1μm,0.3s						
BOAB	BOACO BROADBAN	1.80	63		Pn	16 01 57.4	+1.4
JUCU	Jucuar¡n	1.85	331	eP	Pn	16 01 57.1	+0.4
JUCU				IAML		16 02 34.7	
	comp=Z,619nm,0.4s						
JUCU	Jucuar¡n	1.85	331	eP	Pn	16 01 57.1	+0.4
JUCU				IAML		16 02 34.7	
	comp=Z,619nm,0.4s						
MATN	Matagalpa	1.87	46		Pb	16 01 59.0	-0.9
BLLM	Bellamira	2.01	333	eP	Pn	16 01 59.8	+0.9
BLLM	Bellamira	2.01	333	eP	Pn	16 01 59.8	+0.9
LCY	Lacayo	2.02	332	eP	Pn	16 02 00.4	+1.3
LCY	Lacayo	2.02	332	eP	Pn	16 02 00.4	+1.3
LAPC	Finca la Perla	2.04	115	i P	Pn	16 01 59.6	+0.3
LAPC				i S	Sn	16 02 24.1	0.0
BUEV	Buena Vista	2.05	114	i P	Pn	16 01 59.4	-0.1
GB1A	Borinquen Arri	2.05	113	i P	Pn	16 01 59.5	0.0
GPS3	Bodega del ICE	2.10	114	i S	Sn	16 02 25.7	-0.1
GPS1	Guardaparques	2.11	114	i S	Sn	16 02 25.9	-0.1
GPS2	Hotel Rincn d	2.12	114	i P	Pn	16 02 02.2	+1.8
GPS2				i S	Sn	16 02 26.0	-0.2
ACON	Acoyapa	2.12	81		Pn	16 02 00.9	+0.5
TECA	Tecapa	2.18	328	eP	Pn	16 02 02.2	+0.8
TECA	Tecapa	2.18	328	eP	Pn	16 02 02.2	+0.8
HORNC	Hornillas	2.29	113	i P	Pn	16 02 02.9	+0.1
HORNC				i S	Sn	16 02 31.4	+1.0
CUI	Cuipilapa	2.33	115	i P	Pn	16 02 03.5	+0.3
CUI				i S	Sn	16 02 31.7	+0.5
TGUH	Tegucigalpa,Un	2.41	1	eP	Pn	16 02 06.9	+2.4
TGUH	Tegucigalpa,Un	2.41	1	eP	Pn	16 02 06.9	+2.4
TGUH	Tegucigalpa,Un	2.41	1		Pn	16 02 07.0	+2.5
ACAL	Aguas Claras	2.45	114	i P	Pn	16 02 06.2	+1.2
ACAL				i S	Sn	16 02 35.8	+1.4
PTEN	Parque Tenorio	2.46	112	i P	Pn	16 02 06.1	+0.9
LFRS	El Faro	2.61	319	eP	Pn	16 02 08.2	+0.9
LFRS				eS	Sn	16 02 38.5	+0.2
LFRS	El Faro	2.61	319	eP	Pn	16 02 08.2	+0.9
LFRS				eS	Sn	16 02 38.5	+0.2
JTS	Las Juntas de	2.68	120	Pn	Pn	16 02 10.0	+1.9
	comp=Z,4.3nm,0.3s,baz=34,slow=18,SNR=5.0						
JTS				Sn	Sn	16 02 38.6	-1.4
	comp=Z,23nm,0.3s,baz=357,slow=22,SNR=10.0						
JTS				LR	LR	16 03 23.3	
	comp=Z,168nm,20.1s,baz=355,slow=45						
JTS	Las Juntas de	2.68	120		Pn	16 02 08.7	+0.6
LFU	La Fuente	2.74	320	eP	Pn	16 02 10.4	+1.5
LFU	La Fuente	2.74	320	eP	Pn	16 02 10.4	+1.5
BOQS	Boqueron	2.83	318	eP	Pn	16 02 11.3	+0.8
BOQS				eS	Sn	16 02 44.2	+0.2
BOQS	Boqueron	2.83	318	eP	Pn	16 02 11.3	+0.8
BOQS				eS	Sn	16 02 44.2	+0.2
JAYA	Jayaque - finc	2.89	314	eP	Pn	16 02 11.5	+0.4
JAYA				IAML		16 02 46.9	
	comp=Z,674nm,0.2s						
JAYA	Jayaque - finc	2.89	314	eP	Pn	16 02 11.5	+0.4
JAYA				eS	Sn	16 02 43.6	-1.8
JAYA				IAML		16 02 46.9	
	comp=Z,674nm,0.2s						
ESPN	Las Esperanzas	3.00	79	Pn	Pn	16 02 14.7	+2.1
TACO	Tacachico	3.06	320	eP	Pn	16 02 14.3	+1.0
TACO				eS	Sn	16 02 49.5	+0.3
TACO				IAML		16 02 52.8	
	comp=Z,61nm,0.4s						
TACO	Tacachico	3.06	320	eP	Pn	16 02 14.3	+1.0
TACO				eS	Sn	16 02 49.5	+0.3
TACO				IAML		16 02 52.8	
	comp=Z,61nm,0.4s						
SNJE	San Jose	3.15	315	eP	Pn	16 02 15.4	+0.7
SNJE				eS	Sn	16 02 51.5	-0.3
SNJE	San Jose	3.15	315	eP	Pn	16 02 15.4	+0.7
SNJE				eS	Sn	16 02 51.5	-0.3
NUBE	Las Nubes	3.29	313	eP	Pn	16 02 17.3	+0.6
NUBE				IAML		16 02 57.1	
	comp=Z,158nm,0.2s						
NUBE	Las Nubes	3.29	313	eP	Pn	16 02 17.3	+0.6
NUBE				eS	Sn	16 02 53.7	-1.6
NUBE				IAML		16 02 57.1	
	comp=Z,158nm,0.2s						
MTO3	Montecristo	3.39	324	Pn	Pn	16 02 20.1	+2.0
IXG	Ixpaco	3.95	310	eP	Pn	16 02 25.8	0.0
IXG	Ixpaco	3.95	310	eP	Pn	16 02 25.8	0.0
TEIG	Tepich	8.59	354	Pn	Pn	16 03 29.2	-0.2
	comp=Z,0.1nm,0.3s,baz=318,slow=19,SNR=1.2						
TEIG				LR	LR	16 07 25.0	
	comp=Z,128nm,19.8s,baz=48,slow=43						
TEIG	Tepich	8.59	354		Pn	16 03 29.5	+0.1
CMIG	Matias Romero	9.12	307	Pn	Pn	16 03 38.4	+1.8
	comp=Z,1.2nm,0.3s,baz=97,slow=12,SNR=6.1						
MTDJ	Mount Denham	11.50	54	Pn	Pn	16 04 06.1	-3.2
JAKH	Jacmel	15.73	64	Pn	Pn	16 05 03.9	-2.7
PCDR	Punta Cana, DR	19.51	67	P	P	16 05 51.5	-0.7
833A	Chaparral WMA,	20.08	328	P	P	16 05 56.7	-1.7
833A				IAmb	IAmb	16 06 00.5	
	comp=Z,17nm,0.9s						
ATAH	Atahualpa	20.65	154	LR	LR	16 13 02.4	
	comp=Z,62nm,19.0s,baz=359,slow=34						
SJG	San Juan	21.43	70	LR	LR	16 12 57.0	
	comp=Z,39nm,20.1s,baz=130,slow=33						
TX32	Lajitas Array	23.29	322	P	P	16 06 33.5	+0.7
TXAR	Lajitas Array	23.29	322	P	P	16 06 33.9	+1.1
	comp=Z,2.3nm,0.6s,baz=134,slow=10,SNR=25						
TX31	Lajitas Ar. Si	23.29	322	P	P	16 06 32.8	0.0
TX31				IAmb	IAmb	16 06 55.6	
	comp=Z,14nm,1.1s						
MIAR	Mount Ida	23.51	347	P	P	16 06 35.0	+0.2
MIAR				IAmb	IAmb	16 06 36.7	
	comp=Z,7.1nm,0.8s						
WHAR	Wooly Hollow	23.98	350	P	P	16 06 39.1	-0.1
TKL	Tuckaleechee C	24.13	7	P	P	16 06 41.0	+0.4
	comp=Z,3.9nm,0.5s,baz=202,slow=14,SNR=5.2						
LCAR	Lake Charles	24.57	353	P	P	16 06 44.0	-0.6
LCAR				IAmb	IAmb	16 06 44.7	
	comp=Z,7.6nm,0.7s						
LPIG	La Paz	25.10	303	LR	LR	16 17 21.0	
	comp=Z,32nm,18.4s,baz=142,slow=38						
U40A	Yellville	25.11	349	P	P	16 06 49.0	-0.6
U40A				IAmb	IAmb	16 06 50.3	
	comp=Z,6.4nm,0.8s						
T42A	Van Buren	25.51	353	P	P	16 06 51.8	-1.3
T42A				IAmb	IAmb	16 06 53.2	
	comp=Z,4.9nm,0.7s						
S39A	Bolivar	26.50	349	P	P	16 07 00.9	-1.2
S39A				IAmb	IAmb	16 07 02.8	
	comp=Z,8.3nm,0.8s						
J56A	Wolcott	32.80	14	P	P	16 07 57.0	-0.9
PDAR	Pinedale Array	36.55	332	P	P	16 08 31.1	+0.4
	comp=Z,0.5nm,0.6s,baz=135,slow=9.4,SNR=6.6						
HWUT	Hardware Ranch	36.63	329	P	P	16 08 32.4	+1.0
HWUT				IAmb	IAmb	16 08 39.2	
	comp=Z,4.3nm,0.8s						
SIV	San Ignacio	37.79	136	P	P	16 08 42.5	+1.2
	comp=Z,2.3nm,0.6s,baz=320,slow=5.9,SNR=11						
NVAR	Mina Array Bea	38.40	319	P	P	16 08 48.3	+1.9
	comp=Z,0.4nm,0.6s,baz=122,slow=7.7,SNR=3.7						
NVAR				PcP	PcP	16 11 01.4	+1.7
	comp=Z,0.5nm,0.6s,baz=124,slow=3.5,SNR=5.5						
ULM	Lac du Bonnet	39.14	351	P	P	16 08 50.5	-1.7
	comp=Z,2.9nm,0.6s,baz=166,slow=9.2,SNR=3.4						
BOZ	Bozeman (W)	39.69	333	P	P	16 08 57.1	+0.1
SCHQ	Schefferville	46.02	16	P	P	16 09 46.7	-1.3
	comp=Z,2.7nm,0.6s,baz=220,slow=8.9,SNR=6.1						
BDFB	Brasilia	47.41	124	LR	LR	16 32 12.9	
	comp=Z,67nm,18.6s,baz=62,slow=39						
YKA	Yellowknife Ar	54.43	345	P	P	16 10 51.3	-0.3
	comp=Z,1.0nm,0.8s,baz=132,slow=7.4,SNR=2.8						
MDT	Midelt	77.71	59	P	P	16 13 22.7	+0.7
	comp=Z,3.1nm,0.7s,baz=249,slow=7.5,SNR=3.9						
WRA	Warramunga Arr	139.16	253	PKP	PKiKP	16 20 56.6	+1.9
	comp=Z,0.9nm,0.8s,baz=84,slow=2.0,SNR=4.8						
CMAR	Chiang Mai Arr	149.47	348	PKPbc	PKPbc	16 21 15.3	+0.6
	comp=Z,2.4nm,0.7s,baz=344,slow=3.7,SNR=14						

IDC 01 16:19:52.6±7.0, **12°.15N**×**95°.55E**, **h0**km, **mb3.6**/5, **mb1 3.7**/5, **mb1mx3.4**/50, **mbtmp3.6**/5, **MS3.2**/2, **Ms1 3.2**/2, **ms1mx2.6**/30, **Error ellipse: s-maj=426.6km s-min=22.9km az=59.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	36.30	345	P	P	16 26 56.8	-1.1
	1.2nm,0.8s,baz=166,slow=7.7,SNR=7.2						
MKAR				LR	LR	16 44 15.8	
	comp=Z,25nm,18.7s,baz=179,slow=40						
KURBB	Kurchatov Arra	40.82	343	P	P	16 27 36.0	+0.3
	1.5nm,0.9s,baz=160,slow=7.8,SNR=11						
ZALV	Zalesovo Beam	42.56	351	P	P	16 27 50.7	+0.7
	0.7nm,0.5s,baz=171,slow=9.9,SNR=2.9						
WRA	Warramunga Arr	49.74	129	P	P	16 28 46.5	-0.7
	0.5nm,0.7s,baz=310,slow=8.6,SNR=2.9						
ASAR	Alice Springs	51.71	134	P	P	16 29 02.3	+0.4
	0.3nm,0.7s,baz=315,slow=7.4,SNR=2.1						
BRTR	Keskin Array B	60.78	309	LR	LR	16 59 39.5	
	comp=Z,25nm,18.4s,baz=156,slow=39						

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*IDC **01** 16:20:18.3±7.6, 11°.99N×95°.48E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/50, mbtmp3.7/4, Error ellipse: s-maj=487.1km s-min=24.5km az=59.0*
*NEIC **01** 16:20:21.7±1.8, 12°.09N±0°.09×95°.6E±0°.2, h26km±8km, mb4.1/4, Error ellipse: s-maj=28.9km s-min=12.7km az=80.0*
ISC 01 16:20:24.3±1.7, **12°.3N**±0°.1×**96°.0E**±0°.3, **h35**km, **n12**, σ**0s.48**/10, **mb3.8**/6, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRIT	Nakonsritamara	5.09	136	Pn	Pn	16 21 38.1	0.0
CHTO	Chiang Mai	7.07	23	Pn	Pn	16 22 05.4	0.0
LHMI	Lhok Sumawe	7.08	172	Pn	Pn	16 21 58.8	-6.7
MKAR	Makanchi Array	36.29	344	P	P	16 27 24.6	+0.2
	1.2nm,0.8s,baz=169,slow=8.7,SNR=5.4						
KURBB	Kurchatov Arra	40.81	343	P	P	16 28 02.4	+0.1
	1.8nm,0.8s,baz=163,slow=7.7,SNR=6.9						
KURK	Kurchatov	40.87	343	P	P	16 28 02.4	-0.4
KURK	Kurchatov	40.87	343	IAmb	IAmb	16 28 04.0	
	comp=Z,1.9nm,0.8s						
WB0	Warramunga Arr	49.42	130	P	P	16 29 10.5	-0.6
WRA	Warramunga Arr	49.49	130	P	P	16 29 12.2	+0.6
	comp=Z,0.6nm,0.7s,baz=307,slow=9.1,SNR=3.1						
WR0	Warramunga Arr	49.65	130	P	P	16 29 13.1	+0.2
WR0				IAmb	IAmb	16 29 26.1	
	comp=Z,5.4nm,1.4s						
AS31	Alice Springs	51.48	134	P	P	16 29 26.1	-0.5
ASAR	Alice Springs	51.48	134	P	P	16 29 27.2	+0.6
	comp=Z,0.3nm,0.6s,baz=316,slow=6.8,SNR=2.0						

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*IDC **01** 16:23:11.5±2.8, 3°.25N×93°.63E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/49, mbtmp3.5/5, ML4.1/1, Error ellipse: s-maj=111.4km s-min=24.4km az=60.0*
*NEIC **01** 16:23:15.8±2.5, 3°.5N±0°.1×93°.9E±0°.2, h29km±5km, mb4.2/7, Error ellipse: s-maj=23.8km s-min=13.0km az=60.0*
ISC 01 16:23:14.7±1.2, **3°.4N**±0°.1×**93°.9E**±0°.2, **h24**km, **n23**, σ**1s.53**/17, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	3.55	59	Pn	Pn	16 24 08.0	-0.4
GSI	Gunungsitoli	4.25	119	Pn	Pn	16 24 18.3	+0.4
IPM	Ipoh	7.21	81	Pn	Pn	16 24 59.7	+1.0
PBKT	Sadao Pong	14.82	28	Pn	Pn	16 26 42.0	-0.8
CMAR	Chiang Mai Arr	15.75	18	Pn	P	16 26 58.5	-0.5
	0.2nm,0.3s,baz=217,slow=12,SNR=8.7						
CHTO	Chiang Mai	16.09	18	Pn	Pn	16 27 00.7	+1.2
CHTO				IAmb	IAmb	16 27 14.2	
	comp=Z,11nm,1.5s						
H08S2	Diego Garcia H	24.00	243	T	T	16 53 41.9	
	baz=63,slow=76,SNR=465						
H08S3	Diego Garcia H	24.00	243	T	T	16 53 39.1	
	baz=63,slow=76,SNR=580						
H08S1	Diego Carcia H	24.02	243	T	T	16 53 40.4	
	baz=63,slow=76,SNR=486						
PSA00	Pilbara Seismi	35.54	135	P	P	16 30 07.2	-2.9
H01W3	Cape Leeuwin H	42.59	155	T	T	17 16 31.9	
	baz=331,slow=76,SNR=11						
H01W2	Cape Leeuwin H	42.60	155	T	T	17 16 35.0	
	baz=331,slow=76,SNR=14						
H01W1	Cape Leeuwin H	42.60	155	T	T	17 16 30.0	
	baz=331,slow=76,SNR=12						
MK31	Makanchi Array	44.37	349	P	P	16 31 23.6	+0.4
MKAR	Makanchi Array	44.37	349	P	P	16 31 23.3	+0.1
	comp=Z,0.4nm,0.5s,baz=171,slow=7.6,SNR=5.5						
KK31	Karatay Array	44.65	336	P	P	16 31 24.4	-1.1
KK31				IAmb	IAmb	16 31 28.6	
	comp=Z,17nm,1.1s						
WRA	Warramunga Arr	46.02	122	P	P	16 31 37.5	+0.8
	comp=Z,0.4nm,0.5s,baz=300,slow=8.9,SNR=4.8						
WRAB	Tennant Creek	46.02	122	P	P	16 31 38.0	+1.3
WRAB				IAmb	IAmb	16 31 38.4	
	comp=Z,9.7nm,0.7s						
WB2	Warramunga Arr	46.02	122	P	P	16 31 37.8	+1.1
WB2				IAmb	IAmb	16 31 48.3	
	comp=Z,3.7nm,1.4s						
WR0	Warramunga Arr	46.19	122	P	P	16 31 38.9	+0.8
ASAR	Alice Springs	47.37	127	P	P	16 31 49.0	+1.8
	comp=Z,0.4nm,0.4s,baz=292,slow=8.0,SNR=6.5						
AS31	Alice Springs	47.37	127	P	P	16 31 49.6	+2.3
AS31				IAmb	IAmb	16 31 59.7	
	comp=Z,1.0nm,1.1s						
KURBB	Kurchatov Arra	48.79	347	P	P	16 32 00.3	+2.6
	comp=Z,0.1nm,0.3s,baz=172,slow=6.8,SNR=2.1						

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*MDD **01** 17:02:35.3±0.9, 37°.00N×3°.20E, h0km, mb3.7/3, Error ellipse: s-maj=16.5km s-min=6.1km az=90.0, PRXIMO SIN SOLUCIN*
*CRAAG **01** 17:02:36.0, 36°.90N×3°.08E, Ml2.7*
ISC 01 17:02:34.8±1.2, **36°.99N**±0°.07×**3°.2E**±0°.1, **h12**km, **n9**, σ**1s.09**/11, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABA	Alger-Bouzarea	0.23	215	P	Pg	17 02 39.8	0.0
ABA	Alger-Bouzarea	0.23	215	P	Pg	17 02 39.8	0.0
EMHD	Djebel Mahouad	0.82	194	P	Pg	17 02 50.1	-0.5
EMHD	Djebel Mahouad	0.82	194	P	Pg	17 02 50.1	-0.5
ADJB	Djebel Djouab	0.85	167	P	Pg	17 02 51.2	-0.2
ADJB	Djebel Djouab	0.85	167	P	Pg	17 02 51.2	-0.2
EIBI	Ibiza	2.51	325	P	Pn	17 03 16.5	+1.1
	5.5nm,0.3s,SNR=7.9						
EIBI				S	Sn	17 03 44.7	-1.1
	1.4nm,0.2s,SNR=7.9						
ETOS	Mallorca	2.79	354	P	Pn	17 03 20.2	+0.9
	0.9nm,0.1s,SNR=7.9						
ETOS				S	Sn	17 03 50.9	-2.0
	0.7nm,0.3s,SNR=7.9						
CFON	Fontmartina	4.80	353	P	Pn	17 03 48.2	+1.3
	0.5nm,0.1s,SNR=7.9						

WEL 01 17:07:28.9±0.9, **32°S**±7°×**18°0W**±1°7, **h320**km±13km, **M4.2**/19, **mB4.5**/7, **MLv4.6**/19, **Mw(mB)3.6**/7, **Error ellipse: s-maj=0.0km s-min=0.0km az=107.4, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.84	31	S	S	17 09 09.0	-0.1
MXZ	Matakaoa Point	6.09	196	P	Pn	17 09 01.4	+1.8
MXZ				S	S	17 10 16.3	+3.2
GRZ	Great Barrier	6.11	221	P	Pn	17 09 01.8	+1.8
WMGZ	Waiomatatini S	6.31	194	P	Pn	17 09 03.7	+1.4
KUZ	Kuaotunu	6.34	216	P	Pn	17 09 03.9	+1.2
HAZ	Te Kaha	6.41	199	P	Pn	17 09 03.1	-0.3
HAZ				S	S	17 10 20.1	+0.2
PKGZ	Pakihiroa	6.45	197	P	Pn	17 09 04.1	0.0
PKGZ				S	S	17 10 22.2	+1.2
WCZ	Waipu Caves	6.57	228	P	Pn	17 09 04.5	-0.9
PUZ	Puketiti	6.59	195	P	Pn	17 09 05.3	-0.4
PUZ				S	S	17 10 23.8	-0.1
RUGZ	Raukumara Rang	6.63	199	P	Pn	17 09 06.6	+0.4
MKAZ	Moumakai	6.90	217	P	Pn	17 09 08.3	-1.1
CNGZ	Carnagh Statio	7.00	194	P	Pn	17 09 10.3	-0.1
MWZ	Matawai	7.02	199	P	Pn	17 09 11.4	+0.6
TKGZ	Te Karaka	7.03	197	P	Pn	17 09 11.3	+0.4
TKGZ				S	S	17 10 33.0	-0.6
URZ	Urewera	7.07	201	P	Pn	17 09 09.1	-2.3
URZ				S	S	17 10 33.6	-0.8
TOZ	Tahuroa Road	7.23	212	P	Pn	17 09 14.0	+0.7
RIGZ	Rimuhau	7.31	196	P	Pn	17 09 13.6	-0.7
HRRZ	Handcock Road	7.47	206	P	Pn	17 09 16.8	+0.6
PRGZ	Paritu Road	7.49	195	P	Pn	17 09 17.9	+1.5
PRRZ	Plateau Road	7.53	205	P	Pn	17 09 16.8	0.0
ALRZ	Allen Road	7.60	205	P	Pn	17 09 17.6	-0.2
KNZ	Kokohu	7.63	196	P	Pn	17 09 15.8	-2.3
KNZ				S	S	17 10 45.5	-1.1
MHGZ	Mahia Peninsul	7.70	195	P	Pn	17 09 19.2	+0.2
WHHZ	Waihua	7.79	198	P	Pn	17 09 20.0	-0.1
BKZ	Black Stump Fm	8.09	202	P	Pn	17 09 20.6	-3.1
CKHZ	Cape Kidnapper	8.38	198	P	Pn	17 09 25.6	-1.5

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*IDC **01** 17:26:41.8±1.3, 52°.64N×169°.59W, h0km, mb3.5/5, mb1 3.8/8, mb1mx3.5/47, mbtmp3.5/8, ML2.9/3, MS2.9/2, Ms1 2.9/2, ms1mx2.4/39, Error ellipse: s-maj=42.2km s-min=22.4km az=159.0*
*NEIC **01** 17:26:42.6±0.9, 52°.85N±0°.06×169°.71W±0°.06, h10km±4km, Error ellipse: s-maj=9.2km s-min=3.9km az=159.0*
*AEIC **01** 17:26:44.0±2.1, 52°.85N±0°.08×169°.53W±0°.07, h5km±4km, ML3.3/34, Error ellipse: s-maj=12.3km s-min=3.9km az=158.0*
ISC 01 17:26:41.9±1.7, **52°.9N**±0°.1×**169°.68W**±0°.06, **h2**km±11km, **n42**, σ**1s.10**/41, **mb3.5**/5, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.51	78		Pb	17 26 52.9	-0.6
NIKH					Sb	17 27 00.7	-0.7
OKSP	Okmok Steeple	0.92	65		Pg	17 26 60.0	+0.4
OKWR	Okmok West Rim	1.05	57		Pn	17 27 03.4	-0.3
OKWE	Okmok W'ng Wal	1.06	55		Pn	17 27 03.5	-0.3
OKWE					Sn	17 27 17.7	-1.3
OKCE	Okmok Cone E	1.07	58		Pb	17 27 03.2	+0.1
OKTU	Okmok Mt. Tuli	1.11	62		Pg	17 27 03.5	+0.3
OKTU					Sn	17 27 19.3	-1.1
OKFG	Magazine Ridge	1.20	62		Pg	17 27 04.8	+0.1
OKFG					Sn	17 27 21.6	-0.8
MAPS	Pakushin South	1.89	59		Pn	17 27 15.8	+0.7
MAPS					Sg	17 27 41.6	-1.0
MSOM	Makushin Julie	1.89	59		Pb	17 27 16.2	-0.8
MGOD	Makushin Gods	1.92	60		Pn	17 27 16.3	+0.6
MGOD					Sb	17 27 42.2	+0.1
MCIR	Makushin Cirqu	1.99	56		Pb	17 27 18.0	-0.8
MREP	Makushin Rep't	2.00	61		Pn	17 27 17.3	+0.7
MSW	Makushin Switc	2.03	58		Pn	17 27 18.0	+1.0
MSW					Sb	17 27 43.7	-1.3
MNAT	Makushin Natee	2.06	59		Pn	17 27 17.9	+0.4
MNAT					Sn	17 27 44.1	+0.3
MTBL	Makushin Table	2.11	57		Pn	17 27 18.9	+0.7
UNV	Unalaska Valle	2.14	62		Pn	17 27 18.6	+0.1
UNV					Sn	17 27 45.5	-0.1
AKRB	Akutan Reef Bi	2.50	58		Pn	17 27 25.2	+1.7
AKMO	Akutan Morgan	2.51	59		Pn	17 27 25.0	+1.3
AKGG	Akutan Green G	2.57	57		Pn	17 27 26.2	+1.7
AKLV	Akutan Long Va	2.57	58		Pn	17 27 26.5	+1.9
AKUT	Akutan	2.66	60		Pn	17 27 27.1	+1.4
AKSA	Akutan Strait	2.70	60		Pn	17 27 28.0	+1.8
KOFP	Korovin Flat P	2.76	259		Pb	17 27 31.5	-0.4
ATKA	Atka Island	2.84	258		Pb	17 27 32.1	-1.0
KDAK	Kodiak Island	10.90	56	Pn	Pn	17 29 21.9	+3.2
	0.2nm,0.3s,baz=294,slow=10,SNR=4.2						
ILAR	Eielson Array	16.65	35	Pn	Pn	17 30 36.1	+0.1
	0.1nm,0.3s,baz=225,slow=12,SNR=2.9						
PETK	Petropavlovsk-	19.55	284	P	Pn	17 31 12.5	+0.6
	0.0nm,0.3s,baz=95,slow=14,SNR=2.3						
DLBC	Dease Lake	22.80	60	P	P	17 31 47.2	+1.7
	1.5nm,0.9s,baz=332,slow=5.5,SNR=2.8						
DLBC				LR	LR	17 41 20.9	
	comp=Z,29nm,19.4s,baz=321,slow=38						
YKA	Yellowknife Ar	30.06	49	LR	LR	17 45 40.8	
	comp=Z,22nm,19.6s,baz=0.0,slow=38						
H11N2	WAKE ISLAND Hy	37.73	218	T	T	18 13 49.9	
	baz=25,slow=74						
H11N3	WAKE ISLAND Hy	37.74	218	T	T	18 13 46.9	
	baz=25,slow=74						
H11N1	WAKE ISLAND Hy	37.75	218	T	T	18 13 48.9	
	baz=25						
NVAR	Mina Array Bea	37.86	91	P	P	17 34 01.1	+0.9
	0.3nm,0.7s,baz=287,slow=9.1,SNR=2.6						
H11S1	WAKE ISLAND Hy	38.92	217	T	T	18 15 21.8	
	baz=23,slow=76,SNR=344						
H11S2	WAKE ISLAND Hy	38.94	217	T	T	18 15 22.9	
	baz=23,slow=76,SNR=202						
H11S3	WAKE ISLAND Hy	38.94	217	T	T	18 15 23.1	
	baz=23,slow=76,SNR=159						
PDAR	Pinedale Array	40.50	79	P	P	17 34 21.9	-0.3
	0.5nm,0.7s,baz=320,slow=4.4,SNR=5.5						
TXAR	Lajitas Array	52.93	89	P	P	17 35 59.0	-0.6
	0.5nm,0.6s,baz=296,slow=5.3,SNR=7.3						
ASAR	Alice Springs	90.57	230	P	P	17 39 44.7	-0.7
	0.7nm,0.9s,baz=29,slow=5.9,SNR=4.9						
H03N2	Juan Fernandez	116.28	111	T	T	19 52 10.9	
	baz=323,slow=78,SNR=12						
H03N1	Juan Fernandez	116.30	111	T	T	19 52 09.0	
	baz=323,slow=78,SNR=9.8						
H03N3	Juan Fernandez	116.30	111	T	T	19 52 10.9	
	baz=323,slow=78,SNR=11						

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*MAN **01** 17:37:56.1, 5°.80N×125°.99E, h157km, mb4.8, ML3.7, MS3.7*
*NEIC **01** 17:37:58.3±2.0, 5°.87N±0°.08×126°.1E±0°.1, h132km±6km, mb4.2/16, Error ellipse: s-maj=19.1km s-min=10.7km az=78.0*
*IDC **01** 17:37:59.0±0.9, 5°.82N×125°.74E, h139km±9km, mb3.3/5, mb1 3.6/6, mb1mx3.2/35, mbtmp3.9/6, Error ellipse: s-maj=47.4km s-min=14.8km az=80.0*
ISC 01 17:37:58.1±0.7, **5°.79N**±0°.06×**126°.07E**±0°.08, **h126**km±7km, **n37**, σ**1s.32**/43, **mb4.0**/11, **1C**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	0.47	311	eP	Pn	17 38 16.5	0.0
DDMP				eS	Sn	17 38 29.0	-1.4
MATI	Mati	1.16	9	eP	Pn	17 38 21.3	-0.9
MATI				eS	Sn	17 38 40.2	-0.3
DAV	Davao City (W)	1.36	339	P	Pn	17 38 24.9	+0.6
	43nm,0.3s,baz=173,slow=6.8,SNR=1.5						
DAV				S	Sn	17 38 45.2	+0.9
	150nm,0.3s,baz=354,slow=18,SNR=9.1						
DAV	Davao City (W)	1.36	339		Pn	17 38 24.1	-0.2
KCP	Kidapawan	1.55	321	⇑iP	Pn	17 38 27.3	+0.7
KCP				i S	Sn	17 38 50.5	+2.3
SKMP	Bagumbayan, Su	1.68	295	eP	Pn	17 38 25.9	-2.1
SKMP				eS	Sn	17 38 48.7	-2.1
BUKP	Musuan	2.30	334	eP	Pn	17 38 36.5	+0.8
BUKP				eS	Sn	17 39 05.7	+1.2

TNTI	Ternate	5.15	165	Pn	Pn	17 39 13.2	0.0
MYLDM	Lahad Datu	7.56	266	Pn	Pn	17 39 47.4	+1.7
SBUM	Sibu	14.21	257	P	P	17 41 19.4	+2.0
SOEI	Soe	15.55	187		P	17 41 34.4	+2.1
SOEI				IAmb	IAmb	17 42 03.4	
	comp=Z,42nm,1.5s						
BATI	Baumata	16.07	189	P	Pn	17 41 37.1	0.0
	comp=Z,3.2nm,0.3s,baz=313,slow=6.2,SNR=5.3						
BATI	Baumata	16.07	189	P	Pn	17 41 37.1	0.0
KSM	Kuching	16.30	255	P	P	17 41 40.9	+0.3
KNRA	Kununurra	21.50	173	P	P	17 42 38.1	+1.1
KNRA				IAmb	IAmb	17 42 38.3	
	comp=Z,5.5nm,0.8s						
FITZ	Fitzroy Crossi	23.74	181	P	P	17 42 59.6	+0.7
	comp=Z,1.3nm,0.5s,baz=4.0,slow=11,SNR=18						
FITZ	Fitzroy Crossi	23.74	181	P	P	17 42 59.3	+0.3
FITZ				IAmb	IAmb	17 43 36.9	
	comp=Z,12nm,1.6s						
COEN	Coen	25.95	139	P	P	17 43 19.4	+0.4
COEN				IAmb	IAmb	17 43 55.5	
	comp=Z,8.4nm,1.1s						
WB0	Warramunga Arr	26.69	162	P	P	17 43 25.7	+0.1
WB0				IAmb	IAmb	17 43 34.2	
	comp=Z,11nm,1.5s						
WRA	Warramunga Arr	26.84	163	P	P	17 43 27.0	+0.1
	comp=Z,0.3nm,0.4s,baz=339,slow=9.6,SNR=2.6						
WRA	Warramunga Arr	26.84	163	P	P	17 43 27.0	+0.1
WB2	Warramunga Arr	26.84	163	P	P	17 43 26.8	-0.2
WB2				IAmb	IAmb	17 43 42.6	
	comp=Z,11nm,1.4s						
PSA00	Pilbara Seismi	27.87	192	P	P	17 43 34.5	-1.7
CHTO	Chiang Mai	29.43	298	P	P	17 43 50.2	0.0
CHTO				IAmb	IAmb	17 44 18.2	
	comp=Z,10nm,1.6s						
ASAR	Alice Springs	30.26	166	P	P	17 43 57.8	+0.4
	comp=Z,0.7nm,0.4s,baz=340,slow=6.8,SNR=16						
ASAR	Alice Springs	30.26	166	P	P	17 43 57.8	+0.4
NWAO	Narrogin (SRO)	39.41	192	P	P	17 45 16.2	+0.4
NWAO	Narrogin (SRO)	39.41	192	P	P	17 45 16.2	+0.4
NWAO				IAmb	IAmb	17 45 19.0	
	comp=Z,53nm,1.6s						
BBOO	Buckleboo	39.55	167	P	P	17 45 17.9	+1.0
ULN	Ulaanbaatar	44.97	342	P	P	17 45 58.3	-2.5
PETK	Petropavlovsk-	53.79	23	P	P	17 47 08.0	+0.4
	comp=Z,0.5nm,0.5s,baz=204,slow=1.2,SNR=4.5						
PETK	Petropavlovsk-	53.79	23	P	P	17 47 08.0	+0.4
MK31	Makanchi Array	55.50	325	P	P	17 47 18.0	-2.0
MKAR	Makanchi Array	55.50	325	P	P	17 47 17.9	-2.1
	comp=Z,0.4nm,0.4s,baz=120,slow=7.5,SNR=13						
MKAR	Makanchi Array	55.50	325	P	P	17 47 17.9	-2.1
KURK	Kurchatov	59.66	327	P	P	17 47 46.5	-2.5
KURK				IAmb	IAmb	17 47 47.2	
	comp=Z,1.9nm,0.5s						
BRVK	Borovoye	65.32	327	P	P	17 48 28.4	+1.7

*IDC **01** 17:50:07.8±4.7, 30°.94S×178°.42W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/25, mbtmp4.0/3, Error ellipse: s-maj=181.4km s-min=50.4km az=160.0*

*WEL **01** 17:50:58.3±0.7, 31°S±6°×17°9W±1°5, h319km±9km, M4.2/24, mB4.5/9, MLv5.0/24, Mw(mB)3.7/9, Error ellipse: s-maj=0.0km s-min=0.0km az=109.0*

ISC 01 17:50:54.9±1.0**, 31°.24S**±0°.09×**179°.3W**±0°.2**, h350km, n43, σ1s.85**/48**, mb3.5**/3**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.31	31	P	Pn	17 51 49.7	+1.2
GLKZ				S	S	17 52 29.7	-1.9
RIZ	Raoul Island	2.32	31	P	Pn	17 51 50.3	+1.6
RIZ				S	S	17 52 33.6	+1.9
MXZ	Matakaoa Point	6.61	197	P	Pn	17 52 36.4	+3.8
MXZ				S	S	17 53 51.8	-0.1
GRZ	Great Barrier	6.63	220	P	Pn	17 52 36.0	+3.0
WMGZ	Waiomatatini S	6.83	195	P	Pn	17 52 40.1	+5.0
WMGZ				S	S	17 53 56.9	+0.3
KUZ	Kuaotunu	6.87	216	P	Pn	17 52 42.4	+6.7
HAZ	Te Kaha	6.93	200	P	Pn	17 52 38.2	+1.9
HAZ				S	S	17 53 59.3	+0.5
PKGZ	Pakihiroa	6.97	197	P	Pn	17 52 39.0	+2.0
PKGZ				S	S	17 53 59.1	-0.8
WCZ	Waipu Caves	7.08	227	P	Pn	17 52 40.1	+2.0
PUZ	Puketiti	7.10	196	P	Pn	17 52 40.3	+1.9
PUZ				S	S	17 54 00.4	-2.2
OUZ	Omahuta	7.15	234	P	Pn	17 52 39.4	+0.5
RUGZ	Raukumara Rang	7.16	200	P	Pn	17 52 42.6	+3.5
OPRZ	Ohinepanea	7.42	206	P	Pn	17 52 45.6	+3.5
CNGZ	Carnagh Statio	7.51	195	P	Pn	17 52 44.9	+1.7
MWZ	Matawai	7.54	199	P	Pn	17 52 47.3	+3.8
MWZ				S	S	17 54 10.1	-1.9
TKGZ	Te Karaka	7.55	197	P	Pn	17 52 44.7	+1.0
TKGZ				S	S	17 54 10.8	-1.4
URZ	Urewera	7.60	202	P	Pn	17 52 44.6	+0.4
URZ				S	S	17 54 10.8	-2.4
RIGZ	Rimuhau	7.83	197	P	Pn	17 52 50.0	+3.1
HRRZ	Handcock Road	8.00	206	P	P	17 52 52.4	+0.3
PRGZ	Paritu Road	8.00	196	P	P	17 52 52.1	+0.1
KNZ	Kokohu	8.15	197	P	Pn	17 52 50.5	-0.2
MHGZ	Mahia Peninsul	8.22	195	P	P	17 52 54.3	-0.1
MTHZ	Maungataniwha	8.22	202	P	P	17 52 54.3	-0.2
WHHZ	Waihua	8.32	199	P	P	17 52 55.1	-0.4
ARHZ	Aropaoanui	8.56	200	P	Pn	17 52 57.6	+2.0
BKZ	Black Stump Fm	8.62	202	P	Pn	17 52 57.4	+1.1
HIZ	Hauiti	8.70	212	P	P	17 53 01.5	+1.7
MCHZ	McNeill Hill	8.81	201	P	Pn	17 52 58.0	-0.6
KWHZ	Kaweka Forest	8.88	202	P	Pn	17 53 00.5	+1.1
KAHZ	Kahuranaki	9.08	199	P	P	17 53 04.2	+0.1
KRHZ	Kereru	9.10	202	P	Pn	17 53 02.7	+0.7
PXZ	Pawanui	9.31	199	P	Pn	17 53 05.5	+1.0
PNHZ	Pukenui	9.39	202	P	Pn	17 53 05.7	+0.2
PRHZ	Porangahau	9.59	199	P	Pn	17 53 08.9	+1.0
TSZ	Takapari Road	9.60	202	P	Pn	17 53 07.4	-0.6
ANWZ	Angora Road	9.81	199	P	Pn	17 53 11.1	+0.6
PRWZ	Pori Road	10.05	201	P	Pn	17 53 14.1	+0.7
BFZ	Birch Farm	10.09	200	P	Pn	17 53 13.2	-0.5
MRZ	Mangatainoka R	10.27	202	P	Pn	17 53 14.8	-1.1
CTA	Charters Tower	32.85	281	P	P	17 56 51.1	-6.2
	1.1nm,0.4s,baz=105,slow=12,SNR=8.4						
ASAR	Alice Springs	41.96	268	P	P	17 58 06.2	-6.9
	0.4nm,0.3s,baz=105,slow=7.3,SNR=22						
WRA	Warramunga Arr	43.03	274	P	P	17 58 14.5	-7.0
	1.2nm,0.4s,baz=112,slow=7.9,SNR=12						
FINES	FINESS Array B	145.54	339	PKPbc	PKPdf	18 09 46.5	-4.4
	1.0nm,0.4s,baz=57,slow=4.5,SNR=25						

MAN 01 18:05:24.1, 16°.37N×121°.76E, h44km, mb4.4, ML3.3, MS3.0, Luzon

*IDC **01** 18:27:56.5±1.9, 1°.99N×125°.50E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/36, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=130.2km s-min=25.0km az=67.0*

*NEIC **01** 18:28:25.2±1.4, 0°.9N±0°.2×123°.90E±0°.08, h259km±15km, mb4.2/6, Error ellipse: s-maj=23.1km s-min=7.5km az=158.0*

*DJA **01** 18:28:26.4±0.5, 1°N±4°×12°4E±°, h259km±4km, M3.6/9, MLv3.6/9*

ISC 01 18:28:26.1±1.0**, 0°.67N**±0°.09×**123°.98E**±0°.05**, h265km**±7km**, n18, σ1s.36**/25**, mb3.9**/5**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.10	179	P	Pn	18 29 00.3	+0.3
KMSI				S	S	18 29 27.7	+0.8
GTOI	Gorontalo	0.97	268	P	Pn	18 29 03.2	+0.7
GTOI				S	S	18 29 31.4	+0.1
LUWI	Luwuk	2.09	215	P	Pn	18 29 10.7	+0.1
LUWI				S	S	18 29 44.0	-1.9
LUWI	Luwuk	2.09	215		Pn	18 29 10.7	+0.1
LUWI					S	18 29 43.9	-2.0
SANI	Sanana	3.37	143	P	Pn	18 29 23.7	+0.2
SANI				S	S	18 30 07.0	-2.2
TNTI	Ternate	3.39	88	P	Pn	18 29 24.1	+0.4
TNTI				S	S	18 30 08.1	-1.4
TNTI	Ternate	3.39	88		Pn	18 29 23.4	-0.3
MPSI	Mapaga	4.09	265	P	Pn	18 29 31.7	0.0
MPSI				S	S	18 30 23.5	-0.4
MTN	Manton Dam	15.19	152	P	Pn	18 31 49.8	+1.7
MTN				IAmb	IAmb	18 31 53.9	
	comp=Z,14nm,1.4s						
KNRA	Kununurra	16.92	164	P	Pn	18 32 09.0	+0.6
KNRA				IAmb	IAmb	18 32 23.4	
	comp=Z,12nm,1.2s						
FITZ	Fitzroy Crossi	18.73	175	P	Pn	18 32 31.6	+2.1
	comp=Z,0.1nm,0.3s,baz=352,slow=14,SNR=1.1						
FITZ	Fitzroy Crossi	18.73	175	P	Pn	18 32 28.2	-1.4
WB0	Warramunga Arr	22.74	154	P	P	18 33 07.0	+1.3
WB0				IAmb	IAmb	18 33 15.5	
	comp=Z,18nm,1.6s						
WRA	Warramunga Arr	22.87	154	P	P	18 33 08.2	+1.3
	comp=Z,3.8nm,0.9s,baz=335,slow=10.0,SNR=13						
WB2	Warramunga Arr	22.87	154	P	P	18 33 08.4	+1.5
WB2				IAmb	IAmb	18 33 11.3	
	comp=Z,7.8nm,1.2s						
WR0	Warramunga Arr	22.97	154	P	P	18 33 09.0	+1.2
ASAR	Alice Springs	26.05	159	P	P	18 33 37.4	+1.7
	comp=Z,0.4nm,0.9s,baz=347,slow=6.8,SNR=5.6						
MKAR	Makanchi Array	58.56	328	P	P	18 37 53.4	-1.9
	comp=Z,0.2nm,0.3s,baz=130,slow=7.4,SNR=4.9						

ISC 01 18:42:28.8±1.2**, 42°.93N**±0°.10×**18°.05E**±0°.06**, h15**km±11km**, n10, σ0s.86**/16**, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.27	257	*i* Pg	Pg	18 42 34.1	-0.4
STON				Sg	Sg	18 42 38.7	+0.3
DBRK	Dubrovnik	0.27	165	*e*Pg	Pg	18 42 34.6	0.0
DBRK				Sg	Sg	18 42 39.4	+0.8
TREB	Trebinje	0.31	135	*e*Pg	Pg	18 42 34.7	-0.5
TREB				*e*Sg	Sg	18 42 40.1	+0.5
MAKA	Makarska	0.84	295	Sg	Sg	18 42 56.6	+0.5
MAKA	Makarska	0.84	295	*e*Pg	Pb	18 42 43.4	-1.7
RICI	Ricice	0.88	310	Sg	Sg	18 42 58.1	+0.8
RICI	Ricice	0.88	310	*e*Pg	Pb	18 42 44.8	-0.9
HVAR	Hvar	1.20	282	*e*Pg	Pn	18 42 51.0	0.0
HVAR				Sg	Sg	18 43 08.1	+0.4
ZIRJ	Zirje	1.90	293	*e*Pn	Pn	18 43 02.0	+1.3
ZIRJ				Sn	Sb	18 43 26.8	+0.1
MORI	Morici	1.95	299	*e*Pn	Pb	18 43 03.4	-0.6
MORI				Sn	Sb	18 43 28.9	+0.9

*CNRM **01** 18:47:39.6±1.8, 36°.45N×8°.23W, h1km±18km, Error ellipse: s-maj=12.8km s-min=7.5km az=120.0*

*IGIL **01** 18:47:43.0, 36°.65N×8°.16W, h20km, ML2.6*

*INMG **01** 18:47:43.0±1.2, 36°.66N×8°.16W, h20km±2km, MD2.8, ML2.6, Error ellipse: s-maj=3.2km s-min=1.8km az=57.0*

*SFS **01** 18:47:43.0, 36°.70N×8°.14W, h20km, ML2.9, GOLFO DE CADIZ*

*MDD **01** 18:47:43.4±0.7, 36°.71N×8°.16W, h22km±1km, mbLg2.9/9, Error ellipse: s-maj=6.4km s-min=3.5km az=25.0, PRXIMO*

ISC 01 18:47:40.8±1.2**, 36°.69N**±0°.03×**8°.16W**±0°.03**, h21**km±5km**, n79, σ1s.57**/137**, 1C, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	Barranco-do-Ve	0.58	18	Pg	Pn	18 47 54.9	+1.0
PBDV				Lg	Lg	18 48 03.0	
	187nm,0.2s						
PBDV	Barranco-do-Ve	0.58	18	*e*Pg	Pn	18 47 54.9	+1.0
PBDV				*e*Sg	Sn	18 48 03.0	+0.2
PBDV				A	A	18 48 06.4	
	187nm,0.2s						
PFVI	Vila Bisbo	0.69	310	Pg	Pn	18 47 56.2	+0.8
	30nm,0.1s,SNR=54						
PFVI				Lg	Lg	18 48 05.6	
	486nm,0.1s,SNR=36						
PFVI	Vila Bisbo	0.69	310	P	Pn	18 47 55.7	+0.2
PFVI				S	Sn	18 48 07.3	+1.8
PFVI	Vila Bisbo	0.69	310	*e*Pg	Pn	18 47 55.9	+0.5
PFVI				*e*Sg	Sn	18 48 06.0	+0.5
PFVI				A	A	18 48 07.5	
	294nm,0.1s						
MORF	Marmelete	0.73	327	*e*P	Pn	18 47 56.7	+0.7
MORF				*e*S	Sn	18 48 06.6	+0.1
MORF				AML	AML	18 48 08.5	
	comp=N,174nm,0.1s						
MORF	Marmelete	0.73	327	Pg	Pn	18 47 56.7	+0.7
MORF				Lg	Lg	18 48 06.6	
	comp=N,174nm,0.1s						
MORF	Marmelete	0.73	327	*e*P	Pn	18 47 56.7	+0.7
MORF				*e*S	Sn	18 48 07.5	+1.0
MORF				A	A	18 48 08.9	
	comp=N,155nm,0.1s						
PVAQ	Vaqueiros	0.79	26	Pg	Pn	18 47 57.8	+1.0
PVAQ				Lg	Lg	18 48 09.2	
	comp=N,121nm,0.1s						
PVAQ	Vaqueiros	0.79	26	P	Pn	18 48 00.9	+4.1
	SNR=45						
PVAQ				S	Sn	18 48 10.6	+2.5
PVAQ	Vaqueiros	0.79	26	*e*P	Pn	18 47 57.8	+1.0
PVAQ				*e*S	Sn	18 48 09.2	+1.2
PVAQ				A	A	18 48 10.3	
	comp=N,121nm,0.1s						
PCVE	Castro Verde	0.94	6	Pg	Pn	18 48 00.1	+1.2
PCVE				Lg	Lg	18 48 12.9	
	comp=N,60nm,0.1s						
PCVE	Castro Verde	0.94	6	*e*P	Pn	18 48 00.1	+1.2
PCVE				*e*S	Sn	18 48 12.9	+1.2
PCVE				A	A	18 48 17.4	
	comp=N,60nm,0.1s						
PTEO	Sao Teotonio	0.96	332	Pg	Pn	18 48 00.2	+1.1
PTEO				Lg	Lg	18 48 14.5	
	comp=N,15nm,0.2s						
PTEO	Sao Teotonio	0.96	332	*e*P	Pn	18 48 00.2	+1.1
PTEO				*e*S	Sn	18 48 14.5	+2.3
PTEO				A	A	18 48 14.6	
	comp=N,31nm,0.2s						
EGRO	El Granado	1.00	33	⇑Pg	Pn	18 48 00.9	+1.3
	comp=N,5.2nm,0.1s,SNR=18						
EGRO				Lg	Lg	18 48 13.2	
	comp=N,95nm,0.1s,SNR=14						
PBEJ	Beja	1.35	10	Pg	Pb	18 48 05.5	+0.1
PBEJ				Lg	Lg	18 48 22.0	
	comp=N,30nm,0.3s						
PBEJ	Beja	1.35	10	*e*P	Pb	18 48 05.5	+0.1
PBEJ				*e*S	Sb	18 48 22.0	-0.3
PBEJ				A	A	18 48 33.9	
	comp=N,59nm,0.3s						
PNCL	Nicolau / Gran	1.45	348	Pg	Pb	18 48 06.7	-0.3
PNCL				Lg	Lg	18 48 26.7	
	comp=N,56nm,0.1s						
PNCL	Nicolau / Gran	1.45	348	*e*P	Pb	18 48 06.7	-0.3
PNCL				S	Sb	18 48 26.7	+1.7
PNCL				A	A	18 48 32.1	
	comp=N,56nm,0.1s						
EMIN	Mina Concepcio	1.60	47	Pn	Pb	18 48 08.7	-1.0
	comp=N,0.8nm,0.1s,SNR=23						
EMIN				Pg	Pn	18 48 13.8	+5.9
	comp=N,3.3nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	18 48 27.4	-0.6
	comp=N,9.0nm,0.2s,SNR=7.9						
EMIN				Lg	Lg	18 48 32.2	
	comp=N,11nm,0.1s,SNR=9.5						
PBAR	Barrancos	1.73	31	Pn	Pb	18 48 12.7	+0.9
PBAR				Sn	Sn	18 48 31.4	+0.3
	comp=N,28nm,0.5s						
PBAR	Barrancos	1.73	31	*e*Pn	Pb	18 48 12.7	+0.9
PBAR				*e*Sn	Sn	18 48 31.4	+0.3
PBAR				A	A	18 48 40.7	
	comp=N,28nm,0.5s						
EVO	Evora	1.84	4	Pn	Pb	18 48 12.2	-1.5
EVO				Sn	Sb	18 48 35.1	-1.2
	comp=N,38nm,0.1s						
EVO	Evora	1.84	4	*e*P	Pn	18 48 12.0	+0.8
EVO				*e*S	Sb	18 48 34.8	-1.5
EVO	Evora	1.84	4	*e*Pn	Pb	18 48 12.2	-1.5
EVO				*e*Sn	Sb	18 48 35.1	-1.2
EVO				A	A	18 48 46.4	
	comp=N,38nm,0.1s						
ESPR	Espera	1.86	84	Pn	Pb	18 48 12.8	-1.2
	comp=N,13nm,0.1s,SNR=23						
ESPR				Sn	Sn	18 48 34.3	0.0
	comp=N,136nm,0.3s,SNR=7.0						
EBAD	Badajoz	2.25	23	Pn	Pn	18 48 18.4	+1.5
	comp=N,1.6nm,0.1s,SNR=7.3						
EBAD				Sn	Sn	18 48 44.0	0.0
	comp=N,15nm,0.2s,SNR=8.9						
EBAD				Lg	Lg	18 48 52.2	
	comp=N,47nm,0.3s,SNR=6.4						
PMTG	Montargil	2.37	359	Pn	Pn	18 48 19.4	+0.9
PMTG				Sn	Sn	18 48 46.8	-0.2
	comp=N,16nm,0.3s						
PMTG	Montargil	2.37	359	*e*Pn	Pn	18 48 19.4	+0.9
PMTG				*e*Sn	Sn	18 48 46.8	-0.2
PMTG				A	A	18 49 09.4	
	comp=N,16nm,0.3s						
PMAFR	Mafra	2.43	339	Pn	Pn	18 48 21.1	+1.7
	comp=N,5.0nm,0.1s,SNR=7.0						
PMAFR				Sn	Sn	18 48 47.9	-0.5
	comp=N,15nm,0.2s,SNR=7.9						
PMAFR				Lg	Lg	18 48 58.2	
	comp=N,23nm,0.2s,SNR=7.9						
PMAFR	Mafra	2.43	339	*e*Pn	Pn	18 48 21.0	+1.7
PMAFR				*e*Sn	Sn	18 48 48.2	-0.2
PMAFR				A	A	18 49 19.2	
	comp=N,22nm,0.8s						
ECAB	El Cabril	2.58	57	Pn	Pn	18 48 22.3	+0.9
	comp=N,3.8nm,0.1s,SNR=61						
ECAB				Sn	Sn	18 48 51.7	-0.6
	comp=N,4.9nm,0.2s,SNR=6.0						
ECAB				Lg	Lg	18 49 02.8	
	comp=N,7.3nm,0.2s,SNR=6.4						
HORN	Hornachuelos	2.58	63	P	Pn	18 48 22.2	+0.8
	SNR=30						
HORN				S	Sb	18 49 01.9	+4.1
EMIJ	Mijas	2.73	92	Pn	Pn	18 48 25.6	+2.2
	comp=N,0.3nm,0.1s,SNR=7.9						
EMIJ				Sn	Sn	18 48 56.0	+0.2
	comp=N,4.6nm,0.3s,SNR=7.9						
PMRV	Marv??o	2.80	12	Pn	Pn	18 48 25.5	+1.1
PMRV				Sn	Sn	18 48 56.8	-0.7
	comp=N,14nm,0.4s						
PMRV	Marv??o	2.80	12	*e*Pn	Pn	18 48 25.5	+1.1
PMRV				*e*Sn	Sn	18 48 56.8	-0.7
PMRV				A	A	18 49 13.2	
	comp=N,14nm,0.4s						
PSBE	So Bento	2.86	350	*e*Pn	Pn	18 48 26.6	+1.3
PSBE				*e*Sn	Sn	18 48 58.9	-0.2
PSBE				A	A	18 49 01.3	
	comp=N,14nm,0.8s						
PCBR	Castelo Branco	3.19	9	Pn	Pn	18 48 30.7	+1.0
PCBR				Sn	Sn	18 49 06.5	-0.6
	comp=N,3.3nm,0.3s						
PCBR	Castelo Branco	3.19	9	*e*Pn	Pn	18 48 30.7	+1.0
PCBR				*e*Sn	Sn	18 49 06.5	-0.6
PCBR				A	A	18 49 07.3	
	comp=N,6.7nm,0.3s						
EADA	Adamuz	3.21	62	Pn	Pn	18 48 31.3	+1.2
	comp=N,6.7nm,0.1s,SNR=56						
EADA				Sn	Sn	18 49 06.7	-1.0
	comp=N,7.7nm,0.1s,SNR=7.9						
EGOR	Sierra Gorda,	3.27	81	Pn	Pn	18 48 33.7	+2.6
	comp=N,0.3nm,0.1s,SNR=7.9						
EGOR				Sn	Sn	18 49 09.6	+0.2
	comp=N,5.6nm,0.2s,SNR=7.9						
PCAS	Casmilo, Conde	3.37	356	Pn	Pn	18 48 33.3	+1.1
PCAS				Sn	Sn	18 49 10.9	-0.6
	comp=N,6.2nm,0.5s						
PCAS	Casmilo, Conde	3.37	356	*e*Pn	Pn	18 48 33.3	+1.1
PCAS				*e*Sn	Sn	18 49 10.9	-0.6
PCAS				A	A	18 49 13.6	
	comp=N,6.2nm,0.5s						
ZHG	ZHG	3.47	159	P	Pn	18 48 34.7	+1.0
ZHG				S	Sn	18 49 14.4	+0.2
ELGU	Los Guajares,	3.64	86	Pn	Pn	18 48 39.3	+3.3
	comp=N,0.8nm,0.1s,SNR=4.0						
ELGU				Sn	Sn	18 49 18.8	+0.3
	comp=N,8.4nm,0.2s,SNR=7.9						
MTE	Manteigas	3.73	7	Sn	Sn	18 49 19.1	-1.6
	comp=N,5.1nm,0.5s						
MTE	Manteigas	3.73	7	*e*Sn	Sn	18 49 19.1	-1.6
MTE				A	A	18 49 53.1	
	comp=N,10nm,0.5s						
EPLA	Plasencia	3.74	25	Pn	Pn	18 48 39.0	+1.6
	comp=N,0.5nm,0.1s,SNR=7.9						
EPLA				Sn	Sn	18 49 19.5	-1.4
	comp=N,4.2nm,0.2s,SNR=7.6						
EQUE	Quentar	3.81	81	Pn	Pn	18 48 39.5	+1.0
	comp=N,1.3nm,0.1s,SNR=7.9						
EQUE				Sn	Sn	18 49 21.9	-0.9
	comp=N,2.8nm,0.2s,SNR=7.9						
IFR	Ifrane	4.03	141	*e*P	Pn	18 48 41.9	+0.5
IFR				*e*S	Sn	18 49 26.9	-1.2
AKLM	AKL	4.12	121	P	Pn	18 48 43.3	+0.6
AKLM				S	Sn	18 49 30.9	+0.6
PAB	San Pablo	4.14	45	Pn	Pn	18 48 44.1	+1.2
	comp=N,1.5nm,0.1s,SNR=7.9						
PAB				Sn	Sn	18 49 27.2	-3.6
	comp=N,1.8nm,0.2s,SNR=7.9						
EQES	Quesada	4.21	73	Pn	Pn	18 48 44.4	+0.6
	comp=N,0.7nm,0.1s,SNR=7.9						
EQES				Sn	Sn	18 49 31.5	-1.0
	comp=N,2.1nm,0.2s,SNR=7.9						
EBER	Berja	4.24	86	Pn	Pn	18 48 46.4	+2.1
	comp=N,0.7nm,0.2s,SNR=4.0						
EBER				Sn	Sn	18 49 34.5	+1.3
	comp=N,3.2nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	4.45	47	Pn	Pn	18 48 48.2	+1.0
	comp=N,3.7nm,0.1s,baz=230,slow=13,SNR=4.4						
ESDC				Sn	Sn	18 49 36.2	-2.1
	comp=N,1.2nm,0.4s,baz=231,slow=24,SNR=12						
CZD	Col de Zad	4.46	144	P	Pn	18 48 47.7	+0.2
CZD				S	Sn	18 49 37.6	-1.4
MVO	Moncorvo	4.55	11	Pn	Pn	18 48 49.4	+0.9
	comp=N,0.6nm,0.1s,SNR=4.0						
MVO				Sn	Sn	18 49 37.5	-3.4
	comp=N,5.2nm,0.2s,SNR=6.3						
MVO	Moncorvo	4.55	11	*e*Pn	Pn	18 48 49.0	+0.5
MVO				*e*Sn	Sn	18 49 38.4	-2.5
MVO				A	A	18 49 41.2	
	comp=N,7.7nm,0.4s						
PVRL	Vila Real	4.59	4	Sn	Sn	18 49 39.8	-2.0
	comp=N,1.7nm,0.2s						
PVRL	Vila Real	4.59	4	*e*Sn	Sn	18 49 39.8	-2.0
PVRL				A	A	18 49 41.8	
	comp=N,3.3nm,0.2s						
SESP	Santiago Espad	4.69	71	Pn	Pn	18 48 51.6	+1.0
	comp=N,1.3nm,0.1s,SNR=7.9						
SESP				Sn	Sn	18 49 42.2	-2.3
	comp=N,7.3nm,0.2s,SNR=7.9						
MD31	MD31	4.73	143	P	Pn	18 48 50.9	-0.1
MD31				S	Sn	18 49 43.1	-2.3
ENIJ	Nijar	4.78	85	Sn	Sn	18 49 44.5	-2.0
	comp=N,3.9nm,0.3s,SNR=7.9						
MDT	Midelt	4.85	142	P	Pn	18 48 52.7	0.0
	SNR=47						
MDT				S	Sn	18 49 47.9	-0.3
PCAB	Cabril	5.01	1	Sn	Sn	18 49 49.7	-2.4
PCAB	Cabril	5.01	1	*e*Sn	Sn	18 49 49.7	-2.4
GUD	Guadarrama	5.04	37	Pn	Pn	18 48 55.5	+0.2
	comp=N,0.4nm,0.2s,SNR=7.9						
GUD				Sn	Sn	18 49 49.7	-3.2
	comp=N,2.1nm,0.3s,SNR=7.9						
GUD				Lg	Lg	18 50 18.7	
	comp=N,3.5nm,0.5s,SNR=7.9						
ELOB	Lobios	5.17	1	Pn	Pn	18 48 57.7	+0.7
	comp=N,0.0nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	18 49 52.1	-4.0
	comp=N,1.7nm,0.3s,SNR=7.9						
PBRG	Braganca	5.22	12	Sn	Sn	18 49 54.7	-2.7
PBRG	Braganca	5.22	12	*e*Sn	Sn	18 49 54.7	-2.7
PGAV	Gavieira, Arco	5.27	359	Pn	Pn	18 48 59.4	+1.0
PGAV				Sn	Sn	18 49 56.0	-2.5
PGAV	Gavieira, Arco	5.27	359	*e*Pn	Pn	18 48 59.4	+1.0
PGAV				*e*Sn	Sn	18 49 56.0	-2.5
ECAL	Calabor	5.36	11	Sn	Sn	18 49 58.1	-2.6
	comp=N,3.3nm,0.4s,SNR=7.9						
ECAL				Lg	Lg	18 50 24.7	
	comp=N,10nm,0.4s,SNR=7.9						
EZAM	Zamans	5.46	356	Pn	Pn	18 49 01.7	+0.7
	comp=N,0.5nm,0.1s,SNR=7.9						
OUK	Oukaimeden	5.48	177	P	Pn	18 49 01.4	-0.2
OUK				S	Sn	18 50 00.7	-3.4
ETOB	Tobarra	5.59	68	Sn	Sn	18 50 02.9	-3.7
	comp=N,2.4nm,0.2s,SNR=7.9						
OUZM	OUZ	5.88	168	P	Pn	18 49 05.7	-1.2
OUZM				S	Sn	18 50 13.4	-0.4
ETOR	Torete	6.30	47	Pn	Pn	18 49 14.1	+1.5
	comp=N,3.3nm,0.1s,SNR=8.1						
ETOR				Sn	Sn	18 50 21.5	-2.6
	comp=N,5.3nm,0.2s,SNR=7.9						

*LDG **01** 18:47:51.5±0.9, 37°.07N×3°.32E, h10km, Ml2.6/5, Error ellipse: s-maj=18.4km s-min=9.3km az=169.0*

*MDD **01** 18:47:53.2±0.7, 36°.98N×3°.20E, h0km, mb3.9/14, Error ellipse: s-maj=13.1km s-min=4.7km az=105.0, PRXIMO*
*CRAAG **01** 18:47:53.5, 36°.88N×3°.16E, Ml3.3*
ISC 01 18:47:51.5±1.2**, 37°.09N**±0°.06×**3°.28E**±0°.06**, h12km, n67,** σ**3s26**/72**, 1C, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	Alger-Bouzarea	0.35	215	P	Pg	18 47 57.2	-1.3
ABA	Alger-Bouzarea	0.35	215	P	Pg	18 47 57.2	-1.3
EMHD	Djebel Mahouad	0.92	197	P	Pg	18 48 08.0	-1.3
EMHD	Djebel Mahouad	0.92	197	P	Pg	18 48 08.0	-1.3
EIBI	Ibiza	2.47	322	⇑P	Pn	18 48 34.2	+2.7
	12nm,0.2s,SNR=18						
EIBI				S	Sn	18 49 01.8	+0.2
	7.7nm,0.2s,SNR=7.9						
ETOS	Mallorca	2.70	352	P	Pn	18 48 38.1	+3.3
	7.1nm,0.1s,SNR=34						
ETOS				S	Sn	18 49 10.6	+3.2
	2.1nm,0.2s,SNR=7.9						
EBEN2	Beniarda presa	3.17	301	P	Pn	18 48 42.4	+1.2
	1.7nm,0.2s,SNR=7.9						
EBEN2				S	Sn	18 49 15.6	-3.4
	5.0nm,0.4s,SNR=7.9						
EMUR	La Murta	3.68	283	P	Pn	18 48 49.7	+1.5
	2.0nm,0.3s,SNR=7.9						
EMUR				S	Sn	18 49 28.8	-2.6
	2.4nm,0.4s,SNR=7.9						
ETOB	Tobarra	4.13	294	P	Pn	18 48 56.2	+1.9
	2.1nm,0.2s,SNR=4.0						
ETOB				S	Sn	18 49 41.8	-0.8
	3.5nm,0.4s,SNR=7.9						
ECHE	Chera	4.17	308	P	Pn	18 48 58.2	+3.2
	5.2nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	4.40	319	P	Pn	18 49 00.7	+2.5
	0.8nm,0.2s,SNR=8.4						
EMOS				S	Sn	18 49 47.7	-1.7
	1.0nm,0.3s,SNR=4.0						
ERTA	Horta de San J	4.50	330	P	Pn	18 49 02.5	+3.1
	0.8nm,0.2s,SNR=7.9						
ERTA				S	Sn	18 49 50.1	-1.5
	1.8nm,0.3s,SNR=7.9						
EPOB	Poblet	4.59	339	P	Pn	18 49 03.8	+3.0
	0.9nm,0.2s,SNR=7.9						
CFON	Fontmartina	4.71	352	P	Pn	18 49 05.8	+3.3
	4.9nm,0.2s,SNR=12						
EMIR	Miracle	5.01	345	P	Pn	18 49 11.4	+4.9
	15nm,0.2s,SNR=7.5						
SJAF	Saint Jean de	5.40	357	P	Pn	18 49 16.0	+4.2
	2.5nm,0.2s,SNR=7.9						
CLLI	Llivia	5.48	350	P	Pn	18 49 17.6	+4.6
	0.2nm,0.1s,SNR=7.9						
CSOR	Sort	5.54	343	P	Pn	18 49 18.1	+4.4
	1.1nm,0.2s,SNR=6.6						
CSOR				S	Sn	18 50 18.8	+1.4
	1.5nm,0.3s,SNR=7.9						
UCM	Universidad Co	6.03	304	P	Pg	18 49 56.4	+9.4
UCM				S	Sn	18 50 32.4	+2.8
UCM	Universidad Co	6.03	304	eS	Sn	18 50 32.4	+2.8
UCM	Universidad Co	6.03	304	eP	Pg	18 49 56.4	+9.4
MTLF	Montolieu	6.30	353	eP	Pn	18 49 27.6	+3.4
MTLF	Montolieu	6.30	353	P	Pn	18 49 27.6	+3.4
EPF	Esparros	6.35	340	eSn	Sn	18 50 32.2	-5.2
	1.2nm,0.5s						
EPF	Esparros	6.35	340	S	Sn	18 50 32.2	-5.2
	0.6nm,0.5s						
ETSF	Etsaut	6.51	334	eP	Pn	18 49 30.1	+3.0
ETSF	Etsaut	6.51	334	P	Pn	18 49 30.1	+3.0
LMR	La Mourre	6.71	21	eP	Pn	18 49 33.3	+3.5
LMR				eSn	Sn	18 50 40.0	-6.1
	0.9nm,0.3s						
LMR	La Mourre	6.71	21	P	Pn	18 49 33.3	+3.5
LMR				S	Sn	18 50 40.0	-6.1
	0.4nm,0.3s						
SJPF	Ste Jean	6.94	332	ePn	Pn	18 49 35.7	+2.7
SJPF	Ste Jean	6.94	332	eP	Pn	18 49 39.9	+6.9
SJPF				eSn	Sn	18 50 46.0	-5.8
	0.8nm,0.3s						
SJPF	Ste Jean	6.94	332	P	Pn	18 49 35.7	+2.7
SJPF				S	Sn	18 50 46.0	-5.8
	0.4nm,0.3s						
LASF	Ste Croix	7.00	3	eP	Pn	18 49 36.3	+2.6
LASF				eSn	Sn	18 50 47.6	-5.6
	1.1nm,0.5s						
LASF	Ste Croix	7.00	3	P	Pn	18 49 36.3	+2.6
LASF				S	Sn	18 50 47.6	-5.6
	0.6nm,0.5s						
PGF	Pioggiola	7.01	37	eP	Pn	18 49 36.6	+2.7
PGF				eSn	Sn	18 50 47.1	-6.5
	0.4nm,0.3s						
PGF	Pioggiola	7.01	37	P	Pn	18 49 36.6	+2.7
PGF				S	Sn	18 50 47.1	-6.5
	0.2nm,0.3s						
SMRF	Simiane la Rot	7.10	14	eP	Pn	18 49 39.3	+4.1
SMRF	Simiane la Rot	7.10	14	P	Pn	18 49 39.3	+4.1
SBF	Sospel	7.47	24	eP	Pn	18 49 44.7	+4.4
SBF	Sospel	7.47	24	P	Pn	18 49 44.7	+4.4
VIVF	Saint-Julien-l	7.83	7	eP	Pn	18 49 47.4	+2.2
	4.2nm,0.4s						
VIVF	Saint-Julien-l	7.83	7	P	Pn	18 49 47.4	+2.2
	2.1nm,0.4s						
CAF	Calviac	7.88	354	ePn	Pn	18 49 43.1	-2.8
CAF	Calviac	7.88	354	eP	Pn	18 49 47.8	+1.9
	1.4nm,0.3s						
CAF	Calviac	7.88	354	P	Pn	18 49 43.1	-2.8
ORIF	Oris-en-Rattie	8.07	13	eP	Pn	18 49 50.3	+1.8
	1.9nm,0.4s						
ORIF	Oris-en-Rattie	8.07	13	P	Pn	18 49 50.3	+1.8
	0.9nm,0.4s						
LFF	La Frestale	8.08	347	eP	Pn	18 49 50.9	+2.4
	3.7nm,0.4s						
LFF	La Frestale	8.08	347	P	Pn	18 49 50.9	+2.4
	1.9nm,0.4s						
LPL	La Plagne	8.81	16	eP	Pn	18 50 02.8	+4.0
LPL	La Plagne	8.81	16	P	Pn	18 50 02.8	+4.0
TCF	Toulx Ste Croi	9.23	355	ePn	Pn	18 50 02.3	-2.0
TCF	Toulx Ste Croi	9.23	355	eP	Pn	18 50 06.2	+1.9
BGF	Bois d'Agland	9.47	358	ePn	Pn	18 50 03.8	-3.8
BGF	Bois d'Agland	9.47	358	eP	Pn	18 50 10.6	+3.0
	4.4nm,0.2s						
BGF	Bois d'Agland	9.47	358	P	Pn	18 50 03.8	-3.8
SMF	Signal de Mont	9.56	2	eP	Pn	18 50 12.4	+3.5
	2.5nm,0.3s						
SMF	Signal de Mont	9.56	2	P	Pn	18 50 12.4	+3.5
	1.2nm,0.3s						
AVF	Avril sur Loir	9.70	0	eP	Pn	18 50 14.2	+3.5
	2.0nm,0.4s						
AVF	Avril sur Loir	9.70	0	P	Pn	18 50 14.2	+3.5
	1.0nm,0.4s						
MFF	Saint Martin d	9.85	346	eP	Pn	18 50 15.6	+2.9
MFF	Saint Martin d	9.85	346	P	Pn	18 50 15.6	+2.9
SSF	Saint Saulge	9.97	1	eP	Pn	18 50 18.0	+3.5
	1.6nm,0.4s						
SSF	Saint Saulge	9.97	1	P	Pn	18 50 18.0	+3.5
	0.8nm,0.4s						
LOR	Lormes	10.18	2	ePn	Pn	18 50 15.5	-1.9
LOR	Lormes	10.18	2	eP	Pn	18 50 18.9	+1.5
	1.8nm,0.3s						
LOR	Lormes	10.18	2	P	Pn	18 50 15.5	-1.9

DJA 01 18:48:22.8±1.1**, 2°N**±5°×**9°3E**±1°9**, h34km**±52km**, M4.7**/10**, mB5.6**/2**, mb4.8**/8**, MLv4.6**/10**, Mw(mB)5.2**/2**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	4.13	53	P	Pn	18 49 23.1	-0.4
MLSI				S	Sn	18 50 11.8	+1.1
GSI	Gunungsitoli	4.52	96	P	Pn	18 49 28.4	-0.5
GSI				S	Sn	18 50 21.1	+0.8
KCSI	Kotacane, Aceh	4.99	70	P	Pn	18 49 36.3	+0.9
KCSI				S	Sn	18 50 32.7	+0.7
LHMI	Lhok Sumawe	5.15	48	P	Pn	18 49 37.5	-0.1
	0.5nm90nm,0.5s						
PBSI	Pulau Batu	5.51	109	P	Pn	18 49 41.9	-0.6
	0.7nm129nm,1.1s						
PBSI				S	Sn	18 50 45.4	+0.6
	0.7nm129nm,1.1s						
MNSI	Mandailing Nat	6.57	99	P	Pn	18 49 56.9	-0.2
MNSI				S	Sn	18 51 11.8	+0.9
SISI	Saibi	6.76	117	P	Pn	18 50 00.2	+0.5
	0.3nm24nm,1.1s						
SISI				S	Sn	18 51 15.7	+0.2
	0.3nm24nm,1.1s						
KRJI	Kerinci	9.22	115	P	Pn	18 50 33.9	+0.3

MAN 01 18:48:52.0, 6°.46N×125°.56E, h32km, MS2.5, Mindanao

MAN 01 18:48:54.1, 5°.91N×125°.52E, h28km, mb4.6, ML3.4, MS3.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	0.27	44	eP	Pn	18 49 02.7	+0.4
DDMP				eS	Sn	18 49 08.9	+1.4
SKMP	Bagumbayan, Su	1.15	302	eP	Pn	18 49 09.9	-4.4
SKMP				eS	Sn	18 49 22.7	-6.4
KCP	Kidapawan	1.18	339	⇑eP	Pn	18 49 15.1	+0.3

KRSC 01 19:14:49.3±2.0**, 49°.69N×156°.72E, h61km**±24km**, ML3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.07	339	eP	Pn	19 15 09.6	+1.4
SKR				eS	Sn	19 15 23.6	+1.3
ALID	Alaid	1.40	328	eP	Pn	19 15 13.0	+0.2
ALID				eS	Sn	19 15 29.6	-0.8
PAU	Pauzhetka	1.78	2	eP	Pn	19 15 20.0	+2.2
PAU				eS	Sn	19 15 42.1	+2.7
KDTR	Khodutka, Kamc	2.29	22	eP	Pn	19 15 27.4	+2.7
KDTR				eS	Sn	19 15 54.7	+2.9
MIPR	Malaya Ipel'ka	2.59	1	eP	Pn	19 15 31.0	+2.2
ASAK	Asacha	2.80	15	eP	Pn	19 15 34.9	+3.2
ASAK				eS	Sn	19 16 07.9	+3.6
MTVR	Mutnovka	2.95	18	eP	Pn	19 15 36.8	+3.0
MTVR				eS	Sn	19 16 11.4	+3.4
RUS	Russkaya	2.97	22	eP	Pn	19 15 36.0	+2.0
RUS				eS	Sn	19 16 10.4	+2.0
GRL	Gorelyy	2.99	16	eP	Pn	19 15 37.8	+3.4
GRL				eS	Sn	19 16 12.9	+3.8
DALK	Dalny	3.58	20	eP	Pn	19 15 45.3	+3.0
DALK				eS	Sn	19 16 27.2	+3.9
UGLR	Uglovaya	3.77	20	eP	Pn	19 15 48.2	+3.3
AVH	Avacha	3.80	19	eP	Pn	19 15 49.1	+3.8
KOK	Koryaka	3.80	18	eP	Pn	19 15 49.0	+3.6
KOK				eS	Sn	19 16 34.5	+5.6
KRER	Koryakskii	3.84	19	eS	Sn	19 16 34.6	+4.7
SDLR	Sedlovina	3.84	20	eP	Pn	19 15 48.4	+2.4
KRX	Arik	3.87	17	eP	Pn	19 15 49.6	+3.2
SPN	Mys Shipunski	3.99	30	eP	Pn	19 15 50.8	+2.9
SPN				eS	Sn	19 16 35.0	+1.6
KZV	Kizimen	5.86	21	eP	Pn	19 16 18.7	+5.1

*IDC **01** 19:36:45.9±2.8, 36°.46N×71°.23E, h198km±23km, mb3.6/14, mb1 3.6/21, mb1mx3.3/60, mbtmp4.1/21, Error ellipse: s-maj=21.4km s-min=15.2km az=166.0*
*BJI **01** 19:36:48.9±0.0, 36°.83N×71°.20E, h213km, mB4.8/5, mb4.5/7*
*NEIC **01** 19:36:49.2±1.6, 36°.72N±0°.03×71°.2E±0°.1, h221km±7km, mb4.2/19, Error ellipse: s-maj=12.9km s-min=2.5km az=75.0*
*NNC **01** 19:36:51.8±3.0, 37°.00N×71°.07E, h201km±34km, mb3.1, mpv4.2, Error ellipse: s-maj=27.0km s-min=20.4km az=33.0*
ISC 01 19:36:47.3±0.5**, 36°.71N**±0°.05×**71°.26E**±0°.05**, h200km, n79,** σ**1s66**/94**, mb4.0**/23**, 7C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.41	342		Pn	19 37 33.6	+3.3
GAR				S	Sn	19 38 05.4	+1.5
CHGR	Chuyangaron	2.56	320	Pn	Pn	19 37 34.7	+2.8
CHGR				S	Sn	19 38 07.5	+0.6
KBL	Kabul	2.81	220	Pn	Pn	19 37 37.6	+2.6
KBL				S	Sn	19 38 13.8	+1.6
BTK	Batken	3.37	354	Pn	Pn	19 37 45.4	+4.1
BTK				S	Sn	19 38 26.2	+2.4
NIL	Nilore	3.46	151	Pn	Pn	19 37 46.4	+3.9
NIL				S	Sn	19 38 28.6	+2.9
KSH	Kashi	4.66	52	P	Pn	19 37 55.6	-1.9
KSH				S	Sn	19 38 43.1	-10
KSH				smax	smax		
	comp=N,120nm,0.9s						
KSH				smax	smax		
	comp=E,98nm,0.8s						
JMU	Jammu	4.98	142	ex	x	19 38 46.0	
THN	Thein Dam	5.63	138	eS	Sn	19 39 16.0	+1.1
AML	Almayashu	5.74	18	P	Pn	19 38 13.8	+2.3
	SNR=108						
UCH	Uchtor	6.06	24	P	Pn	19 38 18.2	+2.4
	SNR=126						
DHRM	DHARAMSHALA	6.09	135	eP	Pn	19 38 18.9	+2.9
DHRM				eS	Sn	19 39 26.1	0.0
DHRM				IAML		19 39 27.6	
	comp=E,180nm,0.6s						
DHRM				IAML		19 39 28.4	
	comp=N,246nm,0.3s						
KZA	Kyzart	6.19	29	P	Pn	19 38 19.4	+2.0
	SNR=37						
EKS2	Erkin-Say	6.26	17	P	Pn	19 38 20.5	+2.6
	SNR=58						
KK31	Karatay Array	6.42	355	⇑P	Pn	19 38 21.2	+1.3
	comp=N,1.9nm,0.5s,baz=173,slow=11,SNR=23						
KK31				⇓S	Sn	19 39 30.6	-2.6
	comp=N,10nm,0.5s,baz=183,slow=23,SNR=7.8						
KK31	Karatay Array	6.42	355	Pn	Pn	19 38 21.8	+1.9
KK31				S	Sn	19 39 31.4	-1.9
KKAR	Karatay Array	6.42	355		Pn	19 38 21.9	+2.0
KKAR				S	Sn	19 39 31.3	-2.0
AAK	Ala-Archa	6.43	22	P	Pn	19 38 22.7	+2.5
	comp=N,5.4nm,0.3s,baz=173,slow=11,SNR=27						
AAK				S	Sn	19 39 33.9	+0.1
	comp=N,1.0nm,0.3s,baz=343,slow=20,SNR=4.1						
AAK	Ala-Archa	6.43	22	P	Pn	19 38 22.9	+2.7
	SNR=14						
AAK	Ala-Archa	6.43	22	⇑P	Pn	19 38 22.3	+2.1
	comp=N,11nm,0.5s						
AAK				⇓S	Sn	19 39 35.0	+1.2
	comp=N,37nm,1.0s						
AAK	Ala-Archa	6.43	22	Pn	Pn	19 38 22.5	+2.3
KBK	Karagaybulak	6.59	24	P	Pn	19 38 25.2	+2.9
	SNR=6.0						
FRU1	Bishkek	6.63	22		Pn	19 38 24.2	+1.6
ULHL	Ulahol	6.74	33	P	Pn	19 38 26.7	+2.4
	SNR=17						
CHMS	Chumysh	6.84	22	P	Pn	19 38 28.1	+2.7
	SNR=14						
TKM2	Tokmak 2	7.05	27	P	Pn	19 38 31.1	+2.8
	SNR=11						
TKM2	Tokmak 2	7.05	27	⇑P	Pn	19 38 29.7	+1.4
	comp=N,48nm,0.7s						
TKM2				⇑S	Sn	19 39 47.8	-0.6
	comp=N,16nm,0.8s						
KDJ	Kajisay	7.10	38	Pn	Pn	19 38 30.7	+1.8
TARG	Taragay, Kyrgy	7.14	43	Pn	Pn	19 38 30.3	+0.6
SMLA	Simla	7.42	137	eP	Pn	19 38 35.0	+2.0
SMLA				eS	Sn	19 39 54.7	-2.3
SMLA				IAML		19 39 56.8	
	comp=N,46nm,0.3s						
SMLA				IAML		19 39 58.5	
	comp=E,67nm,0.5s						
HRA	Herat	7.70	255		Pn	19 38 37.5	+0.6
PRZ	Przheval'sk	7.98	42	Pn	Pn	19 38 42.6	+2.3
GEYT	Alibeck	10.54	281	P	Pn	19 39 12.6	-0.9
	comp=E,0.4nm,0.3s,baz=103,slow=6.7,SNR=4.4						
GYA0B	ALIBECK ARRAY	10.54	281	Pn	Pn	19 39 14.2	+0.7
MAKZ	Makanchi	12.87	35	Pn	Pn	19 39 43.4	+0.4
MK31	Makanchi Array	13.00	36		Pn	19 39 45.2	+0.4
MKAR	Makanchi Array	13.00	36	P	Pn	19 39 45.5	+0.8
	comp=E,0.4nm,0.3s,baz=222,slow=18,SNR=15						
KURBB	Kurchatov Arra	14.86	18	P	Pn	19 40 07.6	0.0
	comp=E,0.1nm,0.3s,baz=208,slow=12,SNR=9.4						
KURBB				S	S	19 42 54.1	+1.6
	comp=E,0.0nm,0.3s,baz=213,slow=20,SNR=4.6						
KURK	Kurchatov	14.97	18		Pn	19 40 07.9	-1.0
AB31	Akbulak array	15.01	330	⇑P	Pn	19 40 08.8	-0.6
	comp=E,0.8nm,0.3s,baz=265,slow=34,SNR=37						
AB31				⇑S	S	19 42 53.1	-2.8
	comp=E,1.4nm,0.7s,baz=144,slow=22,SNR=6.0						
ABKAR	Akbulak array	15.01	330	P	Pn	19 40 09.4	0.0
BVAR	Borovoye Array	16.33	358	P	Pn	19 40 26.6	+1.3
	comp=E,0.3nm,0.3s,baz=161,slow=11,SNR=7.1						
AKTO	Aktyubinsk	16.71	329	P	Pn	19 40 30.4	+0.5
	comp=E,1.1nm,0.3s,baz=141,slow=10,SNR=14						
AKTO	Aktyubinsk	16.71	329	⇓P	P	19 40 29.1	+0.3
	comp=E,11nm,1.0s						
AKTO				⇑S	S	19 43 32.4	-0.5
	comp=E,4.2nm,1.3s						
ZALV	Zalesovo Beam	19.64	24	P	P	19 41 01.4	+0.9
	comp=E,0.4nm,0.3s,baz=210,slow=10,SNR=7.4						
ARU	Arti	21.51	341	P	P	19 41 19.7	-0.6
	comp=E,0.7nm,0.4s,baz=155,slow=17,SNR=3.1						
ARU	Arti	21.51	341	P	P	19 41 19.4	-0.8
ARU				IAmb	IAmb	19 41 22.6	
	comp=Z,13nm,1.6s						
AKASG	Malin Array Be	32.98	309	P	P	19 43 03.4	+0.4
	comp=Z,2.2nm,0.5s,baz=81,slow=6.4,SNR=6.5						
AKBB	Malin Array Si	32.98	309	P	P	19 43 03.1	+0.1
AKBB				IAmb	IAmb	19 43 03.9	
	comp=Z,2.7nm,0.7s						
FINES	FINESS Array B	37.43	326	P	P	19 43 41.4	+0.6
	comp=Z,2.1nm,0.4s,baz=120,slow=9.3,SNR=28						
KEV	Kevo	40.69	338	P	P	19 44 08.0	+0.2
KEV				IAmb	IAmb	19 44 25.9	
	comp=Z,16nm,1.2s						
ARCES	ARCESS Array B	41.03	337	P	P	19 44 11.4	+0.8
	comp=Z,2.7nm,0.5s,baz=112,slow=8.4,SNR=40						
ARE0	ARCESS Array S	41.03	337	P	P	19 44 11.2	+0.6
HFS	Hagfors	43.03	322	P	P	19 44 27.0	+0.2
	comp=Z,8.3nm,0.5s,baz=95,slow=10,SNR=64						
NC405	NORSAR Array S	44.10	323	P	P	19 44 35.5	+0.1
NC602	NORSAR Array S	44.15	322	P	P	19 44 35.8	0.0
NC602				IAmb	IAmb	19 44 53.6	
	comp=Z,22nm,1.5s						
NC303	NORSAR Array S	44.28	323	P	P	19 44 37.1	+0.4
NC303				IAmb	IAmb	19 44 37.4	
	comp=Z,13nm,0.8s						
NB201	NORSAR Array S	44.30	323	P	P	19 44 36.9	-0.1
NB2	NORSAR Subarra	44.34	323	P	P	19 44 37.0	-0.3
	comp=Z,2.4nm,0.5s,baz=97,slow=7.9						
NOA	NORSAR Array B	44.34	323	P	P	19 44 37.2	-0.1
	comp=Z,0.3nm,0.3s,baz=104,slow=7.1,SNR=21						
NBO00	NORSAR Array S	44.55	323	P	P	19 44 38.5	-0.5
NBO00				IAmb	IAmb	19 44 39.4	
	comp=Z,6.2nm,0.6s						
NC204	NORSAR Array S	44.58	323	P	P	19 44 39.4	+0.2
NC204				IAmb	IAmb	19 44 43.7	
	comp=Z,32nm,1.5s						
KONO	Kongsberg	45.05	321	P	P	19 44 42.0	-0.9
KONO				IAmb	IAmb	19 44 51.9	
	comp=Z,16nm,1.2s						
SPITS	Spitsbergen Ar	47.34	347	P	P	19 45 01.9	+1.4
	comp=Z,2.5nm,0.7s,baz=101,slow=7.5,SNR=4.1						
EKA	Eskdalemuir Ar	52.28	316	P	P	19 45 36.6	-1.3
	comp=Z,0.5nm,0.5s,baz=92,slow=5.8,SNR=4.6						
ESDC	Sonseca Array	57.54	298	P	P	19 46 16.0	+0.1
	comp=Z,0.6nm,0.8s,baz=48,slow=7.8,SNR=7.0						
TOA0	Torodi Ar. Sit	65.93	269	P	P	19 47 09.9	-2.2
TORD	Torodi Ar. Bea	65.93	269	P	P	19 47 10.0	-2.2
	comp=Z,1.3nm,0.6s,baz=48,slow=6.1,SNR=24						
C36M	Paulatuk	73.65	6	P	P	19 47 58.4	+0.1
INK	Inuvik	73.67	9	P	P	19 47 59.0	+0.6
	comp=Z,2.5nm,0.5s,baz=331,slow=6.1,SNR=6.4						
INK	Inuvik	73.67	9	P	P	19 47 59.0	+0.6
INK				IAmb	IAmb	19 47 59.7	
	comp=Z,2.7nm,0.7s						
ILAR	Eielson Array	74.53	16	P	P	19 48 03.0	-0.5
	comp=Z,0.3nm,0.5s,baz=303,slow=5.0,SNR=5.3						
LBTB	Lobatse	74.97	222	P	P	19 48 06.4	-0.3
RND	Reindeer	75.24	17	P	P	19 48 07.2	-0.5
RIDG	Independent Ri	75.87	16	P	P	19 48 10.9	-0.4
RIDG				IAmb	IAmb	19 48 18.3	
	comp=Z,4.9nm,1.4s						
DHY	Denali Highway	75.87	17	P	P	19 48 11.4	0.0
DOT	Dot Lake	76.12	15	P	P	19 48 12.4	-0.2
SML	Sawmill	76.73	18	P	P	19 48 15.9	-0.3
SML				IAmb	IAmb	19 48 16.5	
	comp=Z,2.5nm,0.6s						
YKA	Yellowknife Ar	81.03	3	P	P	19 48 39.5	+0.1
	comp=Z,1.0nm,0.4s,baz=354,slow=5.6,SNR=5.6						
ASAR	Alice Springs	84.20	125	P	P	19 48 55.0	-1.4
	comp=Z,0.7nm,0.8s,baz=313,slow=5.2,SNR=6.6						

*MOS **01** 19:44:22.7±1.2, 72°.01N×0°.25E, h10km, mb4.5/15, Error ellipse: s-maj=19.0km s-min=4.8km az=97.5*
*NAO **01** 19:44:22.0±2.4, 71°.96N×0°.12E, ML4.1*
*IDC **01** 19:44:22.7±0.6, 71°.93N×0°.11E, h0km, mb3.9/17, mb1 4.1/23, mb1mx3.9/54, mbtmp4.0/23, ML3.4/5, MS3.8/39, Ms1 3.9/39, ms1mx3.8/48, Error ellipse: s-maj=15.2km s-min=11.0km az=53.0*
*NEIC **01** 19:44:24.2±1.8, 71°.94N±0°.07×0°.1E±0°.2, h11km±4km, mb4.6/167, Error ellipse: s-maj=10.3km s-min=8.6km az=174.0*
*GCMT **01** 19:44:24.2±0.3, 72°.01N±0°.03×0°.27W±0°.08, h14km±1km, MW4.7/84, Moment Tensor Solution. s13,c14; s84,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.23±.14; $M_{\theta\theta}$0.52±.09; $M_{\phi\phi}$0.70±.08; $M_{r\theta}$-0.18±.22; $M_{\theta\phi}$1.19±.05; $M_{\phi r}$-0.13±.19; Best double couple: $M_0$1.53500×10^{16} NP1:ϕ_s219.00000°, δ41.00000°, λ-96.00000°. NP2: ϕ_s46.00000°, δ49.00000°, λ-85.00000°. Principal axes: T 1.8220, Plg4.0000°, Azm133.0000°; N -0.5790, Plg4.0000°, Azm223.0000°; P -1.2480, Plg85.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BER **01** 19:44:25.6±2.1, 72°.00N×0°.56W, h29km±83km, ML3.1, MS4.3, ML4.1(NAO)*
*DNK **01** 19:44:27.3±4.5, 72°.32N×1°.14W, h20km±135km, ML3.6*
ISC 01 19:44:24.1±0.3**, 71°.96N**±0°.04×**0°.16E**±0°.04**, h10km, n394,** σ**1s44**/382**, mb4.5**/121**, MS3.8**/47**, 7C, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	Jan Mayen	2.94	255	Pn	Pn	19 45 06.5	-4.2
	baz=200,slow=12,SNR=1.2						
JMIC	Jan Mayen	2.94	255	eP	Pn	19 45 06.8	-3.9
LOF	Lofoten	5.97	124	eP	Pn	19 45 52.6	+0.3
LOF				IVMs_BB	IVMs_BB	19 46 15.0	
	comp=Z,3μm,3.5s						
BJO1	Bjornoya	6.00	56	Pn	Pn	19 45 52.6	-0.1
BJO1	Bjornoya	6.00	56	eP	Pn	19 45 52.2	-0.5
N2VI	Vinje	6.01	121	eP	Pn	19 45 53.4	+0.6
N2SV	S¸rv¥gen	6.01	127	eP	Pn	19 45 52.7	-0.2
N2RO	R¸st	6.09	131	eP	Pn	19 45 53.5	-0.4
N2VA	Vr¸y	6.11	129	eP	Pn	19 45 53.8	-0.4
DBG	Daneborg	6.36	301	eP	Pn	19 45 51.2	-6.4
DBG				eS	Sn	19 46 56.7	-13
DBG	Daneborg	6.36	301	i P	Pn	19 45 50.7	-6.9
DBG				eS	Sn	19 46 56.5	-14
HSPB	Hornsund (broa	6.50	32	Pn	Pn	19 45 58.1	-1.5
HSPB				Sn	Sn	19 47 10.9	-2.8
HSPB	Hornsund (broa	6.50	32	eP	Pn	19 45 58.1	-1.5
STEI	Steigen	6.56	121	eP	Pn	19 46 00.3	-0.2
TRO	Tromso	6.60	102	Pn	Pn	19 46 00.5	-0.5
TRO				Sn	Sn	19 47 12.0	-4.2
TRO	Tromso	6.60	102	eP	Pn	19 46 00.3	-0.7
N2IH	Innhavet	6.73	119	eP	Pn	19 46 03.2	+0.5
N2TV	T¥rnvik	6.79	123	eP	Pn	19 46 03.7	+0.1
NBB08	Skaug oppvekst	6.80	125	eP	Pn	19 46 04.0	+0.2
NBB30	Finnes	6.90	130	eP	Pn	19 46 04.7	-0.4
NBB05	Inndyr	6.92	129	eP	Pn	19 46 05.3	-0.1
DAG	Danmarks Havn	6.97	322	i P	Pn	19 46 01.0	-5.0
DAG				i S	Sn	19 47 07.4	-18
DAG	Danmarks Havn	6.97	322	i P	Pn	19 46 01.0	-5.0
DAG	Danmarks Havn	6.97	322	i P	Pn	19 46 01.0	-5.0
DAG				i S	Sn	19 47 07.4	-18
DAG				IAML		19 47 11.7	
	comp=Z,31nm,0.4s						
DAG	Danmarks Havn	6.97	322	i P	Pn	19 46 01.0	-5.0
DAG				i S	Sn	19 47 07.4	-18
DAG				IAML		19 47 11.7	
	comp=Z,31nm,0.4s						
FAUS	Fauske	6.97	124	eP	Pn	19 46 06.1	0.0
NBB17	Glomfjord B¥r	7.08	130	eP	Pn	19 46 07.5	-0.1
BRBA	Barentsburg A	7.10	24	Pn	Pn	19 46 06.3	-1.4
BRBA	Barentsburg A	7.10	24	eP	Pn	19 46 06.7	-1.0
STOK	Stokkvaagen	7.26	135	eP	Pn	19 46 10.0	0.0
SCO	Scoresbysund	7.27	269	i P	Pn	19 46 08.0	-2.1
SCO	Scoresbysund	7.27	269	i P	Pn	19 46 08.0	-2.1
SCO	Scoresbysund	7.27	269	eP	Pn	19 46 07.1	-3.1
SCO	Scoresbysund	7.27	269	eP	Pn	19 46 07.1	-3.1
SCO				i P	Pb	19 46 08.0	-22
SPA0	Spitsbergen Ar	7.48	26	Pn	Pn	19 46 11.8	-1.1

baz=205,slow=16
SPA0 Spitsbergen Ar 7.48 26 Pn **Pn** **19 46 12.3 -0.7**
SPA0 Spitsbergen Ar 7.48 26 Pn **Pn** **19 46 11.8 -1.1**
baz=205,slow=16
SPITS Spitsbergen Ar 7.48 26 Pn **Pn** **19 46 13.3 +0.4**
baz=198,slow=13,SNR=114
SPITS Sn **Sn** **19 47 34.8 -2.8**
baz=216,slow=30,SNR=0.7
SPITS LR LR 19 48 24.4
comp=Z,406nm,20.1s,baz=210,slow=32
KIF Kilpisjarvi 7.50 103 Pn **Pn** **19 46 13.0 -0.3**
KIF Kilpisjarvi 7.50 103 *eP* **Pn** **19 46 13.2 -0.1**
KBS Kingsbay 7.58 17 Pn **Pn** **19 46 11.7 -2.6**
KBS Kingsbay 7.58 17 *ceP* **Pn** **19 46 13.9 -0.4**
KBS pmax pmax
comp=Z,29nm,1.0s
KBS Kingsbay 7.58 17 **Pn** **19 46 12.6 -1.7**
KBS Kingsbay 7.58 17 *eP* **Pn** **19 46 12.2 -2.2**
KBS Kingsbay 7.58 17 *i P* **Pn** **19 46 13.2 -1.1**
HAMF Hammerfest 7.65 89 Pn **Pn** **19 46 13.6 -1.8**
HAMF Hammerfest 7.65 89 *eP* **Pn** **19 46 13.9 -1.5**
HOPEN Hopen 8.09 44 Pn **Pn** **19 46 22.2 +0.9**
HOPEN Hopen 8.09 44 *eP* **Pn** **19 46 19.1 -2.2**
NSS Namsos 8.63 144 *eP* **Pn** **19 46 28.4 -0.4**
ARA0 ARCESS Array S 8.68 94 Pn **Pn** **19 46 28.6 -0.9**
baz=294,slow=12
ARA0 ARCESS Array S 8.68 94 Pn **Pn** **19 46 28.6 -0.9**
baz=294,slow=12
ARCES ARCESS Array B 8.68 94 Pn **Pn** **19 46 28.8 -0.7**
comp=Z,0.8nm,0.3s,baz=303,slow=12,SNR=22
ARCES LR LR 19 49 38.2
comp=Z,485nm,20.8s,baz=310,slow=36
ARCES ARCESS Array B 8.68 94 *eP* **Pn** **19 46 29.2 -0.3**
ARCES pmax pmax
comp=Z,1.0nm,0.3s
ARE0 ARCESS Array S 8.68 94 Pn **Pn** **19 46 28.8 -0.7**
ARE0 ARCESS Array S 8.68 94 *eP* **Pn** **19 46 29.0 -0.5**
HEF Hetta 8.70 103 *eP* **Pn** **19 46 29.4 -0.4**
KEV Kevo 9.04 91 P **Pn** **19 46 31.8 -2.6**
KEV Kevo 9.04 91 Pn **Pn** **19 46 31.8 -2.6**
AKN Aaknes 10.17 162 Pn **Pn** **19 46 49.6 -0.3**
AKN Aaknes 10.17 162 Pn **Pn** **19 46 49.6 -0.3**
NOR Nord 10.34 346 Pn **Pn** **19 46 49.8 -2.4**
NOR Sn Sn 19 48 34.1 -14
NOR Nord 10.34 346 Pn **Pn** **19 46 49.8 -2.4**
NOR Sn Sn 19 48 34.1 -14
BORG Borgarnes 10.67 238 LR LR 19 50 00.8
comp=Z,359nm,19.4s,baz=26,slow=32
NC204 NORSAR Array S 11.50 154 **Pn** **19 47 07.8 -0.3**
NC303 NORSAR Array S 11.63 152 **Pn** **19 47 08.9 -1.0**
SUMG Summit 11.64 291 *i* P Pn 19 47 05.0 -5.3
SUMG Summit 11.64 291 P **Pn** **19 47 07.0 -3.3**
SUMG Summit 11.64 291 **Pn** **19 47 07.0 -3.3**
SUMG Summit 11.64 291 *i* P Pn 19 47 05.0 -5.3
SUMG Summit 11.64 291 *i* P Pn 19 47 05.0 -5.3
NBO00 NORSAR Array S 11.74 154 Pn **Pn** **19 47 10.6 -0.7**
NB2 NORSAR Subarra 11.79 153 Pn **Pn** **19 47 11.1 -0.9**
baz=339,slow=12
NB2 NORSAR Subarra 11.79 153 Pn **Pn** **19 47 11.1 -0.9**
baz=339,slow=12
NOA NORSAR Array B 11.79 153 Pn **Pn** **19 47 11.9 -0.1**
comp=Z,0.0nm,0.3s,baz=334,slow=14,SNR=6.1
NOA LR LR 19 51 35.5
comp=Z,746nm,20.2s,baz=340,slow=37
NOA NORSAR Array B 11.79 153 P **Pn** **19 47 12.0 -0.1**
NB201 NORSAR Array S 11.79 153 **Pn** **19 47 11.7 -0.3**
NC405 NORSAR Array S 11.79 152 **Pn** **19 47 11.4 -0.6**
NAO01 NORSAR Array S 11.93 154 Pn **Pn** **19 47 14.5 +0.5**
APA0 Apatity Array 12.04 95 Pn **Pn** **19 47 14.7 -0.6**
baz=315,slow=14
APA0 Apatity Array 12.04 95 Pn **Pn** **19 47 14.7 -0.6**
baz=315,slow=14
NC602 NORSAR Array S 12.13 153 Pn **Pn** **19 47 15.4 -1.3**
NRA0 NORESS Array S 12.13 153 Pn **Pn** **19 47 16.1 -0.5**
baz=346,slow=14
NRA0 NORESS Array S 12.13 153 Pn **Pn** **19 47 16.1 -0.5**
baz=346,slow=14
LVZ Lovozero 12.38 92 P **Pn** **19 47 20.2 +0.1**
LVZ Lovozero 12.38 92 **Pn** **19 47 20.2 +0.1**
HFS Hagfors 13.03 149 Pn **Pn** **19 47 28.4 -0.5**
baz=350,slow=11
HFS Hagfors 13.03 149 Pn **Pn** **19 47 28.5 -0.5**
comp=Z,0.7nm,0.3s,baz=359,slow=12,SNR=23
HFS LR LR 19 52 24.0
comp=Z,703nm,19.8s,baz=345,slow=37
HFS Hagfors 13.03 149 Pn **Pn** **19 47 28.4 -0.5**
baz=350,slow=11
FINES FINESS Array B 14.54 123 Pn **Pn** **19 47 48.4 -1.1**
comp=Z,0.3nm,0.3s,baz=339,slow=12,SNR=14
FINES LR LR 19 52 59.1
comp=Z,1μm,19.0s,baz=322,slow=36
ANGG Ammassalik, Gr 14.83 264 **Pn** **19 47 49.8 -3.6**
ANGG Ammassalik, Gr 14.83 264 *i* P **Pn** **19 47 49.6 -3.9**
ANGG Ammassalik, Gr 14.83 264 *i* P **Pn** **19 47 49.6 -3.9**
TMCR Tamitsa 15.86 100 *eP* **P** **19 48 09.3 -1.5**
comp=Z,29nm,1.1s
TMCR Tamitsa 15.86 100 *eP* **Pn** **19 48 08.1 +1.1**
TMCR *e* 19 51 07.0
TMCR pmax pmax
comp=Z,29nm,1.1s
EKA Eskdalemuir Ar 16.75 187 Pn **Pn** **19 48 18.7 +0.2**
baz=8.0,slow=11,SNR=16
ESK Eskdalemuir 16.77 187 P **P** **19 48 21.5 +0.6**
ESK pmax pmax
comp=Z,45nm,1.8s
ESK Eskdalemuir 16.77 187 **P** **19 48 21.5 +0.6**
SLIT Slitere, Latvi 17.01 136 *eP* **P** **19 48 24.6 +1.2**
SLIT IAmb IAmb 19 48 41.6
comp=Z,125nm,1.0s
VSU Vasula 17.29 128 *eP* **Pn** **19 48 23.4 -1.7**
SFJD Kangerlussuaq 17.98 279 LR LR 19 54 30.5
comp=Z,554nm,19.8s,baz=48,slow=34
PBUR Paburge 18.42 139 *eP* **Pn** **19 48 39.6 +0.5**
PBUR IAmb IAmb 19 48 48.5
comp=Z,30nm,0.6s
KLMR Klimovskoe 18.82 106 *eP* **Pn** **19 48 44.0 -0.1**
comp=Z,54nm,1.5s
KLMR Klimovskoe 18.82 106 *eP* **Pn** **19 48 43.9 -0.1**
KLMR pmax pmax
comp=Z,50nm,1.4s
KLMR Klimovskoe 18.82 106 *eP* **Pn** **19 48 43.9 -0.1**
KLMR AMP 19 48 45.3
comp=Z,50nm,1.4s
PABE Paberze 19.33 136 *eP* **Pn** **19 48 49.8 -0.3**
PRGR Permogore 20.08 97 *eP* **P** **19 48 50.5 -6.6**
comp=Z,26nm,1.7s
PRGR Permogore 20.08 97 *eP* **P** **19 48 50.5 -6.6**
PRGR pmax pmax
comp=Z,16nm,1.3s
EUNU Eureka 20.12 330 P **P** **19 48 57.2 -0.4**
EUNU IAmb IAmb 19 49 03.7
comp=Z,24nm,1.1s
SUW Suwalki 20.56 139 P **P** **19 49 02.7 +0.3**
SUW pmax pmax
comp=Z,20nm,0.8s
SUW Suwalki 20.56 139 P **P** **19 49 02.7 +0.3**
SUW IAmb IAmb 19 49 03.8
comp=Z,20nm,0.8s
MICGM Minsk 21.14 131 *e* **P** **19 49 10.0 +1.3**
MNK Minsk 21.14 131 *eP* **P** **19 49 10.0 +1.3**
UCC Uccle 21.32 173 P **P** **19 49 10.0 -0.7**
UCC pmax pmax
comp=Z,9.0nm,0.5s
UCC Uccle 21.32 173 P **P** **19 49 10.0 -0.7**
UCC IAmb IAmb 19 49 24.0
comp=Z,9.3nm,0.5s
CLL Collm 21.51 158 *i* P **P** **19 49 13.6 +0.9**
comp=Z,25nm,1.8s
CLL *eS* **S** **19 53 11.0 +0.2**
comp=N,200nm,16.7s
CLL *eS* **S** **19 53 11.0 +0.2**
comp=E,300nm,11.6s
CLL Collm 21.51 158 *i* P **P** **19 49 13.6 +0.9**
CLL *eS* **S** **19 53 11.0 +0.2**
CLL pmax pmax
comp=Z,25nm,1.8s
CLL Collm 21.51 158 P **P** **19 49 12.7 +0.1**
MEM Membach 21.59 170 pP **pP** **19 49 18.0 +2.2**
MEM PnPn **PnPn** **19 49 33.6 -0.2**
BMRD Maredsous 21.84 172 pP **pP** **19 49 20.6 +2.2**
BMRD PnPn **PnPn** **19 49 36.4 -0.8**
DOU Dourbes 22.03 172 P **P** **19 49 19.9 +1.5**
DOU pP **sP** **19 49 22.4 +0.8**
DOU sP **pwP** **19 49 23.3 -0.2**
DOU PnPn **PnPn** **19 49 39.5 -0.5**
BRG Berggiesshubel 22.05 156 *eP* **P** **19 49 19.1 +0.6**
comp=Z,34nm,1.8s
BRG S **S** **19 53 21.0 -0.3**
comp=N,306nm,19.7s
comp=E,202nm,22.1s
comp=Z,434nm,29.3s
BRG Berggiesshubel 22.05 156 *eP* **P** **19 49 19.1 +0.6**
BRG S **S** **19 53 21.0 -0.3**
BRG pmax pmax
comp=Z,34nm,1.8s
BRG MLR MLR
comp=N,306nm,19.7s
BRG MLR MLR
comp=E,202nm,22.1s
BRG MLR MLR
comp=Z,434nm,29.3s
PVCC Panska Ves 22.47 155 AMS AMS 19 58 50.0
comp=Z,300nm,13.2s
NKC Novy Kostel 22.50 159 *eP* **P** **19 49 25.5 +2.1**
NKC MLR MLR
comp=Z,400nm,20.0s
NKC Novy Kostel 22.50 159 *eP* **P** **19 49 25.5 +2.1**
NKC *ex* x 19 49 37.3
NKC AMS AMS 19 58 10.0
comp=Z,400nm,20.0s
MOS Moscow 22.55 116 *eP* **P** **19 49 22.5 -1.4**
MOS *e* 19 50 02.5
MOS pmax pmax
comp=Z,26nm,0.8s
MOS MLR MLR
comp=Z,1μm,18.0s
CHVC Chvalec 22.61 153 *eP* **P** **19 49 24.9 +0.4**
CHVC *ex* x 19 49 39.0
CHVC AMS AMS 19 58 10.0
comp=Z,400nm,22.2s
OSTC Ostas 22.66 153 *eP* **P** **19 49 26.1 +1.0**
OSTC AMS AMS 19 57 50.0
comp=Z,400nm,21.7s
UPC Upice 22.68 153 AMS AMS 19 57 50.0
comp=Z,400nm,21.9s
OBN Obninsk 22.81 118 P **P** **19 49 26.6 +0.1**
comp=Z,1.5nm,0.5s,baz=23,slow=22,SNR=4.8
OBN LR LR 19 57 57.7
comp=Z,244nm,19.0s,baz=354,slow=36
OBN Obninsk 22.81 118⇑ *eP* **P** **19 49 26.9 +0.4**
OBN *e* 19 49 51.3
OBN *eS* **S** **19 53 29.1 -6.2**
OBN pmax pmax
comp=Z,33nm,1.7s
OBN MLR MLR
comp=Z,873nm,17.0s
OBN Obninsk 22.81 118 P **P** **19 49 27.0 +0.4**
DPC Dobruska-Polom 22.88 153 *eP* **P** **19 49 27.9 +0.5**
DPC MLR MLR
comp=Z,300nm,13.8s
DPC Dobruska-Polom 22.88 153 *eP* **P** **19 49 27.9 +0.5**
DPC AMS AMS 19 59 00.0
comp=Z,300nm,13.8s
PRA Prague 22.90 156 AMS AMS 19 57 20.0
comp=Z,200nm,23.8s
GRA1 Grafenberg Arr 22.91 161 P **P** **19 49 26.2 -1.5**
GRF Grafenberg Arr 22.91 161 P **P** **19 49 26.2 -1.5**
GRF pmax pmax
comp=Z,18nm,1.5s
PRU Pruhonice 22.99 156 *eP* **P** **19 49 28.4 -0.1**
PRU MLR MLR
comp=Z,400nm,26.9s
PRU Pruhonice 22.99 156 *eP* **P** **19 49 28.4 -0.1**
PRU AMS AMS 19 57 30.0
comp=Z,400nm,26.9s
KRLC Kraliky 23.21 152 *eP* **P** **19 49 32.9 +2.0**
KRLC *e* 19 49 37.7
KRLC MLR MLR
comp=Z,400nm,16.4s
KRLC Kraliky 23.21 152 *eP* **P** **19 49 32.9 +2.0**
KRLC *ep*P **pwP** **19 49 37.7 +1.7**
KRLC AMS AMS 19 59 00.0
comp=Z,400nm,16.4s
PBCC Pribram 23.22 157 *eP* **P** **19 49 32.1 +1.2**
MORC Moravsky Berou 23.62 151 *eP* **P** **19 49 35.3 +0.4**
MORC Moravsky Berou 23.62 151 P **P** **19 49 35.8 +0.9**
MORC pmax pmax
comp=Z,9.0nm,1.5s
MORC Moravsky Berou 23.62 151 P **P** **19 49 35.8 +0.9**
KIRV Kirov 23.66 99 LR LR 19 58 39.0
comp=Z,211nm,18.4s,baz=325,slow=36
KHC Kasperske Hory 23.72 158 *ceP* **P** **19 49 38.0 +2.2**
KHC pmax pmax
comp=Z,17nm,1.7s
KHC Kasperske Hory 23.72 158 *eP* **P** **19 49 38.1 +2.2**
KHC AMS AMS 19 57 30.0
comp=Z,500nm,26.1s
KHC Kasperske Hory 23.72 158 P **P** **19 49 37.1 +1.2**
TREC Trest 23.80 155 AMS AMS 19 59 50.0
comp=Z,300nm,12.8s
VRAC Vranov 23.93 153 P **P** **19 49 38.3 +0.4**
comp=Z,4.0nm,0.6s,baz=346,slow=11,SNR=8.3
VRAC LR LR 19 59 30.1
comp=Z,371nm,19.3s,baz=348,slow=38
VRAC Vranov 23.93 153 *eP* **P** **19 49 38.6 +0.7**
BFO Black Forest 24.01 167 P **P** **19 49 38.9 +0.3**
BFO pmax pmax
comp=Z,4.0nm,1.1s
BFO Black Forest 24.01 167 P **P** **19 49 38.9 +0.3**
GEC2 GERESS Array S 24.01 158 P **P** **19 49 39.8 +1.1**
GERES GERESS Array B 24.01 158 P **P** **19 49 39.1 +0.4**
comp=Z,3.6nm,0.7s,baz=356,slow=9.4,SNR=31
GERES LR LR 19 59 29.9
comp=Z,318nm,19.1s,baz=346,slow=38
GERES GERESS Array B 24.01 158 *eP* **P** **19 49 41.1 +2.4**
GERES pmax pmax
comp=Z,4.0nm,0.7s
CLF Chambon-Foret 24.03 177 P **P** **19 49 39.4 +0.6**
CLF IAmb IAmb 19 49 41.1
comp=Z,16nm,1.1s
ECH Echery 24.04 168 P **P** **19 49 39.1 +0.2**
ECH pmax pmax
comp=Z,20nm,1.7s
ECH Echery 24.04 168 P **P** **19 49 39.1 +0.2**
ECH IAmb IAmb 19 49 40.8
comp=Z,20nm,1.7s
KRUC Moravsky 24.15 153 *eP* **P** **19 49 40.5 +0.6**
JAVC Velka Javorina 24.53 151 *eP* **P** **19 49 49.3 +5.9**
RES Resolute Bay 24.66 321 LR LR 19 59 03.9
comp=Z,726nm,19.3s,baz=11,slow=36
AKASG Malin Array Be 24.97 133 P **P** **19 49 47.4 +0.1**
comp=Z,4.4nm,0.8s,baz=339,slow=10,SNR=11
AKASG LR LR 19 59 15.8
comp=Z,656nm,20.2s,baz=325,slow=36
AKBB Malin Array Si 24.97 133 P **P** **19 49 47.3 0.0**
AKBB pmax pmax
comp=Z,15nm,1.2s
AKBB Malin Array Si 24.97 133 **P** **19 49 47.3 0.0**
AKBB IAmb IAmb 19 49 50.0
comp=Z,15nm,1.1s
VYHS Vyhne 25.06 150 *eP* **P** **19 49 50.0 +1.8**
VYHS Vyhne 25.06 150 *eP* **P** **19 49 50.0 +1.8**
KOLS Kolonicke sedl 25.22 144 *eP* **P** **19 49 52.1 +2.5**
KOLS Kolonicke sedl 25.22 144 *eP* **P** **19 49 52.1 +2.5**
UZH Uzhgorod 25.52 145 *eP* **P** **19 49 50.8 -1.4**
UZH *i* 19 49 53.0
FRB Frobisher Bay 25.66 287 P **P** **19 49 54.8 +1.4**
comp=Z,1.3nm,0.2s,baz=22,slow=3.9,SNR=3.7
FRB LR LR 19 59 11.9
comp=Z,276nm,18.6s,baz=24,slow=35
LPSR Galich'ya Gora 25.69 118 *eP* **P** **19 49 55.1 +1.3**
LPSR pmax pmax
comp=Z,30nm,1.4s
PSZ Piszkesteto 25.79 149 P **P** **19 49 56.3 +1.4**
PSZ pmax pmax
comp=Z,15nm,1.6s
PSZ Piszkesteto 25.79 149 P **P** **19 49 56.3 +1.4**
PSZ IAmb IAmb 19 49 58.0
comp=Z,14nm,1.6s
FUORN Ofenpass-Fuorn 25.86 164 P **P** **19 49 57.0 +1.2**
FUORN IAmb IAmb 19 50 31.4
comp=Z,17nm,1.8s
SENIN Lac Senin/Sane 25.90 169 P **P** **19 49 56.4 +0.4**
TUE Stuetta 25.93 165 P **P** **19 49 56.8 +0.5**
ZOU Zoufplan 26.19 160 P **P** **19 49 58.9 +0.3**
ZOU IAmb IAmb 19 50 07.0
comp=Z,19nm,1.7s
PRED Cave del Predi 26.36 159 P **P** **19 50 00.3 +0.3**
CIMO Cimolais 26.38 161 P **P** **19 50 00.0 -0.1**
CTI Castel Tesino 26.55 162 P **P** **19 50 01.7 -0.1**
CTI pmax pmax
comp=Z,21nm,1.9s
CTI Castel Tesino 26.55 162 P **P** **19 50 01.7 -0.1**
CTI IAmb IAmb 19 50 07.7
comp=Z,21nm,1.9s
VSR Storozhevoye 27.00 119 *eP* **P** **19 50 05.9 +0.3**
VSR pmax pmax
comp=Z,10.0nm,1.2s
BUR08 Bucovina Ar. S 27.01 141 P **P** **19 50 04.0 -1.9**
BUR08 IAmb IAmb 19 50 46.5
comp=Z,15nm,1.6s
ARU Arti 28.26 92 P **P** **19 50 18.6 +1.7**
comp=Z,0.3nm,0.5s,baz=344,slow=18,SNR=1.4
ARU LR LR 20 01 26.3
comp=Z,210nm,19.6s,baz=336,slow=36
ARU Arti 28.26 92 P **P** **19 50 17.2 +0.3**
ARU S **S** **19 55 07.0 +4.5**
ARU SS **SnSn** **19 56 23.0 +4.3**
ARU MLR MLR
comp=Z,241nm,22.0s
ARU Arti 28.26 92 P **P** **19 50 20.1 +3.2**
MLR Muntele Rosu 29.22 141 LR LR 20 02 30.3
comp=Z,785nm,18.6s,baz=300,slow=37
TIRR Tirgusor 30.71 138 P **P** **19 50 38.6 0.0**
TIRR pmax pmax
comp=Z,83nm,1.5s
TIRR Tirgusor 30.71 138 P **P** **19 50 38.6 0.0**
SCHQ Schefferville 32.28 274 LR LR 20 02 30.8
comp=Z,215nm,21.7s,baz=56,slow=34
SCHQ Schefferville 32.28 274 P **P** **19 50 52.6 +0.2**
SCHQ IAmb IAmb 19 50 53.5
comp=Z,16nm,1.7s
ESDC Sonseca Array 32.43 186 P **P** **19 50 53.6 -0.3**
comp=Z,0.3nm,0.6s,baz=2.4,slow=9.1,SNR=4.7
ESDC LR LR 20 03 32.2
comp=Z,84nm,18.3s,baz=95,slow=36
FNA Florina 32.98 150 P **P** **19 50 58.2 -0.5**
FNA pmax pmax
comp=Z,15nm,1.3s
FNA Florina 32.98 150 P **P** **19 50 58.2 -0.5**
FNA IAmb IAmb 19 51 00.8
comp=Z,15nm,1.3s
KIV Kislovodsk 34.61 121 *eP* **P** **19 51 12.2 -0.7**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,673nm,16.0s
BRVK Borovoye 34.76 85 *i* P **P** **19 51 14.8 +0.8**
BRVK pmax pmax
comp=Z,1.0nm,1.0s
PVAQ Vaqueiros 34.87 191 P **P** **19 51 15.4 +0.3**
PVAQ IAmb IAmb 19 51 27.4
comp=Z,16nm,1.1s
KBZ Khabaz 34.87 121 LR LR 20 05 28.5
comp=Z,414nm,18.9s,baz=337,slow=36
BRTR Keskin Array B 36.36 134 LR LR 20 07 04.2
comp=Z,104nm,20.6s,baz=341,slow=38
KEST Kesra 36.61 167 LR LR 20 06 37.7
comp=Z,135nm,19.7s,baz=9.5,slow=36
INK Inuvik 36.67 333 P **P** **19 51 29.1 -1.0**
comp=Z,8.4nm,1.1s,baz=12,slow=12,SNR=9.0
INK LR LR 20 07 42.9
comp=Z,114nm,18.4s,baz=20,slow=38
INK Inuvik 36.67 333 P **P** **19 51 30.1 -0.1**
INK pmax pmax
comp=Z,26nm,1.5s
INK Inuvik 36.67 333 P **P** **19 51 30.1 -0.1**
INK IAmb IAmb 19 51 35.5
comp=Z,26nm,1.4s
MAK Makhachkala 36.85 116 *eP* **P** **19 51 29.6 -2.4**
MAK *eS* **S** **19 57 11.6 -4.4**
MAK pmax pmax
comp=Z,154nm,1.1s
MAK MLR MLR
comp=Z,505nm,19.0s
AKH Akhalkalaki 37.19 121 P **P** **19 51 34.9 -0.3**
AKH pmax pmax
comp=Z,8.0nm,1.4s
AKH Akhalkalaki 37.19 121 P **P** **19 51 34.9 -0.3**
TOLK Toolik Lake Re 38.22 343 P **P** **19 51 43.3 -0.1**
TOLK IAmb IAmb 19 51 46.7
comp=Z,28nm,1.8s
ZALV Zalesovo Beam 38.41 71 LR LR 20 10 49.4
comp=Z,44nm,20.1s,baz=292,slow=41
ELL Elmali 38.43 140 P **P** **19 51 44.4 -1.2**
ELL pmax pmax
comp=Z,40nm,1.5s
ELL Elmali 38.43 140 P **P** **19 51 44.4 -1.2**
YKA Yellowknife Ar 38.65 318 LR LR 20 07 02.1
comp=Z,235nm,20.5s,baz=0.0,slow=35
EPYK Eagle Plains 38.93 334 P **P** **19 51 48.2 -1.2**
KURK Kurchatov 39.36 79 *ceP* **P** **19 51 55.4 +2.3**
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 39.36 79 P **P** **19 51 53.0 -0.1**
KURK IAmb IAmb 19 52 02.6
comp=Z,18nm,1.9s
GAZ Gaziantep 39.62 131 P **P** **19 51 55.3 -0.2**
COLD Coldfoot 39.66 342 P **P** **19 51 54.5 -0.9**
COLD IAmb IAmb 19 52 14.1
comp=Z,6.3nm,0.4s
PQI Presque Isle 39.76 268 P **P** **19 51 56.2 -0.2**
RDOG Red Dog Mine 39.78 350 P **P** **19 51 57.0 +0.6**
RDOG IAmb IAmb 19 52 02.7
comp=Z,18nm,1.3s
BILL Bilibino 39.94 8⇑ *i P* **P** **19 51 58.4 +0.7**
BILL *e* 19 53 33.8
BILL pmax pmax
comp=Z,18nm,1.3s
BILL Bilibino 39.94 8 P **P** **19 51 57.5 -0.3**
BILL IAmb IAmb 19 52 00.4
comp=Z,15nm,1.1s
E62A Clayton Lake 40.27 270 P **P** **19 52 01.4 +0.7**
G65A Princeton 40.93 267 P **P** **19 52 05.2 -0.9**
G65A IAmb IAmb 19 52 22.3
comp=Z,29nm,1.7s
F63A Nahmakanta, Br 40.96 269 P **P** **19 52 06.7 +0.3**
F63A IAmb IAmb 19 52 15.7
comp=Z,13nm,1.2s
EGAK Eagle 41.03 336 P **P** **19 52 05.4 -1.3**
DAWY Dawson 41.48 334 P **P** **19 52 09.3 -1.2**
MDM Murphy Dome 41.67 340 P **P** **19 52 12.2 +0.1**
MDM IAmb IAmb 19 52 19.1
comp=Z,20nm,1.6s
IL31 41.71 339 P **P** **19 52 12.2 -0.1**
ILAR Eielson Array 41.71 339 P **P** **19 52 12.7 +0.3**
comp=Z,5.6nm,1.1s,baz=2.6,slow=6.9,SNR=21
ILAR LR LR 20 09 32.0
comp=Z,71nm,21.1s,baz=28,slow=36
COLA College 41.72 340 P **P** **19 52 12.5 +0.2**
COLA pmax pmax
comp=Z,8.0nm,0.4s
COLA College 41.72 340 P **P** **19 52 12.5 +0.2**
COLA IAmb IAmb 19 53 48.4
comp=Z,8.0nm,0.4s
CCB Clear Creek Bu 41.93 340 P **P** **19 52 13.8 -0.3**
CCB IAmb IAmb 19 52 20.7
comp=Z,20nm,1.5s
HDA Harding Lake 42.07 339 P **P** **19 52 15.2 -0.1**
WRH Wood River Hil 42.13 340 P **P** **19 52 15.7 -0.1**
WRH IAmb IAmb 19 52 21.7
comp=Z,12nm,1.2s
DOT Dot Lake 42.48 337 P **P** **19 52 18.8 +0.2**
DOT IAmb IAmb 19 52 24.8
comp=Z,8.4nm,1.0s
RIDG Independent Ri 42.48 338 P **P** **19 52 19.1 +0.4**
FFC Flin Flon 42.61 303 P **P** **19 52 20.9 +1.1**
FFC pmax pmax
comp=Z,19nm,1.2s
FFC Flin Flon 42.61 303 P **P** **19 52 20.9 +1.1**
FFC IAmb IAmb 19 52 25.1
comp=Z,19nm,1.2s
H62A Milan 42.61 270 P **P** **19 52 22.1 +2.1**
H62A IAmb IAmb 19 52 29.7
comp=Z,26nm,1.6s
BPAW Bear Paw Mtn. 42.79 342 P **P** **19 52 21.0 -0.2**
BPAW IAmb IAmb 19 53 11.3
comp=Z,20nm,1.4s
I63A Otisfield 42.91 269 P **P** **19 52 21.3 -1.0**
I63A IAmb IAmb 19 53 22.2
comp=Z,10nm,0.9s
MCK McKinley 42.94 340 P **P** **19 52 21.7 -0.7**
MCK pmax pmax
comp=Z,14nm,1.3s

MCK McKinley 42.94 340 P P 19 52 21.7 -0.7
MCK IAmb IAmb 19 52 28.9
comp=Z,14nm,1.3s
MENT Mentasta 43.12 337 P P 19 52 23.0 -0.9
ORIO Orleans, Innes 43.18 275 P P 19 52 24.4 0.0
RND Reindeer 43.25 340 P P 19 52 24.1 -0.9
RND pmax pmax
comp=Z,7.0nm,1.4s
RND Reindeer 43.25 340 P P 19 52 24.1 -0.9
PAX Paxson 43.30 338 P P 19 52 24.6 -0.8
PAX pmax pmax
comp=Z,8.0nm,1.0s
PAX Paxson 43.30 338 P P 19 52 24.6 -0.8
PAX IAmb IAmb 19 52 31.1
comp=Z,8.1nm,1.0s
DHY Denali Highway 43.41 339 P P 19 52 26.1 -0.3
DHY IAmb IAmb 19 52 29.4
comp=Z,20nm,1.4s
KK31 Karatay Array 43.64 92 P P 19 52 27.9 -0.4
KK31 pmax pmax
comp=Z,2.0nm,1.0s
KK31 Karatay Array 43.64 92 P P 19 52 27.9 -0.4
KKAR Karatay Array 43.64 92 P P 19 52 28.0 -0.3
KKAR pmax pmax
comp=Z,2.0nm,1.0s
KKAR Karatay Array 43.64 92 P P 19 52 28.0 -0.3
MKAR Makanchi Array 43.97 79 P P 19 52 31.1 +0.2
comp=Z,0.4nm,0.5s,baz=342,slow=5.6,SNR=8.6
MKAR LR LR 20 13 29.6
comp=Z,27nm,18.2s,baz=330,slow=40
WHY Whitehorse 44.08 330 P P 19 52 31.5 -0.2
PPLA Purkeypile 44.09 342 P P 19 52 31.8 0.0
PPLA IAmb IAmb 19 52 50.1
comp=Z,17nm,1.5s
HYT Haines Junctio 44.31 332 P P 19 52 34.4 +0.8
ACCN Adirondack Com 44.47 272 P P 19 52 35.1 +0.2
ACCN IAmb IAmb 19 52 44.5
comp=Z,5.1nm,0.8s
GEYT Alibeck 44.57 107 LR LR 20 13 04.5
comp=Z,159nm,19.2s,baz=5.0,slow=39
GLB Gilahina Butte 44.58 336 P P 19 52 34.1 -1.6
GLB IAmb IAmb 19 52 42.3
comp=Z,8.5nm,1.2s
HRV Adam Dziewonsk 44.60 269 P P 19 52 36.9 +0.9
HRV pmax pmax
comp=Z,23nm,1.3s
HRV Adam Dziewonsk 44.60 269 P P 19 52 36.9 +0.9
SCM Sheep Creek Mo 44.62 339 P P 19 52 34.9 -1.1
SCM pmax pmax
comp=Z,20nm,1.2s
SCM Sheep Creek Mo 44.62 339 P P 19 52 34.9 -1.1
SCM IAmb IAmb 19 52 42.7
comp=Z,20nm,1.2s
CTGM Chitina Glacie 44.72 334 P P 19 52 37.4 +0.6
CTGM IAmb IAmb 19 52 56.0
comp=Z,5.1nm,0.6s
VRDI Verde Repeater 44.74 336 P P 19 52 39.6 +2.5
SML Sawmill 44.76 339 P P 19 52 36.1 -0.9
SML IAmb IAmb 19 52 52.7
comp=Z,10.0nm,1.1s
BALM Baldy 44.78 335 P P 19 52 36.6 -0.8
BALM IAmb IAmb 19 52 44.3
comp=Z,7.1nm,1.2s
GHO Glory Hole Cre 44.85 340 P P 19 52 38.6 +0.7
SADO Sadowa 44.92 278 P P 19 52 39.8 +1.4
SADO IAmb IAmb 19 52 43.2
comp=Z,13nm,1.3s
SKT Skwentna 44.92 342 P P 19 52 37.3 -1.0
ULM Lac du Bonnet 44.97 295 LR LR 20 11 01.1
comp=Z,269nm,18.8s,baz=22,slow=36
TRY Troy 45.06 271 P P 19 52 40.1 +0.5
E46A Sault Ste Mari 45.06 283 P P 19 52 40.6 +1.0
TGL Tana Glacier 45.12 335 P P 19 52 42.1 +2.1
TGL IAmb IAmb 19 52 44.5
comp=Z,11nm,1.2s
KNK Knik Glacier 45.16 339 P P 19 52 40.3 +0.1
KNK IAmb IAmb 19 52 43.2
comp=Z,9.1nm,1.2s
CRQM Cirque 45.16 336 P P 19 52 40.1 -0.4
CRQM IAmb IAmb 19 52 46.0
comp=Z,12nm,1.0s
J57A Williamstown 45.17 274 P P 19 52 41.2 +0.7
J57A IAmb IAmb 19 53 11.4
comp=Z,3.8nm,0.8s
TABL Table Mountain 45.20 334 P P 19 52 40.4 -0.4
TABL IAmb IAmb 19 52 51.0
comp=Z,13nm,1.4s
SUA Susitna One 45.35 341 P P 19 52 41.4 -0.4
EYAK Cordova Ski Ar 45.69 337 P P 19 52 43.3 -1.0
EYAK IAmb IAmb 19 54 20.7
comp=Z,7.1nm,1.1s
TLY Talaya 45.70 58 *ce*P P 19 52 46.3 +1.7
TLY pmax pmax
comp=Z,4.0nm,1.3s
TLY Talaya 45.70 58 P P 19 52 44.2 -0.4
TLY IAmb IAmb 19 52 46.7
comp=Z,6.8nm,1.2s
HMT Hamilton 45.71 336 P P 19 52 44.4 -0.1
RAGM Ragged Mountai 45.71 336 P P 19 52 45.3 +0.7
RAGM IAmb IAmb 19 52 56.0
comp=Z,17nm,1.2s
EYMN Ely 45.78 290 P P 19 52 47.6 +2.3
EYMN IAmb IAmb 19 52 51.6
comp=Z,9.0nm,1.6s
HIN Hinchinbrook I 45.92 338 P P 19 52 47.3 +1.1
B35A Bob, Littlefor 46.06 292 P P 19 52 47.4 -0.1
B35A IAmb IAmb 19 53 52.0
comp=Z,9.4nm,1.6s
SVW2 Sparrevohn 46.16 344 P P 19 52 46.9 -1.2
SVW2 IAmb IAmb 19 52 54.4
comp=Z,7.0nm,1.0s
BINY Binghamton 46.26 273 P P 19 52 50.5 +1.4
JIS Juneau Island 46.27 329 P P 19 52 49.5 +0.6
SEW Seward 46.55 340 P P 19 52 51.8 +0.7
AGMN Agassiz Nation 46.72 294 P P 19 52 53.0 +0.3
L56A Greenwood 46.81 275 P P 19 52 54.0 +0.5
TARG Taragay, Kyrgy 47.16 86 P P 19 52 56.9 +0.3
TARG IAmb IAmb 19 53 23.1
comp=Z,14nm,1.4s
GAR Garm 47.31 94 P P 19 52 57.8 +0.3
GAR IAmb IAmb 19 53 06.2
comp=Z,17nm,1.6s
SIT Sitka 47.59 329 P P 19 53 01.0 +1.8
SIT pmax pmax
comp=Z,13nm,1.2s
SIT Sitka 47.59 329 P P 19 53 01.0 +1.8
H43A Windswept, Lux 47.82 285 P P 19 53 00.2 -1.1
H43A IAmb IAmb 19 54 26.4
comp=Z,5.2nm,0.6s
G40A Rib Lake 47.82 288 P P 19 53 00.0 -1.3
G40A IAmb IAmb 19 53 06.7
comp=Z,6.0nm,1.1s
M54A Oil Creek Stat 48.03 276 P P 19 53 04.3 +1.3
J47A Sunmer 48.05 282 P P 19 53 02.7 -0.3
MVL Millersville 48.38 272 P P 19 53 08.5 +2.9
MVL IAmb IAmb 19 54 51.5
comp=Z,12nm,1.2s
M52A Chesterland 48.53 278 P P 19 53 09.6 +2.8
N54A Moraine State 48.63 276 P P 19 53 07.4 -0.2
I42A Draeger Farm, 48.69 286 P P 19 53 07.3 -0.7
I42A IAmb IAmb 19 53 09.3
comp=Z,8.0nm,1.1s
F33A 5 Mile Ranch, 49.08 293 P P 19 53 11.8 +0.9
F33A IAmb IAmb 19 53 15.7
comp=Z,3.1nm,0.6s
ZEA Zeya 49.25 39 *e*P P 19 53 14.9 +2.8
ZEA pmax pmax
comp=Z,21nm,1.2s
TAM Tamanrasset 49.29 173 P P 19 53 13.7 +0.8
TAM pmax pmax
comp=Z,10.0nm,1.6s
TAM Tamanrasset 49.29 173 P P 19 53 13.7 +0.8
TAM IAmb IAmb 19 53 16.8
comp=Z,9.7nm,1.6s
O53A New Philadelph 49.66 277 P P 19 53 15.5 +0.1
I37A Lemond, Waseca 49.91 290 P P 19 53 16.8 -0.5
SONM Songino Array 49.95 58 P P 19 53 17.5 -0.2
comp=Z,0.8nm,0.9s,baz=343,slow=3.1,SNR=5.3
SONM LR LR 20 17 17.6
comp=Z,70nm,19.2s,baz=14,slow=40
SONM Songino Array 49.95 58 *e*P P 19 53 18.7 +1.0
SONM pmax pmax
comp=Z,1.0nm,0.9s
ULN Ulaanbaatar 50.09 57 P P 19 53 17.8 -1.0
ULN pmax pmax
comp=Z,15nm,1.8s
ULN Ulaanbaatar 50.09 57 P P 19 53 17.8 -1.0
ULN IAmb IAmb 19 53 30.0
comp=Z,15nm,1.8s
Q56A Snyder Ridge, 50.14 274 P P 19 53 21.0 +1.9
ACSO Alum Creek Sta 50.22 278 P P 19 53 20.2 +0.5
EGMT Eagleton 50.72 305 P P 19 53 23.6 0.0
EGMT IAmb IAmb 19 53 30.0
comp=Z,8.8nm,0.9s
K38A Parkersburg 50.97 288 P 19 53 26.0 +0.6
L40A Anamosa 51.05 287 P P 19 53 25.2 -0.7
L40A IAmb IAmb 19 53 31.3
comp=Z,10.0nm,1.1s
ECSD EROS Data Cent 51.10 292 P P 19 53 25.9 -0.4
P48A Milroy 51.68 280 P P 19 53 32.9 +2.2
SCIA State Center 51.78 288 P P 19 53 32.5 +1.0
NEW Newport 52.30 311 P P 19 53 34.7 -0.5
NEW pmax pmax
comp=Z,4.0nm,1.0s
NEW Newport 52.30 311 P P 19 53 34.7 -0.5
V61A Roper 52.31 270 P P 19 53 35.3 -0.1
B08A Colville Reser 52.72 313 P P 19 53 38.0 -0.4
B08A IAmb IAmb 19 53 43.9
comp=Z,19nm,1.9s
P43A Skaggs, Pawnee 52.76 284 P P 19 53 39.4 +0.7
P43A IAmb IAmb 19 55 14.1
comp=Z,12nm,1.1s
GCMT Greycliff 52.77 304 P P 19 53 40.4 +1.5
RSSD Black Hills 52.83 299 P P 19 53 38.8 -0.6
RSSD pmax pmax
comp=Z,2.0nm,0.6s
RSSD Black Hills 52.83 299 P P 19 53 38.8 -0.6
MSO Missoula 52.88 308 P P 19 53 41.0 +1.3
WCI Wyandotte Cave 53.08 281 P P 19 53 40.9 -0.1
WCI pmax pmax
comp=Z,15nm,0.8s
WCI Wyandotte Cave 53.08 281 P P 19 53 40.9 -0.1
RLMT Red Lodge 53.29 304 P P 19 53 45.2 +2.4
RLMT IAmb IAmb 19 55 02.0
comp=Z,18nm,1.9s
LRM Limekiln Ridge 53.45 307 P P 19 53 43.6 -0.4
BOZ Bozeman (W) 53.45 306 P P 19 53 43.6 -0.3
BOZ pmax pmax
comp=Z,3.0nm,1.3s
BOZ Bozeman (W) 53.45 306 P P 19 53 43.6 -0.3
YNE Yellowstone No 53.59 304 P P 19 53 44.4 -0.7
V55A Taylorsville 53.70 275 P P 19 53 47.8 +2.1
T50A Nancy 53.74 279 P P 19 53 46.0 0.0
AKUT Akutan 53.81 350 P P 19 53 45.8 -0.3
YMP Mirror Lake Pl 53.88 304 P P 19 53 46.9 -0.4
YHH Holmes Hill 54.01 305 P P 19 53 49.2 +1.0
PETK Petropavlovsk- 54.23 16 LR LR 20 16 48.7
comp=Z,60nm,18.1s,baz=12,slow=36
KMSC Kings Mountain 54.39 274 P P 19 53 51.3 +0.6
KLR Kul'dur 54.41 37 *i* P P 19 53 51.9 +1.3
KLR pmax pmax
comp=Z,2.0nm,1.1s
E08A Dider Farm, El 54.42 312 P P 19 53 50.3 -0.5
E08A IAmb IAmb 19 53 56.2
comp=Z,3.8nm,0.7s
S44A Carbondale 54.47 283 P P 19 53 51.1 -0.2
MCMT McKenzie Canyo 54.48 306 P P 19 53 51.1 -0.5
YPP Pitchstone Pla 54.48 304 P P 19 53 53.1 +1.4
E07A Sunnyside 54.53 313 P P 19 53 52.4 +0.7
E07A IAmb IAmb 19 53 56.6
comp=Z,11nm,1.2s
BIRD Birdtown, Kers 54.58 273 P P 19 53 52.4 +0.4
FLWY Flagg Ranch 54.63 304 P P 19 53 54.0 +1.4
FLWY IAmb IAmb 19 55 18.6
comp=Z,11nm,1.6s
IMW Indian Meadow 54.87 304 P P 19 53 55.3 +0.9
HODGE Hodges 55.52 275 P P 19 53 58.2 -0.6
HODGE IAmb IAmb 19 53 59.7
comp=Z,11nm,0.9s
G08A Pilot Rock 55.52 312 P P 19 53 59.1 +0.2
G08A IAmb IAmb 19 54 05.1
comp=Z,8.8nm,1.4s
BMO Blue Mountains 55.55 310 P P 19 53 58.2 -0.9
BMO pmax pmax
comp=Z,4.0nm,1.3s
BMO Blue Mountains 55.55 310 P P 19 53 58.2 -0.9
PDAR Pinedale Array 55.56 303 P P 19 53 58.5 -0.9
comp=Z,0.8nm,0.8s,baz=18,slow=7.1,SNR=2.5
PDAR LR LR 20 16 43.1
comp=Z,127nm,21.4s,baz=20,slow=35
W50A Signal Mountai 55.57 278 P P 19 53 58.5 -0.7
SWET Sewanee 55.74 279 P P 19 54 01.0 +0.5
SWET IAmb IAmb 19 54 12.2
comp=Z,9.4nm,0.8s
GTA Gaotai 55.92 67 *e*P P 19 54 04.6 +2.8
GTA pP pwP 19 54 07.9 +0.7
GTA sP sP 19 54 10.6 +5.3
GTA pmax pmax
comp=Z,2.0nm,1.0s
I07A Izee 56.79 312 P P 19 54 08.4 +0.4
RDMU Red Mountain 57.62 302 P P 19 54 15.2 +1.1
K05A Summer Lake 58.40 312 P P 19 54 21.4 +1.9
TORD Torodi Ar. Bea 58.79 178 P P 19 54 21.8 -0.4
comp=Z,1.9nm,0.8s,baz=352,slow=7.2,SNR=9.8
TORD LR LR 20 20 06.7
comp=Z,73nm,18.2s,baz=345,slow=36
SDCO Great Sand Dun 59.16 297 P P 19 54 27.8 +2.8
SDCO IAmb IAmb 19 54 29.6
comp=Z,13nm,1.9s
S22A 4UR Ranch, Cre 59.53 298 P P 19 54 27.7 +0.2
S22A IAmb IAmb 19 54 35.8
comp=Z,6.2nm,1.4s
MVCO Mesa Verde 60.49 300 P P 19 54 34.4 +0.4
PSUT Pine Spring 60.65 305 P P 19 54 35.5 +0.4
MTPU Mount Pierson 60.69 303 P P 19 54 36.8 +1.4
KVN Kaiserville 61.23 309 P P 19 54 40.0 +1.1
KVN Kaiserville 61.23 309 P P 19 54 40.0 +1.1
KVN IAmb IAmb 19 54 44.9
comp=Z,5.5nm,1.3s
R11A Troy Canyon, C 61.27 306 P P 19 54 37.4 -1.8
R11A IAmb IAmb 19 54 45.2
comp=Z,4.9nm,1.4s
NVAR Mina Array Bea 61.86 308 P P 19 54 44.6 +1.4
comp=Z,0.8nm,0.8s,baz=32,slow=5.3,SNR=3.2
NVAR LR LR 20 21 05.2
comp=Z,156nm,20.2s,baz=81,slow=36
ANMO Albuquerque 62.05 297 *ce*P P 19 54 46.3 +1.8
ANMO pmax pmax
comp=Z,5.0nm,1.7s
TPNV Topopah Spring 62.76 306 P P 19 54 48.9 -0.3
TPNV pmax pmax
comp=Z,4.0nm,1.0s
TPNV Topopah Spring 62.76 306 P P 19 54 48.9 -0.3
TPNV IAmb IAmb 19 54 54.1
comp=Z,3.7nm,1.0s
MNTX Cornudas Mount 64.80 295 P P 19 55 04.3 +1.8
MNTX IAmb IAmb 19 55 42.8
comp=Z,3.2nm,1.1s
KSRS Korea Array 64.94 44 LR LR 20 25 01.3
comp=Z,30nm,19.6s,baz=350,slow=38
DBIC Dimbokro 65.30 185 LR LR 20 26 55.8
comp=Z,46nm,18.5s,baz=28,slow=39
TX31 Lajitas Ar. Si 66.54 292 P P 19 55 14.5 +0.7
TX32 Lajitas Array 66.54 292 P P 19 55 14.7 +0.8
TX32 IAmb IAmb 19 55 19.3
comp=Z,4.1nm,1.1s
TXAR Lajitas Array 66.54 292 P P 19 55 14.0 +0.1
comp=Z,1.2nm,0.9s,baz=57,slow=4.6,SNR=10.0
TXAR LR LR 20 24 00.2
comp=Z,112nm,20.0s,baz=0.0,slow=36
MJAR Matsushiro Arr 67.87 36 P P 19 55 22.2 0.0
comp=Z,2.6nm,1.1s,baz=338,slow=6.9,SNR=6.3
MJAR LR LR 20 25 18.5
comp=Z,31nm,19.8s,baz=155,slow=36
MJA0 Matsu Arr-Jizo 67.87 36 *e*P P 19 55 22.8 +0.6
MJA0 pmax pmax
comp=Z,3.0nm,1.1s
CMAR Chiang Mai Arr 75.29 76 P P 19 56 07.5 +0.4
comp=Z,0.5nm,0.3s,baz=327,slow=6.5,SNR=2.5
CMAR LR LR 20 34 44.9
comp=Z,17nm,18.3s,baz=265,slow=40
PALK Pallekele 80.19 97 LR LR 20 32 25.7
comp=Z,83nm,19.2s,baz=17,slow=36
ASAR Alice Springs 125.22 54 PKP PKPdf 20 03 23.8 -0.4
comp=Z,0.6nm,0.8s,baz=343,slow=2.9,SNR=3.5

NDI 01 20:27:48.1±3.7,24°.22N×94°.83E,h28km±25km,mb4.6, mb4.7(NEIC)

NEIC 01 20:27:50.4±2.3,24°.39N±0°.08×94°.70E±0°.09,h86km±8km, mb4.7/21,Error ellipse: s-maj=12.4km s-min=10.0km az=46.0

IDC 01 20:27:54.0±3.5,24°.52N×95°.13E,h112km±32km,mb3.6/8, mb1 3.7/9,mb1mx3.3/43,mbtmp3.9/9,MS2.8/1,Ms1 2.8/1, ms1mx2.2/33,Error ellipse: s-maj=61.5km s-min=13.2km az=61.0

ISC 01 20:27:51.5±0.5,**24°.26N**±0°.06×**94°.47E**±0°.06,**h100km,n55,** σ1s.**62**/67,**mb4.5**/19,**Myanmar-India border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SHL Shillong 2.69 299 *e*P Pn 20 28 34.4 +1.1
SHL *e*SN Sn 20 29 07.5 +2.1
SHL Shillong 2.69 299 Pn 20 28 34.4 +1.1
SHL Sn Sn 20 29 04.9 -0.4
LSA Lhasa 6.17 332 Pn Pn 20 29 21.6 +1.0
LSA Sn Sn 20 30 27.7 -2.3
TAPN Taplejung 6.83 298 *e*Pn Pn 20 29 31.8 +2.5
TAPN *e*Sn Sn 20 30 46.7 +1.0
82nm,0.3s
CHTO Chiang Mai 6.83 142 Pn 20 29 29.9 +0.7
ODAN Odare 6.90 294 *e*Pn Pn 20 29 31.9 +1.6
ODAN *e*Sn Sn 20 30 47.5 +0.1
208nm,0.4s
CM31 Chiang Mai Arr 7.12 143 Pn Pn 20 29 31.6 -1.5
CMAR Chiang Mai Arr 7.12 143 P Pn 20 29 33.9 +0.8
0.2nm,0.3s,baz=321,slow=14,SNR=9.4
KMI Kunming 7.57 82 Pn Pn 20 29 39.0 -0.3
RAMN Ramite 7.59 292 *e*Pn Pn 20 29 41.6 +1.9
BOK Bokaro 7.87 268 *e*S Sn 20 31 11.2 +0.6
JIRN Jiri 8.19 296 *e*Pn Pn 20 29 49.6 +1.7
JIRN *e*Sn Sn 20 31 18.9 0.0
152nm,0.3s
PKI Pulchoki 8.80 294 *e*Pn Pn 20 29 57.4 +1.2
PKI *e*Sn Sn 20 31 33.3 -0.5
53nm,0.6s
BWNR Bhubaneshwar 8.94 245 *e*P Pn 20 29 59.0 +1.2
BWNR *e*S Sn 20 31 32.4 -4.5
KKN Kakani 8.98 295 *e*Pn Pn 20 29 59.6 +1.0
KKN *e*Sn Sn 20 31 37.1 -1.0
28nm,0.2s
DMN Daman 9.07 294 *e*Pn Pn 20 30 01.2 +1.4
DMN *e*Sn Sn 20 31 39.6 -0.6
49nm,0.6s
SLVN Son La 9.18 107 Pn Pn 20 30 00.4 -0.7
GKN Gorkha 9.59 295 *e*Pn Pn 20 30 07.6 +0.8
GKN *e*Sn Sn 20 31 50.8 -2.0
104nm,0.4s
PBKT Sadao Pong 9.78 140 Pn Pn 20 30 11.0 +1.7
KOLN Koldanda 10.38 292 *e*Pn Pn 20 30 18.1 +0.4
KOLN *e*Sn Sn 20 32 09.5 -2.7
43nm,0.4s
PBA Port Blair 12.65 188 Pn P 20 30 52.2 -3.0
NGP Nagpur 14.57 261 *e*x Sn 20 33 48.9 -4.5
ENH Enshi 14.62 63 P Pn 20 31 13.7 +0.2
SMLA Simla 16.77 298 *e*pP pP 20 31 53.9 -5.8
SMLA IAmb IAmb 20 31 54.2
comp=Z,16nm,0.3s
IPM Ipoh 20.66 161 P P 20 32 23.4 -0.1
GSI Gunungsitoli 23.02 172 P P 20 32 48.4 +0.3
GSI IAmb IAmb 20 32 52.6
comp=Z,30nm,1.3s
TPUB Ta-pu 23.95 87 P P 20 32 55.6 -1.0
TPUB IAmb IAmb 20 33 21.7
comp=Z,66nm,1.5s
MK31 Makanchi Array 24.51 340 P P 20 33 02.4 +0.9
MKAR Makanchi Array 24.51 340 P P 20 33 02.8 +1.3
comp=Z,1.1nm,0.7s,baz=148,slow=8.9,SNR=12
MAKZ Makanchi 24.63 339 P P 20 33 03.5 +1.0
SONM Songino Array 25.36 19 P P 20 33 06.2 -3.1
comp=Z,0.5nm,0.6s,baz=214,slow=7.0,SNR=3.1
TLY Talaya 28.27 12 LR LR 20 45 05.1
comp=Z,22nm,21.4s,baz=276,slow=37
KURBB Kurchatov Arra 29.07 339 P P 20 33 44.1 +1.8
comp=Z,0.3nm,0.7s,baz=144,slow=9.5,SNR=3.3
KURBB PcP PcP 20 36 48.7 +0.7
comp=Z,0.4nm,0.5s,baz=154,slow=2.1,SNR=6.4
KURK Kurchatov 29.12 339 P P 20 33 43.5 +0.7
KURK PcP 20 36 48.2 +0.1
SOEI Soe 44.60 136 P P 20 35 53.2 -1.0
PSA00 Pilbara Seismi 51.81 150 P P 20 36 49.4 -0.1
KNRA Kununurra 51.93 136 P P 20 36 49.9 -0.5
KNRA IAmb IAmb 20 36 50.4
comp=Z,11nm,0.5s
FITZ Fitzroy Crossi 51.93 141 P P 20 36 50.1 -0.2
MORW Morawa 56.94 157 P P 20 37 27.2 +0.8
MORW IAmb IAmb 20 37 31.3
comp=Z,21nm,1.4s
WB0 Warramunga Arr 58.54 135 P P 20 37 37.2 -0.6
WRA Warramunga Arr 58.63 135 P P 20 37 38.0 -0.5
comp=Z,4.0nm,0.3s,baz=324,slow=7.3,SNR=47
WB2 Warramunga Arr 58.64 135 P P 20 37 38.1 -0.5
WB2 IAmb IAmb 20 37 48.6
comp=Z,12nm,1.4s
FINES FINESS Array B 58.68 328 P P 20 37 39.0 +0.8
comp=Z,0.2nm,0.3s,baz=79,slow=4.6,SNR=6.5
WR0 Warramunga Arr 58.78 135 P P 20 37 38.9 -0.6
WR0 IAmb IAmb 20 37 39.2
comp=Z,4.0nm,0.7s
KEV Kevo 59.68 338 P P 20 37 46.0 +1.0
KEV IAmb IAmb 20 37 48.5
comp=Z,8.7nm,1.1s
ARCES ARCESS Array B 60.15 338 P P 20 37 49.5 +1.2
comp=Z,2.0nm,0.9s,baz=103,slow=6.3,SNR=7.6
NWAO Narrogin (SRO) 60.87 158 P P 20 37 54.0 +0.4
NWAO Narrogin (SRO) 60.87 158 P P 20 37 53.9 +0.4
NWAO IAmb IAmb 20 38 01.6
comp=Z,64nm,1.5s
AS31 Alice Springs 61.10 138 P P 20 37 55.2 -0.2
AS31 IAmb IAmb 20 37 55.6
comp=Z,1.4nm,0.5s
ASAR Alice Springs 61.10 138 P P 20 37 55.1 -0.3
comp=Z,2.8nm,0.4s,baz=318,slow=6.6,SNR=71
NC204 NORSAR Array S 66.04 328 P P 20 38 27.9 +0.5
NC204 IAmb IAmb 20 38 39.0
comp=Z,19nm,1.3s
STKA Stephens Creek 71.72 139 P P 20 39 02.8 -0.1
comp=Z,1.8nm,0.8s,baz=314,slow=11,SNR=3.7
STKA Stephens Creek 71.72 139 P P 20 39 03.0 +0.1
LSZ Lusaka 75.69 246 P P 20 39 30.1 +3.5
LSZ IAmb IAmb 20 39 30.5
comp=Z,3.0nm,0.8s
SUMG Summit 78.32 347 P P 20 39 40.9 +0.2
SUMG IAmb IAmb 20 39 41.3
comp=Z,12nm,1.5s

IDC 01 21:11:07.9±1.2,12°.42N×95°.23E,h0km,mb3.7/8, mb1 3.9/9,mb1mx3.6/43,mbtmp3.7/9,MS3.1/2,Ms1 3.1/2, ms1mx2.6/35,Error ellipse: s-maj=44.4km s-min=19.7km az=58.0

NEIC 01 21:11:08.8±2.6,12°.40N±0°.09×95°.57E±0°.05,h10km±1km, mb4.6/18,Error ellipse: s-maj=17.9km s-min=3.0km az=151.0

ISC 01 21:11:08.8±0.7,**12°.4N**±0°.1×**95°.42E**±0°.08,**h13km,n32,** σ1s.**71**/28,**mb4.3**/17,**Andaman Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
DGPR DIGLIPUR 2.55 288 *e*P Pn 21 11 44.5 -5.4
DGPR *e*S Sg 21 12 28.8 -2.1
DGPR IAML 21 12 36.9
comp=N,357nm,0.7s
PBA Port Blair 2.72 255 *e*P Pn 21 11 52.3 +0.1
PBA Port Blair 2.72 255 Pb 21 11 55.3 -2.0
PBKT Sadao Pong 6.80 52 Pn 21 12 48.1 -0.3
CMAR Chiang Mai Arr 6.93 29 Pn Pn 21 12 51.7 +1.5
baz=215,slow=14,SNR=2.3
KSM Kuching 18.31 125 P Pn 21 15 22.0 -0.8
KKM Kota Kinabalu 21.46 105 P P 21 15 51.9 -5.4
KKM IAmb IAmb 21 15 58.4
comp=Z,17nm,1.1s
KNMB Chin-men Tao 24.84 58 P P 21 16 29.3 -1.8
KAPI Kappang 29.73 124 LR LR 21 31 13.6
comp=Z,70nm,18.5s,baz=274,slow=40
TARG Taragay, Kyrgy 33.03 335 P P 21 17 44.4 0.0
TARG IAmb IAmb 21 17 54.0
comp=Z,11nm,0.9s
GAR Garm 34.62 324 P P 21 17 57.6 -0.3
GAR IAmb IAmb 21 18 05.2
comp=Z,6.4nm,0.9s

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHGR	Chuyangaron	35.06	323	P	P	21 18 01.4	-0.3
CHGR				IAmb	IAmb	21 18 09.0	
	comp=Z,12nm,0.7s						
BTK	Batken	35.07	326	P	P	21 18 02.8	+1.0
BTK				IAmb	IAmb	21 18 10.6	
	comp=Z,3.8nm,0.8s						
MKAR	Makanchi Array	36.04	345	P	P	21 18 12.0	+2.1
	comp=Z,0.9nm,0.8s,baz=165,slow=7.4,SNR=3.2						
SONM	Songino Array	36.51	12	P	P	21 18 15.1	+1.0
	comp=Z,0.2nm,0.5s,baz=206,slow=9.5,SNR=1.8						
KURK	Kurchatov	40.61	344	P	P	21 18 49.3	+1.0
PSA00	Pilbara Seismi	41.40	144	P	P	21 18 57.3	+2.1
GEYT	Alibeck	41.84	314	P	P	21 18 59.1	+0.4
	comp=Z,0.9nm,0.5s,baz=175,slow=8.7,SNR=2.7						
ZAA0	Zalesovo Array	42.30	351	P	P	21 19 03.6	+1.4
ZALV	Zalesovo Beam	42.30	351	P	P	21 19 03.1	+0.9
	comp=Z,1.0nm,0.6s,baz=177,slow=8.7,SNR=4.2						
WRA	Warramunga Arr	49.99	130	P	P	21 20 05.4	+2.2
	comp=Z,1.9nm,0.8s,baz=309,slow=8.5,SNR=9.5						
ASAR	Alice Springs	51.96	134	P	P	21 20 20.9	+2.9
	comp=Z,1.1nm,0.9s,baz=311,slow=6.6,SNR=11						
OBN	Obninsk	62.30	326	LR	LR	21 53 59.9	
	comp=Z,5.5nm,18.2s,baz=206,slow=41						
HNR	Honiara	67.67	106	P	P	21 22 06.1	-0.2
WAKE	Wake Island	68.48	74	P	P	21 22 10.0	-1.3
GERES	GERESS Array B	75.35	317	P	P	21 22 51.1	-1.1
	comp=Z,0.3nm,0.5s,baz=80,slow=8.1,SNR=2.8						
ILAR	Eielson Array	90.12	22	P	P	21 24 07.9	-0.6
	comp=Z,0.3nm,0.6s,baz=298,slow=6.1,SNR=2.7						
RIDG	Independent Ri	91.41	23	P	P	21 24 14.7	+0.1
RIDG				IAmb	IAmb	21 24 21.2	
	comp=Z,4.5nm,1.0s						
SCM	Sheep Creek Mo	91.41	25	P	P	21 24 15.1	+0.5
SCM				IAmb	IAmb	21 24 19.0	
	comp=Z,2.6nm,1.0s						
GLI	Glacier Island	91.99	26	P	P	21 24 17.2	0.0
GLI				IAmb	IAmb	21 24 19.6	
	comp=Z,9.1nm,1.0s						
INK	Inuvik	92.33	16		P	21 24 18.3	-0.3
INK				IAmb	IAmb	21 24 35.0	
	comp=Z,2.4nm,0.9s						
HIN	Hinchinbrook I	92.48	26	P	P	21 24 18.6	-0.9

*NEIC **01** 21:18:07.2±1.7, 41°.3S±0°.1×85°.7E±0°.1, h10km±1km, mb4.9/38, Error ellipse: s-maj=21.3km s-min=16.3km az=321.0*

*IDC **01** 21:18:14.0±1.7, 41°.31S×85°.82E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/34, mbtmp3.8/5, MS3.7/6, Ms1 3.7/6, ms1mx3.2/29, Error ellipse: s-maj=48.8km s-min=30.9km az=108.0*

ISC 01 21:18:07.0±0.5, **41°.31S**±0°.10×**85°.69E**±0°.09, **h10**km, **n59**, σ**0.s80**/42, **mb4.8**/24, **MS3.7**/6, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAF	Port-aux-Franc	13.52	228	Pn	Pn	21 21 19.0	+0.3
H01W2	Cape Leeuwin H	23.22	83	T	T	21 47 10.5	
	baz=245,slow=74,SNR=75						
H01W3	Cape Leeuwin H	23.23	83	T	T	21 47 11.0	
	baz=245,slow=74,SNR=78						
H01W1	Cape Leeuwin H	23.24	83	T	T	21 47 11.8	
	baz=245,slow=74,SNR=81						
NWAO	Narrogin (SRO)	26.40	82	LR	LR	21 31 46.4	
	comp=Z,106nm,19.9s,baz=226,slow=31						
MORW	Morawa	27.51	73	P	P	21 23 53.6	0.0
MAW	Mawson	29.13	198	LR	LR	21 32 45.9	
	comp=Z,198nm,19.4s,baz=56,slow=30						
MAW	Mawson	29.13	198	P	P	21 24 07.1	-0.6
GIRL	Giralia	30.34	61	P	P	21 24 19.3	+0.5
GIRL				IAmb	IAmb	21 24 35.7	
	comp=Z,45nm,1.0s						
COCO	West Island	30.61	22	P	P	21 24 21.8	+0.6
PSAD3	Pilbara Seismi	34.76	66	P	P	21 24 57.0	-0.6
PSAA1	Pilbara Seismi	34.84	66	P	P	21 24 59.0	+0.7
PSAB3	Pilbara Seismi	34.84	66	P	P	21 24 58.5	+0.2
PSAB3				IAmb	IAmb	21 25 13.4	
	comp=Z,9.6nm,1.1s						
PSA00	Pilbara Seismi	34.85	66	P	P	21 24 59.0	+0.6
PSA00				IAmb	IAmb	21 25 12.6	
	comp=Z,8.0nm,1.0s						
PSAC1	Pilbara Seismi	34.85	66	P	P	21 24 59.4	+1.0
PSAC2	Pilbara Seismi	34.90	66	P	P	21 24 59.8	+1.0
PSAC2				IAmb	IAmb	21 25 19.0	
	comp=Z,10nm,1.1s						
H08S2	Diego Garcia H	35.52	337	T	T	22 02 27.1	
	baz=163,slow=76,SNR=72						
H08S1	Diego Carcia H	35.52	337	T	T	22 02 28.1	
	baz=163,slow=76,SNR=107						
H08S3	Diego Garcia H	35.53	337	T	T	22 02 33.1	
	baz=163,slow=76,SNR=74						
ASAR	Alice Springs	43.72	82	P	P	21 26 19.6	+7.1
	comp=Z,0.4nm,0.8s,baz=224,slow=7.8,SNR=2.3						
ASAR				PcP	PcP	21 28 08.9	+10
	comp=Z,0.3nm,0.6s,baz=225,slow=2.9,SNR=4.2						
AS31	Alice Springs	43.72	82	P	P	21 26 13.4	+0.9
TAU	Tasmania Unive	44.84	114	P	P	21 26 22.1	+0.9
TAU				IAmb	IAmb	21 26 32.1	
	comp=Z,45nm,1.1s						
KNRA	Kununurra	45.04	68	P	P	21 26 24.0	+1.0
STKA	Stephens Creek	45.18	97	P	P	21 26 31.2	+7.2
	comp=Z,1.6nm,0.8s,baz=270,slow=14,SNR=1.4						
STKA	Stephens Creek	45.18	97	P	P	21 26 21.7	-2.4
SOEI	Soe	46.27	58	P	P	21 26 33.2	+0.3
SOEI				IAmb	IAmb	21 26 41.0	
	comp=Z,16nm,1.1s						
WRA	Warramunga Arr	46.28	78	P	P	21 26 41.0	+8.2
	comp=Z,1.0nm,1.0s,baz=233,slow=7.7,SNR=4.1						
VNDA	Vanda	47.08	163	LR	LR	21 44 02.2	
	comp=Z,94nm,20.4s,baz=264,slow=33						
MTN	Manton Dam	48.64	68	P	P	21 26 50.6	-0.6
MTN				IAmb	IAmb	21 26 53.3	
	comp=Z,7.1nm,1.0s						
MCQ	Macquarie Isla	48.65	132	P	P	21 26 51.8	+1.0
BKB	Balikpapan	48.81	44	P	P	21 26 52.2	-0.3
QSPA	South Pole Qui	48.84	180	P	P	21 27 00.7	+8.3
	comp=Z,4.5nm,1.0s,baz=289,slow=2.5,SNR=9.2						
QSPA	South Pole Qui	48.84	180	P	P	21 26 53.7	+1.2
QSPA				IAmb	IAmb	21 27 04.6	
	comp=Z,7.3nm,1.1s						
BOSA	Boshof	50.20	265	P	P	21 27 02.7	-0.5
LBTB	Lobatse	51.88	269	LR	LR	21 44 10.4	
	comp=Z,75nm,19.5s,baz=113,slow=30						
ARMA	Armidale	53.38	101	P	P	21 27 26.0	-0.9
KKM	Kota Kinabalu	54.79	38	P	P	21 27 37.8	+0.5
KKM				IAmb	IAmb	21 27 45.2	
	comp=Z,28nm,1.1s						
TNTI	Ternate	56.37	53	P	P	21 27 48.1	-0.5
TNTI				IAmb	IAmb	21 27 51.3	
	comp=Z,10.0nm,0.9s						
FAKI	Fak Fak	56.59	60	P	P	21 27 49.9	-0.3
FAKI				IAmb	IAmb	21 27 59.8	
	comp=Z,29nm,1.0s						
MLZ	Mavora Lakes	57.56	124	P	P	21 27 57.3	+0.5
MLZ				IAmb	IAmb	21 28 06.2	
	comp=Z,13nm,1.1s						
LHI	Lord Howe Isla	58.25	106	P	P	21 27 59.9	-1.8
PBKT	Sadao Pong	59.30	17	P	P	21 28 09.6	+0.7
PBKT				IAmb	IAmb	21 28 18.6	
	comp=Z,3.8nm,0.7s						
FOZ	Fox Glacier	59.51	123	P	P	21 28 10.5	+0.3
CMAR	Chiang Mai Arr	60.72	14	P	P	21 28 26.7	+8.0
	comp=Z,1.4nm,1.0s,baz=206,slow=7.9,SNR=5.3						
MQZ	McQueen's Vall	61.20	124	P	P	21 28 21.5	-0.3
MQZ				IAmb	IAmb	21 28 39.0	
	comp=Z,29nm,1.1s						
BSWZ	Blackbirch Sta	63.01	123	P	P	21 28 33.8	-0.3
OUZ	Omahuta	66.42	117	P	P	21 28 56.4	+0.1
OUZ				IAmb	IAmb	21 29 09.9	
	comp=Z,14nm,1.2s						
WSAR	Wadi Sarin	68.95	333	LR	LR	21 53 45.9	
	comp=Z,65nm,18.1s,baz=176,slow=31						
DZM	Mont Dzumac	69.03	101	P	P	21 29 12.2	-0.9
DZM				IAmb	IAmb	21 29 29.5	
	comp=Z,6.1nm,0.8s						
TWG	Pinlang	71.75	34	P	P	21 29 29.2	-0.2
SHEL	Horse Pasture	80.70	257	P	P	21 30 20.8	+0.1
FUNA	Funafuti	87.06	99	P	P	21 30 52.4	-0.8
KS19	Wonju Array Si	87.40	32	P	P	21 30 54.2	0.0
KS19				IAmb	IAmb	21 30 54.6	
	comp=Z,9.9nm,1.1s						
INU	Inuyama	89.65	40	P	P	21 31 05.0	+0.1
INU				IAmb	IAmb	21 31 07.8	
	comp=Z,7.9nm,1.0s						
CSS	Mathiatis	89.84	319	P	P	21 31 06.4	+0.6
CSS				IAmb	IAmb	21 31 16.0	
	comp=Z,7.9nm,1.0s						
AFI	Afiamalu	90.10	109	P	P	21 31 07.8	+0.1
DBIC	Dimbokro	94.76	275	LR	LR	22 10 33.7	
	comp=Z,43nm,18.2s,baz=110,slow=33						
DBIC	Dimbokro	94.76	275	P	P	21 31 28.6	-0.4
DBIC				IAmb	IAmb	21 31 39.1	
	comp=Z,7.5nm,1.1s						
ZAA0	Zalesovo Array	94.89	359	P	P	21 31 27.5	-1.1

WEL 01 21:21:32.8, 37°S±28°×**17°8E**±°, **h117**km±23km, **M3.0**/12, **ML3.1**/7, **MLv3.0**/12, **Error ellipse: s-maj=0.0km s-min=0.0km az=2.9, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.82	185	S	Sn	21 22 08.7	+0.7
MXZ	Matakaoa Point	0.82	185	P	Pn	21 21 50.3	-2.6
WMGZ	Waiomatatini S	1.07	180	P	Pn	21 21 55.9	+0.6
HAZ	Te Kaha	1.12	206	P	Pn	21 21 56.2	+0.4
HAZ	Te Kaha	1.12	206	S	Sn	21 22 19.6	+6.4
PKGZ	Pakihiroa	1.17	193	P	Pn	21 21 56.8	+0.4
PKGZ	Pakihiroa	1.17	193	S	Sn	21 22 18.0	+3.8
PUZ	Puketiti	1.33	185	P	Pn	21 21 58.2	+0.1
PUZ	Puketiti	1.33	185	S	Sn	21 22 20.4	+3.1
RUGZ	Raukumara Rang	1.35	205	P	Pn	21 21 58.9	+0.5
TWGZ	Tauwhareparae	1.47	193	P	Pn	21 22 00.9	+1.2
MWZ	Matawai	1.73	203	P	Pn	21 22 04.6	+1.8
CNGZ	Carnagh Statio	1.74	185	P	Pn	21 22 03.7	+0.8
URZ	Urewera	1.83	214	P	Pn	21 22 05.3	+1.3
URZ	Urewera	1.83	214	S	Sn	21 22 31.5	+3.8
OPRZ	Ohinepanea	1.84	233	P	Pn	21 22 05.0	+0.9
KUZ	Kuaotunu	2.15	269	P	Pn	21 22 08.1	+0.1
SNGZ	Shannon Statio	2.20	202	P	Pn	21 22 10.3	+1.7
SNGZ	Shannon Statio	2.20	202	S	Sn	21 22 42.2	+6.0
PRGZ	Paritu Road	2.21	191	P	Pn	21 22 09.2	+0.4
PRGZ	Paritu Road	2.21	191	S	Sn	21 22 41.1	+4.7
KNZ	Kokohu	2.35	194	P	Pn	21 22 10.5	+0.1
MHGZ	Mahia Peninsul	2.44	189	P	Pn	21 22 12.3	+0.6
TOZ	Tahuroa Road	2.52	246	P	Pn	21 22 14.2	+1.6

*BJI **01** 21:25:19.4±0.0, 3°.46S×101°.19E, h58km, mB5.2/30, mb4.9/48, Ms4.4/9, Ms7 4.2/9*

*NEIC **01** 21:25:23.4±1.6, 3°.14S±0°.06×101°.17E±0°.07, h57km±5km, mb4.9/121, Error ellipse: s-maj=11.0km s-min=8.0km az=52.0*

*KLM **01** 21:25:24.0, 3°.19S×101°.02E, h50km, mb5.0*

*DJA **01** 21:25:24.0±0.2, 3°S±2°×10°1E±°, h54km±2km, M4.8/40, mb4.9/40, mB5.3/18, MLv5.0/28, Mw(mB)4.7/18*

*IDC **01** 21:25:25.7±2.3, 2°.99S×101°.33E, h67km±20km, mb4.4/24, mb1 4.5/26, mb1mx4.3/45, mbtmp4.7/26, MS3.6/12, Ms1 3.6/12, ms1mx3.3/28, Error ellipse: s-maj=18.0km s-min=10.8km az=51.0*

ISC 01 21:25:23.8±0.6, **3°.14S**±0°.04×**101°.22E**±0°.04, **h59**km±5km, **n342**, σ**1.s13**/355, **mb4.9**/122, **MS3.6**/14, **26C-2D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRJI	Kerinci	1.07	13	P	Pn	21 25 42.4	-0.5
KRJI				S	Sn	21 25 58.1	+1.1
PPSI	Pulau Pagai	1.27	287	P	Pn	21 25 46.0	+0.7
PPSI				S	Sn	21 26 03.1	+1.6
KSI	Kapahiang	1.46	110	P	Pn	21 25 47.8	-0.2
KSI				S	Sn	21 26 06.8	+0.6
MNAI	Manna	2.11	125	P	Pn	21 25 57.1	+0.3
MNAI				S	Sn	21 26 22.5	+0.5
MNAI	Manna	2.11	125	Pn	Pn	21 25 56.9	0.0
SDSI	Sungai Dareh	2.21	5	P	Pn	21 25 58.6	+0.5
LHSI	Lahat	2.40	107	P	Pn	21 26 02.0	+1.3
LHSI				S	Sn	21 26 31.5	+2.6
SISI	Saibi	2.79	310	P	Pn	21 26 06.8	+0.7
SISI				S	Sn	21 26 37.6	-1.0
RGRI	Rengat	2.99	22	P	Pn	21 26 09.7	+0.9
MDSI	Maura Dua	3.24	114	P	Pn	21 26 13.7	+1.5
MDSI				S	Sn	21 26 51.3	+1.7
LWLI	Liwa	3.39	123	P	Pn	21 26 16.2	+1.8
LWLI				S	Sn	21 26 54.8	+1.4
BKNI	Bangkinang	3.45	357	P	Pn	21 26 15.8	+0.7
BKNI				S	Sn	21 26 57.4	+2.6
BKNI	Bangkinang	3.45	357	Pn	Pn	21 26 15.4	+0.3
PMBI	Palembang	3.55	87	P	Pn	21 26 17.1	+0.6
PMBI				S	Sn	21 26 57.1	-0.2
PMBI	Palembang	3.55	87		Pn	21 26 16.4	-0.1
KASI	Kota Agung	4.03	126	P	Pn	21 26 24.1	+1.0
KASI				S	Sn	21 27 09.9	+0.8
MNSI	Mandailing Nat	4.24	337	P	Pn	21 26 26.1	+0.1
PBSI	Pulau Batu	4.25	316	P	Pn	21 26 26.7	+0.7
DSRI	Dabo	4.27	52	P	Pn	21 26 26.6	+0.2
BLSI	Bandar Lampung	4.58	119	P	Pn	21 26 35.8	+5.2
PPBI	Pangkal Pinang	5.01	79	P	Pn	21 26 37.3	+0.9
	0.5nm3µm51nm,0.5s						
TPRI	Tanjung Pinang	5.21	39	P	Pn	21 26 40.0	+0.7
	2.7nm7µm639nm,0.6s						
MYKOM	Kota Tinggi	5.56	28	Pn	Pn	21 26 44.8	+0.8
MYKOM	Kota Tinggi	5.56	28	P	Pn	21 26 45.0	+1.0
GSI	Gunungsitoli	5.73	320	P	Pn	21 26 45.6	-0.7
	1.6nm5µm179nm,0.6s						
GSI				S	Sn	21 27 50.6	-0.1
	1.6nm5µm179nm,0.6s						
GSI	Gunungsitoli	5.73	320	Pn	Pn	21 26 45.9	-0.5
RPSI	Rantau Prapat	6.24	338	Pn	Pn	21 26 53.0	-0.2
TPI	Tanjungpandan	6.43	87	P	Pn	21 26 55.9	-0.1
	0.2nm989nm30nm,0.9s						
DBJI	Dramaga	6.47	122	P	Pn	21 26 58.6	+2.1
	0.4nm47nm,0.8s						
SKJI	Sukabumi	6.55	126	P	Pn	21 26 59.6	+1.9
	1.1nm2µm148nm,0.7s						
CNJI	Cibinong	7.19	125	P	Pn	21 27 06.1	-0.3
	0.5nm2µm76nm,0.6s						
CNJI				S	Sn	21 28 27.9	+1.1
	0.5nm2µm76nm,0.6s						
LEM	Lembang	7.35	120	P	Pn	21 27 11.5	+2.8
	4.9nm,0.3s,baz=291,slow=21,SNR=4.4						
LEM				LR	LR	21 30 12.5	
	comp=Z,336nm,19.6s,baz=302,slow=39						
LEM	Lembang	7.35	120	P	Pn	21 27 10.8	+2.1
	0.2nm50nm,1.1s						
KCSI	Kotacane, Aceh	7.46	332	P	Pn	21 27 10.3	+0.2
	0.5nm32nm,0.7s						
KCSI				S	Sn	21 28 31.2	-2.2
	0.5nm32nm,0.7s						
IPM	Ipoh	7.57	359	Pn	Pn	21 27 11.6	-0.1
IPM	Ipoh	7.57	359	P	Pn	21 27 16.0	+4.4
CISI	Cisompet, Garu	7.89	124	P	Pn	21 27 15.8	-0.3
	0.8nm4µm166nm,0.6s						
CISI	Cisompet, Garu	7.89	124	Pn	Pn	21 27 15.4	-0.7
KULM	Kulim	8.39	356		Pn	21 27 23.3	+0.4
CMJI	Cimerak	8.54	123	P	Pn	21 27 24.5	-0.4
	1µm57nm,0.5s						
CMJI				S	Sn	21 28 57.4	-2.5
	1µm57nm,0.5s						
MLSI	Meulaboh, Aceh	8.79	327	P	Pn	21 27 29.0	+0.7
	4µm188nm,0.7s						
LHMI	Lhok Sumawe	9.35	333	P	Pn	21 27 36.1	+0.2
	89nm,0.7s						
LHMI	Lhok Sumawe	9.35	333	Pn	Pn	21 27 31.8	-4.1
SMRI	Semarang	9.97	113	Pn	Pn	21 27 44.9	+0.4
COCO	West Island	9.98	206		Pn	21 27 43.0	-1.6
KSM	Kuching	10.18	63	Pn	Pn	21 27 47.6	+0.3
UGM	Wanagama	10.40	117	Pn	Pn	21 27 49.8	-0.5
WOJI	Wonogiri, Jawa	10.72	116	P	Pn	21 27 55.5	+0.8
SRIT	Nakonsritamara	11.77	352	Pn	Pn	21 28 07.1	-2.0
SBUM	Sibu	12.32	63	Pn	Pn	21 28 16.2	-0.3
BBKI	Banjar Baru	13.60	92	P	P	21 28 37.6	-3.5
MTKI	Muara Teweh, K	13.84	81	P	P	21 28 45.6	+1.9
JAGI	Jajag, Banyuwa	13.91	113	P	Pn	21 28 36.9	-1.2
	2µm58nm,0.6s						
JAGI	Jajag, Banyuwa	13.91	113	Pn	Pn	21 28 37.2	-1.0
BKB	Balikpapan	15.77	84	P	Pn	21 29 02.5	+0.2
BKB				IAmb	IAmb	21 29 13.2	
	comp=Z,206nm,1.1s						
TWSI	Taliwang, Sumb	16.53	110	P	Pn	21 29 12.8	+0.8
	comp=Z,26nm,0.6s						
PBA	Port Blair	16.95	330	Pn	Pn	21 29 12.2	-4.9
PBA				IAmb	IAmb	21 29 22.9	
	comp=Z,67nm,1.0s						
PLAI	Plampang	17.40	110	P	Pn	21 29 21.9	-0.8
	comp=Z,82nm,0.7s						
KKM	Kota Kinabalu	17.53	59	P	P	21 29 24.8	-0.1
SPSI	Sidrap Palu	18.53	93	P	P	21 29 34.9	-0.8
	comp=Z,29nm,0.8s						
KAPI	Kappang	18.58	96	P	P	21 29 36.5	+0.3
	comp=Z,2.7nm,0.3s,baz=273,slow=10,SNR=14						
KAPI	Kappang	18.58	96	P	P	21 29 36.0	-0.2
KAPI				IAmb	IAmb	21 29 41.0	
	comp=Z,56nm,0.8s						
BNSI	Bone	18.89	94	P	Pn	21 29 42.2	+1.4
	comp=Z,783nmcomp=Z,55nm,1.0s						
MPSI	Mapaga	18.99	80	P	Pn	21 29 42.5	+0.5
	comp=Z,1µmcomp=Z,40nm,0.9s						
MYLDM	Lahad Datu	19.14	64	P	Pn	21 29 43.6	-0.2
WBSI	Waikabubak, Su	19.17	111	P	Pn	21 29 44.1	-0.1
	comp=Z,2µmcomp=Z,129nm,0.7s						
PBKT	Sadao Pong	19.59	359	P	P	21 29 46.9	-0.4
BASI	Baing, Sumba	20.46	111	P	Pn	21 29 58.5	-0.9
	comp=Z,122nm,1.0s						
CM31	Chiang Mai Arr	21.58	354	P	P	21 30 09.0	+0.2
CMAR	Chiang Mai Arr	21.58	354	P	P	21 30 05.8	-3.0
	comp=Z,10nm,0.7s,baz=186,slow=8.8,SNR=35						
CMAR				PcP	PcP	21 34 10.8	+1.6
	comp=Z,2.0nm,0.6s,baz=211,slow=3.3,SNR=9.3						
CMAR				ScP	ScP	21 37 42.3	+0.9
	comp=Z,0.5nm,0.5s,baz=190,slow=4.6,SNR=4.3						
CMAR				LR	LR	21 37 54.3	
	comp=Z,141nm,22.0s,baz=206,slow=35						
LUWI	Luwuk	21.64	85	P	P	21 30 10.5	+1.1
	comp=Z,2µmcomp=Z,85nm,0.9s						
LUWI	Luwuk	21.64	85	P	P	21 30 10.0	+0.6
LUWI				IAmb	IAmb	21 30 21.8	
	comp=Z,60nm,0.9s						
CHTO	Chiang Mai	21.93	354	P	P	21 30 12.3	-0.2
GTOI	Gorontalo	22.10	81	P	P	21 30 14.9	+0.5
	comp=Z,23nm,0.7s						
GIRL	Giralia	23.13	148	P	P	21 30 23.3	-1.8
GIRL				IAmb	IAmb	21 30 27.1	
	comp=Z,82nm,1.1s						
BATI	Baumata	23.36	109	P	P	21 30 27.5	+0.1
	comp=Z,20nm,0.9s						
QIZ	Qiongzhong	23.61	21	P	P	21 30 29.7	+0.1
QIZ				S	S	21 34 42.9	+3.0
QIZ	Qiongzhong	23.61	21	P	P	21 30 29.9	+0.2
SOEI	Soe	23.81	107	P	P	21 30 32.1	+0.4
	comp=Z,29nm,1.2s						
SOEI	Soe	23.81	107	P	P	21 30 31.4	-0.3
SLVN	Son La	24.47	6	P	P	21 30 37.3	-0.2
PSA00	Pilbara Seismi	25.76	137	P	P	21 30 50.0	+0.8
DAV	Davao City (W)	26.34	67	P	P	21 30 53.7	-0.9
FITZ	Fitzroy Crossi	28.17	124	P	P	21 31 10.9	0.0
	comp=Z,6.0nm,0.5s,baz=300,slow=5.1,SNR=12						
FITZ	Fitzroy Crossi	28.17	124	P	P	21 31 11.2	+0.3
	baz=28,SNR=11						
FITZ	Fitzroy Crossi	28.17	124	P	P	21 31 10.9	0.0
MEEK	Meekatharra	28.70	146	P	P	21 31 16.2	+0.6
	baz=29,SNR=3.7						
H08S2	Diego Garcia H	28.94	260	T	T	22 00 40.2	
	baz=83,slow=75,SNR=525						
H08S3	Diego Garcia H	28.95	260	T	T	22 01 11.1	
	baz=83,slow=75,SNR=508						
H08S1	Diego Carcia H	28.96	260	T	T	22 01 11.8	
	baz=83,slow=75,SNR=445						
KNRA	Kununurra	29.84	116	P	P	21 31 24.6	-1.1
	baz=30,SNR=16						
KNRA	Kununurra	29.84	116	P	P	21 31 24.8	-0.9
GYA	Guiyang	29.89	10	eP	P	21 31 25.5	-0.7
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SHL	Shillong	29.94	343	P	P	21 31 25.6	-1.1
SHL				IAmb	IAmb	21 31 26.9	
	comp=Z,13nm,0.6s						
FAKI	Fak Fak	30.98	90	P	P	21 31 35.2	-0.7
FAKI				IAmb	IAmb	21 31 37.2	
	comp=Z,31nm,1.0s						
KDU	Kakadu	32.34	109	P	P	21 31 46.6	-1.2
	baz=32,SNR=3.7						
TPUB	Ta-pu	32.39	35	P	P	21 31 48.0	-0.1
TPUB				IAmb	IAmb	21 32 00.1	
	comp=Z,12nm,0.9s						
ODAN	Odare	32.68	337	eP	P	21 31 52.0	+1.1
	comp=Z,159nm,0.7s						
SSLB	Suanglung	32.95	35	P	P	21 31 53.0	-0.1
TAPN	Taplejung	33.00	338	eP	P	21 31 55.3	+1.6
RAMN	Ramite	33.08	336	eP	P	21 31 55.8	+1.4
	comp=Z,37nm,0.4s						
NWAO	Narrogin (SRO)	33.21	155	P	P	21 31 54.2	-1.0
NWAO	Narrogin (SRO)	33.21	155	P	P	21 31 54.2	-1.0
NWAO				IAmb	IAmb	21 32 07.7	
	comp=Z,8.3nm,1.0s						
NACB	Ninganchiao	33.62	35	P	P	21 31 57.4	-1.4
NACB				IAmb	IAmb	21 32 03.5	
	comp=Z,11nm,0.7s						
H01W3	Cape Leeuwin H	33.78	161	T	T	22 07 43.2	
	baz=336,slow=74,SNR=12						
H01W2	Cape Leeuwin H	33.80	161	T	T	22 07 29.4	
	baz=336,slow=74,SNR=7.6						
H01W1	Cape Leeuwin H	33.80	161	T	T	22 06 32.7	
	baz=336,SNR=11						
JIRN	Jiri	33.88	336	eP	P	21 32 02.7	+1.2
YHNB	Yeheng	33.88	34	P	P	21 31 59.8	-1.4
YHNB				IAmb	IAmb	21 32 14.9	
	comp=Z,18nm,1.1s						
CD2	Chengdu	33.95	4	eP	P	21 32 02.4	+0.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WRKA	Warakurna	33.96	132	P	P	21 32 03.8	+1.9
	baz=34,SNR=18						
LSA	Lhasa	34.05	344	P	P	21 32 02.9	-0.1
LSA				IAmb	IAmb	21 32 07.0	
	comp=Z,8.0nm,0.5s						
PKI	Pulchoki	34.13	334	eP	P	21 32 04.4	+0.8
	comp=Z,52nm,0.7s						
ENH	Enshi	34.15	13	P	P	21 32 02.1	-1.4
ENH				IAmb	IAmb	21 32 03.2	
	comp=Z,20nm,0.7s						
DMN	Daman	34.29	334	eP	P	21 32 05.9	+0.9
	comp=Z,83nm,0.9s						
KKN	Kakani	34.38	334	eP	P	21 32 06.5	+0.9
	comp=Z,183nm,0.7s						
GKN	Gorkha	34.84	334	eP	P	21 32 10.7	+1.1
KOLN	Koldanda	35.11	332	eP	P	21 32 13.4	+1.4
	comp=Z,107nm,0.8s						
DANN	Dangsing	35.53	333	eP	P	21 32 16.9	+1.2
	comp=Z,240nm,0.5s						
PYUN	Piuthan	35.68	332	eP	P	21 32 18.1	+1.3
	comp=Z,96nm,0.3s						
WB0	Warramunga Arr	36.35	120	P	P	21 32 22.3	-0.2
WB0				IAmb	IAmb	21 32 23.7	
	comp=Z,17nm,0.8s						
WRA	Warramunga Arr	36.37	120	P	P	21 32 22.9	+0.3
	comp=Z,18nm,0.5s,baz=303,slow=8.9,SNR=128						
WRAB	Tennant Creek	36.37	120	P	P	21 32 20.9	-1.8
WB2	Warramunga Arr	36.38	120	P	P	21 32 22.4	-0.4
WB2				IAmb	IAmb	21 32 23.5	
	comp=Z,19nm,0.7s						
WR0	Warramunga Arr	36.55	120		P	21 32 23.5	-0.7
WR0				IAmb	IAmb	21 32 25.1	
	comp=Z,26nm,0.9s						
FORT	Forrest	37.39	140	P	P	21 32 31.5	+0.4
FORT				IAmb	IAmb	21 32 48.7	
	comp=Z,14nm,0.8s						
AS31	Alice Springs	37.60	126	P	P	21 32 33.9	+0.8
ASAR	Alice Springs	37.60	126	P	P	21 32 33.9	+0.8
	comp=Z,9.0nm,0.3s,baz=299,slow=8.3,SNR=191						
ASAR				PcP	PcP	21 34 51.1	+1.2
	comp=Z,3.1nm,0.8s,baz=299,slow=2.2,SNR=6.5						
ASAR				S	S	21 38 17.0	-1.7
	comp=Z,1.7nm,0.6s,baz=296,slow=14,SNR=10						
XAN	Xi'an	37.69	10	P	P	21 32 32.6	-1.1
XAN				pP	pP	21 32 43.2	-5.4
XAN				pmax	pmax		
	comp=Z,43nm,0.9s						
XAN				pmax	pmax		
	comp=Z,230nm,4.1s						
XAN	Xi'an	37.69	10	P	P	21 32 32.0	-1.6
NJ2	Nanjing	38.80	24	eP	P	21 32 43.2	+0.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	Lanzhou	39.10	3	eP	P	21 32 45.3	-0.3
LZH				pP	pP	21 33 00.7	+0.1
LZH				sP	sP	21 33 08.1	+0.7
LZH				ePP	PnPn	21 34 21.0	+1.7
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,110nm,5.6s						

LZH LR LR
comp=Z,370nm,13.5s
LZH LR LR
comp=Z,380nm,13.3s
LZH LR LR
comp=Z,470nm,16.6s
QIS Mount Isa 41.20 118 P **P** **21 33 03.3 +0.2**
baz=41,SNR=15
GTA Gaotai 42.36 358 P **P** **21 33 14.0 +1.6**
GTA pP pP 21 33 28.0 +0.5
GTA sP sP 21 33 34.6 +0.3
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,51nm,5.3s
GTA LR LR
comp=Z,160nm,14.9s
GTA LR LR
comp=Z,120nm,14.3s
GTA LR LR
comp=Z,210nm,17.1s
COEN Coen 42.78 107 P **P** **21 33 14.8 -1.2**
MTSU Mount Surprise 44.75 113 P **P** **21 33 31.9 +0.1**
baz=45,SNR=10
HHC Hu-ho-hao-te 44.79 11 *e*P **P** **21 33 32.6 +0.7**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,150nm,6.6s
BJI Beijing 45.11 16 P **P** **21 33 34.3 0.0**
NIL Nilore 45.12 326 P **P** **21 33 35.1 +0.5**
JNU Nakatsue 45.69 35 P **P** **21 33 39.5 +0.4**
JNU IAmb IAmb 21 33 53.1
comp=Z,18nm,1.1s
HTT Hallett 46.33 135 P **P** **21 33 45.8 +1.6**
baz=46,SNR=7.1
CTAO Charters Tower 47.01 115 P **P** **21 33 49.6 -0.1**
CTAO IAmb IAmb 21 33 50.8
comp=Z,14nm,0.8s
QLP Quilpie 47.31 124 P **P** **21 33 53.6 +1.7**
baz=47,SNR=3.9
KSRS Korea Array 47.40 29 P **P** **21 33 52.5 +0.2**
comp=Z,2.9nm,0.6s,baz=223,slow=8.3,SNR=14
KSRS LR LR 21 55 58.7
comp=Z,21nm,19.9s,baz=248,slow=39
STKA Stephens Creek 47.48 132 P **P** **21 33 54.7 +1.5**
comp=Z,5.2nm,0.5s,baz=308,slow=7.3,SNR=24
STKA LR LR 21 55 47.8
comp=Z,99nm,18.1s,baz=216,slow=38
STKA Stephens Creek 47.48 132 P **P** **21 33 54.5 +1.4**
baz=48,SNR=17
STKA Stephens Creek 47.48 132 P **P** **21 33 54.5 +1.4**
KBL Kabul 48.17 324 P **P** **21 33 57.8 -0.8**
KBL IAmb IAmb 21 34 14.7
comp=Z,5.9nm,0.6s
WMQ Urumqi 48.31 347 *e*P **P** **21 34 00.7 +1.3**
WMQ pmax pmax
comp=Z,74nm,0.7s
WMQ pmax pmax
comp=Z,140nm,3.6s
WMQ LR LR
comp=Z,36nm,29.2s
WMQ LR LR
comp=Z,170nm,24.7s
WMQ LR LR
comp=Z,150nm,24.7s
WMQ Urumqi 48.31 347 P **P** **21 33 59.9 +0.6**
KSH Kashi 48.39 334 P **P** **21 33 59.6 -0.5**
KSH pmax pmax
comp=Z,19nm,0.5s
SOCY Socotra 49.34 289 P **P** **21 34 05.2 -2.6**
TARG Taragay, Kyrgy 49.48 337 IAmb IAmb 21 34 12.9
comp=Z,11nm,0.6s
PRZ Przheval'sk 49.90 338 P **P** **21 34 13.1 +1.4**
KDJ Kajisay 50.06 337 P **P** **21 34 12.7 -0.2**
SHLS Shalkode 50.09 339⇑ *i*P **P** **21 34 13.0 -0.1**
comp=Z,34nm,1.0s,baz=340
UZB Uzynbulak 50.24 339⇑ *i*P **P** **21 34 14.9 +0.6**
comp=Z,7.4nm,0.4s,baz=339
SATY Saty 50.39 338⇑ *i*P **P** **21 34 16.2 +0.8**
comp=Z,6.5nm,0.6s,baz=338
CMSA Cobar Meteorol 50.45 129 P **P** **21 34 17.3 +1.5**
baz=51,SNR=24
RABL Rabaul 50.84 93 P **P** **21 34 19.3 +0.1**
TNSS Tian-Shan 50.92 337 *e*P **P** **21 34 20.2 +0.5**
baz=337
SONM Songino Array 50.97 4 P **P** **21 34 20.2 +0.6**
comp=Z,12nm,0.6s,baz=184,slow=9.6,SNR=98
SONM PcP **PcP** **21 35 35.3 +0.2**
comp=Z,2.9nm,0.5s,baz=188,slow=4.0,SNR=8.4
SONM LR LR 21 57 01.2
comp=Z,61nm,19.0s,baz=192,slow=37
MDOK Medeo 50.99 337 *e*P **P** **21 34 20.7 +0.8**
baz=337
ULN Ulaanbaatar 51.05 5 P **P** **21 34 21.1 +0.8**
ULN IAmb IAmb 21 34 21.5
comp=Z,7.5nm,0.5s
AAA Alma-Ata 51.08 337 *e*P **P** **21 34 21.1 +0.6**
comp=Z,8.3nm,0.7s,baz=337
ARSB Arslanbob 51.19 333 P **P** **21 34 22.0 +0.6**
MTBS Maitube 51.20 337 *e*P **P** **21 34 21.8 +0.3**
baz=337
CN2 Changchun 51.55 22 *e*P **P** **21 34 23.2 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CHKK Chushkaly 51.60 338 *e*P **P** **21 34 23.9 -0.4**
baz=338
FRU1 Bishkek 51.67 335 P **P** **21 34 24.9 0.0**
UOSS Minazif 51.84 305 P **P** **21 34 26.3 -0.1**
KUU Kurty 51.88 337⇑ *i*P **P** **21 34 26.3 -0.1**
comp=Z,22nm,0.8s,baz=337
TDK Taldyqorghan 52.08 340 *e*P **P** **21 34 27.8 0.0**
comp=Z,19nm,0.7s,baz=340
SGDS Sogindy 52.20 336 *e*P **P** **21 34 29.1 +0.3**
comp=Z,2.9nm,0.7s,baz=336
HRA Herat 52.31 319 P **P** **21 34 29.0 -1.0**
ZSN Zaisan 52.39 346⇑ *i*P **P** **21 34 30.8 +0.7**
comp=Z,36nm,0.7s,baz=346
MAJO Matsushiro 52.41 38 P **P** **21 34 29.7 -0.8**
MAT Matsushiro 52.41 38 P **P** **21 34 29.1 -1.3**
MJB9 Matsu-Tunnel 52.41 38 P **P** **21 34 29.7 -0.8**
MJAR Matsushiro Arr 52.41 38 P **P** **21 34 29.9 -0.6**
comp=Z,1.9nm,0.7s,baz=216,slow=7.6,SNR=7.0
MK31 Makanchi Array 52.45 344 P **P** **21 34 30.8 +0.2**
MKAR Makanchi Array 52.45 344 P **P** **21 34 30.8 +0.2**
comp=Z,45nm,0.7s,baz=160,slow=9.1,SNR=264
MAKZ Makanchi 52.56 343 P **P** **21 34 31.5 +0.2**
EIDS Eidsvold 52.73 120 P **P** **21 34 33.6 +0.6**
baz=53,SNR=4.4
EIDS Eidsvold 52.73 120 P **P** **21 34 33.4 +0.4**
EIDS IAmb IAmb 21 34 34.4
comp=Z,11nm,0.9s
DZA Taraz 53.18 333 *e*P **P** **21 34 35.8 -0.3**
comp=Z,6.6nm,0.7s,baz=333
IUG Iuzhnay 53.21 331⇑ *i*P **P** **21 34 36.7 +0.3**
comp=Z,6.4nm,0.5s,baz=331
KK31 Karatay Array 53.72 332 P **P** **21 34 40.1 +0.1**
KK31 IAmb IAmb 21 34 41.6
comp=Z,5.1nm,0.5s
KKAR Karatay Array 53.72 332 P **P** **21 34 39.8 -0.2**
KKAR IAmb IAmb 21 34 41.6
comp=Z,5.1nm,0.5s
BTLS Baital 53.74 336⇑ *i*P **P** **21 34 39.5 -0.6**
comp=Z,3.1nm,0.7s,baz=336
CAN Canberra 54.55 132 P **P** **21 34 46.1 -0.1**
CAN IAmb IAmb 21 34 48.6
comp=Z,19nm,1.1s
USA0B Ussuriysk Arra 54.60 27 P **P** **21 34 46.5 +0.2**
USRK Ussuriysk Ar. 54.60 27 P **P** **21 34 46.3 0.0**
comp=Z,25nm,0.5s,baz=220,slow=5.8,SNR=102
USRK LR LR 21 59 55.5
comp=Z,49nm,18.1s,baz=253,slow=38
TLY Talaya 54.65 2 P **P** **21 34 47.1 +0.5**
TLY IAmb IAmb 21 34 48.1
comp=Z,8.1nm,0.6s
ARMA Armidale 54.75 125 P **P** **21 34 47.0 -0.8**
baz=55,SNR=4.4
ARMA Armidale 54.75 125 P **P** **21 34 47.8 0.0**
ARMA IAmb IAmb 21 35 07.2
comp=Z,7.4nm,0.9s
KURK Kurchatov 57.04 343 P **P** **21 35 03.7 0.0**
GEYT Alibeck 57.10 320 P **P** **21 35 05.0 +0.6**
comp=Z,6.5nm,0.8s,baz=126,slow=7.5,SNR=10
GEYT LR LR 22 01 42.7
comp=Z,48nm,20.0s,baz=70,slow=38
GYA0B ALIBECK ARRAY 57.10 320 P **P** **21 35 04.5 +0.1**
GYA0B IAmb IAmb 21 35 21.7
comp=Z,8.1nm,0.8s
BRZS Berezniki 58.35 339 *i* P **P** **21 35 12.5 -0.4**
comp=Z,2.4nm,0.8s,baz=339
ZALV Zalesovo Beam 58.51 349 P **P** **21 35 13.9 0.0**
comp=Z,94nm,0.7s,baz=176,slow=5.6,SNR=258
ZALV LR LR 22 03 42.5
comp=Z,36nm,18.8s,baz=156,slow=39
ERM Erimo 58.85 36 P **P** **21 35 16.2 -0.3**
JKA Kamikawa-asahi 59.88 33 P **P** **21 35 23.5 0.0**
JKA IAmb IAmb 21 35 24.7
comp=Z,14nm,1.1s
BRVK Borovoye 61.74 339 P **P** **21 35 35.6 -0.4**
DZM Mont Dzumac 65.89 113 P **P** **21 36 03.7 -0.4**
DZM IAmb IAmb 21 36 05.6
comp=Z,10nm,0.9s
TBLG Delisi 67.88 318 P **P** **21 36 15.8 -0.4**
TBLG IAmb IAmb 21 36 18.2
comp=Z,13nm,0.8s
NFK Norfolk Island 68.17 120 P **P** **21 36 17.9 -0.4**
baz=68,SNR=3.2
YAK Yakutsk 68.54 14 P **P** **21 36 19.2 -0.7**
ARU Arti 68.74 336 P **P** **21 36 21.1 -0.1**
ARU IAmb IAmb 21 36 21.6
comp=Z,8.4nm,0.6s
MAW Mawson 69.49 195 LR LR 21 59 33.0
comp=Z,128nm,20.1s,baz=54,slow=29
KBZ Khabaz 69.96 319 P **P** **21 36 30.2 +1.2**
comp=Z,8.3nm,0.7s,baz=115,slow=5.6,SNR=24
KIV Kislovodsk 70.20 319 P **P** **21 36 29.9 -0.8**
KIV IAmb IAmb 21 36 33.1
comp=Z,7.0nm,0.7s
GAZ Gaziantep 71.53 311 P **P** **21 36 37.7 -1.2**
GAZ IAmb IAmb 21 36 56.5
comp=Z,11nm,0.6s
MLZ Mavora Lakes 71.65 137 P **P** **21 36 38.2 -1.2**
MLZ IAmb IAmb 21 36 47.7
comp=Z,15nm,1.0s
WHZ Wether Hill Ro 71.67 137 P **P** **21 36 36.8 -2.7**
WHZ IAmb IAmb 21 36 50.9
comp=Z,19nm,1.2s
NRIK Noril'sk 72.94 355 P **P** **21 36 46.0 -0.5**
comp=Z,9.0nm,0.4s,baz=136,slow=4.4,SNR=21
NRIK LR LR 22 09 29.3
comp=Z,46nm,18.3s,baz=186,slow=36
PEA0B Petropavlovsk- 73.20 32 P **P** **21 36 48.4 0.0**
PEA0B IAmb IAmb 21 36 49.0
comp=Z,13nm,0.9s
PETK Petropavlovsk- 73.20 32 P **P** **21 36 48.2 -0.2**
comp=Z,5.9nm,0.7s,baz=204,slow=3.3,SNR=24
RPZ Rata Peaks 73.31 135 P **P** **21 36 49.3 0.0**
RPZ IAmb IAmb 21 36 55.3
comp=Z,12nm,1.0s
MA2 Magadan 73.57 24 P **P** **21 36 50.8 +0.4**
MA2 IAmb IAmb 21 36 51.8
comp=Z,22nm,0.7s
QRZ Quartz Range 73.84 132 P **P** **21 36 52.3 -0.2**
CSS Mathiatis 73.88 308 P **P** **21 36 52.8 0.0**
CSS IAmb IAmb 21 36 55.1
comp=Z,16nm,1.1s
BR131 Keskin Array S 74.99 312 P **P** **21 36 59.6 +0.2**
BRTR Keskin Array B 74.99 312 P **P** **21 36 59.5 +0.2**
comp=Z,6.3nm,0.7s,baz=132,slow=6.7,SNR=17
BOSA Boshof 76.18 241 P **P** **21 37 08.6 +2.3**
comp=Z,1.2nm,0.6s,baz=70,slow=4.7,SNR=3.8
BOSA Boshof 76.18 241 P **P** **21 37 06.6 +0.3**
TIXI Tiksi 76.79 9 P **P** **21 37 07.1 -1.6**
TIXI IAmb IAmb 21 37 09.1
comp=Z,10nm,0.7s
URZ Urewera 76.98 128 P **P** **21 37 10.3 -0.2**
URZ IAmb IAmb 21 37 19.7
comp=Z,24nm,1.1s
ELL Elmali 77.03 309 P **P** **21 37 10.3 -0.6**
ELL IAmb IAmb 21 37 12.9
comp=Z,20nm,1.1s
OBN Obninsk 78.40 328 P **P** **21 37 18.6 +0.7**
comp=Z,2.3nm,0.4s,baz=172,slow=3.4,SNR=2.7
OBN Obninsk 78.40 328 P **P** **21 37 17.6 -0.4**
OBN IAmb IAmb 21 37 19.6
comp=Z,23nm,0.9s
KARP Karpathos 78.92 307 P **P** **21 37 21.6 +0.2**
KLMR Klimovskoe 79.38 334 *e*P **P** **21 37 23.7 +0.5**
KLMR AMP 21 37 25.4
comp=Z,18nm,1.2s
TIRR Tirgusor 80.02 316 P **P** **21 37 26.0 -1.1**
TIRR IAmb IAmb 21 37 43.5
comp=Z,27nm,1.0s
MILM Milestii Mici 80.37 318⇑ P **P** **21 37 29.6 +0.7**
CFR Carcaliu 80.39 317⇑ P **P** **21 37 29.9 +0.9**
HARR Harsova 80.41 316⇑ P **P** **21 37 30.9 +1.7**
IDI Anoyia 80.69 306 P **P** **21 37 30.5 -0.5**
IDI IAmb IAmb 21 37 38.4
comp=Z,26nm,1.1s
VNDA Vanda 80.81 169 P **P** **21 37 32.9 +2.1**
comp=Z,1.4nm,1.0s,baz=311,slow=6.9,SNR=5.1
VNDA Vanda 80.81 169 **P** **21 37 31.3 +0.6**
ALN Alexandroupoli 80.90 312 P **P** **21 37 31.4 -0.4**
ALN IAmb IAmb 21 37 33.1
comp=Z,20nm,1.1s
VASR Vaslui 80.98 318⇑ P **P** **21 37 33.5 +1.3**
SORM Soroca 80.99 320⇑ P **P** **21 37 33.0 +0.8**
AKASG Malin Array Be 81.13 322 P **P** **21 37 31.8 -1.1**
comp=Z,1.4nm,0.5s,baz=88,slow=4.7,SNR=16
AKASG LR LR 22 17 26.8
comp=Z,15nm,20.0s,baz=225,slow=38
VRI Vrincioaia 81.51 317⇑ P **P** **21 37 36.9 +1.8**
NEHR Nehoiu 81.71 317 P **P** **21 37 36.9 +0.8**
TESR Tescani 81.72 318⇑ P **P** **21 37 37.6 +1.4**
MLR Muntele Rosu 81.96 317⇑ P **P** **21 37 39.0 +1.4**
MLR Muntele Rosu 81.96 317 P **P** **21 37 37.2 -0.4**
MLR IAmb IAmb 21 37 40.0
comp=Z,8.6nm,0.9s
BIZ Bicaz 82.18 318⇑ P **P** **21 37 39.9 +1.4**
PRAR RASCA 82.19 318⇑ P **P** **21 37 40.4 +1.8**
DOPR Dopca 82.45 317 P **P** **21 37 40.3 +0.3**
VOIR 82.57 316⇑ P **P** **21 37 41.1 +0.4**
ARR Arges 82.84 316 P **P** **21 37 42.8 +0.7**
BURAR Bucovina Array 82.92 319⇑ P **P** **21 37 44.7 +2.2**
BUR08 Bucovina Ar. S 82.94 319 IAmb IAmb 21 37 45.4
comp=Z,15nm,1.1s
VTS Vitosha 83.30 313⇑ P **P** **21 37 45.4 +0.7**
VTS Vitosha 83.30 313 IAmb IAmb 21 37 46.4
comp=Z,7.5nm,0.8s
AGG Agios Georgios 83.36 310 P **P** **21 37 43.9 -1.0**
AGG IAmb IAmb 21 37 45.5
comp=Z,17nm,1.1s
ITM Ithomi 83.37 308 P **P** **21 37 44.5 -0.5**
ITM IAmb IAmb 21 37 47.9
comp=Z,15nm,0.9s
ARCR ARCALIA 83.38 318⇑ P **P** **21 37 46.8 +2.0**
LVZ Lovozero 84.27 340 P **P** **21 37 48.1 -0.8**
LVZ IAmb IAmb 21 37 49.7
comp=Z,8.0nm,0.8s
HERR Herculane 84.29 316⇑ P **P** **21 37 50.8 +1.4**
MDVR Moldovita 84.76 315⇑ P **P** **21 37 53.3 +1.4**
TRPA Tarpa 84.79 319⇑ P **P** **21 37 53.4 +1.5**
KWP Kalwaria Pacla 84.96 320 P **P** **21 37 53.0 +0.3**
KWP IAmb IAmb 21 37 54.6
comp=Z,5.9nm,0.7s
BZS Buzias 84.97 316⇑ P **P** **21 37 54.2 +1.4**
AMKA Amchitka 85.02 38 P **P** **21 37 51.4 -1.6**
SIRR Siria 85.05 317⇑ P **P** **21 37 54.7 +1.4**
KOLS Kolonicke sedl 85.11 319 *e*P **P** **21 37 55.3 +1.8**
SUW Suwalki 85.52 325 P **P** **21 37 55.3 0.0**
FINES FINESS Array B 85.68 332 P **P** **21 37 56.1 +0.1**
comp=Z,3.6nm,0.9s,baz=121,slow=3.3,SNR=13
FINES PP **PP** **21 41 13.4 -2.3**
comp=Z,1.0nm,0.6s,baz=134,slow=11,SNR=4.3
PDG Podgorica 86.17 313⇓ P **P** **21 37 59.4 +0.5**
SCTE Santa Cesarea 86.46 310 P **P** **21 38 00.4 0.0**
SCTE IAmb IAmb 21 38 11.2
comp=Z,14nm,0.9s
PSZ Piszkesteto 86.50 318⇓ P **P** **21 38 02.2 +1.7**
PSZ Piszkesteto 86.50 318 P **P** **21 38 01.6 +1.1**
PSZ IAmb IAmb 21 38 02.6
comp=Z,5.2nm,0.8s
QSPA South Pole Qui 86.83 180 P **P** **21 38 03.4 +1.6**
VYHS Vyhne 87.28 319 *e*P **P** **21 38 05.0 +0.8**
KEV Kevo 87.51 340 P **P** **21 38 04.4 -0.4**
SRO Srobarova 87.54 318 *e*P **P** **21 38 07.3 +1.9**
TIP Timpagrande 87.67 309 P **P** **21 38 07.6 +1.3**
MATE Matera 87.86 311 P **P** **21 38 08.5 +1.4**
OKC Ostrava-Krasne 87.91 320 *e*P **P** **21 38 08.7 +1.6**
ARCES ARCESS Array B 87.95 340 P **P** **21 38 08.2 +1.2**
comp=Z,4.0nm,0.7s,baz=100,slow=4.7,SNR=19
ARE0 ARCESS Array S 87.95 340 P **P** **21 38 07.3 +0.3**
JAVC Velka Javorina 88.10 319 *e*P **P** **21 38 09.9 +1.7**
MORC Moravsky Berou 88.29 320 P **P** **21 38 11.2 +2.2**
MORC Moravsky Berou 88.29 320 *e*P **P** **21 38 10.2 +1.2**
MORC Moravsky Berou 88.29 320 IAmb IAmb 21 38 11.5
comp=Z,7.9nm,0.8s
MODS Modra-Piesok 88.30 318 *e*P **P** **21 38 09.7 +0.6**
KRLC Kraliky 88.81 320 *e*P **P** **21 38 13.0 +1.5**
KRLC epP **pP** **21 38 28.7 +0.7**
VRAC Vranov 88.85 319 P **P** **21 38 12.5 +0.9**
VRAC Vranov 88.85 319 *e*P **P** **21 38 12.0 +0.4**
DPC Dobruska-Polom 89.14 320 *e*P **P** **21 38 14.8 +1.8**
DPC epP **pP** **21 38 30.2 +0.7**
CONA Conrad Observa 89.20 318 *i* PcP **PcP** **21 38 14.2 -0.6**
comp=Z,2.7nm,1.5s
OSTC Ostas 89.23 321 *e*P **P** **21 38 14.6 +1.2**
CHVC Chvalec 89.33 321 *e*P **P** **21 38 15.4 +1.5**
ARSA Arzberg 89.36 317 *i* PcP **P** **21 38 15.5 +1.4**
comp=Z,5.2nm,0.8s
TREC Trest 89.57 319 *e*P **P** **21 38 16.6 +1.6**
PERS Pernice 89.58 317 *i* P **P** **21 38 16.7 +1.5**
PERS *i* pP **pP** **21 38 32.5 +0.7**
PDKS Podkum 89.61 316 *i* P **P** **21 38 17.0 +1.6**
SOKA Soboth 89.64 317 *i* PcP **P** **21 38 17.1 +1.6**
comp=Z,12nm,0.9s,SNR=9.2
LJU Ljubljana 89.94 316 *i* P **P** **21 38 18.6 +1.8**
LJU *i* pP **pP** **21 38 33.9 +0.6**
OBKA Obir 89.96 316 *i* P **P** **21 38 15.9 -1.1**
comp=Z,3.8nm,0.8s
PRU Pruhonice 90.24 320 *e*P **P** **21 38 19.3 +1.2**
MOA Molln 90.26 318 *i* P **P** **21 38 16.5 -1.7**
comp=Z,1.8nm,0.5s
PVCC Panska Ves 90.27 320 *e*P **P** **21 38 20.0 +1.8**
PBCC Pribram 90.57 320 *e*P **P** **21 38 20.9 +1.2**
MYKA Terra Mystica 90.59 316 *i* PcP **P** **21 38 21.3 +1.4**
comp=Z,2.8nm,0.5s
PRED Cave del Predi 90.64 316 P **P** **21 38 21.3 +1.2**
BRG Berggiesshubel 90.69 321 *i* P **P** **21 38 21.5 +1.3**
comp=Z,6.1nm,0.9s
GEC2 GERESS Array S 90.71 319 P **P** **21 38 20.2 -0.2**
GEC2 IAmb IAmb 21 38 22.8
comp=Z,4.5nm,0.8s
GERES GERESS Array B 90.71 319 P **P** **21 38 21.9 +1.5**
comp=Z,3.2nm,0.7s,baz=84,slow=5.5,SNR=34
KHC Kasperske Hory 90.81 319 *e*P **P** **21 38 22.3 +1.5**
KHC *ex* x 21 38 37.7
KHC Kasperske Hory 90.81 319 P **P** **21 38 20.6 -0.3**
KBA Koelnbreinsper 90.83 317 *i* PcP **P** **21 38 21.4 +0.2**
comp=Z,3.9nm,1.4s
ZOU Zoufplan 91.05 316 P **P** **21 38 21.8 -0.4**
ZOU IAmb IAmb 21 38 30.1
comp=Z,4.0nm,0.8s
CLL Collm 91.31 321 *i* P **P** **21 38 24.4 +1.4**
comp=Z,5.0nm,0.9s
ABTA Abfaltersbach 91.38 317 *i* PcP **P** **21 38 24.1 +0.5**
comp=Z,5.4nm,1.0s
CIMO Cimolais 91.41 316 P **P** **21 38 24.7 +1.0**
HFS Hagfors 91.47 330 P **P** **21 38 24.3 +0.7**
comp=Z,3.3nm,0.7s,baz=90,slow=4.4,SNR=6.6
CTI Castel Tesino 91.94 316 P **P** **21 38 26.9 +0.6**
WTTA Wattenberg 92.00 317 *i* PcP **P** **21 38 27.3 +0.7**
comp=Z,7.5nm,0.9s
WATA Walderalm 92.05 317 *i* PcP **P** **21 38 27.3 +0.6**
comp=Z,2.9nm,0.5s
SQTA Sankt Quirin 92.29 317 *i* PcP **P** **21 38 28.6 +0.7**
comp=Z,6.6nm,0.6s
MOTA Moosalm 92.37 317 *i* PcP **P** **21 38 28.7 +0.5**
comp=Z,6.0nm,0.7s,SNR=5.4
RETA Reutte 92.60 317 *i* PcP **P** **21 38 30.3 +1.1**
comp=Z,5.8nm,0.6s
FETA Feichten 92.61 317 *i* PcP **P** **21 38 30.2 +0.8**
comp=Z,4.3nm,0.8s
NC303 NORSAR Array S 92.66 331 P **P** **21 38 28.7 -0.3**
NB2 NORSAR Subarra 92.73 331 P **P** **21 38 29.7 +0.3**
comp=Z,1.5nm,0.8s,baz=83,slow=7.4
NOA NORSAR Array B 92.73 331 P **P** **21 38 29.1 -0.3**
comp=Z,1.0nm,0.7s,baz=94,slow=4.5,SNR=3.9
NOA LR LR 22 23 49.3
comp=Z,20nm,21.8s,baz=175,slow=38
FUORN Ofenpass-Fuorn 92.92 316 P **P** **21 38 30.6 -0.3**
FUORN IAmb IAmb 21 38 33.3
comp=Z,6.2nm,0.8s
DAVA Damuels 93.20 317 *i* PcP **P** **21 38 33.1 +1.0**
comp=Z,5.9nm,0.7s
KEST Kesra 93.34 305 P **P** **21 38 35.5 +2.6**
comp=Z,3.2nm,0.7s,baz=316,slow=5.0,SNR=4.4
KEST Kesra 93.34 305 P **P** **21 38 33.4 +0.5**
KEST IAmb IAmb 21 38 36.0
comp=Z,4.2nm,0.8s
NVAR Mina Array Bea 129.69 41 SKPbc SKPbc 21 47 44.2 -0.2
comp=Z,1.2nm,0.7s,baz=247,slow=3.1,SNR=4.2
PDAR Pinedale Array 131.96 30 PKP **PKPdf** **21 44 31.8 +0.4**
comp=Z,0.3nm,0.4s,baz=233,slow=1.5,SNR=5.1
PDAR SKPbc **SKPbc** **21 47 51.0 -1.5**
comp=Z,0.9nm,0.9s,baz=318,slow=2.0,SNR=5.4
CPUP Villa Florida 144.10 214 PKP **PKPdf** **21 44 53.3 -0.4**
comp=Z,1.9nm,0.8s,baz=168,slow=4.0,SNR=4.7
BDFB Brasilia 144.30 238 PKP **PKPdf** **21 44 55.1 +0.6**
comp=Z,2.6nm,0.4s,baz=72,slow=5.3,SNR=4.0
TXAR Lajitas Array 144.83 40 PKP **PKPdf** **21 44 54.8 -0.3**
comp=Z,9.2nm,0.7s,baz=297,slow=1.2,SNR=120
LPAZ La Paz 158.01 208 PKP **PKPdf** **21 45 17.8 +1.9**
comp=Z,0.8nm,0.8s,baz=139,slow=9.3,SNR=4.2
PTGA Pitinga 160.81 259 PKPab **PKPab** **21 46 03.2 +2.3**
comp=Z,1.9nm,0.7s,baz=82,slow=10,SNR=3.1

NEIC ***01*** *21:47:04.5±2.1, 12°.00N±0°.07×95°.13E±0°.03, h10km±1km, mb4.6/18, Error ellipse: s-maj=12.7km s-min=4.1km az=185.0*

IDC ***01*** *21:47:06.5±1.6, 12°.16N×95°.10E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.5/37, mbtmp3.7/7, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.5/38, Error ellipse: s-maj=49.1km s-min=29.2km az=53.0*

ISC 01 21:47:06.4±0.6, **11°.97N**±0°.08×**95°.20E**±0°.10, **h21**km, **n34,** σ1**s38**/31, **mb4.3**/15, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**2.42**	**263**	Pn	Pn	21 47 43.0	-1.8
SRIT	**Nakonsritamara**	**5.48**	**127**	Pn	**Pn**	**21 48 27.6**	**+0.6**
LHMI	**Lhok Sumawe**	**6.92**	**165**	Pn	**Pn**	**21 48 46.2**	**-0.5**
PBKT	**Sadao Pong**	**7.23**	**50**		**Pn**	**21 48 49.0**	**-1.8**
CM31	**Chiang Mai Arr**	**7.39**	**29**	Pn	**Pn**	**21 48 51.3**	**-1.9**
CMAR	**Chiang Mai Arr**	**7.39**	**29**	Pn	**Pn**	**21 48 55.9**	**+2.7**
	0.1nm,0.3s,baz=224,slow=17,SNR=3.0						
KULM	**Kulim**	**8.55**	**140**	Pn	**Pn**	**21 49 09.6**	**+0.4**
IPM	**Ipoh**	**9.42**	**142**	Pn	**Pn**	**21 49 22.0**	**+1.0**
KSM	**Kuching**	**18.26**	**124**	P	**P**	**21 51 18.7**	**-0.1**
SBUM	**Sibu**	**19.34**	**118**	P	**P**	**21 51 29.5**	**-1.1**
HKPS	**Hong Kong Po S**	**20.78**	**58**	P	**P**	**21 51 45.6**	**-0.7**
HKPS				IAmb	IAmb	21 51 52.5	
	comp=Z,32nm,1.1s						
KKM	**Kota Kinabalu**	**21.57**	**104**	P	**P**	**21 51 55.6**	**+0.6**
KKM				IAmb	IAmb	21 51 58.5	
	comp=Z,19nm,1.1s						
COCO	**West Island**	**24.06**	**176**	P	**P**	**21 52 19.7**	**-0.7**
XMIS	**Christmas Isla**	**24.61**	**155**	P	**P**	**21 52 25.3**	**-0.2**
TGY	**Tagaytay City**	**25.16**	**82**	LR	LR	22 01 15.7	
	comp=Z,208nm,20.0s,baz=264,slow=34						
MKAR	**Makanchi Array**	**36.38**	**345**	P	**P**	**21 54 10.1**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=177,slow=12,SNR=2.5						
SOCY	**Socotra**	**40.27**	**275**	P	**P**	**21 54 40.2**	**-2.2**
KURBB	**Kurchatov Arra**	**40.89**	**344**	P	**P**	**21 54 47.9**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=153,slow=7.8,SNR=7.3						
KURK	**Kurchatov**	**40.95**	**344**	P	**P**	**21 54 46.8**	**-0.6**
PSA00	**Pilbara Seismi**	**41.20**	**144**	P	**P**	**21 54 51.9**	**+2.0**
PSA00				IAmb	IAmb	21 55 08.9	
	comp=Z,11nm,1.1s						
GEYT	**Alibeck**	**41.97**	**315**	P	**P**	**21 54 59.0**	**+2.9**
	comp=Z,1.6nm,0.6s,baz=143,slow=14,SNR=3.7						
ZALV	**Zalesovo Beam**	**42.67**	**351**	P	**P**	**21 55 02.6**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=167,slow=7.2,SNR=3.0						
INU	**Inuyama**	**44.37**	**51**	P	**P**	**21 55 15.6**	**0.0**
INU				IAmb	IAmb	21 55 19.6	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**49.90**	**129**	P	P	21 56 03.6	+4.7
	comp=Z,0.9nm,0.8s,baz=307,slow=8.2,SNR=2.5						
BUR08	**Bucovina Ar. S**	**67.78**	**317**	P	**P**	**21 58 02.3**	**-0.6**
GERES	**GERESS Array B**	**75.50**	**318**	P	**P**	**21 58 51.5**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=98,slow=5.5,SNR=6.2						
CIMO	**Cimolais**	**76.46**	**315**	P	**P**	**21 58 54.4**	**-0.5**
CIMO				IAmb	IAmb	21 58 57.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.1nm,0.8s						
MURB	Monte Urbino	76.59	312	P	P	21 58 55.0	-0.6
MURB				IAmb	IAmb	21 59 04.1	
	comp=Z,3.4nm,0.5s						
CTI	Castel Tesino	77.03	315	P	P	21 58 58.0	-0.1
CTI				IAmb	IAmb	21 58 59.5	
	comp=Z,3.3nm,1.1s						
KBS	Kingsbay	77.03	349	P	P	21 58 57.1	-0.3
KBS				IAmb	IAmb	21 59 06.0	
	comp=Z,11nm,1.0s						
MSSA	Maissana	78.67	313	P	P	21 59 07.5	+0.2
MSSA				IAmb	IAmb	21 59 08.8	
	comp=Z,14nm,1.1s						
BSWZ	Blackbirch Sta	89.59	133	P	P	22 00 02.1	-0.5
SKT	Skwentna	90.05	26	P	P	22 00 03.2	-1.4
SKT				IAmb	IAmb	22 00 06.8	
	comp=Z,3.2nm,1.1s						
SUCK	Suckling Hills	94.28	26	P	P	22 00 21.7	-2.4

*IDC **01** 22:03:13.7±1.9, 44°.30N×80°.86E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.3/39, mbtmp3.7/4, ML3.3/3, Error ellipse: s-maj=38.2km s-min=15.4km az=122.0*
*NNC **01** 22:03:18.0±0.9, 44°.39N×80°.80E, h7km±5km, mb4.2, mpv4.1, Error ellipse: s-maj=6.7km s-min=3.9km az=116.0*
*BJI **01** 22:03:18.5±0.0, 44°.38N×80°.99E, h8km, ML3.3/8*
*SOME **01** 22:03:19.6, 44°.37N×80°.73E, h20km*
ISC 01 22:03:16.1±1.3**, 44°.38N**±0°.03×**81°.02E**±0°.04**, h12**km±10km**, n56,** σ**1s.56**/86**, 18C-13D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	0.88	268	eP	Pb	22 03 32.9	-0.5
	305nm,0.2s						
DJR				eS	Sb	22 03 42.5	-2.7
	307nm,0.1s						
DJR	Jarkent	0.88	268	P	Pb	22 03 32.9	-0.5
	305nm,0.2s						
DJR				S	Sb	22 03 43.4	-1.8
	307nm,0.1s						
KAPS	Kapalarasan	1.49	308	eP	Pb	22 03 43.5	-0.3
	128nm,0.1s						
KAPS				eS	Sn	22 04 01.3	-1.0
	630nm,0.3s						
KAPS	Kapalarasan	1.49	308	P	Pb	22 03 43.5	-0.3
	128nm,0.1s						
KAPS				S	Sn	22 04 01.3	-1.0
	630nm,0.3s						
PDGK	Podgornoye	1.52	227	P	Pn	22 03 44.4	+1.1
	98nm,0.1s						
PDGK				S	Sn	22 04 02.8	-0.4
	201nm,0.4s						
PDGK	Podgornoye	1.52	227	⇓P	Pn	22 03 43.6	+0.4
	19nm,0.1s						
PDGK				⇑S	Sn	22 04 02.7	-0.4
	345nm,0.6s						
SHLS	Shalkode	1.66	223	eP	Pn	22 03 43.0	-2.2
	442nm,0.2s						
SHLS				eS	Sn	22 04 00.5	-6.0
	683nm,0.3s						
SHLS	Shalkode	1.66	223	P	Pn	22 03 43.5	-1.7
	442nm,0.2s						
SHLS				S	Sn	22 04 01.9	-4.6
	683nm,0.3s						
UZB	Uzynbulak	1.90	230	eP	Pn	22 03 50.2	+1.8
	102nm,0.2s						
UZB				eS	Sn	22 04 13.4	+1.1
	563nm,0.2s						
UZB	Uzynbulak	1.90	230	P	Pn	22 03 50.2	+1.8
	102nm,0.2s						
UZB				S	Sn	22 04 13.4	+1.1
	563nm,0.2s						
TDK	Taldyqorghan	1.97	290	eP	Pb	22 03 50.9	-0.9
	233nm,0.4s						
TDK				eS	Sb	22 04 14.7	-1.7
	392nm,0.1s						
TDK	Taldyqorghan	1.97	290	P	Pb	22 03 51.5	-0.4
	233nm,0.4s						
TDK				S	Sb	22 04 15.2	-1.1
	879nm,0.2s						
KURS	Kuram	2.24	248	eP	Pb	22 03 56.4	-0.1
	30nm,0.3s						
KURS				eS	Sb	22 04 24.1	-0.2
	80nm,0.4s						
KURS	Kuram	2.24	248	Pg	Pb	22 03 56.4	-0.1
	30nm,0.3s						
KURS				Lg	Lg	22 04 24.0	
	80nm,0.4s						
ARXS	Arharly	2.30	267	eP	Pb	22 03 57.3	-0.2
	26nm,0.4s						
ARXS				eS	Sb	22 04 25.6	-0.3
	468nm,0.3s						
ARXS	Arharly	2.30	267	Pg	Pb	22 03 57.3	-0.2
	26nm,0.4s						
ARXS				Lg	Lg	22 04 25.6	
	468nm,0.3s						
SATY	Saty	2.31	236	eP	Pb	22 03 57.5	-0.2
	114nm,0.3s						
SATY				eS	Sb	22 04 26.1	-0.1
	1μm,0.3s						
SATY	Saty	2.31	236	Pg	Pb	22 03 57.5	-0.2
	114nm,0.3s						
SATY				Lg	Lg	22 04 26.1	
	1μm,0.3s						
MAKZ	Makanchi	2.52	15	⇑Pg	Pg	22 04 07.3	+2.8
	9.3nm,0.3s						
MAKZ				⇑Lg	Lg	22 04 35.8	
	48nm,0.3s						
MK31	Makanchi Array	2.58	20	⇑Pn	Pn	22 04 00.1	+2.4
	6.1nm,0.3s,baz=203,slow=12,SNR=788						
MK31				⇑Lg	Lg	22 04 36.7	
	25nm,0.3s,baz=204,slow=26,SNR=12						
MKAR	Makanchi Array	2.58	20	Pn	Pn	22 04 00.5	+2.7
	3.7nm,0.3s,baz=207,slow=15,SNR=185						
MKAR				Sn	Sb	22 04 33.5	-0.5
	24nm,0.3s,baz=222,slow=18,SNR=11						
MKAR				Lg	Lg	22 04 39.3	
	50nm,0.3s,baz=198,slow=31,SNR=4.7						
CHKK	Chushkaly	2.95	261	eP	Pb	22 04 08.2	-0.4
	23nm,0.2s						
CHKK				eS	Sb	22 04 44.3	-0.3
	365nm,0.2s						
CHKK	Chushkaly	2.95	261	Pg	Pb	22 04 08.2	-0.4
	23nm,0.2s						
CHKK				Lg	Lg	22 04 44.3	
	365nm,0.2s						
KOTS	Kotyrbulak	3.05	249	eP	Pb	22 04 11.0	+0.6
	87nm,0.2s						
KOTS				eS	Sb	22 04 48.2	+0.6
	191nm,0.3s						
KOTS	Kotyrbulak	3.05	249	Pg	Pb	22 04 11.0	+0.6
	87nm,0.2s						
KOTS				Lg	Lg	22 04 48.2	
	191nm,0.3s						
MDOK	Medeo	3.12	249	eP	Pb	22 04 12.4	+0.8
	24nm,0.3s						
MDOK				eS	Sb	22 04 50.1	+0.4
	125nm,0.4s						
MDOK	Medeo	3.12	249	⇓Pg	Pb	22 04 13.8	+2.2
	13nm,0.4s						
MDOK				⇑Lg	Lg	22 04 55.2	
	28nm,0.4s						
MDOK	Medeo	3.12	249	Pg	Pb	22 04 12.4	+0.8
	24nm,0.3s						
MDOK				Lg	Lg	22 04 50.1	
	125nm,0.4s						
KNDC	Almaty	3.15	250	⇑Pg	Pg	22 04 18.5	+2.0
	26nm,0.3s						
KNDC				⇓Lg	Lg	22 04 56.1	
	59nm,0.3s						
AAA	Alma-Ata	3.19	250	eP	Pb	22 04 13.8	+1.0
AAA				eS	Sb	22 04 52.5	+0.9
	84nm,0.2s						
AAA	Alma-Ata	3.19	250	Pg	Pb	22 04 13.8	+1.0
AAA				Lg	Lg	22 04 52.5	
	84nm,0.2s						
KTBS	Karatobe	3.20	260	eP	Pb	22 04 12.8	0.0
	13nm,0.2s						
KTBS				eS	Sb	22 04 51.6	-0.1
	172nm,0.5s						
KTBS	Karatobe	3.20	260	Pg	Pb	22 04 12.8	0.0
	13nm,0.2s						
KTBS				Lg	Lg	22 04 51.6	
	172nm,0.5s						
TNSS	Tian-Shan	3.24	247	eP	Pb	22 04 14.7	+0.9
	36nm,0.3s						
TNSS				eS	Sb	22 04 54.3	+0.9
	124nm,0.3s						
TNSS	Tian-Shan	3.24	247	Pg	Pb	22 04 14.7	+0.9
	36nm,0.3s						
TNSS				Lg	Lg	22 04 54.3	
	124nm,0.3s						
KUU	Kurty	3.40	263	eP	Pb	22 04 16.6	+0.2
	9.4nm,0.3s						
KUU				eS	Sb	22 04 57.7	0.0
	194nm,0.2s						
KUU	Kurty	3.40	263	Pg	Pb	22 04 16.5	+0.2
	9.4nm,0.3s						
KUU				Lg	Lg	22 04 57.7	
	194nm,0.2s						
MTBS	Maitube	3.55	251	eP	Pb	22 04 19.3	+0.4
	33nm,0.3s						
MTBS				eS	Sb	22 05 02.8	+0.8
	171nm,0.3s						
MTBS	Maitube	3.55	251	Pg	Pb	22 04 19.3	+0.4
	33nm,0.3s						
MTBS				Lg	Lg	22 05 02.8	
	171nm,0.3s						
KST	Kastek	3.90	252	eP	Pb	22 04 26.7	+1.8
	27nm,0.4s						
KST				eS	Sb	22 05 14.1	+2.0
	58nm,0.5s						
KST	Kastek	3.90	252	Pg	Pb	22 04 26.7	+1.8
	27nm,0.4s						
KST				Lg	Lg	22 05 14.1	
	58nm,0.5s						
ZSN	Zaisan	4.08	40	eP	Pg	22 04 32.4	-1.9
	17nm,0.2s						
ZSN				eS	Sg	22 05 24.8	-2.3
	89nm,0.4s						
ZSN	Zaisan	4.08	40	Pg	Pg	22 04 32.4	-1.9
	17nm,0.2s						
ZSN				Lg	Lg	22 05 24.8	
	89nm,0.4s						
TKM2	Tokmak 2	4.20	252	⇓Pn	Pn	22 04 23.2	+3.1
	6.0nm,0.6s						
TKM2				⇓Pg	Pg	22 04 35.4	-1.1
	7.2nm,0.5s						
TKM2				⇓Lg	Lg	22 05 28.9	
	24nm,0.3s						
WMQ	Urumqi	4.84	94	ePn	Pn	22 04 32.8	+4.0
WMQ				Sg	Sg	22 05 50.0	-1.4
WMQ				smax	smax		
	comp=N,21nm,1.1s						
WMQ				smax	smax		
	comp=E,23nm,0.9s						
AAK	Ala-Archa	5.05	252	⇑Pg	Pg	22 04 53.0	+0.1
	4.5nm,0.4s						
AAK				⇑Lg	Lg	22 05 56.6	
	21nm,0.5s						
KURBB	Kurchatov Arra	6.47	346	⇑Pn	Pn	22 04 51.8	+0.7
	2.2nm,0.3s						
KURBB				⇑Lg	Lg	22 06 39.7	
	79nm,0.7s						
KURK	Kurchatov	6.55	347	⇓Pn	Pn	22 04 52.7	+0.5
	8.1nm,0.7s						
KURK				⇑Lg	Lg	22 06 43.2	
	54nm,0.7s						
OTUK	Ortayu	7.15	306	⇓Lg	Lg	22 07 02.1	
	32nm,0.9s						
KK31	Karatay Array	7.72	264	⇓Pg	Pb	22 05 37.3	+7.5
	0.7nm,0.3s,baz=71,slow=15,SNR=4.5						
KK31				⇓Lg	Lg	22 07 22.0	
	5.2nm,0.5s,baz=78,slow=23,SNR=8.0						
ZAA0	Zalesovo Array	9.90	13	⇑Pn	Pn	22 05 38.1	0.0
	0.3nm,0.5s						
ZAA0				⇑Sn	Sn	22 07 30.5	+1.5
	0.4nm,0.4s						
ZAA0				⇑Lg	Lg	22 08 33.5	
	1.7nm,0.8s						
ZALV	Zalesovo Beam	9.90	13	Pn	Pn	22 05 39.2	+1.1
	0.7nm,0.3s,baz=199,slow=14,SNR=12						
ZALV				Sn	Sn	22 07 30.5	+1.5
	0.9nm,0.3s,baz=219,slow=27,SNR=4.9						
ZALV				Lg	Lg	22 08 30.2	
	0.6nm,0.3s,baz=189,slow=28,SNR=5.1						
BVA0	Borovoye Array	11.14	325	⇑Pn	Pn	22 05 53.7	-1.3
	0.9nm,0.9s,baz=142,slow=14,SNR=9.9						
BVA0				⇓Sn	Sn	22 08 01.1	+1.7
	1.2nm,0.6s						
BVA0				⇓Lg	Lg	22 09 07.3	
	12nm,1.0s,baz=130,slow=27,SNR=4.4						
BRVK	Borovoye	11.20	325	⇓Pn	Pn	22 05 55.4	-0.6
	2.4nm,0.8s						
BRVK				⇑Sn	Sn	22 07 59.7	-1.3
	2.7nm,0.7s						
BRVK				⇑Lg	Lg	22 09 08.2	
	15nm,1.2s						
SONM	Songino Array	17.91	70	P	P	22 07 26.4	+0.8
	0.3nm,0.3s,baz=258,slow=8.6,SNR=5.9						
TORD	Torodi Ar. Bea	73.33	272	P	P	22 14 46.5	-1.3
	0.3nm,0.4s,baz=40,slow=4.8,SNR=6.5						

*MOS **01** 22:08:36.4±1.1, 44°.84N×149°.66E, h40km, mb4.0/1, Error ellipse: s-maj=28.2km s-min=15.5km az=147.8*
*SKHL **01** 22:08:36.3±0.8, 44°.86N×149°.74E, h57km±3km, mb4.0/3*
*JMA **01** 22:08:39.0±1.0, 45°.06N×149°.40E, h30km, M4.0*
*IDC **01** 22:08:45.8±3.0, 45°.57N×148°.68E, h124km±29km, mb3.1/4, mb1 3.3/6, mb1mx3.1/29, mbtmp3.5/6, MS2.8/5, Ms1 2.8/5, ms1mx2.6/16, Error ellipse: s-maj=42.6km s-min=20.3km az=137.0*
ISC 01 22:08:38.4±1.8**, 44°.84N**±0°.09×**149°.6E**±0°.1**, h44**km±22km**, n43,** σ**1s.44**/44**, mb3.4**/4**, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.28	289	iP	Pn	22 08 58.5	-1.3
KUR				AMB	AMB	22 08 59.0	
	60nm,0.3s						
KUR				eS	Sn	22 09 14.4	-1.4
KUR				A	A	22 09 16.0	
	260nm,0.2s						
KUR				A	A	22 09 16.0	
	230nm,0.2s						
KUR	Kuril'sk	1.28	289	d iPN	Pn	22 08 58.8	-1.0
KUR				eS	Sn	22 09 13.8	-2.0
KUR				pmax	pmax		
	comp=N,264nm,0.1s						
KUR				pmax	pmax		
	comp=E,128nm,0.1s						
KUR				pmax	pmax		
	comp=Z,621nm,0.1s						
KUR				smax	smax		
	comp=N,507nm,0.2s						
KUR				smax	smax		
	comp=E,473nm,0.2s						
YUK	Yuzh-Kuril'sk	2.79	255	eP	Pn	22 09 20.0	-0.4
YUK				AMB	AMB	22 09 23.0	
	comp=E,10.0nm,0.2s						
YUK				eS	Sn	22 09 52.5	-0.3
YUK				A	A	22 10 02.0	
	comp=E,210nm,0.3s						
YUK				A	A	22 10 02.0	
	comp=E,90nm,0.3s						
YUK	Yuzh-Kuril'sk	2.79	255	PN	Pn	22 09 20.0	-0.4
YUK				eS	Sn	22 09 52.3	-0.5
YUK				pmax	pmax		
	comp=N,20nm,0.2s						
YUK				pmax	pmax		
	comp=E,41nm,0.2s						
YUK				pmax	pmax		
	comp=Z,122nm,0.2s						
YUK				smax	smax		
	comp=N,206nm,0.3s						
YUK				smax	smax		
	comp=E,88nm,0.1s						
GRPR	Tuman	2.86	254	eP	Pn	22 09 21.1	-0.4
GRPR				AMB	AMB	22 09 23.0	
	comp=E,10.0nm,0.2s						
GRPR				eS	Sn	22 09 55.0	+0.4
GRPR				A	A	22 10 00.0	
	comp=E,170nm,0.3s						
GRPR				A	A	22 10 00.0	
	comp=E,190nm,0.3s						
GRPR	Tuman	2.86	254	ePN	Pn	22 09 21.1	-0.4
GRPR				eS	Sn	22 09 56.0	+1.4
GRPR				pmax	pmax		
	comp=Z,143nm,0.2s						
GRPR				pmax	pmax		
	comp=N,48nm,0.1s						
GRPR				pmax	pmax		
	comp=E,69nm,0.1s						
GRPR				smax	smax		
	comp=N,172nm,0.3s						
GRPR				smax	smax		
	comp=E,191nm,0.3s						
NEM2	Nemuro 2	3.13	243	P	Pn	22 09 24.5	-0.7
NEM2				eS	Sn	22 09 58.5	-2.9
NMR	Nemuro--Hokkai	3.14	243	eP	Pn	22 09 24.4	-0.9
NMR				eS	Sn	22 10 01.1	-0.5
NMR	Nemuro--Hokkai	3.14	243	ePN	Pn	22 09 24.4	-0.9
NMR				eS	Sn	22 10 01.3	-0.3
JRA	Rausu	3.32	256	P	Pn	22 09 28.9	+1.1
JNK	Nakash	3.72	252	P	Pn	22 09 34.3	+1.1
JAK	Akkeshi	3.98	244	P	Pn	22 09 36.7	-0.2
JTKR	Abashiri--Toko	4.16	260	P	Pn	22 09 41.2	+1.9
JAR	Ashorobuto	4.46	252	P	Pn	22 09 45.1	+1.6
JOB	Onbets	4.59	247	P	Pn	22 09 46.2	+1.0
JKK2	Kamakawa 2	5.00	261	P	Pn	22 09 53.7	+2.9
JCH	Churui	5.03	246	P	Pn	22 09 52.8	+1.6
JCH				eS	Sn	22 10 47.2	-0.8
JKA	Kamikawa-asahi	5.05	264	eP	Pn	22 09 53.7	+2.1
ASAJ	Asahikawa	5.05	264	P	Pn	22 09 53.7	+2.1
	comp=E,1.4nm,0.3s,baz=90,slow=13,SNR=8.6						
ASAJ				LR	LR	22 11 51.0	
	comp=E,95nm,21.8s,baz=108,slow=41						
ASAJ	Asahikawa	5.05	264	P	Pn	22 09 53.7	+2.1
JNBK	Urakawa-nobuka	5.58	245	P	Pn	22 09 59.8	+0.9
JBT2	Biratori 2	5.62	251	P	Pn	22 10 00.2	+0.9
JNB	Noboribetsu	6.64	252	P	Pn	22 10 14.9	+1.6
JNB				eS	Sn	22 11 27.5	-0.1
JKB	Kayabe	6.89	248	P	Pn	22 10 17.7	+0.9
JKB				eS	Sn	22 11 31.4	-2.5
JANG	Nango	7.44	236	P	Pn	22 10 23.2	-1.1
JANG				eS	Sn	22 11 40.0	-7.3
JTM	Tenmabayashi	7.46	240	P	Pn	22 10 25.3	+0.7
JSR	Shiriuchi	7.47	247	P	Pn	22 10 25.3	+0.6
PETK	Petropavlovsk-	9.84	30	P	Pn	22 10 58.9	+1.8
	comp=E,0.1nm,0.3s,baz=198,slow=14,SNR=5.2						
PETK				LR	LR	22 14 40.2	
	comp=E,23nm,18.7s,baz=243,slow=37						
KLR	Kul'dur	12.93	296	LR	LR	22 16 13.0	
	comp=E,46nm,20.5s,baz=115,slow=37						
KSRS	Korea Array	17.87	253	LR	LR	22 19 27.9	
	comp=E,24nm,18.4s,baz=190,slow=37						
H11N1	WAKE ISLAND Hy	28.89	145	T	T	22 45 23.6	
	baz=334,slow=74,SNR=513						
H11N3	WAKE ISLAND Hy	28.89	145	T	T	22 45 23.9	
	baz=179,slow=74,SNR=630						
H11S1	WAKE ISLAND Hy	29.89	146	T	T	22 46 40.7	
	baz=335,slow=76,SNR=612						
H11S3	WAKE ISLAND Hy	29.90	146	T	T	22 46 41.2	
	baz=335,slow=76,SNR=373						
H11S2	WAKE ISLAND Hy	29.91	146	T	T	22 46 38.7	
	baz=335,slow=76,SNR=342						
ILAR	Eielson Array	39.57	37	P	P	22 16 03.0	-1.9
	comp=E,0.4nm,0.7s,baz=271,slow=7.0,SNR=6.0						
ILAR	Eielson Array	39.57	37	P	P	22 16 03.0	-1.9
MKAR	Makanchi Array	45.63	298	P	P	22 16 45.7	-8.7
	comp=E,0.4nm,0.8s,baz=57,slow=10,SNR=1.3						
MKAR				LR	LR	22 36 42.4	
	comp=E,30nm,18.3s,baz=90,slow=38						
ASAR	Alice Springs	69.66	195	P	P	22 19 44.8	+1.5
	comp=E,0.6nm,0.8s,baz=19,slow=4.2,SNR=4.9						
TXAR	Lajitas Array	80.59	58	P	P	22 20 46.1	-0.4
	comp=E,0.5nm,0.9s,baz=270,slow=3.5,SNR=3.7						
H03N2	Juan Fernandez	141.21	90	T	T	01 05 42.2	
	baz=305,slow=77,SNR=16						
H03N3	Juan Fernandez	141.23	90	T	T	01 05 49.2	
	baz=305,slow=77,SNR=13						
H03N1	Juan Fernandez	141.23	90	T	T	01 05 50.4	
	baz=305,slow=77,SNR=14						

*JMA **01** 22:15:28.1±0.1, 24°.82N×122°.17E, h112km±2km, M2.3*
*TAP **01** 22:15:28.6, 24°.88N×122°.19E, h107km, ML3.2, D*
ISC 01 22:15:29.3±1.6**, 24°.84N**±0°.05×**122°.21E**±0°.03**, h102**km±9km**, n84,** σ**0s.72**/138**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.25	272	eP	Pn	22 15 43.8	0.0
	baz=259						
TWB1	Santiao Chiao	0.26	310	eP	Pn	22 15 43.9	0.0
	baz=305						
TWB1				eS	Sn	22 15 55.1	+0.2
	baz=305						
NTC	Toucheng	0.35	273	eP	Pn	22 15 44.3	0.0
	baz=265						
TIPB	Shuangxi	0.37	291	P	Pn	22 15 44.6	+0.1
	baz=285						
TWC	Suao	0.40	235	eP	Pn	22 15 44.6	0.0
	baz=227						
TWC				eS	Sn	22 15 55.1	-1.0
	baz=227						
NWF	Wu-fen Shan	0.45	301	eP	Pn	22 15 45.1	0.0
	baz=296						
WFSB	Wu-fen Shan	0.45	301	eP	Pn	22 15 45.2	+0.2
	baz=296						
TWE	Neicheng	0.51	257	eP	Pn	22 15 45.4	+0.1
	baz=250						
TWE				eS	Sn	22 15 56.3	-1.0
	baz=250						
ENAH	Nanao	0.53	223	eP	Pn	22 15 45.9	+0.4
	baz=218						
ENAH				eS	Sn	22 15 58.6	+1.0
	baz=218						
TWA	Mucha	0.59	284	eP	Pn	22 15 45.5	-0.4
	baz=279						
ENA	Nanau	0.59	226	eP	Pn	22 15 46.3	+0.3
	baz=221						
ENA				eS	Sn	22 15 59.1	+0.7
	baz=221						
ENTT	Nioudou	0.62	252	eP	Pn	22 15 46.6	+0.4
	baz=246						
ENTT				eS	Sn	22 16 00.3	+1.4
	baz=246						
NHDH	Xindian Distri	0.63	282	eP	Pn	22 15 46.0	-0.3
	baz=277						
NHDH				eS	Sn	22 15 59.8	+0.7
	baz=277						
NWLT	Wulai	0.65	265	eP	Pn	22 15 46.2	-0.2
	baz=260						
NWLT				eS	Sn	22 15 59.2	-0.1
	baz=260						
YM01	YM01	0.66	298	eP	Pn	22 15 46.4	-0.2
	baz=295						
YM01				eS	Sn	22 15 59.7	+0.1
	baz=295						
YM08	YM08	0.66	302	eP	Pn	22 15 46.2	-0.4
	baz=299						
YM11	YM11	0.66	300	eP	Pn	22 15 45.7	-0.9
	baz=296						
YM11				eS	Sn	22 15 59.5	-0.1
	baz=296						
YM05	YM05	0.67	299	eP	Pn	22 15 45.9	-0.8
	baz=296						
YM05				eS	Sn	22 15 59.7	-0.1
	baz=296						
YM10	YM10	0.67	298	eP	Pn	22 15 46.1	-0.5
	baz=295						
YM10				eS	Sn	22 15 57.9	-1.9
	baz=295						
NDT	Datong Townshi	0.68	250	eP	Pn	22 15 47.4	+0.7
	baz=245						
NDT				eS	Sn	22 15 59.6	-0.1
	baz=245						
YM04	YM04	0.69	297	eP	Pn	22 15 46.0	-0.8
	baz=294						
YM04				eS	Sn	22 15 58.8	-1.2
	baz=294						
YM03	YM03	0.70	299	eP	Pn	22 15 45.7	-1.2
	baz=296						
TWY	Chenhua	0.70	308	eP	Pn	22 15 46.5	-0.4
	baz=306						
NTST	Danshui	0.76	295	eP	Pn	22 15 46.9	-0.5
	baz=292						
NTST				eS	Sn	22 16 02.5	+1.4
	baz=292						
TWS1	Kuangyinshan	0.77	290	eP	Pn	22 15 47.4	-0.1
	baz=287						
TWS1				eS	Sn	22 16 02.2	+1.1
	baz=287						
JYNG	Yonagunijimaku	0.77	120	P	Pn	22 15 47.7	+0.2
JYNG				eS	Sn	22 16 02.0	+0.8
YHNB	Yeheng	0.78	258	eP	Pn	22 15 47.6	-0.1
	baz=253						
YHNB				eS	Sn	22 16 01.2	-0.3
	baz=253						

NSK	**Sanguang** baz=254	**0.79**	**258**	*eP*	**Pn**	**22 15 47.7**	**-0.1**
NSK	baz=254			*eS*	**Sn**	**22 16 01.5**	**-0.2**
YOJ	**Yonaguni jima**	**0.82**	**117**	P	**Pn**	**22 15 48.1**	**+0.1**
YOJ				*eS*	**Sn**	**22 16 02.7**	**+0.7**
NNSH	**Datong** baz=238	**0.85**	**242**	*eP*	**Pn**	**22 15 48.8**	**+0.3**
NNSH	baz=238			*eS*	**Sn**	**22 16 02.9**	**0.0**
NNSB	**Datong** baz=238	**0.86**	**242**	*eP*	**Pn**	**22 15 48.8**	**+0.3**
NNSB	baz=238			*eS*	**Sn**	**22 16 03.3**	**+0.3**
NNS	**Nan Shan** baz=238	**0.86**	**243**	*eP*	**Pn**	**22 15 48.9**	**+0.4**
NNS	baz=238			*eS*	**Sn**	**22 16 03.3**	**+0.3**
NACB	**Ninganchiao** baz=217	**0.87**	**220**	*eP*	**Pn**	**22 15 47.9**	**-0.6**
NACB	baz=217			*eS*	**Sn**	**22 16 02.8**	**-0.1**
WLTB	**Daxi** baz=267	**0.87**	**271**	*eP*	**Pn**	**22 15 48.8**	**+0.4**
WLTB	baz=267			*eS*	**Sn**	**22 16 03.7**	**+0.8**
ETLH	**Xiulin Townshi** baz=223	**0.91**	**227**	*eP*	**Pn**	**22 15 48.7**	**-0.3**
ETLH	baz=223			*eS*	**Sn**	**22 16 03.5**	**-0.3**
NCU	**National Centr** baz=275	**0.94**	**278**	*eS*	**Sn**	**22 16 04.0**	**-0.1**
TWD	**Chiawan** baz=213	**0.94**	**217**	*eP*	**Pn**	**22 15 48.8**	**-0.4**
TWD	baz=213			*eS*	**Sn**	**22 16 03.9**	**-0.3**
NCUH	**Zhongli** baz=275	**0.94**	**278**	*eP*	**Pn**	**22 15 49.1**	**-0.1**
NCUH	baz=275			*eS*	**Sn**	**22 16 04.6**	**+0.4**
FUSS	**Fushou** baz=233	**1.06**	**236**	*eP*	**Pn**	**22 15 51.1**	**+0.3**
FUSS	baz=233			*eS*	**Sn**	**22 16 06.9**	**0.0**
NHW	**Xinwu Township** baz=276	**1.07**	**279**	*eS*	**Sn**	**22 16 06.6**	**0.0**
LIOB	**Emei** baz=257	**1.10**	**260**	*eP*	**Pn**	**22 15 50.8**	**-0.2**
LIOB	baz=257			*eS*	**Sn**	**22 16 06.9**	**-0.5**
WHF	**Hehuan Shan** baz=228	**1.10**	**232**	*eP*	**Pn**	**22 15 51.4**	**-0.1**
WHF	baz=228			*eS*	**Sn**	**22 16 08.1**	**0.0**
TWT	**Tachien** baz=236	**1.11**	**239**	*eP*	**Pn**	**22 15 51.8**	**+0.6**
TWT	baz=236			*eS*	**Sn**	**22 16 08.4**	**+0.7**
SBCB	**Hsinchu** baz=265	**1.11**	**268**	*eS*	**Sn**	**22 16 07.0**	**-0.5**
NSTT	**Nanjuang** baz=256	**1.12**	**260**	*eP*	**Pn**	**22 15 50.9**	**-0.2**
NSTT	baz=256			*eS*	**Sn**	**22 16 07.2**	**-0.5**
TDCB	**Techi** baz=236	**1.12**	**239**	*eP*	**Pn**	**22 15 51.8**	**+0.5**
TDCB	baz=236			*eS*	**Sn**	**22 16 08.3**	**+0.3**
CHGB	**Renai** baz=228	**1.22**	**231**	*eP*	**Pn**	**22 15 52.8**	**+0.3**
CHGB	baz=228			*eS*	**Sn**	**22 16 10.0**	**-0.1**
ESL	**Shilin** baz=212	**1.24**	**215**	*eP*	**Pn**	**22 15 51.1**	**-1.4**
ESL	baz=212			*eS*	**Sn**	**22 16 08.3**	**-1.9**
WHP	**Taichung City** baz=241	**1.28**	**244**	*eP*	**Pn**	**22 15 53.3**	**+0.3**
WHP	baz=241			*eS*	**Sn**	**22 16 10.7**	**-0.4**
NMLH	**Miaoli** baz=254	**1.32**	**257**	*eS*	**Sn**	**22 16 11.4**	**-0.5**
EGFH	**Guangfu** baz=209	**1.36**	**212**	*eP*	**Pn**	**22 15 53.1**	**-0.9**
EGFH	baz=209			*eS*	**Sn**	**22 16 12.8**	**+0.1**
NSY	**Sanyi** baz=250	**1.38**	**253**	*eS*	**Sn**	**22 16 13.3**	**+0.2**
DPDB	**Guoxing** baz=233	**1.42**	**236**	*eP*	**Pn**	**22 15 55.0**	**+0.3**
DPDB	baz=233			*eS*	**Sn**	**22 16 14.2**	**+0.3**
VWDT	**VWDT** baz=220	**1.45**	**222**	*eP*	**Pn**	**22 15 54.9**	**-0.2**
VWDT	baz=220			*eS*	**Sn**	**22 16 15.3**	**+0.7**
IRIF	**Iriomote-Funau**	**1.47**	**110**	P	**Pn**	**22 15 55.2**	**-0.1**
IRIF				*eS*	**Sn**	**22 16 15.1**	**+0.1**
WDJ	**Dajia District** baz=249	**1.51**	**251**	*eS*	**Sn**	**22 16 14.9**	**-0.9**
HGSD	**Ruisui** baz=206	**1.52**	**208**	*eP*	**Pn**	**22 15 54.4**	**-1.5**
HGSD	baz=206			*eS*	**Sn**	**22 16 15.4**	**-0.6**
SMLT	**Sun Moon Lake** baz=229	**1.53**	**232**	*eP*	**Pn**	**22 15 56.3**	**+0.2**
SMLT	baz=229			*eS*	**Sn**	**22 16 17.5**	**+1.1**
TYC	**Yuchr** baz=231	**1.54**	**233**	*eP*	**Pn**	**22 15 56.2**	**0.0**
TYC	baz=231			*eS*	**Sn**	**22 16 17.2**	**+0.6**
SSLB	**Suanglung** baz=225	**1.55**	**228**	*eP*	**Pn**	**22 15 56.6**	**+0.3**
SSLB	baz=225			*eS*	**Sn**	**22 16 17.4**	**+0.5**
EHY	**Hungye** baz=209	**1.55**	**212**	*eP*	**Pn**	**22 15 55.4**	**-0.9**
EHY	baz=209			*eS*	**Sn**	**22 16 14.5**	**-2.3**
WHYT	**Xinyi Township** baz=225	**1.68**	**228**	*eS*	**Sn**	**22 16 20.7**	**+1.0**
WCHH	**Zhanghua** baz=241	**1.68**	**244**	*eS*	**Sn**	**22 16 19.7**	**0.0**
WJS	**Zhushan** baz=231	**1.69**	**234**	*eS*	**Sn**	**22 16 20.3**	**+0.5**
WNT	**Mingjian** baz=233	**1.69**	**236**	*eS*	**Sn**	**22 16 20.2**	**+0.4**
TWF1	**Yuli** baz=207	**1.70**	**210**	*eP*	**Pn**	**22 15 56.8**	**-1.3**
JKRS	**Kuro-shima**	**1.74**	**110**	P	**Pn**	**22 15 59.0**	**+0.4**
JIJ	**Ishigaki jima**	**1.82**	**105**	P	**Pn**	**22 15 59.4**	**-0.2**
JIJ				*eS*	**Sn**	**22 16 22.5**	**-0.3**
FULB	**Fuli** baz=206	**1.83**	**207**	*eS*	**Sn**	**22 16 23.4**	**+0.3**
ALS	**Alishan** baz=222	**1.84**	**224**	*eP*	**Pn**	**22 16 00.5**	**+0.3**
ALS	baz=222			*eS*	**Sn**	**22 16 24.4**	**+0.7**
CHN5	**Tsauling** baz=227	**1.87**	**229**	*eS*	**Sn**	**22 16 24.8**	**+0.9**
WDLH	**Douliu** baz=231	**1.91**	**233**	*eS*	**Sn**	**22 16 24.7**	**0.0**
JISG	**Ishigakijimahi**	**1.93**	**97**	P	**Pn**	**22 16 01.0**	**0.0**
JISG				*eS*	**Sn**	**22 16 25.0**	**-0.2**
RLNB	**Erlin** baz=239	**1.93**	**241**	*eS*	**Sn**	**22 16 25.4**	**+0.1**
ELDTW	**Lidau** baz=212	**1.97**	**214**	*eS*	**Sn**	**22 16 25.4**	**-1.0**
WTK	**Tuku** baz=234	**2.02**	**236**	*eS*	**Sn**	**22 16 26.8**	**-0.5**
EDH	**Donghe** baz=203	**2.03**	**204**	*eP*	**Pn**	**22 16 01.4**	**-1.0**
EDH	baz=203			*eS*	**Sn**	**22 16 25.7**	**-1.9**
TPUB	**Ta-pu** baz=222	**2.10**	**224**	*eP*	**Pn**	**22 16 03.9**	**+0.6**
TPUB	baz=222			*eS*	**Sn**	**22 16 28.8**	**-0.5**
CHY	**Chiayi** baz=229	**2.11**	**231**	*eS*	**Sn**	**22 16 28.7**	**-0.6**
STYT	**Tauyuan** baz=217	**2.13**	**219**	*eP*	**Pn**	**22 16 04.7**	**+1.0**
STYT	baz=217			*eS*	**Sn**	**22 16 31.9**	**+1.9**
WTP	**Ta-pu** baz=221	**2.15**	**223**	*eP*	**Pn**	**22 16 04.2**	**+0.2**
WTP				*eS*	**Sn**	**22 16 32.1**	**+1.6**
CHN1	**Nanshi** baz=221	**2.25**	**223**	*eS*	**Sn**	**22 16 32.2**	**-0.6**
SLGT	**Liugui** baz=216	**2.33**	**218**	*eP*	**Pn**	**22 16 07.5**	**+1.3**
SLGT	baz=216			*eS*	**Sn**	**22 16 36.3**	**+1.8**
TSMG	**Majia** baz=213	**2.56**	**214**	*eS*	**Sn**	**22 16 40.1**	**+0.1**

*THE **01** 22:20:55.3, 34.97N×23.51E, h9km±1km, ML2.8/9, Error ellipse: s-maj=1.2km s-min=0.5km az=266.0*
*ATH **01** 22:20:56.6, 35.03N×23.62E, h12km±3km, ML2.8/5, Error ellipse: s-maj=3.9km s-min=1.3km az=71.0*
ISC 01 22:20:56.8±1.5, 35.01N±0.04×23.63E±0.06, h9km±9km, n19, σ0.67/34, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.23**	**12**	P		**Pg**	**22 21 01.3**	**-0.2**
KNDR	2µm,0.2s			S		**Sg**	**22 21 05.5**	**+0.8**
GVD	**Gavdhos**	**0.41**	**114**	P		**Pg**	**22 21 04.6**	**-0.4**
GVD	2µm,0.2s			S		**Sb**	**22 21 12.2**	**-0.6**
GVD	**Gavdhos**	**0.41**	**114**	P		**Pg**	**22 21 04.8**	**-0.2**
GVD				S		**Sg**	**22 21 11.3**	**+0.9**
GVD	comp=N,4292µm,0.3s			AML	AML		22 21 14.9	
GVD	comp=E,4803µm,0.3s			AML	AML		22 21 19.3	
GVDS	**Gavdos**	**0.42**	**113**	P		**Pg**	**22 21 04.3**	**-0.7**
GVDS	comp=E,2µm,0.2s			S		**Sg**	**22 21 11.6**	**+1.2**
IMMV	**Iera Moni Meta**	**0.54**	**33**	P		**Pg**	**22 21 06.9**	**-0.4**
IMMV	comp=E,2µm,0.7s			S		**Sb**	**22 21 16.7**	**+0.3**
IMMV	**Iera Moni Meta**	**0.54**	**33**	P		**Pg**	**22 21 06.8**	**-0.5**
IMMV				S		**Sg**	**22 21 13.9**	**-0.4**
IMMV	comp=E,3150µm,0.4s			AML	AML		22 21 17.4	
IMMV	comp=N,2344µm,0.5s			AML	AML		22 21 19.0	
RODP	**Rodopos**	**0.56**	**11**	P		**Pg**	**22 21 07.5**	**-0.2**
RODP	comp=N,240nm,0.4s			S		**Sb**	**22 21 16.3**	**-0.8**
CHAN	**Chania**	**0.61**	**34**	P		**Pg**	**22 21 08.8**	**+0.1**
CHAN	comp=N,480nm,0.5s			S		**Sb**	**22 21 19.1**	**+0.6**
VAM	**Vamos**	**0.62**	**50**	P		**Pg**	**22 21 08.4**	**-0.4**
VAM	comp=N,2µm,0.5s			S		**Sb**	**22 21 19.6**	**+1.0**
VAM	**Vamos**	**0.62**	**50**	P		**Pg**	**22 21 08.4**	**-0.4**
VAM				S		**Sg**	**22 21 17.1**	**+0.3**
VAM	comp=N,4150µm,0.5s			AML	AML		22 21 20.1	
VAM	comp=E,2697µm,0.6s			AML	AML		22 21 23.7	
PRNS	**Prines Rethymn**	**0.80**	**63**	P		**Pg**	**22 21 11.1**	**-1.2**
PRNS				S		**Sg**	**22 21 23.2**	**+0.5**
ANKY	**Antikythira Is**	**0.90**	**343**	P		**Pb**	**22 21 13.6**	**-1.0**
SIVA	**Sivas**	**0.97**	**89**	P		**Pg**	**22 21 15.2**	**-0.3**
SIVA	comp=E,550nm,0.7s			S		**Sn**	**22 21 30.4**	**-0.3**
SIVA	**Sivas**	**0.97**	**89**	P		**Pg**	**22 21 15.3**	**-0.3**
SIVA				S		**Sb**	**22 21 29.1**	**+0.2**
SIVA	comp=N,928µm,0.6s			AML	AML		22 21 39.7	
SIVA	comp=E,1849µm,0.8s			AML	AML		22 21 42.2	
IDI	**Anoyia**	**1.07**	**75**	P		**Pb**	**22 21 16.5**	**-1.2**
IDI	comp=E,180nm,0.6s			S		**Sn**	**22 21 33.7**	**+0.4**
IDI	**Anoyia**	**1.07**	**75**	P		**Pb**	**22 21 16.6**	**-1.0**
IDI				S		**Sb**	**22 21 31.7**	**-0.2**
IDI	comp=E,269µm,0.5s			AML	AML		22 21 38.8	
IDI	comp=N,354µm,0.8s			AML	AML		22 21 39.2	
NPS	**Neapolis**	**1.65**	**81**	P		**Pb**	**22 21 27.4**	**-0.1**
VLI	**Veliai**	**1.79**	**342**	P		**Pb**	**22 21 29.4**	**-0.5**
DID	**Didima**	**2.51**	**353**	P		**Pn**	**22 21 38.9**	**+0.9**

IDC 01 22:45:16.2±7.7, 25.89S×177.12W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/25, mbtmp3.8/2, Error ellipse: s-maj=372.2km s-min=62.6km az=153.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 1.2nm,0.9s,baz=97,slow=7.7,SNR=6.9	**44.32**	**262**	P		P	22 53 28.8	+0.5
WRA	**Warramunga Arr** 1.3nm,0.7s,baz=106,slow=8.6,SNR=3.6	**44.90**	**267**	P		P	22 53 32.1	-0.8
H03S2	**Juan Fernandez** baz=242	**82.31**	**124**	T		T	00 29 04.8	
H03S1	**Juan Fernandez** baz=242,SNR=2.4	**82.33**	**124**	T		T	00 29 21.5	
H03S3	**Juan Fernandez** baz=242	**82.33**	**124**	T		T	00 29 24.9	
H10S3	**ASCENSION HYDR** baz=200,slow=74,SNR=10	**141.39**	**152**	T		T	01 42 37.5	
H10S2	**ASCENSION HYDR** baz=20,slow=74,SNR=4.8	**141.40**	**152**	T		T	01 42 44.7	
AKASG	**Malin Array Be** 0.7nm,0.5s,baz=38,slow=3.5,SNR=4.7	**148.04**	**328**	PKPbc		PKPbc	23 05 02.6	-0.8

*SKHL **01** 22:48:59.5±0.4, 45.55N×151.42E, h69km±5km, mb4.5/5*
*MOS **01** 22:49:00.2±1.2, 45.69N×151.30E, h67km, mb4.2/1, Error ellipse: s-maj=20.0km s-min=13.4km az=71.0*
*JMA **01** 22:49:00.0±0.5, 45.73N×151.12E, h30km, M4.6*
*NIED **01** 22:49:00.1, 45.73N×151.12E, h30km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.01; Mθθ0.07; Mφφ-0.08; Mrθ-2.68; Mθφ-0.05; Mφr-1.48; Fault plane solution: M0 3.06000×10^15 NP1: φs241.00000°, δ90.00000°, λ92.00000°. NP2: φs332.00000°, δ2.00000°, λ1.00000°.*
*IDC **01** 22:49:03.3±3.6, 45.80N×151.18E, h73km±26km, mb3.4/6, mb1 3.7/9, mb1mx3.3/57, mbtmp3.8/9, MS2.7/7, Ms1 2.7/7, ms1mx2.5/39 Error ellipse: s-maj=52.9km s-min=26.3km az=156.0*
ISC 01 22:48:56.5±1.0, 45.3N±0.1×151.47E±0.09, h32km, n50, σ2.71/47, mb3.6/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.54**	**269**	*eP*		**Pn**	**22 49 38.1**	**+2.6**
KUR	40nm,0.2s			AMB	AMB		22 49 39.0	
KUR	80nm,0.3s			*eS*		**Sn**	**22 50 06.8**	**+1.5**
KUR	400nm,0.3s			A	A		22 50 08.9	
KUR	**Kuril'sk**	**2.54**	**269**	*eP*	N	**Pn**	**22 49 38.1**	**+2.6**
KUR				*eS*		**Sn**	**22 50 06.8**	**+1.5**
KUR	comp=N,82nm,0.2s			pmax	pmax			
KUR	comp=Z,327nm,0.2s			pmax	pmax			
KUR	comp=E,60nm,0.1s			smax	smax			
KUR	comp=N,752nm,0.3s			smax	smax			
KUR	comp=E,404nm,0.3s			MLR	MLR			
NEM2	**Nemuro 2**	**4.55**	**246**	P		**Pn**	**22 50 05.1**	**+2.1**
NEM2				*eS*		**Sn**	**22 50 53.6**	**-1.2**
JRA	**Rausu**	**4.74**	**255**	P		**Pn**	**22 50 09.6**	**+4.0**
JRA				*eS*		**Sn**	**22 51 02.4**	**+3.0**
JNK	**Nakash**	**5.13**	**253**	P		**Pn**	**22 50 15.0**	**+3.9**
JNK				*eS*		**Sn**	**22 51 09.7**	**+0.5**
JAK	**Akkeshi**	**5.40**	**247**	P		**Pn**	**22 50 16.9**	**+2.2**
JAK				*eS*		**Sn**	**22 51 14.3**	**-1.4**
JTKR	**Abashiri--Tokō**	**5.56**	**259**	P		**Pn**	**22 50 20.7**	**+3.8**
JAR	**Ashorobuto**	**5.88**	**253**	P		**Pn**	**22 50 25.3**	**+3.9**
JAR				*eS*		**Sn**	**22 51 28.7**	**+1.0**
JOB	**Onbets**	**6.00**	**249**	P		**Pn**	**22 50 26.1**	**+3.1**
JOB				*eS*		**Sn**	**22 51 29.9**	**-0.7**
SKR	**Severo-Kuril's**	**6.20**	**29**	*eP*		**Pn**	**22 50 27.1**	**+1.4**
SKR	comp=E,30nm,0.5s			AMB	AMB		22 50 27.9	
SKR	comp=E,100nm,0.6s			*eS*		**Sn**	**22 51 33.1**	**-2.3**
SKR	comp=E,80nm,0.6s			A	A		22 51 42.0	
SKR	**Severo-Kuril's**	**6.20**	**29**	*eP*	N	**Pn**	**22 50 27.1**	**+1.4**
SKR				*eS*		**Sn**	**22 51 33.1**	**-2.3**
SKR	comp=Z,68nm,0.4s			pmax	pmax			
SKR	comp=N,99nm,0.6s			smax	smax			
SKR	comp=E,78nm,0.6s			smax	smax			
SKR	comp=Z,700nm,11.0s			MLR	MLR			
YSS	**Yuzh-Sakhalins**	**6.27**	**288**	*eP*		**Pn**	**22 50 30.0**	**+3.4**
YSS	comp=Z,20nm,0.5s			AMB	AMB		22 50 30.6	
YSS	**Yuzh-Sakhalins**	**6.27**	**288**	*eP*	N	**Pn**	**22 50 30.0**	**+3.4**
YSS	comp=Z,20nm,0.5s			pmax	pmax			
YSS	comp=Z,200nm,13.0s			MLR	MLR			
JKK2	**Kamakawa 2**	**6.39**	**260**	P		**Pn**	**22 50 32.4**	**+4.0**
JKA	**Kamikawa-asahi**	**6.43**	**262**	*eP*		Pn	22 50 33.9	+5.0
ASAJ	**Asahikawa** comp=Z,1.8nm,0.3s,baz=64,slow=12,SNR=10.0	**6.43**	**262**	P		Pn	22 50 33.9	+4.9
ASAJ	comp=Z,23nm,19.8s,baz=132,slow=34			LR		LR	22 52 39.8	
JCH	**Churui**	**6.44**	**248**	P		**Pn**	**22 50 31.5**	**+2.4**
JCH				*eS*		**Sn**	**22 51 40.2**	**-1.3**
JNBK	**Urakawa-nobuka**	**7.00**	**247**	P		**Pn**	**22 50 38.6**	**+1.9**
JNBK				*eS*		**Sn**	**22 51 53.0**	**-2.2**
PAU	**Pauzhetka**	**7.10**	**28**	*eP*		**Pn**	**22 50 38.6**	**+0.6**
PAU	comp=Z,20nm,0.4s			AMB	AMB		22 50 38.9	
PAU				*eS*		**Sn**	**22 51 53.2**	**-4.3**
PAU	comp=Z,70nm,0.2s			A	A		22 51 55.7	
PAU	comp=Z,60nm,0.2s			A	A		22 51 55.7	
JNB	**Noboribetsu**	**8.05**	**253**	P		**Pn**	**22 50 53.9**	**+2.7**
TYV	**Tymovskoe**	**8.09**	**316**	*eP*		**Pn**	**22 50 53.6**	**+2.0**
TYV	comp=Z,10.0nm,0.4s			AMB	AMB		22 50 55.6	
JKB	**Kayabe**	**8.31**	**249**	P		**Pn**	**22 50 56.9**	**+2.2**
JKB				*eS*		**Sn**	**22 52 23.5**	**-3.9**
PETK	**Petropavlovsk-** comp=Z,0.3nm,0.3s,baz=176,slow=11,SNR=15	**8.79**	**25**	P		**Pn**	**22 51 02.3**	**+1.1**
JANG	**Nango**	**8.82**	**239**	*eS*		Sn	22 52 33.5	-6.5
JTM	**Tenmabayashi**	**8.86**	**243**	*eS*		**Sn**	**22 52 35.6**	**-5.3**
JRG	**Rokugo**	**9.96**	**237**	*eS*		**Sn**	**22 53 02.6**	**-5.4**
MJAR	**Matsushiro Arr** comp=Z,24nm,20.0s,baz=145,slow=37	**13.31**	**233**	LR		LR	22 57 15.2	
KLR	**Kul'dur** comp=Z,20nm,20.9s,baz=184,slow=35	**13.94**	**293**	LR		LR	22 56 58.7	
MA2	**Magadan** comp=Z,2.1nm,0.3s,baz=164,slow=13,SNR=4.2	**14.28**	**359**	P		**Pn**	**22 52 16.4**	**+0.2**
EKMR	**Ekimchan**	**14.34**	**309**	*eP*		**Pn**	**22 52 14.8**	**-2.4**
JHJ	**Hachijo jima 2** comp=Z,14nm,18.6s,baz=100,slow=48	**15.16**	**221**	LR		LR	23 01 18.0	
BMKR	**Bomnak**	**17.24**	**311**	*eP*		**Pn**	**22 52 50.6**	**-4.0**
KSRS	**Korea Array** comp=Z,22nm,19.0s,baz=245,slow=36	**19.29**	**254**	LR		LR	23 00 35.0	
JNU	**Nakatsue** comp=Z,41nm,19.2s,baz=10,slow=39	**20.01**	**240**	LR		LR	23 02 04.1	
H11N1	**WAKE ISLAND Hy** baz=337,slow=74,SNR=312	**28.56**	**148**	T		T	23 25 30.8	
H11N3	**WAKE ISLAND Hy** baz=176,slow=74,SNR=276	**28.56**	**148**	T		T	23 25 34.3	
H11S1	**WAKE ISLAND Hy** baz=338,slow=76,SNR=261	**29.60**	**150**	T		T	23 26 55.4	
H11S3	**WAKE ISLAND Hy** baz=338,slow=76,SNR=164	**29.60**	**150**	T		T	23 26 55.6	
H11S2	**WAKE ISLAND Hy** baz=338,slow=76,SNR=202	**29.61**	**150**	T		T	23 26 47.7	
ILAR	**Eielson Array** comp=Z,0.2nm,0.6s,baz=265,slow=7.2,SNR=2.8	**38.38**	**37**	P		**P**	**22 56 14.8**	**+0.6**
AKTO	**Aktyubinsk** comp=Z,33nm,18.0s,baz=110,slow=38	**58.82**	**312**	LR		LR	23 25 58.3	
FINES	**FINESS Array B** comp=Z,1.6nm,0.9s,baz=42,slow=3.1,SNR=6.3	**64.83**	**334**	P		**P**	**22 59 29.8**	**-2.0**
NOA	**NORSAR Array B** comp=Z,0.3nm,0.6s,baz=30,slow=6.7,SNR=4.1	**69.20**	**341**	P		**P**	**22 59 58.4**	**-1.1**
HFS	**Hagfors** comp=Z,0.9nm,0.4s,baz=30,slow=3.4,SNR=10	**69.38**	**339**	P		**P**	**22 59 59.5**	**-1.1**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=308,slow=4.4,SNR=1.6	**79.20**	**59**	P		**P**	**23 00 60.0**	**+1.5**
TXAR	**Lajitas Array**	**79.20**	**59**	P		**P**	**23 01 00.0**	**+1.5**
GERES	**GERESS Array B** comp=Z,0.6nm,0.7s,baz=36,slow=5.3,SNR=4.9	**79.22**	**333**	P		**P**	**23 00 58.2**	**0.0**
H03N2	**Juan Fernandez** baz=306,slow=77,SNR=6.9	**139.88**	**91**	T		T	01 44 40.5	
H03N3	**Juan Fernandez** baz=306,slow=77,SNR=6.7	**139.90**	**91**	T		T	01 44 39.8	
H03N1	**Juan Fernandez** baz=306,slow=77,SNR=7.5	**139.90**	**91**	T		T	01 44 41.9	

*NNC **01** 23:23:56.5±0.9, 42.84N×78.66E, h0km±4km, mb2.7, mpv2.8, Error ellipse: s-maj=8.2km s-min=2.5km az=174.0*
*KRNET **01** 23:23:57.9±0.1, 42.89N×78.64E, h23km, mb2.3*
*SOME **01** 23:23:58.5, 42.88N×78.62E, h15km*
ISC 01 23:23:57.8±1.1, 42.87N±0.03×78.60E±0.02, h6km±9km, n30, σ1.23/59, 10C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SATY	**Saty** 8.0nm,0.1s	**0.24**	**323**	*eP*		**Pg**	**23 24 03.2**	**+0.6**
SATY	125nm,0.1s			*eS*		**Sg**	**23 24 06.8**	**+1.0**
SATY	**Saty** 8.0nm,0.1s	**0.24**	**323**	P		**Pg**	**23 24 03.2**	**+0.6**
SATY	125nm,0.1s			S		**Sg**	**23 24 06.8**	**+1.0**
PRZ	**Przheval'sk** baz=2.0	**0.41**	**202**	⇑*i*P		**Pb**	**23 24 07.1**	**-0.5**
PRZ	baz=2.0			⇑*i*S		**Sg**	**23 24 13.2**	**+2.0**
UZB	**Uzynbulak** baz=47	**0.42**	**47**	*eP*		**Pg**	**23 24 05.5**	**-0.4**
UZB	baz=47			*eS*		**Sg**	**23 24 10.9**	**-0.6**
UZB	**Uzynbulak** 5.5nm,0.0s	**0.42**	**47**	*eP*		**Pg**	**23 24 05.5**	**-0.4**
UZB	32nm,0.1s			*eS*		**Sg**	**23 24 10.8**	**-0.6**
UZB	**Uzynbulak** 5.5nm,0.0s	**0.42**	**47**	P		**Pg**	**23 24 05.5**	**-0.4**
UZB	32nm,0.1s			S		**Sg**	**23 24 10.8**	**-0.6**
ANVS	**Anan'yevo** baz=62	**0.69**	**264**	⇓*i*P		**Pg**	**23 24 11.9**	**+0.8**
ANVS	baz=62			⇓*i*S		**Sg**	**23 24 21.8**	**+1.6**
SHLS	**Shalkode** baz=73	**0.69**	**65**	*eP*		**Pn**	**23 24 15.9**	**+1.6**
SHLS	baz=73			*eS*		**Sn**	**23 24 29.0**	**+3.6**
SHLS	**Shalkode** 5.5nm,0.1s	**0.69**	**65**	*eP*		**Pn**	**23 24 15.9**	**+1.6**
SHLS	3.8nm,0.1s			*eS*		**Sn**	**23 24 29.0**	**+3.6**
SHLS	**Shalkode** 5.5nm,0.1s	**0.69**	**65**	P		**Pn**	**23 24 15.9**	**+1.6**
SHLS	3.8nm,0.1s			S		**Sn**	**23 24 29.0**	**+3.6**
KURS	**Kuram** baz=30	**0.70**	**333**	*eP*		**Pg**	**23 24 11.4**	**+0.2**
KURS	baz=30			*eS*		**Sg**	**23 24 20.8**	**+0.5**
KURS	**Kuram** 0.8nm,0.1s	**0.70**	**333**	*eP*		**Pg**	**23 24 11.4**	**+0.2**
KURS	2.1nm,0.1s			*eS*		**Sg**	**23 24 20.9**	**+0.5**
KURS	**Kuram** 0.8nm,0.1s	**0.70**	**333**	P		**Pg**	**23 24 11.4**	**+0.2**
KURS	2.1nm,0.1s			S		**Sg**	**23 24 20.8**	**+0.5**
PDGK	**Podgornoye** 0.5nm,0.1s	**0.80**	**54**	P		**Pg**	**23 24 12.2**	**-0.9**
PDGK	1.7nm,0.1s			S		**Sg**	**23 24 22.5**	**-1.0**
PDGK	**Podgornoye**	**0.80**	**54**	⇑P		**Pg**	**23 24 11.0**	**-2.1**

	2.0nm,1.0s						
PDGK				⇓S	Sg	23 24 22.6	-0.9
	3.7nm,0.7s						
KOTS	Kotyrbulak	1.15	289	eP	Pn	23 24 19.8	-0.8
	baz=87						
KOTS				eS	Sb	23 24 35.3	-0.2
	baz=87						
KOTS	Kotyrbulak	1.15	289	eP	Pn	23 24 19.8	-0.8
	4.5nm,0.1s						
KOTS				eS	Sb	23 24 35.3	-0.2
	2.2nm,0.3s						
KOTS	Kotyrbulak	1.15	289	P	Pn	23 24 19.8	-0.8
	4.5nm,0.1s						
KOTS				S	Sb	23 24 35.3	-0.2
	2.2nm,0.3s						
TNSS	Tian-Shan	1.23	279	eP	Pb	23 24 21.6	-0.1
	baz=77						
TNSS				eS	Sn	23 24 38.2	-0.8
	baz=77						
TNSS	Tian-Shan	1.23	279	eP	Pb	23 24 21.6	-0.1
	0.4nm,0.1s						
TNSS				eS	Sn	23 24 38.1	-0.8
	1.5nm,0.2s						
TNSS	Tian-Shan	1.23	279	P	Pb	23 24 21.6	-0.1
	0.4nm,0.1s						
TNSS				S	Sn	23 24 38.2	-0.8
	1.5nm,0.2s						
TARG	Taragay, Kyrgy	1.28	208	⇓eP	Pn	23 24 22.1	-0.5
	baz=9.0						
TARG				⇓eS	Sn	23 24 39.6	-0.7
	baz=9.0						
KDJ	Kajisay	1.28	236	⇑iP	Pn	23 24 22.1	-0.3
	baz=35						
KDJ				⇑eS	Sb	23 24 39.2	-0.1
	baz=35						
KTBS	Karatobe	1.64	302	eP	Pb	23 24 28.4	0.0
	4.3nm,0.2s						
KTBS				eS	Sg	23 24 50.2	-0.3
	1.4nm,0.2s						
KTBS	Karatobe	1.64	302	P	Pb	23 24 28.4	0.0
	4.3nm,0.2s						
KTBS				S	Sg	23 24 50.2	-0.3
	1.4nm,0.2s						
DJR	Jarkent	1.70	30	eP	Pb	23 24 28.8	-0.8
	0.4nm,0.1s						
DJR				eS	Sg	23 24 50.6	-1.9
	3.7nm,0.2s						
DJR	Jarkent	1.70	30	P	Pb	23 24 28.7	-0.8
	1.0nm,0.2s						
DJR				S	Sg	23 24 50.6	-1.9
	3.7nm,0.2s						
ULHL	Ulahol	1.85	251	⇑iP	Pb	23 24 31.3	-0.9
	baz=51						
ULHL				⇑iS	Sb	23 24 55.3	-0.4
	baz=51						
BOOM	Boomskoye usch	2.00	260	⇑iP	Pb	23 24 33.4	-1.3
	baz=60						
BOOM				⇑iS	Sb	23 24 58.7	-1.2
	baz=60						
TKM2	Tokmak 2	2.21	272	⇑Pg	Pn	23 24 35.7	+0.5
	1.7nm,0.8s						
TKM2				⇓Lg	Lg	23 25 09.7	
	1.6nm,0.6s						

*IDC **01** 23:24:23.8±3.6, 36.27N×71.16E, h43km±35km, mb3.5/7, mb1 3.7/12, mb1mx3.4/41, mbtmp3.8/12, ML3.8/5, Error ellipse: s-maj=29.0km s-min=23.8km az=14.0*

*NEIC **01** 23:24:28.9±1.7, 36.45N±0.07×71.1E±0.1, h103km±8km, mb4.2/7, Error ellipse: s-maj=11.9km s-min=9.5km az=79.0*

*MOS **01** 23:24:28.2±1.1, 36.45N×71.25E, h105km, mb4.2/5, Error ellipse: s-maj=12.6km s-min=5.9km az=81.0*

*NNC **01** 23:24:30.4±2.5, 36.72N×70.84E, h121km±30km, mb3.5, mpv4.4, Error ellipse: s-maj=22.3km s-min=12.3km az=160.0*

ISC 01 23:24:28.0±0.5, **36.41N**±0.05×**71.11E**±0.05, **h100**km, **n102**, σ**2.48**/111, **mb4.0**/16, **13C-8D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	Kabul	2.52	223	PN	Pn	23 25 10.0	+2.5
KBL	Kabul	2.52	223	Pn	Pn	23 25 10.0	+2.5
GAR	Garm	2.66	347		Pn	23 25 11.3	+2.0
CEP	Cherat	2.67	165	P	Pn	23 25 12.0	+2.5
CEP				S	Sn	23 25 43.0	+1.7
CHGR	Chuyangaron	2.72	326	Pn	Pn	23 25 11.0	+0.8
NIL	Nilore	3.27	147	PN	Pn	23 25 18.9	+1.5
NIL	Nilore	3.27	147		Pn	23 25 18.9	+1.5
BTK	Batken	3.65	357	PN	Pn	23 25 24.2	+1.7
BTK						23 26 04.7	
BTK	Batken	3.65	357		Pn	23 25 24.1	+1.7
BTK				Sn	Sn	23 26 04.7	+0.1
THW	Thamme Wali	3.65	172	P	Pn	23 25 24.1	+1.6
KSH	Kashi	4.94	50	P	Pn	23 25 36.2	-3.8
KSH				S	Sn	23 26 22.8	-13
KSH				smax	smax		
	comp=N,1μm,0.5s						
KSH				smax	smax		
	comp=E,590nm,0.6s						
TAS	Tashkent	5.11	344	PN	Pn	23 25 42.7	+0.6
TAS	Tashkent	5.11	344	Pn	Pn	23 25 42.7	+0.6
TAS				Sn	Sn	23 26 38.0	-1.8
THN	Thein Dam	5.50	135	eP	Pn	23 25 48.0	+0.5
THN				eS	Sn	23 26 46.0	-3.4
DHRM	DHARAMSHALA	5.97	133	eP	Pn	23 25 53.6	-0.5
DHRM				eS	Sn	23 26 57.7	-3.6
DHRM				IAML		23 26 59.5	
	comp=E,402nm,0.5s						
DHRM				IAML		23 26 59.9	
	comp=N,407nm,0.3s						
AML	Almayashu	6.05	19	P	Pn	23 25 56.1	+0.8
	SNR=109						
UCH	Uchtor	6.38	23	P	Pn	23 26 00.1	+0.3
	SNR=39						
KZA	Kyzart	6.51	28	P	Pn	23 26 02.1	+0.6
	SNR=23						
EKS2	Erkin-Say	6.57	17	P	Pn	23 26 03.1	+1.0
	SNR=35						
KK31	Karatay Array	6.70	356	⇑P	Pn	23 26 04.1	+0.3
	comp=N,13nm,0.5s,baz=182,slow=13,SNR=115						
KK31				⇑S	Sn	23 27 13.6	-4.9
	comp=N,8.2nm,0.3s,baz=189,slow=24,SNR=7.0						
KK31	Karatay Array	6.70	356	Pn	Pn	23 26 04.4	+0.7
KK31				Sn	Sn	23 27 15.3	-3.2
KKAR	Karatay Array	6.70	356	Pn	Pn	23 26 04.4	+0.7
KKAR				Sn	Sn	23 27 15.5	-3.0
AAK	Ala-Archa	6.75	22	P	Pn	23 26 05.7	+1.2
	SNR=27						
AAK	Ala-Archa	6.75	22	⇓P	Pn	23 26 05.0	+0.5
	comp=N,18nm,0.4s						
AAK				⇓S	Sn	23 27 19.5	-0.4
	comp=N,30nm,0.8s						
AAK	Ala-Archa	6.75	22c	iPN	Pn	23 26 05.1	+0.6
AAK	Ala-Archa	6.75	22	Pn	Pn	23 26 05.6	+1.1
KBK	Karagaybulak	6.91	24	P	Pn	23 26 07.4	+0.7
	SNR=12						
FRU1	Bishkek	6.94	22	PN	Pn	23 26 08.8	+1.7
FRU1	Bishkek	6.94	22		Pn	23 26 08.8	+1.7
ULHL	Ulahol	7.05	33	P	Pn	23 26 10.1	+1.3
	SNR=10						
CHMS	Chumysh	7.15	22	P	Pn	23 26 10.9	+1.0
	SNR=7.8						
SMLA	Simla	7.29	135	eP	Pn	23 26 10.6	-1.2
SMLA				eS	Sn	23 27 27.3	-5.8
SMLA				IAML		23 27 30.7	
	comp=N,172nm,0.3s						
SMLA				IAML		23 27 31.4	
	comp=E,128nm,0.2s						
USP	Ospenovka	7.33	20	P	Pn	23 26 13.3	+1.0
	SNR=7.6						
TKM2	Tokmak 2	7.36	27	P	Pn	23 26 13.7	+0.7
	SNR=28						
TKM2	Tokmak 2	7.36	27	⇑P	Pn	23 26 12.7	-0.3
	comp=E,14nm,0.6s						
TKM2				⇓S	Sn	23 27 32.8	-2.1
	comp=E,7.0nm,0.7s						
KDJ	Kajisay	7.40	38	PN	Pn	23 26 13.5	+0.1
KDJ	Kajisay	7.40	38	Pn	Pn	23 26 13.5	+0.1
TARG	Taragay, Kyrgy	7.44	42	Pn	Pn	23 26 15.0	+0.8
HRA	Herat	7.51	257		Pn	23 26 15.6	+0.6
PRZ	Przheval'sk	8.28	41	PN	Pn	23 26 25.6	+0.2
PRZ	Przheval'sk	8.28	41	Pn	Pn	23 26 25.6	+0.2
PDGK	Podgornoye	9.44	40	⇓P	Pn	23 26 40.2	-0.9
	comp=E,11nm,0.8s						
GEYT	Alibeck	10.48	282	P	Pn	23 26 52.8	-2.4
	comp=E,1.9nm,0.3s,baz=113,slow=11,SNR=22						
GEYT				S	Sn	23 28 44.6	-5.9
	comp=E,1.7nm,0.3s,baz=123,slow=16,SNR=3.2						
GYA0B	ALIBECK ARRAY	10.48	282	⇓P	Pn	23 26 53.6	-1.6
GYA0B				⇑S	Sn	23 28 45.1	-5.5
GYA0B	ALIBECK ARRAY	10.48	282	Pn	Pn	23 26 54.1	-1.0
OTUK	Ortayu	11.86	4	⇑P	Pn	23 27 11.0	-2.7
	comp=E,2.7nm,0.6s						
PYUN	Piuthan	13.02	126	eP	Pn	23 27 24.3	-5.1
	comp=E,120nm,0.4s						
MAKZ	Makanchi	13.18	35	P	Pn	23 27 30.3	-0.8
MAKZ	Makanchi	13.18	35	Pn	Pn	23 27 30.3	-0.8
MK31	Makanchi Array	13.31	35	⇑P	Pn	23 27 31.3	-1.6
	comp=E,8.4nm,1.2s,baz=212,slow=13,SNR=6.9						
MK31	Makanchi Array	13.31	35	P	Pn	23 27 32.6	-0.3
MK31	Makanchi Array	13.31	35		Pn	23 27 32.6	-0.3
MKAR	Makanchi Array	13.31	35	P	Pn	23 27 31.3	-1.6
	comp=E,0.2nm,0.3s,baz=212,slow=14,SNR=9.0						
DANN	Dangsing	13.37	123	eP	Pn	23 27 29.2	-4.8
	comp=E,25nm,0.2s						
KOLN	Koldanda	13.64	126	eP	Pn	23 27 32.9	-4.6
	comp=E,22nm,0.4s						
GKN	Gorkha	14.18	122	eP	Pn	23 27 39.7	-4.7
	comp=E,48nm,0.3s						
WMQ	Urumqi	14.68	55	eP	Pn	23 27 51.4	+0.8
WMQ				sP	P	23 28 20.6	+27
WMQ				pmax	pmax		
	comp=E,14nm,0.8s						
WMQ				LR	LR		
	comp=E,50nm,4.1s						
WMQ				LR	LR		
	comp=E,120nm,4.1s						
WMQ				LR	LR		
	comp=E,120nm,4.5s						
DMN	Daman	14.75	123	eP	Pn	23 27 47.2	-4.7
	comp=E,25nm,0.4s						
KKN	Kakani	14.76	122	eP	Pn	23 27 46.6	-5.3
	comp=E,29nm,0.4s						
PKI	Pulchoki	14.98	122	eP	Pn	23 27 49.6	-5.3
	comp=E,24nm,0.4s						
KURBB	Kurchatov Arra	15.18	18	P	Pn	23 27 55.9	-0.9
	comp=E,0.3nm,0.3s,baz=206,slow=11,SNR=5.9						
AB31	Akbulak array	15.20	331	⇓P	Pn	23 27 56.1	-1.0
	comp=E,1.0nm,0.3s,baz=139,slow=12,SNR=65						
AB31				⇓S	Sn	23 30 36.5	-8.3
	comp=E,5.5nm,0.6s,baz=143,slow=23,SNR=10						
KURK	Kurchatov	15.29	18	iP	Pn	23 27 59.2	+1.1
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
JIRN	Jiri	15.47	120	eP	Pn	23 27 56.5	-4.5
	comp=Z,78nm,0.4s						
RAMN	Ramite	16.20	121	eP	Pn	23 28 05.5	-4.5
	comp=Z,23nm,0.5s						
BVA0	Borovoye Array	16.62	358	⇑P	Pn	23 28 15.4	+0.8
	comp=Z,1.4nm,0.8s,baz=168,slow=14,SNR=8.0						
BVAR	Borovoye Array	16.62	358	P	Pn	23 28 14.1	-0.6
	comp=Z,0.3nm,0.3s,baz=158,slow=12,SNR=7.5						
BRVK	Borovoye	16.65	358	⇑P	Pn	23 28 12.5	-2.6
	comp=Z,1.2nm,0.6s						
BRVK	Borovoye	16.65	358	iP	Pn	23 28 15.8	+0.7
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRVK	Borovoye	16.65	358		Pn	23 28 15.5	+0.4
TAPN	Taplejung	16.73	118	eP	Pn	23 28 13.2	-3.4
	comp=Z,25nm,0.4s						
ODAN	Odare	16.80	120	eP	Pn	23 28 12.9	-4.5
	comp=Z,16nm,0.4s						
AKTO	Aktyubinsk	16.90	330	P	Pn	23 28 19.1	+0.9
	comp=Z,0.5nm,0.3s,baz=138,slow=17,SNR=9.9						
AKTO				S	Sn	23 31 15.5	-10
	comp=Z,0.2nm,0.3s,baz=174,slow=18,SNR=4.9						
AKTO	Aktyubinsk	16.90	330	⇑P	Pn	23 28 18.2	+0.1
	comp=Z,6.0nm,0.9s						
AKTO				⇑S	Sn	23 31 16.1	-10
	comp=Z,6.3nm,0.7s						
DGZ	Jazzator, Alta	17.80	37	iP	P	23 28 27.8	-0.9
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZAA0	Zalesovo Array	19.96	24	⇑P	P	23 28 50.3	-1.7
	comp=Z,0.4nm,0.6s						
ZAA0	Zalesovo Array	19.96	24	P	P	23 28 52.2	+0.2
ZAA0				IAmb	IAmb	23 29 09.0	
	comp=Z,3.5nm,0.7s						
ZALV	Zalesovo Beam	19.96	24	P	P	23 28 52.2	+0.3
	comp=Z,2.8nm,0.4s,baz=214,slow=11,SNR=14						
ARU	Arti	21.74	341	P	P	23 29 13.1	+2.0
	comp=Z,0.4nm,0.3s,baz=114,slow=3.0,SNR=4.2						
ARU	Arti	21.74	341	d iP	P	23 29 14.2	+3.1
ARU						23 29 37.3	
ARU				S	S	23 33 11.7	+6.1
ARU				pmax	pmax		
	comp=Z,7.0nm,1.8s						
ARU	Arti	21.74	341	P	P	23 29 12.9	+1.9
ARU				IAmb	IAmb	23 29 15.5	
	comp=Z,3.0nm,1.1s						
GTA	Gaotai	22.81	74	eP	P	23 29 24.6	+2.1
GTA				pP	pP	23 29 49.1	+5.5
GTA				sP	sP	23 30 00.5	+3.8
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV	Kislovodsk	22.91	298	eP	P	23 29 26.1	+2.8
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LZH	Lanzhou	26.34	81	⇑P	P	23 29 56.5	+1.8
LZH				pP	pP	23 30 19.3	+0.9
LZH				sP	sP	23 30 32.1	+1.4
LZH				PP	PnPn	23 30 43.6	+3.4
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,64nm,4.9s						
TLY	Talaya	27.64	46	iP	P	23 30 07.3	+1.2
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ANTO	Ankara	30.18	288	P	P	23 30 29.2	+0.5
ANTO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ANTO	Ankara	30.18	288	P	P	23 30 29.2	+0.5
ANTO				IAmb	IAmb	23 30 36.2	
	comp=Z,8.3nm,0.6s						
CMAR	Chiang Mai Arr	30.34	119	P	P	23 30 31.3	+1.0
	comp=Z,0.6nm,0.3s,baz=300,slow=9.1,SNR=2.6						
HHC	Hu-ho-hao-te	31.71	69	eP	P	23 30 43.3	+1.0
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,170nm,6.6s						
NRIK	Noril'sk	34.20	10	iP	P	23 31 04.0	+0.6
NRIK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ALN	Alexandroupoli	35.18	291	P	P	23 31 12.0	-0.2
ALN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ALN	Alexandroupoli	35.18	291	P	P	23 31 12.0	-0.2
ALN				IAmb	IAmb	23 31 24.4	
	comp=Z,7.3nm,1.0s						
FINES	FINESS Array B	37.60	326	P	P	23 31 35.1	+2.5
	comp=Z,1.8nm,0.9s,baz=116,slow=6.3,SNR=2.1						
ARCES	ARCESS Array B	41.26	338	P	P	23 32 05.5	+2.7
	comp=Z,1.5nm,0.8s,baz=104,slow=10,SNR=5.4						
NB2	NORSAR Subarra	44.50	323	P	P	23 32 33.2	+4.0
	comp=Z,0.5nm,0.6s,baz=94,slow=7.9						
NOA	NORSAR Array B	44.50	323	P	P	23 32 33.4	+4.2
	comp=Z,0.4nm,0.6s,baz=96,slow=7.7,SNR=3.9						
TIXI	Tiksi	45.82	22	iP	P	23 32 39.9	+0.5
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TORD	Torodi Ar. Bea	65.80	269	P	P	23 35 03.9	+1.1
	comp=Z,0.3nm,0.5s,baz=45,slow=6.7,SNR=5.4						
WRH	Wood River Hil	74.83	16		P	23 36 04.5	+7.4
PAX	Paxson	76.72	16	P	P	23 36 08.6	+0.6
PAX				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PAX	Paxson	76.72	16	P	P	23 36 08.6	+0.6
PAX				IAmb	IAmb	23 36 16.3	
	comp=Z,3.9nm,1.0s						
SEW	Seward	78.20	19	P	P	23 36 19.0	+2.9

IDC 02 00:05:05.0±3.1, **54.42S**×**55.07W**, **h0**km, **mb4.0**/2, **mb1 4.1**/2, **mb1mx3.7**/13, **mbtmp4.0**/2, **Error ellipse: s-maj=135.3km s-min=93.6km az=28.0, Falkland Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10S3	ASCENSION HYDR	55.59	51	T	T	01 15 11.1	
	baz=208,slow=74,SNR=12						
H10S2	ASCENSION HYDR	55.59	51	T	T	01 15 11.2	
	baz=12,slow=74,SNR=4.6						
H10N3	ASCENSION HYDR	56.65	50	T	T	01 16 29.2	
	baz=207,slow=75,SNR=20						
H10N1	ASCENSION HYDR	56.65	51	T	T	01 16 27.6	
	baz=207,slow=75,SNR=14						
H10N2	ASCENSION HYDR	56.66	50	T	T	01 16 25.7	
	baz=207,slow=75,SNR=18						
BOSA	Boshof	61.78	100	P	P	00 15 25.4	-0.1
	4.2nm,1.1s,baz=198,slow=6.4,SNR=3.8						
TORD	Torodi Ar. Bea	82.61	55	P	P	00 17 29.9	0.0
	0.7nm,0.9s,baz=214,slow=6.6,SNR=3.0						
AAK	Ala-Archa	145.32	89	PKPbc	PKPbc	00 24 43.6	-0.4
	1.4nm,0.3s,baz=232,slow=5.1,SNR=4.2						
KURBB	Kurchatov Arra	151.92	78	PKPbc	PKPbc	00 25 00.6	-0.2
	0.3nm,0.5s,baz=247,slow=2.9,SNR=5.2						
MKAR	Makanchi Array	152.25	88	PKPbc	PKPbc	00 25 01.2	-0.5
	0.4nm,0.7s,baz=222,slow=1.9,SNR=2.7						

*IDC **02** 00:28:06.7±1.0, 34.05N×72.37E, h0km, mb3.7/10, mb1 3.8/16, mb1mx3.6/42, mbtmp3.8/16, ML3.6/6, MS2.3/1, Ms1 2.3/1, ms1mx2.1/36, Error ellipse: s-maj=24.4km s-min=18.1km az=62.0*

*BJI **02** 00:28:07.4±0.0, 33.75N×72.54E, h14km, mB4.9/9, mb4.7/11, Ms4.2/2, Ms7 3.9/1*

*NEIC **02** 00:28:10.9±2.6, 33.90N±0.06×72.42E±0.06, h35km±2km, mb4.1/8, Error ellipse: s-maj=10.3km s-min=8.4km az=33.0*

*NDI **02** 00:28:10.0±1.8, 34.00N×72.09E, h15km±323km, ML3.7, mb4.1(NEIC)*

*NNC **02** 00:28:14.0±8.1, 34.38N×71.66E, h0km, mb4.3, mpv4.3, Error ellipse: s-maj=89.0km s-min=51.8km az=131.0*

ISC 02 00:28:10.2±0.5, **33.83N**±0.06×**72.44E**±0.05, **h34**km, **n69**, σ**2.15**/77, **mb3.8**/14, **6C-1D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIL	Nilore	0.70	104		Pb	00 28 24.8	+0.6
JMU	Jammu	2.34	118	eP	Pn	00 28 38.0	-8.3
JMU				eS	Sn	00 29 08.0	-5.9
KBL	Kabul	2.90	285	Pn	Pn	00 28 54.3	+0.1
THN	Thein Dam	3.08	116	eP	Pb	00 29 04.0	-0.4
THN				eS	Sb	00 29 42.0	+0.4
DHRM	DHARAMSHALA	3.60	115	eP	Pb	00 29 09.8	-3.6
DHRM				eS	Sb	00 29 54.6	-2.2
DHRM				IAML		00 29 56.6	
	comp=E,269nm,0.2s						
DHRM				IAML		00 29 58.0	
	comp=N,284nm,0.2s						
SMLA	Simla	4.82	123	eP	Pn	00 29 25.8	+5.4
SMLA				eS	Sn	00 30 22.4	+7.4
SMLA				IAML		00 30 24.0	
	comp=E,155nm,0.3s						
SMLA				IAML		00 30 24.3	
	comp=N,144nm,0.4s						
KSH	Kashi	6.35	26	Pn	Pn	00 29 40.1	-1.4
KSH				Sn	Sn	00 30 37.5	-15
KSH				smax	smax		
	comp=N,120nm,0.4s						
KSH				smax	smax		
	comp=E,72nm,0.3s						
BTK	Batken	6.35	349	Pn	Pn	00 29 41.5	-0.1
NDI	New Delhi	6.56	140	ex	Pn	00 29 39.0	-5.3
NDI				ex	x	00 33 20.0	
AML	Almayashu	8.35	6	P	Pn	00 30 11.0	+1.8
	SNR=21						
KZA	Kyzart	8.53	14	P	Pn	00 30 13.0	+1.3
	SNR=9.4						
UCH	Uchtor	8.55	10	P	Pn	00 30 13.3	+1.4
	SNR=37						
EKS2	Erkin-Say	8.88	6	P	Pn	00 30 19.7	+3.4
	SNR=12						
AAK	Ala-Archa	8.95	10	Pn	Pn	00 30 19.0	+1.9
	comp=E,3.3nm,0.3s,baz=180,slow=7.1,SNR=14						
AAK				Sn	Sn	00 31 53.8	-3.0
	comp=E,0.3nm,0.3s,baz=169,slow=16,SNR=2.0						
AAK				LR	LR	00 33 03.2	
	comp=E,20nm,22.0s,baz=168,slow=34						
AAK	Ala-Archa	8.95	10	P	Pn	00 30 19.8	+2.7
	SNR=8.5						
AAK	Ala-Archa	8.95	10	⇑Pn	Pn	00 30 19.1	+1.9
	comp=E,9.0nm,0.6s						
AAK				⇑Sn	Sn	00 31 56.7	-0.1
	comp=E,29nm,1.1s						
AAK	Ala-Archa	8.95	10	Pn	Pn	00 30 17.3	+0.2
TARG	Taragay, Kyrgy	8.96	27	Pn	Pn	00 30 19.6	+2.0
KBK	Karagaybulak	9.04	12	P	Pn	00 30 21.3	+2.9
	SNR=12						
KDJ	Kajisay	9.10	23	Pn	Pn	00 30 20.9	+1.7
CHMS	Chumysh	9.34	11	P	Pn	00 30 24.1	+1.7
	SNR=6.9						
KK31	Karatay Array	9.38	351	Pn	Pn	00 30 23.4	+0.3
	comp=E,5.6nm,0.4s,baz=172,slow=12,SNR=178						
KK31				⇑Sn	Sn	00 32 04.6	-2.7
	comp=E,2.8nm,0.5s,baz=181,slow=22,SNR=3.9						
KK31	Karatay Array	9.38	351	Pn	Pn	00 30 23.4	+0.3
KKAR	Karatay Array	9.38	351	Pn	Pn	00 30 23.4	+0.3
TKM2	Tokmak 2	9.41	14	P	Pn	00 30 24.8	+1.2
	SNR=14						
TKM2	Tokmak 2	9.41	14	⇑Pn	Pn	00 30 24.6	+1.0
	comp=E,7.2nm,0.5s						
TKM2				⇑Sn	Sn	00 32 08.4	+0.1
	comp=E,8.8nm,0.8s						
PRZ	Przheval'sk	9.83	27	Pn	Pn	00 30 30.9	+1.5
PYUN	Piuthan	10.70	119	eP	Pn	00 30 43.1	+1.8
DANN	Dangsing	11.13	116	eP	Pn	00 30 48.8	+1.5
KOLN	Koldanda	11.33	119	eP	Pn	00 30 51.6	+1.6
GKN	Gorkha	11.97	116	eP	Pn	00 31 00.2	+1.5
GKN				eS	Sn	00 33 06.4	-4.7
DMN	Daman	12.53	116	eP	Pn	00 31 07.0	+0.6
PKI	Pulchoki	12.78	116	eP	Pn	00 31 09.9	0.0
JIRN	Jiri	13.32	114	eP	Pn	00 31 17.0	-0.3
RAMN	Ramite	14.01	116	eP	Pn	00 31 25.6	-0.9
TAPN	Taplejung	14.65	112	eP	Pn	00 31 34.9	-0.4
ODAN	Odare	14.65	114	eP	Pn	00 31 34.5	-0.8
MAKZ	Makanchi	14.85	26	Pn	Pn	00 31 36.4	-1.3
MK31	Makanchi Array	14.96	27	Pn	Pn	00 31 38.7	-0.4
MKAR	Makanchi Array	14.96	27	Pn	Pn	00 31 37.7	-1.4
	comp=E,0.1nm,0.3s,baz=200,slow=14,SNR=5.8						
WMQ	Urumqi	15.50	45	eP	P	00 31 48.5	-1.9
WMQ				LR	LR		
	comp=E,130nm,3.9s						
WMQ				LR	LR		
	comp=E,190nm,3.9s						
WMQ				LR	LR		
	comp=E,130nm,4.3s						
WSAR	Wadi Sarin	16.06	233	Pn	P	00 31 56.9	+0.3
	comp=E,0.1nm,0.3s,baz=54,slow=8.7,SNR=1.5						
WSAR				Sn	Sn	00 34 45.3	-5.2
	comp=E,0.1nm,0.3s,baz=99,slow=19,SNR=1.9						
KURBB	Kurchatov Arra	17.37	13	P	Pn	00 32 06.3	-3.5
	comp=E,0.0nm,0.3s,baz=203,slow=11,SNR=5.6						
KURK	Kurchatov	17.48	13	P	Pn	00 32 10.8	-0.3
AB31	Akbulak array	17.99	333	⇑Pn	Pn	00 32 17.1	-0.5
	comp=E,1.7nm,0.6s,baz=147,slow=13,SNR=31						
ABKAR	Akbulak array	17.99	333	P	Pn	00 32 17.4	-0.1
BVAR	Borovoye Array	19.25	356	P	P	00 32 30.0	-1.5
	comp=E,0.5nm,0.3s,baz=163,slow=10,SNR=10						
BRVK	Borovoye	19.29	356		P	00 32 31.5	-0.5
BRVK				IAmb	IAmb	00 32 37.4	
	comp=Z,3.3nm,0.9s						
AKTO	Aktyubinsk	19.68	332	P	P	00 32 36.1	-0.2
	comp=Z,0.6nm,0.3s,baz=140,slow=10,SNR=15						
AKTO	Aktyubinsk	19.68	332	⇓Pn	P	00 32 36.2	-0.1
	comp=Z,3.1nm,0.6s						
ZAA0	Zalesovo Array	21.95	20	P	P	00 32 59.8	-0.8
ZAA0				IAmb	IAmb	00 33 06.1	
	comp=Z,6.7nm,1.0s						
ZALV	Zalesovo Beam	21.95	20	P	P	00 32 59.6	-1.1
	comp=Z,3.1nm,0.4s,baz=216,slow=10,SNR=11						
ARU	Arti	24.54	341	P	P	00 33 26.1	-0.4
	comp=Z,0.7nm,0.5s,baz=119,slow=10,SNR=3.6						
ARU	Arti	24.54	341	P	P	00 33 26.4	0.0
ARU				IAmb	IAmb	00 33 41.6	
	comp=Z,3.5nm,1.0s						
LZH	Lanzhou	25.79	76	eP	P	00 33 39.0	+0.8
LZH				pP	sP	00 33 50.6	-1.7
LZH				sP	pP	00 33 54.5	+6.4

LZH				ePP	PnPn	00 34 20.3	+4.6
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
LZH				pmax	pmax		
	comp=Z,83nm,4.8s						
CMAR	Chiang Mai Arr	28.18	116	P	P	00 34 01.8	+2.1
	comp=Z,0.6nm,0.3s,baz=311,slow=8.2,SNR=1.5						
HHC	Hu-ho-hao-te	31.69	66	eP	P	00 34 33.2	+2.5
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,6.6s						
ELL	Elmali	34.63	287	P	P	00 34 57.5	+1.0
ELL				IAmb	IAmb	00 35 14.3	
	comp=Z,15nm,1.2s						
AKASG	Malin Array Be	35.57	312	P	P	00 35 04.3	+0.1
	comp=Z,0.3nm,0.2s,baz=81,slow=7.0,SNR=1.4						
FINES	FINESS Array B	40.36	328	P	P	00 35 43.6	-0.7
	comp=Z,0.9nm,0.8s,baz=110,slow=10,SNR=3.7						
ARCES	ARCESS Array B	44.06	338	P	P	00 36 13.4	-1.1
	comp=Z,1.3nm,0.9s,baz=116,slow=8.2,SNR=5.7						
NC303	NORSAR Array S	47.17	325	P	P	00 36 37.1	-2.0
NB201	NORSAR Array S	47.19	324	P	P	00 36 36.6	-2.8
NB2	NORSAR Subarra	47.23	324	P	P	00 36 38.3	-1.3
	comp=Z,2.6nm,0.9s,baz=95,slow=7.9						
NOA	NORSAR Array B	47.23	324	P	P	00 36 37.5	-2.1
	comp=Z,0.5nm,0.7s,baz=101,slow=8.0,SNR=1.9						
NBO00	NORSAR Array S	47.44	324	P	P	00 36 40.8	-0.5
TORD	Torodi Ar. Bea	66.88	271	P	P	00 39 00.5	+1.2
	comp=Z,0.4nm,0.8s,baz=58,slow=6.4,SNR=2.4						
WRA	Warramunga Arr	79.57	122	P	P	00 40 16.9	+2.9
	comp=Z,0.4nm,0.3s,baz=323,slow=5.0,SNR=2.2						
ASAR	Alice Springs	81.75	126	P	P	00 40 28.9	+3.3
	comp=Z,0.3nm,0.4s,baz=314,slow=5.4,SNR=1.6						

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*IDC **02** 01:01:57.6±1.8, 12.°53N×95.°55E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.5/52, mbtmp3.7/6, ML4.0/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/40, Error ellipse: s-maj=53.2km s-min=28.2km az=55.0*

*NEIC **02** 01:02:00.1±2.0, 12.°6N±0.°1×95.°55E±0.°09, h21km±8km, mb4.0/4, Error ellipse: s-maj=18.2km s-min=10.8km az=147.0*

ISC 02 01:01:59.0±1.5**, 12.°7N**±0.°2×**95.°7E**±0.°2**, h10**km**, n15, σ1.ˢ06**/12**, mb3.8**/7**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	3.01	251	Pn	Pn	01 02 44.9	-1.9
PBKT	Sadao Pong	6.45	52		Pn	01 03 33.3	-0.8
CMAR	Chiang Mai Arr	6.58	28	Pn	Pn	01 03 37.5	+1.6
	0.8nm,0.3s,baz=209,slow=16,SNR=7.4						
CHTO	Chiang Mai	6.90	27	Pn	Pn	01 03 39.7	-0.5
PALK	Pallekele	15.66	251	LR	LR	01 10 41.6	
	comp=Z,129nm,19.1s,baz=323,slow=34						
LSA	Lhasa	17.47	347	Pn	Pn	01 06 02.0	-1.3
MK31	Makanchi Array	35.85	344	P	P	01 08 58.5	-0.3
MK31				IAmb	IAmb	01 09 01.6	
	comp=Z,1.9nm,1.1s						
MKAR	Makanchi Array	35.85	344	P	P	01 08 60.0	+1.1
	comp=Z,1.1nm,0.8s,baz=155,slow=8.4,SNR=7.2						
MAKZ	Makanchi	35.94	344	P	P	01 08 59.1	-0.6
MAKZ				IAmb	IAmb	01 09 19.9	
	comp=Z,3.5nm,1.1s						
KURBB	Kurchatov Arra	40.36	343	P	P	01 09 37.8	+1.0
	comp=Z,1.0nm,0.7s,baz=163,slow=8.3,SNR=9.3						
KURK	Kurchatov	40.42	343	P	P	01 09 37.8	+0.5
GEYT	Alibeck	41.82	314	P	P	01 09 48.6	-0.5
	comp=Z,1.3nm,0.7s,baz=115,slow=9.7,SNR=3.5						
ZALV	Zalesovo Beam	42.08	350	P	P	01 09 52.3	+1.4
	comp=Z,0.4nm,0.3s,baz=170,slow=9.8,SNR=2.1						
FITZ	Fitzroy Crossi	42.54	135	LR	LR	01 29 07.7	
	comp=Z,62nm,18.0s,baz=270,slow=38						
WRA	Warramunga Arr	49.99	130	P	P	01 10 54.1	+0.3
	comp=Z,0.7nm,0.8s,baz=310,slow=8.9,SNR=3.2						

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*IDC **02** 01:12:04.0±0.5, 57.°99S×25.°92W, h108km±3km, mb4.7/18, mb1 4.8/20, mb1mx4.6/30, mbtmp5.0/20, MS3.6/16, Ms1 3.6/16, ms1mx3.6/20, Error ellipse: s-maj=11.6km s-min=9.8km az=51.0*

*BJI **02** 01:12:04.0±0.0, 58.°00S×26.°00W, h100km, mB5.6/2*

*NEIC **02** 01:12:05.2±1.6, 58.°0S±0.°1×26.°0W±0.°2, h120km±4km, mb4.9/28, Error ellipse: s-maj=16.3km s-min=13.1km az=216.0*

*GCMT **02** 01:12:05.2±0.3, 58.°18S±0.°03×25.°50W±0.°04, h109km±4km, MW4.9/89, Moment Tensor Solution. s25,c27; s89,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.18±.14; $M_{\theta\theta}$1.13±.20; $M_{\phi\phi}$1.05±.20; $M_{r\theta}$-1.27±.11; $M_{\theta\phi}$0.05±.15; $M_{\phi r}$2.00±.10; Best double couple: $M_0$2.86000×10^{16} NP1:ϕ_s326.00000°, δ17.00000°, λ-91.00000°. NP2: ϕ_s147.00000°, δ73.00000°, λ-90.00000°. Principal axes: T 2.2820, Plg28.0000°, Azm237.0000°; N 1.1560, Plg0.0000°, Azm327.0000°; P -3.4380, Plg62.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 01:12:04.2±0.5**, 58.°01S**±0.°06×**25.°83W**±0.°07**, h112**km±4km**, h112km:pP-P, n176, σ1.ˢ12**/208**, mb5.0**/25**, 2C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.02	298		Pn	01 13 45.2	+0.9
VNA1	Neumayer--Stat	14.70	157	P	Pn	01 15 27.4	+1.2
VNA3	Neumayer Olymp	14.89	159	P	Pn	01 15 29.4	+0.7
VNA2	Neumayer--Watz	15.10	156	P	P	01 15 32.5	-1.2
	baz=316,slow=14						
SNAA	Sanae	16.65	154	P	Pn	01 15 50.6	+0.1
SNAA	Sanae	16.65	154	P	Pn	01 15 50.5	-0.1
	5.1nm,0.3s,baz=315,slow=9.5,SNR=88						
SNAA				S	Sn	01 18 40.2	-15
	2.2nm,0.3s,baz=351,slow=18,SNR=8.7						
SNAA				LR	LR	01 21 03.1	
	comp=Z,197nm,20.9s,baz=9.0,slow=32						
SNAA				ScP	ScP	01 23 57.9	+1.0
	0.2nm,0.3s,baz=236,slow=2.4,SNR=5.2						
SNAA	Sanae	16.65	154		Pn	01 15 50.2	-0.4
SNAA				IAmb	IAmb	01 15 56.7	
	comp=Z,61nm,0.6s						
SNAA					ScP	01 23 57.9	+1.0
PMSA	Palmer Station	19.25	234	P	P	01 16 20.2	+0.7
	comp=Z,5.2nm,0.3s,baz=79,slow=7.4,SNR=82						
PMSA				PcP	PcP	01 20 38.3	+1.1
	comp=Z,0.6nm,0.3s,baz=22,slow=3.2,SNR=4.5						
PMSA				LR	LR	01 22 47.4	
	comp=Z,208nm,19.2s,baz=83,slow=34						
PMSA				ScP	ScP	01 24 03.1	+0.7
	comp=Z,0.7nm,0.3s,baz=51,slow=1.8,SNR=18						
PMSA	Palmer Station	19.25	234		ScP	01 24 02.9	+0.5
PMSA	Palmer Station	19.25	234	P	P	01 16 20.1	+0.7
PMSA				IAmb	IAmb	01 16 21.8	
	comp=Z,57nm,0.7s						
EFI	East Falkland	19.48	275	P	P	01 16 21.9	0.0
MG01	Puerto William	23.02	260	P	P	01 16 58.9	-0.3
MG01				IAmb	IAmb	01 17 01.8	
	comp=Z,62nm,0.8s						
USHA	Ushuaia	23.48	259	P	P	01 17 03.6	+0.1
	comp=Z,25nm,0.6s,baz=110,slow=3.1,SNR=12						
SYO	Syowa Base	29.61	138	⇑eP	P	01 17 56.2	-2.0
SYO	Syowa Base	29.61	138	⇑eP	P	01 18 00.6	+2.4
QSPA	South Pole Qui	32.24	180	P	P	01 18 22.2	+0.6
	comp=Z,28nm,0.5s,baz=208,slow=1.3,SNR=502						
QSPA				PcP	PcP	01 21 07.6	+0.5
	comp=Z,5.1nm,0.7s,baz=202,slow=5.4,SNR=2.4						
QSPA				ScP	ScP	01 24 40.7	+0.6
	comp=Z,3.0nm,0.6s,baz=176,slow=0.8,SNR=13						
QSPA				LR	LR	01 30 52.0	
	comp=Z,61nm,19.2s,baz=208,slow=35						
QSPA	South Pole Qui	32.24	180	P	P	01 18 22.5	+0.8
QSPA	South Pole Qui	32.24	180		ScP	01 24 41.1	+1.1
PLTB	Pedras Altas	32.36	312	eP	P	01 18 22.4	-0.4
PLCA	Paso Flores	33.10	282	P	P	01 18 29.0	-0.3
	comp=Z,25nm,0.7s,baz=144,slow=9.8,SNR=29						
PLCA				ScP	ScP	01 24 45.0	+1.5
	comp=Z,2.0nm,0.7s,baz=159,slow=8.7,SNR=3.1						
PLCA				LR	LR	01 32 17.1	
	comp=Z,62nm,18.1s,baz=124,slow=37						
PLCA	Paso Flores	33.10	282	P	P	01 18 29.3	+0.1
PLCA	Paso Flores	33.10	282	eP	P	01 18 29.0	-0.3
PARB	Paraibuna	37.45	329	eP	P	01 19 08.1	+1.5
MAN01	Angra dos Reis	37.47	332	eP	P	01 19 08.0	+1.2
BO02	Sierra Bellavi	37.73	288	P	P	01 19 06.8	-2.1
BO02				IAmb	IAmb	01 19 39.2	
	comp=Z,13nm,0.8s						
MAW	Mawson	38.14	142	P	P	01 19 12.0	+0.2
	comp=Z,15nm,0.5s,baz=231,slow=8.1,SNR=60						
MAW				PcP	PcP	01 21 25.3	+1.2
	comp=Z,2.3nm,0.4s,baz=256,slow=3.9,SNR=5.3						
MAW				ScP	ScP	01 25 02.4	+1.3
	comp=Z,3.2nm,0.8s,baz=283,slow=5.0,SNR=5.7						
MAW				LR	LR	01 32 14.1	
	comp=Z,81nm,20.8s,baz=238,slow=32						
MAW	Mawson	38.14	142	P	P	01 19 12.4	+0.5
VAO	Valinhos	38.14	327	eP	P	01 19 14.1	+1.6
CPUP	Villa Florida	38.66	311	P	P	01 19 15.5	-1.2
	comp=Z,4.5nm,0.8s,baz=145,slow=7.2,SNR=10.0						
CPUP				ScP	ScP	01 25 02.5	-1.4
	comp=Z,3.2nm,0.8s,baz=111,slow=5.2,SNR=7.2						
CPUP	Villa Florida	38.66	311	P	P	01 19 15.8	-0.9
CPUP				IAmb	IAmb	01 19 44.5	
	comp=Z,13nm,1.0s						
BSCB	Bom Sucesso	39.46	331	eP	P	01 19 24.5	+1.1
RIB01	Linhares ES	40.10	338	eP	P	01 19 29.1	+0.5
SUR	Sutherland	40.50	71	P	P	01 19 33.6	+1.5
	comp=Z,38nm,0.9s,baz=194,slow=9.0,SNR=14						
SUR	Sutherland	40.50	71	iP	P	01 19 32.7	+0.6
SUR	Sutherland	40.50	71	P	P	01 19 32.6	+0.6
SUR	Sutherland	40.50	71	iP	P	01 19 32.7	+0.6
BSFB	Barra de Sao F	40.66	338	eP	P	01 19 34.6	+1.4
SJMB	Sao Joao De Ma	40.85	337	eP	P	01 19 35.6	+0.8
IPMB	Ipameri, GO	43.26	328	eP	P	01 19 55.6	+1.2
AQDB	Aquidauana	43.34	317	eP	P	01 19 53.8	-1.3
MC01	Montes Claros	43.38	334	eP	P	01 19 56.2	+0.7
VNDA	Vanda	44.65	182	P	P	01 20 06.1	+1.2
	comp=Z,15nm,0.5s,baz=184,slow=7.2,SNR=127						
VNDA				pP	pP	01 20 30.7	+0.7
	comp=Z,10nm,1.0s,baz=167,slow=9.3,SNR=4.5						
VNDA				ScP	ScP	01 25 28.5	+1.5
	comp=Z,1.6nm,0.9s,baz=208,slow=2.4,SNR=3.7						
VNDA				LR	LR	01 36 59.4	
	comp=Z,88nm,19.7s,baz=196,slow=34						
VNDA	Vanda	44.65	182	P	P	01 20 05.5	+0.6
JANB	Januaria	45.06	334	eP	P	01 20 09.8	+1.0
GDU01	Guandu, BA	45.41	341	eP	P	01 20 12.2	+0.7
BDFB	Brasilia	45.43	329	P	P	01 20 12.8	+1.0
	comp=Z,7.2nm,0.6s,baz=147,slow=5.7,SNR=13						
BDFB				LR	LR	01 36 24.5	
	comp=Z,36nm,18.7s,baz=354,slow=32						
BDFB	Brasilia	45.43	329	P	P	01 20 11.8	-0.1
BOSA	Boshof	45.79	73	P	P	01 20 14.6	0.0
	comp=Z,32nm,0.9s,baz=205,slow=7.2,SNR=43						
BOSA				LR	LR	01 35 40.3	
	comp=Z,89nm,18.4s,baz=179,slow=31						
BOSA	Boshof	45.79	73	iP	P	01 20 14.8	+0.2
BOSA	Boshof	45.79	73	P	P	01 20 15.2	+0.6
BOSA	Boshof	45.79	73	iP	P	01 20 14.8	+0.2
ARAG	Araguaiana, MT	46.47	324	eP	P	01 20 19.6	-0.3
SALV	Santo Antonio	47.56	320	eP	P	01 20 27.9	-0.5
SDBA	SAO DESIDERIO	47.75	334	eP	P	01 20 30.9	+1.0
PEXB	Peixe	48.88	330	eP	P	01 20 39.7	+1.2
LBTB	Lobatse	48.92	70	P	P	01 20 38.9	+0.1
	comp=Z,49nm,0.8s,baz=211,slow=8.2,SNR=72						
LBTB	Lobatse	48.92	70	iP	P	01 20 38.7	-0.2
LBTB	Lobatse	48.92	70	P	P	01 20 39.5	+0.7
LBTB	Lobatse	48.92	70	iP	P	01 20 38.7	-0.2
PTLB	Pontes e Lacer	49.22	316	eP	P	01 20 41.3	+0.3
SIV	San Ignacio	49.46	313	P	P	01 20 41.6	-1.4
	comp=Z,2.3nm,0.5s,baz=159,slow=8.1,SNR=19						
TSUM	Tsumeb	50.04	58	iP	P	01 20 47.1	-0.3
TSUM	Tsumeb	50.04	58	P	P	01 20 48.8	+1.3
TSUM	Tsumeb	50.04	58	iP	P	01 20 47.1	-0.3
H10N1	ASCENSION HYDR	50.80	15	T	T	02 16 04.2	
	baz=188						
H10N3	ASCENSION HYDR	50.81	15	T	T	02 16 03.7	
	baz=188,slow=74						
H10N2	ASCENSION HYDR	50.82	15	T	T	02 16 05.7	
	baz=188,slow=74						
SMTB	Santa Maria do	51.81	332	eP	P	01 21 01.9	+1.3
VILB	Vilhena	51.91	316	eP	P	01 21 00.6	-0.7
LPAZ	La Paz	52.11	305	P	P	01 21 02.9	-0.6
	comp=Z,3.6nm,0.6s,baz=156,slow=5.5,SNR=18						
LPAZ				LR	LR	01 45 49.9	
	comp=Z,38nm,18.6s,baz=162,slow=39						
LPAZ	La Paz	52.11	305	P	P	01 21 02.9	-0.6
LPAZ				IAmb	IAmb	01 21 36.0	
	comp=Z,7.1nm,0.6s						
LPAZ	La Paz	52.11	305	eP	P	01 21 03.1	-0.4
MATP	Matopo	54.21	70	iP	P	01 21 16.6	-1.7
MATP	Matopo	54.21	70	iP	P	01 21 16.6	-1.7
BLWY	Bulawayo	54.50	70	iP	P	01 21 18.0	-2.4
BLWY	Bulawayo	54.50	70	iP	P	01 21 18.0	-2.4
PRPB	Parauapebas	54.97	330	eP	P	01 21 25.0	+1.4
NBMO	Morrinhos-CE	55.68	343	eP	P	01 21 30.2	+1.5
NPGB	Novo Progresso	55.74	324	eP	P	01 21 29.0	-0.2
SAML	Samuel	56.70	314	P	P	01 21 35.3	-0.7
SAML				IAmb	IAmb	01 22 05.9	
	comp=Z,6.7nm,0.7s						
SAML	Samuel	56.70	314	eP	P	01 21 35.3	-0.7
ROSB	Rosrio	56.81	338	eP	P	01 21 38.1	+1.4
LSZ	Lusaka	58.43	66	iP	P	01 21 44.7	-3.6
LSZ	Lusaka	58.43	66	P	P	01 21 49.1	+0.8
LSZ	Lusaka	58.43	66	iP	P	01 21 44.7	-3.6
MALB	Monte Alegre	60.32	327	eP	P	01 22 01.9	+0.8
MCPB	Macapa, AP	61.13	330	eP	P	01 22 07.9	+1.4
PTGA	Pitinga	63.17	321	P	P	01 22 19.6	-0.6
ABPO	Ambohimpanom	65.11	86	P	P	01 22 34.4	+1.4
ABPO				IAmb	IAmb	01 22 36.5	
	comp=Z,19nm,1.1s						
LIC	Lamto	66.19	23	eP	P	01 22 40.6	+0.8
	comp=Z,120nm,0.5s						
KIC	Kosan Boka	66.39	23	eP	P	01 22 41.5	+0.5
	comp=Z,111nm,0.8s						
TIC	Toumodi	66.61	23	eP	P	01 22 43.2	+0.8
DBIC	Dimbokro	66.66	23	P	P	01 22 43.6	+0.9
	comp=Z,22nm,0.3s,baz=170,slow=5.5,SNR=85						
DBIC				LR	LR	01 46 41.8	
	comp=Z,57nm,18.5s,baz=142,slow=31						
DBIC	Dimbokro	66.66	23	P	P	01 22 43.7	+0.9
MBAR	Mbarara	72.41	61	P	P	01 23 20.6	+2.2
MBAR				IAmb	IAmb	01 23 23.1	
	comp=Z,44nm,1.4s						
TOA0	Torodi Ar. Sit	74.42	28	P	P	01 23 30.7	+0.9
TORD	Torodi Ar. Bea	74.42	28	P	P	01 23 31.1	+1.3
	comp=Z,36nm,0.3s,baz=198,slow=6.0,SNR=1263						
TORD				LR	LR	01 48 59.8	
	comp=Z,28nm,21.5s,baz=140,slow=30						
NWAO	Narrogin (SRO)	84.26	149	P	P	01 24 22.7	-0.5
	comp=Z,10nm,0.8s,baz=149,slow=2.9,SNR=6.5						
TAM	Tamanrasset	84.63	29	P	P	01 24 26.4	+1.3
TAM				IAmb	IAmb	01 24 29.0	
	comp=Z,12nm,1.3s						
FORT	Forrest	88.88	158	P	P	01 24 45.7	0.0
STKA	Stephens Creek	89.84	169	P	P	01 24 50.5	+0.4
	comp=Z,5.3nm,0.8s,baz=174,slow=7.6,SNR=4.5						
STKA				pP	pP	01 25 18.1	-0.3
	comp=Z,3.7nm,0.9s,baz=156,slow=10.0,SNR=2.6						
STKA				LR	LR	02 02 10.0	
	comp=Z,44nm,19.5s,baz=205,slow=33						
PPT	Papeete	91.61	233	LR	LR	01 57 14.8	
	comp=Z,52nm,20.6s,baz=157,slow=30						
ASAR	Alice Springs	96.90	161	P	P	01 25 22.2	-0.5
	comp=Z,3.6nm,0.7s,baz=187,slow=3.7,SNR=20						
ASAR				PP	PP	01 29 15.8	-2.6
	comp=Z,0.8nm,0.8s,baz=192,slow=7.3,SNR=4.5						
ASAR				PKKP	PKKPdf	01 42 02.9	+1.9
	comp=Z,0.2nm,0.3s,baz=21,slow=2.8,SNR=4.4						
ASAR				LR	LR	02 07 27.7	
	comp=Z,57nm,18.3s,baz=164,slow=34						
DWPF	Disney Wildern	97.53	313	P	P	01 25 23.3	-1.9
KEST	Kesra	97.94	28	LR	LR	02 04 16.6	
	comp=Z,37nm,19.6s,baz=284,slow=32						
ESDC	Sonseca Array	99.03	17	P	Pdif	01 25 32.6	+0.9
	comp=Z,0.5nm,0.9s,baz=191,slow=4.7,SNR=3.0						
ESDC				LR	LR	02 06 04.3	
	comp=Z,31nm,18.2s,baz=130,slow=33						
FITZ	Fitzroy Crossi	100.58	152	P	Pdif	01 25 39.9	+0.8
	comp=Z,1.3nm,0.9s,baz=207,slow=9.0,SNR=1.4						
WRA	Warramunga Arr	100.61	161	P	Pdif	01 25 38.8	-0.5
	comp=Z,0.6nm,0.6s,baz=199,slow=4.2,SNR=3.2						
WRA				PKKP	PKKPdf	01 41 52.6	-1.7
	comp=Z,0.6nm,0.8s,baz=20,slow=2.7,SNR=2.2						
BRTR	Keskin Array B	109.28	45	PP	PP	01 30 49.2	-2.9
	comp=Z,1.3nm,0.8s,baz=192,slow=5.6,SNR=4.3						
GERES	GERESS Array B	111.36	27	PP	PP	01 31 06.0	-0.9
	comp=Z,0.5nm,0.8s,baz=190,slow=6.8,SNR=4.0						
KBZ	Khabaz	116.30	49	PKP	PKPdf	01 30 33.1	-0.3
	comp=Z,0.9nm,0.6s,baz=200,slow=4.4,SNR=3.5						
SCHQ	Schefferville	117.26	335	PKP	PKPdf	01 30 34.7	-0.2
	comp=Z,1.1nm,0.3s,baz=194,slow=2.2,SNR=6.1						
AKASG	Malin Array Be	117.35	36	PKP	PKPdf	01 30 34.5	-0.6
	comp=Z,0.3nm,0.3s,baz=236,slow=2.4,SNR=4.5						
PV12	Saucer Basin,	118.13	298		PKPdf	01 30 37.4	-0.1
BLS5	Blasjo	119.83	18	ePKPdf	PKiKP	01 30 42.2	+2.4
RSSD	Black Hills	120.59	305	PKPdf	PKPdf	01 30 41.8	-0.1
DUG	Dugway, Tooele	121.51	296		PKiKP	01 30 44.8	+0.8
NC602	NORSAR Array S	121.96	21	ePKPdf	PKiKP	01 30 45.6	+1.7
PDAR	Pinedale Array	122.00	300	PKP	PKPdf	01 30 44.4	-0.4
	comp=Z,0.9nm,0.6s,baz=136,slow=5.3,SNR=12						
PDAR				pPKP	pPKPdf	01 31 13.8	-0.2
	comp=Z,0.4nm,0.5s,baz=118,slow=5.4,SNR=2.9						
PDAR				SKP		01 34 09.3	
	comp=Z,0.8nm,0.8s,baz=130,slow=4.6,SNR=5.5						
ULM	Lac du Bonnet	122.17	315	PKP	PKPdf	01 30 43.7	-0.8
	comp=Z,5.3nm,0.7s,baz=218,slow=1.1,SNR=4.7						
NB2	NORSAR Subarra	122.19	20	PKPdf	PKPdf	01 30 44.2	-0.1
	comp=Z,2.0nm,0.9s,baz=202,slow=1.9						
NB2	NORSAR Subarra	122.19	20	PKPdf	PKPdf	01 30 44.2	-0.1
	comp=Z,2.0nm,0.9s,baz=202,slow=1.9						
NOA	NORSAR Array B	122.19	20	PKP	PKPdf	01 30 43.8	-0.4
	comp=Z,1.7nm,1.0s,baz=210,slow=2.1,SNR=4.3						
NOA				pPKP	pPKPdf	01 31 13.3	-0.1
	comp=Z,2.4nm,0.9s,baz=202,slow=1.7,SNR=5.8						
NIL	Nilore	122.48	78	PKPdf	PKiKP	01 30 46.0	+0.1
PBKT	Sadao Pong	123.08	114		PKPdf	01 30 47.0	-0.2
CMAR	Chiang Mai Arr	123.68	110	PKP	PKPdf	01 30 48.5	+0.1
	comp=Z,5.8nm,0.8s,baz=235,slow=3.9,SNR=23						
RLMT	Red Lodge	123.69	302		PKPdf	01 30 47.5	-0.4
GAR	Garm	125.10	71		PKPdf	01 30 50.1	-0.5
FINES	FINESS Array B	125.77	28	PKP	PKPdf	01 30 51.0	0.0
	comp=Z,5.4nm,0.5s,baz=163,slow=2.7,SNR=50						
FINES				pPKP	pPKPdf	01 31 20.1	-0.1
	comp=Z,6.9nm,0.6s,baz=164,slow=1.1,SNR=8.3						
FINES				SKPbc	SKPbc	01 33 54.5	
	comp=Z,1.6nm,0.9s,baz=174,slow=1.3,SNR=1.9						
KK31	Karatay Array	128.27	68	PKPdf	PKPdf	01 30 56.6	+0.2
KSH	Kashi	128.37	75	ePKP	PKiKP	01 30 58.7	+1.1
FAUS	Fauske	128.72	19	ePKPdf	PKPdf	01 30 56.9	+0.4
KLMR	Klimovskoe	129.01	35	ePKPdf	PKPdf	01 30 56.6	-0.6
KLMR				AMP		01 30 58.9	
	comp=Z,26nm,1.3s						
KLMR				esPKPdf	pPKPdf	01 31 24.6	-1.8
KLMR				ePP	PP	01 33 06.9	-0.4
KLMR				e		01 34 05.7	
AAK	Ala-Archa	129.92	71		PKPdf	01 31 00.2	+0.4
SUMG	Summit	130.59	355	PKPdf	PKiKP	01 31 01.9	+0.6
TRO	Tromso	131.34	19	ePKPdf	PKiKP	01 31 02.4	0.0
ARU	Arti	132.45	49	PKPdf	PKPdf	01 31 04.2	+0.3
ARCES	ARCESS Array B	132.49	22	PKP	PKPdf	01 31 03.4	-0.2
	comp=Z,2.0nm,0.3s,baz=223,slow=2.0,SNR=40						
ARCES				pPKP	pPKPdf	01 31 33.0	+0.2
	comp=Z,3.0nm,0.6s,baz=206,slow=1.9,SNR=3.9						
ARCES				PP	PP	01 33 29.5	-0.2
	comp=Z,2.4nm,1.0s,baz=196,slow=6.4,SNR=4.4						
ARCES				SKPbc	SKPbc	01 34 18.8	-1.2
	comp=Z,2.6nm,0.8s,baz=222,slow=1.6,SNR=7.9						
ARE0	ARCESS Array S	132.49	22	ePKPdf	PKPdf	01 31 03.8	+0.2
HAMF	Hammerfest	133.06	20	ePKPdf	PKPdf	01 31 05.3	+0.7
BRVK	Borovoye	135.16	58		PKPdf	01 31 09.1	0.0
CD2	Chengdu	136.41	106	Pdif	Pdif	01 28 20.0	+1.8
MAKZ	Makanchi	136.64	72	PKPdf	PKPdf	01 31 11.8	-0.3
MKAR	Makanchi Array	136.79	72	PKhKP	PKPpre	01 31 02.3	
	comp=Z,1.0nm,0.7s,baz=276,slow=3.5,SNR=6.6						
MKAR				PKP	PKPdf	01 31 11.3	-1.1
	comp=Z,2.4nm,0.7s,baz=248,slow=1.3,SNR=10.0						
MKAR				SKPbc	SKPbc	01 34 33.4	-1.2
	comp=Z,1.2nm,0.7s,baz=197,slow=1.3,SNR=5.5						
BBB	Bella Bella	137.46	297	PKPdf	PKPdf	01 31 10.2	-3.2
KURK	Kurchatov	137.55	66		PKPdf	01 31 14.0	+0.4
WMQ	Urumqi	137.55	80	ePKP	PKiKP	01 31 16.8	+0.9
YKA	Yellowknife Ar	138.11	316	PKP	PKPdf	01 31 14.6	+0.3
	comp=Z,11nm,0.8s,baz=137,slow=1.8,SNR=25						
YKA				pPKP	pPKPdf	01 31 43.7	+0.1
	comp=Z,8.5nm,0.8s,baz=122,slow=2.2,SNR=5.8						
YKA				SKPbc	SKPbc	01 34 37.4	-0.4
	comp=Z,4.1nm,0.8s,baz=113,slow=1.5,SNR=6.9						
SPA0	Spitsbergen Ar	138.33	12	ePKPdf	PKiKP	01 31 16.4	0.0
YOJ	Yonaguni jima	139.80	133	PKPdf	PKPdf	01 31 17.0	-1.5
RES	Resolute Bay	139.95	337	PKP	PKPdf	01 31 17.7	+0.4
	comp=Z,4.4nm,0.8s,baz=104,slow=5.3,SNR=2.8						
RES				SKPbc	SKPbc	01 34 43.2	+0.6
	comp=Z,19nm,1.0s,baz=174,slow=4.5,SNR=7.0						
LZH	Lanzhou	140.51	101	ePKP	PKiKP	01 31 22.8	+0.5
LZH				LR	LR		
	comp=Z,130nm,18.0s						
LZH				LR	LR		
	comp=Z,140nm,18.1s						
LZH				LR	LR		
	comp=Z,190nm,20.2s						
GTA	Gaotai	140.86	94	ePKP	PKiKP	01 31 23.3	+0.4
XAN	Xi'an	141.53	109	PKP	PKiKP	01 31 23.4	-0.9
ZAA0	Zalesovo Array	142.54	65	PKPdf	PKPdf	01 31 19.7	-2.8
ZALV	Zalesovo Beam	142.54	65	PKhKP	PKPdf	01 31 18.5	-4.0
	comp=Z,1.6nm,0.3s,baz=220,slow=3.5,SNR=11						
ZALV				SKPbc	SKPbc	01 34 48.5	-1.4
	comp=Z,0.3nm,0.3s,baz=276,slow=4.2,SNR=4.2						
NJ2	Nanjing	144.68	122	ePKP	PKiKP	01 31 30.1	-0.7
BTO	Baotou	147.10	102	ePKPbc	PKPbc	01 31 33.1	-0.3
TIA	Tai'an	147.31	116	PKPbc	PKPbc	01 31 34.2	+0.3
INK	Inuvik	147.78	318	PKPbc	PKPbc	01 31 34.0	-0.2
	comp=Z,19nm,0.7s,baz=95,slow=3.6,SNR=47						
INK				SKPbc	SKPbc	01 35 01.2	-0.2
	comp=Z,3.0nm,0.9s,baz=58,slow=2.7,SNR=4.4						
INK	Inuvik	147.78	318		PKPbc	01 31 34.1	-0.1
INK					SKPbc	01 35 00.0	-1.4
HHC	Hu-ho-hao-te	148.08	104	ePKPbc	PKPbc	01 31 36.6	+0.6
NRIK	Noril'sk	150.04	41	PKPbc	PKPbc	01 31 40.0	+0.2
	comp=Z,12nm,0.8s,baz=206,slow=3.8,SNR=12						
SONM	Songino Array	150.06	89	PKP	PKPdf	01 31 35.5	-0.1
	comp=Z,1.5nm,0.8s,baz=238,slow=2.2,SNR=7.3						
SONM				PKPbc	PKPbc	01 31 40.9	+0.2
	comp=Z,34nm,0.8s,baz=222,slow=3.1,SNR=104						
ULN	Ulaanbaatar	150.43	89		PKPbc	01 31 42.0	+0.3
JNU	Nakatsue	150.54	138	PKPbc	PKPbc	01 31 41.7	-0.5
	comp=Z,19nm,0.9s,baz=123,slow=3.6,SNR=6.3						
HDA	Harding Lake	151.88	308		PKiKP	01 31 44.8	+0.2
ILAR	Eielson Array	151.95	309	PKP	PKPdf	01 31 35.0	-2.8
	comp=Z,0.8nm,0.8s,baz=66,slow=2.2,SNR=8.0						
ILAR				PKPbc	PKiKP	01 31 44.8	0.0
	comp=Z,24nm,0.9s,baz=145,slow=2.3,SNR=109						
ILAR				pPKPbc	pPKPbc	01 32 13.7	0.0
	comp=Z,8.7nm,1.0s,baz=129,slow=1.5,SNR=3.5						
COLA	College	152.37	309		PKiKP	01 31 45.8	+0.3
WRH	Wood River Hil	152.38	308		PKPdf	01 31 38.0	-0.5
WRH				PKPbc	PKiKP	01 31 46.1	+0.4
KSRS	Korea Array	153.20	129	PKPbc	PKPbc	01 31 48.0	-0.1
	comp=Z,2.8nm,0.7s,baz=180,slow=1.7,SNR=9.9						
KSRS				PKPab	PKPab	01 31 59.1	-1.2
	comp=Z,4.7nm,0.7s,baz=228,slow=4.1,SNR=7.9						
BPAW	Bear Paw Mtn.	153.52	306		PKiKP	01 31 48.7	+0.6
PPLA	Purkeypile	153.77	303		PKPbc	01 31 48.1	-0.6
MJAR	Matsushiro Arr	156.07	147	PKPab	PKPab	01 32 12.4	-0.1
	comp=Z,0.5nm,0.3s,baz=202,slow=5.2,SNR=8.2						
USRK	Ussuriysk Ar.	160.51	126	PKPab	PKPab	01 32 30.9	-0.7
	comp=Z,2.2nm,0.7s,baz=252,slow=2.9,SNR=8.4						
PETK	Petropavlovsk-	174.70	204	PKP	PKPdf	01 31 56.7	-2.6
	comp=Z,3.8nm,1.0s,baz=160,slow=4.6,SNR=4.6						
PETK				PKPab	PKPab	01 33 33.8	-0.2
	comp=Z,2.6nm,0.7s,baz=146,slow=6.2,SNR=5.8						

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*KRNET **02** 01:12:40.8±0.1, 41.°57N×72.°66E, h24km, mb2.7*

*SOME **02** 01:12:41.2, 41.°50N×72.°70E, h15km*

*NNC **02** 01:12:43.8±1.2, 41.°72N×72.°68E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=11.9km s-min=4.5km az=172.0*

*KNET **02** 01:12:44.8±0.8, 41.°69N×72.°88E, h0km, ml2.2, Error ellipse: s-maj=7.7km s-min=4.9km az=165.0*

ISC 02 01:12:41.3±1.1**, 41.°59N**±0.°03×**72.°68E**±0.°02**, h6**km±10km**, n48, σ1.ˢ32**/81**, 31C-19D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob	0.35	139	⇓iP	Pg	01 12 48.2	0.0
	baz=35						
ARSB				⇓iS	Sg	01 12 53.3	+0.5
	baz=35						
ARK	Arkit	0.57	291	⇑iP	Pg	01 12 51.8	-0.6
	baz=93						
ARK				⇑iS	Sg	01 12 59.4	-0.4
	baz=93						
AML	Almayashu	0.93	54	⇓iP	Pg	01 12 58.5	-0.7
	baz=54						

AML				⇓iS	**Sg**	**01 13 12.0**	**+0.7**
	baz=54						
AML	**Almayashu**	**0.93**	**54**	⇑P	**Pg**	**01 12 59.3**	**+0.2**
	21nm,0.2s,SNR=12						
AML				⇑S	**Sg**	**01 13 11.5**	**+0.2**
	30nm,0.2s						
OHH	**Osh**	**1.07**	**176**	⇓iP	Pn	01 13 00.5	-2.4
	baz=75						
OHH				⇓iS	**Sb**	**01 13 14.2**	**-2.4**
	baz=75						
MRKS	**Merke**	**1.22**	**19**	eP	**Pn**	**01 13 05.2**	**+0.1**
	4.0nm,0.1s						
MRKS				eS	**Sn**	**01 13 21.3**	**-0.7**
	15nm,0.1s						
MRKS	**Merke**	**1.22**	**19**	P	**Pn**	**01 13 05.2**	**+0.1**
	4.0nm,0.1s						
MRKS				S	**Sn**	**01 13 21.3**	**-0.7**
	11nm,0.1s						
ARLS	**Aral**	**1.26**	**77**	⇑iP	**Pn**	**01 13 04.6**	**-1.0**
	baz=76						
ARLS				⇑iS	**Sb**	**01 13 22.2**	**+0.1**
	baz=76						
EKS2	**Erkin-Say**	**1.34**	**37**	⇑iP	**Pn**	**01 13 05.8**	**-1.0**
	baz=37						
EKS2				⇑iS	**Sg**	**01 13 24.6**	**+0.1**
	baz=37						
EKS2	**Erkin-Say**	**1.34**	**37**	⇑P	**Pn**	**01 13 06.8**	**0.0**
	4.0nm,0.1s,SNR=15						
UCH	**Uchtor**	**1.51**	**65**	⇑iP	**Pn**	**01 13 08.5**	**-0.8**
	baz=64						
UCH				⇑iS	**Sn**	**01 13 29.0**	**-0.6**
	baz=64						
UCH	**Uchtor**	**1.51**	**65**	⇓P	**Pn**	**01 13 10.0**	**+0.7**
	5.7nm,0.2s,SNR=33						
UCH				⇓S	**Sg**	**01 13 30.5**	**+0.7**
	25nm,0.3s						
DZA	**Taraz**	**1.64**	**323**	eP	**Pb**	**01 13 13.2**	**+1.2**
	34nm,0.1s						
DZA				eS	**Sg**	**01 13 35.2**	**+1.2**
	70nm,0.2s						
AAK	**Ala-Archa**	**1.71**	**52**	⇑iP	**Pn**	**01 13 12.2**	**+0.4**
	baz=51						
AAK				⇑iS	**Sb**	**01 13 35.1**	**+0.1**
	baz=51						
AAK	**Ala-Archa**	**1.71**	**52**	⇓P	**Pb**	**01 13 14.4**	**+1.2**
	10nm,0.2s,SNR=9.5						
AAK	**Ala-Archa**	**1.71**	**52**	⇓P	**Pb**	**01 13 14.4**	**+1.2**
	5.1nm,0.3s						
AAK				⇑S	**Sb**	**01 13 35.1**	**+0.1**
	2.9nm,0.2s						
FRU1	**Bishkek**	**1.89**	**49**	⇑iP	**Pn**	**01 13 15.0**	**+0.7**
	baz=49						
FRU1				⇑iS	**Sb**	**01 13 39.2**	**-1.1**
	baz=49						
KZA	**Kyzart**	**1.98**	**75**	⇑iP	**Pn**	**01 13 16.1**	**+0.3**
	baz=74						
KZA				⇑iS	**Sn**	**01 13 41.9**	**+0.7**
	baz=74						
KZA	**Kyzart**	**1.98**	**75**	⇑P	**Pb**	**01 13 18.6**	**+0.6**
	8.0nm,0.2s,SNR=14						
KZA				⇑S	**Sg**	**01 13 45.4**	**+0.4**
	18nm,0.2s						
KBK	**Karagaybulak**	**2.00**	**57**	⇓iP	**Pn**	**01 13 16.2**	**+0.4**
	baz=57						
KBK				⇓iS	**Sb**	**01 13 42.3**	**-1.0**
	baz=57						
KBK	**Karagaybulak**	**2.00**	**57**	⇓P	**Pb**	**01 13 19.3**	**+1.2**
	7.0nm,0.1s,SNR=18						
IUG	**Iuzhnay**	**2.05**	**287**	eP	**Pb**	**01 13 20.0**	**+0.9**
	18nm,0.2s						
IUG				eS	**Sb**	**01 13 47.2**	**+2.3**
	47nm,0.3s						
IUG	**Iuzhnay**	**2.05**	**287**	Pg	**Pb**	**01 13 20.0**	**+0.9**
	18nm,0.2s						
IUG				Lg	Lg	01 13 47.2	
	47nm,0.3s						
CHMS	**Chumysh**	**2.08**	**47**	⇑eP	**Pn**	**01 13 17.2**	**+0.3**
	baz=47						
CHMS				⇑iS	**Sb**	**01 13 44.3**	**-1.4**
	baz=47						
BTK	**Batken**	**2.08**	**223**	⇑iP	**Pn**	**01 13 16.6**	**-0.3**
	baz=23						
BTK				⇑iS	**Sn**	**01 13 42.7**	**-0.5**
	baz=23						
KK31	**Karatay Array**	**2.21**	**314**	⇑Pg	**Pb**	**01 13 21.4**	**-0.2**
	1.2nm,0.2s,baz=131,slow=16,SNR=59						
KK31				⇑Lg	Lg	01 13 51.5	
	4.0nm,0.3s,baz=134,slow=31,SNR=11						
SGDS	**Sogindy**	**2.35**	**37**	Pg	**Pb**	**01 13 24.6**	**+0.4**
	13nm,0.3s						
SGDS				Lg	Lg	01 13 56.5	
	18nm,0.1s						
TKM2	**Tokmak 2**	**2.54**	**58**	⇓iP	**Pn**	**01 13 23.7**	**+0.4**
	baz=57						
TKM2				⇓iS	**Sn**	**01 13 55.1**	**+0.4**
	baz=57						
TKM2	**Tokmak 2**	**2.54**	**58**	⇑P	**Pb**	**01 13 28.4**	**+0.9**
	9.3nm,0.3s,SNR=11						
TKM2	**Tokmak 2**	**2.54**	**58**	⇑Pn	**Pb**	**01 13 28.4**	**+0.9**
	3.1nm,0.3s						
TKM2				⇑Lg	Lg	01 14 02.0	
	14nm,0.7s						
BRLS	**Borolday**	**2.55**	**305**	eP	**Pb**	**01 13 28.5**	**+1.0**
	6.1nm,0.5s						
BRLS				eS	**Sg**	**01 14 01.9**	**-1.3**
	15nm,0.4s						
BRLS	**Borolday**	**2.55**	**305**	Pg	**Pb**	**01 13 28.5**	**+1.0**
	6.1nm,0.5s						
BRLS				Lg	Lg	01 14 01.8	
	15nm,0.4s						
BOOM	**Boomskoye usch**	**2.59**	**69**	⇓iP	**Pn**	**01 13 24.2**	**+0.3**
	baz=68						
BOOM				⇓iS	**Sn**	**01 13 56.1**	**+0.3**
	baz=68						
ULHL	**Ulahol**	**2.74**	**75**	⇑iP	**Pn**	**01 13 26.2**	**+0.2**
	baz=75						
ULHL				⇑iS	**Sn**	**01 13 59.7**	**+0.1**
	baz=75						
DGS	**Degeres**	**2.82**	**53**	eP	**Pb**	**01 13 32.9**	**+0.7**
	4.8nm,0.3s						
DGS				eS	**Sg**	**01 14 09.9**	**-2.0**
	14nm,0.6s						
DGS	**Degeres**	**2.82**	**53**	Pg	**Pb**	**01 13 32.6**	**+0.4**
	4.8nm,0.3s						
DGS				Lg	Lg	01 14 08.8	
	14nm,0.6s						
KST	**Kastek**	**2.83**	**58**	eP	**Pb**	**01 13 33.9**	**+1.5**
	9.2nm,0.3s						
KST				eS	**Sg**	**01 14 11.4**	**-0.9**
	16nm,0.6s						
KST	**Kastek**	**2.83**	**58**	Pg	**Pb**	**01 13 33.9**	**+1.5**
	9.2nm,0.3s						
KST				Lg	Lg	01 14 11.4	
	16nm,0.6s						
MTBS	**Maitube**	**3.18**	**60**	eP	**Pb**	**01 13 39.9**	**+1.7**
	4.1nm,0.1s						
MTBS				eS	**Sg**	**01 14 21.5**	**-1.8**
	15nm,0.3s						
TNSS	**Tian-Shan**	**3.48**	**64**	eP	**Pb**	**01 13 45.8**	**+2.2**
	4.5nm,0.4s						
TNSS				eS	**Sg**	**01 14 31.3**	**-1.7**
	14nm,0.6s						
KUU	**Kurty**	**3.54**	**48**	eP	**Pb**	**01 13 46.6**	**+2.2**
	1.3nm,0.1s						
KUU				eS	**Sg**	**01 14 33.1**	**-2.0**
	6.6nm,0.2s						
KUU	**Kurty**	**3.54**	**48**	Pg	**Pb**	**01 13 46.6**	**+2.2**
	1.3nm,0.1s						
KUU				Lg	Lg	01 14 33.1	
	6.6nm,0.2s						
BTLS	**Baital**	**3.59**	**16**	eP	**Pb**	**01 13 47.9**	**+2.8**
	1.6nm,0.2s						
BTLS				eS	**Sg**	**01 14 34.6**	**-2.0**
	4.1nm,0.3s						
MDOK	**Medeo**	**3.60**	**63**	⇓Pg	**Pb**	**01 13 47.8**	**+2.3**
	7.1nm,0.8s						
MDOK				⇓Lg	Lg	01 14 35.2	
	5.5nm,0.6s						
KTBS	**Karatobe**	**3.63**	**53**	eP	**Pb**	**01 13 47.4**	**+1.4**
	1.1nm,0.3s						
KTBS				eS	**Sg**	**01 14 34.3**	**-3.7**
	9.3nm,0.7s						
KTBS	**Karatobe**	**3.63**	**53**	Pg	**Pb**	**01 13 47.4**	**+1.4**
	1.1nm,0.3s						
KTBS				Lg	Lg	01 14 34.3	
	9.3nm,0.7s						
KOTS	**Kotyrbulak**	**3.67**	**62**	eP	**Pb**	**01 13 49.4**	**+2.8**
	5.4nm,0.3s						
KOTS				eS	**Sg**	**01 14 37.9**	**-1.3**
	20nm,0.6s						
CHKK	**Chushkaly**	**3.90**	**53**	eP	**Pb**	**01 13 53.2**	**+2.7**
	0.9nm,0.1s						
CHKK				eS	**Sg**	**01 14 44.0**	**-2.4**
	5.0nm,0.2s						

*DJA **02** 01:16:42.9±1.5, 3°N±13°×12°7E±°, h24km±24km, M4.2/8, mB5.0/1, mb4.4/6, MLv4.3/8, MLv4.0/1, Mw(mB)4.3/1*
*NEIC **02** 01:16:45.7±1.3, 2°.85N±0°.06×126°.6E±0°.1, h97km±6km, mb4.3/20, Error ellipse: s-maj=16.1km s-min=7.5km az=71.0*
*MAN **02** 01:16:46.5, 3°.27N×126°.58E, h11km, MS3.9*
*IDC **02** 01:16:53.7±3.0, 2°.82N×126°.71E, h173km±32km, mb3.7/13, mb1 3.9/16, mb1mx3.6/48, mbtmp4.3/16, Error ellipse: s-maj=25.1km s-min=11.4km az=78.0*
ISC 02 01:16:45.8±0.5**, 2°.95N**±0°.05×**126°.73E**±0°.08**, h100km, n50, σ1s.91**/54**, mb4.2**/19**, 1D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.26**	**164**	P	**Pn**	**01 17 20.8**	**-1.0**
TNTI				S	**Sn**	**01 17 50.1**	**+0.8**
TNTI	**Ternate**	**2.26**	**164**		**Pn**	**01 17 20.6**	**-1.2**
DDMP	**Don Marcelino,**	**3.29**	**342**	eP	**Pn**	**01 17 33.7**	**-1.9**
DDMP				eS	**Sn**	**01 18 09.4**	**-4.5**
SKMP	**Bagumbayan, Su**	**4.16**	**328**	eP	**Pn**	**01 17 46.4**	**-0.8**
SKMP				eS	**Sn**	**01 18 31.8**	**-3.1**
DAV	**Davao City (W)**	**4.25**	**344**	S	**Sn**	**01 18 42.5**	**+5.6**
	52nm,0.3s,baz=223,slow=19,SNR=1.8						
DAV	**Davao City (W)**	**4.25**	**344**	Pn	**Pn**	**01 17 49.0**	**+0.6**
KCP	**Kidapawan**	**4.35**	**338**	⇓eP	**Pn**	**01 17 49.9**	**0.0**
KCP				i S	**Sn**	**01 18 32.6**	**-6.9**
GTOI	**Gorontalo**	**4.38**	**238**	P	**Pn**	**01 17 52.5**	**+2.4**
SANI	**Sanana**	**5.03**	**189**	P	**Pn**	**01 17 59.2**	**+0.3**
	0.5nm1μm21nm,0.5s						
BUKP	**Musuan**	**5.17**	**341**	eP	**Pn**	**01 17 59.8**	**-1.1**
BUKP				eS	**Sn**	**01 18 58.6**	**-0.7**
LUWI	**Luwuk**	**5.61**	**225**	P	**Pn**	**01 18 08.8**	**+2.0**
	0.3nm34nm,0.5s						
LUWI	**Luwuk**	**5.61**	**225**	Pn	**Pn**	**01 18 04.6**	**-2.2**
SIJI	**Sorong**	**5.91**	**130**	P	Pn	01 18 19.6	+8.7
	3.5nm,0.3s,baz=336,slow=20,SNR=2.8						
SIJI				S	**Sn**	**01 19 14.6**	**-2.9**
	2.2nm,0.3s,baz=233,slow=20,SNR=1.8						
NLAI	**Namlea**	**6.16**	**177**	P	**Pn**	**01 18 13.9**	**-0.5**
	0.3nm27nm,0.7s						
FAKI	**Fak Fak**	**8.03**	**137**	P	**Pn**	**01 18 39.2**	**-0.6**
BATI	**Baumata**	**13.43**	**193**	P	**P**	**01 19 56.4**	**-1.8**
	17nm,0.3s,baz=56,slow=3.6,SNR=9.7						
JAY	**Jayapura**	**14.98**	**111**	P	**P**	**01 20 16.3**	**+0.7**
	0.9nm,0.3s,baz=265,slow=7.3,SNR=2.6						
KNRA	**Kununurra**	**18.62**	**174**	P	**P**	**01 20 53.3**	**-2.3**
KNRA				IAmb	IAmb	01 21 05.2	
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.95**	**183**	P	**P**	**01 21 20.2**	**-0.6**
	comp=Z,2.4nm,0.5s,baz=18,slow=8.6,SNR=2.7						
WB0	**Warramunga Arr**	**23.80**	**162**	P	**P**	**01 21 48.2**	**-1.4**
WRA	**Warramunga Arr**	**23.95**	**162**	P	**P**	**01 21 50.6**	**-0.4**
	comp=Z,5.9nm,0.4s,baz=342,slow=9.9,SNR=64						
WB2	**Warramunga Arr**	**23.95**	**162**	P	**P**	**01 21 50.9**	**-0.1**
WR0	**Warramunga Arr**	**24.03**	**162**	P	**P**	**01 21 51.6**	**-0.1**
WR0				IAmb	IAmb	01 21 52.7	
	comp=Z,11nm,0.7s						
PSA00	**Pilbara Seismi**	**25.29**	**195**	P	**P**	**01 22 00.7**	**-2.5**
AS31	**Alice Springs**	**27.36**	**166**	P	**P**	**01 22 20.2**	**-1.6**
ASAR	**Alice Springs**	**27.37**	**166**	P	**P**	**01 22 21.7**	**-0.1**
	comp=Z,2.9nm,0.5s,baz=348,slow=7.2,SNR=48						
CMAR	**Chiang Mai Arr**	**31.27**	**302**	P	**P**	**01 22 58.1**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=119,slow=8.1,SNR=5.3						
KSRS	**Korea Array**	**34.35**	**2**	P	**P**	**01 23 24.3**	**+1.2**
	comp=Z,2.4nm,0.7s,baz=174,slow=9.6,SNR=7.1						
STKA	**Stephens Creek**	**37.41**	**159**	P	**P**	**01 23 49.7**	**+0.5**
	comp=Z,7.4nm,0.6s,baz=331,slow=9.3,SNR=14						
STKA	**Stephens Creek**	**37.41**	**159**	IAmb	IAmb	01 23 50.5	
	comp=Z,3.3nm,1.0s						
BJT	**Baijiatuau**	**38.12**	**347**	P	**P**	**01 23 56.0**	**+0.9**
SHL	**Shillong**	**40.34**	**307**	P	**P**	**01 24 13.8**	**-0.3**
USA0B	**Ussuriysk Arra**	**41.34**	**6**	P	**P**	**01 24 23.0**	**+1.3**
USA0B				IAmb	IAmb	01 24 25.4	
	comp=Z,4.4nm,1.0s						
USRK	**Ussuriysk Ar.**	**41.34**	**6**	P	**P**	**01 24 23.5**	**+1.8**
	comp=Z,2.3nm,0.7s,baz=193,slow=5.9,SNR=5.0						
LSA	**Lhasa**	**42.95**	**312**	P	**P**	**01 24 35.4**	**-0.4**
KLR	**Kul'dur**	**46.30**	**5**	P	**P**	**01 25 02.2**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=220,slow=7.4,SNR=4.8						
ULN	**Ulaanbaatar**	**47.85**	**342**	P	**P**	**01 25 14.4**	**+0.7**
ULN				IAmb	IAmb	01 25 16.4	
	comp=Z,5.1nm,1.1s						
SONM	**Songino Array**	**48.03**	**342**	P	**P**	**01 25 17.1**	**+2.0**
	comp=Z,0.8nm,0.5s,baz=165,slow=8.0,SNR=6.0						
PETK	**Petropavlovsk-**	**56.14**	**22**	P	**P**	**01 26 16.4**	**+1.4**
	comp=Z,1.2nm,0.6s,baz=184,slow=4.1,SNR=5.0						
MK31	**Makanchi Array**	**58.19**	**326**	P	**P**	**01 26 30.7**	**+1.1**
MKAR	**Makanchi Array**	**58.19**	**326**	P	**P**	**01 26 30.4**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=120,slow=8.0,SNR=22						
AAK	**Ala-Archa**	**60.93**	**318**	P	**P**	**01 26 46.8**	**-1.8**
ZAA0	**Zalesovo Array**	**61.28**	**333**	P	**P**	**01 26 49.8**	**-0.7**
ZAA0				IAmb	IAmb	01 26 52.3	
	comp=Z,3.8nm,1.4s						
ZALV	**Zalesovo Beam**	**61.28**	**333**	P	**P**	**01 26 51.0**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=114,slow=7.5,SNR=3.8						
KURK	**Kurchatov**	**62.39**	**328**	P	**P**	**01 26 57.7**	**-0.3**
KURK				IAmb	IAmb	01 26 59.4	
	comp=Z,2.3nm,0.7s						
GAR	**Garm**	**62.45**	**313**	P	**P**	**01 26 59.2**	**+0.4**
KK31	**Karatay Array**	**63.80**	**317**	P	**P**	**01 27 07.9**	**+0.4**
KK31				IAmb	IAmb	01 27 50.5	
	comp=Z,7.6nm,1.7s						
KKAR	**Karatay Array**	**63.80**	**317**	P	**P**	**01 27 06.8**	**-0.7**
KKAR				IAmb	IAmb	01 27 50.5	
	comp=Z,7.6nm,1.7s						
BRVK	**Borovoye**	**68.04**	**327**	P	**P**	**01 27 34.7**	**+0.2**
ARCES	**ARCESS Array B**	**91.17**	**340**	P	**P**	**01 29 39.6**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=99,slow=7.5,SNR=7.1						

*IDC **02** 01:45:06.1±2.1, 7°.31N×127°.73E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/29, mbtmp3.5/4, Error ellipse: s-maj=192.5km s-min=24.2km az=71.0*
*MAN **02** 01:45:10.6, 6°.86N×125°.60E, h26km, MS3.0*
ISC 02 01:45:11.9±1.0**, 6°.85N**±0°.06×**125°.55E**±0°.06**, h51km, n9, σ1s.88**/11**, mb3.5**/4**, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.49**	**290**	⇓eP	Pn	01 45 19.7	-3.4
KCP				i S	**Sn**	**01 45 27.9**	**-3.3**
MATI	**Mati**	**0.71**	**82**	eP	**Pn**	**01 45 24.0**	**-1.7**
MATI				eS	**Sn**	**01 45 34.3**	**-1.6**
DDMP	**Don Marcelino,**	**0.75**	**168**	eP	**Pn**	**01 45 25.5**	**-0.9**
DDMP				eS	**Sn**	**01 45 37.6**	**+0.6**
SKMP	**Bagumbayan, Su**	**1.05**	**252**	eP	**Pn**	**01 45 29.0**	**-1.3**
BUKP	**Musuan**	**1.14**	**335**	eP	**Pn**	**01 45 30.6**	**-0.9**
BUKP				eS	**Sn**	**01 45 46.5**	**+0.4**
WRA	**Warramunga Arr**	**27.99**	**162**	P	**P**	**01 50 58.1**	**0.0**
	0.3nm,0.7s,baz=346,slow=10,SNR=1.5						
ASAR	**Alice Springs**	**31.40**	**165**	P	**P**	**01 51 28.4**	**+0.1**
	0.5nm,0.6s,baz=349,slow=7.2,SNR=6.4						
SONM	**Songino Array**	**43.99**	**341**	P	**P**	**01 53 17.2**	**+2.8**
	0.3nm,0.3s,baz=155,slow=8.5,SNR=2.1						
MKAR	**Makanchi Array**	**54.35**	**325**	P	P	01 54 41.5	+8.1
	0.3nm,0.5s,baz=111,slow=8.0,SNR=2.5						

*NNC **02** 01:51:39.9±1.7, 44°.36N×80°.85E, h0km, mb1.9, mpv2.7, Error ellipse: s-maj=17.5km s-min=9.1km az=137.0*
*SOME **02** 01:51:41.1, 44°.35N×80°.78E, h15km*
ISC 02 01:51:38.1±1.7**, 44°.35N**±0°.07×**80°.86E**±0°.08**, h7km**±17km**, n10, σ0s.78**/18**, 2C-4D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.77**	**269**	⇓iP	**Pn**	**01 51 55.0**	**-0.6**
	8.3nm,0.2s						
DJR				⇑iS	**Sb**	**01 52 05.3**	**+0.7**
	4.7nm,0.2s						
DJR	**Jarkent**	**0.77**	**269**	P	**Pn**	**01 51 54.9**	**-0.6**
	8.3nm,0.2s						
DJR				S	**Sb**	**01 52 05.3**	**+0.7**
	4.7nm,0.2s						
KAPS	**Kapalarasan**	**1.42**	**312**	⇓eP	**Pb**	**01 52 05.5**	**+0.5**
	0.6nm,0.2s						
KAPS				⇓iS	**Sb**	**01 52 23.5**	**0.0**
	5.3nm,0.3s						
UZB	**Uzynbulak**	**1.79**	**229**	eP	**Pg**	**01 52 12.8**	**+0.3**
	0.7nm,0.1s						
UZB				eS	**Sg**	**01 52 35.8**	**+0.1**
	3.9nm,0.1s						
UZB	**Uzynbulak**	**1.79**	**229**	P	**Pg**	**01 52 12.8**	**+0.3**
	0.7nm,0.1s						
UZB				S	**Sg**	**01 52 35.8**	**+0.1**
	3.9nm,0.2s						
ARXS	**Arharly**	**2.18**	**268**	eP	**Pg**	**01 52 20.7**	**+0.7**
	1.4nm,0.1s						
ARXS				eS	**Sg**	**01 52 49.2**	**+1.0**
	4.8nm,0.1s						
SATY	**Saty**	**2.19**	**235**	eP	**Pg**	**01 52 20.1**	**-0.1**
	2.4nm,0.1s						
SATY				eS	**Sg**	**01 52 48.5**	**-0.2**
	14nm,0.2s						
SATY	**Saty**	**2.19**	**235**	Pg	**Pg**	**01 52 20.1**	**-0.1**
	2.3nm,0.1s						
SATY				Lg	Lg	01 52 48.4	
	14nm,0.2s						
MK31	**Makanchi Array**	**2.65**	**22**	⇑Pg	**Pg**	**01 52 28.8**	**0.0**
	0.1nm,0.3s						
MK31				⇓Lg	Lg	01 53 00.3	
	0.1nm,0.2s,baz=194,slow=30,SNR=6.9						
KTBS	**Karatobe**	**3.08**	**260**	eP	**Pg**	**01 52 35.8**	**-1.3**
	1.2nm,1.1s						
KTBS				eS	**Sg**	**01 53 15.3**	**-1.7**
	2.5nm,0.7s						

IDC 02 01:56:16.3±5.0**, 7°.40N**×**136°.98E, h0km, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.5**/26**, mbtmp3.5**/4**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.5**/17**, Error ellipse: s-maj=261.3km s-min=25.1km az=78.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.29**	**185**	P	P	02 02 02.7	-0.1
	0.3nm,0.6s,baz=3.2,slow=10.0,SNR=2.6						
H11S3	**WAKE ISLAND Hy**	**30.93**	**66**	T	T	02 35 24.7	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**30.94**	**66**	T	T	02 35 22.0	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**30.95**	**66**	T	T	02 35 24.2	
	baz=253						
ASAR	**Alice Springs**	**31.02**	**185**	P	P	02 02 36.0	+0.2
	0.2nm,0.5s,baz=18,slow=12,SNR=5.0						
KSRS	**Korea Array**	**31.03**	**346**	LR	LR	02 15 09.6	
	comp=Z,26nm,18.3s,baz=172,slow=36						
SONM	**Songino Array**	**47.95**	**333**	P	P	02 04 57.2	+0.4
	0.5nm,0.5s,baz=133,slow=8.1,SNR=4.2						
MKAR	**Makanchi Array**	**60.87**	**320**	P	P	02 06 30.2	-0.6
	0.6nm,0.8s,baz=111,slow=7.9,SNR=4.1						

IDC 02 02:01:42.8±7.1**, 31°.13S**×**179°.34W, h0km, mb3.7**/2**, mb1 3.9**/2**, mb1mx3.6**/17**, mbtmp3.7**/2**, Error ellipse: s-maj=293.0km s-min=58.6km az=157.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.93**	**268**	P	P	02 09 35.5	+0.1
	0.4nm,0.8s,baz=94,slow=8.7,SNR=2.7						
WRA	**Warramunga Arr**	**42.99**	**274**	P	P	02 09 43.9	-0.2
	0.7nm,0.3s,baz=115,slow=8.0,SNR=9.1						
FINES	**FINESS Array B**	**145.42**	**339**	PKPbc	PKPbc	02 21 21.1	-0.9
	1.3nm,0.9s,baz=59,slow=4.6,SNR=7.3						

*IDC **02** 02:14:31.3±1.2, 25°.86N×142°.30E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/26, mbtmp3.8/5, MS2.6/1, Ms1 2.8/1, ms1mx2.3/26, Error ellipse: s-maj=77.6km s-min=23.4km az=94.0*
*NEIC **02** 02:14:38.1±2.2, 25°.86N±0°.09×142°.5E±0°.4, h48km±7km, mb4.1/2, Error ellipse: s-maj=48.4km s-min=13.3km az=88.0*
ISC 02 02:14:36.6±1.2**, 25°.8N**±0°.1×**142°.5E**±0°.4**, h36km, n15, σ0s.96**/8**, mb3.9**/6**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.32**	**346**		**Pn**	**02 14 58.8**	**+0.2**
H11N1	**WAKE ISLAND Hy**	**23.25**	**100**	T	T	02 43 42.6	
	baz=290,slow=74,SNR=13						
H11N2	**WAKE ISLAND Hy**	**23.25**	**100**	T	T	02 43 31.6	
	baz=290,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hy**	**23.26**	**100**	T	T	02 43 43.0	
	baz=290,slow=74,SNR=12						
H11S3	**WAKE ISLAND Hy**	**23.50**	**103**	T	T	02 43 50.6	
	baz=293						
H11S1	**WAKE ISLAND Hy**	**23.51**	**103**	T	T	02 43 50.8	
	baz=293						
H11S2	**WAKE ISLAND Hy**	**23.52**	**103**	T	T	02 43 52.3	
	baz=293						
CMAR	**Chiang Mai Arr**	**40.89**	**269**	LR	LR	02 39 49.3	
	comp=Z,7.7nm,18.1s,baz=90,slow=37						
WB2	**Warramunga Arr**	**46.17**	**191**	P	**P**	**02 22 59.2**	**+1.4**
WRA	**Warramunga Arr**	**46.17**	**191**	P	**P**	**02 22 58.5**	**+0.6**
	1.3nm,0.4s,baz=8.8,slow=8.4,SNR=14						
AS31	**Alice Springs**	**49.88**	**190**	P	**P**	**02 23 25.9**	**-0.7**
AS31				IAmb	IAmb	02 24 23.3	
	comp=Z,2.6nm,1.4s						
ASAR	**Alice Springs**	**49.89**	**190**	P	**P**	**02 23 25.8**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=6.7,slow=7.9,SNR=5.9						
ILAR	**Eielson Array**	**58.69**	**28**	P	**P**	**02 24 30.4**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=263,slow=5.0,SNR=3.0						
FINES	**FINESS Array B**	**79.24**	**334**	P	**P**	**02 26 38.0**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=70,slow=5.0,SNR=27						
NOA	**NORSAR Array B**	**84.92**	**338**	P	**P**	**02 27 06.7**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=46,slow=4.8,SNR=1.5						

*IDC **02** 02:16:47.0±4.2, 0°.95N×97°.16E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/27, mbtmp3.7/5, Error ellipse: s-maj=178.0km s-min=24.7km az=58.0*
*DJA **02** 02:16:48.8±2.7, 1°N±6°×9°7E±1°7, h22km±17km, M3.5/6, MLv3.5/6*
*NEIC **02** 02:16:51.0±0.9, 0°.8N±0°.1×97°.10E±0°.08, h29km±9km, mb4.1/2, Error ellipse: s-maj=16.7km s-min=11.3km az=179.0*
ISC 02 02:16:50.3±1.3**, 0°.83N**±0°.07×**97°.0E**±0°.1**, h25km, n18, σ0s.70**/15**, mb3.9**/7**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.72**	**50**	P	**Pn**	**02 17 04.8**	**-0.1**
GSI	**Gunungsitoli**	**0.72**	**50**	Pn	**Pb**	**02 17 04.2**	**0.0**
PBSI	**Pulau Batu**	**1.54**	**125**	P	**Pn**	**02 17 16.3**	**+0.2**
MNSI	**Mandailing Nat**	**2.56**	**91**	P	**Pn**	**02 17 30.6**	**+0.4**
RPSI	**Rantau Prapat**	**2.65**	**46**	Pn	**Pn**	**02 17 31.3**	**-0.2**
KCSI	**Kotacane, Aceh**	**2.77**	**16**	P	**Pn**	**02 17 32.8**	**-0.4**
SISI	**Saibi**	**2.98**	**136**	P	**Pn**	**02 17 35.4**	**-0.6**
BKNI	**Bangkinang**	**4.05**	**97**	Pn	**Pn**	**02 17 50.1**	**-0.6**
H08S2	**Diego Garcia H**	**25.87**	**251**	T	T	02 49 12.7	
	baz=72,slow=75,SNR=552						
H08S3	**Diego Garcia H**	**25.88**	**251**	T	T	02 49 09.7	
	baz=72,slow=75,SNR=595						
H08S1	**Diego Carcia H**	**25.89**	**251**	T	T	02 49 13.2	
	baz=72,slow=75,SNR=707						
WRA	**Warramunga Arr**	**41.99**	**122**	P	**P**	**02 24 39.4**	**-0.5**
	0.4nm,0.8s,baz=302,slow=8.9,SNR=2.1						
ASAR	**Alice Springs**	**43.32**	**127**	P	**P**	**02 24 51.1**	**+0.5**
	0.6nm,0.9s,baz=300,slow=6.2,SNR=2.7						
SONM	**Songino Array**	**47.52**	**9**	P	**P**	**02 25 23.9**	**+0.3**
	0.3nm,0.4s,baz=199,slow=7.9,SNR=2.3						
MK31	**Makanchi Array**	**47.55**	**346**	P	**P**	**02 25 23.8**	**0.0**
MK31				IAmb	IAmb	02 25 25.1	
	comp=Z,1.5nm,1.1s						
MKAR	**Makanchi Array**	**47.55**	**346**	P	**P**	**02 25 24.6**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=154,slow=9.0,SNR=5.8						
ZAA0	**Zalesovo Array**	**53.89**	**351**	P	**P**	**02 26 12.3**	**+0.9**
ZAA0				IAmb	IAmb	02 26 12.5	
	comp=Z,2.6nm,0.9s						
ZALV	**Zalesovo Beam**	**53.89**	**351**	P	**P**	**02 26 09.8**	**-1.6**
	comp=Z,1.3nm,0.5s,baz=181,slow=8.6,SNR=6.6						

JMA 02 02:20:00.0±0.2**, 24°.99N**×**123°.56E, h22km, M2.0, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.67**	**167**	P	Pb	02 20 13.0	0.0
IRIF				eS	Sb	02 20 21.3	-0.6
YOJ	**Yonaguni jima**	**0.72**	**224**	P	Pb	02 20 13.6	-0.3
YOJ				eS	Sb	02 20 23.0	-0.5
JISG	**Ishigakijimahi**	**0.79**	**120**	P	Pb	02 20 14.9	-0.2
JIJ	**Ishigaki jima**	**0.82**	**140**	P	Pb	02 20 15.0	-0.5
JIJ				eS	Sb	02 20 25.6	-0.5
JKRS	**Kuro-shima**	**0.85**	**151**	P	Pb	02 20 16.2	+0.1
JKRS				eS	Sn	02 20 27.9	-0.6
JTJ	**Tarama**	**1.09**	**108**	eS	Sn	02 20 34.8	+0.3

TAP 02 02:20:24.4, 24°.35N×121°.79E, h14km, ML1.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.09**	**332**	i P	Pg	02 20 27.3	-0.1
	baz=335						
ENA				S	Sg	02 20 29.4	-0.1
	baz=335						
ENAH	**Nanao**	**0.10**	**12**	i P	Pg	02 20 27.5	-0.1
	baz=11						
ENAH				i S	Sg	02 20 29.7	0.0
	baz=11						
NACB	**Ninganchiao**	**0.25**	**225**	P	Pg	02 20 29.6	-0.1
	baz=225						
NACB				S	Sg	02 20 33.5	+0.1
	baz=225						
TWC	**Suao**	**0.27**	**12**	i P	Pg	02 20 29.9	-0.1
	baz=14						
TWC				i S	Sg	02 20 33.9	0.0
	baz=14						
ETLH	**Xiulin Townshi**	**0.31**	**243**	P	Pg	02 20 30.6	-0.3
	baz=243						
ETLH				S	Sg	02 20 35.3	0.0
	baz=243						
TWD	**Chiawan**	**0.32**	**213**	eP	Pg	02 20 31.1	+0.2
	baz=212						
ENTT	**Nioudou**	**0.35**	**325**	P	Pg	02 20 31.7	+0.1
	baz=325						
ENTT				S	Sg	02 20 36.6	+0.1
	baz=325						
NDT	**Datong Townshi**	**0.35**	**315**	eP	Pg	02 20 31.7	0.0
	baz=315						
NNSH	**Datong**	**0.38**	**282**	P	Pg	02 20 32.0	-0.1
	baz=282						
NNSH				S	Sg	02 20 36.6	-0.6
	baz=282						
YHNB	**Yeheng**	**0.49**	**311**	eP	Pg	02 20 33.5	-0.7
	baz=310						
YHNB				eS	Sb	02 20 41.5	-0.6
	baz=310						
NWLT	**Wulai**	**0.50**	**329**	eP	Pg	02 20 34.4	+0.1
	baz=328						
NWLT				eS	Sg	02 20 41.0	0.0
	baz=328						
FUSS	**Fushou**	**0.51**	**259**	eS	Sg	02 20 41.6	+0.3
	baz=258						
WHF	**Hehuan Shan**	**0.52**	**247**	eS	Sg	02 20 42.1	+0.4
	baz=246						

JMA 02 02:35:46.7±0.2, 24°.98N×123°.55E, h23km, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.66**	**166**	P	Pb	02 35 59.1	-0.5
IRIF				eS	Sb	02 36 08.7	+0.3
JISG	**Ishigakijimahi**	**0.79**	**119**	P	Pb	02 36 01.7	-0.1
JIJ	**Ishigaki jima**	**0.82**	**139**	eS	Sb	02 36 12.1	-0.7
JKRS	**Kuro-shima**	**0.85**	**150**	eS	Sb	02 36 13.5	-0.2

TAP 02 02:36:05.4, 24°.28N×121°.67E, h1km, ML1.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.12**	**214**	eP	Pg	02 36 08.9	+1.1
	baz=214						
NACB				S	Sg	02 36 11.4	+2.0
	baz=214						
ENA	**Nanau**	**0.17**	**23**	eS	Sg	02 36 13.4	+2.6
	baz=25						
ETLH	**Xiulin Townshi**	**0.18**	**248**	P	Pg	02 36 10.4	+1.4
	baz=248						
ETLH				eS	Sg	02 36 14.2	+2.8
	baz=248						
TWD	**Chiawan**	**0.21**	**199**	eP	Pg	02 36 10.7	+1.3
	baz=197						
NNSB	**Datong**	**0.30**	**300**	eP	Pb	02 36 13.2	-0.5
	baz=300						
NNSB				eS	Sb	02 36 18.2	-1.0
	baz=300						
NNSH	**Datong**	**0.30**	**300**	eP	Pb	02 36 13.1	-0.6
	baz=300						
NNSH				eS	Sb	02 36 18.2	-1.0
	baz=300						
NDT	**Datong Townshi**	**0.36**	**336**	eS	Sb	02 36 20.2	-0.5
	baz=336						
ENTT	**Nioudou**	**0.38**	**345**	P	Pb	02 36 14.1	-0.8
	baz=346						
ENTT				eS	Sb	02 36 20.9	-0.4
	baz=346						
FUSS	**Fushou**	**0.39**	**266**	eP	Pb	02 36 14.4	-0.8
	baz=265						
FUSS				eS	Sb	02 36 21.1	-0.7
	baz=265						
WHF	**Hehuan Shan**	**0.39**	**251**	eP	Pb	02 36 14.6	-0.8
	baz=250						
WHF				eS	Sb	02 36 21.7	-0.4
	baz=250						
YHNB	**Yeheng**	**0.48**	**326**	eP	Pb	02 36 16.8	+0.1
	baz=325						
CHGB	**Renai**	**0.50**	**245**	eP	Pb	02 36 17.2	+0.1
	baz=244						
VWDT	**VWDT**	**0.71**	**223**	eS	Sb	02 36 32.1	+1.4
	baz=222						

*SKHL **02** 03:04:05.5±0.3, 44°.65N×152°.47E, h59km±5km, mb4.2/2*
*IDC **02** 03:04:09.0±2.2, 47°.53N×149°.85E, h255km±23km, mb3.0/5, mb1 3.2/7, mb1mx2.9/33, mbtmp3.5/7, Error ellipse: s-maj=43.1km s-min=23.3km az=157.0*
ISC 02 03:04:06.8±0.8**, 47°.1N**±0°.1×**150°.0E**±0°.1**, h250km, n23, σ2.s57**/33**, mb3.4**/5**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.38**	**220**	eP	**Pn**	**03 04 55.1**	**+2.3**
KUR				eS	**S**	**03 05 32.6**	**+3.5**
KUR				A	A	03 05 43.0	
	50nm,0.3s						
KUR				A	A	03 05 43.0	
	20nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.22**	**225**	eP	**Pn**	**03 05 15.8**	**+2.6**
YUK				AMB	AMB	03 05 17.0	
	10.0nm,0.4s						
YUK				eS	**S**	**03 06 08.3**	**+2.4**
YUK				A	A	03 06 10.5	
	140nm,0.5s						
YUK				A	A	03 06 10.5	
	130nm,0.5s						
GRPR	**Tuman**	**4.30**	**226**	eP	**Pn**	**03 05 17.0**	**+2.9**
GRPR				AMB	AMB	03 05 18.0	
	20nm,0.3s						
GRPR				eS	**S**	**03 06 10.5**	**+2.9**
GRPR				A	A	03 06 15.0	
	80nm,0.4s						
GRPR				A	A	03 06 15.0	
	60nm,0.4s						
GLVR	**Golovnino**	**4.61**	**225**	eS	**S**	**03 06 16.0**	**+1.7**
NEM2	**Nemuro 2**	**4.79**	**221**	P	**Pn**	**03 05 20.6**	**+0.6**
NEM2				eS	**S**	**03 06 15.3**	**-3.0**
NMR	**Nemuro--Hokkai**	**4.79**	**221**	eP	**Pn**	**03 05 20.2**	**+0.2**
NMR				eS	**S**	**03 06 15.1**	**-3.3**
JNK	**Nakash**	**5.12**	**229**	P	**Pn**	**03 05 27.1**	**+3.1**
JAK	**Akkeshi**	**5.56**	**225**	P	**Pn**	**03 05 30.2**	**+0.8**
JAK				eS	**S**	**03 06 33.2**	**-2.2**
JMP	**Maruseppu**	**5.60**	**239**	P	**Pn**	**03 05 32.3**	**+2.3**
JAR	**Ashorobuto**	**5.82**	**232**	P	**Pn**	**03 05 36.1**	**+3.5**
ASAJ	**Asahikawa**	**6.00**	**243**	P	**Pn**	**03 05 38.8**	**+4.0**
	0.6nm,0.3s,baz=88,slow=13,SNR=8.0						
JKK2	**Kamakawa 2**	**6.04**	**241**	P	**Pn**	**03 05 39.3**	**+3.9**
JOB	**Onbets**	**6.06**	**229**	P	**Pn**	**03 05 37.3**	**+1.7**
JOB				eS	**S**	**03 06 45.3**	**-1.4**
JCH	**Churui**	**6.51**	**229**	P	**Pn**	**03 05 42.1**	**+0.9**
JCH				eS	**S**	**03 06 55.2**	**-1.7**
JBT2	**Biratori 2**	**6.93**	**234**	P	**Pn**	**03 05 48.6**	**+2.0**
JNBK	**Urakawa-nobuka**	**7.06**	**230**	P	**Pn**	**03 05 48.6**	**+0.4**
JNBK				eS	**S**	**03 07 06.4**	**-3.2**
PETK	**Petropavlovsk-**	**7.79**	**36**	P	**Pn**	**03 05 55.4**	**-1.8**
	0.0nm,0.3s,baz=211,slow=10.0,SNR=3.0						
JKB	**Kayabe**	**8.26**	**234**	P	**Pn**	**03 06 03.8**	**+0.5**
JKB				eS	**S**	**03 07 31.5**	**-5.8**
ILAR	**Eielson Array**	**37.61**	**39**	P	**P**	**03 10 57.5**	**+0.2**
	0.3nm,0.8s,baz=257,slow=8.2,SNR=4.4						
FINES	**FINESS Array B**	**62.82**	**333**	P	**P**	**03 14 04.0**	**-1.4**
	1.9nm,1.1s,baz=48,slow=5.9,SNR=4.3						
PDAR	**Pinedale Array**	**66.24**	**52**	P	**P**	**03 14 28.6**	**+0.5**
	0.2nm,0.5s,baz=309,slow=3.1,SNR=3.9						
NOA	**NORSAR Array B**	**67.21**	**340**	P	**P**	**03 14 32.5**	**-1.2**
	0.7nm,0.9s,baz=42,slow=6.6,SNR=1.5						
TXAR	**Lajitas Array**	**79.15**	**59**	P	**P**	**03 15 44.8**	**+0.9**
	0.5nm,0.6s,baz=293,slow=4.6,SNR=10.0						

*ISK **02** 03:24:17.7, 37°.14N×31°.28E, h5km, ML3.5/44*
*IDC **02** 03:24:17.6±1.5, 37°.15N×31°.12E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.5/28, mbtmp3.7/5, ML2.6/1, MS1.9/1, Ms1 1.9/1, ms1mx1.8/42, Error ellipse: s-maj=53.2km s-min=21.3km az=136.0*
*NIC **02** 03:24:18.3±0.0, 36°.96N×31°.39E, h0km±8km, Ml3.8/4*
*DDA **02** 03:24:18.7, 37°.10N×31°.25E, h11km±3km, MW3.5*
*GII **02** 03:24:20.6±0.0, 37°.14N×31°.25E, h11km*
ISC 02 03:24:18.8±1.1**, 37°.11N**±0°.02×**31°.27E**±0°.01**, h5km**±8km**, n134, σ1.s28**/165**, mb3.6**/4**, 3C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEPZ	**Antalya-Kepez**	**0.34**	**127**	i P	**Pg**	**03 24 26.3**	**+0.9**
KEPZ				i S	**Sg**	**03 24 30.9**	**+1.2**
KEPZ				IAML		03 24 34.0	
	comp=N,5μm,1.0s						
KEPZ				IAML		03 24 36.0	
	comp=E,4μm,0.8s						
ANTB	**Antalya**	**0.54**	**248**	PG	**Pb**	**03 24 30.2**	**-0.5**
SEYD	**Seydisehir-KON**	**0.54**	**56**	PG	**Pg**	**03 24 28.2**	**-1.1**
SEYD				SG	**Sg**	**03 24 36.9**	**+0.6**
BCK	**Bucak**	**0.65**	**303**	PG	**Pg**	**03 24 30.9**	**-0.4**
BCK				SG	**Sb**	**03 24 41.3**	**-0.8**
KORT	**Korkueli**	**0.74**	**262**	PG	**Pg**	**03 24 33.1**	**0.0**
KORT				SG	**Sb**	**03 24 44.7**	**-0.2**
KORT	**Korkueli**	**0.74**	**262**	i P	**Pg**	**03 24 33.2**	**+0.1**
KORT				i S	**Sg**	**03 24 42.9**	**+0.1**
KEMT	**Kemer-ANTALYA**	**0.76**	**229**	PG	**Pg**	**03 24 33.9**	**+0.5**
ISP	**Isparta**	**0.93**	**320**	PG	**Pg**	**03 24 36.4**	**-0.3**
ISP	**Isparta**	**0.93**	**320**	Pg	**Pb**	**03 24 37.5**	**-0.1**
BAGO	**Egridir - ISPA**	**0.96**	**337**	i P	**Pg**	**03 24 36.9**	**-0.4**
BAGO				i S	**Sn**	**03 24 53.8**	**+0.5**
DOGA	**KONYA_Doganhis**	**1.05**	**17**	i P	**Pg**	**03 24 38.9**	**0.0**
DOGA				i S	**Sb**	**03 24 53.5**	**-0.2**
DOGA				IAML		03 24 59.0	
	comp=E,1μm,0.7s						
DOGA				IAML		03 24 59.0	
	comp=N,1μm,0.9s						
AKUM	**Antalya-Kumluc**	**1.08**	**224**	i P	**Pg**	**03 24 38.5**	**-1.1**
KMER	**Konya-Meram**	**1.09**	**53**	i P	**Pb**	**03 24 40.2**	**-0.1**
KMER				i S	**Sb**	**03 24 56.1**	**+1.1**
KMER				IAML		03 24 59.0	
	comp=E,447nm,0.6s						
BRDR	**BURDUR-Merkez**	**1.13**	**302**	i P	**Pg**	**03 24 38.1**	**-2.4**
BRDR				i S	**Sg**	**03 24 54.8**	**-0.3**
BRDR				IAML		03 25 06.0	
	comp=E,557nm,0.6s						
ELL	**Elmali**	**1.15**	**252**	PN	**Pb**	**03 24 41.4**	**+0.1**
ELL	**Elmali**	**1.15**	**252**	P	**Pn**	**03 24 42.1**	**+0.3**
ELL				S	**Sn**	**03 25 00.2**	**+2.3**
KONT	**Konya--Tatoy**	**1.21**	**46**	PN	**Pg**	**03 24 41.9**	**0.0**
KONT	**Konya--Tatoy**	**1.21**	**46**	i P	**Pb**	**03 24 42.5**	**+0.3**
KONT				i S	**Sb**	**03 24 58.0**	**-0.1**
KONT				IAML		03 25 02.0	
	comp=N,352nm,0.5s						
KONT				IAML		03 25 05.0	
	comp=E,365nm,0.6s						
GAZI	**Gazipasa**	**1.21**	**136**	PN	**Pg**	**03 24 41.8**	**-0.2**
GAZI	**Gazipasa**	**1.21**	**136**	i P	**Pg**	**03 24 41.9**	**-0.2**
GAZI				i S	**Sb**	**03 24 58.6**	**+0.4**
GAZI				IAML		03 25 01.0	
	comp=E,416nm,0.4s						
GAZI				IAML		03 25 05.0	
	comp=N,846nm,0.7s						
BASM	**Basmaki-Afyon**	**1.27**	**310**	PN	**Pg**	**03 24 42.9**	**-0.2**
GOLH	**Golhisar**	**1.37**	**276**	i P	**Pb**	**03 24 45.7**	**+0.6**
GOLH				i S	**Sn**	**03 25 04.5**	**+1.0**
GOLH				IAML		03 25 10.0	
	comp=N,292nm,1.0s						
LADK	**Ladik-KONYA**	**1.39**	**38**	PN	**Pn**	**03 24 45.1**	**0.0**
ERMK	**Ermenek**	**1.40**	**109**	i P	**Pn**	**03 24 45.5**	**+0.3**
ERMK				i S	**Sg**	**03 25 04.0**	**+0.3**
ERMK				IAML		03 25 13.0	
	comp=E,362nm,0.6s						
ERMK				IAML		03 25 14.0	
	comp=N,849nm,0.8s						
KZIL	**AFYON_Kizioren**	**1.46**	**322**	i P	**Pn**	**03 24 45.8**	**-0.2**
KZIL				i S	**Sn**	**03 25 06.5**	**+0.9**
SHUT	**Suhut-Afyon**	**1.55**	**339**	PN	**Pn**	**03 24 47.4**	**+0.1**
KDHN	**Kadinhani**	**1.56**	**25**	i P	**Pb**	**03 24 48.2**	**-0.2**
KDHN				i S	**Sg**	**03 25 09.7**	**+0.6**
KDHN				IAML		03 25 14.0	
	comp=E,367nm,0.5s						
KDHN				IAML		03 25 16.0	
	comp=N,268nm,0.6s						
KRMN	**Karaman**	**1.59**	**87**	PN	**Pn**	**03 24 48.4**	**+0.6**
AKAS	**Kas**	**1.60**	**237**	PN	**Pb**	**03 24 48.9**	**0.0**
AKAS	**Kas**	**1.60**	**237**	i P	**Pg**	**03 24 49.4**	**-0.1**
AKAS				i S	**Sg**	**03 25 13.2**	**+3.0**
AKAS				IAML		03 25 19.0	
	comp=N,451nm,0.8s						
BOLV	**Bolvadin**	**1.63**	**351**	i P	**Pn**	**03 24 48.5**	**+0.1**
BOLV				i S	**Sg**	**03 25 11.4**	**+0.2**
BOLV				IAML		03 25 17.0	
	comp=E,330nm,0.7s						
TEKE	**Tekeli-Mersin**	**1.77**	**122**	PN	**Pn**	**03 24 50.9**	**+0.8**
FETY	**Fethiye**	**1.82**	**256**	PN	**Pb**	**03 24 52.0**	**-0.6**
FETY	**Fethiye**	**1.82**	**256**	i P	**Pb**	**03 24 52.8**	**+0.2**
KIZT	**Kizilcal**	**1.83**	**15**	PN	**Pn**	**03 24 51.6**	**+0.4**
AFYO	**Afyonkarahisar**	**1.84**	**336**	i P	**Pb**	**03 24 52.8**	**-0.4**
AFYO				i S	**Sb**	**03 25 17.1**	**+0.5**
AFYO				IAML		03 25 26.0	
	comp=N,280nm,1.0s						
AFYO				IAML		03 25 27.0	
	comp=E,388nm,1.3s						
TEVE	**Tevekalti-Mers**	**1.87**	**110**	PN	**Pn**	**03 24 52.6**	**+1.0**
TAVA	**DENIZLI_Tavas**	**1.92**	**281**	i P	**Pn**	**03 24 52.8**	**+0.5**
TAVA				i S	**Sn**	**03 25 15.4**	**-1.4**
CHBY	**Cihanbeyli**	**1.95**	**41**	PN	**Pn**	**03 24 52.8**	**0.0**
YORU	**Yoruktepe-Mers**	**1.96**	**118**	PN	**Pn**	**03 24 53.8**	**+1.0**
OREN	**Orenkoy-Mersin**	**1.97**	**116**	PN	**Pn**	**03 24 53.8**	**+0.9**
TEPK	**Tepekoy-MERSIN**	**2.03**	**115**	PN	**Pn**	**03 24 54.3**	**+0.5**
GULN	**MERSIN_Gulnar**	**2.05**	**116**	i P	**Pb**	**03 24 56.0**	**-0.5**
GULN				i S	**Sb**	**03 25 22.2**	**-0.1**
GULN				IAML		03 25 30.0	
	comp=E,199nm,0.6s						
GULN				IAML		03 25 31.0	
	comp=N,151nm,0.7s						
AKK1	**Akkuyu-Mersin**	**2.06**	**117**	PN	**Pn**	**03 24 55.1**	**+0.9**
AKKU	**Akkuyu-Mersin**	**2.06**	**117**	PN	**Pn**	**03 24 55.2**	**+1.0**
AKK2	**Akkuyu-Mersin**	**2.07**	**117**	PN	**Pn**	**03 24 55.0**	**+0.7**
YESY	**Yesilyurt**	**2.08**	**70**	PN	**Pn**	**03 24 54.7**	**+0.2**
SULT	**Sultanhani-AKS**	**2.09**	**58**	PN	**Pn**	**03 24 55.2**	**+0.6**
YESI	**Yesilovacik-Me**	**2.11**	**115**	PN	**Pn**	**03 24 55.8**	**+1.0**
DALY	**Dalyan (Mula)**	**2.12**	**263**	PN	**Pn**	**03 24 56.1**	**+1.2**
DALY	**Dalyan (Mula)**	**2.12**	**263**	i P	**Pb**	**03 24 57.0**	**-0.7**
IKL	**Isikli**	**2.12**	**113**	PN	**Pn**	**03 24 55.7**	**+0.7**
TISA	**Tisan-Mersin**	**2.15**	**115**	PN	**Pn**	**03 24 56.3**	**+0.9**
KARG	**Kargicak-Mersi**	**2.16**	**114**	PN	**Pn**	**03 24 56.6**	**+1.1**
ALFC	**Alefka**	**2.22**	**151**	⇑P	**Pn**	**03 24 53.8**	**-2.7**
ALFC				S	**Sn**	**03 25 21.3**	**-3.1**
ALFC				AML	AML	03 25 27.2	
	comp=N,1.7nm,0.5s						
ALFC				AML	AML	03 25 27.2	
	comp=N,1.7nm,0.5s						
ALFC				AML	AML	03 25 27.4	
	comp=N,1.5nm,0.7s						
ALFC				AML	AML	03 25 27.4	
	comp=N,1.5nm,0.7s						
AUKIR	**Kırka- Seyitga**	**2.24**	**345**	i P	**Pn**	**03 24 58.1**	**+1.3**
AUKIR				IAML		03 25 30.0	
	comp=E,119nm,0.5s						
AKMS	**Akamas**	**2.25**	**157**	P	**Pn**	**03 24 54.2**	**-2.7**
AKMS				S	**Sn**	**03 25 24.0**	**-1.1**
AKMS				AML	AML	03 25 37.6	
	comp=E,2.4nm,0.7s						
AKMS				AML	AML	03 25 37.6	
	comp=E,2.4nm,0.7s						
AKMS				AML	AML	03 25 41.3	
	comp=E,1.6nm,0.8s						
AKMS				AML	AML	03 25 41.3	
	comp=E,1.6nm,0.8s						
SILI	**Silifke-Mersin**	**2.25**	**108**	PN	**Pn**	**03 24 57.9**	**+1.1**
CIFT	**Cifteler, Eski**	**2.26**	**356**	PN	**Pn**	**03 24 57.2**	**+0.3**
SLFK	**Silifke-Mersin**	**2.26**	**108**	PN	**Pn**	**03 24 57.9**	**+1.0**
AKDN	**Akdeniz- Kıbrı**	**2.27**	**142**	PN	**Pn**	**03 24 58.2**	**+1.2**
KERG	**Konya-Eregli**	**2.30**	**81**	i P	**Pn**	**03 24 58.9**	**+1.4**
KERG				i S	**Sg**	**03 25 31.4**	**-1.2**
KERG				IAML		03 25 39.0	
	comp=N,134nm,0.9s						
KERG				IAML		03 25 40.0	
	comp=E,163nm,0.7s						
AUSIV	**SIVRIHISAR**	**2.34**	**5**	PN	**Pn**	**03 24 58.3**	**+0.2**
AUSIV	**SIVRIHISAR**	**2.34**	**5**	i P	**Pn**	**03 24 58.8**	**+0.7**
SVRH	**Sivrihisar-ESK**	**2.34**	**5**	PN	**Pn**	**03 24 58.3**	**+0.1**
KULU	**Kulu**	**2.37**	**35**	PN	**Pn**	**03 24 58.6**	**+0.1**
LEF	**Lefka**	**2.38**	**146**	PN	**Pn**	**03 24 56.1**	**-2.4**
LEF	**Lefka**	**2.38**	**146**	i P	**Pn**	**03 24 54.9**	**-3.6**
LEF				IAML		03 25 31.0	
	comp=E,141nm,0.8s						
LEF				IAML		03 25 33.0	
	comp=N,108nm,0.7s						
KIZK	**Mersin**	**2.39**	**104**	PN	**Pn**	**03 24 59.8**	**+1.1**
KIZK	**Mersin**	**2.39**	**104**	i P	**Pb**	**03 25 02.2**	**-0.2**
KIZK				i S	**Sb**	**03 25 31.7**	**-0.4**
KIZK				IAML		03 25 42.0	
	comp=N,332nm,1.4s						
KIZK				IAML		03 25 45.0	
	comp=E,208nm,0.7s						
USAK	**Uak-Merkez**	**2.40**	**313**	i P	**Pn**	**03 24 58.5**	**-0.3**
GEDZ	**Gediz**	**2.43**	**323**	PN	**Pn**	**03 24 59.5**	**+0.2**
KKUL	**Konya-Kulu**	**2.44**	**32**	i P	**Pn**	**03 25 01.0**	**+1.6**
KKUL				i S	**Sb**	**03 25 34.8**	**+1.2**
KKUL				IAML		03 25 47.0	
	comp=E,102nm,1.1s						
KKUL				IAML		03 25 47.0	
	comp=N,135nm,0.9s						
TURN	**Turunc**	**2.45**	**263**	i P	**Pg**	**03 25 00.3**	**+0.3**
KULA	**Kula-Manisa**	**2.50**	**305**	PN	**Pn**	**03 25 00.4**	**+0.1**
AKSY	**AKSARAY - Alti**	**2.50**	**51**	i P	**Pn**	**03 25 02.2**	**+1.9**
MANT	**Manisa**	**2.56**	**304**	i P	**Pn**	**03 25 00.9**	**-0.3**
SERE	**Sereflikochisa**	**2.58**	**44**	PN	**Pn**	**03 25 01.5**	**+0.1**
LFK	**Lefkose**	**2.58**	**134**	PN	**Pn**	**03 25 02.8**	**+1.4**
MERS	**Mersin**	**2.61**	**94**	PN	**Pn**	**03 25 02.6**	**+0.8**
CSS	**Mathiatis**	**2.71**	**141**	PN	**Pn**	**03 25 03.1**	**0.0**
CSS	**Mathiatis**	**2.71**	**141**	Pn	**Pn**	**03 25 03.7**	**+0.6**
CSS	**Mathiatis**	**2.71**	**141**	⇑P	**Pn**	**03 25 01.2**	**-2.0**
AFSR	**Afar-Bala (An**	**2.73**	**31**	PN	**Pn**	**03 25 03.9**	**+0.4**
TVSB	**Tavsanli**	**2.74**	**329**	PN	**Pn**	**03 25 03.7**	**+0.1**
AUMIH	**MIHALICIK**	**2.76**	**3**	PN	**Pn**	**03 25 04.3**	**+0.4**
AUMIH	**MIHALICIK**	**2.76**	**3**	i P	**Pn**	**03 25 05.1**	**+1.2**
AUMIH				IAML		03 25 45.0	
	comp=N,80nm,0.4s						
GULE	**Gulek**	**2.80**	**85**	i P	**Pn**	**03 25 04.0**	**-0.5**
GULE				IAML		03 25 55.0	
	comp=N,100nm,0.6s						
GULE				IAML		03 25 57.0	
	comp=E,124nm,1.1s						
ASGA	**Asgata**	**2.82**	**145**	P	**Pn**	**03 25 03.7**	**-0.8**
ASGA				AML	AML	03 25 48.1	
	comp=E,1.3nm,1.0s						
ASGA				AML	AML	03 25 49.3	
	comp=E,1.0nm,1.3s						
EREN	**Erenkoy**	**2.82**	**123**	PN	**Pn**	**03 25 05.7**	**+1.1**
EREN	**Erenkoy**	**2.82**	**123**	i P	**Pb**	**03 25 07.8**	**-1.9**
EREN				IAML		03 25 57.0	
	comp=N,134nm,0.8s						
EREN				IAML		03 26 10.0	
	comp=E,211nm,1.6s						
DED	**Mersin**	**2.83**	**92**	i P	**Pn**	**03 25 07.0**	**+2.3**
MVOU	**Mavrovouni**	**2.83**	**137**	⇑P	**Pn**	**03 25 03.2**	**-1.5**
MVOU				AML	AML	03 25 39.7	
	comp=E,0.9nm,0.9s						
MVOU				AML	AML	03 25 51.2	
	comp=E,0.9nm,0.9s						
BBAL	**Bala**	**2.83**	**30**	i P	**Pn**	**03 25 06.6**	**+1.7**
BBAL				IAML		03 26 00.0	
	comp=N,136nm,0.9s						
BORA	**Eskisehir**	**2.84**	**347**	PN	**Pn**	**03 25 05.4**	**+0.4**
BORA	**Eskisehir**	**2.84**	**347**	i P	**Pn**	**03 25 05.9**	**+0.9**
KIRS	**Kırehir-Merke**	**2.91**	**45**	i P	**Pn**	**03 25 08.4**	**+2.5**
AUBOZ	**BOZOYUK**	**2.96**	**341**	i P	**Pn**	**03 25 07.1**	**+0.4**
DAT	**Datca**	**2.98**	**264**	i P	**Pn**	**03 25 09.9**	**+3.0**
ANTO	**Ankara**	**3.01**	**23**	PN	**Pn**	**03 25 07.5**	**+0.3**
CMRD	**Camardi-Nigde**	**3.01**	**78**	PN	**Pn**	**03 25 08.0**	**+0.6**
LOD	**Lodumlu**	**3.02**	**22**	PN	**Pn**	**03 25 07.9**	**+0.6**
KARA	**Karaisali**	**3.02**	**86**	PN	**Pn**	**03 25 08.5**	**+1.1**
BRTR	**Keskin Array B**	**3.21**	**35**	Pn	**Pn**	**03 25 10.8**	**+0.8**
	comp=N,0.7nm,0.3s,baz=222,slow=14,SNR=18						
BRTR				Sn	**Sn**	**03 25 51.6**	**+2.8**
	comp=N,2.9nm,0.3s,baz=207,slow=24,SNR=13						
BRTR				LR	LR	03 26 29.9	
	comp=N,17nm,20.1s,baz=167,slow=41						
DURS	**Dursunbey**	**3.32**	**319**	i P	**Pn**	**03 25 11.5**	**-0.1**
AKO	**Adana**	**3.35**	**83**	i P	**Pn**	**03 25 12.3**	**+0.4**
AKO				IAML		03 26 14.0	
	comp=N,37nm,0.6s						
GEYV	**SAKARYA_Geyve**	**3.46**	**348**	i P	**Pn**	**03 25 14.5**	**+1.2**
ULDT	**Uludag**	**3.46**	**332**	i P	**Pn**	**03 25 11.7**	**-1.9**
ULDT				i S	**Sn**	**03 25 54.2**	**-0.9**
ULDT				IAML		03 25 59.0	
	comp=N,43nm,0.6s						
ULDT				IAML		03 26 02.0	
	comp=E,46nm,0.9s						
BTAS	**Taskesti**	**3.46**	**357**	i P	**Pn**	**03 25 15.4**	**+1.9**
CDAG	**Cicekdag**	**3.50**	**43**	i P	**Pn**	**03 25 16.3**	**+2.3**
CDAG				IAML		03 26 20.0	
	comp=N,47nm,0.8s						
YURE	**YUREGIR**	**3.50**	**93**	i P	**Pb**	**03 25 19.1**	**-2.3**
CMDR	**Camlidere-ANKA**	**3.51**	**15**	i P	**Pn**	**03 25 15.1**	**+0.9**
CMDR				IAML		03 26 07.0	
	comp=E,40nm,0.6s						
CMDR				IAML		03 26 08.0	
	comp=N,47nm,0.7s						
IGD	**Bursa**	**3.54**	**333**	i P	**Pn**	**03 25 14.6**	**+0.1**
DELI	**KIRIKKALE**	**3.56**	**35**	i P	**Pn**	**03 25 15.3**	**+0.5**
STEP	**BALIKESIR_Sava**	**3.60**	**310**	i P	**Pn**	**03 25 13.3**	**-2.0**
STEP				IAML		03 26 07.0	
	comp=N,37nm,0.7s						
DGB	**zmir**	**3.61**	**286**	i P	**Pn**	**03 25 15.4**	**-0.1**
BCAM	**Yenicaga**	**3.75**	**9**	i P	**Pn**	**03 25 18.8**	**+1.2**
BCAM				IAML		03 26 06.0	
	comp=E,29nm,0.5s						
SAHE	**Sakarya_HENDEK**	**3.75**	**355**	i P	**Pn**	**03 25 19.4**	**+1.9**
SIRC	**Yozgat**	**3.78**	**53**	i P	**Pn**	**03 25 18.4**	**+0.6**
YIGI	**Dzce**	**3.85**	**2**	i P	**Pn**	**03 25 21.3**	**+2.5**
YAYL	**Yayladag**	**4.04**	**104**	i P	**Pn**	**03 25 23.2**	**+1.8**
YAYL				IAML		03 26 18.0	
	comp=E,31nm,0.9s						
ANDN	**Andirin**	**4.07**	**82**	i P	**Pb**	**03 25 26.8**	**-4.3**
ANDN				IAML		03 26 42.0	
	comp=N,34nm,1.2s						
ANDN				IAML		03 26 44.0	
	comp=E,25nm,1.5s						
HNTI	**Hanita**	**5.13**	**140**	Pn	**Pn**	**03 25 38.6**	**+2.2**
GEM	**Giv'at Ha'Em**	**5.30**	**136**	Pn	**Pn**	**03 25 40.6**	**+2.0**
NATI	**Neve Ativ**	**5.30**	**135**	Pn	**Pn**	**03 25 40.6**	**+2.0**
MMA0B	**Mount Meron ar**	**5.30**	**139**	Pn	**Pn**	**03 25 40.6**	**+1.8**
MMA0B				Sn	**Sn**	**03 26 43.2**	**+2.8**
OFRI	**`Ofer**	**5.42**	**145**	Pn	**Pn**	**03 25 42.1**	**+1.8**
HMDT	**Nahal Hemdat**	**5.98**	**143**	Pn	**Pn**	**03 25 49.8**	**+1.8**
HMDT				Sn	**Sn**	**03 26 59.3**	**+2.5**
DSI	**Dead Sea**	**6.48**	**147**	Pn	**Pn**	**03 25 56.4**	**+1.4**
DSI				Sn	**Sn**	**03 27 11.4**	**+2.1**
EIL	**Elat**	**8.03**	**156**	Pn	**Pn**	**03 26 16.7**	**+0.5**
ARCES	**ARCESS Array B**	**32.64**	**356**	P	**P**	**03 30 50.7**	**-0.6**
	comp=E,2.3nm,1.0s,baz=169,slow=10,SNR=1.9						
TORD	**Torodi Ar. Bea**	**35.60**	**236**	P	**P**	**03 31 16.3**	**-1.3**
	comp=E,0.9nm,1.0s,baz=39,slow=8.1,SNR=3.7						
MKAR	**Makanchi Array**	**38.55**	**59**	P	**P**	**03 31 42.6**	**+0.2**
	comp=E,0.9nm,0.6s,baz=270,slow=9.9,SNR=9.2						
SONM	**Songino Array**	**54.40**	**53**	P	**P**	**03 33 46.8**	**-0.1**
	comp=E,0.4nm,0.6s,baz=296,slow=7.2,SNR=2.1						

*IDC **02** 03:37:10.9±1.0, 51°.75N×175°.42W, h0km, mb3.6/7, mb1 3.9/9, mb1mx3.6/34, mbtmp3.6/9, ML3.9/2, Error ellipse: s-maj=47.3km s-min=19.0km az=153.0*
*AEIC **02** 03:37:20.3±1.4, 51°.8N±0°.1×175°.34W±0°.06, h66km±6km, ML3.7/41, mb3.8/13(NEIC), Error ellipse: s-maj=17.1km s-min=2.7km az=163.0*
*NEIC **02** 03:37:20.6±1.1, 51°.9N±0°.1×175°.36W±0°.06, h75km±7km, Error ellipse: s-maj=20.5km s-min=4.1km az=168.0*
ISC 02 03:37:20.3±0.9**, 51°.9N**±0°.1×**175°.36W**±0°.05**, h75**km±7km**, n70, σ0s.91**/66**, mb3.7**/8**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSMY	Great Sitkin M	0.47	293		Pn	03 37 33.4	+0.2
GSTR	Great Sitkin T	0.49	298		Pn	03 37 33.8	+0.3
GSTD	Great Sitkin T	0.52	292		Pn	03 37 34.0	+0.2
GSTD					Sn	03 37 44.2	+0.4
GSSP	Great Sitkin S	0.55	295		Sn	03 37 45.0	+0.9
ETKA	Kagalaska Isla	0.65	270		Pn	03 37 35.3	+0.4
ADAG	Mount Adagdak	0.78	279		Pn	03 37 36.9	+0.6
ATKA	Atka Island	0.80	64		Pn	03 37 36.5	-0.1
ATKA					Sn	03 37 48.3	-0.3
ADK	Adak	0.82	272		Pn	03 37 37.1	+0.3
ADK	Adak	0.82	272	Sn	Sn	03 37 49.0	-0.2
KOKL	Mount Kliuchef	0.85	57		Pn	03 37 37.6	+0.4
KOFP	Korovin Flat P	0.88	62		Pn	03 37 38.0	+0.4
KOKV	Korovin Volcan	0.89	56		Pn	03 37 38.5	+0.8
KOKV					Sn	03 37 52.2	+1.5
KOSE	Korovin Southe	0.94	59		Pn	03 37 38.6	+0.3
KIKV	Kanaga Island	1.12	272		Pn	03 37 41.1	+0.6
KIKV					Sn	03 37 57.2	+1.5
KICM	Kanaga Island	1.14	274		Pn	03 37 41.3	+0.6
KIMD	Kanaga Island	1.17	266		Pn	03 37 41.6	+0.5
TAPA	Tanaga Point A	1.52	269		Pn	03 37 46.3	+0.6
TAFP	Tanaga Falls P	1.63	272		Pn	03 37 47.3	+0.3
TAFP					Sn	03 38 07.6	+0.3
TASE	Tanaga Southea	1.66	270		Pn	03 37 48.1	+0.6
GAEA	Gareloi East	2.10	269		Pn	03 37 54.2	+0.8
GALAA	Gareloi Lava P	2.12	269		Pn	03 37 54.3	+0.7
CERAA	Semis' Rag'd T	3.07	273		Pn	03 38 06.9	+0.5
CEAP	Semis' Anvil P	3.14	275		Pn	03 38 07.9	+0.6
CESW	Semis' Southwe	3.15	273		Pn	03 38 07.9	+0.4
AMKA	Amchitka	3.36	264		Pn	03 38 10.7	+0.4
LSPA	Little Sitkin	3.76	274		Pn	03 38 16.7	+1.0
LSNW	Little Sitkin	3.79	274		Pn	03 38 16.9	+0.7
LSSA	Little Sitkin	3.79	274		Pn	03 38 16.9	+0.6
NIKH	Nikolski High	4.13	72	Pn	Pn	03 38 21.8	+0.9
MAPS	Pakushin South	5.46	66		Pn	03 38 40.5	+1.5
MREP	Makushin Rep't	5.58	66		Pn	03 38 42.3	+1.7
MSW	Makushin Switc	5.58	65		Pn	03 38 42.2	+1.5
MNAT	Makushin Natee	5.63	66		Pn	03 38 42.7	+1.4
UNV	Unalaska Valle	5.72	66	Pn	Pn	03 38 43.6	+1.1
SPIA	Saint Paul Isl	6.10	27	Pn	Pn	03 38 48.3	+0.7
AKGG	Akutan Green G	6.12	64		Pn	03 38 49.4	+1.5
AKUT	Akutan	6.22	65	Pn	Pn	03 38 48.3	-1.0
SDPT	Sand Point	9.51	63	Pn	Pn	03 39 33.7	-0.5
CNBA	Chernabura Isl	9.89	66	Pn	Pn	03 39 37.5	-1.8
OHAK	Old Harbor	13.86	59	Pn	Pn	03 40 30.6	-2.4
KDAK	Kodiak Island	14.36	57	Pn	Pn	03 40 36.8	-2.7
	0.8nm,0.3s,baz=270,slow=9.1,SNR=20						
CNPM	China Poot	15.54	51	Pn	Pn	03 40 53.7	-1.0
RND	Reindeer	18.14	40		P	03 41 25.3	-1.0
BILL	Bilibino	18.51	338	P	P	03 41 30.2	0.0
HDA	Harding Lake	19.34	39	P	Pn	03 41 40.7	-0.5
HDA				IAmb	IAmb	03 42 07.6	
	comp=Z,2.7nm,0.6s						
IL31		19.54	38	P	Pn	03 41 42.5	-0.8
ILAR	Eielson Array	19.54	38	P	P	03 41 41.5	0.0
	comp=Z,0.3nm,0.3s,baz=224,slow=12,SNR=15						
RIDG	Independent Ri	19.90	42	P	P	03 41 45.7	+0.2
DOT	Dot Lake	20.20	42	P	P	03 41 48.2	-0.4
DOT				IAmb	IAmb	03 41 49.9	
	comp=Z,3.5nm,0.7s						
INK	Inuvik	25.84	35	P	P	03 42 44.0	-0.1
	comp=Z,0.3nm,0.3s,baz=230,slow=6.4,SNR=1.8						
H11N2	WAKE ISLAND Hy	34.95	210	T	T	04 20 56.7	
	baz=18,slow=76,SNR=132						
H11N3	WAKE ISLAND Hy	34.96	210	T	T	04 20 53.5	
	baz=18,slow=76,SNR=90						
H11N1	WAKE ISLAND Hy	34.97	210	T	T	04 20 53.6	
	baz=18,slow=76,SNR=85						
MAJO	Matsushiro	35.97	263	P	P	03 44 14.4	+0.7
MJAR	Matsushiro Arr	35.97	263	P	P	03 44 13.6	-0.1
	comp=Z,0.7nm,0.6s,baz=44,slow=6.2,SNR=2.6						
H11S1	WAKE ISLAND Hy	36.16	210	T	T	04 22 23.4	
	baz=18,slow=76,SNR=185						
H11S2	WAKE ISLAND Hy	36.18	210	T	T	04 22 24.8	
	baz=18,slow=76,SNR=134						
H11S3	WAKE ISLAND Hy	36.18	210	T	T	04 22 24.9	
	baz=18,slow=76,SNR=54						
WVOR	Wild Horse Val	38.80	81	P	P	03 44 38.3	+0.6
NVAR	Mina Array Bea	41.37	86	P	P	03 45 00.3	+1.3
	comp=Z,0.4nm,0.7s,baz=303,slow=8.4,SNR=3.7						
ELK	Elko	41.86	81	P	P	03 45 03.3	+0.2
ELK				IAmb	IAmb	03 45 04.9	
	comp=Z,1.7nm,0.8s						
PD31	Pinedale Array	44.12	75	P	P	03 45 21.4	+0.2
PD31				IAmb	IAmb	03 45 22.5	
	comp=Z,1.3nm,0.8s						
PDAR	Pinedale Array	44.12	75	P	P	03 45 21.5	+0.2
	comp=Z,0.9nm,0.6s,baz=304,slow=3.9,SNR=13						
TMUT	Trail Mountain	45.20	80	P	P	03 45 30.5	+0.6
TXAR	Lajitas Array	56.47	84	P	P	03 46 54.5	+0.1
	comp=Z,0.4nm,0.5s,baz=298,slow=4.9,SNR=8.9						
WRA	Warramunga Arr	83.88	227	P	P	03 49 40.9	-0.7
	comp=Z,0.4nm,0.6s,baz=38,slow=6.4,SNR=1.9						
ASAR	Alice Springs	87.32	225	P	P	03 49 58.5	-0.2
	comp=Z,0.3nm,0.8s,baz=29,slow=4.8,SNR=2.1						
H03N2	Juan Fernandez	119.23	108	T	T	06 06 44.7	
	baz=317,slow=77,SNR=18						
H03N1	Juan Fernandez	119.25	108	T	T	06 06 46.0	
	baz=317,slow=77,SNR=24						
H03N3	Juan Fernandez	119.25	108	T	T	06 06 45.3	
	baz=317,slow=77,SNR=26						

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*SOF **02** 03:57:05.6, 41°.60N×24°.34E, h16km, MD2.8*
*ISK **02** 03:57:05.8, 41°.59N×24°.34E, h10km, ML3.0/15*
*THE **02** 03:57:06.9, 41°.57N×24°.34E, h3km, ML2.7/11, Error ellipse: s-maj=1.0km s-min=0.5km az=176.0*
*ATH **02** 03:57:06.3, 41°.58N×24°.33E, h22km±1km, ML2.7/9, Error ellipse: s-maj=2.4km s-min=0.9km az=187.0*
*BEO **02** 03:57:07.5±0.5, 41°.61N×24°.31E, h13km±3km, ML2.7/11*
*DDA **02** 03:57:09.4, 41°.57N×24°.57E, h15km±5km, ML3.1*
ISC 02 03:57:06.4±0.9**, 41°.59N**±0°.01×**24°.35E**±0°.02**, h15**km±8km**, n97, σ1s.25**/142**, 14C-6D, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RZN	Rozhen	0.29	70	P	Pg	03 57 12.7	+0.1
NVR	Nevrokopi	0.44	237	P	Pg	03 57 14.7	-0.5
NVR				S	Sg	03 57 21.0	-0.2
	618nm,0.3s						
NVR	Nevrokopi	0.44	237	P	Pg	03 57 14.7	-0.5
NVR				S	Sg	03 57 21.0	-0.2
NVR				AML	AML	03 57 23.2	
	comp=N,1044µm,0.4s						
NVR				AML	AML	03 57 24.6	
	comp=E,1376µm,0.3s						
MMB	Musomiste	0.47	270	P	Pg	03 57 14.9	-0.9
PLD	Plovdiv	0.58	27	ePg	Pg	03 57 18.0	+0.1
PLD				eSg	Sb	03 57 26.4	0.0
PLD	Plovdiv	0.58	27	P	Pg	03 57 18.0	+0.1
PLD	Plovdiv	0.58	27	PG	Pg	03 57 17.9	+0.1
PLD				SG	Sg	03 57 26.2	+0.6
KAVA	Kavala	0.60	168	P	Pg	03 57 18.3	+0.1
KAVA				S	Sb	03 57 26.8	-0.2
	comp=E,1µm,0.3s						
KAVA	Kavala	0.60	168	P	Pg	03 57 18.2	-0.1
KAVA				S	Sb	03 57 26.8	-0.2
KAVA				AML	AML	03 57 27.4	
	comp=E,2894µm,0.2s						
KAVA				AML	AML	03 57 27.4	
	comp=N,1829µm,0.2s						
KVLA	Kavala	0.65	178	P	Pg	03 57 19.1	-0.1
KVLA				S	Sb	03 57 28.3	-0.1
KVLA				AML	AML	03 57 29.5	
	comp=N,1416µm,0.3s						
KVLA				AML	AML	03 57 33.8	
	comp=E,2249µm,0.4s						
SRS	Serrai	0.74	231	P	Pg	03 57 20.3	-0.5
SRS				S	Sb	03 57 31.1	+0.1
	comp=E,400nm,0.6s						
SRS	Serrai	0.74	231	ePg	Pg	03 57 20.4	-0.5
SRS				eSg	Sb	03 57 31.2	+0.2
SRS	Serrai	0.74	231	P	Pg	03 57 20.4	-0.5
SRS				S	Sb	03 57 31.3	+0.3
SRS				AML	AML	03 57 36.4	
	comp=N,968µm,0.2s						
SRS				AML	AML	03 57 37.1	
	comp=E,893µm,0.3s						
KDZ	Kurdzhali	0.80	85	P	Pg	03 57 20.7	-1.3
KDZ	Kurdzhali	0.80	85	PG	Pg	03 57 20.7	-1.3
PGB	Panagyurishte	0.97	352	P	Pb	03 57 23.4	-1.7
KKB	Krupnik	0.99	287	P	Pb	03 57 23.9	-1.5
RDO	Rodhopi	0.99	116	P	Pb	03 57 25.7	+0.3
RDO				S	Sn	03 57 39.8	+0.1
	comp=E,672nm,0.4s						
RDO	Rodhopi	0.99	116	P	Pb	03 57 25.6	+0.2
RDO				S	Sn	03 57 39.8	+0.1
RDO				AML	AML	03 57 42.1	
	comp=E,1224µm,0.2s						
RDO				AML	AML	03 57 43.5	
	comp=N,1383µm,0.2s						
RDO	Rodhopi	0.99	116	PG	Pb	03 57 25.6	+0.2
RDO				SG	Sn	03 57 39.8	+0.1
DIM	Dimitrovgrad	1.00	62	P	Pb	03 57 25.6	+0.2
THAS	Thassos island	1.02	164	P	Pb	03 57 24.9	-0.8
THAS				S	Sn	03 57 40.2	0.0
	comp=N,718nm,0.3s						
THAS	Thassos island	1.02	164	P	Pb	03 57 25.0	-0.8
THAS				S	Sg	03 57 39.6	+0.2
THAS				AML	AML	03 57 41.5	
	comp=E,1387µm,0.3s						
THAS				AML	AML	03 57 42.8	
	comp=N,1481µm,0.4s						
SOH	Sokhos	1.07	225	P	Pb	03 57 26.4	-0.4
SOH				S	Sn	03 57 41.9	+0.2
	comp=N,520nm,0.6s						
SOH	Sokhos	1.07	225	P	Pb	03 57 26.4	-0.4
SOH				S	Sg	03 57 41.1	-0.1
SOH				AML	AML	03 57 44.4	
	comp=N,1250µm,0.5s						
SOH				AML	AML	03 57 44.6	
	comp=E,598µm,0.4s						
OUR	Ouranopolis	1.28	193	P	Pb	03 57 30.3	0.0
OUR				S	Sg	03 57 48.7	+0.9
	comp=E,455nm,0.3s						
OUR	Ouranopolis	1.28	193	P	Pb	03 57 30.2	0.0
OUR				S	Sg	03 57 47.5	-0.3
OUR				AML	AML	03 57 51.3	
	comp=E,903µm,0.3s						
OUR				AML	AML	03 57 53.1	
	comp=N,884µm,0.4s						
OUR	Ouranopolis	1.28	193	PN	Pn	03 57 29.9	+0.1
OUR				SN	Sg	03 57 48.4	+0.6
VTS	Vitosha	1.32	321	ePg	Pb	03 57 31.4	+0.3
VTS				eSg	Sg	03 57 49.3	+0.1
VTS	Vitosha	1.32	321	⇑P	Pn	03 57 30.3	-0.3
VTS				⇑S	Sn	03 57 48.8	+0.7
VTS	Vitosha	1.32	321	P	Pn	03 57 30.2	-0.4
VAY	Valandovo	1.37	259	ePg	Pg	03 57 32.7	0.0
VAY				eSg	Sg	03 57 51.0	+0.5
VAY	Valandovo	1.37	259	⇓iPn	Pg	03 57 32.8	+0.1
VAY				iSn	Sg	03 57 52.3	+1.8
HORT	Hortiatis	1.37	224	P	Pb	03 57 32.0	+0.2
HORT				S	Sg	03 57 50.6	0.0
	comp=N,202nm,0.7s						
HORT	Hortiatis	1.37	224	P	Pb	03 57 32.0	+0.2
HORT	Hortiatis	1.37	224	PN	Pb	03 57 31.6	-0.2
HORT				SN	Sg	03 57 50.4	-0.2
PLG	Polygyros	1.39	210	P	Pb	03 57 32.2	0.0
PLG				S	Sg	03 57 51.4	0.0
	comp=N,235nm,0.6s						
PLG	Polygyros	1.39	210	P	Pb	03 57 32.4	+0.2
THE	Thessaloniki	1.42	228	P	Pb	03 57 32.8	+0.2
THE				S	Sg	03 57 52.3	+0.2
	comp=N,142nm,0.5s						
THE	Thessaloniki	1.42	228	P	Pb	03 57 32.7	+0.2
SMTH	Samothraki Isl	1.43	141	P	Pb	03 57 33.0	+0.2
SMTH				S	Sg	03 57 52.5	+0.1
	comp=N,115nm,0.6s						
SMTH	Samothraki Isl	1.43	141	P	Pb	03 57 32.9	+0.1
ALN	Alexandroupoli	1.45	118	P	Pb	03 57 33.3	+0.1
ALN	Alexandroupoli	1.45	118	P	Pb	03 57 33.4	+0.3
ALN				S	Sg	03 57 53.7	+0.6
ALN				AML	AML	03 58 00.5	
	comp=N,167µm,0.5s						
ALN				AML	AML	03 58 00.6	
	comp=E,179µm,0.3s						
ALN	Alexandroupoli	1.45	118	PN	Pb	03 57 32.9	-0.2
BOSS	Bosilegrad	1.67	304	ePg	Pb	03 57 36.6	-0.2
BOSS				eSg	Sg	03 57 59.6	-0.4
PAIG	Paliouri	1.74	197	P	Pn	03 57 36.6	+0.5
ELND	Elena	1.75	40	⇑P	Pg	03 57 40.3	+0.2
UKOP	Uzunkopru-Edir	1.77	104	PN	Pn	03 57 37.8	+1.2
LIA	Limnos Island	1.80	159	P	Pn	03 57 38.1	+1.1
EDRB	Edirne	1.81	81	P	Pn	03 57 37.7	+0.7
EDRB	Edirne	1.81	81	PN	Pn	03 57 37.8	+0.7
GADA	Gvkgeada	1.82	139	PN	Pn	03 57 38.2	+0.9
KESN	Edirne-Kesan	1.91	113	iP	Pn	03 57 39.0	+0.1
KESN				iS	Sg	03 58 08.1	+0.1
KESN				IAML		03 58 11.0	
	comp=N,130nm,0.4s						
SZH	Strazhica	2.05	34	P	Pg	03 57 44.8	-0.9
KIRK	Kırklareli	2.06	84	iP	Pn	03 57 41.1	+0.5
KIRK				iS	Sn	03 58 04.6	-1.5
ZAPS	Zavoj	2.11	324	ePg	Pb	03 57 45.6	+1.1
ZAPS				eSg	Sg	03 58 13.7	-0.7
BOZC	Bozcaada	2.17	143	PN	Pn	03 57 42.9	+0.8
BOZC	Bozcaada	2.17	143	iP	Pb	03 57 44.0	-1.5
BOZC				iS	Sn	03 58 03.8	-4.9
BARS	Barje	2.25	304	ePg	Pb	03 57 46.5	-0.3
BARS				eSg	Sg	03 58 17.3	-1.5
EZN	Ezine	2.31	139	PN	Pn	03 57 45.1	+1.1
RKY	Sarkoy-Tekirda	2.31	112	PN	Pn	03 57 44.9	+0.8
KZN	Kozani	2.34	238	P	Pn	03 57 46.1	+1.6
MAR4	Marsite Statio	2.36	109	PN	Pn	03 57 45.9	+1.1
MAR6	Marsite Statio	2.37	111	PN	Pn	03 57 45.9	+1.1
MAR3	Marsite Statio	2.38	110	PN	Pn	03 57 46.1	+1.2
FNA	Florina	2.39	251	ePn	Pn	03 57 47.1	+2.0
FNA				eSn	Sn	03 58 13.7	-0.4
FNA	Florina	2.39	251	PN	Pn	03 57 45.9	+0.8
MAR2	Marsite Statio	2.40	110	PN	Pn	03 57 46.1	+0.9
BAYC	CANAKKALE_Bayr	2.49	137	iP	Pn	03 57 48.6	+2.2
BAYC				iS	Sn	03 58 15.4	-1.1
RAZG	Razgrad	2.54	38	⇑P	Pb	03 57 51.6	-0.1
BAIL	Bailesti	2.54	343	⇑S	Sb	03 58 21.8	-1.0
MRMT	Marmara Adasi	2.64	111	PN	Pn	03 57 49.9	+1.3
MAR9	Marsite Statio	2.71	110	PN	Pn	03 57 51.1	+1.6
ZAGS	Zajecar	2.72	326	ePg	Pb	03 57 55.7	+0.9
ZAGS				eSg	Sg	03 58 32.9	-0.9
PUNG	Punghina	2.88	339	⇑S	Sb	03 58 29.8	-3.0
AYVA	Ayvalik	2.89	141	iP	Pn	03 57 52.3	+0.4
SELS	Selova	2.90	305	ePn	Pn	03 57 52.5	+0.4
SELS				eSg	Sg	03 58 37.6	-1.9
SLVT	Silivri	2.92	96	PN	Pn	03 57 53.5	+1.1
EDC	Edincik	2.93	114	PN	Pn	03 57 53.5	+0.9
AGG	Agios Georgios	2.99	212	PN	Pn	03 57 54.5	+1.1
BALY	Balya	3.09	126	iP	Pn	03 57 54.6	-0.2
BALY				iS	Sn	03 58 31.1	-0.5
CTKS	Kestanelik-??a	3.14	95	PN	Pn	03 57 57.5	+2.1
ZEDA	zmir-Bergama	3.34	141	iP	Pn	03 57 59.7	+1.4
ARMT	Armutlu	3.56	105	PN	Pn	03 58 02.3	+1.1
HERR	Herculane	3.58	337	⇓P	Pn	03 58 01.6	+0.1
HERR				⇑S	Sn	03 58 47.7	+4.1
URLA	Izmir	3.65	151	PN	Pn	03 58 03.9	+1.4
URLA	Izmir	3.65	151	iP	Pn	03 58 04.1	+1.6
MDVR	Moldovita	3.73	330	⇓P	Pn	03 58 04.1	+0.5
MDVR				⇑S	Sn	03 58 48.8	+1.5
ARR	Arges	3.78	3	⇓P	Pn	03 58 05.5	+1.2
VOIR		3.88	7	⇑P	Pn	03 58 08.8	+3.1
VOIR				⇑S	Sb	03 58 59.4	-2.1
LOT	Lotru	3.88	354	⇓P	Pn	03 58 08.3	+2.6
MLR	Muntele Rosu	4.07	16	⇑P	Pn	03 58 12.4	+4.1
MLR				⇓S	Sb	03 59 02.6	-4.3
BZS	Buzias	4.49	335	⇑P	Pn	03 58 14.9	+0.9
CFR	Carcaliu	4.53	36	⇑P	Pn	03 58 17.2	+2.8
VRI	Vrincioaia	4.61	21	⇑P	Pn	03 58 19.3	+3.7
VRI	Vrincioaia	4.61	21	PN	Pn	03 58 17.7	+2.1

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*IDC **02** 04:00:31.2±3.9, 35°.92N×70°.11E, h87km±33km, mb3.4/6, mb1 3.5/12, mb1mx3.2/60, mbtmp3.7/12, MS3.2/2, Ms1 3.2/2, ms1mx2.3/44, Error ellipse: s-maj=32.3km s-min=23.4km az=166.0*
*NNC **02** 04:00:40.3±6.1, 36°.98N×70°.10E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=52.7km s-min=37.0km az=158.0*
ISC 02 04:00:33.1±0.8**, 36°.17N**±0°.07×**70°.10E**±0°.07**, h100**km**, n28, σ2s.06**/30**, mb3.8**/5**, 3C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	6.93	3	⇓Pn	Pn	04 02 12.9	+1.0
	5.7nm,0.5s,baz=190,slow=13,SNR=84						
KK31				⇑Sn	Sn	04 03 26.1	-3.1
	14nm,0.6s,baz=185,slow=22,SNR=9.1						
AAK	Ala-Archa	7.30	26	P	Pn	04 02 19.0	+1.9
	1.4nm,0.3s,baz=185,slow=11,SNR=5.7						
AAK				S	Sn	04 03 35.2	-3.2
	0.7nm,0.3s,baz=328,slow=19,SNR=1.7						
AAK	Ala-Archa	7.30	26	⇑Pn	Pn	04 02 20.0	+3.0
	3.6nm,0.7s						
AAK				Sn	Sn	04 03 34.4	-4.0
	8.0nm,0.7s						
TKM2	Tokmak 2	7.96	31	Pn	Pn	04 02 28.6	+2.4
	2.3nm,0.5s						
TKM2				Sn	Sn	04 03 50.5	-4.2
	2.3nm,0.6s						
GEYT	Alibeck	9.74	284	P	Pn	04 02 49.7	-0.4
	0.7nm,0.3s,baz=106,slow=11,SNR=2.9						
GEYT				S	Sn	04 04 33.6	-4.0
	0.4nm,0.3s,baz=104,slow=22,SNR=1.8						
PYUN	Piuthan	13.56	123	eP	Pn	04 03 40.5	-1.0
	13nm,0.3s						
DANN	Dangsing	13.94	120	eP	Pn	04 03 45.6	-0.8
	19nm,0.4s						
MKAR	Makanchi Array	13.99	37	P	Pn	04 03 48.2	+1.5
	0.1nm,0.3s,baz=219,slow=11,SNR=2.7						
KOLN	Koldanda	14.19	122	eP	Pn	04 03 48.6	-1.0
	4.7nm,0.3s						
GKN	Gorkha	14.76	119	eP	Pn	04 03 56.0	-0.9
AB31	Akbulak array	15.03	334	⇑Pn	Pn	04 04 02.3	+2.3
	2.1nm,0.4s,baz=152,slow=12,SNR=76						
KKN	Kakani	15.34	119	eP	Pn	04 04 04.2	-0.1
PKI	Pulchoki	15.57	119	eP	Pn	04 04 06.9	-0.3
KURBB	Kurchatov Arra	15.67	20	P	Pn	04 04 08.0	-0.1
	0.0nm,0.3s,baz=212,slow=11,SNR=2.8						
JIRN	Jiri	16.07	117	eP	Pn	04 04 14.0	+0.4
	21nm,0.3s						
AKTO	Aktyubinsk	16.71	332	P	Pn	04 04 21.8	+0.9
	0.3nm,0.3s,baz=139,slow=13,SNR=12						
AKTO	Aktyubinsk	16.71	332	⇓Pn	P	04 04 24.2	+2.7
	3.2nm,0.7s						
RAMN	Ramite	16.79	119	eP	Pn	04 04 22.1	-0.2
BVAR	Borovoye Array	16.85	1	P	Pn	04 04 23.3	+0.6
	0.3nm,0.3s,baz=172,slow=12,SNR=6.5						
TAPN	Taplejung	17.35	116	eP	P	04 04 29.3	+0.2
	12nm,0.3s						
ZALV	Zalesovo Beam	20.52	25	P	Pn	04 05 04.6	-1.5
	2.5nm,0.4s,baz=222,slow=10,SNR=9.6						
BRTR	Keskin Array B	28.84	288	LR	LR	04 22 35.5	
	comp=Z,19nm,18.4s,baz=110,slow=46						
FINES	FINESS Array B	37.35	327	P	P	04 07 36.8	+1.3
	1.6nm,0.9s,baz=107,slow=10,SNR=6.4						
ARCES	ARCESS Array B	41.17	338	P	P	04 08 09.0	+1.8
	1.5nm,0.9s,baz=115,slow=8.6,SNR=5.9						
NOA	NORSAR Array B	44.20	323	P	P	04 08 32.6	+0.7
	0.3nm,0.6s,baz=97,slow=8.0,SNR=1.9						
DAV	Davao City (W)	58.20	106	LR	LR	04 37 39.3	
	comp=Z,35nm,18.1s,baz=329,slow=38						
TORD	Torodi Ar. Bea	64.98	268	P	P	04 11 01.9	-0.7
	0.6nm,0.5s,baz=50,slow=6.2,SNR=7.1						
WRA	Warramunga Arr	82.44	121	P	P	04 12 43.4	-1.1
	0.2nm,0.4s,baz=327,slow=5.0,SNR=1.8						

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*VAO **02** 04:09:08.3±0.6, 22°.99S×67°.27W, h265km±11km, mb3.8*
*IDC **02** 04:09:09.2±1.2, 22°.92S×66°.64W, h204km±13km, mb3.1/2, mb1 3.5/9, mb1mx3.2/30, mbtmp3.9/9, Error ellipse: s-maj=18.5km s-min=16.5km az=120.0*
*GUC **02** 04:09:11.4±0.7, 22°.91S×67°.00W, h227km±8km, ML4.5*
ISC 02 04:09:08.9±0.7**, 22°.92S**±0°.05×**66°.79W**±0°.07**, h213**km±9km**, n45, σ1s.56**/66**, 13C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	1.98	279	P	Pn	04 09 49.7	+1.1
	41nm,0.3s,baz=102,slow=5.5,SNR=304						
LVC				S	S	04 10 19.4	+0.3
	32nm,0.3s,baz=240,slow=20,SNR=37						
LVC	Limon Verde	1.98	279	eP	Pn	04 09 50.0	+1.4
LVC				iS	S	04 10 19.6	+0.5
LVC	Limon Verde	1.98	279	eP	Pn	04 09 50.0	+1.4
LVC				eS	S	04 10 19.8	+0.6
PB15	IPOC Station P	2.48	263	⇑iP	Pn	04 09 54.9	+1.2
PB15				iS	S	04 10 28.6	+0.4
PB09	IPOC Station P	2.53	296	⇑iP	Pn	04 09 55.8	+1.6
PB09				iS	S	04 10 29.1	0.0
PB06	IPOC Station P	2.58	274	⇑iP	Pn	04 09 55.6	+0.9
PB06				iS	S	04 10 29.7	-0.2
PB06				IAML		04 10 30.7	
	comp=N,603nm,0.3s						
PB03	IPOC Station P	2.87	287	⇑iP	Pn	04 09 58.7	+0.7
PB03				iS	S	04 10 34.8	-1.2
PB03				IAML		04 10 37.2	
	comp=E,825nm,0.2s						
PB07	IPOC Station P	3.10	292	⇑iP	Pn	04 10 01.4	+0.7
PB07				iS	S	04 10 39.2	-1.6
PB07				IAML		04 10 40.3	
	comp=N,958nm,0.4s						
PB01	IPOC Station P	3.12	306	⇑iP	Pn	04 10 01.3	+0.5
PB01				iS	S	04 10 40.3	-0.8
PB01				IAML		04 10 42.5	
	comp=E,643nm,0.3s						
PB05	IPOC Station P	3.15	271	⇑iP	Pn	04 10 01.8	+0.7
PB05				iS	S	04 10 39.8	-1.8
PB05				IAML		04 10 45.1	
	comp=E,311nm,0.4s						
PB04	IPOC Station P	3.16	280	⇑iP	Pn	04 10 01.9	+0.6
PB04				iS	S	04 10 40.0	-1.8
PB04				IAML		04 10 43.6	
	comp=N,647nm,0.2s						
GO02	Mina Guanaco	3.40	228	⇑iP	Pn	04 10 05.4	+1.2
GO02				iS	S	04 10 47.0	-0.2
GO02				IAML		04 10 51.4	
	comp=N,473nm,0.2s						
PB10	IPOC Station P	3.51	260	⇑iP	Pn	04 10 06.1	+0.8
PB10				iS	S	04 10 47.0	-2.2
PB10				IAML		04 10 50.7	
	comp=E,223nm,0.1s						
PB08	IPOC Station P	3.53	321	⇑iP	Pn	04 10 07.4	+1.5
PB08				iS	S	04 10 50.9	+0.6
PB08				IAML		04 10 54.4	
	comp=N,226nm,0.2s						
PATCX	Punta Patache	3.76	303	⇑iP	Pn	04 10 07.9	-0.5
PATCX				iS	S	04 10 52.3	-2.4
PATCX				IAML		04 10 55.3	
	comp=N,478nm,0.4s						
TA01	Diego Aracena	3.93	306	eP	Pn	04 10 10.8	+0.5
TA01				iS	S	04 10 55.8	-2.5
TA01				IAML		04 10 58.8	
	comp=E,365nm,0.3s						
GO01	Chusmiza	3.94	325	⇑iP	Pn	04 10 11.9	+0.9
GO01				iS	S	04 10 58.8	-0.5
PB16	IPOC Station P	5.22	330	eP	Pn	04 10 28.5	+1.4
PB16				iS	S	04 11 27.4	-1.1
LPAZ	La Paz	6.72	349	P	Pn	04 10 47.0	+0.7
	comp=E,2.1nm,0.3s,baz=162,slow=6.3,SNR=92						
LPAZ				S	S	04 12 00.7	-2.8
	baz=83,slow=17,SNR=1.5						
CFA	Coronel Fontan	8.75	188	P	Pn	04 11 10.9	-1.0
	comp=E,0.7nm,0.3s,baz=48,slow=19,SNR=22						
CFA				S	S	04 12 43.8	-6.6
	comp=E,2.4nm,0.3s,baz=354,slow=19,SNR=17						
SIV	San Ignacio	8.75	39	P	Pn	04 11 10.4	-1.6
	comp=E,2.1nm,0.3s,baz=226,slow=11,SNR=35						
SIV				S	S	04 12 46.7	-3.9
	comp=E,0.1nm,0.3s,baz=306,slow=19,SNR=3.6						
CPUP	Villa Florida	9.25	113	P	Pn	04 11 18.0	-0.3
	comp=E,0.2nm,0.3s,baz=284,slow=9.9,SNR=9.3						
VILB	Vilhena	11.73	33	eP	Pn	04 11 52.2	+2.0
ETMB	Extrema	13.04	3	eP	Pn	04 12 05.7	-0.9
PTGB	Pitanga	13.60	100	eP	P	04 12 15.3	-0.3
ITAB	Concordia	13.96	111	eP	P	04 12 19.9	+0.4
SAML	Samuel	14.32	15	eP	Pn	04 12 22.6	+0.2
PCMB	Pacaembu	14.44	88	eP	P	04 12 27.3	+2.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLTB	**Pedras Altas**	**14.65**	**130**	*e*P	**Pn**	**04 12 25.8**	**-0.6**
ITRB	**Iturama**	**15.64**	**81**	*e*P	**Pn**	**04 12 39.4**	**+0.9**
FRTB	**Fartura**	**15.86**	**95**	*e*P	**Pn**	**04 12 42.2**	**+1.2**
PLCA	**Paso Flores**	**18.04**	**189**	P	**Pn**	**04 13 06.1**	**-0.7**
	comp=E,0.3nm,0.3s,baz=6.7,slow=13,SNR=4.5						
IPMB	**Ipameri, GO**	**18.09**	**78**	*e*P	**P**	**04 13 06.0**	**+1.0**
VAO	**Valinhos**	**18.26**	**94**	*e*P	**P**	**04 13 07.5**	**+0.6**
BDFB	**Brasilia**	**19.13**	**71**	P	**P**	**04 13 16.2**	**-0.2**
	comp=E,0.4nm,0.3s,baz=251,slow=11,SNR=5.2						
NPGB	**Novo Progresso**	**19.24**	**37**	*e*P	**P**	**04 13 15.0**	**-2.4**
PEXB	**Peixe**	**20.63**	**62**	*e*P	**P**	**04 13 31.2**	**-1.1**
JANB	**Januaria**	**22.63**	**74**	*e*P	**P**	**04 13 51.6**	**-0.4**
GDU01	**Guandu, BA**	**27.37**	**75**	*e*P	**P**	**04 14 33.5**	**-1.3**
TXAR	**Lajitas Array**	**62.92**	**324**	P	**P**	**04 19 14.2**	**+1.4**
	comp=E,0.3nm,0.9s,baz=142,slow=4.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**76.00**	**69**	P	**P**	**04 20 33.1**	**-0.1**
	comp=E,0.5nm,0.4s,baz=259,slow=6.1,SNR=16						
ASAR	**Alice Springs**	**129.51**	**205**	PKP	**PKPdf**	**04 27 54.0**	**+0.9**
	comp=E,0.4nm,0.7s,baz=139,slow=2.0,SNR=3.1						
WRA	**Warramunga Arr**	**132.67**	**207**	PKP	**PKPdf**	**04 28 00.6**	**+1.5**
	comp=E,0.4nm,0.6s,baz=153,slow=1.6,SNR=4.5						
ZALV	**Zalesovo Beam**	**142.35**	**27**	PKP	**PKPdf**	**04 28 16.4**	**+0.6**
	comp=E,0.6nm,0.3s,baz=270,slow=5.8,SNR=2.2						
MKAR	**Makanchi Array**	**145.57**	**39**	PKPbc	**PKPbc**	**04 28 23.4**	**+1.1**
	comp=E,0.7nm,0.6s,baz=299,slow=3.3,SNR=5.5						

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*SNET **02** 04:12:39.9±0.9, 13°.86N×90°.38W, h80km±6km, ML3.0*
*GCG **02** 04:12:43.1±0.3, 13°.75N×90°.42W, h45km±9km, MD3.5*
ISC 02 04:12:41.7±2.5**, 13°.8N**±0°.1×**90°.33W**±0°.08**, h73**km±17km**, n18,** σ**0s92**/26**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.41**	**345**	*e*P	**Pn**	**04 12 52.8**	**-1.5**
IXG	**Ixpaco**	**0.41**	**345**	*e*P	**Pn**	**04 12 53.7**	**-0.6**
NUBE	**Las Nubes**	**0.55**	**76**	*e*P	**Pn**	**04 12 54.6**	**-0.8**
NUBE				*e*S	**Sn**	**04 13 05.8**	**+0.2**
PCG	**Pacaya**	**0.67**	**336**	*e*P	**Pn**	**04 12 56.9**	**+0.1**
RTR	**El Retiro**	**0.68**	**79**	*e*P	**Pn**	**04 12 56.4**	**-0.3**
RTR				*e*S	**Sn**	**04 13 09.3**	**+1.4**
CEVE	**Cerro Verde**	**0.69**	**85**	*e*P	**Pn**	**04 12 56.5**	**-0.5**
CEVE				*e*S	**Sn**	**04 13 10.0**	**+1.7**
CEVE				IAML		04 13 10.7	
	comp=Z,382nm,0.3s						
SNJE	**San Jose**	**0.71**	**82**	*e*P	**Pn**	**04 12 56.7**	**-0.5**
UNIC	**Universidad Ca**	**0.79**	**75**	*e*P	**Pn**	**04 12 57.3**	**-0.6**
NBG	**Las Nubes**	**0.81**	**359**	*e*P	**Pn**	**04 12 59.4**	**+1.0**
FUG	**Fuego 3**	**0.84**	**324**	*e*P	**Pn**	**04 12 58.7**	**+0.1**
FUG				*e*S	**Sn**	**04 13 10.7**	**-0.3**
JAYA	**Jayaque - finc**	**0.86**	**98**	*e*P	**Pn**	**04 12 57.7**	**-1.1**
JAYA				*e*S	**Sn**	**04 13 11.7**	**+0.1**
JAYA				IAML		04 13 12.4	
	comp=Z,355nm,0.2s						
TACO	**Tacachico**	**0.97**	**78**	*e*P	**Pn**	**04 12 59.2**	**-0.8**
TACO				*e*S	**Sn**	**04 13 14.8**	**+1.2**
MTO3	**Montecristo**	**1.13**	**56**	*e*P	**Pn**	**04 13 01.3**	**-0.8**
ESQI	**Esquipulas**	**1.24**	**51**	*e*P	**Pn**	**04 13 02.7**	**-0.8**
ESQI				*e*S	**Sn**	**04 13 18.7**	**-1.1**
LFRS	**El Faro**	**1.24**	**97**	*e*P	**Pn**	**04 13 03.1**	**-0.4**
LFRS				*e*S	**Sn**	**04 13 21.2**	**+1.3**
LBRS	**Las Brisas**	**1.25**	**91**	*e*P	**Pn**	**04 13 03.0**	**-0.6**
PAVA	**Las Pavas**	**1.35**	**92**	*e*P	**Pn**	**04 13 04.6**	**-0.3**
COEG	**Centro de Oper**	**1.42**	**96**	*e*P	**Pn**	**04 13 05.4**	**-0.3**

IDC 02 04:24:25.6±4.9**, 62°.67S**×**154°.70W, h0**km**, mb3.7**/2**, mb1 4.0**/2**, mb1mx3.6**/28**, mbtmp3.7**/2**, MS3.6**/10**, Ms1 3.6**/10**, ms1mx3.5**/19**, Error ellipse: s-maj=567.7km s-min=114.2km az=8.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.15**	**206**	LR	LR	04 34 41.9	
	comp=Z,151nm,20.3s,baz=84,slow=31						
QSPA	**South Pole Qui**	**27.45**	**180**	LR	LR	04 39 31.7	
	comp=Z,149nm,19.1s,baz=76,slow=33						
PMSA	**Palmer Station**	**36.94**	**135**	LR	LR	04 44 00.5	
	comp=Z,54nm,20.1s,baz=252,slow=32						
PPT	**Papeete**	**45.20**	**7**	LR	LR	04 46 56.3	
	comp=Z,74nm,18.4s,baz=150,slow=30						
MAW	**Mawson**	**47.22**	**199**	LR	LR	04 51 11.8	
	comp=Z,59nm,18.9s,baz=88,slow=34						
STKA	**Stephens Creek**	**50.20**	**277**	LR	LR	04 51 30.6	
	comp=Z,110nm,18.2s,baz=204,slow=32						
PLCA	**Paso Flores**	**52.24**	**107**	LR	LR	04 53 01.8	
	comp=Z,32nm,18.0s,baz=166,slow=33						
H03S2	**Juan Fernandez**	**54.12**	**95**	T	T	05 33 10.8	
	baz=212,slow=74,SNR=36						
H03S1	**Juan Fernandez**	**54.12**	**95**	T	T	05 33 17.8	
	baz=212,slow=74,SNR=36						
H03S3	**Juan Fernandez**	**54.13**	**95**	T	T	05 33 17.0	
	baz=212,slow=74,SNR=34						
H03N3	**Juan Fernandez**	**54.44**	**95**	T	T	05 33 34.5	
	baz=210,slow=72						
H03N2	**Juan Fernandez**	**54.45**	**95**	T	T	05 33 33.7	
	baz=210,slow=72						
H03N1	**Juan Fernandez**	**54.45**	**95**	T	T	05 33 31.2	
	baz=210,slow=72						
H01W1	**Cape Leeuwin H**	**60.16**	**251**	T	T	05 39 56.1	
	baz=146,slow=76,SNR=7.4						
H01W2	**Cape Leeuwin H**	**60.16**	**251**	T	T	05 39 56.1	
	baz=146,slow=76,SNR=6.8						
H01W3	**Cape Leeuwin H**	**60.18**	**251**	T	T	05 40 01.2	
	baz=146,slow=76,SNR=5.6						
ASAR	**Alice Springs**	**60.72**	**275**	P	P	04 34 38.0	-0.6
	0.7nm,0.8s,baz=146,slow=6.9,SNR=5.8						
ASAR				LR	LR	04 56 56.8	
	comp=Z,71nm,21.1s,baz=156,slow=32						
WRA	**Warramunga Arr**	**63.74**	**277**	P	P	04 34 59.8	+0.9
	0.9nm,0.9s,baz=152,slow=6.6,SNR=2.9						
KRVT	**Keravat (AS076**	**70.04**	**302**	LR	LR	05 02 38.6	
	comp=Z,40nm,20.5s,baz=130,slow=33						
BOSA	**Boshof**	**89.03**	**180**	LR	LR	05 14 36.7	
	comp=Z,43nm,18.5s,baz=160,slow=34						
MKAR	**Makanchi Array**	**144.82**	**270**	PKP	PKPbc	04 44 02.4	0.0
	0.3nm,0.7s,baz=151,slow=3.3,SNR=2.1						

IDC 02 05:05:42.7±2.9**, 30°.32N**×**139°.24E, h0**km**, mb3.9**/3**, mb1 4.0**/4**, mb1mx3.5**/36**, mbtmp3.7**/4**, ML1.9**/1**, Error ellipse: s-maj=77.5km s-min=52.1km az=25.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.26**	**352**	Pn	Pn	05 07 17.0	+0.6
	0.0nm,0.3s,baz=158,slow=13,SNR=4.8						
MJAR				Sn	Sn	05 08 25.7	-3.1
	0.1nm,0.3s,baz=147,slow=15,SNR=1.1						
H11N2	**WAKE ISLAND Hy**	**27.12**	**106**	T	T	05 38 44.4	
	baz=300,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**27.12**	**106**	T	T	05 38 48.3	
	baz=300,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**27.14**	**106**	T	T	05 38 47.9	
	baz=300,slow=75,SNR=19						
H11S3	**WAKE ISLAND Hy**	**27.55**	**109**	T	T	05 39 21.2	
	baz=302						
H11S1	**WAKE ISLAND Hy**	**27.56**	**109**	T	T	05 39 20.5	
	baz=302						
H11S2	**WAKE ISLAND Hy**	**27.57**	**109**	T	T	05 39 22.7	
	baz=302						
MKAR	**Makanchi Array**	**46.45**	**307**	P	P	05 14 12.7	+1.4
	0.3nm,0.7s,baz=98,slow=8.9,SNR=2.7						
FINES	**FINESS Array B**	**73.91**	**333**	P	P	05 17 17.7	-1.7
	1.8nm,0.9s,baz=69,slow=6.2,SNR=5.0						
TXAR	**Lajitas Array**	**95.69**	**51**	P	P	05 19 11.4	+0.6
	0.3nm,0.8s,baz=310,slow=4.2,SNR=5.8						

IDC 02 05:10:45.2±13.0**, 36°.58S**×**104°.10W, h0**km**, mb3.5**/4**, mb1 3.9**/4**, mb1mx3.7**/27**, mbtmp3.5**/4**, MS3.3**/2**, Ms1 3.4**/2**, ms1mx2.9**/15**, Error ellipse: s-maj=366.5km s-min=51.8km az=17.0, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**20.83**	**89**	T	T	05 36 34.2	
	baz=252						
H03N3	**Juan Fernandez**	**20.83**	**89**	T	T	05 36 12.6	
	baz=252						
H03N1	**Juan Fernandez**	**20.85**	**89**	T	T	05 36 42.8	
	baz=252						
ATAH	**Atahualpa**	**37.54**	**45**	LR	LR	05 29 16.9	
	comp=Z,45nm,20.1s,baz=198,slow=30						
LPAZ	**La Paz**	**37.72**	**67**	P	P	05 18 03.3	0.0
	0.8nm,0.9s,baz=214,slow=7.3,SNR=2.8						
LPAZ				LR	LR	05 29 23.6	
	comp=Z,43nm,21.0s,baz=178,slow=30						
TXAR	**Lajitas Array**	**65.57**	**0**	P	P	05 21 30.6	0.0
	0.4nm,0.8s,baz=178,slow=8.1,SNR=4.5						
NVAR	**Mina Array Bea**	**75.79**	**349**	P	P	05 22 33.6	+0.7
	0.3nm,0.7s,baz=173,slow=8.2,SNR=3.0						
PDAR	**Pinedale Array**	**79.13**	**356**	P	P	05 22 51.0	-0.6
	0.4nm,0.8s,baz=165,slow=7.5,SNR=2.6						

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*NIED **02** 05:14:10.5, 36°.42N×141°.06E, h46km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr1.16; Mθθ-0.39; Mϕϕ-0.77; Mrθ3.15; Mθϕ-1.53; Mϕr2.10; Fault plane solution: M0 4.16000×10^14 NP1:ϕs57.00000°, δ79.00000°, λ101.00000°. NP2:ϕs192.00000°, δ15.00000°, λ46.00000°.*
*JMA **02** 05:14:10.5±0.1, 36°.42N×141°.06E, h46km±1km, M3.8*
JMA Felt I J1.
*IDC **02** 05:14:13.1±3.0, 36°.37N×140°.98E, h61km±31km, mb3.4/4, mb1 3.7/7, mb1mx3.3/48, mbtmp3.7/7, ML2.9/3, MS2.4/2, Ms1 2.4/2, ms1mx2.2/24, Error ellipse: s-maj=27.6km s-min=12.2km az=68.0*
ISC 02 05:14:11.1±1.4**, 36°.44N**±0°.04×**141°.10E**±0°.07**, h37**km±2km**, n27,** σ**1s01**/34**, mb3.7**/4**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.43**	**257**	P	**Pn**	**05 14 20.3**	**-0.1**
JHYU				S	**Sn**	**05 14 27.0**	**-0.3**
JHO	**Hitachi**	**0.46**	**292**	P	**Pn**	**05 14 20.6**	**-0.4**
JHO				S	**Sn**	**05 14 27.4**	**-0.8**
JIHU	**Itakohorinouch**	**0.67**	**225**	P	**Pn**	**05 14 23.6**	**-0.4**
JIHU				*e*S	**Sn**	**05 14 33.2**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.70**	**340**	P	**Pn**	**05 14 23.8**	**-0.8**
ONAJ				*e*S	**Sn**	**05 14 32.9**	**-1.3**
JYT	**Yasato**	**0.76**	**254**	P	**Pn**	**05 14 24.4**	**-0.8**
JYT				S	**Sn**	**05 14 33.9**	**-1.6**
JFK	**Kawauchi**	**0.94**	**349**	P	**Pn**	**05 14 27.1**	**-0.7**
JFK				S	**Sn**	**05 14 38.7**	**-1.4**
JSMT	**Sammumatsuo**	**0.96**	**214**	P	**Pn**	**05 14 26.9**	**-1.0**
JSMT				*e*S	**Sn**	**05 14 39.6**	**-0.7**
JFT	**Otama**	**1.24**	**331**	P	**Pn**	**05 14 32.5**	**+0.7**
JFT				S	**Sn**	**05 14 47.8**	**+0.5**
JAG	**Ashikaga**	**1.33**	**270**	P	**Pn**	**05 14 32.6**	**-0.5**
JAG				S	**Sn**	**05 14 48.7**	**-0.8**
JMM	**Marumori**	**1.45**	**350**	P	**Pn**	**05 14 34.6**	**0.0**
JMM				*e*S	**Sn**	**05 14 52.0**	**-0.3**
JFY	**Yanaizu**	**1.48**	**311**	P	**Pn**	**05 14 35.5**	**+0.4**
JKT	**Katashina**	**1.53**	**283**	P	**Pn**	**05 14 36.1**	**+0.3**
JKT				*e*S	**Sn**	**05 14 54.2**	**-0.3**
MJAR	**Matsushiro Arr**	**2.33**	**273**	P	**Pn**	**05 14 45.9**	**-1.0**
	1.9nm,0.3s,baz=99,slow=8.2,SNR=123						
MJAR				S	**Sn**	**05 15 14.3**	**0.0**
	2.1nm,0.3s,baz=100,slow=25,SNR=3.6						
MJAR				LR	LR	05 15 23.1	
	comp=Z,43nm,18.1s,baz=235,slow=32						
MAT	**Matsushiro**	**2.34**	**273**	P	**Pn**	**05 14 47.3**	**+0.4**
MAT				S	**Sn**	**05 15 15.1**	**+0.7**
JHJ	**Hachijo jima 2**	**3.49**	**199**	P	**Pn**	**05 15 03.8**	**+1.1**
	21nm,0.3s,baz=328,slow=21,SNR=7.4						
JHJ				S	**Sn**	**05 15 43.1**	**+0.4**
	31nm,0.3s,baz=51,slow=22,SNR=6.6						
USRK	**Ussuriysk Ar.**	**10.41**	**321**	P	**Pn**	**05 16 41.3**	**+3.6**
	baz=134,slow=14,SNR=5.2						
KSRS	**Korea Array**	**10.60**	**279**	LR	LR	05 20 12.5	
	comp=Z,38nm,19.5s,baz=135,slow=34						
SONM	**Songino Array**	**27.91**	**305**	P	**P**	**05 19 57.6**	**-0.1**
	0.5nm,0.5s,baz=112,slow=8.7,SNR=1.5						
H11N2	**WAKE ISLAND Hy**	**28.07**	**119**	T	T	05 49 19.7	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**28.07**	**119**	T	T	05 49 32.3	
	baz=312,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.08**	**119**	T	T	05 49 31.2	
	baz=312,slow=74						
H11S1	**WAKE ISLAND Hy**	**28.75**	**122**	T	T	05 50 15.4	
	baz=314,slow=76,SNR=74						
H11S3	**WAKE ISLAND Hy**	**28.75**	**122**	T	T	05 50 22.3	
	baz=314,slow=76,SNR=49						
H11S2	**WAKE ISLAND Hy**	**28.77**	**122**	T	T	05 50 21.0	
	baz=314,slow=76,SNR=40						
ILAR	**Eielson Array**	**50.13**	**32**	P	**P**	**05 23 02.7**	**+0.5**
	0.4nm,0.7s,baz=280,slow=5.3,SNR=3.3						
WRA	**Warramunga Arr**	**56.44**	**188**	P	**P**	**05 23 47.9**	**-1.2**
	0.7nm,0.6s,baz=4.4,slow=7.4,SNR=6.6						
YKA	**Yellowknife Ar**	**64.45**	**30**	P	**P**	**05 24 42.9**	**-0.4**
	1.4nm,0.7s,baz=305,slow=6.5,SNR=3.1						

IDC 02 05:18:13.4±1.6**, 30°.25N**×**140°.77E, h0**km**, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.4**/41**, mbtmp3.4**/4**, ML2.3**/1**, Error ellipse: s-maj=80.9km s-min=31.0km az=93.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.63**	**342**	Pn	Pn	05 19 52.0	-0.1
	0.1nm,0.3s,baz=157,slow=12,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**25.84**	**108**	T	T	05 51 13.9	
	baz=300						
H11N1	**WAKE ISLAND Hy**	**25.84**	**108**	T	T	05 51 15.6	
	baz=300						
H11N3	**WAKE ISLAND Hy**	**25.85**	**108**	T	T	05 51 15.6	
	baz=300						
WRA	**Warramunga Arr**	**50.29**	**188**	P	P	05 27 11.2	-0.6
	0.1nm,0.4s,baz=4.1,slow=7.5,SNR=1.4						
ASAR	**Alice Springs**	**54.02**	**188**	P	P	05 27 40.0	+0.4
	0.1nm,0.4s,baz=2.9,slow=7.4,SNR=1.5						
TXAR	**Lajitas Array**	**94.69**	**52**	P	P	05 31 36.8	-0.2
	0.4nm,0.7s,baz=291,slow=2.5,SNR=5.2						

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*UCR **02** 05:23:08.9±1.1, 14°.56N×92°.51W, h54km±16km, ML3.8, mb4.0(NEIC)*
*SNET **02** 05:23:08.8±1.0, 14°.56N×92°.50W, h56km±14km, ML4.1*
*IDC **02** 05:23:09.8±3.1, 14°.81N×92°.39W, h68km±26km, mb3.3/3, mb1 3.7/6, mb1mx3.3/42, mbtmp3.6/6, MS3.0/2, Ms1 3.0/2, ms1mx2.4/28, Error ellipse: s-maj=53.9km s-min=27.3km az=31.0*
*MEX **02** 05:23:09.0±0.8, 14°.64N×92°.52W, h71km±9km, MD3.9*
*NEIC **02** 05:23:09.3±3.7, 14°.57N±0°.07×92°.50W±0°.07, h61km±12km, Error ellipse: s-maj=11.5km s-min=7.8km az=46.0*
*GCG **02** 05:23:10.0±0.6, 14°.62N×92°.46W, h61km±87km, MD4.3*
ISC 02 05:23:08.9±0.9**, 14°.61N**±0°.06×**92°.56W**±0°.05**, h62**km±7km**, n83,** σ**1s37**/101**, mb4.0**/7**, 3C, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.41**	**44**	*i* P	**Pn**	**05 23 19.2**	**-1.0**
THIG				*e*S	**Sn**	**05 23 27.9**	**-0.6**
RTAL	**Retalhuleu**	**0.84**	**96**	⇑*i*P	**Pn**	**05 23 24.0**	**-1.0**
RTAL				*e*S	**Sn**	**05 23 35.5**	**-1.4**
RTAL	**Retalhuleu**	**0.84**	**96**	Pn	**Pn**	**05 23 24.1**	**-1.0**
RTAL				Sn	**Sn**	**05 23 35.9**	**-1.1**
HUEH	**Huehuetenango**	**1.24**	**55**	⇑*e*P	**Pn**	**05 23 30.4**	**0.0**
HUEH				*e*S	**Sn**	**05 23 48.2**	**+1.7**
HUEH				IAML		05 23 51.9	
	comp=Z,5μm,0.5s						
HUEH	**Huehuetenango**	**1.24**	**55**	Pn	**Pn**	**05 23 30.5**	**0.0**
HUEH				Sn	**Sn**	**05 23 48.2**	**+1.7**
PCIG		**1.26**	**330**	*i* P	**Pn**	**05 23 29.3**	**-1.2**
PCIG				*i* S	**Sn**	**05 23 45.1**	**-1.5**
FUG	**Fuego 3**	**1.67**	**95**	*e*P	**Pn**	**05 23 36.2**	**0.0**
CCIG	**Comitan**	**1.71**	**14**	*e*P	**Pn**	**05 23 37.5**	**+0.7**
CCIG				*e*S	**Sn**	**05 23 57.9**	**+0.2**
CCIG	**Comitan**	**1.71**	**14**		**Pn**	**05 23 37.3**	**+0.5**
CCIG				Sn	**Sn**	**05 24 01.9**	**+4.2**
PCG	**Pacaya**	**1.90**	**96**	*e*P	**Pn**	**05 23 40.0**	**+0.6**
PCG				*e*S	**Sn**	**05 24 03.1**	**+0.7**
IXG	**Ixpaco**	**2.10**	**102**	*e*P	**Pn**	**05 23 41.0**	**-0.9**
IXG	**Ixpaco**	**2.10**	**102**	*e*P	**Pn**	**05 23 41.0**	**-0.9**
IXG	**Ixpaco**	**2.10**	**102**	*e*P	**Pn**	**05 23 42.2**	**+0.2**
NBG	**Las Nubes**	**2.14**	**90**	*e*P	**Pn**	**05 23 43.6**	**+0.9**
TGIG		**2.22**	**346**	*i* P	**Pn**	**05 23 42.3**	**-1.3**
TGIG				*i* S	**Sn**	**05 24 08.5**	**-1.5**
NUBE	**Las Nubes**	**2.79**	**104**	*e*P	**Pn**	**05 23 50.7**	**-0.6**
NUBE				*e*S	**Sn**	**05 24 22.3**	**-1.6**
NUBE	**Las Nubes**	**2.79**	**104**	*e*P	**Pn**	**05 23 50.7**	**-0.6**
NUBE				*e*S	**Sn**	**05 24 22.3**	**-1.6**
MRL	**Marmol**	**2.82**	**80**	*e*P	**Pn**	**05 23 52.2**	**+0.4**
RTR	**El Retiro**	**2.91**	**104**	*e*P	**Pn**	**05 23 52.8**	**-0.2**
RTR	**El Retiro**	**2.91**	**104**	*e*P	**Pn**	**05 23 52.8**	**-0.2**
CEVE	**Cerro Verde**	**2.95**	**105**	*e*P	**Pn**	**05 23 53.5**	**-0.2**
CEVE				*e*S	**Sn**	**05 24 28.4**	**+0.3**
CEVE				IAML		05 24 36.6	
	comp=Z,748nm,0.4s						
CEVE	**Cerro Verde**	**2.95**	**105**	*e*P	**Pn**	**05 23 53.5**	**-0.2**
CEVE				*e*S	**Sn**	**05 24 28.4**	**+0.3**
CEVE				IAML		05 24 36.6	
	comp=Z,748nm,0.4s						
SNJE	**San Jose**	**2.96**	**104**	*e*P	**Pn**	**05 23 54.1**	**+0.4**
SNJE	**San Jose**	**2.96**	**104**	*e*P	**Pn**	**05 23 54.1**	**+0.4**
MTO3	**Montecristo**	**3.10**	**93**		**Pn**	**05 23 54.5**	**-1.2**
ESQI	**Esquipulas**	**3.12**	**90**	Pn	**Pn**	**05 23 55.9**	**+0.2**
JAYA	**Jayaque - finc**	**3.16**	**107**	*e*P	**Pn**	**05 23 55.5**	**-0.9**
JAYA				*e*S	**Sn**	**05 24 32.0**	**-1.2**
JAYA				IAML		05 24 37.2	
	comp=Z,576nm,0.2s						
JAYA	**Jayaque - finc**	**3.16**	**107**	*e*P	**Pn**	**05 23 55.5**	**-0.9**
JAYA				*e*S	**Sn**	**05 24 32.0**	**-1.2**
JAYA				IAML		05 24 37.2	
	comp=Z,576nm,0.2s						
TACO	**Tacachico**	**3.17**	**101**	*e*P	**Pn**	**05 23 55.3**	**-1.1**
TACO	**Tacachico**	**3.17**	**101**	*e*P	**Pn**	**05 23 55.3**	**-1.1**
CMIG	**Matias Romero**	**3.33**	**318**	P	**Pn**	**05 23 58.0**	**-0.6**
	comp=Z,6.2nm,0.3s,baz=136,slow=13,SNR=56						
CMIG				S	**Sn**	**05 24 35.7**	**-1.3**
	comp=Z,32nm,0.3s,baz=60,slow=18,SNR=6.1						
CMIG	**Matias Romero**	**3.33**	**318**	*i* P	**Pn**	**05 23 58.0**	**-0.6**
LALI	**Alcalda de L**	**3.33**	**109**	*e*P	**Pn**	**05 23 58.1**	**-0.5**
LALI	**Alcalda de L**	**3.33**	**109**	*e*P	**Pn**	**05 23 58.1**	**-0.5**
UEES	**Universidad Ev**	**3.34**	**105**	*e*P	**Pn**	**05 23 59.1**	**+0.3**
UEES	**Universidad Ev**	**3.34**	**105**	*e*P	**Pn**	**05 23 59.1**	**+0.3**
SNET	**Serv Nac Est T**	**3.36**	**105**	Pn	**Pn**	**05 23 59.4**	**+0.4**
PETF	**Flores**	**3.46**	**48**	⇑*e*P	**Pn**	**05 23 59.8**	**-0.6**
PETF	**Flores**	**3.46**	**48**		**Pn**	**05 24 00.1**	**-0.3**
LFRS	**El Faro**	**3.53**	**106**	*e*P	**Pn**	**05 24 01.6**	**+0.1**
LFRS				*e*S	**Sn**	**05 24 41.8**	**-0.3**
LFRS	**El Faro**	**3.53**	**106**	*e*P	**Pn**	**05 24 01.6**	**+0.1**
LFRS				*e*S	**Sn**	**05 24 41.8**	**-0.3**
PAVA	**Las Pavas**	**3.62**	**104**	*e*P	**Pn**	**05 24 02.1**	**-0.6**
PAVA	**Las Pavas**	**3.62**	**104**	*e*P	**Pn**	**05 24 02.1**	**-0.6**
COEG	**Centro de Oper**	**3.70**	**105**	*e*P	**Pn**	**05 24 03.0**	**-0.7**
COEG				IAML		05 24 51.8	
	comp=Z,215nm,0.3s						
COEG	**Centro de Oper**	**3.70**	**105**	*e*P	**Pn**	**05 24 03.0**	**-0.7**
COEG				IAML		05 24 51.8	
	comp=Z,215nm,0.3s						
COEB	**Comit de Eme**	**4.06**	**105**	*e*P	**Pn**	**05 24 08.3**	**-0.4**
COEB				IAML		05 25 01.4	
	comp=Z,106nm,0.4s						
COEB	**Comit de Eme**	**4.06**	**105**	*e*P	**Pn**	**05 24 08.3**	**-0.4**
COEB				IAML		05 25 01.4	
	comp=Z,106nm,0.4s						
ESTN	**Estel**	**6.20**	**103**		**Pn**	**05 24 39.2**	**+1.3**
TLIG	**Tlapa**	**6.48**	**298**	Pn	**Pn**	**05 24 41.9**	**+0.1**
MATN	**Matagalpa**	**6.66**	**104**		**Pn**	**05 24 44.4**	**+0.1**
TEIG	**Tepich**	**6.92**	**36**	P	**Pn**	**05 24 45.5**	**-2.2**
	comp=Z,61nm,0.3s,baz=138,slow=3.0,SNR=228						
TEIG				S	**Sn**	**05 26 01.0**	**-4.2**
	comp=Z,8.6nm,0.3s,baz=139,slow=20,SNR=5.1						
TEIG	**Tepich**	**6.92**	**36**	*e*P	**Pn**	**05 24 45.7**	**-2.1**
TEIG	**Tepich**	**6.92**	**36**		**Pn**	**05 24 45.7**	**-2.1**
BOAB	**BOACO BROADBAN**	**7.04**	**107**	Pn	**Pn**	**05 24 48.3**	**-1.1**
ACON	**Acoyapa**	**7.65**	**109**	Pn	**Pn**	**05 24 60.0**	**+2.1**
ESPN	**Las Esperanzas**	**8.39**	**106**	Pn	**Pn**	**05 25 07.4**	**-0.5**
JTS	**Las Juntas de**	**8.58**	**119**	P	**Pn**	**05 25 11.0**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=333,slow=18,SNR=1.8						
JTS	**Las Juntas de**	**8.58**	**119**	Pn	**Pn**	**05 25 11.1**	**+0.6**
833A	**Chaparral WMA,**	**15.05**	**336**	Pn	**Pn**	**05 26 37.3**	**-0.6**
553A	**Crawfordville**	**17.22**	**24**		**Pn**	**05 27 05.2**	**0.0**
BRAL	**Brewton**	**17.24**	**16**	P	**P**	**05 27 06.2**	**0.0**
656A	**Willston**	**17.37**	**31**		**P**	**05 27 07.7**	**+0.1**
656A				IAmb	IAmb	05 27 15.0	
	comp=Z,20nm,1.1s						
VBMS	**Vicksburg**	**17.63**	**6**	P	**Pn**	**05 27 09.5**	**-0.8**
TXAR	**Lajitas Array**	**17.89**	**327**	P	**Pn**	**05 27 14.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=150,slow=13,SNR=7.7						
LRAL	**Lakeview Retre**	**19.03**	**14**	P	**Pn**	**05 27 29.3**	**+2.1**
LRAL				IAmb	IAmb	05 27 32.6	
	comp=Z,12nm,1.4s						
152A	**Waverly Hall**	**19.34**	**20**	P	**Pn**	**05 27 32.2**	**+1.2**
152A				IAmb	IAmb	05 27 38.9	
	comp=Z,13nm,1.5s						
MIAR	**Mount Ida**	**19.87**	**358**	P	**Pn**	**05 27 38.2**	**+1.0**
MIAR				IAmb	IAmb	05 27 39.1	
	comp=Z,13nm,1.1s						
MNTX	**Cornudas Mount**	**20.66**	**328**	P	**P**	**05 27 44.5**	**+0.7**
W45A	**Hickory Valley**	**20.68**	**8**	P	Pn	05 27 46.5	-0.3
W45A				IAmb	IAmb	05 27 47.7	
	comp=Z,13nm,0.9s						
FPAL	**Fort Paine**	**20.81**	**16**	P	**P**	**05 27 44.6**	**-0.7**
FPAL				IAmb	IAmb	05 27 56.4	
	comp=Z,5.7nm,1.3s						
CSU	**Charleston Sou**	**21.53**	**30**	P	**P**	**05 27 48.4**	**-4.5**
TKL	**Tuckaleechee C**	**22.39**	**19**	LR	LR	05 37 29.0	
	comp=Z,27nm,19.2s,baz=190,slow=39						
U49A	**Red Boiling Sp**	**22.64**	**14**	P	**P**	**05 28 01.0**	**-3.9**
U49A				IAmb	IAmb	05 28 20.0	
	comp=Z,5.3nm,1.3s						
TZTN	**Tazewell**	**23.28**	**19**	P	**P**	**05 28 09.0**	**-2.3**
TZTN				IAmb	IAmb	05 28 12.0	
	comp=Z,7.6nm,1.2s						
V58A	**Windy Hill, Pi**	**24.30**	**27**	P	**P**	**05 28 19.1**	**-1.4**
V58A				IAmb	IAmb	05 28 21.4	
	comp=Z,9.0nm,1.2s						
PV15	**Paradox Valley**	**27.52**	**332**	P	**P**	**05 28 51.9**	**+1.9**
NVAR	**Mina Array Bea**	**32.86**	**321**	P	**P**	**05 29 38.0**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=139,slow=8.4,SNR=5.7						
NVAR				pP	**pP**	**05 29 54.6**	**+2.1**
	comp=Z,0.7nm,0.7s,baz=134,slow=8.8,SNR=4.6						
H17A	**Grant Village**	**33.41**	**336**	P	**P**	**05 29 45.5**	**+3.6**
J08A	**Circle Bar Ran**	**36.24**	**327**	P	**P**	**05 30 07.7**	**+1.5**
J08A				IAmb	IAmb	05 30 24.1	
	comp=Z,3.1nm,1.1s						
PB16	**IPOC Station P**	**39.85**	**145**	P	**P**	**05 30 37.6**	**+0.3**
MDP	**Montagnes des**	**40.38**	**99**	LR	LR	05 49 06.6	
	comp=Z,28nm,18.2s,baz=178,slow=39						
INK	**Inuvik**	**59.70**	**344**	P	**P**	**05 33 05.1**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=130,slow=4.6,SNR=4.7						
ILAR	**Eielson Array**	**62.07**	**337**	P	**P**	**05 33 21.8**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=110,slow=5.7,SNR=4.4						

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*IDC **02** 05:22:51.6±6.4, 32°.16S×179°.94E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/24, mbtmp3.7/2, Error ellipse: s-maj=259.2km s-min=63.8km az=159.0*
*WEL **02** 05:23:36.0, 37°S±52°×17°9E±2°1, h101km±26km, M3.2/12, ML3.3/13, MLv3.2/12, Error ellipse: s-maj=0.1km s-min=0.0km az=1.2*
ISC 02 05:23:10.8±2.4**, 35°.6S**±0°.2×**179°.9W**±0°.3**, h200**km**, n23,** σ**1s52**/20**, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGZ	**Pakihiroa**	**2.80**	**215**	P	**Pn**	**05 23 57.4**	**-0.7**
HAZ	**Te Kaha**	**2.85**	**220**	P	**Pn**	**05 23 58.6**	**+0.1**
PUZ	**Puketiti**	**2.88**	**210**	P	**Pn**	**05 23 58.4**	**-0.5**
RUGZ	**Raukumara Rang**	**3.06**	**219**	P	Pn	05 23 55.7	-5.4
TWGZ	**Tauwhareparae**	**3.08**	**213**	P	**Pn**	**05 24 01.8**	**+0.4**
CNGZ	**Carnagh Statio**	**3.25**	**207**	P	**Pn**	**05 24 04.3**	**+1.0**
URZ	**Urewera**	**3.58**	**221**	P	**Pn**	**05 24 06.9**	**-0.3**
PRGZ	**Paritu Road**	**3.76**	**207**	P	**Pn**	**05 24 09.7**	**+0.2**
SNGZ	**Shannon Statio**	**3.87**	**214**	P	**Pn**	**05 24 12.4**	**+1.6**
KNZ	**Kokohu**	**3.92**	**209**	P	**Pn**	**05 24 10.7**	**-0.8**
RAHZ	**Arahi**	**4.09**	**215**	P	**Pn**	**05 24 16.0**	**+2.3**
ARHZ	**Aropaoanui**	**4.41**	**213**	P	**Pn**	**05 24 18.5**	**+0.9**
HATZ	**Hinemaiaia**	**4.58**	**223**	P	**Pn**	**05 24 21.9**	**+2.0**
KWHZ	**Kaweka Forest**	**4.81**	**216**	P	**Pn**	**05 24 24.4**	**+1.7**
KAHZ	**Kahuranaki**	**4.91**	**210**	P	**Pn**	**05 24 24.1**	**+0.2**
KRHZ	**Kereru**	**5.00**	**215**	P	Pn	05 24 19.3	-5.9
BHHZ	**Black Hill Sta**	**5.04**	**218**	P	**Pn**	**05 24 27.9**	**+2.3**
DRZ	**Dome Shelter**	**5.15**	**223**	P	**Pn**	**05 24 25.5**	**-1.7**
BFZ	**Birch Farm**	**5.91**	**210**	P	**Pn**	**05 24 34.3**	**-2.5**
GVZ	**Greta Valley S**	**9.17**	**215**	P	Pn	05 25 24.6	+5.5
ASAR	**Alice Springs**	**41.53**	**274**	P	**P**	**05 30 38.5**	**-0.3**
	1.0nm,0.7s,baz=114,slow=7.9,SNR=9.1						
WRA	**Warramunga Arr**	**43.00**	**279**	P	**P**	**05 30 48.8**	**-1.7**
	0.3nm,0.3s,baz=115,slow=7.9,SNR=6.2						
FINES	**FINESS Array B**	**149.35**	**336**	PKPbc	**PKPdf**	**05 42 32.1**	**+1.7**
	1.5nm,1.0s,baz=29,slow=3.2,SNR=1.6						

IDC 02 06:23:14.5±3.1**, 9°.29S×120°.26E, h0km, mb3.5**/1**, mb1 3.3**/3**, mb1mx3.2**/30**, mbtmp3.1**/3**, ML2.8**/2**, Error ellipse: s-maj=295.8km s-min=32.0km az=51.0, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.24	129	P	Pn	06 27 16.8	-0.2
	0.1nm,0.3s,baz=303,slow=7.8,SNR=1.4						
ASAR	Alice Springs	19.36	139	P	P	06 27 42.2	+0.4
	0.0nm,0.3s,baz=315,slow=12,SNR=2.0						
MKAR	Makanchi Array	65.28	332	P	P	06 33 58.1	-0.1
	0.3nm,0.6s,baz=124,slow=7.8,SNR=3.1						

*IDC **02** 06:25:42.7±4.3, 14°.88N×92°.54W, h0km, mb3.5/2, mb1 4.0/3, mb1mx3.6/32, mbtmp3.5/3, ML3.3/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/16, Error ellipse: s-maj=195.6km s-min=71.3km az=50.0*
*MEX **02** 06:25:46.4±0.4, 14°.18N×94°.02W, h16km±12km, MD4.2*
*NEIC **02** 06:25:53.3±3.2, 14°.6N±0°.1×93°.8W±0°.1, h54km±14km, Error ellipse: s-maj=19.3km s-min=18.8km az=174.0*
ISC 02 06:25:46.3±1.1**, 14°.39N**±0°.09×**94°.01W**±0°.05**, h10km, n50, σ1s.70**/51**, mb4.0**/15**, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.52	30	*i* P	Pn	06 26 11.9	-1.6
PCIG				*i* S	Sn	06 26 31.9	-1.5
THIG		1.77	73	*e*P	Pn	06 26 14.0	-3.0
THIG				*e*S	Sn	06 26 36.5	-3.1
RTAL	Retalhuleu	2.25	86		Pn	06 26 22.0	-1.6
HUIG	Huatulco	2.45	304	*e*P	Pn	06 26 24.1	-2.2
TGIG		2.53	20	*e*P	Pn	06 26 27.3	-0.2
TGIG				*i* S	Sn	06 26 57.8	-0.7
HUEH	Huehuetenango	2.60	69		Pn	06 26 28.1	-0.5
CCIG	Comitan	2.61	44	*e*P	Pn	06 26 29.2	+0.5
CCIG	Comitan	2.61	44		Pn	06 26 29.6	+0.8
CMIG	Matias Romero	2.82	343	*i* P	Pn	06 26 30.7	-0.7
PEIG	Puerto Escondi	3.42	298	*e*P	Pn	06 26 38.5	-1.3
MTO3	Montecristo	4.51	89		Pn	06 26 56.8	+1.9
ESQI	Esquipulas	4.53	87		Pn	06 26 55.6	+0.5
PETF	Flores	4.72	57		Pn	06 26 57.3	-0.3
TEIG	Tepich	7.98	43	Pn	Pn	06 27 41.2	-1.2
TX31	Lajitas Ar. Si	17.35	331	P	P	06 29 53.3	+3.2
TX32	Lajitas Array	17.35	331	P	P	06 29 53.2	+3.0
TXAR	Lajitas Array	17.35	331	P	P	06 29 51.0	+0.9
	0.0nm,0.3s,baz=153,slow=12,SNR=10						
ABTX	Abilene, Hawle	18.87	345	P	P	06 30 07.2	+0.4
MIAR	Mount Ida	20.08	1	P	Pn	06 30 24.0	+2.3
MIAR				IAmb	IAmb	06 30 25.3	
	comp=Z,7.5nm,1.1s						
W39A	Magazine	20.72	1	P	Pn	06 30 30.5	+1.2
W39A				IAmb	IAmb	06 30 31.5	
	comp=Z,5.2nm,0.9s						
W35A	Tecumseh	20.84	353	P	P	06 30 27.2	-1.0
FNO	Franklin	21.00	352	P	P	06 30 30.5	+0.5
MSTX	Muleshoe	21.05	339	P	P	06 30 30.6	-0.1
MSTX				IAmb	IAmb	06 30 37.0	
	comp=Z,7.5nm,0.9s						
OKCFA	Oklahoma City	21.17	352	P	P	06 30 32.0	+0.2
OKCFA				IAmb	IAmb	06 30 33.8	
	comp=Z,10nm,0.9s						
BCOK	Bluff Creek, N	21.43	352	P	P	06 30 34.3	-0.2
FCAR	Ozark Folk Cen	21.48	4	P	P	06 30 35.8	+0.7
FCAR				IAmb	IAmb	06 30 38.1	
	comp=Z,7.9nm,0.9s						
TUL1	Leonard	21.49	356	P	P	06 30 37.2	+1.9
AMTX	Amarillo	21.55	343	P	P	06 30 36.8	+0.8
AMTX				IAmb	IAmb	06 30 41.4	
	comp=Z,9.0nm,0.9s						
HHAR	Hobbs	21.80	0	P	P	06 30 39.7	+1.1
HHAR				IAmb	IAmb	06 30 40.6	
	comp=Z,4.8nm,0.7s						
U40A	Yellville	21.90	3	P	P	06 30 40.0	+0.4
U40A				IAmb	IAmb	06 30 42.0	
	comp=Z,4.6nm,0.9s						
319A	Douglas	21.95	323	P	P	06 30 37.1	-3.3
U38A	Gravette	21.96	359	P	P	06 30 40.6	+0.2
U38A				IAmb	IAmb	06 30 41.8	
	comp=Z,3.7nm,0.8s						
121A	Cookes Peak, D	22.00	328	P	P	06 30 44.0	+3.1
121A				IAmb	IAmb	06 30 45.1	
	comp=Z,10nm,1.0s						
Z56A	Williston	22.08	29	P	P	06 30 42.1	+0.5
PBMO	Poplar Bluff	22.53	8	P	P	06 30 46.4	+0.1
PBMO				IAmb	IAmb	06 30 47.3	
	comp=Z,3.6nm,0.9s						
MGMO	Mountain Grove	22.73	4	P	P	06 30 48.7	+0.2
MGMO				IAmb	IAmb	06 30 49.4	
	comp=Z,4.4nm,0.8s						
LENM	Lemitar	22.92	331	P	P	06 30 53.2	+2.4
S39A	Bolivar	23.22	1	P	P	06 30 52.6	-1.0
T25A	Trinidad	24.48	340	P	P	06 31 08.5	+2.6
T25A				IAmb	IAmb	06 31 24.4	
	comp=Z,8.4nm,1.5s						
SDCO	Great Sand Dun	25.41	338	P	P	06 31 14.3	0.0
N38A	Joes South For	26.32	1	P	P	06 31 20.9	-1.3
PV01	Paradox Valley	26.94	334	P	P	06 31 30.0	+1.7
PV01				IAmb	IAmb	06 31 34.0	
	comp=Z,3.3nm,1.0s						
PV04	Paradox Valley	27.30	334	P	P	06 31 33.0	+1.6
PV04				IAmb	IAmb	06 31 50.2	
	comp=Z,8.8nm,1.3s						
ECSD	EROS Data Cent	29.33	356	P	P	06 31 49.1	-0.1
TCUT	Toone Canyon	30.64	334	P	P	06 32 03.9	+2.8
PDAR	Pinedale Array	31.29	338	P	P	06 32 04.9	-2.0
	comp=Z,0.1nm,0.4s,baz=139,slow=4.8,SNR=2.1						
NVAR	Mina Array Bea	32.16	323	P	P	06 32 16.5	+1.9
	comp=Z,0.8nm,0.7s,baz=146,slow=8.9,SNR=7.9						
NVAR				LR	LR	06 46 13.5	
	comp=Z,95nm,20.2s,baz=10.0,slow=38						
GCMT	Greycliff	33.98	340	P	P	06 32 31.9	+1.7
MCMT	McKenzie Canyo	34.30	336	P	P	06 32 36.3	+3.1
CMAR	Chiang Mai Arr	144.96	338	PKPbc	PKPab	06 45 22.6	-1.2
	comp=Z,0.8nm,0.4s,baz=2.7,slow=3.8,SNR=1.5						

*IDC **02** 06:30:59.3±2.1, 65°.96N×165°.72W, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.3/37, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=33.6km s-min=23.7km az=40.0*
*AEIC **02** 06:30:59.7±1.1, 65°.62N±0°.04×165°.0W±0°.2, h21km±7km, ML3.3/15, Error ellipse: s-maj=10.3km s-min=5.2km az=107.0*
*NEIC **02** 06:30:59.6±1.4, 65°.60N±0°.04×165°.2W±0°.2, h15km±6km, Error ellipse: s-maj=10.3km s-min=5.3km az=106.0*
ISC 02 06:30:59.3±1.0**, 65°.64N**±0°.05×**165°.18W**±0°.08**, h10km, n24, σ1s.29**/29**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANM	Nome	1.08	184		Pg	06 31 18.6	-1.5
ANM					Sb	06 31 32.9	-1.3
RDOG	Red Dog Mine	2.59	19		Pn	06 31 40.2	-0.9
RDOG					Sn	06 32 12.6	0.0
GAMB	Gambell	3.37	239		Pn	06 31 53.4	+1.6
IM03		4.72	81		Pn	06 32 09.6	-0.7
IM03					Sn	06 33 05.2	+0.2
TTA	Tatalina	4.83	120		Pn	06 32 11.4	-0.7
TT01	Tatalina	4.84	120		Pn	06 32 11.2	-0.9
TT01					Sn	06 33 07.0	-1.2
COLD	Coldfoot	6.21	68	Pn	Pn	06 32 30.7	-0.2
BPAW	Bear Paw Mtn.	6.24	98		Pn	06 32 30.7	-0.6
SVW2	Sparrevohn	6.27	132		Pn	06 32 32.4	+0.6
PPLA	Purkeypile	6.29	110		Pn	06 32 31.9	-0.2
TRF	Thorofare Moun	6.78	102	Pn	Pn	06 32 39.5	+0.7
MDM	Murphy Dome	7.13	88	Pn	Pn	06 32 43.9	+0.3
STLK	Strandline Lak	7.25	119		Pn	06 32 44.6	-0.7
RND	Reindeer	7.38	100		Pn	06 32 46.3	-0.7
CCB	Clear Creek Bu	7.39	90	Pn	Pn	06 32 46.5	-0.5
SPU	Mount Spurr	7.39	121	Pn	Pn	06 32 46.9	-0.2
IL31		7.74	88		Pn	06 32 52.1	+0.4
ILAR	Eielson Array	7.74	88	Pn	Pn	06 32 51.4	-0.4
	0.6nm,0.3s,baz=280,slow=14,SNR=35						
ILAR				Sn	Sn	06 34 17.3	-2.0
	0.3nm,0.3s,baz=289,slow=22,SNR=5.4						
DHY	Denali Highway	8.13	100		Pn	06 32 58.4	+1.0
KDAK	Kodiak Island	9.87	137	Pn	Pn	06 33 24.0	+3.0
	0.9nm,0.3s,baz=15,slow=6.3,SNR=27						
INK	Inuvik	12.59	64	Pn	Pn	06 33 57.2	-0.9
	0.0nm,0.3s,baz=302,slow=6.3,SNR=1.9						
INK	Inuvik	12.59	64		Pn	06 33 57.6	-0.5
PDAR	Pinedale Array	37.99	99	P	P	06 38 20.9	+3.6
	0.3nm,0.8s,baz=339,slow=7.9,SNR=3.9						
FINES	FINESS Array B	52.95	353	P	P	06 40 13.9	-1.1
	1.3nm,1.0s,baz=315,slow=32,SNR=1.5						

*ATH **02** 06:40:42.9, 38°.19N×20°.41E, h9km±1km, ML2.6/7, Error ellipse: s-maj=1.8km s-min=0.9km az=256.0*
*THE **02** 06:40:42.4, 38°.18N×20°.36E, h5km±1km, ML2.4/3, Error ellipse: s-maj=2.0km s-min=0.6km az=78.0*
ISC 02 06:40:41.7±0.9**, 38°.18N**±0°.03×**20°.35E**±0°.04**, h14**km±4km**, n41, σ0s.93**/63**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	Kipouria, Keph	0.02	347	P	Pg	06 40 44.7	+0.5
KEF3				S	Sg	06 40 46.2	+0.3
KEF4	Livadi, Kephal	0.09	36	P	Pg	06 40 45.1	+0.3
KEF4				S	Sg	06 40 46.6	-0.3
ARGA	Argostoli. Kep	0.10	93	P	Pg	06 40 44.9	0.0
ARGA				S	Sg	06 40 46.0	-0.9
KEF5	Kardakata, Kep	0.13	43	P	Pg	06 40 45.6	+0.3
KEF5				S	Sg	06 40 47.4	-0.3
VLS	Valsamata	0.19	92	P	Pg	06 40 46.0	-0.1
VLS				S	Sg	06 40 48.6	-0.4
	3µm,0.1s						
VLS	Valsamata	0.19	92	P	Pg	06 40 46.0	-0.1
VLS				S	Sg	06 40 48.6	-0.4
VLS				AML	AML	06 40 50.2	
	comp=E,6350µm,0.1s						
VLS				AML	AML	06 40 53.0	
	comp=N,6117µm,0.2s						
VSK1	VASILIKIADES	0.28	36	P	Pg	06 40 47.1	-0.5
VSK1				S	Sg	06 40 51.6	0.0
VLMS	Volimes, Zakyn	0.39	141	P	Pg	06 40 50.0	+0.4
VLMS				S	Sg	06 40 56.0	+1.1
VLMS				AML	AML	06 40 58.2	
	comp=N,6775µm,0.2s						
VLMS				AML	AML	06 40 59.0	
	comp=E,4253µm,0.2s						
EVGI	Lefkada island	0.50	28	P	Pg	06 40 52.1	+0.5
EVGI				S	Sg	06 40 59.5	+1.2
	comp=E,512nm,0.2s						
EVGI	Lefkada island	0.50	28	P	Pg	06 40 52.0	+0.5
EVGI				S	Sg	06 40 58.7	+0.5
MGNA	Meganis	0.58	36	P	Pg	06 40 53.4	+0.2
MGNA				S	Sg	06 41 01.3	+0.3
MGNA				AML	AML	06 41 02.7	
	comp=E,2736µm,0.3s						
MGNA				AML	AML	06 41 02.9	
	comp=N,2416µm,0.2s						
KRI1	kERI	0.64	145	P	Pg	06 40 54.1	-0.1
KRI1				S	Sg	06 41 03.7	+1.1
LKD2	Lefkada island	0.65	21	P	Pg	06 40 54.8	+0.3
LKD2				S	Sg	06 41 03.9	+0.8
	comp=N,258nm,0.2s						
LKD2	Lefkada island	0.65	21	P	Pg	06 40 54.7	+0.2
LKD2				S	Sg	06 41 03.9	+0.8
LKD2				AML	AML	06 41 10.6	
	comp=N,599µm,0.3s						
LKD2				AML	AML	06 41 11.3	
	comp=E,427µm,0.3s						
TSLK	Tsoukalades, L	0.68	20	P	Pg	06 40 55.1	0.0
TSLK	Tsoukalades, L	0.68	20	P	Pg	06 40 55.4	+0.3
RLS	Riolos of Patr	0.89	98	P	Pg	06 40 58.5	-0.4
RLS	Riolos of Patr	0.89	98	P	Pg	06 40 58.7	-0.2
RLS				S	Sb	06 41 11.1	+0.5
RLS				AML	AML	06 41 16.9	
	comp=E,406µm,0.4s						
RLS				AML	AML	06 41 17.0	
	comp=N,343µm,0.4s						
PVO	Paravola	1.02	64	P	Pg	06 41 01.6	+0.2
PVO	Paravola	1.02	64	P	Pg	06 41 01.5	+0.1
PVO				S	Sg	06 41 14.7	0.0
PVO				AML	AML	06 41 18.4	
	comp=E,1633µm,0.3s						
PVO				AML	AML	06 41 18.4	
	comp=N,858µm,0.3s						
DRO	Drossia	1.09	102	P	Pg	06 41 03.0	+0.1
DRO	Drossia	1.09	102	P	Pg	06 41 02.9	0.0
DRO				S	Sg	06 41 17.0	-0.1
DRO				AML	AML	06 41 25.9	
	comp=E,289µm,0.3s						
DRO				AML	AML	06 41 28.1	
	comp=N,958µm,0.5s						
EFP	Efpalio	1.25	78	P	Pb	06 41 05.0	0.0
ANX	Ano Chora	1.30	71	P	Pn	06 41 06.2	+0.6
ANX	Ano Chora	1.30	71	P	Pn	06 41 06.7	+1.2
IGT	Igoumenitsa	1.35	359	P	Pg	06 41 08.9	+1.2
EVR	Evrytania	1.36	57	P	Pg	06 41 08.1	+0.3
TRIZ	Trizonia	1.36	82	P	Pn	06 41 06.7	+0.3
TRIZ	Trizonia	1.36	82	P	Pn	06 41 06.9	+0.5
KLV	Kalavryta, Ach	1.42	95	P	Pn	06 41 08.1	+0.8
KLV	Kalavryta, Ach	1.42	95	P	Pn	06 41 08.0	+0.8
GUR	Goura	1.59	98	P	Pn	06 41 10.9	+1.3
MAKR	Makrakomi, Fth	1.62	59	P	Pn	06 41 11.4	+1.5
TRIP	Tripoli	1.65	113	P	Pg	06 41 13.6	+0.1
DBRK	Dubrovnik	4.79	340	Sn	Sn	06 42 46.8	-1.9
STON	Ston	5.10	337	Sn	Sn	06 42 54.5	-1.9
HVAR	Hvar	5.81	330	*e*Pn	Pn	06 42 08.0	+0.6
HVAR				Sn	Sn	06 43 10.7	-3.1
RICI	Ricice	5.84	336	*e*Pn	Pn	06 42 09.3	+1.4
RICI				Sn	Sn	06 43 14.1	-0.6
ZIRJ	Zirje	6.53	328	*e*Pn	Pn	06 42 17.1	-0.2
ZIRJ				Sn	Sn	06 43 29.2	-2.3
MORI	Morici	6.68	330	*e*Pn	Pn	06 42 20.8	+1.4
MORI				Sn	Sn	06 43 34.6	-0.5
DUGI	Dugi Otok	7.05	327	*e*Pn	Pn	06 42 24.4	0.0
DUGI				Sn	Sn	06 43 42.1	-2.3

*NEIC **02** 07:14:33.9±1.4, 35°.11S±0°.04×71°.03W±0°.10, h90km±5km, Error ellipse: s-maj=11.5km s-min=5.8km az=98.0*
*GUC **02** 07:14:34.1±0.7, 35°.10S×71°.11W, h96km±3km, ML3.9*
*IDC **02** 07:14:35.3±2.4, 35°.13S×70°.87W, h108km±23km, mb3.5/7, mb1 3.7/11, mb1mx3.5/32, mbtmp3.8/11, MS3.0/1, Ms1 3.0/1, ms1mx2.5/19, Error ellipse: s-maj=36.9km s-min=14.2km az=99.0*
ISC 02 07:14:33.8±0.7**, 35°.11S**±0°.03×**71°.10W**±0°.05**, h92**km±6km**, n71, σ0s.91**/94**, mb4.1**/16**, 8C-1D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO02	Sierra Bellavi	0.41	40	*i* P	Pn	07 14 48.1	-0.1
BO02				*i* S	Sn	07 14 58.9	0.0
BO02				IAML		07 15 00.3	
	comp=E,14µm,0.3s						
BO02	Sierra Bellavi	0.41	40		Pn	07 14 48.6	+0.4
BO02				Sn	Sn	07 14 58.9	0.0
GO05	Huala	0.69	278	⇑*i*P	Pn	07 14 50.7	+0.3
GO05				*i* S	Sn	07 15 03.3	+0.4
GO05				IAML		07 15 04.7	
	comp=N,4µm,0.3s						
GO05	Huala	0.69	278		Pn	07 14 50.8	+0.4
GO05				Sn	Sn	07 15 03.1	+0.3
BO01	Tunca	0.71	1	*i* P	Pn	07 14 50.6	0.0
BO01				*i* S	Sn	07 15 03.2	+0.1
BO01	Tunca	0.71	1		Pn	07 14 50.6	0.0
BO01				Sn	Sn	07 15 03.2	+0.1
LMEL	Las Melosas	1.46	31	⇑*i*P	Pn	07 15 00.0	+0.7
LMEL				*i* S	Sn	07 15 19.5	+1.0
LMEL				IAML		07 15 22.9	
	comp=N,2µm,0.4s						
BI02	San Fabin de	1.56	185	*i* P	Pn	07 15 00.9	+0.4
BI02				*i* S	Sn	07 15 21.2	+0.5
BI02	San Fabin de	1.56	185		Pn	07 15 01.2	+0.7
BI02				Sn	Sn	07 15 21.7	+1.0
MT03	Universidad Ad	1.68	17	⇑*i*P	Pn	07 15 02.3	+0.3
MT03				*e*S	Sn	07 15 24.0	+0.5
MT03				IAML		07 15 26.1	
	comp=E,1µm,0.4s						
MT05	Renca	1.74	10	⇑*i*P	Pn	07 15 03.0	+0.3
MT05				*i* S	Sn	07 15 25.5	+0.8
MT05	Renca	1.74	10		Pn	07 15 03.0	+0.3
MT05				Sn	Sn	07 15 25.2	+0.6
CLCH	Cerro Calan	1.77	15	⇑*i*P	Pn	07 15 03.6	+0.4
CLCH				*i* S	Sn	07 15 26.1	+0.6
CLCH				IAML		07 15 31.0	
	comp=E,2µm,0.5s						
MT02	Curacav	1.84	359	⇑*i*P	Pn	07 15 04.2	+0.2
MT02				*i* S	Sn	07 15 27.2	+0.1
MT02				IAML		07 15 28.3	
	comp=N,859nm,0.3s						
MT02	Curacav	1.84	359		Pn	07 15 04.2	+0.2
MT02				Sn	Sn	07 15 26.8	-0.3
PEL	Peldehue	1.99	10	⇑*i*P	Pn	07 15 06.4	+0.4
PEL				*i* S	Sn	07 15 30.6	+0.1
PEL				IAML		07 15 32.9	
	comp=N,1µm,0.6s						
PEL	Peldehue	1.99	10		Pn	07 15 06.3	+0.4
PEL				Sn	Sn	07 15 31.3	+0.8
ROC1	El Roble	2.13	2		Pn	07 15 08.3	+0.4
ROC1				Sn	Sn	07 15 34.1	+0.1
VA01	Torpederas	2.13	347	*i* P	Pn	07 15 08.2	+0.5
VA01				*i* S	Sn	07 15 33.7	+0.1
VA01				IAML		07 15 35.1	
	comp=E,2µm,0.1s						
VA01	Torpederas	2.13	347		Pn	07 15 08.2	+0.5
VA01				Sn	Sn	07 15 34.1	+0.5
ROCH	El Roble	2.13	2	⇑*i*P	Pn	07 15 08.2	+0.2
ROCH				*i* S	Sn	07 15 34.5	+0.4
BI03	Tigo	2.33	221	*e*P	Pn	07 15 11.2	+0.7
BI03				*e*S	Sn	07 15 38.9	+0.4
BI03	Tigo	2.33	221		Pn	07 15 10.6	+0.2
BI03				Sn	Sn	07 15 37.2	-1.3
VA03	San Esteban	2.38	11	⇓*i*P	Pn	07 15 11.6	+0.4
VA03				*e*S	Sn	07 15 40.0	+0.2
VA03				IAML		07 15 45.9	
	comp=E,1µm,0.4s						
VA03	San Esteban	2.38	11		Pn	07 15 11.2	0.0
LAJA	Laja	2.53	211	*i* P	Pn	07 15 12.8	-0.2
LAJA				*i* S	Sn	07 15 42.2	-1.0
CO02	Combarbal	3.89	1		Pn	07 15 31.3	-0.3
CFA	Coronel Fontan	4.23	35	P	Pn	07 15 36.0	0.0
	comp=E,2.5nm,0.3s,baz=211,slow=9.4,SNR=110						
CFA				S	Sn	07 16 25.8	+1.4
	comp=E,4.8nm,0.3s,baz=292,slow=20,SNR=6.5						
CO03	El Pedregal	4.27	5		Pn	07 15 36.5	-0.1
GO04	Tololo Observa	4.93	3		Pn	07 15 45.2	-0.4
GO04				Sn	Sn	07 16 38.7	-2.8
CO01	Juntas del Tor	5.18	10		Pn	07 15 49.0	-0.2
PLCA	Paso Flores	5.63	176	P	Pn	07 15 55.4	+0.3
	comp=E,1.5nm,0.3s,baz=344,slow=12,SNR=19						
PLCA	Paso Flores	5.63	176		Pn	07 15 54.7	-0.4
AC05	El Transito	6.29	7		Pn	07 16 02.9	-1.3
VA04	Juan Fernndez	6.56	281	Pn	Pn	07 16 09.3	+1.7
H03N1	Juan Fernandez	6.68	282	T	T	07 22 27.2	
	baz=96,slow=75,SNR=5.1						
H03N3	Juan Fernandez	6.68	282	T	T	07 22 26.5	
	baz=96,slow=75,SNR=3.0						
H03N2	Juan Fernandez	6.69	282	T	T	07 22 29.7	
	baz=96,slow=75,SNR=4.4						
AC02	Maricunga	8.41	12	Pn	Pn	07 16 32.6	-0.8
GO02	Mina Guanaco	9.99	8	Pn	Pn	07 16 58.7	+3.9
LVC	Limon Verde	12.60	9	P	Pn	07 17 29.0	-1.0
	comp=E,0.3nm,0.3s,baz=141,slow=3.5,SNR=2.9						
LVC	Limon Verde	12.60	9		Pn	07 17 28.8	-1.2
PB01	IPOC Station P	14.08	6	P	P	07 17 54.7	+0.6
MNMC	Minye Minye	15.97	5	P	P	07 18 16.5	+1.4
MNMC				IAmb	IAmb	07 18 18.0	
	comp=Z,7.3nm,0.7s						
LPAZ	La Paz	18.93	9	P	Pn	07 18 49.3	-0.4
	comp=Z,0.1nm,0.3s,baz=176,slow=7.8,SNR=10						
LPAZ	La Paz	18.93	9	P	Pn	07 18 49.8	+0.1
EFI	East Falkland	19.03	154	P	P	07 18 47.6	-0.7
SIV	San Ignacio	21.05	28	P	P	07 19 08.6	-1.8
	comp=Z,2.2nm,0.7s,baz=232,slow=11,SNR=5.2						
PTGA	Pitinga	35.74	19	P	P	07 21 23.0	-0.8
PTGA				IAmb	IAmb	07 21 23.6	
	comp=Z,2.1nm,0.7s						
JTS	Las Juntas de	47.02	341	LR	LR	07 39 51.5	
	comp=Z,17nm,19.6s,baz=178,slow=32						
MLPR	Magueyes Islan	52.92	5	P	P	07 23 38.7	-1.8
CRPR	Cabo Rojo, PR	52.95	5	P	P	07 23 39.5	-1.3
QSPA	South Pole Qui	55.13	180	P	P	07 23 56.8	+0.5
	comp=Z,0.8nm,0.6s,baz=16,slow=0.6,SNR=11						
QSPA	South Pole Qui	55.13	180	P	P	07 23 57.1	+0.8
QSPA				IAmb	IAmb	07 24 02.2	
	comp=Z,5.0nm,1.4s						
TEIG	Tepich	57.39	341	P	P	07 24 13.3	+0.6
VNDA	Vanda	63.17	191	P	P	07 24 54.1	+2.7
LRAL	Lakeview Retre	69.41	346	P	P	07 25 32.0	+0.4
LRAL				IAmb	IAmb	07 25 32.3	
	comp=Z,3.8nm,1.2s						
TX32	Lajitas Array	71.08	330	P	P	07 25 43.5	+1.4
TX32				IAmb	IAmb	07 25 43.9	
	comp=Z,1.4nm,0.7s						
TXAR	Lajitas Array	71.08	330	P	P	07 25 43.1	+1.1
	comp=Z,1.0nm,0.6s,baz=153,slow=9.1,SNR=24						
TX31	Lajitas Ar. Si	71.08	330	P	P	07 25 43.4	+1.3
TX31				IAmb	IAmb	07 25 43.9	
	comp=Z,4.2nm,0.7s						
PLAL	Pickwick Lake	71.51	345	P	P	07 25 44.5	+0.1
PLAL				IAmb	IAmb	07 25 44.9	
	comp=Z,1.9nm,0.6s						
MNTX	Cornudas Mount	73.85	330	P	P	07 25 58.5	0.0
U40A	Yellville	73.93	342	P	P	07 25 59.2	+0.4
U40A				IAmb	IAmb	07 25 59.5	
	comp=Z,2.7nm,0.7s						
S39A	Bolivar	75.31	342	P	P	07 26 07.1	+0.4
S39A				IAmb	IAmb	07 26 08.4	
	comp=Z,2.4nm,1.1s						
R40A	Maddies Statio	75.62	343	P	P	07 26 08.9	+0.4
R40A				IAmb	IAmb	07 26 09.2	
	comp=Z,3.7nm,0.7s						
P40A	Paris	76.75	343	P	P	07 26 14.9	+0.1
P40A				IAmb	IAmb	07 26 15.7	
	comp=Z,3.2nm,0.7s						
ECSD	EROS Data Cent	81.84	342	P	P	07 26 42.6	+0.2
TORD	Torodi Ar. Bea	83.87	69	P	P	07 26 51.6	-2.0
	comp=Z,0.6nm,1.0s,baz=266,slow=4.3,SNR=2.5						
PDAR	Pinedale Array	85.10	333	P	P	07 26 59.5	+0.1
	comp=Z,0.6nm,0.6s,baz=148,slow=6.2,SNR=8.0						
NVAR	Mina Array Bea	85.23	325	P	P	07 27 00.2	0.0
	comp=Z,0.5nm,0.7s,baz=154,slow=6.5,SNR=4.8						
ELK	Elko	85.71	328	P	P	07 27 02.2	-0.3
	comp=Z,0.3nm,0.3s,baz=15,slow=2.7,SNR=5.2						

*DDA **02** 07:22:44.8, 35°.18N×29°.05E, h32km±3km, ML2.3*
*HLW **02** 07:22:46.3, 34°.73N×28°.93E, h19km±9km, Md3.4*
*NIC **02** 07:22:48.0±0.0, 34°.92N×29°.27E, h35km±20km, Ml3.3/2*
*GII **02** 07:22:47.7±0.0, 34°.52N×29°.29E, h10km*
ISC 02 07:22:42.7±1.9**, 34°.91N**±0°.04×**28°.97E**±0°.04**, h28**km±18km**, n31, σ1s.94**/48**, 1C-1D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	Kas	1.42	21	*i* P	Pb	07 23 08.7	+0.1
AKAS				*i* S	Sn	07 23 21.2	-3.4
FETY	Fethiye	1.72	3	*i* P	Pb	07 23 24.5	+11
FETY				*i* S	Sn	07 23 31.8	-0.2
AKUM	Antalya-Kumluc	1.80	38	*i* P	Pb	07 23 28.4	+13
AKUM				*i* S	Sn	07 23 34.4	+0.6
DALY	Dalyan (Mula)	1.92	352	*i* P	Pn	07 23 14.0	+0.5
TURN	Turunc	1.95	343	*i* P	Pn	07 23 15.5	+1.2
TURN				*i* S	Sn	07 23 37.8	-0.5
TURN				IAML		07 23 39.0	
	comp=E,33nm,0.5s						
DAT	Datca	2.14	328	*i* P	Pn	07 23 18.2	+1.6
GOLH	Golhisar	2.37	11	*i* P	Pb	07 23 22.7	-2.1
GOLH				*i* S	Sn	07 23 44.1	-3.9
OSC1	CSNet OBS 1	2.37	126	P	Pn	07 23 21.8	+2.1
OSC1				S	Sn	07 23 48.6	+0.7
TAVA	DENIZLI_Tavas	2.55	359	*i* P	Pn	07 23 23.9	+1.6
TAVA				*i* S	Sn	07 23 52.7	+0.3
TAVA				IAML		07 23 54.0	
	comp=E,16nm,0.3s						
TAVA				IAML		07 23 55.0	
	comp=N,26nm,0.2s						
AKMS	Akamas	2.77	87	⇓P	Pn	07 23 26.7	+1.5
AKMS				S	Sn	07 23 57.3	-0.3
AKMS				AML	AML	07 23 59.0	
	comp=N,0.3nm,0.2s						
AKMS				AML	AML	07 23 59.0	
	comp=N,0.3nm,0.2s						
AKMS				AML	AML	07 24 01.5	
	comp=N,0.3nm,0.3s						
AKMS				AML	AML	07 24 01.5	
	comp=N,0.3nm,0.3s						
AYDN	Tasoluk	2.88	342	*i* P	Pn	07 23 27.9	+1.1
AYDN				*i* S	Sn	07 24 00.7	+0.1
AYDN				IAML		07 24 02.0	
	comp=N,16nm,0.6s						
AYDN				IAML		07 24 04.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,14nm,0.6s						
KEPZ	Antalya-Kepez	2.92	46	*i* P	Pn	07 23 28.5	+1.2
KEPZ				IAML		07 23 56.0	
	comp=E,16nm,0.7s						
KEPZ				*i* S	Sn	07 24 01.1	-0.3
KEPZ				IAML		07 24 05.0	
	comp=N,10nm,0.2s						
NATA	Nata	2.96	92	P	Pn	07 23 29.7	+1.8
ALFC	Alefka	2.99	84	P	Pn	07 23 29.8	+1.5
ALFC				S	Sn	07 24 02.4	-0.8
GAZI	Gazipasa	3.03	63	*i* P	Pb	07 23 54.1	+18
GAZI				*i* S	Sn	07 24 02.7	-1.5
SZAC	Souni	3.22	92	P	Pn	07 23 33.2	+1.8
SZAC				S	Sn	07 24 07.8	-1.1
SZAC				AML	AML	07 24 11.5	
	comp=N,0.3nm,0.2s						
SZAC				AML	AML	07 24 11.5	
	comp=N,0.3nm,0.2s						
SZAC				AML	AML	07 24 12.7	
	comp=N,0.3nm,0.4s						
SZAC				AML	AML	07 24 12.7	
	comp=N,0.3nm,0.4s						
OSC2	CSNet OBS 4	3.29	123	P	Pn	07 23 35.1	+2.7
OSC2				S	Sn	07 24 11.6	+1.0
ASGA	Asgata	3.52	91	⇑P	Pn	07 23 37.7	+2.2
ASGA				S	Sn	07 24 16.0	-0.2
SLUM	Salum	4.64	224	P	Pn	07 23 53.5	+2.5
	baz=226						
SLUM				S	Sn	07 24 42.0	-1.9
	baz=226						
KOT	Kottamia	5.53	153	P	Pn	07 24 06.0	+2.9
	baz=152						
KOT				S	Sn	07 25 03.2	-2.6
	baz=152						
RSH		5.61	133	P	Pn	07 24 06.9	+2.6
	baz=131						
SUZ	Suez	6.02	146	P	Pn	07 24 12.5	+2.6
	baz=144						
KZIT	Kziot	6.06	130	Pn	Pn	07 24 11.9	+1.4
KZIT				Sn	Sn	07 25 16.8	-2.1
HMDT	Nahal Hemdat	6.08	114	Pn	Pn	07 24 12.1	+1.4
DSI	Dead Sea	6.32	120	Pn	Pn	07 24 15.9	+1.9
KRMI	Paran Flat	6.81	133	Pn	Pn	07 24 21.0	+0.2
PRNI	Paran	6.82	130	Pn	Pn	07 24 21.9	+1.0
PRNI				Sn	Sn	07 25 34.3	-3.4
HRFI	Mount Harif	7.06	132	Pn	Pn	07 24 25.7	+1.5
EIL	Elat	7.27	134	Pn	Pn	07 24 28.4	+1.3
HBST	Basata	7.49	138	P	Pn	07 24 32.1	+2.0
	baz=136						
HFRF	Wahat Farafira	7.76	184	P	Pn	07 24 35.4	+1.7
	baz=185						
HFRF				S	Sn	07 25 56.6	-4.1
	baz=185						

*JMA **02** 07:35:31.7±0.2, 44°.47N×141°.75E, h242km±2km, M3.0*
*IDC **02** 07:35:33.2±0.9, 44°.36N×141°.66E, h226km±9km, mb3.1/4, mb1 3.1/8, mb1mx3.0/34, mbtmp3.7/8, Error ellipse: s-maj=30.8km s-min=19.3km az=163.0*
ISC 02 07:35:33.0±0.8**, 44°.36N**±0°.05×**141°.74E**±0°.06**, h230**km±7km**, n26,** σ0s.99/36**, mb3.4**/4**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSS	Shosan	0.09	65	P	Pn	07 36 03.3	+0.6
JSS				*e*S	S	07 36 27.3	+1.2
JYG	Yagishiri	0.24	286	P	Pn	07 36 03.1	+0.2
ASAJ	Asahikawa	0.66	112	P	Pn	07 36 04.6	+0.4
	4.4nm,0.3s,baz=316,slow=4.0,SNR=12						
ASAJ				S	S	07 36 28.9	+0.4
	1.6nm,0.3s,baz=72,slow=30,SNR=9.0						
ASAJ	Asahikawa	0.66	112	P	Pn	07 36 04.5	+0.3
JRR	Rishiri	0.83	338	P	Pn	07 36 04.9	0.0
JSE	Soyaes	0.85	45	P	Pn	07 36 04.5	-0.5
JSE				*e*S	S	07 36 29.0	-1.0
JKK2	Kamakawa 2	0.87	124	P	Pn	07 36 05.6	+0.4
JWK2	Keihoku	0.96	6	P	Pn	07 36 05.1	-0.5
JWK2				*e*S	S	07 36 30.4	-0.8
JRBN	Rebuntou	1.17	336	P	Pn	07 36 06.0	-0.8
JRBN				*e*S	S	07 36 32.3	-1.1
JEW	Eniwo	1.54	188	*e*S	S	07 36 40.1	+1.7
JTKR	Abashiri--Toko	1.61	103	P	Pn	07 36 10.7	+0.4
JTKR				*e*S	S	07 36 40.4	+1.1
JAR	Ashorobuto	1.81	125	P	Pn	07 36 12.8	+0.7
JAR				*e*S	S	07 36 44.1	+1.5
JCH	Churui	2.11	145	P	Pn	07 36 13.7	-1.2
JCH				*e*S	S	07 36 45.3	-2.3
JKB	Kayabe	2.53	192	P	Pn	07 36 19.0	-0.2
JKB				*e*S	S	07 36 54.6	-0.6
JAK	Akkeshi	2.54	122	*e*S	S	07 36 53.7	-1.7
JOSM	Okushiri--Mats	2.82	217	P	Pn	07 36 22.4	+0.1
JOT	Ohata	3.02	190	P	Pn	07 36 24.6	0.0
JOT				*e*S	S	07 37 04.9	-0.1
NEM2	Nemuro 2	3.06	108	P	Pn	07 36 23.5	-1.4
USRK	Ussuriysk Ar.	7.00	272	P	Pn	07 37 13.0	-0.4
	baz=84,slow=14,SNR=6.2						
MJAR	Matsushiro Arr	8.26	200	P	Pn	07 37 28.9	-0.8
	0.1nm,0.3s,baz=11,slow=14,SNR=6.0						
KLR	Kul'dur	8.41	309	P	Pn	07 37 29.9	-1.4
	0.1nm,0.3s,baz=110,slow=14,SNR=7.6						
PETK	Petropavlovsk-	13.66	45	P	Pn	07 38 37.2	-0.3
	0.3nm,0.3s,baz=203,slow=11,SNR=9.2						
SONM	Songino Array	24.62	291	P	P	07 40 31.8	-0.7
	0.7nm,0.4s,baz=99,slow=7.7,SNR=3.8						
TLY	Talaya	26.27	300	P	P	07 40 48.4	+1.3
	2.2nm,0.4s,baz=351,slow=5.8,SNR=3.2						
MKAR	Makanchi Array	40.82	295	P	P	07 42 52.1	+0.1
	0.5nm,0.6s,baz=85,slow=9.1,SNR=5.8						
ILAR	Eielson Array	43.30	36	P	P	07 43 12.6	+0.8
	0.2nm,0.6s,baz=289,slow=5.6,SNR=1.8						

*IDC **02** 07:51:35.5±0.8, 5°.57S×150°.75E, h100km±8km, mb3.9/15, mb1 4.1/16, mb1mx3.9/34, mbtmp4.3/16, MS3.1/7, Ms1 3.1/7, ms1mx2.8/32, Error ellipse: s-maj=15.5km s-min=7.7km az=123.0*
*DJA **02** 07:51:36.6±0.5, 5°S±7°×15°1E±°, h115km±8km, M4.7/8, mb4.4/8, mB4.9/2, MLv4.8/2, Mw(mB)4.2/2*
*NEIC **02** 07:51:36.5±1.3, 5°.47S±0°.08×150°.69E±0°.06, h106km±6km, mb4.5/25, Error ellipse: s-maj=13.0km s-min=7.5km az=154.0*
ISC 02 07:51:36.1±0.5**, 5°.52S**±0°.07×**150°.72E**±0°.08**, h100**km**, n54,** σ1s.01/59**, mb4.2**/23**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.77	47	P	Pn	07 52 06.1	+0.3
	90nm,0.3s,baz=167,slow=0.7,SNR=48						
KRVT				S	Sn	07 52 27.6	-0.8
	54nm,0.3s,baz=321,slow=23,SNR=8.4						
RABL	Rabaul	1.95	48		Pn	07 52 08.2	+0.1
RABL				Sn	Sn	07 52 33.7	+1.2
PMG	Port Moresby	5.23	222	P	Pn	07 52 53.1	+1.2
	22nm,0.3s,baz=48,slow=8.1,SNR=32						
PMG				S	Sn	07 53 49.5	-1.5
	30nm,0.3s,baz=323,slow=22,SNR=14						
PMG	Port Moresby	5.23	222		Pn	07 52 52.9	+0.9
HNR	Honiara	9.94	114	LR	LR	07 57 31.1	
	comp=Z,28nm,18.7s,baz=356,slow=36						
COEN	Coen	11.20	221	Pn	Pn	07 54 13.6	+0.5
CTA	Charters Tower	15.12	196	P	P	07 55 07.6	+0.4
	0.5nm,0.3s,baz=25,slow=12,SNR=11						
CTAO	Charters Tower	15.12	196	P	P	07 55 07.8	+0.6
CTAO				IAmb	IAmb	07 55 10.1	
	comp=Z,18nm,1.1s						
EIDS	Eidsvold	19.74	179	P	P	07 55 59.1	+1.1
EIDS				IAmb	IAmb	07 55 59.9	
	comp=Z,23nm,0.7s						
MTN	Manton Dam	20.65	248		P	07 56 08.6	+0.7
MTN				IAmb	IAmb	07 56 26.2	
	comp=Z,19nm,1.2s						
WB0	Warramunga Arr	21.28	227	P	P	07 56 14.6	-0.1
WB0				IAmb	IAmb	07 56 33.1	
	comp=Z,25nm,1.5s						
WR0	Warramunga Arr	21.30	226	P	P	07 56 16.9	+2.0
WB2	Warramunga Arr	21.42	227	P	P	07 56 16.0	-0.2
WB2				IAmb	IAmb	07 56 34.6	
	comp=Z,5.9nm,0.6s						
WRA	Warramunga Arr	21.43	227	P	P	07 56 15.9	-0.4
	comp=Z,2.1nm,0.6s,baz=52,slow=10,SNR=17						
WRA				PcP	PcP	08 00 15.8	-0.3
	comp=Z,0.5nm,0.4s,baz=41,slow=1.7,SNR=6.3						
WRA				ScP	ScP	08 03 43.0	-1.2
	comp=Z,1.3nm,0.8s,baz=52,slow=3.0,SNR=7.4						
DZM	Mont Dzumac	22.41	139	P	P	07 56 26.4	-0.3
	comp=Z,18nm,0.5s,baz=290,slow=7.9,SNR=71						
DZM				LR	LR	08 03 17.2	
	comp=Z,80nm,21.8s,baz=10,slow=31						
DZM	Mont Dzumac	22.41	139	P	P	07 56 26.8	+0.1
DZM				IAmb	IAmb	07 56 27.1	
	comp=Z,17nm,0.6s						
KNRA	Kununurra	23.80	243	P	P	07 56 39.7	-0.2
KNRA				IAmb	IAmb	07 56 41.2	
	comp=Z,13nm,0.6s						
AS31	Alice Springs	24.24	220	P	P	07 56 44.5	+0.6
ASAR	Alice Springs	24.24	220	P	P	07 56 44.4	+0.5
	comp=Z,2.2nm,0.5s,baz=56,slow=8.6,SNR=51						
ASAR				S	S	08 00 53.3	-2.3
	comp=Z,0.8nm,0.8s,baz=45,slow=14,SNR=4.6						
ASAR				ScP	ScP	08 03 50.8	-0.8
	comp=Z,1.0nm,0.8s,baz=61,slow=2.6,SNR=8.1						
ASAR				LR	LR	08 05 51.6	
	comp=Z,50nm,18.8s,baz=140,slow=35						
ARMA	Armidale	24.78	178	P	P	07 56 49.3	+0.5
ARMA				IAmb	IAmb	07 56 50.9	
	comp=Z,23nm,1.4s						
FITZ	Fitzroy Crossi	27.50	241	P	P	07 57 12.2	-1.1
	comp=Z,3.3nm,0.3s,baz=112,slow=5.2,SNR=5.4						
FITZ				LR	LR	08 09 00.8	
	comp=Z,57nm,21.5s,baz=228,slow=38						
FITZ	Fitzroy Crossi	27.50	241	P	P	07 57 12.9	-0.4
FITZ				IAmb	IAmb	07 57 22.9	
	comp=Z,13nm,1.4s						
STKA	Stephens Creek	27.58	197	P	P	07 57 12.2	-1.6
	comp=Z,3.8nm,0.6s,baz=4.3,slow=9.6,SNR=11						
STKA				LR	LR	08 06 56.1	
	comp=Z,41nm,21.1s,baz=31,slow=33						
STKA	Stephens Creek	27.58	197	P	P	07 57 13.4	-0.5
BBOO	Buckleboo	30.40	205	P	P	07 57 38.1	-0.8
TOO	Toolangi	32.26	188	P	P	07 57 56.3	+1.2
TOO				IAmb	IAmb	07 58 07.6	
	comp=Z,21nm,1.5s						
OUZ	Omahuta	36.32	147	P	P	07 58 32.0	+1.8
GIRL	Giralia	39.11	241	P	P	07 58 54.6	+0.7
MORW	Morawa	40.29	230	P	P	07 59 03.2	-0.4
MORW				IAmb	IAmb	07 59 19.2	
	comp=Z,26nm,1.3s						
URZ	Urewera	40.46	147	P	P	07 59 05.4	+0.6
	comp=Z,11nm,0.8s,baz=298,slow=16,SNR=2.0						
URZ	Urewera	40.46	147	P	P	07 59 05.5	+0.6
BSWZ	Blackbirch Sta	41.53	154	P	P	07 59 14.0	+0.3
LTZ	Lake Taylor	41.73	156	P	P	07 59 16.2	+0.9
KHZ	Kahutara	41.96	155	P	P	07 59 17.0	-0.1
PLWZ	Palliser	42.04	152	P	P	07 59 17.7	-0.2
MQZ	McQueen's Vall	42.66	156	P	P	07 59 23.2	+0.5
MQZ				IAmb	IAmb	07 59 33.4	
	comp=Z,44nm,1.2s						
JNU	Nakatsue	42.79	335	P	P	07 59 25.5	+1.5
	comp=Z,22nm,0.7s,baz=118,slow=2.5,SNR=13						
JNU	Nakatsue	42.79	335	P	P	07 59 26.0	+2.0
KSRS	Korea Array	47.74	335	P	P	08 00 04.0	+0.9
	comp=Z,2.0nm,0.6s,baz=153,slow=7.9,SNR=7.2						
PETK	Petropavlovsk-	58.70	5	P	P	08 01 22.6	-0.5
	comp=Z,1.5nm,0.6s,baz=173,slow=7.6,SNR=4.7						
PETK				LR	LR	08 21 33.7	
	comp=Z,21nm,21.2s,baz=239,slow=31						
SONM	Songino Array	65.85	329	P	P	08 02 11.7	+0.7
	comp=Z,1.5nm,0.7s,baz=126,slow=4.6,SNR=6.3						
VNDA	Vanda	72.20	177	P	P	08 02 49.0	-0.7
	comp=Z,0.8nm,0.7s,baz=330,slow=8.3,SNR=5.2						
VNDA	Vanda	72.20	177	P	P	08 02 50.2	+0.5
MK31	Makanchi Array	79.51	319	P	P	08 03 32.9	+1.1
MKAR	Makanchi Array	79.51	319	P	P	08 03 31.2	-0.7
	comp=Z,0.5nm,0.6s,baz=104,slow=5.5,SNR=6.4						
ZALV	Zalesovo Beam	80.61	327	P	P	08 03 36.4	-1.2
	comp=Z,1.4nm,0.5s,baz=112,slow=6.5,SNR=7.6						
ILAR	Eielson Array	83.61	22	P	P	08 03 50.7	-2.3
	comp=Z,1.2nm,0.8s,baz=255,slow=5.3,SNR=11						
QSPA	South Pole Qui	84.44	180	P	P	08 03 57.7	+0.2
QSPA				IAmb	IAmb	08 04 04.9	
	comp=Z,4.1nm,1.4s						
NVAR	Mina Array Bea	94.16	52	P	P	08 04 43.9	-0.3
	comp=Z,0.3nm,0.6s,baz=244,slow=7.1,SNR=4.6						
ARU	Arti	95.75	326	LR	LR	08 48 54.3	
	comp=Z,16nm,20.8s,baz=112,slow=36						
GERES	GERESS Array B	123.56	327	PKP	PKPdf	08 10 21.6	-0.5
	comp=Z,0.2nm,0.3s,baz=50,slow=2.1,SNR=4.6						
TORD	Torodi Ar. Bea	148.53	286	PKPbc	PKPdf	08 11 11.0	+2.4
	comp=Z,0.9nm,0.3s,baz=93,slow=2.5,SNR=29						
BDFB	Brasilia	151.96	139	PKPbc	PKPbc	08 11 20.4	-0.4
	comp=Z,0.6nm,0.3s,baz=249,slow=2.0,SNR=3.5						
BDFB	Brasilia	151.96	139		PKPbc	08 11 20.5	-0.2

*IDC **02** 07:57:08.1±3.5, 0°.75N×98°.49E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/37, mbtmp3.6/6, ML4.6/1, Error ellipse: s-maj=143.8km s-min=22.8km az=60.0*
*DJA **02** 07:57:10.0±0.8, 0°N±6°×9°8E±°, h11km±6km, M3.6/5, MLv3.6/5*
ISC 02 07:57:08.4±1.3**, 0°.2N**±0°.1×**97°.6E**±0°.1**, h25**km**, n13,** σ1s.74/12**, mb3.6**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBSI	Pulau Batu	0.72	112	P	Pn	07 57 23.7	+0.8
GSI	Gunungsitoli	1.08	358	P	Pn	07 57 28.4	+0.4
GSI				S	Sn	07 57 42.7	+0.5
MNSI	Mandailing Nat	2.05	74	P	Pn	07 57 42.2	+1.0
MNSI				S	Sn	07 58 07.4	+1.4
MLSI	Meulaboh, Aceh	4.20	343	P	Pn	07 58 13.4	+2.5
CMAR	Chiang Mai Arr	18.18	4	Pn	Pn	08 01 16.1	-3.1
	0.7nm,0.3s,baz=190,slow=10,SNR=1.6						
H08S2	Diego Garcia H	26.24	252	T	T	08 29 55.6	
	baz=74,slow=75,SNR=1220						
H08S3	Diego Garcia H	26.24	252	T	T	08 29 55.9	
	baz=74,slow=75,SNR=1149						
H08S1	Diego Carcia H	26.25	252	T	T	08 29 56.8	
	baz=74,slow=75,SNR=1184						
WRA	Warramunga Arr	41.17	121	P	P	08 04 51.2	0.0
	0.4nm,0.8s,baz=304,slow=8.7,SNR=2.1						
ASAR	Alice Springs	42.48	127	P	P	08 05 02.0	+0.2
	0.5nm,0.6s,baz=298,slow=7.9,SNR=7.3						
SONM	Songino Array	48.04	8	P	P	08 05 43.5	-2.2
	0.4nm,0.5s,baz=191,slow=5.9,SNR=1.8						
MKAR	Makanchi Array	48.29	346	P	P	08 05 48.7	+1.2
	0.3nm,0.5s,baz=165,slow=8.2,SNR=4.4						
ZALV	Zalesovo Beam	54.59	351	P	P	08 06 35.6	+1.0
	0.8nm,0.4s,baz=150,slow=6.0,SNR=3.7						

*NEIC **02** 08:15:49.0±3.0, 16°.53S±0°.04×69°.76W±0°.09, h197km±7km, mb4.2/7, Error ellipse: s-maj=13.5km s-min=3.6km az=109.0*
*IDC **02** 08:15:49.5±1.0, 16°.39S×69°.73W, h188km±7km, mb3.5/5, mb1 3.5/9, mb1mx3.3/46, mbtmp4.0/9, Error ellipse: s-maj=19.6km s-min=14.0km az=15.0*
*VAO **02** 08:15:51.9±0.8, 16°.53S×69°.54W, h193km±3km, mb3.8*
ISC 02 08:15:49.2±0.7**, 16°.57S**±0°.05×**69°.77W**±0°.06**, h193**km±6km**, n67,** σ1s.36/81**, mb4.1**/7**, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.60	80	P	Pn	08 16 24.9	+0.9
	87nm,0.3s,baz=291,slow=7.0,SNR=3419						
LPAZ				S	Sn	08 16 48.9	-1.8
	12nm,0.3s,baz=10,slow=22,SNR=6.9						
LPAZ	La Paz	1.60	80		Pn	08 16 25.1	+1.2
LPAZ				Sn	Sn	08 16 49.1	-1.6
LPAZ	La Paz	1.60	80	*e*P	Pn	08 16 25.1	+1.2
LPAZ				*e*S	Sn	08 16 49.3	-1.5
PB16	IPOC Station P	1.77	172		Pn	08 16 27.9	+2.4
PB16				Sn	Sn	08 16 56.1	+2.3
AP01	Chacalluta	1.87	197	Pn	Pn	08 16 26.7	+0.9
AP01				Sn	Sn	08 16 54.1	-0.4
PB12	IPOC Station P	2.10	195		Pn	08 16 29.0	+0.6
PB12				Sn	Sn	08 16 57.7	-1.3
MNMC	Minye Minye	2.55	176		Pn	08 16 35.1	+1.5
MNMC				Sn	Sn	08 17 08.2	0.0
PSGCX	Pisagua	3.03	186		Pn	08 16 39.5	+0.6
PSGCX				Sn	Sn	08 17 14.6	-3.3
GO01	Chusmiza	3.13	170		Pn	08 16 42.5	+2.0
PB11	IPOC Station P	3.17	178		Pn	08 16 41.8	+1.1
PB11				Sn	Sn	08 17 19.4	-1.7
PB08	IPOC Station P	3.60	171		Pn	08 16 48.0	+1.8
PB08				Sn	Sn	08 17 29.9	-0.9
TA01	Diego Aracena	3.99	186	Pn	Pn	08 16 51.1	+0.5
PATCX	Punta Patache	4.24	185		Pn	08 16 53.6	-0.3
PATCX				Sn	Sn	08 17 43.2	-1.5
PB01	IPOC Station P	4.45	177		Pn	08 16 57.2	+0.7
PB01				Sn	Sn	08 17 46.2	-3.4
PB07	IPOC Station P	5.13	181		Pn	08 17 06.2	+1.0
PB09	IPOC Station P	5.22	175	Pn	Pn	08 17 07.2	+0.8
PB04	IPOC Station P	5.74	183	Pn	Pn	08 17 13.2	0.0
LVC	Limon Verde	6.06	172	P	Pn	08 17 19.4	+1.9
	0.9nm,0.3s,baz=352,slow=7.2,SNR=13						
LVC				S	Sn	08 18 24.0	-3.2
	5.1nm,0.3s,baz=345,slow=11,SNR=18						
LVC	Limon Verde	6.06	172		Pn	08 17 18.8	+1.3
LVC	Limon Verde	6.06	172	*e*P	Pn	08 17 19.7	+2.2
PB06	IPOC Station P	6.10	178	Pn	Pn	08 17 17.9	0.0
PB15	IPOC Station P	6.61	178		Pn	08 17 25.1	+0.7
PB10	IPOC Station P	6.94	186	Pn	Pn	08 17 28.2	-0.4
ETMB	Extrema	7.56	28	*e*P	Pn	08 17 37.3	+0.5
PB14	IPOC Station P	8.03	184	Pn	Pn	08 17 42.3	-0.9
NNA	Nana	8.23	303	P	Pn	08 17 45.9	+0.3
	1.6nm,0.3s,baz=145,slow=12,SNR=3.0						
NNA				S	Sn	08 19 16.1	-2.1
	3.3nm,0.3s,baz=224,slow=21,SNR=5.4						
NNA	Nana	8.23	303		Pn	08 17 45.7	+0.1
SIV	San Ignacio	8.38	87	P	Pn	08 17 45.5	-2.0
	0.6nm,0.3s,baz=299,slow=5.7,SNR=8.7						
GO02	Mina Guanaco	8.55	179	Pn	Pn	08 17 49.8	-0.1
VILB	Vilhena	9.93	70	*e*P	Pn	08 18 07.0	-0.8
SAML	Samuel	9.93	41	Pn	Pn	08 18 06.5	-1.2
SAML	Samuel	9.93	41	*e*P	Pn	08 18 07.8	+0.1
AC02	Maricunga	10.23	177	Pn	Pn	08 18 13.8	+1.8
PTLB	Pontes e Lacer	10.29	85	*e*P	Pn	08 18 10.5	-1.8
AC05	El Transito	12.21	182	P	P	08 18 40.7	-1.0
SALV	Santo Antonio	13.54	89	*e*P	P	08 18 55.0	-1.4
GO04	Tololo Observa	13.57	184	P	P	08 18 57.2	+0.3
CO02	Combarbal	14.61	184	P	P	08 19 10.5	+2.3
CLDB	Colider	14.71	69	*e*P	P	08 19 08.9	-0.5
NPGB	Novo Progresso	16.98	58	*e*P	Pn	08 19 35.4	-0.3
ARAG	Araguaiana, MT	17.28	90	*e*P	P	08 19 38.0	+0.3
PCMB	Pacaembu	18.19	109	*e*P	P	08 19 48.5	+0.8
PTGB	Pitanga	18.43	119	*e*P	Pn	08 19 52.2	-0.6
PTGA	Pitinga	18.47	33	P	P	08 19 51.0	+0.3
	1.1nm,0.3s,baz=271,slow=23,SNR=12						
PTGA	Pitinga	18.47	33	P	P	08 19 51.4	+0.6
PTGA				IAmb	IAmb	08 19 52.1	
	comp=Z,4.1nm,0.5s						
PTGA	Pitinga	18.47	33	*e*P	P	08 19 51.3	+0.6
ITRB	Iturama	18.71	103	*e*P	P	08 19 54.4	+1.1
BB19B	Bebedouro	20.59	106	*e*P	P	08 20 13.9	+0.3
IPMB	Ipameri, GO	20.64	97	*e*P	P	08 20 12.8	-1.2
BDFB	Brasilia	20.93	91	P	P	08 20 17.0	-0.2
	comp=Z,2.6nm,0.5s,baz=276,slow=10,SNR=5.8						
BDFB	Brasilia	20.93	91	P	P	08 20 17.3	+0.1
BDFB				IAmb	IAmb	08 20 19.8	
	comp=Z,3.4nm,0.6s						
MALB	Monte Alegre	21.14	48	*e*P	P	08 20 20.4	+1.1
CNLB	Canela	21.51	129	*e*P	P	08 20 24.6	+1.5
SMTB	Santa Maria do	22.94	73	*e*P	P	08 20 37.2	+0.4
MCPB	Macapa, AP	23.76	49	*e*P	P	08 20 45.7	+1.5
PLCA	Paso Flores	24.08	181	P	P	08 20 46.0	-1.0
PLCA				IAmb	IAmb	08 20 53.2	
	comp=Z,9.1nm,1.3s						
JANB	Januaria	24.54	90	*e*P	P	08 20 51.8	+0.5
RIB01	Linhares ES	28.07	100	*e*P	P	08 21 23.7	+0.9
TXAR	Lajitas Array	56.16	324	P	P	08 25 07.6	-1.5
	comp=Z,0.2nm,0.9s,baz=143,slow=2.7,SNR=2.1						
N49A	Columbus Grove	58.75	347	P	P	08 25 26.2	-0.5
N49A				IAmb	IAmb	08 25 26.8	
	comp=Z,6.7nm,0.7s						
DBIC	Dimbokro	68.22	76	P	P	08 26 29.6	+0.2
	comp=Z,5.1nm,0.8s,baz=223,slow=6.8,SNR=4.9						
DBIC	Dimbokro	68.22	76	P	P	08 26 28.0	-1.4
QSPA	South Pole Qui	73.59	180	P	P	08 27 03.2	+2.1
	comp=Z,1.4nm,1.0s,baz=259,slow=0.7,SNR=5.3						
QSPA	South Pole Qui	73.59	180	P	P	08 27 03.2	+2.1
TOA0	Torodi Ar. Sit	76.53	72	P	P	08 27 19.4	+0.8
TOA0				IAmb	IAmb	08 27 20.2	
	comp=Z,3.5nm,0.8s						
TORD	Torodi Ar. Bea	76.53	72	P	P	08 27 18.9	+0.4
	comp=Z,2.3nm,0.7s,baz=248,slow=4.9,SNR=24						
WRA	Warramunga Arr	136.66	214	PKP	PKiKP	08 34 51.9	+0.8
	comp=Z,0.1nm,0.3s,baz=148,slow=2.0,SNR=7.5						

IDC 02 08:32:13.6±4.1**, 28°.40S**×**177°.91W, h0**km**, mb3.5**/2**, mb1 3.8**/2**, mb1mx3.5**/23**, mbtmp3.5**/2**, Error ellipse: s-maj=85.1km s-min=22.7km az=69.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.85	181	Pn	Pn	08 32 33.6	+0.8
	87nm,0.3s,baz=251,slow=23,SNR=1.9						
RAO				Sn	Sn	08 32 45.9	-0.1
	104nm,0.3s,baz=73,slow=22,SNR=2.3						
ASAR	Alice Springs	43.33	265	P	P	08 40 16.9	-0.9
	0.5nm,0.8s,baz=107,slow=6.9,SNR=4.3						
WRA	Warramunga Arr	44.14	270	P	P	08 40 24.7	+0.5
	0.9nm,0.8s,baz=112,slow=7.7,SNR=6.0						
FINES	FINESS Array B	143.29	341	PKP	PKPbc	08 51 47.3	+1.1
	1.8nm,0.6s,baz=50,slow=3.0,SNR=12						

*CRAAG **02** 08:40:42.7, 36°.79N×3°.21E, Ml2.6*
MDD 02 08:40:42.4±0.8**, 36°.98N**×**3°.19E, h0**km**, mb3.5**/2**, Error ellipse: s-maj=8.4km s-min=7.8km az=66.0, PRXIMO SIN SOLUCIN, Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABA	Alger-Bouzarea	0.22	215	P	Pg	08 40 46.4	-0.2
ABA	Alger-Bouzarea	0.22	215	P	Pg	08 40 46.4	-0.2
ABMS	Boumerdes	0.33	135	P	Pg	08 40 48.4	-0.3
ABMS	Boumerdes	0.33	135	P	Pg	08 40 48.4	-0.3
EIBI	Ibiza	2.51	325	P	Pn	08 41 23.8	-0.7
	0.9nm,0.1s,SNR=4.0						
EIBI				S	Sn	08 41 50.1	-5.7
	0.5nm,0.2s,SNR=7.9						
ETOS	Mallorca	2.80	354	P	Pn	08 41 27.7	-0.8
	1.2nm,0.1s,SNR=7.9						
ETOS				S	Sn	08 41 58.6	-4.4
	0.3nm,0.1s,SNR=7.9						

*EAF **02** 08:43:28.1±2.9, 24°.16S×22°.42E, h21km±65km, MD3.7*
BUL 02 08:43:25.9±1.2**, 24°.18S**×**22°.47E, h10**km**, MD3.7, Botswana**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOSA	Boshof	5.07	151	*i* P	Pb	08 44 58.0	+3.2
BOSA	Boshof	5.07	151	*i* P	Pn	08 44 42.9	+0.8
BOSA				*i* S	Sn	08 45 38.0	-2.9
BOSA	Boshof	5.07	151	*i* P	Pn	08 44 42.9	+0.8
BOSA				*i* S	Sn	08 45 38.0	-2.9
MATP	Matopo	6.71	57	*i* P	Pn	08 44 55.0	-10
MATP				*i* S	Sn	08 46 13.5	-7.9
MATP	Matopo	6.71	57	*i* P	Pn	08 45 05.5	+0.7
MATP				*i* S	Sn	08 46 16.6	-4.8
MATP	Matopo	6.71	57	*i* P	Pn	08 44 55.0	-10
MATP				*i* S	Sn	08 46 13.5	-7.9
MATP				*i* S	Sn	08 46 16.6	-4.8
TSUM	Tsumeb	6.72	317	*i* P	Pn	08 45 04.3	-0.5
TSUM	Tsumeb	6.72	317	*i* P	Pn	08 45 04.3	-0.5
BLWY	Bulawayo	6.96	56	*i* P	Pn	08 44 58.8	-9.4
BLWY	Bulawayo	6.96	56	*i* P	Pn	08 45 08.8	+0.6
BLWY				*i* S	Sn	08 46 24.4	-3.1
BLWY	Bulawayo	6.96	56	*i* S	Sn	08 46 24.4	-3.1
BLWY				*i* P	Pn	08 44 58.8	-9.4
BLWY				*i* P	Pn	08 45 08.8	+0.6

IDC 02 08:49:07.0±46.0**, 15°.26S**×**171°.56W, h0**km**, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.7**/29**, mbtmp4.0**/3**, Error ellipse: s-maj=905.4km s-min=189.3km az=79.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	45.64	240	P	P	08 57 29.7	+0.1
	1.0nm,0.5s,baz=90,slow=8.6,SNR=4.1						
WRA	Warramunga Arr	51.60	257	P	P	08 58 15.4	-0.2
	0.5nm,0.5s,baz=94,slow=6.8,SNR=12						
ASAR	Alice Springs	51.84	252	P	P	08 58 17.3	-0.1
	4.2nm,0.6s,baz=88,slow=8.3,SNR=82						

*MOS **02** 09:06:24.0±0.0, 41.°46N×44.°35E, h10km, MPVA3.3*
*TIF **02** 09:06:25.0, 41.°46N×44.°30E, h15km*
*NORS **02** 09:06:25.0±0.0, 41.°45N×44.°28E, h14km, MPVA3.5*
*DDA **02** 09:06:25.4, 41.°45N×44.°26E, h12km±2km, ML2.5*
ISC 02 09:06:25.5±0.8**, 41.°44N**±0.°02×**44.°25E**±0.°02**, h13**km±5km**, n34, σ0.s91**/67**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DMNI	**Dmanisi**	**0.12**	**201**	P	**Pb**	**09 06 29.5**	**-0.2**
DMNI				S	**Sg**	**09 06 32.2**	**+0.9**
KZRT	**Kazreti**	**0.13**	**116**	*i* P	**Pg**	**09 06 28.8**	**-0.1**
KZRT				*i* S	**Sg**	**09 06 30.7**	**-0.7**
KZRT	**Kazreti**	**0.13**	**116**	P	**Pg**	**09 06 28.8**	**-0.1**
KZRT				S	**Sg**	**09 06 30.9**	**-0.4**
TRLG	**Trialeti**	**0.15**	**312**	P	**Pb**	**09 06 29.8**	**-0.4**
TRLG				S	**Sg**	**09 06 32.8**	**+0.8**
TBLG	**Delisi**	**0.47**	**52**	*e*Pg	**Pg**	**09 06 34.1**	**-0.7**
TBLG				*e*Sg	**Sg**	**09 06 40.6**	**-0.5**
TBLG	**Delisi**	**0.47**	**52**	P	**Pg**	**09 06 34.1**	**-0.7**
TBLG				S	**Sg**	**09 06 40.6**	**-0.5**
SEAG	**Tbilisi Sea**	**0.53**	**52**	P	**Pg**	**09 06 34.4**	**-1.5**
SEAG				S	**Sg**	**09 06 41.6**	**-1.3**
AKH	**Akhalkalaki**	**0.57**	**267**	*e*Pg	**Pb**	**09 06 37.3**	**-0.1**
AKH				*e*Sg	**Sn**	**09 06 47.8**	**-1.0**
AKH	**Akhalkalaki**	**0.57**	**267**	P	**Pb**	**09 06 37.3**	**-0.1**
AKH				S	**Sb**	**09 06 45.8**	**+0.3**
EAK	**Akyaka**	**0.90**	**213**	*i* P	**Pg**	**09 06 42.0**	**-0.9**
EAK				*i* S	**Sg**	**09 06 54.8**	**+0.1**
EAK				IAML		09 06 55.0	
	comp=E,208nm,0.4s						
EAK				IAML		09 06 59.0	
	comp=N,183nm,0.4s						
DIGO	**Kars**	**1.22**	**213**	*i* P	**Pn**	**09 06 47.5**	**-1.0**
DIGO				*i* S	**Sb**	**09 07 04.7**	**+0.4**
DIGO				IAML		09 07 07.0	
	comp=N,166nm,0.6s						
DIGO				IAML		09 07 11.0	
	comp=E,143nm,0.4s						
PNSH	**Pansheti**	**1.22**	**13**	P	**Pn**	**09 06 48.2**	**-0.3**
PNSH				S	**Sg**	**09 07 04.7**	**-0.4**
ONI	**Oni**	**1.29**	**333**	*e*Pg	**Pn**	**09 06 49.5**	**+0.2**
ONI				*e*Sg	**Sg**	**09 07 09.0**	**+1.8**
ONI	**Oni**	**1.29**	**333**	P	**Pn**	**09 06 49.5**	**+0.2**
ONI				S	**Sg**	**09 07 07.0**	**-0.2**
LACR	**Lac**	**1.39**	**1**	*e*Pg	**Pg**	**09 06 51.9**	**-0.3**
LACR				*e*Sg	**Sg**	**09 07 10.7**	**+0.5**
DDFL	**Dedoflistskaro**	**1.41**	**89**	*i* P	**Pb**	**09 06 51.6**	**0.0**
DDFL				*i* S	**Sg**	**09 07 14.5**	**+3.7**
DIGR	**Digorskoe uzhe**	**1.54**	**341**	*i* Pg	**Pg**	**09 06 54.7**	**-0.4**
DIGR				*e*Sg	**Sg**	**09 07 16.4**	**+1.3**
LGD	**Lagodekhi**	**1.55**	**75**	*e*Pg	**Pn**	**09 06 52.9**	**+0.2**
LGD				*e*Sg	**Sb**	**09 07 14.0**	**+0.5**
LGD	**Lagodekhi**	**1.55**	**75**	P	**Pn**	**09 06 52.9**	**+0.2**
LGD				S	**Sb**	**09 07 14.0**	**+0.5**
VLKR	**Vladikavkaz**	**1.64**	**11**	*e*Pg	**Pb**	**09 06 55.8**	**+0.3**
VLKR				*e*Sg	**Sg**	**09 07 18.6**	**+0.4**
KORR	**Kora**	**1.65**	**355**	*e*Pg	**Pb**	**09 06 56.2**	**+0.5**
KORR				*e*Sg	**Sg**	**09 07 19.3**	**+0.7**
ARTV	**Artvin**	**1.77**	**262**	*i* P	**Pg**	**09 06 58.7**	**-0.7**
ARTV				*i* S	**Sb**	**09 07 21.3**	**+1.3**
DAGI	**Agillar**	**1.80**	**259**	*i* P	**Pg**	**09 06 60.0**	**0.0**
DAGI				*i* S	**Sg**	**09 07 23.2**	**-0.1**
DAGI				IAML		09 07 25.0	
	comp=E,31nm,0.7s						
LSNR	**Lesken**	**1.86**	**350**	*e*Pg	**Pb**	**09 07 00.1**	**+0.7**
LSNR				*e*Sg	**Sg**	**09 07 25.4**	**0.0**
BTLR	**Botlikh**	**1.91**	**50**	*e*Pg	**Pb**	**09 06 59.2**	**-1.1**
BTLR				*e*Sg	**Sb**	**09 07 24.6**	**+0.6**
BATM	**Batumi**	**1.93**	**276**	*i* P	**Pb**	**09 07 00.7**	**+0.3**
BATM				*i* S	**Sg**	**09 07 26.1**	**-1.3**
BATM	**Batumi**	**1.93**	**276**	P	**Pb**	**09 07 00.8**	**+0.3**
BATM				S	**Sg**	**09 07 26.3**	**-1.1**
DBOC	**Borcka**	**1.94**	**268**	*i* P	**Pb**	**09 07 00.8**	**0.0**
DBOC				*i* S	**Sb**	**09 07 26.3**	**+1.4**
DDEM	**Demirkent**	**1.96**	**255**	*i* P	**Pg**	**09 07 02.6**	**-0.6**
DDEM				*i* S	**Sb**	**09 07 26.7**	**+1.1**
DDEM				IAML		09 07 31.0	
	comp=N,72nm,0.3s						
DDEM				IAML		09 07 32.0	
	comp=E,45nm,0.4s						
DBAD	**Bademkaya**	**1.97**	**258**	*i* P	**Pg**	**09 07 02.5**	**-0.8**
DBAD				*i* S	**Sb**	**09 07 27.3**	**+1.5**
DBAD				IAML		09 07 29.0	
	comp=E,55nm,0.6s						
DBAD				IAML		09 07 30.0	
	comp=N,49nm,0.6s						
EATA	**Eleskirt**	**2.07**	**221**	*i* P	**Pg**	**09 07 05.5**	**+0.3**
NEY	**Neytrino**	**2.13**	**328**	*e*Pg	**Pb**	**09 07 03.5**	**-0.5**
NEY				*e*Sg	**Sb**	**09 07 31.8**	**+1.3**
GNBR	**Gunib**	**2.24**	**64**	*e*Pg	**Pn**	**09 07 04.0**	**+1.7**
GNBR				*e*Sg	**Sb**	**09 07 32.5**	**-0.9**
KBZ	**Khabaz**	**2.49**	**337**	*e*Pn	**Pb**	**09 07 08.7**	**-1.4**
KBZ				*e*Sn	**Sb**	**09 07 41.0**	**+0.3**

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*IDC **02** 09:17:27.5±4.1, 23.°66N×108.°81W, h0km, mb4.1/1, mb1 3.7/5, mb1mx3.5/42, mbtmp3.4/5, ML3.7/3, MS2.8/7, Ms1 2.8/7, ms1mx2.6/40, Error ellipse: s-maj=68.6km s-min=28.0km az=164.0*
*MEX **02** 09:17:31.4±0.3, 23.°66N×108.°82W, h10km, MD4.0*
ISC 02 09:17:29.0±1.3**, 23.°8N**±0.°1×**108.°80W**±0.°05**, h10**km**, n19, σ2.s23**/12**, MS2.9**/3**, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.42**	**284**	Pn	**Pn**	**09 17 53.9**	**-1.0**
	45nm,0.3s,baz=145,slow=2.7,SNR=65						
LPIG				Sn	**Sn**	**09 18 10.9**	**-2.7**
	204nm,0.3s,baz=45,slow=18,SNR=15						
LPIG	**La Paz**	**1.42**	**284**	*e*P	**Pn**	**09 17 53.9**	**-1.0**
	baz=108,slow=4.3						
LPIG				*e*S	**Sn**	**09 18 11.2**	**-2.4**
TSIG	**Topolobambo**	**1.83**	**353**	*e*P	**Pn**	**09 18 00.3**	**-0.2**
MAIG	**Mazatlaan**	**2.26**	**105**	*e*P	**Pn**	**09 18 05.4**	**-1.0**
H06E1	**SOCORRO T-PHAS**	**5.35**	**202**	T	T	09 24 19.3	
	SNR=5.6						
TXAR	**Lajitas Array**	**7.19**	**39**	Pn	**Pn**	**09 19 14.4**	**+0.1**
	0.2nm,0.3s,baz=207,slow=14,SNR=8.7						
TXAR				Sn	**Sn**	**09 20 31.9**	**-4.3**
	0.1nm,0.3s,baz=206,slow=17,SNR=1.4						
TXAR				Lg	Lg	09 21 05.6	
	0.2nm,0.3s,baz=56,slow=29,SNR=1.6						
TXAR				LR	LR	09 21 44.1	
	comp=Z,34nm,18.8s,baz=0.0,slow=35						
ANMO	**Albuquerque**	**11.32**	**10**	Pn	**Pn**	**09 20 10.9**	**-0.1**
	0.2nm,0.3s,baz=146,slow=22,SNR=2.1						
ANMO				LR	LR	09 23 35.7	
	comp=Z,30nm,21.4s,baz=246,slow=32						
PFO	**Pinyon Flats O**	**11.88**	**327**	LR	LR	09 24 17.4	
	comp=Z,45nm,18.2s,baz=134,slow=34						
CMIG	**Matias Romero**	**14.64**	**114**	LR	LR	09 26 32.3	
	comp=Z,80nm,18.5s,baz=275,slow=37						
NVAR	**Mina Array Bea**	**16.70**	**333**	Pn	**P**	**09 21 27.4**	**+1.6**
	0.0nm,0.3s,baz=148,slow=11,SNR=4.3						
ELK	**Elko**	**17.76**	**344**	LR	LR	09 27 48.8	
	comp=Z,21nm,18.7s,baz=178,slow=35						
PDAR	**Pinedale Array**	**18.95**	**358**	P	**Pn**	**09 21 53.4**	**+2.2**
	0.1nm,0.3s,baz=166,slow=11,SNR=11						
TKL	**Tuckaleechee C**	**24.68**	**56**	LR	LR	09 33 23.9	
	comp=Z,37nm,20.2s,baz=268,slow=39						
JTS	**Las Juntas de**	**26.39**	**116**	LR	LR	09 33 56.9	
	comp=Z,38nm,20.3s,baz=356,slow=38						
H03N2	**Juan Fernandez**	**63.62**	**152**	T	T	10 37 34.6	
	baz=331,slow=77,SNR=6.1						
H03N1	**Juan Fernandez**	**63.63**	**152**	T	T	10 37 32.3	
	baz=331,slow=77,SNR=5.3						
H03N3	**Juan Fernandez**	**63.63**	**152**	T	T	10 37 21.6	
	baz=331,slow=77,SNR=8.0						
ARCES	**ARCESS Array B**	**81.36**	**15**	P	**P**	**09 29 47.3**	**+1.8**
	1.2nm,0.7s,baz=30,slow=27,SNR=1.7						
JNU	**Nakatsue**	**99.79**	**313**	LR	LR	10 14 05.7	
	comp=Z,76nm,19.6s,baz=266,slow=34						

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*IDC **02** 09:18:42.3±2.6, 7.°11S×74.°63W, h121km±32km, mb2.9/3, mb1 3.3/8, mb1mx3.1/38, mbtmp3.6/8, Error ellipse: s-maj=42.8km s-min=15.4km az=27.0*
ISC 02 09:18:43.6±0.8**, 7.°46S**±0.°10×**74.°76W**±0.°08**, h150**km**, n10, σ1.s50**/11**, mb3.0**/3**, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.62**	**275**	P	**Pn**	**09 19 39.5**	**+0.1**
	16nm,0.3s,baz=58,slow=3.5,SNR=212						
ATAH				S	**Sn**	**09 20 22.5**	**-0.1**
	12nm,0.3s,baz=215,slow=23,SNR=8.1						
NNA	**Nana**	**4.94**	**204**	P	Pn	09 20 00.4	+4.1
	0.8nm,0.3s,baz=20,slow=6.8,SNR=1.6						
NNA				S	**Sn**	**09 20 50.9**	**-2.2**
	5.4nm,0.3s,baz=180,slow=23,SNR=4.4						
LPAZ	**La Paz**	**10.90**	**144**	P	**Pn**	**09 21 18.0**	**+1.8**
	0.2nm,0.3s,baz=314,slow=6.6,SNR=9.7						
SIV	**San Ignacio**	**15.85**	**124**	P	**P**	**09 22 19.1**	**-0.2**
	0.4nm,0.3s,baz=310,slow=14,SNR=7.3						
PTGA	**Pitinga**	**16.19**	**66**	P	**Pn**	**09 22 19.9**	**-2.9**
	0.4nm,0.3s,baz=251,slow=16,SNR=4.8						
TXAR	**Lajitas Array**	**45.97**	**324**	P	**P**	**09 26 52.1**	**+0.2**
	0.2nm,0.5s,baz=149,slow=8.4,SNR=5.9						
PDAR	**Pinedale Array**	**59.18**	**331**	P	**P**	**09 28 28.8**	**-0.3**
	0.1nm,0.6s,baz=138,slow=8.4,SNR=1.6						
TORD	**Torodi Ar. Bea**	**78.63**	**75**	P	**P**	**09 30 30.6**	**+1.1**
	0.2nm,0.4s,baz=267,slow=5.2,SNR=7.7						
MKAR	**Makanchi Array**	**136.15**	**23**	PKP	**PKPdf**	**09 37 47.5**	**+0.2**
	0.1nm,0.4s,baz=263,slow=2.3,SNR=1.7						
WRA	**Warramunga Arr**	**140.48**	**226**	PKP	**PKiKP**	**09 37 58.9**	**+0.2**
	0.4nm,0.6s,baz=122,slow=1.9,SNR=2.2						

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*IDC **02** 09:43:24.2±3.1, 30.°46N×139.°66E, h39km±30km, mb3.3/6, mb1 3.5/9, mb1mx3.4/44, mbtmp3.5/9, ML3.5/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/20, Error ellipse: s-maj=37.0km s-min=19.0km az=79.0*
ISC 02 09:43:23.3±0.8**, 30.°55N**±0.°08×**139.°9E**±0.°2**, h35**km**, n10, σ2.s94**/11**, mb3.5**/6**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.56**	**358**	Pn	**Pn**	**09 44 03.7**	**+1.3**
	10nm,0.3s,baz=83,slow=22,SNR=1.6						
JHJ				Sn	**Sn**	**09 44 27.6**	**-4.6**
	15nm,0.3s,baz=87,slow=22,SNR=1.6						
JCJ	**Chichijima**	**3.99**	**149**	Pn	**Pn**	**09 44 24.6**	**+2.5**
	7.2nm,0.3s,baz=280,slow=23,SNR=1.9						
JCJ				Sn	**Sn**	**09 45 02.9**	**-4.8**
	14nm,0.3s,baz=279,slow=23,SNR=2.3						
MJAR	**Matsushiro Arr**	**6.13**	**347**	Pn	**Pn**	**09 44 51.1**	**-0.4**
	0.0nm,0.3s,baz=302,slow=21,SNR=2.1						
JNU	**Nakatsue**	**8.08**	**291**	LR	LR	09 48 23.0	
	comp=Z,68nm,20.2s,baz=11,slow=38						
SONM	**Songino Array**	**30.85**	**314**	P	**P**	**09 49 37.9**	**+1.7**
	0.4nm,0.4s,baz=140,slow=44,SNR=1.9						
MKAR	**Makanchi Array**	**46.75**	**307**	P	**P**	**09 51 47.8**	**-1.3**
	0.2nm,0.5s,baz=131,slow=5.9,SNR=2.9						
WRA	**Warramunga Arr**	**50.49**	**187**	P	**P**	**09 52 17.1**	**-0.9**
	0.5nm,0.7s,baz=4.9,slow=7.6,SNR=6.5						
ASAR	**Alice Springs**	**54.21**	**187**	P	**P**	**09 52 45.0**	**-0.7**
	0.4nm,0.6s,baz=9.4,slow=14,SNR=5.9						
ILAR	**Eielson Array**	**55.69**	**30**	P	**P**	**09 52 59.0**	**+3.2**
	0.3nm,0.9s,baz=276,slow=8.6,SNR=2.6						
TXAR	**Lajitas Array**	**95.11**	**52**	P	**P**	**09 56 42.7**	**-0.6**
	0.1nm,0.5s,baz=316,slow=3.5,SNR=3.5						

TAP 02 09:51:21.6, 24.°46N×121.°79E, h10km**, ML2.0, 1C, B, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.02**	**124**	P	Pg	09 51 23.7	+0.3
	baz=124						
ENAH				S	Sg	09 51 24.6	0.0
	baz=124						
ENA	**Nanau**	**0.06**	**233**	*i* P	Pg	09 51 24.6	+0.9
	baz=227						
ENA				*i* S	Sg	09 51 26.1	+0.9
	baz=227						
TWC	**Suao**	**0.16**	**20**	⇑*i*P	Pg	09 51 26.0	+0.9
	baz=23						
TWC				*i* S	Sg	09 51 28.2	+0.7
	baz=23						
ENTT	**Nioudou**	**0.27**	**311**	*i* P	Pb	09 51 28.9	+0.3
	baz=311						
ENTT				S	Sb	09 51 32.5	-0.8
	baz=311						
TWE	**Neicheng**	**0.28**	**337**	P	Pb	09 51 28.9	+0.1
	baz=338						
TWE				S	Sb	09 51 32.8	-0.8
	baz=338						
NDT	**Datong Townshi**	**0.29**	**299**	*e*P	Pb	09 51 28.7	-0.2
	baz=299						
NDT				S	Sb	09 51 32.7	-1.1
	baz=299						
NACB	**Ninganchiao**	**0.34**	**212**	*e*P	Pb	09 51 29.4	-0.4
	baz=211						
NACB				S	Sb	09 51 34.2	-1.0
	baz=211						
NNSB	**Datong**	**0.37**	**265**	P	Pb	09 51 30.7	+0.2
	baz=264						
NNSB				S	Sb	09 51 35.7	-0.7
	baz=264						
NNSH	**Datong**	**0.37**	**265**	*e*P	Pb	09 51 30.5	+0.1
	baz=264						
NNSH				*e*S	Sb	09 51 35.7	-0.7
	baz=264						
ETLH	**Xiulin Townshi**	**0.38**	**228**	*e*P	Pb	09 51 30.4	-0.2
	baz=227						
ETLH				S	Sb	09 51 35.5	-1.0
	baz=227						
NNS	**Nan Shan**	**0.38**	**267**	P	Pb	09 51 30.2	-0.4
	baz=266						
NNS				S	Sb	09 51 35.9	-0.7
	baz=266						
NTC	**Toucheng**	**0.39**	**5**	*e*P	Pg	09 51 29.8	+0.4
	baz=5.0						
NTC				*e*S	Sb	09 51 37.5	+0.7
	baz=5.0						
NWLT	**Wulai**	**0.41**	**320**	*e*P	Pb	09 51 31.4	+0.4
	baz=320						
NWLT				*e*S	Sb	09 51 37.4	0.0
	baz=320						
YHNB	**Yeheng**	**0.43**	**299**	P	Pb	09 51 31.9	+0.5
	baz=298						
YHNB				S	Sb	09 51 37.7	-0.3
	baz=298						
NSK	**Sanguang**	**0.45**	**299**	P	Pb	09 51 32.4	+0.7
	baz=298						
NSK				S	Sb	09 51 38.2	-0.2
	baz=298						
TIPB	**Shuangxi**	**0.51**	**4**	*e*P	Pb	09 51 32.9	+0.1
	baz=3.0						
TIPB				S	Sb	09 51 40.5	+0.3
	baz=3.0						
FUSS	**Fushou**	**0.54**	**247**	*e*P	Pb	09 51 33.0	-0.4
	baz=246						
FUSS				*e*S	Sb	09 51 41.1	-0.2
	baz=246						
TWA	**Mucha**	**0.55**	**340**	*e*P	Pb	09 51 34.1	+0.7
	baz=340						
TWA				S	Sb	09 51 41.3	-0.1
	baz=340						
TWB1	**Santiao Chiao**	**0.57**	**18**	*e*P	Pg	09 51 32.8	0.0
	baz=19						
TWB1				S	Sb	09 51 41.5	-0.5
	baz=19						
WHF	**Hehuan Shan**	**0.57**	**237**	P	Pb	09 51 34.2	+0.2
	baz=236						
WHF				S	Sb	09 51 42.0	-0.4
	baz=236						
WFSB	**Wu-fen Shan**	**0.61**	**359**	*e*S	Sb	09 51 43.1	+0.1
	baz=359						
CHGB	**Renai**	**0.69**	**235**	*e*P	Pb	09 51 35.7	-0.2
	baz=234						
CHGB				*e*S	Sb	09 51 46.0	+0.4
	baz=234						
NTST	**Danshui**	**0.77**	**336**	*e*P	Pb	09 51 36.8	-0.3
	baz=336						
WHP	**Taichung City**	**0.79**	**257**	*e*P	Pb	09 51 37.4	-0.2
	baz=256						
WHP				*e*S	Sb	09 51 49.3	+0.9
	baz=256						
SSLB	**Suanglung**	**1.02**	**229**	*e*P	Pn	09 51 42.3	+0.3
	baz=228						
SSLB				*e*S	Sn	09 51 55.9	-0.5
	baz=228						

JMA 02 09:51:27.5±0.2**, 24.°95N**×**123.°37E, h26**km**, M1.5, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.59**	**214**	P	Pb	09 51 38.9	-0.3
YOJ				*e*S	Sb	09 51 47.2	+0.1
IRIF	**Iriomote-Funau**	**0.69**	**152**	P	Pb	09 51 40.7	-0.3
IRIF				*e*S	Sb	09 51 50.0	-0.2
JIJ	**Ishigaki jima**	**0.91**	**130**	P	Pn	09 51 44.1	-0.6
JIJ				*e*S	Sb	09 51 55.1	-1.4
JKRS	**Kuro-shima**	**0.92**	**141**	P	Pb	09 51 44.8	0.0
JKRS				*e*S	Sb	09 51 56.3	-0.3
JISG	**Ishigakijimahi**	**0.93**	**113**	P	Pn	09 51 44.7	-0.2
JISG				*e*S	Sb	09 51 56.4	-0.5
JTJ	**Tarama**	**1.25**	**104**	S	Sn	09 52 04.2	-1.0

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*NEIC **02** 09:52:03.4±2.4, 5.°73S±0.°05×153.°08E±0.°08, h10km±1km, mb4.8/68, Error ellipse: s-maj=13.2km s-min=9.1km az=87.0*
*IDC **02** 09:52:03.5±0.5, 5.°64S×153.°09E, h0km, mb4.5/16, mb1 4.7/18, mb1mx4.5/35, mbtmp4.6/18, ML3.2/2, MS3.6/14, Ms1 3.6/14, ms1mx3.4/30, Error ellipse: s-maj=18.2km s-min=12.2km az=92.0*
*BJI **02** 09:52:09.6±0.0, 5.°14S×152.°98E, h28km, mB5.2/20, mb4.8/29, Ms4.9/5, Ms7 4.6/5*
*DJA **02** 09:52:10.2±1.1, 5°S±8°×15°3E±1°2, h132km±6km, M5.0/13, mb4.8/13, mB4.7/2, MLv5.1/2, Mw(mB)4.0/2*
ISC 02 09:52:07.6±0.4**, 5.°71S**±0.°05×**153.°14E**±0.°06**, h37**km**, n142, σ1.s83**/143**, mb4.7**/53**, MS3.6**/14**, 1C-1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.78**	**322**	Pn	**Pn**	**09 52 36.2**	**+0.3**
	109nm,0.3s,baz=125,slow=2.2,SNR=49						
KRVT				Sn	**Sn**	**09 52 57.0**	**-0.3**
	728nm,0.3s,baz=33,slow=14,SNR=21						
KRVT				LR	LR	09 53 05.7	
	comp=Z,718nm,21.6s,baz=162,slow=37						
RABL	**Rabaul**	**1.80**	**327**	Pn	**Pn**	**09 52 33.0**	**-3.1**
RABL				Sn	**Sn**	**09 52 56.1**	**-1.6**
PMG	**Port Moresby**	**6.97**	**238**	Pn	**Pn**	**09 53 48.4**	**+1.2**
	6.4nm,0.3s,baz=51,slow=7.5,SNR=16						
PMG				Sn	**Sn**	**09 55 08.2**	**+2.9**
	29nm,0.3s,baz=189,slow=22,SNR=11						
PMG				LR	LR	09 56 25.7	
	comp=Z,568nm,19.6s,baz=45,slow=38						
PMG	**Port Moresby**	**6.97**	**238**	Pn	**Pn**	**09 53 44.1**	**-3.1**
PMG				Sn	**Sn**	**09 54 58.7**	**-6.6**
HNR	**Honiara**	**7.70**	**119**	LR	LR	09 57 35.3	
	comp=Z,620nm,18.1s,baz=304,slow=43						
COEN	**Coen**	**12.78**	**229**	P	**Pn**	**09 55 09.2**	**+2.3**
	baz=13,SNR=5.1						
COEN	**Coen**	**12.78**	**229**		**Pn**	**09 55 04.2**	**-2.8**
JAY	**Jayapura**	**12.80**	**284**	LR	LR	10 00 16.5	
	comp=Z,484nm,18.2s,baz=332,slow=39						
PATS	**Pohnpei**	**13.49**	**23**	Pn	Pn	09 55 11.8	-4.8
MTSU	**Mount Surprise**	**15.05**	**214**	P	**P**	**09 55 41.4**	**-1.3**
	baz=15,SNR=12						
CTA	**Charters Tower**	**15.78**	**204**	Pn	**Pn**	**09 55 48.7**	**+1.5**
	0.3nm,0.3s,baz=256,slow=8.6,SNR=3.1						
CTAO	**Charters Tower**	**15.78**	**204**	Pn	**Pn**	**09 55 44.2**	**-3.0**
EIDS	**Eidsvold**	**19.64**	**186**	P	**Pn**	**09 56 35.9**	**+1.0**
	baz=20,SNR=3.8						
EIDS	**Eidsvold**	**19.64**	**186**		**P**	**09 56 29.4**	**-3.8**
QIS	**Mount Isa**	**19.76**	**220**	P	**Pn**	**09 56 36.6**	**+0.3**
	baz=20,SNR=14						
DZM	**Mont Dzumac**	**20.74**	**143**	P	Pn	09 56 48.0	+0.2
	47nm,1.1s,baz=276,slow=9.6,SNR=48						
DZM				LR	LR	10 04 04.6	
	comp=Z,139nm,18.1s,baz=12,slow=35						
DZM	**Mont Dzumac**	**20.74**	**143**	P	**P**	**09 56 45.2**	**-0.1**
DZM				IAmb	IAmb	09 56 53.5	
	comp=Z,64nm,0.9s						
GUMO	**Guam**	**20.86**	**337**	P	**P**	**09 56 41.8**	**-4.7**
TARA	**Tarawa**	**20.97**	**71**	P	**P**	**09 56 47.0**	**-0.8**
TARA				IAmb	IAmb	09 57 01.8	
	comp=Z,72nm,1.0s						
RMQ	**Roma**	**21.08**	**191**	P	**P**	**09 56 51.4**	**+2.6**
	baz=21,SNR=15						
KDU	**Kakadu**	**21.53**	**250**	P	**P**	**09 56 54.2**	**+0.5**
	baz=22,SNR=11						
QLP	**Quilpie**	**22.43**	**201**	P	**P**	**09 57 05.0**	**+1.7**
	baz=22,SNR=8.8						
MTN	**Manton Dam**	**22.83**	**250**	P	**P**	**09 57 08.5**	**+0.8**
	baz=23,SNR=16						
MTN	**Manton Dam**	**22.83**	**250**	P	**P**	**09 57 06.7**	**-1.0**
MTN					**S**	**10 01 17.1**	**+2.4**
WR0	**Warramunga Arr**	**22.97**	**230**	P	**P**	**09 57 06.7**	**-2.4**
WR0				IAmb	IAmb	09 57 24.1	
	comp=Z,23nm,1.1s						
WB0	**Warramunga Arr**	**22.97**	**231**	P	**P**	**09 57 06.9**	**-2.2**
WB0				IAmb	IAmb	09 57 23.4	
	comp=Z,29nm,1.1s						
WC3	**Warramunga Arr**	**23.09**	**230**	P	**P**	**09 57 08.5**	**-1.9**
WC3				IAmb	IAmb	09 57 25.2	
	comp=Z,22nm,1.2s						
WRAB	**Tennant Creek**	**23.10**	**231**	P	**P**	**09 57 08.7**	**-1.8**
WRAB				IAmb	IAmb	09 57 13.6	
	comp=Z,16nm,0.8s						
WB2	**Warramunga Arr**	**23.10**	**231**	P	**P**	**09 57 06.6**	**-3.9**
WB2				IAmb	IAmb	09 57 13.6	
	comp=Z,16nm,0.8s						
WRA	**Warramunga Arr**	**23.11**	**231**	P	**P**	**09 57 10.7**	**+0.1**
	comp=Z,20nm,1.1s,baz=55,slow=10,SNR=40						
WRA				PcP	**PcP**	**10 01 00.9**	**+2.1**
	comp=Z,4.5nm,0.7s,baz=56,slow=2.3,SNR=10						
WRA				LR	LR	10 07 17.7	
	comp=Z,206nm,18.0s,baz=55,slow=40						
ARMA	**Armidale**	**24.62**	**183**	P	**P**	**09 57 21.7**	**-3.0**
ARMA				IAmb	IAmb	09 57 28.3	
	comp=Z,19nm,1.0s						
AS31	**Alice Springs**	**25.72**	**224**	P	**P**	**09 57 33.2**	**-1.5**
ASAR	**Alice Springs**	**25.72**	**224**	P	**P**	**09 57 35.5**	**+0.7**
	comp=Z,7.9nm,0.8s,baz=58,slow=9.0,SNR=56						
ASAR				PcP	**PcP**	**10 01 06.7**	**+2.2**
	comp=Z,2.5nm,0.6s,baz=57,slow=2.4,SNR=12						
ASAR				LR	LR	10 06 58.5	
	comp=Z,185nm,20.2s,baz=50,slow=35						
KNRA	**Kununurra**	**25.89**	**246**	P	**P**	**09 57 37.3**	**+1.0**
	baz=26,SNR=9.4						
KNRA	**Kununurra**	**25.89**	**246**	P	**P**	**09 57 36.5**	**+0.3**
KNRA				IAmb	IAmb	09 57 38.3	
	comp=Z,27nm,0.9s						
STKA	**Stephens Creek**	**28.18**	**201**	P	**P**	**09 57 57.2**	**+0.5**
	comp=Z,8.9nm,0.8s,baz=15,slow=8.6,SNR=15						
STKA				LR	LR	10 09 22.8	
	comp=Z,125nm,18.1s,baz=19,slow=37						
STKA	**Stephens Creek**	**28.18**	**201**	P	**P**	**09 57 58.1**	**+1.3**
	baz=28,SNR=5.2						
STKA	**Stephens Creek**	**28.18**	**201**	P	**P**	**09 57 54.9**	**-1.9**
BATI	**Baumata**	**29.52**	**259**	LR	LR	10 12 12.5	
	comp=Z,216nm,18.2s,baz=150,slow=41						
FITZ	**Fitzroy Crossi**	**29.53**	**243**	P	**P**	**09 58 09.4**	**+0.6**
	comp=Z,28nm,0.6s,baz=62,slow=7.7,SNR=98						
FITZ				LR	LR	10 10 25.5	
	comp=Z,104nm,20.6s,baz=70,slow=37						
FITZ	**Fitzroy Crossi**	**29.53**	**243**	P	**P**	**09 58 09.5**	**+0.6**
	baz=30,SNR=36						
FITZ	**Fitzroy Crossi**	**29.53**	**243**	P	**P**	**09 58 06.3**	**-2.6**
CAN	**Canberra**	**29.71**	**187**	P	**P**	**09 58 08.8**	**-1.6**
DAV	**Davao City (W)**	**30.29**	**294**	LR	LR	10 09 34.6	
	comp=Z,49nm,18.4s,baz=48,slow=35						
HTT	**Hallett**	**30.58**	**204**	P	**P**	**09 58 19.0**	**+0.9**
	baz=31,SNR=7.2						
WRKA	**Warakurna**	**30.60**	**228**	P	**P**	**09 58 18.3**	**-0.1**
	baz=31,SNR=5.9						
MMRI	**Maumere**	**30.79**	**263**	P	**P**	**09 58 19.0**	**-1.1**
BBOO	**Buckleboo**	**31.31**	**208**	P	**P**	**09 58 25.0**	**+0.6**
	baz=31,SNR=6.9						
BBOO	**Buckleboo**	**31.31**	**208**	P	**P**	**09 58 21.7**	**-2.8**
BBOO				IAmb	IAmb	09 58 25.8	
	comp=Z,24nm,1.1s						
EDFI	**Ende, Flores**	**31.34**	**263**	P	**P**	**09 58 24.3**	**-0.7**
TOO	**Toolangi**	**32.47**	**191**	P	**P**	**09 58 32.0**	**-2.6**
TOO				IAmb	IAmb	09 58 45.1	
	comp=Z,11nm,1.1s						
JCJ	**Chichijima**	**34.29**	**343**	P	**P**	**09 58 46.3**	**-4.2**
FORT	**Forrest**	**34.31**	**220**	P	**P**	**09 58 51.5**	**+0.8**
	baz=34,SNR=12						
FORT	**Forrest**	**34.31**	**220**	P	**P**	**09 58 47.9**	**-2.8**
KNTN	**Kanton**	**35.16**	**87**	P	**P**	**09 58 54.7**	**-3.6**
PLAI	**Plampang**	**35.20**	**263**	P	P	09 58 52.6	-6.1
	comp=Z,26nm,0.6s						

PSAB2	Pilbara Seismi	35.85	241	P	P	09 59 03.6	-0.6
PSAA3	Pilbara Seismi	35.86	241	P	P	09 59 02.2	-2.1
PSA00	Pilbara Seismi	35.87	241	P	P	09 59 02.9	-1.4
PSA00				IAmb	IAmb	09 59 06.8	
	comp=Z,25nm,1.2s						
JAGI	Jajag, Banyuwa	38.77	264	P	P	09 59 29.1	+0.1
JAGI				IAmb	IAmb	09 59 33.8	
	comp=Z,25nm,0.9s						
KMBL	Kambalda	38.84	225	P	P	09 59 30.0	+0.6
	baz=39,SNR=4.5						
MEEK	Meekatharra	38.93	234	P	P	09 59 30.6	+0.4
	baz=39,SNR=12						
QRZ	Quartz Range	39.04	156	P	P	09 59 30.8	-0.1
JOW	Kunigami	40.33	325	P	P	09 59 40.8	-0.9
MSWZ	Moikau Station	40.66	154	P	P	09 59 44.1	-0.2
SBUM	Sibu	41.66	280	P	P	09 59 52.0	-1.0
KLBR	Kellerberrin	41.94	228	P	P	09 59 54.8	-0.2
	baz=42,SNR=7.8						
MORW	Morawa	42.05	232	P	P	09 59 55.9	0.0
MORW				IAmb	IAmb	09 59 57.5	
	comp=Z,16nm,1.1s						
BLDU	Ballidu	42.24	230	P	P	09 59 57.5	+0.1
	baz=42,SNR=6.0						
MAJO	Matsushiro	44.30	343	P	P	10 00 12.5	-1.5
CISI	Cisompet, Garu	45.04	265	P	P	10 00 19.2	-1.1
NJ2	Nanjing	49.76	321	eP	P	10 00 58.2	+1.6
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
JKA	Kamikawa-asahi	50.50	350	P	P	10 01 00.9	-1.1
JKA				IAmb	IAmb	10 01 03.5	
	comp=Z,12nm,1.3s						
ASAJ	Asahikawa	50.50	350	P	P	10 01 02.1	0.0
	comp=Z,3.0nm,0.7s,baz=219,slow=13,SNR=4.7						
WHN	Wuhan	51.74	317	eP	pP	10 01 22.5	+1.0
USRK	Ussuriysk Ar.	53.21	341	P	P	10 01 22.7	+0.5
	comp=Z,1.8nm,0.8s,baz=185,slow=7.2,SNR=2.4						
ENH	Enshi	55.02	313	P	P	10 01 36.1	+0.3
ENH				IAmb	IAmb	10 01 40.5	
	comp=Z,12nm,1.2s						
GSI	Gunungsitoli	55.92	275	P	P	10 01 41.0	-1.5
PBKT	Sadao Pong	56.13	294	P	P	10 01 43.7	-0.2
CMAR	Chiang Mai Arr	58.57	296	P	P	10 02 02.5	+1.4
	comp=Z,2.6nm,0.8s,baz=111,slow=5.5,SNR=8.7						
CMAR				LR	LR	10 27 10.7	
	comp=Z,13nm,18.0s,baz=125,slow=36						
CHTO	Chiang Mai	58.68	296	P	P	10 02 01.4	-0.5
CHTO				IAmb	IAmb	10 02 05.1	
	comp=Z,7.5nm,1.1s						
PETK	Petropavlovsk-	58.73	3	P	P	10 02 02.9	+1.3
	comp=Z,6.9nm,0.6s,baz=175,slow=8.2,SNR=22						
PETK				LR	LR	10 26 40.2	
	comp=Z,23nm,19.1s,baz=242,slow=35						
CD2	Chengdu	59.58	311	eP	P	10 02 08.5	+0.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	Hu-ho-hao-te	59.98	324	eP	P	10 02 13.2	+2.6
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,6.6s						
LZH	Lanzhou	62.12	316	eP	P	10 02 28.1	+2.8
LZH				pP	sP	10 02 38.5	-0.9
LZH				sP	pwP	10 02 42.3	+1.1
LZH				ePP	PP	10 04 47.2	+4.8
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,93nm,8.0s						
LZH				LR	LR		
	comp=Z,220nm,17.0s						
LZH				LR	LR		
	comp=Z,230nm,16.7s						
LZH				LR	LR		
	comp=Z,380nm,18.2s						
MA2	Magadan	65.11	359	P	P	10 02 44.6	+0.2
GTA	Gaotai	66.55	317	eP	P	10 02 56.3	+2.1
GTA				pP	pP	10 03 05.1	+1.1
GTA				sP	sP	10 03 09.0	+0.5
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,75nm,4.5s						
GTA				LR	LR		
	comp=Z,72nm,17.5s						
GTA				LR	LR		
	comp=Z,140nm,20.9s						
GTA				LR	LR		
	comp=Z,38nm,17.8s						
SHL	Shillong	67.06	301	P	P	10 02 57.2	-0.6
SONM	Songino Array	67.27	328	P	P	10 02 60.0	+1.3
	comp=Z,2.4nm,0.5s,baz=150,slow=6.5,SNR=14						
VNDA	Vanda	71.91	178	P	P	10 03 28.8	+2.2
	comp=Z,2.6nm,0.8s,baz=329,slow=6.7,SNR=13						
VNDA	Vanda	71.91	178	P	P	10 03 27.9	+1.3
WMQ	Urumqi	76.64	317	eP	P	10 03 56.3	+1.5
WMQ				LR	LR		
	comp=Z,220nm,16.7s						
WMQ				LR	LR		
	comp=Z,330nm,18.5s						
WMQ				LR	LR		
	comp=Z,87nm,20.1s						
CNPM	China Poot	78.39	25	P	P	10 04 03.6	-0.6
CNPM				IAmb	IAmb	10 04 06.1	
	comp=Z,10nm,0.7s						
KNK	Knik Glacier	80.56	25	P	P	10 04 14.6	-1.4
SML	Sawmill	80.81	24	P	P	10 04 17.7	+0.4
SML				IAmb	IAmb	10 04 21.1	
	comp=Z,6.3nm,0.8s						
MK31	Makanchi Array	81.23	319	P	P	10 04 20.9	+1.0
MK31				IAmb	IAmb	10 04 22.4	
	comp=Z,6.8nm,1.1s						
MKAR	Makanchi Array	81.23	319	P	P	10 04 21.4	+1.5
	comp=Z,6.3nm,0.9s,baz=107,slow=5.6,SNR=33						
RND	Reindeer	81.43	23	P	P	10 04 20.9	+0.2
MAKZ	Makanchi	81.44	319	P	P	10 04 22.0	+1.0
MAKZ				IAmb	IAmb	10 04 23.4	
	comp=Z,12nm,1.1s						
MCK	McKinley	81.57	22	P	P	10 04 20.7	-0.6
MCK				IAmb	IAmb	10 04 22.4	
	comp=Z,8.2nm,0.9s						
KLU	Klutina	81.66	25	P	P	10 04 17.6	-4.3
KLU				IAmb	IAmb	10 04 24.7	
	comp=Z,11nm,1.2s						
ZAA0	Zalesovo Array	82.09	326	P	P	10 04 24.1	-0.1
ZAA0				IAmb	IAmb	10 04 25.7	
	comp=Z,8.1nm,0.7s						
ZALV	Zalesovo Beam	82.09	326	P	P	10 04 24.8	+0.6
	comp=Z,8.4nm,0.6s,baz=109,slow=5.4,SNR=32						
WRH	Wood River Hil	82.27	22	P	P	10 04 23.8	-1.1
WRH				IAmb	IAmb	10 04 33.5	
	comp=Z,5.5nm,1.2s						
CCB	Clear Creek Bu	82.47	22	P	P	10 04 25.8	-0.1
GLB	Gilahina Butte	82.53	26	P	P	10 04 26.7	+0.2
GLB				IAmb	IAmb	10 04 28.1	
	comp=Z,4.2nm,0.9s						
IL31		82.87	22	P	P	10 04 27.2	-0.8
ILAR	Eielson Array	82.87	22	P	P	10 04 27.6	-0.5
	comp=Z,1.7nm,0.8s,baz=249,slow=5.4,SNR=17						
ILAR				LR	LR	10 40 50.8	
	comp=Z,48nm,18.3s,baz=246,slow=35						
TARG	Taragay, Kyrgy	82.93	313	P	P	10 04 30.4	+1.0
TARG				IAmb	IAmb	10 04 32.6	
	comp=Z,5.0nm,1.0s						
DOT	Dot Lake	83.42	24	P	P	10 04 30.9	-0.1
DOT				IAmb	IAmb	10 04 32.4	
	comp=Z,3.8nm,0.9s						
KSH	Kashi	83.78	311	eP	P	10 04 37.1	+3.6
QSPA	South Pole Qui	84.25	180	P	P	10 04 35.3	0.0
KURK	Kurchatov	84.69	322	P	P	10 04 38.5	+0.9
NIL	Nilore	84.77	304	P	P	10 04 38.6	+0.1
TKM2	Tokmak 2	84.80	314	P	P	10 04 40.5	+1.9
	SNR=14						
MAW	Mawson	84.86	203	P	P	10 04 39.9	+1.7
	comp=Z,5.2nm,0.6s,baz=100,slow=5.8,SNR=20						
MAW	Mawson	84.86	203	P	P	10 04 40.1	+1.9
	baz=85,SNR=10						
MAW	Mawson	84.86	203	P	P	10 04 39.7	+1.5
KZA	Kyzart	84.87	313	P	P	10 04 42.0	+2.6
	SNR=18						
EGAK	Eagle	85.06	23	P	P	10 04 39.4	+0.2
EGAK				IAmb	IAmb	10 04 42.1	
	comp=Z,4.1nm,1.1s						
HYT	Haines Junctio	85.08	27	P	P	10 04 40.0	+0.4
HYT				IAmb	IAmb	10 04 42.0	
	comp=Z,3.1nm,0.8s						
UCH	Uchtor	85.44	313	P	P	10 04 44.7	+2.5
	SNR=16						
AAK	Ala-Archa	85.53	313	P	P	10 04 43.9	+1.6
AAK				IAmb	IAmb	10 04 45.2	
	comp=Z,8.6nm,0.9s						
USP	Ospenovka	85.66	314	P	P	10 04 44.7	+1.9
	SNR=5.3						
AML	Almayashu	86.01	313	P	P	10 04 47.4	+2.4
	SNR=8.1						
EPYK	Eagle Plains	87.38	22	P	P	10 04 51.2	+0.6
EPYK				IAmb	IAmb	10 04 53.1	
	comp=Z,8.3nm,0.9s						
BTK	Batken	87.78	310	P	P	10 04 53.8	+0.5
BTK				IAmb	IAmb	10 05 09.2	
	comp=Z,4.8nm,0.8s						
KK31	Karatay Array	88.50	313	P	P	10 04 56.4	-0.1
KKAR	Karatay Array	88.50	313	P	P	10 04 56.4	-0.1
BRVK	Borovoye	90.24	323	P	P	10 05 04.7	+0.3
BRVK				IAmb	IAmb	10 05 05.6	
	comp=Z,6.1nm,0.8s						
NVAR	Mina Array Bea	92.38	52	P	P	10 05 16.4	+1.4
	comp=Z,0.2nm,0.5s,baz=264,slow=4.1,SNR=4.3						
NVAR				LR	LR	10 39 42.7	
	comp=Z,45nm,20.6s,baz=292,slow=31						
SYO	Syowa Base	92.92	199	eP	P	10 05 16.2	-0.3
SYO	Syowa Base	92.92	199	epP	P	10 05 20.0	+3.5
KHC	Kasperske Hory	124.89	329	ePKPDF	PKiKP	10 11 05.6	+1.4
GERES	GERESS Array B	125.00	328	PKP	PKiKP	10 11 05.4	+0.9
	comp=Z,1.1nm,0.6s,baz=22,slow=1.4,SNR=12						
LPAZ	La Paz	133.69	119	PKP	PKiKP	10 11 24.9	+1.4
	comp=Z,1.4nm,0.6s,baz=257,slow=6.1,SNR=8.4						
CPUP	Villa Florida	136.56	139	PKP	PKiKP	10 11 30.1	+1.8
	comp=Z,1.6nm,0.8s,baz=42,slow=3.3,SNR=4.6						
BDFB	Brasilia	150.19	136	PKPbc	PKiKP	10 11 58.0	+1.3
	comp=Z,12nm,0.8s,baz=197,slow=2.8,SNR=13						
BDFB	Brasilia	150.19	136	PKPdf	PKPdf	10 11 50.6	-0.1
BDFB				PKPbc	PKiKP	10 11 58.2	+1.5
TOA0	Torodi Ar. Sit	150.90	287	PKPbc	PKiKP	10 11 58.7	+0.7
TORD	Torodi Ar. Bea	150.90	287	PKPbc	PKiKP	10 11 58.3	+0.3
	comp=Z,13nm,0.7s,baz=61,slow=2.6,SNR=66						
DBIC	Dimbokro	158.10	274	PKPab	PKPab	10 12 36.1	+0.7
	comp=Z,6.6nm,0.9s,baz=71,slow=5.2,SNR=3.7						

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*JMA **02** 09:53:37.9±0.1, 24°.48N×122°.22E, h0km, M2.4*
*TAP **02** 09:53:38.6, 24°.50N×122°.14E, h5km, ML2.6, D*
ISC 02 09:53:38.3±1.1**, 24°.49N**±0°.02×**122°.21E**±0°.02**, h7km**±9km**, n50, σ0s.59**/98**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	Suao	0.35	291	i P	Pg	09 53 45.2	+0.1
	baz=292						
TWC				S	Sg	09 53 50.0	+0.3
	baz=292						
ENAH	Nanao	0.36	264	P	Pb	09 53 46.0	-1.1
	baz=260						
ENAH				S	Sb	09 53 51.2	-1.8
	baz=260						
ENA	Nanau	0.43	262	P	Pg	09 53 46.7	+0.1
	baz=258						
ENA				S	Sb	09 53 54.5	-0.4
	baz=258						
EGS		0.44	325	P	Pb	09 53 48.2	-0.1
	baz=331						
EGS				S	Sb	09 53 54.3	-0.8
	baz=331						
ILA	Ilan	0.50	304	eP	Pb	09 53 48.5	-0.9
	baz=306						
ILA				eS	Sb	09 53 55.4	-1.6
	baz=306						
NTC	Toucheng	0.50	317	eP	Pb	09 53 49.3	-0.1
	baz=320						
NTC				eS	Sb	09 53 56.9	-0.2
	baz=320						
TWE	Neicheng	0.54	296	i P	Pg	09 53 49.1	+0.3
	baz=297						
TWE				S	Sg	09 53 56.3	+0.4
	baz=297						
TWB1	Santiao Chiao	0.56	339	P	Pg	09 53 49.2	+0.2
	baz=345						
TWB1				S	Sb	09 53 57.6	-1.0
	baz=345						
TIPB	Shuangxi	0.59	324	P	Pb	09 53 50.6	-0.5
	baz=328						
TIPB				S	Sb	09 53 58.5	-1.3
	baz=328						
ENTT	Nioudou	0.60	285	P	Pb	09 53 50.3	-0.9
	baz=284						
ENTT				S	Sb	09 54 00.1	+0.2
	baz=284						
NACB	Ninganchiao	0.64	241	P	Pg	09 53 51.0	+0.4
	baz=236						
NACB				S	Sb	09 54 00.2	-0.8
	baz=236						
NDT	Datong Townshi	0.64	281	i P	Pb	09 53 51.0	-0.9
	baz=279						
NDT				S	Sb	09 54 00.7	-0.4
	baz=279						
JYNG	Yonagunijimaku	0.67	93	P	Pg	09 53 51.0	-0.3
JYNG				eS	Sb	09 54 02.1	+0.1
TWD	Chiawan	0.69	234	P	Pb	09 53 52.5	-0.1
	baz=229						
TWD				S	Sb	09 54 02.2	-0.1
	baz=229						
NWF	Wu-fen Shan	0.70	326	i P	Pb	09 53 53.3	+0.4
	baz=329						
NWF				S	Sb	09 54 02.9	+0.1
	baz=329						
WFSB	Wu-fen Shan	0.70	326	P	Pb	09 53 53.3	+0.4
	baz=329						
WFSB				S	Sb	09 54 02.7	0.0
	baz=329						
NWLT	Wulai	0.70	294	eP	Pb	09 53 52.5	-0.5
	baz=295						
NWLT				eS	Sb	09 54 01.6	-1.3
	baz=295						
ETLH	Xiulin Townshi	0.72	247	P	Pb	09 53 52.4	-0.8
	baz=243						
ETLH				S	Sb	09 54 03.4	+0.1
	baz=243						
YOJ	Yonaguni jima	0.73	92	P	Pg	09 53 52.0	-0.4
YOJ				eS	Sg	09 54 02.5	+0.5
TWA	Mucha	0.75	311	eP	Pb	09 53 53.3	-0.5
	baz=313						
TWA				S	Sb	09 54 04.2	0.0
	baz=313						
NNSB	Datong	0.75	266	P	Pb	09 53 53.1	-0.7
	baz=263						
NNSB				S	Sg	09 54 03.0	+0.3
	baz=263						
NNSH	Datong	0.75	266	eP	Pb	09 53 53.2	-0.7
	baz=263						
NNSH				eS	Sb	09 54 04.6	+0.3
	baz=263						
NNS	Nan Shan	0.76	267	i P	Pb	09 53 53.4	-0.6
	baz=264						
NNS				S	Sb	09 54 04.3	-0.3
	baz=264						
YHNB	Yeheng	0.78	284	P	Pb	09 53 53.6	-0.7
	baz=283						
YHNB				S	Sb	09 54 04.5	-0.6
	baz=283						
NHDH	Xindian Distri	0.78	308	P	Pb	09 53 53.8	-0.4
	baz=309						
NHDH				eS	Sb	09 54 04.9	-0.1
	baz=309						
NSK	Sanguang	0.80	284	eP	Pb	09 53 53.8	-0.7
	baz=283						
NSK				S	Sb	09 54 05.3	-0.2
	baz=283						
YM01	YM01	0.88	319	eP	Pb	09 53 55.6	-0.3
	baz=320						
YM01				S	Sb	09 54 07.5	-0.4
	baz=320						
YM11	YM11	0.89	320	eP	Pb	09 53 55.9	-0.2
	baz=322						
YM11				eS	Sb	09 54 08.8	+0.5
	baz=322						
YM05	YM05	0.89	319	eP	Pb	09 53 56.0	-0.2
	baz=321						
YM05				eS	Sb	09 54 09.0	+0.7
	baz=321						
YM08	YM08	0.90	321	eS	Sb	09 54 08.3	-0.1
	baz=323						
YM04	YM04	0.90	318	P	Pb	09 53 55.8	-0.5
	baz=319						
YM04				S	Sb	09 54 08.7	+0.2
	baz=319						
FUSS	Fushou	0.91	255	eP	Pb	09 53 56.0	-0.6
	baz=252						
FUSS				eS	Sb	09 54 08.6	-0.4
	baz=252						
WHF	Hehuan Shan	0.92	249	i P	Pb	09 53 56.3	-0.6
	baz=245						
WHF				i S	Sb	09 54 09.3	-0.3
	baz=245						
WLTB	Daxi	0.94	293	P	Pb	09 53 56.8	-0.1
	baz=293						
WLTB				S	Sb	09 54 09.7	0.0
	baz=293						
TWS1	Kuangyinshan	0.94	311	eP	Pb	09 53 56.5	-0.5
	baz=312						
TWS1				S	Sb	09 54 09.5	-0.2
	baz=312						
TWY	Chenhua	0.96	325	eP	Pg	09 53 56.7	-0.1
	baz=327						
TWY				S	Sb	09 54 10.4	+0.2
	baz=327						
TDCB	Techi	0.98	257	eP	Pb	09 53 57.6	-0.2
	baz=254						
TDCB				eS	Sb	09 54 11.2	+0.2
	baz=254						
CHGB	Renai	1.03	246	P	Pb	09 53 58.5	-0.2
	baz=243						
CHGB				eS	Sn	09 54 13.6	-0.7
	baz=243						
LIOB	Emei	1.10	279	eP	Pg	09 53 58.8	-0.6
	baz=277						
LIOB				eS	Sb	09 54 14.7	+0.5
	baz=277						
NSTT	Nanjuang	1.11	278	P	Pb	09 53 60.0	+0.2
	baz=276						
NSTT				S	Sb	09 54 14.4	0.0
	baz=276						
WHP	Taichung City	1.17	260	eP	Pb	09 54 00.7	-0.2
	baz=258						
WHP				eS	Sb	09 54 16.1	-0.2
	baz=258						
VWDT	VWDT	1.22	233	P	Pn	09 54 02.6	+0.9
	baz=230						
VWDT				S	Sn	09 54 19.0	+0.6
	baz=230						
DPDB	Guoxing	1.25	249	eP	Pn	09 54 02.9	+0.6
	baz=247						
SMLT	Sun Moon Lake	1.34	244	eP	Pg	09 54 03.2	-0.7
	baz=241						
SMLT				eS	Sb	09 54 21.4	+0.3
	baz=241						
SSLB	Suanglung	1.34	239	P	Pb	09 54 03.9	+0.1
	baz=236						
SSLB				eS	Sn	09 54 22.6	+1.1
	baz=236						
TYC	Yuchr	1.36	245	eP	Pb	09 54 04.7	+0.6
	baz=242						
TYC				eS	Sb	09 54 21.9	+0.1
	baz=242						
IRIF	Iriomote-Funau	1.40	96	P	Pn	09 54 04.3	+0.1
IRIF				eS	Sg	09 54 22.6	-0.7
CHN5	Tsauling	1.65	238	eP	Pn	09 54 07.5	-0.3
	baz=236						
CHN5				eS	Sb	09 54 30.4	+0.1
	baz=236						
JKRS	Kuro-shima	1.66	98	P	Pn	09 54 09.0	+1.1
JKRS				eS	Sn	09 54 30.9	+1.4
JIJ	Ishigaki jima	1.77	94	P	Pn	09 54 08.5	-0.9
JIJ				eS	Sn	09 54 31.7	-0.4

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*IDC **02** 10:14:02.3±2.8, 7°.33N×135°.92E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/35, mbtmp3.8/6, MS3.2/9, Ms1 3.2/9, ms1mx2.9/46, Error ellipse: s-maj=137.7km s-min=19.3km az=80.0*
ISC 02 10:14:06.9±3.3**, 7°.3N**±0°.2×**13°6E**±°**, h35km, n20, σ0s.35**/6**, mb3.9**/6**, MS3.1**/6**, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	10.81	155	LR	LR	10 19 45.2	
	comp=Z,140nm,21.6s,baz=344,slow=32						
KRVT	Keravat (AS076	19.65	126	LR	LR	10 24 19.3	
	comp=Z,69nm,19.4s,baz=85,slow=31						
PMG	Port Moresby	19.95	146	LR	LR	10 25 19.2	
	comp=Z,54nm,21.5s,baz=130,slow=34						
JHJ	Hachijo jima 2	25.88	7	LR	LR	10 27 51.1	
	comp=Z,38nm,19.3s,baz=314,slow=32						
JNU	Nakatsue	26.11	350	LR	LR	10 28 06.1	
	comp=Z,28nm,21.1s,baz=188,slow=32						
WRA	Warramunga Arr	27.16	184	P	P	10 19 47.7	+0.4
	2.0nm,1.1s,baz=0.1,slow=10,SNR=6.2						
FITZ	Fitzroy Crossi	27.30	202	P	P	10 19 48.4	-0.1
	1.3nm,0.8s,baz=39,slow=13,SNR=2.1						
HNR	Honiara	29.01	125	LR	LR	10 30 05.6	
	comp=Z,50nm,18.0s,baz=270,slow=33						
KSRS	Korea Array	30.89	347	LR	LR	10 32 13.8	
	comp=Z,22nm,19.3s,baz=184,slow=35						
ASAR	Alice Springs	30.89	184	P	P	10 20 20.2	-0.1
	0.3nm,0.6s,baz=17,slow=12,SNR=6.7						
ASAR				LR	LR	10 32 26.2	
	comp=Z,55nm,18.4s,baz=57,slow=36						
H11S3	WAKE ISLAND Hy	31.75	67	T	T	10 53 04.6	
	baz=254,slow=75,SNR=27						
H11S1	WAKE ISLAND Hy	31.76	67	T	T	10 53 06.1	
	baz=254,slow=75,SNR=15						
H11S2	WAKE ISLAND Hy	31.76	67	T	T	10 53 04.9	
	baz=254,slow=75,SNR=33						
H11N1	WAKE ISLAND Hy	32.29	65	T	T	10 53 47.8	
	baz=262						
H11N2	WAKE ISLAND Hy	32.30	64	T	T	10 53 51.5	
	baz=262						
H11N3	WAKE ISLAND Hy	32.31	65	T	T	10 53 48.5	
	baz=262						
STKA	Stephens Creek	39.34	173	LR	LR	10 37 46.5	
	comp=Z,65nm,18.3s,baz=206,slow=36						
SONM	Songino Array	47.61	333	P	P	10 22 39.8	+0.2
	1.6nm,0.6s,baz=146,slow=7.4,SNR=9.6						
MKAR	Makanchi Array	60.36	320	P	P	10 24 12.7	+0.1
	1.8nm,0.8s,baz=101,slow=8.5,SNR=16						
ZALV	Zalesovo Beam	62.03	329	P	P	10 24 23.4	-0.3
	0.5nm,0.3s,baz=134,slow=12,SNR=2.3						

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*MDD **02** 10:16:27.3±0.7, 37°.00N×3°.17E, h0km, mb3.5/2, Error ellipse: s-maj=8.9km s-min=6.7km az=71.0, PRXIMO SIN SOLUCIN*
*CRAAG **02** 10:16:27.9, 36°.82N×3°.20E, Ml2.5*
ISC 02 10:16:25.4±1.1**, 37°.18N**±0°.05×**3°.17E**±0°.09**, h12km, n8, σ1s.99**/10**, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	Alger-Bouzarea	0.39	196	P	Pg	10 16 31.3	-2.0
ABA	Alger-Bouzarea	0.39	196	P	Pg	10 16 31.3	-2.0
ABMS	Boumerdes	0.50	150	P	Pg	10 16 33.7	-1.5
ABMS	Boumerdes	0.50	150	P	Pg	10 16 33.7	-1.5
ADJB	Djebel Djouab	1.04	168	P	Pn	10 16 48.1	+2.1
ADJB	Djebel Djouab	1.04	168	P	Pn	10 16 48.1	+2.1
EIBI	Ibiza	2.34	323	P	Pg	10 17 08.9	-1.4
	0.8nm,0.1s,SNR=7.9						
EIBI				S	Sb	10 17 38.2	+1.8
	0.9nm,0.2s,SNR=7.9						
ETOS	Mallorca	2.60	354	P	Pb	10 17 11.7	-0.3
	1.6nm,0.2s,SNR=7.9						
ETOS				S	Sb	10 17 42.7	-1.2
	0.4nm,0.2s,SNR=7.9						

IDC 02 10:29:39.3±3.6**, 7°.02S×156°.35E, h0km, mb3.7**/4**, mb1 3.9**/5**, mb1mx3.6**/32**, mbtmp3.8**/5**, ML3.7**/1**, Error ellipse: s-maj=77.4km s-min=37.5km az=100.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	5.08	302	Pn	Pn	10 30 57.5	+0.8
	2.8nm,0.3s,baz=172,slow=17,SNR=1.9						
KRVT				Sn	Sn	10 31 56.0	-0.2
	3.8nm,0.3s,baz=37,slow=14,SNR=1.3						
WRA	Warramunga Arr	24.92	237	P	P	10 35 04.6	+0.2
	0.3nm,0.7s,baz=61,slow=9.6,SNR=7.7						
ASAR	Alice Springs	27.18	230	P	P	10 35 24.6	-0.2
	0.2nm,0.3s,baz=60,slow=9.7,SNR=6.6						
H11S3	WAKE ISLAND Hy	27.32	22	T	T	11 03 48.6	
	baz=202,slow=76,SNR=51						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
H11S2	WAKE ISLAND Hy	27.33	22	T	T	11 03 48.6	
	baz=202,slow=76,SNR=43						
H11S1	WAKE ISLAND Hy	27.34	22	T	T	11 03 48.7	
	baz=202,slow=76,SNR=23						
H11N1	WAKE ISLAND Hy	28.52	21	T	T	11 05 24.1	
	baz=216,slow=74,SNR=7.1						
H11N3	WAKE ISLAND Hy	28.53	21	T	T	11 05 22.8	
	baz=296,slow=74,SNR=7.0						
H11N2	WAKE ISLAND Hy	28.54	21	T	T	11 05 25.6	
FITZ	Fitzroy Crossi	31.88	247	P	P	10 36 06.2	-0.4
	1.8nm,0.6s,baz=90,slow=7.7,SNR=2.3						
MKAR	Makanchi Array	84.31	318	P	P	10 42 13.4	0.0
	0.7nm,0.6s,baz=101,slow=6.1,SNR=6.4						

*MOS **02** 10:33:24.4±0.9, 9.°08S×67.°30E, h10km, mb5.0/50, MS4.5/12, Error ellipse: s-maj=7.6km s-min=5.6km az=79.3*

*IDC **02** 10:33:24.4±0.4, 9.°12S×67.°28E, h0km, mb4.5/31, mb1 4.6/31, mb1mx4.5/47, mbtmp4.5/31, MS4.7/26, Ms1 4.7/26, ms1mx4.5/42, Error ellipse: s-maj=13.4km s-min=10.9km az=167.0*

*BJI **02** 10:33:26.5±0.0, 9.°10S×67.°20E, h10km, mB5.2/39, mb4.9/53, Ms5.1/35, Ms7 4.8/33*

*NEIC **02** 10:33:26.9, 9.°20S×67.°24E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.02; $M_{\theta\theta}$-2.32; $M_{\phi\phi}$2.30; $M_{r\theta}$-0.26; $M_{\theta\phi}$0.57; $M_{\phi r}$-0.26; Fault plane solution: $M_0$2.41000×10^{17} NP1:ϕ_s141.87000°, δ81.23000°, λ178.93000°. NP2:ϕ_s232.03000°, δ88.94000°, λ8.77000°. Principal axes: T 2.4066, Plg7.0000°, Azm97.0000°; N 0.0033, Plg81.0000°, Azm239.0000°; P -2.4098, Plg5.0000°, Azm7.0000°;*

*NEIC **02** 10:33:26.4±1.8, 9.°14S±0.°10×67.°34E±0.°07, h10km±1km, mb5.0/88, Ms_20 5.1/620, Mwb5.5/38, Mwc5.6(GCMT) Error ellipse: s-maj=16.1km s-min=11.7km az=171.0*

*BGR **02** 10:33:26.9±0.0, 9.°55S×66.°10E, h10km, mb4.8, Ms4.5*

*NEIC **02** 10:33:30, 9.°13S×67.°10E, h18km, Moment Tensor Solution. Moment tensor: M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Fault plane solution: $M_0$0.00000×10^{0} NP1:ϕ_s50.00000°, δ76.00000°, λ-6.00000°. NP2:ϕ_s142.00000°, δ84.00000°, λ-166.00000°. Principal axes: T 0.0000, Plg90.0000°, Azm0.0000°; N 0.0000, Plg0.0000°, Azm0.0000°; P 0.0000, Plg0.0000°, Azm90.0000°;*

*GCMT **02** 10:33:30.4±0.1, 9.°10S±0.°01×67.°10E±0.°01, h18km, MW5.6/163, Moment Tensor Solution. s112,c184; s163,c304; Duration: 1.s5 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.14±.03; $M_{\theta\theta}$-2.48±.03; $M_{\phi\phi}$2.62±.03; $M_{r\theta}$-0.77±.09; $M_{\theta\phi}$0.53±.03; $M_{\phi r}$0.26±.07; Best double couple: $M_0$2.72900×10^{17} NP1:ϕ_s50.00000°, δ75.00000°, λ-9.00000°. NP2:ϕ_s142.00000°, δ81.00000°, λ-165.00000°. Principal axes: T 2.6870, Plg4.0000°, Azm275.0000°; N 0.0870, Plg73.0000°, Azm173.0000°; P -2.7710, Plg17.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 10:33:26.0±0.3, **9.°20S**±0.°05×**67.°26E**±0.°04, **h10**km, **n695**, σ**1.s31**/454, **mb4.8**/134, **MS5.1**/375, **25C-8D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	5.38	74	Pn	Pn	10 34 43.6	-2.5
	baz=275,slow=16,SNR=4488						
H08S1				Sn	Sn	10 35 44.9	-3.1
	baz=164,slow=78,SNR=3.2						
H08S1				T	T	10 40 26.1	
	SNR=14						
H08S3	Diego Garcia H	5.39	74	Pn	Pn	10 34 43.7	-2.6
	baz=275,slow=16,SNR=3494						
H08S3				Sn	Sn	10 35 45.1	-3.3
	baz=164,slow=78,SNR=3.0						
H08S3				T	T	10 40 37.1	
	SNR=14						
H08S2	Diego Garcia H	5.40	74	Pn	Pn	10 34 43.8	-2.5
	baz=275,slow=16,SNR=8059						
H08S2				Sn	Sn	10 35 45.2	-3.3
	baz=164,slow=78,SNR=3.9						
H08S2				T	T	10 40 34.3	
	SNR=14						
DGAR	Diego Garcia	5.43	71	i P	Pn	10 34 46.3	-0.8
DGAR	Diego Garcia	5.43	71	Pn	Pn	10 34 44.9	-2.2
DGAR				Sn	Sn	10 35 48.2	-1.5
MSEY	Mahe Island	12.53	290	P	Pn	10 36 23.8	-0.7
MSEY	Mahe Island	12.53	290		Pn	10 36 23.8	-0.7
PALK	Pallekele	21.14	40	P	P	10 38 12.3	+1.0
	34nm,1.0s,baz=316,slow=11,SNR=7.6						
PALK				LR	LR	10 44 24.7	
	comp=Z,2µm,19.5s,baz=323,slow=31						
PALK	Pallekele	21.14	40	deP	P	10 38 13.0	+1.6
PALK				pmax	pmax		
	comp=Z,53nm,1.0s						
PALK	Pallekele	21.14	40	P	P	10 38 11.5	+0.2
OPO	Ambohidratompo	21.58	242	P	P	10 38 17.5	+1.3
	comp=Z,31nm,1.1s,baz=56,slow=12,SNR=16						
ABPO	Ambohimpanom	21.72	241	P	P	10 38 19.3	+1.6
ABPO				pmax	pmax		
	comp=Z,241nm,1.3s						
ABPO	Ambohimpanom	21.72	241	P	P	10 38 19.3	+1.6
HYB	Hyderabad	28.70	23	i P	P	10 39 10.0	-14
KMBO	Kilima Mbogo	30.92	283	P	P	10 39 45.9	+2.3
	comp=Z,8.1nm,0.9s,baz=97,slow=9.2,SNR=18						
KMBO				LR	LR	10 50 29.8	
	comp=Z,1µm,18.1s,baz=98,slow=33						
GSI	Gunungsitoli	31.95	72	P	P	10 39 51.7	-0.7
FURI	Furi	33.67	301	P	P	10 40 08.8	+1.1
RPSI	Rantau Prapat	33.69	71	P	P	10 40 06.4	-1.2
RPSI				IAmb	IAmb	10 40 15.0	
	comp=Z,18nm,0.9s						
RPSI				IAMs_20	IAMs_20	10 51 46.7	
	comp=Z,3µm,19.0s						
PSI	Prapat	33.73	71	P	P	10 40 06.4	-1.7
PSI				pmax	pmax		
	comp=Z,18nm,0.9s						
BKNI	Bangkinang	34.94	76	P	P	10 40 17.1	-1.3
SDSI	Sungai Dareh	34.98	78	P	P	10 40 22.2	+3.5
UOSS	Minazif	35.61	343	P	P	10 40 24.1	+0.1
UOSS				IAmb	IAmb	10 40 42.3	
	comp=Z,55nm,1.6s						
KULM	Kulim	36.26	68	P	P	10 40 29.8	0.0
KULM				IAmb	IAmb	10 40 32.2	
	comp=Z,28nm,0.8s						
IPM	Ipoh	36.29	69	P	P	10 40 29.1	-0.9
LHSI	Lahat	36.40	84	P	P	10 40 33.3	+2.3
	comp=Z,4µmcomp=Z,31nm,1.0s						
MDSI	Maura Dua	36.93	85	P	P	10 40 38.2	+2.7
	comp=Z,16nm,0.9s						
MYKOM	Kota Tinggi	38.05	75	P	P	10 40 43.7	-1.3
MYKOM				IAmb	IAmb	10 40 47.9	
	comp=Z,37nm,0.9s						
LSZ	Lusaka	38.62	257	P	P	10 40 50.1	+0.1
	comp=Z,43nm,0.8s,baz=84,slow=7.2,SNR=74						
LSZ	Lusaka	38.62	257	P	P	10 40 50.4	+0.5
LSZ				pmax	pmax		
	comp=Z,69nm,1.0s						
LSZ	Lusaka	38.62	257	P	P	10 40 50.4	+0.5
LSZ	Lusaka	38.62	257	IAMs_20	IAMs_20	10 53 49.3	
	comp=Z,3µm,22.0s						
MATP	Matopo	39.00	249	P	P	10 40 52.9	-0.2
	comp=Z,7.7nm,0.8s,baz=82,slow=9.5,SNR=18						
LEM	Lembang	40.02	90	P	P	10 41 05.0	+3.3
	comp=Z,44nm,1.0s						
CM31	Chiang Mai Arr	41.62	49	P	P	10 41 15.5	+0.8
CMAR	Chiang Mai Arr	41.62	49	P	P	10 41 14.9	+0.3
	comp=Z,10nm,0.7s,baz=243,slow=9.5,SNR=46						
CMAR				LR	LR	10 57 46.9	
	comp=Z,491nm,18.1s,baz=278,slow=35						
CMAR	Chiang Mai Arr	41.62	49	P	P	10 41 15.0	+0.3
CHTO	Chiang Mai	41.84	48	P	P	10 41 17.1	+0.7
CHTO				pmax	pmax		
	comp=Z,17nm,0.9s						
CHTO				MLR	MLR		
	comp=Z,600nm,18.0s						
CHTO	Chiang Mai	41.84	48	P	P	10 41 17.1	+0.7
PBKT	Sadao Pong	42.04	53	P	P	10 41 17.4	-0.7
PBKT				IAmb	IAmb	10 41 21.0	
	comp=Z,21nm,0.9s						
SHL	Shillong	42.05	34	P	P	10 41 19.0	+0.8
SHL				pmax	pmax		
	comp=Z,19nm,0.5s						
SHL	Shillong	42.05	34	P	P	10 41 19.0	+0.8
SHL				IAmb	IAmb	10 41 21.3	
	comp=Z,19nm,0.5s						
LBTB	Lobatse	42.61	243	P	P	10 41 23.1	+0.2
	comp=Z,13nm,1.0s,baz=108,slow=5.4,SNR=11						
LBTB	Lobatse	42.61	243	P	P	10 41 23.3	+0.4
LBTB				pmax	pmax		
	comp=Z,26nm,1.0s						
LBTB	Lobatse	42.61	243	P	P	10 41 23.3	+0.4
LBTB				IAmb	IAmb	10 41 35.7	
	comp=Z,26nm,1.0s						
NIL	Nilore	42.99	7	P	P	10 41 25.8	+0.3
NIL				pmax	pmax		
	comp=Z,14nm,1.0s						
NIL	Nilore	42.99	7	P	P	10 41 25.8	+0.3
KBL	Kabul	43.53	2	P	P	10 41 29.3	-0.8
KBL				pmax	pmax		
	comp=Z,13nm,1.3s						
KBL	Kabul	43.53	2	P	P	10 41 29.3	-0.8
HRA	Herat	43.60	354		P	10 41 28.7	-2.0
NGJI	Ngawi	43.76	91	P	P	10 41 35.0	+2.9
BOSA	Boshof	43.89	238	P	P	10 41 33.1	-0.1
	comp=Z,11nm,0.9s,baz=57,slow=7.0,SNR=12						
BOSA				LR	LR	10 57 39.0	
	comp=Z,758nm,20.1s,baz=79,slow=33						
BOSA	Boshof	43.89	238	P	P	10 41 33.6	+0.4
BOSA				pmax	pmax		
	comp=Z,23nm,1.1s						
BOSA	Boshof	43.89	238	P	P	10 41 33.6	+0.4
BOSA				IAmb	IAmb	10 41 45.1	
	comp=Z,23nm,1.1s						
KSM	Kuching	44.17	78	P	P	10 41 36.1	+0.7
KSM				IAmb	IAmb	10 41 38.1	
	comp=Z,17nm,0.9s						
LSA	Lhasa	44.99	30	P	P	10 41 44.5	+2.2
LSA				pmax	pmax		
	comp=Z,36nm,0.6s						
LSA	Lhasa	44.99	30	P	P	10 41 42.6	+0.3
LSA				pmax	pmax		
	comp=Z,19nm,1.2s						
LSA	Lhasa	44.99	30	P	P	10 41 42.6	+0.3
LSA				IAmb	IAmb	10 41 57.2	
	comp=Z,19nm,1.2s						
SBUM	Sibu	46.27	78	P	P	10 41 52.5	+0.4
JAGI	Jajag, Banyuwa	46.31	93	P	P	10 41 54.2	+1.7
	comp=Z,77nm,0.8s						
JAGI	Jajag, Banyuwa	46.31	93	P	P	10 41 52.8	+0.3
SLVN	Son La	47.07	49	P	P	10 41 57.9	-0.4
SLVN				IAmb	IAmb	10 42 00.9	
	comp=Z,11nm,0.9s						
CHGR	Chuyangaron	47.64	2	P	P	10 42 02.5	0.0
CHGR				IAMs_20	IAMs_20	11 01 07.3	
	comp=Z,2µm,19.0s						
GEYT	Alibeck	47.65	350	P	P	10 42 02.6	+0.1
	comp=Z,1.7nm,0.7s,baz=13,slow=20,SNR=2.2						
GYA0B	ALIBECK ARRAY	47.65	350	P	P	10 42 02.3	-0.2
GYA0B				IAmb	IAmb	10 42 21.7	
	comp=Z,12nm,1.2s						
GAR	Garm	48.03	3	P	P	10 42 06.0	+0.4
KMI	Kunming	48.56	45	⇑eP	P	10 42 11.8	+1.8
KMI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KMI				LR	LR		
	comp=Z,850nm,23.2s						
KMI				LR	LR		
	comp=Z,760nm,17.9s						
KMI				LR	LR		
	comp=Z,490nm,25.1s						
TWSI	Taliwang, Sumb	48.98	94	P	P	10 42 13.9	+0.7
	comp=Z,19nm,0.9s						
TSUM	Tsumeb	49.03	253	P	P	10 42 13.9	+0.2
TSUM				IAmb	IAmb	10 42 17.4	
	comp=Z,14nm,1.2s						
BTK	Batken	49.11	4	P	P	10 42 13.9	+0.1
BTK				pmax	pmax		
	comp=Z,31nm,1.3s						
BTK				MLR	MLR		
	comp=Z,700nm,18.0s						
BTK	Batken	49.11	4	P	P	10 42 13.9	+0.1
KSH	Kashi	49.13	9	P	P	10 42 11.5	-2.6
KSH				sP	pwP	10 42 21.9	-0.9
KSH				S	S	10 49 15.9	-3.6
KSH				pmax	pmax		
	comp=Z,30nm,1.1s						
KSH				pmax	pmax		
	comp=Z,210nm,3.8s						
KSH				LR	LR		
	comp=Z,2µm,18.5s						
KSH				LR	LR		
	comp=Z,2µm,13.3s						
KSH				LR	LR		
	comp=Z,6µm,29.5s						
H01W3	Cape Leeuwin H	49.81	128	T	T	11 35 59.0	
	baz=289,slow=75,SNR=664						
H01W2	Cape Leeuwin H	49.82	128	T	T	11 36 04.6	
	baz=289,slow=75,SNR=728						
H01W1	Cape Leeuwin H	49.83	128	T	T	11 35 59.8	
	baz=289,slow=75,SNR=573						
QIZ	Qiongzhong	50.48	56	P	P	10 42 24.8	+0.3
QIZ				PP	PP	10 44 20.2	-0.2
QIZ				S	S	10 49 40.7	+2.0
QIZ				pmax	pmax		
	comp=Z,130nm,3.5s						
QIZ				LR	LR		
	comp=Z,1µm,20.6s						
QIZ				LR	LR		
	comp=Z,540nm,17.8s						
QIZ				LR	LR		
	comp=Z,420nm,20.0s						
IUG	Iuzhnay	51.15	3	eP	P	10 42 29.3	0.0
	comp=Z,5.6nm,0.9s,baz=3.0						
IUG	Iuzhnay	51.15	3	eP	P	10 42 29.3	0.0
IUG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TARG	Taragay, Kyrgy	51.59	10	P	P	10 42 32.7	-0.2
NWAO	Narrogin (SRO)	51.69	125	P	P	10 42 34.4	+0.9
	comp=Z,4.8nm,0.7s,baz=269,slow=6.0,SNR=3.8						
NWAO	Narrogin (SRO)	51.69	125	P	P	10 42 33.5	0.0
NWAO				IAmb	IAmb	10 42 52.7	
	comp=Z,24nm,1.1s						
MBWA	Marble Bar	51.80	110	IAMs_20	IAMs_20	10 59 28.2	
	comp=Z,2µm,22.0s						
PSAD3	Pilbara Seismi	51.89	110	IAMs_20	IAMs_20	10 59 31.0	
	comp=Z,2µm,22.0s						
PSAD1	Pilbara Seismi	51.92	110	IAMs_20	IAMs_20	10 59 24.3	
	comp=Z,2µm,22.0s						
PSAB1	Pilbara Seismi	51.92	110	IAMs_20	IAMs_20	10 58 27.4	
	comp=Z,2µm,21.0s						
PSAA1	Pilbara Seismi	51.94	110	IAMs_20	IAMs_20	10 58 54.8	
	comp=Z,2µm,20.0s						
PSA00	Pilbara Seismi	51.94	110	P	P	10 42 35.9	+0.4
PSA00				IAmb	IAmb	10 42 47.2	
	comp=Z,32nm,1.6s						
PSAA2	Pilbara Seismi	51.94	110	IAMs_20	IAMs_20	10 58 56.0	
	comp=Z,2µm,21.0s						
PSAA3	Pilbara Seismi	51.95	110	IAMs_20	IAMs_20	10 59 21.7	
	comp=Z,2µm,21.0s						
PSAB2	Pilbara Seismi	51.96	110	IAMs_20	IAMs_20	10 58 57.3	
	comp=Z,2µm,22.0s						
DZA	Taraz	51.97	4	eP	P	10 42 34.8	-0.5
	baz=4.1						
DZA	Taraz	51.97	4	eP	P	10 42 34.8	-0.5
PSAC2	Pilbara Seismi	51.99	110	IAMs_20	IAMs_20	10 59 24.3	
	comp=Z,2µm,21.0s						
AAK	Ala-Archa	52.00	7	c iP	P	10 42 36.3	+0.6
AAK				pmax	pmax		
	comp=Z,11nm,1.3s						
AAK	Ala-Archa	52.00	7	P	P	10 42 36.4	+0.6
PSAD2	Pilbara Seismi	52.06	110	IAMs_20	IAMs_20	11 01 20.4	
	comp=Z,2µm,20.0s						
KK31	Karatay Array	52.13	3	P	P	10 42 36.9	+0.4
KK31				pmax	pmax		
	comp=Z,11nm,1.4s						
KK31	Karatay Array	52.13	3	P	P	10 42 36.9	+0.4
KKAR	Karatay Array	52.13	3	P	P	10 42 36.7	+0.2
KKAR				pmax	pmax		
	comp=Z,11nm,1.4s						
KKAR	Karatay Array	52.13	3	P	P	10 42 36.7	+0.2
GYA	Guiyang	52.15	46	⇑P	P	10 42 37.3	+0.2
GYA				S	S	10 50 03.0	+1.2
GYA				pmax	pmax		
	comp=Z,18nm,0.8s						
GYA				LR	LR		
	comp=Z,730nm,23.0s						
GYA				LR	LR		
	comp=Z,670nm,17.9s						
GYA				LR	LR		
	comp=Z,450nm,19.2s						
KAPI	Kappang	52.21	89	P	P	10 42 37.7	0.0
	comp=Z,6.7nm,0.6s,baz=280,slow=6.9,SNR=4.9						
KAPI	Kappang	52.21	89	P	P	10 42 37.6	0.0
KAPI				IAmb	IAmb	10 42 38.5	
	comp=Z,14nm,0.9s						
SGDS	Sogindy	52.82	7	eP	P	10 42 41.1	-0.6
	comp=Z,2.6nm,0.6s,baz=7.0						
SGDS	Sogindy	52.82	7	eP	P	10 42 41.1	-0.6
SGDS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SATY	Saty	52.99	10	eP	P	10 42 42.8	-0.3
	comp=Z,3.9nm,0.8s,baz=10						
SATY				LR	LR	11 04 25.1	
	comp=Z,215nm,16.3s,baz=10						
SATY	Saty	52.99	10	eP	P	10 42 42.7	-0.3
SATY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SATY				MLR	MLR		
	comp=Z,215nm,16.0s						
SATY	Saty	52.99	10	eP	P	10 42 42.7	-0.3
SATY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SATY				MLR	MLR		
	comp=Z,215nm,16.0s						
MYLDM	Lahad Datu	53.03	76	P	P	10 42 44.0	+0.3
MYLDM				IAmb	IAmb	10 42 56.4	
	comp=Z,16nm,1.0s						
CD2	Chengdu	53.06	40	P	P	10 42 44.4	+0.8
CD2				S	S	10 50 16.9	+3.0
CD2				pmax	pmax		
	comp=Z,60nm,0.8s						
CD2				pmax	pmax		
	comp=Z,160nm,5.3s						
CD2				LR	LR		
	comp=Z,1µm,22.4s						
CD2				LR	LR		
	comp=Z,1µm,16.7s						
CD2				LR	LR		
	comp=Z,1µm,19.5s						
UZB	Uzynbulak	53.18	11	eP	P	10 42 43.9	-0.6
	baz=11						
UZB				LR	LR	11 05 46.0	
	comp=Z,77nm,10.6s,baz=11						
UZB	Uzynbulak	53.18	11	eP	P	10 42 43.8	-0.6
UZB				MLR	MLR		
	comp=Z,77nm,11.0s						
MPSI	Mapaga	53.25	83	P	P	10 42 47.2	+1.9
SHLS	Shalkode	53.27	11	eP	P	10 42 45.9	+0.7
	comp=Z,2.5nm,0.8s,baz=12						
SHLS	Shalkode	53.27	11	eP	P	10 42 45.8	+0.7
SHLS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KUU	Kurty	53.48	8	LR	LR	11 05 53.7	
	comp=Z,163nm,11.2s,baz=8.5						
CHKK	Chushkaly	53.53	9	eP	P	10 42 46.1	-0.7
	baz=9.1						
CHKK	Chushkaly	53.53	9	eP	P	10 42 46.1	-0.7
GAZ	Gaziantep	54.05	330	P	P	10 42 51.4	+0.6
GAZ				IAmb	IAmb	10 43 10.2	
	comp=Z,8.0nm,0.7s						
GAZ				IAMs_20	IAMs_20	11 05 21.2	
	comp=Z,1µm,18.0s						
MMRI	Maumere	54.27	94	P	P	10 42 52.8	0.0
BTLS	Baital	54.33	6	eP	P	10 42 52.0	-0.7
	baz=6.2						
BTLS	Baital	54.33	6	eP	P	10 42 51.9	-0.7
MAK	Makhachkala	54.95	342	eP	P	10 42 49.1	-8.0
MAK				e		10 44 55.2	
MAK				eSS	SS	10 54 17.8	-5.0
MAK				pmax	pmax		
	comp=Z,233nm,1.2s						
MAK				MLR	MLR		
	comp=Z,270nm,14.0s						
GROC	Groznyy	55.70	341	eP	P	10 43 03.6	+1.1
GROC				e		10 44 00.7	
GROC				pmax	pmax		
	comp=Z,28nm,0.4s						
LUWI	Luwuk	55.81	85	P	P	10 43 03.4	-0.6
WMQ	Urumqi	55.93	18	eP	P	10 43 07.4	+3.1
WMQ				S	S	10 50 52.4	+0.1
WMQ				sS	sS	10 50 59.7	+4.4
WMQ				ScS	ScS	10 52 52.6	-1.2
WMQ				SS	SS	10 54 38.0	-0.6
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,77nm,3.7s						
WMQ				LR	LR		
	comp=Z,790nm,19.5s						
WMQ				LR	LR		
	comp=Z,940nm,20.9s						
WMQ				LR	LR		
	comp=Z,1µm,22.1s						
WMQ	Urumqi	55.93	18	P	P	10 43 04.0	-0.3
WMQ				pmax	pmax		
	comp=Z,21nm,1.1s						
WMQ	Urumqi	55.93	18	P	P	10 43 04.0	-0.3
WMQ				IAmb	IAmb	10 43 21.9	
	comp=Z,21nm,1.1s						
ZEI	Tsey	55.96	339	eP	P	10 43 08.3	+3.6
SOEI	Soe	56.17	96	P	P	10 43 07.9	+1.3
ENH	Enshi	56.44	44	P	P	10 43 08.1	-0.1
ENH				IAmb	IAmb	10 43 26.7	
	comp=Z,32nm,1.4s						
LZH	Lanzhou	56.70	35	eP	P	10 43 12.1	+2.1
LZH				pP	pwP	10 43 16.6	+1.3
LZH				S	S	10 51 04.5	+1.6
LZH				sS	sS	10 51 14.2	+8.7
LZH				SS	SS	10 54 55.7	+4.7
LZH				pmax	pmax		
	comp=Z,26nm,1.3s						
LZH				pmax	pmax		
	comp=Z,260nm,6.0s						
LZH				LR	LR		
	comp=Z,740nm,15.2s						
LZH				LR	LR		
	comp=Z,700nm,15.6s						
LZH				LR	LR		
	comp=Z,800nm,18.0s						
TOKA	Tokat	56.90	332	P	P	10 43 12.1	+0.9
GTA	Gaotai	57.02	30	P	P	10 43 12.5	+0.2
GTA				pP	sP	10 43 16.4	+2.3
GTA				sP	pwP	10 43 19.6	-1.6
GTA				PP	PP	10 45 25.3	+6.2
GTA				S	S	10 51 07.4	+0.4
GTA				sS	sS	10 51 15.6	+5.9
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,96nm,5.2s						
GTA				LR	LR		
	comp=Z,650nm,20.9s						
GTA				LR	LR		
	comp=Z,710nm,20.0s						
GTA				LR	LR		
	comp=Z,830nm,22.2s						
KBZ	Khabaz	57.14	339	P	P	10 43 12.6	-0.2
	comp=Z,4.8nm,0.9s,baz=156,slow=7.0,SNR=5.1						
KBZ	Khabaz	57.14	339	⇑eP	P	10 43 12.0	-0.8
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FITZ	Fitzroy Crossi	57.22	106	P	P	10 43 14.4	+0.5
	comp=Z,5.8nm,0.8s,baz=232,slow=6.7,SNR=15						
FITZ	Fitzroy Crossi	57.22	106	P	P	10 43 14.0	+0.1
MAKZ	Makanchi	57.28	12	P	P	10 43 13.4	-0.4
MAKZ				pmax	pmax		
	comp=Z,13nm,1.2s						
MAKZ				MLR	MLR		
	comp=Z,800nm,20.0s						
MAKZ	Makanchi	57.28	12	P	P	10 43 13.4	-0.4
MAKZ				IAmb	IAmb	10 43 23.6	
	comp=Z,13nm,1.2s						
MK31	Makanchi Array	57.33	12	P	P	10 43 13.8	-0.4
MK31				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MK31	Makanchi Array	57.33	12	P	P	10 43 13.8	-0.4
MKAR	Makanchi Array	57.33	12	P	P	10 43 13.0	-1.2
	comp=Z,2.1nm,0.6s,baz=202,slow=8.3,SNR=13						
MKAR				LR	LR	11 07 28.5	
	comp=Z,449nm,20.4s,baz=200,slow=36						
MKAR	Makanchi Array	57.33	12	P	P	10 43 13.0	-1.2
KIV	Kislovodsk	57.41	339	eP	P	10 43 12.7	-2.2
KIV				eS	S	10 51 10.7	-1.2

KIV pmax pmax
comp=Z,14nm,0.9s
KIV MLR MLR
comp=Z,689nm,17.0s
BRTR Keskin Array B 57.79 330 P **P** **10 43 17.8 +0.1**
comp=Z,2.9nm,0.9s,baz=139,slow=9.6,SNR=8.5
BRTR LR LR 11 07 41.5
comp=Z,833nm,18.5s,baz=123,slow=36
BR131 Keskin Array S 57.79 330 P **P** **10 43 18.0 +0.3**
BR131 pmax pmax
comp=Z,19nm,1.4s
BR131 Keskin Array S 57.79 330 P **P** **10 43 18.0 +0.3**
BR131 IAmb IAmb 10 43 35.0
comp=Z,19nm,1.4s
TGY Tagaytay City 58.06 67 LR LR 11 05 14.3
comp=Z,391nm,21.5s,baz=284,slow=33
XAN Xi'an 58.39 40 P **P** **10 43 21.5 -0.5**
XAN pP pwP 10 43 34.5 +7.3
XAN pmax pmax
comp=Z,22nm,0.9s
XAN pmax pmax
comp=Z,280nm,3.8s
XAN LR LR
comp=Z,770nm,15.7s
XAN LR LR
comp=Z,560nm,15.2s
XAN Xi'an 58.39 40 P **P** **10 43 21.4 -0.5**
XAN pmax pmax
comp=Z,14nm,0.8s
XAN Xi'an 58.39 40 P **P** **10 43 21.4 -0.5**
XAN IAmb IAmb 10 43 22.9
comp=Z,14nm,0.8s
MAW Mawson 58.41 182 P **P** **10 43 21.2 -0.1**
comp=Z,5.9nm,0.9s,baz=5.2,slow=7.7,SNR=8.6
MAW Mawson 58.41 182 P **P** **10 43 22.2 +0.8**
MAW pmax pmax
comp=Z,6.0nm,1.4s
MAW Mawson 58.41 182 P **P** **10 43 22.2 +0.8**
ZSN Zaisan 58.53 14 *eP* **P** **10 43 23.0 +0.4**
baz=14
ZSN Zaisan 58.53 14 *eP* **P** **10 43 22.9 +0.4**
BRZS Berezniki 59.12 4 *eP* **P** **10 43 26.4 -0.3**
comp=Z,2.9nm,0.7s,baz=4.3
BRZS Berezniki 59.12 4 *eP* **P** **10 43 26.3 -0.3**
BRZS pmax pmax
comp=Z,3.0nm,0.7s
IDI Anoyia 59.64 320 LR LR 11 08 10.9
comp=Z,273nm,21.8s,baz=85,slow=35
WHN Wuhan 60.02 47 P P 10 43 50.5 +17
WHN pP **PcP** **10 44 19.5 +0.3**
WHN S **S** **10 51 47.5 +1.4**
WHN pmax pmax
comp=Z,1μm,3.4s
WHN LR LR
comp=Z,2μm,17.5s
KNRA Kununurra 60.23 103 P **P** **10 43 36.0 +1.1**
KNRA IAmb IAmb 10 43 36.4
comp=Z,9.9nm,0.8s
FORT Forrest 60.30 120 IAMs_20 IAMs_20 11 05 00.4
comp=Z,2μm,19.0s
KURK Kurchatov 60.47 8⇑ *eP* **P** **10 43 35.5 -0.4**
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 60.47 8 P **P** **10 43 35.8 -0.1**
KURK IAmb IAmb 10 43 46.0
comp=Z,19nm,1.2s
TNTI Ternate 60.66 84 P **P** **10 43 38.7 +0.8**
DGZ Jazzator, Alta 61.25 15⇓ *eP* **P** **10 43 41.2 -0.2**
DGZ pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 62.06 2 *de***P** **P** **10 43 46.2 -0.4**
BRVK pmax pmax
comp=Z,7.0nm,1.3s
BRVK Borovoye 62.06 2 P **P** **10 43 46.5 -0.1**
BRVK IAmb IAmb 10 44 01.2
comp=Z,7.9nm,0.9s
SYO Syowa Base 62.41 191⇓ *eX* **P** **10 43 48.0 -0.7**
SYO Syowa Base 62.41 191⇑ *ep*P pP 10 43 54.0 +2.9
NJ2 Nanjing 64.08 48 *eP* **P** **10 44 01.9 +1.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
SIJI Sorong 64.21 87 LR LR 11 09 48.6
comp=Z,344nm,21.7s,baz=284,slow=34
HARR Harsova 64.31 330⇑P **P** **10 44 02.2 +0.5**
CFR Carcaliu 64.57 330⇑P **P** **10 44 04.2 +0.9**
ZAA0 Zalesovo Array 64.64 11 P **P** **10 44 03.5 -0.2**
ZALV Zalesovo Beam 64.64 11 P **P** **10 44 02.6 -1.0**
comp=Z,2.1nm,0.6s,baz=200,slow=6.7,SNR=7.0
ZALV LR LR 11 10 36.9
comp=Z,501nm,19.6s,baz=208,slow=35
ASAR Alice Springs 65.02 112 P **P** **10 44 06.9 0.0**
comp=Z,5.4nm,0.7s,baz=278,slow=6.3,SNR=56
ASAR LR LR 11 11 47.4
comp=Z,535nm,18.1s,baz=340,slow=35
AS31 Alice Springs 65.02 112 P **P** **10 44 07.2 +0.2**
FNA Florina 65.26 323 P **P** **10 44 08.4 +0.3**
FNA pmax pmax
comp=Z,15nm,1.3s
FNA Florina 65.26 323 P **P** **10 44 08.3 +0.3**
FNA IAmb IAmb 10 44 21.2
comp=Z,15nm,1.3s
VTS Vitosha 65.36 326⇑P **P** **10 44 09.1 +0.3**
WRA Warramunga Arr 65.44 108 P **P** **10 44 10.1 +0.4**
comp=Z,6.0nm,0.8s,baz=278,slow=5.7,SNR=41
WRA LR LR 11 08 56.6
comp=Z,2μm,21.9s,baz=75,slow=33
WRAB Tennant Creek 65.45 108 *c iP* **P** **10 44 10.5 +0.8**
WRAB pmax pmax
comp=Z,9.0nm,0.9s
WRAB Tennant Creek 65.45 108 P **P** **10 44 09.4 -0.3**
WB2 Warramunga Arr 65.45 108 P **P** **10 44 11.0 +1.3**
WB2 IAmb IAmb 10 44 11.3
comp=Z,12nm,0.8s
WB0 Warramunga Arr 65.50 108 P **P** **10 44 11.0 +1.0**
WR0 Warramunga Arr 65.63 108 P **P** **10 44 10.8 -0.1**
WR0 IAmb IAmb 10 44 27.3
comp=Z,10nm,1.1s
NEHR Nehoiu 65.65 330⇑P **P** **10 44 10.5 +0.1**
VRI Vrincioaia 65.75 330⇑P **P** **10 44 11.9 +0.9**
PLOR Plostina 65.78 330⇑P **P** **10 44 12.1 +0.8**
ARU Arti 65.78 355 *d iP* **P** **10 44 10.4 -0.6**
ARU 10 44 39.3
ARU S **S** **10 52 57.6 +0.2**
ARU pmax pmax
comp=Z,10.0nm,1.3s
ARU Arti 65.78 355 P **P** **10 44 11.1 +0.1**
MLR Muntele Rosu 65.87 329⇑P **P** **10 44 13.0 +1.0**
MLR Muntele Rosu 65.87 329 P **P** **10 44 13.3 +1.3**
MLR pmax pmax
comp=Z,29nm,1.3s
MLR Muntele Rosu 65.87 329 P **P** **10 44 13.3 +1.3**
TESR Tescani 66.25 331⇑P **P** **10 44 14.9 +0.7**
VOIR 66.29 329⇑P **P** **10 44 15.1 +0.5**
OZUR 66.38 330⇓P **P** **10 44 15.1 0.0**
DOPR Dopca 66.48 329⇑P **P** **10 44 15.9 +0.1**
TIR Tirane 66.50 323 P **P** **10 44 16.5 +0.5**
TIR pmax pmax
comp=Z,25nm,0.8s
TIR Tirane 66.50 323 P **P** **10 44 16.5 +0.5**
SONM Songino Array 66.50 28 P **P** **10 44 14.9 -1.1**
comp=Z,8.1nm,0.8s,baz=222,slow=3.5,SNR=30
SONM LR LR 11 12 48.8
comp=Z,964nm,21.7s,baz=219,slow=36
SORM Soroca 66.63 333⇑P **P** **10 44 16.3 -0.3**
BJT Baijiatuau 66.63 39 P **P** **10 44 15.7 -1.1**
BJT pmax pmax
comp=Z,11nm,0.7s
BJT Baijiatuau 66.63 39 P **P** **10 44 15.7 -1.1**
BJT IAmb IAmb 10 44 18.5
comp=Z,11nm,0.7s
BJI Beijing 66.64 39 P **P** **10 44 18.0 +1.1**
BJI S **S** **10 53 10.9 +2.4**
BJI SS **SS** **10 57 29.6 +3.3**
BJI pmax pmax
comp=Z,15nm,0.8s
BJI LR LR
comp=Z,370nm,22.1s
BIZ Bicaz 66.81 331⇑P **P** **10 44 18.2 +0.3**
ULN Ulaanbaatar 66.83 28⇑ *eP* **P** **10 44 19.3 +1.2**
ULN pmax pmax
comp=Z,5.0nm,1.3s
ULN Ulaanbaatar 66.83 28 P **P** **10 44 18.6 +0.4**
ZAK Zakamensk 67.09 24 *eP* **P** **10 44 20.6 +0.9**
ZAK pmax pmax
comp=Z,4.0nm,1.3s

PDG Podgorica 67.52 323⇑P **P** **10 44 22.7 +0.2**
BURAR Bucovina Array 67.72 331⇓P **P** **10 44 24.5 +0.8**
DIVS Divibare 68.13 325 P **P** **10 44 27.1 +0.8**
DIVS IAmb IAmb 10 44 42.1
comp=Z,12nm,1.0s
AKASG Malin Array Be 68.16 335 P **P** **10 44 26.2 0.0**
comp=Z,0.5nm,0.3s,baz=137,slow=5.4,SNR=5.3
BZS Buzias 68.20 327⇓P **P** **10 44 27.4 +0.8**
TLY Talaya 68.24 23 LR LR 11 13 19.3
comp=Z,534nm,20.4s,baz=212,slow=35
SIRR Siria 68.60 328⇑P **P** **10 44 30.5 +1.3**
TOC3 Torodi Ar. Sit 68.76 288 IAMs_20 IAMs_20 11 12 25.0
comp=Z,1μm,20.0s
TOC2 Torodi Ar. Sit 68.76 288 IAMs_20 IAMs_20 11 12 25.2
comp=Z,1μm,20.0s
TOB3 Torodi Ar. Sit 68.77 288 IAMs_20 IAMs_20 11 12 14.6
comp=Z,1μm,20.0s
TOC4 Torodi Ar. Sit 68.77 288 IAMs_20 IAMs_20 11 12 14.6
comp=Z,1μm,20.0s
TOA2 Torodi Ar. Sit 68.78 288 IAMs_20 IAMs_20 11 12 14.8
comp=Z,1μm,20.0s
TOA0 Torodi Ar. Sit 68.78 288 IAMs_20 IAMs_20 11 12 25.9
comp=Z,1μm,20.0s
TOA3 Torodi Ar. Sit 68.78 288 IAMs_20 IAMs_20 11 12 14.9
comp=Z,1μm,20.0s
TOC1 Torodi Ar. Sit 68.78 288 IAMs_20 IAMs_20 11 12 24.9
comp=Z,1μm,20.0s
TORD Torodi Ar. Bea 68.78 288 P **P** **10 44 31.1 +0.1**
comp=Z,1.6nm,0.9s,baz=99,slow=7.7,SNR=6.3
TORD LR LR 11 12 36.7
comp=Z,1μm,20.7s,baz=95,slow=34
TOB1 Torodi Ar. Sit 68.79 288 IAMs_20 IAMs_20 11 12 25.6
comp=Z,1μm,20.0s
TOB4 Torodi Ar. Sit 68.79 288 IAMs_20 IAMs_20 11 12 15.7
comp=Z,1μm,21.0s
TOC5 Torodi Ar. Sit 68.80 288 IAMs_20 IAMs_20 11 12 15.8
comp=Z,1μm,21.0s
TOB5 Torodi Ar. Sit 68.80 288 IAMs_20 IAMs_20 11 12 25.8
comp=Z,1μm,20.0s
TOC7 Torodi Ar. Sit 68.80 288 IAMs_20 IAMs_20 11 12 15.2
comp=Z,1μm,21.0s
OBN Obninsk 69.03 342 *i* P **P** **10 44 31.4 -0.2**
OBN pmax pmax
comp=Z,5.0nm,0.7s
MOS Moscow 69.24 343 *eP* **P** **10 44 32.5 -0.4**
UZH Uzhgorod 69.84 330 *eP* **P** **10 44 40.0 +3.2**
UZH *e* 10 44 46.6
UZH *i* 10 44 56.5
KOLS Kolonicke sedl 70.06 330 *eP* **P** **10 44 39.4 +1.3**
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS Kolonicke sedl 70.06 330 *eP* **P** **10 44 39.4 +1.3**
NVL N'lazarevskaya 70.40 197 *eP* **P** **10 44 35.6 -4.3**
NVL pmax pmax
comp=Z,10.0nm,0.8s
KEST Kesra 70.47 313 LR LR 11 14 25.6
comp=Z,450nm,19.4s,baz=33,slow=35
AQU L'Aquila 71.03 321 P **P** **10 44 43.6 -0.7**
AQU pmax pmax
comp=Z,15nm,1.2s
AQU L'Aquila 71.03 321 P **P** **10 44 43.6 -0.7**
AQU IAmb IAmb 10 44 59.0
comp=Z,15nm,1.2s
NRCA Norcia 71.47 321 P **P** **10 44 47.4 +0.4**
VYHS Vyhne 71.50 328 *eP* **P** **10 44 47.3 +0.3**
VYHS pmax pmax
comp=Z,10.0nm,1.1s
VYHS Vyhne 71.50 328 *eP* **P** **10 44 47.3 +0.3**
LANS Liptovska Anna 71.59 329 *eP* **P** **10 44 51.5 +4.0**
LANS pmax pmax
comp=Z,5.0nm,1.0s
LANS Liptovska Anna 71.59 329 *eP* **P** **10 44 51.5 +4.0**
STKA Stephens Creek 71.92 120 P **P** **10 44 50.5 +0.6**
comp=Z,3.5nm,0.8s,baz=298,slow=11,SNR=4.1
SOKA Soboth 72.47 325 *i* pP **P** **10 44 56.0 +3.1**
comp=Z,2.3nm,1.0s
ARSA Arzberg 72.53 326 *i* P **P** **10 44 53.6 +0.5**
comp=Z,8.3nm,1.4s
OBKA Obir 72.65 325 *i* pP **P** **10 44 57.5 +3.6**
comp=Z,14nm,1.4s
CONA Conrad Observa 72.74 327 *i* P **P** **10 44 54.7 +0.3**
comp=Z,14nm,1.2s
PRED Cave del Predi 73.17 324 P **P** **10 44 56.2 -0.8**
PRED IAmb IAmb 10 45 11.6
comp=Z,15nm,1.5s
KLMR Klimovskoe 73.18 346 *eP* **P** **10 44 54.0 -2.6**
KLMR *e* 10 47 35.3
KLMR pmax pmax
comp=Z,32nm,1.2s
KLMR Klimovskoe 73.18 346 *eP* **P** **10 44 54.1 -2.6**
KLMR AMP 10 45 09.8
comp=Z,32nm,1.2s
KLMR *e*PP **PP** **10 47 35.3 -4.6**
KLMR LQ LQ 11 11 10.5
KLMR LQ LQ 11 11 10.5
KLMR LR LR 11 15 46.8
KSRS Korea Array 73.21 46 P **P** **10 44 57.0 -0.4**
comp=Z,3.1nm,0.8s,baz=225,slow=6.0,SNR=8.9
KSRS LR LR 11 17 58.4
comp=Z,387nm,18.9s,baz=210,slow=37
KSRS Korea Array 73.21 46 P **P** **10 44 57.0 -0.4**
MYKA Terra Mystica 73.23 325 *i* P **P** **10 44 58.4 +1.0**
comp=Z,5.4nm,1.2s
KRLC Kraliky 73.54 329 AMS AMS 11 18 20.0
comp=Z,200nm,19.0s
MOA Molln 73.57 326 *i* P **P** **10 44 59.6 +0.3**
comp=Z,7.0nm,1.0s
DBIC Dimbokro 73.57 280 P **P** **10 45 00.5 +0.5**
comp=Z,4.9nm,0.9s,baz=112,slow=14,SNR=3.1
DBIC LR LR 11 15 51.7
comp=Z,571nm,20.8s,baz=81,slow=35
DBIC Dimbokro 73.57 280 P **P** **10 45 00.9 +0.9**
DBIC pmax pmax
comp=Z,17nm,1.1s
DBIC Dimbokro 73.57 280 P **P** **10 45 00.9 +0.9**
DBIC IAmb IAmb 10 45 20.0
comp=Z,17nm,1.1s
ZOU Zoufplan 73.58 324 P **P** **10 44 59.9 +0.3**
ZOU IAmb IAmb 10 45 12.0
comp=Z,10nm,1.0s
ZCCA Zocca 73.59 322 P **P** **10 44 58.8 -0.7**
ZCCA IAmb IAmb 10 45 11.8
comp=Z,16nm,0.9s
KBA Koelnbreinsper 73.65 325 *i* P **P** **10 45 01.4 +1.4**
comp=Z,5.0nm,1.2s
TREC Trest 73.75 328 AMS AMS 11 21 30.0
comp=Z,300nm,16.7s
CIMO Cimolais 73.75 324 P **P** **10 44 59.7 -0.7**
DPC Dobruska-Polom 73.94 329 *e*PCP **PcP** **10 45 12.8 -4.0**
DPC AMS AMS 11 18 10.0
comp=Z,200nm,18.4s
ABTA Abfaltersbach 73.94 324 *i* P **P** **10 45 02.5 +0.9**
comp=Z,9.4nm,1.0s
CTI Castel Tesino 74.07 323 P **P** **10 45 03.1 +0.7**
CTI pmax pmax
comp=Z,7.0nm,1.0s
CTI Castel Tesino 74.07 323 P **P** **10 45 03.1 +0.7**
HIA Hailar 74.10 33 P **P** **10 45 02.5 +0.1**
HIA pmax pmax
comp=Z,7.0nm,0.8s
HIA Hailar 74.10 33 P **P** **10 45 02.5 +0.1**
OSTC Ostas 74.12 329 *e*P **PcP** **10 45 13.1 -4.4**
OSTC AMS AMS 11 19 00.0
comp=Z,200nm,13.3s
UPC Upice 74.19 329 AMS AMS 11 18 40.0
comp=Z,300nm,18.4s
CHVC Chvalec 74.22 329 AMS AMS 11 18 30.0
comp=Z,300nm,15.3s
GERES GERESS Array B 74.44 327 P **P** **10 45 04.0 -0.5**
comp=Z,0.6nm,0.7s,baz=86,slow=4.1,SNR=4.2
GERES LR LR 11 19 18.2
comp=Z,186nm,18.4s,baz=134,slow=37
GERES GERESS Array B 74.44 327 P **P** **10 45 04.0 -0.5**
GOPC GO Pecny, Ondr 74.48 328 *e*PCP **PcP** **10 45 19.3 +0.2**
GOPC *e*S **S** **10 54 38.5 -1.1**
GOPC AMS AMS 11 14 50.0
comp=Z,400nm,30.5s
PRU Pruhonice 74.65 328 *e*SKP 10 54 30.5
PRU AMS AMS 11 15 10.0
comp=Z,400nm,26.8s
KHC Kasperske Hory 74.67 327 *eP* **P** **10 45 06.7 +1.0**
KHC *e* 10 45 15.1
KHC *e*S **SKiKP** **10 54 31.3 -0.5**
KHC MLR MLR
comp=Z,200nm,21.1s
KHC Kasperske Hory 74.67 327 *eP* **P** **10 45 06.7 +1.0**

KHC *ex* x 10 45 15.1
KHC *e*SKP 10 54 31.3
KHC AMS AMS 11 14 00.0
comp=Z,200nm,21.1s
KHC Kasperske Hory 74.67 327 P **P** **10 45 05.9 +0.1**
WTTA Wattenberg 74.73 324 *i* P **P** **10 45 05.1 -1.2**
comp=Z,9.4nm,1.2s
PRA Prague 74.75 328 AMS AMS 11 15 10.0
comp=Z,200nm,22.6s
WATA Walderalm 74.80 324 *i* P **P** **10 45 06.6 -0.1**
comp=Z,14nm,1.4s
PVCC Panska Ves 74.95 328 AMS AMS 11 19 40.0
comp=Z,200nm,17.8s
SQTA Sankt Quirin 74.95 324 *i* P **P** **10 45 07.7 +0.2**
comp=Z,12nm,0.9s
MOTA Moosalm 75.08 324 *i* P **P** **10 45 08.4 +0.1**
comp=Z,15nm,0.9s
FETA Feichten 75.13 324 *i* P **P** **10 45 08.8 +0.2**
comp=Z,9.0nm,0.8s
RETA Reutte 75.35 324 *i* P **P** **10 45 09.9 +0.2**
comp=Z,7.5nm,1.1s
BRG Berggiesshubel 75.47 328 *eP* **P** **10 45 10.8 +0.5**
comp=Z,5.6nm,1.3s
BRG S **S** **10 54 51.0 +0.4**
comp=N,234nm,17.0s
comp=E,130nm,14.7s
comp=Z,246nm,20.5s
BRG Berggiesshubel 75.47 328 *eP* **P** **10 45 10.8 +0.5**
BRG S **S** **10 54 51.0 +0.4**
BRG pmax pmax
comp=Z,6.0nm,1.3s
BRG MLR MLR
comp=N,234nm,17.0s
BRG MLR MLR
comp=E,130nm,14.7s
BRG MLR MLR
comp=Z,246nm,20.5s
TUE Stuetta 75.66 323 P **P** **10 45 11.3 -0.4**
TUE IAmb IAmb 10 45 27.5
comp=Z,23nm,1.1s
DAVA Damuels 75.76 324 *i* P **P** **10 45 12.5 +0.3**
comp=Z,9.8nm,1.1s
NKC Novy Kostel 75.90 327 *eP* **P** **10 45 14.2 +1.5**
NKC *e* 10 45 25.2
NKC MLR MLR
comp=Z,200nm,15.2s
NKC Novy Kostel 75.90 327 *eP* **P** **10 45 14.2 +1.5**
NKC *e*PCP **PcP** **10 45 25.2 0.0**
NKC AMS AMS 11 15 50.0
comp=Z,200nm,15.2s
CLL Collm 76.21 328 *eP* **P** **10 45 15.0 +0.6**
comp=Z,16nm,1.1s
CLL *e*S **S** **10 54 58.0 -0.7**
comp=N,200nm,15.0s
CLL *e*S **S** **10 54 58.0 -0.7**
comp=E,300nm,14.5s
CLL *e*S **S** **10 54 58.0 -0.7**
comp=Z,100nm,15.1s
CLL *e*SS **SS** **10 59 52.0 -0.6**
CLL LmV 11 20 00.0
comp=Z,300nm,19.7s
CLL LmV 12 28 00.0
comp=Z,200nm,19.3s
CLL Collm 76.21 328 *eP* **P** **10 45 15.0 +0.6**
CLL *e*S **S** **10 54 58.0 -0.7**
CLL pmax pmax
comp=Z,16nm,1.1s
CLL MLR MLR
comp=Z,300nm,19.7s
CLL Collm 76.21 328 P **P** **10 45 14.6 +0.2**
CLL IAmb IAmb 10 45 28.4
comp=Z,17nm,1.1s
GRF Grafenberg Arr 76.27 326 *eP* **P** **10 45 15.0 +0.2**
comp=Z,7.5nm,0.9s,baz=122,slow=7.0
GRF *e*L L 11 20 14.0
comp=Z,185nm,21.6s
TMCR Tamitsa 76.42 347 *eP* **P** **10 45 12.7 -2.6**
MOX Moxa 76.57 327 *e*L L 11 21 47.8
comp=Z,267nm,19.9s
CTA Charters Tower 76.62 108 LR LR 11 15 14.1
comp=Z,1μm,21.9s,baz=226,slow=33
CTAO Charters Tower 76.62 108 P **P** **10 45 16.7 -0.8**
CTAO pmax pmax
comp=Z,20nm,1.2s
CTAO Charters Tower 76.62 108 P **P** **10 45 16.6 -0.8**
CTAO IAmb IAmb 10 45 31.4
comp=Z,20nm,1.1s
SENIN Lac Senin/Sane 76.84 322 P **P** **10 45 18.7 +0.3**
SENIN IAmb IAmb 10 45 30.7
comp=Z,8.7nm,0.9s
FINES FINESS Array B 77.42 341 P **P** **10 45 20.0 -1.1**
comp=Z,1.5nm,0.9s,baz=152,slow=8.6,SNR=4.1
FINES LR LR 11 20 01.0
comp=Z,275nm,20.4s,baz=143,slow=36
FINES FINESS Array B 77.42 341 P **P** **10 45 20.0 -1.1**
MDJ Mudanjiang 77.51 40 P **P** **10 45 22.4 +0.5**
MDJ pP PcP 10 45 30.8 -1.4
MDJ sP pwP 10 45 36.1 +8.7
MDJ S **S** **10 55 15.2 +2.1**
MDJ sS SKSac 10 55 26.8 -8.6
MDJ ScS **ScS** **10 55 40.8 +0.4**
MDJ pmax pmax
comp=Z,20nm,1.0s
MDJ pmax pmax
comp=Z,240nm,3.8s
MDJ LR LR
comp=Z,200nm,4.1s
MDJ LR LR
comp=Z,370nm,5.3s
MDJ LR LR
comp=Z,410nm,15.1s
MDJ Mudanjiang 77.51 40 P **P** **10 45 21.4 -0.6**
MDJ IAmb IAmb 10 45 23.7
comp=Z,15nm,0.9s
SSB Saint Sauveur 78.05 320 IAmb IAmb 10 45 37.8
comp=Z,11nm,1.0s
USA0B Ussuriysk Arra 78.88 42⇑ *eP* **P** **10 45 29.4 -0.1**
USRK Ussuriysk Ar. 78.88 42 P **P** **10 45 28.8 -0.7**
comp=Z,3.4nm,0.6s,baz=231,slow=4.0,SNR=7.2
NRIK Noril'sk 79.62 7 LR LR 11 22 53.1
comp=Z,762nm,18.6s,baz=208,slow=37
GUMO Guam 80.27 74 P **P** **10 45 36.1 -1.6**
comp=Z,78nm,0.5s,baz=287,slow=9.4,SNR=3.9
GUMO LR LR 11 20 37.5
comp=Z,741nm,20.9s,baz=178,slow=35
MJB9 Matsu-Tunnel 80.47 51 P **P** **10 45 38.1 -0.4**
MAJO Matsushiro 80.47 51⇑ *eP* **P** **10 45 38.8 +0.4**
MAJO pmax pmax
comp=Z,5.0nm,1.0s
MAT Matsushiro 80.47 51 P **P** **10 45 38.2 -0.2**
MAT *e*S **S** **10 55 47.4 +2.2**
MJAR Matsushiro Arr 80.48 51 P **P** **10 45 37.0 -1.5**
comp=Z,5.0nm,0.8s,baz=248,slow=6.9,SNR=12
MJAR Matsushiro Arr 80.48 51 P **P** **10 45 37.0 -1.5**
QSPA South Pole Qui 80.85 180 P **P** **10 45 40.9 +0.8**
QSPA IAmb IAmb 10 45 56.0
comp=Z,23nm,1.4s
KLR Kul'dur 80.86 37⇑ *eP* **P** **10 45 39.4 -0.8**
KLR pmax pmax
comp=Z,23nm,2.9s
ESDC Sonseca Array 81.70 312 P **P** **10 45 45.3 +0.4**
comp=Z,3.1nm,0.9s,baz=86,slow=4.3,SNR=11
ESDC LR LR 11 19 35.1
comp=Z,194nm,21.1s,baz=145,slow=34
NB2 NORSAR Subarra 82.55 336 P **P** **10 45 50.1 +1.2**
comp=Z,36nm,2.0s,baz=124,slow=5.3
NB2 NORSAR Subarra 82.55 336 P **P** **10 45 50.1 +1.2**
baz=124,slow=5.3
NOA NORSAR Array B 82.55 336 P **P** **10 45 48.6 -0.3**
comp=Z,0.5nm,0.7s,baz=119,slow=5.5,SNR=2.6
NOA LR LR 11 22 53.1
comp=Z,215nm,21.6s,baz=135,slow=36
ARCES ARCESS Array B 83.66 346 P **P** **10 45 54.3 -0.2**
comp=Z,5.8nm,0.8s,baz=134,slow=3.5,SNR=10
ARCES LR LR 11 24 54.4
comp=Z,271nm,18.2s,baz=128,slow=37
YSS Yuzh-Sakhalins 86.92 42 *eP* **P** **10 46 11.2 0.0**
YSS *e* 10 56 34.1
YSS *e*S **S** **10 56 49.6 0.0**
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS MLR MLR
comp=Z,200nm,19.0s
YSS Yuzh-Sakhalins 86.92 42 P **P** **10 46 10.7 -0.5**
YUK Yuzh-Kuril'sk 88.23 45 *eP* P 10 46 24.6 +7.0
YUK *e*S **SKSac** **10 56 36.6 -10**

DZM Mont Dzumac 94.98 113 eLR LR 11 17 30.3
comp=Z,2µm,26.6s
PMSA Palmer Station 97.81 199 P **P** **10 47 01.1 -0.2**
RCBR Riachuelo 101.99 262 IAMs_20 IAMs_20 11 27 51.6
comp=Z,626nm,19.0s
SPB Sao Paulo 108.38 241 IAMs_20 IAMs_20 11 31 01.4
comp=Z,624nm,20.0s
RDOG Red Dog Mine 112.63 18 IAMs_20 IAMs_20 11 47 21.5
comp=Z,458nm,21.0s
COLD Coldfoot 116.83 15 IAMs_20 IAMs_20 11 50 44.2
comp=Z,492nm,19.0s
TTA Tatalina 118.04 21 PKIKP **PKPdf** **10 52 12.9 0.0**
TTA MLR MLR
comp=Z,600nm,21.0s
TTA Tatalina 118.04 21 PKPdf **PKPdf** **10 52 12.8 0.0**
TTA IAMs_20 IAMs_20 11 44 35.4
comp=Z,557nm,21.0s
BPAW Bear Paw Mtn. 118.89 18 IAMs_20 IAMs_20 11 47 35.9
comp=Z,557nm,20.0s
MDM Murphy Dome 119.06 16 IAMs_20 IAMs_20 11 49 00.3
comp=Z,534nm,20.0s
COLA College 119.23 16 IAMs_20 IAMs_20 11 48 51.8
comp=Z,584nm,20.0s
PPLA Purkeypile 119.36 20 IAMs_20 IAMs_20 11 47 45.9
comp=Z,573nm,20.0s
WRH Wood River Hil 119.47 17 IAMs_20 IAMs_20 11 49 11.2
comp=Z,619nm,20.0s
ILAR Eielson Array 119.58 16 PKP **PKPdf** **10 52 14.6 -1.1**
comp=Z,0.1nm,0.5s,baz=266,slow=27,SNR=3.3
MCK McKinley 119.78 18 IAMs_20 IAMs_20 11 48 15.4
comp=Z,587nm,21.0s
HDA Harding Lake 119.84 16 IAMs_20 IAMs_20 11 47 20.9
comp=Z,496nm,20.0s
RND Reindeer 120.05 18 IAMs_20 IAMs_20 11 47 08.4
comp=Z,493nm,20.0s
EPYK Eagle Plains 120.59 11 IAMs_20 IAMs_20 11 51 25.6
comp=Z,486nm,20.0s
DHY Denali Highway 120.74 18 IAMs_20 IAMs_20 11 49 09.7
comp=Z,489nm,19.0s
SUA Susitna One 120.85 20 IAMs_20 IAMs_20 11 49 21.8
comp=Z,492nm,20.0s
EGAK Eagle 121.03 14 IAMs_20 IAMs_20 11 48 16.3
comp=Z,614nm,21.0s
DOT Dot Lake 121.23 16 IAMs_20 IAMs_20 11 48 05.5
comp=Z,566nm,20.0s
PMR Palmer 121.30 19 IAMs_20 IAMs_20 11 46 49.6
comp=Z,592nm,20.0s
PAX Paxson 121.38 17 PKIKP **PKPdf** **10 52 18.3 -1.0**
PAX Paxson 121.38 17 PKPdf **PKPdf** **10 52 18.3 -1.0**
SCM Sheep Creek Mo 121.70 18 IAMs_20 IAMs_20 11 52 45.0
comp=Z,616nm,21.0s
MENT Mentasta 121.89 16 IAMs_20 IAMs_20 11 54 06.1
comp=Z,466nm,18.0s
SEW Seward 122.27 21 PKPdf **PKPdf** **10 52 19.1 -1.9**
SEW IAMs_20 IAMs_20 11 44 15.2
comp=Z,572nm,22.0s
KLU Klutina 122.39 18 IAMs_20 IAMs_20 11 52 49.4
comp=Z,378nm,20.0s
FID Port Fidalgo 122.79 19 IAMs_20 IAMs_20 11 52 41.3
comp=Z,521nm,20.0s
GLB Gilahina Butte 123.06 17 IAMs_20 IAMs_20 11 47 37.1
comp=Z,557nm,21.0s
VRDI Verde Repeater 123.34 17 IAMs_20 IAMs_20 11 53 52.4
comp=Z,502nm,20.0s
HMT Hamilton 123.80 18 IAMs_20 IAMs_20 11 53 58.8
comp=Z,526nm,18.0s
CRQM Cirque 123.81 17 IAMs_20 IAMs_20 11 47 50.3
comp=Z,426nm,22.0s
BALM Baldy 123.81 17 IAMs_20 IAMs_20 11 49 09.0
comp=Z,426nm,20.0s
TGL Tana Glacier 123.90 17 IAMs_20 IAMs_20 11 47 52.3
comp=Z,502nm,22.0s
KAIM Kayak Island 124.08 19 IAMs_20 IAMs_20 11 52 03.0
comp=Z,467nm,21.0s
CTGM Chitina Glacie 124.16 16 IAMs_20 IAMs_20 11 54 15.0
comp=Z,399nm,18.0s
SUCK Suckling Hills 124.16 18 IAMs_20 IAMs_20 11 54 13.2
comp=Z,532nm,18.0s
ISLE Juniper Island 124.17 17 IAMs_20 IAMs_20 11 49 20.3
comp=Z,475nm,21.0s
YAH Yahtse 124.53 17 IAMs_20 IAMs_20 11 46 53.1
comp=Z,614nm,21.0s
MESA MESA 124.63 17 IAMs_20 IAMs_20 11 45 20.4
comp=Z,508nm,20.0s
TABL Table Mountain 124.64 17 IAMs_20 IAMs_20 11 47 33.9
comp=Z,555nm,22.0s
BATG Bathurst New B 125.28 323 IAMs_20 IAMs_20 11 51 09.1
comp=Z,412nm,20.0s
SKAG Skagway 127.01 14 IAMs_20 IAMs_20 11 56 01.4
comp=Z,450nm,19.0s
F64A Sherman 127.34 322 IAMs_20 IAMs_20 11 49 46.8
comp=Z,363nm,20.0s
EMMW East Machias 127.35 320 IAMs_20 IAMs_20 11 46 57.4
comp=Z,389nm,21.0s
F63A Nahmakanta, Br 127.88 322 IAMs_20 IAMs_20 11 50 21.0
comp=Z,353nm,20.0s
BESE Bessie Mountai 127.91 14 IAMs_20 IAMs_20 11 53 44.1
comp=Z,489nm,19.0s
JIS Juneau Island 128.29 14 IAMs_20 IAMs_20 11 54 18.3
comp=Z,483nm,19.0s
F62A Pittston Farm, 128.30 323 IAMs_20 IAMs_20 11 50 30.0
comp=Z,456nm,20.0s
TA01 Diego Aracena 128.76 234 PKPdf **PKPdf** **10 52 33.6 -1.0**
LPAZ La Paz 129.11 240 PKP **PKPdf** **10 52 36.3 +0.1**
comp=Z,1.8nm,0.7s,baz=285,slow=1.9,SNR=3.8
I63A Otisfield 129.62 321 IAMs_20 IAMs_20 11 46 46.3
comp=Z,380nm,22.0s
H62A Milan 129.71 322 IAMs_20 IAMs_20 11 50 03.5
comp=Z,387nm,21.0s
BBSR BB Station 130.03 305 IAMs_20 IAMs_20 11 45 39.7
comp=Z,555nm,21.0s
I62A Tamworth 130.18 321 IAMs_20 IAMs_20 11 47 12.1
comp=Z,421nm,21.0s
TBI Tubuai 131.66 133 eLR LR 11 34 29.3
comp=Z,332nm,26.2s
DIB Dawson Inlet, 133.30 16 IAMs_20 IAMs_20 11 49 11.8
comp=Z,332nm,18.0s
K58A Earlville 133.43 322 IAMs_20 IAMs_20 11 54 05.7
comp=Z,328nm,20.0s
MOBC Moresby Island 133.49 16 IAMs_20 IAMs_20 11 47 03.9
comp=Z,351nm,20.0s
ODNJ Ogdensburg 133.71 320 IAMs_20 IAMs_20 11 50 23.8
comp=Z,359nm,21.0s
FFC Flin Flon 133.79 351 IAMs_20 IAMs_20 12 04 42.9
comp=Z,386nm,18.0s
BRNJ Basking Ridge 133.90 319 IAMs_20 IAMs_20 11 50 50.9
comp=Z,354nm,20.0s
SJG San Juan 133.98 286 IAMs_20 IAMs_20 11 47 05.1
comp=Z,436nm,20.0s
N59A State Game Lan 134.54 320 IAMs_20 IAMs_20 11 51 10.7
comp=Z,411nm,22.0s
PSUB Penn St. - Bra 134.88 319 IAMs_20 IAMs_20 12 05 47.8
comp=Z,398nm,22.0s
PPT2 Papeete2 134.91 126 eLR LR 11 35 58.4
comp=Z,431nm,29.8s
L56A Greenwood 134.94 323 IAMs_20 IAMs_20 12 05 43.7
comp=Z,372nm,22.0s
MVL Millersville 135.42 320 IAMs_20 IAMs_20 12 06 04.0
comp=Z,441nm,22.0s
PAGS Pennsylvania G 135.53 320 IAMs_20 IAMs_20 12 06 05.8
comp=Z,360nm,22.0s
M56A Emporium 135.70 322 IAMs_20 IAMs_20 11 52 19.0
comp=Z,371nm,21.0s
SSPA Standing Stone 136.02 321 IAMs_20 IAMs_20 12 05 58.6
comp=Z,339nm,20.0s
M55A Ridgway 136.06 323 IAMs_20 IAMs_20 12 05 50.4
comp=Z,317nm,20.0s
ERPA Erie 136.38 324 IAMs_20 IAMs_20 12 06 03.5
comp=Z,395nm,20.0s
M54A Oil Creek Stat 136.57 323 IAMs_20 IAMs_20 12 06 38.8
comp=Z,333nm,20.0s
O56A Blue Knob Stat 136.66 321 IAMs_20 IAMs_20 12 06 38.4
comp=Z,320nm,20.0s
I49A Point Hope 136.72 328 IAMs_20 IAMs_20 12 05 36.0
comp=Z,378nm,20.0s
ULM Lac du Bonnet 136.75 344 IAMs_20 IAMs_20 12 00 48.8
comp=Z,438nm,21.0s
P57A Homestead Farm 136.76 320 IAMs_20 IAMs_20 12 06 42.6
comp=Z,387nm,21.0s
GLMI Grayling 136.99 331 IAMs_20 IAMs_20 12 05 13.8
comp=Z,361nm,20.0s
D41A Chassel 137.03 336 IAMs_20 IAMs_20 12 03 18.1
comp=Z,333nm,19.0s
CBN Corbin Frederi 137.06 318 IAMs_20 IAMs_20 12 05 44.8
comp=Z,418nm,22.0s
N54A Moraine State 137.10 323 IAMs_20 IAMs_20 12 06 43.9
comp=Z,487nm,20.0s
M53A WI Miller and 137.20 324 IAMs_20 IAMs_20 12 03 57.4
comp=Z,330nm,20.0s
G45A Suttons Bay 137.33 332 IAMs_20 IAMs_20 12 05 48.5
comp=Z,462nm,20.0s
EYMN Ely 137.41 339 IAMs_20 IAMs_20 12 02 16.8
comp=Z,322nm,19.0s
K50A Casco 137.41 327 IAMs_20 IAMs_20 12 05 13.6
comp=Z,379nm,20.0s
R58B Mineral 137.53 318 IAMs_20 IAMs_20 12 05 35.2
comp=Z,439nm,22.0s
Q56A Snyder Ridge, 137.76 320 IAMs_20 IAMs_20 12 04 47.0
comp=Z,467nm,22.0s
V61A Roper 137.78 314 IAMs_20 IAMs_20 11 49 56.3
comp=Z,494nm,22.0s
B35A Bob, Littlefor 137.81 341 IAMs_20 IAMs_20 12 00 12.2
comp=Z,351nm,20.0s
O54A Avella 137.82 322 IAMs_20 IAMs_20 12 07 51.9
comp=Z,358nm,20.0s
S58A Poland Farm, P 137.84 318 IAMs_20 IAMs_20 12 06 50.3
comp=Z,322nm,20.0s
T59A Double "B" Far 137.85 317 IAMs_20 IAMs_20 11 52 53.8
comp=Z,352nm,21.0s
F42A Maple Grove Fa 137.89 334 IAMs_20 IAMs_20 11 55 58.0
comp=Z,323nm,20.0s
COWI Conover 138.04 335 IAMs_20 IAMs_20 11 56 27.8
comp=Z,354nm,20.0s
SC01 Santiago de Io 138.15 289 IAMs_20 IAMs_20 11 42 43.5
comp=Z,461nm,21.0s
J47A Sunmer 138.24 329 IAMs_20 IAMs_20 12 02 14.1
comp=Z,419nm,21.0s
V60A Jim Taylor Roa 138.27 315 IAMs_20 IAMs_20 11 54 36.4
comp=Z,422nm,20.0s
O53A New Philadelph 138.27 323 IAMs_20 IAMs_20 12 07 30.9
comp=Z,437nm,20.0s
AAM Ann Arbor 138.29 327 IAMs_20 IAMs_20 12 03 24.8
comp=Z,308nm,19.0s
U59A Litleton 138.34 316 IAMs_20 IAMs_20 11 52 39.9
comp=Z,404nm,20.0s
S57A Dark Hollow, R 138.35 318 IAMs_20 IAMs_20 12 04 59.8
comp=Z,341nm,22.0s
I45A Fountain 138.35 331 IAMs_20 IAMs_20 12 05 49.7
comp=Z,355nm,19.0s
E38A The Farm, Brul 138.56 338 IAMs_20 IAMs_20 11 54 33.5
comp=Z,340nm,20.0s
O52A Adamsville 138.73 323 IAMs_20 IAMs_20 12 07 26.9
comp=Z,361nm,20.0s
SDDR Presa de Saban 138.73 288 IAMs_20 IAMs_20 11 46 32.1
comp=Z,457nm,22.0s
H43A Windswept, Lux 138.74 333 IAMs_20 IAMs_20 12 00 29.7
comp=Z,387nm,21.0s
R55A Marlinton 138.80 320 IAMs_20 IAMs_20 12 05 02.5
comp=Z,396nm,20.0s
P53A Whipple 138.86 322 IAMs_20 IAMs_20 12 05 42.5
comp=Z,474nm,20.0s
G40A Rib Lake 139.15 336 IAMs_20 IAMs_20 12 00 08.2
comp=Z,390nm,21.0s
P52A Corning 139.21 323 IAMs_20 IAMs_20 12 03 13.8
comp=Z,441nm,22.0s
V58A Windy Hill, Pi 139.54 316 IAMs_20 IAMs_20 11 53 31.7
comp=Z,472nm,20.0s
I42A Draeger Farm, 139.70 333 IAMs_20 IAMs_20 11 57 26.2
comp=Z,326nm,21.0s
Y60A Bolivia 139.83 313 IAMs_20 IAMs_20 12 06 06.0
comp=Z,368nm,21.0s
P51A Williamsport 139.86 324 IAMs_20 IAMs_20 12 03 49.7
comp=Z,420nm,21.0s
L46A Eue Claire 139.88 329 IAMs_20 IAMs_20 12 02 22.4
comp=Z,496nm,21.0s
D32A Dogwood Acres, 139.89 343 IAMs_20 IAMs_20 11 58 01.2
comp=Z,479nm,21.0s
MDND Maddock 139.91 346 IAMs_20 IAMs_20 12 04 44.2
comp=Z,340nm,20.0s
F36A Milaca 139.91 339 IAMs_20 IAMs_20 12 03 26.0
comp=Z,347nm,19.0s
R53A Hurricane 139.92 321 IAMs_20 IAMs_20 12 03 35.7
comp=Z,342nm,21.0s
U56A King 140.09 318 IAMs_20 IAMs_20 11 53 33.0
comp=Z,513nm,21.0s
O49A Covington 140.12 325 IAMs_20 IAMs_20 12 06 54.1
comp=Z,475nm,20.0s
B06A Marblemount 140.12 9 IAMs_20 IAMs_20 11 49 16.0
comp=Z,420nm,21.0s
SPMN Mane on St. 140.20 338 IAMs_20 IAMs_20 11 58 08.7
comp=Z,411nm,21.0s
WALA Waterton Lakes 140.25 1 IAMs_20 IAMs_20 12 01 48.5
comp=Z,407nm,20.0s
Y59A Loris 140.31 314 IAMs_20 IAMs_20 12 05 39.6
comp=Z,371nm,20.0s
X58A Rowland 140.35 315 IAMs_20 IAMs_20 11 49 14.5
comp=Z,393nm,21.0s
K43A Burlington 140.36 331 IAMs_20 IAMs_20 12 04 59.8
comp=Z,297nm,19.0s
N47A Urbana 140.38 327 IAMs_20 IAMs_20 12 03 08.0
comp=Z,488nm,21.0s
I40A Norwalk 140.44 335 IAMs_20 IAMs_20 12 05 26.5
comp=Z,297nm,18.0s
L44A Lake County Fo 140.56 331 IAMs_20 IAMs_20 12 04 47.2
comp=Z,449nm,20.0s
B08A Colville Reser 140.57 7 IAMs_20 IAMs_20 11 50 06.9
comp=Z,376nm,21.0s
NLWA Neilton Lookou 140.78 12 IAMs_20 IAMs_20 11 48 15.4
comp=Z,462nm,22.0s
F33A 5 Mile Ranch, 140.85 342 IAMs_20 IAMs_20 11 57 47.7
comp=Z,500nm,22.0s
V55A Taylorsville 140.93 318 IAMs_20 IAMs_20 11 54 52.1
comp=Z,439nm,19.0s
EGMT Eagleton 141.22 357 IAMs_20 IAMs_20 12 08 13.0
comp=Z,339nm,18.0s
P48A Milroy 141.23 325 IAMs_20 IAMs_20 12 02 18.8
comp=Z,399nm,20.0s
E28A Huff 141.36 347 IAMs_20 IAMs_20 11 59 30.5
comp=Z,317nm,20.0s
Y57A Sumter 141.38 315 IAMs_20 IAMs_20 12 06 56.6
comp=Z,374nm,19.0s
R50A Paris 141.39 323 IAMs_20 IAMs_20 12 08 47.3
comp=Z,294nm,19.0s
KMSC Kings Mountain 141.41 317 IAMs_20 IAMs_20 11 56 03.0
comp=Z,411nm,20.0s
JTMT Jet 141.56 2 IAMs_20 IAMs_20 11 59 43.0
comp=Z,271nm,18.0s
E03A Lebam 141.65 12 IAMs_20 IAMs_20 11 48 20.4
comp=Z,408nm,21.0s
R49A Shelbyville 141.88 324 IAMs_20 IAMs_20 12 00 54.2
comp=Z,346nm,22.0s
D08A Wollman Farm, 141.90 7 IAMs_20 IAMs_20 11 57 57.1
comp=Z,320nm,20.0s
PAULI Pauline 141.91 317 IAMs_20 IAMs_20 11 54 22.4
comp=Z,299nm,20.0s
TZTN Tazewell 142.02 320 IAMs_20 IAMs_20 11 55 40.7
comp=Z,445nm,20.0s
BLO Bloomington 142.04 326 IAMs_20 IAMs_20 12 02 05.0
comp=Z,463nm,21.0s
V53A Saluda 142.08 319 IAMs_20 IAMs_20 11 51 21.6
comp=Z,408nm,21.0s
LAO LASA Array 142.23 353 IAMs_20 IAMs_20 12 07 07.9
comp=Z,312nm,19.0s
E07A Sunnyside 142.27 8 IAMs_20 IAMs_20 12 09 51.9
comp=Z,321nm,20.0s
E08A Dider Farm, El 142.44 7 IAMs_20 IAMs_20 11 58 00.4
comp=Z,345nm,20.0s
F04A Amboy 142.46 11 IAMs_20 IAMs_20 11 58 32.9
comp=Z,381nm,20.0s
HAWA Hanford 142.48 8 IAMs_20 IAMs_20 11 59 13.4
comp=Z,357nm,20.0s
MSO Missoula 142.48 1 IAMs_20 IAMs_20 12 04 05.5
comp=Z,466nm,20.0s
V52A Sevierville 142.49 319 IAMs_20 IAMs_20 11 57 01.2
comp=Z,394nm,22.0s
T50A Nancy 142.52 322 IAMs_20 IAMs_20 12 02 19.4
comp=Z,380nm,22.0s
E09A Wood Farm, Sta 142.53 6 IAMs_20 IAMs_20 12 00 08.6
comp=Z,277nm,19.0s
HODGE Hodges 142.55 316 IAMs_20 IAMs_20 11 54 36.4
comp=Z,347nm,21.0s
WCI Wyandotte Cave 142.57 325 IAMs_20 IAMs_20 11 55 32.3
comp=Z,389nm,22.0s
TKL Tuckaleechee C 142.71 319 IAMs_20 IAMs_20 11 56 17.2
comp=Z,298nm,20.0s
ECSD EROS Data Cent 142.84 341 **PKPdf** **10 53 01.4 +1.3**
ECSD EROS Data Cent 142.84 341 IAMs_20 IAMs_20 12 02 21.4
comp=Z,436nm,19.0s
SUSD Miller 142.91 344 IAMs_20 IAMs_20 12 03 33.9
comp=Z,376nm,20.0s
F07A Phinny Hill Vi 142.91 8 IAMs_20 IAMs_20 12 01 23.8
comp=Z,399nm,19.0s
V51A Loudon 142.99 320 IAMs_20 IAMs_20 11 55 44.4
comp=Z,368nm,20.0s
F10A Beach Ranch, E 143.15 5 IAMs_20 IAMs_20 12 05 06.1
comp=Z,409nm,18.0s
SCIA State Center 143.16 335 IAMs_20 IAMs_20 12 02 47.3
comp=Z,367nm,20.0s
W52A Murphy 143.16 319 IAMs_20 IAMs_20 11 54 38.0
comp=Z,403nm,22.0s
OLIL Olney 143.21 327 IAMs_20 IAMs_20 12 01 21.0
comp=Z,330nm,22.0s
CPCT Cooper Cave 143.32 320 IAMs_20 IAMs_20 12 01 27.2
comp=Z,325nm,21.0s
U49A Red Boiling Sp 143.42 322 IAMs_20 IAMs_20 11 55 58.3
comp=Z,459nm,21.0s
USIN University of 143.52 326 IAMs_20 IAMs_20 12 01 31.4
comp=Z,450nm,21.0s
Q44A Meyer Farm, Va 143.57 328 IAMs_20 IAMs_20 12 00 54.3
comp=Z,443nm,21.0s
G08A Pilot Rock 143.64 7 IAMs_20 IAMs_20 12 05 33.0
comp=Z,368nm,19.0s
H04A Detroit Lake 143.71 11 IAMs_20 IAMs_20 12 07 22.9
comp=Z,326nm,20.0s
GOGA Godfrey 143.84 316 IAMs_20 IAMs_20 12 04 37.7
comp=Z,427nm,22.0s
T47A Sharon Grove 143.89 324 IAMs_20 IAMs_20 12 07 18.4
comp=Z,399nm,20.0s
DLMT Dillon 143.97 360 IAMs_20 IAMs_20 12 10 09.7
comp=Z,278nm,19.0s
255A Hazlehurst 143.97 313 IAMs_20 IAMs_20 12 05 34.5
comp=Z,379nm,21.0s
W50A Signal Mountai 143.98 320 IAMs_20 IAMs_20 11 55 00.6
comp=Z,343nm,21.0s
Y52A Lilburn 143.98 317 IAMs_20 IAMs_20 12 06 02.2
comp=Z,402nm,19.0s
CLTN Cedars of Leba 144.03 322 IAMs_20 IAMs_20 11 54 18.5
comp=Z,351nm,21.0s
154A Montrose 144.04 315 IAMs_20 IAMs_20 12 07 52.2
comp=Z,362nm,19.0s
RLMT Red Lodge 144.08 356 IAMs_20 IAMs_20 12 03 07.7
comp=Z,311nm,21.0s
BMO Blue Mountains 144.26 6 IAMs_20 IAMs_20 12 05 43.3
comp=Z,279nm,19.0s
L34A Svendsen Farm, 144.32 339 IAMs_20 IAMs_20 12 02 40.6
comp=Z,295nm,20.0s
SWET Sewanee 144.36 321 IAMs_20 IAMs_20 12 02 39.4
comp=Z,341nm,20.0s
RSSD Black Hills 144.39 349 PKIKP PKPbc 10 53 01.8 +0.4
RSSD MLR MLR
comp=Z,400nm,20.0s
RSSD Black Hills 144.39 349 PKPdf PKPbc 10 53 01.8 +0.4
RSSD Black Hills 144.39 349 IAMs_20 IAMs_20 11 56 18.7
comp=Z,425nm,20.0s
K31A O'Neill 144.51 342 PKPbc 10 53 01.6 0.0
K31A IAMs_20 IAMs_20 11 59 30.6
comp=Z,416nm,20.0s
V48A Smith Brothers 144.56 322 IAMs_20 IAMs_20 11 57 53.6
comp=Z,387nm,21.0s
P40A Paris 144.59 332 PKPbc 10 53 02.6 +0.7
FPAL Fort Paine 144.59 319 IAMs_20 IAMs_20 11 57 10.8
comp=Z,403nm,22.0s
S44A Carbondale 144.59 327 IAMs_20 IAMs_20 12 01 15.5
comp=Z,353nm,20.0s
060A Indiantown 144.64 304 IAMs_20 IAMs_20 11 49 14.6
comp=Z,415nm,22.0s
I07A Izee 144.75 8 **PKPdf** **10 53 03.3 -0.3**
PINE Pine Mountain 144.80 10 PKPdf **PKPdf** **10 53 05.1 +1.4**
PINE IAMs_20 IAMs_20 11 52 54.8
comp=Z,499nm,22.0s
WVT Waverly 144.90 324 IAMs_20 IAMs_20 11 57 00.2
comp=Z,332nm,20.0s
Z51A Franklin 145.05 317 IAMs_20 IAMs_20 12 06 48.5
comp=Z,359nm,19.0s
152A Waverly Hall 145.13 316 **PKPdf** **10 53 04.5 +0.1**
152A IAMs_20 IAMs_20 12 06 22.7
comp=Z,371nm,20.0s
P38A Dawn 145.18 334 **PKPbc** **10 53 03.7 -0.1**
FLWY Flagg Ranch 145.20 357 IAMs_20 IAMs_20 12 01 55.4
comp=Z,371nm,20.0s
656A Willston 145.31 310 IAMs_20 IAMs_20 11 53 12.8
comp=Z,419nm,20.0s
CCM Cathedral Cave 145.35 329 PKIKP **PKPbc** **10 53 04.2 -0.2**
CCM Cathedral Cave 145.35 329 **PKPbc** **10 53 04.2 -0.2**
CCM Cathedral Cave 145.35 329 IAMs_20 IAMs_20 12 01 37.3
comp=Z,362nm,21.0s
IMW Indian Meadow 145.40 358 **PKPdf** **10 53 05.2 +0.2**
IMW IAMs_20 IAMs_20 11 52 01.6
comp=Z,386nm,22.0s
HICK Hickman 145.41 326 **PKPdf** **10 53 04.8 +0.1**
HICK IAMs_20 IAMs_20 11 59 12.5
comp=Z,396nm,20.0s
HENM Henderson Moun 145.42 326 IAMs_20 IAMs_20 12 01 55.6
comp=Z,335nm,20.0s
BGNE Belgrade 145.42 341 IAMs_20 IAMs_20 12 02 05.8
comp=Z,357nm,20.0s
Y49A Blount Mountai 145.53 319 PKPdf **PKPab** **10 53 05.6 +0.2**
Y49A IAMs_20 IAMs_20 12 05 01.8
comp=Z,429nm,19.0s
X48A Hartselle 145.55 321 PKPdf **PKPab** **10 53 05.4 0.0**
X48A IAMs_20 IAMs_20 11 56 59.0
comp=Z,351nm,20.0s
061Z Ochoppi 145.55 303 IAMs_20 IAMs_20 11 55 27.0
comp=Z,352nm,21.0s
J08A Circle Bar Ran 145.60 7 **PKPbc** **10 53 05.4 +0.2**
J08A IAMs_20 IAMs_20 11 52 37.0
comp=Z,338nm,19.0s
PARMO Parma 145.61 326 PKPdf **PKPbc** **10 53 05.5 +0.2**
PARMO IAMs_20 IAMs_20 12 03 12.7
comp=Z,368nm,19.0s
GLAT Glass 145.64 325 IAMs_20 IAMs_20 12 06 26.5
comp=Z,478nm,21.0s
FXWY Fox Creek 145.66 358 **PKPab** **10 53 07.5 +1.7**
R40A Maddies Statio 145.67 331 PKPdf **PKPbc** **10 53 05.6 +0.2**
R40A IAMs_20 IAMs_20 11 59 43.6
comp=Z,439nm,22.0s
PENMO Penman 145.70 326 IAMs_20 IAMs_20 12 06 07.0
comp=Z,410nm,19.0s
HLID Hailey 145.73 2 PKPdf **PKPab** **10 53 06.6 +0.6**
HLID IAMs_20 IAMs_20 11 50 16.5
comp=Z,364nm,21.0s
PVMO Portageville 145.77 326 IAMs_20 IAMs_20 11 59 24.8
comp=Z,414nm,22.0s
N33A J Bar K, Exete 145.78 339 PKPdf **PKPdf** **10 53 04.8 -0.5**
TPAW Teton Pass 145.80 358 **PKPab** **10 53 07.8 +1.5**
TPAW IAMs_20 IAMs_20 11 55 11.4
comp=Z,393nm,21.0s
MFID Camas Ranch 145.81 4 **PKPab** **10 53 07.7 +1.5**
MFID IAMs_20 IAMs_20 11 53 27.3
comp=Z,364nm,21.0s
SNOW Snow King Moun 145.82 357 **PKPab** **10 53 06.8 +0.3**
SNOW IAMs_20 IAMs_20 11 55 16.9
comp=Z,362nm,20.0s
PLAL Pickwick Lake 145.83 322 **PKPdf** **10 53 05.2 -0.4**
PLAL IAMs_20 IAMs_20 11 57 03.1
comp=Z,494nm,22.0s
K05A Summer Lake 145.84 11 pPKPdf 10 53 08.3 0.0
PBMO Poplar Bluff 145.90 327 **PKPab** **10 53 06.6 +0.1**
PBMO IAMs_20 IAMs_20 11 58 44.0
comp=Z,451nm,22.0s
HALT Halls 145.93 325 IAMs_20 IAMs_20 11 58 26.2
comp=Z,403nm,21.0s
352A Blakely 145.96 315 **PKPbc** **10 53 06.5 0.0**
352A IAMs_20 IAMs_20 11 55 02.9
comp=Z,349nm,22.0s
T42A Van Buren 146.06 328 **PKPab** **10 53 07.0 -0.2**
T42A IAMs_20 IAMs_20 12 00 00.2
comp=Z,453nm,21.0s
PEBM Pemiscott Bayo 146.07 326 IAMs_20 IAMs_20 11 58 29.0
comp=Z,414nm,21.0s
K22A Casper 146.23 352 PKPdf **PKPbc** **10 53 07.2 0.0**
K22A IAMs_20 IAMs_20 12 02 35.0
comp=Z,380nm,20.0s
ECR Eagle Creek 146.25 358 **PKPab** **10 53 08.9 +0.8**
KRMB Red Mountain 146.32 15 IAMs_20 IAMs_20 11 48 06.3
comp=Z,311nm,19.0s
W45A Hickory Valley 146.37 324 IAMs_20 IAMs_20 12 00 13.1
comp=Z,400nm,21.0s
YBH Yreka Blue Hor 146.42 14 IAMs_20 IAMs_20 11 58 47.7
comp=Z,323nm,21.0s
LRAL Lakeview Retre 146.43 319 **PKPdf** **10 53 06.6 0.0**
LRAL IAMs_20 IAMs_20 12 05 58.7
comp=Z,402nm,20.0s
BW06 Boulder Array 146.44 356 PKPdf **PKPdf** **10 53 04.9 -1.8**
BW06 **pPKPdf** **10 53 09.3 0.0**
BW06 IAMs_20 IAMs_20 12 03 27.3
comp=Z,301nm,21.0s
PD31 Pinedale Array 146.44 356 PKPdf **PKPdf** **10 53 05.8 -0.8**
PD31 **PKPab** **10 53 09.1 +0.3**
PDAR Pinedale Array 146.44 356 PKPbc **PKPbc** **10 53 07.8 -0.1**
comp=Z,0.9nm,0.7s,baz=75,slow=1.7,SNR=12
WVOR Wild Horse Val 146.49 8 IAMs_20 IAMs_20 12 00 48.4

comp=Z,301nm,20.0s
AHID Auburn Hatcher 146.53 358 IAMs_20 IAMs_20 12 03 02.7
comp=Z,374nm,20.0s
MGMO Mountain Grove 146.56 330 **PKPdf 10 53 06.8 0.0**
MGMO PKPbc **PKPab 10 53 09.0 -0.2**
MGMO IAMs_20 IAMs_20 11 59 33.3
comp=Z,375nm,20.0s
250A Grady 146.59 317 IAMs_20 IAMs_20 12 02 33.4
comp=Z,335nm,20.0s
S39A Bolivar 146.65 331 IAMs_20 IAMs_20 12 04 14.4
comp=Z,318nm,19.0s
MOD Modoc Plateau 146.75 10 IAMs_20 IAMs_20 11 50 51.3
comp=Z,371nm,21.0s
LCAR Lake Charles 146.81 327 **PKPab 10 53 10.2 0.0**
LCAR IAMs_20 IAMs_20 12 00 00.3
comp=Z,465nm,21.0s
KSU1 Kansas State U 146.90 337 **PKPbc 10 53 09.2 +0.1**
HBAR Harrisburg 146.92 326 IAMs_20 IAMs_20 12 02 49.4
comp=Z,366nm,22.0s
451A Vernon 147.03 314 IAMs_20 IAMs_20 11 56 29.3
comp=Z,346nm,21.0s
RWWY Rawlins 147.27 352 **PKPbc 10 53 10.4 0.0**
RWWY IAMs_20 IAMs_20 12 03 44.4
comp=Z,374nm,21.0s
TAOE Nuku Hiva Isla 147.34 123 *e*LR LR 11 41 48.2
comp=Z,515nm,30.9s
PHWY Pilot Hill 147.38 350 **PKPdf 10 53 07.7 -0.6**
PHWY IAMs_20 IAMs_20 12 05 29.7
comp=Z,284nm,19.0s
FCAR Ozark Folk Cen 147.46 328 **PKPbc 10 53 11.8 +1.0**
FCAR IAMs_20 IAMs_20 12 00 51.4
comp=Z,440nm,20.0s
Y45A Yeager Farm, C 147.48 322 IAMs_20 IAMs_20 12 06 39.7
comp=Z,386nm,19.0s
U40A Yellville 147.48 329 **PKPbc 10 53 11.8 +1.0**
U40A IAMs_20 IAMs_20 12 00 02.7
comp=Z,373nm,21.0s
WDC Whiskeytown Da 147.55 14 IAMs_20 IAMs_20 11 48 07.8
comp=Z,389nm,20.0s
BRAL Brewton 147.61 316 PKPbc **PKiKP 10 53 13.1 -0.3**
BRAL IAMs_20 IAMs_20 11 56 30.5
comp=Z,393nm,21.0s
HWUT Hardware Ranch 147.70 358 **PKPab 10 53 14.1 +0.4**
HWUT IAMs_20 IAMs_20 11 57 04.7
comp=Z,370nm,22.0s
N23A Red Feather La 147.86 350 **PKiKP 10 53 13.2 -0.8**
N23A IAMs_20 IAMs_20 11 55 42.3
comp=Z,427nm,21.0s
WHAR Wooly Hollow 148.01 327 IAMs_20 IAMs_20 11 57 53.8
comp=Z,417nm,22.0s
146A Union 148.01 320 **PKiKP 10 53 13.8 -0.4**
HHAR Hobbs 148.08 331 **PKPdf 10 53 09.8 +0.5**
U38A Gravette 148.16 331 PKPdf **PKPdf 10 53 10.1 +0.7**
U38A IAMs_20 IAMs_20 12 00 51.4
comp=Z,427nm,22.0s
TCUT Toone Canyon 148.19 358 **PKiKP 10 53 14.4 -0.3**
CBKS Cedar Bluff 148.28 340 PKP2 **PKiKP 10 53 14.8 +0.2**
CBKS MLR MLR
comp=Z,500nm,22.0s
CBKS Cedar Bluff 148.28 340 **PKiKP 10 53 14.8 +0.2**
CBKS PKPab **pPKPab 10 53 17.9 -0.8**
BGU Big Grassy Mou 148.40 0 PKPdf **PKPdf 10 53 09.9 +0.1**
BGU **PKiKP 10 53 15.0 0.0**
ELK Elko 148.50 4 PKP2 **PKiKP 10 53 14.9 -0.4**
ELK Elko 148.50 4 PKPbc **PKiKP 10 53 14.9 -0.4**
ELK IAMs_20 IAMs_20 12 03 09.7
comp=Z,327nm,20.0s
RDMU Red Mountain 148.63 355 **PKiKP 10 53 15.9 +0.4**
T35A Sooner Cattle 148.73 334 **PKiKP 10 53 15.9 +0.3**
T35A IAMs_20 IAMs_20 12 05 09.9
comp=Z,317nm,20.0s
CCAR Cane Creek 148.74 325 **PKiKP 10 53 15.2 -0.4**
ORV Oroville 148.77 13 IAMs_20 IAMs_20 11 47 31.9
comp=Z,309nm,21.0s
W39A Magazine 148.86 329 IAMs_20 IAMs_20 11 57 36.1
comp=Z,368nm,21.0s
ISCO Idaho Springs 148.87 349 PKIKP **PKPdf 10 53 09.3 -1.6**
ISCO 10 53 16.7
ISCO MLR MLR
comp=Z,700nm,19.0s
ISCO Idaho Springs 148.87 349 PKPdf **PKPdf 10 53 09.3 -1.6**
ISCO PKPbc **PKiKP 10 53 16.7 +0.5**
X40A Basin Creek Fa 148.91 327 IAMs_20 IAMs_20 11 59 30.7
comp=Z,401nm,20.0s
O20A White River Ci 148.93 353 IAMs_20 IAMs_20 11 57 35.2
comp=Z,312nm,20.0s
KSCO Kaye Shedlock' 148.96 345 PKPdf **PKPdf 10 53 10.5 -0.3**
KSCO PKPbc **PKiKP 10 53 16.3 +0.2**
PAHR Pah Rah Range 149.04 10 **PKiKP 10 53 16.8 +0.5**
PAHR IAMs_20 IAMs_20 12 04 14.9
comp=Z,297nm,19.0s
346A Big Creek Wild 149.09 319 **PKPab 10 53 20.2 +0.9**
DUG Dugway, Tooele 149.13 0 PKP2 **PKiKP 10 53 16.3 -0.2**
DUG Dugway, Tooele 149.13 0 **PKiKP 10 53 16.3 -0.2**
DUG IAMs_20 IAMs_20 12 02 57.4
comp=Z,291nm,19.0s
KAN10 Anthony SW Sta 149.20 337 **PKPab 10 53 21.5 +1.9**
TUL1 Leonard 149.25 332 **PKPbc 10 53 15.5 +0.1**
TUL1 IAMs_20 IAMs_20 11 58 23.0
comp=Z,424nm,21.0s
MIAR Mount Ida 149.26 328 PKP2 **PKiKP 10 53 16.5 -0.2**
MIAR MLR MLR
comp=Z,600nm,20.0s
MIAR Mount Ida 149.26 328 **PKiKP 10 53 16.4 -0.2**
VCNR Virginia City 149.40 11 **PKiKP 10 53 17.4 +0.2**
VCNR IAMs_20 IAMs_20 11 53 30.4
comp=Z,286nm,20.0s
QUOK Quay 149.44 334 PKPab **PKPab 10 53 22.0 +1.4**
AFDM Forest Hills D 149.47 13 **PKiKP 10 53 16.8 -0.2**
AFDM IAMs_20 IAMs_20 11 48 55.5
comp=Z,289nm,20.0s
RUBR Rubicon Trail 149.54 11 IAMs_20 IAMs_20 11 49 36.2
comp=Z,365nm,22.0s
PNTR Pine Nut 149.60 11 **PKiKP 10 53 18.8 +1.2**
PNTR IAMs_20 IAMs_20 11 47 44.0
comp=Z,358nm,22.0s
WLAR White Oak Lake 149.66 326 PKPab **PKPab 10 53 22.9 +1.3**
WLAR IAMs_20 IAMs_20 12 02 46.8
comp=Z,296nm,20.0s
CROK Carrier 149.69 336 PKPdf **PKPdf 10 53 12.1 +0.3**
CROK **PKiKP 10 53 17.9 +0.4**
344A Westbrook Farm 149.85 320 IAMs_20 IAMs_20 12 00 02.0
comp=Z,411nm,21.0s
KVN Kaiserville 149.89 8 IAMs_20 IAMs_20 12 09 13.4
comp=Z,313nm,19.0s
TMUT Trail Mountain 150.00 358 **PKiKP 10 53 18.2 -0.3**
X37A Clayton 150.13 330 **PKPab 10 53 23.5 0.0**
SRU San Rafael Swe 150.15 357 PKIKP **PKiKP 10 53 19.1 +0.5**
SRU San Rafael Swe 150.15 357 **PKiKP 10 53 19.1 +0.5**
U32A Winter Ranch, 150.20 337 IAMs_20 IAMs_20 12 03 45.0
comp=Z,396nm,19.0s
WAKR Walker 150.20 11 **PKiKP 10 53 19.5 +0.7**
WAKR IAMs_20 IAMs_20 12 06 41.8
comp=Z,369nm,18.0s
OK025 Westminster Rd 150.21 334 **PKPdf 10 53 14.2 +1.4**
RYN Ryan 150.24 9 IAMs_20 IAMs_20 12 08 24.7
comp=Z,355nm,20.0s
BCOK Bluff Creek, N 150.26 335 **PKPdf 10 53 13.2 +0.4**
Q16A Castle Valley 150.37 358 **PKiKP 10 53 19.3 +0.1**
OKCFA Oklahoma City 150.40 334 PKPdf **PKPdf 10 53 11.9 -1.2**
OKCFA **PKPbc 10 53 18.2 -0.1**
NVAR Mina Array Bea 150.47 9 PKP **PKPdf 10 53 12.0 -1.4**
comp=Z,0.3nm,0.8s,baz=208,slow=2.9,SNR=3.8
NVAR PKPbc **PKiKP 10 53 19.8 +0.4**
comp=Z,2.9nm,0.9s,baz=319,slow=1.7,SNR=17
CMB Columbia Colle 150.47 12 PKIKP **PKiKP 10 53 21.0 +1.8**
CMB Columbia Colle 150.47 12 **PKiKP 10 53 20.9 +1.8**
CMB IAMs_20 IAMs_20 11 59 31.9
comp=Z,441nm,22.0s
NV11 Mina Array Sit 150.49 9 **PKiKP 10 53 19.8 +0.5**
NV11 **pPKPab 10 53 27.0 -0.7**
FNO Franklin 150.51 334 **PKiKP 10 53 20.6 +1.3**
PV21 Cone Mtn., Par 150.57 354 **PKPbc 10 53 19.3 +0.4**
PV22 Blue Mesa, Par 150.57 354 **PKiKP 10 53 20.4 +0.8**
PV23 Carpenter Ridg 150.68 354 **PKiKP 10 53 20.5 +0.6**
PV04 Paradox Valley 150.72 354 **PKPbc 10 53 19.5 +0.3**
PV10 Paradox Valley 150.76 354 **PKPab 10 53 25.4 -0.9**
PSUT Pine Spring 150.77 2 **PKiKP 10 53 21.3 +1.3**
PSUT PKPab **PKPab 10 53 25.9 -0.3**
PV20 West Nyswonger 150.78 354 **PKiKP 10 53 21.5 +1.5**
PV12 Saucer Basin, 150.79 354 **PKiKP 10 53 20.1 +0.1**
PV16 Nyswonger Mesa 150.81 354 **PKiKP 10 53 20.2 +0.1**
PV11 David Mesa, Pa 150.81 354 **PKiKP 10 53 20.2 +0.1**
PV19 Morning Glory 150.82 354 **PKiKP 10 53 20.5 +0.4**

SDCO Great Sand Dun 150.84 348 **PKiKP 10 53 21.4 +1.2**
PV17 East Wray Mesa 150.84 354 **PKiKP 10 53 20.5 +0.3**
PV17 PKPab **PKPab 10 53 25.4 -1.1**
PV03 Paradox Valley 150.86 354 **PKiKP 10 53 20.4 +0.2**
PV18 Skein Mesa, Pa 150.87 354 **PKiKP 10 53 20.4 +0.2**
PV02 Paradox Valley 150.89 354 **PKiKP 10 53 20.4 +0.2**
342A Flagon Creek P 150.89 322 IAMs_20 IAMs_20 12 01 04.1
comp=Z,414nm,22.0s
PV13 Radium Mtn., P 150.95 354 **PKiKP 10 53 20.5 +0.1**
PV05 Paradox Valley 151.06 354 PKPdf **PKPdf 10 53 13.6 -0.7**
OMMB Old Mammoth Mi 151.15 10 **PKPab 10 53 27.0 -0.9**
MTPU Mount Pierson 151.28 359 **PKiKP 10 53 22.4 +1.1**
WMOK Wichita Mounta 151.54 335 PKIKP **PKiKP 10 53 21.8 +0.3**
WMOK Wichita Mounta 151.54 335 **PKiKP 10 53 21.8 +0.3**
WMOK Wichita Mounta 151.54 335 IAMs_20 IAMs_20 12 02 27.3
comp=Z,422nm,20.0s
CCUT Cedar City 151.76 1 **PKiKP 10 53 23.5 +1.4**
441A DeRidder 151.86 322 IAMs_20 IAMs_20 12 00 20.7
comp=Z,448nm,21.0s
PKCU Pink Cliffs 151.87 359 **PKiKP 10 53 24.4 +2.0**
AMTX Amarillo 152.50 340 **PKPbc 10 53 23.4 +0.1**
MSTX Muleshoe 153.69 341 IAMs_20 IAMs_20 12 08 35.8
comp=Z,345nm,19.0s
ANMO Albuquerque 153.73 348 IAMs_20 IAMs_20 12 00 23.9
comp=Z,362nm,22.0s
W18A Petrified Fore 154.05 354 IAMs_20 IAMs_20 12 02 48.8
comp=Z,328nm,22.0s
435B Jarrell 154.29 329 IAMs_20 IAMs_20 12 00 29.1
comp=Z,447nm,22.0s
TGUH Tegucigalpa,Un 154.60 283 IAMs_20 IAMs_20 11 57 03.3
comp=Z,444nm,22.0s
X16A Lo Mia Camp, P 154.87 357 IAMs_20 IAMs_20 12 06 04.4
comp=Z,305nm,20.0s
Y14A Wickenburg 155.37 1 IAMs_20 IAMs_20 12 04 06.7
comp=Z,400nm,22.0s
PFO Pinyon Flats O 155.46 7 IAMs_20 IAMs_20 12 05 32.8
comp=Z,385nm,22.0s
XPFO Pion Flat 155.46 7 IAMs_20 IAMs_20 12 04 57.8
comp=Z,336nm,20.0s
109C Camp Elliot, M 156.08 9 IAMs_20 IAMs_20 11 50 29.3
comp=Z,359nm,21.0s
BAR Barrett 156.35 8 IAMs_20 IAMs_20 12 02 18.4
comp=Z,395nm,21.0s
CBX Cerro Bola 156.71 8 IAMs_20 IAMs_20 12 09 42.0
comp=Z,258nm,20.0s
GUVIX Guadalupe Vict 156.90 5 IAMs_20 IAMs_20 12 08 48.1
comp=Z,280nm,18.0s
ESJX Sierra Juarez 157.11 7 IAMs_20 IAMs_20 11 54 25.6
comp=Z,323nm,19.0s
CCX Cicese 157.15 9 IAMs_20 IAMs_20 12 08 25.6
comp=Z,279nm,19.0s
SPX San Pedro Mart 158.12 6 IAMs_20 IAMs_20 11 51 04.1
comp=Z,381nm,21.0s
TX31 Lajitas Ar. Si 158.23 338 PKPab **PKPab 10 53 57.3 -0.7**
TX32 Lajitas Array 158.24 338 PKPdf **PKPdf 10 53 23.6 -0.7**
TX32 **PKPab 10 53 57.3 -0.7**
TXAR Lajitas Array 158.24 338 PKP **PKPdf 10 53 23.1 -1.2**
comp=Z,0.5nm,1.1s,baz=193,slow=5.1,SNR=3.5
TXAR PKPab **PKPab 10 53 56.4 -1.6**
comp=Z,1.3nm,0.8s,baz=44,slow=2.8,SNR=9.5

JMA ***02*** *10:59:06.3,24.79N×122.30E,h0km,M2.8*
TAP ***02*** *10:59:07.4,24.83N×122.20E,h7km,ML3.1,D*
ISC 02 10:59:06.7±1.0,24.82N±0.02×122.29E±0.02,h9km±8km,
n67,σ0.48/111,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
EGS		**0.32**	**274**	*i* P		**Pg**	**10 59 13.6**	**+0.5**
	baz=272							
EGS				S		**Sg**	**10 59 17.2**	**-0.3**
	baz=272							
TWB1	**Santiao Chiao**	**0.33**	**305**	*i* P		**Pg**	**10 59 13.0**	**-0.2**
	baz=314							
TWB1				*i* S		**Sg**	**10 59 17.4**	**-0.3**
	baz=314							
NTC	**Toucheng**	**0.42**	**275**	*e*P		**Pb**	**10 59 16.0**	**-0.2**
	baz=273							
NTC				*e*S		**Sb**	**10 59 21.4**	**-1.2**
	baz=273							
TIPB	**Shuangxi**	**0.45**	**290**	P		**Pg**	**10 59 15.7**	**+0.2**
	baz=292							
TIPB				S		**Sg**	**10 59 22.1**	**+0.7**
	baz=292							
TWC	**Suao**	**0.45**	**242**	*i* P		**Pg**	**10 59 15.8**	**+0.3**
	baz=233							
TWC				*i* S		**Sg**	**10 59 21.9**	**+0.5**
	baz=233							
ILA	**Ilan**	**0.49**	**264**	P		**Pg**	**10 59 16.6**	**+0.2**
	baz=260							
ILA				*e*S		**Sg**	**10 59 22.9**	**+0.1**
	baz=260							
NWF	**Wu-fen Shan**	**0.52**	**299**	*i* P		**Pg**	**10 59 17.2**	**+0.3**
	baz=302							
NWF				S		**Sg**	**10 59 24.1**	**+0.3**
	baz=302							
WFSB	**Wu-fen Shan**	**0.52**	**299**	P		**Pg**	**10 59 17.3**	**+0.4**
	baz=302							
WFSB				S		**Sb**	**10 59 25.1**	**-0.6**
	baz=302							
ENAH	**Nanao**	**0.57**	**230**	*i* P		**Pb**	**10 59 18.4**	**-0.5**
	baz=222							
ENAH				S		**Sb**	**10 59 26.5**	**-0.5**
	baz=222							
TWE	**Neicheng**	**0.57**	**260**	*i* P		**Pg**	**10 59 17.9**	**+0.1**
	baz=256							
TWE				S		**Sb**	**10 59 26.2**	**-0.9**
	baz=256							
ENA	**Nanau**	**0.63**	**232**	*i* P		**Pg**	**10 59 19.2**	**+0.3**
	baz=225							
ENA				*i* S		**Sg**	**10 59 27.7**	**+0.4**
	baz=225							
TWA	**Mucha**	**0.66**	**284**	*i* P		**Pb**	**10 59 20.2**	**-0.2**
	baz=284							
TWA				S		**Sg**	**10 59 28.5**	**+0.4**
	baz=284							
ENTT	**Nioudou**	**0.68**	**255**	P		**Pb**	**10 59 20.4**	**-0.4**
	baz=251							
ENTT				*e*S		**Sb**	**10 59 29.7**	**-0.5**
	baz=251							
JYNG	**Yonagunijimaku**	**0.70**	**121**	P		**Pg**	**10 59 19.9**	**-0.4**
JYNG				S		**Sg**	**10 59 29.6**	**+0.1**
NHDH	**Xindian Distri**	**0.71**	**282**	P		**Pb**	**10 59 21.3**	**+0.1**
	baz=282							
NHDH				S		**Sg**	**10 59 30.1**	**+0.4**
	baz=282							
NWLT	**Wulai**	**0.71**	**267**	*e*P		**Pb**	**10 59 21.5**	**+0.2**
	baz=265							
NWLT				*e*S		**Sb**	**10 59 30.6**	**-0.7**
	baz=265							
TAP1	**Taipei**	**0.73**	**288**	*e*S		**Sb**	**10 59 32.0**	**+0.4**
	baz=288							
YM01	**YM01**	**0.73**	**297**	P		**Pb**	**10 59 21.1**	**-0.5**
	baz=298							
YM01				S		**Sb**	**10 59 31.0**	**-0.7**
	baz=298							
YM08	**YM08**	**0.73**	**300**	P		**Pg**	**10 59 20.7**	**-0.1**
	baz=302							
YM08				S		**Sg**	**10 59 30.8**	**+0.4**
	baz=302							
YM11	**YM11**	**0.73**	**298**	P		**Pg**	**10 59 21.1**	**+0.2**
	baz=300							
NDT	**Datong Townshi**	**0.74**	**253**	P		**Pb**	**10 59 21.2**	**-0.5**
	baz=249							
NDT				S		**Sb**	**10 59 31.1**	**-0.8**
	baz=249							
YM05	**YM05**	**0.74**	**298**	P		**Pb**	**10 59 21.5**	**-0.3**
	baz=300							
YM05				S		**Sg**	**10 59 31.0**	**+0.3**
	baz=300							
YM10	**YM10**	**0.74**	**297**	P		**Pb**	**10 59 21.3**	**-0.4**
	baz=299							
YM10				*e*S		**Sg**	**10 59 30.5**	**-0.2**
	baz=299							
YOJ	**Yonaguni jima**	**0.75**	**118**	P		**Pg**	**10 59 20.5**	**-0.7**
YOJ				*e*S		**Sg**	**10 59 30.6**	**-0.4**
YM04	**YM04**	**0.76**	**296**	P		**Pg**	**10 59 21.4**	**+0.1**
	baz=298							
YM04				S		**Sb**	**10 59 32.0**	**-0.5**
	baz=298							
YM03	**YM03**	**0.77**	**298**	*e*P		**Pg**	**10 59 21.1**	**-0.4**
	baz=300							
YM03				S		**Sb**	**10 59 32.0**	**-0.8**
	baz=300							
TWY	**Chenhua**	**0.77**	**306**	P		**Pb**	**10 59 21.9**	**-0.4**
	baz=309							

PCYT Pengchaiyu 0.83 346 P **Pg 10 59 22.7 0.0**
baz=352
NTST Danshui 0.83 294 *e*P **Pb 10 59 23.2 -0.1**
baz=296
TWS1 Kuangyinshan 0.84 290 P **Pb 10 59 23.5 +0.1**
baz=290
YHNB Yeheng 0.84 260 P **Pb 10 59 23.4 -0.1**
baz=257
YHNB *e*S **Sb 10 59 35.6 +0.6**
baz=257
NSK Sanguang 0.86 260 P **Pb 10 59 23.6 -0.2**
baz=258
NSK S **Sg 10 59 34.6 +0.2**
baz=258
NACB Ninganchiao 0.90 225 P **Pg 10 59 24.0 -0.1**
baz=219
NNSB Datong 0.91 245 P **Pb 10 59 24.6 -0.2**
baz=241
NNSB S **Sb 10 59 36.7 -0.3**
baz=241
NNSH Datong 0.91 245 *e*P **Pb 10 59 24.7 -0.1**
baz=241
NNSH *e*S **Sb 10 59 37.1 +0.1**
baz=241
NNS Nan Shan 0.91 246 *i* P **Pb 10 59 24.8 0.0**
baz=242
NNS *i* S **Sb 10 59 36.9 -0.2**
baz=242
WLTB Daxi 0.94 272 *e*P **Pb 10 59 25.1 -0.1**
baz=271
WLTB *e*S **Sb 10 59 37.2 -0.5**
baz=271
ETLH Xiulin Townshi 0.95 230 *e*P **Pg 10 59 25.1 0.0**
baz=226
ETLH S **Sb 10 59 38.9 +0.6**
baz=226
TWD Chiawan 0.97 221 *e*P **Pb 10 59 25.5 -0.2**
baz=215
TWD S **Sb 10 59 38.7 +0.1**
baz=215
FUSS Fushou 1.11 239 *e*P **Pn 10 59 28.6 0.0**
baz=236
FUSS S **Sn 10 59 43.8 -0.3**
baz=236
WHF Hehuan Shan 1.15 234 *i* P **Pn 10 59 29.2 -0.1**
baz=230
WHF S **Sb 10 59 44.3 +0.2**
baz=230
TWT Tachien 1.16 241 P **Pn 10 59 30.2 +0.9**
baz=238
TWT *e*S **Sn 10 59 45.1 -0.2**
baz=238
LIOB Emei 1.17 262 *e*P **Pg 10 59 28.7 -0.5**
baz=260
TDCB Techi 1.17 241 *e*P **Pn 10 59 29.5 0.0**
baz=238
TDCB *e*S **Sb 10 59 44.8 +0.2**
baz=238
NSTT Nanjuang 1.18 261 P **Pg 10 59 28.8 -0.7**
baz=259
NSTT S **Sg 10 59 43.6 -1.3**
baz=259
CHGB Renai 1.27 233 P **Pg 10 59 31.2 +0.2**
baz=230
CHGB S **Sn 10 59 48.2 +0.2**
baz=230
ESL Shilin 1.27 218 *e*P **Pn 10 59 30.2 -0.4**
baz=214
ESL *e*S **Sn 10 59 49.2 +1.5**
baz=214
WHP Taichung City 1.34 246 P **Pg 10 59 32.5 +0.1**
baz=244
WHP *e*S **Sn 10 59 49.8 +0.2**
baz=244
NMLH Miaoli 1.39 259 *e*P **Pn 10 59 32.4 +0.1**
baz=257
NMLH *e*S **Sb 10 59 49.9 -0.8**
baz=257
IRIF Iriomote-Funau 1.40 110 P **Pn 10 59 32.6 +0.2**
IRIF *e*S **Sn 10 59 51.4 +0.4**
TWQ1 Liyutan 1.46 251 *e*P **Pn 10 59 33.1 -0.1**
baz=249
DPDB Guoxing 1.47 238 *e*P **Pn 10 59 33.5 +0.1**
baz=235
VWDT VWDT 1.49 225 P **Pb 10 59 34.6 0.0**
baz=221
HGSD Ruisui 1.54 211 *e*P **Pb 10 59 35.1 -0.3**
baz=207
SMLT Sun Moon Lake 1.57 234 *e*P **Pb 10 59 35.7 -0.3**
baz=231
EHY Hungye 1.58 214 *e*P **Pn 10 59 34.3 -0.6**
baz=210
TYC Yuchr 1.59 235 *e*P **Pb 10 59 35.9 -0.4**
baz=232
SSLB Suanglung 1.59 230 *e*P **Pg 10 59 36.9 -0.4**
baz=227
JKRS Kuro-shima 1.67 110 *e*S **Sb 10 59 58.9 +0.1**
TWF1 Yuli 1.72 212 *e*P **Pn 10 59 36.9 +0.1**
baz=208
JIJ Ishigaki jima 1.75 105 P **Pn 10 59 37.4 +0.2**
JIJ *e*S **Sn 11 00 00.4 +0.8**
FULB Fuli 1.85 210 *e*P **Pb 10 59 40.0 -0.8**
baz=206
JISG Ishigakijimahi 1.85 97 P **Pn 10 59 39.5 +0.8**
JISG *e*S **Sb 11 00 04.2 +0.1**
ALS Alishan 1.88 226 *e*P **Pb 10 59 41.0 -0.4**
baz=223
CHN5 Tsauling 1.91 231 *e*P **Pb 10 59 41.3 -0.5**
baz=228
WDLH Douliu 1.95 235 *e*P **Pb 10 59 42.8 +0.4**
baz=233
TPUB Ta-pu 2.14 225 *e*P **Pn 10 59 44.1 +1.5**
baz=223

TAP 02 10:59:16.9,24.90N×122.36E,h17km±1km,ML3.3,D,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.35**	**287**	*i* P		Pb	10 59 24.8	0.0
	baz=287							
TWB1				*i* S		Sb	10 59 30.4	+0.3
	baz=287							
EGS		**0.40**	**262**	P		Pb	10 59 25.9	+0.4
	baz=260							
EGS				S		Sb	10 59 31.4	+0.2
	baz=260							
NTC	**Toucheng**	**0.49**	**264**	*e*P		Pb	10 59 27.1	+0.1
	baz=264							
NTC				*e*S		Sb	10 59 34.0	+0.2
	baz=264							
TIPB	**Shuangxi**	**0.49**	**278**	P		Pb	10 59 27.1	0.0
	baz=277							
TIPB				*i* S		Sb	10 59 35.0	+1.0
	baz=277							
TWC	**Suao**	**0.55**	**238**	P		Pb	10 59 28.4	+0.3
	baz=237							
TWC				*i* S		Sb	10 59 36.3	+0.6
	baz=237							
NWF	**Wu-fen Shan**	**0.55**	**288**	P		Pg	10 59 27.8	-0.2
	baz=287							
NWF				*i* S		Sb	10 59 36.9	+1.0
	baz=287							
WFSB	**Wu-fen Shan**	**0.55**	**288**	P		Pg	10 59 27.7	-0.2
	baz=287							
WFSB				S		Sb	10 59 36.3	+0.5
	baz=287							
ILA	**Ilan**	**0.57**	**256**	*e*P		Pb	10 59 28.6	0.0
	baz=255							
ILA				S		Sb	10 59 37.1	+0.8
	baz=255							
TWE	**Neicheng**	**0.66**	**254**	P		Pg	10 59 29.6	-0.2
	baz=253							
TWE				S		Sb	10 59 39.4	+0.6
	baz=253							
ENAH	**Nanao**	**0.68**	**228**	*e*P		Pb	10 59 30.5	+0.3
	baz=227							
ENAH				S		Sb	10 59 40.4	+1.2
	baz=227							
TWA	**Mucha**	**0.71**	**276**	*e*P		Pg	10 59 29.6	-1.2
	baz=276							
TWA				S		Sb	10 59 40.8	+0.5
	baz=276							
ENA	**Nanau**	**0.74**	**230**	*e*P		Pg	10 59 31.4	+0.1
	baz=229							
ENA				S		Sg	10 59 42.2	+1.1
	baz=229							

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YM08	YM08	0.76	292	eP	Pb	10 59 31.4	-0.2
	baz=292						
YM08				S	Sg	10 59 42.3	+0.6
	baz=292						
YM01	YM01	0.76	289	eP	Pg	10 59 31.8	+0.1
	baz=288						
YM01				S	Sn	10 59 42.9	-1.1
	baz=288						
YM11	YM11	0.76	290	eP	Pb	10 59 31.7	0.0
	baz=290						
YM11				eS	Sg	10 59 42.9	+1.0
	baz=290						
NHDH	Xindian Distri	0.76	275	eP	Pb	10 59 31.6	-0.1
	baz=274						
NHDH				S	Sn	10 59 43.2	-0.8
	baz=274						
YM05	YM05	0.77	290	P	Pg	10 59 31.9	0.0
	baz=289						
YM05				S	Sn	10 59 43.2	-1.0
	baz=289						
YM10	YM10	0.77	289	eP	Pg	10 59 32.4	+0.4
	baz=289						
YM10				S	Sg	10 59 43.2	+1.0
	baz=289						
ENTT	Nioudou	0.77	250	P	Pg	10 59 32.0	+0.1
	baz=249						
ENTT				S	Sg	10 59 42.5	+0.4
	baz=249						
TWY	Chenhua	0.79	298	P	Pg	10 59 32.2	0.0
	baz=298						
TWY				S	Sg	10 59 43.1	+0.5
	baz=298						
YM04	YM04	0.79	289	eS	Sn	10 59 43.9	-0.8
	baz=288						
NWLT	Wulai	0.79	261	eP	Pb	10 59 32.3	0.0
	baz=260						
NWLT				eS	Sg	10 59 43.1	+0.2
	baz=260						
YM03	YM03	0.80	290	P	Pg	10 59 32.6	+0.1
	baz=290						
YM03				eS	Sn	10 59 44.2	-0.8
	baz=290						
ANP	Anpu	0.81	290	S	Sg	10 59 44.1	+0.5
	baz=290						
NDT	Datong Townshi	0.83	249	eP	Pn	10 59 33.5	-0.3
	baz=248						
NDT				S	Sn	10 59 46.2	+0.5
	baz=248						
NTST	Danshui	0.87	288	S	Sn	10 59 46.4	-0.2
	baz=287						
TWS1	Kuangyinshan	0.88	283	eP	Pn	10 59 34.3	-0.2
	baz=283						
TWS1				eS	Sg	10 59 45.9	+0.3
	baz=283						
YHNB	Yeheng	0.93	256	P	Pb	10 59 34.4	-0.2
	baz=255						
YHNB				eS	Sg	10 59 47.5	+0.3
	baz=255						
NACB	Ninganchiao	1.01	224	eP	Pb	10 59 35.9	0.0
	baz=223						
NACB				S	Sn	10 59 49.9	-0.2
	baz=223						
NNSB	Datong	1.01	242	eS	Sn	10 59 50.8	+0.5
	baz=242						
NNSH	Datong	1.01	242	S	Sn	10 59 50.0	-0.2
	baz=242						
WLTB	Daxi	1.01	267	eS	Sn	10 59 50.8	+0.7
	baz=267						
NNS	Nan Shan	1.01	243	P	Pn	10 59 36.4	0.0
	baz=242						
NNS				S	Sg	10 59 50.0	+0.2
	baz=242						
ETLH	Xiulin Townshi	1.06	229	P	Pn	10 59 37.1	+0.1
	baz=229						
ETLH				eS	Sb	10 59 50.3	-0.2
	baz=229						
NCU	National Centr	1.07	274	eP	Pg	10 59 37.4	-0.2
	baz=273						
NCU				eS	Sg	10 59 52.3	+0.7
	baz=273						
NCUH	Zhongli	1.07	274	eP	Pg	10 59 37.7	0.0
	baz=273						
TWD	Chiawan	1.08	221	eS	Sn	10 59 51.3	-0.4
	baz=220						
NHW	Xinwu Township	1.20	275	S	Sn	10 59 55.2	+0.4
	baz=274						
FUSS	Fushou	1.21	238	eP	Pb	10 59 39.7	+0.2
	baz=237						
FUSS				S	Sn	10 59 55.7	+0.3
	baz=237						
LIOB	Emei	1.25	258	eP	Pn	10 59 39.2	-0.4
	baz=258						
LIOB				eS	Sn	10 59 56.7	+0.6
	baz=258						
WHF	Hehuan Shan	1.25	233	P	Pb	10 59 40.5	+0.2
	baz=232						
WHF				S	Sb	10 59 56.5	+0.1
	baz=232						
SBCB	Hsinchu	1.25	265	eP	Pn	10 59 39.7	0.0
	baz=264						
TWT	Tachien	1.26	239	eP	Pn	10 59 39.7	-0.2
	baz=239						
TWT				S	Sn	10 59 57.0	+0.4
	baz=239						
NSTT	Nanjuang	1.27	258	eP	Pn	10 59 39.5	-0.4
	baz=257						
NSTT				eS	Sg	10 59 57.2	-0.7
	baz=257						
HSN	Hsinchu	1.27	266	eP	Pn	10 59 39.0	-0.9
	baz=266						
HSN				S	Sb	10 59 56.2	-0.2
	baz=266						
CHGB	Renai	1.37	232	eS	Sb	10 59 59.5	0.0
	baz=232						
WHP	Taichung City	1.43	245	eP	Pn	10 59 41.8	-0.4
	baz=244						
WHP				eS	Sn	11 00 00.8	+0.2
	baz=244						
NMLH	Miaoli	1.47	256	eS	Sb	11 00 02.1	-0.2
	baz=255						
SMLT	Sun Moon Lake	1.68	233	eS	Sn	11 00 06.8	0.0
	baz=232						
EHY	Hungye	1.68	215	eS	Sb	11 00 08.1	-0.3
	baz=214						

IDC 02 11:01:06.8±8.5**, 11°.83N**×**98°.92E, h0**km**, mb3.6**/4**, mb1 3.7**/5**, mb1mx3.5**/52**, mbtmp3.6**/5**, ML3.7**/1**, Error ellipse: s-maj=187.1km s-min=63.5km az=122.0, Malay Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.59	0	Pn	Pn	11 02 47.0	+2.1
	0.4nm,0.3s,baz=214,slow=15,SNR=2.3						
MKAR	Makanchi Array	37.58	341	P	P	11 08 22.5	-0.4
	0.4nm,0.9s,baz=159,slow=9.3,SNR=2.2						
ZALV	Zalesovo Beam	43.48	348	P	P	11 09 10.1	-1.6
	0.7nm,0.6s,baz=165,slow=11,SNR=2.1						
GEYT	Alibeck	44.71	313	P	P	11 09 21.6	-0.3
	1.5nm,0.4s,baz=144,slow=10,SNR=4.1						
GERES	GERESS Array B	78.06	318	P	P	11 13 08.7	+1.1
	0.1nm,0.4s,baz=95,slow=9.0,SNR=1.8						

*NEIC **02** 11:03:24.6±1.4, 10°.97S±0°.07×162°.28E±0°.07, h34km±4km, mb4.9/78, Error ellipse: s-maj=10.4km s-min=9.8km az=55.0*

*IDC **02** 11:03:26.9±2.3, 10°.99S×162°.15E, h52km±18km, mb4.1/17, mb1 4.3/21, mb1mx4.2/38, mbtmp4.4/21, ML4.3/2, MS4.4/24, Ms1 4.4/24, ms1mx4.3/37, Error ellipse: s-maj=19.4km s-min=13.9km az=97.0*

*GCMT **02** 11:03:26.6±0.2, 11°.05S±0°.02×162°.07E±0°.02, h34km, MW5.2/87, Moment Tensor Solution. s55,c72; s87,c131; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.68±.03; $M_{\theta\theta}$-0.58±.02; $M_{\phi\phi}$-0.09±.02; $M_{r\theta}$0.21±.03; $M_{\theta\phi}$0.37±.01; $M_{\phi r}$-0.30±.02; Best double couple: $M_0$0.81900×10^{17} NP1:ϕ_s284.00000°, δ35.00000°, λ67.00000°. NP2:ϕ_s131.00000°, δ59.00000°, λ105.00000°. Principal axes: T 0.7870, Plg72.0000°, Azm78.0000°; N 0.0640, Plg13.0000°, Azm303.0000°; P -0.8510, Plg12.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 11:03:24.6±0.3**, 10°.98S**±0°.05×**162°.36E**±0°.06**, h35**km**, n164, σ1s.18**/159**, mb4.8**/66**, MS4.4**/28**, 1D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	2.83	303	P	Pn	11 04 07.5	+0.1
	245nm,0.3s,baz=165,slow=1.7,SNR=36						
HNR				S	Sn	11 04 42.0	+1.7
	522nm,0.3s,baz=1.6,slow=23,SNR=11						
HNR				LR	LR	11 05 19.9	
	comp=Z,12μm,18.1s,baz=126,slow=42						
HNR	Honiara	2.83	303	Pn	Pn	11 04 07.7	+0.3
HNR				Sn	Sn	11 04 39.0	-1.3
DZM	Mont Dzumac	11.70	161	ePn	Pn	11 06 12.7	+3.5
	23nm,0.5s						
DZM				eSn	Sn	11 08 16.2	-2.4
	12nm,0.5s						
DZM				eLR	LR	11 09 01.0	
	comp=Z,3μm,22.3s						
DZM	Mont Dzumac	11.70	161	P	Pn	11 06 11.8	+2.6
	2.4nm,0.3s,baz=337,slow=17,SNR=36						
DZM				S	Sn	11 08 14.9	-3.8
	0.6nm,0.3s,baz=237,slow=23,SNR=1.8						
DZM				LR	LR	11 10 10.5	
	comp=Z,3μm,19.5s,baz=357,slow=34						
DZM	Mont Dzumac	11.70	161		Pn	11 06 10.1	+0.9
KRVT	Keravat (AS076	12.20	302	P	Pn	11 06 16.9	+0.8
	1.4nm,0.3s,baz=165,slow=23,SNR=1.4						
PMG	Port Moresby	15.04	275	P	Pn	11 06 54.6	-0.1
	0.4nm,0.3s,baz=124,slow=6.5,SNR=4.9						
PMG				LR	LR	11 12 22.3	
	comp=Z,4μm,19.8s,baz=110,slow=36						
PMG	Port Moresby	15.04	275		Pn	11 06 53.5	-1.3
TARA	Tarawa	16.14	41		Pn	11 07 09.6	+0.6
MSVF	Nonsavu	16.61	116		Pn	11 07 16.5	+1.6
EIDS	Eidsvold	17.86	215	P	Pn	11 07 31.3	+1.0
	baz=18,SNR=17						
EIDS	Eidsvold	17.86	215	P	Pn	11 07 30.8	+0.5
EIDS				IAmb	IAmb	11 07 34.4	
	comp=Z,62nm,0.9s						
CTA	Charters Tower	17.95	238	P	P	11 07 33.6	+1.7
	comp=Z,2.9nm,0.3s,baz=63,slow=14,SNR=39						
CTAO	Charters Tower	17.95	238		P	11 07 33.3	+1.4
PATS	Pohnpei	18.16	347	P	Pn	11 07 34.1	0.0
PATS				IAmb	IAmb	11 07 48.1	
	comp=Z,150nm,1.5s						
MTSU	Mount Surprise	18.85	246	P	Pn	11 07 44.2	+1.7
	baz=19,SNR=39						
COEN	Coen	18.96	259	P	Pn	11 07 45.6	+1.6
	baz=19,SNR=6.7						
COEN	Coen	18.96	259	P	P	11 07 42.8	-0.3
COEN				IAmb	IAmb	11 07 47.0	
	comp=Z,54nm,1.1s						
RMQ	Roma	20.06	218	P	Pn	11 07 57.1	+0.1
	baz=20,SNR=58						
KWAJ	Kwajalein Atol	20.34	15	P	Pn	11 08 00.7	+0.5
LHI	Lord Howe Isla	20.66	188	P	P	11 08 02.5	+1.1
ARMA	Armidale	21.76	206	P	P	11 08 14.7	+1.3
	baz=22,SNR=5.6						
ARMA	Armidale	21.76	206	P	P	11 08 13.4	0.0
JAY	Jayapura	23.07	290	P	P	11 08 26.7	-0.7
	comp=Z,22nm,1.0s,baz=125,slow=4.3,SNR=7.3						
QLP	Quilpie	23.09	225	P	P	11 08 27.2	-0.1
	baz=23,SNR=8.6						
QIS	Mount Isa	23.85	244	P	P	11 08 35.5	+0.6
	baz=24,SNR=6.9						
SMPI	Sarmi	25.12	289	P	P	11 08 47.7	+1.2
	comp=Z,83nm,0.9s						
AFI	Afiamalu	25.42	99	LR	LR	11 17 29.9	
	comp=Z,1μm,18.5s,baz=277,slow=33						
CMSA	Cobar Meteorol	25.61	215	P	P	11 08 51.2	+0.4
	baz=26,SNR=8.9						
NIUE	Niue	27.92	110	P	P	11 09 12.1	+0.4
WR0	Warramunga Arr	28.22	248	P	P	11 09 11.6	-2.8
STKA	Stephens Creek	28.28	220	P	P	11 09 14.1	-0.8
	comp=Z,2.3nm,0.5s,baz=6.4,slow=14,SNR=4.6						
STKA				LR	LR	11 20 27.7	
	comp=Z,2μm,18.5s,baz=22,slow=36						
STKA	Stephens Creek	28.28	220		P	11 09 14.1	-0.8
WB0	Warramunga Arr	28.31	249	P	P	11 09 14.6	-0.6
WB2	Warramunga Arr	28.39	248	P	P	11 09 14.9	-1.0
WRA	Warramunga Arr	28.40	248	P	P	11 09 14.0	-2.1
	comp=Z,4.0nm,1.0s,baz=77,slow=9.1,SNR=24						
WRA				PcP	PcP	11 12 27.2	-0.8
	comp=Z,3.5nm,0.8s,baz=79,slow=2.4,SNR=9.9						
WRA				LR	LR	11 20 34.6	
	comp=Z,3μm,18.4s,baz=70,slow=36						
KDU	Kakadu	29.29	264	P	P	11 09 22.6	-1.4
	baz=29,SNR=11						
AS31	Alice Springs	29.88	241	P	P	11 09 26.8	-2.3
ASAR	Alice Springs	29.88	241	P	P	11 09 27.9	-1.3
	comp=Z,2.3nm,0.8s,baz=72,slow=9.8,SNR=14						
ASAR				PcP	PcP	11 12 30.9	-0.9
	comp=Z,3.6nm,0.9s,baz=78,slow=2.6,SNR=9.5						
ASAR				ScP	ScP	11 16 10.6	-0.9
	comp=Z,1.0nm,0.8s,baz=48,slow=3.5,SNR=5.6						
ASAR				LR	LR	11 20 45.7	
	comp=Z,1μm,19.1s,baz=60,slow=35						
TOO	Toolangi	30.51	207	P	P	11 09 34.0	-0.6
	baz=30,SNR=5.8						
TOO	Toolangi	30.51	207	P	P	11 09 33.4	-1.2
TOO				IAmb	IAmb	11 09 40.0	
	comp=Z,25nm,1.2s						
MTN	Manton Dam	30.60	263	P	P	11 09 36.1	+0.5
	baz=30,SNR=5.6						
MTN	Manton Dam	30.60	263	P	P	11 09 34.6	-1.0
MTN				IAmb	IAmb	11 09 41.5	
	comp=Z,38nm,1.5s						
HTT	Hallett	31.00	220	P	P	11 09 39.3	+0.4
	baz=31,SNR=4.5						
TUWZ	Tuamarina	31.99	163	P	P	11 09 46.9	-0.6
BBOO	Buckleboo	32.50	224	P	P	11 09 51.8	-0.3
	baz=32,SNR=7.7						
BBOO	Buckleboo	32.50	224	P	P	11 09 51.4	-0.7
BBOO				IAmb	IAmb	11 10 01.2	
	comp=Z,17nm,0.8s						
KNRA	Kununurra	33.00	258	P	P	11 09 55.6	-1.0
	baz=33,SNR=25						
KNRA	Kununurra	33.00	258	P	P	11 09 55.7	-0.9
WRKA	Warakurna	35.16	242	P	P	11 10 13.9	-1.4
	baz=35,SNR=41						
FITZ	Fitzroy Crossi	36.19	254	P	P	11 10 22.8	-1.4
	comp=Z,6.6nm,0.6s,baz=78,slow=7.5,SNR=18						
FITZ	Fitzroy Crossi	36.19	254	P	P	11 10 22.8	-1.4
	baz=36,SNR=28						
FITZ	Fitzroy Crossi	36.19	254	P	P	11 10 23.1	-1.1
FITZ				IAmb	IAmb	11 10 32.0	
	comp=Z,13nm,0.7s						
FORT	Forrest	37.39	233	P	P	11 10 34.3	0.0
SOEI	Soe	37.48	268	P	P	11 10 36.6	+1.2
	comp=Z,25nm,0.8s						
MMRI	Maumere	39.59	270	P	P	11 10 51.7	-1.3
	comp=Z,64nm,0.4s						
EDFI	Ende, Flores	40.11	269	P	P	11 10 59.5	+2.0
	comp=Z,11nm,1.1s						
GTOI	Gorontalo	40.78	284	P	P	11 11 05.7	+2.8
	comp=Z,20nm,0.8s						
PSAB2	Pilbara Seismi	42.01	250	P	P	11 11 12.4	-0.5
PSAB2				IAmb	IAmb	11 11 22.3	
	comp=Z,23nm,1.0s						
PSA00	Pilbara Seismi	42.02	250		P	11 11 12.3	-0.7
PSA00				IAmb	IAmb	11 11 22.4	
	comp=Z,28nm,1.1s						
BNSI	Bone	42.34	276	P	P	11 11 15.9	+0.2
	comp=Z,95nm,1.1s						
KAPI	Kappang	42.58	275	P	P	11 11 16.2	-1.4
KAPI				IAmb	IAmb	11 11 26.4	
	comp=Z,34nm,0.9s						
SPSI	Sidrap Palu	42.76	276	P	P	11 11 17.5	-1.6
	comp=Z,32nm,1.0s						
MEEK	Meekatharra	44.00	243	P	P	11 11 28.7	-0.3
	baz=44,SNR=6.3						
TWSI	Taliwang, Sumb	44.83	269	P	P	11 11 36.8	+1.1
	comp=Z,24nm,0.8s						
BLDU	Ballidu	46.55	238	P	P	11 11 49.6	+0.4
	baz=46,SNR=9.9						
MORW	Morawa	46.75	240	P	P	11 11 50.3	-0.4
	baz=47,SNR=5.5						
MORW	Morawa	46.75	240	P	P	11 11 50.0	-0.8
PPT	Papeete	46.94	104	LR	LR	11 28 36.8	
	comp=Z,298nm,18.3s,baz=262,slow=32						
PPT2	Papeete2	46.94	104	eLQ	LQ	11 23 27.3	
	comp=Z,819nm,28.8s						
PPT2				eLR	LR	11 25 39.0	
	comp=Z,897nm,25.8s,baz=280						
TBI	Tubuai	47.44	112	eLQ	LQ	11 23 43.0	
	comp=Z,557nm,27.8s						
TBI				eLR	LR	11 25 51.2	
	comp=Z,567nm,34.2s						
JAGI	Jajag, Banyuwa	47.54	269	P	P	11 11 57.7	+0.6
JAGI	Jajag, Banyuwa	47.54	269	P	P	11 11 55.3	-1.8
INU	Inuyama	51.95	334	P	P	11 12 28.8	-1.4
INU				IAmb	IAmb	11 12 40.7	
	comp=Z,27nm,1.2s						
MJAR	Matsushiro Arr	52.46	335	P	P	11 12 33.9	-0.2
	comp=Z,2.9nm,0.6s,baz=172,slow=8.4,SNR=9.4						
MJAR				LR	LR	11 33 13.3	
	comp=Z,170nm,21.8s,baz=175,slow=34						
MAT	Matsushiro	52.46	335	P	P	11 12 34.0	0.0
CISI	Cisompet, Garu	53.88	269	P	P	11 12 43.6	-1.4
TAOE	Nuku Hiva Isla	56.60	93	eLR	LR	11 30 11.5	
	comp=Z,530nm,23.8s						
JKA	Kamikawa-asahi	57.71	343	P	P	11 13 11.8	+0.1
KSRS	Korea Array	58.01	328	P	P	11 13 15.0	+1.1
	comp=Z,2.3nm,1.0s,baz=19,slow=19,SNR=3.7						
KSRS				LR	LR	11 36 21.5	
	comp=Z,341nm,19.9s,baz=136,slow=34						
NJ2	Nanjing	59.68	317	eP	P	11 13 27.5	+1.8
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
QIZ	Qiongzhong	59.74	300	P	P	11 13 26.4	0.0
QIZ				S	S	11 21 36.7	+1.3
QIZ				LR	LR		
	comp=Z,220nm,4.6s						
QIZ				LR	LR		
	comp=Z,400nm,22.8s						
YSS	Yuzh-Sakhalins	60.28	345	P	P	11 13 28.9	-0.6
YSS				IAmb	IAmb	11 13 40.1	
	comp=Z,17nm,1.2s						
USA0B	Ussuriysk Arra	61.46	336	P	P	11 13 36.1	-1.5
USA0B				IAmb	IAmb	11 13 49.1	
	comp=Z,15nm,1.1s						
USRK	Ussuriysk Ar.	61.46	336	P	P	11 13 37.9	+0.3
	comp=Z,7.5nm,0.8s,baz=151,slow=8.5,SNR=13						
USRK				LR	LR	11 36 39.2	
	comp=Z,183nm,21.6s,baz=139,slow=32						
MDJ	Mudanjiang	62.80	334	P	P	11 13 47.7	+1.1
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,250nm,4.4s						
PETK	Petropavlovsk-	63.96	357	P	P	11 13 54.5	+0.4
	comp=Z,5.0nm,0.8s,baz=159,slow=8.7,SNR=7.4						
CN2	Changchun	64.03	331	eP	P	11 13 55.8	+1.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KLR	Kul'dur	65.73	339	LR	LR	11 38 41.9	
	comp=Z,261nm,21.0s,baz=142,slow=32						
VNDA	Vanda	66.52	180	P	P	11 14 12.0	+1.5
	comp=Z,2.0nm,0.8s,baz=349,slow=6.7,SNR=11						
VNDA				LR	LR	11 39 24.7	
	comp=Z,225nm,18.7s,baz=352,slow=32						
VNDA	Vanda	66.52	180	P	P	11 14 11.2	+0.8
KMI	Kunming	68.27	303⇓	eP	P	11 14 23.4	+0.7
KMI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR	Chiang Mai Arr	69.05	295	P	P	11 14 26.0	-1.4
	comp=Z,0.6nm,0.3s,baz=50,slow=36,SNR=1.3						
CMAR				LR	LR	11 43 13.2	
	comp=Z,30nm,20.8s,baz=133,slow=35						
HHC	Hu-ho-hao-te	69.67	321	eP	P	11 14 33.3	+2.4
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,190nm,5.7s						
CD2	Chengdu	69.95	309	eP	P	11 14 32.9	+0.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HIA	Hailar	70.71	332	P	P	11 14 36.6	-0.4
HIA				IAmb	IAmb	11 14 44.3	
	comp=Z,8.5nm,1.0s						
MA2	Magadan	70.94	354	LR	LR	11 42 52.5	
	comp=Z,163nm,20.1s,baz=134,slow=33						
LZH	Lanzhou	72.28	314	eP	P	11 14 48.8	+1.9
LZH				pP	sP	11 15 01.6	-0.2
LZH				sP	PcP	11 15 05.5	+0.6
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,92nm,8.2s						
LZH				LR	LR		
	comp=Z,240nm,17.0s						
LZH				LR	LR		
	comp=Z,250nm,16.9s						
LZH				LR	LR		
	comp=Z,410nm,18.3s						
SDPT	Sand Point	73.05	21	P	P	11 14 51.0	+0.2
ULN	Ulaanbaatar	76.33	325	P	P	11 15 09.8	-0.4
ULN				IAmb	IAmb	11 15 21.4	
	comp=Z,5.0nm,0.6s						
GTA	Gaotai	76.64	315	eP	P	11 15 20.5	+8.3
GTA				pP	sP	11 15 30.1	+3.0
GTA				sP	PcP	11 15 34.4	+11
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,110nm,6.1s						
GTA				LR	LR		
	comp=N,150nm,18.1s						
GTA				LR	LR		
	comp=E,150nm,20.6s						
GTA				LR	LR		
	comp=Z,160nm,20.9s						
SONM	Songino Array	76.68	325	P	P	11 15 11.9	-0.2
	comp=Z,2.1nm,0.8s,baz=132,slow=5.5,SNR=8.3						
SONM				LR	LR	11 50 37.1	
	comp=Z,209nm,18.6s,baz=112,slow=37						
YAK	Yakutsk	77.13	345	LR	LR	11 46 25.7	
	comp=Z,133nm,20.8s,baz=167,slow=34						
YAK	Yakutsk	77.13	345	P	P	11 15 14.3	+0.1
BILL	Bilibino	78.87	1	P	P	11 15 24.2	+0.4
BILL				IAmb	IAmb	11 15 35.6	
	comp=Z,23nm,1.1s						
QSPA	South Pole Qui	79.02	180	P	P	11 15 25.8	+0.8
QSPA				IAmb	IAmb	11 15 37.1	
	comp=Z,16nm,1.1s						
SVW2	Sparrevohn	79.12	19	P	P	11 15 24.9	-0.4
SVW2				IAmb	IAmb	11 15 36.5	
	comp=Z,12nm,1.0s						
TTA	Tatalina	80.36	18	P	P	11 15 32.5	+0.4
TTA				IAmb	IAmb	11 15 43.1	
	comp=Z,15nm,1.5s						
SCM	Sheep Creek Mo	82.48	22	P	P	11 15 43.4	+0.1
SCM				IAmb	IAmb	11 15 48.2	
	comp=Z,6.7nm,0.7s						
KLU	Klutina	82.78	22	P	P	11 15 45.4	+0.5
MCK	McKinley	83.18	20	P	P	11 15 47.6	+0.8
MCK					pP	11 15 56.3	-1.6
MCK				IAmb	IAmb	11 15 58.1	
	comp=Z,14nm,1.1s						
DHY	Denali Highway	83.27	21	P	P	11 15 47.7	+0.2
DHY					pP	11 15 57.0	-1.5
DHY				IAmb	IAmb	11 16 00.0	
	comp=Z,10.0nm,1.4s						
MAW	Mawson	83.52	202	P	P	11 15 49.1	+0.5
	comp=Z,2.1nm,0.7s,baz=93,slow=8.2,SNR=6.4						
MAW				LR	LR	11 49 53.5	
	comp=Z,103nm,19.2s,baz=63,slow=33						
MAW	Mawson	83.52	202	P	P	11 15 49.3	+0.7
GLB	Gilahina Butte	83.54	23	P	P	11 15 48.9	+0.1
GLB				IAmb	IAmb	11 15 52.1	
	comp=Z,4.6nm,0.8s						
VRDI	Verde Repeater	83.55	23	P	P	11 15 49.2	+0.2
WRH	Wood River Hil	83.95	19	P	P	11 15 50.4	-0.4
WRH				IAmb	IAmb	11 16 01.8	
	comp=Z,4.8nm,0.6s						
TABL	Table Mountain	84.01	25	P	P	11 15 51.2	-0.2
CCB	Clear Creek Bu	84.16	19	P	P	11 15 51.0	-0.7
BARN	Barnard Glacie	84.16	24	P	P	11 15 53.6	+1.5
MDM	Murphy Dome	84.23	19	P	P	11 15 52.1	-0.1
MDM				IAmb	IAmb	11 15 55.0	
	comp=Z,6.2nm,1.1s						
CTGM	Chitina Glacie	84.23	24	P	P	11 15 52.5	0.0
HDA	Harding Lake	84.28	20	P	P	11 15 52.5	+0.1
HDA				IAmb	IAmb	11 15 55.6	
	comp=Z,8.1nm,0.8s						
COLA	College	84.29	19	P	P	11 15 52.1	-0.3
COLA				IAmb	IAmb	11 15 57.6	
	comp=Z,8.4nm,0.8s						
IL31		84.54	19	P	P	11 15 52.4	-1.2
ILAR	Eielson Array	84.54	19	P	P	11 15 53.4	-0.3
	comp=Z,1.4nm,0.6s,baz=265,slow=5.0,SNR=18						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DOT	Dot Lake	84.79	21	P	P	11 15 56.2	+1.1
TIXI	Tiksi	85.42	350	LR	LR	11 49 48.8	
	comp=Z,104nm,21.7s,baz=130,slow=33						
BBB	Bella Bella	86.43	35	LR	LR	11 48 19.2	
	comp=Z,163nm,21.9s,baz=260,slow=31						
EGAK	Eagle	86.49	21	P	P	11 16 02.7	-0.7
EGAK					pP	11 16 13.8	-0.7
AFDM	Forest Hills D	86.67	49	P	P	11 16 05.3	+0.3
WMQ	Urumqi	86.71	316	eP	P	11 16 06.9	+1.8
WMQ				sP	sP	11 16 22.2	+2.3
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,76nm,4.3s						
WMQ				LR	LR		
	comp=Z,180nm,27.3s						
WMQ				LR	LR		
	comp=Z,140nm,27.1s						
WMQ				LR	LR		
	comp=Z,140nm,27.1s						
DAWY	Dawson	86.72	22	P	P	11 16 04.4	-0.3
DAWY					pP	11 16 15.5	-0.3
RYN	Ryan	88.42	50	P	P	11 16 14.7	+1.1
RYN				IAmb	IAmb	11 16 15.0	
	comp=Z,6.0nm,1.3s						
NVAR	Mina Array Bea	88.54	51	P	P	11 16 15.2	+1.0
	comp=Z,1.3nm,0.6s,baz=238,slow=6.9,SNR=18						
NV11	Mina Array Sit	88.65	51	P	P	11 16 14.9	+0.3
NV11				IAmb	IAmb	11 16 32.4	
	comp=Z,8.3nm,1.5s						
KVN	Kaiserville	88.85	50	P	P	11 16 16.7	+1.1
I07A	Izee	89.18	45	P	P	11 16 16.2	-0.8
I07A				IAmb	IAmb	11 16 28.4	
	comp=Z,6.2nm,1.5s						
WVOR	Wild Horse Val	89.35	47	P	P	11 16 16.2	-1.6
WVOR				IAmb	IAmb	11 16 21.3	
	comp=Z,10nm,1.4s						
J08A	Circle Bar Ran	89.71	46	P	P	11 16 20.7	+1.3
J08A				IAmb	IAmb	11 16 38.3	
	comp=Z,5.5nm,1.1s						
SHPR	Sheep Range	90.49	53	P	P	11 16 22.9	-0.4
BMO	Blue Mountains	90.91	45	P	P	11 16 25.6	+0.6
BMO				IAmb	IAmb	11 16 44.1	
	comp=Z,6.1nm,1.2s						
W13A	Hualapai Mount	91.19	55	P	P	11 16 26.1	-0.5
MK31	Makanchi Array	91.22	317	P	P	11 16 22.9	-3.4
MKAR	Makanchi Array	91.22	317	P	P	11 16 26.1	-0.2
	comp=Z,0.8nm,0.6s,baz=101,slow=6.3,SNR=7.1						
MKAR				LR	LR	11 58 29.0	
	comp=Z,125nm,20.0s,baz=90,slow=36						
F10A	Beach Ranch, E	91.24	43	P	P	11 16 26.3	-0.2
F10A				IAmb	IAmb	11 16 32.1	
	comp=Z,6.3nm,1.3s						
ELK	Elko	91.40	49	P	P	11 16 28.2	+0.6
ELK				IAmb	IAmb	11 16 46.9	
	comp=Z,6.3nm,1.2s						
ZALV	Zalesovo Beam	91.58	325	LR	LR	11 56 56.9	
	comp=Z,111nm,21.5s,baz=80,slow=35						
MFID	Camas Ranch	91.59	46	P	P	11 16 28.9	+0.7
MFID				IAmb	IAmb	11 16 47.7	
	comp=Z,7.9nm,1.4s						
CCUT	Cedar City	92.12	52	P	P	11 16 30.6	-0.4
HLID	Hailey	92.62	46	P	P	11 16 34.0	+0.9
HLID				IAmb	IAmb	11 16 52.7	
	comp=Z,8.0nm,1.4s						
NRIK	Noril'sk	94.91	340	LR	LR	11 58 08.1	
	comp=Z,248nm,21.4s,baz=84,slow=35						
VNA2	Neumayer--Watz	97.98	183	P	Pdif	11 17 04.9	+8.0
	baz=179,slow=4.4						
TXAR	Lajitas Array	98.72	62	P	Pdif	11 17 03.3	+2.2
	comp=Z,0.2nm,0.6s,baz=232,slow=5.1,SNR=3.7						
TXAR				LR	LR	11 53 54.4	
	comp=Z,211nm,20.4s,baz=0.0,slow=31						
ARCES	ARCESS Array B	115.42	345	PKP	PKiKP	11 22 00.6	-1.6
	comp=Z,1.3nm,0.8s,baz=98,slow=1.7,SNR=8.7						
FINES	FINESS Array B	120.47	337	PKP	PKPdf	11 22 10.3	-1.8
	comp=Z,0.9nm,0.8s,baz=329,slow=2.2,SNR=3.7						
BOSA	Boshof	122.84	225	PKP	PKPdf	11 22 17.6	-0.2
	comp=Z,2.3nm,0.6s,baz=126,slow=1.6,SNR=6.6						
BOSA	Boshof	122.84	225		PKPdf	11 22 17.9	0.0
AKASG	Malin Array Be	124.96	326	PKP	PKPdf	11 22 20.6	-0.5
	comp=Z,0.4nm,0.4s,baz=258,slow=35,SNR=2.2						
BRTR	Keskin Array B	126.46	312	PKP	PKPdf	11 22 23.0	-1.5
	comp=Z,0.5nm,0.4s,baz=64,slow=3.4,SNR=2.5						
GERES	GERESS Array B	134.12	331	PKP	PKPdf	11 22 37.0	-1.7
	comp=Z,0.3nm,0.5s,baz=104,slow=1.7,SNR=4.3						
KEST	Kesra	145.28	320	PKPbc	PKPbc	11 22 58.5	-0.5
	comp=Z,5.8nm,0.9s,baz=315,slow=7.3,SNR=6.2						
ESDC	Sonseca Array	148.95	339	PKPbc	PKPbc	11 23 08.6	-0.7
	comp=Z,0.6nm,0.6s,baz=24,slow=2.8,SNR=4.5						
TORD	Torodi Ar. Bea	160.97	278	PKP	PKPdf	11 23 21.2	-1.0
	comp=Z,0.7nm,0.9s,baz=321,slow=3.9,SNR=3.5						

IDC 02 11:25:26.8±2.6, 5.°64S×130.°55E, h0km, mb3.5/1, mb1 4.2/3, mb1mx3.6/29, mbtmp4.0/3, ML4.3/2, Error ellipse: s-maj=146.2km s-min=32.6km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.68	166	Pn	Pn	11 28 54.9	-1.2
	1.3nm,0.3s,baz=349,slow=14,SNR=26						
WRA				Sn	Sn	11 31 27.6	-12
	1.4nm,0.3s,baz=195,slow=22,SNR=10						
ASAR	Alice Springs	18.21	170	P	P	11 29 41.8	+0.2
	1.2nm,0.3s,baz=350,slow=12,SNR=66						
ASAR				S	Sn	11 32 52.3	-13
	0.3nm,0.3s,baz=350,slow=24,SNR=3.1						
MKAR	Makanchi Array	67.40	326	P	P	11 36 24.2	0.0
	0.2nm,0.5s,baz=116,slow=6.8,SNR=2.0						

*SOME **02** 11:30:32.3, 44.°35N×84.°17E, h15km*
*NNC **02** 11:30:35.3±1.8, 44.°53N×83.°94E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=15.3km s-min=5.6km az=119.0*
ISC 02 11:30:30.3±1.8, 44.°35N±0.°07×84.°16E±0.°08, h10km, n22, σ1.°65/32, 9C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.77	332	⇑Pg	Pg	11 31 21.7	-1.7
	3.6nm,0.4s,baz=143,slow=17,SNR=13						
MK31				Lg	Lg	11 31 55.4	
	16nm,0.4s,baz=153,slow=29,SNR=20						
MAKZ	Makanchi	2.89	329	⇑Pg	Pg	11 31 24.0	-1.8
	4.5nm,0.5s						
MAKZ				⇓Lg	Lg	11 32 00.2	
	23nm,0.5s						
DJR	Jarkent	3.13	271	eP	Pg	11 31 29.4	-1.0
	5.4nm,0.2s						
DJR				eS	Sg	11 32 10.6	-0.3
	21nm,0.4s						
ZSN	Zaisan	3.14	9	eP	Pg	11 31 29.1	-1.2
	14nm,0.2s						
ZSN				eS	Sg	11 32 10.7	-0.3
	38nm,0.5s						
ZSN	Zaisan	3.14	9	Pg	Pg	11 31 29.1	-1.2
	14nm,0.2s						
ZSN				Lg	Lg	11 32 10.4	
	36nm,0.5s						
PDGK	Podgornoye	3.53	255	⇑Pg	Pg	11 31 39.0	+1.1
	6.5nm,0.7s						
PDGK				⇑Lg	Lg	11 32 21.0	
	32nm,0.5s						
KAPS	Kapalarasan	3.54	287	eP	Pg	11 31 37.3	-0.8
	3.8nm,0.4s						
KAPS				eS	Sg	11 32 24.1	+0.1
	13nm,0.3s						
SHLS	Shalkode	3.61	252	eP	Pb	11 31 33.1	-1.2
	13nm,0.3s						
SHLS				eS	Sb	11 32 17.2	-0.9
	171nm,0.4s						
SHLS	Shalkode	3.61	252	Pg	Pb	11 31 33.0	-1.2
	11nm,0.3s						
SHLS				Lg	Lg	11 32 17.4	
	171nm,0.4s						
UZB	Uzynbulak	3.91	254	eP	Pg	11 31 43.9	-1.3
	4.8nm,0.4s						
UZB				eS	Sg	11 32 36.2	+0.3
	15nm,0.4s						
UZB	Uzynbulak	3.91	254	Pg	Pg	11 31 43.9	-1.3
	4.8nm,0.4s						
UZB				Lg	Lg	11 32 36.2	
	15nm,0.6s						
TDK	Taldyqorghan	4.15	281	eP	Pg	11 31 50.0	+0.1
	44nm,0.3s						
TDK				eS	Sg	11 32 46.0	+2.4
	52nm,0.3s						
TDK	Taldyqorghan	4.15	281	Pg	Pg	11 31 50.0	+0.1
	44nm,0.3s						
TDK				Lg	Lg	11 32 46.0	
	52nm,0.3s						
SATY	Saty	4.37	255	eP	Pg	11 31 53.7	-0.2
	4.6nm,0.1s						
SATY				eS	Sg	11 32 52.4	+1.8
	25nm,0.3s						
SATY	Saty	4.37	255	Pg	Pg	11 31 53.9	-0.1
	5.3nm,0.1s						
SATY				Lg	Lg	11 32 52.7	
	24nm,0.3s						
ARXS	Arharly	4.55	270	eP	Pg	11 31 55.7	-1.7
	3.1nm,0.5s						
ARXS				eS	Sg	11 32 55.6	-0.8
	14nm,0.4s						
MDOK	Medeo	5.29	259	Pg	Pg	11 32 07.9	-3.7
	3.3nm,0.6s						
MDOK				Lg	Lg	11 33 20.4	
	14nm,0.8s						
KTBS	Karatobe	5.43	266	eP	Pg	11 32 11.9	-2.3
	1.9nm,0.6s						
KTBS				eS	Sg	11 33 24.3	-0.3
	13nm,0.5s						
KTBS	Karatobe	5.43	266	Pg	Pg	11 32 11.5	-2.7
	1.9nm,0.4s						
KTBS				Lg	Lg	11 33 22.9	
	12nm,0.4s						
TKM2	Tokmak 2	6.38	260	⇑Pg	Pg	11 32 31.6	-0.8
	2.4nm,0.8s						
TKM2				⇑Lg	Lg	11 33 51.4	
	3.4nm,0.6s						
KURBB	Kurchatov Arra	7.34	331	⇑Pn	Pn	11 32 20.7	+3.2
	1.4nm,0.7s						
KURBB				⇓Lg	Lg	11 34 22.1	
	22nm,0.7s						
KURK	Kurchatov	7.38	331	⇑Pn	Pn	11 32 21.1	+3.1
	0.7nm,0.5s						
KURK				⇑Sn	Sn	11 33 41.5	-0.4
	2.6nm,0.6s						
KURK				⇓Lg	Lg	11 34 22.9	
	12nm,0.7s						

*CRAAG **02** 11:31:43.9, 36.°80N×3.°19E, Ml2.4*
MDD 02 11:31:43.4±1.0, 37.°00N×3.°15E, h0km, mb3.7/3, Error ellipse: s-maj=16.8km s-min=7.0km az=88.0, PRXIMO SIN SOLUCIN, Northern Algeria

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABA	Alger-Bouzarea	0.22	206	P	Pg	11 31 47.4	-0.1
ABA	Alger-Bouzarea	0.22	206	P	Pg	11 31 47.4	-0.1
ADJB	Djebel Djouab	0.87	165	P	Pg	11 31 59.1	-0.9
ADJB	Djebel Djouab	0.87	165	P	Pg	11 31 59.1	-0.9
EIBI	Ibiza	2.48	325	P	Pn	11 32 24.4	-0.6
	1.7nm,0.1s,SNR=7.9						
EIBI				S	Sn	11 32 51.5	-4.5
	1.3nm,0.2s,SNR=7.9						
ETOS	Mallorca	2.78	355	P	Pn	11 32 28.3	-0.8
	3.7nm,0.1s,SNR=7.9						
ETOS				S	Sn	11 32 59.3	-4.2
	1.0nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.07	295	P	Pn	11 32 48.3	+1.4
	0.3nm,0.1s,SNR=7.9						
ETOB				S	Sn	11 33 29.9	-5.4
	0.3nm,0.1s,SNR=7.9						

KRNET 02 11:38:27.1±0.1, 41.°98N×76.°71E, h7km, mb1.6, 6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	0.44	308	⇓iP	Pg	11 38 35.3	-0.4
	baz=8.0						
ULHL				⇓iS	Sg	11 38 42.0	+0.5
	baz=8.0						
TARG	Taragay, Kyrgy	0.85	106	⇓iP	Pg	11 38 43.6	+0.1
	baz=6.0						
TARG				⇓iS	Sg	11 38 54.9	+0.2
	baz=6.0						
TKM2	Tokmak 2	1.25	319	⇓iP	Pg	11 38 50.8	-0.3
	baz=19						
TKM2				⇓iS	Sb	11 39 08.0	+0.4
	baz=19						

*NNC **02** 11:38:28.1±1.4, 42.°53N×78.°38E, h0km, mb2.1, mpv2.5, Error ellipse: s-maj=11.1km s-min=3.3km az=171.0*
SOME 02 11:38:29.6, 42.°60N×78.°37E, h20km, 3C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SATY	Saty	0.46	4	eP	Pb	11 38 39.1	0.0
	2.6nm,0.1s						
SATY				eS	Sb	11 38 46.1	+0.5
	39nm,0.1s						
SATY	Saty	0.46	4	P	Pb	11 38 39.1	0.0
	2.6nm,0.1s						
SATY				S	Sb	11 38 46.1	+0.6
	39nm,0.1s						
UZB	Uzynbulak	0.73	41	⇓eP	Pb	11 38 43.1	-0.6
	1.2nm,0.1s						
UZB				⇓iS	Sb	11 38 52.9	-0.4
	4.9nm,0.1s						
UZB	Uzynbulak	0.73	41	P	Pb	11 38 43.1	-0.6
	1.2nm,0.1s						
UZB				S	Sb	11 38 52.9	-0.4
	4.9nm,0.1s						
SHLS	Shalkode	0.98	55	eP	Pn	11 38 51.7	+3.3
	3.7nm,0.2s						
SHLS				eS	Sn	11 39 07.5	+5.8
	4.9nm,0.3s						
PDGK	Podgornoye	1.10	48	⇓P	Pn	11 38 49.9	-0.1
	1.3nm,0.3s						
PDGK				⇓S	Sn	11 39 05.4	+0.7
	1.9nm,0.4s						
KOTS	Kotyrbulak	1.12	305	eP	Pn	11 38 50.0	-0.3
	2.1nm,0.2s						
KOTS				eS	Sb	11 39 04.5	0.0
	6.3nm,0.4s						
MDOK	Medeo	1.12	301	⇓P	Pb	11 38 50.9	+0.5
	1.5nm,0.7s						
MDOK				S	Sn	11 39 06.4	+1.2
	4.0nm,0.4s						
TNSS	Tian-Shan	1.13	293	eP	Pn	11 38 50.7	0.0
	0.7nm,0.1s						
TNSS				eS	Sn	11 39 05.7	-0.2
	1.6nm,0.1s						
KTBS	Karatobe	1.66	313	⇑iP	Pb	11 39 00.1	+0.6
	1.4nm,0.2s						
KTBS				⇑eS	Sb	11 39 22.0	+2.0
	5.2nm,0.4s						
KTBS	Karatobe	1.66	313	P	Pb	11 39 00.1	+0.6
	1.4nm,0.2s						
KTBS				S	Sb	11 39 22.0	+2.0
	5.2nm,0.4s						
DJR	Jarkent	2.02	30	eP	Pb	11 39 05.3	-0.3
	2.9nm,0.2s						
DJR				eS	Sb	11 39 31.1	+0.8
	1.3nm,0.1s						
TKM2	Tokmak 2	2.06	280	⇑Pg	Pn	11 39 04.6	+1.3
	1.3nm,0.6s						
TKM2				⇓Lg	Lg	11 39 32.1	
	0.6nm,0.5s						

*IDC **02** 11:43:10.0±0.7, 52.°64N×169.°80W, h0km, mb4.0/14, mb1 4.3/16, mb1mx4.0/51, mbtmp4.0/16, ML3.3/2, MS3.7/5, Ms1 3.8/5, ms1mx3.3/42, Error ellipse: s-maj=23.6km s-min=14.0km az=167.0*
*NEIC **02** 11:43:12.6±2.2, 52.°71N±0.°08×169.°55W±0.°08, h10km±1km, Error ellipse: s-maj=15.5km s-min=6.0km az=155.0*
*AEIC **02** 11:43:14±1.7, 52.°85N±0.°08×169.°48W±0.°07, h9km±4km, ML4.1/39, mb4.3/138(NEIC), Error ellipse: s-maj=11.9km s-min=3.8km az=155.0*
ISC 02 11:43:12.7±1.7, 52.°75N±0.°08×169.°55W±0.°05, h13km±10km, n301, σ1.°14/289, mb4.3/66, MS3.7/6, Fox Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.48	62	Pg	Pb	11 43 22.6	-0.3
NIKH				Sg	Sb	11 43 30.3	+0.4
OKCE	Okmok Cone E	1.08	50		Pb	11 43 33.2	0.0
OKTU	Okmok Mt. Tuli	1.11	54		Pg	11 43 33.4	-0.7
OKFG	Magazine Ridge	1.19	56		Pg	11 43 34.5	-1.1
OKFG					Sn	11 43 51.0	-0.1
MAPS	Pakushin South	1.89	55		Pn	11 43 45.0	+0.3
MAPS					Sb	11 44 10.5	-0.1
MREP	Makushin Rep't	1.99	57		Pn	11 43 46.3	+0.2
MSW	Makushin Switc	2.03	54		Pn	11 43 47.6	+1.0
MSW					Sb	11 44 13.8	-0.8
MNAT	Makushin Natee	2.06	55		Pn	11 43 47.1	+0.1
UNV	Unalaska Valle	2.13	58		Pn	11 43 48.0	0.0
UNV				Sn	Sn	11 44 15.2	+0.9
AKRB	Akutan Reef Bi	2.50	55		Pn	11 43 54.6	+1.5
AKMO	Akutan Morgan	2.51	56		Pn	11 43 54.7	+1.5
AKLV	Akutan Long Va	2.57	55		Pn	11 43 55.5	+1.4
AKGG	Akutan Green G	2.57	54		Pn	11 43 55.3	+1.2
AKUT	Akutan	2.65	57		Pn	11 43 56.3	+1.2
AKUT					Sb	11 44 32.5	0.0
AKSA	Akutan Strait	2.69	57		Pn	11 43 56.8	+1.1
KOFP	Korovin Flat P	2.82	262		Pn	11 43 57.4	-0.1
ATKA	Atka Island	2.89	261	Pn	Pn	11 43 57.9	-0.5
WESP	Westdahl Peak	3.36	57		Pn	11 44 06.1	+1.1
GSTR	Great Sitkin T	4.04	263	Pn	Pn	11 44 14.7	+0.5
GSMY	Great Sitkin M	4.05	263		Pn	11 44 15.0	+0.6
GSTD	Great Sitkin T	4.10	263		Pn	11 44 15.5	+0.4
FALS	False Pass	4.20	57		Pn	11 44 17.6	+1.2
SPIA	Saint Paul Isl	4.46	355	Pn	Pn	11 44 21.2	+1.3
ADK	Adak	4.46	262	Pn	Pn	11 44 20.7	+0.7
ADK				Sn	Sn	11 45 11.1	-0.7
KIKV	Kanaga Island	4.76	262		Pn	11 44 25.9	+1.8
KIMD	Kanaga Island	4.82	261		Pn	11 44 26.3	+1.3
SDPT	Sand Point	5.94	60		Pn	11 44 40.2	-0.1
CNBA	Chernabura Isl	6.26	67	Pn	Pn	11 44 45.4	+0.7
AMKA	Amchitka	7.01	263	Pn	Pn	11 44 56.5	+1.5
LSNW	Little Sitkin	7.35	269		Pn	11 45 01.5	+1.8
OHAK	Old Harbor	10.36	58	Pn	Pn	11 45 40.4	-0.4
KDAK	Kodiak Island	10.90	56	Pn	Pn	11 45 47.4	-0.9
	0.6nm,0.3s,baz=138,slow=4.0,SNR=15						
KDAK				Sn	Sn	11 47 46.3	-3.6
	0.1nm,0.3s,baz=38,slow=14,SNR=1.8						
KDAK	Kodiak Island	10.90	56	Pn	Pn	11 45 48.2	-0.1
CNPM	China Poot	12.23	49	Pn	Pn	11 46 06.3	-0.2
TTA	Tatalina	12.46	30	Pn	Pn	11 46 08.4	-1.3
BRLK	Bradley Lake	12.50	48	Pn	Pn	11 46 09.3	-0.8
SEW	Seward	13.30	48	Pn	Pn	11 46 21.7	+0.8
O22K	Cooper Landing	13.34	47	P	Pn	11 46 22.8	+1.3
	baz=243						
GHO	Glory Hole Cre	14.30	43	Pn	Pn	11 46 37.5	+2.8
GLI	Glacier Island	14.68	47	Pn	Pn	11 46 38.8	-1.1
HIN	Hinchinbrook I	14.77	50	Pn	Pn	11 46 40.9	-0.1
BPAW	Bear Paw Mtn.	14.89	33		Pn	11 46 41.0	-1.7
FID	Port Fidalgo	14.91	48	Pn	Pn	11 46 41.6	-1.4
SCM	Sheep Creek Mo	14.99	44		Pn	11 46 43.9	-0.3
MCK	McKinley	15.37	36	P	P	11 46 52.0	-1.6
KLU	Klutina	15.45	46	Pn	Pn	11 46 49.8	-0.4
KLU				IAmb	IAmb	11 46 51.8	
	comp=Z,8.7nm,0.6s						
DHY	Denali Highway	15.58	40		Pn	11 46 53.8	+1.9
KAIM	Kayak Island	15.60	53	Pn	Pn	11 46 51.6	-0.5
KAIM				IAmb	IAmb	11 47 02.1	
	comp=Z,15nm,0.9s						
RAGM	Ragged Mountai	15.62	51		Pn	11 46 51.8	-0.5
RAGM				IAmb	IAmb	11 47 10.0	
	comp=Z,9.6nm,0.8s						
HMT	Hamilton	15.80	51	Pn	Pn	11 46 54.8	+0.1
HMT				IAmb	IAmb	11 47 00.2	
	comp=Z,9.8nm,0.6s						
NEA2	Nenana	15.84	34	P	Pn	11 46 56.5	+1.3
	baz=231						
SUCK	Suckling Hills	15.95	52	Pn	Pn	11 46 57.6	+1.0
PAX	Paxson	16.29	42		Pn	11 46 59.9	-1.1
CCB	Clear Creek Bu	16.31	35		Pn	11 47 01.8	+0.7
MDM	Murphy Dome	16.35	33	P	Pn	11 47 03.6	+1.9
GLB	Gilahina Butte	16.37	48	Pn	Pn	11 47 01.4	-0.6
CRQM	Cirque	16.45	50	P	P	11 47 06.6	+0.7
VRDI	Verde Repeater	16.46	49	Pn	Pn	11 47 03.5	+0.2
HDA	Harding Lake	16.47	36	P	Pn	11 47 03.9	+0.7
	baz=236						
HDA	Harding Lake	16.47	36	Pn	Pn	11 47 02.3	-0.9
TGL	Tana Glacier	16.60	51	P	P	11 47 08.2	+0.7
IL31		16.70	35	Pn	Pn	11 47 06.1	0.0
ILAR	Eielson Array	16.70	35	Pn	Pn	11 47 05.9	-0.2
	comp=Z,0.2nm,0.3s,baz=228,slow=11,SNR=12						
MCARA	McCarthy VSAT	16.70	48	P	Pn	11 47 07.5	+1.3
ISLE	Juniper Island	16.79	51		Pn	11 47 07.3	-0.1
MESA	MESA	16.86	53		Pn	11 47 08.4	0.0
RIDG	Independent Ri	16.90	40	P	Pn	11 47 09.9	+1.2
YAH	Yahtse	17.01	52		Pn	11 47 10.3	0.0
YAH				IAmb	IAmb	11 47 15.2	
	comp=Z,13nm,0.7s						
DOT	Dot Lake	17.17	41		Pn	11 47 11.4	-0.7
BARN	Barnard Glacie	17.23	50		Pn	11 47 13.7	+0.7
COLD	Coldfoot	17.32	26	P	P	11 47 18.3	+3.1
	baz=223						
COLD	Coldfoot	17.32	26	P	Pn	11 47 14.9	+1.1
TABL	Table Mountain	17.32	52		Pn	11 47 14.5	+0.4
TABL				IAmb	IAmb	11 47 18.5	
	comp=Z,15nm,0.8s						
SCRK	Sand Creek	17.35	40	P	P	11 47 16.2	+0.4
	baz=242						
CTGM	Chitina Glacie	17.36	51	P	Pn	11 47 14.9	+0.3
K27K	Chicken	18.12	41	P	Pn	11 47 24.5	+0.6
	baz=244						
EGAK	Eagle	18.81	39		P	11 47 32.4	+0.7
HYT	Haines Junctio	19.15	52		P	11 47 36.1	+0.4
HYT				IAmb	IAmb	11 47 40.4	
	comp=Z,9.6nm,0.6s						
DAWY	Dawson	19.22	42	P	P	11 47 36.0	-0.3
PETK	Petropavlovsk-	19.66	284	P	P	11 47 40.6	-0.4
	comp=Z,0.3nm,0.3s,baz=88,slow=14,SNR=7.0						
SKAG	Skagway	20.05	57	P	P	11 47 46.2	+1.0
SKAG				IAmb	IAmb	11 47 48.8	
	comp=Z,24nm,0.9s						
BESE	Bessie Mountai	20.25	59	P	P	11 47 49.2	+1.6
BESE				IAmb	IAmb	11 47 52.9	
	comp=Z,35nm,1.4s						
WHY	Whitehorse	20.40	53	P	P	11 47 50.6	+1.4
WHY				IAmb	IAmb	11 47 54.7	
	comp=Z,12nm,0.8s						
JIS	Juneau Island	20.49	60	P	P	11 47 51.7	+1.6
JIS				IAmb	IAmb	11 47 55.7	
	comp=Z,9.8nm,0.9s						
EPYK	Eagle Plains	21.16	37	P	P	11 47 56.7	-0.6
	baz=246,SNR=12						
EPYK	Eagle Plains	21.16	37	P	P	11 47 56.7	-0.6
EPYK				IAmb	IAmb	11 47 58.3	
	comp=Z,20nm,0.9s						
DIB	Dawson Inlet,	22.17	74	P	P	11 48 08.6	+0.4
DIB				IAmb	IAmb	11 48 19.2	
	comp=Z,28nm,1.2s						
H02S1	DAWSON INLET T	22.17	74	T	T	12 11 10.2	
	SNR=17						
DLBC	Dease Lake	22.79	60	P	P	11 48 16.9	+2.1
	comp=Z,19nm,1.2s,baz=275,slow=7.9,SNR=16						
MA2	Magadan	22.84	303	P	P	11 48 17.0	+1.8
INK	Inuvik	23.09	34	P	P	11 48 17.3	-0.4
	comp=Z,1.4nm,0.5s,baz=278,slow=11,SNR=7.2						
INK	Inuvik	23.09	34	P	P	11 48 17.0	-0.7
BBB	Bella Bella	25.00	75	P	P	11 48 36.4	+0.5
YKA	Yellowknife Ar	30.07	49	P	P	11 49 21.4	+0.1
	comp=Z,1.2nm,0.6s,baz=275,slow=7.1,SNR=7.7						
YKA				LR	LR	12 02 30.5	
	comp=Z,508nm,18.4s,baz=0.0,slow=38						
B08A	Colville Reser	31.67	77	P	P	11 49 36.6	+1.0
B08A				IAmb	IAmb	11 49 37.9	
	comp=Z,4.0nm,0.8s						
H04A	Detroit Lake	31.77	85	P	P	11 49 37.8	+1.3
I04A	Tendick Farm,	32.11	87	P	P	11 49 41.8	+2.3
	baz=303						
I05D	Terrebonne, OR	32.47	85	P	P	11 49 43.9	+1.3
	baz=302						
C09A	Chrisman Ranch	32.56	78	P	P	11 49 44.1	+0.7
C09A				IAmb	IAmb	11 49 46.9	
	comp=Z,4.8nm,1.1s						
PINE	Pine Mountain	33.00	86	P	P	11 49 47.7	+0.2
PINE				IAmb	IAmb	11 49 51.0	
	comp=Z,7.1nm,1.2s						
NEW	Newport	33.02	76	P	P	11 49 48.0	+0.6
	baz=298						
NEW	Newport	33.02	76	P	P	11 49 48.8	+1.4
NEW				IAmb	IAmb	11 49 49.4	

comp=Z,4.0nm,0.7s
J05D Fort Rock, OR 33.10 87 P P 11 49 50.3 +1.9
baz=304
E09A Wood Farm, Sta 33.26 80 P P 11 49 50.7 +1.2
E09A IAmb IAmb 11 49 51.6
comp=Z,6.3nm,1.2s
I07A Izee 33.72 84 P P 11 49 54.7 +1.1
I07A IAmb IAmb 11 49 57.0
comp=Z,10nm,1.2s
MOD Modoc Plateau 34.46 88 P P 11 50 01.1 +1.0
MOD IAmb IAmb 11 50 04.0
comp=Z,2.5nm,0.8s
WALA Waterton Lakes 34.54 73 P P 11 50 01.9 +1.2
WALA IAmb IAmb 11 50 02.7
comp=Z,6.1nm,1.0s
BMO Blue Mountains 34.63 82 P P 11 50 01.6 +0.1
BMO IAmb IAmb 11 50 03.8
comp=Z,5.7nm,1.4s
J08A Circle Bar Ran 34.74 85 P P 11 50 02.5 0.0
J08A IAmb IAmb 11 50 05.8
comp=Z,7.3nm,1.1s
JTMT Jette 34.95 76 P P 11 50 05.4 +1.1
JTMT IAmb IAmb 11 50 11.7
comp=Z,11nm,1.2s
WVOR Wild Horse Val 35.16 86 P P 11 50 07.2 +1.1
WVOR IAmb IAmb 11 50 08.9
comp=Z,7.9nm,1.0s
MSO Missoula 35.61 77 P P 11 50 10.7 +0.8
baz=301
MSO Missoula 35.61 77 P P 11 50 10.9 +1.0
MSO IAmb IAmb 11 50 13.1
comp=Z,2.4nm,0.8s
MFID Camas Ranch 36.30 83 P P 11 50 16.7 +0.8
MFID IAmb IAmb 11 50 18.0
comp=Z,3.4nm,0.9s
PAHR Pah Rah Range 36.33 91 P P 11 50 17.9 +1.6
PAHR IAmb IAmb 11 50 19.8
comp=Z,3.8nm,0.9s
PNTR Pine Nut 36.58 92 P P 11 50 18.4 -0.1
PNTR IAmb IAmb 11 50 22.5
comp=Z,6.3nm,0.9s
HRY Holter Researc 36.91 76 P P 11 50 21.7 +0.6
WAKR Walker 37.05 92 P P 11 50 25.5 +3.1
WAKR IAmb IAmb 11 50 30.2
comp=Z,4.9nm,1.3s
HLID Hailey 37.07 82 P P 11 50 24.1 +1.4
baz=304
HLID Hailey 37.07 82 P P 11 50 24.0 +1.4
HLID IAmb IAmb 11 50 24.7
comp=Z,6.3nm,1.5s
BCYI Bear Canyon 37.26 80 P P 11 50 25.3 +1.0
MCMT McKenzie Canyo 37.31 79 P P 11 50 25.3 +0.6
EGMT Eagleton 37.46 73 P P 11 50 26.8 +1.2
baz=300,SNR=6.8
EGMT Eagleton 37.46 73 P P 11 50 25.9 +0.2
RYN Ryan 37.52 91 P P 11 50 28.5 +2.1
BOZ Bozeman (W) 37.62 77 P P 11 50 27.5 +0.4
baz=303,SNR=10
BOZ Bozeman (W) 37.62 77 P P 11 50 27.7 +0.6
BOZ IAmb IAmb 11 50 28.7
comp=Z,4.2nm,0.8s
H11N2 WAKE ISLAND Hy 37.69 218 T T 12 30 11.1
baz=23,slow=76,SNR=36
H11N3 WAKE ISLAND Hy 37.69 218 T T 12 30 15.4
baz=23,slow=76,SNR=46
H11N1 WAKE ISLAND Hy 37.70 218 T T 12 30 14.9
baz=23,slow=76,SNR=39
NVAR Mina Array Bea 37.78 91 P P 11 50 29.8 +1.1
comp=Z,2.1nm,0.7s,baz=297,slow=8.2,SNR=20
NVAR PcP PcP 11 52 44.6 -0.6
comp=Z,0.6nm,0.6s,baz=324,slow=3.7,SNR=5.0
ELK Elko 38.21 86 P P 11 50 34.0 +1.6
ELK IAmb IAmb 11 50 34.7
comp=Z,4.1nm,0.9s
YHL Hebgen Lake 38.29 78 P P 11 50 33.8 +0.8
YHB Horse Butte 38.34 78 P P 11 50 34.5 +1.2
YHH Holmes Hill 38.52 78 P P 11 50 35.6 +0.7
GCMT Greycliff 38.67 76 P P 11 50 37.0 +1.0
H11S1 WAKE ISLAND Hy 38.88 218 T T 12 31 44.2
baz=23,slow=76,SNR=296
H11S2 WAKE ISLAND Hy 38.89 217 T T 12 31 39.5
baz=23,slow=76,SNR=195
H11S3 WAKE ISLAND Hy 38.89 218 T T 12 31 41.2
baz=23,slow=76,SNR=202
YNE Yellowstone No 38.90 77 P P 11 50 38.4 +0.3
H17A Grant Village 38.90 78 P P 11 50 40.5 +2.4
baz=304
LKWY Lake 38.91 78 P P 11 50 39.2 +1.1
LKWY IAmb IAmb 11 50 41.1
comp=Z,7.1nm,0.7s
IMW Indian Meadow 38.97 79 P P 11 50 40.4 +1.7
FLWY Flagg Ranch 39.01 79 P P 11 50 40.6 +1.7
FLWY IAmb IAmb 11 50 43.1
comp=Z,6.8nm,1.3s
FXWY Fox Creek 39.06 79 P P 11 50 40.4 +1.0
RLMT Red Lodge 39.27 76 P P 11 50 42.5 +1.4
baz=304,SNR=6.2
RLMT Red Lodge 39.27 76 P P 11 50 42.2 +1.1
RLMT IAmb IAmb 11 50 43.2
comp=Z,6.3nm,1.0s
R11A Troy Canyon, C 39.48 89 P P 11 50 44.4 +1.5
baz=310,SNR=8.4
R11A Troy Canyon, C 39.48 89 P P 11 50 44.7 +1.7
MAJO Matsushiro 39.60 267 P P 11 50 43.4 -0.3
MJAR Matsushiro Arr 39.60 267 LR LR 12 05 00.4
comp=Z,87nm,22.0s,baz=80,slow=33
MJB9 Matsu-Tunnel 39.60 267 P P 11 50 43.1 -0.6
FURC Furnace Creek, 39.92 93 P P 11 50 48.5 +2.2
baz=311,SNR=5.6
TPNV Topopah Spring 39.98 91 P P 11 50 48.6 +1.6
baz=311,SNR=5.7
TPNV Topopah Spring 39.98 91 P P 11 50 48.8 +1.8
DUG Dugway, Tooele 40.02 85 P P 11 50 48.4 +1.1
baz=308,SNR=7.7
DUG Dugway, Tooele 40.02 85 P P 11 50 48.2 +0.9
DUG IAmb IAmb 11 50 50.2
comp=Z,8.2nm,1.1s
PSUT Pine Spring 40.42 88 P P 11 50 51.9 +1.1
BW06 Boulder Array 40.44 79 P P 11 50 51.2 +0.3
baz=306,SNR=11
BW06 Boulder Array 40.44 79 P P 11 50 51.4 +0.5
BW06 IAmb IAmb 11 50 52.5
comp=Z,4.3nm,0.8s
PD31 Pinedale Array 40.44 79 P P 11 50 51.2 +0.3
PD31 IAmb IAmb 11 50 52.5
comp=Z,3.8nm,0.8s
PDAR Pinedale Array 40.44 79 P P 11 50 51.2 +0.3
comp=Z,4.1nm,0.8s,baz=307,slow=4.8,SNR=33
GSC Goldstone, Bar 40.73 94 P P 11 50 55.1 +1.9
baz=312,SNR=5.6
BFSC Mount Baldy Ra 40.93 96 P P 11 50 56.6 +1.7
baz=313
CCUT Cedar City 41.34 88 P P 11 51 00.3 +1.9
TMUT Trail Mountain 41.55 85 P P 11 51 01.3 +1.2
MTPU Mount Pierson 41.75 87 P P 11 51 03.6 +1.8
RDMU Red Mountain 41.75 82 P P 11 51 02.9 +1.2
GMRC Granite Mounta 41.77 93 P P 11 51 03.5 +1.7
baz=313
KNB Kanab 42.02 89 P P 11 51 05.7 +1.9
SRU San Rafael Swe 42.08 85 P P 11 51 05.6 +1.3
PFO Pinyon Flats O 42.09 95 P P 11 51 05.8 +1.5
PFO IAmb IAmb 11 51 12.0
comp=Z,8.0nm,1.5s
K22A Casper 42.32 78 P P 11 51 06.6 +0.4
baz=306
W13A Hualapai Mount 42.64 92 P P 11 51 10.2 +1.3
U15A North Rim 42.73 89 P P 11 51 11.2 +1.4
U15A IAmb IAmb 11 51 12.2
comp=Z,6.5nm,1.1s
O20A White River Ci 42.81 82 P P 11 51 10.6 +0.3
baz=308,SNR=12
O20A White River Ci 42.81 82 P P 11 51 11.1 +0.8
O20A IAmb IAmb 11 51 11.8
comp=Z,11nm,0.8s
RSSD Black Hills 42.92 74 P P 11 51 11.4 +0.2
baz=306
RSSD Black Hills 42.92 74 P P 11 51 11.2 +0.1
RSSD IAmb IAmb 11 51 12.8
comp=Z,3.2nm,0.7s
PDMCI Parker Dam,Lak 43.02 93 P P 11 51 12.9 +1.2
baz=313
MDND Maddock 43.34 67 P P 11 51 14.8 +0.5
baz=304
PV22 Blue Mesa, Par 43.49 84 P P 11 51 16.2 +0.4
PV22 IAmb IAmb 11 51 18.7
comp=Z,3.7nm,0.8s
PV04 Paradox Valley 43.51 84 P P 11 51 16.7 +0.7
PV04 IAmb IAmb 11 51 17.4
comp=Z,5.5nm,0.7s
PV11 David Mesa, Pa 43.59 84 P P 11 51 17.2 +0.6
PV12 Saucer Basin, 43.62 84 P P 11 51 18.0 +1.1
PV12 IAmb IAmb 11 51 18.4
comp=Z,4.6nm,0.9s
N23A Red Feather La 43.72 79 P P 11 51 18.6 +0.9
baz=308
WUAZ Wupatki 43.88 89 P P 11 51 19.4 +0.4
baz=312
WUAZ Wupatki 43.88 89 P P 11 51 20.0 +1.0
WUAZ IAmb IAmb 11 51 21.3
comp=Z,6.0nm,0.8s
ULM Lac du Bonnet 44.07 62 P P 11 51 21.6 +1.5
comp=Z,1.9nm,0.5s,baz=275,slow=2.0,SNR=3.1
ISCO Idaho Springs 44.60 80 P P 11 51 26.6 +1.8
baz=309
ISCO Idaho Springs 44.60 80 P P 11 51 25.3 +0.5
W18A Petrified Fore 45.15 88 P P 11 51 30.1 +1.0
baz=312
AGMN Agassiz Nation 45.16 65 P P 11 51 28.8 0.0
baz=305
AGMN Agassiz Nation 45.16 65 P P 11 51 29.0 +0.2
S22A 4UR Ranch, Cre 45.18 83 P P 11 51 30.7 +1.2
baz=310
S22A 4UR Ranch, Cre 45.18 83 P P 11 51 30.6 +1.2
S22A IAmb IAmb 11 51 32.5
comp=Z,5.7nm,1.4s
KSRS Korea Array 45.25 276 LR LR 12 09 01.8
comp=Z,48nm,20.8s,baz=32,slow=34
214A Organ Pipe Nat 45.44 94 P P 11 51 32.5 +1.3
baz=315
SDCO Great Sand Dun 45.98 82 P P 11 51 36.6 +0.9
baz=311,SNR=6.3
SDCO Great Sand Dun 45.98 82 IAmb IAmb 11 51 37.7
comp=Z,2.5nm,0.8s
T25A Trinidad 47.03 82 P P 11 51 45.3 +1.4
baz=311,SNR=9.5
T25A Trinidad 47.03 82 P P 11 51 43.5 -0.4
ANMO Albuquerque 47.25 86 P P 11 51 46.9 +1.2
baz=313
ANMO Albuquerque 47.25 86 P P 11 51 45.8 +0.1
ANMO IAmb IAmb 11 51 48.3
comp=Z,3.5nm,1.2s
ECSD EROS Data Cent 47.45 70 P P 11 51 45.6 -1.2
baz=308
ECSD EROS Data Cent 47.45 70 P P 11 51 46.6 -0.2
ECSD IAmb IAmb 11 51 46.8
comp=Z,6.0nm,1.1s
BNM Barren Site 47.69 87 P P 11 51 49.8 +0.7
EYMN Ely 47.75 63 P P 11 51 49.0 -0.1
baz=307,SNR=6.5
F36A Milaca 47.89 66 IAmb IAmb 11 51 50.4
comp=Z,4.4nm,0.8s
121A Cookes Peak, D 48.09 89 P P 11 51 53.4 +1.2
baz=314
SPMN Marine on St. 48.68 66 P P 11 51 56.1 -0.3
baz=308
CBKS Cedar Bluff 48.73 77 P P 11 51 57.8 +0.9
baz=311
SPA0 Spitsbergen Ar 49.28 358 PcP PcP 11 53 21.6 -1.5
G40A Rib Lake 50.09 65 IAmb IAmb 11 52 07.9
comp=Z,6.0nm,1.0s
MNTX Cornudas Mount 50.13 88 P P 11 52 08.8 +1.1
baz=315,SNR=10.0
MNTX Cornudas Mount 50.13 88 IAmb IAmb 11 52 09.7
comp=Z,4.9nm,0.8s
MSTX Muleshoe 50.15 84 P P 11 52 09.3 +1.5
baz=313
SONM Songino Array 51.01 300 P P 11 52 14.3 +0.1
comp=Z,0.4nm,0.4s,baz=101,slow=2.9,SNR=1.2
SONM PcP PcP 11 53 29.4 -0.7
comp=Z,0.4nm,0.4s,baz=102,slow=4.0,SNR=3.8
E43A Lone Tree Farm 51.13 62 IAmb IAmb 11 52 15.4
comp=Z,5.2nm,0.8s
KAN13 South Haven SW 51.26 78 P P 11 52 15.7 -0.3
WMOK Wichita Mounta 52.03 81 P P 11 52 22.0 +0.2
baz=313,SNR=11
WMOK Wichita Mounta 52.03 81 IAmb IAmb 11 52 22.9
comp=Z,5.3nm,0.8s
JOW Kunigami 52.41 266 P P 11 52 23.3 -1.4
D47A Chapleau 52.76 59 P P 11 52 26.9 -0.2
baz=310
PATS Pohnpei 52.77 222 P P 11 52 27.2 -0.2
TX32 Lajitas Array 52.85 89 IAmb IAmb 11 52 29.7
comp=Z,5.8nm,0.8s
TXAR Lajitas Array 52.85 89 P P 11 52 28.4 +0.3
comp=Z,3.8nm,0.7s,baz=298,slow=5.4,SNR=65
TXAR PcP PcP 11 53 37.3 +0.1
comp=Z,0.5nm,0.6s,baz=275,slow=1.3,SNR=1.4
ABTX Abilene, Hawle 52.97 83 P P 11 52 29.7 +0.9
baz=314
I45A Fountain 53.05 64 P P 11 52 29.9 +0.6
E47A Iron Bridge 53.06 60 P P 11 52 28.3 -1.0
baz=311
S39A Bolivar 53.26 74 P P 11 52 28.9 -2.0
S39A IAmb IAmb 11 52 29.5
comp=Z,2.8nm,0.7s
TARA Tarawa 53.26 202 P P 11 52 29.2 -1.8
D48A Paudash Townsh 53.35 58 P P 11 52 31.0 -0.4
baz=311
U38A Gravette 53.48 76 IAmb IAmb 11 52 32.2
comp=Z,3.6nm,0.7s
D49A Beulah Townshi 53.52 58 P P 11 52 32.3 -0.3
baz=311
E48A Lockeyer 53.62 59 P P 11 52 33.2 -0.2
baz=311
HDIL Hopedale 53.65 69 P P 11 52 33.1 -0.6
baz=312
HDIL Hopedale 53.65 69 P P 11 52 33.1 -0.6
MATQ Matagami 53.75 53 P P 11 52 33.4 -0.9
baz=311
F48A Evansville 53.81 60 P P 11 52 34.9 +0.1
baz=311
F49A Sandfield 54.16 60 P P 11 52 37.3 -0.1
baz=312
CCM Cathedral Cave 54.22 72 P P 11 52 36.8 -1.1
baz=313
D50A G1974 Best Tow 54.37 57 P P 11 52 38.3 -0.6
baz=312
JCT Junction City 54.38 85 P P 11 52 39.0 -0.2
baz=316
JCT Junction City 54.38 85 P P 11 52 39.6 +0.4
JCT IAmb IAmb 11 52 39.9
comp=Z,4.7nm,0.8s
U40A Yellville 54.44 75 P P 11 52 37.6 -1.9
baz=314
U40A Yellville 54.44 75 P P 11 52 38.5 -1.1
LSQQ Lebel-sur-Quev 54.54 54 P P 11 52 39.0 -1.1
baz=312
D51A Lot 18 Range I 54.66 57 P P 11 52 40.6 -0.4
baz=312
W39A Magazine 54.69 77 P P 11 52 40.6 -0.7
baz=314
WHTX Lake Whitney, 54.73 82 P P 11 52 41.8 +0.2
baz=315
WHTX Lake Whitney, 54.73 82 P P 11 52 40.9 -0.8
E51A G1948 Merrick 54.97 57 P P 11 52 42.7 -0.5
baz=312
SFIN Lafayette 55.01 68 P P 11 52 42.6 -1.0
baz=313
FCAR Ozark Folk Cen 55.19 75 P P 11 52 43.6 -1.4
D52A ZEK Kipawa Sen 55.22 56 P P 11 52 44.4 -0.6
baz=312
MIAR Mount Ida 55.26 77 P P 11 52 45.2 -0.3
baz=314
D53A Lac Vacive, Po 55.51 56 P P 11 52 46.5 -0.6
baz=313
D53A Lac Vacive, Po 55.51 56 IAmb IAmb 11 52 47.4
comp=Z,7.0nm,1.0s
F52A Sundridge 55.55 58 P P 11 52 47.1 -0.4
baz=313
E52A Mattawa 55.56 57 P P 11 52 46.7 -0.8
baz=313
OLIL Olney 55.56 70 P P 11 52 46.9 -0.7
E53A Rumoine, Ponti 56.01 57 P P 11 52 50.3 -0.3
baz=313
ALGO Algonquin Park 56.10 57 P P 11 52 50.6 -0.7
baz=313
E54A Lac Daplat, Po 56.21 56 P P 11 52 50.9 -1.2
baz=313
H06N1 SOCORRO T-PHAS 56.26 104 T T 12 53 48.2
SNR=28
H06E1 SOCORRO T-PHAS 56.36 104 T T 12 53 46.6
SNR=7.9
G53A Haliburton 56.37 58 P P 11 52 53.4 +0.1
baz=313
G54A Lake Saint Pet 56.46 58 P P 11 52 53.5 -0.4
baz=313
D55A Sainte-Anne-du 56.67 55 P P 11 52 54.1 -1.3
baz=314
D56A ZEC Mazanza, M 57.00 54 P P 11 52 56.7 -1.0
baz=314
G55A Calabogie 57.26 57 P P 11 52 59.0 -0.6
baz=314
H55A Tweed 57.51 58 P P 11 52 59.4 -2.0
baz=314
WVT Waverly 57.52 72 P P 11 53 00.6 -1.0
baz=315
OXF Oxford 57.74 74 P P 11 53 02.5 -0.6
baz=315
E57A Chemin Saint G 57.74 55 P P 11 53 01.9 -1.2
baz=314
H56A Elgin 57.95 57 P P 11 53 03.8 -0.6
baz=314
L55A Hinsdale 58.50 61 P P 11 53 08.8 +0.3
baz=315
M55A Ridgway 58.83 61 P P 11 53 10.7 0.0
baz=315
L56A Greenwood 59.00 60 P P 11 53 12.0 +0.1
baz=315
SSPA Standing Stone 59.89 62 P P 11 53 17.5 -0.5
baz=316
T53A Wise 59.94 68 P P 11 53 18.0 -0.4
baz=316
R54A Victor 59.94 66 P P 11 53 17.7 -0.7
baz=316
L59A Walton 60.28 59 P P 11 53 21.0 +0.3
baz=316
LZH Lanzhou 60.34 291 eP P 11 53 22.3 +0.9
LZH pP pP 11 53 26.2 +0.7
LZH sP sP 11 53 28.3 +1.4
LZH ePP PP 11 55 37.0 +2.9
LZH pmax pmax
comp=Z,17nm,1.3s
LZH pmax pmax
comp=Z,52nm,7.6s
S55A Lewisburg 60.51 66 P P 11 53 21.7 -0.6
baz=316
T59A Double "B" Far 62.71 64 P P 11 53 36.7 -0.4
baz=317
WMQ Urumqi 63.21 308 eP P 11 53 43.9 +3.4
WMQ sP sP 11 53 50.8 +4.8
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ LR LR
comp=N,100nm,10.3s
WMQ LR LR
comp=E,100nm,11.5s
WMQ LR LR
comp=Z,15nm,13.7s
MKAR Makanchi Array 63.46 313 P P 11 53 41.1 -1.0
comp=Z,0.1nm,0.4s,baz=151,slow=15,SNR=2.0
FINES FINESS Array B 65.48 352 P P 11 53 54.3 -0.6
comp=Z,1.2nm,0.7s,baz=39,slow=7.9,SNR=3.2
JAY Jayapura 69.03 235 LR LR 12 21 14.7
comp=Z,47nm,19.1s,baz=350,slow=33
CMAR Chiang Mai Arr 76.43 283 P P 11 55 00.1 -1.9
comp=Z,0.9nm,0.8s,baz=26,slow=7.0,SNR=1.4
CMAR LR LR 12 32 21.4
comp=Z,32nm,18.8s,baz=355,slow=39
GERES GERESS Array B 78.74 358 P P 11 55 14.3 -0.3
comp=Z,0.3nm,0.4s,baz=3.5,slow=3.2,SNR=2.5
ESDC Sonseca Array 87.10 11 P P 11 55 56.8 -1.3
comp=Z,0.3nm,0.6s,baz=337,slow=2.9,SNR=2.2
WRA Warramunga Arr 87.16 231 P P 11 55 55.9 -2.4
comp=Z,1.3nm,0.9s,baz=32,slow=5.7,SNR=7.1
ASAR Alice Springs 90.56 230 P P 11 56 13.2 -1.2
comp=Z,2.9nm,0.8s,baz=30,slow=4.5,SNR=25
H03N2 Juan Fernandez 116.17 111 T T 14 08 36.2
baz=322,slow=78,SNR=34
H03N1 Juan Fernandez 116.18 111 T T 14 08 42.7
baz=322,slow=78,SNR=54
H03N3 Juan Fernandez 116.18 111 T T 14 08 37.9
baz=322,slow=78,SNR=24
MAW Mawson 151.10 219 PKPbc PKPdf 12 03 02.5 +4.4
comp=Z,3.5nm,0.9s,baz=127,slow=4.2,SNR=6.3
BOSA Boshof 153.51 330 PKPbc PKPbc 12 03 10.2 -0.6
comp=Z,2.0nm,0.6s,baz=32,slow=11,SNR=1.9

TEH ***02*** *11:53:44.5,28.˚19N×57.˚28E,h31km,ML3.3*
OMAN ***02*** *11:53:54.0±2.5,27.˚43N×57.˚63E,h10km,ml3.1/5,Error ellipse: s-maj=25.3km s-min=18.6km az=38.0*
ISC 02 11:53:46.8±1.5,28.˚18N±0.˝05×57.˚44E±0.˝08,h35km,n12,
σ1§51/13,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KHNJ	**Kahnooj**	**0.33**	**134**	*e*Pg		**Pn**	**11 53 54.2**	**-1.0**
GENO	**Geno**	**1.36**	**236**	*e*		**Sn**	**11 54 26.4**	**-0.1**
GENO				*e*Pg		**Pn**	**11 54 08.1**	**-1.4**
NGRK	**Negar Kerman**	**1.59**	**337**	*e*Pg		**Pn**	**11 54 12.5**	**-0.3**
NGRK				*e*			11 54 39.1	
CHMN	**Cheshme madani**	**1.68**	**3**	*e*Pg		**Pn**	**11 54 15.5**	**+1.5**
TVBK	**TV Kerman**	**1.90**	**342**	*e*Pg		**Pn**	**11 54 18.3**	**+1.3**
TVBK				*e*			11 54 22.3	
KHGB	**Koh Gabri**	**2.35**	**339**	*e*Pn		**Pn**	**11 54 20.7**	**-2.4**
KHGB				*e*			11 55 04.4	
BANOM	**Banah**	**2.46**	**205**	P		**Pn**	**11 54 26.6**	**+2.1**
	SNR=15							
ASHO	**Ashiyiah**	**3.69**	**200**	P		**Pn**	**11 54 42.8**	**+1.3**
HOQ	**Hoqain**	**4.58**	**181**	P		**Pn**	**11 54 52.9**	**-0.7**
ARQ	**Araqi**	**4.89**	**190**	P		**Pn**	**11 54 58.2**	**+0.2**
	SNR=6.7							
IRAM	**Ramesheh**	**5.69**	**311**	*e*Pn		**Pn**	**11 55 07.1**	**-1.9**
MHTO	**MHTO**	**7.18**	**176**	P		**Pn**	**11 55 29.7**	**+0.4**

IDC ***02*** *12:12:27.7±1.0,10.˚73N×126.˚11E,h0km,mb4.0/8, mb1 4.2/8,mb1mx3.7/44,mbtmp4.0/8,MS3.1/1,Ms1 3.1/1, ms1mx2.4/41,Error ellipse: s-maj=63.9km s-min=17.0km az=66.0*
MAN ***02*** *12:12:42.4,10.˚39N×125.˚58E,h77km,MS3.4*
ISC 02 12:12:34.7±0.8,10.˚78N±0.˝08×126.˚03E±0.˝09,h49km,n16,
σ1§67/21,mb3.8/8,2C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSLP	**Maasin**	**1.32**	**241**	*e*P		**Pn**	**12 12 59.7**	**+2.9**
MSLP				*e*S		**Sn**	**12 13 13.4**	**+0.2**
LLP	**Lapu-Lapu**	**2.08**	**257**	*i*P		**Pn**	**12 13 09.5**	**+2.3**
LLP				*i* S		**Sn**	**12 13 30.0**	**-1.9**
TBP	**Tagbilaran**	**2.39**	**243**	*e*P		**Pn**	**12 13 12.7**	**+1.2**
BUKP	**Musuan**	**3.04**	**198**	*e*P		**Pn**	**12 13 22.2**	**+1.8**
BUKP				*e*S		**Sn**	**12 13 54.1**	**-1.5**
CNOP	**Candoni, Negro**	**3.47**	**254**	*e*P		**Pn**	**12 13 26.2**	**0.0**
KCP	**Kidapawan**	**3.86**	**194**	*e*P		**Pn**	**12 13 35.3**	**+3.6**
CMAR	**Chiang Mai Arr**	**27.27**	**289**	P		**P**	**12 18 14.8**	**+0.1**
	0.6nm,0.5s,baz=95,slow=7.3,SNR=1.9							
FITZ	**Fitzroy Crossi**	**28.70**	**181**	P		**P**	**12 18 25.5**	**-1.9**
	0.4nm,0.3s,baz=346,slow=9.1,SNR=6.5							
KRVT	**Keravat (AS076**	**29.91**	**119**	LR		LR	12 27 59.7	
	comp=Z,37nm,21.6s,baz=66,slow=31							
WRA	**Warramunga Arr**	**31.61**	**165**	P		**P**	**12 18 51.2**	**-1.9**
	0.3nm,0.4s,baz=250,slow=2.9,SNR=14							
WRA				PcP		**PcP**	**12 21 44.1**	**-0.7**
	0.2nm,0.5s,baz=335,slow=2.5,SNR=1.3							
ASAR	**Alice Springs**	**35.09**	**167**	P		**P**	**12 19 22.6**	**-0.9**
	0.6nm,0.4s,baz=348,slow=7.0,SNR=16							
ASAR				PcP		**PcP**	**12 21 53.7**	**-0.8**
	0.3nm,0.4s,baz=349,slow=3.2,SNR=5.3							
STKA	**Stephens Creek**	**44.96**	**161**	P		**P**	**12 20 44.8**	**-0.4**
	3.5nm,0.3s,baz=335,slow=7.1,SNR=7.7							
MKAR	**Makanchi Array**	**51.48**	**323**	P		**P**	**12 21 36.9**	**+1.5**
	0.5nm,0.7s,baz=113,slow=9.3,SNR=4.5							
MKAR				PcP		**PcP**	**12 22 48.9**	**-0.2**
	0.4nm,0.6s,baz=141,slow=4.8,SNR=2.4							
ARCES	**ARCESS Array B**	**83.63**	**340**	P		**P**	**12 24 57.3**	**-0.4**
	2.6nm,1.1s,baz=80,slow=6.5,SNR=4.8							
FINES	**FINESS Array B**	**85.33**	**332**	P		**P**	**12 25 06.7**	**+0.3**
	1.4nm,0.9s,baz=64,slow=4.4,SNR=9.1							
USHA	**Ushuaia**	**134.59**	**168**	PKP		**PKiKP**	**12 31 49.6**	**+0.6**
	15nm,0.4s,baz=241,slow=0.7,SNR=5.5							

ISK ***02*** *12:19:15.2,40.˚35N×37.˚79E,h8km,ML2.7/5*
DDA ***02*** *12:19:16.4,40.˚38N×37.˚70E,h7km±3km,ML2.2*
ISC 02 12:19:15.9±1.2,40.˚38N±0.˝03×37.˚75E±0.˝03,h9km±12km,
n12,σ0§64/21,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSDY	**Resadiye-TOKAT**	**0.32**	**273**	PG	**Pg**	**12 19 22.7**	**+0.4**
RSDY				SG	**Sb**	**12 19 27.9**	**-1.3**
SUSE	**Susehri**	**0.39**	**116**	*i* P	**Pb**	**12 19 25.0**	**-0.1**
SUSE				*i* S	**Sb**	**12 19 31.7**	**+0.4**
SUSE				IAML		12 19 32.0	
	comp=N,338nm,0.2s						
SUSE				IAML		12 19 32.0	
	comp=E,276nm,0.2s						
CUZAR	**Zara_SIVAS**	**0.49**	**178**	*i* P	**Pg**	**12 19 25.8**	**+0.2**
CUZAR				*i* S	**Sb**	**12 19 34.2**	**-0.1**
ORDU	**Ordu-Boztepe**	**0.61**	**8**	*i* P	**Pg**	**12 19 27.9**	**+0.1**
ORDU				*i* S	**Sb**	**12 19 37.6**	**-0.1**
ORDU				IAML		12 19 50.0	
	comp=E,94nm,0.7s						
SVSK	**Karacayir**	**0.74**	**231**	PG	**Pg**	**12 19 30.1**	**0.0**
SVSK				SG	**Sb**	**12 19 40.9**	**-0.2**
ERBA	**Erbaa**	**0.81**	**292**	*i* P	**Pg**	**12 19 31.7**	**+0.1**
ERBA				*i* S	**Sb**	**12 19 43.1**	**-0.3**
ESPY	**Espiye-Giresun**	**0.92**	**54**	PG	**Pg**	**12 19 33.1**	**-0.5**
ESPY				SG	**Sg**	**12 19 46.1**	**+0.6**
KELT	**Kelkit**	**1.18**	**101**	*i* P	**Pg**	**12 19 38.2**	**-0.4**
KELT				*i* S	**Sb**	**12 19 54.3**	**+0.3**
KEMA	**Kemaliye**	**1.25**	**152**	*i* P	**Pb**	**12 19 39.6**	**-0.2**
KEMA				*i* S	**Sn**	**12 19 58.2**	**+1.4**
ARPR	**Arapgir-MALATY**	**1.37**	**160**	PN	**Pn**	**12 19 40.7**	**-0.6**
YOZ	**Yozgat**	**2.01**	**249**	PN	**Pn**	**12 19 50.6**	**+0.5**
ELZG	**Elazig**	**2.11**	**153**	*i* P	**Pb**	**12 19 53.4**	**-1.1**

IDC 02 12:30:04.5±1.8**,25°.84N×110°.12W,h0km,mb1 3.6**/4**, mb1mx3.4**/41**,mbtmp3.2**/4**,ML3.5**/4**,Error ellipse: s-maj=23.7km s-min=19.2km az=124.0,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.73**	**186**	Pn	Pn	12 30 35.9	0.0
	23nm,0.3s,baz=339,slow=2.7,SNR=7.5						
LPIG				Sn	Sn	12 30 53.9	-4.8
	31nm,0.3s,baz=166,slow=8.0,SNR=6.6						
TXAR	**Lajitas Array**	**6.70**	**57**	Pn	Pn	12 31 44.4	+0.2
	0.3nm,0.3s,baz=234,slow=13,SNR=24						
TXAR				Sn	Sn	12 33 00.6	-0.8
	0.5nm,0.3s,baz=306,slow=21,SNR=5.4						
TXAR				Lg	Lg	12 33 37.4	
	0.5nm,0.3s,baz=240,slow=30,SNR=5.9						
NVAR	**Mina Array Bea**	**14.34**	**333**	Pn	P	12 33 32.8	-3.5
	0.1nm,0.3s,baz=154,slow=13,SNR=5.6						
ELK	**Elko**	**15.47**	**345**	Pn	P	12 33 47.4	-1.5
	0.1nm,0.3s,baz=169,slow=10,SNR=3.6						
PDAR	**Pinedale Array**	**16.90**	**1**	Pn	Pn	12 34 03.1	+0.5
	0.0nm,0.3s,baz=166,slow=12,SNR=4.5						

IDC 02 12:52:26.4±2.8**,6°.32S×155°.18E,h0km,mb3.4**/3**, mb1 3.6**/4**,mb1mx3.4**/23**,mbtmp3.4**/4**,ML3.3**/1**,Error ellipse: s-maj=50.0km s-min=22.8km az=54.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.72**	**302**	Pn	Pn	12 53 25.7	+0.5
	2.4nm,0.3s,baz=113,slow=15,SNR=2.0						
KRVT				Pg	Pb	12 53 34.1	+1.0
	6.7nm,0.3s,baz=206,slow=8.1,SNR=5.5						
KRVT				Sn	Sn	12 54 12.7	+2.9
	12nm,0.3s,baz=173,slow=20,SNR=2.9						
KRVT				Lg	Lg	12 54 24.4	
	20nm,0.3s,baz=52,slow=19,SNR=6.4						
WRA	**Warramunga Arr**	**24.35**	**234**	P	P	12 57 46.6	+0.1
	1.1nm,0.6s,baz=59,slow=9.6,SNR=6.7						
ASAR	**Alice Springs**	**26.76**	**228**	P	P	12 58 08.1	-0.1
	0.2nm,0.6s,baz=57,slow=9.1,SNR=5.3						
MKAR	**Makanchi Array**	**83.02**	**319**	P	P	13 04 53.7	-0.2
	0.1nm,0.3s,baz=98,slow=6.0,SNR=1.6						

MAN ***02*** *13:24:03.9,4°.12N×125°.56E,h2km,MS3.4*
NEIC ***02*** *13:24:07.2±2.7,2°.6N±0°.1×126°.53E±0°.06,h10km±2km, mb4.2/14,Error ellipse: s-maj=20.8km s-min=7.9km az=22.0*
DJA ***02*** *13:24:07.6±1.0,4°N±7°×12°6E±°,h168km±18km,M4.0/7, mb4.1/3,mB5.1/1,MLv3.9/7,Mw(mB)4.4/1*
IDC ***02*** *13:24:07.9±2.1,2°.49N×126°.41E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/44,mbtmp3.6/4,Error ellipse: s-maj=176.3km s-min=26.8km az=65.0*
ISC 02 13:24:07.5±1.0**,2°.69N**±0°.08×**126°.66E**±0°.09**,h10km,n22, σ2s10**/24**,mb4.0**/8**,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.03**	**160**	P	Pg	13 24 56.3	+10
TNTI				S	**Sn**	**13 25 07.5**	**+0.3**
KMSI	**Cibinong**	**3.40**	**232**	P	**Pn**	**13 25 02.1**	**+1.5**
GTOI	**Gorontalo**	**4.18**	**241**	P	**Pn**	**13 25 11.8**	**+0.5**
GTOI				S	**Sn**	**13 25 59.7**	**-0.5**
SANI	**Sanana**	**4.75**	**188**	P	**Pb**	**13 25 29.5**	**-1.4**
SANI				S	**Sb**	**13 26 32.7**	**+4.5**
MTN	**Manton Dam**	**16.06**	**164**	Pn	**Pn**	**13 27 52.2**	**-1.3**
MTN				IAmb	IAmb	13 28 09.1	
	comp=Z,18nm,1.2s						
JAGI	**Jajag, Banyuwa**	**16.68**	**228**	Pn	**Pn**	**13 27 59.0**	**-2.6**
JAGI				IAmb	IAmb	13 28 03.8	
	comp=Z,33nm,1.0s						
KNRA	**Kununurra**	**18.36**	**174**	P	**Pn**	**13 28 22.9**	**+0.5**
KNRA				IAmb	IAmb	13 28 31.5	
	comp=Z,15nm,1.3s						
FITZ	**Fitzroy Crossi**	**20.68**	**183**	Pn	**P**	**13 28 49.1**	**+1.3**
FITZ				IAmb	IAmb	13 28 52.1	
	comp=Z,6.3nm,0.8s						
YHNB	**Yeheng**	**22.44**	**347**	P	**P**	**13 29 07.5**	**+0.7**
COEN	**Coen**	**23.27**	**136**	P	**P**	**13 29 15.3**	**-0.2**
COEN				IAmb	IAmb	13 29 26.7	
	comp=Z,11nm,1.1s						
WB0	**Warramunga Arr**	**23.57**	**162**	P	**P**	**13 29 20.1**	**+1.6**
WB0				IAmb	IAmb	13 29 25.3	
	comp=Z,14nm,1.4s						
WRAB	**Tennant Creek**	**23.71**	**162**	P	**P**	**13 29 16.4**	**-3.4**
WRAB				IAmb	IAmb	13 29 29.5	
	comp=Z,9.0nm,0.9s						
WRA	**Warramunga Arr**	**23.72**	**162**	P	**P**	**13 29 20.8**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=341,slow=10,SNR=12						
WB2	**Warramunga Arr**	**23.72**	**162**	P	**P**	**13 29 22.2**	**+2.3**
WR0	**Warramunga Arr**	**23.80**	**161**	P	**P**	**13 29 23.2**	**+2.5**
WR0				IAmb	IAmb	13 29 27.0	
	comp=Z,6.9nm,1.2s						
PSA00	**Pilbara Seismi**	**25.02**	**195**	P	**P**	**13 29 27.7**	**-4.1**
AS31	**Alice Springs**	**27.13**	**165**	P	**P**	**13 29 49.8**	**-1.2**
ASAR	**Alice Springs**	**27.13**	**165**	P	**P**	**13 29 51.0**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=343,slow=7.2,SNR=7.8						
BBOO	**Buckleboo**	**36.41**	**167**	P	**P**	**13 31 11.1**	**-1.2**
STKA	**Stephens Creek**	**37.19**	**159**	P	**P**	**13 31 20.8**	**+1.8**
	comp=Z,1.7nm,0.7s,baz=324,slow=8.7,SNR=3.5						
STKA	**Stephens Creek**	**37.19**	**159**	P	**P**	**13 31 17.4**	**-1.5**
MKAR	**Makanchi Array**	**58.37**	**326**	P	**P**	**13 34 05.3**	**+2.2**
	comp=Z,0.2nm,0.4s,baz=111,slow=7.9,SNR=2.2						

IDC 02 13:36:15.0±13.0**,6°.93S×129°.41E,h110km**±95km**,mb3.6**/1**, mb1 3.6**/4**,mb1mx3.2**/26**,mbtmp3.9**/4**,ML3.7**/3**,Error ellipse: s-maj=172.4km s-min=62.8km az=25.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.55**	**240**	P	Pn	13 37 49.2	+0.2
	7.1nm,0.3s,baz=203,slow=3.8,SNR=7.9						
BATI				S	Sn	13 38 54.4	-7.9
	3.8nm,0.3s,baz=319,slow=14,SNR=1.6						
WRA	**Warramunga Arr**	**13.79**	**160**	P	Pn	13 39 24.8	-1.2
	0.2nm,0.3s,baz=338,slow=13,SNR=12						
WRA				S	Sn	13 41 47.2	-11
	0.6nm,0.3s,baz=345,slow=21,SNR=9.4						
ASAR	**Alice Springs**	**17.20**	**166**	P	Pn	13 40 09.6	+0.9
	0.3nm,0.3s,baz=341,slow=10.0,SNR=33						
ASAR				S	Sn	13 43 08.4	-12
	0.1nm,0.3s,baz=350,slow=26,SNR=2.1						
STKA	**Stephens Creek**	**27.30**	**157**	P	P	13 41 49.4	-0.1
	1.0nm,0.6s,baz=318,slow=10,SNR=3.0						

MOS ***02*** *14:02:18.2±1.3,55°.57S×28°.45W,h10km,mb5.7/20, MS5.1/6,Error ellipse: s-maj=19.2km s-min=11.0km az=114.0*
NEIC ***02*** *14:02:18.8±1.9,55°.43S±0°.05×28°.3W±0°.2,h7km±3km, mb5.6/52,Ms_20 5.0/567,Mwb5.6/20,Mwc5.4(GCMT), Error ellipse: s-maj=14.2km s-min=4.3km az=64.0*
NEIC ***02*** *14:02:19.1,55°.36S×28°.36W,h4km,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.03; Mθθ-0.24; Mφφ0.21; Mrθ-1.29; Mθφ0.48; Mφr2.86; Fault plane solution: M0 3.18000×10^17 NP1:φs73.33000°, δ8.96000°,λ7.08000°. NP2:φs336.34000°,δ88.90000°, λ98.89000°. Principal axes: T 3.0829, Plg45.0000°, Azm255.0000°; N 0.1925, Plg9.0000°, Azm156.0000°; P -3.2754, Plg43.0000°, Azm58.0000°;*
IDC ***02*** *14:02:23.1±1.1,55°.46S×28°.28W,h38km±8km,mb5.0/28, mb1 5.0/30,mb1mx4.9/36,mbtmp5.2/30,ML5.1/2,MS4.9/27, Ms1 4.9/27,ms1mx4.8/34 Error ellipse: s-maj=13.8km s-min=9.9km az=45.0*
GCMT ***02*** *14:02:23.8±0.1,55°.39S±0°.01×28°.08W±0°.01,h32km±1km, MW5.4/147,Moment Tensor Solution. s102,c159; s147,c243; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr0.20±.02; Mθθ-0.51±.02; Mφφ0.30±.02; Mrθ-0.49±.03; Mθφ0.76±.02; Mφr1.49±.06; Best double couple: M0 1.79600×10^17 NP1:φs78.00000°,δ28.00000°, λ8.00000°. NP2:φs341.00000°,δ86.00000°,λ118.00000°. Principal axes: T 1.7650, Plg42.0000°, Azm278.0000°; N 0.0610, Plg28.0000°, Azm159.0000°; P -1.8270, Plg35.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***02*** *14:02:25,55°.51S×28°.09W,h24km,Moment Tensor Solution. Moment tensor: Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Fault plane solution: M0 0.00000×10^0 NP1:φs81.00000°,δ34.00000°, λ12.00000°. NP2:φs341.00000°,δ83.00000°,λ124.00000°. Principal axes: T 0.0000, Plg90.0000°, Azm0.0000°; N 0.0000, Plg0.0000°, Azm0.0000°; P 0.0000, Plg0.0000°, Azm90.0000°;*
ISC 02 14:02:21.0±0.6**,55°.40S**±0°.05×**28°.27W**±0°.05**,h24km**±3km**, h24km:pP-P,n633,σ1s55**/377**,mb5.5**/47**,MS5.0**/327**, 13C-5D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.88**	**280**	P	**Pn**	**14 03 32.2**	**-0.6**
HOPE	**Hope Point**	**4.88**	**280**	Pn	**Pn**	**14 03 32.2**	**-0.6**
VNA1	**Neumayer--Stat**	**17.63**	**158**	P	**P**	**14 06 25.3**	**-0.3**
VNA3	**Neumayer Olymp**	**17.81**	**160**	P	**Pn**	**14 06 26.9**	**0.0**
EFI	**East Falkland**	**18.02**	**270**	P	**Pn**	**14 06 29.1**	**-0.5**
EFI				pmax	pmax		
	comp=Z,356nm,1.1s						
EFI	**East Falkland**	**18.02**	**270**	P	**Pn**	**14 06 29.1**	**-0.5**
EFI				IAmb	IAmb	14 06 32.3	
	comp=Z,356nm,1.1s						
VNA2	**Neumayer--Watz**	**18.03**	**158**	P	**Pn**	**14 06 29.6**	**0.0**
	baz=316,slow=12						
SNAA	**Sanae**	**19.59**	**156**	P	**P**	**14 06 46.1**	**-1.0**
	comp=Z,8.6nm,0.3s,baz=305,slow=9.9,SNR=145						
SNAA				S	**Sn**	**14 10 31.2**	**+3.7**
	baz=219,slow=18,SNR=3.8						
SNAA				LR	LR	14 13 38.8	
	comp=Z,2µm,18.0s,baz=316,slow=35						
SNAA				ScP	**ScP**	**14 14 37.8**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=192,slow=0.7,SNR=15						
PMSA	**Palmer Station**	**19.88**	**227**	P	**Pn**	**14 06 51.9**	**0.0**
	comp=Z,3.3nm,0.3s,baz=75,slow=9.1,SNR=178						
PMSA				S	**Sn**	**14 10 39.1**	**+4.7**
	baz=335,slow=14,SNR=2.0						
PMSA				PcP	**PcP**	**14 11 06.5**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=48,slow=2.4,SNR=4.1						
PMSA				LR	LR	14 13 16.2	
	comp=Z,6µm,20.2s,baz=66,slow=33						
PMSA				ScP	**ScP**	**14 14 36.5**	**-4.2**
	comp=Z,0.5nm,0.3s,baz=93,slow=3.2,SNR=6.8						
PMSA	**Palmer Station**	**19.88**	**227**	*e*P	**Pn**	**14 06 52.1**	**+0.2**
PMSA	**Palmer Station**	**19.88**	**227**	P	**Pn**	**14 06 52.2**	**+0.2**
PMSA				IAmb	IAmb	14 07 02.1	
	comp=Z,330nm,0.9s						
MG01	**Puerto William**	**22.29**	**255**	P	**P**	**14 07 15.6**	**-0.7**
MG01				IAmb	IAmb	14 07 19.5	
	comp=Z,180nm,0.9s						
MG01				IAMs_20	IAMs_20	14 13 25.5	
	comp=Z,5µm,21.0s						
USHA	**Ushuaia**	**22.76**	**255**	P	**P**	**14 07 21.3**	**0.0**
	comp=Z,73nm,0.8s,baz=172,slow=4.6,SNR=15						
NVL	**N'lazarevskaya**	**23.15**	**147**	*e*P	**P**	**14 07 23.1**	**-2.0**
NVL				*e*S	**S**	**14 11 28.9**	**-5.9**
NVL				pmax	pmax		
	comp=Z,24nm,0.8s						
GO10	**Punta Arenas**	**24.79**	**257**	P	**P**	**14 07 41.0**	**+0.2**
PLTB	**Pedras Altas**	**29.60**	**312**	*e*P	**P**	**14 08 24.6**	**+0.4**
CNLB	**Canela**	**30.67**	**319**	*e*P	**P**	**14 08 35.2**	**+1.5**
CPSB	**Cacapava Do Su**	**30.72**	**314**	*e*P	**P**	**14 08 34.5**	**+0.5**
LL01	**San Ignacio de**	**31.25**	**276**	IAMs_20	IAMs_20	14 20 35.6	
	comp=Z,3µm,22.0s						
PLCA	**Paso Flores**	**31.28**	**280**	P	**P**	**14 08 37.7**	**-1.3**
	comp=Z,16nm,1.0s,baz=139,slow=7.5,SNR=12						
PLCA				PcP	**PcP**	**14 11 33.0**	**+0.2**
	comp=Z,3.3nm,0.6s,baz=37,slow=3.6,SNR=6.2						
PLCA				LR	LR	14 22 19.4	
	comp=Z,2µm,18.0s,baz=128,slow=38						
PLCA	**Paso Flores**	**31.28**	**280**	P	**P**	**14 08 38.0**	**-1.0**
PLCA						14 11 36.6	
PLCA				pmax	pmax		
	comp=Z,34nm,1.2s						
PLCA	**Paso Flores**	**31.28**	**280**	P	**P**	**14 08 38.0**	**-1.0**
PLCA					**PcP**	**14 11 36.6**	**+3.9**
SYO	**Syowa Base**	**32.48**	**142**⇑	*e*P	P	14 08 43.0	-6.1
SYO	**Syowa Base**	**32.48**	**142**⇑	*e*pP	**P**	**14 08 46.4**	**-2.7**
SYO	**Syowa Base**	**32.48**	**142**⇓	*i*sP	**P**	**14 08 48.8**	**-0.3**
SYO	**Syowa Base**	**32.48**	**142**⇑	*i*PnPn	PnPn	14 09 52.2	-4.1
ITAB	**Concordia**	**33.03**	**319**	*e*P	**P**	**14 08 55.5**	**+1.1**
PET01	**Itanhaem-SP**	**34.09**	**328**	*e*P	**P**	**14 09 04.0**	**+0.4**
MAN01	**Angra dos Reis**	**34.52**	**334**	*e*P	**P**	**14 09 08.9**	**+1.5**
MRA	**San Martin**	**34.79**	**296**	*e*P	**P**	**14 09 09.1**	**-0.6**
SPB	**Sao Paulo**	**34.79**	**328**	*e*P	**P**	**14 09 11.7**	**+2.1**
QSPA	**South Pole Qui**	**34.86**	**180**	P	**P**	**14 09 10.4**	**+0.4**
	comp=Z,26nm,0.7s,baz=200,slow=3.1,SNR=84						
QSPA				PcP	**PcP**	**14 11 43.0**	**+0.6**
	comp=Z,4.8nm,0.6s,baz=166,slow=4.2,SNR=1.1						
QSPA				ScP	**ScP**	**14 15 21.6**	**-4.4**
	comp=Z,3.3nm,0.7s,baz=143,slow=19,SNR=2.9						
QSPA				LR	LR	14 23 32.3	
	comp=Z,2µm,18.0s,baz=190,slow=36						
QSPA	**South Pole Qui**	**34.86**	**180**	P	**P**	**14 09 10.2**	**+0.1**
QSPA				IAmb	IAmb	14 09 22.0	
	comp=Z,153nm,1.4s						
QSPA	**South Pole Qui**	**34.86**	**180**	IAMs_20	IAMs_20	14 23 11.8	
	comp=Z,2µm,18.0s						
CAM01	**Campos-RJ**	**34.99**	**338**	*e*P	**P**	**14 09 12.1**	**+0.8**
TCA	**Tanti**	**35.08**	**298**	*e*P	**P**	**14 09 11.8**	**-0.4**
VAO	**Valinhos**	**35.21**	**329**	*e*P	**P**	**14 09 15.5**	**+2.1**
PTGB	**Pitanga**	**35.29**	**321**	*e*P	**P**	**14 09 14.8**	**+0.7**
BI03	**Tigo**	**35.38**	**283**	IAMs_20	IAMs_20	14 22 48.9	
	comp=Z,2µm,21.0s						
BO02	**Sierra Bellavi**	**35.65**	**287**	P	**P**	**14 09 15.4**	**-1.6**
BO02				IAMs_20	IAMs_20	14 22 01.2	
	comp=Z,2µm,22.0s						
FRTB	**Fartura**	**35.69**	**325**	*e*P	**P**	**14 09 18.8**	**+1.3**
AAGR	**Agrelo**	**35.89**	**291**	*e*P	**P**	**14 09 18.9**	**-0.4**
CPUP	**Villa Florida**	**35.92**	**312**	P	**P**	**14 09 19.0**	**-0.3**
	comp=Z,60nm,1.0s,baz=151,slow=7.7,SNR=105						
CPUP				PcP	**PcP**	**14 11 46.1**	**+0.2**
	comp=Z,5.7nm,0.8s,baz=117,slow=4.5,SNR=2.3						
CPUP				ScP	**ScP**	**14 15 27.5**	**-2.8**
	comp=Z,12nm,1.0s,baz=151,slow=4.1,SNR=11						
CPUP				LR	LR	14 22 44.6	
	comp=Z,1µm,20.9s,baz=157,slow=34						
CPUP	**Villa Florida**	**35.92**	**312**	*e*P	**P**	**14 09 19.4**	**+0.1**
CPUP	**Villa Florida**	**35.92**	**312**	P	**P**	**14 09 19.2**	**-0.1**
CPUP				IAmb	IAmb	14 09 20.4	
	comp=Z,74nm,1.0s						
BO01	**Tunca**	**36.11**	**288**	P	**P**	**14 09 20.6**	**-0.4**
GO05	**Huala**	**36.11**	**286**	P	**P**	**14 09 19.6**	**-1.4**
GO05				IAmb	IAmb	14 09 20.4	
	comp=Z,49nm,0.8s						
GO05				IAMs_20	IAMs_20	14 23 24.5	
	comp=Z,2µm,19.0s						
ASAL	**Salagasta**	**36.28**	**292**	*e*P	**P**	**14 09 21.7**	**-0.8**
BSCB	**Bom Sucesso**	**36.52**	**334**	*e*P	**P**	**14 09 26.2**	**+1.6**
RTCV	**Cerro Valdivia**	**36.69**	**293**	*e*P	**P**	**14 09 25.0**	**-1.0**
CFA	**Coronel Fontan**	**36.74**	**294**	P	**P**	**14 09 25.4**	**-1.0**
	comp=Z,72nm,0.8s,baz=143,slow=9.1,SNR=92						
CFA				PcP	**PcP**	**14 11 49.1**	**+0.7**
	comp=Z,5.8nm,0.6s,baz=176,slow=2.7,SNR=2.2						
CFA				LR	LR	14 24 38.7	
	comp=Z,3µm,20.5s,baz=145,slow=36						
PEL	**Peldehue**	**36.84**	**289**	P	**P**	**14 09 26.4**	**-0.8**
PEL				pmax	pmax		
	comp=Z,164nm,1.0s						
PEL	**Peldehue**	**36.84**	**289**	P	**P**	**14 09 26.4**	**-0.8**
PEL				IAmb	IAmb	14 09 28.7	
	comp=Z,164nm,1.0s						
AUSP	**Uspallata**	**36.86**	**292**	*e*P	**P**	**14 09 26.9**	**-0.8**
MT02	**Curacav**	**37.00**	**289**	P	**P**	**14 09 28.2**	**-0.4**
VA03	**San Esteban**	**37.06**	**290**	P	**P**	**14 09 28.3**	**-0.9**
VA03				IAmb	IAmb	14 09 30.9	
	comp=Z,153nm,1.1s						
RTLL	**Cerro Villicun**	**37.08**	**294**	*e*P	**P**	**14 09 28.4**	**-0.8**
RTLS	**Leoncito**	**37.14**	**292**	*e*P	**P**	**14 09 29.8**	**-0.3**
ROC1	**El Roble**	**37.15**	**289**	*e*P	**P**	**14 09 29.5**	**-0.5**
ROC1	**El Roble**	**37.15**	**289**	P	**P**	**14 09 29.7**	**-0.4**
RIB01	**Linhares ES**	**37.18**	**341**	*e*P	**P**	**14 09 32.2**	**+2.1**
TRCB	**Terra Rica**	**37.25**	**321**	*e*P	**P**	**14 09 31.7**	**+0.9**
BB19B	**Bebedouro**	**37.50**	**328**	*e*P	**P**	**14 09 34.5**	**+1.6**
BSFB	**Barra de Sao F**	**37.73**	**340**	*e*P	**P**	**14 09 36.5**	**+1.7**
ACLC	**CERRO LA CRUZ**	**37.82**	**297**	*e*P	**P**	**14 09 35.0**	**-0.7**
PCMB	**Pacaembu**	**37.87**	**324**	*e*P	**P**	**14 09 36.6**	**+0.6**
SJMB	**Sao Joao De Ma**	**37.92**	**340**	*e*P	**P**	**14 09 37.1**	**+0.7**
ACCO	**Cerro Coronel**	**37.97**	**294**	*e*P	**P**	**14 09 38.0**	**+0.8**
CYA	**Choya**	**38.04**	**299**	*e*P	**P**	**14 09 35.5**	**-1.9**
ACDV	**Cuesta del Vie**	**38.33**	**294**	*e*P	**P**	**14 09 40.9**	**+0.9**
CO02	**Combarbal**	**38.51**	**291**	P	**P**	**14 09 41.9**	**+0.4**
CO02				IAmb	IAmb	14 09 43.4	
	comp=Z,207nm,1.3s						
AROD	**Rodeo**	**38.52**	**294**	*e*P	**P**	**14 09 42.5**	**+0.7**
CO01	**Juntas del Tor**	**39.00**	**293**	P	**P**	**14 09 46.8**	**+1.1**
CO01				IAmb	IAmb	14 09 53.9	
	comp=Z,114nm,1.1s						
CO01				IAMs_20	IAMs_20	14 24 42.0	
	comp=Z,3µm,19.0s						
VCA	**Vinchina**	**39.01**	**296**	*e*P	**P**	**14 09 46.6**	**+0.8**
AHML	**Horco Molle**	**39.19**	**302**	*e*P	**P**	**14 09 45.7**	**-1.4**
GO04	**Tololo Observa**	**39.21**	**292**	P	**P**	**14 09 47.5**	**0.0**
GO04				IAmb	IAmb	14 09 48.6	
	comp=Z,196nm,1.2s						
ITRB	**Iturama**	**39.35**	**326**	*e*P	**P**	**14 09 49.6**	**+1.2**
AC05	**El Transito**	**40.00**	**294**	P	**P**	**14 09 53.6**	**-0.3**
AC05				IAmb	IAmb	14 10 01.4	
	comp=Z,132nm,0.9s						
IPMB	**Ipameri, GO**	**40.32**	**330**	*e*P	**P**	**14 09 58.1**	**+1.6**
MC01	**Montes Claros**	**40.44**	**336**	*e*P	**P**	**14 09 58.1**	**+0.5**
AC04	**Llanos de Chal**	**40.92**	**294**	P	**P**	**14 10 01.8**	**+0.3**
AC04				IAMs_20	IAMs_20	14 24 09.5	
	comp=Z,3µm,22.0s						
AC02	**Maricunga**	**41.03**	**297**	P	**P**	**14 10 03.8**	**+0.9**
AC02				IAmb	IAmb	14 10 11.8	
	comp=Z,185nm,1.1s						
AC02				IAMs_20	IAMs_20	14 25 10.1	
	comp=Z,2µm,22.0s						
C2SB	**Chapadao do Su**	**41.04**	**323**	*e*P	**P**	**14 10 04.0**	**+1.6**
MAW	**Mawson**	**41.04**	**144**	P	**P**	**14 10 01.2**	**-0.7**
	comp=Z,19nm,0.8s,baz=236,slow=8.5,SNR=26						
MAW				PcP	**PcP**	**14 12 02.4**	**+1.2**
	comp=Z,7.1nm,0.7s,baz=249,slow=5.8,SNR=2.2						
MAW				ScP	**ScP**	**14 15 46.0**	**-3.1**
	comp=Z,12nm,1.0s,baz=218,slow=4.0,SNR=10						
MAW				LR	LR	14 27 36.9	
	comp=Z,1µm,18.3s,baz=253,slow=37						
MAW	**Mawson**	**41.04**	**144**	P	**P**	**14 10 01.6**	**-0.3**
MAW					**PcP**	**14 12 05.4**	**+4.2**
MAW				ScP	**ScP**	**14 15 46.9**	**-2.3**
SUR	**Sutherland**	**41.07**	**77**	LR	LR	14 22 38.7	
	comp=Z,2µm,22.0s,baz=197,slow=30						
SUR	**Sutherland**	**41.07**	**77**	*i* P	**P**	**14 10 04.1**	**+1.3**
SUR	**Sutherland**	**41.07**	**77**	*i* P	**P**	**14 10 04.1**	**+1.3**
SUR	**Sutherland**	**41.07**	**77**	P	**P**	**14 10 03.8**	**+1.0**
SUR				IAmb	IAmb	14 10 05.4	
	comp=Z,136nm,1.4s						
AZAP	**Zapla**	**41.22**	**304**	*e*P	**P**	**14 10 03.7**	**-0.4**
JANB	**Januaria**	**42.12**	**337**	*e*P	**P**	**14 10 11.5**	**+0.1**
AC01	**Pan de Azucar**	**42.35**	**296**	P	**P**	**14 10 12.5**	**-0.5**
AC01				IAmb	IAmb	14 10 20.8	
	comp=Z,179nm,1.1s						
BDFB	**Brasilia**	**42.49**	**331**	P	**P**	**14 10 15.7**	**+1.2**
	comp=Z,12nm,0.9s,baz=141,slow=8.5,SNR=7.4						
BDFB				LR	LR	14 25 52.7	
	comp=Z,449nm,18.3s,baz=144,slow=33						
BDFB	**Brasilia**	**42.49**	**331**	P	**P**	**14 10 13.6**	**-0.9**
BDFB				IAMs_20	IAMs_20	14 30 09.4	
	comp=Z,1µm,18.0s						
GDU01	**Guandu, BA**	**42.51**	**344**	*e*P	**P**	**14 10 13.8**	**-0.6**
GO02	**Mina Guanaco**	**42.65**	**298**	P	**P**	**14 10 16.5**	**+0.7**
PB14	**IPOC Station P**	**43.50**	**298**	P	**P**	**14 10 22.3**	**-0.5**
ARAG	**Araguaiana, MT**	**43.56**	**326**	*e*P	**P**	**14 10 23.8**	**+0.9**
LVC	**Limon Verde**	**44.44**	**301**	P	**P**	**14 10 31.3**	**+0.9**
	comp=Z,55nm,0.8s,baz=163,slow=6.3,SNR=37						
LVC				LR	LR	14 27 50.9	
	comp=Z,801nm,21.9s,baz=157,slow=34						
LVC	**Limon Verde**	**44.44**	**301**	*ce*P	**P**	**14 10 31.6**	**+1.1**
LVC				pmax	pmax		
	comp=Z,64nm,1.0s						
LVC	**Limon Verde**	**44.44**	**301**	*e*P	**P**	**14 10 31.3**	**+0.9**
LVC	**Limon Verde**	**44.44**	**301**	P	**P**	**14 10 31.5**	**+1.1**
LVC				IAmb	IAmb	14 10 41.4	
	comp=Z,62nm,0.8s						
SALV	**Santo Antonio**	**44.69**	**321**	*e*P	**P**	**14 10 32.2**	**+0.2**
SDBA	**SAO DESIDERIO**	**44.82**	**337**	*e*P	**P**	**14 10 33.2**	**+0.2**
PB09	**IPOC Station P**	**45.29**	**301**	P	**P**	**14 10 38.2**	**+1.3**
PB07	**IPOC Station P**	**45.67**	**300**	P	**P**	**14 10 40.7**	**+0.7**
PB07				IAmb	IAmb	14 10 48.8	
	comp=Z,72nm,0.9s						
PEXB	**Peixe**	**45.95**	**332**	*e*P	**P**	**14 10 43.3**	**+1.3**
PB01	**IPOC Station P**	**46.05**	**301**	P	**P**	**14 10 42.8**	**-0.1**
PTLB	**Pontes e Lacer**	**46.40**	**317**	*e*P	**P**	**14 10 45.6**	**+0.1**
PTLB				*e*pP	**pP**	**14 10 50.7**	**+0.1**
BOSA	**Boshof**	**46.41**	**77**	P	**P**	**14 10 45.0**	**-0.7**
	comp=Z,30nm,0.9s,baz=218,slow=8.3,SNR=24						
BOSA				PcP	**PcP**	**14 12 20.8**	**+0.5**
	comp=Z,5.6nm,0.9s,baz=218,slow=6.6,SNR=1.7						
BOSA				ScP	**ScP**	**14 16 09.4**	**-2.4**
	comp=Z,3.1nm,0.7s,baz=161,slow=4.7,SNR=4.7						
BOSA				LR	LR	14 27 41.8	
	comp=Z,2µm,18.0s,baz=214,slow=33						
BOSA	**Boshof**	**46.41**	**77**	*i* P	**P**	**14 10 46.1**	**+0.4**
BOSA	**Boshof**	**46.41**	**77**	*i* P	**P**	**14 10 46.1**	**+0.4**
BOSA	**Boshof**	**46.41**	**77**	P	**P**	**14 10 45.5**	**-0.3**
BOSA				IAmb	IAmb	14 10 46.3	
	comp=Z,73nm,1.1s						
PB08	**IPOC Station P**	**46.65**	**302**	P	**P**	**14 10 48.5**	**+0.5**
PB08				IAmb	IAmb	14 10 52.1	
	comp=Z,79nm,1.1s						
SIV	**San Ignacio**	**46.68**	**314**	P	**P**	**14 10 47.5**	**-0.3**
	comp=Z,16nm,1.0s,baz=163,slow=7.0,SNR=38						
SIV				PcP	**PcP**	**14 12 22.5**	**+1.4**
	comp=Z,14nm,1.0s,baz=135,slow=2.9,SNR=2.9						
SIV				ScP	**ScP**	**14 16 11.6**	**-1.3**
	comp=Z,3.3nm,0.9s,baz=199,slow=6.4,SNR=5.4						
SIV				LR	LR	14 29 14.0	
	comp=Z,694nm,21.2s,baz=161,slow=34						
GO01	**Chusmiza**	**47.08**	**303**	P	**P**	**14 10 52.5**	**+1.1**
VNDA	**Vanda**	**47.20**	**183**	P	**P**	**14 10 51.1**	**0.0**
	comp=Z,26nm,0.7s,baz=186,slow=5.3,SNR=78						
VNDA	**Vanda**	**47.20**	**183**	P	**P**	**14 10 51.8**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,28nm,0.8s						
VNDA	**Vanda**	**47.20**	**183**	P	**P**	**14 10 51.8**	**+0.7**
VNDA				IAmb	IAmb	14 10 56.1	
	comp=Z,28nm,0.8s						
PSGCX	**Pisagua**	**47.59**	**302**	IAmb	IAmb	14 11 07.3	
	comp=Z,109nm,1.5s						
SMTB	**Santa Maria do**	**48.87**	**334**	*e*P	**P**	**14 11 06.1**	**+1.4**
VILB	**Vilhena**	**49.09**	**317**	*e*P	**P**	**14 11 06.4**	**0.0**
VILB				*e*pP	**pP**	**14 11 11.1**	**-0.4**
CLDB	**Colider**	**49.39**	**323**	*e*P	**P**	**14 11 07.6**	**-1.1**
CLDB				*e*pP	**pP**	**14 11 12.4**	**-1.4**
LBTB	**Lobatse**	**49.41**	**75**	LR	LR	14 30 06.9	
	comp=Z,2µm,18.0s,baz=214,slow=34						
LBTB	**Lobatse**	**49.41**	**75**	*i* P	**P**	**14 11 09.7**	**+0.7**
LBTB	**Lobatse**	**49.41**	**75**	P	**P**	**14 11 09.7**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,94nm,1.2s						
LBTB	**Lobatse**	**49.41**	**75**	*i* P	**P**	**14 11 09.7**	**+0.7**
LBTB	**Lobatse**	**49.41**	**75**	P	**P**	**14 11 09.7**	**+0.7**

LBTB IAmb IAmb 14 11 10.2
comp=Z,94nm,1.1s
LPAZ La Paz 49.50 306 P **P 14 11 11.0 +0.8**
comp=Z,90nm,1.0s,baz=143,slow=6.6,SNR=196
LPAZ LR LR 14 32 45.5
comp=Z,657nm,20.8s,baz=159,slow=37
LPAZ La Paz 49.50 306 *e*P **P 14 11 11.3 +1.1**
RCBR Riachuelo 49.80 350 LR LR 14 29 31.4
comp=Z,550nm,19.2s,baz=175,slow=33
TSUM Tsumeb 49.91 62 P **P 14 11 13.2 +0.4**
TSUM Tsumeb 49.91 62 IAMs_20 IAMs_20 14 29 29.0
comp=Z,1µm,19.0s
PRPB Parauapebas 52.02 332 *e*P **P 14 11 30.4 +1.8**
NPGB Novo Progresso 52.83 325 *e*P **P 14 11 35.0 +0.5**
NPGB *ep*P **sP 14 11 40.1 -2.9**
ROSB Rosrio 53.89 340 *e*P **P 14 11 44.0 +1.7**
SAML Samuel 53.91 316 P **P 14 11 42.5 +0.1**
SAML pmax pmax
comp=Z,49nm,1.0s
SAML Samuel 53.91 316 *e*P **P 14 11 42.3 -0.1**
SAML Samuel 53.91 316 P **P 14 11 42.5 +0.1**
SAML IAmb IAmb 14 11 43.4
comp=Z,49nm,0.9s
ETMB Extrema 54.37 312 *e*P **P 14 11 45.7 -0.1**
ETMB *ep*P **pP 14 11 50.6 -1.3**
MATP Matopo 54.68 74 LR LR 14 33 00.1
comp=Z,2µm,18.2s,baz=211,slow=34
MATP Matopo 54.68 74 *i* P **P 14 11 48.7 +0.4**
MATP Matopo 54.68 74 *i* P **P 14 11 48.7 +0.4**
CASY Casey 54.73 161 P **P 14 11 48.2 +0.4**
ITZ Itezhi-Tezhi 57.17 69 *e*P P 14 12 13.5 +7.5
ITZ *e* 14 20 15.9
ITZ *e* 14 27 34.5
MALB Monte Alegre 57.39 329 *e*P **P 14 12 08.9 +1.5**
NNA Nana 57.40 299 P **P 14 12 07.5 -0.1**
comp=Z,14nm,0.5s,baz=155,slow=7.5,SNR=6.2
NNA LR LR 14 39 15.6
comp=Z,642nm,18.5s,baz=132,slow=38
NNA Nana 57.40 299 *de*P **P 14 12 08.2 +0.6**
NNA pmax pmax
comp=Z,61nm,1.0s
NNA MLR MLR
comp=Z,1µm,17.0s
NNA Nana 57.40 299 IAMs_20 IAMs_20 14 38 39.6
comp=Z,826nm,20.0s
MCPB Macapa, AP 58.19 332 *e*P **P 14 12 15.4 +2.3**
MACA Manacapuru-AM 58.27 321 *e*P **P 14 12 13.8 +0.1**
LSZ Lusaka 58.72 70 LR LR 14 36 08.4
comp=Z,2µm,18.0s,baz=214,slow=34
LSZ Lusaka 58.72 70 P **P 14 12 17.7 +0.8**
LSZ pmax pmax
comp=Z,76nm,1.5s
LSZ Lusaka 58.72 70 P **P 14 12 17.7 +0.8**
LSZ IAmb IAmb 14 12 32.0
comp=Z,76nm,1.4s
CZSB Cruzeiro do Su 59.11 306 *e*P **P 14 12 18.9 -0.6**
PTGA Pitinga 60.28 323 P **P 14 12 26.8 -0.7**
comp=Z,7.5nm,0.9s,baz=166,slow=6.9,SNR=8.8
PTGA Pitinga 60.28 323 *e*P **P 14 12 27.3 -0.2**
PTGA Pitinga 60.28 323 P **P 14 12 26.5 -1.0**
PTGA IAMs_20 IAMs_20 14 38 16.7
comp=Z,943nm,19.0s
ATAH Atahualpa 62.34 301 P **P 14 12 43.6 +1.7**
comp=Z,32nm,0.9s,baz=147,slow=4.5,SNR=19
MDP Montagnes des 63.57 333 P **P 14 12 51.1 +1.5**
comp=Z,13nm,0.8s,baz=194,slow=4.1,SNR=5.1
LIC Lamto 64.36 26 *e*P **P 14 12 54.2 -0.6**
comp=Z,183nm,1.1s
KIC Kosan Boka 64.56 26 *e*P **P 14 12 55.3 -0.8**
comp=Z,246nm,1.5s
TIC Toumodi 64.77 26 *e*P **P 14 12 56.8 -0.7**
DBIC Dimbokro 64.83 26 P **P 14 12 57.8 -0.1**
comp=Z,27nm,0.9s,baz=172,slow=6.7,SNR=15
DBIC LR LR 14 35 42.5
comp=Z,372nm,19.1s,baz=180,slow=31
DBIC Dimbokro 64.83 26 P **P 14 12 58.6 +0.7**
DBIC pmax pmax
comp=Z,42nm,1.0s
DBIC Dimbokro 64.83 26 P **P 14 12 58.6 +0.7**
DBIC IAmb IAmb 14 12 59.1
comp=Z,42nm,1.0s
OPO Ambohidratompo 66.68 89 LR LR 14 37 09.9
comp=Z,968nm,19.5s,baz=344,slow=31
PTLC Puerto Leguiza 67.04 308 *e*P **P 14 13 09.1 -3.1**
FLOC Florencia 68.68 308 *e*P **P 14 13 20.5 -1.9**
GARC Garzon, Huila 69.14 308 *e*P **P 14 13 23.2 -2.4**
BBAC Balboa, Cauca 69.79 307 *e*P **P 14 13 29.7 +0.1**
MBO M'Bour 70.17 12 IAMs_20 IAMs_20 14 44 53.5
comp=Z,758nm,21.0s
PRAC Prado 70.23 310 *e*P **P 14 13 31.1 -1.0**
CHIC Chingaza 70.55 311 *e*P **P 14 13 31.1 -3.3**
ORTC Ortega, Tolima 70.56 309 *e*P **P 14 13 33.8 -0.3**
ROSC El Rosal 70.99 311 P **P 14 13 37.5 +0.4**
comp=Z,15nm,0.7s,baz=127,slow=18,SNR=10.0
ROSC LR LR 14 45 29.4
comp=Z,734nm,21.1s,baz=169,slow=36
ROSC El Rosal 70.99 311 IAMs_20 IAMs_20 14 45 06.4
comp=Z,883nm,20.0s
YOTC Yotoco, Valle 71.12 308 *e*P **P 14 13 33.8 -3.8**
ANIL Santa Ana 71.15 309 *e*P **P 14 13 39.9 +2.0**
TOLC Tolima 71.20 310 *e*P **P 14 13 34.6 -3.7**
RUSC La Rusia 71.41 312 *e*P **P 14 13 37.3 -2.5**
RUSC ⇓ *e*P **P 14 13 39.0 -0.7**
RREF El Recreo 71.49 310 *e*P **P 14 13 39.0 -1.4**
GUY2C Guyana, Caldas 71.79 310⇑ *e*P **P 14 13 42.6 +0.5**
NORC Norcasia 71.88 310 *e*P **P 14 13 39.9 -2.1**
BARC Barichara 72.08 313 *e*P **P 14 13 39.9 -3.5**
PTBC PUERTO BERRIO, 72.57 311 *e*P **P 14 13 44.3 -1.8**
CBOC Ciudad Bolivar 72.64 310 *e*P **P 14 13 42.6 -4.2**
TOA0 Torodi Ar. Sit 72.79 31 P **P 14 13 47.7 +0.3**
TORD Torodi Ar. Bea 72.79 31 P **P 14 13 47.9 +0.5**
comp=Z,61nm,0.7s,baz=201,slow=6.4,SNR=252
TORD LR LR 14 38 59.8
comp=Z,2µm,21.6s,baz=215,slow=30
SDV Santo Domingo 73.11 316 P **P 14 13 48.5 -1.0**
comp=Z,24nm,0.6s,baz=218,slow=2.2,SNR=11
SDV Santo Domingo 73.11 316 *e*P **P 14 13 49.1 -0.5**
SMLC San Martn de 74.44 313 *e*P P 14 13 51.4 -5.7
SABA Saba 78.54 326 IAMs_20 IAMs_20 14 55 19.7
comp=Z,667nm,19.0s
JTS Las Juntas de 80.64 304 P **P 14 14 32.3 +0.5**
comp=Z,29nm,1.0s,baz=203,slow=3.9,SNR=8.0
JTS Las Juntas de 80.64 304 *c i*P **P 14 14 32.5 +0.7**
JTS pmax pmax
comp=Z,37nm,1.2s
SDDR Presa de Saban 82.58 319 IAMs_20 IAMs_20 14 50 00.6
comp=Z,925nm,22.0s
SC01 Santiago de lo 82.78 320 IAMs_20 IAMs_20 14 51 34.9
comp=Z,730nm,19.0s
URZ Urewera 84.22 200 LR LR 14 47 46.3
comp=Z,584nm,21.3s,baz=186,slow=32
MTDJ Mount Denham 84.35 314 IAMs_20 IAMs_20 15 00 02.3
comp=Z,391nm,18.0s
GTBY Guantanamo Bay 84.90 316 IAMs_20 IAMs_20 14 52 04.0
comp=Z,825nm,21.0s
MTO3 Montecristo 86.31 302 P **P 14 15 02.0 +0.9**
ESQI Esquipulas 86.44 302 P **P 14 15 02.1 +0.5**
TBI Tubuai 87.01 232 *e*S **SKSac 14 25 35.6 +5.6**
comp=Z,501nm,28.5s
TBI Tubuai 87.01 232 *e*LR LR 14 42 38.0
comp=Z,2µm,28.2s,baz=154
NWAO Narrogin (SRO) 87.20 152 P **P 14 15 03.5 -1.7**
comp=Z,4.2nm,0.6s,baz=167,slow=4.5,SNR=1.8
NWAO Narrogin (SRO) 87.20 152 P **P 14 15 03.5 -1.7**
NWAO pmax pmax
comp=Z,52nm,1.5s
NWAO Narrogin (SRO) 87.20 152 IAmb IAmb 14 15 17.6
comp=Z,52nm,1.5s
HUEH Huehuetenango 88.15 300 IAMs_20 IAMs_20 14 53 23.7
comp=Z,624nm,19.0s
CCIG Comitan 89.28 300 IAMs_20 IAMs_20 14 54 07.8
comp=Z,472nm,20.0s
TEIG Tepich 90.83 306 P **P 14 15 22.7 +0.5**
comp=Z,84nm,1.0s,baz=135,slow=0.9,SNR=47
TEIG Tepich 90.83 306 P **P 14 15 22.9 +0.7**
CMIG Matias Romero 91.34 299 P **P 14 15 25.2 +0.6**
comp=Z,20nm,1.0s,baz=119,slow=1.8,SNR=18
PPT2 Papeete2 92.07 235 *e*PS PS 14 27 39.5 -1.8
comp=Z,398nm,27.8s
PPT2 Papeete2 92.07 235 *e*LR LR 14 44 58.3
comp=Z,968nm,23.0s,baz=153
PPT Papeete 92.08 235 LR LR 14 50 49.2
comp=Z,494nm,18.2s,baz=179,slow=32
061Z Ochoppi 92.55 314 IAMs_20 IAMs_20 15 00 07.5
comp=Z,423nm,18.0s

STKA Stephens Creek 92.64 171 P **P 14 15 29.4 -1.3**
comp=Z,2.1nm,0.6s,baz=187,slow=6.5,SNR=4.3
STKA Stephens Creek 92.64 171 P **P 14 15 29.4 -1.3**
STKA pmax pmax
comp=Z,1.0nm,1.0s
060A Indiantown 93.36 315 IAMs_20 IAMs_20 14 57 22.2
comp=Z,632nm,21.0s
SFS San Fernando 93.43 18 IAMs_20 IAMs_20 14 51 36.3
comp=Z,372nm,20.0s
TLIG Tlapa 93.60 296 IAMs_20 IAMs_20 14 51 49.1
comp=Z,681nm,21.0s
PFVI Vila Bisbo 93.66 15 IAMs_20 IAMs_20 14 51 49.2
comp=Z,370nm,20.0s
DWPF Disney Wildern 94.75 315 IAMs_20 IAMs_20 14 58 35.9
comp=Z,550nm,20.0s
TAOE Nuku Hiva Isla 94.85 247 *e*LR LR 14 46 15.6
comp=Z,918nm,22.3s
UNM Universidad Na 95.39 296 IAMs_20 IAMs_20 14 52 48.6
comp=Z,551nm,21.0s
KEST Kesra 96.31 30 P **P 14 15 47.5 +0.3**
comp=Z,3.4nm,0.9s,baz=134,slow=10,SNR=3.6
KEST LR LR 14 53 46.9
comp=Z,1µm,21.8s,baz=174,slow=32
656A Willston 96.31 315 IAMs_20 IAMs_20 14 59 23.2
comp=Z,628nm,21.0s
COI Coimbra 96.73 15 IAMs_20 IAMs_20 14 53 19.6
comp=Z,564nm,21.0s
PAB San Pablo 96.75 18 IAMs_20 IAMs_20 14 53 19.3
comp=Z,431nm,22.0s
ES12 SONSECA Array 96.92 19 IAMs_20 IAMs_20 14 53 39.7
comp=Z,489nm,21.0s
ES14 SONSECA Array 96.92 19 IAMs_20 IAMs_20 14 53 47.8
comp=Z,483nm,21.0s
ES13 SONSECA Array 96.93 19 IAMs_20 IAMs_20 14 53 36.9
comp=Z,586nm,22.0s
ES15 SONSECA Array 96.93 19 IAMs_20 IAMs_20 14 53 50.1
comp=Z,499nm,21.0s
ES05 SONSECA Array 96.94 19 IAMs_20 IAMs_20 14 53 48.2
comp=Z,529nm,21.0s
ES10 SONSECA Array 96.94 19 IAMs_20 IAMs_20 14 53 33.4
comp=Z,558nm,22.0s
ESDC Sonseca Array 96.95 19 P **P 14 15 50.9 +1.0**
comp=Z,1.6nm,0.9s,baz=173,slow=6.6,SNR=7.9
ESDC LR LR 14 54 10.0
comp=Z,456nm,21.8s,baz=190,slow=32
ESBB Sonseca Array 96.95 19 IAMs_20 IAMs_20 14 53 25.6
comp=Z,605nm,22.0s
ES06 SONSECA Array 96.95 19 IAMs_20 IAMs_20 14 53 34.6
comp=Z,614nm,22.0s
ES16 SONSECA Array 96.96 19 IAMs_20 IAMs_20 14 53 39.7
comp=Z,584nm,22.0s
ES17 SONSECA Array 96.97 19 IAMs_20 IAMs_20 14 53 49.1
comp=Z,560nm,22.0s
ES18 SONSECA Array 96.99 19 IAMs_20 IAMs_20 14 53 36.5
comp=Z,579nm,22.0s
ES19 SONSECA Array 96.99 19 IAMs_20 IAMs_20 14 53 08.5
comp=Z,587nm,22.0s
MTE Manteigas 97.05 16 IAMs_20 IAMs_20 14 56 46.1
comp=Z,329nm,20.0s
553A Crawfordville 97.81 313 IAMs_20 IAMs_20 15 01 56.9
comp=Z,448nm,19.0s
257A Skidaway Islan 98.01 317 IAMs_20 IAMs_20 14 59 26.3
comp=Z,446nm,20.0s
255A Hahurst 98.54 316 IAMs_20 IAMs_20 14 59 13.3
comp=Z,575nm,22.0s
451A Vernon 98.73 313 IAMs_20 IAMs_20 15 09 00.3
comp=Z,363nm,21.0s
352A Blakely 99.14 314 IAMs_20 IAMs_20 15 01 35.2
comp=Z,583nm,20.0s
154A Montrose 99.40 316 IAMs_20 IAMs_20 14 59 38.0
comp=Z,517nm,22.0s
ASAR Alice Springs 99.80 163 P **Pdif 14 16 02.5 -0.8**
comp=Z,2.2nm,0.8s,baz=193,slow=4.2,SNR=12
ASAR PP **PP 14 20 05.5 -1.3**
comp=Z,1.5nm,0.8s,baz=185,slow=7.9,SNR=6.5
ASAR PKKP **PKKPdf 14 32 23.2 -0.5**
comp=Z,0.8nm,0.6s,baz=22,slow=2.3,SNR=9.5
ASAR LR LR 14 59 43.3
comp=Z,560nm,18.7s,baz=194,slow=34
VSL Villasalto 99.83 29 IAMs_20 IAMs_20 14 55 16.2
comp=Z,677nm,22.0s
250A Grady 100.13 313 IAMs_20 IAMs_20 15 06 23.4
comp=Z,379nm,19.0s
GOGA Godfrey 100.24 316 IAMs_20 IAMs_20 15 00 37.3
comp=Z,467nm,22.0s
HODGE Hodges 100.49 317 IAMs_20 IAMs_20 15 05 29.8
comp=Z,324nm,20.0s
CEL Celeste 100.62 34 IAMs_20 IAMs_20 15 09 22.2
comp=Z,464nm,19.0s
PAULI Pauline 100.83 318 IAMs_20 IAMs_20 15 10 04.1
comp=Z,292nm,18.0s
Y52A Lilburn 100.87 316 IAMs_20 IAMs_20 15 01 19.1
comp=Z,463nm,22.0s
T60A Surry 101.04 322 IAMs_20 IAMs_20 15 01 26.5
comp=Z,403nm,21.0s
IDI Anoyia 101.10 42 IAMs_20 IAMs_20 15 04 00.1
comp=Z,369nm,20.0s
LRAL Lakeview Retre 101.35 313 IAMs_20 IAMs_20 15 02 47.7
comp=Z,486nm,21.0s
ITM Ithomi 101.69 39 IAMs_20 IAMs_20 15 09 43.5
comp=Z,379nm,19.0s
TIP Timpagrande 101.73 34 IAMs_20 IAMs_20 14 57 13.7
comp=Z,487nm,22.0s
T57A Hurt 101.81 321 IAMs_20 IAMs_20 14 59 42.8
comp=Z,346nm,22.0s
DZM Mont Dzumac 101.83 194 *e*LR LR 14 49 25.9
comp=Z,2µm,23.4s
146A Union 101.88 311 IAMs_20 IAMs_20 15 05 09.7
comp=Z,361nm,20.0s
W52A Murphy 101.90 316 IAMs_20 IAMs_20 15 01 33.2
comp=Z,436nm,22.0s
FPAL Fort Paine 102.09 315 IAMs_20 IAMs_20 15 02 04.2
comp=Z,615nm,22.0s
R58B Mineral 102.18 322 IAMs_20 IAMs_20 15 08 30.7
comp=Z,563nm,21.0s
SANT Santorini 102.27 42 IAMs_20 IAMs_20 15 01 19.1
comp=Z,357nm,20.0s
V52A Sevierville 102.42 317 IAMs_20 IAMs_20 14 59 59.1
comp=Z,405nm,22.0s
CPCT Cooper Cave 102.44 316 IAMs_20 IAMs_20 15 02 03.6
comp=Z,403nm,21.0s
W50A Signal Mountai 102.54 315 IAMs_20 IAMs_20 15 01 47.2
comp=Z,366nm,21.0s
SWET Sewanee 102.80 315 IAMs_20 IAMs_20 15 01 50.2
comp=Z,541nm,22.0s
M65A Busby, Falmout 103.09 329 IAMs_20 IAMs_20 15 02 24.0
comp=Z,366nm,20.0s
Y45A Yeager Farm, C 103.14 311 IAMs_20 IAMs_20 15 09 14.1
comp=Z,379nm,18.0s
PLAL Pickwick Lake 103.48 313 IAMs_20 IAMs_20 15 04 11.1
comp=Z,582nm,20.0s
WRA Warramunga Arr 103.51 163 Pdiff **Pdif 14 16 18.6 -1.2**
comp=Z,0.6nm,0.9s,baz=193,slow=4.2,SNR=2.7
WRA PKKP **PKKPdf 14 32 16.6 -0.5**
comp=Z,0.9nm,0.5s,baz=356,slow=2.9,SNR=17
V48A Smith Brothers 103.62 314 IAMs_20 IAMs_20 15 02 50.8
comp=Z,626nm,22.0s
OXF Oxford 103.64 312 IAMs_20 IAMs_20 15 04 17.3
comp=Z,316nm,20.0s
CLTN Cedars of Leba 103.72 315 IAMs_20 IAMs_20 15 02 17.5
comp=Z,335nm,22.0s
PAGS Pennsylvania G 103.81 324 IAMs_20 IAMs_20 15 03 04.8
comp=Z,328nm,22.0s
U49A Red Boiling Sp 103.87 316 IAMs_20 IAMs_20 15 02 35.4
comp=Z,422nm,22.0s
T50A Nancy 103.94 317 IAMs_20 IAMs_20 15 01 10.2
comp=Z,383nm,22.0s
WES Weston 104.05 329 IAMs_20 IAMs_20 15 03 00.8
comp=Z,324nm,20.0s
SSB Saint Sauveur 104.07 23 IAMs_20 IAMs_20 15 00 03.1
comp=Z,417nm,19.0s
W45A Hickory Valley 104.10 312 IAMs_20 IAMs_20 15 04 34.4
comp=Z,444nm,20.0s
HRV Adam Dziewonsk 104.23 328 IAMs_20 IAMs_20 15 03 17.1
comp=Z,343nm,20.0s
X43A Marvell 104.28 311 IAMs_20 IAMs_20 15 07 34.1
comp=Z,299nm,19.0s
SSPA Standing Stone 104.57 323 IAMs_20 IAMs_20 15 03 37.9
comp=Z,369nm,22.0s
K62A Royalston 104.58 328 IAMs_20 IAMs_20 15 03 39.3
comp=Z,335nm,20.0s
TIR Tirane 104.71 35 IAMs_20 IAMs_20 15 11 35.3
comp=Z,480nm,18.0s
P53A Whipple 104.79 320 IAMs_20 IAMs_20 15 03 30.7
comp=Z,318nm,21.0s
T47A Sharon Grove 104.81 315 IAMs_20 IAMs_20 15 03 01.3
comp=Z,364nm,22.0s
M57A Sunshine Farm, 104.94 324 IAMs_20 IAMs_20 15 07 34.7
comp=Z,263nm,18.0s
HBAR Harrisburg 105.06 312 IAMs_20 IAMs_20 15 13 29.9
comp=Z,354nm,19.0s
EMMW East Machias 105.10 332 IAMs_20 IAMs_20 15 04 27.1
comp=Z,313nm,20.0s
Q51A Peebles 105.11 319 IAMs_20 IAMs_20 15 04 41.2
comp=Z,333nm,22.0s
P52A Corning 105.19 320 IAMs_20 IAMs_20 15 04 16.4
comp=Z,340nm,20.0s
PEBM Pemiscott Bayo 105.20 312 IAMs_20 IAMs_20 15 05 15.6
comp=Z,538nm,20.0s
I63A Otisfield 105.36 330 IAMs_20 IAMs_20 15 03 47.9
comp=Z,386nm,19.0s
I62A Tamworth 105.42 329 IAMs_20 IAMs_20 15 04 38.4
comp=Z,328nm,19.0s
M56A Emporium 105.42 323 IAMs_20 IAMs_20 15 04 03.6
comp=Z,377nm,22.0s
PDG Podgorica 105.48 35 IAMs_20 IAMs_20 15 10 03.8
comp=Z,321nm,20.0s
ISP Isparta 105.51 45 IAMs_20 IAMs_20 15 03 17.3
comp=Z,392nm,21.0s
WVL Waterville 105.57 331 IAMs_20 IAMs_20 15 05 18.5
comp=Z,296nm,20.0s
M55A Ridgway 105.61 323 IAMs_20 IAMs_20 15 04 19.5
comp=Z,363nm,22.0s
ACCN Adirondack Com 105.67 327 IAMs_20 IAMs_20 14 49 36.1
comp=Z,386nm,21.0s
LCAR Lake Charles 105.71 311 IAMs_20 IAMs_20 15 06 52.1
comp=Z,338nm,19.0s
LBNH Lisbon 105.92 329 IAMs_20 IAMs_20 15 05 23.9
comp=Z,267nm,19.0s
TXAR Lajitas Array 105.94 299 Pdiff **Pdif 14 16 29.1 -1.2**
comp=Z,0.9nm,0.9s,baz=134,slow=7.2,SNR=7.0
FCAR Ozark Folk Cen 105.97 311 IAMs_20 IAMs_20 15 06 16.1
comp=Z,341nm,20.0s
H62A Milan 106.00 330 IAMs_20 IAMs_20 15 04 17.0
comp=Z,386nm,20.0s
PBMO Poplar Bluff 106.00 312 IAMs_20 IAMs_20 15 05 28.9
comp=Z,527nm,20.0s
ACSO Alum Creek Sta 106.03 319 IAMs_20 IAMs_20 15 05 27.5
comp=Z,323nm,22.0s
PKME Peaks-Kenny Pk 106.11 331 IAMs_20 IAMs_20 15 05 27.9
comp=Z,294nm,20.0s
CLF Chambon-Foret 106.19 21 IAMs_20 IAMs_20 15 12 01.2
comp=Z,540nm,20.0s
ALLY Alegheny Colle 106.25 322 IAMs_20 IAMs_20 15 06 47.4
comp=Z,389nm,22.0s
VT1 Waterbury 106.25 328 IAMs_20 IAMs_20 15 04 17.3
comp=Z,279nm,20.0s
WVNY West Valley, N 106.39 324 IAMs_20 IAMs_20 15 04 45.1
comp=Z,380nm,22.0s
F64A Sherman 106.41 332 IAMs_20 IAMs_20 15 05 29.7
comp=Z,341nm,21.0s
G62A West of Eustis 106.42 330 IAMs_20 IAMs_20 15 04 08.9
comp=Z,373nm,20.0s
ALN Alexandroupoli 106.46 40 IAMs_20 IAMs_20 15 05 57.0
comp=Z,399nm,21.0s
F63A Nahmakanta, Br 106.46 331 IAMs_20 IAMs_20 15 05 49.2
comp=Z,298nm,20.0s
O49A Covington 106.50 318 IAMs_20 IAMs_20 15 05 10.9
comp=Z,307nm,21.0s
M52A Chesterland 106.58 321 IAMs_20 IAMs_20 15 02 32.2
comp=Z,307nm,22.0s
U40A Yellville 106.68 310 IAMs_20 IAMs_20 15 10 29.9
comp=Z,345nm,19.0s
J55A Hilton 106.89 324 IAMs_20 IAMs_20 15 06 12.4
comp=Z,306nm,19.0s
VTS Vitosha 106.98 37 IAMs_20 IAMs_20 15 06 05.5
comp=Z,413nm,21.0s
LONY Lake Ozonia 107.07 327 IAMs_20 IAMs_20 15 01 46.2
comp=Z,314nm,22.0s
N49A Columbus Grove 107.08 319 IAMs_20 IAMs_20 15 07 27.3
comp=Z,254nm,18.0s
MGMO Mountain Grove 107.10 311 IAMs_20 IAMs_20 15 06 13.0
comp=Z,414nm,22.0s
BATG Bathurst New B 107.13 334 IAMs_20 IAMs_20 15 06 08.8
comp=Z,371nm,19.0s
DIVS Divibare 107.21 34 IAMs_20 IAMs_20 15 07 01.7
comp=Z,338nm,20.0s
Q44A Meyer Farm, Va 107.23 315 IAMs_20 IAMs_20 15 04 37.3
comp=Z,380nm,22.0s
E62A Clayton Lake 107.42 332 IAMs_20 IAMs_20 15 06 18.5
comp=Z,350nm,19.0s
ECH Echery 107.44 24 IAMs_20 IAMs_20 15 02 33.3
comp=Z,403nm,19.0s
N47A Urbana 107.61 318 IAMs_20 IAMs_20 15 10 10.5
comp=Z,280nm,20.0s
SFIN Lafayette 107.72 317 IAMs_20 IAMs_20 15 06 59.4
comp=Z,319nm,20.0s
S39A Bolivar 108.01 311 IAMs_20 IAMs_20 15 06 53.9
comp=Z,391nm,20.0s
L48A N Adams 108.06 319 IAMs_20 IAMs_20 15 06 12.2
comp=Z,320nm,21.0s
P43A Skaggs, Pawnee 108.06 315 IAMs_20 IAMs_20 15 05 03.3
comp=Z,400nm,22.0s
O44A Mansfield 108.07 316 IAMs_20 IAMs_20 15 03 41.6
comp=Z,397nm,22.0s
K50A Casco 108.12 321 IAMs_20 IAMs_20 15 05 47.8
comp=Z,289nm,21.0s
ANTO Ankara 108.18 45 IAMs_20 IAMs_20 15 04 45.5
comp=Z,440nm,20.0s
SADO Sadowa 108.66 324 IAMs_20 IAMs_20 15 06 40.3
comp=Z,294nm,20.0s
MNTX Cornudas Mount 108.72 299 IAMs_20 IAMs_20 15 03 21.7
comp=Z,328nm,18.0s
HDIL Hopedale 108.75 315 IAMs_20 IAMs_20 15 04 03.5
comp=Z,345nm,22.0s
SRIG Santa Rosalia 108.76 291 IAMs_20 IAMs_20 14 59 31.1
comp=Z,513nm,21.0s
L46A Eue Claire 108.81 318 IAMs_20 IAMs_20 15 08 33.3
comp=Z,324nm,19.0s
LATQ La Tuque 109.03 330 IAMs_20 IAMs_20 15 06 27.1
comp=Z,338nm,21.0s
HQIL Hanson Quary C 109.23 317 IAMs_20 IAMs_20 15 06 32.4
comp=Z,321nm,22.0s
UCC Uccle 109.26 21 IAMs_20 IAMs_20 15 02 43.3
comp=Z,445nm,20.0s
AMTX Amarillo 109.49 303 IAMs_20 IAMs_20 15 06 25.1
comp=Z,321nm,20.0s
N41A Harden Midland 109.50 314 IAMs_20 IAMs_20 15 05 56.6
comp=Z,458nm,22.0s
ILGA Ilgaz 109.55 45 IAMs_20 IAMs_20 15 07 56.0
comp=Z,463nm,21.0s
GEC2 GERESS Array S 109.66 28 IAMs_20 IAMs_20 15 01 30.1
comp=Z,584nm,22.0s
KHC Kasperske Hory 109.89 28 *e*SP SP 14 30 44.8 -2.9
KHC AMS AMS 15 00 50.0
comp=Z,1µm,23.1s
KHC Kasperske Hory 109.89 28 IAMs_20 IAMs_20 15 01 38.2
comp=Z,406nm,21.0s
D53A Lac Vacive, Po 110.24 326 IAMs_20 IAMs_20 15 08 01.1
comp=Z,301nm,21.0s
319A Douglas 110.44 296 IAMs_20 IAMs_20 15 04 43.2
comp=Z,413nm,21.0s
I45A Fountain 110.53 319 IAMs_20 IAMs_20 15 04 21.7
comp=Z,344nm,22.0s
TREC Trest 110.55 29 AMS AMS 15 02 20.0
comp=Z,800nm,21.3s
KSU1 Kansas State U 110.61 309 IAMs_20 IAMs_20 15 09 42.8
comp=Z,341nm,20.0s
L40A Anamosa 110.79 315 IAMs_20 IAMs_20 15 05 07.7
comp=Z,342nm,22.0s
GOPC GO Pecny, Ondr 110.92 28 *e*SP SP 14 31 00.4 +3.0
GOPC AMS AMS 15 01 00.0
comp=Z,800nm,24.1s
PRU Pruhonice 110.93 28 *e*SP SP 14 30 55.1 -2.2
PRU AMS AMS 15 01 40.0
comp=Z,900nm,22.4s
PRA Prague 110.97 28 *e*SP SP 14 31 05.7 +8.0
PRA AMS AMS 15 01 40.0
comp=Z,400nm,20.2s
JFWS Jewell Farm 111.12 316 IAMs_20 IAMs_20 15 06 44.3
comp=Z,287nm,22.0s
Y22D IRIS PASSCAL I 111.40 299 IAMs_20 IAMs_20 15 04 12.5
comp=Z,456nm,21.0s
PVCC Panska Ves 111.43 28 AMS AMS 15 01 40.0
comp=Z,600nm,23.4s
H43A Windswept, Lux 111.47 318 IAMs_20 IAMs_20 15 05 14.7
comp=Z,289nm,22.0s
SCIA State Center 111.48 313 IAMs_20 IAMs_20 15 07 57.8
comp=Z,462nm,22.0s
MORC Moravsky Berou 111.56 30 IAMs_20 IAMs_20 15 09 46.6
comp=Z,356nm,19.0s
KRLC Kraliky 111.62 29 AMS AMS 15 03 40.0
comp=Z,500nm,18.5s
N35A Tabor 111.64 311 IAMs_20 IAMs_20 15 09 18.1
comp=Z,507nm,21.0s
CLL Collm 111.73 26 *e*PP **PP 14 21 34.0 -1.9**

CLL *e*PS **PS** **14 31 11.0 +3.5**
CLL *e*SS SS 14 37 24.0 +14
CLL LmH 15 04 00.0
comp=N,800nm,20.8s
CLL LmH 15 04 00.0
comp=E,700nm,21.9s
DPC Dobruska-Polom 111.74 29 *e*SP SP 14 31 02.2 -2.6
DPC AMS AMS 15 06 30.0
comp=E,400nm,18.9s
UPC Upice 111.80 29 AMS AMS 15 01 50.0
comp=E,600nm,23.3s
ANMO Albuquerque 111.86 300 IAMs_20 IAMs_20 15 05 22.8
comp=Z,380nm,19.0s
CHVC Chvalec 111.88 29 AMS AMS 15 02 00.0
comp=Z,600nm,21.9s
OSTC Ostas 111.90 29 *e*SP SP 14 31 23.4 +17
OSTC AMS AMS 15 01 00.0
comp=Z,500nm,23.6s
K38A Parkersburg 111.91 314 IAMs_20 IAMs_20 15 14 01.3
comp=Z,323nm,21.0s
TUC Tucson 111.96 295 IAMs_20 IAMs_20 15 05 37.3
comp=Z,368nm,20.0s
I40A Norwalk 112.09 316 IAMs_20 IAMs_20 15 08 23.9
comp=Z,347nm,21.0s
T25A Trinidad 112.61 303 IAMs_20 IAMs_20 15 08 23.8
comp=Z,326nm,19.0s
L34A Svendsen Farm, 112.86 311 IAMs_20 IAMs_20 15 10 03.4
comp=Z,493nm,21.0s
G40A Rib Lake 113.08 317 IAMs_20 IAMs_20 15 08 37.1
comp=Z,286nm,22.0s
BGNE Belgrade 113.18 310 IAMs_20 IAMs_20 15 10 15.7
comp=Z,405nm,20.0s
KSCO Kaye Shedlock' 113.27 305 IAMs_20 IAMs_20 15 09 24.1
comp=Z,296nm,20.0s
I37A Lemond, Waseca 113.30 315 IAMs_20 IAMs_20 15 14 01.1
comp=Z,275nm,20.0s
COWI Conover 113.37 319 IAMs_20 IAMs_20 15 13 36.8
comp=Z,281nm,19.0s
SPX San Pedro Mart 113.42 291 IAMs_20 IAMs_20 15 02 28.0
comp=Z,322nm,22.0s
SDCO Great Sand Dun 113.62 302 IAMs_20 IAMs_20 15 12 18.4
comp=Z,353nm,19.0s
113A Mohawk Valley, 113.87 293 IAMs_20 IAMs_20 15 06 14.9
comp=Z,270nm,20.0s
X16A Lo Mia Camp, P 113.95 296 IAMs_20 IAMs_20 15 06 54.2
comp=Z,369nm,19.0s
D41A Chassel 113.96 319 IAMs_20 IAMs_20 15 13 33.5
comp=Z,302nm,21.0s
S22A 4UR Ranch, Cre 114.27 302 IAMs_20 IAMs_20 15 08 25.4
comp=Z,307nm,20.0s
SCHQ Schefferville 114.32 337 IAMs_20 IAMs_20 15 16 01.0
comp=Z,317nm,21.0s
K31A O'Neill 114.42 310 IAMs_20 IAMs_20 15 11 21.7
comp=Z,517nm,21.0s
ESJX Sierra Juarez 114.43 291 IAMs_20 IAMs_20 15 07 56.6
comp=Z,280nm,18.0s
UABX UABC, Campus M 114.64 292 IAMs_20 IAMs_20 14 53 19.4
comp=Z,265nm,21.0s
MVCO Mesa Verde 114.66 300 IAMs_20 IAMs_20 15 05 29.9
comp=Z,407nm,20.0s
E38A The Farm, Brul 114.71 317 IAMs_20 IAMs_20 15 17 29.4
comp=Z,324nm,18.0s
WUAZ Wupatki 114.78 297 IAMs_20 IAMs_20 15 03 45.0
comp=Z,292nm,22.0s
F36A Milaca 114.87 316 IAMs_20 IAMs_20 15 08 01.6
comp=Z,296nm,22.0s
BAR Barrett 115.34 291 IAMs_20 IAMs_20 15 03 32.7
comp=Z,290nm,19.0s
KBZ Khabaz 115.61 50⇑ *i*PKIKP **PKPdf** **14 20 59.6 -0.5**
KBZ MLR MLR
comp=Z,556nm,20.0s
PV03 Paradox Valley 115.65 301 IAMs_20 IAMs_20 15 10 15.1
comp=Z,493nm,21.0s
PV18 Skein Mesa, Pa 115.67 300 IAMs_20 IAMs_20 15 10 09.7
comp=Z,339nm,18.0s
KIV Kislovodsk 115.70 49 *i* PKIKP **PKiKP** **14 21 02.1 +1.6**
KIV *e* 14 22 05.6
KIV *e*PS **PS** **14 31 46.8 +2.5**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,1µm,22.0s
KIV Kislovodsk 115.70 49 IAMs_20 IAMs_20 15 11 35.8
comp=Z,393nm,21.0s
PV16 Nyswonger Mesa 115.73 300 IAMs_20 IAMs_20 15 08 34.2
comp=Z,448nm,19.0s
PV19 Morning Glory 115.76 300 IAMs_20 IAMs_20 15 13 44.0
comp=Z,358nm,18.0s
PV04 Paradox Valley 115.79 301 IAMs_20 IAMs_20 15 08 58.7
comp=Z,381nm,19.0s
PV22 Blue Mesa, Par 115.84 301 IAMs_20 IAMs_20 15 05 43.1
comp=Z,504nm,22.0s
XPFO Pion Flat 115.94 292 IAMs_20 IAMs_20 15 02 08.7
comp=Z,334nm,20.0s
PFO Pinyon Flats O 115.94 292⇑ *i*PKIKP **PKiKP** **14 21 02.7 +1.4**
PFO Pinyon Flats O 115.94 292 IAMs_20 IAMs_20 15 02 08.7
comp=Z,329nm,20.0s
U15A North Rim 115.95 297 IAMs_20 IAMs_20 15 08 32.1
comp=Z,351nm,20.0s
F33A 5 Mile Ranch, 115.98 314 IAMs_20 IAMs_20 15 11 31.9
comp=Z,333nm,20.0s
AKT Akhty 115.99 54 *e*PKIKP **PKPdf** **14 21 00.9 -0.3**
AKT *e* 14 22 06.1
AKT pmax pmax
comp=Z,11nm,0.8s
AKASG Malin Array Be 116.03 37 PKP **PKPdf** **14 21 00.1 -0.7**
comp=Z,0.4nm,0.4s,baz=243,slow=2.0,SNR=1.5
MTKI Muara Teweh, K 116.30 138 PKP **PKiKP** **14 21 02.7 +0.1**
N23A Red Feather La 116.31 304 IAMs_20 IAMs_20 15 17 15.7
comp=Z,226nm,18.0s
GMRC Granite Mounta 116.42 293 P **PKiKP** **14 21 03.0 +0.8**
baz=141
O20A White River Ci 116.82 302 P **PKiKP** **14 21 03.7 +0.8**
baz=141
B35A Bob, Littlefor 117.00 317 IAMs_20 IAMs_20 15 16 20.8
comp=Z,338nm,18.0s
MAK Makhachkala 117.05 53 *e*P **Pdif** **14 17 14.8 -4.4**
MAK *i* 14 21 00.3
MAK *e* 14 27 53.5
MAK *e*SS SS 14 38 20.4 -0.2
MAK *e*SSS SSS 14 42 40.5
MAK pmax pmax
comp=Z,446nm,2.0s
D32A Dogwood Acres, 117.32 314 IAMs_20 IAMs_20 15 20 11.3
comp=Z,306nm,18.0s
GSC Goldstone, Bar 117.42 293 P **PKiKP** **14 21 04.6 +0.5**
baz=140
EDW2 Edwards Air Fo 117.73 292 P **PKiKP** **14 21 05.0 +0.3**
baz=140
AGMN Agassiz Nation 117.78 316 IAMs_20 IAMs_20 15 15 05.7
comp=Z,240nm,19.0s
K22A Casper 117.95 305 IAMs_20 IAMs_20 15 12 38.1
comp=Z,332nm,20.0s
RSSD Black Hills 117.95 308 IAMs_20 IAMs_20 15 12 59.1
comp=Z,420nm,21.0s
SBUM Sibu 118.33 134 IAMs_20 IAMs_20 15 06 16.7
comp=Z,397nm,19.0s
FURC Furnace Creek, 118.34 294 P **PKiKP** **14 21 06.7 +1.0**
baz=140
MPMC Manual Prospec 118.36 293 P **PKiKP** **14 21 06.2 +0.2**
baz=140
TPNV Topopah Spring 118.39 294 P **PKiKP** **14 21 06.8 +0.7**
baz=140,SNR=8.4
TPNV Topopah Spring 118.39 294 IAMs_20 IAMs_20 15 17 28.5
comp=Z,244nm,18.0s
E28A Huff 118.41 312 IAMs_20 IAMs_20 15 12 06.2
comp=Z,450nm,22.0s
ISA Isabella, Lake 118.58 292 P **PKiKP** **14 21 07.3 +1.0**
baz=140
ISA Isabella, Lake 118.58 292 IAMs_20 IAMs_20 15 08 26.5
comp=Z,300nm,20.0s
MDND Maddock 118.95 313 IAMs_20 IAMs_20 15 13 13.5
comp=Z,348nm,20.0s
CWC Cottonwood Cre 118.96 293 P **PKiKP** **14 21 07.8 +0.6**
baz=140
DUG Dugway, Tooele 119.11 299 P **PKiKP** **14 21 07.8 +0.5**
baz=140
DUG Dugway, Tooele 119.11 299 IAMs_20 IAMs_20 15 16 22.6
comp=Z,300nm,18.0s
R11A Troy Canyon, C 119.11 296 P **PKiKP** **14 21 08.1 +0.7**
baz=139
ULM Lac du Bonnet 119.35 317 IAMs_20 IAMs_20 15 11 39.1
comp=Z,294nm,22.0s
BW06 Boulder Array 119.47 303 P **PKiKP** **14 21 09.3 +1.3**
baz=140
BW06 Boulder Array 119.47 303 IAMs_20 IAMs_20 15 11 40.3
comp=Z,356nm,19.0s

PDAR Pinedale Array 119.47 303 PKP **PKPdf** **14 21 06.8 -1.1**
comp=Z,0.9nm,0.5s,baz=135,slow=5.0,SNR=11
HWUT Hardware Ranch 119.56 301 IAMs_20 IAMs_20 15 12 34.6
comp=Z,312nm,19.0s
NB2 NORSAR Subarra 120.21 21 PKPdf **PKPdf** **14 21 08.0 -0.5**
comp=Z,14nm,1.4s,baz=202,slow=1.9
NB2 NORSAR Subarra 120.21 21 PKPdf **PKPdf** **14 21 08.0 -0.5**
baz=202,slow=1.9
NOA NORSAR Array B 120.21 21 PKP **PKiKP** **14 21 08.8 +0.2**
comp=Z,1.7nm,0.7s,baz=206,slow=2.0,SNR=7.0
OMMB Old Mammoth Mi 120.33 293 IAMs_20 IAMs_20 15 05 29.8
comp=Z,360nm,22.0s
MDPB Devils Postpil 120.38 293 IAMs_20 IAMs_20 15 08 25.3
comp=Z,240nm,19.0s
NVAR Mina Array Bea 120.57 294 PKP **PKiKP** **14 21 10.8 +0.5**
comp=Z,1.5nm,0.5s,baz=133,slow=2.7,SNR=11
TPAW Teton Pass 120.69 303 IAMs_20 IAMs_20 15 12 01.4
comp=Z,283nm,20.0s
DOMB Dombas 120.70 19 *e*PKPdf **PKiKP** **14 21 12.2 +2.7**
ELK Elko 120.73 298 IAMs_20 IAMs_20 15 16 31.7
comp=Z,280nm,20.0s
RYN Ryan 120.83 294 IAMs_20 IAMs_20 15 21 14.3
comp=Z,215nm,18.0s
LAO LASA Array 120.91 308 P **PKiKP** **14 21 11.4 +0.9**
baz=140
FLWY Flagg Ranch 121.01 304 IAMs_20 IAMs_20 15 14 38.1
comp=Z,381nm,19.0s
RLMT Red Lodge 121.12 305 IAMs_20 IAMs_20 15 14 33.9
comp=Z,382nm,18.0s
WAKR Walker 121.22 293 IAMs_20 IAMs_20 15 09 04.5
comp=Z,307nm,19.0s
LKWY Lake 121.23 304 IAMs_20 IAMs_20 15 19 57.9
comp=Z,369nm,20.0s
CMB Columbia Colle 121.37 292 IAMs_20 IAMs_20 15 06 30.4
comp=Z,340nm,19.0s
PNTR Pine Nut 121.74 294 IAMs_20 IAMs_20 15 07 49.2
comp=Z,236nm,20.0s
VSU Vasula 121.78 30⇑ *i*PKIKP **PKPdf** **14 21 10.8 -0.7**
VCNR Virginia City 121.92 294 IAMs_20 IAMs_20 15 12 46.0
comp=Z,251nm,19.0s
RUBR Rubicon Trail 122.00 293 IAMs_20 IAMs_20 15 07 32.2
comp=Z,324nm,21.0s
PAHR Pah Rah Range 122.08 294 IAMs_20 IAMs_20 15 09 36.4
comp=Z,234nm,20.0s
OBN Obninsk 122.20 38 *i* PKIKP **PKiKP** **14 21 13.0 +0.4**
OBN pmax pmax
comp=Z,12nm,1.0s
AFDM Forest Hills D 122.35 293 IAMs_20 IAMs_20 15 06 41.4
comp=Z,244nm,20.0s
HLID Hailey 122.42 301 P **PKiKP** **14 21 13.9 +0.2**
baz=138
HLID Hailey 122.42 301 IAMs_20 IAMs_20 15 13 35.3
comp=Z,279nm,21.0s
BOZ Bozeman (W) 122.58 304 IAMs_20 IAMs_20 15 21 00.6
comp=Z,282nm,18.0s
MFID Camas Ranch 123.01 300 IAMs_20 IAMs_20 15 14 15.8
comp=Z,340nm,21.0s
ORV Oroville 123.08 293 IAMs_20 IAMs_20 15 07 13.2
comp=Z,269nm,18.0s
KKM Kota Kinabalu 123.21 136 IAMs_20 IAMs_20 15 11 51.9
comp=Z,422nm,21.0s
EGMT Eagleton 123.51 307 P **PKiKP** **14 21 16.2 +0.6**
baz=138
NSS Namsos 123.52 20 *e*PKPdf **PKPdf** **14 21 14.9 +0.2**
O03E Paynes Creek 123.78 293 P **PKiKP** **14 21 16.4 +0.1**
baz=137,SNR=12
FINES FINESS Array B 124.09 28 PKP **PKPdf** **14 21 16.1 +0.2**
comp=Z,9.7nm,0.6s,baz=169,slow=1.5,SNR=31
MOD Modoc Plateau 124.17 296 IAMs_20 IAMs_20 15 09 41.4
comp=Z,273nm,22.0s
O02D Mt. Diablo Mer 124.21 293 P **PKiKP** **14 21 17.6 +0.3**
baz=137
J08A Circle Bar Ran 124.29 298 IAMs_20 IAMs_20 15 13 20.7
comp=Z,309nm,21.0s
MSO Missoula 124.58 304 P **PKiKP** **14 21 18.0 +0.2**
baz=136
N02D Trinity Center 124.74 293 P **PKiKP** **14 21 18.7 +0.5**
baz=136,SNR=5.8
BMO Blue Mountains 124.78 300 PKIKP **PKiKP** **14 21 18.4 +0.2**
BMO Blue Mountains 124.78 300 **PKiKP** **14 21 18.4 +0.2**
BMO IAMs_20 IAMs_20 15 11 34.8
comp=Z,327nm,21.0s
M04C Macdoel 124.87 295 P **PKiKP** **14 21 19.1 +0.6**
baz=136
M02C Callahan 125.12 294 P **PKiKP** **14 21 19.5 +0.5**
baz=136
JCC Jacoby Creek, 125.33 292 IAMs_20 IAMs_20 15 09 50.1
comp=Z,340nm,21.0s
I07A Izee 125.33 298 IAMs_20 IAMs_20 15 16 04.2
comp=Z,267nm,20.0s
STOK Stokkvaagen 125.34 19 *e*PKPdf **PKiKP** **14 21 20.8 +2.3**
FCC Fort Churchill 125.39 324 IAMs_20 IAMs_20 15 14 18.8
comp=Z,316nm,18.0s
JTMT Jetta 125.40 304 IAMs_20 IAMs_20 15 17 07.2
comp=Z,409nm,20.0s
L04D Klamath Falls 125.43 295 P **PKPdf** **14 21 19.4 +0.1**
baz=136
F10A Beach Ranch, E 125.55 301 IAMs_20 IAMs_20 15 11 47.0
comp=Z,339nm,22.0s
J05D Fort Rock, OR 125.64 296 P **PKiKP** **14 21 20.2 +0.1**
baz=136
PINE Pine Mountain 125.85 297 IAMs_20 IAMs_20 15 10 08.0
comp=Z,334nm,21.0s
CMAR Chiang Mai Arr 125.87 111 PKP **PKiKP** **14 21 21.1 0.0**
comp=Z,4.3nm,0.8s,baz=234,slow=3.9,SNR=19
G08A Pilot Rock 125.92 299 IAMs_20 IAMs_20 15 12 59.8
comp=Z,390nm,21.0s
J04D Umpqua Nationa 126.05 296 P **PKiKP** **14 21 21.1 +0.1**
baz=135
L02E Cave Junction 126.06 294 P **PKiKP** **14 21 20.8 0.0**
baz=136
E09A Wood Farm, Sta 126.38 301 IAMs_20 IAMs_20 15 13 11.1
comp=Z,369nm,22.0s
I05D Terrebonne, OR 126.44 297 P **PKiKP** **14 21 21.4 -0.1**
baz=135
K02D Willamette Mer 126.47 294 P **PKiKP** **14 21 21.8 +0.1**
baz=135
I04A Tendick Farm, 126.60 296 P **PKPdf** **14 21 21.5 +0.1**
baz=135
FAUS Fauske 126.69 19 *e*PKPdf **PKiKP** **14 21 21.1 -0.1**
E08A Dider Farm, El 126.81 300 IAMs_20 IAMs_20 15 14 21.5
comp=Z,265nm,19.0s
F07A Phinny Hill Vi 126.82 299 IAMs_20 IAMs_20 15 10 42.8
comp=Z,329nm,20.0s
LOF Lofoten 127.03 18 *e*PKPdf **PKiKP** **14 21 24.4 +2.5**
D08A Wollman Farm, 127.14 301 IAMs_20 IAMs_20 15 19 27.2
comp=Z,345nm,18.0s
STEI Steigen 127.16 19 *e*PKPdf **PKiKP** **14 21 24.5 +2.4**
E07A Sunnyside 127.25 300 IAMs_20 IAMs_20 15 10 51.1
comp=Z,406nm,22.0s
H04D Lebanon 127.28 296 P **PKiKP** **14 21 23.5 +0.4**
baz=134
C09A Chrisman Ranch 127.34 302 IAMs_20 IAMs_20 15 13 39.6
comp=Z,349nm,22.0s
KLMR Klimovskoe 127.63 35 *e*PKIKP **PKiKP** **14 21 23.9 +0.7**
KLMR pmax pmax
comp=Z,30nm,1.4s
KLMR Klimovskoe 127.63 35 *e*PKPdf **PKiKP** **14 21 23.9 +0.7**
KLMR AMP 14 21 30.1
comp=Z,30nm,1.4s
KLMR *e*PP **PP** **14 23 19.0 -6.1**
KLMR *e* 14 24 35.7
KLMR *e*PPP PPP 14 26 03.9
KLMR *e*SKKSac **SKKSac** **14 30 21.6 +2.2**
KLMR *e*SKKSac **SKKSac** **14 30 21.6 +2.2**
SUMG Summit 127.88 356 *i* P **PKiKP** **14 21 24.9 +0.9**
comp=Z,45nm,1.0s
SUMG Summit 127.88 356 *i* PKIKP **PKiKP** **14 21 24.9 +0.9**
SUMG pmax pmax
comp=Z,45nm,1.0s
LTY Liberty 128.14 300 IAMs_20 IAMs_20 15 14 02.5
comp=Z,346nm,21.0s
B08A Colville Reser 128.24 302 IAMs_20 IAMs_20 15 20 48.4
comp=Z,350nm,20.0s
D05A Emmclaw 128.75 299 IAMs_20 IAMs_20 15 12 58.1
comp=Z,333nm,20.0s
KSH Kashi 128.98 75 PKP **PKiKP** **14 21 31.4 +4.5**
KSH PP **PP** **14 23 40.9 +6.4**
KSH PKS **PKSdf** **14 25 00.0 -2.7**
KSH AMB AMB
comp=Z,110nm,6.1s
KSH LR LR
comp=Z,350nm,15.9s
KSH LR LR
comp=Z,330nm,16.2s
TRO Tromso 129.32 19 *e*PKPdf **PKiKP** **14 21 28.3 +1.9**
B06A Marblemount 129.40 301 IAMs_20 IAMs_20 15 23 05.0
comp=Z,312nm,19.0s
B05A Bryant 129.53 300 P **PKiKP** **14 21 27.6 +0.2**
baz=133
D03D Eldon 129.53 299 P **PKiKP** **14 21 28.2 +0.7**
baz=133
TMCR Tamitsa 129.63 31 *e*PKIKP **PKiKP** **14 21 28.1 +1.0**
TMCR pmax pmax
comp=Z,40nm,1.2s
NLWA Neilton Lookou 129.82 298 IAMs_20 IAMs_20 15 12 15.2
comp=Z,288nm,20.0s
PRGR Permogore 130.25 37 *e*PKIKP **PKPdf** **14 21 27.3 -0.3**
PRGR pmax pmax
comp=Z,51nm,1.0s
AAK Ala-Archa 130.34 71 PKP **PKPdf** **14 21 28.4 -0.3**
comp=Z,1.7nm,0.4s,baz=218,slow=3.1,SNR=1.8
AAK SKPbc **SKPab** **14 24 48.9 -1.2**
comp=Z,5.7nm,0.7s,baz=208,slow=4.5,SNR=7.7
AAK Ala-Archa 130.34 71⇓ *i*PKIKP **PKiKP** **14 21 30.9 +1.4**
ARCES ARCESS Array B 130.56 22 PKP **PKPdf** **14 21 27.9 -0.2**
comp=Z,13nm,0.9s,baz=207,slow=1.4,SNR=16
ARCES SKPbc **SKPbc** **14 24 48.1 -1.8**
comp=Z,9.9nm,1.0s,baz=226,slow=4.9,SNR=6.5
ARE0 ARCESS Array S 130.56 22 *e*PKPdf **PKPdf** **14 21 28.2 +0.1**
ARE0 ARCESS Array S 130.56 22 PKPdf **PKiKP** **14 21 29.0 +0.1**
APA Apatity 130.89 27⇑ *i*PKIKP **PKPdf** **14 21 29.1 +0.4**
APA pmax pmax
comp=Z,14nm,1.0s
HAMF Hammerfest 131.08 20 *e*PKPdf **PKiKP** **14 21 30.6 +0.8**
LVZ Lovozero 131.45 27⇑ *i*PKIKP **PKiKP** **14 21 30.6 -0.2**
LVZ Lovozero 131.45 27 **PKiKP** **14 21 30.9 +0.1**
TARG Taragay, Kyrgy 131.52 74 IAMs_20 IAMs_20 15 20 08.1
comp=Z,384nm,21.0s
ARU Arti 131.71 48 *i* PKIKP **PKPdf** **14 21 31.0 +0.4**
ARU PPP PPP 14 26 44.3
ARU SS SS 14 41 24.7 -0.5
DAG Danmarks Havn 132.04 3 *i* P **PKiKP** **14 21 31.9 +0.2**
comp=Z,11nm,1.0s
DAG Danmarks Havn 132.04 3 *i* PKIKP **PKiKP** **14 21 31.9 +0.2**
DAG pmax pmax
comp=Z,11nm,1.0s
SVE Sverdlovsk 132.85 49 *e*PKIKP **PKiKP** **14 21 33.5 -0.4**
SVE pmax pmax
comp=Z,25nm,1.1s
BRVK Borovoye 134.91 57 *e* *i*PKIKP **PKiKP** **14 21 37.9 -0.3**
BRVK MLR MLR
comp=Z,557nm,23.0s
BVAR Borovoye Array 134.94 58 PKP **PKPdf** **14 21 36.7 -0.1**
comp=Z,9.7nm,0.9s,baz=174,slow=2.5,SNR=19
BVAR SKPbc **SKPbc** **14 25 03.1 -2.4**
comp=Z,8.7nm,1.0s,baz=209,slow=2.7,SNR=9.5
BBB Bella Bella 135.01 301 IAMs_20 IAMs_20 15 24 56.4
comp=Z,310nm,20.0s
YKA Yellowknife Ar 135.27 319 PKP **PKPdf** **14 21 37.6 +0.5**
comp=Z,12nm,0.9s,baz=127,slow=1.7,SNR=14
YKA SKPbc **SKPbc** **14 25 03.8 -2.4**
comp=Z,14nm,1.0s,baz=119,slow=1.8,SNR=14
SPA0 Spitsbergen Ar 136.05 12 *e*PKPdf **PKiKP** **14 21 40.5 +0.6**
NOR Nord 136.90 2 *i* P **PKiKP** **14 21 41.2 -0.3**
comp=Z,11nm,1.1s
NOR Nord 136.90 2 *i* PKIKP **PKiKP** **14 21 41.2 -0.3**
NOR pmax pmax
comp=Z,11nm,1.1s
MAKZ Makanchi 137.10 71 IAMs_20 IAMs_20 15 21 25.7
comp=Z,287nm,21.0s
MKAR Makanchi Array 137.26 71 PKhKP PKPpre 14 21 31.5
comp=Z,0.3nm,0.6s,baz=107,slow=4.1,SNR=4.6
MKAR PKP **PKiKP** **14 21 42.6 -0.6**
comp=Z,3.2nm,1.1s,baz=262,slow=5.8,SNR=9.4
MKAR PP **PP** **14 24 28.6 +1.4**
comp=Z,4.9nm,1.3s,baz=243,slow=8.0,SNR=4.9
MKAR SKPbc **SKPbc** **14 25 10.3 -2.5**
comp=Z,6.5nm,1.1s,baz=251,slow=3.7,SNR=9.8
KURBB Kurchatov Arra 137.58 65 PKhKP PKPpre 14 21 32.1
comp=Z,0.6nm,0.8s,baz=231,slow=3.1,SNR=6.1
KURBB PKP **PKPdf** **14 21 42.1 +0.4**
comp=Z,1.6nm,0.7s,baz=239,slow=3.0,SNR=15
KURBB PP **PP** **14 24 31.2 +2.1**
comp=Z,2.0nm,1.1s,baz=240,slow=5.6,SNR=4.3
KURBB SKPbc **SKPbc** **14 25 11.1 -2.4**
comp=Z,7.5nm,1.0s,baz=234,slow=3.1,SNR=13
KURK Kurchatov 137.68 65 *i* PKIKP **PKiKP** **14 21 44.4 +0.5**
WMQ Urumqi 138.37 78 *e*PKP **PKiKP** **14 21 45.0 -0.7**
WMQ LR LR
comp=Z,260nm,15.7s
WMQ LR LR
comp=Z,220nm,17.3s
WMQ LR LR
comp=Z,160nm,17.3s
WMQ Urumqi 138.37 78 IAMs_20 IAMs_20 15 28 47.7
comp=Z,347nm,20.0s
CD2 Chengdu 138.43 106 Pdif **Pdif** **14 18 55.2 +0.5**
WRAK Wrangell Islan 139.46 304 IAMs_20 IAMs_20 15 24 39.0
comp=Z,263nm,20.0s
JIS Juneau Island 141.35 306 IAMs_20 IAMs_20 15 25 38.9
comp=Z,308nm,20.0s
DGZ Jazzator, Alta 141.75 71 *i* PKIKP **PKiKP** **14 21 55.4 +2.9**
LZH Lanzhou 142.33 101 *e*PKP **PKiKP** **14 21 54.3 +0.2**
LZH pPKP sPKPdf 14 21 58.2 -1.1
LZH sPKP 14 21 59.5
LZH SS SS 14 43 39.3 +7.1
LZH LR LR
comp=Z,400nm,17.4s
LZH LR LR
comp=Z,280nm,18.0s
LZH LR LR
comp=Z,380nm,20.1s
GTA Gaotai 142.37 93 PKP **PKiKP** **14 21 54.7 +0.6**
GTA LR LR
comp=Z,210nm,20.9s
GTA LR LR
comp=Z,240nm,21.9s
GTA LR LR
comp=Z,370nm,24.4s
ZALV Zalesovo Beam 142.63 64 PKhKP **PKPdf** **14 21 46.2 -4.5**
comp=Z,1.9nm,0.6s,baz=222,slow=2.0,SNR=9.4
ZALV PP **PP** **14 25 00.2 +0.2**
comp=Z,1.9nm,0.8s,baz=248,slow=7.7,SNR=4.6
ZALV SKPbc **SKPbc** **14 25 24.8 -2.1**
comp=Z,3.2nm,0.8s,baz=247,slow=3.1,SNR=4.1
WHY Whitehorse 142.66 309 IAMs_20 IAMs_20 15 23 34.7
comp=Z,214nm,22.0s
A36M Sachs Harbour 143.33 329 P PKPbc 14 21 49.7 +0.9
baz=109
XAN Xi'an 143.63 108 PKP **PKiKP** **14 21 55.4 -1.3**
INK Inuvik 144.91 321 PKIKP **PKPdf** **14 21 55.2 +0.9**
INK MLR MLR
comp=Z,400nm,22.0s
INK Inuvik 144.91 321 PKPdf **PKPdf** **14 21 55.2 +0.9**
TABL Table Mountain 145.40 306 IAMs_20 IAMs_20 15 20 51.2
comp=Z,223nm,19.0s
EPYK Eagle Plains 145.53 318 P **PKPbc** **14 21 55.9 +0.1**
baz=107
YAH Yahtse 145.65 306 IAMs_20 IAMs_20 15 21 56.8
comp=Z,242nm,20.0s
MESA MESA 145.68 306 IAMs_20 IAMs_20 15 33 51.4
comp=Z,309nm,19.0s
CTGM Chitina Glacie 145.69 307 IAMs_20 IAMs_20 15 30 52.7
comp=Z,248nm,19.0s
BARN Barnard Glacie 145.87 307 IAMs_20 IAMs_20 15 39 39.5
comp=Z,207nm,19.0s
CRQM Cirque 146.44 306 IAMs_20 IAMs_20 15 26 48.9
comp=Z,254nm,20.0s
MCARA McCarthy VSAT 146.60 307 IAMs_20 IAMs_20 15 27 14.8
comp=Z,223nm,19.0s
VRDI Verde Repeater 146.74 307 IAMs_20 IAMs_20 15 39 40.1
comp=Z,261nm,18.0s
EGAK Eagle 146.84 314 PKPdf **PKPbc** **14 22 00.5 +0.8**
K27K Chicken 147.01 312 P **PKPbc** **14 22 00.7 +0.4**
baz=107
SCRK Sand Creek 147.81 312 P **PKPbc** **14 22 02.8 +0.3**
baz=105,SNR=44
FID Port Fidalgo 147.98 305 IAMs_20 IAMs_20 15 29 31.6
comp=Z,228nm,20.0s
PAX Paxson 148.18 310 IAMs_20 IAMs_20 15 34 28.5
comp=Z,215nm,20.0s
NRIK Noril'sk 148.88 38 PKPbc **PKPbc** **14 22 05.3 +0.3**
comp=Z,13nm,0.9s,baz=310,slow=1.6,SNR=15
BTO Baotou 148.95 101 *e*PKPbc **PKPbc** **14 22 05.0 -1.2**
HDA Harding Lake 149.17 312 P **PKPbc** **14 22 05.7 -0.2**
baz=102,SNR=20
IL31 149.22 313 **PKiKP** **14 22 07.6 +0.5**
ILAR Eielson Array 149.22 313 PKP **PKPdf** **14 22 01.9 +0.2**
ILAR comp=Z,22nm,1.0s,baz=298,slow=1.1,SNR=8.7 PKPbc **PKPbc** **14 22 06.3 +0.3**
comp=Z,36nm,0.9s,baz=132,slow=1.3,SNR=113
O22K Cooper Landing 149.42 304 P **PKiKP** **14 22 07.3 -0.4**
baz=107

PMR	Palmer	149.46	306	IAMs_20	IAMs_20	15 32 23.3	
	comp=Z,242nm,21.0s						
POKR	Poker Plat Res	149.52	313	P	PKiKP	14 22 07.6	-0.2
	baz=101						
CCB	Clear Creek Bu	149.58	312		PKiKP	14 22 08.1	+0.2
COLA	College	149.65	313	i PKP2	PKPab	14 22 12.0	-0.3
TCOL	CIGO, UAF Yank	149.65	313	P	PKPbc	14 22 07.0	0.0
	baz=101,SNR=19						
WRH	Wood River Hil	149.67	312	IAMs_20	IAMs_20	15 32 29.8	
	comp=Z,244nm,20.0s						
RND	Reindeer	149.78	310	IAMs_20	IAMs_20	15 30 24.7	
	comp=Z,299nm,21.0s						
MDM	Murphy Dome	149.82	313	IAMs_20	IAMs_20	15 44 26.8	
	comp=Z,205nm,19.0s						
MCK	McKinley	149.88	310	IAMs_20	IAMs_20	15 32 14.5	
	comp=Z,275nm,19.0s						
KDAK	Kodiak Island	149.97	298	PKP2	PKiKP	14 22 08.7	-0.2
KDAK				MLR	MLR		
	comp=Z,400nm,21.0s						
KDAK	Kodiak Island	149.97	298		PKiKP	14 22 08.7	-0.2
HHC	Hu-ho-hao-te	149.98	102	ePKPbc	PKPdf	14 22 02.0	-1.8
HHC				LR	LR		
	comp=Z,250nm,18.0s						
HHC				LR	LR		
	comp=Z,260nm,15.4s						
HHC				LR	LR		
	comp=Z,380nm,17.1s						
NEA2	Nenana	150.11	312	P	PKPbc	14 22 08.4	+0.2
	baz=101,SNR=14						
MOY	Mondy	150.16	76	ePKIKP	PKiKP	14 22 09.6	-0.1
MOY				pmax	pmax		
	comp=Z,111nm,1.9s						
CUT	Chulitna	150.18	307	P	PKiKP	14 22 09.1	-0.1
	baz=104						
SKT	Skwentna	150.66	306	IAMs_20	IAMs_20	15 36 11.1	
	comp=Z,248nm,19.0s						
TOLK	Toolik Lake Re	150.78	320	P	PKiKP	14 22 10.4	0.0
	baz=93,SNR=42						
TOLK	Toolik Lake Re	150.78	320	PKPbc	PKPab	14 22 14.6	-2.5
ZAK	Zakamensk	150.83	79	ePKIKP	PKPbc	14 22 09.4	-1.1
ZAK				pmax	pmax		
	comp=Z,28nm,1.1s						
BPAW	Bear Paw Mtn.	150.84	311		PKiKP	14 22 10.6	0.0
CHIR	Chirikof Islan	150.85	293		PKiKP	14 22 10.9	+0.2
COLD	Coldfoot	150.92	317	P	PKPdf	14 22 02.5	-1.8
	baz=95,SNR=13						
COLD	Coldfoot	150.92	317	PKPbc	PKiKP	14 22 12.2	+1.6
COLD				IAMs_20	IAMs_20	15 30 54.9	
	comp=Z,277nm,18.0s						
SONM	Songino Array	151.30	86	PKP	PKPdf	14 22 05.7	0.0
	comp=Z,1.3nm,0.9s,baz=225,slow=1.8,SNR=2.2						
SONM				PKPbc	pPKPdf	14 22 11.0	-0.8
	comp=Z,11nm,0.9s,baz=223,slow=2.5,SNR=25						
TLY	Talaya	151.64	77	PKPbc	PKPbc	14 22 10.5	-1.7
	comp=Z,2.2nm,0.3s,baz=216,slow=4.8,SNR=10						
ULN	Ulaanbaatar	151.69	87	⇓iPKIKP	PKPbc	14 22 11.1	-1.5
IRK	Irkutsk	152.24	77	ePKIKP	PKPbc	14 22 13.2	-0.3
IRK				pmax	pmax		
	comp=Z,54nm,3.2s						
CNBA	Chernabura Isl	152.59	289	PKPbc	PKiKP	14 22 17.2	+2.8
TTA	Tatalina	152.88	307	PKPbc	PKiKP	14 22 18.9	+4.1
SDPT	Sand Point	153.26	290	PKPbc	PKiKP	14 22 19.2	+3.5
RDOG	Red Dog Mine	155.75	319	IAMs_20	IAMs_20	15 48 34.3	
	comp=Z,267nm,21.0s						
NIKH	Nikolski High	157.02	280	IAMs_20	IAMs_20	15 36 38.3	
	comp=Z,244nm,20.0s						
BOD	Bodaibo	159.27	68	ePKP2	PKPab	14 22 53.6	+0.1
BOD				pmax	pmax		
	comp=Z,26nm,1.4s						
USA0B	Ussuriysk Arra	163.10	123	⇑ePKIKP	PKPdf	14 22 21.1	+0.7
ZEA	Zeya	165.72	87	ePKP2	PKPab	14 23 26.0	+4.1
ZEA				pmax	pmax		
	comp=Z,14nm,1.2s						
YUK	Yuzh-Kuril'sk	168.02	159	ePKP2	PKPab	14 23 35.2	+3.0
KUR	Kuril'sk	169.53	165	PKP2	PKPab	14 23 43.6	+4.8
KUR				pmax	pmax		
	comp=Z,62nm,1.2s						
YSS	Yuzh-Sakhalins	169.85	143	ePKIKP	PKPdf	14 22 25.4	-0.1
YSS				e		14 22 31.8	
PETK	Petropavlovsk-	175.81	239	PKP	PKPdf	14 22 26.3	-1.6
	comp=Z,4.0nm,0.9s,baz=116,slow=3.4,SNR=6.9						
PETK				PKPab	PKPab	14 24 04.7	-2.0
	comp=Z,1.6nm,0.7s,baz=138,slow=8.9,SNR=2.3						

*SNET **02** 14:05:33.7±1.1, 12°.10N×89°.19W, h8km±8km, ML3.6*
*UCR **02** 14:05:33.8±1.0, 12°.10N×89°.19W, h9km±7km, ML3.5, mb4.3(NEIC)*
*NEIC **02** 14:05:36.7±2.8, 12°.1N±0°.1×89°.3W±0°.1, h35km±2km, mb4.3/13, Error ellipse: s-maj=22.8km s-min=11.7km az=225.0*
ISC 02 14:05:35.0±1.6**, 12°.17N**±0°.09×**89°.20W**±0°.05**, h10**km**, n52,** σ1s**22**/59**, mb4.3**/6**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	1.31	355	eP	Pn	14 05 57.8	-1.6
LALI	Alcalda de L	1.31	355	eP	Pn	14 05 57.8	-1.6
JUCU	Jucuar¡n	1.42	41	i P	Pn	14 06 00.2	-0.7
JUCU				eS	Sg	14 06 20.6	0.0
JUCU	Jucuar¡n	1.42	41	i P	Pn	14 06 00.2	-0.7
JUCU				eS	Sg	14 06 20.6	0.0
LFRS	El Faro	1.45	5	eP	Pn	14 06 00.4	-0.9
LFRS	El Faro	1.45	5	eP	Pn	14 06 00.4	-0.9
COEB	Comit de Eme	1.47	26	eP	Pn	14 06 01.1	-0.5
COEB	Comit de Eme	1.47	26	eP	Pn	14 06 01.1	-0.5
TECA	Tecapa	1.48	27	eP	Pn	14 06 01.2	-0.6
TECA	Tecapa	1.48	27	eP	Pn	14 06 01.2	-0.6
JAYA	Jayaque - finc	1.49	351	eP	Pn	14 06 01.4	-0.6
JAYA				IAML		14 06 27.8	
	comp=Z,490nm,0.3s						
JAYA	Jayaque - finc	1.49	351	eP	Pn	14 06 01.4	-0.6
JAYA				IAML		14 06 27.8	
	comp=Z,490nm,0.3s						
SNET	Serv Nac Est T	1.51	359	Pn	Pn	14 06 01.2	-0.9
PAVA	Las Pavas	1.55	9	eP	Pn	14 06 02.2	-0.6
PAVA	Las Pavas	1.55	9	eP	Pn	14 06 02.2	-0.6
BOQS	Boqueron	1.56	357	eP	Pn	14 06 02.5	-0.4
BOQS	Boqueron	1.56	357	eP	Pn	14 06 02.5	-0.4
BLLM	Bellamira	1.57	36	eP	Pn	14 06 02.3	-0.7
BLLM	Bellamira	1.57	36	eP	Pn	14 06 02.3	-0.7
CEVE	Cerro Verde	1.70	346	eP	Pn	14 06 04.9	0.0
CEVE				eS	Sg	14 06 30.3	+0.6
CEVE				IAML		14 06 32.6	
	comp=Z,929nm,0.5s						
CEVE	Cerro Verde	1.70	346	eP	Pn	14 06 04.9	0.0
CEVE				eS	Sg	14 06 30.3	+0.6
CEVE				IAML		14 06 32.6	
	comp=Z,929nm,0.5s						
LCND	La Caada	1.70	48	eP	Pn	14 06 04.1	-0.6
LCND	La Caada	1.70	48	eP	Pn	14 06 04.1	-0.6
LCND				eS	Sn	14 06 26.6	0.0
TACO	Tacachico	1.79	355	eP	Pn	14 06 05.8	-0.2
TACO	Tacachico	1.79	355	eP	Pn	14 06 05.8	-0.2
NUBE	Las Nubes	1.81	342	eP	Pn	14 06 05.8	-0.6
NUBE	Las Nubes	1.81	342	eP	Pn	14 06 05.8	-0.6
FAGO	Alcalda de S	1.85	35	eP	Pn	14 06 06.5	-0.3
FAGO	Alcalda de S	1.85	35	eP	Pn	14 06 06.5	-0.3
CRIN	San Cristobal	2.16	76	Pn	Pn	14 06 12.7	+1.5
MTO3	Montecristo	2.22	356	eP	Pn	14 06 12.7	+0.6
MTO3				eS	Sn	14 06 41.7	+2.0
MTO3	Montecristo	2.22	356	eP	Pn	14 06 12.7	+0.6
MTO3				eS	Sn	14 06 41.7	+2.0
MTO3	Montecristo	2.22	356	Pn	Pn	14 06 12.2	+0.1
IXG	Ixpaco	2.33	329	eP	Pn	14 06 13.2	-0.4
IXG	Ixpaco	2.33	329	eP	Pn	14 06 13.2	-0.4
ESQI	Esquipulas	2.38	357	Pn	Pn	14 06 16.4	+2.2
TGUH	Tegucigalpa,Un	2.65	45		Pn	14 06 17.5	-0.4
MATN	Matagalpa	3.28	76		Pn	14 06 26.8	+0.2
BOAB	BOACO BROADBAN	3.46	85	Pn	Pn	14 06 28.9	0.0
435B	Jarrell	20.08	339	P	P	14 10 06.8	-1.9
JCT	Junction City	20.70	333	P	P	14 10 11.7	-3.8
JCT				IAmb	IAmb	14 10 16.5	
	comp=Z,7.3nm,0.6s						
TX31	Lajitas Ar. Si	21.75	324	P	P	14 10 28.8	+2.0
TX31				IAmb	IAmb	14 10 29.7	
	comp=Z,8.3nm,0.7s						
TX32	Lajitas Array	21.75	324	P	P	14 10 29.1	+2.2
MIAR	Mount Ida	22.63	351	P	P	14 10 35.7	-0.4
MIAR				IAmb	IAmb	14 10 38.6	
	comp=Z,13nm,0.8s						
WHAR	Wooly Hollow	23.19	354	P	P	14 10 42.0	+0.1
WHAR				IAmb	IAmb	14 10 43.4	
	comp=Z,8.7nm,0.9s						
W39A	Magazine	23.30	350	P	P	14 10 39.4	-3.6
FCAR	Ozark Folk Cen	23.76	354	P	P	14 10 47.7	+0.1
WMOK	Wichita Mounta	24.09	340	P	P	14 10 49.0	-1.8
T47A	Sharon Grove	24.78	4	P	P	14 10 55.0	-2.1
T47A				IAmb	IAmb	14 10 56.4	
	comp=Z,7.4nm,0.7s						
T42A	Van Buren	24.81	356	P	P	14 10 56.6	-0.7
T42A				IAmb	IAmb	14 10 58.3	
	comp=Z,6.3nm,0.7s						
S39A	Bolivar	25.68	352	P	P	14 11 03.5	-1.6
S39A				IAmb	IAmb	14 11 07.1	
	comp=Z,5.1nm,0.8s						
CCM	Cathedral Cave	25.84	356	P	P	14 11 05.6	-1.0

*GUC **02** 14:12:31.6±6.4, 34°.61S×71°.82W, h35km±38km, ML4.4*
*NEIC **02** 14:12:32.9±2.6, 34°.70S±0°.05×71°.7W±0°.1, h42km±7km, Error ellipse: s-maj=16.0km s-min=7.0km az=95.0*
*IDC **02** 14:12:36.9±2.5, 34°.69S×71°.81W, h82km±21km, mb3.9/14, mb1 4.0/17, mb1mx3.8/42, mbtmp4.3/17, MS3.3/1, Ms1 3.3/1, ms1mx3.0/24, Error ellipse: s-maj=24.0km s-min=12.9km az=94.0*
ISC 02 14:12:32.8±0.8**, 34°.74S**±0°.04×**71°.86W**±0°.06**, h46**km±7km**, n66,** σ1s**36**/71**, mb4.5**/15**, 6C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	Huala	0.28	193	eP	Pn	14 12 41.2	-0.2
GO05				i S	Sn	14 12 47.9	+0.4
GO05	Huala	0.28	193		Pn	14 12 41.3	-0.1
BO01	Tunca	0.72	62	⇓iP	Pn	14 12 46.2	-0.5
BO01				i S	Sn	14 12 56.0	-0.7
BO01	Tunca	0.72	62		Pn	14 12 46.1	-0.5
BO02	Sierra Bellavi	0.89	94	⇓iP	Pn	14 12 48.6	-0.3
BO02				i S	Sn	14 13 00.5	-0.2
BO02	Sierra Bellavi	0.89	94		Pn	14 12 48.5	-0.5
MT02	Curacav	1.59	22	⇑iP	Pn	14 12 58.4	-0.1
MT02	Curacav	1.59	22		Pn	14 12 58.5	0.0
LMEL	Las Melosas	1.63	57	⇓iP	Pn	14 12 59.6	+0.4
LMEL				i S	Sn	14 13 20.3	+1.2
LMEL				i S		14 13 20.8	
LMEL				IAML		14 13 22.8	
	comp=N,14µm,0.2s						
MT05	Renca	1.63	35	⇑iP	Pn	14 12 59.3	+0.2
MT05				⇓iSg	Sn	14 13 08.8	-10
MT05				i S		14 13 20.5	
MT05				IAML		14 13 27.8	
	comp=E,9µm,0.3s						
MT05	Renca	1.63	35		Pn	14 12 59.4	+0.3
MT03	Universidad Ad	1.67	42	⇑iP	Pn	14 12 59.9	+0.2
MT03				i S	Sn	14 13 21.5	+1.6
MT03				IAML		14 13 24.0	
	comp=E,13µm,0.3s						
CLCH	Cerro Calan	1.73	40	⇑iP	Pn	14 13 00.8	+0.4
CLCH				eS	Sn	14 13 22.5	+1.2
PEL	Peldehue	1.86	32	⇑eP	Pn	14 13 02.6	+0.3
PEL				eS	Sn	14 13 26.4	+1.7
PEL				IAML		14 13 30.4	
	comp=N,4µm,0.5s						
PEL	Peldehue	1.86	32		Pn	14 13 02.9	+0.6
ROC1	El Roble	1.89	22		Pn	14 13 03.3	+0.4
ROCH	El Roble	1.90	22	eP	Pn	14 13 03.3	+0.4
ROCH				eS	Sn	14 13 28.8	+3.1
ROCH				IAML		14 13 31.1	
	comp=N,6µm,0.5s						
BI02	San Fabin de	1.98	166	eP	Pn	14 13 05.6	+1.7
BI02	San Fabin de	1.98	166		Pn	14 13 05.1	+1.2
VA03	San Esteban	2.25	29	⇑iP	Pn	14 13 07.9	+0.3
VA03				IAML		14 13 43.4	
	comp=E,4µm,0.2s						
VA03	San Esteban	2.25	29		Pn	14 13 08.1	+0.5
BI03	Tigo	2.31	204	IAML		14 13 52.6	
	comp=N,2µm,0.3s						
CO02	Combarbal	3.60	12		Pn	14 13 26.2	+0.1
CO03	El Pedregal	4.01	15		Pn	14 13 31.9	+0.1
CFA	Coronel Fontan	4.35	45	P	Pn	14 13 37.9	+1.4
	comp=N,17nm,0.3s,baz=210,slow=8.8,SNR=36						
CFA				S	Sn	14 14 31.4	+5.5
	comp=N,39nm,0.3s,baz=342,slow=16,SNR=7.9						
CFA				LR	LR	14 15 30.4	
	comp=N,396nm,19.5s,baz=136,slow=40						
GO04	Tololo Observa	4.64	11		Pn	14 13 40.1	-0.5
CO01	Juntas del Tor	4.97	18		Pn	14 13 44.5	-0.7
H03S1	Juan Fernandez	5.90	277	T	T	14 19 49.9	
	baz=98,slow=75						
H03S3	Juan Fernandez	5.91	277	T	T	14 19 47.8	
	baz=98,slow=75						
H03S2	Juan Fernandez	5.92	277	T	T	14 19 52.3	
	baz=98,slow=75						
AC05	El Transito	6.04	13		Pn	14 13 59.1	-0.6
PLCA	Paso Flores	6.07	171	P	Pn	14 14 03.0	+3.0
	comp=N,1.7nm,0.3s,baz=333,slow=11,SNR=23						
PLCA	Paso Flores	6.07	171	Pn	Pn	14 14 02.6	+2.5
AC04	Llanos de Chal	6.55	6	Pn	Pn	14 14 05.4	-1.2
GO03	Copiap	7.25	11	Pn	Pn	14 14 14.4	-1.9
AC02	Maricunga	8.22	17	Pn	Pn	14 14 28.1	-1.9
PB01	IPOC Station P	13.80	9	P	P	14 15 54.3	+1.1
PB11	IPOC Station P	15.04	8	P	P	14 16 07.9	+0.8
PB11				IAmb	IAmb	14 16 16.2	
	comp=Z,25nm,1.1s						
GO01	Chusmiza	15.19	10	Pn	Pn	14 16 03.1	-1.7
GO01				IAmb	IAmb	14 16 16.3	
	comp=Z,29nm,1.3s						
MNMC	Minye Minye	15.67	8	P	P	14 16 15.8	+1.5
MNMC				IAmb	IAmb	14 16 17.1	
	comp=Z,24nm,0.9s						
LPAZ	La Paz	18.67	11	P	Pn	14 16 49.0	+0.5
	comp=Z,0.4nm,0.3s,baz=102,slow=5.2,SNR=5.0						
LPAZ	La Paz	18.67	11	P	P	14 16 43.9	-3.9
SIV	San Ignacio	21.03	30	P	P	14 17 11.7	-1.1
	comp=Z,9.2nm,0.8s,baz=230,slow=12,SNR=13						
SAML	Samuel	26.87	19	P	P	14 18 08.6	-0.8
BDFB	Brasilia	28.63	54	P	P	14 18 23.9	-1.4
PTGA	Pitinga	35.61	21	P	P	14 19 25.4	-0.8
	comp=Z,5.5nm,0.6s,baz=197,slow=11,SNR=7.8						
PTGA	Pitinga	35.61	21		P	14 19 25.4	-0.8
MDP	Montagnes des	43.57	28	P	P	14 20 30.8	-1.6
	comp=Z,8.4nm,0.8s,baz=167,slow=6.2,SNR=1.8						
SNAA	Sanae	50.85	158	P	P	14 21 29.5	+1.0
	comp=Z,1.8nm,0.9s,baz=299,slow=9.7,SNR=7.4						
QSPA	South Pole Qui	55.50	180	P	P	14 22 04.4	+1.4
	comp=Z,2.0nm,0.8s,baz=99,slow=3.9,SNR=5.8						
QSPA	South Pole Qui	55.50	180	P	P	14 22 04.3	+1.4
QSPA				IAmb	IAmb	14 22 17.6	
	comp=Z,5.0nm,1.0s						
TEIG	Tepich	56.85	342	P	P	14 22 13.0	+0.3
	comp=Z,1.3nm,0.3s,baz=139,slow=3.4,SNR=1.7						
TEIG	Tepich	56.85	342	P	P	14 22 12.7	-0.1
TEIG				IAmb	IAmb	14 22 28.9	
	comp=Z,6.0nm,1.1s						
TXAR	Lajitas Array	70.45	331	P	P	14 23 43.0	+0.5
	comp=Z,0.3nm,0.5s,baz=160,slow=8.9,SNR=7.3						
TXAR	Lajitas Array	70.45	331	P	P	14 23 43.0	+0.5
WVT	Waverly	72.06	346	P	P	14 23 51.9	0.0
WVT				IAmb	IAmb	14 23 53.2	
	comp=Z,8.2nm,0.8s						
MAW	Mawson	72.43	163	P	P	14 23 54.2	+0.4
	comp=Z,1.8nm,0.8s,baz=238,slow=7.8,SNR=2.6						
DBIC	Dimbokro	75.27	71	P	P	14 24 10.8	-0.6
	comp=Z,5.8nm,0.9s,baz=116,slow=1.8,SNR=3.0						
DBIC	Dimbokro	75.27	71	P	P	14 24 10.7	-0.6
BOSA	Boshof	79.59	117	P	P	14 24 35.5	0.0
	comp=Z,5.0nm,0.8s,baz=253,slow=4.6,SNR=7.6						
BOSA	Boshof	79.59	117	P	P	14 24 35.5	0.0
BOSA				IAmb	IAmb	14 24 37.4	
	comp=Z,9.0nm,1.0s						
LBTB	Lobatse	81.86	115	P	P	14 24 47.6	-0.1
	comp=Z,4.2nm,0.8s,baz=243,slow=7.3,SNR=4.9						
LBTB	Lobatse	81.86	115	P	P	14 24 45.8	-1.8
TORD	Torodi Ar. Bea	84.32	70	P	P	14 24 59.6	-0.6
	comp=Z,2.4nm,0.9s,baz=264,slow=4.2,SNR=8.7						
PDAR	Pinedale Array	84.49	333	P	P	14 25 00.6	-0.1
	comp=Z,0.3nm,0.7s,baz=176,slow=2.6,SNR=1.9						
MATP	Matopo	86.68	112	P	P	14 25 10.9	-1.3
	comp=Z,1.9nm,0.5s,baz=178,slow=3.7,SNR=6.4						

*IDC **02** 14:13:15.8±9.6, 28°.45S×148°.77E, h0km, mb1 3.7/3, mb1mx3.5/44, mbtmp3.5/3, ML3.5/3, Error ellipse: s-maj=114.5km s-min=42.5km az=120.0*
*AUST **02** 14:13:17.9±1.4, 28°.51S×148°.85E, h9km±9km, Error ellipse: s-maj=5.2km s-min=4.1km az=133.0*
ISC 02 14:13:15.4±0.9**, 28°.53S**±0°.04×**149°.01E**±0°.05**, h10**km**, n10,** σ1s**57**/18**, Queensland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AULRC	Lightning Ridg	1.27	225	P	Pg	14 13 41.1	+1.2
	baz=1.2						
AULRC				S	Sn	14 13 57.9	+1.5
	baz=1.2						
RMQ	Roma	2.05	354	P	Pb	14 13 51.6	-1.1
	baz=2.0,SNR=16						
RMQ				S	Sb	14 14 20.0	+1.8
	baz=2.0						
ARMA	Armidale	2.96	130	P	Pn	14 14 02.9	+0.3
	baz=3.1,SNR=11						
ARMA				S	Sb	14 14 45.0	+0.3
	baz=3.1						
EIDS	Eidsvold	3.65	31	P	Pn	14 14 13.0	+1.0
	baz=3.7						
EIDS				S	Sb	14 15 04.8	+0.4
	baz=3.7						
CMSA	Cobar Meteorol	4.15	223	P	Pn	14 14 20.3	+1.4
	baz=4.1						
CMSA				S	Sn	14 15 08.8	+1.3
	baz=4.1						
QLP	Quilpie	4.66	293	P	Pn	14 14 27.7	+1.8
	baz=4.5,SNR=18						
QLP				S	Sn	14 15 19.6	-0.3
	baz=4.5						
STKA	Stephens Creek	7.23	241	Pn	Pn	14 15 01.1	-0.1
	0.6nm,0.3s,baz=65,slow=16,SNR=12						
STKA				Sn	Sn	14 16 20.9	-2.4
	0.4nm,0.3s,baz=320,slow=21,SNR=2.9						
STKA				Lg	Lg	14 17 02.5	
	0.4nm,0.3s,baz=325,slow=19,SNR=1.6						
STKA	Stephens Creek	7.23	241	P	Pn	14 15 01.9	+0.7
	baz=7.1,SNR=9.1						
STKA				S	Sn	14 16 20.6	-2.8
	baz=7.1						
ASAR	Alice Springs	14.40	286	Pn	Pn	14 16 37.2	-2.2
	0.2nm,0.3s,baz=113,slow=14,SNR=3.7						
WRA	Warramunga Arr	15.86	299	Pn	Pn	14 16 57.9	-1.0
	0.2nm,0.3s,baz=132,slow=14,SNR=6.8						

*JMA **02** 14:18:25.4±0.2, 28°.11N×128°.04E, h10km±2km, M4.7*
JMA Felt II J1.
*NIED **02** 14:18:25.4, 28°.12N×128°.04E, h10km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.19; $M_{\theta\theta}$2.52; $M_{\phi\phi}$-2.33; $M_{r\theta}$-1.17; $M_{\theta\phi}$1.46; $M_{\phi r}$-0.64; Fault plane solution: $M_0$3.08000×10^{16} NP1: ϕ_s208.00000°, δ81.00000°, λ160.00000°. NP2: ϕ_s301.00000°, δ71.00000°, λ9.00000°.*
*NEIC **02** 14:18:26.2±2.8, 28°.05N±0°.05×128°.11E±0°.09, h10km±1km, mb4.8/33 Error ellipse: s-maj=13.5km s-min=8.8km az=98.0*
*BJI **02** 14:18:30.1±0.0, 27°.82N×128°.05E, h57km, mB4.9/44, mb4.6/54, Ms4.9/57, Ms7 4.6/56*
*GCMT **02** 14:18:32.0±0.2, 28°.05N±0°.01×128°.03E±0°.01, h15km, MW5.1/120, Moment Tensor Solution. s39,c50; s120,c216; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.48±.11; $M_{\theta\theta}$4.20±.11; $M_{\phi\phi}$-3.72±.10; $M_{r\theta}$1.87±.34; $M_{\theta\phi}$3.11±.09; $M_{\phi r}$-1.15±.32; Best double couple: $M_0$5.50600×10^{16} NP1: ϕ_s27.00000°, δ66.00000°, λ-175.00000°. NP2: ϕ_s295.00000°, δ86.00000°, λ-24.00000°. Principal axes: T 5.6090, Plg13.0000°, Azm343.0000°; N -0.2040, Plg66.0000°, Azm105.0000°; P -5.4030, Plg20.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **02** 14:18:35.0±2.2, 28°.13N×128°.11E, h80km±21km, mb3.9/28, mb1 4.0/34, mb1mx3.9/61, mbtmp4.2/34, MS4.3/30, Ms1 4.3/30, ms1mx4.2/47 Error ellipse: s-maj=15.4km s-min=10.7km az=79.0*
ISC 02 14:18:28.9±0.7**, 28°.02N**±0°.03×**128°.16E**±0°.03**, h32**km±4km**, n143,** σ2s**23**/145**, mb4.5**/46**, MS4.4**/29**, 3C-2D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.73	109	P	Pb	14 18 41.9	-1.4
JTK				S	Sn	14 18 53.6	+0.3
JOKE	Okinoerabujima	0.75	151	P	Pb	14 18 42.2	-1.4
JOKE				S	Sn	14 18 54.6	+0.9
JAMN	Amaminishikomi	0.92	76	P	Pb	14 18 44.6	-1.8
JAMN				S	Sn	14 18 57.9	+0.1
JIH	Iheya	1.00	190	P	Pb	14 18 45.5	-2.2
JIH				S	Sn	14 19 00.1	+0.3
JYRO	Yoronjima	1.03	166	P	Pn	14 18 46.8	-0.3
JYRO				eS	Sn	14 19 01.9	+1.5
JOW	Kunigami	1.19	175	P	Pn	14 18 49.2	-0.2
JOW				eS	Sn	14 19 05.4	+0.9
JOW	Kunigami	1.19	175		Pn	14 18 49.4	0.0
JAM	Amami Oshima	1.33	73	P	Pn	14 18 51.1	-0.2
JAM				eS	Sb	14 19 09.9	-0.1
JTAJ	Takarajima	1.45	39	P	Pn	14 18 52.0	-1.0
JNTH	Nagotoyohara	1.50	185	P	Pn	14 18 53.9	+0.2
JNTH				eS	Sb	14 19 14.7	-0.2
JZK	Kikaishima	1.62	79	P	Pb	14 18 57.6	-0.6
JAGN	Aguni-jima	1.65	210	P	Pn	14 18 55.2	-0.5
JJT3	Tamagusuku3	1.90	190	P	Pb	14 19 00.7	-2.3
JKE	Kume jima 2	2.09	216	P	Pn	14 19 01.2	-0.6
JYAK	Yakushimahirau	3.01	42	P	Pn	14 19 15.6	+1.1
JMTN	Minamitane	3.36	45	P	Pn	14 19 22.1	+2.8
JKDJ	Kitadaitoujima	3.48	126	P	Pn	14 19 21.6	+0.8
JKDJ				eS	Sn	14 20 04.2	+3.3
JMZ	Minamidaito 2	3.50	128	P	Pn	14 19 21.5	+0.3
JTN	Tanegashima 3	3.59	42	P	Pn	14 19 25.4	+2.9
JNU	Nakatsue	5.59	24	P	Pn	14 19 55.3	+5.3
	11nm,0.3s,baz=250,slow=3.9,SNR=75						
JNU	Nakatsue	5.59	24		Pn	14 19 54.8	+4.8
YOJ	Yonaguni jima	5.83	234		Pn	14 19 50.6	-2.6
TATO	Taipei	6.71	245		Pn	14 20 07.0	+1.8
YHNB	Yeheng	6.95	243	Pn	Pn	14 20 10.7	+2.1
SSLB	Suanglung	7.74	239	Pn	Pn	14 20 22.3	+2.8
TWG	Pinlang	8.24	233	Pn	Pn	14 20 26.4	+0.1
TPUB	Ta-pu	8.26	237	Pn	Pn	14 20 28.9	+2.2
NJ2	Nanjing	9.01	299	eP	Pn	14 20 39.2	+2.4
NJ2				pmax	pmax		
	comp=Z,19nm,0.7s						
NJ2				LR	LR		
	comp=N,9µm,18.6s						
NJ2				LR	LR		
	comp=E,5µm,16.2s						
NJ2				LR	LR		
	comp=Z,2µm,13.3s						
KSRS	Korea Array	9.41	359	P	Pn	14 20 44.9	+2.6
	0.6nm,0.3s,baz=184,slow=14,SNR=24						
KSRS				LR	LR	14 24 24.5	
	comp=Z,3µm,19.8s,baz=176,slow=38						
KS19	Wonju Array Si	9.46	359	Pn	Pn	14 20 43.3	+0.4
INU	Inuyama	10.49	44	Pn	Pn	14 20 59.0	+1.9
JHJ	Hachijo jima 2	11.22	60	P	Pn	14 21 12.6	+5.4
	3.8nm,0.3s,baz=120,slow=20,SNR=2.0						
JHJ				LR	LR	14 25 24.2	
	comp=Z,810nm,21.2s,baz=277,slow=36						
MAJO	Matsushiro	12.01	42	Pn	Pn	14 21 20.4	+2.5
MJAR	Matsushiro Arr	12.01	42	P	Pn	14 21 22.3	+4.4
	0.1nm,0.3s,baz=243,slow=15,SNR=11						
MJAR				LR	LR	14 26 33.7	
	comp=Z,636nm,20.8s,baz=230,slow=40						
MJB9	Matsu-Tunnel	12.01	42	Pn	Pn	14 21 20.3	+2.4
WHN	Wuhan	12.32	285	P	Pn	14 21 24.4	+2.3
WHN				S	Sn	14 23 44.5	+6.2
WHN				LR	LR		
	comp=N,6µm,10.7s						
WHN				LR	LR		
	comp=E,5µm,12.6s						
WHN				LR	LR		
	comp=Z,5µm,13.7s						
TIA	Tai'an	12.41	314	P	P	14 21 30.8	-4.2
TIA				pmax	pmax		
	comp=Z,12nm,0.8s						
TIA				LR	LR		
	comp=N,4µm,13.5s						
TIA				LR	LR		
	comp=E,4µm,12.8s						
TIA				LR	LR		
	comp=Z,2µm,15.7s						
JCJ	Chichijima	12.47	91	LR	LR	14 26 04.8	

	comp=Z,933nm,19.2s,baz=262,slow=36						
TGY	Tagaytay City	15.40	207	LR	LR	14 28 17.8	
	comp=Z,1μm,19.5s,baz=23,slow=38						
BJT	Baijiatuau	15.54	323	PKIKP	P	14 22 08.5	-1.2
BJT	Baijiatuau	15.54	323	P	P	14 22 08.5	-1.2
BJT				IAmb	IAmb	14 22 27.6	
	comp=Z,49nm,1.1s						
BJT	Baijiatuau	15.54	323	pmax	pmax		
	comp=Z,49nm,1.1s						
BJI	Beijing	15.55	324	P	P	14 22 12.3	+2.5
BJI	Beijing	15.55	324	P	P	14 22 09.5	-0.3
BJI				S	S	14 25 06.0	-5.8
BJI				pmax	pmax		
	comp=Z,8.0nm,2.3s						
BJI				LR	LR		
	comp=Z,2μm,18.6s						
BJI				LR	LR		
	comp=Z,1μm,20.0s						
CN2	Changchun	15.90	353	eP	P	14 22 15.9	+2.3
CN2				eS	S	14 25 13.5	-5.4
CN2				pmax	pmax		
	comp=Z,20nm,1.6s						
CN2				pmax	pmax		
	comp=Z,750nm,4.9s						
CN2				LR	LR		
	comp=Z,2μm,16.0s						
CN2				LR	LR		
	comp=Z,3μm,16.0s						
CN2				LR	LR		
	comp=Z,3μm,16.0s						
USA0B	Ussuriysk Arra	16.43	10	Pn	Pn	14 22 16.6	-0.5
USRK	Ussuriysk Ar.	16.43	10	P	P	14 22 21.4	+1.8
	baz=195,slow=11,SNR=30						
USRK				LR	LR	14 28 02.6	
	comp=Z,874nm,19.6s,baz=179,slow=35						
USRK	Ussuriysk Ar.	16.43	10	PKIKP	P	14 22 21.4	+1.8
ENH	Enshi	16.47	282	P	P	14 22 19.5	-0.7
ENH				IAmb	IAmb	14 22 23.2	
	comp=Z,67nm,1.1s						
MDJ	Mudanjiang	16.60	4	P	P	14 22 22.0	+0.6
MDJ				pP	sP	14 22 30.2	-3.1
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,250nm,3.6s						
MDJ				LR	LR		
	comp=Z,2μm,16.1s						
MDJ				LR	LR		
	comp=Z,1μm,12.0s						
MDJ				LR	LR		
	comp=Z,3μm,16.4s						
XAN	Xi'an	17.54	295	P	P	14 22 33.3	+1.3
XAN				pP	sP	14 22 42.3	-1.7
XAN				pmax	pmax		
	comp=Z,36nm,0.7s						
XAN				pmax	pmax		
	comp=Z,320nm,4.1s						
XAN				LR	LR		
	comp=Z,6μm,14.9s						
XAN				LR	LR		
	comp=Z,3μm,14.6s						
XAN				LR	LR		
	comp=Z,2μm,13.6s						
HHC	Hu-ho-hao-te	18.70	317	eP	Pn	14 22 49.7	+4.4
HHC				pP	sP	14 23 00.5	+3.7
HHC				pmax	pmax		
	comp=Z,31nm,0.8s						
HHC				pmax	pmax		
	comp=Z,320nm,6.6s						
HHC				LR	LR		
	comp=Z,3μm,16.9s						
HHC				LR	LR		
	comp=Z,3μm,18.8s						
HHC				LR	LR		
	comp=Z,1μm,17.9s						
QIZ	Qiongzhong	19.02	246	P	P	14 22 47.6	-0.7
QIZ				S	Sn	14 26 19.4	-1.9
QIZ				pmax	pmax		
	comp=Z,200nm,4.3s						
QIZ				LR	LR		
	comp=Z,1μm,20.2s						
QIZ				LR	LR		
	comp=Z,840nm,12.0s						
QIZ				LR	LR		
	comp=Z,840nm,13.7s						
GYA	Guiyang	19.18	270	⇓P	Pn	14 22 53.7	+2.5
GYA				S	Sn	14 26 24.9	-0.5
GYA				sS	sS	14 26 39.8	+0.8
GYA				SS	SnSn	14 26 46.2	+6.7
GYA				pmax	pmax		
	comp=Z,20nm,1.3s						
GYA				pmax	pmax		
	comp=Z,520nm,5.8s						
GYA				LR	LR		
	comp=Z,1μm,11.2s						
GYA				LR	LR		
	comp=Z,1μm,12.7s						
GYA				LR	LR		
	comp=Z,2μm,14.5s						
ASAJ	Asahikawa	19.80	32	P	Pn	14 22 58.0	-0.4
	comp=Z,0.2nm,0.3s,baz=227,slow=16,SNR=4.2						
ASAJ				LR	LR	14 31 52.0	
	comp=Z,899nm,18.8s,baz=239,slow=40						
JKA	Kamikawa-asahi	19.80	32	P	P	14 22 50.3	-6.4
DAV	Davao City (W)	20.98	187	LR	LR	14 31 17.8	
	comp=Z,605nm,21.8s,baz=345,slow=36						
GUMO	Guam	21.18	129	LR	LR	14 30 15.0	
	comp=Z,930nm,20.0s,baz=319,slow=33						
KLR	Kul'dur	21.36	6	P	P	14 23 15.4	+2.0
	comp=Z,3.6nm,0.9s,baz=181,slow=6.3,SNR=8.0						
KLR				LR	LR	14 31 18.4	
	comp=Z,780nm,20.4s,baz=180,slow=36						
KLR	Kul'dur	21.36	6	dePKP2	P	14 23 15.8	+2.4
KLR	Kul'dur	21.36	6	pmax	pmax		
	comp=Z,6.0nm,1.0s						
CD2	Chengdu	21.43	284	⇑iP	P	14 23 14.7	+0.2
CD2				pP	sP	14 23 27.7	+1.0
CD2				sP	pP	14 23 34.1	+11
CD2				S	S	14 27 10.6	-0.2
CD2				pmax	pmax		
	comp=Z,140nm,0.9s						
CD2				pmax	pmax		
	comp=Z,380nm,3.4s						
CD2				LR	LR		
	comp=Z,8μm,16.7s						
CD2				LR	LR		
	comp=Z,4μm,15.8s						
CD2				LR	LR		
	comp=Z,2μm,15.5s						
LZH	Lanzhou	22.09	297	eP	P	14 23 21.5	-0.1
LZH				pP	sP	14 23 34.2	+0.5
LZH				sP	pP	14 23 41.8	+12
LZH				eS	S	14 27 24.3	+0.8
LZH				sS	Sn	14 27 37.7	+2.5
LZH				SS	SnSn	14 28 00.7	+10
LZH				pmax	pmax		
	comp=Z,49nm,1.0s						
LZH				pmax	pmax		
	comp=Z,230nm,4.6s						
LZH				LR	LR		
	comp=Z,4μm,12.5s						
LZH				LR	LR		
	comp=Z,2μm,13.0s						
LZH				LR	LR		
	comp=Z,3μm,15.2s						
KMI	Kunming	22.91	269	⇑eP	P	14 23 31.7	+1.2
KMI				pP	sP	14 23 44.8	+2.1
KMI				sP	pP	14 23 51.3	+13
KMI				S	S	14 27 31.8	-6.8
KMI				sS	Sn	14 27 53.2	-2.0
KMI				pmax	pmax		
	comp=Z,21nm,1.0s						
KMI				pmax	pmax		
	comp=Z,390nm,4.8s						
KMI				LR	LR		
	comp=Z,2μm,15.1s						
KMI				LR	LR		
	comp=Z,1μm,15.9s						
KMI				LR	LR		
	comp=Z,1μm,16.7s						
ULN	Ulaanbaatar	25.73	326	P	P	14 23 53.9	-2.7
ULN				IAmb	IAmb	14 24 09.4	
	comp=Z,61nm,1.5s						
SONM	Songino Array	26.04	325	P	P	14 24 00.1	+0.8
	comp=Z,7.2nm,0.8s,baz=137,slow=9.4,SNR=6.6						
SONM				LR	LR	14 35 21.9	
	comp=Z,1μm,18.3s,baz=134,slow=39						
GTA	Gaotai	26.07	303	P	P	14 23 59.9	+0.2
GTA				S	S	14 28 29.3	+0.3
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,170nm,5.8s						
GTA				LR	LR		
	comp=Z,3μm,17.8s						
GTA				LR	LR		
	comp=Z,1μm,15.6s						
GTA				LR	LR		
	comp=Z,1μm,14.0s						
PBKT	Sadao Pong	27.56	251	P	P	14 24 12.6	-0.5
CHTO	Chiang Mai	28.28	257	P	P	14 24 18.2	-1.4
CMAR	Chiang Mai Arr	28.43	257	P	P	14 24 22.4	+1.5
	comp=Z,0.8nm,0.4s,baz=52,slow=8.7,SNR=4.7						
CMAR				LR	LR	14 36 50.8	
	comp=Z,355nm,19.7s,baz=93,slow=39						
SIJI	Sorong	28.88	174	LR	LR	14 35 48.3	
	comp=Z,485nm,19.7s,baz=342,slow=36						
TLY	Talaya	29.94	329	LR	LR	14 38 08.6	
	comp=Z,885nm,18.9s,baz=127,slow=39						
BKB	Balikpapan	31.06	202	P	P	14 24 40.7	-3.5
LSA	Lhasa	32.37	282	P	P	14 24 49.3	-7.0
LSA				pmax	pmax		
	comp=Z,69nm,0.9s						
JAY	Jayapura	32.67	156	LR	LR	14 35 11.2	
	comp=Z,601nm,21.6s,baz=353,slow=30						
PETK	Petropavlovsk-	33.22	33	P	P	14 25 02.2	-0.6
	comp=Z,1.4nm,0.8s,baz=198,slow=9.1,SNR=2.3						
PETK				LR	LR	14 39 00.7	
	comp=Z,325nm,18.1s,baz=231,slow=37						
IPM	Ipoh	34.85	233	P	P	14 25 16.1	-1.4
IPM				IAmb	IAmb	14 25 19.7	
	comp=Z,16nm,0.9s						
WMQ	Urumqi	35.97	307	eP	P	14 25 30.4	+3.5
WMQ				sP	sP	14 25 51.2	+12
WMQ				LR	LR		
	comp=Z,550nm,13.1s						
WMQ				LR	LR		
	comp=Z,380nm,11.5s						
WMQ				LR	LR		
	comp=Z,430nm,15.3s						
BATI	Baumata	38.25	187	LR	LR	14 41 41.8	
	comp=Z,196nm,21.7s,baz=36,slow=36						
LEM	Lembang	39.93	213	P	P	14 26 02.6	+2.0
	comp=Z,8.3nm,0.3s,baz=114,slow=20,SNR=2.5						
MK31	Makanchi Array	40.31	310	P	P	14 26 03.4	0.0
MKAR	Makanchi Array	40.31	310	P	P	14 26 04.0	+0.6
	comp=Z,5.7nm,0.7s,baz=101,slow=10.0,SNR=23						
MKAR				PcP	PcP	14 28 06.5	+0.1
	comp=Z,0.7nm,0.6s,baz=130,slow=1.1,SNR=2.3						
MKAR				LR	LR	14 43 06.1	
	comp=Z,433nm,20.2s,baz=108,slow=37						
MAKZ	Makanchi	40.53	310	P	P	14 26 05.0	-0.1
MAKZ				IAmb	IAmb	14 26 14.9	
	comp=Z,20nm,1.2s						
ZAA0	Zalesovo Array	40.80	322	P	P	14 26 06.0	-1.2
ZALV	Zalesovo Beam	40.80	322	P	P	14 26 07.5	+0.3
	comp=Z,2.5nm,0.5s,baz=110,slow=9.0,SNR=6.8						
ZALV				LR	LR	14 45 04.5	
	comp=Z,468nm,18.6s,baz=117,slow=39						
TARG	Taragay, Kyrgy	42.94	302	P	P	14 26 24.7	-0.6
TARG				IAmb	IAmb	14 26 38.8	
	comp=Z,25nm,1.0s						
KNRA	Kununurra	43.45	179	P	P	14 26 30.0	+0.9
KNRA				IAmb	IAmb	14 26 47.9	
	comp=Z,36nm,1.4s						
KURK	Kurchatov	43.49	315		P	14 26 29.2	0.0
KURK				IAmb	IAmb	14 26 38.8	
	comp=Z,29nm,1.4s						
KURBB	Kurchatov Arra	43.53	315	P	P	14 26 29.7	+0.2
	comp=Z,5.9nm,0.5s,baz=103,slow=8.8,SNR=62						
ULHL	Ulahol	44.12	303	P	P	14 26 35.9	+1.3
	SNR=7.2						
KSH	Kashi	44.32	299	P	P	14 26 34.7	-1.5
KSH				S	S	14 33 04.0	-4.4
KSH				pmax	pmax		
	comp=Z,300nm,3.7s						
KSH				LR	LR		
	comp=Z,3μm,14.3s						
KSH				LR	LR		
	comp=Z,2μm,15.5s						
KSH				LR	LR		
	comp=Z,2μm,15.7s						
TKM2	Tokmak 2	44.61	304	P	P	14 26 40.0	+1.5
	SNR=14						
AMKA	Amchitka	44.62	44	P	P	14 26 40.0	+1.9
KZA	Kyzart	44.85	303	P	P	14 26 42.9	+2.2
	SNR=5.9						
CHMS	Chumysh	45.24	304	P	P	14 26 44.9	+1.5
	SNR=7.8						
UCH	Uchtor	45.40	303	P	P	14 26 47.1	+2.0
	SNR=17						
AAK	Ala-Archa	45.42	303	P	P	14 26 45.4	+0.5
	comp=Z,1.8nm,0.4s,baz=99,slow=4.2,SNR=3.7						
FITZ	Fitzroy Crossi	45.91	183	P	P	14 26 50.0	+1.3
	comp=Z,5.6nm,1.0s,baz=14,slow=7.3,SNR=11						
FITZ				LR	LR	14 46 03.5	
	comp=Z,90nm,20.5s,baz=1.5,slow=36						
FITZ	Fitzroy Crossi	45.91	183	P	P	14 26 48.4	-0.3
FITZ				IAmb	IAmb	14 26 59.8	
	comp=Z,8.3nm,0.9s						
ADK	Adak	47.17	44	P	P	14 26 56.7	-1.6
NRIK	Noril'sk	47.53	342	P	P	14 27 00.9	0.0
	comp=Z,2.3nm,0.8s,baz=105,slow=12,SNR=1.9						
NRIK				LR	LR	14 48 46.9	
	comp=Z,1μm,19.0s,baz=138,slow=38						
GSTR	Great Sitkin T	47.58	44	P	P	14 27 01.0	-0.5
WB0	Warramunga Arr	47.89	172	P	P	14 27 04.8	+0.6
WB0				IAmb	IAmb	14 27 24.2	
	comp=Z,8.3nm,1.1s						
WRAB	Tennant Creek	48.05	172	P	P	14 27 03.8	-1.6
WRA	Warramunga Arr	48.06	172	P	P	14 27 06.7	+1.2
	comp=Z,3.4nm,0.9s,baz=354,slow=8.1,SNR=12						
WB2	Warramunga Arr	48.06	172	P	P	14 27 05.6	+0.1
WB2				IAmb	IAmb	14 27 18.7	
	comp=Z,7.9nm,0.9s						
HNR	Honiara	48.29	136	LR	LR	14 46 50.4	
	comp=Z,222nm,20.6s,baz=292,slow=35						
KKAR	Karatay Array	48.34	304	P	P	14 27 07.6	0.0
KKAR				IAmb	IAmb	14 27 09.7	
	comp=Z,16nm,1.4s						
BVAR	Borovoye Array	48.91	317	P	P	14 27 12.6	+0.8
	comp=Z,4.3nm,0.8s,baz=94,slow=8.9,SNR=11						
BRVK	Borovoye	48.98	317	P	P	14 27 12.9	+0.6
CHGR	Chuyangaron	49.67	298	P	P	14 27 17.7	-0.2
KBL	Kabul	50.33	293	P	P	14 27 21.4	-1.8
ASAR	Alice Springs	51.69	173	P	P	14 27 34.7	+1.7
	comp=Z,0.9nm,0.5s,baz=355,slow=5.5,SNR=12						
HRA	Herat	55.87	294	P	P	14 28 03.1	-0.9
HRA				pP	pP	14 28 07.8	-5.6
HRA				IAmb	IAmb	14 28 11.9	
	comp=Z,9.3nm,1.1s						
GEYT	Alibeck	58.35	299	P	P	14 28 22.1	+0.9
	comp=Z,4.4nm,1.0s,baz=48,slow=2.2,SNR=7.9						
STKA	Stephens Creek	60.93	167	P	P	14 28 40.0	+1.3
	comp=Z,2.5nm,0.8s,baz=337,slow=11,SNR=4.6						
STKA	Stephens Creek	60.93	167	P	P	14 28 40.0	+1.3
NWAO	Narrogin (SRO)	61.50	190	P	P	14 28 44.7	+2.0
	comp=Z,9.2nm,1.1s,baz=326,slow=7.3,SNR=2.0						
RND	Reindeer	62.23	30	P	P	14 28 47.8	+0.4
MDM	Murphy Dome	62.30	29	P	P	14 28 47.9	+0.1
CCB	Clear Creek Bu	62.52	29	P	P	14 28 49.8	+0.6
ILAR	Eielson Array	62.90	29	P	P	14 28 51.9	+0.2
	comp=Z,0.8nm,0.9s,baz=262,slow=3.9,SNR=6.4						
DOT	Dot Lake	64.31	30	P	P	14 29 01.7	+0.6
DOT				IAmb	IAmb	14 29 11.2	
	comp=Z,5.0nm,1.0s						
VRDI	Verde Repeater	65.10	32	P	P	14 29 05.4	-1.1
VRDI				IAmb	IAmb	14 29 16.8	
	comp=Z,4.7nm,0.8s						
EPYK	Eagle Plains	66.67	26	P	P	14 29 18.0	+1.7
EPYK				IAmb	IAmb	14 29 29.7	
	comp=Z,7.9nm,0.8s						
KBZ	Khabaz	67.99	309	P	P	14 29 23.8	-1.2
	comp=Z,2.3nm,1.0s,baz=87,slow=5.7,SNR=2.0						
ARCES	ARCESS Array B	68.32	338	LR	LR	15 03 28.5	
	comp=Z,309nm,19.9s,baz=110,slow=40						
FINES	FINESS Array B	71.28	330	P	P	14 29 43.5	-1.4
	comp=Z,1.0nm,0.8s,baz=67,slow=6.4,SNR=7.1						
AKASG	Malin Array Be	74.14	319	P	P	14 30 00.2	-2.0
	comp=Z,0.3nm,0.3s,baz=58,slow=6.1,SNR=2.3						
BRTR	Keskin Array B	75.89	308	P	P	14 30 11.8	-0.9
	comp=Z,0.8nm,0.6s,baz=106,slow=5.2,SNR=2.2						
YKA	Yellowknife Ar	76.93	25	P	P	14 30 18.0	+0.1
	comp=Z,2.4nm,0.9s,baz=291,slow=5.8,SNR=4.1						
NOA	NORSAR Array B	77.69	334	LR	LR	15 07 53.2	
	comp=Z,296nm,19.9s,baz=200,slow=38						
VYHS	Vyhne	81.12	321	eP	P	14 30 42.0	+0.8
GERES	GERESS Array B	83.74	323	P	P	14 30 53.1	-1.9
	comp=Z,0.1nm,0.3s,baz=61,slow=6.9,SNR=1.9						
MEM	Membach	86.54	327	⇑P	P	14 31 08.9	+0.2
MEM				pP	sP	14 31 24.7	+2.5
NVAR	Mina Array Bea	89.31	46	P	P	14 31 24.0	+1.4
	comp=Z,0.6nm,0.8s,baz=283,slow=4.5,SNR=4.0						
NVAR				LR	LR	15 05 55.5	
	comp=Z,138nm,21.9s,baz=143,slow=32						
OPO	Ambohidratompo	90.94	250	P	P	14 31 31.8	+1.5
	comp=Z,0.7nm,0.3s,baz=270,slow=3.0,SNR=1.7						
PPT	Papeete	91.53	109	LR	LR	15 07 52.6	
	comp=Z,129nm,18.1s,baz=220,slow=32						
PDAR	Pinedale Array	91.80	39	P	P	14 31 35.5	+1.3
	comp=Z,0.5nm,0.6s,baz=318,slow=2.4,SNR=6.4						
PDAR				LR	LR	15 16 34.5	
	comp=Z,162nm,18.5s,baz=133,slow=38						
ULM	Lac du Bonnet	92.85	27	P	P	14 31 39.1	+0.6
	comp=Z,1.7nm,0.4s,baz=339,slow=8.6,SNR=1.8						
ULM				LR	LR	15 17 00.3	
	comp=Z,214nm,19.1s,baz=145,slow=38						
ULM	Lac du Bonnet	92.85	27	IAmb	IAmb	14 31 50.4	
	comp=Z,4.3nm,0.7s						
SCHQ	Schefferville	96.48	9	LR	LR	15 19 12.9	
	comp=Z,90nm,19.3s,baz=349,slow=38						
ESDC	Sonseca Array	99.23	325	LR	LR	15 20 40.0	
	comp=Z,290nm,18.1s,baz=165,slow=38						

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*IDC **02** 14:30:33.4±1.8, 7.°12S×154.°35E, h128km±18km, mb3.3/4, mb1 3.5/7, mb1mx3.3/32, mbtmp3.8/7, MS4.3/3, Ms1 4.4/3, ms1mx3.3/30, Error ellipse: s-maj=26.0km s-min=15.9km az=49.0*

ISC 02 14:30:31.3±0.8**, 7.°3S**±0.°1×**154.°3E**±0.°1**, h100km, n11, σ1.s90**/11**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.71	323	P	Pn	14 31 27.2	+0.6
	4.6nm,0.3s,baz=48,slow=3.7,SNR=2.2						
KRVT				S	Sn	14 32 12.2	+2.7
	9.1nm,0.3s,baz=211,slow=19,SNR=2.0						
HNR	Honiara	6.02	111	P	Pn	14 31 59.6	+1.6
	9.8nm,0.3s,baz=250,slow=15,SNR=4.3						
DZM	Mont Dzumac	18.81	143	P	Pn	14 34 44.3	-0.6
	0.1nm,0.3s,baz=275,slow=15,SNR=2.0						
GUMO	Guam	22.75	336	P	P	14 35 22.5	-2.9
	63nm,0.5s,baz=198,slow=19,SNR=2.5						
WRA	Warramunga Arr	23.04	235	P	P	14 35 29.8	+1.6
	1.4nm,0.8s,baz=59,slow=9.7,SNR=6.6						
WRA				PcP	PcP	14 39 14.8	+0.2
	0.2nm,0.4s,baz=66,slow=2.5,SNR=1.5						
ASAR	Alice Springs	25.42	228	P	P	14 35 51.6	+1.7
	0.5nm,0.6s,baz=60,slow=8.6,SNR=5.8						
FITZ	Fitzroy Crossi	29.86	246	P	P	14 36 28.8	-0.7
	1.1nm,0.6s,baz=82,slow=8.7,SNR=5.1						
RAO	Raoul Island	34.11	133	LR	LR	14 48 08.3	
	comp=Z,741nm,21.4s,baz=122,slow=31						
CMAR	Chiang Mai Arr	60.25	296	LR	LR	15 08 55.4	
	comp=Z,293nm,18.9s,baz=236,slow=38						
MKAR	Makanchi Array	83.15	319	P	P	14 42 44.9	-1.4
	0.3nm,0.7s,baz=119,slow=5.8,SNR=2.5						
MKAR				LR	LR	15 20 44.8	
	comp=Z,118nm,20.8s,baz=250,slow=36						
TORD	Torodi Ar. Bea	152.39	284	PKPbc	PKPbc	14 50 15.5	-1.3
	0.5nm,0.7s,baz=64,slow=3.4,SNR=2.5						

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*IDC **02** 14:39:25.4±1.8, 51.°16N×174.°57W, h0km, mb3.5/4, mb1 3.9/7, mb1mx3.6/45, mbtmp3.7/7, ML3.8/3, Error ellipse: s-maj=54.4km s-min=23.5km az=4.0*

*AEIC **02** 14:39:28.5±0.9, 50.°71N±0.°05×174.°76W±0.°08, h18km±6km, ML3.3/31, mb3.8/16(NEIC), Error ellipse: s-maj=8.3km s-min=6.4km az=208.0*

*NEIC **02** 14:39:28.6±1.3, 50.°74N±0.°09×174.°74W±0.°08, h32km±8km, Error ellipse: s-maj=13.6km s-min=7.2km az=175.0*

ISC 02 14:39:25.4±1.0**, 50.°72N**±0.°09×**174.°75W**±0.°05**, h10km, n49, σ1.s01**/53**, mb3.6**/4**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	1.53	13		Pn	14 39 52.9	+0.1
ATKA					Sn	14 40 12.6	-0.1
GSMY	Great Sitkin M	1.56	329		Pn	14 39 53.5	+0.3
GSMY					Sn	14 40 13.7	+0.1
GSTD	Great Sitkin T	1.60	327		Pn	14 39 54.3	+0.5
GSTD					Sn	14 40 14.9	+0.2
GSTR	Great Sitkin T	1.60	330		Pn	14 39 54.5	+0.6
KOFP	Korovin Flat P	1.61	14		Pn	14 39 54.8	+0.8
KOKL	Mount Kliuchef	1.65	12		Pn	14 39 55.2	+0.8
ADK	Adak	1.69	315		Pn	14 39 54.8	-0.2
KOSE	Korovin Southe	1.69	15		Pn	14 39 56.0	+1.0
KIMD	Kanaga Island	1.88	305		Pn	14 39 58.4	+0.8
KIKV	Kanaga Island	1.91	308		Pn	14 39 58.6	+0.5
KICM	Kanaga Island	1.95	309		Pn	14 39 59.3	+0.7
TAPA	Tanaga Point A	2.22	301		Pn	14 40 03.0	+0.7
TASE	Tanaga Southea	2.35	300		Pn	14 40 05.3	+1.2
TAFP	Tanaga Falls P	2.35	302		Pn	14 40 05.3	+1.2
TAFP					Sn	14 40 33.6	+0.6
GAEA	Gareloi East	2.73	295		Pn	14 40 10.4	+1.1
CERAA	Semis' Rag'd T	3.69	291		Pn	14 40 22.8	+0.3
CESW	Semis' Southwe	3.76	291		Pn	14 40 23.7	+0.3
AMKA	Amchitka	3.81	282		Pn	14 40 23.7	-0.5
NIKH	Nikolski High	4.30	56		Pn	14 40 31.5	+0.7
LSPA	Little Sitkin	4.37	289		Pn	14 40 32.3	+0.6
OKTU	Okmok Mt. Tuli	4.93	55		Pn	14 40 41.0	+1.4
MAPS	Pakushin South	5.71	54		Pn	14 40 51.0	+0.8
MREP	Makushin Rep't	5.81	55		Pn	14 40 52.7	+1.0
MSW	Makushin Switc	5.84	54		Pn	14 40 53.1	+1.1
UNV	Unalaska Valle	5.95	55		Pn	14 40 54.6	+1.1
SDPT	Sand Point	9.77	56		Pn	14 41 45.9	+0.1
KDAK	Kodiak Island	14.71	53	Pn	Pn	14 42 50.5	-2.9
	0.7nm,0.3s,baz=342,slow=2.8,SNR=22						
PETK	Petropavlovsk-	17.12	289	P	Pn	14 43 25.6	+1.0
	0.4nm,0.3s,baz=89,slow=13,SNR=11						
GHO	Glory Hole Cre	17.98	42	P	Pn	14 43 33.9	-1.4
GHO				IAmb	IAmb	14 43 47.7	
	comp=Z,4.6nm,0.6s						
FID	Port Fidalgo	18.67	47	P	P	14 43 40.2	-3.2
FID				IAmb	IAmb	14 44 17.8	
	comp=Z,4.8nm,0.8s						
SCM	Sheep Creek Mo	18.69	43	P	P	14 43 42.3	-1.4
RND	Reindeer	18.79	38	P	P	14 43 44.8	+0.1
CCB	Clear Creek Bu	19.83	35	P	P	14 43 56.7	+0.7
CCB				IAmb	IAmb	14 44 01.6	
	comp=Z,2.5nm,0.6s						
MDM	Murphy Dome	19.84	34	P	P	14 43 56.7	+0.5
PAX	Paxson	19.95	41	P	P	14 43 58.2	+0.8
HDA	Harding Lake	20.02	36	P	P	14 43 58.9	+0.8
HDA				IAmb	IAmb	14 44 00.4	
	comp=Z,3.7nm,0.8s						
GLB	Gilahina Butte	20.12	46	P	P	14 43 58.9	-0.4
VRDI	Verde Repeater	20.22	47	P	P	14 44 00.7	+0.3
VRDI				IAmb	IAmb	14 44 17.8	
	comp=Z,8.0nm,1.5s						
IL31		20.23	35	P	P	14 44 00.7	+0.4
IL31				IAmb	IAmb	14 44 16.6	
	comp=Z,2.9nm,0.5s						
ILAR	Eielson Array	20.23	35	P	P	14 43 58.8	-1.6
	comp=Z,0.6nm,0.3s,baz=235,slow=9.0,SNR=23						
RIDG	Independent Ri	20.53	39	P	P	14 44 04.0	+0.3
RIDG				IAmb	IAmb	14 44 20.1	
	comp=Z,3.7nm,0.7s						
DOT	Dot Lake	20.81	40	P	P	14 44 06.6	-0.1
DOT				IAmb	IAmb	14 44 11.5	
	comp=Z,2.2nm,0.7s						
YKU2	Yakutat	21.67	53	P	P	14 44 16.1	+0.2
EGAK	Eagle	22.43	38	P	P	14 44 24.9	+1.0
HYT	Haines Junctio	22.95	50	P	P	14 44 31.9	+2.3
NVAR	Mina Array Bea	41.08	85	P	P	14 47 09.7	+0.3
	comp=Z,0.2nm,0.5s,baz=297,slow=8.0,SNR=2.4						
PDAR	Pinedale Array	44.06	74	P	P	14 47 33.9	+0.4
	comp=Z,0.5nm,0.6s,baz=300,slow=4.8,SNR=5.9						
TXAR	Lajitas Array	56.21	84	P	P	14 49 05.5	-0.2
	comp=Z,0.6nm,0.8s,baz=291,slow=4.6,SNR=8.0						
MKAR	Makanchi Array	62.42	311	P	P	14 49 48.2	-0.2
	comp=Z,0.4nm,0.6s,baz=53,slow=5.8,SNR=5.2						

IDC 02 14:41:42.4±3.7, 20°.26S×175°.41W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.5/31, mbtmp3.8/2, Error ellipse: s-maj=258.9km s-min=72.8km az=161.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.94	256	P	P	14 50 15.4	+0.2
	1.6nm,0.8s,baz=93,slow=8.1,SNR=20						
ASAR				PcP	PcP	14 51 46.9	-1.1
	0.3nm,0.8s,baz=90,slow=4.6,SNR=4.4						
WRA	Warramunga Arr	47.04	261	P	P	14 50 15.8	-0.3
	0.7nm,0.6s,baz=98,slow=7.3,SNR=13						
AKASG	Malin Array Be	143.94	333	PKP	PKPdf	15 01 20.4	+0.8
	0.2nm,0.2s,baz=38,slow=3.6,SNR=4.9						

*NEIC **02** 14:56:09.3±1.6, 19°.60S±0°.03×70°.8W±0°.1, h46km±13km, Error ellipse: s-maj=16.4km s-min=3.7km az=95.0*
*GUC **02** 14:56:10.4±0.7, 19°.60S×70°.71W, h34km±2km, ML3.4*
*IDC **02** 14:56:14.3±3.9, 19°.62S×70°.44W, h77km±31km, mb3.5/3, mb1 3.6/6, mb1mx3.4/24, mbtmp3.8/6, Error ellipse: s-maj=54.6km s-min=14.8km az=95.0*
ISC 02 14:56:05.9±1.7, 19°.61S±0°.03×70°.83W±0°.06, h13km±10km, n49, σ1s.58/55, mb3.9/3, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSGC	Pisagua	0.67	89	eP	Pb	14 56 20.2	+0.7
PSGC				iS	Sg	14 56 28.1	+0.4
PSGC				IAML		14 56 28.8	
	comp=N,4μm,0.5s						
PSGCX	Pisagua	0.67	89		Pb	14 56 20.1	+0.6
TA02	Huaiquique	0.93	135	eP	Pn	14 56 25.3	+0.6
TA02				iS	Sb	14 56 36.5	+0.3
PB12	IPOC Station P	1.10	26⇓	iP	Pb	14 56 28.2	+1.4
PB12				iS	Sg	14 56 41.8	+0.4
PB12				IAML		14 56 47.5	
	comp=N,2μm,0.5s						
PB12	IPOC Station P	1.10	26		Pn	14 56 28.5	+1.4
PB11	IPOC Station P	1.12	98	eP	Pg	14 56 27.4	0.0
PB11				iS	Sg	14 56 40.9	-1.1
PB11				IAML		14 56 43.8	
	comp=N,2μm,0.4s						
PB11	IPOC Station P	1.12	98		Pg	14 56 27.5	0.0
TA01	Diego Aracena	1.13	147	eP	Pn	14 56 28.6	+1.2
TA01				iS	Sb	14 56 42.8	+0.8
TA01				IAML		14 56 47.0	
	comp=N,1μm,0.3s						
TA01	Diego Aracena	1.13	147		Pn	14 56 28.8	+1.4
MNMC	Minye Minye	1.26	68	eP	Pg	14 56 30.3	+0.1
MNMC				iS	Sg	14 56 46.0	-0.6
MNMC	Minye Minye	1.26	68		Pb	14 56 30.6	+0.9
PATCX	Punta Patache	1.36	152	eP	Pb	14 56 32.1	+0.7
PATCX				iS	Sg	14 56 48.5	-1.3
PATCX				IAML		14 56 54.5	
	comp=E,1μm,0.4s						
PATCX	Punta Patache	1.36	152		Pb	14 56 32.3	+0.9
GO01	Chusmiza	1.54	92	eP	Pn	14 56 34.8	+1.2
GO01				iS	Sg	14 56 53.9	-1.8
GO01	Chusmiza	1.54	92	Pn	Pn	14 56 35.0	+1.4
PB08	IPOC Station P	1.67	109	eP	Pn	14 56 36.5	+1.3
PB08				iS	Sn	14 56 57.1	+0.4
PB08				IAML		14 57 04.1	
	comp=E,686nm,0.2s						
PB08	IPOC Station P	1.67	109	Pn	Pn	14 56 36.7	+1.5
PB16	IPOC Station P	1.78	45	Pn	Pb	14 56 39.6	+0.8
PB01	IPOC Station P	1.90	139	eP	Pn	14 56 39.8	+1.6
PB01				iS	Sn	14 57 02.8	+0.7
PB01				IAML		14 57 10.0	
	comp=E,704nm,0.4s						
PB01	IPOC Station P	1.90	139	Pn	Pn	14 56 40.0	+1.8
PB07	IPOC Station P	2.28	157⇑	iP	Pn	14 56 45.0	+1.5
PB07				eS	Sn	14 57 12.8	+1.1
PB07	IPOC Station P	2.28	157		Pn	14 56 45.3	+1.8
PB03	IPOC Station P	2.63	158⇑	iP	Pn	14 56 49.7	+1.5
PB03				eS	Sn	14 57 21.9	+1.9
PB03				IAML		14 57 35.7	
	comp=E,290nm,0.4s						
PB09	IPOC Station P	2.63	146		Pn	14 56 51.1	+2.8
PB04	IPOC Station P	2.78	167	eP	Pn	14 56 53.1	+2.7
PB04	IPOC Station P	2.78	167		Pn	14 56 51.7	+1.4
PB06	IPOC Station P	3.30	159		Pn	14 56 59.4	+2.0
LVC	Limon Verde	3.48	149	P	Pn	14 57 02.8	+2.6
	comp=E,4.1nm,0.3s,baz=341,slow=9.0,SNR=23						
LVC				S	Sn	14 57 43.4	+1.9
	comp=E,13nm,0.3s,baz=268,slow=18,SNR=6.1						
PB15	IPOC Station P	3.80	161		Pn	14 57 06.0	+1.7
LPAZ	La Paz	4.19	38	P	Pn	14 57 15.4	+5.4
	comp=E,1.5nm,0.3s,baz=192,slow=5.8,SNR=17						
PB14	IPOC Station P	5.01	176	Pn	Pn	14 57 21.1	0.0
GO02	Mina Guanaco	5.64	168	Pn	Pn	14 57 30.7	+0.9
AC02	Maricunga	7.36	168	Pn	Pn	14 57 55.2	+1.6
SIV	San Ignacio	9.97	70	P	Pn	14 58 29.3	+0.4
	comp=E,0.9nm,0.3s,baz=274,slow=8.7,SNR=10						
H03N1	Juan Fernandez	15.55	206	T	T	15 16 05.9	
	baz=32,slow=72,SNR=35						
H03N2	Juan Fernandez	15.55	206	T	T	15 16 04.6	
	baz=32,slow=72,SNR=40						
H03N3	Juan Fernandez	15.56	206	T	T	15 16 04.7	
	baz=32,slow=72,SNR=29						
TRQA	Tornquist	19.93	159	P	P	15 00 32.5	-5.1
PLCA	Paso Flores	21.05	179	P	P	15 00 50.5	+0.7
	comp=E,1.5nm,0.8s,baz=12,slow=9.3,SNR=1.7						
PLCA	Paso Flores	21.05	179	P	P	15 00 47.0	-2.7
PLCA				IAmb	IAmb	15 00 56.9	
	comp=Z,9.1nm,1.3s						
PTGA	Pitinga	21.57	31	P	P	15 00 54.6	-0.8
	comp=Z,3.0nm,0.3s,baz=163,slow=23,SNR=8.4						
PTGA	Pitinga	21.57	31	P	P	15 00 53.4	-2.1
PTGA				IAmb	IAmb	15 00 55.7	
	comp=Z,3.9nm,0.3s						
TORD	Torodi Ar. Bea	78.44	72	P	P	15 08 05.3	-1.8
	comp=Z,0.8nm,0.7s,baz=255,slow=5.3,SNR=3.8						
H11S2	WAKE ISLAND Hy	125.83	279	T	T	17 34 20.3	
	baz=101,slow=74,SNR=15						
H11S1	WAKE ISLAND Hy	125.84	279	T	T	17 34 20.1	
	baz=101,slow=74,SNR=8.0						
H11S3	WAKE ISLAND Hy	125.85	279	T	T	17 34 18.2	
	baz=101,slow=74,SNR=11						
ASAR	Alice Springs	130.68	210	PKP	PKPdf	15 15 17.3	-0.3
	comp=Z,0.2nm,0.8s,baz=142,slow=1.7,SNR=5.0						
WRA	Warramunga Arr	133.59	214	PKP	PKPdf	15 15 23.5	+0.4
	comp=Z,0.6nm,1.0s,baz=155,slow=1.8,SNR=2.3						
MKAR	Makanchi Array	145.10	33	PKP	PKPbc	15 15 44.1	+1.4
	comp=Z,0.9nm,0.7s,baz=321,slow=3.5,SNR=9.2						

*NEIC **02** 15:10:25.6±2.6, 12°.2S±0°.1×167°.1E±0°.2, h202km±5km, mb4.5/14, Error ellipse: s-maj=23.1km s-min=16.3km az=113.0*
*IDC **02** 15:10:30.2±3.6, 12°.47S×166°.96E, h246km±35km, mb3.4/12, mb1 3.6/13, mb1mx3.5/32, mbtmp3.9/13, Error ellipse: s-maj=22.3km s-min=20.2km az=138.0*
ISC 02 15:10:25.3±0.6, 12°.25S±0°.08×167°.1E±0°.1, h200km, n31, σ1s.46/34, mb4.0/17, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.79	184	P	Pn	15 12 44.8	+2.9
	0.6nm,0.3s,baz=113,slow=16,SNR=12						
DZM				S	Sn	15 14 29.6	-1.8
	0.1nm,0.3s,baz=118,slow=19,SNR=1.8						
EIDS	Eidsvold	19.98	227	P	P	15 14 43.1	+0.5
EIDS				IAmb	IAmb	15 14 43.9	
	comp=Z,13nm,0.7s						
CTA	Charters Tower	21.48	246	P	P	15 14 58.0	-0.5
	comp=Z,2.8nm,0.6s,baz=76,slow=14,SNR=5.3						
CTAO	Charters Tower	21.48	246	P	P	15 14 58.5	0.0
CTAO				IAmb	IAmb	15 15 15.1	
	comp=Z,20nm,1.4s						
WR0	Warramunga Arr	32.17	252	P	P	15 16 33.5	-1.1
WB0	Warramunga Arr	32.28	252	P	P	15 16 34.1	-1.5
WB0				IAmb	IAmb	15 17 22.2	
	comp=Z,11nm,1.4s						
WB2	Warramunga Arr	32.35	252	P	P	15 16 35.0	-1.2
WB2				IAmb	IAmb	15 17 03.0	
	comp=Z,21nm,1.8s						
WRAB	Tennant Creek	32.35	252	P	P	15 16 34.6	-1.5
WRA	Warramunga Arr	32.36	252	P	P	15 16 34.8	-1.4
	comp=Z,0.4nm,0.5s,baz=80,slow=8.9,SNR=8.9						
WRA				PcP	PcP	15 19 14.9	-4.3
	comp=Z,0.7nm,1.1s,baz=94,slow=7.8,SNR=1.7						
AS31	Alice Springs	33.48	246	P	P	15 16 42.7	-3.2
ASAR	Alice Springs	33.48	246	P	P	15 16 44.5	-1.4
	comp=Z,0.5nm,0.6s,baz=66,slow=9.3,SNR=9.2						
ASAR				PcP	PcP	15 19 20.3	-2.0
	comp=Z,0.3nm,0.9s,baz=88,slow=3.3,SNR=1.7						
KNRA	Kununurra	37.34	260	P	P	15 17 18.1	-0.8
KNRA				IAmb	IAmb	15 17 23.0	
	comp=Z,19nm,1.4s						
FITZ	Fitzroy Crossi	40.38	256	P	P	15 17 44.2	+0.1
MLOA	Mauna Loa Obse	48.46	50	P	P	15 18 46.2	-2.2
MJAR	Matsushiro Arr	55.66	332	P	P	15 19 41.0	+0.3
	comp=Z,0.9nm,0.5s,baz=171,slow=7.2,SNR=5.4						
VNDA	Vanda	65.32	181	P	P	15 20 45.1	-0.3
	comp=Z,0.5nm,0.5s,baz=4.1,slow=7.2,SNR=3.1						
VNDA	Vanda	65.32	181	P	P	15 20 47.0	+1.5
VNDA				IAmb	IAmb	15 22 34.6	
	comp=Z,11nm,1.9s						
PETK	Petropavlovsk-	65.60	354	P	P	15 20 48.1	+0.5
	comp=Z,2.3nm,1.1s,baz=156,slow=7.3,SNR=1.9						
CMAR	Chiang Mai Arr	73.82	293	P	P	15 21 39.8	+1.3
	comp=Z,0.9nm,0.8s,baz=117,slow=5.4,SNR=4.8						
QSPA	South Pole Qui	77.76	180	P	P	15 21 59.5	-0.6
QSPA				IAmb	IAmb	15 22 24.8	
	comp=Z,22nm,1.9s						
SONM	Songino Array	80.43	323	P	P	15 22 14.5	-0.3
	comp=Z,0.3nm,0.6s,baz=131,slow=6.5,SNR=2.1						
CCB	Clear Creek Bu	83.86	18	P	P	15 22 32.6	+0.5
HDA	Harding Lake	83.95	18	P	P	15 22 34.0	+1.4
HDA				IAmb	IAmb	15 22 35.0	
	comp=Z,7.6nm,0.6s						
MDM	Murphy Dome	83.97	18	P	P	15 22 33.6	+1.0
ILAR	Eielson Array	84.23	18	P	P	15 22 35.2	+1.3
	comp=Z,2.6nm,0.6s,baz=247,slow=5.0,SNR=36						
TXAR	Lajitas Array	95.23	61	P	P	15 23 26.2	-0.6
	comp=Z,0.3nm,0.8s,baz=255,slow=4.8,SNR=4.1						
MKAR	Makanchi Array	95.31	317	P	P	15 23 27.3	+0.7
	comp=Z,0.9nm,0.6s,baz=90,slow=6.9,SNR=10						
YKA	Yellowknife Ar	95.43	27	P	P	15 23 26.9	+0.2
	comp=Z,0.5nm,0.6s,baz=262,slow=5.1,SNR=2.3						
ARCES	ARCESS Array B	117.83	346	PKP	PKPdf	15 28 47.2	-0.2
	comp=Z,0.9nm,0.5s,baz=38,slow=1.6,SNR=12						
FINES	FINESS Array B	123.38	339	PKP	PKPdf	15 28 58.1	-0.1
	comp=Z,0.7nm,0.7s,baz=112,slow=5.1,SNR=4.4						
ESDC	Sonseca Array	151.57	345	PKPbc	PKPbc	15 29 56.9	+0.7
	comp=Z,0.5nm,0.7s,baz=351,slow=2.9,SNR=6.6						
ESDC				PKPab	PKPab	15 30 07.2	+1.9
	comp=Z,0.2nm,0.2s,baz=12,slow=4.8,SNR=4.7						

*DNK **02** 15:11:42.3±0.8, 51°.34N×17°.02E, h47km±14km, ML2.2*
*IPEC **02** 15:11:44.7±0.4, 51°.45N×16°.29E, h2km±2km, ML1.9/3, Error ellipse: s-maj=2.4km s-min=1.5km az=30.0*
*VIE **02** 15:11:44.9±0.6, 51°.38N×16°.04E, h0km, mb2.2/6, ml2.5/8, Error ellipse: s-maj=3.9km s-min=2.9km az=13.0 75 km WNW of Wroclaw Suspected Mining induced.*
*PRU **02** 15:11:45.3±0.0, 51°.45N×16°.13E, h0km*
ISC 02 15:11:43.5±0.9, 51°.51N±0°.03×16°.18E±0°.03, h0km, n36, σ0s.74/69, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.67	174	ePg	Pg	15 11 56.6	+0.3
KSP				eSg	Sg	15 12 04.8	-0.2
CHVC	Chvalec	0.93	185	ePG	Pg	15 12 01.5	+0.3
CHVC				eSG	Sg	15 12 13.1	-0.2
	comp=Z,42nm,0.7s						
OSTC	Ostas	0.96	179	ePG	Pg	15 12 02.1	+0.3
OSTC				eSG	Sg	15 12 13.7	-0.5
	comp=Z,27nm,0.3s						
UPC	Upice	1.01	186	ePG	Pg	15 12 02.9	+0.1
UPC				eSG	Sg	15 12 15.9	0.0
	comp=Z,62nm,0.3s						
DPC	Dobruska-Polom	1.17	176	ePG	Pg	15 12 05.7	-0.1
DPC				eSG	Sg	15 12 20.8	-0.1
	comp=Z,28nm,0.4s						
PVCC	Panska Ves	1.42	227	ePG	Pb	15 12 11.0	+0.2
PVCC				eSG	Sb	15 12 29.5	+0.1
	comp=Z,108nm,0.5s						
KRLC	Kraliky	1.49	165	ePG	Pn	15 12 11.0	-0.5
KRLC				eSG	Sg	15 12 30.4	-0.8
	comp=Z,25nm,0.4s						
BRG	Berggiesshubel	1.55	246	PG	Pg	15 12 13.5	+0.4
BRG				SG	Sg	15 12 33.8	+0.6
	65nm,0.5s						
PRA	Prague	1.82	218	ePG	Pn	15 12 16.5	+0.5
PRA				eSG	Sb	15 12 40.7	-0.3
	comp=Z,10nm,0.5s						
GOPC	GO Pecny, Ondr	1.83	210	ePG	Pb	15 12 17.3	-0.5
GOPC				eSG	Sb	15 12 41.3	0.0
	comp=Z,19nm,0.7s						
PRU	Pruhonice	1.85	215	ePG	Pb	15 12 18.4	+0.3
PRU				eSG	Sb	15 12 41.7	0.0
MORC	Moravsky Berou	1.94	153	ePN	Pn	15 12 17.3	-0.5
MORC				eSG	Sn	15 12 42.9	+0.1
MORC	Moravsky Berou	1.94	153	ePn	Pn	15 12 17.2	-0.5
	baz=335						
MORC				eSg	Sn	15 12 42.8	0.0
	8.5nm,0.3s,baz=335						
CLL	Collm	2.00	265	ePg	Pg	15 12 23.0	+1.2
CLL				eSg	Sg	15 12 49.0	+1.2
	comp=Z,23nm,0.6s						
OKC	Ostrava-Krasne	2.09	143	ePG	Pg	15 12 23.0	-0.5
OKC				eSG	Sg	15 12 51.0	+0.4
	comp=Z,269nm,0.6s						
VRAC	Vranov	2.22	173	ePN	Pn	15 12 21.9	+0.3
VRAC				eSG	Sb	15 12 52.1	-0.4
VRAC	Vranov	2.22	173	ePn	Pn	15 12 21.9	+0.3
	baz=355						
VRAC				eSg	Sb	15 12 52.1	-0.4
	comp=Z,7.3nm,0.3s,baz=355						
PBCC	Pribram	2.30	218	ePG	Pb	15 12 26.5	+0.7
PBCC				eSG	Sb	15 12 56.0	+1.2
KRUC	Moravsky	2.46	177	ePN	Pn	15 12 25.1	+0.3
KRUC				ePG	Pb	15 12 28.4	-0.1
KRUC				eSG	Sb	15 12 59.9	+0.6
KRUC	Moravsky	2.46	177	ePn	Pn	15 12 25.1	+0.3
	baz=358						
KRUC	Moravsky	2.46	177	ePg	Pb	15 12 28.4	-0.1
	baz=358						
KRUC				eSg	Sb	15 12 59.8	+0.5
	comp=Z,6.7nm,0.5s,baz=358						
OJC	Ojcow	2.63	118	ePg	Pg	15 12 34.2	+0.4
OJC				eSg	Sg	15 13 08.7	+0.8
JAVC	Velka Javorina	2.82	160	ePN	Pn	15 12 29.5	-0.4
JAVC	Velka Javorina	2.82	160	ePn	Pn	15 12 29.5	-0.4
	baz=342						
KHC	Kasperske Hory	2.91	216	ePN	Pn	15 12 32.1	+1.0
KHC				ePG	Pb	15 12 37.0	+0.8
KHC				eSG	Sg	15 13 15.0	-1.9
	comp=Z,8.6nm,0.4s						
LANS	Liptovska Anna	3.17	137	ePG	Pg	15 12 44.3	+0.2
LANS				eSG	Sg	15 13 26.4	+1.3
MODS	Modra-Piesok	3.22	167	ePG	Pg	15 12 45.1	-0.1
MODS				eSG	Sg	15 13 27.6	+0.7
VYHS	Vyhne	3.47	149	ePG	Pg	15 12 51.4	+1.4
VYHS				eSG	Sg	15 13 36.5	+1.6
CONA	Conrad Observa	3.59	183	i Pn	Pn	15 12 39.4	-1.1
	comp=Z,0.1nm,0.1s						
CONA				i Sg	Sg	15 13 38.8	-0.1
	comp=Z,5.2nm,0.4s						
BSD	Bornholm Skovb	3.69	349	i P	Pn	15 12 41.7	0.0
BSD				i S	Sn	15 13 23.8	-2.0
BSD	Bornholm Skovb	3.69	349	i P	Pn	15 12 41.7	0.0
BSD				i S	Sn	15 13 23.9	-2.0
BSD				IAML		15 13 26.0	
	comp=Z,2.4nm,0.3s						
MOA	Molln	3.87	200	i Pn	Pn	15 12 44.2	0.0
	comp=Z,0.3nm,0.1s						
MOA				i Sg	Sg	15 13 47.7	0.0
	comp=Z,4.8nm,0.3s						
ARSA	Arzberg	4.29	186	i Pn	Pn	15 12 49.5	-0.5
	comp=Z,0.2nm,0.1s						
ARSA				i Sg	Sg	15 14 01.9	+0.8
	comp=Z,3.1nm,0.4s						
KBA	Koelnbreinsper	4.81	204	i Sg	Sg	15 14 18.2	+0.2
	comp=Z,6.6nm,0.5s						
SOKA	Soboth	4.90	189	i Sg	Sg	15 14 21.5	+0.8
	comp=Z,0.1nm,0.1s						
WTTA	Wattenberg	5.19	217	i Pg	Pg	15 13 21.0	-1.8
	comp=Z,0.1nm,0.1s						
WTTA				i Sg	Sg	15 14 29.9	-0.1
	comp=Z,5.8nm,0.4s						

*MAN **02** 15:25:43.5, 9°.77N×126°.52E, h135km, MS4.3*
*IDC **02** 15:26:14.7±20.0, 8°.61N×124°.38E, h310km±210km, mb2.8/5, mb1 3.0/5, mb1mx2.8/42, mbtmp3.5/5, Error ellipse: s-maj=161.2km s-min=33.8km az=62.0*
ISC 02 15:25:44.5±1.1, 9°.79N±0°.06×126°.7E±0°.1, h50km, n10, σ1s.80/13, mb3.4/5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSLP	Maasin	1.88	281	eP	Pn	15 26 14.4	+0.1
MSLP				eS	Sn	15 26 38.6	+1.7
BUKP	Musuan	2.52	221	eP	Pn	15 26 22.2	-0.8
BUKP				eS	Sn	15 26 55.6	+3.1
TBP	Tagbilaran	2.84	268	eP	Pn	15 26 26.4	-0.9
TBP				i S	Sn	15 26 58.8	-1.5
KCP	Kidapawan	3.21	211⇑	eP	Pn	15 26 33.2	+0.8
CNP	Catarman	3.39	323	eP	Pn	15 26 36.1	+1.2
CNP				eS	Sn	15 27 12.9	-0.9
FITZ	Fitzroy Crossi	27.73	182	P	P	15 31 24.9	-3.5
	1.7nm,1.1s,baz=14,slow=10.0,SNR=1.2						
WRA	Warramunga Arr	30.48	166	P	P	15 31 57.3	+4.5
	0.2nm,0.6s,baz=345,slow=9.6,SNR=1.4						
ASAR	Alice Springs	33.98	168	P	P	15 32 23.9	+0.4
	0.1nm,0.5s,baz=341,slow=6.9,SNR=5.0						
MKAR	Makanchi Array	52.69	323	P	P	15 34 54.6	+0.6
	0.2nm,0.5s,baz=121,slow=8.2,SNR=3.7						
FINES	FINESS Array B	86.53	332	P	P	15 38 22.5	+0.5
	0.3nm,0.5s,baz=64,slow=3.2,SNR=5.5						

IDC 02 15:29:43.5±3.1, 42°.51N×121°.54E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.3/44, mbtmp3.5/4, ML2.7/2, Error ellipse: s-maj=56.9km s-min=42.1km az=51.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSRS	Korea Array	7.03	134	Pn	Pn	15 31 27.6	-0.1
	0.6nm,0.3s,baz=329,slow=18,SNR=10						
KSRS				Sn	Sn	15 32 36.4	-12
	0.8nm,0.3s,baz=320,slow=21,SNR=5.2						
USRK	Ussuriysk Ar.	7.80	74	Pn	Pn	15 31 38.5	+0.2
	baz=255,slow=15,SNR=2.3						
USRK				Sn	Sn	15 33 08.0	+0.7
	baz=247,slow=26,SNR=13						
ILAR	Eielson Array	53.16	32	P	P	15 39 02.8	0.0
	0.4nm,0.8s,baz=293,slow=4.8,SNR=3.4						
NVAR	Mina Array Bea	82.83	43	P	P	15 42 09.9	-0.1
	0.4nm,0.7s,baz=293,slow=4.7,SNR=4.3						

*IDC **02** 15:30:29.1±2.4, 30°.57N×140°.02E, h56km±22km, mb3.4/8, mb1 3.6/11, mb1mx3.4/43, mbtmp3.6/11, ML3.1/3, Error ellipse: s-maj=32.7km s-min=16.6km az=89.0*
ISC 02 15:30:26.8±0.7, 30°.55N±0°.08×140°.1E±0°.2, h35km, n18, σ2s.03/15, mb3.6/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.58	354	P	Pn	15 31 09.2	+3.1
	6.8nm,0.3s,baz=71,slow=16,SNR=1.3						
JHJ				S	Sn	15 31 32.4	-3.9
	18nm,0.3s,baz=84,slow=20,SNR=3.1						
JCJ	Chichijima	3.90	151	P	Pn	15 31 25.2	+0.9
	9.6nm,0.3s,baz=325,slow=18,SNR=2.1						
JCJ				S	Sn	15 32 05.8	-3.0
	33nm,0.3s,baz=260,slow=22,SNR=7.6						
MJAR	Matsushiro Arr	6.18	346	P	Pn	15 31 58.0	+2.4
	0.1nm,0.3s,baz=156,slow=13,SNR=5.5						
H11N2	WAKE ISLAND Hy	26.49	108	T	T	16 03 24.3	
	baz=300,slow=75,SNR=82						
H11N1	WAKE ISLAND Hy	26.49	108	T	T	16 03 25.0	
	baz=300,slow=75,SNR=39						
H11N3	WAKE ISLAND Hy	26.50	108	T	T	16 03 22.3	
	baz=300,slow=75,SNR=52						
H11S3	WAKE ISLAND Hy	26.94	110	T	T	16 04 03.2	
	baz=302,slow=75,SNR=25						
H11S1	WAKE ISLAND Hy	26.94	110	T	T	16 04 10.1	
	baz=302,slow=75,SNR=19						
H11S2	WAKE ISLAND Hy	26.95	110	T	T	16 04 05.9	
	baz=302,slow=75,SNR=20						
ZALV	Zalesovo Beam	45.70	317	PcP	PcP	15 40 21.1	-0.5
	0.9nm,0.6s,baz=94,slow=4.8,SNR=4.7						
MKAR	Makanchi Array	46.90	307	P	P	15 38 53.2	-0.6
	0.3nm,0.7s,baz=93,slow=8.7,SNR=3.1						
WRA	Warramunga Arr	50.50	187	P	P	15 39 21.9	+0.3
	0.6nm,0.7s,baz=5.1,slow=7.7,SNR=5.4						
WRA				PcP	PcP	15 40 40.6	+1.2
	0.2nm,0.6s,baz=356,slow=3.8,SNR=1.7						
ASAR	Alice Springs	54.23	187	P	P	15 39 49.2	0.0
	0.3nm,0.7s,baz=355,slow=5.7,SNR=8.6						
ILAR	Eielson Array	55.61	30	P	P	15 39 58.0	-0.8
	0.5nm,0.8s,baz=272,slow=6.2,SNR=4.7						
INK	Inuvik	60.68	25	P	P	15 40 33.7	-0.4
	0.5nm,0.5s,baz=300,slow=8.9,SNR=1.5						
FINES	FINESS Array B	74.05	333	P	P	15 41 56.7	-2.1
	0.6nm,0.9s,baz=48,slow=2.8,SNR=3.6						
NVAR	Mina Array Bea	79.82	51	P	P	15 42 31.8	-0.3
	0.4nm,0.7s,baz=316,slow=3.8,SNR=2.7						
TXAR	Lajitas Array	94.97	52	P	P	15 43 47.6	+1.5
	0.8nm,0.7s,baz=304,slow=3.8,SNR=12						

UCR 02 15:32:51.7±1.5, 9°.40N×84°.22W, h18km±4km, MD3.8, 3C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EDDO	Dominical	0.38	112⇑	iP	Pg	15 32 59.4	-0.2
EDDO				eS	Sb	15 33 05.6	+0.2
LCR2	La Lucha 2	0.40	31⇓	eP	Pg	15 32 59.8	-0.3
LCR2				eS	Sb	15 33 06.8	+0.4
SJS	Escuela Geolog	0.56	16	eP	Pg	15 33 02.3	-0.7
SJS				eS	Sb	15 33 11.0	+0.3
HDC	Heredia	0.61	9⇓	iP	Pb	15 33 03.2	-0.6
HDC				eS	Sb	15 33 12.1	0.0
EDLM	Las Mercedes	0.63	101⇑	eP	Pb	15 33 03.5	-0.6
EDLM				eS	Sg	15 33 12.7	+0.1
SRA1	San Ramn	0.73	339	eP	Pb	15 33 04.4	-1.6
CVTR	Volcan Turrial	0.77	36	eP	Pb	15 33 06.3	-0.4
CVTR				eS	Sg	15 33 18.0	+0.9
EDPN	Palmar Norte	0.86	120	eP	Pb	15 33 07.3	-0.9
EDPN				eS	Sg	15 33 19.8	-0.3
EDBA	Buenos Aires	0.96	104⇓	eP	Pb	15 33 08.6	-1.1
EDBA				eS	Sb	15 33 22.1	0.0
DRK0	Durika	0.97	98	eP	Pb	15 33 09.4	-0.7
DRK0				eS	Sb	15 33 22.8	+0.3
JTS	Las Juntas de	1.15	321	eS	Sn	15 33 28.3	+0.2
CASO	Castillo	1.15	334	i S	Sb	15 33 27.2	-0.5
FORC	Fortuna	1.15	337	i P	Pn	15 33 12.2	-0.7
FORC				i S	Sn	15 33 28.2	-0.1
ARE1	Arenal 1	1.17	335	eP	Pn	15 33 12.2	-1.0
CEDE	Laguna Cedeo	1.19	336	i P	Pn	15 33 13.5	0.0
PTJ1	Puerto Jimnez	1.24	133	eP	Pb	15 33 14.7	+0.1
PIRO	Carate, Puerto	1.31	139	eP	Pb	15 33 15.7	-0.2
PLVR	Palo Verde	1.47	310⇑	eP	Pn	15 33 16.3	-1.1
PLVR				eS	Sb	15 33 37.1	+0.2
ACAL	Aguas Claras	1.47	327	i P	Pn	15 33 16.7	-0.7
PTEN	Parque Tenorio	1.51	330	i P	Pn	15 33 17.8	-0.2
CUI	Cuipilapa	1.56	323	i P	Pn	15 33 18.0	-0.6
COLC	Colonia	1.59	322	i P	Pn	15 33 17.8	-1.3
COLC				i S	Sb	15 33 40.5	0.0
HORNC	Hornillas	1.61	324	i P	Pn	15 33 18.9	-0.5
HORNC				i S	Sb	15 33 40.6	-0.5
BRU2	Volcan	1.62	112	eP	Pb	15 33 20.7	-0.5
GUAB	Guayabo de Bag	1.64	323	i P	Pn	15 33 19.2	-0.5
GPS2	Hotel Rincn d	1.75	320	i P	Pn	15 33 20.9	-0.3
GPS2				i S	Sn	15 33 43.9	+0.8
LAPC	Finca la Perla	1.81	319	i P	Pn	15 33 21.7	-0.4
LAPC				i S	Sn	15 33 45.3	+0.7

*JMA **02** 16:09:56.9, 33°.34N×131°.71E, h87km±1km, M4.0 Broadband fault plane solution: P waves. NP1: ϕ_s269.00000°, δ43.00000°, λ132.00000°. NP2: ϕ_s37.00000°, δ59.00000°, λ58.00000°. Principal axes: T Plg61.0000°, Azm256.0000°; N Plg27.0000°, Azm55.0000°; P Plg9.0000°, Azm150.0000°;*
JMA Felt II J1.
*NEIC **02** 16:09:56.6±1.7, 33°.30N±0°.08×131°.65E±0°.08, h95km±6km, mb4.7/17 Error ellipse: s-maj=10.9km s-min=9.9km az=172.0*
*NIED **02** 16:09:57.0, 33°.34N×131°.71E, h87km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm;*

Mrr1.32; Mθθ-1.08; Mφφ-0.24; Mrθ0.09; Mθφ-0.85; Mφr0.98;
Fault plane solution: M0 1.78000×10^15 NP1:φs33.00000°, δ62.00000°, λ61.00000°. NP2:φs262.00000°, δ40.00000°, λ132.00000°.
*IDC **02** 16:09:56.4±0.5, 33°.34N×131°.57E, h90km±3km, mb3.7/20, mb1 3.8/25, mb1mx3.7/44, mbtmp4.0/25, MS3.1/4, Ms1 3.1/4, ms1mx2.7/53 Error ellipse: s-maj=12.1km s-min=10.0km az=125.0*
ISC 02 16:09:56.3±0.5**, 33°.32N**±0°.04×**131°.70E**±0°.04**, h92**km±4km**, n66, σ1ˢ.12**/79**, mb4.0**/27**, 7C-3D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBEP	Beppuamama	0.24	275	⇑P	Pn	16 10 09.8	+0.1
JBEP				S	Sn	16 10 19.9	+0.2
JUS	Usuki	0.25	170	⇑P	Pn	16 10 10.0	+0.3
JUS				S	Sn	16 10 19.2	-0.4
JKI	Kunimi	0.33	341	⇑P	Pn	16 10 10.1	0.0
JKI				S	Sn	16 10 19.9	-0.5
JNA	Nagahama	0.70	70	⇑P	Pn	16 10 13.0	+0.1
JNA				S	Sn	16 10 25.1	-0.2
JNU	Nakatsue	0.71	255	P	Pn	16 10 13.4	+0.3
	197nm,0.3s,baz=64,slow=4.6,SNR=3141						
JNU				LR	LR	16 10 22.4	
	comp=Z,77nm,19.5s,baz=340,slow=42						
JNU				S	Sn	16 10 25.7	0.0
	234nm,0.3s,baz=208,slow=17,SNR=54						
UWA2	Uwa jima 2	0.78	97	⇑P	Pn	16 10 13.6	-0.2
UWA2				S	Sn	16 10 26.3	-0.6
JTO	Tosashimizu	1.03	116	⇓P	Pn	16 10 16.2	-0.2
JTO				S	Sn	16 10 30.8	-0.8
JIU3	Izumi3	1.07	224	⇓P	Pn	16 10 17.5	+0.6
JIU3				S	Sn	16 10 32.9	+0.6
JHM	Kurahashi	1.07	40	⇑P	Pn	16 10 17.1	+0.2
JHM				S	Sn	16 10 32.1	-0.3
JKU	Kubokawa	1.14	90	⇑P	Pn	16 10 17.7	0.0
JKU				S	Sn	16 10 33.5	-0.4
JHT	Toyohira	1.47	24	P	Pn	16 10 22.2	+0.4
JHT				S	Sn	16 10 40.6	-0.5
JTZ	Takazaki	1.50	200	⇓P	Pn	16 10 23.2	+1.1
INU	Inuyama	4.84	64		Pn	16 11 07.8	+1.1
KSRS	Korea Array	5.15	324	P	Pn	16 11 11.9	+1.0
	2.6nm,0.3s,baz=143,slow=14,SNR=43						
KSRS				LR	LR	16 12 56.1	
	comp=Z,69nm,21.9s,baz=150,slow=35						
KS19	Wonju Array Si	5.22	324	Pn	Pn	16 11 11.9	+0.1
MJB9	Matsu-Tunnel	6.24	57	Pn	Pn	16 11 27.5	+1.8
MAJO	Matsushiro	6.24	57	Pn	Pn	16 11 27.8	+2.0
MAT	Matsushiro	6.24	57	P	Pn	16 11 27.5	+1.7
MAT				S	Sn	16 12 36.2	+0.6
MJAR	Matsushiro Arr	6.24	57	P	Pn	16 11 26.1	+0.3
	2.6nm,0.3s,baz=209,slow=8.4,SNR=155						
MJAR				S	Sn	16 12 32.0	-3.6
	baz=229,slow=18,SNR=2.0						
JHJ	Hachijo jima 2	6.78	89	P	Pn	16 11 34.2	+1.2
	61nm,0.3s,baz=36,slow=7.7,SNR=21						
JHJ				S	Sn	16 12 47.9	-0.9
	8.3nm,0.3s,baz=41,slow=19,SNR=1.7						
JHJ				LR	LR	16 13 31.3	
	comp=Z,78nm,18.1s,baz=18,slow=31						
JHJ2	Mitsune	6.81	89	Pn	Pn	16 11 34.4	+1.0
USRK	Ussuriysk Ar.	10.87	1	P	Pn	16 12 31.1	+2.3
	baz=183,slow=16,SNR=5.1						
ASAJ	Asahikawa	13.72	35	P	Pn	16 13 09.4	+2.6
	0.1nm,0.3s,baz=186,slow=13,SNR=4.1						
JKA	Kamikawa-asahi	13.72	35	P	Pn	16 13 09.4	+2.6
KLR	Kul'dur	15.90	0	P	P	16 13 36.4	0.0
	0.1nm,0.3s,baz=166,slow=15,SNR=2.5						
ENH	Enshi	19.12	267	P	P	16 14 10.4	-1.6
ENH				IAmb	IAmb	16 14 14.6	
	comp=Z,41nm,1.6s						
GUMO	Guam	23.01	145	P	P	16 14 55.1	+1.6
ULN	Ulaanbaatar	23.56	315	P	P	16 14 59.5	+0.9
SONM	Songino Array	23.93	315	P	P	16 15 02.3	+0.4
	comp=Z,4.9nm,0.9s,baz=124,slow=9.6,SNR=20						
CMAR	Chiang Mai Arr	32.81	251	P	P	16 16 22.3	+1.2
	comp=Z,0.6nm,0.4s,baz=43,slow=8.7,SNR=1.5						
ZALV	Zalesovo Beam	38.81	316	P	P	16 17 11.5	-0.4
	comp=Z,0.4nm,0.4s,baz=109,slow=11,SNR=2.6						
MKAR	Makanchi Array	39.51	305	P	P	16 17 17.7	-0.2
	comp=Z,0.8nm,0.7s,baz=90,slow=11,SNR=11						
NRIK	Noril'sk	43.59	339	P	P	16 17 50.7	-0.1
	comp=Z,2.2nm,0.5s,baz=115,slow=7.6,SNR=4.3						
LEM	Lembang	46.01	214	P	P	16 18 10.4	-0.4
	comp=Z,7.1nm,0.4s,baz=143,slow=20						
KK31	Karatay Array	48.10	300	P	P	16 18 26.9	+0.2
KK31				IAmb	IAmb	16 18 27.7	
	comp=Z,3.9nm,0.7s						
KKAR	Karatay Array	48.10	300	P	P	16 18 24.8	-2.0
COEN	Coen	48.27	165	P	P	16 18 25.7	-2.5
KNRA	Kununurra	48.80	184	P	P	16 18 31.6	-0.5
KNRA				IAmb	IAmb	16 18 33.3	
	comp=Z,10nm,0.6s						
GAR	Garm	49.07	295	P	P	16 18 34.6	+0.3
CHGR	Chuyangaron	50.03	295	P	P	16 18 41.2	-0.4
FITZ	Fitzroy Crossi	51.45	187	P	P	16 18 51.9	-0.3
FITZ				IAmb	IAmb	16 19 32.0	
	comp=Z,18nm,1.6s						
WB0	Warramunga Arr	52.85	177	P	P	16 19 01.9	-0.6
WB0				IAmb	IAmb	16 20 56.9	
	comp=Z,24nm,1.8s						
WB2	Warramunga Arr	53.02	177	P	P	16 19 03.6	-0.2
WB2				IAmb	IAmb	16 19 06.7	
	comp=Z,18nm,1.6s						
WRA	Warramunga Arr	53.02	177	P	P	16 19 03.7	-0.1
	comp=Z,1.4nm,0.9s,baz=353,slow=8.1,SNR=7.3						
WR0	Warramunga Arr	53.05	177	P	P	16 19 04.1	+0.1
WR0				IAmb	IAmb	16 20 10.2	
	comp=Z,26nm,1.9s						
BPAW	Bear Paw Mtn.	55.12	31		P	16 19 12.6	-6.0
BPAW				IAmb	IAmb	16 20 40.7	
	comp=Z,9.9nm,1.1s						
AS31	Alice Springs	56.70	178	P	P	16 19 30.0	-0.3
ASAR	Alice Springs	56.70	178	P	P	16 19 30.8	+0.4
	comp=Z,0.8nm,0.6s,baz=8.6,slow=13,SNR=27						
ILAR	Eielson Array	56.80	30	P	P	16 19 31.6	+1.0
	comp=Z,0.3nm,0.6s,baz=281,slow=6.9,SNR=2.8						
ILAR				pP	pP	16 19 53.1	-0.1
	comp=Z,0.4nm,0.6s,baz=288,slow=7.3,SNR=3.2						
EYAK	Cordova Ski Ar	58.07	35		PcP	16 20 29.4	-0.9
SPITS	Spitsbergen Ar	62.54	348	LR	LR	16 48 20.2	
	comp=Z,23nm,18.5s,baz=75,slow=37						
ARCES	ARCESS Array B	64.56	338	P	P	16 20 22.8	-0.4
	comp=Z,1.0nm,0.6s,baz=64,slow=8.2,SNR=9.4						
STKA	Stephens Creek	65.51	171	P	P	16 20 30.8	+1.0
	comp=Z,1.0nm,0.4s,baz=8.8,slow=6.1,SNR=11						
KBZ	Khabaz	67.09	308	P	P	16 20 39.5	-0.3
	comp=Z,3.7nm,0.7s,baz=84,slow=3.9,SNR=9.6						
FINES	FINESS Array B	68.22	330	P	P	16 20 45.8	-0.8
	comp=Z,1.4nm,0.5s,baz=72,slow=5.6,SNR=26						
FINES				pP	pP	16 21 07.9	-2.1
	comp=Z,1.0nm,0.8s,baz=197,slow=10.0,SNR=2.9						
YKA	Yellowknife Ar	70.86	27	P	P	16 21 04.3	+1.5
	comp=Z,0.8nm,0.7s,baz=297,slow=6.9,SNR=2.3						
AFI	Afiamalu	71.46	121	LR	LR	16 46 32.6	
	comp=Z,39nm,19.5s,baz=195,slow=31						
AKASG	Malin Array Be	72.13	319	P	P	16 21 09.4	-1.3
	comp=Z,1.0nm,0.4s,baz=57,slow=6.4,SNR=5.4						
NB2	NORSAR Subarra	74.29	334	P	P	16 21 22.0	-1.3
	comp=Z,1.3nm,0.8s,baz=50,slow=5.9						
NOA	NORSAR Array B	74.29	334	P	P	16 21 22.1	-1.1
	comp=Z,0.8nm,0.7s,baz=47,slow=6.0,SNR=5.2						
BRTR	Keskin Array B	75.08	308	P	P	16 21 27.6	-0.7
	comp=Z,1.8nm,0.8s,baz=116,slow=4.3,SNR=6.0						
GERES	GERESS Array B	81.33	324	P	P	16 22 01.4	-1.2
	comp=Z,0.4nm,0.7s,baz=46,slow=3.9,SNR=3.7						
KVN	Kaiserville	83.23	47		pP	16 22 38.4	+1.5
NVAR	Mina Array Bea	83.48	48	P	P	16 22 16.1	+1.9
	comp=Z,0.4nm,0.6s,baz=314,slow=6.2,SNR=4.3						
NVAR				pP	pP	16 22 39.2	+0.8
	comp=Z,0.6nm,0.7s,baz=298,slow=4.6,SNR=4.1						
PDAR	Pinedale Array	85.80	40	P	P	16 22 26.7	+0.9
	comp=Z,0.4nm,0.9s,baz=197,slow=1.5,SNR=4.0						
PTGA	Pitinga	145.78	21	PKPbc	PKPdf	16 29 25.2	+0.3
	comp=Z,3.1nm,0.6s,baz=322,slow=8.2,SNR=4.0						

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*BJI **02** 16:18:56.1±0.0, 11°.62N×93°.70E, h133km, mB4.9/31, mb4.8/49*
*KLM **02** 16:18:56.0, 11°.78N×93°.68E, h10km, mb4.8*
*NDI **02** 16:18:57.2±3.0, 11°.97N×93°.97E, h106km±31km, mb4.9, mb4.7(NEIC)*
*DJA **02** 16:18:58.8±0.2, 12°N±2°×9°4E±°, h121km±3km, M5.0/30, mb4.8/30, mB5.5/9, MLv5.1/3, Mw(mB)4.9/9*
*NEIC **02** 16:18:59.5±1.6, 11°.87N±0°.08×93°.64E±0°.08, h129km±5km, mb4.7/63, Error ellipse: s-maj=11.1km s-min=10.6km az=202.0*
*IDC **02** 16:18:59.6±0.5, 11°.91N×93°.78E, h128km±4km, mb4.2/35, mb1 4.2/37, mb1mx4.2/49, mbtmp4.6/37, MS3.1/4, Ms1 3.2/4, ms1mx2.8/44, Error ellipse: s-maj=10.5km s-min=7.0km az=64.0*
ISC 02 16:18:59.2±0.4**, 11°.86N**±0°.04×**93°.62E**±0°.05**, h128**km±3km**, n231, σ1ˢ.40**/262**, mb4.6**/87**, 1C-5D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	0.89	257	eP	Pn	16 19 20.6	-0.2
PBA				eS	Sn	16 19 37.8	+0.6
PBA				eS		16 19 37.8	
PBA	Port Blair	0.89	257	Pn	Pn	16 19 20.5	-0.3
DGPR	DIGLIPUR	1.47	333	eP	Pn	16 19 25.2	-1.6
DGPR				eS	Sn	16 19 44.8	-3.1
LHMI	Lhok Sumawe	7.37	153	Pn	Pn	16 20 47.1	+3.0
MLSI	Meulaboh, Aceh	8.03	160	P	Pn	16 20 51.5	-1.7
	3µm84nm,0.5s						
CM31	Chiang Mai Arr	8.33	37		Pn	16 20 57.4	+0.2
CMAR	Chiang Mai Arr	8.33	37	P	Pn	16 20 57.2	+0.1
	3.0nm,0.3s,baz=234,slow=14,SNR=82						
CMAR				S	Sn	16 22 28.0	-1.6
	0.6nm,0.3s,baz=233,slow=27,SNR=4.3						
CMAR				LR	LR	16 24 37.2	
	comp=Z,59nm,18.6s,baz=286,slow=41						
PBKT	Sadao Pong	8.52	56	Pn	Pn	16 21 00.0	+0.3
CHTO	Chiang Mai	8.61	36	Pn	Pn	16 21 00.9	0.0
TPTI		9.24	157	P	Pn	16 21 07.4	-2.1
	202nm6.6nm,1.1s						
KULM	Kulim	9.53	133	Pn	Pn	16 21 14.9	+1.5
KULM	Kulim	9.53	133	P	Pn	16 21 16.0	+2.6
IPM	Ipoh	10.37	134	Pn	Pn	16 21 25.0	+0.5
IPM	Ipoh	10.37	134	P	Pn	16 21 24.0	-0.6
RPSI	Rantau Prapat	10.51	150	Pn	Pn	16 21 26.5	0.0
GSI	Gunungsitoli	11.20	159	Pn	Pn	16 21 31.2	-4.4
CHLP	Challavanipeta	11.35	307	eP	Pn	16 21 36.7	-0.9
CHLP				e		16 23 31.9	
MNSI	Mandailing Nat	12.48	151	P	P	16 22 02.1	+3.0
PVM	Polavaram	12.79	296	eP	Pn	16 21 57.9	+1.4
PVM				e		16 24 06.6	
MYLAV	Mylavaram	13.49	293	eP	Pn	16 22 06.6	+1.0
MYLAV				e		16 24 22.3	
PALK	Pallekele	13.53	251	P	P	16 22 08.9	-1.9
	1.0nm,0.3s,baz=175,slow=10,SNR=5.5						
PALK				S	Sn	16 24 26.4	-9.2
	3.6nm,0.3s,baz=260,slow=20,SNR=8.9						
PALK	Pallekele	13.53	251		Pn	16 22 07.8	+1.7
BKNI	Bangkinang	13.62	147	P	P	16 22 10.8	-0.9
	2µm66nm,0.9s						
SKHT	Srikalahasti	13.70	279	eP	P	16 22 11.4	-1.1
SKHT				e		16 24 27.8	
SHL	Shillong	13.73	353	eP	Pn	16 22 07.0	-1.8
SHL				eP	P	16 22 07.3	-5.7
SHL				ex	x	16 25 24.0	
SHL	Shillong	13.73	353	Pn	Pn	16 22 07.3	-1.4
ADKI	Addanki	13.84	288	eP	Pn	16 22 10.6	+0.7
ADKI				e		16 24 28.7	
MYKOM	Kota Tinggi	14.25	134		P	16 22 18.2	-0.4
GUWA	GUWAHATI	14.37	353	eP	Pn	16 22 15.9	-0.8
NJS	Nagarjunasagar	14.64	290	eP	P	16 22 23.1	0.0
NJS				e		16 24 53.8	
TEZP	TEZPUR	14.70	357	eP	Pn	16 22 17.8	-3.1
SDSI	Sungai Dareh	14.89	148	P	Pn	16 22 22.2	-1.2
	53nm,0.8s						
SRLM	Srisailam	14.90	288	eP	P	16 22 27.2	+1.2
SRLM				e		16 25 01.1	
RPR	Rampur	15.46	298	eP	P	16 22 33.1	+0.9
RPR				e		16 25 09.3	
ZIRO	ZIRO	15.59	1	eP	Pn	16 22 28.8	-3.4
HYBB	Hyderabad (bro	15.59	293	eP	P	16 22 35.0	+1.4
HYBB				e		16 25 11.3	
KMI	Kunming	15.76	32	⇓eP	P	16 22 36.0	+0.3
KMI				pmax	pmax		
	comp=Z,88nm,0.9s						
KMI	Kunming	15.76	32	P	P	16 22 35.9	+0.2
KRJI	Kerinci	15.90	150	P	P	16 22 38.9	+1.7
	216nm,0.9s						
ODAN	Odare	16.03	339	eP	Pn	16 22 37.9	+0.2
	144nm,0.3s						
GTK	Tadong	16.08	344	eP	P	16 22 38.8	-0.4
SRSP	Sriramsagar	16.31	297	eP	P	16 22 43.6	+2.0
SRSP				e		16 25 30.5	
TAPN	Taplejung	16.38	341	eP	P	16 22 42.4	-0.1
	224nm,0.5s						
DSRI	Dabo	16.39	138	P	P	16 22 43.2	+0.7
	32nm,1.4s						
RAMN	Ramite	16.40	337	eP	P	16 22 43.2	+0.5
	135nm,0.6s						
NGP	Nagpur	16.74	305	ex	Pn	16 22 47.1	+0.9
NGP				ex	x	16 22 55.0	
	comp=Z,17nm,1.1s						
NGP				ex	Sn	16 25 47.9	-4.8
QIZ	Qiongzhong	17.17	64	P	Pn	16 22 53.4	+1.9
JIRN	Jiri	17.19	337	eP	Pn	16 22 52.4	+0.4
	comp=Z,275nm,0.7s						
PKI	Pulchoki	17.42	335	eP	Pn	16 22 55.6	+0.8
	comp=Z,141nm,0.5s						
GUN	Gumba	17.54	337	eP	Pn	16 22 56.6	+0.5
	comp=Z,145nm,0.6s						
KLRI	Killari	17.56	293	eP	Pn	16 22 58.9	+2.7
KLRI				e		16 25 59.7	
DMN	Daman	17.59	334	eP	Pn	16 22 57.5	+0.9
	comp=Z,141nm,0.6s						
KKN	Kakani	17.67	335	eP	Pn	16 22 58.0	+0.4
	comp=Z,59nm,0.6s						
KSI	Kapahiang	17.81	149	P	P	16 22 56.3	-1.8
	comp=Z,18µmcomp=Z,76nm,0.8s						
LSA	Lhasa	17.90	353	P	P	16 22 59.7	+0.3
GKN	Gorkha	18.13	334	eP	Pn	16 23 03.0	0.0
	comp=Z,108nm,0.2s						
KOLN	Koldanda	18.40	331	eP	Pn	16 23 06.3	0.0
PMBI	Palembang	18.41	142	P	Pn	16 23 07.5	+1.3
	comp=Z,7µmcomp=Z,421nm,1.0s						
LHSI	Lahat	18.43	147	P	P	16 23 04.2	-0.7
	comp=Z,77nm,0.7s						
MNAI	Manna	18.60	150	P	P	16 23 06.1	-0.6
PPBI	Pangkal Pinang	18.68	137	P	Pn	16 23 09.5	+0.1
	comp=Z,2µmcomp=Z,127nm,0.9s						
DANN	Dangsing	18.82	332	eP	Pn	16 23 10.8	-0.5
	comp=Z,241nm,0.6s						
PYUN	Piuthan	18.98	330	eP	Pn	16 23 12.5	-0.5
	comp=Z,70nm,0.4s						
GYA	Guiyang	19.02	38	⇓P	P	16 23 11.9	+0.6
GYA				pmax	pmax		
	comp=Z,49nm,0.9s						
MDSI	Maura Dua	19.34	147	P	P	16 23 11.7	-3.1
KSM	Kuching	19.50	121	P	Pn	16 23 18.4	-0.7
KSM				IAmb	IAmb	16 23 22.8	
	comp=Z,35nm,0.7s						
KSM	Kuching	19.50	121	P	P	16 23 17.0	+0.4
LWLI	Liwa	19.72	148	P	P	16 23 16.2	-2.8
TPI	Tanjungpandan	20.14	135	P	P	16 23 23.6	+0.2
	comp=Z,59nm,0.9s						
SBUM	Sibu	20.67	115	P	P	16 23 30.9	+1.8
SBUM	Sibu	20.67	115	P	Pn	16 23 33.0	+0.2
CD2	Chengdu	21.15	25	P	P	16 23 33.8	-0.4
CD2				pmax	pmax		
	comp=Z,60nm,0.8s						
CD2				pmax	pmax		
	comp=Z,330nm,4.7s						
CD2				LR	LR		
	comp=Z,2µm,13.0s						
CD2				LR	LR		
	comp=Z,790nm,14.8s						
CD2				LR	LR		
	comp=Z,640nm,10.6s						
LEM	Lembang	23.20	142	P	P	16 23 55.9	+0.7
	comp=Z,10.0nm,0.4s,baz=317,slow=23,SNR=4.0						
ENH	Enshi	23.50	36	P	P	16 23 55.5	-2.1
ENH				IAmb	IAmb	16 23 58.6	
	comp=Z,33nm,1.1s						
SMLA	Simla	24.48	324	eP	P	16 24 07.1	+0.7
SMLA				IAmb	IAmb	16 24 10.1	
	comp=Z,82nm,0.3s						
MTKI	Muara Teweh, K	24.66	120	P	P	16 24 11.6	+3.3
	comp=Z,12nm,0.7s						
SMRI	Semarang	25.16	137	P	P	16 24 16.9	+4.1
	comp=Z,198nm,1.2s						
SMRI	Semarang	25.16	137	P	P	16 24 13.3	+0.5
MYLDM	Lahad Datu	25.47	103	P	P	16 24 18.5	+2.9
LZH	Lanzhou	25.83	19	⇑P	P	16 24 19.4	+0.6
LZH				pP	pP	16 24 46.1	+0.7
LZH				sP	sP	16 25 01.3	+1.3
LZH				PP	PnPn	16 25 06.5	+2.3
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
LZH				pmax	pmax		
	comp=Z,92nm,4.9s						
NGJI	Ngawi	26.07	136	P	P	16 24 27.1	+6.1
XAN	Xi'an	26.12	30	P	P	16 24 15.1	-6.2
XAN				pP	P	16 24 21.9	+0.6
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,170nm,5.4s						
WHN	Wuhan	26.73	43	P	P	16 24 32.7	+5.9
GTA	Gaotai	27.98	10	⇓P	P	16 24 38.5	+0.5
GTA				pP	pP	16 25 05.8	+0.9
GTA				sP	sP	16 25 21.4	+1.9
GTA				ScP	ScP	16 31 20.2	+0.9
GTA				pmax	pmax		
	comp=Z,21nm,1.0s						
GTA				pmax	pmax		
	comp=Z,79nm,4.3s						
GTA				LR	LR		
	comp=Z,71nm,12.7s						
GTA				LR	LR		
	comp=Z,96nm,15.9s						
GTA				LR	LR		
	comp=Z,59nm,16.2s						
NIL	Nilore	28.58	323	P	P	16 24 43.1	-0.2
NIL				IAmb	IAmb	16 24 44.9	
	comp=Z,30nm,1.1s						
JAGI	Jajag, Banyuwa	28.72	134	P	P	16 24 45.4	+0.8
NJ2	Nanjing	30.70	45	eP	P	16 25 02.4	+0.4
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
KAPI	Kappang	30.93	121	P	P	16 25 04.1	-0.1
	comp=Z,3.6nm,0.3s,baz=281,slow=5.2,SNR=2.2						
KSH	Kashi	31.68	333	P	P	16 25 10.1	-0.6
KSH				pmax	pmax		
	comp=Z,30nm,0.7s						
KBL	Kabul	31.77	319	P	P	16 25 12.8	+1.2
KBL				IAmb	IAmb	16 25 13.6	
	comp=Z,11nm,0.8s						
WMQ	Urumqi	32.25	352	eP	P	16 25 16.8	+1.2
WMQ				pP	pwP	16 25 44.2	-1.2
WMQ				sP	sP	16 26 04.3	+7.0
WMQ				pmax	pmax		
	comp=Z,32nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,86nm,3.7s						
WMQ				LR	LR		
	comp=Z,84nm,11.5s						
WMQ				LR	LR		
	comp=Z,100nm,13.5s						
WMQ				LR	LR		
	comp=Z,6.0nm,16.5s						
TARG	Taragay, Kyrgy	32.81	338	P	P	16 25 21.9	+1.0
TARG				IAmb	IAmb	16 25 23.1	
	comp=Z,13nm,0.6s						
PRZ	Przheval'sk	33.26	339	P	P	16 25 26.6	+2.1
KDJ	Kajisay	33.39	338	P	P	16 25 26.3	+0.6
KDJ				IAmb	IAmb	16 25 27.8	
	comp=Z,18nm,1.1s						
GAR	Garm	34.05	327	P	P	16 25 31.1	-0.3
KZA	Kyzart	34.11	335	P	P	16 25 33.2	+1.0
	SNR=7.2						
BJI	Beijing	34.42	31	P	P	16 25 33.4	-0.9
BJI				pmax	pmax		
	comp=Z,6.0nm,2.4s						
CHGR	Chuyangaron	34.44	325	P	P	16 25 34.9	+0.2
ARSB	Arslanbob	34.48	332	P	P	16 25 35.5	+0.4
UCH	Uchtor	34.54	335	P	P	16 25 36.8	+0.9
	SNR=8.5						
BTK	Batken	34.56	328	P	P	16 25 37.6	+1.9
BTK				IAmb	IAmb	16 25 39.2	
	comp=Z,15nm,0.7s						
EDFI	Ende, Flores	34.61	125	P	P	16 25 35.9	-0.5
	comp=Z,10nm,0.7s						
TKM2	Tokmak 2	34.68	336	P	P	16 25 37.6	+0.8
	SNR=13						
KBK	Karagaybulak	34.71	335	P	P	16 25 38.9	+1.8
	SNR=6.0						
AML	Almayashu	34.81	334	P	P	16 25 39.4	+1.3
	SNR=27						
AAK	Ala-Archa	34.88	335	P	P	16 25 39.2	+0.7
	comp=Z,7.8nm,0.8s,baz=142,slow=5.4,SNR=15						
AAK	Ala-Archa	34.88	335	P	P	16 25 39.9	+1.3
	SNR=6.2						
CHMS	Chumysh	35.08	336	P	P	16 25 40.9	+0.9
	SNR=8.2						
EKS2	Erkin-Say	35.20	334	P	P	16 25 42.7	+1.5
	SNR=17						
USP	Ospenovka	35.40	336	P	P	16 25 43.8	+1.0
	SNR=14						
MK31	Makanchi Array	36.11	347	P	P	16 25 49.2	+0.4
MK31				IAmb	IAmb	16 25 50.2	
	comp=Z,20nm,0.9s						
MKAR	Makanchi Array	36.11	347	P	P	16 25 49.1	+0.3
	comp=Z,26nm,0.8s,baz=163,slow=8.4,SNR=189						
MKAR				pP	pP	16 26 17.3	+1.0
	comp=Z,4.8nm,0.8s,baz=153,slow=8.2,SNR=2.6						
MKAR				PcP	PcP	16 28 13.3	+1.3
	comp=Z,1.0nm,0.6s,baz=178,slow=3.9,SNR=2.7						
MKAR				ScP	ScP	16 31 45.5	-1.1
	comp=Z,0.5nm,0.7s,baz=172,slow=3.6,SNR=3.8						
MKAR				LR	LR	16 42 46.6	
	comp=Z,45nm,21.2s,baz=190,slow=40						
KK31	Karatay Array	37.01	331	P	P	16 25 57.1	+0.6
KKAR	Karatay Array	37.01	331	P	P	16 25 56.9	+0.4
KKAR				IAmb	IAmb	16 25 58.1	
	comp=Z,7.2nm,0.9s						
SONM	Songino Array	37.42	14	P	P	16 26 00.3	+0.2
	comp=Z,3.8nm,0.4s,baz=198,slow=8.6,SNR=32						
SONM				pP	pP	16 26 27.6	0.0
	comp=Z,1.9nm,0.7s,baz=193,slow=9.2,SNR=2.6						
SONM				PcP	PcP	16 28 16.6	+0.6
	comp=Z,1.3nm,0.7s,baz=199,slow=3.6,SNR=3.6						
SONM				ScP	ScP	16 31 52.2	+0.5
	comp=Z,3.3nm,0.8s,baz=202,slow=3.6,SNR=16						
SONM				LR	LR	16 42 08.0	
	comp=Z,40nm,20.6s,baz=239,slow=37						
ULN	Ulaanbaatar	37.62	15	P	P	16 25 58.7	-2.9
ULN				IAmb	IAmb	16 26 02.3	
	comp=Z,9.2nm,1.1s						
KS19	Wonju Array Si	39.88	44	P	P	16 26 16.3	-4.2
KS19				IAmb	IAmb	16 26 21.6	
	comp=Z,12nm,1.0s						
KSRS	Korea Array	39.89	44	P	P	16 26 18.1	-2.5
	comp=Z,3.1nm,0.6s,baz=241,slow=9.0,SNR=12						
TLY	Talaya	40.53	10	P	P	16 26 26.1	+0.4
	comp=Z,3.8nm,0.6s,baz=199,slow=5.5,SNR=4.1						
KURBB	Kurchatov Arra	40.58	345	P	P	16 26 26.6	+0.5
	comp=Z,16nm,0.7s,baz=158,slow=7.7,SNR=115						
KURBB				PcP	PcP	16 28 26.0	+0.3
	comp=Z,1.4nm,0.8s,baz=155,slow=3.3,SNR=4.3						
KURBB				ScP	ScP	16 32 03.6	+0.1
	comp=Z,1.8nm,0.7s,baz=164,slow=2.9,SNR=6.3						
KURK	Kurchatov	40.65	345	P	P	16 26 26.7	+0.1
KURK				IAmb	IAmb	16 26 28.1	
	comp=Z,21nm,0.9s						
GEYT	Alibeck	40.96	316	P	P	16 26 31.8	+2.3
	comp=Z,29nm,0.7s,baz=145,slow=8.8,SNR=60						
GEYT				pP	pP	16 26 58.8	+0.7
	comp=Z,5.1nm,0.6s,baz=144,slow=10,SNR=2.8						
GEYT				LR	LR	16 44 07.5	
	comp=Z,36nm,21.5s,baz=200,slow=37						
GYA0B	ALIBECK ARRAY	40.96	316	P	P	16 26 26.5	-3.0
PSA00	Pilbara Seismi	42.03	142	P	P	16 26 37.9	-0.4
PSA00				IAmb	IAmb	16 26 38.6	
	comp=Z,11nm,0.7s						
ZAA0	Zalesovo Array	42.56	352	P	P	16 26 43.0	+0.8
ZALV	Zalesovo Beam	42.56	352	P	P	16 26 42.6	+0.5
	comp=Z,44nm,0.6s,baz=176,slow=8.7,SNR=209						
ZALV				pP	pP	16 27 11.1	+0.7
	comp=Z,6.7nm,0.7s,baz=172,slow=7.5,SNR=2.2						
ZALV				ScP	ScP	16 32 09.7	-1.6
	comp=Z,0.7nm,0.5s,baz=148,slow=3.3,SNR=5.7						
ZALV				S	S	16 32 55.0	0.0
	comp=Z,0.8nm,0.6s,baz=157,slow=16,SNR=4.0						
FITZ	Fitzroy Crossi	43.41	133	P	P	16 26 49.3	-0.2
FITZ				IAmb	IAmb	16 26 50.2	
	comp=Z,15nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KNRA	**Kununurra**	**44.25**	**127**	P	**P**	**16 26 55.9**	**-0.4**
BVAR	**Borovoye Array**	**45.08**	**340**	P	**P**	**16 27 02.3**	**0.0**
	comp=Z,4.5nm,0.4s,baz=139,slow=8.6,SNR=63						
BVAR				pP	**pP**	**16 27 30.3**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=142,slow=8.6,SNR=2.6						
BVAR				ScP	**ScP**	**16 32 21.5**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=160,slow=4.7,SNR=6.8						
BVAR				S	**S**	**16 33 30.4**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=134,slow=8.3,SNR=2.7						
BRVK	**Borovoye**	**45.14**	**340**	P	**P**	**16 27 02.6**	**-0.2**
BRVK				IAmb	IAmb	16 27 03.7	
	comp=Z,13nm,0.7s						
MORW	**Morawa**	**46.09**	**152**	P	**P**	**16 27 10.8**	**+0.3**
MORW				IAmb	IAmb	16 27 12.5	
	comp=Z,11nm,0.8s						
ABKAR	**Akbulak array**	**46.53**	**330**	P	**P**	**16 27 14.6**	**+0.9**
ABKAR				IAmb	IAmb	16 27 14.9	
	comp=Z,7.9nm,0.6s						
ABKAR				PcP	**PcP**	**16 28 46.4**	**+0.4**
MJAR	**Matsushiro Arr**	**46.96**	**51**	P	**P**	**16 27 17.8**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=245,slow=5.2,SNR=3.6						
MJAR				pP	**pP**	**16 27 46.3**	**0.0**
	comp=Z,0.3nm,0.4s,baz=265,slow=10,SNR=3.2						
MJAR				ScP	**ScP**	**16 32 28.7**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=244,slow=3.1,SNR=7.5						
AKTO	**Aktyubinsk**	**48.24**	**330**	P	**P**	**16 27 27.1**	**+0.1**
	comp=Z,5.2nm,0.5s,baz=129,slow=7.1,SNR=19						
AKTO				ScP	**ScP**	**16 32 35.2**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=163,slow=2.8,SNR=4.7						
NWAO	**Narrogin (SRO)**	**49.92**	**154**	P	**P**	**16 27 39.7**	**-0.2**
	comp=Z,10nm,0.5s,baz=319,slow=6.7,SNR=14						
NWAO	**Narrogin (SRO)**	**49.92**	**154**	P	**P**	**16 27 39.9**	**-0.1**
NWAO				IAmb	IAmb	16 27 41.3	
	comp=Z,10nm,0.8s						
NWAO	**Narrogin (SRO)**	**49.92**	**154**	P	**P**	**16 27 39.8**	**-0.1**
NWAO				IAmb	IAmb	16 27 41.4	
	comp=Z,13nm,0.8s						
NWAO				PcP	**PcP**	**16 28 56.0**	**-2.4**
WB0	**Warramunga Arr**	**50.98**	**128**	P	**P**	**16 27 47.9**	**-0.3**
WB0				IAmb	IAmb	16 27 48.8	
	comp=Z,9.5nm,0.7s						
WRA	**Warramunga Arr**	**51.04**	**128**	P	**P**	**16 27 48.2**	**-0.4**
	comp=Z,7.9nm,0.6s,baz=307,slow=8.2,SNR=58						
WRA				pP	**pwP**	**16 28 19.7**	**-0.5**
	comp=Z,3.6nm,0.6s,baz=303,slow=8.9,SNR=5.3						
WRA				ScP	**ScP**	**16 32 46.4**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=310,slow=4.3,SNR=5.2						
WB2	**Warramunga Arr**	**51.05**	**128**	P	**P**	**16 27 48.6**	**-0.1**
WR0	**Warramunga Arr**	**51.21**	**128**	P	**P**	**16 27 48.1**	**-1.8**
WR0				IAmb	IAmb	16 27 50.2	
	comp=Z,7.9nm,0.7s						
ARU	**Arti**	**52.05**	**336**	P	**P**	**16 27 55.1**	**-0.5**
ARU				IAmb	IAmb	16 27 56.5	
	comp=Z,11nm,0.6s						
ASAJ	**Asahikawa**	**52.81**	**43**	P	**P**	**16 28 01.4**	**0.0**
	comp=Z,2.5nm,0.7s,baz=245,slow=5.0,SNR=4.5						
AS31	**Alice Springs**	**52.90**	**132**	P	**P**	**16 28 01.9**	**-0.5**
ASAR	**Alice Springs**	**52.90**	**132**	P	**P**	**16 28 02.2**	**-0.2**
	comp=Z,6.6nm,0.4s,baz=309,slow=6.9,SNR=329						
ASAR				pP	**pP**	**16 28 30.6**	**-1.2**
	comp=Z,2.2nm,0.7s,baz=305,slow=7.3,SNR=4.1						
ASAR				ScP	**ScP**	**16 32 54.8**	**-0.8**
	comp=Z,1.2nm,1.0s,baz=315,slow=5.1,SNR=4.4						
ASAR				S	**S**	**16 35 20.1**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=298,slow=13,SNR=7.1						
FORT	**Forrest**	**53.78**	**143**	P	**P**	**16 28 09.0**	**+0.3**
KBZ	**Khabaz**	**53.85**	**316**	P	**P**	**16 28 10.5**	**+1.5**
	comp=Z,1.3nm,0.4s,baz=127,slow=3.9,SNR=4.0						
OPO	**Ambohidratompo**	**54.88**	**237**	P	**P**	**16 28 19.2**	**+2.2**
	comp=Z,5.6nm,0.6s,baz=72,slow=3.4,SNR=15						
ABPO	**Ambohimpanom**	**55.07**	**237**	P	**P**	**16 28 18.8**	**+0.4**
ABPO				IAmb	IAmb	16 28 20.9	
	comp=Z,7.4nm,0.8s						
YAK	**Yakutsk**	**56.41**	**19**	P	**P**	**16 28 26.6**	**-0.5**
NRIK	**Noril'sk**	**57.56**	**357**	P	**P**	**16 28 34.5**	**-0.6**
	comp=Z,7.2nm,0.6s,baz=151,slow=5.7,SNR=12						
NRIK				ScP	**ScP**	**16 33 14.2**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=130,slow=5.1,SNR=3.7						
BRTR	**Keskin Array B**	**59.49**	**309**	P	**P**	**16 28 48.7**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=142,slow=8.6,SNR=6.3						
BRTR				ScP	**ScP**	**16 33 24.6**	**0.0**
	comp=Z,1.2nm,0.8s,baz=74,slow=9.1,SNR=4.3						
BBOO	**Buckleboo**	**60.12**	**139**	P	**P**	**16 28 52.3**	**-1.0**
BBOO				IAmb	IAmb	16 28 53.4	
	comp=Z,5.6nm,0.6s						
KLMR	**Klimovskoe**	**62.67**	**333**	*e*P	**P**	**16 29 08.6**	**-1.4**
KLMR				AMP		16 29 10.4	
	comp=Z,6.0nm,0.6s						
STKA	**Stephens Creek**	**63.24**	**135**	P	**P**	**16 29 14.2**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=333,slow=4.6,SNR=12						
STKA	**Stephens Creek**	**63.24**	**135**	P	**P**	**16 29 13.7**	**-0.5**
TIXI	**Tiksi**	**63.45**	**12**	P	**P**	**16 29 14.4**	**-0.6**
	comp=Z,11nm,0.4s,baz=184,slow=4.5,SNR=12						
TIXI	**Tiksi**	**63.45**	**12**	P	**P**	**16 29 14.0**	**-1.0**
AKASG	**Malin Array Be**	**64.75**	**321**	P	**P**	**16 29 23.5**	**-0.4**
	comp=Z,3.3nm,0.7s,baz=86,slow=5.0,SNR=9.7						
PETK	**Petropavlovsk-**	**65.11**	**37**	P	**P**	**16 29 25.2**	**-1.0**
	comp=Z,2.3nm,0.9s,baz=274,slow=2.3,SNR=5.7						
LVZ	**Lovozero**	**67.67**	**339**	P	**P**	**16 29 42.6**	**+0.4**
LVZ				IAmb	IAmb	16 29 42.7	
	comp=Z,12nm,0.9s						
KOLS	**Kolonicke sedl**	**68.90**	**318**	*e*P	**P**	**16 29 50.9**	**+0.7**
FINES	**FINESS Array B**	**68.97**	**332**	P	**P**	**16 29 50.4**	**0.0**
	comp=Z,5.3nm,0.6s,baz=106,slow=6.4,SNR=61						
TOO	**Toolangi**	**69.13**	**138**	P	**P**	**16 29 52.5**	**+0.7**
TOO				IAmb	IAmb	16 30 04.3	
	comp=Z,12nm,1.1s						
CRVS	**Cervenica-Dubn**	**69.43**	**318**	*e*P	**P**	**16 29 54.5**	**+1.0**
OJC	**Ojcow**	**70.63**	**319**	*e*P	**P**	**16 30 01.0**	**+0.2**
KEV	**Kevo**	**70.93**	**340**	P	**P**	**16 30 02.8**	**+0.6**
KEV				IAmb	IAmb	16 30 04.5	
	comp=Z,7.4nm,0.9s						
VYHS	**Vyhne**	**71.13**	**317**	*e*P	**P**	**16 30 04.3**	**+0.4**
ARCES	**ARCESS Array B**	**71.37**	**340**	P	**P**	**16 30 05.8**	**+0.9**
	comp=Z,5.3nm,0.5s,baz=93,slow=6.2,SNR=73						
ARE0	**ARCESS Array S**	**71.37**	**340**	P	**P**	**16 30 05.3**	**+0.4**
ARE0	**ARCESS Array S**	**71.37**	**340**	*e*P	**P**	**16 30 05.8**	**+0.9**
MORC	**Moravsky Berou**	**72.05**	**319**	P	**P**	**16 30 10.3**	**+0.9**
HAMF	**Hammerfest**	**72.27**	**341**	*e*P	**P**	**16 30 11.0**	**+0.7**
KRLC	**Kraliky**	**72.56**	**319**	*e*P	**P**	**16 30 13.1**	**+0.7**
DPC	**Dobruska-Polom**	**72.86**	**319**	*e*P	**P**	**16 30 15.5**	**+1.3**
TRO	**Tromso**	**73.63**	**339**	*e*P	**P**	**16 30 18.7**	**+0.4**
SOKA	**Soboth**	**73.65**	**315**	*i* P	**P**	**16 30 19.2**	**+0.2**
	comp=Z,2.8nm,0.8s						
OBKA	**Obir**	**73.99**	**315**	*i* P	**P**	**16 30 21.1**	**+0.1**
	comp=Z,3.6nm,1.0s						
PBCC	**Pribram**	**74.35**	**318**	*e*P	**P**	**16 30 23.5**	**+0.6**
BRG	**Berggiesshubel**	**74.39**	**320**	*i* P	**P**	**16 30 23.9**	**+0.9**
	comp=Z,4.1nm,0.8s						
GEC2	**GERESS Array S**	**74.54**	**318**	P	**P**	**16 30 23.3**	**-0.8**
GERES	**GERESS Array B**	**74.54**	**318**	P	**P**	**16 30 24.7**	**+0.6**
	comp=Z,3.2nm,0.6s,baz=83,slow=6.0,SNR=32						
GERES				pP	**pP**	**16 30 56.4**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=79,slow=6.9,SNR=3.4						
KHC	**Kasperske Hory**	**74.62**	**318**	*e*P	**P**	**16 30 24.9**	**+0.4**
FAUS	**Fauske**	**74.64**	**337**	*e*P	**P**	**16 30 24.6**	**+0.4**
PRED	**Cave del Predi**	**74.67**	**315**	P	**P**	**16 30 23.8**	**-1.1**
STEI	**Steigen**	**74.72**	**337**	*e*P	**P**	**16 30 25.0**	**+0.5**
STAL	**STALIGIAL**	**75.26**	**315**	P	**P**	**16 30 26.1**	**-2.2**
LOF	**Lofoten**	**75.37**	**338**	*e*P	**P**	**16 30 28.3**	**-0.1**
CIMO	**Cimolais**	**75.45**	**315**	P	**P**	**16 30 28.1**	**-1.2**
CIMO				IAmb	IAmb	16 30 30.1	
	comp=Z,6.9nm,0.8s						
LBTB	**Lobatse**	**75.73**	**240**	P	**P**	**16 30 31.8**	**+0.5**
NSS	**Namsos**	**75.78**	**334**	*e*P	**P**	**16 30 31.4**	**+0.6**
NC405	**NORSAR Array S**	**75.79**	**330**	P	**P**	**16 30 31.2**	**+0.3**
HSPB	**Hornsund (broa**	**75.84**	**347**	*e*P	**P**	**16 30 31.6**	**+0.8**
SPA0	**Spitsbergen Ar**	**75.85**	**348**	P	**P**	**16 30 30.9**	**-0.1**
SPA0				IAmb	IAmb	16 30 32.4	
	comp=Z,24nm,1.0s						
SPA0	**Spitsbergen Ar**	**75.85**	**348**	*e*P	**P**	**16 30 31.7**	**+0.7**
NC602	**NORSAR Array S**	**75.87**	**330**	P	**P**	**16 30 30.6**	**-0.7**
NC602				IAmb	IAmb	16 30 31.8	
	comp=Z,8.9nm,0.8s						
NC602	**NORSAR Array S**	**75.87**	**330**	*e*P	**P**	**16 30 31.2**	**-0.2**
NC303	**NORSAR Array S**	**75.96**	**330**	P	**P**	**16 30 31.7**	**-0.2**
NC303				IAmb	IAmb	16 30 43.4	
	comp=Z,13nm,1.1s						
WTTA	**Wattenberg**	**75.97**	**316**	*i* P	**P**	**16 30 31.9**	**-0.5**
	comp=Z,3.9nm,0.7s						
WATA	**Walderalm**	**76.00**	**316**	*i* P	**P**	**16 30 31.2**	**-1.3**
	comp=Z,3.8nm,0.9s						
NB2	**NORSAR Subarra**	**76.03**	**330**	P	**P**	**16 30 32.1**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=92,slow=5.3						
NB2	**NORSAR Subarra**	**76.03**	**330**	P	**P**	**16 30 32.1**	**-0.2**
	baz=92,slow=5.3						
NOA	**NORSAR Array B**	**76.03**	**330**	P	**P**	**16 30 32.2**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=91,slow=5.7,SNR=9.3						
NBO00	**NORSAR Array S**	**76.25**	**330**	P	**P**	**16 30 33.5**	**0.0**
NBO00				IAmb	IAmb	16 30 42.7	
	comp=Z,9.2nm,1.0s						
SQTA	**Sankt Quirin**	**76.26**	**316**	*i* P	**P**	**16 30 33.3**	**-0.7**
	comp=Z,3.4nm,0.6s						
MOTA	**Moosalm**	**76.33**	**316**	*i* P	**P**	**16 30 33.5**	**-0.9**
	comp=Z,3.5nm,0.8s						
RETA	**Reutte**	**76.55**	**316**	*i* P	**P**	**16 30 35.2**	**-0.4**
	comp=Z,3.5nm,0.6s						
FETA	**Feichten**	**76.60**	**316**	*i* P	**P**	**16 30 35.7**	**-0.3**
	comp=Z,3.5nm,1.1s						
KBS	**Kingsbay**	**76.83**	**349**	*e*P	**P**	**16 30 37.2**	**+0.7**
FUORN	**Ofenpass-Fuorn**	**76.94**	**315**	P	**P**	**16 30 37.9**	**-0.1**
DOMB	**Dombas**	**77.06**	**331**	*e*P	**P**	**16 30 38.6**	**+0.5**
BOSA	**Boshof**	**77.29**	**237**	P	**P**	**16 30 41.1**	**+1.1**
	comp=Z,3.6nm,0.5s,baz=67,slow=3.2,SNR=14						
BOSA	**Boshof**	**77.29**	**237**	P	**P**	**16 30 41.2**	**+1.2**
SKAR	**Skarslia**	**77.46**	**330**	*e*P	**P**	**16 30 40.2**	**-0.1**
NOR	**Nord**	**81.25**	**352**	*i* P	**P**	**16 31 00.2**	**-0.3**
	comp=Z,6.5nm,0.8s						
SUR	**Sutherland**	**82.19**	**235**	P	**P**	**16 31 06.3**	**-0.2**
MAW	**Mawson**	**82.31**	**191**	P	**P**	**16 31 06.9**	**+0.8**
	comp=Z,4.1nm,0.9s,baz=355,slow=6.0,SNR=6.9						
MAW	**Mawson**	**82.31**	**191**	P	**P**	**16 31 05.8**	**-0.3**
ESDC	**Sonseca Array**	**88.27**	**310**	P	**P**	**16 31 37.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=38,slow=3.9,SNR=2.1						
SYO	**Syowa Base**	**89.05**	**197**⇓	*e*X	**P**	**16 31 38.0**	**-1.3**
SYO	**Syowa Base**	**89.05**	**197**⇓	*e*PcP	**PcP**	**16 31 40.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**89.19**	**283**	P	**P**	**16 31 41.6**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=181,slow=23,SNR=3.8						
SUMG	**Summit**	**90.17**	**347**	*i* P	**P**	**16 31 46.0**	**+0.9**
	comp=Z,7.6nm,0.8s						
ILAR	**Eielson Array**	**91.26**	**22**	P	**P**	**16 31 48.4**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=302,slow=4.9,SNR=9.2						
INK	**Inuvik**	**93.32**	**16**	P	**P**	**16 31 59.1**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=278,slow=3.0,SNR=4.5						
INK	**Inuvik**	**93.32**	**16**	P	**P**	**16 31 59.4**	**+0.2**
INK				IAmb	IAmb	16 32 10.0	
	comp=Z,3.2nm,1.1s						
PDAR	**Pinedale Array**	**121.63**	**20**	SKP	**SKPdf**	**16 41 02.4**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=27,slow=0.2,SNR=6.1						
NVAR	**Mina Array Bea**	**121.74**	**29**	SKP	**SKPdf**	**16 41 03.6**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=294,slow=2.4,SNR=5.9						
TXAR	**Lajitas Array**	**135.78**	**22**	PKP	**PKPdf**	**16 38 04.6**	**-0.9**
	comp=Z,0.4nm,1.0s,baz=270,slow=0.7,SNR=2.0						
TXAR				SKPbc	**SKPbc**	**16 41 25.9**	**+0.4**
	comp=Z,3.3nm,1.0s,baz=314,slow=2.1,SNR=22						
PLCA	**Paso Flores**	**148.04**	**203**	PKPbc	**PKPbc**	**16 38 30.9**	**+0.7**
	comp=Z,5.7nm,0.9s,baz=194,slow=4.9,SNR=4.9						
CPUP	**Villa Florida**	**149.10**	**238**	PKPbc	**PKPbc**	**16 38 33.4**	**+0.2**
	comp=Z,3.2nm,0.6s,baz=12,slow=2.9,SNR=5.8						

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*IDC **02** 16:31:44.7±1.6, 10°.56S×118°.63E, h0km, mb4.0/3, mb1 3.9/7, mb1mx3.6/44, mbtmp3.9/7, ML3.8/4, MS3.6/1, Ms1 3.6/1, ms1mx2.5/33, Error ellipse: s-maj=51.3km s-min=22.1km az=50.0*

*DJA **02** 16:31:51.9±0.6, 10°S±4°×11°9E±°, h14km±3km, M4.0/12, mb4.2/2, MLv3.9/12*

ISC 02 16:31:51.7±0.9**, 10°.30S**±0°.07×**119°.10E**±0°.04**, h41**km**, n22, σ2.s27**/26**, mb4.0**/3**, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.71**	**23**	P	**Pn**	**16 32 03.9**	**-1.4**
WBSI				S	**Sn**	**16 32 10.6**	**-4.6**
WSI	**Waingapu**	**1.33**	**62**	P	**Pn**	**16 32 15.0**	**+1.2**
BASI	**Baing, Sumba**	**1.45**	**87**	P	**Pn**	**16 32 17.4**	**+1.9**
BASI				S	**Sn**	**16 32 36.6**	**+3.3**
PLAI	**Plampang**	**1.96**	**318**	P	**Pn**	**16 32 23.6**	**+1.1**
PLAI				S	**Sn**	**16 32 47.6**	**+1.7**
TWSI	**Taliwang, Sumb**	**2.68**	**305**	P	**Pn**	**16 32 34.8**	**+2.4**
TWSI				S	**Sn**	**16 33 06.2**	**+2.5**
EDFI	**Ende, Flores**	**2.98**	**59**	P	**Pn**	**16 32 37.3**	**+0.8**
EDFI				S	**Sn**	**16 33 12.4**	**+1.3**
MMRI	**Maumere**	**3.50**	**62**	P	**Pn**	**16 32 44.9**	**+1.2**
MMRI				S	**Sn**	**16 33 25.2**	**+1.2**
DNP	**Denpasar**	**4.17**	**292**	P	**Pn**	**16 32 54.7**	**+2.0**
BATI	**Baumata**	**4.49**	**89**	Pn	**Pn**	**16 32 59.3**	**+2.1**
	8.2nm,0.3s,baz=293,slow=11,SNR=9.4						
BATI				Sn	**Sn**	**16 33 50.0**	**+1.7**
	7.3nm,0.3s,baz=47,slow=21,SNR=7.1						
BATI	**Baumata**	**4.49**	**89**	P	**Pn**	**16 32 59.6**	**+2.4**
JAGI	**Jajag, Banyuwa**	**5.21**	**290**	P	**Pn**	**16 33 04.6**	**-2.6**
KAPI	**Kappang**	**5.29**	**7**	Pn	**Pn**	**16 33 11.4**	**+3.2**
	3.4nm,0.3s,baz=33,slow=2.1,SNR=13						
KAPI				Sn	**Sn**	**16 34 11.2**	**+3.3**
	1.7nm,0.3s,baz=255,slow=20,SNR=1.4						
FITZ	**Fitzroy Crossi**	**10.01**	**141**	Pn	**Pn**	**16 34 11.2**	**-1.8**
	0.4nm,0.3s,baz=328,slow=12,SNR=12						
FITZ				Sn	Sn	16 35 54.7	-9.4
	0.6nm,0.3s,baz=171,slow=23,SNR=8.6						
WRA	**Warramunga Arr**	**17.54**	**125**	P	**Pn**	**16 35 50.8**	**-2.6**
	0.1nm,0.3s,baz=294,slow=14,SNR=5.6						
WRA				S	Sn	16 38 53.4	-14
	0.1nm,0.3s,baz=295,slow=24,SNR=2.0						
ASAR	**Alice Springs**	**19.39**	**135**	P	**P**	**16 36 15.1**	**+0.7**
	0.1nm,0.3s,baz=309,slow=11,SNR=9.0						
ASAR				S	S	16 39 37.7	-14
	0.0nm,0.3s,baz=307,slow=21,SNR=2.6						
H08S2	**Diego Garcia H**	**46.09**	**269**	T	T	17 29 44.7	
	baz=95						
H08S3	**Diego Garcia H**	**46.10**	**269**	T	T	17 29 44.0	
	baz=95						
H08S1	**Diego Carcia H**	**46.10**	**269**	T	T	17 29 43.0	
	baz=95						
USRK	**Ussuriysk Ar.**	**55.49**	**11**	LR	LR	17 03 56.8	
	comp=Z,53nm,21.9s,baz=176,slow=35						
SONM	**Songino Array**	**58.97**	**350**	P	**P**	**16 41 47.2**	**+0.2**
	0.9nm,0.5s,baz=163,slow=8.8,SNR=6.0						
MKAR	**Makanchi Array**	**65.65**	**333**	P	**P**	**16 42 31.8**	**0.0**
	0.8nm,0.5s,baz=154,slow=7.4,SNR=11						
ZALV	**Zalesovo Beam**	**70.28**	**339**	P	**P**	**16 42 58.7**	**-1.9**
	0.9nm,0.5s,baz=163,slow=6.2,SNR=4.1						

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*AEIC **02** 16:37:42.7±2.2, 51°.99N±0°.10×173°.13W±0°.07, h51km±7km, ML3.6/26, mb3.6/18(NEIC), Error ellipse: s-maj=14.2km s-min=6.1km az=174.0*

*NEIC **02** 16:37:44.2±2.4, 52°.3N±0°.2×173°.32W±0°.09, h51km±8km, Error ellipse: s-maj=24.6km s-min=6.2km az=166.0*

*IDC **02** 16:38:00.5±8.1, 52°.54N×173°.33W, h198km±76km, mb3.1/4, mb1 3.4/6, mb1mx2.9/56, mbtmp3.7/6, MS3.1/3, Ms1 3.2/3, ms1mx2.7/17, Error ellipse: s-maj=47.9km s-min=34.2km az=164.0*

ISC 02 16:37:44.4±0.8**, 52°.2N**±0°.2×**173°.25W**±0°.05**, h56**km**, n61, σ1.s41**/54**, mb3.6**/4**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**0.50**	**284**		**Pn**	**16 37 56.0**	**-0.2**
KOFP	**Korovin Flat P**	**0.52**	**276**		**Pn**	**16 37 55.6**	**-0.8**
KONE	**Korovin Northe**	**0.56**	**288**		**Pn**	**16 37 56.9**	**+0.1**
ATKA	**Atka Island**	**0.58**	**268**		**Pn**	**16 37 55.2**	**-1.8**
ATKA				Sn	**Sn**	**16 38 04.7**	**-1.3**
KONW	**Korovin Northw**	**0.61**	**287**		**Pn**	**16 37 57.4**	**0.0**
GSTR	**Great Sitkin T**	**1.73**	**267**	Pn	**Pn**	**16 38 11.4**	**-0.8**
GSMY	**Great Sitkin M**	**1.74**	**265**		**Pn**	**16 38 10.7**	**-1.5**
GSTD	**Great Sitkin T**	**1.79**	**266**		**Pn**	**16 38 11.6**	**-1.4**
GSTD					**Sn**	**16 38 33.7**	**-1.0**
ETKA	**Kagalaska Isla**	**1.98**	**261**		**Pn**	**16 38 14.3**	**-1.2**
ADK	**Adak**	**2.15**	**262**	Pn	**Pn**	**16 38 16.5**	**-1.3**
ADK				Sn	**Sn**	**16 38 40.8**	**-2.4**
KIKV	**Kanaga Island**	**2.44**	**263**		**Pn**	**16 38 21.1**	**-0.8**
KICM	**Kanaga Island**	**2.45**	**264**		**Pn**	**16 38 21.3**	**-0.7**
KIMD	**Kanaga Island**	**2.50**	**261**		**Pn**	**16 38 21.4**	**-1.3**
NIKH	**Nikolski High**	**2.79**	**73**		**Pn**	**16 38 25.8**	**-0.7**
NIKH	**Nikolski High**	**2.79**	**73**		**Sn**	**16 38 55.5**	**-3.4**
TAFP	**Tanaga Falls P**	**2.94**	**266**		**Pn**	**16 38 28.2**	**-0.5**
TAFP					**Sn**	**16 39 02.9**	**+0.2**
TASE	**Tanaga Southea**	**2.98**	**264**		**Pn**	**16 38 28.3**	**-0.9**
OKWR	**Okmok West Rim**	**3.29**	**66**		**Pn**	**16 38 32.6**	**-1.0**
MSW	**Makushin Switc**	**4.25**	**64**		**Pn**	**16 38 45.0**	**-1.6**
UNV	**Unalaska Valle**	**4.39**	**66**	Pn	**Pn**	**16 38 50.8**	**+2.3**
CESW	**Semis' Southwe**	**4.44**	**269**		**Pn**	**16 38 48.4**	**-0.9**
AMKA	**Amchitka**	**4.70**	**263**	Pn	**Pn**	**16 38 53.1**	**+0.4**
AKUT	**Akutan**	**4.89**	**64**	Pn	**Pn**	**16 38 57.5**	**+2.1**
LSPA	**Little Sitkin**	**5.05**	**270**		**Pn**	**16 38 57.4**	**-0.1**
SII	**Sitkinak Islan**	**11.92**	**61**	Pn	**Pn**	**16 40 31.6**	**+0.1**
KDAK	**Kodiak Island**	**13.08**	**57**	P	**P**	**16 40 58.1**	**+2.4**
	1.6nm,0.3s,baz=279,slow=3.0,SNR=28						
KDAK				LR	LR	16 46 57.3	
	comp=Z,85nm,18.1s,baz=289,slow=42						
RSO	**Redoubt South**	**13.99**	**46**	Pn	**Pn**	**16 40 57.4**	**-2.4**
BPAW	**Bear Paw Mtn.**	**16.60**	**36**	Pn	**Pn**	**16 41 33.0**	**-0.1**
BPAW				IAmb	IAmb	16 41 52.5	
	comp=Z,4.7nm,0.9s						
HIN	**Hinchinbrook I**	**16.84**	**50**		**Pn**	**16 41 36.2**	**0.0**
HIN				IAmb	IAmb	16 41 43.3	
	comp=Z,11nm,1.3s						
SCM	**Sheep Creek Mo**	**16.96**	**45**		**P**	**16 41 38.9**	**0.0**
SCM				IAmb	IAmb	16 41 43.3	
	comp=Z,3.3nm,1.0s						
FID	**Port Fidalgo**	**16.96**	**49**		**Pn**	**16 41 37.0**	**-0.6**
FID				IAmb	IAmb	16 41 52.7	
	comp=Z,3.7nm,0.9s						
RND	**Reindeer**	**17.03**	**39**		**Pn**	**16 41 38.8**	**+0.4**
RND				IAmb	IAmb	16 41 43.2	
	comp=Z,2.9nm,1.1s						
WRH	**Wood River Hil**	**17.86**	**37**		**P**	**16 41 46.4**	**-2.3**
CCB	**Clear Creek Bu**	**18.06**	**37**		**P**	**16 41 49.4**	**-1.5**
MDM	**Murphy Dome**	**18.07**	**35**	P	**P**	**16 41 50.5**	**-0.5**
PAX	**Paxson**	**18.20**	**43**	P	**P**	**16 41 49.6**	**-2.9**
PAX				IAmb	IAmb	16 41 51.8	
	comp=Z,4.9nm,0.6s						
HDA	**Harding Lake**	**18.26**	**38**		**Pn**	**16 41 54.5**	**+1.1**
HDA				IAmb	IAmb	16 41 59.2	
	comp=Z,5.0nm,1.3s						
GLB	**Gilahina Butte**	**18.41**	**48**	P	**Pn**	**16 41 55.0**	**-0.4**
GLB				IAmb	IAmb	16 42 10.6	
	comp=Z,2.7nm,0.9s						
IL31		**18.46**	**37**	Pn	**Pn**	**16 41 57.1**	**+1.3**
ILAR	**Eielson Array**	**18.46**	**37**	P	**Pn**	**16 41 57.1**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=228,slow=9.2,SNR=12						
RIDG	**Independent Ri**	**18.77**	**41**	Pn	**Pn**	**16 42 00.1**	**+0.3**
RIDG				IAmb	IAmb	16 42 02.5	
	comp=Z,5.2nm,1.3s						
DOT	**Dot Lake**	**19.06**	**42**		**Pn**	**16 42 02.7**	**-0.4**
YKU2	**Yakutat**	**20.03**	**55**	P	**P**	**16 42 11.1**	**-1.3**
EGAK	**Eagle**	**20.67**	**40**	P	Pn	16 42 21.1	-0.9
EGAK				IAmb	IAmb	16 42 22.8	
	comp=Z,4.2nm,0.7s						
BESE	**Bessie Mountai**	**22.46**	**58**	P	**P**	**16 42 38.3**	**-0.4**
INK	**Inuvik**	**24.80**	**35**	P	**P**	**16 43 02.5**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=256,slow=4.2,SNR=6.8						
ERM	**Erimo**	**30.93**	**268**	P	**P**	**16 43 57.5**	**+1.7**
YKA	**Yellowknife Ar**	**32.13**	**48**	LR	LR	16 58 51.9	
	comp=Z,31nm,18.9s,baz=0.0,slow=39						
H11N2	**WAKE ISLAND Hy**	**35.94**	**213**	T	T	17 22 38.6	
	baz=21,slow=76,SNR=204						
H11N3	**WAKE ISLAND Hy**	**35.95**	**213**	T	T	17 22 39.2	
	baz=21,slow=76,SNR=233						
H11N1	**WAKE ISLAND Hy**	**35.96**	**213**	T	T	17 22 41.7	
	baz=21,slow=76,SNR=252						
H11S1	**WAKE ISLAND Hy**	**37.14**	**213**	T	T	17 24 06.8	
	baz=27,slow=74						
H11S2	**WAKE ISLAND Hy**	**37.16**	**213**	T	T	17 24 02.6	
	baz=27						
H11S3	**WAKE ISLAND Hy**	**37.16**	**213**	T	T	17 24 34.3	
	baz=27,slow=74						
MCMT	**McKenzie Canyo**	**39.64**	**76**	P	**P**	**16 45 11.2**	**+0.5**
NVAR	**Mina Array Bea**	**40.05**	**88**	P	**P**	**16 45 16.8**	**+2.6**
	comp=Z,0.1nm,0.5s,baz=291,slow=7.6,SNR=2.2						
NVAR				LR	LR	16 59 56.4	
	comp=Z,32nm,19.7s,baz=277,slow=33						
PDAR	**Pinedale Array**	**42.77**	**76**	P	**P**	**16 45 37.9**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=309,slow=3.2,SNR=12						
ASAR	**Alice Springs**	**88.51**	**227**	P	**P**	**16 50 31.1**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=26,slow=5.4,SNR=9.6						
H03N2	**Juan Fernandez**	**118.11**	**109**	T	T	19 05 15.5	
	baz=317,slow=77,SNR=15						
H03N1	**Juan Fernandez**	**118.12**	**109**	T	T	19 05 16.9	
	baz=317,slow=77,SNR=16						
H03N3	**Juan Fernandez**	**118.13**	**109**	T	T	19 05 10.8	
	baz=317,slow=77,SNR=15						

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*JMA **02** 16:41:19.1, 23°.72N×121°.56E, h34km, M3.3*

*TAP **02** 16:41:19.9, 23°.77N×121°.59E, h28km, ML3.6, C*

*NEIC **02** 16:41:20.0±2.4, 23°.71N±0°.05×121°.60E±0°.06, h42km±11km, mb4.3/7, ML4.0(TAP), Error ellipse: s-maj=8.7km s-min=6.1km az=112.0*

ISC 02 16:41:19.3±0.8**, 23°.75N**±0°.02×**121°.63E**±0°.02**, h30**km±5km**, n133, σ0.s98**/191**, mb4.4**/5**, 1C-14D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.19**	**290**⇓	*i*P	**Pb**	**16 41 25.3**	**-0.1**
	baz=281						
ESL				*e*S	**Sb**	**16 41 28.9**	**-0.7**
	baz=281						
EGFH	**Guangfu**	**0.20**	**247**	*e*P	**Pb**	**16 41 25.7**	**+0.2**
	baz=244						
EGFH				*e*S	**Sb**	**16 41 29.6**	**-0.2**
	baz=244						
HWA	**Hwalien**	**0.23**	**354**	P	**Pb**	**16 41 26.4**	**+0.6**
	baz=12						
HWA				*e*S	**Sb**	**16 41 31.9**	**+1.6**
	baz=12						
HGSD	**Ruisui**	**0.32**	**217**	P	**Pn**	**16 41 28.0**	**+0.1**
	baz=205						
HGSD				S	**Sn**	**16 41 34.3**	**+0.8**
	baz=205						
TWD	**Chiawan**	**0.33**	**354**	P	**Pb**	**16 41 27.5**	**+0.3**
	baz=351						
TWD				*e*S	**Sn**	**16 41 33.2**	**-0.7**
	baz=351						
EHY	**Hungye**	**0.37**	**230**	P	**Pb**	**16 41 27.5**	**-0.2**
	baz=230						
EHY				*e*S	**Sb**	**16 41 32.7**	**-0.8**
	baz=230						
VWDT	**VWDT**	**0.45**	**271**⇓	*i*P	**Pb**	**16 41 29.1**	**+0.2**
	baz=269						
VWDT				*e*S	**Sb**	**16 41 35.1**	**-0.4**
	baz=269						
OWD	**Renai**	**0.47**	**296**⇓	*i*P	**Pb**	**16 41 29.1**	**-0.2**
	baz=303						
OWD				*e*S	**Sb**	**16 41 35.5**	**-0.6**
	baz=303						
ETLH	**Xiulin Townshi**	**0.48**	**343**⇓	*i*P	**Pb**	**16 41 29.3**	**-0.2**
	baz=338						
ETLH				*e*S	**Sb**	**16 41 36.0**	**-0.4**
	baz=338						
TWF1	**Yuli**	**0.50**	**218**	*i* P	**Pb**	**16 41 29.6**	**-0.2**
	baz=223						
TWF1				*e*S	**Sb**	**16 41 36.6**	**-0.3**
	baz=223						
WHF	**Hehuan Shan**	**0.52**	**320**⇓	*i*P	**Pb**	**16 41 29.8**	**-0.5**
	baz=322						
WHF				*e*S	**Sb**	**16 41 37.1**	**-0.7**
	baz=322						
CHGB	**Renai**	**0.52**	**307**⇓	*i*P	**Pb**	**16 41 30.1**	**-0.1**
	baz=313						
CHGB				*e*S	**Sb**	**16 41 37.2**	**-0.5**
	baz=313						
FUSS	**Fushou**	**0.61**	**325**⇓	*i*P	**Pb**	**16 41 31.6**	**-0.1**
	baz=326						
FUSS				*e*S	**Sb**	**16 41 39.6**	**-0.5**
	baz=326						
SSLB	**Suanglung**	**0.62**	**274**⇓	*i*P	**Pb**	**16 41 31.2**	**-0.5**
	baz=272						
SSLB				*e*S	**Sb**	**16 41 38.8**	**-1.4**
	baz=272						
SSLB	**Suanglung**	**0.62**	**274**		**Pb**	**16 41 30.9**	**-0.8**
FULB	**Fuli**	**0.63**	**210**⇑	*i*P	**Pb**	**16 41 32.2**	**+0.3**
	baz=218						
TDCB	**Techi**	**0.66**	**319**⇓	*i*P	**Pb**	**16 41 32.5**	**0.0**
	baz=320						
TDCB				*e*S	**Sb**	**16 41 40.7**	**-0.9**
	baz=320						
ENA	**Nanau**	**0.68**	**8**⇓	*i*P	**Pb**	**16 41 32.9**	**+0.1**
	baz=359						
ENA				*e*S	**Sn**	**16 41 42.6**	**0.0**
	baz=359						
SMLT	**Sun Moon Lake**	**0.68**	**281**⇓	*i*P	**Pb**	**16 41 32.5**	**-0.3**
	baz=285						
SMLT				*e*S	**Sb**	**16 41 41.9**	**-0.2**
	baz=285						
CHKT	**Chengkung**	**0.69**	**201**	*e*P	**Pn**	**16 41 33.4**	**+0.4**
	baz=210						
CHKT				*e*S	**Sn**	**16 41 43.7**	**+1.0**
	baz=210						
DPDB	**Guoxing**	**0.70**	**294**⇓	*i*P	**Pb**	**16 41 33.0**	**-0.1**
	baz=298						
DPDB				*e*S	**Sb**	**16 41 42.5**	**-0.1**
	baz=298						
NNSB	**Datong**	**0.71**	**341**⇓	*i*P	**Pb**	**16 41 33.1**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=343						
NNSB				eS	Sb	16 41 41.6	-1.3
	baz=343						
NNSH	Datong	0.71	341	iP	Pb	16 41 33.1	-0.2
	baz=343						
NNSH				eS	Sb	16 41 42.0	-1.0
	baz=343						
WHYT	Xinyi Township	0.72	266	eP	Pb	16 41 33.5	+0.2
	baz=264						
WHYT				eS	Sb	16 41 42.2	-0.7
	baz=264						
ENAH	Nanao	0.72	13	eP	Pn	16 41 33.9	+0.5
	baz=24						
TYC	Yuchr	0.73	282	⇓iP	Pb	16 41 33.2	-0.3
	baz=286						
TYC				eS	Sb	16 41 43.0	-0.1
	baz=286						
NNS	Nan Shan	0.73	341	P	Pb	16 41 33.3	-0.3
	baz=343						
NNS				eS	Sb	16 41 43.0	-0.4
	baz=343						
ELDTW	Lidau	0.79	226	eP	Pb	16 41 33.7	-1.0
	baz=215						
ALS	Alishan	0.79	253	iP	Pb	16 41 35.0	+0.2
	baz=251						
ALS				eS	Sb	16 41 45.1	-0.2
	baz=251						
WHP	Taichung City	0.82	310	P	Pb	16 41 35.0	-0.1
	baz=310						
WHP				eS	Sb	16 41 45.5	-0.3
	baz=310						
EDH	Donghe	0.83	201	eP	Pb	16 41 34.9	-0.2
	baz=211						
WJS	Zhushan	0.83	275	eP	Pn	16 41 35.8	+0.9
	baz=274						
WJS				eS	Sn	16 41 47.2	+1.0
	baz=274						
NDT	Datong Townshi	0.86	353	eP	Pb	16 41 35.3	-0.4
	baz=355						
WNT	Mingjian	0.88	279	iP	Pn	16 41 36.7	+1.1
	baz=278						
WNT				eS	Sn	16 41 48.6	+1.3
	baz=278						
TWC	Suao	0.88	13	eP	Pn	16 41 36.6	+1.0
	baz=24						
TWC				eS	Sn	16 41 48.9	+1.5
	baz=24						
CHN5	Tsauling	0.89	260	P	Pn	16 41 36.7	+0.9
	baz=252						
CHN5				eS	Sn	16 41 48.8	+1.1
	baz=252						
ENTT	Nioudou	0.89	356	eP	Pb	16 41 35.9	-0.3
	baz=359						
YHNB	Yeheng	0.95	346	iP	Pb	16 41 37.1	-0.2
	baz=356						
YHNB				eS	Sb	16 41 49.0	-0.4
	baz=356						
YHNB	Yeheng	0.95	346		Pb	16 41 37.0	-0.2
LONT	Longtian	0.96	209	eP	Pb	16 41 35.6	-1.7
	baz=206						
NSK	Sanguang	0.96	345	iP	Pb	16 41 37.2	-0.2
	baz=356						
NSK				eS	Sb	16 41 48.7	-1.0
	baz=356						
TCU	Taichung	0.96	295	eP	Pn	16 41 38.2	+1.4
	baz=294						
TCU				eS	Sn	16 41 51.0	+1.6
	baz=294						
TWE	Neicheng	0.97	2	eP	Pb	16 41 37.1	-0.4
	baz=354						
TWE				eS	Sn	16 41 50.7	+1.1
	baz=354						
WGK	Gukeng	0.98	267	eP	Pn	16 41 38.2	+1.2
	baz=266						
WGK				eS	Sn	16 41 51.4	+1.5
	baz=266						
WDLH	Douliu	1.00	267	eP	Pn	16 41 38.7	+1.4
	baz=266						
TPUB	Ta-pu	1.02	244	eP	Pn	16 41 38.7	+1.1
	baz=232						
TPUB	Ta-pu	1.02	244		Pn	16 41 38.8	+1.2
NWLT	Wulai	1.03	353	eP	Pb	16 41 38.0	-0.6
	baz=355						
WCHH	Zhanghua	1.04	289	eP	Pb	16 41 39.2	+0.5
	baz=300						
NSY	Sanyi	1.04	310	eP	Pn	16 41 39.6	+1.7
	baz=311						
NSTT	Nanjuang	1.05	327	eP	Pb	16 41 39.1	+0.2
	baz=321						
NSTT				eS	Sb	16 41 52.0	-0.3
	baz=321						
LIOB	Emei	1.06	328	eP	Pb	16 41 39.5	+0.5
	baz=329						
TWGBT	Beinan	1.06	209	eP	Pn	16 41 37.2	-0.9
	baz=192						
TWG	Pinlang	1.06	209	eP	Pn	16 41 37.1	-1.0
	baz=192						
TWG	Pinlang	1.06	209		Pn	16 41 37.1	-1.0
WTP	Ta-pu	1.06	242	eP	Pb	16 41 39.4	+0.4
	baz=248						
WTP				eS	Sn	16 41 54.0	+2.1
	baz=248						
LDUT	Ludao	1.08	188	eP	Pn	16 41 37.9	-0.5
	baz=176						
WDJ	Dajia District	1.08	304	eP	Pb	16 41 39.8	+0.4
	baz=317						
WDJ				eS	Sn	16 41 55.2	+2.7
	baz=317						
PTSB	Yuanli	1.10	310	P	Pb	16 41 40.3	+0.7
	baz=309						
PTSB				eS	Sn	16 41 55.0	+2.2
	baz=309						
NMLH	Miaoli	1.10	316	eP	Pb	16 41 40.2	+0.5
	baz=315						
NMLH				eS	Sn	16 41 54.5	+1.7
	baz=315						
CHY	Chiayi	1.14	258	eP	Pb	16 41 40.7	+0.3
	baz=256						
CHY				eS	Sn	16 41 55.1	+1.4
	baz=256						
WTK	Tuku	1.14	267	P	Pb	16 41 41.1	+0.7
	baz=267						
WTK				eS	Sn	16 41 56.4	+2.6
	baz=267						
WLTB	Daxi	1.15	343	eP	Pb	16 41 41.4	+0.8
	baz=355						
TWK	Hsinying	1.15	246	P	Pb	16 41 40.9	+0.2
	baz=244						
TWK				eS	Sn	16 41 56.2	+1.9
	baz=244						
CHN1	Nanshi	1.16	241	P	Pb	16 41 41.3	+0.6
	baz=240						
CHN1				eS	Sn	16 41 56.1	+1.7
	baz=240						
SNST	Tainan City	1.17	243	P	Pb	16 41 41.3	+0.4
	baz=242						
RLNB	Erlin	1.17	277	P	Pb	16 41 41.2	+0.3
	baz=277						
RLNB				eS	Sn	16 41 57.2	+2.5
	baz=277						
SLGT	Liugui	1.18	231	P	Pb	16 41 41.3	+0.3
	baz=229						
SBCB	Hsinchu	1.20	331	eP	Pb	16 41 42.2	+0.9
	baz=332						
NHDH	Xindian Distri	1.21	355	eP	Pb	16 41 41.5	-0.2
	baz=357						
TWA	Mucha	1.23	358	eP	Pb	16 41 41.5	-0.4
	baz=10.0						
TATO	Taipei	1.23	354		Pb	16 41 41.9	0.0
TIPB	Shuangxi	1.23	8	eP	Pb	16 41 41.6	-0.3
	baz=359						
WTCT	Ta-ch'eng	1.24	276	eP	Pb	16 41 42.8	+0.7
	baz=275						
WLGB	Puzi	1.25	258	eP	Pb	16 41 42.5	+0.2
	baz=257						
NCUH	Zhongli	1.28	342	eP	Pb	16 41 43.1	+0.3
	baz=343						
TWB1	Santiao Chiao	1.30	14	eP	Pb	16 41 43.0	-0.1
	baz=1.0						
ICHU	Yijhu	1.30	253	P	Pb	16 41 43.0	-0.1
	baz=252						
ICHU				eS	Sb	16 41 59.8	+0.4
	baz=252						
ECL	Taimali	1.30	209	eP	Pn	16 41 41.7	+0.2
	baz=195						
WFSB	Wu-fen Shan	1.32	6	eP	Pb	16 41 43.2	-0.3
	baz=7.0						
SCST	Cishan	1.35	231	eP	Pb	16 41 44.1	+0.1
	baz=244						
SSD	Sandimen	1.36	223	eP	Pb	16 41 43.6	-0.5
	baz=221						
SSD				eS	Sb	16 42 02.4	+1.3
	baz=221						
TWS1	Kuangyinshan	1.36	352	eP	Pb	16 41 44.2	0.0
	baz=9.0						
CHN8	Yiju	1.36	253	eP	Pb	16 41 43.8	-0.3
	baz=253						
CHN8				eS	Sb	16 42 01.8	+0.6
	baz=253						
TSMG	Majia	1.38	221	eP	Pb	16 41 44.5	+0.1
	baz=220						
TSMG				eS	Sb	16 42 02.6	+0.9
	baz=220						
JYNG	Yonagunijimaku	1.39	59	P	Pb	16 41 44.3	-0.3
JYNG				S	Sb	16 42 02.3	+0.3
YM01	YM01	1.39	358	eP	Pn	16 41 43.6	+0.9
	baz=359						
YM04	YM04	1.40	356	eP	Pn	16 41 44.0	+1.1
	baz=357						
YM10	YM10	1.40	357	eP	Pn	16 41 43.8	+0.9
	baz=358						
YM05	YM05	1.41	358	eP	Pn	16 41 43.4	+0.4
	baz=358						
NTST	Danshui	1.42	353	eP	Pb	16 41 45.8	+0.6
	baz=354						
YM03	YM03	1.43	357	eP	Pb	16 41 45.3	-0.1
	baz=358						
YM08	YM08	1.43	358	eP	Pn	16 41 43.5	+0.3
	baz=359						
SCLT	Jiali	1.44	247	eP	Pn	16 41 44.7	+1.4
	baz=246						
TWM1	Shoushan	1.44	231	eP	Pb	16 41 46.8	+1.2
	baz=229						
YOJ	Yonaguni jima	1.45	60	P	Pb	16 41 45.0	-0.6
YOJ				S	Sb	16 42 03.7	+0.1
YOJ	Yonaguni jima	1.45	60	Pn	Pb	16 41 45.2	-0.4
MASBT	Mashibuluo	1.46	219	eP	Pn	16 41 44.6	+1.0
	baz=216						
MASBT				eS	Sb	16 42 05.5	+1.6
	baz=216						
EAST	Anshuo	1.54	208	eP	Pn	16 41 44.4	-0.3
	baz=196						
TAW	Tawu	1.54	206	eP	Pn	16 41 44.5	-0.3
	baz=194						
SNJT	Kaohsiung City	1.55	231	eP	Pb	16 41 47.5	+0.1
	baz=229						
SSPT	Xinbi	1.59	218	eP	Pb	16 41 48.0	-0.1
	baz=217						
SCZT	Fangliau	1.66	214	eP	Pb	16 41 49.0	-0.1
	baz=213						
SLIU	Shizi	1.71	207	eP	Pn	16 41 48.9	+1.8
	baz=195						
WDGT	Dungji	1.87	255	eP	Pn	16 41 49.9	+0.6
	baz=255						
PHUB	P'eng-hu	1.90	263	eP	Pn	16 41 50.6	+0.9
	baz=248						
PNG	Penghu	1.91	265	eP	Pn	16 41 50.8	+0.9
	baz=265						
IRIF	Iriomote-Funau	2.00	73	P	Pn	16 41 52.9	+1.8
IRIF				S	Sn	16 42 17.5	+2.3
HATJ	Hateruma jima	2.01	81	P	Pn	16 41 52.7	+1.5
HATJ				S	Sn	16 42 17.4	+2.0
VCHM	Qimei	2.09	256	eP	Pn	16 41 52.6	+0.3
	baz=255						
JKRS	Kuro-shima	2.23	77	P	Pn	16 41 56.5	+2.3
JKRS				S	Sn	16 42 23.5	+2.8
VWUC	VWUC	2.34	302	eP	Pn	16 41 55.6	-0.2
	baz=303						
JIJ	Ishigaki jima	2.38	75	P	Pn	16 41 57.7	+1.5
JIJ				S	Sn	16 42 25.7	+1.4
PTTC	Pingtan	2.43	316	eP	Pn	16 41 57.6	+0.6
	baz=317						
JISG	Ishigakijimahi	2.58	71	P	Pn	16 42 00.5	+1.4
JISG				S	Sn	16 42 30.2	+0.7
PTMZ	Houxiangcun	2.63	300	eP	Pn	16 41 59.9	+0.2
	baz=300						
MATB	Ma-tsu	2.84	328	eP	Pn	16 42 03.9	+1.3
	baz=327						
JTJ	Tarama	2.94	72	P	Pn	16 42 05.7	+1.7
JTJ				eS	Sn	16 42 40.5	+2.2
KNMB	Chin-men Tao	3.05	284	eP	Pn	16 42 05.5	+0.1
	baz=284						
KNMB	Chin-men Tao	3.05	284	Pn	Pn	16 42 05.8	+0.3
LYJJ	Jianjiangzhen	3.27	329	eP	Pn	16 42 09.6	+1.2
	baz=329						
MHZQ	Yeshan	3.33	315	eP	Pn	16 42 09.9	+0.6
	baz=316						
XPSS	Dashiqiu	3.43	338	eP	Pn	16 42 10.8	+0.1
	baz=337						
AXDP	Jialang	3.53	290	eP	Pn	16 42 12.9	+0.8
	baz=290						
ZPLA	Ao Xicun	3.56	274	eP	Pn	16 42 13.2	+0.7
	baz=273						
KS19	Wonju Array Si	14.72	20	Pn	Pn	16 44 43.9	-1.5
ERM	Erimo	25.54	39	P	P	16 46 43.3	-2.0
ERM				IAmb	IAmb	16 47 01.8	
	comp=Z,19nm,1.4s						
MTN	Manton Dam	37.53	165	P	P	16 48 30.5	-0.4
MTN				IAmb	IAmb	16 48 32.9	
	comp=Z,14nm,1.2s						
MAKZ	Makanchi	39.14	316	P	P	16 48 43.6	-0.6
WB2	Warramunga Arr	45.16	163	P	P	16 49 33.6	+0.2
WB2				IAmb	IAmb	16 49 35.9	
	comp=Z,5.7nm,1.2s						
WR0	Warramunga Arr	45.23	163	P	P	16 49 32.6	-1.4
WR0				IAmb	IAmb	16 49 50.0	
	comp=Z,3.1nm,1.1s						
AS31	Alice Springs	48.61	165	P	P	16 49 58.7	-1.7
AS31				IAmb	IAmb	16 50 16.3	
	comp=Z,0.8nm,1.0s						
CTAO	Charters Tower	49.74	149	P	P	16 50 09.8	+0.7

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*IDC **02** 16:46:25.2±1.4, 30°.13S×177°.61W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/33, mbtmp4.1/5, ML3.5/1, Error ellipse: s-maj=35.5km s-min=21.0km az=96.0*
*NEIC **02** 16:46:26.8±2.3, 30°.16S±0°.08×177°.81W±0°.08, h10km±2km, mb4.4/10, Error ellipse: s-maj=16.4km s-min=8.0km az=37.0*
ISC 02 16:46:27.4±1.1, **30°.15S**±0°.07×**177°.9W**±0°.2, **h10**km, **n27**, σ**1.s34**/22, **mb4.3**/9, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.89	1	Pn	Pb	16 46 45.2	+0.2
	1μm,0.3s,baz=82,slow=10.0,SNR=92						
RAO				Sn	Sg	16 46 56.1	-0.1
	4μm,0.3s,baz=157,slow=21,SNR=16						
URZ	Urewera	9.07	206	Pn	Pn	16 48 38.3	-0.1
	0.4nm,0.3s,baz=232,slow=15,SNR=1.7						
URZ				Sn	Sn	16 50 21.6	+1.0
	0.9nm,0.3s,baz=130,slow=16,SNR=1.4						
ODZ	Otahua Downs	17.38	208	Pn	Pn	16 50 29.6	-0.4
ARMA	Armidale	26.24	262	P	P	16 52 00.7	-2.2
ARMA				IAmb	IAmb	16 52 06.8	
	comp=Z,9.7nm,0.9s						
CAN	Canberra	28.20	251	P	P	16 52 18.2	-2.2
STKA	Stephens Creek	34.58	257	P	P	16 53 17.8	+1.3
	comp=Z,1.6nm,0.3s,baz=70,slow=7.9,SNR=7.2						
AS31	Alice Springs	43.17	267	P	P	16 54 27.5	-1.2
ASAR	Alice Springs	43.17	267	P	P	16 54 29.9	+1.3
	comp=Z,1.1nm,0.6s,baz=105,slow=7.2,SNR=25						
WR0	Warramunga Arr	43.95	272	P	P	16 54 35.7	+0.7
WR0				IAmb	IAmb	16 54 35.9	
	comp=Z,14nm,1.5s						
WB2	Warramunga Arr	44.13	272	P	P	16 54 37.3	+1.0
WB2				IAmb	IAmb	16 54 49.9	
	comp=Z,6.2nm,1.1s						
WRA	Warramunga Arr	44.14	272	P	P	16 54 38.6	+2.2
	comp=Z,1.6nm,0.3s,baz=110,slow=8.1,SNR=53						
WB0	Warramunga Arr	44.16	272	P	P	16 54 37.7	+1.1
WB0				IAmb	IAmb	16 54 55.9	
	comp=Z,4.7nm,1.1s						
MTN	Manton Dam	49.99	279	P	P	16 55 22.4	+0.2
KNRA	Kununurra	50.73	274	P	P	16 55 25.8	-2.0
KNRA				IAmb	IAmb	16 55 26.9	
	comp=Z,6.0nm,0.9s						
QSPA	South Pole Qui	59.96	180	P	P	16 56 33.7	-0.1
	comp=Z,0.7nm,0.8s,baz=27,slow=2.3,SNR=1.6						
QSPA	South Pole Qui	59.96	180	P	P	16 56 33.1	-0.7
QSPA				IAmb	IAmb	16 56 44.3	
	comp=Z,1.8nm,0.9s						
H03S2	Juan Fernandez	80.56	124	T	T	18 28 05.1	
	baz=239,slow=74,SNR=8.0						
H03S1	Juan Fernandez	80.58	124	T	T	18 28 09.1	
	baz=239,slow=74,SNR=10						
H03S3	Juan Fernandez	80.58	124	T	T	18 28 08.0	
	baz=239,slow=74,SNR=11						
H10S3	ASCENSION HYDR	137.93	155	T	T	19 42 13.0	
	SNR=4.2						
H10N3	ASCENSION HYDR	139.02	154	T	T	19 42 35.8	
	baz=204,slow=75,SNR=6.2						
H10N1	ASCENSION HYDR	139.02	155	T	T	19 42 36.1	
	baz=204,slow=75,SNR=5.4						
H10N2	ASCENSION HYDR	139.04	155	T	T	19 42 39.6	
	baz=204,slow=75,SNR=4.7						
FINES	FINESS Array B	144.92	340	PKPbc	PKPab	17 06 01.8	-1.5
	comp=Z,1.2nm,0.5s,baz=49,slow=4.2,SNR=19						
NB2	NORSAR Subarra	148.51	351	PKP	PKiKP	17 06 15.3	-0.1
	comp=Z,2.7nm,1.4s,baz=17,slow=2.6						
NOA	NORSAR Array B	148.51	351	PKPbc	PKPdf	17 06 12.2	+1.9
	comp=Z,0.4nm,0.7s,baz=14,slow=4.3,SNR=2.0						
AKASG	Malin Array Be	151.13	323	PKPbc	PKPbc	17 06 20.7	+0.3
	comp=Z,0.4nm,0.3s,baz=47,slow=3.2,SNR=4.3						

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*JMA **02** 16:51:58.6±0.3, 28°.10N×128°.08E, h14km±4km, M3.8*
*NIED **02** 16:51:58.6, 28°.10N×128°.08E, h14km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.55; $M_{\theta\theta}$2.50; $M_{\phi\phi}$-1.95; $M_{r\theta}$-1.72; $M_{\theta\phi}$2.69; $M_{\phi r}$0.16; Fault plane solution: $M_0$3.87000×10^{15} NP1: ϕ_s109.00000°, δ90.00000°, λ-26.00000°. NP2: ϕ_s199.00000°, δ64.00000°, λ-179.00000°.*
*IDC **02** 16:51:59.6±1.3, 27°.84N×127°.72E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.4/34, mbtmp3.6/6, ML3.6/1, MS3.5/19, Ms1 3.5/19, ms1mx3.3/33 Error ellipse: s-maj=50.3km s-min=21.3km az=72.0*
ISC 02 16:51:59.5±1.8, **28°.04N**±0°.05×**128°.14E**±0°.06, **h11**km±11km, **n39**, σ**0.s85**/27, **mb3.4**/5, **MS3.5**/17, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.76	109	P	Pg	16 52 14.1	-0.1
JTK				S	Sg	16 52 24.9	+0.8
JOKE	Okinoerabujima	0.78	151	P	Pg	16 52 15.0	+0.5
JOKE				eS	Sb	16 52 26.7	+1.1
JAMN	Amaminishikomi	0.93	77	P	Pb	16 52 16.7	-1.0
JAMN				S	Sg	16 52 30.3	+0.7
JIH	Iheya	1.01	189	P	Pb	16 52 18.2	-0.9
JIH				S	Sb	16 52 32.3	-0.2
JYRO	Yoronjima	1.05	165	P	Pb	16 52 19.3	-0.4
JYRO				eS	Sb	16 52 33.4	0.0
JOW	Kunigami	1.21	174	P	Pn	16 52 21.7	-0.7
JOW				S	Sb	16 52 38.3	+0.2
JAM	Amami Oshima	1.34	74	P	Pn	16 52 23.3	-0.9
JAM				S	Sn	16 52 41.4	-0.6
JTAJ	Takarajima	1.45	40	P	Pn	16 52 24.7	-0.9
JNTH	Nagotoyohara	1.52	184	P	Pn	16 52 26.4	-0.3
JNTH				eS	Sn	16 52 45.8	-0.7
JZK	Kikaishima	1.64	80	P	Pb	16 52 29.4	-0.3
JZK				eS	Sg	16 52 51.7	-0.5
JAGN	Aguni-jima	1.66	209	P	Pn	16 52 27.7	-0.8
JJT3	Tamagusuku3	1.92	190	P	Pb	16 52 33.0	-1.5
JNU	Nakatsue	5.58	24	Pn	Pb	16 53 28.4	-8.6
	1.7nm,0.3s,baz=186,slow=6.9,SNR=17						
KSRS	Korea Array	9.39	359	LR	LR	16 57 55.6	
	comp=Z,298nm,19.3s,baz=180,slow=37						
MJAR	Matsushiro Arr	12.01	43	Pn	P	16 55 03.4	-0.4
	0.0nm,0.3s,baz=229,slow=12,SNR=6.0						
JCJ	Chichijima	12.49	91	LR	LR	16 59 34.6	
	comp=Z,125nm,18.5s,baz=282,slow=35						
USRK	Ussuriysk Ar.	16.42	10	Pn	P	16 55 59.8	+7.2
	baz=186,slow=13,SNR=4.7						
DAV	Davao City (W)	21.00	187	LR	LR	17 05 06.7	
	comp=Z,35nm,20.3s,baz=330,slow=38						
GUMO	Guam	21.20	129	LR	LR	17 04 29.1	
	comp=Z,88nm,19.8s,baz=340,slow=35						
SONM	Songino Array	26.01	325	P	P	16 57 34.2	+1.6
	0.4nm,0.5s,baz=142,slow=13,SNR=4.0						
CMAR	Chiang Mai Arr	28.41	257	LR	LR	17 10 29.2	
	comp=Z,129nm,18.8s,baz=78,slow=40						
SIJI	Sorong	28.90	174	LR	LR	17 07 39.5	
	comp=Z,72nm,21.6s,baz=168,slow=33						
JAY	Jayapura	32.70	156	LR	LR	17 08 39.7	
	comp=Z,83nm,20.9s,baz=5.5,slow=31						
PETK	Petropavlovsk-	33.21	33	LR	LR	17 13 36.6	
	comp=Z,41nm,18.5s,baz=242,slow=39						
KAPI	Kappang	33.85	195	LR	LR	17 14 18.7	
	comp=Z,32nm,18.0s,baz=50,slow=40						
KRVT	Keravat (AS076	39.55	141	LR	LR	17 14 32.0	
	comp=Z,13nm,18.7s,baz=297,slow=34						
MKAR	Makanchi Array	40.29	310	P	P	16 59 37.6	+0.9
	0.3nm,0.6s,baz=102,slow=9.4,SNR=5.3						
ZALV	Zalesovo Beam	40.77	322	P	P	16 59 40.5	0.0
	0.4nm,0.4s,baz=116,slow=9.8,SNR=2.0						
PMG	Port Moresby	41.53	151	LR	LR	17 14 50.5	
	comp=Z,81nm,20.8s,baz=306,slow=33						
WRA	Warramunga Arr	48.08	172	P	P	17 00 39.0	-0.3
	0.7nm,1.0s,baz=352,slow=8.5,SNR=4.5						
HNR	Honiara	48.31	136	LR	LR	17 19 25.5	
	comp=Z,32nm,19.8s,baz=39,slow=34						
ASAR	Alice Springs	51.71	173	P	P	17 01 08.2	+1.4
	0.2nm,0.5s,baz=355,slow=8.8,SNR=5.1						
STKA	Stephens Creek	60.95	167	LR	LR	17 30 15.9	
	comp=Z,36nm,19.3s,baz=19,slow=38						
DZM	Mont Dzumac	62.05	139	LR	LR	17 26 43.9	
	comp=Z,66nm,18.1s,baz=27,slow=34						
KBZ	Khabaz	67.96	309	LR	LR	17 37 29.5	
	comp=Z,33nm,19.1s,baz=67,slow=40						
ARCES	ARCESS Array B	68.30	338	LR	LR	17 37 19.9	
	comp=Z,34nm,19.3s,baz=62,slow=40						
FINES	FINESS Array B	71.26	330	LR	LR	17 37 36.9	
	comp=Z,74nm,19.3s,baz=83,slow=38						
AKASG	Malin Array Be	74.11	319	LR	LR	17 38 45.1	
	comp=Z,95nm,18.4s,baz=75,slow=38						
NOA	NORSAR Array B	77.66	334	LR	LR	17 41 34.2	
	comp=Z,39nm,20.4s,baz=40,slow=38						

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*BUC **02** 16:59:20.0±0.4, 45°.73N×26°.63E, h102km±3km, ml3.5/41, Error ellipse: s-maj=2.1km s-min=1.9km az=134.0*
ISC 02 16:59:19.4±1.3, **45°.76N**±0°.03×**26°.63E**±0°.02, **h110**km±6km, **n104**, σ**0.s80**/163, **108C-52D**, **Romania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLOR	Plostina	0.09	11	⇑P	Pn	16 59 34.6	0.0
PLOR				⇑S	Sn	16 59 45.2	-0.9
PLOR	Plostina	0.09	11	⇑P	Pn	16 59 34.6	0.0
PLOR				⇑S	Sn	16 59 45.2	-0.9
VRI	Vrincioaia	0.13	34	⇑P	Pn	16 59 34.8	+0.2
VRI				⇑S	Sn	16 59 45.5	-0.6
VRI	Vrincioaia	0.13	34	⇑P	Pn	16 59 34.8	+0.2
VRI				⇑S	Sn	16 59 45.5	-0.6
BISRR	Bisoca	0.22	164	⇑P	Pn	16 59 35.5	+0.6
BISRR				⇑S	Sn	16 59 45.5	-1.1
BISRR	Bisoca	0.22	164	⇑P	Pn	16 59 35.5	+0.6
BISRR				⇑S	Sn	16 59 45.5	-1.1
ODBI	Odobesti	0.30	89	⇑P	Pn	16 59 36.2	+1.1
ODBI				⇑S	Sn	16 59 48.0	+1.1
ODBI	Odobesti	0.30	89	⇑P	Pn	16 59 36.2	+1.1
ODBI				⇑S	Sn	16 59 48.0	+1.1
NEHR	Nehoiu	0.41	215	⇑S	Sn	16 59 47.9	0.0
NEHR	Nehoiu	0.41	215	⇑S	Sn	16 59 47.9	0.0
PETR	Petresti	0.43	95	⇓P	Pn	16 59 36.5	+0.8
PETR				⇑S	Sn	16 59 47.0	-1.0
PETR	Petresti	0.43	95	⇓P	Pn	16 59 36.5	+0.8
PETR				⇑S	Sn	16 59 47.0	-1.0
MLR	Muntele Rosu	0.55	241	⇑P	Pn	16 59 37.2	+0.5
MLR				⇑S	Sn	16 59 49.3	-0.4
MLR	Muntele Rosu	0.55	241	⇑P	Pn	16 59 37.2	+0.5
MLR				⇑S	Sn	16 59 49.3	-0.4
GHRR		0.62	61	⇑P	Pn	16 59 37.7	+0.6
GHRR				⇑S	Sn	16 59 50.8	+0.4
GHRR		0.62	61	⇑P	Pn	16 59 37.7	+0.6
GHRR				⇑S	Sn	16 59 50.8	+0.4
ISR	Istrita	0.65	185	⇑S	Sn	16 59 49.4	-1.4
ISR	Istrita	0.65	185	⇑S	Sn	16 59 49.4	-1.4
OZUR		0.68	300	⇑P	Pn	16 59 37.6	0.0
OZUR				⇓S	Sn	16 59 50.0	-1.2
OZUR		0.68	300	⇑P	Pn	16 59 37.6	0.0
OZUR				⇓S	Sn	16 59 50.0	-1.2
TUDR		0.75	102	⇑P	Pn	16 59 38.4	+0.3
TUDR				⇓S	Sn	16 59 52.0	-0.3
TUDR		0.75	102	⇑P	Pn	16 59 38.4	+0.3
TUDR				⇓S	Sn	16 59 52.0	-0.3
TESR	Tescani	0.75	1	⇓P	Pn	16 59 38.2	0.0

TESR				⇑S	Sn	16 59 51.0	-1.4
TESR	Tescani	0.75	1	⇓P	Pn	16 59 38.2	0.0
TESR				⇑S	Sn	16 59 51.0	-1.4
BIR	Birlad	0.86	54	⇑P	Pn	16 59 39.8	+0.7
BIR				⇓S	Sn	16 59 53.9	-0.2
BIR	Birlad	0.86	54	⇑P	Pn	16 59 39.8	+0.7
BIR				⇓S	Sn	16 59 53.9	-0.2
VARL	Varlezi	0.87	80	⇓P	Pn	16 59 39.8	+0.6
VARL				⇑S	Sn	16 59 54.1	0.0
VARL	Varlezi	0.87	80	⇓P	Pn	16 59 39.8	+0.6
VARL				⇑S	Sn	16 59 54.1	0.0
SCHL	Schela	0.89	107	⇓P	Pn	16 59 39.4	0.0
SCHL				⇓S	Sn	16 59 53.4	-1.0
SCHL	Schela	0.89	107	⇓P	Pn	16 59 39.4	0.0
SCHL				⇓S	Sn	16 59 53.4	-1.0
DOPR	Dopca	0.89	284	⇓P	Pn	16 59 39.8	+0.4
DOPR				⇓S	Sn	16 59 54.2	-0.5
DOPR	Dopca	0.89	284	⇓P	Pn	16 59 39.8	+0.4
DOPR				⇓S	Sn	16 59 54.2	-0.5
PGOR	Pogoanele	0.89	163	⇑S	Sn	16 59 54.9	+0.3
PGOR	Pogoanele	0.89	163	⇑S	Sn	16 59 54.9	+0.3
GISR	Galati	1.05	107	⇑S	Sn	16 59 57.4	-0.1
GISR	Galati	1.05	107	⇑S	Sn	16 59 57.4	-0.1
SULR		1.11	194	⇑P	Pn	16 59 42.8	+1.0
SULR				⇓S	Sn	16 59 58.8	+0.2
SULR		1.11	194	⇑P	Pn	16 59 42.8	+1.0
SULR				⇓S	Sn	16 59 58.8	+0.2
VOIR		1.15	254	⇑P	Pn	16 59 42.8	+0.5
VOIR				⇓S	Sn	16 59 59.3	-0.3
VOIR		1.15	254	⇑P	Pn	16 59 42.8	+0.5
VOIR				⇓S	Sn	16 59 59.3	-0.3
VASR	Vaslui	1.20	42	⇑P	Pn	16 59 43.3	+0.6
VASR				⇑S	Sn	16 59 59.7	-0.6
VASR	Vaslui	1.20	42	⇑P	Pn	16 59 43.3	+0.6
VASR				⇑S	Sn	16 59 59.7	-0.6
CFR	Carcaliu	1.21	118	⇑P	Pn	16 59 43.1	+0.3
CFR				⇑S	Sn	16 59 59.3	-1.2
CFR	Carcaliu	1.21	118	⇑P	Pn	16 59 43.1	+0.3
CFR				⇑S	Sn	16 59 59.3	-1.2
BIZ	Bicaz	1.23	343	⇓P	Pn	16 59 44.2	+1.1
BIZ				⇓S	Sn	17 00 01.3	+0.2
BIZ	Bicaz	1.23	343	⇓P	Pn	16 59 44.2	+1.1
BIZ				⇓S	Sn	17 00 01.3	+0.2
AMRR	Amara	1.25	156	⇑S	Sn	17 00 01.9	+0.5
AMRR	Amara	1.25	156	⇑S	Sn	17 00 01.9	+0.5
LEHL	Lehliu	1.29	174	⇑P	Pn	16 59 43.4	-0.4
LEHL				⇑S	Sn	17 00 03.0	+0.8
LEHL	Lehliu	1.29	174	⇑P	Pn	16 59 43.4	-0.4
LEHL				⇑S	Sn	17 00 03.0	+0.8
LEOM	Leova	1.33	57	⇑P	Pn	16 59 44.9	+0.7
LEOM				⇓S	Sn	17 00 02.8	-0.2
LEOM	Leova	1.33	57	⇑P	Pn	16 59 44.9	+0.7
LEOM				⇓S	Sn	17 00 02.8	-0.2
HARR	Harsova	1.41	139	⇑P	Pn	16 59 45.6	+0.5
HARR	Harsova	1.41	139	⇑P	Pn	16 59 45.6	+0.5
ARR	Arges	1.45	255	⇑P	Pn	16 59 46.7	+1.0
ARR	Arges	1.45	255	⇑P	Pn	16 59 46.7	+1.0
BUC1	Bucharest	1.48	197	⇑S	Sn	17 00 06.1	+0.1
BUC1	Bucharest	1.48	197	⇑S	Sn	17 00 06.1	+0.1
TOPG	Topolog	1.52	125	⇑P	Pn	16 59 46.0	-0.4
TOPG				⇓S	Sn	17 00 06.0	-1.0
TOPG	Topolog	1.52	125	⇑P	Pn	16 59 46.0	-0.4
TOPG				⇓S	Sn	17 00 06.0	-1.0
TLBR	Topalu	1.58	140	⇑P	Pn	16 59 47.3	+0.2
TLBR				⇑S	Sn	17 00 07.5	-0.7
TLBR	Topalu	1.58	140	⇑P	Pn	16 59 47.3	+0.2
TLBR				⇑S	Sn	17 00 07.5	-0.7
RASA	Rasa	1.59	166	⇑S	Sn	17 00 09.1	+0.7
RASA	Rasa	1.59	166	⇑S	Sn	17 00 09.1	+0.7
SGRR	Singureni	1.61	197	⇑S	Sn	17 00 08.1	-0.6
SGRR	Singureni	1.61	197	⇑S	Sn	17 00 08.1	-0.6
TLCR		1.64	110	⇓P	Pn	16 59 48.8	+0.9
TLCR				⇓S	Sn	17 00 09.3	-0.3
TLCR		1.64	110	⇓P	Pn	16 59 48.8	+0.9
TLCR				⇓S	Sn	17 00 09.3	-0.3
HUMR	Humele	1.70	224	⇓S	Sn	17 00 10.4	-0.4
HUMR	Humele	1.70	224	⇓S	Sn	17 00 10.4	-0.4
CVDA	Cernavoda	1.74	144	⇑P	Pn	16 59 49.8	+0.7
CVDA				⇑S	Sn	17 00 10.9	-0.9
CVDA	Cernavoda	1.74	144	⇑P	Pn	16 59 49.8	+0.7
CVDA				⇑S	Sn	17 00 10.9	-0.9
TIRR	Tirgusor	1.82	135	⇑P	Pn	16 59 50.6	+0.6
TIRR				⇓S	Sn	17 00 11.8	-1.6
TIRR	Tirgusor	1.82	135	⇑P	Pn	16 59 50.6	+0.6
TIRR				⇓S	Sn	17 00 11.8	-1.6
ICOR	Ion Corvin	1.84	153	⇓P	Pn	16 59 51.3	+0.9
ICOR				⇑S	Sn	17 00 13.4	-0.6
ICOR	Ion Corvin	1.84	153	⇓P	Pn	16 59 51.3	+0.9
ICOR				⇑S	Sn	17 00 13.4	-0.6
MILM	Milestii Mici	1.91	52	⇑S	Sn	17 00 14.1	-1.2
MILM	Milestii Mici	1.91	52	⇑S	Sn	17 00 14.1	-1.2
COPA	Copaceanca	1.91	212	⇓P	Pn	16 59 51.7	+0.5
COPA				⇑S	Sn	17 00 14.7	-0.7
COPA	Copaceanca	1.91	212	⇓P	Pn	16 59 51.7	+0.5
COPA				⇑S	Sn	17 00 14.7	-0.7
KIS	Kishinev	1.96	50	⇑P	Pn	16 59 52.3	+0.5
KIS	Kishinev	1.96	50	⇑P	Pn	16 59 52.3	+0.5
LOT	Lotru	2.03	262	⇑S	Sn	17 00 19.9	+1.5
LOT	Lotru	2.03	262	⇑S	Sn	17 00 19.9	+1.5
MFTR	Murfatlar	2.03	141	⇑P	Pn	16 59 53.2	+0.5
MFTR				⇑S	Sn	17 00 18.1	-0.2
MFTR	Murfatlar	2.03	141	⇑P	Pn	16 59 53.2	+0.5
MFTR				⇑S	Sn	17 00 18.1	-0.2
RAZG	Razgrad	2.20	182	⇓S	Sn	17 00 20.6	-1.4
RAZG	Razgrad	2.20	182	⇓S	Sn	17 00 20.6	-1.4
EFOR	EFORIE	2.20	139	⇑P	Pn	16 59 56.4	+1.4
EFOR	EFORIE	2.20	139	⇑P	Pn	16 59 56.4	+1.4
ZIMR		2.29	204	⇓S	Sn	17 00 23.2	-0.9
ZIMR		2.29	204	⇓S	Sn	17 00 23.2	-0.9
PSN	Preselentsi	2.36	151	*i* P	Pn	16 59 47.4	-10
VLAD	Vladila	2.37	223	⇑P	Pn	16 59 57.0	0.0
VLAD				⇑S	Sn	17 00 24.2	-1.7
VLAD	Vladila	2.37	223	⇑P	Pn	16 59 57.0	0.0
VLAD				⇑S	Sn	17 00 24.2	-1.7
NEF	NEVSHA	2.54	169	*i* P	Pn	17 00 00.4	+1.1
PRD	Provadia	2.62	168	*i* P	Pn	17 00 02.1	+1.7
SORM	Soroca	2.65	26	⇑P	Pn	17 00 00.9	+0.1
SORM	Soroca	2.65	26	⇑P	Pn	17 00 00.9	+0.1
ROIA	ROIAK	2.72	168	*i* P	Pn	17 00 02.9	+1.2
ELND	Elena	2.88	191	⇓S	Sn	17 00 36.4	-1.6
ELND	Elena	2.88	191	⇓S	Sn	17 00 36.4	-1.6
PUNG	Punghina	3.01	242	⇓P	Pn	17 00 05.2	-0.3
PUNG	Punghina	3.01	242	⇓P	Pn	17 00 05.2	-0.3

*IDC **02** 17:10:18.9±2.0, 3.43S×140.38E, h35km±20km, mb3.2/4, mb1 3.7/6, mb1mx3.4/32, mbtmp3.7/6, ML4.0/2, Error ellipse: s-maj=42.5km s-min=19.1km az=111.0*

*DJA **02** 17:10:20.6±0.9, 3°S±3°×14°0E±°, h20km±8km, M4.4/6, mb5.1/2, MLv4.0/6*

ISC 02 17:10:20.2±0.9**, 3.38S**±0.04×**140.28E**±0.07**, h39**km**, n12,** σ**2s65**/18**, mb3.4**/3**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	Genyem	0.79	352	P	Pn	17 10 36.4	+1.5
GENI				S	Sn	17 10 46.9	+1.4
JAY	Jayapura	0.96	26	Pg	Pn	17 10 38.7	+1.5
	32nm,0.3s,baz=213,slow=11,SNR=183						
JAY				Lg	Lg	17 10 50.5	
	40nm,0.3s,baz=58,slow=22,SNR=11						
JAY	Jayapura	0.96	26	P	Pn	17 10 38.7	+1.5
JAY				S	Sn	17 10 51.5	+1.8
WAMI	Wamena	1.64	252	P	Pn	17 10 47.1	+0.6
WAMI				S	Sn	17 11 06.5	+0.1
SMPI	Sarmi	2.09	311	P	Pn	17 10 54.4	+1.7
SMPI				S	Sn	17 11 21.4	+4.0
MMPI	Merauke	5.05	179	P	Pn	17 11 36.3	+2.8
	1.6nm298nm,0.5s						
MMPI				S	Sn	17 12 35.6	+5.0
	1.6nm298nm,0.5s						
SIJI	Sorong	9.34	285	Pn	Pn	17 12 34.2	+1.8
	1.1nm,0.3s,baz=237,slow=23,SNR=4.3						
WRA	Warramunga Arr	17.45	199	P	P	17 14 19.9	-1.7
	0.6nm,0.3s,baz=23,slow=12,SNR=26						
WRA				S	Sn	17 17 21.2	-13
	0.2nm,0.3s,baz=13,slow=22,SNR=4.4						
FITZ	Fitzroy Crossi	20.48	223	P	P	17 14 53.9	-0.9
	1.9nm,1.0s,baz=52,slow=11,SNR=1.5						
FITZ				S	S	17 18 30.1	-12
	3.1nm,1.0s,baz=135,slow=17,SNR=2.7						
ASAR	Alice Springs	21.09	196	P	P	17 15 01.1	-0.4
	1.0nm,0.5s,baz=29,slow=9.8,SNR=19						
ASAR				S	S	17 18 48.7	-5.5
	0.6nm,0.8s,baz=22,slow=30,SNR=2.9						
MKAR	Makanchi Array	71.27	322	P	P	17 21 34.0	-1.6
	0.1nm,0.4s,baz=118,slow=8.0,SNR=2.4						
ILAR	Eielson Array	85.80	24	P	P	17 22 53.9	-1.3
	0.3nm,0.6s,baz=253,slow=6.3,SNR=2.6						

*NEIC **02** 17:16:58.5±1.7, 6.03S±0.06×146.28E±0.05, h112km±9km, mb4.2/15, Error ellipse: s-maj=10.4km s-min=5.7km az=149.0*

*IDC **02** 17:16:59.0±1.5, 6.19S×146.20E, h108km±14km, mb3.6/7, mb1 3.8/12, mb1mx3.5/43, mbtmp4.1/12, Error ellipse: s-maj=23.0km s-min=11.2km az=59.0*

ISC 02 17:16:57.5±0.6**, 6.07S**±0.06×**146.28E**±0.07**, h100**km**, n35,** σ**1s43**/38**, mb4.2**/11**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.43	165	P	Pn	17 17 50.1	+1.1
	28nm,0.3s,baz=355,slow=5.4,SNR=88						
PMG				S	Sn	17 18 28.4	-0.4
	52nm,0.3s,baz=355,slow=20,SNR=18						
PMG	Port Moresby	3.43	165		Pn	17 17 50.2	+1.1
PMG					Sn	17 18 23.6	-5.2
KRVT	Keravat (AS076	5.98	73	P	Pn	17 18 28.4	+4.8
	1.4nm,0.3s,baz=333,slow=4.5,SNR=2.3						
RABL	Rabaul	6.15	73	Pn	Pn	17 18 27.2	+1.3
JAY	Jayapura	6.59	302	P	Pn	17 18 32.8	+0.9
	0.5nm,0.3s,baz=160,slow=18,SNR=2.1						
JAY				S	Sn	17 19 46.2	+0.6
	0.3nm,0.3s,baz=134,slow=17,SNR=1.6						
COEN	Coen	8.41	201		Pn	17 18 58.7	+2.0
COEN					Sn	17 20 29.0	-1.1
CTA	Charters Tower	13.94	180	P	P	17 20 16.1	+0.6
	4.2nm,0.3s,baz=359,slow=14,SNR=55						
CTAO	Charters Tower	13.94	180	P	P	17 20 15.9	+0.4
HNR	Honiara	13.95	105	P	P	17 20 17.4	+1.7
FAKI	Fak Fak	14.33	282	P	P	17 20 19.9	-0.1
SIJI	Sorong	15.85	288	P	P	17 20 37.7	+0.9
	3.7nm,0.3s,baz=31,slow=21,SNR=12						
MTN	Manton Dam	16.38	245	P	Pn	17 20 41.8	+0.2
MTN				IAmb	IAmb	17 20 55.7	
	comp=Z,28nm,1.5s						
WB0	Warramunga Arr	17.86	219	P	P	17 20 59.3	+0.3
WR0	Warramunga Arr	17.91	218	P	P	17 20 59.3	-0.3
WR0				IAmb	IAmb	17 21 26.0	
	comp=Z,8.8nm,1.2s						
WB2	Warramunga Arr	18.02	219	P	P	17 21 00.5	-0.2
WB2				IAmb	IAmb	17 21 13.2	
	comp=Z,20nm,1.4s						
WRA	Warramunga Arr	18.03	219	P	P	17 21 00.7	-0.1
	comp=Z,0.6nm,0.3s,baz=41,slow=11,SNR=12						
GUMO	Guam	19.58	356	P	P	17 21 14.0	-3.7
KNRA	Kununurra	19.66	240	P	P	17 21 17.3	-1.4
KNRA				IAmb	IAmb	17 21 39.6	
	comp=Z,11nm,1.1s						
AS31	Alice Springs	21.16	213	P	P	17 21 35.8	+1.0
ASAR	Alice Springs	21.17	213	P	P	17 21 35.6	+0.7
	comp=Z,3.1nm,0.7s,baz=48,slow=7.9,SNR=23						
FITZ	Fitzroy Crossi	23.43	238	P	P	17 21 57.6	-0.3
	comp=Z,11nm,1.1s,baz=48,slow=9.5,SNR=12						
ARMA	Armidale	24.74	169	P	P	17 22 10.0	+0.1
ARMA				IAmb	IAmb	17 22 35.1	
	comp=Z,30nm,1.5s						
STKA	Stephens Creek	26.05	189	P	P	17 22 20.7	-0.9
	comp=Z,3.1nm,0.9s,baz=334,slow=6.5,SNR=4.0						
STKA	Stephens Creek	26.05	189	P	P	17 22 22.8	+1.2
FORT	Forrest	29.95	213	P	P	17 22 55.7	-0.6
MAJO	Matsushiro	43.06	350	P	P	17 24 46.1	-1.4
MAJO				IAmb	IAmb	17 25 06.7	
	comp=Z,7.4nm,1.2s						
MJB9	Matsu-Tunnel	43.06	350	P	P	17 24 46.0	-1.6
MJB9				IAmb	IAmb	17 25 06.7	
	comp=Z,7.9nm,1.3s						
KULM	Kulim	46.93	283	P	P	17 25 18.4	-0.2
PBKT	Sadao Pong	50.14	297	P	P	17 25 44.1	+1.0
PBKT				IAmb	IAmb	17 26 14.7	
	comp=Z,4.5nm,1.2s						
CMAR	Chiang Mai Arr	52.65	299	P	P	17 26 03.0	+1.0
	comp=Z,2.2nm,0.5s,baz=119,slow=5.8,SNR=15						
VNDA	Vanda	71.89	176	P	P	17 28 09.8	+0.6
	comp=Z,0.5nm,0.5s,baz=289,slow=3.7,SNR=3.6						
MKAR	Makanchi Array	77.10	321	P	P	17 28 39.5	-0.5
	comp=Z,0.1nm,0.4s,baz=79,slow=7.5,SNR=2.5						
QSPA	South Pole Qui	83.90	180	P	P	17 29 15.6	-0.5
	comp=Z,1.1nm,0.9s,baz=259,slow=2.3,SNR=5.4						
QSPA	South Pole Qui	83.90	180	P	P	17 29 16.1	0.0
QSPA				IAmb	IAmb	17 29 20.5	
	comp=Z,4.5nm,1.4s						
TORD	Torodi Ar. Bea	144.41	284	PKP	PKPdf	17 36 21.9	-1.2
	comp=Z,1.8nm,0.8s,baz=57,slow=3.4,SNR=10						

*JMA **02** 17:29:35.5±0.1, 28.09N×128.09E, h11km±2km, M4.3*
JMA Felt I J1.

*NIED **02** 17:29:35.5, 28.09N×128.09E, h11km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.31; $M_{\theta\theta}$2.78; $M_{\phi\phi}$-3.08; $M_{r\theta}$-1.24; $M_{\theta\phi}$3.16; $M_{\phi r}$0.76; Fault plane solution: $M_0$4.54000×10^{15} NP1: ϕ_s111.00000°, δ89.00000°, λ-18.00000°. NP2: ϕ_s202.00000°, δ72.00000°, λ-179.00000°.*

*IDC **02** 17:29:35.4±1.1, 27.82N×127.84E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.7/43, mbtmp3.8/9, ML3.4/2, MS4.0/1, Ms1 4.0/1, ms1mx3.0/45 Error ellipse: s-maj=39.4km s-min=18.5km az=76.0*

*NEIC **02** 17:29:36.1±2.3, 27.82N±0.08×128.1E±0.1, h8km±5km, mb4.5/16, Error ellipse: s-maj=16.5km s-min=10.1km az=118.0*

ISC 02 17:29:37.7±1.4**, 27.99N**±0.04×**128.19E**±0.05**, h16**km±9km**,** **n47,** σ**1s39**/51**, mb4.3**/15**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.70	107	P	Pg	17 29 50.9	-0.5
JTK				*e*S	Sg	17 30 01.9	+1.1
JOKE	Okinoerabujima	0.71	152	P	Pg	17 29 51.5	-0.2
JOKE				*e*S	Sg	17 30 02.8	+1.7
JAMN	Amaminishikomi	0.90	74	P	Pg	17 29 53.7	-1.5
JAMN				S	Sg	17 30 06.7	-0.4
JIH	Iheya	0.97	192	P	Pb	17 29 55.1	-1.1
JIH				S	Sg	17 30 09.4	0.0
JYRO	Yoronjima	0.99	167	P	Pb	17 29 56.4	0.0
JYRO				*e*S	Sb	17 30 11.1	+1.9
JOW	Kunigami	1.16	176	P	Pn	17 29 58.5	-0.7
JOW				S	Sb	17 30 15.3	+1.2
JAM	Amami Oshima	1.31	71	P	Pn	17 30 00.4	-0.9
JAM				*e*S	Sb	17 30 18.5	-0.1
JTAJ	Takarajima	1.46	37	P	Pn	17 30 01.9	-1.4
JNTH	Nagotoyohara	1.48	186	P	Pn	17 30 03.1	-0.5
JNTH				*e*S	Sn	17 30 23.5	+1.0
JZK	Kikaishima	1.60	78	P	Pb	17 30 07.0	+0.1
JAGN	Aguni-jima	1.64	211	P	Pn	17 30 05.4	-0.3
JJT3	Tamagusuku3	1.88	191	P	Pn	17 30 09.8	+0.7
JNU	Nakatsue	5.61	24	Pn	Pn	17 31 05.1	+4.6
	1.9nm,0.3s,baz=196,slow=5.2,SNR=22						
JNU	Nakatsue	5.61	24		Pn	17 31 04.7	+4.2
YOJ	Yonaguni jima	5.83	234	Pn	Pn	17 31 01.4	-2.1
YHNB	Yeheng	6.95	243		Pn	17 31 19.1	+0.1
SSLB	Suanglung	7.75	239		Pn	17 31 31.6	+1.8
TWG	Pinlang	8.24	233	Pn	Pn	17 31 38.0	+1.4
TPUB	Ta-pu	8.27	237	Pn	Pn	17 31 37.7	+0.7
KSRS	Korea Array	9.44	359	Pn	Pn	17 31 54.6	+1.7
	0.1nm,0.3s,baz=186,slow=14,SNR=5.1						
INU	Inuyama	10.50	43	Pn	Pn	17 32 13.5	+6.1
USRK	Ussuriysk Ar.	16.46	10	Pn	P	17 33 33.7	+3.2
	baz=207,slow=9.2,SNR=5.5						
KLR	Kul'dur	21.38	6	P	P	17 34 25.7	+1.3
	0.7nm,0.6s,baz=194,slow=8.3,SNR=2.2						
KKM	Kota Kinabalu	24.61	210	P	P	17 34 55.5	-1.9
KKM				IAmb	IAmb	17 34 56.2	
	comp=Z,18nm,1.0s						
SONM	Songino Array	26.07	325	P	P	17 35 10.5	0.0
	comp=Z,2.5nm,1.0s,baz=140,slow=8.9,SNR=12						
TNTI	Ternate	27.08	182	P	P	17 35 17.1	-2.6
MK31	Makanchi Array	40.35	310	P	P	17 37 14.1	-0.5
MKAR	Makanchi Array	40.35	310	P	P	17 37 13.9	-0.6
	comp=Z,1.5nm,0.8s,baz=105,slow=9.8,SNR=12						
MAKZ	Makanchi	40.57	310	P	P	17 37 17.4	+1.1
ZALV	Zalesovo Beam	40.84	322	P	P	17 37 18.8	+0.4
	comp=Z,0.5nm,0.4s,baz=113,slow=11,SNR=5.4						
TARG	Taragay, Kyrgy	42.98	302	P	P	17 37 36.5	-0.1
TARG				IAmb	IAmb	17 37 41.9	
	comp=Z,4.2nm,0.7s						
KNRA	Kununurra	43.41	179	P	P	17 37 39.9	+0.2
KNRA				IAmb	IAmb	17 37 57.6	
	comp=Z,14nm,1.1s						
KDJ	Kajisay	43.46	303	P	P	17 37 40.2	0.0
KURK	Kurchatov	43.53	315	P	P	17 37 41.6	+1.2
KURK				IAmb	IAmb	17 37 48.9	
	comp=Z,8.3nm,1.5s						
KURBB	Kurchatov Arra	43.57	315	P	P	17 37 39.1	-1.6
	comp=Z,0.7nm,0.4s,baz=102,slow=8.3,SNR=6.8						
AMKA	Amchitka	44.62	44	P	P	17 37 51.1	+2.0
FITZ	Fitzroy Crossi	45.88	183	P	P	17 37 57.8	-1.6
FITZ				IAmb	IAmb	17 38 09.2	
	comp=Z,7.0nm,1.4s						
WB0	Warramunga Arr	47.86	172	P	P	17 38 12.6	-2.3
WB0				IAmb	IAmb	17 38 15.0	
	comp=Z,7.0nm,1.2s						
WRA	Warramunga Arr	48.02	172	P	P	17 38 15.9	-0.2
	comp=Z,2.0nm,0.9s,baz=353,slow=8.2,SNR=6.8						
WB2	Warramunga Arr	48.02	172	P	P	17 38 14.4	-1.7
WB2				IAmb	IAmb	17 38 32.7	
	comp=Z,5.8nm,1.1s						
WR0	Warramunga Arr	48.06	172	P	P	17 38 14.8	-1.7
BVAR	Borovoye Array	48.95	317	LR	LR	18 00 08.6	
	comp=Z,170nm,19.4s,baz=106,slow=38						
ASAR	Alice Springs	51.65	173	P	P	17 38 42.1	-1.7
	comp=Z,0.5nm,0.9s,baz=356,slow=7.7,SNR=3.8						
STKA	Stephens Creek	60.89	167	P	P	17 39 48.1	-1.4
KDAK	Kodiak Island	61.13	37	P	P	17 39 53.7	+2.8
SML	Sawmill	62.70	32	P	P	17 40 01.7	+0.2
VRDI	Verde Repeater	65.11	32	P	P	17 40 17.4	-0.2
VRDI				IAmb	IAmb	17 40 18.3	
	comp=Z,9.0nm,1.7s						

*KRSC **02** 17:30:25.8±1.4, 53.27N×160.80E, h39km±16km, ML4.7*

*BJI **02** 17:30:26.2±0.0, 53.83N×160.43E, h45km, mB4.9/17, mb4.7/23, Ms5.4/6, Ms7 5.2/7*

*MOS **02** 17:30:28.0±0.9, 53.32N×160.61E, h54km, mb4.6/14, Error ellipse: s-maj=6.7km s-min=3.8km az=75.0*

*NEIC **02** 17:30:31±1.8, 53.52N±0.04×160.41E±0.08, h66km±6km, mb4.4/110, Error ellipse: s-maj=8.7km s-min=3.4km az=224.0*

*IDC **02** 17:30:32.5±1.3, 53.59N×160.23E, h79km±11km, mb3.9/27, mb1 4.1/31, mb1mx4.0/47, mbtmp4.3/31, MS3.2/2, Ms1 3.2/2, ms1mx2.9/33, Error ellipse: s-maj=12.1km s-min=9.3km az=147.0*

ISC 02 17:30:28.4±0.7**, 53.36N**±0.03×**160.48E**±0.03**, h46**km±6km**,** **n333,** σ**1s92**/388**, mb4.4**/109**, 5C-11D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.38	226	*e*P	Pn	17 30 38.5	+0.5
SPN				*e*S	Sn	17 30 45.6	+0.8
SPN	Mys Shipunski	0.38	226	PN	Pn	17 30 38.5	+0.5
SPN				S	Sn	17 30 45.6	+0.8
NLC	Nalytchevo	0.71	255	*e*P	Pn	17 30 42.9	+0.8
NLC				*e*S	Sn	17 30 53.9	+2.0
NLC	Nalytchevo	0.71	255	PN	Pn	17 30 42.9	+0.8
NLC				S	Sn	17 30 53.9	+2.0
KII	Karymskiy	0.91	318	*e*P	Pn	17 30 45.4	+0.5
KII	Karymskiy	0.91	318	PN	Pn	17 30 45.4	+0.5
SDLR	Sedlovina	0.96	266	*e*P	Pn	17 30 46.7	+1.1
SDLR	Sedlovina	0.96	266	PN	Pn	17 30 46.7	+1.1
UGLR	Uglovaya	1.01	262	*e*P	Pn	17 30 47.6	+1.4
UGLR	Uglovaya	1.01	262	PN	Pn	17 30 47.6	+1.4
SMAR	Somma	1.01	265	*e*P	Pn	17 30 47.4	+1.0
SMAR				*e*S	Sn	17 31 00.4	+0.8
SMAR	Somma	1.01	265	PN	Pn	17 30 47.4	+1.0
SMAR				S	Sn	17 31 00.4	+0.8
KRER	Koryakskii	1.04	267	*e*P	Pn	17 30 48.1	+1.4
KRER	Koryakskii	1.04	267	PN	Pn	17 30 48.1	+1.4
AVH	Avacha	1.05	265	*e*P	Pn	17 30 48.2	+1.4
AVH	Avacha	1.05	265	PN	Pn	17 30 48.2	+1.4
DALK	Dalny	1.09	253	*e*P	Pn	17 30 48.3	+1.1
DALK				*e*S	Sn	17 31 02.7	+1.6
DALK	Dalny	1.09	253	PN	Pn	17 30 48.3	+1.1
DALK				S	Sn	17 31 02.7	+1.6
KRX	Arik	1.10	271	*e*P	Pn	17 30 48.6	+1.1
KRX	Arik	1.10	271	PN	Pn	17 30 48.6	+1.1
KOK	Koryaka	1.11	267	*e*P	Pn	17 30 48.8	+1.2
KOK	Koryaka	1.11	267	PN	Pn	17 30 48.8	+1.2
PET	Petropavlovsk	1.15	254	*e*P	Pn	17 30 49.1	+1.1
PET				*e*S	Sn	17 31 04.1	+1.5
PET	Petropavlovsk	1.15	254	⇓*i*PN	Pn	17 30 49.2	+1.2
PET				*e*S	Sn	17 31 04.4	+1.8
PET				pmax	pmax		
	comp=Z,1µm,0.5s						
PET				smax	smax		
	comp=E,5µm,0.5s						
PET				smax	smax		
	comp=N,3µm,0.5s						
RUS	Russkaya	1.51	233	*e*P	Pn	17 30 53.5	+0.5
RUS				*e*S	Sn	17 31 12.7	+1.2
RUS	Russkaya	1.51	233	PN	Pn	17 30 53.5	+0.5
RUS				S	Sn	17 31 12.7	+1.2
KRMR	Karymshinskiy	1.52	250	*e*P	Pn	17 30 54.9	+1.9
KRMR				*e*S	Sn	17 31 15.0	+3.5
KRMR	Karymshinskiy	1.52	250	PN	Pn	17 30 54.9	+1.9
KRMR				S	Sn	17 31 15.0	+3.5
MTVR	Mutnovka	1.65	239	*e*P	Pn	17 30 56.2	+1.2
MTVR				*e*S	Sn	17 31 17.1	+2.1
MTVR	Mutnovka	1.65	239	PN	Pn	17 30 56.2	+1.2
MTVR				S	Sn	17 31 17.1	+2.1
GRL	Gorelyy	1.67	242	*e*P	Pn	17 30 56.9	+1.7
GRL				*e*S	Sn	17 31 19.9	+4.4
GRL	Gorelyy	1.67	242	PN	Pn	17 30 56.9	+1.7
GRL				S	Sn	17 31 19.9	+4.4
I44RU	PETROPAVLOVSK-	1.68	262	P	Pn	17 30 57.7	+2.4
	baz=81,slow=33						
I44RU				S	Sn	17 31 19.4	+3.7
	baz=77,slow=46						
I44RU				*i*		17 38 10.0	
	baz=62,slow=318,SNR=5.4						
PEA0B	Petropavlovsk-	1.69	262	*d i*PN	Pn	17 30 57.2	+1.8
PEA0B	Petropavlovsk-	1.69	262	Pn	Pn	17 30 57.3	+1.9
PEA0B				Sn	Sn	17 31 18.6	+2.7
PETK	Petropavlovsk-	1.69	262	P	Pn	17 30 57.6	+2.1
	comp=N,121nm,0.3s,baz=93,slow=20,SNR=2632						
PETK				S	Sn	17 31 19.8	+3.9
	comp=N,141nm,0.3s,baz=299,slow=15,SNR=5.9						
KZV	Kizimen	1.76	357	*e*P	Pn	17 30 57.5	+1.0
KZV				*e*S	Sn	17 31 18.9	+1.2
KZV	Kizimen	1.76	357	PN	Pn	17 30 57.5	+1.0
KZV				S	Sn	17 31 18.9	+1.2
TUMD	Tumrok D	1.84	359	*e*P	Pn	17 30 58.4	+0.8
TUMD				*e*S	Sn	17 31 20.3	+0.6
ASAK	Asacha	1.85	239	*e*P	Pn	17 30 59.5	+1.9
ASAK				*e*S	Sn	17 31 23.3	+3.5
ASAK	Asacha	1.85	239	PN	Pn	17 30 59.5	+1.9
ASAK				S	Sn	17 31 23.3	+3.5
TUMR	Tumrok	1.93	354	*e*P	Pn	17 31 00.5	+1.6
TUMR				*e*S	Sn	17 31 24.4	+2.4
TUMR	Tumrok	1.93	354	PN	Pn	17 31 00.5	+1.6
TUMR				S	Sn	17 31 24.4	+2.4
APC	Apacha	2.05	259	*e*P	Pn	17 31 02.8	+2.5
APC				*e*S	Sn	17 31 28.9	+4.3
APC	Apacha	2.05	259	PN	Pn	17 31 02.8	+2.5
APC				S	Sn	17 31 28.9	+4.3
KDTR	Khodutka, Kamc	2.14	224	*e*P	Pn	17 31 02.6	+1.1
KDTR				*e*S	Sn	17 31 28.5	+1.7
KDTR	Khodutka, Kamc	2.14	224	PN	Pn	17 31 02.6	+1.1
KDTR				S	Sn	17 31 28.5	+1.7
KMNR	Kamenistaya	2.40	357	*e*P	Pn	17 31 07.4	+2.1
KMNR	Kamenistaya	2.40	357	PN	Pn	17 31 07.4	+2.1
MIPR	Malaya Ipel'ka	2.51	246	*e*P	Pn	17 31 09.4	+2.8
MIPR	Malaya Ipel'ka	2.51	246	PN	Pn	17 31 09.4	+2.8
KIRR	Kirishev	2.60	358	*e*P	Pn	17 31 10.2	+2.2
KIRR				*e*S	Sn	17 31 43.7	+5.4
KIRR	Kirishev	2.60	358	PN	Pn	17 31 10.2	+2.2
KIRR				S	Sn	17 31 43.7	+5.4
BZWR	Bezymyannyi-We	2.61	0	*e*P	Pn	17 31 10.4	+2.3
BZWR				*e*S	Sn	17 31 42.6	+4.0
BZWR	Bezymyannyi-We	2.61	0	PN	Pn	17 31 10.4	+2.3
BZWR				S	Sn	17 31 42.6	+4.0

KPT Kopyto 2.61 357 *e*P **Pn** **17 31 10.1 +2.0**
KPT *e*S **Sn** **17 31 43.0 +4.3**
KPT Kopyto 2.61 357 PN **Pn** **17 31 10.1 +2.0**
KPT S **Sn** **17 31 43.0 +4.3**
ZLN Zelenaya 2.67 4 *e*P **Pn** **17 31 11.4 +2.5**
ZLN *e*S **Sn** **17 31 45.8 +5.8**
ZLN Zelenaya 2.67 4 PN **Pn** **17 31 11.4 +2.5**
ZLN S **Sn** **17 31 45.8 +5.8**
KOZ Kozyrevsk 2.72 353 *e*P **Pn** **17 31 11.6 +2.0**
KOZ *e*S **Sn** **17 31 45.3 +4.0**
KOZ Kozyrevsk 2.72 353 PN **Pn** **17 31 11.6 +2.0**
KOZ S **Sn** **17 31 45.3 +4.0**
LGNR Loginova 2.73 2 *e*P **Pn** **17 31 12.9 +3.0**
LGNR *e*S **Sn** **17 31 46.2 +4.4**
LGNR Loginova 2.73 2 PN **Pn** **17 31 12.9 +3.0**
LGNR S **Sn** **17 31 46.2 +4.4**
CIRR Tsirk 2.76 3 *e*P **Pn** **17 31 12.8 +2.6**
CIRR Tsirk 2.76 3 PN **Pn** **17 31 12.8 +2.6**
ESO Esso 2.77 339 *e*P **Pn** **17 31 11.6 +1.4**
ESO Esso 2.77 339 PN **Pn** **17 31 11.6 +1.4**
KRSR Krestovskiy 2.86 1 *e*P **Pn** **17 31 13.4 +1.8**
KRSR Krestovskiy 2.86 1 PN **Pn** **17 31 13.4 +1.8**
PAU Pauzhetka 2.94 231 *e*P **Pn** **17 31 15.4 +2.8**
PAU *e*S **Sn** **17 31 52.4 +5.8**
PAU Pauzhetka 2.94 231 PN **Pn** **17 31 15.4 +2.8**
PAU S **Sn** **17 31 52.4 +5.8**
KLY Klyuchi 2.96 2 *e*P **Pn** **17 31 14.8 +2.0**
KLY *e*S **Sn** **17 31 50.1 +3.1**
KLY Klyuchi 2.96 2 PN **Pn** **17 31 14.8 +2.0**
KLY S **Sn** **17 31 50.1 +3.1**
SRDR Sredinnyy 2.99 352 *e*P **Pn** **17 31 14.7 +1.4**
SRDR Sredinnyy 2.99 352 PN **Pn** **17 31 14.7 +1.4**
KBTR Krutoberegovo 3.16 24 *e*P **Pn** **17 31 16.4 +0.9**
KBTR Krutoberegovo 3.16 24 PN **Pn** **17 31 16.4 +0.9**
KBG Krutoberegovo 3.17 23 *e*P **Pn** **17 31 16.5 +0.8**
KBG *e*S **Sn** **17 31 54.8 +2.6**
KBG Krutoberegovo 3.17 23 PN **Pn** **17 31 16.5 +0.8**
KBG S **Sn** **17 31 54.8 +2.6**
BDR Baidarnaya 3.24 7 *e*P **Pn** **17 31 19.2 +2.5**
BDR *e*S **Sn** **17 31 57.9 +3.9**
BDR Baidarnaya 3.24 7 PN **Pn** **17 31 19.2 +2.5**
BDR S **Sn** **17 31 57.9 +3.9**
SMKR Semkarok 3.28 10 *e*P **Pn** **17 31 19.3 +2.1**
SMKR Semkarok 3.28 10 PN **Pn** **17 31 19.3 +2.1**
SRKR Sorokina 3.32 7 *e*P **Pn** **17 31 20.6 +2.8**
SRKR *e*S **Sn** **17 32 00.5 +4.4**
SRKR Sorokina 3.32 7 PN **Pn** **17 31 20.6 +2.8**
SRKR S **Sn** **17 32 00.5 +4.4**
BKI Bering 3.71 58 *e*P **Pn** **17 31 22.8 -0.3**
BKI *e*S **Sn** **17 32 01.0 -4.4**
BKI Bering 3.71 58 PN **Pn** **17 31 22.8 -0.3**
SKR Severo-Kuril's 3.80 227 *e*P **Pn** **17 31 26.4 +2.0**
SKR *e*S **Sn** **17 32 14.4 +6.6**
SKR Severo-Kuril's 3.80 227 *e*PN **Pn** **17 31 27.9 +3.5**
SKR *e*S **Sn** **17 32 13.2 +5.4**
SKR smax smax
comp=N,308nm,0.7s
SKR smax smax
comp=E,417nm,0.7s
SKR MLR MLR
comp=Z,100nm,12.0s
ALID Alaid 3.93 233 *e*P **Pn** **17 31 29.7 +3.4**
ALID Alaid 3.93 233 PN **Pn** **17 31 29.7 +3.4**
TILK Tilichiki 7.75 21 *e*P Pn 17 32 23.6 +5.3
TILK Tilichiki 7.75 21 PN Pn 17 32 23.6 +5.3
MA2 Magadan 8.22 323 P **Pn** **17 32 23.4 -1.5**
comp=Z,0.4nm,0.3s,baz=115,slow=12,SNR=4.6
MA2 LR LR 17 36 07.3
comp=Z,141nm,18.1s,baz=128,slow=42
MA2 Magadan 8.22 323 PN **Pn** **17 32 24.1 -0.8**
MA2 Magadan 8.22 323 Pn **Pn** **17 32 24.1 -0.8**
SMY Shemya 8.23 89 PN **Pn** **17 32 25.9 +0.8**
SMY Shemya 8.23 89 Pn **Pn** **17 32 25.9 +0.8**
SMY Sn Sn 17 33 50.3 -6.3
TYV Tymovskoe 11.24 264 *e*PN Pn 17 33 11.9 +5.7
TYV pmax pmax
comp=Z,100nm,5.0s
TYV pmax pmax
comp=Z,11nm,1.0s
AMKA Amchitka 11.68 92 Pn **Pn** **17 33 12.9 +0.8**
YSS Yuzh-Sakhalins 13.03 248‖ *e*PN **P** **17 33 36.9 -3.0**
YSS MLR MLR
comp=N,100nm,14.0s
YSS MLR MLR
comp=E,100nm,14.0s
YSS MLR MLR
comp=Z,200nm,14.0s
YUK Yuzh-Kuril'sk 13.40 232 *e*PN **Pn** **17 33 34.8 -1.0**
YUK pmax pmax
comp=Z,66nm,0.6s
ADK Adak 13.94 87 P **Pn** **17 33 43.1 +0.1**
ADK Adak 13.94 87 Pn **Pn** **17 33 43.1 +0.1**
GSTR Great Sitkin T 14.26 86 Pn **Pn** **17 33 47.0 -0.4**
JKA Kamikawa-asahi 14.95 239 Pn **Pn** **17 33 57.5 +1.0**
JKA IAmb IAmb 17 34 03.5
comp=Z,28nm,1.0s
ASAJ Asahikawa 14.96 239 P **Pn** **17 33 57.6 +1.0**
comp=Z,1.3nm,0.3s,baz=78,slow=12,SNR=29
ASAJ Asahikawa 14.96 239 P **Pn** **17 33 57.5 +1.0**
ASAJ pmax pmax
comp=Z,28nm,1.0s
BILL Bilibino 14.98 8 *i* P **Pn** **17 33 55.6 -1.2**
BILL pmax pmax
comp=Z,1.0nm,1.2s
BILL MLR MLR
comp=Z,40nm,12.0s
GRNR Gornyy 15.00 270‖ *i* P **P** **17 34 01.1 -0.7**
GRNR *e*S **S** **17 36 50.5 -7.3**
GRNR pmax pmax
comp=Z,10.0nm,0.7s
GRNR smax smax
comp=N,1.0nm,1.0s
GRNR MLR MLR
comp=E,100nm,16.0s
GRNR MLR MLR
comp=N,110nm,17.0s
GRNR MLR MLR
comp=Z,130nm,18.0s
ATKA Atka Island 15.35 84 Pn **Pn** **17 34 01.9 +0.4**
ATKA IAmb IAmb 17 34 03.5
comp=Z,20nm,1.0s
ERM Erimo 16.23 233 *de*P **Pn** **17 34 11.0 -1.9**
ERM pmax pmax
comp=Z,8.0nm,0.5s
ERM Erimo 16.23 233 Pn **Pn** **17 34 09.2 -3.7**
TEY Ternei 17.62 251‖ *e*P **P** **17 34 32.0 +1.2**
TEY pmax pmax
comp=Z,10.0nm,1.3s
KLR Kul'dur 18.37 269 P **Pn** **17 34 39.6 +0.2**
comp=Z,0.7nm,0.3s,baz=73,slow=8.2,SNR=14
KLR Kul'dur 18.37 269‖ *e*P **P** **17 34 37.0 -2.1**
KLR pmax pmax
comp=Z,10.0nm,2.4s
KLR MLR MLR
comp=Z,400nm,11.0s
YAK Yakutsk 18.44 310 P **Pn** **17 34 39.4 -0.7**
comp=Z,0.6nm,0.3s,baz=302,slow=0.6,SNR=18
YAK S **Sn** **17 38 01.9 -3.0**
comp=Z,0.0nm,0.3s,baz=323,slow=5.1,SNR=1.6
YAK Yakutsk 18.44 310 *e*P **P** **17 34 38.9 -0.7**
YAK *e*S **Sn** **17 38 02.9 -2.0**
YAK pmax pmax
comp=Z,44nm,0.7s
YAK pmax pmax
comp=N,4.0nm,0.6s
YAK pmax pmax
comp=E,8.0nm,0.6s
YAK smax smax
comp=E,50nm,2.7s
YAK smax smax
comp=N,45nm,2.7s
YAK Yakutsk 18.44 310 P **Pn** **17 34 39.3 -0.8**
ZEA Zeya 19.65 285 *e*P **Pn** **17 34 54.8 +0.1**
ZEA pmax pmax
comp=Z,12nm,1.0s
USA0B Ussuriysk Arra 20.77 255‖ *e*P **P** **17 35 04.2 -1.0**
USRK Ussuriysk Ar. 20.77 255 P **P** **17 35 04.2 -1.0**
comp=Z,1.7nm,0.5s,baz=56,slow=12,SNR=4.7
FALS False Pass 21.07 71 P **P** **17 35 11.4 +3.1**
RDOG Red Dog Mine 22.69 36 P **P** **17 35 26.1 +0.5**
MJB9 Matsu-Tunnel 22.90 232 P **P** **17 35 28.8 +0.8**
MAJO Matsushiro 22.90 232 *c i* P **P** **17 35 28.5 +0.5**
MAJO pmax pmax
comp=Z,25nm,0.8s
MAJO Matsushiro 22.90 232 P **P** **17 35 28.8 +0.8**
MAT Matsushiro 22.90 232 P **P** **17 35 28.7 +0.7**
MJAR Matsushiro Arr 22.90 232 P **P** **17 35 29.0 +1.0**
comp=Z,18nm,0.8s,baz=18,slow=10,SNR=79
TIXI Tiksi 22.93 335 P **P** **17 35 27.5 -0.5**
TIXI pmax pmax
comp=Z,9.0nm,0.9s
TIXI Tiksi 22.93 335 P **P** **17 35 27.5 -0.5**
CNBA Chernabura Isl 23.25 70 P **P** **17 35 30.0 -1.4**
CNBA IAmb IAmb 17 35 31.1
comp=Z,18nm,0.9s
TTA Tatalina 24.40 50 P **P** **17 35 42.1 0.0**
TTA pmax pmax
comp=Z,15nm,0.7s
TTA Tatalina 24.40 50 P **P** **17 35 42.1 0.0**
TTA IAmb IAmb 17 35 44.2
comp=Z,15nm,0.7s
INU Inuyama 24.43 232 P **P** **17 35 43.6 +1.1**
INU IAmb IAmb 17 35 48.6
comp=Z,19nm,1.0s
SVW2 Sparrevohn 24.58 54 P **P** **17 35 44.2 +0.6**
PPLA Purkeypile 26.15 50 P **P** **17 35 59.6 +1.6**
PPLA IAmb IAmb 17 36 03.8
comp=Z,18nm,1.5s
OHAK Old Harbor 26.20 63 P **P** **17 35 57.9 -0.5**
OHAK IAmb IAmb 17 35 58.3
comp=Z,12nm,0.9s
BOD Bodaibo 26.22 299 *e*P **P** **17 35 57.3 -1.2**
BOD pmax pmax
comp=Z,11nm,0.9s
SPU Mount Spurr 26.29 54 P **P** **17 36 01.6 +2.4**
KDAK Kodiak Island 26.47 61 P **P** **17 36 00.7 0.0**
comp=Z,2.5nm,0.4s,baz=266,slow=1.8,SNR=8.2
KDAK Kodiak Island 26.47 61 P **P** **17 36 00.8 0.0**
KDAK pmax pmax
comp=Z,37nm,1.5s
KDAK Kodiak Island 26.47 61 P **P** **17 36 00.8 0.0**
CNPM China Poot 26.88 57 P **P** **17 36 06.8 +2.3**
CNPM IAmb IAmb 17 36 06.8
comp=Z,21nm,1.4s
TRF Thorofare Moun 27.00 49 P **P** **17 36 06.3 +0.6**
TRF IAmb IAmb 17 36 07.0
comp=Z,10nm,1.0s
KS19 Wonju Array Si 27.53 248 P **P** **17 36 11.6 +1.1**
KSRS Korea Array 27.53 248 P **P** **17 36 10.4 0.0**
comp=Z,1.2nm,0.5s,baz=41,slow=9.0,SNR=7.1
RND Reindeer 27.65 49 P **P** **17 36 11.3 -0.1**
RND pmax pmax
comp=Z,8.0nm,1.0s
RND Reindeer 27.65 49 P **P** **17 36 11.3 -0.1**
RND IAmb IAmb 17 36 12.0
comp=Z,8.3nm,1.0s
GHO Glory Hole Cre 27.73 52 P **P** **17 36 11.6 -0.6**
MDM Murphy Dome 27.88 45 P **P** **17 36 14.2 +0.8**
WRH Wood River Hil 27.95 46 P **P** **17 36 14.2 +0.2**
WRH IAmb IAmb 17 36 15.3
comp=Z,8.5nm,0.9s
KNK Knik Glacier 27.99 53 P **P** **17 36 14.7 +0.2**
KNK IAmb IAmb 17 36 15.7
comp=Z,12nm,0.9s
SML Sawmill 28.01 52 P **P** **17 36 14.7 +0.1**
COLA College 28.05 45 P **P** **17 36 15.6 +0.8**
COLA pmax pmax
comp=Z,10.0nm,0.3s
COLA College 28.05 45 P **P** **17 36 15.6 +0.8**
CCB Clear Creek Bu 28.07 46 P **P** **17 36 15.2 +0.2**
DHY Denali Highway 28.34 49 P **P** **17 36 17.6 0.0**
HDA Harding Lake 28.45 46 P **P** **17 36 18.1 -0.3**
HDA IAmb IAmb 17 36 19.4
comp=Z,5.9nm,0.4s
IL31 28.46 46 P **P** **17 36 18.6 +0.2**
ILAR Eielson Array 28.46 46 P **P** **17 36 18.4 -0.1**
comp=Z,3.7nm,0.8s,baz=263,slow=8.3,SNR=33
ILAR LR LR 17 47 12.9
comp=Z,46nm,21.1s,baz=292,slow=35
KLU Klutina 29.19 52 P **P** **17 36 25.6 +0.5**
RIDG Independent Ri 29.41 48 P **P** **17 36 26.4 -0.7**
DOT Dot Lake 29.77 48 P **P** **17 36 28.7 -1.5**
RAGM Ragged Mountai 29.98 54 P **P** **17 36 32.4 +0.3**
RAGM IAmb IAmb 17 36 35.2
comp=Z,8.1nm,0.9s
VRDI Verde Repeater 30.41 52 P **P** **17 36 37.1 +1.1**
CRQM Cirque 30.65 53 P **P** **17 36 38.8 +0.6**
CRQM IAmb IAmb 17 36 39.9
comp=Z,6.7nm,0.7s
TGL Tana Glacier 30.80 53 P **P** **17 36 38.5 -0.9**
TGL IAmb IAmb 17 36 40.9
comp=Z,8.3nm,0.8s
EGAK Eagle 30.91 45 P **P** **17 36 39.8 -0.3**
EGAK IAmb IAmb 17 36 41.0
comp=Z,5.9nm,0.8s
BALM Baldy 30.97 53 P **P** **17 36 40.7 -0.2**
BARN Barnard Glacie 31.29 52 P **P** **17 36 44.9 +1.1**
BARN IAmb IAmb 17 36 45.7
comp=Z,4.4nm,0.6s
EPYK Eagle Plains 32.54 42 P **P** **17 36 55.6 +1.0**
EPYK IAmb IAmb 17 36 56.9
comp=Z,15nm,1.6s
HYT Haines Junctio 33.32 52 P **P** **17 37 02.5 +1.0**
INK Inuvik 33.51 38 P **P** **17 37 03.5 +0.6**
comp=Z,1.2nm,0.6s,baz=293,slow=5.2,SNR=6.5
INK Inuvik 33.51 38 P **P** **17 37 03.6 +0.7**
INK IAmb IAmb 17 37 22.7
comp=Z,6.4nm,1.4s
H11N2 WAKE ISLAND Hy 33.93 169 T T 18 13 34.2
baz=353,slow=76,SNR=403
H11N3 WAKE ISLAND Hy 33.95 169 T T 18 13 33.6
baz=353,slow=76,SNR=452
H11N1 WAKE ISLAND Hy 33.95 169 T T 18 13 39.0
baz=353,slow=76,SNR=488
SONM Songino Array 34.06 283 P **P** **17 37 07.2 -0.9**
comp=Z,1.0nm,0.3s,baz=57,slow=7.9,SNR=8.1
SONM PcP **PcP** **17 39 44.8 +0.1**
comp=Z,1.4nm,0.6s,baz=98,slow=1.4,SNR=6.7
WHY Whitehorse 34.60 52 P **P** **17 37 13.6 +1.0**
SKAG Skagway 34.76 54 P **P** **17 37 15.6 +1.8**
SKAG IAmb IAmb 17 37 17.2
comp=Z,3.9nm,1.0s
HHC Hu-ho-hao-te 34.88 269 *e*P **P** **17 37 16.8 +1.6**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,99nm,5.7s
H11S1 WAKE ISLAND Hy 35.12 170 T T 18 14 59.0
baz=352,slow=76,SNR=12
H11S3 WAKE ISLAND Hy 35.13 170 T T 18 15 00.7
baz=352,slow=76,SNR=30
H11S2 WAKE ISLAND Hy 35.14 170 T T 18 15 01.8
baz=352,slow=76,SNR=11
DLBC Dease Lake 37.70 54 P **P** **17 37 41.1 +2.2**
DLBC IAmb IAmb 17 37 42.0
comp=Z,3.3nm,0.8s
LZH Lanzhou 42.57 270 *e*P **P** **17 38 20.1 +0.4**
LZH pP pP 17 38 36.7 +4.5
LZH *e*PP **PP** **17 40 02.5 +3.6**
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,56nm,5.7s
YKA Yellowknife Ar 42.81 43 P **P** **17 38 21.6 +0.5**
comp=Z,1.2nm,0.6s,baz=299,slow=8.4,SNR=4.1
GTA Gaotai 42.81 276 *e*P **P** **17 38 21.7 +0.1**
GTA pmax pmax
comp=Z,10.0nm,0.7s
ZALV Zalesovo Beam 42.83 303 P **P** **17 38 19.2 -2.1**
comp=Z,0.6nm,0.4s,baz=57,slow=8.8,SNR=2.8
DGZ Jazzator, Alta 43.76 296‖ *e*P **P** **17 38 28.1 -1.0**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
SPA0 Spitsbergen Ar 46.91 350 P **P** **17 38 53.5 0.0**
WMQ Urumqi 47.10 289 *e*P **P** **17 38 56.7 +1.2**
WMQ LR LR
comp=Z,2μm,11.9s
WMQ LR LR
comp=Z,1μm,12.7s
WMQ LR LR
comp=Z,1μm,13.5s
KURK Kurchatov 47.79 302 *ce*P **P** **17 38 57.9 -2.8**
KURK pmax pmax
comp=Z,8.0nm,1.3s
KURK Kurchatov 47.79 302 P **P** **17 38 58.6 -2.1**
KURK Kurchatov 47.79 302 **PcP** **17 40 28.6 -0.3**
KURBB Kurchatov Arra 47.89 302 P **P** **17 38 58.9 -2.5**
comp=Z,2.7nm,0.5s,baz=60,slow=7.5,SNR=12
KURBB PcP **PcP** **17 40 28.6 -0.7**
comp=Z,1.0nm,0.7s,baz=52,slow=3.8,SNR=5.0
MK31 Makanchi Array 48.25 296 P **P** **17 39 02.5 -1.8**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 48.25 296 P **P** **17 39 02.5 -1.8**
MK31 IAmb IAmb 17 39 06.1
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 48.25 296 P **P** **17 39 02.0 -2.4**
comp=Z,1.9nm,0.4s,baz=56,slow=6.5,SNR=32
MKAR PcP **PcP** **17 40 30.4 -0.3**
comp=Z,0.5nm,0.6s,baz=62,slow=5.6,SNR=2.1
MKAR Makanchi Array 48.25 296 *i* P **P** **17 39 02.7 -1.6**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
B08A Colville Reser 48.35 62 P **P** **17 39 05.2 +0.1**
B08A IAmb IAmb 17 39 06.7
comp=Z,4.8nm,1.1s
MAKZ Makanchi 48.41 296 P **P** **17 39 03.5 -2.0**
MAKZ pmax pmax
comp=Z,4.0nm,1.2s
MAKZ Makanchi 48.41 296 P **P** **17 39 03.5 -2.0**
MAKZ IAmb IAmb 17 39 04.5
comp=Z,4.1nm,1.2s
TGY Tagaytay City 50.04 234 P **P** **17 39 19.6 +1.3**
comp=Z,24nm,0.3s,baz=190,slow=7.1,SNR=3.2
E09A Wood Farm, Sta 50.13 63 P **P** **17 39 18.1 -0.6**
E09A IAmb IAmb 17 39 20.1
comp=Z,5.0nm,0.8s
WALA Waterton Lakes 50.72 58 P **P** **17 39 23.8 +0.6**
WALA IAmb IAmb 17 39 24.3
comp=Z,3.2nm,0.6s
JTMT Jette 51.37 59 P **P** **17 39 29.0 +0.9**
JTMT IAmb IAmb 17 39 30.1
comp=Z,6.1nm,1.0s
BMO Blue Mountains 51.65 64 P **P** **17 39 30.5 +0.2**
BMO pmax pmax
comp=Z,8.0nm,1.7s
BMO Blue Mountains 51.65 64 P **P** **17 39 30.5 +0.2**
BMO IAmb IAmb 17 39 53.9
comp=Z,8.2nm,1.6s
MOD Modoc Plateau 51.95 69 P **P** **17 39 33.1 +0.5**
MOD IAmb IAmb 17 39 34.8
comp=Z,2.9nm,0.8s
ARCES ARCESS Array B 53.10 342 P **P** **17 39 38.9 -1.7**
comp=Z,1.8nm,0.6s,baz=50,slow=9.4,SNR=15
ARE0 ARCESS Array S 53.10 342 P **P** **17 39 38.9 -1.7**
HRY Holter Researc 53.31 59 P **P** **17 39 42.1 -0.4**
AFDM Forest Hills D 53.56 72 P **P** **17 39 45.5 +1.1**
AFDM IAmb IAmb 17 40 03.2
comp=Z,3.8nm,1.3s
PAHR Pah Rah Range 53.94 70 P **P** **17 39 47.9 +0.6**
PAHR IAmb IAmb 17 39 49.7
comp=Z,4.4nm,1.1s
MCMT McKenzie Canyo 54.04 61 P **P** **17 39 48.1 0.0**
KDJ Kajisay 54.05 294 P **P** **17 39 47.0 -1.1**
KDJ pmax pmax
comp=Z,3.0nm,0.6s
KDJ Kajisay 54.05 294 P **P** **17 39 47.0 -1.1**
KDJ IAmb IAmb 17 39 50.3
comp=Z,3.5nm,0.6s
BOZ Bozeman (W) 54.16 60 P **P** **17 39 49.1 +0.3**
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 54.16 60 P **P** **17 39 49.0 +0.3**
PNTR Pine Nut 54.24 71 P **P** **17 39 50.9 +1.3**
PNTR IAmb IAmb 17 39 52.1
comp=Z,4.8nm,0.8s
TMCR Tamitsa 54.64 333 *e*P **P** **17 39 50.1 -1.7**
TMCR pmax pmax
comp=Z,4.0nm,0.4s
LSA Lhasa 54.64 273 P **P** **17 39 53.0 +0.1**
LSA pmax pmax
comp=Z,4.0nm,1.0s
LSA Lhasa 54.64 273 P **P** **17 39 53.0 +0.1**
LSA IAmb IAmb 17 39 54.9
comp=Z,3.6nm,1.0s
WAKR Walker 54.74 71 P **P** **17 39 54.5 +1.4**
YHH Holmes Hill 55.11 60 P **P** **17 39 56.1 +0.2**
KVN Kaiserville 55.12 70 P **P** **17 39 57.1 +1.2**
KVN pmax pmax
comp=Z,5.0nm,1.2s
KVN Kaiserville 55.12 70 P **P** **17 39 57.1 +1.2**
KVN IAmb IAmb 17 39 58.4
comp=Z,5.1nm,1.2s
RYN Ryan 55.17 70 P **P** **17 39 57.5 +1.3**
YNE Yellowstone No 55.40 60 P **P** **17 39 57.9 0.0**
NVAR Mina Array Bea 55.43 70 P **P** **17 39 59.8 +1.6**
comp=Z,1.7nm,0.7s,baz=299,slow=7.7,SNR=13
NV11 Mina Array Sit 55.51 70 P **P** **17 39 59.5 +0.9**
H17A Grant Village 55.53 60 P **P** **17 39 59.5 +0.7**
H17A IAmb IAmb 17 40 02.6
comp=Z,3.1nm,0.9s
ELK Elko 55.54 66 P **P** **17 39 59.3 +0.3**
ELK pmax pmax
comp=Z,2.0nm,0.7s
ELK Elko 55.54 66 P **P** **17 39 59.3 +0.3**
IMW Indian Meadow 55.68 61 P **P** **17 40 00.5 +0.5**
IMW IAmb IAmb 17 40 02.1
comp=Z,2.8nm,0.9s
RLMT Red Lodge 55.70 59 P **P** **17 40 01.0 +1.0**
RLMT IAmb IAmb 17 40 02.5
comp=Z,5.1nm,0.9s
FXWY Fox Creek 55.81 61 P **P** **17 40 01.9 +1.1**
TPAW Teton Pass 55.95 61 P **P** **17 40 02.8 +0.9**
HWUT Hardware Ranch 56.94 63 P **P** **17 40 10.0 +1.2**
HWUT IAmb IAmb 17 40 10.9
comp=Z,2.7nm,0.8s
KK31 Karatay Array 56.96 299 P **P** **17 40 06.6 -2.1**
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KK31 Karatay Array 56.96 299 P **P** **17 40 06.6 -2.1**
KKAR Karatay Array 56.96 299 P **P** **17 40 06.6 -2.1**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 56.96 299 P **P** **17 40 06.6 -2.1**
KKAR IAmb IAmb 17 40 09.6
comp=Z,1.7nm,0.7s
R11A Troy Canyon, C 57.02 69 P **P** **17 40 10.1 +0.7**
R11A IAmb IAmb 17 40 11.1
comp=Z,3.2nm,1.2s
BW06 Boulder Array 57.19 61 P **P** **17 40 11.1 +0.4**
BW06 IAmb IAmb 17 40 13.8
comp=Z,4.8nm,1.3s
PD31 Pinedale Array 57.19 61 P **P** **17 40 11.4 +0.8**
PDAR Pinedale Array 57.19 61 P **P** **17 40 11.8 +1.2**
comp=Z,1.5nm,0.6s,baz=312,slow=3.3,SNR=16
DUG Dugway, Tooele 57.25 65 P **P** **17 40 12.4 +1.4**
DUG pmax pmax
comp=Z,4.0nm,1.2s
DUG Dugway, Tooele 57.25 65 P **P** **17 40 12.4 +1.4**
DUG IAmb IAmb 17 40 27.1
comp=Z,3.8nm,1.2s
CHTO Chiang Mai 58.19 259 P **P** **17 40 18.1 +0.5**
CHTO pmax pmax
comp=Z,4.0nm,0.6s
CHTO Chiang Mai 58.19 259 P **P** **17 40 18.1 +0.5**
CMAR Chiang Mai Arr 58.46 258 P **P** **17 40 20.8 +1.2**
comp=Z,1.8nm,0.6s,baz=28,slow=6.9,SNR=12
CMAR Chiang Mai Arr 58.46 258 *ce*P **P** **17 40 20.0 +0.4**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
PBKT Sadao Pong 58.77 255 P **P** **17 40 22.5 +0.8**
PBKT IAmb IAmb 17 40 53.9
comp=Z,3.6nm,0.8s
BTK Batken 58.95 296 P **P** **17 40 22.1 -0.7**
ODAN Odare 58.97 274 *e*P **P** **17 40 21.7 -1.6**
RSSD Black Hills 59.06 57 P **P** **17 40 24.9 +1.2**
RSSD pmax pmax
comp=Z,8.0nm,0.7s
RSSD Black Hills 59.06 57 P **P** **17 40 24.9 +1.2**
SIJI Sorong 59.27 215 P **P** **17 40 26.4 +1.3**
comp=Z,9.1nm,0.8s,baz=269,slow=2.6,SNR=3.6
RAMN Ramite 59.38 275 *e*P **P** **17 40 24.7 -1.4**
comp=Z,22nm,0.4s
KKN Kakani 59.54 276 *e*P **P** **17 40 26.4 -0.8**
comp=Z,13nm,0.4s
PKI Pulchoki 59.63 276 *e*P **P** **17 40 26.9 -1.1**
comp=Z,8.1nm,0.5s
GKN Gorkha 59.77 277 *e*P **P** **17 40 27.7 -1.0**
comp=Z,7.0nm,0.3s
DMN Daman 59.78 276 *e*P **P** **17 40 28.0 -0.9**
FINES FINESS Array B 59.96 337 P **P** **17 40 28.2 -1.2**
comp=Z,2.2nm,0.3s,baz=43,slow=6.8,SNR=37
FINES FINESS Array B 59.96 337 *i* P **P** **17 40 28.3 -1.0**

FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KOLN	Koldanda	60.56	278	eP	P	17 40 32.7	-1.5
	comp=Z,6.4nm,0.5s						
PV22	Blue Mesa, Par	60.62	64	P	P	17 40 35.6	+1.2
PV22				IAmb	IAmb	17 41 14.8	
	comp=Z,4.7nm,1.3s						
CHGR	Chuyangaron	60.84	296	P	P	17 40 34.6	-1.3
NB2	NORSAR Subarra	63.35	344	P	P	17 40 51.0	-1.2
	comp=Z,1.4nm,0.5s,baz=25,slow=6.9						
NOA	NORSAR Array B	63.35	344	P	P	17 40 51.1	-1.0
	comp=Z,1.2nm,0.5s,baz=28,slow=6.0,SNR=18						
SCHQ	Schefferville	65.30	28	P	P	17 41 04.8	-0.3
	comp=Z,2.3nm,0.8s,baz=278,slow=19,SNR=2.1						
SCHQ	Schefferville	65.30	28	P	P	17 41 04.5	-0.6
AKASG	Malin Array Be	68.50	329	P	P	17 41 23.6	-1.8
	comp=Z,1.1nm,0.4s,baz=29,slow=6.7,SNR=7.3						
AKBB	Malin Array Si	68.50	329⇑	eP	P	17 41 24.1	-1.3
WMOK	Wichita Mounta	68.77	60	P	P	17 41 27.6	+0.2
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WMOK	Wichita Mounta	68.77	60	P	P	17 41 27.6	+0.2
WMOK				IAmb	IAmb	17 41 28.7	
	comp=Z,3.5nm,0.8s						
KBZ	Khabaz	69.50	317	P	P	17 41 31.1	-0.6
	comp=Z,1.3nm,0.7s,baz=231,slow=12,SNR=2.5						
KBZ	Khabaz	69.50	317⇓	eP	P	17 41 30.5	-1.2
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TX31	Lajitas Ar. Si	70.32	67	P	P	17 41 37.8	+0.7
TX32	Lajitas Array	70.32	67	P	P	17 41 37.7	+0.6
TXAR	Lajitas Array	70.32	67	P	P	17 41 38.1	+1.0
	comp=Z,2.6nm,0.8s,baz=302,slow=4.5,SNR=36						
CLL	Collm	72.18	339	i P	P	17 41 47.3	-0.6
	comp=Z,7.0nm,0.9s						
CLL	Collm	72.18	339	i P	P	17 41 47.3	-0.6
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BUR08	Bucovina Ar. S	72.44	330	P	P	17 41 48.7	-0.9
BUR08				IAmb	IAmb	17 42 21.6	
	comp=Z,11nm,1.6s						
MORC	Moravsky Berou	72.58	336	eP	P	17 41 50.2	-0.1
LANS	Liptovska Anna	72.67	334	eP	P	17 41 52.2	+1.3
LANS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LANS	Liptovska Anna	72.67	334	eP	P	17 41 52.2	+1.3
PRU	Pruhonice	73.09	338	eP	P	17 41 53.6	+0.3
PRU	Pruhonice	73.09	338	eP	P	17 41 53.6	+0.3
VRAC	Vranov	73.24	336	eP	P	17 41 53.6	-0.6
JAVC	Velka Javorina	73.39	335	eP	P	17 41 56.7	+1.5
VYHS	Vyhne	73.44	334	eP	P	17 41 56.0	+0.6
VYHS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VYHS	Vyhne	73.44	334	eP	P	17 41 56.0	+0.6
PBCC	Pribram	73.49	338	eP	P	17 41 55.7	0.0
KRUC	Moravsky	73.52	336	eP	P	17 41 55.8	0.0
KHC	Kasperske Hory	74.11	338⇓	eP	P	17 41 55.5	-3.8
KHC				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KHC	Kasperske Hory	74.11	338	eP	P	17 41 59.3	0.0
KHC	Kasperske Hory	74.11	338	P	P	17 41 59.4	+0.1
GERES	GERESS Array B	74.35	338	P	P	17 42 00.2	-0.7
	comp=Z,1.8nm,0.7s,baz=35,slow=4.9,SNR=16						
CONA	Conrad Observa	74.70	336	i P	P	17 42 03.1	+0.2
	comp=Z,1.9nm,0.7s						
ARSA	Arzberg	75.42	336	i P	P	17 42 07.7	+0.8
	comp=Z,4.5nm,1.0s						
CBN	Corbin Frederi	76.01	43	P	P	17 42 11.5	+1.1
SOKA	Soboth	76.07	336	i P	P	17 42 11.3	+0.6
	comp=Z,6.1nm,1.5s						
KBA	Koelnbreinsper	76.09	338	i P	P	17 42 11.7	+0.7
	comp=Z,14nm,1.0s						
WATA	Walderalm	76.25	339	i P	P	17 42 11.6	-0.2
	comp=Z,2.9nm,0.7s						
RETA	Reutte	76.28	339	i P	P	17 42 12.1	+0.2
	comp=Z,1.5nm,0.7s						
ECH	Echery	76.29	342	P	P	17 42 11.7	-0.2
ECH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ECH	Echery	76.29	342	P	P	17 42 11.7	-0.2
ECH				IAmb	IAmb	17 42 13.8	
	comp=Z,7.2nm,1.2s						
WTTA	Wattenberg	76.30	339	i P	P	17 42 12.6	+0.4
	comp=Z,4.6nm,0.8s						
MOTA	Moosalm	76.34	339	i P	P	17 42 12.4	0.0
	comp=Z,6.4nm,1.1s,SNR=4.1						
OBKA	Obir	76.35	337	i P	P	17 42 12.8	+0.5
	comp=Z,8.1nm,1.2s						
WRAB	Tennant Creek	76.41	205⇓	eP	P	17 42 12.5	-0.2
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	Warramunga Arr	76.42	205	P	P	17 42 13.2	+0.4
	comp=Z,2.0nm,0.7s,baz=22,slow=6.3,SNR=13						
SQTA	Sankt Quirin	76.43	339	i P	P	17 42 13.1	+0.3
	comp=Z,7.5nm,1.0s						
BRTR	Keskin Array B	76.56	321	P	P	17 42 13.4	-0.3
	comp=Z,0.5nm,0.5s,baz=90,slow=2.9,SNR=2.3						
ABTA	Abfaltersbach	76.60	338	i P	P	17 42 13.9	+0.2
	comp=Z,7.9nm,0.9s						
PRED	Cave del Predi	76.64	337	P	P	17 42 13.2	-0.8
DAVA	Damuels	76.65	340	i P	P	17 42 14.1	0.0
	comp=Z,4.7nm,1.2s						
FETA	Feichten	76.73	339	i P	P	17 42 14.8	+0.3
	comp=Z,4.1nm,0.7s,SNR=6.6						
DIVS	Divibare	77.17	332	P	P	17 42 16.1	-0.9
DIVS				IAmb	IAmb	17 42 17.6	
	comp=Z,5.2nm,1.0s						
FUORN	Ofenpass-Fuorn	77.21	339	P	P	17 42 17.1	-0.2
FUORN				IAmb	IAmb	17 42 18.8	
	comp=Z,5.9nm,0.9s						
CTI	Castel Tesino	77.45	338	P	P	17 42 17.4	-1.1
CTI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CTI	Castel Tesino	77.45	338	P	P	17 42 17.4	-1.1
CTI				IAmb	IAmb	17 42 18.7	
	comp=Z,4.5nm,0.8s						
TUE	Stuetta	77.54	340	P	P	17 42 19.3	+0.1
PDG	Podgorica	78.92	332	P	P	17 42 25.3	-1.3
MURB	Monte Urbino	79.89	337	P	P	17 42 32.6	+0.7
ASAR	Alice Springs	80.10	205	P	P	17 42 34.3	+1.2
	comp=Z,2.6nm,0.8s,baz=16,slow=5.7,SNR=25						
NRCA	Norcia	80.15	336	P	P	17 42 33.9	+0.5
INTR	Introdacqua	80.73	335	P	P	17 42 35.9	-0.6
INTR				IAmb	IAmb	17 42 37.7	
	comp=Z,6.5nm,0.8s						
ESDC	Sonseca Array	86.36	348	P	P	17 43 05.3	-0.1
	comp=Z,0.9nm,0.7s,baz=6.5,slow=4.7,SNR=7.7						

JMA ***02*** *17:34:58.9±0.3, 28.°11N×128.°08E, h5km±3km, M5.2*
JMA Felt II J1.
NIED ***02*** *17:34:58.9, 28.°11N×128.°08E, h5km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.39; $M_{\theta\theta}$2.64; $M_{\phi\phi}$-3.03; $M_{r\theta}$-1.45; $M_{\theta\phi}$2.65; $M_{\phi r}$0.28; Fault plane solution: $M_0$4.17000×10^{16} NP1: ϕ_s295.00000°, δ84.00000°, λ21.00000°. NP2: ϕ_s202.00000°, δ69.00000°, λ174.00000°.*
NEIC ***02*** *17:35:00.9±2.4, 28.°06N±0.°05×128.°06E±0.°08, h11km±3km, mb4.9/132 Error ellipse: s-maj=10.2km s-min=6.7km az=91.0*
IDC ***02*** *17:35:00.3±0.5, 28.°04N×127.°96E, h0km, mb4.2/23, mb1 4.3/27, mb1mx4.2/39, mbtmp4.2/27, ML3.0/4, MS4.5/30, Ms1 4.5/30, ms1mx4.4/38, Error ellipse: s-maj=16.9km s-min=12.6km az=82.0*
GCMT ***02*** *17:35:01.9±0.1, 28.°03N±0.°01×128.°08E±0.°01, h12km, MW5.1/133, Moment Tensor Solution. s65,c98; s133,c248; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.06±.10; $M_{\theta\theta}$4.01±.09; $M_{\phi\phi}$-3.95±.09; $M_{r\theta}$1.85±.23; $M_{\theta\phi}$4.03±.07; $M_{\phi r}$-0.33±.24; Best double couple: $M_0$5.96300×10^{16} NP1:ϕ_s22.00000°, δ72.00000°, λ177.00000°. NP2:ϕ_s113.00000°, δ87.00000°, λ18.00000°. Principal axes: T 6.1050, Plg15.0000°, Azm339.0000°; N -0.2800, Plg72.0000°, Azm122.0000°; P -5.8210, Plg10.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***02*** *17:35:07.1±0.0, 28.°06N×128.°08E, h74km, mB4.9/46, mb4.4/59, Ms5.3/68, Ms7 5.0/66*
ISC 02 17:35:02.2±1.0**, 28.°01N**±0.°03×**128.°16E**±0.°03**, h16**km±6km**, n245,** σ1s**80**/245**, mb4.8**/91**, MS4.9**/46**, 1C-1D, Ryukyu**

Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.73	108	P	Pg	17 35 14.9	-1.7
JTK				S	Sg	17 35 26.0	-0.3
JOKE	Okinoerabujima	0.74	151	P	Pg	17 35 15.5	-1.3
JOKE				eS	Sb	17 35 27.1	+0.4
JAMN	Amaminishikomi	0.92	75	P	Pb	17 35 17.8	-2.1
JAMN				S	Sb	17 35 30.8	-1.1
JIH	Iheya	0.99	190	P	Pb	17 35 18.9	-2.1
JIH				eS	Sb	17 35 33.3	-0.4
JYRO	Yoronjima	1.02	165	P	Pb	17 35 20.7	-0.7
JYRO				eS	Sn	17 35 35.8	+0.1
JOW	Kunigami	1.18	175	P	Pn	17 35 22.8	-1.3
JOW				eS	Sn	17 35 39.6	-0.2
JOW	Kunigami	1.18	175	Pn	Pn	17 35 23.4	-0.7
JOW				Sn	Sn	17 35 39.7	0.0
JAM	Amami Oshima	1.33	72	P	Pn	17 35 24.4	-1.8
JAM				eS	Sn	17 35 42.6	-1.0
JTAJ	Takarajima	1.46	39	P	Pn	17 35 25.4	-2.5
JNTH	Nagotoyohara	1.49	185	P	Pn	17 35 27.8	-0.5
JNTH				eS	Sb	17 35 47.9	-0.3
JZK	Kikaishima	1.63	79	P	Pn	17 35 30.9	+0.7
JAGN	Aguni-jima	1.64	210	P	Pn	17 35 29.0	-1.3
JJT3	Tamagusuku3	1.89	190	P	Pn	17 35 34.6	+0.8
JKE	Kume jima 2	2.08	216	P	Pn	17 35 34.9	-1.5
JNN	Nakanoshima	2.36	39	P	Pn	17 35 40.6	+0.3
JYAK	Yakushimahirau	3.02	42	P	Pn	17 35 49.3	-0.1
JMTN	Minamitane	3.37	45	P	Pn	17 35 55.0	+0.8
JKDJ	Kitadaitoujima	3.47	126	P	Pn	17 35 55.8	+0.2
JNU	Nakatsue	5.61	24	Pn	Pn	17 36 29.3	+4.3
	6.5nm,0.3s,baz=190,slow=4.8,SNR=40						
JNU	Nakatsue	5.61	24	Pn	Pn	17 36 28.6	+3.6
YOJ	Yonaguni jima	5.82	234	Pn	Pn	17 36 31.1	+3.2
TATO	Taipei	6.70	245	Pn	Pn	17 36 42.3	+2.4
YHNB	Yeheng	6.94	243	Pn	Pn	17 36 45.2	+1.9
SSLB	Suanglung	7.73	239	Pn	Pn	17 36 56.4	+2.2
TWG	Pinlang	8.23	233		Pn	17 37 01.2	+0.2
TPUB	Ta-pu	8.26	237	Pn	Pn	17 37 02.8	+1.5
NJ2	Nanjing	9.02	299	eP	Pn	17 37 12.0	+0.3
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2				LR	LR		
	comp=N,15µm,14.2s						
NJ2				LR	LR		
	comp=E,7µm,16.5s						
NJ2				LR	LR		
	comp=Z,5µm,9.9s						
KSRS	Korea Array	9.42	359	Pn	Pn	17 37 17.2	0.0
	comp=Z,0.2nm,0.3s,baz=182,slow=14,SNR=6.7						
KSRS				LR	LR	17 40 57.3	
	comp=Z,5µm,19.6s,baz=178,slow=38						
INU	Inuyama	10.50	44	Pn	Pn	17 37 33.2	+1.1
JHJ	Hachijo jima 2	11.23	60	LR	LR	17 41 55.2	
	comp=Z,2µm,20.4s,baz=283,slow=36						
MAJO	Matsushiro	12.02	42	Pn	Pn	17 37 53.2	+0.3
MJAR	Matsushiro Arr	12.02	42	Pn	Pn	17 37 54.4	+1.5
	comp=Z,0.0nm,0.3s,baz=235,slow=15,SNR=4.8						
MJAR				LR	LR	17 43 17.6	
	comp=Z,2µm,18.1s,baz=225,slow=41						
MJB9	Matsu-Tunnel	12.02	42	Pn	Pn	17 37 53.6	+0.8
DL2	Dalian	12.15	335	P	P	17 38 14.9	+7.7
DL2				pmax	pmax		
	comp=Z,42nm,0.8s						
DL2				LR	LR		
	comp=N,6µm,13.0s						
DL2				LR	LR		
	comp=E,4µm,12.6s						
DL2				LR	LR		
	comp=Z,7µm,12.7s						
WHN	Wuhan	12.32	285	eP	Pn	17 37 59.3	+2.3
WHN				S	Sn	17 40 11.2	-2.7
WHN				LR	LR		
	comp=Z,13µm,12.7s						
WHN				LR	LR		
	comp=Z,13µm,12.7s						
WHN				LR	LR		
	comp=Z,11µm,9.8s						
JCJ	Chichijima	12.48	91	LR	LR	17 42 35.8	
	comp=Z,2µm,18.6s,baz=266,slow=36						
BJT	Baijiatuau	15.55	323	P	P	17 38 43.8	-1.2
BJT				IAmb	IAmb	17 38 55.2	
	comp=Z,77nm,1.2s						
BJI	Beijing	15.56	324	P	P	17 38 43.3	-1.8
BJI				S	Sn	17 41 35.0	+2.1
BJI				LR	LR		
	comp=Z,2µm,14.3s						
BJI				LR	LR		
	comp=Z,3µm,14.3s						
CN2	Changchun	15.91	353	eP	P	17 38 49.3	+0.4
CN2				eS	Sn	17 41 45.2	+3.9
CN2				SS	S	17 42 03.7	+8.3
CN2				pmax	pmax		
	comp=Z,20nm,2.2s						
CN2				pmax	pmax		
	comp=Z,640nm,5.4s						
CN2				LR	LR		
	comp=Z,6µm,16.0s						
CN2				LR	LR		
	comp=Z,6µm,16.0s						
CN2				LR	LR		
	comp=Z,7µm,15.0s						
TIY	Taiyuan	16.36	310	eP	P	17 38 59.6	+5.5
TIY				S	S	17 42 03.5	-1.3
TIY				pmax	pmax		
	comp=Z,410nm,3.7s						
TIY				LR	LR		
	comp=N,6µm,11.2s						
TIY				LR	LR		
	comp=E,1µm,9.1s						
TIY				LR	LR		
	comp=Z,4µm,16.2s						
USA0B	Ussuriysk Arra	16.45	10	P	P	17 38 54.0	-0.9
USRK	Ussuriysk Ar.	16.45	10	Pn	P	17 38 54.6	-0.3
	baz=200,slow=12,SNR=14						
USRK				LR	LR	17 44 34.4	
	comp=Z,1µm,18.9s,baz=181,slow=35						
ENH	Enshi	16.47	282	P	Pn	17 38 53.1	+0.4
MDJ	Mudanjiang	16.61	4	P	P	17 38 56.0	-0.7
MDJ				sS	sS	17 42 16.7	-0.1
MDJ				PcS	PcS	17 47 16.8	-3.0
MDJ				pmax	pmax		
	comp=Z,14nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,520nm,4.6s						
MDJ				LR	LR		
	comp=Z,4µm,16.4s						
MDJ				LR	LR		
	comp=Z,4µm,12.7s						
MDJ				LR	LR		
	comp=Z,5µm,17.2s						
MDJ	Mudanjiang	16.61	4	P	P	17 38 56.0	-0.7
XAN	Xi'an	17.54	295	P	P	17 39 07.3	+0.1
XAN				pP	sP	17 39 17.4	+3.8
XAN				S	Sn	17 42 19.5	-1.7
XAN				pmax	pmax		
	comp=Z,14nm,1.4s						
XAN				pmax	pmax		
	comp=Z,300nm,3.8s						
XAN				LR	LR		
	comp=Z,9µm,10.6s						
XAN				LR	LR		
	comp=Z,6µm,12.7s						
XAN				LR	LR		
	comp=Z,5µm,10.0s						
XAN	Xi'an	17.54	295	P	Pn	17 39 05.5	-0.7
ERM	Erimo	18.56	37	P	P	17 39 17.5	-0.8
HHC	Hu-ho-hao-te	18.71	317	eP	Pn	17 39 20.8	+0.4
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,640nm,8.5s						
HHC				LR	LR		
	comp=Z,5µm,12.2s						
HHC				LR	LR		
	comp=Z,5µm,13.3s						
HHC				LR	LR		
	comp=Z,6µm,13.3s						
QIZ	Qiongzhong	19.01	246	P	P	17 39 23.4	0.0
QIZ				S	Sn	17 42 54.3	-2.5
QIZ				sS	pS	17 43 16.7	+0.8
QIZ				pmax	pmax		
	comp=Z,470nm,4.5s						
QIZ				LR	LR		

	comp=Z,2µm,10.7s						
QIZ				LR	LR		
	comp=Z,3µm,10.1s						
QIZ				LR	LR		
	comp=Z,3µm,10.3s						
GYA	Guiyang	19.18	270	⇑P	Pn	17 39 28.2	+1.9
GYA				S	S	17 43 02.1	-0.2
GYA				pmax	pmax		
	comp=Z,20nm,1.5s						
GYA				pmax	pmax		
	comp=Z,450nm,6.1s						
GYA				LR	LR		
	comp=Z,4µm,11.0s						
GYA				LR	LR		
	comp=Z,4µm,12.2s						
GYA				LR	LR		
	comp=Z,5µm,12.9s						
BTO	Baotou	19.51	315	eP	Pn	17 39 30.3	+0.2
BTO				S	S	17 43 09.8	+1.1
ASAJ	Asahikawa	19.81	32	P	Pn	17 39 34.4	+0.9
	comp=Z,0.1nm,0.3s,baz=225,slow=14,SNR=4.0						
ASAJ				LR	LR	17 46 20.4	
	comp=Z,577nm,20.4s,baz=236,slow=34						
JKA	Kamikawa-asahi	19.81	32	P	P	17 39 31.6	-0.4
DAV	Davao City (W)	20.97	187	LR	LR	17 47 48.8	
	comp=Z,852nm,21.2s,baz=344,slow=37						
GUMO	Guam	21.17	129	P	P	17 39 48.6	+1.7
KLR	Kul'dur	21.37	6	P	P	17 39 48.8	0.0
	comp=Z,3.2nm,0.9s,baz=180,slow=13,SNR=6.7						
KLR				LR	LR	17 47 49.8	
	comp=Z,1µm,19.0s,baz=182,slow=36						
CD2	Chengdu	21.43	284	P	P	17 39 48.3	-1.4
CD2				S	S	17 43 42.3	-4.8
CD2				pmax	pmax		
	comp=Z,40nm,0.9s						
CD2				pmax	pmax		
	comp=Z,250nm,4.6s						
CD2				LR	LR		
	comp=Z,19µm,12.7s						
CD2				LR	LR		
	comp=Z,8µm,10.6s						
CD2				LR	LR		
	comp=Z,8µm,9.8s						
LZH	Lanzhou	22.09	298	eP	P	17 39 59.4	+2.6
LZH				pP	sP	17 40 12.2	+8.8
LZH				eS	S	17 43 55.7	-4.3
LZH				sS	Sn	17 44 16.3	+5.4
LZH				SS	SnSn	17 44 34.9	+8.5
LZH				pmax	pmax		
	comp=Z,57nm,1.0s						
LZH				pmax	pmax		
	comp=Z,250nm,4.3s						
LZH				LR	LR		
	comp=Z,10µm,13.2s						
LZH				LR	LR		
	comp=Z,4µm,12.5s						
LZH				LR	LR		
	comp=Z,4µm,15.0s						
YSS	Yuzh-Sakhalins	22.11	27	P	P	17 39 55.8	-0.9
HIA	Hailar	22.19	345	P	P	17 39 56.0	-1.7
KMI	Kunming	22.91	269⇓	eP	P	17 40 07.0	+1.3
KMI				pP	sP	17 40 18.3	+6.1
KMI				S	S	17 44 07.8	-7.4
KMI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KMI				pmax	pmax		
	comp=Z,240nm,4.2s						
KMI				LR	LR		
	comp=Z,3µm,13.8s						
KMI				LR	LR		
	comp=Z,3µm,14.5s						
KMI				LR	LR		
	comp=Z,3µm,17.9s						
KMI	Kunming	22.91	269	P	P	17 40 03.8	-1.9
KMI				IAmb	IAmb	17 40 24.9	
	comp=Z,70nm,1.8s						
SLVN	Son La	23.00	259	P	P	17 40 04.8	-1.7
MYLDM	Lahad Datu	24.49	204	P	P	17 40 20.7	-0.1
ULN	Ulaanbaatar	25.74	326	P	P	17 40 31.2	-0.9
ULN				IAmb	IAmb	17 40 38.7	
	comp=Z,25nm,1.0s						
SONM	Songino Array	26.04	325	P	P	17 40 34.5	-0.3
	comp=Z,14nm,0.9s,baz=140,slow=8.2,SNR=29						
GTA	Gaotai	26.07	303	P	P	17 40 35.8	+0.6
GTA				pP	sP	17 40 50.9	+9.0
GTA				pmax	pmax		
	comp=Z,14nm,1.3s						
GTA				pmax	pmax		
	comp=Z,120nm,4.4s						
GTA				LR	LR		
	comp=Z,4µm,12.1s						
GTA				LR	LR		
	comp=Z,3µm,10.8s						
GTA				LR	LR		
	comp=Z,3µm,11.4s						
TNTI	Ternate	27.10	182	P	P	17 40 53.5	+9.1
TNTI	Ternate	27.10	182	P	P	17 40 46.5	+2.1
CHTO	Chiang Mai	28.27	257	P	P	17 40 54.6	-0.3
CMAR	Chiang Mai Arr	28.42	257	P	P	17 40 55.8	-0.5
	comp=Z,0.5nm,0.6s,baz=26,slow=6.3,SNR=1.1						
CMAR				PcP	PcP	17 44 10.4	+2.0
	comp=Z,0.9nm,0.7s,baz=60,slow=1.1,SNR=5.1						
CMAR				LR	LR	17 53 49.9	
	comp=Z,2µm,18.7s,baz=98,slow=40						
SIJI	Sorong	28.87	174	LR	LR	17 52 19.8	
	comp=Z,697nm,19.5s,baz=0.5,slow=36						
TLY	Talaya	29.95	329	LR	LR	17 54 00.4	
	comp=Z,2µm,20.2s,baz=128,slow=38						
PETK	Petropavlovsk-	33.23	33	P	P	17 41 39.8	+1.5
	comp=Z,1.6nm,0.9s,baz=267,slow=5.5,SNR=2.7						
PETK				LR	LR	17 56 05.3	
	comp=Z,555nm,18.2s,baz=228,slow=38						
YAK	Yakutsk	34.03	1	LR	LR	17 55 44.2	
	comp=Z,1µm,18.4s,baz=190,slow=37						
YAK	Yakutsk	34.03	1	P	P	17 41 43.8	-1.4
YAK				IAmb	IAmb	17 42 07.5	
	comp=Z,20nm,1.7s						
IPM	Ipoh	34.84	233	P	P	17 41 51.5	-1.3
IPM	Ipoh	34.84	233	P	P	17 41 56.0	+3.2
WMQ	Urumqi	35.98	307	eP	P	17 42 02.2	-0.1
WMQ				pP	sP	17 42 14.9	+5.8
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,94nm,3.6s						
WMQ				LR	LR		
	comp=Z,1µm,9.3s						
WMQ				LR	LR		
	comp=Z,1µm,10.1s						
WMQ				LR	LR		
	comp=Z,1µm,13.3s						
WMQ	Urumqi	35.98	307	P	P	17 42 01.4	-0.9
RPSI	Rantau Prapat	37.58	233	P	P	17 42 17.6	+1.4
RABL	Rabaul	39.50	140	P	P	17 42 35.1	+2.8
LEM	Lembang	39.92	213	P	P	17 42 35.2	-0.7
	comp=Z,8.3nm,0.4s,baz=143,slow=20,SNR=2.2						
MK31	Makanchi Array	40.32	310	P	P	17 42 37.4	-1.5
MKAR	Makanchi Array	40.32	310	P	P	17 42 38.0	-0.9
	comp=Z,5.5nm,0.7s,baz=99,slow=9.8,SNR=22						
MKAR				PcP	PcP	17 44 42.2	+0.1
	comp=Z,0.8nm,0.7s,baz=88,slow=2.6,SNR=3.1						
MAKZ	Makanchi	40.53	310	P	P	17 42 39.5	-1.1
MTN	Manton Dam	40.72	176	P	P	17 42 43.3	+1.1
ZAA0	Zalesovo Array	40.81	322	P	P	17 42 41.3	-1.4
ZALV	Zalesovo Beam	40.81	322	P	P	17 42 40.5	-2.1
	comp=Z,2.4nm,0.7s,baz=108,slow=9.5,SNR=9.1						
ZALV				PcP	PcP	17 44 44.7	+1.2
	comp=Z,1.1nm,0.6s,baz=64,slow=3.4,SNR=3.5						
ZALV				LR	LR	18 01 08.1	
	comp=Z,970nm,18.6s,baz=118,slow=38						
PMG	Port Moresby	41.49	151	P	P	17 42 48.2	-0.5
PMG				IAmb	IAmb	17 42 58.7	
	comp=Z,49nm,1.2s						
PRZ	Przheval'sk	42.53	303	P	P	17 42 54.8	-2.5
TARG	Taragay, Kyrgy	42.94	302	P	P	17 42 58.5	-2.3
KDJ	Kajisay	43.42	303	P	P	17 43 03.0	-1.5
KNRA	Kununurra	43.43	179	P	P	17 43 05.0	+0.5
KURK	Kurchatov	43.50	315	P	P	17 43 02.9	-1.9
KURBB	Kurchatov Arra	43.54	315	P	P	17 43 03.5	-1.5
	comp=Z,3.8nm,0.6s,baz=103,slow=8.9,SNR=17						
KSH	Kashi	44.33	299	P	P	17 43 15.3	+3.6
KSH				S	S	17 49 45.5	+0.2
KSH				pmax	pmax		
	comp=Z,19nm,1.3s						
KSH				LR	LR		
	comp=Z,2µm,15.1s						

KSH LR LR
comp=Z,2μm,14.0s
KSH LR LR
comp=Z,2μm,13.6s
AMKA Amchitka 44.62 44 P **P** 17 43 13.3 -0.4
FRU1 Bishkek 45.33 304 P **P** 17 43 17.3 -2.3
FRU1 IAmb IAmb 17 43 23.8
comp=Z,13nm,1.0s
AAK Ala-Archa 45.42 303 P **P** 17 43 19.9 -0.5
comp=Z,1.5nm,0.3s,baz=78,slow=2.1,SNR=3.8
AAK Ala-Archa 45.42 303 P **P** 17 43 18.1 -2.4
FITZ Fitzroy Crossi 45.90 183 P **P** 17 43 24.8 +0.7
FITZ IAmb IAmb 17 43 28.1
comp=Z,16nm,1.1s
ARSB Arslanbob 46.56 302 P **P** 17 43 27.8 -1.7
NIL Nilore 47.03 291 P **P** 17 43 30.8 -2.2
NRIK Noril'sk 47.55 342 P **P** 17 43 36.6 +0.2
comp=Z,1.7nm,0.5s,baz=109,slow=7.7,SNR=5.5
NRIK LR LR 18 05 20.1
comp=Z,2μm,19.2s,baz=136,slow=38
WB0 Warramunga Arr 47.88 172 P **P** 17 43 39.5 -0.1
WRA Warramunga Arr 48.05 172 P **P** 17 43 42.7 +1.8
comp=Z,12nm,0.8s,baz=352,slow=8.2,SNR=29
WRA LR LR 18 03 17.0
comp=Z,401nm,21.0s,baz=0.0,slow=35
WB2 Warramunga Arr 48.05 172 P **P** 17 43 42.4 +1.5
WR0 Warramunga Arr 48.09 172 P **P** 17 43 42.5 +1.3
BTK Batken 48.27 300 P **P** 17 43 41.9 -0.7
BTK IAmb IAmb 17 43 51.3
comp=Z,33nm,1.9s
KK31 Karatay Array 48.35 304 P **P** 17 43 42.0 -1.1
KK31 IAmb IAmb 17 43 47.2
comp=Z,15nm,1.5s
KKAR Karatay Array 48.35 304 P **P** 17 43 41.0 -2.1
KKAR IAmb IAmb 17 43 47.1
comp=Z,15nm,1.5s
GAR Garm 48.74 299 P **P** 17 43 45.6 -0.7
BRVK Borovoye 48.98 317 P **P** 17 43 46.8 -1.0
BRVK IAmb IAmb 17 44 03.3
comp=Z,12nm,0.9s
CHGR Chuyangaron 49.67 298 P **P** 17 43 52.6 -0.9
PSA00 Pilbara Seismi 49.95 190 P **P** 17 43 56.4 +1.0
PSA00 IAmb IAmb 17 43 58.9
comp=Z,16nm,0.8s
KBL Kabul 50.33 293 P **P** 17 43 58.1 -0.5
CTAO Charters Tower 50.92 158 P **P** 17 44 04.2 +1.4
CTAO IAmb IAmb 17 44 22.6
comp=Z,22nm,1.2s
AS31 Alice Springs 51.67 173 P **P** 17 44 09.7 +1.3
ASAR Alice Springs 51.67 173 P **P** 17 44 08.2 -0.3
comp=Z,6.3nm,0.9s,baz=356,slow=7.3,SNR=26
ASAR LR LR 18 04 54.1
comp=Z,302nm,21.8s,baz=354,slow=35
AKUT Akutan 53.93 42 P **P** 17 44 25.4 +0.6
ABKAR Akbulak array 55.40 312 P **P** 17 44 34.3 -1.2
HRA Herat 55.87 294 P **P** 17 44 37.2 -2.3
HRA IAmb IAmb 17 44 48.8
comp=Z,15nm,1.4s
ARU Arti 55.97 321 P **P** 17 44 37.6 -1.9
ARU IAmb IAmb 17 44 55.2
comp=Z,17nm,1.5s
GEYT Alibeck 58.36 299 P **P** 17 44 57.9 +1.0
comp=Z,3.1nm,0.9s,baz=134,slow=4.3,SNR=6.1
GYA0B ALIBECK ARRAY 58.36 299 P **P** 17 44 54.6 -2.2
GYA0B IAmb IAmb 17 45 06.2
comp=Z,23nm,1.4s
FORT Forrest 58.46 180 P **P** 17 44 58.8 +1.5
SVW2 Sparrevohn 59.31 33 P **P** 17 45 01.0 -2.0
SVW2 IAmb IAmb 17 46 45.3
comp=Z,4.9nm,0.7s
RSO Redoubt South 60.74 34 P **P** 17 45 11.0 -2.1
PPLA Purkeypile 60.79 31 P **P** 17 45 13.5 +0.2
PPLA IAmb IAmb 17 45 36.6
comp=Z,20nm,1.3s
STKA Stephens Creek 60.91 167 P **P** 17 45 15.0 +0.8
comp=Z,6.2nm,0.7s,baz=337,slow=8.1,SNR=15
STKA LR LR 18 11 26.9
comp=Z,220nm,21.1s,baz=357,slow=36
STKA Stephens Creek 60.91 167 P **P** 17 45 14.3 0.0
SPU Mount Spurr 61.01 33 P **P** 17 45 13.6 -1.1
KDAK Kodiak Island 61.13 37 P **P** 17 45 14.8 -0.7
SKT Skwentna 61.18 32 P **P** 17 45 12.6 -3.2
SKT IAmb IAmb 17 45 40.0
comp=Z,8.3nm,1.2s
BPAW Bear Paw Mtn. 61.22 30 P **P** 17 45 15.7 -0.4
BPAW IAmb IAmb 17 47 13.6
comp=Z,12nm,1.0s
NWAO Narrogin (SRO) 61.49 190 P **P** 17 45 19.4 +1.3
NWAO Narrogin (SRO) 61.49 190 P **P** 17 45 19.3 +1.2
NWAO IAmb IAmb 17 47 08.9
comp=Z,76nm,1.9s
SUA Susitna One 61.60 33 P **P** 17 45 16.7 -2.1
SUA IAmb IAmb 17 45 32.7
comp=Z,10nm,0.8s
BRLK Bradley Lake 61.75 35 P **P** 17 45 19.6 -0.2
DZM Mont Dzumac 62.02 139 *e*S **S** 17 53 43.7 -2.4
comp=Z,849nm,29.2s
DZM Mont Dzumac 62.02 139 *e*LR LR 18 03 49.6
comp=Z,912nm,22.3s
MCK McKinley 62.16 30 P **P** 17 45 21.1 -1.3
MCK IAmb IAmb 17 45 50.5
comp=Z,6.1nm,0.8s
RND Reindeer 62.24 30 P **P** 17 45 21.3 -1.7
RND IAmb IAmb 17 45 32.6
comp=Z,11nm,0.8s
MDM Murphy Dome 62.31 29 P **P** 17 45 22.9 -0.5
PMR Palmer 62.36 32 P **P** 17 45 23.1 -0.6
PMR IAmb IAmb 17 45 49.1
comp=Z,9.4nm,1.0s
SEW Seward 62.42 34 P **P** 17 45 22.9 -1.2
GHO Glory Hole Cre 62.43 32 P **P** 17 45 22.3 -1.9
GHO IAmb IAmb 17 45 50.3
comp=Z,14nm,1.1s
WRH Wood River Hil 62.43 29 P **P** 17 45 24.0 -0.2
WRH IAmb IAmb 17 45 56.8
comp=Z,8.0nm,0.6s
CCB Clear Creek Bu 62.53 29 P **P** 17 45 24.5 -0.3
KNK Knik Glacier 62.70 33 P **P** 17 45 24.4 -1.6
KNK IAmb IAmb 17 45 46.1
comp=Z,11nm,1.1s
SML Sawmill 62.70 32 P **P** 17 45 24.0 -2.1
SML IAmb IAmb 17 46 05.2
comp=Z,14nm,1.1s
IL31 62.91 29 P **P** 17 45 25.8 -1.5
IL31 IAmb IAmb 17 46 22.7
comp=Z,14nm,1.8s
ILAR Eielson Array 62.91 29 P **P** 17 45 27.7 +0.4
comp=Z,1.1nm,0.7s,baz=289,slow=6.6,SNR=9.6
HDA Harding Lake 62.93 29 P **P** 17 45 26.2 -1.3
HDA IAmb IAmb 17 45 42.5
comp=Z,9.7nm,1.0s
DHY Denali Highway 62.95 31 P **P** 17 45 27.4 -0.4
SCM Sheep Creek Mo 63.17 32 P **P** 17 45 28.8 -0.5
FID Port Fidalgo 63.76 33 P **P** 17 45 32.4 -0.7
FID IAmb IAmb 17 46 03.5
comp=Z,11nm,1.1s
HIN Hinchinbrook I 63.82 33 P **P** 17 45 32.4 -1.1
HIN IAmb IAmb 17 45 43.1
comp=Z,11nm,1.0s
PAX Paxson 63.82 31 P **P** 17 45 33.1 -0.5
KLU Klutina 63.89 32 P **P** 17 45 33.2 -0.7
RIDG Independent Ri 63.96 30 P **P** 17 45 33.1 -1.2
RIDG IAmb IAmb 17 46 19.8
comp=Z,10nm,1.0s
DOT Dot Lake 64.32 30 P **P** 17 45 36.7 0.0
DOT IAmb IAmb 17 45 45.7
comp=Z,16nm,1.6s
RAGM Ragged Mountai 64.71 33 P **P** 17 45 39.4 +0.1
RAGM IAmb IAmb 17 46 05.3
comp=Z,15nm,1.1s
GLB Gilahina Butte 64.89 32 P **P** 17 45 40.1 -0.4
GLB IAmb IAmb 17 45 50.4
comp=Z,11nm,1.3s
KAIM Kayak Island 64.93 34 P **P** 17 45 39.8 -0.9
VRDI Verde Repeater 65.11 32 P **P** 17 45 42.5 +0.4
VRDI IAmb IAmb 17 46 02.7
comp=Z,7.4nm,1.1s
KLMR Klimovskoe 65.31 327 *e*P **P** 17 45 46.5 +3.3
comp=Z,8.0nm,1.5s
KLMR AMP 17 46 02.7
KLMR LQ LQ 18 10 18.7
KLMR LQ LQ 18 10 18.7
KLMR LR LR 18 14 37.7
EGAK Eagle 65.31 28 P **P** 17 45 44.0 +0.9
EGAK IAmb IAmb 17 46 18.4
comp=Z,23nm,2.0s
CRQM Cirque 65.36 33 P **P** 17 45 41.9 -1.8
CRQM IAmb IAmb 17 46 04.3
comp=Z,15nm,1.2s
TGL Tana Glacier 65.51 33 P **P** 17 45 43.0 -1.6
TGL IAmb IAmb 17 46 10.5
comp=Z,11nm,1.1s
ISLE Juniper Island 65.78 33 P **P** 17 45 46.3 -0.1
ISLE IAmb IAmb 17 46 30.3
comp=Z,12nm,1.3s
DAWY Dawson 66.23 29 P **P** 17 45 48.3 -0.9
EPYK Eagle Plains 66.69 26 P **P** 17 45 53.0 +1.1
EPYK IAmb IAmb 17 46 02.8
comp=Z,6.0nm,0.8s
PCA Pinnacle 66.92 33 P **P** 17 45 53.4 -0.2
KBZ Khabaz 67.99 309 P **P** 17 45 59.9 -0.7
comp=Z,1.5nm,0.8s,baz=65,slow=11,SNR=2.5
KBZ LR LR 18 17 17.7
comp=Z,342nm,20.9s,baz=56,slow=37
HYT Haines Junctio 68.00 32 P **P** 17 46 00.9 +0.4
HYT IAmb IAmb 17 46 27.5
comp=Z,6.4nm,1.1s
KIV Kislovodsk 68.07 309 P **P** 17 45 57.5 -3.7
KIV IAmb IAmb 17 46 25.2
comp=Z,8.2nm,1.1s
ARCES ARCESS Array B 68.33 338 LR LR 18 23 07.0
comp=Z,505nm,19.3s,baz=66,slow=42
BESE Bessie Mountai 70.02 34 P **P** 17 46 12.2 -0.8
FINES FINESS Array B 71.29 330 P **P** 17 46 20.5 -0.1
comp=Z,1.2nm,0.8s,baz=66,slow=6.7,SNR=4.1
FINES LR LR 18 21 12.7
comp=Z,902nm,21.0s,baz=72,slow=39
AKASG Malin Array Be 74.14 319 P **P** 17 46 38.0 +0.3
comp=Z,0.2nm,0.3s,baz=57,slow=5.9,SNR=1.9
AKASG LR LR 18 21 38.1
comp=Z,1μm,18.7s,baz=65,slow=38
BRTR Keskin Array B 75.90 308 P **P** 17 46 46.5 -1.8
comp=Z,0.6nm,0.6s,baz=90,slow=2.3,SNR=4.0
BRTR LR LR 18 25 45.4
comp=Z,203nm,18.5s,baz=24,slow=40
YKA Yellowknife Ar 76.94 25 P **P** 17 46 54.5 +0.9
comp=Z,2.9nm,0.9s,baz=295,slow=6.3,SNR=5.0
YKA LR LR 18 20 48.6
comp=Z,108nm,21.9s,baz=0.0,slow=36
NB2 NORSAR Subarra 77.69 334 P **P** 17 47 00.1 +2.2
comp=Z,1.8nm,0.8s,baz=49,slow=5.9
NOA NORSAR Array B 77.69 334 P **P** 17 47 00.6 +2.7
comp=Z,0.6nm,0.8s,baz=50,slow=5.6,SNR=2.7
NOA LR LR 18 24 25.9
comp=Z,548nm,20.4s,baz=60,slow=38
VYHS Vyhne 81.13 321 *e*P **P** 17 47 17.6 +0.8
KRLC Kraliky 81.39 323 AMS AMS 18 26 30.0
comp=Z,2μm,14.9s
OSTC Ostas 81.43 323 AMS AMS 18 26 40.0
comp=Z,2μm,15.3s
DPC Dobruska-Polom 81.49 323 AMS AMS 18 26 50.0
comp=Z,2μm,14.7s
CHVC Chvalec 81.50 323 AMS AMS 18 26 50.0
comp=Z,2μm,15.3s
UPC Upice 81.56 323 AMS AMS 18 26 40.0
comp=Z,2μm,15.4s
PVCC Panska Ves 82.31 324 AMS AMS 18 27 20.0
comp=Z,2μm,14.8s
TREC Trest 82.53 322 AMS AMS 18 27 20.0
comp=Z,1μm,14.8s
GOPC GO Pecny, Ondr 82.55 323 AMS AMS 18 27 20.0
comp=Z,2μm,15.4s
PRU Pruhonice 82.64 323 AMS AMS 18 27 20.0
comp=Z,2μm,15.6s
PRA Prague 82.65 324 AMS AMS 18 27 20.0
comp=Z,800nm,15.8s
B08A Colville Reser 82.97 38 P **P** 17 47 26.0 -0.6
NKC Novy Kostel 83.58 324 AMS AMS 18 28 10.0
comp=Z,2μm,14.7s
KHC Kasperske Hory 83.65 323 AMS AMS 18 28 00.0
comp=Z,2μm,15.0s
GERES GERESS Array B 83.75 323 P **P** 17 47 31.6 +1.0
comp=Z,0.1nm,0.3s,baz=35,slow=2.4,SNR=3.7
GERES LR LR 18 27 31.9
comp=Z,805nm,19.2s,baz=82,slow=38
PINE Pine Mountain 84.62 43 P **P** 17 47 35.5 +0.2
PINE IAmb IAmb 17 47 40.3
comp=Z,8.4nm,1.1s
G08A Pilot Rock 84.94 41 P **P** 17 47 36.6 -0.2
G08A IAmb IAmb 17 47 48.6
comp=Z,7.0nm,1.3s
K05A Summer Lake 85.24 44 P **P** 17 47 39.0 +0.5
J08A Circle Bar Ran 86.34 42 P **P** 17 47 43.4 -0.4
J08A IAmb IAmb 17 47 50.0
comp=Z,5.6nm,0.9s
ORV Oroville 86.63 47 P **P** 17 47 43.9 -1.2
ORV IAmb IAmb 17 47 49.1
comp=Z,10nm,1.4s
FFC Flin Flon 87.03 26 P **P** 17 47 46.4 -0.3
FFC IAmb IAmb 17 48 10.6
comp=Z,7.2nm,1.0s
MFID Camas Ranch 87.86 41 P **P** 17 47 51.2 0.0
MFID IAmb IAmb 17 47 56.0
comp=Z,6.4nm,1.1s
PAHR Pah Rah Range 87.89 46 P **P** 17 47 51.1 -0.3
PAHR IAmb IAmb 17 47 56.0
comp=Z,4.7nm,1.0s
CMB Columbia Colle 88.20 47 P **P** 17 47 51.6 -1.2
CMB IAmb IAmb 17 47 57.3
comp=Z,16nm,1.6s
EGMT Eagleton 88.22 35 P **P** 17 47 51.8 -0.9
EGMT IAmb IAmb 17 48 03.2
comp=Z,7.4nm,0.9s
LRM Limekiln Ridge 88.25 38 P **P** 17 47 50.6 -2.5
HLID Hailey 88.58 40 P **P** 17 47 53.6 -1.1
HLID IAmb IAmb 17 48 01.3
comp=Z,4.1nm,0.9s
RYN Ryan 89.06 46 P **P** 17 47 55.1 -1.9
RYN IAmb IAmb 17 48 02.1
comp=Z,17nm,1.8s
KVN Kaiserville 89.08 45 P **P** 17 47 54.5 -2.6
KVN IAmb IAmb 17 48 02.0
comp=Z,8.7nm,1.3s
NVAR Mina Array Bea 89.32 46 P **P** 17 47 57.9 -0.4
comp=Z,0.6nm,0.8s,baz=290,slow=6.3,SNR=4.8
NVAR LR LR 18 30 18.4
comp=Z,60nm,18.1s,baz=282,slow=37
ELK Elko 89.83 43 P **P** 17 47 58.6 -2.0
BGU Big Grassy Mou 91.03 42 P **P** 17 48 04.2 -1.9
R11A Troy Canyon, C 91.08 45 P **P** 17 48 04.8 -1.7
HWUT Hardware Ranch 91.44 40 P **P** 17 48 06.9 -1.1
HWUT IAmb IAmb 17 48 13.2
comp=Z,8.0nm,1.1s
TPNV Topopah Spring 91.51 46 P **P** 17 48 08.3 -0.1
TPNV IAmb IAmb 17 48 13.1
comp=Z,7.6nm,1.2s
PPT2 Papeete2 91.53 109 *e*LR LR 18 17 32.0
comp=Z,196nm,22.0s,baz=283
DUG Dugway, Tooele 91.62 42 P **P** 17 48 07.8 -1.1
DUG IAmb IAmb 17 48 13.9
comp=Z,13nm,1.4s
PDAR Pinedale Array 91.81 39 P **P** 17 48 10.7 +0.9
comp=Z,1.0nm,0.8s,baz=315,slow=0.8,SNR=8.4
PSUT Pine Spring 92.03 44 P **P** 17 48 09.7 -1.2
GSC Goldstone, Bar 92.13 48 P **P** 17 48 10.2 -1.0
GSC IAmb IAmb 17 48 15.9
comp=Z,10nm,1.4s
SHPR Sheep Range 92.47 46 P **P** 17 48 11.2 -1.7
SHPR IAmb IAmb 17 48 18.0
comp=Z,12nm,1.6s
ULM Lac du Bonnet 92.86 27 LR LR 18 33 19.7
comp=Z,136nm,19.1s,baz=338,slow=38
P17A Butcher Ranch, 93.31 42 P **P** 17 48 15.2 -1.5
MTPU Mount Pierson 93.36 43 P **P** 17 48 16.1 -1.1
PFO Pinyon Flats O 93.37 49 P **P** 17 48 17.1 0.0
XPFO Pion Flat 93.38 49 P **P** 17 48 16.3 -0.8
KNB Kanab 93.62 45 P **P** 17 48 16.2 -2.0
U15A North Rim 94.33 45 P **P** 17 48 20.3 -1.3
U15A IAmb IAmb 17 48 34.9
comp=Z,12nm,1.6s
TBI Tubuai 94.38 114 *e*LR LR 18 18 51.0
comp=Z,151nm,26.8s,baz=310
TAOE Nuku Hiva Isla 95.58 97 *e*LR LR 18 19 21.4
comp=Z,395nm,29.0s
SCHQ Schefferville 96.49 9 LR LR 18 35 34.4
comp=Z,118nm,19.9s,baz=331,slow=38
ESDC Sonseca Array 99.24 325 LR LR 18 38 41.0
comp=Z,381nm,18.9s,baz=40,slow=38
TXAR Lajitas Array 104.44 45 Pdiff **Pdif** 17 49 07.9 +1.0
comp=Z,0.1nm,0.3s,baz=280,slow=5.4,SNR=2.1
PTGA Pitinga 151.78 17 **PKPdf** 17 54 48.6 -2.0
LPAZ La Paz 160.95 56 PKP **PKPdf** 17 55 05.0 +1.9
comp=Z,0.7nm,0.4s,baz=61,slow=0.6,SNR=5.1
LPAZ La Paz 160.95 56 **PKPdf** 17 55 01.6 -1.5
CPUP Villa Florida 174.83 72 PKPab **PKPab** 17 56 48.4 +2.2
comp=Z,2.8nm,1.0s,baz=329,slow=5.9,SNR=3.1
CPUP Villa Florida 174.83 72 **PKPab** 17 56 46.7 +0.5

UCR 02 17:43:59.9±1.4, 9.60N×84.83W, h14km±7km, MD3.6, 1C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRA1	**San Ramn**	**0.59**	**35**	*i*	P	17 44 11.0	-0.6
SRA1				*e*	S	17 44 19.5	-0.1
JTS	**Las Juntas de**	**0.70**	**350**	*e*	P	17 44 12.4	-1.2
JTS				*e*	S	17 44 22.2	-0.7
HDC	**Heredia**	**0.81**	**60**	*e*	P	17 44 15.0	-0.7
HDC				*e*	S	17 44 26.1	+0.1
LCR2	**La Lucha 2**	**0.82**	**80**	*e*	P	17 44 14.8	-1.1
LCR2				*e*	S	17 44 26.4	-0.5
SJS	**Escuela Geolog**	**0.83**	**66**	*e*	P	17 44 15.2	-0.9
SJS				*e*	S	17 44 27.1	0.0
CASO	**Castillo**	**0.84**	**6**	*i*	P	17 44 15.5	-0.7
CASO				*i*	S	17 44 26.8	-0.5
ARE1	**Arenal 1**	**0.87**	**7**	*i*	P	17 44 16.1	-0.7
FORC	**Fortuna**	**0.88**	**10**	*i*	P	17 44 16.1	-0.8
FORC				*i*	S	17 44 28.2	-0.3
CEDE	**Laguna Cedeo**	**0.89**	**8**	*i*	P	17 44 16.5	-0.7
CEDE				*i*	S	17 44 29.6	+0.5
PLVR	**Palo Verde**	**0.91**	**325**	*e*	P	17 44 16.3	-1.3
ACAL	**Aguas Claras**	**1.05**	**349**	*i*	P	17 44 18.7	-1.3
ACAL				*i*	S	17 44 33.8	+0.1
CUI	**Cuipilapa**	**1.11**	**342**	*i*	P	17 44 19.5	-1.4
CUI				*e*	S	17 44 35.4	+0.3
PTEN	**Parque Tenorio**	**1.12**	**352**	*i*	P	17 44 19.9	-1.2
COLC	**Colonia**	**1.13**	**341**	*i*	P	17 44 19.7	-1.5
CVTR	**Volcan Turrial**	**1.13**	**68**	*e*	P	17 44 20.8	-0.7
HORNC	**Hornillas**	**1.16**	**343**	*i*	P	17 44 20.3	-1.5
HORNC				*i*	S	17 44 36.9	+0.1
GUAB	**Guayabo de Bag**	**1.18**	**340**	*i*	P	17 44 20.5	-1.4
GPS2	**Hotel Rincn d**	**1.26**	**336**	*i*	P	17 44 22.0	-1.1
GPS2				*e*	S	17 44 40.3	+0.4
GPS3	**Bodega del ICE**	**1.27**	**335**	*i*	P	17 44 21.7	-1.5
GPS1	**Guardaparques**	**1.28**	**336**	*i*	P	17 44 22.5	-0.9
GPS1				*i*	S	17 44 39.8	-0.4
LAPC	**Finca la Perla**	**1.31**	**333**	*i*	P	17 44 22.4	-1.4
LAPC				*i*	S	17 44 40.1	-0.9
BUEV	**Buena Vista**	**1.33**	**334**	*e*	P	17 44 22.6	-1.5
BUEV				*i*	P	17 44 22.7	-1.9
GB1A	**Borinquen Arri**	**1.34**	**335**	*e*	P	17 44 23.1	-1.2
GB1A				*e*	S	17 44 42.5	+0.6
DRK0	**Durika**	**1.59**	**102**	*e*	P	17 44 27.0	-0.8

NIED ***02*** *17:45:15.8, 28.09N×128.09E, h10km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-0.15; Mθθ1.14; Mϕϕ-0.99; Mrθ-0.74; Mθϕ0.98; Mϕr-0.55; Fault plane solution: M0 1.67000×10^15 NP1: ϕs203.00000°, δ83.00000°, λ153.00000°. NP2: ϕs297.00000°, δ64.00000°, λ8.00000°.*
JMA ***02*** *17:45:15.8±0.3, 28.09N×128.09E, h10km±3km, M3.6*
IDC ***02*** *17:45:16.2±1.1, 27.86N×127.75E, h0km, mb3.6/8, mb1 3.8/11, mb1mx3.5/43, mbtmp3.7/11, ML2.9/3, Error ellipse: s-maj=34.3km s-min=19.5km az=74.0*

ISC 02 17:45:16.7±1.6, 28.03N±0.04×128.11E±0.05, h5km±11km, n22, σ1s65/31, mb3.7/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKE	**Okinoerabujima**	**0.78**	**148**	P	**Pg**	**17 45 31.8**	**+0.2**
JOKE				S	**Sg**	**17 45 42.9**	**+1.2**
JTK	**Tokunoshima**	**0.78**	**108**	P	**Pg**	**17 45 31.3**	**-0.4**
JTK				S	**Sg**	**17 45 42.0**	**+0.2**
JAMN	**Amaminishikomi**	**0.96**	**77**	P	**Pg**	**17 45 34.2**	**-1.0**
JAMN				S	**Sg**	**17 45 47.6**	**-0.1**
JIH	**Iheya**	**0.99**	**187**	P	**Pb**	**17 45 35.6**	**-0.8**
JIH				S	**Sb**	**17 45 49.6**	**-0.2**
JYRO	**Yoronjima**	**1.04**	**163**	P	**Pb**	**17 45 36.9**	**-0.3**
JYRO				S	**Sb**	**17 45 51.6**	**+0.5**
JOW	**Kunigami**	**1.20**	**173**	P	**Pg**	**17 45 39.0**	**-0.7**
JOW				S	**Sb**	**17 45 55.6**	**0.0**
JAM	**Amami Oshima**	**1.37**	**73**	P	**Pn**	**17 45 40.5**	**-2.0**
JAM				S	**Sb**	**17 45 58.5**	**-2.2**
JTAJ	**Takarajima**	**1.48**	**40**	P	**Pn**	**17 45 41.3**	**-2.6**
JNTH	**Nagotoyohara**	**1.50**	**183**	P	**Pn**	**17 45 43.7**	**-0.6**
JNTH				S	**Sn**	**17 46 03.4**	**-0.8**
JAGN	**Aguni-jima**	**1.63**	**209**	P	**Pn**	**17 45 45.4**	**-0.6**
JAGN				*e*S	**Sg**	**17 46 08.5**	**-0.5**
JZK	**Kikaishima**	**1.67**	**80**	P	**Pn**	**17 45 46.9**	**+0.3**
JNU	**Nakatsue**	**5.61**	**24**	Pn	**Pn**	**17 46 45.0**	**+4.2**
	0.9nm,0.3s,baz=178,slow=7.7,SNR=14						
MJAR	**Matsushiro Arr**	**12.04**	**43**	Pn	**Pn**	**17 48 12.9**	**+4.0**
	0.0nm,0.3s,baz=209,slow=6.7,SNR=1.7						
USRK	**Ussuriysk Ar.**	**16.44**	**10**	Pn	**P**	**17 49 13.0**	**+2.2**
	baz=189,slow=8.5,SNR=3.4						
SONM	**Songino Array**	**26.01**	**325**	P	**P**	**17 50 50.3**	**-0.4**
	1.2nm,0.7s,baz=141,slow=9.3,SNR=5.9						
MKAR	**Makanchi Array**	**40.28**	**310**	P	**P**	**17 52 54.9**	**+0.2**
	0.4nm,0.5s,baz=93,slow=6.3,SNR=5.6						
ZALV	**Zalesovo Beam**	**40.77**	**322**	P	**P**	**17 52 56.6**	**-2.0**
	0.4nm,0.5s,baz=116,slow=9.8,SNR=2.3						
KURBB	**Kurchatov Arra**	**43.50**	**315**	P	**P**	**17 53 19.0**	**-1.9**
	0.7nm,0.6s,baz=102,slow=6.7,SNR=4.6						
WRA	**Warramunga Arr**	**48.06**	**172**	P	**P**	**17 53 55.0**	**-2.2**
	0.8nm,0.8s,baz=352,slow=7.9,SNR=2.5						
BVAR	**Borovoye Array**	**48.88**	**317**	P	**P**	**17 54 03.9**	**+0.7**
	0.7nm,0.9s,baz=90,slow=6.2,SNR=1.0						
ASAR	**Alice Springs**	**51.69**	**173**	P	**P**	**17 54 25.2**	**+0.4**
	0.6nm,0.8s,baz=360,slow=9.9,SNR=6.9						
FINES	**FINESS Array B**	**71.25**	**330**	P	**P**	**17 56 37.2**	**+0.6**
	0.9nm,0.9s,baz=183,slow=34,SNR=1.9						

JMA ***02*** *18:27:42.1±0.3, 28.09N×128.08E, h14km±4km, M2.9*

*IDC **02** 18:27:44.8±1.4, 27°.88N×127°.66E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/49, mbtmp3.4/5, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/12, Error ellipse: s-maj=51.7km s-min=23.1km az=73.0*

ISC 02 18:27:43.6±2.2**, 28°.02N**±0°.06×**128°.17E**±0°.08**, h9**km±14km**, n13, σ1^{s}33**/19**, mb3.3**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.73**	**109**	P	**Pg**	**18 27 57.7**	**0.0**
JTK				*e*S	**Sg**	**18 28 08.0**	**+0.8**
JOKE	**Okinoerabujima**	**0.75**	**152**	P	**Pg**	**18 27 58.3**	**+0.3**
JOKE				*e*S	**Sg**	**18 28 09.4**	**+1.6**
JAMN	**Amaminishikomi**	**0.91**	**76**	P	**Pb**	**18 28 00.1**	**-1.6**
JAMN				*e*S	**Sb**	**18 28 13.3**	**-0.6**
JIH	**Iheya**	**1.00**	**191**	P	**Pb**	**18 28 01.2**	**-1.9**
JIH				*e*S	**Sb**	**18 28 15.0**	**-1.4**
JYRO	**Yoronjima**	**1.02**	**166**	P	**Pb**	**18 28 03.0**	**-0.5**
JYRO				*e*S	**Sb**	**18 28 17.3**	**+0.2**
JOW	**Kunigami**	**1.19**	**176**	P	**Pn**	**18 28 05.1**	**-1.4**
JOW				*e*S	**Sb**	**18 28 21.5**	**-0.4**
JAM	**Amami Oshima**	**1.32**	**73**	P	**Pn**	**18 28 07.1**	**-1.2**
JNTH	**Nagotoyohara**	**1.50**	**185**	P	**Pn**	**18 28 09.8**	**-1.0**
JNTH				*e*S	**Sn**	**18 28 29.9**	**-0.6**
JNU	**Nakatsue**	**5.59**	**24**	Pn	Pb	18 29 13.6	-7.9
	0.9nm,0.3s,baz=301,slow=3.6,SNR=7.8						
SONM	**Songino Array**	**26.04**	**325**	P	**P**	**18 33 19.0**	**+1.7**
	0.5nm,0.6s,baz=126,slow=7.3,SNR=3.3						
MKAR	**Makanchi Array**	**40.32**	**310**	P	**P**	**18 35 21.4**	**-0.1**
	0.4nm,0.7s,baz=93,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**48.05**	**172**	P	**P**	**18 36 25.4**	**+1.8**
	0.3nm,0.5s,baz=353,slow=8.2,SNR=1.7						
ASAR	**Alice Springs**	**51.68**	**173**	P	**P**	**18 36 52.9**	**+1.7**
	0.2nm,0.6s,baz=356,slow=9.1,SNR=6.2						
ASAR				LR	LR	19 01 22.5	
	comp=Z,31nm,18.0s,baz=307,slow=39						

*JMA **02** 18:28:34.4±0.2, 28°.11N×128°.04E, h16km±3km, M3.7*
*NIED **02** 18:28:34.4, 28°.11N×128°.04E, h16km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.90; $M_{\theta\theta}$3.49; $M_{\phi\phi}$-2.59; $M_{r\theta}$-2.33; $M_{\theta\phi}$1.48; $M_{\phi r}$1.83; Fault plane solution: $M_0$4.56000×10^{15} NP1: ϕ_s118.00000°, δ81.00000°, λ-42.00000°. NP2: ϕ_s216.00000°, δ48.00000°, λ-169.00000°.*
*IDC **02** 18:28:47.9±7.8, 28°.44N×128°.34E, h133km±93km, mb3.3/4, mb1 3.4/6, mb1mx3.1/50, mbtmp3.7/6, ML3.0/2, MS3.4/2, Ms1 3.4/2, ms1mx3.0/12 Error ellipse: s-maj=90.8km s-min=19.2km az=60.0*

ISC 02 18:28:35.7±1.8**, 28°.03N**±0°.04×**128°.12E**±0°.06**, h10**km±12km**, n19, σ1^{s}70**/25**, mb3.7**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.77**	**108**	P	**Pg**	**18 28 50.4**	**-0.3**
JTK				*e*S	**Sb**	**18 29 01.8**	**0.0**
JOKE	**Okinoerabujima**	**0.78**	**149**	P	**Pg**	**18 28 51.0**	**+0.3**
JOKE				*e*S	**Sb**	**18 29 02.4**	**+0.5**
JAMN	**Amaminishikomi**	**0.96**	**77**	P	**Pb**	**18 28 53.1**	**-1.2**
JAMN				*e*S	**Sb**	**18 29 06.5**	**-0.5**
JIH	**Iheya**	**1.00**	**188**	P	**Pb**	**18 28 54.0**	**-1.1**
JIH				*e*S	**Sb**	**18 29 08.0**	**-0.3**
JYRO	**Yoronjima**	**1.04**	**164**	P	**Pb**	**18 28 55.2**	**-0.6**
JYRO				*e*S	**Sn**	**18 29 10.6**	**-0.3**
JOW	**Kunigami**	**1.20**	**173**	P	**Pn**	**18 28 57.3**	**-1.2**
JOW				*e*S	**Sb**	**18 29 14.2**	**+0.1**
JAM	**Amami Oshima**	**1.36**	**73**	P	**Pn**	**18 28 59.5**	**-1.3**
JAM				*e*S	**Sn**	**18 29 17.7**	**-1.2**
JTAJ	**Takarajima**	**1.47**	**40**	P	**Pn**	**18 28 59.9**	**-2.3**
JNTH	**Nagotoyohara**	**1.51**	**183**	P	**Pn**	**18 29 01.7**	**-1.0**
JNTH				*e*S	**Sn**	**18 29 21.7**	**-0.7**
JAGN	**Aguni-jima**	**1.63**	**209**	P	**Pn**	**18 29 04.0**	**-0.5**
JNU	**Nakatsue**	**5.60**	**24**	P	**Pn**	**18 30 03.5**	**+4.4**
	1.7nm,0.3s,baz=196,slow=7.9,SNR=13						
MJAR	**Matsushiro Arr**	**12.03**	**43**	P	**Pn**	**18 31 28.9**	**+1.7**
	0.0nm,0.3s,baz=214,slow=18,SNR=2.3						
USRK	**Ussuriysk Ar.**	**16.43**	**10**	P	**P**	**18 32 31.9**	**+2.9**
	baz=207,slow=12,SNR=7.4						
DAV	**Davao City (W)**	**20.99**	**187**	LR	LR	18 41 25.0	
	comp=Z,104nm,21.5s,baz=344,slow=35						
SONM	**Songino Array**	**26.01**	**325**	P	**P**	**18 34 06.7**	**-2.1**
	0.8nm,0.6s,baz=135,slow=11,SNR=4.7						
SIJI	**Sorong**	**28.89**	**173**	LR	LR	18 45 35.3	
	comp=Z,66nm,21.3s,baz=14,slow=34						
MKAR	**Makanchi Array**	**40.28**	**310**	P	**P**	**18 36 10.7**	**-2.2**
	0.6nm,0.7s,baz=81,slow=8.9,SNR=6.8						
WRA	**Warramunga Arr**	**48.07**	**172**	P	**P**	**18 37 16.0**	**+0.6**
	1.7nm,0.7s,baz=353,slow=8.1,SNR=13						
ASAR	**Alice Springs**	**51.70**	**173**	P	**P**	**18 37 45.2**	**+2.2**
	1.0nm,0.9s,baz=354,slow=7.6,SNR=8.5						

IDC 02 18:35:52.2±1.5**, 29°.30N**×**86°.74E, h0**km**, mb3.5**/7**, mb1 3.7**/8**, mb1mx3.4**/44**, mbtmp3.6**/8**, ML3.6**/1**, Error ellipse: s-maj=60.0km s-min=19.7km az=65.0, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.81**	**350**	P	Pn	18 39 60.0	-1.4
	0.2nm,0.3s,baz=166,slow=12,SNR=11						
KURBB	**Kurchatov Arra**	**22.18**	**346**	P	P	18 40 49.1	-0.7
	0.4nm,0.3s,baz=168,slow=10,SNR=2.1						
SONM	**Songino Array**	**23.94**	**34**	P	P	18 41 09.0	+0.9
	1.3nm,0.7s,baz=219,slow=9.5,SNR=8.3						
ZALV	**Zalesovo Beam**	**24.67**	**357**	P	P	18 41 12.8	-1.7
	0.4nm,0.6s,baz=140,slow=11,SNR=1.6						
BVAR	**Borovoye Array**	**26.58**	**338**	P	P	18 41 33.7	+1.8
	0.4nm,0.6s,baz=143,slow=12,SNR=2.9						
ARCES	**ARCESS Array B**	**52.87**	**337**	P	P	18 45 09.5	+0.1
	1.0nm,0.9s,baz=101,slow=9.3,SNR=1.4						
WRA	**Warramunga Arr**	**67.10**	**131**	P	P	18 46 47.5	-0.3
	0.7nm,0.7s,baz=325,slow=6.5,SNR=4.8						
ASAR	**Alice Springs**	**69.50**	**134**	P	P	18 47 02.9	+0.1
	0.6nm,0.8s,baz=308,slow=5.8,SNR=8.5						

IDC 02 18:45:58.5±3.3**, 17°.13S**×**175°.53W, h0**km**, mb4.0**/3**, mb1 4.2**/4**, mb1mx3.7**/25**, mbtmp4.0**/4**, ML3.4**/1**, Error ellipse: s-maj=186.6km s-min=33.1km az=147.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.83**	**49**	Pn	Pn	18 47 12.5	-0.1
	1.7nm,0.3s,baz=127,slow=22,SNR=1.3						
AFI				Sn	Sn	18 47 57.5	-12
	7.8nm,0.3s,baz=226,slow=21,SNR=9.6						
STKA	**Stephens Creek**	**41.41**	**241**	P	P	18 53 47.5	+0.5
	2.1nm,1.0s,baz=107,slow=17,SNR=3.4						
WRA	**Warramunga Arr**	**47.48**	**258**	P	P	18 54 35.2	-0.5
	0.3nm,0.3s,baz=97,slow=7.2,SNR=14						
ASAR	**Alice Springs**	**47.65**	**253**	P	P	18 54 36.9	-0.1
	3.8nm,0.5s,baz=87,slow=9.0,SNR=119						

*NEIC **02** 18:52:53.7±1.6, 67°.68N±0°.06×162°.5W±0°.2, h37km±9km, Error ellipse: s-maj=11.3km s-min=7.7km az=55.0*

AEIC 02 18:52:52.9±1.7**, 67°.70N**±0°.05×**162°.0W**±0°.2**, h15**km±7km**, ML3.1**/20**, Error ellipse: s-maj=9.6km s-min=7.2km az=64.0, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.49**	**317**	Pg	Pg	18 53 02.1	-0.5
RDOG	**Red Dog Mine**	**0.49**	**317**		Sb	18 53 09.9	-0.4
ANM	**Nome**	**3.43**	**205**	Pn	Pn	18 53 42.9	-2.8
IM03		**3.69**	**114**		Pn	18 53 50.0	+0.7
A21K	**Barrow**	**4.11**	**25**		Pn	18 53 55.6	+0.7
A21K					Sn	18 54 44.6	+1.9
COLD	**Coldfoot**	**4.57**	**90**	Pn	Pn	18 54 02.8	+1.4
COLD	**Coldfoot**	**4.57**	**90**		Sn	18 54 55.3	+1.1
TOLK	**Toolik Lake Re**	**4.74**	**73**		Pn	18 54 04.9	+1.1
TOLK	**Toolik Lake Re**	**4.74**	**73**		Sn	18 55 00.2	+1.8
TTA	**Tatalina**	**5.41**	**149**		Pn	18 54 13.3	+0.4
TT01	**Tatalina**	**5.42**	**150**		Pn	18 54 13.5	+0.4
BPAW	**Bear Paw Mtn.**	**5.78**	**123**	Pn	Pn	18 54 18.7	+0.7
MDM	**Murphy Dome**	**6.19**	**110**		Pn	18 54 24.8	+1.2
PPLA	**Purkeypile**	**6.33**	**135**	Pn	Pn	18 54 27.1	+1.4
TCOL	**CIGO, UAF Yank**	**6.37**	**110**		Pn	18 54 25.8	-0.3
COLA	**College**	**6.37**	**110**		Pn	18 54 25.0	-1.1
TRF	**Thorofare Moun**	**6.46**	**126**	Pn	Pn	18 54 26.5	-0.9
CCB	**Clear Creek Bu**	**6.52**	**111**		Pn	18 54 29.2	+1.1
WRH	**Wood River Hil**	**6.52**	**113**		Pn	18 54 29.9	+1.9
BM03	**Burnt Mountain**	**6.67**	**84**		Pn	18 54 30.4	+0.2
IL31		**6.78**	**109**		Pn	18 54 32.7	+1.1
RND	**Reindeer**	**6.95**	**122**	Pn	Pn	18 54 34.7	+0.7
HDA	**Harding Lake**	**6.96**	**111**		Pn	18 54 34.9	+0.8
SVW2	**Sparrevohn**	**7.18**	**154**	Pn	Pn	18 54 37.5	+0.3
SKT	**Skwentna**	**7.26**	**137**		Pn	18 54 39.0	+0.7
WAT2	**Susitna Watana**	**7.35**	**124**		Pn	18 54 41.5	+1.9
WAT7	**Susitna Watana**	**7.36**	**125**		Pn	18 54 41.0	+1.2
DHY	**Denali Highway**	**7.66**	**120**		Pn	18 54 45.5	+1.6
SUA	**Susitna One**	**7.90**	**137**	Pn	Pn	18 54 47.0	-0.2
GHO	**Glory Hole Cre**	**8.15**	**131**	Pn	Pn	18 54 50.4	-0.2
SML	**Sawmill**	**8.30**	**129**	Pn	Pn	18 54 53.1	+0.5
PAX	**Paxson**	**8.37**	**117**		Pn	18 54 53.8	+0.3
DOT	**Dot Lake**	**8.43**	**110**	Pn	Pn	18 54 53.9	-0.4
RAGM	**Ragged Mountai**	**10.52**	**126**	Pn	Pn	18 55 23.0	+0.1
INK	**Inuvik**	**10.66**	**74**	Pn	Pn	18 55 24.1	-0.6
DIB	**Dawson Inlet,**	**20.26**	**121**	P	P	18 57 25.0	-2.4

WEL 02 19:06:07.0, 37°S±13°×**17°8E**±°**, h114**km±11km**, M3.2**/25**, MLv3.2**/25**, Error ellipse: s-maj=0.0km s-min=0.0km az=16.3, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGZ	**Pakihiroa**	**0.74**	**204**	P	Pn	19 06 26.1	0.0
PKGZ	**Pakihiroa**	**0.74**	**204**	S	Sn	19 06 40.7	+0.1
HAZ	**Te Kaha**	**0.76**	**225**	P	Pn	19 06 26.1	-0.1
HAZ	**Te Kaha**	**0.76**	**225**	S	Sn	19 06 42.2	+1.5
PUZ	**Puketiti**	**0.87**	**190**	P	Pn	19 06 27.5	+0.2
PUZ	**Puketiti**	**0.87**	**190**	S	Sn	19 06 43.6	+1.0
RUGZ	**Raukumara Rang**	**0.97**	**219**	P	Pn	19 06 28.8	+0.5
TWGZ	**Tauwhareparae**	**1.03**	**201**	P	Pn	19 06 29.8	+1.0
TWGZ	**Tauwhareparae**	**1.03**	**201**	S	Sn	19 06 48.1	+2.7
CNGZ	**Carnagh Statio**	**1.28**	**189**	P	Pn	19 06 32.7	+1.2
TKGZ	**Te Karaka**	**1.31**	**201**	P	Pn	19 06 32.9	+1.1
TKGZ	**Te Karaka**	**1.31**	**201**	S	Sn	19 06 53.4	+2.6
MWZ	**Matawai**	**1.34**	**213**	P	Pn	19 06 33.5	+1.3
MWZ	**Matawai**	**1.34**	**213**	S	Sn	19 06 53.9	+2.6
URZ	**Urewera**	**1.49**	**225**	P	Pn	19 06 34.8	+0.9
RIGZ	**Rimuhau**	**1.59**	**200**	P	Pn	19 06 36.0	+1.0
OPRZ	**Ohinepanea**	**1.64**	**247**	P	Pn	19 06 36.3	+0.7
PRGZ	**Paritu Road**	**1.76**	**195**	P	Pn	19 06 38.1	+0.8
PRGZ	**Paritu Road**	**1.76**	**195**	P	Pn	19 06 38.1	+0.8
SNGZ	**Shannon Statio**	**1.80**	**209**	P	Pn	19 06 39.2	+1.6
MUGZ	**Murupara**	**1.84**	**226**	P	Pn	19 06 39.1	+1.0
OMRZ	**Omania**	**1.88**	**241**	P	Pn	19 06 40.2	+1.6
KNZ	**Kokohu**	**1.91**	**199**	P	Pn	19 06 39.3	+0.4
KARZ	**Kaharoa**	**1.93**	**245**	P	Pn	19 06 40.6	+1.3
MHGZ	**Mahia Peninsul**	**1.98**	**192**	P	Pn	19 06 40.9	+1.0
MTHZ	**Maungataniwha**	**2.07**	**217**	P	Pn	19 06 42.9	+1.8
WHHZ	**Waihua**	**2.09**	**207**	P	Pn	19 06 42.6	+1.3
KUZ	**Kuaotunu**	**2.24**	**281**	P	Pn	19 06 42.5	-0.6
NMHZ	**Naumai**	**2.29**	**214**	P	Pn	19 06 45.4	+1.5
ARHZ	**Aropaoanui**	**2.35**	**209**	P	Pn	19 06 45.7	+1.2
TOZ	**Tahuroa Road**	**2.41**	**257**	P	Pn	19 06 46.3	+1.0
BKZ	**Black Stump Fm**	**2.49**	**218**	P	Pn	19 06 47.4	+1.0
MCHZ	**McNeill Hill**	**2.62**	**211**	P	Pn	19 06 49.1	+1.0
MKAZ	**Moumakai**	**2.63**	**271**	P	Pn	19 06 48.8	+0.6
ETAZ	**East Tamaki Re**	**2.83**	**274**	P	Pn	19 06 51.8	+0.9
KAHZ	**Kahuranaki**	**2.86**	**205**	P	Pn	19 06 51.7	+0.4
KRHZ	**Kereru**	**2.93**	**213**	P	Pn	19 06 52.9	+0.8
BHHZ	**Black Hill Sta**	**2.95**	**219**	P	Pn	19 06 53.1	+0.7
MOVZ	**Moawhango**	**3.05**	**223**	P	Pn	19 06 54.1	+0.3
RVAZ	**Riverhead Bore**	**3.14**	**277**	P	Pn	19 06 55.8	+1.0
BFZ	**Birch Farm**	**3.87**	**206**	P	Pn	19 07 03.7	-0.9

*INMG **02** 19:28:38.6±1.1, 37°.11N×12°.68W, h10km, ML1.8, Error ellipse: s-maj=19.0km s-min=9.6km az=77.0*
*MDD **02** 19:28:39.7±4.2, 37°.27N×12°.12W, h0km, mb3.9/1, Error ellipse: s-maj=33.4km s-min=22.8km az=32.0, PRXIMO*

ISC 02 19:28:37.4±4.6**, 37°.4N**±0°.1×**12°.3W**±0°.2**, h10**km**, n24, σ1^{s}85**/26**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.75**	**94**	S	**Sn**	**19 29 52.4**	**-2.4**
	2.4nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.75**	**94**	*e*Sn	**Sn**	**19 29 53.3**	**-1.5**
PTEO	**Sao Teotonio**	**2.81**	**86**	S	**Sn**	**19 29 55.6**	**-0.8**
PTEO	**Sao Teotonio**	**2.81**	**86**	*e*Sn	**Sn**	**19 29 55.6**	**-0.8**
PMAFR	**Mafra**	**2.82**	**55**	P	**Pn**	**19 29 24.9**	**+2.3**
	5.4nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**19 29 56.0**	**-0.6**
	1.7nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.82**	**55**	*e*Sn	**Sn**	**19 29 57.2**	**+0.6**
PNCL	**Nicolau / Gran**	**3.04**	**75**	P	**Pn**	**19 29 26.4**	**+0.8**
PNCL				S	**Sn**	**19 30 01.7**	**-0.3**
	1.6nm,0.5s						
PNCL	**Nicolau / Gran**	**3.04**	**75**	*e*Pn	**Pn**	**19 29 26.4**	**+0.8**
PNCL				*e*Sn	**Sn**	**19 30 01.7**	**-0.3**
PNCL				A	A	19 30 06.7	
	1.6nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.45**	**91**	S	**Sn**	**19 30 10.5**	**-1.7**
PBDV	**Barranco-do-Ve**	**3.45**	**91**	*e*Sn	**Sn**	**19 30 10.5**	**-1.7**
EVO	**Evora**	**3.54**	**70**	S	**Sn**	**19 30 15.4**	**+1.0**
EVO	**Evora**	**3.54**	**70**	*e*Sn	**Sn**	**19 30 15.4**	**+1.0**
PMTG	**Montargil**	**3.59**	**61**	S	**Sn**	**19 30 15.9**	**+0.3**
PMTG	**Montargil**	**3.59**	**61**	*e*Sn	**Sn**	**19 30 15.9**	**+0.3**
PVAQ	**Vaqueiros**	**3.61**	**88**	S	**Sn**	**19 30 14.9**	**-1.3**
	1.9nm,0.8s						
PVAQ	**Vaqueiros**	**3.61**	**88**	*e*Sn	**Sn**	**19 30 14.9**	**-1.3**
PVAQ				A	A	19 30 20.4	
	1.9nm,0.8s						
EGRO	**El Granado**	**3.80**	**86**	S	**Sn**	**19 30 20.5**	**-0.2**
	0.6nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**4.33**	**60**	S	**Sn**	**19 30 33.7**	**-0.2**
PMRV	**Marv??o**	**4.33**	**60**	*e*Sn	**Sn**	**19 30 33.7**	**-0.2**
EBAD	**Badajoz**	**4.36**	**70**	S	**Sn**	**19 30 33.4**	**-1.2**
	0.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.45**	**83**	S	**Sn**	**19 30 34.2**	**-2.6**
	0.1nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**5.46**	**81**	S	**Sn**	**19 31 00.4**	**-1.4**
	0.0nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.53**	**35**	S	**Sn**	**19 30 57.1**	**-6.4**
	0.2nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**6.04**	**95**	S	Sn	19 31 02.4	-14
	0.4nm,0.2s,SNR=7.9						

*IDC **02** 19:31:07.5±1.3, 25°.09S×175°.57W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.7/24, mbtmp3.6/4, MS3.0/2, Ms1 3.0/2, ms1mx2.6/26, Error ellipse: s-maj=48.0km s-min=35.2km az=160.0*
*NEIC **02** 19:31:08.4±0.9, 25°.21S±0°.09×175°.44W±0°.05, h10km±1km, mb4.6/10, Error ellipse: s-maj=16.0km s-min=8.1km az=168.0*

ISC 02 19:31:10.8±1.1**, 25°.3S**±0°.1×**175°.6W**±0°.2**, h23**km**, n19, σ1^{s}03**/17**, South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.50**	**207**	Pn	**Pn**	**19 32 17.6**	**0.0**
MSVF	**Nonsavu**	**9.57**	**320**	Pn	**Pn**	**19 33 26.6**	**-0.8**
BKZ	**Black Stump Fm**	**15.40**	**204**	Pn	**Pn**	**19 34 46.1**	**-0.6**
BKZ				IAmb	IAmb	19 35 02.2	
	comp=Z,50nm,1.4s						
BFZ	**Birch Farm**	**16.83**	**202**	Pn	**Pn**	**19 35 02.2**	**-2.7**
PPT	**Papeete**	**25.33**	**78**	LR	LR	19 44 49.3	
	comp=Z,21nm,18.1s,baz=320,slow=32						
HNR	**Honiara**	**28.11**	**300**	LR	LR	19 46 30.4	
	comp=Z,48nm,21.1s,baz=325,slow=33						
EIDS	**Eidsvold**	**30.12**	**263**	P	**P**	**19 37 19.2**	**+0.2**
EIDS				IAmb	IAmb	19 37 27.0	
	comp=Z,13nm,1.2s						
TOO	**Toolangi**	**35.20**	**240**	P	**P**	**19 38 04.1**	**+0.8**
TOO				IAmb	IAmb	19 38 12.7	
	comp=Z,12nm,1.3s						
CTAO	**Charters Tower**	**35.54**	**270**	P	**P**	**19 38 06.5**	**+0.1**
CTAO				IAmb	IAmb	19 38 10.3	
	comp=Z,14nm,1.2s						
AS31	**Alice Springs**	**45.81**	**261**	P	**P**	**19 39 31.9**	**+0.7**
ASAR	**Alice Springs**	**45.82**	**261**	P	**P**	**19 39 32.2**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=92,slow=7.9,SNR=8.8						
WB0	**Warramunga Arr**	**46.36**	**266**	P	**P**	**19 39 35.8**	**+0.2**
WB0				IAmb	IAmb	19 39 48.8	
	comp=Z,9.3nm,1.3s						
WRA	**Warramunga Arr**	**46.36**	**266**	P	**P**	**19 39 34.4**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=107,slow=7.6,SNR=2.0						
KNRA	**Kununurra**	**52.73**	**269**	P	**P**	**19 40 25.0**	**+0.9**
KNRA				IAmb	IAmb	19 40 44.1	
	comp=Z,11nm,1.2s						
VNDA	**Vanda**	**53.41**	**186**	P	**P**	**19 40 29.6**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=14,slow=6.4,SNR=3.9						
NWAO	**Narrogin (SRO)**	**58.37**	**246**	P	**P**	**19 41 05.0**	**+0.5**
QSPA	**South Pole Qui**	**64.83**	**180**	P	**P**	**19 41 47.1**	**-0.6**
TXAR	**Lajitas Array**	**87.77**	**56**	P	**P**	**19 43 58.3**	**0.0**
	comp=Z,0.3nm,0.8s,baz=216,slow=5.6,SNR=4.0						
AKASG	**Malin Array Be**	**148.25**	**330**	PKPbc	**PKPbc**	**19 50 54.6**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=38,slow=2.5,SNR=4.9						

IDC 02 19:31:23.0±7.4**, 8°.33S**×**129°.27E, h0**km**, mb3.9**/1**, mb1 3.8**/3**, mb1mx3.4**/28**, mbtmp3.6**/3**, ML3.3**/2**, Error ellipse: s-maj=92.2km s-min=86.7km az=123.0, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.55**	**157**	Pn	Pn	19 34 24.6	+1.7
	0.2nm,0.3s,baz=338,slow=13,SNR=14						
WRA				Sn	Sn	19 36 44.3	+0.8
	0.1nm,0.3s,baz=332,slow=25,SNR=2.3						
ASAR	**Alice Springs**	**15.89**	**164**	Pn	Pn	19 35 06.3	-1.8
	0.1nm,0.3s,baz=345,slow=11,SNR=11						
STKA	**Stephens Creek**	**26.09**	**156**	P	P	19 36 58.5	0.0
	2.5nm,1.1s,baz=343,slow=11,SNR=2.1						

*NEIC **02** 20:33:60.0±1.4, 22°.6S±0°.1×179°.5W±0°.2, h556km±10km, mb4.4/24, Error ellipse: s-maj=20.3km s-min=18.2km az=80.0*
*IDC **02** 20:34:00.8±2.3, 22°.45S×179°.60W, h561km±29km, mb3.5/7, mb1 3.7/9, mb1mx3.2/38, mbtmp4.5/9, Error ellipse: s-maj=23.4km s-min=20.6km az=42.0*

ISC 02 20:34:01.5±0.7**, 22°.62S**±0°.09×**179°.52W**±0°.10**, h579**km**, n76, σ1^{s}84**/76**, mb4.4**/19**, 1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.37**	**334**	P	**P**	**20 35 36.9**	**+0.5**
RAO	**Raoul Island**	**6.76**	**168**	P	**P**	**20 35 46.4**	**-1.8**
AFI	**Afiamalu**	**11.36**	**42**	P	**P**	**20 36 32.3**	**-1.6**
	4.0nm,0.3s,baz=40,slow=16,SNR=3.6						
AFI	**Afiamalu**	**11.36**	**42**	P	**P**	**20 36 32.2**	**-1.7**
DZM	**Mont Dzumac**	**13.00**	**270**	P	**P**	**20 36 48.0**	**-2.6**
	0.2nm,0.3s,baz=99,slow=15,SNR=4.4						
DZM	**Mont Dzumac**	**13.00**	**270**	P	**P**	**20 36 48.8**	**-1.8**
OUZ	**Omahuta**	**13.92**	**204**	P	**P**	**20 36 58.9**	**-0.8**
HAZ	**Te Kaha**	**15.26**	**188**	P	**P**	**20 37 11.6**	**-1.1**
PUZ	**Puketiti**	**15.52**	**187**	P	**P**	**20 37 14.6**	**-0.5**
TOZ	**Tahuroa Road**	**15.66**	**195**	P	**P**	**20 37 16.4**	**0.0**
URZ	**Urewera**	**15.85**	**190**	P	**P**	**20 37 15.0**	**-3.3**
	3.7nm,0.3s,baz=272,slow=4.5,SNR=11						
URZ	**Urewera**	**15.85**	**190**	P	**P**	**20 37 15.1**	**-3.2**
MWZ	**Matawai**	**15.86**	**189**	P	**P**	**20 37 17.0**	**-1.4**
CNGZ	**Carnagh Statio**	**15.93**	**187**	P	**P**	**20 37 18.2**	**-0.8**
RRRZ	**Republican Roa**	**16.03**	**191**	P	**P**	**20 37 15.8**	**-4.2**
RIGZ	**Rimuhau**	**16.20**	**188**	P	**P**	**20 37 14.4**	**-7.1**
TLZ	**Tolley Road**	**16.22**	**194**	P	**P**	**20 37 22.0**	**+0.2**
HIZ	**Hauiti**	**16.56**	**196**	P	**P**	**20 37 25.7**	**+1.0**
RATZ	**Rangitukua**	**16.68**	**193**	P	**P**	**20 37 24.8**	**-1.2**
NMHZ	**Naumai**	**16.72**	**190**	P	**P**	**20 37 24.0**	**-2.3**
BHHZ	**Black Hill Sta**	**17.23**	**192**	P	**P**	**20 37 28.3**	**-2.6**
KRHZ	**Kereru**	**17.32**	**191**	P	**P**	**20 37 28.9**	**-2.8**
KAHZ	**Kahuranaki**	**17.39**	**189**	P	**P**	**20 37 30.6**	**-1.8**
PNHZ	**Pukenui**	**17.62**	**191**	P	**P**	**20 37 31.9**	**-2.5**
PXZ	**Pawanui**	**17.62**	**189**	P	**P**	**20 37 32.5**	**-1.9**
PRHZ	**Porangahau**	**17.89**	**190**	P	P	20 37 54.7	+18
BFZ	**Birch Farm**	**18.36**	**190**	P	**P**	**20 37 39.3**	**-1.8**
TCW	**Tory Channel**	**19.25**	**194**	P	**P**	**20 37 48.8**	**-0.5**
SNZO	**South Karori**	**19.26**	**193**	P	**P**	**20 37 47.9**	**-1.3**
QRZ	**Quartz Range**	**19.35**	**198**	P	**P**	**20 37 50.3**	**+0.2**
NNZ	**Nelson**	**19.48**	**196**	P	**P**	**20 37 50.6**	**-0.7**
TUWZ	**Tuamarina**	**19.54**	**195**	P	**P**	**20 37 51.7**	**-0.2**
BSWZ	**Blackbirch Sta**	**19.83**	**195**	P	**P**	**20 37 55.3**	**+0.9**
THZ	**Tophouse**	**20.11**	**197**	P	**P**	**20 37 56.3**	**-0.8**
DSZ	**Denniston Nort**	**20.41**	**199**	P	**P**	**20 38 00.3**	**+0.5**
KHZ	**Kahutara**	**20.57**	**195**	P	**P**	**20 38 00.1**	**-1.0**
GVZ	**Greta Valley S**	**21.21**	**195**	P	**P**	**20 38 05.0**	**-1.9**
LTZ	**Lake Taylor**	**21.23**	**197**	P	**P**	**20 38 05.2**	**-2.0**
INZ	**Inchbonnie**	**21.41**	**198**	P	**P**	**20 38 07.8**	**-0.9**
AMCZ	**Amberley**	**21.50**	**196**	P	**P**	**20 38 13.4**	**+3.9**
OXZ	**Oxford**	**21.80**	**197**	P	**P**	**20 38 14.5**	**+2.3**
OXZ	**Oxford**	**21.80**	**197**	P	**P**	**20 38 13.0**	**+0.8**
WVZ	**Waitaha Valley**	**21.95**	**199**	P	**P**	**20 38 13.2**	**-0.2**
MQZ	**McQueen's Vall**	**22.00**	**195**	P	**P**	**20 38 18.5**	**+4.6**
RPZ	**Rata Peaks**	**22.43**	**198**	P	**P**	**20 38 19.2**	**+1.3**
	9.0nm,0.4s,baz=319,slow=3.2,SNR=6.8						
RPZ	**Rata Peaks**	**22.43**	**198**	P	**P**	**20 38 20.1**	**+2.2**
RPZ	**Rata Peaks**	**22.43**	**198**	P	**P**	**20 38 18.6**	**+0.8**
ARMA	**Armidale**	**26.90**	**247**	P	**P**	**20 38 58.3**	**+0.7**
ARMA				IAmb	IAmb	20 39 18.1	
	comp=Z,15nm,1.1s						
EIDS	**Eidsvold**	**26.97**	**258**	P	**P**	**20 38 57.7**	**-0.5**
EIDS				IAmb	IAmb	20 38 59.5	
	comp=Z,7.8nm,0.7s						
CAN	**Canberra**	**30.17**	**238**	P	**P**	**20 39 25.5**	**-0.4**
CAN				IAmb	IAmb	20 39 37.1	
	comp=Z,14nm,1.1s						
CTAO	**Charters Tower**	**31.93**	**268**	P	**P**	**20 39 41.3**	**+0.2**
TOO	**Toolangi**	**33.52**	**236**	P	**P**	**20 39 54.3**	**+0.1**
TOO				IAmb	IAmb	20 39 55.3	
	comp=Z,7.3nm,0.8s						
PMG	**Port Moresby**	**34.52**	**287**	P	**P**	**20 40 02.8**	**-0.1**
STKA	**Stephens Creek**	**35.62**	**246**	P	**P**	**20 40 12.4**	**+0.6**
	comp=Z,4.6nm,0.6s,baz=91,slow=11,SNR=18						
STKA	**Stephens Creek**	**35.62**	**246**	P	**P**	**20 40 11.9**	**+0.2**
BBOO	**Buckleboo**	**40.36**	**246**	P	**P**	**20 40 49.9**	**-0.2**
BBOO				IAmb	IAmb	20 40 50.6	
	comp=Z,12nm,1.0s						
AS31	**Alice Springs**	**42.69**	**259**	P	**P**	**20 41 08.7**	**-0.1**
ASAR	**Alice Springs**	**42.69**	**259**	P	**P**	**20 41 08.8**	**+0.1**
	comp=Z,9.6nm,0.7s,baz=99,slow=7.2,SNR=89						
ASAR				S	**S**	**20 46 48.2**	**-3.0**
	comp=Z,1.0nm,0.8s,baz=104,slow=14,SNR=8.0						
WB0	**Warramunga Arr**	**42.93**	**265**	P	**P**	**20 41 10.3**	**-0.4**
WB0				IAmb	IAmb	20 41 11.0	
	comp=Z,11nm,0.7s						
WB2	**Warramunga Arr**	**42.94**	**265**	P	**P**	**20 41 10.3**	**-0.4**
WB2				IAmb	IAmb	20 41 10.7	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**42.95**	**265**	P	**P**	**20 41 10.4**	**-0.4**
	comp=Z,8.8nm,0.7s,baz=96,slow=8.5,SNR=54						
MTN	**Manton Dam**	**47.81**	**273**	P	**P**	**20 41 47.5**	**-0.3**
MTN				IAmb	IAmb	20 41 48.0	
	comp=Z,11nm,0.7s						
KNRA	**Kununurra**	**49.15**	**268**	P	**P**	**20 41 57.9**	**+0.3**
KNRA				IAmb	IAmb	20 41 58.4	
	comp=Z,12nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.38**	**264**	P	**P**	**20 42 14.2**	**+0.3**
SOEI	**Soe**	**55.19**	**274**	P	**P**	**20 42 43.2**	**+2.2**
SOEI				IAmb	IAmb	20 42 47.4	
	comp=Z,20nm,0.9s						
VNDA	**Vanda**	**55.68**	**185**	P	**P**	**20 42 45.1**	**+1.8**
	comp=Z,1.6nm,0.7s,baz=356,slow=7.3,SNR=12						
VNDA	**Vanda**	**55.68**	**185**	P	**P**	**20 42 45.2**	**+1.9**
MMRI	**Maumere**	**57.46**	**274**	P	**P**	**20 42 56.8**	**+0.3**
MMRI				IAmb	IAmb	20 43 13.6	
	comp=Z,21nm,1.0s						
QSPA	**South Pole Qui**	**67.45**	**180**	P	**P**	**20 44 01.6**	**+1.4**
QSPA				IAmb	IAmb	20 44 02.6	
	comp=Z,5.4nm,0.9s						
MAW	**Mawson**	**79.09**	**200**	P	**P**	**20 45 06.8**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=126,slow=7.9,SNR=2.9						
MAW	**Mawson**	**79.09**	**200**	P	**P**	**20 45 07.5**	**+1.3**
CMAR	**Chiang Mai Arr**	**89.50**	**290**	P	**P**	**20 45 58.2**	**0.0**
	comp=Z,1.1nm,0.7s,baz=122,slow=4.0,SNR=6.4						
CHTO	**Chiang Mai**	**89.64**	**290**	P	**P**	**20 46 00.9**	**+2.0**
FINES	**FINESS Array B**	**137.38**	**342**	PKP	**PKPdf**	**20 52 20.1**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=60,slow=3.7,SNR=3.7						
AKASG	**Malin Array Be**	**144.13**	**329**	PKP	**PKPab**	**20 52 32.1**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=40,slow=3.9,SNR=7.4						
CLL	**Collm**	**149.76**	**344**	⇓*i*PKPbc	**PKiKP**	**20 52 48.1**	**+1.0**
	comp=Z,4.0nm,1.0s						

*SOME **02** 20:34:30.6, 41°.93N×81°.58E, h5km*
*NNC **02** 20:34:34.0±1.0, 41°.96N×81°.46E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=7.7km s-min=4.4km az=154.0*

ISC 02 20:34:33.1±1.8**, 41°.84N**±0°.08×**81°.39E**±0°.06**, h10**km**, n44, σ2^{s}09**/67**, 16C-10D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.94**	**313**	⇓iP	**Pn**	**20 35 04.9**	**-1.3**
	152nm,0.3s						
SHLS				⇑iS	**Sn**	**20 35 29.6**	**-1.1**
	309nm,0.5s						
PDGK	**Podgornoye**	**2.04**	**317**	⇓Pn	**Pb**	**20 35 09.9**	**-0.5**
	49nm,0.4s						
PDGK				⇓Lg	Lg	20 35 38.8	
	192nm,0.6s						
UZB	**Uzynbulak**	**2.18**	**307**	⇑iP	**Pg**	**20 35 13.6**	**-1.3**
	65nm,0.2s						
UZB				⇑iS	**Sg**	**20 35 45.0**	**+1.8**
	185nm,0.8s						
UZB	**Uzynbulak**	**2.18**	**307**	Pg	**Pg**	**20 35 13.6**	**-1.3**
	65nm,0.2s						
UZB				Lg	Lg	20 35 45.0	
	185nm,0.8s						
SATY	**Saty**	**2.52**	**300**	eP	**Pg**	**20 35 20.1**	**-1.3**
	22nm,0.2s						
SATY				eS	**Sg**	**20 35 56.1**	**+2.0**
	222nm,0.6s						
SATY	**Saty**	**2.52**	**300**	Pg	**Pg**	**20 35 20.1**	**-1.3**
	22nm,0.2s						
SATY				Lg	Lg	20 35 56.1	
	222nm,0.6s						
DJR	**Jarkent**	**2.75**	**335**	eP	**Pb**	**20 35 22.1**	**-0.3**
	47nm,0.4s						
DJR				eS	**Sg**	**20 35 59.2**	**-2.2**
	55nm,0.5s						
DJR	**Jarkent**	**2.75**	**335**	Pg	**Pb**	**20 35 22.1**	**-0.3**
	47nm,0.4s						
DJR				Lg	Lg	20 35 59.3	
	55nm,0.5s						
KURS	**Kuram**	**2.89**	**306**	eP	**Pb**	**20 35 24.7**	**-0.1**
	28nm,0.5s						
KURS				eS	**Sg**	**20 36 04.0**	**-1.9**
	59nm,0.9s						
KURS	**Kuram**	**2.89**	**306**	Pg	**Pb**	**20 35 24.8**	**+0.1**
	28nm,0.5s						
KURS				Lg	Lg	20 36 04.0	
	59nm,0.9s						
KOTS	**Kotyrbulak**	**3.45**	**295**	eP	**Pb**	**20 35 35.8**	**+1.4**
	42nm,0.4s						
KOTS				eS	**Sg**	**20 36 22.4**	**-1.6**
	90nm,0.6s						
KOTS	**Kotyrbulak**	**3.45**	**295**	Pg	**Pb**	**20 35 35.8**	**+1.4**
	42nm,0.4s						
KOTS				Lg	Lg	20 36 22.4	
	90nm,0.6s						
MDOK	**Medeo**	**3.47**	**294**	⇓Pg	**Pg**	**20 35 37.5**	**-2.1**
	17nm,0.5s						
MDOK				⇓Lg	Lg	20 36 24.1	
	46nm,0.5s						
TNSS	**Tian-Shan**	**3.50**	**291**	eP	**Pb**	**20 35 36.4**	**+1.0**
	12nm,0.4s						
TNSS				eS	**Sg**	**20 36 23.9**	**-1.5**
	45nm,0.6s						
TNSS	**Tian-Shan**	**3.50**	**291**	Pg	**Pb**	**20 35 36.4**	**+1.0**
	12nm,0.4s						
TNSS				Lg	Lg	20 36 23.9	
	45nm,0.6s						
ARXS	**Arharly**	**3.53**	**313**	eP	**Pb**	**20 35 37.4**	**+1.8**
	3.9nm,0.5s						
ARXS				eS	**Sg**	**20 36 25.3**	**-1.0**
	61nm,0.5s						
ARXS	**Arharly**	**3.53**	**313**	Pg	**Pb**	**20 35 37.4**	**+1.8**
	3.9nm,0.5s						
ARXS				Lg	Lg	20 36 25.3	
	61nm,0.5s						
KNDC	**Almaty**	**3.55**	**294**	⇑Pg	**Pg**	**20 35 39.2**	**-1.8**
	22nm,0.6s						
KNDC				⇑Lg	Lg	20 36 24.5	
	168nm,1.3s						
AAA	**Alma-Ata**	**3.58**	**294**	eP	**Pb**	**20 35 37.5**	**+1.0**
	12nm,0.1s						
AAA				eS	**Sg**	**20 36 25.5**	**-2.5**
	27nm,0.4s						
KAPS	**Kapalarasan**	**3.74**	**337**	eP	**Pb**	**20 35 38.5**	**-0.8**
	71nm,0.5s						
KAPS				eS	**Sb**	**20 36 27.5**	**+2.7**
	32nm,0.5s						
CHKK	**Chushkaly**	**3.81**	**303**	eP	**Pb**	**20 35 42.1**	**+1.6**
	7.0nm,0.3s						
CHKK				eS	**Sg**	**20 36 33.4**	**-2.0**
	30nm,0.3s						
CHKK	**Chushkaly**	**3.81**	**303**	Pg	**Pb**	**20 35 42.1**	**+1.6**
	7.0nm,0.3s						
CHKK				Lg	Lg	20 36 33.4	
	30nm,0.3s						
TDK	**Taldyqorghan**	**3.83**	**326**	eP	**Pb**	**20 35 41.8**	**+1.0**
	38nm,0.2s						
TDK				eS	**Sg**	**20 36 33.0**	**-3.1**
	104nm,0.5s						
TDK	**Taldyqorghan**	**3.83**	**326**	Pg	**Pb**	**20 35 41.8**	**+1.0**
	38nm,0.2s						
TDK				Lg	Lg	20 36 33.0	
	104nm,0.5s						
MTBS	**Maitube**	**3.89**	**291**	eP	**Pg**	**20 35 44.1**	**-3.5**
	10nm,0.4s						
MTBS				eS	**Sg**	**20 36 36.8**	**-1.1**
	16nm,0.3s						
MTBS	**Maitube**	**3.89**	**291**	Pg	**Pg**	**20 35 44.1**	**-3.5**
	10nm,0.4s						
MTBS				Lg	Lg	20 36 36.8	
	16nm,0.3s						
KTBS	**Karatobe**	**3.94**	**300**	eP	**Pb**	**20 35 44.2**	**+1.6**
	9.3nm,0.5s						
KTBS				eS	**Sg**	**20 36 37.1**	**-2.4**
	66nm,0.5s						
KTBS	**Karatobe**	**3.94**	**300**	Pg	**Pb**	**20 35 44.2**	**+1.6**
	9.3nm,0.5s						
KTBS				Lg	Lg	20 36 37.1	
	66nm,0.5s						
KST	**Kastek**	**4.19**	**288**	eP	**Pg**	**20 35 51.5**	**-1.9**
	18nm,0.6s						
KST				eS	**Sg**	**20 36 49.2**	**+1.6**
	36nm,0.5s						
KUU	**Kurty**	**4.24**	**301**	eP	**Pg**	**20 35 50.6**	**-3.7**
	6.8nm,0.6s						
KUU				eS	**Sg**	**20 36 48.2**	**-1.0**
	31nm,0.6s						
KUU	**Kurty**	**4.24**	**301**	Pg	**Pg**	**20 35 50.6**	**-3.7**
	6.8nm,0.6s						
KUU				Lg	Lg	20 36 48.2	
	31nm,0.6s						
DGS	**Degeres**	**4.38**	**290**	eP	**Pg**	**20 35 54.5**	**-2.5**
	8.4nm,0.7s						
DGS				eS	**Sg**	**20 36 55.2**	**+1.5**
	36nm,0.8s						
DGS	**Degeres**	**4.38**	**290**	Pg	**Pg**	**20 35 54.5**	**-2.5**
	8.4nm,0.7s						
DGS				Lg	Lg	20 36 55.2	
	36nm,0.8s						
TKM2	**Tokmak 2**	**4.42**	**286**	⇓Pn	**Pn**	**20 35 43.5**	**+3.0**
	5.2nm,0.5s						
TKM2				⇓Lg	Lg	20 36 56.2	
	46nm,1.1s						
MAKZ	**Makanchi**	**4.98**	**5**	⇑Pn	**Pn**	**20 35 48.3**	**+0.4**
	7.7nm,0.5s						
MAKZ				⇑Sn	**Sn**	**20 36 47.1**	**+1.5**
	7.2nm,0.6s						
MAKZ				⇑Lg	Lg	20 37 09.5	
	49nm,1.2s						
MK31	**Makanchi Array**	**4.99**	**7**	⇑Pn	**Pn**	**20 35 48.6**	**+0.6**
	1.2nm,0.3s,baz=192,slow=14,SNR=156						
MK31				⇓Sn	**Sn**	**20 36 46.0**	**+0.2**
	4.5nm,0.5s,baz=0.6,slow=25,SNR=4.9						
MK31				Lg	Lg	20 37 08.7	
	19nm,0.6s,baz=187,slow=31,SNR=7.0						
AAK	**Ala-Archa**	**5.18**	**281**	⇓Pg	**Pg**	**20 36 08.2**	**-4.1**
	3.3nm,0.5s						
AAK				⇑Lg	Lg	20 37 20.2	
	36nm,0.9s						
SGDS	**Sogindy**	**5.24**	**290**	Pg	**Pg**	**20 36 10.4**	**-3.0**
	2.8nm,0.2s						
SGDS				Lg	Lg	20 37 22.0	
	7.5nm,0.2s						
MRKS	**Merke**	**6.12**	**281**	eP	**Pg**	**20 36 26.3**	**-4.0**
	2.6nm,0.3s						
MRKS				eS	**Sg**	**20 37 49.2**	**-0.3**
	7.9nm,0.8s						
ZSN	**Zaisan**	**6.13**	**23**	eP	**Pb**	**20 36 18.9**	**-1.0**
	4.0nm,0.4s						
ZSN				eS	**Sb**	**20 37 37.1**	**+3.8**
	25nm,0.7s						
ZSN	**Zaisan**	**6.13**	**23**	Pg	**Pb**	**20 36 19.0**	**-1.0**
	4.0nm,0.4s						
ZSN				Lg	Lg	20 37 37.1	
	25nm,0.7s						
KK31	**Karatay Array**	**8.14**	**283**	⇑Pg	**Pg**	**20 37 05.1**	**-3.7**
	0.9nm,0.5s,baz=94,slow=15,SNR=9.1						
KK31				⇑Lg	Lg	20 38 53.8	
	5.0nm,0.8s,baz=92,slow=26,SNR=6.4						
KURBB	**Kurchatov Arra**	**9.00**	**348**	⇑Pn	**Pn**	**20 36 46.7**	**+3.7**
	3.5nm,0.8s						
KURBB				⇑Sn	**Sn**	**20 38 26.3**	**+1.9**
	6.4nm,0.6s						
KURBB				⇑Lg	Lg	20 39 18.4	
	14nm,0.7s						
KURK	**Kurchatov**	**9.08**	**349**	⇑Pn	**Pn**	**20 36 46.3**	**+2.2**
	6.8nm,0.8s						
KURK				⇓Sn	**Sn**	**20 38 25.8**	**-0.5**
	9.3nm,0.7s						

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*NEIC **02** 20:35:51.0±1.8, 37°.32N±0°.09×32°.6W±0°.1, h10km±1km, mb4.4/14, Error ellipse: s-maj=19.6km s-min=14.6km az=95.0*

*IDC **02** 20:35:50.8±1.2, 37°.53N×32°.64W, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.6/45, mbtmp3.7/9, MS3.5/16, Ms1 3.5/16, ms1mx3.2/41, Error ellipse: s-maj=43.5km s-min=20.2km az=157.0*

ISC 02 20:35:52.2±0.8**, 37°.4N**±0°.1×**32°.54W**±0°.09**, h13**km**, n41,** σ**1§10**/30**, mb4.1**/16**, MS3.5**/16**, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**2.23**	**28**	Pn	**Pn**	**20 36 28.9**	**0.0**
	SNR=50						
H07S1	**FLORES T-PHASE**	**2.23**	**28**	eP	**Pn**	**20 36 29.3**	**+0.4**
H07S1				eS	**Sn**	**20 36 56.6**	**+0.3**
H07N1	**FLORES T-PHASE**	**2.54**	**26**	Pn	**Pn**	**20 36 33.6**	**+0.5**
H07N1	**FLORES T-PHASE**	**2.54**	**26**	eP	**Pn**	**20 36 33.8**	**+0.7**
H07N1				eS	**Sn**	**20 37 03.4**	**-0.5**
PICO	**Pico**	**3.43**	**70**	eP	**Pn**	**20 36 44.8**	**-0.6**
DRLN	**Deer Lake**	**21.57**	**311**	P	**P**	**20 40 40.4**	**-1.0**
DRLN				IAmb	IAmb	20 40 44.4	
	comp=Z,27nm,1.4s						
ESDC	**Sonseca Array**	**22.43**	**75**	P	**P**	**20 40 50.5**	**-0.3**
	comp=Z,1.0nm,1.1s,baz=275,slow=14,SNR=3.2						
ESDC				LR	LR	20 48 08.1	
	comp=Z,52nm,18.9s,baz=235,slow=33						
GBN	**Guysborough**	**23.06**	**299**	P	**P**	**20 40 57.5**	**+0.2**
GBN				IAmb	IAmb	20 41 03.2	
	comp=Z,18nm,1.2s						
MDT	**Midelt**	**23.26**	**93**	LR	LR	20 48 39.3	
	comp=Z,59nm,18.4s,baz=308,slow=33						
SCHQ	**Schefferville**	**29.07**	**318**	LR	LR	20 52 37.7	
	comp=Z,146nm,19.1s,baz=97,slow=35						
NOA	**NORSAR Array B**	**36.06**	**35**	P	**P**	**20 42 55.1**	**+1.9**
	comp=Z,2.4nm,1.1s,baz=249,slow=8.9,SNR=3.2						
NOA				LR	LR	20 55 60.0	
	comp=Z,32nm,19.3s,baz=260,slow=34						
DBIC	**Dimbokro**	**39.62**	**134**	LR	LR	20 58 19.2	
	comp=Z,80nm,18.8s,baz=306,slow=34						
FINES	**FINESS Array B**	**43.13**	**37**	LR	LR	21 00 29.1	
	comp=Z,34nm,19.6s,baz=238,slow=34						
ARCES	**ARCESS Array B**	**44.40**	**25**	P	**P**	**20 44 02.7**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=253,slow=11,SNR=2.6						
AKASG	**Malin Array Be**	**45.05**	**52**	P	**P**	**20 44 07.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=277,slow=8.1,SNR=2.2						
ULM	**Lac du Bonnet**	**46.12**	**307**	LR	LR	21 03 18.2	
	comp=Z,66nm,18.1s,baz=359,slow=36						
ECSD	**EROS Data Cent**	**48.01**	**299**	P	**P**	**20 44 31.8**	**+0.9**
ECSD				IAmb	IAmb	20 44 41.4	
	comp=Z,4.3nm,1.1s						
BRTR	**Keskin Array B**	**50.72**	**66**	LR	LR	21 04 19.7	
	comp=Z,18nm,20.2s,baz=166,slow=34						
KAN13	**South Haven SW**	**50.76**	**291**	P	**P**	**20 44 51.0**	**-1.0**
YKA	**Yellowknife Ar**	**54.07**	**325**	LR	LR	21 06 01.0	
	comp=Z,41nm,18.6s,baz=0.0,slow=34						
BW06	**Boulder Array**	**57.25**	**301**	P	**P**	**20 45 38.4**	**-1.3**
BW06				IAmb	IAmb	20 45 44.5	
	comp=Z,1.8nm,0.7s						
PD31	**Pinedale Array**	**57.25**	**301**	P	**P**	**20 45 38.5**	**-1.1**
PDAR	**Pinedale Array**	**57.25**	**301**	P	**P**	**20 45 39.4**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=71,slow=8.7,SNR=4.5						
PDAR				LR	LR	21 08 51.0	
	comp=Z,52nm,21.9s,baz=90,slow=35						
REDW	**Red Top Meadow**	**57.89**	**303**	P	**P**	**20 45 43.5**	**-0.6**
REDW				IAmb	IAmb	20 45 45.7	
	comp=Z,4.7nm,1.4s						
ANMO	**Albuquerque**	**58.26**	**292**	LR	LR	21 08 34.0	
	comp=Z,25nm,20.8s,baz=56,slow=34						
AHID	**Auburn Hatcher**	**58.30**	**302**	P	**P**	**20 45 45.7**	**-1.2**
TX31	**Lajitas Ar. Si**	**58.69**	**285**	P	**P**	**20 45 50.2**	**+0.5**
TX32	**Lajitas Array**	**58.69**	**285**	P	**P**	**20 45 49.8**	**0.0**
TX32				IAmb	IAmb	20 45 54.1	
	comp=Z,1.9nm,0.8s						
TXAR	**Lajitas Array**	**58.69**	**285**	P	**P**	**20 45 48.7**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=99,slow=7.7,SNR=12						
INK	**Inuvik**	**59.66**	**335**	LR	LR	21 09 03.9	
	comp=Z,94nm,18.9s,baz=27,slow=34						
ARU	**Arti**	**60.36**	**40**	P	**P**	**20 46 00.6**	**-0.1**
ARU				IAmb	IAmb	20 46 08.2	
	comp=Z,2.4nm,0.8s						
DUG	**Dugway, Tooele**	**60.53**	**300**	P	**P**	**20 46 03.0**	**+0.7**
DLBC	**Dease Lake**	**62.62**	**324**	LR	LR	21 12 24.4	
	comp=Z,46nm,18.3s,baz=350,slow=35						
LPAZ	**La Paz**	**63.05**	**219**	P	**P**	**20 46 21.9**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=25,slow=6.9,SNR=3.6						
F04A	**Amboy**	**64.25**	**309**	P	**P**	**20 46 24.5**	**-2.4**
BBB	**Bella Bella**	**64.59**	**317**	LR	LR	21 13 28.5	
	comp=Z,63nm,19.9s,baz=333,slow=35						
PFO	**Pinyon Flats O**	**66.19**	**295**	LR	LR	21 13 38.5	
	comp=Z,30nm,20.4s,baz=14,slow=34						
KDAK	**Kodiak Island**	**72.71**	**331**	LR	LR	21 19 02.8	
	comp=Z,36nm,19.1s,baz=260,slow=36						
KURK	**Kurchatov**	**73.49**	**38**	P	**P**	**20 47 21.5**	**-2.8**
KURBB	**Kurchatov Arra**	**73.50**	**38**	P	**P**	**20 47 24.9**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=314,slow=5.9,SNR=7.5						
MKAR	**Makanchi Array**	**77.89**	**40**	P	**P**	**20 47 49.9**	**+0.2**
	comp=Z,0.9nm,1.0s,baz=299,slow=5.3,SNR=4.4						

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*IDC **02** 20:38:43.0±1.1, 26°.89S×176°.19W, h0km, mb4.1/8, mb1 4.4/9, mb1mx4.1/35, mbtmp4.1/9, ML4.9/1, MS3.6/6, Ms1 3.6/6, ms1mx3.2/28, Error ellipse: s-maj=40.1km s-min=19.8km az=144.0*

*NEIC **02** 20:38:46.7±1.6, 26°.89S±0°.09×176°.2W±0°.1, h25km±5km, mb4.6/16, Error ellipse: s-maj=18.9km s-min=9.8km az=122.0*

ISC 02 20:38:47.7±0.6**, 26°.90S**±0°.08×**176°.2W**±0°.1**, h31**km**, n42,** σ**1§21**/36**, mb4.4**/16**, MS3.6**/7**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.81**	**213**	Pn	**Pn**	**20 39 28.9**	**-1.6**
	201nm,0.3s,baz=66,slow=11,SNR=12						
RAO				Sn	**Sn**	**20 40 04.8**	**+1.5**
	656nm,0.3s,baz=88,slow=21,SNR=8.1						
RAO	**Raoul Island**	**2.81**	**213**		**Pn**	**20 39 29.7**	**-0.7**
RAO				Sn	**Sn**	**20 40 03.0**	**-0.3**
URZ	**Urewera**	**12.66**	**205**	Pn	**Pn**	**20 41 47.5**	**+1.9**
AFI	**Afiamalu**	**13.56**	**18**	Pn	**Pn**	**20 41 57.2**	**-0.8**
RAR	**Rarotonga**	**16.00**	**73**	LR	LR	20 47 14.7	
	comp=Z,94nm,19.2s,baz=238,slow=32						
DZM	**Mont Dzumac**	**16.54**	**283**	eP	**P**	**20 42 42.1**	**+2.3**
	53nm,1.5s						
DZM				eLQ	LQ	20 46 02.2	
	404nm,27.6s						
DZM				eLR	LR	20 46 46.6	
	comp=Z,349nm,23.6s						
DZM	**Mont Dzumac**	**16.54**	**283**	Pn	**P**	**20 42 41.2**	**+1.4**
	0.5nm,0.3s,baz=82,slow=19,SNR=4.0						
DZM				LR	LR	20 47 56.7	
	comp=Z,277nm,19.4s,baz=82,slow=34						
DZM	**Mont Dzumac**	**16.54**	**283**		**Pn**	**20 42 36.5**	**-1.0**
THZ	**Tophouse**	**17.34**	**208**	Pn	**Pn**	**20 42 44.1**	**-3.2**
TBI	**Tubuai**	**24.42**	**88**	eLQ	LQ	20 48 40.2	
	246nm,26.5s						
TBI				eLR	LR	20 49 42.5	
	comp=Z,192nm,25.8s						
PPT2	**Papeete2**	**26.25**	**75**	eLQ	LQ	20 49 12.7	
	165nm,23.5s						
PPT2				eLR	LR	20 50 41.8	
	comp=Z,193nm,24.5s,baz=246						
PPT	**Papeete**	**26.26**	**75**	LR	LR	20 51 47.8	
	comp=Z,84nm,20.4s,baz=212,slow=30						
CTA	**Charters Tower**	**35.03**	**273**	P	**P**	**20 45 38.1**	**+0.3**
	4.1nm,0.5s,baz=94,slow=9.9,SNR=10						
CTAO	**Charters Tower**	**35.03**	**273**	P	**P**	**20 45 38.8**	**+1.0**
STKA	**Stephens Creek**	**36.97**	**252**	LR	LR	20 59 37.6	
	comp=Z,152nm,18.9s,baz=48,slow=34						
TAOE	**Nuku Hiva Isla**	**38.50**	**69**	eLR	LR	20 56 23.2	
	comp=Z,297nm,26.2s						
COEN	**Coen**	**40.04**	**281**	P	**P**	**20 46 20.2**	**-0.1**
COEN				IAmb	IAmb	20 46 35.1	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**45.03**	**263**	P	**P**	**20 47 00.3**	**-0.5**
ASAR	**Alice Springs**	**45.03**	**263**	P	**P**	**20 47 01.4**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=99,slow=6.4,SNR=7.8						
WR0	**Warramunga Arr**	**45.53**	**268**	P	**P**	**20 47 02.9**	**-1.8**
WR0				IAmb	IAmb	20 47 05.1	
	comp=Z,5.4nm,0.9s						
WRA	**Warramunga Arr**	**45.71**	**268**	P	**P**	**20 47 04.4**	**-1.8**
	comp=Z,3.7nm,0.9s,baz=108,slow=7.7,SNR=11						
WB0	**Warramunga Arr**	**45.72**	**268**	P	**P**	**20 47 04.8**	**-1.4**
WB0				IAmb	IAmb	20 47 13.5	
	comp=Z,14nm,1.4s						
JAY	**Jayapura**	**47.88**	**293**	LR	LR	21 06 27.4	
	comp=Z,72nm,19.4s,baz=272,slow=35						
VNDA	**Vanda**	**51.73**	**186**	P	**P**	**20 47 51.3**	**-0.3**
KNRA	**Kununurra**	**52.17**	**271**	P	**P**	**20 47 54.4**	**-1.3**
KNRA				IAmb	IAmb	20 48 10.1	
	comp=Z,8.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**54.08**	**266**	P	**P**	**20 48 08.8**	**-1.0**
FITZ				IAmb	IAmb	20 48 23.6	
	comp=Z,6.3nm,1.2s						
QSPA	**South Pole Qui**	**63.20**	**180**	P	**P**	**20 49 12.6**	**-0.2**
MAW	**Mawson**	**76.14**	**200**	P	**P**	**20 50 32.5**	**+0.4**
MJAR	**Matsushiro Arr**	**76.34**	**324**	P	**P**	**20 50 34.0**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=164,slow=5.9,SNR=11						
MAJO	**Matsushiro**	**76.34**	**324**	P	**P**	**20 50 35.6**	**+1.9**
MAJO				IAmb	IAmb	20 50 43.7	
	comp=Z,5.0nm,1.1s						
KSRS	**Korea Array**	**82.77**	**318**	LR	LR	21 22 23.4	
	comp=Z,27nm,19.1s,baz=185,slow=32						
NVAR	**Mina Array Bea**	**84.57**	**42**	P	**P**	**20 51 18.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=233,slow=10,SNR=7.2						
NV11	**Mina Array Sit**	**84.66**	**42**	P	**P**	**20 51 18.6**	**0.0**
NV11				IAmb	IAmb	20 51 20.6	
	comp=Z,4.3nm,1.2s						
TX31	**Lajitas Ar. Si**	**89.13**	**56**	P	**P**	**20 51 41.2**	**+0.8**
TXAR	**Lajitas Array**	**89.13**	**56**	P	**P**	**20 51 41.2**	**+0.8**
	comp=Z,1.1nm,1.0s,baz=210,slow=7.2,SNR=8.9						
F10A	**Beach Ranch, E**	**90.07**	**37**	P	**P**	**20 51 44.4**	**0.0**
F10A				IAmb	IAmb	20 51 45.6	
	comp=Z,3.9nm,1.0s						
GLI	**Glacier Island**	**90.61**	**14**	P	**P**	**20 51 46.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**93.79**	**289**	P	**P**	**20 52 02.7**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=128,slow=3.7,SNR=5.3						
ILAR	**Eielson Array**	**94.17**	**12**	P	**P**	**20 52 02.3**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=201,slow=2.4,SNR=4.1						
NB2	**NORSAR Subarra**	**145.50**	**354**	PKP	**PKPab**	**20 58 23.1**	**+0.6**
	comp=Z,5.9nm,1.7s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**145.50**	**354**	PKPbc	**PKPab**	**20 58 21.4**	**-1.0**
	comp=Z,1.9nm,1.0s,baz=5.2,slow=2.5,SNR=7.0						
AKASG	**Malin Array Be**	**149.35**	**328**	PKPbc	**PKPbc**	**20 58 32.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=52,slow=2.5,SNR=2.4						

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*JMA **02** 20:43:27.7±0.2, 28°.14N×127°.95E, h9km±3km, M3.3*

*IDC **02** 20:43:29.0±1.2, 27°.82N×127°.44E, h0km, mb3.6/7, mb1 3.7/10, mb1mx3.5/52, mbtmp3.6/10, ML3.1/2, Error ellipse: s-maj=33.6km s-min=20.5km az=73.0*

ISC 02 20:43:28.8±1.9**, 28°.06N**±0°.05×**128°.10E**±0°.06**, h6**km±12km**, n19,** σ**0§89**/23**, mb3.5**/7**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.80**	**109**	P	**Pn**	**20 43 45.8**	**-0.8**
JTK				S	**Sn**	**20 43 58.1**	**-0.7**
JOKE	**Okinoerabujima**	**0.81**	**149**	P	**Pb**	**20 43 45.6**	**+0.4**
JOKE				S	**Sn**	**20 43 58.6**	**-0.4**
JAMN	**Amaminishikomi**	**0.97**	**79**	P	**Pb**	**20 43 48.2**	**+0.3**
JAMN				S	**Sn**	**20 44 02.6**	**-0.3**
JIH	**Iheya**	**1.02**	**187**	P	**Pg**	**20 43 48.3**	**-0.1**
JIH				S	**Sb**	**20 44 03.7**	**+1.2**
JYRO	**Yoronjima**	**1.07**	**163**	P	**Pb**	**20 43 50.0**	**+0.3**
JYRO				S	**Sn**	**20 44 05.5**	**0.0**
JOW	**Kunigami**	**1.23**	**173**	P	**Pg**	**20 43 51.9**	**-0.4**
JOW				S	**Sn**	**20 44 09.7**	**+0.4**
JAM	**Amami Oshima**	**1.38**	**75**	S	**Sn**	**20 44 13.2**	**+0.2**
JNTH	**Nagotoyohara**	**1.53**	**183**	P	**Pn**	**20 43 56.4**	**-0.2**
JAGN	**Aguni-jima**	**1.65**	**208**	P	**Pn**	**20 43 57.3**	**-0.9**
JNU	**Nakatsue**	**5.59**	**25**	Pn	Pn	20 44 59.4	+6.9
	0.8nm,0.3s,baz=177,slow=6.3,SNR=11						
MJAR	**Matsushiro Arr**	**12.02**	**43**	Pn	Pn	20 46 30.5	+10
	0.0nm,0.3s,baz=212,slow=16,SNR=1.6						
USRK	**Ussuriysk Ar.**	**16.41**	**10**	Pn	**P**	**20 47 25.4**	**+2.9**
	baz=192,slow=15,SNR=4.6						
SONM	**Songino Array**	**25.98**	**325**	P	**P**	**20 49 01.9**	**-0.4**
	1.1nm,0.8s,baz=142,slow=10,SNR=7.0						
MKAR	**Makanchi Array**	**40.25**	**310**	P	**P**	**20 51 05.9**	**-0.5**
	0.8nm,0.7s,baz=97,slow=9.9,SNR=8.9						
ZALV	**Zalesovo Beam**	**40.74**	**322**	P	**P**	**20 51 09.8**	**-0.4**
	0.4nm,0.3s,baz=110,slow=8.2,SNR=3.9						
KURBB	**Kurchatov Arra**	**43.47**	**315**	P	**P**	**20 51 31.4**	**-1.2**
	0.5nm,0.6s,baz=102,slow=8.5,SNR=5.5						
WRA	**Warramunga Arr**	**48.09**	**172**	P	**P**	**20 52 09.3**	**-0.1**
	0.8nm,0.8s,baz=352,slow=8.2,SNR=3.3						
BVAR	**Borovoye Array**	**48.85**	**317**	P	**P**	**20 52 14.3**	**-0.7**
	0.5nm,0.8s,baz=120,slow=8.8,SNR=6.1						
ASAR	**Alice Springs**	**51.72**	**173**	P	**P**	**20 52 36.9**	**-0.1**
	0.6nm,1.0s,baz=0.0,slow=9.3,SNR=2.8						

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*IDC **02** 20:44:00.5±0.9, 27°.92N×127°.72E, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.7/53, mbtmp3.9/11, ML3.1/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/26, Error ellipse: s-maj=32.6km s-min=17.2km az=72.0*

*JMA **02** 20:44:01.5±0.3, 28°.15N×127°.95E, h22km, M3.6*

*NIED **02** 20:44:01.6, 28°.15N×127°.95E, h22km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.22; $M_{\theta\theta}$2.81; $M_{\phi\phi}$-1.59; $M_{r\theta}$-1.42; $M_{\theta\phi}$-0.81; $M_{\phi r}$-0.62; Fault plane solution: $M_0$2.92000×10^{15} NP1: ϕ_s65.00000°, δ75.00000°, λ-137.00000°. NP2: ϕ_s321.00000°, δ48.00000°, λ-21.00000°.*

*NEIC **02** 20:44:09.2±1.4, 28°.01N±0°.06×127°.79E±0°.10, h68km±8km, mb4.1/13 Error ellipse: s-maj=12.5km s-min=8.5km az=78.0*

ISC 02 20:44:04.5±2.4**, 28°.05N**±0°.05×**128°.03E**±0°.06**, h28**km±18km**, n40,** σ**1§38**/41**, mb3.9**/14**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.84**	**145**	P	**Pn**	**20 44 19.3**	**-1.2**
JOKE				S	**Sn**	**20 44 31.5**	**-0.4**
JTK	**Tokunoshima**	**0.86**	**108**	P	**Pn**	**20 44 19.2**	**-1.6**
JTK				S	**Sn**	**20 44 30.7**	**-1.7**
JIH	**Iheya**	**1.02**	**183**	P	**Pn**	**20 44 20.9**	**-2.0**
JIH				S	**Sn**	**20 44 35.8**	**-0.4**
JAMN	**Amaminishikomi**	**1.03**	**79**	P	**Pn**	**20 44 21.1**	**-2.0**
JAMN				S	**Sn**	**20 44 35.4**	**-1.2**
JYRO	**Yoronjima**	**1.09**	**160**	P	**Pn**	**20 44 22.9**	**-1.0**
JYRO				S	**Sn**	**20 44 38.4**	**+0.3**
JOW	**Kunigami**	**1.24**	**170**	P	**Pn**	**20 44 25.5**	**-0.4**
JOW				S	**Sb**	**20 44 42.8**	**0.0**
JAM	**Amami Oshima**	**1.44**	**75**	S	**Sn**	**20 44 45.8**	**-0.8**
JNU	**Nakatsue**	**5.62**	**25**	Pn	**Pn**	**20 45 30.8**	**+4.6**
	0.8nm,0.3s,baz=145,slow=2.2,SNR=4.5						
JNU	**Nakatsue**	**5.62**	**25**		Pn	20 45 31.5	+5.3
YOJ	**Yonaguni jima**	**5.75**	**233**	Pn	**Pn**	**20 45 31.0**	**+3.0**
SSLB	**Suanglung**	**7.65**	**238**	Pn	**Pn**	**20 45 54.8**	**+0.6**
TPUB	**Ta-pu**	**8.18**	**236**	Pn	**Pn**	**20 46 02.6**	**+1.2**
INU	**Inuyama**	**10.56**	**44**	Pn	Pn	20 46 39.7	+5.8
JHJ	**Hachijo jima 2**	**11.32**	**61**	LR	LR	20 51 33.4	
	comp=Z,123nm,18.1s,baz=142,slow=39						
MAJO	**Matsushiro**	**12.07**	**43**	Pn	P	20 47 01.8	-5.3
MJB9	**Matsu-Tunnel**	**12.07**	**43**	Pn	P	20 47 01.4	-5.8
BJT	**Baijiatuau**	**15.44**	**324**		**P**	**20 47 44.5**	**-0.1**
BJT				IAmb	IAmb	20 47 47.8	
	comp=Z,9.0nm,0.5s						
ENH	**Enshi**	**16.35**	**282**	Pn	**Pn**	**20 47 52.3**	**+0.2**
ENH				IAmb	IAmb	20 48 00.4	
	comp=Z,7.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**16.43**	**10**	P	**P**	**20 47 57.4**	**+1.9**
USRK	**Ussuriysk Ar.**	**16.43**	**10**	Pn	**P**	**20 47 56.5**	**+1.1**
	baz=190,slow=12,SNR=6.7						
XAN	**Xi'an**	**17.42**	**295**		**Pn**	**20 48 05.1**	**-0.5**
SONM	**Songino Array**	**25.94**	**325**	P	**P**	**20 49 34.3**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=139,slow=11,SNR=5.4						
KULM	**Kulim**	**34.47**	**234**	P	**P**	**20 50 49.9**	**-0.3**

GSI	Gunungsitoli	39.44	233	P	P	20 51 32.1	-0.3
MK31	Makanchi Array	40.20	310	P	P	20 51 38.0	-0.5
MK31				IAmb	IAmb	20 51 40.4	
	comp=Z,1.3nm,0.8s						
MKAR	Makanchi Array	40.20	310	P	P	20 51 37.6	-0.9
	comp=Z,1.7nm,0.7s,baz=102,slow=10.0,SNR=11						
KDJ	Kajisay	43.30	303	P	P	20 52 02.0	-2.0
KDJ				IAmb	IAmb	20 52 10.4	
	comp=Z,5.8nm,1.2s						
KURK	Kurchatov	43.39	315	P	P	20 52 03.4	-1.0
KURK				IAmb	IAmb	20 52 05.1	
	comp=Z,1.8nm,0.8s						
KURBB	Kurchatov Arra	43.42	315	P	P	20 52 03.6	-1.1
	comp=Z,1.4nm,0.6s,baz=103,slow=8.6,SNR=13						
FITZ	Fitzroy Crossi	45.94	183	P	P	20 52 23.9	-1.0
	comp=Z,2.0nm,0.7s,baz=25,slow=9.9,SNR=2.3						
GSTR	Great Sitkin T	47.64	44	P	P	20 52 40.1	+2.0
WB0	Warramunga Arr	47.94	172	P	P	20 52 41.0	+0.4
WRA	Warramunga Arr	48.10	172	P	P	20 52 41.4	-0.5
	comp=Z,1.4nm,0.8s,baz=353,slow=8.2,SNR=5.3						
BVAR	Borovoye Array	48.81	317	P	P	20 52 47.1	+0.1
	comp=Z,1.5nm,0.7s,baz=77,slow=9.3,SNR=9.9						
BRVK	Borovoye	48.88	317	P	P	20 52 47.1	-0.5
BRVK				IAmb	IAmb	20 52 49.0	
	comp=Z,2.5nm,0.8s						
AS31	Alice Springs	51.73	173	P	P	20 53 09.8	+0.3
ASAR	Alice Springs	51.73	173	P	P	20 53 09.6	+0.1
	comp=Z,0.3nm,0.6s,baz=357,slow=8.5,SNR=6.7						
STKA	Stephens Creek	60.98	167	P	P	20 54 15.0	-0.3
STKA				IAmb	IAmb	20 54 15.8	
	comp=Z,1.8nm,1.5s						
NVAR	Mina Array Bea	89.38	46	P	P	20 57 00.1	+1.1
	comp=Z,0.2nm,0.5s,baz=328,slow=7.7,SNR=3.7						
PDAR	Pinedale Array	91.86	38	P	P	20 57 10.7	+0.2
	comp=Z,0.3nm,0.7s,baz=64,slow=3.4,SNR=3.5						

IDC 02 20:45:08.3±3.3, 3°.27S×147°.06E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/36, mbtmp3.8/6, ML1.6/1, MS2.9/3, Ms1 2.9/3, ms1mx2.6/28, Error ellipse: s-maj=81.9km s-min=26.3km az=88.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	5.06	102	LR	LR	20 47 24.6	
	comp=Z,38nm,20.9s,baz=283,slow=27						
PMG	Port Moresby	6.10	179	Pn	Pn	20 46 41.4	+1.6
	0.9nm,0.3s,baz=348,slow=9.3,SNR=3.1						
JAY	Jayapura	6.39	277	LR	LR	20 48 46.9	
	comp=Z,149nm,18.1s,baz=200,slow=34						
WRA	Warramunga Arr	20.71	216	P	P	20 49 49.8	-0.6
	1.9nm,0.7s,baz=42,slow=11,SNR=7.5						
ASAR	Alice Springs	23.94	211	P	P	20 50 23.6	-0.8
	0.9nm,0.6s,baz=45,slow=7.7,SNR=11						
FITZ	Fitzroy Crossi	25.64	233	P	P	20 50 41.1	+1.2
	6.5nm,1.2s,baz=42,slow=15,SNR=3.1						
FITZ				LR	LR	21 00 55.1	
	comp=Z,38nm,18.0s,baz=46,slow=37						
CMAR	Chiang Mai Arr	52.06	296	P	P	20 54 20.6	+0.2
	1.3nm,0.8s,baz=126,slow=6.1,SNR=6.0						
MKAR	Makanchi Array	75.45	320	P	P	20 56 53.9	-0.5
	0.6nm,0.9s,baz=106,slow=4.7,SNR=3.9						

IDC 02 20:54:40.2±1.3, 9°.55S×158°.86E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/39, mbtmp3.7/4, Error ellipse: s-maj=48.6km s-min=10.7km az=168.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.08	84	Pg	Pb	20 55 01.9	+0.2
	122nm,0.3s,baz=216,slow=5.0,SNR=33						
HNR				Lg	Lg	20 55 14.6	
	458nm,0.3s,baz=333,slow=22,SNR=24						
WRA	Warramunga Arr	25.83	244	P	P	21 00 13.3	-0.2
	0.6nm,0.6s,baz=72,slow=9.8,SNR=5.1						
STKA	Stephens Creek	27.38	213	P	P	21 00 28.4	+1.0
	1.8nm,0.6s,baz=54,slow=15,SNR=4.5						
ASAR	Alice Springs	27.66	236	P	P	21 00 28.9	-1.1
	0.4nm,0.9s,baz=64,slow=11,SNR=4.6						
MKAR	Makanchi Array	87.84	318	P	P	21 07 31.6	0.0
	0.3nm,0.8s,baz=96,slow=2.9,SNR=3.3						

NEIC 02 21:00:09.5±1.7, 43°.84N±0°.05×105°.21W±0°.08, h0km±2km, ML3.4/71, Error ellipse: s-maj=9.6km s-min=8.7km az=96.0

IDC 02 21:00:09.9±0.9, 44°.12N×105°.64W, h0km, mb3.7/3, mb1 3.7/9, mb1mx3.5/44, mbtmp3.5/9, ML3.1/5, Error ellipse: s-maj=26.2km s-min=8.3km az=144.0

ISC 02 21:00:08.4±0.6, 43°.84N±0°.05×105°.15W±0°.04, h0km, n90, σ1s.44/93, mb3.8/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.85	70	Pg	Pb	21 00 27.2	+1.1
K22A	Casper	1.56	221	Pn	Pn	21 00 36.1	-1.4
K22A				IAML		21 00 59.5	
	comp=E,643nm,0.8s						
PHWY	Pilot Hill	2.55	185		Pn	21 00 51.8	+0.5
RWWY	Rawlins	2.63	216		Pn	21 00 52.3	-0.1
RWWY				IAML		21 01 32.2	
	comp=E,206nm,0.6s						
LAO	LASA Array	2.95	345		Pn	21 00 57.9	+1.3
N23A	Red Feather La	3.00	192	Pn	Pn	21 00 58.5	+1.0
N23A				IAML		21 01 41.5	
	comp=N,150nm,0.5s						
RLMT	Red Lodge	3.22	295	Pn	Pn	21 01 01.1	+0.8
RLMT				IAML		21 01 53.6	
	comp=N,76nm,0.3s						
RLMT				IAML		21 01 56.6	
	comp=N,88nm,0.7s						
BW06	Boulder Array	3.39	253		Pn	21 01 02.3	-0.5
BW06				IAML		21 01 52.2	
	comp=N,67nm,0.6s						
PD31	Pinedale Array	3.39	253		Pn	21 01 03.1	+0.3
PDAR	Pinedale Array	3.39	253	Pn	Pn	21 01 03.4	+0.5
	comp=N,10nm,0.3s,baz=66,slow=17,SNR=85						
PDAR				Lg	Lg	21 01 49.7	
	comp=N,18nm,0.3s,baz=72,slow=36,SNR=2.6						
YNE	Yellowstone No	3.67	290		Pn	21 01 06.7	0.0
YMP	Mirror Lake Pl	3.71	286		Pn	21 01 07.8	+0.6
GCMT	Greycliff	3.76	303		Pn	21 01 09.0	+1.2
LKWY	Lake	3.85	283		Pn	21 01 09.3	+0.2
LKWY				IAML		21 01 35.3	
	comp=N,45nm,0.8s						
LKWY				IAML		21 02 21.6	
	comp=N,47nm,0.6s						
H17A	Grant Village	3.95	280		Pn	21 01 11.6	+1.1
H17A				IAML		21 02 15.5	
	comp=N,42nm,0.7s						
FLWY	Flagg Ranch	4.02	275		Pn	21 01 12.1	+0.7
ISCO	Idaho Springs	4.05	185	Pn	Pn	21 01 13.3	+1.3
SNOW	Snow King Moun	4.09	267		Pn	21 01 13.1	+0.7
SNOW				IAML		21 02 23.0	
	comp=N,45nm,0.7s						
SNOW				IAML		21 02 24.7	
	comp=N,36nm,0.9s						
YPP	Pitchstone Pla	4.10	278		Pn	21 01 13.5	+0.8
E28A	Huff	4.17	47		Pn	21 01 15.2	+1.9
E28A				IAML		21 02 28.8	
	comp=E,63nm,0.7s						
REDW	Red Top Meadow	4.17	265	Pn	Pn	21 01 16.4	+2.9
REDW				IAML		21 02 21.3	
	comp=E,50nm,0.7s						
REDW				IAML		21 02 39.6	
	comp=E,54nm,0.8s						
IMW	Indian Meadow	4.19	273	Pn	Pn	21 01 15.3	+1.5
IMW				IAML		21 02 24.8	
	comp=E,39nm,0.8s						
IMW				IAML		21 02 25.6	
	comp=E,43nm,0.7s						
YHH	Holmes Hill	4.20	285	Pn	Pn	21 01 17.4	+3.4
TPAW	Teton Pass	4.23	267		Pn	21 01 14.7	+0.4
TPAW				IAML		21 02 31.5	
	comp=E,38nm,1.1s						
TPAW				IAML		21 02 37.9	
	comp=E,29nm,0.6s						
YMR	Madison River	4.26	283	Pn	Pn	21 01 16.5	+1.8
O20A	White River Ci	4.36	213	Pn	Pn	21 01 16.8	+0.7
O20A				IAML		21 02 27.8	
	comp=E,53nm,0.7s						
O20A				IAML		21 02 27.9	
	comp=N,60nm,0.7s						
YHB	Horse Butte	4.44	284		Pn	21 01 17.3	+0.1
YHL	Hebgen Lake	4.45	285		Pn	21 01 18.5	+1.1
AHID	Auburn Hatcher	4.48	258		Pn	21 01 18.8	+1.1
AHID				IAML		21 02 33.9	
	comp=E,41nm,0.6s						
AHID				IAML		21 02 45.9	
	comp=N,50nm,0.7s						
ECR	Eagle Creek	4.60	262		Pb	21 01 32.4	+2.3
RDMU	Red Mountain	4.63	227		Pn	21 01 20.4	+0.5
DGMT	Dagmar	4.68	8	Pn	Pn	21 01 22.0	+1.7
K31A	O'Neill	4.83	102		Pg	21 01 41.4	+0.5
Q24A	Divide	4.87	180	IAML		21 02 44.5	
	comp=E,30nm,0.6s						
BOZ	Bozeman (W)	4.94	293	IAML		21 02 41.5	
	comp=E,18nm,0.8s						
BOZ				IAML		21 02 46.9	
	comp=E,21nm,0.8s						
KSCO	Kaye Shedlock'	5.18	158	Pn	Pn	21 01 28.4	+1.1
KSCO				Pg	Pg	21 01 45.4	-2.3
HWUT	Hardware Ranch	5.23	247		Pn	21 01 29.0	+1.0
HWUT				IAML		21 02 57.0	
	comp=E,32nm,0.8s						
HWUT				IAML		21 02 57.4	
	comp=E,30nm,0.7s						
EGMT	Eagleton	5.28	324	Pn	Pn	21 01 29.7	+1.1
TCUT	Toone Canyon	5.37	242		Pn	21 01 30.5	+0.5
TCUT				Pg	Pg	21 01 49.8	-1.5
HRY	Holter Researc	5.52	304		Pn	21 01 32.4	+0.4
HRY				Pg	Pg	21 01 50.5	-3.7
DLMT	Dillon	5.53	289	Pn	Pn	21 01 32.9	+0.7
DLMT					Pb	21 01 50.2	+4.3
MDND	Maddock	5.57	42	Pn	Pn	21 01 35.1	+2.6
MDND				Pg	Pg	21 01 53.8	-1.4
MCMT	McKenzie Canyo	5.61	283	Pn	Pn	21 01 33.7	+0.4
JLU	Jordanelle	5.69	237	Pn	Pn	21 01 34.6	+0.2
BGNE	Belgrade	5.70	113	Pn	Pn	21 01 35.5	+1.1
SPUT	South Promonto	5.96	247		Pn	21 01 38.7	+0.8
BCYI	Bear Canyon	5.97	277		Pn	21 01 37.2	-1.0
PV22	Blue Mesa, Par	5.97	209	Pn	Pn	21 01 39.3	+1.1
PV07	Paradox Valley	6.01	207		Pn	21 01 38.2	-0.6
PV21	Cone Mtn., Par	6.01	210		Pn	21 01 39.2	+0.3
PV15	Paradox Valley	6.04	206	Pn	Pn	21 01 39.9	+0.7
P17A	Butcher Ranch,	6.05	226		Pn	21 01 39.6	+0.3
SDCO	Great Sand Dun	6.09	183		Pn	21 01 40.4	+0.4
PV23	Carpenter Ridg	6.12	210	Pn	Pn	21 01 41.9	+1.5
PV04	Paradox Valley	6.14	209		Pn	21 01 41.4	+0.9
MPU	Maple Canyon	6.16	234	Pn	Pn	21 01 41.5	+0.6
PV12	Saucer Basin,	6.17	208	Pn	Pn	21 01 42.2	+1.2
ECSD	EROS Data Cent	6.18	88	Pn	Pn	21 01 43.8	+2.9
PV10	Paradox Valley	6.20	210	Pn	Pn	21 01 43.7	+2.3
PV10				Pg	Pg	21 02 05.2	-2.0
PV20	West Nyswonger	6.21	209		Pn	21 01 41.7	+0.2
S22A	4UR Ranch, Cre	6.22	192		Pn	21 01 43.7	+1.9
PV19	Morning Glory	6.24	209		Pn	21 01 42.6	+0.7
PV03	Paradox Valley	6.24	208		Pn	21 01 42.6	+0.7
PV02	Paradox Valley	6.25	207	Pn	Pn	21 01 43.5	+1.4
PV01	Paradox Valley	6.26	206	Pn	Pn	21 01 43.1	+0.8
PV18	Skein Mesa, Pa	6.27	208		Pn	21 01 42.9	+0.5
PV13	Radium Mtn., P	6.32	207	Pg	Pg	21 02 05.3	-4.2
TMUT	Trail Mountain	6.42	227		Pn	21 01 44.1	-0.4
CBKS	Cedar Bluff	6.46	139	Pn	Pn	21 01 46.1	+1.3
N33A	J Bar K, Exete	6.49	116	Pn	Pn	21 01 47.4	+2.2
F33A	5 Mile Ranch,	6.60	69		Pn	21 01 49.2	+2.5
Q16A	Castle Valley	6.69	225		Pn	21 01 47.9	-0.1
T25A	Trinidad	6.72	175	Pn	Pn	21 01 49.0	+0.5
HLID	Hailey	6.72	271	Pn	Pn	21 01 49.5	+1.0
MSO	Missoula	6.88	299	Pn	Pn	21 01 50.2	-0.4
MVCO	Mesa Verde	7.10	202	Pn	Pn	21 01 54.7	+1.0
JTMT	Jette	7.48	305	Pn	Pn	21 01 59.4	+0.4
MTPU	Mount Pierson	7.87	225	Pn	Pn	21 02 04.6	+0.2
ELK	Elko	8.10	251	Pn	Pn	21 02 09.6	+2.1
	comp=E,0.4nm,0.3s,baz=61,slow=9.0,SNR=6.7						
F36A	Milaca	8.50	72	Pn	Pn	21 02 13.7	+1.0
ULM	Lac du Bonnet	9.01	41	Pn	Pn	21 02 20.3	+0.7
	comp=E,1.7nm,0.3s,baz=227,slow=10,SNR=6.3						
ULM				Lg	Lg	21 04 52.0	
	comp=E,0.6nm,0.3s,baz=142,slow=21,SNR=3.2						
U15A	North Rim	9.20	219	Pn	Pn	21 02 22.6	0.0
I56US	NEWPORT INFRAS	9.43	302	*i*		21 55 30.0	
	baz=118,slow=305,SNR=5.7						
FFC	Flin Flon	11.09	10		Pn	21 02 46.8	-1.3
NVAR	Mina Array Bea	11.29	246	Pn	Pn	21 02 51.1	-0.2
	comp=E,0.1nm,0.3s,baz=50,slow=12,SNR=2.9						
TXAR	Lajitas Array	14.53	175	Pn	P	21 03 42.8	+0.6
	comp=E,0.0nm,0.3s,baz=355,slow=8.6,SNR=1.8						
YKA	Yellowknife Ar	19.49	347	P	P	21 04 35.3	-1.3
	comp=E,0.1nm,0.3s,baz=159,slow=12,SNR=2.4						
ARCES	ARCESS Array B	61.29	18	P	P	21 10 24.5	-0.5
	comp=E,1.2nm,0.7s,baz=331,slow=7.3,SNR=8.0						
FINES	FINESS Array B	67.90	23	P	P	21 11 08.3	0.0
	comp=E,0.4nm,0.7s,baz=268,slow=12,SNR=1.0						
MKAR	Makanchi Array	89.51	355	P	P	21 13 07.2	-0.1
	comp=E,0.3nm,0.7s,baz=350,slow=1.8,SNR=3.8						

JMA 02 21:37:10.8±0.1, 24°.37N×122°.21E, h3km±2km, M2.9

TAP 02 21:37:11.8, 24°.49N×122°.16E, h7km±1km, ML3.3, D

ISC 02 21:37:11.5±1.1, 24°.45N±0°.03×122°.21E±0°.02, h8km±9km, n53, σ0s.66/85, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	Nanao	0.37	270	*i* P	Pb	21 37 19.4	-0.9
	baz=263						
ENAH				*e*S	Sb	21 37 25.0	-1.2
	baz=263						
TWC	Suao	0.37	296	*i* P	Pg	21 37 18.4	-0.3
	baz=294						
TWC				S	Sg	21 37 24.2	+0.7
	baz=294						
ENA	Nanau	0.43	267	*i* P	Pb	21 37 20.4	-1.0
	baz=261						
ENA				*e*S	Sb	21 37 27.0	-1.1
	baz=261						
NTC	Toucheng	0.53	319	*e*P	Pg	21 37 21.9	+0.1
	baz=320						
NTC				S	Sb	21 37 30.4	-0.6
	baz=320						
TWE	Neicheng	0.56	299	*i* P	Pg	21 37 22.4	0.0
	baz=298						
TWE				*e*S	Sg	21 37 30.4	+0.6
	baz=298						
TWB1	Santiao Chiao	0.59	340	P	Pg	21 37 22.6	-0.4
	baz=344						
ENTT	Nioudou	0.62	288	P	Pg	21 37 23.6	+0.1
	baz=285						
ENTT				*e*S	Sb	21 37 33.8	+0.3
	baz=285						
TIPB	Shuangxi	0.63	326	P	Pg	21 37 23.8	+0.1
	baz=327						
TIPB				*e*S	Sg	21 37 31.8	-0.1
	baz=327						
NDT	Datong Townshi	0.66	284	*i* P	Pb	21 37 24.4	-0.9
	baz=281						
NDT				*e*S	Sb	21 37 33.8	-0.7
	baz=281						
JYNG	Yonagunijimaku	0.67	90	P	Pg	21 37 24.1	-0.3
JYNG				S	Sg	21 37 33.4	+0.3
TWD	Chiawan	0.67	237	*e*P	Pb	21 37 25.2	-0.3
	baz=231						
ETLH	Xiulin Townshi	0.71	250	P	Pb	21 37 25.8	-0.4
	baz=245						
ETLH				*e*S	Sb	21 37 35.7	-0.5
	baz=245						
NWLT	Wulai	0.72	297	P	Pg	21 37 25.4	0.0
	baz=295						
NWLT				*e*S	Sg	21 37 34.9	0.0
	baz=295						
YOJ	Yonaguni jima	0.73	89	P	Pg	21 37 25.2	-0.3
YOJ				S	Sg	21 37 35.7	+0.7
NWF	Wu-fen Shan	0.73	328	P	Pb	21 37 26.6	0.0
	baz=329						
NWF				*e*S	Sg	21 37 35.4	+0.1
	baz=329						
WFSB	Wu-fen Shan	0.73	328	P	Pb	21 37 26.5	0.0
	baz=329						
WFSB				*e*S	Sg	21 37 35.4	+0.1
	baz=329						
NNSB	Datong	0.76	269	P	Pb	21 37 26.4	-0.7
	baz=265						
NNSB				*e*S	Sb	21 37 36.4	-1.1
	baz=265						
NNSH	Datong	0.76	269	*i* P	Pb	21 37 26.3	-0.7
	baz=265						
NNS	Nan Shan	0.76	270	*i* P	Pb	21 37 26.5	-0.7
	baz=266						
NNS				S	Sb	21 37 37.0	-0.8
	baz=266						
TWA	Mucha	0.78	313	P	Pb	21 37 27.0	-0.3
	baz=313						
TWA				*e*S	Sb	21 37 37.4	-0.7
	baz=313						
YHNB	Yeheng	0.79	286	*e*P	Pb	21 37 26.9	-0.7
	baz=284						
NHDH	Xindian Distri	0.81	310	*e*P	Pb	21 37 27.7	-0.2
	baz=309						
NHDH				*e*S	Sb	21 37 39.0	+0.1
	baz=309						
NSK	Sanguang	0.81	286	*i* P	Pb	21 37 27.3	-0.7
	baz=284						
NSK				S	Sg	21 37 37.6	-0.1
	baz=284						
TAP	Taipei	0.87	313	*e*P	Pb	21 37 29.4	+0.5
	baz=313						
TAP				*e*S	Sb	21 37 41.0	+0.2
	baz=313						
FUSS	Fushou	0.91	257	P	Pb	21 37 29.7	0.0
	baz=254						
FUSS				*e*S	Sb	21 37 41.9	-0.1
	baz=254						
YM01	YM01	0.91	320	P	Pb	21 37 29.6	0.0
	baz=320						
YM01				S	Sg	21 37 40.7	-0.1
	baz=320						
WHF	Hehuan Shan	0.92	251	*i* P	Pb	21 37 29.7	-0.3
	baz=247						
WHF				S	Sb	21 37 42.6	+0.1
	baz=247						
YM10	YM10	0.92	320	*e*P	Pb	21 37 30.2	+0.4
	baz=320						
YM10				*e*S	Sg	21 37 41.1	-0.1
	baz=320						
YM11	YM11	0.92	321	*e*P	Pb	21 37 29.6	-0.2
	baz=321						
YM11				*e*S	Sg	21 37 41.5	+0.3
	baz=321						
YM05	YM05	0.92	321	*e*P	Pb	21 37 29.5	-0.4
	baz=321						
YM05				*e*S	Sb	21 37 42.1	-0.3
	baz=321						
YM08	YM08	0.93	323	*e*P	Pb	21 37 29.9	0.0
	baz=323						
YM04	YM04	0.93	319	*e*P	Pg	21 37 28.9	-0.6
	baz=319						
YM04				*e*S	Sb	21 37 42.2	-0.3
	baz=319						
YM03	YM03	0.95	320	*e*P	Pg	21 37 29.4	-0.4
	baz=320						
YM03				*e*S	Sb	21 37 44.2	+1.1
	baz=320						
ESL	Shilin	0.95	229	P	Pn	21 37 30.5	-0.8
	baz=224						
WLTB	Daxi	0.96	295	*e*P	Pn	21 37 31.3	-0.1
	baz=293						
WLTB				*e*S	Sn	21 37 45.2	-0.1
	baz=293						
TDCB	Techi	0.98	259	*e*P	Pb	21 37 30.8	-0.1
	baz=255						
TWY	Chenhua	0.99	326	*e*P	Pb	21 37 30.8	-0.2
	baz=327						
TWY				S	Sb	21 37 44.4	0.0
	baz=327						
CHGB	Renai	1.02	248	*e*P	Pb	21 37 31.6	0.0
	baz=244						
CHGB				*e*S	Sn	21 37 45.8	-1.3
	baz=244						
LIOB	Emei	1.11	280	P	Pn	21 37 33.5	+0.1
	baz=278						
NSTT	Nanjuang	1.12	280	P	Pn	21 37 33.4	-0.1
	baz=277						
WHP	Taichung City	1.17	262	*e*P	Pn	21 37 35.0	+0.7
	baz=259						
PCYT	Pengchaiyu	1.18	354	*e*P	Pg	21 37 33.7	-0.5
	baz=356						
NHW	Xinwu Township	1.20	298	*e*S	Sn	21 37 53.2	+2.1
	baz=297						
VWDT	VWDT	1.20	235	*e*P	Pn	21 37 36.0	+1.4
	baz=232						
DPDB	Guoxing	1.24	251	P	Pn	21 37 36.1	+0.8
	baz=248						
NMLH	Miaoli	1.30	274	*e*P	Pb	21 37 38.4	+2.2
	baz=272						
SMLT	Sun Moon Lake	1.32	245	*e*P	Pb	21 37 37.6	+0.9
	baz=242						
SSLB	Suanglung	1.32	240	*e*P	Pb	21 37 37.9	+1.2
	baz=237						
IRIF	Iriomote-Funau	1.39	94	P	Pn	21 37 36.7	-0.5
IRIF				*e*S	Sb	21 37 55.9	+0.2
HATJ	Hateruma jima	1.51	105	*e*S	Sn	21 37 59.2	+0.5
JKRS	Kuro-shima	1.65	97	P	Pn	21 37 40.3	-0.6
JIJ	Ishigaki jima	1.76	92	P	Pn	21 37 41.9	-0.5
JISG	Ishigakijimahi	1.92	85	P	Pn	21 37 45.1	+0.6

KLM 02 21:43:01.0, 9°.02S×105°.21E, h10km, mb4.9

BJI 02 21:43:01.0±0.0, 9°.00S×105°.30E, h5km, mB5.0/28, mb4.7/45, Ms4.8/9, Ms7 4.5/3

IDC 02 21:43:01.7±0.5, 8°.83S×105°.45E, h0km, mb4.3/22, mb1 4.4/23, mb1mx4.3/31, mbtmp4.3/23, ML3.6/1, MS3.4/8, Ms1 3.4/8, ms1mx3.1/28, Error ellipse: s-maj=19.2km s-min=12.5km az=61.0

DJA 02 21:43:02.5±0.3, 9°S±2°×10°5E±°, h10km, M5.0/21, mB5.7/6, mb5.0/12, MLv4.9/21, Mw(mB)5.3/6

NEIC 02 21:43:02.2±1.7, 8°.98S±0°.04×105°.29E±0°.07, h10km±1km, mb4.7/59, Error ellipse: s-maj=12.1km s-min=6.0km az=256.0

ISC 02 21:43:02.0±3.3, 8°.93S±0°.04×105°.38E±0°.04, h6km±20km, n156, σ1s.36/173, mb4.6/58, MS3.6/10, 1C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	Christmas Isla	1.56	170	Pn	Pn	21 43 28.5	-1.9
SKJI	Sukabumi	2.24	31	P	Pn	21 43 39.0	-0.8
SKJI				S	Sn	21 44 04.2	-3.6
CNJI	Cibinong	2.37	47	P	Pn	21 43 41.4	-0.1
CNJI				S	Sn	21 44 07.8	-3.1
DBJI	Dramaga	2.73	30	P	Pn	21 43 47.0	+0.6
DBJI				S	Sn	21 44 19.0	-0.8
CISI	Cisompet, Garu	2.77	61	P	Pn	21 43 47.2	+0.1
CISI				S	Sn	21 44 17.9	-3.1
CISI	Cisompet, Garu	2.77	61	Pn	Pn	21 43 47.3	+0.2
TNG	Tangerang	3.02	25	P	Pn	21 43 51.0	+0.6
TNG				S	Sn	21 44 26.9	0.0
CMJI	Cimerak	3.25	70	P	Pn	21 43 53.7	+0.1
CMJI				S	Sn	21 44 28.2	-4.4
KASI	Kota Agung	3.50	345	P	Pn	21 43 56.1	-0.9
KASI				S	Sn	21 44 35.6	-3.2
BLSI	Bandar Lampung	3.54	358	P	Pn	21 43 57.3	-0.4
BLSI				S	Sn	21 44 36.9	-3.1
JCJI	Jatiwangi	3.75	50	P	Pn	21 44 00.7	+0.1
JCJI				S	Sn	21 44 42.5	-2.7
LWLI	Liwa	4.10	341	P	Pn	21 44 05.0	-0.5
LWLI				S	Sn	21 44 52.5	-1.4
MDSI	Maura Dua	4.58	345	P	Pn	21 44 11.2	-0.7
MNAI	Manna	5.14	332	P	Pn	21 44 18.3	-1.3
	2.5nm11µm262nm,0.7s						
MNAI	Manna	5.14	332	Pn	Pn	21 44 18.8	-0.9
UGM	Wanagama	5.19	79	P	Pn	21 44 20.0	-0.4
	1.4nm109nm,0.6s						
UGM				S	Sn	21 45 16.6	-4.1
	1.4nm109nm,0.6s						
UGM	Wanagama	5.19	79		Pn	21 44 20.6	+0.3
SMRI	Semarang	5.35	70	P	Pn	21 44 24.9	+2.3
	1.1nm3µm153nm,0.6s						
SMRI				S	Sn	21 45 24.0	-0.6
	1.1nm3µm153nm,0.6s						
SMRI	Semarang	5.35	70	Pn	Pn	21 44 24.5	+1.9
LHSI	Lahat	5.40	340	P	Pn	21 44 23.0	-0.2
	0.3nm58nm,0.5s						
LHSI				S	Sn	21 45 24.0	-1.7
	0.3nm58nm,0.5s						
WOJI	Wonogiri, Jawa	5.59	79	P	Pn	21 44 26.2	+0.3
	0.5nm50nm,1.0s						
WOJI				S	Sn	21 45 29.0	-1.5
	0.5nm50nm,1.0s						
KSI	Kapahiang	5.93	332	P	Pn	21 44 28.8	-1.8
	2.1nm26µm99nm,0.7s						
GRJI	Gresik	7.31	75	P	Pn	21 44 47.3	-2.2
	0.3nm70nm,1.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JAGI	Jajag, Banyuwa	8.69	88	P	Pn	21 45 09.4	+1.0
	2µm92nm,0.5s						
JAGI	Jajag, Banyuwa	8.69	88	Pn	Pn	21 45 08.9	+0.5
SISI	Saibi	9.81	320	P	Pn	21 45 21.2	-2.6
	36nm,1.6s						
MYKOM	Kota Tinggi	10.76	352	Pn	Pn	21 45 36.2	-0.6
TWSI	Taliwang, Sumb	11.37	90	P	Pn	21 45 41.5	-3.7
GSI	Gunungsitoli	12.80	322	Pn	Pn	21 46 01.4	-3.4
SBUM	Sibu	13.20	31	P	Pn	21 46 13.0	+2.7
RPSI	Rantau Prapat	13.22	331	Pn	Pn	21 46 08.4	-2.1
KAPI	Kappang	14.79	76	Pn	Pn	21 46 30.8	-1.2
	0.3nm,0.3s,baz=254,slow=16,SNR=1.0						
KAPI				LR	LR	21 52 50.6	
	comp=Z,128nm,20.2s,baz=250,slow=40						
KULM	Kulim	14.89	341	Pn	Pn	21 46 33.8	+0.4
GIRL	Giralia	16.07	149	Pn	Pn	21 46 48.3	-0.4
GIRL				IAmb	IAmb	21 46 49.4	
	comp=Z,116nm,1.1s						
LHMI	Lhok Sumawe	16.39	329	Pn	Pn	21 46 52.2	-0.7
MMRI	Maumere	16.66	90		Pn	21 46 56.8	+0.4
MMRI				IAmb	IAmb	21 47 16.1	
	comp=Z,46nm,1.0s						
SPMM	Sapulut	17.49	40	P	P	21 47 10.0	+2.0
KKM	Kota Kinabalu	18.39	36	P	P	21 47 17.7	-0.3
SOEI	Soe	18.66	94	P	P	21 47 20.9	-0.1
SOEI				IAmb	IAmb	21 47 37.6	
	comp=Z,30nm,0.8s						
PSA00	Pilbara Seismi	18.76	134	P	P	21 47 21.7	-0.3
MYLDM	Lahad Datu	19.17	44	P	P	21 47 26.5	-0.1
FITZ	Fitzroy Crossi	21.68	117	P	P	21 47 53.6	-0.2
	comp=Z,4.8nm,1.0s,baz=327,slow=6.9,SNR=4.7						
FITZ				LR	LR	21 55 16.8	
	comp=Z,78nm,21.4s,baz=300,slow=34						
FITZ	Fitzroy Crossi	21.68	117	P	P	21 47 54.9	+1.1
KNRA	Kununurra	23.80	109	P	P	21 48 16.7	+0.8
KNRA				IAmb	IAmb	21 48 17.4	
	comp=Z,17nm,0.8s						
TNTI	Ternate	23.93	67	P	P	21 48 18.1	+0.8
TNTI				IAmb	IAmb	21 48 21.0	
	comp=Z,26nm,0.9s						
MTN	Manton Dam	25.58	101	P	P	21 48 33.2	+0.9
MTN				IAmb	IAmb	21 48 35.5	
	comp=Z,16nm,1.1s						
DAV	Davao City (W)	25.65	52	LR	LR	22 00 39.7	
	comp=Z,85nm,18.8s,baz=184,slow=41						
SAUI	Saumlaki	25.66	90	P	P	21 48 32.8	-0.1
PBKT	Sadao Pong	25.71	350	P	P	21 48 34.7	+1.4
NWAO	Narrogin (SRO)	26.27	157	P	P	21 48 38.0	-0.3
NWAO				IAmb	IAmb	21 48 43.9	
	comp=Z,11nm,1.0s						
NWAO	Narrogin (SRO)	26.27	157	P	P	21 48 38.5	+0.1
NWAO				IAmb	IAmb	21 48 43.9	
	comp=Z,8.0nm,0.9s						
FAKI	Fak Fak	27.37	79	P	P	21 48 47.9	-0.6
FAKI				IAmb	IAmb	21 49 02.0	
	comp=Z,29nm,1.1s						
CM31	Chiang Mai Arr	27.95	347	P	P	21 48 53.7	+0.2
CM31				IAmb	IAmb	21 48 55.6	
	comp=Z,15nm,0.9s						
CMAR	Chiang Mai Arr	27.95	347	P	P	21 48 53.9	+0.3
	comp=Z,8.3nm,0.7s,baz=180,slow=8.7,SNR=66						
QIZ	Qiongzhong	28.13	9	P	P	21 48 55.0	-0.1
QIZ				IAmb	IAmb	21 49 00.3	
	comp=Z,15nm,1.1s						
CHTO	Chiang Mai	28.29	347	P	P	21 48 57.1	+0.5
CHTO				IAmb	IAmb	21 48 58.4	
	comp=Z,12nm,0.9s						
PALK	Pallekele	29.39	302	P	P	21 49 05.0	-1.5
WB0	Warramunga Arr	30.05	114	P	P	21 49 12.6	+0.3
WRA	Warramunga Arr	30.05	115	P	P	21 49 12.1	-0.3
	comp=Z,1.3nm,0.8s,baz=286,slow=12,SNR=7.3						
WRA				PcP	PcP	21 52 15.1	+0.7
	comp=Z,0.7nm,0.6s,baz=299,slow=2.1,SNR=5.2						
WB2	Warramunga Arr	30.06	115	P	P	21 49 12.4	0.0
SLVN	Son La	30.11	357	P	P	21 49 12.8	0.0
SLVN				IAmb	IAmb	21 49 15.3	
	comp=Z,11nm,1.1s						
WR0	Warramunga Arr	30.24	114	P	P	21 49 14.3	+0.3
WR0				IAmb	IAmb	21 49 29.6	
	comp=Z,9.0nm,1.1s						
ASAR	Alice Springs	30.96	122	P	P	21 49 19.6	-0.7
	comp=Z,0.7nm,0.6s,baz=302,slow=8.4,SNR=6.8						
ASAR				PcP	PcP	21 52 17.8	+1.0
	comp=Z,1.0nm,0.7s,baz=301,slow=2.4,SNR=7.8						
ASAR				LR	LR	22 01 02.5	
	comp=Z,54nm,21.9s,baz=290,slow=35						
KMI	Kunming	33.95	356	⇓eP	P	21 49 49.1	+2.5
KMI				pmax	pmax		
	comp=Z,21nm,1.2s						
GYA	Guiyang	35.20	2	⇓P	P	21 49 58.7	+1.4
GYA				pP	pwP	21 50 01.8	-3.9
GYA				pmax	pmax		
	comp=Z,41nm,0.7s						
SHL	Shillong	36.72	339	P	P	21 50 10.8	+0.4
SHL				IAmb	IAmb	21 50 13.9	
	comp=Z,14nm,0.7s						
BBOO	Buckleboo	36.99	134	P	P	21 50 12.3	-0.3
BBOO				IAmb	IAmb	21 50 15.1	
	comp=Z,13nm,1.1s						
COEN	Coen	37.35	101	P	P	21 50 16.3	+0.5
ENH	Enshi	39.18	6	P	P	21 50 31.4	+0.4
ENH				IAmb	IAmb	21 50 32.4	
	comp=Z,20nm,0.7s						
ODAN	Odare	39.63	334	eP	P	21 50 36.2	+1.1
	comp=Z,38nm,0.6s						
CD2	Chengdu	39.64	358	⇑iP	P	21 50 35.8	+0.9
CD2				pmax	pmax		
	comp=Z,40nm,0.9s						
TAPN	Taplejung	39.92	335	eP	P	21 50 39.1	+1.5
	comp=Z,65nm,0.8s						
RAMN	Ramite	40.05	333	eP	P	21 50 40.4	+1.8
	comp=Z,22nm,0.5s						
WHN	Wuhan	40.18	12	eP	P	21 50 40.3	+1.0
STKA	Stephens Creek	40.60	129	P	P	21 50 43.6	+0.7
	comp=Z,2.7nm,0.5s,baz=283,slow=7.5,SNR=6.9						
STKA				PcP	PcP	21 52 45.8	+0.7
	comp=Z,1.7nm,0.6s,baz=318,slow=6.4,SNR=3.9						
STKA				LR	LR	22 09 10.6	
	comp=Z,64nm,18.6s,baz=215,slow=39						
STKA	Stephens Creek	40.60	129	P	P	21 50 42.9	0.0
JIRN	Jiri	40.85	334	eP	P	21 50 46.7	+1.4
	comp=Z,87nm,0.7s						
PKI	Pulchoki	41.12	333	eP	P	21 50 48.3	+0.8
DMN	Daman	41.29	332	eP	P	21 50 50.1	+1.3
	comp=Z,48nm,1.0s						
KKN	Kakani	41.37	333	eP	P	21 50 50.4	+1.0
	comp=Z,36nm,0.8s						
GKN	Gorkha	41.84	332	eP	P	21 50 54.3	+1.0
KOLN	Koldanda	42.14	331	eP	P	21 50 56.9	+1.2
	comp=Z,51nm,0.8s						
DANN	Dangsing	42.55	331	eP	P	21 51 00.1	+0.9
PYUN	Piuthan	42.71	330	eP	P	21 51 01.4	+1.0
NJ2	Nanjing	42.74	17	eP	P	21 51 00.9	+0.6
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
XAN	Xi'an	42.87	4	P	P	21 51 01.8	+0.4
XAN				pP	pwP	21 51 12.4	+2.7
XAN				pmax	pmax		
	comp=Z,12nm,0.8s						
XAN				pmax	pmax		
	comp=Z,170nm,3.5s						
XAN	Xi'an	42.87	4	P	P	21 51 00.2	-1.1
XAN				IAmb	IAmb	21 51 02.6	
	comp=Z,9.4nm,0.9s						
LZH	Lanzhou	44.80	358	eP	P	21 51 19.0	+2.0
LZH				pP	pwP	21 51 22.5	-2.8
LZH				sP	pP	21 51 23.9	+7.2
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,86nm,5.8s						
LZH				LR	LR		
	comp=Z,340nm,13.7s						
LZH				LR	LR		
	comp=Z,360nm,14.1s						
LZH				LR	LR		
	comp=Z,520nm,16.8s						
GTA	Gaotai	48.37	354	⇓P	P	21 51 46.6	+1.6
GTA				pP	pwP	21 51 54.3	+1.0
GTA				sP	pP	21 51 58.0	+13
GTA				PcP	PcP	21 53 13.1	+1.5
GTA				pmax	pmax		
	comp=Z,28nm,1.0s						
GTA				pmax	pmax		
	comp=Z,100nm,5.3s						
GTA				LR	LR		
	comp=Z,65nm,16.5s						
GTA				LR	LR		
	comp=Z,110nm,17.1s						
BJI	Beijing	49.74	11	P	P	21 51 55.7	+0.5
BJI				pmax	pmax		
	comp=Z,6.0nm,1.5s						
HHC	Hu-ho-hao-te	49.86	6	eP	P	21 51 57.2	+0.9
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,67nm,6.6s						
KSRS	Korea Array	50.74	23	P	P	21 52 02.5	-0.4
	comp=Z,1.5nm,0.7s,baz=217,slow=9.1,SNR=5.0						
NIL	Nilore	52.20	326	P	P	21 52 14.1	+0.1
MJAR	Matsushiro Arr	54.75	32	P	P	21 52 30.4	-2.2
	comp=Z,0.6nm,0.7s,baz=293,slow=6.8,SNR=2.7						
MJAR				PcP	PcP	21 53 35.8	+0.5
	comp=Z,1.0nm,0.7s,baz=220,slow=3.8,SNR=5.9						
MJAR				LR	LR	22 16 53.3	
	comp=Z,22nm,20.7s,baz=220,slow=37						
WMQ	Urumqi	54.90	344	eP	P	21 52 35.2	+1.5
WMQ				LR	LR		
	comp=Z,69nm,13.9s						
WMQ				LR	LR		
	comp=Z,110nm,15.3s						
KSH	Kashi	55.38	333	eP	P	21 52 36.6	-0.7
SONM	Songino Array	56.52	1	P	P	21 52 45.1	-0.3
	comp=Z,5.4nm,0.9s,baz=181,slow=7.5,SNR=21						
SONM				LR	LR	22 20 33.3	
	comp=Z,62nm,18.3s,baz=188,slow=40						
MDJ	Mudanjiang	57.62	20	P	P	21 52 55.1	+2.1
MDJ				pmax	pmax		
	comp=Z,14nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,230nm,3.6s						
GAR	Garm	57.76	328	P	P	21 52 53.0	-1.3
GAR				IAmb	IAmb	21 52 57.4	
	comp=Z,7.1nm,0.7s						
USA0B	Ussuriysk Arra	58.12	22	P	P	21 52 55.5	-1.0
USA0B				IAmb	IAmb	21 52 59.2	
	comp=Z,3.7nm,0.7s						
USRK	Ussuriysk Ar.	58.12	22	P	P	21 52 56.8	+0.4
	comp=Z,2.7nm,0.6s,baz=224,slow=5.3,SNR=7.8						
CHGR	Chuyangaron	58.12	327	P	P	21 52 56.3	-0.4
ARSB	Arslanbob	58.20	332	P	P	21 52 56.7	-0.7
BTK	Batken	58.29	329	P	P	21 52 56.7	-1.2
BTK				IAmb	IAmb	21 52 59.4	
	comp=Z,4.6nm,0.8s						
MK31	Makanchi Array	59.18	342	P	P	21 53 04.0	+0.1
MKAR	Makanchi Array	59.18	342	P	P	21 53 04.0	+0.1
	comp=Z,2.3nm,0.6s,baz=143,slow=7.9,SNR=33						
HRA	Herat	59.37	319	P	P	21 53 05.3	-0.4
HRA				IAmb	IAmb	21 53 07.2	
	comp=Z,3.6nm,0.6s						
KURK	Kurchatov	63.78	341	P	P	21 53 33.8	-1.0
KURK				IAmb	IAmb	21 53 35.8	
	comp=Z,3.4nm,0.8s						
GEYT	Alibeck	64.16	320	P	P	21 53 37.5	-0.3
	comp=Z,2.7nm,0.7s,baz=165,slow=6.2,SNR=7.1						
GYA0B	ALIBECK ARRAY	64.16	320	P	P	21 53 36.7	-1.0
GYA0B				IAmb	IAmb	21 53 49.0	
	comp=Z,4.8nm,1.0s						
YSS	Yuzh-Sakhalins	64.82	27	P	P	21 53 40.6	-1.1
ZAA0	Zalesovo Array	65.01	347	P	P	21 53 43.0	+0.2
ZAA0				IAmb	IAmb	21 53 43.8	
	comp=Z,4.3nm,0.9s						
ZALV	Zalesovo Beam	65.01	347	P	P	21 53 42.8	-0.1
	comp=Z,2.2nm,0.4s,baz=131,slow=4.1,SNR=15						
MAW	Mawson	65.07	197	P	P	21 53 44.4	+1.3
	comp=Z,1.7nm,0.8s,baz=54,slow=4.6,SNR=6.9						
BRVK	Borovoye	68.59	338	P	P	21 54 05.3	-0.4
BRVK				IAmb	IAmb	21 54 06.6	
	comp=Z,3.4nm,0.7s						
BKZ	Black Stump Fm	69.78	128	P	P	21 54 12.5	-1.1
YAK	Yakutsk	73.23	12	P	P	21 54 33.5	-0.2
VNDA	Vanda	74.38	169	P	P	21 54 41.7	+1.3
	comp=Z,2.1nm,0.9s,baz=287,slow=5.9,SNR=8.6						
VNDA	Vanda	74.38	169	P	P	21 54 40.0	-0.3
LSZ	Lusaka	75.42	257	P	P	21 54 46.5	-1.2
LSZ				IAmb	IAmb	21 54 49.9	
	comp=Z,5.3nm,0.8s						
AKH	Akhalkalaki	75.61	317	P	P	21 54 45.2	-3.1
ARU	Arti	75.68	335	P	P	21 54 47.2	-0.9
ARU				IAmb	IAmb	21 54 49.8	
	comp=Z,11nm,1.1s						
PEA0B	Petropavlovsk-	76.05	29	P	P	21 54 49.1	-1.2
PEA0B				IAmb	IAmb	21 55 00.0	
	comp=Z,8.5nm,0.9s						
PETK	Petropavlovsk-	76.05	29	P	P	21 54 50.4	0.0
	comp=Z,3.4nm,0.7s,baz=206,slow=6.4,SNR=9.1						
KBZ	Khabaz	77.02	319	P	P	21 54 56.5	+0.5
	comp=Z,4.5nm,0.8s,baz=128,slow=5.4,SNR=11						
BOSA	Boshof	77.14	243	P	P	21 54 58.4	+1.1
	comp=Z,1.8nm,0.6s,baz=90,slow=3.9,SNR=7.8						
NRIK	Noril'sk	79.07	354	P	P	21 55 07.0	+0.1
	comp=Z,3.7nm,0.9s,baz=133,slow=3.4,SNR=3.1						
NRIK				LR	LR	22 33 45.2	
	comp=Z,36nm,18.4s,baz=90,slow=38						
AFI	Afiamalu	81.00	103	P	P	21 55 16.5	-2.1
BR131	Keskin Array S	81.92	312	P	P	21 55 21.8	-1.2
BR131				IAmb	IAmb	21 55 24.0	
	comp=Z,4.0nm,0.7s						
BRTR	Keskin Array B	81.92	312	P	P	21 55 23.1	0.0
	comp=Z,3.2nm,0.7s,baz=138,slow=7.1,SNR=24						
MDUB	Mudurnu	83.93	312	P	P	21 55 31.5	-1.9
OBN	Obninsk	85.47	327	P	P	21 55 39.1	-1.5
KLMR	Klimovskoe	86.37	333	eP	P	21 55 44.6	-0.4
KLMR				AMP		21 55 47.3	
	comp=Z,31nm,1.3s						
AKASG	Malin Array Be	88.20	322	P	P	21 55 53.8	-0.3
	comp=Z,0.5nm,0.5s,baz=88,slow=4.6,SNR=6.0						
AKBB	Malin Array Si	88.20	322	P	P	21 55 53.5	-0.6
AKBB				IAmb	IAmb	21 55 54.9	
	comp=Z,3.9nm,0.9s						
MLR	Muntele Rosu	88.98	316	P	P	21 55 56.9	-1.2
MLR				IAmb	IAmb	21 55 59.8	
	comp=Z,5.9nm,0.8s						
VNA1	Neumayer--Stat	89.23	198	P	P	21 56 01.7	+3.1
VNA3	Neumayer Olymp	89.39	197	P	P	21 56 01.7	+2.3
BUR08	Bucovina Ar. S	89.98	318	P	P	21 56 02.1	-0.6
KOLS	Kolonicke sedl	92.16	319	eP	P	21 56 14.3	+1.6
FINES	FINESS Array B	92.70	332	P	P	21 56 15.3	+0.5
	comp=Z,1.4nm,0.5s,baz=122,slow=6.3,SNR=17						
ARCES	ARCESS Array B	94.78	340	P	P	21 56 24.6	+0.3
	comp=Z,3.3nm,0.6s,baz=98,slow=5.3,SNR=27						
RSSD	Black Hills	136.62	31	PKPdf	PKPdf	22 02 26.6	+0.7
LONY	Lake Ozonia	144.45	360		PKPbc	22 02 38.8	+0.7
NCB	Newcomb	145.09	359		PKPdf	22 02 41.0	+0.2
TXAR	Lajitas Array	146.04	49	PKPbc	PKPab	22 02 44.9	+0.6
	comp=Z,4.9nm,0.8s,baz=299,slow=2.6,SNR=20						
P43A	Skaggs, Pawnee	146.65	21	PKPbc	PKPbc	22 02 44.8	-0.3
S39A	Bolivar	146.75	28		PKPbc	22 02 45.9	+0.4
ABTX	Abilene, Hawle	146.96	41	PKPab	PKPab	22 02 48.0	+0.3
CCM	Cathedral Cave	147.36	25		PKPbc	22 02 47.8	+0.6
JCT	Junction City	148.19	44		PKiKP	22 02 50.8	-0.7
WCI	Wyandotte Cave	148.99	18		PKPbc	22 02 52.2	+0.7
WVT	Waverly	150.37	22		PKiKP	22 02 55.7	-0.1
V52A	Sevierville	151.99	16	PKPab	PKPab	22 03 07.6	-0.3
X48A	Hartselle	152.16	22	PKPbc	PKiKP	22 02 59.6	+0.1
LPAZ	La Paz	154.13	194	PKPbc	PKiKP	22 03 06.8	+1.9
	comp=Z,0.7nm,0.8s,baz=180,slow=5.1,SNR=2.5						

NEIC ***02*** *22:04:09.1±1.3, 41.°81N±0.°04×125.°74W±0.°07, h8km±8km, Error ellipse: s-maj=8.3km s-min=5.4km az=106.0*
NCEDC ***02*** *22:04:11.0±1.9, 41.°83N±0.°04×125.°9W±0.°1, h24km±9km, ML3.0/11, Error ellipse: s-maj=11.3km s-min=6.5km az=89.0*
ANF ***02*** *22:04:11.5±0.8, 41.°89N×125.°74W, h25km, ML2.9/15, Error ellipse: s-maj=8.2km s-min=4.2km az=72.0*
ISC 02 22:04:05.7±3.2**, 41.°84N**±0.°03×**125.°89W**±0.°08**, h1**km±23km**,**
n80, σ**1.s89**/105**, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSXB	Camp Six Broad	1.50	90		Pn	22 04 34.8	+0.9
KSXB					Sb	22 04 52.9	-1.1
KRMB	Red Mountain	1.52	101		Pn	22 04 35.0	+0.9
KRMB					Sb	22 04 53.5	-0.9
JCC	Jacoby Creek,	1.73	126	Pn	Pn	22 04 37.2	+0.3
JCC					Pb	22 04 37.7	-0.6
JCC					Sn	22 04 58.6	-1.0
L02E	Cave Junction	1.73	79	P	Pn	22 04 38.0	+1.0
	baz=260,SNR=320						
L02E				S	Sn	22 04 58.9	-0.8
	baz=260						
L02E	Cave Junction	1.73	79		Pn	22 04 38.0	+1.0
L02E					Sb	22 04 60.0	-0.6
KCTM	Capetown	1.80	139		Pn	22 04 39.5	+1.6
K02D	Willamette Mer	1.86	62	P	Pn	22 04 39.5	+0.7
	baz=243,SNR=191						
K02D				S	Sn	22 05 02.7	-0.3
	baz=243						
KTRM	Thompson Ridge	1.88	87		Pn	22 04 39.9	+0.8
KHMM	Horse Mountain	1.89	120		Pn	22 04 40.5	+1.2
KOMM	Orleans Mounta	1.91	106		Pn	22 04 40.9	+1.4
J01E	Myrtle Point	1.96	47	P	Pn	22 04 40.3	+0.3
	baz=228,SNR=24						
J01E				S	Sn	22 05 04.2	-1.1
	baz=228						
KSMM	Slide Mountain	2.10	141		Pn	22 04 43.0	+0.9
KSMM					Sn	22 05 07.4	-1.4
KCRM	Chalk Rock	2.10	131		Pn	22 04 43.4	+1.2
KCSM	Cold Springs	2.21	125		Pn	22 04 45.3	+1.6
KMRM	Mail Ridge	2.31	134	Pn	Pn	22 04 47.3	+2.4
M02C	Callahan	2.32	100	P	Pn	22 04 46.9	+1.8
	baz=282,SNR=119						
M02C	Callahan	2.32	100		Pn	22 04 46.9	+1.8
DBO	Dodson Butte	2.34	56		Pn	22 04 46.4	+1.0
YBH	Yreka Blue Hor	2.38	92		Pn	22 04 48.4	+2.5
YBH	Yreka Blue Hor	2.38	92		Pb	22 04 48.6	-0.7
YBH				Sn	Sb	22 05 18.2	-1.1
LGPM	Granite Peak	2.48	111		Pn	22 04 48.9	+1.6
LGPM					Sn	22 05 18.0	-0.4
LBKM	Bonanza King	2.54	106		Pn	22 04 50.0	+1.8
N02D	Trinity Center	2.54	109	P	Pn	22 04 49.8	+1.6
	baz=291,SNR=33						
N02D				S	Sn	22 05 19.9	+0.1
	baz=291						
N02D	Trinity Center	2.54	109		Pn	22 04 49.9	+1.7
KBSM	Bell Springs	2.59	137		Pn	22 04 50.6	+1.8
B040	Montague	2.59	89		Pn	22 04 51.2	+2.4
I03D	Drain, OR	2.63	44	P	Pn	22 04 49.9	+0.5
	baz=226,SNR=40						
I03D				S	Sn	22 05 20.6	-1.3
	baz=226						
L04D	Klamath Falls	2.69	81	P	Pn	22 04 52.9	+2.6
	baz=263,SNR=44						
L04D				S	Sb	22 05 26.3	-2.2
	baz=263						
L04D	Klamath Falls	2.69	81		Pn	22 04 53.0	+2.6
I02D	Swisshome	2.72	33	P	Pn	22 04 51.7	+1.2
	baz=214,SNR=6.4						
I02D				S	Sn	22 05 22.7	-1.2
	baz=214						
KIPM	Iron Peak	2.73	137		Pn	22 04 52.5	+1.7
LBPM	Beegum Peak	2.73	123		Pn	22 04 52.6	+1.8
LHEM	Herd Peak	2.75	93		Pn	22 04 54.0	+2.8
KCPM	Cahto Peak	2.77	140	Pn	Pn	22 04 53.0	+1.7
LMPM	Military Pass	2.81	96		Pb	22 04 55.7	-1.2
LGBM	Gray Butte	2.81	99		Pn	22 04 55.2	+3.2
KBNM	Bluenose Ridge	2.82	133		Pn	22 04 54.4	+2.4
WDC	Whiskeytown Da	2.82	115	Pn	Pn	22 04 53.9	+2.0
O02D	Mt. Diablo Mer	2.87	124	P	Pn	22 04 54.6	+1.9
	baz=306,SNR=32						
O02D				S	Sn	22 05 27.8	-0.2
	baz=306						
O02D	Mt. Diablo Mer	2.87	124		Pn	22 04 54.8	+2.1
M03C	McCloud	2.88	100		Pn	22 04 56.0	+3.2
KFPM	Farley Peak	2.89	139		Pn	22 04 54.4	+1.5
KFPM					Sn	22 05 27.5	-0.8
GTC	Three Chop Rid	3.01	143		Pn	22 04 55.8	+1.2
M04C	Macdoel	3.03	90	P	Pn	22 04 57.6	+2.8
	baz=272,SNR=14						
M04C	Macdoel	3.03	90		Pn	22 04 57.8	+2.9
LGMM	Garner Mountai	3.04	93		Pn	22 04 58.5	+3.3
J04D	Umpqua Nationa	3.12	62	P	Pn	22 04 58.3	+2.0
	baz=244						
GNAM	Navarro Ridge	3.15	146		Pn	22 04 57.6	+1.2
I04A	Tendick Farm,	3.22	51	P	Pn	22 04 59.2	+1.8
	baz=234						
I04A				S	Sn	22 05 37.9	+1.4
	baz=234						
COR	Corvallis	3.33	34	Pn	Pn	22 05 00.8	+1.8
COR					Sn	22 05 39.8	+0.6
O03E	Paynes Creek	3.45	115	P	Pn	22 05 03.1	+2.4
	baz=298,SNR=7.5						
O03E				S	Sn	22 05 41.0	-1.3
	baz=298						
H04D	Lebanon	3.54	40	P	Pn	22 05 03.8	+2.0
	baz=222						
H04D				S	Sn	22 05 44.7	+0.5
	baz=222						
HOPS	Hopland Field	3.56	142	Pn	Pn	22 05 04.1	+2.0
J05D	Fort Rock, OR	3.73	66	P	Pn	22 05 06.7	+2.2
	baz=249,SNR=18						
J05D				S	Sn	22 05 51.2	+2.1
	baz=249						
K05A	Summer Lake	3.81	75		Pb	22 05 12.3	-1.5
G03D	McMinnville, O	3.87	29	P	Pn	22 05 07.8	+1.4
	baz=210,SNR=12						
G03D				S	Sn	22 05 51.8	-0.7
	baz=210						
H04A	Detroit Lake	3.92	42	Pn	Pn	22 05 08.8	+1.6
H04A				Sn	Sn	22 05 53.4	-0.4
ORV	Oroville	4.04	123		Pn	22 05 11.6	+2.9
PINE	Pine Mountain	4.13	60		Pn	22 05 12.3	+2.2
F03A	Seaside	4.42	22	Pn	Pn	22 05 16.2	+2.2
AFDM	Forest Hills D	4.73	126		Pn	22 05 21.7	+3.5
F04A	Amboy	4.80	30	Pn	Pn	22 05 21.6	+2.6
E03A	Lebam	4.99	19	Pn	Pn	22 05 24.0	+2.3
PAHR	Pah Rah Range	5.38	111	Pn	Pn	22 05 28.8	+1.6
WVOR	Wild Horse Val	5.42	81	Pn	Pn	22 05 28.8	+1.0
PNTR	Pine Nut	5.53	118		Pn	22 05 32.0	+2.7
J08A	Circle Bar Ran	5.68	72	Pn	Pn	22 05 34.2	+2.9
CMB	Columbia Colle	5.68	130	Pn	Pn	22 05 34.7	+3.4
NLWA	Neilton Lookou	5.74	14	Pn	Pn	22 05 33.9	+1.9
WAKR	Walker	5.96	122	Pn	Pn	22 05 37.4	+2.2
D05A	Enumclaw	6.03	26	Pn	Pn	22 05 37.5	+1.5
D03D	Eldon	6.03	18	P	Pn	22 05 38.5	+2.4
	baz=200,SNR=50						
SAO	San Andreas Ge	6.13	144	Pn	Pn	22 05 38.2	+0.9
HAWA	Hanford	6.45	43	Pn	Pn	22 05 43.4	+1.6
RYN	Ryan	6.48	117	Pn	Pn	22 05 44.4	+2.0
KVN	Kaiserville	6.56	113		Pn	22 05 47.3	+3.8
LTY	Liberty	6.57	33	Pn	Pn	22 05 46.0	+2.5
MDPB	Devils Postpil	6.72	126	Pn	Pn	22 05 47.5	+1.7
B05A	Bryant	6.96	21	P	Pn	22 05 52.1	+3.3
	baz=204,SNR=15						
B05A				S	Sn	22 07 06.8	-1.8
	baz=204						
B06A	Marblemount	7.37	23	Pn	Pn	22 05 56.5	+2.2

IDC ***02*** *22:36:43.2±4.8, 51.°90N×178.°33E, h95km±44km, mb3.5/14, mb1 3.7/16, mb1mx3.5/47, mbtmp3.9/16, Error ellipse: s-maj=24.0km s-min=14.1km az=173.0*
NEIC ***02*** *22:36:44.7±1.6, 51.°9N±0.°1×178.°38E±0.°09, h111km±5km, Error ellipse: s-maj=18.7km s-min=8.2km az=182.0*
AEIC ***02*** *22:36:45.4±1.6, 51.°8N±0.°1×178.°33E±0.°09, h108km±4km, ML3.5/37, mb4.1/36(NEIC), Error ellipse: s-maj=18.6km s-min=8.2km az=182.0*
ISC 02 22:36:44.5±0.7**, 51.°9N**±0.°1×**178.°33E**±0.°05**, h104**km±7km**,**
n93, σ**0.s97**/92**, mb3.9**/25**, 1C, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	Little Sitkin	0.11	80		Pn	22 36 59.9	+0.9
LSNW	Little Sitkin	0.12	70		Pn	22 36 59.9	+0.9
LSPA	Little Sitkin	0.15	80		Pn	22 36 59.9	+0.9
CETU	Semis' Tuman	0.72	87		Pn	22 37 03.7	+1.3
CESW	Semis' Southwe	0.76	92		Pn	22 37 03.3	+0.5
CEAP	Semis' Anvil P	0.77	84		Pn	22 37 03.9	+1.0
AMKA	Amchitka	0.82	132		Pn	22 37 03.4	+0.2
AMKA					Sn	22 37 16.9	-0.5
CERAA	Semis' Rag'd T	0.84	91		Pn	22 37 04.1	+0.6
CERAA					Sn	22 37 18.7	+0.9
GALAA	Gareloi Lava P	1.80	94		Pn	22 37 15.1	+0.4
GAEA	Gareloi East	1.82	93		Pn	22 37 15.3	+0.5
TASE	Tanaga Southea	2.25	91		Pn	22 37 20.5	0.0
TAFP	Tanaga Falls P	2.28	89		Pn	22 37 20.6	-0.2
TAFP					Sn	22 37 48.5	-0.1
TAPA	Tanaga Point A	2.39	91		Pn	22 37 22.3	+0.1
SMY	Shemya	2.72	289		Pn	22 37 26.9	+0.4
KIMD	Kanaga Island	2.75	92		Pn	22 37 26.7	-0.2

KICM Kanaga Island 2.77 88 Pn 22 37 27.3 +0.2
KIKV Kanaga Island 2.79 89 Pn 22 37 27.3 -0.1
KINC Kanaga Island 2.81 88 Pn 22 37 27.8 +0.1
KIRH Kanaga Island 2.83 89 Pn 22 37 27.8 -0.2
ADK Adak 3.09 89 Pn 22 37 31.1 -0.2
GSTD Great Sitkin T 3.42 86 Pn 22 37 35.3 -0.6
GSTD Sn 22 38 15.0 -0.6
GSTR Great Sitkin T 3.47 85 Pn 22 37 36.1 -0.4
GSMY Great Sitkin M 3.47 86 Pn 22 37 36.1 -0.4
ATKA Atka Island 4.62 84 Pn 22 37 51.8 -0.1
KOFP Korovin Flat P 4.68 83 Pn 22 37 53.4 +0.6
NIKH Nikolski High 7.90 77 Pn Pn 22 38 36.2 -0.2
OKWE Okmok W'ng Wal 8.30 74 Pn 22 38 42.9 +1.0
SPIA Saint Paul Isl 8.46 47 Pn Pn 22 38 43.9 -0.1
MAPS Pakushin South 9.11 72 Pn 22 38 52.8 0.0
MREP Makushin Rep't 9.22 72 Pn 22 38 55.0 +0.5
MNAT Makushin Natee 9.27 72 Pn 22 38 55.2 +0.2
UNV Unalaska Valle 9.37 72 Pn Pn 22 38 57.0 +0.7
AKUT Akutan 9.83 71 Pn Pn 22 39 03.2 +0.7
FALS False Pass 11.28 68 Pn Pn 22 39 20.5 -1.7
PETK Petropavlovsk- 12.62 283 P Pn 22 39 39.5 -0.5
0.7nm,0.3s,baz=94,slow=18,SNR=7.6
SDPT Sand Point 13.02 66 Pn Pn 22 39 43.9 -1.3
CNBA Chernabura Isl 13.48 69 Pn Pn 22 39 48.2 -3.0
SII Sitkinak Islan 16.66 63 Pn Pn 22 40 29.6 -1.8
SVW2 Sparrevohn 16.96 47 P 22 40 36.4 +1.2
OHAK Old Harbor 17.21 61 P 22 40 35.5 -2.5
TTA Tatalina 17.52 41 P P 22 40 40.8 -0.7
KDAK Kodiak Island 17.65 59 P P 22 40 40.4 -2.4
2.3nm,0.3s,baz=267,slow=2.7,SNR=29
KDAK Kodiak Island 17.65 59 P P 22 40 40.8 -2.0
SPU Mount Spurr 18.61 49 P Pn 22 40 54.9 0.0
CNPM China Poot 18.61 54 P P 22 40 52.9 -0.5
SKT Skwentna 19.08 46 P Pn 22 41 00.2 -0.2
SKT IAmb IAmb 22 41 05.4
comp=Z,9.6nm,0.8s
PPLA Purkeypile 19.11 44 P P 22 41 00.1 +1.2
PPLA IAmb IAmb 22 41 09.8
comp=Z,7.5nm,1.0s
SUA Susitna One 19.29 48 P P 22 41 01.8 +0.9
SUA IAmb IAmb 22 41 05.9
comp=Z,6.7nm,0.6s
SEW Seward 19.60 53 P P 22 41 04.0 -0.1
SEW IAmb IAmb 22 41 30.9
comp=Z,15nm,1.0s
BPAW Bear Paw Mtn. 20.06 41 P P 22 41 08.4 -0.7
TRF Thorofare Moun 20.11 43 P Pn 22 41 11.6 -0.9
TRF IAmb IAmb 22 41 13.1
comp=Z,5.0nm,0.7s
GHO Glory Hole Cre 20.21 48 P P 22 41 11.7 +0.9
GHO IAmb IAmb 22 41 13.9
comp=Z,5.2nm,0.6s
SML Sawmill 20.49 48 P P 22 41 14.0 +0.2
SML IAmb IAmb 22 41 17.2
comp=Z,16nm,1.5s
RND Reindeer 20.70 44 P P 22 41 17.0 +0.9
GLI Glacier Island 20.89 51 P P 22 41 17.7 -0.3
GLI IAmb IAmb 22 41 18.4
comp=Z,6.6nm,0.6s
MDM Murphy Dome 21.49 40 P P 22 41 24.9 +0.5
CCB Clear Creek Bu 21.55 41 P P 22 41 24.7 -0.3
IL31 21.96 41 P P 22 41 30.1 +0.8
ILAR Eielson Array 21.96 41 P P 22 41 29.1 -0.3
comp=Z,0.4nm,0.5s,baz=257,slow=12,SNR=5.0
RAGM Ragged Mountai 22.00 53 P P 22 41 30.8 +0.9
RAGM IAmb IAmb 22 41 33.2
comp=Z,13nm,0.9s
KAIM Kayak Island 22.09 54 P P 22 41 32.5 +1.8
KAIM IAmb IAmb 22 41 33.4
comp=Z,11nm,0.7s
SUCK Suckling Hills 22.42 54 P P 22 41 34.8 +0.6
SUCK IAmb IAmb 22 41 36.1
comp=Z,8.6nm,0.6s
RIDG Independent Ri 22.52 44 P P 22 41 35.4 +0.2
RIDG IAmb IAmb 22 41 46.3
comp=Z,7.4nm,1.4s
GLB Gilahina Butte 22.55 50 P P 22 41 35.5 0.0
GLB IAmb IAmb 22 41 38.7
comp=Z,4.0nm,0.5s
VRDI Verde Repeater 22.69 51 P P 22 41 37.5 +0.3
VRDI IAmb IAmb 22 41 39.4
comp=Z,4.5nm,0.6s
DOT Dot Lake 22.84 45 P P 22 41 37.3 -1.1
BARN Barnard Glacie 23.54 52 P P 22 41 45.7 +0.5
BARN IAmb IAmb 22 41 47.3
comp=Z,6.6nm,0.6s
TABL Table Mountain 23.75 53 P P 22 41 48.1 +1.0
TABL IAmb IAmb 22 41 49.0
comp=Z,5.9nm,0.7s
DAWY Dawson 24.95 45 P P 22 41 58.3 +0.6
HYT Haines Junctio 25.56 52 P P 22 42 05.4 +2.0
HYT IAmb IAmb 22 42 07.2
comp=Z,6.5nm,0.8s
KLR Kul'dur 29.31 283 P P 22 42 37.9 +1.0
comp=Z,0.7nm,0.5s,baz=79,slow=16,SNR=2.0
H11N2 WAKE ISLAND Hy 33.36 200 T T 23 18 51.5
baz=11,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 33.37 200 T T 23 18 39.1
baz=11,slow=76,SNR=13
H11N1 WAKE ISLAND Hy 33.38 200 T T 23 18 55.0
baz=11,slow=76,SNR=12
YKA Yellowknife Ar 36.15 46 P P 22 43 35.9 -0.3
comp=Z,0.9nm,0.7s,baz=289,slow=8.3,SNR=3.5
YBH Yreka Blue Hor 40.56 80 P P 22 44 14.8 +1.3
comp=Z,0.7nm,0.5s,baz=246,slow=20,SNR=1.8
YBH Yreka Blue Hor 40.56 80 IAmb IAmb 22 44 31.5
comp=Z,7.1nm,1.4s
NVAR Mina Array Bea 45.24 81 P P 22 44 51.6 +0.1
comp=Z,0.5nm,0.5s,baz=293,slow=7.2,SNR=5.2
PDAR Pinedale Array 47.83 71 P P 22 45 10.6 -1.0
comp=Z,0.8nm,0.7s,baz=319,slow=4.3,SNR=7.8
ZALV Zalesovo Beam 52.34 312 P P 22 45 45.2 0.0
comp=Z,0.4nm,0.4s,baz=60,slow=5.4,SNR=2.3
LZH Lanzhou 53.52 284 ⥣P P 22 45 54.3 0.0
LZH pP pP 22 46 20.1 +0.9
LZH sP sP 22 46 31.0 +0.2
LZH PP PP 22 47 57.9 +2.4
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,69nm,7.2s
ARCES ARCESS Array B 57.23 349 P P 22 46 19.9 -0.3
comp=Z,1.2nm,0.9s,baz=14,slow=9.3,SNR=1.6
WMQ Urumqi 57.53 301 eP P 22 46 24.8 +2.0
WMQ sP sP 22 47 05.1 +6.1
WMQ pmax pmax
comp=Z,10.0nm,0.7s
I40A Norwalk 57.70 59 pP 22 46 50.6 +1.7
F42A Maple Grove Fa 57.72 56 P P 22 46 25.4 +1.4
MKAR Makanchi Array 58.28 307 P P 22 46 27.3 -0.6
comp=Z,0.5nm,0.4s,baz=44,slow=6.5,SNR=8.8
TXAR Lajitas Array 60.32 79 P P 22 46 42.2 -0.2
comp=Z,0.6nm,0.6s,baz=293,slow=4.8,SNR=3.0
GLAT Glass 63.79 64 P P 22 47 04.2 -1.0
FINES FINESS Array B 64.83 346 P P 22 47 11.4 -0.2
comp=Z,1.0nm,0.9s,baz=357,slow=6.5,SNR=6.0
WRA Warramunga Arr 81.21 221 P P 22 48 47.4 -1.2
comp=Z,1.3nm,0.6s,baz=32,slow=6.2,SNR=8.1
ASAR Alice Springs 84.72 220 P P 22 49 06.2 -0.4
comp=Z,0.8nm,0.7s,baz=29,slow=4.7,SNR=9.1
STKA Stephens Creek 89.46 211 P P 22 49 29.2 -0.1
comp=Z,3.1nm,0.8s,baz=25,slow=3.9,SNR=5.3
BOSA Boshof 149.26 309 PKPbc PKPbc 22 56 20.8 0.0
comp=Z,3.8nm,0.9s,baz=242,slow=2.1,SNR=3.0

OSPL ***02*** *23:05:32.2±1.1, 19°.42N×67°.13W, h56km±100km, ML2.5*
RSPR ***02*** *23:05:32.7, 19°.31N×67°.80W, h53km±9km, MD3.2/7*
NEIC ***02*** *23:05:33.0±1.8, 19°.24N±0°.10×67°.80W±0°.02, h34km±14km, Error ellipse: s-maj=14.0km s-min=1.7km az=191.0*
ISC 02 23:05:32.2±1.5**, 19°.24N**±0°.08×**67°.79W**±0°.03**, h29**km±14km**, n40, σ0s.99**/46**, 6C-3D, Mona Passage**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PCDR Punta Cana, DR 0.91 218⥣eP Pn 23 05 49.7 +0.6
PCDR Punta Cana, DR 0.91 218 eS Sb 23 06 01.9 +0.7
PCDR Punta Cana, DR 0.91 218 Pn Pn 23 05 49.3 +0.3
PCDR Sn Sn 23 06 01.7 +0.5
AGPR Aguadilla, PR 1.00 140⥥eP Pn 23 05 49.3 -1.0
AGPR Aguadilla, PR 1.00 140 i P Pn 23 05 49.1 -1.2
AGPR eS Sn 23 06 00.3 -3.2
AGPR IAML 23 06 06.6
comp=Z,123nm,0.5s
AGPR Aguadilla, PR 1.00 140 Pn Pn 23 05 49.3 -1.0
AGPR Sn Sn 23 06 00.6 -2.9
MPR Mayaguez 1.19 149 i P Pn 23 05 51.9 -1.1
MPR IAML 23 06 11.7
comp=Z,54nm,0.6s
MPR Mayaguez 1.19 149 Pn Pn 23 05 52.7 -0.3
MPR Sn Sb 23 06 09.9 +0.6
LSP Las Mesas 1.25 148⥣eP Pn 23 05 53.4 -0.4
LSP Las Mesas 1.25 148 eS Sn 23 06 10.4 +0.7
AOPR Arecibo Observ 1.32 132⥥eP Pn 23 05 54.8 0.0
AOPR Arecibo Observ 1.32 132 eS Sn 23 06 11.9 +0.4
AOPR Arecibo Observ 1.32 132 Pn Pn 23 05 54.6 -0.2
CRPR Cabo Rojo, PR 1.39 152⥥eP Pn 23 05 55.8 +0.2
CRPR Cabo Rojo, PR 1.39 152 eS Sn 23 06 14.2 +1.2
CRPR Cabo Rojo, PR 1.39 152 Pn Pn 23 05 56.2 +0.6
CRPR Sn Sn 23 06 13.8 +0.9
EMPR Esperanza - Ma 1.42 122⥣eP Pn 23 05 56.0 0.0
EMPR Esperanza - Ma 1.42 122 eS Sn 23 06 13.5 -0.2
EMPR Esperanza - Ma 1.42 122 Pn Pb 23 05 58.2 +0.2
MLPR Magueyes Islan 1.45 151⥣eP Pn 23 05 55.9 -0.5
MLPR Magueyes Islan 1.45 151 eS Sn 23 06 14.9 +0.4
MLPR Magueyes Islan 1.45 151 Pn Pn 23 05 56.4 0.0
DR12 Loma Pena Alta 1.57 254 Pn Pn 23 05 59.0 +0.9
CELP Cerrillos 1.63 135⥣eP Pn 23 05 59.0 0.0
CELP Cerrillos 1.63 135 eS Sn 23 06 19.7 +0.7
GCPR Guaynabo City 1.86 119⥣eP Pn 23 06 02.1 -0.1
GCPR Guaynabo City 1.86 119 eS Sn 23 06 25.3 +0.6
GCPR Guaynabo City 1.86 119 Pn Pn 23 06 02.7 +0.5
SJG San Juan 1.92 125 Pn Pn 23 06 02.8 -0.1
CBYP Canovanas 2.07 117 Pn Pn 23 06 05.5 +0.4
PDPR Patillas Dam, 2.07 126 Pn Pn 23 06 06.2 +1.2
HUMP Col San Antoni 2.14 120 Pn Pn 23 06 07.0 +1.1
SDD Santo Domingo 2.15 249 Pn Pn 23 06 05.6 -0.6
MTP Monte Pirata 2.41 118 Pn Pn 23 06 10.4 +0.7
CUPR Culebra, Puert 2.55 111 Pn Pn 23 06 12.1 +0.5
BANI BANI 2.57 251 Pn Pn 23 06 13.1 +1.1
SC01 Santiago de lo 2.78 274 Pn Pn 23 06 14.9 +0.1
STVI Saint Thomas 2.83 108 Pn Pn 23 06 15.9 +0.5
SDDR Presa de Saban 3.32 266 i P Pb 23 06 28.4 -2.0
SDDR eS Sb 23 07 11.3 +1.0
SDDR IAML 23 07 18.4
comp=Z,6.7nm,1.9s
SDDR Presa de Saban 3.32 266 Pn Pn 23 06 22.4 +0.2

BJI ***03*** *00:22:01.7±0.0, 0°.95N×146°.15E, h10km, mB6.3/85, mb6.1/92, Ms6.5/99, Ms7 6.3/93*
MOS ***03*** *00:22:01.9±0.9, 0°.81N×146°.13E, h17km, mb6.4/84, MS6.3/51, Error ellipse: s-maj=6.7km s-min=4.3km az=111.1*
IDC ***03*** *00:22:01.7±0.3, 0°.83N×146°.11E, h0km, mb6.0/43, mb1 6.0/48, mb1mx6.0/50, mbtmp5.9/48, ML4.0/3, MS6.3/39, Ms1 6.3/39, ms1mx6.2/44, Error ellipse: s-maj=10.3km s-min=7.9km az=87.0*
NEIC ***03*** *00:22:02.7, 0°.84N×146°.13E, h22km, Moment Tensor Solution. Moment tensor: Scale 10^19Nm; Mrr0.24; Mθθ-1.48; Mφφ1.23; Mrθ0.05; Mθφ1.62; Mφr-0.00; Fault plane solution: M0 2.12000×10^19 NP1:φs340.03000°, δ88.74000°, λ-179.73000°. NP2:φs250.02000°, δ89.73000°, λ-1.26000°. Principal axes: T 1.9890, Plg1.0000°, Azm295.0000°; N 0.2436, Plg89.0000°, Azm58.0000°; P -2.2326, Plg1.0000°, Azm205.0000°;*
NEIC ***03*** *00:22:03.7±1.9, 0°.83N±0°.04×146°.17E±0°.06, h13km±1km, mb6.5/416, Ms_20 6.7/849, Mwb6.8/38, Mww6.9, Mwc6.8(GCMT) Error ellipse: s-maj=10.8km s-min=5.7km az=119.0*
DJA ***03*** *00:22:06.8±0.3, 1°N±2°×14°6E±°, h33km±2km, M6.4/134, mB6.7/129, mb6.4/134, MLv6.8/4, Mw(mB)6.5/129, Mwp6.2/100*
GCMT ***03*** *00:22:11.7±0.0, 0°.89N×146°.23E, h19km, MW6.8/179, Moment Tensor Solution. s179,c473; s175,c864; Duration: 6s.4 Moment tensor: Scale 10^19Nm; Mrr0.81±.01; Mθθ-1.53±.01; Mφφ0.72±.01; Mrθ-0.39±.02; Mθφ1.92±.01; Mφr0.49±.02; Best double couple: M0 2.30200×10^19 NP1:φs75.00000°, δ74.00000°, λ3.00000°. NP2:φs344.00000°, δ87.00000°, λ164.00000°. Principal axes: T 1.8800, Plg13.0000°, Azm298.0000°; N 0.8510, Plg74.0000°, Azm154.0000°; P -2.7250, Plg9.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***03*** *00:22:12, 0°.89N×146°.27E, h17km, Moment Tensor Solution. Moment tensor: Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Fault plane solution: M0 0.00000×10^0 NP1:φs73.00000°, δ69.00000°, λ1.00000°. NP2:φs343.00000°, δ89.00000°, λ159.00000°. Principal axes: T 0.0000, Plg90.0000°, Azm0.0000°; N 0.0000, Plg0.0000°, Azm0.0000°; P 0.0000, Plg0.0000°, Azm90.0000°;*
NEIC ***03*** *00:22:15, 0°.95N×146°.12E, h16km, Moment Tensor Solution. Moment tensor: Scale 10^19Nm; Mrr0.73; Mθθ-1.55; Mφφ0.82; Mrθ0.04; Mθφ2.01; Mφr0.70; Fault plane solution: M0 2.52000×10^19 NP1:φs77.00000°, δ70.00000°, λ13.00000°. NP2:φs342.00000°, δ78.00000°, λ160.00000°. Principal axes: T 2.2320, Plg23.0000°, Azm298.0000°; N 0.4962, Plg66.0000°, Azm133.0000°; P -2.7282, Plg5.0000°, Azm30.0000°;*
ISC 03 00:22:03.6±0.3**, 0°.81N**±0°.02×**146°.15E**±0°.03**, h15**km±1km**, h15**km**:pP-P, n2325, σ1s.65**/2177**, mb6.4**/366**, MS6.6**/555**, 89C-44D, Eastern Caroline Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JAY Jayapura 6.37 239 Pn Pn 00 23 35.3 -1.7
22nm,0.3s,baz=353,slow=0.2,SNR=48
JAY Sn Sn 00 24 46.4 -3.2
202nm,0.3s,baz=227,slow=24,SNR=6.2
JAY Jayapura 6.37 239 P Pn 00 23 35.9 -1.1
7.2nm643μm34μm801nm,1.0s
JAY S Sn 00 24 51.3 +1.7
7.2nm643μm34μm801nm,1.0s
GENI Genyem 6.87 241 P Pn 00 23 43.4 -0.5
49nm74μm4μm,1.2s
GENI S Sn 00 25 00.1 -1.8
49nm74μm4μm,1.2s
KRVT Keravat (AS076 7.76 131 Pn Pn 00 23 57.7 +1.5
697nm,0.3s,baz=314,slow=1.2,SNR=123
RABL Rabaul 7.80 130 Pn Pn 00 23 57.1 +0.5
SMPI Sarmi 7.94 249 P Pn 00 23 58.7 +0.1
18nm376μm35μm2μm,1.1s
SMPI S Sn 00 25 28.2 -0.1
18nm376μm35μm2μm,1.1s
WAMI Wamena 8.78 238 P Pn 00 24 10.0 -0.1
73μm5μm,0.9s
WAMI S Sn 00 25 45.9 -2.9
73μm5μm,0.9s
PMG Port Moresby 10.20 174 Pn Pn 00 24 29.9 +0.4
7.5nm,0.3s,baz=318,slow=9.9,SNR=14
PMG LR LR 00 28 20.5
comp=Z,379μm,18.2s,baz=22,slow=37
PMG Port Moresby 10.20 174deP Pn 00 24 30.2 +0.6
PMG pmax pmax
comp=Z,430nm,1.3s
PMG Port Moresby 10.20 174 Pn Pn 00 24 29.4 -0.2
MMPI Merauke 10.86 212 P Pn 00 24 39.3 +0.6
comp=Z,830μmcomp=Z,63μmcomp=Z,9μm,0.7s
RKPI Ransiki, Papua 12.19 259 P Pn 00 24 57.2 +0.3
comp=Z,143μmcomp=Z,21μmcomp=Z,1μm,1.2s
RKPI S Sn 00 27 11.9 -0.8
comp=Z,143μmcomp=Z,21μmcomp=Z,1μm,1.2s
GUMO Guam 12.76 354 Pn Pn 00 25 03.7 -1.0
comp=Z,35nm,0.3s,baz=188,slow=9.3,SNR=33
GUMO Sn Sn 00 27 22.2 -4.4
comp=Z,48nm,0.3s,baz=28,slow=13,SNR=2.1
GUMO Guam 12.76 354 Pn Pn 00 25 03.2 -1.5
KMPI Kaimana, Papua 13.21 250 P Pn 00 25 10.6 -0.2
comp=Z,163μmcomp=Z,28μmcomp=Z,2μm,1.0s
KMPI S Sn 00 27 36.8 -0.8
comp=Z,163μmcomp=Z,28μmcomp=Z,2μm,1.0s
I39PW PALAU INFRASON13.36 300 Pn Pn 00 25 15.5 +2.7
baz=127,slow=16,SNR=3.5
PATS Pohnpei 13.53 63 P Pn 00 25 10.4 -4.7
baz=14,SNR=38
PATS S Sn 00 27 36.9 -8.4
baz=14
PATS Pohnpei 13.53 63 Pn Pn 00 25 11.7 -3.4
FAKI Fak Fak 14.38 255 P Pn 00 25 26.3 -0.6
comp=Z,123μmcomp=Z,20μmcomp=Z,2μm,1.0s
FAKI S Sn 00 28 06.1 -0.2
comp=Z,123μmcomp=Z,20μmcomp=Z,2μm,1.0s
FAKI Fak Fak 14.38 255 Pn Pn 00 25 26.9 0.0
COEN Coen 14.97 191 P Pn 00 25 36.2 +1.4
baz=15,SNR=125
COEN Coen 14.97 191 Pn Pn 00 25 34.3 -0.5
SIJI Sorong 14.98 264 Pn Pn 00 25 35.8 +0.8
comp=Z,2.3nm,0.3s,baz=72,slow=11,SNR=71
SIJI LR LR 00 31 22.5
comp=Z,144μm,18.6s,baz=87,slow=38
ANA2 Anatahan 15.44 358 Pn Pn 00 25 42.0 +1.0
ANA2 IAmb IAmb 00 25 57.7
comp=Z,8μm,1.9s
BNDI Bandanaira 17.07 252 P Pn 00 26 01.8 -0.2
comp=Z,133μmcomp=Z,83μmcomp=Z,5μm,1.1s
HNR Honiara 17.10 127 P P 00 26 05.2 +1.3
comp=Z,46nm,0.3s,baz=178,slow=6.7,SNR=17
HNR LR LR 00 32 15.0
comp=Z,324μm,21.6s,baz=296,slow=36
HNR Honiara 17.10 127 P Pn 00 26 00.5 -1.7
HNR pmax pmax
comp=Z,4μm,1.3s
HNR Honiara 17.10 127 P Pn 00 26 00.5 -1.7
HNR IAmb IAmb 00 26 39.9
comp=Z,4μm,1.3s
SAUI Saumlaki 17.19 239 P Pn 00 26 03.6 +0.1
comp=Z,342μmcomp=Z,153μmcomp=Z,11μm,1.1s
SAUI S S 00 29 22.5 -1.3
comp=Z,342μmcomp=Z,153μmcomp=Z,11μm,1.1s
SAUI Saumlaki 17.19 239 Pn Pn 00 26 02.8 -0.7
MSAI Masohi 17.70 256 P Pn 00 26 09.1 -0.7
comp=Z,24μmcomp=Z,6μmcomp=Z,412nm,0.9s
AAI Ambon 18.49 256 P P 00 26 16.9 -2.5
comp=Z,126μmcomp=Z,30μmcomp=Z,2μm,1.2s
AAI S Sn 00 29 40.9 -5.3
comp=Z,126μmcomp=Z,30μmcomp=Z,2μm,1.2s
LBMI Labuha 18.70 266 P P 00 26 21.4 -0.3
comp=Z,45μmcomp=Z,2μm,1.4s
LBMI S S 00 29 54.0 -0.6
comp=Z,45μmcomp=Z,2μm,1.4s
TNTI Ternate 18.78 270 P Pn 00 26 23.8 +0.7
comp=Z,54μmcomp=Z,31μmcomp=Z,2μm,1.8s
TNTI S S 00 29 56.0 -0.1
comp=Z,54μmcomp=Z,31μmcomp=Z,2μm,1.8s
TNTI Ternate 18.78 270 P Pn 00 26 23.8 +0.7
TNTI IAmb IAmb 00 26 53.8
comp=Z,6μm,1.7s
MTSU Mount Surprise 18.91 185 P Pn 00 26 25.6 +1.0
baz=19,SNR=50
KDU Kakadu 19.08 225 P P 00 26 25.6 -0.2
baz=19,SNR=134
NLAI Namlea 19.46 258 P P 00 26 30.4 +0.4
comp=Z,36μmcomp=Z,1μm,1.1s
NLAI S Sn 00 30 03.3 -6.3
comp=Z,36μmcomp=Z,1μm,1.1s
MTN Manton Dam 20.15 227 P P 00 26 37.7 +0.3
baz=20,SNR=212
MTN Manton Dam 20.15 227 P P 00 26 37.8 +0.3
MTN IAmb IAmb 00 26 55.0
comp=Z,3μm,1.0s
SANI Sanana 20.36 262 P P 00 26 39.9 +0.1
comp=Z,52μmcomp=Z,29μmcomp=Z,1μm,1.6s
SANI S S 00 30 26.4 -1.4
comp=Z,52μmcomp=Z,29μmcomp=Z,1μm,1.6s
CTA Charters Tower 20.77 180 P Pn 00 26 45.5 -1.1
comp=Z,416nm,0.8s,baz=352,slow=12,SNR=167
CTA Charters Tower 20.77 180 P P 00 26 44.4 +0.2
baz=21
CTAO Charters Tower 20.77 180 P Pn 00 26 45.6 -1.0
CTAO pmax pmax
comp=Z,2μm,1.2s
CTAO Charters Tower 20.77 180 P Pn 00 26 45.6 -1.0
DAV Davao City (W) 21.43 287 P P 00 26 52.9 +1.5
comp=Z,294nm,0.4s,baz=76,slow=3.3,SNR=26
DAV LR LR 00 35 19.2
comp=Z,71μm,18.9s,baz=110,slow=37
DAV Davao City (W) 21.43 287 P P 00 26 55.4 +3.9
DAV Davao City (W) 21.43 287⥣eP P 00 26 54.4 +3.0
DAV Davao City (W) 21.43 287 P P 00 26 54.0 +2.5
KMSI Cibinong 22.17 270 P P 00 26 59.6 +0.2
comp=Z,2μmcomp=Z,31μmcomp=Z,4μm,1.1s
QIS Mount Isa 22.18 196 P P 00 26 59.3 -0.1
baz=22,SNR=266
KWAJ Kwajalein Atol 22.80 69 P P 00 27 06.5 +0.5
KWAJ pmax pmax
comp=Z,2μm,1.1s
KWAJ Kwajalein Atol 22.80 69 P P 00 27 06.5 +0.5
KWAJ IAmb IAmb 00 27 25.4
comp=Z,2μm,1.1s
GTOI Gorontalo 23.14 270 P P 00 27 10.6 +1.0
comp=Z,19μmcomp=Z,2μm,1.1s
GTOI S S 00 31 22.5 +1.7
comp=Z,19μmcomp=Z,2μm,1.1s
LUWI Luwuk 23.45 266 P P 00 27 12.8 +0.1
comp=Z,41μmcomp=Z,55μmcomp=Z,5μm,1.0s
LUWI S S 00 31 25.0 -0.9
comp=Z,41μmcomp=Z,55μmcomp=Z,5μm,1.0s
LUWI Luwuk 23.45 266 P P 00 27 13.2 +0.4
WB0 Warramunga Arr 23.48 209 IAmb IAmb 00 27 37.0
comp=Z,2μm,0.9s
WR0 Warramunga Arr 23.57 208 IAmb IAmb 00 27 38.0
comp=Z,2μm,0.8s
WRAB Tennant Creek 23.64 209d iP P 00 27 13.7 -0.8
WRAB pmax pmax
comp=Z,1μm,0.7s
WRAB MLR MLR
comp=Z,195μm,22.0s
WB2 Warramunga Arr 23.65 209 IAmb IAmb 00 27 23.8
comp=Z,2μm,0.8s
WC3 Warramunga Arr 23.65 209 P P 00 27 13.6 -1.0
baz=24
WRA Warramunga Arr 23.65 209 P P 00 27 13.4 -1.3
comp=Z,963nm,0.7s,baz=31,slow=10,SNR=233
WRA LR LR 00 37 18.0
comp=Z,105μm,20.9s,baz=25,slow=39
WRA P3KPbc 01 00 38.0
comp=Z,2.2nm,1.0s,baz=210,slow=4.0,SNR=4.8
KNRA Kununurra 23.74 226 P P 00 27 14.3 -1.2
baz=24,SNR=124
KNRA Kununurra 23.74 226 IAmb IAmb 00 27 29.3
comp=Z,2μm,1.0s
SOEI Soe 24.18 244 P P 00 27 19.8 -0.1
comp=Z,166μmcomp=Z,81μmcomp=Z,4μm,1.3s
SOEI S S 00 31 34.5 -3.4
comp=Z,166μmcomp=Z,81μmcomp=Z,4μm,1.3s
BATI Baumata 24.91 243 P P 00 27 28.0 +1.6
comp=Z,798nm,0.9s,baz=236,slow=0.8,SNR=30
BATI LR LR 00 38 36.3
comp=Z,52μm,19.9s,baz=83,slow=40
BATI Baumata 24.91 243 P P 00 27 27.3 +0.9
comp=Z,77μmcomp=Z,51μmcomp=Z,2μm,1.1s
BATI S S 00 31 47.5 -2.0
comp=Z,77μmcomp=Z,51μmcomp=Z,2μm,1.1s
MMRI Maumere 25.61 248 P P 00 27 33.2 +0.5
comp=Z,105μmcomp=Z,16μmcomp=Z,972nm,1.4s
MMRI S S 00 31 59.0 -1.6
comp=Z,105μmcomp=Z,16μmcomp=Z,972nm,1.4s
MMRI Maumere 25.61 248 IAmb IAmb 00 27 56.0
comp=Z,849nm,1.0s
MPSI Mapaga 26.26 269 P P 00 27 38.0 -0.6
comp=Z,40μmcomp=Z,15μmcomp=Z,504nm,1.4s
MPSI S S 00 32 08.8 -2.0
comp=Z,40μmcomp=Z,15μmcomp=Z,504nm,1.4s
JCJ Chichijima 26.41 352 P P 00 27 39.8 0.0
comp=Z,553nm,0.6s,baz=162,slow=3.4,SNR=26
EIDS Eidsvold 26.46 170 P P 00 27 40.0 -0.2
baz=26,SNR=33
BNSI Bone 26.53 259 P P 00 27 42.1 +1.0
comp=Z,51μmcomp=Z,18μmcomp=Z,2μm,1.1s
BNSI S S 00 32 16.9 +1.7
comp=Z,51μmcomp=Z,18μmcomp=Z,2μm,1.1s
H11S3 WAKE ISLAND Hy 26.74 48 P P 00 27 44.0 +1.3
baz=225,slow=8.0,SNR=17
H11S3 T T 00 56 25.3
baz=222,slow=76
H11S2 WAKE ISLAND Hy 26.75 48 P P 00 27 43.7 +0.9
baz=225,slow=8.0,SNR=18
H11S2 T T 00 56 20.0
baz=222
H11S1 WAKE ISLAND Hy 26.76 48 P P 00 27 42.8 0.0
baz=225,slow=8.0,SNR=20
H11S1 T T 00 56 22.2
baz=222,SNR=4.7
TARA Tarawa 26.77 89 P P 00 27 44.2 +0.9
TARA IAmb IAmb 00 28 05.1
comp=Z,781nm,0.9s

SPSI Sidrap Palu 26.79 260 P **P** **00 27 43.6 +0.2**
comp=Z,34µcomp=Z,11µcomp=Z,833nm,1.1s
SPSI S **S** **00 32 20.0 +0.8**
comp=Z,34µcomp=Z,11µcomp=Z,833nm,1.1s
KAPI Kappang 27.00 257 P **P** **00 27 45.3 +0.1**
comp=Z,136nm,1.1s,baz=81,slow=5.9,SNR=21
KAPI Kappang 27.00 257 P **P** **00 27 45.7 +0.5**
KAPI pmax pmax
comp=Z,601nm,1.1s
KAPI Kappang 27.00 257 P **P** **00 27 45.7 +0.5**
ASAR Alice Springs 27.09 205 P **P** **00 27 46.0 0.0**
comp=Z,307nm,0.9s,baz=36,slow=7.1,SNR=294
ASAR LR LR 00 38 41.9
comp=Z,130µm,21.6s,baz=38,slow=37
ASAR P3KPbc 01 00 22.8
comp=Z,3.3nm,1.0s,baz=211,slow=4.2,SNR=11
WAKE Wake Island 27.22 46 P **P** **00 27 47.2 0.0**
WAKE IAmb IAmb 00 28 37.8
comp=Z,1µm,1.1s
RMQ Roma 27.25 175 P **P** **00 27 47.9 +0.5**
baz=27,SNR=68
QLP Quilpie 27.30 184 P **P** **00 27 47.9 +0.1**
baz=27,SNR=48
FITZ Fitzroy Crossi 27.57 226 P **P** **00 27 49.7 -0.7**
comp=Z,263nm,0.7s,baz=39,slow=9.0,SNR=275
FITZ LR LR 00 39 09.2
comp=Z,87µm,21.8s,baz=53,slow=37
FITZ Fitzroy Crossi 27.57 226 P **P** **00 27 49.7 -0.7**
baz=28,SNR=339
FITZ Fitzroy Crossi 27.57 226 P **P** **00 27 49.8 -0.5**
FITZ IAmb IAmb 00 28 14.3
comp=Z,928nm,0.9s
H11N1 WAKE ISLAND Hy 27.66 46 P **P** **00 27 55.7 +4.8**
baz=217,slow=14,SNR=11
H11N1 T T 00 57 08.1
baz=227,slow=76,SNR=27
H11N2 WAKE ISLAND Hy 27.68 46 P **P** **00 27 54.6 +3.6**
baz=217,slow=14,SNR=10
H11N2 T T 00 57 16.6
baz=227,slow=76,SNR=29
H11N3 WAKE ISLAND Hy 27.68 46 P **P** **00 27 54.6 +3.6**
baz=217,slow=14,SNR=8.0
H11N3 T T 00 57 16.7
baz=227,slow=76,SNR=23
BASI Baing, Sumba 27.71 246 P **P** **00 27 51.8 +0.2**
comp=Z,55µcomp=Z,12µcomp=Z,452nm,0.9s
BASI S **S** **00 32 28.6 -5.1**
comp=Z,55µcomp=Z,12µcomp=Z,452nm,0.9s
WSI Waingapu 27.77 247 P **P** **00 27 52.5 +0.4**
comp=Z,32µcomp=Z,649nm,1.2s
MYLDM Lahad Datu 27.95 279 P **P** **00 27 54.6 +0.8**
MYLDM IAmb IAmb 00 28 42.3
comp=Z,1µm,1.2s
TGY Tagaytay City 28.22 299 P **P** **00 27 57.0 +0.7**
comp=Z,752nm,0.9s,baz=151,slow=7.2,SNR=8.9
TGY LR LR 00 37 13.3
comp=Z,53µm,21.0s,baz=131,slow=32
SGKI Sangatta, Kali 28.58 267 P **P** **00 27 59.9 +0.5**
comp=Z,31µcomp=Z,16µcomp=Z,1µm,1.1s
SGKI S **S** **00 32 45.6 -1.9**
comp=Z,31µcomp=Z,16µcomp=Z,1µm,1.1s
WBSI Waikabubak, Su 28.59 248 P **P** **00 27 57.9 -1.7**
comp=Z,83µcomp=Z,6µcomp=Z,409nm,1.3s
WBSI S **S** **00 32 39.6 -8.2**
comp=Z,83µcomp=Z,6µcomp=Z,409nm,1.3s
SMKI Samarinda 28.97 268 P **P** **00 28 04.6 +1.7**
comp=Z,28µcomp=Z,1µm,1.2s
SMKI S **S** **00 32 54.3 +0.7**
comp=Z,28µcomp=Z,1µm,1.2s
BKB Balikpapan 29.32 266 P **P** **00 28 06.5 +0.4**
comp=Z,33µcomp=Z,10µcomp=Z,674nm,1.3s
BKB S **S** **00 33 01.7 +2.5**
comp=Z,33µcomp=Z,10µcomp=Z,674nm,1.3s
BKB Balikpapan 29.32 266 P **P** **00 28 05.2 -0.9**
BKB IAmb IAmb 00 28 28.5
comp=Z,868nm,1.2s
PLAI Plampang 29.85 251 P **P** **00 28 10.1 -0.6**
comp=Z,72µcomp=Z,6µcomp=Z,316nm,1.0s
PLAI S **S** **00 33 08.7 +1.3**
comp=Z,72µcomp=Z,6µcomp=Z,316nm,1.0s
SPMM Sapulut 29.90 278 P **P** **00 28 13.0 +1.8**
DZM Mont Dzumac 30.15 140 *e*P **P** **00 28 14.0 +0.6**
comp=Z,715nm,1.1s
DZM *e*S **S** **00 33 09.3 -2.9**
comp=Z,71µm,26.3s
DZM *e*LQ LQ 00 34 38.9
comp=Z,124µm,32.2s
DZM *e*LR LR 00 35 56.3
comp=Z,164µm,31.9s
DZM Mont Dzumac 30.15 140 P **P** **00 28 13.9 +0.5**
comp=Z,196nm,0.9s,baz=334,slow=9.1,SNR=90
DZM LR LR 00 39 19.1
comp=Z,53µm,18.6s,baz=328,slow=34
DZM Mont Dzumac 30.15 140 P **P** **00 28 13.9 +0.5**
KBKI Kotabaru 30.25 262 P **P** **00 28 14.6 +0.4**
comp=Z,130nm,1.1s
KKM Kota Kinabalu 30.32 281 P **P** **00 28 15.1 +0.1**
TWSI Taliwang, Sumb 30.67 251 P **P** **00 28 17.0 -0.9**
comp=Z,35µcomp=Z,3µcomp=Z,166nm,1.2s
TWSI S **S** **00 33 15.9 -4.4**
comp=Z,35µcomp=Z,3µcomp=Z,166nm,1.2s
WRKA Warakurna 30.97 213 P **P** **00 28 19.7 -0.8**
baz=31,SNR=168
MTKI Muara Teweh, K 31.30 267 P **P** **00 28 24.2 +0.6**
comp=Z,10µcomp=Z,4µcomp=Z,101nm,0.9s
ARMA Armidale 31.49 171 P **P** **00 28 25.4 +0.3**
baz=32,SNR=64
BBKI Banjar Baru 31.58 262 P **P** **00 28 27.0 +1.0**
comp=Z,21µcomp=Z,8µcomp=Z,540nm,1.3s
BBKI S **S** **00 33 31.1 -3.5**
comp=Z,21µcomp=Z,8µcomp=Z,540nm,1.3s
SRBI Singaraja 32.09 253 P **P** **00 28 30.6 +0.2**
comp=Z,46µcomp=Z,6µcomp=Z,248nm,1.1s
SRBI S **S** **00 33 38.2 -4.2**
comp=Z,46µcomp=Z,6µcomp=Z,248nm,1.1s
CMSA Cobar Meteorol 32.17 181 P **P** **00 28 31.4 +0.4**
baz=32,SNR=29
DNP Denpasar 32.24 252 P **P** **00 28 32.4 +0.6**
comp=Z,40µcomp=Z,864nm,0.9s
JHJ2 Mitsune 32.68 350 P **P** **00 28 34.2 -1.2**
JHJ2 IAmb IAmb 00 28 51.5
comp=Z,428nm,0.8s
TWG Pinlang 32.75 314 P **P** **00 28 35.6 -0.6**
TWG IAmb IAmb 00 29 10.7
comp=Z,2µm,1.7s
TWG IAMs_20 IAMs_20 00 41 34.6
comp=Z,146µm,20.0s
STKA Stephens Creek 32.80 187 P **P** **00 28 35.7 -0.6**
comp=Z,124nm,0.8s,baz=1.0,slow=8.5,SNR=165
STKA LR LR 00 42 58.6
comp=Z,71µm,18.2s,baz=358,slow=38
STKA Stephens Creek 32.80 187 P **P** **00 28 36.8 +0.4**
baz=33,SNR=32
STKA Stephens Creek 32.80 187 P **P** **00 28 35.8 -0.6**
STKA pmax pmax
comp=Z,57nm,0.9s
STKA MLR MLR
comp=Z,15µm,18.0s
STKA Stephens Creek 32.80 187 P **P** **00 28 35.8 -0.6**
KMMI Kalianget 33.05 256 P **P** **00 28 40.3 +1.4**
comp=Z,19µcomp=Z,2µm,1.1s
JAGI Jajag, Banyuwa 33.20 253 P **P** **00 28 38.9 -1.3**
comp=Z,37µcomp=Z,4µcomp=Z,202nm,0.7s
JAGI Jajag, Banyuwa 33.20 253 P **P** **00 28 38.5 -1.7**
TATO Taipei 33.84 317 P **P** **00 28 46.6 +0.9**
SBUM Sibu 33.95 273 P **P** **00 28 48.0 +1.2**
PSA00 Pilbara Seismi 33.98 228 IAmb IAmb 00 29 12.2
comp=Z,569nm,1.2s
MGCD Mangrove Creek 34.16 173 P **P** **00 28 49.4 +1.1**
baz=34,SNR=6.5
FUNA Funafuti 34.21 106 P **P** **00 28 48.5 -0.6**
LHI Lord Howe Isla 34.41 160 P **P** **00 28 51.9 +1.4**
baz=34,SNR=4.2
LHI Lord Howe Isla 34.41 160 P **P** **00 28 51.2 +0.7**
GRJI Gresik 34.46 257 P **P** **00 28 51.5 +0.3**
comp=Z,734nmcomp=Z,3µmcomp=Z,360nm,1.0s
PBKI Pangkalan Bun 34.65 264 P **P** **00 28 53.4 +0.6**
comp=Z,10µcomp=Z,1µm,1.0s
STKI Sintang 34.68 269 P **P** **00 28 55.8 +2.7**
HTT Hallett 34.73 191 P **P** **00 28 52.9 -0.4**
baz=35,SNR=164
BBOO Buckleboo 34.77 195 P **P** **00 28 53.0 -0.6**
baz=35,SNR=152
BBOO Buckleboo 34.77 195 IAmb IAmb 00 29 14.3
comp=Z,791nm,1.1s
YNG Young 34.99 177 P **P** **00 28 55.6 +0.1**
baz=35,SNR=30

JNU Nakatsue 35.20 337 LR LR 00 40 30.9
comp=Z,32µm,18.7s,baz=156,slow=32
JNU Nakatsue 35.20 337 IAmb IAmb 00 29 00.6
comp=Z,478nm,0.9s
INU Inuyama 35.40 347 P **P** **00 28 57.8 -1.2**
INU IAmb IAmb 00 29 05.3
comp=Z,629nm,1.4s
NGJI Ngawi 35.54 256 P **P** **00 29 03.0 +2.5**
comp=Z,23µcomp=Z,8µcomp=Z,524nm,1.3s
FORT Forrest 35.82 207 P **P** **00 29 02.4 -0.3**
baz=36,SNR=260
FORT Forrest 35.82 207 P **P** **00 29 02.7 0.0**
FORT IAMs_20 IAMs_20 00 43 58.2
comp=Z,96µm,22.0s
KSM Kuching 35.84 271 IAmb IAmb 00 29 19.6
comp=Z,756nm,1.1s
KSM Kuching 35.84 271 P **P** **00 29 04.0 +0.9**
QZH Quanzhou 35.84 314 ⇑*i*P **P** **00 29 04.0 +1.1**
QZH S **S** **00 34 40.3 -0.1**
QZH pmax pmax
comp=Z,280nm,1.2s
QZH pmax pmax
comp=Z,4µm,7.0s
QZH LR LR
comp=Z,12µm,18.9s
QZH LR LR
comp=Z,21µm,17.9s
QZH LR LR
comp=Z,24µm,16.7s
CNB Canberra Magne 36.06 176 P **P** **00 29 05.7 +0.9**
baz=36,SNR=26
WOJI Wonogiri, Jawa 36.16 256 P **P** **00 29 06.4 +0.6**
comp=Z,10µcomp=Z,4µcomp=Z,280nm,1.2s
NFK Norfolk Island 36.27 147 P **P** **00 29 06.0 -0.5**
baz=36
MJAR Matsushiro Arr 36.31 349 P **P** **00 29 05.6 -1.2**
comp=Z,32nm,0.9s,baz=183,slow=10,SNR=100
MJAR PcP **PcP** **00 31 31.9 +0.3**
comp=Z,52nm,1.0s,baz=190,slow=3.9,SNR=4.1
MJAR LR LR 00 40 23.9
comp=Z,36µm,20.8s,baz=165,slow=30
MJAR P3KPbc 00 59 41.4
comp=Z,2.0nm,0.8s,baz=337,slow=5.3,SNR=5.9
MAJO Matsushiro 36.31 349*c i*P **P** **00 29 05.9 -0.9**
MAJO pmax pmax
comp=Z,187nm,1.1s
MAJO Matsushiro 36.31 349 P **P** **00 29 05.5 -1.3**
MAT Matsushiro 36.31 349 P **P** **00 29 05.3 -1.5**
MAT S S 00 34 35.6 -12
MJB9 Matsu-Tunnel 36.31 349 P **P** **00 29 05.1 -1.7**
MSVF Nonsavu 36.41 122 P **P** **00 29 09.7 +1.7**
MSVF pmax pmax
comp=Z,759nm,0.9s
MSVF Nonsavu 36.41 122 P **P** **00 29 09.7 +1.7**
MSVF IAmb IAmb 00 29 15.9
comp=Z,759nm,0.9s
SMRI Semarang 36.47 257 P **P** **00 29 08.8 +0.3**
comp=Z,29µcomp=Z,14µcomp=Z,656nm,1.2s
SMRI Semarang 36.47 257 P **P** **00 29 08.6 +0.1**
SMRI IAmb IAmb 00 29 39.5
comp=Z,1µm,1.4s
UGM Wanagama 36.56 256 P **P** **00 29 08.9 -0.5**
comp=Z,19µcomp=Z,11µcomp=Z,350nm,1.3s
UGM Wanagama 36.56 256 P **P** **00 29 08.8 -0.5**
UGM IAmb IAmb 00 29 44.0
comp=Z,2µm,1.8s
YOGI Yogyakarta 36.77 256 P **P** **00 29 11.6 +0.6**
comp=Z,8µcomp=Z,8µcomp=Z,372nm,1.1s
ARPS Mount Arapiles 37.60 186 P **P** **00 29 18.1 +0.3**
baz=38,SNR=77
HKC Hong Kong Obse 37.74 307 ⇑P **P** **00 29 21.0 +1.9**
HKPS Hong Kong Po S 37.76 307 P **P** **00 29 18.9 -0.4**
HKPS IAmb IAmb 00 29 30.4
comp=Z,864nm,1.2s
MEEK Meekatharra 38.06 222 P **P** **00 29 21.9 +0.1**
baz=38,SNR=69
MCO Taipa Grande 38.15 306 P **P** **00 29 25.0 +2.4**
TOO Toolangi 38.20 181 P **P** **00 29 23.2 +0.4**
baz=38,SNR=65
TOO Toolangi 38.20 181 P **P** **00 29 22.3 -0.5**
TOO pmax pmax
comp=Z,184nm,1.0s
TOO MLR MLR
comp=Z,68µm,19.0s
TOO Toolangi 38.20 181 P **P** **00 29 22.3 -0.5**
SSE Sheshan 38.30 324 P **P** **00 29 24.2 +0.5**
SSE S **S** **00 35 18.0 +0.5**
SSE sS **ScP** **00 35 27.4 +2.1**
SSE pmax pmax
comp=Z,320nm,0.9s
SSE pmax pmax
comp=Z,2µm,6.7s
SSE LR LR
comp=Z,3µm,18.2s
SSE LR LR
comp=Z,500nm,18.4s
SSE LR LR
comp=Z,8µm,19.8s
SSE Sheshan 38.30 324 P **P** **00 29 23.8 +0.1**
SSE IAmb IAmb 00 29 28.1
comp=Z,589nm,0.9s
JCJI Jatiwangi 38.50 259 P **P** **00 29 26.1 +0.4**
comp=Z,16µcomp=Z,16µcomp=Z,1µm,1.1s
CMJI Cimerak 38.55 256 P **P** **00 29 25.2 -0.9**
comp=Z,9µcomp=Z,6µcomp=Z,626nm,1.0s
TPI Tanjungpandan 38.65 265 P **P** **00 29 27.4 +0.4**
comp=Z,8µcomp=Z,491nm,1.0s
GZH Guangzhou 38.80 307 ⇑*i*P **P** **00 29 28.8 +0.8**
GZH PP **PnPn** **00 30 59.6 +0.4**
GZH S **S** **00 35 28.9 +3.6**
GZH pmax pmax
comp=Z,5µm,6.0s
GZH LR LR
comp=Z,12µm,14.3s
GZH LR LR
comp=Z,19µm,19.2s
GIRL Giralia 38.86 231 P **P** **00 29 30.4 +1.8**
baz=39,SNR=55
GIRL Giralia 38.86 231 P **P** **00 29 28.5 -0.1**
CISI Cisompet, Garu 39.13 257 P **P** **00 29 28.9 -2.1**
comp=Z,14µcomp=Z,18µcomp=Z,2µm,0.9s
CISI Cisompet, Garu 39.13 257 IAmb IAmb 00 29 45.1
comp=Z,1µm,0.9s
LEM Lembang 39.19 258 P **P** **00 29 32.1 +0.4**
comp=Z,147nm,0.9s,baz=43,slow=7.4,SNR=19
LEM Lembang 39.19 258 P **P** **00 29 30.3 -1.4**
comp=Z,8µcomp=Z,6µcomp=Z,362nm,1.6s
KMBL Kambalda 39.42 214 P **P** **00 29 32.8 -0.4**
baz=40,SNR=34
TJN Taejon 39.44 336⇑*e*P **P** **00 29 33.1 -0.1**
CNJI Cibinong 39.75 258 P **P** **00 29 34.0 -2.2**
comp=Z,14µcomp=Z,1µm,1.0s
CBJI Citeko 39.88 259 P **P** **00 29 37.3 +0.1**
comp=Z,15µcomp=Z,2µm,1.0s
QIZ Qiongzhong 39.93 299 P **P** **00 29 38.7 +1.1**
QIZ pmax pmax
comp=Z,360nm,1.1s
QIZ pmax pmax
comp=Z,4µm,5.3s
QIZ LR LR
comp=Z,18µm,28.8s
QIZ LR LR
comp=Z,28µm,26.7s
QIZ LR LR
comp=Z,55µm,30.9s
QIZ Qiongzhong 39.93 299 P **P** **00 29 37.8 +0.2**
DBJI Dramaga 40.00 259 P **P** **00 29 38.1 -0.2**
comp=Z,28µcomp=Z,250nm,1.2s
TNG Tangerang 40.04 259 P **P** **00 29 39.1 +0.5**
comp=Z,14µcomp=Z,506nm,1.3s
PPBI Pangkal Pinang 40.12 266 P **P** **00 29 39.6 +0.4**
comp=Z,13µcomp=Z,14µcomp=Z,315nm,1.1s
KSRS Korea Array 40.16 337 P **P** **00 29 39.5 +0.4**
comp=Z,100nm,0.8s,baz=154,slow=8.8,SNR=111
KSRS PcP **PcP** **00 31 45.5 +2.1**
comp=Z,28nm,0.9s,baz=176,slow=1.0,SNR=5.2
KSRS LR LR 00 45 29.4
comp=Z,28µm,18.6s,baz=145,slow=35
KSRS P3KPbc 00 59 25.4
comp=Z,2.8nm,0.8s,baz=335,slow=4.7,SNR=6.3
KSRS PKPPKP P'P'df 01 01 44.1 -18
comp=Z,2.8nm,0.9s,baz=278,slow=1.8,SNR=5.0
SKJI Sukabumi 40.26 258 P **P** **00 29 40.7 +0.3**
comp=Z,9µcomp=Z,7µcomp=Z,644nm,1.2s
NJ2 Nanjing 40.36 323 ⇑*i*P **P** **00 29 41.2 +0.2**
NJ2 pP **pP** **00 29 44.9 +0.7**
NJ2 sP **sP** **00 29 46.0 +0.5**
NJ2 S **S** **00 35 50.1 +1.5**
NJ2 sS **sS** **00 35 59.5 +5.6**
NJ2 pmax pmax
comp=Z,230nm,1.2s
NJ2 pmax pmax
comp=Z,5µm,6.1s
NJ2 LR LR
comp=Z,24µm,20.6s
NJ2 LR LR
comp=Z,24µm,23.1s
NJ2 LR LR
comp=Z,24µm,22.0s
INCN Inchon 40.69 336 P **P** **00 29 43.3 -0.4**
INCN pmax pmax
comp=Z,328nm,1.0s
INCN Inchon 40.69 336 P **P** **00 29 43.3 -0.4**
ERM Erimo 41.11 357*de*P **P** **00 29 46.7 -0.2**
ERM pmax pmax
comp=Z,147nm,1.0s
ERM Erimo 41.11 357 P **P** **00 29 47.7 +0.8**
BLSI Bandar Lampung 41.31 261 P **P** **00 29 49.8 +0.7**
comp=Z,11µcomp=Z,6µcomp=Z,133nm,1.4s
MORW Morawa 41.37 222 P **P** **00 29 49.3 -0.1**
baz=41,SNR=94
MORW Morawa 41.37 222 P **P** **00 29 49.7 +0.3**
MORW IAmb IAmb 00 30 04.8
comp=Z,767nm,0.9s
MORW IAMs_20 IAMs_20 00 47 23.4
comp=Z,107µm,22.0s
PMBI Palembang 41.53 265 P **P** **00 29 52.0 +1.1**
comp=Z,15µcomp=Z,60µcomp=Z,664nm,1.2s
PMBI Palembang 41.53 265 P **P** **00 29 53.0 +2.1**
PMBI IAmb IAmb 00 30 08.1
comp=Z,682nm,0.8s
HJU Haeju 41.54 335 P **P** **00 29 52.7 +2.1**
DSRI Dabo 41.59 268 P **P** **00 29 52.0 +0.6**
comp=Z,8µcomp=Z,3µcomp=Z,147nm,1.4s
TPRI Tanjung Pinang 41.62 270 P **P** **00 29 52.3 +0.7**
comp=Z,28µcomp=Z,359nm,1.0s
KLI Kotabumi 41.63 262 P **P** **00 29 51.0 -0.7**
comp=Z,13µcomp=Z,8µcomp=Z,567nm,0.9s
XMIS Christmas Isla 41.82 253 P **P** **00 29 53.3 0.0**
WOSN Wonsan 41.84 338 P **P** **00 29 53.7 +0.7**
BLDU Ballidu 41.96 219 P **P** **00 29 53.6 -0.5**
baz=42,SNR=75
KLBR Kellerberrin 41.99 217 P **P** **00 29 53.5 -0.9**
baz=42,SNR=101
KASI Kota Agung 42.07 261 P **P** **00 29 54.0 -1.3**
comp=Z,11µcomp=Z,7µcomp=Z,617nm,0.8s
WHN Wuhan 42.25 317 ⇑*i*P **P** **00 29 57.7 +1.2**
WHN S **S** **00 36 20.4 +3.7**
WHN SS **SS** **00 39 18.8 -6.4**
WHN pmax pmax
comp=Z,610nm,1.2s
WHN pmax pmax
comp=Z,9µm,5.6s
WHN LR LR
comp=Z,32µm,13.5s
WHN LR LR
comp=Z,17µm,12.4s
WHN LR LR
comp=Z,62µm,19.0s
MDSI Maura Dua 42.26 262 P **P** **00 29 56.1 -0.8**
comp=Z,6µcomp=Z,323nm,1.0s
KNTN Kanton 42.27 95 P **P** **00 29 57.7 +0.8**
KNTN IAmb IAmb 00 30 06.3
comp=Z,2µm,1.9s
KNTN IAMs_20 IAMs_20 00 44 44.7
comp=Z,89µm,19.0s
MYKOM Kota Tinggi 42.30 272 P **P** **00 29 57.0 -0.2**
MYKOM Kota Tinggi 42.30 272 P **P** **00 29 59.0 +1.8**
PYAG Pyongyang 42.39 336 P **P** **00 29 57.9 +0.4**
PYAG pP **pP** **00 30 01.1 +0.4**
PYAG sP **pwP** **00 30 05.1 -1.5**
PYAG S **S** **00 36 18.9 +0.4**
LWLI Liwa 42.44 262 P **P** **00 29 57.7 -0.8**
comp=Z,8µcomp=Z,547nm,1.0s
HHU Hamhung 42.47 339 P **P** **00 29 58.2 +0.1**
HHU pP **pP** **00 30 01.8 +0.4**
HHU sP **pwP** **00 30 06.1 -1.2**
HHU S **S** **00 36 14.9 -4.8**
PYS Pyongsong 42.52 337 P **P** **00 29 59.7 +1.1**
LHSI Lahat 42.85 264 P **P** **00 30 02.0 +0.3**
comp=Z,15µcomp=Z,13µcomp=Z,813nm,1.4s
YUK Yuzh-Kuril'sk 43.04 360*c i*P **P** **00 30 03.4 +0.7**
YUK *i* 00 31 45.3
YUK *i* PPP PPP 00 32 17.0
YUK *i* S **S** **00 36 28.6 +0.7**
YUK *e*SSS SSS 00 40 18.1
YUK pmax pmax
comp=Z,468nm,1.0s
YUK pmax pmax
comp=E,383nm,1.4s
YUK pmax pmax
comp=N,305nm,1.1s
YUK pmax pmax
comp=Z,528nm,9.2s
YUK MLR MLR
comp=Z,9µm,16.0s
MOO Moorlands 43.06 179 P **P** **00 30 04.6 +1.6**
baz=43,SNR=9.6
MUN Mundaring 43.20 218 P **P** **00 30 04.2 0.0**
baz=43,SNR=21
ASAJ Asahikawa 43.23 356 P **P** **00 30 04.5 +0.3**
comp=Z,31nm,0.8s,baz=231,slow=17,SNR=17
ASAJ LR LR 00 45 59.8
comp=Z,20µm,21.7s,baz=184,slow=33
NWAO Narrogin (SRO) 43.24 216 P **P** **00 30 05.2 +0.7**
comp=Z,134nm,0.8s,baz=59,slow=6.6,SNR=34
NWAO LR LR 00 48 44.0
comp=Z,75µm,21.8s,baz=46,slow=37
NWAO Narrogin (SRO) 43.24 216 P **P** **00 30 04.5 -0.1**
baz=43,SNR=38
NWAO Narrogin (SRO) 43.24 216 P **P** **00 30 04.9 +0.3**
NWAO pmax pmax
comp=Z,536nm,1.1s
NWAO MLR MLR
comp=Z,61µm,22.0s
NWAO Narrogin (SRO) 43.24 216 P **P** **00 30 04.9 +0.3**
NWAO Narrogin (SRO) 43.24 216 P **P** **00 30 04.9 +0.3**
NWAO IAmb IAmb 00 30 27.2
comp=Z,669nm,1.1s
CHJN Chongjin 43.39 342 P **P** **00 30 04.0 -1.6**
MNAI Manna 43.46 263 P **P** **00 30 06.1 -0.6**
comp=Z,12µcomp=Z,16µcomp=Z,844nm,1.5s
MNAI Manna 43.46 263 P **P** **00 30 06.0 -0.7**
MNAI IAmb IAmb 00 30 32.9
comp=Z,1µm,1.2s
TAU Tasmania Unive 43.53 179 P **P** **00 30 08.2 +1.5**
TAU pmax pmax
comp=Z,493nm,1.7s
TAU MLR MLR
comp=Z,56µm,19.0s
TAU Tasmania Unive 43.53 179 P **P** **00 30 08.2 +1.5**
KGE Kanggye 43.70 338 P **P** **00 30 09.2 +1.1**
KSI Kapahiang 43.76 264 P **P** **00 30 08.1 -1.0**
comp=Z,10µcomp=Z,791nm,1.2s
SUJ Sinuiju 43.80 336 P **P** **00 30 09.5 +0.6**
SUJ pP **pP** **00 30 12.0 -0.1**
SUJ sP **pwP** **00 30 22.2 +4.2**
SUJ S **S** **00 36 38.7 -0.4**
RGRI Rengat 43.83 269 P **P** **00 30 11.6 +2.0**
VLA Vladivostok 44.02 345*c i*P **P** **00 30 11.8 +1.2**
VLA pmax pmax
comp=Z,657nm,2.0s
DL2 Dalian 44.06 332 P **P** **00 30 11.4 +0.4**
DL2 S **S** **00 36 41.6 -1.5**
DL2 pmax pmax
comp=Z,170nm,1.1s
DL2 pmax pmax
comp=Z,4µm,6.1s
DL2 LR LR
comp=Z,38µm,19.5s
DL2 LR LR
comp=Z,35µm,19.4s
DL2 LR LR
comp=Z,38µm,19.6s
OUZ Omahuta 44.07 147 P **P** **00 30 13.8 +2.7**
OUZ Omahuta 44.07 147 P **P** **00 30 12.4 +1.3**
AFI Afiamalu 44.16 111 P **P** **00 30 13.4 +1.1**
comp=Z,250nm,1.1s,baz=314,slow=5.5,SNR=11
AFI LR LR 00 45 13.0
comp=Z,63µm,21.8s,baz=290,slow=32
AFI Afiamalu 44.16 111 P **P** **00 30 13.0 +0.7**
AFI pmax pmax
comp=Z,948nm,1.4s

AFI Afiamalu 44.16 111 P **P** **00 30 13.0 +0.7**
AFI IAmb IAmb 00 30 20.8
comp=Z,948nm,1.4s
AFI Afiamalu 44.16 111 IAMs_20 IAMs_20 00 45 00.9
comp=Z,66µm,22.0s
KUR Kuril'sk 44.26 2 *e*P **P** **00 30 12.8 +0.3**
KUR *i* S **S** **00 36 43.6 -2.1**
KUR *i* SS **SS** **00 40 01.3 -3.0**
KUR *i* SSS SSS 00 40 46.5
KUR pmax pmax
comp=Z,5µm,8.2s
KUR pmax pmax
comp=Z,750nm,1.1s
KUR pmax pmax
comp=N,362nm,1.9s
KUR pmax pmax
comp=E,349nm,2.0s
MIDW Midway 44.27 49 P **P** **00 30 12.8 0.0**
MIDW IAmb IAmb 00 30 22.0
comp=Z,1µm,1.9s
MIDW IAMs_20 IAMs_20 00 43 42.4
comp=Z,69µm,22.0s
TIA Tai'an 44.33 326 P **P** **00 30 13.5 +0.2**
TIA PP **PP** **00 31 56.6 -0.2**
TIA S **S** **00 36 52.6 +5.5**
TIA pmax pmax
comp=Z,170nm,1.4s
TIA pmax pmax
comp=Z,3µm,7.8s
TIA LR LR
comp=Z,27µm,22.1s
TIA LR LR
comp=Z,24µm,19.1s
TIA LR LR
comp=Z,37µm,18.0s
SDSI Sungai Dareh 44.76 268 P **P** **00 30 16.9 -0.1**
comp=Z,10µmcomp=Z,535nm,1.0s
KRJI Kerinci 44.77 266 P **P** **00 30 17.2 -0.1**
comp=Z,19µmcomp=Z,45µmcomp=Z,3µm,1.0s
TEY Ternei 44.84 350⇓ *i*P **P** **00 30 16.2 -1.0**
TEY *e* 00 31 59.1
TEY *e* 00 36 52.1
TEY pmax pmax
comp=Z,70nm,0.9s
TEY pmax pmax
comp=N,40nm,0.9s
TEY pmax pmax
comp=E,20nm,0.9s
TEY pmax pmax
comp=Z,500nm,8.8s
TEY pmax pmax
comp=E,2µm,16.8s
USRK Ussuriysk Ar. 45.00 346 P **P** **00 30 19.4 +0.9**
comp=E,75nm,0.8s,baz=172,slow=7.8,SNR=155
USRK LR LR 00 46 50.1
comp=E,24µm,20.4s,baz=141,slow=33
USA0B Ussuriysk Arra 45.00 346*c i*P **P** **00 30 19.2 +0.7**
WCZ Waipu Caves 45.01 147 P **P** **00 30 21.4 +2.7**
WCZ Waipu Caves 45.01 147 P **P** **00 30 21.5 +2.8**
BKNI Bangkinang 45.11 270 P **P** **00 30 19.8 -0.1**
comp=E,18µmcomp=E,2µm,1.1s
IPM Ipoh 45.22 275 P **P** **00 30 20.7 0.0**
IPM IAmb IAmb 00 30 32.2
comp=Z,595nm,1.2s
IPM Ipoh 45.22 275 P **P** **00 30 21.0 +0.3**
ENH Énshi 45.50 314 IAmb IAmb 00 30 32.7
comp=Z,1µm,1.6s
RAO Raoul Island 45.52 134 LR LR 00 47 49.0
comp=Z,34µm,19.0s,baz=304,slow=34
RAO Raoul Island 45.52 134 P **P** **00 30 22.5 -0.3**
RAO pmax pmax
comp=Z,462nm,0.7s
RAO Raoul Island 45.52 134 P **P** **00 30 22.5 -0.3**
RAO IAmb IAmb 00 30 54.1
comp=Z,462nm,0.7s
SNY Shenyang 45.62 336⇑ P **P** **00 30 23.9 +0.5**
SNY S **S** **00 37 00.6 -5.0**
SNY pmax pmax
comp=Z,190nm,1.7s
SNY pmax pmax
comp=Z,3µm,6.0s
SNY LR LR
comp=Z,19µm,17.9s
SNY LR LR
comp=Z,15µm,18.2s
SNY LR LR
comp=Z,29µm,18.5s
KULM Kulim 45.64 277 P **P** **00 30 23.9 -0.2**
KULM IAmb IAmb 00 30 33.3
comp=Z,464nm,1.0s
KULM Kulim 45.64 277 P **P** **00 30 25.0 +1.0**
GYA Guiyang 45.73 307⇓ P **P** **00 30 26.5 +1.8**
GYA sP sP 00 30 29.1 -0.1
GYA PP **PP** **00 32 13.8 +1.8**
GYA S **S** **00 37 11.0 +3.1**
GYA pmax pmax
comp=Z,150nm,1.1s
GYA pmax pmax
comp=Z,3µm,6.6s
GYA LR LR
comp=Z,14µm,19.4s
GYA LR LR
comp=Z,24µm,18.3s
GYA LR LR
comp=Z,34µm,17.0s
GRZ Great Barrier 45.85 147 P **P** **00 30 27.7 +2.3**
GRZ Great Barrier 45.85 147 P **P** **00 30 27.9 +2.6**
WTAZ Waiatarua 45.88 148 P **P** **00 30 20.7 -4.8**
SLVN Son La 45.96 299 P **P** **00 30 27.3 +0.7**
MDJ Mudanjiang 46.03 344 P **P** **00 30 27.3 +0.7**
MDJ pP pP 00 30 30.2 +0.4
MDJ sP sP 00 30 31.9 +0.8
MDJ S **S** **00 37 14.4 +3.1**
MDJ sS sS 00 37 20.1 +3.4
MDJ pmax pmax
comp=Z,79nm,0.9s
MDJ pmax pmax
comp=Z,5µm,7.1s
MDJ LR LR
comp=Z,43µm,23.1s
MDJ LR LR
comp=Z,54µm,23.5s
MDJ LR LR
comp=Z,73µm,24.1s
YSS Yuzh-Sakhalins 46.05 357α *i*P **P** **00 30 26.4 -0.3**
YSS *e* 00 32 21.5
YSS *e*S **S** **00 37 08.1 -3.5**
YSS *e*SS **SS** **00 40 33.5 -3.4**
YSS pmax pmax
comp=Z,4µm,8.4s
YSS pmax pmax
comp=N,2µm,8.7s
YSS MLR MLR
comp=Z,19µm,18.0s
YSS Yuzh-Sakhalins 46.05 357 P **P** **00 30 26.1 -0.6**
YSS **PcP** **00 32 03.7 +0.7**
WIAZ Waiheke Island 46.07 147 P **P** **00 30 29.5 +2.4**
WIAZ Waiheke Island 46.07 147 P **P** **00 30 29.7 +2.6**
PPSI Pulau Pagai 46.26 265 P **P** **00 30 29.5 +0.5**
comp=Z,11µmcomp=Z,624nm,1.5s
MKAZ Moumakai 46.32 148 P **P** **00 30 31.2 +2.2**
KUZ Kuaotunu 46.36 147 P **P** **00 30 31.4 +2.2**
KUZ Kuaotunu 46.36 147 P **P** **00 30 31.8 +2.5**
JOHN Johnston Islan 46.41 68 P **P** **00 30 29.9 -0.1**
H01W1 Cape Leeuwin H 46.44 217 P **P** **00 30 31.9 +2.2**
baz=66,slow=5.7,SNR=25
H01W3 Cape Leeuwin H 46.45 217 P **P** **00 30 32.3 +2.5**
baz=66,slow=5.7,SNR=23
H01W2 Cape Leeuwin H 46.46 217 P **P** **00 30 32.3 +2.5**
baz=66,slow=5.7,SNR=19
MNSI Mandailing Nat 46.57 270 P **P** **00 30 30.8 -0.5**
comp=Z,14µmcomp=Z,8µmcomp=Z,1µm,1.0s
CN2 Changchun 46.61 339 *e*P **P** **00 30 31.2 0.0**
CN2 *e*pP pwP 00 30 41.1 +0.7
CN2 *e*S **S** **00 37 17.8 -2.0**
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 pmax pmax
comp=Z,3µm,6.0s
CN2 LR LR
comp=Z,41µm,20.0s
CN2 LR LR
comp=Z,52µm,20.0s
CN2 LR LR
comp=Z,27µm,21.0s

TOZ Tahuroa Road 46.96 148 P **P** **00 30 36.2 +2.2**
TOZ Tahuroa Road 46.96 148 P **P** **00 30 36.8 +2.8**
SRIT Nakonsritamara 46.99 281 P **P** **00 30 34.6 0.0**
SISI Saibi 47.11 267 P **P** **00 30 34.8 -0.8**
comp=Z,9µmcomp=Z,781nm,1.1s
PBKT Sadao Pong 47.17 292 P **P** **00 30 36.9 +1.0**
PBKT IAmb IAmb 00 30 41.3
comp=Z,393nm,1.1s
HIZ Hauiti 47.21 149 P **P** **00 30 38.9 +3.0**
HIZ Hauiti 47.21 149 P **P** **00 30 39.1 +3.2**
HIZ Hauiti 47.21 149 P **P** **00 30 36.4 +0.4**
HIZ IAmb IAmb 00 30 47.2
comp=Z,723nm,1.1s
RPSI Rantau Prapat 47.24 273 P **P** **00 30 36.0 -0.6**
PSI Prapat 47.24 273 P **P** **00 30 36.0 -0.8**
PSI pmax pmax
comp=Z,941nm,1.1s
PKE Pukeiti 47.29 150 P **P** **00 30 40.3 +3.7**
NIUE Niue 47.42 117 P **P** **00 30 38.2 +0.3**
PREZ Palmer Road 47.49 150 P **P** **00 30 40.7 +2.5**
OPRZ Ohinepanea 47.61 147 P **P** **00 30 41.7 +2.6**
BJT Baijiatuau 47.61 329 IAmb IAmb 00 30 48.3
comp=Z,559nm,1.8s
TSI Tuntungan 47.62 274 P **P** **00 30 39.8 +0.2**
comp=Z,18µmcomp=Z,9µmcomp=Z,679nm,1.2s
VRZ Vera Road 47.62 150 P **P** **00 30 42.3 +3.1**
BJI Beijing 47.63 329 P **P** **00 30 39.5 +0.3**
BJI S **S** **00 37 33.2 -1.1**
BJI pmax pmax
comp=Z,110nm,1.6s
BJI pmax pmax
comp=Z,3µm,8.5s
BJI LR LR
comp=Z,24µm,20.6s
OMRZ Omania 47.70 148 P **P** **00 30 42.6 +2.7**
QRZ Quartz Range 47.88 153 P **P** **00 30 43.7 +2.5**
QRZ Quartz Range 47.88 153 P **P** **00 30 42.6 +1.4**
QRZ IAmb IAmb 00 30 50.0
comp=Z,744nm,1.1s
RATZ Rangitukua 47.95 149 P P 00 30 48.2 +6.4
XAN Xi'an 48.02 317 P **P** **00 30 42.2 -0.2**
XAN sP pwP 00 30 50.9 -0.7
XAN S **S** **00 37 40.0 -0.2**
XAN sS sS 00 37 48.9 +3.3
XAN ScS **ScS** **00 40 31.2 -4.5**
XAN SS **SS** **00 41 02.1 -7.3**
XAN pmax pmax
comp=Z,380nm,1.2s
XAN pmax pmax
comp=Z,5µm,6.5s
XAN LR LR
comp=Z,29µm,17.3s
XAN LR LR
comp=Z,17µm,19.5s
XAN LR LR
comp=Z,38µm,24.4s
XAN Xi'an 48.02 317 IAmb IAmb 00 30 51.7
comp=Z,1µm,1.4s
WTVZ West Tongariro 48.04 149 P **P** **00 30 45.7 +3.2**
TIY Taiyuan 48.08 324 *e*P **P** **00 30 43.2 +0.4**
TIY pP **pwP** **00 30 50.7 -1.3**
TIY S **S** **00 37 39.2 -1.8**
TIY sS **sS** **00 37 52.4 +6.1**
TIY SS **SS** **00 41 03.7 -6.6**
TIY pmax pmax
comp=Z,110nm,1.2s
TIY pmax pmax
comp=Z,3µm,7.9s
TIY LR LR
comp=Z,32µm,17.5s
TIY LR LR
comp=Z,14µm,17.2s
TIY LR LR
comp=Z,49µm,33.3s
OTVZ Oturere 48.12 149 P **P** **00 30 46.1 +2.9**
URZ Urewera 48.21 147 P **P** **00 30 44.5 +0.8**
comp=Z,110nm,0.8s,baz=290,slow=3.7,SNR=16
URZ LR LR 00 48 44.6
comp=Z,44µm,20.9s,baz=312,slow=33
URZ Urewera 48.21 147 P **P** **00 30 44.9 +1.2**
URZ Urewera 48.21 147 IAmb IAmb 00 30 59.6
comp=Z,762nm,1.5s
WAZ Wanganui 48.22 150 P **P** **00 30 46.5 +2.7**
HAZ Te Kaha 48.22 146 P **P** **00 30 45.8 +2.0**
DSZ Denniston Nort 48.30 154 P **P** **00 30 46.0 +1.6**
MOVZ Moawhango 48.34 149 P **P** **00 30 46.8 +1.9**
KMI Kunming 48.37 304⇓ *e*P **P** **00 30 47.3 +1.8**
KMI S **S** **00 37 46.8 +1.0**
KMI pmax pmax
comp=Z,190nm,1.3s
KMI pmax pmax
comp=Z,4µm,8.1s
KMI LR LR
comp=Z,10µm,19.0s
KMI LR LR
comp=Z,8µm,20.1s
KMI LR LR
comp=Z,22µm,17.9s
KMI Kunming 48.37 304 P **P** **00 30 46.7 +1.2**
KMI pmax pmax
comp=Z,340nm,1.2s
KMI MLR MLR
comp=Z,23µm,19.0s
KMI Kunming 48.37 304 P **P** **00 30 46.7 +1.2**
MXZ Matakaoa Point 48.38 146 P **P** **00 30 46.0 +0.9**
MXZ IAmb IAmb 00 31 10.4
comp=Z,871nm,1.4s
RTZ Ruatahuna 48.40 148 P **P** **00 30 46.9 +1.6**
MWZ Matawai 48.49 147 P **P** **00 30 47.8 +1.8**
DUWZ D'Urville Isla 48.51 152 P **P** **00 30 47.7 +1.7**
BKZ Black Stump Fm 48.55 148 P **P** **00 30 48.1 +1.7**
BKZ Black Stump Fm 48.55 148 P **P** **00 30 46.8 +0.4**
BKZ IAmb IAmb 00 31 03.9
comp=Z,324nm,1.0s
GSI Gunungsitoli 48.57 271 P **P** **00 30 45.7 -1.2**
comp=Z,15µmcomp=Z,17µmcomp=Z,2µm,1.0s
NNZ Nelson 48.58 153 P **P** **00 30 47.6 +1.1**
NNZ Nelson 48.58 153 P **P** **00 30 46.5 -0.1**
NNZ IAmb IAmb 00 30 54.0
comp=Z,992nm,1.5s
THZ Tophouse 48.80 153 P **P** **00 30 49.2 +0.9**
THZ Tophouse 48.80 153 P **P** **00 30 48.8 +0.5**
THZ IAmb IAmb 00 30 56.2
comp=Z,307nm,0.8s
RIGZ Rimuhau 48.89 147 P **P** **00 30 50.8 +1.8**
PNHZ Pukenui 48.95 149 P **P** **00 30 50.8 +1.3**
INZ Inchbonnie 48.95 155 P **P** **00 30 50.0 +0.6**
FOZ Fox Glacier 48.97 157 P **P** **00 30 50.7 +1.2**
FOZ Fox Glacier 48.97 157 P **P** **00 30 50.3 +0.9**
FOZ IAmb IAmb 00 30 59.3
comp=Z,490nm,1.1s
TCW Tory Channel 49.00 152 P **P** **00 30 51.2 +1.4**
TUWZ Tuamarina 49.01 152 P **P** **00 30 51.0 +1.1**
KIW Kapiti Island 49.03 151 P **P** **00 30 51.8 +1.8**
JCZ Jackson Bay 49.05 158 P **P** **00 30 52.5 +2.4**
POWZ Post Office Ro 49.09 150 P **P** **00 30 52.1 +1.6**
OGWZ Otaki Gorge 49.12 151 P **P** **00 30 51.9 +1.2**
WPHZ Waipukurau 49.19 149 P **P** **00 30 52.9 +1.6**
MRZ Mangatainoka R 49.20 150 P **P** **00 30 52.2 +0.8**
BSWZ Blackbirch Sta 49.20 153 P **P** **00 30 52.4 +1.0**
DVHZ Dannevirke 49.22 150 P **P** **00 30 52.2 +0.7**
SNZO South Karori 49.28 152 P **P** **00 30 52.4 +0.6**
CAW Cannon Point 49.29 151 P **P** **00 30 53.3 +1.3**
LHMI Lhok Sumawe 49.32 276 P **P** **00 30 53.2 +0.6**
comp=Z,21µmcomp=Z,18µmcomp=Z,1µm,0.9s
PRWZ Pori Road 49.32 150 P **P** **00 30 54.0 +1.8**
LTZ Lake Taylor 49.35 155 P **P** **00 30 53.8 +1.3**
LTZ Lake Taylor 49.35 155 IAmb IAmb 00 31 00.1
comp=Z,1µm,1.4s
HOWZ Holdsworth Sta 49.35 151 P **P** **00 30 53.4 +0.9**
PXZ Pawanui 49.38 149 P **P** **00 30 53.7 +1.0**
BHW Baring Head 49.43 152 P **P** **00 30 53.7 +0.7**
TIWZ Tintock 49.44 150 P **P** **00 30 54.0 +0.8**
CM31 Chiang Mai Arr 49.52 294 P **P** **00 30 56.0 +1.8**
SNR=114
CM31 P **P** **00 30 56.0 +1.8**
SNR=114
CM31 Chiang Mai Arr 49.52 294 P **P** **00 30 55.5 +1.3**
CM31 IAmb IAmb 00 31 08.6
comp=Z,345nm,0.8s
CMAR Chiang Mai Arr 49.52 294 P **P** **00 30 55.8 +1.6**
comp=Z,167nm,0.9s,baz=114,slow=5.7,SNR=267
CMAR LR LR 00 50 26.8
comp=Z,13µm,20.9s,baz=163,slow=34

CMAR PKPPKP 01 01 47.9
comp=Z,9.1nm,1.1s,baz=249,slow=4.1,SNR=5.3
CMAR Chiang Mai Arr 49.52 294 *i* P **P** **00 30 55.7 +1.6**
CMAR pmax pmax
comp=Z,176nm,0.9s
BFZ Birch Farm 49.55 150 P **P** **00 30 54.8 +0.8**
BFZ Birch Farm 49.55 150 P **P** **00 30 53.6 -0.4**
BFZ IAmb IAmb 00 31 01.3
comp=Z,778nm,0.9s
KHZ Kahutara 49.61 153 P **P** **00 30 54.8 +0.5**
KHZ Kahutara 49.61 153 P **P** **00 30 54.1 -0.3**
KHZ IAMs_20 IAMs_20 00 50 31.0
comp=Z,55µm,20.0s
RPZ Rata Peaks 49.61 156 P **P** **00 30 55.6 +1.1**
comp=Z,312nm,0.8s,baz=2.3,slow=2.4,SNR=67
RPZ Rata Peaks 49.61 156 P **P** **00 30 55.5 +1.1**
RPZ Rata Peaks 49.61 156 P **P** **00 30 54.3 -0.1**
CHTO Chiang Mai 49.61 294 P **P** **00 30 55.8 +0.9**
CHTO pmax pmax
comp=Z,483nm,1.3s
CHTO Chiang Mai 49.61 294 P **P** **00 30 55.8 +0.9**
CHTO IAmb IAmb 00 31 09.7
comp=Z,483nm,1.3s
MSWZ Moikau Station 49.62 151 P **P** **00 30 55.2 +0.7**
PAWZ Paruwai Farm 49.68 151 P **P** **00 30 56.0 +1.0**
DCZ Deep Cove 49.69 161 P **P** **00 30 56.2 +1.3**
DCZ IAmb IAmb 00 31 02.9
comp=Z,616nm,1.2s
TMWZ Te Maipa 49.69 151 P **P** **00 30 56.3 +1.2**
OXZ Oxford 49.69 155 P **P** **00 30 55.1 0.0**
OXZ Oxford 49.69 155 IAmb IAmb 00 31 01.7
comp=Z,692nm,1.3s
OXZ IAMs_20 IAMs_20 00 50 41.3
comp=Z,49µm,18.0s
CPWZ Castlepoint 49.70 150 P **P** **00 30 57.1 +2.0**
PLWZ Palliser 49.74 151 P **P** **00 30 56.0 +0.5**
PLWZ Palliser 49.74 151 P **P** **00 30 55.4 -0.1**
WKZ Wanaka 49.78 159 P **P** **00 30 56.1 +0.4**
KLR Kul'dur 49.80 348*c i*P **P** **00 30 55.8 +0.1**
KLR pmax pmax
comp=Z,504nm,1.3s
MLSI Meulaboh, Aceh 49.81 275 P **P** **00 30 55.2 -1.2**
comp=Z,20µmcomp=Z,3µm,0.9s
TRWZ Traveller 49.82 151 P **P** **00 30 56.9 +0.8**
GVZ Greta Valley S 49.83 154 P **P** **00 30 56.3 +0.2**
LBZ Lake Benmore 49.84 158 IAmb IAmb 00 31 03.3
comp=Z,841nm,1.3s
LBZ IAMs_20 IAMs_20 00 50 51.0
comp=Z,63µm,21.0s
MLZ Mavora Lakes 49.93 160 P **P** **00 30 57.7 +0.9**
MLZ IAmb IAmb 00 31 04.5
comp=Z,1µm,1.3s
TYV Tymovskoe 49.96 357 *e*P **P** **00 30 57.4 +0.5**
TYV *e*S **S** **00 38 10.4 +3.6**
TYV pmax pmax
comp=Z,107nm,1.4s
TYV pmax pmax
comp=Z,5µm,8.4s
TYV smax smax
comp=E,21nm,1.8s
TYV smax smax
comp=N,20µm,12.5s
CD2 Chengdu 50.07 311⇑ *i*P **P** **00 30 58.8 +0.6**
CD2 pP pP 00 31 01.9 +0.5
CD2 sP sP 00 31 03.6 +0.9
CD2 S **S** **00 38 10.0 +0.8**
CD2 sS sS 00 38 15.5 +0.9
CD2 pmax pmax
comp=N,910nm,1.0s
CD2 pmax pmax
comp=N,6µm,6.1s
CD2 LR LR
comp=N,63µm,30.5s
CD2 LR LR
comp=N,48µm,24.1s
CD2 LR LR
comp=N,63µm,35.8s
PYZ Puysegur Point 50.16 161 P **P** **00 30 59.1 +0.6**
PYZ IAmb IAmb 00 31 06.5
comp=Z,1µm,1.6s
WHZ Wether Hill Ro 50.33 160 P **P** **00 31 00.6 +0.7**
WHZ Wether Hill Ro 50.33 160 P **P** **00 31 00.8 +1.0**
SKR Severo-Kuril's 50.41 8 *e*P **P** **00 31 02.6 +2.3**
SKR *e*S **S** **00 38 07.9 -5.2**
SKR *e*SSS SSS 00 43 18.8
SKR pmax pmax
comp=Z,3µm,8.8s
SKR MLR MLR
comp=Z,8µm,16.0s
GRNR Gornyy 50.46 352⇓ *i*P **P** **00 31 01.5 +0.8**
GRNR *e* 00 32 55.5
GRNR *e*S **S** **00 38 18.4 +4.5**
GRNR *e*SS **SS** **00 41 41.4 -6.6**
GRNR pmax pmax
comp=N,40nm,1.1s
GRNR pmax pmax
comp=Z,50nm,1.1s
GRNR smax smax
comp=N,7.0nm,0.5s
ODZ Otahua Downs 50.57 158 IAMs_20 IAMs_20 00 51 11.4
comp=Z,48µm,20.0s
COCO West Island 50.63 254 P **P** **00 31 02.8 +0.2**
COCO pmax pmax
comp=Z,935nm,1.1s
COCO West Island 50.63 254 P **P** **00 31 02.8 +0.2**
COCO IAmb IAmb 00 31 14.1
comp=Z,935nm,1.1s
HHC Hu-ho-hao-te 50.68 326 *e*P **P** **00 31 03.7 +1.0**
HHC sP pwP 00 31 12.3 +0.3
HHC PP **PP** **00 33 03.5 +4.6**
HHC S **S** **00 38 16.9 -0.7**
HHC SS **SS** **00 41 46.2 -6.0**
HHC pmax pmax
comp=Z,110nm,1.2s
HHC pmax pmax
comp=Z,4µm,6.3s
HHC LR LR
comp=Z,19µm,17.2s
HHC LR LR
comp=Z,19µm,15.2s
HHC LR LR
comp=Z,31µm,16.7s
BTO Baotou 51.39 325 P **P** **00 31 08.7 +0.6**
BTO S **S** **00 38 19.5 -7.9**
NKL Nikolayevsk 52.36 356 *e*P **P** **00 31 15.9 +1.0**
NKL *e* 00 32 25.7
NKL *e*S **S** **00 38 40.3 +0.4**
NKL *e* 00 40 57.3
NKL pmax pmax
comp=N,4.0nm,0.7s
NKL pmax pmax
comp=Z,342nm,1.0s
NKL pmax pmax
comp=Z,751nm,2.9s
NKL smax smax
comp=N,5.0nm,2.8s
LZH Lanzhou 52.61 317 *e*P **P** **00 31 18.0 +0.7**
LZH pP pP 00 31 21.3 +0.7
LZH *e*S **S** **00 38 45.3 +0.9**
LZH sS sS 00 38 54.5 +4.7
LZH SS **SS** **00 42 21.7 -1.3**
LZH pmax pmax
comp=N,430nm,1.3s
LZH pmax pmax
comp=N,5µm,4.9s
LZH LR LR
comp=N,10µm,14.9s
LZH LR LR
comp=N,22µm,17.6s
LZH LR LR
comp=N,21µm,19.5s
PEA0B Petropavlovsk- 53.00 9 P **P** **00 31 19.9 +0.2**
PEA0B pmax pmax
comp=Z,1µm,1.0s
PEA0B Petropavlovsk- 53.00 9 P **P** **00 31 19.9 +0.2**
PEA0B IAmb IAmb 00 31 31.1
comp=Z,1µm,0.9s
PETK Petropavlovsk- 53.00 9 P **P** **00 31 19.8 +0.1**
comp=Z,278nm,0.8s,baz=175,slow=7.0,SNR=226
PETK LR LR 00 49 59.9
comp=Z,19µm,20.4s,baz=191,slow=32
PETK PKPPKP 01 01 48.4
comp=Z,8.3nm,1.1s,baz=75,slow=7.8,SNR=6.1
PET Petropavlovsk 53.07 9*d e*P **P** **00 31 20.6 +0.5**
PET *e* 00 33 21.3

PET eS S 00 38 47.8 -1.8
PET eSS SS 00 42 27.1 -2.1
PET pmax pmax
comp=Z,6µm,8.9s
PET pmax pmax
comp=Z,6µm,11.9s
PET pmax pmax
comp=Z,545nm,1.0s
PET pmax pmax
comp=Z,3µm,14.3s
PET MLR MLR
comp=Z,10µm,15.0s
PET MLR MLR
comp=Z,14µm,19.0s
HIA Hailar 53.33 339 P P 00 31 21.9 -0.3
HIA pmax pmax
comp=Z,182nm,0.9s
HIA Hailar 53.33 339 P P 00 31 21.9 -0.3
PBA Port Blair 54.07 284 eP P 00 31 25.8 -2.5
PBA ex x 00 31 25.9
PBA ex x 00 31 27.4
PBA Port Blair 54.07 284 P P 00 31 28.6 +0.4
PBA IAmb IAmb 00 31 42.7
comp=Z,557nm,1.1s
DGPR DIGLIPUR 54.10 286 ex P 00 31 28.3 -0.1
DGPR eP pP 00 31 28.4 -3.4
LKP Lekhapani 54.93 303 eP P 00 31 34.9 +0.7
LKP i x x 00 48 56.3
ZEA Zeya 55.02 346 ceP P 00 31 33.8 -0.6
ZEA eS S 00 39 14.0 -2.1
ZEA eSS SS 00 42 54.0 -6.0
ZEA pmax pmax
comp=N,140nm,1.0s
ZEA pmax pmax
comp=Z,240nm,0.8s
ZEA pmax pmax
comp=N,2µm,7.0s
ZEA pmax pmax
comp=E,600nm,7.0s
ZEA pmax pmax
comp=Z,4µm,7.0s
ZEA smax smax
comp=E,22µm,18.0s
JORH JORHAT 56.08 302 eP P 00 31 42.1 -0.4
JORH eP P 00 31 42.1 -0.4
JORH i x x 00 49 26.5
MCQ Macquarie Isla 56.13 171 P P 00 31 43.9 +1.6
baz=56,SNR=3.9
MCQ Macquarie Isla 56.13 171 P P 00 31 43.4 +1.1
MCQ pmax pmax
comp=Z,916nm,1.2s
MCQ Macquarie Isla 56.13 171 P P 00 31 43.4 +1.1
MCQ IAmb IAmb 00 31 55.7
comp=Z,916nm,1.1s
XMAS Kiritimati 56.40 88 P P 00 31 45.8 +0.8
XMAS IAmb IAmb 00 31 54.3
comp=Z,643nm,1.2s
XMAS Kiritimati 56.40 88 IAMs_20 IAMs_20 00 49 06.0
comp=Z,49µm,21.0s
KEKH Kekaha 56.71 64 IAmb IAmb 00 31 57.1
comp=Z,1µm,1.6s
KEKH IAMs_20 IAMs_20 00 50 09.5
comp=Z,81µm,22.0s
SMY Shemya 56.75 20 P P 00 31 47.3 +0.5
SMY pmax pmax
comp=Z,768nm,0.9s
SMY Shemya 56.75 20 P P 00 31 47.3 +0.5
SMY IAmb IAmb 00 31 58.5
comp=Z,768nm,0.9s
SMY IAMs_20 IAMs_20 00 50 37.7
comp=Z,75µm,22.0s
GTA Gaotai 57.06 318 ⇑P P 00 31 50.0 +0.5
GTA pP sP 00 31 55.1 +1.0
GTA sP pwP 00 31 58.4 -0.4
GTA S S 00 39 41.8 -2.3
GTA sS sS 00 39 53.8 +4.2
GTA SS SS 00 43 34.8 +1.8
GTA pmax pmax
comp=Z,310nm,1.1s
GTA pmax pmax
comp=Z,3µm,7.1s
GTA LR LR
comp=Z,18µm,21.9s
GTA LR LR
comp=Z,16µm,18.7s
GTA LR LR
comp=Z,24µm,20.3s
RAR Rarotonga 57.16 116 P P 00 31 49.6 -0.7
RAR pmax pmax
comp=Z,600nm,1.8s
RAR Rarotonga 57.16 116 P P 00 31 49.6 -0.7
RAR IAmb IAmb 00 31 53.6
comp=Z,600nm,1.8s
TEZP TEZPUR 57.28 301 eP P 00 31 51.1 0.0
TEZP eP pP 00 31 51.3 -3.0
TEZP i x x 00 50 04.2
SHL Shillong 57.76 300 eP P 00 31 54.8 +0.1
SHL eP pP 00 31 55.0 -3.1
SHL i x x 00 49 56.7
SHL Shillong 57.76 300 P P 00 31 55.5 +0.8
SNR=181
SHL Shillong 57.76 300 IAmb IAmb 00 31 58.9
comp=Z,771nm,0.9s
ULN Ulaanbaatar 57.80 330 ci P P 00 31 55.1 +0.5
ULN pmax pmax
comp=Z,614nm,1.4s
ULN Ulaanbaatar 57.80 330 P P 00 31 55.1 +0.5
ULN pP 00 31 55.2 -2.6
CIT Chita 57.89 337 eP P 00 31 56.4 +1.4
CIT e 00 34 12.6
CIT e 00 39 54.0
CIT e 00 41 35.4
CIT pmax pmax
comp=Z,54nm,2.1s
HON Honolulu 58.10 65 P P 00 31 58.0 +1.1
HON pmax pmax
comp=Z,2µm,1.5s
HON Honolulu 58.10 65 P P 00 31 58.0 +1.1
HON IAMs_20 IAMs_20 00 50 39.5
comp=Z,46µm,22.0s
GUWA GUWAHATI 58.10 301 eP P 00 31 57.0 +0.1
GUWA eP P 00 31 57.0 +0.1
KIP Kipapa 58.11 65 deP P 00 31 58.8 +1.8
KIP pmax pmax
comp=Z,922nm,1.4s
KIP Kipapa 58.11 65 P P 00 31 57.3 +0.3
KIP IAmb IAmb 00 32 05.8
comp=Z,771nm,1.2s
KIP Kipapa 58.11 65 IAMs_20 IAMs_20 00 50 50.8
comp=Z,48µm,22.0s
SONM Songino Array 58.11 330 P P 00 31 57.2 +0.5
comp=Z,120nm,0.9s,baz=145,slow=5.9,SNR=265
SONM LR LR 00 56 08.7
comp=Z,24µm,22.0s,baz=130,slow=35
SONM PKP2bc 01 01 51.3
comp=Z,4.8nm,0.8s,baz=261,slow=1.7,SNR=11
OPA Opana 58.17 65 P P 00 31 57.8 +0.4
OPA pmax pmax
comp=Z,939nm,1.3s
OPA Opana 58.17 65 P P 00 31 57.8 +0.4
OPA IAmb IAmb 00 32 06.4
comp=Z,939nm,1.3s
OPA IAMs_20 IAMs_20 00 50 52.4
comp=Z,77µm,21.0s
MA2 Magadan 58.71 3 P P 00 32 00.8 +0.2
comp=Z,106nm,0.9s,baz=160,slow=6.5,SNR=20
MA2 Magadan 58.71 3 ci P P 00 32 00.7 +0.2
MA2 pmax pmax
comp=Z,281nm,1.0s
MA2 Magadan 58.71 3 IAmb IAmb 00 32 11.8
comp=Z,305nm,1.0s
KHLH Kahului Airpor 59.44 66 P P 00 32 06.4 +0.1
KKH Kailua Kona 59.57 68 P P 00 32 07.6 +0.4
KKH Kailua Kona 59.57 68 P P 00 32 07.6 +0.4
HLK Haleakala 59.58 66 P P 00 32 07.7 +0.1
LSA Lhasa 59.61 304 P P 00 32 09.0 +1.1
LSA S S 00 40 13.1 -5.2
LSA pmax pmax
comp=Z,530nm,1.0s
LSA LR LR
comp=Z,18µm,18.5s
LSA LR LR
comp=Z,72µm,29.5s
LSA LR LR
comp=Z,85µm,27.4s
LSA Lhasa 59.61 304 P P 00 32 08.5 +0.6
LSA Lhasa 59.61 304 P P 00 32 08.5 +0.6
ADK Adak 59.67 26 P P 00 32 07.6 +0.3
ADK Adak 59.67 26 P P 00 32 07.6 +0.3
ADK Adak 59.67 26 IAMs_20 IAMs_20 00 52 05.2
comp=Z,69µm,22.0s
KHLU Kahalu`u 59.68 68 P P 00 32 08.3 +0.2
KHLU IAmb IAmb 00 32 27.6
comp=Z,649nm,1.1s
HUH Hualalai 59.75 68 P P 00 32 09.4 +0.6
HUH IAmb IAmb 00 32 17.4
comp=Z,778nm,1.4s
KHU Kahuku 59.87 68 P P 00 32 08.9 -0.7
KHU pmax pmax
comp=Z,2µm,1.8s
KHU Kahuku 59.87 68 P P 00 32 08.9 -0.7
KHU IAMs_20 IAMs_20 00 52 50.5
comp=Z,50µm,20.0s
MWH Moku'aweowe 59.93 68 P P 00 32 10.6 +0.2
MWH IAmb IAmb 00 32 18.7
comp=Z,640nm,1.2s
HPAH Hawaii Prepara 59.94 67 P P 00 32 10.6 +0.8
HPAH IAmb IAmb 00 32 18.2
comp=Z,432nm,1.0s
MLOA Mauna Loa Obse 59.96 68 P P 00 32 09.8 -0.6
MLOA IAmb IAmb 00 32 19.0
comp=Z,499nm,0.9s
MLOA IAMs_20 IAMs_20 00 53 11.8
comp=Z,49µm,20.0s
AIN Ainahou 60.04 68 P P 00 32 11.3 +0.6
POHA Pohakuloa 60.04 68 P P 00 32 11.7 +1.0
HMH Humu'ula Sheep 60.06 68 P P 00 32 11.6 +0.6
GSTR Great Sitkin T 60.10 26 P P 00 32 11.2 +0.9
MLH Mauna Loa 60.13 68 P P 00 32 12.0 +0.7
HLP Hilina Pali 60.16 68 P P 00 32 12.3 +0.9
HLP IAmb IAmb 00 32 29.8
comp=Z,338nm,1.0s
WRMHI West Rim 60.19 68 P P 00 32 10.2 -1.4
SDHHI Sand Hill 60.20 68 P P 00 32 10.5 -1.1
SDHHI IAmb IAmb 00 33 27.1
comp=Z,321nm,1.0s
UWE Uwekahuna 60.20 68 P P 00 32 10.3 -1.4
UWE IAmb IAmb 00 32 22.3
comp=Z,726nm,1.3s
KKO Keanakako`i 60.22 68 P P 00 32 11.3 -0.5
KKO IAmb IAmb 00 32 20.4
comp=Z,1µm,1.7s
RSD Rainshed 60.22 68 P P 00 32 12.4 +0.5
SBLHI Steaming Bluff 60.23 68 P P 00 32 11.5 -0.4
SBLHI IAmb IAmb 00 33 57.4
comp=Z,734nm,1.5s
BYL Byron's Ledge 60.23 68 P P 00 32 10.3 -1.6
BYL IAmb IAmb 00 32 29.4
comp=Z,257nm,0.9s
HATHI Halema'uma'u T 60.23 68 P P 00 32 10.3 -1.6
HATHI IAmb IAmb 00 32 21.5
comp=Z,624nm,1.4s
PUH Pauahi 60.27 68 P P 00 32 11.6 -0.5
STCH Steam Cracks 60.35 68 P P 00 32 13.0 +0.3
NPOC North of Pu'u 60.37 68 P P 00 32 13.5 +0.8
NPOC IAmb IAmb 00 32 21.2
comp=Z,725nm,1.3s
JCUZ Jacuzzi 60.37 68 P P 00 32 13.3 +0.5
ATKA Atka Island 61.00 27 IAmb IAmb 00 32 27.2
comp=Z,742nm,1.2s
ATKA IAMs_20 IAMs_20 00 52 43.2
comp=Z,63µm,22.0s
GTK Tadong 61.07 301 eP P 00 32 18.1 +0.6
ZAK Zakamensk 61.32 330 eP P 00 32 19.0 +0.3
ZAK pmax pmax
comp=Z,373nm,1.1s
TAPN Taplejung 61.84 301 eP P 00 32 23.6 +0.6
comp=Z,2µm,1.1s
ODAN Odare 61.99 300 eP P 00 32 24.7 +0.8
comp=Z,2µm,1.0s
BWNR Bhubaneshwar 62.02 293 eP P 00 32 20.1 -3.7
BWNR eS S 00 40 47.9 -0.4
IRK Irkutsk 62.04 332 eP P 00 32 23.6 +0.2
IRK e 00 40 55.7
IRK pmax pmax
comp=Z,464nm,2.0s
BOD Bodaibo 62.29 341 eP P 00 32 24.9 -0.1
BOD pmax pmax
comp=Z,281nm,1.6s
YAK Yakutsk 62.33 351 ci P P 00 32 25.7 +0.6
YAK e 00 33 03.2
YAK e 00 34 42.4
YAK ePPP PPP 00 36 10.9
YAK eS S 00 40 49.4 -1.4
YAK e*SS sS 00 41 12.8 +17
YAK e 00 42 19.1
YAK eSS SS 00 44 59.4 +5.0
YAK pmax pmax
comp=Z,126nm,1.0s
YAK pmax pmax
comp=N,91nm,1.2s
YAK pmax pmax
comp=E,48nm,1.9s
YAK pmax pmax
comp=Z,231nm,1.9s
YAK pmax pmax
comp=N,405nm,1.9s
YAK pmax pmax
comp=E,144nm,2.0s
YAK smax smax
comp=N,2µm,5.6s
YAK smax smax
comp=E,2µm,5.3s
YAK Yakutsk 62.33 351 P P 00 32 24.8 -0.3
YAK IAmb IAmb 00 32 34.7
comp=Z,172nm,0.7s
BOK Bokaro 62.62 296 eP P 00 32 27.8 0.0
BOK i x x 00 52 12.5
RAMN Ramite 62.70 300 eP P 00 32 29.3 +0.6
JIRN Jiri 63.23 301 eP P 00 32 33.1 +0.8
MOY Mondy 63.25 330 eP P 00 32 31.6 -0.1
MOY pmax pmax
comp=Z,845nm,2.1s
CHLP Challavanipeta 63.35 290 eP P 00 32 33.5 +0.7
CHLP IVmB_BB 00 32 37.4
comp=Z,3µm,1.5s
CHLP eS S 00 41 08.6 +3.4
CHLP IVMs_BB IVMs_BB 00 53 28.5
comp=Z,4µm,29.4s
PKI Pulchoki 63.88 300 eP P 00 32 36.9 +0.3
comp=Z,1µm,1.0s
KKN Kakani 64.04 301 eP P 00 32 38.0 +0.5
comp=Z,1µm,0.9s
DMN Daman 64.15 300 eP P 00 32 39.1 +0.9
GKN Gorkha 64.64 301 eP P 00 32 41.9 +0.5
comp=Z,3µm,1.0s
PVM Polavaram 65.48 289 eP P 00 32 46.2 -0.5
PVM IVmBBB 00 32 51.5
comp=Z,2µm,1.7s
PVM eS S 00 41 34.2 +2.7
PVM IVMs_BB IVMs_BB 00 54 48.1
comp=Z,4µm,32.7s
DANN Dangsing 65.48 301 eP P 00 32 47.3 +0.4
comp=Z,1µm,0.6s
KOLN Koldanda 65.48 300 eP P 00 32 47.5 +0.6
comp=Z,2µm,1.0s
PALK Pallekele 65.55 278 ci P P 00 32 47.6 +0.3
PALK pmax pmax
comp=Z,466nm,1.5s
PALK Pallekele 65.55 278 P P 00 32 48.0 +0.7
UNV Unalaska Valle 65.62 29 IAMs_20 IAMs_20 00 54 18.6
comp=Z,35µm,21.0s
PPT Papeete 65.81 110 P P 00 32 50.8 +1.9
comp=Z,384nm,1.1s,baz=262,slow=2.4,SNR=10
PPT LR LR 00 57 12.8
comp=Z,24µm,19.6s,baz=276,slow=32
PPT2 Papeete2 65.81 110 eP P 00 32 51.2 +2.2
comp=Z,339nm,1.1s
PPT2 eS S 00 41 34.4 -1.3
comp=Z,89µm,32.5s
PPT2 eLQ LQ 00 49 44.9
comp=Z,195µm,39.8s
PPT2 eLR LR 00 52 24.6
comp=Z,70µm,25.0s,baz=294
PAE Paea 65.82 110 eP P 00 32 50.8 +1.9
comp=Z,48nm,1.0s
PPTF Pamatai, Papee 65.82 110 P P 00 32 49.5 +0.4
PPTF IAmb IAmb 00 33 06.2
comp=Z,432nm,1.0s
TIAR Tiarei 66.02 110 eP P 00 32 52.3 +2.0
comp=Z,115nm,0.9s
SPIA Saint Paul Isl 66.04 24 IAMs_20 IAMs_20 00 55 16.4
comp=Z,49µm,22.0s
PYUN Piuthan 66.08 300 eP P 00 32 51.3 +0.5
comp=Z,2µm,1.0s
AKUT Akutan 66.14 29 IAMs_20 IAMs_20 00 54 33.4
comp=Z,34µm,22.0s
TVO Taravao 66.14 110 eP P 00 32 53.3 +2.2
comp=Z,117nm,1.0s
MYLAV Mylavaram 66.36 288 eP P 00 32 52.3 -0.1
MYLAV IVmBBB 00 32 57.2
comp=Z,2µm,1.7s
MYLAV eS S 00 41 44.6 +2.3
MYLAV IVMs_BB IVMs_BB 00 54 48.1
comp=Z,5µm,43.7s
MDRS Chennai 66.36 284 ex x 00 32 51.9
MDRS eP P 00 32 53.4 +0.9
ADKI Addanki 66.89 287 eP P 00 32 56.2 +0.3
ADKI IVmBBB 00 33 00.4
comp=Z,2µm,1.5s
ADKI eS S 00 41 50.5 +1.7
ADKI IVMs_BB IVMs_BB 00 55 22.1
comp=Z,4µm,43.1s
TBI Tubuai 66.94 116 eP P 00 32 58.0 +2.0
comp=Z,438nm,1.0s
TBI eS S 00 41 47.9 -1.2
comp=Z,74µm,32.8s
TBI eSS SS 00 46 08.2 +0.3
comp=Z,24µm,27.8s
TBI eLQ LQ 00 50 08.3
comp=Z,44µm,30.8s
TBI eLR LR 00 52 55.3
comp=Z,102µm,24.5s,baz=291
SKHT Srikalahasti 66.94 285 eP P 00 32 56.1 -0.1
SKHT IVmBBB 00 32 59.5
comp=Z,1µm,1.7s
SKHT eS S 00 41 49.8 +0.4
SKHT IVMs_BB IVMs_BB 00 55 10.2
comp=Z,3µm,30.4s
WMQ Urumqi 67.15 318 ⇑iP P 00 32 58.3 +1.2
WMQ pP sP 00 33 02.4 +0.7
WMQ sP pwP 00 33 05.5 -0.9
WMQ PcP **PcP** 00 33 23.1 -2.0
WMQ S S 00 41 51.1 -0.1
WMQ sS sS 00 42 01.0 +4.3
WMQ SS SS 00 46 11.5 +1.0
WMQ pmax pmax
comp=Z,190nm,1.3s
WMQ pmax pmax
comp=Z,2µm,6.5s
WMQ LR LR
comp=Z,12µm,20.9s
WMQ LR LR
comp=Z,6µm,22.1s
WMQ LR LR
comp=Z,20µm,25.7s
WMQ Urumqi 67.15 318 P P 00 32 57.1 0.0
WMQ pmax pmax
comp=Z,310nm,1.1s
WMQ Urumqi 67.15 318 P P 00 32 57.1 0.0
WMQ IAmb IAmb 00 33 01.4
comp=Z,310nm,1.1s
NJS Nagarjunasagar 67.60 287 eP P 00 32 59.6 -0.7
NJS IVmB_BB 00 33 03.6
comp=Z,2µm,1.6s
NJS eS S 00 41 57.6 +0.3
NJS IVMs_BB IVMs_BB 00 55 44.5
comp=Z,4µm,44.3s
FALS False Pass 67.68 29 IAMs_20 IAMs_20 00 57 19.1
comp=Z,52µm,22.0s
JBP Jabalpur 67.83 295 eP P 00 33 02.8 +1.1
JBP ex x 00 42 01.7
RPR Rampur 67.87 290 eP P 00 33 01.1 -0.9
RPR IVmB_BB 00 33 05.5
comp=Z,2µm,1.8s
RPR eS S 00 42 01.6 +1.1
RPR IVMs_BB IVMs_BB 00 55 31.3
comp=Z,2µm,36.3s
SRLM Srisailam 67.95 287 eP P 00 33 02.3 -0.3
SRLM IVmB_BB 00 33 05.7
comp=Z,2µm,1.6s
SRLM eS S 00 42 02.1 +0.5
SRLM IVMs_BB IVMs_BB 00 55 54.3
comp=Z,4µm,36.2s
NGP Nagpur 68.39 292 eP P 00 33 05.2 -0.1
NGP eS S 00 42 06.2 -0.5
NGP ex x 00 42 08.4
NGP ex x 00 42 10.7
NGP ex x 01 03 30.5
comp=Z,11µm,20.1s
HYB Hyderabad 68.41 288 i P P 00 33 05.0 -0.5
HYB eS S 00 42 08.0 +1.0
HYB ePPS PPS 00 42 40.0
HYB eSSP SSP 00 46 40.0
HYB eSSS SSS 00 50 04.0
HYB Hyderabad 68.41 288 ex P 00 33 05.3 -0.1
HYB eP pP 00 33 05.7 -3.2
HYB i x x 00 55 06.0
HYBB Hyderabad (bro 68.41 288 eP P 00 33 05.0 -0.5
HYBB IVmB_BB 00 33 08.5
comp=Z,2µm,1.6s
HYBB eS S 00 42 08.3 +1.2
HYBB IVMs_BB IVMs_BB 00 56 06.2
comp=Z,5µm,40.1s
BILL Bilibino 68.52 8 ci P P 00 33 05.5 +0.4
BILL e 00 33 34.5
BILL i 00 35 31.9
BILL ePPP PPP 00 37 16.3
BILL i S S 00 42 07.6 +1.1
BILL i SS SS 00 46 28.3 -2.4
BILL pmax pmax
comp=Z,4µm,4.3s
BILL pmax pmax
comp=Z,497nm,1.3s
BILL MLR MLR
comp=Z,11µm,18.0s
BILL Bilibino 68.52 8 P P 00 33 05.8 +0.7
BILL IAmb IAmb 00 33 16.8
comp=Z,343nm,1.0s
SRSP Sriramsagar 68.78 290 eP P 00 33 07.5 -0.3
SRSP IVmBBB 00 33 10.7
comp=Z,2µm,1.7s
SRSP eS S 00 42 14.3 +3.0
SRSP IVMsBB 00 56 14.8
comp=Z,3µm,42.3s
SDPT Sand Point 69.38 29 P P 00 33 10.9 +0.2
URV Uravakonda 69.41 286 eP P 00 33 11.2 -0.5
URV IVmBBB 00 33 14.5
comp=Z,1µm,1.6s
URV eS S 00 42 20.2 +1.3
URV IVMs_BB IVMs_BB 00 56 33.0
comp=Z,3µm,41.0s
CNBA Chernabura Isl 69.55 30 IAmb IAmb 00 33 23.0
comp=Z,547nm,1.0s
DGZ Jazzator, Alta 69.65 324 ci P P 00 33 13.0 +0.3
DGZ pmax pmax
comp=Z,298nm,1.1s
GAMB Gambell 70.00 18 IAmb IAmb 00 33 26.4
comp=Z,1µm,1.6s
GAMB IAMs_20 IAMs_20 00 58 17.1
comp=Z,44µm,22.0s
KLRI Killari 70.33 289 eP P 00 33 16.6 -0.8
KLRI IVmBBB 00 33 20.9
comp=Z,2µm,2.3s
KLRI eS S 00 42 29.1 -0.6
KLRI IVMs_BB IVMs_BB 00 56 52.9
comp=Z,5µm,52.9s
ZSN Zaisan 70.34 321 i P P 00 33 17.0 +0.1
comp=Z,208nm,1.8s,baz=321
ZSN eS S 00 42 29.7 +0.8
baz=321
ZSN LR LR 01 04 26.9
comp=Z,3µm,14.2s,baz=321
ZSN Zaisan 70.34 321 i P P 00 33 17.0 +0.1
ZSN eS S 00 42 29.6 +0.8
ZSN pmax pmax
comp=Z,208nm,1.8s
ZSN MLR MLR
comp=Z,3µm,14.0s
DDI Dehra Dun 70.76 302 eP P 00 33 21.1 +1.3
DDI eP P 00 33 21.1 +1.3
CASY Casey 71.58 194 P P 00 33 24.5 +0.6
TIXI Tiksi 71.59 354 P P 00 33 24.5 +0.6
comp=Z,66nm,0.9s,baz=152,slow=3.1,SNR=13
TIXI Tiksi 71.59 354 ceP P 00 33 23.3 -0.6

TIXI pmax pmax
comp=Z,136nm,0.8s
SMLA Simla 71.66 303 *e*P **P** **00 33 25.3 +0.1**
SMLA *ex* x 00 33 25.6
SMLA *ex* x 00 33 25.9
SMLA *i* x x 00 57 14.2
MK31 Makanchi Array 71.77 320 P **P** **00 33 25.6 +0.1**
MK31 Makanchi Array 71.77 320 P **P** **00 33 25.8 +0.3**
MKAR Makanchi Array 71.77 320 P **P** **00 33 25.7 +0.2**
comp=Z,150nm,0.9s,baz=102,slow=6.7,SNR=370
MKAR PKP2bc 01 01 10.9
comp=Z,7.8nm,0.9s,baz=270,slow=3.7,SNR=12
MKAR LR LR 01 04 33.0
comp=Z,14μm,19.4s,baz=106,slow=36
MAKZ Makanchi 71.98 319 P **P** **00 33 26.9 +0.1**
MAKZ pmax pmax
comp=Z,421nm,1.2s
MAKZ Makanchi 71.98 319 P **P** **00 33 26.9 +0.1**
MAKZ IAmb IAmb 00 33 29.0
comp=Z,421nm,1.1s
CHIR Chirikof Islan 72.02 30 IAMs_20 IAMs_20 00 59 24.8
comp=Z,27μm,20.0s
KAD Karad 72.55 288⇑ *i*P **P** **00 33 31.2 +0.4**
DHRM DHARAMSHALA 72.58 304 *ex* **P** **00 33 30.9 0.0**
DHRM ⇑ *ix* **P** **00 33 30.9 0.0**
DHRM *e*P **P** **00 33 31.0 0.0**
SHLS Shalkode 72.59 315 *i* P **P** **00 33 29.2 -1.5**
comp=Z,308nm,1.5s,baz=315
SHLS *e*S **S** **00 42 52.7 -2.6**
baz=315
SHLS LR LR 01 04 22.1
comp=Z,2μm,16.8s,baz=315
SHLS Shalkode 72.59 315 *i* P **P** **00 33 29.2 -1.5**
SHLS *e*S **S** **00 42 52.6 -2.6**
SHLS pmax pmax
comp=Z,308nm,1.5s
SHLS MLR MLR
comp=Z,2μm,17.0s
ANM Nome 72.61 20 IAmb IAmb 00 33 42.2
comp=Z,434nm,1.0s
ANM IAMs_20 IAMs_20 00 59 36.9
comp=Z,44μm,22.0s
PDGK Podgornoye 72.62 315 P **P** **00 33 30.1 -0.8**
GOA Goa 72.76 286 *e*P **P** **00 33 29.1 -2.8**
GOA *e*P **P** **00 33 29.2 -2.8**
GOA IAmb IAmb 00 33 35.4
comp=Z,116nm,1.1s
ZAA0 Zalesovo Array 72.85 327 IAMs_20 IAMs_20 01 06 01.3
comp=Z,24μm,19.0s
ZALV Zalesovo Beam 72.85 327 P **P** **00 33 30.9 -0.9**
comp=Z,96nm,0.8s,baz=104,slow=6.3,SNR=197
ZALV PKP2bc 01 01 11.1
comp=Z,5.9nm,1.0s,baz=281,slow=2.3,SNR=8.2
ZALV LR LR 01 05 27.6
comp=Z,19μm,19.9s,baz=108,slow=36
UZB Uzynbulak 72.90 315 *i* P **P** **00 33 32.9 +0.3**
comp=Z,231nm,1.2s,baz=315
UZB *e*S **S** **00 42 59.5 +0.6**
baz=315
UZB LR LR 01 04 52.1
comp=Z,2μm,17.1s,baz=315
UZB Uzynbulak 72.90 315 *i* P **P** **00 33 32.8 +0.3**
UZB *e*S **S** **00 42 59.4 +0.6**
UZB pmax pmax
comp=Z,231nm,1.2s
UZB MLR MLR
comp=Z,2μm,17.0s
POO Poona 72.97 289 *e*P **P** **00 33 30.9 -2.4**
POO *e*P **P** **00 33 31.4 -1.9**
THN Thein Dam 73.10 304⇓ *i*P **P** **00 33 34.0 +0.3**
PRZ Przheval'sk 73.17 314 P **P** **00 33 34.9 +0.7**
PRZ pmax pmax
comp=Z,928nm,1.1s
PRZ MLR MLR
comp=Z,16μm,20.0s
PRZ Przheval'sk 73.17 314 P **P** **00 33 34.9 +0.7**
SATY Saty 73.31 315 *i* P **P** **00 33 35.4 +0.4**
comp=Z,200nm,1.3s,baz=315
SATY *e*S **S** **00 43 04.3 +0.8**
baz=315
SATY Saty 73.31 315 *i* P **P** **00 33 35.4 +0.4**
SATY *e*S **S** **00 43 04.3 +0.8**
SATY pmax pmax
comp=Z,200nm,1.3s
SATY Saty 73.31 315 *i* P **P** **00 33 35.4 +0.4**
SATY *e*S **S** **00 43 04.3 +0.8**
SATY pmax pmax
comp=Z,200nm,1.3s
AIS Amsterdam Isla 73.70 230 P **P** **00 33 37.8 +0.7**
TDK Taldyqorghan 73.83 317 *i* P **P** **00 33 38.2 +0.4**
comp=Z,776nm,1.4s,baz=317
TDK *e*S **S** **00 43 10.0 +1.1**
baz=317
TDK LR LR 01 06 51.2
comp=Z,7μm,16.8s,baz=317
TDK Taldyqorghan 73.83 317 *i* P **P** **00 33 38.2 +0.4**
TDK *e*S **S** **00 43 10.0 +1.1**
TDK pmax pmax
comp=Z,776nm,1.4s
TDK MLR MLR
comp=Z,7μm,17.0s
DGAR Diego Garcia 73.95 262⇑ *e*P **P** **00 33 36.2 -2.8**
DGAR pmax pmax
comp=Z,635nm,1.2s
DGAR Diego Garcia 73.95 262 P **P** **00 33 38.7 -0.3**
DGAR IAmb IAmb 00 33 49.0
comp=Z,702nm,1.2s
KDJ Kajisay 73.96 314 IAmb IAmb 00 33 41.7
comp=Z,429nm,1.1s
TAOE Nuku Hiva Isla 74.03 99 *e*P **P** **00 33 41.3 +1.7**
comp=Z,365nm,0.9s
TAOE *e*S **S** **00 43 11.2 -1.2**
comp=Z,28μm,28.5s
TAOE *e*SS **SS** **00 47 58.0 +0.5**
comp=Z,14μm,29.1s
TAOE *e*LQ LQ 00 52 51.6
comp=Z,84μm,32.9s
TAOE *e*LR LR 00 56 12.5
comp=Z,59μm,23.6s,baz=274
TAOE Nuku Hiva Isla 74.03 99 *e*T T 01 54 15.6
comp=Z,46nm,0.2s
TAOE Nuku Hiva Isla 74.03 99 P **P** **00 33 39.2 -0.5**
TAOE IAMs_20 IAMs_20 01 00 26.4
comp=Z,38μm,20.0s
KSH Kashi 74.27 311 P **P** **00 33 43.0 +2.4**
KSH sP PcP 00 33 53.5 -2.0
KSH PP **PP** **00 36 32.8 +6.2**
KSH S **S** **00 43 17.7 +3.4**
KSH pmax pmax
comp=Z,320nm,1.1s
KSH pmax pmax
comp=Z,3μm,3.7s
KSH LR LR
comp=Z,18μm,18.7s
KSH LR LR
comp=Z,16μm,18.3s
KSH LR LR
comp=Z,85μm,31.8s
MDOK Medeo 74.30 315 *i* P **P** **00 33 41.2 +0.3**
baz=315
MDOK *e*S **S** **00 43 15.4 +0.7**
baz=315
MDOK LR LR 01 05 49.3
comp=Z,5μm,17.3s,baz=315
MDOK Medeo 74.30 315 *i* P **P** **00 33 41.1 +0.3**
MDOK *e*S **S** **00 43 15.4 +0.7**
MDOK MLR MLR
comp=Z,5μm,17.0s
TNSS Tian-Shan 74.34 315 *e*P **P** **00 33 42.1 +0.7**
baz=314
TNSS Tian-Shan 74.34 315 *e*P **P** **00 33 42.0 +0.7**
KDAK Kodiak Island 74.37 29 P **P** **00 33 41.8 +1.2**
comp=Z,258nm,0.9s,baz=205,slow=3.7,SNR=30
KDAK LR LR 01 04 19.3
comp=Z,17μm,19.3s,baz=248,slow=34
KDAK Kodiak Island 74.37 29 P **P** **00 33 42.0 +1.3**
KDAK pmax pmax
comp=Z,1μm,1.1s
KDAK Kodiak Island 74.37 29 P **P** **00 33 42.0 +1.3**
KNDC Almaty 74.38 315 P **P** **00 33 41.5 +0.4**
AAA Alma-Ata 74.41 315 *i* P **P** **00 33 42.0 +0.6**
comp=Z,362nm,1.2s,baz=315
AAA *e*S **S** **00 43 16.8 +1.0**
baz=315
AAA LR LR 01 05 54.1
comp=Z,4μm,15.7s,baz=315
AAA Alma-Ata 74.41 315 *i* P **P** **00 33 41.9 +0.6**
AAA *e*S **S** **00 43 16.7 +1.0**
AAA pmax pmax
comp=Z,362nm,1.2s
AAA MLR MLR
comp=Z,4μm,16.0s
SVW2 Sparrevohn 74.47 25 IAmb IAmb 00 33 53.7
comp=Z,813nm,1.1s
SVW2 IAMs_20 IAMs_20 01 00 51.1
comp=Z,46μm,22.0s
CHKK Chushkaly 74.51 315 *i* P **P** **00 33 41.6 -0.2**
baz=315
CHKK Chushkaly 74.51 315 *i* P **P** **00 33 41.6 -0.2**
ULHL Ulahol 74.67 314 P **P** **00 33 44.1 +1.1**
SNR=42
MTBS Maitube 74.74 315 *i* P **P** **00 33 43.6 +0.3**
baz=314
MTBS Maitube 74.74 315 *i* P **P** **00 33 43.5 +0.3**
KUU Kurty 74.98 315 *i* P **P** **00 33 44.7 +0.2**
comp=Z,786nm,1.7s,baz=315
KUU *e*S **S** **00 43 23.0 +1.1**
baz=315
KUU Kurty 74.98 315 *i* P **P** **00 33 44.7 +0.2**
KUU *e*S **S** **00 43 23.0 +1.1**
KUU pmax pmax
comp=Z,785nm,1.7s
TTA Tatalina 75.17 24 IAmb IAmb 00 33 57.4
comp=Z,740nm,1.0s
TTA IAMs_20 IAMs_20 01 02 19.8
comp=Z,36μm,21.0s
TKM2 Tokmak 2 75.28 314 P **P** **00 33 47.1 +0.5**
SNR=166
TKM2 Tokmak 2 75.28 314 P **P** **00 33 47.4 +0.8**
KURK Kurchatov 75.30 323*c* *i*P **P** **00 33 45.7 -0.5**
KURK pmax pmax
comp=Z,477nm,1.1s
KURK MLR MLR
comp=Z,18μm,17.0s
KURK Kurchatov 75.30 323 P **P** **00 33 45.6 -0.5**
KURK IAmb IAmb 00 33 48.0
comp=Z,409nm,1.1s
NIL Nilore 75.34 305 P **P** **00 33 47.4 +0.5**
NIL pmax pmax
comp=Z,1μm,1.0s
NIL MLR MLR
comp=Z,14μm,22.0s
NIL Nilore 75.34 305 P **P** **00 33 47.4 +0.5**
KZA Kyzart 75.35 313 P **P** **00 33 48.5 +1.2**
SNR=177
RSO Reddbt South 75.42 27 P **P** **00 33 47.3 +0.3**
RDOG Red Dog Mine 75.53 18 IAMs_20 IAMs_20 01 01 26.1
comp=Z,40μm,22.0s
HOM Homer 75.59 28 IAMs_20 IAMs_20 01 01 37.1
comp=Z,28μm,22.0s
KBK Karagaybulak 75.69 314 P **P** **00 33 49.4 +0.6**
SNR=106
CNPM China Poot 75.73 28 IAMs_20 IAMs_20 01 01 31.8
comp=Z,46μm,22.0s
CHMS Chumysh 75.91 314 P **P** **00 33 50.2 +0.3**
SNR=179
UCH Uchtor 75.92 313 P **P** **00 33 51.7 +1.2**
SNR=348
BRLK Bradley Lake 75.99 28 IAMs_20 IAMs_20 01 01 37.3
comp=Z,52μm,22.0s
AAK Ala-Archa 76.01 314 P **P** **00 33 51.7 +1.0**
SNR=58
AAK Ala-Archa 76.01 314 *i* P **P** **00 33 51.5 +0.8**
SNR=41
AAK Ala-Archa 76.01 314 *i* P **P** **00 33 51.5 +0.8**
SNR=41
AAK Ala-Archa 76.01 314 P **P** **00 33 50.8 +0.1**
AAK pmax pmax
comp=Z,195nm,1.0s
AAK MLR MLR
comp=Z,21μm,20.0s
AAK Ala-Archa 76.01 314 P **P** **00 33 50.8 +0.1**
SGDS Sogindy 76.09 315 *i* P **P** **00 33 51.0 -0.1**
comp=Z,174nm,1.4s,baz=314
SGDS *e*S **S** **00 43 34.9 +0.6**
baz=314
SGDS LR LR 01 05 48.3
comp=Z,4μm,16.3s,baz=314
SGDS Sogindy 76.09 315 *i* P **P** **00 33 50.9 -0.1**
SGDS *e*S **S** **00 43 34.9 +0.6**
SGDS pmax pmax
comp=Z,174nm,1.4s
SGDS MLR MLR
comp=Z,4μm,16.0s
USP Ospenovka 76.14 314 P **P** **00 33 51.6 +0.4**
SNR=186
CAPN Captain Cook N 76.27 27 P **P** **00 33 52.8 +1.4**
baz=246
CAPN S **S** **00 43 35.5 +0.1**
baz=246
AML Almayashu 76.49 313 P **P** **00 33 54.6 +0.9**
SNR=239
EKS2 Erkin-Say 76.54 314 P **P** **00 33 54.4 +0.8**
SNR=165
SKT Skwentna 76.60 25 IAmb IAmb 00 34 04.0
comp=Z,312nm,1.1s
PPLA Purkeypile 76.71 24 IAMs_20 IAMs_20 01 02 33.6
comp=Z,27μm,22.0s
SUA Susitna One 76.73 26 IAmb IAmb 00 34 05.8
comp=Z,556nm,0.8s
SUA IAMs_20 IAMs_20 01 02 02.2
comp=Z,42μm,22.0s
SEW Seward 76.78 28 IAMs_20 IAMs_20 01 02 22.7
comp=Z,29μm,21.0s
O22K Cooper Landing 76.80 27 P **P** **00 33 55.2 +0.7**
baz=248
O22K S **S** **00 43 42.2 +0.9**
baz=248
BTLS Baital 76.84 316 *i* P **P** **00 33 55.2 0.0**
comp=Z,249nm,1.9s,baz=316
BTLS *e*S **S** **00 43 43.1 +0.7**
baz=316
BTLS LR LR 01 06 60.0
comp=Z,2μm,15.7s,baz=316
BTLS Baital 76.84 316 *i* P **P** **00 33 55.1 0.0**
BTLS *e*S **S** **00 43 43.0 +0.7**
BTLS pmax pmax
comp=Z,249nm,1.9s
BTLS MLR MLR
comp=Z,2μm,16.0s
ARSB Arslanbob 76.86 312 IAmb IAmb 00 34 00.2
comp=Z,605nm,1.1s
BHUJ Bhuj 77.28 294 *e*P **P** **00 33 58.6 +0.7**
BHUJ *ex* x 00 33 58.6
BHUJ *ex* x 00 33 58.6
BHUJ *ex* x 00 33 59.2
CUT Chulitna 77.31 25 P **P** **00 33 57.2 -0.1**
baz=247,SNR=30
CUT S **S** **00 43 46.3 -0.5**
baz=247
PMR Palmer 77.49 26 IAMs_20 IAMs_20 01 02 01.4
comp=Z,51μm,22.0s
BPAW Bear Paw Mtn. 77.71 24 IAmb IAmb 00 34 11.0
comp=Z,462nm,0.9s
BPAW IAMs_20 IAMs_20 01 05 31.1
comp=Z,31μm,20.0s
TRF Thorofare Moun 77.72 24 IAmb IAmb 00 34 29.4
comp=Z,297nm,1.0s
TRF IAMs_20 IAMs_20 01 03 27.4
comp=Z,31μm,22.0s
KNK Knik Glacier 77.73 27 IAMs_20 IAMs_20 01 03 48.6
comp=Z,29μm,21.0s
SML Sawmill 77.93 26 IAMs_20 IAMs_20 01 02 38.9
comp=Z,42μm,22.0s
MID Middleton Isla 78.02 29 IAMs_20 IAMs_20 01 03 00.5
comp=Z,27μm,22.0s
GLI Glacier Island 78.15 27 IAMs_20 IAMs_20 01 02 29.9
comp=Z,37μm,22.0s
HIN Hinchinbrook I 78.26 28 IAMs_20 IAMs_20 01 03 13.0
comp=Z,41μm,22.0s
BTK Batken 78.27 311 IAmb IAmb 00 34 07.8
comp=Z,482nm,1.4s
RND Reindeer 78.30 25 IAMs_20 IAMs_20 01 05 03.6
comp=Z,33μm,20.0s
DZA Taraz 78.35 314 *i* P **P** **00 34 03.9 +0.2**
comp=Z,354nm,1.9s,baz=314
DZA *e*S **S** **00 43 59.6 +0.7**
baz=314
DZA LR LR 01 07 42.6
comp=Z,1μm,15.6s,baz=314
DZA Taraz 78.35 314 *i* P **P** **00 34 03.8 +0.2**
DZA *e*S **S** **00 43 59.5 +0.7**
DZA pmax pmax
comp=Z,354nm,1.9s
DZA MLR MLR
comp=Z,1μm,16.0s
MCK McKinley 78.39 24 IAMs_20 IAMs_20 01 03 05.0
comp=Z,28μm,22.0s
FID Port Fidalgo 78.39 28 IAMs_20 IAMs_20 01 04 13.6
comp=Z,34μm,22.0s
GAR Garm 78.49 310 IAmb IAmb 00 34 07.1
comp=Z,619nm,1.0s
GAR IAMs_20 IAMs_20 01 08 36.5
comp=Z,22μm,19.0s
NRIK Noril'sk 78.58 342 P **P** **00 34 04.5 +0.2**
comp=Z,69nm,0.9s,baz=116,slow=6.1,SNR=100
NRIK PKPPKP **P'P'df** **01 01 02.5 -0.9**
comp=Z,1.0nm,0.4s,baz=60,slow=5.6,SNR=3.7
NRIK LR LR 01 07 38.7
comp=Z,12μm,20.3s,baz=120,slow=35
OTUK Ortayu 78.65 319 P **P** **00 34 05.5 +0.3**
EYAK Cordova Ski Ar 78.67 28 IAmb IAmb 00 34 16.8
comp=Z,592nm,1.1s
EYAK IAMs_20 IAMs_20 01 02 49.5
comp=Z,48μm,22.0s
NEA2 Nenana 78.67 23 P **P** **00 34 04.8 -0.1**
baz=247,SNR=232
NEA2 S **S** **00 44 01.1 -0.3**
baz=247
VNDA Vanda 78.72 177 P **P** **00 34 05.6 +0.7**
comp=Z,128nm,0.8s,baz=328,slow=6.3,SNR=569
VNDA PKKPbc **PKKPbc** **00 53 01.5 -1.9**
comp=Z,2.7nm,0.8s,baz=272,slow=6.4,SNR=6.8
VNDA PKPPKP **P'P'df** **01 01 05.5 +3.1**
comp=Z,1.8nm,0.9s,baz=282,slow=4.1,SNR=4.9
VNDA LR LR 01 06 32.2
comp=Z,18μm,20.4s,baz=346,slow=34
VNDA Vanda 78.72 177 P **P** **00 34 04.8 -0.1**
VNDA pmax pmax
comp=Z,140nm,0.8s
VNDA Vanda 78.72 177 P **P** **00 34 04.8 -0.1**
BRZS Berezniki 78.79 321 *i* P **P** **00 34 05.7 -0.3**
comp=Z,403nm,2.0s,baz=321
BRZS *e*S **S** **00 44 03.7 +0.3**
baz=321
BRZS LR LR 01 10 07.9
comp=Z,5μm,16.9s,baz=321
BRZS Berezniki 78.79 321 *i* P **P** **00 34 05.6 -0.3**
BRZS *e*S **S** **00 44 03.6 +0.3**
BRZS pmax pmax
comp=Z,403nm,2.0s
BRZS MLR MLR
comp=Z,5μm,17.0s
DHY Denali Highway 78.80 25 IAMs_20 IAMs_20 01 04 13.3
comp=Z,35μm,22.0s
KLU Klutina 78.90 27 IAMs_20 IAMs_20 01 02 56.5
comp=Z,47μm,22.0s
KBL Kabul 78.92 305 P **P** **00 34 07.3 +0.1**
SNR=159
KBL Kabul 78.92 305 P **P** **00 34 06.5 -0.7**
KBL pmax pmax
comp=Z,376nm,1.1s
KBL MLR MLR
comp=Z,10μm,21.0s
KBL Kabul 78.92 305 P **P** **00 34 06.5 -0.7**
KBL IAmb IAmb 00 34 08.9
comp=Z,376nm,1.1s
KK31 Karatay Array 78.98 314 *i* P **P** **00 34 07.7 +0.6**
WRH Wood River Hil 79.02 24 IAMs_20 IAMs_20 01 05 50.5
comp=Z,30μm,20.0s
KAIM Kayak Island 79.10 29 IAMs_20 IAMs_20 01 03 18.1
comp=Z,46μm,22.0s
RAGM Ragged Mountai 79.12 28 IAMs_20 IAMs_20 01 04 40.5
comp=Z,35μm,21.0s
IUG Iuzhnay 79.18 313 *i* P **P** **00 34 08.9 +0.5**
comp=Z,303nm,1.7s,baz=313
IUG *e*S **S** **00 44 08.8 +0.9**
baz=313
IUG Iuzhnay 79.18 313 *i* P **P** **00 34 08.8 +0.5**
IUG *e*S **S** **00 44 08.8 +0.9**
IUG pmax pmax
comp=Z,303nm,1.7s
A21K Barrow 79.18 16 P **P** **00 34 08.5 +0.9**
baz=239
A21K S **S** **00 44 06.4 -0.2**
baz=239
CCB Clear Creek Bu 79.19 24 IAmb IAmb 00 34 18.4
comp=Z,732nm,1.0s
CCB IAMs_20 IAMs_20 01 05 56.2
comp=Z,30μm,20.0s
TCOL CIGO, UAF Yank 79.25 23 P **P** **00 34 07.6 -0.4**
baz=248
TCOL S **S** **00 44 05.5 -2.1**
baz=248
COLA College 79.26 23 P **P** **00 34 08.0 -0.1**
COLA pmax pmax
comp=Z,543nm,0.9s
COLA College 79.26 23 P **P** **00 34 08.0 -0.1**
COLA IAmb IAmb 00 34 18.8
comp=Z,543nm,0.9s
COLA College 79.26 23 IAMs_20 IAMs_20 01 05 06.8
comp=Z,29μm,21.0s
COLD Coldfoot 79.30 21 P **P** **00 34 09.3 +1.0**
baz=246
COLD S **S** **00 44 08.8 +0.8**
baz=246
COLD Coldfoot 79.30 21 IAmb IAmb 00 34 20.7
comp=Z,724nm,0.9s
COLD IAMs_20 IAMs_20 01 04 20.8
comp=Z,35μm,21.0s
SUCK Suckling Hills 79.45 29 IAmb IAmb 00 34 21.8
comp=Z,719nm,1.2s
SUCK IAMs_20 IAMs_20 01 04 15.3
comp=Z,40μm,22.0s
HDA Harding Lake 79.45 24 P **P** **00 34 08.6 -0.6**
baz=249
HDA S **S** **00 44 06.0 -3.8**
baz=249
HDA Harding Lake 79.45 24 IAmb IAmb 00 34 20.5
comp=Z,522nm,0.9s
HDA IAMs_20 IAMs_20 01 04 00.1
comp=Z,36μm,22.0s
POKR Poker Plat Res 79.51 23 P **P** **00 34 08.9 -0.7**
baz=249
POKR S **S** **00 44 06.3 -4.1**
baz=249
CHM Chimkent 79.52 313 *e*P **P** **00 34 11.5 +1.4**
baz=313
CHM *e*S **S** **00 44 13.2 +1.9**
baz=313
CHM Chimkent 79.52 313 *e*P **P** **00 34 11.4 +1.4**
CHM *e*S **S** **00 44 13.2 +1.9**
PAX Paxson 79.58 26 IAmb IAmb 00 34 21.6
comp=Z,617nm,0.9s
TAS Tashkent 79.60 312 P **P** **00 34 10.9 +0.4**
TAS pmax pmax
comp=Z,421nm,1.0s
TAS Tashkent 79.60 312 P **P** **00 34 10.9 +0.4**
TAS IAmb IAmb 00 34 22.6
comp=Z,420nm,1.0s
IL31 79.61 24 IAmb IAmb 00 34 20.2
comp=Z,622nm,0.8s
ILAR Eielson Array 79.61 24 P **P** **00 34 08.8 -1.3**
comp=Z,103nm,0.8s,baz=251,slow=5.5,SNR=485
ILAR PKKPbc **PKKPbc** **00 52 57.7 -3.3**
comp=Z,2.1nm,0.8s,baz=11,slow=0.3,SNR=6.3
ILAR PKPPKP 01 01 01.4
comp=Z,2.0nm,1.0s,baz=336,slow=0.5,SNR=5.5
ILAR LR LR 01 06 59.6
comp=Z,17μm,19.9s,baz=256,slow=34
GLB Gilahina Butte 79.84 27 IAmb IAmb 00 34 23.3
comp=Z,896nm,1.0s
GLB IAMs_20 IAMs_20 01 04 24.4
comp=Z,26μm,22.0s
VRDI Verde Repeater 79.94 28 IAmb IAmb 00 34 24.0
comp=Z,605nm,1.0s
VRDI IAMs_20 IAMs_20 01 03 41.3
comp=Z,32μm,21.0s
CRQM Cirque 79.95 28 IAMs_20 IAMs_20 01 05 18.1
comp=Z,40μm,22.0s
TOLK Toolik Lake Re 80.09 20 P **P** **00 34 13.8 +1.1**
baz=246
TOLK S **S** **00 44 18.0 +1.5**
baz=246
TOLK Toolik Lake Re 80.09 20 IAmb IAmb 00 34 25.0
comp=Z,629nm,0.9s
TOLK IAMs_20 IAMs_20 01 04 12.8
comp=Z,28μm,22.0s
TGL Tana Glacier 80.10 28 IAMs_20 IAMs_20 01 05 33.4
comp=Z,35μm,22.0s
MCARA McCarthy VSAT 80.19 27 IAmb IAmb 00 34 25.3

MCARA comp=Z,844nm,0.9s IAMs_20 IAMs_20 01 03 59.7

ISLE **Juniper Island** **80.29** **28** IAmb IAmb 00 34 25.9
comp=Z,964nm,1.0s

ISLE IAMs_20 IAMs_20 01 04 53.4
comp=Z,34µm,22.0s

MENT **Mentasta** **80.33** **26** IAmb IAmb 00 34 26.0
comp=Z,475nm,0.9s

MESA **MESA** **80.36** **29** IAMs_20 IAMs_20 01 04 33.4
comp=Z,42µm,22.0s

BALM **Baldy** **80.41** **28** IAMs_20 IAMs_20 01 05 20.5
comp=Z,33µm,22.0s

YAH **Yahtse** **80.51** **29** IAmb IAmb 00 34 27.4
comp=Z,887nm,1.0s

YAH IAMs_20 IAMs_20 01 05 23.1
comp=Z,28µm,22.0s

SCRK **Sand Creek** **80.53** **25** P **P** **00 34 15.7** **+0.5**
baz=252,SNR=212

SCRK S **S** **00 44 19.7** **-1.8**
baz=252

BARN **Barnard Glacie** **80.73** **28** IAMs_20 IAMs_20 01 05 42.1
comp=Z,38µm,22.0s

TABL **Table Mountain** **80.82** **29** IAMs_20 IAMs_20 01 04 58.4
comp=Z,38µm,22.0s

CTGM **Chitina Glacie** **80.86** **28** IAMs_20 IAMs_20 01 05 23.5
comp=Z,39µm,22.0s

BRVK **Borovoye** **80.88** **324***c* *i* P **P** **00 34 17.0** **-0.1**
BRVK pmax pmax
comp=Z,453nm,1.3s

BRVK MLR MLR
comp=Z,24µm,20.0s

BRVK **Borovoye** **80.88** **324** P **P** **00 34 17.1** **0.0**
BRVK IAmb IAmb 00 34 32.1
comp=Z,615nm,1.4s

BRVK **Borovoye** **80.88** **324** IAMs_20 IAMs_20 01 09 10.6
comp=Z,25µm,21.0s

PCA **Pinnacle** **81.16** **29** IAmb IAmb 00 34 31.0
comp=Z,557nm,0.8s

PCA IAMs_20 IAMs_20 01 07 29.6
comp=Z,24µm,20.0s

YKU2 **Yakutat** **81.31** **30** P **P** **00 34 20.5** **+1.2**

K27K **Chicken** **81.36** **25** P **P** **00 34 20.9** **+1.5**
baz=254

EGAK **Eagle** **81.94** **24** IAmb IAmb 00 34 34.5
comp=Z,456nm,1.0s

RODM **Citronelle, R** **83.41** **250** P **P** **00 34 29.4** **-1.7**
RODM IAmb IAmb 00 34 33.8
comp=Z,490nm,1.1s

SKAG **Skagway** **83.47** **30** IAMs_20 IAMs_20 01 06 35.7
comp=Z,24µm,22.0s

BESE **Bessie Mountai** **83.57** **31** IAMs_20 IAMs_20 01 05 51.4
comp=Z,22µm,21.0s

JIS **Juneau Island** **83.77** **32** IAmb IAmb 00 34 44.3
comp=Z,453nm,1.0s

JIS IAMs_20 IAMs_20 01 04 23.7
comp=Z,23µm,22.0s

WHY **Whitehorse** **83.89** **29** IAMs_20 IAMs_20 01 07 33.7
comp=Z,23µm,22.0s

EPYK **Eagle Plains** **84.11** **23** P **P** **00 34 34.6** **+0.8**
baz=258

H02N1 **VAN INLET T-PH** **84.14** **37** P **P** **00 34 35.1** **+0.8**
SNR=138

DIB **Dawson Inlet,** **84.18** **37** IAmb IAmb 00 34 43.1
comp=Z,302nm,1.0s

DIB IAMs_20 IAMs_20 01 06 27.8
comp=Z,30µm,21.0s

H02S1 **DAWSON INLET T** **84.18** **37** P **P** **00 34 35.9** **+1.6**
SNR=266

WRAK **Wrangell Islan** **84.62** **34** IAmb IAmb 00 34 48.6
comp=Z,303nm,0.9s

WRAK **Wrangell Islan** **84.62** **34** IAMs_20 IAMs_20 01 03 52.2
comp=Z,26µm,20.0s

PTCN **Pitcairn Island** **84.68** **115** P **P** **00 34 37.3** **-0.1**
PTCN IAmb IAmb 00 35 32.5
comp=Z,399nm,1.1s

PTCN IAMs_20 IAMs_20 01 06 23.4
comp=Z,32µm,21.0s

INK **Inuvik** **85.67** **22** P **P** **00 34 41.9** **+0.5**
comp=Z,113nm,1.0s,baz=253,slow=6.2,SNR=72

INK PKKP **PKKPbc** **00 52 43.9** **-3.1**
comp=Z,9.0nm,0.8s,baz=106,slow=6.2,SNR=7.4

INK LR LR 01 08 21.7
comp=Z,16µm,21.8s,baz=242,slow=32

INK **Inuvik** **85.67** **22** IAMs_20 IAMs_20 01 04 55.3
comp=Z,34µm,22.0s

DLBC **Dease Lake** **86.07** **32** PKKPbc PKKPbc 00 52 44.3 -1.5
comp=Z,3.2nm,0.8s,baz=31,slow=2.6,SNR=4.8

DLBC LR LR 01 07 29.3
comp=Z,28µm,20.8s,baz=295,slow=32

DLBC **Dease Lake** **86.07** **32** IAMs_20 IAMs_20 01 07 19.5
comp=Z,38µm,22.0s

BBB **Bella Bella** **86.74** **38** LR LR 01 06 12.6
comp=Z,28µm,20.9s,baz=247,slow=31

BBB **Bella Bella** **86.74** **38** IAmb IAmb 00 34 55.7
comp=Z,579nm,1.3s

BBB IAMs_20 IAMs_20 01 07 30.7
comp=Z,29µm,20.0s

SVE **Sverdlovsk** **86.86** **327***d* *i* P **P** **00 34 47.2** **-0.4**
SVE *e* 00 38 12.8
SVE *e*S **SKSac** **00 45 14.3** **+0.2**
SVE *e*SS **SS** **00 51 10.2** **+2.9**
SVE pmax pmax
comp=Z,162nm,1.4s

SVE MLR MLR
comp=Z,27µm,20.0s

SVE MLR MLR
comp=E,21µm,20.0s

WBK **Wadi Bani Khal** **87.09** **292** P **P** **00 34 50.2** **+0.7**
SNR=25

WSAR **Wadi Sarin** **87.40** **293** P **P** **00 34 51.8** **+0.8**
SNR=30

BIDO **Bidbid** **87.87** **293** P **P** **00 34 53.9** **+0.7**
SNR=66

JMDO **Jabal Madar** **87.89** **292** P **P** **00 34 53.7** **+0.3**
SNR=14

SMDO **Samad** **87.94** **293** P **P** **00 34 53.9** **+0.2**
SNR=13

GEYT **Alibeck** **87.95** **308** P **P** **00 34 53.6** **+0.3**
comp=E,87nm,1.0s,baz=114,slow=1.8,SNR=149

GYA0B **ALIBECK ARRAY** **87.95** **308** IAmb IAmb 00 35 08.9
comp=Z,208nm,1.1s

ARU **Arti** **87.99** **326***c* *i* P **P** **00 34 51.8** **-1.3**
ARU 00 38 14.6
ARU PPP PPP 00 40 14.9
ARU S **SKSac** **00 45 20.0** **-1.0**
ARU SP **SPn** **00 46 38.1** **+1.8**
ARU PS PnS 00 47 03.4 +25
ARU pmax pmax
comp=Z,134nm,1.4s

ARU pmax pmax
comp=Z,1µm,7.9s

ARU MLR MLR
comp=Z,20µm,19.0s

ARU **Arti** **87.99** **326** P **P** **00 34 51.3** **-1.8**
ARU IAMs_20 IAMs_20 01 15 04.5
comp=Z,21µm,19.0s

MHTO **MHTO** **88.02** **291** P **P** **00 34 54.2** **+0.2**
SNR=17

MAW **Mawson** **88.17** **202** P **P** **00 34 54.3** **+0.7**
comp=Z,137nm,1.0s,baz=83,slow=6.2,SNR=132

MAW PKKPbc **PKKPbc** **00 52 38.9** **-2.0**
comp=Z,4.2nm,0.9s,baz=287,slow=8.9,SNR=6.1

MAW PKPPKP **P'P'df** **01 00 48.9** **+3.3**
comp=Z,3.8nm,1.0s,baz=156,slow=3.9,SNR=4.8

MAW LR LR 01 10 07.3
comp=Z,16µm,21.7s,baz=74,slow=33

MAW **Mawson** **88.17** **202** P **P** **00 34 54.1** **+0.4**
baz=88,SNR=135

MAW **Mawson** **88.17** **202** P **P** **00 34 54.3** **+0.7**
MAW pmax pmax
comp=Z,33nm,1.1s

MAW **Mawson** **88.17** **202** IAmb IAmb 00 34 60.0
comp=Z,33nm,1.1s

HOQ **Hoqain** **88.62** **293** P **P** **00 34 57.1** **+0.3**
SNR=52

BSY **Bisya** **88.72** **293** P **P** **00 34 57.3** **0.0**
SNR=11

A36M **Sachs Harbour** **88.80** **18** P **P** **00 34 57.0** **+0.5**
baz=269

C36M **Paulatuk** **89.17** **21** P **P** **00 34 58.5** **+0.1**
baz=270

C36M **Paulatuk** **89.17** **21** IAmb IAmb 00 35 06.9
comp=Z,383nm,1.4s

C36M IAMs_20 IAMs_20 01 10 04.7
comp=Z,34µm,22.0s

SOHO **SOHO** **89.32** **294** *i* P **P** **00 34 59.4** **-0.6**
SNR=32

SOHO **SOHO** **89.32** **294** P **P** **00 34 59.9** **-0.1**

JCC **Jacoby Creek,** **89.34** **49** P **P** **00 35 00.6** **+0.8**
JCC IAmb IAmb 00 35 10.6
comp=Z,688nm,1.8s

JCC IAMs_20 IAMs_20 01 06 14.7
comp=Z,28µm,22.0s

ARQ **Araqi** **89.34** **293** P **P** **00 35 00.3** **+0.1**
SNR=22

J01E **Myrtle Point** **89.39** **47** P **P** **00 35 01.3** **+1.3**
baz=270,SNR=23

NLWA **Neilton Lookou** **89.40** **43** IAmb IAmb 00 35 09.8
comp=Z,400nm,1.4s

KRMB **Red Mountain** **89.42** **49** P **P** **00 35 00.4** **0.0**
KRMB IAmb IAmb 00 35 10.1
comp=Z,958nm,2.0s

I02D **Swisshome** **89.44** **46** P **P** **00 35 01.4** **+1.2**
baz=271

BANOM **Banah** **89.52** **296** *i* P **P** **00 35 00.9** **-0.1**
SNR=30

BANOM **Banah** **89.52** **296** *i* P **P** **00 35 00.9** **-0.1**
SNR=30

BANOM **Banah** **89.52** **296** P **P** **00 35 00.8** **-0.2**
SNR=17

MDH **Madha** **89.53** **295** *i* P **P** **00 34 59.8** **-1.1**
SNR=11

MDH **Madha** **89.53** **295** *i* P **P** **00 34 59.8** **-1.1**
SNR=11

KHMM **Horse Mountain** **89.56** **49** P **P** **00 35 01.5** **+0.4**
KHMM IAmb IAmb 00 35 10.7
comp=Z,200nm,0.9s

KHMM IAMs_20 IAMs_20 01 05 27.6
comp=Z,35µm,22.0s

KMRM **Mail Ridge** **89.59** **50** P **P** **00 35 01.1** **+0.1**
KMRM IAMs_20 IAMs_20 01 06 20.4
comp=Z,25µm,21.0s

K02D **Willamette Mer** **89.59** **47** P **P** **00 35 02.2** **+1.2**
baz=271,SNR=22

UOSS **Minazif** **89.61** **295** *i* P **P** **00 35 00.4** **-1.1**
SNR=20

UOSS **Minazif** **89.61** **295** *i* P **P** **00 35 00.4** **-1.1**
SNR=20

UOSS **Minazif** **89.61** **295** P **P** **00 35 01.2** **-0.3**

E03A **Lebam** **89.61** **44** IAmb IAmb 00 35 12.3
comp=Z,521nm,1.0s

F03A **Seaside** **89.63** **44** P **P** **00 35 01.8** **+0.7**
F03A IAmb IAmb 00 35 10.6
comp=Z,555nm,1.3s

L02E **Cave Junction** **89.64** **48** P **P** **00 35 02.8** **+1.5**
baz=271,SNR=22

MSFE **Esma-Masafi** **89.65** **295** *i* P **P** **00 35 01.6** **-0.1**
SNR=48

MSFE **Esma-Masafi** **89.65** **295** *i* P **P** **00 35 01.6** **-0.1**
SNR=48

SHME **Shamm** **89.66** **296** *i* P **P** **00 35 01.8** **+0.2**
SNR=12

SHME **Shamm** **89.66** **296** *i* P **P** **00 35 01.8** **+0.2**
SNR=12

PGC **Sidney** **89.66** **42** P **P** **00 35 02.2** **+1.2**

HATD **Hatta, Dubai** **89.68** **295** *i* P **P** **00 35 01.3** **-0.4**
SNR=32

HATD **Hatta, Dubai** **89.68** **295** *i* P **P** **00 35 01.3** **-0.4**
SNR=32

HATD **Hatta, Dubai** **89.68** **295** P **P** **00 35 01.4** **-0.4**
SNR=22

KCPM **Cahto Peak** **89.69** **51** P **P** **00 35 01.8** **+0.1**
KCPM IAMs_20 IAMs_20 01 06 19.2
comp=Z,25µm,20.0s

ASHO **Ashiyiah** **89.75** **295** *i* P **P** **00 35 01.8** **-0.3**
SNR=27

ASHO **Ashiyiah** **89.75** **295** *i* P **P** **00 35 01.8** **-0.3**
SNR=27

ASHO **Ashiyiah** **89.75** **295** P **P** **00 35 01.4** **-0.8**
SNR=17

I03D **Drain, OR** **89.81** **46** P **P** **00 35 03.1** **+1.3**
baz=271,SNR=20

COR **Corvallis** **89.83** **46** P **P** **00 35 03.0** **+1.0**
COR pmax pmax
comp=Z,779nm,1.7s

COR **Corvallis** **89.83** **46** P **P** **00 35 03.0** **+1.0**
COR IAmb IAmb 00 35 12.9
comp=Z,779nm,1.6s

COR **Corvallis** **89.83** **46** IAMs_20 IAMs_20 01 10 15.2
comp=Z,23µm,20.0s

G03D **McMinnville, O** **89.84** **45** P **P** **00 35 03.2** **+1.2**
baz=271,SNR=10

D03D **Eldon** **89.92** **43** P **P** **00 35 03.7** **+1.4**
baz=271,SNR=17

F04D **Rainier, OR** **90.00** **44** P **P** **00 35 04.1** **+1.3**
baz=271

ALNE **Al Ain** **90.04** **294** *i* P **P** **00 35 02.9** **-0.6**
SNR=19

ALNE **Al Ain** **90.04** **294** *i* P **P** **00 35 02.9** **-0.6**
SNR=19

UMQ **Umm Al-Quwin** **90.10** **295** P **P** **00 35 04.3** **+0.7**

UMQ **Umm Al-Quwin** **90.10** **295** P **P** **00 35 04.3** **+0.7**

HOPS **Hopland Field** **90.10** **51** IAmb IAmb 00 35 12.5
comp=Z,890nm,1.8s

HOPS IAMs_20 IAMs_20 01 08 36.0
comp=Z,30µm,20.0s

NAZ **Nazwa, Dubai** **90.11** **295** *i* P **P** **00 35 03.0** **-0.8**
SNR=14

NAZ **Nazwa, Dubai** **90.11** **295** *i* P **P** **00 35 03.0** **-0.8**
SNR=14

NAZ **Nazwa, Dubai** **90.11** **295** P **P** **00 35 03.1** **-0.6**
SNR=11

D04E **Lakebay** **90.15** **43** P **P** **00 35 04.6** **+1.2**
baz=271

A04D **Lummi Island** **90.15** **41** P **P** **00 35 04.5** **+1.1**
baz=271,SNR=5.8

M02C **Callahan** **90.22** **49** P **P** **00 35 05.7** **+1.7**
baz=271,SNR=70

H04D **Lebanon** **90.23** **46** P **P** **00 35 05.2** **+1.4**
baz=271,SNR=28

MCCM **Marconi Confer** **90.27** **52** IAMs_20 IAMs_20 01 09 04.5
comp=Z,23µm,21.0s

O02D **Mt. Diablo Mer** **90.30** **50** P **P** **00 35 06.0** **+1.6**
baz=271,SNR=44

E04D **Cinebar** **90.30** **44** P **P** **00 35 05.5** **+1.3**
baz=272,SNR=31

YBH **Yreka Blue Hor** **90.32** **48** P **P** **00 35 05.9** **+1.4**
comp=Z,42nm,1.0s,baz=285,slow=1.5,SNR=27

YBH PKiKP **PKiKP** **00 39 57.7** **-2.1**
comp=Z,9.7nm,0.8s,baz=278,slow=4.1,SNR=4.0

YBH **Yreka Blue Hor** **90.32** **48** IAmb IAmb 00 35 14.0
comp=Z,451nm,1.7s

GDXM **Geysers** **90.32** **51** IAMs_20 IAMs_20 01 09 12.8
comp=Z,31µm,20.0s

N02D **Trinity Center** **90.34** **49** P **P** **00 35 06.2** **+1.6**
baz=271,SNR=56

F04A **Amboy** **90.42** **44** IAmb IAmb 00 35 15.8
comp=Z,203nm,1.1s

WDC **Whiskeytown Da** **90.47** **50** IAmb IAmb 00 35 14.5
comp=Z,493nm,1.6s

WDC IAMs_20 IAMs_20 01 06 37.7
comp=Z,39µm,22.0s

I04A **Tendick Farm,** **90.49** **46** P **P** **00 35 05.8** **+0.7**
baz=272,SNR=32

B05A **Bryant** **90.57** **42** P **P** **00 35 06.6** **+1.2**
baz=272,SNR=24

L04D **Klamath Falls** **90.61** **48** P **P** **00 35 06.6** **+0.7**
baz=272,SNR=31

H04A **Detroit Lake** **90.62** **45** IAmb IAmb 00 35 14.5
comp=Z,516nm,1.8s

RER **Riviere de l'E** **90.67** **249** P **P** **00 35 07.1** **+0.6**
RER IAmb IAmb 00 35 15.5
comp=Z,219nm,1.2s

J04D **Umpqua Nationa** **90.72** **47** P **P** **00 35 07.6** **+1.1**
baz=272,SNR=18

AJN **Ajban** **90.73** **294** *i* P **P** **00 35 07.0** **+0.3**
SNR=14

AJN **Ajban** **90.73** **294** *i* P **P** **00 35 07.0** **+0.3**
SNR=14

AJN **Ajban** **90.73** **294** P **P** **00 35 06.2** **-0.4**
SNR=14

AJN P **P** **00 35 06.2** **-0.4**
SNR=14

QSPA **South Pole Qui** **90.73** **180** P **P** **00 35 06.2** **+0.3**
comp=Z,89nm,1.0s,baz=348,slow=1.7,SNR=118

QSPA PKKP **PKKPdf** **00 52 32.0** **+0.7**
comp=Z,22nm,1.2s,baz=288,slow=1.2,SNR=7.7

QSPA LR LR 01 17 48.8
comp=Z,1µm,19.9s,baz=9.0,slow=37

QSPA **South Pole Qui** **90.73** **180** P **P** **00 35 05.7** **-0.1**

QSPA **South Pole Qui** **90.73** **180** IAMs_20 IAMs_20 01 13 16.7
comp=Z,27µm,22.0s

MSEY **Mahe Island** **90.73** **265** P **P** **00 35 05.7** **-1.2**

MSEY pmax pmax
comp=Z,91nm,1.3s

MSEY **Mahe Island** **90.73** **265** P **P** **00 35 05.7** **-1.2**

M04C **Macdoel** **90.97** **48** P **P** **00 35 08.4** **+0.9**
baz=272,SNR=40

B06A **Marblemount** **90.97** **42** IAmb IAmb 00 35 17.0
comp=Z,284nm,1.7s

K04D **Chiloquin, OR** **91.00** **48** P **P** **00 35 08.8** **+1.1**
baz=272

O03E **Paynes Creek** **91.05** **50** P **P** **00 35 08.5** **+0.7**
baz=272,SNR=73

F05D **White Salmon** **91.09** **44** P **P** **00 35 09.0** **+1.1**
baz=272,SNR=16

G05D **Wamic, OR** **91.22** **45** P **P** **00 35 09.6** **+1.1**
baz=272,SNR=15

I05D **Terrebonne, OR** **91.24** **46** P **P** **00 35 09.9** **+1.2**
baz=272,SNR=21

ORV **Oroville** **91.31** **51** IAmb IAmb 00 35 17.7
comp=Z,249nm,1.1s

J05D **Fort Rock, OR** **91.36** **47** P **P** **00 35 10.6** **+1.3**
baz=272,SNR=40

C06D **Leavenworth** **91.39** **42** P **P** **00 35 10.2** **+1.0**
baz=273

SAO **San Andreas Ge** **91.45** **53** IAmb IAmb 00 35 18.5
comp=Z,372nm,1.4s

SAO IAMs_20 IAMs_20 01 05 51.9
comp=Z,35µm,22.0s

PINE **Pine Mountain** **91.55** **46** P **P** **00 35 11.5** **+1.2**
PINE IAmb IAmb 00 35 19.7
comp=Z,231nm,1.1s

LTY **Liberty** **91.58** **43** IAmb IAmb 00 35 20.2
comp=Z,413nm,1.9s

LTY IAMs_20 IAMs_20 01 09 30.3
comp=Z,21µm,20.0s

K05A **Summer Lake** **91.63** **47** IAMs_20 IAMs_20 01 07 31.2
comp=Z,32µm,22.0s

AFDM **Forest Hills D** **91.74** **51** IAmb IAmb 00 35 20.0
comp=Z,485nm,1.3s

SOCY **Socotra** **91.95** **282** P **P** **00 35 11.4** **-1.2**
SOCY IAmb IAmb 00 35 32.1
comp=Z,146nm,1.0s

PMPB **Monarch Peak** **91.99** **54** IAmb IAmb 00 35 21.4
comp=Z,349nm,1.2s

MOD **Modoc Plateau** **92.11** **48** IAmb IAmb 00 35 22.0
comp=Z,213nm,1.0s

MOD IAMs_20 IAMs_20 01 07 02.9
comp=Z,38µm,22.0s

F07A **Phinny Hill Vi** **92.16** **44** IAmb IAmb 00 35 23.3
comp=Z,662nm,1.9s

E07A **Sunnyside** **92.17** **44** IAmb IAmb 00 35 21.4
comp=Z,222nm,1.3s

E07A IAMs_20 IAMs_20 01 08 58.1
comp=Z,20µm,22.0s

CMB **Columbia Colle** **92.24** **52** IAmb IAmb 00 35 22.1
comp=Z,239nm,1.2s

CMB IAMs_20 IAMs_20 01 15 07.7
comp=Z,19µm,19.0s

RUBR **Rubicon Trail** **92.37** **51** P **P** **00 35 15.3** **+1.0**
RUBR IAMs_20 IAMs_20 01 10 16.0
comp=Z,29µm,20.0s

HAWA **Hanford** **92.40** **44** IAmb IAmb 00 35 22.4
comp=Z,208nm,1.2s

B08A **Colville Reser** **92.41** **42** IAmb IAmb 00 35 21.8
comp=Z,411nm,1.6s

PAGB **Antelope Grade** **92.46** **54** IAmb IAmb 00 35 23.5
comp=Z,424nm,1.4s

I07A **Izee** **92.57** **46** IAmb IAmb 00 35 24.2
comp=Z,266nm,1.3s

SMMC **Simmler** **92.69** **55** P **P** **00 35 16.6** **+1.1**
baz=273

E08A **Dider Farm, El** **92.72** **44** IAmb IAmb 00 35 24.6
comp=Z,547nm,1.8s

VCNR **Virginia City** **92.75** **51** IAmb IAmb 00 35 25.2
comp=Z,573nm,1.8s

VCNR IAMs_20 IAMs_20 01 10 40.0
comp=Z,24µm,19.0s

D08A **Wollman Farm,** **92.78** **43** IAmb IAmb 00 35 25.9
comp=Z,470nm,1.8s

PNTR **Pine Nut** **92.80** **51** IAMs_20 IAMs_20 01 10 39.4
comp=Z,29µm,20.0s

PKM **Mcpherson Peak** **92.86** **55** P **P** **00 35 17.2** **+0.6**
baz=273

G08A **Pilot Rock** **92.88** **45** IAmb IAmb 00 35 25.4
comp=Z,453nm,1.6s

PAHR **Pah Rah Range** **92.93** **50** IAmb IAmb 00 35 25.7
comp=Z,387nm,1.5s

WAKR **Walker** **92.96** **52** IAmb IAmb 00 35 26.3
comp=Z,190nm,1.1s

WAKR IAMs_20 IAMs_20 01 09 44.7
comp=Z,22µm,20.0s

SBC **Santa Barbara** **92.96** **56** P **P** **00 35 17.5** **+0.7**
baz=273

SCZ2 **Santa Cruz Isl** **93.05** **56** P **P** **00 35 17.2** **0.0**
baz=273

VOG **Valley Oaks Go** **93.13** **54** P **P** **00 35 17.7** **+0.3**
baz=273

C09A **Chrisman Ranch** **93.16** **42** IAmb IAmb 00 35 25.4
comp=Z,307nm,1.6s

SNCC **San Nicolas Is** **93.18** **57** P **P** **00 35 18.4** **+0.6**
baz=273

SNCC **San Nicolas Is** **93.18** **57** P **P** **00 35 17.6** **-0.2**
SNCC IAmb IAmb 00 35 27.4
comp=Z,255nm,1.4s

SNCC IAMs_20 IAMs_20 01 10 07.1
comp=Z,21µm,19.0s

MDPB **Devils Postpil** **93.29** **52** P **P** **00 35 17.8** **-0.8**
MDPB IAmb IAmb 00 35 28.3
comp=Z,552nm,2.0s

MDPB IAMs_20 IAMs_20 01 13 48.6
comp=Z,19µm,19.0s

WVOR **Wild Horse Val** **93.31** **48** IAMs_20 IAMs_20 01 08 13.7
comp=Z,26µm,20.0s

E09A **Wood Farm, Sta** **93.35** **44** IAmb IAmb 00 35 27.4
comp=Z,225nm,1.0s

E09A IAMs_20 IAMs_20 01 09 42.3
comp=Z,21µm,22.0s

OMMB **Old Mammoth Mi** **93.36** **52** IAmb IAmb 00 35 27.8
comp=Z,293nm,1.8s

OMMB IAMs_20 IAMs_20 01 13 50.3
comp=Z,23µm,19.0s

J08A **Circle Bar Ran** **93.36** **47** IAmb IAmb 00 35 27.1
comp=Z,523nm,1.5s

J08A IAMs_20 IAMs_20 01 08 38.0
comp=Z,24µm,21.0s

VES **Vestal, Richgr** **93.40** **54** P **P** **00 35 18.5** **-0.2**
baz=274

MLAC **Mammoth, Mammo** **93.49** **52** P **P** **00 35 20.1** **+0.7**
baz=274

YKA **Yellowknife Ar** **93.56** **27** P **P** **00 35 19.1** **+0.3**
comp=Z,34nm,0.9s,baz=282,slow=4.8,SNR=115

YKA PP **PP** **00 39 03.8** **+0.5**
comp=Z,16nm,1.0s,baz=280,slow=7.2,SNR=4.9

YKA PKKPbc **PKKPdf** **00 52 24.1** **-1.3**
comp=Z,4.0nm,0.8s,baz=94,slow=2.7,SNR=11

YKA PKPPKP 01 00 37.0
comp=Z,1.5nm,1.0s,baz=88,slow=1.9,SNR=3.5

YKA LR LR 01 13 17.9
comp=Z,23µm,21.9s,baz=0.0,slow=33

ARVC **Arvin** **93.65** **55** P **P** **00 35 20.1** **+0.2**
baz=274

RYN **Ryan** **93.67** **51** P **P** **00 35 20.5** **+0.4**
RYN IAmb IAmb 00 35 29.3
comp=Z,439nm,1.6s

RYN IAMs_20 IAMs_20 01 10 26.4
comp=Z,22µm,20.0s

OSI **Osito Audit: C** **93.77** **55** P **P** **00 35 20.9** **+0.3**
baz=274

OSI **Osito Audit: C** **93.77** **55** P **P** **00 35 23.0** **+2.4**

NVAR **Mina Array Bea** **93.85** **52** P **P** **00 35 21.8** **+0.7**
comp=Z,26nm,0.7s,baz=256,slow=5.9,SNR=124

NVAR PKKP **PKKPbc** **00 52 26.6** **+0.9**
comp=Z,2.5nm,0.8s,baz=105,slow=2.0,SNR=5.4

NVAR PKPPKP **P'P'df** **01 00 35.6** **-1.8**
comp=Z,0.4nm,0.3s,baz=95,slow=3.1,SNR=5.0

NEW **Newport** **93.89** **42** P **P** **00 35 21.5** **+0.7**
baz=276

NEW **Newport** **93.89** **42** IAMs_20 IAMs_20 01 08 55.3
comp=Z,20µm,22.0s

ISA **Isabella, Lake** **93.91** **54** P **P** **00 35 21.1** **-0.1**
baz=274,SNR=21

ISA **Isabella, Lake** **93.91** **54** IAmb IAmb 00 35 29.3
comp=Z,265nm,1.6s

KVN **Kaiserville** **93.97** **51** IAmb IAmb 00 35 31.4
comp=Z,234nm,1.2s

NV11 **Mina Array Sit** **93.97** **52** IAmb IAmb 00 35 30.7
comp=Z,723nm,1.9s

NV11 IAMs_20 IAMs_20 01 10 06.4
comp=Z,22µm,20.0s

TIN Tinemaha, Big 94.01 53 P P 00 35 22.3 +0.7
baz=274
SCI2 San Clemente I 94.02 57 P P 00 35 21.9 +0.2
baz=274
BMO Blue Mountains 94.08 45 IAmb IAmb 00 35 30.8
comp=Z,363nm,1.2s
CIS Catalina Islan 94.10 57 P P 00 35 21.7 -0.4
baz=274
DECC Green Verdugo 94.11 56 P P 00 35 22.2 +0.1
baz=274
CWC Cottonwood Cre 94.17 54 P P 00 35 22.7 +0.2
baz=274
PASC Pasadena Art C 94.24 56 IAMs_20 IAMs_20 01 09 14.0
comp=Z,27μm,21.0s
PRGR Permogore 94.29 332⇑iP P 00 35 19.3 -2.9
PRGR pmax pmax
comp=Z,47nm,0.9s
MWC Mount Wilson 94.34 56 IAmb IAmb 00 35 32.5
comp=Z,284nm,1.4s
MWC IAMs_20 IAMs_20 01 08 57.7
comp=Z,27μm,21.0s
EDW2 Edwards Air Fo 94.35 55 P P 00 35 23.4 +0.1
baz=274,SNR=16
LRMC Laurel Mtn Rad 94.56 54 P P 00 35 24.6 +0.3
baz=274,SNR=20
BFSC Mount Baldy Ra 94.67 56 P P 00 35 24.4 -0.4
baz=274,SNR=8.6
MPMC Manual Prospec 94.68 54 P P 00 35 25.0 +0.1
baz=274,SNR=92
MURC Murrieta 95.10 56 P P 00 35 26.1 -0.6
baz=274
FURC Furnace Creek, 95.15 53 P P 00 35 27.2 +0.5
baz=275,SNR=17
RRX Edison Barstow 95.17 55 P P 00 35 26.7 -0.3
baz=275
109C Camp Elliot, M 95.23 57 P P 00 35 27.1 -0.1
baz=274
109C Camp Elliot, M 95.23 57 IAMs_20 IAMs_20 01 07 04.4
comp=Z,25μm,22.0s
EUNU Eureka 95.27 8 IAMs_20 IAMs_20 01 17 00.5
comp=Z,18μm,22.0s
MFID Camas Ranch 95.28 46 IAMs_20 IAMs_20 01 12 25.7
comp=Z,25μm,21.0s
GSC Goldstone, Bar 95.29 55 P P 00 35 27.6 0.0
baz=275,SNR=12
TJX Tijuana 95.30 57 IAMs_20 IAMs_20 01 09 40.3
comp=Z,27μm,20.0s
TPNV Topopah Spring 95.60 53 P P 00 35 29.3 +0.2
baz=275
TPNV Topopah Spring 95.60 53 IAMs_20 IAMs_20 01 08 01.6
comp=Z,28μm,22.0s
BAR Barrett 95.61 57 IAMs_20 IAMs_20 01 10 29.5
comp=Z,23μm,20.0s
CBX Cerro Bola 95.65 58 P P 00 35 28.9 -0.5
SHOC Shoshone, Teco 95.67 54 P P 00 35 29.3 +0.1
baz=275,SNR=11
TKX Tecate 95.68 57 P P 00 35 29.0 -0.4
CCX Cicese 95.68 58 IAMs_20 IAMs_20 01 09 40.4
comp=Z,19μm,20.0s
HEC Hector,Ludlow 95.72 55 P P 00 35 29.4 -0.1
baz=275,SNR=11
PFO Pinyon Flats O 95.72 56 P P 00 35 29.2 -0.4
baz=275,SNR=14
PFO Pinyon Flats O 95.72 56 P P 00 35 29.9 +0.3
PFO pmax pmax
comp=Z,64nm,1.1s
PFO Pinyon Flats O 95.72 56 P P 00 35 29.9 +0.3
PFO Pinyon Flats O 95.72 56 IAMs_20 IAMs_20 01 10 44.2
comp=Z,17μm,20.0s
XPFO Pion Flat 95.72 56 P P 00 35 29.9 +0.3
XPFO Pion Flat 95.72 56 IAMs_20 IAMs_20 01 09 53.2
comp=Z,18μm,20.0s
TPFO Pinon Flats 95.72 56 P P 00 35 29.4 -0.3
baz=275,SNR=14
AKT Akhty 95.78 312 eP P 00 35 29.2 -0.5
AKT e 00 39 22.3
AKT pmax pmax
comp=Z,100nm,1.1s
MAK Makhachkala 95.79 313 eP P 00 35 24.2 -5.3
MAK e 00 39 15.6
MAK e 00 45 57.4
MAK eSS SS 00 53 08.9 -7.6
MAK eSSS SSS 00 56 52.8
MAK pmax pmax
comp=Z,224nm,1.6s
MAK MLR MLR
comp=Z,9μm,16.0s
MONP2 Monument Peak 95.81 57 P P 00 35 30.1 -0.1
baz=275,SNR=19
ALE Alert 95.83 4 IAMs_20 IAMs_20 01 14 02.4
comp=Z,18μm,22.0s
JTMT Jette 95.84 42 P P 00 35 29.4 -0.5
JTMT IAMs_20 IAMs_20 01 15 04.0
comp=Z,18μm,21.0s
WALA Waterton Lakes 95.91 41 P P 00 35 30.3 +0.2
WALA IAmb IAmb 00 35 39.7
comp=Z,222nm,1.5s
WALA IAMs_20 IAMs_20 01 10 12.7
comp=Z,32μm,22.0s
R11A Troy Canyon, C 95.99 51 P P 00 35 31.3 +0.5
baz=276
R11A Troy Canyon, C 95.99 51 IAmb IAmb 00 35 41.0
comp=Z,183nm,1.6s
R11A IAMs_20 IAMs_20 01 11 22.8
comp=Z,21μm,21.0s
TUQ Turquoise Moun 96.00 54 P P 00 35 30.8 -0.1
baz=275,SNR=8.0
ELK Elko 96.00 49 P P 00 35 32.2 +1.3
comp=Z,13nm,0.8s
ELK PP PP 00 39 24.2 +0.8
comp=Z,9.4nm,1.1s,baz=247,slow=5.8,SNR=3.0
ELK Elko 96.00 49 P P 00 35 32.2 +1.3
ELK 00 39 24.2
ELK pmax pmax
comp=Z,195nm,1.5s
ELK Elko 96.00 49 IAMs_20 IAMs_20 01 10 50.0
comp=Z,27μm,21.0s
ELK Elko 96.00 49 IAmb IAmb 00 35 39.1
comp=Z,196nm,1.5s
BELC Belle Mtn. Jos 96.06 56 P P 00 35 31.0 -0.2
baz=275,SNR=31
IKP In-Ko-Pah, Jac 96.09 57 P P 00 35 31.2 -0.1
baz=275,SNR=26
RMX La Rumorosa 96.12 57 IAMs_20 IAMs_20 01 10 48.3
comp=Z,28μm,20.0s
HOPEN Hopen 96.19 348 eP P 00 35 31.2 +0.6
HOPEN IVmB_BB 00 35 37.4
comp=Z,1μm,2.4s
HOPEN eSKSac SKSac 00 46 06.4 0.0
HOPEN eSS SS 00 53 23.9 +3.5
HOPEN IVMs_BB IVMs_BB 01 15 32.0
comp=Z,6μm,27.5s
MSO Missoula 96.20 43 P P 00 35 31.2 -0.2
baz=278,SNR=14
GMRC Granite Mounta 96.27 55 P P 00 35 32.1 0.0
baz=275,SNR=34
ESJX Sierra Juarez 96.28 58 IAMs_20 IAMs_20 01 10 11.2
comp=Z,30μm,21.0s
HLID Hailey 96.29 46 P P 00 35 33.2 +1.2
baz=277
HLID Hailey 96.29 46 IAMs_20 IAMs_20 01 13 07.2
comp=Z,24μm,21.0s
SWSC Sam W. Stewart 96.32 57 P P 00 35 32.2 0.0
baz=275,SNR=6.6
BC3 Big Chuckawall 96.55 56 P P 00 35 33.7 +0.3
baz=275,SNR=14
RES Resolute Bay 96.61 14 LR LR 01 19 31.9
comp=Z,6μm,19.9s,baz=306,slow=36
SYO Syowa Base 96.65 200⇑eP P 00 35 32.0 -0.8
SYO Syowa Base 96.65 200⇓iPcP PcP 00 35 34.0 +1.1
SYO Syowa Base 96.65 200⇓ipP pP 00 35 38.0 +1.7
UABX UABC, Campus M 96.65 57 IAMs_20 IAMs_20 01 12 30.9
comp=Z,20μm,22.0s
IRM Iron Mountain 96.75 56 P P 00 35 34.4 +0.2
baz=276,SNR=47
SPX San Pedro Mart 96.77 59 P P 00 35 33.4 -1.4
SPA0 Spitsbergen Ar 96.79 351 eP P 00 35 32.2 -1.1
SPA0 eSKSac SKSac 00 46 13.4 +3.8
SPA0 eSS SS 00 53 33.7 +4.8
KBS Kingsbay 96.95 352 eP P 00 35 33.2 -0.9
KBS eSKSac SKSac 00 46 10.7 +0.4
KBS eSS SS 00 53 33.2 +2.0
KBS IVMs_BB IVMs_BB 01 12 01.1
comp=Z,6μm,26.9s
GUVIX Guadalupe Vict 96.99 57 IAMs_20 IAMs_20 01 12 29.9
comp=Z,19μm,20.0s
TMCR Tamitsa 97.10 335 eP P 00 35 32.5 -2.5
TMCR pmax pmax
comp=Z,76nm,0.9s
GLA Glamis 97.13 57 P Pdif 00 35 36.1 0.0
baz=276
GLA Glamis 97.13 57 P P 00 35 35.4 -0.5
GLA pmax pmax
comp=Z,40nm,1.0s
GLA Glamis 97.13 57 P P 00 35 35.4 -0.5
GLA IAMs_20 IAMs_20 01 10 47.5
comp=Z,21μm,21.0s
LVZ Lovozero 97.22 339⇓eP P 00 35 34.0 -1.5
LVZ pmax pmax
comp=Z,45nm,1.1s
LVZ Lovozero 97.22 339 P P 00 35 34.7 -0.9
NOR Nord 97.27 357 iP P 00 35 33.0 -2.5
comp=Z,12μm,21.0s
NOR Nord 97.27 357 iP P 00 35 33.0 -2.5
NOR MLR MLR
comp=Z,12μm,21.0s
DLMT Dillon 97.33 44 IAmb IAmb 00 35 46.8
comp=Z,166nm,1.6s
KLMR Klimovskoe 97.35 332c iP P 00 35 34.3 -1.9
KLMR e 00 39 30.0
KLMR eS SKSac 00 46 11.4 -1.5
KLMR eSS SS 00 53 36.8 -0.7
KLMR pmax pmax
comp=Z,74nm,1.3s
KLMR MLR MLR
comp=Z,7μm,17.0s
KLMR Klimovskoe 97.35 332⇑iP P 00 35 34.3 -1.9
KLMR iP P 00 35 34.3 -1.9
KLMR iP P 00 35 34.3 -1.9
KLMR AMP 00 35 46.0
comp=Z,74nm,1.3s
KLMR ePP PP 00 39 30.1 -2.6
KLMR eS SKSac 00 46 11.4 -1.5
KLMR eS SKSac 00 46 11.4 -1.5
KLMR eSS SS 00 53 36.8 -0.7
KLMR eSS SS 00 53 36.8 -0.7
KLMR LQ LQ 01 09 38.4
KLMR LQ LQ 01 09 38.4
KLMR LR LR 01 16 04.0
KLMR AMP 01 22 10.2
comp=Z,7μm,17.2s
PDMCI Parker Dam,Lak 97.57 55 P Pdif 00 35 38.0 +0.1
baz=276
HSPB Hornsund (broa 97.68 350 ePdif Pdif 00 35 39.3 +1.9
HSPB ePP PP 00 39 37.8 +2.9
HSPB eSdif S 00 47 04.7 +2.7
HSPB eSS SS 00 53 44.4 +2.9
HSPB eL L 01 14 13.8
comp=Z,20μm,26.0s
HSPB Hornsund (broa 97.68 350 eP P 00 35 37.3 -0.1
HSPB IVmB_BB 00 35 46.6
comp=Z,526nm,2.1s
HSPB ePP PP 00 39 35.8 +0.9
HSPB eSKSac SKSac 00 46 13.7 -0.5
HSPB eSP SP 00 48 27.2 +3.2
HSPB eSS SS 00 53 43.1 +1.6
HSPB IVMs_BB IVMs_BB 01 14 14.1
comp=Z,5μm,27.2s
W13A Hualapai Mount 97.69 55 P Pdif 00 35 39.3 +0.6
APA Apatity 97.78 339⇑iP P 00 35 34.8 -3.2
APA iPPP PPP 00 41 38.0
APA i 00 46 14.0
APA iS S 00 46 53.0 -10
APA iPS PS 00 48 31.0 +3.1
APA ePPS PPS 00 49 05.0
APA iSS SS 00 53 43.0 -0.3
APA pmax pmax
comp=Z,21nm,1.1s
DUG Dugway, Tooele 97.91 49 P Pdif 00 35 40.0 +0.6
baz=278
DUG Dugway, Tooele 97.91 49 IAMs_20 IAMs_20 01 14 02.5
comp=Z,20μm,20.0s
BOZ Bozeman (W) 97.97 44 P Pdif 00 35 40.5 +0.9
baz=279
BOZ Bozeman (W) 97.97 44 IAMs_20 IAMs_20 01 10 26.4
comp=Z,19μm,22.0s
113A Mohawk Valley, 98.04 57 IAMs_20 IAMs_20 01 11 14.8
comp=Z,22μm,21.0s
VRH Novokhopyorsk 98.39 322 eP P 00 35 38.5 -2.6
VRH e 00 46 16.1
VRH pmax pmax
comp=Z,60nm,1.1s
VRH MLR MLR
comp=Z,8μm,17.0s
ZEI Tsey 98.43 313 eP P 00 35 39.1 -2.7
ZEI pmax pmax
comp=Z,70nm,1.3s
BJO1 Bjornoya 98.56 347 ePdif P 00 35 40.9 -0.5
BJO1 ePP PP 00 39 42.2 +0.6
BJO1 eSKSac SKSac 00 46 17.2 -1.4
BJO1 eSS SS 00 53 57.4 +3.5
BJO1 IVMs_BB IVMs_BB 01 12 51.5
comp=Z,5μm,28.0s
HWUT Hardware Ranch 98.64 48 IAmb IAmb 00 35 51.5
comp=Z,113nm,1.3s
PKCU Pink Cliffs 98.67 52 P Pdif 00 35 44.2 +1.1
GOF Gofitskoye 98.67 316⇑iP P 00 35 41.9 -0.6
GOF pmax pmax
comp=Z,99nm,1.7s
ABPO Ambohimpanom 98.70 251 P P 00 35 43.0 -0.4
ABPO pmax pmax
comp=Z,20nm,1.1s
ABPO MLR MLR
comp=Z,7μm,19.0s
ABPO Ambohimpanom 98.70 251 P 00 35 43.0 -0.4
FXWY Fox Creek 98.71 46 IAmb IAmb 00 35 52.5
comp=Z,268nm,1.8s
FXWY IAMs_20 IAMs_20 01 14 27.3
comp=Z,20μm,22.0s
IMW Indian Meadow 98.73 45 IAmb IAmb 00 35 52.7
comp=Z,286nm,1.8s
OPO Ambohidratompo 98.76 251 P P 00 35 43.4 -0.2
comp=Z,27nm,0.9s,baz=88,slow=5.6,SNR=22
OPO PP PP 00 39 47.4 +2.4
comp=Z,8.0nm,1.1s,baz=90,slow=7.0,SNR=3.4
OPO PKKPbc PKKPbc 00 52 13.5 +1.7
comp=Z,4.5nm,1.0s,baz=301,slow=14,SNR=2.4
TPAW Teton Pass 98.79 46 IAmb IAmb 00 35 51.9
comp=Z,360nm,1.6s
TPAW IAMs_20 IAMs_20 01 11 04.5
comp=Z,26μm,22.0s
AHID Auburn Hatcher 98.80 47 IAMs_20 IAMs_20 01 17 08.8
comp=Z,16μm,20.0s
EGMT Eagleton 98.80 41 Pdiff Pdif 00 35 43.6 +0.4
baz=281
EGMT Eagleton 98.80 41 IAMs_20 IAMs_20 01 12 03.3
comp=Z,19μm,22.0s
U15A North Rim 98.82 53 IAMs_20 IAMs_20 01 11 36.9
comp=Z,32μm,21.0s
FLWY Flagg Ranch 98.87 45 IAmb IAmb 00 35 53.5
comp=Z,301nm,1.6s
REDW Red Top Meadow 98.88 46 IAmb IAmb 00 35 53.2
comp=Z,319nm,1.6s
REDW IAMs_20 IAMs_20 01 14 33.0
comp=Z,20μm,21.0s
H17A Grant Village 98.90 45 Pdiff Pdif 00 35 46.4 +2.4
baz=280
H17A Grant Village 98.90 45 IAmb IAmb 00 35 55.7
comp=Z,224nm,1.6s
SNOW Snow King Moun 98.94 46 IAmb IAmb 00 35 53.5
comp=Z,410nm,2.0s
SNOW IAMs_20 IAMs_20 01 11 09.3
comp=Z,26μm,22.0s
214A Organ Pipe Nat 98.94 58 Pdiff Pdif 00 35 44.8 +0.7
baz=277
214A Organ Pipe Nat 98.94 58 IAMs_20 IAMs_20 01 12 20.5
comp=Z,24μm,21.0s
AKH Akhalkalaki 98.95 312 ⇑P Pdif 00 35 44.5 +0.4
KEV Kevo 98.99 342 P P 00 35 42.6 -0.8
KEV pmax pmax
comp=Z,52nm,1.1s
KEV Kevo 98.99 342 Pdif 00 35 42.6 -0.8
KBZ Khabaz 99.00 314 P Pdif 00 35 43.5 -0.5
comp=Z,10nm,0.9s,baz=112,slow=1.8,SNR=22
KBZ PKKPbc PKKPbc 00 52 11.3 -0.3
comp=Z,5.1nm,0.8s,baz=205,slow=4.4,SNR=4.6
KBZ LR LR 01 22 13.5
comp=Z,9μm,20.7s,baz=59,slow=36
KIV Kislovodsk 99.12 315 eP Pdif 00 35 43.9 -0.8
KIV e 00 39 46.2
KIV e 00 46 21.9
KIV eSS SS 00 54 04.5 +0.9
KIV pmax pmax
comp=Z,60nm,1.1s
KIV pmax pmax
comp=Z,791nm,4.3s
KIV MLR MLR
comp=Z,27μm,20.0s
YMP Mirror Lake Pl 99.14 45 P Pdif 00 35 47.0 +1.9
HAMF Hammerfest 99.54 343 ePdif Pdif 00 35 46.1 +0.3
HAMF IVmB_BB 00 35 46.7
comp=Z,390nm,1.4s
HAMF ePP PP 00 39 49.5 +0.3
HAMF eSKSac SKSac 00 46 22.5 -1.1
HAMF eSP SP 00 48 46.6 +2.4
HAMF eSS SS 00 54 12.1 +4.4
HAMF IVMs_BB IVMs_BB 01 17 56.0
comp=Z,5μm,18.7s
ARCES ARCESS Array B 99.56 342 P Pdif 00 35 44.9 -1.1
comp=Z,31nm,0.9s,baz=61,slow=5.7,SNR=59
ARCES PKiKP PKiKP 00 40 15.1 +0.1
comp=Z,5.3nm,0.9s,baz=90,slow=1.8,SNR=1.4
ARCES PKKPbc PKKPbc 00 52 07.3 -3.6
comp=Z,1.8nm,0.6s,baz=261,slow=3.6,SNR=4.3
ARCES LR LR 01 23 20.9
comp=Z,7μm,19.6s,baz=62,slow=37
ARE0 ARCESS Array S 99.56 342 ePdif Pdif 00 35 45.2 -0.8
ARE0 IVmBBB 00 35 47.4
comp=Z,540nm,0.9s
ARE0 ePP PP 00 39 49.1 -0.3
ARE0 eSKSac SKSac 00 46 22.7 -1.2
ARE0 eSP SP 00 48 46.8 +2.3
ARE0 eSS SS 00 54 12.8 +4.6
ARE0 IVMs_BB IVMs_BB 01 19 41.6
comp=Z,6μm,22.0s
WUAZ Wupatki 99.68 54 Pdiff Pdif 00 35 47.2 -0.2
baz=278
MOS Moscow 99.68 327 eP Pdif 00 35 44.0 -2.7
MOS e 00 39 49.4
MOS e 00 46 26.6
MOS pmax pmax
comp=Z,65nm,1.1s
MOS pmax pmax
comp=Z,300nm,2.6s
MOS MLR MLR
comp=Z,22μm,19.0s
RLMT Red Lodge 99.69 44 Pdiff Pdif 00 35 49.0 +1.7
baz=281
LPSR Galich'ya Gora 99.76 324 eP Pdif 00 35 45.2 -1.9
LPSR e 00 46 28.5
LPSR pmax pmax
comp=Z,30nm,0.8s
LPSR MLR MLR
comp=Z,13μm,21.0s
CHVG Ch'k'valeri 99.77 314 ⇓P Pdif 00 35 47.7 +0.2
VORR Voronezh 99.81 323 P Pdif 00 35 46.0 -1.4
VORR pmax pmax
comp=Z,250nm,1.6s
BW06 Boulder Array 99.92 46 Pdiff Pdif 00 35 49.0 +0.6
baz=280
BW06 Boulder Array 99.92 46 IAMs_20 IAMs_20 01 20 32.4
comp=Z,18μm,20.0s
PDAR Pinedale Array 99.92 46 P Pdif 00 35 48.9 +0.4
comp=Z,7.3nm,0.7s,baz=246,slow=2.2,SNR=61
PDAR PKiKP PKiKP 00 40 17.0 +0.3
comp=Z,4.7nm,0.8s,baz=288,slow=0.9,SNR=3.3
PDAR PKKPbc PKKPbc 00 52 08.3 -1.1
comp=Z,3.2nm,0.9s,baz=106,slow=4.7,SNR=6.5
PDAR PKPPKP 01 00 20.6
comp=Z,0.8nm,0.9s,baz=108,slow=1.9,SNR=3.8
PDAR LR LR 01 15 18.5
comp=Z,10μm,19.7s,baz=283,slow=32
VORD Divnogorie 99.93 322 eP Pdif 00 35 45.1 -2.9
VORD e 00 46 24.7
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD MLR MLR
comp=Z,2μm,12.0s
SRIG Santa Rosalia 99.94 62 IAMs_20 IAMs_20 01 20 13.5
comp=Z,19μm,19.0s
VSR Storozhevoye 99.95 322 eP Pdif 00 35 46.0 -2.1
VSR e 00 46 22.8
VSR pmax pmax
comp=Z,30nm,1.0s
VSR MLR MLR
comp=Z,10μm,17.0s
BATM Batumi 100.25 312 ⇑P Pdif 00 35 49.3 -0.4
BATM Batumi 100.25 312 ⇑P Pdif 00 35 49.3 -0.4
BCA Borcka 100.33 312 ⇑P Pdif 00 35 49.7 -0.4
OBN Obninsk 100.43 327c iP Pdif 00 35 48.5 -1.6
OBN i 00 39 58.0
OBN ePPP PPP 00 42 02.5
OBN iS SKSac 00 46 26.7 -1.9
OBN iSS SS 00 54 21.0 +0.1
OBN eSSS SSS 00 58 11.6
OBN pmax pmax
comp=Z,79nm,1.2s
OBN MLR MLR
comp=Z,30μm,23.0s
OBN Obninsk 100.43 327 IAMs_20 IAMs_20 01 22 05.7
comp=Z,22μm,19.0s
TUC Tucson 100.60 57 IAMs_20 IAMs_20 01 13 12.5
comp=Z,33μm,22.0s
HSIG 100.88 60 IAMs_20 IAMs_20 01 13 05.2
comp=Z,17μm,20.0s
W18A Petrified Fore 101.06 54 Pdiff Pdif 00 35 54.8 +1.2
baz=279
PV10 Paradox Valley 101.08 51 IAMs_20 IAMs_20 01 23 48.0
comp=Z,19μm,20.0s
PV23 Carpenter Ridg 101.09 51 IAMs_20 IAMs_20 01 23 56.8
comp=Z,23μm,20.0s
PV14 Lion Creek, Pa 101.09 51 IAMs_20 IAMs_20 01 23 47.9
comp=Z,23μm,20.0s
PV19 Morning Glory 101.14 51 IAMs_20 IAMs_20 01 21 50.0
comp=Z,17μm,21.0s
PV17 East Wray Mesa 101.16 51 IAMs_20 IAMs_20 01 21 49.7
comp=Z,22μm,20.0s
PV04 Paradox Valley 101.18 51 IAMs_20 IAMs_20 01 23 59.3
comp=Z,20μm,20.0s
PV16 Nyswonger Mesa 101.19 51 IAMs_20 IAMs_20 01 21 50.4
comp=Z,17μm,20.0s
PV18 Skein Mesa, Pa 101.20 51 IAMs_20 IAMs_20 01 21 51.9
comp=Z,19μm,21.0s
PV11 David Mesa, Pa 101.22 51 IAMs_20 IAMs_20 01 21 51.4
comp=Z,20μm,20.0s
PV22 Blue Mesa, Par 101.25 51 IAMs_20 IAMs_20 01 24 12.0
comp=Z,17μm,19.0s
PV03 Paradox Valley 101.25 51 IAMs_20 IAMs_20 01 21 53.1
comp=Z,19μm,20.0s
PV12 Saucer Basin, 101.28 51 IAMs_20 IAMs_20 01 22 02.7
comp=Z,21μm,20.0s
PV13 Radium Mtn., P 101.29 51 IAMs_20 IAMs_20 01 21 54.1
comp=Z,19μm,20.0s
PV02 Paradox Valley 101.34 51 IAMs_20 IAMs_20 01 21 54.6
comp=Z,19μm,20.0s
PV07 Paradox Valley 101.37 51 IAMs_20 IAMs_20 01 15 27.4
comp=Z,16μm,21.0s
O20A White River Ci 101.38 49 Pdiff Pdif 00 35 55.5 +0.5
baz=281
O20A White River Ci 101.38 49 IAMs_20 IAMs_20 01 15 18.2
comp=Z,23μm,21.0s
LAO LASA Array 101.43 42 Pdiff Pdif 00 35 56.5 +1.6
baz=284
TRO Tromso 101.45 343 eP Pdif 00 35 53.6 -0.7
TRO IVmB_BB 00 35 54.5
comp=Z,596nm,3.0s
TRO ePP PP 00 40 03.3 -0.3
TRO eSKSac SKSac 00 46 33.6 +0.6
TRO eSS SS 00 54 36.1 +1.8
TRO IVMs_BB IVMs_BB 01 26 07.5
comp=Z,5μm,21.0s
PV15 Paradox Valley 101.52 51 IAMs_20 IAMs_20 01 22 30.2
comp=Z,16μm,20.0s
MVCO Mesa Verde 101.70 52 Pdiff Pdif 00 35 57.2 +0.7
baz=280
MVCO Mesa Verde 101.70 52 IAMs_20 IAMs_20 01 15 19.2
comp=Z,20μm,20.0s
FFC Flin Flon 101.81 33 P Pdif 00 35 56.3 +0.1
FFC Flin Flon 101.81 33 Pdif Pdif 00 35 56.3 +0.1
319A Douglas 102.00 58 IAMs_20 IAMs_20 01 12 41.5
comp=Z,27μm,22.0s
PUL Pulkovo 102.02 332 eP Pdif 00 35 53.4 -3.7
DAG Danmarks Havn 102.04 356⇑iP Pdif 00 35 55.2 -1.6
comp=Z,36nm,0.9s
DAG i 00 46 36.5
comp=Z,14μm,27.0s
DAG Danmarks Havn 102.04 356⇑iP Pdif 00 35 55.2 -1.6
DAG i 00 46 36.5

DAG pmax pmax
comp=Z,36nm,0.9s
DAG MLR MLR
comp=Z,14µm,27.0s
K22A Casper 102.13 46 Pdiff **Pdif 00 35 59.3 +1.0**
baz=282
K22A Casper 102.13 46 IAMs_20 IAMs_20 01 22 39.0
comp=Z,15µm,19.0s
DGMT Dagmar 102.32 40 Pdiff **Pdif 00 36 00.7 +2.0**
baz=286
DGMT Dagmar 102.32 40 IAMs_20 IAMs_20 01 14 26.1
comp=Z,25µm,21.0s
ANN Anapa 102.63 316 *e*P **Pdif 00 35 59.6 -0.5**
ANN *e* 00 40 11.9
ANN *e* 00 46 39.1
ANN *e*SS SS 00 54 58.3 +6.3
ANN *e*SSS SSS 00 58 41.2
ANN pmax pmax
comp=Z,102nm,1.2s
ANN pmax pmax
comp=N,44nm,1.1s
ANN pmax pmax
comp=E,33nm,1.1s
ANN MLR MLR
comp=Z,17µm,23.0s
ANN MLR MLR
comp=N,12µm,17.0s
S22A 4UR Ranch, Cre 102.91 51 Pdiff **Pdif 00 36 02.7 +0.8**
baz=281
S22A 4UR Ranch, Cre 102.91 51 IAMs_20 IAMs_20 01 16 52.1
comp=Z,27µm,21.0s
N23A Red Feather La 102.94 48 Pdiff **Pdif 00 36 03.2 +1.3**
baz=283
121A Cookes Peak, D 103.07 56 Pdiff **Pdif 00 36 03.4 +0.7**
baz=280
121A Cookes Peak, D 103.07 56 IAMs_20 IAMs_20 01 18 39.9
comp=Z,18µm,19.0s
FINES FINESS Array B 103.21 335 Pdiff **Pdif 00 35 59.5 -2.8**
comp=Z,7.3nm,0.7s,baz=72,slow=6.2,SNR=26
FINES PP **PKiKP 00 40 20.1 -1.6**
comp=Z,20nm,1.0s,baz=20,slow=4.4,SNR=5.5
FINES PKKPbc **PKKPbc 00 51 56.7 -3.4**
comp=Z,3.7nm,0.8s,baz=215,slow=2.3,SNR=6.8
PHWY Pilot Hill 103.21 47 IAMs_20 IAMs_20 01 14 57.5
comp=Z,26µm,21.0s
RPN Rapa Nui 103.28 118 IAMs_20 IAMs_20 01 15 33.0
comp=Z,14µm,19.0s
ISCO Idaho Springs 103.42 49 Pdiff **Pdif 00 36 04.9 +0.7**
baz=282
ISCO Idaho Springs 103.42 49 IAMs_20 IAMs_20 01 17 46.3
comp=Z,25µm,20.0s
RSSD Black Hills 103.55 44 Pdiff **Pdif 00 36 05.5 +0.9**
baz=285
STEI Steigen 103.56 343 *e*Pdif **Pdif 00 36 03.7 0.0**
STEI IVmB_BB 00 36 04.1
comp=Z,559nm,4.1s
STEI *e*PP **PP 00 40 17.2 -2.2**
STEI *e*SKSac **SKSac 00 46 43.1 +0.1**
STEI *e*SP SP 00 49 29.5 +2.5
STEI *e*SS **SS 00 55 06.2 +2.8**
STEI IVmS_BB IVmS_BB 01 20 08.2
comp=Z,5µm,22.3s
ANMO Albuquerque 103.74 54 PP **PKiKP 00 40 23.4 -0.4**
comp=Z,12nm,1.1s,baz=259,slow=5.3,SNR=3.9
ANMO Albuquerque 103.74 54 Pdiff **Pdif 00 36 06.7 +1.1**
baz=281
ANMO Albuquerque 103.74 54 P **Pdif 00 36 05.5 -0.1**
ANMO Albuquerque 103.74 54 Pdif **Pdif 00 36 05.5 -0.1**
FAUS Fauske 103.89 342 *e*Pdif **Pdif 00 36 05.2 0.0**
FAUS IVmBBB 00 36 15.3
comp=Z,536nm,1.9s
FAUS *e*SKSac **SKSac 00 46 45.4 +0.8**
FAUS *e*SP SP 00 49 32.4 +2.0
FAUS IVmS_BB IVmS_BB 01 20 36.8
comp=Z,4µm,19.2s
LOF Lofoten 103.92 343 *e*Pdif **Pdif 00 36 03.4 -1.9**
LOF IVmB_BB 00 36 03.9
comp=Z,427nm,1.5s
LOF *e*PP **PKiKP 00 40 22.9 +0.1**
LOF *e* 00 46 45.6
LOF *e*PS PS 00 49 34.4 +1.1
LOF *e*SS SS 00 55 05.4 -3.0
LOF IVmS_BB IVmS_BB 01 21 21.6
comp=Z,3µm,26.8s
SDCO Great Sand Dun 103.94 51 Pdiff **Pdif 00 36 07.6 +1.1**
baz=282
SDCO Great Sand Dun 103.94 51 IAMs_20 IAMs_20 01 13 23.3
comp=Z,22µm,21.0s
Q24A Divide 103.95 50 Pdiff **Pdif 00 36 07.9 +1.3**
baz=283
Q24A Divide 103.95 50 IAMs_20 IAMs_20 01 16 42.5
comp=Z,20µm,21.0s
VSU Vasula 104.25 332 *e*P **Pdif 00 36 06.2 -0.8**
EPT El Paso 104.27 57 IAMs_20 IAMs_20 01 15 27.7
comp=Z,22µm,20.0s
FCC Fort Churchill 104.28 28 IAMs_20 IAMs_20 01 18 03.9
comp=Z,29µm,21.0s
TEND Ethiopian Broa 104.65 282 *e*P **Pdif 00 36 09.7 -0.1**
TEND *e*S SKSac 00 46 35.8 -14
T25A Trinidad 104.92 51 Pdiff **Pdif 00 36 12.0 +1.2**
baz=283
T25A Trinidad 104.92 51 IAMs_20 IAMs_20 01 18 06.3
comp=Z,23µm,20.0s
E28A Huff 105.13 41 IAMs_20 IAMs_20 01 15 20.8
comp=Z,21µm,22.0s
MNTX Cornudas Mount 105.23 57 Pdiff **Pdif 00 36 13.1 +1.1**
baz=281
MNTX PKiKP **PKiKP 00 40 27.1 +0.8**
baz=281
MNTX Cornudas Mount 105.23 57 IAMs_20 IAMs_20 01 16 29.0
comp=Z,23µm,22.0s
MICGM Minsk 105.36 328 *e*P **Pdif 00 36 12.0 0.0**
MICGM *e*PP **PP 00 40 34.0 +0.8**
MICGM *e*PPP PPP 00 43 00.0
MICGM *e*SKS **SKSac 00 46 54.0 +2.3**
MICGM *e*SKKS SKKSac 00 48 06.0 +28
MICGM *e*PS PS 00 49 58.0 +9.1
MICGM *e*SS **SKKPbc 00 55 34.0 -1.8**
MICGM *e*SSS SSS 00 59 16.0
MICGM *e*LQ LQ 01 11 30.0
MICGM LQM 01 14 12.0
comp=N,37nm,26.0s
MICGM LQM 01 14 14.0
comp=E,12nm,26.0s
MICGM *e*LR LR 01 20 02.0
MICGM LRM MLR 01 25 22.0
comp=Z,26nm,20.0s
MICGM LRM MLR 01 25 28.0
comp=E,9.4nm,18.0s
MICGM LRM MLR 01 25 29.0
comp=N,7.7nm,20.0s
MNK Minsk 105.36 328 *de*P **Pdif 00 36 12.0 0.0**
MDND Maddock 105.44 40 PKiKP **PKiKP 00 40 26.4 +0.1**
baz=289
MDND Maddock 105.44 40 IAMs_20 IAMs_20 01 16 48.7
comp=Z,29µm,22.0s
IDID Didziasalis 105.61 329 *e*P **Pdif 00 36 12.8 -0.4**
IZAR Zarasai 105.68 329 *e*P **Pdif 00 36 13.3 -0.2**
NACGM Naroch 105.77 328 *e*P **Pdif 00 36 12.0 -1.8**
NACGM *e*P **pPdif 00 36 13.0 -4.4**
NACGM *e*PP **PP 00 40 38.0 +1.8**
NACGM *e*PPP PPP 00 42 48.0
NACGM *e*SKS **SKSac 00 46 54.0 +0.4**
NACGM *e*SKKS SKKSac 00 48 09.0 +28
NACGM *e*PS PS 00 49 59.0 +5.8
NACGM *e*SS **SKKPbc 00 55 40.0 +5.4**
NACGM *e*SSS SSS 00 59 30.0
NACGM *e*LQ LQ 01 06 24.0
NACGM *e*LR LR 01 17 24.0
NACGM LRM MLR 01 24 48.0
comp=Z,49nm,20.0s
ASF Jabal al Asfar 105.79 304 PKKPbc PKKPbc 00 51 51.6 +0.1
comp=Z,2.0nm,0.8s,baz=217,slow=3.6,SNR=2.1
ISAL Salakas 105.82 329 *e*P **Pdif 00 36 10.7 -3.3**
KSCO Kaye Shedlock' 105.85 49 Pdiff **Pdif 00 36 16.4 +1.6**
baz=284
AKASG Malin Array Be 106.09 324 Pdiff **Pdif 00 36 13.3 -2.0**
comp=Z,3.1nm,0.7s,baz=52,slow=4.6,SNR=14
AKASG PP **PKiKP 00 40 27.8 +0.5**
comp=Z,5.4nm,0.9s,baz=52,slow=8.0,SNR=4.8
AKASG PKKPbc **PKKPbc 00 51 49.7 -1.4**
comp=Z,3.6nm,0.7s,baz=262,slow=3.2,SNR=12
JMIC Jan Mayen 106.43 352 *e*Pdif **Pdif 00 36 17.7 +1.2**
JMIC *e*PP **PP 00 40 41.7 +1.1**
JMIC *e*SP SP 00 49 59.3 +2.7
JMIC *e*SS **SS 00 55 46.8 +4.3**
JMIC IVmS_BB IVmS_BB 01 16 18.2
comp=Z,3µm,27.7s
SNAA Sanae 106.53 190 PKiKP **PKiKP 00 40 28.1 +0.4**
SNAA Sanae 106.53 190 Pdiff **Pdif 00 36 17.2 +0.2**
SNAA Sanae 106.53 190 Pdiff **Pdif 00 36 16.7 -0.2**
comp=Z,3.2nm,1.0s,baz=185,slow=4.4,SNR=8.7
SNAA PKiKP **PKiKP 00 40 28.1 +0.4**
comp=Z,12nm,1.1s,baz=150,slow=5.3,SNR=3.6
SNAA PKKPbc **PKKPbc 00 51 45.1 -5.2**
comp=Z,4.9nm,0.9s,baz=310,slow=2.2,SNR=5.9
SNAA Sanae 106.53 190 P **Pdif 00 36 16.8 -0.2**
SNAA MLR MLR
comp=Z,26µm,22.0s
SNAA Sanae 106.53 190 **Pdif 00 36 16.8 -0.2**
SNAA IAMs_20 IAMs_20 01 22 37.0
comp=Z,25µm,22.0s
BRTR Keskin Array B 106.64 312 Pdiff **Pdif 00 36 18.2 -0.1**
comp=Z,1.6nm,0.9s,baz=45,slow=20,SNR=6.0
BRTR PKiKP **PKiKP 00 40 29.8 +0.9**
comp=Z,8.9nm,1.0s,baz=64,slow=6.6,SNR=3.2
BRTR PKKPbc **PKKPbc 00 51 48.8 -0.4**
comp=Z,4.9nm,0.9s,baz=218,slow=3.2,SNR=9.3
SUMG Summit 106.67 1 *i*P **Pdif 00 36 18.0 0.0**
SUMG *i* 00 47 02.1
SUMG Summit 106.67 1 *i*P **Pdif 00 36 18.0 0.0**
SUMG *i* 00 47 02.1
NSS Namsos 106.78 341 *e*P **Pdif 00 36 18.0 -0.1**
NSS *e*PP **PP 00 40 43.6 +0.3**
NSS *e*SS SS 00 55 46.0 -1.5
NSS IVmS_BB IVmS_BB 01 15 57.6
comp=Z,5µm,41.0s
ULM Lac du Bonnet 106.88 36 Pdiff **Pdif 00 36 24.7 +5.8**
comp=Z,9.3nm,1.0s,baz=312,slow=4.9,SNR=6.6
ULM PKiKP **PKiKP 00 40 28.4 -0.4**
comp=Z,7.0nm,0.8s,baz=303,slow=5.4,SNR=4.2
ULM PKKP **PKKPdf 00 52 00.1 -0.7**
comp=Z,7.9nm,1.0s,baz=359,slow=1.6,SNR=3.8
ULM Lac du Bonnet 106.88 36 P **Pdif 00 36 20.6 +1.7**
ULM Lac du Bonnet 106.88 36 Pdif **Pdif 00 36 20.6 +1.7**
MSTX Muleshoe 106.92 54 Pdiff **Pdif 00 36 18.5 -1.2**
baz=283
PABE Paberze 106.94 330 *e*P **Pdif 00 36 18.1 -1.0**
PABE *e*PP **PP 00 40 42.5 -2.4**
SUSD Miller 106.96 43 IAMs_20 IAMs_20 01 16 44.3
comp=Z,23µm,22.0s
TXAR Lajitas Array 107.12 59 Pdiff **Pdif 00 36 25.8 +5.2**
comp=Z,0.9nm,0.7s,baz=322,slow=3.8,SNR=4.8
TXAR PKiKP **PKiKP 00 40 30.8 +0.8**
comp=Z,2.5nm,0.8s,baz=249,slow=2.5,SNR=4.7
TXAR PKKP **PKKPab 00 52 02.6 +0.6**
comp=Z,9.2nm,0.9s,baz=140,slow=4.4,SNR=12
ANTO Ankara 107.23 312 ↑P **PKiKP 00 40 30.8 +0.9**
ANTO Ankara 107.23 312 ↓P **PKKPbc 00 51 48.8 +1.6**
AMTX Amarillo 107.59 53 Pdiff **Pdif 00 36 23.6 +1.1**
baz=284
AMTX PKiKP **PKiKP 00 40 31.4 +0.6**
baz=284
AGMN Agassiz Nation 107.63 38 Pdiff **Pdif 00 36 25.1 +2.7**
baz=292
AGMN Agassiz Nation 107.63 38 IAMs_20 IAMs_20 01 17 34.5
comp=Z,26µm,21.0s
KIS Kishinev 107.70 320 ↓*i*P **Pdif 00 36 23.0 +0.4**
KIS Kishinev 107.70 320 *di*P **Pdif 00 36 23.0 +0.4**
PBUR Paburge 107.70 331 *e*P **Pdif 00 36 19.6 -2.8**
MILM Milestii Mici 107.73 320 ↓P **PKKPbc 00 51 45.5 -0.3**
VNA3 Neumayer Olymp 107.96 188 Pdiff **Pdif 00 36 23.7 +0.4**
SUW Suwalki 108.05 329 *e*Pdif **Pdif 00 36 23.1 -0.9**
SUW *e*PP **PP 00 40 56.9 +3.9**
SUW *e*Sdif Sdif 00 48 35.9 +6.4
SUW *e*SS **SS 00 56 05.6 +0.3**
SUW *e*L L 01 21 09.9
comp=Z,27µm,28.6s
SUW Suwalki 108.05 329 IAMs_20 IAMs_20 01 27 15.2
comp=Z,23µm,21.0s
CBKS Cedar Bluff 108.08 49 Pdiff **Pdif 00 36 27.4 +2.8**
baz=286
CBKS PKiKP **PKiKP 00 40 32.0 +0.5**
baz=286
CBKS Cedar Bluff 108.08 49 IAMs_20 IAMs_20 01 19 34.6
comp=Z,24µm,20.0s
TBLU Trondheim 108.20 341 *e*Pdif **Pdif 00 36 22.2 -2.3**
TBLU IVmB_BB 00 36 24.8
comp=Z,292nm,3.3s
TBLU *e*PP **PP 00 40 53.6 -0.1**
TBLU *e*SKSac **SKSac 00 47 03.5 -0.4**
TBLU *e*SS **SS 00 56 02.6 -4.1**
TBLU IVmS_BB IVmS_BB 01 21 20.0
comp=Z,4µm,24.2s
F33A 5 Mile Ranch, 108.26 41 IAMs_20 IAMs_20 01 25 47.5
comp=Z,17µm,20.0s
VNA1 Neumayer--Stat 108.29 189 Pdiff **Pdif 00 36 27.4 +2.6**
SCO Scoresbysund 108.40 356 *i*P **Pdif 00 36 25.4 +0.2**
SCO *i* 00 47 10.6
SCO Scoresbysund 108.40 356 *i*P **Pdif 00 36 25.4 +0.2**
BGNE Belgrade 108.48 46 PKiKP **PKiKP 00 40 32.9 +0.8**
baz=288
BGNE Belgrade 108.48 46 IAMs_20 IAMs_20 01 25 51.7
comp=Z,15µm,21.0s
VASR Vaslui 108.49 320 ↓P **PKKPbc 00 51 40.8 -2.6**
TOPG Topolog 108.75 318 ↓P **PKKPbc 00 51 42.5 0.0**
ECSD EROS Data Cent 108.78 43 Pdiff **Pdif 00 36 29.5 +1.9**
baz=290
ECSD PKiKP **PKiKP 00 40 32.7 +0.1**
baz=290
ECSD EROS Data Cent 108.78 43 IAMs_20 IAMs_20 01 23 52.6
comp=Z,18µm,20.0s
CFR Carcaliu 108.80 319 ↓P **PKKPbc 00 51 41.2 -1.1**
TIRR Tirgusor 108.87 318 ↑P **PKKPbc 00 51 42.7 +0.6**
KMBO Kilima Mbogo 108.91 269 Pdiff **Pdif 00 36 31.4 +2.4**
comp=Z,7.6nm,1.0s,baz=38,slow=7.1,SNR=14
KMBO PKiKP **PKiKP 00 40 35.5 +1.5**
comp=Z,3.6nm,0.7s,baz=44,slow=2.2,SNR=6.7
KMBO PKKPbc **PKKPbc 00 51 45.3 +3.9**
comp=Z,3.7nm,1.0s,baz=58,slow=21,SNR=7.6
GHRR 108.95 320 ↓P **PKKPbc 00 51 41.7 -0.2**
R32A Long Quarter, 108.96 49 IAMs_20 IAMs_20 01 23 17.0
comp=Z,23µm,19.0s
TLBR Topalu 109.09 318 ↑P **PKKPbc 00 51 41.9 +0.5**
TESR Tescani 109.26 320 ↓P **Pdif 00 36 29.1 -0.5**
ODBI Odobesti 109.29 320 ↑P **PKKPbc 00 51 39.9 -0.9**
NB2 NORSAR Subarra 109.36 339 P **Pdif 00 36 27.7 -2.1**
comp=Z,35nm,2.0s,baz=50,slow=4.4
NB2 NORSAR Subarra 109.36 339 P **Pdif 00 36 27.7 -2.1**
baz=50,slow=4.4
NOA NORSAR Array B 109.36 339 Pdiff **Pdif 00 36 28.0 -1.7**
comp=Z,1.6nm,0.9s,baz=59,slow=4.3,SNR=5.5
NOA PKiKP **PKiKP 00 40 33.1 -0.1**
comp=Z,2.4nm,0.7s,baz=43,slow=1.8,SNR=5.9
NOA PKKPbc **PKKPbc 00 51 39.9 -1.3**
comp=Z,7.0nm,0.8s,baz=37,slow=3.8,SNR=34
DOMB Dombas 109.44 340 *e*Pdif **Pdif 00 36 29.6 -0.5**
DOMB *e*PP **PP 00 40 57.3 -5.5**
DOMB *e*SP SP 00 50 28.0 +0.3
DOMB *e*SS **SS 00 56 23.0 -0.5**
DOMB IVmS_BB IVmS_BB 01 16 28.0
comp=Z,5µm,33.6s
NC602 NORSAR Array S 109.44 338 *e*Pdif **Pdif 00 36 28.3 -1.8**
NC602 IVmB_BB 00 36 30.6
comp=Z,314nm,2.1s
NC602 *e*PP **PP 00 41 03.0 +0.2**
NC602 *e*SP SP 00 50 27.8 0.0
NC602 *e*SS **SS 00 56 22.6 -1.0**
NC602 *e*SS SS 00 56 27.3 +3.8
NC602 IVmS_BB IVmS_BB 01 21 02.8
comp=Z,6µm,31.7s
BIZ Bicaz 109.44 321 ↓P **PKiKP 00 40 36.5 +2.8**
BIZ Bicaz 109.44 321 ↑P **PKKPbc 00 51 39.1 -1.4**
VRI Vrincioaia 109.46 320 ↑P **Pdif 00 36 31.1 +0.6**
VRI Vrincioaia 109.46 320 ↓P **PKiKP 00 40 40.3 +6.4**
VRI Vrincioaia 109.46 320 ↑P **Pdif 00 36 31.1 +0.6**
LVV L'vov 109.49 324 *e*P **Pdif 00 36 27.6 -3.0**
LVV *e* 00 47 13.9
PLOR Plostina 109.52 320 ↓P **Pdif 00 36 30.2 -0.6**
PLOR Plostina 109.52 320 ↑P **PKKPbc 00 51 37.9 -2.3**
PLOR Plostina 109.52 320 ↓P **Pdif 00 36 30.2 -0.6**
L34A Svendsen Farm, 109.55 45 IAMs_20 IAMs_20 01 24 30.1
comp=Z,16µm,22.0s
MOL Molde 109.57 341 *e*Pdif **Pdif 00 36 29.0 -1.5**
MOL *e*PP **PP 00 40 58.5 -5.1**
MOL *e*SP SP 00 50 28.9 -0.2
MOL IVmS_BB IVmS_BB 01 17 16.5
comp=Z,5µm,33.6s
BISRR Bisoca 109.59 319 ↑P **PKKPbc 00 51 40.2 +0.2**
BURAR Bucovina Array 109.72 322 ↑P **Pdif 00 36 31.9 +0.1**
BURAR Bucovina Array 109.72 322 ↑P **PKKPbc 00 51 40.4 +0.7**
BURAR Bucovina Array 109.72 322 ↑P **Pdif 00 36 31.9 +0.1**
ABTX Abilene, Hawle 109.78 55 IAMs_20 IAMs_20 01 22 52.4
comp=Z,16µm,20.0s
WMOK Wichita Mounta 109.93 53 Pdiff **Pdif 00 36 34.8 +1.9**
baz=286
WMOK PKiKP **PKiKP 00 40 35.4 +0.3**
baz=286
OZUR 109.98 320 ↑P **PKKPbc 00 51 38.6 -0.1**
AKN Aaknes 110.03 341 *e*P **Pdif 00 36 33.0 +0.3**
AKN *e*PP **PP 00 41 01.5 -5.5**
AKN *e*SP SP 00 50 33.8 +0.1
AKN *e*SS **SS 00 56 34.2 +2.8**
AKN IVmS_BB IVmS_BB 01 18 51.0
comp=Z,5µm,33.8s
F36A Milaca 110.04 40 IAMs_20 IAMs_20 01 19 37.6
comp=Z,23µm,22.0s
MLR Muntele Rosu 110.11 320 ↑P **PKKPbc 00 51 37.1 -1.3**
JCT Junction City 110.16 57 Pdiff **Pdif 00 36 34.5 +0.5**
baz=284
JCT PKiKP **PKiKP 00 40 35.9 +0.3**
baz=284
JCT Junction City 110.16 57 IAMs_20 IAMs_20 01 24 33.7
comp=Z,17µm,19.0s
OSL Oslo 110.27 338 *e*Pdif **Pdif 00 36 30.3 -3.5**
OSL *e*PP **PP 00 41 01.2 -7.6**
OSL *e*SP SP 00 50 36.4 +0.4
OSL *e*SS **SS 00 56 39.2 +4.5**
OSL IVmS_BB IVmS_BB 01 21 43.0
comp=Z,5µm,27.0s
DOPR Dopca 110.28 320 ↓P **PKKPbc 00 51 37.7 0.0**
KSU1 Kansas State U 110.32 48 Pdiff **Pdif 00 36 35.4 +0.9**
baz=289
KSU1 PKiKP **PKiKP 00 40 36.0 +0.4**
baz=289
KWP Kalwaria Pacla 110.34 325 *e*Pdif **Pdif 00 36 34.2 -0.2**
KWP *e*PP **PP 00 41 12.8 +3.0**
KWP *e*Sdif Sdif 00 48 58.1 +9.0
KWP *e*SS **SS 00 56 43.3 +6.8**
KWP *e*L L 01 22 55.3
comp=Z,18µm,28.1s
KWP Kalwaria Pacla 110.34 325 IAMs_20 IAMs_20 01 29 29.0
comp=Z,17µm,18.0s
BEL Belsk 110.37 327 *e*Pdif **Pdif 00 36 34.3 -0.1**
BEL *e*PP **PP 00 41 12.8 +2.9**
BEL *e*Sdif Sdif 00 48 57.1 +8.1
BEL *e*SS **SS 00 56 45.5 +8.9**
BEL *e*L L 01 27 50.4
comp=Z,18µm,21.1s
N35A Tabor 110.44 46 IAMs_20 IAMs_20 01 18 49.8
comp=Z,17µm,22.0s
EYMN Ely 110.45 37 Pdiff **Pdif 00 36 36.5 +1.6**
baz=296
EYMN PKiKP **PKiKP 00 40 35.2 -0.4**
baz=296
SKAR Skarslia 110.65 339 *e*Pdif **Pdif 00 36 32.4 -3.2**
SKAR IVmB_BB 00 36 33.4
comp=Z,372nm,2.5s
SKAR *e*PP **PP 00 41 09.8 -1.8**
SKAR *e*SKSdf **SKSdf 00 47 46.1 -1.1**
SKAR *e*SS **SS 00 56 40.6 +0.8**
SKAR IVmS_BB IVmS_BB 01 17 09.0
comp=Z,5µm,32.2s
FRB Frobisher Bay 110.67 16 PKiKP **PKiKP 00 40 35.2 -0.3**
comp=Z,9.5nm,0.8s,baz=320,slow=2.7,SNR=1.7
SPMN Marine on St. 110.76 40 PKiKP **PKiKP 00 40 36.3 0.0**
baz=294
SPMN Marine on St. 110.76 40 IAMs_20 IAMs_20 01 24 08.6
comp=Z,17µm,20.0s
I37A Lemond, Waseca 110.85 42 IAMs_20 IAMs_20 01 18 32.0
comp=Z,27µm,22.0s
KONO Kongsberg 110.89 338 *e*Pdif **Pdif 00 36 35.5 -1.1**
KONO IVmB_BB 00 36 37.6
comp=Z,438nm,2.5s
KONO *e*PP **PP 00 41 13.3 0.0**
KONO *e*SKSac **SKSac 00 47 16.1 +0.8**
KONO *e*SP SP 00 50 41.8 +0.1
KONO *e*SS **SS 00 56 44.9 +1.9**
KONO IVmS_BB IVmS_BB 01 20 16.1
comp=Z,5µm,27.9s
KONO Kongsberg 110.89 338 IAMs_20 IAMs_20 01 30 24.4
comp=Z,19µm,22.0s
KOLS Kolonicke sedl 110.92 324 *e*P **Pdif 00 36 36.9 0.0**
KOLS *e* 00 41 14.5
KOLS *e*SS SS 00 56 43.1 -1.1
833A Chaparral WMA, 111.00 59 PKiKP **PKiKP 00 40 38.3 +1.1**
baz=283
833A Chaparral WMA, 111.00 59 IAMs_20 IAMs_20 01 18 31.0
comp=Z,21µm,21.0s
ARR Arges 111.01 320 ↑P **Pdif 00 36 38.5 +1.0**
ARR Arges 111.01 320 ↑P **PKKPbc 00 51 36.1 +0.7**
UZH Uzhgorod 111.04 324 *e*P **Pdif 00 36 38.0 +0.5**
UZH *e* 00 41 13.0
T35A Sooner Cattle 111.08 50 IAMs_20 IAMs_20 01 20 50.1
comp=Z,23µm,22.0s
FOO Floro 111.09 341 *e*Pdif **Pdif 00 36 37.1 -0.2**
FOO IVmB_BB 00 36 40.4
comp=Z,698nm,2.4s
FOO *e*SP SP 00 50 42.0 -1.4
FOO *e*SS **SS 00 56 50.8 +5.4**
FOO IVmS_BB IVmS_BB 01 25 29.4
comp=Z,5µm,25.1s
CJR Cluj-Napoca 111.10 322 ↑P **PKKPbc 00 51 35.9 +0.8**
HUMR Humele 111.12 319 ↓P **Pdif 00 36 37.6 -0.3**
QUOK Quay 111.15 51 IAMs_20 IAMs_20 01 21 03.1
comp=Z,18µm,20.0s
CRVS Cervenica-Dubn 111.41 324 *e*P **Pdif 00 36 39.5 +0.4**
CRVS *e* 00 41 19.3
CRVS *e*SS SS 00 56 52.4 +1.6
CRVS Cervenica-Dubn 111.41 324 *e*PDIFF **Pdif 00 36 39.5 +0.4**
CRVS *e*PP **PP 00 41 19.3 +1.8**
CRVS *e*SDIFF 00 48 53.1
CRVS *e* 00 51 34.8
CRVS *e*SS **SS 00 56 52.4 +1.6**
CRVS *e*L L 01 22 32.0
GKP Gorka Klasztor 111.47 330 *e*Pdif **Pdif 00 36 41.4 +2.2**
GKP *e*PP **PP 00 41 20.6 +2.9**
GKP *e*Sdif Sdif 00 49 05.0 +6.8
GKP *e*SS SS 00 57 02.4 +11
GKP *e*L L 01 28 07.6
comp=Z,24µm,22.6s
SUE Sulen 111.58 341 *e*Pdif **Pdif 00 36 40.1 +0.6**
SUE IVmBBB 00 36 42.8
comp=Z,2µm,2.5s
SUE *e*PP **PP 00 41 18.2 +0.1**
SUE *e*SP SP 00 50 47.3 -0.7
SUE *e*SS **SS 00 56 54.1 +2.1**
SUE IVmS_BB IVmS_BB 01 26 08.3
comp=Z,5µm,22.4s
OJC Ojcow 111.71 326 *e*Pdif **Pdif 00 36 39.9 -0.5**
OJC *e*PP **PP 00 41 22.1 +2.5**
OJC *e*Sdif Sdif 00 49 08.2 +7.8
OJC *e*SS **SS 00 57 00.2 +5.4**
OJC *e*L L 01 26 40.5
comp=Z,18µm,24.8s
WHTX Lake Whitney, 111.73 55 IAMs_20 IAMs_20 01 20 42.1
comp=Z,18µm,22.0s
ENEZ Enez 111.76 315 P **PKiKP 00 40 44.1 +5.8**
SCIA State Center 111.78 44 IAMs_20 IAMs_20 01 21 16.8
comp=Z,18µm,21.0s
ODD1 Odda 111.78 339 *e*Pdif **Pdif 00 36 37.9 -2.7**
K38A Parkersburg 111.80 43 IAMs_20 IAMs_20 01 28 25.3
comp=Z,14µm,21.0s
NIE Niedzica 111.83 325 *e*Pdif **Pdif 00 36 41.4 +0.4**
NIE *e*PP **PP 00 41 23.3 +2.8**
NIE *e*Sdif Sdif 00 49 14.5 +13
NIE *e*SS **SS 00 57 06.9 +11**
NIE *e*L L 01 25 40.7
comp=Z,11µm,26.2s
BER Bergen 111.89 340 *e*Pdif **Pdif 00 36 41.1 +0.2**
BER IVmB_BB 00 36 43.4
comp=Z,1µm,3.1s
BER *e*PP **PP 00 41 14.5 -5.9**
BER *e*SKPdf **SKiKP 00 44 13.9 +0.8**
BER *e*SS **SS 00 56 58.2 +2.1**
BER IVmS_BB IVmS_BB 01 20 01.7
comp=Z,4µm,29.9s
DEV Deva 111.89 321 ↑P **PKKPbc 00 51 32.1 -0.3**
TUL1 Leonard 111.94 51 Pdiff **Pdif 00 36 43.7 +2.0**
baz=288
TUL1 PKiKP **PKiKP 00 40 38.9 +0.2**
baz=288
TUL1 Leonard 111.94 51 IAMs_20 IAMs_20 01 20 07.0
comp=Z,26µm,22.0s

435B Jarrell 111.94 56 PKiKP **PKiKP** 00 40 39.2 +0.3
baz=285
435B Jarrell 111.94 56 IAMs_20 IAMs_20 01 19 00.7
comp=Z,20µm,22.0s
N38A Joes South For 112.18 45 IAMs_20 IAMs_20 01 20 05.6
comp=Z,21µm,22.0s
BLS5 Blasjo 112.19 339 *e*Pdif **Pdif** 00 36 41.5 -0.9
BLS5 IVmB_BB 00 36 45.2
comp=Z,559nm,2.5s
BLS5 *e*PP **PP** 00 41 19.3 -3.3
BLS5 *e*SP SP 00 50 55.5 +1.8
BLS5 *e*SS **SS** 00 57 04.1 +3.6
BLS5 IVMs_BB IVMs_BB 01 24 06.1
comp=Z,6µm,24.8s
735A Kenedy 112.23 58 IAMs_20 IAMs_20 01 20 32.6
comp=Z,25µm,20.0s
HOMB Homborsund 112.25 337 *e*Pdif **Pdif** 00 36 39.4 -3.1
HOMB *e*PP **PP** 00 41 18.4 -4.6
HOMB *e*SP SP 00 50 53.6 -0.6
HOMB *e*SS **SS** 00 57 01.2 +0.2
HOMB IVMs_BB IVMs_BB 01 22 55.3
comp=Z,6µm,26.9s
P38A Dawn 112.39 46 IAMs_20 IAMs_20 01 23 10.4
comp=Z,17µm,22.0s
G40A Rib Lake 112.41 39 IAMs_20 IAMs_20 01 21 43.2
comp=Z,23µm,22.0s
SIRR Siria 112.50 322 ⇑P **PKiKP** 00 40 39.3 -0.2
SIRR Siria 112.50 322 ⇑P **PKKPbc** 00 51 30.3 -0.1
PMSA Palmer Station 112.52 167 PKiKP **PKiKP** 00 40 39.3 +0.3
comp=Z,4.5nm,0.8s,baz=207,slow=3.9,SNR=4.2
PMSA PKKPbc **PKKPbc** 00 51 28.8 -2.0
comp=Z,2.5nm,0.4s,baz=112,slow=5.1,SNR=3.8
PMSA Palmer Station 112.52 167 *e*P **Pdif** 00 36 45.6 +2.0
PMSA Palmer Station 112.52 167 Pdif **Pdif** 00 36 44.5 +0.9
HERR Herculane 112.64 320 ⇑P **PKKPbc** 00 51 29.8 0.0
SNART Snartemo 112.69 338 *e*Pdif **Pdif** 00 36 41.6 -2.9
SNART *e*PP **PP** 00 41 24.1 -2.0
SNART *e*SKSac **SKSac** 00 47 22.7 +0.1
PSZ Piszkesteto 112.79 324 ⇓P PKiKP 00 40 48.0 +7.9
PSZ Piszkesteto 112.79 324 ⇓P **PKKPbc** 00 51 28.7 -0.9
PSZ Piszkesteto 112.79 324 ⇓PKIKP PKiKP 00 40 48.0 +7.9
BZS Buzias 112.82 321 ⇑P **PKiKP** 00 40 40.7 +0.6
BZS Buzias 112.82 321 ⇑P **PKKPbc** 00 51 29.4 +0.1
BZS Buzias 112.82 321 ⇑PKIKP **PKiKP** 00 40 40.7 +0.6
OKC Ostrava-Krasne 112.83 326 *e*P **Pdif** 00 36 46.5 +1.1
OKC *e* 00 40 41.2
OKC MLR MLR
comp=Z,1µm,16.9s
OKC Ostrava-Krasne 112.83 326 *e*PDIFF **Pdif** 00 36 46.5 +1.1
OKC *e*PKP **PKiKP** 00 40 41.2 +1.2
OKC *e*PKKP **PKKPbc** 00 51 29.9 +0.5
OKC AMS AMS 01 29 40.0
comp=Z,1µm,16.9s
U38A Gravette 112.85 50 IAMs_20 IAMs_20 01 22 03.0
comp=Z,25µm,22.0s
UNM Universidad Na 112.92 69 IAMs_20 IAMs_20 01 17 18.1
comp=Z,26µm,22.0s
VTS Vitosha 113.05 318 ⇓P **PKiKP** 00 40 41.0 +0.1
VTS Vitosha 113.05 318 ⇓P **PKKPbc** 00 51 32.9 +4.3
VTS Vitosha 113.05 318 ⇓PKIKP **PKiKP** 00 40 41.0 +0.1
237A Washetta, Mont 113.08 55 IAMs_20 IAMs_20 01 23 13.8
comp=Z,14µm,21.0s
L40A Anamosa 113.08 43 IAMs_20 IAMs_20 01 23 13.4
comp=Z,16µm,20.0s
VYHS Vyhne 113.12 325 *e*P **Pdif** 00 36 47.2 +0.4
VYHS *e* 00 41 31.2
VYHS *e*SS SS 00 57 17.2 +3.6
MDVR Moldovita 113.13 320 ⇓P **PKiKP** 00 40 41.0 +0.1
NVR Nevrokopi 113.14 316 P **PKiKP** 00 40 44.9 +3.9
MORC Moravsky Berou 113.19 327 ⇑P **PKiKP** 00 40 41.4 +0.6
MORC Moravsky Berou 113.19 327 ⇓P **PKKPbc** 00 51 28.7 +0.5
MORC Moravsky Berou 113.19 327 *e*PDIFF **Pdif** 00 36 47.2 +0.1
MORC Moravsky Berou 113.19 327 *e*PKP **PKiKP** 00 40 41.6 +0.8
MORC *e*PP **PP** 00 41 32.0 +1.8
MORC *e*SDIFF **Sdif** 00 49 13.5 +0.6
MORC *e*SP **PKKPbc** 00 51 28.1 -0.1
MORC Moravsky Berou 113.19 327 ⇑PKIKP **PKiKP** 00 40 41.4 +0.6
MORC Moravsky Berou 113.19 327 IAMs_20 IAMs_20 01 28 38.1
comp=Z,16µm,20.0s
MUD Monsted U'grnd 113.21 336 *i* P **PKiKP** 00 40 46.0 +5.5
MUD Monsted U'grnd 113.21 336 *i* PKIKP **PKiKP** 00 40 46.0 +5.5
S39A Bolivar 113.23 48 IAMs_20 IAMs_20 01 22 45.8
comp=Z,23µm,21.0s
HHAR Hobbs 113.24 50 IAMs_20 IAMs_20 01 22 26.3
comp=Z,26µm,22.0s
KSP Ksiaz 113.29 328 *e*Pdif **Pdif** 00 36 47.6 +0.2
KSP *e*PP **PP** 00 41 33.0 +2.2
KSP *e*Sdif Sdif 00 49 22.9 +9.4
KSP *e*SS **SS** 00 57 26.0 +10
KSP *e*L L 01 24 49.7
comp=Z,20µm,32.8s
JFWS Jewell Farm 113.39 42 PKiKP **PKiKP** 00 40 41.1 -0.2
baz=295
JFWS Jewell Farm 113.39 42 IAMs_20 IAMs_20 01 25 25.3
comp=Z,19µm,22.0s
KRLC Kraliky 113.45 327 *e*P **Pdif** 00 36 49.0 +0.8
KRLC *e* 00 40 41.4
KRLC MLR MLR
comp=Z,18µm,20.5s
KRLC Kraliky 113.45 327 *e*PDIFF **Pdif** 00 36 49.0 +0.8
KRLC *e*PKP **PKiKP** 00 40 41.4 +0.1
KRLC *e*PKKP **PKKPbc** 00 51 27.5 +0.1
KRLC AMS AMS 01 29 50.0
comp=Z,18µm,20.5s
OSTC Ostas 113.49 328 *e*PDIFF **Pdif** 00 36 44.0 -4.4
OSTC *e*PKP **PKiKP** 00 40 41.8 +0.5
OSTC *e*PKKP **PKKPbc** 00 51 27.3 +0.1
OSTC AMS AMS 01 23 00.0
comp=Z,20µm,30.1s
P40A Paris 113.49 46 IAMs_20 IAMs_20 01 20 42.5
comp=Z,21µm,22.0s
APE Apeiranthos 113.51 311 ⇑PKIKP **PKiKP** 00 40 43.5 +1.7
DPC Dobruska-Polom 113.55 328 *e*P **Pdif** 00 36 47.8 -0.9
DPC *e* 00 40 41.8
DPC MLR MLR
comp=Z,15µm,18.9s
DPC Dobruska-Polom 113.55 328 *e*PDIFF **Pdif** 00 36 47.8 -0.9
DPC *e*PKP **PKiKP** 00 40 41.8 +0.3
DPC *e*PKKP **PKKPbc** 00 51 27.0 -0.1
DPC AMS AMS 01 30 10.0
comp=Z,15µm,18.9s
CHVC Chvalec 113.56 328 *e*PKPPKP **PKiKP** 00 40 41.6 +0.1
CHVC *e*PKKP **PKKPbc** 00 51 26.5 -0.5
CHVC AMS AMS 01 23 00.0
comp=Z,21µm,31.2s
JAVC Velka Javorina 113.60 326 *e*PDIFF **Pdif** 00 36 50.4 +1.5
JAVC Velka Javorina 113.60 326 *e*PKP **PKiKP** 00 40 43.2 +1.6
JAVC *e*PP **PP** 00 41 36.8 +3.6
JAVC *e*SDIFF **Sdif** 00 49 23.9 +7.6
JAVC *e*SP SP 00 51 27.3 +20
UPC Upice 113.63 328 *e*P **Pdif** 00 36 46.5 -2.4
UPC *e* 00 40 42.8
UPC Upice 113.63 328 *e*PDIFF **Pdif** 00 36 46.5 -2.4
UPC *e*PKP **PKiKP** 00 40 42.8 +1.2
UPC *e*PKKP **PKKPbc** 00 51 26.7 0.0
UPC AMS AMS 01 23 00.0
comp=Z,20µm,27.8s
RUE Ruedersdorf 113.64 330 *e*P **Pdif** 00 36 47.8 -1.2
RUE *e*PP **PP** 00 41 31.1 -2.0
W39A Magazine 113.72 51 PKiKP **PKiKP** 00 40 42.0 -0.2
baz=289
TLIG Tlapa 113.78 70 IAMs_20 IAMs_20 01 19 58.8
comp=Z,20µm,20.0s
PLG Polygyros 113.81 315 P **PKiKP** 00 40 47.9 +5.6
I42A Draeger Farm, 113.85 40 IAMs_20 IAMs_20 01 20 53.2
comp=Z,19µm,21.0s
N41A Harden Midland 113.88 44 IAMs_20 IAMs_20 01 25 08.6
comp=Z,14µm,20.0s
SMOL Smolenice 113.92 325 *e*PP **PP** 00 41 36.9 +1.6
SMOL *e* 00 51 27.0
VRAC Vranov 113.96 326 ⇑P **Pdif** 00 36 50.9 +0.5
VRAC Vranov 113.96 326 ⇑P **PKiKP** 00 40 43.2 +1.0
VRAC Vranov 113.96 326 ⇑P **PKKPbc** 00 51 24.9 -0.7
VRAC Vranov 113.96 326 *e*PDIFF **Pdif** 00 36 51.0 +0.5
VRAC Vranov 113.96 326 *e*PKP **PKiKP** 00 40 42.7 +0.4
VRAC *e*PP **PP** 00 41 38.3 +2.7
VRAC *e*SDIFF **Sdif** 00 49 20.3 +1.0
VRAC *e*SP **PKKPbc** 00 51 24.9 -0.7
VRAC Vranov 113.96 326 ⇑PKIKP **PKiKP** 00 40 43.2 +1.0
U40A Yellville 114.04 49 P PKPdf 00 40 42.8 0.0
baz=290
U40A Yellville 114.04 49 IAMs_20 IAMs_20 01 23 11.5
comp=Z,25µm,21.0s

MODS Modra-Piesok 114.08 325 *e*P **Pdif** 00 36 51.3 +0.3
MODS *e* 00 41 37.2
MODS *e*SS SS 00 57 37.9 +12
NATX Nacogdoches 114.08 55 P **PKiKP** 00 40 43.9 +1.0
baz=287
NATX Nacogdoches 114.08 55 IAMs_20 IAMs_20 01 22 06.2
comp=Z,22µm,22.0s
MIAR Mount Ida 114.09 51 P **PKiKP** 00 40 43.0 +0.1
baz=289
FRGS Fruska Gora 114.16 321 *e*P PKPdf 00 40 40.3 -2.5
L42A Oliver, Polo 114.16 43 IAMs_20 IAMs_20 01 24 15.9
comp=Z,17µm,20.0s
KRUC Moravsky 114.21 326 *e*PDIFF **Pdif** 00 36 51.6 +0.1
KRUC Moravsky 114.21 326 *e*PKP **PKiKP** 00 40 43.1 +0.4
KRUC *e*PP **PP** 00 41 38.9 +1.6
KRUC *e*SDIFF **Sdif** 00 49 22.1 +0.9
KRUC *e*SP **SP** 00 51 24.1 +11
H43A Windswept, Lux 114.32 39 IAMs_20 IAMs_20 01 23 01.3
comp=Z,18µm,22.0s
DION Dionisos Attik 114.33 313 P PKPdf 00 40 42.0 -1.3
MORH Mrgy, Hungar 114.37 323 ⇑*i*P **PKiKP** 00 40 41.7 -1.4
PVCC Panska Ves 114.38 328 *e*P **Pdif** 00 36 48.7 -3.6
PVCC *e* 00 40 43.2
PVCC Panska Ves 114.38 328 *e*PDIFF **Pdif** 00 36 48.7 -3.6
PVCC *e*PKP PKPdf 00 40 43.2 +0.2
PVCC *e*PKKP **PKKPbc** 00 51 23.9 -0.3
PVCC AMS AMS 01 24 10.0
comp=Z,17µm,28.2s
BSEG Bad Segeberg 114.38 333 *e*PKPdf PKPdf 00 40 43.0 +0.2
baz=52,slow=1.9
NEO Neokhori 114.38 314 P **PKiKP** 00 40 49.2 +5.8
PTL Penteli 114.40 313 P **PKiKP** 00 40 48.8 +5.3
BRG Berggiesshubel 114.50 329 PDIF **Pdif** 00 36 53.1 +0.2
comp=Z,8.2nm,1.2s
BRG *e* 00 37 01.8
comp=Z,34nm,1.9s
BRG Berggiesshubel 114.50 329 PKP PKPdf 00 40 43.5 +0.3
comp=Z,15nm,1.0s
BRG PP PP 00 41 51.9 +13
comp=Z,37nm,1.3s
BRG *e* 00 45 21.6
comp=Z,8.9nm,1.0s
BRG SDIF 00 49 24.0
BRG SP **SP** 00 51 17.0 +1.6
BRG PKKP **PKKPbc** 00 51 23.5 -0.3
comp=Z,15nm,1.1s
BRG *e* 00 51 29.0
comp=Z,12nm,1.0s
BRG SS SS 00 57 46.0 +15
BRG *e* 01 08 49.8
comp=Z,48nm,1.2s
comp=Z,19µm,21.6s
comp=N,15µm,22.3s
comp=E,13µm,22.3s
DIVS Divibare 114.54 320 ⇑*i*P **PKiKP** 00 40 42.6 -1.0
TREC Trest 114.58 327 *e*P **Pdif** 00 36 46.5 -6.7
TREC *e* 00 40 43.4
TREC *e* 00 51 23.4
TREC MLR MLR
comp=Z,19µm,26.4s
TREC Trest 114.58 327 *e*PDIFF **Pdif** 00 36 46.5 -6.7
TREC *e*PKP **PKiKP** 00 40 43.4 -0.1
TREC *e*PKKP **PKKPbc** 00 51 23.4 -0.1
TREC AMS AMS 01 24 00.0
comp=Z,19µm,26.4s
IDI Anoyia 114.61 310 PKKPab PKKPab 00 51 31.8 +3.1
comp=Z,32nm,1.0s,baz=180,slow=5.7,SNR=7.8
IDI Anoyia 114.61 310 P PKPdf 00 40 42.5 -1.5
IDI Anoyia 114.61 310 ⇓P PKPdf 00 40 43.7 -0.3
IDI Anoyia 114.61 310 ⇓P **PKKPab** 00 51 31.7 +3.0
GOPC GO Pecny, Ondr 114.61 328 *e*P **Pdif** 00 36 47.8 -5.6
GOPC *e* 00 40 43.4
GOPC *e* 00 51 23.2
GOPC MLR MLR
comp=Z,21µm,21.8s
GOPC GO Pecny, Ondr 114.61 328 *e*PDIFF **Pdif** 00 36 47.8 -5.6
GOPC *e*PKP **PKiKP** 00 40 43.4 -0.1
GOPC *e*PKKP **PKKPbc** 00 51 23.2 -0.2
GOPC AMS AMS 01 30 50.0
comp=Z,21µm,21.8s
CCM Cathedral Cave 114.63 47 P PKPdf 00 40 43.9 0.0
baz=292
X40A Basin Creek Fa 114.69 51 P **PKiKP** 00 40 43.9 -0.2
baz=290
PRU Pruhonice 114.70 328 *e*P **Pdif** 00 36 53.8 +0.1
PRU *e* 00 40 43.6
PRU *e* 00 51 22.1
PRU MLR MLR
comp=Z,20µm,21.0s
PRU Pruhonice 114.70 328 *e*PDIFF **Pdif** 00 36 53.8 +0.1
PRU *ex* x 00 37 02.5
PRU *e*PKP **PKiKP** 00 40 43.6 0.0
PRU *e*PKKP **PKKPbc** 00 51 22.1 -0.9
PRU AMS AMS 01 31 00.0
comp=Z,20µm,21.0s
PRA Prague 114.71 328 *e*P **Pdif** 00 36 50.3 -3.4
PRA *e* 00 40 43.2
PRA Prague 114.71 328 *e*PDIFF **Pdif** 00 36 50.3 -3.4
PRA *e*PKP **PKiKP** 00 40 43.2 -0.4
PRA *e*PKKP **PKKPab** 00 51 27.9 -0.2
PRA AMS AMS 01 24 30.0
comp=Z,10µm,28.8s
CLL Collm 114.73 330 *i* Pdif **Pdif** 00 36 52.9 -0.9
comp=Z,8.0nm,1.1s
CLL *i* PKiKP PKPdf 00 40 43.7 +0.1
comp=Z,18nm,0.9s
CLL *i* sPKiKP **PKiKP** 00 40 49.8 +6.2
comp=Z,26nm,0.8s
CLL *e*PP **PP** 00 41 44.0 +3.1
comp=Z,900nm,11.4s
CLL *e*PPP PPP 00 44 00.0
CLL *e*Sdif Sdif 00 49 21.0 -4.5
CLL *e*PS **PKKPbc** 00 51 23.0 0.0
CLL *i* PKKPdf **PKKPdf** 00 51 40.8 -5.3
CLL *e*SS **SS** 00 57 32.0 -2.3
CLL *e*SSS SSS 01 01 54.0
CLL LmV 01 31 00.0
comp=Z,15µm,19.9s
CLL Collm 114.73 330 *i* P **Pdif** 00 36 52.9 -0.9
CLL *i* 00 40 43.7
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL pmax pmax
comp=Z,18nm,0.9s
CLL MLR MLR
comp=Z,15µm,19.9s
CLL Collm 114.73 330 *e*PKPdf PKPdf 00 40 43.7 0.0
baz=52,slow=1.9
CLL Collm 114.73 330 IAMs_20 IAMs_20 01 31 47.8
comp=Z,15µm,18.0s
WLAR White Oak Lake 114.73 52 IAMs_20 IAMs_20 01 28 46.1
comp=Z,21µm,21.0s
K43A Burlington 114.75 41 IAMs_20 IAMs_20 01 21 48.3
comp=Z,24µm,22.0s
FCAR Ozark Folk Cen 114.75 50 IAMs_20 IAMs_20 01 22 01.4
comp=Z,24µm,22.0s
FBE Freiberg 114.78 329 *e*PKPdf **PKiKP** 00 40 43.3 -0.4
baz=52,slow=1.9
LKR Lokris 114.80 314 P **PKiKP** 00 40 43.2 -1.0
WHAR Wooly Hollow 114.84 50 IAMs_20 IAMs_20 01 29 52.7
comp=Z,18µm,21.0s
W41B Gary Mavity, V 114.91 50 P **PKiKP** 00 40 44.4 -0.1
baz=290
W41B Gary Mavity, V 114.91 50 IAMs_20 IAMs_20 01 29 54.6
comp=Z,21µm,21.0s
BBLS Lazići 115.02 320 ⇑*i*P **PKPdf** 00 40 44.7 +0.2
HDIL Hopedale 115.03 44 P **PKPdf** 00 40 44.6 +0.1
baz=295
HDIL Hopedale 115.03 44 IAMs_20 IAMs_20 01 26 01.9
comp=Z,20µm,20.0s
DID Didima 115.06 313 P **PKiKP** 00 40 43.6 -1.1
FNA Florina 115.08 316 P **PKiKP** 00 40 43.8 -0.9
VAM Vamos 115.10 310 P **PKPdf** 00 40 45.3 +0.5
Z41A Richland Creek 115.11 52 P **PKPdf** 00 40 45.3 +0.4
baz=289
Z41A Richland Creek 115.11 52 IAMs_20 IAMs_20 01 22 56.3
comp=Z,19µm,21.0s
CONA Conrad Observa 115.12 325 *e*PKiKP **PKPdf** 00 40 45.0 +0.4
comp=Z,43nm,1.8s
CONA *e*PP **PP** 00 41 46.2 +2.3
comp=Z,34nm,2.2s
CONA *e*PKKPbc **PKKPbc** 00 51 21.5 -0.2
comp=Z,14nm,0.8s,SNR=9.0
T42A Van Buren 115.12 48 IAMs_20 IAMs_20 01 28 38.0
comp=Z,21µm,19.0s

PBCC Pribram 115.16 328 *e*PKP **PKiKP** 00 40 44.3 -0.2
PBCC *e*PKKP **PKKPbc** 00 51 21.3 -0.2
P43A Skaggs, Pawnee 115.24 45 IAMs_20 IAMs_20 01 21 49.8
comp=Z,15µm,21.0s
L44A Lake County Fo 115.27 42 P **PKPdf** 00 40 45.0 0.0
baz=297
L44A Lake County Fo 115.27 42 IAMs_20 IAMs_20 01 29 09.9
comp=Z,15µm,21.0s
MAKR Makrakomi, Fth 115.28 314 P **PKiKP** 00 40 45.0 -0.1
PHP Peshkopia 115.33 318 P **PKiKP** 00 40 44.7 -0.5
G45A Suttons Bay 115.37 38 **PKiKP** 00 40 44.6 -0.4
D46A Sault St. Mari 115.40 36 P **PKPdf** 00 40 45.3 +0.3
baz=302
NRDL Niedersach Rie 115.40 332 *e*PKPdf **PKPdf** 00 40 45.1 +0.3
baz=52,slow=1.9
LCAR Lake Charles 115.43 49 PP PP 00 41 45.5 -1.0
HQIL Hanson Quary C 115.47 42 IAMs_20 IAMs_20 01 27 20.5
comp=Z,19µm,20.0s
I45A Fountain 115.49 39 IAMs_20 IAMs_20 01 27 31.5
comp=Z,21µm,22.0s
TANN Tannenbergstha 115.54 329 *e*PKPdf **PKPdf** 00 40 45.4 0.0
baz=52,slow=1.9
EVR Evrytania 115.55 314 P **PKiKP** 00 40 44.5 -1.2
GUR Goura 115.55 313 P **PKiKP** 00 40 45.3 -0.5
441A DeRidder 115.58 55 IAMs_20 IAMs_20 01 22 41.0
comp=Z,25µm,21.0s
ANX Ano Chora 115.60 314 P **PKPdf** 00 40 46.0 +0.2
GUNZ Gunzen 115.63 329 *e*PKPdf **PKPdf** 00 40 45.6 +0.2
baz=52,slow=1.9
KLV Kalavryta, Ach 115.65 313 P **PKiKP** 00 40 45.5 -0.4
PLN Plauen 115.65 329 *e*PKPdf **PKiKP** 00 40 45.4 -0.1
baz=52,slow=1.9
NKC Novy Kostel 115.65 329 *e*P **Pdif** 00 36 57.9 -0.1
NKC *e* 00 40 45.7
NKC *e* 00 51 20.0
NKC MLR MLR
comp=Z,15µm,25.9s
NKC Novy Kostel 115.65 329 *e*PDIFF **Pdif** 00 36 57.9 -0.1
NKC *e*PKP **PKPdf** 00 40 45.7 +0.2
NKC *e*PKKP **PKKPbc** 00 51 20.0 +0.2
NKC AMS AMS 01 25 40.0
comp=Z,15µm,25.9s
UPM Unac-Piva 115.65 320 *e*P **PKiKP** 00 40 44.7 -1.2
WERN Wernitzgruen 115.66 329 *e*PKPdf **PKPdf** 00 40 45.6 +0.1
baz=52,slow=1.9
ARSA Arzberg 115.67 325 *e*PKiKP **PKiKP** 00 40 45.4 -0.2
comp=Z,11nm,1.2s
ARSA *e*PP **PP** 00 41 49.2 +1.5
comp=Z,10nm,1.0s
CLZ Clausthal 115.69 331 *e*PKPdf **PKPdf** 00 40 46.0 +0.5
baz=52,slow=1.9
KHC Kasperske Hory 115.70 328 *c* *i*PKIKP **PKiKP** 00 40 45.6 -0.1
KHC pmax pmax
comp=Z,33nm,1.0s
KHC MLR MLR
comp=Z,35µm,19.0s
KHC Kasperske Hory 115.70 328 *e*PDIFF **Pdif** 00 36 57.7 -0.6
KHC *ex* x 00 37 16.3
KHC *e*PKP **PKiKP** 00 40 45.6 -0.1
KHC *ex* x 00 40 53.0
KHC *e*PKKP **PKKPbc** 00 51 18.9 -0.7
KHC AMS AMS 01 23 20.0
comp=Z,23µm,29.9s
CCAR Cane Creek 115.71 51 PP PP 00 41 50.5 +1.9
PBMO Poplar Bluff 115.71 48 PP PP 00 41 48.8 +0.3
PBMO IAMs_20 IAMs_20 01 28 20.5
comp=Z,23µm,19.0s
O44A Mansfield 115.77 44 PP PP 00 41 46.3 -2.4
O44A IAMs_20 IAMs_20 01 27 55.5
comp=Z,16µm,20.0s
PDG Podgorica 115.78 319 ⇓P **PKKPbc** 00 51 19.7 +0.6
PDG Podgorica 115.78 319 ⇑*i*P **PKiKP** 00 40 45.0 -0.9
GEC2 GERESS Array S 115.80 327 *e*PKPdf **PKiKP** 00 40 45.7 -0.2
baz=52,slow=1.9
GERES GERESS Array B 115.80 327 Pdiff **Pdif** 00 36 59.0 +0.2
comp=Z,1.4nm,0.9s,baz=45,slow=4.3,SNR=13
GERES PKP **PKiKP** 00 40 45.8 -0.2
comp=Z,5.4nm,0.7s,baz=70,slow=1.7,SNR=24
GERES PKKPbc **PKKPbc** 00 51 19.1 -0.3
comp=Z,6.4nm,0.8s,baz=220,slow=3.5,SNR=24
MOX Moxa 115.83 330 *e*L L 01 31 00.9
comp=Z,13µm,22.0s
D47A Chapleau 115.85 35 P **PKPdf** 00 40 46.1 +0.1
baz=303
Q44A Meyer Farm, Va 115.90 45 PP PP 00 41 48.9 -0.9
Q44A IAMs_20 IAMs_20 01 23 33.3
comp=Z,21µm,21.0s
DRME Dracevica, Mon 115.94 319 ⇑*i*P **PKiKP** 00 40 45.7 -0.6
MANZ Manzenberg 115.97 329 *e*PKPdf **PKPdf** 00 40 46.2 +0.1
baz=52,slow=1.9
BLY Banja Luka 115.99 322 ⇑*i*P **PKiKP** 00 40 46.2 -0.1
HBAR Harrisburg 115.99 49 IAMs_20 IAMs_20 01 23 49.1
comp=Z,22µm,20.0s
BRY Bratogost 116.03 320 *e*P **PKiKP** 00 40 45.1 -1.5
BLWY Bulawayo 116.05 248 *i* P **PKiKP** 00 40 47.9 +0.6
BLWY Bulawayo 116.05 248 *i* P **PKiKP** 00 40 47.9 +0.6
MOA Molln 116.06 326 *e*PKiKP **PKiKP** 00 40 46.2 -0.2
comp=Z,5.9nm,0.8s
MOA *e*PP **PP** 00 41 51.6 +1.2
comp=Z,51nm,2.3s
MOA *e*PKKPbc **PKKPbc** 00 51 18.0 -0.4
comp=Z,8.6nm,0.8s,SNR=6.7
E47A Iron Bridge 116.07 36 P **PKiKP** 00 40 46.1 -0.3
baz=302
342A Flagon Creek P 116.10 54 IAMs_20 IAMs_20 01 24 18.5
comp=Z,20µm,20.0s
MATP Matopo 116.11 248 PKP **PKPdf** 00 40 46.8 -0.6
comp=Z,16nm,0.8s,baz=99,slow=1.7,SNR=26
MATP PKKPbc **PKKPbc** 00 51 15.9 -1.6
comp=Z,4.6nm,0.8s,baz=270,slow=2.3,SNR=10.0
MATP Matopo 116.11 248 *i* P **PKiKP** 00 40 47.9 +0.6
MATP Matopo 116.11 248 *i* P **PKiKP** 00 40 47.9 +0.6
GLMI Grayling 116.11 38 P **PKiKP** 00 40 46.5 0.0
baz=300
GLMI Grayling 116.11 38 PP PP 00 41 52.1 +1.2
RLS Riolos of Patr 116.14 314 P **PKiKP** 00 40 47.0 +0.3
X43A Marvell 116.19 51 P **PKiKP** 00 40 47.5 +0.5
baz=291
X43A Marvell 116.19 51 **PKPdf** 00 40 46.8 -0.1
X43A PP **PP** 00 41 55.0 +3.1
LPAR Lepanto 116.24 49 IAMs_20 IAMs_20 01 23 55.8
comp=Z,21µm,20.0s
SOKA Soboth 116.27 325 *e*PKPdf **PKPdf** 00 40 46.2 -0.7
comp=Z,41nm,1.4s,SNR=7.4
SOKA *e*PP **PP** 00 41 54.7 +2.7
comp=Z,42nm,1.4s
HCY Herceg Novi 116.28 319 *e*P **PKPdf** 00 40 44.4 -2.5
PEBM Pemiscott Bayo 116.38 49 PP PP 00 41 54.8 +1.6
143A Socs Landing, 116.41 53 IAMs_20 IAMs_20 01 22 22.5
comp=Z,19µm,21.0s
L46A Eue Claire 116.41 41 PP PP 00 41 52.6 -0.6
L46A IAMs_20 IAMs_20 01 22 04.2
comp=Z,19µm,21.0s
PENMO Penman 116.43 48 IAMs_20 IAMs_20 01 26 33.6
comp=Z,19µm,20.0s
CRES Cresnjev 116.48 324 ⇑*i*P **PKPdf** 00 40 47.1 -0.1
EVGI Lefkada island 116.49 315 P **PKPdf** 00 40 43.6 -3.8
D48A Paudash Townsh 116.52 34 P **PKPdf** 00 40 46.8 -0.4
baz=304
GRF Grafenberg Arr 116.61 329 *e*L L 01 29 41.9
comp=Z,11µm,21.2s
IBBN Ibbenburen 116.61 333 *e*PKPdf **PKiKP** 00 40 47.2 0.0
baz=52,slow=1.9
SFIN Lafayette 116.61 43 P **PKiKP** 00 40 47.9 +0.3
baz=296
SFIN Lafayette 116.61 43 PP PP 00 41 54.9 +0.3
SFIN IAMs_20 IAMs_20 01 25 38.8
comp=Z,19µm,22.0s
OLIL Olney 116.62 45 PP PP 00 41 56.0 +1.2
OLIL IAMs_20 IAMs_20 01 22 29.4
comp=Z,20µm,22.0s
OBKA Obir 116.64 325 *e*PKPdf **PKPdf** 00 40 46.7 -0.9
comp=Z,18nm,1.4s
OBKA *i* PP **PP** 00 41 56.9 +2.2
OBKA *e*PKKPab **PKKPbc** 00 51 16.6 +0.2
comp=Z,13nm,0.9s,SNR=7.6
HICK Hickman 116.69 48 IAMs_20 IAMs_20 01 27 28.4
comp=Z,20µm,20.0s
E48A Lockeyer 116.70 35 P **PKiKP** 00 40 47.7 +0.1
baz=303
D49A Beulah Townshi 116.72 34 P **PKPdf** 00 40 47.6 0.0
baz=304
BOJS Bojanci 116.77 323 *e*PKPdf **PKiKP** 00 40 47.9 +0.1
J47A Sunmer 116.78 39 PP PP 00 41 58.8 +3.1
F48A Evansville 116.79 36 P **PKPdf** 00 40 47.5 -0.3
baz=303

MOZS	Mozjanca	116.82	325	ePKPdf	PKPdf	00 40 47.4	-0.5
MOZS				e		00 40 54.0	
MOZS				ePKKP	PKKPbc	00 51 15.6	-0.1
P46A	Rosedale	116.87	44	IAMs_20	IAMs_20	01 22 52.8	
	comp=Z,16μm,21.0s						
LJU	Ljubljana	116.91	324	eSS	SS	00 58 13.7	+10
LJU	Ljubljana	116.91	324	⇑iP	PKPdf	00 40 47.8	-0.2
LJU	Ljubljana	116.91	324	ePdiff	Pdif	00 37 03.2	-0.4
LJU	Ljubljana	116.91	324	i PKPdf	PKiKP	00 40 48.0	0.0
LJU	Ljubljana	116.91	324	e	PKiKP	00 40 54.5	+6.4
LJU	Ljubljana	116.91	324	ePP	PP	00 41 59.0	+2.6
LJU	Ljubljana	116.91	324	e		00 43 16.9	
LJU	Ljubljana	116.91	324	eSdiff		00 49 43.6	
T45A	Paducah	116.93	47	IAMs_20	IAMs_20	01 23 03.8	
	comp=Z,23μm,22.0s						
KBA	Koelnbreinsper	117.01	326	ePKPdf	PKPdf	00 40 46.9	-1.6
	comp=Z,30nm,1.4s						
KBA				ePP	PP	00 42 00.3	+3.0
	comp=Z,86nm,1.7s						
KBA				ePKKPab	PKKPbc	00 51 15.0	-0.2
	comp=Z,20nm,1.0s						
MYKA	Terra Mystica	117.09	325	ePKPdf	PKPdf	00 40 47.6	-0.8
	comp=Z,24nm,1.7s						
MYKA				i PP	PP	00 41 59.3	+1.5
MYKA				ePKKPab	PKKPbc	00 51 14.8	+0.1
	comp=Z,13nm,0.8s,SNR=7.5						
CEY	Cerknica	117.13	324	⇑iP	PKPdf	00 40 48.1	-0.4
LSZ	Lusaka	117.14	253	PKKPbc	PKKPbc	00 51 14.3	+0.6
	comp=Z,6.6nm,0.8s,baz=277,slow=0.5,SNR=8.6						
LSZ	Lusaka	117.14	253	i P	PKiKP	00 40 50.6	+1.2
LSZ	Lusaka	117.14	253	PKIKP	PKiKP	00 40 50.0	+0.6
LSZ	Lusaka	117.14	253	i P	PKiKP	00 40 50.6	+1.2
LSZ	Lusaka	117.14	253	PKPdf	PKiKP	00 40 50.0	+0.6
F49A	Sandfield	117.17	36	P	PKPdf	00 40 48.5	0.0
	baz=303						
IVI	Ivigtut	117.18	8	IAMs_20	IAMs_20	01 27 36.8	
	comp=Z,23μm,22.0s						
MATQ	Matagami	117.22	30	P	PKPdf	00 40 47.7	-0.8
	baz=309,SNR=8.1						
PRED	Cave del Predi	117.24	325	IAMs_20	IAMs_20	01 36 10.7	
	comp=Z,12μm,20.0s						
W45A	Hickory Valley	117.25	49	IAMs_20	IAMs_20	01 25 49.5	
	comp=Z,22μm,21.0s						
USIN	University of	117.26	46	PP	PP	00 42 00.1	+0.9
BOSA	Boshof	117.26	238	PKP	PKiKP	00 40 49.5	+0.1
	comp=Z,8.6nm,0.6s,baz=119,slow=1.5,SNR=26						
BOSA				PKKPbc	PKKPbc	00 51 12.8	-0.8
	comp=Z,2.9nm,0.8s,baz=10,slow=3.7,SNR=4.2						
BOSA	Boshof	117.26	238	i P	PKiKP	00 40 50.2	+0.8
BOSA	Boshof	117.26	238	i P	PKiKP	00 40 50.2	+0.8
BOSA	Boshof	117.26	238		PP	00 42 02.5	+2.5
VBMS	Vicksburg	117.28	53	P	PKiKP	00 40 49.9	+0.8
	baz=290						
VBMS	Vicksburg	117.28	53	IAMs_20	IAMs_20	01 22 11.5	
	comp=Z,22μm,22.0s						
CMIG	Matias Romero	117.32	70	PKP	PKiKP	00 40 50.0	+0.5
	comp=Z,4.9nm,0.7s,baz=12,slow=1.5,SNR=4.1						
OXF	Oxford	117.33	50	P	PKPdf	00 40 48.3	-0.8
	baz=292						
OXF	Oxford	117.33	50	PP	PP	00 42 00.1	+0.3
N47A	Urbana	117.34	42	PP	PP	00 42 01.3	+1.6
N47A				IAMs_20	IAMs_20	01 28 55.9	
	comp=Z,20μm,21.0s						
344A	Westbrook Farm	117.36	54	PP	PP	00 42 02.7	+2.4
SCTE	Santa Cesarea	117.39	317	PKPdf	PKPdf	00 40 49.0	-0.1
SCTE				PP	PP	00 42 01.5	+1.5
BUG	Bochum--Univer	117.42	332	ePKPdf	PKPdf	00 40 48.7	-0.1
	baz=52,slow=1.9						
ZOU	Zoufplan	117.52	325	IAMs_20	IAMs_20	01 30 50.9	
	comp=Z,15μm,22.0s						
BLO	Bloomington	117.55	44	IAMs_20	IAMs_20	01 23 04.6	
	comp=Z,15μm,21.0s						
E50A	Wahnapitae	117.55	35	P	PKPdf	00 40 49.2	0.0
	baz=305						
NRS	Narsarsuaq	117.56	6	PP	PP	00 41 59.1	-1.1
NRS				IAMs_20	IAMs_20	01 27 42.9	
	comp=Z,15μm,22.0s						
D50A	G1974 Best Tow	117.63	34	P	PKPdf	00 40 48.9	-0.4
	baz=306						
L48A	N Adams	117.66	41	IAMs_20	IAMs_20	01 28 31.3	
	comp=Z,21μm,21.0s						
ABTA	Abfaltersbach	117.67	326	ePKPdf	PKPdf	00 40 48.7	-0.9
	comp=Z,55nm,1.6s,SNR=5.8						
ABTA				i PP	PP	00 42 03.7	+2.0
ABTA				i PKKPab	PKKPbc	00 51 12.7	0.0
	comp=Z,23nm,0.8s,SNR=11						
WATA	Walderalm	117.84	327	i PKiKP	PKPdf	00 40 49.6	-0.4
	comp=Z,46nm,1.3s,SNR=8.2						
WATA				i PP	PP	00 42 04.5	+1.5
LBTB	Lobatse	117.84	242	PKP	PKiKP	00 40 51.0	+0.5
	comp=Z,28nm,0.9s,baz=127,slow=3.8,SNR=25						
LBTB				PKKPab	PKKPbc	00 51 11.2	-0.2
	comp=Z,5.4nm,0.7s,baz=273,slow=6.8,SNR=7.3						
LBTB	Lobatse	117.84	242	i P	PKiKP	00 40 51.6	+1.0
LBTB	Lobatse	117.84	242	i P	PKiKP	00 40 51.6	+1.0
LBTB	Lobatse	117.84	242	PP	PP	00 42 03.2	-0.9
WTTA	Wattenberg	117.85	327	i PKiKP	PKPdf	00 40 49.9	-0.2
	comp=Z,38nm,1.0s,SNR=11						
WTTA				i PP	PP	00 42 03.4	+0.3
WVT	Waverly	117.89	48	P	PKPdf	00 40 49.5	-0.6
	baz=294						
WVT	Waverly	117.89	48	PKPdf	PKPdf	00 40 49.6	-0.6
WVT				PP	PP	00 42 04.7	+1.0
D51A	Lot 18 Range I	117.93	33	P	PKPdf	00 40 49.5	-0.4
	baz=306,SNR=11						
CIMO	Cimolais	117.96	325	IAMs_20	IAMs_20	01 32 40.6	
	comp=Z,18μm,22.0s						
AAM	Ann Arbor	117.99	40	P	PKPdf	00 40 50.1	-0.1
	baz=300						
AAM	Ann Arbor	117.99	40	IAMs_20	IAMs_20	01 29 22.6	
	comp=Z,20μm,21.0s						
LSQQ	Lebel-sur-Quev	118.00	31	P	PKPdf	00 40 49.5	-0.5
	baz=309						
INVG	Invergeldie, C	118.06	342	eP	PKPdf	00 40 49.0	-0.9
INVG				IAMs_20	IAMs_20	01 19 21.5	
	comp=Z,20μm,37.2s						
T47A	Sharon Grove	118.07	47	PP	PP	00 42 07.2	+2.3
MOTA	Moosalm	118.09	327	ePKiKP	PKPdf	00 40 50.1	-0.4
	comp=Z,21nm,0.7s,SNR=11						
MOTA				i PP	PP	00 42 06.1	+1.4
MOTA				ePKKPbc	PKKPbc	00 51 10.2	-1.1
	comp=Z,27nm,0.9s,SNR=6.8						
SQTA	Sankt Quirin	118.11	327	ePKiKP	PKPdf	00 40 50.2	-0.3
	comp=Z,69nm,1.6s,SNR=9.5						
SQTA				i PP	PP	00 42 07.1	+2.2
SQTA				ePKKPbc	PKKPbc	00 51 09.1	-2.0
	comp=Z,9.7nm,0.7s						
WCI	Wyandotte Cave	118.12	45	P	PKPdf	00 40 50.5	-0.1
	baz=296						
WCI	Wyandotte Cave	118.12	45	PKPdf	PKPdf	00 40 50.5	-0.1
WCI				PP	PP	00 42 06.8	+1.6
WCI	Wyandotte Cave	118.12	45	IAMs_20	IAMs_20	01 23 51.0	
	comp=Z,18μm,22.0s						
PLAL	Pickwick Lake	118.16	49	PP	PP	00 42 04.8	-0.9
P48A	Milroy	118.17	43	IAMs_20	IAMs_20	01 27 00.2	
	comp=Z,19μm,22.0s						
E51A	G1948 Merrick	118.19	34	P	PKPdf	00 40 50.3	-0.2
	baz=306,SNR=18						
RETA	Reutte	118.19	327	ePKiKP	PKPdf	00 40 50.2	-0.3
	comp=Z,19nm,1.1s						
RETA				i PP	PP	00 42 06.6	+1.3
RETA				ePKKPab	PKKPab	00 51 12.5	-0.3
	comp=Z,16nm,1.0s						
STU	Stuttgart	118.22	329	ePKPdf	PKiKP	00 40 50.5	0.0
	baz=52,slow=1.9						
STU	Stuttgart	118.22	329	IAMs_20	IAMs_20	01 33 32.3	
	comp=Z,15μm,20.0s						
SCHQ	Schefferville	118.28	21	PKP	PKiKP	00 40 50.6	+0.2
	comp=Z,17nm,0.8s,baz=334,slow=2.4,SNR=22						
SCHQ				PP	PP	00 42 07.0	+1.5
	comp=Z,14nm,0.8s,baz=65,slow=7.4,SNR=1.4						
SCHQ				PKKPbc	PKKPbc	00 51 08.8	-1.9
	comp=Z,12nm,0.8s,baz=130,slow=1.8,SNR=12						
SCHQ	Schefferville	118.28	21	IAMs_20	IAMs_20	01 27 27.2	
	comp=Z,16μm,22.0s						
F51A	Arnstein	118.31	35	P	PKPdf	00 40 50.3	-0.4
	baz=305						
MATE	Matera	118.31	318	⇓P	PKiKP	00 40 50.9	+0.1
N49A	Columbus Grove	118.33	42	IAMs_20	IAMs_20	01 28 21.9	
	comp=Z,14μm,21.0s						
VLDQ	Val d'Or	118.35	32	PP	PP	00 42 07.3	+1.1
346A	Big Creek Wild	118.40	53	PP	PP	00 42 09.8	+2.3
346A				IAMs_20	IAMs_20	01 27 50.4	
	comp=Z,19μm,21.0s						
UBR	Ueberruh	118.43	328	ePKPdf	PKPdf	00 40 50.7	-0.3
	baz=52,slow=1.9						
FETA	Feichten	118.49	327	ePKiKP	PKPdf	00 40 51.2	-0.1
	comp=Z,35nm,1.0s,SNR=14						
FETA				PP	PP	00 42 08.3	+0.8
FETA				ePKKPbc	PKKPbc	00 51 08.4	-1.5
	comp=Z,18nm,1.0s						
D52A	ZEK Kipawa Sen	118.53	33	P	PKPdf	00 40 50.7	-0.4
	baz=307,SNR=20						
MEM	Membach	118.57	332	PKPdf	PKPdf	00 40 50.9	-0.2
MEM	Membach	118.57	332	x	x	00 40 57.5	
MEM	Membach	118.57	332	x	x	00 41 03.5	
BEBN	Eben Emael	118.59	333	PKPdf	PKiKP	00 40 51.2	+0.1
BEBN				x	x	00 40 58.1	
BEBN				x	x	00 41 00.8	
LAWE	Loch Awe, Argy	118.61	342	eP	PKPdf	00 40 50.5	-0.5
LAWE				IAMs_20	IAMs_20	01 22 01.5	
	comp=Z,18μm,26.3s						
P49A	Miami Univ. Ec	118.63	43	P	PKPdf	00 40 51.3	-0.2
	baz=298						
P49A	Miami Univ. Ec	118.63	43	IAMs_20	IAMs_20	01 27 42.1	
	comp=Z,14μm,22.0s						
EDMD	Edmundbyers	118.67	340	eP	PKPdf	00 40 50.8	-0.4
EDMD				IAMs_20	IAMs_20	01 20 47.3	
	comp=Z,22μm,40.8s						
ESK	Eskdalemuir	118.70	341	eP	PKPdf	00 40 50.7	-0.5
ESK				IAMs_20	IAMs_20	01 26 48.2	
	comp=Z,17μm,27.8s						
ESK	Eskdalemuir	118.70	341	PKIKP	PKiKP	00 40 52.2	+1.0
ESK	Eskdalemuir	118.70	341		PKiKP	00 40 52.2	+1.0
F52A	Sundridge	118.72	35	P	PKPdf	00 40 51.4	-0.1
	baz=306,SNR=9.8						
CHGQ	Chibougamau	118.73	29	P	PKPdf	00 40 50.4	-1.0
	baz=312,SNR=23						
BHOU	Houvegnez	118.75	332	PKPdf	PKiKP	00 40 51.7	+0.2
BHOU				x	x	00 40 58.0	
DAVA	Damuels	118.79	328	ePKiKP	PKPdf	00 40 51.6	-0.3
	comp=Z,24nm,0.8s,SNR=7.2						
DAVA				i PP	PP	00 42 12.0	+2.4
DAVA				ePKKPab	PKKPab	00 51 12.0	+1.7
	comp=Z,22nm,1.1s						
BSTI	Sart Tilman	118.79	332	PKPdf	PKiKP	00 40 51.6	+0.1
BSTI				x	x	00 40 57.9	
E52A	Mattawa	118.81	34	P	PKPdf	00 40 51.4	-0.2
	baz=307,SNR=8.9						
M50A	Fremont	118.84	41	IAMs_20	IAMs_20	01 34 25.3	
	comp=Z,16μm,19.0s						
I51A	Listowel	118.84	37	P	PKiKP	00 40 52.0	+0.1
	baz=303						
D53A	Lac Vacive, Po	118.85	33	P	PKPdf	00 40 51.2	-0.5
	baz=308,SNR=17						
R49A	Shelbyville	118.88	45	PP	PP	00 42 11.4	+0.9
R49A				IAMs_20	IAMs_20	01 24 05.1	
	comp=Z,20μm,22.0s						
BFO	Black Forest	118.95	329	PKIKP	PKPdf	00 40 51.6	-0.3
BFO				MLR	MLR		
	comp=Z,11μm,19.0s						
BFO	Black Forest	118.95	329	ePKPdf	PKPdf	00 40 51.5	-0.3
	baz=52,slow=1.9						
BFO	Black Forest	118.95	329	PKPdf	PKPdf	00 40 51.6	-0.3
BFO				PP	PP	00 42 09.5	-0.9
BFO				IAMs_20	IAMs_20	01 34 12.5	
	comp=Z,11μm,19.0s						
TIP	Timpagrande	118.97	317	⇑P	PKiKP	00 40 52.3	0.0
TIP	Timpagrande	118.97	317	⇑P	PKKPab	00 51 11.0	+1.5
TIP	Timpagrande	118.97	317	IAMs_20	IAMs_20	01 36 49.4	
	comp=Z,16μm,22.0s						
FUORN	Ofenpass-Fuorn	118.99	327	IAMs_20	IAMs_20	01 33 50.8	
	comp=Z,21μm,21.0s						
CLTN	Cedars of Leba	119.01	47	PP	PP	00 42 09.4	-2.1
CLTN				IAMs_20	IAMs_20	01 30 48.8	
	comp=Z,16μm,19.0s						
BCLA	Clavier	119.03	332	PKPdf	PKPdf	00 40 51.2	-0.7
BCLA				x	x	00 40 58.6	
H52A	Wyevale	119.06	36	P	PKPdf	00 40 52.1	0.0
	baz=305,SNR=7.4						
WLF	Walferdange	119.14	331	PKPdf	PKiKP	00 40 52.4	+0.1
WLF				x	x	00 40 59.3	
WLF	Walferdange	119.14	331	IAMs_20	IAMs_20	01 35 25.5	
	comp=Z,17μm,20.0s						
X48A	Hartselle	119.15	49	PP	PP	00 42 13.3	+0.8
BGES	Gesves	119.15	333	PKPdf	PKPdf	00 40 51.4	-0.8
BGES				x	x	00 41 00.6	
UCC	Uccle	119.19	333	PKPdf	PKiKP	00 40 52.5	+0.3
UCC	Uccle	119.19	333	PP	PP	00 42 13.0	+1.1
USHA	Ushuaia	119.19	158	PKP	PKiKP	00 40 52.6	+0.5
	comp=Z,41nm,0.7s,baz=339,slow=3.4,SNR=8.9						
NEWG	New Galloway	119.20	341	eP	PKPdf	00 40 51.6	-0.5
NEWG				IAMs_20	IAMs_20	01 21 58.5	
	comp=Z,21μm,38.5s						
I52A	Shelburne	119.21	37	P	PKiKP	00 40 52.6	0.0
	baz=304,SNR=6.7						
U49A	Red Boiling Sp	119.23	47	IAMs_20	IAMs_20	01 24 46.6	
	comp=Z,19μm,21.0s						
HPK	Haverah Park	119.25	339	eP	PKiKP	00 40 52.4	+0.1
HPK				IAMs_20	IAMs_20	01 23 06.3	
	comp=Z,16μm,28.7s						
KESW	Keswick, Cumbr	119.26	340	eP	PKPdf	00 40 52.0	-0.2
KESW				IAMs_20	IAMs_20	01 31 26.2	
	comp=Z,19μm,25.1s						
E53A	Dumoine, Ponti	119.30	33	P	PKPdf	00 40 52.3	-0.3
	baz=308,SNR=18						
ALGO	Algonquin Park	119.34	34	P	PKPdf	00 40 52.5	-0.2
	baz=307,SNR=19						
BMRD	Maredsous	119.36	333	PKPdf	PKPdf	00 40 52.3	-0.2
BMRD				x	x	00 40 58.4	
BMRD				x	x	00 41 02.2	
D54A	Lac Fusel, La	119.37	32	P	PKPdf	00 40 52.1	-0.6
	baz=309,SNR=12						
GO10	Punta Arenas	119.40	155	PKPdf	PKiKP	00 40 53.4	+0.7
GO10				IAMs_20	IAMs_20	01 25 12.9	
	comp=Z,12μm,22.0s						
SADO	Sadowa	119.42	36	PKP	PKPdf	00 40 52.6	-0.2
	comp=Z,23nm,0.8s,baz=310,slow=3.0,SNR=26						
SADO				PP	PP	00 42 16.4	+2.6
	comp=Z,23nm,1.0s,baz=309,slow=6.4,SNR=7.0						
SADO				PKKPbc	PKKPbc	00 51 05.0	-1.1
	comp=Z,17nm,1.0s,baz=174,slow=4.0,SNR=6.9						
SADO	Sadowa	119.42	36		PP	00 42 13.2	-0.6
M51A	Elyria	119.43	40	P	PKPdf	00 40 52.8	-0.2
	baz=301						
SNF	Seneffe	119.43	333	PKPdf	PKPdf	00 40 52.4	-0.3
SNF				x	x	00 40 59.3	
ACSO	Alum Creek Sta	119.46	42	P	PKPdf	00 40 53.1	0.0
	baz=300						
ACSO	Alum Creek Sta	119.46	42	IAMs_20	IAMs_20	01 26 19.0	
	comp=Z,19μm,22.0s						
R50A	Paris	119.48	44	PP	PP	00 42 14.8	+0.2
R50A				IAMs_20	IAMs_20	01 24 12.8	
	comp=Z,19μm,21.0s						
G53A	Haliburton	119.51	35	P	PKPdf	00 40 53.1	0.0
	baz=306,SNR=11						
N51A	Ashland	119.52	41	P	PKPdf	00 40 53.1	-0.1
	baz=301						
N51A	Ashland	119.52	41	IAMs_20	IAMs_20	01 25 59.3	
	comp=Z,18μm,22.0s						
E54A	Lac Daplat, Po	119.53	33	P	PKPdf	00 40 52.5	-0.6
	baz=308,SNR=9.9						
GAL1	Galloway	119.56	341	eP	PKPdf	00 40 52.8	0.0
GAL1				IAMs_20	IAMs_20	01 22 09.8	
	comp=Z,20μm,39.0s						
DOU	Dourbes	119.58	333	PKPdf	PKiKP	00 40 53.1	+0.1
DOU				x	x	00 40 59.2	
AQU	L'Aquila	119.58	321	eP	PKPdf	00 40 50.0	-3.3
AQU	L'Aquila	119.58	321	IAMs_20	IAMs_20	01 36 02.0	
	comp=Z,15μm,22.0s						
MURB	Monte Urbino	119.63	323	IAMs_20	IAMs_20	01 35 24.1	
	comp=Z,13μm,22.0s						
G54A	Lake Saint Pet	119.65	34	P	PKPdf	00 40 53.1	-0.2
	baz=307,SNR=15						
SWET	Sewanee	119.67	48	IAMs_20	IAMs_20	01 28 21.4	
	comp=Z,23μm,21.0s						
I53A	Kortright Cn E	119.69	37	P	PKiKP	00 40 53.6	+0.1
	baz=305						
LRAL	Lakeview Retre	119.74	51	P	PKPdf	00 40 53.7	-0.1
	baz=293,SNR=16						
O51A	Pataskala	119.75	42	P	PKPdf	00 40 53.7	0.0
	baz=300						
P51A	Williamsport	119.78	42	P	PKPdf	00 40 53.4	-0.3
	baz=299						
P51A	Williamsport	119.78	42	IAMs_20	IAMs_20	01 30 26.5	
	comp=Z,18μm,19.0s						
SUR	Sutherland	119.79	233	PKP	PKiKP	00 40 55.0	+0.7
	comp=Z,15nm,0.9s,baz=132,slow=7.0,SNR=7.1						
SUR				PKKPbc	PKKPbc	00 51 04.5	-0.2
	comp=Z,7.3nm,0.8s,baz=173,slow=3.9,SNR=1.9						
Q51A	Peebles	119.81	43	PP	PP	00 42 15.7	-1.1
Q51A				IAMs_20	IAMs_20	01 28 56.3	
	comp=Z,20μm,21.0s						
M52A	Chesterland	119.85	40	P	PKiKP	00 40 53.9	0.0
	baz=302						
H53A	Bobcaygeon	119.86	35	P	PKPdf	00 40 53.7	0.0
	baz=306,SNR=14						
Y49A	Blount Mountai	119.87	50	PP	PP	00 42 17.4	-0.1
ZCCA	Zocca	119.93	324	IAMs_20	IAMs_20	01 32 45.0	
	comp=Z,19μm,22.0s						
CEL	Celeste	120.00	316	IAMs_20	IAMs_20	01 37 59.7	
	comp=Z,12μm,22.0s						
N52A	McGinn's Farm,	120.02	41	P	PKPdf	00 40 54.1	-0.1
	baz=301,SNR=9.7						
CCIG	Comitan	120.06	71	IAMs_20	IAMs_20	01 24 06.3	
	comp=Z,18μm,22.0s						
D55A	Sainte-Anne-du	120.08	32	P	PKPdf	00 40 53.6	-0.4
	baz=310,SNR=13						
CWF	Charnwood Fore	120.09	338	eP	PKPdf	00 40 53.5	-0.4
CWF				IAMs_20	IAMs_20	01 27 47.3	
	comp=Z,14μm,25.2s						
E55A	Montcerf-Lytto	120.13	32	P	PKPdf	00 40 53.8	-0.3
	baz=309						
STNC	Stoke	120.15	339	eP	PKiKP	00 40 54.6	+0.5
STNC				IAMs_20	IAMs_20	01 20 54.3	
	comp=Z,43μm,68.4s						
OSSC	Osservatorio P	120.25	323	IAMs_20	IAMs_20	01 34 05.6	
	comp=Z,18μm,21.0s						
O52A	Adamsville	120.28	41	P	PKPdf	00 40 54.4	-0.3
	baz=301,SNR=8.1						
O52A	Adamsville	120.28	41	IAMs_20	IAMs_20	01 31 01.6	
	comp=Z,19μm,22.0s						
S51A	Beattyville	120.29	45	IAMs_20	IAMs_20	01 25 21.3	
	comp=Z,20μm,22.0s						
L53A	Girard	120.32	39	P	PKPdf	00 40 54.7	0.0
	baz=303						
P52A	Corning	120.33	42	P	PKPdf	00 40 54.3	-0.5
	baz=300,SNR=22						
P52A	Corning	120.33	42	IAMs_20	IAMs_20	01 31 03.9	
	comp=Z,19μm,20.0s						
M53A	WI Miller and	120.34	39	P	PKPdf	00 40 54.4	-0.4
	baz=302,SNR=5.7						
F55A	Otter Lake	120.36	33	P	PKPdf	00 40 54.3	-0.3
	baz=309						
VLC	Villacollemand	120.39	324	PP	PP	00 42 17.9	-2.6
VLC				IAMs_20	IAMs_20	01 36 28.1	
	comp=Z,17μm,21.0s						
ERPA	Erie	120.40	38	P	PKPdf	00 40 54.7	-0.2
	baz=303						
BRAL	Brewton	120.41	53	IAMs_20	IAMs_20	01 24 51.5	
	comp=Z,15μm,22.0s						
LATE	Laterza	120.43	322	PP	PP	00 42 22.2	+1.3
D56A	ZEC Mazanza, M	120.43	31	P	PKPdf	00 40 54.6	-0.2
	baz=311,SNR=28						
PLVO	Plevna	120.44	34	IAMs_20	IAMs_20	01 28 28.8	
	comp=Z,19μm,22.0s						
G55A	Calabogie	120.51	34	P	PKPdf	00 40 54.8	-0.2
	baz=308,SNR=12						
ALLY	Alegheny Colle	120.56	39	PP	PP	00 42 19.9	-1.9
Q52A	Bidwell	120.57	43	P	PKPdf	00 40 55.2	-0.1
	baz=300,SNR=11						
N53A	Lisbon	120.57	40	P	PKiKP	00 40 55.4	+0.1
	baz=302,SNR=18						
J54A	Appleton	120.58	37	P	PKiKP	00 40 55.2	0.0
	baz=305						
V51A	Loudon	120.58	47	IAMs_20	IAMs_20	01 31 41.4	
	comp=Z,17μm,19.0s						
I55A	Frankford	120.59	35	P	PKPdf	00 40 54.9	-0.3
	baz=306,SNR=8.0						
E56A	St. Veronique	120.61	32	P	PKPdf	00 40 54.8	-0.3
	baz=310,SNR=12						
CPCT	Cooper Cave	120.61	47	IAMs_20	IAMs_20	01 31 12.3	
	comp=Z,21μm,20.0s						
O53A	New Philadelph	120.62	41	P	PKPdf	00 40 55.3	0.0
	baz=301,SNR=16						
O53A	New Philadelph	120.62	41	IAMs_20	IAMs_20	01 31 52.5	
	comp=Z,19μm,21.0s						
FOEL	Foel Wylfa	120.67	339	eP	PKPdf	00 40 54.5	-0.5
FOEL				IAMs_20	IAMs_20	01 24 03.9	
	comp=Z,18μm,33.3s						
H55A	Tweed	120.68	35	P	PKPdf	00 40 55.3	0.0
	baz=307,SNR=15						
250A	Grady	120.72	52	IAMs_20	IAMs_20	01 24 52.6	
	comp=Z,25μm,22.0s						
SENIN	Lac Senin/Sane	120.75	328	IAMs_20	IAMs_20	01 30 12.3	
	comp=Z,13μm,22.0s						
MEDO	Medina	120.75	37	PP	PP	00 42 21.0	-1.9
L54A	Sinclairville	120.75	38	P	PKPdf	00 40 54.8	-0.8
	baz=304,SNR=6.3						
WLF1	Llynfaes	120.76	340	eP	PKPdf	00 40 54.9	-0.3
WLF1				IAMs_20	IAMs_20	01 24 21.2	
	comp=Z,45μm,32.9s						
RTAL	Retalhuleu	120.79	73	IAMs_20	IAMs_20	01 22 58.8	
	comp=Z,18μm,21.0s						
MSSA	Maissana	120.80	325	PP	PP	00 42 19.4	-3.9
YLL	Llanberis	120.81	340	eP	PKiKP	00 40 55.7	+0.4
TZTN	Tazewell	120.83	46	P	PKiKP	00 40 56.1	+0.1
	baz=298,SNR=11						
HUEH	Huehuetenango	120.83	72	IAMs_20	IAMs_20	01 22 28.9	
	comp=Z,15μm,21.0s						
HLM1	Long Mynd	120.85	339	eP	PKPdf	00 40 55.2	-0.2
HLM1				IAMs_20	IAMs_20	01 25 20.9	
	comp=Z,20μm,34.2s						
LLW	Llanuwychllyn	120.87	339	eP	PKPdf	00 40 55.2	-0.2
P53A	Whipple	120.89	42	P	PKiKP	00 40 56.0	0.0
	baz=301,SNR=28						
P53A	Whipple	120.89	42	IAMs_20	IAMs_20	01 30 35.9	
	comp=Z,24μm,22.0s						
D57A	Chemin Vers le	120.90	31	P	PKPdf	00 40 55.5	-0.2
	baz=312,SNR=12						
K54A	Basiliko Farm,	120.93	37	P	PKPdf	00 40 55.7	-0.1
	baz=305						
M54A	Oil Creek Stat	120.94	39	P	PKPdf	00 40 55.8	-0.2
	baz=303,SNR=14						
N54A	Moraine State	121.03	40	P	PKPdf	00 40 56.1	0.0
	baz=303,SNR=6.7						
ORIO	Orleans, Innes	121.05	33	P	PKPdf	00 40 55.7	-0.2
	baz=309,SNR=6.8						
ORIO	Orleans, Innes	121.05	33	IAMs_20	IAMs_20	01 27 04.8	
	comp=Z,12μm,22.0s						
TKL	Tuckaleechee C	121.07	47	PKP	PKiKP	00 40 56.5	+0.1
	comp=Z,54nm,0.8s,baz=176,slow=1.4,SNR=66						
TKL	Tuckaleechee C	121.07	47	IAMs_20	IAMs_20	01 26 30.2	
	comp=Z,22μm,22.0s						
J55A	Hilton	121.07	36	P	PKPdf	00 40 55.7	-0.3
	baz=306,SNR=14						
R53A	Hurricane	121.10	43	P	PKiKP	00 40 56.5	+0.1
	baz=300,SNR=7.4						
R53A	Hurricane	121.10	43	IAMs_20	IAMs_20	01 31 11.5	
	comp=Z,22μm,22.0s						
V52A	Sevierville	121.12	46	IAMs_20	IAMs_20	01 29 17.4	
	comp=Z,16μm,22.0s						
Q53A	Leroy	121.12	42	P	PKiKP	00 40 56.5	0.0
	baz=300,SNR=13						
E57A	Chemin Saint G	121.17	32	P	PKPdf	00 40 56.0	-0.3
	baz=311,SNR=25						
WOL	Wolverton	121.17	337	eP	PKPdf	00 40 55.8	-0.2
WOL				IAMs_20	IAMs_20	01 30 55.0	
	comp=Z,21μm,26.0s						
H56A	Elgin	121.17	34	P	PKPdf	00 40 56.0	-0.2
	baz=308,SNR=14						
STRD	Stroud	121.17	338	eP	PKPdf	00 40 55.8	-0.2
STRD				IAMs_20	IAMs_20	01 28 16.9	
	comp=Z,16μm,26.0s						
O54A	Avella	121.20	41	P	PKiKP	00 40 56.8	+0.2
	baz=302,SNR=21						
O54A	Avella	121.20	41	IAMs_20	IAMs_20	01 31 08.8	
	comp=Z,20μm,21.0s						
LATQ	La Tuque	121.22	30	P	PKPdf	00 40 56.0	-0.2
	baz=313,SNR=11						
K55A	Perry	121.23	37	P	PKPdf	00 40 56.3	-0.2
	baz=306,SNR=12						
SWN1	Swindon	121.24	337	eP	PKPdf	00 40 56.1	0.0
SWN1				IAMs_20	IAMs_20	01 30 42.4	
	comp=Z,20μm,28.7s						
F57A	Harrington	121.27	32	P	PKPdf	00 40 56.1	-0.2
	baz=310						
S53A	Williamson	121.29	44	P	PKiKP	00 40 56.8	-0.1
	baz=299,SNR=5.8						
MCH1	Michaelchurch	121.31	338	eP	PKPdf	00 40 55.9	-0.3
MCH1				IAMs_20	IAMs_20	01 33 51.3	
	comp=Z,14μm,20.9s						
L55A	Hinsdale	121.32	38	P	PKPdf	00 40 56.5	-0.2
	baz=305,SNR=17						
T53A	Wise	121.34	45	P	PKPdf	00 40 57.0	0.0
	baz=298,SNR=11						
D58A	Chemin du LacG	121.36	30	P	PKPdf	00 40 56.0	-0.6
	baz=313,SNR=20						
MONM	Monmouth	121.37	338	eP	PKPdf	00 40 55.9	-0.5

MONM IAMs_20 IAMs_20 01 32 14.1
comp=Z,15µm,23.3s
P54A Burton 121.44 41 P **PKiKP** 00 40 57.1 0.0
baz=302,SNR=12
Q54A Coxs Mills 121.52 42 P **PKPdf** 00 40 57.0 -0.1
baz=301,SNR=17
Q54A Coxs Mills 121.52 42 IAMs_20 IAMs_20 01 26 36.6
comp=Z,17µm,21.0s
M55A Ridgway 121.53 38 P **PKPdf** 00 40 56.7 -0.4
baz=304,SNR=23
G57A Newington 121.56 33 P **PKPdf** 00 40 56.9 0.0
baz=310,SNR=10.0
J56A Wolcott 121.63 36 P **PKPdf** 00 40 56.8 -0.4
baz=307,SNR=24
E58A La Victoria 121.64 31 P **PKPdf** 00 40 56.8 -0.3
baz=312,SNR=14
K56A Middlesex 121.70 37 P **PKPdf** 00 40 57.1 -0.3
baz=306,SNR=5.2
H57A Richville 121.74 34 P **PKPdf** 00 40 57.0 -0.3
baz=309,SNR=6.4
V53A Saluda 121.76 46 IAMs_20 IAMs_20 01 26 19.5
comp=Z,19µm,22.0s
N55A Marion Center 121.77 39 P **PKPdf** 00 40 57.1 -0.5
baz=304,SNR=11
S54A Dingess, Beckl 121.80 43 P **PKPdf** 00 40 57.6 -0.1
baz=300,SNR=20
S54A Dingess, Beckl 121.80 43 IAMs_20 IAMs_20 01 29 38.1
comp=Z,21µm,22.0s
MCWV Mont Chateau 121.82 41 P **PKPdf** 00 40 57.5 -0.1
baz=302,SNR=6.3
R54A Victor 121.83 43 P **PKPdf** 00 40 57.3 -0.4
baz=300,SNR=14
M56A Emporium 121.88 38 P **PKPdf** 00 40 57.7 -0.1
baz=305,SNR=17
O55A Ligonier 121.88 40 P **PKPdf** 00 40 57.8 0.0
baz=303,SNR=10.0
L56A Greenwood 121.88 37 P **PKPdf** 00 40 57.4 -0.4
baz=306,SNR=21
P55A Reedsville 121.92 41 P **PKPdf** 00 40 57.7 -0.2
baz=302,SNR=9.4
I57A Carthage 121.92 35 P **PKPdf** 00 40 57.5 -0.2
baz=308,SNR=14
D59A Saint-Raymond 121.94 30 P **PKPdf** 00 40 57.7 0.0
baz=314
352A Blakely 121.97 52 IAMs_20 IAMs_20 01 32 17.6
comp=Z,18µm,20.0s
T54A Tazewell 121.98 44 P **PKPdf** 00 40 57.9 -0.2
baz=299,SNR=14
RSBS Rosebush, Pemb 121.98 339 *e*P **PKPdf** 00 40 56.1 -1.5
RSBS IAMs_20 IAMs_20 01 24 56.7
comp=Z,23µm,34.5s
BG3 Lake Jocassee 121.98 47 IAMs_20 IAMs_20 01 32 49.5
comp=Z,13µm,20.0s
Q55A Buckhannon 122.02 42 P **PKPdf** 00 40 58.2 +0.1
baz=302,SNR=13
G58A Ormstown 122.04 33 P **PKPdf** 00 40 57.4 -0.5
baz=310,SNR=16
J57A Williamstown 122.05 35 P **PKPdf** 00 40 57.8 -0.2
baz=308,SNR=24
PETF Flores 122.07 70 IAMs_20 IAMs_20 01 25 48.5
comp=Z,22µm,21.0s
U54A Nelsons Funny 122.07 45 P **PKPdf** 00 40 58.3 0.0
baz=299
LONY Lake Ozonia 122.09 33 P **PKPdf** 00 40 57.6 -0.4
baz=310,SNR=15
N56A West Decatur 122.13 39 P **PKiKP** 00 40 58.4 0.0
baz=304,SNR=18
CLF Chambon-Foret 122.13 332 IAMs_20 IAMs_20 01 33 57.5
comp=Z,16µm,21.0s
K57A Scipio Center 122.16 36 P **PKPdf** 00 40 58.1 -0.2
baz=307,SNR=14
F59A Saint Guilaume 122.25 31 P **PKiKP** 00 40 58.5 +0.1
baz=312
GOGA Godfrey 122.29 49 P **PKiKP** 00 40 58.9 0.0
baz=296,SNR=15
O56A Blue Knob Stat 122.32 40 P **PKPdf** 00 40 58.7 0.0
baz=304,SNR=14
V54A Nebo 122.33 46 P **PKiKP** 00 40 59.0 0.0
baz=298,SNR=9.1
R55A Marlinton 122.36 42 P **PKiKP** 00 40 58.9 -0.1
baz=301,SNR=38
R55A Marlinton 122.36 42 IAMs_20 IAMs_20 01 28 09.9
comp=Z,20µm,22.0s
S55A Lewisburg 122.37 43 P **PKPdf** 00 40 58.6 -0.2
baz=301
L57A Andrews Acres 122.39 37 P **PKPdf** 00 40 58.6 -0.1
baz=306,SNR=23
H58A Gabriels 122.44 33 P **PKPdf** 00 40 58.7 -0.1
baz=310,SNR=33
D60A Saint Jean D'O 122.46 29 P **PKPdf** 00 40 58.6 0.0
baz=314
I58A Old Forge 122.46 34 P **PKPdf** 00 40 58.7 -0.1
baz=309,SNR=9.3
W54A Cherokee Point 122.48 47 P **PKiKP** 00 40 59.5 +0.2
baz=298,SNR=20
J58A Remsen 122.49 35 P **PKPdf** 00 40 58.8 0.0
baz=308,SNR=28
T55A Pulaski 122.50 44 P **PKPdf** 00 40 59.1 0.0
baz=300,SNR=8.4
SSPA Standing Stone 122.54 39 P **PKPdf** 00 40 58.9 -0.1
baz=305
SSPA Standing Stone 122.54 39 **PKPdf** 00 40 59.0 -0.1
G59A Clarenceville 122.55 32 P **PKPdf** 00 40 58.7 -0.2
baz=311,SNR=13
H59A Cadyville 122.56 33 P **PKiKP** 00 40 59.3 +0.2
baz=311
P56A Dayton Farm, R 122.56 40 P **PKiKP** 00 40 59.2 -0.1
baz=303,SNR=17
E60A Ste Agathe de 122.58 30 P **PKPdf** 00 40 58.9 0.0
baz=314
Q56A Snyder Ridge, 122.58 41 P **PKPdf** 00 40 59.0 -0.1
baz=302,SNR=7.8
X54A Belton 122.59 47 P **PKiKP** 00 40 59.5 +0.1
baz=297
F60A Warwick 122.60 31 P **PKPdf** 00 40 58.7 -0.2
baz=313
M57A Sunshine Farm, 122.61 38 P **PKPdf** 00 40 59.2 +0.1
baz=306,SNR=17
D61A St Aubert, Com 122.61 29 P **PKPdf** 00 40 58.8 -0.1
baz=315
U55A TA2, Sparta 122.62 45 P **PKPdf** 00 40 59.4 0.0
baz=300,SNR=21
K58A Earlville 122.65 36 P **PKPdf** 00 40 59.1 -0.1
baz=308,SNR=16
N57A Milroy 122.68 39 P **PKiKP** 00 40 59.5 0.0
baz=305,SNR=12
NCB Newcomb 122.70 34 IAMs_20 IAMs_20 01 30 04.7
comp=Z,19µm,22.0s
BLA Blacksburg 122.70 44 P **PKPdf** 00 40 59.4 -0.1
baz=300,SNR=22
BLA Blacksburg 122.70 44 IAMs_20 IAMs_20 01 32 34.1
comp=Z,21µm,22.0s
R56A Bull Pasture M 122.78 42 P **PKPdf** 00 40 59.6 -0.1
baz=302,SNR=12
TEIG Tepich 122.78 65 PKP **PKPdf** 00 41 00.0 0.0
comp=Z,22nm,0.8s,baz=319,slow=3.5,SNR=12
TEIG Tepich 122.78 65 IAMs_20 IAMs_20 01 26 43.9
comp=Z,16µm,22.0s
BINY Binghamton 122.79 36 P **PKPdf** 00 40 59.5 0.0
baz=307,SNR=14
V55A Taylorsville 122.82 45 P **PKiKP** 00 40 59.8 -0.1
baz=299,SNR=22
553A Crawfordville 122.87 53 IAMs_20 IAMs_20 01 31 47.6
comp=Z,12µm,20.0s
J59A Piesco 122.87 34 P **PKPdf** 00 40 59.5 -0.1
baz=309,SNR=19
J59A Piesco 122.87 34 IAMs_20 IAMs_20 01 29 60.0
comp=Z,20µm,22.0s
PAULI Pauline 122.88 47 IAMs_20 IAMs_20 01 34 02.1
comp=Z,17µm,19.0s
DYA Yadsworthy 122.92 338 *e*P **PKPdf** 00 40 58.8 -0.6
DYA IAMs_20 IAMs_20 01 23 33.6
comp=Z,18µm,34.5s
O57A Amberson 122.94 39 P **PKPdf** 00 40 59.6 -0.2
baz=305,SNR=26
L58A Harry Jones Me 122.96 36 P **PKPdf** 00 40 59.8 0.0
baz=307,SNR=8.2
G60A Masonville 122.99 32 P **PKPdf** 00 40 59.6 -0.2
baz=312
M58A Price's Panora 123.00 37 P **PKPdf** 00 40 59.8 -0.1
baz=306,SNR=11
I59A Olmsteadville 123.01 34 P **PKiKP** 00 40 60.0 -0.1
baz=310,SNR=29
E61A Lac Etchemin 123.01 29 P **PKiKP** 00 41 00.0 0.0
baz=315
TIGA Tifton 123.03 51 P **PKiKP** 00 41 00.9 +0.5
baz=295,SNR=11
TIGA Tifton 123.03 51 IAMs_20 IAMs_20 01 26 25.6
comp=Z,18µm,21.0s
S56A Natural Bridge 123.05 43 P **PKPdf** 00 41 00.0 -0.1
baz=302,SNR=8.1
T56A Rocky Mt 123.07 44 P **PKPdf** 00 41 00.0 -0.1
baz=301,SNR=21
KMSC Kings Mountain 123.08 46 P **PKiKP** 00 41 00.4 0.0
baz=298,SNR=24
KMSC Kings Mountain 123.08 46 IAMs_20 IAMs_20 01 27 08.2
comp=Z,20µm,21.0s
F61A St Evariste 123.08 30 P **PKiKP** 00 41 00.0 -0.1
baz=314
Q57A Strasburg 123.10 41 P **PKPdf** 00 41 00.1 -0.1
baz=303,SNR=12
K59A Cooperstown 123.10 35 P **PKPdf** 00 40 59.9 -0.2
baz=309,SNR=8.4
P57A Homestead Farm 123.11 40 P **PKPdf** 00 40 60.0 -0.1
baz=304,SNR=9.1
H60A Morristown 123.15 32 P **PKPdf** 00 41 00.2 +0.1
baz=312
N58A Sunbury 123.15 38 P **PKPdf** 00 40 59.6 -0.5
baz=306,SNR=12
U56A King 123.16 44 P **PKiKP** 00 41 00.5 -0.1
baz=300,SNR=5.8
X55A Gracelyn & Ava 123.17 47 P **PKiKP** 00 41 00.8 +0.2
baz=298,SNR=17
D62A Allapoint, All 123.24 28 P **PKPdf** 00 40 59.9 -0.3
baz=316
Y55A Saluda 123.25 48 P **PKiKP** 00 41 01.1 +0.3
baz=297,SNR=23
G61A St-Isidore-de- 123.28 31 P **PKPdf** 00 41 00.3 0.0
baz=313
I60A Shoreham 123.30 33 P **PKiKP** 00 41 00.8 +0.3
baz=311,SNR=28
E62A Clayton Lake 123.35 29 P **PKPdf** 00 40 60.0 -0.4
baz=316
V56A Mocksville 123.35 45 P **PKPdf** 00 41 00.7 0.0
baz=300,SNR=12
L59A Walton 123.35 36 P **PKiKP** 00 41 00.7 -0.1
baz=308,SNR=6.7
ACCN Adirondack Com 123.39 34 IAMs_20 IAMs_20 01 30 12.7
comp=Z,21µm,22.0s
R57A Stanardsville 123.42 42 P **PKiKP** 00 41 00.9 -0.1
baz=303,SNR=14
O58A Lewisberry 123.44 39 P **PKPdf** 00 41 00.7 -0.1
baz=305,SNR=18
M59A Waymart 123.52 37 P **PKPdf** 00 41 01.0 +0.1
baz=307,SNR=19
JSC Jenkinsville 123.53 47 IAMs_20 IAMs_20 01 32 53.5
comp=Z,13µm,20.0s
P58A Pank, Wackersv 123.56 40 P **PKiKP** 00 41 01.2 -0.1
baz=304,SNR=8.8
H61A Lyndonville 123.58 32 P **PKiKP** 00 41 01.3 +0.1
baz=312
X56A White Oak 123.60 47 P **PKiKP** 00 41 01.4 0.0
baz=298,SNR=8.9
CCA1 Carnmenellis 123.61 338 *e*P **PKPdf** 00 40 59.8 -1.0
CCA1 IAMs_20 IAMs_20 01 23 49.3
comp=Z,20µm,39.1s
T57A Hurt 123.61 43 P **PKPdf** 00 41 01.1 0.0
baz=301,SNR=11
T57A Hurt 123.61 43 IAMs_20 IAMs_20 01 29 03.2
comp=Z,22µm,22.0s
J60A Lant Hill Farm 123.62 34 P **PKiKP** 00 41 01.1 -0.1
baz=310,SNR=9.8
W56A Indian Trail 123.62 46 P **PKiKP** 00 41 01.4 -0.1
baz=299,SNR=6.7
Q58A Fox Den Farm, 123.62 40 P **PKPdf** 00 41 01.1 0.0
baz=304,SNR=18
F62A Pittston Farm, 123.64 30 P **PKiKP** 00 41 01.2 -0.1
baz=315
N59A State Game Lan 123.69 37 P **PKPdf** 00 41 01.2 0.0
baz=307,SNR=9.2
D63A Stockholm 123.71 28 P **PKPdf** 00 41 00.8 -0.2
baz=318
Y56A Pelion 123.73 48 P **PKiKP** 00 41 02.2 +0.5
baz=298
K60A Five Rivers En 123.75 35 P **PKiKP** 00 41 02.0 +0.5
baz=309,SNR=5.8
R58A Rapidan 123.77 41 P **PKPdf** 00 41 01.4 0.0
baz=303,SNR=8.7
LBNH Lisbon 123.78 32 P **PKiKP** 00 41 01.7 +0.1
baz=312
O59A Robesonia 123.79 38 P **PKPdf** 00 41 01.0 -0.5
baz=306
V57A Coltrane Farms 123.82 45 P **PKPdf** 00 41 01.6 0.0
baz=300,SNR=14
I61A Oroboro, Fairl 123.83 33 P **PKiKP** 00 41 02.0 +0.3
baz=312
G62A West of Eustis 123.84 31 P **PKPdf** 00 41 01.4 0.0
baz=314
U57A Ranch 123.85 44 P **PKPdf** 00 41 01.4 -0.2
baz=301,SNR=12
Z56A Williston 123.90 48 P **PKiKP** 00 41 02.9 +0.8
baz=297,SNR=9.9
SDMD Soldier's Deli 123.90 40 IAMs_20 IAMs_20 01 27 24.9
comp=Z,19µm,22.0s
L60A Shokan 123.95 36 P **PKiKP** 00 41 01.9 -0.1
baz=309
H62A Milan 123.96 31 P **PKPdf** 00 41 01.7 +0.1
baz=313
E63A Oxbow 124.02 28 P **PKPdf** 00 41 01.3 -0.3
baz=317
R58B Mineral 124.03 42 P **PKPdf** 00 41 02.0 +0.1
baz=303,SNR=12
J61A Chester 124.03 33 P **PKiKP** 00 41 02.7 +0.6
baz=311
W57A Gilead 124.03 45 P **PKiKP** 00 41 02.2 -0.1
baz=300,SNR=16
W57A Gilead 124.03 45 IAMs_20 IAMs_20 01 31 22.5
comp=Z,19µm,21.0s
P59A Jarrettsville 124.04 39 P **PKiKP** 00 41 02.1 -0.1
baz=305,SNR=5.4
K61A Williamstown 124.07 34 P **PKiKP** 00 41 02.4 +0.2
baz=310
S58A Poland Farm, P 124.11 42 P **PKPdf** 00 41 02.1 +0.1
baz=303,SNR=9.0
LUPA Lehigh Univers 124.12 38 PP PP 00 42 46.0 +0.1
N60A Cedar Hill Far 124.12 37 P **PKiKP** 00 41 02.2 -0.1
baz=305,SNR=12
M60A Port Jervis 124.13 36 P **PKPdf** 00 41 02.0 0.0
baz=308
T58A Grand View Acr 124.14 43 P **PKPdf** 00 41 02.1 -0.1
baz=302,SNR=14
F63A Nahmakanta, Br 124.21 29 P **PKPdf** 00 41 02.1 +0.1
baz=316
L61A Hillsdale 1, H 124.21 35 P **PKiKP** 00 41 02.4 0.0
baz=310
CBN Corbin Frederi 124.23 41 P **PKiKP** 00 41 02.6 0.0
baz=304,SNR=6.9
CBN Corbin Frederi 124.23 41 IAMs_20 IAMs_20 01 33 24.1
comp=Z,18µm,21.0s
O60A Telford 124.27 38 P **PKiKP** 00 41 02.5 -0.1
baz=307,SNR=16
Y57A Sumter 124.29 47 P **PKiKP** 00 41 03.2 +0.4
baz=299
X57A Johnson Farm, 124.29 46 P **PKiKP** 00 41 03.0 +0.1
baz=314
E64A Bridgewater 124.30 28 P **PKPdf** 00 41 02.2 0.0
baz=318
Q59A Harwood 124.33 40 P **PKiKP** 00 41 03.0 +0.3
baz=305
V58A Windy Hill, Pi 124.33 44 P **PKPdf** 00 41 02.6 0.0
baz=301,SNR=8.4
V58A Windy Hill, Pi 124.33 44 PP PP 00 42 48.9 +1.3
V58A IAMs_20 IAMs_20 01 34 12.2
comp=Z,19µm,21.0s
I62A Tamworth 124.34 32 P **PKiKP** 00 41 02.9 +0.2
baz=313
G63A Kingsbury 124.37 30 P **PKiKP** 00 41 02.5 -0.1
baz=315
R59A King George, V 124.40 41 P **PKiKP** 00 41 03.4 +0.5
baz=304,SNR=5.4
Z57A Bowman 124.40 48 P **PKiKP** 00 41 03.4 +0.3
baz=298,SNR=21
U58A Oxford 124.41 43 P **PKPdf** 00 41 02.6 -0.1
baz=302,SNR=12
P60A Greenville 124.42 38 P **PKPdf** 00 41 02.3 -0.4
baz=306,SNR=11
PKME Peaks-Kenny Pk 124.43 30 P **PKPdf** 00 41 02.4 -0.1
baz=315
F64A Sherman 124.46 29 P **PKPdf** 00 41 02.4 -0.1
baz=317
157A Early Branch 124.47 49 P **PKiKP** 00 41 03.6 +0.4
baz=297
H63A New Sharon 124.48 31 P **PKiKP** 00 41 02.9 0.0
baz=314
J62A Henniker 124.52 33 P **PKiKP** 00 41 03.1 0.0
baz=312
S59A Mechanicsville 124.53 41 P **PKiKP** 00 41 03.2 0.0
baz=304
L61B Northampton 124.55 34 P **PKPdf** 00 41 02.9 +0.1
baz=310
I63A Otisfield 124.62 32 P **PKPdf** 00 41 03.0 +0.1
baz=314
W58A Raeford 124.64 45 P **PKPdf** 00 41 03.3 +0.1
baz=300,SNR=14
M61A Granite Spring 124.64 36 P **PKiKP** 00 41 03.2 -0.1
baz=309
K62A Royalston 124.65 34 P **PKiKP** 00 41 03.3 0.0
baz=311
K62A Royalston 124.65 34 IAMs_20 IAMs_20 01 33 05.2
comp=Z,20µm,21.0s
N61A South Mountain 124.68 37 P **PKPdf** 00 41 02.5 -0.5
baz=308
G64A Maxfield 124.70 29 P **PKPdf** 00 41 03.1 +0.1
baz=316
656A Willston 124.70 53 IAMs_20 IAMs_20 01 33 01.3
comp=Z,21µm,20.0s
PAL Palisades 124.75 36 P **PKPdf** 00 41 02.8 -0.4
baz=309
Q60A Greensboro 124.77 39 P **PKiKP** 00 41 04.3 +0.7
baz=306,SNR=6.5
T59A Double "B" Far 124.78 42 P **PKiKP** 00 41 03.6 -0.1
baz=303,SNR=15
X58A Rowland 124.79 46 P **PKiKP** 00 41 03.9 0.0
baz=300,SNR=7.8
X58A Rowland 124.79 46 IAMs_20 IAMs_20 01 27 51.7
comp=Z,21µm,22.0s
L62A Suffield 124.83 35 P **PKiKP** 00 41 03.7 0.0
baz=310
QUA2 Belchertown 124.84 34 IAMs_20 IAMs_20 01 31 19.2
comp=Z,21µm,22.0s
Y58A Scranton 124.88 47 P **PKiKP** 00 41 04.0 +0.1
baz=299
J63A Strafford 124.88 33 P **PKiKP** 00 41 04.0 +0.3
baz=313
NHSC New Hope 124.88 48 P **PKiKP** 00 41 04.3 +0.3
baz=298,SNR=5.0
H64A Troy 124.91 30 P **PKPdf** 00 41 03.4 0.0
baz=315
O61A Allentown 124.92 38 P **PKiKP** 00 41 04.0 +0.1
baz=307
U59A Littleton 124.95 43 P **PKiKP** 00 41 04.0 0.0
baz=302,SNR=6.3
V59A Middlesex 124.95 44 P **PKPdf** 00 41 03.8 0.0
baz=302,SNR=10.0
S60A Water View 124.98 41 P **PKiKP** 00 41 04.6 +0.5
baz=304,SNR=9.4
K63A Dunstable 125.03 33 P **PKiKP** 00 41 04.4 +0.4
baz=312
Z58A St. Stephen 125.04 47 P **PKiKP** 00 41 04.6 +0.3
baz=299,SNR=10
M62A Hamden 125.07 35 P **PKPdf** 00 41 03.9 +0.1
baz=310
W59A Clinton 125.12 45 P **PKPdf** 00 41 04.1 +0.1
baz=301,SNR=7.2
HRV Adam Dziewonsk 125.13 34 P **PKiKP** 00 41 04.2 -0.1
baz=312
HRV Adam Dziewonsk 125.13 34 PKIKP **PKiKP** 00 41 04.8 +0.6
HRV MLR MLR
comp=Z,21µm,22.0s
HRV Adam Dziewonsk 125.13 34 **PKiKP** 00 41 04.8 +0.6
HRV Adam Dziewonsk 125.13 34 IAMs_20 IAMs_20 01 33 28.9
comp=Z,21µm,22.0s
I64A Boothbay 125.20 31 P **PKiKP** 00 41 04.7 +0.3
baz=314
T60A Surry 125.24 42 P **PKiKP** 00 41 04.9 +0.3
baz=304,SNR=6.9
X59A McDuffie Farm, 125.31 45 P **PKiKP** 00 41 04.7 -0.1
baz=300,SNR=7.3
G65A Princeton 125.32 29 P **PKPdf** 00 41 04.2 +0.1
baz=317
U60A Pendleton 125.32 43 P **PKPdf** 00 41 04.5 +0.1
baz=303,SNR=8.6
WES Weston 125.34 34 IAMs_20 IAMs_20 01 33 35.5
comp=Z,21µm,22.0s
H65A Eastbrook 125.35 30 P **PKPdf** 00 41 04.2 0.0
baz=316
EFI East Falkland 125.37 162 ⇓*i* PKIKP **PKPdf** 00 41 04.0 0.0
EFI pmax pmax
comp=Z,173nm,1.7s
EFI East Falkland 125.37 162 PKPdf **PKiKP** 00 41 04.6 +0.1
Y59A Loris 125.41 46 P **PKiKP** 00 41 05.4 +0.4
baz=300,SNR=6.8
Y59A Loris 125.41 46 IAMs_20 IAMs_20 01 34 15.0
comp=Z,19µm,20.0s
BCX Boston College 125.46 33 IAMs_20 IAMs_20 01 33 37.5
comp=Z,20µm,22.0s
CNNC Cliffs of the 125.47 44 P **PKiKP** 00 41 05.3 +0.1
baz=302,SNR=6.8
CNNC Cliffs of the 125.47 44 IAMs_20 IAMs_20 01 34 54.4
comp=Z,22µm,22.0s
L63A North Scituate 125.53 34 P **PKiKP** 00 41 05.2 +0.2
baz=311
BRYW Bryant College 125.53 34 IAMs_20 IAMs_20 01 33 44.5
comp=Z,19µm,21.0s
CRIN San Cristobal 125.55 74 IAMs_20 IAMs_20 01 24 41.6
comp=Z,13µm,22.0s
V60A Jim Taylor Roa 125.63 43 P **PKPdf** 00 41 04.9 -0.1
baz=302
S61A Accomac 125.64 41 IAMs_20 IAMs_20 01 36 08.3
comp=Z,15µm,20.0s
W60A Pink Hill 125.69 44 P **PKiKP** 00 41 06.0 +0.4
baz=302
H66A Whiting 125.74 29 P **PKPdf** 00 41 05.1 +0.1
baz=317
X60A Albert Glenn T 125.75 45 P **PKiKP** 00 41 05.7 0.0
baz=301
KEST Kesra 125.80 317 PKP **PKiKP** 00 41 06.1 +0.2
comp=Z,30nm,0.9s,baz=308,slow=3.2,SNR=21
Y60A Bolivia 125.87 46 IAMs_20 IAMs_20 01 34 48.0
comp=Z,16µm,21.0s
U61A Possum Corner 125.88 42 P **PKiKP** 00 41 05.9 0.0
baz=304
L64A Middleborough 125.91 34 P **PKPdf** 00 41 05.6 +0.2
baz=312
M64A Tiverton 125.96 34 P **PKiKP** 00 41 05.9 0.0
baz=312
V61A Roper 126.08 43 P **PKPdf** 00 41 06.1 +0.1
baz=303
DWPF Disney Wildern 126.10 54 P **PKiKP** 00 41 06.5 -0.1
baz=294
DWPF Disney Wildern 126.10 54 **PKiKP** 00 41 06.8 +0.3
DWPF Disney Wildern 126.10 54 IAMs_20 IAMs_20 01 31 03.4
comp=Z,12µm,22.0s
DRLN Deer Lake 126.12 19 IAMs_20 IAMs_20 01 31 02.1
comp=Z,16µm,22.0s
ESTN Estel 126.13 73 IAMs_20 IAMs_20 01 25 54.4
comp=Z,12µm,21.0s
W61A Ground Anchor 126.13 44 P **PKiKP** 00 41 06.6 +0.1
baz=302
TSUM Tsumeb 126.42 247 PKP **PKiKP** 00 41 08.1 +0.5
comp=Z,26nm,0.9s,baz=109,slow=2.6,SNR=28
TSUM Tsumeb 126.42 247 *i* P **PKiKP** 00 41 08.4 +0.8
TSUM Tsumeb 126.42 247 *i* P **PKiKP** 00 41 08.4 +0.8
TSUM Tsumeb 126.42 247 IAMs_20 IAMs_20 01 30 08.8
comp=Z,12µm,22.0s
MATN Matagalpa 126.59 73 IAMs_20 IAMs_20 01 26 17.5
comp=Z,17µm,22.0s
HOPE Hope Point 126.66 178 PKIKP **PKiKP** 00 41 06.8 -0.1
HOPE MLR MLR
comp=Z,13µm,19.0s
HOPE Hope Point 126.66 178 **PKiKP** 00 41 06.8 -0.1
HOPE Hope Point 126.66 178 IAMs_20 IAMs_20 01 38 50.1
comp=Z,13µm,19.0s
060A Indiantown 127.40 55 IAMs_20 IAMs_20 01 36 10.0
comp=Z,19µm,20.0s
061Z Ochoppi 127.42 56 IAMs_20 IAMs_20 01 41 18.6
comp=Z,11µm,20.0s
ACON Acoyapa 127.48 74 IAMs_20 IAMs_20 01 29 36.4
comp=Z,14µm,20.0s
GBN Guysborough 127.87 24 PKPdf **PKiKP** 00 41 10.1 +0.5
JTS Las Juntas de 127.98 76*c* *i* PKIKP **PKPdf** 00 41 10.1 0.0
JTS Las Juntas de 127.98 76 PKPdf **PKiKP** 00 41 10.7 0.0
JTS Las Juntas de 127.98 76 IAMs_20 IAMs_20 01 32 00.7
comp=Z,18µm,19.0s
SET Setif 128.17 319 P **PKiKP** 00 41 12.0 +1.3
PLCA Paso Flores 128.19 145 PKP **PKiKP** 00 41 10.9 +0.3
comp=Z,66nm,0.8s,baz=229,slow=2.9,SNR=3.2
PLCA Paso Flores 128.19 145 *e*P **PKiKP** 00 41 11.0 +0.5
PLCA Paso Flores 128.19 145 *e*P **PKiKP** 00 41 11.2 +0.6
ESPN Las Esperanzas 128.28 74 IAMs_20 IAMs_20 01 26 56.5
comp=Z,17µm,22.0s
HDC Heredia 128.84 77 IAMs_20 IAMs_20 01 32 39.6
comp=Z,15µm,19.0s
UCM Universidad Co 130.47 329 *e*PKP **PKiKP** 00 41 15.1 0.0

UCM eSS SS 01 00 58.0 +3.3
PRVC Isla de Provid 130.84 72 eP PKPdf 00 41 14.4 -1.1
PBRG Braganca 131.00 333 ePKPdf PKiKP 00 41 15.8 -0.3
PBRG Braganca 131.00 333 ePP PP 00 43 32.3 +1.4
CART Cartagena 131.21 325 ePKP PKPdf 00 41 15.8 +0.2
CART eSS SS 01 01 12.4 +8.6
ESBB Sonseca Array 131.31 329 IAMs_20 IAMs_20 01 40 05.6
comp=Z,11µm,22.0s
ESDC Sonseca Array 131.31 329 PKP PKPdf 00 41 16.2 +0.3
comp=Z,3.5nm,0.8s,baz=6.7,slow=1.7,SNR=13
ESDC PP PP 00 43 35.9 +2.9
comp=Z,13nm,0.9s,baz=23,slow=6.8,SNR=9.6
ESDC PKKP PKKPdf 00 51 13.4 -1.0
comp=Z,1.3nm,0.9s,baz=251,slow=2.2,SNR=4.4
PGAV Gavieira, Arco 131.55 335 ePKPdf PKiKP 00 41 17.4 +0.1
PGAV Gavieira, Arco 131.55 335 ePP PP 00 43 36.5 +2.0
PGAV Gavieira, Arco 131.55 335 eLQ LQ 01 15 25.3
PGAV eLR LR 01 23 29.1
comp=Z,9µm,20.0s
PAB San Pablo 131.60 329 PKIKP PKiKP 00 41 17.9 +0.4
PAB MLR MLR
comp=Z,12µm,21.0s
PAB San Pablo 131.60 329 PKiKP 00 41 17.9 +0.4
PAB San Pablo 131.60 329 IAMs_20 IAMs_20 01 40 32.5
comp=Z,12µm,21.0s
MVO Moncorvo 131.65 333 ePKPdf PKiKP 00 41 17.1 -0.4
MVO Moncorvo 131.65 333 ePP PP 00 43 36.3 +1.2
MVO Moncorvo 131.65 333 A A 01 38 44.1
comp=Z,7µm,22.0s
PCAB Cabril 131.65 334 ePKPdf PKiKP 00 41 17.8 +0.4
PCAB Cabril 131.65 334 ePP PP 00 43 36.2 +1.1
BO01 Tunca 131.78 138 IAMs_20 IAMs_20 01 28 50.2
comp=Z,14µm,22.0s
PVRL Vila Real 131.87 334 ePKPdf PKiKP 00 41 18.3 +0.4
PVRL Vila Real 131.87 334 ePP PP 00 43 37.4 +0.9
VA01 Torpederas 132.17 136 IAMs_20 IAMs_20 01 28 58.2
comp=Z,12µm,22.0s
MT02 Curacav 132.39 137 IAMs_20 IAMs_20 01 28 56.7
comp=Z,13µm,21.0s
PVIS Viseu 132.40 333 ePKPdf PKPdf 00 41 18.3 +0.4
PVIS Viseu 132.40 333 ePP PP 00 43 42.8 +2.9
MTE Manteigas 132.49 333 ePKPdf PKPdf 00 41 18.4 +0.3
MTE Manteigas 132.49 333 ePP PP 00 43 42.8 +2.3
MTE Manteigas 132.49 333 eLR LR 01 31 51.8
comp=Z,7µm,20.0s
PEL Peldehue 132.77 137 IAMs_20 IAMs_20 01 28 58.9
comp=Z,10µm,22.0s
PCBR Castelo Branco 132.91 332 ePKPdf PKiKP 00 41 19.8 -0.1
COI Coimbra 133.04 333 ePKPdf PKPdf 00 41 19.3 +0.3
COI Coimbra 133.04 333 ePP PP 00 43 44.5 +0.6
VA03 San Esteban 133.08 136 PKPdf PKiKP 00 41 20.2 -0.5
VA03 IAMs_20 IAMs_20 01 29 24.9
comp=Z,12µm,22.0s
BCIP Isla Barro Col 133.14 77 IAMs_20 IAMs_20 01 33 14.4
comp=Z,18µm,20.0s
PMRV Marv??o 133.19 332 ePKPdf PKPdf 00 41 19.2 -0.2
PMRV Marv??o 133.19 332 ePP PP 00 43 47.4 +2.4
PMRV Marv??o 133.19 332 eLQ LQ 01 16 43.4
PMRV eLR LR 01 26 43.2
comp=Z,6µm,20.0s
PCAS Casmilo, Conde 133.20 333 ePKPdf PKiKP 00 41 20.0 -0.6
PCAS Casmilo, Conde 133.20 333 ePP PP 00 43 46.8 +1.8
PCAS Casmilo, Conde 133.20 333 eLQ LQ 01 16 48.8
PCAS eLR LR 01 24 59.8
comp=Z,7µm,22.0s
CO02 Combarbal 133.64 134 PKPdf 00 41 20.8 +0.2
CO02 IAMs_20 IAMs_20 01 28 52.2
comp=Z,13µm,22.0s
EMAL Malaga-Limoner 133.71 327 ePKP PKPdf 00 41 19.8 -0.6
EMAL eSS SS 01 01 35.6 +1.4
PSBE So Bento 133.77 333 ePKPdf PKPdf 00 41 20.4 -0.1
PSBE So Bento 133.77 333 ePP PP 00 43 50.5 +1.8
PMTG Montargil 133.87 332 ePKPdf PKPdf 00 41 20.7 +0.1
PMTG Montargil 133.87 332 ePP PP 00 43 51.3 +2.0
CO03 El Pedregal 134.06 134 PKPdf 00 41 21.7 +0.3
EVO Evora 134.20 332 ePKP PKPdf 00 41 21.8 +0.5
EVO eSS SS 01 01 40.6 +0.8
EVO Evora 134.20 332 ePKPdf PKPdf 00 41 21.6 +0.3
EVO Evora 134.20 332 ePP PP 00 43 53.2 +1.8
ASAL Salagasta 134.35 137 i P PKPdf 00 41 08.2 -14
PMAFR Mafra 134.45 333 ePKPdf PKPdf 00 41 22.3 +0.6
PMAFR Mafra 134.45 333 ePP PP 00 43 54.5 +1.6
PBEJ Beja 134.53 331 ePKPdf PKiKP 00 41 23.0 -0.3
LIS Lisbon 134.58 333 ePKPdf PKPdf 00 41 21.5 -0.4
LIS eSS SS 01 01 47.1 +2.8
LIS AMS AMS 01 36 02.9
comp=E,11µm,26.6s
LIS Lisbon 134.58 333 ePKIKP PKPdf 00 41 21.5 -0.4
LIS eSS SS 01 01 47.1 +2.9
LIS Lisbon 134.58 333 ePKPdf PKPdf 00 41 22.3 +0.4
LIS Lisbon 134.58 333 ePP PP 00 43 55.8 +2.0
PNCL Nicolau / Gran 134.78 332 ePKPdf PKPdf 00 41 21.5 -0.8
PNCL Nicolau / Gran 134.78 332 ePP PP 00 43 57.6 +2.6
PVLZ Peæn de 134.79 325 ePKP PKPdf 00 41 20.5 -1.9
PVLZ eSS SS 01 01 51.2 +3.8
CEU Ceuta 134.86 327 ePKP PKiKP 00 41 23.9 -0.1
CEU eSS SS 01 01 49.5 +1.4
SFS San Fernando 134.89 328 ePKP PKPdf 00 41 22.4 -0.2
SFS eSS SS 01 01 56.8 +8.5
SFS San Fernando 134.89 328 IAMs_20 IAMs_20 01 45 51.4
comp=Z,9µm,20.0s
PVAQ Vaqueiros 134.94 330 ePKPdf PKPdf 00 41 22.6 -0.1
PVAQ Vaqueiros 134.94 330 ePP PP 00 43 58.5 +2.4
PVAQ Vaqueiros 134.94 330 eLQ LQ 01 16 53.2
PVAQ Vaqueiros 134.94 330 eLR LR 01 27 41.0
comp=Z,8µm,22.0s
PVAQ Vaqueiros 134.94 330 IAMs_20 IAMs_20 01 43 49.6
comp=Z,11µm,22.0s
CO01 Juntas del Tor 134.97 134 PKPdf PKPdf 00 41 23.9 +0.6
CO01 IAMs_20 IAMs_20 01 33 35.4
comp=Z,10µm,20.0s
RTCV Cerro Valdivia 134.99 137 i P PKPdf 00 41 13.5 -10
PAC1 Pacto, Paraso 135.05 89 eP PKPdf 00 41 22.9 -0.8
TAM Tamanrasset 135.07 304 PKIKP PKiKP 00 41 25.1 +0.1
TAM Tamanrasset 135.07 304 PKPdf PKiKP 00 41 25.1 +0.1
PBDV Barranco-do-Ve 135.17 330 ePKPdf PKiKP 00 41 24.1 -0.6
PBDV Barranco-do-Ve 135.17 330 ePP PP 00 43 59.1 +1.4
AC04 Llanos de Chal 135.18 131 IAMs_20 IAMs_20 01 32 44.4
comp=Z,9µm,20.0s
PTEO Sao Teotonio 135.32 331 ePKPdf PKiKP 00 41 24.5 -0.4
CFA Coronel Fontan 135.35 137 PKhKP PKPpre 00 41 15.3
comp=Z,15nm,0.7s,baz=248,slow=3.4,SNR=3.5
CFA PKP PKPdf 00 41 24.3 +0.6
comp=Z,63nm,0.8s,baz=221,slow=2.6,SNR=8.5
AC05 El Transito 135.45 132 PKPdf PKPdf 00 41 24.7 +0.6
AC05 IAMs_20 IAMs_20 01 33 33.4
comp=Z,13µm,20.0s
CAPC Capurgana 135.65 77 eP PKPdf 00 41 21.2 -3.4
PFVI Vila Bisbo 135.70 331 ePKPdf PKiKP 00 41 25.0 -0.7
PFVI Vila Bisbo 135.70 331 ePP PP 00 44 02.5 +1.6
PFVI Vila Bisbo 135.70 331 eLQ LQ 01 18 11.3
PFVI eLR LR 01 20 03.5
comp=Z,6µm,24.0s
NNA Nana 135.93 106 PKIKP PKiKP 00 41 26.5 -0.3
NNA Nana 135.93 106 PKPdf PKiKP 00 41 26.5 -0.3
SOLC Bahia Solano 135.96 80 eP PKPdf 00 41 24.5 -0.7
GO03 Copiap 136.13 131 IAMs_20 IAMs_20 01 33 08.5
comp=Z,12µm,20.0s
IFR Ifrane 136.46 324 ePKP PKPdf 00 41 25.9 +0.1
IFR eSS SS 01 02 05.6 -2.1
GCUF Volcan Galeras 136.46 87 eP PKPdf 00 41 25.9 -0.8
BBAC Balboa, Cauca 136.52 86 eP PKPdf 00 41 23.2 -3.4
AC01 Pan de Azucar 136.57 129 IAMs_20 IAMs_20 01 30 11.6
comp=Z,15µm,21.0s
MDT Midelt 136.65 323 PP PP 00 44 10.8 +3.4
comp=Z,8.3nm,1.2s,baz=95,slow=9.4,SNR=1.9
DBBC Dabeiba 137.03 79 eP PKPdf 00 41 21.8 -5.5
PLMC San Jos del P 137.23 82 eP PKPdf 00 41 24.3 -3.4
PUAC Puerto Asis, P 137.26 88 eP PKPdf 00 41 22.1 -5.6
YOTC Yotoco, Valle 137.27 83 eP PKPdf 00 41 18.9 -9.0
PCON Cinco Dias 137.35 86 eP PKPdf 00 41 20.1 -8.4
AC02 Maricunga 137.36 130 pPKPdf PKiKP 00 41 29.5 -0.5
CBOC Ciudad Bolivar 137.38 80 eP PKPdf 00 41 26.1 -1.9
PB14 IPOC Station P 137.46 127 PKPdf PKiKP 00 41 29.1 -1.0
PB14 IAMs_20 IAMs_20 01 30 29.3
comp=Z,15µm,20.0s
SJCC San Jacinto, C 137.51 74 eP PKPdf 00 41 24.2 -4.0
UREC San Jos de Ur 137.57 78 eP PKPdf 00 41 22.1 -6.2
MARP Paez Belalcaza 137.75 85 eP PKPdf 00 41 23.8 -5.2
HELC Santa Helena 137.82 80 eP PKPdf 00 41 16.7 -12
GO02 Mina Guanaco 137.85 128 PKPdf PKiKP 00 41 30.1 -0.7
GO02 IAMs_20 IAMs_20 01 30 30.4
comp=Z,15µm,21.0s
PB10 IPOC Station P 137.85 125 IAMs_20 IAMs_20 01 32 04.9
comp=Z,10µm,20.0s
AVE Averroes 137.92 326 ePKP PKPdf 00 41 26.8 -1.5
AVE eSS SS 01 02 24.8 +0.1
TCA Tanti 137.95 139 i P PKPdf 00 41 18.2 -10
GUY2C Guyana, Caldas 138.10 81 eP PKPdf 00 41 21.3 -8.5
FLOC Florencia 138.13 87 eP PKPdf 00 41 19.0 -10
SMRC Santa Marta, M 138.14 72 eP PKPdf 00 41 28.6 -0.6
ANIL Santa Ana 138.15 82 eP PKiKP 00 41 30.9 -0.8
RREF El Recreo 138.16 82 eP PKPdf 00 41 25.8 -4.3
TOLC Tolima 138.22 82 eP PKPdf 00 41 23.5 -6.3
GARC Garzon, Huila 138.26 86 eP PKPdf 00 41 27.4 -2.5
BETC Betania 138.28 85 eP PKPdf 00 41 29.1 -0.5
ZARC Zaragoza, Cauc 138.28 78 eP PKPdf 00 41 21.7 -7.8
SDDR Presa de Saban 138.31 60 PKPdf PKPdf 00 41 28.1 -1.3
ORTC Ortega, Tolima 138.37 83 eP PKPdf 00 41 20.4 -9.4
ARGC Ariguani, Magd 138.42 74 eP PKPdf 00 41 25.4 -4.4
NORC Norcasia 138.55 81 eP PKPdf 00 41 19.5 -11
PB04 IPOC Station P 138.71 124 PKiKP 00 41 31.4 -1.1
PB04 IAMs_20 IAMs_20 01 33 41.8
comp=Z,15µm,21.0s
PRAC Prado 138.74 83 eP PKPdf 00 41 20.9 -10
TRIS Tristan da Cun 138.80 206 PKiKP 00 41 31.6 -0.3
TRIS Tristan da Cun 138.80 206 IAMs_20 IAMs_20 01 39 04.0
comp=Z,11µm,19.0s
SMLC San Martn de 138.80 76 eP PKPdf 00 41 22.4 -8.0
PTBC PUERTO BERRIO;138.82 79 eP PKPdf 00 41 19.5 -11
PB15 IPOC Station P 138.88 125 PKPdf PKiKP 00 41 32.3 -0.5
PB15 IAMs_20 IAMs_20 01 33 25.9
comp=Z,12µm,21.0s
CYA Choya 138.92 135 i P PKPdf 00 41 21.2 -9.2
PB06 IPOC Station P 139.03 125 IAMs_20 IAMs_20 01 30 54.9
comp=Z,15µm,22.0s
PTLC Puerto Leguiza 139.04 89 eP PKPdf 00 41 21.8 -9.1
ROSC El Rosal 139.18 82 PKhKP PKPpre 00 41 23.9
comp=Z,22nm,0.7s,baz=156,slow=12,SNR=14
ROSC PKP PKPdf 00 41 32.5 +0.9
comp=Z,106nm,0.9s,baz=97,slow=4.3,SNR=31
ROSC El Rosal 139.18 82 eP PKPdf 00 41 22.5 -9.1
PB07 IPOC Station P 139.20 123 PKPdf PKiKP 00 41 32.6 -0.9
SPBC San Pablo de B 139.32 80 eP PKPdf 00 41 22.7 -8.9
PATCX Punta Patache 139.36 122 IAMs_20 IAMs_20 01 33 57.2
comp=Z,17µm,20.0s
TA01 Diego Aracena 139.44 121 IAMs_20 IAMs_20 01 33 57.2
comp=Z,16µm,19.0s
BRRC Barranca, Sant 139.46 78 eP PKPdf 00 41 27.9 -3.7
LVC Limon Verde 139.61 125 PKhKP PKPpre 00 41 24.5
comp=Z,19nm,0.7s,baz=260,slow=4.5,SNR=14
LVC Limon Verde 139.61 125 PKHKP PKPpre 00 41 24.5
LVC 00 41 33.6
LVC Limon Verde 139.61 125 eP PKPdf 00 41 32.9 +0.7
LVC Limon Verde 139.61 125 eP PKPdf 00 41 30.9 -1.2
LVC Limon Verde 139.61 125 PKPpre 00 41 24.5
LVC PKPdf PKiKP 00 41 33.6 -0.9
LVC Limon Verde 139.61 125 IAMs_20 IAMs_20 01 31 13.4
comp=Z,13µm,21.0s
H07N1 FLORES T-PHASE 139.62 357 ePKP PKPdf 00 41 31.8 +0.5
OCAC Ocana 139.64 76 eP PKPdf 00 41 22.1 -10
PB09 IPOC Station P 139.71 124 PKPdf PKiKP 00 41 34.1 -0.4
PB09 IAMs_20 IAMs_20 01 34 38.1
comp=Z,16µm,20.0s
CHIC Chingaza 139.79 82 eP PKPdf 00 41 31.5 -1.3
PB01 IPOC Station P 139.83 122 IAMs_20 IAMs_20 01 34 33.4
comp=Z,17µm,20.0s
PSGCX Pisagua 139.88 120 IAMs_20 IAMs_20 01 34 52.0
comp=Z,10µm,20.0s
VILC Villavicencio, 139.89 83 eP PKPdf 00 41 25.5 -7.1
MACC Macarena, Meta 139.90 86 eP PKPdf 00 41 23.8 -8.8
H07S1 FLORES T-PHASE 139.93 357 ePKP PKPdf 00 41 30.4 -1.5
H07S1 FLORES T-PHASE 139.93 357 ePP PP 00 44 25.4 -1.3
PGRA Graciosa 139.99 353 ePKP PKPdf 00 41 30.5 -1.5
PGRA Graciosa 139.99 353 ePP PP 00 44 27.2 +0.1
SRBC Serra Branca 139.99 353 ePKP PKPdf 00 41 31.5 -0.5
SRBC Serra Branca 139.99 353 ePP PP 00 44 27.4 +0.3
BARC Barichara 140.06 79 eP PKPdf 00 41 25.6 -7.5
PB12 IPOC Station P 140.08 119 IAMs_20 IAMs_20 01 31 23.4
comp=Z,11µm,21.0s
URIC Uribia, Colomb 140.12 71 eP PKPdf 00 41 24.6 -8.2
AP01 Chacalluta 140.16 118 IAMs_20 IAMs_20 01 31 01.6
comp=Z,11µm,20.0s
PSCM Serra do Cume 140.20 352 ePKP PKPdf 00 41 32.7 +0.3
PB11 IPOC Station P 140.22 121 PKPdf 00 41 27.8 -5.3
PB11 IAMs_20 IAMs_20 01 34 43.9
comp=Z,11µm,20.0s
AHML Horco Molle 140.22 133 i P PKPdf 00 41 27.7 -5.1
RUSC La Rusia 140.27 80 eP PKPdf 00 41 24.2 -10
ROSA Rosais 140.33 353 ePKP PKPdf 00 41 30.5 -2.1
ROSA Rosais 140.33 353 ePP PP 00 44 29.7 +0.6
PMAN Manadas 140.39 353 ePKP PKPdf 00 41 31.0 -1.7
PAMC Pamplona, Colo 140.41 78 eP PKPdf 00 41 26.0 -8.0
PCED Cedros 140.47 354 ePKP PKPdf 00 41 31.0 -1.8
PCED Cedros 140.47 354 ePP PP 00 44 30.3 +0.3
PB08 IPOC Station P 140.49 121 PKPdf 00 41 28.9 -5.0
PB08 IAMs_20 IAMs_20 01 35 33.1
comp=Z,13µm,20.0s
CALA Caldeira 140.52 354 ePKP PKPdf 00 41 32.4 -0.6
CALA Caldeira 140.52 354 ePP PP 00 44 30.9 +0.5
MNMC Minye Minye 140.52 120 PKiKP 00 41 36.5 +0.2
MNMC IAMs_20 IAMs_20 01 36 07.0
comp=Z,9µm,20.0s
PICO Pico 140.56 353 ePKP PKPdf 00 41 32.4 -0.7
GO01 Chusmiza 140.65 121 PKPdf PKPdf 00 41 35.5 +1.3
GO01 IAMs_20 IAMs_20 01 36 37.4
comp=Z,11µm,21.0s
CZSB Cruzeiro do Su 140.67 101 eP PKPdf 00 41 32.3 -1.6
BART Pico Bartolome 140.78 349 ePKP PKPdf 00 41 32.1 -1.4
PCALD Caldeiras da R 140.81 349 ePKP PKPdf 00 41 31.7 -1.8
PSET Sete Cidades 140.83 350 ePKP PKPdf 00 41 32.3 -1.3
PSET Sete Cidades 140.83 350 ePP PP 00 44 30.2 -2.1
GRON Grota Negra 140.85 350 ePKP PKPdf 00 41 31.0 -2.6
GRON Grota Negra 140.85 350 ePP PP 00 44 33.0 +0.6
CMLA Cha da Macela 140.85 350 ePP PP 00 44 33.1 +0.7
PDA Ponta Delgada 140.90 350 ePKP PKPdf 00 41 31.3 -2.3
PB16 IPOC Station P 140.90 119 PKPdf PKiKP 00 41 37.2 -0.3
PB16 IAMs_20 IAMs_20 01 31 26.3
comp=Z,13µm,22.0s
PTGC Puerto Gaitan, 141.42 82 eP PKPdf 00 41 25.3 -10
TAMC Tame, Arauca 141.45 79 eP PKPdf 00 41 27.7 -7.6
PSMN Pico do Norte, 141.50 349 ePKP PKPdf 00 41 33.6 -1.2
PSMN Pico do Norte, 141.50 349 ePP PP 00 44 36.4 0.0
PSMA Santa Maria 141.53 349 ePKP PKPdf 00 41 35.5 +0.7
AZAP Zapla 141.85 130 i P PKPdf 00 41 30.9 -5.1
SDV Santo Domingo 142.11 74 PKhKP PKPpre 00 41 32.8
comp=Z,129nm,0.7s,baz=285,slow=3.7,SNR=15
SDV Santo Domingo 142.11 74 eP PKPdf 00 41 31.4 -5.3
SDV Santo Domingo 142.11 74 eP PKPdf 00 41 32.4 -4.3
SDV Santo Domingo 142.11 74 PKPpre 00 41 32.3
SDV PKiKP 00 41 39.5 -0.2
SDV Santo Domingo 142.11 74 IAMs_20 IAMs_20 01 35 19.0
comp=Z,13µm,22.0s
CRPR Cabo Rojo, PR 142.31 59 PKPdf PKiKP 00 41 38.8 -0.9
AOPR Arecibo Observ 142.46 58 eP PKiKP 00 41 33.4 -3.5
PMPST Porto Santo, M 142.46 335 ePKPdf PKPdf 00 41 34.9 -1.7
PMPST Porto Santo, M 142.46 335 ePP PP 00 44 44.8 +2.3
PMPS Porto Santo 142.48 335 ePKPdf PKPdf 00 41 37.2 +0.6
HATO Hato, Curacao 142.83 69 IAMs_20 IAMs_20 01 33 36.5
comp=Z,10µm,22.0s
LPAZ La Paz 142.88 116 PKP PKPdf 00 41 36.4 -2.1
comp=Z,62nm,0.8s,baz=290,slow=2.3,SNR=137
LPAZ La Paz 142.88 116 eP PKPdf 00 41 36.7 -1.8
LPAZ La Paz 142.88 116 eP PKPdf 00 41 37.3 -1.2
PMAR Madeira 143.01 336 ePKPdf PKPdf 00 41 37.0 -0.8
PMOZ Porto Moniz, M 143.04 336 ePKPdf PKPdf 00 41 37.4 -0.3
FUL Funchal 143.07 336 ePKPdf PKPdf 00 41 37.8 +0.2
SJG San Juan 143.08 58 PKhKP PKPpre 00 41 34.2
comp=Z,125nm,0.7s,baz=21,slow=3.5,SNR=44
SJG San Juan 143.08 58 eP PKPab 00 41 31.9 -1.5
SJG San Juan 143.08 58 eP PKPbc 00 41 34.6 -0.2
SJG San Juan 143.08 58 PKPbc 00 41 34.2 -0.6
SJG pPKPdf sPKPdf 00 41 45.2 +2.4
SJG San Juan 143.08 58 IAMs_20 IAMs_20 01 50 00.8
comp=Z,9µm,20.0s
PLTB Pedras Altas 143.99 151 eP PKPbc 00 41 38.1 +0.9
PLTB Pedras Altas 143.99 151 eP PKPdf 00 41 38.9 -0.4
BAUV El Baul 144.59 73 eP PKPab 00 41 38.7 -0.6
SMRT St. Maarten 145.68 55 eP PKPdf 00 41 42.7 +0.1
SMRT St. Maarten 145.68 55 IAMs_20 IAMs_20 01 44 06.2
comp=Z,15µm,22.0s
SABA Saba 145.75 56 eP PKPdf 00 41 42.4 -0.3
SABA Saba 145.75 56 IAMs_20 IAMs_20 01 43 42.3
comp=Z,12µm,22.0s
CPUP Villa Florida 146.02 140 PKPbc PKPab 00 41 43.9 -0.3
comp=Z,160nm,0.9s,baz=248,slow=2.2,SNR=272
CPUP Villa Florida 146.02 140 eP PKPab 00 41 44.0 -0.2
CPUP Villa Florida 146.02 140 eP PKPbc 00 41 43.6 -0.1
SEUS St. Eustatius 146.03 56 eP PKPdf 00 41 42.9 -0.3
SEUS St. Eustatius 146.03 56 IAMs_20 IAMs_20 01 44 44.7
comp=Z,11µm,21.0s
SKI Saint Kitts 146.31 56 eP PKPdf 00 41 44.1 +0.5
ETMB Extrema 146.59 107 eP PKPdf 00 41 44.3 +0.1
ETMB Extrema 146.59 107 eP PKPbc 00 41 45.2 -0.6
MACI Morro de la Ar 146.66 331 PKPab 00 41 47.0 +0.2
ANWB Willy Bob 146.93 55 eP PKPbc 00 41 46.1 -0.5
ANWB Willy Bob 146.93 55 IAMs_20 IAMs_20 01 45 20.3
comp=Z,12µm,22.0s
MLYT Lee's Yard 147.06 57 eP PKPbc 00 41 47.3 +0.3
CNLB Canela 147.34 152 eP PKPdf 00 41 45.9 +0.7
CNLB Canela 147.34 152 eP PKPdf 00 41 45.2 0.0
ABD La Joyeuse, An 147.77 57 eP PKPdf 00 41 47.1 +1.0
CBE Ff, Capester 147.87 57 eP PKPbc 00 41 48.9 -0.4
TBG Guadaloupe-3 147.94 58 eP PKPbc 00 41 49.5 +0.1
TDBA Terre de Bas, 147.95 58 eP PKPdf 00 41 47.6 +1.1
MAGL Barre de l'ile 148.20 57 eP PKPbc 00 41 50.7 +0.6
H05N1 Guadeloupe/Mar 148.21 56 PKPbc PKPdf 00 41 46.7 -0.2
SNR=198
DSLB Salisbury 148.33 58 eP PKPdf 00 41 48.4 +1.3
ITAB Concordia 148.40 148 eP PKPdf 00 41 48.0 +1.1
ITAB Concordia 148.40 148 eP PKPdf 00 41 48.0 +1.1
MDN Morne-Daniel 148.41 58 eP PKPbc 00 41 50.5 -0.2
SHEL Horse Pasture 148.46 240 IAMs_20 IAMs_20 01 40 24.3
comp=Z,9µm,20.0s
DLPL La Plaine 148.52 58 eP PKPbc 00 41 50.7 -0.3
DLPL La Plaine 148.52 58 IAMs_20 IAMs_20 01 44 39.1
comp=Z,11µm,20.0s
FDF Fort de France 148.88 59 eP PKPdf 00 41 48.5 +0.5
FDF Fort de France 148.88 59 IAMs_20 IAMs_20 01 46 42.0
comp=Z,8µm,21.0s
BIM Bigot 149.05 59 eP PKPbc 00 41 52.5 +0.2
ILAM Ilet Lapin Mar 149.10 59 eP PKPbc 00 41 52.3 -0.1
SIV San Ignacio 149.21 121 PKP PKPdf 00 41 49.4 +0.9
comp=Z,139nm,1.1s,baz=223,slow=1.2,SNR=128
SIV PKPbc PKiKP 00 41 53.7 -0.3
comp=Z,97nm,0.9s,baz=244,slow=2.2,SNR=61
MPOM Morne Pois Mar 149.27 59 eP PKPbc 00 41 52.7 -0.2
SLBI Saint Lucia, B 149.36 60 eP PKPbc 00 41 52.7 -0.4
SLDE Delcer 149.38 61 eP PKiKP 00 41 55.1 +0.8
SLB Belfond 149.38 61 eP PKPbc 00 41 53.7 +0.4
SLW Petit Monier 149.39 60 eP PKPbc 00 41 53.6 +0.4
SVB Belmont 149.44 62 eP PKPbc 00 41 52.5 -0.8
SVB Belmont 149.44 62 PKPbc 00 41 53.1 -0.3
SVV Soufriere Volc 149.45 62 eP PKiKP 00 41 54.2 -0.3
SSV Crater Summit 149.47 62 eP PKiKP 00 41 54.3 -0.3
SLPA Patience 149.48 61 eP PKPbc 00 41 53.9 +0.5
SLAC Saint Lucia, A 149.48 60 eP PKPbc 00 41 53.4 -0.1
MCLT Moule a Chique 149.52 61 eP PKPbc 00 41 53.0 -0.5
MCLT Moule a Chique 149.52 61 PKPab PKPab 00 42 00.5 +2.0
MCLT IAMs_20 IAMs_20 01 46 38.2
comp=Z,9µm,22.0s
SVCV St. Vincent, C 149.53 62 eP PKPbc 00 41 53.3 -0.2
BHS Barnard House 149.54 62 eP PKiKP 00 41 54.1 -0.5
GRGR Grenville 149.54 64 eP PKPbc 00 41 53.5 -0.1
GRGR Grenville 149.54 64 IAMs_20 IAMs_20 01 44 25.9
comp=Z,9µm,20.0s
GCMP Grenada, Carri 149.61 63 eP PKPdf 00 41 49.4 +0.2
SAML Samuel 149.70 106 PKP2 PKiKP 00 41 55.3 +0.3
SAML Samuel 149.70 106 eP PKPdf 00 41 49.7 +0.3
SAML Samuel 149.70 106 eP PKPdf 00 41 49.9 +0.6
SAML Samuel 149.70 106 PKPdf 00 41 49.6 +0.3
SAML PKiKP 00 41 55.3 +0.3
SAML Samuel 149.70 106 IAMs_20 IAMs_20 01 41 11.5
comp=Z,12µm,20.0s
KIC Kosan Boka 150.09 284 ePKIKP PKPdf 00 41 49.9 -0.1
comp=Z,2µm,1.3s
DBIC Dimbokro 150.13 285 PKP PKPdf 00 41 50.0 -0.1
comp=Z,40nm,1.0s,baz=30,slow=2.1,SNR=20
DBIC PKPbc PKPbc 00 41 55.1 0.0
comp=Z,346nm,0.9s,baz=67,slow=2.9,SNR=74
DBIC Dimbokro 150.13 285 PKIKP PKPbc 00 41 55.1 0.0
DBIC 00 42 02.6
DBIC Dimbokro 150.13 285 PKPab PKPab 00 42 02.6 +1.6
TIC Toumodi 150.29 285 ePKIKP PKPdf 00 41 50.2 -0.1
TRN Trinidad (W) 150.32 67 eP PKPdf 00 41 50.9 +0.6
LIC Lamto 150.39 284 ePKIKP PKPdf 00 41 49.7 -0.7
comp=Z,2µm,1.0s
PTGB Pitanga 150.42 145 eP PKPdf 00 41 51.1 +0.8
PTGB Pitanga 150.42 145 eP PKPdf 00 41 51.4 +1.1
TBH Brigand Hill 150.69 67 eP PKiKP 00 41 58.3 +1.2
TPR Prospect 150.70 65 eP PKiKP 00 41 57.5 +0.4
TOSP Speyside 150.88 65 eP PKPdf 00 41 52.7 +1.5
TOSP Speyside 150.88 65 PKPab PKPab 00 42 04.5 +0.5
BBGH Gun Hill 150.98 61 eP PKPbc 00 41 54.3 -2.8
PTLB Pontes e Lacer 151.11 122 eP PKPdf 00 41 52.2 +0.7
PTLB Pontes e Lacer 151.11 122 eP PKPdf 00 41 52.2 +0.7
PTLB Pontes e Lacer 151.11 122 eP PKPdf 00 41 52.9 +1.5
VILB Vilhena 151.24 116 eP PKPdf 00 41 53.0 +1.3
VILB Vilhena 151.24 116 eP PKPdf 00 41 53.1 +1.3
VILB Vilhena 151.24 116 eP PKPdf 00 41 53.1 +1.3
TRCB Terra Rica 151.52 141 eP PKPdf 00 41 53.1 +1.1
TRCB Terra Rica 151.52 141 eP PKPdf 00 41 52.7 +0.7
TRCB Terra Rica 151.52 141 eP PKPdf 00 41 53.6 +1.6
TIJ01 Guaruva-PR 151.57 150 eP PKPdf 00 41 52.5 +0.3
TIJ01 Guaruva-PR 151.57 150 eP PKPdf 00 41 52.9 +0.8
FRTB Fartura 152.90 147 eP PKPdf 00 41 56.5 +2.5
FRTB Fartura 152.90 147 eP PKPdf 00 41 54.3 +0.3
MACA Manacapuru-AM 153.08 95 eP PKPdf 00 41 54.3 -0.2
MACA Manacapuru-AM 153.08 95 eP PKPdf 00 41 55.1 +0.6
MACA Manacapuru-AM 153.08 95 eP PKPdf 00 41 55.3 +0.8
PCMB Pacaembu 153.25 142 eP PKPdf 00 41 55.5 +0.9
PCMB Pacaembu 153.25 142 eP PKPdf 00 41 55.3 +0.7
PCMB Pacaembu 153.25 142 eP PKPdf 00 41 58.1 +3.6
PET01 Itanhaem-SP 153.28 152 eP PKPdf 00 41 55.7 +1.2
PET01 Itanhaem-SP 153.28 152 eP PKPdf 00 41 55.4 +1.0
PET01 Itanhaem-SP 153.28 152 eP PKPdf 00 41 55.5 +1.0
SALV Santo Antonio 153.75 126 eP PKPdf 00 41 56.4 +1.1
SALV Santo Antonio 153.75 126 eP PKPdf 00 41 57.0 +1.6
SALV Santo Antonio 153.75 126 eP PKPdf 00 41 57.5 +2.1
SPB Sao Paulo 153.80 151 eP PKPdf 00 41 56.5 +1.2
SPB Sao Paulo 153.80 151 eP PKPdf 00 41 55.1 -0.1
SPB Sao Paulo 153.80 151 eP PKPdf 00 41 56.3 +1.1
SPB Sao Paulo 153.80 151 IAMs_20 IAMs_20 01 52 38.6
comp=Z,9µm,21.0s
PTGA Pitinga 153.88 90 PKP PKPdf 00 41 56.4 +0.7
comp=Z,30nm,0.9s,baz=275,slow=1.4,SNR=39
PTGA Pitinga 153.88 90 eP PKPdf 00 41 56.4 +0.7
PTGA Pitinga 153.88 90 eP PKPdf 00 41 56.7 +1.0
PTGA Pitinga 153.88 90 eP PKPdf 00 41 56.5 +0.7
PTGA Pitinga 153.88 90 PKPdf PKPdf 00 41 56.3 +0.7
PTGA PKPbc PKiKP 00 42 03.9 +0.1
VAO Valinhos 154.52 151 eP PKPdf 00 41 57.4 +1.0
VAO Valinhos 154.52 151 eP PKPdf 00 41 56.7 +0.3
VAO Valinhos 154.52 151 eP PKPdf 00 41 58.9 +2.5
RCLB Rio Claro- Sao 154.73 149 eP PKPdf 00 41 57.7 +1.0
RCLB Rio Claro- Sao 154.73 149 eP PKPdf 00 41 57.6 +0.9
PARB Paraibuna 154.86 154 eP PKPdf 00 41 58.0 +1.1
PARB Paraibuna 154.86 154 eP PKPdf 00 41 57.6 +0.8
ITRB Iturama 155.22 140 eP PKPdf 00 41 58.3 +0.9
ITRB Iturama 155.22 140 eP PKPdf 00 41 59.0 +1.6
ITRB Iturama 155.22 140 eP PKPdf 00 41 59.8 +2.4
BB19B Bebedouro 155.29 146 eP PKPdf 00 41 58.4 +0.9
BB19B Bebedouro 155.29 146 eP PKPdf 00 41 59.5 +2.0
BB19B Bebedouro 155.29 146 eP PKPdf 00 41 58.7 +1.2
MAN01 Angra dos Reis 155.97 157 eP PKPdf 00 41 59.2 +0.9
MAN01 Angra dos Reis 155.97 157 eP PKPdf 00 41 58.9 +0.6
CLDB Colider 156.01 115 eP PKPdf 00 41 58.5 -0.1
CLDB Colider 156.01 115 eP PKPdf 00 41 58.8 +0.2
CLDB Colider 156.01 115 eP PKPdf 00 41 59.3 +0.7
ARAG Araguaiana, MT 156.91 131 eP PKPdf 00 42 00.6 +0.9
ARAG Araguaiana, MT 156.91 131 eP PKPdf 00 42 01.0 +1.3
ARAG Araguaiana, MT 156.91 131 eP PKPdf 00 42 00.9 +1.3
BSCB Bom Sucesso 157.28 153 eP PKPdf 00 42 01.3 +1.2
BSCB Bom Sucesso 157.28 153 eP PKPdf 00 42 02.3 +2.2
MBO M'Bour 157.47 313 IAMs_20 IAMs_20 02 08 37.4
comp=Z,9µm,19.0s
NPGB Novo Progresso 157.68 107 eP PKPdf 00 42 01.6 +0.8
NPGB Novo Progresso 157.68 107 eP PKPdf 00 42 01.9 +1.1
NPGB Novo Progresso 157.68 107 eP PKPdf 00 42 01.4 +0.7
CAM01 Campos-RJ 157.77 161 eP PKPdf 00 42 01.5 +1.0
CAM01 Campos-RJ 157.77 161 eP PKPdf 00 42 01.6 +1.0
CAM01 Campos-RJ 157.77 161 eP PKPdf 00 42 02.2 +1.6
IPMB Ipameri, GO 157.85 141 eP PKPdf 00 42 01.3 +0.4
IPMB Ipameri, GO 157.85 141 eP PKPdf 00 42 01.4 +0.6
IPMB Ipameri, GO 157.85 141 eP PKPdf 00 42 03.3 +2.4
ITTB Itaituba 157.86 100 eP PKPdf 00 42 01.9 +0.9

ITTB	**Itaituba**	**157.86 100**	*e*P	**PKPdf**	**00 42 01.3**	**+0.4**
ITTB	**Itaituba**	**157.86 100**	*e*P	**PKPdf**	**00 42 01.8**	**+0.9**
ASCN	**Ascension**	**159.33 249**		**PKPdf**	**00 42 03.8**	**+1.1**
ASCN				**pPKPab**	**00 42 42.0**	**-1.6**
MALB	**Monte Alegre**	**159.56 93**	*e*P	**PKPdf**	**00 42 03.3**	**+0.3**
MALB	**Monte Alegre**	**159.56 93**	*e*P	**PKPdf**	**00 42 03.8**	**+0.8**
MALB	**Monte Alegre**	**159.56 93**	*e*P	**PKPdf**	**00 42 04.7**	**+1.7**
BDFB	**Brasilia**	**159.69 137**	PKP	**PKPdf**	**00 42 03.5**	**+0.3**
	comp=Z,35nm,0.8s,baz=133,slow=0.5,SNR=54					
BDFB			PKPab	**PKPab**	**00 42 41.7**	**+0.1**
	comp=Z,95nm,0.8s,baz=213,slow=4.6,SNR=18					
BDFB	**Brasilia**	**159.69 137**	PKP2	**PKPab**	**00 42 42.2**	**+0.6**
BDFB	**Brasilia**	**159.69 137**	PKPab	**PKPab**	**00 42 42.2**	**+0.6**
MDP	**Montagnes des**	**160.33 72**	PKP	**PKPdf**	**00 42 03.7**	**-0.2**
	comp=Z,60nm,1.0s,baz=275,slow=3.2,SNR=8.9					
MDP			PKPab	**PKPab**	**00 42 44.7**	**+0.2**
	comp=Z,61nm,0.9s,baz=278,slow=3.5,SNR=10					
RIB01	**Linhares ES**	**160.52 161**	*e*P	**PKPdf**	**00 42 03.9**	**0.0**
RIB01	**Linhares ES**	**160.52 161**	*e*P	**PKPdf**	**00 42 04.4**	**+0.5**
RIB01	**Linhares ES**	**160.52 161**	*e*P	**PKPdf**	**00 42 05.3**	**+1.4**
SJMB	**Sao Joao De Ma**	**160.82 158**	*e*P	**PKPdf**	**00 42 04.2**	**0.0**
SJMB	**Sao Joao De Ma**	**160.82 158**	*e*P	**PKPdf**	**00 42 04.5**	**+0.3**
SJMB	**Sao Joao De Ma**	**160.82 158**	*e*P	**PKPdf**	**00 42 04.9**	**+0.7**
BSFB	**Barra de Sao F**	**160.82 159**	*e*P	**PKPdf**	**00 42 04.2**	**0.0**
BSFB	**Barra de Sao F**	**160.82 159**	*e*P	**PKPdf**	**00 42 04.4**	**+0.2**
MC01	**Montes Claros**	**161.34 148**	*e*P	**PKPdf**	**00 42 05.4**	**+0.5**
MC01	**Montes Claros**	**161.34 148**	*e*P	**PKPdf**	**00 42 06.5**	**+1.6**
MCPB	**Macapa, AP**	**161.79 89**	*e*P	**PKPdf**	**00 42 05.8**	**+0.4**
MCPB	**Macapa, AP**	**161.79 89**	*e*P	**PKPdf**	**00 42 05.6**	**+0.2**
PEXB	**Peixe**	**161.79 129**	*e*P	**PKPdf**	**00 42 06.0**	**+0.6**
PEXB	**Peixe**	**161.79 129**	*e*P	**PKPdf**	**00 42 06.2**	**+0.8**
NAN01	**Guarapari, ES**	**161.98 160**	*e*P	**PKPdf**	**00 42 06.0**	**+0.5**
NAN01	**Guarapari, ES**	**161.98 160**	*e*P	**PKPdf**	**00 42 05.6**	**+0.1**
JANB	**Januaria**	**162.47 144**	*e*P	**PKPdf**	**00 42 05.7**	**-0.4**
JANB	**Januaria**	**162.47 144**	*e*P	**PKPdf**	**00 42 06.8**	**+0.7**
PRPB	**Parauapebas**	**163.20 109**	*e*P	**PKPdf**	**00 42 07.7**	**+0.9**
PRPB	**Parauapebas**	**163.20 109**	*e*P	**PKPdf**	**00 42 08.2**	**+1.3**
SDBA	**SAO DESIDERIO**	**164.09 137**	*e*P	**PKPdf**	**00 42 08.1**	**+0.4**
SDBA	**SAO DESIDERIO**	**164.09 137**	*e*P	**PKPdf**	**00 42 07.7**	**0.0**
SMTB	**Santa Maria do**	**164.15 121**	*e*P	**PKPdf**	**00 42 08.4**	**+0.8**
SMTB	**Santa Maria do**	**164.15 121**	*e*P	**PKPdf**	**00 42 09.4**	**+1.8**
GDU01	**Guandu, BA**	**165.98 156**	*e*P	**PKPdf**	**00 42 09.6**	**+0.4**
GDU01	**Guandu, BA**	**165.98 156**	*e*P	**PKPdf**	**00 42 10.0**	**+0.8**
ROSB	**Rosrio**	**169.52 102**	*e*P	**PKPdf**	**00 42 11.6**	**-0.1**
RCBR	**Riachuelo**	**174.61 158**	PKP	**PKPdf**	**00 42 13.6**	**-0.5**
	comp=Z,37nm,1.0s,baz=71,slow=0.6,SNR=7.9					
RCBR			PKPab	**PKPab**	**00 43 47.8**	**+0.6**
	comp=Z,42nm,0.9s,baz=204,slow=12,SNR=5.4					
RCBR	**Riachuelo**	**174.61 158**	PKP2	**PKPab**	**00 43 48.4**	**+1.2**
RCBR					01 42 14.0	
RCBR	**Riachuelo**	**174.61 158**	*e*P	**PKPdf**	**00 42 13.6**	**-0.5**
RCBR	**Riachuelo**	**174.61 158**		**PKPdf**	**00 42 14.0**	**-0.1**
RCBR				**PKPab**	**00 43 48.4**	**+1.2**

*IDC **03** 00:23:32.6±16.0, 13.°35N×88.°35W, h0km, mb4.2/5, mb1 4.5/5, mb1mx3.9/28, mbtmp4.2/5, Error ellipse: s-maj=313.5km s-min=54.1km az=2.0*
*GCG **03** 00:23:55.9±3.4, 13.°35N×89.°03W, h176km±999km, MD4.2*
*UCR **03** 00:23:56.2±1.4, 13.°76N×89.°00W, h179km±5km, ML4.2, mb4.4(NEIC)*
*NEIC **03** 00:23:56.5±1.8, 13.°69N±0.°09×89.°07W±0.°08, h185km±7km, mb4.4/124, Error ellipse: s-maj=14.9km s-min=8.8km az=213.0*
*SNET **03** 00:23:56.7±1.0, 13.°79N×89.°02W, h176km±3km, ML4.3*
*INET **03** 00:23:57.0, 13.°88N×88.°91W, h183km, ML4.1*
ISC 03 00:23:56.3±0.7, **13.°72N**±0.°06×**89.°07W**±0.°05, **h182**km±5km, **n302**, σ**0.s86**/306, **mb4.3**/52, **7C-11D, El Salvador**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBRS	**Las Brisas**	**0.03 57**	*e*P	**Pn**	**00 24 20.8**	**+0.5**
LBRS	**Las Brisas**	**0.03 57**	*e*P	**Pn**	**00 24 20.8**	**+0.5**
LFRS	**El Faro**	**0.10 178**	*e*P	**Pn**	**00 24 20.5**	**0.0**
LFRS	**El Faro**	**0.10 178**	*e*P	**Pn**	**00 24 20.5**	**0.0**
PAVA	**Las Pavas**	**0.13 95**	⇑*i*P	**Pn**	**00 24 20.9**	**+0.4**
PAVA			*e*S	**Sn**	**00 24 39.2**	**+0.3**
PAVA	**Las Pavas**	**0.13 95**	⇑*i*P	**Pn**	**00 24 20.9**	**+0.4**
PAVA			*e*S	**Sn**	**00 24 39.2**	**+0.3**
SNET	**Serv Nac Est T**	**0.17 257**		**Pn**	**00 24 20.3**	**-0.2**
BOQS	**Boqueron**	**0.21 273**	*e*P	**Pn**	**00 24 20.9**	**+0.2**
BOQS	**Boqueron**	**0.21 273**	*e*P	**Pn**	**00 24 20.9**	**+0.2**
CEDA	**San Andres**	**0.33 284**	*e*P	**Pn**	**00 24 20.7**	**0.0**
CEDA			*e*S	**Sn**	**00 24 40.0**	**+0.5**
CEDA			IAML		00 24 44.7	
	comp=Z,3μm,0.8s					
CEDA	**San Andres**	**0.33 284**	*e*P	**Pn**	**00 24 20.7**	**0.0**
CEDA			*e*S	**Sn**	**00 24 40.0**	**+0.5**
CEDA			IAML		00 24 44.7	
	comp=Z,3μm,0.8s					
LALI	**Alcalda de L**	**0.34 227**	*e*S	**Sn**	**00 24 39.6**	**+0.1**
LALI	**Alcalda de L**	**0.34 227**	*e*S	**Sn**	**00 24 39.6**	**+0.1**
TACO	**Tacachico**	**0.37 311**	⇑*i*P	**Pn**	**00 24 21.0**	**+0.2**
TACO			*e*S	**Sn**	**00 24 39.7**	**-0.1**
TACO	**Tacachico**	**0.37 311**	⇑*i*P	**Pn**	**00 24 21.0**	**+0.2**
TACO			*e*S	**Sn**	**00 24 39.7**	**-0.1**
JAYA	**Jayaque - finc**	**0.38 260**	*i* P	**Pn**	**00 24 20.9**	**-0.1**
JAYA			*e*S	**Sn**	**00 24 40.1**	**+0.1**
JAYA			IAML		00 24 43.5	
	comp=Z,4μm,0.2s					
JAYA	**Jayaque - finc**	**0.38 260**	*i* P	**Pn**	**00 24 20.9**	**-0.1**
JAYA			*e*S	**Sn**	**00 24 40.0**	**+0.1**
JAYA			*e*S	**Sn**	**00 24 40.1**	**+0.1**
JAYA			IAML		00 24 43.5	
	comp=Z,4μm,0.2s					
CEVE	**Cerro Verde**	**0.55 281**	⇑*i*P	**Pn**	**00 24 22.2**	**+0.5**
CEVE			IAML		00 24 23.0	
	comp=Z,7μm,0.3s					
CEVE	**Cerro Verde**	**0.55 281**	⇑*i*P	**Pn**	**00 24 22.2**	**+0.5**
CEVE			IAML		00 24 23.0	
	comp=Z,7μm,0.3s					
COEB	**Comit de Eme**	**0.57 113**	⇓*i*P	**Pn**	**00 24 21.9**	**+0.2**
COEB			*e*S	**Sn**	**00 24 41.0**	**-0.2**
COEB			IAML		00 24 51.8	
	comp=Z,2μm,0.5s					
COEB	**Comit de Eme**	**0.57 113**	⇓*i*P	**Pn**	**00 24 21.9**	**+0.2**
COEB			*e*S	**Sn**	**00 24 41.0**	**-0.2**
COEB			IAML		00 24 51.8	
	comp=Z,2μm,0.5s					
RTR	**El Retiro**	**0.59 287**	*e*P	**Pn**	**00 24 22.4**	**+0.5**
RTR	**El Retiro**	**0.59 287**	*e*P	**Pn**	**00 24 22.4**	**+0.5**
TECA	**Tecapa**	**0.59 113**	⇓*i*P	**Pn**	**00 24 22.2**	**+0.3**
TECA	**Tecapa**	**0.59 113**	⇓*i*P	**Pn**	**00 24 22.2**	**+0.3**
ALJI	**Alcalda de J**	**0.62 129**	*e*P	**Pn**	**00 24 22.0**	**+0.2**
ALJI			*e*S	**Sn**	**00 24 41.4**	**-0.1**
ALJI	**Alcalda de J**	**0.62 129**	*e*P	**Pn**	**00 24 22.0**	**+0.2**
ALJI			*e*S	**Sn**	**00 24 41.4**	**-0.1**
MTO3	**Montecristo**	**0.73 337**	*e*P	**Pn**	**00 24 22.6**	**-0.1**
MTO3			*e*S	**Sn**	**00 24 42.6**	**-0.5**
MTO3	**Montecristo**	**0.73 337**	*e*P	**Pn**	**00 24 22.6**	**-0.1**
MTO3			*e*S	**Sn**	**00 24 42.6**	**-0.5**
MTO3	**Montecristo**	**0.73 337**		**Pn**	**00 24 23.1**	**+0.5**
BLLM	**Bellamira**	**0.85 109**	*e*P	**Pn**	**00 24 23.3**	**+0.1**
BLLM	**Bellamira**	**0.85 109**	*e*P	**Pn**	**00 24 23.3**	**+0.1**
ESQI	**Esquipulas**	**0.87 342**	⇓*i*P	**Pn**	**00 24 24.3**	**+0.9**
ESQI			*e*S	**Sn**	**00 24 44.6**	**+0.2**
ESQI	**Esquipulas**	**0.87 342**		**Pn**	**00 24 24.3**	**+0.9**
FAGO	**Alcalda de S**	**0.93 92**	⇓*i*P	**Pn**	**00 24 23.7**	**0.0**
FAGO			*e*S	**Sn**	**00 24 44.2**	**-0.6**
FAGO	**Alcalda de S**	**0.93 92**	⇓*i*P	**Pn**	**00 24 23.7**	**0.0**
FAGO			*e*S	**Sn**	**00 24 44.2**	**-0.6**
LCND	**La Caada**	**1.22 110**	*e*P	**Pn**	**00 24 26.0**	**+0.1**
LCND			*e*S	**Sn**	**00 24 48.9**	**+0.2**
LCND	**La Caada**	**1.22 110**	*e*P	**Pn**	**00 24 26.0**	**+0.1**
LCND			*e*S	**Sn**	**00 24 48.9**	**+0.2**
IXG	**Ixpaco**	**1.41 289**	⇓*i*P	**Pn**	**00 24 28.1**	**+0.4**
IXG	**Ixpaco**	**1.41 289**	⇓*i*P	**Pn**	**00 24 28.1**	**+0.4**
IXG	**Ixpaco**	**1.41 289**	⇓*i*P	**Pn**	**00 24 28.9**	**+1.2**
MRL	**Marmol**	**1.48 336**	*i* P	**Pn**	**00 24 30.3**	**+1.9**
NBG	**Las Nubes**	**1.51 305**	*e*P	**Pn**	**00 24 31.0**	**+2.2**
PCG	**Pacaya**	**1.64 294**	⇓*e*P	**Pn**	**00 24 31.9**	**+1.9**
TGUH	**Tegucigalpa,Un**	**1.77 79**	Pn	**Pn**	**00 24 31.5**	**+0.3**
FUG	**Fuego 3**	**1.87 293**	⇑*e*P	**Pn**	**00 24 33.9**	**+1.6**
RTAL	**Retalhuleu**	**2.67 288**		**Pn**	**00 24 40.9**	**-0.2**
ESTN	**Estel**	**2.70 103**	Pn	**Pn**	**00 24 41.4**	**0.0**
MATN	**Matagalpa**	**3.16 104**		**Pn**	**00 24 47.0**	**-0.1**
PETF	**Flores**	**3.27 346**	Pn	**Pn**	**00 24 49.4**	**+1.1**
BOAB	**BOACO BROADBAN**	**3.55 111**		**Pn**	**00 24 51.8**	**+0.1**
CCIG	**Comitan**	**3.91 311**	Pn	**Pn**	**00 24 57.4**	**+0.9**
ACON	**Acoyapa**	**4.18 114**	Pn	**Pn**	**00 24 59.3**	**-0.4**
ACON			Sn	**Sn**	**00 25 50.3**	**+0.9**
ESPN	**Las Esperanzas**	**4.89 108**	Pn	**Pn**	**00 25 08.8**	**0.0**
JTS	**Las Juntas de**	**5.28 130**	Pn	**Pn**	**00 25 14.7**	**+0.8**
JTS			Sn	**Sn**	**00 26 14.4**	**-0.6**
CEDE	**Laguna Cedeo**	**5.34 127**	*i* P	**Pn**	**00 25 15.9**	**+1.1**
CEDE			*i* S	**Sn**	**00 26 19.0**	**+2.4**
CASO	**Castillo**	**5.35 127**	*i* S	**Sn**	**00 26 17.9**	**+1.1**
FORC	**Fortuna**	**5.38 127**	*i* S	**Sn**	**00 26 19.7**	**+2.3**
HDC	**Heredia**	**6.10 127**	Pn	**Pn**	**00 25 24.9**	**+0.2**
HDC				**Sn**	**00 26 36.1**	**+1.7**
TEIG	**Tepich**	**6.51 7**	Pn	**Pn**	**00 25 30.2**	**+0.2**
TLIG	**Tlapa**	**9.91 294**		**Pn**	**00 26 14.6**	**-0.3**
060A	**Indiantown**	**15.55 30**		**P**	**00 27 26.1**	**-0.2**
DWPF	**Disney Wildern**	**15.98 25**	P	**Pn**	**00 27 33.3**	**+2.1**
	baz=208					
DWPF	**Disney Wildern**	**15.98 25**	P	**P**	**00 27 30.9**	**-0.2**
656A	**Willston**	**16.70 20**	P	**Pn**	**00 27 40.1**	**+0.2**
553A	**Crawfordville**	**16.94 14**		**P**	**00 27 42.0**	**+0.4**
451A	**Vernon**	**17.09 10**	P	**Pn**	**00 27 44.0**	**-0.4**
833A	**Chaparral WMA,**	**17.42 328**	P	**Pn**	**00 27 48.6**	**+0.2**
	baz=145,SNR=7.6					
833A	**Chaparral WMA,**	**17.42 328**		**Pn**	**00 27 48.4**	**0.0**
833A			IAmb	IAmb	00 27 50.0	
	comp=Z,21nm,0.8s					
344A	**Westbrook Farm**	**17.71 355**	P	**P**	**00 27 50.8**	**+0.7**
342A	**Flagon Creek P**	**17.82 351**	P	**Pn**	**00 27 52.8**	**-0.4**
342A			IAmb	IAmb	00 27 55.8	
	comp=Z,18nm,1.1s					
352A	**Blakely**	**18.08 11**	P	**Pn**	**00 27 55.7**	**-0.4**
TIGA	**Tifton**	**18.34 15**	P	**Pn**	**00 27 59.1**	**-0.1**
	baz=197,SNR=7.6					
TIGA	**Tifton**	**18.34 15**	P	**Pn**	**00 27 58.1**	**-1.1**
250A	**Grady**	**18.35 8**	P	**P**	**00 27 57.0**	**0.0**
250A			IAmb	IAmb	00 28 01.7	
	comp=Z,13nm,0.8s					
VBMS	**Vicksburg**	**18.46 356**	P	**P**	**00 27 59.1**	**+0.8**
BANI	**BANI**	**18.56 73**	P	**P**	**00 28 00.4**	**+0.7**
NATX	**Nacogdoches**	**18.67 345**	P	**Pn**	**00 28 02.9**	**-0.2**
	baz=163					
435B	**Jarrell**	**18.70 337**	P	**P**	**00 28 02.0**	**+1.1**
	baz=154					
GRTK	**Grand Turk**	**18.75 63**	P	**P**	**00 28 01.4**	**-0.1**
146A	**Union**	**18.83 0**	P	**P**	**00 28 03.2**	**+0.9**
255A	**Hazlehurst**	**19.10 17**	P	**P**	**00 28 05.7**	**+0.5**
152A	**Waverly Hall**	**19.27 11**	P	**Pn**	**00 28 08.7**	**-1.5**
152A			IAmb	IAmb	00 28 13.0	
	comp=Z,8.4nm,0.8s					
LRAL	**Lakeview Retre**	**19.32 5**	P	**Pn**	**00 28 09.1**	**-1.6**
	baz=186,SNR=7.8					
LRAL	**Lakeview Retre**	**19.32 5**	P	**P**	**00 28 08.6**	**+1.1**
LRAL			IAmb	IAmb	00 28 10.7	
	comp=Z,11nm,0.9s					
JCT	**Junction City**	**19.39 331**	P	**P**	**00 28 09.3**	**+0.8**
	baz=147					
JCT	**Junction City**	**19.39 331**	P	**P**	**00 28 08.5**	**0.0**
JCT			IAmb	IAmb	00 28 09.9	
	comp=Z,7.8nm,0.7s					
Z47A	**Carrollton**	**19.41 3**	P	**P**	**00 28 09.3**	**+0.8**
Y45A	**Yeager Farm, C**	**20.06 359**	P	**P**	**00 28 17.0**	**+1.5**
Y45A			IAmb	IAmb	00 28 22.7	
	comp=Z,14nm,0.8s					
Y49A	**Blount Mountai**	**20.19 6**	P	**P**	**00 28 17.2**	**+0.2**
WLAR	**White Oak Lake**	**20.21 350**	P	**P**	**00 28 17.6**	**+0.4**
WLAR			IAmb	IAmb	00 28 20.2	
	comp=Z,14nm,1.0s					
GOGA	**Godfrey**	**20.25 14**	P	**P**	**00 28 18.2**	**+0.6**
	baz=196					
GOGA	**Godfrey**	**20.25 14**	P	**P**	**00 28 18.1**	**+0.5**
GOGA			IAmb	IAmb	00 28 18.6	
	comp=Z,6.9nm,0.6s					
CCAR	**Cane Creek**	**20.25 353**	P	**P**	**00 28 18.3**	**+0.8**
157A	**Early Branch**	**20.26 20**	P	Pn	00 28 20.4	-1.7
	baz=203					
Y52A	**Lilburn**	**20.56 12**	P	**P**	**00 28 21.1**	**+0.3**
Y52A			IAmb	IAmb	00 28 22.0	
	comp=Z,8.8nm,0.6s					
TXAR	**Lajitas Array**	**20.60 321**	P	**P**	**00 28 23.1**	**+1.6**
	comp=Z,5.3nm,0.7s,baz=137,slow=11,SNR=24					
TX31	**Lajitas Ar. Si**	**20.60 321**	P	**P**	**00 28 22.5**	**+1.1**
TX31			IAmb	IAmb	00 28 24.0	
	comp=Z,15nm,0.7s					
TX32	**Lajitas Array**	**20.60 321**	P	**P**	**00 28 22.1**	**+0.6**
OXF	**Oxford**	**20.70 359**	P	**P**	**00 28 22.8**	**+0.5**
	baz=179					
OXF	**Oxford**	**20.70 359**	P	**P**	**00 28 21.9**	**-0.4**
X48A	**Hartselle**	**20.72 5**	IAmb	IAmb	00 28 25.0	
	comp=Z,7.9nm,0.7s					
Z56A	**Williston**	**20.73 18**	P	**P**	**00 28 23.7**	**+1.0**
	baz=202					
Z56A	**Williston**	**20.73 18**	P	**P**	**00 28 22.4**	**-0.3**
CSU	**Charleston Sou**	**20.86 22**	P	**P**	**00 28 23.5**	**-0.5**
Z57A	**Bowman**	**20.92 20**	P	**P**	**00 28 27.2**	**+2.5**
	baz=203					
X40A	**Basin Creek Fa**	**20.95 351**	P	**P**	**00 28 26.8**	**+1.7**
MIAR	**Mount Ida**	**21.13 350**	P	**P**	**00 28 27.6**	**+0.7**
	baz=168,SNR=9.7					
MIAR	**Mount Ida**	**21.13 350**	P	**P**	**00 28 27.5**	**+0.7**
MIAR			IAmb	IAmb	00 28 28.4	
	comp=Z,11nm,0.8s					
ABTX	**Abilene, Hawle**	**21.15 335**	P	**P**	**00 28 27.3**	**+0.1**
	baz=150					
Y55A	**Saluda**	**21.16 17**	P	**P**	**00 28 27.6**	**+0.3**
	baz=200					
HODGE	**Hodges**	**21.33 16**	P	**P**	**00 28 29.0**	**-0.1**
HODGE			IAmb	IAmb	00 28 30.1	
	comp=Z,11nm,1.0s					
Z59A	**Georgetown, SC**	**21.38 23**	P	**P**	**00 28 30.0**	**+0.5**
	baz=207					
X37A	**Clayton**	**21.54 346**	P	**P**	**00 28 32.0**	**+0.7**
X37A			IAmb	IAmb	00 28 34.2	
	comp=Z,8.7nm,0.7s					
W41B	**Gary Mavity, V**	**21.55 353**	P	**P**	**00 28 32.3**	**+0.9**
	baz=172					
W41B	**Gary Mavity, V**	**21.55 353**	P	**P**	**00 28 31.4**	**+0.1**
SWET	**Sewanee**	**21.59 7**	IAmb	IAmb	00 28 31.9	
	comp=Z,6.5nm,0.6s					
X54A	**Belton**	**21.60 15**	P	**P**	**00 28 32.2**	**+0.4**
	baz=198					
WHAR	**Wooly Hollow**	**21.67 353**	P	**P**	**00 28 33.0**	**+0.4**
Y57A	**Sumter**	**21.68 20**	P	**P**	**00 28 33.7**	**+1.0**
	baz=203					
X55A	**Gracelyn & Ava**	**21.73 17**	P	**P**	**00 28 33.6**	**+0.5**
	baz=200					
W39A	**Magazine**	**21.80 350**	P	**P**	**00 28 35.0**	**+1.1**
	baz=168,SNR=6.3					
W39A	**Magazine**	**21.80 350**	IAmb	IAmb	00 28 37.2	
	comp=Z,8.7nm,0.9s					
X56A	**White Oak**	**21.92 18**	P	**P**	**00 28 35.8**	**+0.7**
	baz=201,SNR=5.4					
PAULI	**Pauline**	**22.00 16**	IAmb	IAmb	00 28 38.1	
	comp=Z,10nm,0.9s					
V48A	**Smith Brothers**	**22.02 5**	IAmb	IAmb	00 28 37.6	
	comp=Z,6.4nm,0.7s					
W54A	**Cherokee Point**	**22.16 15**	P	**P**	**00 28 38.3**	**+0.8**
	baz=198,SNR=5.3					
LCAR	**Lake Charles**	**22.33 356**	IAmb	IAmb	00 28 40.4	
	comp=Z,8.5nm,0.9s					
WVT	**Waverly**	**22.34 3**	P	**P**	**00 28 39.0**	**-0.1**
	baz=183					
TKL	**Tuckaleechee C**	**22.35 11**	IAmb	IAmb	00 28 40.8	
	comp=Z,11nm,0.8s					
V51A	**Loudon**	**22.39 10**	P	**P**	**00 28 39.3**	**-0.3**
V51A			IAmb	IAmb	00 28 41.3	
	comp=Z,6.5nm,0.8s					
CLTN	**Cedars of Leba**	**22.41 6**	P	**P**	**00 28 40.0**	**+0.2**
CLTN			IAmb	IAmb	00 28 40.8	
	comp=Z,10nm,0.6s					
KMSC	**Kings Mountain**	**22.44 17**	P	**P**	**00 28 40.6**	**+0.5**
	baz=200,SNR=5.3					
KMSC	**Kings Mountain**	**22.44 17**	IAmb	IAmb	00 28 41.6	
	comp=Z,11nm,0.8s					
X58A	**Rowland**	**22.53 21**	P	**P**	**00 28 41.7**	**+0.8**
	baz=205					
X58A	**Rowland**	**22.53 21**	P	**P**	**00 28 41.3**	**+0.4**
X58A			IAmb	IAmb	00 28 42.8	
	comp=Z,11nm,0.8s					
V53A	**Saluda**	**22.57 13**	IAmb	IAmb	00 28 43.2	
	comp=Z,18nm,1.1s					
V52A	**Sevierville**	**22.57 12**	P	**P**	**00 28 41.5**	**+0.2**
W56A	**Indian Trail**	**22.65 18**	P	**P**	**00 28 42.4**	**+0.4**
	baz=202					
WMOK	**Wichita Mounta**	**22.69 339**	P	**P**	**00 28 43.1**	**+0.7**
	baz=155,SNR=6.0					
FNO	**Franklin**	**22.72 342**	P	**P**	**00 28 43.3**	**+0.6**
U40A	**Yellville**	**22.79 352**	P	**P**	**00 28 44.6**	**+1.3**
	baz=170,SNR=9.6					
U40A	**Yellville**	**22.79 352**	IAmb	IAmb	00 28 46.5	
	comp=Z,13nm,1.0s					
X59A	**McDuffie Farm,**	**22.82 23**	P	**P**	**00 28 44.6**	**+1.1**
	baz=207					
W57A	**Gilead**	**22.85 19**	P	**P**	**00 28 44.0**	**+0.2**
	baz=203					
W57A	**Gilead**	**22.85 19**	P	**P**	**00 28 43.0**	**-0.8**
W57A			IAmb	IAmb	00 28 45.2	
	comp=Z,7.7nm,0.6s					
V54A	**Nebo**	**22.87 15**	P	**P**	**00 28 44.6**	**+0.6**
	baz=198					
U49A	**Red Boiling Sp**	**22.88 7**	IAmb	IAmb	00 28 45.0	
	comp=Z,8.0nm,0.8s					
HHAR	**Hobbs**	**22.89 350**	IAmb	IAmb	00 28 46.5	
	comp=Z,9.7nm,0.7s					
TUL1	**Leonard**	**22.91 346**	P	**P**	**00 28 44.9**	**+0.6**
	baz=163					
W58A	**Raeford**	**22.99 21**	P	**P**	**00 28 45.4**	**+0.3**
	baz=205					
PBMO	**Poplar Bluff**	**22.99 357**	P	**P**	**00 28 45.0**	**0.0**
PBMO			IAmb	IAmb	00 28 47.9	
	comp=Z,11nm,0.8s					
X60A	**Albert Glenn T**	**23.06 24**	P	**P**	**00 28 46.1**	**+0.4**
	baz=208					
U38A	**Gravette**	**23.12 349**	P	**P**	**00 28 47.5**	**+1.2**
U38A			IAmb	IAmb	00 28 48.7	
	comp=Z,7.6nm,0.7s					
V55A	**Taylorsville**	**23.14 16**	P	**P**	**00 28 47.0**	**+0.6**
	baz=200					
V55A	**Taylorsville**	**23.14 16**	P	**P**	**00 28 46.9**	**+0.6**
V55A			IAmb	IAmb	00 28 48.8	
	comp=Z,7.3nm,0.7s					
TZTN	**Tazewell**	**23.26 11**	P	**P**	**00 28 47.5**	**+0.1**
	baz=194					
TZTN	**Tazewell**	**23.26 11**	P	**P**	**00 28 46.7**	**-0.8**
T42A	**Van Buren**	**23.28 356**	IAmb	IAmb	00 28 50.4	
	comp=Z,9.2nm,1.0s					
V56A	**Mocksville**	**23.30 18**	P	**P**	**00 28 48.4**	**+0.5**
	baz=201					
MNTX	**Cornudas Mount**	**23.32 323**	P	**P**	**00 28 49.0**	**+0.8**
	baz=137					
V57A	**Coltrane Farms**	**23.60 19**	P	**P**	**00 28 51.0**	**+0.4**
	baz=203					
U54A	**Nelsons Funny**	**23.61 15**	P	**P**	**00 28 51.7**	**+0.9**
	baz=198					
MSTX	**Muleshoe**	**23.69 331**	P	**P**	**00 28 52.1**	**+0.6**
	baz=145,SNR=6.0					
MSTX	**Muleshoe**	**23.69 331**	IAmb	IAmb	00 28 52.8	
	comp=Z,10.0nm,0.8s					
V58A	**Windy Hill, Pi**	**23.73 20**	P	**P**	**00 28 52.2**	**+0.4**
	baz=205					
U55A	**TA2, Sparta**	**23.80 16**	P	**P**	**00 28 52.6**	**+0.2**
	baz=200					
U56A	**King**	**23.84 18**	P	**P**	**00 28 53.4**	**+0.6**
	baz=201					
T53A	**Wise**	**23.89 13**	P	**P**	**00 28 53.7**	**+0.4**
	baz=196					
AMTX	**Amarillo**	**23.95 334**	P	**P**	**00 28 55.4**	**+1.4**
	baz=149					
AMTX	**Amarillo**	**23.95 334**	P	**P**	**00 28 55.0**	**+1.1**
T54A	**Tazewell**	**24.18 15**	P	**P**	**00 28 56.6**	**+0.6**
	baz=198					
U57A	**Blanch**	**24.24 19**	P	**P**	**00 28 56.9**	**+0.5**
	baz=204					
CCM	**Cathedral Cave**	**24.31 356**	P	**P**	**00 28 57.4**	**+0.3**
	baz=175					
CCM	**Cathedral Cave**	**24.31 356**	P	**P**	**00 28 57.0**	**0.0**
T55A	**Pulaski**	**24.44 16**	P	**P**	**00 28 59.1**	**+0.8**
	baz=200					
WCI	**Wyandotte Cave**	**24.53 5**	P	**P**	**00 28 58.8**	**-0.2**
	baz=186					
WCI	**Wyandotte Cave**	**24.53 5**	P	**P**	**00 28 58.8**	**-0.2**
R40A	**Maddies Statio**	**24.63 354**	IAmb	IAmb	00 29 02.9	
	comp=Z,6.9nm,0.7s					
R49A	**Shelbyville**	**24.71 7**	P	**P**	**00 28 59.9**	**-0.7**
T57A	**Hurt**	**24.78 19**	P	**P**	**00 29 01.5**	**+0.1**
	baz=203					
T57A	**Hurt**	**24.78 19**	P	**P**	**00 29 01.6**	**+0.3**
T59A	**Double "B" Far**	**25.34 22**	P	**P**	**00 29 06.4**	**+0.1**
	baz=207					
T59A	**Double "B" Far**	**25.34 22**	P	**P**	**00 29 06.4**	**+0.1**
T59A			IAmb	IAmb	00 29 07.6	
	comp=Z,7.8nm,0.8s					
R58B	**Mineral**	**26.11 20**	P	**P**	**00 29 13.6**	**+0.3**
	baz=205					
R58B	**Mineral**	**26.11 20**	P	**P**	**00 29 13.4**	**+0.1**
R58B			IAmb	IAmb	00 29 21.5	
	comp=Z,6.1nm,1.1s					
Q54A	**Coxs Mills**	**26.19 15**	P	**P**	**00 29 14.1**	**+0.1**
	baz=198					
R57A	**Stanardsville**	**26.20 19**	P	**P**	**00 29 14.2**	**+0.1**
	baz=204					
Q55A	**Buckhannon**	**26.40 16**	P	**P**	**00 29 16.2**	**+0.3**
	baz=200					
P53A	**Whipple**	**26.54 13**	P	**P**	**00 29 17.5**	**+0.4**
	baz=197					
Q56A	**Snyder Ridge,**	**26.69 17**	P	**P**	**00 29 18.6**	**+0.2**
Q56A			IAmb	IAmb	00 29 23.8	
	comp=Z,6.8nm,1.1s					
P54A	**Burton**	**26.86 15**	P	**P**	**00 29 20.1**	**+0.1**
	baz=199					
O52A	**Adamsville**	**27.05 12**	P	**P**	**00 29 21.5**	**-0.2**
	baz=196					
O52A	**Adamsville**	**27.05 12**	P	**P**	**00 29 20.9**	**-0.7**
O52A			IAmb	IAmb	00 29 21.7	
	comp=Z,4.1nm,0.7s					
T25A	**Trinidad**	**27.05 332**	P	**P**	**00 29 24.1**	**+2.1**
	baz=146					
T25A	**Trinidad**	**27.05 332**	P	**P**	**00 29 23.2**	**+1.2**
T25A			IAmb	IAmb	00 29 24.7	
	comp=Z,4.7nm,0.7s					
P57A	**Homestead Farm**	**27.45 19**	P	**P**	**00 29 26.0**	**+0.8**
	baz=204					
P57A	**Homestead Farm**	**27.45 19**	P	**P**	**00 29 25.2**	**0.0**
P57A			IAmb	IAmb	00 29 26.6	
	comp=Z,7.9nm,0.7s					
N52A	**McGinn's Farm,**	**27.75 12**	P	**P**	**00 29 27.7**	**-0.2**
	baz=196					
SDMD	**Soldier's Deli**	**27.77 21**	P	**P**	**00 29 28.1**	**0.0**
SDMD			IAmb	IAmb	00 29 29.5	
	comp=Z,5.5nm,0.8s					
N53A	**Lisbon**	**27.93 13**	P	**P**	**00 29 28.0**	**-1.5**
N53A			IAmb	IAmb	00 29 29.4	
	comp=Z,3.3nm,0.6s					
SDCO	**Great Sand Dun**	**28.04 332**	P	**P**	**00 29 32.8**	**+2.0**
	baz=144					
N54A	**Moraine State**	**28.27 15**	P	**P**	**00 29 32.3**	**-0.2**
	baz=199					
N54A	**Moraine State**	**28.27 15**	P	**P**	**00 29 31.8**	**-0.7**
N54A			IAmb	IAmb	00 29 33.1	
	comp=Z,7.4nm,0.8s					
L40A	**Anamosa**	**28.30 357**	IAmb	IAmb	00 29 33.4	
	comp=Z,14nm,1.1s					
SSPA	**Standing Stone**	**28.54 18**	P	**P**	**00 29 35.1**	**+0.2**
S22A	**4UR Ranch, Cre**	**28.68 330**	P	**P**	**00 29 38.7**	**+2.2**
	baz=142,SNR=6.5					
S22A	**4UR Ranch, Cre**	**28.68 330**	P	**P**	**00 29 36.9**	**+0.4**
N56A	**West Decatur**	**28.68 17**	P	**P**	**00 29 36.1**	**-0.1**
	baz=202					
M55A	**Ridgway**	**29.06 16**	P	**P**	**00 29 38.8**	**-0.7**
M56A	**Emporium**	**29.24 17**	P	**P**	**00 29 39.9**	**-1.2**
M56A			IAmb	IAmb	00 29 41.7	
	comp=Z,6.3nm,0.9s					
N59A	**State Game Lan**	**29.48 21**	P	**P**	**00 29 43.7**	**+0.5**
	baz=207					
N59A	**State Game Lan**	**29.48 21**	P	**P**	**00 29 43.0**	**-0.2**
N59A			IAmb	IAmb	00 29 54.8	
	comp=Z,7.0nm,1.1s					
M58A	**Price's Panora**	**29.66 19**	P	**P**	**00 29 44.7**	**-0.1**
	baz=205					
L55A	**Hinsdale**	**29.82 16**	P	**P**	**00 29 45.9**	**-0.3**
	baz=201					
ODNJ	**Ogdensburg**	**30.04 22**	P	**P**	**00 29 47.6**	**-0.5**
I42A	**Draeger Farm,**	**30.06 0**	P	**P**	**00 29 47.6**	**-0.7**
PV03	**Paradox Valley**	**30.08 328**	P	**P**	**00 29 49.7**	**+0.8**
L57A	**Andrews Acres**	**30.10 18**	P	**P**	**00 29 48.9**	**+0.2**
	baz=204					
PV12	**Saucer Basin,**	**30.11 328**	P	**P**	**00 29 50.2**	**+1.1**
PV12			IAmb	IAmb	00 29 52.4	
	comp=Z,5.0nm,0.7s					
PV18	**Skein Mesa, Pa**	**30.11 328**	P	**P**	**00 29 49.6**	**+0.5**
PV18			IAmb	IAmb	00 29 52.1	
	comp=Z,7.1nm,1.0s					
M59A	**Waymart**	**30.15 21**	P	**P**	**00 29 49.2**	**+0.1**
	baz=207					
PV17	**East Wray Mesa**	**30.16 328**	P	**P**	**00 29 50.5**	**+1.0**

PV17				IAmb	IAmb	00 29 52.5		
	comp=Z,5.2nm,0.7s							
PV16	**Nyswonger Mesa**	**30.16**	**328**	P	**P**	**00 29 50.7**	**+1.1**	
L58A	**Harry Jones Me**	**30.46**	**20**	P	**P**	**00 29 51.9**	**0.0**	
	baz=206							
BINY	**Binghamton**	**30.55**	**19**	P	**P**	**00 29 52.5**	**-0.2**	
	baz=206							
BINY	**Binghamton**	**30.55**	**19**	P	**P**	**00 29 52.3**	**-0.4**	
ECSD	**EROS Data Cent**	**30.60**	**349**	P	**P**	**00 29 52.5**	**-0.6**	
	baz=166							
ECSD	**EROS Data Cent**	**30.60**	**349**	P	**P**	**00 29 52.0**	**-1.1**	
L59A	**Walton**	**30.86**	**21**	P	**P**	**00 29 54.7**	**-0.7**	
L59A				IAmb	IAmb	00 29 56.6		
	comp=Z,11nm,1.1s							
L60A	**Shokan**	**30.97**	**22**	P	**P**	**00 29 56.1**	**-0.2**	
	baz=209							
K58A	**Earlville**	**31.17**	**19**	P	**P**	**00 29 56.5**	**-1.6**	
I52A	**Shelburne**	**31.18**	**12**	P	**P**	**00 29 57.5**	**-0.7**	
	baz=197							
O20A	**White River Ci**	**31.23**	**331**	P	**P**	**00 30 01.7**	**+2.8**	
	baz=142,SNR=6.9							
O20A	**White River Ci**	**31.23**	**331**	IAmb	IAmb	00 30 02.3		
	comp=Z,8.5nm,0.8s							
J56A	**Wolcott**	**31.27**	**17**	P	**P**	**00 29 58.5**	**-0.4**	
	baz=203							
J56A	**Wolcott**	**31.27**	**17**	P	**P**	**00 29 58.0**	**-0.9**	
G45A	**Suttons Bay**	**31.35**	**5**	P	**P**	**00 29 57.0**	**-2.5**	
SPMN	**Marine on St.**	**31.56**	**355**	P	**P**	**00 30 01.0**	**-0.4**	
	baz=173,SNR=12							
SRU	**San Rafael Swe**	**31.59**	**327**	P	**P**	**00 30 02.4**	**+0.3**	
J57A	**Williamstown**	**31.65**	**18**	P	**P**	**00 30 00.8**	**-1.4**	
J57A				IAmb	IAmb	00 30 02.1		
	comp=Z,6.6nm,0.9s							
PECO	**Prince Edward**	**31.84**	**17**	P	**P**	**00 30 03.5**	**-0.3**	
PECO				IAmb	IAmb	00 30 06.4		
	comp=Z,6.4nm,1.0s							
I55A	**Frankford**	**31.91**	**16**	P	**P**	**00 30 03.9**	**-0.6**	
	baz=201							
H53A	**Bobcaygeon**	**32.02**	**14**	P	**P**	**00 30 04.9**	**-0.6**	
	baz=199							
SADO	**Sadowa**	**32.08**	**13**	P	**P**	**00 30 04.4**	**-1.5**	
SADO				IAmb	IAmb	00 30 05.4		
	comp=Z,5.2nm,0.6s							
J59A	**Piesco**	**32.17**	**20**	P	**P**	**00 30 05.1**	**-1.8**	
DELO	**Deloro Mine**	**32.21**	**15**	P	**P**	**00 30 06.6**	**-0.5**	
DELO				IAmb	IAmb	00 30 07.2		
	comp=Z,7.9nm,1.1s							
I58A	**Old Forge**	**32.22**	**19**	P	**P**	**00 30 06.7**	**-0.6**	
	baz=206							
HRV	**Adam Dziewonsk**	**32.43**	**25**	P	**P**	**00 30 08.1**	**-1.0**	
F48A	**Evansville**	**32.46**	**8**	P	**P**	**00 30 07.7**	**-1.6**	
	baz=192							
F49A	**Sandfield**	**32.48**	**9**	P	**P**	**00 30 07.9**	**-1.6**	
	baz=193							
G53A	**Haliburton**	**32.53**	**14**	P	**P**	**00 30 08.8**	**-1.1**	
	baz=199							
K22A	**Casper**	**32.53**	**336**	P	**P**	**00 30 11.5**	**+1.3**	
	baz=147							
E43A	**Lone Tree Farm**	**32.59**	**3**	P	**P**	**00 30 08.8**	**-1.6**	
I59A	**Olmsteadville**	**32.68**	**21**	P	**P**	**00 30 10.5**	**-0.7**	
	baz=208							
RSSD	**Black Hills**	**32.89**	**340**	P	**P**	**00 30 14.6**	**+1.2**	
	baz=153							
RSSD	**Black Hills**	**32.89**	**340**	P	**P**	**00 30 13.9**	**+0.5**	
G54A	**Lake Saint Pet**	**32.91**	**14**	P	**P**	**00 30 12.6**	**-0.6**	
	baz=200							
F52A	**Sundridge**	**33.01**	**13**	P	**P**	**00 30 13.0**	**-1.1**	
	baz=198							
H58A	**Gabriels**	**33.13**	**20**	P	**P**	**00 30 14.1**	**-1.1**	
	baz=207							
G55A	**Calabogie**	**33.13**	**16**	P	**P**	**00 30 14.2**	**-0.9**	
	baz=202							
E48A	**Lockeyer**	**33.17**	**9**	P	**P**	**00 30 14.3**	**-1.1**	
	baz=192							
LONY	**Lake Ozonia**	**33.18**	**19**	P	**P**	**00 30 15.0**	**-0.6**	
	baz=206							
D46A	**Sault St. Mari**	**33.33**	**6**	P	**P**	**00 30 15.2**	**-1.7**	
	baz=189							
E50A	**Wahnapitae**	**33.34**	**11**	P	**P**	**00 30 15.2**	**-1.8**	
	baz=195							
ALGO	**Algonquin Park**	**33.45**	**14**	P	**P**	**00 30 17.1**	**-0.8**	
	baz=200							
E51A	**G1948 Merrick**	**33.68**	**12**	P	**P**	**00 30 19.1**	**-0.8**	
	baz=197							
D48A	**Paudash Townsh**	**33.90**	**9**	P	**P**	**00 30 20.5**	**-1.3**	
	baz=193							
PDAR	**Pinedale Array**	**33.92**	**332**	P	**P**	**00 30 22.9**	**+0.7**	
	comp=Z,0.6nm,0.7s,baz=129,slow=12,SNR=4.7							
D49A	**Beulah Townshi**	**34.06**	**9**	P	**P**	**00 30 21.9**	**-1.3**	
	baz=193							
E54A	**Lac Daplat, Po**	**34.11**	**15**	P	**P**	**00 30 22.6**	**-0.9**	
	baz=201							
SAML	**Samuel**	**34.17**	**130**	P	**P**	**00 30 22.6**	**-1.9**	
EYMN	**Ely**	**34.18**	**357**	P	**P**	**00 30 23.0**	**-1.1**	
	baz=176							
EYMN	**Ely**	**34.18**	**357**	IAmb	IAmb	00 30 23.8		
	comp=Z,4.9nm,0.6s							
D50A	**G1974 Best Tow**	**34.22**	**11**	P	**P**	**00 30 23.3**	**-1.2**	
	baz=196							
D51A	**Lot 18 Range I**	**34.24**	**12**	P	**P**	**00 30 23.5**	**-1.2**	
	baz=197							
D52A	**ZEK Kipawa Sen**	**34.33**	**13**	P	**P**	**00 30 25.0**	**-0.5**	
	baz=198							
D53A	**Lac Vacive, Po**	**34.59**	**14**	P	**P**	**00 30 27.3**	**-0.4**	
	baz=200							
D53A	**Lac Vacive, Po**	**34.59**	**14**	P	**P**	**00 30 27.2**	**-0.5**	
D54A	**Lac Fusel, La**	**34.91**	**15**	P	**P**	**00 30 29.6**	**-0.8**	
	baz=201							
AGMN	**Agassiz Nation**	**34.93**	**352**	P	**P**	**00 30 30.0**	**-0.6**	
	baz=168							
REDW	**Red Top Meadow**	**34.97**	**332**	P	**P**	**00 30 32.3**	**+1.0**	
REDW				IAmb	IAmb	00 30 33.6		
	comp=Z,5.4nm,0.7s							
D55A	**Sainte-Anne-du**	**35.09**	**16**	P	**P**	**00 30 30.9**	**-1.1**	
	baz=203							
G62A	**West of Eustis**	**35.11**	**23**	P	**P**	**00 30 31.6**	**-0.6**	
TPAW	**Teton Pass**	**35.12**	**332**	P	**P**	**00 30 33.4**	**+0.7**	
D58A	**Chemin du LacG**	**35.92**	**19**	P	**P**	**00 30 38.0**	**-1.1**	
	baz=207							
LSQQ	**Lebel-sur-Quev**	**36.62**	**13**	P	**P**	**00 30 43.9**	**-1.0**	
	baz=200							
DGMT	**Dagmar**	**36.84**	**343**	P	**P**	**00 30 48.0**	**+1.1**	
	baz=155							
ULM	**Lac du Bonnet**	**36.85**	**353**	P	**P**	**00 30 45.1**	**-1.7**	
	comp=Z,3.8nm,0.6s,baz=172,slow=9.3,SNR=3.4							
ULM	**Lac du Bonnet**	**36.85**	**353**	IAmb	IAmb	00 30 46.6		
	comp=Z,7.9nm,1.1s							
MCMT	**McKenzie Canyo**	**37.02**	**332**	P	**P**	**00 30 50.4**	**+1.7**	
BOZ	**Bozeman (W)**	**37.06**	**333**	P	**P**	**00 30 50.3**	**+1.3**	
	baz=142							
BOZ	**Bozeman (W)**	**37.06**	**333**	P	**P**	**00 30 49.7**	**+0.7**	
MATQ	**Matagami**	**37.14**	**12**	P	**P**	**00 30 48.3**	**-0.9**	
	baz=199							
DLMT	**Dillon**	**37.31**	**332**	P	**P**	**00 30 51.6**	**+0.6**	
LRM	**Limekiln Ridge**	**37.60**	**333**	P	**P**	**00 30 54.9**	**+1.3**	
EGMT	**Eagleton**	**38.28**	**337**	P	**P**	**00 31 00.2**	**+1.2**	
	baz=146,SNR=5.3							
EGMT	**Eagleton**	**38.28**	**337**	P	**P**	**00 31 00.0**	**+1.0**	
EGMT				IAmb	IAmb	00 31 00.9		
	comp=Z,6.7nm,0.8s							
SCHQ	**Schefferville**	**44.54**	**18**	P	**P**	**00 31 48.4**	**-1.3**	
	comp=Z,4.8nm,0.6s,baz=216,slow=6.1,SNR=9.9							
SCHQ	**Schefferville**	**44.54**	**18**	P	**P**	**00 31 48.7**	**-1.1**	
YKA	**Yellowknife Ar**	**51.98**	**345**	P	**P**	**00 32 46.2**	**-0.2**	
	comp=Z,3.3nm,0.8s,baz=136,slow=7.9,SNR=19							
LZH	**Lanzhou**	**128.98**	**347**	*e*PKP	**PKiKP**	**00 42 44.0**	**+0.2**	
LZH				sPKP		00 43 41.2		

BJI ***03*** *00:26:39.6±0.0, 0.˚86N×146.˚70E, h27km, mB6.0/40, mb5.9/67, Ms6.3/35, Ms7 6.2/35*
IDC ***03*** *00:26:40.0±0.4, 0.˚99N×146.˚33E, h0km, mb5.6/29, mb1 5.7/31, mb1mx5.5/47, mbtmp5.6/31, ML4.7/2, Error ellipse: s-maj=16.0km s-min=10.6km az=93.0*
NEIC ***03*** *00:26:41.9±1.5, 0.˚99N±0.˚07×146.˚26E±0.˚06, h15km±3km, mb5.7/226, Error ellipse: s-maj=9.8km s-min=9.2km az=156.0*
DJA ***03*** *00:26:44.5±1.0, 1.˚1N±3.˚1×14.˚6E±.˚, h29km±8km, M6.7/44, mB6.6/12, mb5.8/44, MLv6.8/2, Mw(mB)6.4/12, Mwp6.8/19*
ISC 03 00:26:44.7±0.2, 0.˚98N±0.˚04×146.˚36E±0.˚04, h35km, n468, σ1ᵠ49/460, mb5.7/170, 10C-1D, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.64**	**238**	Pn	**Pn**	**00 28 18.7**	**-1.1**
	51nm,0.3s,baz=147,slow=22,SNR=2.5						
JAY				Sn	**Sn**	**00 29 26.8**	**-7.5**
	65nm,0.3s,baz=291,slow=7.3,SNR=1.6						
GENI	**Genyem**	**7.14**	**240**	P	**Pn**	**00 28 27.2**	**+0.5**
	18nm1µm,0.5s						
GENI				S	**Sn**	**00 29 47.6**	**+1.0**
	18nm1µm,0.5s						
KRVT	**Keravat (AS076**	**7.72**	**133**	Pn	**Pn**	**00 28 36.3**	**+1.6**
	635nm,0.3s,baz=194,slow=1.5,SNR=29						
RABL	**Rabaul**	**7.75**	**132**	Pn	**Pn**	**00 28 36.3**	**+1.2**
SMPI	**Sarmi**	**8.20**	**249**	P	**Pn**	**00 28 40.6**	**-0.6**
	939nm,1.3s						
WAMI	**Wamena**	**9.04**	**238**	P	**Pn**	**00 28 53.0**	**+0.2**
	2µm,0.8s						
PMG	**Port Moresby**	**10.35**	**176**	Pn	**Pn**	**00 29 10.6**	**-0.2**
MMPI	**Merauke**	**11.12**	**212**	P	**Pn**	**00 29 22.4**	**+1.1**
	2µm,0.4s						
RKPI	**Ransiki, Papua**	**12.43**	**259**	P	**Pn**	**00 29 39.0**	**-0.3**
	438nm,0.9s						
GUMO	**Guam**	**12.61**	**353**	Pn	**Pn**	**00 29 38.0**	**-3.8**
	2.6nm,0.3s,baz=90,slow=24,SNR=1.5						
GUMO	**Guam**	**12.61**	**353**	Pn	**Pn**	**00 29 39.8**	**-1.9**
PATS	**Pohnpei**	**13.26**	**64**	P	**Pn**	**00 29 49.9**	**-0.8**
	baz=13,SNR=9.0						
PATS				S	**Sn**	**00 32 08.1**	**-8.8**
	baz=13						
PATS	**Pohnpei**	**13.26**	**64**	Pn	**Pn**	**00 29 48.2**	**-2.4**
FAKI	**Fak Fak**	**14.63**	**255**	P	**Pn**	**00 30 08.8**	**-0.5**
	952nm,1.5s						
FAKI	**Fak Fak**	**14.63**	**255**	Pn	**Pn**	**00 30 08.4**	**-0.8**
COEN	**Coen**	**15.18**	**192**	P	**P**	**00 30 18.9**	**-2.3**
	baz=15,SNR=4.8						
COEN	**Coen**	**15.18**	**192**	Pn	**Pn**	**00 30 15.8**	**-0.8**
SIJI	**Sorong**	**15.21**	**263**	Pn	**Pn**	**00 30 17.6**	**+0.7**
	1.1nm,0.3s,baz=63,slow=14,SNR=4.7						
HNR	**Honiara**	**17.03**	**128**	P	**P**	**00 30 44.4**	**+2.5**
	44nm,0.3s,baz=197,slow=7.6,SNR=3.7						
HNR	**Honiara**	**17.03**	**128**	P	**P**	**00 30 41.1**	**-0.8**
HNR				IAmb	IAmb	00 30 47.8	
	comp=Z,1µm,1.1s						
BNDI	**Bandanaira**	**17.33**	**251**	P	**Pn**	**00 30 44.1**	**+0.1**
	comp=Z,2µm,1.4s						
SAUI	**Saumlaki**	**17.46**	**239**		**Pn**	**00 30 41.4**	**-4.2**
MSAI	**Masohi**	**17.95**	**256**	P	**P**	**00 30 53.7**	**+1.7**
	comp=Z,14µmcomp=Z,109nm,1.2s						
AAI	**Ambon**	**18.74**	**256**	P	**Pn**	**00 31 01.5**	**+0.2**
	comp=Z,355nm,2.4s						
LBMI	**Labuha**	**18.93**	**265**	P	**P**	**00 31 02.5**	**-0.3**
TNTI	**Ternate**	**18.99**	**270**	P	**Pn**	**00 31 05.5**	**+1.1**
	comp=Z,384nm,2.9s						
TNTI	**Ternate**	**18.99**	**270**	P	**P**	**00 31 02.6**	**-0.8**
MTSU	**Mount Surprise**	**19.10**	**186**	P	**Pn**	**00 31 06.3**	**+0.6**
	baz=19						
KDU	**Kakadu**	**19.35**	**225**	P	**P**	**00 31 07.7**	**+0.4**
	baz=19						
MTN	**Manton Dam**	**20.42**	**227**	P	**P**	**00 31 18.8**	**-0.3**
	baz=20						
MTN	**Manton Dam**	**20.42**	**227**	P	**P**	**00 31 18.0**	**-1.0**
SANI	**Sanana**	**20.59**	**262**	P	**P**	**00 31 21.2**	**+0.3**
	comp=Z,196nm,1.2s						
CTA	**Charters Tower**	**20.94**	**180**	P	**P**	**00 31 24.5**	**-0.1**
	comp=Z,382nm,1.1s,baz=344,slow=11,SNR=6.4						
CTAO	**Charters Tower**	**20.94**	**180**	P	**P**	**00 31 25.8**	**+1.1**
CTAO				IAmb	IAmb	00 31 27.0	
	comp=Z,538nm,1.1s						
DAV	**Davao City (W)**	**21.58**	**287**	P	**P**	**00 31 33.7**	**+2.1**
	comp=Z,651nm,1.0s,baz=80,slow=7.0,SNR=5.5						
DAV	**Davao City (W)**	**21.58**	**287**	P	**P**	**00 31 30.8**	**-0.8**
QIS	**Mount Isa**	**22.41**	**197**	P	**P**	**00 31 40.6**	**+0.2**
	baz=222						
KWAJ	**Kwajalein Atol**	**22.54**	**69**	P	**P**	**00 31 43.1**	**+1.2**
GTOI	**Gorontalo**	**23.35**	**269**	P	**P**	**00 31 51.5**	**+1.3**
	comp=Z,419µmcomp=Z,350nm,1.0s						
LUWI	**Luwuk**	**23.67**	**265**	P	**P**	**00 31 54.6**	**+1.3**
	comp=Z,599nm,2.1s						
LUWI	**Luwuk**	**23.67**	**265**	P	**P**	**00 31 51.7**	**-1.6**
WB0	**Warramunga Arr**	**23.73**	**209**	P	**P**	**00 31 51.8**	**-2.0**
WR0	**Warramunga Arr**	**23.82**	**208**	P	**P**	**00 31 53.4**	**-1.2**
WB2	**Warramunga Arr**	**23.90**	**209**	P	**P**	**00 31 54.4**	**-1.0**
	baz=24						
WB2	**Warramunga Arr**	**23.90**	**209**	P	**P**	**00 31 54.0**	**-1.4**
WRA	**Warramunga Arr**	**23.90**	**209**	P	**P**	**00 31 54.6**	**-0.9**
	comp=Z,674nm,1.0s,baz=31,slow=11,SNR=24						
KNRA	**Kununurra**	**24.01**	**226**	P	**P**	**00 31 56.3**	**-0.1**
SOEI	**Soe**	**24.45**	**244**	P	**P**	**00 32 00.7**	**+0.1**
	comp=Z,551µmcomp=Z,1µm,1.7s						
SOEI	**Soe**	**24.45**	**244**	P	**P**	**00 32 01.0**	**+0.4**
BATI	**Baumata**	**25.17**	**243**	P	**P**	**00 32 08.3**	**+1.2**
	comp=Z,250nm,0.9s,baz=97,slow=3.9,SNR=4.8						
BATI	**Baumata**	**25.17**	**243**	P	**P**	**00 32 07.8**	**+0.7**
	comp=Z,247µmcomp=Z,40µmcomp=Z,482nm,2.1s						
JCJ	**Chichijima**	**26.27**	**352**	P	**P**	**00 32 16.5**	**-0.4**
	comp=Z,442nm,1.0s,baz=248,slow=1.4,SNR=3.5						
JCJ	**Chichijima**	**26.27**	**352**	P	**P**	**00 32 16.5**	**-0.4**
MPSI	**Mapaga**	**26.47**	**269**	P	**P**	**00 32 18.7**	**-0.1**
	comp=Z,174nm,1.7s						
TARA	**Tarawa**	**26.56**	**89**	P	**P**	**00 32 20.5**	**+0.8**
EIDS	**Eidsvold**	**26.59**	**170**	P	**P**	**00 32 21.8**	**+2.0**
BNSI	**Bone**	**26.77**	**258**	P	**P**	**00 32 22.4**	**+0.8**
	comp=Z,171µmcomp=Z,14µmcomp=Z,306nm,1.8s						
WAKE	**Wake Island**	**26.95**	**46**	P	**P**	**00 32 22.7**	**-0.4**
SPSI	**Sidrap Palu**	**27.02**	**259**	P	**P**	**00 32 24.0**	**+0.2**
	comp=Z,312µmcomp=Z,135nm,1.1s						
KAPI	**Kappang**	**27.24**	**257**	P	**P**	**00 32 25.9**	**+0.1**
	comp=Z,51nm,1.0s,baz=112,slow=4.5,SNR=3.3						
KAPI	**Kappang**	**27.24**	**257**	P	**P**	**00 32 25.2**	**-0.6**
AS31	**Alice Springs**	**27.33**	**206**	P	**P**	**00 32 26.7**	**+0.2**
ASAR	**Alice Springs**	**27.33**	**206**	P	**P**	**00 32 27.2**	**+0.7**
	comp=Z,266nm,1.1s,baz=39,slow=8.6,SNR=9.0						
RMQ	**Roma**	**27.41**	**175**	P	**P**	**00 32 28.5**	**+1.4**
	baz=28						
QLP	**Quilpie**	**27.48**	**184**	P	**P**	**00 32 27.9**	**+0.1**
	baz=28						
FITZ	**Fitzroy Crossi**	**27.84**	**226**	P	**P**	**00 32 30.6**	**-0.5**
	comp=Z,116nm,0.7s,baz=30,slow=10,SNR=2.4						
FITZ	**Fitzroy Crossi**	**27.84**	**226**	P	**P**	**00 32 30.1**	**-1.0**
MYLDM	**Lahad Datu**	**28.12**	**279**	P	**P**	**00 32 33.4**	**-0.3**
BKB	**Balikpapan**	**29.55**	**266**	P	**P**	**00 32 44.3**	**-2.0**
BKB				IAmb	IAmb	00 32 48.1	
	comp=Z,222nm,1.1s						
DZM	**Mont Dzumac**	**30.15**	**141**	P	**P**	**00 32 52.5**	**+0.8**
	comp=Z,16nm,0.8s,baz=319,slow=17,SNR=2.1						
KKM	**Kota Kinabalu**	**30.50**	**280**	P	**P**	**00 32 54.0**	**-0.9**
KKM				IAmb	IAmb	00 32 55.8	
	comp=Z,157nm,1.0s						
ARMA	**Armidale**	**31.63**	**171**	P	**P**	**00 33 04.7**	**+0.1**
ARMA				IAmb	IAmb	00 33 08.3	
	comp=Z,81nm,1.1s						
BBKI	**Banjar Baru**	**31.81**	**262**	P	**P**	**00 33 07.2**	**+0.8**
	comp=Z,128nm,1.4s						
YOJ	**Yonaguni jima**	**32.48**	**318**	P	**P**	**00 33 11.5**	**-0.6**
STKA	**Stephens Creek**	**32.99**	**187**	P	**P**	**00 33 16.1**	**-0.5**
	comp=Z,117nm,0.8s,baz=16,slow=12,SNR=6.8						
STKA	**Stephens Creek**	**32.99**	**187**	P	**P**	**00 33 15.9**	**-0.5**
	baz=33,SNR=4.4						
STKA	**Stephens Creek**	**32.99**	**187**	P	**P**	**00 33 15.5**	**-0.9**
KMMI	**Kalianget**	**33.29**	**256**	P	**P**	**00 33 21.0**	**+1.7**
	comp=Z,13µmcomp=Z,383nm,1.1s						
TPUB	**Ta-pu**	**33.40**	**314**	P	**P**	**00 33 18.1**	**-2.1**
TPUB				IAmb	IAmb	00 33 20.9	
	comp=Z,139nm,1.0s						
JAGI	**Jajag, Banyuwa**	**33.45**	**253**	P	**P**	**00 33 19.5**	**-1.2**
JAGI				IAmb	IAmb	00 33 28.8	
	comp=Z,79nm,1.1s						
SSLB	**Suanglung**	**33.47**	**315**	P	**P**	**00 33 20.5**	**-0.3**
SSLB				IAmb	IAmb	00 33 22.3	
	comp=Z,73nm,1.0s						
YHNB	**Yeheng**	**33.74**	**316**	P	**P**	**00 33 24.2**	**+1.0**
TATO	**Taipei**	**33.86**	**317**	P	**P**	**00 33 24.0**	**-0.1**
SBUM	**Sibu**	**34.15**	**273**	P	**P**	**00 33 26.3**	**-0.6**
SBUM	**Sibu**	**34.15**	**273**	P	**P**	**00 33 28.0**	**+1.1**
BBOO	**Buckleboo**	**34.99**	**195**	P	**P**	**00 33 33.4**	**-0.4**
	baz=35						
BBOO	**Buckleboo**	**34.99**	**195**	P	**P**	**00 33 31.9**	**-2.0**
BBOO				IAmb	IAmb	00 33 34.1	
	comp=Z,172nm,0.9s						
JNU	**Nakatsue**	**35.13**	**337**	P	**P**	**00 33 35.0**	**-0.1**
	comp=Z,126nm,0.9s,baz=145,slow=4.8,SNR=11						
JNU	**Nakatsue**	**35.13**	**337**	P	**P**	**00 33 34.8**	**-0.2**
JNU				IAmb	IAmb	00 33 36.4	
	comp=Z,167nm,1.0s						
YNG	**Young**	**35.15**	**177**	P	**P**	**00 33 35.5**	**+0.3**
	baz=35						
INU	**Inuyama**	**35.28**	**347**	P	**P**	**00 33 36.2**	**-0.1**
KNMB	**Chin-men Tao**	**35.74**	**313**	P	**P**	**00 33 40.7**	**+0.4**
KNMB				IAmb	IAmb	00 33 42.9	
	comp=Z,178nm,1.0s						
QZH	**Quanzhou**	**35.88**	**314**	*i*P	**P**	**00 33 42.0**	**+0.5**
QZH				pmax	pmax		
	comp=Z,190nm,1.4s						
KSM	**Kuching**	**36.05**	**271**	P	**P**	**00 33 42.4**	**-0.8**
KSM	**Kuching**	**36.05**	**271**	P	**P**	**00 33 44.0**	**+0.8**
MJAR	**Matsushiro Arr**	**36.18**	**349**	P	**P**	**00 33 43.4**	**-0.5**
	comp=Z,23nm,1.1s,baz=181,slow=10,SNR=5.0						
MJAR				PcP	**PcP**	**00 36 09.7**	**+0.6**
	comp=Z,19nm,0.9s,baz=184,slow=3.3,SNR=7.5						
MAJO	**Matsushiro**	**36.18**	**349**	P	**P**	**00 33 43.3**	**-0.7**
MAT	**Matsushiro**	**36.18**	**349**	P	**P**	**00 33 43.2**	**-0.8**
MJB9	**Matsu-Tunnel**	**36.18**	**349**	P	**P**	**00 33 42.9**	**-1.2**
CAN	**Canberra**	**36.20**	**176**	P	**P**	**00 33 43.8**	**-0.5**
MSVF	**Nonsavu**	**36.32**	**122**	P	**P**	**00 33 46.5**	**+0.9**
ARPS	**Mount Arapiles**	**37.80**	**186**	P	**P**	**00 33 57.5**	**-0.2**
	baz=38						
HKPS	**Hong Kong Po S**	**37.82**	**306**	P	**P**	**00 33 57.3**	**-0.8**
HKPS				IAmb	IAmb	00 34 07.4	
	comp=Z,107nm,1.1s						
SSE	**Sheshan**	**38.28**	**324**	P	**P**	**00 34 02.8**	**+1.0**
SSE				pmax	pmax		
	comp=Z,200nm,1.0s						
SSE				pmax	pmax		
	comp=Z,2µm,9.3s						
SSE	**Sheshan**	**38.28**	**324**	P	**P**	**00 34 01.3**	**-0.6**
TOO	**Toolangi**	**38.37**	**181**	P	**P**	**00 34 02.8**	**+0.3**
	baz=38						
TOO	**Toolangi**	**38.37**	**181**	P	**P**	**00 34 00.8**	**-1.8**
TPI	**Tanjungpandan**	**38.87**	**264**	P	**P**	**00 34 07.4**	**+0.3**
GIRL	**Giralia**	**39.13**	**231**	P	**P**	**00 34 10.9**	**+1.8**
	baz=39,SNR=4.6						
GIRL	**Giralia**	**39.13**	**231**	P	**P**	**00 34 08.3**	**-0.8**
CISI	**Cisompet, Garu**	**39.37**	**257**	P	**P**	**00 34 09.2**	**-2.1**
LEM	**Lembang**	**39.43**	**258**	P	**P**	**00 34 12.7**	**+0.7**
	comp=Z,34nm,0.6s,baz=359,slow=15,SNR=2.5						
KMBL	**Kambalda**	**39.68**	**214**	P	**P**	**00 34 13.4**	**-0.3**
	baz=40						
QIZ	**Qiongzhong**	**40.03**	**299**	P	**P**	**00 34 16.6**	**-0.1**
QIZ				S	**S**	**00 40 22.5**	**+2.0**
QIZ				pmax	pmax		
	comp=Z,380nm,1.1s						
QIZ	**Qiongzhong**	**40.03**	**299**	P	**P**	**00 34 16.5**	**-0.2**
KSRS	**Korea Array**	**40.08**	**337**	P	**P**	**00 34 17.4**	**+0.6**
	comp=Z,53nm,0.9s,baz=152,slow=9.2,SNR=13						
KSRS				PcP	**PcP**	**00 36 22.6**	**+1.5**
	comp=Z,15nm,0.9s,baz=154,slow=3.4,SNR=8.9						
KS19	**Wonju Array Si**	**40.14**	**337**	P	**P**	**00 34 16.3**	**-1.1**
NJ2	**Nanjing**	**40.35**	**323**	*e*P	**P**	**00 34 20.8**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,78nm,0.9s						
INCN	**Inchon**	**40.62**	**336**	P	**P**	**00 34 20.9**	**-0.4**
INCN				IAmb	IAmb	00 34 24.0	
	comp=Z,179nm,1.1s						
MORW	**Morawa**	**41.64**	**222**	P	**P**	**00 34 30.4**	**+0.5**
	baz=42						
MORW	**Morawa**	**41.64**	**222**	P	**P**	**00 34 28.3**	**-1.6**
MORW				IAmb	IAmb	00 34 30.9	
	comp=Z,217nm,0.9s						
XMIS	**Christmas Isla**	**42.07**	**253**	P	**P**	**00 34 31.0**	**-2.5**
XMIS				IAmb	IAmb	00 34 33.5	
	comp=Z,151nm,1.0s						
BLDU	**Ballidu**	**42.23**	**219**	P	**P**	**00 34 34.3**	**-0.3**
	baz=42						
KLBR	**Kellerberrin**	**42.25**	**217**	P	**P**	**00 34 34.7**	**-0.1**
	baz=42						
WHN	**Wuhan**	**42.26**	**317**	P	**P**	**00 34 36.4**	**+1.5**
WHN				pmax	pmax		
	comp=Z,510nm,1.1s						
MYKOM	**Kota Tinggi**	**42.50**	**272**	P	**P**	**00 34 38.0**	**+0.9**
JKA	**Kamikawa-asahi**	**43.08**	**356**	P	**P**	**00 34 40.8**	**-0.5**
MUN	**Mundaring**	**43.47**	**218**	P	**P**	**00 34 44.5**	**-0.1**
	baz=44						
NWAO	**Narrogin (SRO)**	**43.50**	**216**	P	**P**	**00 34 43.8**	**-1.1**
NWAO				IAmb	IAmb	00 34 45.8	
	comp=Z,221nm,1.1s						
NWAO

BKZ IAmb IAmb 00 35 38.2
comp=Z,60nm,1.1s
NNZ Nelson 48.64 153 P P 00 35 24.6 -0.6
THZ Tophouse 48.86 154 P P 00 35 28.1 +1.1
THZ IAmb IAmb 00 35 44.1
comp=Z,62nm,0.9s
TUWZ Tuamarina 49.07 153 P P 00 35 30.3 +1.8
BSWZ Blackbirch Sta 49.26 153 P P 00 35 32.0 +2.0
SNZO South Karori 49.33 152 P P 00 35 33.6 +3.2
LTZ Lake Taylor 49.41 155 P P 00 35 32.3 +1.1
LTZ IAmb IAmb 00 35 40.3
comp=Z,62nm,0.9s
BHW Baring Head 49.48 152 P P 00 35 33.0 +1.4
LHMI Lhok Sumawe 49.51 276 P P 00 35 32.0 -0.3
BFZ Birch Farm 49.59 150 P P 00 35 33.4 +0.9
BFZ IAmb IAmb 00 35 39.1
comp=Z,90nm,1.0s
CM31 Chiang Mai Arr 49.64 293 P P 00 35 33.5 +0.2
CMAR Chiang Mai Arr 49.64 293 P P 00 35 35.0 +1.6
comp=Z,176nm,0.9s,baz=114,slow=5.7,SNR=37
KHZ Kahutara 49.67 154 P P 00 35 33.8 +0.8
MSWZ Moikau Station 49.67 152 P P 00 35 33.5 +0.4
RPZ Rata Peaks 49.69 157 P P 00 35 35.5 +2.3
comp=Z,53nm,0.9s,baz=10,slow=16,SNR=2.9
RPZ Rata Peaks 49.69 157 P P 00 35 32.7 -0.5
CHTO Chiang Mai 49.73 294 P P 00 35 33.1 -0.9
OXZ Oxford 49.76 156 P P 00 35 35.0 +1.2
DCZ Deep Cove 49.78 161 P P 00 35 34.5 +0.7
DCZ IAmb IAmb 00 35 52.1
comp=Z,68nm,1.1s
PLWZ Palliser 49.79 152 P P 00 35 34.9 +0.8
WKZ Wanaka 49.86 159 P P 00 35 34.6 0.0
WKZ IAmb IAmb 00 35 43.7
comp=Z,91nm,1.2s
LBZ Lake Benmore 49.91 158 P P 00 35 34.9 -0.1
MLZ Mavora Lakes 50.02 160 P P 00 35 35.7 0.0
MLZ IAmb IAmb 00 35 45.0
comp=Z,76nm,1.1s
CD2 Chengdu 50.11 311 ⇑ *i*P P **00 35 36.3 -0.5**
CD2 pmax pmax
comp=Z,680nm,1.0s
MQZ McQueen's Vall 50.33 155 P P 00 35 39.7 +1.7
MQZ IAmb IAmb 00 35 47.1
comp=Z,86nm,1.1s
WHZ Wether Hill Ro 50.42 161 P P 00 35 39.2 +0.5
WHZ IAmb IAmb 00 35 47.0
comp=Z,84nm,1.0s
HHC Hu-ho-hao-te 50.66 326 *e*P P **00 35 41.3 +0.5**
HHC pmax pmax
comp=Z,92nm,1.1s
HHC pmax pmax
comp=Z,1μm,6.4s
LZH Lanzhou 52.63 316 *e*P P **00 35 56.8 +1.1**
LZH pP pP 00 36 00.8 -4.0
LZH sP sP 00 36 03.6 -4.8
LZH pmax pmax
comp=Z,340nm,1.0s
PEA0B Petropavlovsk- 52.80 9 P P **00 35 56.7 +0.3**
PEA0B IAmb IAmb 00 36 09.8
comp=Z,76nm,1.1s
PETK Petropavlovsk- 52.80 9 P P **00 35 57.5 +1.1**
comp=Z,60nm,0.9s,baz=162,slow=5.3,SNR=10
HIA Hailar 53.24 339 P P **00 36 00.1 +0.3**
HIA IAmb IAmb 00 36 01.5
comp=Z,95nm,1.1s
PBA Port Blair 54.24 284 *e*P P 00 36 05.6 -2.0
PBA IAmb IAmb 00 36 09.2
comp=Z,70nm,1.0s
PBA Port Blair 54.24 284 P P 00 36 05.1 -2.5
PBA IAmb IAmb 00 36 08.5
comp=Z,129nm,0.9s
DGPR DIGLIPUR 54.26 285 *e*P P **00 36 07.4 -0.3**
DGPR IAmb IAmb 00 36 09.1
comp=Z,103nm,0.8s
XMAS Kiritimati 56.18 88 P P **00 36 22.9 +1.2**
XMAS IAmb IAmb 00 36 23.8
comp=Z,122nm,1.1s
MCQ Macquarie Isla 56.27 171 P P **00 36 21.0 -0.5**
MCQ IAmb IAmb 00 36 23.9
comp=Z,144nm,1.1s
KEKH Kekaha 56.44 64 P P **00 36 23.3 -0.1**
KEKH IAmb IAmb 00 36 32.9
comp=Z,94nm,1.1s
SMY Shemya 56.52 20 P P **00 36 24.1 +0.9**
SMY IAmb IAmb 00 36 26.9
comp=Z,72nm,0.8s
ZIRO ZIRO 56.75 303 *e*P P **00 36 26.8 +1.1**
GTA Gaotai 57.08 318 ⇑P P **00 36 28.6 +0.8**
GTA pmax pmax
comp=Z,230nm,1.2s
GTA LR LR
comp=Z,7μm,16.2s
GTA LR LR
comp=Z,13μm,16.5s
GTA LR LR
comp=Z,16μm,17.1s
TEZP TEZPUR 57.37 301 *e*P P **00 36 29.9 +0.1**
TEZP IAmb IAmb 00 36 31.8
comp=Z,244nm,1.1s
ULN Ulaanbaatar 57.76 330 P P **00 36 33.3 +0.9**
HON Honolulu 57.84 65 P P **00 36 34.0 +0.7**
KIP Kipapa 57.85 65 P P **00 36 34.0 +0.7**
KIP IAmb IAmb 00 36 35.5
comp=Z,145nm,1.1s
SHL Shillong 57.86 300 *e*P P **00 36 33.9 +0.3**
SHL IAmb IAmb 00 36 36.3
comp=Z,572nm,1.7s
SHL Shillong 57.86 300 P P **00 36 33.8 +0.3**
OPA Opana 57.91 65 P P **00 36 34.9 +1.1**
SONM Songino Array 58.07 329 P P **00 36 35.6 +1.0**
comp=Z,67nm,0.9s,baz=145,slow=8.0,SNR=17
GUWA GUWAHATI 58.20 300 *e*P P **00 36 35.3 -0.4**
GUWA IAmb IAmb 00 36 37.7
comp=Z,121nm,1.1s
MA2 Magadan 58.53 3 P P **00 36 37.0 -0.4**
MA2 IAmb IAmb 00 36 39.1
comp=Z,51nm,0.9s
KHLH Kahului Airpor 59.18 66 P P **00 36 44.1 +1.4**
HLK Haleakala 59.32 66 P P **00 36 45.0 +1.1**
KHLU Kahalu`u 59.42 68 P P **00 36 45.6 +1.1**
ADK Adak 59.43 26 P P **00 36 44.6 +0.9**
ADK IAmb IAmb 00 36 59.0
comp=Z,78nm,0.8s
LSA Lhasa 59.69 304 P P **00 36 48.4 +1.8**
LSA Lhasa 59.69 304 P P **00 36 48.4 +1.8**
LSA Lhasa 59.69 304 P P **00 36 46.5 0.0**
LSA IAmb IAmb 00 37 01.9
comp=Z,80nm,1.1s
HMH Humu'ula Sheep 59.80 68 P P **00 36 47.5 +0.2**
GSTR Great Sitkin T 59.85 26 P P **00 36 47.5 +0.8**
MLH Mauna Loa 59.87 68 P P **00 36 47.9 +0.2**
HLP Hilina Pali 59.91 68 P P **00 36 46.5 -1.3**
ATKA Atka Island 60.75 27 IAmb IAmb 00 37 07.3
comp=Z,71nm,1.0s
GTK Tadong 61.16 301 *e*P P **00 36 57.0 +0.7**
GTK IAmb IAmb 00 36 58.7
comp=Z,90nm,0.9s
TAPN Taplejung 61.93 301 *e*P P **00 37 02.4 +0.7**
comp=Z,746nm,1.2s
ODAN Odare 62.09 300 *e*P P **00 37 03.4 +0.7**
comp=Z,1μm,1.1s
YAK Yakutsk 62.19 351 P P **00 37 03.3 +1.0**
YAK IAmb IAmb 00 37 04.9
comp=Z,84nm,1.0s
BOK Bokaro 62.73 296 *e*P P **00 37 08.0 +1.2**
BOK IAmb IAmb 00 37 10.3
comp=Z,343nm,1.3s
RAMN Ramite 62.80 300 *e*P P **00 37 08.0 +0.6**
comp=Z,798nm,1.5s
JIRN Jiri 63.32 301 *e*P P **00 37 11.8 +0.8**
comp=Z,2μm,1.5s
CHLP Challavanipeta 63.49 290 *e*P P **00 37 12.2 +0.3**
CHLP IVmB_BB 00 37 14.1
comp=Z,2μm,1.2s
NIKH Nikolski High 63.72 28 P P **00 37 13.5 +0.8**
PKI Pulchoki 63.97 300 *e*P P **00 37 15.6 +0.3**
comp=Z,1μm,1.3s
KKN Kakani 64.13 300 *e*P P **00 37 16.9 +0.7**
comp=Z,893nm,1.0s
DMN Daman 64.24 300 *e*P P **00 37 17.8 +0.8**
comp=Z,1μm,1.2s
GKN Gorkha 64.74 301 *e*P P **00 37 20.7 +0.6**
comp=Z,2μm,1.1s
UNV Unalaska Valle 65.37 29 P P **00 37 23.2 -0.3**
DANN Dangsing 65.57 301 *e*P P **00 37 26.1 +0.4**
comp=Z,932nm,0.9s
KOLN Koldanda 65.58 300 *e*P P **00 37 26.2 +0.6**
comp=Z,1μm,1.0s
PVM Polavaram 65.62 288 *e*P P **00 37 25.7 0.0**
PVM IVmB_BB 00 37 27.4
comp=Z,1μm,1.4s
PALK Pallekele 65.73 277 P P **00 37 25.5 -1.2**
PALK IAmb IAmb 00 37 27.8
comp=Z,86nm,1.1s
AKUT Akutan 65.89 29 P P **00 37 27.5 +0.7**
AKUT IAmb IAmb 00 37 46.0
comp=Z,113nm,1.2s
PYUN Piuthan 66.18 300 *e*P P **00 37 30.0 +0.5**
comp=Z,2μm,1.0s
MYLAV Mylavaram 66.50 288 *e*P P **00 37 31.9 +0.5**
MYLAV IVmB_BB 00 37 33.1
comp=Z,1μm,1.3s
MDRS Chennai 66.53 284 *e*P P **00 37 31.9 +0.3**
MDRS IAmb IAmb 00 37 33.3
comp=Z,99nm,1.1s
ADKI Addanki 67.04 287 *e*P P **00 37 34.7 -0.2**
ADKI IVmB_BB 00 37 36.3
comp=Z,1μm,1.5s
SKHT Srikalahasti 67.10 284 *e*P P **00 37 35.1 -0.2**
SKHT IVmB_BB 00 37 36.2
comp=Z,1μm,1.9s
WMQ Urumqi 67.16 318 P P **00 37 36.5 +1.2**
WMQ S S **00 46 31.0 +3.5**
WMQ ScS **SKSac 00 47 29.7 -0.5**
WMQ pmax pmax
comp=Z,100nm,1.7s
WMQ pmax pmax
comp=Z,470nm,6.1s
WMQ LR LR
comp=Z,12μm,21.1s
WMQ LR LR
comp=Z,6μm,22.5s
WMQ LR LR
comp=Z,20μm,24.1s
FALS False Pass 67.43 29 P P **00 37 37.0 +0.4**
FALS IAmb IAmb 00 37 40.9
comp=Z,74nm,1.0s
NJS Nagarjunasagar 67.75 287 *e*P P **00 37 39.1 -0.3**
NJS IVmB_BB 00 37 40.3
comp=Z,1μm,1.4s
RPR Rampur 68.01 290 *e*P P **00 37 41.5 +0.5**
RPR IVmB_BB 00 37 42.1
comp=Z,1μm,1.6s
SRLM Srisailam 68.10 287 *e*P P **00 37 41.6 0.0**
SRLM IVmB_BB 00 37 42.4
comp=Z,1μm,1.4s
BILL Bilibino 68.32 8 P P **00 37 43.2 +1.2**
BILL IAmb IAmb 00 37 48.8
comp=Z,36nm,0.9s
HYB Hyderabad 68.55 288 *i* P P **00 37 48.0 +3.5**
HYB Hyderabad 68.55 288 *e*P P **00 37 44.2 -0.3**
HYB IAmb IAmb 00 37 46.2
comp=Z,88nm,0.9s
HYB Hyderabad 68.55 288 *e*PP P **00 37 42.0 -2.5**
HYBB Hyderabad (bro 68.55 288 *e*P P **00 37 43.5 -1.0**
HYBB IVmB_BB 00 37 45.1
comp=Z,1μm,1.4s
SRSP Sriramsagar 68.91 290 *e*P P **00 37 45.8 -0.9**
SRSP IVmB_BB 00 37 47.3
comp=Z,1μm,1.4s
SDPT Sand Point 69.12 29 P P **00 37 48.1 +1.0**
CNBA Chernabura Isl 69.29 30 P P **00 37 48.4 +0.1**
CNBA IAmb IAmb 00 37 54.2
comp=Z,43nm,1.0s
URV Uravakonda 69.56 285 *e*P P **00 37 49.9 -0.9**
URV IVmBBB 00 37 52.0
comp=Z,805nm,1.7s
GAMB Gambell 69.78 18 P P **00 37 52.1 +1.1**
GAMB IAmb IAmb 00 37 53.9
comp=Z,49nm,1.2s
KLRI Killari 70.47 289 *e*P P **00 37 55.7 -0.6**
KLRI IVmBBB 00 37 57.6
comp=Z,934nm,2.0s
DDI Dehra Dun 70.84 302 *e*P P **00 37 59.8 +1.4**
TIXI Tiksi 71.44 354 P P **00 38 01.1 0.0**
SMLA Simla 71.74 302 *e*P P **00 38 04.4 +0.7**
SMLA IAmb IAmb 00 38 07.1
comp=Z,211nm,1.1s
CHIR Chirikof Islan 71.76 30 P P **00 38 03.1 -0.2**
CHIR IAmb IAmb 00 38 06.7
comp=Z,110nm,1.2s
MK31 Makanchi Array 71.77 319 P P **00 38 03.2 -0.4**
MK31 IAmb IAmb 00 38 05.0
comp=Z,90nm,1.1s
MKAR Makanchi Array 71.77 319 P P **00 38 04.3 +0.7**
comp=Z,81nm,1.0s,baz=105,slow=7.6,SNR=12
CASY Casey 71.80 194 P P **00 38 03.2 -0.1**
MAKZ Makanchi 71.98 319 P P **00 38 04.9 0.0**
ANM Nome 72.38 20 P P **00 38 06.5 -0.3**
DHRM DHARAMSHALA 72.66 303 *e*P P **00 38 09.6 0.0**
SII Sitkinak Islan 72.81 30 P P **00 38 10.6 +1.0**
SII IAmb IAmb 00 38 19.6
comp=Z,131nm,1.2s
ZAA0 Zalesovo Array 72.82 327 P P **00 38 08.2 -1.5**
ZAA0 IAmb IAmb 00 38 10.5
comp=Z,86nm,1.1s
ZALV Zalesovo Beam 72.82 327 P P **00 38 09.6 -0.1**
comp=Z,57nm,0.9s,baz=104,slow=6.3,SNR=11
POO Poona 73.11 289 *e*P P **00 38 11.9 -0.3**
POO IAmb IAmb 00 38 13.8
comp=Z,85nm,0.7s
PRZ Przheval'sk 73.20 314 P P **00 38 13.0 +0.6**
TARG Taragay, Kyrgy 73.45 313 P P **00 38 13.0 -1.2**
TARG IAmb IAmb 00 38 16.7
comp=Z,70nm,1.0s
OHAK Old Harbor 73.54 30 P P **00 38 14.8 +0.9**
OHAK IAmb IAmb 00 38 16.6
comp=Z,98nm,1.1s
KDJ Kajisay 73.99 314 P P **00 38 16.6 -0.5**
KDAK Kodiak Island 74.12 29 P P **00 38 18.4 +1.1**
comp=Z,99nm,1.2s,baz=221,slow=3.5,SNR=5.0
KDAK Kodiak Island 74.12 29 P P **00 38 18.0 +0.7**
KDAK IAmb IAmb 00 38 26.8
comp=Z,102nm,1.1s
SVW2 Sparrevohn 74.22 25 P P **00 38 18.6 +0.8**
KSH Kashi 74.31 311 P P **00 38 20.3 +1.3**
KSH sP pP 00 38 28.0 -0.4
KSH S S **00 47 53.1 +2.1**
KSH pmax pmax
comp=Z,120nm,1.0s
KSH pmax pmax
comp=Z,610nm,2.8s
KSH LR LR
comp=Z,6μm,15.7s
KSH LR LR
comp=Z,4μm,14.8s
KSH LR LR
comp=Z,12μm,19.5s
ULHL Ulahol 74.70 314 P P **00 38 22.0 +0.8**
SNR=6.7
TTA Tatalina 74.93 24 P P **00 38 22.8 +0.8**
KURK Kurchatov 75.29 323 P P **00 38 23.6 -0.5**
RDOG Red Dog Mine 75.31 18 P P **00 38 25.2 +1.2**
RDOG IAmb IAmb 00 38 27.2
comp=Z,126nm,1.0s
TKM2 Tokmak 2 75.31 314 P P **00 38 25.5 +0.7**
SNR=7.2
KZA Kyzart 75.38 313 P P **00 38 27.0 +1.5**
SNR=12
NIL Nilore 75.42 304 P P **00 38 25.5 +0.2**
CNPM China Poot 75.48 28 P P **00 38 25.5 +0.4**
CNPM IAmb IAmb 00 38 32.3
comp=Z,81nm,0.9s
KBK Karagaybulak 75.72 314 P P **00 38 28.4 +1.3**
SNR=9.8
BRLK Bradley Lake 75.74 28 P P **00 38 27.1 +0.5**
CHMS Chumysh 75.94 314 P P **00 38 29.2 +1.1**
SNR=16
UCH Uchtor 75.95 313 P P **00 38 30.7 +1.9**
SNR=11
FRU1 Bishkek 75.98 314 P P **00 38 27.9 -0.6**
FRU1 IAmb IAmb 00 38 30.6
comp=Z,71nm,1.0s
AAK Ala-Archa 76.05 314 P P **00 38 29.9 +0.9**
SNR=5.4
AAK Ala-Archa 76.05 314 P P **00 38 30.0 +1.0**
AAK Ala-Archa 76.05 314 P P **00 38 30.0 +1.0**
AAK Ala-Archa 76.05 314 P P **00 38 28.7 -0.3**
AAK IAmb IAmb 00 38 31.0
comp=Z,64nm,1.0s
USP Osenovka 76.17 314 P P **00 38 30.1 +0.7**
SNR=8.7
SUA Susitna One 76.48 26 P P **00 38 30.6 -0.3**
SUA IAmb IAmb 00 38 45.4
comp=Z,50nm,0.9s
AML Almayashu 76.53 313 P P **00 38 33.3 +1.3**
SNR=12
SEW Seward 76.54 28 P P **00 38 31.1 0.0**
SEW IAmb IAmb 00 38 46.7
comp=Z,51nm,0.9s
EKS2 Erkin-Say 76.57 314 P P **00 38 33.4 +1.5**
SNR=9.4
ARSB Arslanbob 76.90 312 P P **00 38 33.7 -0.1**
ARSB IAmb IAmb 00 38 35.5
comp=Z,137nm,1.1s
PMR Palmer 77.25 26 P P **00 38 35.4 +0.3**
PMR IAmb IAmb 00 38 43.5
comp=Z,49nm,1.0s
BHUJ Bhuj 77.40 293 *e*P P **00 38 37.9 +1.2**
GHO Glory Hole Cre 77.41 26 P P **00 38 36.1 0.0**
GHO IAmb IAmb 00 38 43.7
comp=Z,65nm,1.1s
BPAW Bear Paw Mtn. 77.47 24 P P **00 38 36.6 +0.2**
KNK Knik Glacier 77.48 27 P P **00 38 37.1 +0.7**
KNK IAmb IAmb 00 38 52.3
comp=Z,125nm,1.0s
TRF Thorofare Moun 77.48 24 P P **00 38 36.4 -0.2**
TRF IAmb IAmb 00 38 38.3
comp=Z,58nm,1.2s
SML Sawmill 77.68 26 P P **00 38 38.3 +0.7**
MID Middleton Isla 77.77 29 P P **00 38 37.9 -0.1**
MID IAmb IAmb 00 38 41.0
comp=Z,108nm,1.0s
GLI Glacier Island 77.91 27 P P **00 38 39.0 +0.2**
GLI IAmb IAmb 00 38 41.1
comp=Z,53nm,0.9s
HIN Hinchinbrook I 78.02 28 P P **00 38 39.7 +0.3**
HIN IAmb IAmb 00 38 42.7
comp=Z,68nm,1.0s
RND Reindeer 78.06 25 P P **00 38 39.9 +0.2**
RND IAmb IAmb 00 38 42.0
comp=Z,100nm,1.1s
FID Port Fidalgo 78.14 28 P P **00 38 40.2 +0.1**
FID IAmb IAmb 00 38 57.5
comp=Z,62nm,1.0s
MCK McKinley 78.15 24 P P **00 38 40.4 +0.3**
MCK IAmb IAmb 00 38 42.6
comp=Z,117nm,1.2s
BTK Batken 78.31 311 P P **00 38 41.3 -0.4**
EYAK Cordova Ski Ar 78.42 28 P P **00 38 42.5 +1.0**
NRIK Noril'sk 78.48 342 P P **00 38 41.4 -0.4**
comp=Z,63nm,1.0s,baz=88,slow=5.9,SNR=4.6
GAR Garm 78.55 310 P P **00 38 42.1 -0.9**
DHY Denali Highway 78.56 25 P P **00 38 43.0 +0.4**
DHY IAmb IAmb 00 38 45.6
comp=Z,80nm,1.0s
KLU Klutina 78.65 27 P P **00 38 43.1 +0.1**
KLU IAmb IAmb 00 38 46.5
comp=Z,90nm,1.0s
WRH Wood River Hil 78.77 24 P P **00 38 43.3 -0.3**
WRH IAmb IAmb 00 38 45.8
comp=Z,87nm,1.1s
RAGM Ragged Mountai 78.87 28 P P **00 38 44.9 +0.7**
RAGM IAmb IAmb 00 38 47.1
comp=Z,88nm,1.2s
VNDA Vanda 78.87 177 P P **00 38 44.5 +0.7**
comp=Z,8.8nm,0.7s,baz=325,slow=5.5,SNR=2.5
CCB Clear Creek Bu 78.95 24 P P **00 38 44.1 -0.4**
CCB IAmb IAmb 00 38 46.5
comp=Z,54nm,1.0s
KBL Kabul 79.00 305 P P **00 38 45.3 -0.4**
KBL IAmb IAmb 00 38 46.9
comp=Z,124nm,1.1s
KK31 Karatay Array 79.01 314 P P **00 38 44.5 -0.8**
KKAR Karatay Array 79.01 314 P P **00 38 44.4 -1.0**
HMT Hamilton 79.05 28 P P **00 38 46.0 +0.9**
HMT IAmb IAmb 00 38 48.0
comp=Z,92nm,1.2s
COLD Coldfoot 79.06 21 P P **00 38 46.0 +1.0**
COLD IAmb IAmb 00 38 49.0
comp=Z,53nm,0.9s
SUCK Suckling Hills 79.20 29 P P **00 38 47.0 +1.0**
HDA Harding Lake 79.21 24 P P **00 38 46.0 0.0**
PAX Paxson 79.34 26 P P **00 38 46.7 -0.1**
ILAR Eielson Array 79.37 24 P P **00 38 46.6 -0.2**
comp=Z,31nm,0.9s,baz=248,slow=4.6,SNR=9.0
CHGR Chuyangaron 79.40 309 P P **00 38 47.2 -0.4**
GLB Gilahina Butte 79.59 27 P P **00 38 48.1 -0.1**
GLB IAmb IAmb 00 38 51.4
comp=Z,74nm,1.1s
VRDI Verde Repeater 79.70 28 P P **00 38 48.5 -0.4**
CRQM Cirque 79.70 28 P P **00 38 49.1 +0.2**
CRQM IAmb IAmb 00 38 52.3
comp=Z,157nm,1.2s
TGL Tana Glacier 79.85 28 P P **00 38 50.1 +0.5**
TGL IAmb IAmb 00 38 52.4
comp=Z,101nm,1.1s
RIDG Independent Ri 79.86 25 P P **00 38 50.5 +1.0**
RIDG IAmb IAmb 00 38 52.4
comp=Z,67nm,1.1s
TOLK Toolik Lake Re 79.86 20 P P **00 38 50.1 +0.6**
ISLE Juniper Island 80.04 28 P P **00 38 51.6 +0.9**
ISLE IAmb IAmb 00 38 53.4
comp=Z,87nm,1.2s
MESA MESA 80.11 29 P P **00 38 52.2 +1.1**
MESA IAmb IAmb 00 38 54.7
comp=Z,81nm,1.2s
BALM Baldy 80.16 28 P P **00 38 51.7 +0.5**
BALM IAmb IAmb 00 38 54.0
comp=Z,73nm,1.0s
DOT Dot Lake 80.16 25 P P **00 38 51.4 +0.3**
DOT IAmb IAmb 00 38 54.2
comp=Z,92nm,1.1s
YAH Yahtse 80.26 29 P P **00 38 52.9 +0.9**
BARN Barnard Glacie 80.48 28 P P **00 38 53.0 -0.1**
BARN IAmb IAmb 00 38 56.7
comp=Z,92nm,1.0s
TABL Table Mountain 80.57 29 P P **00 38 54.1 +0.5**
TABL IAmb IAmb 00 38 56.9
comp=Z,90nm,1.1s
CTGM Chitina Glacie 80.61 28 P P **00 38 54.8 +1.0**
PCA Pinnacle 80.91 29 P P **00 38 56.1 +0.8**
EGAK Eagle 81.70 24 P P **00 39 00.1 +0.8**
DAWY Dawson 82.26 25 P P **00 39 04.0 +1.6**
DAWY IAmb IAmb 00 39 06.1
comp=Z,89nm,1.1s
HYT Haines Junctio 82.40 29 P P **00 39 04.0 +0.8**
HYT IAmb IAmb 00 39 22.4
comp=Z,70nm,1.0s
SKAG Skagway 83.22 30 P P **00 39 08.2 +0.9**
SKAG IAmb IAmb 00 39 14.8
comp=Z,56nm,1.1s
BESE Bessie Mountai 83.32 31 P P **00 39 07.8 -0.1**
BESE IAmb IAmb 00 39 10.8
comp=Z,80nm,1.2s
WHY Whitehorse 83.64 29 P P **00 39 10.3 +0.8**
WHY IAmb IAmb 00 39 13.2
comp=Z,39nm,1.1s
EPYK Eagle Plains 83.87 23 P P **00 39 11.0 +0.5**
EPYK IAmb IAmb 00 39 14.6
comp=Z,66nm,1.1s
DIB Dawson Inlet, 83.92 37 P P **00 39 11.7 +0.7**
INK Inuvik 85.43 22 P P **00 39 18.8 +0.5**
comp=Z,42nm,1.0s,baz=236,slow=5.4,SNR=3.2
INK Inuvik 85.43 22 IAmb IAmb 00 39 21.1
comp=Z,49nm,1.0s
DLBC Dease Lake 85.81 32 P P **00 39 22.3 +1.8**
comp=Z,36nm,1.1s,baz=136,slow=5.1,SNR=5.4
DLBC Dease Lake 85.81 32 P P **00 39 21.5 +0.9**
DLBC IAmb IAmb 00 39 24.3
comp=Z,42nm,1.1s
BBB Bella Bella 86.48 38 P P **00 39 22.4 -1.4**
BBB IAmb IAmb 00 39 36.6
comp=Z,50nm,1.1s
ARU Arti 87.97 326 P P **00 39 28.8 -2.2**
GEYT Ailbeck 88.01 308 P P **00 39 32.2 +0.5**
comp=Z,49nm,1.0s,baz=90,slow=3.0,SNR=7.5
GEYT PP PP **00 42 59.3 +0.9**
comp=Z,14nm,1.2s,baz=187,slow=1.2,SNR=3.5
GYA0B ALIBECK ARRAY 88.01 308 P P **00 39 31.2 -0.5**
GYA0B IAmb IAmb 00 39 34.1
comp=Z,68nm,1.1s
E03A Lebam 89.35 44 P P **00 39 38.8 +1.1**
E03A IAmb IAmb 00 39 54.3
comp=Z,51nm,1.0s

KCPM	**Cahto Peak**	**89.42**	**51**	P		**P**		00 39 37.8	-0.6	
KCPM				IAmb		IAmb		00 39 45.8		
	comp=Z,48nm,1.2s									
SOHO	**SOHO**	**89.44**	**294**	*i* P		**P**		**00 39 38.5**	**-0.1**	
	SNR=6.5									
SOHO	**SOHO**	**89.44**	**294**	*i* P		**P**		**00 39 38.5**	**-0.1**	
	SNR=6.5									
BANOM	**Banah**	**89.63**	**296**	*i* P		**P**		**00 39 39.9**	**+0.4**	
	SNR=7.9									
BANOM	**Banah**	**89.63**	**296**	*i* P		**P**		**00 39 39.9**	**+0.4**	
	SNR=7.9									
MDH	**Madha**	**89.64**	**295**	P		**P**		**00 39 39.2**	**-0.4**	
MDH	**Madha**	**89.64**	**295**	P		**P**		**00 39 39.2**	**-0.4**	
UOSS	**Minazif**	**89.73**	**295**	*i* P		**P**		**00 39 39.8**	**-0.1**	
	SNR=7.8									
UOSS	**Minazif**	**89.73**	**295**	*i* P		**P**		**00 39 39.8**	**-0.1**	
	SNR=7.8									
UOSS	**Minazif**	**89.73**	**295**	P		**P**		**00 39 40.1**	**+0.1**	
UOSS				IAmb		IAmb		00 39 40.4		
	comp=Z,61nm,1.1s									
MSFE	**Esma-Masafi**	**89.77**	**295**	*i* P		**P**		**00 39 40.5**	**+0.4**	
	SNR=9.9									
MSFE	**Esma-Masafi**	**89.77**	**295**	*i* P		**P**		**00 39 40.5**	**+0.4**	
	SNR=9.9									
SHME	**Shamm**	**89.77**	**296**	P		**P**		**00 39 40.4**	**+0.2**	
SHME	**Shamm**	**89.77**	**296**	P		**P**		**00 39 40.4**	**+0.2**	
HATD	**Hatta, Dubai**	**89.80**	**295**	*i* P		**P**		**00 39 40.4**	**+0.1**	
	SNR=6.8									
HATD	**Hatta, Dubai**	**89.80**	**295**	*i* P		**P**		**00 39 40.4**	**+0.1**	
	SNR=6.8									
HOPS	**Hopland Field**	**89.83**	**51**	P		**P**		**00 39 40.0**	**-0.2**	
ASHO	**Ashiyiah**	**89.87**	**295**	P		**P**		**00 39 40.6**	**-0.1**	
ASHO	**Ashiyiah**	**89.87**	**295**	P		**P**		**00 39 40.6**	**-0.1**	
F04A	**Amboy**	**90.15**	**44**	P		**P**		**00 39 41.2**	**-0.2**	
NAZ	**Nazwa, Dubai**	**90.22**	**295**	P		**P**		**00 39 42.3**	**0.0**	
NAZ	**Nazwa, Dubai**	**90.22**	**295**	P		**P**		**00 39 42.3**	**0.0**	
QSPA	**South Pole Qui**	**90.90**	**180**	PKKPbc		PKKPbc		00 57 09.3	-3.5	
	comp=Z,4.1nm,1.0s,baz=310,slow=1.1,SNR=3.8									
ORV	**Oroville**	**91.03**	**51**	P		**P**		**00 39 46.0**	**+0.3**	
MOD	**Modoc Plateau**	**91.84**	**48**	P		**P**		**00 39 50.0**	**+0.4**	
F07A	**Phinny Hill Vi**	**91.89**	**44**	P		**P**		**00 39 50.0**	**+0.4**	
CMB	**Columbia Colle**	**91.97**	**52**	P		**P**		**00 39 50.1**	**-0.1**	
SOCY	**Socotra**	**92.11**	**282**	P		**P**		**00 39 48.1**	**-3.2**	
SOCY				IAmb		IAmb		00 39 50.9		
	comp=Z,56nm,1.0s									
PNTR	**Pine Nut**	**92.53**	**51**	P		**P**		**00 39 53.0**	**0.0**	
PNTR				IAmb		IAmb		00 39 56.4		
	comp=Z,55nm,1.2s									
MDPB	**Devils Postpil**	**93.03**	**52**	P		**P**		**00 39 53.6**	**-1.8**	
WVOR	**Wild Horse Val**	**93.04**	**48**	P		**P**		**00 39 55.5**	**+0.3**	
WVOR				IAmb		IAmb		00 40 10.2		
	comp=Z,28nm,0.9s									
YKA	**Yellowknife Ar**	**93.31**	**27**	P		**P**		**00 39 57.5**	**+1.8**	
	comp=Z,18nm,1.1s,baz=282,slow=5.4,SNR=2.1									
YKA				PP		**PP**		**00 43 37.1**	**-2.5**	
	comp=Z,14nm,1.2s,baz=275,slow=6.8,SNR=6.0									
RYN	**Ryan**	**93.40**	**51**	P		**P**		**00 39 56.6**	**-0.3**	
NVAR	**Mina Array Bea**	**93.58**	**52**	P		**P**		**00 39 59.5**	**+1.6**	
	comp=Z,13nm,1.1s,baz=300,slow=1.8,SNR=2.7									
BMO	**Blue Mountains**	**93.81**	**45**	P		**P**		**00 39 59.1**	**+0.5**	
BMO				IAmb		IAmb		00 40 01.7		
	comp=Z,30nm,1.1s									
PASC	**Pasadena Art C**	**93.97**	**56**	P		**P**		**00 39 58.8**	**-0.6**	
SYO	**Syowa Base**	**96.88**	**200**‖	*e*P		**P**		**00 40 09.0**	**-2.9**	
SYO	**Syowa Base**	**96.88**	**200**‖	*e*pP		**P**		**00 40 15.0**	**+3.1**	
ARE0	**ARCESS Array S**	**99.46**	**342**			**Pdif**		**00 40 23.0**	**-0.5**	
PDAR	**Pinedale Array**	**99.65**	**46**	PKKPbc		PKKPbc		00 56 45.7	-2.4	
	comp=Z,1.6nm,0.9s,baz=107,slow=3.0,SNR=3.7									
BRTR	**Keskin Array B**	**106.68**	**312**	PP		**PP**		**00 45 20.9**	**-1.0**	
	comp=Z,6.3nm,1.0s,baz=100,slow=5.1,SNR=3.9									
SORM	**Soroca**	**107.57**	**322**	⇑P		**Pdif**		**00 40 46.9**	**-13**	
KIS	**Kishinev**	**107.70**	**320**	*e*P		**Pdif**		**00 41 03.0**	**+2.4**	
	comp=Z,350nm,7.0s									
KIS	**Kishinev**	**107.70**	**320**	*e*PP		**PP**		**00 45 34.0**	**+5.1**	
PLOR	**Plostina**	**109.52**	**320**	⇑P		**Pdif**		**00 40 56.6**	**-12**	
JMB	**Yambol**	**110.85**	**317**	*e*P		**Pdif**		**00 41 11.9**	**-2.9**	
PLD	**Plovdiv**	**112.28**	**317**	*e*P		**Pdif**		**00 41 24.0**	**+2.9**	
PGB	**Panagyurishte**	**112.47**	**317**	*e*P		**Pdif**		**00 41 29.0**	**+7.0**	
MMB	**Musomiste**	**113.15**	**317**	*e*P		**Pdif**		**00 41 24.6**	**-0.5**	
KKB	**Krupnik**	**113.48**	**317**	*e*P		**Pdif**		**00 41 30.5**	**+4.0**	
CLL	**Collm**	**114.68**	**330**	*e*PKiKP		PKPdf		00 45 22.0	+0.5	
	comp=Z,12nm,1.0s									
KHC	**Kasperske Hory**	**115.67**	**328**	*e*PKP		**PKPdf**		**00 45 24.5**	**+1.0**	
GERES	**GERESS Array B**	**115.77**	**327**	PKP		**PKPdf**		**00 45 24.0**	**+0.2**	
	comp=Z,3.7nm,0.8s,baz=66,slow=1.8,SNR=5.7									
LSZ	**Lusaka**	**117.39**	**253**	PKP		**PKiKP**		**00 45 28.4**	**+0.6**	
	comp=Z,7.1nm,0.8s,baz=303,slow=2.9,SNR=3.3									
BOSA	**Boshof**	**117.53**	**238**	PKP		**PKiKP**		**00 45 27.9**	**+0.1**	
	comp=Z,3.3nm,0.7s,baz=89,slow=4.1,SNR=3.0									
BCLA	**Clavier**	**118.97**	**333**	PKPdf		**PKiKP**		**00 45 29.8**	**0.0**	
BCLA				x		x		00 45 41.7		
BMRD	**Maredsous**	**119.30**	**333**	PKPdf		**PKiKP**		**00 45 30.8**	**+0.4**	
SNF	**Seneffe**	**119.37**	**333**	PKPdf		**PKiKP**		**00 45 31.2**	**+0.7**	
DOU	**Dourbes**	**119.52**	**333**	PKPdf		**PKiKP**		**00 45 31.4**	**+0.5**	
TKL	**Tuckaleechee C**	**120.80**	**47**	PKP		**PKiKP**		**00 45 34.0**	**+0.1**	
	comp=Z,6.1nm,0.7s,baz=143,slow=8.3,SNR=2.6									
CLF	**Chambon-Foret**	**122.08**	**332**			**PKiKP**		**00 45 37.0**	**+1.1**	
KEST	**Kesra**	**125.82**	**317**	PKP		**PKiKP**		**00 45 44.1**	**+0.2**	
	comp=Z,13nm,0.9s,baz=308,slow=4.3,SNR=3.4									
TSUM	**Tsumeb**	**126.68**	**247**	PKP		**PKPdf**		**00 45 45.6**	**0.0**	
	comp=Z,11nm,1.1s,baz=222,slow=3.2,SNR=3.5									
PLCA	**Paso Flores**	**128.21**	**144**	PKP		**PKiKP**		**00 45 48.5**	**0.0**	
	comp=Z,3.8nm,0.9s,baz=211,slow=2.1,SNR=2.8									
PBRG	**Braganca**	**130.94**	**333**	*e*LR		LR		01 15 41.8		
ESDC	**Sonseca Array**	**131.27**	**329**	PP		PP		00 48 10.1	-0.8	
	comp=Z,4.7nm,1.1s,baz=37,slow=3.4,SNR=5.3									
PGAV	**Gavieira, Arco**	**131.48**	**335**	*e*PKPdf		**PKiKP**		**00 45 55.8**	**+0.7**	
PGAV	**Gavieira, Arco**	**131.48**	**335**	*e*LQ		LQ		01 16 01.9		
PGAV	**Gavieira, Arco**	**131.48**	**335**	*e*LR		LR		01 30 37.9		
	comp=Z,9μm,20.0s									
MVO	**Moncorvo**	**131.59**	**333**	*e*PKPdf		**PKiKP**		**00 45 55.8**	**+0.5**	
MVO	**Moncorvo**	**131.59**	**333**	*e*LQ		LQ		01 16 05.2		
MVO	**Moncorvo**	**131.59**	**333**	*e*LR		LR		01 31 13.1		
	comp=Z,7μm,22.0s									
PCAB	**Cabril**	**131.59**	**334**	*e*PKPdf		**PKiKP**		**00 45 55.1**	**-0.1**	
PVRL	**Vila Real**	**131.81**	**334**	*e*PKPdf		**PKiKP**		**00 45 56.5**	**+0.8**	
MTE	**Manteigas**	**132.43**	**333**	*e*PKPdf		**PKiKP**		**00 45 57.6**	**+0.6**	
MTE	**Manteigas**	**132.43**	**333**	*e*LQ		LQ		01 16 08.9		
MTE	**Manteigas**	**132.43**	**333**	*e*LR		LR		01 31 13.1		
	comp=Z,7μm,20.0s									
PCBR	**Castelo Branco**	**132.85**	**332**	*e*PKPdf		**PKiKP**		**00 45 58.3**	**+0.6**	
PMRV	**Marv??o**	**133.14**	**332**	*e*PKPdf		**PKiKP**		**00 45 58.4**	**0.0**	
PMRV	**Marv??o**	**133.14**	**332**	*e*LQ		LQ		01 16 30.5		
PMRV	**Marv??o**	**133.14**	**332**	*e*LR		LR		01 32 00.1		
	comp=Z,6μm,20.0s									
PCAS	**Casmilo, Conde**	**133.14**	**333**	*e*PKPdf		**PKiKP**		**00 45 58.0**	**-0.4**	
PCAS	**Casmilo, Conde**	**133.14**	**333**	*e*LQ		LQ		01 16 27.7		
PCAS	**Casmilo, Conde**	**133.14**	**333**	*e*LR		LR		01 31 09.2		
	comp=Z,7μm,22.0s									
PMTG	**Montargil**	**133.81**	**332**	*e*PKPdf		**PKiKP**		**00 46 00.3**	**+0.6**	
EVO	**Evora**	**134.14**	**332**	*e*PKPdf		**PKiKP**		**00 46 01.1**	**+0.7**	
PBEJ	**Beja**	**134.48**	**331**	*e*PKPdf		**PKiKP**		**00 46 02.3**	**+1.2**	
PNCL	**Nicolau / Gran**	**134.72**	**332**	*e*PKPdf		**PKiKP**		**00 46 02.7**	**+1.1**	
PVAQ	**Vaqueiros**	**134.89**	**331**	*e*LR		LR		01 32 19.6		
	comp=Z,8μm,22.0s									
PTEO	**Sao Teotonio**	**135.27**	**332**	*e*PKPdf		**PKiKP**		**00 46 02.1**	**-0.6**	
PFVI	**Vila Bisbo**	**135.65**	**331**	*e*LR		LR		01 32 43.1		
	comp=Z,6μm,24.0s									
PMAR	**Madeira**	**142.94**	**336**	*e*PKPdf		**PKPdf**		**00 46 14.9**	**-0.7**	
CPUP	**Villa Florida**	**146.02**	**140**	PKPbc		**PKPab**		**00 46 22.2**	**+0.1**	
	comp=Z,16nm,1.0s,baz=268,slow=6.5,SNR=2.0									
MACI	**Morro de la Ar**	**146.61**	**332**			**PKPab**		**00 46 25.3**	**+0.7**	
KIC	**Kosan Boka**	**150.25**	**285**	*e*PKP1		**PKPbc**		**00 46 33.2**	**-0.1**	
	comp=Z,888nm,1.5s									
DBIC	**Dimbokro**	**150.28**	**285**	PKPbc		**PKPbc**		**00 46 33.3**	**-0.1**	
	comp=Z,132nm,1.0s,baz=114,slow=1.9,SNR=8.5									
TIC	**Toumodi**	**150.45**	**285**	*e*PKP1		**PKPbc**		**00 46 34.0**	**+0.2**	
LIC	**Lamto**	**150.55**	**284**	*e*PKP1		**PKPbc**		**00 46 34.2**	**+0.2**	
	comp=Z,1μm,1.7s									

*THE **03** 00:34:49.9,37°.95N×20°.64E,h8km,ML3.1/8, Error ellipse: s-maj=1.1km s-min=0.4km az=42.0*
ATH 03 00:34:50.1,37°.96N×20°.68E,h12km±1km,ML3.2/15, 2C-1D, Error ellipse: s-maj=1.8km s-min=0.6km az=231.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLMS	**Volimes, Zakyn**	**0.09**	**191**	P	Pg	00 34 52.7	-0.1
VLMS				S	Sg	00 34 54.7	0.0
VLMS				AML	AML	00 34 55.1	
VLMS				AML	AML	00 34 57.2	
	comp=N,80882μm,0.3s						

VLS	**Valsamata**	**0.23**	**341**	P		Pg		00 34 54.9	-0.1	
VLS				S		Sg		00 34 58.2	-0.1	
	comp=N,8μm,0.3s									
VLS	**Valsamata**	**0.23**	**341**	P		Pg		00 34 54.9	-0.1	
VLS				S		Sg		00 34 59.0	+0.6	
VLS				AML		AML		00 34 59.2		
	comp=E,18250μm,0.2s									
VLS				AML		AML		00 35 00.5		
	comp=N,11684μm,0.2s									
ZAK2	**Zakynthos**	**0.24**	**135**	P		Pg		00 34 54.9	-0.3	
ARGA	**Argostoli. Kep**	**0.27**	**323**	P		Pg		00 34 55.9	+0.2	
KEF3	**Kipouria, Keph**	**0.36**	**313**	P		Pg		00 34 57.3	0.0	
KEF5	**Kardakata, Kep**	**0.36**	**332**	P		Pg		00 34 57.4	0.0	
KEF4	**Livadi, Kephal**	**0.36**	**326**	P		Pg		00 34 57.4	+0.1	
VTN	**Vitineika**	**0.40**	**96**	P		Pb		00 34 58.8	-0.3	
VTN				S		Sb		00 35 04.7	-0.5	
VTN	**Vitineika**	**0.40**	**96**	P		Pb		00 34 58.9	-0.2	
VSK1	**VASILIKIADES**	**0.46**	**348**	P		Pg		00 34 58.0	-1.1	
VSK1				S		Sg		00 35 05.6	+0.3	
RLS	**Riolos of Patr**	**0.63**	**81**	P		Pg		00 35 02.5	+0.2	
RLS				S		Sb		00 35 12.0	+0.3	
	comp=N,3μm,0.4s									
RLS	**Riolos of Patr**	**0.63**	**81**	P		Pb		00 35 02.6	-0.3	
RLS				S		Sg		00 35 10.7	+0.1	
RLS				AML		AML		00 35 13.5		
	comp=E,5546μm,0.4s									
RLS				AML		AML		00 35 13.7		
	comp=N,5966μm,0.4s									
EVGI	**Lefkada island**	**0.66**	**358**	P		Pg		00 35 02.6	-0.3	
EVGI				S		Sb		00 35 13.0	+0.3	
	comp=N,730nm,0.9s									
EVGI	**Lefkada island**	**0.66**	**358**	P		Pg		00 35 02.6	-0.3	
MGNA	**Meganis**	**0.70**	**7**	P		Pg		00 35 03.6	-0.1	
MGNA				S		Sg		00 35 13.2	+0.2	
MGNA				AML		AML		00 35 18.5		
	comp=N,2459μm,0.5s									
MGNA				AML		AML		00 35 20.9		
	comp=E,3865μm,0.7s									
DRO	**Drossia**	**0.81**	**90**	P		Pb		00 35 06.0	-0.2	
DRO				S		Sb		00 35 17.9	+0.8	
	comp=E,3μm,0.4s									
DRO	**Drossia**	**0.81**	**90**	P		Pg		00 35 05.8	0.0	
DRO				S		Sb		00 35 17.3	+0.2	
DRO				AML		AML		00 35 21.3		
	comp=N,9060μm,0.4s									
DRO				AML		AML		00 35 21.9		
	comp=E,3707μm,0.4s									
LKD2	**Lefkada island**	**0.83**	**359**	P		Pg		00 35 05.3	-0.8	
LKD2				S		Sb		00 35 18.4	+0.8	
	comp=E,1μm,0.8s									
LKD2	**Lefkada island**	**0.83**	**359**	P		Pg		00 35 05.3	-0.8	
LKD2				S		Sb		00 35 17.7	+0.2	
LKD2				AML		AML		00 35 27.9		
	comp=E,3315μm,0.7s									
LKD2				AML		AML		00 35 29.4		
	comp=N,2591μm,0.9s									
TSLK	**Tsoukalades, L**	**0.86**	**359**	P		Pg		00 35 06.2	-0.6	
TSLK				S		Sb		00 35 19.0	+0.4	
	comp=N,1μm,0.8s									
TSLK	**Tsoukalades, L**	**0.86**	**359**	P		Pg		00 35 06.2	-0.6	
TSLK				S		Sb		00 35 18.4	-0.1	
AMT	**Artemida-Makis**	**0.92**	**117**	P		Pg		00 35 07.6	-0.2	
AMT	**Artemida-Makis**	**0.92**	**117**	P		Pg		00 35 07.5	-0.3	
AMT				S		Sb		00 35 20.1	0.0	
AMT				AML		AML		00 35 28.2		
	comp=N,4804μm,0.8s									
AMT				AML		AML		00 35 30.5		
	comp=E,4711μm,0.5s									
PVO	**Paravola**	**0.93**	**45**	P		Pg		00 35 08.1	0.0	
PVO				S		Sn		00 35 22.4	+0.1	
	comp=E,2μm,0.9s									
PVO	**Paravola**	**0.93**	**45**	P		Pg		00 35 08.0	-0.1	
PVO				S		Sb		00 35 20.5	0.0	
PVO				AML		AML		00 35 30.0		
	comp=N,3238μm,0.6s									
PVO				AML		AML		00 35 31.1		
	comp=E,2676μm,0.5s									
ANX	**Ano Chora**	**1.16**	**57**	P		Pb		00 35 11.8	-0.4	
ANX	**Ano Chora**	**1.16**	**57**	P		Pb		00 35 12.1	-0.1	
ANX				S		Sn		00 35 27.9	-0.2	
ANX				AML		AML		00 35 37.2		
	comp=N,2928μm,0.6s									
ANX				AML		AML		00 35 42.0		
	comp=E,2266μm,0.9s									
KLV	**Kalavryta, Ach**	**1.16**	**85**	P		Pb		00 35 11.7	-0.5	
KLV	**Kalavryta, Ach**	**1.16**	**85**	P		Pb		00 35 12.1	-0.1	
KLV				S		Sn		00 35 28.2	+0.2	
KLV				AML		AML		00 35 37.5		
	comp=N,1529μm,1.2s									
KLV				AML		AML		00 35 39.0		
	comp=E,1101μm,0.9s									
TRIZ	**Trizonia**	**1.17**	**69**	P		Pb		00 35 11.7	-0.5	
TRIZ	**Trizonia**	**1.17**	**69**	P		Pb		00 35 11.8	-0.4	
SERG	**Sergoula**	**1.17**	**67**	P		Pb		00 35 11.9	-0.4	
SERG				S		Sn		00 35 29.8	+1.5	
	comp=E,622nm,0.2s									
SERG	**Sergoula**	**1.17**	**67**	P		Pb		00 35 12.0	-0.4	
SERG				S		Sn		00 35 28.3	0.0	
SERG				AML		AML		00 35 33.4		
	comp=E,1303μm,0.4s									
SERG				AML		AML		00 35 33.5		
	comp=N,1353μm,0.3s									
ITM	**Ithomi**	**1.26**	**128**	P		Pn		00 35 13.3	-0.2	
ITM	**Ithomi**	**1.26**	**128**	P		Pn		00 35 13.4	-0.1	
ITM				S		Sg		00 35 30.9	+0.3	
ITM				AML		AML		00 35 35.4		
	comp=E,3386μm,0.4s									
ITM				AML		AML		00 35 35.6		
	comp=N,3000μm,0.6s									
EVR	**Evrytania**	**1.30**	**42**	P		Pn		00 35 14.3	+0.1	
EVR				S		Sg		00 35 32.2	+0.2	
EVR				AML		AML		00 35 42.3		
	comp=N,909μm,0.7s									
EVR				AML		AML		00 35 43.7		
	comp=E,789μm,0.5s									
GUR	**Goura**	**1.31**	**91**	P		Pb		00 35 14.7	0.0	
GUR	**Goura**	**1.31**	**91**	P		Pn		00 35 14.4	0.0	
TRIP	**Tripoli**	**1.33**	**108**	P		Pb		00 35 15.0	0.0	
PYL	**PYLOS**	**1.36**	**141**	P		Pn		00 35 14.6	-0.2	
PYL	**PYLOS**	**1.36**	**141**	P		Pn		00 35 14.9	+0.1	
VLX	**Vlachokerasia**	**1.47**	**113**	P		Pg		00 35 18.0	-0.3	
DSF	**Desfina**	**1.52**	**72**	P		Pn		00 35 17.3	+0.1	
MAKR	**Makrakomi, Fth**	**1.55**	**47**	P		Pb		00 35 19.0	+0.3	
MAKR				S		Sg		00 35 40.0	+0.1	
MAKR				AML		AML		00 35 51.3		
	comp=E,1100μm,0.8s									
MAKR				AML		AML		00 35 53.2		
	comp=N,1609μm,1.0s									
IGT	**Igoumenitsa**	**1.59**	**350**	P		Pb		00 35 19.6	+0.1	
IGT				S		Sg		00 35 42.0	+0.6	
IGT				AML		AML		00 35 51.2		
	comp=E,1088μm,0.7s									
IGT				AML		AML		00 35 52.6		
	comp=N,567μm,0.6s									
JAN	**Janina**	**1.70**	**4**	P		Pg		00 35 22.3	-0.4	
AXAR	**Agios Charalam**	**1.75**	**62**	P		Pb		00 35 22.1	-0.1	
PROD	**Prodromos**	**1.77**	**80**	P		Pb		00 35 23.3	+0.7	
LTK	**Loutraki**	**1.81**	**87**	P		Pb		00 35 23.5	+0.4	
KEK	**Kerkira**	**1.88**	**339**	P		Pn		00 35 23.2	+1.1	
KPRO	**Kipourio**	**2.06**	**15**	P		Pb		00 35 27.7	+0.2	
OHR	**Ohrid**	**3.15**	**2**	*i* Pn		Pg		00 35 51.3	+0.8	
TIR	**Tirane**	**3.44**	**350**	⇑P		Pn		00 35 46.1	+2.5	
VAY	**Valandovo**	**3.66**	**23**	*i* Pn		Pb		00 35 52.1	-2.6	
SKO	**Skopje**	**4.05**	**8**	*i* Pn		Pb		00 36 02.7	+1.4	
VTS	**Vitosha**	**5.04**	**22**	‖P		Pn		00 36 08.4	+2.8	
MDVR	**Moldovita**	**6.86**	**6**	⇑P		Pg		00 37 04.9	+3.6	

*IDC **03** 00:39:14.7±0.7,0°.80N×146°.43E,h0km,mb4.4/14, mb1 4.6/14,mb1mx4.4/40,mbtmp4.5/14, Error ellipse: s-maj=27.1km s-min=14.5km az=97.0*
*NEIC **03** 00:39:15.6±2.1,0°.79N±0°.09×146°.5E±0°.1,h13km±3km, mb4.9/60, Error ellipse: s-maj=15.5km s-min=12.9km az=78.0*
*BJI **03** 00:39:15.1±0.0,0°.70N×146°.34E,h17km,mB5.2/1, mb4.8/26*
ISC 03 00:39:15.2±0.4,0°.73N±0°.07×146°.47E±0°.08,h10km,n104, σ1s20/105,mb4.8/50,2C-1D, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**10.09**	**176**	Pn	**Pn**	**00 41 39.7**	**-0.7**

MTN	**Manton Dam**	**20.33**	**228**	P		**P**		**00 43 51.4**	**-0.3**	
MTN				IAmb		IAmb		00 44 02.7		
	comp=Z,59nm,1.2s									
WB0	**Warramunga Arr**	**23.56**	**210**	P		**P**		**00 44 26.1**	**0.0**	
WB0				IAmb		IAmb		00 44 37.8		
	comp=Z,24nm,0.9s									
WR0	**Warramunga Arr**	**23.65**	**209**	P		**P**		**00 44 26.6**	**-0.4**	
WR0				IAmb		IAmb		00 44 42.6		
	comp=Z,30nm,1.1s									
WB2	**Warramunga Arr**	**23.73**	**209**	P		**P**		**00 44 27.6**	**-0.2**	
WB2				IAmb		IAmb		00 44 38.8		
	comp=Z,37nm,1.0s									
WRA	**Warramunga Arr**	**23.74**	**209**	P		**P**		**00 44 28.3**	**+0.5**	
	comp=Z,20nm,0.8s,baz=31,slow=11,SNR=52									
WRA				PcP		**PcP**		**00 48 12.6**	**+0.6**	
	comp=Z,1.0nm,0.7s,baz=24,slow=2.2,SNR=3.2									
LUWI	**Luwuk**	**23.76**	**266**	P		**P**		**00 44 26.4**	**-1.7**	
LUWI				IAmb		IAmb		00 44 39.8		
	comp=Z,47nm,0.8s									
BATI	**Baumata**	**25.16**	**244**	P		**P**		**00 44 43.0**	**+2.0**	
	comp=Z,27nm,0.7s,baz=37,slow=5.5,SNR=3.9									
AS31	**Alice Springs**	**27.15**	**206**	P		**P**		**00 44 58.0**	**-0.9**	
ASAR	**Alice Springs**	**27.15**	**206**	P		**P**		**00 45 00.7**	**+1.8**	
	comp=Z,8.8nm,0.9s,baz=30,slow=12,SNR=25									
ASAR				PcP		**PcP**		**00 48 20.9**	**+1.3**	
	comp=Z,1.2nm,0.8s,baz=17,slow=3.4,SNR=3.6									
FITZ	**Fitzroy Crossi**	**27.75**	**227**	P		**P**		**00 45 04.3**	**+0.1**	
	comp=Z,6.5nm,0.9s,baz=34,slow=9.0,SNR=7.5									
FITZ	**Fitzroy Crossi**	**27.75**	**227**	P		**P**		**00 45 04.1**	**-0.2**	
MYLDM	**Lahad Datu**	**28.27**	**280**	P		**P**		**00 45 06.8**	**-2.2**	
JNU	**Nakatsue**	**35.40**	**337**	P		P		00 46 07.0	-4.5	
FORT	**Forrest**	**35.89**	**208**	P		**P**		**00 46 15.8**	**+0.2**	
KSM	**Kuching**	**36.16**	**271**	P		**P**		**00 46 16.3**	**-1.9**	
KSM				IAmb		IAmb		00 46 19.5		
	comp=Z,24nm,1.2s									
KSRS	**Korea Array**	**40.35**	**337**	P		**P**		**00 46 53.0**	**-0.2**	
	comp=Z,1.3nm,0.8s,baz=162,slow=8.7,SNR=4.2									
NJ2	**Nanjing**	**40.62**	**323**	*e*P		**P**		**00 46 56.9**	**+1.5**	
NJ2				pmax		pmax				
	comp=Z,10.0nm,0.5s									
KNTN	**Kanton**	**41.95**	**95**	P		**P**		**00 47 06.6**	**-0.1**	
KNTN				IAmb		IAmb		00 47 13.0		
	comp=Z,38nm,1.1s									
USRK	**Ussuriysk Ar.**	**45.16**	**345**	P		**P**		**00 47 32.5**	**+0.5**	
	comp=Z,1.9nm,0.6s,baz=96,slow=11,SNR=4.5									
KULM	**Kulim**	**45.96

comp=Z,12nm,1.2s
RAGM Ragged Mountai 79.04 28 P **P** **00 51 20.0 +0.5**
RAGM IAmb IAmb 00 51 33.7
comp=Z,23nm,1.4s
ILAR Eielson Array 79.55 24 P **P** **00 51 22.3 +0.1**
comp=Z,2.1nm,0.8s,baz=253,slow=5.8,SNR=12
CHGR Chuyangaron 79.64 309 P **P** **00 51 22.6 -0.7**
CHGR IAmb IAmb 00 51 34.7
comp=Z,17nm,1.0s
GLB Gilahina Butte 79.77 27 P **P** **00 51 23.2 -0.2**
BALM Baldy 80.33 28 P **P** **00 51 26.1 -0.4**
DOT Dot Lake 80.34 25 P **P** **00 51 26.8 +0.3**
TABL Table Mountain 80.74 29 P **P** **00 51 28.0 -0.9**
BRVK Borovoye 81.13 324 P **P** **00 51 30.4 -0.4**
BRVK IAmb IAmb 00 51 32.3
comp=Z,11nm,1.3s
DAWY Dawson 82.44 25 P **P** **00 51 38.8 +1.1**
DAWY IAmb IAmb 00 51 57.6
comp=Z,9.8nm,1.3s
HYT Haines Junctio 82.57 29 P **P** **00 51 38.1 -0.4**
HYT IAmb IAmb 00 51 51.5
comp=Z,6.7nm,1.0s
MOBC Moresby Island 84.35 37 P **P** **00 51 47.3 -0.4**
GEYT Alibeck 88.25 308 P **P** **00 52 08.0 +0.7**
comp=Z,2.5nm,0.8s,baz=207,slow=1.7,SNR=5.0
MOD Modoc Plateau 91.93 48 P **P** **00 52 24.3 -0.2**
B08A Colville Reser 92.26 42 **P** **00 52 25.7 0.0**
D08A Wollman Farm, 92.62 43 P **P** **00 52 27.0 -0.3**
D08A IAmb IAmb 00 52 39.1
comp=Z,9.4nm,1.2s
J08A Circle Bar Ran 93.19 47 P **P** **00 52 27.4 -2.8**
J08A IAmb IAmb 00 52 29.2
comp=Z,7.1nm,0.9s
E09A Wood Farm, Sta 93.19 44 P **P** **00 52 27.0 -3.0**
E09A IAmb IAmb 00 52 37.3
comp=Z,7.7nm,1.1s
RYN Ryan 93.47 51 P **P** **00 52 28.3 -3.4**
F10A Beach Ranch, E 93.87 44 P **P** **00 52 29.4 -3.8**
F10A IAmb IAmb 00 52 30.0
comp=Z,5.8nm,0.9s
SYO Syowa Base 96.68 200 ⇓*e*P **P** **00 52 45.0 -0.4**
SYO Syowa Base 96.68 200 ⇑*e*pP pP 00 52 49.2 +1.9
GERES GERESS Array B 116.04 327 PKP **PKiKP** **00 57 58.7 -0.2**
comp=Z,0.4nm,0.6s,baz=29,slow=2.8,SNR=2.2
LPAZ La Paz 142.56 116 PKP **PKPdf** **00 58 49.4 -1.0**
comp=Z,1.6nm,0.7s,baz=276,slow=0.9,SNR=4.5
CPUP Villa Florida 145.76 140 PKPbc **PKPab** **00 58 57.5 +1.8**
comp=Z,6.5nm,1.0s,baz=267,slow=2.5,SNR=8.6
CPUP Villa Florida 145.76 140 **PKPab** **00 58 57.9 +2.2**
KIC Kosan Boka 150.41 284 *e*PKP1 **PKPbc** **00 59 08.7 +0.5**
comp=Z,45nm,1.1s
DBIC Dimbokro 150.45 285 PKPbc **PKPbc** **00 59 09.0 +0.7**
comp=Z,8.8nm,0.7s,baz=76,slow=2.9,SNR=12
TIC Toumodi 150.61 285 *e*PKP1 **PKPbc** **00 59 09.3 +0.6**
LIC Lamto 150.72 284 *e*PKP1 **PKPbc** **00 59 09.6 +0.7**
comp=Z,77nm,0.9s

*NEIC **03** 00:45:08.4±2.3,0°.77N±0°.09×146°.4E±0°.1,h10km±1km, mb4.6/58,Error ellipse: s-maj=17.9km s-min=15.0km az=77.0*
*IDC **03** 00:45:08.3±0.9,0°.91N×146°.35E,h0km,mb4.3/9, mb1 4.5/9,mb1mx4.1/41,mbtmp4.2/9,Error ellipse: s-maj=37.4km s-min=18.2km az=109.0*
ISC 03 00:45:08.1±0.5,**0°.77N**±0°.08×**146°.42E**±0°.09,**h10**km,**n70,** σ1§**31**/69,**mb4.6**/38,**Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.14**	**176**	Pn	**Pn**	**00 47 35.9**	**+2.1**
FAKI	**Fak Fak**	**14.63**	**255**	Pn	**Pn**	**00 48 33.9**	**-1.4**
MTN	**Manton Dam**	**20.32**	**228**	P	**P**	**00 49 44.7**	**+0.1**
WB0	**Warramunga Arr**	**23.57**	**209**	P	**P**	**00 50 19.9**	**+0.8**
WR0	**Warramunga Arr**	**23.66**	**209**	P	**P**	**00 50 20.4**	**+0.4**
WB2	**Warramunga Arr**	**23.74**	**209**	P	**P**	**00 50 21.6**	**+0.8**
WB2				IAmb	IAmb	00 50 23.2	
	comp=Z,11nm,0.6s						
WRA	**Warramunga Arr**	**23.75**	**209**	P	**P**	**00 50 21.4**	**+0.6**
	comp=Z,7.4nm,0.5s,baz=31,slow=11,SNR=44						
KNRA	**Kununurra**	**23.90**	**226**	P	**P**	**00 50 22.4**	**+0.1**
KNRA				IAmb	IAmb	00 50 34.5	
	comp=Z,16nm,1.1s						
EIDS	**Eidsvold**	**26.38**	**170**	P	**P**	**00 50 43.8**	**-1.0**
EIDS				IAmb	IAmb	00 50 44.9	
	comp=Z,14nm,1.1s						
ASAR	**Alice Springs**	**27.17**	**206**	P	**P**	**00 50 56.2**	**+4.3**
	comp=Z,3.9nm,0.8s,baz=28,slow=12,SNR=22						
FITZ	**Fitzroy Crossi**	**27.74**	**226**	P	**P**	**00 50 58.2**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=85,slow=23,SNR=1.1						
FITZ	**Fitzroy Crossi**	**27.74**	**226**	IAmb	IAmb	00 51 07.6	
	comp=Z,8.3nm,0.9s						
JNU	**Nakatsue**	**35.34**	**337**	P	**P**	**00 52 03.2**	**-0.7**
JNU				IAmb	IAmb	00 52 20.6	
	comp=Z,11nm,1.0s						
KNTN	**Kanton**	**42.00**	**95**	P	**P**	**00 52 59.3**	**-0.7**
NWAO	**Narrogin (SRO)**	**43.37**	**217**	P	**P**	**00 53 09.4**	**-1.4**
NWAO	**Narrogin (SRO)**	**43.37**	**217**	P	**P**	**00 53 09.2**	**-1.6**
NWAO				IAmb	IAmb	00 53 09.4	
	comp=Z,10nm,1.1s						
OUZ	**Omahuta**	**43.89**	**147**	P	**P**	**00 53 15.2**	**+0.1**
MXZ	**Matakaoa Point**	**48.20**	**146**	P	**P**	**00 53 47.4**	**-1.5**
GSI	**Gunungsitoli**	**48.84**	**271**	P	**P**	**00 53 53.1**	**-1.2**
CMAR	**Chiang Mai Arr**	**49.78**	**294**	P	**P**	**00 54 03.2**	**+1.8**
	comp=Z,1.1nm,0.3s,baz=109,slow=5.5,SNR=6.1						
PETK	**Petropavlovsk-**	**53.00**	**8**	P	**P**	**00 54 26.3**	**+1.3**
	comp=Z,2.2nm,0.7s,baz=168,slow=6.8,SNR=6.1						
MCQ	**Macquarie Isla**	**56.05**	**171**	P	**P**	**00 54 46.3**	**-0.7**
KEKH	**Kekaha**	**56.48**	**64**	P	**P**	**00 54 49.4**	**-1.4**
OPA	**Opana**	**57.95**	**65**	P	**P**	**00 55 00.4**	**-0.8**
SONM	**Songino Array**	**58.28**	**329**	P	**P**	**00 55 04.3**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=144,slow=8.3,SNR=7.1						
SDPT	**Sand Point**	**69.28**	**29**	P	**P**	**00 56 16.4**	**+1.0**
GAMB	**Gambell**	**69.96**	**18**	P	**P**	**00 56 22.1**	**+2.7**
SII	**Sitkinak Islan**	**72.97**	**30**	P	**P**	**00 56 38.1**	**+0.3**
ZAA0	**Zalesovo Array**	**73.03**	**327**	P	**P**	**00 56 36.9**	**-1.3**
ZALV	**Zalesovo Beam**	**73.03**	**327**	P	**P**	**00 56 37.7**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=122,slow=7.0,SNR=3.2						
KDAK	**Kodiak Island**	**74.28**	**29**	P	**P**	**00 56 43.6**	**-1.8**
KDAK				IAmb	IAmb	00 56 55.4	
	comp=Z,11nm,1.1s						
SVW2	**Sparrevohn**	**74.39**	**25**	P	**P**	**00 56 44.0**	**-2.0**
TTA	**Tatalina**	**75.10**	**24**	P	**P**	**00 56 51.5**	**+1.3**
NIL	**Nilore**	**75.59**	**304**	P	**P**	**00 56 54.1**	**+0.5**
SKT	**Skwentna**	**76.52**	**25**	P	**P**	**00 56 58.2**	**-0.1**
SUA	**Susitna One**	**76.65**	**26**	P	**P**	**00 56 59.7**	**+0.6**
SUA				IAmb	IAmb	00 57 02.4	
	comp=Z,4.3nm,0.9s						
ARSB	**Arslanbob**	**77.09**	**312**	P	**P**	**00 56 58.8**	**-3.3**
ARSB				IAmb	IAmb	00 57 05.0	
	comp=Z,3.7nm,0.9s						
GHO	**Glory Hole Cre**	**77.57**	**26**	P	**P**	**00 57 05.0**	**+0.7**
GHO				IAmb	IAmb	00 57 15.3	
	comp=Z,4.7nm,0.8s						
KNK	**Knik Glacier**	**77.64**	**27**	P	**P**	**00 57 06.0**	**+1.4**
KNK				IAmb	IAmb	00 57 07.6	
	comp=Z,6.1nm,0.7s						
TRF	**Thorofare Moun**	**77.65**	**24**	P	**P**	**00 57 05.6**	**+0.8**
SML	**Sawmill**	**77.84**	**26**	P	**P**	**00 57 06.4**	**+0.6**
GLI	**Glacier Island**	**78.07**	**27**	P	**P**	**00 57 08.0**	**+1.0**
GLI				IAmb	IAmb	00 57 09.8	
	comp=Z,6.3nm,0.6s						
RND	**Reindeer**	**78.23**	**25**	P	**P**	**00 57 08.1**	**+0.2**
RND				IAmb	IAmb	00 57 10.0	
	comp=Z,5.0nm,0.8s						
FID	**Port Fidalgo**	**78.31**	**28**	P	**P**	**00 57 09.4**	**+1.1**
FID				IAmb	IAmb	00 57 11.1	
	comp=Z,4.6nm,0.8s						
DHY	**Denali Highway**	**78.72**	**25**	P	**P**	**00 57 10.9**	**+0.2**
DHY				IAmb	IAmb	00 57 13.6	
	comp=Z,4.7nm,0.8s						
KLU	**Klutina**	**78.81**	**27**	P	**P**	**00 57 12.2**	**+1.0**
KLU				IAmb	IAmb	00 57 15.0	
	comp=Z,5.3nm,0.7s						
WRH	**Wood River Hil**	**78.94**	**24**	P	**P**	**00 57 12.6**	**+0.9**
WRH				IAmb	IAmb	00 57 20.1	
	comp=Z,4.6nm,0.5s						
CCB	**Clear Creek Bu**	**79.12**	**24**	P	**P**	**00 57 12.7**	**0.0**
COLD	**Coldfoot**	**79.24**	**21**	P	**P**	**00 57 14.2**	**+0.9**
COLD				IAmb	IAmb	00 57 16.8	
	comp=Z,3.4nm,0.6s						
PAX	**Paxson**	**79.50**	**26**	P	**P**	**00 57 15.2**	**+0.3**
IL31		**79.54**	**24**	P	**P**	**00 57 15.8**	**+0.9**
IL31				IAmb	IAmb	00 57 16.3	
	comp=Z,3.7nm,0.6s						
ILAR Eielson Array 79.54 24 P **P** **00 57 15.6 +0.6**
comp=Z,3.5nm,0.5s,baz=251,slow=5.7,SNR=35
CHGR Chuyangaron 79.57 309 P **P** **00 57 15.8 -0.1**
CHGR IAmb IAmb 00 57 17.8
comp=Z,9.6nm,0.7s
GLB Gilahina Butte 79.76 27 P **P** **00 57 17.1 +0.8**
GLB IAmb IAmb 00 57 19.5
comp=Z,4.0nm,0.7s
VRDI Verde Repeater 79.86 28 P **P** **00 57 18.5 +1.5**
CRQM Cirque 79.86 28 P **P** **00 57 18.6 +1.6**
CRQM IAmb IAmb 00 57 20.4
comp=Z,7.8nm,0.7s
RIDG Independent Ri 80.02 25 P **P** **00 57 19.1 +1.4**
RIDG IAmb IAmb 00 57 20.4
comp=Z,7.8nm,1.0s
MENT Mentasta 80.25 26 P **P** **00 57 18.7 -0.2**
MESA MESA 80.27 29 P **P** **00 57 20.1 +0.9**
MESA IAmb IAmb 00 57 26.6
comp=Z,8.1nm,1.0s
BALM Baldy 80.32 28 P **P** **00 57 20.0 +0.6**
BALM IAmb IAmb 00 57 22.6
comp=Z,5.7nm,0.8s
DOT Dot Lake 80.32 25 P **P** **00 57 19.9 +0.6**
YAH Yahtse 80.42 29 P **P** **00 57 18.6 -1.5**
BARN Barnard Glacie 80.64 28 P **P** **00 57 20.7 -0.5**
BARN IAmb IAmb 00 57 24.9
comp=Z,7.2nm,0.6s
TABL Table Mountain 80.72 29 P **P** **00 57 21.5 -0.3**
TABL IAmb IAmb 00 57 25.0
comp=Z,5.2nm,0.7s
CTGM Chitina Glacie 80.77 28 P **P** **00 57 20.6 -1.3**
HYT Haines Junctio 82.56 29 P **P** **00 57 31.4 +0.1**
HYT IAmb IAmb 00 57 35.0
comp=Z,3.0nm,0.8s
BESE Bessie Mountai 83.47 31 P **P** **00 57 34.4 -1.6**
BESE IAmb IAmb 00 57 49.2
comp=Z,4.1nm,1.0s
JIS Juneau Island 83.67 31 P **P** **00 57 34.4 -2.4**
JIS IAmb IAmb 00 57 42.8
comp=Z,2.9nm,0.9s
YKA Yellowknife Ar 93.47 27 P **P** **00 58 25.3 +1.5**
comp=Z,0.8nm,0.9s,baz=290,slow=5.6,SNR=3.3
CPUP Villa Florida 145.82 140 PKPbc **PKiKP** **01 04 51.0 -1.0**
comp=Z,1.4nm,0.8s,baz=202,slow=16,SNR=3.3

*BEO **03** 00:49:31.9±0.5,43°.37N×18°.87E,h9km±8km,ML1.6/7*
RHSSO 03 00:49:30.2±0.2,**43°.43N**×**18°.82E**,**h4**km±3km,**ML1.8**/7, **2C-1D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.24**	**165**	⇑*i*Pg	Pg	00 49 34.9	+0.1
UPM				*e*Sg	Pg	00 49 38.7	+0.8
RUDO	**Rudo**	**0.44**	**65**	⇑*i*Pg	Pg	00 49 38.1	-0.6
RUDO				*e*Sg	Sg	00 49 44.7	+0.3
BRY	**Bratogost**	**0.57**	**201**	*e*Pg	Pg	00 49 40.1	-1.0
BRY				*e*Sg	Sg	00 49 48.6	+0.1
BBLS	**Lazići**	**0.61**	**44**	*e*Pg	Pg	00 49 42.3	+0.4
BBLS				*e*Sg	Sb	00 49 53.3	+0.9
BBLS	**Lazići**	**0.61**	**44**	⇓*i*Pg	Pg	00 49 41.6	-0.3
BBLS				*e*Sg	Sg	00 49 49.9	+0.1
TREB	**Trebinje**	**0.79**	**206**	*e*Pg	Pg	00 49 45.5	+0.1
TREB				*e*Sg	Sb	00 49 56.9	-0.7
TREB	**Trebinje**	**0.79**	**206**	*e*Pg	Pg	00 49 44.3	-1.1
TREB				*e*Sg	Sg	00 49 56.3	+0.6
SJES	**Sjenica**	**0.86**	**101**	*e*Pg	Pg	00 49 46.5	-0.2
SJES				*e*Sg	Sg	00 49 57.3	-0.5
HCY	**Herceg Novi**	**1.01**	**194**	*e*Pg	Pg	00 49 48.9	-0.7
HCY				*e*Sg	Sg	00 50 02.6	-0.1
PDG	**Podgorica**	**1.05**	**162**	*e*Pg	Pg	00 49 49.4	-0.9
PDG				*e*Sg	Sg	00 50 03.2	-0.7
PDG	**Podgorica**	**1.05**	**162**	*e*Pg	Pg	00 49 48.9	-1.4
PDG				*e*Sg	Sg	00 50 03.2	-0.7
DIVS	**Divibare**	**1.08**	**51**	*e*Pg	Pg	00 49 50.7	-0.2
DIVS				*e*Sg	Sn	00 50 07.1	-0.6
DIVS	**Divibare**	**1.08**	**51**	*e*Pg	Pg	00 49 50.3	-0.6
DIVS				*e*Sg	Sg	00 50 04.3	-0.6
TEKS	**Tekeris**	**1.23**	**24**	*e*Pg	Pn	00 49 54.9	+0.7
TEKS				*e*Sg	Sn	00 50 12.1	+0.8
TEKS	**Tekeris**	**1.23**	**24**	*e*Pg	Pg	00 49 51.6	-2.2
TEKS				*e*Sg	Sg	00 50 09.6	-0.1
DRME	**Dracevica, Mon**	**1.27**	**168**	*e*Pg	Pg	00 49 53.5	-1.1
DRME				*e*Sg	Sg	00 50 10.5	-0.6
TRUS	**Trudelj**	**1.39**	**55**	*e*Pg	Pg	00 49 57.6	+0.7
TRUS				*e*Sg	Sn	00 50 15.4	+0.1
GRUS	**Gruza**	**1.45**	**71**	*e*Pg	Pg	00 49 58.5	+0.5
GRUS				*e*Sg	Sg	00 50 18.4	+1.6
SELS	**Selova**	**1.69**	**96**	*e*Pg	Pb	00 50 01.9	0.0
BLY	**Banja Luka**	**1.77**	**319**	*e*Pn	Pn	00 50 01.3	-0.3
BLY				*e*Sn	Sn	00 50 24.4	-0.1

*IDC **03** 00:50:58.7±1.5,0°.55N×145°.64E,h0km,mb4.1/5, mb1 4.4/5,mb1mx3.8/40,mbtmp4.1/5,Error ellipse: s-maj=50.3km s-min=24.0km az=111.0*
*NEIC **03** 00:50:59.5±3.0,0°.65N±0°.09×145°.48E±0°.05,h10km±1km, mb4.9/15,Error ellipse: s-maj=15.1km s-min=7.9km az=11.0*
ISC 03 00:50:59.4±0.7,**0°.60N**±0°.09×**145°.51E**±0°.09,**h10**km,**n24,** σ1§**16**/22,**mb4.6**/13,**Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.07**	**171**	Pn	**Pn**	**00 53 24.5**	**+0.3**
PATS	**Pohnpei**	**14.19**	**64**	Pn	**Pn**	**00 54 21.1**	**+0.5**
ANA2	**Anatahan**	**15.65**	**1**	Pn	**Pn**	**00 54 40.2**	**0.0**
ANA2				IAmb	IAmb	00 54 47.6	
	comp=Z,35nm,0.8s						
SAUI	**Saumlaki**	**16.54**	**239**	Pn	**Pn**	**00 54 50.4**	**-1.2**
LUWI	**Luwuk**	**22.80**	**266**	P	**P**	**00 56 04.0**	**+1.4**
LUWI				IAmb	IAmb	00 56 06.9	
	comp=Z,28nm,0.9s						
WB0	**Warramunga Arr**	**22.99**	**208**	P	**P**	**00 56 05.0**	**+0.6**
WR0	**Warramunga Arr**	**23.09**	**207**	P	**P**	**00 56 05.6**	**+0.1**
WB2	**Warramunga Arr**	**23.16**	**208**	P	**P**	**00 56 07.2**	**+1.0**
WB2				IAmb	IAmb	00 56 18.6	
	comp=Z,9.2nm,0.8s						
WRA	**Warramunga Arr**	**23.16**	**208**	P	**P**	**00 56 07.9**	**+1.6**
	comp=Z,7.1nm,0.7s,baz=31,slow=11,SNR=15						
ASAR	**Alice Springs**	**26.62**	**204**	P	**P**	**00 56 39.6**	**+1.2**
	comp=Z,3.0nm,0.8s,baz=30,slow=8.2,SNR=9.1						
FITZ	**Fitzroy Crossi**	**26.97**	**225**	P	**P**	**00 56 43.1**	**+1.6**
	comp=Z,2.3nm,0.8s,baz=52,slow=8.1,SNR=12						
BKB	**Balikpapan**	**28.67**	**266**	P	**P**	**00 56 57.8**	**+0.9**
BKB				IAmb	IAmb	00 57 02.9	
	comp=Z,82nm,0.9s						
KS19	**Wonju Array Si**	**40.17**	**338**	P	P	00 58 33.4	-2.5
XMIS	**Christmas Isla**	**41.14**	**253**	P	**P**	**00 58 42.7**	**-1.6**
XMIS				IAmb	IAmb	00 59 00.1	
	comp=Z,64nm,0.8s						
MNAI	**Manna**	**42.80**	**263**	P	**P**	**00 58 56.3**	**-1.6**
TAU	**Tasmania Unive**	**43.34**	**178**	P	**P**	**00 59 02.7**	**+1.0**
TAU				IAmb	IAmb	00 59 15.6	
	comp=Z,26nm,1.1s						
PBKT	**Sadao Pong**	**46.66**	**292**	P	**P**	**00 59 27.5**	**-1.1**
PBKT				IAmb	IAmb	00 59 30.8	
	comp=Z,5.6nm,1.0s						
NIUE	**Niue**	**47.90**	**117**	P	**P**	**00 59 36.6**	**-1.6**
CMAR	**Chiang Mai Arr**	**49.02**	**294**	P	**P**	**00 59 48.0**	**+1.1**
	comp=Z,2.3nm,0.3s,baz=138,slow=8.2,SNR=5.2						
CHTO	**Chiang Mai**	**49.12**	**295**	P	**P**	**00 59 47.1**	**-0.5**
MSWZ	**Moikau Station**	**49.74**	**151**	P	**P**	**00 59 52.2**	**+0.1**
LBZ	**Lake Benmore**	**49.88**	**157**	P	**P**	**00 59 51.8**	**-1.3**
LBZ				IAmb	IAmb	01 00 05.3	
	comp=Z,16nm,1.2s						
MLZ	**Mavora Lakes**	**49.95**	**159**	P	P	00 59 51.7	-1.9
MLZ				IAmb	IAmb	00 59 57.1	
	comp=Z,17nm,1.1s						
ILAR	**Eielson Array**	**80.06**	**24**	P	**P**	**01 03 09.7**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=255,slow=5.2,SNR=6.0						

*SOME **03** 00:53:45.2,41°.37N×83°.63E,h5km*
*NNC **03** 00:53:48.1±0.8,41°.41N×83°.54E,h16km±5km,mb4.2, mpv3.8,Error ellipse: s-maj=5.6km s-min=3.9km az=162.0*
ISC 03 00:53:43.0±2.6,**41°.3N**±0°.1×**83°.66E**±0°.08,**h10**km,**n31,** σ1§**42**/44,**4C-5D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.61**	**302**	*e*P	**Pb**	**00 54 46.6**	**-0.3**
	45nm,0.5s						
SHLS				*e*S	**Sb**	**00 55 31.1**	**+0.3**
	130nm,0.5s						
SHLS	**Shalkode**	**3.61**	**302**	Pg	**Pb**	**00 54 46.6**	**-0.3**
	45nm,0.5s						
SHLS				Lg	Lg	00 55 31.1	
	130nm,0.5s						
PDGK	**Podgornoye**	**3.68**	**304**	⇓Pn	**Pn**	**00 54 42.9**	**+2.9**
	24nm,0.7s						
PDGK				⇓Lg	Lg	00 55 41.9	
	98nm,1.0s						
DJR	**Jarkent**	**4.13**	**318**	*e*P	**Pg**	**00 55 01.1**	**-1.0**
	17nm,0.6s						
DJR				*e*S	**Sg**	**00 55 55.9**	**+0.3**
	15nm,0.7s						
DJR	**Jarkent**	**4.13**	**318**	Pg	**Pg**	**00 55 01.1**	**-1.0**
	17nm,0.6s						
DJR				Lg	Lg	00 55 55.9	
	15nm,0.7s						
SATY	**Saty**	**4.27**	**296**	*e*P	**Pg**	**00 55 02.9**	**-1.8**
	15nm,0.3s						
SATY				*e*S	**Sg**	**00 55 58.7**	**-1.2**
	66nm,0.6s						
SATY	**Saty**	**4.27**	**296**	Pg	**Pg**	**00 55 02.9**	**-1.8**
	15nm,0.3s						
SATY				Lg	Lg	00 55 58.7	
	66nm,0.6s						
KURS	**Kuram**	**4.60**	**300**	*e*P	**Pg**	**00 55 09.8**	**-1.2**
	10.0nm,0.6s						
KURS				*e*S	**Sg**	**00 56 10.5**	**-0.1**
	11nm,1.0s						
KURS	**Kuram**	**4.60**	**300**	Pg	**Pg**	**00 55 09.8**	**-1.2**
	10.0nm,0.6s						
KURS				Lg	Lg	00 56 11.2	
	11nm,1.0s						
KAPS	**Kapalarasan**	**5.04**	**323**	*e*P	**Pg**	**00 55 17.9**	**-1.6**
	5.1nm,0.3s						
KAPS				*e*S	**Sg**	**00 56 24.7**	**-0.1**
	16nm,0.6s						
KAPS	**Kapalarasan**	**5.04**	**323**	Pg	**Pg**	**00 55 17.9**	**-1.6**
	5.1nm,0.3s						
KAPS				Lg	Lg	00 56 24.7	
	16nm,0.6s						
ARXS	**Arharly**	**5.17**	**306**	*e*P	**Pg**	**00 55 20.5**	**-1.4**
	3.4nm,0.4s						
ARXS				*e*S	**Sg**	**00 56 29.1**	**+0.3**
	21nm,0.8s						
ARXS	**Arharly**	**5.17**	**306**	Pg	**Pg**	**00 55 20.4**	**-1.5**
ARXS				Lg	Lg	00 56 29.1	
	21nm,0.8s						
KOTS	**Kotyrbulak**	**5.21**	**294**	*e*P	**Pg**	**00 55 21.3**	**-1.5**
	14nm,0.5s						
KOTS				*e*S	**Sg**	**00 56 30.8**	**+0.4**
	53nm,0.7s						
KOTS	**Kotyrbulak**	**5.21**	**294**	Pg	**Pg**	**00 55 21.3**	**-1.5**
	14nm,0.5s						
KOTS				Lg	Lg	00 56 30.8	
	53nm,0.7s						
MDOK	**Medeo**	**5.24**	**293**	*e*P	**Pg**	**00 55 21.4**	**-1.8**
	6.5nm,0.6s						
MDOK				*e*S	**Sg**	**00 56 31.1**	**+0.1**
	21nm,0.7s						
MDOK	**Medeo**	**5.24**	**293**	⇑Pg	**Pg**	**00 55 22.6**	**-0.7**
	8.6nm,1.0s						
MDOK				⇓Lg	Lg	00 56 31.8	
	23nm,0.7s						
MDOK	**Medeo**	**5.24**	**293**	Pg	**Pg**	**00 55 21.4**	**-1.8**
	6.5nm,0.6s						
MDOK				Lg	Lg	00 56 31.1	
	21nm,0.7s						
TNSS	**Tian-Shan**	**5.27**	**291**	*e*P	**Pg**	**00 55 22.8**	**-1.0**
	8.0nm,0.5s						
TNSS				*e*S	**Sg**	**00 56 33.3**	**+1.2**
	13nm,0.6s						
TNSS	**Tian-Shan**	**5.27**	**291**	Pg	**Pg**	**00 55 22.8**	**-1.0**
	8.0nm,0.5s						
TNSS				Lg	Lg	00 56 33.3	
	13nm,0.6s						
CHKK	**Chushkaly**	**5.53**	**299**	*e*P	**Pg**	**00 55 27.3**	**-1.6**
	3.1nm,0.2s						
CHKK				⇓*e*S	**Sg**	**00 56 41.0**	**+0.6**
	15nm,0.6s						
CHKK	**Chushkaly**	**5.53**	**299**	Pg	**Pg**	**00 55 27.3**	**-1.6**
	3.1nm,0.2s						
CHKK				Lg	Lg	00 56 41.0	
	15nm,0.6s						
MK31	**Makanchi Array**	**5.55**	**350**	⇑Pg	**Pg**	**00 55 27.9**	**-1.3**
	1.9nm,0.5s,baz=158,slow=16,SNR=4.8						
MK31				⇑Lg	Lg	00 56 40.5	
	5.7nm,0.5s,baz=160,slow=27,SNR=3.7						
MTBS	**Maitube**	**5.66**	**291**	*e*P	**Pg**	**00 55 29.4**	**-1.9**
	2.7nm,0.2s						
MTBS				*e*S	**Sg**	**00 56 44.5**	**0.0**
	13nm,0.3s						
MTBS	**Maitube**	**5.66**	**291**	Pg	**Pg**	**00 55 29.4**	**-1.9**
	2.7nm,0.2s						
MTBS				Lg	Lg	00 56 44.5	
	13nm,0.3s						
KTBS	**Karatobe**	**5.68**	**297**	*e*P	**Pg**	**00 55 29.8**	**-1.8**
	2.4nm,0.7s						
KTBS				*e*S	**Sg**	**00 56 45.5**	**+0.4**
	30nm,0.7s						
KTBS	**Karatobe**	**5.68**	**297**	Pg	**Pg**	**00 55 29.8**	**-1.8**
	2.4nm,0.7s						
KTBS				Lg	Lg	00 56 45.5	
	30nm,0.7s						
KST	**Kastek**	**5.97**	**289**	*e*P	**Pg**	**00 55 35.3**	**-1.9**
	7.0nm,0.5s						
KST				*e*S	**Sg**	**00 56 54.6**	**+0.2**
	14nm,0.8s						
KST	**Kastek**	**5.97**	**289**	Pg	**Pg**	**00 55 35.3**	**-1.9**
	7.0nm,0.5s						
KST				Lg	Lg	00 56 54.7	
	14nm,0.8s						
ZSN	**Zaisan**	**6.18**	**8**	Pg	**Pg**	**00 55 39.4**	**-1.8**
	6.3nm,0.3s						
ZSN				Lg	Lg	00 57 01.7	
	20nm,0.8s						
TKM2	**Tokmak 2**	**6.20**	**288**	⇑Pg	**Pg**	**00 55 39.4**	**-2.3**
	2.5nm,0.7s						
TKM2				⇓Lg	Lg	00 57 01.4	
	14nm,0.8s						

*IDC **03** 00:54:51.1±1.9,37°.97N×142°.58E,h0km,mb3.8/2, mb1 3.7/5,mb1mx3.4/52,mbtmp3.6/5,ML2.8/3,Error ellipse: s-maj=41.7km s-min=27.3km az=104.0*
*NEIC **03** 00:54:56.8±2.2,37°.91N±0°.05×142°.4E±0°.1,h58km±9km, mb4.5/6,Error ell

MJAR	**Matsushiro Arr**	**3.32**	**244**	Pn		**Pn**	**00 55 49.9**	**+2.3**
	0.2nm,0.3s,baz=287,slow=14,SNR=4.2							
MJAR				Sn		Sn	00 56 36.5	+11
	0.2nm,0.3s,baz=254,slow=23,SNR=1.6							
MAJO	**Matsushiro**	**3.33**	**244**	Pn		**Pn**	**00 55 50.9**	**+3.4**
MAT	**Matsushiro**	**3.33**	**244**	P		**Pn**	**00 55 50.0**	**+2.4**
MAT				*e*S		**Sn**	**00 56 31.3**	**+5.5**
MJB9	**Matsu-Tunnel**	**3.33**	**244**	Pn		Pn	00 55 51.5	+3.9
ERM	**Erimo**	**4.07**	**13**	Pn		**Pn**	**00 55 58.1**	**+0.4**
INU	**Inuyama**	**4.78**	**237**	Pn		**Pn**	**00 56 08.5**	**+1.0**
ASAJ	**Asahikawa**	**6.08**	**5**	Pn		**Pn**	**00 56 25.3**	**+0.1**
	0.5nm,0.3s,baz=287,slow=29,SNR=2.2							
ASAJ				Sn		**Sn**	**00 57 39.2**	**+5.8**
	0.4nm,0.3s,baz=131,slow=26,SNR=1.7							
JKA	**Kamikawa-asahi**	**6.08**	**5**			**Pn**	**00 56 25.3**	**+0.1**
YSS	**Yuzh-Sakhalins**	**8.91**	**4**	Pn		**Pn**	**00 57 07.1**	**+3.0**
USA0B	**Ussuriysk Arra**	**9.68**	**312**	Pn		**Pn**	**00 57 18.4**	**+3.8**
USRK	**Ussuriysk Ar.**	**9.68**	**312**	Pn		**Pn**	**00 57 18.5**	**+3.9**
	baz=121,slow=14,SNR=3.9							
SSLB	**Suanglung**	**22.86**	**238**	P		**P**	**00 59 58.0**	**+1.1**
SSLB				IAmb		IAmb	01 00 06.2	
	comp=Z,12nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**28.34**	**123**	T		T	01 31 09.8	
	baz=316,slow=76,SNR=29							
H11N1	**WAKE ISLAND Hy**	**28.35**	**123**	T		T	01 31 10.5	
	baz=316,slow=76,SNR=44							
H11N3	**WAKE ISLAND Hy**	**28.36**	**123**	T		T	01 31 11.2	
	baz=316,slow=76,SNR=26							
H11S1	**WAKE ISLAND Hy**	**29.09**	**125**	T		T	01 32 01.6	
	baz=318,slow=76,SNR=19							
H11S3	**WAKE ISLAND Hy**	**29.10**	**125**	T		T	01 32 07.2	
	baz=318,slow=76,SNR=23							
H11S2	**WAKE ISLAND Hy**	**29.11**	**125**	T		T	01 32 02.9	
	baz=318,slow=76,SNR=23							
BILL	**Bilibino**	**32.93**	**17**	P		**P**	**01 01 25.8**	**-1.1**
BILL				IAmb		IAmb	01 01 27.1	
	comp=Z,16nm,1.0s							
QIZ	**Qiongzhong**	**33.72**	**245**	P		**P**	**01 01 34.9**	**+0.6**
QIZ				IAmb		IAmb	01 01 50.9	
	comp=Z,4.0nm,0.9s							
WRA	**Warramunga Arr**	**58.13**	**188**	P		**P**	**01 04 46.9**	**+0.7**
	comp=Z,1.1nm,1.0s,baz=6,0,slow=4.4,SNR=1.4							
ARCES	**ARCESS Array B**	**63.19**	**339**	P		**P**	**01 05 21.2**	**+1.2**
	comp=Z,1.4nm,0.9s,baz=48,slow=7.3,SNR=4.6							
NC602	**NORSAR Array S**	**73.54**	**337**	P		**P**	**01 06 22.8**	**-2.0**
PMPB	**Monarch Peak**	**73.73**	**57**	P		**P**	**01 06 24.6**	**-1.9**
PMPB				IAmb		IAmb	01 06 37.0	
	comp=Z,7.3nm,0.9s							
CCX	**Cicese**	**79.07**	**58**	P		P	01 06 52.0	-4.7
LENM	**Lemitar**	**83.83**	**51**	P		**P**	**01 07 19.4**	**-2.7**

IDC 03 00:56:58.5±1.6, 0.74N×146.59E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/40, mbtmp3.7/3, Error ellipse: s-maj=148.5km s-min=26.9km az=117.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.80**	**210**	P	P	01 02 13.5	+0.2
	1.2nm,0.6s,baz=31,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**27.21**	**206**	P	P	01 02 46.1	+1.8
	0.7nm,0.8s,baz=38,slow=11,SNR=1.8						
ILAR	**Eielson Array**	**79.50**	**24**	P	P	01 09 05.8	-1.1
	0.7nm,0.6s,baz=243,slow=5.4,SNR=6.3						

*NNC **03** 00:59:19.6±0.8, 42.°61N×73.°23E, h6km±5km, mb3.6, mpv3.5, Error ellipse: s-maj=9.3km s-min=4.1km az=4.0*
*KRNET **03** 00:59:21.0±0.1, 42.°70N×73.°25E, h18km, mb3.0*
*SOME **03** 00:59:21.1, 42.°70N×73.°28E, h10km*
*KNET **03** 00:59:22.4±0.9, 42.°70N×73.°38E, h0km, ml2.1, Error ellipse: s-maj=6.1km s-min=3.7km az=105.0*
ISC 03 00:59:21.7±0.8, 42.°69N±0.°03×73.°28E±0.°02, h15km±4km, n70, σ1§36/117, 31C-33D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.06**	**323**	⇑*e*P	**Pg**	**00 59 24.2**	**-0.5**
MRKS	baz=37			⇑*e*S	**Sg**	**00 59 26.4**	**-0.4**
MRKS	**Merke**	**0.06**	**323**	⇑*e*P	**Pg**	**00 59 24.2**	**-0.5**
MRKS	baz=37 2μm,0.1s			*e*S	**Sg**	**00 59 26.5**	**-0.4**
MRKS	**Merke**	**0.06**	**323**	P	**Pg**	**00 59 24.2**	**-0.5**
MRKS	2μm,0.1s			S	**Sg**	**00 59 26.4**	**-0.4**
EKS2	**Erkin-Say**	**0.37**	**95**	⇑*i*P	**Pb**	**00 59 29.1**	**-0.9**
EKS2	baz=96			⇑*i*S	**Sg**	**00 59 34.4**	**-0.1**
EKS2	**Erkin-Say**	**0.37**	**95**	⇑P	**Pb**	**00 59 29.1**	**-0.9**
EKS2	11nm,0.1s,SNR=91 242nm,0.1s			⇑S	**Sb**	**00 59 34.6**	**-1.0**
AML	**Almayashu**	**0.64**	**151**	⇓*e*P	**Pg**	**00 59 33.5**	**-0.9**
AML	baz=50			⇓*i*S	**Sg**	**00 59 42.7**	**-0.2**
AML	**Almayashu**	**0.64**	**151**	⇓P	**Pg**	**00 59 33.5**	**-0.9**
AML	7.6nm,0.1s,SNR=59 74nm,0.1s			⇓S	**Sg**	**00 59 42.5**	**-0.4**
AAK	**Ala-Archa**	**0.90**	**93**	⇑*i*P	**Pg**	**00 59 38.5**	**-0.6**
AAK	baz=94			⇑*i*S	**Sg**	**00 59 50.4**	**-0.6**
AAK	**Ala-Archa**	**0.90**	**93**	⇑P	**Pb**	**00 59 39.0**	**-0.1**
AAK	19nm,0.1s,SNR=19 26nm,0.2s			⇓S	**Sb**	**00 59 51.1**	**+0.2**
AAK	**Ala-Archa**	**0.90**	**93**	⇑P	**Pb**	**00 59 38.7**	**-0.4**
AAK	6.8nm,0.3s 15nm,0.3s			⇓S	**Sb**	**00 59 50.7**	**-0.3**
FRU1	**Bishkek**	**1.00**	**83**	⇑*i*P	**Pg**	**00 59 39.9**	**-1.2**
FRU1	baz=83			⇑*i*S	**Sb**	**00 59 53.7**	**-0.1**
UCH	**Uchtor**	**1.03**	**117**	⇓*i*P	**Pg**	**00 59 40.7**	**-0.9**
UCH	baz=17			⇓*i*S	**Sb**	**00 59 54.8**	**-0.1**
UCH	**Uchtor**	**1.03**	**117**	⇑P	**Pg**	**00 59 40.9**	**-0.7**
UCH	3.4nm,0.1s,SNR=25 24nm,0.2s			⇓S	**Sb**	**00 59 55.1**	**+0.2**
USP	**Ospenovka**	**1.06**	**57**	⇓*i*P	**Pg**	**00 59 40.9**	**-1.3**
USP	baz=58			⇓*i*S	**Sg**	**00 59 55.1**	**-1.1**
USP	**Ospenovka**	**1.06**	**57**	⇓P	**Pg**	**00 59 41.0**	**-1.2**
USP	34nm,0.2s,SNR=63 78nm,0.3s			⇓S	**Sb**	**00 59 55.5**	**-0.1**
CHMS	**Chumysh**	**1.13**	**74**	⇓*i*P	**Pb**	**00 59 42.0**	**-0.9**
CHMS	baz=75			⇓*i*S	**Sg**	**00 59 57.2**	**-0.9**
CHMS	**Chumysh**	**1.13**	**74**	⇑P	**Pb**	**00 59 41.9**	**-1.0**
	13nm,0.1s,SNR=19						
ARLS	**Aral**	**1.14**	**137**	⇓*i*P	**Pb**	**00 59 42.3**	**-0.9**
ARLS	baz=36			⇓*i*S	**Sg**	**00 59 57.7**	**-0.8**
KBK	**Karagaybulak**	**1.23**	**91**	⇓*i*P	**Pn**	**00 59 44.2**	**-0.3**
KBK	baz=92			⇓*i*S	**Sg**	**01 00 00.8**	**-0.7**
KBK	**Karagaybulak**	**1.23**	**91**	⇑P	**Pg**	**00 59 44.7**	**-0.8**
KBK	22nm,0.1s,SNR=7.3 66nm,0.2s			⇓S	**Sn**	**01 00 01.4**	**+0.3**
SGDS	**Sogindy**	**1.25**	**52**	P	**Pn**	**00 59 44.1**	**-0.5**
SGDS	28nm,0.1s 65nm,0.2s			S	**Sg**	**01 00 00.9**	**-1.1**
ARK	**Arkit**	**1.32**	**228**	⇓*i*P	**Pn**	**00 59 45.5**	**-0.3**
ARK	baz=26 baz=26			⇓*i*S	**Sb**	**01 00 03.3**	**+0.2**
ARSB	**Arslanbob**	**1.39**	**189**	⇓*i*P	**Pn**	**00 59 47.0**	**+0.4**
	baz=88						
DZA	**Taraz**	**1.45**	**279**	*e*P	**Pn**	**00 59 46.7**	**-0.7**
DZA	baz=78			*e*S	**Sn**	**01 00 05.6**	**-0.5**
DZA	**Taraz**	**1.45**	**279**	*e*P	**Pn**	**00 59 46.7**	**-0.7**
DZA	37nm,0.1s 150nm,0.2s			*e*S	**Sn**	**01 00 05.6**	**-0.5**
DZA	**Taraz**	**1.45**	**279**	P	**Pn**	**00 59 46.7**	**-0.7**
KZA	**Kyzart**	**1.58**	**112**	⇓*i*P	**Pb**	**00 59 50.6**	**-0.3**
KZA	baz=12 baz=12			⇓*i*S	**Sg**	**01 00 11.9**	**-0.9**
KZA	**Kyzart**	**1.58**	**112**	⇑P	**Pg**	**00 59 52.0**	**-0.2**
	16nm,0.3s,SNR=11						
TKM2	**Tokmak 2**	**1.72**	**82**	⇑*i*P	**Pb**	**00 59 52.4**	**-0.7**
TKM2	baz=82 baz=82			⇑*i*S	**Sg**	**01 00 15.6**	**-1.5**
TKM2	**Tokmak 2**	**1.72**	**82**	⇑P	**Pn**	**00 59 51.4**	**+0.1**
TKM2	6.5nm,0.3s 24nm,0.3s			⇓S	**Sg**	**01 00 15.6**	**-1.5**
DGS	**Degeres**	**1.91**	**73**	⇓*e*P	**Pb**	**00 59 55.6**	**-0.7**
DGS	16nm,0.1s 64nm,0.3s			*e*S	**Sb**	**01 00 21.1**	**+1.1**
DGS	**Degeres**	**1.91**	**73**	Pg	**Pb**	**00 59 55.6**	**-0.7**
DGS	16nm,0.1s 64nm,0.3s			Lg	Lg	01 00 21.1	
BOOM	**Boomskoye usch**	**1.98**	**95**	⇑*i*P	**Pb**	**00 59 56.1**	**-1.4**
BOOM	baz=95 baz=95			⇑*i*S	**Sb**	**01 00 21.3**	**-0.7**
KST	**Kastek**	**2.00**	**79**	*e*P	**Pb**	**00 59 57.4**	**-0.5**
KST	baz=79 baz=79			*e*S	**Sg**	**01 00 24.2**	**-2.0**
KST	**Kastek**	**2.00**	**79**	*e*P	**Pb**	**00 59 57.4**	**-0.5**
KST	35nm,0.3s 93nm,0.3s			*e*S	**Sg**	**01 00 24.1**	**-2.0**
KST	**Kastek**	**2.00**	**79**	Pg	**Pb**	**00 59 57.4**	**-0.5**
KST	35nm,0.3s 93nm,0.3s			Lg	Lg	01 00 24.2	
KRBS	**Karabastau**	**2.02**	**59**	*e*P	**Pb**	**00 59 57.6**	**-0.5**
KRBS	14nm,0.2s 23nm,0.3s			*e*S	**Sb**	**01 00 23.9**	**+0.8**
KRBS	**Karabastau**	**2.02**	**59**	Pg	**Pb**	**00 59 57.6**	**-0.5**
KRBS	14nm,0.2s 23nm,0.3s			Lg	Lg	01 00 23.9	
KK31	**Karatay Array**	**2.07**	**282**	⇑Pn	**Pn**	**00 59 55.7**	**-0.3**
KK31	1.8nm,0.3s,baz=101,slow=17,SNR=78 21nm,0.3s,baz=112,slow=28,SNR=15			Sn	**Sb**	**01 00 23.6**	**-1.0**
ULHL	**Ulahol**	**2.24**	**101**	⇑*i*P	**Pb**	**01 00 00.1**	**-1.8**
ULHL	baz=1.0 baz=1.0			⇑*i*S	**Sb**	**01 00 28.1**	**-1.4**
MTBS	**Maitube**	**2.36**	**78**	*e*P	**Pb**	**01 00 03.7**	**-0.2**
MTBS	5.9nm,0.2s 24nm,0.3s			*e*S	**Sg**	**01 00 35.1**	**-2.3**
MTBS	**Maitube**	**2.36**	**78**	Pg	**Pb**	**01 00 03.7**	**-0.2**
MTBS	5.9nm,0.2s 24nm,0.3s			Lg	Lg	01 00 35.1	
IUG	**luzhnay**	**2.46**	**258**	*e*P	**Pb**	**01 00 06.0**	**+0.2**
IUG	8.1nm,0.3s 80nm,0.3s			*e*S	**Sb**	**01 00 38.2**	**+2.3**
IUG	**luzhnay**	**2.46**	**258**	Pg	**Pb**	**01 00 04.2**	**-1.5**
IUG	8.1nm,0.3s 80nm,0.3s			Lg	Lg	01 00 35.4	
KUU	**Kurty**	**2.54**	**61**	*e*P	**Pb**	**01 00 06.8**	**-0.2**
KUU	6.4nm,0.1s 30nm,0.3s			*e*S	**Sb**	**01 00 40.0**	**+2.1**
KUU	**Kurty**	**2.54**	**61**	Pg	**Pb**	**01 00 06.7**	**-0.2**
KUU	6.4nm,0.1s 30nm,0.3s			Lg	Lg	01 00 40.0	
BRLS	**Borolday**	**2.55**	**279**	*e*P	**Pb**	**01 00 08.3**	**+1.1**
BRLS	1.1nm,0.1s 16nm,0.4s			*e*S	**Sg**	**01 00 42.4**	**-1.3**
BRLS	**Borolday**	**2.55**	**279**	Pg	**Pb**	**01 00 08.3**	**+1.1**
BRLS	1.1nm,0.1s 16nm,0.4s			Lg	Lg	01 00 42.4	
KTBS	**Karatobe**	**2.69**	**67**	*e*P	**Pb**	**01 00 09.7**	**+0.2**
KTBS	4.1nm,0.5s 36nm,0.4s			*e*S	**Sb**	**01 00 44.3**	**+2.0**
KTBS	**Karatobe**	**2.69**	**67**	Pg	**Pb**	**01 00 09.7**	**+0.2**
KTBS	4.1nm,0.5s 36nm,0.4s			Lg	Lg	01 00 44.3	
TNSS	**Tian-Shan**	**2.72**	**82**	*e*P	**Pb**	**01 00 09.7**	**-0.5**
TNSS	2.1nm,0.1s 35nm,0.5s			*e*S	**Sb**	**01 00 45.3**	**+1.7**
TNSS	**Tian-Shan**	**2.72**	**82**	Pg	**Pb**	**01 00 09.7**	**-0.5**
TNSS	2.1nm,0.1s 35nm,0.5s			Lg	Lg	01 00 45.3	
KNDC	**Almaty**	**2.76**	**78**	⇓Lg	Lg	01 00 48.2	
MDOK	**Medeo**	**2.81**	**79**	*e*P	**Pb**	**01 00 11.6**	**0.0**
MDOK	1.7nm,0.4s 16nm,0.4s			*e*S	**Sb**	**01 00 48.3**	**+2.4**
MDOK	**Medeo**	**2.81**	**79**	⇑Pn	**Pn**	**01 00 05.3**	**-0.9**
MDOK	3.8nm,0.6s 16nm,0.7s			⇑Lg	Lg	01 00 49.6	
MDOK	**Medeo**	**2.81**	**79**	Pg	**Pb**	**01 00 11.6**	**0.0**
MDOK	1.7nm,0.4s 16nm,0.4s			Lg	Lg	01 00 48.3	
KOTS	**Kotyrbulak**	**2.87**	**78**	*e*P	**Pb**	**01 00 12.7**	**+0.1**
KOTS	4.2nm,0.1s 18nm,0.4s			*e*S	**Sb**	**01 00 50.1**	**+2.6**
KOTS	**Kotyrbulak**	**2.87**	**78**	Pg	**Pb**	**01 00 12.7**	**+0.1**
KOTS	4.2nm,0.1s 18nm,0.4s			Lg	Lg	01 00 50.1	
KDJ	**Kajisay**	**2.94**	**100**	⇓*i*P	**Pn**	**01 00 09.9**	**+1.8**
KDJ	baz=0.0 baz=0.0			⇓*i*S	**Sn**	**01 00 45.7**	**+2.4**
CHKK	**Chushkaly**	**2.95**	**66**	⇓*e*P	**Pb**	**01 00 14.6**	**+0.7**
CHKK	2.1nm,0.3s 22nm,0.2s			*e*S	**Sg**	**01 00 53.5**	**-2.9**
CHKK	**Chushkaly**	**2.95**	**66**	Pg	**Pb**	**01 00 14.6**	**+0.7**
CHKK	2.1nm,0.3s 22nm,0.2s			Lg	Lg	01 00 53.5	
BTK	**Batken**	**3.22**	**216**	⇑*i*P	**Pn**	**01 00 13.0**	**+1.2**
BTK	baz=15 baz=15			⇑*i*S	**Sn**	**01 00 50.8**	**+0.9**
ANVS	**Anan'yevo**	**3.23**	**87**	⇑*i*P	**Pn**	**01 00 14.2**	**+2.1**
ANVS	baz=87 baz=87			⇑*i*S	**Sn**	**01 00 52.4**	**+2.0**
KURS	**Kuram**	**3.67**	**76**	*e*P	**Pb**	**01 00 27.2**	**+0.9**
KURS	2.1nm,0.5s 5.1nm,0.3s			*e*S	**Sb**	**01 01 14.6**	**+4.0**
KURS	**Kuram**	**3.67**	**76**	Pg	**Pb**	**01 00 27.2**	**+0.9**
KURS	6.8nm,0.8s 2.7nm,0.4s			Lg	Lg	01 01 14.6	
SATY	**Saty**	**3.79**	**83**	*e*P	**Pb**	**01 00 29.1**	**+0.8**
SATY	2.1nm,0.1s 8.4nm,0.2s			*e*S	**Sb**	**01 01 18.1**	**+4.1**
SATY	**Saty**	**3.79**	**83**	Pg	**Pb**	**01 00 29.0**	**+0.8**
SATY	2.1nm,0.1s 8.4nm,0.2s			Lg	Lg	01 01 18.1	
KAPS	**Kapalarasan**	**5.09**	**57**	*e*P	**Pb**	**01 00 53.9**	**+3.4**
KAPS	1.8nm,0.5s 7.1nm,0.3s			*e*S	**Sg**	**01 01 59.9**	**-5.3**
KAPS	**Kapalarasan**	**5.09**	**57**	Pg	**Pb**	**01 00 53.9**	**+3.4**
KAPS	1.8nm,0.5s 7.1nm,0.3s			Lg	Lg	01 01 60.0	
OTUK	**Ortayu**	**5.59**	**354**	⇓Lg	Lg	01 02 18.0	
	9.6nm,0.7s						

IDC 03 01:02:06.1±3.2, 1.°41S×137.°98E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/40, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=428.5km s-min=30.9km az=105.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.76**	**191**	P	P	01 06 26.2	-0.7
	0.3nm,0.3s,baz=10,slow=12,SNR=11						
ASAR	**Alice Springs**	**22.47**	**190**	P	P	01 07 07.8	+0.5
	0.3nm,0.3s,baz=15,slow=10,SNR=8.0						
ILAR	**Eielson Array**	**84.96**	**25**	P	P	01 14 43.0	-0.1
	0.3nm,0.8s,baz=270,slow=4.5,SNR=4.1						

*IDC **03** 01:03:09.1±1.1, 0.°77N×146.°50E, h0km, mb4.2/7, mb1 4.4/7, mb1mx3.9/44, mbtmp4.2/7, Error ellipse: s-maj=46.1km s-min=19.0km az=110.0*
ISC 03 01:03:10.7±1.1, 0.8N±0.°2×146.5E±0.°3, h10km, n8, σ0§61/7, mb4.1/7, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.64**	**241**	Sn	Sn	01 05 52.5	-12
	1.2nm,0.3s,baz=359,slow=22,SNR=2.4						
WRA	**Warramunga Arr**	**23.78**	**209**	P	**P**	**01 08 23.4**	**-0.4**
	5.0nm,0.6s,baz=31,slow=11,SNR=22						
ASAR	**Alice Springs**	**27.20**	**206**	P	**P**	**01 08 55.4**	**+0.6**
	3.5nm,1.0s,baz=32,slow=7.6,SNR=9.5						
FITZ	**Fitzroy Crossi**	**27.79**	**227**	P	**P**	**01 08 59.4**	**-0.7**
	2.2nm,0.8s,baz=33,slow=12,SNR=8.4						
STKA	**Stephens Creek**	**32.80**	**188**	P	**P**	**01 09 44.6**	**+0.2**
	0.6nm,0.3s,baz=12,slow=13,SNR=2.8						
CMAR	**Chiang Mai Arr**	**49.84**	**294**	P	**P**	**01 12 04.7**	**+0.2**
	1.6nm,0.4s,baz=108,slow=6.2,SNR=7.8						
PETK	**Petropavlovsk-**	**52.99**	**8**	P	**P**	**01 12 27.9**	**+0.4**
	2.0nm,0.6s,baz=159,slow=5.6,SNR=7.0						
ILAR	**Eielson Array**	**79.51**	**24**	P	**P**	**01 15 16.9**	**-0.5**
	1.0nm,0.8s,baz=246,slow=5.7,SNR=7.6						

*IDC **03** 01:09:39.3±0.7, 7.°39S×156.°02E, h0km, mb4.3/15, mb1 4.3/16, mb1mx4.2/41, mbtmp4.3/16, ML4.4/1, MS4.8/1, Ms1 4.8/1, ms1mx3.9/39, Error ellipse: s-maj=23.8km s-min=17.0km az=100.0*
*NEIC **03** 01:09:40.5±1.8, 7.°47S±0.°05×155.°83E±0.°05, h10km±1km, mb4.8/10, Error ellipse: s-maj=10.6km s-min=6.3km az=225.0*
ISC 03 01:09:40.9±0.5, 7.°48S±0.°09×155.°92E±0.°07, h10km, n41, σ1§43/37, mb4.3/16, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.43**	**116**	Pn	**Pn**	**01 10 47.8**	**-0.4**
	19nm,0.3s,baz=172,slow=2.3,SNR=2.0						
HNR				Sn	**Sb**	**01 11 51.8**	**-0.7**
	14nm,0.3s,baz=60,slow=9.5,SNR=6.5						
HNR	**Honiara**	**4.43**	**116**	Pn	**Pn**	**01 10 47.4**	**-0.9**
HNR					**Sb**	**01 11 55.0**	**+2.5**
RABL	**Rabaul**	**4.96**	**311**	Pn	**Pn**	**01 10 54.5**	**-1.1**
KRVT	**Keravat (AS076**	**4.99**	**309**	Pn	**Pn**	**01 11 00.5**	**+4.5**
	2.5nm,0.3s,baz=61,slow=23,SNR=1.4						
PMG	**Port Moresby**	**8.87**	**257**	Pn	**Pn**	**01 11 47.4**	**-1.9**
JAY	**Jayapura**	**15.93**	**287**	LR	LR	01 19 38.9	
	comp=Z,3μm,18.4s,baz=297,slow=38						
WB2	**Warramunga Arr**	**24.30**	**237**	P	**P**	**01 14 59.0**	**+0.1**
WB2				IAmb	IAmb	01 15 08.6	
	comp=Z,57nm,1.9s						
WRA	**Warramunga Arr**	**24.31**	**237**	P	**P**	**01 14 59.8**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=63,slow=9.7,SNR=8.1						
ASAR	**Alice Springs**	**26.55**	**230**	P	**P**	**01 15 19.7**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=56,slow=10,SNR=5.9						
STKA	**Stephens Creek**	**27.70**	**207**	P	**P**	**01 15 30.7**	**+1.3**
	comp=Z,1.0nm,0.4s,baz=38,slow=19,SNR=2.0						
H11S3	**WAKE ISLAND Hy**	**27.91**	**22**	T	T	01 44 07.3	
	baz=202,slow=75,SNR=34						
H11S2	**WAKE ISLAND Hy**	**27.92**	**22**	T	T	01 43 50.2	
	baz=202,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**27.93**	**22**	T	T	01 44 04.1	
	baz=202,slow=75,SNR=11						
FITZ	**Fitzroy Crossi**	**31.30**	**247**	P	**P**	**01 16 03.4**	**+1.9**
	comp=Z,3.7nm,1.1s,baz=158,slow=23,SNR=2.2						
FITZ	**Fitzroy Crossi**	**31.30**	**247**	P	**P**	**01 15 60.0**	**-1.6**
MJAR	**Matsushiro Arr**	**46.84**	**340**	P	**P**	**01 18 10.1**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=166,slow=8.4,SNR=8.2						
KSRS	**Korea Array**	**51.80**	**332**	P	**P**	**01 18 47.7**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=156,slow=6.4,SNR=6.1						
USRK	**Ussuriysk Ar.**	**55.80**	**339**	P	**P**	**01 19 18.7**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=159,slow=8.5,SNR=4.5						
PETK	**Petropavlovsk-**	**60.37**	**1**	P	**P**	**01 19 50.5**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=157,slow=7.9,SNR=6.9						
CMAR	**Chiang Mai Arr**	**61.82**	**295**	P	**P**	**01 20 01.4**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=101,slow=4.7,SNR=1.4						
ULN	**Ulaanbaatar**	**69.90**	**327**	P	**P**	**01 20 52.1**	**-0.2**
SONM	**Songino Array**	**70.24**	**327**	P	**P**	**01 20 55.1**	**+0.7**
	comp=Z,6.7nm,0.8s,baz=132,slow=6.0,SNR=25						
SHL	**Shillong**	**70.33**	**300**	P	**P**	**01 20 55.0**	**-0.5**
QSPA	**South Pole Qui**	**82.50**	**180**	P	**P**	**01 22 04.2**	**+0.5**
	comp=Z,2.9nm,1.0s,baz=340,slow=2.1,SNR=3.8						
QSPA	**South Pole Qui**	**82.50**	**180**	IAmb	IAmb	01 22 12.4	
	comp=Z,6.5nm,1.1s						
ILAR	**Eielson Array**	**83.49**	**21**	P	**P**	**01 22 07.0**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=248,slow=5.8,SNR=5.0						
MK31	**Makanchi Array**	**84.37**	**319**	P	**P**	**01 22 12.6**	**-1.0**
MKAR	**Makanchi Array**	**84.37**	**319**	P	**P**	**01 22 13.6**	**0.0**
	comp=Z,9.5nm,0.8s,baz=104,slow=6.0,SNR=60						
MAKZ	**Makanchi**	**84.58**	**318**	P	**P**	**01 22 13.4**	**-1.2**
ZAA0	**Zalesovo Array**	**85.09**	**326**	P	**P**	**01 22 15.9**	**-1.1**
ZALV	**Zalesovo Beam**	**85.09**	**326**	P	**P**	**01 22 15.8**	**-1.1**
	comp=Z,7.9nm,0.8s,baz=111,slow=5.5,SNR=28						
PRZ	**Przheval'sk**	**85.90**	**314**	P	**P**	**01 22 20.8**	**-0.7**
KURK	**Kurchatov**	**87.78**	**322**	P	**P**	**01 22 28.9**	**-1.3**
SYO	**Syowa Base**	**92.17**	**199**	⇓*e*pP	**P**	**01 22 53.6**	**+3.2**
YKA	**Yellowknife Ar**	**96.34**	**28**	P	**P**	**01 23 08.8**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=265,slow=4.5,SNR=5.2						
GERES	**GERESS Array B**	**127.94**	**329**	PKP	**PKPdf**	**01 28 46.8**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=0.0,slow=0.7,SNR=4.5						
LPAZ	**La Paz**	**130.42**	**119**	PKP	**PKiKP**	**01 28 54.0**	**-0.5**
	comp=Z,2.1nm,1.1s,baz=282,slow=1.5,SNR=5.5						
LPAZ	**La Paz**	**130.42**	**119**		**PKiKP**	**01 28 54.4**	**-0.1**
ESDC	**Sonseca Array**	**143.21**	**334**	PKhKP	PKPpre	01 29 11.8	
	comp=Z,0.9nm,1.1s,baz=64,slow=2.3,SNR=4.9						
BDFB	**Brasilia**	**146.99**	**134**	PKPbc	**PKPbc**	**01 29 24.2**	**-0.9**
	comp=Z,4.6nm,0.8s,baz=133,slow=2.8,SNR=6.4						
BDFB	**Brasilia**	**146.99**	**134**		**PKPbc**	**01 29 24.0**	**-1.0**

*KRSZO **03** 01:10:23.8±0.7, 48.°03N×19.°43E, h10km, ML2.1, Error ellipse: s-maj=2.6km s-min=2.3km az=165.0*
*IPEC **03** 01:10:24.2±0.1, 48.°01N×19.°38E, h8km±1km, ML1.5/4, Error ellipse: s-maj=2.1km s-min=1.0km az=22.0*
BUD 03 01:10:23.9, 48.°03N×19.°40E, h1km±2km, ML2.1/14, 11C-7D, Czech and Slovak Republics

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

PSZ					AML	AML	01 10 36.6	
IZAB	**Izabela**	**0.58**	**21**	*e*Pg	Pg	01 10 35.8	+0.8	
IZAB				*e*Sg	Sg	01 10 43.2	+0.8	
IZAB	**Izabela**	**0.58**	**21**	Pg	Pg	01 10 35.8	+0.8	
IZAB				*e*Pg	Pg	01 10 35.8	+0.8	
IZAB				Lg	Lg	01 10 43.2		
IZAB				*e*Lg	Lg	01 10 43.2		
VYHS	**Vyhne**	**0.60**	**321**	*e*Pg	Pb	01 10 36.5	-0.7	
VYHS				*e*Sg	Sg	01 10 44.4	+1.3	
VYHS	**Vyhne**	**0.60**	**321**	Pg	Pb	01 10 36.5	-0.7	
VYHS				*e*Pg	Pb	01 10 36.5	-0.7	
VYHS				Lg	Lg	01 10 44.4		
VYHS				*e*Lg	Lg	01 10 44.4		
VYHS	**Vyhne**	**0.60**	**321**	*e*PG	Pb	01 10 36.5	-0.7	
VYHS				*e*SG	Sg	01 10 44.4	+1.3	
BUD	**Budapest**	**0.60**	**205**	*e*Pg	Pg	01 10 35.8	+0.3	
BUD				*e*Sg	Sb	01 10 45.5	-0.7	
BUD	**Budapest**	**0.60**	**205**	Pg	Pg	01 10 35.8	+0.3	
BUD				*e*Pg	Pb	01 10 35.8	-1.4	
BUD				*e*Lg	Lg	01 10 45.5		
BUD				Lg	Lg	01 10 45.5		
SRO2	**Moca**	**0.73**	**249**	*e*Pg	Pg	01 10 37.2	-0.6	
SRO2				*e*Sg	Sg	01 10 47.9	+0.6	
SRO2	**Moca**	**0.73**	**249**	Pg	Pg	01 10 37.2	-0.6	
SRO2				*e*Pg	Pg	01 10 37.2	-0.6	
SRO2				Lg	Lg	01 10 47.9		
SRO2				*e*Lg	Lg	01 10 47.9		
SRO2	**Moca**	**0.73**	**249**	*e*PG	Pg	01 10 37.2	-0.6	
SRO2				*e*SG	Sg	01 10 47.9	+0.6	
SRO2				*e*LG	Lg	01 10 50.9		
SRO	**Srobarova**	**0.76**	**254**	*e*Pg	Pb	01 10 39.7	-0.2	
SRO				*e*Sg	Sb	01 10 50.2	-0.6	
SRO	**Srobarova**	**0.76**	**254**	Pg	Pb	01 10 39.7	-0.2	
SRO				*e*Pg	Pb	01 10 39.7	-0.2	
SRO				Lg	Lg	01 10 50.2		
SRO				*e*Lg	Lg	01 10 50.2		
SRO	**Srobarova**	**0.76**	**254**	*e*PG	Pb	01 10 39.7	-0.2	
SRO				*e*SG	Sb	01 10 50.2	-0.6	
SRO				*e*LG	Lg	01 10 55.2		
KECS	**Kecovo**	**0.85**	**58**	*e*Pg	Pg	01 10 40.0	-0.3	
KECS				*e*Sg	Sb	01 10 52.6	-0.9	
KECS	**Kecovo**	**0.85**	**58**	Pn	Pg	01 10 40.0	-0.3	
KECS				*e*Pn	Pg	01 10 40.0	-0.3	
KECS				Lg	Lg	01 10 52.6		
KECS				*e*Lg	Lg	01 10 52.6		
KECS	**Kecovo**	**0.85**	**58**	*e*PG	Pg	01 10 40.0	-0.3	
KECS				*e*SG	Sb	01 10 52.6	-0.9	
KECS				*e*LG	Lg	01 10 54.6		
KOLL	**Kolacno**	**0.86**	**310**	*e*PG	Pb	01 10 41.4	-0.3	
KOLL				*e*SG	Sb	01 10 52.7	-1.0	
BSZH	**Besenyszg**	**0.94**	**141**	⇓*e*Pg	Pb	01 10 42.6	-0.3	
BSZH				⇓*e*Sg	Sb	01 10 56.0	+0.2	
BSZH	**Besenyszg**	**0.94**	**141**	Pn	Pb	01 10 42.6	-0.3	
BSZH				*e*Pn	Pg	01 10 42.6	+0.8	
BSZH				Sn	Sb	01 10 56.0	+0.2	
BSZH				*e*Sn	Sg	01 10 56.0	+2.0	
CSKK	**Cskako**	**1.02**	**229**	*e*Pg	Pg	01 10 43.3	-0.1	
CSKK				*e*Sg	Sn	01 11 00.5	+0.2	
CSKK	**Cskako**	**1.02**	**229**	Pn	Pg	01 10 43.3	-0.1	
CSKK				*e*Pn	Pg	01 10 43.3	-0.1	
CSKK				Lg	Lg	01 11 00.5		
CSKK				*e*Lg	Lg	01 11 00.5		
LANS	**Liptovska Anna**	**1.12**	**2**	*e*Pg	Pn	01 10 46.5	-0.3	
LANS				*e*Sg	Sb	01 11 01.2	0.0	
LANS	**Liptovska Anna**	**1.12**	**2**	Pg	Pn	01 10 46.5	-0.3	
LANS				*e*Pg	Pn	01 10 46.5	-0.3	
LANS				Sn	Sb	01 11 01.2	0.0	
LANS				*e*Sn	Sb	01 11 01.2	0.0	
LANS	**Liptovska Anna**	**1.12**	**2**	*e*PG	Pn	01 10 46.5	-0.3	
LANS				*e*SG	Sb	01 11 01.2	0.0	
LANS				*e*LG	Lg	01 11 03.4		
SMOL	**Smolenice**	**1.40**	**291**	*e*Pn	Pb	01 10 51.9	+1.0	
SMOL				*e*Sn	Sn	01 11 10.1	+0.4	
SMOL	**Smolenice**	**1.40**	**291**	Pg	Pb	01 10 51.9	+1.0	
SMOL				*e*Pg	Pb	01 10 51.9	+1.0	
SMOL				Lg	Lg	01 11 10.1		
SMOL				*e*Lg	Lg	01 11 10.1		
SMOL	**Smolenice**	**1.40**	**291**	*e*PG	Pb	01 10 51.9	+1.0	
SMOL				*e*SG	Sn	01 11 10.1	+0.4	
SMOL				*e*LG	Lg	01 11 13.5		
JAVC	**Velka Javorina**	**1.42**	**306**	*e*PG	Pn	01 10 50.4	-0.5	
JAVC				*e*SG	Sg	01 11 08.6	-0.9	
JAVC	**Velka Javorina**	**1.42**	**306**	Pn	Pn	01 10 50.4	-0.5	
JAVC				Sn	Sg	01 11 08.6	-0.9	
JAVC	**Velka Javorina** baz=126	**1.42**	**306**	*e*Pg	Pn	01 10 50.4	-0.5	
JAVC	11nm,0.7s,baz=126			*e*Sg	Sg	01 11 08.5	-1.0	
MODS	**Modra-Piesok**	**1.46**	**284**	*e*Pn	Pn	01 10 50.8	-0.6	
MODS				*e*Sn	Sn	01 11 11.4	+0.2	
MODS	**Modra-Piesok**	**1.46**	**284**	Pn	Pn	01 10 50.8	-0.6	
MODS				*e*Pn	Pn	01 10 50.8	-0.6	
MODS				Sn	Sn	01 11 11.4	+0.2	
MODS				*e*Sn	Sn	01 11 11.4	+0.2	
MODS	**Modra-Piesok**	**1.46**	**284**	*e*PG	Pn	01 10 50.8	-0.6	
MODS				*e*SG	Sn	01 11 11.4	+0.2	
MODS				*e*LG	Lg	01 11 12.5		
NIE	**Niedzica**	**1.51**	**23**	*e*Pg	Pg	01 10 52.9	+0.1	
NIE				*e*Sg	Sb	01 11 11.5	-0.9	
NIE	**Niedzica**	**1.51**	**23**	Pg	Pg	01 10 52.9	+0.1	
NIE				Sn	Sb	01 11 11.5	-0.9	
EGYH	**Egyhazaskeszo**	**1.53**	**247**	*e*Pn	Pb	01 10 52.8	-0.2	
EGYH				*e*Lg	Lg	01 11 16.2		
MPLH	**Magyarpolny**	**1.53**	**236**	*e*Pn	Pb	01 10 52.8	-0.2	
MPLH				*e*Sn	Sg	01 11 17.8	+4.9	
MPLH	**Magyarpolny**	**1.53**	**236**	Pn	Pb	01 10 52.8	-0.2	
MPLH				*e*Pn	Pg	01 10 52.8	-0.3	
MPLH				*e*Lg	Lg	01 11 17.8		
MPLH				Lg	Lg	01 11 17.8		
TIH	**Tihany**	**1.53**	**223**	*e*Pn	Pb	01 10 52.8	-0.1	
TIH				*e*Sn	Sg	01 11 16.7	+3.8	
TIH	**Tihany**	**1.53**	**223**	Pn	Pb	01 10 52.8	-0.1	
TIH				*e*Pn	Pg	01 10 52.8	-0.3	
TIH				Lg	Lg	01 11 16.7		
TIH				*e*Lg	Lg	01 11 16.7		
CRVS	**Cervenica-Dubn**	**1.62**	**57**	*e*Pn	Pg	01 10 54.9	-0.1	
CRVS				*e*Sn	Sg	01 11 17.0	+0.9	
CRVS	**Cervenica-Dubn**	**1.62**	**57**	Pg	Pg	01 10 54.9	-0.1	
CRVS				*e*Pg	Pg	01 10 54.9	-0.1	
CRVS				Sn	Sg	01 11 17.0	+0.9	
CRVS				*e*Sn	Sg	01 11 17.0	+0.9	
CRVS	**Cervenica-Dubn**	**1.62**	**57**	*e*PG	Pg	01 10 54.9	-0.1	
CRVS				*e*SG	Sg	01 11 17.0	+0.9	
MORH	**Mrgy, Hungar**	**1.89**	**196**	⇓*e*Pn	Pn	01 10 55.8	-1.5	
MORH				⇓*e*Sn	Sg	01 11 24.2	-0.4	
MORH	**Mrgy, Hungar**	**1.89**	**196**	Pn	Pn	01 10 55.8	-1.5	
MORH				*e*Pn	Pb	01 10 55.8	-3.3	
MORH				Lg	Lg	01 11 24.2		
MORH				*e*Lg	Lg	01 11 24.2		
KOLS	**Kolonicke sedl**	**2.11**	**64**	*e*PG	Pg	01 11 05.2	+0.8	
MORC	**Moravsky Berou**	**2.13**	**326**	⇓Pn	Pn	01 10 59.9	-0.8	
MORC				⇓Sn	Sn	01 11 26.9	-0.9	
MORC	**Moravsky Berou**	**2.13**	**326**	⇓P	Pn	01 10 59.9	-0.8	
MORC				⇑S	Sn	01 11 26.9	-1.0	
MORC	**Moravsky Berou**	**2.13**	**326**	⇑PN	Pn	01 10 00.5	-0.2	
MORC				*e*SN	Sn	01 11 27.5	-0.3	
MORC	**Moravsky Berou**	**2.13**	**326**	Pb	Pn	01 10 59.9	-0.8	
MORC				Pb	Pn	01 10 59.9	-0.8	
MORC				Pb	Pn	01 10 59.9	-0.8	
MORC				Pb	Pb	01 10 59.9	-3.5	
MORC				Pg	Pg	01 11 00.5	-4.3	
MORC				Sn	Sn	01 11 26.9	-1.0	
MORC				Sn	Sn	01 11 26.9	-1.0	
MORC				Sn	Sb	01 11 26.9	-3.5	
MORC				Sn	Sb	01 11 26.9	-3.5	
MORC				Sb	Sg	01 11 27.5	-4.9	
MORC	**Moravsky Berou** baz=145	**2.13**	**326**	*e*Pn	Pn	01 11 00.4	-0.3	
MORC	1.8nm,0.3s,baz=145			*e*Sn	Sn	01 11 27.5	-0.3	
KRUC	**Moravsky**	**2.25**	**298**	*e*PN	Pn	01 11 01.4	-0.8	
KRUC				*e*SN	Sn	01 11 30.4	-0.2	
KRUC	**Moravsky**	**2.25**	**298**	Pn	Pn	01 11 01.4	-0.8	
KRUC				Sn	Sn	01 11 30.4	-0.2	
KRUC	**Moravsky** baz=117	**2.25**	**298**	*e*Pn	Pn	01 11 01.4	-0.8	
KRUC	2.1nm,0.7s,baz=117			*e*Sn	Sn	01 11 30.4	-0.2	
VRAC	**Vranov**	**2.26**	**306**	⇑Pn	Pn	01 11 02.1	-0.3	
VRAC				⇑Sn	Sn	01 11 28.9	-1.9	
VRAC	**Vranov**	**2.26**	**306**	⇑P	Pn	01 11 02.1	-0.2	
VRAC				⇑S	Sn	01 11 28.9	-1.9	
VRAC	**Vranov**	**2.26**	**306**	*e*PN	Pn	01 11 01.7	-0.7	
VRAC				*e*SN	Sn	01 11 30.5	-0.3	
VRAC	**Vranov**	**2.26**	**306**	AML	AML	01 11 09.6		
VRAC				Pn	Pn	01 11 01.7	-0.7	
VRAC				Pb	Pn	01 11 02.1	-0.3	
VRAC				Pg	Pn	01 11 02.1	-0.2	
VRAC				Pg	Pn	01 11 02.1	-0.2	
VRAC				Pg	Pn	01 11 02.1	-0.2	
VRAC				Sn	Sn	01 11 28.9	-1.9	
VRAC				Sn	Sn	01 11 28.9	-1.9	
VRAC				Sn	Sb	01 11 28.9	-4.9	
VRAC				Sn	Sb	01 11 28.9	-4.9	
VRAC				Sb	Sg	01 11 30.5	-5.9	
VRAC	**Vranov** baz=124	**2.26**	**306**	*e*Pn	Pn	01 11 01.6	-0.8	
VRAC	1.9nm,0.4s,baz=124			*e*Sn	Sn	01 11 30.4	-0.4	
BZS	**Buzias**	**2.85**	**147**	⇑Pn	Pn	01 11 09.1	-1.4	
BZS	**Buzias**	**2.85**	**147**	⇑P	Pn	01 11 09.2	-1.4	
BZS	**Buzias**	**2.85**	**147**	AML	AML	01 12 23.5		
BZS				Pn	Pn	01 11 09.1	-1.4	
BZS				Pb	Pn	01 11 09.2	-1.4	
BZS				Pb	Pn	01 11 09.2	-1.4	
BZS				Pb	Pn	01 11 09.2	-1.4	

*TAP **03** 01:17:15.9,24˚.89N×122˚.29E,h11km,ML3.5,D*
*JMA **03** 01:17:16.2±0.1,24˚.79N×122˚.33E,h47km±3km,M2.7*

ISC 03 01:17:15.2±1.1,24˚.87N±0˚.02×122˚.36E±0˚.02,h13km±8km, n68,σ0°56/132,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao** baz=294	**0.37**	**293**	*i* P	**Pg**	**01 17 22.7**	**+0.1**
TWB1				*i* S	**Sg**	**01 17 27.0**	**-0.5**
NTC	**Toucheng** baz=275	**0.48**	**269**	*i* P	**Pb**	**01 17 25.2**	**-0.4**
NTC				S	**Sb**	**01 17 32.1**	**-0.4**
TIPB	**Shuangxi** baz=281	**0.50**	**282**	*i* P	**Pg**	**01 17 25.2**	**+0.2**
TIPB				S	**Sb**	**01 17 32.7**	**-0.4**
TWC	**Suao** baz=236	**0.53**	**241**	P	**Pg**	**01 17 25.3**	**-0.3**
TWC				*e*S	**Sb**	**01 17 33.9**	**-0.1**
NWF	**Wu-fen Shan** baz=291	**0.56**	**291**	*i* P	**Pb**	**01 17 27.2**	**+0.2**
NWF				*i* S	**Sb**	**01 17 34.7**	**-0.4**
WFSB	**Wu-fen Shan** baz=291	**0.56**	**291**	P	**Pb**	**01 17 27.0**	**0.0**
WFSB				S	**Sb**	**01 17 34.9**	**-0.1**
ILA	**Ilan** baz=243	**0.57**	**260**	P	**Pb**	**01 17 26.7**	**-0.3**
ILA				S	**Sb**	**01 17 36.4**	**+1.4**
TWE	**Neicheng** baz=243	**0.65**	**257**	P	**Pg**	**01 17 27.6**	**-0.2**
TWE				S	**Sb**	**01 17 38.0**	**+0.7**
ENAH	**Nanao** baz=227	**0.65**	**230**	P	**Pg**	**01 17 27.9**	**0.0**
ENAH				*e*S	**Sg**	**01 17 36.1**	**-0.4**
JYNG	**Yonagunijimaku**	**0.67**	**128**	P	**Pb**	**01 17 29.3**	**+0.5**
JYNG				S	**Sb**	**01 17 39.2**	**+1.1**
ENA	**Nanau** baz=228	**0.71**	**232**	P	**Pg**	**01 17 29.2**	**+0.2**
ENA				*e*S	**Sg**	**01 17 38.5**	**+0.1**
TWA	**Mucha** baz=278	**0.71**	**279**	*e*P	**Pb**	**01 17 29.8**	**+0.2**
TWA				S	**Sg**	**01 17 37.9**	**-0.6**
YOJ	**Yonaguni jima**	**0.72**	**124**	P	**Pb**	**01 17 29.9**	**+0.4**
YOJ				S	**Sb**	**01 17 39.7**	**+0.4**
ENTT	**Nioudou** baz=250	**0.76**	**253**	P	**Pg**	**01 17 29.7**	**-0.2**
ENTT				S	**Sb**	**01 17 41.2**	**+0.6**
NHDH	**Xindian Distri** baz=276	**0.77**	**277**	*i* P	**Pb**	**01 17 30.8**	**+0.4**
NHDH				S	**Sb**	**01 17 41.1**	**+0.4**
YM08	**YM08** baz=294	**0.77**	**295**	P	**Pb**	**01 17 30.3**	**-0.2**
YM08				S	**Sg**	**01 17 40.0**	**-0.3**
YM01	**YM01** baz=291	**0.77**	**291**	*i* P	**Pb**	**01 17 30.6**	**+0.1**
YM01				*e*S	**Sb**	**01 17 40.9**	**-0.1**
YM11	**YM11** baz=292	**0.77**	**293**	*e*P	**Pn**	**01 17 31.2**	**-0.7**
YM11				S	**Sb**	**01 17 41.9**	**+0.8**
TAP1	**Taipei** baz=281	**0.78**	**283**	*e*P	**Pn**	**01 17 32.1**	**+0.2**
TAP1				*e*S	**Sb**	**01 17 41.0**	**-0.1**
YM05	**YM05** baz=292	**0.78**	**292**	P	**Pb**	**01 17 30.6**	**-0.1**
YM05				S	**Sb**	**01 17 41.3**	**+0.1**
YM10	**YM10** baz=291	**0.78**	**292**	P	**Pb**	**01 17 30.7**	**0.0**
YM10				S	**Sb**	**01 17 41.2**	**0.0**
NWLT	**Wulai** baz=261	**0.79**	**264**	P	**Pb**	**01 17 30.7**	**0.0**
NWLT				*e*S	**Sg**	**01 17 40.3**	**-0.4**
YM04	**YM04** baz=290	**0.80**	**291**	*i* P	**Pb**	**01 17 31.0**	**-0.1**
YM04				S	**Sb**	**01 17 42.0**	**+0.2**
PCYT	**Pengchaiyu** baz=344	**0.80**	**341**	*e*P	**Pb**	**01 17 31.5**	**+0.5**
PCYT				S	**Sn**	**01 17 44.6**	**+0.5**
YM03	**YM03** baz=292	**0.81**	**293**	P	**Pb**	**01 17 31.2**	**0.0**
YM03				S	**Sb**	**01 17 43.0**	**+0.9**
NDT	**Datong Townshi** baz=249	**0.81**	**251**	P	**Pb**	**01 17 31.2**	**-0.1**
NDT				*e*S	**Sb**	**01 17 42.4**	**+0.2**
NTST	**Danshui** baz=289	**0.88**	**290**	*e*P	**Pb**	**01 17 32.7**	**+0.4**
NTST				*e*S	**Sn**	**01 17 45.5**	**-0.5**
YHNB	**Yeheng** baz=256	**0.92**	**258**	P	**Pg**	**01 17 32.7**	**-0.2**
YHNB				S	**Sn**	**01 17 46.5**	**-0.6**
NSK	**Sanguang** baz=256	**0.93**	**258**	P	**Pg**	**01 17 32.3**	**-0.9**
NSK				S	**Sn**	**01 17 47.1**	**-0.3**
NNSB	**Datong** baz=231	**0.99**	**244**	P	**Pb**	**01 17 34.1**	**-0.2**
NNSB				*e*S	**Sn**	**01 17 48.6**	**-0.3**
NNSH	**Datong** baz=233	**0.99**	**244**	P	**Pb**	**01 17 34.1**	**-0.2**
NNSH				*e*S	**Sb**	**01 17 46.7**	**-0.7**
NNS	**Nan Shan** baz=232	**0.99**	**245**	P	**Pb**	**01 17 34.2**	**-0.1**
NNS				S	**Sb**	**01 17 46.8**	**-0.6**
WLTB	**Daxi** baz=260	**1.01**	**269**	*e*P	**Pn**	**01 17 35.4**	**+0.4**
WLTB				S	**Sg**	**01 17 47.8**	**0.0**
ETLH	**Xiulin Townshi** baz=229	**1.04**	**231**	*e*P	**Pb**	**01 17 34.7**	**-0.4**
ETLH				S	**Sb**	**01 17 48.4**	**-0.2**
TWD	**Chiawan** baz=227	**1.05**	**222**	P	**Pb**	**01 17 35.1**	**-0.2**
TWD				*e*S	**Sg**	**01 17 49.2**	**0.0**
NCUH	**Zhongli** baz=274	**1.07**	**276**	*e*P	**Pn**	**01 17 36.4**	**+0.4**
NCUH				*e*S	**Sn**	**01 17 51.5**	**+0.7**
FUSS	**Fushou** baz=237	**1.19**	**239**	*e*P	**Pb**	**01 17 37.4**	**-0.4**
FUSS				S	**Sb**	**01 17 53.0**	**-0.2**
WHF	**Hehuan Shan** baz=233	**1.23**	**234**	P	**Pn**	**01 17 38.5**	**0.0**
WHF				*e*S	**Sb**	**01 17 53.9**	**-0.7**
TWT	**Tachien** baz=228	**1.24**	**241**	*e*P	**Pg**	**01 17 40.5**	**+1.4**
TWT				S	**Sg**	**01 17 55.5**	**+0.3**
LIOB	**Emei** baz=258	**1.24**	**260**	P	**Pg**	**01 17 39.1**	**0.0**
LIOB				S	**Sg**	**01 17 57.3**	**+2.0**
TDCB	**Techi** baz=229	**1.25**	**241**	P	**Pb**	**01 17 39.1**	**+0.2**
TDCB				S	**Sg**	**01 17 56.2**	**+0.5**
NSTT	**Nanjuang** baz=276	**1.26**	**260**	P	**Pb**	**01 17 38.9**	**0.0**
NSTT				S	**Sb**	**01 17 54.8**	**-0.2**
CHGB	**Renai** baz=232	**1.35**	**234**	P	**Pb**	**01 17 40.9**	**+0.4**
CHGB				S	**Sn**	**01 17 58.1**	**+0.2**
ESL	**Shilin** baz=225	**1.35**	**219**	*e*P	**Pb**	**01 17 40.5**	**+0.1**
ESL				*e*S	**Sg**	**01 17 58.6**	**0.0**
IRIF	**Iriomote-Funau**	**1.35**	**113**	P	**Pn**	**01 17 39.4**	**-0.4**
WHP	**Taichung City** baz=244	**1.42**	**246**	*e*P	**Pg**	**01 17 42.4**	**-0.1**
WHP				S	**Sg**	**01 18 00.4**	**-0.5**
EGFH	**Guangfu** baz=198	**1.47**	**216**	*e*P	**Pb**	**01 17 42.6**	**+0.2**
EGFH				*e*S	**Sg**	**01 18 03.1**	**+0.6**
NMLH	**Miaoli** baz=271	**1.47**	**257**	*e*P	**Pb**	**01 17 42.2**	**-0.2**
NMLH				*e*S	**Sg**	**01 18 02.1**	**-0.3**
NSY	**Sanyi** baz=268	**1.52**	**253**	*e*P	**Pb**	**01 17 43.7**	**+0.4**
NSY				*e*S	**Sg**	**01 18 04.2**	**-0.1**
TWQ1	**Liyutan** baz=266	**1.54**	**251**	*e*P	**Pb**	**01 17 43.5**	**0.0**
TWQ1				*e*S	**Sg**	**01 18 04.2**	**-0.4**
HATJ	**Hateruma jima**	**1.54**	**121**	S	**Sn**	**01 18 00.5**	**-1.8**
DPDB	**Guoxing** baz=228	**1.55**	**238**	*e*P	**Pg**	**01 17 44.6**	**-0.4**
DPDB				S	**Sg**	**01 18 06.0**	**+0.9**
PTSB	**Yuanli** baz=269	**1.56**	**255**	*e*P	**Pb**	**01 17 43.9**	**-0.1**
PTSB				*e*S	**Sb**	**01 18 04.2**	**+0.5**
VWDT	**VWDT** baz=225	**1.57**	**225**	*e*P	**Pb**	**01 17 44.2**	**0.0**
VWDT				*e*S	**Sg**	**01 18 06.0**	**+0.2**
HGSD	**Ruisui** baz=196	**1.61**	**212**	*e*P	**Pb**	**01 17 44.3**	**-0.6**
HGSD				*e*S	**Sb**	**01 18 06.2**	**+1.0**
WDJ	**Dajia District** baz=266	**1.65**	**252**	*e*P	**Pb**	**01 17 45.5**	**0.0**
WDJ				*e*S	**Sb**	**01 18 07.2**	**+1.0**
SMLT	**Sun Moon Lake** baz=233	**1.65**	**234**	*e*P	**Pg**	**01 17 46.6**	**-0.3**
SMLT				*e*S	**Sg**	**01 18 07.5**	**-0.9**
TYC	**Yuchr** baz=235	**1.67**	**235**	P	**Pb**	**01 17 46.5**	**+0.6**
TYC				S	**Sg**	**01 18 08.3**	**-0.8**
SSLB	**Suanglung** baz=230	**1.68**	**230**	*e*P	**Pb**	**01 17 46.5**	**+0.6**
SSLB				*e*S	**Sb**	**01 18 06.9**	**-0.1**
TCU	**Taichung** baz=262	**1.69**	**245**	*e*S	**Sb**	**01 18 08.3**	**+0.8**
JIJ	**Ishigaki jima**	**1.70**	**107**	*e*S	**Sn**	**01 18 05.0**	**-1.2**
TWF1	**Yuli** baz=229	**1.79**	**213**	*e*P	**Pn**	**01 17 46.6**	**+0.7**
TWF1				*e*S	**Sb**	**01 18 11.4**	**+1.0**
WHYT	**Xinyi Township** baz=241	**1.80**	**230**	*e*P	**Pg**	**01 17 49.1**	**-0.7**
WHYT				S	**Sg**	**01 18 13.9**	**+0.7**
WJS	**Zhushan** baz=236	**1.82**	**235**	*e*P	**Pg**	**01 17 50.5**	**+0.4**
WJS				*e*S	**Sg**	**01 18 14.3**	**+0.6**
WNT	**Mingjian** baz=256	**1.82**	**238**	*e*P	**Pg**	**01 17 49.5**	**-0.6**
WNT				*e*S	**Sg**	**01 18 13.3**	**-0.4**
FULB	**Fuli** baz=191	**1.93**	**211**	P	**Pn**	**01 17 48.4**	**+0.6**
FULB				S	**Sg**	**01 18 16.6**	**-0.6**
ALS	**Alishan** baz=212	**1.96**	**227**	*e*P	**Pb**	**01 17 51.1**	**+0.1**
ALS				*e*S	**Sg**	**01 18 17.6**	**-0.7**
CHN5	**Tsauling** baz=232	**1.99**	**231**	*e*P	**Pb**	**01 17 51.9**	**+0.5**
CHN5				*e*S	**Sg**	**01 18 18.0**	**-1.3**

IDC 03 01:21:15.9±6.0,53˚.92N×35˚.37W,h0km,mb3.3/2, mb1 3.6/2,mb1mx3.1/44,mbtmp3.3/2,Error ellipse: s-maj=259.0km s-min=43.6km az=170.0,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array** 0.2nm,0.6s,baz=64,slow=6.1,SNR=3.6	**48.38**	**289**	P	P	01 29 59.4	-0.1
KURBB	**Kurchatov Arra** 0.4nm,0.8s,baz=322,slow=7.1,SNR=2.4	**62.03**	**41**	P	P	01 31 37.6	0.0
WRA	**Warramunga Arr** 0.8nm,0.8s,baz=337,slow=3.3,SNR=2.8	**145.18**	**17**	PKPbc	PKPbc	01 40 54.2	-0.6
ASAR	**Alice Springs** 0.3nm,0.6s,baz=359,slow=2.8,SNR=4.2	**148.73**	**19**	PKPbc	PKPbc	01 41 04.2	-0.8

*IDC **03** 01:21:34.4±1.7,55˚.37S×29˚.18W,h0km,mb4.0/4, mb1 4.0/5,mb1mx3.9/20,mbtmp3.9/5,ML3.2/1,Error ellipse: s-maj=77.3km s-min=23.7km az=61.0*
*NEIC **03** 01:21:37.0±1.0,55˚.5S±0˚.1×29˚.6W±0˚.3,h14km±6km, mb4.2/8,Error ellipse: s-maj=30.3km s-min=12.5km az=51.0*

ISC 03 01:21:39.1±1.2,55˚.5S±0˚.2×29˚.6W±0˚.2,h28km,n17, σ0°91/15,mb4.2/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.16**	**284**	Pn	**Pn**	**01 22 40.3**	**-0.3**
VNA1	**Neumayer--Stat**	**17.85**	**157**	P	**P**	**01 25 47.3**	**+1.8**
VNA3	**Neumayer Olymp**	**18.00**	**159**	P	**P**	**01 25 48.7**	**+1.6**
PMSA	**Palmer Station**	**19.27**	**227**	P	**P**	**01 26 00.6**	**-0.5**
PMSA	comp=Z,15nm,1.8s			IAmb	IAmb	01 26 32.2	
SNAA	**Sanae**	**19.82**	**155**	P	**P**	**01 26 07.0**	**-0.3**
SNAA	**Sanae** comp=Z,0.1nm,0.3s,baz=306,slow=9.9,SNR=14	**19.82**	**155**	P	**P**	**01 26 06.7**	**-0.5**
SNAA	**Sanae** comp=Z,4.9nm,1.1s	**19.82**	**155**	IAmb	IAmb	01 26 13.2	
QSPA	**South Pole Qui**	**34.77**	**180**	P	**P**	**01 28 27.1**	**+0.3**

comp=Z,3.1nm,0.8s,baz=194,slow=2.2,SNR=15
QSPA South Pole Qui 34.77 180 P **P** **01 28 27.5 +0.7**
BO02 Sierra Bellavi 34.96 289 P **P** **01 28 28.8 +0.2**
MAW Mawson 41.41 145 P **P** **01 29 21.2 -1.2**
comp=Z,1.0nm,0.8s,baz=246,slow=10.0,SNR=2.4
VNDA Vanda 47.07 183 P **P** **01 30 07.8 +0.2**
comp=Z,2.1nm,0.8s,baz=196,slow=6.3,SNR=14
VNDA Vanda 47.07 183 P **P** **01 30 07.0 -0.6**
LPAZ La Paz 48.94 307 P **P** **01 30 23.9 +0.4**
comp=Z,1.1nm,0.7s,baz=202,slow=8.8,SNR=4.7
LPAZ La Paz 48.94 307 IAmb IAmb 01 30 31.7
comp=Z,8.9nm,1.8s
SAML Samuel 53.45 317 P **P** **01 30 57.2 +0.7**
SAML IAmb IAmb 01 31 04.2
comp=Z,5.7nm,1.3s
ILAR Eielson Array 148.72 313 PKPbc **PKPbc** **01 41 21.6 -0.6**
comp=Z,1.0nm,0.7s,baz=115,slow=1.6,SNR=10

IDC 03 01:26:33.1±1.5, 0.42N×147.11E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/46, mbtmp3.6/4, Error ellipse: s-maj=77.9km s-min=25.3km az=112.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.79**	**211**	P	P	01 31 48.0	+0.3
	0.8nm,0.6s,baz=31,slow=11,SNR=10						
ASAR	**Alice Springs**	**27.15**	**207**	P	P	01 32 19.9	+1.5
	0.3nm,0.6s,baz=40,slow=10,SNR=2.6						
KURBB	**Kurchatov Arra**	**76.22**	**322**	P	P	01 38 24.5	+1.1
	0.6nm,1.1s,baz=111,slow=5.9,SNR=2.2						
ILAR	**Eielson Array**	**79.58**	**23**	P	P	01 38 40.1	-1.7
	0.5nm,0.6s,baz=252,slow=6.2,SNR=6.6						

*MDD **03** 01:29:24.1±0.5, 36.89N×3.11E, h11km±7km, mb3.6/21, Error ellipse: s-maj=7.3km s-min=6.6km az=63.0, PRXIMO*
*LDG **03** 01:29:24.3±0.2, 37.20N×2.96E, h9km, Ml2.9/4, Error ellipse: s-maj=5.0km s-min=2.3km az=150.0*
*CRAAG **03** 01:29:24.8, 36.79N×2.98E, Ml3.2*
ISC 03 01:29:21.9±1.7, 37.00N±0.05×3.13E±0.05, h13km±15km, n93, σ2.857/108, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.21**	**201**	P	**Pb**	**01 29 26.8**	**-0.8**
ABA	**Alger-Bouzarea**	**0.21**	**201**	P	**Pb**	**01 29 26.8**	**-0.8**
EMHD	**Djebel Mahouad**	**0.81**	**190**	P	**Pg**	**01 29 37.2**	**-0.4**
EMHD	**Djebel Mahouad**	**0.81**	**190**	P	**Pg**	**01 29 37.2**	**-0.4**
ADJB	**Djebel Djouab**	**0.87**	**163**	P	**Pb**	**01 29 38.3**	**-0.7**
ADJB	**Djebel Djouab**	**0.87**	**163**	P	**Pb**	**01 29 38.3**	**-0.7**
AKET	**Djebel Ketaf**	**1.13**	**147**	P	**Pb**	**01 29 42.0**	**-1.3**
AKET	**Djebel Ketaf**	**1.13**	**147**	P	**Pb**	**01 29 42.0**	**-1.3**
EIBI	**Ibiza**	**2.47**	**326**	P	**Pn**	**01 30 03.8**	**+2.0**
	6.7nm,0.2s,SNR=12						
EIBI				S	**Sn**	**01 30 31.4**	**-0.4**
	58nm,1.1s						
ETOS	**Mallorca**	**2.78**	**355**	P	**Pn**	**01 30 07.8**	**+1.7**
	4.5nm,0.1s,SNR=47						
ETOS				S	**Sn**	**01 30 39.4**	**-0.1**
	3.6nm,0.3s,SNR=5.7						
EBEN2	**Beniarda presa**	**3.12**	**304**	P	**Pn**	**01 30 11.9**	**+1.1**
	3.5nm,0.2s,SNR=7.9						
EBEN2				S	**Sn**	**01 30 46.0**	**-1.9**
	72nm,1.0s,SNR=7.9						
AFON	**Font Roja**	**3.35**	**301**	P	**Pb**	**01 30 18.4**	**-2.8**
	0.9nm,0.2s,SNR=7.9						
AFON				S	**Sn**	**01 30 54.7**	**+1.0**
	48nm,1.5s,SNR=7.9						
EMUR	**La Murta**	**3.58**	**285**	P	**Pn**	**01 30 18.7**	**+1.6**
	0.2nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**01 30 58.5**	**-0.9**
	19nm,1.6s,SNR=7.9						
ETOB	**Tobarra**	**4.05**	**295**	P	**Pn**	**01 30 25.1**	**+1.4**
	0.9nm,0.1s,SNR=9.9						
ETOB				S	**Sn**	**01 31 09.7**	**-1.3**
	1.5nm,0.4s,SNR=6.9						
ECHE	**Chera**	**4.13**	**310**	P	**Pn**	**01 30 27.3**	**+2.6**
	3.0nm,0.2s,SNR=7.9						
ECHE				S	**Sn**	**01 31 11.4**	**-1.6**
	35nm,1.4s,SNR=7.9						
ENIJ	**Nijar**	**4.27**	**271**	S	**Sn**	**01 31 13.4**	**-3.0**
	25nm,1.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.39**	**321**	P	**Pn**	**01 30 30.5**	**+2.1**
	0.7nm,0.2s,SNR=10						
EMOS				S	**Sn**	**01 31 18.2**	**-1.2**
	25nm,1.4s,SNR=7.9						
ERTA	**Horta de San J**	**4.51**	**332**	P	**Pn**	**01 30 31.9**	**+1.9**
	0.2nm,0.1s,SNR=7.9						
ERTA				S	**Sn**	**01 31 20.3**	**-2.0**
	24nm,1.8s,SNR=7.9						
EPOB	**Poblet**	**4.63**	**340**	P	**Pn**	**01 30 33.9**	**+2.3**
	0.4nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**01 31 24.6**	**-0.7**
	15nm,1.5s,SNR=7.9						
SESP	**Santiago Espad**	**4.65**	**286**	P	**Pn**	**01 30 34.1**	**+2.2**
	0.6nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**01 31 25.9**	**+0.1**
	25nm,2.4s,SNR=7.9						
CFON	**Fontmartina**	**4.79**	**354**	P	**Pn**	**01 30 35.6**	**+1.8**
	3.3nm,0.2s,SNR=18						
CFON				S	**Sn**	**01 31 28.0**	**-1.1**
	1.9nm,0.3s,SNR=6.3						
EBER	**Berja**	**4.82**	**271**	P	**Pn**	**01 30 37.7**	**+3.3**
	0.4nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.00**	**281**	P	**Pn**	**01 30 39.0**	**+2.3**
	0.3nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**01 31 34.5**	**0.0**
	2.4nm,1.0s,SNR=4.0						
EMIR	**Miracle**	**5.07**	**346**	P	**Pn**	**01 30 41.0**	**+3.4**
	7.5nm,0.2s,SNR=6.4						
SJAF	**Saint Jean de**	**5.48**	**358**	P	**Pn**	**01 30 45.6**	**+2.4**
	0.7nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**5.55**	**351**	P	**Pn**	**01 30 47.4**	**+3.1**
	0.4nm,0.1s,SNR=11						
CLLI				S	**Sn**	**01 31 45.9**	**-2.0**
	2.2nm,0.8s,SNR=6.6						
ETOR	**Torete**	**5.56**	**315**	P	**Pn**	**01 30 48.1**	**+3.7**
	1.4nm,0.3s,SNR=7.9						
CSOR	**Sort**	**5.59**	**345**	P	**Pn**	**01 30 47.8**	**+3.0**
	0.7nm,0.2s,SNR=7.8						
CSOR				S	**Sn**	**01 31 47.6**	**-1.3**
	3.4nm,0.8s,SNR=5.7						
ESDC	**Sonseca Array**	**6.18**	**298**	P	**Pn**	**01 30 55.4**	**+2.5**
	0.4nm,0.2s,baz=110,slow=13,SNR=3.7						
MTLF	**Montolieu**	**6.37**	**354**	*eP*	**Pn**	**01 30 58.1**	**+2.6**
MTLF	**Montolieu**	**6.37**	**354**	P	**Pn**	**01 30 58.1**	**+2.6**
EPF	**Esparros**	**6.39**	**341**	*eP*	**Pn**	**01 30 58.1**	**+2.3**
EPF	**Esparros**	**6.39**	**341**	P	**Pn**	**01 30 58.1**	**+2.3**
PAB	**San Pablo**	**6.41**	**296**	P	**Pn**	**01 30 57.8**	**+1.7**
	0.2nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**6.54**	**335**	*eP*	**Pn**	**01 31 00.0**	**+2.2**
ETSF	**Etsaut**	**6.54**	**335**	P	**Pn**	**01 31 00.0**	**+2.2**
ATE	**Arette**	**6.75**	**335**	P	**Pn**	**01 31 04.1**	**+3.4**
	0.2nm,0.3s,SNR=7.9						
LMR	**La Mourre**	**6.84**	**21**	*ePn*	**Pn**	**01 31 01.2**	**-0.6**
LMR				*eSn*	Sn	01 32 11.4	-8.1
	1.0nm,0.2s						
LMR	**La Mourre**	**6.84**	**21**	P	**Pn**	**01 31 01.2**	**-0.6**
LMR				S	Sn	01 32 11.4	-8.1
	0.0nm,0.2s						
SJPF	**Ste Jean**	**6.96**	**333**	*eP*	**Pn**	**01 31 05.8**	**+2.2**
SJPF	**Ste Jean**	**6.96**	**333**	P	**Pn**	**01 31 05.8**	**+2.2**
FRF	**La Foret Royal**	**7.08**	**21**	*ePn*	**Pn**	**01 31 04.1**	**-1.1**
FRF				*eSn*	Sn	01 32 18.3	-7.3
	1.3nm,0.3s						
FRF	**La Foret Royal**	**7.08**	**21**	P	**Pn**	**01 31 04.1**	**-1.1**
FRF				S	Sn	01 32 18.3	-7.3
	0.6nm,0.3s						
LASF	**Ste Croix**	**7.09**	**4**	*eP*	**Pn**	**01 31 07.8**	**+2.4**
LASF	**Ste Croix**	**7.09**	**4**	P	**Pn**	**01 31 07.8**	**+2.4**
PGF	**Pioggiola**	**7.15**	**37**	*ePn*	**Pn**	**01 31 05.9**	**-0.4**
PGF				*eSn*	Sn	01 32 21.0	-6.4
	1.1nm,0.3s						
PGF	**Pioggiola**	**7.15**	**37**	P	**Pn**	**01 31 05.9**	**-0.4**
PGF				S	Sn	01 32 21.0	-6.4
	0.6nm,0.3s						
SMRF	**Simiane la Rot**	**7.21**	**14**	*eP*	**Pn**	**01 31 10.7**	**+3.6**
SMRF	**Simiane la Rot**	**7.21**	**14**	P	**Pn**	**01 31 10.7**	**+3.6**
SBF	**Sospel**	**7.60**	**24**	*ePn*	**Pn**	**01 31 11.3**	**-1.1**
SBF				*eSn*	Sn	01 32 31.0	-7.4
SBF	**Sospel**	**7.60**	**24**	P	**Pn**	**01 31 11.3**	**-1.1**
SBF				S	Sn	01 32 31.0	-7.4
VIVF	**Saint-Julien-l**	**7.94**	**8**	*eP*	**Pn**	**01 31 20.2**	**+3.2**
VIVF	**Saint-Julien-l**	**7.94**	**8**	P	**Pn**	**01 31 20.2**	**+3.2**
CAF	**Calviac**	**7.96**	**355**	*ePn*	**Pn**	**01 31 15.7**	**-1.6**
CAF	**Calviac**	**7.96**	**355**	*eP*	**Pn**	**01 31 20.2**	**+2.9**
CAF	**Calviac**	**7.96**	**355**	P	**Pn**	**01 31 15.7**	**-1.6**
LFF	**La Frestale**	**8.14**	**348**	*eP*	**Pn**	**01 31 22.1**	**+2.4**
LFF	**La Frestale**	**8.14**	**348**	P	**Pn**	**01 31 22.1**	**+2.4**
ORIF	**Oris-en-Rattie**	**8.18**	**14**	*eP*	**Pn**	**01 31 23.9**	**+3.5**
ORIF	**Oris-en-Rattie**	**8.18**	**14**	P	**Pn**	**01 31 23.9**	**+3.5**
MBDF	**Montbardon**	**8.20**	**19**	*eP*	**Pn**	**01 31 24.4**	**+3.7**
MBDF	**Montbardon**	**8.20**	**19**	P	**Pn**	**01 31 24.4**	**+3.7**
RJF	**Les Rejaudoux**	**8.39**	**352**	*eP*	**Pn**	**01 31 26.0**	**+2.9**
RJF	**Les Rejaudoux**	**8.39**	**352**	P	**Pn**	**01 31 26.0**	**+2.9**
LPG	**La Plagne**	**8.92**	**17**	*eP*	**Pn**	**01 31 34.5**	**+3.9**
LPG	**La Plagne**	**8.92**	**17**	P	**Pn**	**01 31 34.5**	**+3.9**
LPL	**La Plagne**	**8.93**	**17**	*eP*	**Pn**	**01 31 34.2**	**+3.8**
LPL	**La Plagne**	**8.93**	**17**	P	**Pn**	**01 31 34.6**	**+4.3**
EARI	**Arriondas**	**8.96**	**317**	P	**Pn**	**01 31 35.0**	**+3.9**
	0.3nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**9.09**	**306**	P	**Pn**	**01 31 33.7**	**+0.9**
	0.8nm,0.2s,SNR=7.9						
BGF	**Bois d'Agland**	**9.55**	**359**	*eP*	**Pn**	**01 31 42.4**	**+3.3**
BGF	**Bois d'Agland**	**9.55**	**359**	P	**Pn**	**01 31 42.4**	**+3.3**
SMF	**Signal de Mont**	**9.65**	**3**	*eP*	**Pn**	**01 31 43.9**	**+3.4**
SMF	**Signal de Mont**	**9.65**	**3**	P	**Pn**	**01 31 43.9**	**+3.4**
AVF	**Avril sur Loir**	**9.79**	**1**	*eP*	**Pn**	**01 31 45.6**	**+3.3**
AVF	**Avril sur Loir**	**9.79**	**1**	P	**Pn**	**01 31 45.6**	**+3.3**
CABF	**La Chapelle**	**9.86**	**12**	*eP*	**Pn**	**01 31 46.5**	**+3.2**
CABF	**La Chapelle**	**9.86**	**12**	P	**Pn**	**01 31 46.5**	**+3.2**
SSF	**Saint Saulge**	**10.06**	**1**	*eP*	**Pn**	**01 31 49.3**	**+3.3**
SSF	**Saint Saulge**	**10.06**	**1**	P	**Pn**	**01 31 49.3**	**+3.3**
LOR	**Lormes**	**10.28**	**3**	*eP*	**Pn**	**01 31 52.4**	**+3.4**
	baz=184						
LOR	**Lormes**	**10.28**	**3**	P	**Pn**	**01 31 52.4**	**+3.4**
HINF	**Hinteralfeld**	**11.15**	**13**	*eP*	**Pn**	**01 32 04.8**	**+3.8**
HINF	**Hinteralfeld**	**11.15**	**13**	P	**Pn**	**01 32 04.8**	**+3.8**
HAU	**Haudompre**	**11.25**	**11**	*eP*	**Pn**	**01 32 05.7**	**+3.3**
HAU	**Haudompre**	**11.25**	**11**	P	**Pn**	**01 32 05.7**	**+3.3**
SFTF	**Sexfontaines**	**11.29**	**7**	*eP*	**Pn**	**01 32 06.1**	**+3.3**
SFTF	**Sexfontaines**	**11.29**	**7**	P	**Pn**	**01 32 06.1**	**+3.3**
CDF	**Champ du Feu**	**11.80**	**14**	*eP*	**Pn**	**01 32 11.9**	**+1.9**
CDF	**Champ du Feu**	**11.80**	**14**	P	**Pn**	**01 32 11.9**	**+1.9**
RICI	**Ricice**	**12.50**	**54**	Sg	**Sn**	**01 34 37.2**	**-1.4**
BAIF	**Baives**	**13.08**	**3**	*eP*	**Pn**	**01 32 30.5**	**+3.2**
BAIF	**Baives**	**13.08**	**3**	P	**Pn**	**01 32 30.5**	**+3.2**

*BUD **03** 01:48:06.4, 48.03N×19.39E, h0km±1km, ML3.0/18*
*KRSZO **03** 01:48:06.1±0.9, 48.03N×19.41E, h2km±6km, ML2.2/5, Error ellipse: s-maj=2.4km s-min=2.2km az=94.0*
*IPEC **03** 01:48:06.7±0.1, 48.04N×19.37E, h6km±1km, ML2.4/4, Error ellipse: s-maj=1.9km s-min=0.9km az=21.0*
*PRU **03** 01:48:07.8±0.0, 48.00N×19.35E, h12km*
ISC 03 01:48:06.9±1.0, 48.05N±0.01×19.38E±0.01, h6km±9km, n193, σ0.987/400, 19C-14D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSZ	**Piszkesteto**	**0.37**	**110**	⇑*i*Pg	**Pg**	**01 48 13.8**	**-0.2**
PSZ				⇑*e*Sg	**Sg**	**01 48 18.6**	**-0.3**
PSZ	**Piszkesteto**	**0.37**	**110**	⇑P	**Pg**	**01 48 13.8**	**-0.2**
PSZ				⇑S	**Sg**	**01 48 18.5**	**-0.3**
PSZ	**Piszkesteto**	**0.37**	**110**	Pg	**Pg**	**01 48 13.8**	**-0.2**
PSZ				Pg	**Pg**	**01 48 13.8**	**-0.2**
PSZ				Pg	**Pg**	**01 48 13.8**	**-0.2**
PSZ				Pg	**Pg**	**01 48 13.8**	**-0.2**
PSZ				Sg	**Sg**	**01 48 18.5**	**-0.3**
PSZ				Sg	**Sg**	**01 48 18.5**	**-0.3**
PSZ				*e*Sg	**Sg**	**01 48 18.6**	**-0.3**
PSZ				Sg	Sg	01 48 18.6	-0.3
PSZ				AML	AML	01 48 19.5	
IZAB	**Izabela**	**0.57**	**23**	*e*Pg	**Pg**	**01 48 18.5**	**+0.7**
IZAB				*e*Sg	**Sg**	**01 48 26.0**	**+0.8**
IZAB	**Izabela**	**0.57**	**23**	Pg	**Pg**	**01 48 18.5**	**+0.7**
IZAB				*e*Pg	**Pg**	**01 48 18.5**	**+0.7**
IZAB				Lg	Lg	01 48 26.0	
IZAB				*e*Lg	Lg	01 48 26.0	
VYHS	**Vyhne**	**0.58**	**321**	*e*Pg	**Pb**	**01 48 19.1**	**-0.2**
VYHS				*e*Sg	**Sb**	**01 48 27.2**	**-0.6**
VYHS	**Vyhne**	**0.58**	**321**	Pg	**Pb**	**01 48 19.1**	**-0.2**
VYHS				*e*Pg	**Pb**	**01 48 19.1**	**-0.2**
VYHS				Lg	Lg	01 48 27.2	
VYHS				*e*Lg	Lg	01 48 27.2	
VYHS	**Vyhne**	**0.58**	**321**	*e*PG	**Pb**	**01 48 19.1**	**-0.2**
VYHS				*e*SG	**Sb**	**01 48 27.2**	**-0.6**
BUD	**Budapest**	**0.61**	**203**	⇓*e*Pg	**Pg**	**01 48 18.4**	**-0.2**
BUD				⇓*e*Sg	**Sb**	**01 48 28.5**	**-0.3**
BUD	**Budapest**	**0.61**	**203**	Pg	**Pg**	**01 48 18.4**	**-0.2**
BUD				*e*Pg	**Pg**	**01 48 18.4**	**-0.2**
BUD				Lg	Lg	01 48 28.5	
BUD				*e*Lg	Lg	01 48 28.5	
SRO2	**Moca**	**0.72**	**247**	*e*Pg	**Pg**	**01 48 19.8**	**-0.9**
SRO2				*e*Sg	**Sg**	**01 48 30.7**	**+0.6**
SRO2	**Moca**	**0.72**	**247**	Pg	**Pg**	**01 48 19.8**	**-0.9**
SRO2				*e*Pg	**Pg**	**01 48 19.8**	**-0.9**
SRO2				Lg	Lg	01 48 30.7	
SRO2				*e*Lg	Lg	01 48 30.7	
SRO2	**Moca**	**0.72**	**247**	*e*PG	**Pg**	**01 48 19.8**	**-0.9**
SRO2				*e*SG	**Sg**	**01 48 30.7**	**+0.6**
SRO2				*e*LG	Lg	01 48 33.7	
SRO	**Srobarova**	**0.76**	**252**	*e*Pg	**Pb**	**01 48 21.8**	**-0.6**
SRO				*e*Sg	**Sb**	**01 48 32.9**	**0.0**
SRO	**Srobarova**	**0.76**	**252**	Pg	**Pb**	**01 48 21.8**	**-0.6**
SRO				*e*Pg	**Pb**	**01 48 21.8**	**-0.6**
SRO				Lg	Lg	01 48 32.9	
SRO				*e*Lg	Lg	01 48 32.9	
SRO	**Srobarova**	**0.76**	**252**	*e*PG	**Pb**	**01 48 21.8**	**-0.6**
SRO				*e*SG	**Sb**	**01 48 32.9**	**0.0**
SRO				*e*LG	Lg	01 48 38.0	
KOLL	**Kolacno**	**0.84**	**310**	*e*PG	**Pb**	**01 48 24.2**	**+0.3**
KOLL				*e*SG	**Sb**	**01 48 35.4**	**0.0**
KECS	**Kecovo**	**0.86**	**59**	*e*Pg	**Pg**	**01 48 22.6**	**-0.7**
KECS				*e*Sg	**Sg**	**01 48 35.0**	**+0.6**
KECS	**Kecovo**	**0.86**	**59**	Pg	**Pg**	**01 48 22.6**	**-0.7**
KECS				*e*Pg	**Pg**	**01 48 22.6**	**-0.7**
KECS				Sg	**Sg**	**01 48 35.0**	**+0.6**
KECS				*e*Sg	**Sg**	**01 48 35.0**	**+0.6**
KECS	**Kecovo**	**0.86**	**59**	*e*PG	**Pg**	**01 48 22.6**	**-0.7**
KECS				*e*SG	**Sg**	**01 48 35.0**	**+0.6**
KECS				*e*LG	Lg	01 48 37.4	
BSZH	**Besenyszg**	**0.96**	**141**	⇓*e*Pg	**Pb**	**01 48 25.4**	**-0.4**
BSZH				⇓*e*Sg	**Sb**	**01 48 39.2**	**+0.5**
BSZH	**Besenyszg**	**0.96**	**141**	Pn	**Pb**	**01 48 25.4**	**-0.4**
BSZH				*e*Pn	**Pb**	**01 48 25.4**	**-0.4**
BSZH				*e*Sb	**Sb**	**01 48 39.1**	**+0.5**
BSZH				Sb	**Sb**	**01 48 39.2**	**+0.5**
CSKK	**Cskako**	**1.02**	**228**	*e*Pg	**Pg**	**01 48 25.9**	**-0.5**
CSKK				*e*Sg	**Sn**	**01 48 42.4**	**+0.1**
CSKK	**Cskako**	**1.02**	**228**	*e*Pg	**Pg**	**01 48 25.9**	**-0.5**
CSKK				Pg	**Pg**	**01 48 25.9**	**-0.5**
CSKK				Sn	**Sn**	**01 48 42.4**	**+0.1**
CSKK				*e*Sn	**Sn**	**01 48 42.4**	**+0.1**
LANS	**Liptovska Anna**	**1.11**	**3**	*e*Pg	**Pn**	**01 48 29.1**	**+0.2**
LANS				*e*Sg	**Sb**	**01 48 43.9**	**+0.8**
LANS	**Liptovska Anna**	**1.11**	**3**	Pn	**Pn**	**01 48 29.1**	**+0.2**
LANS				*e*Pn	**Pn**	**01 48 29.1**	**+0.2**
LANS				Sb	**Sb**	**01 48 43.9**	**+0.8**
LANS				*e*Sb	**Sb**	**01 48 43.9**	**+0.8**
LANS	**Liptovska Anna**	**1.11**	**3**	*e*PG	**Pn**	**01 48 29.1**	**+0.2**
LANS				*e*SG	**Sb**	**01 48 43.9**	**+0.8**
LANS				*e*LG	Lg	01 48 46.3	
SMOL	**Smolenice**	**1.39**	**290**	*e*Sn	**Sn**	**01 48 53.8**	**+2.5**
SMOL				*en*	**Pn**	**01 48 32.4**	**-0.3**
SMOL	**Smolenice**	**1.39**	**290**	x	x	01 48 32.4	
SMOL				*e*Pn	**Pn**	**01 48 32.4**	**-0.3**
SMOL				Lg	Lg	01 48 53.8	
SMOL				*e*Lg	Lg	01 48 53.8	
SMOL	**Smolenice**	**1.39**	**290**	*e*PG	**Pg**	**01 48 34.6**	**+1.2**
SMOL				*e*SG	**Sn**	**01 48 53.8**	**+2.5**
SMOL				*e*LG	Lg	01 48 57.6	
SMOL	**Smolenice**	**1.39**	**290**	*e*	**Pn**	**01 48 32.3**	**-0.4**
JAVC	**Velka Javorina**	**1.40**	**306**	*e*PG	**Pb**	**01 48 33.4**	**0.0**
JAVC				*e*SG	**Sb**	**01 48 50.6**	**-0.9**
JAVC	**Velka Javorina**	**1.40**	**306**	Pn	**Pb**	**01 48 33.4**	**0.0**
JAVC				Sn	**Sb**	**01 48 50.6**	**-0.9**
JAVC	**Velka Javorina**	**1.40**	**306**	*e*Pg	**Pn**	**01 48 33.3**	**+0.4**
	baz=125						
JAVC				*e*Sg	**Sb**	**01 48 50.6**	**-0.9**
	75nm,0.7s,baz=125						
MODS	**Modra-Piesok**	**1.44**	**284**	*e*Sn	**Sg**	**01 48 54.2**	**+0.9**
MODS				*en*	**Pn**	**01 48 32.2**	**-1.3**
MODS	**Modra-Piesok**	**1.44**	**284**	x	x	01 48 32.2	
MODS				*e*Pn	**Pn**	**01 48 32.2**	**-1.3**
MODS				Sn	**Sg**	**01 48 54.2**	**+0.9**
MODS				*e*Sn	**Sg**	**01 48 54.2**	**+0.9**
MODS	**Modra-Piesok**	**1.44**	**284**	*e*PG	**Pb**	**01 48 34.0**	**-0.1**
MODS				*e*SG	**Sg**	**01 48 54.2**	**+0.9**
MODS				*e*LG	Lg	01 48 55.2	
MODS	**Modra-Piesok**	**1.44**	**284**	*e*	**Pn**	**01 48 32.2**	**-1.3**
NIE	**Niedzica**	**1.50**	**24**	*e*Pg	**Pb**	**01 48 35.4**	**+0.2**
NIE				*e*Sg	**Sg**	**01 48 55.0**	**-0.1**
NIE	**Niedzica**	**1.50**	**24**	Pg	**Pb**	**01 48 35.4**	**+0.2**
NIE				Sn	**Sg**	**01 48 55.0**	**-0.1**
EGYH	**Egyhazaskeszo**	**1.52**	**246**	*e*Pg	**Pg**	**01 48 35.9**	**-0.1**
EGYH				*e*Lg	Lg	01 48 58.6	
MPLH	**Magyarpolny**	**1.52**	**236**	⇓*e*Pn	**Pb**	**01 48 35.2**	**-0.3**
MPLH				⇓*e*Sn	**Sg**	**01 49 00.3**	**+4.5**
MPLH	**Magyarpolny**	**1.52**	**236**	*e*Pn	**Pb**	**01 48 35.2**	**-0.3**
MPLH				Pn	**Pb**	**01 48 35.2**	**-0.3**
MPLH				*e*Lg	Lg	01 49 00.3	
MPLH				Lg	Lg	01 49 00.3	
TIH	**Tihany**	**1.53**	**222**	*e*Pn	**Pb**	**01 48 35.1**	**-0.4**
TIH				*e*Sn	**Sg**	**01 48 58.7**	**+2.8**
TIH	**Tihany**	**1.53**	**222**	*e*Pn	**Pb**	**01 48 35.1**	**-0.4**
TIH				Pn	**Pb**	**01 48 35.1**	**-0.4**
TIH				Lg	Lg	01 48 58.7	
TIH				*e*Lg	Lg	01 48 58.7	
CRVS	**Cervenica-Dubn**	**1.63**	**58**	*e*Sn	**Sb**	**01 48 58.1**	**+0.1**
CRVS				*en*	**Pn**	**01 48 36.0**	**0.0**
CRVS	**Cervenica-Dubn**	**1.63**	**58**	x	x	01 48 36.0	
CRVS				*e*Pn	**Pn**	**01 48 36.0**	**0.0**
CRVS				Sb	**Sb**	**01 48 58.1**	**+0.1**
CRVS				*e*Sb	**Sb**	**01 48 58.1**	**+0.1**
CRVS	**Cervenica-Dubn**	**1.63**	**58**	*e*PG	**Pg**	**01 48 37.7**	**-0.3**
CRVS				*e*SG	**Sb**	**01 48 58.1**	**+0.1**
CRVS				*e*LG	Lg	01 49 05.3	
CRVS	**Cervenica-Dubn**	**1.63**	**58**	*e*	**Pn**	**01 48 36.0**	**0.0**
LTVH	**Ltavrtes, Hu**	**1.83**	**110**	*e*Pn	**Pn**	**01 48 38.4**	**-0.3**
LTVH				*e*Sn	**Sg**	**01 49 06.7**	**+1.2**
LTVH	**Ltavrtes, Hu**	**1.83**	**110**	*e*Pn	**Pn**	**01 48 38.4**	**-0.3**
LTVH				Pn	**Pn**	**01 48 38.4**	**-0.3**
LTVH				*e*Sg	**Sg**	**01 49 06.7**	**+1.2**
LTVH				Sg	**Sg**	**01 49 06.7**	**+1.2**
STHS	**Stebnicka Huta**	**1.84**	**41**	*en*		01 48 39.5	
STHS	**Stebnicka Huta**	**1.84**	**41**	*e*Pn	**Pn**	**01 48 39.5**	**+0.5**
STHS				x	x	01 48 39.5	
STHS	**Stebnicka Huta**	**1.84**	**41**	*e*	**Pn**	**01 48 39.5**	**+0.5**
MORH	**Mrgy, Hungar**	**1.90**	**196**	⇓*e*Pn	**Pn**	**01 48 38.4**	**-1.3**
MORH	**Mrgy, Hungar**	**1.90**	**196**	Pn	**Pn**	**01 48 38.4**	**-1.3**
MORH				*e*Pn	**Pn**	**01 48 38.4**	**-1.3**
SOP	**Sopron**	**1.94**	**260**	⇓*e*Pn	**Pn**	**01 48 40.0**	**-0.2**
SOP				⇓*e*Sn	**Sn**	**01 49 04.6**	**-0.2**
SOP	**Sopron**	**1.94**	**260**	Pn	**Pn**	**01 48 40.0**	**-0.2**
SOP				*e*Pn	**Pn**	**01 48 40.0**	**-0.2**
SOP				Sn	**Sn**	**01 49 04.6**	**-0.2**
SOP				*e*Sn	**Sn**	**01 49 04.6**	**-0.2**
OKC	**Ostrava-Krasne**	**1.97**	**336**	*e*Pn	**Pn**	**01 48 41.8**	**+1.1**
OKC	**Ostrava-Krasne**	**1.97**	**336**	Pn	**Pn**	**01 48 41.8**	**+1.1**
OKC				Pn	**Pn**	**01 48 41.8**	**+1.1**
OKC				*e*Pn	**Pn**	**01 48 41

BZS			Pn	**Pn**	**01 48 52.1**	**-1.0**	
BZS			Pb	**Pn**	**01 48 53.0**	**-0.2**	
BZS			Pb	**Pn**	**01 48 53.0**	**-0.2**	
DPC	**Dobruska-Polom**	**3.06 320**	*e*Pn	**Pn**	**01 48 56.4**	**+0.7**	
DPC			*e*Sn	**Sn**	**01 49 33.0**	**+0.5**	
DPC	**Dobruska-Polom**	**3.06 320**	Pn	**Pn**	**01 48 56.4**	**+0.7**	
DPC			Pn	**Pn**	**01 48 56.4**	**+0.7**	
DPC			*e*Pb	**Pn**	**01 48 56.4**	**+0.7**	
DPC			Sn	**Sn**	**01 49 33.0**	**+0.5**	
DPC			Sn	**Sn**	**01 49 33.0**	**+0.5**	
DPC			*e*Sn	**Sn**	**01 49 33.0**	**+0.5**	
DPC	**Dobruska-Polom**	**3.06 320**	*e*PN	**Pn**	**01 48 56.4**	**+0.7**	
DPC			Sn	**Sn**	**01 49 33.0**	**+0.5**	
CJR	**Cluj-Napoca**	**3.16 113**	⇑Pn	**Pn**	**01 48 56.8**	**-0.3**	
CJR	**Cluj-Napoca**	**3.16 113**	⇑P	**Pn**	**01 48 56.8**	**-0.3**	
CJR	**Cluj-Napoca**	**3.16 113**	AML	AML	01 50 14.6		
CJR			Pb	**Pn**	**01 48 56.8**	**-0.3**	
CJR			Pn	**Pn**	**01 48 56.8**	**-0.3**	
CJR			Pg	**Pn**	**01 48 56.8**	**-0.3**	
CJR			Pg	**Pn**	**01 48 56.8**	**-0.3**	
DEV	**Deva**	**3.24 131**	⇑Pn	**Pn**	**01 48 57.5**	**-0.6**	
DEV	**Deva**	**3.24 131**	⇑P	**Pn**	**01 48 57.6**	**-0.6**	
DEV	**Deva**	**3.24 131**	Pg	**Pn**	**01 48 57.6**	**-0.6**	
DEV			Pb	**Pn**	**01 48 57.5**	**-0.6**	
DEV			Pn	**Pn**	**01 48 57.5**	**-0.6**	
DEV			Pg	**Pn**	**01 48 57.6**	**-0.6**	
DEV			AML	AML	01 49 36.6		
OSTC	**Ostas**	**3.25 322**	Pn	**Pn**	**01 48 59.0**	**+0.6**	
OSTC			Lg	Lg	01 49 52.0		
	20nm,0.8s						
OSTC	**Ostas**	**3.25 322**	*e*PN	**Pn**	**01 48 59.0**	**+0.6**	
OSTC			*e*SG	**Sg**	**01 49 52.0**	**+0.6**	
	comp=Z,20nm,0.8s						
SOKA	**Soboth**	**3.26 247**	Pn	**Pn**	**01 48 58.5**	**0.0**	
SOKA	**Soboth**	**3.26 247**	*i* Pn	**Pn**	**01 48 58.5**	**0.0**	
	0.8nm,0.3s						
SOKA	**Soboth**	**3.26 247**	Pn	**Pn**	**01 48 58.5**	**0.0**	
SOKA			Pn	**Pn**	**01 48 58.5**	**0.0**	
SOKA			Pn	**Pn**	**01 48 58.5**	**0.0**	
	0.8nm,0.3s						
UPC	**Upice**	**3.31 319**	*e*Pn	**Pn**	**01 49 00.1**	**+1.0**	
UPC			*e*Sn	**Sg**	**01 49 53.1**	**+0.1**	
UPC	**Upice**	**3.31 319**	Pn	**Pn**	**01 49 00.1**	**+1.0**	
UPC			Pn	**Pn**	**01 49 00.1**	**+1.0**	
UPC			*e*Pb	**Pn**	**01 49 00.1**	**+1.0**	
UPC			Sg	**Sg**	**01 49 53.1**	**+0.1**	
	28nm,0.9s						
UPC			*e*Sg	**Sg**	**01 49 53.1**	**+0.1**	
UPC			Sg	**Sg**	**01 49 53.1**	**+0.1**	
UPC	**Upice**	**3.31 319**	*e*PN	**Pn**	**01 49 00.1**	**+1.0**	
UPC			*e*SG	**Sg**	**01 49 53.1**	**+0.1**	
	comp=Z,28nm,0.9s						
CHVC	**Chvalec**	**3.35 321**	Pn	**Pn**	**01 49 00.2**	**+0.5**	
CHVC			Lg	Lg	01 49 55.5		
	19nm,0.9s						
CHVC	**Chvalec**	**3.35 321**	*e*PN	**Pn**	**01 49 00.2**	**+0.5**	
CHVC			*e*SG	**Sg**	**01 49 55.5**	**+1.2**	
	comp=Z,19nm,0.9s						
MOA	**Molln**	**3.44 269**	Pn	**Pn**	**01 49 01.4**	**+0.4**	
MOA	**Molln**	**3.44 269**	*i* Pn	**Pn**	**01 49 01.4**	**+0.4**	
	0.4nm,0.1s,SNR=6.0						
MOA	**Molln**	**3.44 269**	Pg	**Pn**	**01 49 01.4**	**+0.4**	
MOA			Pn	**Pn**	**01 49 01.4**	**+0.4**	
	0.4nm,0.1s						
MOA			Pb	**Pn**	**01 49 01.4**	**+0.4**	
GOPC	**GO Pecny, Ondr**	**3.56 303**	*e*Pn	**Pn**	**01 49 03.1**	**+0.6**	
GOPC			*e*Sn	**Sn**	**01 49 44.1**	**-0.7**	
GOPC	**GO Pecny, Ondr**	**3.56 303**	*e*Pn	**Pn**	**01 49 03.1**	**+0.6**	
GOPC			Pb	**Pn**	**01 49 03.1**	**+0.6**	
GOPC			Pb	**Pn**	**01 49 03.1**	**+0.6**	
GOPC			Sb	**Sn**	**01 49 44.1**	**-0.7**	
GOPC			Sb	**Sn**	**01 49 44.1**	**-0.7**	
GOPC			*e*Sn	**Sn**	**01 49 44.1**	**-0.7**	
GOPC	**GO Pecny, Ondr**	**3.56 303**	*e*PN	**Pn**	**01 49 03.1**	**+0.6**	
GOPC			*e*SN	**Sn**	**01 49 44.1**	**-0.7**	
OBKA	**Obir**	**3.63 247**	Pn	**Pn**	**01 49 04.1**	**+0.5**	
OBKA	**Obir**	**3.63 247**	*e*Pn	**Pn**	**01 49 04.1**	**+0.5**	
	0.7nm,0.3s						
OBKA	**Obir**	**3.63 247**	Pn	**Pn**	**01 49 04.1**	**+0.5**	
OBKA			Pb	**Pn**	**01 49 04.1**	**+0.5**	
OBKA			Pb	**Pn**	**01 49 04.1**	**+0.5**	
	0.7nm,0.3s						
MDVR	**Moldovita**	**3.64 153**	⇑Pn	**Pn**	**01 49 03.3**	**-0.5**	
MDVR	**Moldovita**	**3.64 153**	⇑P	**Pn**	**01 49 03.3**	**-0.5**	
MDVR	**Moldovita**	**3.64 153**	Pn	**Pn**	**01 49 03.2**	**-0.5**	
MDVR			Pb	**Pn**	**01 49 03.3**	**-0.5**	
PRU	**Pruhonice**	**3.73 303**	*e*Pn	**Pn**	**01 49 05.0**	**+0.1**	
PRU			*e*Sn	**Sn**	**01 49 48.1**	**-1.0**	
PRU	**Pruhonice**	**3.73 303**	Pn	**Pn**	**01 49 05.0**	**+0.1**	
PRU			Pn	**Pn**	**01 49 05.0**	**+0.1**	
PRU			*e*Pb	**Pn**	**01 49 05.0**	**+0.1**	
PRU			Sn	**Sn**	**01 49 48.1**	**-1.0**	
PRU			Sn	**Sn**	**01 49 48.1**	**-1.0**	
PRU			*e*Sb	**Sn**	**01 49 48.1**	**-1.0**	
PRU	**Pruhonice**	**3.73 303**	*e*PN	**Pn**	**01 49 05.0**	**+0.1**	
PRU			*e*SN	**Sn**	**01 49 48.1**	**-1.0**	
HERR	**Herculane**	**3.80 145**	⇑Pn	**Pn**	**01 49 05.4**	**-0.4**	
HERR	**Herculane**	**3.80 145**	⇑P	**Pn**	**01 49 05.4**	**-0.4**	
HERR	**Herculane**	**3.80 145**	Pn	**Pn**	**01 49 05.4**	**-0.4**	
HERR			Pb	**Pn**	**01 49 05.4**	**-0.4**	
HERR			Pb	**Pn**	**01 49 05.4**	**-0.4**	
HERR			Pb	**Pn**	**01 49 05.4**	**-0.4**	
PRA	**Prague**	**3.83 304**	*e*Pn	**Pn**	**01 49 07.0**	**+0.7**	
PRA			*e*Sn	**Sn**	**01 49 51.0**	**-0.6**	
PRA	**Prague**	**3.83 304**	Pb	**Pn**	**01 49 07.0**	**+0.7**	
PRA			Pb	**Pn**	**01 49 07.0**	**+0.7**	
PRA			*e*Pn	**Pn**	**01 49 07.0**	**+0.7**	
PRA			Sb	**Sn**	**01 49 51.0**	**-0.6**	
PRA			Sb	**Sn**	**01 49 51.0**	**-0.6**	
PRA			*e*Sn	**Sn**	**01 49 51.0**	**-0.6**	
PRA	**Prague**	**3.83 304**	*e*PN	**Pn**	**01 49 07.0**	**+0.7**	
PRA			*e*SN	**Sn**	**01 49 51.0**	**-0.6**	
GEC2	**GERESS Array S**	**3.86 284**	*e*Pn	**Pn**	**01 49 07.3**	**+0.5**	
PBCC	**Pribram**	**3.92 297**	Pn	**Pn**	**01 49 07.7**	**+0.2**	
PBCC	**Pribram**	**3.92 297**	*e*PN	**Pn**	**01 49 07.7**	**+0.2**	
BURAR	**Bucovina Array**	**3.96 94**	⇑Pn	**Pn**	**01 49 08.4**	**+0.3**	
BURAR	**Bucovina Array**	**3.96 94**	Pn	**Pn**	**01 49 08.4**	**+0.3**	
BURAR			Pn	**Pn**	**01 49 08.4**	**+0.3**	
BURAR			Pn	**Pn**	**01 49 08.4**	**+0.3**	
KHC	**Kasperske Hory**	**4.00 288**	*e*Pn	**Pn**	**01 49 09.1**	**+0.4**	
KHC			*e*Sn	**Sn**	**01 49 55.5**	**-0.4**	
KHC	**Kasperske Hory**	**4.00 288**	Pn	**Pn**	**01 49 09.1**	**+0.4**	
KHC			Pn	**Pn**	**01 49 09.1**	**+0.4**	
KHC			*e*Pb	**Pn**	**01 49 09.1**	**+0.4**	
KHC			Sn	**Sn**	**01 49 55.5**	**-0.4**	
KHC			Sn	**Sn**	**01 49 55.5**	**-0.4**	
KHC			*e*Sb	**Sn**	**01 49 55.5**	**-0.4**	
KHC	**Kasperske Hory**	**4.00 288**	*e*PN	**Pn**	**01 49 09.1**	**+0.4**	
KHC			*e*SN	**Sn**	**01 49 55.5**	**-0.4**	
PVCC	**Panska Ves**	**4.01 310**	*e*Pn	**Pn**	**01 49 09.2**	**+0.5**	
PVCC	**Panska Ves**	**4.01 310**	Pn	**Pn**	**01 49 09.2**	**+0.5**	
PVCC			Pn	**Pn**	**01 49 09.2**	**+0.5**	
PVCC			*e*Pn	**Pn**	**01 49 09.2**	**+0.5**	
PVCC	**Panska Ves**	**4.01 310**	*e*PN	**Pn**	**01 49 09.2**	**+0.5**	
UDBI	**Udbina**	**4.32 217**	Pn	**Pn**	**01 49 14.4**	**+1.3**	
UDBI	**Udbina**	**4.32 217**	*e*Pn	**Pn**	**01 49 14.0**	**+1.0**	
WET	**Wettzell**	**4.45 287**	*e*Pn	**Pn**	**01 49 15.2**	**+0.3**	
BRG	**Berggiesshubel**	**4.54 311**	PG	**Pb**	**01 49 25.2**	**-1.6**	
BRG			SG	**Sb**	**01 50 17.1**	**-4.6**	
	3.3nm,0.7s						
BRG	**Berggiesshubel**	**4.54 311**	Pg	**Pb**	**01 49 25.2**	**-1.6**	
BRG			Sn	**Sb**	**01 50 17.8**	**-3.8**	
	3.3nm,0.7s						
DOPR	**Dopca**	**4.61 115**	⇑Pn	**Pn**	**01 49 17.0**	**0.0**	
DOPR	**Dopca**	**4.61 115**	⇑P	**Pn**	**01 49 17.0**	**0.0**	
DOPR	**Dopca**	**4.61 115**	Pn	**Pn**	**01 49 17.0**	**0.0**	
DOPR			Pn	**Pn**	**01 49 17.0**	**0.0**	
DOPR			Pg	**Pn**	**01 49 17.0**	**0.0**	
DOPR			Pb	**Pn**	**01 49 17.0**	**0.0**	
NVLJ	**Novalja**	**4.68 224**	Pn	**Pn**	**01 49 19.4**	**+1.4**	
NVLJ			Sn	**Sn**	**01 50 12.7**	**+0.2**	
NVLJ	**Novalja**	**4.68 224**	*e*Pn	**Pn**	**01 49 19.4**	**+1.4**	
NVLJ			Sn	**Sn**	**01 50 12.7**	**+0.2**	
VOIR		**4.69 122**	⇑Pn	**Pn**	**01 49 18.5**	**+0.3**	
VOIR		**4.69 122**	⇑P	**Pn**	**01 49 18.5**	**+0.3**	
VOIR		**4.69 122**	Pn	**Pn**	**01 49 18.5**	**+0.3**	
VOIR			Pn	**Pn**	**01 49 18.5**	**+0.3**	
VOIR			Pn	**Pn**	**01 49 18.5**	**+0.3**	
VOIR			Pb	**Pn**	**01 49 18.5**	**+0.3**	
RICI	**Ricice**	**4.82 200**	*e*Pn	**Pn**	**01 49 20.8**	**+0.9**	
MORI	**Morici**	**4.90 213**	Pn	**Pn**	**01 49 22.2**	**+1.2**	
MORI			Sn	**Sn**	**01 50 19.0**	**+1.0**	
MORI	**Morici**	**4.90 213**	*e*Pn	**Pn**	**01 49 22.2**	**+1.2**	
MORI			Sn	**Sn**	**01 50 19.0**	**+1.0**	
ROTZ	**Rotzenmuhle**	**5.03 293**	*e*Pn	**Pn**	**01 49 23.2**	**+0.4**	
ROTZ			*e*Sn	**Sn**	**01 50 17.4**	**-3.9**	
NKC	**Novy Kostel**	**5.05 298**	*e*Pn	**Pn**	**01 49 23.8**	**+0.8**	
NKC	**Novy Kostel**	**5.05 298**	Pn	**Pn**	**01 49 23.8**	**+0.8**	
NKC			Pn	**Pn**	**01 49 23.8**	**+0.8**	
NKC			*e*Pn	**Pn**	**01 49 23.8**	**+0.8**	
NKC	**Novy Kostel**	**5.05 298**	*e*PN	**Pn**	**01 49 23.8**	**+0.8**	
DUGI	**Dugi Otok**	**5.05 218**	Pn	**Pn**	**01 49 25.9**	**+2.8**	
DUGI			Sn	**Sn**	**01 50 23.8**	**+2.1**	
DUGI	**Dugi Otok**	**5.05 218**	*e*Pn	**Pn**	**01 49 25.9**	**+2.8**	
DUGI			Sn	**Sn**	**01 50 23.1**	**+1.4**	
ZIRJ	**Zirje**	**5.11 212**	Pn	**Pn**	**01 49 26.1**	**+2.3**	
ZIRJ			Sn	**Sn**	**01 50 22.4**	**-0.7**	
ZIRJ	**Zirje**	**5.11 212**	*e*Pn	**Pn**	**01 49 26.1**	**+2.3**	
ZIRJ			Sn	**Sn**	**01 50 22.4**	**-0.7**	
WERN	**Wernitzgruen**	**5.11 299**	*e*Pn	**Pn**	**01 49 24.8**	**+0.9**	
TANN	**Tannenbergstha**	**5.12 300**	*e*Pn	**Pn**	**01 49 24.6**	**+0.6**	
MANZ	**Manzenberg**	**5.16 295**	*e*Pn	**Pn**	**01 49 25.0**	**+0.4**	
CLL	**Collm**	**5.27 311**	*i* Pn	**Pn**	**01 49 26.6**	**+0.6**	
	comp=Z,4.0nm,0.3s						
CLL			*e*(Sg)	**Sg**	**01 50 55.0**	**-1.0**	
CLL	**Collm**	**5.27 311**	Pn	**Pn**	**01 49 26.6**	**+0.6**	
	comp=Z,4.0nm,0.3s						
CLL	**Collm**	**5.27 311**	*e*Pn	**Pn**	**01 49 26.6**	**+0.6**	
HVAR	**Hvar**	**5.29 204**	Pn	**Pn**	**01 49 27.6**	**+1.3**	
HVAR			Sn	**Sn**	**01 50 27.4**	**0.0**	
HVAR	**Hvar**	**5.29 204**	*e*Pn	**Pn**	**01 49 27.6**	**+1.3**	
HVAR			Sn	**Sn**	**01 50 27.4**	**0.0**	
WTTA	**Wattenberg**	**5.29 264**	Pn	**Pn**	**01 49 26.9**	**+0.4**	
WTTA	**Wattenberg**	**5.29 264**	*i* Pn	**Pn**	**01 49 26.9**	**+0.4**	
	comp=Z,0.5nm,0.2s						
WTTA	**Wattenberg**	**5.29 264**	Pn	**Pn**	**01 49 26.9**	**+0.4**	
WTTA			Pn	**Pn**	**01 49 26.9**	**+0.4**	
	comp=Z,0.5nm,0.2s						
WTTA			Pb	**Pn**	**01 49 26.9**	**+0.4**	
STON	**Ston**	**5.31 193**	Pn	**Pn**	**01 49 28.3**	**+1.7**	
STON	**Ston**	**5.31 193**	*e*Pn	**Pn**	**01 49 28.3**	**+1.7**	
PLN	**Plauen**	**5.32 300**	*e*Pn	**Pn**	**01 49 27.2**	**+0.4**	
DBRK	**Dubrovnik**	**5.45 190**	Pn	**Pn**	**01 49 29.5**	**+1.0**	
DBRK			Sn	**Sn**	**01 50 32.5**	**+1.0**	
DBRK	**Dubrovnik**	**5.45 190**	*e*Pn	**Pn**	**01 49 29.5**	**+1.0**	
DBRK			Sn	**Sn**	**01 50 32.5**	**+1.0**	
MOX	**Moxa**	**5.70 300**	*e*Pn	**Pn**	**01 49 33.5**	**+1.6**	
UBR	**Ueberruh**	**6.25 270**	*e*Pn	**Pn**	**01 49 40.2**	**+0.6**	
CLZ	**Clausthal**	**6.94 307**	*e*Pn	**Pn**	**01 49 51.1**	**+2.1**	

*IDC **03** 02:29:57.8±1.8, 1°.67S×133°.88E, h0km, mb3.7/3, mb1 4.0/6, mb1mx3.6/36, mbtmp3.8/6, ML3.7/3, Error ellipse: s-maj=51.6km s-min=22.9km az=66.0*
*DJA **03** 02:29:59.8±0.5, 2°.5×13°.4E±°, h10km, M3.6/5, MLv3.6/5*
*NEIC **03** 02:30:07.1±1.4, 1°.9S±0°.1×133°.37E±0°.07, h58km±15km, mb4.0/4, Error ellipse: s-maj=17.7km s-min=7.7km az=200.0*

ISC 03 02:30:00.9±0.8, **1°.61S**±0°.09×**133°.81E**±0°.07, **h24**km, **n13**, σ0s**97**/15, **mb3.8**/3, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.38**	**74**	P	**Pb**	**02 30 08.7**	**-0.4**
RKPI				S	**Sb**	**02 30 14.6**	**0.0**
FAKI	**Fak Fak**	**2.03**	**230**	P	**Pn**	**02 30 34.0**	**+0.4**
FAKI				S	**Sn**	**02 30 58.6**	**+0.4**
FAKI	**Fak Fak**	**2.03**	**230**		**Pn**	**02 30 34.0**	**+0.4**
SIJI	**Sorong**	**2.65**	**286**	Pn	**Pn**	**02 30 42.0**	**-0.1**
	14nm,0.3s,baz=53,slow=20,SNR=33						
SIJI				Sn	**Sn**	**02 31 12.4**	**-1.1**
	17nm,0.3s,baz=287,slow=19,SNR=12						
WRA	**Warramunga Arr**	**18.22**	**178**	P	**P**	**02 34 13.2**	**+0.8**
	0.2nm,0.3s,baz=358,slow=11,SNR=15						
WB2	**Warramunga Arr**	**18.23**	**178**	P	**P**	**02 34 12.2**	**-0.3**
WB2				IAmb	IAmb	02 34 18.3	
	comp=Z,15nm,1.2s						
FITZ	**Fitzroy Crossi**	**18.24**	**206**	P	**P**	**02 34 11.4**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=30,slow=13,SNR=1.9						
FITZ	**Fitzroy Crossi**	**18.24**	**206**	IAmb	IAmb	02 34 57.9	
	comp=Z,32nm,1.9s						
WR0	**Warramunga Arr**	**18.25**	**178**	P	**P**	**02 34 13.0**	**+0.3**
WR0				IAmb	IAmb	02 35 01.4	
	comp=Z,11nm,1.3s						
AS31	**Alice Springs**	**21.92**	**180**	P	**P**	**02 34 51.7**	**-1.0**
ASAR	**Alice Springs**	**21.92**	**180**	P	**P**	**02 34 53.7**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=7.8,slow=12,SNR=19						
MKAR	**Makanchi Array**	**65.98**	**324**	P	**P**	**02 40 47.4**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=116,slow=8.2,SNR=5.9						
VNDA	**Vanda**	**77.34**	**174**	P	**P**	**02 41 52.1**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=346,slow=6.2,SNR=6.1						

*JMA **03** 02:49:52.2±0.1, 42°.94N×145°.52E, h45km±1km, M3.3*
*SKHL **03** 02:49:52.5±0.6, 42°.90N×145°.62E, h40km±4km, mb3.7/3*

ISC 03 02:49:51.3±1.8, **42°.95N**±0°.09×**145°.57E**±0°.06, **h21**km±5km, **n14**, σ0s**52**/26, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKHN	**Kushirohamanak**	**0.33**	**294**	P	**Pn**	**02 50 00.9**	**+0.1**
JKHN				*e*S	**Sn**	**02 50 07.0**	**+0.1**
NEM2	**Nemuro 2**	**0.43**	**17**	P	**Pn**	**02 50 02.5**	**+0.3**
NEM2				*e*S	**Sn**	**02 50 09.7**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.43**	**15**	*i* P	**Pn**	**02 50 02.5**	**+0.3**
NMR				*i* S	**Sn**	**02 50 09.8**	**+0.3**
JAK	**Akkeshi**	**0.65**	**274**	P	**Pb**	**02 50 04.4**	**+0.5**
JAK				*e*S	**Sb**	**02 50 13.3**	**+0.8**
GLVR	**Golovnino**	**0.79**	**357**	*e*P	**Pn**	**02 50 07.1**	**0.0**
GLVR				AMB	AMB	02 50 07.4	
	30nm,0.2s						
GLVR				*i* S	**Sn**	**02 50 18.5**	**+0.3**
GLVR				A	A	02 50 20.0	
	1μm,0.3s						
GLVR				A	A	02 50 20.0	
	520nm,0.3s						
JNK	**Nakash**	**0.89**	**316**	P	**Pb**	**02 50 08.0**	**0.0**
JNK				*e*S	**Sb**	**02 50 18.9**	**-0.5**
JNSB	**Nemuroshibetsu**	**0.92**	**333**	P	**Pn**	**02 50 08.9**	**-0.1**
JNSB				*e*S	**Sb**	**02 50 21.1**	**+0.7**
JRA	**Rausu**	**1.04**	**342**	P	**Pb**	**02 50 10.5**	**0.0**
JRA				*e*S	**Sb**	**02 50 24.3**	**+0.6**
GRPR	**Tuman**	**1.05**	**8**	*e*P	**Pb**	**02 50 10.3**	**-0.5**
GRPR				AMB	AMB	02 50 11.0	
	10.0nm,0.2s						
GRPR				*i* S	**Sb**	**02 50 23.2**	**-0.9**
GRPR				A	A	02 50 25.0	
	1μm,0.3s						
GRPR				A	A	02 50 25.0	
	460nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.10**	**11**	*i* P	**Pb**	**02 50 11.5**	**-0.1**
YUK				AMB	AMB	02 50 14.0	
	20nm,0.2s						
YUK				*i* S	**Sb**	**02 50 25.5**	**-0.1**
YUK				A	A	02 50 30.0	
	590nm,0.4s						
YUK				A	A	02 50 30.0	
	540nm,0.4s						
JOB	**Onbets**	**1.28**	**268**	P	**Pn**	**02 50 13.0**	**-0.8**
JAR	**Ashorobuto**	**1.36**	**285**	P	**Pn**	**02 50 14.4**	**-0.6**
JTKR	**Abashiri--Toko**	**1.58**	**311**	P	**Pn**	**02 50 18.2**	**+0.2**
JTKR				*e*S	**Sn**	**02 50 37.7**	**-0.1**
KUR	**Kuril'sk**	**2.82**	**35**	*e*P	**Pn**	**02 50 35.7**	**+0.7**
KUR				*e*S	**Sn**	**02 51 07.4**	**-0.9**
KUR				A	A	02 51 07.9	
	40nm,0.2s						
KUR				A	A	02 51 07.9	
	10.0nm,0.2s						

ISC 03 02:50:34.0±2.2, **44°.34N**±0°.05×**17°.49E**±0°.10, **h3**km±22km, **n6**, σ1s**04**/12, **2C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MGRS	**Mrkonjic Grad**	**0.30**	**285**	⇑*i*Pg	**Pg**	**02 50 38.8**	**-1.1**
MGRS				*e*Sg	**Sg**	**02 50 43.1**	**-0.7**
BLY	**Banja Luka**	**0.47**	**332**	⇑*i*Pg	**Pb**	**02 50 44.6**	**-0.3**
BLY				*e*Sg	**Sg**	**02 50 50.8**	**+1.8**
RICI	**Ricice**	**0.88**	**197**	*e*Pg	**Pg**	**02 50 50.7**	**-0.2**
RICI				Sg	**Sb**	**02 51 03.6**	**-0.5**
MORI	**Morici**	**1.37**	**250**	*e*Pg	**Pg**	**02 51 00.1**	**-0.2**
MORI				Sg	**Sg**	**02 51 17.8**	**-0.2**
ZIRJ	**Zirje**	**1.50**	**243**	*e*Pg	**Pg**	**02 51 02.7**	**0.0**
ZIRJ				Sg	**Sg**	**02 51 23.4**	**+1.2**
DUGI	**Dugi Otok**	**1.78**	**260**	*e*Pg	**Pg**	**02 51 08.7**	**+0.4**
DUGI				Sg	**Sg**	**02 51 32.7**	**+1.3**

*IDC **03** 02:52:47.6±0.8, 0°.78N×146°.45E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/35, mbtmp4.0/11, ML2.9/1, Error ellipse: s-maj=27.8km s-min=16.8km az=105.0*
*NEIC **03** 02:52:49.8±1.5, 0°.7N±0°.1×146°.4E±0°.1, h14km±4km, mb4.5/20, Error ellipse: s-maj=22.4km s-min=15.1km az=121.0*

ISC 03 02:52:49.3±0.7, **0°.7N**±0°.1×**146°.3E**±0°.1, **h10**km, **n34**, σ1s**09**/32, **mb4.2**/17, **Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**6.45**	**240**	Pn	**Pn**	**02 54 24.7**	**+0.3**
	0.2nm,0.3s,baz=174,slow=9.3,SNR=2.2						
JAY				Sn	**Sn**	**02 55 35.0**	**-3.2**
	0.2nm,0.3s,baz=154,slow=18,SNR=1.3						
DAV	**Davao City (W)**	**21.63**	**288**	P	**P**	**02 57 41.9**	**+1.9**
	441nm,0.6s,baz=340,slow=23,SNR=1.8						
DAV	**Davao City (W)**	**21.63**	**288**	IAmb	IAmb	02 57 47.3	
	comp=Z,416nm,0.5s						
WB2	**Warramunga Arr**	**23.62**	**209**	P	**P**	**02 58 00.9**	**+0.1**
WRA	**Warramunga Arr**	**23.62**	**209**	P	**P**	**02 58 01.4**	**+0.6**
	comp=Z,3.9nm,0.8s,baz=32,slow=11,SNR=23						
ASAR	**Alice Springs**	**27.05**	**206**	P	**P**	**02 58 33.3**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=27,slow=13,SNR=13						
FITZ	**Fitzroy Crossi**	**27.61**	**226**	P	**P**	**02 58 37.6**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=42,slow=9.1,SNR=6.2						
CMAR	**Chiang Mai Arr**	**49.72**	**294**	P	**P**	**03 01 44.1**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=117,slow=6.5,SNR=4.1						
PETK	**Petropavlovsk-**	**53.10**	**9**	P	**P**	**03 02 05.5**	**-1.3**
	comp=Z,3.2nm,0.6s,baz=152,slow=6.7,SNR=7.0						
SONM	**Songino Array**	**58.30**	**329**	P	**P**	**03 02 44.1**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=134,slow=6.2,SNR=1.1						
MK31	**Makanchi Array**	**71.97**	**319**	P	**P**	**03 04 12.8**	**-0.5**
MK31				IAmb	IAmb	03 05 19.3	
	comp=Z,4.2nm,1.4s						
MKAR	**Makanchi Array**	**71.97**	**319**	P	**P**	**03 04 13.4**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=98,slow=7.5,SNR=7.0						
ZAA0	**Zalesovo Array**	**73.04**	**327**	P	**P**	**03 04 20.7**	**+1.3**
ZALV	**Zalesovo Beam**	**73.04**	**327**	P	**P**	**03 04 18.2**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=1.4						
NIL	**Nilore**	**75.55**	**305**	P	**P**	**03 04 34.6**	**0.0**
RDOG	**Red Dog Mine**	**75.60**	**17**	P	**P**	**03 04 34.0**	**-0.1**
SML	**Sawmill**	**77.97**	**26**	P	**P**	**03 04 47.1**	**-0.6**
RND	**Reindeer**	**78.34**	**25**	P	**P**	**03 04 48.9**	**-0.8**
VNDA	**Vanda**	**78.58**	**177**	P	**P**	**03 04 51.8**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=317,slow=5.6,SNR=5.0						
GAR	**Garm**	**78.70**	**310**	P	**P**	**03 04 52.6**	**+0.3**
KLU	**Klutina**	**78.93**	**27**	IAmb	IAmb	03 04 54.5	
	comp=Z,5.6nm,1.0s						
WRH	**Wood River Hil**	**79.06**	**24**	P	**P**	**03 04 53.4**	**-0.1**
WRH				IAmb	IAmb	03 04 54.2	
	comp=Z,6.9nm,1.2s						
CCB	**Clear Creek Bu**	**79.24**	**24**	P	**P**	**03 04 53.8**	**-0.7**
CCB				IAmb	IAmb	03 04 54.5	
	comp=Z,4.6nm,1.2s						
IL31		**79.66**	**24**	P	**P**	**03 04 55.7**	**-1.0**
ILAR	**Eielson Array**	**79.66**	**24**	P	**P**	**03 04 55.6**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=250,slow=5.7,SNR=26						
GLB	**Gilahina Butte**	**79.88**	**27**	P	**

ASAR	**Alice Springs**	**27.09**	**205**	P		**P**	**03 22 31.0**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=38,slow=7.4,SNR=8.7							
FITZ	**Fitzroy Crossi**	**27.53**	**226**	P		**P**	**03 22 35.4**	**+0.6**
	comp=Z,3.1nm,0.9s,baz=48,slow=9.3,SNR=7.9							
USA0B	**Ussuriysk Arra**	**44.92**	**346**	P		**P**	**03 25 03.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**49.40**	**294**	P		**P**	**03 25 41.2**	**+3.1**
	comp=Z,1.2nm,0.3s,baz=121,slow=6.2,SNR=1.5							
MKAR	**Makanchi Array**	**71.66**	**320**	P		**P**	**03 28 10.4**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=98,slow=8.7,SNR=4.0							
KURK	**Kurchatov**	**75.19**	**323**	P		P	**03 28 32.3**	**+1.9**
KURK				IAmb		IAmb	03 28 39.2	
	comp=Z,1.6nm,0.8s							
VNDA	**Vanda**	**78.78**	**177**	P		**P**	**03 28 49.5**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=333,slow=6.9,SNR=5.7							
ILAR	**Eielson Array**	**79.60**	**24**	P		**P**	**03 28 53.3**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=255,slow=5.7,SNR=9.4							

*GUC **03** 03:55:35.0±0.7,22°.46S×67°.42W,h198km±6km,ML4.1*
*SCB **03** 03:55:39.1±1.7,22°.36S×67°.38W,h134km±21km,ML3.5/2, Error ellipse: s-maj=11.2km s-min=8.2km az=0.0*

ISC 03 03:55:33.0±1.9,22°.46S±0°.05×67°.30W±0°.05, h189km±15km,n29,σ1§51/48,9C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
LVC	**Limon Verde**	**1.49**	**264**	*eP*			**Pn**	**03 56 07.3**	**+1.2**
LVC				*eS*			**Sn**	**03 56 32.5**	**+0.8**
YJA	**Yavi**	**1.68**	**81**	P			**Pn**	**03 56 09.0**	**+1.1**
YJA				S			**Sn**	**03 56 31.9**	**-3.0**
PB09	**IPOC Station P**	**1.91**	**290**	⇑*iP*			**Pn**	**03 56 11.7**	**+1.7**
PB09				*i* S			**Sn**	**03 56 39.5**	**+0.8**
MOCB	**Mochara**	**1.96**	**53**	P			**Pn**	**03 56 11.6**	**+0.8**
PB06	**IPOC Station P**	**2.11**	**263**	⇓*iP*			**Pn**	**03 56 13.3**	**+1.2**
PB06				*i* S			**Sn**	**03 56 42.6**	**+0.2**
PB06				IAML				03 56 45.2	
	comp=N,340nm,0.2s								
PB06	**IPOC Station P**	**2.11**	**263**	P			**Pn**	**03 56 13.3**	**+1.2**
PB06				S			**Sn**	**03 56 37.7**	**-4.7**
PB06				IAML				03 56 46.0	
	comp=N,154nm,0.4s								
PB15	**IPOC Station P**	**2.14**	**249**	⇑*iP*			**Pn**	**03 56 13.6**	**+1.2**
PB15				*i* S			**Sn**	**03 56 43.6**	**+0.6**
PB03	**IPOC Station P**	**2.31**	**280**	⇑*iP*			**Pn**	**03 56 15.1**	**+0.9**
PB03				*i* S			**Sn**	**03 56 45.6**	**-0.6**
PB03				IAML				03 56 46.7	
	comp=N,756nm,0.5s								
PB01	**IPOC Station P**	**2.47**	**304**	⇑*iP*			**Pn**	**03 56 16.8**	**+0.8**
PB01				*i* S			**Sn**	**03 56 48.9**	**-0.5**
PB01				IAML				03 56 50.4	
	comp=E,529nm,0.3s								
PB01	**IPOC Station P**	**2.47**	**304**	P			**Pn**	**03 56 16.8**	**+0.8**
PB07	**IPOC Station P**	**2.50**	**286**	⇑*iP*			**Pn**	**03 56 17.3**	**+0.8**
PB07				*i* S			**Sn**	**03 56 49.2**	**-1.1**
PB04	**IPOC Station P**	**2.64**	**272**	⇑*iP*			**Pn**	**03 56 18.7**	**+0.7**
PB04				*i* S			**Sn**	**03 56 51.9**	**-1.1**
PB04				IAML				03 56 54.4	
	comp=N,520nm,0.2s								
PB04	**IPOC Station P**	**2.64**	**272**	P			**Pn**	**03 56 18.7**	**+0.7**
PB04				S			**Sn**	**03 56 48.6**	**-4.4**
PB04				IAML				03 56 56.9	
	comp=N,260nm,0.2s								
PB05	**IPOC Station P**	**2.71**	**261**	⇑*iP*			**Pn**	**03 56 19.4**	**+0.6**
PB05				*i* S			**Sn**	**03 56 53.1**	**-1.3**
PB08	**IPOC Station P**	**2.88**	**323**	*iP*			**Pn**	**03 56 22.4**	**+1.4**
PB08				*i* S			**Sn**	**03 56 58.9**	**+0.4**
PB08	**IPOC Station P**	**2.88**	**323**	P			**Pn**	**03 56 22.4**	**+1.4**
PATCX	**Punta Patache**	**3.11**	**301**	*eP*			**Pn**	**03 56 24.2**	**+0.6**
PATCX				*i* S			**Sn**	**03 57 01.2**	**-1.7**
PATCX				IAML				03 57 02.6	
	comp=N,356nm,0.3s								
PB10	**IPOC Station P**	**3.18**	**250**	*eP*			**Pn**	**03 56 24.9**	**+0.7**
PB10				*eS*			**Sn**	**03 57 02.6**	**-1.6**
PB10	**IPOC Station P**	**3.18**	**250**	P			**Pn**	**03 56 24.8**	**+0.6**
GO01	**Chusmiza**	**3.29**	**327**	⇑*iP*			**Pn**	**03 56 27.1**	**+1.0**
GO01				*i* S			**Sn**	**03 57 08.0**	**+0.5**
GO01				IAML				03 57 11.7	
	comp=E,309nm,0.1s								
GO02	**Mina Guanaco**	**3.41**	**217**	⇑*iP*			**Pn**	**03 56 28.4**	**+1.0**
GO02				*i* S			**Sn**	**03 57 10.0**	**0.0**
GO02				IAML				03 57 11.8	
	comp=E,110nm,0.5s								
PB11	**IPOC Station P**	**3.47**	**320**	⇓*iP*			**Pn**	**03 56 27.8**	**-0.2**
PB11				*i* S			**Sn**	**03 57 08.4**	**-2.5**
PB11				IAML				03 57 11.7	
	comp=E,189nm,0.2s								
PB11	**IPOC Station P**	**3.47**	**320**	P			**Pn**	**03 56 28.6**	**+0.6**
MNMC	**Minye Minye**	**3.94**	**327**	*eP*			**Pn**	**03 56 34.8**	**+0.8**
MNMC				*i* S			**Sn**	**03 57 20.2**	**-1.6**
MNMC				IAML				03 57 23.1	
	comp=E,202nm,0.3s								
MNMC	**Minye Minye**	**3.94**	**327**	P			**Pn**	**03 56 34.3**	**+0.3**
BBOJ	**La Paz, Jacaqu**	**5.51**	**351**	P			**Pn**	**03 56 55.9**	**+1.5**
BBOD	**La Paz, Gloria**	**5.92**	**348**	P			**Pn**	**03 57 01.0**	**+1.4**
LPAZ	**La Paz**	**6.18**	**353**	P			**Pn**	**03 57 04.2**	**+1.0**
BBOB	**La Paz, Bander**	**6.33**	**353**	P			**Pn**	**03 57 05.7**	**+0.7**

*BGR **03** 03:56:52.7±0.0,1°.01S×76°.41W,h33km,mb5.1*
*IDC **03** 03:57:00.4±1.4,1°.71S×77°.80W,h158km±12km,mb4.3/29, mb1 4.4/36,mb1mx4.4/41,mbtmp4.7/36,Error ellipse: s-maj=13.6km s-min=8.1km az=60.0*
*VAO **03** 03:57:00.7±0.2,1°.78S×77°.73W,h153km±1km,mb4.5*
*IGQ **03** 03:57:00.6±0.4,2°.5S×77°.8W±°,h150km,M4.9*
*NEIC **03** 03:57:00.1±1.4,1°.70S±0°.07×77°.8W±0°.1,h156km±6km, mb4.8/456,Error ellipse: s-maj=15.6km s-min=10.2km az=80.0*

ISC 03 03:56:59.8±0.4,1°.81S±0°.04×77°.91W±0°.05,h158km±3km, h158km;pP-P,n877,σ0§98/743,mb4.8/256,8C,Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PUYO	**Puyo, Santa Ro**	**0.34**	**339**	P			**Pn**	**03 57 21.5**	**-0.1**
PUYO				S			**Sn**	**03 57 37.9**	**-0.3**
PKYU	**Pakayacu**	**0.35**	**63**	P			**Pn**	**03 57 21.8**	**+0.4**
SANGA	**Volcan Sangay**	**0.53**	**243**	P			**Pn**	**03 57 22.1**	**-0.6**
SANGA				S			**Sn**	**03 57 39.4**	**-0.8**
BPAT	**Tungurahua Vol**	**0.61**	**300**	P			**Pn**	**03 57 22.9**	**-0.3**
BPAT				S			**Sn**	**03 57 40.1**	**-0.9**
ARRY	**Arrayan**	**0.63**	**299**	P			**Pn**	**03 57 22.5**	**-0.7**
BRUN	**Tungurahua Vol**	**0.64**	**307**	P			**Pn**	**03 57 22.8**	**-0.4**
BRUN				S			**Sn**	**03 57 40.6**	**-0.4**
RETU	**Refugio**	**0.65**	**303**	P			**Pn**	**03 57 23.0**	**-0.5**
BMAS	**Trigal station**	**0.65**	**298**	P			**Pn**	**03 57 22.7**	**-0.6**
BMAS				S			**Sn**	**03 57 40.1**	**-1.1**
JUI6	**Juive**	**0.68**	**304**	P			**Pn**	**03 57 22.6**	**-0.8**
BBIL	**Ulba Tungurahu**	**0.68**	**301**	P			**Pn**	**03 57 22.9**	**-0.6**
IGUA	**Igualata**	**0.80**	**293**	P			**Pn**	**03 57 23.7**	**-0.8**
ARDO	**Archidona, Ten**	**0.81**	**7**	P			**Pn**	**03 57 23.8**	**-0.3**
AAM2	**Ambato 2 (Merc**	**0.89**	**307**	P			**Pn**	**03 57 24.4**	**-0.5**
PIS1	**Pisayambo**	**0.89**	**327**	P			**Pn**	**03 57 25.2**	**+0.1**
SAGO	**Sagoatoa**	**1.00**	**311**	P			**Pn**	**03 57 25.4**	**-0.6**
VCES	**Cotopaxi**	**1.11**	**334**	P			**Pn**	**03 57 27.5**	**+0.6**
ALAT	**Latacunga**	**1.13**	**321**	P			**Pn**	**03 57 27.0**	**+0.2**
BMOR	**Cotopaxi Volca**	**1.20**	**333**	P			**Pn**	**03 57 27.8**	**+0.1**
BTAM	**Cotopaxi Volca**	**1.23**	**336**	P			**Pn**	**03 57 28.2**	**+0.3**
BREF	**Cotopaxi Volca**	**1.25**	**335**	P			**Pn**	**03 57 29.7**	**+1.4**
VC1	**Cotopaxi 1**	**1.26**	**337**	P			**Pn**	**03 57 28.5**	**+0.3**
BNAS	**Cotopaxi Volca**	**1.27**	**333**	P			**Pn**	**03 57 28.3**	**0.0**
ANTM	**Antisana-La Mi**	**1.30**	**346**	P			**Pn**	**03 57 28.8**	**+0.1**
ANTS	**Antisana-Sarah**	**1.33**	**348**	P			**Pn**	**03 57 29.4**	**+0.4**
ANTG	**Antisana-Guama**	**1.34**	**345**	P			**Pn**	**03 57 29.3**	**+0.2**
ILLI	**Illinizas Sur**	**1.36**	**323**	P			**Pn**	**03 57 28.9**	**-0.2**
BOSC	**San Juan Bosco**	**1.46**	**204**	P			**Pn**	**03 57 29.8**	**0.0**
EPNL	**EPN Laboratori**	**1.69**	**340**	P			**Pn**	**03 57 33.9**	**+1.5**
REVS	**Reventador Sur**	**1.71**	**10**	P			**Pn**	**03 57 32.8**	**+0.2**
AMIL	**Milagro (Trans**	**1.72**	**259**	P			**Pn**	**03 57 29.5**	**-2.8**
LAV4	**Lava4-Reventad**	**1.73**	**9**	P			**Pn**	**03 57 32.7**	**+0.1**
AQUE	**Quevedo**	**1.76**	**295**	P			**Pn**	**03 57 31.6**	**-1.1**
GGPC	**Guagua Pichinc**	**1.76**	**337**	P			**Pn**	**03 57 33.2**	**-0.1**
PINO	**Pino**	**1.78**	**337**	P			**Pn**	**03 57 33.5**	**-0.1**
YANA	**Yana**	**1.81**	**338**	P			**Pn**	**03 57 33.6**	**-0.2**
PULU	**Pululahua**	**1.91**	**342**	P			**Pn**	**03 57 34.6**	**-0.2**
AGUAY	**Guayaquil**	**2.06**	**263**	P			**Pn**	**03 57 33.1**	**-3.0**
APR2	**Miler**	**2.15**	**330**	P			**Pn**	**03 57 36.9**	**-0.3**
COTA	**Cotacachi**	**2.17**	**348**	P			**Pn**	**03 57 38.5**	**+0.5**
URCU	**Urcuqui**	**2.26**	**351**	P			**Pn**	**03 57 39.4**	**+0.5**
TULM	**Tulcn-Chalpat**	**2.51**	**3**	P			**Pn**	**03 57 42.6**	**+0.7**
ISPG	**Isla Puna-Puer**	**2.54**	**243**	P			**Pn**	**03 57 39.9**	**-1.9**
MORR	**Playas El Morr**	**2.57**	**251**	P			**Pn**	**03 57 39.8**	**-2.3**
ATUL	**Tulcn**	**2.57**	**4**	P			**Pn**	**03 57 43.5**	**+1.0**
CHL1	**Volcn Chiles**	**2.58**	**359**	P			**Pn**	**03 57 43.8**	**+1.0**
CHL2	**Volcn Chiles**	**2.59**	**360**	P			**Pn**	**03 57 44.2**	**+1.2**
ECEN	**Cerro Negro**	**2.62**	**359**	P			**Pn**	**03 57 44.0**	**+0.7**
PUAC	**Puerto Asis, P**	**2.70**	**30**	*eP*			**Pn**	**03 57 44.2**	**+0.4**
ARNL	**Arenillas**	**2.77**	**231**	P			**Pn**	**03 57 41.2**	**-3.3**
GONZ	**Gonzanam**	**2.83**	**212**	P			**Pn**	**03 57 44.6**	**-1.2**
PPLP	**Puerto Lpez**	**2.88**	**275**	P			**Pn**	**03 57 42.9**	**-3.1**
CABP	**Cabo Pasado**	**2.89**	**299**	P			**Pn**	**03 57 44.1**	**-2.1**
GCUF	**Volcan Galeras**	**3.06**	**11**	*eP*			**Pn**	**03 57 49.9**	**+1.1**
SALI	**Salinas**	**3.11**	**263**	P			**Pn**	**03 57 45.9**	**-2.9**
MCRA	**Macar, Loja**	**3.27**	**219**	P			**Pn**	**03 57 48.0**	**-2.9**
CRUC	**La Cruz**	**3.49**	**16**	*eP*			**Pn**	**03 57 55.1**	**+1.0**
PTLC	**Puerto Leguiza**	**3.68**	**58**	*eP*			**Pn**	**03 57 54.2**	**-1.9**
BBAC	**Balboa, Cauca**	**3.86**	**10**	*eP*			**Pn**	**03 57 58.8**	**+0.1**
FLOC	**Florencia**	**4.05**	**34**	*eP*			**Pn**	**03 58 00.7**	**-0.3**
PCON	**Cinco Dias**	**4.38**	**20**	*eP*			**Pn**	**03 58 07.1**	**+1.4**
GARC	**Garzon, Huila**	**4.64**	**31**	*eP*			**Pn**	**03 58 09.4**	**+0.4**
MARP	**Paez Belalcaza**	**5.01**	**23**	*eP*			**Pn**	**03 58 14.7**	**+0.8**
BETC	**Betania**	**5.09**	**29**	*eP*			**Pn**	**03 58 16.4**	**+1.7**
ATAH	**Atahualpa**	**5.32**	**185**	P			**Pn**	**03 58 18.4**	**+0.5**
	59nm,0.3s,baz=7.3,slow=8.6,SNR=159								
ATAH				S			**Sn**	**03 59 16.0**	**-3.0**
	203nm,0.3s,baz=140,slow=19,SNR=13								
MACC	**Macarena, Meta**	**5.65**	**46**	*eP*			**Pn**	**03 58 22.2**	**+0.3**
MALC	**Bahia Malaga**	**5.81**	**6**	*eP*			**Pn**	**03 58 22.5**	**-1.6**
YOTC	**Yotoco, Valle**	**5.96**	**15**	*eP*			**Pn**	**03 58 23.6**	**-2.6**
PRAC	**Prado**	**6.26**	**29**	*eP*			**Pn**	**03 59 28.7**	**-1.4**
ORTC	**Ortega, Tolima**	**6.27**	**25**	*eP*			**Pn**	**03 58 30.1**	**-0.2**
ANIL	**Santa Ana**	**6.74**	**22**	*eP*			**Pn**	**03 58 35.9**	**-0.9**
GUVC	**San Jose del G**	**6.82**	**51**	*eP*			**Pn**	**03 58 37.6**	**+0.1**
TOLC	**Tolima**	**6.86**	**22**	*eP*			**Pn**	**03 58 36.1**	**-2.2**
PLMC	**San Jos del P**	**6.86**	**14**	*eP*			**Pn**	**03 58 34.7**	**-3.5**
RREF	**El Recreo**	**7.14**	**21**	*eP*			**Pn**	**03 58 40.7**	**-1.7**
VILC	**Villavicencio,**	**7.23**	**36**	*eP*			**Pn**	**03 58 44.5**	**+1.4**
GUY2C	**Guyana, Caldas**	**7.43**	**20**	*eP*			**Pn**	**03 58 42.9**	**-3.2**
ROSC	**El Rosal**	**7.51**	**28**	P			**Pn**	**03 58 47.3**	**+0.2**
	5.9nm,0.3s,baz=170,slow=10,SNR=11								
ROSC	**El Rosal**	**7.51**	**28**	*eP*			**Pn**	**03 58 48.2**	**+1.1**
ROSC	**El Rosal**	**7.51**	**28**	Pn			**Pn**	**03 58 46.1**	**-1.0**
CHIC	**Chingaza**	**7.63**	**33**	*eP*			**Pn**	**03 58 50.2**	**+1.4**
CZSB	**Cruzeiro do Su**	**7.84**	**139**	*eP*			**Pn**	**03 58 50.8**	**-0.3**
CBOC	**Ciudad Bolivar**	**7.85**	**14**	*eP*			**Pn**	**03 58 47.5**	**-4.0**
NORC	**Norcasia**	**7.92**	**22**	*eP*			**Pn**	**03 58 49.1**	**-3.2**
SOLC	**Bahia Solano**	**8.00**	**4**	*eP*			**Pn**	**03 58 50.7**	**-2.5**
HELC	**Santa Helena**	**8.29**	**17**	*eP*			**Pn**	**03 58 53.1**	**-4.4**
PTGC	**Puerto Gaitan,**	**8.30**	**44**	*eP*			**Pn**	**03 58 57.3**	**+0.1**
SPBC	**San Pablo de B**	**8.34**	**27**	*eP*			**Pn**	**03 58 55.6**	**-2.2**
DBBC	**Dabeiba**	**8.93**	**11**	*eP*			**Pn**	**03 59 06.9**	**+1.3**
RUSC	**La Rusia**	**9.04**	**32**	*eP*			**Pn**	**03 59 06.1**	**-1.4**
BARC	**Barichara**	**9.58**	**29**	*eP*			**Pn**	**03 59 14.5**	**0.0**
ZARC	**Zaragoza, Cauc**	**9.73**	**18**	*eP*			Pn	03 59 11.1	-5.1
NNA	**Nana**	**10.17**	**174**	P			**Pn**	**03 59 23.2**	**+1.2**
	37nm,0.3s,baz=348,slow=9.3,SNR=38								
NNA				S			Sn	04 01 03.5	-11
	39nm,0.3s,baz=244,slow=20,SNR=9.7								
NNA	**Nana**	**10.17**	**174**	Pn			**Pn**	**03 59 22.4**	**+0.4**
PAMC	**Pamplona, Colo**	**10.47**	**30**	*eP*			**Pn**	**03 59 25.9**	**+0.6**
OCAC	**Ocana**	**10.98**	**25**	*eP*			**Pn**	**03 59 32.2**	**-0.6**
BCIP	**Isla Barro Col**	**11.07**	**350**	Pn			**Pn**	**03 59 33.3**	**-0.6**
SDV	**Santo Domingo**	**12.86**	**34**	P			**Pn**	**03 59 55.8**	**-1.4**
	6.9nm,0.3s,baz=221,slow=13,SNR=6.2								
SDV	**Santo Domingo**	**12.86**	**34**	Pn			**Pn**	**03 59 55.5**	**-1.7**
SDV	**Santo Domingo**	**12.86**	**34**	*eP*			**Pn**	**03 59 57.5**	**+0.2**
HDC	**Heredia**	**13.26**	**332**	Pn			**Pn**	**04 00 01.8**	**-0.5**
JTS	**Las Juntas de**	**13.92**	**330**	P			**P**	**04 00 12.6**	**-0.9**
	1.2nm,0.3s,baz=222,slow=4.9,SNR=11								
JTS	**Las Juntas de**	**13.92**	**330**				**Pn**	**04 00 11.9**	**+1.5**
ESPN	**Las Esperanzas**	**15.29**	**336**				**Pn**	**04 00 28.2**	**+0.6**
ESPN						IAmb	IAmb	04 00 32.9	
	comp=Z,43nm,1.0s								
ACON	**Acoyapa**	**15.47**	**332**				**Pn**	**04 00 29.7**	**-0.1**
BOAB	**BOACO BROADBAND**	**16.12**	**332**	Pn			**Pn**	**04 00 35.2**	**-2.6**
BOAB						IAmb	IAmb	04 00 53.8	
	comp=Z,27nm,0.8s								
SAML	**Samuel**	**16.27**	**116**	P			**Pn**	**04 00 37.4**	**-2.2**
SAML						IAmb	IAmb	04 00 40.9	
	comp=Z,29nm,0.5s								
SAML	**Samuel**	**16.27**	**116**	*eP*			**Pn**	**04 00 37.4**	**-2.2**
HATO	**Hato, Curacao**	**16.50**	**32**				**P**	**04 00 39.0**	**-3.1**
MATN	**Matagalpa**	**16.67**	**332**	P			**P**	**04 00 44.2**	**+0.1**
MATN						IAmb	IAmb	04 01 18.1	
	comp=Z,81nm,1.7s								
ESTN	**Estel**	**17.03**	**331**	P			**P**	**04 00 47.8**	**-0.3**
MACA	**Manacapuru-AM**	**17.26**	**95**	*eP*			**P**	**04 00 51.0**	**+0.5**
LPAZ	**La Paz**	**17.31**	**147**	P			**Pn**	**04 00 52.8**	**+0.1**
	comp=Z,2.4nm,0.3s,baz=334,slow=12,SNR=61								
LPAZ	**La Paz**	**17.31**	**147**	P			**P**	**04 00 51.9**	**+0.2**
LPAZ						IAmb	IAmb	04 00 58.7	
	comp=Z,51nm,1.0s								
LPAZ	**La Paz**	**17.31**	**147**	*eP*			**P**	**04 00 52.0**	**+0.2**
PTGA	**Pitinga**	**17.97**	**87**	P			**P**	**04 00 59.1**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=263,slow=12,SNR=7.8								
PTGA	**Pitinga**	**17.97**	**87**	P			**P**	**04 00 58.4**	**+0.1**
PTGA	**Pitinga**	**17.97**	**87**	*eP*			**P**	**04 00 58.9**	**+0.6**
PTGA				*eS*			**S**	**04 04 15.4**	**-1.1**
PB12	**IPOC Station P**	**18.28**	**157**	P			**P**	**04 01 02.4**	**+0.6**
TGUH	**Tegucigalpa,Un**	**18.29**	**330**	P			**P**	**04 01 01.6**	**-0.4**
PB16	**IPOC Station P**	**18.38**	**154**	P			**Pn**	**04 01 04.8**	**-0.4**
PSGCX	**Pisagua**	**19.25**	**157**	P			**Pn**	**04 01 14.1**	**-0.9**
PB11	**IPOC Station P**	**19.58**	**156**	P			**P**	**04 01 17.4**	**+1.4**
ESQI	**Esquipulas**	**19.82**	**326**			IAmb	IAmb	04 01 27.7	
	comp=Z,75nm,1.3s								
MTDJ	**Mount Denham**	**19.91**	**1**	P			**P**	**04 01 20.2**	**+0.8**
TA01	**Diego Aracena**	**20.11**	**159**	P			**P**	**04 01 23.2**	**+1.8**
PB08	**IPOC Station P**	**20.13**	**155**	P			Pn	04 01 24.3	-1.4
PB08						IAmb	IAmb	04 01 38.5	
	comp=Z,51nm,0.9s								
VILB	**Vilhena**	**20.73**	**123**	*eP*			**P**	**04 01 29.2**	**+1.0**
VILB				*eS*			**S**	**04 05 11.9**	**+0.7**
PB01	**IPOC Station P**	**20.81**	**157**			IAmb	IAmb	04 01 33.7	
	comp=Z,69nm,1.2s								
PB07	**IPOC Station P**	**21.28**	**159**	P			**P**	**04 01 35.6**	**+1.4**
TOSP	**Speyside**	**21.63**	**53**	P			**P**	**04 01 36.3**	**-1.4**
PB04	**IPOC Station P**	**21.75**	**160**	P			**P**	**04 01 40.2**	**+1.1**
PB04						IAmb	IAmb	04 01 58.6	
	comp=Z,46nm,0.8s								
SIV	**San Ignacio**	**21.77**	**131**	P			**P**	**04 01 40.1**	**+0.9**
	comp=Z,24nm,0.7s,baz=329,slow=11,SNR=39								
GTBY	**Guantanamo Bay**	**21.77**		P			**P**	**04 01 38.4**	**-0.8**
PETF	**Flores**	**22.03**	**328**	P			**P**	**04 01 41.4**	**-0.4**
PETF						IAmb	IAmb	04 02 16.9	
	comp=Z,42nm,1.3s								
ITTB	**Itaituba**	**22.28**	**97**	*eP*			**P**	**04 01 44.7**	**+0.3**
ITTB				*eS*			**S**	**04 05 35.3**	**-2.9**
PB06	**IPOC Station P**	**22.30**	**159**	P			**P**	**04 01 45.2**	**+0.7**
PB06						IAmb	IAmb	04 02 07.7	
	comp=Z,34nm,0.8s								
LVC	**Limon Verde**	**22.45**	**158**	P			**P**	**04 01 48.4**	**+2.1**
	comp=Z,10nm,0.4s,baz=334,slow=6.1,SNR=17								
LVC	**Limon Verde**	**22.45**	**158**	P			**P**	**04 01 48.0**	**+1.7**
LVC	**Limon Verde**	**22.45**	**158**	*eP*			**P**	**04 01 47.3**	**+1.0**
PB15	**IPOC Station P**	**22.79**	**160**	P			**P**	**04 01 50.5**	**+1.2**
CCIG	**Comitan**	**22.82**	**322**	P			**P**	**04 01 49.8**	**+0.2**
PTLB	**Pontes e Lacer**	**22.94**	**127**	*eP*			**P**	**04 01 51.3**	**+0.8**
NPGB	**Novo Progresso**	**23.07**	**104**	*eP*			**P**	**04 01 51.6**	**-0.1**
NPGB				*eS*			**S**	**04 05 50.2**	**-0.6**
MALB	**Monte Alegre**	**23.63**	**90**	*eP*			**P**	**04 01 57.0**	**+0.2**
MALB				*eS*			**S**	**04 06 00.3**	**+0.4**
CLDB	**Colider**	**23.73**	**113**	*eP*			**P**	**04 01 56.5**	**-1.2**
CLDB				*ePP*			**pP**	**04 02 27.4**	**-1.1**
CLDB				*eS*			**S**	**04 06 00.1**	**-1.4**
PB14	**IPOC Station P**	**23.82**	**163**	P			**P**	**04 02 00.5**	**+1.8**
TEIG	**Tepich**	**24.14**	**336**	P			**P**	**04 02 01.3**	**-0.1**
	comp=Z,9.0nm,0.5s,baz=139,slow=9.2,SNR=18								
TEIG	**Tepich**	**24.14**	**336**	P			**P**	**04 02 00.5**	**-0.9**
GO02	**Mina Guanaco**	**24.57**	**162**	P			**P**	**04 02 06.5**	**+0.9**
CMIG	**Matias Romero**	**25.16**	**319**	P			**P**	**04 02 11.4**	**+0.8**
	comp=Z,9.8nm,0.6s,baz=121,slow=7.0,SNR=22								
MCPB	**Macapa, AP**	**25.88**	**87**	*eP*			**P**	**04 02 17.2**	**-0.1**
MCPB				*eS*			**S**	**04 06 35.1**	**-0.6**
SALV	**Santo Antonio**	**25.98**	**124**	*eP*			**P**	**04 02 18.5**	**+0.4**
MDP	**Montagnes des**	**26.15**	**75**	P			**P**	**04 02 19.1**	**-0.6**
	comp=Z,21nm,0.7s,baz=262,slow=9.2,SNR=34								
AC02	**Maricunga**	**26.27**	**162**			IAmb	IAmb	04 02 51.1	
	comp=Z,34nm,0.8s								
AC05	**El Transito**	**27.85**	**166**	P			**P**	**04 02 36.2**	**+1.4**
PRPB	**Parauapebas**	**28.35**	**100**	*eP*			**P**	**04 02 38.7**	**-0.6**
AQDB	**Aquidauana**	**28.54**	**132**	*eP*			**P**	**04 02 41.0**	**+0.2**
GO04	**Tololo Observa**	**29.01**	**167**	P			**P**	**04 02 47.0**	**+1.9**
GO04						IAmb	IAmb	04 02 48.1	
	comp=Z,26nm,0.9s								
ARAG	**Araguaiana, MT**	**29.19**	**120**	*eP*			**P**	**04 02 47.1**	**+0.4**
ARAG				*eS*			**S**	**04 07 28.7**	**+1.0**
CO03	**El Pedregal**	**29.67**	**167**	IAmb		IAmb	IAmb	04 02 53.8	
	comp=Z,24nm,1.1s								
DWPF	**Disney Wildern**	**29.94**	**354**	P			**P**	**04 02 54.0**	**+0.9**
	baz=173								
CPUP	**Villa Florida**	**31.40**	**143**	P			**P**	**04 03 04.9**	**-1.1**
	comp=Z,4.0nm,0.9s,baz=303,slow=6.4,SNR=9.8								
CPUP	**Villa Florida**	**31.40**	**143**	P			**P**	**04 03 06.0**	**0.0**
CPUP	**Villa Florida**	**31.40**	**143**	*eP*			**P**	**04 03 05.9**	**0.0**
CPUP				*ePP*			**pP**	**04 03 38.9**	**-0.5**
TRCB	**Terra Rica**	**32.20**	**132**	*eP*			**P**	**04 03 13.1**	**0.0**
ITRB	**Iturama**	**32.28**	**125**	*eP*			**P**	**04 03 14.3**	**+0.5**
BDFB	**Brasilia**	**32.51**	**117**	P			**P**	**04 03 16.7**	**+0.7**
	comp=Z,2.9nm,0.4s,baz=301,slow=13,SNR=9.8								
BDFB	**Brasilia**	**32.51**	**117**	P			**P**	**04 03 16.1**	**+0.1**
PCMB	**Pacaembu**

CCAR Cane Creek 37.86 341 IAmb IAmb 04 04 02.2
comp=Z,27nm,0.8s
V51A Loudon 37.90 351 IAmb IAmb 04 04 02.4
comp=Z,17nm,0.8s
U59A Littleton 37.97 0 P P **04 04 02.8 +0.6**
baz=180,SNR=6.8
U59A Littleton 37.97 0 P P **04 04 02.5 +0.2**
U61A Possum Corner 37.97 2 P P **04 04 03.3 +1.1**
baz=182,SNR=5.2
U58A Oxford 38.01 359 P P **04 04 03.0 +0.4**
baz=179,SNR=10.0
U56A King 38.03 357 P P **04 04 03.8 +0.9**
baz=176,SNR=15
U57A Blanch 38.07 358 P P **04 04 03.5 +0.4**
baz=178,SNR=20
U60A Pendleton 38.09 1 P P **04 04 03.9 +0.6**
baz=181,SNR=7.6
WLAR White Oak Lake 38.10 339 IAmb IAmb 04 04 04.6
comp=Z,39nm,1.3s
U55A TA2, Sparta 38.23 356 P P **04 04 04.9 +0.4**
baz=175,SNR=7.2
JCT Junction City 38.30 329 P P **04 04 06.3 +1.1**
baz=143,SNR=5.8
JCT Junction City 38.30 329 P P **04 04 04.8 -0.4**
U54A Nelsons Funny 38.31 355 P P **04 04 05.4 +0.2**
baz=174,SNR=5.8
WHTX Lake Whitney, 38.39 333 P P **04 04 06.5 +0.7**
baz=147
CLTN Cedars of Leba 38.52 349 IAmb IAmb 04 04 07.1
comp=Z,23nm,0.9s
TZTN Tazewell 38.52 353 P P **04 04 06.7 -0.2**
baz=171,SNR=8.0
TZTN Tazewell 38.52 353 IAmb IAmb 04 04 07.1
comp=Z,16nm,0.7s
T58A Grand View Acr 38.56 359 P P **04 04 07.7 +0.5**
baz=179,SNR=9.4
T59A Double "B" Far 38.58 0 P P **04 04 08.1 +0.7**
baz=180,SNR=17
T57A Hurt 38.63 358 P P **04 04 08.3 +0.5**
baz=178,SNR=23
T56A Rocky Mt 38.69 357 P P **04 04 09.1 +0.8**
baz=176,SNR=11
X40A Basin Creek Fa 38.73 340 P P **04 04 08.2 -0.5**
baz=156
T60A Surry 38.77 1 P P **04 04 09.7 +0.8**
baz=182
T60A Surry 38.77 1 P P **04 04 08.7 -0.2**
T55A Pulaski 38.82 356 P P **04 04 10.2 +0.8**
baz=175,SNR=8.2
T54A Tazewell 38.82 355 P P **04 04 09.6 +0.1**
baz=174,SNR=7.9
T53A Wise 38.83 354 P P **04 04 09.4 -0.1**
baz=172
WVT Waverly 38.86 347 P P **04 04 08.1 -1.6**
baz=164
WVT Waverly 38.86 347 P P **04 04 08.1 -1.6**
WVT IAmb IAmb 04 04 08.9
comp=Z,17nm,0.6s
BLA Blacksburg 38.89 357 P P **04 04 10.8 +0.7**
baz=176,SNR=5.4
BLA Blacksburg 38.89 357 IAmb IAmb 04 04 11.2
comp=Z,20nm,0.8s
TRQA Tornquist 38.92 160 *e*P P **04 04 09.2 -1.1**
MIAR Mount Ida 39.04 339 P P **04 04 10.7 -0.6**
baz=155,SNR=6.0
HPIG 39.15 319 P P **04 04 13.0 +0.5**
W41B Gary Mavity, V 39.16 341 P P **04 04 11.4 -0.9**
baz=157
W41B Gary Mavity, V 39.16 341 IAmb IAmb 04 04 12.5
comp=Z,14nm,0.9s
S58A Poland Farm, P 39.22 360 P P **04 04 13.0 +0.3**
baz=180
WHAR Wooly Hollow 39.28 341 IAmb IAmb 04 04 13.4
comp=Z,21nm,0.8s
PLCA Paso Flores 39.31 171 P P **04 04 14.8 +1.3**
comp=Z,18nm,0.9s,baz=346,slow=10.0,SNR=24
PLCA pP **pP 04 04 47.7 -0.3**
comp=Z,9.1nm,0.8s,baz=350,slow=10,SNR=5.5
PLCA Paso Flores 39.31 171 P P **04 04 14.5 +0.9**
PLCA IAmb IAmb 04 04 16.1
comp=Z,24nm,0.9s
PLCA Paso Flores 39.31 171 *e*P P **04 04 14.8 +1.3**
PLCA *e*pP **pP 04 04 48.8 +0.8**
S56A Natural Bridge 39.32 358 P P **04 04 14.1 +0.5**
baz=177,SNR=11
S60A Water View 39.33 2 P P **04 04 14.7 +1.2**
baz=182,SNR=7.7
S59A Mechanicsville 39.38 1 P P **04 04 14.8 +0.8**
baz=181
S57A Dark Hollow, R 39.38 359 P P **04 04 14.6 +0.6**
baz=178,SNR=6.8
S55A Lewisburg 39.45 357 P P **04 04 15.3 +0.6**
baz=176,SNR=14
S53A Williamson 39.48 355 P P **04 04 14.7 -0.3**
baz=173,SNR=6.0
S54A Dingess, Beckl 39.53 356 P P **04 04 15.5 +0.1**
baz=175,SNR=6.9
S54A Dingess, Beckl 39.53 356 IAmb IAmb 04 04 15.9
comp=Z,20nm,0.9s
R58B Mineral 39.57 0 P P **04 04 16.4 +0.8**
baz=180,SNR=6.8
R58B Mineral 39.57 0 IAmb IAmb 04 04 17.4
comp=Z,32nm,1.2s
TXAR Lajitas Array 39.58 323 P P **04 04 17.0 +1.0**
comp=Z,2.1nm,0.7s,baz=149,slow=8.1,SNR=27
TXAR PcP **PcP 04 06 21.5 +1.3**
comp=Z,1.1nm,0.8s,baz=154,slow=5.9,SNR=4.7
TXAR ScP **ScP 04 09 55.4 +1.1**
comp=Z,0.6nm,0.8s,baz=156,slow=6.3,SNR=4.1
S51A Beattyville 39.60 353 IAmb IAmb 04 04 16.3
comp=Z,17nm,0.7s
W39A Magazine 39.70 339 P P **04 04 16.7 0.0**
baz=155,SNR=13
W39A Magazine 39.70 339 IAmb IAmb 04 04 17.7
comp=Z,16nm,0.9s
SJMB Sao Joao De Ma 39.70 117 *e*P P **04 04 17.1 +0.1**
SJMB *e*S S **04 10 08.2 -0.9**
GDU01 Guandu, BA 39.70 109 *e*P P **04 04 17.3 +0.3**
FCAR Ozark Folk Cen 39.78 342 IAmb IAmb 04 04 17.1
comp=Z,16nm,0.8s
R59A King George, V 39.81 1 P P **04 04 18.6 +1.1**
baz=181,SNR=6.7
CBN Corbin Frederi 39.82 1 P P **04 04 18.7 +1.1**
baz=181,SNR=7.5
R54A Victor 39.89 356 P P **04 04 18.6 +0.3**
baz=175,SNR=6.4
R58A Rapidan 39.91 360 P P **04 04 19.6 +1.2**
baz=180,SNR=18
R57A Stanardsville 39.91 359 P P **04 04 19.1 +0.7**
baz=179,SNR=6.4
R55A Marlinton 39.94 357 P P **04 04 19.7 +0.9**
baz=176,SNR=14
ABTX Abilene, Hawle 39.95 331 P P **04 04 19.8 +1.0**
baz=145,SNR=12
ABTX Abilene, Hawle 39.95 331 IAmb IAmb 04 04 20.7
comp=Z,21nm,0.8s
R56A Bull Pasture M 40.04 358 P P **04 04 20.3 +0.7**
baz=178
BSFB Barra de Sao F 40.05 117 *e*P P **04 04 20.1 +0.3**
R53A Hurricane 40.11 355 P P **04 04 19.8 -0.3**
baz=174
R53A Hurricane 40.11 355 IAmb IAmb 04 04 20.9
comp=Z,32nm,1.4s
R50A Paris 40.33 352 IAmb IAmb 04 04 22.1
comp=Z,17nm,0.8s
U40A Yellville 40.44 341 P P **04 04 22.2 -0.6**
baz=156,SNR=32
U40A Yellville 40.44 341 IAmb IAmb 04 04 23.1
comp=Z,36nm,0.9s
R49A Shelbyville 40.46 351 IAmb IAmb 04 04 22.8
comp=Z,15nm,0.8s
Q58A Fox Den Farm, 40.55 0 P P **04 04 24.5 +0.9**
baz=180,SNR=13
WCI Wyandotte Cave 40.59 350 P P **04 04 22.7 -1.2**
baz=167
WCI Wyandotte Cave 40.59 350 P P **04 04 22.7 -1.2**
WCI IAmb IAmb 04 04 23.6
comp=Z,20nm,1.0s
Q53A Leroy 40.60 356 P P **04 04 24.2 +0.1**
baz=174,SNR=16
RIB01 Linhares ES 40.62 118 *e*P P **04 04 24.5 0.0**
Q57A Strasburg 40.65 359 P P **04 04 25.2 +0.8**
baz=179,SNR=6.0
Q55A Buckhannon 40.65 357 P P **04 04 25.5 +1.0**
baz=177,SNR=11
Q60A Greensboro 40.65 2 P P **04 04 25.2 +0.8**
baz=183
Q56A Snyder Ridge, 40.67 358 P P **04 04 25.5 +0.9**
baz=178,SNR=11
Q56A Snyder Ridge, 40.67 358 IAmb IAmb 04 04 26.7
comp=Z,37nm,1.0s
Q54A Coxs Mills 40.68 356 P P **04 04 24.8 +0.1**
baz=175,SNR=8.0
Q54A Coxs Mills 40.68 356 IAmb IAmb 04 04 25.2
comp=Z,16nm,0.8s
LL01 San Ignacio de 40.69 174 P P **04 04 25.9 +1.1**
HHAR Hobbs 40.74 340 IAmb IAmb 04 04 25.5
comp=Z,25nm,1.0s
Q52A Bidwell 40.77 355 P P **04 04 25.5 +0.1**
baz=173,SNR=5.5
SDMD Soldier's Deli 41.03 1 P P **04 04 27.9 +0.4**
TUL1 Leonard 41.07 338 P P **04 04 27.8 -0.1**
baz=152,SNR=6.8
P57A Homestead Farm 41.09 360 P P **04 04 29.0 +1.0**
baz=180
P58A Pank, Wackersv 41.10 1 P P **04 04 29.0 +0.9**
baz=181,SNR=9.0
P56A Dayton Farm, R 41.12 359 P P **04 04 29.6 +1.3**
baz=178,SNR=16
P55A Reedsville 41.15 358 P P **04 04 29.1 +0.5**
baz=177
P53A Whipple 41.22 356 P P **04 04 29.2 +0.1**
baz=175,SNR=9.3
P53A Whipple 41.22 356 IAmb IAmb 04 04 30.2
comp=Z,38nm,1.1s
P59A Jarrettsville 41.24 2 P P **04 04 30.6 +1.3**
baz=182
P54A Burton 41.28 357 P P **04 04 30.0 +0.4**
baz=176,SNR=6.8
WMOK Wichita Mounta 41.29 334 P P **04 04 30.0 +0.2**
baz=147,SNR=16
WMOK Wichita Mounta 41.29 334 IAmb IAmb 04 04 31.1
comp=Z,16nm,0.9s
MCWV Mont Chateau 41.30 358 P P **04 04 30.2 +0.4**
baz=177
P51A Williamsport 41.36 354 P P **04 04 30.1 -0.2**
baz=172
OK025 Westminster Rd 41.40 336 IAmb IAmb 04 04 31.2
comp=Z,52nm,1.6s
OLIL Olney 41.42 348 IAmb IAmb 04 04 30.2
comp=Z,37nm,0.8s
P52A Corning 41.42 355 P P **04 04 30.2 -0.6**
baz=174,SNR=8.5
P52A Corning 41.42 355 IAmb IAmb 04 04 31.3
comp=Z,33nm,1.1s
P60A Greenville 41.47 3 P P **04 04 32.1 +1.0**
baz=183
CCM Cathedral Cave 41.54 344 P P **04 04 30.3 -1.4**
baz=160
CCM Cathedral Cave 41.54 344 P P **04 04 30.3 -1.4**
CCM IAmb IAmb 04 04 32.0
comp=Z,19nm,0.7s
P49A Miami Univ. Ec 41.61 352 P P **04 04 30.9 -1.4**
baz=170
OK029 Liberty Lake 41.63 336 IAmb IAmb 04 04 33.1
comp=Z,47nm,1.3s
MVL Millersville 41.63 2 P P **04 04 31.5 -0.9**
QUOK Quay 41.65 337 P P **04 04 32.2 -0.5**
QUOK IAmb IAmb 04 04 33.5
comp=Z,21nm,1.0s
O58A Lewisberry 41.74 1 P P **04 04 34.5 +1.1**
baz=181,SNR=9.0
O57A Amberson 41.82 0 P P **04 04 35.0 +1.0**
baz=180,SNR=8.8
SLM Saint Louis 41.82 345 IAmb IAmb 04 04 33.6
comp=Z,26nm,0.8s
O55A Ligonier 41.83 358 P P **04 04 34.8 +0.6**
baz=178,SNR=9.5
PAGS Pennsylvania G 41.85 1 IAmb IAmb 04 04 35.6
comp=Z,17nm,0.8s
O54A Avella 41.85 357 P P **04 04 34.3 +0.1**
baz=176,SNR=5.8
O54A Avella 41.85 357 IAmb IAmb 04 04 35.3
comp=Z,60nm,1.6s
O52A Adamsville 41.88 355 P P **04 04 34.0 -0.4**
baz=174,SNR=9.2
O52A Adamsville 41.88 355 IAmb IAmb 04 04 35.0
comp=Z,27nm,1.0s
O56A Blue Knob Stat 41.88 359 P P **04 04 35.5 +1.0**
baz=179,SNR=14
O59A Robesonia 41.95 2 P P **04 04 36.1 +1.0**
baz=182,SNR=9.4
O53A New Philadelph 41.97 356 P P **04 04 35.2 0.0**
baz=175,SNR=8.3
O51A Pataskala 41.97 355 P P **04 04 34.7 -0.6**
baz=173,SNR=6.1
O60A Telford 41.99 3 P P **04 04 35.9 +0.6**
baz=184
R40A Maddies Statio 42.05 343 IAmb IAmb 04 04 35.3
comp=Z,45nm,1.5s
RCBR Riuhelo 42.09 97 *e*P P **04 04 36.6 -0.1**
ACSO Alum Creek Sta 42.09 354 P P **04 04 35.6 -0.6**
baz=172,SNR=8.0
ACSO Alum Creek Sta 42.09 354 IAmb IAmb 04 04 36.6
comp=Z,24nm,0.9s
SSPA Standing Stone 42.24 0 P P **04 04 38.2 +0.8**
baz=180
LUPA Lehigh Univers 42.27 3 P P **04 04 38.0 +0.4**
LUPA IAmb IAmb 04 04 39.8
comp=Z,40nm,0.9s
MNTX Cornudas Mount 42.31 324 P P **04 04 38.9 +0.8**
baz=137,SNR=11
N57A Milroy 42.36 0 P P **04 04 39.0 +0.6**
baz=180,SNR=6.3
N55A Marion Center 42.40 359 P P **04 04 39.4 +0.7**
baz=178,SNR=22
N58A Sunbury 42.46 1 P P **04 04 39.9 +0.7**
baz=182,SNR=6.4
N58A Sunbury 42.46 1 IAmb IAmb 04 04 40.5
comp=Z,17nm,0.8s
N61A South Mountain 42.48 4 P P **04 04 39.8 +0.5**
baz=185
N53A Lisbon 42.50 357 P P **04 04 39.1 -0.4**
baz=176,SNR=8.2
N53A Lisbon 42.50 357 IAmb IAmb 04 04 40.1
comp=Z,21nm,0.8s
N56A West Decatur 42.52 360 P P **04 04 40.5 +0.7**
baz=179,SNR=10
N60A Cedar Hill Far 42.55 3 P P **04 04 39.7 -0.2**
baz=184
N52A McGinn's Farm, 42.56 356 P P **04 04 39.5 -0.5**
baz=174
N59A State Game Lan 42.57 2 P P **04 04 41.2 +1.2**
baz=183,SNR=11
MSTX Muleshoe 42.59 329 P P **04 04 41.2 +0.7**
baz=142,SNR=21
MSTX Muleshoe 42.59 329 P P **04 04 41.2 +0.7**
MSTX IAmb IAmb 04 04 42.3
comp=Z,34nm,1.1s
P43A Skaggs, Pawnee 42.60 347 IAmb IAmb 04 04 39.8
comp=Z,39nm,0.9s
N54A Moraine State 42.61 358 P P **04 04 40.5 +0.1**
baz=177,SNR=12
N51A Ashland 42.72 355 IAmb IAmb 04 04 41.5
comp=Z,30nm,1.1s
AMTX Amarillo 42.77 331 P P **04 04 42.8 +0.9**
baz=144
AMTX Amarillo 42.77 331 IAmb IAmb 04 04 43.5
comp=Z,25nm,0.8s
PAL Palisades 42.77 4 P P **04 04 41.8 +0.2**
baz=186
PAL Palisades 42.77 4 IAmb IAmb 04 04 42.9
comp=Z,35nm,1.1s
U32A Winter Ranch, 42.77 335 IAmb IAmb 04 04 43.2
comp=Z,48nm,1.1s
O44A Mansfield 42.86 348 IAmb IAmb 04 04 41.4
comp=Z,20nm,1.0s
N49A Columbus Grove 42.91 353 IAmb IAmb 04 04 43.6
comp=Z,21nm,1.0s
M57A Sunshine Farm, 42.95 1 P P **04 04 44.1 +1.0**
baz=181,SNR=14
M58A Price's Panora 43.00 2 P P **04 04 44.6 +1.1**
baz=182,SNR=7.2
M60A Port Jervis 43.03 4 P P **04 04 44.3 +0.5**
baz=185
N47A Urbana 43.08 351 IAmb IAmb 04 04 43.4
comp=Z,31nm,1.1s
M55A Ridgway 43.08 359 P P **04 04 44.6 +0.4**
baz=179,SNR=12
M56A Emporium 43.09 360 P P **04 04 44.8 +0.6**
baz=180,SNR=20
M53A WI Miller and 43.12 357 P P **04 04 44.4 -0.1**
baz=176
M53A WI Miller and 43.12 357 IAmb IAmb 04 04 45.2
comp=Z,20nm,0.9s
P40A Paris 43.14 344 IAmb IAmb 04 04 43.5
comp=Z,10nm,0.6s
M54A Oil Creek Stat 43.14 358 P P **04 04 45.2 +0.5**
baz=177,SNR=14
M59A Waymart 43.20 3 P P **04 04 46.0 +0.8**
baz=184,SNR=6.1
KSPA Keystone Colle 43.20 2 IAmb IAmb 04 04 47.1
comp=Z,34nm,1.0s
M52A Chesterland 43.26 356 P P **04 04 44.9 -0.7**
baz=175
M50A Fremont 43.26 354 IAmb IAmb 04 04 45.8
comp=Z,39nm,1.0s
M62A Hamden 43.29 5 P P **04 04 46.7 +0.9**
baz=187
ALLY Alegheny Colle 43.30 358 IAmb IAmb 04 04 46.7
comp=Z,23nm,0.8s
M63A Gales Ferry 43.34 6 P P **04 04 46.9 +0.7**
baz=188
HDIL Hopedale 43.43 347 P P **04 04 45.2 -1.7**
baz=163,SNR=27
L53A Girard 43.61 357 P P **04 04 48.0 -0.4**
baz=176,SNR=5.5
L57A Andrews Acres 43.62 1 P P **04 04 49.2 +0.7**
baz=181,SNR=16
L58A Harry Jones Me 43.69 2 P P **04 04 49.9 +0.9**
baz=183,SNR=6.6
L60A Shokan 43.72 4 P P **04 04 49.8 +0.5**
baz=185
L56A Greenwood 43.74 0 P P **04 04 50.0 +0.5**
baz=180,SNR=11
ERPA Erie 43.76 358 P P **04 04 49.7 0.0**
baz=177
ERPA Erie 43.76 358 IAmb IAmb 04 04 50.3
comp=Z,33nm,0.8s
L55A Hinsdale 43.79 359 P P **04 04 50.4 +0.5**
baz=179,SNR=20
BINY Binghamton 43.84 2 P P **04 04 51.4 +1.1**
baz=183,SNR=13
L63A North Scituate 43.84 7 P P **04 04 50.9 +0.7**
baz=189
L54A Sinclairville 43.86 358 P P **04 04 50.6 +0.2**
baz=178,SNR=11
L59A Walton 43.87 3 P P **04 04 51.3 +0.8**
baz=184
L59A Walton 43.87 3 IAmb IAmb 04 04 52.4
comp=Z,28nm,0.9s
L61A Hillsdale 1, H 43.97 5 P P **04 04 52.2 +0.9**
baz=186
L64A Middleborough 44.01 8 P P **04 04 52.0 +0.4**
baz=190
WVNY West Valley, N 44.02 359 IAmb IAmb 04 04 53.0
comp=Z,40nm,0.9s
KSU1 Kansas State U 44.20 339 P P **04 04 52.7 -0.4**
baz=153,SNR=11
K54A Basiliko Farm, 44.22 359 P P **04 04 53.7 +0.4**
baz=179,SNR=9.6
K56A Middlesex 44.30 1 P P **04 04 54.2 +0.3**
baz=181,SNR=7.7
L61B Northampton 44.31 6 P P **04 04 54.2 +0.3**
baz=187
121A Cookes Peak, D 44.33 323 P P **04 04 56.5 +1.9**
baz=134,SNR=7.0
121A Cookes Peak, D 44.33 323 P P **04 04 55.8 +1.3**
K55A Perry 44.33 360 P P **04 04 54.3 +0.1**
baz=180,SNR=9.8
K57A Scipio Center 44.35 1 P P **04 04 54.7 +0.4**
baz=182,SNR=24
R32A Long Quarter, 44.40 336 IAmb IAmb 04 04 56.2
comp=Z,35nm,0.9s
K58A Earlville 44.41 2 P P **04 04 55.4 +0.6**
baz=183,SNR=11
K59A Cooperstown 44.46 3 P P **04 04 55.8 +0.6**
baz=184,SNR=6.1
319A Douglas 44.47 321 IAmb IAmb 04 04 58.1
comp=Z,15nm,0.7s
K61A Williamstown 44.47 5 P P **04 04 55.9 +0.7**
baz=186
HRV Adam Dziewonsk 44.48 7 P P **04 04 56.2 +0.9**
baz=189
TRY Troy 44.50 4 IAmb IAmb 04 04 57.5
comp=Z,21nm,0.9s
K62A Royalston 44.56 6 P P **04 04 56.7 +0.7**
baz=188
K50A Casco 44.58 355 IAmb IAmb 04 04 56.0
comp=Z,42nm,1.0s
K63A Dunstable 44.66 7 P P **04 04 57.7 +0.9**
baz=189
L44A Lake County Fo 44.71 349 P P **04 04 54.6 -2.6**
baz=166
MEDO Medina 44.77 359 IAmb IAmb 04 04 58.0
comp=Z,22nm,0.7s
BNM Barren Site 44.81 326 P P **04 04 59.1 +0.7**
J55A Hilton 44.87 0 P P **04 04 58.2 -0.2**
baz=180,SNR=11
J55A Hilton 44.87 0 IAmb IAmb 04 04 59.3
comp=Z,38nm,1.0s
J54A Appleton 44.88 359 P P **04 04 58.4 0.0**
baz=179,SNR=5.9
J56A Wolcott 44.89 1 P P **04 04 58.8 +0.3**
baz=181,SNR=21
L42A Oliver, Polo 44.89 348 IAmb IAmb 04 04 57.6
comp=Z,26nm,0.9s
J58A Remsen 45.03 3 P P **04 05 00.2 +0.6**
baz=184,SNR=10
J58A Remsen 45.03 3 IAmb IAmb 04 05 01.1
comp=Z,39nm,1.1s
J60A Lant Hill Farm 45.03 5 P P **04 05 00.6 +1.0**
baz=186
J57A Williamstown 45.05 2 P P **04 05 00.1 +0.3**
baz=183,SNR=12
CBKS Cedar Bluff 45.15 336 P P **04 05 01.6 +0.9**
baz=148,SNR=12
ACCN Adirondack Com 45.15 4 IAmb IAmb 04 05 02.5
comp=Z,33nm,1.1s
J62A Henniker 45.16 6 P P **04 05 01.4 +0.7**
baz=188
J59A Piesco 45.17 3 P P **04 05 01.4 +0.6**
baz=185,SNR=17
J61A Chester 45.21 6 P P **04 05 02.0 +0.9**
baz=187
K43A Burlington 45.30 349 IAmb IAmb 04 05 00.7
comp=Z,31nm,0.9s
J63A Strafford 45.30 7 P P **04 05 02.3 +0.6**
baz=190
ANMO Albuquerque 45.30 326 P P **04 05 03.8 +1.6**
baz=138
ANMO Albuquerque 45.30 326 P P **04 05 03.2 +1.0**
ANMO IAmb IAmb 04 05 04.5
comp=Z,20nm,0.7s
L40A Anamosa 45.30 346 IAmb IAmb 04 05 01.2
comp=Z,37nm,1.0s
I58A Old Forge 45.37 3 P P **04 05 02.8 +0.4**
baz=184,SNR=11
N35A Tabor 45.44 341 IAmb IAmb 04 05 02.5
comp=Z,31nm,0.8s
I51A Listowel 45.49 357 P P **04 05 02.4 -0.9**
baz=176,SNR=16
I59A Olmsteadville 45.54 4 P P **04 05 04.5 +0.8**
baz=186,SNR=14
I57A Carthage 45.59 2 P P **04 05 04.4 +0.4**
baz=183,SNR=8.7
HNH Hanover 45.59 6 IAmb IAmb 04 05 05.9
comp=Z,17nm,0.9s
I60A Shoreham 45.63 5 P P **04 05 05.6 +1.2**
baz=186,SNR=12
SCIA State Center 45.67 344 P P **04 05 03.6 -1.1**
baz=158
SCIA State Center 45.67 344 IAmb IAmb 04 05 04.3
comp=Z,36nm,0.8s
NCB Newcomb 45.69 4 IAmb IAmb 04 05 06.4
comp=Z,22nm,0.9s
I52A Shelburne 45.72 358 P P **04 05 04.4 -0.7**
baz=177,SNR=12
I49A Point Hope 45.76 355 IAmb IAmb 04 05 05.0
comp=Z,36nm,0.9s
I55A Frankford 45.82 0 P P **04 05 05.5 -0.3**
baz=180,SNR=14
I61A Oroboro, Fairl 45.82 6 P P **04 05 06.7 +0.8**
baz=188
I62A Tamworth 45.86 7 P P **04 05 07.2 +1.1**
baz=189
JFWS Jewell Farm 45.89 347 P P **04 05 04.8 -1.6**
baz=163,SNR=24
T25A Trinidad 45.90 330 P P **04 05 08.5 +1.6**
baz=142,SNR=12
T25A Trinidad 45.90 330 IAmb IAmb 04 05 09.6
comp=Z,21nm,1.1s
H57A Richville 46.12 2 P P **04 05 08.3 +0.1**
baz=183,SNR=19

I63A **Otisfield** 46.12 7 P P 04 05 08.9 +0.7
baz=190,SNR=6.4
I63A **Otisfield** 46.12 7 IAmb IAmb 04 05 09.7
comp=Z,20nm,0.7s
I64A **Boothbay** 46.12 8 P P 04 05 09.0 +0.8
baz=191
H58A **Gabriels** 46.14 4 P P 04 05 08.6 +0.2
baz=185,SNR=10
LBNH **Lisbon** 46.16 6 P P 04 05 09.4 +0.9
baz=188,SNR=9.7
LBNH **Lisbon** 46.16 6 P P 04 05 08.7 +0.2
LBNH IAmb IAmb 04 05 10.4
comp=Z,33nm,0.9s
H55A **Tweed** 46.16 1 P P 04 05 08.3 -0.2
baz=181,SNR=28
H53A **Bobcaygeon** 46.18 359 P P 04 05 08.1 -0.6
baz=179,SNR=19
H56A **Elgin** 46.22 2 P P 04 05 09.4 +0.5
baz=182,SNR=31
K38A **Parkersburg** 46.24 345 IAmb IAmb 04 05 08.3
comp=Z,25nm,1.1s
H52A **Wyevale** 46.28 358 P P 04 05 08.4 -1.0
baz=177,SNR=7.8
LONY **Lake Ozonia** 46.32 3 P P 04 05 09.9 +0.2
baz=184,SNR=13
LONY **Lake Ozonia** 46.32 3 IAmb IAmb 04 05 12.0
comp=Z,26nm,0.9s
SADO **Sadowa** 46.39 359 IAmb IAmb 04 05 10.4
comp=Z,55nm,1.3s
H60A **Morristown** 46.40 5 P P 04 05 10.9 +0.5
baz=187
H59A **Cadyville** 46.40 4 P P 04 05 10.9 +0.5
baz=186,SNR=16
H61A **Lyndonville** 46.45 6 P P 04 05 11.5 +0.7
baz=188,SNR=6.3
I42A **Draeger Farm,** 46.55 349 IAmb IAmb 04 05 11.3
comp=Z,36nm,1.1s
KSCO **Kaye Shedlock'** 46.55 333 P P 04 05 12.7 +0.9
baz=145
KSCO **Kaye Shedlock'** 46.55 333 IAmb IAmb 04 05 13.9
comp=Z,26nm,1.2s
H62A **Milan** 46.57 7 P P 04 05 12.4 +0.7
baz=189
L34A **Svendsen Farm,** 46.68 341 IAmb IAmb 04 05 12.0
comp=Z,28nm,0.6s
G53A **Haliburton** 46.73 359 P P 04 05 12.3 -0.6
baz=179,SNR=14
WVL **Waterville** 46.75 8 P P 04 05 12.9 -0.2
WVL IAmb IAmb 04 05 15.4
comp=Z,56nm,1.4s
G57A **Newington** 46.78 3 P P 04 05 13.7 +0.4
baz=184,SNR=12
BGNE **Belgrade** 46.78 339 P P 04 05 12.9 -0.6
baz=152
H63A **New Sharon** 46.80 8 P P 04 05 14.7 +1.3
baz=191
GLMI **Grayling** 46.81 353 P P 04 05 12.5 -1.1
baz=171
G55A **Calabogie** 46.87 1 P P 04 05 13.9 -0.1
baz=182,SNR=28
G59A **Clarenceville** 46.87 5 P P 04 05 14.6 +0.6
baz=186,SNR=12
G58A **Ormstown** 46.88 4 P P 04 05 14.5 +0.4
baz=185,SNR=11
H64A **Troy** 46.89 8 P P 04 05 14.6 +0.4
baz=192
SDCO **Great Sand Dun** 46.91 330 P P 04 05 16.3 +1.5
baz=141,SNR=72
SDCO **Great Sand Dun** 46.91 330 IAmb IAmb 04 05 17.2
comp=Z,21nm,0.7s
G60A **Masonville** 46.96 5 P P 04 05 15.5 +0.7
baz=188,SNR=6.3
G54A **Lake Saint Pet** 47.00 360 P P 04 05 14.4 -0.6
baz=180,SNR=17
H65A **Eastbrook** 47.09 9 P P 04 05 16.7 +1.0
baz=193
ORIO **Orleans, Innes** 47.10 2 P P 04 05 15.8 0.0
baz=183,SNR=12
214A **Organ Pipe Nat** 47.14 318 P P 04 05 18.0 +1.6
baz=129
G61A **St-Isidore-de-** 47.23 6 P P 04 05 18.1 +1.3
baz=189,SNR=12
G62A **West of Eustis** 47.28 7 P P 04 05 18.4 +1.2
baz=190,SNR=18
W18A **Petrified Fore** 47.30 324 P P 04 05 19.4 +1.7
baz=134,SNR=11
W18A **Petrified Fore** 47.30 324 IAmb IAmb 04 05 20.3
comp=Z,32nm,1.2s
G63A **Kingsbury** 47.30 8 P P 04 05 18.4 +1.1
baz=191,SNR=11
H66A **Whiting** 47.34 10 P P 04 05 18.5 +0.8
baz=194
F52A **Sundridge** 47.41 359 P P 04 05 17.2 -1.0
baz=178,SNR=8.7
F55A **Otter Lake** 47.46 1 P P 04 05 18.4 -0.1
baz=182,SNR=10
PKME **Peaks-Kenny Pk** 47.49 8 P P 04 05 19.5 +0.7
baz=192,SNR=7.7
PKME **Peaks-Kenny Pk** 47.49 8 P P 04 05 18.7 -0.1
PKME IAmb IAmb 04 05 20.5
comp=Z,21nm,0.8s
F57A **Harrington** 47.50 3 P P 04 05 19.0 +0.2
baz=184
F49A **Sandfield** 47.51 356 P P 04 05 17.1 -1.9
baz=174,SNR=9.9
G64A **Maxfield** 47.56 9 P P 04 05 19.7 +0.4
baz=192,SNR=5.3
ALGO **Algonquin Park** 47.56 360 P P 04 05 18.7 -0.6
baz=180,SNR=22
F51A **Arnstein** 47.56 358 P P 04 05 18.0 -1.4
baz=177,SNR=6.5
S22A **4UR Ranch, Cre** 47.59 329 P P 04 05 21.3 +1.2
baz=139,SNR=11
F48A **Evansville** 47.62 356 P P 04 05 18.1 -1.6
baz=174,SNR=14
F59A **Saint Guilaume** 47.67 5 P P 04 05 20.5 +0.4
baz=187,SNR=6.1
Q24A **Divide** 47.69 331 P P 04 05 21.8 +0.9
baz=142
G65A **Princeton** 47.70 10 P P 04 05 20.9 +0.5
baz=194
GGN **Saint George** 47.75 11 IAmb IAmb 04 05 22.5
comp=Z,21nm,1.2s
F60A **Warwick** 47.86 6 P P 04 05 21.9 +0.3
baz=188,SNR=5.4
E52A **Mattawa** 47.89 359 P P 04 05 20.8 -1.1
baz=179,SNR=10
F63A **Nahmakanta, Br** 47.95 8 P P 04 05 22.8 +0.5
baz=192
F63A **Nahmakanta, Br** 47.95 8 IAmb IAmb 04 05 23.8
comp=Z,15nm,0.9s
F61A **St Evariste** 47.97 6 P P 04 05 22.8 +0.3
baz=189,SNR=6.0
E53A **Dumoine, Ponti** 47.98 0 P P 04 05 21.8 -0.8
baz=180,SNR=11
F62A **Pittston Farm,** 48.02 7 P P 04 05 23.4 +0.5
baz=191,SNR=5.6
E54A **Lac Daplat, Po** 48.04 1 P P 04 05 22.4 -0.7
baz=181,SNR=13
E55A **Montcerf-Lytto** 48.09 2 P P 04 05 23.2 -0.1
baz=182,SNR=8.3
MVCO **Mesa Verde** 48.09 327 P P 04 05 24.5 +0.6
baz=137,SNR=6.3
E50A **Wahnapitae** 48.09 357 P P 04 05 21.8 -1.6
baz=176,SNR=8.7
E57A **Chemin Saint G** 48.13 3 P P 04 05 23.9 +0.1
baz=185,SNR=36
E58A **La Victoria** 48.15 4 P P 04 05 24.0 +0.2
baz=186,SNR=12
E51A **G1948 Merrick** 48.16 359 P P 04 05 23.1 -0.8
baz=178,SNR=44
E56A **St. Veronique** 48.21 3 P P 04 05 24.4 +0.1
baz=184,SNR=24
F64A **Sherman** 48.22 9 P P 04 05 24.9 +0.5
baz=193,SNR=9.8
F64A **Sherman** 48.22 9 IAmb IAmb 04 05 26.0
comp=Z,20nm,0.9s
F42A **Maple Grove Fa** 48.22 350 IAmb IAmb 04 05 24.2
comp=Z,16nm,1.0s
E48A **Lockeyer** 48.23 356 P P 04 05 23.2 -1.3
baz=174,SNR=27
E47A **Iron Bridge** 48.29 355 P P 04 05 23.5 -1.5
baz=173,SNR=17
E60A **Ste Agathe de** 48.31 6 P P 04 05 25.2 +0.1
baz=189,SNR=5.7
E59A **St. Maurice** 48.32 5 P P 04 05 26.2 +1.1
baz=187
ECSD **EROS Data Cent** 48.34 342 P P 04 05 23.9 -1.6
baz=154,SNR=12
E61A **Lac Etchemin** 48.48 7 P P 04 05 27.5 +1.0
baz=190,SNR=12
WUAZ **Wupatki** 48.54 323 P P 04 05 29.0 +1.6
baz=133,SNR=13
WUAZ **Wupatki** 48.54 323 IAmb IAmb 04 05 29.9
comp=Z,16nm,0.9s
ISCO **Idaho Springs** 48.57 331 P P 04 05 28.5 +1.0
baz=142,SNR=13
ISCO **Idaho Springs** 48.57 331 P P 04 05 27.4 -0.2
D52A **ZEK Kipawa Sen** 48.58 360 P P 04 05 26.6 -0.6
baz=179,SNR=9.1
SPMN **Marine on St.** 48.67 346 P P 04 05 26.0 -1.8
baz=160,SNR=5.4
D55A **Sainte-Anne-du** 48.67 2 P P 04 05 27.6 -0.2
baz=183,SNR=21
D53A **Lac Vacive, Po** 48.68 0 P P 04 05 27.4 -0.5
baz=180,SNR=19
D53A **Lac Vacive, Po** 48.68 0 IAmb IAmb 04 05 28.5
comp=Z,28nm,0.9s
D51A **Lot 18 Range I** 48.71 359 P P 04 05 26.7 -1.4
baz=178,SNR=7.9
D56A **ZEC Mazanza, M** 48.73 3 P P 04 05 28.2 -0.1
baz=184,SNR=21
D57A **Chemin Vers le** 48.75 4 P P 04 05 28.6 +0.2
baz=185,SNR=22
E63A **Ozow** 48.75 9 P P 04 05 28.9 +0.5
baz=193,SNR=9.6
E63A **Oxbow** 48.75 9 IAmb IAmb 04 05 30.2
comp=Z,28nm,1.1s
D54A **Lac Fusel, La** 48.77 1 P P 04 05 27.9 -0.7
baz=182,SNR=14
E62A **Clayton Lake** 48.79 8 P P 04 05 29.8 +1.1
baz=191,SNR=32
D46A **Sault St. Mari** 48.79 354 P P 04 05 26.7 -2.1
baz=172,SNR=11
D50A **G1974 Best Tow** 48.80 358 P P 04 05 27.3 -1.5
baz=177,SNR=6.9
E64A **Bridgewater** 48.84 9 P P 04 05 29.6 +0.5
baz=193,SNR=6.1
D47A **Chapleau** 48.87 355 P P 04 05 27.6 -1.9
baz=173,SNR=14
D48A **Paudash Townsh** 48.90 356 P P 04 05 27.8 -1.8
baz=175,SNR=17
D58A **Chemin du LacG** 48.90 5 P P 04 05 30.0 +0.4
baz=187,SNR=24
D59A **Saint-Raymond** 48.90 6 P P 04 05 30.1 +0.4
baz=188
D60A **Saint Jean D'O** 48.91 6 P P 04 05 30.1 +0.6
baz=189,SNR=5.8
D49A **Beulah Townshi** 48.97 357 P P 04 05 28.5 -1.6
baz=175,SNR=12
PQI **Presque Isle** 49.05 9 IAmb IAmb 04 05 32.9
comp=Z,28nm,1.3s
PV12 **Sauer Basin,** 49.06 328 IAmb IAmb 04 05 33.5
comp=Z,24nm,0.8s
LATQ **La Tuque** 49.19 5 P P 04 05 32.4 +0.6
baz=187,SNR=29
D61A **St Aubert, Com** 49.27 7 P P 04 05 33.4 +1.0
baz=190,SNR=18
D62A **Allapoint, All** 49.30 8 P P 04 05 33.5 +0.9
baz=192,SNR=23
D63A **Stockholm** 49.40 9 P P 04 05 34.0 +0.7
baz=193,SNR=8.8
D41A **Chassel** 49.56 350 IAmb IAmb 04 05 34.7
comp=Z,30nm,1.2s
N23A **Red Feather La** 49.58 332 P P 04 05 36.1 +0.8
baz=142,SNR=7.7
PHWY **Pilot Hill** 49.68 333 IAmb IAmb 04 05 37.6
comp=Z,9.4nm,0.6s
E38A **The Farm, Brul** 49.69 348 IAmb IAmb 04 05 35.0
comp=Z,13nm,0.7s
VLDQ **Val d'Or** 49.72 0 P P 04 05 35.6 -0.2
VLDQ IAmb IAmb 04 05 36.3
comp=Z,13nm,0.9s
SUSD **Miller** 49.74 340 P P 04 05 35.1 -1.0
baz=152,SNR=14
IKP **In-Ko-Pah, Jac** 49.78 317 P P 04 05 37.1 +0.5
baz=126
BC3 **Big Chuckawall** 49.93 318 P P 04 05 38.4 +0.6
baz=127
BATG **Bathurst New B** 49.97 11 P P 04 05 37.1 -0.6
BATG IAmb IAmb 04 05 39.2
comp=Z,19nm,0.8s
IRM **Iron Mountain** 50.03 319 P P 04 05 40.0 +1.5
baz=128,SNR=5.9
O20A **White River Ci** 50.12 330 P P 04 05 40.2 +1.0
baz=139
MONP2 **Monument Peak** 50.13 317 P P 04 05 40.6 +1.1
baz=126
BELC **Belle Mtn. Jos** 50.50 318 P P 04 05 43.0 +0.9
baz=127
TPFO **Pinon Flats** 50.57 318 P P 04 05 44.3 +1.7
baz=126
PFO **Pinyon Flats O** 50.58 318 P P 04 05 44.1 +1.4
baz=126
109C **Camp Elliot, M** 50.60 317 P P 04 05 43.9 +1.3
baz=125
LSQQ **Lebel-sur-Quev** 50.67 1 P P 04 05 42.2 -0.7
baz=181
GMRC **Granite Mounta** 50.75 319 P P 04 05 45.5 +1.5
baz=128,SNR=9.1
RWWY **Rawlins** 50.80 332 IAmb IAmb 04 05 45.2
comp=Z,17nm,0.9s
EYMN **Ely** 50.95 348 P P 04 05 43.5 -1.6
baz=162,SNR=10
EYMN **Ely** 50.95 348 IAmb IAmb 04 05 44.5
comp=Z,19nm,1.2s
MURC **Murrieta** 51.07 317 P P 04 05 47.8 +1.5
baz=126
HEC **Hector,Ludlow** 51.22 319 P P 04 05 49.4 +1.9
baz=127,SNR=5.1
K22A **Casper** 51.23 333 P P 04 05 48.1 +0.6
baz=142,SNR=6.1
TUQ **Turquoise Moun** 51.32 320 P P 04 05 49.5 +1.2
baz=128
RSSD **Black Hills** 51.35 336 P P 04 05 49.3 +0.9
baz=146
RSSD **Black Hills** 51.35 336 P P 04 05 48.9 +0.4
RSSD IAmb IAmb 04 05 50.3
comp=Z,11nm,0.7s
MATQ **Matagami** 51.37 0 P P 04 05 47.0 -1.1
baz=180,SNR=14
CHGQ **Chibougamau** 51.61 3 P P 04 05 49.6 -0.3
baz=184,SNR=26
BFSC **Mount Baldy Ra** 51.75 318 P P 04 05 52.1 +0.7
baz=126
GSC **Goldstone, Bar** 51.81 319 P P 04 05 53.3 +1.4
baz=127,SNR=6.6
GSC **Goldstone, Bar** 51.81 319 P P 04 05 52.2 +0.4
B35A **Bob, Littlefor** 51.83 347 IAmb IAmb 04 05 50.6
comp=Z,9.0nm,0.6s
SHOC **Shoshone, Teco** 51.83 320 P P 04 05 53.5 +1.6
baz=128
DECC **Green Verdugo** 52.22 317 P P 04 05 56.6 +1.8
baz=125
AGMN **Agassiz Nation** 52.30 345 P P 04 05 54.2 -0.8
baz=157,SNR=26
AGMN **Agassiz Nation** 52.30 345 IAmb IAmb 04 05 55.0
comp=Z,23nm,0.8s
EDW2 **Edwards Air Fo** 52.35 318 P P 04 05 57.2 +1.4
baz=126
TPNV **Topopah Spring** 52.47 321 P P 04 05 58.4 +1.7
baz=128,SNR=20
FURC **Furnace Creek,** 52.56 320 P P 04 05 58.8 +1.7
baz=128
DUG **Dugway, Tooele** 52.58 326 P P 04 05 58.9 +1.5
baz=134,SNR=12
DUG **Dugway, Tooele** 52.58 326 IAmb IAmb 04 05 59.8
comp=Z,33nm,1.6s
MPMC **Manual Prospec** 52.71 320 P P 04 05 59.4 +0.8
baz=127
BW06 **Boulder Array** 52.75 331 P P 04 05 59.1 +0.3
baz=139,SNR=5.6
BW06 **Boulder Array** 52.75 331 IAmb IAmb 04 05 59.9
comp=Z,20nm,1.6s
PDAR **Pinedale Array** 52.75 331 P P 04 05 58.9 +0.1
comp=Z,2.2nm,0.5s,baz=124,slow=8.9,SNR=46
PDAR PcP PcP 04 07 06.3 +0.1
comp=Z,1.4nm,0.9s,baz=126,slow=4.6,SNR=3.6
PDAR ScP ScP 04 10 47.1 -1.7
comp=Z,0.2nm,0.3s,baz=125,slow=13,SNR=3.9
HWUT **Hardware Ranch** 52.90 329 IAmb IAmb 04 06 01.3
comp=Z,17nm,0.7s
R11A **Troy Canyon, C** 52.94 323 P P 04 06 01.7 +1.5
baz=130,SNR=9.6
MDND **Maddock** 52.96 342 P P 04 06 00.1 +0.1
baz=152
ISA **Isabella, Lake** 53.12 319 P P 04 06 03.0 +1.6
baz=126
CWC **Cottonwood Cre** 53.32 320 P P 04 06 04.4 +1.4
baz=126
AHID **Auburn Hatcher** 53.51 330 IAmb IAmb 04 06 05.4
comp=Z,10nm,0.8s
PKM **Mcpherson Peak** 53.58 317 P P 04 06 06.3 +1.3
baz=124
VES **Vestal, Richgr** 53.63 318 P P 04 06 06.8 +1.8
baz=125,SNR=6.4
DRLN **Deer Lake** 53.83 16 P P 04 06 06.5 +0.2
DRLN IAmb IAmb 04 06 08.1
comp=Z,21nm,1.1s
SNOW **Snow King Moun** 53.85 331 IAmb IAmb 04 06 09.0
comp=Z,11nm,0.5s
ULM **Lac du Bonnet** 54.10 346 P P 04 06 06.8 -1.3
comp=Z,12nm,0.5s,baz=157,slow=8.1,SNR=15
ULM PcP PcP 04 07 10.4 -0.5
comp=Z,4.8nm,0.6s,baz=173,slow=4.9,SNR=3.1
ULM **Lac du Bonnet** 54.10 346 P P 04 06 06.8 -1.3
ULM IAmb IAmb 04 06 07.3
comp=Z,14nm,0.6s
IMW **Indian Meadow** 54.26 331 IAmb IAmb 04 06 12.4
comp=Z,9.2nm,0.6s
FLWY **Flagg Ranch** 54.28 331 IAmb IAmb 04 06 11.8
comp=Z,25nm,1.2s
RLMT **Red Lodge** 54.40 333 P P 04 06 11.1 +0.4
baz=140,SNR=8.6
H17A **Grant Village** 54.46 332 P P 04 06 12.5 +1.3
baz=138
NV11 **Mina Array Sit** 54.57 321 P P 04 06 12.9 +0.9
NVAR **Mina Array Bea** 54.66 321 P P 04 06 14.2 +1.4
comp=Z,3.6nm,0.7s,baz=120,slow=6.9,SNR=17
NVAR pP pP 04 06 50.8 +0.6
comp=Z,2.5nm,0.7s,baz=131,slow=7.2,SNR=4.7
DGMT **Dagmar** 55.04 339 P P 04 06 15.8 +0.8
baz=147
DGMT **Dagmar** 55.04 339 IAmb IAmb 04 06 16.6
comp=Z,9.1nm,0.7s
HLID **Hailey** 55.77 328 P P 04 06 21.5 +1.0
baz=134,SNR=16
BOZ **Bozeman (W)** 55.85 332 P P 04 06 21.8 +0.8
baz=138,SNR=27
BOZ **Bozeman (W)** 55.85 332 IAmb IAmb 04 06 22.9
comp=Z,15nm,1.0s
PAHR **Pah Rah Range** 56.10 322 P P 04 06 23.6 +0.6
MFID **Camas Ranch** 56.42 327 IAmb IAmb 04 06 27.2
comp=Z,15nm,0.8s
EGMT **Eagleton** 56.86 335 P P 04 06 28.6 +0.6
baz=141,SNR=6.7
EGMT **Eagleton** 56.86 335 IAmb IAmb 04 06 29.3
comp=Z,26nm,1.4s
SCHQ **Schefferville** 57.18 8 P P 04 06 29.8 -0.3
comp=Z,12nm,0.6s,baz=209,slow=5.8,SNR=28
SCHQ **Schefferville** 57.18 8 P P 04 06 29.8 -0.3
SCHQ IAmb IAmb 04 06 30.3
comp=Z,16nm,0.7s
ORV **Oroville** 57.33 321 IAmb IAmb 04 06 33.9
comp=Z,18nm,0.8s
WVOR **Wild Horse Val** 57.34 325 IAmb IAmb 04 06 33.4
comp=Z,15nm,1.1s
J08A **Circle Bar Ran** 57.84 326 IAmb IAmb 04 06 36.4
comp=Z,17nm,1.4s
MSO **Missoula** 57.85 332 P P 04 06 35.9 +0.9
baz=136,SNR=7.8
MSO **Missoula** 57.85 332 IAmb IAmb 04 06 36.8
comp=Z,12nm,1.1s
O03E **Paynes Creek** 57.95 321 P P 04 06 36.1 +0.3
baz=125
MOD **Modoc Plateau** 57.98 324 IAmb IAmb 04 06 38.6
comp=Z,14nm,1.6s
WDC **Whiskeytown Da** 58.57 321 IAmb IAmb 04 06 39.8
comp=Z,5.7nm,0.6s
JTMT **Jette** 58.67 332 IAmb IAmb 04 06 42.6
comp=Z,12nm,1.0s
K05A **Summer Lake** 58.83 324 P P 04 06 42.1 +0.1
K05A IAmb IAmb 04 06 44.3
comp=Z,8.5nm,0.8s
M04C **Macdoel** 58.83 323 P P 04 06 43.1 +1.1
baz=126,SNR=5.9
I07A **Izee** 58.87 326 IAmb IAmb 04 06 44.4
comp=Z,8.4nm,0.7s
F10A **Beach Ranch, E** 58.88 329 IAmb IAmb 04 06 44.2
comp=Z,30nm,1.6s
N02D **Trinity Center** 58.90 321 P P 04 06 43.3 +0.9
baz=125
M02C **Callahan** 59.23 322 P P 04 06 44.6 -0.1
baz=125
G08A **Pilot Rock** 59.35 327 IAmb IAmb 04 06 47.3
comp=Z,13nm,0.7s
J05D **Fort Rock, OR** 59.37 324 P P 04 06 46.9 +1.2
baz=127,SNR=8.7
L04D **Klamath Falls** 59.37 323 P P 04 06 46.2 +0.5
baz=126,SNR=5.3
PINE **Pine Mountain** 59.51 325 IAmb IAmb 04 06 49.2
comp=Z,18nm,0.8s
FFC **Flin Flon** 59.74 344 P P 04 06 47.1 -0.7
FFC IAmb IAmb 04 06 48.6
comp=Z,11nm,1.1s
I05D **Terrebonne, OR** 60.07 325 P P 04 06 51.7 +1.4
baz=128,SNR=7.0
L02E **Cave Junction** 60.12 322 P P 04 06 51.4 +0.7
baz=124
HAWA **Hanford** 60.36 328 P P 04 06 51.6 -0.6
HAWA IAmb IAmb 04 06 53.7
comp=Z,6.2nm,0.6s
NEW **Newport** 60.39 331 P P 04 06 52.8 +0.4
baz=133
NEW **Newport** 60.39 331 P P 04 06 52.0 -0.4
NEW IAmb IAmb 04 06 53.7
comp=Z,8.9nm,0.8s
K02D **Willamette Mer** 60.47 323 P P 04 06 54.1 +1.0
baz=125
G05D **Wamic, OR** 60.61 326 P P 04 06 55.6 +1.7
baz=128
C09A **Chrisman Ranch** 60.64 330 P P 04 06 55.0 +1.0
J01E **Myrtle Point** 60.89 323 P P 04 06 57.5 +1.6
baz=124
F05D **White Salmon** 61.08 327 P P 04 06 58.6 +1.5
baz=128
B08A **Colville Reser** 61.54 330 P P 04 07 00.5 +0.3
D05A **Enumclaw** 62.17 328 IAmb IAmb 04 07 06.1
comp=Z,18nm,0.8s
B05A **Bryant** 62.90 328 P P 04 07 09.3 +0.2
baz=128
PMSA **Palmer Station** 63.63 173 P P 04 07 14.1 +0.5
PMSA IAmb IAmb 04 09 24.4
comp=Z,8.2nm,0.9s
PMSA **Palmer Station** 63.63 173 *e*P P 04 07 15.0 +1.4
PMSA *ep*P *p*P 04 07 52.2 +1.0
FRB **Frobisher Bay** 65.76 5 P P 04 07 26.4 -1.0
comp=Z,8.8nm,0.8s,baz=204,slow=6.1,SNR=13
YKA **Yellowknife Ar** 69.86 343 P P 04 07 52.5 -0.5
comp=Z,4.5nm,0.7s,baz=140,slow=5.7,SNR=68
SFJD **Kangerlussuaq** 71.32 11 P P 04 08 01.4 -0.5
comp=Z,28nm,0.9s,baz=231,slow=7.2,SNR=6.3
SFJD **Kangerlussuaq** 71.32 11 *i* P P 04 08 01.1 -0.7
comp=Z,2.1nm,0.9s
comp=Z,260nm,18.0s
SFJD **Kangerlussuaq** 71.32 11 P P 04 08 01.5 -0.3
ILULI **Ilulissat** 73.19 10 *i* P P 04 08 12.4 -0.5
comp=Z,44nm,0.9s
comp=Z,4µm,18.0s
ILULI **Ilulissat** 73.19 10 P P 04 08 12.7 -0.2
LIC **Lamto** 73.19 83 *e*P P 04 08 13.7 -0.4
comp=Z,38nm,0.9s
TIC **Toumodi** 73.23 83 *e*P P 04 08 13.7 -0.6
DBIC **Dimbokro** 73.39 83 P P 04 08 15.1 -0.1
comp=Z,10nm,0.7s,baz=254,slow=5.2,SNR=13
DBIC **Dimbokro** 73.39 83 P P 04 08 14.6 -0.6
DBIC IAmb IAmb 04 08 16.0
comp=Z,24nm,1.0s
KIC **Kosan Boka** 73.48 83 *e*P P 04 08 15.6 -0.2
comp=Z,55nm,0.9s
PBDV **Barranco-do-Ve** 75.27 51 *e*P P 04 08 26.2 +0.5
EVO **Evora** 75.52 50 *e*P P 04 08 27.1 +0.1
MVO **Moncorvo** 76.90 47 *e*P P 04 08 34.8 -0.1
PBRG **Braganca** 77.26 47 *e*P P 04 08 37.2 +0.3
BORG **Borgarnes** 78.00 21 P P 04 08 41.5 +1.1
comp=Z,23nm,1.0s,baz=220,slow=6.4,SNR=5.2
BORG **Borgarnes** 78.00 21 IAmb IAmb 04 08 42.2
comp=Z,26nm,1.0s
SUMG **Summit** 78.31 11 ⇑ *i* P P 04 08 42.6 +0.1
comp=Z,74nm,0.8s
comp=Z,10µm,17.0s
SUMG **Summit** 78.31 11 P P 04 08 42.5 +0.1
PAB **San Pablo** 78.53 49 P P 04 08 43.8 -0.2

ESDC	Sonseca Array	78.84	49	P	P	04 08 45.5	-0.1
	comp=Z,2.7nm,0.7s,baz=270,slow=4.9,SNR=25						
ESBB	Sonseca Array	78.85	49	P	P	04 08 45.0	-0.7
ESBB				IAmb	IAmb	04 08 46.8	
	comp=Z,28nm,1.8s						
A36M	Sachs Harbour	79.58	347	P	P	04 08 48.7	-0.1
	baz=132						
INK	Inuvik	79.59	342	IAmb	IAmb	04 08 50.7	
	comp=Z,18nm,1.0s						
EPYK	Eagle Plains	79.63	339	P	P	04 08 50.1	+0.8
	baz=120						
EPYK	Eagle Plains	79.63	339	IAmb	IAmb	04 08 51.0	
	comp=Z,15nm,0.9s						
EGAK	Eagle	80.54	337	IAmb	IAmb	04 08 55.7	
	comp=Z,15nm,0.8s						
K27K	Chicken	80.58	336	P	P	04 08 55.8	+1.4
	baz=114						
CART	Cartagena	80.74	52	P	P	04 08 56.2	+0.4
SCRK	Sand Creek	81.34	336	P	P	04 08 59.2	+0.6
	baz=112						
VNA3	Neumayer Olymp	81.40	162	P	P	04 08 59.7	+1.1
VNA1	Neumayer--Stat	81.64	162	P	P	04 09 01.2	+1.4
SML	Sawmill	82.45	333	IAmb	IAmb	04 09 05.3	
	comp=Z,9.1nm,0.7s						
HDA	Harding Lake	82.70	336	P	P	04 09 05.8	+0.3
	baz=110						
HDA	Harding Lake	82.70	336	IAmb	IAmb	04 09 06.3	
	comp=Z,13nm,0.6s						
GHO	Glory Hole Cre	82.70	333	IAmb	IAmb	04 09 06.6	
	comp=Z,12nm,0.7s						
ILAR	Eielson Array	82.80	336	P	P	04 09 05.9	-0.1
	comp=Z,3.6nm,0.7s,baz=131,slow=4.1,SNR=39						
ILAR				PP	PP	04 12 18.4	+0.1
	comp=Z,0.9nm,0.9s,baz=118,slow=7.9,SNR=7.1						
EKA	Eskdalemuir Ar	82.84	34	P	P	04 09 05.8	-0.6
	comp=Z,6.8nm,0.6s,baz=258,slow=3.9,SNR=18						
CCB	Clear Creek Bu	83.13	336	P	P	04 09 07.5	-0.2
RND	Reindeer	83.17	335	IAmb	IAmb	04 09 09.5	
	comp=Z,9.9nm,0.7s						
CUT	Chulitna	83.50	333	P	P	04 09 10.1	+0.5
	baz=106						
SNAA	Sanae	83.61	162	P	P	04 09 10.7	+0.5
SNAA	Sanae	83.61	162	P	P	04 09 09.7	-0.5
NEA2	Nenana	83.63	336	P	P	04 09 10.8	+0.5
	baz=108						
SKT	Skwentna	83.95	333	IAmb	IAmb	04 09 13.1	
	comp=Z,15nm,0.8s						
BPAW	Bear Paw Mtn.	84.28	335	IAmb	IAmb	04 09 14.6	
	comp=Z,17nm,0.7s						
PPLA	Purkeypile	84.48	334	IAmb	IAmb	04 09 15.8	
	comp=Z,14nm,0.8s						
TAM	Tamanrasset	84.64	67	P	P	04 09 16.2	-0.2
TAM				IAmb	IAmb	04 09 18.4	
	comp=Z,23nm,0.9s						
COLD	Coldfoot	84.87	338	P	P	04 09 17.7	+1.2
	baz=107						
COLD	Coldfoot	84.87	338	P	P	04 09 16.8	+0.3
SNF	Seneffe	86.41	39	⇑P	P	04 09 24.5	+0.1
	comp=Z,14nm,1.1s						
UCC	Uccle	86.49	39	P	P	04 09 24.5	-0.3
UCC				IAmb	IAmb	04 09 25.7	
	comp=Z,12nm,0.8s						
DOU	Dourbes	86.56	40	⇑P	P	04 09 25.4	+0.3
	comp=Z,18nm,1.2s						
BMRD	Maredsous	86.69	40	P	P	04 09 24.7	-1.1
BGES	Gesves	86.91	40	⇑P	P	04 09 26.7	-0.1
	comp=Z,19nm,1.1s						
BCLA	Clavier	87.05	39	⇑P	P	04 09 26.8	-0.8
	comp=Z,14nm,1.5s						
BSTI	Sart Tilman	87.23	39	⇑P	P	04 09 28.9	+0.5
BNI	Bardonecchia	87.43	45	IAmb	IAmb	04 09 31.1	
	comp=Z,6.8nm,0.7s						
BHOU	Houvegnez	87.49	40	⇑P	P	04 09 30.3	+0.6
WLF	Walferdange	87.51	40	eP	P	04 09 30.2	+0.5
	comp=Z,49nm,0.9s,baz=268,slow=4.7						
MEM	Membach	87.51	39	⇑P	P	04 09 30.1	+0.3
ECH	Echery	88.04	42	IAmb	IAmb	04 09 33.2	
	comp=Z,17nm,0.9s						
AHRW	Bad Neuenahr-A	88.19	39	eP	P	04 09 33.1	+0.2
	comp=Z,28nm,0.9s,baz=268,slow=4.7						
QSPA	South Pole Qui	88.26	180	P	P	04 09 34.3	+1.2
BUG	Bochum--Univer	88.39	39	eP	P	04 09 34.1	+0.3
	comp=Z,18nm,0.9s,baz=268,slow=4.7						
IBBN	Ibbenburen	88.76	38	eP	P	04 09 35.9	+0.3
	comp=Z,25nm,1.4s,baz=268,slow=4.7						
KEST	Kesra	88.81	54	P	P	04 09 36.6	+0.3
	comp=Z,12nm,0.8s,baz=314,slow=2.7,SNR=12						
KEST	Kesra	88.81	54	IAmb	IAmb	04 09 38.6	
	comp=Z,12nm,0.8s						
BFO	Black Forest	88.83	42	P	P	04 09 35.8	-0.2
TNS	Taunus Mts	89.03	40	eP	P	04 09 37.1	+0.1
	comp=Z,20nm,1.1s,baz=268,slow=4.7						
STU	Stuttgart	89.43	41	eP	P	04 09 38.8	-0.1
	comp=Z,14nm,0.8s,baz=268,slow=4.7						
DAVA	Damuels	89.81	43	ePcP	P	04 09 41.0	+0.2
	comp=Z,13nm,0.7s,SNR=10						
UBR	Ueberruh	89.98	42	eP	P	04 09 41.5	0.0
	comp=Z,23nm,1.0s,baz=268,slow=4.7						
FUORN	Ofenpass-Fuorn	90.04	44	IAmb	IAmb	04 09 47.2	
	comp=Z,6.6nm,0.9s						
SALO	Salr	90.18	45	P	P	04 09 41.8	-0.7
CLZ	Clausthal	90.34	38	eP	P	04 09 43.5	+0.5
	comp=Z,9.9nm,1.2s,baz=268,slow=4.7						
FETA	Feichten	90.38	43	ePcP	P	04 09 43.6	+0.1
	comp=Z,12nm,0.8s,SNR=12						
RETA	Reutte	90.42	43	i PcP	P	04 09 43.6	+0.1
	comp=Z,6.5nm,1.1s,SNR=6.1						
MOTA	Moosalm	90.64	43	ePcP	P	04 09 44.6	-0.1
	comp=Z,12nm,0.9s,SNR=12						
SQTA	Sankt Quirin	90.71	43	ePcP	P	04 09 45.2	+0.2
	comp=Z,30nm,1.3s,SNR=11						
WATA	Walderalm	90.96	43	i PcP	P	04 09 46.1	-0.1
	comp=Z,4.6nm,0.6s,SNR=6.2						
WTTA	Wattenberg	91.00	43	i PcP	P	04 09 46.6	+0.2
	comp=Z,11nm,0.7s,SNR=7.4						
NB2	NORSAR Subarra	91.14	29	P	P	04 09 46.8	+0.3
	comp=Z,0.8nm,0.7s,baz=269,slow=4.8						
NOA	NORSAR Array B	91.14	29	P	P	04 09 46.8	+0.3
	comp=Z,2.4nm,0.9s,baz=267,slow=4.8,SNR=6.0						
MANZ	Manzenberg	91.38	40	eP	P	04 09 48.4	+0.5
	comp=Z,6.4nm,0.9s,baz=268,slow=4.7						
PLN	Plauen	91.42	40	eP	P	04 09 48.4	+0.4
	comp=Z,8.9nm,1.1s,baz=268,slow=4.7						
ROTZ	Rotzenmuhle	91.44	40	eP	P	04 09 48.8	+0.6
	comp=Z,14nm,1.2s,baz=268,slow=4.7						
CIMO	Cimolais	91.53	44	IAmb	IAmb	04 09 50.1	
	comp=Z,11nm,0.9s						
MURB	Monte Urbino	91.54	47	IAmb	IAmb	04 09 48.5	
	comp=Z,11nm,0.8s						
WERN	Wernitzgruen	91.56	40	eP	P	04 09 49.3	+0.6
	comp=Z,11nm,1.1s,baz=268,slow=4.7						
ABTA	Abfaltersbach	91.59	43	ePcP	P	04 09 49.1	+0.1
	comp=Z,7.3nm,0.8s,SNR=11						
NKC	Novy Kostel	91.60	40	eP	P	04 09 50.5	+1.6
TANN	Tannenbergstha	91.61	40	eP	P	04 09 49.4	+0.4
	comp=Z,22nm,1.1s,baz=268,slow=4.7						
WET	Wettzell	91.87	41	eP	P	04 09 50.5	+0.4
	comp=Z,23nm,1.6s,baz=268,slow=4.7						
ZOU	Zoufplan	91.91	44	IAmb	IAmb	04 09 52.2	
	comp=Z,5.8nm,1.0s						
CLL	Collm	91.97	39	i P	P	04 09 51.0	+0.5
	comp=Z,10.0nm,1.2s						
CLL				ePP	PP	04 10 35.0	+4.4
CLL	Collm	91.97	39	eP	P	04 09 51.0	+0.5
	comp=Z,9.9nm,1.2s,baz=268,slow=4.7						
CLL	Collm	91.97	39	P	P	04 09 50.8	+0.2
CLL				IAmb	IAmb	04 09 52.2	
	comp=Z,9.1nm,1.2s						
KBA	Koelnbreinsper	92.17	43	i P	P	04 09 51.4	-0.4
	comp=Z,5.8nm,0.9s						
FBE	Freiberg	92.19	39	eP	P	04 09 52.3	+0.7
	comp=Z,13nm,1.1s,baz=268,slow=4.7						
PRED	Cave del Predi	92.31	44	IAmb	IAmb	04 09 53.5	
	comp=Z,8.4nm,0.9s						
KHC	Kasperske Hory	92.33	41	eP	P	04 09 53.2	+0.9
HFS	Hagfors	92.36	30	P	P	04 09 52.5	+0.3
	comp=Z,1.6nm,0.9s,baz=227,slow=5.9,SNR=4.3						
MYKA	Terra Mystica	92.37	44	ePcP	P	04 09 52.5	-0.1
	comp=Z,3.8nm,0.6s,SNR=5.3						
GERES	GERESS Array B	92.41	41	P	P	04 09 52.6	-0.2
	comp=Z,1.6nm,0.7s,baz=255,slow=3.3,SNR=17						
INTR	Introdacqua	92.55	48	IAmb	IAmb	04 09 54.3	
	comp=Z,8.8nm,1.1s						
BRG	Berggiesshubel	92.56	39	i P	P	04 09 53.6	+0.3
	comp=Z,10nm,1.0s						
BRG	Berggiesshubel	92.56	39	eP	P	04 09 53.8	+0.5
	comp=Z,10nm,1.0s,baz=268,slow=4.7						
PBCC	Pribram	92.60	41	eP	P	04 09 54.2	+0.7
MOA	Molln	92.79	42	ePcP	P	04 09 54.4	-0.1
	comp=Z,6.6nm,0.9s,SNR=5.5						
CRNS	Crni Vrh	92.80	44	i P	P	04 09 54.6	0.0
MOZS	Mozjanca	92.92	44	i P	P	04 09 55.1	0.0
PRU	Pruhonice	92.95	40	eP	P	04 09 55.5	+0.4
PVCC	Panska Ves	92.96	40	eP	P	04 09 55.8	+0.7
OBKA	Obir	92.99	44	i PcP	P	04 09 55.4	-0.1
	comp=Z,2.0nm,0.8s						
VNDS	Vrh nad Dolski	93.10	44	i P	P	04 09 56.2	+0.2
SOKA	Soboth	93.33	44	ePcP	P	04 09 56.7	-0.3
	comp=Z,1.9nm,0.6s						
ARSA	Arzberg	93.65	43	ePcP	P	04 09 58.2	-0.2
	comp=Z,4.1nm,0.8s						
CONA	Conrad Observa	93.86	42	i PcP	P	04 09 59.8	+0.4
	comp=Z,7.3nm,0.8s,SNR=6.4						
UPC	Upice	93.88	40	eP	P	04 10 00.1	+0.7
CHVC	Chvalec	93.91	40	eP	P	04 10 00.1	+0.6
OSTC	Ostas	94.01	40	eP	P	04 10 00.9	+0.9
DPC	Dobruska-Polom	94.09	40	eP	P	04 10 01.1	+0.7
KRUC	Moravsky	94.18	41	eP	P	04 10 01.3	+0.5
VRAC	Vranov	94.30	41	P	P	04 10 01.9	+0.6
	comp=Z,2.0nm,0.6s,baz=258,slow=5.1,SNR=5.8						
VRAC	Vranov	94.30	41	eP	P	04 10 02.1	+0.7
KRLC	Kraliky	94.39	40	eP	P	04 10 03.1	+1.3
VNDA	Vanda	94.53	191	P	P	04 10 03.3	+1.5
	comp=Z,0.6nm,0.7s,baz=146,slow=4.2,SNR=5.8						
VNDA	Vanda	94.53	191	P	P	04 10 02.1	+0.3
VNDA				IAmb	IAmb	04 13 08.3	
	comp=Z,11nm,1.9s						
TIP	Timpagrande	94.75	51	IAmb	IAmb	04 10 05.6	
	comp=Z,4.1nm,0.7s						
MODS	Modra-Piesok	94.79	42	eP	P	04 10 03.7	+0.1
MORC	Moravsky Berou	94.90	40	eP	P	04 10 05.1	+1.0
MORC	Moravsky Berou	94.90	40	IAmb	IAmb	04 10 05.6	
	comp=Z,8.3nm,1.4s						
JAVC	Velka Javorina	95.03	41	eP	P	04 10 06.2	+1.4
VYHS	Vyhne	95.82	42	eP	P	04 10 09.1	+0.8
ARCES	ARCESS Array B	96.36	20	P	P	04 10 09.7	-0.6
	comp=Z,3.1nm,0.9s,baz=281,slow=4.1,SNR=7.5						
DIVS	Divibare	96.93	46	IAmb	IAmb	04 10 15.1	
	comp=Z,3.6nm,0.9s						
FINES	FINESS Array B	98.25	28	P	P	04 10 18.8	-0.2
	comp=Z,1.7nm,0.7s,baz=323,slow=2.9,SNR=7.1						
GEYT	Alibeck	126.01	43	PKP	PKiKP	04 15 44.7	+0.5
	comp=Z,1.5nm,0.5s,baz=220,slow=6.7,SNR=3.8						
USRK	Ussuriysk Ar.	130.17	332	PKP	PKiKP	04 15 52.5	+0.3
	comp=Z,2.2nm,0.7s,baz=83,slow=3.3,SNR=3.6						
SONM	Songino Array	134.00	356	PKP	PKiKP	04 15 59.5	-0.5
	comp=Z,0.9nm,0.5s,baz=330,slow=2.7,SNR=2.4						
KSRS	Korea Array	137.30	329	PKP	PKiKP	04 16 06.0	-0.9
	comp=Z,2.5nm,0.7s,baz=5.2,slow=2.1,SNR=6.2						
HHC	Hu-ho-hao-te	140.20	349	eP	PKPdf	04 16 09.6	-0.7
LZH	Lanzhou	145.85	357	sPKP		04 17 19.9	
LZH	Lanzhou	145.85	357	ePKPbc	PKPab	04 16 22.1	+0.2
LZH	Lanzhou	145.85	357	pPKP	pPKPdf	04 17 03.2	+0.6
NJ2	Nanjing	146.02	334	eP	PKPdf	04 16 20.5	-0.2
NJ2	Nanjing	146.02	334	pmax	pmax		
	comp=Z,8.0nm,0.5s						
CD2	Chengdu	151.01	357	PKPbc	PKPdf	04 16 27.4	-1.5
CMAR	Chiang Mai Arr	163.17	10	PKPab	PKPab	04 17 34.4	-0.7
	comp=Z,3.1nm,0.6s,baz=330,slow=5.4,SNR=6.8						

IDC ***03*** *03:59:32.0±2.7, 7.°59N×136.°68E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/50, mbtmp3.7/7, Error ellipse: s-maj=149.0km s-min=22.7km az=78.0*

NEIC ***03*** *03:59:48.7±0.7, 7.°5N±0.°2×136.°5E±0.°2, h141km±8km, mb4.1/3, Error ellipse: s-maj=31.2km s-min=21.9km az=60.0*

ISC 03 03:59:31.8±1.3, 7.°7N±0.°2×137.°3E±0.°2, h10km, n15, σ1 9 25/11, mb4.0/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	11.68	267	Pn	Pn	04 02 20.0	+1.3
WRA	Warramunga Arr	27.67	186	P	P	04 05 19.6	-0.5
	0.3nm,0.7s,baz=1.2,slow=10,SNR=3.2						
H11S3	WAKE ISLAND Hy	30.47	67	T	T	04 38 31.0	
	baz=253,slow=75,SNR=16						
H11S1	WAKE ISLAND Hy	30.48	67	T	T	04 38 29.6	
	baz=253,slow=75,SNR=7.3						
H11S2	WAKE ISLAND Hy	30.48	67	T	T	04 38 29.4	
	baz=253,slow=75,SNR=12						
ASAR	Alice Springs	31.40	186	P	P	04 05 53.6	+0.4
	0.3nm,0.7s,baz=16,slow=11,SNR=2.2						
PBKT	Sadao Pong	36.56	287	P	P	04 06 35.5	-2.6
SONM	Songino Array	47.81	332	P	P	04 08 11.1	+1.4
	1.2nm,0.8s,baz=142,slow=8.0,SNR=6.0						
MK31	Makanchi Array	60.84	320	P	P	04 09 43.4	-1.0
MKAR	Makanchi Array	60.84	320	P	P	04 09 44.5	0.0
	0.8nm,0.6s,baz=107,slow=8.2,SNR=7.2						
KURK	Kurchatov	64.50	323	P	P	04 10 08.6	-0.2
KURK	Kurchatov	64.50	323	IAmb	IAmb	04 10 09.7	
	comp=Z,2.7nm,1.1s						
KURBB	Kurchatov Arra	64.53	323	P	P	04 10 08.6	-0.3
	comp=Z,0.3nm,0.2s,baz=111,slow=6.1,SNR=4.7						
BVAR	Borovoye Array	70.06	324	P	P	04 10 44.0	0.0
	comp=Z,0.6nm,0.6s,baz=111,slow=7.0,SNR=4.5						
ARCES	ARCESS Array B	90.25	341	P	P	04 12 32.9	+0.4
	comp=Z,0.8nm,0.9s,baz=65,slow=5.1,SNR=4.2						

KEA ***03*** *04:05:58.7±0.0, 27.°30N×128.°50E, h33km, mB4.7/1, MS5.8/1*

IDC ***03*** *04:06:01.5±0.4, 28.°10N×128.°12E, h0km, mb4.7/46, mb1 4.8/49, mb1mx4.7/65, mbtmp4.7/49, ML3.4/2, MS5.4/52, Ms1 5.4/52, ms1mx5.3/61, Error ellipse: s-maj=13.0km s-min=9.4km az=61.0*

JMA ***03*** *04:06:02.0±0.3, 28.°11N×128.°09E, h13km±3km, M5.6*
JMA Felt III J1.

NIED ***03*** *04:06:02.0, 28.°11N×128.°09E, h13km, MW5.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^17Nm; Mrr=1.11; Mθθ3.39; Mφφ -2.27; Mrθ -2.20; Mθφ3.27; Mφr0.39; Fault plane solution: M0 4.87000×10^17 NP1: φs108.00000°, δ85.00000°, λ-29.00000°. NP2: φs201.00000°, δ61.00000°, λ-174.00000°.*

NEIC ***03*** *04:06:03.7±1.8, 28.°05N±0.°02×128.°06E±0.°08, h10km±1km, mb5.4/279, Ms_20 5.6/810, Mwb5.7/26, Mww5.7, Mwc5.8(GCMT) Error ellipse: s-maj=11.4km s-min=3.1km az=271.0*

MOS ***03*** *04:06:03.8±1.0, 28.°06N×128.°13E, h23km, mb5.4/74, MS5.7/52, Error ellipse: s-maj=6.3km s-min=3.8km az=115.5*

BJI ***03*** *04:06:04.2±0.0, 28.°02N×128.°11E, h23km, mB5.7/69, mb5.1/73, Ms6.2/91, Ms7 6.1/86*

NEIC ***03*** *04:06:04.3, 28.°07N×128.°09E, h10km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.64; Mθθ4.24; Mφφ -3.60; Mrθ1.31; Mθφ2.39; Mφr0.21; Fault plane solution: M0 4.81000×10^17 NP1: φs119.93000°, δ82.78000°, λ10.83000°. NP2: φs28.55000°, δ79.26000°, λ172.65000°. Principal axes: T 5.2091, Plg13.0000°, Azm345.0000°; N -0.9325, Plg77.0000°, Azm153.0000°; P -4.2766, Plg2.0000°, Azm254.0000°;*

GCMT ***03*** *04:06:06.7±0.1, 28.°03N±0.°01×128.°07E±0.°01, h12km, MW5.8/161, Moment Tensor Solution. s101,c156; s161,c351; Duration: 2θ0 Moment tensor: Scale 10^17 Nm; Mrr0.14±.08; Mθθ4.78±.08; Mφφ -4.92±.08; Mrθ0.94±.21; Mθφ4.06±.07; Mφr-0.76±.22; Best double couple: M0 4.43800×10^17 NP1: φs25.00000°, δ80.00000°, λ-178.00000°. NP2: φs295.00000°, δ88.00000°, λ-10.00000°. Principal axes: T 6.3190, Plg6.0000°, Azm341.0000°; N 0.2390, Plg79.0000°, Azm104.0000°; P -6.5560, Plg9.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***03*** *04:06:07, 28.°04N×128.°08E, h13km, Moment Tensor Solution. Moment tensor: Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Fault plane solution: M0 0.00000×10^00 NP1: φs295.00000°, δ84.00000°, λ-4.00000°. NP2: φs25.00000°, δ86.00000°, λ-174.00000°. Principal axes: T 0.0000, Plg90.0000°, Azm0.0000°; N 0.0000, Plg0.0000°, Azm0.0000°; P 0.0000, Plg0.0000°, Azm90.0000°;*

NEIC ***03*** *04:06:10, 28.°13N×128.°10E, h14km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr1.33; Mθθ1.81; Mφφ -3.14; Mrθ -2.66; Mθφ3.64; Mφr-0.26; Fault plane solution: M0 5.28000×10^17 NP1: φs193.00000°, δ60.00000°, λ163.00000°. NP2: φs291.00000°, δ75.00000°, λ31.00000°. Principal axes: T 5.3104, Plg32.0000°, Azm156.0000°; N -0.0701, Plg56.0000°, Azm315.0000°; P -5.2402, Plg10.0000°, Azm59.0000°;*

BGR ***03*** *04:06:14.3±0.0, 28.°61N×126.°95E, h33km, mb5.7, Ms6.2*

ISC 03 04:06:05.7±0.5, 28.°00N±0.°02×128.°15E±0.°02, h22km±3km, n1037, σ1 9 84/683, mb5.3/261, MS5.6/506, 32C-34D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKE	Okinoerabujima	0.74	149	P	Pb	04 06 18.5	-1.4
JOKE				eS	Sb	04 06 29.9	+0.4
JTK	Tokunoshima	0.74	107	P	Pb	04 06 17.4	-2.5
JTK				eS	Sb	04 06 28.7	-0.9
JAMN	Amaminishikomi	0.94	75	P	Pb	04 06 20.5	-2.8
JAMN				S	Sb	04 06 33.0	-2.3
JIH	Iheya	0.97	190	P	Pn	04 06 21.8	-2.2
JIH				S	Sb	04 06 36.6	+0.3
JYRO	Yoronjima	1.01	164	⇑P	Pn	04 06 22.7	-1.8
JYRO				S	Sn	04 06 38.1	+0.1
JOW	Kunigami	1.17	174	P	Pn	04 06 25.0	-1.7
JOW				S	Sb	04 06 42.5	+0.6
JOW	Kunigami	1.17	174	Pn	Pn	04 06 27.2	+0.5
JAM	Amami Oshima	1.35	72	⇓P	Pn	04 06 26.7	-2.5
JAM				S	Sn	04 06 45.4	-1.0
JTAJ	Takarajima	1.48	39	P	Pn	04 06 27.7	-3.2
JNTH	Nagotoyohara	1.48	184	⇑P	Pn	04 06 30.2	-0.8
JNTH				S	Sn	04 06 50.4	+0.8
JAGN	Aguni-jima	1.62	210	⇓P	Pn	04 06 31.6	-1.3
JZK	Kikaishima	1.64	79	⇓P	Pn	04 06 33.5	+0.3
JJT3	Tamagusuku3	1.88	190	P	Pn	04 06 37.3	+0.8
JKE	Kume jima 2	2.06	216	⇓P	Pn	04 06 37.8	-1.2
JNN	Nakanoshima	2.38	39	P	Pn	04 06 42.9	-0.5
JYAK	Yakushimahirau	3.04	42	⇑P	Pn	04 06 51.3	-1.1
JYAK				S	Sn	04 07 26.6	-1.6
JMTN	Minamitane	3.39	45	P	Pn	04 06 56.2	-1.1
JKDJ	Kitadaitoujima	3.47	125	P	Pn	04 06 57.7	-0.7
JKDJ				S	Sn	04 07 38.3	-0.6
JMZ	Minamidaito 2	3.50	128	P	Pn	04 06 58.1	-0.7
JMZ				S	Sn	04 07 39.8	+0.3
JTN	Tanegashima 3	3.62	42	P	Pn	04 07 00.3	-0.1
JISG	Ishigakijimahi	4.84	226	P	Pn	04 07 18.4	+1.2
JIJ	Ishigaki jima	5.11	226	P	Pn	04 07 21.6	+0.7
JTA	Tamana	5.36	22	P	Pn	04 07 29.1	+4.8
IRIF	Iriomote-Funau	5.39	228	P	Pn	04 07 25.7	+0.9
JNU	Nakatsue	5.62	24	Pn	Pn	04 07 31.6	+3.7
	21nm,0.3s,baz=191,slow=6.4,SNR=127						
JNU				Sn	Sn	04 08 36.7	+4.8
	baz=54,slow=19,SNR=0.7						
YOJ	Yonaguni jima	5.80	234	P	Pn	04 07 32.7	+2.2
YOJ	Yonaguni jima	5.80	234	P	Pn	04 07 31.4	+1.0
YOJ	Yonaguni jima	5.80	234	Pn	Pn	04 07 31.4	+1.0
JYNG	Yonagunijimaku	5.86	234	P	Pn	04 07 33.5	+2.3
TATO	Taipei	6.68	245	Pn	Pn	04 07 43.4	+0.9
SSE	Sheshan	6.80	299	Pn	Pn	04 07 44.4	+0.2
SSE				Sn	Sn	04 09 02.9	+2.0
YHNB	Yeheng	6.92	243		Pn	04 07 46.3	+0.4
SSLB	Suanglung	7.72	239	Pn	Pn	04 07 56.1	-0.6
TWG	Pinlang	8.21	233		Pn	04 08 01.8	-1.8
TPUB	Ta-pu	8.24	237	Pn	Pn	04 08 04.1	+0.1
NJ2	Nanjing	9.01	299	⇓P	Pn	04 08 17.1	+2.6
NJ2				S	Sn	04 09 57.5	+2.3
NJ2				pmax	pmax		
	comp=Z,68nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,1μm,3.9s						
NJ2				LR	LR		
	comp=N,174μm,14.7s						
NJ2				LR	LR		
	comp=E,82μm,16.6s						
NJ2				LR	LR		
	comp=Z,65μm,14.2s						
QZH	Quanzhou	9.09	253	⇓*i*P	Pn	04 08 17.1	+1.6
QZH				S	Sn	04 10 04.6	+7.4
QZH				LR	LR		
	comp=N,33μm,10.9s						
QZH				LR	LR		
	comp=E,59μm,10.9s						
QZH				LR	LR		
	comp=Z,78μm,12.3s						
KSRS	Korea Array	9.43	359	Pn	Pn	04 08 19.1	-1.0
	0.5nm,0.3s,baz=186,slow=13,SNR=24						
KSRS				Sn	Sn	04 10 06.6	+1.1
	baz=105,slow=38,SNR=1.8						
KSRS				LR	LR	04 12 10.1	
	comp=Z,59μm,18.0s,baz=178,slow=40						
KNMB	Chin-men Tao	9.44	250	Pn	Pn	04 08 19.7	-0.7
KS19	Wonju Array Si	9.48	359	Pn	Pn	04 08 20.8	0.0
JWT	Wachi	9.53	39	P	Pn	04 08 21.2	-0.4
INCN	Inchon	9.54	353	P	Pn	04 08 21.3	-0.4
INCN	Inchon	9.54	353		Pn	04 08 21.3	-0.4
INU	Inuyama	10.52	44		Pn	04 08 36.1	+1.0
PYAG	Pyongyang	11.20	350	P	Pn	04 08 50.0	+5.6
PYAG				sP		04 09 03.0	
PYAG				S	Sn	04 11 01.0	+12
PYAG				sS		04 11 12.0	
JHJ	Hachijo jima 2	11.25	60	Pn	Pn	04 08 46.2	+1.1

SNY Shenyang 14.29 346 ⇑P **Pn** **04 09 27.6 +0.9**
SNY pmax pmax
comp=Z,48nm,1.4s
SNY pmax pmax
comp=Z,3µm,11.2s
SNY LR LR
comp=N,63µm,11.7s
SNY LR LR
comp=E,54µm,9.8s
SNY LR LR
comp=Z,73µm,13.7s
TGY Tagaytay City 15.37 207 Pn **Pn** **04 09 43.8 +2.4**
30nm,0.3s,baz=135,slow=1.4,SNR=1.5
BJT Baijiatuau 15.55 324 P **Pn** **04 09 43.1 -0.4**
BJT pmax pmax
comp=Z,498nm,1.5s
BJT Baijiatuau 15.55 324 Pn **Pn** **04 09 43.1 -0.4**
BJT IAmb IAmb 04 09 59.9
comp=Z,498nm,1.5s
BJI Beijing 15.56 324 P **Pn** **04 09 44.1 +0.4**
BJI pmax pmax
comp=Z,2µm,6.3s
BJI LR LR
comp=Z,28µm,19.4s
BJI LR LR
comp=Z,30µm,14.5s
CN2 Changchun 15.92 353 *e*P **Pn** **04 09 49.4 +1.2**
CN2 *e*pP sP 04 09 59.8 -0.6
CN2 *e*S **Sn** **04 12 46.5 +2.5**
CN2 pmax pmax
comp=Z,30nm,1.3s
CN2 pmax pmax
comp=Z,2µm,6.0s
CN2 LR LR
comp=Z,58µm,15.0s
CN2 LR LR
comp=Z,56µm,15.0s
CN2 LR LR
comp=Z,60µm,14.0s
TIY Taiyuan 16.36 310 *e*P **Pn** **04 09 53.1 -0.9**
TIY S **Sn** **04 13 00.5 +5.7**
TIY LR LR
comp=Z,63µm,10.9s
TIY LR LR
comp=Z,8µm,11.0s
TIY LR LR
comp=Z,36µm,10.4s
USA0B Ussuriysk Arra 16.46 10 P **Pn** **04 09 55.4 +0.3**
USA0B pmax pmax
comp=Z,233nm,1.2s
USA0B Ussuriysk Arra 16.46 10 **Pn** **04 09 55.4 +0.3**
USRK Ussuriysk Ar. 16.46 10 Pn **P** **04 09 57.4 -0.3**
baz=187,slow=10.0,SNR=30
USRK LR LR 04 15 39.0
comp=Z,13µm,19.5s,baz=179,slow=35
ENH Enshi 16.46 282 Pn **Pn** **04 09 53.5 -1.9**
MDJ Mudanjiang 16.62 4 P **P** **04 09 59.9 +0.3**
MDJ pP pP 04 10 02.6 -2.9
MDJ sP sP 04 10 04.1 -4.2
MDJ S **Sn** **04 13 03.2 +2.1**
MDJ sS S 04 13 09.4 -2.8
MDJ pmax pmax
comp=Z,37nm,1.3s
MDJ pmax pmax
comp=Z,3µm,7.1s
MDJ LR LR
comp=Z,38µm,16.1s
MDJ LR LR
comp=Z,41µm,12.6s
MDJ LR LR
comp=Z,49µm,16.9s
MDJ Mudanjiang 16.62 4 **Pn** **04 09 57.7 +0.5**
XAN Xi'an 17.54 295 P **Pn** **04 10 07.7 -1.1**
XAN pP P 04 10 11.2 +1.4
XAN sP pP 04 10 14.8 -0.9
XAN S **Sn** **04 13 24.7 +1.2**
XAN sS S 04 13 31.7 +0.6
XAN pmax pmax
comp=Z,20nm,1.3s
XAN pmax pmax
comp=Z,970nm,4.1s
XAN LR LR
comp=Z,100µm,10.8s
XAN LR LR
comp=Z,75µm,12.5s
XAN LR LR
comp=Z,62µm,14.1s
XAN Xi'an 17.54 295 P **Pn** **04 10 07.1 -1.7**
XAN pmax pmax
comp=Z,352nm,1.6s
XAN Xi'an 17.54 295 Pn **Pn** **04 10 07.1 -1.7**
XAN IAmb IAmb 04 10 28.4
comp=Z,352nm,1.6s
TEY Ternei 18.29 19⇑ *e*P **Pn** **04 10 13.1 -4.8**
TEY pmax pmax
comp=Z,10.0nm,0.8s
TEY pmax pmax
comp=Z,10.0nm,1.5s
TEY MLR MLR
comp=N,1µm,12.0s
TEY MLR MLR
comp=E,1µm,12.0s
TEY MLR MLR
comp=Z,800nm,11.0s
ERM Erimo 18.58 37⇓ *e*P **Pn** **04 10 21.3 -0.2**
ERM Erimo 18.58 37 P **P** **04 10 19.0 -2.1**
HHC Hu-ho-hao-te 18.71 318 *e*P **Pn** **04 10 24.0 +0.8**
HHC PP **PnPn** **04 10 36.2 +0.9**
HHC S **S** **04 13 53.4 -1.0**
HHC sS sS 04 14 00.7 -3.6
HHC pmax pmax
comp=Z,50nm,1.3s
HHC pmax pmax
comp=Z,4µm,8.0s
HHC LR LR
comp=Z,52µm,11.8s
HHC LR LR
comp=Z,49µm,12.8s
HHC LR LR
comp=Z,54µm,12.6s
QIZ Qiongzhong 18.99 246 P **P** **04 10 25.2 -0.7**
QIZ S **Sn** **04 13 58.5 -0.4**
QIZ pmax pmax
comp=Z,4µm,11.6s
QIZ LR LR
comp=Z,22µm,11.2s
QIZ LR LR
comp=Z,33µm,10.6s
QIZ LR LR
comp=Z,35µm,10.2s
QIZ Qiongzhong 18.99 246 P **P** **04 10 25.6 -0.3**
GYA Guiyang 19.17 270 ⇓P **Pn** **04 10 30.3 +1.4**
GYA S **S** **04 14 04.5 +0.6**
GYA SS **SnSn** **04 14 26.0 +8.8**
GYA pmax pmax
comp=Z,83nm,1.4s
GYA pmax pmax
comp=Z,4µm,6.2s
GYA LR LR
comp=Z,48µm,12.1s
GYA LR LR
comp=Z,43µm,12.4s
GYA LR LR
comp=Z,52µm,13.1s
BTO Baotou 19.51 315 *e*P **Pn** **04 10 33.3 +0.5**
BTO S **S** **04 14 10.2 -0.5**
ASAJ Asahikawa 19.83 32 P **P** **04 10 33.6 -1.2**
comp=Z,0.2nm,0.3s,baz=232,slow=19,SNR=3.1
ASAJ LR LR 04 19 28.5
comp=Z,16µm,18.1s,baz=237,slow=41
ASAJ Asahikawa 19.83 32 P **P** **04 10 34.7 -0.1**
ASAJ pmax pmax
comp=Z,43nm,0.9s
JKA Kamikawa-asahi 19.83 32 P **P** **04 10 34.7 -0.1**
ANA2 Anatahan 19.95 122 P **P** **04 10 35.1 -1.2**
DAV Davao City (W) 20.96 187 LR LR 04 19 04.4
comp=Z,7µm,20.7s,baz=344,slow=37
DAV Davao City (W) 20.96 187 P **P** **04 10 46.9 -0.4**
DAV Davao City (W) 20.96 187 IAMs_20 IAMs_20 04 17 34.3
comp=Z,17µm,19.0s
GUMO Guam 21.17 129 P **P** **04 10 49.2 -0.4**
comp=Z,31nm,0.6s,baz=162,slow=20,SNR=2.3
GUMO LR LR 04 17 40.7
comp=Z,15µm,20.1s,baz=320,slow=33
GUMO Guam 21.17 129 P **P** **04 10 50.0 +0.4**
GUMO pmax pmax
comp=Z,190nm,1.0s
GUMO MLR MLR
comp=Z,17µm,20.0s
GUMO Guam 21.17 129 P **P** **04 10 50.0 +0.4**
GUMO IAmb IAmb 04 11 12.2
comp=Z,190nm,1.0s
GUMO Guam 21.17 129 IAMs_20 IAMs_20 04 17 20.5
comp=Z,17µm,20.0s
YUK Yuzh-Kuril'sk 21.41 37 *d* *i*P **P** **04 10 54.6 +2.7**
YUK *i* 04 11 17.3
YUK *e*PPP PPP 04 11 26.1
YUK *e*S **S** **04 14 51.2 +2.8**
YUK *i* SS **SnSn** **04 15 14.5 +2.7**
YUK *e*SSS SSS 04 15 25.6
YUK pmax pmax
comp=N,219nm,1.4s
YUK pmax pmax
comp=Z,397nm,1.4s
YUK pmax pmax
comp=E,149nm,0.7s
YUK MLR MLR
comp=E,8µm,16.0s
YUK MLR MLR
comp=Z,10µm,16.0s
YUK MLR MLR
comp=N,8µm,15.0s
CD2 Chengdu 21.43 284 P **P** **04 10 52.2 -0.1**
CD2 S **S** **04 14 48.7 -0.4**
CD2 sS Sn 04 14 54.1 -3.3
CD2 SS 04 15 20.9
CD2 ScP **ScP** **04 18 34.2 +3.1**
CD2 pmax pmax
comp=N,150nm,1.1s
CD2 pmax pmax
comp=N,2µm,10.4s
CD2 LR LR
comp=N,208µm,12.8s
CD2 LR LR
comp=N,70µm,10.9s
CD2 LR LR
comp=N,81µm,10.0s
LZH Lanzhou 22.08 298 *e*P **P** **04 10 59.8 +0.3**
LZH sP pP 04 11 06.8 +1.3
LZH PP sP 04 11 24.7 +16
LZH *e*S **S** **04 15 02.7 +0.7**
LZH sS sS 04 15 11.8 0.0
LZH SS **SnSn** **04 15 35.4 +6.7**
LZH pmax pmax
comp=N,130nm,1.1s
LZH pmax pmax
comp=N,770nm,4.3s
LZH LR LR
comp=N,118µm,14.4s
LZH LR LR
comp=N,32µm,13.0s
LZH LR LR
comp=N,34µm,15.2s
YSS Yuzh-Sakhalins 22.12 27 *e*P **P** **04 11 03.0 +3.5**
YSS *e* 04 11 29.9
YSS *e*S **S** **04 15 05.9 +3.7**
YSS pmax pmax
comp=Z,40nm,1.3s
YSS pmax pmax
comp=Z,800nm,9.0s
YSS smax smax
comp=N,3µm,15.4s
YSS smax smax
comp=E,2µm,21.6s
YSS MLR MLR
comp=N,7µm,14.0s
YSS MLR MLR
comp=Z,13µm,14.0s
YSS MLR MLR
comp=E,11µm,12.0s
YSS Yuzh-Sakhalins 22.12 27 P **P** **04 10 59.7 +0.1**
HIA Hailar 22.20 345 P **P** **04 10 57.9 -2.5**
HIA pmax pmax
comp=Z,159nm,1.4s
HIA MLR MLR
comp=Z,31µm,18.0s
HIA Hailar 22.20 345 P **P** **04 10 57.9 -2.5**
HIA IAmb IAmb 04 11 11.0
comp=Z,159nm,1.4s
HIA Hailar 22.20 345 IAMs_20 IAMs_20 04 20 20.9
comp=Z,31µm,18.0s
KMI Kunming 22.89 269⇓ *i*P **P** **04 11 07.5 -0.8**
KMI S **S** **04 15 07.9 -9.2**
KMI pmax pmax
comp=Z,63nm,1.4s
KMI pmax pmax
comp=Z,1µm,4.5s
KMI LR LR
comp=Z,37µm,12.5s
KMI LR LR
comp=Z,32µm,13.7s
KMI LR LR
comp=Z,26µm,14.4s
KMI Kunming 22.89 269 IAMs_20 IAMs_20 04 20 50.3
comp=Z,19µm,18.0s
SLVN Son La 22.99 259 P **P** **04 11 09.1 0.0**
SLVN IAMs_20 IAMs_20 04 20 38.2
comp=Z,20µm,19.0s
KUR Kuril'sk 23.27 37 *e*P **P** **04 11 14.7 +3.1**
KUR 04 11 47.7
KUR *i* S **S** **04 15 22.8 +0.2**
KUR SS **SnSn** **04 16 02.5 +5.0**
KUR pmax pmax
comp=Z,2µm,4.9s
KUR pmax pmax
comp=E,2µm,4.2s
KUR pmax pmax
comp=N,2µm,3.2s
KUR pmax pmax
comp=Z,490nm,1.4s
KUR pmax pmax
comp=E,18µm,28.0s
KUR MLR MLR
comp=E,8µm,17.0s
KUR MLR MLR
comp=Z,12µm,17.0s
KUR MLR MLR
comp=N,8µm,16.0s
GRNR Gornyy 23.59 13⇑ *i*P P 04 11 04.3 -10
GRNR *e*SS **S** **04 15 29.8 +2.0**
GRNR pmax pmax
comp=Z,7.0nm,0.6s
GRNR MLR MLR
comp=E,9µm,11.0s
GRNR MLR MLR
comp=N,16µm,14.0s
GRNR MLR MLR
comp=Z,25µm,14.0s
MYLDM Lahad Datu 24.48 204 P **P** **04 11 23.7 +0.4**
MYLDM IAMs_20 IAMs_20 04 20 47.5
comp=Z,20µm,18.0s
KKM Kota Kinabalu 24.60 210 P **P** **04 11 24.7 +0.2**
KKM IAmb IAmb 04 11 56.9
comp=Z,118nm,1.2s
TYV Tymovskoe 25.34 22 *e*P **P** **04 11 35.7 +4.9**
TYV pmax pmax
comp=Z,19nm,1.1s
TYV pmax pmax
comp=Z,900nm,6.4s
TYV MLR MLR
comp=N,14µm,18.0s
ZEA Zeya 25.72 359 *e*P **P** **04 11 33.6 -0.6**
ZEA *e* 04 12 23.0
ZEA pmax pmax
comp=N,43nm,1.2s
ZEA pmax pmax
comp=Z,120nm,1.6s
ZEA pmax pmax
comp=N,600nm,6.0s
ZEA pmax pmax
comp=Z,1µm,6.0s
ZEA MLR MLR
comp=Z,38µm,14.0s
ZEA MLR MLR
comp=E,26µm,11.0s
ZEA MLR MLR
comp=N,30µm,14.0s
ULN Ulaanbaatar 25.74 326 P **P** **04 11 33.6 -1.1**
ULN pmax pmax
comp=Z,80nm,1.0s
ULN MLR MLR
comp=Z,17µm,19.0s
ULN Ulaanbaatar 25.74 326 P **P** **04 11 33.6 -1.1**
ULN IAmb IAmb 04 11 41.1
comp=Z,80nm,1.0s
ULN Ulaanbaatar 25.74 326 IAMs_20 IAMs_20 04 22 57.8
comp=Z,17µm,19.0s
SONM Songino Array 26.05 325 P **P** **04 11 36.7 -0.8**
comp=Z,45nm,1.0s,baz=138,slow=5.3,SNR=93
SONM PcP **PcP** **04 15 05.3 +0.3**
comp=Z,2.1nm,0.8s,baz=174,slow=4.3,SNR=2.8
SONM LR LR 04 22 58.4
comp=Z,18µm,18.6s,baz=136,slow=39
GTA Gaotai 26.07 303 *e*P **P** **04 11 36.5 -1.2**
GTA pP pP 04 11 41.4 -2.8
GTA sP sP 04 11 44.5 -2.3
GTA S **S** **04 16 05.2 -2.6**
GTA sS pS 04 16 15.4 +0.6
GTA ScP **ScP** **04 18 41.7 -1.9**
GTA pmax pmax
comp=Z,12nm,1.0s
GTA pmax pmax
comp=Z,760nm,5.3s
GTA LR LR
comp=Z,59µm,16.8s
GTA LR LR
comp=Z,29µm,13.6s
GTA LR LR
comp=Z,35µm,12.1s
CIT Chita 26.37 339 *e*P **P** **04 11 40.5 +0.3**
CIT *e* 04 11 50.3
CIT *e* 04 12 39.8
CIT pmax pmax
comp=Z,208nm,1.2s
NKL Nikolayevsk 26.79 17 *e*P **P** **04 11 43.8 0.0**
NKL pmax pmax
comp=Z,21nm,1.5s
NKL MLR MLR
comp=N,19nm,11.0s
NKL MLR MLR
comp=Z,15µm,12.0s
TNTI Ternate 27.08 182 P **P** **04 11 48.8 +2.0**
TNTI IAmb IAmb 04 12 09.7
comp=Z,78nm,1.1s
PBKT Sadao Pong 27.54 251 P **P** **04 11 50.7 -0.2**
PBKT IAMs_20 IAMs_20 04 24 09.9
comp=Z,12µm,18.0s
GTOI Gorontalo 27.65 191 P **P** **04 11 55.2 +3.2**
comp=Z,508nmcomp=Z,18nm,1.5s
CHTO Chiang Mai 28.26 257 P **P** **04 11 56.9 -0.6**
CHTO pmax pmax
comp=Z,13nm,1.0s
CHTO MLR MLR
comp=Z,14µm,18.0s
CHTO Chiang Mai 28.26 257 P **P** **04 11 56.9 -0.6**
CHTO Chiang Mai 28.26 257 IAMs_20 IAMs_20 04 24 08.9
comp=Z,14µm,18.0s
CM31 Chiang Mai Arr 28.41 257 P **P** **04 11 57.4 -1.3**
CMAR Chiang Mai Arr 28.41 257 P **P** **04 11 58.8 0.0**
comp=Z,1.9nm,0.5s,baz=59,slow=8.6,SNR=7.1
CMAR PcP **PcP** **04 15 12.1 +1.1**
comp=Z,3.5nm,0.8s,baz=51,slow=0.7,SNR=1.6
CMAR LR LR 04 24 25.0
comp=Z,13µm,18.1s,baz=95,slow=39
MPSI Mapaga 28.62 197 P **P** **04 12 03.4 +2.8**
comp=Z,2µmcomp=Z,29nm,1.7s
SIJI Sorong 28.86 174 LR LR 04 23 34.5
comp=Z,7µm,19.1s,baz=328,slow=36
ZAK Zakamensk 29.26 327 *e*P **P** **04 12 04.8 -1.4**
ZAK pmax pmax
comp=Z,19nm,1.3s
SBUM Sibu 29.61 214 P **P** **04 12 08.2 -1.3**
SBUM IAmb IAmb 04 12 26.0
comp=Z,76nm,1.5s
SBUM IAMs_20 IAMs_20 04 25 24.3
comp=Z,9µm,19.0s
SBUM Sibu 29.61 214 P **P** **04 12 14.0 +4.5**
SANI Sanana 29.95 184 P **P** **04 12 14.6 +2.2**
comp=Z,34nm,1.1s
IRK Irkutsk 30.06 330 *e*P **P** **04 12 11.2 -1.9**
IRK pmax pmax
comp=Z,108nm,1.9s
FAKI Fak Fak 30.99 172 P **P** **04 12 22.6 +1.0**
FAKI IAmb IAmb 04 12 58.0
comp=Z,88nm,1.3s
SKR Severo-Kuril's 31.00 35 *e*P P 04 12 28.2 +6.8
SKR *e*S **S** **04 17 22.7 -2.1**
SKR pmax pmax
comp=Z,300nm,4.4s
SKR MLR MLR
comp=Z,2µm,15.0s
SKR MLR MLR
comp=N,4µm,14.0s
SKR MLR MLR
comp=E,1µm,14.0s
BKB Balikpapan 31.04 202 IAMs_20 IAMs_20 04 22 42.4
comp=Z,9µm,20.0s
MOY Mondy 31.20 327 *e*P **P** **04 12 22.6 -0.7**
MOY pmax pmax
comp=Z,86nm,3.0s
KSM Kuching 31.42 216 P **P** **04 12 25.6 +0.2**
KSM Kuching 31.42 216 P **P** **04 12 30.0 +4.6**
BOD Bodaibo 31.42 345 *e*P **P** **04 12 24.3 -0.7**
BOD pmax pmax
comp=Z,28nm,1.1s
LSA Lhasa 32.36 282 P **P** **04 12 33.2 -1.0**
LSA pmax pmax
comp=Z,17nm,0.9s
LSA MLR MLR
comp=Z,4µm,20.0s
LSA Lhasa 32.36 282 P **P** **04 12 33.1 -1.0**
SHL Shillong 32.39 274 *e*P **P** **04 12 32.5 -1.7**
SHL *e*S **S** **04 17 46.0 -1.5**
SHL Shillong 32.39 274 P **P** **04 12 32.8 -1.3**
SHL pmax pmax
comp=Z,43nm,1.1s
SHL MLR MLR
comp=Z,17µm,19.0s
SHL Shillong 32.39 274 P **P** **04 12 32.8 -1.3**
SHL IAmb IAmb 04 12 44.4
comp=Z,43nm,1.1s
SHL IAMs_20 IAMs_20 04 26 48.5
comp=Z,17µm,19.0s
JAY Jayapura 32.66 156 LR LR 04 22 57.8
comp=Z,8µm,21.5s,baz=356,slow=31
PEA0B Petropavlovsk- 33.24 33 P **P** **04 12 40.6 -0.5**
PEA0B pmax pmax
comp=Z,25nm,1.1s
PEA0B MLR MLR
comp=Z,5µm,18.0s
PEA0B Petropavlovsk- 33.24 33 P **P** **04 12 40.6 -0.5**
PETK Petropavlovsk- 33.24 33 P **P** **04 12 39.4 -1.7**
comp=Z,9.9nm,0.9s,baz=225,slow=5.9,SNR=6.0
PETK PcP **PcP** **04 15 23.8 +0.7**
comp=Z,6.4nm,1.1s,baz=188,slow=2.9,SNR=4.0
PETK LR LR 04 27 10.1
comp=Z,5µm,18.5s,baz=227,slow=38
PET Petropavlovsk 33.66 34 *e*P **P** **04 12 40.9 -3.7**
PET *e* 04 15 26.1
PET *e*S **S** **04 18 04.8 -1.3**
PET MLR MLR
comp=Z,12µm,19.0s
PET MLR MLR
comp=Z,10µm,18.0s
BBKI Banjar Baru 33.80 204 P **P** **04 12 47.1 +0.8**
comp=Z,72nm,1.1s
KAPI Kappang 33.81 195 LR LR 04 27 29.6
comp=Z,4µm,19.1s,baz=7.5,slow=38
YAK Yakutsk 34.05 1 *e*P **P** **04 12 49.7 +1.8**
YAK *e**PP **sP** **04 13 00.0 +3.0**
YAK *e* 04 14 13.9
YAK *e* 04 15 27.6
YAK *e*S **S** **04 18 13.5 +1.5**
YAK *e*SS **SnSn** **04 20 17.3 -2.3**
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK pmax pmax
comp=N,2.0nm,0.6s
YAK pmax pmax
comp=E,2.0nm,0.6s
YAK pmax pmax
comp=Z,176nm,2.6s
YAK pmax pmax
comp=N,158nm,2.6s
YAK pmax pmax
comp=E,21nm,2.5s
YAK smax smax
comp=N,367nm,6.6s

YAK smax smax
comp=E,444nm,6.6s
YAK MLR MLR
comp=N,7µm,15.0s
YAK MLR MLR
comp=Z,6µm,15.0s
YAK MLR MLR
comp=E,2µm,16.0s
YAK Yakutsk 34.05 1 P **P** **04 12 47.3 -0.6**
YAK IAmb IAmb 04 12 50.4
comp=Z,21nm,0.5s
YAK PcP **PcP** **04 15 26.1 +1.0**
YAK IAMs_20 IAMs_20 04 26 37.3
comp=Z,14µm,19.0s
KULM Kulim 34.53 234 P **P** **04 12 52.1 -0.5**
KULM IAmb IAmb 04 12 58.9
comp=Z,54nm,1.3s
KULM IAMs_20 IAMs_20 04 29 25.9
comp=Z,7µm,18.0s
KULM Kulim 34.53 234 P **P** **04 12 54.0 +1.4**
IPM Ipoh 34.83 233 P **P** **04 12 54.7 -0.6**
IPM IAmb IAmb 04 13 07.0
comp=Z,48nm,0.9s
IPM Ipoh 34.83 233 P **P** **04 12 56.0 +0.8**
MYKOM Kota Tinggi 34.91 226 P **P** **04 12 54.4 -1.5**
MA2 Magadan 35.17 20 IAMs_20 IAMs_20 04 27 15.8
comp=Z,8µm,18.0s
SAUI Saumlaki 35.90 175 IAMs_20 IAMs_20 04 26 39.8
comp=Z,6µm,18.0s
WMQ Urumqi 35.98 307 *eP* **P** **04 13 05.5 +0.6**
WMQ pP pP 04 13 09.7 -1.7
WMQ sP sP 04 13 13.0 -1.1
WMQ PP **PP** **04 14 27.4 +0.7**
WMQ S **S** **04 18 41.4 -0.9**
WMQ PcS **PcS** **04 19 19.1 +0.4**
WMQ SS **SnSn** **04 21 04.4 -2.5**
WMQ pmax pmax
comp=Z,34nm,1.5s
WMQ pmax pmax
comp=Z,320nm,3.9s
WMQ LR LR
comp=Z,25µm,22.5s
WMQ LR LR
comp=Z,9µm,24.7s
WMQ LR LR
comp=Z,16µm,26.1s
WMQ Urumqi 35.98 307 IAmb IAmb 04 13 22.3
comp=Z,60nm,0.7s
WMQ Urumqi 35.98 307 IAMs_20 IAMs_20 04 26 26.2
comp=Z,16µm,22.0s
PPBI Pangkal Pinang 36.70 219 P **P** **04 13 13.0 +1.7**
comp=Z,4µmcomp=Z,51nm,1.6s
LHMI Lhok Sumawe 37.30 238 P **P** **04 13 18.2 +1.9**
comp=Z,145nm,1.2s
PSI Prapat 37.49 233 P **P** **04 13 17.6 -0.5**
PSI pmax pmax
comp=Z,28nm,1.0s
PSI MLR MLR
comp=Z,5µm,22.0s
RPSI Rantau Prapat 37.56 233 P **P** **04 13 17.6 -1.0**
SOEI Soe 37.72 186 P **P** **04 13 23.6 +3.6**
comp=Z,80nm,1.0s
SOEI Soe 37.72 186 P **P** **04 13 20.4 +0.5**
SOEI IAmb IAmb 04 13 46.2
comp=Z,68nm,0.9s
BKNI Bangkinang 37.84 228 P **P** **04 13 21.6 +0.7**
comp=Z,9µmcomp=Z,139nm,1.1s
BKNI Bangkinang 37.84 228 P **P** **04 13 20.4 -0.5**
PLAI Plampang 37.96 197 P **P** **04 13 21.9 0.0**
comp=Z,2µmcomp=Z,76nm,0.9s
TWSI Taliwang, Sumb 38.11 198 P **P** **04 13 26.3 +3.1**
comp=Z,26nm,2.0s
BATI Baumata 38.23 187 P **P** **04 13 21.9 -2.2**
comp=Z,55nm,0.8s,baz=290,slow=12,SNR=2.2
BATI LR LR 04 29 18.1
comp=Z,2µm,21.7s,baz=26,slow=36
MLSI Meulaboh, Aceh 38.33 238 P **P** **04 13 25.5 +0.4**
comp=Z,108nm,1.1s
MNSI Mandailing Nat 38.47 230 P **P** **04 13 26.5 +0.3**
comp=Z,35nm,1.3s
SDSI Sungai Dareh 38.54 226 P **P** **04 13 27.7 +0.9**
comp=Z,42nm,1.4s
ZSN Zaisan 38.75 312 *i* P **P** **04 13 28.3 0.0**
comp=Z,13nm,0.9s,baz=312
ZSN LR LR 04 29 25.2
comp=Z,3µm,10.2s,baz=312
ZSN Zaisan 38.75 312 *i* P **P** **04 13 28.3 0.0**
ZSN pmax pmax
comp=Z,13nm,0.9s
ZSN MLR MLR
comp=Z,3µm,10.0s
SMRI Semarang 38.82 209 P P 04 13 36.5 +7.4
GSI Gunungsitoli 39.49 233 P **P** **04 13 36.2 +1.4**
comp=Z,41nm,1.3s
GSI Gunungsitoli 39.49 233 P **P** **04 13 34.3 -0.6**
GSI IAmb IAmb 04 13 45.9
comp=Z,78nm,1.3s
GSI IAMs_20 IAMs_20 04 29 44.5
comp=Z,6µm,20.0s
RABL Rabaul 39.50 140 P **P** **04 13 35.6 +0.8**
KRVT Keravat (AS076 39.51 141 P **P** **04 13 34.7 -0.3**
comp=Z,68nm,0.9s,baz=339,slow=8.6,SNR=2.6
KRVT LR LR 04 26 48.6
comp=Z,3µm,21.3s,baz=336,slow=32
LHSI Lahat 39.55 221 P P 04 13 41.2 +6.0
MDSI Maura Dua 39.71 219 P **P** **04 13 36.7 +0.1**
comp=Z,981nmcomp=Z,48nm,0.9s
LEM Lembang 39.90 213 P **P** **04 13 40.1 +1.7**
comp=Z,53nm,1.0s
KSI Kapahiang 39.95 222 P P 04 13 46.5 +7.8
DBJI Dramaga 40.09 214 P **P** **04 13 41.0 +1.2**
comp=Z,23µmcomp=Z,107nm,1.2s
LWLI Liwa 40.22 219 P P 04 13 46.8 +5.9
MK31 Makanchi Array 40.32 310 P **P** **04 13 40.8 -0.6**
MK31 pmax pmax
comp=Z,39nm,0.9s
MK31 Makanchi Array 40.32 310 P **P** **04 13 40.8 -0.6**
MKAR Makanchi Array 40.32 310 P **P** **04 13 40.2 -1.2**
comp=Z,42nm,0.8s,baz=101,slow=9.4,SNR=64
MKAR PcP **PcP** **04 15 43.6 -1.0**
comp=Z,2.9nm,0.8s,baz=89,slow=2.0,SNR=2.3
MKAR ScP **ScP** **04 19 33.1 +0.5**
comp=Z,1.0nm,1.0s,baz=88,slow=4.8,SNR=1.9
MKAR LR LR 04 30 42.9
comp=Z,7µm,20.0s,baz=108,slow=37
MKAR Makanchi Array 40.32 310 *ce* P **P** **04 13 40.9 -0.5**
MKAR pmax pmax
comp=Z,42nm,0.9s
KASI Kota Agung 40.39 218 P **P** **04 13 43.9 +1.6**
comp=Z,68nm,1.0s
CISI Cisompet, Garu 40.44 212 P **P** **04 13 43.0 +0.2**
CISI IAmb IAmb 04 14 12.2
comp=Z,138nm,1.3s
MAKZ Makanchi 40.53 310 P **P** **04 13 42.7 -0.5**
MAKZ pmax pmax
comp=Z,60nm,1.1s
MAKZ MLR MLR
comp=Z,11µm,20.0s
MAKZ Makanchi 40.53 310 P **P** **04 13 42.7 -0.5**
MAKZ IAmb IAmb 04 13 48.8
comp=Z,60nm,1.1s
MAKZ IAMs_20 IAMs_20 04 30 36.8
comp=Z,11µm,20.0s
MTN Manton Dam 40.70 176 P **P** **04 13 44.5 -0.3**
MTN IAmb IAmb 04 13 50.4
comp=Z,82nm,1.1s
ZAA0 Zalesovo Array 40.81 322 P **P** **04 13 43.8 -1.5**
ZALV Zalesovo Beam 40.81 322 P **P** **04 13 43.6 -1.7**
comp=Z,13nm,0.7s,baz=111,slow=8.1,SNR=19
ZALV PcP **PcP** **04 15 43.3 -2.7**
comp=Z,6.6nm,0.8s,baz=258,slow=3.8,SNR=3.9
ZALV ScP **ScP** **04 19 34.0 -0.3**
comp=Z,0.6nm,0.5s,baz=151,slow=3.3,SNR=1.6
ZALV LR LR 04 32 11.4
comp=Z,11µm,18.2s,baz=118,slow=39
ZALV Zalesovo Beam 40.81 322 *i* P **P** **04 13 44.2 -1.1**
ZALV pmax pmax
comp=Z,13nm,0.7s
PMG Port Moresby 41.49 151 P **P** **04 13 51.5 +0.3**
comp=Z,27nm,1.0s,baz=348,slow=4.1,SNR=8.6
PMG LR LR 04 28 16.5
comp=Z,8µm,21.2s,baz=314,slow=32
PMG Port Moresby 41.49 151 *de* P **P** **04 13 52.1 +0.9**
PMG pmax pmax
comp=Z,34nm,1.4s
PMG Port Moresby 41.49 151 P **P** **04 13 52.6 +1.4**
PMG IAmb IAmb 04 13 57.6
comp=Z,80nm,1.0s
PMG Port Moresby 41.49 151 IAMs_20 IAMs_20 04 27 53.8
comp=Z,9µm,22.0s
PDGK Podgornoye 41.79 305 P **P** **04 13 52.8 -0.9**
SHLS Shalkode 41.80 304 *eP* **P** **04 13 50.8 -3.0**
comp=Z,43nm,1.7s,baz=304
SHLS *eS* **S** **04 20 06.8 -3.5**
baz=304
SHLS *eSS* **SS** **04 23 12.3 -4.0**
baz=304
SHLS LR LR 04 30 46.4
comp=Z,2µm,12.3s,baz=304
SHLS Shalkode 41.80 304 *eP* **P** **04 13 50.8 -3.0**
SHLS *eS* **S** **04 20 06.7 -3.5**
SHLS pmax pmax
comp=Z,43nm,1.7s
SHLS MLR MLR
comp=Z,2µm,12.0s
UZB Uzynbulak 42.12 304 ⇓ *iP* **P** **04 13 56.3 -0.2**
comp=Z,45nm,1.6s,baz=304
UZB *i* S **S** **04 20 16.1 +1.1**
baz=304
UZB *eSS* **SS** **04 23 24.5 +1.8**
baz=304
UZB LR LR 04 31 00.3
comp=Z,2µm,11.4s,baz=304
UZB Uzynbulak 42.12 304 *d iP* **P** **04 13 56.2 -0.2**
UZB *i* S **S** **04 20 16.1 +1.1**
UZB pmax pmax
comp=Z,45nm,1.6s
UZB MLR MLR
comp=Z,2µm,11.0s
PRZ Przheval'sk 42.53 303 IAmb IAmb 04 14 10.5
comp=Z,71nm,0.9s
PRZ IAMs_20 IAMs_20 04 30 08.9
comp=Z,10µm,22.0s
SATY Saty 42.56 304 ⇓ *iP* **P** **04 14 00.2 +0.1**
comp=Z,43nm,1.7s,baz=304
SATY *eS* **S** **04 20 23.2 +1.6**
baz=304
SATY LR LR 04 31 11.4
comp=Z,2µm,11.6s,baz=304
SATY Saty 42.56 304 *d iP* **P** **04 14 00.1 +0.1**
SATY *eS* **S** **04 20 23.1 +1.6**
SATY pmax pmax
comp=Z,43nm,1.7s
SATY MLR MLR
comp=Z,2µm,12.0s
SATY Saty 42.56 304 *d iP* **P** **04 14 00.1 +0.1**
SATY *eS* **S** **04 20 23.1 +1.6**
SATY pmax pmax
comp=Z,43nm,1.7s
SATY MLR MLR
comp=Z,2µm,12.0s
TDK Taldyqorghan 42.73 307 *eP* **P** **04 14 00.8 -0.4**
comp=Z,45nm,1.1s,baz=307
TDK *eS* **S** **04 20 24.6 +0.8**
baz=307
TDK *eSS* **SS** **04 23 36.2 +1.8**
baz=307
TDK LR LR 04 32 42.0
comp=Z,14µm,14.4s,baz=307
TDK Taldyqorghan 42.73 307 *eP* **P** **04 14 00.8 -0.4**
TDK *eS* **S** **04 20 24.5 +0.8**
TDK pmax pmax
comp=Z,45nm,1.1s
TDK MLR MLR
comp=Z,14µm,14.0s
TARG Taragay, Kyrgy 42.94 302 IAmb IAmb 04 14 10.0
comp=Z,69nm,1.0s
KDJ Kajisay 43.42 303 IAmb IAmb 04 14 13.2
comp=Z,67nm,1.1s
KNRA Kununurra 43.42 179 P **P** **04 14 07.4 +0.4**
KNRA IAmb IAmb 04 14 13.6
comp=Z,93nm,1.1s
KURK Kurchatov 43.50 315 *c iP* **P** **04 14 06.2 -1.1**
KURK pmax pmax
comp=Z,79nm,1.7s
KURK MLR MLR
comp=Z,16µm,18.0s
KURK Kurchatov 43.50 315 P **P** **04 14 05.8 -1.5**
KURK IAmb IAmb 04 14 16.7
comp=Z,113nm,1.4s
KURK Kurchatov 43.50 315 **PcP** **04 15 52.8 -2.2**
KURBB Kurchatov Arra 43.54 315 P **P** **04 14 06.3 -1.3**
comp=Z,19nm,0.8s,baz=103,slow=8.9,SNR=56
KURBB PcP **PcP** **04 15 52.8 -2.4**
comp=Z,3.5nm,0.8s,baz=119,slow=3.3,SNR=3.3
MDOK Medeo 43.56 304 *i* P **P** **04 14 07.8 -0.3**
comp=Z,505nm,2.2s,baz=304
MDOK *i* S **S** **04 20 37.2 +1.0**
baz=304
MDOK *i* SS **SS** **04 23 53.1 +2.1**
baz=304
MDOK LR LR 04 32 52.1
comp=Z,9µm,14.4s,baz=304
MDOK Medeo 43.56 304 *i* P **P** **04 14 07.8 -0.3**
MDOK *i* S **S** **04 20 37.2 +1.0**
MDOK pmax pmax
comp=Z,505nm,2.2s
MDOK MLR MLR
comp=Z,9µm,14.0s
TNSS Tian-Shan 43.63 304 *i* P **P** **04 14 08.8 -0.2**
baz=304
TNSS Tian-Shan 43.63 304 *i* P **P** **04 14 08.7 -0.2**
CHKK Chushkaly 43.65 305 ⇓ *iP* **P** **04 14 07.8 -0.9**
baz=305
CHKK Chushkaly 43.65 305 *d iP* **P** **04 14 07.7 -0.9**
AAA Alma-Ata 43.66 304 *i* P **P** **04 14 08.9 +0.1**
baz=304
AAA *eS* **S** **04 20 38.6 +1.1**
baz=304
AAA LR LR 04 32 04.2
comp=Z,7µm,12.8s,baz=304
AAA Alma-Ata 43.66 304 *i* P **P** **04 14 08.9 +0.1**
AAA *eS* **S** **04 20 38.6 +1.1**
AAA MLR MLR
comp=Z,7µm,13.0s
TIXI Tiksi 43.70 0 P **P** **04 14 09.1 +0.5**
TIXI pmax pmax
comp=Z,14nm,1.1s
TIXI MLR MLR
comp=Z,17µm,19.0s
TIXI Tiksi 43.70 0 P **P** **04 14 09.1 +0.5**
KUU Kurty 44.12 305 *eP* **P** **04 14 12.6 +0.2**
comp=Z,78nm,1.6s,baz=305
KUU *eS* **S** **04 20 45.7 +1.6**
baz=305
KUU LR LR 04 32 40.4
comp=Z,5µm,12.0s,baz=305
KUU Kurty 44.12 305 *eP* **P** **04 14 12.6 +0.2**
KUU *eS* **S** **04 20 45.6 +1.6**
KUU pmax pmax
comp=Z,78nm,1.6s
KUU MLR MLR
comp=Z,5µm,12.0s
ULHL Ulahol 44.12 303 P **P** **04 14 12.9 +0.2**
SNR=15
COEN Coen 44.18 159 P **P** **04 14 14.6 +1.6**
KSH Kashi 44.32 299 P **P** **04 14 17.6 +3.4**
KSH S **S** **04 20 52.4 +5.1**
KSH pmax pmax
comp=Z,110nm,1.5s
KSH pmax pmax
comp=Z,440nm,2.9s
KSH LR LR
comp=Z,10µm,14.7s
KSH LR LR
comp=Z,8µm,11.5s
KSH LR LR
comp=Z,18µm,14.3s
TKM2 Tokmak 2 44.62 304 P **P** **04 14 16.6 0.0**
SNR=47
TKM2 Tokmak 2 44.62 304 P **P** **04 14 16.3 -0.3**
AMKA Amchitka 44.64 44 P **P** **04 14 15.8 -0.6**
KZA Kyzart 44.85 303 P **P** **04 14 19.8 +1.0**
SNR=11
CHMS Chumysh 45.24 304 P **P** **04 14 21.6 +0.2**
SNR=15
SGDS Sogindy 45.34 305 ⇓ *iP* **P** **04 14 22.1 -0.1**
comp=Z,12nm,1.1s,baz=304
SGDS *eS* **S** **04 21 02.1 +0.3**
baz=304
SGDS LR LR 04 33 21.0
comp=Z,5µm,12.0s,baz=304
SGDS Sogindy 45.34 305 *d iP* **P** **04 14 22.1 -0.1**
SGDS *eS* **S** **04 21 02.9 +1.1**
SGDS pmax pmax
comp=Z,12nm,1.1s
SGDS MLR MLR
comp=Z,5µm,12.0s
UCH Uchtor 45.40 303 P **P** **04 14 23.6 +0.3**
SNR=60
AAK Ala-Archa 45.42 303 P **P** **04 14 22.1 -0.8**
comp=Z,6.4nm,0.7s,baz=97,slow=5.4,SNR=15
AAK Ala-Archa 45.42 303 *de* P **P** **04 14 23.1 +0.1**
AAK pmax pmax
comp=Z,32nm,1.4s
AAK MLR MLR
comp=Z,11µm,15.0s
AAK Ala-Archa 45.42 303 P **P** **04 14 22.5 -0.5**
USP Ospenovka 45.43 304 P **P** **04 14 22.9 0.0**
SNR=17
BTLS Baital 45.82 307 ⇓ *iP* **P** **04 14 25.6 -0.4**
comp=Z,18nm,1.3s,baz=306
BTLS *eS* **S** **04 21 09.6 +1.0**
baz=306
BTLS *eSS* **SS** **04 24 35.3 +2.4**
baz=306
BTLS LR LR 04 33 59.3
comp=Z,1µm,9.8s,baz=306
BTLS Baital 45.82 307 *d iP* **P** **04 14 25.5 -0.4**
BTLS *eS* **S** **04 21 09.5 +1.0**
BTLS pmax pmax
comp=Z,17nm,1.3s
BTLS MLR MLR
comp=Z,1µm,10.0s
FITZ Fitzroy Crossi 45.89 183 P **P** **04 14 26.2 -0.3**
comp=Z,22nm,0.8s,baz=7.2,slow=7.9,SNR=17
FITZ LR LR 04 33 38.8
comp=Z,1µm,20.6s,baz=356,slow=36
FITZ Fitzroy Crossi 45.89 183 P **P** **04 14 27.5 +0.9**
FITZ IAmb IAmb 04 14 32.8
comp=Z,36nm,1.1s
EKS2 Erkin-Say 45.95 303 P **P** **04 14 26.8 -0.4**
SNR=8.8
AML Almayashu 46.01 303 P **P** **04 14 28.1 +0.1**
SNR=11
HYB Hyderabad 46.67 268 *i* P P 04 14 20.0 -13
NIL Nilore 47.02 291 P **P** **04 14 34.3 -1.3**
NIL pmax pmax
comp=Z,38nm,1.0s
NIL MLR MLR
comp=Z,8µm,18.0s
NIL Nilore 47.02 291 P **P** **04 14 34.2 -1.3**
NIL IAmb IAmb 04 14 42.9
comp=Z,38nm,1.0s
NIL Nilore 47.02 291 IAMs_20 IAMs_20 04 34 09.9
comp=Z,8µm,18.0s
BRZS Berezniki 47.14 313 *i* P **P** **04 14 35.9 -0.4**
comp=Z,28nm,1.6s,baz=313
BRZS LR LR 04 34 41.0
comp=Z,2µm,10.7s,baz=313
BRZS Berezniki 47.14 313 *i* P **P** **04 14 35.8 -0.4**
BRZS pmax pmax
comp=Z,29nm,1.6s
BRZS MLR MLR
comp=Z,2µm,11.0s
ADK Adak 47.19 44 P **P** **04 14 35.4 -1.1**
ADK pmax pmax
comp=Z,28nm,0.9s
ADK Adak 47.19 44 P **P** **04 14 35.4 -1.1**
ADK IAmb IAmb 04 14 40.6
comp=Z,28nm,0.8s
OTUK Ortayu 47.20 311 P **P** **04 14 35.4 -1.3**
NRIK Noril'sk 47.55 342 P **P** **04 14 37.8 -1.3**
comp=Z,8.5nm,0.8s,baz=129,slow=6.6,SNR=22
NRIK LR LR 04 36 23.8
comp=Z,22µm,19.2s,baz=132,slow=38
GSTR Great Sitkin T 47.60 44 P **P** **04 14 39.5 -0.3**
DZA Taraz 47.75 304 *eP* **P** **04 14 41.0 -0.1**
baz=304
DZA *eS* **S** **04 21 37.7 +1.4**
baz=304
DZA LR LR 04 36 28.9
comp=Z,3µm,13.4s,baz=304
DZA Taraz 47.75 304 *eP* **P** **04 14 41.0 -0.1**
DZA *eS* **S** **04 21 37.6 +1.4**
DZA MLR MLR
comp=Z,3µm,13.0s
WB0 Warramunga Arr 47.87 172 IAmb IAmb 04 14 47.8
comp=Z,30nm,0.9s
WB0 IAMs_20 IAMs_20 04 33 55.6
comp=Z,5µm,21.0s
WRAB Tennant Creek 48.03 172 *de* P **P** **04 14 43.3 0.0**
WRAB pmax pmax
comp=Z,58nm,1.3s
WRA Warramunga Arr 48.03 172 P **P** **04 14 42.9 -0.5**
comp=Z,16nm,0.7s,baz=353,slow=8.2,SNR=28
WB2 Warramunga Arr 48.04 172 IAmb IAmb 04 14 49.2
comp=Z,39nm,0.9s
WR5 Warramunga Arr 48.06 172 IAMs_20 IAMs_20 04 34 00.5
comp=Z,4µm,21.0s
WR6 Warramunga Arr 48.06 172 IAMs_20 IAMs_20 04 34 00.7
comp=Z,4µm,20.0s
WR7 Warramunga Arr 48.06 172 IAMs_20 IAMs_20 04 34 00.8
comp=Z,5µm,21.0s
WR8 Warramunga Arr 48.07 172 IAMs_20 IAMs_20 04 34 00.8
comp=Z,5µm,21.0s
WR0 Warramunga Arr 48.08 172 IAMs_20 IAMs_20 04 34 02.1
comp=Z,5µm,21.0s
BTK Batken 48.26 300 IAmb IAmb 04 14 51.1
comp=Z,38nm,1.2s
BTK IAMs_20 IAMs_20 04 36 45.8
comp=Z,8µm,18.0s
HNR Honiara 48.28 136 LR LR 04 34 15.9
comp=Z,3µm,21.0s,baz=312,slow=35
KK31 Karatay Array 48.34 304 *i* P **P** **04 14 45.1 -0.6**
KKAR Karatay Array 48.34 304 P **P** **04 14 45.5 -0.2**
KKAR pmax pmax
comp=Z,95nm,1.5s
KKAR Karatay Array 48.34 304 P **P** **04 14 45.5 -0.2**
IUG luzhnay 48.73 303 ⇓ *iP* **P** **04 14 49.0 +0.2**
comp=Z.6.6nm,1.0s,baz=303
IUG *eS* **S** **04 21 52.2 +1.8**
baz=303
IUG LR LR 04 37 19.8
comp=Z,1µm,10.0s,baz=303
IUG luzhnay 48.73 303 *d iP* **P** **04 14 49.0 +0.2**
IUG *eS* **S** **04 21 52.2 +1.8**
IUG pmax pmax
comp=Z.7.0nm,1.0s
IUG MLR MLR
comp=Z,1µm,10.0s
BVA0 Borovoye Array 48.92 317 *i* P **P** **04 14 49.2 -0.7**
BVAR Borovoye Array 48.92 317 P **P** **04 14 48.6 -1.3**
comp=Z,12nm,0.8s,baz=90,slow=8.9,SNR=39
BRVK Borovoye 48.99 317 P **P** **04 14 49.8 -0.6**
BRVK pmax pmax
comp=Z,60nm,1.0s
BRVK MLR MLR
comp=Z,36µm,18.0s
BRVK Borovoye 48.99 317 P **P** **04 14 49.8 -0.6**
BRVK IAmb IAmb 04 14 59.9
comp=Z,60nm,1.0s
PALK Pallekele 49.31 255 IAMs_20 IAMs_20 04 37 34.7
comp=Z,5µm,20.0s
TAS Tashkent 49.33 302 P **P** **04 14 53.2 -0.1**
TAS pmax pmax
comp=Z,103nm,0.3s
TAS Tashkent 49.33 302 P **P** **04 14 53.2 -0.1**
TAS IAMs_20 IAMs_20 04 34 37.9
comp=Z,9µm,22.0s
PSA00 Pilbara Seismi 49.93 190 P **P** **04 14 58.2 +0.3**
PSA00 IAmb IAmb 04 15 03.6
comp=Z,48nm,1.1s
KBL Kabul 50.33 293 P **P** **04 15 01.7 +0.5**
KBL pmax pmax
comp=Z,91nm,1.1s
KBL Kabul 50.33 293 P **P** **04 15 01.7 +0.5**
KBL IAMs_20 IAMs_20 04 35 24.7
comp=Z,9µm,22.0s
CTA Charters Tower 50.91 158 P **P** **04 15 04.6 -0.8**
comp=Z,4.8nm,0.7s,baz=324,slow=8.7,SNR=2.7
CTA LR LR 04 36 30.0
comp=Z,3µm,20.6s,baz=343,slow=36
CTAO Charters Tower 50.91 158 P **P** **04 15 05.4 0.0**
CTAO pmax pmax
comp=Z,39nm,1.1s
CTAO Charters Tower 50.91 158 P **P** **04 15 05.4 0.0**
CTAO IAmb IAmb 04 15 11.9
comp=Z,39nm,1.1s
CTAO Charters Tower 50.91 158 IAMs_20 IAMs_20 04 36 18.5

comp=Z,4µm,20.0s
ASAR Alice Springs 51.66 173 P **P** **04 15 11.1 +0.1**
comp=Z,11nm,0.9s,baz=5.4,slow=14,SNR=27
ASAR PcP **PcP** **04 16 24.5 +0.1**
comp=Z,6.0nm,1.0s,baz=353,slow=3.1,SNR=1.1
ASAR LR LR 04 35 48.6
comp=Z,3µm,22.0s,baz=354,slow=34
SVE Sverdlovsk 54.83 322 *e*P **P** **04 15 33.5 -0.4**
SVE *e*S **S** **04 23 13.9 +0.4**
SVE pmax pmax
comp=Z,42nm,1.2s
SVE MLR MLR
comp=E,18µm,13.0s
SVE MLR MLR
comp=Z,23µm,13.0s
ANM Nome 55.00 29 IAMs_20 IAMs_20 04 43 04.3
comp=Z,3µm,18.0s
HRA Herat 55.87 294 IAMs_20 IAMs_20 04 41 16.4
comp=Z,5µm,19.0s
ARU Arti 55.97 321 *d i*P **P** **04 15 41.7 -0.4**
ARU 04 16 40.5
ARU 04 17 46.1
ARU S **S** **04 23 30.1 +1.3**
ARU SS **SS** **04 27 18.2 +3.7**
ARU pmax pmax
comp=Z,22nm,0.9s
ARU MLR MLR
comp=Z,13µm,14.0s
ARU Arti 55.97 321 P **P** **04 15 40.8 -1.3**
ARU IAmb IAmb 04 15 47.3
comp=Z,35nm,1.0s
RDOG Red Dog Mine 56.48 25 IAMs_20 IAMs_20 04 40 20.4
comp=Z,5µm,20.0s
AKTO Aktyubinsk 56.55 314 P **P** **04 15 45.4 -1.0**
comp=Z,9.7nm,0.8s,baz=85,slow=9.2,SNR=20
EIDS Eidsvold 57.47 155 IAMs_20 IAMs_20 04 40 34.3
comp=Z,3µm,19.0s
CNBA Chernabura Isl 57.54 41 IAmb IAmb 04 15 59.3
comp=Z,30nm,0.8s
MORW Morawa 57.92 193 IAmb IAmb 04 16 01.5
comp=Z,25nm,0.9s
GEYT Alibeck 58.35 299 P **P** **04 15 59.3 0.0**
comp=Z,7.7nm,0.9s,baz=132,slow=2.2,SNR=14
GEYT LR LR 04 43 39.8
comp=Z,8µm,18.7s,baz=55,slow=39
GYA0B ALIBECK ARRAY 58.35 299 IAmb IAmb 04 16 11.7
comp=Z,32nm,1.0s
TTA Tatalina 59.05 31 P **P** **04 16 03.7 -0.2**
TTA pmax pmax
comp=Z,17nm,1.1s
TTA MLR MLR
comp=Z,2µm,18.0s
TTA Tatalina 59.05 31 P **P** **04 16 03.6 -0.2**
SVW2 Sparrevohn 59.33 33 P **P** **04 16 05.8 +0.1**
RSO Redoubt South 60.76 34 P **P** **04 16 15.9 +0.2**
KIRV Kirov 60.77 324 P **P** **04 16 15.8 +0.2**
comp=Z,13nm,0.8s,baz=116,slow=12,SNR=6.3
PPLA Purkeypile 60.80 31 P **P** **04 16 16.3 +0.4**
PPLA IAMs_20 IAMs_20 04 42 06.9
comp=Z,3µm,21.0s
OHAK Old Harbor 60.84 38 IAMs_20 IAMs_20 04 42 55.4
comp=Z,5µm,21.0s
STKA Stephens Creek 60.91 167 P **P** **04 16 17.3 +0.5**
comp=Z,18nm,0.8s,baz=358,slow=6.0,SNR=12
STKA LR LR 04 42 32.1
comp=Z,2µm,21.6s,baz=339,slow=36
STKA Stephens Creek 60.91 167 P **P** **04 16 17.5 +0.7**
STKA pmax pmax
comp=Z,7.0nm,1.1s
STKA Stephens Creek 60.91 167 P **P** **04 16 17.4 +0.7**
BBOO Buckleboo 60.94 172 P **P** **04 16 17.1 +0.1**
BBOO IAmb IAmb 04 16 22.6
comp=Z,44nm,1.1s
KDAK Kodiak Island 61.15 37 P **P** **04 16 16.7 -1.5**
comp=Z,9.0nm,0.6s,baz=263,slow=2.8,SNR=11
KDAK LR LR 04 43 26.8
comp=Z,2µm,21.7s,baz=237,slow=37
KDAK Kodiak Island 61.15 37 P **P** **04 16 17.8 -0.4**
KDAK pmax pmax
comp=Z,79nm,1.1s
KDAK MLR MLR
comp=Z,2µm,21.0s
KDAK Kodiak Island 61.15 37 P **P** **04 16 17.8 -0.4**
SKT Skwentna 61.19 32 IAMs_20 IAMs_20 04 44 28.3
comp=Z,3µm,18.0s
BPAW Bear Paw Mtn. 61.23 30 IAmb IAmb 04 16 24.2
comp=Z,22nm,1.1s
BPAW IAMs_20 IAMs_20 04 44 52.3
comp=Z,3µm,18.0s
COLD Coldfoot 61.30 26 P **P** **04 16 19.6 +0.5**
baz=274,SNR=5.8
COLD Coldfoot 61.30 26 IAmb IAmb 04 16 33.0
comp=Z,60nm,1.9s
COLD IAMs_20 IAMs_20 04 44 02.8
comp=Z,2µm,18.0s
TOLK Toolik Lake Re 61.44 24 P **P** **04 16 20.3 +0.2**
baz=274,SNR=6.9
TOLK Toolik Lake Re 61.44 24 IAmb IAmb 04 16 34.8
comp=Z,27nm,1.2s
TOLK IAMs_20 IAMs_20 04 42 02.4
comp=Z,4µm,20.0s
NWAO Narrogin (SRO) 61.47 190 LR LR 04 45 12.8
comp=Z,789nm,19.9s,baz=6.5,slow=38
NWAO Narrogin (SRO) 61.47 190 P **P** **04 16 21.1 +0.6**
NWAO pmax pmax
comp=Z,113nm,1.3s
NWAO Narrogin (SRO) 61.47 190 P **P** **04 16 21.1 +0.6**
TRF Thorofare Moun 61.61 30 IAMs_20 IAMs_20 04 42 51.2
comp=Z,4µm,19.0s
SUA Susitna One 61.62 33 IAmb IAmb 04 16 27.1
comp=Z,31nm,0.8s
BRLK Bradley Lake 61.77 35 IAmb IAmb 04 17 08.8
comp=Z,33nm,1.0s
DZM Mont Dzumac 62.01 139 *e*P P 04 16 29.9 +5.4
comp=Z,103nm,1.1s
DZM *e*S **S** **04 24 51.8 +3.7**
comp=Z,8µm,28.9s
DZM Mont Dzumac 62.01 139 *e*LR LR 04 34 55.5
comp=Z,9µm,22.3s
DZM Mont Dzumac 62.01 139 LR LR 04 39 37.5
comp=Z,5µm,22.0s,baz=328,slow=32
DZM Mont Dzumac 62.01 139 P **P** **04 16 26.0 +1.5**
DZM IAMs_20 IAMs_20 04 38 52.9
comp=Z,5µm,22.0s
NEA2 Nenana 62.01 29 P **P** **04 16 23.9 0.0**
baz=277,SNR=46
MCK McKinley 62.18 30 IAmb IAmb 04 16 31.1
comp=Z,31nm,1.0s
MCK IAMs_20 IAMs_20 04 43 38.2
comp=Z,4µm,20.0s
RND Reindeer 62.25 30 IAMs_20 IAMs_20 04 42 51.2
comp=Z,4µm,21.0s
ARMA Armidale 62.27 157 P **P** **04 16 26.1 0.0**
ARMA IAmb IAmb 04 16 32.6
comp=Z,44nm,1.2s
ARMA IAMs_20 IAMs_20 04 43 10.4
comp=Z,5µm,21.0s
PRGR Permogore 62.27 328 *e*P **P** **04 16 25.1 -0.5**
PRGR *e* 04 17 01.3
PRGR pmax pmax
comp=Z,9.0nm,0.9s
PMR Palmer 62.37 32 IAmb IAmb 04 16 36.7
comp=Z,27nm,1.2s
PMR IAMs_20 IAMs_20 04 45 07.5
comp=Z,3µm,18.0s
SEW Seward 62.43 34 IAmb IAmb 04 16 46.2
comp=Z,37nm,0.9s
SEW IAMs_20 IAMs_20 04 45 43.3
comp=Z,3µm,19.0s
GHO Glory Hole Cre 62.44 32 IAmb IAmb 04 16 47.9
comp=Z,31nm,1.0s
WRH Wood River Hil 62.45 29 IAmb IAmb 04 16 48.1
comp=Z,24nm,1.0s
WRH IAMs_20 IAMs_20 04 45 28.3
comp=Z,3µm,20.0s
CCB Clear Creek Bu 62.55 29 IAMs_20 IAMs_20 04 45 29.9
comp=Z,3µm,19.0s
POKR Poker Plat Res 62.64 28 P **P** **04 16 28.8 +0.7**
baz=278,SNR=6.2
KNK Knik Glacier 62.72 33 IAmb IAmb 04 16 58.3
comp=Z,24nm,0.8s
SML Sawmill 62.72 32 IAmb IAmb 04 17 00.5
comp=Z,27nm,1.0s
ILAR Eielson Array 62.92 29 P **P** **04 16 28.6 -1.4**
comp=Z,3.6nm,0.9s,baz=299,slow=8.7,SNR=23
ILAR LR LR 04 46 29.3
comp=Z,2µm,18.4s,baz=292,slow=39

HDA Harding Lake 62.95 29 P **P** **04 16 28.8 -1.4**
baz=279,SNR=35
HDA Harding Lake 62.95 29 IAmb IAmb 04 16 34.9
comp=Z,46nm,1.1s
HDA IAMs_20 IAMs_20 04 45 51.5
comp=Z,4µm,19.0s
DHY Denali Highway 62.96 31 P **P** **04 16 30.5 +0.1**
DHY IAMs_20 IAMs_20 04 43 15.0
comp=Z,3µm,20.0s
GLI Glacier Island 63.46 33 IAmb IAmb 04 16 43.6
comp=Z,27nm,1.1s
UOSS Minazif 63.60 286 IAMs_20 IAMs_20 04 46 49.6
comp=Z,3µm,20.0s
FID Port Fidalgo 63.78 33 IAmb IAmb 04 16 56.8
comp=Z,25nm,1.0s
PAX Paxson 63.84 31 IAmb IAmb 04 16 55.9
comp=Z,16nm,0.9s
PAX IAMs_20 IAMs_20 04 44 33.1
comp=Z,4µm,21.0s
KLU Klutina 63.90 32 IAmb IAmb 04 17 21.2
comp=Z,36nm,1.5s
RIDG Independent Ri 63.97 30 IAmb IAmb 04 16 42.3
comp=Z,37nm,1.2s
RIDG IAMs_20 IAMs_20 04 43 37.7
comp=Z,3µm,20.0s
EYAK Cordova Ski Ar 64.17 33 IAMs_20 IAMs_20 04 46 29.1
comp=Z,3µm,18.0s
SCRK Sand Creek 64.30 29 P **P** **04 16 38.1 -1.2**
baz=281
DOT Dot Lake 64.33 30 IAmb IAmb 04 16 43.9
comp=Z,21nm,0.9s
DOT IAMs_20 IAMs_20 04 43 57.1
comp=Z,3µm,21.0s
MENT Mentasta 64.63 30 IAMs_20 IAMs_20 04 45 06.0
comp=Z,3µm,20.0s
KEKH Kekaha 64.82 77 P **P** **04 16 44.3 +1.2**
KEKH IAMs_20 IAMs_20 04 38 17.4
comp=Z,3µm,21.0s
GLB Gilahina Butte 64.91 32 IAmb IAmb 04 16 48.6
comp=Z,24nm,1.2s
GLB IAMs_20 IAMs_20 04 46 58.5
comp=Z,3µm,19.0s
KAIM Kayak Island 64.95 34 IAMs_20 IAMs_20 04 47 08.8
comp=Z,4µm,18.0s
MAK Makhachkala 65.00 307 *e*P P 04 16 37.9 -6.1
MAK *e*S **S** **04 25 19.4 -5.3**
MAK pmax pmax
comp=Z,88nm,1.0s
K27K Chicken 65.11 29 P **P** **04 16 44.1 -0.3**
baz=283
TMCR Tamitsa 65.23 331 *e*P **P** **04 16 47.4 +2.3**
TMCR pmax pmax
comp=Z,13nm,1.0s
AKT Akhty 65.24 305 *e*P **P** **04 16 46.3 +0.5**
AKT *e* 04 17 17.4
AKT *e* 04 19 11.4
AKT pmax pmax
comp=Z,18nm,1.1s
KLMR Klimovskoe 65.32 327 *e*P **P** **04 16 44.6 -1.1**
KLMR *e* 04 19 08.0
KLMR *e*S **S** **04 25 27.9 -0.2**
KLMR *e*SS **SS** **04 29 44.2 +3.7**
KLMR pmax pmax
comp=Z,15nm,1.5s
KLMR MLR MLR
comp=Z,9µm,13.0s
KLMR Klimovskoe 65.32 327 *e*P **P** **04 16 44.7 -1.0**
KLMR AMP 04 16 52.8
comp=Z,15nm,1.5s
KLMR *e*PP **PP** **04 19 08.1 -1.1**
KLMR *e*S **S** **04 25 27.9 -0.2**
KLMR *e*S **S** **04 25 27.9 -0.2**
KLMR *e*SS **SS** **04 29 44.3 +3.7**
KLMR *e*SS **SS** **04 29 44.3 +3.7**
KLMR *e*SSS SSS 04 32 45.0
KLMR *e*SSS SSS 04 32 45.0
KLMR LQ LQ 04 40 17.3
KLMR LQ LQ 04 40 17.3
KLMR LR LR 04 45 33.8
KLMR AMP 04 49 20.1
comp=Z,9µm,13.2s
KNTN Kanton 65.33 108 P **P** **04 16 46.3 -0.3**
CRQM Cirque 65.38 33 IAmb IAmb 04 17 24.9
comp=Z,27nm,0.9s
CRQM IAMs_20 IAMs_20 04 46 54.7
comp=Z,3µm,20.0s
TGL Tana Glacier 65.53 33 IAMs_20 IAMs_20 04 46 47.0
comp=Z,3µm,20.0s
ISLE Juniper Island 65.80 33 IAmb IAmb 04 16 56.3
comp=Z,28nm,1.3s
ISLE IAMs_20 IAMs_20 04 47 47.2
comp=Z,2µm,18.0s
CAN Canberra 65.99 161 P **P** **04 16 50.8 +0.4**
CAN pmax pmax
comp=Z,32nm,1.0s
CAN Canberra 65.99 161 P **P** **04 16 50.8 +0.4**
CAN IAmb IAmb 04 16 57.5
comp=Z,32nm,1.0s
CAN IAMs_20 IAMs_20 04 44 32.8
comp=Z,3µm,20.0s
BARN Barnard Glacie 66.01 32 IAMs_20 IAMs_20 04 43 29.6
comp=Z,3µm,22.0s
GROC Groznyy 66.13 308 *e*P **P** **04 16 49.3 -2.0**
GROC *e* 04 17 19.4
GROC *e*S **S** **04 25 36.1 -2.6**
GROC pmax pmax
comp=Z,92nm,1.9s
APA Apatity 66.22 335⇑ *i*P **P** **04 16 52.2 +0.7**
APA *i* 04 19 17.0
APA *i* PPP PPP 04 20 52.0
APA *i* S **S** **04 25 37.0 -1.9**
APA *i* 04 26 38.0
APA *i* SS **SS** **04 29 52.0 -2.4**
APA *i* SSS SSS 04 32 51.0
APA pmax pmax
comp=Z,7.0nm,1.0s
APA MLR MLR
comp=Z,8µm,18.0s
DAWY Dawson 66.25 29 IAMs_20 IAMs_20 04 48 20.8
comp=Z,3µm,18.0s
MSVF Nonsavu 66.33 127 IAMs_20 IAMs_20 04 43 57.5
comp=Z,3µm,20.0s
OPA Opana 66.39 77 IAMs_20 IAMs_20 04 39 11.7
comp=Z,3µm,21.0s
KIP Kipapa 66.49 77 IAMs_20 IAMs_20 04 39 25.4
comp=Z,3µm,22.0s
HON Honolulu 66.54 77 IAMs_20 IAMs_20 04 43 18.7
comp=Z,3µm,20.0s
VRH Novokhopyorsk 66.57 317 *e*P **P** **04 16 53.6 -0.3**
VRH pmax pmax
comp=Z,10.0nm,1.2s
VRH MLR MLR
comp=Z,10µm,16.0s
EPYK Eagle Plains 66.70 26 P **P** **04 16 54.1 -0.5**
baz=287,SNR=12
EPYK Eagle Plains 66.70 26 IAmb IAmb 04 17 00.3
comp=Z,31nm,1.0s
EPYK IAMs_20 IAMs_20 04 46 32.5
comp=Z,3µm,18.0s
SPITS Spitsbergen Ar 67.09 348 P **P** **04 16 55.4 -1.4**
comp=Z,3.3nm,0.7s,baz=84,slow=15,SNR=1.9
TOO Toolangi 67.23 165 P **P** **04 16 58.1 -0.1**
TOO pmax pmax
comp=Z,45nm,1.1s
TOO Toolangi 67.23 165 P **P** **04 16 58.1 -0.1**
TOO IAmb IAmb 04 17 05.1
comp=Z,45nm,1.1s
TOO IAMs_20 IAMs_20 04 45 28.5
comp=Z,5µm,20.0s
INK Inuvik 67.30 24 P **P** **04 16 57.9 -0.4**
comp=Z,13nm,1.1s,baz=284,slow=7.3,SNR=7.4
INK LR LR 04 48 31.9
comp=Z,3µm,20.1s,baz=282,slow=38
INK Inuvik 67.30 24 IAmb IAmb 04 17 03.3
comp=Z,25nm,1.2s
INK IAMs_20 IAMs_20 04 47 41.2
comp=Z,4µm,20.0s
YKU2 Yakutat 67.38 34 IAMs_20 IAMs_20 04 49 05.1
comp=Z,3µm,18.0s
GOF Gofitskoye 67.48 310⇑ *e*P **P** **04 16 57.9 -2.0**
GOF pmax pmax
comp=Z,35nm,0.7s
KBS Kingsbay 67.50 349 P **P** **04 17 00.3 +0.9**
KBS pmax pmax
comp=Z,18nm,1.4s
KBS Kingsbay 67.50 349 P **P** **04 17 00.3 +0.9**

ZEI Tsey 67.58 308 *e*P **P** **04 16 58.6 -2.3**
ZEI pmax pmax
comp=Z,25nm,1.4s
MOS Moscow 67.63 322 *e*P **P** **04 17 00.3 -0.3**
MOS *e* 04 17 25.3
MOS *e* 04 19 29.9
MOS *e*S **S** **04 26 00.3 +4.0**
MOS pmax pmax
comp=Z,40nm,1.1s
MOS pmax pmax
comp=Z,200nm,3.1s
MOS MLR MLR
comp=Z,13µm,16.0s
LPSR Galich'ya Gora 67.83 319 *e*P **P** **04 17 02.4 +0.5**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR MLR MLR
comp=Z,17µm,17.0s
KBZ Khabaz 67.99 309 P **P** **04 17 01.8 -1.3**
comp=Z,8.2nm,0.9s,baz=95,slow=2.8,SNR=13
KBZ LR LR 04 48 20.6
comp=Z,4µm,20.9s,baz=48,slow=37
KHLH Kahului Airpor 68.06 77 IAMs_20 IAMs_20 04 44 18.8
comp=Z,3µm,20.0s
KIV Kislovodsk 68.06 309 *e*P **P** **04 17 02.7 -1.0**
KIV *e*S **S** **04 26 02.7 +0.5**
KIV *e*SS **SS** **04 30 24.6 +0.4**
KIV pmax pmax
comp=Z,61nm,1.1s
KIV pmax pmax
comp=Z,39nm,4.3s
KIV MLR MLR
comp=Z,13µm,17.0s
KIV Kislovodsk 68.06 309 P **P** **04 17 03.5 -0.2**
KIV IAmb IAmb 04 17 15.8
comp=Z,40nm,1.1s
VSR Storozhevoye 68.10 317 *e*P **P** **04 17 03.1 -0.6**
VSR pmax pmax
comp=Z,20nm,1.3s
VSR MLR MLR
comp=Z,9µm,16.0s
HLK Haleakala 68.27 77 IAMs_20 IAMs_20 04 39 52.3
comp=Z,5µm,22.0s
AKH Akhalkalaki 68.30 306⇑ P **P** **04 17 02.4 -3.0**
AKH Akhalkalaki 68.30 306 P **P** **04 17 04.8 -0.6**
AKH pmax pmax
comp=Z,15nm,1.1s
AKH MLR MLR
comp=Z,8µm,21.0s
AKH Akhalkalaki 68.30 306 P **P** **04 17 04.8 -0.6**
ARCES ARCESS Array B 68.34 338 P **P** **04 17 03.9 -1.0**
comp=Z,1.7nm,0.8s,baz=62,slow=10,SNR=5.5
ARCES LR LR 04 51 14.3
comp=Z,6µm,19.3s,baz=70,slow=40
OBN Obninsk 68.39 322 *e*P **P** **04 17 06.1 +0.7**
OBN *e* 04 17 32.0
OBN *e* 04 19 36.2
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN Obninsk 68.39 322 P **P** **04 17 05.8 +0.4**
OBN IAmb IAmb 04 18 01.4
comp=Z,32nm,1.3s
HPAH Hawaii Prepara 69.02 78 IAMs_20 IAMs_20 04 41 09.5
comp=Z,3µm,22.0s
POHA Pohakuloa 69.27 78 P **P** **04 17 11.9 0.0**
POHA Pohakuloa 69.27 78 IAMs_20 IAMs_20 04 41 37.6
comp=Z,2µm,21.0s
WHY Whitehorse 69.29 32 IAmb IAmb 04 17 17.0
comp=Z,43nm,1.6s
MLOA Mauna Loa Obse 69.32 78 IAMs_20 IAMs_20 04 41 28.4
comp=Z,3µm,22.0s
ALE Alert 69.59 1 IAMs_20 IAMs_20 04 45 54.5
comp=Z,6µm,22.0s
C36M Paulatuk 70.07 21 P **P** **04 17 18.9 +3.4**
baz=296
SOCY Socotra 70.49 274 IAMs_20 IAMs_20 04 47 10.3
comp=Z,3µm,21.0s
EUNU Eureka 70.53 6 IAMs_20 IAMs_20 04 53 07.6
comp=Z,5µm,19.0s
FINES FINESS Array B 71.29 330 P **P** **04 17 20.3 -2.9**
comp=Z,2.5nm,0.6s,baz=74,slow=5.1,SNR=14
FINES LR LR 04 51 32.9
comp=Z,10µm,20.1s,baz=74,slow=38
FINES FINESS Array B 71.29 330 *i*P **P** **04 17 20.6 -2.5**
FINES pmax pmax
comp=Z,3.0nm,0.6s
ANN Anapa 71.33 311 *e*P P 04 17 33.8 +10
ANN pmax pmax
comp=Z,73nm,1.1s
ANN MLR MLR
comp=Z,11µm,16.0s
VSU Vasula 72.22 327⇓ *e*P **P** **04 17 29.7 +0.9**
VSU pmax pmax
comp=Z,42nm,1.1s
VSU MLR MLR
comp=Z,26µm,15.0s
DLBC Dease Lake 72.43 33 P **P** **04 17 28.4 -1.8**
comp=Z,4.9nm,0.9s,baz=4.4,slow=9.5,SNR=6.1
DLBC LR LR 04 50 21.6
comp=Z,2µm,19.8s,baz=312,slow=37
DLBC Dease Lake 72.43 33 IAmb IAmb 04 17 43.2
comp=Z,37nm,1.6s
DLBC IAMs_20 IAMs_20 04 49 59.5
comp=Z,2µm,19.0s
TAU Tasmania Unive 72.73 165 IAMs_20 IAMs_20 04 49 48.3
comp=Z,4µm,19.0s
MICGM Minsk 73.30 323 *e*P **P** **04 17 39.0 +3.8**
MICGM *e*PPP PPP 04 22 10.0
MICGM *e*PsP 04 23 14.0
MICGM *e*S SKiKP 04 27 16.0 +11
MICGM *e*SS SS 04 32 10.0 +26
MICGM *e*SSS SSS 04 35 40.0
MICGM *e*LR LR 04 47 44.0
MICGM LRM MLR 04 52 54.0
comp=Z,22nm,14.0s
MICGM LRM MLR 04 52 56.0
comp=E,12nm,12.0s
MNK Minsk 73.30 323 *e*P **P** **04 17 39.0 +3.8**
DIB Dawson Inlet, 73.36 38 IAmb IAmb 04 17 41.0
comp=Z,23nm,1.0s
NACGM Naroch 73.70 324 *e*P **P** **04 17 41.0 +3.4**
NACGM *e*PP PP 04 21 14.0 +52
NACGM *e*PPP PPP 04 22 24.0
NACGM *e*S **S** **04 27 15.0 +8.0**
NACGM *e*PS **PnS** **04 27 54.0 +13**
NACGM *e*SS SS 04 32 06.0 +16
NACGM *e*SSS SSS 04 34 48.0
NACGM *e*LQ LQ 04 42 25.0
NACGM *e*LR LR 04 46 08.0
NACGM LRM MLR 04 53 07.0
comp=E,30nm,15.0s
NACGM LRM MLR 04 53 14.0
comp=Z,46nm,15.0s
RES Resolute Bay 73.83 11 P **P** **04 17 35.8 -2.3**
comp=Z,4.1nm,1.0s,baz=279,slow=10,SNR=2.7
RES LR LR 04 53 56.1
comp=Z,3µm,18.1s,baz=322,slow=39
RES Resolute Bay 73.83 11 P **P** **04 17 38.3 +0.2**
RES pmax pmax
comp=Z,22nm,1.2s
RES MLR MLR
comp=Z,4µm,21.0s
RES Resolute Bay 73.83 11 P **P** **04 17 38.2 +0.2**
RES IAMs_20 IAMs_20 04 50 26.9
comp=Z,4µm,21.0s
AKASG Malin Array Be 74.14 319 P **P** **04 17 37.6 -2.7**
comp=Z,1.7nm,0.6s,baz=56,slow=5.9,SNR=10
AKASG LR LR 04 52 41.3
comp=Z,15µm,18.5s,baz=70,slow=38
AKASG Malin Array Be 74.14 319 *i*P **P** **04 17 39.4 -0.9**
AKASG pmax pmax
comp=Z,8.0nm,1.0s
GAZ Gaziantep 74.37 304 P **P** **04 17 43.3 +1.3**
SORM Soroca 75.76 317⇑ P **P** **04 17 47.2 -2.5**
BR131 Keskin Array S 75.90 308 P **P** **04 17 50.3 -0.6**
BR131 pmax pmax
comp=Z,11nm,1.0s
BR131 Keskin Array S 75.90 308 P **P** **04 17 50.3 -0.6**
BRTR Keskin Array B 75.90 308 P **P** **04 17 48.4 -2.5**
comp=Z,3.5nm,0.9s,baz=104,slow=5.2,SNR=8.8
BRTR LR LR 04 55 40.4
comp=Z,2µm,20.3s,baz=24,slow=39
BRTR Keskin Array B 75.90 308 *ce*P **P** **04 17 51.5 +0.7**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
KIS Kishinev 75.97 316 *e*P **P** **04 17 51.0 +0.1**

KIS Kishinev 75.97 316 *e*P **P** **04 17 51.0 +0.1**
KIS MLR MLR
comp=Z,3µm,17.0s
SUW Suwalki 75.98 324 P **P** **04 17 51.3 +0.5**
SUW pmax pmax
comp=Z,30nm,1.1s
SUW MLR MLR
comp=Z,13µm,20.0s
SUW Suwalki 75.98 324 P **P** **04 17 51.3 +0.5**
SUW IAmb IAmb 04 18 12.9
comp=Z,30nm,1.1s
ANTO Ankara 76.43 308 P **P** **04 17 54.6 +0.8**
ANTO pmax pmax
comp=Z,24nm,1.5s
ANTO MLR MLR
comp=Z,4µm,21.0s
ANTO Ankara 76.43 308 P **P** **04 17 54.6 +0.8**
ANTO Ankara 76.43 308 IAMs_20 IAMs_20 04 54 25.8
comp=Z,4µm,21.0s
ASF Jabal al Asfar 76.64 299 P **P** **04 17 53.5 -1.6**
comp=Z,1.7nm,0.6s,baz=135,slow=3.3,SNR=4.1
YKA Yellowknife Ar 76.96 25 P **P** **04 17 55.3 -0.9**
comp=Z,17nm,0.9s,baz=298,slow=6.0,SNR=30
YKA PKKPbc **PKKPbc** **04 37 04.8 -0.4**
comp=Z,0.7nm,0.9s,baz=126,slow=2.1,SNR=5.5
YKA LR LR 04 51 52.6
comp=Z,1µm,22.0s,baz=0.0,slow=36
MSEY Mahe Island 77.01 258 IAMs_20 IAMs_20 04 52 04.8
comp=Z,3µm,19.0s
CFR Carcaliu 77.21 314 ⇑P **P** **04 17 54.7 -3.2**
HFS Hagfors 77.23 332 P **P** **04 17 57.9 +0.1**
comp=Z,2.2nm,0.8s,baz=46,slow=4.2,SNR=2.3
TIRR Tirgusor 77.36 314 ⇑P **P** **04 17 55.3 -3.5**
LVV L'vov 77.52 320 *e*P **P** **04 17 59.7 +0.1**
LVV *e* 04 20 58.8
LVV *e*S **S** **04 27 46.6 -2.9**
LVV MLR MLR
comp=Z,12µm,18.0s
TESR Tescani 77.53 316 ⇑P **P** **04 17 57.6 -2.1**
HARR Harsova 77.56 314 ⇑P **P** **04 17 57.2 -2.8**
BIZ Bicaz 77.66 317 ⇑P **P** **04 17 58.0 -2.5**
NB2 NORSAR Subarra 77.70 334 P **P** **04 17 58.3 -2.2**
comp=Z,22nm,1.2s,baz=53,slow=5.9
NB2 NORSAR Subarra 77.70 334 P **P** **04 17 58.3 -2.2**
baz=53,slow=5.9
NOA NORSAR Array B 77.70 334 P **P** **04 17 58.5 -2.0**
comp=Z,0.4nm,0.5s,baz=52,slow=5.7,SNR=2.9
NOA LR LR 04 55 39.3
comp=Z,6µm,19.9s,baz=45,slow=38
VRI Vrincioaia 77.78 316 ⇑P **P** **04 17 59.8 -1.4**
PLOR Plostina 77.83 316 ⇑P **P** **04 18 00.0 -1.5**
BURAR Bucovina Array 77.88 318 ⇑P **P** **04 17 59.7 -2.1**
BISRR Bisoca 77.93 315 ⇑P **P** **04 17 59.9 -2.2**
CSS Mathiatis 78.15 303 IAMs_20 IAMs_20 04 56 13.7
comp=Z,3µm,19.0s
OZUR 78.25 316 ⇓P **P** **04 18 02.1 -1.7**
KWP Kalwaria Pacla 78.36 320 P **P** **04 18 03.5 -0.8**
KWP pmax pmax
comp=Z,47nm,1.4s
KWP MLR MLR
comp=Z,17µm,18.0s
KWP Kalwaria Pacla 78.36 320 P **P** **04 18 03.5 -0.8**
KWP IAmb IAmb 04 18 37.2
comp=Z,47nm,1.4s
MLR Muntele Rosu 78.44 315 ⇑P **P** **04 18 03.2 -1.7**
MLR Muntele Rosu 78.44 315 P **P** **04 18 05.6 +0.6**
MLR pmax pmax
comp=Z,13nm,1.1s
MLR MLR
comp=Z,10µm,19.0s
MLR Muntele Rosu 78.44 315 P **P** **04 18 05.6 +0.6**
DOPR Dopca 78.55 316 ⇑P **P** **04 18 03.1 -2.3**
ISP Isparta 78.92 307 IAMs_20 IAMs_20 04 57 30.7
comp=Z,4µm,22.0s
KOLS Kolonicke sedl 78.95 320 *e*P **P** **04 18 10.3 +2.7**
KOLS Kolonicke sedl 78.95 320 *e*P **P** **04 18 10.3 +2.7**
UZH Uzhgorod 79.09 319 *e*P **P** **04 18 07.3 -1.0**
UZH *e* 04 18 16.6
UZH *e*S **S** **04 28 02.0 -4.4**
UZH *e* 04 28 20.0
UZH *e*PS **PnS** **04 28 50.0 -0.2**
UZH *e*SS **SS** **04 33 07.0 -4.6**
UZH MLR MLR
comp=N,2µm,17.0s
UZH MLR MLR
comp=E,3µm,17.0s
UZH MLR MLR
comp=Z,3µm,17.0s
SUMG Summit 79.27 356 *i* P **P** **04 18 09.1 -0.3**
comp=Z,52nm,1.1s
SUMG Summit 79.27 356 P **P** **04 18 09.0 -0.3**
SUMG pmax pmax
comp=Z,21nm,1.1s
SUMG MLR MLR
comp=Z,4µm,18.0s
SUMG Summit 79.27 356 P **P** **04 18 09.0 -0.3**
ARR Arges 79.31 316 ⇓P **P** **04 18 08.2 -1.4**
SCO Scoresbysund 79.50 350 IAMs_20 IAMs_20 04 55 44.2
comp=Z,4µm,19.0s
OJC Ojcow 79.68 322 *e*P **P** **04 18 11.8 +0.2**
LOT Lotru 79.80 316 ⇓P **P** **04 18 10.8 -1.6**
URZ Urewera 80.27 143 LR LR 04 50 17.0
comp=Z,976nm,21.5s,baz=317,slow=33
MXZ Matakaoa Point 80.41 142 IAMs_20 IAMs_20 04 48 44.3
comp=Z,2µm,20.0s
ALN Alexandroupoli 80.56 311 IAMs_20 IAMs_20 04 53 34.8
comp=Z,3µm,20.0s
ATD Arta Tunnel 80.58 278 IAMs_20 IAMs_20 04 52 01.0
comp=Z,2µm,21.0s
BKZ Black Stump Fm 80.61 144 IAMs_20 IAMs_20 04 51 05.3
comp=Z,2µm,20.0s
SIRR Siria 80.66 318 ⇑P **P** **04 18 15.3 -1.6**
OKC Ostrava-Krasne 80.79 322 AMS AMS 04 57 10.0
comp=Z,2µm,13.3s
HERR Herculane 80.91 316 ⇑P **P** **04 18 14.8 -3.5**
BZS Buzias 81.02 317 ⇑P **P** **04 18 16.3 -2.5**
VYHS Vyhne 81.13 321 *e*P **P** **04 18 20.4 +1.0**
VYHS pmax pmax
comp=Z,21nm,1.5s
VYHS Vyhne 81.13 321 *e*P **P** **04 18 11.8 +0.2**
MORC Moravsky Berou 81.15 322 *e*P **P** **04 18 20.1 +0.6**
KSP Ksiaz 81.23 323 *e*P **P** **04 18 21.5 +1.7**
SNZO South Karori 81.32 146 IAMs_20 IAMs_20 04 52 55.9
comp=Z,3µm,20.0s
D03D Eldon 81.33 40 P **P** **04 18 22.1 +1.6**
baz=302
MDVR Moldovita 81.39 316 ⇓P **P** **04 18 18.5 -2.4**
KRLC Kraliky 81.40 323 AMS AMS 04 57 40.0
comp=Z,13µm,15.3s
OSTC Ostas 81.43 323 AMS AMS 04 57 50.0
comp=Z,16µm,15.2s
RPZ Rata Peaks 81.49 150 LR LR 04 51 34.6
comp=Z,808nm,21.8s,baz=313,slow=34
DPC Dobruska-Polom 81.49 323 AMS AMS 04 57 50.0
comp=Z,14µm,14.9s
CHVC Chvalec 81.50 323 AMS AMS 04 57 40.0
comp=Z,17µm,15.2s
B05A Bryant 81.50 39 P **P** **04 18 21.6 +0.2**
baz=303
WKZ Wanaka 81.51 152 P **P** **04 18 22.3 +1.1**
VTS Vitosha 81.54 314 ⇑P **P** **04 18 19.6 -2.2**
VTS Vitosha 81.54 314 P **P** **04 18 20.7 -1.1**
VTS pmax pmax
comp=Z,41nm,1.9s
VTS MLR MLR
comp=Z,3µm,20.0s
VTS Vitosha 81.54 314 P **P** **04 18 20.7 -1.1**
VTS IAMs_20 IAMs_20 04 54 52.7
comp=Z,3µm,20.0s
UPC Upice 81.57 323 AMS AMS 04 57 50.0
comp=Z,18µm,15.2s
JAVC Velka Javorina 81.58 321 *e*P **P** **04 18 22.5 +0.7**
BFZ Birch Farm 81.61 145 IAMs_20 IAMs_20 04 49 24.7
comp=Z,4µm,20.0s
VRAC Vranov 81.92 322 P **P** **04 18 23.0 -0.5**
comp=Z,5.0nm,0.3s,baz=0.0,slow=7.1,SNR=1.9
MODS Modra-Piesok 82.07 321 *e*P **P** **04 18 26.8 +2.5**
MODS pmax pmax
comp=Z,12nm,1.0s
MODS Modra-Piesok 82.07 321 *e*P **P** **04 18 26.8 +2.5**
E04D Cinebar 82.16 41 P **P** **04 18 25.4 +0.6**
baz=303
KRUC Moravsky 82.17 322 *e*P **P** **04 18 24.1 -0.7**
PVCC Panska Ves 82.31 324 AMS AMS 04 58 20.0
comp=Z,15µm,15.2s

KARP Karpathos 82.36 306 IAMs_20 IAMs_20 04 59 07.0
comp=Z,3µm,20.0s
BRG Berggiesshubel 82.44 324 *e*P P 04 18 32.0 +5.8
comp=Z,5.1nm,1.1s
BRG *e* 04 18 56.2
comp=Z,17nm,1.7s
BRG S **S** **04 28 46.0 +4.8**
BRG *e* 04 34 16.0
BRG *e* 04 38 38.0
comp=Z,15µm,15.3s
comp=N,9µm,15.8s
comp=N,8µm,17.4s
comp=E,9µm,17.4s
G03D McMinnville, O 82.47 43 P **P** **04 18 27.7 +1.2**
baz=302
TREC Trest 82.53 322 AMS AMS 04 58 20.0
comp=E,9µm,14.9s
GOPC GO Pecny, Ondr 82.55 323 AMS AMS 04 58 30.0
comp=E,15µm,15.4s
PRU Pruhonice 82.64 323 *e*P **P** **04 18 31.0 +3.7**
PRU MLR MLR
comp=Z,16µm,15.5s
PRU Pruhonice 82.64 323 *e*P **P** **04 18 31.0 +3.7**
PRU AMS AMS 04 58 30.0
comp=Z,16µm,15.5s
PRA Prague 82.65 323 AMS AMS 04 58 20.0
comp=Z,8µm,15.4s
CLL Collm 82.66 325 *e*P **P** **04 18 28.0 +0.7**
comp=Z,17nm,1.6s
CLL *i* sP **PcP** **04 18 32.1 -0.2**
CLL *i* PP **PP** **04 21 36.9 +0.3**
comp=Z,49nm,2.2s
CLL *e*SKSac **SKSac** **04 28 46.0 -1.3**
CLL *e*S **S** **04 28 48.0 +4.5**
CLL *e*SS SS 04 34 18.0 +13
CLL *e* 04 38 44.0
CLL Collm 82.66 325 *e*P **P** **04 18 28.0 +0.7**
CLL *e*S **S** **04 28 38.0 -5.5**
CLL pmax pmax
comp=Z,17nm,1.6s
CLL Collm 82.66 325 P **P** **04 18 27.5 +0.2**
B08A Colville Reser 82.99 38 IAmb IAmb 04 18 35.6
comp=Z,44nm,1.2s
B08A IAMs_20 IAMs_20 04 58 49.2
comp=Z,2µm,18.0s
H04D Lebanon 83.15 43 P **P** **04 18 30.6 +0.5**
baz=303
J01E Myrtle Point 83.15 45 P **P** **04 18 26.1 -3.9**
baz=302
F05D White Salmon 83.17 41 P **P** **04 18 32.4 +2.3**
baz=304
SANT Santorini 83.17 308 IAMs_20 IAMs_20 04 58 43.2
comp=Z,2µm,21.0s
I03D Drain, OR 83.23 44 P **P** **04 18 31.1 +0.7**
baz=302
LIT Litokhoron 83.31 312 P **P** **04 18 29.3 -1.7**
LIT Litokhoron 83.31 312 P **P** **04 18 29.3 -1.7**
H04A Detroit Lake 83.40 43 IAmb IAmb 04 18 38.0
comp=Z,41nm,1.5s
K02D Willamette Mer 83.56 45 P **P** **04 18 34.1 +1.8**
baz=302
NKC Novy Kostel 83.58 324 AMS AMS 04 59 10.0
comp=Z,18µm,15.4s
G05D Wamic, OR 83.61 42 P **P** **04 18 34.7 +2.3**
baz=304
KHC Kasperske Hory 83.65 323 ⇓*e*P **P** **04 18 35.1 +2.5**
KHC pmax pmax
comp=Z,7.0nm,1.2s
KHC Kasperske Hory 83.65 323 *e*P **P** **04 18 34.0 +1.4**
KHC *ex* x 04 19 05.0
KHC AMS AMS 04 59 10.0
comp=Z,19µm,15.2s
FNA Florina 83.68 313 IAMs_20 IAMs_20 04 59 01.2
comp=Z,4µm,19.0s
I04A Tendick Farm, 83.75 43 P **P** **04 18 33.2 0.0**
baz=303,SNR=6.6
GERES GERESS Array B 83.75 323 P **P** **04 18 32.2 -1.0**
comp=Z,0.8nm,0.7s,baz=51,slow=9.3,SNR=1.6
GERES PKKPbc **PKKPbc** **04 36 53.0 +3.1**
comp=Z,0.5nm,0.9s,baz=174,slow=1.0,SNR=4.3
GERES LR LR 04 58 35.1
comp=Z,9µm,18.8s,baz=70,slow=38
MOX Moxa 83.76 325 *e*L L 05 00 10.9
comp=Z,15µm,18.4s
C09A Chrisman Ranch 83.89 38 IAmb IAmb 04 18 40.4
comp=Z,40nm,1.3s
L02E Cave Junction 83.89 45 P **P** **04 18 36.2 +2.3**
baz=302
D08A Wollman Farm, 83.96 39 IAmb IAmb 04 18 40.7
comp=Z,36nm,1.2s
AGG Agios Georgios 83.97 311 P **P** **04 18 32.7 -1.7**
AGG pmax pmax
comp=Z,12nm,1.1s
AGG Agios Georgios 83.97 311 P **P** **04 18 32.7 -1.7**
HAWA Hanford 83.99 40 IAmb IAmb 04 18 41.1
comp=Z,45nm,1.2s
I05D Terrebonne, OR 84.09 43 P **P** **04 18 35.5 +0.6**
baz=304,SNR=9.2
IDI Anoyia 84.11 307 IAMs_20 IAMs_20 05 01 44.2
comp=Z,4µm,20.0s
PDG Podgorica 84.15 315 ⇑P **P** **04 18 32.1 -3.1**
E08A Dider Farm, El 84.20 40 IAmb IAmb 04 18 42.1
comp=Z,42nm,1.2s
J04D Umpqua Nationa 84.23 44 P **P** **04 18 36.9 +1.0**
baz=303,SNR=6.7
NEW Newport 84.24 38 P **P** **04 18 36.0 +0.4**
baz=306,SNR=8.5
SOKA Soboth 84.28 320 *e*P **P** **04 18 35.5 -0.4**
comp=Z,4.7nm,1.3s
JCC Jacoby Creek, 84.34 47 IAMs_20 IAMs_20 05 01 58.8
comp=Z,2µm,18.0s
TIR Tirane 84.35 314 P **P** **04 18 34.9 -1.3**
TIR pmax pmax
comp=Z,101nm,1.9s
TIR MLR MLR
comp=Z,7µm,19.0s
TIR Tirane 84.35 314 P **P** **04 18 34.9 -1.3**
BORG Borgarnes 84.54 347 IAMs_20 IAMs_20 04 57 03.5
comp=Z,3µm,21.0s
GRF Grafenberg Arr 84.54 324 *e*P **P** **04 18 37.6 +0.5**
comp=Z,110nm,2.4s,baz=60,slow=4.8
GRF *e*L L 05 00 36.5
comp=Z,7µm,21.5s
OBKA Obir 84.65 321 *e*P **P** **04 18 36.0 -1.8**
comp=Z,2.1nm,1.0s
L04D Klamath Falls 84.67 45 P **P** **04 18 38.2 +0.2**
baz=303,SNR=8.3
YBH Yreka Blue Hor 84.68 45 P **P** **04 18 39.1 +1.1**
YBH pmax pmax
comp=Z,37nm,1.4s
YBH Yreka Blue Hor 84.68 45 P **P** **04 18 39.1 +1.1**
YBH IAmb IAmb 04 18 45.3
comp=Z,37nm,1.4s
J05D Fort Rock, OR 84.74 43 P **P** **04 18 39.1 +0.7**
baz=304,SNR=7.3
M02C Callahan 84.78 46 P **P** **04 18 40.4 +1.9**
baz=303
KMRM Mail Ridge 84.86 47 IAMs_20 IAMs_20 04 57 51.1
comp=Z,2µm,18.0s
G08A Pilot Rock 84.95 41 IAmb IAmb 04 18 45.6
comp=Z,22nm,1.3s
RAR Rarotonga 85.07 117 LR LR 04 52 11.2
comp=Z,251nm,18.3s,baz=292,slow=32
MYKA Terra Mystica 85.09 321 *es*P **P** **04 18 42.8 +2.9**
comp=Z,4.4nm,1.0s
N02D Trinity Center 85.10 46 P **P** **04 18 41.5 +1.4**
baz=303,SNR=7.2
ITM Ithomi 85.20 310 IAMs_20 IAMs_20 05 03 30.8
comp=Z,3µm,18.0s
M04C Macdoel 85.20 45 P **P** **04 18 41.5 +0.8**
baz=304,SNR=23
K05A Summer Lake 85.26 44 P **P** **04 18 41.7 +0.7**
I07A Izee 85.33 42 IAmb IAmb 04 18 47.7
comp=Z,24nm,1.2s
WDC Whiskeytown Da 85.42 46 P **P** **04 18 42.5 +0.9**
WDC pmax pmax
comp=Z,35nm,1.2s
WDC Whiskeytown Da 85.42 46 P **P** **04 18 42.5 +0.9**
WDC IAmb IAmb 04 18 48.5
comp=Z,35nm,1.1s
FURI Furi 85.42 278 P **P** **04 18 41.4 -1.1**
FURI Furi 85.42 278 IAMs_20 IAMs_20 05 00 24.4
comp=Z,3µm,20.0s
WALA Waterton Lakes 85.46 36 IAmb IAmb 04 18 47.8
comp=Z,21nm,1.1s
WALA IAMs_20 IAMs_20 04 55 25.3
comp=Z,3µm,21.0s

O02D Mt. Diablo Mer 85.48 47 P **P** **04 18 43.3 +1.2**
baz=303,SNR=9.0
ABTA Abfaltersbach 85.64 322 *e*PcP **P** **04 18 42.6 -0.1**
comp=Z,3.8nm,0.8s
WTTA Wattenberg 85.81 322 *e*PcP **P** **04 18 43.9 +0.2**
comp=Z,6.0nm,0.9s
ANGG Ammassalik, Gr 86.04 354 IAMs_20 IAMs_20 04 57 33.2
comp=Z,3µm,22.0s
MOTA Moosalm 86.04 323 *e*PcP **P** **04 18 45.1 +0.3**
comp=Z,5.4nm,1.1s
O03E Paynes Creek 86.05 46 P **P** **04 18 44.9 +0.1**
baz=304,SNR=5.3
SQTA Sankt Quirin 86.06 322 *e*PcP **P** **04 18 45.5 +0.6**
comp=Z,4.6nm,1.2s
JTMT Jette 86.08 37 IAmb IAmb 04 18 51.0
comp=Z,24nm,1.1s
JTMT IAMs_20 IAMs_20 04 58 46.8
comp=Z,2µm,21.0s
MOD Modoc Plateau 86.08 44 IAmb IAmb 04 18 52.1
comp=Z,44nm,1.1s
RETA Reutte 86.14 323 *es*P **P** **04 18 47.7 +2.6**
comp=Z,3.8nm,1.2s
BMO Blue Mountains 86.16 40 IAmb IAmb 04 18 52.0
comp=Z,30nm,1.1s
FETA Feichten 86.44 323 *e*PcP **P** **04 18 47.7 +0.9**
comp=Z,4.5nm,1.3s
CTI Castel Tesino 86.54 321 P **P** **04 18 46.9 -0.3**
CTI pmax pmax
comp=Z,10.0nm,1.2s
CTI MLR MLR
comp=Z,10µm,18.0s
CTI Castel Tesino 86.54 321 P **P** **04 18 46.9 -0.3**
ORV Oroville 86.65 47 IAmb IAmb 04 18 54.0
comp=Z,41nm,1.1s
FCC Fort Churchill 86.71 21 IAMs_20 IAMs_20 05 02 32.0
comp=Z,3µm,18.0s
DAVA Damuels 86.73 323 *e*P **P** **04 18 46.2 -2.0**
comp=Z,2.6nm,0.6s
WVOR Wild Horse Val 86.79 43 IAmb IAmb 04 18 54.9
comp=Z,18nm,1.1s
MSO Missoula 86.83 37 P **P** **04 18 48.9 +0.3**
baz=309
MSO Missoula 86.83 37 IAmb IAmb 04 18 54.8
comp=Z,30nm,1.2s
FUORN Ofenpass-Fuorn 86.94 322 IAmb IAmb 04 18 57.7
comp=Z,26nm,1.4s
FFC Flin Flon 87.04 26 P **P** **04 18 48.6 -0.7**
FFC pmax pmax
comp=Z,45nm,1.1s
FFC Flin Flon 87.04 26 P **P** **04 18 48.6 -0.7**
FFC Flin Flon 87.04 26 IAMs_20 IAMs_20 05 02 55.3
comp=Z,2µm,18.0s
WLF Walferdange 87.10 327 P **P** **04 18 50.2 +0.4**
WLF pmax pmax
comp=Z,45nm,1.8s
WLF MLR MLR
comp=Z,9µm,19.0s
WLF Walferdange 87.10 327 P **P** **04 18 50.1 +0.4**
WLF IAmb IAmb 04 19 17.7
comp=Z,45nm,1.8s
AFDM Forest Hills D 87.33 47 IAmb IAmb 04 18 57.7
comp=Z,39nm,1.3s
TUE Stuetta 87.53 323 IAmb IAmb 04 19 39.0
comp=Z,22nm,1.2s
FRB Frobisher Bay 87.61 7 P **P** **04 18 49.6 -2.2**
comp=Z,19nm,1.0s,baz=339,slow=4.2,SNR=6.8
MURB Monte Urbino 87.73 319 IAmb IAmb 04 18 58.0
comp=Z,15nm,0.9s
AQU L'Aquila 87.76 318 IAmb IAmb 04 19 22.6
comp=Z,23nm,1.3s
PAHR Pah Rah Range 87.91 46 P **P** **04 18 53.7 -0.4**
VCNR Virginia City 87.98 46 IAmb IAmb 04 19 00.7
comp=Z,21nm,1.1s
PNTR Pine Nut 88.13 46 IAmb IAmb 04 19 02.3
comp=Z,33nm,1.1s
CMB Columbia Colle 88.22 47 IAmb IAmb 04 19 02.1
comp=Z,34nm,1.1s
EGMT Eagleton 88.24 35 P **P** **04 18 55.3 -0.1**
baz=312,SNR=11
LATE Laterza 88.55 319 IAMs_20 IAMs_20 05 02 45.7
comp=Z,2µm,18.0s
HLID Hailey 88.59 40 P **P** **04 18 58.1 +0.8**
baz=308,SNR=74
HLID Hailey 88.59 40 P **P** **04 18 57.6 +0.4**
HLID IAMs_20 IAMs_20 05 03 12.8
comp=Z,2µm,18.0s
BOZ Bozeman (W) 88.85 37 P **P** **04 18 58.4 +0.1**
baz=310,SNR=10
BOZ Bozeman (W) 88.85 37 IAmb IAmb 04 19 05.1
comp=Z,23nm,1.2s
BOZ IAMs_20 IAMs_20 05 00 26.3
comp=Z,2µm,19.0s
KVN Kaiserville 89.10 45 IAmb IAmb 04 19 06.8
comp=Z,36nm,1.3s
MDPB Devils Postpil 89.30 47 IAmb IAmb 04 19 13.3
comp=Z,25nm,1.5s
NVAR Mina Array Bea 89.33 46 P **P** **04 19 00.6 -0.3**
comp=Z,4.1nm,0.8s,baz=295,slow=5.3,SNR=13
NVAR LR LR 04 55 29.8
comp=Z,620nm,20.6s,baz=303,slow=33
NV11 Mina Array Sit 89.43 46 IAmb IAmb 04 19 12.7
comp=Z,50nm,1.9s
ELK Elko 89.85 43 P **P** **04 19 03.2 0.0**
ELK pmax pmax
comp=Z,16nm,1.1s
ELK MLR MLR
comp=Z,900nm,19.0s
ELK Elko 89.85 43 P **P** **04 19 03.2 0.0**
H17A Grant Village 90.20 38 P **P** **04 19 06.9 +2.0**
baz=311,SNR=12
H17A Grant Village 90.20 38 IAMs_20 IAMs_20 05 00 32.0
comp=Z,3µm,18.0s
IMW Indian Meadow 90.33 38 IAmb IAmb 04 19 13.2
comp=Z,27nm,1.1s
VES Vestal, Richgr 90.33 49 P **P** **04 19 04.6 -0.7**
baz=306
PKM Mcpherson Peak 90.39 50 P **P** **04 19 06.2 +0.3**
baz=305
RLMT Red Lodge 90.42 37 P **P** **04 19 06.7 +0.9**
baz=312,SNR=12
RLMT Red Lodge 90.42 37 IAmb IAmb 04 19 12.9
comp=Z,38nm,1.1s
RLMT IAMs_20 IAMs_20 05 05 05.7
comp=Z,1µm,19.0s
FXWY Fox Creek 90.45 39 IAmb IAmb 04 19 13.5
comp=Z,18nm,1.1s
CORL Corleone 90.47 314 IAMs_20 IAMs_20 05 05 36.1
comp=Z,3µm,18.0s
TPAW Teton Pass 90.59 39 IAmb IAmb 04 19 14.1
comp=Z,26nm,1.1s
DGMT Dagmar 90.63 32 P **P** **04 19 07.0 +0.5**
baz=316
DGMT Dagmar 90.63 32 IAMs_20 IAMs_20 05 00 51.6
comp=Z,2µm,21.0s
CWC Cottonwood Cre 90.64 48 P **P** **04 19 07.0 0.0**
baz=306
REDW Red Top Meadow 90.72 39 IAmb IAmb 04 19 14.6
comp=Z,20nm,1.2s
REDW IAMs_20 IAMs_20 05 05 42.0
comp=Z,1µm,18.0s
ISA Isabella, Lake 90.84 48 P **P** **04 19 09.1 +1.3**
baz=306
LAO LASA Array 90.91 34 P **P** **04 19 09.1 +1.3**
baz=314
AHID Auburn Hatcher 90.97 39 IAMs_20 IAMs_20 05 02 36.7
comp=Z,2µm,18.0s
R11A Troy Canyon, C 91.10 45 P **P** **04 19 09.6 +0.6**
baz=308,SNR=26
R11A Troy Canyon, C 91.10 45 IAmb IAmb 04 19 15.4
comp=Z,15nm,1.1s
ABPO Ambohimpanom 91.10 249 P **P** **04 19 08.2 -1.0**
ABPO pmax pmax
comp=Z,13nm,1.0s
ABPO Ambohimpanom 91.10 249 P **P** **04 19 08.2 -1.0**
MPMC Manual Prospec 91.25 48 P **P** **04 19 10.2 +0.4**
baz=306,SNR=25
KMBO Kilima Mbogo 91.31 269 P **P** **04 19 09.4 -1.1**
comp=Z,0.4nm,0.4s,baz=62,slow=17,SNR=1.7
KMBO LR LR 05 02 06.7
comp=Z,1µm,18.3s,baz=42,slow=37
FURC Furnace Creek, 91.42 47 P **P** **04 19 11.6 +1.3**
baz=307,SNR=8.3
HWUT Hardware Ranch 91.46 40 IAMs_20 IAMs_20 05 03 37.7
comp=Z,1µm,18.0s
TPNV Topopah Spring 91.52 46 P **P** **04 19 11.4 +0.4**
baz=307,SNR=24
TPNV Topopah Spring 91.52 46 IAmb IAmb 04 19 17.3
comp=Z,24nm,1.1s

PPT **Papeete** **91.53 109** LR LR 04 52 57.1
comp=Z,1µm,21.7s,baz=294,slow=31
PPT2 **Papeete2** **91.54 109** *e*S **S** **04 30 12.4 +2.2**
comp=Z,1µm,26.0s
PPT2 **Papeete2** **91.54 109** *e*LQ LQ 04 44 26.8
comp=Z,6µm,35.2s
PPT2 *e*LR LR 04 48 39.1
comp=Z,2µm,22.0s,baz=292
EDW2 **Edwards Air Fo** **91.61 49** P **P** **04 19 11.9 +0.5**
baz=306,SNR=6.1
DUG **Dugway, Tooele** **91.64 42** P **P** **04 19 12.2 +0.8**
baz=310,SNR=34
BW06 **Boulder Array** **91.83 39** P **P** **04 19 12.2 -0.2**
baz=312,SNR=9.0
BW06 **Boulder Array** **91.83 39** IAmb IAmb 04 19 18.0
comp=Z,14nm,1.1s
BW06 IAMs_20 IAMs_20 05 04 05.3
comp=Z,2µm,19.0s
PD31 **Pinedale Array** **91.83 39** IAmb IAmb 04 19 18.0
comp=Z,13nm,1.1s
PDAR **Pinedale Array** **91.83 39** P **P** **04 19 11.9 -0.5**
comp=Z,7.5nm,0.9s,baz=49,slow=0.9,SNR=16
PDAR LR LR 05 02 52.7
comp=Z,784nm,19.1s,baz=349,slow=37
PASC **Pasadena Art C** **91.90 49** IAMs_20 IAMs_20 04 53 27.4
comp=Z,1µm,21.0s
MWC **Mount Wilson** **91.96 49** IAMs_20 IAMs_20 04 53 29.9
comp=Z,1µm,21.0s
SHOC **Shoshone, Teco** **92.14 47** P **P** **04 19 14.5 +0.8**
baz=307,SNR=5.7
GSC **Goldstone, Bar** **92.15 48** P **P** **04 19 14.4 +0.6**
baz=307,SNR=24
BFSC **Mount Baldy Ra** **92.22 49** P **P** **04 19 14.2 0.0**
baz=306,SNR=7.8
SHPR **Sheep Range** **92.49 46** IAmb IAmb 04 19 22.8
comp=Z,6nm,1.2s
TUQ **Turquoise Moun** **92.65 47** P **P** **04 19 17.0 +0.8**
baz=307,SNR=24
HEC **Hector,Ludlow** **92.74 48** P **P** **04 19 17.3 +0.8**
baz=307,SNR=6.8
ULM **Lac du Bonnet** **92.87 27** P **P** **04 19 15.9 -0.8**
comp=Z,15nm,0.8s,baz=323,slow=6.0,SNR=5.4
ULM LR LR 05 05 03.3
comp=Z,2µm,18.9s,baz=333,slow=38
ULM **Lac du Bonnet** **92.87 27** P **P** **04 19 16.0 -0.8**
ULM **Lac du Bonnet** **92.87 27** P **P** **04 19 17.7 +1.0**
ULM IAmb IAmb 04 19 21.2
comp=Z,21nm,0.9s
ULM IAMs_20 IAMs_20 05 05 45.5
comp=Z,2µm,18.0s
MURC **Murrieta** **92.90 49** P **P** **04 19 17.9 +0.6**
baz=307
MDND **Maddock** **93.17 30** IAMs_20 IAMs_20 05 03 27.7
comp=Z,1µm,19.0s
GMRC **Granite Mounta** **93.21 48** P **P** **04 19 19.5 +0.7**
baz=308,SNR=24
109C **Camp Elliot, M** **93.39 50** P **P** **04 19 20.2 +0.7**
baz=307,SNR=5.1
PFO **Pinyon Flats O** **93.39 49** P **P** **04 19 19.6 0.0**
comp=Z,18nm,1.0s,baz=308,slow=5.0,SNR=10
PFO **Pinyon Flats O** **93.39 49** P **P** **04 19 20.4 +0.7**
baz=307,SNR=25
PFO **Pinyon Flats O** **93.39 49** P **P** **04 19 20.1 +0.5**
PFO pmax pmax
comp=Z,51nm,1.1s
PFO **Pinyon Flats O** **93.39 49** P **P** **04 19 20.1 +0.5**
PFO **Pinyon Flats O** **93.39 49** IAMs_20 IAMs_20 04 54 11.9
comp=Z,2µm,22.0s
XPFO **Pion Flat** **93.39 49** P **P** **04 19 20.1 +0.4**
XPFO **Pion Flat** **93.39 49** IAMs_20 IAMs_20 04 54 12.9
comp=Z,2µm,22.0s
TPFO **Pinon Flats** **93.40 49** P **P** **04 19 20.2 +0.6**
baz=307,SNR=26
BELC **Belle Mtn. Jos** **93.46 49** P **P** **04 19 20.2 +0.2**
baz=307,SNR=16
K22A **Casper** **93.55 37** P **P** **04 19 20.7 +0.4**
baz=314
K22A **Casper** **93.55 37** IAmb IAmb 04 19 36.5
comp=Z,23nm,1.3s
E28A **Huff** **93.63 31** IAMs_20 IAMs_20 05 05 17.1
comp=Z,2µm,20.0s
RSSD **Black Hills** **93.81 35** P **P** **04 19 22.5 +1.0**
baz=316
RSSD **Black Hills** **93.81 35** P **P** **04 19 21.6 +0.1**
RSSD pmax pmax
comp=Z,31nm,1.2s
RSSD **Black Hills** **93.81 35** P **P** **04 19 21.6 +0.1**
RSSD IAmb IAmb 04 19 27.9
comp=Z,31nm,1.2s
RSSD **Black Hills** **93.81 35** IAMs_20 IAMs_20 05 09 04.2
comp=Z,2µm,19.0s
MONP2 **Monument Peak** **93.84 50** P **P** **04 19 22.7 +0.9**
baz=307,SNR=7.5
RWWY **Rawlins** **93.84 38** IAMs_20 IAMs_20 05 08 47.5
comp=Z,2µm,18.0s
IRM **Iron Mountain** **93.93 48** P **P** **04 19 22.7 +0.7**
baz=308,SNR=22
BC3 **Big Chuckawall** **94.03 49** P **P** **04 19 23.5 +1.0**
baz=308,SNR=21
W13A **Hualapai Mount** **94.17 47** IAmb IAmb 04 19 30.4
comp=Z,16nm,1.2s
IKP **In-Ko-Pah, Jac** **94.20 50** P **P** **04 19 24.5 +1.1**
baz=307,SNR=6.5
SWSC **Sam W. Stewart** **94.23 49** P **P** **04 19 25.3 +2.0**
baz=307,SNR=6.6
KEST **Kesra** **94.31 314** P **P** **04 19 21.7 -2.0**
comp=Z,3.8nm,1.0s,baz=358,slow=16,SNR=2.3
KEST LR LR 05 06 08.3
comp=Z,3µm,18.0s,baz=355,slow=38
KEST **Kesra** **94.31 314** IAmb IAmb 04 19 48.2
comp=Z,35nm,1.6s
O20A **White River Ci** **94.33 40** P **P** **04 19 24.2 +0.3**
baz=313,SNR=8.2
O20A **White River Ci** **94.33 40** IAmb IAmb 04 19 30.3
comp=Z,18nm,1.1s
O20A IAMs_20 IAMs_20 05 08 22.4
comp=Z,2µm,20.0s
U15A **North Rim** **94.34 45** IAmb IAmb 04 19 31.7
comp=Z,25nm,1.3s
TBI **Tubuai** **94.38 114** *e*S **S** **04 30 36.6 +1.6**
comp=Z,2µm,27.5s
TBI **Tubuai** **94.38 114** *e*LQ LQ 04 45 55.8
comp=Z,2µm,33.2s
TBI *e*LR LR 04 49 54.1
comp=Z,2µm,26.2s,baz=306
AGMN **Agassiz Nation** **94.42 28** IAMs_20 IAMs_20 05 07 05.5
comp=Z,2µm,19.0s
PDMCI **Parker Dam,Lak** **94.50 47** P **P** **04 19 25.9 +1.3**
baz=308,SNR=5.8
GLA **Glamis** **94.81 49** P **P** **04 19 27.4 +1.3**
baz=308
D32A **Dogwood Acres,** **94.84 29** IAMs_20 IAMs_20 05 10 02.9
comp=Z,2µm,18.0s
PV21 **Cone Mtn., Par** **94.96 41** IAmb IAmb 04 19 33.2
comp=Z,17nm,1.1s
PV21 IAMs_20 IAMs_20 05 10 07.3
comp=Z,2µm,19.0s
PV14 **Lion Creek, Pa** **95.05 42** IAmb IAmb 04 19 34.3
comp=Z,28nm,1.3s
N23A **Red Feather La** **95.08 38** P **P** **04 19 27.3 -0.2**
baz=314
PV20 **West Nyswonger** **95.11 42** IAmb IAmb 04 19 34.5
comp=Z,18nm,1.2s
PV20 IAMs_20 IAMs_20 05 10 27.3
comp=Z,2µm,18.0s
PV12 **Saucer Basin,** **95.22 41** IAMs_20 IAMs_20 05 10 26.3
comp=Z,3µm,22.0s
B35A **Bob, Littlefor** **95.23 27** IAmb IAmb 04 19 33.2
comp=Z,9.6nm,0.9s
B35A IAMs_20 IAMs_20 05 07 20.9
comp=Z,2µm,18.0s
PV03 **Paradox Valley** **95.23 42** IAmb IAmb 04 19 35.0
comp=Z,14nm,1.1s
PV03 IAMs_20 IAMs_20 05 10 30.7
comp=Z,2µm,19.0s
PV13 **Radium Mtn., P** **95.31 42** IAMs_20 IAMs_20 05 10 31.8
comp=Z,2µm,19.0s
PV02 **Paradox Valley** **95.33 42** IAMs_20 IAMs_20 05 10 31.3
comp=Z,2µm,20.0s
WUAZ **Wupatki** **95.50 45** P **P** **04 19 30.3 +0.9**
baz=310
WUAZ **Wupatki** **95.50 45** IAmb IAmb 04 19 35.8
comp=Z,9.8nm,1.0s
ISCO **Idaho Springs** **96.02 39** P **P** **04 19 33.6 +1.7**
baz=314
ISCO **Idaho Springs** **96.02 39** IAMs_20 IAMs_20 05 04 53.2
comp=Z,2µm,18.0s
SUSD **Miller** **96.04 32** P **P** **04 19 32.0 +0.6**
baz=320
SUSD **Miller** **96.04 32** IAMs_20 IAMs_20 05 04 06.9
comp=Z,1µm,21.0s
MVCO **Mesa Verde** **96.14 42** P **P** **04 19 32.9 +0.6**
baz=312
F33A **5 Mile Ranch,** **96.17 29** IAmb IAmb 04 19 36.8
comp=Z,12nm,1.1s
F33A IAMs_20 IAMs_20 05 01 57.9
comp=Z,2µm,22.0s
EYMN **Ely** **96.43 26** P **P** **04 19 31.4 -1.7**
baz=326
EYMN **Ely** **96.43 26** IAmb IAmb 04 19 48.6
comp=Z,12nm,1.5s
EYMN **Ely** **96.43 26** IAMs_20 IAMs_20 05 03 40.6
comp=Z,2µm,20.0s
SCHQ **Schefferville** **96.50 9** P **P** **04 19 31.4 -1.9**
comp=Z,4.7nm,0.8s,baz=326,slow=7.3,SNR=4.1
SCHQ LR LR 05 06 18.1
comp=Z,1µm,20.5s,baz=349,slow=38
SCHQ **Schefferville** **96.50 9** P **P** **04 19 32.7 -0.6**
SCHQ IAmb IAmb 04 19 39.6
comp=Z,7.5nm,0.9s
S22A **4UR Ranch, Cre** **96.75 41** P **P** **04 19 37.9 +2.7**
baz=313
S22A **4UR Ranch, Cre** **96.75 41** IAMs_20 IAMs_20 05 10 29.8
comp=Z,1µm,19.0s
W18A **Fied Fore** **96.77 44** IAMs_20 IAMs_20 05 08 58.8
comp=Z,1µm,18.0s
214A **Organ Pipe Nat** **96.83 48** IAMs_20 IAMs_20 04 55 11.8
comp=Z,1µm,22.0s
F36A **Milaca** **97.33 28** IAMs_20 IAMs_20 05 10 41.4
comp=Z,2µm,19.0s
E38A **The Farm, Brul** **97.51 26** IAMs_20 IAMs_20 05 09 07.3
comp=Z,2µm,18.0s
SDCO **Great Sand Dun** **97.52 40** IAMs_20 IAMs_20 05 08 14.8
comp=Z,1µm,19.0s
K31A **O'Neill** **97.52 33** IAMs_20 IAMs_20 05 10 25.0
comp=Z,2µm,18.0s
ECSD **EROS Data Cent** **97.67 31** P **P** **04 19 38.6 -0.2**
baz=321
ECSD **EROS Data Cent** **97.67 31** IAMs_20 IAMs_20 05 07 50.8
comp=Z,2µm,18.0s
SPMN **Marine on St.** **98.14 28** IAMs_20 IAMs_20 05 06 17.9
comp=Z,2µm,21.0s
KSCO **Kaye Shedlock'** **98.21 38** IAMs_20 IAMs_20 05 08 05.0
comp=Z,2µm,18.0s
D41A **Chassel** **98.27 24** IAMs_20 IAMs_20 05 08 49.0
comp=Z,2µm,20.0s
T25A **Trinidad** **98.56 40** IAMs_20 IAMs_20 05 06 47.5
comp=Z,1µm,19.0s
BGNE **Belgrade** **98.73 33** IAMs_20 IAMs_20 05 08 58.3
comp=Z,2µm,18.0s
I37A **Lemond, Waseca** **98.86 29** IAMs_20 IAMs_20 05 05 54.2
comp=Z,2µm,18.0s
COWI **Cover** **98.86 25** IAMs_20 IAMs_20 05 09 34.9
comp=Z,2µm,18.0s
ANMO **Albuquerque** **98.88 43** Pdiff Pdif 04 19 46.3 +1.6
baz=313
ANMO **Albuquerque** **98.88 43** IAMs_20 IAMs_20 05 13 03.5
comp=Z,1µm,18.0s
L34A **Svendsen Farm,** **99.15 32** IAMs_20 IAMs_20 05 10 38.1
comp=Z,1µm,19.0s
G40A **Rib Lake** **99.15 26** IAMs_20 IAMs_20 05 10 15.5
comp=Z,2µm,18.0s
ESDC **Sonseca Array** **99.25 325** P **Pdif** **04 19 45.9 -0.1**
comp=Z,0.7nm,1.0s,baz=97,slow=5.2,SNR=4.0
ESDC LR LR 05 09 34.5
comp=Z,5µm,18.0s,baz=40,slow=38
E43A **Lone Tree Farm** **99.42 24** IAMs_20 IAMs_20 05 10 43.4
comp=Z,2µm,18.0s
F42A **Maple Grove Fa** **99.53 25** IAMs_20 IAMs_20 05 05 45.4
comp=Z,3µm,22.0s
N33A **J Bar K Exete** **99.58 33** IAMs_20 IAMs_20 05 07 47.8
comp=Z,2µm,19.0s
PGAV **Gavieira, Arco** **99.59 329** *e*SS SS 04 38 32.9 +24
PGAV **Gavieira, Arco** **99.59 329** *e*LR LR 04 59 18.1
comp=Z,6µm,18.0s
MVO **Moncorvo** **99.63 327** *e*SS SS 04 38 19.0 +10
MVO **Moncorvo** **99.63 327** *e*LR LR 05 00 22.2
comp=Z,8µm,18.0s
121A **Cookes Peak, D** **99.70 45** IAMs_20 IAMs_20 05 13 49.3
comp=Z,1µm,18.0s
CBKS **Cedar Bluff** **99.89 36** IAMs_20 IAMs_20 05 12 48.2
comp=Z,2µm,18.0s
D46A **Sault St. Mari** **99.98 22** Pdiff **Pdif** **04 19 51.7 +2.7**
baz=332
LSQQ **Lebel-sur-Quev** **100.07 16** Pdiff **Pdif** **04 19 51.3 +1.9**
baz=338
I40A **Norwalk** **100.13 27** IAMs_20 IAMs_20 05 06 31.5
comp=Z,3µm,20.0s
K38A **Parkersburg** **100.24 29** IAMs_20 IAMs_20 05 06 28.6
comp=Z,2µm,22.0s
N35A **Tabor** **100.36 32** IAMs_20 IAMs_20 05 11 25.1
comp=Z,2µm,18.0s
MTE **Manteigas** **100.47 327** *e*SS SS 04 38 40.3 +19
MTE **Manteigas** **100.47 327** *e*LR LR 05 01 21.9
comp=Z,5µm,18.0s
E47A **Iron Bridge** **100.62 22** Pdiff **Pdif** **04 19 55.5 +3.6**
baz=332
SCIA **State Center** **100.64 30** IAMs_20 IAMs_20 05 08 09.3
comp=Z,2µm,21.0s
R32A **Long Quarter,** **100.71 36** IAMs_20 IAMs_20 05 07 30.9
comp=Z,2µm,19.0s
H43A **Windswept, Lux** **100.76 25** IAMs_20 IAMs_20 05 06 22.9
comp=Z,2µm,22.0s
I42A **Draeger Farm,** **100.81 26** IAMs_20 IAMs_20 05 11 52.4
comp=Z,2µm,18.0s
VLDQ **Val d'Or** **100.82 17** IAMs_20 IAMs_20 05 07 39.0
comp=Z,3µm,20.0s
G45A **Suttons Bay** **101.05 24** IAMs_20 IAMs_20 05 07 44.4
comp=Z,2µm,21.0s
JFWS **Jewell Farm** **101.09 28** IAMs_20 IAMs_20 05 07 01.8
comp=Z,2µm,20.0s
PMRV **Marv??o** **101.15 326** *e*SS SS 04 38 51.1 +21
PMRV **Marv??o** **101.15 326** *e*LR LR 05 01 26.1
comp=Z,5µm,16.0s
KSU1 **Kansas State U** **101.26 34** IAMs_20 IAMs_20 05 08 51.1
comp=Z,2µm,20.0s
L40A **Anamosa** **101.38 29** IAMs_20 IAMs_20 05 12 27.7
comp=Z,2µm,18.0s
N38A **Joes South For** **101.52 31** IAMs_20 IAMs_20 05 14 25.8
comp=Z,2µm,19.0s
GLMI **Grayling** **101.60 23** IAMs_20 IAMs_20 05 12 10.9
comp=Z,2µm,19.0s
I45A **Fountain** **101.70 25** IAMs_20 IAMs_20 05 07 19.8
comp=Z,2µm,20.0s
AMTX **Amarillo** **101.72 40** IAMs_20 IAMs_20 05 14 54.1
comp=Z,1µm,18.0s
MNTX **Cornudas Mount** **101.76 44** IAMs_20 IAMs_20 05 14 20.7
comp=Z,1µm,19.0s
K43A **Burlington** **102.03 27** IAMs_20 IAMs_20 05 12 38.8
comp=Z,2µm,18.0s
L42A **Oliver, Polo** **102.08 28** IAMs_20 IAMs_20 05 07 52.3
comp=Z,2µm,20.0s
U32A **Winter Ranch,** **102.09 37** IAMs_20 IAMs_20 05 09 05.7
comp=Z,1µm,20.0s
P38A **Dawn** **102.32 32** IAMs_20 IAMs_20 05 09 04.0
comp=Z,1µm,21.0s
CROK **Carrier** **102.54 37** IAMs_20 IAMs_20 05 10 16.4
comp=Z,2µm,19.0s
L44A **Lake County Fo** **102.64 27** IAMs_20 IAMs_20 05 11 29.0
comp=Z,2µm,19.0s
N41A **Harden Midland** **102.65 29** IAMs_20 IAMs_20 05 09 14.4
comp=Z,2µm,20.0s
PVAQ **Vaqueiros** **102.88 325** *e*SS SS 04 39 07.6 +13
PVAQ **Vaqueiros** **102.88 325** *e*LR LR 05 03 50.0
comp=Z,4µm,18.0s
J47A **Sunmer** **102.91 24** IAMs_20 IAMs_20 05 06 44.7
comp=Z,2µm,21.0s
DRLN **Deer Lake** **102.93 4** IAMs_20 IAMs_20 05 08 47.8
comp=Z,3µm,22.0s
HQIL **Hanson Quary C** **102.99 27** IAMs_20 IAMs_20 05 11 40.1
comp=Z,2µm,18.0s
I49A **Point Hope** **102.99 22** IAMs_20 IAMs_20 05 08 15.7
comp=Z,2µm,19.0s
T35A **Sooner Cattle** **102.99 35** IAMs_20 IAMs_20 05 08 56.2
comp=Z,2µm,19.0s
P40A **Paris** **103.08 31** IAMs_20 IAMs_20 05 12 29.0
comp=Z,2µm,19.0s
OK029 **Liberty Lake** **103.36 37** IAMs_20 IAMs_20 05 10 44.9
comp=Z,1µm,18.0s
L46A **Eue Claire** **103.42 26** IAMs_20 IAMs_20 05 11 28.3
comp=Z,2µm,19.0s
WMOK **Wichita Mounta** **103.44 38** IAMs_20 IAMs_20 05 09 57.5
comp=Z,2µm,20.0s
HDIL **Hopedale** **103.44 28** IAMs_20 IAMs_20 05 08 35.3
comp=Z,2µm,20.0s
QUOK **Quay** **103.46 36** IAMs_20 IAMs_20 05 05 26.6
comp=Z,3µm,22.0s
OK025 **Westminster Rd** **103.58 37** IAMs_20 IAMs_20 05 10 56.9
comp=Z,1µm,19.0s
OKCFA **Oklahoma City** **103.65 37** IAMs_20 IAMs_20 05 15 20.7
comp=Z,1µm,18.0s
ORIO **Orleans, Innes** **103.79 17** IAMs_20 IAMs_20 05 11 19.5
comp=Z,1µm,18.0s
S39A **Bolivar** **103.96 33** IAMs_20 IAMs_20 05 09 31.6
comp=Z,1µm,21.0s
R40A **Maddies Statio** **103.98 32** IAMs_20 IAMs_20 05 15 19.9
comp=Z,2µm,18.0s
SLBS **Sierra La Lagu** **104.00 53** IAMs_20 IAMs_20 04 57 54.3
comp=Z,1µm,22.0s
K50A **Casco** **104.09 23** IAMs_20 IAMs_20 05 11 45.9
comp=Z,2µm,20.0s
P43A **Skaggs, Pawnee** **104.11 29** IAMs_20 IAMs_20 05 13 57.9
comp=Z,2µm,18.0s
O44A **Mansfield** **104.12 28** IAMs_20 IAMs_20 05 12 59.4
comp=Z,3µm,19.0s
TUL1 **Leonard** **104.13 36** IAMs_20 IAMs_20 05 09 30.5
comp=Z,2µm,21.0s
AAM **Ann Arbor** **104.14 24** IAMs_20 IAMs_20 05 13 50.4
comp=Z,2µm,19.0s
L48A **N Adams** **104.17 24** IAMs_20 IAMs_20 05 07 33.2
comp=Z,2µm,21.0s
PQI **Presque Isle** **104.25 11** IAMs_20 IAMs_20 05 09 49.2
comp=Z,3µm,21.0s
U38A **Gravette** **104.43 34** IAMs_20 IAMs_20 05 10 01.3
comp=Z,2µm,21.0s
TXAR **Lajitas Array** **104.46 45** Pdiff **Pdif** **04 20 08.7 -0.8**
comp=Z,0.5nm,0.9s,baz=306,slow=46,SNR=5.4
TXAR PKiKP **PKiKP** **04 24 23.9 -1.8**
comp=Z,0.5nm,0.9s,baz=336,slow=2.0,SNR=2.0
SFIN **Lafayette** **104.50 27** IAMs_20 IAMs_20 05 09 16.0
comp=Z,2µm,20.0s
ABTX **Abilene, Hawle** **104.52 40** IAMs_20 IAMs_20 05 16 31.4
comp=Z,2µm,19.0s
N47A **Urbana** **104.62 26** IAMs_20 IAMs_20 05 08 51.2
comp=Z,2µm,22.0s
SLM **Saint Louis** **104.62 30** IAMs_20 IAMs_20 05 11 26.8
comp=Z,2µm,20.0s
CCM **Cathedral Cave** **104.64 31** IAMs_20 IAMs_20 05 13 44.4
comp=Z,2µm,19.0s
HHAR **Hobbs** **104.78 34** IAMs_20 IAMs_20 05 14 02.4
comp=Z,2µm,19.0s
MGMO **Mountain Grove** **104.89 32** IAMs_20 IAMs_20 05 16 03.2
comp=Z,2µm,18.0s
Q44A **Meyer Farm, Va** **104.94 29** IAMs_20 IAMs_20 05 14 31.0
comp=Z,2µm,18.0s
FVM **French Village** **105.07 31** IAMs_20 IAMs_20 05 09 40.7
comp=Z,2µm,22.0s
P46A **Rosedale** **105.10 28** IAMs_20 IAMs_20 05 11 13.1
comp=Z,2µm,20.0s
M50A **Fremont** **105.15 24** IAMs_20 IAMs_20 05 14 19.0
comp=Z,2µm,18.0s
N49A **Columbus Grove** **105.16 25** IAMs_20 IAMs_20 05 12 40.3
comp=Z,2µm,20.0s
U40A **Yellville** **105.25 33** IAMs_20 IAMs_20 05 15 56.8
comp=Z,2µm,18.0s
Z35A **Perchaven, San** **105.33 38** IAMs_20 IAMs_20 05 13 27.5
comp=Z,1µm,19.0s
X37A **Clayton** **105.37 36** IAMs_20 IAMs_20 05 10 20.4
comp=Z,2µm,19.0s
OLIL **Olney** **105.47 29** IAMs_20 IAMs_20 05 10 07.1
comp=Z,2µm,20.0s
T42A **Van Buren** **105.55 32** IAMs_20 IAMs_20 05 14 08.4
comp=Z,2µm,18.0s
J57A **Williamstown** **105.56 18** IAMs_20 IAMs_20 05 10 16.3
comp=Z,2µm,21.0s
M52A **Chesterland** **105.61 23** IAMs_20 IAMs_20 05 09 44.2
comp=Z,3µm,21.0s
MMNY **Mt. Morris Dam** **105.64 20** IAMs_20 IAMs_20 05 11 12.5
comp=Z,2µm,19.0s
W39A **Magazine** **105.71 35** IAMs_20 IAMs_20 05 18 19.2
comp=Z,2µm,18.0s
O49A **Covington** **105.74 25** IAMs_20 IAMs_20 05 09 41.7
comp=Z,2µm,20.0s
BLO **Bloomington** **105.75 27** IAMs_20 IAMs_20 05 10 04.9
comp=Z,2µm,20.0s
J58A **Remsen** **105.80 18** IAMs_20 IAMs_20 05 12 07.6
comp=Z,2µm,18.0s
LBNH **Lisbon** **105.80 15** IAMs_20 IAMs_20 05 07 44.4
comp=Z,2µm,22.0s
N51A **Ashland** **105.81 24** IAMs_20 IAMs_20 05 09 49.6
comp=Z,2µm,20.0s
S44A **Carbondale** **105.83 30** IAMs_20 IAMs_20 05 17 04.9
comp=Z,2µm,19.0s
M53A **WI Miller and** **105.94 22** IAMs_20 IAMs_20 05 13 13.7
comp=Z,2µm,18.0s
P48A **Milroy** **105.94 26** IAMs_20 IAMs_20 05 09 33.3
comp=Z,2µm,22.0s
FCAR **Ozark Folk Cen** **105.98 33** IAMs_20 IAMs_20 05 17 01.0
comp=Z,2µm,18.0s
JCT **Junction City** **106.00 42** IAMs_20 IAMs_20 05 15 01.6
comp=Z,1µm,21.0s
PBMO **Poplar Bluff** **106.06 31** IAMs_20 IAMs_20 05 10 26.9
comp=Z,2µm,22.0s
P49A **Miami Univ. Ec** **106.16 26** IAMs_20 IAMs_20 05 09 57.9
comp=Z,2µm,21.0s
ACSO **Alum Creek Sta** **106.20 24** IAMs_20 IAMs_20 05 08 54.0
comp=Z,2µm,22.0s
WHTX **Lake Whitney,** **106.23 39** IAMs_20 IAMs_20 05 14 06.4
comp=Z,1µm,20.0s
LCAR **Lake Charles** **106.30 32** IAMs_20 IAMs_20 05 14 46.4
comp=Z,2µm,19.0s
USIN **University of** **106.30 29** IAMs_20 IAMs_20 05 13 02.0
comp=Z,2µm,20.0s
MIAR **Mount Ida** **106.33 35** IAMs_20 IAMs_20 05 11 24.5
comp=Z,1µm,20.0s
WHAR **Wooly Hollow** **106.38 34** IAMs_20 IAMs_20 05 11 51.7
comp=Z,1µm,20.0s
PARMO **Parma** **106.46 31** IAMs_20 IAMs_20 05 15 47.1
comp=Z,2µm,19.0s
W41B **Gary Mavity, V** **106.49 34** IAMs_20 IAMs_20 05 11 55.7
comp=Z,2µm,20.0s
HENM **Henderson Moun** **106.55 31** IAMs_20 IAMs_20 05 13 07.7
comp=Z,2µm,19.0s
Z38A **Mt. Pleasant** **106.60 37** IAMs_20 IAMs_20 05 11 16.1
comp=Z,2µm,20.0s
WCI **Wyandotte Cave** **106.65 28** IAMs_20 IAMs_20 05 10 34.2
comp=Z,2µm,20.0s
T45A **Paducah** **106.67 30** IAMs_20 IAMs_20 05 17 36.9
comp=Z,2µm,18.0s
BINY **Binghamton** **106.68 18** IAMs_20 IAMs_20 05 11 13.1
comp=Z,3µm,21.0s
PVMO **Portageville** **106.69 31** IAMs_20 IAMs_20 05 10 52.7
comp=Z,2µm,20.0s
PENMO **Penman** **106.69 31** IAMs_20 IAMs_20 05 15 53.8
comp=Z,2µm,18.0s
O52A **Adamsville** **106.72 24** IAMs_20 IAMs_20 05 10 25.5
comp=Z,2µm,19.0s
X40A **Basin Creek Fa** **106.75 34** IAMs_20 IAMs_20 05 18 37.6
comp=Z,2µm,18.0s
HICK **Hickman** **106.80 31** IAMs_20 IAMs_20 05 13 14.5
comp=Z,2µm,20.0s
O53A **New Philadelph** **106.81 23** IAMs_20 IAMs_20 05 09 20.1
comp=Z,2µm,22.0s
P51A **Williamsport** **106.83 25** IAMs_20 IAMs_20 05 13 39.7
comp=Z,2µm,19.0s
PEBM **Pemiscott Bayo** **106.86 31** IAMs_20 IAMs_20 05 11 11.2
comp=Z,2µm,20.0s
HAL **Halifax** **106.92 9** IAMs_20 IAMs_20 05 09 39.6
comp=Z,3µm,21.0s
P52A **Corning** **107.04 24** IAMs_20 IAMs_20 05 12 24.0
comp=Z,2µm,19.0s
LNXT **Lenox** **107.04 31** IAMs_20 IAMs_20 05 13 23.0
comp=Z,2µm,19.0s
R49A **Shelbyville** **107.05 27** IAMs_20 IAMs_20 05 14 27.7
comp=Z,2µm,18.0s
LPAR **Lepanto** **107.08 32** IAMs_20 IAMs_20 05 11 02.5
comp=Z,1µm,21.0s
Q51A **Peebles** **107.12 25** IAMs_20 IAMs_20 05 14 10.5
comp=Z,2µm,20.0s
237A **Washetta, Mont** **107.13 38** IAMs_20 IAMs_20 05 11 48.2
comp=Z,1µm,20.0s
K62A **Royalston** **107.22 16** IAMs_20 IAMs_20 05 12 22.1
comp=Z,2µm,19.0s
WLAR **White Oak Lake** **107.24 35** IAMs_20 IAMs_20 05 11 53.8
comp=Z,2µm,21.0s
HALT **Halls** **107.27 31** IAMs_20 IAMs_20 05 13 30.9
comp=Z,2µm,20.0s
T47A **Sharon Grove** **107.36 29** IAMs_20 IAMs_20 05 14 50.2
comp=Z,2µm,19.0s
R50A **Paris** **107.39 26** IAMs_20 IAMs_20 05 16 14.7
comp=Z,2µm,18.0s
P53A **Whipple** **107.43 24** IAMs_20 IAMs_20 05 10 57.4
comp=Z,2µm,20.0s
QUA2 **Belchertown** **107.56 16** IAMs_20 IAMs_20 05 12 43.9
comp=Z,2µm,19.0s

SSPA	Standing Stone	107.56	21	IAMs_20	IAMs_20	05 10 13.4		
	comp=Z,3µm,21.0s							
MET	Memphis--Engin	107.64	32	IAMs_20	IAMs_20	05 19 02.0		
	comp=Z,2µm,19.0s							
X43A	Marvell	107.68	33	IAMs_20	IAMs_20	05 11 22.2		
	comp=Z,2µm,20.0s							
N58A	Sunbury	107.73	20	IAMs_20	IAMs_20	05 12 30.9		
	comp=Z,2µm,19.0s							
CCAR	Cane Creek	107.73	34	IAMs_20	IAMs_20	05 17 34.6		
	comp=Z,2µm,19.0s							
Z41A	Richland Creek	107.74	35	IAMs_20	IAMs_20	05 12 19.9		
	comp=Z,2µm,19.0s							
WVT	Waverly	107.77	30	IAMs_20	IAMs_20	05 13 08.0		
	comp=Z,2µm,19.0s							
833A	Chaparral WMA,	107.81	43	IAMs_20	IAMs_20	05 17 54.8		
	comp=Z,1µm,20.0s							
MCWV	Mont Chateau	107.81	22	IAMs_20	IAMs_20	05 14 13.3		
	comp=Z,2µm,19.0s							
NATX	Nacogdoches	107.94	37	IAMs_20	IAMs_20	05 12 23.4		
	comp=Z,1µm,19.0s							
W45A	Hickory Valley	107.96	31	IAMs_20	IAMs_20	05 16 44.4		
	comp=Z,2µm,18.0s							
Q54A	Coxs Mills	108.08	23	IAMs_20	IAMs_20	05 10 09.4		
	comp=Z,3µm,22.0s							
BRYW	Bryant College	108.09	15	IAMs_20	IAMs_20	05 10 49.2		
	comp=Z,3µm,21.0s							
S51A	Beattyville	108.24	26	IAMs_20	IAMs_20	05 18 43.0		
	comp=Z,2µm,18.0s							
R53A	Hurricane	108.25	25	IAMs_20	IAMs_20	05 17 02.3		
	comp=Z,2µm,18.0s							
T50A	Nancy	108.28	27	IAMs_20	IAMs_20	05 11 01.3		
	comp=Z,2µm,20.0s							
PAGS	Pennsylvania G	108.29	20	IAMs_20	IAMs_20	05 11 44.6		
	comp=Z,2µm,20.0s							
U49A	Red Boiling Sp	108.33	28	IAMs_20	IAMs_20	05 11 46.6		
	comp=Z,2µm,20.0s							
735A	Kenedy	108.36	42	IAMs_20	IAMs_20	05 15 40.3		
	comp=Z,2µm,20.0s							
OXF	Oxford	108.39	32	IAMs_20	IAMs_20	05 17 19.7		
	comp=Z,1µm,19.0s							
V48A	Smith Brothers	108.54	29	IAMs_20	IAMs_20	05 15 29.3		
	comp=Z,2µm,20.0s							
MVL	Millersville	108.61	20	IAMs_20	IAMs_20	05 09 44.1		
	comp=Z,2µm,21.0s							
PLAL	Pickwick Lake	108.61	31	IAMs_20	IAMs_20	05 18 31.5		
	comp=Z,1µm,18.0s							
HKT	Hockley	108.68	40	IAMs_20	IAMs_20	05 17 14.0		
	comp=Z,2µm,18.0s							
Y45A	Yeager Farm, C	108.86	33	IAMs_20	IAMs_20	05 10 25.2		
	comp=Z,2µm,21.0s							
143A	Socs Landing,	108.89	35	IAMs_20	IAMs_20	05 18 32.3		
	comp=Z,2µm,18.0s							
R55A	Marlinton	108.95	23	IAMs_20	IAMs_20	05 14 13.6		
	comp=Z,2µm,20.0s							
S54A	Dingess, Beckl	108.96	24	IAMs_20	IAMs_20	05 11 45.8		
	comp=Z,2µm,20.0s							
SDMD	Soldier's Deli	109.00	20	IAMs_20	IAMs_20	05 12 07.6		
	comp=Z,1µm,20.0s							
TZTN	Tazewell	109.21	27	IAMs_20	IAMs_20	05 19 25.8		
	comp=Z,2µm,18.0s							
KVTX	Kingsville	109.28	43	IAMs_20	IAMs_20	05 19 52.6		
	comp=Z,2µm,18.0s							
342A	Flagon Creek P	109.47	36	IAMs_20	IAMs_20	05 17 30.0		
	comp=Z,2µm,19.0s							
441A	DeRidder	109.51	37	IAMs_20	IAMs_20	05 18 17.1		
	comp=Z,1µm,21.0s							
X48A	Hartselle	109.52	30	IAMs_20	IAMs_20	05 14 20.0		
	comp=Z,2µm,20.0s							
V51A	Loudon	109.53	28	IAMs_20	IAMs_20	05 16 16.3		
	comp=Z,2µm,18.0s							
W50A	Signal Mountai	109.64	29	IAMs_20	IAMs_20	05 18 43.5		
	comp=Z,2µm,18.0s							
ZAIG	Zacatecas	109.70	49	IAMs_20	IAMs_20	05 19 56.7		
	comp=Z,2µm,19.0s							
VBMS	Vicksburg	109.72	34	IAMs_20	IAMs_20	05 12 56.3		
	comp=Z,2µm,21.0s							
CPCT	Cooper Cave	109.76	28	IAMs_20	IAMs_20	05 12 39.5		
	comp=Z,2µm,19.0s							
V52A	Sevierville	109.80	27	IAMs_20	IAMs_20	05 17 48.5		
	comp=Z,2µm,18.0s							
BLA	Blacksburg	109.80	24	IAMs_20	IAMs_20	05 12 20.1		
	comp=Z,2µm,19.0s							
TKL	Tuckaleechee C	109.89	27	IAMs_20	IAMs_20	05 12 08.8		
	comp=Z,2µm,20.0s							
U54A	Nelsons Funny	109.90	25	IAMs_20	IAMs_20	05 20 18.9		
	comp=Z,2µm,20.0s							
CBN	Corbin Frederi	109.94	21	IAMs_20	IAMs_20	05 11 27.6		
	comp=Z,2µm,20.0s							
146A	Union	110.09	33	IAMs_20	IAMs_20	05 18 05.0		
	comp=Z,2µm,19.0s							
Z47A	Carrollton	110.10	32	IAMs_20	IAMs_20	05 15 35.0		
	comp=Z,2µm,19.0s							
V53A	Saluda	110.26	27	IAMs_20	IAMs_20	05 16 05.7		
	comp=Z,2µm,20.0s							
Y49A	Blount Mountai	110.30	30	IAMs_20	IAMs_20	05 15 13.2		
	comp=Z,2µm,20.0s							
W52A	Murphy	110.31	28	IAMs_20	IAMs_20	05 13 52.1		
	comp=Z,2µm,20.0s							
V55A	Taylorsville	110.72	25	IAMs_20	IAMs_20	05 14 30.6		
	comp=Z,2µm,20.0s							
LRAL	Lakeview Retre	110.73	31	IAMs_20	IAMs_20	05 12 19.5		
	comp=Z,1µm,21.0s							
BG3	Lake Jocassee	110.80	27	IAMs_20	IAMs_20	05 16 37.1		
	comp=Z,1µm,19.0s							
346A	Big Creek Wild	110.92	34	IAMs_20	IAMs_20	05 17 26.9		
	comp=Z,1µm,18.0s							
T60A	Surry	111.12	21	IAMs_20	IAMs_20	05 12 10.7		
	comp=Z,2µm,21.0s							
PMOZ	Porto Moniz, M	111.13	329	eLR	LR	05 02 00.3		
	comp=Z,4µm,20.0s							
KMSC	Kings Mountain	111.30	26	IAMs_20	IAMs_20	05 16 56.0		
	comp=Z,2µm,19.0s							
Y52A	Lilburn	111.32	28	IAMs_20	IAMs_20	05 13 37.8		
	comp=Z,2µm,19.0s							
PAULI	Pauline	111.40	26	IAMs_20	IAMs_20	05 13 29.7		
	comp=Z,2µm,20.0s							
HODGE	Hodges	111.74	27	IAMs_20	IAMs_20	05 13 35.8		
	comp=Z,2µm,21.0s							
W57A	Gilead	111.79	25	IAMs_20	IAMs_20	05 15 43.0		
	comp=Z,2µm,20.0s							
250A	Grady	111.95	31	IAMs_20	IAMs_20	05 16 16.9		
	comp=Z,1µm,20.0s							
GOGA	Godfrey	111.96	28	IAMs_20	IAMs_20	05 22 08.7		
	comp=Z,2µm,18.0s							
152A	Waverly Hall	112.06	30	IAMs_20	IAMs_20	05 14 33.6		
	comp=Z,2µm,19.0s							
BIRD	Birdtown, Kers	112.07	25	IAMs_20	IAMs_20	05 15 09.4		
	comp=Z,2µm,21.0s							
JSC	Jenkinsville	112.09	26	IAMs_20	IAMs_20	05 17 01.9		
	comp=Z,1µm,19.0s							
BRAL	Brewton	112.26	32	IAMs_20	IAMs_20	05 16 56.3		
	comp=Z,2µm,19.0s							
V61A	Roper	112.40	22	IAMs_20	IAMs_20	05 18 48.8		
	comp=Z,2µm,18.0s							
Y57A	Sumter	112.65	25	IAMs_20	IAMs_20	05 15 26.9		
	comp=Z,2µm,21.0s							
154A	Montrose	112.80	28	IAMs_20	IAMs_20	05 14 34.0		
	comp=Z,2µm,21.0s							
V62A	Hyde County Ai	112.81	21	IAMs_20	IAMs_20	05 19 56.6		
	comp=Z,2µm,18.0s							
Z56A	Williston	112.89	27	IAMs_20	IAMs_20	05 20 49.1		
	comp=Z,2µm,18.0s							
352A	Blakely	112.98	30	IAMs_20	IAMs_20	05 18 29.1		
	comp=Z,2µm,19.0s							
451A	Vernon	113.33	32	IAMs_20	IAMs_20	05 18 20.6		
	comp=Z,1µm,20.0s							
NHSC	New Hope	113.54	26	IAMs_20	IAMs_20	05 18 14.4		
	comp=Z,2µm,18.0s							
TIGA	Tifton	113.60	29	IAMs_20	IAMs_20	05 23 25.5		
	comp=Z,1µm,19.0s							
255A	Hazlehurst	113.66	28	IAMs_20	IAMs_20	05 15 08.8		
	comp=Z,2µm,19.0s							
553A	Crawfordville	114.30	31	IAMs_20	IAMs_20	05 19 20.0		
	comp=Z,2µm,20.0s							
UNM	Universidad Na	114.35	50	IAMs_20	IAMs_20	05 20 42.1		
	comp=Z,1µm,20.0s							
SYO	Syowa Base	115.32	203	‖epPdiff	pPdif	04 21 00.8	-2.8	
SYO	Syowa Base	115.32	203	‖esPdiff	Pdif	04 21 02.6	+6.2	
656A	Willston	115.84	30	IAMs_20	IAMs_20	05 19 17.9		
	comp=Z,2µm,20.0s							
TLIG	Tlapa	116.00	51	IAMs_20	IAMs_20	05 19 39.8		
	comp=Z,1µm,20.0s							
TSUM	Tsumeb	116.50	261	IAMs_20	IAMs_20	05 17 30.1		
	comp=Z,2µm,19.0s							
DWPF	Disney Wildern	117.41	29	IAMs_20	IAMs_20	05 17 36.4		
	comp=Z,2µm,20.0s							
QSPA	South Pole Qui	117.77	180	IAMs_20	IAMs_20	05 13 49.3		
	comp=Z,1µm,21.0s							

BBSR	BB Station	118.73	12	IAMs_20	IAMs_20	05 20 34.6		
	comp=Z,1µm,19.0s							
060A	Indiantown	118.81	29	IAMs_20	IAMs_20	05 18 42.3		
	comp=Z,2µm,19.0s							
061Z	Ochoppi	119.59	30	IAMs_20	IAMs_20	05 18 57.1		
	comp=Z,2µm,20.0s							
CCIG	Comitan	121.18	47	IAMs_20	IAMs_20	05 26 50.5		
	comp=Z,874nm,19.0s							
PETF	Flores	122.13	44	IAMs_20	IAMs_20	05 27 16.7		
	comp=Z,905nm,19.0s							
ESQI	Esquipulas	124.24	45	IAMs_20	IAMs_20	05 29 20.6		
	comp=Z,1µm,20.0s							
MTO3	Montecristo	124.35	46	IAMs_20	IAMs_20	05 28 03.5		
	comp=Z,953nm,21.0s							
TGUH	Tegucigalpa,Un	125.91	44	IAMs_20	IAMs_20	05 32 15.6		
	comp=Z,1µm,20.0s							
GTBY	Guantanamo Bay	127.31	28	IAMs_20	IAMs_20	05 27 49.3		
	comp=Z,1µm,20.0s							
GRTK	Grand Turk	127.37	23	IAMs_20	IAMs_20	05 26 36.3		
	comp=Z,2µm,19.0s							
MATN	Matagalpa	127.61	44	IAMs_20	IAMs_20	05 31 08.5		
	comp=Z,918nm,19.0s							
MTDJ	Mount Denham	127.75	31	IAMs_20	IAMs_20	05 27 51.6		
	comp=Z,1µm,19.0s							
SNAA	Sanae	128.79	198	IAMs_20	IAMs_20	05 24 12.4		
	comp=Z,883nm,19.0s							
SC01	Santiago de lo	129.44	23	IAMs_20	IAMs_20	05 25 01.2		
	comp=Z,2µm,21.0s							
SDDR	Presa de Saban	129.65	24	IAMs_20	IAMs_20	05 23 55.9		
	comp=Z,2µm,22.0s							
JTS	Las Juntas de	130.25	45	IAMs_20	IAMs_20	05 28 40.6		
	comp=Z,866nm,20.0s							
HDC	Heredia	130.99	44	IAMs_20	IAMs_20	05 30 44.2		
	comp=Z,1µm,20.0s							
SMRT	St. Maarten	132.95	15	IAMs_20	IAMs_20	05 26 33.4		
	comp=Z,1µm,20.0s							
SABA	Saba	133.33	15	IAMs_20	IAMs_20	05 26 58.4		
	comp=Z,2µm,20.0s							
SEUS	St. Eustatius	133.51	15	IAMs_20	IAMs_20	05 26 48.2		
	comp=Z,2µm,21.0s							
ANWB	Willy Bob	133.59	13	IAMs_20	IAMs_20	05 25 55.3		
	comp=Z,2µm,21.0s							
BCIP	Isla Barro Col	134.19	40	IAMs_20	IAMs_20	05 34 47.5		
	comp=Z,1µm,18.0s							
FDF	Fort de France	136.57	13	IAMs_20	IAMs_20	05 33 52.3		
	comp=Z,948nm,20.0s							
HATO	Hato, Curacao	136.76	25	IAMs_20	IAMs_20	05 28 52.3		
	comp=Z,1µm,21.0s							
GRGR	Grenville	138.99	15	IAMs_20	IAMs_20	05 39 31.5		
	comp=Z,898nm,21.0s							
SDV	Santo Domingo	139.08	29	IAMs_20	IAMs_20	05 26 18.3		
	comp=Z,974nm,22.0s							
ROSC	El Rosal	140.81	37	PKPdf	PKPdf	04 25 32.0	-3.2	
ROSC				IAMs_20	IAMs_20	05 32 46.4		
	comp=Z,1µm,22.0s							
NNA	Nana	151.71	61	PKIKP	PKPbc	04 25 59.4	+0.1	
NNA	Nana	151.71	61		PKPbc	04 25 59.4	+0.1	
PTGA	Pitinga	151.79	17		PKPbc	04 25 59.0	-0.5	
LPAZ	La Paz	160.97	56	PKP	PKPdf	04 26 04.2	-1.5	
	comp=Z,3.1nm,1.0s,baz=315,slow=18,SNR=5.5							
LPAZ				PKPab	PKPab	04 26 49.4	+1.0	
	comp=Z,8.7nm,1.1s,baz=359,slow=7.1,SNR=7.8							
LPAZ	La Paz	160.97	56	PKPdf	PKPdf	04 26 03.7	-2.0	
LPAZ					PKPab	04 26 48.3	-0.1	
PB11	IPOC Station P	161.78	67		PKPdf	04 26 05.3	-0.5	
PB11					PKPab	04 26 51.8	+0.4	
CO03	El Pedregal	163.34	104		PKPdf	04 26 06.0	-1.0	
CO01	Juntas del Tor	163.91	101		PKPdf	04 26 07.0	-0.8	
BDFB	Brasilia	167.20	343	PKP	PKPdf	04 26 10.9	+0.3	
	comp=Z,2.7nm,0.7s,baz=156,slow=20,SNR=4.3							
CPUP	Villa Florida	174.84	72	PKP	PKPdf	04 26 14.2	0.0	
	comp=Z,3.0nm,1.0s,baz=236,slow=13,SNR=2.9							

*IDC **03** 04:12:24.9±1.0,28.86N×84.95E,h0km,mb3.8/10, mb1 4.1/11,mb1mx3.7/64,mbtmp3.9/11,ML4.4/1,MS4.8/1, Ms1 4.8/1,ms1mx3.4/55,Error ellipse: s-maj=43.9km s-min=18.8km az=49.0*
*DMN **03** 04:12:25.0±0.5,29.29N×85.54E,h10km,Ml4.5/5,Error ellipse: s-maj=8.3km s-min=3.1km az=7.0*

ISC 03 04:12:27.8±0.6,29.15N±0.05×85.46E±0.04,h10km,n28, σ1s31/32,mb3.9/10,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUN	Gumba	1.29	163	ePg	Pn	04 12 51.2	-1.0
GKN	Gorkha	1.35	213	ePg	Pb	04 12 53.4	+0.1
KKN	Kakani	1.37	187	ePg	Pb	04 12 53.7	+0.1
KKN				eSg	Sg	04 13 12.0	+0.2
	892nm,0.4s						
DMN	Daman	1.57	192	ePg	Pg	04 12 57.8	-0.1
DMN				eSg	Sg	04 13 20.1	+1.8
	2µm,0.9s						
PKI	Pulchoki	1.57	182	ePg	Pb	04 12 57.0	-0.2
JIRN	Jiri	1.62	156	ePg	Pn	04 12 57.3	+0.6
DANN	Dangsing	1.69	242	ePg	Pb	04 12 59.2	0.0
KOLN	Koldanda	2.14	230	ePg	Pg	04 13 08.2	-0.6
KOLN				eSg	Sg	04 13 36.8	+0.2
	814nm,0.4s						
PYUN	Piuthan	2.41	245	ePg	Pb	04 13 11.5	+0.1
RAMN	Ramite	2.41	155	ePg	Pb	04 13 11.0	-0.5
TAPN	Taplejung	2.68	132	ePg	Pb	04 13 15.6	-0.4
TAPN	Taplejung	2.68	132	ePg	Pb	04 13 15.9	-0.1
TAPN				eSg	Sb	04 13 50.2	+1.2
	838nm,0.5s						
TAPN				eSg	Sg	04 13 50.6	-3.2
	937nm,0.5s						
ODAN	Odare	2.85	143	ePg	Pb	04 13 19.9	+1.0
WMQ	Urumqi	14.75	6	eP	P	04 16 02.8	+0.2
WMQ				pmax	pmax		
	comp=Z,120nm,6.3s						
GTA	Gaotai	15.65	45	eP	P	04 16 14.4	+1.7
GTA				pP	sP	04 16 18.7	-0.1
GTA				sP	pP	04 16 21.4	+4.6
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
CMAR	Chiang Mai Arr	16.28	128	Pn	Pn	04 16 16.9	+0.2
	comp=Z,0.5nm,0.3s,baz=318,slow=14,SNR=5.1						
SONM	Songino Array	24.69	35	P	P	04 17 52.0	+2.9
	comp=Z,1.0nm,0.7s,baz=235,slow=10,SNR=2.7						
JNU	Nakatsue	38.85	72	LR	LR	04 38 09.2	
	comp=Z,1µm,18.8s,baz=240,slow=39						
FINES	FINESS Array B	50.28	327	P	P	04 21 23.5	-0.5
	comp=Z,1.1nm,0.7s,baz=111,slow=7.7,SNR=8.4						
ARCES	ARCESS Array B	52.58	337	P	P	04 21 41.0	-0.2
	comp=Z,0.8nm,0.6s,baz=80,slow=10,SNR=1.9						
HFS	Hagfors	56.18	325	P	P	04 22 05.7	-1.8
	comp=Z,3.1nm,1.0s,baz=90,slow=8.6,SNR=2.6						
NB2	NORSAR Subarra	57.39	326	P	P	04 22 15.4	-0.8
	comp=Z,3.3nm,1.0s,baz=86,slow=7.4						
NOA	NORSAR Array B	57.39	326	P	P	04 22 14.9	-1.2
	comp=Z,1.0nm,0.8s,baz=87,slow=7.0,SNR=3.7						
WRA	Warramunga Arr	67.86	130	P	P	04 23 26.4	-0.1
	comp=Z,1.4nm,0.8s,baz=326,slow=6.5,SNR=9.6						
ASAR	Alice Springs	70.21	133	P	P	04 23 41.0	-0.1
	comp=Z,0.9nm,0.8s,baz=327,slow=5.9,SNR=6.1						
ESDC	Sonseca Array	71.64	306	P	P	04 23 47.0	-2.7
	comp=Z,0.8nm,1.0s,baz=79,slow=8.0,SNR=4.6						
ILAR	Eielson Array	77.94	20	P	P	04 24 28.1	+2.3
	comp=Z,0.6nm,0.9s,baz=292,slow=4.8,SNR=4.2						
YKA	Yellowknife Ar	87.26	9	P	P	04 25 13.1	-1.1
	comp=Z,0.6nm,0.8s,baz=347,slow=5.1,SNR=4.7						

JMA 03 04:14:07.2±0.5,28.07N×127.99E,h13km,M2.7, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKE	Okinoerabujima	0.87	144	P	Pg	04 14 23.9	-0.2
JOKE				S	Sb	04 14 35.9	+0.1
JTK	Tokunoshima	0.90	108	P	Pg	04 14 23.6	-0.9
JTK				S	Sg	04 14 35.4	-0.9
JIH	Iheya	1.03	181	P	Pb	04 14 26.0	-0.9
JIH				S	Sg	04 14 40.8	+0.2
JAMN	Amaminishikomi	1.06	80	P	Pb	04 14 27.5	+0.1
JAMN				S	Sb	04 14 40.2	-1.0
JYRO	Yoronjima	1.12	158	P	Pb	04 14 27.7	-0.7
JYRO				S	Sg	04 14 43.2	-0.1

*IDC **03** 04:14:16.7±0.6,55.36S×28.22W,h0km,mb4.3/9, mb1 4.4/11,mb1mx4.3/21,mbtmp4.4/11,ML4.2/2,Error ellipse: s-maj=21.8km s-min=16.2km az=56.0*
*NEIC **03** 04:14:18.0±1.4,55.3S±0.1×28.2W±0.2,h7km±4km, mb4.6/17,Error ellipse: s-maj=16.4km s-min=14.4km az=203.0*

ISC 03 04:14:20.4±0.5,55.41S±0.07×28.14W±0.09,h26km,n86, σ1s34/84,mb4.5/10,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	4.95	280	Pn	Pn	04 15 31.7	-1.3
VNA1	Neumayer--Stat	17.59	158	P	P	04 18 25.6	+1.4
VNA3	Neumayer Olymp	17.77	160	P	Pn	04 18 26.5	+0.9
SNAA	Sanae	19.55	156	P	P	04 18 46.3	+0.6
SNAA	Sanae	19.55	156	P	P	04 18 46.2	+0.4
	3.4nm,0.3s,baz=304,slow=9.9,SNR=204						
SNAA				S	S	04 22 16.7	-8.0
	0.0nm,0.3s,baz=213,slow=18,SNR=0.9						
SNAA	Sanae	19.55	156	P	P	04 18 46.5	+0.8
SNAA				IAmb	IAmb	04 18 56.4	
	comp=Z,15nm,0.6s						
PMSA	Palmer Station	19.92	228	P	P	04 18 48.9	-0.9
	comp=Z,0.2nm,0.3s,baz=331,slow=19,SNR=1.8						
PMSA	Palmer Station	19.92	228	Pn	Pn	04 18 52.0	+0.5
PMSA				IAmb	IAmb	04 19 02.4	
	comp=Z,22nm,0.8s						
PMSA	Palmer Station	19.92	228	eP	Pn	04 18 52.6	+1.1
MG01	Puerto William	22.36	255	P	P	04 19 15.7	-0.3
USHA	Ushuaia	22.83	255	P	P	04 19 19.8	-1.2
	comp=Z,15nm,0.4s,baz=162,slow=0.2,SNR=2.0						
TRQA	Tornquist	28.57	293	eP	P	04 20 16.3	+2.3
PLTB	Pedras Altas	29.67	312	eP	P	04 20 24.6	+0.8
CNLB	Canela	30.73	319	eP	P	04 20 34.8	+1.5
ITAB	Concordia	33.09	318	eP	P	04 20 55.0	+1.1
QSPA	South Pole Qui	34.84	180	P	P	04 21 09.4	+0.4
	comp=Z,6.0nm,0.6s,baz=191,slow=2.1,SNR=33						
QSPA	South Pole Qui	34.84	180	P	P	04 21 09.3	+0.3
QSPA				IAmb	IAmb	04 21 14.6	
	comp=Z,5.8nm,0.6s						
PTGB	Pitanga	35.35	320	eP	P	04 21 13.3	-0.3
CPUP	Villa Florida	35.98	312	P	P	04 21 18.1	-0.9
	comp=Z,4.1nm,0.7s,baz=152,slow=7.1,SNR=13						
CPUP	Villa Florida	35.98	312	P	P	04 21 18.2	-0.7
CPUP				IAmb	IAmb	04 21 19.7	
	comp=Z,16nm,1.4s						
CPUP	Villa Florida	35.98	312	eP	P	04 21 18.7	-0.2
BSFB	Barra de Sao F	37.77	340	eP	P	04 21 31.9	-2.3
PCMB	Pacaembu	37.93	324	eP	P	04 21 35.2	-0.3
SJMB	Sao Joao De Ma	37.96	340	eP	P	04 21 33.4	-2.5
MC01	Montes Claros	40.49	336	eP	P	04 21 54.7	-2.3
AQDB	Aquidauana	40.56	318	eP	P	04 21 56.5	-1.0
MAW	Mawson	40.98	144	P	P	04 22 01.5	+1.1
	comp=Z,2.0nm,0.8s,baz=208,slow=7.8,SNR=7.2						
MAW	Mawson	40.98	144	P	P	04 22 03.4	+2.9
BDFB	Brasilia	42.54	331	P	P	04 22 13.4	-0.5
	comp=Z,1.3nm,0.6s,baz=90,slow=16,SNR=1.8						
GDU01	Guandu, BA	42.54	343	eP	P	04 22 11.2	-2.5
GO02	Mina Guaaco	42.72	298	P	P	04 22 15.3	-0.2
ARAG	Araguaiana, MT	43.61	326	eP	P	04 22 21.7	-0.7
LVC	Limon Verde	44.51	301	P	P	04 22 30.3	+0.2
LVC	Limon Verde	44.51	301	eP	P	04 22 30.9	+0.9
SALV	Santo Antonio	44.75	321	eP	P	04 22 31.6	+0.1
SDBA	SAO DESIDERIO	44.86	336	eP	P	04 22 31.1	-1.4
PB09	IPOC Station P	45.36	301	P	P	04 22 36.8	+0.2
BOSA	Boshof	46.34	77	P	P	04 22 44.0	-0.2
	comp=Z,2.7nm,0.8s,baz=262,slow=13,SNR=1.9						
PTLB	Pontes e Lacer	46.46	317	eP	P	04 22 45.0	-0.1
GO01	Chusmiza	47.15	302	P	P	04 22 50.9	-0.1
VNDA	Vanda	47.19	183	P	P	04 22 50.8	+0.7
	comp=Z,3.1nm,0.6s,baz=187,slow=5.5,SNR=14						
VNDA	Vanda	47.19	183	P	P	04 22 50.8	+0.7
VNDA				IAmb	IAmb	04 22 52.3	
	comp=Z,4.9nm,0.9s						
MNMC	Minye Minye	47.80	302	P	P	04 22 56.5	+0.6
H10N1	ASCENSION HYDR	48.67	18	T	T	05 16 01.0	
	baz=190						
H10N3	ASCENSION HYDR	48.67	18	T	T	05 16 15.2	
	baz=190						
H10N2	ASCENSION HYDR	48.69	18	T	T	05 16 13.5	
	baz=190						
SMTB	Santa Maria do	48.92	334	eP	P	04 23 03.5	-0.7
VILB	Vilhena	49.15	317	eP	P	04 23 05.7	-0.2
LBTB	Lobatse	49.35	75	P	P	04 23 07.3	-0.2
	comp=Z,2.0nm,0.8s,baz=197,slow=10,SNR=2.2						
CLDB	Colider	49.45	323	eP	P	04 23 06.7	-1.5
LPAZ	La Paz	49.57	306

ILAR	**Eielson Array**	**79.59**	**24**	P	P	04 46 13.8	-1.1	
	comp=Z,1.4nm,0.7s,baz=246,slow=5.7,SNR=12							
BVAR	**Borovoye Array**	**80.94**	**324**	P	**P**	**04 46 22.1**	**-0.4**	
	comp=Z,0.7nm,0.6s,baz=111,slow=7.9,SNR=4.8							
NVAR	**Mina Array Bea**	**93.76**	**52**	P	**P**	**04 47 26.0**	**+0.3**	
	comp=Z,0.4nm,0.8s,baz=258,slow=3.6,SNR=2.9							

*NEIC **03** 04:41:15.8±1.5, 18°.1N±0°.3×68°.93W±0°.09, h116km±22km, Error ellipse: s-maj=46.3km s-min=8.5km az=191.0*
*RSPR **03** 04:41:16.0, 17°.96N×68°.98W, h106km±3km, MD3.4/6*
ISC 03 04:41:16.0±1.6, 18°.1N±0°.2×68°.96W±0°.06, h110km, n30, σ0°82/36, 7C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.69**	**52**	*eP*			**Pn**	**04 41 34.0**	**-0.3**
PCDR	**Punta Cana, DR**	**0.69**	**52**	*eS*			**Sn**	**04 41 48.8**	**+0.8**
PCDR	**Punta Cana, DR**	**0.69**	**52**				**Pn**	**04 41 34.0**	**-0.3**
PCDR							**Sn**	**04 41 48.8**	**+0.8**
DR12	**Loma Pena Alta**	**0.81**	**330**				**Pn**	**04 41 33.4**	**-2.0**
BANI	**BANI**	**1.37**	**283**	Pn			**Pn**	**04 41 41.5**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.76**	**92**	*eP*			**Pn**	**04 41 45.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.76**	**92**				**Pn**	**04 41 45.9**	**0.0**
LSP	**Las Mesas**	**1.78**	**87**	*eS*			**Sn**	**04 42 09.5**	**+0.2**
LSP	**Las Mesas**	**1.78**	**87**				**Sn**	**04 42 09.5**	**+0.2**
AGPR	**Aguadilla, PR**	**1.79**	**77**	*eP*			**Pn**	**04 41 46.6**	**+0.2**
AGPR	**Aguadilla, PR**	**1.79**	**77**	*eS*			**Sn**	**04 42 10.1**	**+0.5**
AGPR	**Aguadilla, PR**	**1.79**	**77**				**Pn**	**04 41 46.6**	**+0.2**
AGPR							**Sn**	**04 42 10.1**	**+0.5**
MLPR	**Magueyes Islan**	**1.82**	**93**	*eP*			**Pn**	**04 41 46.8**	**+0.1**
MLPR	**Magueyes Islan**	**1.82**	**93**	*eS*			**Sn**	**04 42 09.9**	**-0.3**
MLPR	**Magueyes Islan**	**1.82**	**93**				**Pn**	**04 41 46.8**	**+0.1**
MLPR							**Sn**	**04 42 09.9**	**-0.3**
AOPR	**Arecibo Observ**	**2.11**	**83**	*eP*			**Pn**	**04 41 50.3**	**-0.1**
AOPR	**Arecibo Observ**	**2.11**	**83**	*eS*			**Sn**	**04 42 17.4**	**+0.7**
AOPR	**Arecibo Observ**	**2.11**	**83**				**Pn**	**04 41 50.3**	**-0.1**
AOPR							**Sn**	**04 42 17.4**	**+0.7**
SC01	**Santiago de lo**	**2.15**	**309**	Pn			**Pn**	**04 41 50.2**	**-0.7**
CELP	**Cerrillos**	**2.26**	**90**	*eP*			**Pn**	**04 41 52.1**	**-0.2**
CELP	**Cerrillos**	**2.26**	**90**	*eS*			**Sn**	**04 42 20.7**	**+0.5**
CELP	**Cerrillos**	**2.26**	**90**				**Pn**	**04 41 52.1**	**-0.2**
CELP							**Sn**	**04 42 20.7**	**+0.5**
EMPR	**Esperanza - Ma**	**2.34**	**80**	*eP*			**Pn**	**04 41 53.8**	**+0.4**
EMPR	**Esperanza - Ma**	**2.34**	**80**	*eS*			**Sn**	**04 42 23.1**	**+1.2**
EMPR	**Esperanza - Ma**	**2.34**	**80**				**Pn**	**04 41 53.8**	**+0.4**
EMPR							**Sn**	**04 42 23.1**	**+1.2**
SDDR	**Presa de Saban**	**2.39**	**292**	Pn			**Pn**	**04 41 54.7**	**+0.7**
PDPR	**Patillas Dam,**	**2.79**	**91**	Pn			**Pn**	**04 41 57.2**	**-2.1**
CBYP	**Canovanas**	**2.95**	**86**	Pn			**Pn**	**04 42 00.2**	**-1.2**
HUMP	**Col San Antoni**	**2.95**	**88**	Pn			**Pn**	**04 41 59.4**	**-2.0**
MTP	**Monte Pirata**	**3.24**	**89**	Pn			**Pn**	**04 42 04.4**	**-0.7**

IDC 03 04:44:47.5±4.2, 16°.64S×176°.89W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/47, mbtmp4.2/3, Error ellipse: s-maj=184.5km s-min=46.8km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.51**	**240**	P			P	04 52 29.0	+0.5
	2.2nm,0.7s,baz=89,slow=8.9,SNR=4.5								
WRA	**Warramunga Arr**	**46.30**	**258**	P			P	04 53 15.3	-0.1
	0.8nm,0.3s,baz=95,slow=7.5,SNR=34								
ASAR	**Alice Springs**	**46.54**	**253**	P			P	04 53 16.6	-0.6
	3.8nm,0.5s,baz=89,slow=7.7,SNR=68								
GERES	**GERESS Array B**	**146.74**	**347**	PKPbc		PKPdf		05 04 30.7	+0.8
	0.4nm,0.4s,baz=25,slow=3.2,SNR=5.8								

WEL 03 04:47:23.7, 37°S±4°×177°E±°, h150km±6km, M3.5/22, MLv3.5/22, Error ellipse: s-maj=0.0km s-min=0.0km az=169.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.78**	**150**	P			Pn	04 47 46.5	-0.2
HAZ				S			Sn	04 48 03.8	-0.6
WHRZ	**Whale Island**	**0.82**	**198**	P			Pn	04 47 47.8	+0.8
RUGZ	**Raukumara Rang**	**0.94**	**161**	P			Pn	04 47 47.4	-0.7
MXZ	**Matakaoa Point**	**0.94**	**121**	P			Pn	04 47 48.0	0.0
MXZ				S			Sn	04 48 06.4	-0.1
OPRZ	**Ohinepanea**	**0.96**	**217**	P			Pn	04 47 48.1	0.0
PKGZ	**Pakihiroa**	**1.02**	**143**	P			Pn	04 47 49.0	+0.3
PKGZ				S			Sn	04 48 08.6	+0.7
MARZ	**Manawahe**	**1.03**	**208**	P			Pn	04 47 48.9	+0.2
TGRZ	**Tauranga**	**1.05**	**231**	P			Pn	04 47 49.2	+0.3
EDRZ	**Edgecumbe**	**1.12**	**203**	P			Pn	04 47 50.0	+0.4
WMGZ	**Waiomatatini S**	**1.16**	**130**	P			Pn	04 47 49.9	0.0
URZ	**Urewera**	**1.19**	**187**	P			Pn	04 47 50.2	+0.1
URZ				S			Sn	04 48 10.3	-0.4
TWGZ	**Tauwhareparae**	**1.23**	**154**	P			Pn	04 47 51.1	+0.6
TWGZ				S			Sn	04 48 11.9	+0.8
MKRZ	**Makatiti**	**1.25**	**211**	P			Pn	04 47 52.1	+1.3
PUZ	**Puketiti**	**1.25**	**143**	P			Pn	04 47 50.7	-0.1
KARZ	**Kaharoa**	**1.26**	**221**	P			Pn	04 47 51.3	+0.5
OMRZ	**Omania**	**1.26**	**215**	P			Pn	04 47 51.4	+0.5
MWZ	**Matawai**	**1.27**	**172**	P			Pn	04 47 51.0	+0.1
MWZ				S			Sn	04 48 11.9	0.0
KUZ	**Kuaotunu**	**1.30**	**284**	P			Pn	04 47 51.1	-0.2
TARZ	**Mount Tarawera**	**1.31**	**208**	P			Pn	04 47 52.5	+1.1
KMRZ	**Kaimai**	**1.32**	**234**	P			Pn	04 47 52.0	+0.5
HLRZ	**Highlands Stat**	**1.39**	**212**	P			Pn	04 47 53.0	+0.8
UTU	**Utuhina**	**1.40**	**218**	P			Pn	04 47 53.5	+1.3
RRRZ	**Republican Roa**	**1.40**	**206**	P			Pn	04 47 52.9	+0.6
RAGZ	**Rawiri**	**1.42**	**176**	P			Pn	04 47 52.6	+0.1
TKGZ	**Te Karaka**	**1.43**	**152**	P			Pn	04 47 52.8	+0.4
MUGZ	**Murupara**	**1.46**	**196**	P			Pn	04 47 53.0	+0.2
HSRZ	**Hossack Road**	**1.49**	**214**	P			Pn	04 47 54.2	+1.1
HRRZ	**Handcock Road**	**1.54**	**211**	P			Pn	04 47 54.5	+0.8
RTZ	**Ruatahuna**	**1.56**	**189**	P			Pn	04 47 53.6	-0.3
TOZ	**Tahuroa Road**	**1.57**	**245**	P			Pn	04 47 54.9	+0.9
GRRZ	**Galatos Road**	**1.58**	**216**	P			Pn	04 47 55.1	+1.0
CNGZ	**Carnagh Statio**	**1.58**	**153**	P			Pn	04 47 54.5	+0.4
PRRZ	**Plateau Road**	**1.59**	**206**	P			Pn	04 47 54.8	+0.6
ALRZ	**Allen Road**	**1.66**	**207**	P			Pn	04 47 55.7	+0.7
RIGZ	**Rimuhau**	**1.67**	**167**	P			Pn	04 47 54.8	-0.2
GRZ	**Great Barrier**	**1.69**	**299**	P			Pn	04 47 55.3	0.0
WPRZ	**Whakapapatarin**	**1.69**	**212**	P			Pn	04 47 56.4	+1.1
SNGZ	**Shannon Statio**	**1.70**	**179**	P			Pn	04 47 55.2	-0.2
MKAZ	**Moumakai**	**1.70**	**268**	P			Pn	04 47 56.3	+0.8
WIAZ	**Waiheke Island**	**1.75**	**279**	P			Pn	04 47 56.6	+0.6
MTHZ	**Maungataniwha**	**1.81**	**191**	P			Pn	04 47 56.4	-0.2
KUTZ	**Kaahu Road**	**1.83**	**219**	P			Pn	04 47 58.0	+1.1
RAHZ	**Arahi**	**1.84**	**185**	P			Pn	04 47 57.1	+0.1
TLZ	**Tolley Road**	**1.87**	**228**	P			Pn	04 47 58.4	+1.1
ETAZ	**East Tamaki Re**	**1.90**	**273**	P			Pn	04 47 58.6	+1.0
PRGZ	**Paritu Road**	**1.90**	**166**	P			Pn	04 47 57.5	-0.1
WHTZ	**Whakaora**	**1.91**	**213**	P			Pn	04 47 59.7	+1.9
KBAZ	**Karaka Road Bo**	**1.92**	**269**	P			Pn	04 47 59.4	+1.6
MBAZ	**Motutapu North**	**1.94**	**278**	P			Pn	04 47 59.0	+0.9
KNZ	**Kokohu**	**1.96**	**171**	P			Pn	04 47 57.8	-0.5
WHHZ	**Waihua**	**2.00**	**181**	P			Pn	04 47 59.0	+0.3
ABAZ	**Army Bay**	**2.03**	**283**	P			Pn	04 48 00.1	+0.9
WATZ	**Wairara**	**2.04**	**217**	P			Pn	04 48 00.8	+1.4
HATZ	**Hinemaiaia**	**2.04**	**207**	P			Pn	04 48 00.1	+0.8
EPAZ	**Eden Park BICE**	**2.05**	**275**	P			Pn	04 48 00.8	+1.4
NMHZ	**Naumai**	**2.05**	**191**	P			Pn	04 47 59.9	+0.4
HBAZ	**Herne Bay Bore**	**2.06**	**276**	P			Pn	04 48 00.8	+1.3
AWAZ	**Awhitu Peninsu**	**2.12**	**270**	P			Pn	04 48 01.2	+1.0
MHGZ	**Mahia Peninsul**	**2.13**	**167**	P			Pn	04 48 00.3	0.0
RATZ	**Rangitukua**	**2.15**	**212**	P			Pn	04 48 01.8	+1.1
BKZ	**Black Stump Fm**	**2.18**	**197**	P			Pn	04 48 00.5	-0.5
ARHZ	**Aropaoanui**	**2.19**	**186**	P			Pn	04 48 00.8	-0.3
RVAZ	**Riverhead Bore**	**2.19**	**277**	P			Pn	04 48 02.0	+0.9
RITZ	**Rihia Road**	**2.21**	**210**	P			Pn	04 48 02.4	+1.2
KRVZ	**Karewarewa**	**2.40**	**212**	P			Pn	04 48 04.8	+1.2
ETVZ	**East Tongariro**	**2.40**	**211**	P			Pn	04 48 04.5	+0.8
HIZ	**Hauiti**	**2.40**	**233**	P			Pn	04 48 05.1	+1.5
MCHZ	**McNeill Hill**	**2.41**	**191**	P			Pn	04 48 03.9	+0.3
WTVZ	**West Tongariro**	**2.44**	**213**	P			Pn	04 48 05.0	+0.9
KWHZ	**Kaweka Forest**	**2.44**	**196**	P			Pn	04 48 03.6	-0.5
OTVZ	**Oturere**	**2.45**	**211**	P			Pn	04 48 04.9	+0.6
TWVZ	**Taurewa**	**2.47**	**216**	P			Pn	04 48 05.5	+1.0
TUVZ	**Tukino**	**2.54**	**210**	P			Pn	04 48 05.8	+0.4
FWVZ	**Far West T-bar**	**2.57**	**212**	P			Pn	04 48 06.4	+0.6
WHVZ	**Whangaehu Hut**	**2.58**	**211**	P			Pn	04 48 06.4	+0.5
CKHZ	**Cape Kidnapper**	**2.58**	**184**	P			Pn	04 48 05.0	-0.8
DRZ	**Dome Shelter**	**2.58**	**211**	P			Pn	04 48 06.8	+0.7
BHHZ	**Black Hill Sta**	**2.59**	**201**	P			Pn	04 48 05.4	-0.6
TRVZ	**Turoa**	**2.61**	**211**	P			Pn	04 48 06.7	+0.4
MOVZ	**Moawhango**	**2.62**	**207**	P			Pn	04 48 05.8	-0.6
WCZ	**Waipu Caves**	**2.63**	**295**	P			Pn	04 48 06.6	+0.2
KRHZ	**Kereru**	**2.66**	**196**	P			Pn	04 48 05.7	-1.1
PKVZ	**Pokaka**	**2.69**	**214**	P			Pn	04 48 07.8	+0.6
MTVZ	**Mangateitei**	**2.71**	**211**	P			Pn	04 48 07.9	+0.4
KAHZ	**Kahuranaki**	**2.73**	**187**	P			Pn	04 48 06.8	-0.9
VRZ	**Vera Road**	**2.86**	**224**	P			Pn	04 48 10.8	+1.6
PNHZ	**Pukenui**	**2.96**	**196**	P			Pn	04 48 09.0	-1.5
PXZ	**Pawanui**	**2.97**	**186**	P			Pn	04 48 09.2	-1.4
WPHZ	**Waipukurau**	**3.06**	**192**	P			Pn	04 48 10.3	-1.4
TSZ	**Takapari Road**	**3.15**	**199**	P			Pn	04 48 11.6	-1.4
DREZ	**Durham Road**	**3.22**	**228**	P			Pn	04 48 16.2	+2.3
PRHZ	**Porangahau**	**3.23**	**189**	P			Pn	04 48 12.1	-1.8
WAZ	**Wanganui**	**3.23**	**213**	P			Pn	04 48 14.0	0.0
LREZ	**Lake Rotokare**	**3.29**	**223**	P			Pn	04 48 16.7	+2.0
DVHZ	**Dannevirke**	**3.33**	**195**	P			Pn	04 48 13.3	-2.1
PREZ	**Palmer Road**	**3.35**	**227**	P			Pn	04 48 18.2	+2.8
PKE	**Pukeiti**	**3.35**	**230**	P			Pn	04 48 17.8	+2.3
KHEZ	**Kahui Hut**	**3.40**	**228**	P			Pn	04 48 18.2	+2.0
ANWZ	**Angora Road**	**3.44**	**190**	P			Pn	04 48 15.1	-1.4
NBEZ	**Newall Road No**	**3.47**	**230**	P			Pn	04 48 19.5	+2.5
OHWZ	**Ohakea**	**3.49**	**206**	P			Pn	04 48 16.8	-0.4
POWZ	**Post Office Ro**	**3.52**	**199**	P			Pn	04 48 16.0	-1.6
POWZ	**Post Office Ro**	**3.52**	**199**	P			Sn	04 48 57.7	-1.8
OUZ	**Omahuta**	**3.52**	**301**	P			Pn	04 48 17.6	0.0
NMEZ	**Namu Road**	**3.56**	**228**	P			Pn	04 48 20.6	+2.5
PRWZ	**Pori Road**	**3.62**	**196**	P			Pn	04 48 17.5	-1.5
PRWZ	**Pori Road**	**3.62**	**196**	P			Sn	04 48 55.8	-6.1
BFZ	**Birch Farm**	**3.69**	**192**	P			Pn	04 48 17.6	-2.3
MRZ	**Mangatainoka R**	**3.82**	**200**	P			Pn	04 48 19.1	-2.5
TIWZ	**Tintock**	**3.85**	**196**	P			Pn	04 48 19.8	-2.2
CPWZ	**Castlepoint**	**3.92**	**192**	P			Pn	04 48 21.0	-1.8
CPWZ	**Castlepoint**	**3.92**	**192**	P			Sn	04 49 03.8	-5.1
HOWZ	**Holdsworth Sta**	**4.06**	**199**	P			Pn	04 48 21.7	-2.9
HOWZ	**Holdsworth Sta**	**4.06**	**199**	P			Sn	04 49 07.5	-4.6
OGWZ	**Otaki Gorge**	**4.08**	**203**	P			Pn	04 48 22.6	-2.4
TMWZ	**Te Maipa**	**4.17**	**195**	P			Pn	04 48 23.3	-2.8
TMWZ	**Te Maipa**	**4.17**	**195**	P			Sn	04 49 07.0	-7.7
KIW	**Kapiti Island**	**4.21**	**205**	P			Pn	04 48 24.0	-2.7
KIW	**Kapiti Island**	**4.21**	**205**	P			Sn	04 49 11.6	-4.1
CAW	**Cannon Point**	**4.38**	**203**	P			Pn	04 48 25.7	-3.2
TRWZ	**Traveller**	**4.49**	**196**	P			Pn	04 48 27.2	-3.1
TRWZ	**Traveller**	**4.49**	**196**	P			Sn	04 49 13.2	-9.1
PAWZ	**Paruwai Farm**	**4.54**	**198**	P			Pn	04 48 27.5	-3.4
PAWZ	**Paruwai Farm**	**4.54**	**198**	P			Sn	04 49 15.3	-8.1
DUWZ	**D'Urville Isla**	**4.55**	**214**	P			Pn	04 48 28.6	-2.6
MSWZ	**Moikau Station**	**4.61**	**199**	P			Pn	04 48 28.3	-3.6
MSWZ	**Moikau Station**	**4.61**	**199**	P			Sn	04 49 19.6	-5.6
WEL	**Wellington**	**4.64**	**204**	P			Pn	04 48 29.6	-2.6
BHW	**Baring Head**	**4.71**	**203**	P			Pn	04 48 29.6	-3.7
TCW	**Tory Channel**	**4.75**	**209**	P			Pn	04 48 30.5	-3.2
PLWZ	**Palliser**	**4.76**	**199**	P			Pn	04 48 30.1	-3.8
PLWZ	**Palliser**	**4.76**	**199**	P			Sn	04 49 18.8	-10
TUWZ	**Tuamarina**	**5.06**	**210**	P			Pn	04 48 34.4	-3.4
NNZ	**Nelson**	**5.13**	**215**	P			Pn	04 48 35.8	-2.9
QRZ	**Quartz Range**	**5.27**	**223**	P			Pn	04 48 37.6	-3.1
BSWZ	**Blackbirch Sta**	**5.33**	**209**	P			Pn	04 48 38.2	-3.3
THZ	**Tophouse**	**5.78**	**215**	P			Pn	04 48 43.7	-3.7
KHZ	**Kahutara**	**6.07**	**207**	P			Pn	04 48 47.2	-4.0
DSZ	**Denniston Nort**	**6.31**	**221**	P			Pn	04 48 50.9	-3.6
GVZ	**Greta Valley S**	**6.73**	**208**	P			Pn	04 48 55.7	-4.4
LTZ	**Lake Taylor**	**6.88**	**213**	P			Pn	04 48 57.1	-5.0
AMCZ	**Amberley**	**7.05**	**209**	P			Pn	04 49 00.4	-3.9
INZ	**Inchbonnie**	**7.21**	**217**	P			Pn	04 49 01.7	-4.7
OKCZ	**Okains Bay**	**7.38**	**205**	P			Pn	04 49 04.2	-4.6
OXZ	**Oxford**	**7.42**	**211**	P			Pn	04 49 04.2	-5.0
MQZ	**McQueen's Vall**	**7.51**	**207**	P			Pn	04 49 04.8	-5.6
AKCZ	**Akaroa Harbour**	**7.56**	**205**	P			Pn	04 49 06.7	-4.4
WACZ	**Wakanui South**	**8.02**	**209**	P			Pn	04 49 12.3	-4.9
RPZ	**Rata Peaks**	**8.16**	**214**	P			Pn	04 49 15.2	-3.9
FOZ	**Fox Glacier**	**8.61**	**219**	P			Pn	04 49 21.2	-3.9
ODZ	**Otahua Downs**	**9.41**	**210**	P			Pn	04 49 30.7	-4.9
JCZ	**Jackson Bay**	**9.52**	**220**	P			Pn	04 49 33.6	-3.7
WHZ	**Wether Hill Ro**	**11.25**	**216**	P			Pn	04 49 55.8	-4.2

*IDC **03** 04:48:43.1±0.5, 3°.25S×146°.66E, h0km, mb4.5/23, mb1 4.6/27, mb1mx4.5/47, mbtmp4.5/27, ML3.6/4, MS4.5/19, Ms1 4.5/19, ms1mx4.3/36, Error ellipse: s-maj=17.5km s-min=11.9km az=89.0*
*BJI **03** 04:48:46.1±0.0, 3°.69S×146°.76E, h44km, mB5.5/29, mb4.9/49, Ms5.2/15, Ms7 4.9/14*
*GCMT **03** 04:48:48.8±0.2, 3°.19S±0°.01×146°.75E±0°.02, h12km±1km, MW5.3/106, Moment Tensor Solution. s11,c11; s106,c145; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.05±.04; Mθθ=0.28±.04; Mϕϕ=0.32±.04; Mrθ=-0.62±.16; Mrϕ=0.80±.03; Mθϕ=-0.05±.08; Best double couple: Mo1.05500×10^17 NP1:φs171.00000°, δ54.00000°, λ-176.00000°. NP2:φs79.00000°, δ87.00000°, λ-36.00000°. Principal axes: T 1.0390, Plg22.0000°, Azm131.0000°; N 0.0340, Plg54.0000°, Azm254.0000°; P -1.0720, Plg27.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 04:48:49.8±1.8, 3°.37S±0°.07×146°.49E±0°.07, h39km±6km, mb5.0/76 Error ellipse: s-maj=10.6km s-min=9.3km az=112.0*
*DJA **03** 04:48:50.8±0.8, 3°.5S±3°×147°E±°, h32km±7km, M5.0/54, mb5.0/54, mB5.6/18, MLv5.0/5, Mw(mB)5.1/18*
ISC 03 04:48:47.3±0.4, 3°.31S±0°.05×146°.64E±0°.06, h20km, n173, σ1°38/157, mb4.9/73, MS4.6/24, 1C-1D, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**5.46**	**101**	Pn			**Pn**	**04 50 07.3**	**-0.4**
	10nm,0.3s,baz=306,slow=6.2,SNR=8.4								
RABL	**Rabaul**	**5.58**	**99**	Pn			**Pn**	**04 50 12.8**	**+3.5**
JAY	**Jayapura**	**5.98**	**277**	Pn			**Pn**	**04 50 14.2**	**-0.6**
	0.4nm,0.3s,baz=108,slow=20,SNR=2.2								
JAY					LR		LR	04 52 21.3	
	comp=Z,5μm,20.6s,baz=81,slow=36								
JAY	**Jayapura**	**5.98**	**277**	P			**Pn**	**04 50 17.1**	**+2.3**
	0.2nm45nm,0.9s								
JAY				S			**Sn**	**04 51 22.5**	**-0.3**
	0.2nm45nm,0.9s								
PMG	**Port Moresby**	**6.08**	**175**	Pn			**Pn**	**04 50 15.7**	**-0.5**
	16nm,0.3s,baz=358,slow=5.9,SNR=32								
PMG	**Port Moresby**	**6.08**	**175**	Pn			**Pn**	**04 50 15.5**	**-0.7**
GENI	**Genyem**	**6.50**	**276**	P			**Pn**	**04 50 24.6**	**+2.6**
	0.6nm2μm155nm,1.3s								
SMPI	**Sarmi**	**8.03**	**279**	P			**Pn**	**04 50 44.2**	**+1.3**
	0.4nm120nm,1.0s								
COEN	**Coen**	**11.12**	**198**	P			**Pn**	**04 51 26.1**	**+0.7**
	baz=11,SNR=20								
COEN	**Coen**	**11.12**	**198**	Pn			**Pn**	**04 51 25.2**	**-0.2**
HNR	**Honiara**	**14.55**	**115**	LR			LR	04 57 44.5	
	comp=Z,2μm,19.1s,baz=292,slow=37								
MTSU	**Mount Surprise**	**14.91**	**189**	P			**Pn**	**04 52 16.8**	**-0.4**
	baz=14,SNR=9.0								
PATS	**Pohnpei**	**15.40**	**49**				**P**	**04 52 27.1**	**-1.0**
PATS					IAmb		IAmb	04 52 36.0	
	comp=Z,134nm,1.1s								
SIJI	**Sorong**	**15.55**	**279**	LR			LR	04 57 53.4	
	comp=Z,1μm,18.1s,baz=88,slow=35								
CTA	**Charters Tower**	**16.69**	**181**	Pn			**Pn**	**04 52 40.8**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=0.6,slow=16,SNR=11								
CTAO	**Charters Tower**	**16.69**	**181**	Pn			**Pn**	**04 52 38.6**	**-1.5**
CTAO					IAmb		IAmb	04 52 51.0	
	comp=Z,156nm,1.5s								
KDU	**Kakadu**	**16.83**	**236**	P			**Pn**	**04 52 42.4**	**+0.4**
	baz=16,SNR=12								
MTN	**Manton Dam**	**18.03**	**237**	P			**Pn**	**04 52 56.9**	**+0.1**
	baz=18,SNR=6.3								
MTN	**Manton Dam**	**18.03**	**237**				**Pn**	**04 52 54.6**	**-2.2**
QIS	**Mount Isa**	**18.47**	**201**	P			**P**	**04 53 01.7**	**-0.4**
	baz=18,SNR=12								
ANA2	**Anatahan**	**19.54**	**357**	P			**Pn**	**04 53 16.9**	**+1.6**
ANA2					IAmb		IAmb	04 53 17.6	
	comp=Z,50nm,0.7s								
TNTI	**Ternate**	**19.69**	**282**	P			**Pn**	**04 53 17.0**	**0.0**
	comp=Z,1μmcomp=Z,70nm,1.4s								
WB0	**Warramunga Arr**	**20.27**	**215**	P			**P**	**04 53 20.9**	**-0.9**
WR0	**Warramunga Arr**	**20.33**	**215**	P			**P**	**04 53 21.8**	**-0.7**
WR0					IAmb		IAmb	04 53 29.3	
	comp=Z,61nm,0.8s								
WB2	**Warramunga Arr**	**20.43**	**215**	P			**P**	**04 53 22.7**	**-0.9**
	baz=20								
WB2	**Warramunga Arr**	**20.43**	**215**	P			**P**	**04 53 23.1**	**-0.5**
WB2					IAmb		IAmb	04 53 26.8	
	comp=Z,63nm,0.8s								
WRA	**Warramunga Arr**	**20.43**	**215**	P			**P**	**04 53 22.1**	**-1.5**
	comp=Z,40nm,0.7s,baz=42,slow=10,SNR=116								
WRA					LR		LR	05 02 56.4	
	comp=Z,2μm,18.1s,baz=45,slow=42								
SANI	**Sanana**	**20.67**	**273**	P			**P**	**04 53 27.0**	**+0.8**
	comp=Z,50nm,1.9s								
KNRA	**Kununurra**	**21.47**	**234**	P			**P**	**04 53 33.6**	**-1.1**
	baz=21,SNR=13								
KNRA	**Kununurra**	**21.47**	**234**	P			**P**	**04 53 33.7**	**-1.1**
EIDS	**Eidsvold**	**22.35**	**169**	P			**P**	**04 53 46.6**	**+2.5**
	baz=22,SNR=4.3								
EIDS	**Eidsvold**	**22.35**	**169**	P			**P**	**04 53 44.1**	**-0.1**
EIDS					IAmb		IAmb	04 53 56.2	
	comp=Z,73nm,1.4s								
SOEI	**Soe**	**23.12**	**253**	P			**P**	**04 53 53.1**	**+0.6**
	comp=Z,2μmcomp=Z,109nm,0.9s								
SOEI	**Soe**	**23.12**	**253**	P			**P**	**04 53 50.6**	**-2.0**
RMQ	**Roma**	**23.14**	**175**	P			**P**	**04 53 53.7**	**+1.3**
	baz=23,SNR=26								
QLP	**Quilpie**	**23.26**	**185**	P			**P**	**04 53 53.6**	**-0.1**
	baz=23,SNR=11								
DAV	**Davao City (W)**	**23.41**	**296**	LR			LR	05 02 56.9	
	comp=Z,1μm,18.0s,baz=106,slow=36								
AS31	**Alice Springs**	**23.69**	**210**	P			**P**	**04 53 57.6**	**-0.4**
ASAR	**Alice Springs**	**23.69**	**210**	P			**P**	**04 53 57.0**	**-1.0**
	comp=Z,14nm,0.7s,baz=44,slow=7.9,SNR=66								
ASAR					LR		LR	05 03 39.9	
	comp=Z,2μm,18.8s,baz=31,slow=38				

GSI	**Gunungsitoli**	**49.26**	**275**	P	**P**	**04 57 33.4**	**-1.7**
MDJ	**Mudanjiang**	**50.09**	**344**	P	**P**	**04 57 42.9**	**+2.0**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,350nm,5.9s						
KMI	**Kunming**	**51.10**	**306**	*eP*	**P**	**04 57 53.4**	**+4.2**
KMI				pmax	pmax		
	comp=Z,18nm,1.1s						
KMI				LR	LR		
	comp=Z,450nm,13.8s						
KMI				LR	LR		
	comp=Z,330nm,16.2s						
BJI	**Beijing**	**51.40**	**330**	P	**P**	**04 57 51.5**	**+0.7**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
XAN	**Xi'an**	**51.40**	**319**	P	**P**	**04 57 49.3**	**-1.8**
XAN				pP	pwP	04 58 00.9	+1.7
XAN				pmax	pmax		
	comp=Z,17nm,1.0s						
XAN	**Xi'an**	**51.40**	**319**	P	**P**	**04 57 49.4**	**-1.8**
CM31	**Chiang Mai Arr**	**51.70**	**297**	P	**P**	**04 57 52.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**51.70**	**297**	P	**P**	**04 57 53.5**	**-0.1**
	comp=Z,11nm,1.0s,baz=114,slow=5.9,SNR=31						
CHTO	**Chiang Mai**	**51.82**	**297**	P	**P**	**04 57 53.9**	**-0.6**
CD2	**Chengdu**	**53.17**	**313**	P	**P**	**04 58 04.0**	**-0.3**
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
HHC	**Hu-ho-hao-te**	**54.37**	**328**	*eP*	**P**	**04 58 15.3**	**+2.3**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,400nm,7.5s						
LZH	**Lanzhou**	**55.96**	**318**	*eP*	**P**	**04 58 24.8**	**+0.2**
LZH				pP	pwP	04 58 35.6	+2.2
LZH				sP	sP	04 58 39.4	+7.0
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,130nm,5.7s						
PETK	**Petropavlovsk-**	**56.97**	**8**	P	**P**	**04 58 29.4**	**-1.9**
	comp=Z,3.3nm,0.8s,baz=183,slow=7.4,SNR=6.1						
PETK				LR	LR	05 18 22.7	
	comp=Z,353nm,20.6s,baz=254,slow=31						
SHL	**Shillong**	**60.28**	**302**	P	**P**	**04 58 53.9**	**-1.2**
SHL				IAmb	IAmb	04 58 59.1	
	comp=Z,10nm,0.8s						
GTA	**Gaotai**	**60.46**	**320**	P	**P**	**04 58 55.9**	**-0.1**
GTA				pP	pwP	04 59 08.5	+3.6
GTA				sP	sP	04 59 13.9	+10
GTA				PcP	**PcP**	**04 59 43.6**	**+2.9**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GTA				LR	LR		
	comp=Z,480nm,17.8s						
GTA				LR	LR		
	comp=Z,590nm,20.3s						
AMKA	**Amchitka**	**61.17**	**23**	P	**P**	**04 59 02.1**	**+1.6**
ULN	**Ulaanbaatar**	**61.59**	**331**	P	**P**	**04 59 03.4**	**-0.2**
SONM	**Songino Array**	**61.90**	**330**	P	**P**	**04 59 04.2**	**-1.4**
	comp=Z,4.0nm,1.1s,baz=143,slow=5.3,SNR=9.1						
SONM				LR	LR	05 24 32.6	
	comp=Z,723nm,21.2s,baz=122,slow=35						
PPT2	**Papeete2**	**64.03**	**108**	*e*LR	LR	05 18 16.1	
	comp=Z,415nm,25.8s						
TBI	**Tubuai**	**64.77**	**114**	*e*LR	LR	05 18 58.2	
	comp=Z,996nm,34.8s						
WMQ	**Urumqi**	**70.53**	**319**	*eP*	**P**	**05 00 00.4**	**-0.6**
WMQ				pP	pwP	05 00 12.5	+2.6
WMQ				pmax	pmax		
	comp=Z,28nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,250nm,6.5s						
WMQ				LR	LR		
	comp=Z,520nm,18.3s						
WMQ				LR	LR		
	comp=Z,510nm,24.3s						
WMQ				LR	LR		
	comp=Z,550nm,19.3s						
TAOE	**Nuku Hiva Isla**	**72.92**	**98**	*e*LR	LR	05 22 40.5	
	comp=Z,378nm,24.3s						
VNDA	**Vanda**	**74.61**	**177**	P	**P**	**05 00 23.6**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=321,slow=6.4,SNR=7.8						
VNDA	**Vanda**	**74.61**	**177**	P	**P**	**05 00 26.5**	**+1.9**
MK31	**Makanchi Array**	**75.21**	**320**	P	**P**	**05 00 28.0**	**-0.7**
MK31				IAmb	IAmb	05 00 34.5	
	comp=Z,35nm,1.6s						
MKAR	**Makanchi Array**	**75.21**	**320**	P	**P**	**05 00 27.4**	**-1.3**
	comp=Z,7.4nm,1.0s,baz=105,slow=7.6,SNR=29						
MKAR				LR	LR	05 33 12.2	
	comp=Z,363nm,19.6s,baz=332,slow=36						
MAKZ	**Makanchi**	**75.41**	**320**	P	**P**	**05 00 29.2**	**-0.6**
ANM	**Nome**	**76.30**	**19**	P	**P**	**05 00 34.8**	**+0.3**
ANM				IAmb	IAmb	05 03 22.1	
	comp=Z,16nm,1.2s						
ZAA0	**Zalesovo Array**	**76.56**	**328**	P	**P**	**05 00 36.9**	**+0.8**
ZALV	**Zalesovo Beam**	**76.56**	**328**	P	**P**	**05 00 34.0**	**-2.1**
	comp=Z,2.3nm,0.7s,baz=76,slow=6.3,SNR=5.3						
ZALV				LR	LR	05 32 50.7	
	comp=Z,258nm,21.8s,baz=133,slow=35						
TARG	**Taragay, Kyrgy**	**76.60**	**314**	P	**P**	**05 00 37.1**	**-0.1**
TARG				IAmb	IAmb	05 00 52.3	
	comp=Z,21nm,1.4s						
KDJ	**Kajisay**	**77.16**	**314**	IAmb	IAmb	05 00 45.4	
	comp=Z,19nm,1.1s						
NIL	**Nilore**	**78.08**	**305**	P	**P**	**05 00 44.4**	**-0.8**
TKM2	**Tokmak 2**	**78.50**	**315**	P	**P**	**05 00 46.6**	**-0.9**
	SNR=6.4						
KZA	**Kyzart**	**78.53**	**314**	P	**P**	**05 00 48.0**	**0.0**
	SNR=12						
TTA	**Tatalina**	**78.72**	**23**	P	**P**	**05 00 47.7**	**-0.5**
KURK	**Kurchatov**	**78.85**	**323**	P	**P**	**05 00 47.2**	**-1.8**
KURBB	**Kurchatov Arra**	**78.88**	**323**	P	**P**	**05 00 46.8**	**-2.3**
	comp=Z,2.1nm,0.2s,baz=111,slow=4.7,SNR=10.0						
UCH	**Uchtor**	**79.09**	**314**	P	**P**	**05 00 50.9**	**-0.2**
	SNR=9.4						
AAK	**Ala-Archa**	**79.21**	**314**	P	**P**	**05 00 49.9**	**-1.5**
	comp=Z,3.6nm,0.5s,baz=137,slow=8.5,SNR=7.5						
AAK	**Ala-Archa**	**79.21**	**314**	P	**P**	**05 00 51.5**	**+0.1**
USP	**Ospenovka**	**79.37**	**315**	P	**P**	**05 00 51.5**	**-0.6**
	SNR=9.1						
AML	**Almayashu**	**79.66**	**314**	P	**P**	**05 00 53.8**	**-0.4**
	SNR=9.7						
PPLA	**Purkeypile**	**80.24**	**24**	P	**P**	**05 00 57.4**	**+0.9**
PPLA				IAmb	IAmb	05 01 08.9	
	comp=Z,23nm,1.5s						
BTK	**Batken**	**81.32**	**311**	P	**P**	**05 01 02.2**	**-0.5**
BTK				IAmb	IAmb	05 01 10.1	
	comp=Z,35nm,1.7s						
GAR	**Garm**	**81.49**	**310**	P	**P**	**05 01 01.8**	**-1.9**
GAR				IAmb	IAmb	05 01 17.8	
	comp=Z,13nm,1.0s						
KBL	**Kabul**	**81.68**	**305**	P	**P**	**05 01 05.1**	**+0.2**
MCK	**McKinley**	**81.92**	**24**	IAmb	IAmb	05 01 12.9	
	comp=Z,17nm,1.2s						
KK31	**Karatay Array**	**82.17**	**314**	IAmb	IAmb	05 01 14.5	
	comp=Z,20nm,1.3s						
KKAR	**Karatay Array**	**82.17**	**314**	P	**P**	**05 01 05.9**	**-1.2**
KKAR				IAmb	IAmb	05 01 14.5	
	comp=Z,20nm,1.3s						
DHY	**Denali Highway**	**82.30**	**25**	IAmb	IAmb	05 01 17.1	
	comp=Z,15nm,1.4s						
CHGR	**Chuyangaron**	**82.31**	**310**	P	**P**	**05 01 07.4**	**-0.6**
CHGR				IAmb	IAmb	05 01 27.9	
	comp=Z,15nm,1.0s						
WRH	**Wood River Hil**	**82.57**	**23**	IAmb	IAmb	05 01 16.7	
	comp=Z,12nm,1.1s						
NRIK	**Noril'sk**	**82.62**	**342**	P	**P**	**05 01 07.1**	**-1.7**
	comp=Z,1.5nm,0.3s,baz=90,slow=3.0,SNR=2.1						
ILAR	**Eielson Array**	**83.16**	**23**	P	**P**	**05 01 09.0**	**-2.7**
	comp=Z,2.8nm,0.8s,baz=254,slow=5.1,SNR=22						
ILAR				LR	LR	05 35 58.5	
	comp=Z,230nm,19.3s,baz=326,slow=34						
BRVK	**Borovoye**	**84.47**	**324**	P	**P**	**05 01 17.3**	**-1.4**
MAW	**Mawson**	**84.58**	**202**	LR	LR	05 37 53.3	
	comp=Z,206nm,18.5s,baz=32,slow=35						
EGAK	**Eagle**	**85.47**	**24**	IAmb	IAmb	05 01 32.8	
	comp=Z,11nm,1.2s						
QSPA	**South Pole Qui**	**86.64**	**180**	P	**P**	**05 01 29.3**	**-0.1**
QSPA				IAmb	IAmb	05 02 02.5	
	comp=Z,16nm,1.6s						
HRA	**Herat**	**87.22**	**305**	P	**P**	**05 01 31.4**	**-1.7**
HRA				IAmb	IAmb	05 01 36.6	
	comp=Z,9.6nm,0.9s						
INK	**Inuvik**	**89.29**	**21**	P	**P**	**05 01 41.8**	**0.0**
	comp=Z,4.1nm,0.9s,baz=335,slow=7.9,SNR=3.7						
INK	**Inuvik**	**89.29**	**21**	IAmb	IAmb	05 01 53.6	
	comp=Z,13nm,1.4s						
SYO	**Syowa Base**	**92.98**	**200**	*e*P	pP	05 02 11.0	+6.1
B06A	**Marblemount**	**93.70**	**42**	P	**P**	**05 02 05.0**	**+2.4**
NVAR	**Mina Array Bea**	**96.00**	**52**	P	**P**	**05 02 13.5**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=187,slow=0.7,SNR=2.4						
NVAR				LR	LR	05 37 32.4	
	comp=Z,416nm,21.6s,baz=16,slow=30						
F10A	**Beach Ranch, E**	**96.63**	**44**	P	**P**	**05 02 16.3**	**0.0**
F10A				IAmb	IAmb	05 02 24.4	
	comp=Z,4.1nm,0.8s						
YKA	**Yellowknife Ar**	**96.97**	**28**	P	**P**	**05 02 14.6**	**-2.7**
	comp=Z,0.3nm,0.6s,baz=288,slow=4.9,SNR=4.5						
GERES	**GERESS Array B**	**119.49**	**326**	PKP	**PKPdf**	**05 07 35.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=28,slow=2.3,SNR=4.3						
CPUP	**Villa Florida**	**142.51**	**143**	PKP	**PKPdf**	**05 08 18.8**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=232,slow=2.4,SNR=3.3						
DBIC	**Dimbokro**	**151.41**	**278**	PKPbc	**PKiKP**	**05 08 41.6**	**+0.2**
	comp=Z,6.8nm,0.9s,baz=330,slow=7.2,SNR=4.6						

*JMA **03** 04:49:22.4±0.2, 28.°08N×128.°14E, h8km±2km, M3.8*
*NIED **03** 04:49:22.4, 28.°08N×128.°14E, h8km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.35; $M_{\theta\theta}$=2.12; $M_{\phi\phi}$=-1.77; $M_{r\theta}$=1.69; $M_{\theta\phi}$=2.29; $M_{r\phi}$=-0.02; Fault plane solution: $M_0$3.40000×10^{15} NP1: ϕ_s=290.00000°, δ87.00000°, λ27.00000°. NP2: ϕ_s=198.00000°, δ63.00000°, λ177.00000°.*
*NEIC **03** 04:49:24.1±3.3, 28.°01N±0.°09×128.°3E±0.°1, h10km±1km, mb4.2/10 Error ellipse: s-maj=19.1km s-min=12.7km az=125.0*
*IDC **03** 04:49:32.6±3.1, 28.°14N×128.°29E, h86km±30km, mb3.7/7, mb1 3.8/11, mb1mx3.5/58, mbtmp3.9/11, Error ellipse: s-maj=29.1km s-min=18.4km az=67.0*

ISC 03 04:49:22.8±1.4, 28.°06N±0.°04×128.°18E±0.°05, h5km±10km, n37, σ0°96°/39, mb4.1/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.73**	**112**	P	**Pb**	**04 49 37.3**	**-0.8**
JTK				*e*S	**Sb**	**04 49 47.5**	**-0.9**
JOKE	**Okinoerabujima**	**0.78**	**153**	P	**Pg**	**04 49 37.9**	**+0.2**
JOKE				*e*S	**Sg**	**04 49 48.4**	**+0.7**
JAMN	**Amaminishikomi**	**0.90**	**78**	P	**Pg**	**04 49 39.8**	**-0.2**
JAMN				*e*S	**Sb**	**04 49 52.3**	**-0.8**
JIH	**Iheya**	**1.04**	**191**	P	**Pg**	**04 49 42.0**	**-0.7**
JIH				*e*S	**Sg**	**04 49 56.5**	**+0.4**
JYRO	**Yoronjima**	**1.06**	**167**	P	**Pg**	**04 49 42.8**	**-0.2**
JYRO				*e*S	**Sg**	**04 49 57.3**	**+0.6**
JOW	**Kunigami**	**1.22**	**176**	P	**Pg**	**04 49 45.8**	**-0.4**
JOW				*e*S	**Sg**	**04 50 02.5**	**+0.4**
JAM	**Amami Oshima**	**1.30**	**74**	P	**Pn**	**04 49 47.0**	**-0.7**
JAM				*e*S	**Sn**	**04 50 05.6**	**0.0**
JTAJ	**Takarajima**	**1.41**	**39**	P	**Pn**	**04 49 48.2**	**-1.0**
JTAJ				*e*S	**Sg**	**04 50 07.2**	**-1.1**
JNTH	**Nagotoyohara**	**1.54**	**185**	P	**Pn**	**04 49 50.3**	**-0.6**
JNTH				*e*S	**Sn**	**04 50 10.8**	**-0.5**
JZK	**Kikaishima**	**1.60**	**80**	P	**Pg**	**04 49 53.6**	**+0.1**
JAGN	**Aguni-jima**	**1.69**	**210**	P	**Pn**	**04 49 52.2**	**-0.7**
JNU	**Nakatsue**	**5.56**	**24**	P	Pn	04 50 52.0	+5.7
	3.6nm,0.3s,baz=186,slow=6.3,SNR=37						
JNU	**Nakatsue**	**5.56**	**24**		Pn	04 50 51.8	+5.5
YHNB	**Yeheng**	**6.97**	**243**		Pn	04 51 11.2	+5.4
SSLB	**Suanglung**	**7.77**	**238**		Pn	04 51 21.7	+5.0
TPUB	**Ta-pu**	**8.29**	**237**	Pn	Pn	04 51 28.4	+4.5
KSRS	**Korea Array**	**9.37**	**359**	P	Pn	04 51 43.5	+5.0
	0.1nm,0.3s,baz=168,slow=12,SNR=5.7						
MJAR	**Matsushiro Arr**	**11.97**	**43**	P	**Pn**	**04 52 17.6**	**+3.3**
	0.1nm,0.3s,baz=235,slow=15,SNR=5.9						
BJT	**Baijiatuau**	**15.52**	**323**	Pn	**P**	**04 53 05.4**	**-1.5**
BJT				IAmb	IAmb	04 53 12.5	
	comp=Z,9.6nm,1.0s						
USRK	**Ussuriysk Ar.**	**16.40**	**10**	P	**P**	**04 53 16.8**	**+0.2**
	baz=204,slow=14,SNR=4.3						
ENH	**Enshi**	**16.48**	**282**	Pn	**P**	**04 53 17.2**	**-0.4**
MDJ	**Mudanjiang**	**16.56**	**4**		**P**	**04 53 20.2**	**+1.8**
XAN	**Xi'an**	**17.54**	**295**	Pn	**P**	**04 53 28.8**	**-0.6**
ULN	**Ulaanbaatar**	**25.71**	**326**	P	**P**	**04 54 53.9**	**-0.2**
ULN				IAmb	IAmb	04 55 00.2	
	comp=Z,3.0nm,0.7s						
SONM	**Songino Array**	**26.02**	**325**	P	**P**	**04 54 56.8**	**0.0**
	comp=Z,2.8nm,0.9s,baz=141,slow=7.3,SNR=15						
PBKT	**Sadao Pong**	**27.58**	**251**	P	**P**	**04 55 11.7**	**+0.6**
MKAR	**Makanchi Array**	**40.30**	**310**	P	**P**	**04 57 01.6**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=98,slow=9.9,SNR=12						
KURK	**Kurchatov**	**43.48**	**315**	P	**P**	**04 57 28.0**	**+1.1**
KURK	**Kurchatov**	**43.48**	**315**	IAmb	IAmb	04 57 30.4	
	comp=Z,1.1nm,1.9s						
KURBB	**Kurchatov Arra**	**43.52**	**315**	P	**P**	**04 57 28.0**	**+0.8**
	comp=Z,2.0nm,0.2s,baz=106,slow=8.2,SNR=6.6						
WRA	**Warramunga Ar**	**48.09**	**172**	P	**P**	**04 58 03.2**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=352,slow=8.3,SNR=5.1						
AS31	**Alice Springs**	**51.72**	**173**	P	**P**	**04 58 31.2**	**0.0**
AS31				IAmb	IAmb	04 58 37.6	
	comp=Z,5.8nm,1.7s						
ASAR	**Alice Springs**	**51.72**	**173**	P	**P**	**04 58 32.5**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=357,slow=8.3,SNR=5.8						
RND	**Reindeer**	**62.19**	**30**	P	**P**	**04 59 44.9**	**-0.2**
MDM	**Murphy Dome**	**62.26**	**29**	P	**P**	**04 59 45.9**	**+0.4**
ILAR	**Eielson Array**	**62.86**	**29**	P	**P**	**04 59 48.8**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=294,slow=8.8,SNR=2.9						
YKA	**Yellowknife Ar**	**76.89**	**25**	P	**P**	**05 01 14.2**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=300,slow=6.0,SNR=6.0						

*IDC **03** 04:55:39.1±1.7, 5.°08S×145.°66E, h0km, mb3.4/3, mb1 3.9/6, mb1mx3.6/45, mbtmp3.8/6, ML3.2/3, Error ellipse: s-maj=48.2km s-min=28.2km az=113.0*

ISC 03 04:55:47.8±1.5, 5.°6S±0.°1×146.°0E±0.°2, h69km, n6, σ2°24/7, mb3.6/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.99**	**163**	Pn	**Pn**	**04 56 48.4**	**+1.9**
	15nm,0.3s,baz=358,slow=6.1,SNR=20						
PMG				Sn	**Sn**	**04 57 29.7**	**-2.3**
	12nm,0.3s,baz=150,slow=23,SNR=9.9						
CTA	**Charters Tower**	**14.43**	**179**	Pn	**P**	**04 59 13.1**	**-0.5**
	0.4nm,0.3s,baz=7.9,slow=14,SNR=5.4						
WRA	**Warramunga Arr**	**18.22**	**217**	P	**P**	**04 59 55.5**	**0.0**
	0.1nm,0.3s,baz=41,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**21.41**	**212**	P	**P**	**05 00 32.7**	**+2.5**
	0.5nm,0.8s,baz=49,slow=8.0,SNR=2.0						
FITZ	**Fitzroy Crossi**	**23.43**	**236**	P	**P**	**05 00 49.1**	**-2.1**
	2.1nm,0.9s,baz=58,slow=13,SNR=1.4						
ILAR	**Eielson Array**	**85.50**	**23**	P	**P**	**05 08 17.4**	**-0.5**
	0.5nm,0.8s,baz=232,slow=5.6,SNR=4.4						

JMA 03 05:00:26.2±0.5, 31.°26N×141.°09E, h0km, M4.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.65**	**317**	P	Pn	05 00 56.5	+0.1
JHJ2	**Mitsune**	**2.14**	**330**	P	Pn	05 01 03.9	+0.7
JHJ2				S	Sn	05 01 31.5	+1.1
BSO3	**Boso 3**	**3.56**	**352**	P	Pn	05 01 23.9	+1.4
BSO4	**Boso 4**	**3.77**	**351**	P	Pn	05 01 27.2	+1.7
JOD2	**Odawara 2**	**4.33**	**338**	P	Pn	05 01 35.7	+2.4
JHU	**Hanno**	**4.82**	**342**	P	Pn	05 01 42.4	+2.3
JHU				*e*S	Sn	05 02 38.9	+2.3
JHO	**Hitachi**	**5.36**	**356**	P	Pn	05 01 48.7	+1.3
JHO				*e*S	Sn	05 02 49.4	-0.4

*DMN **03** 05:02:10.3±0.5, 29.°37N×85.°57E, h2km, Ml4.5/5, Error ellipse: s-maj=8.6km s-min=3.0km az=10.0*
*IDC **03** 05:02:13.4±1.0, 29.°05N×85.°32E, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.8/50, mbtmp3.8/14, ML3.6/2, MS4.1/1, Ms1 4.1/1, ms1mx3.3/53, Error ellipse: s-maj=39.4km s-min=16.5km az=55.0*
*BJI **03** 05:02:14.6±0.0, 29.°04N×85.°49E, h4km, mb4.3/1*

ISC 03 05:02:15.4±1.6, 29.°08N±0.°06×85.°50E±0.°03, h10km±11km, n33, σ1°67°/39, mb4.0/12, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUN	**Gumba**	**1.21**	**164**	*e*Pg	**Pn**	**05 02 37.5**	**-1.3**
KKN	**Kakani**	**1.30**	**189**	*e*Pg	**Pg**	**05 02 39.7**	**-0.7**
GKN	**Gorkha**	**1.32**	**216**	*e*Pg	**Pg**	**05 02 39.7**	**-1.0**
PKI	**Pulchoki**	**1.51**	**183**	*e*Pg	**Pg**	**05 02 44.3**	**0.0**
DMN	**Daman**	**1.51**	**194**	*e*Pg	**Pg**	**05 02 44.0**	**-0.3**
DMN				*e*Sg	**Sg**	**05 03 08.0**	**+4.1**
JIRN	**Jiri**	**1.54**	**157**	*e*Pg	**Pg**	**05 02 44.8**	**-0.2**
DANN	**Dangsing**	**1.70**	**245**	*e*Pg	**Pb**	**05 02 45.7**	**-1.2**
KOLN	**Koldanda**	**2.13**	**233**	*e*Pg	**Pg**	**05 02 54.8**	**-1.4**
KOLN				*e*Sg	**Sg**	**05 03 25.7**	**+2.0**
	586nm,0.4s						
RAMN	**Ramite**	**2.33**	**155**	*e*Pg	**Pg**	**05 02 57.9**	**-2.2**
RAMN				*e*Sg	**Sg**	**05 03 30.5**	**+0.1**
	1µm,0.7s						
PYUN	**Piuthan**	**2.42**	**247**	*e*Pg	**Pb**	**05 02 58.6**	**-0.5**
TAPN	**Taplejung**	**2.60**	**131**	*e*Pg	**Pb**	**05 03 01.9**	**-0.4**
TAPN	**Taplejung**	**2.60**	**131**	*e*Pg	**Pb**	**05 03 02.0**	**-0.4**
TAPN				*e*Sg	**Sg**	**05 03 38.2**	**-0.8**
	1µm,0.9s						
TAPN				*e*Sg	**Sg**	**05 03 38.2**	**-0.8**
	1µm,0.9s						
ODAN	**Odare**	**2.77**	**143**	*e*Pg	**Pb**	**05 03 05.6**	**+0.4**
ODAN				*e*Sg	**Sg**	**05 03 43.7**	**-0.8**
	654nm,0.4s						
NGP	**Nagpur**	**9.82**	**218**	*e*P	**Pn**	**05 04 37.6**	**+0.8**
NGP				*ex*	x	05 04 44.3	
	comp=Z,26nm,1.4s						
NGP				*e*S	**Sn**	**05 06 26.9**	**-0.4**
WMQ	**Urumqi**	**14.81**	**6**	*e*P	**Pn**	**05 05 46.8**	**+1.8**
GTA	**Gaotai**	**15.67**	**45**	*e*P	**P**	**05 06 03.0**	**+2.4**
GTA				pP	sP	05 06 06.7	+0.1
GTA				sP	pP	05 06 09.0	+4.3
AAK	**Ala-Archa**	**16.18**	**330**	LR	LR	05 12 45.8	
	comp=Z,644nm,18.3s,baz=300,slow=39						
CMAR	**Chiang Mai Arr**	**16.21**	**128**	P	**P**	**05 06 05.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=306,slow=12,SNR=9.0						
MKAR	**Makanchi Array**	**17.86**	**353**	P	**Pn**	**05 06 22.6**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=177,slow=9.5,SNR=2.0						
KURBB	**Kurchatov Arra**	**22.15**	**348**	P	**P**	**05 07 10.8**	**-0.5**
	comp=Z,1.2nm,0.2s,baz=169,slow=10,SNR=3.2						
SONM	**Songino Array**	**24.73**	**35**	P	**P**	**05 07 38.4**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=224,slow=10,SNR=7.7						
ZALV	**Zalesovo Beam**	**24.85**	**359**	P	**P**	**05 07 39.4**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=160,slow=9.2,SNR=2.2						
WHN	**Wuhan**	**25.05**	**79**	P	**P**	**05 07 45.8**	**+5.9**
BVAR	**Borovoye Array**	**26.39**	**339**	P	**P**	**05 07 51.8**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=218,slow=41,SNR=3.4						
AKASG	**Malin Array Be**	**46.98**	**314**	P	**P**	**05 10 45.3**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=82,slow=6.7,SNR=4.3						
FINES	**FINESS Array B**	**50.36**	**328**	P	**P**	**05 11 11.8**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=103,slow=8.0,SNR=16						
ARCES	**ARCESS Array B**	**52.66**	**337**	P	**P**	**05 11 29.4**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=79,slow=6.3,SNR=11						
NB2	**NORSAR Subarra**	**57.47**	**326**	P	**P**	**05 12 03.6**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=85,slow=7.4						
NOA	**NORSAR Array B**	**57.47**	**326**	P	**P**	**05 12 02.9**	**-1.5**
	comp=Z,1.5nm,0.9s,baz=87,slow=7.0,SNR=5.1						
WRA	**Warramunga Arr**	**67.79**	**130**	P	**P**	**05 13 14.4**	**+0.7**
	comp=Z,2.3nm,1.0s,baz=326,slow=6.6,SNR=9.8						
ASAR	**Alice Springs**	**70.13**	**133**	P	**P**	**05 13 28.5**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=312,slow=5.6,SNR=7.8						
ILAR	**Eielson Array**	**78.00**	**20**	P	**P**	**05 14 12.5**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=309,slow=5.0,SNR=6.4						
YKA	**Yellowknife Ar**	**87.33**	**9**	P	**P**	**05 15 00.2**	**-2.0**
	comp=Z,1.0nm,0.9s,baz=339,slow=5.1,SNR=6.5						

*IDC **03** 05:12:43.5±1.2, 0.°85N×146.°50E, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.9/46, mbtmp4.0/10, ML3.4/1, Error ellipse: s-maj=39.9km s-min=18.7km az=112.0*
*NEIC **03** 05:12:45.7±0.7, 1.°0N±0.°2×146.°1E±0.°1, h10km±2km, mb4.5/9, Error ellipse: s-maj=39.0km s-min=4.4km az=152.0*

ISC 03 05:12:45.5±0.8, 0.°8N±0.°2×146.°3E±0.°1, h10km, n20, σ2°01/20, mb4.1/13, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**6.48**	**240**	Pn	**Pn**	**05 14 21.3**	**+0.3**
	0.7nm,0.3s,baz=114,slow=20,SNR=1.0						
JAY				Sn	**Sn**	**05 15 29.6**	**-5.5**
	2.0nm,0.3s,baz=254,slow=22,SNR=5.2						
PATS	**Pohnpei**	**13.41**	**63**	Pn	**Pn**	**05 15 56.8**	**+0.8**
PATS				Sn	**Sn**	**05 18 21.5**	**-3.7**
WB0	**Warramunga Arr**	**23.51**	**209**	P	**P**	**05 17 57.3**	**+1.5**
WB0				IAmb	IAmb	05 18 00.1	
	comp=Z,8.2nm,0.8s						

KK31	Karatay Array	6.77	356	Pn		Pn		05 17 31.5	+0.9
KKAR	Karatay Array	6.77	356	Pn		Pn		05 17 31.5	+1.0
AAK	Ala-Archa	6.79	21	P		Pn		05 17 33.3	+2.4
	16nm,0.3s,baz=163,slow=6.3,SNR=45								
AAK				S		Sn		05 18 47.1	+0.4
	7.6nm,0.3s,baz=285,slow=22,SNR=13								
AAK	Ala-Archa	6.79	21	P		Pn		05 17 33.4	+2.4
	SNR=32								
AAK	Ala-Archa	6.79	21	⇓P		Pn		05 17 33.0	+2.1
	22nm,0.4s								
AAK				⇑S		Sn		05 18 46.7	0.0
	51nm,0.6s								
AAK	Ala-Archa	6.79	21	Pn		Pn		05 17 33.0	+2.1
AAK				Sn		Sn		05 18 47.0	+0.3
FRU1	Bishkek	6.98	21	Pn		Pn		05 17 36.1	+2.6
FRU1						Sn		05 18 54.2	+2.8
CHMS	Chumysh	7.19	21	P		Pn		05 17 38.5	+2.1
	SNR=16								
USP	Ospenovka	7.37	19	P		Pn		05 17 40.5	+1.8
	SNR=31								
TKM2	Tokmak 2	7.40	26	P		Pn		05 17 41.4	+2.1
	SNR=14								
TKM2	Tokmak 2	7.40	26	⇓P		Pn		05 17 41.2	+1.9
	9.3nm,0.5s								
TKM2				⇑S		Sn		05 19 03.2	+1.5
	42nm,0.9s								
TARG	Taragay, Kyrgy	7.45	42	Pn		Pn		05 17 42.1	+1.9
HRA	Herat	7.55	258	Pn		Pn		05 17 42.8	+1.4
MDOK	Medeo	8.17	32	⇑P		Pn		05 17 52.4	+2.7
	4.3nm,0.6s								
MDOK				⇑S		Sn		05 19 23.5	+3.1
	24nm,1.1s								
PRZ	Przheval'sk	8.29	40	Pn		Pn		05 17 53.7	+2.2
GEYT	Alibeck	10.54	283	P		Pn		05 18 18.5	-3.4
	1.6nm,0.3s,baz=107,slow=10,SNR=12								
GEYT				S		Sn		05 20 11.4	-6.6
	11nm,0.3s,baz=134,slow=29,SNR=25								
GYA0B	ALIBECK ARRAY	10.54	283	⇑P		Pn		05 18 18.7	-3.3
GYA0B				⇓S		Sn		05 20 10.1	-7.9
GYA0B	ALIBECK ARRAY	10.54	283	Pn		Pn		05 18 21.5	-0.5
OTUK	Ortayu	11.92	4	⇑P		Pn		05 18 39.3	-1.1
	11nm,1.4s								
PYUN	Piuthan	12.94	126	eP		Pn		05 18 50.8	-3.4
	27nm,0.3s								
DANN	Dangsing	13.29	123	eP		Pn		05 18 54.3	-4.5
MK31	Makanchi Array	13.33	35	⇑P		Pn		05 19 02.3	+3.3
	4.8nm,0.8s,baz=217,slow=11,SNR=12								
MK31	Makanchi Array	13.33	35	Pn		Pn		05 19 01.0	+2.0
MKAR	Makanchi Array	13.33	35	P		Pn		05 18 58.0	-1.1
	0.1nm,0.3s,baz=220,slow=13,SNR=3.1								
KOLN	Koldanda	13.56	126	eP		Pn		05 18 59.0	-3.3
	28nm,0.7s								
GKN	Gorkha	14.10	122	eP		Pn		05 19 05.8	-3.5
WMQ	Urumqi	14.67	54	eP		Pn		05 19 17.4	+1.0
DMN	Daman	14.68	122	eP		Pn		05 19 13.3	-3.4
	52nm,0.8s								
KKN	Kakani	14.68	122	eP		Pn		05 19 12.6	-4.1
PKI	Pulchoki	14.91	122	eP		Pn		05 19 16.5	-3.2
	49nm,0.8s								
GUN	Gumba	15.02	120	eP		Pn		05 19 17.7	-3.5
KURBB	Kurchatov Arra	15.22	18	P		Pn		05 19 22.2	-1.0
	0.0nm,0.3s,baz=210,slow=11,SNR=2.3								
AB31	Akbulak array	15.29	331	⇓P		Pn		05 19 19.7	-4.2
	3.1nm,0.4s,baz=150,slow=12,SNR=60								
AB31				⇑S		Sn		05 22 03.7	-9.0
	8.1nm,0.4s,baz=154,slow=24,SNR=12								
KURK	Kurchatov	15.33	18	P		P		05 19 27.9	+0.9
JIRN	Jiri	15.39	120	eP		Pn		05 19 22.4	-3.5
	79nm,0.6s								
RAMN	Ramite	16.12	121	eP		Pn		05 19 32.7	-2.1
BVA0	Borovoye Array	16.68	358	⇑P		Pn		05 19 40.6	-0.8
	3.4nm,0.7s,baz=164,slow=11,SNR=25								
BVAR	Borovoye Array	16.68	358	P		Pn		05 19 41.8	+0.5
	0.6nm,0.3s,baz=156,slow=11,SNR=16								
BVAR				S		Sn		05 22 39.1	-7.3
	0.4nm,0.3s,baz=164,slow=22,SNR=6.3								
BRVK	Borovoye	16.72	358			Pn		05 19 41.5	-0.3
ODAN	Odare	16.72	120	eP		Pn		05 19 40.7	-1.6
AKTO	Aktyubinsk	16.98	330	P		Pn		05 19 46.3	+1.3
	1.5nm,0.3s,baz=144,slow=9.4,SNR=61								
AKTO				S		Sn		05 22 43.4	-10
	0.7nm,0.3s,baz=36,slow=22,SNR=13								
AKTO	Aktyubinsk	16.98	330	⇓P		Pn		05 19 42.3	-2.7
	22nm,0.7s								
AKTO				⇑S		Sn		05 22 46.1	-7.4
	28nm,0.8s								
ZAA0	Zalesovo Array	20.00	24	P		P		05 20 19.5	+1.2
ZALV	Zalesovo Beam	20.00	24	P		P		05 20 17.2	-1.0
	0.9nm,0.3s,baz=220,slow=10,SNR=15								
SHL	Shillong	20.72	115	P		P		05 20 26.6	+0.1
TBLG	Delisi	21.18	293	P		P		05 20 33.5	+2.3
TBLG				IAmb		IAmb		05 20 38.7	
	comp=Z,24nm,0.8s								
ARU	Arti	21.82	341	P		P		05 20 40.0	+2.3
AKH	Akhalkalaki	22.09	292	P		P		05 20 42.4	+1.4
AKH				IAmb		IAmb		05 20 50.0	
	comp=Z,18nm,0.9s								
GTA	Gaotai	22.77	74	eP		P		05 20 50.7	+2.7
GTA				pP		pP		05 21 06.4	-2.4
GTA				pmax		pmax			
	comp=Z,3.0nm,1.0s								
KBZ	Khabaz	22.79	298	P		P		05 20 48.9	+0.9
	comp=Z,3.2nm,0.8s,baz=139,slow=9.1,SNR=6.9								
BRTR	Keskin Array B	29.61	288	P		P		05 21 52.0	+2.3
	comp=Z,1.1nm,0.5s,baz=107,slow=9.4,SNR=4.0								
CMAR	Chiang Mai Arr	30.26	119	P		P		05 21 54.5	-1.0
	comp=Z,0.4nm,0.3s,baz=297,slow=6.9,SNR=1.9								
HHC	Hu-ho-hao-te	31.69	69	eP		P		05 22 11.6	+3.7
HHC				pmax		pmax			
	comp=Z,17nm,1.0s								
HHC				pmax		pmax			
	comp=Z,110nm,7.6s								
ELL	Elmali	32.97	283	P		P		05 22 19.2	0.0
AKASG	Malin Array Be	33.15	309	P		P		05 22 21.1	+0.6
	comp=Z,2.8nm,0.6s,baz=81,slow=6.9,SNR=10								
AKBB	Malin Array Si	33.15	309	P		P		05 22 22.2	+1.8
AKBB				IAmb		IAmb		05 22 23.0	
	comp=Z,2.9nm,0.6s								
MLR	Muntele Rosu	34.98	299	P		P		05 22 38.1	+1.7
	comp=Z,4.8nm,0.8s,baz=84,slow=1.8,SNR=7.5								
MLR	Muntele Rosu	34.98	299	P		P		05 22 38.0	+1.5
MLR				IAmb		IAmb		05 22 41.8	
	comp=Z,6.5nm,0.9s								
WHN	Wuhan	36.26	86	P		P		05 22 47.0	-0.5
KOLS	Kolonicke sedl	37.48	305	eP		P		05 23 00.7	+3.1
FINES	FINESS Array B	37.69	326	P		P		05 22 59.9	+0.8
	comp=Z,5.3nm,0.8s,baz=111,slow=11,SNR=19								
SRIT	Nakonsritamara	37.84	130	P		P		05 23 01.2	+0.3
LIT	Litokhoron	38.05	291	P		P		05 23 04.3	+1.8
DIVS	Divibare	39.30	298	P		P		05 23 14.7	+1.7
VYHS	Vyhne	39.76	305	eP		P		05 23 18.6	+1.9
MORC	Moravsky Berou	40.57	307	P		P		05 23 26.1	+2.7
MORC				IAmb		IAmb		05 23 26.9	
	comp=Z,4.3nm,1.1s								
ARCES	ARCESS Array B	41.34	338	P		P		05 23 29.8	+0.4
	comp=Z,1.8nm,0.5s,baz=107,slow=8.1,SNR=21								
CONA	Conrad Observa	41.78	304	eP		P		05 23 36.9	+3.5
	comp=Z,2.6nm,0.8s								
SOKA	Soboth	42.47	302	eP		P		05 23 42.4	+3.4
	comp=Z,3.3nm,0.8s								
MOA	Molln	42.86	304	eP		P		05 23 44.5	+2.5
	comp=Z,1.9nm,0.9s								
GERES	GERESS Array B	43.13	305	P		P		05 23 46.2	+1.9
	comp=Z,0.2nm,0.5s,baz=71,slow=7.4,SNR=5.3								
CIMO	Cimolais	44.29	302	P		P		05 23 56.6	+3.0
CIMO				IAmb		IAmb		05 23 58.3	
	comp=Z,2.5nm,0.9s								
NC405	NORSAR Array S	44.35	323	P		P		05 23 54.7	+0.9
NC303	NORSAR Array S	44.53	323	P		P		05 23 56.6	+1.4
NB2	NORSAR Subarra	44.59	323	P		P		05 23 55.9	+0.2
	comp=Z,1.8nm,0.6s,baz=96,slow=7.9								
NOA	NORSAR Array B	44.59	323	P		P		05 23 55.9	+0.2
	comp=Z,2.2nm,0.6s,baz=96,slow=7.8,SNR=20								
WTTA	Wattenberg	44.70	303	eP		P		05 23 59.2	+2.2
	comp=Z,4.8nm,1.0s								
MOTA	Moosalm	45.04	304	eP		P		05 24 01.5	+1.9
	comp=Z,2.9nm,0.8s								
DAVA	Damuels	45.87	304	eP		P		05 24 08.7	+2.4
	comp=Z,4.6nm,0.8s								
MJAR	Matsushiro Arr	52.88	68	P		P		05 24 58.2	-1.2
	comp=Z,0.3nm,0.4s,baz=298,slow=9.9,SNR=5.0								
ESDC	Sonseca Array	57.65	298	P		P		05 25 35.4	+1.6
	comp=Z,0.3nm,0.6s,baz=54,slow=8.1,SNR=4.6								
TOLK	Toolik Lake Re	71.03	15	P		P		05 27 01.9	+1.4
TOLK				IAmb		IAmb		05 27 03.1	
	comp=Z,2.7nm,0.9s								

FID	Port Fidalgo	78.46	18	P		P		05 27 46.0	+2.6
FID				IAmb		IAmb		05 28 01.3	
	comp=Z,3.8nm,0.8s								
YKA	Yellowknife Ar	81.39	3	P		P		05 27 59.2	0.0
	comp=Z,0.6nm,0.6s,baz=352,slow=5.5,SNR=13								
WRA	Warramunga Arr	81.79	122	P		P		05 28 00.4	-1.5
	comp=Z,0.3nm,0.4s,baz=325,slow=4.9,SNR=6.5								
ASAR	Alice Springs	84.05	125	P		P		05 28 12.0	-1.5
	comp=Z,0.8nm,0.9s,baz=305,slow=4.6,SNR=5.9								
STKA	Stephens Creek	94.59	126	P		P		05 29 01.9	-1.4
	comp=Z,13nm,0.5s,baz=91,slow=10,SNR=40								
STKA	Stephens Creek	94.59	126	P		P		05 29 02.1	-1.2

*NEIC **03** 05:22:24.4±1.4, 19°.2S×0°.1×177°.37W±0°.09, h579km±6km, mb4.5/28, Error ellipse: s-maj=21.1km s-min=10.3km az=162.0*

*IDC **03** 05:22:24.8±1.5, 19°.26S×177°.50W, h578km±20km, mb3.3/9, mb1 3.7/12, mb1mx3.4/29, mbtmp4.4/12, Error ellipse: s-maj=26.1km s-min=12.2km az=153.0*

ISC 03 05:22:23.9±0.5, 19°.31S±0°.09×177°.34W±0°.08, h570km, n61, σ2=08/64, mb4.4/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MSVF	Nonsavu	4.65	289	P	P	05	23 54.4	+2.2
AFI	Afiamalu	7.57	46	P	P	05	24 18.3	+0.1
	16nm,0.3s,baz=215,slow=2.5,SNR=12							
AFI				S	S	05	25 47.4	-4.4
	3.4nm,0.3s,baz=255,slow=20,SNR=1.9							
AFI	Afiamalu	7.57	46	P	P	05	24 18.3	+0.1
AFI					S	05	25 51.4	-0.4
DZM	Mont Dzumac	15.42	257	P	P	05	25 36.7	-0.5
	1.2nm,0.3s,baz=98,slow=22,SNR=18							
DZM	Mont Dzumac	15.42	257	P	P	05	25 37.0	-0.2
DZM				IAmb	IAmb	05	25 52.0	
	comp=Z,19nm,1.3s							
URZ	Urewera	19.49	193	P	P	05	26 14.3	+0.2
	comp=Z,3.1nm,0.3s,baz=263,slow=3.1,SNR=12							
URZ				S	S	05	29 16.4	-4.4
	comp=Z,0.5nm,0.3s,baz=164,slow=23,SNR=1.4							
WAZ	Wanganui	21.42	196	P	P	05	26 57.5	+26
POWZ	Post Office Ro	21.83	194	P	P	05	26 49.3	+14
MRZ	Mangatainoka R	22.13	194	P	P	05	26 44.2	+6.3
TIWZ	Tintock	22.17	194	P	P	05	26 46.3	+8.0
HOWZ	Holdsworth Sta	22.37	194	P	P	05	26 41.4	+1.3
OGWZ	Otaki Gorge	22.37	195	P	P	05	26 39.8	-0.3
KIW	Kapiti Island	22.48	196	P	P	05	26 39.8	-1.2
TMWZ	Te Maipa	22.48	193	P	P	05	26 45.2	+4.1
TMWZ				P	P	05	26 45.2	+4.1
CAW	Cannon Point	22.67	195	P	P	05	26 37.9	-4.9
DUWZ	D'Urville Isla	22.69	197	P	P	05	26 50.4	+7.5
TRWZ	Traveller	22.80	194	P	P	05	26 44.3	+0.4
PAWZ	Paruwai Farm	22.85	194	P	P	05	26 41.7	-2.7
WEL	Wellington	22.91	195	P	P	05	26 40.6	-4.2
MSWZ	Moikau Station	22.92	194	P	P	05	26 41.2	-3.8
TCW	Tory Channel	22.97	196	P	P	05	26 45.4	0.0
BHW	Baring Head	23.00	195	P	P	05	26 41.1	-4.6
PLWZ	Palliser	23.07	194	P	P	05	26 43.3	-3.0
TUWZ	Tuamarina	23.27	197	P	P	05	26 49.7	+1.6
EIDS	Eidsvold	29.78	253	P	P	05	27 45.5	+0.1
EIDS				IAmb	IAmb	05	27 59.1	
	comp=Z,14nm,1.2s							
ARMA	Armidale	30.15	242	P	P	05	27 49.7	+1.0
CAN	Canberra	33.69	235	P	P	05	28 19.4	+0.8
CAN				IAmb	IAmb	05	28 28.5	
	comp=Z,21nm,1.3s							
CTA	Charters Tower	34.24	262	P	P	05	28 22.8	-0.6
	comp=Z,7.9nm,0.4s,baz=89,slow=9.7,SNR=12							
CTAO	Charters Tower	34.24	262	P	P	05	28 23.4	0.0
CTAO				IAmb	IAmb	05	28 23.9	
	comp=Z,18nm,0.9s							
TOO	Toolangi	37.10	233	P	P	05	28 47.8	+1.0
TOO				IAmb	IAmb	05	28 48.4	
	comp=Z,15nm,0.8s							
TAU	Tasmania Unive	37.90	224	P	P	05	28 53.9	+0.7
COEN	Coen	38.14	272	P	P	05	28 55.5	-0.1
COEN				IAmb	IAmb	05	28 56.0	
	comp=Z,24nm,1.1s							
BBOO	Buckleboo	43.63	242	P	P	05	29 39.2	+0.4
WR0	Warramunga Arr	45.20	261	P	P	05	29 50.4	-0.6
WR0				IAmb	IAmb	05	29 51.6	
	comp=Z,9.0nm,0.8s							
WB0	Warramunga Arr	45.36	261	P	P	05	29 51.8	-0.5
WB2	Warramunga Arr	45.38	261	P	P	05	29 51.8	-0.6
WRA	Warramunga Arr	45.39	261	P	P	05	29 51.8	-0.7
	comp=Z,10nm,0.4s,baz=98,slow=7.7,SNR=239							
WRA				S	S	05	35 49.3	-3.5
	comp=Z,0.3nm,0.6s,baz=95,slow=12,SNR=1.5							
AS31	Alice Springs	45.40	256	P	P	05	29 52.6	0.0
AS31				IAmb	IAmb	05	29 53.8	
	comp=Z,11nm,0.3s							
ASAR	Alice Springs	45.40	256	P	P	05	29 52.3	-0.3
	comp=Z,18nm,0.4s,baz=87,slow=8.2,SNR=315							
ASAR				PcP	PcP	05	31 19.3	-0.5
	comp=Z,0.7nm,0.5s,baz=99,slow=4.3,SNR=2.4							
ASAR				S	S	05	35 50.5	-2.5
	comp=Z,2.2nm,0.8s,baz=89,slow=15,SNR=16							
MTN	Manton Dam	49.78	269	P	P	05	30 24.6	-0.8
MTN				IAmb	IAmb	05	30 24.9	
	comp=Z,20nm,0.7s							
FORT	Forrest	50.34	246	P	P	05	30 28.8	-0.4
KNRA	Kununurra	51.37	265	P	P	05	30 36.4	-0.5
FITZ	Fitzroy Crossi	53.81	261	P	P	05	30 53.9	-0.4
	comp=Z,4.7nm,0.5s,baz=69,slow=3.7,SNR=22							
FITZ	Fitzroy Crossi	53.81	261	P	P	05	30 54.4	+0.2
FITZ				IAmb	IAmb	05	31 00.6	
	comp=Z,17nm,1.5s							
SOEI	Soe	57.09	271	P	P	05	31 18.7	+1.4
SOEI				IAmb	IAmb	05	31 19.0	
	comp=Z,30nm,0.8s							
PSA00	Pilbara Seismi	58.55	256	P	P	05	31 26.3	-0.5
PSA00				IAmb	IAmb	05	31 27.0	
	comp=Z,16nm,0.8s							
VNDA	Vanda	59.14	185	P	P	05	31 31.0	+1.1
MORW	Morawa	60.86	247	P	P	05	31 41.2	-0.8
MORW				IAmb	IAmb	05	31 51.0	
	comp=Z,18nm,1.3s							
QSPA	South Pole Qui	70.75	180	P	P	05	32 43.2	+0.2
ADK	Adak	70.89	0	P	P	05	32 43.0	-0.7
ADK				IAmb	IAmb	05	32 46.8	
	comp=Z,15nm,1.1s							
SBUM	Sibu	72.42	279	P	P	05	32 55.8	+2.2
PEA0B	Petropavlovsk-	75.29	345	P	P	05	33 08.1	-0.8
PEA0B				IAmb	IAmb	05	33 24.3	
	comp=Z,19nm,1.4s							
NVAR	Mina Array Bea	79.74	43	P	P	05	33 34.3	+0.8
	comp=Z,0.2nm,0.6s,baz=222,slow=9.4,SNR=3.6							
K05A	Summer Lake	80.66	38	P	P	05	33 39.6	+1.4
TXAR	Lajitas Array	85.90	57	P	P	05	34 06.3	+1.9
	comp=Z,2.3nm,0.6s,baz=229,slow=5.5,SNR=4.9							
ILAR	Eielson Array	87.03	13	P	P	05	34 07.2	-1.6
	comp=Z,0.3nm,0.7s,baz=232,slow=4.4,SNR=2.8							
PDAR	Pinedale Array	87.68	43	P	P	05	34 12.5	-0.2
	comp=Z,0.3nm,0.7s,baz=200,slow=4.3,SNR=3.8							
SNAA	Sanae	89.17	178	P	P	05	34 19.2	+0.2
SNAA	Sanae	89.17	178	P	P	05	34 19.3	+0.4
VNA3	Neumayer Olymp	89.28	176	P	P	05	34 20.3	+0.9
CMAR	Chiang Mai Arr	90.31	289	P	P	05	34 25.1	-0.1
	comp=Z,0.3nm,0.3s,baz=145,slow=5.3,SNR=4.2							

*IDC **03** 05:40:44.2±1.5, 0°.70N×146°.42E, h0km, mb4.0/6, mb1 4.3/7, mb1mx3.8/43, mbtmp4.0/7, ML3.2/1, Error ellipse: s-maj=45.8km s-min=21.8km az=117.0*

ISC 03 05:40:48.5±1.7, 0°.9N±0°.2×146°.0E±0°.2, h10km, n8, σ1=99/8, mb4.0/7, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JAY	Jayapura	6.26	237	Pn	Pn	05	42 23.4	+2.3
	0.5nm,0.3s,baz=17,slow=19,SNR=1.0							
JAY				Sn	Sn	05	43 30.6	-2.1
	0.8nm,0.3s,baz=49,slow=20,SNR=1.8							
WRA	Warramunga Arr	23.64	208	P	P	05	45 59.4	-0.7
	3.8nm,0.7s,baz=31,slow=11,SNR=29							
ASAR	Alice Springs	27.08	205	P	P	05	46 33.0	+1.4
	2.1nm,0.8s,baz=39,slow=8.8,SNR=6.8							
FITZ	Fitzroy Crossi	27.50	226	P	P	05	46 33.4	-1.9
	2.4nm,1.0s,baz=63,slow=4.5,SNR=1.2							
CMAR	Chiang Mai Arr	49.34	294	P	P	05	49 39.9	+1.5
	0.8nm,0.3s,baz=116,slow=6.1,SNR=1.6							
SONM	Songino Array	57.97	330	P	P	05	50 40.8	-0.6
	0.3nm,0.6s,baz=148,slow=8.6,SNR=6.4							

ILAR	Eielson Array	79.61	24	P		P		05 52 52.8	-2.9
	1.2nm,0.6s,baz=252,slow=5.7,SNR=14								
BVAR	Borovoye Array	80.65	324	P		P		05 53 00.5	-1.1
	1.1nm,0.7s,baz=110,slow=6.7,SNR=4.1								

*DMN **03** 05:46:15.8±0.5, 29°.58N×85°.65E, h10km, Ml5.1/2, Error ellipse: s-maj=9.0km s-min=4.6km az=10.0*

*IDC **03** 05:46:21.2±1.0, 29°.21N×85°.50E, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.8/46, mbtmp3.8/14, ML3.8/2, Error ellipse: s-maj=38.3km s-min=16.1km az=56.0*

*BJI **03** 05:46:21.9±0.0, 28°.76N×85°.37E, h6km, mb4.1/4*

*NEIC **03** 05:46:22.0±1.6, 29°.2N±0°.1×85°.32E±0°.10, h10km±1km, mb4.3/28, Error ellipse: s-maj=19.6km s-min=11.9km az=209.0*

ISC 03 05:46:22.7±0.4, 29°.23N±0°.04×85°.50E±0°.04, h10km, n66, σ1=66/73, mb4.1/22, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
GUN	Gumba	1.36	166	ePg	Pn	05	46 46.6	-1.5
GKN	Gorkha	1.44	212	ePg	Pg	05	46 49.0	-1.4
GKN				eSg	Sg	05	47 13.1	+4.0
	5μm,0.5s							
KKN	Kakani	1.45	188	ePg	Pg	05	46 49.0	-1.6
KKN				eSg	Sg	05	47 12.6	+3.2
	2μm,0.2s							
KKN				eSg	Sn	05	47 12.8	+4.4
DMN	Daman	1.65	192	ePg	Pg	05	46 53.3	-1.2
PKI	Pulchoki	1.66	183	ePg	Pg	05	46 52.9	-1.6
PKI				eSg	Sg	05	47 19.9	+3.8
JIRN	Jiri	1.68	159	ePg	Pb	05	46 52.8	-1.2
DANN	Dangsing	1.76	240	ePg	Pb	05	46 54.7	-0.6
KOLN	Koldanda	2.22	229	ePg	Pg	05	47 03.8	-1.5
RAMN	Ramite	2.47	157	ePg	Pb	05	47 06.2	-1.2
PYUN	Piuthan	2.48	244	ePg	Pb	05	47 06.8	-0.7
TAPN	Taplejung	2.70	133	ePg	Pb	05	47 10.2	-1.2
ODAN	Odare	2.89	144	ePg	Pb	05	47 13.7	-0.9
LSA	Lhasa	4.95	83	Pn	Pn	05	47 41.9	+4.3
LSA				Sn	Sb	05	48 48.3	-1.2
LSA	Lhasa	4.95	83	Pn	Pn	05	47 38.4	+0.8
SHL	Shillong	6.75	121	Pn	Pn	05	48 01.7	-0.3
NIL	Nilore	11.35	296	Pn	Pn	05	49 00.9	-4.0
TARG	Taragay, Kyrgy	13.95	335	Pn	Pn	05	49 37.2	-3.6
KDJ	Kajisay	14.53	335	P	P	05	49 54.4	-0.8
WMQ	Urumqi	14.67	6	eP	P	05	49 57.6	+1.0
KBL	Kabul	14.94	295	P	Pn	05	49 53.2	-1.0
GTA	Gaotai	15.57	46	eP	P	05	50 09.1	+2.4
GTA				pP	pP	05	50 12.4	+1.5
GTA				sP	sP	05	50 15.4	+2.6
GTA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
GAR	Garm	15.89	312	Pn	Pn	05	50 05.8	-0.8
GAR				IAmb	IAmb	05	50 15.1	
	comp=Z,13nm,1.4s							
AAK	Ala-Archa	16.05	329	Pn	Pn	05	50 05.8	-2.9
CHTO	Chiang Mai	16.06	127	P	P	05	50 11.8	-0.3
CHTO				IAmb	IAmb	05	50 21.1	
	comp=Z,8.5nm,0.8s							
BTK	Batken	16.18	316	Pn	Pn	05	50 09.3	-1.0
CM31	Chiang Mai Arr	16.30	128	Pn	Pn	05	50 11.1	-0.7
CM31				IAmb	IAmb	05	50 24.3	
	comp=Z,11nm,0.8s							
CMAR	Chiang Mai Arr	16.30	128	Pn	Pn	05	50 12.4	+0.6
	comp=Z,0.4nm,0.3s,baz=309,slow=12,SNR=12							
CHGR	Chuyangaron	16.48	309		Pn	05	50 13.6	-0.5
CHGR				IAmb	IAmb	05	50 32.9	
	comp=Z,20nm,0.8s							
MK31	Makanchi Array	17.71	353	P	Pn	05	50 30.1	+0.7
MKAR	Makanchi Array	17.71	353	P	P	05	50 30.7	+0.4
	comp=Z,0.1nm,0.3s,baz=164,slow=13,SNR=3.0

RIZ S **S** **05 53 39.8 -2.7**
RAO Raoul Island 2.27 47 P **Pn** **05 53 00.3 +0.7**
207nm,0.3s,baz=79,slow=12,SNR=9.4
RAO S **S** **05 53 39.9 -2.6**
199nm,0.3s,baz=72,slow=20,SNR=3.1
RAO Raoul Island 2.27 47 **Pn** **05 53 01.2 +1.6**
RAO S **S** **05 53 42.5 0.0**
GRZ Great Barrier 6.70 215 P Pn 05 53 51.4 +6.4
MXZ Matakaoa Point 6.90 193 P Pn 05 53 52.5 +5.1
MXZ S **S** **05 55 08.9 -0.6**
MXZ Matakaoa Point 6.90 193 Pn Pn 05 53 52.5 +5.2
MXZ S **S** **05 55 15.8 +6.4**
KUZ Kuaotunu 6.97 211 P **Pn** **05 53 52.3 +4.0**
OUZ Omahuta 7.06 230 P Pn 05 53 55.3 +6.1
WCZ Waipu Caves 7.06 222 P Pn 05 53 55.9 +6.7
WMGZ Waiomatatini S 7.13 191 P Pn 05 53 55.6 +5.6
WMGZ S **S** **05 55 15.4 +1.0**
HAZ Te Kaha 7.19 195 P **Pn** **05 53 53.9 +3.1**
HAZ S **S** **05 55 18.9 +3.1**
PKGZ Pakihiroa 7.26 193 P **Pn** **05 53 56.4 +4.8**
PKGZ S **S** **05 55 16.2 -1.1**
WIAZ Waiheke Island 7.28 214 P Pn 05 53 59.5 +7.6
PUZ Puketiti 7.40 192 P **Pn** **05 53 55.7 +2.4**
PUZ S **S** **05 55 18.1 -2.3**
PUZ Puketiti 7.40 192 P **S** **05 55 20.1 -0.3**
RUGZ Raukumara Rang 7.42 196 P **Pn** **05 53 57.3 +3.8**
TWGZ Tauwhareparae 7.55 193 P **Pn** **05 53 58.0 +2.9**
TWGZ S **S** **05 55 24.3 +0.6**
TWGZ Tauwhareparae 7.55 193 P **S** **05 55 26.4 +2.7**
OPRZ Ohinepanea 7.62 202 P **Pn** **05 53 59.9 +4.2**
MARZ Manawahe 7.71 201 P Pn 05 54 02.2 +5.4
MWZ Matawai 7.80 196 P **Pn** **05 53 59.3 +1.3**
MWZ S **S** **05 55 29.4 +0.3**
MWZ Matawai 7.80 196 P **S** **05 55 32.4 +3.3**
TKGZ Te Karaka 7.83 194 P **Pn** **05 53 57.3 -1.0**
TKGZ S **S** **05 55 30.9 +1.3**
TKGZ Te Karaka 7.83 194 P **S** **05 55 27.4 -2.2**
URZ Urewera 7.83 198 P **Pn** **05 54 00.5 +2.1**
11nm,0.3s,baz=274,slow=4.5,SNR=50
URZ S **S** **05 55 29.4 -0.3**
16nm,0.3s,baz=108,slow=17,SNR=14
URZ Urewera 7.83 198 P **Pn** **05 54 00.3 +1.9**
URZ S **S** **05 55 30.4 +0.7**
URZ Urewera 7.83 198 P **S** **05 55 34.4 +4.7**
KARZ Kaharoa 7.88 203 P Pn 05 54 05.1 +6.2
TOZ Tahuroa Road 7.90 208 P Pn 05 54 04.3 +5.2
RAGZ Rawiri 7.98 196 P **Pn** **05 54 00.7 +0.5**
TARZ Mount Tarawera 7.99 201 P Pn 05 54 07.1 +6.9
RIGZ Rimuhau 8.11 194 P **P** **05 54 03.3 -1.3**
RIGZ Rimuhau 8.11 194 P **S** **05 55 35.3 -0.5**
MUGZ Murupara 8.13 199 P **S** **05 54 03.8 -1.1**
RTZ Ruatahuna 8.21 198 P **P** **05 54 04.6 -1.2**
RTZ Ruatahuna 8.21 198 P **S** **05 55 36.7 -1.2**
SNGZ Shannon Statio 8.27 196 P **P** **05 54 05.9 -0.6**
SNGZ Shannon Statio 8.27 196 P **S** **05 55 41.6 +2.3**
PRGZ Paritu Road 8.29 193 P **P** **05 54 05.4 -1.3**
PRGZ Paritu Road 8.29 193 P **S** **05 55 39.8 0.0**
ALRZ Allen Road 8.34 201 P **P** **05 54 08.8 +1.6**
TLZ Tolley Road 8.41 206 P **P** **05 54 11.4 +3.5**
KNZ Kokohu 8.41 193 P **Pn** **05 54 05.1 -0.5**
KNZ Kokohu 8.43 193 P **S** **05 55 38.3 -4.3**
RAHZ Arahi 8.46 197 P **P** **05 54 07.7 -0.8**
RAHZ Arahi 8.46 197 P **S** **05 55 41.1 -2.3**
MTHZ Maungataniwha 8.46 198 P **P** **05 54 10.0 +1.5**
MTHZ Maungataniwha 8.46 198 P **S** **05 55 43.1 -0.4**
MHGZ Mahia Peninsul 8.51 192 P **P** **05 54 09.3 +0.2**
MHGZ Mahia Peninsul 8.51 192 P **S** **05 55 41.1 -3.4**
WHHZ Waihua 8.58 196 P **S** **05 55 47.3 +1.4**
NMHZ Naumai 8.70 198 P **P** **05 54 11.1 -0.1**
NMHZ Naumai 8.70 198 P **S** **05 55 51.5 +2.7**
ARHZ Aropaoanui 8.81 196 P **P** **05 54 11.5 -0.9**
ARHZ Aropaoanui 8.81 196 P **S** **05 55 51.9 +0.8**
BKZ Black Stump Fm 8.85 199 P **P** **05 54 11.9 -1.0**
MCHZ McNeill Hill 9.06 197 P **S** **05 55 57.5 +1.1**
WTVZ West Tongariro 9.09 203 P **P** **05 54 16.2 +0.6**
TWVZ Taurewa 9.10 204 P **P** **05 54 16.7 +1.0**
OTVZ Oturere 9.10 203 P **Pn** **05 54 14.3 +0.7**
KWHZ Kaweka Forest 9.11 199 P **Pn** **05 54 14.1 +0.5**
KWHZ Kaweka Forest 9.11 199 P **S** **05 55 57.3 -0.4**
CKHZ Cape Kidnapper 9.17 195 P **P** **05 54 17.1 +0.7**
CKHZ Cape Kidnapper 9.17 195 P **S** **05 55 57.9 -1.0**
BHHZ Black Hill Sta 9.28 200 P **Pn** **05 54 15.2 -0.3**
BHHZ Black Hill Sta 9.28 200 P **S** **05 56 02.6 +1.2**
MOVZ Moawhango 9.30 202 P **P** **05 54 17.5 -0.3**
KRHZ Kereru 9.33 198 P **S** **05 56 02.8 +0.3**
KAHZ Kahuranaki 9.35 196 P **P** **05 54 17.8 -0.6**
KAHZ Kahuranaki 9.35 196 P **S** **05 55 58.4 -4.4**
PXZ Pawanui 9.57 196 P **S** **05 56 04.1 -3.6**
PNHZ Pukenui 9.63 199 P **Pn** **05 54 19.9 +0.1**
PNHZ Pukenui 9.63 199 P **S** **05 56 08.6 -0.5**
WPHZ Waipukurau 9.71 197 P **S** **05 56 10.7 0.0**
TSZ Takapari Road 9.83 199 P **S** **05 56 10.9 -2.6**
PRHZ Porangahau 9.85 196 P **S** **05 56 07.6 -6.3**
WAZ Wanganui 9.87 204 P **S** **05 56 15.7 +1.4**
DWHZ Dannevirke 10.00 199 P **S** **05 56 14.4 -2.8**
ANWZ Angora Road 10.07 196 P **S** **05 56 14.4 -4.3**
POWZ Post Office Ro 10.20 199 P **S** **05 56 19.1 -2.3**
TIWZ Tintock 10.52 198 P **S** **05 56 25.7 -2.9**
CPWZ Castlepoint 10.57 197 P **S** **05 56 28.2 -1.4**
CAW Cannon Point 11.06 201 P **S** **05 56 37.0 -3.5**
TRWZ Traveller 11.16 198 P **S** **05 56 38.7 -4.0**
DUWZ D'Urville Isla 11.17 205 P **S** **05 56 41.9 -1.1**
PAWZ Paruwai Farm 11.21 199 P **S** **05 56 39.6 -4.3**
MSWZ Moikau Station 11.29 199 P **S** **05 56 41.0 -4.7**
BHW Baring Head 11.40 201 P **S** **05 56 44.2 -3.8**
TCW Tory Channel 11.41 203 P **S** **05 56 42.1 -6.2**
PLWZ Palliser 11.43 199 P **S** **05 56 43.8 -5.1**
TUWZ Tuamarina 11.72 204 P **S** **05 56 50.4 -4.7**
NNZ Nelson 11.73 206 P **S** **05 56 51.8 -3.6**
QRZ Quartz Range 11.75 210 P **S** **05 56 56.0 +0.2**
THZ Tophouse 12.39 206 P **S** **05 57 04.9 -4.4**
RPZ Rata Peaks 14.76 207 S **S** **05 57 55.6 -1.7**
0.3nm,0.3s,baz=7.0,slow=19,SNR=2.2
EIDS Eidsvold 26.20 275 P **P** **05 57 08.6 -1.8**
CAN Canberra 26.45 252 P **P** **05 57 11.6 -0.9**
STKA Stephens Creek 32.86 258 P **P** **05 58 09.8 +1.2**
2.1nm,0.8s,baz=26,slow=11,SNR=3.7
STKA Stephens Creek 32.86 258 P **P** **05 58 09.4 +0.8**
BBOO Buckleboo 37.35 255 P **P** **05 58 44.8 -1.7**
BBOO IAmb IAmb 05 58 48.4
comp=Z,16nm,1.2s
AS31 Alice Springs 41.53 268 P **P** **05 59 21.4 +0.5**
ASAR Alice Springs 41.53 268 P **P** **05 59 20.4 -0.5**
comp=Z,0.7nm,0.6s,baz=103,slow=6.9,SNR=12
ASAR PcP **sP** **06 01 09.8 +1.9**
comp=Z,0.3nm,0.6s,baz=112,slow=4.4,SNR=1.9
ASAR ScP **ScP** **06 04 25.5 -1.5**
comp=Z,0.6nm,0.7s,baz=108,slow=4.7,SNR=5.8
WR0 Warramunga Arr 42.38 274 P **P** **05 59 27.5 -0.2**
WR0 IAmb IAmb 05 59 29.4
comp=Z,8.7nm,1.2s
WB2 Warramunga Arr 42.55 274 P **P** **05 59 28.7 -0.3**
WB2 IAmb IAmb 05 59 37.2
comp=Z,13nm,1.3s
WRA Warramunga Arr 42.56 274 P **P** **05 59 28.6 -0.5**
comp=Z,2.7nm,0.4s,baz=111,slow=7.9,SNR=26
WB0 Warramunga Arr 42.58 274 P **P** **05 59 29.2 -0.2**
WB0 IAmb IAmb 05 59 30.9
comp=Z,22nm,1.5s
FITZ Fitzroy Crossi 50.80 271 P **P** **06 00 32.8 +0.4**
comp=Z,2.1nm,0.7s,baz=101,slow=5.2,SNR=1.6
FITZ Fitzroy Crossi 50.80 271 P **P** **06 00 33.3 +0.9**
FITZ IAmb IAmb 06 00 48.0
comp=Z,10nm,1.4s
QSPA South Pole Qui 59.28 180 P **P** **06 01 34.4 +2.4**
QSPA IAmb IAmb 06 01 35.0
comp=Z,3.5nm,0.8s
SNAA Sanae 77.77 179 P **P** **06 03 25.5 +0.5**
SNAA Sanae 77.77 179 P **P** **06 03 25.7 +0.7**
SNAA IAmb IAmb 06 03 30.2
comp=Z,3.1nm,1.3s
VNA3 Neumayer Olymp 77.98 177 P **P** **06 03 26.5 +0.4**
VNA1 Neumayer--Stat 78.63 177 P **P** **06 03 30.7 +1.1**
KBZ Khabaz 144.04 303 PKP **PKPab** **06 10 58.1 -0.9**
comp=Z,1.7nm,0.6s,baz=244,slow=12,SNR=3.6
FINES FINESS Array B 144.99 339 PKP **PKPdf**
comp=Z,6.2nm,0.7s,baz=55,slow=3.7,SNR=16
NB2 NORSAR Subarra148.91 350 PKP **PKPdf** **06 11 10.5 +2.4**
comp=Z,0.5nm,0.5s,baz=19,slow=2.6
NOA NORSAR Array B148.91 350 PKPbc **PKPdf** **06 11 10.1 +2.1**
comp=Z,0.9nm,0.6s,baz=17,slow=4.2,SNR=3.9
AKASG Malin Array Be 150.67 321 PKPbc **PKPbc** **06 11 15.0 -1.9**
comp=Z,0.4nm,0.4s,baz=46,slow=3.4,SNR=4.1
BRTR Keskin Array B 151.41 297 PKPbc **PKPbc** **06 11 17.6 -1.6**
comp=Z,0.8nm,0.5s,baz=136,slow=4.7,SNR=2.2

*IDC **03** 05:53:46.8± 1.2, 28.°94N× 85.°17E, h0km, mb3.6/10, mb1 3.8/12, mb1mx3.6/40, mbtmp3.6/12, ML4.0/2, Error ellipse: s-maj=49.1km s-min=18.2km az=59.0*
ISC 03 05:53:52.1± 1.3, 29.°0N± 0.°2 × 85.°2E± 0.°3, h35km, n13, σ 0 64/13, mb3.7/10, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**14.97**	**7**	*e*P	**Pn**		**05 57 21.2**	**+0.2**
WMQ					smax	smax		
comp=N,60nm,0.9s								
WMQ					smax	smax		
comp=E,55nm,0.7s								
CMAR	**Chiang Mai Arr**	**16.37**	**127**	Pn	**Pn**		**05 57 39.4**	**0.0**
comp=E,0.7nm,0.3s,baz=310,slow=12,SNR=5.9								
MKAR	**Makanchi Array**	**17.94**	**354**	P	**P**		**05 57 59.4**	**+0.3**
comp=E,0.1nm,0.3s,baz=175,slow=12,SNR=2.9								
KURBB	**Kurchatov Array**	**22.21**	**349**	P	**P**		**05 58 43.9**	**-1.4**
comp=E,0.5nm,0.4s,baz=171,slow=9.8,SNR=2.1								
ZALV	**Zalesovo Beam**	**24.97**	**360**	P	**P**		**05 59 12.2**	**+0.1**
comp=E,0.8nm,0.5s,baz=178,slow=10,SNR=5.2								
SONM	**Songino Array**	**25.00**	**35**	P	**P**		**05 59 13.2**	**+0.6**
comp=E,0.9nm,0.7s,baz=216,slow=12,SNR=2.5								
FINES	**FINESS Array B**	**50.30**	**328**	P	**P**		**06 02 45.1**	**+0.2**
comp=E,1.6nm,0.9s,baz=106,slow=8.8,SNR=5.5								
ARCES	**ARCESS Array B**	**52.65**	**338**	P	**P**		**06 03 02.6**	**+0.2**
comp=E,0.5nm,0.5s,baz=88,slow=5.7,SNR=6.0								
NOA	**NORSAR Array B**	**57.40**	**326**	P	**P**		**06 03 37.6**	**+0.7**
comp=E,0.8nm,0.9s,baz=85,slow=6.9,SNR=3.6								
WRA	**Warramunga Arr**	**67.94**	**130**	P	**P**		**06 04 47.6**	**0.0**
comp=E,0.7nm,0.7s,baz=324,slow=6.5,SNR=6.8								
ASAR	**Alice Springs**	**70.27**	**133**	P	**P**		**06 05 02.0**	**0.0**
comp=E,0.5nm,0.7s,baz=316,slow=6.3,SNR=6.1								
ILAR	**Eielson Array**	**78.21**	**20**	P	**P**		**06 05 46.7**	**-1.1**
comp=E,0.3nm,0.7s,baz=340,slow=5.0,SNR=2.9								
YKA	**Yellowknife Ar**	**87.49**	**9**	P	**P**		**06 06 36.0**	**+0.2**
comp=E,0.5nm,0.8s,baz=342,slow=5.0,SNR=5.1								

*DMN **03** 05:57:25.6± 0.5, 29.°34N× 85.°61E, h25km, Ml5.8/4, Error ellipse: s-maj=9.3km s-min=3.5km az=10.0*
*IDC **03** 05:57:28.2± 0.4, 29.°20N× 85.°60E, h0km, mb4.8/31, mb1 4.9/34, mb1mx4.8/43, mbtmp4.7/34, ML4.2/3, MS4.3/25, Ms1 4.3/25, ms1mx4.0/48, Error ellipse: s-maj=12.9km s-min=10.7km az=34.0*
*BJI **03** 05:57:29.3± 0.0, 29.°10N× 85.°51E, h10km, mB5.1/53, mb4.9/67, Ms5.1/72, Ms7 4.9/68*
*NEIC **03** 05:57:30.6± 1.2, 29.°28N± 0.°08× 85.°50E± 0.°07, h10km± 1km, mb5.2/199, Error ellipse: s-maj=13.9km s-min=9.2km az=210.0*
*MOS **03** 05:57:32.0± 1.0, 29.°30N× 85.°54E, h31km, mb5.3/79, MS4.3/22, Error ellipse: s-maj=6.5km s-min=3.1km az=115.5*
*GCMT **03** 05:57:32.6± 0.2, 29.°00N± 0.°02× 85.°57E± 0.°01, h19km, MW5.2/105, Moment Tensor Solution. s45,c51; s105,c180; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.80±.05; Mθθ=0.07±.03; Mφφ=0.87±.03; Mrθ=0.27±.07; Mθφ=0.07±.02; Mφr=-0.20±.04; Best double couple: M=0.90900×10^17 NP1:φs=202.00000°, δ42.00000°, λ=-62.00000°. NP2:φs=346.00000°, δ54.00000°, λ=-113.00000°. Principal axes: T 0.8990, Plg6.0000°, Azm92.0000°; N 0.0200, Plg18.0000°, Azm0.0000°; P -0.9190, Plg70.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **03** 05:57:34.6± 0.0, 30.°01N× 85.°36E, h33km, mb5.1, Ms4.4*
*NDI **03** 05:57:34.2± 4.0, 28.°89N× 85.°35E, h10km, mb5.3, MW5.1, mb5.2(NEIC)*
ISC 03 05:57:29.3± 0.4, 29.°19N± 0.°03× 85.°49E± 0.°02, h3km± 2km, h4km: pP-P, n766, σ 1s36/847, mb5.1/236, MS4.5/58, 52C-39D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**1.32**	**165**	*e*Pg	**Pg**		**05 57 53.0**	**-1.7**
GUN				*e*Sg	**Sg**		**05 58 11.5**	**-0.4**
57μm,0.5s								
GUN	**Gumba**	**1.32**	**165**	*e*Pg	**Pg**		**05 57 53.0**	**-1.7**
GUN				*e*Sg	**Sb**		**05 58 12.7**	**+0.3**
57μm,0.5s								
GKN	**Gorkha**	**1.40**	**212**	*e*Pg	**Pn**		**05 57 55.6**	**-0.2**
GKN	**Gorkha**	**1.40**	**212**	*e*Pg	**Pn**		**05 57 55.3**	**-0.5**
KKN	**Kakani**	**1.41**	**187**	*e*Pg	**Pn**		**05 57 55.5**	**-0.6**
KKN	**Kakani**	**1.41**	**187**	*e*Pg	**Pn**		**05 57 55.4**	**-0.6**
KKN				*e*Sg	**Sn**		**05 58 16.7**	**+1.5**
13μm,0.4s								
DMN	**Daman**	**1.61**	**192**	*e*Pg	**Pb**		**05 57 59.8**	**-0.1**
DMN				*e*Sg	**Sg**		**05 58 23.0**	**+1.8**
12μm,0.5s								
DMN	**Daman**	**1.61**	**192**	*e*Pg	**Pb**		**05 57 59.7**	**-0.1**
DMN				*e*Sg	**Sg**		**05 58 24.3**	**+3.1**
PKI	**Pulchoki**	**1.62**	**182**	*e*Pg	**Pb**		**05 57 59.5**	**-0.4**
JIRN	**Jiri**	**1.65**	**158**	*e*Pg	**Pn**		**05 57 59.0**	**-0.4**
JIRN	**Jiri**	**1.65**	**158**	*e*Pg	**Pn**		**05 57 59.2**	**-0.2**
DANN	**Dangsing**	**1.73**	**241**	*e*Pg	**Pb**		**05 58 01.4**	**-0.5**
DANN				*e*Sg	**Sg**		**05 58 25.9**	**+0.9**
51μm,0.8s								
DANN	**Dangsing**	**1.73**	**241**	*e*Pg	**Pb**		**05 58 01.4**	**-0.5**
DANN				*e*Sg	**Sg**		**05 58 26.0**	**+0.9**
66μm,0.8s								
KOLN	**Koldanda**	**2.19**	**230**	*e*Pg	**Pb**		**05 58 10.2**	**+0.7**
KOLN				*e*Sg	**Sg**		**05 58 40.0**	**+0.5**
9μm,0.5s								
KOLN	**Koldanda**	**2.19**	**230**	*e*Pg	**Pb**		**05 58 10.3**	**+0.7**
KOLN				*e*Sg	**Sg**		**05 58 41.7**	**+2.2**
9μm,0.5s								
RAMN	**Ramite**	**2.44**	**156**	*e*Pg	**Pb**		**05 58 12.5**	**-1.4**
RAMN	**Ramite**	**2.44**	**156**	*e*Pg	**Pb**		**05 58 12.5**	**-1.4**
PYUN	**Piuthan**	**2.45**	**244**	*e*Pg	**Pb**		**05 58 14.0**	**-0.1**
PYUN	**Piuthan**	**2.45**	**244**	*e*Pg	**Pb**		**05 58 13.5**	**-0.6**
TAPN	**Taplejung**	**2.69**	**133**	*e*Pg	**Pb**		**05 58 17.2**	**-0.9**
TAPN	**Taplejung**	**2.69**	**133**	*e*Pg	**Pb**		**05 58 16.1**	**-2.0**
TAPN				*e*Sg	**Sb**		**05 58 52.2**	**+0.6**
45μm,1.0s								
ODAN	**Odare**	**2.87**	**144**	*e*Pg	**Pb**		**05 58 19.6**	**-1.6**
ODAN	**Odare**	**2.87**	**144**	*e*Pg	**Pb**		**05 58 19.7**	**-1.5**
ODAN				*e*Sg	**Sb**		**05 58 58.9**	**+2.1**
61μm,0.8s								
GTK	**Tadong**	**3.32**	**123**	*e*P	**Pb**		**05 58 28.0**	**-0.9**
LSA	**Lhasa**	**4.96**	**83**	P	**Pn**		**05 58 49.0**	**+3.9**
LSA	**Lhasa**	**4.96**	**83**	Pn	**Pn**		**05 58 49.0**	**+3.9**
BOK	**Bokaro**	**5.39**	**176**	*e*P	**Pn**		**05 58 51.7**	**+1.2**
BOK				*i* x	x		05 59 04.0	
BOK				*i* x	x		05 59 30.0	
SHL	**Shillong**	**6.74**	**121**	*e*P	**Pn**		**05 59 09.5**	**+0.3**
SHL				*i* P	**Pn**		**05 59 10.0**	**+0.8**
SHL				*e*S	**Sn**		**06 00 24.0**	**-2.5**
SHL	**Shillong**	**6.74**	**121**	Pn	**Pn**		**05 59 09.7**	**+0.4**
SHL				Sn	**Sn**		**06 00 26.1**	**-0.4**
SMLA	**Simla**	**7.46**	**287**	*ex*	**Pn**		**05 59 23.0**	**+4.1**
SMLA				*e*P	**Pn**		**05 59 23.0**	**+4.1**
JBP	**Jabalpur**	**7.78**	**221**	*ex*	**Sn**		**06 00 49.9**	**-1.9**
DHRM	**DHARAMSHALA**	**8.47**	**293**	*e*P	**Pn**		**05 59 36.2**	**+3.1**
DHRM				*ex*	x		05 59 36.2	
BWNR	**Bhubaneshwar**	**8.87**	**178**	*e*P	**Pn**		**05 59 35.5**	**-2.8**
BWNR				*ex*	x		06 01 09.9	
THN	**Thein Dam**	**9.00**	**293**	*ex*	**Pn**		05 59 45.5	+5.4
THN				*ex*	x		06 06 17.5	
NGP	**Nagpur**	**9.90**	**217**	*e*P	**Pn**		**05 59 52.8**	**+0.2**
NGP				*e*P	**Pn**		**05 59 54.9**	**+2.4**
NGP				*ex*	x		06 01 38.1	
CHLP	**Challavanipeta**	**10.72**	**187**	*e*P	**Pn**		**06 00 01.8**	**-1.9**
CHLP				*e*			06 01 57.1	
CHLP				IVMs_BB	IVMs_BB		06 05 27.1	
comp=Z,2μm,5.9s								
NIL	**Nilore**	**11.35**	**296**		**Pn**		**06 00 13.4**	**+1.0**
NIL				Sn	**Sn**		**06 02 21.6**	**+1.8**
RPR	**Rampur**	**11.74**	**210**	*e*P	**Pn**		**06 00 17.2**	**-0.5**
RPR				*e*			06 02 19.1	
RPR				IVMs_BB	IVMs_BB		06 03 48.6	
comp=Z,2μm,3.0s								
SRSP	**Sriramsagar**	**12.12**	**214**	*e*P	**Pn**		**06 00 21.8**	**-1.1**
SRSP				*e*			06 02 27.3	
SRSP				IVMs_BB	IVMs_BB		06 05 22.9	
comp=Z,2μm,8.4s								
THW	**Thamme Wali**	**12.33**	**290**	P	**Pn**		**06 00 24.4**	**-1.3**
PVM	**Polavaram**	**12.41**	**197**	*e*P	**Pn**		**06 00 24.4**	**-2.4**
PVM				*e*			06 02 36.0	
PVM				IVMs_BB	IVMs_BB		06 05 16.1	
comp=Z,1μm,10.5s								
CEP	**Cherat**	**12.47**	**295**	P	**Pn**		**06 00 26.5**	**-1.2**
CEP				S	**Sn**		**06 02 42.0**	**-5.2**
KSH	**Kashi**	**12.94**	**325**	*e*P	**Pn**		**06 00 33.5**	**-0.7**
KSH				S	**Sn**		**06 02 52.6**	**-6.2**
KSH				pmax	pmax			
comp=Z,51nm,0.8s								
KSH				pmax	pmax			
comp=Z,170nm,2.9s								
KSH				LR	LR			
comp=Z,1μm,11.9s								
KSH				LR	LR			
comp=Z,2μm,10.8s								
KSH				LR	LR			
comp=Z,3μm,7.6s								
MYLAV	**Mylavaram**	**13.17**	**201**	*e*P	**Pn**		**06 00 35.1**	**-2.0**
MYLAV				*e*			06 02 53.9	
MYLAV				IVMs_BB	IVMs_BB		06 07 06.6	
comp=Z,2μm,7.4s								
HYBB	**Hyderabad (bro**	**13.34**	**210**	*e*P	**Pn**		**06 00 38.2**	**-1.3**
HYBB				*e*			06 02 57.6	
HYBB				IVMs_BB	IVMs_BB		06 05 00.9	
comp=Z,2μm,4.4s								
HYB	**Hyderabad**	**13.34**	**210**	*i* P	**Pn**		**06 00 37.0**	**-2.5**
HYB				*e*S	S		06 03 22.0	-11
KLRI	**Killari**	**13.74**	**218**	*e*P	**Pn**		**06 00 41.1**	**-4.0**
KLRI				*e*			06 03 07.3	
KLRI				IVMs_BB	IVMs_BB		06 06 22.8	
comp=Z,1μm,5.2s								
NJS	**Nagarjunasagar**	**13.80**	**206**	*e*P	**Pn**		**06 00 43.6**	**-2.3**
NJS				*e*			06 03 07.1	
NJS				IVMs_BB	IVMs_BB		06 04 51.1	
comp=Z,2μm,5.4s								
TARG	**Taragay, Kyrgy**	**13.98**	**336**		**Pn**		**06 00 47.6**	**-0.9**
ADKI	**Addanki**	**14.23**	**202**	*e*P	**Pn**		**06 00 50.4**	**-1.3**
ADKI				*e*			06 03 19.4	
ADKI				IVMs_BB	IVMs_BB		06 07 39.8	
comp=Z,1μm,6.3s								
SRLM	**Srisailam**	**14.38**	**206**	*e*P	**Pn**		**06 00 50.6**	**-3.2**
SRLM				*e*			06 03 23.5	
SRLM				IVMs_BB	IVMs_BB		06 05 09.8	
comp=Z,2μm,4.2s								
PRZ	**Przheval'sk**	**14.44**	**339**	P	**Pn**		**06 00 56.5**	**+1.8**
PRZ	**Przheval'sk**	**14.44**	**339**	Pn	**Pn**		**06 00 56.5**	**+1.8**
KDJ	**Kajisay**	**14.55**	**335**	P	**P**		**06 01 02.5**	**-0.5**
KDJ	**Kajisay**	**14.55**	**335**	P	**P**		**06 01 02.5**	**-0.5**
WMQ	**Urumqi**	**14.71**	**6**	*e*P	**Pn**		**06 00 57.9**	**-0.3**
WMQ	**Urumqi**	**14.71**	**6**	P	**Pn**		**06 00 58.5**	**+0.3**
WMQ	**Urumqi**	**14.71**	**6**	Pn	**Pn**		**06 00 58.5**	**+0.3**
SHLS	**Shalkode**	**14.75**	**342**	*e*P	**Pn**		**06 00 56.5**	**-2.4**
comp=Z,6.0nm,1.4s,baz=344								
SHLS				LR	LR		06 06 22.2	
baz=344								
SHLS	**Shalkode**	**14.75**	**342**	*e*P	**Pn**		**06 00 56.4**	**-2.4**
SHLS				pmax	pmax			
comp=Z,6.0nm,1.4s								
UZB	**Uzunbulak**	**14.86**	**341**	*e*P	**Pn**		**06 00 59.8**	**-0.6**
comp=Z,3.9nm,1.7s,baz=341								
UZB				*e*S	**Sn**		**06 03 45.6**	**0.0**
baz=341								
UZB				LR	LR		06 06 44.8	
comp=Z,75nm,10.6s,baz=341								
UZB	**Uzunbulak**	**14.86**	**341**	*e*P	**Pn**		**06 00 59.8**	**-0.6**
UZB				*e*S	**Sn**		**06 03 45.6**	**0.0**
UZB				pmax	pmax			
comp=Z,4.0nm,1.7s								
UZB				MLR	MLR			
comp=Z,75nm,11.0s								
PDGK	**Podgornoye**	**14.90**	**343**	P	**Pn**		**06 01 00.4**	**-0.5**
KBL	**Kabul**	**14.95**	**295**	Pn	**Pn**		**06 00 59.8**	**-1.9**
KBL					**Sn**		**06 03 42.5**	**-5.4**
SATY	**Saty**	**14.96**	**340**	*e*P	**Pn**		**06 01 01.1**	**-0.7**
baz=339								
SATY				*e*PP	**PnPn**		**06 01 09.1**	**-0.7**
baz=339								
SATY				*e*S	**Sn**		**06 03 48.3**	**+0.2**
baz=339								
SATY				LR	LR		06 06 25.8	
comp=Z,141nm,11.5s,baz=339								
SATY	**Saty**	**14.96**	**340**	*e*P	**Pn**		**06 01 01.0**	**-0.7**
SATY				*e*S	**Sn**		**06 03 48.2**	**+0.2**
SATY				MLR	MLR			
comp=Z,141nm,11.0s								
SATY	**Saty**	**14.96**	**340**	*e*P	**Pn**		**06 01 01.0**	**-0.7**
SATY				*e*S	**Sn**		**06 03 48.2**	**+0.2**
SATY				MLR	MLR			
comp=Z,141nm,11.0s								
ULHL	**Ulahol**	**15.02**	**333**	P	**Pn**		**06 01 02.9**	**+0.3**
SNR=11								
POO	**Poona**	**15.02**	**228**	*i* x	Pn		06 00 55.0	-7.6
comp=Z,100nm,1.0s								
POO				*i* x	x		06 03 37.0	
KZA	**Kyzart**	**15.30**	**330**	P	**P**		**06 01 14.8**	**+3.3**
SNR=6.8								
TNSS	**Tian-Shan**	**15.43**	**336**	*e*P	**Pn**		**06 01 07.2**	**-1.0**
baz=336								
TNSS	**Tian-Shan**	**15.43**	**336**	*e*P	**Pn**		**06 01 07.1**	**-1.0**
AAA	**Alma-Ata**	**15.59**	**336**	*e*P	**Pn**		**06 01 09.3**	**-0.6**
baz=336								
AAA				*e*PP	**pP**		**06 01 17.3**	**+0.7**
baz=336								
AAA				*e*S	**Sn**		**06 04 02.7**	**-0.5**
baz=336								
AAA				LR	LR		06 06 36.2	
comp=Z,444nm,10.8s,baz=336								
AAA	**Alma-Ata**	**15.59**	**336**	*e*P	**Pn**		**06 01 09.3**	**-0.6**
AAA				*e*S	**Sn**		**06 04 02.7**	**-0.5**
AAA				MLR	MLR			
comp=Z,

CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 LR LR
comp=Z,3μm,12.8s
CD2 LR LR
comp=Z,7μm,9.9s
CD2 LR LR
comp=Z,7μm,9.6s
CHTO Chiang Mai 16.05 127 P **Pn** **06 01 15.8 -0.1**
CHTO Chiang Mai 16.05 127 Pn **Pn** **06 01 15.8 -0.1**
CHTO P **P** **06 01 19.1 -0.3**
CHTO IAmb IAmb 06 01 22.3
comp=Z,97nm,0.8s
AML Almayashu 16.05 327 P **Pn** **06 01 14.8 -1.5**
SNR=20
AAK Ala-Archa 16.08 329 Pn **Pn** **06 01 17.4 +1.0**
comp=Z,0.2nm,0.3s,baz=158,slow=12,SNR=3.1
AAK LR LR 06 07 31.4
comp=Z,1μm,19.7s,baz=124,slow=37
AAK Ala-Archa 16.08 329 P **P** **06 01 20.5 +0.6**
SNR=13
AAK Ala-Archa 16.08 329⇑ *e*P **Pn** **06 01 17.9 +1.5**
AAK Ala-Archa 16.08 329 P **P** **06 01 21.1 +1.2**
URV Uravakonda 16.09 210 *e*P **Pn** **06 01 13.7 -2.9**
URV *e* 06 04 01.8
URV IVMs_BB IVMs_BB 06 07 34.5
comp=Z,2μm,12.3s
FRU1 Bishkek 16.16 330 P **Pn** **06 01 19.0 +1.6**
FRU1 pmax pmax
comp=Z,35nm,0.8s
FRU1 Bishkek 16.16 330 **Pn** **06 01 19.0 +1.6**
BTK Batken 16.20 316 P **Pn** **06 01 16.8 -1.1**
BTK pmax pmax
comp=Z,77nm,0.8s
BTK Batken 16.20 316 **Pn** **06 01 16.8 -1.1**
SKHT Srikalahasti 16.29 200 *e*P **Pn** **06 01 17.9 -1.1**
SKHT *e* 06 04 06.4
SKHT IVMsBB 06 07 28.7
comp=Z,686nm,5.2s
CM31 Chiang Mai Arr 16.29 128 P **P** **06 01 22.5 +0.4**
CM31 IAmb IAmb 06 01 33.7
comp=Z,205nm,1.1s
CMAR Chiang Mai Arr 16.29 128 Pn **Pn** **06 01 16.9 -2.1**
comp=Z,0.9nm,0.3s,baz=309,slow=12,SNR=91
CMAR LR LR 06 07 58.7
comp=Z,1μm,22.0s,baz=358,slow=39
KUU Kurty 16.39 336 *e*P **Pn** **06 01 20.3 0.0**
baz=336
KUU *e*S **Sn** **06 04 23.5 +0.9**
baz=336
KUU LR LR 06 07 39.3
comp=Z,526nm,10.5s,baz=336
KUU Kurty 16.39 336 *e*P **Pn** **06 01 20.2 0.0**
KUU *e*S **Sn** **06 04 23.5 +0.9**
KUU MLR MLR
comp=Z,526nm,11.0s
EKS2 Erkin-Say 16.43 328 P **Pn** **06 01 22.3 +1.5**
SNR=9.9
CHGR Chuyangaron 16.50 309 Pn **Pn** **06 01 20.2 -1.5**
USP Ospenovka 16.59 331 P **P** **06 01 27.3 +1.9**
SNR=7.0
SGDS Sogindy 16.68 331 *e*P **Pn** **06 01 23.9 -0.1**
comp=Z,15nm,1.3s,baz=331
SGDS LR LR 06 07 49.7
comp=Z,633nm,10.3s,baz=331
SGDS Sogindy 16.68 331 *e*P **Pn** **06 01 23.9 -0.1**
SGDS MLR MLR
comp=Z,633nm,10.0s
TDK Taldyqorghan 16.75 342 *e*P **Pn** **06 01 23.9 -0.9**
baz=342
TDK *e*S **Sn** **06 04 31.0 -0.3**
baz=342
TDK Taldyqorghan 16.75 342 *e*P **Pn** **06 01 23.9 -0.9**
TDK *e*S **Sn** **06 04 30.9 -0.3**
LZH Lanzhou 16.91 61 *e*P **Pn** **06 01 27.0 0.0**
LZH sP pP 06 01 31.4 -0.1
LZH PP **PnPn** **06 01 44.3 +7.8**
LZH *e*S **Sn** **06 04 33.1 -2.3**
LZH sS S 06 04 41.0 -5.1
LZH SS **SnSn** **06 04 51.6 +3.0**
LZH pmax pmax
comp=Z,38nm,1.0s
LZH pmax pmax
comp=Z,380nm,4.1s
LZH LR LR
comp=Z,3μm,6.6s
LZH LR LR
comp=Z,4μm,7.4s
LZH LR LR
comp=Z,3μm,8.0s
MK31 Makanchi Array 17.75 353 *i* P **Pn** **06 01 37.0 -0.3**
MK31 Makanchi Array 17.75 353 P **Pn** **06 01 37.3 0.0**
MKAR Makanchi Array 17.75 353 P **Pn** **06 01 36.7 -0.6**
comp=Z,0.9nm,0.3s,baz=173,slow=12,SNR=21
MKAR LR LR 06 09 42.5
comp=Z,943nm,18.3s,baz=173,slow=41
MAKZ Makanchi 17.80 352 P **P** **06 01 38.4 -0.3**
MAKZ Makanchi 17.80 352 P **Pn** **06 01 38.0 +0.1**
TAS Tashkent 17.89 317 P **Pn** **06 01 36.3 -2.8**
TAS pmax pmax
comp=Z,119nm,0.9s
TAS Tashkent 17.89 317 **Pn** **06 01 36.3 -2.8**
TAS IAmb IAmb 06 01 43.8
comp=Z,119nm,0.9s
IUG luzhnay 17.98 320 *e*P **Pn** **06 01 38.9 -1.5**
comp=Z,12nm,1.1s,baz=320
IUG *e*S **Sn** **06 05 00.8 -0.5**
baz=320
IUG LR LR 06 08 20.3
comp=Z,302nm,9.3s,baz=320
IUG luzhnay 17.98 320 *e*P **Pn** **06 01 38.8 -1.5**
IUG *e*S **Sn** **06 05 00.8 -0.5**
IUG pmax pmax
comp=Z,12nm,1.1s
IUG MLR MLR
comp=Z,302nm,9.0s
BTLS Baital 18.23 333 *e*P **Pn** **06 01 42.2 -1.1**
comp=Z,2.1nm,1.1s,baz=333
BTLS *e*S **Sn** **06 05 07.0 -0.1**
baz=333
BTLS LR LR 06 08 50.9
comp=Z,244nm,10.5s,baz=333
BTLS Baital 18.23 333 *e*P **Pn** **06 01 42.1 -1.1**
BTLS *e*S **Sn** **06 05 07.0 -0.1**
BTLS pmax pmax
comp=Z,2.0nm,1.1s
BTLS MLR MLR
comp=Z,244nm,10.0s
ZSN Zaisan 18.23 359 *e*P **Pn** **06 01 42.3 -1.0**
comp=Z,19nm,1.3s,baz=359
ZSN *e*PP **PnPn** **06 01 53.8 -0.7**
baz=359
ZSN *e*S **Sn** **06 05 07.0 -0.2**
baz=359
ZSN LR LR 06 09 40.4
comp=Z,171nm,10.7s,baz=359
ZSN Zaisan 18.23 359 *e*P **Pn** **06 01 42.2 -1.0**
ZSN *e*S **Sn** **06 05 06.9 -0.2**
ZSN MLR MLR
comp=Z,171nm,11.0s
KK31 Karatay Array 18.37 323 P **Pn** **06 01 43.5 -1.5**
KK31 pmax pmax
comp=Z,17nm,0.9s
KK31 Karatay Array 18.37 323 P **Pn** **06 01 43.5 -1.5**
KKAR Karatay Array 18.37 323 P **Pn** **06 01 43.8 -1.1**
KKAR pmax pmax
comp=Z,17nm,0.9s
KKAR Karatay Array 18.37 323 P **Pn** **06 01 43.8 -1.1**
SLVN Son La 18.39 111 **P** **06 01 46.5 +1.0**
GYA Guiyang 18.93 93 ⇑P **P** **06 01 50.7 -0.7**
GYA pP pP 06 01 53.2 -0.5
GYA S **Sn** **06 05 17.2 -7.1**
GYA sS S 06 05 23.7 -3.4
GYA pmax pmax
comp=Z,68nm,0.9s
GYA pmax pmax
comp=Z,750nm,4.7s
GYA LR LR
comp=Z,690nm,8.4s
GYA LR LR
comp=Z,1μm,10.7s
GYA LR LR
comp=Z,1μm,11.7s
PBKT Sadao Pong 18.98 128 P **Pn** **06 01 52.3 -0.3**
PBKT IAmb IAmb 06 01 57.1
comp=Z,269nm,1.3s

HRA Herat 20.41 291 P Pn 06 02 09.9 +0.2
XAN Xi'an 20.52 70 P **P** **06 02 07.4 -1.3**
XAN pP Pn 06 02 11.0 +0.2
XAN sP sP 06 02 14.3 +2.2
XAN S **S** **06 05 56.3 -2.5**
XAN sS Sn 06 06 02.6 0.0
XAN SS **SnSn** **06 06 27.5 +10**
XAN pmax pmax
comp=Z,28nm,0.9s
XAN pmax pmax
comp=Z,630nm,6.8s
XAN LR LR
comp=Z,2μm,9.8s
XAN LR LR
comp=Z,2μm,12.2s
XAN LR LR
comp=Z,3μm,10.8s
XAN Xi'an 20.52 70 P **P** **06 02 07.7 -1.0**
XAN pmax pmax
comp=Z,56nm,1.0s
XAN Xi'an 20.52 70 P **P** **06 02 07.7 -1.0**
ENH Enshi 20.86 81 P **P** **06 02 12.6 +0.2**
ENH IAmb IAmb 06 02 20.1
comp=Z,75nm,0.9s
OTUK Ortayu 21.55 336 P **P** **06 02 19.6 -0.1**
KURBB Kurchatov Arra 22.04 348 P **P** **06 02 24.2 -0.6**
comp=Z,12nm,0.8s,baz=166,slow=9.8,SNR=36
KURBB PcP **PcP** **06 06 23.1 +0.3**
comp=Z,1.7nm,0.7s,baz=195,slow=2.0,SNR=3.1
KURK Kurchatov 22.11 348 *de*P **P** **06 02 24.8 -0.8**
KURK pmax pmax
comp=Z,69nm,0.9s
KURK Kurchatov 22.11 348 P **P** **06 02 25.2 -0.3**
KURK IAmb IAmb 06 02 33.2
comp=Z,65nm,0.9s
PALK Pallekele 22.27 193 P **P** **06 02 27.3 -0.3**
comp=Z,39nm,0.9s,baz=108,slow=13,SNR=6.8
PALK LR LR 06 11 11.0
comp=Z,648nm,20.2s,baz=113,slow=37
PALK Pallekele 22.27 193 P **P** **06 02 29.0 +1.4**
PALK pmax pmax
comp=Z,93nm,1.2s
PALK Pallekele 22.27 193 P **P** **06 02 29.0 +1.4**
PALK IAmb IAmb 06 02 36.4
comp=Z,93nm,1.1s
BRZS Berezniki 22.93 338 *e*P **P** **06 02 33.6 -0.7**
baz=338
BRZS LR LR 06 11 47.1
comp=Z,298nm,11.2s,baz=338
BRZS Berezniki 22.93 338 *e*P **P** **06 02 33.6 -0.7**
BRZS MLR MLR
comp=Z,298nm,11.0s
BTO Baotou 23.04 54 *e*P **P** **06 02 32.9 -2.8**
HHC Hu-ho-hao-te 24.22 54 *e*P **P** **06 02 47.2 -0.1**
HHC sP sP 06 02 57.6 +6.8
HHC S **S** **06 07 03.4 -3.0**
HHC sS sS 06 07 10.9 +0.3
HHC pmax pmax
comp=Z,24nm,1.2s
HHC pmax pmax
comp=Z,600nm,5.4s
HHC LR LR
comp=Z,1μm,8.6s
HHC LR LR
comp=Z,2μm,13.0s
HHC LR LR
comp=Z,2μm,12.8s
GEYT Alibeck 24.35 298 P **P** **06 02 48.1 -0.3**
comp=Z,12nm,0.8s,baz=134,slow=13,SNR=22
GYA0 ALIBECK ARRAY 24.35 298 P **P** **06 02 50.5 +2.1**
GYA0B ALIBECK ARRAY 24.35 298 P **P** **06 02 50.2 +1.8**
GYA0B IAmb IAmb 06 02 57.5
comp=Z,53nm,0.8s
QIZ Qiongzhong 24.38 109 P **P** **06 02 48.6 -0.2**
QIZ S **S** **06 07 09.8 +0.7**
QIZ pmax pmax
comp=Z,24nm,0.9s
QIZ LR LR
comp=Z,1μm,19.0s
QIZ LR LR
comp=Z,930nm,10.0s
QIZ Qiongzhong 24.38 109 P **P** **06 02 49.4 +0.6**
QIZ IAmb IAmb 06 02 56.9
comp=Z,44nm,1.0s
SONM Songino Array 24.64 35 P **P** **06 02 50.6 -0.5**
comp=Z,26nm,0.9s,baz=222,slow=9.9,SNR=40
SONM ScP **ScP** **06 10 07.8 -0.4**
comp=Z,0.7nm,0.7s,baz=224,slow=4.0,SNR=3.6
ZAA0 Zalesovo Array 24.74 359 P **P** **06 02 51.2 -0.5**
ZAA0 IAmb IAmb 06 02 56.9
comp=Z,36nm,0.9s
ZALV Zalesovo Beam 24.74 359 P **P** **06 02 51.4 -0.3**
comp=Z,32nm,0.9s,baz=181,slow=9.3,SNR=29
ZALV LR LR 06 12 44.9
comp=Z,226nm,18.1s,baz=191,slow=37
ZALV Zalesovo Beam 24.74 359 *i* P **P** **06 02 52.0 +0.3**
ZALV pmax pmax
comp=Z,32nm,0.9s
WSAR Wadi Sarin 24.78 262 P **P** **06 02 53.6 +1.1**
comp=Z,5.8nm,0.8s,baz=92,slow=15,SNR=2.7
ULN Ulaanbaatar 25.00 36 P **P** **06 02 54.4 +0.1**
ULN pmax pmax
comp=Z,47nm,1.0s
ULN Ulaanbaatar 25.00 36 P **P** **06 02 54.4 +0.1**
ULN **pP** **06 02 54.8 -2.0**
ULN IAmb IAmb 06 02 57.4
comp=Z,47nm,1.0s
WHN Wuhan 25.04 80 ⇓P **P** **06 02 57.7 +3.1**
WHN S **S** **06 07 17.7 -1.8**
WHN pmax pmax
comp=Z,970nm,3.7s
WHN LR LR
comp=Z,1μm,4.7s
WHN LR LR
comp=Z,3μm,11.4s
WHN LR LR
comp=Z,4μm,11.8s
ZAK Zakamensk 25.07 27 *e*P **P** **06 02 55.3 +0.4**
ZAK pmax pmax
comp=Z,30nm,1.1s
MOY Mondy 25.26 23 *e*P **P** **06 02 57.9 +1.3**
MOY pmax pmax
comp=Z,58nm,1.8s
LHMI Lhok Sumawe 26.19 153 P **P** **06 03 07.8 +2.6**
comp=Z,93nm,1.2s
BVA0 Borovoye Array 26.28 339 *i* P **P** **06 03 05.8 +0.1**
BVAR Borovoye Array 26.28 339 P **P** **06 03 06.2 +0.5**
comp=Z,14nm,0.7s,baz=134,slow=8.5,SNR=60
BRVK Borovoye 26.34 339 P **P** **06 03 06.5 +0.3**
BRVK Borovoye 26.34 339 P **P** **06 03 06.5 +0.3**
BJT Baijiatuan 27.34 59 P **P** **06 03 15.4 0.0**
BJT pmax pmax
comp=Z,20nm,1.4s
BJT Baijiatuan 27.34 59 P **P** **06 03 15.4 0.0**
BJI Beijing 27.35 59 P **P** **06 03 15.6 +0.1**
BJI S **S** **06 07 57.3 +1.4**
BJI pmax pmax
comp=Z,7.0nm,0.8s
BJI pmax pmax
comp=Z,340nm,12.3s
BJI LR LR
comp=Z,2μm,15.9s
BJI LR LR
comp=Z,840nm,13.9s
KULM Kulim 27.77 146 P **P** **06 03 19.3 -0.2**
KULM IAmb IAmb 06 03 24.9
comp=Z,38nm,1.2s
KULM Kulim 27.77 146 P **P** **06 03 23.0 +3.6**
NJ2 Nanjing 28.79 76 *e*P **P** **06 03 28.3 -0.1**
NJ2 pP **pP** **06 03 30.5 -0.5**
NJ2 S **S** **06 08 19.2 +0.4**
NJ2 sS **sS** **06 08 23.7 +0.7**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax
comp=Z,460nm,3.7s
NJ2 LR LR
comp=Z,750nm,14.3s
NJ2 LR LR
comp=Z,1μm,12.9s
NJ2 LR LR
comp=Z,2μm,10.6s
AKTO Aktyubinsk 29.64 323 P **P** **06 03 36.0 +0.2**
comp=Z,9.2nm,0.7s,baz=122,slow=8.8,SNR=23
AKTO LR LR 06 16 29.3
comp=Z,796nm,19.9s,baz=130,slow=38

AKTO Aktyubinsk 29.64 323 P **P** **06 03 36.0 +0.2**
QZH Quanzhou 29.72 90 P **P** **06 03 38.8 +2.0**
QZH S **S** **06 08 33.4 -0.2**
QZH LR LR
comp=Z,1μm,10.9s
GSI Gunungsitoli 30.03 155 P **P** **06 03 42.4 +2.9**
comp=Z,39nm,0.8s
GSI Gunungsitoli 30.03 155 P **P** **06 03 40.7 +1.1**
GSI IAmb IAmb 06 03 43.2
comp=Z,38nm,1.0s
SSE Sheshan 30.85 77 P **P** **06 03 46.1 -0.6**
SSE IAmb IAmb 06 03 56.0
comp=Z,47nm,1.0s
MNSI Mandailing Nat 31.28 152 P **P** **06 03 52.1 +1.6**
comp=Z,20nm,0.6s
DL2 Dalian 31.30 62 *e*P P 06 04 03.9 +13
DL2 S S 06 09 19.0 +21
DL2 LR LR
comp=N,1μm,13.7s
DL2 LR LR
comp=E,700nm,10.8s
DL2 LR LR
comp=Z,1μm,13.1s
BKNI Bangkinang 32.32 150 P **P** **06 04 01.9 +2.2**
comp=Z,4μmcomp=Z,46nm,1.0s
BKNI Bangkinang 32.32 150 P **P** **06 04 00.2 +0.6**
SVE Sverdlovsk 32.70 335 *de*P **P** **06 04 04.1 +1.5**
SVE *e*S **S** **06 09 23.3 +3.9**
SVE pmax pmax
comp=Z,66nm,1.4s
SVE MLR MLR
comp=Z,558nm,11.0s
HIA Hailar 32.85 43 P **P** **06 04 05.0 +0.9**
HIA pmax pmax
comp=Z,15nm,0.6s
HIA Hailar 32.85 43 P **P** **06 04 05.0 +0.9**
HIA IAmb IAmb 06 04 11.6
comp=Z,15nm,0.6s
AKT Akhty 32.90 302 *e*P **P** **06 04 06.6 +1.9**
AKT *e* 06 05 13.1
AKT pmax pmax
comp=Z,52nm,1.1s
SNY Shenyang 33.20 57 ⇑P **P** **06 04 07.0 -0.2**
SNY S **S** **06 09 30.6 +3.0**
SNY pmax pmax
comp=Z,12nm,0.9s
SNY pmax pmax
comp=Z,310nm,4.2s
SNY LR LR
comp=Z,500nm,9.4s
SNY LR LR
comp=Z,600nm,12.6s
SNY LR LR
comp=Z,1μm,10.6s
ARU Arti 33.22 333 *c* iP **P** **06 04 08.3 +1.1**
ARU 06 05 20.0
ARU PPP PPP 06 05 33.0
ARU 06 06 46.4
ARU S **S** **06 09 31.2 +3.7**
ARU SS **SnSn** **06 11 29.3 +2.6**
ARU pmax pmax
comp=Z,36nm,1.0s
ARU MLR MLR
comp=Z,436nm,12.0s
ARU Arti 33.22 333 P **P** **06 04 08.2 +1.0**
ARU IAmb IAmb 06 04 10.2
comp=Z,33nm,1.0s
MAK Makhachkala 33.34 305 *e*P **P** **06 04 04.5 -3.9**
MAK *e* 06 05 15.3
MAK *e*S **S** **06 09 25.6 -4.1**
MAK *e*SS **SnSn** **06 11 35.5 +5.6**
MAK pmax pmax
comp=Z,130nm,1.4s
MAK MLR MLR
comp=Z,413nm,12.0s
GROC Groznyy 34.61 305 *e*P **P** **06 04 16.7 -2.8**
GROC *e* 06 05 32.0
GROC pmax pmax
comp=Z,92nm,1.2s
BOD Bodaibo 34.81 27 *e*P **P** **06 04 20.9 0.0**
BOD pmax pmax
comp=Z,18nm,1.2s
CN2 Changchun 34.92 54 *e*P **P** **06 04 21.8 -0.3**
CN2 *e*S **S** **06 09 52.4 -1.8**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=Z,3μm,13.0s
CN2 LR LR
comp=Z,1μm,13.0s
CN2 LR LR
comp=Z,1μm,12.0s
TBLG Delisi 35.15 302 P **P** **06 04 24.6 +0.4**
TBLG Delisi 35.15 302 P **P** **06 04 24.6 +0.4**
ZEI Tsey 35.92 304 *e*P **P** **06 04 33.2 +2.2**
ZEI pmax pmax
comp=Z,15nm,0.6s
AKH Akhalkalaki 36.04 301 ⇑P **P** **06 04 35.0 +2.9**
AKH Akhalkalaki 36.04 301 P **P** **06 04 34.2 +2.1**
AKH pmax pmax
comp=Z,39nm,0.9s
AKH Akhalkalaki 36.04 301 P **P** **06 04 34.2 +2.1**
AKH IAmb IAmb 06 04 40.2
comp=Z,39nm,0.9s
KS19 Wonju Array Si 36.11 65 P **P** **06 04 32.1 -0.4**
KSRS Korea Array 36.16 66 P **P** **06 04 30.6 -2.2**
comp=Z,1.5nm,0.6s,baz=265,slow=8.4,SNR=5.9
KSRS PcP **PcP** **06 06 57.1 -1.4**
comp=Z,3.2nm,0.9s,baz=284,slow=4.5,SNR=5.1
KSRS LR LR 06 20 12.4
comp=Z,501nm,20.8s,baz=268,slow=38
KSM Kuching 36.32 135 P **P** **06 04 33.7 -0.7**
KSM **PcP** **06 06 59.4 0.0**
KSM Kuching 36.32 135 P **P** **06 04 34.0 -0.4**
KBZ Khabaz 36.78 305 P **P** **06 04 38.1 0.0**
comp=Z,4.8nm,0.8s,baz=114,slow=6.1,SNR=12
KBZ LR LR 06 22 55.8
comp=Z,264nm,18.2s,baz=88,slow=41
SBUM Sibu 36.79 131 P **P** **06 04 39.1 +0.6**
SBUM IAmb IAmb 06 04 42.9
comp=Z,25nm,0.9s
SBUM Sibu 36.79 131 P **P** **06 04 39.0 +0.6**
KIV Kislovodsk 36.97 305 *e*P **P** **06 04 42.3 +2.5**
KIV pmax pmax
comp=Z,43nm,0.9s
KIV MLR MLR
comp=Z,428nm,16.0s
KIV Kislovodsk 36.97 305 P **P** **06 04 39.1 -0.7**
KKM Kota Kinabalu 37.04 122 P **P** **06 04 41.1 +0.4**
KKM IAmb IAmb 06 04 45.6
comp=Z,52nm,1.2s
ARTV Artvin 37.20 301 P **P** **06 04 44.3 +2.4**
MARD Mardin 37.97 294 P **P** **06 04 50.1 +1.7**
MARD IAmb IAmb 06 04 53.3
comp=Z,24nm,0.8s
MDJ Mudanjiang 37.99 54 P **P** **06 04 49.5 +1.1**
MDJ pP sP 06 04 54.2 +2.3
MDJ sP pP 06 04 56.2 +5.2
MDJ S **S** **06 10 41.6 +0.5**
MDJ pmax pmax
comp=Z,13nm,0.8s
MDJ pmax pmax
comp=Z,160nm,4.3s
MDJ LR LR
comp=Z,3μm,15.5s
MDJ LR LR
comp=Z,740nm,16.1s
MDJ LR LR
comp=Z,2μm,14.9s
SPMM Sapulut 38.12 124 P **P** **06 04 51.0 +1.2**
ZEA Zeya 38.94 39 *e*P **P** **06 04 57.4 +1.2**
ZEA pmax pmax
comp=Z,28nm,1.2s
ZEA MLR MLR
comp=E,2μm,10.0s
ZEA MLR MLR
comp=Z,2μm,10.0s
ZEA MLR MLR
comp=N,600nm,11.0s
VRH Novokhopyorsk 39.24 317 *e*P **P** **06 04 58.9 +0.1**
VRH pmax pmax
comp=Z,20nm,0.7s
MYLDM Lahad Datu 39.31 121 P **P** **06 05 01.4 +1.7**
MYLDM IAmb IAmb 06 05 05.8
comp=Z,59nm,1.3s

USA0B Ussuriysk Arra 39.64 55 P P 06 05 02.0 -0.2
USA0B pmax pmax
comp=Z,13nm,1.1s
USA0B Ussuriysk Arra 39.64 55 P P 06 05 02.0 -0.2
USRK Ussuriysk Ar. 39.64 55 P P 06 05 00.3 -1.9
comp=Z,12nm,1.0s,baz=256,slow=7.7,SNR=10
USRK LR LR 06 22 46.1
comp=Z,357nm,19.5s,baz=255,slow=38
NRIK Noril'sk 40.20 1 P P 06 05 06.8 +0.3
comp=Z,65nm,0.9s,baz=162,slow=5.8,SNR=56
NRIK LR LR 06 23 50.5
comp=Z,935nm,18.0s,baz=205,slow=39
VSR Storozhevoye 40.79 316 *eP* **P 06 05 11.7 +0.1**
VSR pmax pmax
comp=Z,10.0nm,1.0s
GAZ Gaziantep 40.82 294 P P 06 05 13.4 +1.3
TOKA Tokat 41.30 299 P P 06 05 17.5 +1.5
LPSR Galich'ya Gora 41.30 318 *eP* **P 06 05 16.1 +0.3**
LPSR pmax pmax
comp=Z,50nm,0.9s
LEM Lembang 41.67 146 P P 06 05 20.9 +1.5
comp=Z,15nm,1.6s
PRGR Permogore 41.68 333 *eP* **P 06 05 16.7 -2.1**
PRGR *e* 06 07 12.3
PRGR pmax pmax
comp=Z,58nm,1.0s
MOS Moscow 42.95 322 *eP* **P 06 05 27.8 -1.4**
MOS *eS* **S 06 11 52.1 -2.6**
MOS pmax pmax
comp=Z,80nm,0.9s
MOS pmax pmax
comp=Z,190nm,1.6s
MOS MLR MLR
comp=Z,700nm,20.0s
BBKI Banjar Baru 42.98 134 P P 06 05 31.8 +1.9
comp=Z,3µmcomp=Z,34nm,0.8s
BZK Bozkurt 43.17 301 ⇑P **P 06 05 32.3 +1.1**
OBN Obninsk 43.34 321 ⇓P **P 06 05 32.6 +0.3**
OBN Obninsk 43.34 321 *deP* **P 06 05 32.2 -0.2**
OBN *e* 06 07 13.2
OBN *e* 06 07 20.6
OBN *e*PPP PPP 06 07 45.9
OBN pmax pmax
comp=Z,101nm,1.3s
OBN MLR MLR
comp=Z,566nm,19.0s
OBN Obninsk 43.34 321 P P 06 05 32.1 -0.2
ILGA Ilgaz 43.39 300 P P 06 05 33.8 +0.5
ILGA IAmb IAmb 06 05 40.7
comp=Z,48nm,1.0s
BR131 Keskin Array S 43.49 298 P P 06 05 34.9 +0.9
BR131 pmax pmax
comp=Z,16nm,1.2s
BR131 Keskin Array S 43.49 298 P P 06 05 34.9 +0.9
BRTR Keskin Array B 43.49 298 P P 06 05 33.9 -0.2
comp=Z,5.7nm,1.0s,baz=106,slow=6.6,SNR=16
BRTR Keskin Array B 43.49 298 *ceP* **P 06 05 35.2 +1.2**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
GRNR Gornyy 43.55 46 ⇓*iP* **P 06 05 34.1 -0.1**
GRNR *eS* **S 06 12 05.7 +1.9**
GRNR pmax pmax
comp=E,10.0nm,1.1s
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR smax smax
comp=N,2.0nm,1.0s
GRNR MLR MLR
comp=E,280nm,12.0s
GRNR MLR MLR
comp=N,270nm,20.0s
GRNR MLR MLR
comp=Z,520nm,12.0s
MPSI Mapaga 43.60 125 P P 06 05 36.8 +1.9
comp=Z,2µmcomp=Z,17nm,1.2s
YAK Yakutsk 43.65 28 *eP* **P 06 05 34.5 -0.3**
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK MLR MLR
comp=Z,241nm,19.0s
YAK MLR MLR
comp=N,93nm,19.0s
YAK MLR MLR
comp=E,124nm,16.0s
YAK Yakutsk 43.65 28 P P 06 05 34.5 -0.3
YAK IAmb IAmb 06 05 40.1
comp=Z,25nm,0.7s
KBKI Kotabaru 43.70 132 P P 06 05 38.2 +2.5
comp=Z,27nm,1.0s
KLMR Klimovskoe 43.89 329 *eP* **P 06 05 34.8 -1.9**
KLMR *e* 06 07 16.4
KLMR pmax pmax
comp=Z,87nm,1.4s
KLMR Klimovskoe 43.89 329 *eP* **P 06 05 34.8 -1.9**
KLMR AMP 06 05 39.3
comp=Z,87nm,1.4s
KLMR *e*PP **PP 06 07 16.5 -2.2**
KLMR LQ LQ 06 20 34.5
KLMR LQ LQ 06 20 34.5
KLMR LR LR 06 23 15.7
ANTO Ankara 44.14 298 P 06 05 39.0 -0.1
ANTO Ankara 44.14 298 P P 06 05 38.7 -0.4
ANTO IAmb IAmb 06 05 45.6
comp=Z,22nm,0.8s
BR231 Keskin MP Arra 44.15 298 P P 06 05 37.9 -1.4
BR231 IAmb IAmb 06 05 45.8
comp=Z,28nm,0.5s
CSS Mathiatis 44.16 291 P P 06 05 39.4 +0.1
MJAR Matsushiro Arr 44.42 66 P P 06 05 39.9 -1.5
comp=Z,2.3nm,0.9s,baz=282,slow=11,SNR=9.2
MJAR PcP **PP 06 07 24.2 -0.7**
comp=Z,5.2nm,1.1s,baz=265,slow=4.9,SNR=7.7
MJAR LR LR 06 24 49.6
comp=Z,186nm,20.1s,baz=235,slow=37
LEF Lefka 44.50 292 ⇓P **P 06 05 43.4 +1.4**
MDUB Mudurnu 45.33 299 P P 06 05 50.0 +1.4
BOLV Bolvadin 45.64 297 P P 06 05 50.1 -1.1
BOLV IAmb IAmb 06 06 00.2
comp=Z,18nm,0.8s
TMCR Tamitsa 45.95 333 *eP* **P 06 05 53.6 +0.5**
TMCR pmax pmax
comp=Z,88nm,0.9s
ISP Isparta 46.07 296 P P 06 05 55.2 +0.6
ISP pmax pmax
comp=Z,22nm,1.1s
ISP Isparta 46.07 296 P P 06 05 55.2 +0.6
ISP IAmb IAmb 06 05 59.9
comp=Z,22nm,1.1s
ELL Elmali 46.68 294 P P 06 06 00.0 +0.6
ELL pmax pmax
comp=Z,255nm,0.8s
ELL Elmali 46.68 294 P P 06 05 60.0 +0.6
SRBI Singaraja 46.84 138 P P 06 06 06.4 +5.8
AKASG Malin Array Be 46.90 314 P P 06 05 59.6 -1.1
comp=Z,11nm,0.5s,baz=81,slow=6.9,SNR=26
AKASG LR LR 06 28 13.5
comp=Z,451nm,18.1s,baz=75,slow=39
AKBB Malin Array Si 46.90 314 P P 06 06 00.2 -0.5
AKBB pmax pmax
comp=Z,18nm,0.8s
AKBB Malin Array Si 46.90 314 P P 06 06 00.2 -0.5
AKBB IAmb IAmb 06 06 02.0
comp=Z,18nm,0.8s
MILM Milestii Mici 46.95 308 ⇑P **P 06 06 02.2 +1.0**
MFTR Murfatlar 47.23 305 ⇓P **P 06 06 04.5 +1.1**
TIRR Tirgusor 47.23 305 ⇑P **P 06 06 04.6 +1.2**
SORM Soroca 47.30 310 ⇓P **P 06 06 03.6 -0.3**
LEOM Leova 47.34 308 ⇓P **P 06 06 06.1 +1.9**
YSS Yuzh-Sakhalins 47.36 52 *eP* **P 06 06 05.4 +1.0**
YSS *e* 06 07 34.4
YSS MLR MLR
comp=Z,500nm,18.0s
YSS MLR MLR
comp=E,600nm,15.0s
YSS Yuzh-Sakhalins 47.36 52 P P 06 06 04.6 +0.2
YSS IAmb IAmb 06 06 06.0
comp=Z,16nm,0.9s
CFR Carcaliu 47.41 306 ⇓P **P 06 06 05.6 +0.8**
MANT Manisa 47.53 297 P P 06 06 06.9 +0.7
HARR Harsova 47.57 305 ⇑P **P 06 06 06.2 +0.1**
VASR Vaslui 47.65 308 ⇑P **P 06 06 08.2 +1.5**

ICOR Ion Corvin 47.68 305 ⇓P **P 06 06 08.2 +1.3**
ODBI Odobesti 48.17 307 ⇑P **P 06 06 11.5 +0.8**
VRI Vrincioaia 48.39 307 ⇓P **P 06 06 13.4 +1.0**
TESR Tescani 48.44 308 ⇑P **P 06 06 13.3 +0.5**
PLOR Plostina 48.45 307 ⇑P **P 06 06 14.2 +1.3**
ISR Istrita 48.54 306 ⇑P **P 06 06 15.6 +1.9**
TIXI Tiksi 48.58 17 P **P 06 06 12.5 -1.0**
TIXI PcP **PcP 06 07 39.4 +0.4**
RAZG Razgrad 48.64 304 ⇑P **P 06 06 15.2 +0.8**
NEHR Nehoiu 48.71 306 ⇑P **P 06 06 16.7 +1.8**
PRAR RASCA 48.72 309 ⇑P **P 06 06 15.0 0.0**
SULR 48.77 305 ⇓P **P 06 06 16.7 +1.4**
BIZ Bicaz 48.81 308 ⇓P **P 06 06 16.0 +0.4**
NACGM Naroch 48.82 319 *e* **P 06 06 15.0 -0.5**
NACGM eLQ LQ 06 23 10.0
NACGM eLR LR 06 26 34.0
LVZ Lovozero 48.84 337 P **P 06 06 15.1 -0.5**
LVZ pP **pP 06 06 17.8 -0.4**
IDID Didziasalis 48.89 320 *eP* **P 06 06 18.1 +2.0**
MLR Muntele Rosu 48.95 306 ⇑P **P 06 06 18.4 +1.5**
MLR Muntele Rosu 48.95 306 P **P 06 06 16.4 -0.5**
MLR pmax pmax
comp=Z,122nm,1.0s
MLR Muntele Rosu 48.95 306 P **P 06 06 16.4 -0.5**
OZUR 49.04 307 ⇑P **P 06 06 18.1 +0.6**
KARP Karpathos 49.06 293 P **P 06 06 18.0 +0.3**
APA Apatity 49.13 336 ⇓*iP* **P 06 06 16.5 -1.3**
APA *eS* **S 06 13 18.0 -5.3**
APA pmax pmax
comp=Z,9.0nm,0.8s
APA MLR MLR
comp=Z,700nm,24.0s
ALN Alexandroupoli 49.20 300 P **P 06 06 18.3 -0.4**
ALN Alexandroupoli 49.20 300 P **P 06 06 19.0 +0.3**
ALN pmax pmax
comp=Z,43nm,1.0s
ALN Alexandroupoli 49.20 300 P **P 06 06 19.0 +0.3**
ALN pP **pP 06 06 21.0 -0.2**
IZAR Zarasai 49.23 320 *eP* **P 06 06 19.7 +1.1**
ISAL Salakas 49.27 320 *eP* **P 06 06 20.9 +1.9**
DOPR Dopca 49.33 307 ⇓P **P 06 06 20.0 +0.4**
VSU Vasula 49.37 324 *eP* **P 06 06 20.2 +0.6**
VSU Vasula 49.37 324 *deP* **P 06 06 20.4 +0.7**
VSU pmax pmax
comp=Z,143nm,1.1s
BURAR Bucovina Array 49.41 309 ⇑P **P 06 06 20.7 +0.3**
BUR08 Bucovina Ar. S 49.42 309 P **P 06 06 20.5 +0.1**
BUR08 IAmb IAmb 06 06 25.2
comp=Z,15nm,0.8s
ZIMR 49.46 304 ⇑P **P 06 06 21.6 +0.9**
RDO Rodhopi 49.55 301 P **P 06 06 21.9 +0.5**
VOIR 49.58 306 ⇑P **P 06 06 22.1 +0.4**
KDZ Kurdzhali 49.59 301 *iP* **P 06 06 21.6 -0.1**
JCJ Chichijima 49.62 78 LR LR 06 29 24.1
comp=Z,137nm,18.5s,baz=280,slow=39
SMTH Samothraki Isl 49.63 300 P **P 06 06 22.3 +0.3**
SANI Sanana 49.67 122 P **P 06 06 23.5 +0.9**
comp=Z,534nmcomp=Z,19nm,0.9s
STFAR Stefanesti-Arg 49.68 306 ⇑P **P 06 06 22.9 +0.6**
HUMR Humele 49.68 305 ⇑P **P 06 06 23.4 +1.1**
ARR Arges 49.88 306 ⇑P **P 06 06 24.3 +0.4**
ARCR ARCALIA 50.00 309 ⇓P **P 06 06 26.0 +1.2**
ANAF Anafi Island 50.03 295 P **P 06 06 26.4 +1.3**
PLD Plovdiv 50.08 302 *iP* **P 06 06 26.9 +1.5**
LVV L'vov 50.18 312 *eP* **P 06 06 26.7 +0.6**
FINES FINESS Array B 50.25 327 P **P 06 06 26.2 -0.2**
comp=Z,32nm,0.8s,baz=107,slow=7.6,SNR=67
FINES LR LR 06 28 17.0
comp=Z,990nm,21.7s,baz=110,slow=37
SANT Santorini 50.28 295 ⇑P **P 06 06 27.3 +0.2**
SANT Santorini 50.28 295 P **P 06 06 27.1 0.0**
PGB Panagyurishte 50.43 303 *iP* **P 06 06 29.0 +0.9**
LOT Lotru 50.48 307 ⇑P **P 06 06 30.2 +1.7**
PABE Paberze 50.48 320 *eP* **P 06 06 29.1 +0.9**
CJR Cluj-Napoca 50.53 308 ⇓P **P 06 06 30.3 +1.5**
BMR Baia Mare 50.57 309 ⇓P **P 06 06 28.9 -0.1**
WBSI Waikabubak, Su 50.59 135 P **P 06 06 29.8 +0.2**
comp=Z,64nm,0.9s
NVR Nevrokopi 50.78 301 P **P 06 06 32.0 +1.2**
SUW Suwalki 50.83 318 *eP* **P 06 06 30.6 -0.3**
SUW Suwalki 50.83 318 P **P 06 06 31.0 +0.1**
SUW pmax pmax
comp=Z,87nm,1.0s
SUW Suwalki 50.83 318 P **P 06 06 31.0 +0.1**
MMB Musomiste 50.86 302 *iP* **P 06 06 31.9 +0.5**
IDI Anoyia 50.93 293 ⇓P **P 06 06 32.1 0.0**
SRS Serrai 51.02 301 P **P 06 06 32.9 +0.4**
KWP Kalwaria Pacla 51.04 312 P **P 06 06 32.6 0.0**
KWP pmax pmax
comp=Z,35nm,0.9s
KWP Kalwaria Pacla 51.04 312 P **P 06 06 32.6 0.0**
KWP IAmb IAmb 06 06 37.3
comp=Z,35nm,0.9s
DEV Deva 51.06 307 ⇑P **P 06 06 33.9 +1.1**
PAIG Paliouri 51.11 299 P **P 06 06 32.7 -0.5**
VTS Vitosha 51.11 303 ⇑P **P 06 06 33.8 +0.5**
VTS Vitosha 51.11 303 P **P 06 06 33.7 +0.4**
VTS pmax pmax
comp=Z,30nm,0.9s
VTS Vitosha 51.11 303 P **P 06 06 33.7 +0.4**
VTS IAmb IAmb 06 06 40.2
comp=Z,30nm,0.9s
VTS Vitosha 51.11 303 *iP* **P 06 06 34.0 +0.6**
PUNG Punghina 51.16 305 ⇓P **P 06 06 35.0 +1.5**
TRPA Tarpa 51.19 310 ⇑P **P 06 06 34.3 +0.6**
PLG Polygyros 51.22 300 P **P 06 06 34.9 +0.8**
KKB Krupnik 51.30 302 *iP* **P 06 06 35.7 +1.0**
UZH Uzhgorod 51.34 311 *eP* **P 06 06 35.2 +0.4**
UZH *e* 06 06 39.9
UZH *e* 06 06 53.0
KOLS Kolonicke sedl 51.34 311 *eP* **P 06 06 36.0 +1.1**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 51.34 311 *eP* **P 06 06 36.0 +1.1**
MRKA Markates 51.36 298 P **P 06 06 36.0 +0.9**
EDFI Ende, Flores 51.38 132 P **P 06 06 34.9 -0.7**
comp=Z,13nm,0.9s
HERR Herculane 51.48 306 ⇑P **P 06 06 36.4 +0.5**
MMRI Maumere 51.66 131 P **P 06 06 39.4 +1.9**
PBUR Paburge 51.67 320 *eP* **P 06 06 38.3 +1.2**
VAY Valandovo 51.75 301 *eP* **P 06 06 39.1 +1.1**
CRVS Cervenica-Dubn 51.88 311 *eP* **P 06 06 39.1 +0.2**
CRVS Cervenica-Dubn 51.88 311 *eP* **P 06 06 39.1 +0.2**
SIRR Siria 51.90 308 ⇓P **P 06 06 39.6 +0.5**
BZS Buzias 51.98 307 ⇓P **P 06 06 40.0 +0.3**
LIT Litokhoron 51.99 300 P **P 06 06 39.2 -0.6**
LIT Litokhoron 51.99 300 P **P 06 06 39.8 0.0**
LIT pmax pmax
comp=Z,24nm,0.9s
LIT Litokhoron 51.99 300 P **P 06 06 39.8 0.0**
LIT IAmb IAmb 06 06 41.2
comp=Z,24nm,0.9s
MDVR Moldovita 51.99 306 ⇑P **P 06 06 40.5 +0.7**
KEV Kevo 52.12 338 P **P 06 06 40.8 +0.5**
KEV pmax pmax
comp=Z,25nm,0.8s
KEV Kevo 52.12 338 P **P 06 06 40.8 +0.5**
KEV IAmb IAmb 06 06 42.6
comp=Z,25nm,0.8s
BEL Belsk 52.23 315 *eP* **P 06 06 42.5 +1.1**
AGG Agios Georgios 52.28 299 P **P 06 06 41.5 -0.5**
AGG Agios Georgios 52.28 299 P **P 06 06 42.0 0.0**
AGG pmax pmax
comp=Z,38nm,0.8s
AGG Agios Georgios 52.28 299 P **P 06 06 42.0 0.0**
AGG IAmb IAmb 06 06 45.9
comp=Z,38nm,0.8s
MAKR Makrakomi, Fth 52.43 299 P **P 06 06 43.2 0.0**
THL Klokotos Trika 52.43 299 P **P 06 06 42.6 -0.5**
SKO Skopje 52.51 302 *eP* **P 06 06 44.6 +0.9**
ARCES ARCESS Array B 52.55 337 P **P 06 06 43.6 +0.1**
comp=Z,23nm,0.7s,baz=95,slow=5.9,SNR=75
ARCES LR LR 06 29 59.7
comp=Z,690nm,18.6s,baz=136,slow=37
ARE0 ARCESS Array S 52.55 337 P **P 06 06 43.5 0.0**
ARE0 ARCESS Array S 52.55 337 *eP* **P 06 06 43.9 +0.4**
NIE Niedzica 52.62 312 *eP* **P 06 06 45.3 +0.9**
EVR Evrytania 52.70 298 P **P 06 06 45.9 +0.7**
FNA Florina 52.72 301 P **P 06 06 45.5 +0.2**
FNA Florina 52.72 301 P **P 06 06 45.2 -0.1**
FNA pmax pmax
comp=Z,23nm,0.8s

FNA Florina 52.72 301 P **P 06 06 45.2 -0.1**
FNA IAmb IAmb 06 06 51.0
comp=Z,23nm,0.8s
KPRO Kipourio 52.86 300 P **P 06 06 45.8 -0.6**
OJC Ojcow 52.91 313 *eP* **P 06 06 47.0 +0.6**
ITM Ithomi 52.92 296 P **P 06 06 45.7 -1.1**
PSZ Piszkesteto 52.98 310 ⇓P **P 06 06 47.4 +0.2**
PSZ Piszkesteto 52.98 310 P **P 06 06 47.3 +0.2**
PSZ pmax pmax
comp=Z,13nm,0.9s
PSZ Piszkesteto 52.98 310 P **P 06 06 47.3 +0.2**
OHR Ohrid 53.11 301 *iP* **P 06 06 50.3 +2.1**
LANS Liptovska Anna 53.18 311 *eP* **P 06 06 50.4 +1.9**
LANS pmax pmax
comp=Z,5.0nm,1.3s
LANS Liptovska Anna 53.18 311 *eP* **P 06 06 50.4 +1.9**
DIVS Divibare 53.29 305 ⇓*iP* **P 06 06 48.7 -0.8**
DIVS Divibare 53.29 305 P **P 06 06 50.5 +1.0**
FRGS Fruska Gora 53.29 306 ⇓*iP* **P 06 06 49.2 -0.2**
HAMF Hammerfest 53.47 339 *eP* **P 06 06 50.9 +0.6**
PVY Plav 53.51 303 ⇓*iP* **P 06 06 51.0 -0.2**
IVA Berane 53.52 304 ⇑*iP* **P 06 06 51.0 -0.2**
TEKS Tekeris 53.56 306 *eP* **P 06 06 52.7 +1.3**
VYHS Vyhne 53.64 311 *eP* **P 06 06 51.8 -0.1**
VYHS pmax pmax
comp=Z,10.0nm,1.1s
VYHS Vyhne 53.64 311 *eP* **P 06 06 51.8 -0.1**
BBLS Lazi?i 53.74 305 ⇓*iP* **P 06 06 52.1 -0.7**
BATI Baumata 53.76 131 LR LR 06 34 22.2
comp=Z,273nm,19.9s,baz=335,slow=41
BATI Baumata 53.76 131 P **P 06 06 54.6 +1.5**
comp=Z,52nm,1.0s
TIR Tirane 53.77 302 P **P 06 06 52.5 -0.4**
TIR pmax pmax
comp=Z,49nm,0.9s
TIR Tirane 53.77 302 P **P 06 06 52.5 -0.4**
RUDO Rudo 53.80 305 *eP* **P 06 06 58.0 +4.9**
KOME Kolasin 53.80 304 ⇑*iP* **P 06 06 52.6 -0.6**
PLE Pljevlja 53.82 304 ⇑*iP* **P 06 06 53.2 -0.2**
SOEI Soe 53.83 130 P **P 06 06 54.7 +0.9**
comp=Z,74nm,0.8s
SOEI Soe 53.83 130 P **P 06 06 55.0 +1.2**
MORH Mrgy, Hungar 53.99 308 *eP* **P 06 06 53.2 -1.2**
OKC Ostrava-Krasne 53.99 312 *eP* **P 06 06 55.8 +1.4**
OKC Ostrava-Krasne 53.99 312 *eP* **P 06 06 55.8 +1.4**
PDG Podgorica 54.05 303 ⇑P **P 06 06 54.3 -0.6**
PDG Podgorica 54.05 303 *eP* **P 06 06 54.3 -0.6**
PDG Podgorica 54.05 303 P **P 06 06 55.1 +0.1**
PDG IAmb IAmb 06 07 00.8
comp=Z,24nm,0.9s
SRO Srobarova 54.05 310 *eP* **P 06 06 56.5 +1.6**
SRO pmax pmax
comp=Z,28nm,1.0s
SRO Srobarova 54.05 310 *eP* **P 06 06 56.5 +1.6**
TTG Podgorica 54.05 303 ⇓*iP* **P 06 06 55.2 +0.3**
ULC Ulcinj 54.13 303 ⇑*iP* **P 06 06 55.7 +0.1**
DRME Dracevica, Mon 54.14 303 ⇑*iP* **P 06 06 55.7 +0.1**
DRME Dracevica, Mon 54.14 303 *eP* **P 06 06 55.4 -0.2**
NKY Niksic 54.18 304 ⇓*iP* **P 06 06 56.5 +0.4**
UPM Unac-Piva 54.19 304 ⇑*iP* **P 06 06 56.5 +0.3**
UPM Unac-Piva 54.19 304 *eP* **P 06 06 56.8 +0.6**
CEME Cevo 54.28 303 ⇑*iP* **P 06 06 56.0 -0.7**
BUM Brajici-Budva 54.33 303 ⇑*iP* **P 06 06 57.1 0.0**
JAVC Velka Javorina 54.38 311 *eP* **P 06 06 58.2 +0.8**
MORC Moravsky Berou 54.38 312 ⇓P **P 06 06 57.6 +0.3**
MORC Moravsky Berou 54.38 312 *eP* **P 06 06 57.5 +0.1**
MORC Moravsky Berou 54.38 312 P **P 06 06 57.7 +0.3**
MORC pmax pmax
comp=Z,9.0nm,0.7s
MORC Moravsky Berou 54.38 312 P **P 06 06 57.7 +0.3**
BRY Bratogost 54.50 304 ⇑*iP* **P 06 06 57.9 -0.5**
BRY Bratogost 54.50 304 *eP* **P 06 06 57.7 -0.7**
HCY Herceg Novi 54.60 303 ⇑*iP* **P 06 06 58.7 -0.3**
HCY Herceg Novi 54.60 303 *eP* **P 06 06 58.1 -0.9**
TREB Trebinje 54.66 304 *eP* **P 06 07 00.2 +0.7**
MODS Modra-Piesok 54.69 311 *eP* **P 06 06 59.6 +0.1**
MODS pmax pmax
comp=Z,8.0nm,1.0s
MODS Modra-Piesok 54.69 311 *eP* **P 06 06 59.6 +0.1**
TRO Tromso 54.81 337 *eP* **P 06 06 59.9 -0.1**
KRLC Kraliky 54.85 313 *eP* **P 06 07 01.8 +1.1**
KRLC MLR MLR
comp=Z,300nm,12.9s
KRLC Kraliky 54.85 313 *eP* **P 06 07 01.8 +1.1**
KRLC AMS AMS 06 32 20.0
comp=Z,300nm,12.9s
SCTE Santa Cesarea 55.03 300 P **P 06 07 02.1 0.0**
VRAC Vranov 55.04 312 ⇑P **P 06 07 02.6 +0.5**
VRAC Vranov 55.04 312 *eP* **P 06 07 02.5 +0.4**
KMBO Kilima Mbogo 55.05 245 P **P 06 07 04.2 +1.2**
comp=Z,2.5nm,0.7s,baz=34,slow=8.3,SNR=7.1
KMBO LR LR 06 28 18.6
comp=Z,160nm,22.0s,baz=92,slow=34
KMBO Kilima Mbogo 55.05 245 *iP* **P 06 07 06.8 +3.9**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KSP Ksiaz 55.10 314 *eP* **P 06 07 02.8 +0.4**
DPC Dobruska-Polom 55.12 313 *eP* **P 06 07 02.7 0.0**
DPC MLR MLR
comp=Z,600nm,29.8s
DPC Dobruska-Polom 55.12 313 *eP* **P 06 07 02.7 0.0**
DPC AMS AMS 06 28 30.0
comp=Z,600nm,29.8s
OSTC Ostas 55.17 313 *eP* **P 06 07 03.3 +0.3**
OSTC AMS AMS 06 30 10.0
comp=Z,500nm,22.9s
BLY Banja Luka 55.19 306 ⇓*iP* **P 06 07 02.5 -0.7**
KRUC Moravsky 55.20 312 *eP* **P 06 07 03.2 0.0**
CHVC Chvalec 55.27 313 *eP* **P 06 07 05.0 +1.3**
CHVC AMS AMS 06 28 40.0
comp=Z,600nm,28.9s
UPC Upice 55.30 313 *eP* **P 06 07 05.5 +1.5**
UPC MLR MLR
comp=Z,500nm,21.8s
UPC Upice 55.30 313 *eP* **P 06 07 05.5 +1.5**
UPC AMS AMS 06 28 40.0
comp=Z,500nm,21.8s
KOGS Kog 55.60 308 *iP* **P 06 07 06.3 +0.1**
CONA Conrad Observa 55.68 310 *eP* **P 06 07 06.3 -0.5**
comp=Z,22nm,1.0s,SNR=20
TREC Trest 55.76 312 AMS AMS 06 31 40.0
comp=Z,400nm,19.7s
FAUS Fauske 55.80 334 *eP* **P 06 07 06.8 -0.4**
BJO1 Bjornoya 55.86 343 *eP* **P 06 07 08.8 +1.2**
STEI Steigen 55.88 335 *eP* **P 06 07 08.6 +0.8**
ARSA Arzberg 55.99 309 *eP* **P 06 07 08.7 -0.3**
comp=Z,10nm,1.1s,SNR=10
SKR Severo-Kuril's 56.02 46 *eP* **P 06 07 10.5 +1.5**
SKR *eS* **S 06 14 54.1 -3.9**
SKR pmax pmax
comp=Z,100nm,6.6s
SKR MLR MLR
comp=Z,300nm,15.0s
GOPC GO Pecny, Ondr 56.15 313 *eP* **P 06 07 11.4 +1.3**
GOPC MLR MLR
comp=Z,400nm,30.8s
GOPC GO Pecny, Ondr 56.15 313 *eP* **P 06 07 11.4 +1.3**
GOPC AMS AMS 06 28 40.0
comp=Z,400nm,30.8s
PVCC Panska Ves 56.22 313 *eP* **P 06 07 11.6 +1.1**
PVCC MLR MLR
comp=Z,500nm,22.9s
PVCC Panska Ves 56.22 313 *eP* **P 06 07 11.6 +1.1**
PVCC AMS AMS 06 30 50.0
comp=Z,500nm,22.9s
CRES Cresnjev 56.24 308 ⇓*iP* **P 06 07 10.2 -0.6**
MATE Matera 56.24 301 ⇑P **P 06 07 10.5 -0.3**
PRU Pruhonice 56.30 313 *eP* **P 06 07 11.0 -0.1**
PRU MLR MLR
comp=Z,300nm,17.2s
PRU Pruhonice 56.30 313 *eP* **P 06 07 11.0 -0.1**
PRU AMS AMS 06 30 20.0
comp=Z,300nm,17.2s
PERS Pernice 56.35 309 *iP* **P 06 07 11.7 +0.1**
PERS *eS* **S 06 15 02.9 +0.2**
PERS *e* 06 19 53.5
PRA Prague 56.36 313 AMS AMS 06 30 20.0
comp=Z,200nm,15.8s
SOKA Soboth 56.40 309 *eP* **P 06 07 11.8 -0.2**
comp=Z,19nm,0.9s,SNR=14
BOJS Bojanci 56.43 307 *iP* **P 06 07 12.2 +0.1**
TIP Timpagrande 56.50 300 ⇓P **P 06 07 12.8 0.0**
TIP Timpagrande 56.50 300 P **P 06 07 13.5 +0.7**

TIP IAmb IAmb 06 07 14.4
comp=Z,21nm,1.0s
RUE Ruedersdorf 56.51 316 *e*P **P 06 07 13.7 +1.2**
LOF Lofoten 56.53 335 *e*P **P 06 07 12.1 -0.3**
BRG Berggiesshubel 56.58 314 *e*P **P 06 07 12.5 -0.5**
comp=Z,15nm,0.9s
BRG Berggiesshubel 56.58 314 *e*P **P 06 07 13.1 0.0**
comp=Z,15nm,0.9s,baz=81,slow=7.0
PBCC Pribram 56.68 313 *e*P **P 06 07 14.9 +1.0**
SGRT San Giovanni R 56.74 303 P **P 06 07 14.3 -0.2**
SGRT IAmb IAmb 06 07 15.8
comp=Z,22nm,1.1s
MOA Molln 56.75 310 *e*P **P 06 07 13.3 -1.1**
comp=Z,13nm,0.9s,SNR=8.5
PETK Petropavlovsk- 56.76 43 P **P 06 07 13.5 -0.8**
comp=Z,6.7nm,0.9s,baz=242,slow=3.1,SNR=7.1
PETK LR LR 06 32 48.9
comp=Z,327nm,19.0s,baz=280,slow=37
OBKA Obir 56.76 309 *e*P **P 06 07 14.8 +0.2**
comp=Z,12nm,0.9s,SNR=8.6
LJU Ljubljana 56.85 308 *e*P **P 06 07 14.9 -0.2**
GUMO Guam 56.88 92 LR LR 06 31 13.6
comp=Z,83nm,20.5s,baz=304,slow=36
FBE Freiberg 56.94 314 *e*P **P 06 07 15.9 +0.3**
comp=Z,25nm,1.3s,baz=81,slow=7.0
CEY Cerknica 56.97 308 *e*P **P 06 07 13.5 -2.5**
GEC2 GERESS Array S 56.98 312 *e*P **P 06 07 15.9 -0.2**
comp=Z,21nm,1.2s,baz=81,slow=7.0
GEC2 GERESS Array S 56.98 312 P **P 06 07 15.9 -0.2**
GEC2 IAmb IAmb 06 07 18.2
comp=Z,19nm,1.2s
GERES GERESS Array B 56.98 312 P **P 06 07 16.0 -0.2**
comp=Z,7.7nm,1.0s,baz=94,slow=6.0,SNR=42
GERES LR LR 06 35 14.9
comp=Z,204nm,18.6s,baz=112,slow=40
NSS Namsos 56.99 330 *e*P **P 06 07 15.8 0.0**
KHC Kasperske Hory 57.03 312 *ce*P **P 06 07 16.3 0.0**
KHC pmax pmax
comp=Z,37nm,1.3s
KHC Kasperske Hory 57.03 312 *e*P **P 06 07 15.9 -0.4**
KHC AMS AMS 06 30 20.0
comp=Z,400nm,25.0s
KHC Kasperske Hory 57.03 312 P **P 06 07 16.4 0.0**
CLL Collm 57.12 315 *i* P **P 06 07 16.2 -0.7**
comp=Z,8.0nm,1.0s
CLL LmV 06 33 00.0
comp=Z,400nm,19.5s
CLL Collm 57.12 315 P **P 06 07 17.0 +0.1**
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 57.12 315 *e*P **P 06 07 16.1 -0.7**
comp=Z,7.9nm,1.0s,baz=81,slow=7.0
CLL Collm 57.12 315 P **P 06 07 17.0 +0.1**
NC405 NORSAR Array S 57.12 326 P **P 06 07 17.0 +0.2**
NC602 NORSAR Array S 57.22 326 P **P 06 07 18.2 +0.8**
NC602 NORSAR Array S 57.22 326 *e*P **P 06 07 17.1 -0.3**
NC303 NORSAR Array S 57.28 326 P **P 06 07 17.9 -0.1**
NB201 NORSAR Array S 57.33 326 P **P 06 07 17.6 -0.6**
NB2 NORSAR Subarra 57.37 326 P **P 06 07 17.4 -1.1**
comp=Z,28nm,1.0s,baz=86,slow=7.4
NB2 NORSAR Subarra 57.37 326 P **P 06 07 17.4 -1.1**
baz=86,slow=7.4
NOA NORSAR Array B 57.37 326 P **P 06 07 17.4 -1.1**
comp=Z,22nm,0.8s,baz=88,slow=6.9,SNR=48
NOA LR LR 06 33 44.9
comp=Z,237nm,20.6s,baz=95,slow=38
CEL Celeste 57.37 299 P **P 06 07 19.4 +0.4**
PRED Cave del Predi 57.44 309 P **P 06 07 19.2 -0.2**
WET Wettzell 57.48 312 *e*P **P 06 07 19.6 +0.1**
comp=Z,14nm,1.1s,baz=81,slow=7.0
KBA Koelnbreinsper 57.49 310 *ep*P **P 06 07 20.1 +0.3**
comp=Z,5.2nm,0.9s
NAO01 NORSAR Array S 57.53 326 P **P 06 07 19.8 +0.1**
NC204 NORSAR Array S 57.58 326 P **P 06 07 20.0 0.0**
NBO00 NORSAR Array S 57.58 326 P **P 06 07 19.6 -0.4**
NKC Novy Kostel 57.60 313 *e*P **P 06 07 21.5 +1.1**
NKC MLR MLR
comp=Z,600nm,24.0s
NKC Novy Kostel 57.60 313 *e*P **P 06 07 21.5 +1.1**
NKC AMS AMS 06 30 00.0
comp=Z,600nm,24.0s
OSL Oslo 57.66 325 *e*P **P 06 07 21.3 +0.8**
TBLU Trondheim 57.75 329 *e*P **P 06 07 19.9 -1.2**
PAOL Paolisi 57.75 302 P **P 06 07 21.4 -0.2**
PLN Plauen 57.75 314 *e*P **P 06 07 21.3 -0.1**
comp=Z,10.0nm,1.0s,baz=81,slow=7.0
ROTZ Rotzenmuhle 57.82 313 *e*P **P 06 07 22.3 +0.4**
comp=Z,31nm,1.3s,baz=81,slow=7.0
ZOU Zoufplan 57.83 309 P **P 06 07 22.4 +0.2**
NEUB Neuenburg 57.89 315 *e*P **P 06 07 22.3 -0.1**
comp=Z,32nm,1.3s,baz=81,slow=7.0
INTR Introdacqua 58.03 304 P **P 06 07 23.9 +0.3**
INTR IAmb IAmb 06 07 28.2
comp=Z,40nm,1.0s
STAL STALIGIAL 58.06 309 P **P 06 07 23.3 -0.3**
STAL IAmb IAmb 06 07 28.6
comp=Z,15nm,0.8s
MOX Moxa 58.07 314 *e*P **P 06 07 23.6 -0.1**
comp=Z,13nm,1.1s,baz=81,slow=7.0
MOX eL L 06 32 29.5
comp=Z,378nm,18.1s
ABTA Abfaltersbach 58.10 309 *e*P **P 06 07 23.4 -0.6**
comp=Z,7.7nm,1.0s
CIMO Cimolais 58.23 309 P **P 06 07 24.5 -0.3**
CIMO IAmb IAmb 06 07 26.0
comp=Z,17nm,1.0s
KONO Kongsberg 58.24 325 P **P 06 07 24.9 +0.2**
KONO pmax pmax
comp=Z,30nm,1.1s
KONO Kongsberg 58.24 325 P **P 06 07 24.9 +0.2**
KONO IAmb IAmb 06 07 30.0
comp=Z,30nm,1.1s
KONO Kongsberg 58.24 325 *e*P **P 06 07 24.8 +0.1**
AQU L'Aquila 58.33 304 P **P 06 07 26.1 +0.5**
AQU pmax pmax
comp=Z,30nm,1.0s
AQU L'Aquila 58.33 304 *e*P **P 06 07 24.8 -0.8**
AQU L'Aquila 58.33 304 P **P 06 07 26.1 +0.5**
AQU IAmb IAmb 06 07 36.9
comp=Z,30nm,1.0s
DOMB Dombas 58.35 327 *e*P **P 06 07 24.9 -0.5**
BSEG Bad Segeberg 58.42 318 *e*P **P 06 07 26.4 +0.4**
comp=Z,32nm,0.9s,baz=81,slow=7.0
GRA1 Grafenberg Arr 58.47 313 P **P 06 07 26.7 +0.3**
GRA1 IAmb IAmb 06 07 29.2
comp=Z,46nm,1.4s
GRF Grafenberg Arr 58.47 313 P **P 06 07 26.7 +0.3**
GRF pmax pmax
comp=Z,46nm,1.4s
GRF Grafenberg Arr 58.47 313 *e*P **P 06 07 26.9 +0.5**
comp=Z,50nm,1.4s,baz=81,slow=7.0
GRF eL L 06 32 47.0
comp=Z,187nm,20.8s
WTTA Wattenberg 58.60 310 *e*P **P 06 07 26.7 -1.0**
comp=Z,20nm,1.2s,SNR=7.8
WATA Walderalm 58.63 310 *e*P **P 06 07 26.7 -1.1**
comp=Z,9.7nm,0.9s,SNR=7.5
CLZ Clausthal 58.67 315 *e*P **P 06 07 27.8 0.0**
comp=Z,34nm,1.1s,baz=81,slow=7.0
FUR Furstenfeldbru 58.68 311 *e*P **P 06 07 28.3 +0.3**
comp=Z,54nm,1.3s,baz=81,slow=7.0
NRDL Niedersach Rie 58.74 316 *e*P **P 06 07 28.6 +0.4**
comp=Z,45nm,1.2s,baz=81,slow=7.0
MURB Monte Urbino 58.77 305 P **P 06 07 28.6 -0.1**
MURB pP **pP 06 07 31.7 +0.4**
MUD Monsted U'grnd 58.77 321 *i* P **P 06 07 29.7 +1.4**
comp=Z,35nm,1.2s
MUD Monsted U'grnd 58.77 321 *i* P **P 06 07 29.7 +1.4**
MUD pmax pmax
comp=Z,35nm,1.2s
CTI Castel Tesino 58.82 309 P **P 06 07 28.7 -0.4**
CTI pmax pmax
comp=Z,9.0nm,0.9s
CTI Castel Tesino 58.82 309 P **P 06 07 28.7 -0.4**
SQTA Sankt Quirin 58.90 310 *e*P **P 06 07 29.2 -0.4**
comp=Z,23nm,1.4s,SNR=7.2
HOMB Homborsund 58.93 323 *e*P **P 06 07 30.2 +0.8**
MOTA Moosalm 58.95 310 *e*P **P 06 07 29.5 -0.5**
comp=Z,15nm,1.0s,SNR=17
GTTG Gottingen 58.97 315 *e*P **P 06 07 29.7 -0.2**
comp=Z,22nm,1.1s,baz=81,slow=7.0
MOL Molde 59.02 328 *e*P **P 06 07 30.2 +0.2**
UBBA Unterbreizbach 59.06 314 *e*P **P 06 07 30.3 -0.1**
comp=Z,15nm,1.4s,baz=81,slow=7.0
RETA Reutte 59.15 310 *e*P **P 06 07 30.5 -0.8**
comp=Z,11nm,0.9s,SNR=5.5

FETA Feichten 59.26 310 *e*P **P 06 07 30.9 -1.3**
comp=Z,11nm,0.9s,SNR=7.1
OSSC Osservatorio P 59.62 306 P **P 06 07 34.1 -0.4**
OSSC IAmb IAmb 06 07 42.7
comp=Z,22nm,1.1s
FUORN Ofenpass-Fuorn 59.65 309 P **P 06 07 35.0 +0.1**
FUORN IAmb IAmb 06 07 40.6
comp=Z,10nm,0.8s
DAVA Damuels 59.77 310 *e*P **P 06 07 35.0 -0.7**
comp=Z,12nm,0.8s,SNR=12
STU Stuttgart 59.94 312 P **P 06 07 36.5 -0.1**
STU pmax pmax
comp=Z,28nm,1.1s
STU Stuttgart 59.94 312 P **P 06 07 36.5 -0.1**
STU IAmb IAmb 06 07 38.6
comp=Z,28nm,1.1s
TNS Taunus Mts 60.14 314 *e*P **P 06 07 38.1 0.0**
comp=Z,18nm,1.0s,baz=81,slow=7.0
IBBN Ibbenburen 60.19 316 *e*P **P 06 07 38.2 -0.1**
comp=Z,35nm,1.3s,baz=81,slow=7.0
PSAD1 Pilbara Seismi 60.26 143 P **P 06 07 38.9 -0.2**
PSAD1 IAmb IAmb 06 07 40.0
comp=Z,14nm,0.8s
TUE Stuetta 60.30 309 P **P 06 07 38.8 -0.6**
TUE IAmb IAmb 06 07 47.5
comp=Z,15nm,1.0s
PSAC2 Pilbara Seismi 60.39 143 P **P 06 07 39.9 -0.1**
PSAC2 IAmb IAmb 06 07 43.9
comp=Z,17nm,0.8s
BFO Black Forest 60.59 312 P **P 06 07 41.4 +0.3**
BFO pP **sP 06 07 45.2 +0.5**
BFO PcP **PcP 06 08 25.2 -0.4**
BUG Bochum--Univer 60.65 315 *e*P **P 06 07 41.2 -0.2**
comp=Z,22nm,1.0s,baz=81,slow=7.0
FITZ Fitzroy Crossi 60.93 135 LR LR 06 36 35.8
comp=Z,90nm,21.9s,baz=310,slow=39
FITZ Fitzroy Crossi 60.93 135 P **P 06 07 43.8 +0.1**
FITZ IAmb IAmb 06 07 45.6
comp=Z,23nm,1.1s
KNRA Kununurra 61.12 131 P **P 06 07 45.1 +0.1**
ECH Echery 61.38 312 P **P 06 07 46.4 -0.1**
ECH pmax pmax
comp=Z,9.0nm,1.0s
ECH Echery 61.38 312 P **P 06 07 46.4 -0.1**
JAY Jayapura 61.50 111 P **P 06 07 48.3 +0.5**
comp=Z,16nm,1.2s
MEM Membach 61.59 315 P **P 06 07 48.8 +0.9**
comp=Z,13nm,1.3s
MEM pP **sP 06 07 51.4 0.0**
BHOU Houvegnez 61.65 314 P **P 06 07 49.3 +1.1**
comp=Z,12nm,1.3s
SENIN Lac Senin/Sane 61.70 310 P **P 06 07 48.9 -0.1**
SENIN IAmb IAmb 06 07 50.6
comp=Z,21nm,1.1s
WLF Walferdange 61.70 314 P **P 06 07 49.5 +0.9**
comp=Z,19nm,1.4s
WLF Walferdange 61.70 314 P **P 06 07 49.0 +0.4**
WLF pmax pmax
comp=Z,23nm,1.0s
WLF Walferdange 61.70 314 *e*P **P 06 07 49.0 +0.4**
comp=Z,26nm,1.0s,baz=81,slow=7.0
WLF Walferdange 61.70 314 P **P 06 07 49.0 +0.4**
WLF pP **pP 06 07 50.8 -0.5**
WLF IAmb IAmb 06 07 51.2
comp=Z,23nm,1.0s
BCLA Clavier 62.07 314 ⇑P **P 06 07 51.0 -0.1**
comp=Z,12nm,1.1s
BGES Gesves 62.22 314 P **P 06 07 50.9 -1.2**
comp=Z,12nm,1.1s
BMRD Maredsous 62.43 314 P **P 06 07 53.2 -0.3**
comp=Z,8.7nm,1.3s
BNI Bardonecchia 62.45 308 P **P 06 07 53.8 -0.1**
BNI pmax pmax
comp=Z,14nm,0.9s
BNI Bardonecchia 62.45 308 P **P 06 07 53.8 -0.1**
BNI IAmb IAmb 06 08 03.5
comp=Z,14nm,0.9s
DOU Dourbes 62.59 314 sP sP 06 08 01.0 +2.8
SNF Seneffe 62.69 315 P **P 06 07 55.7 +0.6**
SNF pP **sP 06 07 58.7 0.0**
NOR Nord 63.07 351 *i* P **P 06 07 58.0 +0.7**
comp=Z,8.5nm,0.9s
NOR Nord 63.07 351 *i* P **P 06 07 58.0 +0.7**
NOR pmax pmax
comp=Z,9.0nm,0.9s
KEST Kesra 63.09 298 P **P 06 07 58.5 +0.2**
comp=Z,35nm,1.0s,baz=294,slow=2.5,SNR=20
KEST Kesra 63.09 298 P **P 06 07 58.8 +0.5**
SSB Saint Sauveur 63.84 309 P **P 06 08 03.2 +0.1**
SSB pmax pmax
comp=Z,10.0nm,0.9s
SSB Saint Sauveur 63.84 309 P **P 06 08 03.1 +0.1**
SSB IAmb IAmb 06 08 06.3
comp=Z,10.0nm,0.9s
CLF Chambon-Foret 64.60 312 P **P 06 08 08.1 +0.2**
CLF IAmb IAmb 06 08 09.5
comp=Z,33nm,1.2s
MORW Morawa 64.87 151 P **P 06 08 09.2 -0.6**
DAG Danmarks Havn 64.97 346 *i* P **P 06 08 10.4 +0.6**
comp=Z,7.8nm,1.1s
DAG Danmarks Havn 64.97 346 *i* P **P 06 08 10.4 +0.6**
DAG pmax pmax
comp=Z,8.0nm,1.1s
SMY Shemya 66.54 42 P **P 06 08 19.7 -0.6**
SMY pmax pmax
comp=Z,62nm,1.1s
SMY Shemya 66.54 42 P **P 06 08 19.7 -0.6**
WB0 Warramunga Arr 67.78 130 P **P 06 08 28.6 0.0**
WRA Warramunga Arr 67.87 130 P **P 06 08 28.8 -0.5**
comp=Z,31nm,0.9s,baz=324,slow=6.5,SNR=72
WRA Warramunga Arr 67.87 130 *i* P **P 06 08 28.7 -0.5**
WRA pmax pmax
comp=Z,21nm,0.6s
WRAB Tennant Creek 67.87 130 *ce*P **P 06 08 29.5 +0.3**
WRAB pmax pmax
comp=Z,61nm,1.3s
WB2 Warramunga Arr 67.88 130 P **P 06 08 29.6 +0.4**
WR0 Warramunga Arr 68.02 130 P **P 06 08 30.2 +0.1**
WR0 IAmb IAmb 06 08 31.8
comp=Z,24nm,0.9s
NWAO Narrogin (SRO) 68.73 152 P **P 06 08 34.0 -0.3**
NWAO pmax pmax
comp=Z,62nm,1.1s
NWAO Narrogin (SRO) 68.73 152 P **P 06 08 34.0 -0.3**
AMKA Amchitka 70.02 42 P **P 06 08 41.8 -0.3**
AS31 Alice Springs 70.22 133 P **P 06 08 43.5 -0.2**
ASAR Alice Springs 70.22 133 P **P 06 08 43.5 -0.3**
comp=Z,15nm,0.9s,baz=317,slow=6.1,SNR=79
PMG Port Moresby 70.69 113 *de*P **P 06 08 44.1 -2.7**
PMG pmax pmax
comp=Z,22nm,1.0s
TAM Tamanrasset 70.88 286 P **P 06 08 48.9 +0.8**
TAM pmax pmax
comp=Z,7.0nm,0.9s
TAM Tamanrasset 70.88 286 P **P 06 08 48.9 +0.8**
SUMG Summit 71.60 345 *i* P **P 06 08 52.1 +0.2**
comp=Z,95nm,1.2s
SUMG Summit 71.60 345 P **P 06 08 51.6 -0.3**
SUMG pmax pmax
comp=Z,37nm,1.2s
SUMG Summit 71.60 345 P **P 06 08 51.6 -0.3**
SUMG IAmb IAmb 06 08 54.2
comp=Z,37nm,1.2s
ESDC Sonseca Array 71.64 306 P **P 06 08 51.3 -1.0**
comp=Z,6.4nm,0.9s,baz=56,slow=5.2,SNR=26
PAB San Pablo 71.96 306 P **P 06 08 54.3 0.0**
PAB pmax pmax
comp=Z,9.0nm,0.9s
PAB San Pablo 71.96 306 P **P 06 08 54.3 0.0**
FORT Forrest 72.12 142 P **P 06 08 55.8 +0.8**
PBRG Braganca 72.73 309 *e*P **P 06 08 59.6 +0.8**
MVO Moncorvo 73.19 308 *e*P **P 06 09 02.7 +1.1**
comp=Z,35nm,1.2s
PVRL Vila Real 73.62 308 *e*P **P 06 09 04.8 +0.7**
comp=Z,29nm,2.0s
PGAV Gavieira, Arco 73.71 309 *e*P **P 06 09 05.5 +0.9**
comp=Z,30nm,1.5s
MTE Manteigas 73.86 307 *e*P **P 06 09 07.0 +1.5**
MTE Manteigas 73.86 307 P **P 06 09 05.0 -0.5**
MTE IAmb IAmb 06 09 10.6
comp=Z,18nm,0.9s
PVIS Viseu 73.97 308 *e*P **P 06 09 07.1 +0.9**
comp=Z,28nm,1.2s
PCBR Castelo Branco 74.05 307 *e*P **P 06 09 07.5 +1.0**
comp=Z,18nm,1.8s

PMRV Marv??o 74.16 306 *e*P **P 06 09 07.9 +0.7**
TOLK Toolik Lake Re 74.45 18 P **P 06 09 08.1 -0.3**
baz=312
TOLK Toolik Lake Re 74.45 18 P **P 06 09 08.8 +0.4**
TOLK IAmb IAmb 06 09 10.7
comp=Z,26nm,0.8s
PCAS Casmilo, Conde 74.67 307 *e*P **P 06 09 13.5 +3.3**
comp=Z,43nm,1.6s
PMTG Montargil 74.90 306 *e*P **P 06 09 11.9 +0.4**
comp=Z,23nm,1.6s
EVO Evora 74.98 306 *e*P **P 06 09 13.0 +1.0**
comp=Z,25nm,1.4s
PBEJ Beja 75.09 305 *e*P **P 06 09 13.7 +1.1**
comp=Z,19nm,1.2s
PSBE So Bento 75.11 307 *e*P **P 06 09 14.0 +1.2**
comp=Z,48nm,1.7s
COLD Coldfoot 75.22 19 P **P 06 09 12.2 -0.7**
baz=312
COLD Coldfoot 75.22 19 P **P 06 09 13.1 +0.3**
COLD IAmb IAmb 06 09 15.3
comp=Z,21nm,1.0s
PVAQ Vaqueiros 75.25 305 *e*P **P 06 09 14.5 +0.9**
comp=Z,27nm,1.2s
PVAQ Vaqueiros 75.25 305 P **P 06 09 14.4 +0.8**
PVAQ IAmb IAmb 06 09 15.3
comp=Z,22nm,0.9s
PBDV Barranco-do-Ve 75.47 305 *e*P **P 06 09 15.6 +0.7**
comp=Z,49nm,1.3s
PNCL Nicolau / Gran 75.53 306 *e*P **P 06 09 16.5 +1.4**
PMAFR Mafra 75.69 307 *e*P **P 06 09 17.7 +1.6**
comp=Z,85nm,1.7s
TTA Tatalina 76.08 24 P **P 06 09 18.7 +0.8**
TTA pmax pmax
comp=Z,21nm,1.3s
TTA Tatalina 76.08 24 P **P 06 09 18.7 +0.8**
TTA IAmb IAmb 06 09 20.9
comp=Z,21nm,1.3s
PFVI Vila Bisbo 76.17 305 *e*P **P 06 09 20.1 +1.3**
A36M Sachs Harbour 76.86 9 P **P 06 09 21.3 -0.8**
baz=333
BPAW Bear Paw Mtn. 77.06 22 P **P 06 09 23.1 -0.4**
BPAW IAmb IAmb 06 09 27.6
comp=Z,19nm,0.9s
BPAW PcP **PcP 06 09 33.5 -0.9**
NEA2 Nenana 77.35 21 P **P 06 09 24.0 -1.0**
baz=313
MDM Murphy Dome 77.36 21 P **P 06 09 25.5 +0.5**
SVW2 Sparrevohn 77.37 26 P **P 06 09 24.9 -0.3**
SVW2 IAmb IAmb 06 09 28.3
comp=Z,15nm,1.0s
PPLA Purkeypile 77.45 23 P **P 06 09 25.2 -0.5**
PPLA IAmb IAmb 06 09 32.3
comp=Z,21nm,1.1s
POKR Poker Flat Res 77.49 20 P **P 06 09 26.0 +0.3**
baz=314
TCOL CIGO, UAF Yank 77.53 21 P **P 06 09 25.9 -0.1**
baz=314
COLA College 77.53 21 P **P 06 09 25.8 -0.1**
COLA pmax pmax
comp=Z,34nm,1.0s
COLA College 77.53 21 P **P 06 09 25.8 -0.1**
COLA IAmb IAmb 06 09 28.0
comp=Z,34nm,1.0s
CCB Clear Creek Bu 77.70 21 P **P 06 09 26.0 -0.9**
TRF Thorofare Moun 77.73 22 P **P 06 09 27.4 0.0**
WRH Wood River Hil 77.74 21 P **P 06 09 27.3 +0.1**
IL31 77.90 20 P **P 06 09 27.1 -0.9**
IL31 IAmb IAmb 06 09 29.2
comp=Z,14nm,0.8s
ILAR Eielson Array 77.90 20 P **P 06 09 27.1 -1.0**
comp=Z,12nm,0.8s,baz=307,slow=4.2,SNR=72
ILAR LR LR 06 47 21.0
comp=Z,157nm,19.0s,baz=23,slow=38
MCK McKinley 77.98 22 P **P 06 09 28.7 +0.1**
MCK pmax pmax
comp=Z,13nm,1.0s
MCK McKinley 77.98 22 P **P 06 09 28.6 +0.1**
MCK IAmb IAmb 06 09 30.5
comp=Z,13nm,1.0s
BBOO Buckleboo 78.11 138 P **P 06 09 30.0 +0.4**
BBOO IAmb IAmb 06 09 30.4
comp=Z,22nm,0.9s
HDA Harding Lake 78.14 21 P **P 06 09 27.8 -1.5**
baz=315
HDA Harding Lake 78.14 21 P **P 06 09 28.2 -1.1**
RND Reindeer 78.23 22 P **P 06 09 29.4 -0.7**
RND pmax pmax
comp=Z,17nm,0.8s
RND Reindeer 78.23 22 P **P 06 09 29.4 -0.7**
RND IAmb IAmb 06 09 32.9
comp=Z,17nm,0.8s
SKT Skwentna 78.29 24 P **P 06 09 30.2 -0.1**
INK Inuvik 78.59 14 P **P 06 09 31.9 +0.1**
INK pmax pmax
comp=Z,19nm,1.0s
INK Inuvik 78.59 14 P **P 06 09 31.9 +0.1**
INK IAmb IAmb 06 09 33.9
comp=Z,19nm,0.9s
LBTB Lobatse 78.82 233 P **P 06 09 33.8 0.0**
LBTB pmax pmax
comp=Z,34nm,1.4s
LBTB Lobatse 78.82 233 P **P 06 09 33.8 0.0**
LBTB IAmb IAmb 06 09 39.4
comp=Z,34nm,1.4s
RSO Redoubt South 78.84 25 P **P 06 09 34.8 +1.1**
RSO **pP 06 09 35.5 -0.7**
SUA Susitna One 78.91 24 P **P 06 09 33.7 -0.2**
DHY Denali Highway 78.94 22 P **P 06 09 32.9 -1.2**
RIDG Independent Ri 79.26 20 P **P 06 09 35.1 -0.5**
RIDG IAmb IAmb 06 09 37.0
comp=Z,22nm,0.8s
GHO Glory Hole Cre 79.34 23 P **P 06 09 36.0 -0.2**
GHO IAmb IAmb 06 09 50.9
comp=Z,25nm,1.0s
SCRK Sand Creek 79.35 20 P **P 06 09 35.9 -0.3**
baz=317
PMR Palmer 79.39 23 P **P 06 09 36.4 +0.1**
PMR pmax pmax
comp=Z,25nm,0.8s
PMR Palmer 79.39 23 P **P 06 09 36.4 +0.1**
PMR IAmb IAmb 06 09 38.1
comp=Z,25nm,0.8s
C36M Paulatuk 79.40 10 P **P 06 09 35.5 -0.8**
baz=334
C36M Paulatuk 79.40 10 P **P 06 09 35.9 -0.3**
EPYK Eagle Plains 79.45 16 P **P 06 09 35.1 -1.6**
baz=323
EPYK Eagle Plains 79.45 16 P **P 06 09 36.2 -0.5**
EPYK IAmb IAmb 06 09 38.2
comp=Z,25nm,0.8s
SML Sawmill 79.52 23 P **P 06 09 37.4 +0.3**
EGAK Eagle 79.56 18 P **P 06 09 37.3 +0.1**
EGAK IAmb IAmb 06 09 41.2
comp=Z,20nm,0.9s
DOT Dot Lake 79.56 20 P **P 06 09 37.2 -0.1**
DOT IAmb IAmb 06 09 40.4
comp=Z,18nm,1.0s
PAX Paxson 79.63 21 P **P 06 09 37.4 -0.3**
PAX pmax pmax
comp=Z,18nm,1.2s
PAX Paxson 79.63 21 P **P 06 09 37.4 -0.3**
KNK Knik Glacier 79.75 23 P **P 06 09 37.9 -0.4**
KNK IAmb IAmb 06 09 40.5
comp=Z,26nm,0.7s
K27K Chicken 79.87 19 P **P 06 09 39.5 +0.6**
baz=319
O22K Cooper Landing 79.95 24 P **P 06 09 39.8 +0.5**
baz=313
BRLK Bradley Lake 80.01 25 P **P 06 09 39.6 -0.1**
BRLK IAmb IAmb 06 09 41.6
comp=Z,28nm,0.9s
CNPM China Poot 80.04 26 P **P 06 09 40.0 +0.1**
CNPM IAmb IAmb 06 09 44.9
comp=Z,25nm,0.8s
MENT Mentasta 80.20 21 P **P 06 09 41.5 +0.7**
SEW Seward 80.31 25 P **P 06 09 41.5 +0.2**
SEW IAmb IAmb 06 09 43.1
comp=Z,34nm,1.2s
KLU Klutina 80.55 22 P **P 06 09 43.8 +1.1**
KLU IAmb IAmb 06 09 47.4
comp=Z,27nm,1.1s
DAWY Dawson 80.60 18 P **P 06 09 42.9 +0.1**
DAWY IAmb IAmb 06 09 44.9
comp=Z,25nm,1.2s
GLI Glacier Island 80.60 23 P **P 06 09 43.1 +0.2**

GLI					IAmb	IAmb	06 09 44.7		
	comp=Z,16nm,0.8s								
KDAK	**Kodiak Island**	**80.67**	**27**	P	**P**		**06 09 42.9**	**-0.4**	
KDAK				pmax	pmax				
	comp=Z,28nm,0.7s								
KDAK	**Kodiak Island**	**80.67**	**27**	P	**P**		**06 09 42.9**	**-0.4**	
KDAK				IAmb	IAmb		06 09 45.2		
	comp=Z,28nm,0.7s								
STKA	**Stephens Creek**	**80.81**	**134**	P	**P**		**06 09 42.6**	**-1.7**	
	comp=Z,8.1nm,0.7s,baz=313,slow=6.7,SNR=12								
STKA	**Stephens Creek**	**80.81**	**134**	P	**P**		**06 09 44.8**	**+0.5**	
STKA				pmax	pmax				
	comp=Z,6.0nm,1.3s								
STKA	**Stephens Creek**	**80.81**	**134**	P	**P**		**06 09 44.8**	**+0.5**	
HIN	**Hinchinbrook I**	**81.15**	**23**	P	**P**		**06 09 46.7**	**+0.8**	
GLB	**Gilahina Butte**	**81.28**	**22**	P	**P**		**06 09 46.5**	**-0.1**	
EYAK	**Cordova Ski Ar**	**81.30**	**23**	P	**P**		**06 09 46.7**	**+0.1**	
EYAK				IAmb	IAmb		06 09 49.2		
	comp=Z,36nm,1.2s								
BOSA	**Boshof**	**81.34**	**231**	P	**P**		**06 09 46.5**	**-0.9**	
	comp=Z,13nm,1.0s,baz=57,slow=7.6,SNR=6.7								
BOSA				LR	LR		06 41 44.0		
	comp=Z,113nm,21.8s,baz=10.0,slow=33								
BOSA	**Boshof**	**81.34**	**231**	P	**P**		**06 09 47.9**	**+0.5**	
BOSA				pmax	pmax				
	comp=Z,29nm,1.2s								
BOSA	**Boshof**	**81.34**	**231**	P	**P**		**06 09 47.9**	**+0.5**	
BOSA				IAmb	IAmb		06 09 51.8		
	comp=Z,29nm,1.2s								
VRDI	**Verde Repeater**	**81.56**	**22**	P	**P**		**06 09 49.2**	**+1.0**	
VRDI				IAmb	IAmb		06 09 50.8		
	comp=Z,25nm,1.1s								
MCARA	**McCarthy VSAT**	**81.58**	**21**	P	**P**		**06 09 49.2**	**+1.1**	
RAGM	**Ragged Mountai**	**81.78**	**23**	P	**P**		**06 09 50.2**	**+1.0**	
CRQM	**Cirque**	**82.01**	**22**	P	**P**		**06 09 50.0**	**-0.6**	
BALM	**Baldy**	**82.06**	**21**	P	**P**		**06 09 49.2**	**-1.6**	
BALM				IAmb	IAmb		06 10 02.5		
	comp=Z,17nm,1.0s								
TGL	**Tana Glacier**	**82.11**	**22**	P	**P**		**06 09 52.1**	**+1.1**	
BARN	**Barnard Glacie**	**82.25**	**21**	P	**P**		**06 09 52.6**	**+0.7**	
ISLE	**Juniper Island**	**82.39**	**22**	P	**P**		**06 09 53.3**	**+0.7**	
ISLE				IAmb	IAmb		06 10 08.1		
	comp=Z,25nm,1.0s								
EIDS	**Eidsvold**	**83.10**	**124**	P	**P**		**06 09 56.5**	**-0.1**	
HYT	**Haines Junctio**	**83.70**	**20**	P	**P**		**06 09 59.6**	**+0.2**	
WHY	**Whitehorse**	**84.59**	**19**	P	**P**		**06 10 04.0**	**+0.1**	
WHY				IAmb	IAmb		06 10 05.7		
	comp=Z,17nm,0.8s								
SKAG	**Skagway**	**85.45**	**20**	P	**P**		**06 10 08.7**	**+0.7**	
ARMA	**Armidale**	**86.50**	**128**	P	**P**		**06 10 13.6**	**-0.1**	
JIS	**Juneau Island**	**86.71**	**20**	P	**P**		**06 10 14.8**	**+0.6**	
JIS				IAmb	IAmb		06 10 17.1		
	comp=Z,21nm,0.9s								
TOO	**Toolangi**	**86.98**	**136**	P	**P**		**06 10 16.7**	**+0.9**	
TOO				pmax	pmax				
	comp=Z,25nm,1.1s								
TOO	**Toolangi**	**86.98**	**136**	P	**P**		**06 10 16.7**	**+0.9**	
TOO				IAmb	IAmb		06 10 17.9		
	comp=Z,24nm,1.1s								
DBIC	**Dimbokro**	**87.09**	**276**	P	**P**		**06 10 17.2**	**+0.3**	
	comp=Z,9.4nm,0.8s,baz=28,slow=5.4,SNR=11								
DBIC	**Dimbokro**	**87.09**	**276**	P	**P**		**06 10 17.6**	**+0.7**	
DBIC				pmax	pmax				
	comp=Z,24nm,1.2s								
DBIC	**Dimbokro**	**87.09**	**276**	P	**P**		**06 10 17.6**	**+0.7**	
DBIC				IAmb	IAmb		06 10 34.1		
	comp=Z,24nm,1.2s								
KIC	**Kosan Boka**	**87.14**	**276**	*e*PKIKP	**P**		**06 10 18.2**	**+1.0**	
	comp=Z,49nm,1.4s								
YKA	**Yellowknife Ar**	**87.22**	**9**	P	**P**		**06 10 15.6**	**-1.1**	
	comp=Z,19nm,1.0s,baz=340,slow=5.0,SNR=64								
TIC	**Toumodi**	**87.24**	**276**	*e*PKIKP	**P**		**06 10 18.6**	**+0.9**	
LIC	**Lamto**	**87.45**	**276**	*e*PKIKP	**P**		**06 10 18.6**	**-0.1**	
	comp=Z,37nm,1.2s								
CAN	**Canberra**	**87.73**	**133**	P	**P**		**06 10 19.0**	**-0.5**	
CAN				pmax	pmax				
	comp=Z,40nm,1.3s								
CAN	**Canberra**	**87.73**	**133**	P	**P**		**06 10 18.9**	**-0.5**	
DLBC	**Dease Lake**	**87.80**	**18**	P	**P**		**06 10 19.7**	**0.0**	
DLBC				IAmb	IAmb		06 10 22.3		
	comp=Z,8.5nm,0.9s								
SCHQ	**Schefferville**	**92.99**	**344**	P	**P**		**06 10 43.5**	**-0.4**	
	comp=Z,4.1nm,1.0s,baz=338,slow=2.9,SNR=3.5								
SCHQ				LR	LR		06 59 36.4		
	comp=Z,115nm,18.3s,baz=34,slow=40								
SCHQ	**Schefferville**	**92.99**	**344**	P	**P**		**06 10 43.8**	**-0.1**	
SCHQ				IAmb	IAmb		06 10 44.8		
	comp=Z,6.9nm,1.1s								
DRLN	**Deer Lake**	**95.21**	**337**	P	**P**		**06 10 54.3**	**+0.1**	
FFC	**Flin Flon**	**96.18**	**4**	P	**P**		**06 10 58.0**	**-0.4**	
FFC				pmax	pmax				
	comp=Z,9.0nm,1.2s								
FFC	**Flin Flon**	**96.18**	**4**	P	**P**		**06 10 58.0**	**-0.4**	
FFC				IAmb	IAmb		06 10 59.1		
	comp=Z,9.2nm,1.2s								
SYO	**Syowa Base**	**103.50**	**195**	⇑*e*Pdiff	**Pdif**		**06 11 34.6**	**+4.1**	
PDAR	**Pinedale Array**	**107.07**	**12**	PKiKP	**PKiKP**		**06 15 55.6**	**-1.4**	
	comp=Z,0.3nm,0.7s,baz=130,slow=1.4,SNR=3.7								
MNTX	**Cornudas Mount**	**118.57**	**11**	PKPdf	**PKPdf**		**06 16 18.6**	**-0.4**	
JCT	**Junction City**	**120.44**	**5**	PKiKP	**PKiKP**		**06 16 23.1**	**+0.4**	
JCT	**Junction City**	**120.44**	**5**	PKPdf	**PKiKP**		**06 16 23.1**	**+0.4**	
TX31	**Lajitas Ar. Si**	**121.15**	**9**	PKPdf	**PKPdf**		**06 16 23.6**	**-0.4**	
TX32	**Lajitas Array**	**121.15**	**9**	PKPdf	**PKPdf**		**06 16 24.1**	**0.0**	
TXAR	**Lajitas Array**	**121.15**	**9**	PKP	**PKPdf**		**06 16 23.3**	**-0.8**	
	comp=Z,1.1nm,0.7s,baz=80,slow=0.6,SNR=10								
TXAR				PKKPbc	**PKKPbc**		**06 26 22.3**	**-3.8**	
	comp=Z,0.3nm,0.8s,baz=116,slow=2.1,SNR=2.8								
HPIG		**123.17**	**12**	PKPdf	**PKiKP**		**06 16 28.4**	**0.0**	
TEIG	**Tepich**	**130.50**	**352**	PKPdf	**PKPdf**		**06 16 42.2**	**+0.2**	
TGUH	**Tegucigalpa,Un**	**136.44**	**350**	PKPdf	**PKPdf**		**06 16 52.9**	**-0.6**	
SNET	**Serv Nac Est T**	**137.07**	**352**	PKPdf	**PKPdf**		**06 16 54.7**	**+0.2**	
ROSC	**El Rosal**	**140.99**	**327**	PKP	**PKPdf**		**06 16 59.2**	**-3.0**	
	comp=Z,7.7nm,0.8s,baz=14,slow=21,SNR=5.1								
ROSC	**El Rosal**	**140.99**	**327**	PKPdf	**PKPdf**		**06 17 01.8**	**-0.4**	
CPUP	**Villa Florida**	**147.06**	**266**	PKPbc	**PKPbc**		**06 17 12.9**	**-1.0**	
	comp=Z,7.5nm,0.9s,baz=80,slow=4.1,SNR=11								
CPUP	**Villa Florida**	**147.06**	**266**	PKP2	**PKPbc**		**06 17 14.6**	**+0.7**	
CPUP	**Villa Florida**	**147.06**	**266**		**PKPbc**		**06 17 14.6**	**+0.7**	
LPAZ	**La Paz**	**152.56**	**292**	PKP	**PKPdf**		**06 17 21.0**	**-0.6**	
	comp=Z,1.3nm,0.9s,baz=354,slow=7.4,SNR=5.2								
LPAZ				PKPbc	**PKiKP**		**06 17 29.1**	**+0.4**	
	comp=Z,5.4nm,1.0s,baz=33,slow=7.4,SNR=12								
LPAZ	**La Paz**	**152.56**	**292**	PKiKP	**PKPdf**		**06 17 21.6**	**0.0**	
LPAZ							06 17 28.7		
LPAZ	**La Paz**	**152.56**	**292**	PKPdf	**PKPdf**		**06 17 21.6**	**0.0**	
LPAZ					**PKiKP**		**06 17 28.7**	**-0.1**	

*NNC **03** 06:09:38.5±0.4,42.°93N×77.°29E,h6km±3km,mb2.3, mpv2.6,Error ellipse: s-maj=5.6km s-min=2.5km az=3.0*
*KRNET **03** 06:09:38.9±0.1,42.°91N×77.°29E,h20km,mb2.4*
*SOME **03** 06:09:39.4,42.°92N×77.°28E,h15km*
ISC 03 06:09:38.6±0.9,42.°91N±0.°02×77.°30E±0.°02,h15km±7km, n38,σ0°24/75,11C-16D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNSS	**Tian-Shan**	**0.29**	**297**	⇓*e*P	**Pg**	**06 09 45.2**	**+0.2**
	baz=97						
TNSS				⇓*e*S	**Sg**	**06 09 49.4**	**+0.1**
	baz=97						
TNSS	**Tian-Shan**	**0.29**	**297**	⇓*e*P	**Pg**	**06 09 45.2**	**+0.2**
	6.0nm,0.1s						
TNSS				*e*S	**Sg**	**06 09 49.5**	**+0.1**
	25nm,0.1s						
TNSS	**Tian-Shan**	**0.29**	**297**	P	**Pg**	**06 09 45.2**	**+0.2**
	6.0nm,0.0s						
TNSS				S	**Sg**	**06 09 49.4**	**+0.1**
	25nm,0.1s						
ANVS	**Anan'yevo**	**0.30**	**115**	⇑*i*P	**Pg**	**06 09 44.9**	**-0.2**
	baz=14						
ANVS				⇑*i*S	**Sg**	**06 09 49.2**	**-0.3**
	baz=14						
MDOK	**Medeo**	**0.31**	**324**	⇑*e*P	**Pg**	**06 09 45.4**	**0.0**
	baz=25						
MDOK				⇑*e*S	**Sg**	**06 09 49.7**	**-0.2**
	baz=25						
MDOK	**Medeo**	**0.31**	**324**	⇑*e*P	**Pg**	**06 09 45.4**	**0.0**
	11nm,0.2s						
MDOK				*e*S	**Sg**	**06 09 49.6**	**-0.2**
	15nm,0.2s						
MDOK	**Medeo**	**0.31**	**324**	⇓P	**Pg**	**06 09 45.3**	**0.0**
	11nm,0.2s						
MDOK				Lg	Lg	06 09 49.6	
	15nm,0.2s						
KOTS	**Kotyrbulak**	**0.35**	**337**	⇓*e*P	**Pg**	**06 09 46.2**	**+0.2**
	baz=38						
KOTS				⇓*e*S	**Sg**	**06 09 51.1**	**+0.1**
	baz=38						
KOTS	**Kotyrbulak**	**0.35**	**337**	⇓*e*P	**Pg**	**06 09 46.2**	**+0.2**
	21nm,0.2s						
KOTS				*e*S	**Sg**	**06 09 51.1**	**+0.1**
	14nm,0.3s						
KOTS	**Kotyrbulak**	**0.35**	**337**	P	**Pg**	**06 09 46.1**	**+0.2**
	21nm,0.2s						
KOTS				S	**Sg**	**06 09 51.2**	**+0.2**
	29nm,0.2s						
AAA	**Alma-Ata**	**0.41**	**317**	*e*P	**Pb**	**06 09 47.5**	**-0.1**
	baz=17						
AAA				*e*S	**Sb**	**06 09 53.3**	**-0.4**
	baz=17						
AAA	**Alma-Ata**	**0.41**	**317**	*e*P	**Pb**	**06 09 47.5**	**-0.1**
	13nm,0.1s						
AAA				*e*S	**Sb**	**06 09 53.3**	**-0.4**
	48nm,0.1s						
MTBS	**Maitube**	**0.67**	**289**	*e*P	**Pg**	**06 09 52.0**	**+0.1**
	baz=90						
MTBS				*e*S	**Sg**	**06 10 01.1**	**+0.3**
	baz=90						
MTBS	**Maitube**	**0.67**	**289**	*e*P	**Pg**	**06 09 52.0**	**+0.1**
	2.6nm,0.1s						
MTBS				*e*S	**Sg**	**06 10 01.1**	**+0.3**
	8.8nm,0.2s						
MTBS	**Maitube**	**0.67**	**289**	P	**Pg**	**06 09 52.0**	**+0.1**
	2.6nm,0.1s						
MTBS				S	**Sg**	**06 10 01.1**	**+0.3**
	8.8nm,0.2s						
KDJ	**Kajisay**	**0.78**	**186**	⇓*i*P	**Pg**	**06 09 54.1**	**+0.2**
	baz=85						
KDJ				⇓*i*S	**Sg**	**06 10 04.5**	**+0.2**
	baz=85						
SATY	**Saty**	**0.83**	**79**	*e*P	**Pg**	**06 09 54.6**	**-0.2**
	2.3nm,0.1s						
SATY				*e*S	**Sg**	**06 10 05.6**	**-0.1**
	13nm,0.1s						
SATY	**Saty**	**0.83**	**79**	P	**Pg**	**06 09 54.6**	**-0.2**
	2.3nm,0.1s						
SATY				S	**Sg**	**06 10 05.6**	**-0.1**
	13nm,0.1s						
PRZ	**Przheval'sk**	**0.92**	**117**	⇓*e*P	**Pg**	**06 09 56.9**	**+0.4**
	baz=17						
PRZ				⇓*i*S	**Sg**	**06 10 09.5**	**+1.0**
	baz=17						
KTBS	**Karatobe**	**0.92**	**331**	*e*P	**Pb**	**06 09 56.2**	**-0.2**
	1.2nm,0.1s						
KTBS				*e*S	**Sb**	**06 10 08.3**	**-0.1**
	6.9nm,0.3s						
KTBS	**Karatobe**	**0.92**	**331**	P	**Pb**	**06 09 56.2**	**-0.2**
	1.2nm,0.1s						
KTBS				S	**Sb**	**06 10 08.3**	**-0.1**
	6.9nm,0.3s						
CHKK	**Chushkaly**	**0.97**	**347**	*e*P	**Pb**	**06 09 57.2**	**0.0**
	baz=47						
CHKK				*e*S	**Sb**	**06 10 09.8**	**0.0**
	baz=47						
CHKK	**Chushkaly**	**0.97**	**347**	*e*P	**Pb**	**06 09 57.1**	**0.0**
	3.4nm,0.1s						
CHKK				*e*S	**Sb**	**06 10 09.8**	**0.0**
	5.8nm,0.2s						
KST	**Kastek**	**0.99**	**278**	*e*P	**Pb**	**06 09 57.3**	**-0.2**
	baz=78						
KST				*e*S	**Sb**	**06 10 10.1**	**-0.3**
	baz=78						
KST	**Kastek**	**0.99**	**278**	*e*P	**Pb**	**06 09 57.3**	**-0.2**
	2.0nm,0.2s						
KST				*e*S	**Sb**	**06 10 10.1**	**-0.3**
	4.0nm,0.4s						
KST	**Kastek**	**0.99**	**278**	P	**Pb**	**06 09 57.3**	**-0.2**
	2.0nm,0.2s						
KST				S	**Sb**	**06 10 10.1**	**-0.3**
	4.0nm,0.4s						
ULHL	**Ulahol**	**1.02**	**230**	⇑*e*P	**Pb**	**06 09 58.0**	**-0.2**
	baz=30						
ULHL				⇑*i*S	**Sb**	**06 10 11.5**	**0.0**
	baz=30						
BOOM	**Boomskoye usch**	**1.08**	**248**	⇑*i*P	**Pb**	**06 09 59.0**	**-0.2**
	baz=48						
BOOM				⇑*i*S	**Sg**	**06 10 13.9**	**+0.1**
	baz=48						
DGS	**Degeres**	**1.17**	**287**	*e*P	**Pb**	**06 10 00.7**	**+0.2**
	baz=87						
DGS				*e*S	**Sb**	**06 10 15.8**	**+0.3**
	baz=87						
DGS	**Degeres**	**1.17**	**287**	*e*P	**Pb**	**06 10 00.7**	**+0.2**
	1.0nm,0.2s						
DGS				*e*S	**Sb**	**06 10 15.8**	**+0.3**
	3.4nm,0.1s						
DGS	**Degeres**	**1.17**	**287**	P	**Pn**	**06 10 00.5**	**0.0**
	1.0nm,0.2s						
DGS				S	**Sb**	**06 10 15.8**	**+0.3**
	3.6nm,0.2s						
KUU	**Kurty**	**1.21**	**325**	*e*P	**Pb**	**06 10 01.3**	**+0.1**
	baz=25						
KUU				*e*S	**Sn**	**06 10 16.9**	**-0.2**
	baz=25						
KUU	**Kurty**	**1.21**	**325**	*e*P	**Pb**	**06 10 01.3**	**+0.1**
	1.2nm,0.3s						
KUU				*e*S	**Sn**	**06 10 16.9**	**-0.2**
	4.7nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.24**	**162**	⇓*e*P	**Pn**	**06 10 01.5**	**-0.2**
	baz=62						
TARG				⇓*i*S	**Sb**	**06 10 17.5**	**-0.3**
	baz=62						
TKM2	**Tokmak 2**	**1.25**	**271**	⇓*i*P	**Pb**	**06 10 02.1**	**+0.1**
	baz=71						
TKM2				⇓*i*S	**Sn**	**06 10 18.6**	**+0.2**
	baz=71						
TKM2	**Tokmak 2**	**1.25**	**271**	⇓P	**Pb**	**06 10 02.1**	**+0.1**
	0.9nm,0.6s						
TKM2				⇑S	**Sg**	**06 10 18.9**	**-0.2**
	1.8nm,0.7s						
ARXS	**Arharly**	**1.36**	**16**	*e*P	**Pb**	**06 10 04.1**	**+0.3**
	0.6nm,0.1s						
ARXS				*e*S	**Sb**	**06 10 21.7**	**+0.6**
	2.1nm,0.1s						

*BJI **03** 06:20:59.7±0.0,41.°19N×84.°41E,h7km,mb3.8/1,ML3.5/10*
*SOME **03** 06:21:01.0,42.°30N×84.°50E,h15km*
*NNC **03** 06:21:06.0±2.9,41.°53N×84.°10E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=26.1km s-min=16.2km az=156.0*
ISC 03 06:21:07.7±2.1,41.°5N±0.°1×84.°16E±0.°06,h10km,n25, σ2°18/37,10C-7D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**3.46**	**48**	Pg	**Pn**	**06 22 03.6**	**+1.8**
WMQ				Sg	**Sb**	**06 22 49.9**	**-1.5**
WMQ				smax	smax		
	comp=N,130nm,0.5s						
WMQ				smax	smax		
	comp=E,140nm,0.5s						
SHLS	**Shalkode**	**3.84**	**297**	*e*P	**Pn**	**06 22 06.4**	**-0.6**
	11nm,0.3s						
SHLS				*e*S	**Sn**	**06 22 53.8**	**+1.5**
	128nm,0.7s						
SHLS	**Shalkode**	**3.84**	**297**	Pg	**Pn**	**06 22 06.4**	**-0.6**
	11nm,0.3s						
SHLS				Lg	Lg	06 22 53.8	
	128nm,0.7s						
PDGK	**Podgornoye**	**3.90**	**299**	Pg	**Pn**	**06 22 09.7**	**+2.0**
	2.7nm,0.3s						
PDGK				Lg	Lg	06 22 59.1	
	43nm,1.1s						
PDGK	**Podgornoye**	**3.90**	**299**	⇑Pn	**Pn**	**06 22 08.1**	**+0.4**
	5.6nm,0.6s						
PDGK				⇑Pg	**Pb**	**06 22 18.1**	**+1.6**
	23nm,0.8s						
PDGK				⇑Lg	Lg	06 23 12.4	
	122nm,0.9s						
DJR	**Jarkent**	**4.26**	**313**	*e*P	**Pn**	**06 22 12.1**	**-0.6**
	8.5nm,0.4s						
DJR				*e*S	**Sn**	**06 23 03.3**	**+0.9**
	23nm,0.5s						
DJR	**Jarkent**	**4.26**	**313**	Pg	**Pn**	**06 22 12.1**	**-0.6**
	8.5nm,0.4s						
DJR				Lg	Lg	06 23 03.3	
	23nm,0.5s						
SATY	**Saty**	**4.53**	**292**	*e*P	**Pb**	**06 22 25.0**	**-2.4**
	8.1nm,0.3s						
SATY				*e*S	**Sb**	**06 23 25.4**	**+3.2**
	99nm,0.7s						
SATY	**Saty**	**4.53**	**292**	Pg	**Pb**	**06 22 25.0**	**-2.4**
	8.1nm,0.3s						
SATY				Lg	Lg	06 23 25.4	
	99nm,0.7s						
KAPS	**Kapalarasan**	**5.13**	**319**	*e*P	**Pn**	**06 22 24.6**	**0.0**
	10nm,0.4s						
KAPS				*e*S	**Sn**	**06 23 24.6**	**+0.7**
	19nm,0.6s						
KAPS	**Kapalarasan**	**5.13**	**319**	Pg	**Pn**	**06 22 24.6**	**0.0**
	10nm,0.4s						
KAPS				Lg	Lg	06 23 24.6	
	19nm,0.6s						
MK31	**Makanchi Array**	**5.43**	**346**	⇓Pn	**Pn**	**06 22 27.3**	**-1.4**
	0.4nm,0.3s,baz=156,slow=15,SNR=25						
MK31				⇓Pg	**Pb**	**06 22 45.1**	**+2.5**
	2.1nm,0.4s,baz=166,slow=17,SNR=4.4						
MK31				⇓Lg	Lg	06 24 00.7	
	22nm,0.7s,baz=148,slow=25,SNR=4.5						
MAKZ	**Makanchi**	**5.50**	**344**	⇑Pn	**Pn**	**06 22 29.0**	**-0.7**
	1.9nm,0.7s						
MAKZ				⇑Pg	**Pb**	**06 22 46.1**	**+2.3**
	7.3nm,1.1s						
MAKZ				⇑Lg	Lg	06 24 03.4	
	20nm,0.9s						
MDOK	**Medeo**	**5.52**	**290**	*e*P	**Pb**	**06 22 41.9**	**-2.3**
	2.3nm,0.5s						
MDOK				*e*S	**Sb**	**06 23 54.2**	**+3.7**
	30nm,0.8s						
MDOK	**Medeo**	**5.52**	**290**	Pn	**Pn**	**06 22 29.2**	**-0.9**
	7.0nm,1.0s						
MDOK				⇓Pg	**Pb**	**06 22 46.9**	**+2.7**
	7.5nm,0.7s						
MDOK				⇑Lg	Lg	06 24 01.9	
	39nm,0.8s						
MDOK	**Medeo**	**5.52**	**290**	Pg	**Pb**	**06 22 41.9**	**-2.3**
	2.3nm,0.5s						
MDOK				Lg	Lg	06 23 54.2	
	30nm,0.8s						
TNSS	**Tian-Shan**	**5.56**	**288**	*e*P	**Pb**	**06 22 46.1**	**+1.0**
	4.3nm,0.2s						
TNSS				*e*S	**Sg**	**06 24 02.2**	**-4.0**
	25nm,0.7s						
TNSS	**Tian-Shan**	**5.56**	**288**	Pg	**Pb**	**06 22 46.1**	**+1.0**
	4.3nm,0.2s						
TNSS				Lg	Lg	06 24 02.2	
	25nm,0.7s						
ZSN	**Zaisan**	**5.94**	**5**	*e*P	**Pn**	**06 22 35.3**	**-0.4**
	2.3nm,0.1s						
ZSN				*e*S	**Sn**	**06 23 43.1**	**-0.6**
	16nm,0.6s						
ZSN	**Zaisan**	**5.94**	**5**	Pg	**Pn**	**06 22 35.3**	**-0.4**
	2.3nm,0.1s						
ZSN				Lg	Lg	06 23 43.1	
	16nm,0.6s						
KST	**Kastek**	**6.26**	**287**	*e*P	**Pb**	**06 22 58.7**	**+1.8**
	4.6nm,0.5s						
KST				*e*S	**Sg**	**06 24 23.5**	**-5.3**
	22nm,0.8s						
TKM2	**Tokmak 2**	**6.51**	**285**	⇓Pn	**Pn**	**06 22 43.1**	**-0.6**
	5.0nm,0.8s						
TKM2				⇓Pg	**Pb**	**06 23 05.7**	**+4.6**
	4.6nm,0.8s						
TKM2				⇑Lg	Lg	06 24 33.7	
	36nm,1.1s						
KURK	**Kurchatov**	**9.95**	**339**	⇑Pn	**Pn**	**06 23 28.4**	**-2.3**
	0.9nm,0.5s						
KURK				⇑Lg	Lg	06 26 24.6	
	10nm,0.8s						
KK31	**Karatay Array**	**10.23**	**283**	⇓Lg	Lg	06 26 33.5	
	2.5nm,0.7s,baz=86,slow=27,SNR=4.6						
GTA	**Gaotai**	**12.11**	**95**	*e*P	Pn	06 23 47.3	-13
GTA				pP		06 23 50.8	
GTA				sP		06 23 53.4	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				smax	smax		
	comp=N,7.0nm,0.9s						
GTA				smax	smax		
	comp=E,5.0nm,1.1s						

IDC 03 06:26:35.9±9.3,6.°35S×148.°76E,h48km±64km,mb3.6/3, mb1 3.6/5,mb1mx3.2/38,mbtmpg3.7/5,ML3.4/1,Error ellipse: s-maj=72.5km s-min=59.8km az=63.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.43**	**207**	P	Pn	06 27 28.2	+1.4
	3.6nm,0.3s,baz=18,slow=7.7,SNR=2.0						
PMG				S	Sn	06 28 06.6	+0.4
	1.3nm,0.3s,baz=150,slow=18,SNR=1.6						
WRA	**Warramunga Arr**	**19.46**	**225**	P	P	06 30 57.9	-0.9
	0.1nm,0.3s,baz=52,slow=10,SNR=8.6						
ASAR	**Alice Springs**	**22.37**	**218**	P	P	06 31 29.9	-0.3
	1.0nm,0.5s,baz=53,slow=9.4,SNR=23						
FITZ	**Fitzroy Crossi**	**25.39**	**241**	P	P	06 31 58.9	-0.1
	1.3nm,0.3s,baz=49,slow=8.6,SNR=13						
STKA	**Stephens Creek**	**26.27**	**194**	P	P	06 32 07.2	+0.5
	1.7nm,0.7s,baz=21,slow=14,SNR=3.0						

*UCR **03** 06:29:42.6±1.5,9.°50N×84.°05W,h50km±2km,MD4.0*
*UPA **03** 06:29:42.9±2.9,9.°52N×84.°06W,h19km±14km,MW3.9*
ISC 03 06:29:40.9±1.1,9.°40N±0.°03×84.°15W±0.°03,h17km±9km, n40,σ0°96/67,6C-1D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDDO	**Dominical**	**0.31**	**118**	*e*P	**Pn**	**06 29 51.8**	**+1.0**
EDDO				*e*S	**Sn**	**06 29 59.9**	**+2.8**
LCR2	**La Lucha 2**	**0.37**	**22**	⇓*e*P	**Pn**	**06 29 51.1**	**-0.6**
LCR2				*e*S	**Sn**	**06 29 58.2**	**-0.6**
SJS	**Escuela Geolog**	**0.54**	**10**	*e*P	**Pb**	**06 29 53.2**	**+1.0**
SJS				*e*S	**Sb**	**06 30 02.0**	**+2.2**
EDLM	**Las Mercedes**	**0.56**	**102**	*e*P	**Pn**	**06 29 54.1**	**-0.2**
EDLM				*e*S	**Sn**	**06 30

CUI				*i* S		**Sn**	**06 30 28.2**	**-0.8**
COLC	**Colonia**	**1.63**	**320**	*i* P		**Pn**	**06 30 08.6**	**-0.5**
COLC				*i* S		**Sn**	**06 30 29.1**	**-0.6**
HORNC	**Hornillas**	**1.65**	**322**	*i* P		**Pn**	**06 30 08.6**	**-0.7**
GUAB	**Guayabo de Bag**	**1.68**	**321**	*i* P		**Pb**	**06 30 12.0**	**+0.5**
BCO2	**Palmira**	**1.73**	**113**	*eS*		**Sn**	**06 30 31.6**	**-0.8**
GPS2	**Hotel Rincn d**	**1.79**	**319**	*eP*		**Pn**	**06 30 10.9**	**-0.3**
GPS1	**Guardaparques**	**1.81**	**319**	*i* P		**Pn**	**06 30 12.1**	**+0.6**
LAPC	**Finca la Perla**	**1.86**	**317**	*i* P		**Pn**	**06 30 11.6**	**-0.6**
BUEV	**Buena Vista**	**1.86**	**318**	*eP*		**Pn**	**06 30 11.8**	**-0.4**
BUEV				*i* S		**Sn**	**06 30 34.9**	**-0.6**
GB1A	**Borinquen Arri**	**1.87**	**319**	*i* P		**Pn**	**06 30 12.1**	**-0.3**
DVD	**David**	**1.93**	**120**	*eP*		**Pn**	**06 30 13.1**	**+0.1**
DVD				*eS*		**Sb**	**06 30 37.9**	**-1.7**

IDC ***03*** *06:51:50.7±6.2, 3°.93S×101°.88E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/41, mbtmp3.4/3, Error ellipse: s-maj=308.8km s-min=30.3km az=52.0*

DJA ***03*** *06:51:54.4±0.4, 4°.5±2°×10°.2E±°, h13km±3km, M3.4/9, MLv3.4/9*

ISC 03 06:51:52.2±3.6**, 4°.33S**±0°.08×**102°.00E**±0°.08**, h14**km±24km**, n17**, σ1°.90/16**, mb3.4/3**, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KSI	**Kapahiang**	**0.90**	**42**	P		**Pn**	**06 52 10.6**	**+0.2**
KSI				S		**Sb**	**06 52 22.5**	**+1.1**
MNAI	**Manna**	**0.96**	**92**	P		**Pb**	**06 52 09.6**	**-1.0**
LHSI	**Lahat**	**1.60**	**72**	P		**Pn**	**06 52 20.8**	**+0.7**
LHSI				S		**Sn**	**06 52 40.0**	**-0.6**
LWLI	**Liwa**	**2.17**	**109**	P		**Pn**	**06 52 28.7**	**+0.7**
LWLI				S		**Sn**	**06 52 53.0**	**-1.7**
MDSI	**Maura Dua**	**2.18**	**94**	P		**Pn**	**06 52 27.9**	**-0.2**
MDSI				S		**Sn**	**06 52 53.4**	**-1.5**
KRJI	**Kerinci**	**2.28**	**346**	P		**Pb**	**06 52 32.5**	**-0.8**
KASI	**Kota Agung**	**2.76**	**116**	P		**Pn**	**06 52 35.0**	**-1.1**
KASI				S		**Sn**	**06 53 07.8**	**-1.4**
H08S2	**Diego Garcia H**	**29.52**	**262**	T		T	07 28 34.1	
	baz=87							
H08S3	**Diego Garcia H**	**29.53**	**262**	T		T	07 28 21.6	
	baz=87							
H08S1	**Diego Carcia H**	**29.54**	**262**	T		T	07 28 18.9	
	baz=87							
H01W3	**Cape Leeuwin H**	**32.42**	**161**	T		T	07 32 18.1	
	baz=338							
H01W2	**Cape Leeuwin H**	**32.44**	**161**	T		T	07 32 19.2	
	baz=338,SNR=4.4							
H01W1	**Cape Leeuwin H**	**32.44**	**161**	T		T	07 32 21.0	
	baz=338							
WRA	**Warramunga Arr**	**35.12**	**119**	P		**P**	**06 58 49.4**	**+3.8**
	0.4nm,0.8s,baz=301,slow=8.9,SNR=2.0							
ASAR	**Alice Springs**	**36.29**	**125**	P		**P**	**06 58 58.8**	**+3.2**
	0.2nm,0.3s,baz=300,slow=7.5,SNR=8.0							
MKAR	**Makanchi Array**	**53.80**	**343**	P		**P**	**07 01 12.8**	**-1.6**
	0.2nm,0.4s,baz=160,slow=8.9,SNR=2.6							
TXAR	**Lajitas Array**	**145.22**	**42**	PKPbc		**PKPbc**	**07 11 28.1**	**-1.8**
	0.1nm,0.5s,baz=245,slow=1.5,SNR=4.2							

KOLA ***03*** *07:11:53.9, 67°.69N×33°.75E, h0km*

HEL ***03*** *07:11:53.8±0.7, 67°.73N×33°.74E, h0km, ML1.9, Explosion*

IDC ***03*** *07:11:57.1±2.0, 67°.59N×33°.11E, h0km, mb1 3.2/3, mb1mx2.9/36, mbtmp3.2/3, ML2.4/3, Error ellipse: s-maj=19.3km s-min=10.9km az=89.0*

ISC 03 07:11:53.6±1.6**, 67°.70N**±0°.05×**33°.70E**±0°.09**, h0**km**, n13**, σ1°.18/22**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
APA	**Apatity**	**0.17**	**222**	P		**Pg**	**07 11 57.0**	**+0.2**
APA				S		**Sg**	**07 11 59.3**	**+0.3**
APA0	**Apatity Array**	**0.29**	**252**	P		**Pg**	**07 11 59.2**	**+0.2**
APA0				S		**Sg**	**07 12 03.1**	**+0.4**
VRF	**Varrio**	**1.56**	**274**	PG		**Pn**	**07 12 22.0**	**-0.5**
VRF				MSG			07 12 41.0	
	comp=Z,12nm,0.2s							
VRF				SG		**Sn**	**07 12 42.3**	**-1.1**
KU6	**Riekki**	**2.25**	**224**	PB		**Pn**	**07 12 32.9**	**+0.8**
KU6				MSG			07 13 01.4	
	comp=Z,6.0nm,0.2s							
KU6				SB		**Sb**	**07 13 03.2**	**-0.3**
SGF	**Sodankyl**	**2.76**	**268**	PB		**Pn**	**07 12 40.6**	**+1.6**
SGF				SG		**Sb**	**07 13 17.7**	**-0.4**
ARCES	**ARCESS Array B**	**3.52**	**305**	Pn		**Pn**	**07 12 50.0**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=123,slow=15,SNR=53							
ARCES				Pg		**Pb**	**07 12 58.8**	**+2.1**
	comp=Z,1.1nm,0.3s,baz=119,slow=15,SNR=20							
ARCES				Sn		**Sn**	**07 13 31.0**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=122,slow=30,SNR=6.5							
ARCES				Lg		Lg	07 13 43.2	
	comp=Z,1.3nm,0.3s,baz=122,slow=34,SNR=5.3							
HEF	**Hetta**	**3.84**	**285**	PG		**Pb**	**07 13 03.3**	**+1.2**
	baz=97							
TOF	**Tornio**	**4.04**	**251**	PG		**Pb**	**07 13 07.3**	**+1.9**
LANU	**Lannavaara**	**4.45**	**280**	PN		**Pn**	**07 13 02.8**	**+0.7**
LANU				SB		**Sb**	**07 14 04.8**	**-1.7**
ERTU	**Ertsjaerv**	**4.64**	**261**	PN		**Pn**	**07 13 04.3**	**-0.4**
ERTU				SN		**Sn**	**07 13 58.1**	**-1.1**
I37NO	**I37NO**	**5.75**	**291**	*i*			07 47 20.0	
	baz=99,slow=315,SNR=3.3							
FINES	**FINESS Array B**	**7.08**	**211**	Pn		**Pn**	**07 13 38.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=22,slow=16,SNR=2.1							
FINES				Sn		**Sn**	**07 14 57.2**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=43,slow=23,SNR=1.5							
FINES				Lg		Lg	07 15 28.8	
	comp=Z,0.3nm,0.3s,baz=33,slow=25,SNR=7.1							
SPITS	**Spitsbergen Ar**	**11.61**	**342**	Pn		**Pn**	**07 14 38.9**	**-1.3**
	baz=165,slow=17,SNR=1.0							

NEIC ***03*** *07:14:33.6±1.5, 27°.4N±0°.1×44°.5W±0°.1, h10km±1km, mb4.4/22, Error ellipse: s-maj=26.3km s-min=20.0km az=149.0*

IDC ***03*** *07:14:33.2±1.2, 27°.61N×44°.46W, h0km, mb3.7/11, mb1 4.0/11, mb1mx3.7/39, mbtmp3.7/11, MS3.7/8, Ms1 3.7/8, ms1mx3.3/30, Error ellipse: s-maj=34.7km s-min=21.3km az=158.0*

ISC 03 07:14:36.0±0.9**, 27°.5N**±0°.2×**44°.5W**±0°.1**, h22**km**, n44, σ0°.68/33**, mb4.2**/20, **MS3.7**/8, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MTP	**Monte Pirata**	**21.54**	**249**	P		**P**	**07 19 24.1**	**+0.3**
DR12	**Loma Pena Alta**	**24.45**	**255**	P		**P**	**07 19 53.9**	**+0.4**
ORIO	**Orleans, Innes**	**30.44**	**314**	P		**P**	**07 20 47.8**	**+0.9**
SCHQ	**Schefferville**	**31.78**	**335**	LR		LR	07 33 52.4	
	comp=Z,46nm,18.6s,baz=39,slow=37							
M52A	**Chesterland**	**33.18**	**305**	P		**P**	**07 21 11.0**	**0.0**
M52A				IAmb		IAmb	07 21 13.7	
	comp=Z,4.2nm,0.9s							
ESDC	**Sonseca Array**	**35.58**	**60**	P		**P**	**07 21 32.0**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=266,slow=8.9,SNR=5.8							
ESDC				LR		LR	07 33 01.4	
	comp=Z,55nm,19.5s,baz=170,slow=31							
ROSC	**El Rosal**	**36.27**	**237**	LR		LR	07 37 21.7	
	comp=Z,103nm,18.6s,baz=72,slow=38							
PLAL	**Pickwick Lake**	**37.77**	**292**	P		**P**	**07 21 50.0**	**-0.6**
Z47A	**Carrollton**	**37.83**	**290**	P		**P**	**07 21 52.0**	**+1.0**
K43A	**Burlington**	**38.49**	**305**	P		**P**	**07 21 55.6**	**-0.9**
K43A				IAmb		IAmb	07 22 00.3	
	comp=Z,8.9nm,1.1s							
W45A	**Hickory Valley**	**38.68**	**293**	P		**P**	**07 21 58.1**	**0.0**
U40A	**Yellville**	**41.62**	**295**	P		**P**	**07 22 21.9**	**-0.8**
U40A				IAmb		IAmb	07 22 29.8	
	comp=Z,8.5nm,1.4s							
DBIC	**Dimbokro**	**42.90**	**111**	LR		LR	07 37 33.0	
	comp=Z,130nm,20.3s,baz=295,slow=32							
ULM	**Lac du Bonnet**	**44.92**	**315**	LR		LR	07 39 08.9	
	comp=Z,72nm,21.7s,baz=12,slow=33							
BCOK	**Bluff Creek, N**	**45.52**	**294**	P		**P**	**07 22 53.8**	**-0.2**
H10N2	**ASCENSION HYDR**	**45.58**	**136**	T		T	08 11 02.4	
	baz=321,slow=75,SNR=104							
H10N3	**ASCENSION HYDR**	**45.58**	**136**	T		T	08 10 59.6	
	baz=321,slow=75,SNR=87							
H10N1	**ASCENSION HYDR**	**45.60**	**136**	T		T	08 10 59.3	
	baz=321,slow=75,SNR=96							
H10S3	**ASCENSION HYDR**	**46.35**	**137**	T		T	08 11 52.0	
	baz=321,slow=74,SNR=48							
H10S2	**ASCENSION HYDR**	**46.37**	**137**	T		T	08 12 05.7	
	baz=259,slow=74,SNR=16							
AMTX	**Amarillo**	**48.91**	**294**	P		**P**	**07 23 19.6**	**-1.0**
GERES	**GERESS Array B**	**49.13**	**48**	P		**P**	**07 23 21.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=251,slow=8.1,SNR=3.7							
LPAZ	**La Paz**	**49.21**	**211**	P		**P**	**07 23 24.9**	**+1.3**
	comp=Z,1.6nm,1.0s,baz=18,slow=13,SNR=4.7							
LPAZ	**La Paz**	**49.21**	**211**	P		**P**	**07 23 22.0**	**-1.6**
LPAZ				IAmb		IAmb	07 23 34.9	
	comp=Z,4.8nm,1.4s							
NOA	**NORSAR Array B**	**49.83**	**32**	P		**P**	**07 23 27.4**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=257,slow=8.2,SNR=3.5							
ISCO	**Idaho Springs**	**51.44**	**300**	P		**P**	**07 23 39.8**	**-0.1**
TXAR	**Lajitas Array**	**51.59**	**287**	P		**P**	**07 23 40.5**	**-0.4**
	comp=Z,0.2nm,0.8s,baz=108,slow=5.1,SNR=2.7							
ANMO	**Albuquerque**	**52.78**	**294**	P		**P**	**07 23 48.8**	**-1.0**
PSZ	**Piszkesteto**	**53.25**	**49**	P		**P**	**07 23 52.9**	**0.0**
PSZ				IAmb		IAmb	07 23 54.6	
	comp=Z,4.2nm,1.1s							
BW06	**Boulder Array**	**54.09**	**304**	P		**P**	**07 23 59.5**	**+0.1**
BW06				IAmb		IAmb	07 24 06.8	
	comp=Z,7.8nm,1.4s							
PD31	**Pinedale Array**	**54.09**	**304**	P		**P**	**07 23 59.4**	**0.0**
PD31				IAmb		IAmb	07 24 06.8	
	comp=Z,6.1nm,1.3s							
PDAR	**Pinedale Array**	**54.09**	**304**	P		**P**	**07 24 00.0**	**+0.6**
	comp=Z,1.7nm,1.0s,baz=89,slow=7.6,SNR=11							
PDAR				LR		LR	07 44 52.6	
	comp=Z,73nm,21.1s,baz=54,slow=34							
YMP	**Mirror Lake Pl**	**54.33**	**307**	P		**P**	**07 24 01.2**	**0.0**
IMW	**Indian Meadow**	**54.97**	**306**	IAmb		IAmb	07 24 13.9	
	comp=Z,5.3nm,1.4s							
YKA	**Yellowknife Ar**	**56.82**	**329**	P		**P**	**07 24 19.0**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=95,slow=7.8,SNR=5.2							
YKA				LR		LR	07 47 58.6	
	comp=Z,158nm,20.3s,baz=0.0,slow=35							
X16A	**Lo Mia Camp, P**	**56.91**	**295**	P		**P**	**07 24 19.5**	**-0.2**
X16A				IAmb		IAmb	07 24 30.9	
	comp=Z,5.5nm,0.9s							
ARCES	**ARCESS Array B**	**57.52**	**23**	P		**P**	**07 24 22.5**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=298,slow=2.6,SNR=6.6							
MFID	**Camas Ranch**	**58.55**	**306**	P		**P**	**07 24 30.1**	**-1.0**
MFID				IAmb		IAmb	07 24 38.2	
	comp=Z,4.0nm,1.2s							
NVAR	**Mina Array Bea**	**61.39**	**301**	LR		LR	07 49 40.8	
	comp=Z,75nm,20.5s,baz=28,slow=34							
GLB	**Gilahina Butte**	**70.50**	**330**	P		**P**	**07 25 48.2**	**-0.5**
GLB				IAmb		IAmb	07 26 01.5	
	comp=Z,4.3nm,1.2s							
ILAR	**Eielson Array**	**70.52**	**334**	P		**P**	**07 25 49.0**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=70,slow=4.9,SNR=6.4							
AKTO	**Aktyubinsk**	**76.68**	**40**	P		**P**	**07 26 25.4**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=331,slow=4.1,SNR=3.7							
KURK	**Kurchatov**	**87.34**	**32**	P		**P**	**07 27 21.2**	**0.0**
KURBB	**Kurchatov Arra**	**87.36**	**32**	P		**P**	**07 27 21.9**	**+0.7**
	comp=Z,0.3nm,0.2s,baz=320,slow=3.9,SNR=4.8							

NEIC ***03*** *07:29:59.3±1.1, 55°.6S±0°.1×28°.35W±0°.05, h10km±1km, mb5.0/54, Error ellipse: s-maj=18.7km s-min=4.2km az=191.0*

IDC ***03*** *07:30:03.9±2.1, 55°.46S×28°.13W, h45km±18km, mb4.3/10, mb1 4.4/12, mb1mx4.3/19, mbtmp4.6/12, ML4.7/2, MS3.9/10, Ms1 3.9/10, ms1mx3.8/20, Error ellipse: s-maj=19.4km s-min=14.0km az=51.0*

ISC 03 07:30:03.6±0.3**, 55°.55S**±0°.07×**28°.58W**±0°.06**, h45**km**, n203, σ1°.31/214**, mb5.0/33**, 3C-1D**, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**4.74**	**282**	Pn		**Pn**	**07 31 12.4**	**0.0**
HOPE				Sn		**Sn**	**07 32 05.8**	**-0.3**
VNA1	**Neumayer--Stat**	**17.55**	**157**	P		**P**	**07 34 05.2**	**0.0**
VNA3	**Neumayer Olymp**	**17.73**	**160**	P		**Pn**	**07 34 06.6**	**-0.2**
EFI	**East Falkland**	**17.85**	**270**			**P**	**07 34 10.1**	**+1.5**
EFI				IAmb		IAmb	07 34 21.3	
	comp=Z,146nm,1.6s							
EFI				Sn		**Sn**	**07 37 18.6**	**-7.5**
SNAA	**Sanae**	**19.52**	**156**	P		**P**	**07 34 25.9**	**-0.9**
SNAA	**Sanae**	**19.52**	**156**	P		**P**	**07 34 26.0**	**-0.8**
	comp=Z,7.1nm,0.3s,baz=303,slow=10,SNR=640							
SNAA				PcP		**PcP**	**07 38 45.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=220,slow=8.0,SNR=2.5							
SNAA				LR		LR	07 40 54.6	
	comp=Z,605nm,18.9s,baz=324,slow=33							
SNAA				ScP		**ScP**	**07 42 16.5**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=242,slow=1.3,SNR=5.6							
SNAA	**Sanae**	**19.52**	**156**	P		**P**	**07 34 26.4**	**-0.4**
PMSA	**Palmer Station**	**19.65**	**228**	P		**Pn**	**07 34 32.0**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=72,slow=8.5,SNR=16							
PMSA	**Palmer Station**	**19.65**	**228**	P		**P**	**07 34 28.0**	**-0.1**
PMSA	**Palmer Station**	**19.65**	**228**	*eP*		**Pn**	**07 34 32.3**	**+2.5**
GO09	**Cerro Castillo**	**26.10**	**261**	P		**P**	**07 35 31.7**	**-1.1**
TRQA	**Tornquist**	**28.41**	**294**	P		**P**	**07 35 52.3**	**-1.3**
PLTB	**Pedras Altas**	**29.52**	**313**	*eP*		**P**	**07 36 04.8**	**+0.7**
CNLB	**Canela**	**30.68**	**320**	*eP*		**P**	**07 36 14.9**	**+1.0**
PLCA	**Paso Flores**	**31.14**	**281**	PcP		**PcP**	**07 39 12.3**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=180,slow=5.1,SNR=1.4							
PLCA				LR		LR	07 49 56.6	
	comp=Z,157nm,18.5s,baz=130,slow=38							
SYO	**Syowa Base**	**32.46**	**141**	*eP*		**P**	**07 36 24.8**	**-4.3**
SYO	**Syowa Base**	**32.46**	**141**	*ePP*		**P**	**07 36 26.8**	**-2.3**
SYO	**Syowa Base**	**32.46**	**141**	*iPnPn*		PnPn	07 37 30.7	-6.4
SYO	**Syowa Base**	**32.46**	**141**	*iPP*		PP	07 37 36.0	-6.8
ITAB	**Concordia**	**33.03**	**319**	*eP*		**P**	**07 36 35.8**	**+1.3**
MAN01	**Angra dos Reis**	**34.59**	**334**	*eP*		**P**	**07 36 49.0**	**+0.9**
QSPA	**South Pole Qui**	**34.70**	**180**	P		**P**	**07 36 49.0**	**+0.1**
SPB	**Sao Paulo**	**34.83**	**329**	*eP*		**P**	**07 36 51.2**	**+1.1**
VAO	**Valinhos**	**35.26**	**330**	*eP*		**P**	**07 36 55.7**	**+1.8**
PTGB	**Pitanga**	**35.30**	**321**	*eP*		**P**	**07 36 54.6**	**+0.3**
FRTB	**Fartura**	**35.72**	**326**	*eP*		**P**	**07 36 58.8**	**+1.0**
CPUP	**Villa Florida**	**35.90**	**313**	P		**P**	**07 36 59.4**	**+0.2**
	comp=Z,15nm,0.7s,baz=150,slow=7.3,SNR=52							
CPUP				PcP		**PcP**	**07 39 26.1**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=207,slow=4.5,SNR=2.0							
CPUP				LR		LR	07 50 44.0	
	comp=Z,271nm,21.1s,baz=178,slow=34							
CPUP	**Villa Florida**	**35.90**	**313**	P		**P**	**07 36 59.1**	**-0.2**
CPUP				IAmb		IAmb	07 36 60.0	
	comp=Z,18nm,0.8s							
CPUP	**Villa Florida**	**35.90**	**313**	*eP*		**P**	**07 36 59.7**	**+0.5**
GO05	**Huala**	**35.99**	**286**	P		**P**	**07 37 00.2**	**+0.1**
GO05				IAmb		IAmb	07 37 17.6	
	comp=Z,38nm,1.4s							
BO01	**Tunca**	**35.99**	**288**	P		**P**	**07 37 01.1**	**+1.0**
MT05	**Renca**	**36.57**	**290**	P		**P**	**07 37 06.4**	**+1.3**
MT05				IAmb		IAmb	07 37 08.2	
	comp=Z,65nm,1.6s							
BSCB	**Bom Sucesso**	**36.58**	**334**	*eP*		**P**	**07 37 05.7**	**+0.4**
PEL	**Peldehue**	**36.73**	**290**	P		**P**	**07 37 07.6**	**+1.2**
PEL				IAmb		IAmb	07 37 08.1	
	comp=Z,17nm,0.7s							
MT02	**Curacav**	**36.88**	**289**	P		**P**	**07 37 08.5**	**+0.8**
MT02				IAmb		IAmb	07 37 20.8	
	comp=Z,44nm,1.4s							
VA03	**San Esteban**	**36.95**	**290**	P		**P**	**07 37 09.5**	**+1.1**
VA03				IAmb		IAmb	07 37 10.7	
	comp=Z,22nm,1.1s							
ROC1	**El Roble**	**37.04**	**290**	P		**P**	**07 37 10.8**	**+1.5**
TRCB	**Terra Rica**	**37.27**	**322**	*eP*		**P**	**07 37 12.1**	**+1.1**
BB19B	**Bebedouro**	**37.54**	**328**	*eP*		**P**	**07 37 15.0**	**+1.7**
BSFB	**Barra de Sao F**	**37.82**	**341**	*eP*		**P**	**07 37 16.3**	**+0.7**
PCMB	**Pacaembu**	**37.90**	**324**	*eP*		**P**	**07 37 16.7**	**+0.4**
SJMB	**Sao Joao De Ma**	**38.01**	**340**	*eP*		**P**	**07 37 17.1**	**-0.2**
CO02	**Combarbal**	**38.41**	**291**	P		**P**	**07 37 22.0**	**+1.4**
CO03	**El Pedregal**	**38.53**	**292**	P		**P**	**07 37 23.1**	**+1.4**
CO03				IAmb		IAmb	07 37 25.2	
	comp=Z,33nm,1.4s							
NAN01	**Guarapari, ES**	**38.66**	**342**	*eP*		**P**	**07 37 22.6**	**-0.1**
CO01	**Juntas del Tor**	**38.90**	**294**	P		**P**	**07 37 27.3**	**+2.3**
GO04	**Tololo Observa**	**39.11**	**293**	P		**P**	**07 37 27.7**	**+1.0**
ITRB	**Iturama**	**39.38**	**327**	*eP*		**P**	**07 37 29.5**	**+0.7**
AC05	**El Transito**	**39.91**	**295**	P		**P**	**07 37 34.6**	**+1.4**
AC05				IAmb		IAmb	07 37 35.1	
	comp=Z,21nm,0.8s							
IPMB	**Ipameri, GO**	**40.37**	**330**	*eP*		**P**	**07 37 37.5**	**+0.5**
AQDB	**Aquidauana**	**40.51**	**319**	*eP*		**P**	**07 37 37.2**	**-0.9**
MC01	**Montes Claros**	**40.52**	**337**	*eP*		**P**	**07 37 38.0**	**-0.3**
AC04	**Llanos de Chal**	**40.83**	**294**	P		**P**	**07 37 42.4**	**+1.7**
AC04				IAmb		IAmb	07 37 42.9	
	comp=Z,32nm,0.9s							
AC02	**Maricunga**	**40.95**	**298**	P		**P**	**07 37 44.4**	**+2.1**
AC02				IAmb		IAmb	07 37 46.0	
	comp=Z,56nm,1.5s							
MAW	**Mawson**	**41.01**	**144**	P		**P**	**07 37 40.5**	**-1.2**
	comp=Z,3.9nm,0.8s,baz=240,slow=4.2,SNR=8.3							
MAW				PcP		**PcP**	**07 39 40.8**	**0.0**
	comp=Z,1.7nm,0.7s,baz=270,slow=5.1,SNR=2.3							
MAW				LR		LR	07 52 25.7	
	comp=Z,178nm,21.1s,baz=242,slow=33							
MAW	**Mawson**	**41.01**	**144**	P		**P**	**07 37 41.1**	**-0.6**
SUR	**Sutherland**	**41.28**	**77**	P		**P**	**07 37 44.2**	**-0.3**
SUR				IAmb		IAmb	07 37 51.6	
	comp=Z,43nm,1.3s							
JANB	**Januaria**	**42.20**	**337**	*eP*		**P**	**07 37 52.1**	**+0.1**
AC01	**Pan de Azucar**	**42.26**	**297**	P		**P**	**07 37 53.5**	**+1.1**
AC01				IAmb		IAmb	07 37 54.9	
	comp=Z,23nm,0.8s							
BDFB	**Brasilia**	**42.55**	**332**	P		**P**	**07 37 55.5**	**+0.6**
	comp=Z,3.0nm,0.5s,baz=152,slow=5.8,SNR=14							
BDFB				PcP		**PcP**	**07 39 47.7**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=217,slow=5.1,SNR=2.2							
BDFB				LR		LR	07 53 02.1	
	comp=Z,248nm,21.1s,baz=137,slow=32							
BDFB	**Brasilia**	**42.55**	**332**	P		**P**	**07 37 55.9**	**+1.0**
GO02	**Mina Guanaco**	**42.57**	**298**	P		**P**	**07 37 56.8**	**+1.6**
GO02				IAmb		IAmb	07 38 03.8	
	comp=Z,62nm,1.6s							
GDU01	**Guandu, BA**	**42.61**	**344**	*eP*		**P**	**07 37 55.3**	**0.0**
PB14	**IPOC Station P**	**43.42**	**298**	P		**P**	**07 38 02.9**	**+0.7**
PB14				IAmb		IAmb	07 38 19.9	
	comp=Z,55nm,1.6s							
ARAG	**Araguaiana, MT**	**43.59**	**327**	*eP*		**P**	**07 38 03.9**	**+0.6**
LVC	**Limon Verde**	**44.37**	**301**	P		**P**	**07 38 11.8**	**+1.9**
LVC				IAmb		IAmb	07 38 13.5	
	comp=Z,12nm,0.7s							
LVC	**Limon Verde**	**44.37**	**301**	*eP*		**P**	**07 38 11.4**	**+1.5**
SALV	**Santo Antonio**	**44.71**	**321**	*eP*		**P**	**07 38 12.7**	**+0.5**
SDBA	**SAO DESIDERIO**	**44.89**	**337**	*eP*		**P**	**07 38 13.7**	**0.0**
PB09	**IPOC Station P**	**45.22**	**301**	P		**P**	**07 38 18.7**	**+2.3**
PB07	**IPOC Station P**	**45.59**	**301**	P		**P**	**07 38 20.7**	**+1.3**
PB07				IAmb		IAmb	07 38 21.1	
	comp=Z,13nm,0.9s							
PB01	**IPOC Station P**	**45.98**	**302**	P		**P**	**07 38 23.9**	**+1.5**
PB01				IAmb		IAmb	07 38 24.8	
	comp=Z,19nm,0.8s							
PTLB	**Pontes e Lacer**	**46.40**	**317**	*eP*		**P**	**07 38 25.9**	**+0.4**
PB08	**IPOC Station P**	**46.59**	**303**	P		**P**	**07 38 27.0**	**-0.5**
PB08				IAmb		IAmb	07 38 32.1	
	comp=Z,22nm,1.1s							
BOSA	**Boshof**	**46.62**	**78**	P		**P**	**07 38 24.7**	**-2.6**
	comp=Z,2.9nm,0.8s,baz=210,slow=9.6,SNR=6.5							
BOSA				LR		LR	07 55 10.3	
	comp=Z,222nm,18.8s,baz=219,slow=32							
BOSA	**Boshof**	**46.62**	**78**	P		**P**	**07 38 26.0**	**-1.3**
BOSA				IAmb		IAmb	07 38 38.3	
	comp=Z,20nm,1.2s							
GO01	**Chusmiza**	**47.02**	**303**	P		**P**	**07 38 32.7**	**+1.8**
VNDA	**Vanda**	**47.03**	**183**	P		**P**	**07 38 31.3**	**+1.5**
	comp=Z,5.3nm,0.6s,baz=187,slow=6.6,SNR=96							
VNDA				LR		LR	07 57 35.1	
	comp=Z,46nm,20.0s,baz=172,slow=35							
VNDA	**Vanda**	**47.03**	**183**	P		**P**	**07 38 31.5**	**+1.7**
VNDA				IAmb		IAmb	07 38 31.9	
	comp=Z,6.4nm,0.7s							
PB11	**IPOC Station P**	**47.16**	**302**	P		**P**	**07 38 33.1**	**+1.5**
MNMC	**Minye Minye**	**47.67**	**303**	P		**P**	**07 38 37.5**	**+1.7**
H10S2	**ASCENSION HYDR**

FXWY	Fox Creek	120.77	303			PKiKP	07 48 50.7	+0.5
HRY	Holter Researc	123.45	305			PKiKP	07 48 55.8	+0.6
FINES	FINESS Array B	124.31	28	PKP	PKPdf	PKPdf	07 48 55.5	-0.4
	comp=Z,3.3nm,0.6s,baz=173,slow=1.9,SNR=30							
MSO	Missoula	124.52	304			PKiKP	07 48 57.9	+0.6
G08A	Pilot Rock	125.84	299	PKPdf		PKiKP	07 49 00.7	+0.7
CMAR	Chiang Mai Arr	125.97	112	PKP		PKPdf	07 49 00.6	+0.1
	comp=Z,2.1nm,0.3s,baz=237,slow=2.9,SNR=4.3							
KSH	Kashi	129.19	75	*e*PKP		PKPdf	07 49 05.8	-0.4
ARCES	ARCESS Array B	130.77	22	PKP		PKPdf	07 49 07.8	-0.2
	comp=Z,3.1nm,0.7s,baz=191,slow=1.2,SNR=16							
YKA	Yellowknife Ar	135.28	319	PKP	PKPdf	PKPdf	07 49 16.8	+0.1
	comp=Z,3.6nm,0.8s,baz=124,slow=2.2,SNR=34							
YKA				PP		PP	07 51 46.7	-7.6
	comp=Z,0.6nm,0.9s,baz=122,slow=5.5,SNR=5.0							
YKA				SKPbc		SKPbc	07 52 42.6	-1.0
	comp=Z,0.5nm,0.8s,baz=111,slow=2.1,SNR=6.0							
MKAR	Makanchi Array	137.47	72	PKP		PKPdf	07 49 20.8	-0.6
	comp=Z,0.5nm,0.7s,baz=251,slow=7.4,SNR=4.1							
CD2	Chengdu	138.55	106	Pdif		Pdif	07 46 35.3	+0.3
WMQ	Urumqi	138.57	79	*e*PKP		PKiKP	07 49 25.1	-0.6
LZH	Lanzhou	142.47	101	*e*PKP		PKiKP	07 49 34.4	+0.3
LZH				pPKP		sPKPdf	07 49 46.7	-1.9
LZH				sPKP			07 49 50.4	
ZALV	Zalesovo Beam	142.85	64	PKhKP		PKPpre	07 49 26.6	
	comp=Z,0.7nm,0.4s,baz=241,slow=3.1,SNR=4.3							
HYT	Haines Junctio	143.87	308	PKPdf		PKPdf	07 49 31.8	-0.8
PCA	Pinnacle	144.82	306			PKPdf	07 49 35.1	+0.9
INK	Inuvik	144.92	321	PKPbc		PKPdf	07 49 33.9	-0.1
	comp=Z,40nm,0.9s,baz=92,slow=4.7,SNR=30							
INK	Inuvik	144.92	321			PKPdf	07 49 34.3	+0.3
TABL	Table Mountain	145.36	306			PKPab	07 49 37.1	+1.6
EPYK	Eagle Plains	145.53	317	PKPdf		PKPab	07 49 36.2	+0.4
BARN	Barnard Glacie	145.83	307			PKiKP	07 49 38.9	-1.3
DAWY	Dawson	145.88	313	PKPdf		PKPab	07 49 37.2	0.0
ISLE	Juniper Island	145.97	306			PKPdf	07 49 36.0	-0.2
BALM	Baldy	146.13	307			PKiKP	07 49 39.6	-1.1
CRQM	Cirque	146.39	306			PKiKP	07 49 40.6	-0.7
VRDI	Verde Repeater	146.70	307			PKiKP	07 49 41.4	-0.6
EGAK	Eagle	146.82	314	PKPdf		PKPdf	07 49 38.1	+0.8
GLB	Gilahina Butte	146.93	307			PKPab	07 49 40.5	-0.8
NJ2	Nanjing	147.27	122	*e*PKPbc		PKPbc	07 49 42.3	+0.8
MENT	Mentasta	147.37	310			PKPab	07 49 42.2	-0.8
DOT	Dot Lake	147.72	311			PKiKP	07 49 43.0	-0.8
KLU	Klutina	147.91	307			PKiKP	07 49 44.2	-0.1
RIDG	Independent Ri	148.09	311			PKiKP	07 49 44.0	-0.5
PAX	Paxson	148.15	309			PKiKP	07 49 44.1	-0.6
GLI	Glacier Island	148.26	305	PKPbc		PKiKP	07 49 45.2	+0.3
GLI						PKPab	07 49 47.8	+1.2
SCM	Sheep Creek Mo	148.65	307			PKiKP	07 49 46.1	+0.3
DHY	Denali Highway	149.01	309			PKiKP	07 49 47.2	+0.6
SML	Sawmill	149.10	307			PKiKP	07 49 46.4	-0.3
SML				PKPab		PKPab	07 49 51.5	+1.5
NRIK	Noril'sk	149.10	38	PKPbc		PKPbc	07 49 45.6	+0.4
	comp=Z,6.8nm,0.9s,baz=333,slow=1.6,SNR=10							
HDA	Harding Lake	149.15	312			PKiKP	07 49 48.1	+1.4
IL31		149.20	313			PKiKP	07 49 46.4	-0.3
ILAR	Eielson Array	149.20	313	PKPbc		PKPbc	07 49 45.8	+0.2
	comp=Z,1.3nm,0.7s,baz=132,slow=2.2,SNR=124							
GHO	Glory Hole Cre	149.36	306			PKiKP	07 49 47.1	-0.2
CCB	Clear Creek Bu	149.56	312			PKPbc	07 49 46.9	+0.4
CCB				PKPab		PKPab	07 49 52.9	+1.2
COLA	College	149.62	313			PKiKP	07 49 48.5	+0.9
RND	Reindeer	149.74	310			PKiKP	07 49 48.3	+0.2
MDM	Murphy Dome	149.80	313			PKiKP	07 49 47.6	-0.4
MDM				PKPab		PKPab	07 49 54.0	+1.2
MCK	McKinley	149.85	310			PKiKP	07 49 48.6	+0.4
HHC	Hu-ho-hao-te	150.12	103	*e*PKPbc		PKPdf	07 49 44.2	+0.5
SUA	Susitna One	150.12	305			PKiKP	07 49 49.3	+0.4
SUA				PKPab		PKPab	07 49 56.1	+1.8
TRF	Thorofare Moun	150.38	309			PKiKP	07 49 49.7	+0.2
SKT	Skwentna	150.61	306			PKiKP	07 49 50.2	+0.4
TOLK	Toolik Lake Re	150.79	320			PKiKP	07 49 50.1	+0.1
RSO	Redoubt South	150.80	303			PKiKP	07 49 50.9	+0.4
BPAW	Bear Paw Mtn.	150.81	311			PKiKP	07 49 50.2	+0.1
COLD	Coldfoot	150.92	317			PKiKP	07 49 51.0	+0.8
PPLA	Purkeypile	151.11	308	PKPdf		PKPdf	07 49 46.1	+1.6
PPLA				PKPbc		PKiKP	07 49 51.5	+0.5
SONM	Songino Array	151.48	87	PKPbc		PKPbc	07 49 51.0	-0.8
	comp=Z,3.3nm,0.7s,baz=225,slow=3.1,SNR=13							
TTA	Tatalina	152.84	307			PKiKP	07 49 55.1	+0.7
TTA				PKPab		pPKPbc	07 50 08.0	+0.7
RDOG	Red Dog Mine	155.75	319	PKPdf		PKPdf	07 49 53.6	+2.7
RDOG						sPKPbc	07 50 19.6	+1.6

IDC ***03*** *07:33:59.6±1.5,0.°98N×146.°31E,h0km,mb3.9/7, mb1 4.1/7,mb1mx3.7/37,mbtmp3.9/7,MS2.9/1,Ms1 2.9/1, ms1mx2.5/34,Error ellipse: s-maj=58.9km s-min=20.6km az=105.0*

NEIC ***03*** *07:34:00.8±1.1,1.°0N±0.°1×146.°4E±0.°1,h10km±1km, mb4.3/3,Error ellipse: s-maj=25.5km s-min=18.3km az=238.0*

ISC 03 07:34:01.0±0.9,**1.°0N**±0.°1×**146.°3E**±0.°1,**h10**km,**n14,** σ1ᵍ**75**/13,**mb3.9**/9,**Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	Jayapura	6.61	238	LR	LR	07 37 52.6	
	comp=Z,91nm,18.1s,baz=328,slow=35						
RABL	Rabaul	7.79	131	Pn	Pn	07 35 51.4	-3.1
RABL				Sn	Sn	07 37 27.1	+4.2
PATS	Pohnpei	13.29	64	Pn	Pn	07 37 09.4	-0.6
WB0	Warramunga Arr	23.72	209	P	P	07 39 12.9	-0.6
WB0				IAmb	IAmb	07 39 13.0	
	comp=Z,14nm,1.4s						
WR0	Warramunga Arr	23.81	208	P	P	07 39 14.1	-0.2
WR0				IAmb	IAmb	07 39 19.2	
	comp=Z,13nm,1.4s						
WB2	Warramunga Arr	23.89	209	P	P	07 39 14.8	-0.2
WRA	Warramunga Arr	23.89	209	P	P	07 39 14.9	-0.3
	comp=Z,2.1nm,0.5s,baz=31,slow=11,SNR=31						
ASAR	Alice Springs	27.32	205	P	P	07 39 46.7	+0.4
	comp=Z,2.0nm,1.0s,baz=35,slow=11,SNR=9.3						
FITZ	Fitzroy Crossi	27.82	226	P	P	07 39 50.0	-0.7
	comp=Z,2.6nm,1.0s,baz=22,slow=12,SNR=1.8						
FITZ	Fitzroy Crossi	27.82	226	P	P	07 39 50.5	-0.2
SONM	Songino Array	58.04	329	P	P	07 43 55.3	+0.9
	comp=Z,0.6nm,0.7s,baz=149,slow=12,SNR=2.3						
MKAR	Makanchi Array	71.74	319	P	P	07 45 24.1	+0.6
	comp=Z,0.6nm,0.7s,baz=105,slow=7.6,SNR=4.6						
ZALV	Zalesovo Beam	72.79	327	P	P	07 45 29.1	-0.6
	comp=Z,0.3nm,0.3s,baz=120,slow=5.8,SNR=1.9						
ILAR	Eielson Array	79.37	24	P	P	07 46 07.2	+0.3
	comp=Z,0.8nm,0.6s,baz=253,slow=5.5,SNR=9.6						

BJI ***03*** *07:34:09.3±0.0,34.°66N×85.°85E,h7km,mB4.3/1,mb4.3/5, ML4.1/1,Ms3.9/2,Ms7 3.8/1*

IDC ***03*** *07:34:11.7±0.8,34.°48N×85.°84E,h0km,mb3.9/15, mb1 4.2/20,mb1mx4.0/49,mbtmp4.0/20,ML3.6/5,MS3.4/11, Ms1 3.4/11,ms1mx3.2/33,Error ellipse: s-maj=24.9km s-min=13.9km az=48.0*

NEIC ***03*** *07:34:13.6±0.9,34.°54N±0.°08×85.°87E±0.°10,h10km±1km, mb4.2/19,Error ellipse: s-maj=15.5km s-min=11.2km az=221.0*

ISC 03 07:34:13.7±0.5,**34.°68N**±0.°07×**85.°89E**±0.°06,**h10**km,**n71,** σ1ᵍ**44**/69,**mb4.2**/23,**MS3.5**/7,**Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DANN	Dangsing	6.56	197	*e*P	Pn	07 35 51.5	+1.0
	49nm,0.4s						
LSA	Lhasa	6.67	137	Pn	Pn	07 35 49.8	-2.3
LSA	Lhasa	6.67	137	Pn	Pn	07 35 50.5	-1.6
GUN	Gumba	6.74	180	*e*P	Pn	07 35 55.2	+2.1
JIRN	Jiri	7.00	178	*e*P	Pn	07 35 59.2	+2.6
DMN	Daman	7.08	186	*e*P	Pn	07 35 59.1	+1.6
PKI	Pulchoki	7.09	183	*e*P	Pn	07 35 59.6	+1.7
KOLN	Koldanda	7.16	197	*e*P	Pn	07 35 58.1	-0.5
TAPN	Taplejung	7.47	167	*e*P	Pn	07 36 04.1	+1.1
RAMN	Ramite	7.72	175	*e*P	Pn	07 36 06.6	+0.2
ODAN	Odare	7.90	170	*e*P	Pn	07 36 09.1	+0.3
WMQ	Urumqi	9.24	8	*e*P	Pn	07 36 25.5	-1.5
WMQ				smax	smax		
	comp=N,10.0nm,0.9s						
WMQ				smax	smax		
	comp=E,11nm,0.9s						
WMQ	Urumqi	9.24	8	Pn	Pn	07 36 28.2	+1.2
TARG	Taragay, Kyrgy	9.49	320	Pn	Pn	07 36 30.2	-0.5
PRZ	Przheval'sk	9.75	325	Pn	Pn	07 36 35.0	+0.8
KDJ	Kajisay	10.10	320	Pn	Pn	07 36 40.3	+1.4
NIL	Nilore	10.52	268		Pn	07 36 44.2	-0.4
AAK	Ala-Archa	11.93	315	Pn	Pn	07 37 06.0	+2.0
	0.5nm,0.3s,baz=156,slow=12,SNR=1.6						
AAK				LR	LR	07 42 05.6	
	comp=Z,140nm,19.6s,baz=132,slow=39						
AAK	Ala-Archa	11.93	315	Pn	Pn	07 37 06.4	+2.4
ARSB	Arslanbob	12.15	307	Pn	Pn	07 37 07.5	+0.6
MK31	Makanchi Array	12.41	348	Pn	Pn	07 37 11.9	+1.6
MKAR	Makanchi Array	12.41	348	Pn	Pn	07 37 11.9	+1.6
	0.2nm,0.3s,baz=159,slow=15,SNR=21						
MKAR				LR	LR	07 42 54.5	
	comp=Z,94nm,20.1s,baz=172,slow=42						
MAKZ	Makanchi	12.48	347	Pn	Pn	07 37 12.9	+1.7
BTK	Batken	13.13	299	Pn	Pn	07 37 19.9	-0.4
BTK				Sn	Sn	07 39 40.0	-6.5
GAR	Garm	13.20	294	Pn	Pn	07 37 20.5	-0.7
KBL	Kabul	13.88	274	Pn	Pn	07 37 29.7	-1.0
CHGR	Chuyangaron	14.00	291	Pn	Pn	07 37 32.6	+0.4
KK31	Karatay Array	14.62	310	Pn	Pn	07 37 42.0	+1.4
TAS	Tashkent	14.66	302	Pn	Pn	07 37 42.2	+1.0
KURBB	Kurchatov Arra	16.82	344	Pn	Pn	07 38 10.9	+1.8
	0.2nm,0.3s,baz=154,slow=12,SNR=40						
KURK	Kurchatov	16.88	344	Pn	P	07 38 11.7	-0.3
XAN	Xi'an	19.02	85	P	Pn	07 38 45.9	+9.4
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,86nm,4.6s						
XAN	Xi'an	19.02	85	P	P	07 38 34.6	-1.2
ZAA0	Zalesovo Array	19.29	358	P	P	07 38 38.9	+0.5
ZALV	Zalesovo Beam	19.29	358	P	Pn	07 38 40.4	+1.0
	comp=Z,0.2nm,0.3s,baz=180,slow=11,SNR=17						
ZALV				LR	LR	07 47 23.6	
	comp=Z,105nm,20.9s,baz=194,slow=41						
HRA	Herat	19.48	276	P	P	07 38 40.7	-0.3
CM31	Chiang Mai Arr	19.90	141	P	Pn	07 38 46.5	-0.5
CM31				IAmb	IAmb	07 38 52.6	
	comp=Z,14nm,1.2s						
CMAR	Chiang Mai Arr	19.90	141	P	P	07 38 45.3	-0.1
	comp=Z,0.2nm,0.3s,baz=322,slow=12,SNR=14						
CMAR				LR	LR	07 47 27.4	
	comp=Z,86nm,19.1s,baz=80,slow=40						
SONM	Songino Array	20.18	43	P	Pn	07 38 51.6	+1.3
	comp=Z,3.3nm,0.9s,baz=230,slow=11,SNR=7.9						
ULN	Ulaanbaatar	20.57	44	P	P	07 38 53.8	+1.1
ULN				IAmb	IAmb	07 39 02.3	
	comp=Z,12nm,1.2s						
SLVN	Son La	20.68	125	P	P	07 38 53.5	-0.5
BVAR	Borovoye Array	21.40	334	P	P	07 39 03.4	+2.0
	comp=Z,3.6nm,0.7s,baz=134,slow=11,SNR=20						
BRVK	Borovoye	21.46	334	P	P	07 39 03.9	+1.8
BRVK				IAmb	IAmb	07 39 08.9	
	comp=Z,13nm,1.1s						
GEYT	Alibeck	22.58	286	P	P	07 39 14.4	+0.1
	comp=Z,7.1nm,1.1s,baz=100,slow=7.7,SNR=11						
GEYT				LR	LR	07 49 45.4	
	comp=Z,188nm,21.6s,baz=155,slow=41						
GYA0B	ALIBECK ARRAY	22.58	286	P	P	07 39 12.4	-1.8
GYA0B				IAmb	IAmb	07 39 19.1	
	comp=Z,12nm,1.2s						
AKTO	Aktyubinsk	25.67	316	P	P	07 39 44.5	+1.0
	comp=Z,2.0nm,0.6s,baz=120,slow=12,SNR=7.0						
KSRS	Korea Array	33.89	73	LR	LR	07 54 25.0	
	comp=Z,37nm,18.5s,baz=264,slow=36						
NRIK	Noril'sk	34.73	1	P	P	07 41 05.1	+1.6
	comp=Z,2.5nm,0.6s,baz=209,slow=9.4,SNR=5.6						
KLMR	Klimovskoe	39.45	326	*e*P	P	07 41 41.6	-2.1
KLMR				AMP		07 41 44.7	
	comp=Z,6.0nm,0.9s						
MJAR	Matsushiro Arr	42.15	72	LR	LR	08 00 30.8	
	comp=Z,39nm,18.8s,baz=300,slow=37						
TIXI	Tiksi	43.27	18	P	P	07 42 16.1	+1.2
AKASG	Malin Array Be	43.52	310	P	P	07 42 16.8	-0.5
	comp=Z,0.7nm,0.6s,baz=75,slow=7.0,SNR=2.5						
AKASG				LR	LR	08 04 27.8	
	comp=Z,61nm,18.2s,baz=45,slow=42						
AKBB	Malin Array Si	43.52	310	P	P	07 42 18.2	+0.9
AKBB				IAmb	IAmb	07 42 18.8	
	comp=Z,4.0nm,1.0s						
ISP	Isparta	44.21	291	P	P	07 42 23.6	+0.5
ISP				IAmb	IAmb	07 42 34.6	
	comp=Z,4.6nm,1.1s						
FINES	FINESS Array B	45.91	325	P	P	07 42 36.8	+0.7
	comp=Z,1.4nm,0.7s,baz=101,slow=10,SNR=6.6						
MLR	Muntele Rosu	46.14	302	P	P	07 42 39.7	+1.3
ARCES	ARCESS Array B	47.67	336	P	P	07 42 50.9	+1.0
	comp=Z,2.6nm,0.7s,baz=81,slow=7.5,SNR=13						
DIVS	Divibare	50.56	302	P	P	07 43 13.0	+0.5
DIVS				IAmb	IAmb	07 43 13.1	
	comp=Z,3.6nm,1.2s						
MORC	Moravsky Berou	51.07	309	P	P	07 43 16.3	+0.2
MORC				IAmb	IAmb	07 43 17.8	
	comp=Z,3.1nm,1.1s						
NB2	NORSAR Subarra	53.08	324	P	P	07 43 31.0	+0.1
	comp=Z,0.6nm,0.6s,baz=83,slow=7.4						
NOA	NORSAR Array B	53.08	324	P	P	07 43 31.1	+0.1
	comp=Z,0.2nm,0.4s,baz=101,slow=7.2,SNR=6.9						
NOA				LR	LR	08 06 31.5	
	comp=Z,23nm,19.9s,baz=15,slow=36						
CLL	Collm	53.62	312	P	P	07 43 34.9	-0.1
CLL				IAmb	IAmb	07 43 36.2	
	comp=Z,3.1nm,1.1s						
GEC2	GERESS Array S	53.72	309	P	P	07 43 36.2	+0.3
GERES	GERESS Array B	53.72	309	P	P	07 43 36.8	+0.9
	comp=Z,1.6nm,1.0s,baz=79,slow=6.9,SNR=12						
GERES				LR	LR	08 08 23.9	
	comp=Z,52nm,19.4s,baz=72,slow=38						
ESDC	Sonseca Array	68.79	304	P	P	07 45 17.5	-0.6
	comp=Z,0.9nm,0.9s,baz=54,slow=6.3,SNR=5.4						
ESDC				LR	LR	08 21 47.6	
	comp=Z,36nm,19.5s,baz=245,slow=42						
WRA	Warramunga Arr	71.20	132	P	P	07 45 32.0	-1.0
	comp=Z,1.6nm,0.8s,baz=328,slow=6.4,SNR=9.0						
ILAR	Eielson Array	72.66	21	P	P	07 45 40.6	-0.6
	comp=Z,1.1nm,0.9s,baz=311,slow=5.6,SNR=12						
ILAR				PP	PP	07 48 21.6	-0.6
	comp=Z,0.8nm,1.0s,baz=317,slow=10,SNR=8.3						
ASAR	Alice Springs	73.77	135	P	P	07 45 47.5	-0.8
	comp=Z,1.2nm,0.8s,baz=313,slow=5.6,SNR=10						
HYT	Haines Junctio	78.45	20	P	P	07 46 15.2	+0.6
HYT				IAmb	IAmb	07 46 17.0	
	comp=Z,3.2nm,0.9s						
SKAG	Skagway	80.19	20	P	P	07 46 24.6	+0.7
SKAG				IAmb	IAmb	07 46 26.5	
	comp=Z,4.4nm,1.0s						
YKA	Yellowknife Ar	81.77	9	P	P	07 46 32.0	-0.2
	comp=Z,0.8nm,0.8s,baz=335,slow=5.6,SNR=8.7						

NEIC ***03*** *08:17:46.0±2.4,17.°0N±0.°1×101.°30W±0.°09,h1km±8km, Error ellipse: s-maj=17.7km s-min=7.7km az=217.0*

IDC ***03*** *08:17:52.8±1.8,17.°21N×100.°89W,h27km±5km,mb3.7/6, mb1 3.9/8,mb1mx3.6/36,mbtmp3.7/8,ML3.3/2,MS3.5/4, Ms1 3.5/4,ms1mx3.0/39,Error ellipse: s-maj=42.6km s-min=18.4km az=32.0*

MEX ***03*** *08:17:53.2±2.8,17.°25N×101.°07W,h16km±23km,MD4.2*

ISC 03 08:17:50.9±0.7,**17.°14N**±0.°05×**101.°10W**±0.°03,**h20**km±3km, **n110,** σ1ᵍ**36**/126,**mb4.1**/18,**1D,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	Zihuatanejo	0.59	323	⇓*e*P	Pb	08 18 01.2	-1.3
	baz=124,slow=16						
ZIIG				*e*S	Sb	08 18 08.8	-1.5
CAIG	El Cayaco	0.80	96	*e*P	Pb	08 18 05.3	-0.8
CAIG				*e*S	Sb	08 18 15.6	-0.9
ACP2	Acapulco	1.19	102	*e*P	Pn	08 18 12.1	-0.4
ACP2				*e*S	Sb	08 18 27.3	-0.5
CRIG	Cruz Grande	1.92	102	*e*P	Pn	08 18 21.5	-1.1
CRIG				*e*S	Sn	08 18 45.2	-1.0
PLIG	Platanillo	1.97	50	*e*P	Pn	08 18 22.6	-0.7
PLIG				*e*S	Sn	08 18 45.5	-1.9
MAVM	Malinalco, Edo	2.37	40	*i* P	Pn	08 18 27.6	-1.3
MAVM				*e*S	Sn	08 18 55.6	-1.9
TLIG	Tlapa	2.45	80	*e*P	Pn	08 18 30.1	+0.1
TLIG				*e*S	Sn	08 18 57.6	-1.9
TLIG	Tlapa	2.45	80	Pn	Pn	08 18 30.8	+0.8
TOVM	TOLUCA	2.53	32	*e*P	Pn	08 18 30.4	-0.8
TOVM				*i* S	Sn	08 19 01.5	-0.1
MOIG	Morelia	2.53	358	*e*P	Pn	08 18 32.9	+1.7
MOIG				*e*S	Sn	08 19 01.6	0.0
MOIG	Morelia	2.53	358	Pn	Pn	08 18 33.3	+2.1
MOIG				Sn	Sb	08 19 06.0	-0.7
YAIG	Yautepec	2.58	48	*e*P	Pn	08 18 30.7	-1.2
YAIG				*e*S	Sn	08 19 00.2	-2.5
UNM	Universidad Na	2.84	40	*e*P	Pn	08 18 34.6	-0.8
UNM				*e*S	Sn	08 19 07.1	-2.3
UNM	Universidad Na	2.84	40	Pn	Pn	08 18 36.8	+1.3
UNM				Sn	Sb	08 19 17.6	+1.9
ATVM	ATLACOMULCO	2.87	24	*e*P	Pn	08 18 35.3	-0.7
CVM	Colonia del Va	2.88	39	*e*P	Pn	08 18 35.8	0.0
CVM				*e*S	Sn	08 19 08.7	-1.3
FTIG	Fresnillo de T	2.93	74	*e*P	Pn	08 18 36.6	0.0
FTIG				*e*S	Sn	08 19 09.4	-1.9
PNIG	Pinotepa	2.94	104	*e*P	Pn	08 18 36.7	+0.1
PNIG				*e*S	Sn	08 19 09.2	-2.2
AMVM	AMECAMECA	2.96	48	*e*P	Pn	08 18 36.2	-1.0
AMVM				*e*S	Sn	08 19 10.0	-2.3
ACIG	Acambay	3.06	22	*e*P	Pn	08 18 37.5	-0.8
ACIG				*e*S	Sn	08 19 11.9	-2.6
PTVM	Pico Tres Padr	3.09	37	*e*P	Pn	08 18 38.1	-0.7
PTVM				*i* S	Sn	08 19 14.2	-1.1
TXIG	Tlaxiaco	3.18	87	*e*P	Pn	08 18 40.3	+0.1
TXIG				*e*S	Sn	08 19 15.9	-1.9
COIG	Colima	3.20	310	*e*P	Pn	08 18 40.4	+0.2
COIG				*e*S	Sn	08 19 15.8	-2.0
EZ5V		3.33	315	*e*P	Pn	08 18 41.1	-1.1
EZ5V				*i* S	Sn	08 19 19.9	-1.5
YOIG	Yosondua	3.41	94	*e*P	Pn	08 18 43.8	+0.5
YOIG				*e*S	Sn	08 19 21.7	-1.6
R15V		3.41	307	*e*P	Pn	08 18 43.3	+0.2
R15V				*i* S	Sn	08 19 24.4	+1.4
VTVM	Tizayuca	3.42	40	*i* P	Pn	08 18 43.1	-0.4
VTVM				*i* S	Sn	08 19 22.4	-1.3
TPIG	Tehuac#an	3.78	70	*e*P	Pn	08 18 51.6	+3.3
TPIG				*e*S	Sn	08 19 31.4	-0.9
ZAIG	Zacatecas	5.77	346	Pn	Pn	08 19 15.3	-0.5
CMIG	Matias Romero	5.94	90	Pn	Pn	08 19 17.7	-0.2
	0.7nm,0.3s,baz=255,slow=13,SNR=9.7						
CMIG				Lg	Lg	08 20 57.5	
	6.1nm,0.3s,baz=320,slow=19,SNR=10						
CMIG				LR	LR	08 21 50.6	
	comp=Z,175nm,18.1s,baz=160,slow=41						
H06E1	SOCORRO T-PHAS	9.50	281	T	T	08 29 42.7	
	SNR=61						
H06S1	SOCORRO T	9.52	281	T	T	08 29 48.9	
	SNR=4.9						
H06N1	SOCORRO T-PHAS	9.57	282	T	T	08 29 53.2	
	SNR=19						
LPIG	La Paz	11.06	310	LR	LR	08 24 27.4	
	comp=Z,123nm,18.8s,baz=127,slow=35						
TX31	Lajitas Ar. Si	12.37	349	Pn	Pn	08 20 44.9	-1.2
TXAR	Lajitas Array	12.37	349	Pn	P	08 20 52.1	-6.0
	0.0nm,0.3s,baz=170,slow=16,SNR=5.9						
TXAR				Lg	Lg	08 24 24.8	
	0.0nm,0.3s,baz=140,slow=26,SNR=3.2						
TXAR				LR	LR	08 26 04.1	
	comp=Z,172nm,18.6s,baz=0.0,slow=40						
TEIG	Tepich	12.53	74	Pn	Pn	08 20 52.8	+4.5
	0.3nm,0.3s,baz=359,slow=1.1,SNR=1.5						
TEIG				Sn	Sn	08 23 10.0	+2.7
	0.1nm,0.3s,baz=321,slow=7.2,SNR=2.4						
TEIG	Tepich	12.53	74		Pn	08 20 48.9	+0.7
JCT	Junction City	13.34	5	Pn	Pn	08 20 58.0	-1.3
TGUH	Tegucigalpa,Un	13.66	101	Pn	Pn	08 21 05.0	+1.1
HSU		14.89	324	Pn	Pn	08 21 17.9	-2.6
MNTX	Cornudas Mount	15.01	346	Pn	Pn	08 21 20.7	-1.3
MNTX				IAmb	IAmb	08 21 36.3	
	comp=Z,4.8nm,0.8s						
WHTX	Lake Whitney,	15.15	12	Pn	Pn	08 21 24.8	+0.9
WHTX				IAmb	IAmb	08 21 36.3	
	comp=Z,11nm,0.8s						
441A	DeRidder	15.35	27	Pn	Pn	08 21 26.5	0.0
ABTX	Abilene, Hawle	15.48	5	Pn	Pn	08 21 28

	comp=Z,4.8nm,1.0s						
NVAR	**Mina Array Bea**	**26.02**	**328**	P	**P**	**08 23 25.0**	**+2.0**
	comp=Z,2.2nm,0.9s,baz=146,slow=11,SNR=10						
NVAR				pP	**sP**	**08 23 32.8**	**+1.7**
	comp=Z,5.1nm,0.8s,baz=145,slow=10,SNR=19						
RYN	**Ryan**	**26.29**	**328**	IAmb	IAmb	08 23 37.8	
	comp=Z,5.5nm,1.0s						
KVN	**Kaiserville**	**26.40**	**329**	IAmb	IAmb	08 23 39.4	
	comp=Z,4.5nm,0.9s						
PDAR	**Pinedale Array**	**26.55**	**346**	P	**P**	**08 23 28.8**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=161,slow=9.4,SNR=4.9						
PDAR				pP	**sP**	**08 23 37.5**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=150,slow=10,SNR=4.6						
MCMT	**McKenzie Canyo**	**29.32**	**343**	P	**P**	**08 23 53.2**	**+0.6**
F10A	**Beach Ranch, E**	**31.74**	**338**	P	**P**	**08 24 14.2**	**+0.5**
F10A				IAmb	IAmb	08 24 17.0	
	comp=Z,2.8nm,1.1s						
ULM	**Lac du Bonnet**	**33.30**	**6**	P	**P**	**08 24 26.2**	**-1.0**
	comp=Z,2.8nm,0.5s,baz=179,slow=3.6,SNR=2.3						
ULM	**Lac du Bonnet**	**33.30**	**6**	IAmb	IAmb	08 24 26.7	
	comp=Z,3.2nm,0.7s						
YKA	**Yellowknife Ar**	**46.29**	**351**	P	**P**	**08 26 14.6**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=158,slow=6.9,SNR=26						
YKA				pP	**sP**	**08 26 22.4**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=159,slow=6.8,SNR=9.7						
SIV	**San Ignacio**	**51.39**	**128**	P	**P**	**08 26 54.4**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=286,slow=15,SNR=2.4						
H03N2	**Juan Fernandez**	**54.56**	**157**	T	T	09 26 14.5	
	baz=335,slow=77,SNR=101						
H03N1	**Juan Fernandez**	**54.57**	**157**	T	T	09 26 20.6	
	baz=335,slow=77,SNR=107						
H03N3	**Juan Fernandez**	**54.58**	**157**	T	T	09 26 15.2	
	baz=335,slow=77,SNR=56						
ILAR	**Eielson Array**	**56.61**	**338**	P	**P**	**08 27 32.9**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=157,slow=6.0,SNR=5.1						
ILAR				pP	**sP**	**08 27 41.4**	**+1.0**
	comp=Z,1.1nm,1.1s,baz=133,slow=4.3,SNR=4.9						
RCBR	**Riachuelo**	**68.31**	**104**	LR	LR	09 00 57.9	
	comp=Z,145nm,21.5s,baz=299,slow=38						

*IDC **03** 08:18:07.4±2.0, 1.°73N×127.°17E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/46, mbtmp3.7/4, Error ellipse: s-maj=185.7km s-min=23.5km az=65.0*

*NEIC **03** 08:18:21.8±0.2, 1.°66N±0.°08×127.°3E±0.°1, h128km±6km, mb4.1/3, Error ellipse: s-maj=18.3km s-min=7.1km az=59.0*

ISC 03 08:18:20.4±1.4, 1.°8N±0.°1×127.°3E±0.°1, h112km, n9, σ1§53/11, mb4.0/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.03**	**176**	Pn	**Pn**	**08 18 43.4**	**+1.2**
TNTI				Sn	**Sn**	**08 18 59.9**	**+1.4**
LUWI	**Luwuk**	**5.33**	**238**	Pn	**Pn**	**08 19 38.5**	**+0.7**
LUWI				Sn	**Sn**	**08 20 37.8**	**-0.3**
WB0	**Warramunga Arr**	**22.55**	**162**	P	**P**	**08 23 10.3**	**-1.0**
WRA	**Warramunga Arr**	**22.69**	**163**	P	**P**	**08 23 11.3**	**-1.5**
	0.6nm,0.4s,baz=342,slow=11,SNR=16						
WB2	**Warramunga Arr**	**22.70**	**163**	P	**P**	**08 23 11.7**	**-1.2**
WB2				IAmb	IAmb	08 23 19.3	
	comp=Z,8.9nm,1.2s						
WR0	**Warramunga Arr**	**22.77**	**162**	P	**P**	**08 23 12.4**	**-1.2**
WR0				IAmb	IAmb	08 23 25.1	
	comp=Z,16nm,1.4s						
ASAR	**Alice Springs**	**26.12**	**166**	P	**P**	**08 23 41.3**	**-2.8**
	comp=Z,0.4nm,0.9s,baz=349,slow=8.5,SNR=1.9						
STKA	**Stephens Creek**	**36.15**	**159**	P	**P**	**08 25 11.8**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=328,slow=9.5,SNR=2.9						
MKAR	**Makanchi Array**	**59.45**	**326**	P	**P**	**08 28 12.1**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=120,slow=8.3,SNR=9.2						

*IDC **03** 08:30:11.6±0.3, 27.°21N×103.°45E, h0km, mb5.4/44, mb1 5.4/45, mb1mx5.4/45, mbtmp5.4/45, ML4.8/1, MS6.1/37, Ms1 6.1/37, ms1mx6.0/44, Error ellipse: s-maj=9.7km s-min=6.5km az=59.0*

*BJI **03** 08:30:12.0±0.0, 27.°11N×103.°33E, h10km, mB6.1/48, mb5.7/58, ML6.3/19, Ms6.6/91, Ms7 6.6/79*

*BGR **03** 08:30:12.1±0.0, 26.°71N×103.°50E, h33km, mb6.0, Ms6.2*

*NEIC **03** 08:30:13.6±2.0, 27.°19N±0.°05×103.°41E±0.°07, h12km±1km, mb6.0/299, Ms_20 6.3/887, Mwb6.1/56, Mww6.2, Mwc6.2(GCMT), Error ellipse: s-maj=10.6km s-min=8.6km az=114.0*

*NEIC **03** 08:30:13.4, 27.°22N×103.°43E, h14km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.06; Mθθ 1.31; Mφφ -1.36; Mrθ 0.16; Mrφ -1.54; Mθφ -0.14; Fault plane solution: M₀2.05000×10¹⁸ NP1:φs69.43000°, δ84.58000°, λ176.99000°. NP2:φs159.72000°, δ87.00000°, λ5.42000°. Principal axes: T 2.0314, Plg6.0000°, Azm25.0000°; N 0.0356, Plg84.0000°, Azm189.0000°; P -2.0670, Plg2.0000°, Azm294.0000°;*

*MOS **03** 08:30:14.3±1.1, 27.°22N×103.°46E, h28km, mb6.1/132, MS6.2/123 Error ellipse: s-maj=4.8km s-min=3.1km az=116.0*

*GCMT **03** 08:30:15.6±0.1, 27.°06N×103.°50E, h15km, MW6.2/171, Moment Tensor Solution. s158,c364; s171,c618; Duration: 2e9 Moment tensor: Scale 10¹⁸Nm; Mrr-0.02±.01; Mθθ 1.31±.01; Mφφ -1.29±.01; Mrθ-0.06±.02; Mθφ -1.64±.01; Mφr-0.35±.03; Best double couple: M₀2.12300×10¹⁸ NP1:φs71.00000°, δ81.00000°, λ-175.00000°. NP2:φs340.00000°, δ86.00000°, λ-9.00000°. Principal axes: T 2.1080, Plg3.0000°, Azm26.0000°; N 0.0310, Plg80.0000°, Azm133.0000°; P -2.1390, Plg9.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*DNK **03** 08:30:17.5±2.8, 27.°60N×103.°41E, h21km±68km, Ms6.4*

*NEIC **03** 08:30:17, 27.°07N×103.°52E, h14km, Moment Tensor Solution. Moment tensor: Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mrφ0.00; Mθφ0.00; Fault plane solution: M₀0.00000×10⁰ NP1:φs70.00000°, δ85.00000°, λ180.00000°. NP2:φs160.00000°, δ90.00000°, λ5.00000°. Principal axes: T 0.0000, Plg90.0000°, Azm0.0000°; N 0.0000, Plg0.0000°, Azm0.0000°; P 0.0000, Plg0.0000°, Azm90.0000°;*

*NEIC **03** 08:30:18, 27.°14N×103.°65E, h16km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-0.50; Mθθ 1.28; Mφφ -0.78; Mrθ-0.19; Mθφ -1.42; Mφr-1.22; Fault plane solution: M₀2.19000×10¹⁸ NP1:φs77.00000°, δ59.00000°, λ-161.00000°. NP2:φs338.00000°, δ74.00000°, λ-32.00000°. Principal axes: T 2.0725, Plg10.0000°, Azm30.0000°; N 0.2152, Plg54.0000°, Azm134.0000°; P -2.2877, Plg34.0000°, Azm294.0000°;*

ISC 03 08:30:14.4±0.4, 27.°22N±0.°02×103.°44E±0.°02, h14km±2km, h14km:pP-P,n1891, σ1§84/1935, mb5.9/390, MS6.3/589, 97C-44D, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.18**	**197**	⇓*e*Pn	**Pn**	**08 30 49.9**	**-0.6**
KMI				Sg	**Sb**	**08 31 21.8**	**+1.1**
KMI				smax	smax		
	comp=N,47μm,1.9s						
KMI				smax	smax		
	comp=E,93μm,1.5s						
KMI	**Kunming**	**2.18**	**197**	P	**Pn**	**08 30 49.4**	**-1.1**
KMI	**Kunming**	**2.18**	**197**		**Pn**	**08 30 47.8**	**-2.7**
KMI					**Pn**	**08 30 49.4**	**-1.1**
GYA	**Guiyang**	**2.98**	**104**	⇓Pn	**Pn**	**08 31 03.0**	**+1.6**
GYA				Sn	**Sb**	**08 31 42.0**	**-1.8**
GYA				Sg	**Sg**	**08 31 54.4**	**+4.1**
GYA				smax	smax		
	comp=N,35μm,1.5s						
GYA				smax	smax		
	comp=E,33μm,1.1s						
GYA				LR	LR		
	comp=E,825μm,7.6s						
GYA				LR	LR		
	comp=Z,1070μm,15.3s						
CD2	**Chengdu**	**3.69**	**4**	⇑*i*Pn	**Pn**	**08 31 12.6**	**+1.5**
CD2				Pg	**Pg**	**08 31 24.4**	**-0.7**
CD2				Sn	**Sn**	**08 31 56.7**	**+2.3**
CD2				Sg	**Sg**	**08 32 13.9**	**+1.0**
CD2				smax	smax		
	comp=N,77μm,1.1s						
CD2				smax	smax		
	comp=E,82μm,0.8s						
CD2				LR	LR		
	comp=N,756μm,5.1s						
CD2				LR	LR		
	comp=Z,821μm,5.2s						
SLVN	**Son La**	**5.87**	**176**	Pn	**Pn**	**08 31 39.7**	**-1.5**
ENH	**Enshi**	**6.12**	**59**	Pn	**Pn**	**08 31 46.3**	**+1.7**
LKP	**Lekhapani**	**6.75**	**273**	*e*P	**Pn**	**08 31 51.9**	**-1.3**
LKP				*ex*	x	08 33 52.9	
DIBR	**DIBRUGARH**	**7.59**	**274**	*e*P	**Pn**	**08 32 08.6**	**+4.0**
XAN	**Xi'an**	**8.28**	**33**	P	**Pn**	**08 32 13.7**	**-0.4**
XAN				S	**Sn**	**08 33 49.6**	**+2.1**
XAN				smax	smax		
	comp=N,23μm,1.3s						
XAN				smax	smax		
	comp=E,26μm,1.4s						
XAN				LR	LR		
	comp=N,408μm,7.3s						
XAN				LR	LR		
	comp=E,337μm,7.9s						
XAN				LR	LR		
	comp=Z,640μm,13.6s						
XAN	**Xi'an**	**8.28**	**33**	P	**Pn**	**08 32 13.7**	**-0.4**
XAN	**Xi'an**	**8.28**	**33**	Pn	**Pn**	**08 32 13.7**	**-0.4**
ZIRO	**ZIRO**	**8.53**	**274**	*e*P	**Pn**	**08 32 18.1**	**+0.4**
ITAN	**ITANAGAR**	**8.65**	**272**	*e*P	**Pn**	**08 32 19.8**	**+0.6**
ITAN				*ex*	x	08 34 46.1	
LZH	**Lanzhou**	**8.85**	**2**	⇑P	**Pn**	**08 32 23.6**	**+1.5**
LZH				pP	Pg	08 32 25.7	-38
LZH				S	**Sn**	**08 34 03.1**	**+1.4**
LZH				pmax	pmax		
	comp=Z,74nm,1.1s						
LZH				pmax	pmax		
	comp=Z,4μm,4.6s						
LZH				LR	LR		
	comp=N,210μm,7.1s						
CHTO	**Chiang Mai**	**9.33**	**207**	P	**Pn**	**08 32 29.4**	**+0.8**
CHTO				P	**Pn**	**08 32 29.4**	**+0.8**
CHTO	**Chiang Mai**	**9.33**	**207**	P	**Pn**	**08 32 28.3**	**-0.3**
CHTO	**Chiang Mai**	**9.33**	**207**	Pn	**Pn**	**08 32 28.3**	**-0.3**
TEZP	**TEZPUR**	**9.51**	**269**	*e*P	**Pn**	**08 32 31.0**	**-0.1**
TEZP				*ex*	x	08 34 16.9	
TEZP				*ex*	x	08 34 22.0	
CM31	**Chiang Mai Arr**	**9.65**	**206**	P	**Pn**	**08 32 34.5**	**+1.5**
	SNR=116						
CM31				P	**Pn**	**08 32 34.5**	**+1.5**
	SNR=116						
CM31	**Chiang Mai Arr**	**9.65**	**206**		**Pn**	**08 32 33.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**9.65**	**206**	Pn	**Pn**	**08 32 33.4**	**+0.4**
	2.4nm,0.3s,baz=18,slow=12,SNR=70						
CMAR				Lg	Lg	08 35 08.7	
	baz=12,slow=26,SNR=1.3						
CMAR				LR	LR	08 36 42.6	
	comp=Z,299μm,18.1s,baz=50,slow=40						
CMAR				P3KPbc		09 09 37.2	
	0.8nm,0.3s,baz=201,slow=2.4,SNR=4.7						
SILR	**SILCHAR**	**9.87**	**258**	*e*P	**Pn**	**08 32 36.8**	**+0.9**
GZH	**Guangzhou**	**9.87**	**112**	P	**Pn**	**08 32 35.6**	**-0.4**
GZH				S	**Sn**	**08 34 30.6**	**+3.9**
GZH				LR	LR		
	comp=E,199μm,6.9s						
QIZ	**Qiongzhong**	**10.06**	**143**	P	**Pn**	**08 32 38.0**	**-0.5**
QIZ				S	**Sn**	**08 34 32.3**	**+1.1**
QIZ				pmax	pmax		
	comp=Z,42nm,0.9s						
QIZ				LR	LR		
	comp=N,624μm,13.9s						
QIZ				LR	LR		
	comp=E,693μm,13.7s						
QIZ				LR	LR		
	comp=Z,498μm,9.5s						
QIZ	**Qiongzhong**	**10.06**	**143**	Pn	**Pn**	**08 32 37.5**	**-1.0**
WHN	**Wuhan**	**10.12**	**68**	⇑P	**Pn**	**08 32 41.4**	**+2.0**
WHN				PP	**PnPn**	**08 32 49.6**	**+2.5**
WHN				S	**Sn**	**08 34 36.9**	**+4.1**
WHN				pmax	pmax		
	comp=Z,170nm,0.7s						
WHN				pmax	pmax		
	comp=Z,6μm,5.9s						
WHN				LR	LR		
	comp=E,781μm,9.7s						
WHN				LR	LR		
	comp=Z,936μm,12.0s						
SHL	**Shillong**	**10.49**	**264**	*e*P	**Pn**	**08 32 44.0**	**-0.6**
SHL				*e*P	**Pn**	**08 32 44.1**	**-0.5**
SHL				*i* x	x	08 34 38.0	
SHL				*e*S	**Sn**	**08 34 38.9**	**-3.2**
SHL	**Shillong**	**10.49**	**264**	P	**Pn**	**08 32 48.3**	**+3.7**
	SNR=23						
SHL	**Shillong**	**10.49**	**264**	P	**Pn**	**08 32 42.9**	**-1.7**
SHL	**Shillong**	**10.49**	**264**	Pn	**Pn**	**08 32 42.9**	**-1.7**
GUWA	**GUWAHATI**	**10.55**	**267**	*e*P	Pn	08 32 39.2	-6.0
GUWA				*i* x	x	08 34 41.8	
GUWA				*ex*	x	08 34 43.8	
SAIH	**SAIHA**	**10.59**	**246**	*e*P	**Pn**	**08 32 45.6**	**-0.3**
SAIH				*e*S	**Sn**	**08 34 50.8**	**+6.3**
PBKT	**Sadao Pong**	**10.84**	**193**	Pn	**Pn**	**08 32 48.2**	**-1.1**
HKPS	**Hong Kong Po S**	**10.90**	**115**	Pn	**Pn**	**08 32 48.8**	**-1.3**
HKC	**Hong Kong Obse**	**10.91**	**114**	⇑P	**Pn**	**08 32 49.0**	**-1.3**
LSA	**Lhasa**	**11.09**	**286**	P	**Pn**	**08 32 54.6**	**+1.5**
LSA				LR	LR		
	comp=N,107μm,6.4s						
LSA				LR	LR		
	comp=Z,597μm,13.2s						
LSA	**Lhasa**	**11.09**	**286**	P	**Pn**	**08 32 53.8**	**+0.7**
LSA	**Lhasa**	**11.09**	**286**	Pn	**Pn**	**08 32 53.8**	**+0.7**
GTA	**Gaotai**	**12.53**	**347**	P	**Pn**	**08 33 12.2**	**-0.2**
GTA				pP	P	08 33 16.1	-8.0
GTA				sP		08 33 19.3	
GTA				S	**Sn**	**08 35 32.3**	**+0.4**
GTA				pmax	pmax		
	comp=Z,69nm,2.3s						
GTA				pmax	pmax		
	comp=Z,1μm,7.3s						
GTA				LR	LR		
	comp=N,178μm,16.2s						
GTA				LR	LR		
	comp=Z,105μm,15.9s						
TIY	**Taiyuan**	**12.92**	**34**	*e*P	**Pn**	**08 33 18.2**	**+0.5**
TIY				S	Sn	08 35 53.2	+12
TIY				pmax	pmax		
	comp=Z,760nm,1.1s						
TIY				LR	LR		
	comp=E,92μm,7.0s						
TIY				LR	LR		
	comp=Z,328μm,15.6s						
GTK	**Tadong**	**13.20**	**274**	*e*P	**Pn**	**08 33 19.7**	**-1.9**
GTK				*ex*	x	08 35 49.7	
GTK				*ex*	x	08 35 59.6	
KNMB	**Chin-men Tao**	**13.74**	**98**	Pn	**Pn**	**08 33 28.1**	**-0.8**
QZH	**Quanzhou**	**13.81**	**96**	⇓*i*P	**Pn**	**08 33 29.9**	**+0.1**
QZH				LR	LR		
	comp=E,147μm,9.2s						
QZH				LR	LR		
	comp=Z,272μm,11.8s						
NJ2	**Nanjing**	**14.24**	**67**	⇑P	**Pn**	**08 33 35.4**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,120nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,4μm,4.9s						
NJ2				LR	LR		
	comp=E,430μm,12.3s						
NJ2				LR	LR		
	comp=Z,299μm,14.5s						
BTO	**Baotou**	**14.42**	**21**	*e*P	**Pn**	**08 33 37.3**	**-0.9**
TIA	**Tai'an**	**14.69**	**49**	P	**Pn**	**08 33 42.8**	**+1.0**
TIA				S	**Sn**	**08 36 24.0**	**-0.4**
TIA				pmax	pmax		
	comp=Z,200nm,0.9s						
TIA				pmax	pmax		
	comp=Z,7μm,7.5s						
TIA				LR	LR		
	comp=N,106μm,17.6s						
TIA				LR	LR		
	comp=E,170μm,13.7s						
TIA				LR	LR		
	comp=Z,325μm,14.9s						
HHC	**Hu-ho-hao-te**	**15.16**	**24**	*e*P	**Pn**	**08 33 46.3**	**-2.0**
HHC				PP	**pP**	**08 33 57.4**	**-0.4**
HHC				S	**Sn**	**08 36 33.8**	**-2.3**
HHC				SS	**S**	**08 36 56.3**	**+3.2**
HHC				pmax	pmax		
	comp=Z,94nm,1.2s						
HHC				pmax	pmax		
	comp=Z,4μm,8.0s						
HHC				LR	LR		
	comp=E,140μm,11.9s						
HHC				LR	LR		
	comp=Z,216μm,15.6s						
SSE	**Sheshan**	**15.98**	**72**	P	**Pn**	**08 33 58.7**	**-0.1**
SSE				S	**Sn**	**08 36 58.5**	**+2.6**
SSE				sS	**S**	**08 37 04.0**	**-5.7**
SSE				pmax	pmax		
	comp=Z,94nm,1.7s						
SSE				pmax	pmax		
	comp=Z,2μm,6.9s						
SSE	**Sheshan**	**15.98**	**72**	P	**Pn**	**08 34 00.5**	**+1.7**
TPUB	**Ta-pu**	**16.04**	**100**	Pn	**Pn**	**08 33 58.0**	**-1.7**
TPUB				IAmb	IAmb	08 34 10.5	
	comp=Z,1μm,1.5s						
SSLB	**Suanglung**	**16.18**	**98**	Pn	**Pn**	**08 34 00.9**	**-0.7**
BOK	**Bokaro**	**16.21**	**262**	*e*P	**Pn**	**08 34 00.9**	**-1.0**
BOK				IVmB_BB		08 34 23.4	
	comp=Z,5μm,2.0s						
BOK				*e*S	**Sn**	**08 36 59.4**	**-2.1**
YHNB	**Yeheng**	**16.34**	**95**	P	**Pn**	**08 34 03.3**	**-0.3**
TATO	**Taipei**	**16.37**	**94**	P	**Pn**	**08 33 58.9**	**-5.0**
TATO				P	**Pn**	**08 33 58.9**	**-5.0**
TATO	**Taipei**	**16.37**	**94**	P	**Pn**	**08 34 05.0**	**+1.1**
TATO				IAmb	IAmb	08 34 15.0	
	comp=Z,2μm,1.6s						
TWG	**Pinlang**	**16.57**	**101**		**Pn**	**08 34 06.9**	**+0.4**
BJT	**Baijiatuau**	**16.57**	**36**	P	**Pn**	**08 34 06.1**	**-0.3**
BJT				pmax	pmax		
	comp=Z,520nm,1.1s						
BJT	**Baijiatuau**	**16.57**	**36**	Pn	**Pn**	**08 34 06.1**	**-0.3**
BJI	**Beijing**	**16.59**	**36**	P	**Pn**	**08 34 06.3**	**-0.3**
BJI				S	**Sn**	**08 37 10.8**	**+0.2**
BJI				pmax	pmax		
	comp=Z,300nm,1.2s						
BJI				pmax	pmax		
	comp=Z,6μm,4.9s						
BJI				LR	LR		
	comp=Z,124μm,13.3s						
BJI				LR	LR		
	comp=Z,127μm,14.7s						
DGPR	**DIGLIPUR**	**17.08**	**217**	*e*P	**Pn**	**08 34 11.3**	**-1.7**
DGPR				IAmb	IAmb	08 34 16.6	
	comp=Z,1μm,1.4s						
DGPR				*ex*	x	08 37 24.3	
BWNR	**Bhubaneshwar**	**17.54**	**251**	*e*P	**Pn**	**08 34 18.3**	**-0.3**
YOJ	**Yonaguni jima**	**17.83**	**94**	P	**Pn**	**08 34 21.2**	**-1.0**
YOJ				pmax	pmax		
	comp=Z,892nm,1.5s						
YOJ	**Yonaguni jima**	**17.83**	**94**	P	**Pn**	**08 34 21.2**	**-1.0**
PBA	**Port Blair**	**18.46**	**215**	*ex*	P	08 34 26.4	-3.4
PBA				*ex*	x	08 37 55.7	
PBA	**Port Blair**	**18.46**	**215**	P	Pn	08 34 33.7	+3.8
	SNR=6.3						
PBA	**Port Blair**	**18.46**	**215**	P	P	08 34 28.6	-1.2
PBA				IAmb	IAmb	08 34 44.8	
	comp=Z,768nm,1.1s						
DL2	**Dalian**	**19.15**	**48**	⇑*i*P	**Pn**	**08 34 39.5**	**+1.3**
DL2				S	**S**	**08 38 18.9**	**+4.8**
DL2				pmax	pmax		
	comp=Z,210nm,1.2s						
DL2				pmax	pmax		
	comp=Z,15μm,5.0s						
DL2				LR	LR		
	comp=Z,86μm,13.0s						
DL2				LR	LR		
	comp=Z,154μm,16.2s						
CHLP	**Challavanipeta**	**19.83**	**248**	*e*P	**P**	**08 34 43.5**	**-1.5**
CHLP				IVmB_BB		08 34 59.6	
	comp=Z,3μm,2.7s						
CHLP				*e*S	**S**	**08 38 27.3**	**-0.7**
CHLP				IVMs_BB	IVMs_BB	08 43 44.2	
	comp=Z,14μm,21.4s						
SONM	**Songino Array**	**20.71**	**6**	P	**P**	**08 34 54.1**	**-0.3**
	comp=Z,39nm,0.8s,baz=187,slow=10,SNR=108						
SONM				LR	LR	08 44 00.4	
	comp=Z,88μm,20.0s,baz=179,slow=40						
SONM				P3KPbc		09 08 58.9	
	comp=Z,0.4nm,0.5s,baz=188,slow=2.9,SNR=1.6						
ULN	**Ulaanbaatar**	**20.80**	**7**	P	**P**	**08 34 55.3**	**-0.2**
ULN				P	**P**	**08 34 55.3**	**-0.2**
ULN	**Ulaanbaatar**	**20.80**	**7**	*ce*P	**P**	**08 34 55.0**	**-0.5**
ULN				pmax	pmax		
	comp=Z,207nm,1.3s						
ULN				MLR	MLR		
	comp=Z,63μm,18.0s						
ULN	**Ulaanbaatar**	**20.80**	**7**	P	**P**	**08 34 54.9**	**-0.6**
WMQ	**Urumqi**	**20.88**	**327**	P	**P**	**08 34 55.7**	**-0.5**
WMQ				sP	sP	08 35 04.3	+1.3
WMQ				PP	**PnPn**	**08 35 21.2**	**+6.4**
WMQ				S	**S**	**08 38 46.4**	**-2.4**
WMQ				SS	**SnSn**	**08 39 18.5**	**+9.2**
WMQ				pmax	pmax		
	comp=Z,440nm,1.3s						
WMQ				LR	LR		
	comp=Z,124μm,20.5s						
WMQ				LR	LR		
	comp=Z,51μm,20.5s						
WMQ	**Urumqi**	**20.88**	**327**	P	**P**	**08 34 55.7**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,1μm,1.2s						
WMQ				MLR	MLR		
	comp=Z,54μm,22.0s						
WMQ	**Urumqi**	**20.88**	**327**	P	**P**	**08 34 55.7**	**-0.5**
WMQ				IAmb	IAmb	08 35 10.2	
	comp=Z,1μm,1.2s						
TGY	**Tagaytay City**	**20.90**	**125**	P	Pn	08 35 01.1	+1.9
	comp=Z,2μm,1.1s,baz=190,slow=5.9,SNR=12						
TGY				LR	LR	08 42 39.4	
	comp=Z,33μm,20.8s,baz=336,slow=36						
JBP	**Jabalpur**	**21.59**	**264**	*ex*	P	**08 35 02.2**	**-1.8**
JBP				⇑*ex*	x	08 35 05.2	
JBP				*ex*	x	08 38 56.5	
JBP				AMB	AMB	08 43 12.4	
	comp=Z,525nm,15.5s						
HJU	**Haeju**	**21.60**	**54**	P	**P**	**08 35 04.9**	**+1.0**
SUJ	**Sinuiju**	**21.67**	**48**	P	**P**	**08 35 05.2**	**+0.6**
SUJ				S	**S**	**08 39 06.0**	**+1.8**
KULM	**Kulim**	**21.97**	**187**	P	**P**	**08 35 06.7**	**-1.4**
KULM				IAMs_20	IAMs_20	08 43 11.2	
	comp=Z,95μm,20.0s						
KULM	**Kulim**	**21.97**	**187**	P	**P**	**08 35 08.0**	**0.0**
SNY	**Shenyang**	**22.01**	**43**	⇑P	**P**	**08 35 08.6**	**+0.3**
SNY				S	**S**	**08 39 11.2**	**+0.4**
SNY				pmax	pmax		
	comp=Z,200nm,0.6s						
SNY				pmax	pmax		
	comp=Z,4μm,10.7s						
SNY				LR	LR		
	comp=Z,104μm,15.1s						
SNY				LR	LR		
	comp=Z,149μm,15.4s						
SNY				LR	LR		
	comp=Z,184μm,16.8s						
CMBY	**CAMPBELL BAY**	**22.03**	**206**	*ex*	P	**08 35 04.9**	**-3.9**
CMBY				*ex*	x	08 35 06.5	
CMBY				IVmB_BB		08 35 15.7	
	comp=Z,8μm,1.7s						
CMBY				*ex*	x	08 39 04.0	
PYAG	**Pyongyang**	**22.04**	**52**	P	**P**	**08 35 10.0**	**+1.4**
PYAG				pP	**sP**	**08 35 21.0**	**+5.7**
PYAG				PP	**PnPn**	**08 35 38.0**	**+7.4**
PYAG				S	**S**	**08 39 11.0**	**-0.4**
PYAG				SS	SnSn	08 39 56.0	+18
INCN	**Inchon**	**22.06**	**57**	P	**P**	**08 35 04.6**	**-4.2**
INCN				P	**P**	**08 35 04.6**	**-4.2**
INCN	**Inchon**	**22.06**	**57**	P	**P**	**08 35 08.9**	**0.0**
INCN				pmax	pmax		
	comp=Z,330nm,0.8s						
INCN				MLR	MLR		
	comp=Z,151μm,18.0s						
INCN	**Inchon**	**22.06**	**57**	P	**P**	**08 35 08.9**	**0.0**
INCN				IAmb	IAmb	08 35 18.9	
	comp=Z,330nm,0.8s						
INCN	**Inchon**	**22.06**	**57**	IAMs_20	IAMs_20	08 44 42.8	
	comp=Z,151μm,18.

comp=Z,22μmcomp=Z,17μmcomp=Z,524nm,1.5s
LHMI Lhok Sumawe 22.73 197 IAMs_20 IAMs_20 08 44 28.3
comp=Z,122μm,19.0s
IPM Ipoh 22.73 186 P **P** **08 35 13.9 -2.2**
IPM IAmb IAmb 08 35 22.5
comp=Z,351nm,0.8s
IPM IAMs_20 IAMs_20 08 44 56.4
comp=Z,134μm,20.0s
IPM Ipoh 22.73 186 P **P** **08 35 14.0 -2.2**
KS19 Wonju Array Si 22.98 57 P **P** **08 35 18.4 -0.3**
KSRS Korea Array 23.01 58 P **P** **08 35 17.5 -1.4**
comp=Z,38nm,0.7s,baz=243,slow=10,SNR=59
KSRS LR LR 08 44 11.1
comp=Z,57μm,18.9s,baz=256,slow=37
NGP Nagpur 23.03 260 *ex* **P** **08 35 16.6 -2.7**
NGP *ex* x 08 35 19.4
NGP *ex* x 08 35 28.1
comp=Z,1μm,1.2s
NGP *ex* x 08 39 30.8
ZAK Zakamensk 23.13 360 *eP* **P** **08 35 19.7 -0.5**
ZAK pmax pmax
comp=Z,272nm,1.1s
NDI New Delhi 23.20 280 *ex* **P** **08 35 17.0 -3.9**
WOSN Wonsan 23.27 53 P **P** **08 35 21.0 -0.5**
KGE Kanggye 23.49 48 P **P** **08 35 23.2 -0.6**
MYLAV Mylavaram 23.53 248 *eP* **P** **08 35 22.7 -1.7**
MYLAV IVmB_BB 08 35 48.4
comp=Z,2μm,2.3s
MYLAV *eS* **S** **08 39 38.3 +0.3**
MYLAV IVMs_BB IVMs_BB 08 46 29.8
comp=Z,12μm,21.3s
HHU Hamhung 23.66 51 P **P** **08 35 25.8 +0.4**
HHU S **S** **08 39 35.8 -3.9**
RPR Rampur 23.69 255 *eP* **P** **08 35 25.1 -0.9**
RPR IVmBBB 08 35 50.7
comp=Z,2μm,2.7s
RPR *eS* **S** **08 39 41.8 +1.1**
RPR IVMs_BB IVMs_BB 08 44 57.6
comp=Z,4μm,8.1s
MLSI Meulaboh, Aceh 23.79 198 P **P** **08 35 25.6 -1.3**
comp=Z,14μmcomp=Z,843nm,0.9s
TSI Tuntungan 24.04 192 P **P** **08 35 28.9 -0.3**
comp=Z,36μmcomp=Z,1μm,1.8s
DHRM DHARAMSHALA 24.06 289 *ex* **P** **08 35 27.7 -2.0**
DHRM IVmB_BB 08 35 39.7
comp=Z,8μm,3.8s
DHRM *ex* x 08 39 49.1
CN2 Changchun 24.27 41 *eP* **P** **08 35 30.2 -1.0**
CN2 *es*P sP 08 35 37.0 -1.1
CN2 *eS* **S** **08 39 43.5 -6.1**
CN2 pmax pmax
comp=Z,250nm,0.9s
CN2 pmax pmax
comp=Z,4μm,3.0s
CN2 LR LR
comp=Z,79μm,16.0s
CN2 LR LR
comp=Z,103μm,16.0s
CN2 LR LR
comp=Z,92μm,17.0s
KKM Kota Kinabalu 24.32 148 P **P** **08 35 31.0 -0.9**
JNU Nakatsue 24.41 69 P **P** **08 35 33.3 +0.7**
comp=Z,197nm,0.8s,baz=267,slow=4.6,SNR=27
JNU LR LR 08 45 09.3
comp=Z,89μm,20.9s,baz=260,slow=37
JNU Nakatsue 24.41 69 P **P** **08 35 33.3 +0.7**
JNU IAmb IAmb 08 35 39.9
comp=Z,467nm,1.0s
JNU IAMs_20 IAMs_20 08 44 58.2
comp=Z,88μm,20.0s
SRSP Sriramsagar 24.48 256 *eP* **P** **08 35 32.0 -1.4**
SRSP IVmB_BB 08 35 41.7
comp=Z,3μm,1.9s
SRSP *eS* **S** **08 39 54.1 +0.8**
SRSP IVMs_BB IVMs_BB 08 46 46.5
comp=Z,8μm,11.2s
MOY Mondy 24.49 356 *eP* **P** **08 35 33.9 +0.7**
MOY pmax pmax
comp=Z,844nm,2.6s
ADKI Addanki 24.54 247 *eP* **P** **08 35 32.6 -1.2**
ADKI IVmB_BB 08 35 54.7
comp=Z,4μm,2.2s
ADKI *eS* **S** **08 39 54.6 +0.4**
ADKI IVMs_BB IVMs_BB 08 47 11.3
comp=Z,13μm,20.2s
TPTI 24.57 195 P **P** **08 35 32.0 -2.0**
comp=Z,2μmcomp=Z,35nm,0.7s
THN Thein Dam 24.57 289 *ex* P 08 35 44.0 +10
THN *ex* **S** **08 39 54.5 0.0**
PSI Prapat 24.66 191 P **P** **08 35 33.3 -1.8**
PSI pmax pmax
comp=Z,280nm,1.1s
PSI MLR MLR
comp=Z,83μm,19.0s
NJS Nagarjunasagar 24.73 250 *eP* **P** **08 35 34.2 -1.4**
NJS IVmB_BB 08 35 44.5
comp=Z,3μm,1.5s
NJS *eS* **S** **08 39 59.0 +1.6**
NJS IVMs_BB IVMs_BB 08 47 07.0
comp=Z,9μm,14.2s
RPSI Rantau Prapat 24.77 191 P **P** **08 35 33.3 -2.5**
RPSI IAmb IAmb 08 35 50.4
comp=Z,280nm,1.1s
RPSI IAMs_20 IAMs_20 08 46 09.4
comp=Z,83μm,19.0s
ZSN Zaisan 24.90 329 *i* P **P** **08 35 37.1 +0.3**
comp=Z,130nm,1.1s,baz=329
ZSN LR LR 08 44 17.6
comp=Z,14μm,12.4s,baz=329
ZSN Zaisan 24.90 329 *i* P **P** **08 35 37.1 +0.3**
ZSN pmax pmax
comp=Z,130nm,1.1s
ZSN MLR MLR
comp=Z,14μm,12.0s
HYB Hyderabad 24.96 252 *i* P **P** **08 35 40.0 +2.3**
HYB *eS* **S** **08 40 00.0 -1.1**
HYB *e*LR LR
comp=Z,36nm,20.0s
HYB Hyderabad 24.96 252 *ex* **P** **08 35 34.3 -3.4**
HYB *ex* x 08 35 37.1
HYB *ex* x 08 40 00.8
HYBB Hyderabad (bro 24.96 252 *eP* **P** **08 35 36.7 -1.0**
HYBB IVmB_BB 08 35 46.6
comp=Z,4μm,1.7s
HYBB *eS* **S** **08 40 02.0 +0.9**
HYBB IVMsBB 08 45 56.0
comp=Z,9μm,15.3s
IRK Irkutsk 25.00 1 *eP* **P** **08 35 38.2 +0.5**
IRK *e* 08 39 59.4
IRK pmax pmax
comp=Z,1μm,1.6s
SHLS Shalkode 25.11 316 *i* P **P** **08 35 36.9 -2.1**
comp=Z,260nm,1.3s,baz=316
SHLS *eS* **S** **08 40 01.1 -2.3**
baz=316
SHLS LR LR 08 45 36.0
comp=Z,6μm,13.7s,baz=316
SHLS Shalkode 25.11 316 *i* P **P** **08 35 36.8 -2.1**
SHLS *eS* **S** **08 40 01.0 -2.3**
SHLS pmax pmax
comp=Z,260nm,1.3s
SHLS MLR MLR
comp=Z,6μm,14.0s
PDGK Podgornoye 25.18 316 P **P** **08 35 39.7 +0.1**
MYKOM Kota Tinggi 25.29 179 IAMs_20 IAMs_20 08 46 37.1
comp=Z,117μm,20.0s
SRLM Srisailam 25.30 249 *eP* **P** **08 35 39.7 -1.1**
SRLM IVmB_BB 08 35 52.7
comp=Z,3μm,2.7s
SRLM *eS* **S** **08 40 08.0 +1.3**
SRLM IVMs_BB IVMs_BB 08 47 32.7
comp=Z,9μm,14.7s
HIA Hailar 25.36 25*c* *i*P **P** **08 35 40.5 -0.5**
HIA pmax pmax
comp=Z,676nm,1.1s
HIA MLR MLR
comp=Z,81μm,17.0s
HIA Hailar 25.36 25 P **P** **08 35 41.2 +0.2**
HIA Hailar 25.36 25 IAMs_20 IAMs_20 08 46 23.3
comp=Z,98μm,20.0s
UZB Uzynbulak 25.38 315 *eP* **P** **08 35 41.6 +0.2**
UZB comp=Z,203nm,1.1s,baz=315 *eS* **S** **08 40 09.4 +1.7**
baz=315
UZB LR LR 08 45 52.7
comp=Z,5μm,11.8s,baz=315
UZB Uzynbulak 25.38 315 *eP* **P** **08 35 41.6 +0.2**
UZB *eS* **S** **08 40 09.3 +1.7**
UZB pmax pmax
comp=Z,203nm,1.1s
UZB MLR MLR
comp=Z,5μm,12.0s
TARG Taragay, Kyrgy 25.49 311 P **P** **08 35 42.9 +0.2**
TARG IAmb IAmb 08 35 48.0
comp=Z,540nm,1.1s
TARG IAMs_20 IAMs_20 08 47 11.8
comp=Z,92μm,18.0s
DGZ Jazzator, Alta 25.60 336*d* *i*P **P** **08 35 44.5 +1.1**
DGZ pmax pmax
comp=Z,259nm,0.8s
DGZ MLR MLR
comp=Z,54μm,15.0s
SPMM Sapulut 25.61 149 P **P** **08 35 45.0 +1.5**
MK31 Makanchi Array 25.68 325 *i* P **P** **08 35 44.2 +0.2**
MK31 Makanchi Array 25.68 325 P **P** **08 35 42.9 -1.1**
MK31 IAmb IAmb 08 35 59.0
comp=Z,785nm,1.6s
MKAR Makanchi Array 25.68 325 P **P** **08 35 42.8 -1.1**
comp=Z,82nm,0.9s,baz=127,slow=7.8,SNR=89
MKAR PcP **PcP** **08 39 15.2 +1.0**
comp=Z,24nm,0.9s,baz=128,slow=3.5,SNR=3.9
MKAR ScP **ScP** **08 42 51.3 -2.0**
comp=Z,18nm,0.9s,baz=107,slow=4.1,SNR=9.0
MKAR LR LR 08 45 36.4
comp=Z,49μm,20.4s,baz=124,slow=36
MKAR P3KPbc 09 08 41.6
comp=Z,2.0nm,0.8s,baz=321,slow=5.4,SNR=13
SATY Saty 25.72 314 *i* P **P** **08 35 44.8 +0.3**
comp=Z,236nm,1.2s,baz=314
SATY *eS* **S** **08 40 15.0 +1.9**
baz=314
SATY LR LR 08 46 53.8
comp=Z,8μm,14.1s,baz=314
SATY Saty 25.72 314 *i* P **P** **08 35 44.8 +0.3**
SATY *eS* **S** **08 40 15.0 +1.9**
SATY pmax pmax
comp=Z,236nm,1.2s
SATY MLR MLR
comp=Z,8μm,14.0s
MAKZ Makanchi 25.85 325 P **P** **08 35 45.5 0.0**
MAKZ pmax pmax
comp=Z,581nm,1.3s
MAKZ MLR MLR
comp=Z,67μm,21.0s
MAKZ Makanchi 25.85 325 P **P** **08 35 45.5 0.0**
MAKZ IAmb IAmb 08 36 01.6
comp=Z,581nm,1.3s
MAKZ IAMs_20 IAMs_20 08 46 55.3
comp=Z,67μm,21.0s
MDRS Chennai 25.86 242 *ex* **P** **08 35 42.6 -3.2**
MDRS *ex* x 08 35 46.3
SBSI Sibolga 25.89 190 P **P** **08 35 47.9 +1.8**
comp=Z,6μmcomp=Z,2μmcomp=Z,108nm,1.0s
SKHT Srikalahasti 25.90 244 *eP* **P** **08 35 45.2 -0.9**
SKHT IVmB_BB 08 35 53.7
comp=Z,2μm,1.2s
SKHT *eS* **S** **08 40 15.6 -0.3**
SKHT IVMs_BB IVMs_BB 08 48 01.6
comp=Z,3μm,16.2s
KSH Kashi 25.90 305 P **P** **08 35 47.9 +1.7**
KSH pP pP 08 35 50.3 -0.8
KSH S **S** **08 40 17.1 +1.1**
KSH pmax pmax
comp=Z,280nm,1.1s
KSH pmax pmax
comp=Z,3μm,2.9s
KSH LR LR
comp=Z,35μm,14.7s
KSH LR LR
comp=Z,28μm,11.5s
KSH LR LR
comp=Z,76μm,13.6s
CIT Chita 25.92 14 *eP* **P** **08 35 46.4 +0.3**
CIT *e* 08 35 57.4
CIT *e* 08 36 19.4
CIT *e* 08 36 41.2
CIT pmax pmax
comp=Z,736nm,2.2s
CHJN Chongjin 26.01 49 P **P** **08 35 44.8 -2.2**
SBUM Sibu 26.03 160 P **P** **08 35 47.2 0.0**
SBUM IAmb IAmb 08 35 54.3
comp=Z,216nm,0.9s
SBUM Sibu 26.03 160 P **P** **08 35 47.0 -0.3**
KDJ Kajisay 26.09 312 P **P** **08 35 48.3 +0.4**
KDJ pmax pmax
comp=Z,913nm,1.4s
KDJ MLR MLR
comp=Z,65μm,20.0s
KDJ Kajisay 26.09 312 P **P** **08 35 48.3 +0.4**
KDJ IAMs_20 IAMs_20 08 47 32.4
comp=Z,65μm,20.0s
MYLDM Lahad Datu 26.20 144 P **P** **08 35 48.8 -0.1**
MYLDM IAMs_20 IAMs_20 08 46 27.5
comp=Z,97μm,20.0s
KLRI Killari 26.34 255 *eP* **P** **08 35 49.1 -1.2**
KLRI IVmB_BB 08 36 01.5
comp=Z,2μm,3.0s
KLRI *eS* **S** **08 40 21.7 -1.4**
KLRI IVMs_BB IVMs_BB 08 50 34.4
comp=Z,8μm,13.6s
GSI Gunungsitoli 26.37 193 P **P** **08 35 51.2 +0.8**
comp=Z,11μmcomp=Z,6μmcomp=Z,192nm,0.8s
GSI Gunungsitoli 26.37 193 P **P** **08 35 48.2 -2.2**
GSI IAmb IAmb 08 36 03.5
comp=Z,566nm,1.6s
GSI IAMs_20 IAMs_20 08 45 37.0
comp=Z,75μm,20.0s
KSM Kuching 26.43 164 P **P** **08 35 51.4 +0.4**
KSM Kuching 26.43 164 P **P** **08 35 52.0 +1.0**
MNSI Mandailing Nat 26.53 189 P **P** **08 35 52.6 +0.8**
comp=Z,10μmcomp=Z,7μmcomp=Z,41nm,0.8s
MDOK Medeo 26.64 314 *i* P **P** **08 35 52.7 -0.2**
baz=314
MDOK *eS* **S** **08 40 28.9 +1.2**
baz=314
MDOK LR LR 08 46 07.1
comp=Z,21μm,14.5s,baz=314
MDOK Medeo 26.64 314 *i* P **P** **08 35 52.6 -0.2**
MDOK *eS* **S** **08 40 28.8 +1.2**
MDOK MLR MLR
comp=Z,21μm,14.0s
TNSS Tian-Shan 26.65 313 *eP* **P** **08 35 53.0 -0.3**
baz=313
TNSS Tian-Shan 26.65 313 *eP* **P** **08 35 52.9 -0.3**
KNDC Almaty 26.72 314 P **P** **08 35 53.9 +0.4**
TDK Taldyqorghan 26.74 318 *eP* **P** **08 35 53.8 +0.3**
comp=Z,129nm,1.3s,baz=318
TDK *eS* **S** **08 40 30.7 +1.9**
baz=318
TDK LR LR 08 46 48.6
comp=Z,33μm,16.8s,baz=318
TDK Taldyqorghan 26.74 318 *eP* **P** **08 35 53.8 +0.3**
TDK *eS* **S** **08 40 30.7 +1.9**
TDK pmax pmax
comp=Z,129nm,1.3s
TDK MLR MLR
comp=Z,33μm,17.0s
NIL Nilore 26.74 291 P **P** **08 35 51.9 -1.8**
NIL pmax pmax
comp=Z,347nm,0.7s
NIL Nilore 26.74 291 P **P** **08 35 51.9 -1.8**
NIL IAmb IAmb 08 36 03.0
comp=Z,347nm,0.7s
AAA Alma-Ata 26.75 314 *i* P **P** **08 35 53.7 -0.1**
comp=Z,315nm,1.0s,baz=314
AAA *eS* **S** **08 40 30.7 +1.5**
baz=314
AAA LR LR 08 46 03.6
comp=Z,18μm,14.4s,baz=314
AAA Alma-Ata 26.75 314 *eP* **P** **08 35 56.7 +2.9**
AAA *eS* **S** **08 40 35.8 +6.6**
AAA pmax pmax
comp=Z,2μm,2.8s
AAA smax smax
comp=N,11μm,15.0s
AAA MLR MLR
comp=Z,24μm,15.0s
BKNI Bangkinang 26.84 185 P **P** **08 35 54.6 0.0**
comp=Z,8μmcomp=Z,617nm,1.1s
BKNI Bangkinang 26.84 185 P **P** **08 35 53.7 -0.9**
BKNI IAMs_20 IAMs_20 08 47 42.3
comp=Z,64μm,18.0s
CHKK Chushkaly 27.01 315 *eP* **P** **08 35 56.2 +0.2**
baz=315
CHKK Chushkaly 27.01 315 *eP* **P** **08 35 56.2 +0.2**
MTBS Maitube 27.03 313 *eP* **P** **08 35 57.7 +1.3**
baz=313
MTBS Maitube 27.03 313 *eP* **P** **08 35 57.6 +1.3**
MDJ Mudanjiang 27.21 44 P **P** **08 35 57.4 -0.4**
MDJ S **S** **08 40 36.4 +0.1**
MDJ pmax pmax
comp=Z,2μm,8.2s
MDJ LR LR
comp=Z,67μm,13.1s
MDJ LR LR
comp=Z,189μm,16.7s
MDJ Mudanjiang 27.21 44 P **P** **08 35 58.8 +1.0**
MDJ IAMs_20 IAMs_20 08 47 53.4
comp=Z,100μm,18.0s
URV Uravakonda 27.24 249 *eP* **P** **08 35 57.5 -0.8**
URV IVmB_BB 08 36 10.3
comp=Z,2μm,2.5s
URV *eS* **S** **08 40 38.1 +0.8**
URV IVMs_BB IVMs_BB 08 48 40.9
comp=Z,10μm,19.5s
KUU Kurty 27.44 314 *eP* **P** **08 35 59.5 -0.5**
comp=Z,220nm,1.6s,baz=314
KUU *eS* **S** **08 40 41.0 +1.0**
baz=314
KUU LR LR 08 46 23.8
comp=Z,22μm,14.0s,baz=314
KUU Kurty 27.44 314 *eP* **P** **08 35 59.4 -0.5**
KUU *eS* **S** **08 40 41.0 +1.0**
KUU pmax pmax
comp=Z,220nm,1.6s
KUU MLR MLR
comp=Z,22μm,14.0s
TKM2 Tokmak 2 27.48 312 P **P** **08 36 01.8 +1.3**
DSRI Dabo 27.56 178 P **P** **08 36 02.5 +1.4**
comp=Z,64nm,1.3s
PBSI Pulau Batu 27.57 191 P **P** **08 36 02.2 +1.0**
comp=Z,269nm,1.6s
VLA Vladivostok 27.97 48*c* *i*P **P** **08 36 04.4 -0.2**
VLA pmax pmax
comp=Z,150nm,1.3s
VLA MLR MLR
comp=Z,141μm,16.0s
SDSI Sungai Dareh 28.05 184 P **P** **08 36 04.1 -1.4**
comp=Z,4μmcomp=Z,196nm,1.2s
FRU1 Bishkek 28.08 311 P **P** **08 36 08.7 +3.0**
FRU1 pmax pmax
comp=Z,626nm,1.6s
FRU1 MLR MLR
comp=Z,37μm,21.0s
FRU1 Bishkek 28.08 311 P **P** **08 36 08.7 +3.0**
FRU1 IAmb IAmb 08 36 19.7
comp=Z,626nm,1.6s
AAK Ala-Archa 28.10 311 P **P** **08 36 07.7 +1.7**
comp=Z,53nm,0.7s,baz=104,slow=7.0,SNR=72
AAK S **S** **08 40 51.6 +0.9**
comp=Z,1.9nm,0.3s,baz=254,slow=21,SNR=0.9
AAK LR LR 08 49 00.4
comp=Z,55μm,19.6s,baz=114,slow=40
AAK Ala-Archa 28.10 311 *i* P **P** **08 36 06.5 +0.5**
SNR=90
AAK Ala-Archa 28.10 311 *i* P **P** **08 36 06.5 +0.5**
SNR=90
AAK Ala-Archa 28.10 311 P **P** **08 36 08.0 +2.0**
AAK P **P** **08 36 08.0 +2.0**
AAK P **P** **08 36 08.0 +2.0**
AAK Ala-Archa 28.10 311*ce* P **P** **08 36 06.5 +0.5**
AAK pmax pmax
comp=Z,261nm,1.7s
AAK MLR MLR
comp=Z,38μm,16.0s
AAK Ala-Archa 28.10 311 P **P** **08 36 06.3 +0.3**
AAK IAmb IAmb 08 36 20.1
comp=Z,239nm,1.1s
AAK Ala-Archa 28.10 311 IAMs_20 IAMs_20 08 48 46.9
comp=Z,61μm,19.0s
SGDS Sogindy 28.35 312 *eP* **P** **08 36 08.1 0.0**
comp=Z,117nm,1.7s,baz=312
SGDS *eS* **S** **08 40 56.2 +1.8**
baz=312
SGDS LR LR 08 47 18.5
comp=Z,9μm,12.2s,baz=312
SGDS Sogindy 28.35 312 *eP* **P** **08 36 08.1 0.0**
SGDS *eS* **S** **08 40 56.2 +1.8**
SGDS pmax pmax
comp=Z,117nm,1.7s
SGDS MLR MLR
comp=Z,9μm,12.0s
USA0B Ussuriysk Arra 28.52 46 P **P** **08 36 08.6 -0.8**
USA0B pmax pmax
comp=Z,272nm,1.3s
USA0B MLR MLR
comp=Z,76μm,21.0s
USA0B Ussuriysk Arra 28.52 46 P **P** **08 36 08.6 -0.8**
USA0B IAmb IAmb 08 36 15.5
comp=Z,272nm,1.2s
USA0B IAMs_20 IAMs_20 08 47 56.9
comp=Z,76μm,21.0s
USRK Ussuriysk Ar. 28.52 46 P **P** **08 36 08.4 -1.0**
comp=Z,44nm,0.7s,baz=246,slow=11,SNR=53
USRK LR LR 08 48 20.5
comp=Z,58μm,18.4s,baz=227,slow=38
POO Poona 28.54 259 *ex* **P** **08 36 08.0 -2.0**
ARSB Arslanbob 28.66 307 P **P** **08 36 11.2 +0.2**
ARSB pmax pmax
comp=Z,116nm,1.1s
ARSB MLR MLR
comp=Z,71μm,20.0s
ARSB Arslanbob 28.66 307 P **P** **08 36 11.2 +0.2**
ARSB IAMs_20 IAMs_20 08 49 04.0
comp=Z,71μm,20.0s
SISI Saibi 28.69 189 P **P** **08 36 10.3 -0.9**
comp=Z,2μmcomp=Z,86nm,1.2s
DAV Davao City (W) 29.04 130 P **P** **08 36 17.1 +2.7**
comp=Z,241nm,0.4s,baz=0.2,slow=4.5,SNR=4.7
DAV LR LR 08 49 35.4
comp=Z,73μm,19.5s,baz=336,slow=40
DAV Davao City (W) 29.04 130 IAMs_20 IAMs_20 08 49 23.9
comp=Z,84μm,19.0s
DAV Davao City (W) 29.04 130 IAmb IAmb 08 36 23.4
comp=Z,495nm,1.2s
PALK Pallekele 29.31 232 P **P** **08 36 16.4 -0.3**
comp=Z,32nm,0.6s,baz=146,slow=9.0,SNR=15
PALK Pallekele 29.31 232 P **P** **08 36 18.1 +1.3**
PALK P **P** **08 36 18.1 +1.3**
PALK Pallekele 29.31 232 P **P** **08 36 16.3 -0.5**
PALK IAmb IAmb 08 36 25.6
comp=Z,325nm,1.4s
PPBI Pangkal Pinang 29.32 174 P **P** **08 36 18.5 +1.7**
BTLS Baital 29.43 315 *eP* **P** **08 36 18.1 +0.5**
comp=Z,43nm,1.5s,baz=315
BTLS *eS* **S** **08 41 12.8 +1.6**
baz=315
BTLS Baital 29.43 315 *eP* **P** **08 36 18.0 +0.5**
BTLS *eS* **S** **08 41 12.8 +1.6**
BTLS pmax pmax
comp=Z,43nm,1.5s
INU Inuyama 29.71 66 P **P** **08 36 20.0 -0.2**
INU IAMs_20 IAMs_20 08 47 27.0
comp=Z,89μm,22.0s
BTK Batken 29.85 304 P **P** **08 36 21.5 0.0**
BTK pmax pmax
comp=Z,558nm,1.7s
BTK MLR MLR
comp=Z,76μm,18.0s
BTK Batken 29.85 304 P **P** **08 36 21.5 0.0**
BTK IAmb IAmb 08 36 35.0
comp=Z,558nm,1.6s
BTK IAMs_20 IAMs_20 08 49 38.2
comp=Z,76μm,18.0s
GOA Goa 29.86 253 *ex* **P** **08 36 21.7 +0.1**
GOA IAmb IAmb 08 36 28.1
comp=Z,71nm,0.9s
GOA *ex* x 08 41 23.8
GAR Garm 29.97 302 P **P** **08 36 21.7 -0.8**
GAR IAmb IAmb 08 36 39.5
comp=Z,253nm,1.1s
PPSI Pulau Pagai 29.99 187 P **P** **08 36 20.7 -2.0**

comp=Z,198nm,1.6s
PMBI Palembang 30.00 177 IAMs_20 IAMs_20 08 50 03.3
comp=Z,73µm,20.0s
ZAA0 Zalesovo Array 30.02 338 P **P** **08 36 21.1 -1.6**
ZALV Zalesovo Beam 30.02 338 P **P** **08 36 22.9 +0.2**
comp=Z,25nm,0.5s,baz=142,slow=7.5,SNR=45
ZALV ScS ScS 08 46 56.5 -5.1
comp=Z,3.2nm,0.8s,baz=111,slow=3.7,SNR=4.0
ZALV LR LR 08 49 54.7
comp=Z,11µm,20.8s,baz=150,slow=39
ZALV P3KPbc 09 08 23.4
comp=Z,1.0nm,0.6s,baz=316,slow=6.2,SNR=5.2
TPI Tanjungpandan 30.08 172 P **P** **08 36 23.9 +0.4**
comp=Z,2µmcomp=Z,78nm,1.1s
MTKI Muara Teweh, K 30.09 157 P **P** **08 36 25.3 +1.6**
comp=Z,3µmcomp=Z,130nm,0.7s
KURBB Kurchatov Arra 30.09 328 P **P** **08 36 21.3 -2.0**
KURK Kurchatov 30.11 328 *ce*P **P** **08 36 23.6 +0.1**
KURK pmax pmax
comp=Z,124nm,1.3s
KURK MLR MLR
comp=Z,58µm,20.0s
KURK Kurchatov 30.11 328 P **P** **08 36 22.9 -0.6**
KURK Kurchatov 30.11 328 IAMs_20 IAMs_20 08 47 59.1
comp=Z,68µm,21.0s
KBL Kabul 30.30 292 P **P** **08 36 26.4 +0.7**
SNR=92
KBL P **P** **08 36 26.4 +0.7**
SNR=92
KBL P **P** **08 36 26.4 +0.7**
SNR=92
KBL Kabul 30.30 292 P **P** **08 36 24.4 -1.3**
KBL pmax pmax
comp=Z,254nm,1.2s
KBL MLR MLR
comp=Z,53µm,19.0s
KBL Kabul 30.30 292 P **P** **08 36 24.4 -1.3**
KBL IAmb IAmb 08 36 33.9
comp=Z,254nm,1.1s
KBL IAMs_20 IAMs_20 08 49 03.1
comp=Z,53µm,19.0s
DZA Taraz 30.36 309 *i* P **P** **08 36 25.8 -0.1**
comp=Z,74nm,1.2s,baz=310
DZA *e*S **S** **08 41 27.6 +1.7**
baz=310
DZA LR LR 08 48 47.8
comp=Z,6µm,14.2s,baz=310
DZA Taraz 30.36 309 *i* P **P** **08 36 25.7 -0.1**
DZA *e*S **S** **08 41 27.5 +1.7**
DZA pmax pmax
comp=Z,74nm,1.2s
DZA MLR MLR
comp=Z,6µm,14.0s
SMKI Samarinda 30.53 152 P **P** **08 36 30.7 +3.2**
KSI Kapahiang 30.70 182 P **P** **08 36 28.5 -0.6**
comp=Z,281nm,1.1s
CHGR Chuyangaron 30.78 300 P **P** **08 36 28.9 -0.8**
PBKI Pangkalan Bun 30.79 164 P **P** **08 36 31.8 +2.0**
comp=Z,290nm,1.0s
MJB9 Matsu-Tunnel 30.82 64 P **P** **08 36 29.2 -0.7**
MAJO Matsushiro 30.82 64 P **P** **08 36 29.2 -0.8**
MAJO pmax pmax
comp=Z,62nm,0.9s
MAJO MLR MLR
comp=Z,84µm,18.0s
MAJO Matsushiro 30.82 64 P **P** **08 36 29.2 -0.8**
MAJO Matsushiro 30.82 64 IAMs_20 IAMs_20 08 49 24.9
comp=Z,84µm,18.0s
MAT Matsushiro 30.82 64 P **P** **08 36 27.1 -2.9**
MAT S **S** **08 41 29.4 -3.8**
MJAR Matsushiro Arr 30.82 64 P **P** **08 36 29.0 -1.0**
comp=Z,26nm,0.9s,baz=267,slow=9.9,SNR=41
MJAR PcP **PcP** **08 39 28.8 +1.8**
comp=Z,16nm,0.9s,baz=270,slow=2.5,SNR=7.3
MJAR ScP **ScP** **08 43 08.7 -0.8**
comp=Z,20nm,1.1s,baz=274,slow=3.4,SNR=11
MJAR LR LR 08 49 36.6
comp=Z,72µm,19.5s,baz=260,slow=38
MJAR Matsushiro Arr 30.82 64 P **P** **08 36 29.0 -1.0**
LHSI Lahat 30.86 180 P **P** **08 36 30.0 -0.4**
comp=Z,7µmcomp=Z,439nm,0.9s
KLR Kul'dur 30.96 37 *ce*P **P** **08 36 29.4 -1.7**
KLR MLR MLR
comp=Z,95µm,16.0s
KK31 Karatay Array 30.99 309 P **P** **08 36 31.4 0.0**
KK31 pmax pmax
comp=Z,345nm,1.7s
KK31 Karatay Array 30.99 309 P **P** **08 36 31.4 0.0**
KK31 IAmb IAmb 08 36 43.7
comp=Z,345nm,1.6s
KKAR Karatay Array 30.99 309 P **P** **08 36 31.4 0.0**
KKAR pmax pmax
comp=Z,345nm,1.7s
KKAR Karatay Array 30.99 309 P **P** **08 36 31.4 0.0**
KKAR IAmb IAmb 08 36 43.7
comp=Z,345nm,1.6s
IUG luznay 31.02 307 *e*P **P** **08 36 32.0 +0.2**
comp=Z,110nm,1.5s,baz=308
IUG *e*S **S** **08 41 37.9 +1.4**
baz=308
IUG LR LR 08 49 00.5
comp=Z,12µm,12.6s,baz=308
IUG luznay 31.02 307 *e*P **P** **08 36 31.9 +0.2**
IUG *e*S **S** **08 41 37.8 +1.4**
IUG pmax pmax
comp=Z,110nm,1.5s
IUG MLR MLR
comp=Z,12µm,13.0s
MPSI Mapaga 31.06 147 P **P** **08 36 32.9 +0.7**
comp=Z,6µmcomp=Z,1µmcomp=Z,83nm,0.8s
BKB Balikpapan 31.14 153 P **P** **08 36 32.7 -0.2**
comp=Z,5µmcomp=Z,4µmcomp=Z,274nm,0.9s
BKB Balikpapan 31.14 153 P **P** **08 36 32.7 -0.2**
BKB IAmb IAmb 08 36 36.7
comp=Z,218nm,0.9s
TAS Tashkent 31.31 306 P **P** **08 36 37.6 +3.4**
TAS pmax pmax
comp=Z,671nm,1.4s
TAS Tashkent 31.31 306 P **P** **08 36 37.6 +3.4**
MNAI Manna 31.40 181 P **P** **08 36 35.0 -0.2**
comp=Z,8µmcomp=Z,193nm,1.1s
MNAI Manna 31.40 181 IAMs_20 IAMs_20 08 48 58.1
comp=Z,43µm,18.0s
BOD Bodaibo 31.48 11 *e*P **P** **08 36 35.0 -0.5**
BOD pmax pmax
comp=Z,91nm,2.2s
MDSI Maura Dua 31.53 179 P **P** **08 36 34.7 -1.6**
comp=Z,3µmcomp=Z,196nm,1.0s
ZEA Zeya 31.79 27 *e*P **P** **08 36 38.2 -0.1**
ZEA *e* 08 37 56.0
ZEA *e*S **S** **08 41 50.0 +2.0**
ZEA 08 47 13.0
ZEA pmax pmax
comp=Z,2µm,8.0s
ZEA pmax pmax
comp=N,180nm,1.0s
ZEA pmax pmax
comp=E,170nm,1.0s
ZEA pmax pmax
comp=Z,240nm,0.8s
ZEA smax smax
comp=N,5µm,13.0s
ZEA MLR MLR
comp=N,110µm,18.0s
ZEA MLR MLR
comp=E,49µm,18.0s
JHJ Hachijo jima 2 31.86 70 P **P** **08 36 40.1 +0.9**
comp=E,84nm,0.7s,baz=108,slow=7.8,SNR=2.8
JHJ LR LR 08 49 18.1
comp=E,50µm,21.4s,baz=287,slow=36
JHJ2 Mitsune 31.89 70 IAMs_20 IAMs_20 08 49 07.2
comp=Z,49µm,20.0s
OTUK Ortayu 32.00 319 P **P** **08 36 41.2 +1.0**
LWLI Liwa 32.05 179 P **P** **08 36 45.6 +4.6**
BBKI Banjar Baru 32.43 158 P **P** **08 36 45.1 +0.9**
comp=Z,2µmcomp=Z,219nm,0.9s
GTOI Gorontalo 32.43 141 P **P** **08 36 42.6 -1.7**
comp=Z,4µmcomp=Z,355nm,0.9s
BLSI Bandar Lampung 32.44 177 P **P** **08 36 45.8 +1.5**
comp=Z,3µmcomp=Z,117nm,1.4s
KASI Kota Agung 32.57 178 P **P** **08 36 46.4 +1.0**
comp=Z,5µmcomp=Z,54nm,1.4s
BRZS Berezniki 32.70 322 *e*P **P** **08 36 46.8 +0.3**
comp=Z,82nm,1.7s,baz=322
BRZS *e*S **S** **08 42 04.3 +1.9**
baz=322
BRZS LR LR 08 49 29.3
comp=Z,3µm,10.6s,baz=322
BRZS Berezniki 32.70 322 *e*P **P** **08 36 46.7 +0.3**
BRZS *e*S **S** **08 42 04.2 +1.9**
BRZS pmax pmax
comp=Z,82nm,1.7s
BRZS MLR MLR
comp=Z,3µm,11.0s
KBKI Kotabaru 32.73 156 P **P** **08 36 48.0 +1.1**
comp=Z,4µmcomp=Z,44nm,0.7s
KMSI Cibinong 33.03 140 P **P** **08 36 51.0 +1.5**
comp=Z,8µmcomp=Z,928nm,0.8s
TNG Tangerang 33.34 174 P **P** **08 36 53.4 +1.2**
comp=Z,12µmcomp=Z,680nm,0.6s
LUWI Luwuk 33.70 143 P **P** **08 36 55.1 -0.3**
comp=Z,5µmcomp=Z,10µmcomp=Z,1µm,1.0s
LUWI Luwuk 33.70 143 P **P** **08 36 54.6 -0.8**
LEM Lembang 34.09 173 P **P** **08 37 02.2 +3.4**
comp=Z,75nm,0.8s,baz=19,slow=10,SNR=6.3
LEM Lembang 34.09 173 P **P** **08 36 59.9 +1.0**
comp=Z,3µmcomp=Z,81nm,2.2s
SKJI Sukabumi 34.16 174 P **P** **08 37 00.4 +1.1**
comp=Z,5µmcomp=Z,144nm,1.1s
UWJI Ujung Watu 34.22 167 P **P** **08 37 01.2 +1.4**
comp=Z,92nm,0.9s
GRNR Gornyy 34.33 38 ⇑ *i*P **P** **08 37 00.1 -0.5**
GRNR *e*S **S** **08 42 30.6 +3.1**
GRNR *e*SS **SnSn** **08 44 39.4 +2.3**
GRNR pmax pmax
comp=N,5.0nm,0.8s
GRNR smax smax
comp=N,6.0nm,1.0s
GRNR MLR MLR
comp=E,22µm,12.0s
GRNR MLR MLR
comp=N,28µm,11.0s
GRNR MLR MLR
comp=Z,57µm,15.0s
JCJ Chichijima 34.38 81 P **P** **08 37 01.9 +0.6**
comp=Z,46nm,0.4s,baz=59,slow=22,SNR=4.7
JCJ LR LR 08 49 40.1
comp=Z,36µm,21.4s,baz=269,slow=34
JCJ Chichijima 34.38 81 IAmb IAmb 08 37 02.5
comp=Z,87nm,0.6s
JCJ IAMs_20 IAMs_20 08 49 18.5
comp=Z,39µm,21.0s
CNJI Cibinong 34.51 174 P **P** **08 37 03.5 +1.2**
comp=Z,140nm,1.4s
SMRI Semarang 34.73 168 P **P** **08 37 05.3 +1.0**
comp=Z,8µmcomp=Z,306nm,1.1s
SMRI Semarang 34.73 168 P **P** **08 37 04.3 0.0**
SMRI IAmb IAmb 08 37 13.3
comp=Z,168nm,1.0s
SMRI IAMs_20 IAMs_20 08 51 01.6
comp=Z,57µm,21.0s
SPSI Sidrap Palu 34.78 151 P **P** **08 37 06.0 +1.3**
comp=Z,4µmcomp=Z,370nm,0.8s
CISI Cisompet, Garu 34.83 172 IAMs_20 IAMs_20 08 52 16.1
comp=Z,47µm,19.0s
TNTI Ternate 34.92 135 P **P** **08 37 07.4 +1.5**
comp=Z,3µmcomp=Z,3µmcomp=Z,176nm,1.3s
TNTI Ternate 34.92 135 P **P** **08 37 05.2 -0.7**
TNTI IAmb IAmb 08 37 10.2
comp=Z,345nm,1.4s
GRJI Gresik 35.04 164 P **P** **08 37 08.1 +1.1**
comp=Z,1µmcomp=Z,122nm,0.9s
CMJI Cimerak 35.13 171 P **P** **08 37 09.6 +1.9**
comp=Z,57nm,1.8s
NGJI Ngawi 35.25 166 P **P** **08 37 09.8 +1.1**
comp=Z,6µmcomp=Z,131nm,2.4s
BNSI Bone 35.32 150 P **P** **08 37 10.3 +0.9**
comp=Z,3µmcomp=Z,138nm,0.9s
YOGI Yogyakarta 35.46 168 P **P** **08 37 10.9 +0.4**
comp=Z,154nm,1.6s
ERM Erimo 35.53 55 P **P** **08 37 11.0 0.0**
ERM pmax pmax
comp=Z,55nm,0.9s
ERM MLR MLR
comp=Z,54µm,19.0s
ERM Erimo 35.53 55 P **P** **08 37 11.0 0.0**
ERM Erimo 35.53 55 IAMs_20 IAMs_20 08 51 11.6
comp=Z,54µm,19.0s
KMMI Kalianget 35.56 162 P **P** **08 37 13.5 +2.1**
comp=Z,160nm,0.9s
BVA0 Borovoye Array 35.56 326 *i* P **P** **08 37 09.8 -1.3**
BVAR Borovoye Array 35.56 326 LR LR 08 53 17.3
comp=Z,44µm,21.2s,baz=115,slow=39
UGM Wanagama 35.59 168 P **P** **08 37 12.5 +0.8**
comp=Z,356nm,2.2s
UGM Wanagama 35.59 168 P **P** **08 37 11.0 -0.8**
UGM IAmb IAmb 08 37 19.3
comp=Z,364nm,1.1s
UGM IAMs_20 IAMs_20 08 51 30.3
comp=Z,39µm,20.0s
WOJI Wonogiri, Jawa 35.59 167 P **P** **08 37 13.9 +2.2**
comp=Z,4µmcomp=Z,69nm,1.6s
ASAJ Asahikawa 35.62 51 LR LR 08 52 10.4
comp=Z,42µm,19.7s,baz=248,slow=37
ASAJ Asahikawa 35.62 51 P **P** **08 37 10.9 -0.8**
ASAJ pmax pmax
comp=Z,205nm,1.2s
ASAJ MLR MLR
comp=Z,40µm,19.0s
JKA Kamikawa-asahi 35.62 51 P **P** **08 37 10.9 -0.8**
JKA IAmb IAmb 08 37 22.4
comp=Z,205nm,1.2s
JKA IAMs_20 IAMs_20 08 51 59.8
comp=Z,40µm,19.0s
BRVK Borovoye 35.63 325 *ce*P **P** **08 37 10.5 -1.2**
BRVK pmax pmax
comp=Z,113nm,1.3s
BRVK MLR MLR
comp=Z,42µm,20.0s
BRVK Borovoye 35.63 325 P **P** **08 37 12.2 +0.4**
BRVK Borovoye 35.63 325 IAMs_20 IAMs_20 08 53 06.1
comp=Z,46µm,20.0s
KAPI Kappang 35.72 151 P **P** **08 37 11.6 -1.2**
comp=Z,118nm,0.9s,baz=293,slow=3.7,SNR=27
KAPI S **S** **08 42 50.3 +0.9**
comp=Z,9.1nm,0.4s,baz=173,slow=16,SNR=4.5
KAPI Kappang 35.72 151 P **P** **08 37 12.3 -0.5**
KAPI IAmb IAmb 08 37 19.9
comp=Z,125nm,0.8s
HRA Herat 35.91 292 P **P** **08 37 13.5 -1.1**
SANI Sanana 36.32 140 P **P** **08 37 16.9 -1.1**
comp=Z,4µmcomp=Z,1µmcomp=Z,131nm,1.0s
YSS Yuzh-Sakhalins 36.55 47 *α i*P **P** **08 37 19.8 +0.2**
YSS *e* 08 38 46.7
YSS *e* 08 39 49.0
YSS *e*S **S** **08 43 00.6 -1.0**
YSS *e*SSS SSS 08 45 48.7
YSS pmax pmax
comp=Z,2µm,6.9s
YSS pmax pmax
comp=N,400nm,6.5s
YSS pmax pmax
comp=E,1µm,6.9s
YSS smax smax
comp=N,3µm,13.6s
YSS smax smax
comp=E,4µm,17.6s
YSS MLR MLR
comp=N,54µm,14.0s
YSS MLR MLR
comp=Z,87µm,14.0s
YSS MLR MLR
comp=E,54µm,15.0s
YSS Yuzh-Sakhalins 36.55 47 P **P** **08 37 19.0 -0.6**
YSS IAMs_20 IAMs_20 08 51 34.5
comp=Z,70µm,19.0s
GMJI Gumukmas 36.59 163 P **P** **08 37 22.5 +2.3**
comp=Z,120nm,2.3s
SRBI Singaraja 36.90 160 P **P** **08 37 24.5 +1.6**
comp=Z,3µmcomp=Z,214nm,1.0s
JAGI Jajag, Banyuwa 36.97 162 P **P** **08 37 25.1 +1.7**
comp=Z,3µmcomp=Z,130nm,0.9s
JAGI Jajag, Banyuwa 36.97 162 P **P** **08 37 26.2 +2.8**
NKL Nikolayevsk 37.80 36 *e*P **P** **08 37 29.3 -0.8**
NKL *e* 08 39 01.7
NKL pmax pmax
comp=N,3.0nm,0.6s
NKL pmax pmax
comp=Z,193nm,1.1s
NKL MLR MLR
comp=Z,74µm,13.0s
YUK Yuzh-Kuril'sk 37.88 52 *d i*P **P** **08 37 30.7 -0.3**
YUK *i* 08 38 58.1
YUK *i* S **S** **08 43 23.1 +1.1**
YUK pmax pmax
comp=Z,713nm,1.1s
YUK pmax pmax
comp=N,158nm,0.7s
YUK pmax pmax
comp=E,268nm,0.8s
YUK MLR MLR
comp=Z,40µm,21.0s
YUK MLR MLR
comp=N,28µm,16.0s
YUK MLR MLR
comp=E,29µm,21.0s
TYV Tymovskoe 37.89 41 *e*P **P** **08 37 32.0 +1.0**
TYV *e*S **S** **08 43 26.1 +4.1**
TYV pmax pmax
comp=Z,2µm,7.4s
TYV pmax pmax
comp=Z,165nm,1.3s
TYV smax smax
comp=E,3µm,8.0s
TYV smax smax
comp=E,21nm,1.3s
TYV MLR MLR
comp=E,118µm,13.0s
TYV MLR MLR
comp=Z,129µm,13.0s
NLAI Namlea 37.92 139 P **P** **08 37 33.4 +1.8**
comp=Z,5µmcomp=Z,202nm,0.7s
TWSI Taliwang, Sumb 38.05 158 P **P** **08 37 33.2 +0.6**
comp=Z,2µmcomp=Z,101nm,1.0s
PLAI Plampang 38.44 157 P **P** **08 37 37.3 +1.4**
comp=Z,3µmcomp=Z,182nm,0.9s
SIJI Sorong 38.69 132 P **P** **08 37 38.0 -0.1**
comp=Z,88nm,1.0s,baz=326,slow=5.1,SNR=8.2
SIJI ScP **ScP** **08 43 38.1 +0.3**
comp=Z,17nm,0.8s,baz=354,slow=7.8,SNR=5.0
SIJI LR LR 08 53 26.7
comp=Z,17µm,21.4s,baz=318,slow=36
AAI Ambon 38.93 138 P **P** **08 37 40.8 +0.7**
comp=Z,6µmcomp=Z,4µmcomp=Z,351nm,0.8s
YAK Yakutsk 38.94 19 *e*P **P** **08 37 37.9 -1.7**
YAK *e**PP **pP** **08 37 42.5 -2.1**
YAK *e* 08 39 10.6
YAK *e* 08 39 53.6
YAK *e*S **S** **08 43 37.0 -0.5**
YAK *e*SS **SnSn** **08 46 24.0 -4.2**
YAK *e*SSS SSS 08 46 53.8
YAK *e* 08 47 44.2
YAK pmax pmax
comp=Z,105nm,0.8s
YAK pmax pmax
comp=N,33nm,1.0s
YAK pmax pmax
comp=E,44nm,1.0s
YAK pmax pmax
comp=Z,112nm,2.0s
YAK pmax pmax
comp=N,223nm,2.3s
YAK pmax pmax
comp=E,238nm,2.5s
YAK smax smax
comp=N,359nm,1.7s
YAK smax smax
comp=E,296nm,1.6s
YAK MLR MLR
comp=Z,66µm,18.0s
YAK MLR MLR
comp=N,31µm,16.0s
YAK MLR MLR
comp=E,30µm,18.0s
YAK Yakutsk 38.94 19 P **P** **08 37 38.5 -1.1**
MSAI Masohi 39.10 137 P **P** **08 37 43.2 +1.7**
comp=E,1µmcomp=E,110nm,1.0s
GEYT Alibeck 39.32 297 P **P** **08 37 43.3 +0.1**
comp=E,48nm,0.9s,baz=115,slow=6.7,SNR=61
GEYT PcP **PcP** **08 39 51.8 0.0**
comp=E,21nm,0.7s,baz=124,slow=2.7,SNR=5.1
GEYT ScP **ScP** **08 43 40.7 +0.7**
comp=E,1.3nm,0.5s,baz=225,slow=1.8,SNR=3.4
GEYT LR LR 08 57 32.2
comp=E,35µm,18.9s,baz=75,slow=42
GYA0 ALIBECK ARRAY 39.32 297 P **P** **08 37 42.6 -0.6**
GYA0B ALIBECK ARRAY 39.32 297 P **P** **08 37 43.8 +0.5**
GYA0B IAmb IAmb 08 37 52.0
comp=Z,441nm,1.2s
KUR Kuril'sk 39.53 51 *c i*P **P** **08 37 44.4 -0.4**
KUR *i* 08 39 20.7
KUR *i* S **S** **08 43 46.4 -0.4**
KUR *e*SS **SS** **08 46 29.8 -12**
KUR pmax pmax
comp=Z,2µm,2.5s
KUR pmax pmax
comp=N,616nm,2.6s
KUR pmax pmax
comp=Z,554nm,1.3s
KUR pmax pmax
comp=E,426nm,1.4s
KUR pmax pmax
comp=N,275nm,1.9s
KUR MLR MLR
comp=Z,16µm,15.0s
KUR MLR MLR
comp=N,8µm,11.0s
KUR MLR MLR
comp=E,11µm,13.0s
COCO West Island 39.69 190 IAMs_20 IAMs_20 08 54 08.8
comp=Z,34µm,19.0s
WBSI Waikabubak, Su 39.77 155 P **P** **08 37 45.5 -1.6**
comp=Z,2µmcomp=Z,208nm,0.8s
EDFI Ende, Flores 39.89 151 P **P** **08 37 47.1 -1.1**
comp=Z,2µmcomp=Z,1µmcomp=Z,88nm,0.8s
MMRI Maumere 40.03 150 P **P** **08 37 48.7 -0.5**
comp=Z,4µmcomp=Z,11µmcomp=Z,532nm,1.0s
MMRI Maumere 40.03 150 P **P** **08 37 47.9 -1.4**
WSI Waingapu 40.15 154 P **P** **08 37 50.2 0.0**
comp=Z,28µmcomp=Z,848nm,0.9s
WBK Wadi Bani Khal 40.43 274 P **P** **08 37 54.9 +2.3**
SNR=5.2
WBK P **P** **08 37 54.9 +2.3**
SNR=5.2
ANA2 Anatahan 40.55 97 P **P** **08 37 55.7 +2.0**
ANA2 IAmb IAmb 08 38 00.2
comp=Z,210nm,0.8s
WSAR Wadi Sarin 40.57 275 P **P** **08 37 55.0 +1.3**
SNR=7.8
BASI Baing, Sumba 40.76 154 P **P** **08 37 53.1 -2.2**
comp=Z,3µmcomp=Z,273nm,1.6s
FAKI Fak Fak 40.87 133 P **P** **08 37 55.0 -1.2**
comp=Z,5µmcomp=Z,2µmcomp=Z,112nm,1.1s
FAKI Fak Fak 40.87 133 P **P** **08 37 57.1 +0.9**
GUMO Guam 40.94 101 LR LR 08 54 59.2
comp=Z,28µm,20.0s,baz=260,slow=36
GUMO Guam 40.94 101 P **P** **08 38 00.0 +3.2**
GUMO pmax pmax
comp=Z,257nm,1.3s
GUMO MLR MLR
comp=Z,29µm,20.0s
GUMO Guam 40.94 101 P **P** **08 37 60.0 +3.2**
GUMO IAmb IAmb 08 38 06.2
comp=Z,257nm,1.2s
BIDO Bidbid 40.94 275 P **P** **08 37 58.9 +2.1**
SNR=10
BIDO P **P** **08 37 58.9 +2.1**
SNR=10
BIDO P **P** **08 37 58.9 +2.1**
SNR=10
SMDO Samad 41.13 275 P **P** **08 38 00.0 +1.5**
SNR=16
SMDO P **P** **08 38 00.0 +1.5**
SNR=16
SMDO P **P** **08 38 00.0 +1.5**
SNR=16
RKPI Ransiki, Papua 41.13 129 P **P** **08 37 59.0 +0.6**
comp=Z,9µmcomp=Z,344nm,0.9s
JMDO Jabal Madar 41.27 274 P **P** **08 38 01.6 +2.1**
SNR=7.1
JMDO P **P** **08 38 01.6 +2.1**
SNR=7.1
AKTO Aktyubinsk 41.45 317 LR LR 08 56 57.9
comp=Z,27µm,20.3s,baz=110,slow=39
AKTO Aktyubinsk 41.45 317 P **P** **08 38 00.0 -0.7**
HOQ Hoqain 41.65 276 P **P** **08 38 04.7 +2.1**
SNR=15
HOQ P **P** **08 38 04.7 +2.1**
SNR=15
MHTO MHTO 41.79 272 P **P** **08 38 05.0 +1.2**
SNR=15

MHTO P P 08 38 05.0 +1.2
SNR=15
MHTO P P 08 38 05.0 +1.2
SNR=15
SOEI Soe 41.94 148 P P 08 38 04.3 -0.8
comp=Z,5µmcomp=Z,484nm,0.9s
SOEI Soe 41.94 148 P P 08 38 05.0 -0.1
SOEI IAmb IAmb 08 38 16.9
comp=Z,359nm,0.8s
SOEI IAMs_20 IAMs_20 08 56 03.7
comp=Z,31µm,21.0s
BSY Bisya 41.97 274 P P 08 38 07.0 +1.7
SNR=17
BSY P P 08 38 07.0 +1.7
SNR=17
BSY P P 08 38 07.0 +1.7
SNR=17
BANOM Banah 41.98 279 P P 08 38 06.0 +0.6
BANOM S S 08 44 21.5 -2.4
BANOM Banah 41.98 279 P P 08 38 06.0 +0.6
BANOM S S 08 44 21.5 -2.4
BATI Baumata 42.06 149 P P 08 38 04.8 -1.1
comp=Z,279nm,0.7s,baz=304,slow=1.2,SNR=22
BATI Baumata 42.06 149 P P 08 38 05.1 -0.9
comp=Z,2µmcomp=Z,199nm,0.8s
SHME Shamm 42.10 280 P P 08 38 07.2 +0.9
SHME Shamm 42.10 280 P P 08 38 07.2 +0.9
MDH Madha 42.12 278 P P 08 38 09.0 +2.6
MDH P P 08 38 09.0 +2.6
MDH P P 08 38 09.0 +2.6
SOHO SOHO 42.20 277 *i* P P 08 38 08.7 +1.6
SNR=11
SOHO SOHO 42.20 277 *i* P P 08 38 08.7 +1.6
SNR=11
SOHO SOHO 42.20 277 P P 08 38 09.7 +2.6
SOHO P P 08 38 09.7 +2.6
SOHO P P 08 38 09.7 +2.6
UOSS Minazif 42.29 278 P P 08 38 10.1 +2.2
UOSS P P 08 38 10.1 +2.2
UOSS P P 08 38 10.1 +2.2
UOSS Minazif 42.29 278 P P 08 38 09.4 +1.6
SVE Sverdlovsk 42.33 326*ce*P P 08 38 09.0 +1.3
SVE *e*S S 08 44 29.2 +1.0
SVE *e* 08 47 34.2
SVE pmax pmax
comp=Z,580nm,1.7s
SVE MLR MLR
comp=Z,25µm,17.0s
HATD Hatta, Dubai 42.38 278 *i* P P 08 38 09.6 +1.0
SNR=11
HATD Hatta, Dubai 42.38 278 *i* P P 08 38 09.6 +1.0
SNR=11
HATD Hatta, Dubai 42.38 278 P P 08 38 11.3 +2.7
HATD P P 08 38 11.3 +2.7
HATD P P 08 38 11.3 +2.7
ARQ Araqi 42.41 276 P P 08 38 11.0 +2.2
SNR=11
ARQ P P 08 38 11.0 +2.2
SNR=11
ARQ P P 08 38 11.0 +2.2
SNR=11
ASHO Ashiyiah 42.48 278 *i* P P 08 38 09.9 +0.5
SNR=14
ASHO Ashiyiah 42.48 278 *i* P P 08 38 09.9 +0.5
SNR=14
ASHO Ashiyiah 42.48 278 P P 08 38 11.3 +1.8
SNR=14
ASHO P P 08 38 11.3 +1.8
SNR=14
ASHO P P 08 38 11.3 +1.8
SNR=14
NAZ Nazwa, Dubai 42.76 278 *i* P P 08 38 11.3 -0.3
SNR=12
NAZ Nazwa, Dubai 42.76 278 *i* P P 08 38 11.3 -0.3
SNR=12
ALNE Al Ain 42.91 277 P P 08 38 13.1 +0.2
ALNE Al Ain 42.91 277 P P 08 38 13.1 +0.2
NRIK Noril'sk 43.17 352 P P 08 38 13.3 -1.1
comp=Z,52nm,0.6s,baz=149,slow=7.0,SNR=43
NRIK S S 08 44 45.5 +5.3
comp=Z,20nm,1.1s,baz=169,slow=19,SNR=4.4
NRIK LR LR 08 57 03.4
comp=Z,33µm,20.1s,baz=164,slow=37
ARU Arti 43.21 325*d* iP P 08 38 13.9 -0.9
ARU 08 39 52.3
ARU 08 40 04.2
ARU PPP PPP 08 40 27.0
ARU S S 08 44 41.5 +0.4
ARU SS SS 08 47 53.4 -0.5
ARU 08 48 16.4
ARU SSS SSS 08 48 42.2
ARU pmax pmax
comp=Z,433nm,1.2s
ARU MLR MLR
comp=Z,31µm,19.0s
ARU Arti 43.21 325 P P 08 38 14.0 -0.9
ARU IAMs_20 IAMs_20 08 57 44.4
comp=Z,36µm,20.0s
SAUI Saumlaki 44.20 138 P P 08 38 23.5 +0.3
comp=Z,534nm,1.3s
SMPI Sarmi 44.69 125 P P 08 38 27.5 +0.2
comp=Z,3µmcomp=Z,2µmcomp=Z,123nm,1.1s
DMTO DMTO 45.56 269 P P 08 38 35.9 +1.7
MA2 Magadan 45.67 32*ce*P P 08 38 32.4 -2.1
MA2 pmax pmax
comp=Z,139nm,1.3s
MA2 MLR MLR
comp=Z,21µm,15.0s
MA2 Magadan 45.67 32 P P 08 38 32.7 -1.8
MA2 IAmb IAmb 08 38 41.6
comp=Z,113nm,1.0s
SKR Severo-Kuril's 46.02 45 *e*P P 08 38 34.1 -3.2
SKR *e* 08 40 22.9
SKR *e*PPP PPP 08 41 11.2
SKR *e*S S 08 45 19.9 -2.1
SKR pmax pmax
comp=Z,400nm,3.9s
SKR MLR MLR
comp=Z,26µm,17.0s
GENI Genyem 46.17 124 P P 08 38 39.6 +0.6
comp=Z,6µmcomp=Z,7µmcomp=Z,220nm,1.6s
JAY Jayapura 46.52 124 P P 08 38 41.0 -0.8
comp=Z,7.8nm,0.8s,baz=328,slow=11,SNR=4.6
JAY Jayapura 46.52 124 P P 08 38 42.9 +1.1
comp=Z,791nmcomp=Z,30nm,1.0s
TIXI Tiksi 46.66 11*ce*P P 08 38 40.8 -1.3
TIXI pmax pmax
comp=Z,169nm,1.3s
TIXI MLR MLR
comp=Z,64µm,17.0s
TIXI Tiksi 46.66 11 P P 08 38 40.4 -1.8
ABTO Aybut 47.16 269 P P 08 38 47.0 +0.2
AKT Akhty 47.37 302 *e*P P 08 38 47.1 -1.2
AKT *e* 08 40 15.8
AKT *e* 08 40 45.9
AKT *e*S S 08 45 42.0 0.0
AKT pmax pmax
comp=Z,164nm,0.8s
PEA0B Petropavlovsk- 47.42 42 P P 08 38 49.8 +1.4
PEA0B pmax pmax
comp=Z,67nm,1.2s
PEA0B MLR MLR
comp=Z,44µm,21.0s
PEA0B Petropavlovsk- 47.42 42 P P 08 38 49.8 +1.4
PEA0B IAMs_20 IAMs_20 08 58 23.1
comp=Z,44µm,21.0s
PETK Petropavlovsk- 47.42 42 P P 08 38 47.3 -1.1
comp=Z,20nm,1.0s,baz=211,slow=1.7,SNR=14
PETK LR LR 09 01 29.8
comp=Z,40µm,18.4s,baz=254,slow=40
MAK Makhachkala 47.53 304 *e*P P 08 38 45.1 -4.2
MAK *e* 08 40 38.1
MAK *e*S S 08 45 40.7 -3.2
MAK *e*SS SS 08 49 00.2 -11
MAK pmax pmax
comp=Z,259nm,1.1s
MAK MLR MLR
comp=Z,28µm,13.0s
PET Petropavlovsk 47.98 42*c* iP P 08 38 50.9 -1.7
PET *e* 08 40 19.4
PET *e* 08 40 43.1
PET *e*S S 08 45 44.8 -5.1
PET *e*SS SS 08 49 13.1 -5.4
PET pmax pmax
comp=Z,800nm,13.0s
PET pmax pmax
comp=Z,700nm,12.1s
PET pmax pmax
comp=Z,73nm,1.3s
PET MLR MLR
comp=Z,53µm,20.0s
MTN Manton Dam 48.05 142 P P 08 38 52.5 -1.1
MTN IAmb IAmb 08 39 06.2
comp=Z,92nm,1.1s
SOCY Socotra 48.59 262 P P 08 38 58.3 +0.3
GROC Groznyy 48.79 305 *e*P P 08 38 57.3 -1.7
GROC *e* 08 40 24.5
GROC *e* 08 40 53.6
GROC *e*S S 08 46 04.0 +2.3
GROC pmax pmax
comp=Z,407nm,1.3s
GROC MLR MLR
comp=Z,14µm,12.0s
KNRA Kununurra 49.22 147 P P 08 39 01.9 -0.6
TBLG Delisi 49.61 303 P P 08 39 06.7 +1.3
TBLG Delisi 49.61 303 P P 08 39 06.7 +1.3
FITZ Fitzroy Crossi 49.93 152 P P 08 39 07.8 -0.2
comp=Z,78nm,0.8s,baz=346,slow=1.4,SNR=17
FITZ Fitzroy Crossi 49.93 152 P P 08 39 06.9 -1.1
FITZ IAmb IAmb 08 39 13.7
comp=Z,107nm,0.9s
ZEI Tsey 50.19 304 *e*P P 08 39 08.9 -1.1
ZEI pmax pmax
comp=Z,132nm,0.9s
ZEI MLR MLR
comp=Z,8µm,12.0s
MMPI Merauke 50.40 129 P P 08 39 13.8 +2.2
comp=Z,447nm,0.9s
AKH Akhalkalaki 50.56 303 ⇓P P 08 39 13.3 +0.4
AKH Akhalkalaki 50.56 303 P P 08 39 13.2 +0.4
AKH pmax pmax
comp=Z,206nm,0.9s
AKH MLR MLR
comp=Z,22µm,20.0s
AKH Akhalkalaki 50.56 303 P P 08 39 13.2 +0.3
AKH IAmb IAmb 08 39 21.7
comp=Z,206nm,0.9s
AKH IAMs_20 IAMs_20 09 03 55.3
comp=Z,22µm,20.0s
MBWA Marble Bar 50.61 160 P P 08 39 12.8 -0.3
MBWA P P 08 39 12.8 -0.3
MBWA P P 08 39 12.8 -0.3
GIRL Giralia 50.66 167 P P 08 39 14.7 +1.3
GOF Gofitskoye 50.74 307⇓ iP P 08 39 15.4 +1.5
GOF *e*S S 08 46 30.6 +1.6
GOF pmax pmax
comp=Z,379nm,0.9s
GOF smax smax
comp=N,155nm,1.5s
KBZ Khabaz 50.88 306 P P 08 39 14.7 -0.3
comp=N,16nm,0.8s,baz=78,slow=7.9,SNR=39
KBZ LR LR 09 04 48.2
comp=N,22µm,18.7s,baz=77,slow=41
KIV Kislovodsk 51.03 306 ⇓P P 08 39 16.5 +0.3
KIV Kislovodsk 51.03 306 *i* P P 08 39 15.8 -0.4
SNR=70
KIV Kislovodsk 51.03 306 *i* P P 08 39 15.8 -0.4
SNR=70
KIV Kislovodsk 51.03 306 P P 08 39 17.7 +1.5
KIV P P 08 39 17.7 +1.5
KIV Kislovodsk 51.03 306 *e*P P 08 39 14.4 -1.8
KIV *e*S S 08 46 33.1 -0.1
KIV *e*SS SS 08 50 09.7 +1.7
KIV pmax pmax
comp=Z,770nm,1.1s
KIV pmax pmax
comp=Z,184nm,4.6s
KIV MLR MLR
comp=Z,81µm,16.0s
KIV Kislovodsk 51.03 306 P P 08 39 15.6 -0.6
KIV IAMs_20 IAMs_20 09 04 31.6
comp=Z,35µm,18.0s
PSA00 Pilbara Seismi 51.04 160 P P 08 39 14.3 -1.9
PRGR Permogore 51.22 329⇑ *i*P P 08 39 17.0 -0.2
PRGR *i* S S 08 46 35.8 +0.7
PRGR pmax pmax
comp=Z,291nm,0.6s
CHVG Ch'k'valeri 51.53 304 ⇑P P 08 39 20.7 +0.8
VRH Novokhopyorsk 51.75 315 *e*P P 08 39 21.6 +0.3
VRH *e*S S 08 46 36.1 -6.6
VRH *e*SS SS 08 50 19.7 +0.8
VRH pmax pmax
comp=Z,390nm,1.6s
VRH pmax pmax
comp=Z,530nm,1.6s
VRH smax smax
comp=N,3µm,11.1s
VRH MLR MLR
comp=Z,18µm,17.0s
BATM Batumi 51.89 303 ⇑P P 08 39 22.2 -0.4
BCA Borcka 51.96 303 ⇑P P 08 39 23.6 +0.5
VORD Divnogorie 53.27 315 *e*P P 08 39 32.6 0.0
VORD *e*S S 08 47 02.7 -0.8
VORD pmax pmax
comp=Z,110nm,1.5s
VORD pmax pmax
comp=Z,140nm,1.5s
VORD smax smax
comp=N,3µm,11.7s
VORD MLR MLR
comp=Z,8µm,13.0s
VORR Voronezh 53.34 316 *e*P P 08 39 32.0 -1.1
VORR pmax pmax
comp=Z,450nm,1.2s
VSR Storozhevoye 53.35 315 *e*P P 08 39 33.5 +0.3
VSR *e*S S 08 47 03.7 -0.9
VSR *e*SS SS 08 50 43.4 -0.9
VSR pmax pmax
comp=Z,60nm,0.5s
VSR pmax pmax
comp=Z,190nm,1.3s
VSR smax smax
comp=N,610nm,6.1s
VSR MLR MLR
comp=Z,8µm,12.0s
KTUT Trabzon 53.40 302 ⇓P P 08 39 33.2 -0.5
LPSR Galich'ya Gora 53.54 317 *e*P P 08 39 34.9 +0.4
LPSR *e*S S 08 47 05.6 -1.5
LPSR pmax pmax
comp=Z,240nm,0.8s
LPSR pmax pmax
comp=Z,240nm,0.8s
LPSR smax smax
comp=N,3µm,13.7s
LPSR MLR MLR
comp=Z,17µm,16.0s
KLMR Klimovskoe 53.96 327*d* iP P 08 39 37.7 +0.3
KLMR *e* 08 41 35.3
KLMR *e*S S 08 47 15.0 +2.5
KLMR pmax pmax
comp=Z,591nm,1.1s
KLMR MLR MLR
comp=Z,14µm,17.0s
KLMR Klimovskoe 53.96 327⇓ *i*P P 08 39 37.8 +0.3
KLMR ⇓ *i*P P 08 39 37.8 +0.3
KLMR ⇑ *i*P P 08 39 37.8 +0.3
KLMR AMP 08 39 49.6
comp=Z,591nm,1.1s
KLMR *e*PP PP 08 41 35.4 -3.2
KLMR *e*S S 08 47 15.1 +2.5
KLMR *e*S S 08 47 15.1 +2.5
KLMR LQ LQ 08 58 07.8
KLMR LQ LQ 08 58 07.8
KLMR LR LR 09 00 43.2
KLMR AMP 09 04 17.7
comp=Z,14µm,16.8s
MOS Moscow 54.44 321 *e*P P 08 39 38.7 -2.4
MOS *e* 08 41 48.1
MOS *e*S S 08 47 18.0 -1.2
MOS *e* 08 49 32.4
MOS pmax pmax
comp=Z,700nm,1.5s
MOS pmax pmax
comp=Z,517nm,1.5s
MOS MLR MLR
comp=Z,19µm,21.0s
ANN Anapa 54.74 307*d* iP P 08 39 43.5 +0.1
ANN *e* 08 41 45.2
ANN *e*PPP PPP 08 43 03.6
ANN *e*S S 08 47 23.7 +0.2
ANN *e*SS SS 08 51 05.7 -0.6
ANN pmax pmax
comp=Z,194nm,1.1s
ANN pmax pmax
comp=N,48nm,1.0s
ANN pmax pmax
comp=E,48nm,0.9s
ANN pmax pmax
comp=Z,263nm,1.2s
ANN pmax pmax
comp=N,63nm,1.0s
ANN pmax pmax
comp=E,117nm,1.3s
ANN smax smax
comp=E,821nm,3.6s
ANN MLR MLR
comp=E,22µm,19.0s
ANN MLR MLR
comp=N,19µm,17.0s
ANN MLR MLR
comp=Z,21µm,19.0s
BILL Bilibino 54.94 24*c* iP P 08 39 42.4 -2.1
BILL *i* S S 08 47 24.6 -1.0
BILL *e*SS SS 08 51 12.3 +3.7
BILL pmax pmax
comp=Z,84nm,0.9s
BILL pmax pmax
comp=Z,615nm,2.1s
BILL MLR MLR
comp=Z,128µm,18.0s
BILL Bilibino 54.94 24 P P 08 39 42.4 -2.1
BILL IAmb IAmb 08 39 51.2
comp=Z,146nm,0.9s
OBN Obninsk 55.01 320 ⇑P P 08 39 46.5 +1.2
OBN Obninsk 55.01 320*ce*P P 08 39 44.4 -0.8
OBN *e* 08 40 45.8
OBN *e* 08 41 47.6
OBN *e*PPP PPP 08 42 58.5
OBN *i* S S 08 47 26.7 -0.2
OBN *e*SS SS 08 51 10.5 +0.3
OBN pmax pmax
comp=Z,313nm,1.7s
OBN pmax pmax
comp=Z,757nm,2.1s
OBN MLR MLR
comp=Z,22µm,21.0s
OBN Obninsk 55.01 320 P P 08 39 45.9 +0.6
OBN IAmb IAmb 08 39 47.7
comp=Z,152nm,1.0s
OBN IAMs_20 IAMs_20 09 03 21.1
comp=Z,22µm,19.0s
TMCR Tamitsa 55.15 331 *e*P P 08 39 43.9 -2.2
TMCR *e*S S 08 47 27.5 -1.0
TMCR pmax pmax
comp=Z,381nm,1.4s
WB0 Warramunga Arr 55.51 144 P P 08 39 47.3 -2.0
WB0 IAmb IAmb 08 39 52.4
comp=Z,170nm,0.8s
WRAB Tennant Creek 55.62 144*ce*P P 08 39 48.4 -1.7
WRAB pmax pmax
comp=Z,299nm,0.8s
WRA Warramunga Arr 55.63 144 P P 08 39 48.3 -1.8
comp=Z,209nm,0.9s,baz=332,slow=7.9,SNR=174
WRA PcP PcP 08 40 51.3 +1.6
comp=Z,17nm,1.0s,baz=345,slow=3.9,SNR=4.7
WRA S S 08 47 33.8 -2.1
comp=Z,7.6nm,1.2s,baz=327,slow=14,SNR=8.3
WRA LR LR 09 07 52.8
comp=Z,6µm,19.6s,baz=300,slow=41
WRA PKPPKP **P'P'df** 09 09 53.3 +5.2
comp=Z,6.1nm,1.2s,baz=120,slow=2.8,SNR=6.2
WRA P4KPbc 09 17 10.2
comp=Z,1.5nm,0.8s,baz=334,slow=4.6,SNR=7.1
WRA Warramunga Arr 55.63 144*ce*P P 08 39 48.2 -1.9
WRA pmax pmax
comp=Z,228nm,0.9s
WB2 Warramunga Arr 55.63 144 P P 08 39 48.5 -1.6
WR0 Warramunga Arr 55.75 144 P P 08 39 49.5 -1.5
WR0 IAmb IAmb 08 39 54.2
comp=Z,193nm,0.9s
PATS Pohnpei 55.77 101 P P 08 39 50.5 -0.8
PATS IAmb IAmb 08 39 53.8
comp=Z,293nm,1.3s
PMG Port Moresby 55.86 125 P P 08 39 52.0 +0.1
comp=Z,104nm,0.8s,baz=44,slow=6.6,SNR=19
PMG Port Moresby 55.86 125*ce*P P 08 39 51.8 -0.1
PMG pmax pmax
comp=Z,563nm,2.5s
PMG MLR MLR
comp=Z,6µm,20.0s
PMG Port Moresby 55.86 125 P P 08 39 52.6 +0.7
PMG IAmb IAmb 08 39 59.4
comp=Z,253nm,1.2s
GAZ Gaziantep 55.91 298 P P 08 39 53.8 +1.6
GAZ IAmb IAmb 08 39 59.8
comp=Z,101nm,1.0s
MSEY Mahe Island 56.11 243 P P 08 39 54.8 +1.0
MSEY pmax pmax
comp=Z,109nm,1.1s
MSEY MLR MLR
comp=Z,13µm,20.0s
MSEY Mahe Island 56.11 243 P P 08 39 54.8 +1.0
MSEY IAmb IAmb 08 39 59.0
comp=Z,109nm,1.1s
COEN Coen 56.24 132 P P 08 39 55.2 +0.6
COEN IAmb IAmb 08 40 00.0
comp=Z,176nm,1.4s
RABL Rabaul 56.44 116 IAMs_20 IAMs_20 09 01 25.3
comp=Z,21µm,20.0s
DIKM Dikmen 56.68 304 ⇑P P 08 39 57.4 -0.1
SIM Simferopol' 57.07 308⇑ *i*P P 08 39 59.5 -0.7
SIM *i* S S 08 47 55.4 +0.8
SIM pmax pmax
comp=Z,96nm,0.6s
LVZ Lovozero 57.11 335 P P 08 39 58.4 -1.7
LVZ pmax pmax
comp=Z,183nm,0.9s
LVZ MLR MLR
comp=Z,26µm,20.0s
LVZ Lovozero 57.11 335 P P 08 39 58.4 -1.7
LVZ IAmb IAmb 08 40 10.6
comp=Z,183nm,0.9s
LVZ IAMs_20 IAMs_20 09 06 43.0
comp=Z,26µm,20.0s
MORW Morawa 57.26 167 P P 08 40 00.3 -1.2
MORW IAmb IAmb 08 40 16.8
comp=Z,231nm,1.2s
SMY Shemya 57.28 43 P P 08 40 01.1 -0.4
SMY pmax pmax
comp=Z,393nm,1.2s
SMY MLR MLR
comp=Z,17µm,20.0s
SMY Shemya 57.28 43 P P 08 40 01.1 -0.4
SMY IAMs_20 IAMs_20 09 04 23.5
comp=Z,17µm,20.0s
APA Apatity 57.53 335⇑ *i*P P 08 40 01.3 -1.7
APA *i* 08 42 10.0
APA *i* S S 08 47 54.0 -6.0
APA pmax pmax
comp=Z,80nm,1.1s
APA MLR MLR
comp=Z,35µm,15.0s
BZK Bozkurt 57.56 304 ⇓P P 08 40 03.7 0.0
ILGA Ilgaz 57.92 303 P P 08 40 05.5 -1.0
ILGA IAmb IAmb 08 40 14.1
comp=Z,251nm,1.2s
BR131 Keskin Array S 58.21 302 P P 08 40 08.4 -0.1
BR131 P P 08 40 08.4 -0.1
BR131 P P 08 40 08.4 -0.1
BR131 Keskin Array S 58.21 302 P P 08 40 07.9 -0.6
BR131 pmax pmax
comp=Z,55nm,1.1s
BR131 Keskin Array S 58.21 302 P P 08 40 07.9 -0.6
BRTR Keskin Array B 58.21 302 P P 08 40 07.2 -1.3
comp=Z,17nm,0.7s,baz=107,slow=6.6,SNR=40
BRTR LR LR 09 09 42.9
comp=Z,11µm,21.1s,baz=64,slow=41
PUL Pulkovo 58.45 325*ce*P P 08 40 09.8 +0.2
PUL pmax pmax
comp=Z,511nm,1.0s
PUL MLR MLR
comp=Z,19µm,18.0s
AS31 Alice Springs 58.52 147 P P 08 40 09.2 -1.4
ASAR Alice Springs 58.52 147 P P 08 40 09.2 -1.4
comp=Z,88nm,0.8s,baz=328,slow=6.5,SNR=90
ASAR S S 08 48 17.1 +3.0

comp=Z,0.9nm,1.1s,baz=303,slow=5.6,SNR=1.8
ASAR PKPPKP 09 09 37.1
comp=Z,0.6nm,0.8s,baz=175,slow=3.7,SNR=4.7
ASAR P4KPbc 09 17 22.7
comp=Z,0.7nm,0.9s,baz=329,slow=4.0,SNR=5.1
ATD Arta Tunnel 58.74 267 *e*P **P 08 40 10.0 -2.4**
ATD Arta Tunnel 58.74 267 *e*S **S 08 48 18.3 +0.9**
ATD Arta Tunnel 58.74 267 *e*P **P 08 40 10.0 -2.4**
ATD *e*S **S 08 48 18.3 +0.9**
ATD Arta Tunnel 58.74 267 P **P 08 40 13.4 +1.1**
ATD IAmb IAmb 08 40 18.5
comp=Z,85nm,1.0s
ATD Arta Tunnel 58.74 267 *e*P **P 08 40 12.8 +0.4**
ATD *e*S **S 08 48 18.2 +0.9**
ANTO Ankara 58.82 302 ⇑P **P 08 40 12.5 -0.2**
ANTO Ankara 58.82 302 P **P 08 40 13.2 +0.6**
ANTO P **P 08 40 13.2 +0.6**
ANTO Ankara 58.82 302 P **P 08 40 12.0 -0.7**
ANTO pmax pmax
comp=Z,235nm,1.2s
ANTO MLR MLR
comp=Z,16μm,19.0s
ANTO Ankara 58.82 302 P **P 08 40 12.0 -0.7**
ANTO Ankara 58.82 302 IAms_20 IAms_20 09 10 02.3
comp=Z,16μm,19.0s
CSS Mathiatis 59.44 296 P **P 08 40 16.4 -0.5**
CSS IAmb IAmb 08 40 34.4
comp=Z,193nm,1.2s
AKASG Malin Array Be 59.66 315 P **P 08 40 17.8 -0.3**
comp=Z,53nm,0.7s,baz=74,slow=6.9,SNR=74
AKASG S **S 08 48 30.2 +2.0**
comp=Z,0.1nm,0.3s,baz=76,slow=12,SNR=4.9
AKASG LR LR 09 06 36.5
comp=Z,16μm,19.7s,baz=75,slow=37
AKASG PKPPKP 09 10 01.9
comp=Z,0.2nm,0.3s,baz=276,slow=2.8,SNR=5.1
AKBB Malin Array Si 59.66 315 P **P 08 40 17.0 -1.1**
AKBB pmax pmax
comp=Z,89nm,0.9s
AKBB MLR MLR
comp=Z,18μm,20.0s
AKBB Malin Array Si 59.66 315 P **P 08 40 17.0 -1.1**
AKBB IAmb IAmb 08 40 25.5
comp=Z,89nm,0.9s
AKBB IAMs_20 IAMs_20 09 06 24.3
comp=Z,19μm,20.0s
LEF Lefka 59.76 297 ⇑P **P 08 40 18.6 -0.5**
MDUB Mudurnu 59.91 303 P **P 08 40 20.3 +0.1**
MDUB IAMs_20 IAMs_20 09 10 44.0
comp=Z,29μm,22.0s
KEV Kevo 60.05 337 P **P 08 40 18.6 -1.9**
KEV pmax pmax
comp=Z,219nm,0.8s
KEV MLR MLR
comp=Z,14μm,19.0s
KEV Kevo 60.05 337 P **P 08 40 18.6 -1.9**
MICGM Minsk 60.06 319⇓ *e*P **P 08 40 22.0 +1.2**
MICGM PM 08 40 24.0
comp=Z,0.2nm,1.5s
MICGM *e*PcP **PcP 08 41 13.0 +6.3**
MICGM *e*PP PP 08 42 48.0 +15
MICGM *e*PPP PPP 08 44 12.0
MICGM *e*S **S 08 48 34.0 +0.8**
MICGM *e*PS PnS 08 49 03.0 +17
MICGM *e*SS **SS 08 52 39.0 +9.5**
MICGM *e*SSS SSS 08 55 04.0
MICGM *e*LQ LQ 09 01 22.0
MICGM LQM 09 03 22.0
comp=N,69nm,24.0s
MICGM *e*LR LR 09 05 14.0
MICGM LRM MLR 09 08 00.0
comp=Z,40nm,26.0s
MICGM LRM MLR 09 08 12.0
comp=E,13nm,20.0s
MICGM LRM MLR 09 08 16.0
comp=Z,26nm,18.0s
MNK Minsk 60.06 319 *e*P **P 08 40 22.0 +1.2**
VSU Vasula 60.35 324 *e*P **P 08 40 23.2 +0.5**
VSU Vasula 60.35 324*d i*P **P 08 40 22.8 +0.1**
VSU pmax pmax
comp=Z,428nm,0.8s
VSU MLR MLR
comp=Z,42μm,17.0s
KIS Kishinev 60.44 311 *e*P **P 08 40 23.0 -0.6**
comp=Z,470nm,4.8s
KIS Kishinev 60.44 311 *e*PP PP 08 42 36.0 -0.6
KIS *e*S **S 08 48 33.0 -5.3**
KIS Kishinev 60.44 311 ⇑P **P 08 40 25.2 +1.7**
KIS Kishinev 60.44 311 *e*P **P 08 40 23.0 -0.6**
KIS *e* 08 42 36.0
KIS *e*S **S 08 48 33.0 -5.3**
KIS pmax pmax
comp=Z,470nm,4.8s
KIS MLR MLR
comp=Z,6μm,18.0s
MILM Milestii Mici 60.45 311 ⇓P **P 08 40 23.6 0.0**
FINES FINESS Array B 60.49 327 P **P 08 40 21.8 -1.9**
comp=Z,24nm,0.5s,baz=99,slow=6.0,SNR=114
FINES LR LR 09 06 51.3
comp=Z,22μm,21.1s,baz=90,slow=36
ARCES ARCESS Array B 60.57 337 P **P 08 40 21.9 -2.2**
comp=Z,29nm,0.8s,baz=90,slow=6.0,SNR=84
ARE0 ARCESS Array S 60.57 337 *e*P **P 08 40 24.2 +0.1**
ARE0 IVmBBB 08 40 32.2
comp=Z,1μm,2.0s
ARE0 *e*S **S 08 48 39.5 +0.2**
ARE0 *e*SS **SS 08 52 40.9 +3.9**
ARE0 IVMs_BB IVMs_BB 09 04 20.4
comp=Z,5μm,26.1s
ARE0 ARCESS Array S 60.57 337 P **P 08 40 22.7 -1.4**
SORM Soroca 60.57 312 ⇑P **P 08 40 22.9 -1.5**
AMKA Amchitka 60.61 44 P **P 08 40 23.7 -0.9**
IDID Didziasalis 60.63 320 *e*P **P 08 40 25.8 +1.1**
NACGM Naroch 60.65 320 *e*P **P 08 40 25.0 +0.1**
NACGM *e*P **P 08 40 25.0 +0.1**
NACGM *e*PcP **PcP 08 41 14.0 +5.0**
NACGM *e*PP PP 08 42 09.0 -29
NACGM *e*PPP PPP 08 44 13.0
NACGM *e*S **S 08 48 40.0 -0.8**
NACGM *e*PS **PnS 08 49 07.0 +13**
NACGM *e*SS SS 08 52 19.0 -20
NACGM *e*SSS SSS 08 55 02.0
NACGM *e*LQ LQ 09 01 06.0
NACGM *e*LR LR 09 03 10.0
NACGM LRM MLR 09 11 46.0
comp=E,44nm,16.0s
NACGM LRM MLR 09 11 47.0
comp=Z,46nm,15.0s
TLCR 60.75 309 ⇑P **P 08 40 25.1 -0.6**
IZAR Zarasai 60.86 321 *e*P **P 08 40 27.9 +1.6**
LEOM Leova 60.91 310 ⇑P **P 08 40 27.1 +0.3**
ISAL Salakas 60.95 321 *e*P **P 08 40 28.0 +1.1**
ISP Isparta 60.99 300 P **P 08 40 24.7 -2.9**
ISP pmax pmax
comp=Z,193nm,0.9s
ISP Isparta 60.99 300 P **P 08 40 24.7 -2.9**
HOPEN Hopen 61.04 345 *e*P **P 08 40 27.3 +0.1**
HOPEN IVmB_BB 08 40 38.1
comp=Z,3μm,1.6s
HOPEN *e*S **S 08 48 46.8 +1.6**
HOPEN IVMs_BB IVMs_BB 09 07 13.8
comp=Z,9μm,21.8s
TOPG Topolog 61.11 308 ⇑P **P 08 40 27.6 -0.5**
TIRR Tirgusor 61.16 308 ⇓P **P 08 40 29.1 +0.6**
TIRR Tirgusor 61.16 308 P **P 08 40 29.1 +0.6**
TIRR pmax pmax
comp=Z,242nm,1.0s
TIRR MLR MLR
comp=Z,48μm,22.0s
TIRR Tirgusor 61.16 308 P **P 08 40 29.1 +0.6**
VASR Vaslui 61.19 310 ⇑P **P 08 40 29.0 +0.3**
HAMF Hammerfest 61.20 338 *e*P **P 08 40 28.6 +0.3**
HAMF IVmBBB 08 40 34.7
comp=Z,2μm,1.5s
HAMF *e*S **S 08 48 46.8 -0.5**
HAMF *e*SS **SS 08 52 50.5 +3.6**
HAMF IVMs_BB IVMs_BB 09 08 19.7
comp=Z,7μm,14.4s
MFTR Murfatlar 61.21 308 ⇑P **P 08 40 28.2 -0.7**
CFR Carcaliu 61.22 309 ⇓P **P 08 40 29.1 +0.2**
NWAO Narrogin (SRO) 61.24 167 P **P 08 40 28.7 -0.3**
comp=Z,71nm,0.9s,baz=340,slow=8.3,SNR=13
NWAO Narrogin (SRO) 61.24 167 P **P 08 40 29.0 0.0**
NWAO pmax pmax
comp=Z,71nm,0.9s
NWAO MLR MLR
comp=Z,18μm,19.0s
NWAO Narrogin (SRO) 61.24 167 P **P 08 40 28.9 0.0**
NWAO IAmb IAmb 08 40 33.8
comp=Z,89nm,0.9s
NWAO Narrogin (SRO) 61.24 167 P **P 08 40 28.9 0.0**
NWAO IAmb IAmb 08 40 33.8
comp=Z,71nm,0.9s
NWAO IAMs_20 IAMs_20 09 09 48.9
comp=Z,18μm,19.0s
VARL Varlezi 61.29 310 ⇑P **P 08 40 30.5 +1.1**
BIR Birlad 61.37 310 ⇑P **P 08 40 30.4 +0.5**
ISK Istanbul-Kandi 61.38 304 P **P 08 40 28.5 -1.5**
TLBR Topalu 61.40 308 ⇑P **P 08 40 30.8 +0.6**
HARR Harsova 61.45 308 ⇑P **P 08 40 30.4 -0.1**
TUDR 61.47 309 ⇑P **P 08 40 30.2 -0.3**
PSN Preselentsi 61.47 307 *i*P P 08 40 38.2 +7.5
ICOR Ion Corvin 61.66 308 ⇑P **P 08 40 32.5 +0.6**
ELL Elmali 61.72 299 P **P 08 40 30.7 -1.9**
ELL pmax pmax
comp=Z,1μm,1.0s
ELL MLR MLR
comp=Z,43μm,21.0s
ELL Elmali 61.72 299 P **P 08 40 30.6 -1.9**
ODBI Odobesti 61.86 310 ⇓P **P 08 40 34.7 +1.5**
AMRR Amara 61.89 308 ⇑P **P 08 40 34.1 +0.6**
GRER 61.99 309 ⇑P **P 08 40 35.7 +1.6**
TESR Tescani 61.99 310 ⇑P **P 08 40 33.4 -0.7**
VRI Vrincioaia 62.06 310 ⇓P **P 08 40 34.4 -0.2**
PRAR RASCA 62.12 311 ⇑P **P 08 40 35.0 +0.1**
PLOR Plostina 62.12 310 ⇓P **P 08 40 35.5 +0.5**
PRD Provadia 62.13 307 *i*P **P 08 40 36.1 +1.0**
BISRR Bisoca 62.14 309 ⇓P **P 08 40 35.9 +0.7**
PABE Paberze 62.18 321 *e*P **P 08 40 35.8 +0.6**
NEF NEVSHA 62.20 307 *i*P **P 08 40 36.6 +1.0**
KULA Kula-Manisa 62.25 301 P **P 08 40 35.7 -0.4**
BIZ Bicaz 62.28 311 ⇓P **P 08 40 36.2 +0.1**
FORT Forrest 62.29 156 P **P 08 40 36.7 +0.6**
MANT Manisa 62.34 301 P **P 08 40 37.8 +1.0**
ISR Istrita 62.34 309 ⇑P **P 08 40 37.1 +0.6**
FETY Fethiye 62.39 299 P **P 08 40 35.1 -1.9**
NEHR Nehoiu 62.45 309 ⇑P **P 08 40 37.7 +0.5**
BJO1 Bjornoya 62.52 342 *e*P **P 08 40 37.1 0.0**
BJO1 *e*S **S 08 49 03.4 -0.5**
BJO1 IVMs_BB IVMs_BB 09 14 14.7
comp=Z,8μm,14.7s
SULR 62.63 308 ⇑P **P 08 40 38.8 +0.4**
OZUR 62.66 310 ⇑P **P 08 40 38.7 0.0**
MLR Muntele Rosu 62.67 309 ⇑P **P 08 40 38.9 +0.1**
MLR Muntele Rosu 62.67 309 P **P 08 40 38.3 -0.6**
MLR pmax pmax
comp=Z,300nm,1.0s
MLR MLR MLR
comp=Z,24μm,22.0s
MLR Muntele Rosu 62.67 309 P **P 08 40 38.3 -0.6**
MLR IAMs_20 IAMs_20 09 12 09.0
comp=Z,24μm,22.0s
RAZG Razgrad 62.69 307 ⇓P **P 08 40 39.1 +0.3**
CTA Charters Tower 62.70 134 P **P 08 40 39.8 +0.6**
comp=Z,76nm,0.8s,baz=321,slow=8.8,SNR=39
CTAO Charters Tower 62.70 134 P **P 08 40 40.0 +0.9**
CTAO pmax pmax
comp=Z,95nm,0.9s
CTAO MLR MLR
comp=Z,7μm,20.0s
CTAO Charters Tower 62.70 134 P **P 08 40 40.0 +0.9**
CTAO IAmb IAmb 08 40 42.5
comp=Z,95nm,0.9s
PLAR PLOIESTI 62.74 309 ⇑P **P 08 40 39.3 +0.2**
BURAR Bucovina Array 62.74 312 ⇑P **P 08 40 39.8 +0.5**
BUR08 Bucovina Ar. S 62.74 312 P **P 08 40 38.7 -0.6**
SLIT Slitere, Latvi 62.79 323 *e*P **P 08 40 40.2 +1.0**
SUW Suwalki 62.86 319 *e*P **P 08 40 39.6 -0.1**
SUW *e*sP **pP 08 40 43.5 -1.4**
SUW *e*PcP **PcP 08 41 17.7 -0.3**
SUW *e*S **S 08 49 09.5 +0.8**
SUW *e*L L 09 08 56.1
comp=Z,25μm,21.6s
SUW Suwalki 62.86 319 P **P 08 40 39.1 -0.6**
SUW pmax pmax
comp=Z,488nm,0.9s
SUW MLR MLR
comp=Z,25μm,22.0s
SUW Suwalki 62.86 319 P **P 08 40 39.1 -0.6**
SUW IAMs_20 IAMs_20 09 09 11.3
comp=Z,25μm,22.0s
TRO Tromso 62.87 337 *e*P **P 08 40 39.1 -0.4**
TRO IVmBBB 08 40 44.0
comp=Z,1μm,0.7s
TRO *e*S **S 08 49 08.9 +0.5**
TRO IVMs_BB IVMs_BB 09 09 26.8
comp=Z,6μm,18.4s
JMB Yambol 62.88 306 *i*P **P 08 40 40.7 +0.6**
SGRR Singureni 62.92 308 ⇑P **P 08 40 40.6 +0.3**
DOPR Dopca 62.96 310 ⇑P **P 08 40 41.4 +0.8**
SPA0 Spitsbergen Ar 62.96 347 *e*P **P 08 40 40.2 0.0**
SPA0 IVmBBB 08 40 48.3
comp=Z,2μm,2.3s
SPA0 *e*S **S 08 49 07.4 -2.0**
SPA0 IVMs_BB IVMs_BB 09 09 05.5
comp=Z,9μm,17.1s
SPA0 Spitsbergen Ar 62.96 347 P **P 08 40 40.5 +0.4**
ADK Adak 63.00 43 P **P 08 40 40.3 -0.4**
ADK pmax pmax
comp=Z,77nm,1.2s
ADK Adak 63.00 43 P **P 08 40 40.3 -0.4**
ADK Adak 63.00 43 IAMs_20 IAMs_20 09 07 31.6
comp=Z,16μm,21.0s
LVV L'vov 63.08 314 *e*P **P 08 40 41.2 -0.2**
LVV *e* 08 43 04.6
LVV *e*S **S 08 49 07.7 -4.1**
LVV *e*SS **SS 08 53 12.1 -5.0**
LVV pmax pmax
comp=Z,200nm,1.5s
LVV MLR MLR
comp=Z,14μm,19.0s
HSPB Hornsund (broa 63.22 345 *e*P **P 08 40 42.0 +0.2**
HSPB *e*sP **pP 08 40 45.9 -1.1**
HSPB *e*S **S 08 49 13.2 +0.5**
HSPB *e*L L 09 08 17.8
comp=Z,27μm,23.8s
HSPB Hornsund (broa 63.22 345 *e*P **P 08 40 42.2 +0.4**
HSPB IVmB_BB 08 40 48.9
comp=Z,2μm,2.1s
HSPB *e*S **S 08 49 13.6 +1.0**
HSPB IVMs_BB IVMs_BB 09 09 01.2
comp=Z,9μm,19.9s
PBUR Paburge 63.23 322 *e*P **P 08 40 42.8 +0.6**
VOIR 63.30 309 ⇓P **P 08 40 43.2 +0.2**
MTUR Matau 63.34 309 ⇑P **P 08 40 43.9 +0.7**
ARCR ARCALIA 63.42 311 ⇑P **P 08 40 45.5 +1.9**
AAE Adis Abeba 63.43 267 *e*P **P 08 40 46.1 +1.5**
AAE *e*S **S 08 49 19.6 +1.9**
AAE Adis Abeba 63.43 267 *e*P **P 08 40 46.0 +1.4**
AAE Adis Abeba 63.43 267 *e*P **P 08 40 46.0 +1.4**
AAE *e*S **S 08 49 19.2 +1.5**
COPA Copaceanca 63.47 308 ⇓P **P 08 40 45.0 +0.9**
ZIMR 63.48 307 ⇑P **P 08 40 44.3 +0.3**
STFAR Stefanesti-Arg 63.49 309 ⇓P **P 08 40 44.3 +0.2**
BLCB Balcova 63.51 301 P **P 08 40 44.0 -0.4**
DAT Datca 63.53 300 P **P 08 40 42.5 -2.2**
HUMR Humele 63.55 308 ⇑P **P 08 40 44.2 -0.3**
FURI Furi 63.57 266 *e*P **P 08 40 47.9 +2.4**
FURI *e*S **S 08 49 20.8 +1.4**
FURI Furi 63.57 266 *e*P **P 08 40 46.1 +0.6**
FURI Furi 63.57 266 *e*S **S 08 49 23.9 +4.5**
FURI Furi 63.57 266 *e*P **P 08 40 46.1 +0.6**
FURI *e*S **S 08 49 23.9 +4.5**
ENEZ Enez 63.59 304 P **P 08 40 45.1 +0.2**
ARR Arges 63.60 309 ⇓P **P 08 40 45.6 +0.6**
ALN Alexandroupoli 63.63 304 P **P 08 40 43.0 -2.1**
ALN Alexandroupoli 63.63 304 P **P 08 40 43.6 -1.5**
ALN pmax pmax
comp=Z,197nm,1.4s
ALN MLR MLR
comp=Z,7μm,21.0s
ALN Alexandroupoli 63.63 304 P **P 08 40 43.6 -1.5**
ALN IAmb IAmb 08 40 54.9
comp=Z,197nm,1.4s
BODT Bodrum 63.65 300 P **P 08 40 45.5 +0.1**
EZN Ezine 63.69 303 P **P 08 40 46.1 +0.6**
GAMB Gambell 63.70 30 P **P 08 40 46.8 +1.7**
GAMB IAmb IAmb 08 40 51.6
comp=Z,205nm,1.6s
GAMB IAMs_20 IAMs_20 09 10 44.6
comp=Z,28μm,20.0s
DIM Dimitrovgrad 63.73 306 *i*P **P 08 40 46.9 +1.1**
KBS Kingsbay 63.77 348*ce*P **P 08 40 44.3 -1.2**
KBS pmax pmax
comp=Z,29nm,0.8s
KBS MLR MLR
comp=Z,19μm,18.0s
KBS Kingsbay 63.77 348 *e*P **P 08 40 46.2 +0.8**
KBS IVmB_BB 08 40 52.0
comp=Z,928nm,3.4s
KBS *e*S **S 08 49 17.4 -2.1**
KBS IVMs_BB IVMs_BB 09 08 16.5
comp=Z,8μm,21.2s
KBS Kingsbay 63.77 348 IAMs_20 IAMs_20 09 08 17.1
comp=Z,25μm,20.0s
KBS Kingsbay 63.77 348 *i*P **P 08 40 45.5 0.0**
KBS IAMs_20 IAMs_20 09 08 11.9
comp=Z,58μm,18.4s
SMG Samos 63.84 301 P **P 08 40 45.8 -0.8**
BMR Baia Mare 63.87 312 ⇓P **P 08 40 47.7 +1.1**
PRK Paraskevi 63.88 303 P **P 08 40 47.4 +0.6**
KDZ Kurdzhali 63.91 305 *i*P **P 08 40 46.6 -0.4**
GADA Gvkgeada 63.92 304 P **P 08 40 46.8 -0.2**
RDO Rodhopi 63.95 305 P **P 08 40 46.5 -0.7**
KWP Kalwaria Pacla 63.96 314 *e*P **P 08 40 49.0 +1.8**
KWP *e*S **S 08 49 25.2 +2.5**
KWP *e*L L 09 13 14.1
comp=Z,21μm,21.4s
KWP Kalwaria Pacla 63.96 314 IAMs_20 IAMs_20 09 13 26.5
comp=Z,22μm,20.0s
CJR Cluj-Napoca 64.01 311 ⇑P **P 08 40 49.1 +1.5**
SMTH Samothraki Isl 64.12 304 P **P 08 40 47.6 -0.8**
N2IH Innhavet 64.15 335 *e*P **P 08 40 47.8 -0.3**
KARP Karpathos 64.17 298 P **P 08 40 49.3 +0.4**
KARP Karpathos 64.17 298 P **P 08 40 49.5 +0.6**
LOT Lotru 64.18 310 ⇓P **P 08 40 49.3 +0.5**
SIGR SIGRI 64.20 303 P **P 08 40 50.6 +1.7**
CHOS Chios island 64.26 302 P **P 08 40 48.5 -0.9**
N2ST Straumen 64.38 335 *e*P **P 08 40 49.2 -0.3**
KOLS Kolonicke sedl 64.39 314 *e*P **P 08 40 50.2 +0.2**
KOLS pmax pmax
comp=Z,49nm,1.1s
KOLS Kolonicke sedl 64.39 314 *e*P **P 08 40 50.2 +0.2**
KOLS *e*S **S 08 49 28.1 0.0**
KOLS *e*L L 09 12 55.7
TRPA Tarpa 64.39 313 ⇑P **P 08 40 50.9 +0.9**
RZN Rozhen 64.41 305 *i*P **P 08 40 50.8 +0.3**
STEI Steigen 64.42 335 *e*P **P 08 40 48.8 -1.0**
STEI IVmB_BB 08 40 56.1
comp=Z,1μm,1.7s
STEI *e*PP **PP 08 43 12.7 +1.6**
STEI *e*S **S 08 49 26.8 -0.8**
STEI *e*SS **SS 08 53 38.0 +0.9**
STEI IVMs_BB IVMs_BB 09 10 43.7
comp=Z,11μm,15.1s
UZH Uzhgorod 64.44 313 *e*P **P 08 40 49.3 -1.0**
UZH *e* 08 40 56.2
UZH *e*S **S 08 49 23.8 -4.9**
UZH *e* 08 50 40.5
UZH *e*SSS SSS 08 56 31.3
ATKA Atka Island 64.44 43 P **P 08 40 51.2 +1.0**
ATKA IAMs_20 IAMs_20 09 08 03.8
comp=Z,17μm,22.0s
KLNR Kaliningrad 64.46 320 *i*P **P 08 40 50.5 +0.2**
KLNR pmax pmax
comp=Z,204nm,0.8s
KLNR MLR MLR
comp=Z,16μm,19.0s
FAUS Fauske 64.49 335 *e*P **P 08 40 49.6 -0.6**
FAUS IVmBBB 08 40 56.0
comp=Z,976nm,0.8s
FAUS *e*S **S 08 49 27.2 -1.5**
FAUS *e*SS **SS 08 53 40.2 +1.9**
FAUS IVMs_BB IVMs_BB 09 09 34.9
comp=Z,13μm,16.1s
N2TV Tvrnvik 64.52 335 *e*P **P 08 40 50.0 -0.4**
LIA Limnos Island 64.52 303 P **P 08 40 51.2 +0.2**
PGB Panagyurishte 64.59 307 *i*P **P 08 40 52.4 +0.9**
DEV Deva 64.67 310 ⇑P **P 08 40 52.7 +0.9**
THAS Thassos island 64.68 304 P **P 08 40 50.4 -1.6**
BEL Belsk 64.69 317 *e*P **P 08 40 52.7 +0.9**
BEL *e*S **S 08 49 32.6 +1.0**
BEL *e*L L 09 09 09.2
comp=Z,25μm,21.3s
MPEP Malo Peshtene 64.70 307 P **P 08 40 51.9 -0.2**
KAVA Kavala 64.73 305 P **P 08 40 52.8 +0.4**
NBB08 Skaug oppvekst 64.74 335 *e*P **P 08 40 51.5 -0.3**
BAIL Bailesti 64.81 308 ⇑P **P 08 40 53.4 +0.6**
CRVS Cervenica-Dubn 64.92 314 *e*P **P 08 40 54.4 +0.9**
CRVS pmax pmax
comp=Z,198nm,1.1s
CRVS Cervenica-Dubn 64.92 314 *e*P **P 08 40 54.4 +0.9**
CRVS *e*S **S 08 49 33.2 -1.4**
CRVS *e*L L 09 13 26.3
LOF Lofoten 65.01 336 *e*P **P 08 40 52.6 -1.1**
LOF *e*S **S 08 49 31.0 -4.0**
LOF *e*SS **SS 08 53 47.6 +1.3**
LOF IVMs_BB IVMs_BB 09 10 14.9
comp=Z,10μm,14.2s
APE Apeiranthos 65.02 300 ⇑P **P 08 40 53.1 -1.2**
PUNG Punghina 65.03 309 ⇑P **P 08 40 54.0 -0.3**
ZKR Zakros 65.04 298 P **P 08 40 54.7 +0.2**
NVR Nevrokopi 65.12 305 P **P 08 40 55.4 +0.5**
MMB Musomiste 65.15 306 *i*P **P 08 40 55.2 +0.1**
NBB30 Finnes 65.16 334 *e*P **P 08 40 53.9 -0.7**
VTS Vitosha 65.24 307 ⇑P **P 08 40 55.3 -0.5**
VTS Vitosha 65.24 307 P **P 08 40 54.3 -1.5**
VTS MLR MLR
comp=Z,12μm,22.0s
VTS Vitosha 65.24 307 P **P 08 40 54.3 -1.5**
VTS Vitosha 65.24 307 *i*P **P 08 40 57.0 +1.2**
HERR Herculane 65.24 309 ⇓P **P 08 40 55.7 0.0**
N2SV S.rvgen 65.25 335 *e*P **P 08 40 54.0 -1.2**
SANT Santorini 65.27 300 ⇑P **P 08 40 54.2 -1.8**
SANT Santorini 65.27 300 P **P 08 40 54.5 -1.6**
SNT1 Gialos, Santor 65.28 300 P **P 08 40 55.4 -0.6**
OUR Ouranopolis 65.30 304 P **P 08 40 56.0 0.0**
THR6 Thira Island, 65.32 300 P **P 08 40 54.7 -1.6**
THR9 Santorini-Faro 65.35 300 P **P 08 40 54.7 -1.8**
SRS Serrai 65.38 305 P **P 08 40 55.5 -1.1**
SIRR Siria 65.42 311 ⇓P **P 08 40 56.6 -0.2**
N2VA Vr,y 65.42 335 *e*P **P 08 40 54.5 -1.8**
NPS Neapolis 65.47 298 P **P 08 40 54.1 -3.2**
KONS Konsvik 65.49 334 *e*P **P 08 40 56.1 -0.7**
NIE Niedzica 65.54 315 *e*P **P 08 40 59.0 +1.4**
NIE *e*sP **sP 08 41 04.8 +0.1**
NIE *e*S **S 08 49 44.9 +2.6**
NIE *e*L L 09 10 00.6
comp=Z,13μm,22.9s
KKB Krupnik 65.55 306 *i*P **P 08 40 58.0 +0.3**
STOK Stokkvaagen 65.57 334 *e*P **P 08 40 56.6 -0.7**
LAST Lasithi 65.60 298 P **P 08 40 58.4 +0.2**
BZS Buzias 65.61 310 ⇑P **P 08 40 57.8 -0.1**
SPIA Saint Paul Isl 65.62 37 IAMs_20 IAMs_20 09 12 09.1
comp=Z,19μm,20.0s
SOH Sokhos 65.63 305 P **P 08 40 58.3 0.0**
PAIG Paliouri 65.63 304 P **P 08 40 58.6 +0.4**
KECS Kecovo 65.65 314 *e*P **P 08 40 59.1 +0.9**
KECS pmax pmax
comp=Z,45nm,1.1s
KECS Kecovo 65.65 314 *e*P **P 08 40 59.1 +0.9**
N2RO R,st 65.67 335 *e*P **P 08 40 56.1 -1.8**
OJC Ojcow 65.67 316 *e*P **P 08 40 58.6 +0.4**
OJC *e*sP **sP 08 41 04.9 -0.5**
OJC *e*S **S 08 49 44.9 +1.3**
OJC *e*L L 09 09 59.4
comp=Z,31μm,23.4s
KYMI Kymi, Euboea I 65.67 302 P **P 08 40 58.1 -0.4**
PLG Polygyros 65.68 304 P **P 08 40 58.9 +0.3**
AOS Alonnisos 65.69 303 P **P 08 40 58.0 -0.6**
HNR Honiara 65.75 116 IAMs_20 IAMs_20 09 07 15.0
comp=Z,13μm,20.0s
MDVR Moldovita 65.75 309 ⇓P **P 08 40 58.5 -0.5**
HORT Hortiatis 65.87 305 P **P 08 40 59.6 -0.3**
DION Dionisos Attik 65.95 302 P **P 08 40 59.8 -0.6**
THE Thessaloniki 65.96 305 P **P 08 41 00.1 -0.2**
SKIA Skiathos 66.00 303 P **P 08 41 00.3 -0.3**
PTL Penteli 66.02 302 P **P 08 40 59.2 -1.6**
IDI Anoyia 66.03 299 P **P 08 41 00.5 -0.4**

IDI	**Anoyia**	**66.03 299**	⇑P		**P**		**08 40 59.5**	**-1.4**
IDI	**Anoyia**	**66.03 299**	P		**P**		**08 40 59.5**	**-1.4**
IDI			IAmb		IAmb		08 41 08.2	
	comp=Z,126nm,1.0s							
MRKA	**Markates**	**66.04 303**	P		**P**		**08 41 00.8**	**-0.1**
VAY	**Valandovo**	**66.06 306**	*i* P		**P**		**08 41 01.1**	**+0.1**
VLY	**Voula,Athens**	**66.12 302**	P		**P**		**08 41 00.1**	**-1.3**
LANS	**Liptovska Anna**	**66.13 314**	*e*P		**P**		**08 41 03.0**	**+1.6**
LANS	**Liptovska Anna**	**66.13 314**	*e*P		**P**		**08 41 03.0**	**+1.6**
XOR	**Xorichti**	**66.15 303**	P		**P**		**08 41 00.4**	**-1.2**
PSZ	**Piszkesteto**	**66.17 313**	P		**P**		**08 41 02.7**	**+1.1**
PSZ			pmax		pmax			
	comp=Z,190nm,1.5s							
PSZ			MLR		MLR			
	comp=Z,17µm,22.0s							
PSZ	**Piszkesteto**	**66.17 313**	P		**P**		**08 41 02.7**	**+1.1**
PSZ			IAmb		IAmb		08 41 09.9	
	comp=Z,190nm,1.5s							
PSZ			IAMs_20		IAMs_20		09 11 31.4	
	comp=Z,17µm,22.0s							
STIP	**Stip**	**66.24 306**	*i* P		**P**		**08 41 00.2**	**-1.9**
ANM	**Nome**	**66.27 28**	P		**P**		**08 41 02.8**	**+0.9**
ANM			pmax		pmax			
	comp=Z,238nm,1.6s							
ANM			MLR		MLR			
	comp=Z,19µm,20.0s							
ANM	**Nome**	**66.27 28**	P		**P**		**08 41 02.8**	**+0.9**
ANM			IAmb		IAmb		08 41 08.7	
	comp=Z,238nm,1.6s							
ANM			IAMs_20		IAMs_20		09 14 24.9	
	comp=Z,19µm,20.0s							
NSS	**Namsos**	**66.40 332**	*e*P		**P**		**08 41 02.0**	**-0.7**
NSS			IVmB_BB				08 41 09.4	
	comp=Z,884nm,1.7s							
NSS			*e*S		**S**		**08 49 50.5**	**-1.6**
NSS			IVMs_BB		IVMs_BB		09 10 22.1	
	comp=Z,7µm,13.1s							
VILL	**Villia**	**66.40 302**	P		**P**		**08 41 01.9**	**-1.4**
RDOG	**Red Dog Mine**	**66.41 24**	P		**P**		**08 41 02.2**	**-0.5**
RDOG			IAmb		IAmb		08 41 09.0	
	comp=Z,171nm,1.6s							
LKR	**Lokris**	**66.50 303**	P		**P**		**08 41 02.1**	**-1.7**
VAM	**Vamos**	**66.53 299**	P		**P**		**08 41 03.7**	**-0.4**
DID	**Didima**	**66.65 301**	P		**P**		**08 41 02.3**	**-2.5**
IMMV	**Iera Moni Meta**	**66.68 299**	P		**P**		**08 41 05.7**	**+0.6**
SKO	**Skopje**	**66.70 306**	*i* P		**P**		**08 41 08.4**	**+0.4**
RAC	**Raciborz**	**66.70 316**	*e*P		**P**		**08 41 06.5**	**+1.6**
RAC			*e*S		**S**		**08 49 57.0**	**+0.8**
RAC			MLR		MLR			
	comp=Z,29µm,22.1s							
VYHS	**Vyhne**	**66.71 314**	*e*P		**P**		**08 41 04.1**	**-0.9**
VYHS			pmax		pmax			
	comp=Z,91nm,1.1s							
VYHS	**Vyhne**	**66.71 314**	*e*P		**P**		**08 41 04.1**	**-0.9**
VYHS			*e*S		**S**		**08 49 57.2**	**+0.8**
VYHS			*e*L		L		09 11 18.0	
KRND	**KRANIDI**	**66.75 301**	P		**P**		**08 41 04.3**	**-1.1**
GVDS	**Gavdos**	**66.78 298**	P		**P**		**08 41 05.6**	**-0.1**
GVD	**Gavdhos**	**66.79 299**	P		**P**		**08 41 05.9**	**+0.2**
OKC	**Ostrava-Krasne**	**66.79 315**	*e*P		**P**		**08 41 06.0**	**+0.5**
OKC			*e*				08 41 09.8	
OKC			MLR		MLR			
	comp=Z,2µm,13.4s							
OKC	**Ostrava-Krasne**	**66.79 315**	*e*P		**P**		**08 41 06.0**	**+0.5**
OKC			*e*pP		**pP**		**08 41 09.8**	**-0.9**
OKC			AMS		AMS		09 10 50.0	
	comp=Z,2µm,13.4s							
RODP	**Rodopos**	**66.83 299**	P		**P**		**08 41 05.6**	**-0.4**
AGG	**Agios Georgios**	**66.89 303**	P		**P**		**08 41 05.2**	**-1.1**
AGG	**Agios Georgios**	**66.89 303**	P		**P**		**08 41 05.5**	**-0.9**
AGG			pmax		pmax			
	comp=Z,231nm,1.4s							
AGG			MLR		MLR			
	comp=Z,8µm,22.0s							
AGG	**Agios Georgios**	**66.89 303**	P		**P**		**08 41 05.5**	**-0.9**
DSF	**Desfina**	**66.92 303**	P		**P**		**08 41 07.6**	**+1.0**
KZN	**Kozani**	**66.93 305**	P		**P**		**08 41 06.1**	**-0.6**
FRGS	**Fruska Gora**	**66.95 310**	*e*P		**P**		**08 41 05.5**	**-1.2**
THL	**Klokotos Trika**	**66.96 304**	P		**P**		**08 41 05.4**	**-1.4**
KNDR	**Palaiochora Ch**	**66.98 299**	P		**P**		**08 41 07.6**	**+0.7**
FNA	**Florina**	**67.08 305**	P		**P**		**08 41 06.9**	**-0.7**
FNA	**Florina**	**67.08 305**	P		**P**		**08 41 05.5**	**-2.1**
FNA			pmax		pmax			
	comp=Z,73nm,0.8s							
FNA			MLR		MLR			
	comp=Z,11µm,21.0s							
FNA	**Florina**	**67.08 305**	P		**P**		**08 41 05.5**	**-2.1**
FNA			IAmb		IAmb		08 41 13.5	
	comp=Z,73nm,0.8s							
VLI	**Veliai**	**67.11 301**	P		**P**		**08 41 06.0**	**-1.8**
DIVS	**Divibare**	**67.12 309**	⇓*i* P		**P**		**08 41 06.5**	**-1.3**
DIVS	**Divibare**	**67.12 309**	P		**P**		**08 41 06.9**	**-0.9**
DIVS			IAmb		IAmb		08 41 15.5	
	comp=Z,61nm,0.8s							
KTHA	**Kythira Island**	**67.15 300**	P		**P**		**08 41 05.9**	**-2.2**
MORC	**Moravsky Berou**	**67.19 315**	⇓P		**P**		**08 41 09.0**	**+0.9**
MORC	**Moravsky Berou**	**67.19 315**	*e*P		**P**		**08 41 08.5**	**+0.4**
MORC			*e*S		**S**		**08 50 04.5**	**+2.2**
MORC	**Moravsky Berou**	**67.19 315**	P		**P**		**08 41 08.7**	**+0.6**
MORC			pmax		pmax			
	comp=Z,71nm,1.0s							
MORC			MLR		MLR			
	comp=Z,19µm,20.0s							
MORC	**Moravsky Berou**	**67.19 315**	P		**P**		**08 41 08.7**	**+0.6**
MORC			IAmb		IAmb		08 41 16.4	
	comp=Z,71nm,1.0s							
MORC			IAMs_20		IAMs_20		09 11 10.2	
	comp=Z,19µm,20.0s							
GUR	**Goura**	**67.20 302**	P		**P**		**08 41 06.7**	**-1.7**
BBOO	**Buckleboo**	**67.28 151**	P		**P**		**08 41 08.5**	**-0.2**
BBOO			IAmb		IAmb		08 41 12.9	
	comp=Z,74nm,0.8s							
EVR	**Evrytania**	**67.31 303**	P		**P**		**08 41 08.3**	**-0.8**
KLV	**Kalavryta, Ach**	**67.31 302**	P		**P**		**08 41 07.2**	**-1.9**
TEKS	**Tekeris**	**67.32 310**	*e*P		**P**		**08 41 09.1**	**+0.1**
ANX	**Ano Chora**	**67.32 303**	P		**P**		**08 41 08.2**	**-1.0**
BSD	**Bornholm Skovb**	**67.32 322**	*i* P		**P**		**08 41 07.7**	**-1.0**
BSD			*i* S		**S**		**08 50 01.9**	**-1.6**
	comp=Z,23µm,16.0s							
BSD	**Bornholm Skovb**	**67.32 322**	*i* P		**P**		**08 41 07.7**	**-1.0**
BSD			*i* S		**S**		**08 50 01.9**	**-1.6**
BSD			MLR		MLR			
	comp=Z,23µm,16.0s							
BSD	**Bornholm Skovb**	**67.32 322**	*i* P		**P**		**08 41 07.7**	**-1.0**
BSD			*i* S		**S**		**08 50 01.9**	**-1.6**
BSD			IAMs_20		IAMs_20		09 12 37.2	
	comp=Z,23µm,15.5s							
KPRO	**Kipourio**	**67.33 304**	P		**P**		**08 41 08.3**	**-0.9**
VLX	**Vlachokerasia**	**67.34 301**	P		**P**		**08 41 07.7**	**-1.6**
JAVC	**Velka Javorina**	**67.35 314**	*e*P		**P**		**08 41 10.7**	**+1.5**
JAVC			*e*S		**S**		**08 50 04.1**	**-0.2**
NC405	**NORSAR Array S**	**67.37 328**	P		**P**		**08 41 06.9**	**-2.1**
NOR	**Nord**	**67.40 352**	*i* P		**P**		**08 41 08.1**	**-0.7**
NOR			*i* S		**S**		**08 50 01.0**	**-2.8**
	comp=Z,28µm,19.0s							
NOR	**Nord**	**67.40 352**	*i* P		**P**		**08 41 08.1**	**-0.7**
NOR			*i* S		**S**		**08 50 01.0**	**-2.8**
NOR			MLR		MLR			
	comp=Z,29µm,19.0s							
NOR	**Nord**	**67.40 352**	*i* P		**P**		**08 41 08.2**	**-0.7**
NOR			*i* S		**S**		**08 50 01.1**	**-2.8**
NOR			IAMs_20		IAMs_20		09 12 16.2	
	comp=Z,29µm,18.6s							
OHR	**Ohrid**	**67.40 306**	*i* P		**P**		**08 41 09.1**	**-0.6**
PENT	**Pentalofos**	**67.42 305**	P		**P**		**08 41 09.5**	**-0.3**
NEST	**Nestorio**	**67.42 305**	P		**P**		**08 41 09.2**	**-0.6**
MORH	**Mrgy, Hungar**	**67.45 312**	*e*P		**P**		**08 41 08.0**	**-1.7**
TBLU	**Trondheim**	**67.45 331**	*e*P		**P**		**08 41 08.6**	**-0.9**
TBLU			IVmB_BB				08 41 15.1	
	comp=Z,2µm,1.9s							
TBLU			*e*PP		**PP**		**08 43 37.0**	**-0.7**
TBLU			*e*S		**S**		**08 50 04.1**	**-0.8**
TBLU			*e*SS		**SS**		**08 54 26.2**	**+1.7**
TBLU			IVMs_BB		IVMs_BB		09 12 28.7	
	comp=Z,9µm,15.4s							
PHP	**Peshkopia**	**67.49 306**	P		**P**		**08 41 08.8**	**-1.4**
NC303	**NORSAR Array S**	**67.50 328**	*e*P		**P**		**08 41 09.4**	**-0.4**
NC303	**NORSAR Array S**	**67.50 328**	P		**P**		**08 41 09.3**	**-0.5**
IVA	**Berane**	**67.54 308**	⇑*i* P		**P**		**08 41 09.7**	**-0.8**
NC602	**NORSAR Array S**	**67.56 328**	*e*P		**P**		**08 41 10.6**	**+0.5**
NC602			IVmB_BB				08 41 16.1	
	comp=Z,1µm,3.3s							
NC602			*e*S		**S**		**08 50 04.2**	**-2.0**
NC602			*e*SS		**SS**		**08 54 26.2**	**+0.1**
NC602			IVMs_BB		IVMs_BB		09 11 32.4	
	comp=Z,6µm,11.9s							
NC602	**NORSAR Array S**	**67.56 328**	P		**P**		**08 41 08.7**	**-1.4**
PVY	**Plav**	**67.57 307**	⇓*i* P		**P**		**08 41 11.3**	**+0.5**
KRLC	**Kraliky**	**67.58 316**	*e*P		**P**		**08 41 11.2**	**+0.6**
KRLC			*e*				08 41 18.6	
KRLC			*e*S		**S**		**08 50 06.1**	**-0.9**
KRLC			MLR		MLR			
	comp=Z,22µm,19.7s							
KRLC	**Kraliky**	**67.58 316**	*e*P		**P**		**08 41 11.2**	**+0.6**
KRLC			*ex*		x		08 41 18.6	
KRLC			*e*S		**S**		**08 50 06.1**	**-0.9**
KRLC			AMS		AMS		09 10 50.0	
	comp=Z,22µm,19.7s							
NB201	**NORSAR Array S**	**67.59 328**	P		**P**		**08 41 09.3**	**-1.1**
A21K	**Barrow**	**67.59 20**	P		**P**		**08 41 10.1**	**-0.1**
	baz=288							
A21K			S		**S**		**08 50 03.6**	**-2.7**
	baz=288							
BBLS	**Lazići**	**67.59 309**	⇓*i* P		**P**		**08 41 09.7**	**-1.1**
SMOL	**Smolenice**	**67.60 314**	*e*P		**P**		**08 41 11.6**	**+0.9**
SMOL			pmax		pmax			
	comp=Z,40nm,1.3s							
SMOL	**Smolenice**	**67.60 314**	*e*P		**P**		**08 41 11.6**	**+0.9**
NB2	**NORSAR Subarra**	**67.63 328**	P		**P**		**08 41 08.0**	**-2.6**
	comp=Z,201nm,1.2s,baz=74,slow=6.5							
NB2	**NORSAR Subarra**	**67.63 328**	P		**P**		**08 41 08.0**	**-2.6**
	baz=74,slow=6.5							
NOA	**NORSAR Array B**	**67.63 328**	P		**P**		**08 41 08.2**	**-2.4**
	comp=Z,19nm,0.6s,baz=74,slow=6.4,SNR=124							
NOA			LR		LR		09 11 13.3	
	comp=Z,16µm,21.2s,baz=85,slow=36							
KSP	**Ksiaz**	**67.67 317**	*e*P		**P**		**08 41 11.8**	**+0.8**
KSP			*e*S		**S**		**08 50 08.5**	**+0.6**
KSP			*e*L		L		09 11 14.7	
	comp=Z,17µm,20.2s							
DRO	**Drossia**	**67.67 302**	P		**P**		**08 41 10.8**	**-0.5**
RUDO	**Rudo**	**67.69 309**	*e*P		**P**		**08 41 10.6**	**-0.7**
MODS	**Modra-Piesok**	**67.74 314**	*e*P		**P**		**08 41 10.9**	**-0.7**
MODS			pmax		pmax			
	comp=Z,79nm,1.3s							
MODS	**Modra-Piesok**	**67.74 314**	*e*P		**P**		**08 41 10.9**	**-0.7**
MODS			*e*S		**S**		**08 50 08.5**	**-0.4**
MODS			*e*L		L		09 11 49.5	
ITM	**Ithomi**	**67.74 301**	P		**P**		**08 41 10.0**	**-1.8**
PLE	**Pljevlja**	**67.76 308**	⇑*i* P		**P**		**08 41 10.8**	**-1.1**
NC204	**NORSAR Array S**	**67.77 329**	P		**P**		**08 41 09.5**	**-2.1**
DPC	**Dobruska-Polom**	**67.79 316**	*e*P		**P**		**08 41 12.8**	**+0.9**
DPC			*e*S		**S**		**08 50 04.1**	**-5.3**
DPC			MLR		MLR			
	comp=Z,24µm,19.6s							
DPC	**Dobruska-Polom**	**67.79 316**	*e*P		**P**		**08 41 12.8**	**+0.9**
DPC			*e*S		**S**		**08 50 04.1**	**-5.3**
DPC			AMS		AMS		09 11 00.0	
	comp=Z,24µm,19.6s							
OSTC	**Ostas**	**67.79 317**	*e*P		**P**		**08 41 12.9**	**+1.0**
OSTC			*e*S		**S**		**08 50 06.6**	**-2.9**
OSTC			AMS		AMS		09 11 00.0	
	comp=Z,20µm,19.1s							
AMT	**Artemida-Makis**	**67.80 302**	P		**P**		**08 41 11.0**	**-1.1**
KOME	**Kolasin**	**67.81 308**	⇑*i* P		**P**		**08 41 12.2**	**0.0**
NBO00	**NORSAR Array S**	**67.83 328**	P		**P**		**08 41 11.4**	**-0.5**
NBO00			IAmb		IAmb		08 41 19.1	
	comp=Z,201nm,1.2s							
NAO01	**NORSAR Array S**	**67.83 328**	P		**P**		**08 41 10.0**	**-1.9**
NAO01			IAmb		IAmb		08 41 18.1	
	comp=Z,127nm,0.9s							
CHVC	**Chvalec**	**67.88 317**	*e*P		**P**		**08 41 12.7**	**+0.3**
CHVC			*ex*		x		08 41 17.4	
CHVC			AMS		AMS		09 11 00.0	
	comp=Z,18µm,19.4s							
VRAC	**Vranov**	**67.91 315**	⇑P		**P**		**08 41 13.3**	**+0.7**
VRAC	**Vranov**	**67.91 315**	*e*P		**P**		**08 41 13.4**	**+0.8**
VRAC			*e*S		**S**		**08 50 12.9**	**+2.0**
UPC	**Upice**	**67.93 317**	*e*P		**P**		**08 41 13.6**	**+0.9**
UPC			*e*				08 41 21.8	
UPC			*e*S		**S**		**08 50 06.3**	**-4.8**
UPC			MLR		MLR			
	comp=Z,21µm,20.4s							
UPC	**Upice**	**67.93 317**	*e*P		**P**		**08 41 13.6**	**+0.9**
UPC			*ex*		x		08 41 21.8	
UPC			*e*S		**S**		**08 50 06.3**	**-4.8**
UPC			AMS		AMS		09 11 00.0	
	comp=Z,21µm,20.4s							
PYL	**PYLOS**	**67.97 301**	P		**P**		**08 41 11.6**	**-1.6**
TIR	**Tirane**	**68.01 306**	P		**P**		**08 41 13.1**	**-0.2**
TIR	**Tirane**	**68.01 306**	P		**P**		**08 41 12.6**	**-0.8**
TIR			pmax		pmax			
	comp=Z,154nm,0.8s							
TIR			MLR		MLR			
	comp=Z,8µm,20.0s							
TIR	**Tirane**	**68.01 306**	P		**P**		**08 41 12.6**	**-0.8**
KRUC	**Moravsky**	**68.10 315**	*e*P		**P**		**08 41 14.5**	**+0.7**
KRUC			*e*S		**S**		**08 50 12.6**	**-0.6**
PDG	**Podgorica**	**68.12 307**	⇑P		**P**		**08 41 13.1**	**-0.9**
PDG	**Podgorica**	**68.12 307**	*e*P		**P**		**08 41 12.8**	**-1.2**
PDG	**Podgorica**	**68.12 307**	P		**P**		**08 41 11.6**	**-2.4**
PDG			IAmb		IAmb		08 41 22.8	
	comp=Z,147nm,1.1s							
TTG	**Podgorica**	**68.12 307**	⇓*i* P		**P**		**08 41 13.6**	**-0.4**
UPM	**Unac-Piva**	**68.14 308**	⇓*i* P		**P**		**08 41 14.3**	**-0.1**
UPM	**Unac-Piva**	**68.14 308**	*e*P		**P**		**08 41 13.8**	**-0.6**
OSL	**Oslo**	**68.17 327**	*e*P		**P**		**08 41 13.4**	**-0.6**
OSL			*e*S		**S**		**08 50 13.6**	**+0.1**
OSL			*e*SS		**SS**		**08 54 36.8**	**+1.2**
OSL			IVMs_BB		IVMs_BB		09 13 55.5	
	comp=Z,5µm,14.6s							
NKY	**Niksic**	**68.19 308**	⇓*i* P		**P**		**08 41 14.4**	**-0.2**
LKD2	**Lefkada island**	**68.20 303**	P		**P**		**08 41 12.8**	**-1.9**
IGT	**Igoumenitsa**	**68.22 304**	P		**P**		**08 41 12.7**	**-2.0**
DRME	**Dracevica, Mon**	**68.24 307**	⇑*i* P		**P**		**08 41 14.9**	**+0.1**
DRME	**Dracevica, Mon**	**68.24 307**	*e*P		**P**		**08 41 12.7**	**-2.1**
ULC	**Ulcinj**	**68.27 307**	⇑*i* P		**P**		**08 41 14.4**	**-0.6**
CEME	**Cevo**	**68.32 308**	⇑*i* P		**P**		**08 41 15.4**	**0.0**
DOMB	**Dombas**	**68.33 330**	*e*P		**P**		**08 41 14.6**	**-0.5**
DOMB			IVmB_BB				08 41 21.3	
	comp=Z,1µm,2.3s							
DOMB			*e*S		**S**		**08 50 15.6**	**+0.1**
DOMB			*e*SS		**SS**		**08 54 36.5**	**-1.6**
DOMB			IVMs_BB		IVMs_BB		09 12 39.9	
	comp=Z,10µm,19.7s							
RGN	**Rugen**	**68.36 321**	*e*P		**P**		**08 41 17.8**	**+2.5**
BUM	**Brajici-Budva**	**68.41 307**	⇑*i* P		**P**		**08 41 15.9**	**-0.1**
BRY	**Bratogost**	**68.48 308**	⇑*i* P		**P**		**08 41 16.2**	**-0.3**
BRY	**Bratogost**	**68.48 308**	*e*P		**P**		**08 41 15.7**	**-0.8**
UNV	**Unalaska Valle**	**68.53 40**	P		**P**		**08 41 17.3**	**+1.0**
UNV			IAmb		IAmb		08 41 20.5	
	comp=Z,108nm,1.2s							
UNV			IAMs_20		IAMs_20		09 10 34.2	
	comp=Z,23µm,22.0s							
KEK	**Kerkira**	**68.55 305**	P		**P**		**08 41 15.6**	**-1.2**
TREC	**Trest**	**68.61 315**	*e*P		**P**		**08 41 15.9**	**-1.1**
TREC			*e*S		**S**		**08 50 10.4**	**-8.8**
TREC			MLR		MLR			
	comp=Z,22µm,17.8s							
TREC	**Trest**	**68.61 315**	*e*P		**P**		**08 41 15.9**	**-1.1**
TREC			*e*S		**S**		**08 50 10.4**	**-8.8**
TREC			AMS		AMS		09 12 00.0	
	comp=Z,22µm,17.8s							
BEHE	**Becsehely**	**68.61 312**	*e*P		**P**		**08 41 12.3**	**-4.8**
HCY	**Herceg Novi**	**68.65 308**	⇑*i* P		**P**		**08 41 17.6**	**+0.2**
HCY	**Herceg Novi**	**68.65 308**	*e*P		**P**		**08 41 16.7**	**-0.7**
TREB	**Trebinje**	**68.67 308**	*e*P		**P**		**08 41 15.8**	**-1.7**
RUE	**Ruedersdorf**	**68.70 319**	*e*P		**P**		**08 41 18.5**	**+1.1**
CONA	**Conrad Observa**	**68.77 314**	*e*P		**P**		**08 41 18.4**	**+0.2**
	comp=Z,62nm,1.0s,SNR=43							
CONA			S		**S**		**08 50 18.7**	**-2.7**
	comp=Z,4.0nm,1.6s							
KONO	**Kongsberg**	**68.80 327**	*ce*P		**P**		**08 41 17.6**	**-0.3**
KONO			pmax		pmax			
	comp=Z,85nm,1.3s							
KONO			MLR		MLR			
	comp=Z,13µm,20.0s							
KONO	**Kongsberg**	**68.80 327**	*e*P		**P**		**08 41 17.7**	**-0.2**
KONO			IVmB_BB				08 41 24.1	
	comp=Z,1µm,1.8s							
KONO			*e*S		**S**		**08 50 21.4**	**+0.4**
KONO			*e*SS		**SS**		**08 54 48.3**	**+3.0**
KONO			IVMs_BB		IVMs_BB		09 15 01.9	
	comp=Z,5µm,12.3s							
KONO	**Kongsberg**	**68.80 327**	P		**P**		**08 41 17.8**	**-0.2**
KONO			IAmb		IAmb		08 41 24.4	
	comp=Z,82nm,1.1s							
KONO	**Kongsberg**	**68.80 327**	IAMs_20		IAMs_20		09 13 57.4	
	comp=Z,14µm,20.0s							
PVCC	**Panska Ves**	**68.81 317**	*e*P		**P**		**08 41 19.2**	**+1.0**
PVCC			*e*S		**S**		**08 50 17.0**	**-4.5**
PVCC			MLR		MLR			
	comp=Z,16µm,18.9s							
PVCC	**Panska Ves**	**68.81 317**	*e*P		**P**		**08 41 19.2**	**+1.0**
PVCC			*e*S		**S**		**08 50 17.0**	**-4.5**
PVCC			AMS		AMS		09 12 20.0	
	comp=Z,16µm,18.9s							
MOL	**Molde**	**68.84 330**	*e*P		**P**		**08 41 18.6**	**+0.5**
MOL			IVmB_BB				08 41 25.0	
	comp=Z,2µm,2.3s							
MOL			*e*S		**S**		**08 50 21.8**	**+0.3**
MOL			*e*SS		**SS**		**08 54 45.2**	**-0.7**
MOL			IVMs_BB		IVMs_BB		09 11 43.9	
	comp=Z,10µm,16.3s							
BLY	**Banja Luka**	**68.86 310**	*e*P		**P**		**08 41 16.9**	**-1.7**
GOPC	**GO Pecny, Ondr**	**68.86 316**	*e*P		**P**		**08 41 19.4**	**+0.9**
GOPC			*e*S		**S**		**08 50 18.1**	**-4.1**
GOPC			MLR		MLR			
	comp=Z,24µm,19.4s							
GOPC	**GO Pecny, Ondr**	**68.86 316**	*e*P		**P**		**08 41 19.4**	**+0.9**
GOPC			*e*S		**S**		**08 50 18.1**	**-4.1**
GOPC			AMS		AMS		09 11 40.0	
	comp=Z,24µm,19.4s							
AKUT	**Akutan**	**68.86 39**	P		**P**		**08 41 19.6**	**+1.2**
AKUT			IAMs_20		IAMs_20		09 10 56.8	
	comp=Z,24µm,21.0s							
KOGS	**Kog**	**68.97 312**	*e*P		**P**		**08 41 19.5**	**+0.3**
KOGS			*e*S		**S**		**08 50 23.4**	**-0.1**
KOGS			*e*				08 58 23.7	
PRU	**Pruhonice**	**68.99 316**	*e*P		**P**		**08 41 20.0**	**+0.7**
PRU			*e*S		**S**		**08 50 19.7**	**-3.9**
PRU			MLR		MLR			
	comp=Z,21µm,19.8s							
PRU	**Pruhonice**	**68.99 316**	*e*P		**P**		**08 41 20.0**	**+0.7**
PRU			*e*S		**S**		**08 50 19.7**	**-3.9**
PRU			AMS		AMS		09 11 40.0	
	comp=Z,21µm,19.8s							
MGRS	**Mrkonjic Grad**	**69.03 310**	*e*P		**P**		**08 41 17.5**	**-2.2**
PRA	**Prague**	**69.03 316**	*e*P		**P**		**08 41 22.2**	**+2.6**
PRA			*e*S		**S**		**08 50 17.6**	**-6.5**
PRA			MLR		MLR			
	comp=Z,10µm,20.1s							
PRA	**Prague**	**69.03 316**	*e*P		**P**		**08 41 22.2**	**+2.6**
PRA			*e*S		**S**		**08 50 17.6**	**-6.5**
PRA			AMS		AMS		09 11 40.0	
	comp=Z,10µm,20.1s							
BRG	**Berggiesshubel**	**69.08 317**	*i* P		**P**		**08 41 20.3**	**+0.3**
	comp=Z,61nm,0.8s							
BRG			PCP		**PcP**		**08 41 46.3**	**+2.4**
	comp=Z,132nm,1.7s							
BRG			PP		**PP**		**08 43 52.0**	**-0.2**
	comp=Z,38nm,1.6s							
BRG			*e*				08 45 42.0	
BRG			S		**S**		**08 50 23.0**	**-1.8**
BRG			SS		**SS**		**08 54 46.0**	**-4.2**
BRG			SSS		SSS		08 58 07.0	
	comp=Z,20µm,18.7s							
	comp=N,16µm,17.3s							
	comp=E,16µm,17.3s							
BRG	**Berggiesshubel**	**69.08 317**	*e*P		**P**		**08 41 20.2**	**+0.3**
	comp=E,156nm,1.6s,baz=70,slow=6.0							
SKAR	**Skarslia**	**69.09 328**	*e*P		**P**		**08 41 20.5**	**+0.7**
SKAR			IVmBBB				08 41 28.1	
	comp=Z,2µm,2.0s							
SKAR			*e*S		**S**		**08 50 26.7**	**+2.0**
SKAR			*e*SS		**SS**		**08 54 51.9**	**+1.8**
SKAR			IVMs_BB		IVMs_BB		09 13 01.5	
	comp=Z,8µm,16.8s							
STKA	**Stephens Creek**	**69.11 146**	P		**P**		**08 41 19.2**	**-1.0**
	comp=Z,25nm,0.6s,baz=320,slow=6.4,SNR=37							
STKA			PP		**PP**		**08 43 50.1**	**-3.2**
	comp=Z,17nm,0.9s,baz=336,slow=7.4,SNR=3.6							
STKA			PKP2ab				09 09 32.1	
	comp=Z,4.8nm,1.1s,baz=27,slow=8.7,SNR=3.1							
STKA			LR		LR		09 15 04.6	
	comp=Z,8µm,21.3s,baz=310,slow=39							
STKA	**Stephens Creek**	**69.11 146**	P		**P**		**08 41 20.1**	**-0.1**
STKA			pmax		pmax			
	comp=Z,9.0nm,0.9s							
STKA			MLR		MLR			
	comp=Z,2µm,21.0s							
STKA	**Stephens Creek**	**69.11 146**	P		**P**		**08 41 20.1**	**-0.1**
ARSA	**Arzberg**	**69.20 313**	*e*P		**P**		**08 41 20.8**	**0.0**
	comp=Z,28nm,0.9s,SNR=19							
ARSA			S		**S**		**08 50 26.5**	**+0.2**
	comp=Z,5.3nm,1

KHC AMS AMS 09 12 30.0
comp=Z,27µm,21.6s
KHC Kasperske Hory 69.85 316 P **P** **08 41 25.0 +0.3**
GEC2 GERESS Array S 69.86 315 *e*P **P** **08 41 25.3 +0.4**
comp=Z,120nm,1.4s,baz=70,slow=6.0
GEC2 GERESS Array S 69.86 315 P **P** **08 41 25.0 +0.1**
GERES GERESS Array B 69.86 315 P **P** **08 41 23.2 -1.7**
comp=Z,16nm,0.6s,baz=79,slow=6.9,SNR=102
GERES S **S** **08 50 38.5 +4.2**
comp=Z,0.6nm,0.9s,baz=69,slow=14,SNR=1.3
GERES LR LR 09 13 10.8
comp=Z,26µm,20.3s,baz=69,slow=37
HYA Hoyanger 69.91 329 *e*P **P** **08 41 24.4 -0.4**
HYA *e*S **S** **08 50 34.6 +0.5**
FALS False Pass 69.94 38 IAMs_20 IAMs_20 09 12 00.4
comp=Z,17µm,20.0s
MUD Monsted U'grnd 70.02 324 *i* P **P** **08 41 25.5 0.0**
comp=Z,22µm,19.0s
MUD Monsted U'grnd 70.02 324 *i* P **P** **08 41 25.5 0.0**
MUD MLR MLR
comp=Z,22µm,19.0s
MUD Monsted U'grnd 70.02 324 *i* P **P** **08 41 25.5 0.0**
MUD IAMs_20 IAMs_20 09 12 28.5
comp=Z,22µm,18.8s
OBKA Obir 70.06 313 *e*P **P** **08 41 26.3 +0.1**
comp=Z,21nm,0.7s,SNR=19
OBKA S **S** **08 50 35.4 -1.3**
comp=Z,4.9nm,1.2s
TANN Tannenbergstha 70.12 317 *e*P **P** **08 41 26.7 +0.3**
comp=Z,230nm,1.4s,baz=70,slow=6.0
ODD1 Odda 70.14 328 *e*P **P** **08 41 29.3 +3.0**
ODD1 *e* 08 50 44.1
NKC Novy Kostel 70.19 317 *e*P **P** **08 41 27.0 +0.2**
NKC *e*S **S** **08 50 31.4 -6.5**
NKC MLR MLR
comp=Z,22µm,18.1s
NKC Novy Kostel 70.19 317 *e*P **P** **08 41 27.0 +0.2**
NKC *e*S **S** **08 50 31.4 -6.5**
NKC AMS AMS 09 13 20.0
comp=Z,22µm,18.1s
WERN Wernitzgruen 70.22 317 *e*P **P** **08 41 27.5 +0.6**
comp=Z,107nm,1.1s,baz=70,slow=6.0
GUNZ Gunzen 70.22 317 *e*P **P** **08 41 27.4 +0.5**
comp=Z,103nm,1.1s,baz=70,slow=6.0
BSEG Bad Segeberg 70.23 321 *e*P **P** **08 41 27.7 +0.9**
comp=Z,188nm,1.1s,baz=70,slow=6.0
LJU Ljubljana 70.23 312 *e*P **P** **08 41 26.9 -0.2**
LJU *e* 08 45 57.0
LJU *e*S **S** **08 50 37.4 -1.0**
LJU *e* 08 58 41.4
LJU Ljubljana 70.23 312 *e*P **P** **08 41 26.9 -0.2**
FOO Floro 70.28 330 *e*P **P** **08 41 27.0 0.0**
FOO IVmB_BB 08 41 30.6
comp=Z,968nm,2.1s
FOO *e*S **S** **08 50 37.9 -0.4**
FOO *e*SS **SS** **08 55 09.5 +1.5**
FOO IVMs_BB IVMs_BB 09 14 16.6
comp=Z,9µm,14.9s
NEUB Neuenburg 70.28 318 *e*P **P** **08 41 27.3 +0.1**
comp=Z,285nm,1.4s,baz=70,slow=6.0
PLN Plauen 70.28 317 *e*P **P** **08 41 27.4 0.0**
comp=Z,114nm,1.5s,baz=70,slow=6.0
BLS5 Blasjo 70.39 327 *e*P **P** **08 41 28.1 +0.3**
BLS5 *e*S **S** **08 50 39.4 -0.5**
BLS5 *e*SS **SS** **08 55 08.9 -1.0**
BLS5 IVMs_BB IVMs_BB 09 11 08.7
comp=Z,6µm,17.6s
SNART Snartemo 70.39 326 *e*P **P** **08 41 27.3 -0.5**
SNART *e*S **S** **08 50 38.5 -1.3**
SNART *e*SS **SS** **08 55 12.3 +2.4**
SNART Snartemo 70.39 326 *i* P **P** **08 41 27.8 0.0**
CEY Cerknica 70.39 312 *e*P **P** **08 41 26.2 -1.9**
ROTZ Rotzenmuhle 70.49 317 *e*P **P** **08 41 29.4 +0.8**
comp=Z,170nm,1.0s,baz=70,slow=6.0
MATE Matera 70.50 306 ⇓P **P** **08 41 27.7 -1.0**
DAG Danmarks Havn 70.50 348 *i* P **P** **08 41 26.8 -1.3**
comp=Z,18µm,18.0s
DAG Danmarks Havn 70.50 348 *i* P **P** **08 41 26.8 -1.3**
DAG MLR MLR
comp=Z,19µm,18.0s
DAG Danmarks Havn 70.50 348 *i* P **P** **08 41 26.9 -1.3**
DAG *i* S **S** **08 50 34.1 -6.5**
DAG IAMs_20 IAMs_20 09 15 58.2
comp=Z,19µm,17.8s
MOX Moxa 70.56 318 *e*P **P** **08 41 29.3 +0.3**
comp=Z,120nm,1.3s,baz=70,slow=6.0
MOX *e*L L 09 14 57.4
comp=Z,14µm,21.6s
BER Bergen 70.58 329 *e*P **P** **08 41 28.3 -0.6**
BER IVmB_BB 08 41 29.3
comp=Z,2µm,2.1s
BER *e*S **S** **08 50 42.0 +0.2**
BER *e*SS **SS** **08 55 15.9 +3.3**
BER IVMs_BB IVMs_BB 09 13 45.4
comp=Z,7µm,11.4s
SUE Sulen 70.60 329 *e*P **P** **08 41 28.6 -0.4**
SUE *e*S **S** **08 50 43.4 +1.3**
SUE *e*SS **SS** **08 55 10.8 -2.1**
SUE IVMs_BB IVMs_BB 09 13 59.7
comp=Z,8µm,18.2s
ASK Askoy 70.61 329 *e*P **P** **08 41 29.0 -0.1**
ASK *e*S **S** **08 50 45.1 +2.9**
MYKA Terra Mystica 70.62 313 *i* P **P** **08 41 28.9 -0.6**
comp=Z,14nm,0.6s,SNR=18
ASSE Asse, Remlinge 70.62 319 *e*P **P** **08 41 29.4 +0.2**
comp=Z,106nm,1.4s,baz=70,slow=6.0
KBA Koelnbreinsper 70.66 314 *e*P **P** **08 41 29.5 -0.4**
comp=Z,37nm,0.6s,SNR=25
PRED Cave del Predi 70.73 313 P **P** **08 41 29.4 -0.8**
PRED IAMs_20 IAMs_20 09 13 40.0
comp=Z,16µm,22.0s
SKDS Skadanscina 70.73 312 *i* P **P** **08 41 30.2 0.0**
SKDS *e*S **S** **08 50 43.8 -0.5**
TTA Tatalina 70.73 28 P **P** **08 41 29.0 -0.9**
TTA pmax pmax
comp=Z,101nm,1.2s
TTA Tatalina 70.73 28 P **P** **08 41 29.0 -0.9**
TTA IAmb IAmb 08 41 38.5
comp=Z,101nm,1.2s
SGRT San Giovanni R 70.81 308 P **P** **08 41 29.3 -1.5**
NRDL Niedersach Rie 70.83 320 *e*P **P** **08 41 31.3 +0.8**
comp=Z,190nm,1.1s,baz=70,slow=6.0
TOLK Toolik Lake Re 70.85 22 P **P** **08 41 29.5 -1.0**
baz=296,SNR=49
TOLK S **S** **08 50 45.1 0.0**
baz=296
TOLK Toolik Lake Re 70.85 22 P **P** **08 41 29.6 -1.0**
TOLK IAmb IAmb 08 41 38.9
comp=Z,89nm,1.1s
CLZ Clausthal 70.89 319 *e*P **P** **08 41 31.5 +0.4**
comp=Z,151nm,1.0s,baz=70,slow=6.0
TIP Timpagrande 70.95 305 P **P** **08 41 29.9 -1.8**
TIP IAmb IAmb 08 41 41.2
comp=Z,156nm,1.3s
OPO Ambohidratompo 71.02 237 P **P** **08 41 31.0 -1.3**
comp=Z,34nm,0.9s,baz=55,slow=6.2,SNR=18
KMY Karmoy 71.04 327 *e*P **P** **08 41 32.3 +0.6**
KMY *e*S **S** **08 50 50.7 +3.4**
ZOU Zoufplan 71.08 313 P **P** **08 41 31.9 -0.6**
ZOU IAmb IAmb 08 41 41.0
comp=Z,124nm,1.4s
ZOU IAMs_20 IAMs_20 09 13 24.2
comp=Z,13µm,21.0s
GRA1 Grafenberg Arr 71.12 317 P **P** **08 41 32.6 +0.2**
GRA1 IAmb IAmb 08 41 41.1
comp=Z,201nm,1.3s
GRA1 IAMs_20 IAMs_20 09 13 51.1
comp=Z,17µm,19.0s
GRF Grafenberg Arr 71.12 317 P **P** **08 41 32.6 +0.2**
GRF pmax pmax
comp=Z,201nm,1.3s
GRF MLR MLR
comp=Z,17µm,19.0s
GRF Grafenberg Arr 71.12 317 *e*P **P** **08 41 33.1 +0.7**
comp=Z,200nm,1.3s,baz=70,slow=6.0
GRF *e*L L 09 14 58.0
comp=Z,15µm,21.6s
GTTG Gottingen 71.23 319 *e*P **P** **08 41 33.7 +0.6**
comp=Z,175nm,1.2s,baz=70,slow=6.0
COLD Coldfoot 71.25 23 P **P** **08 41 31.6 -1.3**
baz=296,SNR=89
COLD S **S** **08 50 50.7 +1.1**
baz=296
COLD Coldfoot 71.25 23 P **P** **08 41 31.8 -1.1**
COLD IAmb IAmb 08 41 39.6
comp=Z,120nm,1.2s
ABPO Ambohimpanom 71.26 236 P **P** **08 41 34.6 +0.7**
ABPO pmax pmax
comp=Z,65nm,1.2s
ABPO MLR MLR
comp=Z,16µm,18.0s
ABPO Ambohimpanom 71.26 236 P **P** **08 41 34.6 +0.7**
ABPO Ambohimpanom 71.26 236 IAMs_20 IAMs_20 09 12 43.2
comp=Z,16µm,18.0s
JMIC Jan Mayen 71.29 341 *e*P **P** **08 41 35.6 +2.5**
JMIC IVmB_BB 08 41 43.7
comp=Z,2µm,1.9s
JMIC *e*S **S** **08 50 49.3 -0.6**
JMIC *e*SS **SS** **08 55 26.5 +3.3**
JMIC IVMs_BB IVMs_BB 09 11 46.2
comp=Z,4µm,21.4s
ABTA Abfaltersbach 71.31 313 *i* P **P** **08 41 33.0 -0.7**
comp=Z,22nm,0.8s,SNR=25
ABTA *e*S **S** **08 50 49.8 -1.4**
comp=Z,14nm,1.4s
STAL STALIGIAL 71.35 313 P **P** **08 41 31.8 -2.2**
STAL IAmb IAmb 08 41 43.0
comp=Z,138nm,1.0s
SDPT Sand Point 71.37 37 P **P** **08 41 33.3 -0.5**
SDPT IAmb IAmb 08 41 38.6
comp=Z,168nm,1.3s
UBBA Unterbreizbach 71.47 318 *e*P **P** **08 41 34.7 +0.3**
comp=Z,239nm,1.9s,baz=70,slow=6.0
CIMO Cimolais 71.51 313 P **P** **08 41 34.1 -0.8**
CIMO IAmb IAmb 08 41 44.0
comp=Z,119nm,1.2s
CIMO IAMs_20 IAMs_20 09 19 04.6
comp=Z,12µm,19.0s
FUR Furstenfeldbru 71.61 315 *e*P **P** **08 41 36.2 +0.8**
comp=Z,306nm,1.0s,baz=70,slow=6.0
SVW2 Sparrevohn 71.62 30 P **P** **08 41 35.3 0.0**
WTTA Wattenberg 71.69 314 *i* P **P** **08 41 35.6 -0.6**
comp=Z,58nm,0.7s,SNR=54
WTTA *e*S **S** **08 50 54.2 -1.6**
comp=Z,15nm,1.2s
WATA Walderalm 71.71 314 *i* P **P** **08 41 35.5 -0.7**
comp=Z,67nm,1.2s,SNR=33
WATA *e*S **S** **08 50 53.8 -2.1**
comp=Z,16nm,1.6s
PAOL Paolisi 71.89 307 P **P** **08 41 37.1 -0.2**
CEL Celeste 71.90 304 P **P** **08 41 37.4 -0.1**
SQTA Sankt Quirin 71.98 314 *i* P **P** **08 41 36.9 -1.0**
comp=Z,76nm,0.5s,SNR=71
SQTA *e*S **S** **08 50 56.6 -2.4**
comp=Z,22nm,1.7s
MOTA Moosalm 72.01 314 *i* P **P** **08 41 37.3 -0.7**
comp=Z,62nm,0.7s,SNR=51
MOTA S **S** **08 50 58.1 -1.2**
comp=Z,14nm,1.5s
INTR Introdacqua 72.01 308 P **P** **08 41 37.0 -1.0**
INTR IAmb IAmb 08 41 50.9
comp=Z,168nm,1.3s
CNBA Chernabura Isl 72.03 37 P **P** **08 41 36.1 -1.7**
CNBA IAmb IAmb 08 41 43.3
comp=Z,252nm,1.2s
CNBA IAMs_20 IAMs_20 09 14 07.5
comp=Z,17µm,20.0s
CTI Castel Tesino 72.11 313 P **P** **08 41 38.5 -0.1**
CTI pmax pmax
comp=Z,102nm,1.2s
CTI MLR MLR
comp=Z,13µm,19.0s
CTI Castel Tesino 72.11 313 P **P** **08 41 38.5 -0.1**
CTI IAmb IAmb 08 41 45.6
comp=Z,102nm,1.2s
CTI IAMs_20 IAMs_20 09 18 31.7
comp=Z,13µm,19.0s
RETA Reutte 72.17 315 *i* P **P** **08 41 38.5 -0.4**
comp=Z,26nm,0.8s,SNR=28
RETA *e*S **S** **08 51 00.0 -1.0**
comp=Z,13nm,1.3s
AQU L'Aquila 72.24 309 P **P** **08 41 39.9 +0.5**
AQU pmax pmax
comp=Z,163nm,1.0s
AQU MLR MLR
comp=Z,18µm,21.0s
AQU L'Aquila 72.24 309 *e*P **P** **08 41 38.3 -1.1**
AQU L'Aquila 72.24 309 P **P** **08 41 39.9 +0.5**
AQU IAmb IAmb 08 41 49.6
comp=Z,162nm,1.0s
AQU IAMs_20 IAMs_20 09 15 50.3
comp=Z,18µm,21.0s
IBBN Ibbenburen 72.24 320 *e*P **P** **08 41 39.6 +0.5**
comp=Z,167nm,1.2s,baz=70,slow=6.0
NRCA Norcia 72.27 309 P **P** **08 41 39.1 -0.5**
NRCA IAmb IAmb 08 41 49.2
comp=Z,169nm,1.1s
BPAW Bear Paw Mtn. 72.32 26 P **P** **08 41 38.5 -0.9**
BPAW IAmb IAmb 08 41 46.0
comp=Z,142nm,0.8s
BPAW IAMs_20 IAMs_20 09 16 26.6
comp=Z,20µm,19.0s
DBG Daneborg 72.33 346 *i* P **P** **08 41 40.4 +1.1**
DBG IAMs_20 IAMs_20 09 13 00.0
comp=Z,24µm,22.6s
PPLA Purkeypile 72.35 28 P **P** **08 41 39.3 -0.4**
FETA Feichten 72.36 314 *i* P **P** **08 41 39.8 -0.4**
comp=Z,79nm,0.8s,SNR=63
FETA *e*S **S** **08 51 00.4 -3.0**
comp=Z,17nm,1.4s
UBR Ueberruh 72.52 315 *e*P **P** **08 41 41.0 0.0**
comp=Z,115nm,1.4s,baz=70,slow=6.0
MURB Monte Urbino 72.52 310 P **P** **08 41 40.7 -0.3**
TNS Taunus Mts 72.61 318 *e*P **P** **08 41 41.6 +0.2**
comp=Z,96nm,1.1s,baz=70,slow=6.0
STU Stuttgart 72.69 316 P **P** **08 41 41.7 -0.1**
STU pmax pmax
comp=Z,139nm,1.0s
STU MLR MLR
comp=Z,16µm,18.0s
STU Stuttgart 72.69 316 *e*P **P** **08 41 42.2 +0.4**
comp=Z,170nm,1.1s,baz=70,slow=6.0
STU Stuttgart 72.69 316 P **P** **08 41 41.7 -0.1**
STU IAmb IAmb 08 41 50.0
comp=Z,139nm,1.0s
STU IAMs_20 IAMs_20 09 14 11.6
comp=Z,16µm,18.0s
DAVA Damuels 72.80 315 *i* P **P** **08 41 41.2 -1.6**
comp=Z,50nm,1.4s,SNR=15
DAVA *e*S **S** **08 51 05.1 -3.3**
comp=Z,9.2nm,1.7s
FUORN Ofenpass-Fuorn 72.80 314 P **P** **08 41 40.9 -2.0**
FUORN IAmb IAmb 08 41 52.2
comp=Z,96nm,0.8s
FUORN IAMs_20 IAMs_20 09 16 24.9
comp=Z,15µm,20.0s
EUNU Eureka 72.81 2 IAMs_20 IAMs_20 09 17 53.0
comp=Z,19µm,19.0s
BUG Bochum--Univer 72.84 319 *e*P **P** **08 41 43.0 +0.3**
comp=Z,150nm,1.2s,baz=70,slow=6.0
NEA2 Nenana 72.84 26 P **P** **08 41 41.4 -1.1**
baz=297,SNR=193
NEA2 *e*S **S** **08 51 08.3 +0.3**
baz=297
TRF Thorofare Moun 72.89 27 P **P** **08 41 42.7 -0.3**
TRF IAmb IAmb 08 41 52.0
comp=Z,348nm,1.7s
TRF IAMs_20 IAMs_20 09 16 47.6
comp=Z,18µm,20.0s
MDM Murphy Dome 72.99 25 P **P** **08 41 42.4 -1.0**
SKT Skwentna 73.02 28 P **P** **08 41 42.2 -1.5**
SKT IAmb IAmb 08 41 49.6
comp=Z,209nm,1.2s
RSO Redoubt South 73.15 30 P **P** **08 41 44.5 -0.2**
ZCCA Zocca 73.17 312 P **P** **08 41 45.8 +1.0**
ZCCA IAMs_20 IAMs_20 09 16 04.7
comp=Z,19µm,22.0s
TCOL CIGO, UAF Yank 73.17 25 P **P** **08 41 43.4 -1.0**
baz=298,SNR=43
TCOL S **S** **08 51 11.2 -0.4**
baz=298
COLA College 73.18 25 P **P** **08 41 43.6 -0.8**
COLA pmax pmax
comp=Z,258nm,1.4s
COLA MLR MLR
comp=Z,19µm,22.0s
COLA College 73.18 25 P **P** **08 41 43.6 -0.8**
COLA IAmb IAmb 08 41 54.7
comp=Z,258nm,1.4s
COLA College 73.18 25 IAMs_20 IAMs_20 09 15 09.1
comp=Z,19µm,22.0s
POKR Poker Plat Res 73.22 25 P **P** **08 41 43.3 -1.4**
baz=299,SNR=37
POKR S **S** **08 51 12.3 0.0**
baz=299
LATE Laterza 73.25 310 P **P** **08 41 44.8 -0.6**
LATE IAmb IAmb 08 41 55.4
comp=Z,127nm,1.2s
WRH Wood River Hil 73.28 25 P **P** **08 41 44.6 -0.5**
WRH IAMs_20 IAMs_20 09 15 19.9
comp=Z,17µm,22.0s
MCK McKinley 73.30 26 P **P** **08 41 44.4 -0.8**
MCK pmax pmax
comp=Z,54nm,0.7s
MCK MLR MLR
comp=Z,27µm,18.0s
MCK McKinley 73.30 26 P **P** **08 41 44.4 -0.8**
OSSC Osservatorio P 73.30 311 P **P** **08 41 45.6 +0.1**
OSSC IAmb IAmb 08 41 54.5
comp=Z,161nm,1.3s
AHRW Bad Neuenahr-A 73.30 319 *e*P **P** **08 41 45.9 +0.5**
comp=Z,153nm,1.2s,baz=70,slow=6.0
CCB Clear Creek Bu 73.30 25 P **P** **08 41 43.4 -1.7**
CCB IAMs_20 IAMs_20 09 18 15.5
comp=Z,20µm,18.0s
CUT Chulitna 73.36 28 P **P** **08 41 44.8 -0.7**
baz=297,SNR=18
CUT S **S** **08 51 12.8 -1.1**
baz=297
BFO Black Forest 73.39 316 P **P** **08 41 45.9 -0.1**
BFO pmax pmax
comp=Z,123nm,1.2s
BFO MLR MLR
comp=Z,16µm,19.0s
BFO Black Forest 73.39 316 *e*P **P** **08 41 46.0 0.0**
comp=Z,156nm,1.3s,baz=70,slow=6.0
BFO Black Forest 73.39 316 P **P** **08 41 45.9 -0.1**
BFO IAmb IAmb 08 41 53.8
comp=Z,123nm,1.2s
BFO IAMs_20 IAMs_20 09 14 42.1
comp=Z,16µm,19.0s
TUE Stuetta 73.44 314 P **P** **08 41 46.5 -0.2**
TUE IAmb IAmb 08 41 58.7
comp=Z,154nm,1.1s
PRMA PARMA 73.46 312 IAMs_20 IAMs_20 09 15 55.3
comp=Z,13µm,21.0s
RND Reindeer 73.48 27 P **P** **08 41 44.7 -1.7**
RND pmax pmax
comp=Z,176nm,1.1s
RND MLR MLR
comp=Z,20µm,19.0s
RND Reindeer 73.48 27 P **P** **08 41 44.7 -1.7**
RND IAmb IAmb 08 41 53.9
comp=Z,176nm,1.1s
RND IAMs_20 IAMs_20 09 17 35.2
comp=Z,20µm,19.0s
ARMA Armidale 73.53 138 P **P** **08 41 49.2 +2.2**
IL31 73.59 25 P **P** **08 41 43.9 -2.9**
IL31 IAmb IAmb 08 41 55.3
comp=Z,134nm,1.4s
ILAR Eielson Array 73.59 25 P **P** **08 41 44.5 -2.3**
comp=Z,23nm,0.9s,baz=294,slow=3.0,SNR=68
ILAR S **S** **08 51 16.1 -0.3**
comp=Z,0.8nm,0.9s,baz=280,slow=8.7,SNR=6.9
ILAR PKPPKP **P'P'df** **09 09 21.1 -7.6**
comp=Z,0.3nm,0.9s,baz=106,slow=1.6,SNR=5.1
ILAR LR LR 09 16 52.0
comp=Z,21µm,18.8s,baz=294,slow=38
SUA Susitna One 73.59 29 P **P** **08 41 45.9 -1.2**
SUA IAmb IAmb 08 41 51.3
comp=Z,158nm,0.8s
SUA IAMs_20 IAMs_20 09 16 52.3
comp=Z,15µm,19.0s
VLC Villacollemand 73.64 311 P **P** **08 41 48.3 +0.7**
VLC IAmb IAmb 08 41 58.5
comp=Z,131nm,1.0s
VLC IAMs_20 IAMs_20 09 20 09.0
comp=Z,12µm,19.0s
CAPN Captain Cook N 73.73 30 P **P** **08 41 48.5 +0.8**
baz=297,SNR=14
CAPN S **S** **08 51 18.9 +0.9**
baz=297
CHIR Chirikof Islan 73.73 35 P **P** **08 41 50.3 +2.4**
CHIR IAMs_20 IAMs_20 09 13 37.3
comp=Z,15µm,22.0s
HDA Harding Lake 73.74 25 P **P** **08 41 45.9 -1.9**
baz=299,SNR=36
HDA Harding Lake 73.74 25 P **P** **08 41 45.9 -1.9**
HDA IAMs_20 IAMs_20 09 18 28.2
comp=Z,20µm,18.0s
MEM Membach 73.90 319 P **P** **08 41 49.3 +0.4**
MEM pP **pP** **08 41 51.0 -3.3**
CORL Corleone 73.94 305 P **P** **08 41 49.1 -0.4**
CORL IAmb IAmb 08 42 02.2
comp=Z,76nm,0.8s
CORL IAMs_20 IAMs_20 09 18 49.5
comp=Z,13µm,22.0s
BHOU Houvegnez 74.00 319 P **P** **08 41 50.0 +0.4**
BEBN Eben Emael 74.02 319 P **P** **08 41 50.4 +0.8**
CLTB Caltabellotta 74.12 304 P **P** **08 41 48.9 -1.7**
CLTB IAMs_20 IAMs_20 09 19 18.3
comp=Z,14µm,20.0s
SII Sitkinak Islan 74.15 34 P **P** **08 41 50.9 +0.6**
SII IAmb IAmb 08 41 57.8
comp=Z,288nm,1.3s
ECH Echery 74.15 316 P **P** **08 41 50.2 -0.3**
ECH pmax pmax
comp=Z,48nm,1.0s
ECH MLR MLR
comp=Z,10µm,20.0s
ECH Echery 74.15 316 P **P** **08 41 50.2 -0.3**
MSSA Maissana 74.15 312 P **P** **08 41 50.6 -0.1**
MSSA IAmb IAmb 08 42 02.3
comp=Z,147nm,1.3s
MSSA IAMs_20 IAMs_20 09 20 49.7
comp=Z,13µm,21.0s
BSTI Sart Tilman 74.17 319 P **P** **08 41 51.2 +0.7**
WLF Walferdange 74.19 318 P **P** **08 41 50.8 +0.1**
WLF Walferdange 74.19 318 P **P** **08 41 51.0 +0.3**
WLF pmax pmax
comp=Z,340nm,1.3s
WLF Walferdange 74.19 318 *e*P **P** **08 41 51.5 +0.9**
comp=Z,420nm,1.4s,baz=70,slow=6.0
WLF Walferdange 74.19 318 P **P** **08 41 51.0 +0.3**
WLF IAMs_20 IAMs_20 09 20 00.4
comp=Z,16µm,21.0s
PMR Palmer 74.22 28 P **P** **08 41 49.2 -1.4**
PMR pmax pmax
comp=Z,168nm,1.0s
PMR MLR MLR
comp=Z,26µm,18.0s
PMR Palmer 74.22 28 P **P** **08 41 49.2 -1.4**
PMR IAmb IAmb 08 41 56.4
comp=Z,168nm,1.0s
GHO Glory Hole Cre 74.22 28 P **P** **08 41 51.0 +0.3**
GHO IAMs_20 IAMs_20 09 18 11.9
comp=Z,21µm,19.0s
DHY Denali Highway 74.23 27 P **P** **08 41 49.4 -1.4**
DHY IAmb IAmb 08 42 00.6
comp=Z,330nm,1.7s
DHY IAMs_20 IAMs_20 09 17 39.0
comp=Z,17µm,20.0s
BRLK Bradley Lake 74.30 30 P **P** **08 41 49.4 -1.8**
BRLK IAmb IAmb 08 42 01.6
comp=Z,86nm,0.7s
OHAK Old Harbor 74.30 33 P **P** **08 41 50.2 -1.0**
OHAK IAmb IAmb 08 41 59.0
comp=Z,192nm,0.9s
OHAK IAMs_20 IAMs_20 09 15 43.4
comp=Z,23µm,22.0s
BCLA Clavier 74.39 319 P **P** **08 41 51.2 -0.6**
KDAK Kodiak Island 74.40 33 P **P** **08 41 50.7 -1.0**
comp=Z,60nm,0.6s,baz=275,slow=3.8,SNR=32
KDAK Kodiak Island 74.40 33 P **P** **08 41 51.7 0.0**
KDAK pmax pmax
comp=Z,745nm,1.7s
KDAK MLR MLR
comp=Z,20µm,21.0s
KDAK Kodiak Island 74.40 33 P **P** **08 41 51.7 0.0**
KDAK Kodiak Island 74.40 33 IAMs_20 IAMs_20 09 16 31.9
comp=Z,21µm,21.0s
SML Sawmill 74.45 28 P **P** **08 41 51.0 -1.0**
SML IAMs_20 IAMs_20 09 17 16.0
comp=Z,20µm,18.0s
O22K Cooper Landing 74.48 29 P **P** **08 41 51.8 -0.3**
baz=298
O22K S **S** **08 51 24.9 -1.7**
baz=298

KNK Knik Glacier 74.59 28 P **P** **08 41 53.3 +0.5**
BMRD Maredsous 74.75 319 P **P** **08 41 54.2 +0.3**
SEW Seward 74.78 30 P **P** **08 41 52.7 -1.2**
SEW IAmb IAmb 08 42 07.7
comp=Z,115nm,1.0s
SEW IAMs_20 IAMs_20 09 20 30.9
comp=Z,20µm,18.0s
UCC Uccle 74.78 320 P **P** **08 41 54.6 +0.5**
UCC Uccle 74.78 320 P **P** **08 41 55.8 +1.7**
UCC pmax pmax
comp=Z,99nm,1.4s
UCC MLR MLR
comp=Z,20µm,19.0s
UCC Uccle 74.78 320 P **P** **08 41 55.8 +1.7**
UCC IAMs_20 IAMs_20 09 18 03.0
comp=Z,20µm,19.0s
SENIN Lac Senin/Sane 74.79 314 P **P** **08 41 54.6 +0.1**
SENIN IAMs_20 IAMs_20 09 18 57.6
comp=Z,16µm,20.0s
SCM Sheep Creek Mo 74.86 28 P **P** **08 41 53.9 -0.5**
SCM pmax pmax
comp=Z,475nm,1.5s
SCM Sheep Creek Mo 74.86 28 P **P** **08 41 53.9 -0.5**
SCM IAMs_20 IAMs_20 09 20 28.6
comp=Z,20µm,18.0s
RIDG Independent Ri 74.88 25 P **P** **08 41 52.4 -2.1**
RIDG IAMs_20 IAMs_20 09 19 13.2
comp=Z,15µm,19.0s
DOU Dourbes 74.94 319 P **P** **08 41 55.4 +0.4**
SNF Seneffe 74.95 319 P **P** **08 41 54.6 -0.4**
comp=Z,80nm,1.2s
PAX Paxson 75.03 26 P **P** **08 41 54.0 -1.5**
PAX pmax pmax
comp=Z,160nm,1.6s
PAX Paxson 75.03 26 P **P** **08 41 54.0 -1.5**
PAX IAmb IAmb 08 42 05.3
comp=Z,160nm,1.6s
PAX IAMs_20 IAMs_20 09 17 25.3
comp=Z,18µm,18.0s
M24K Tolsona, Glenn 75.19 27 S **S** **08 51 34.2 -0.4**
baz=300
FOMA Nahampoana Res 75.19 231 IAMs_20 IAMs_20 09 15 47.4
comp=Z,10µm,18.0s
SCO Scoresbysund 75.22 344 *i* P **P** **08 41 59.1 +2.9**
SCO *i* S **S** **08 51 34.3 -0.1**
SCO IAMs_20 IAMs_20 09 13 51.7
comp=Z,10µm,20.8s
DOT Dot Lake 75.22 25 P **P** **08 41 55.3 -1.2**
DOT IAMs_20 IAMs_20 09 19 32.3
comp=Z,14µm,19.0s
GLI Glacier Island 75.42 28 P **P** **08 41 57.7 +0.1**
GLI IAmb IAmb 08 42 04.8
comp=Z,130nm,1.1s
A36M Sachs Harbour 75.55 14 P **P** **08 41 57.3 -0.8**
baz=316
A36M S **S** **08 51 37.0 -1.2**
baz=316
TOO Toolangi 75.57 147 P **P** **08 42 00.0 +1.3**
TOO pmax pmax
comp=Z,41nm,0.9s
TOO Toolangi 75.57 147 P **P** **08 42 00.0 +1.3**
KLU Klutina 75.61 28 P **P** **08 41 57.9 -0.9**
KLU IAMs_20 IAMs_20 09 16 38.6
comp=Z,15µm,21.0s
CAN Canberra 75.64 143 P **P** **08 42 00.5 +1.3**
CAN pmax pmax
comp=Z,60nm,0.9s
CAN MLR MLR
comp=Z,8µm,20.0s
CAN Canberra 75.64 143 P **P** **08 42 00.5 +1.3**
EGAK Eagle 75.68 24 P **P** **08 41 57.4 -1.6**
BNI Bardonecchia 75.72 313 P **P** **08 41 58.7 -1.1**
BNI pmax pmax
comp=Z,136nm,1.2s
BNI MLR MLR
comp=Z,16µm,21.0s
BNI Bardonecchia 75.72 313 P **P** **08 41 58.7 -1.1**
BNI IAmb IAmb 08 42 07.4
comp=Z,136nm,1.2s
BNI IAMs_20 IAMs_20 09 20 01.2
comp=Z,16µm,21.0s
MENT Mentasta 75.73 26 P **P** **08 41 58.5 -0.8**
MENT IAmb IAmb 08 42 15.6
comp=Z,132nm,1.1s
MENT IAMs_20 IAMs_20 09 17 48.8
comp=Z,18µm,20.0s
FID Port Fidalgo 75.75 28 P **P** **08 41 59.9 +0.4**
K27K Chicken 75.76 24 P **P** **08 41 59.5 0.0**
baz=303
K27K S **S** **08 51 39.4 -1.3**
baz=303
MCD Coleburn Disti 75.78 328 *eP* **P** **08 41 59.9 +0.2**
HIN Hinchinbrook I 75.92 29 P **P** **08 42 00.1 -0.4**
INK Inuvik 76.00 19 P **P** **08 41 59.2 -1.5**
comp=Z,71nm,0.9s,baz=328,slow=7.0,SNR=30
INK Inuvik 76.00 19 P **P** **08 41 59.2 -1.5**
INK pmax pmax
comp=Z,285nm,1.4s
INK MLR MLR
comp=Z,32µm,19.0s
INK Inuvik 76.00 19 P **P** **08 41 59.2 -1.5**
WACR West Acre 76.05 322 *eP* **P** **08 42 00.1 -1.2**
WACR IAMs_20 IAMs_20 09 18 00.3
comp=Z,29µm,16.9s
VSL Villasalto 76.15 307 P **P** **08 42 02.8 +0.6**
VSL IAmb IAmb 08 42 09.7
comp=Z,173nm,1.3s
EYAK Cordova Ski Ar 76.16 28 P **P** **08 42 01.5 -0.3**
EPYK Eagle Plains 76.25 21 P **P** **08 42 01.7 -0.6**
baz=307
EPYK S **S** **08 51 43.3 -2.8**
baz=307
EPYK Eagle Plains 76.25 21 P **P** **08 42 00.4 -1.9**
EPYK IAmb IAmb 08 42 19.7
comp=Z,136nm,1.3s
TULEG Thule 76.38 358 P **P** **08 42 03.3 +0.6**
TULEG IAmb IAmb 08 42 08.8
comp=Z,113nm,0.8s
TULEG IAMs_20 IAMs_20 09 14 25.1
comp=Z,13µm,18.0s
TULEG Thule 76.38 358 *i* P **P** **08 42 02.3 -0.5**
TULEG IAMs_20 IAMs_20 09 14 19.3
comp=Z,13µm,17.8s
EDMD Edmundbyers 76.45 325 *eP* **P** **08 42 03.2 -0.4**
EDMD IAMs_20 IAMs_20 09 18 37.5
comp=Z,18µm,14.8s
GLB Gilahina Butte 76.50 27 P **P** **08 42 03.2 -0.6**
GLB IAmb IAmb 08 42 10.4
comp=Z,177nm,1.2s
DAWY Dawson 76.72 24 P **P** **08 42 03.5 -1.5**
DAWY IAmb IAmb 08 42 14.2
comp=Z,111nm,1.2s
VRDI Verde Repeater 76.76 27 P **P** **08 42 04.6 -0.9**
VRDI IAmb IAmb 08 42 19.6
comp=Z,84nm,0.9s
KAC Achnashellach 76.79 328 *eP* **P** **08 42 05.1 -0.3**
MCARA McCarthy VSAT 76.85 27 P **P** **08 42 05.4 -0.3**
MCARA IAmb IAmb 08 42 20.3
comp=Z,144nm,0.8s
ESK Eskdalemuir 76.85 326 *eP* **P** **08 42 05.2 -0.6**
ESK IAMs_20 IAMs_20 09 18 46.7
comp=Z,14µm,16.1s
ESK Eskdalemuir 76.85 326 P **P** **08 42 05.6 -0.2**
ESK pmax pmax
comp=Z,101nm,1.1s
ESK MLR MLR
comp=Z,15µm,20.0s
ESK Eskdalemuir 76.85 326 P **P** **08 42 05.6 -0.2**
ESK IAmb IAmb 08 42 13.2
comp=Z,100nm,1.1s
ESK Eskdalemuir 76.85 326 IAMs_20 IAMs_20 09 19 48.4
comp=Z,15µm,20.0s
SSB Saint Sauveur 77.00 314 P **P** **08 42 06.2 -0.7**
SSB pmax pmax
comp=Z,55nm,1.1s
SSB MLR MLR
comp=Z,12µm,20.0s
SSB Saint Sauveur 77.00 314 P **P** **08 42 06.2 -0.7**
SSB Saint Sauveur 77.00 314 IAMs_20 IAMs_20 09 17 21.9
comp=Z,12µm,20.0s
LBWR Ladybower, Pea 77.00 324 *eP* **P** **08 42 06.6 -0.1**
LBWR IAMs_20 IAMs_20 09 18 46.0
comp=Z,21µm,16.3s
KAIM Kayak Island 77.06 29 P **P** **08 42 09.4 +2.5**
KAIM IAmb IAmb 08 42 17.7
comp=Z,93nm,0.9s

SUMG Summit 77.13 349 *i* P **P** **08 42 07.0 -0.6**
comp=Z,41µm,20.0s
SUMG Summit 77.13 349 P **P** **08 42 07.4 -0.2**
SUMG pmax pmax
comp=Z,330nm,1.4s
SUMG MLR MLR
comp=Z,16µm,21.0s
SUMG Summit 77.13 349 P **P** **08 42 07.4 -0.2**
SUMG IAMs_20 IAMs_20 09 18 25.3
comp=Z,17µm,21.0s
SUMG Summit 77.13 349 *i* P **P** **08 42 07.0 -0.6**
SUMG IAMs_20 IAMs_20 09 18 18.3
comp=Z,41µm,20.3s
CRQM Cirque 77.14 28 P **P** **08 42 08.1 +0.5**
CRQM IAmb IAmb 08 42 23.0
comp=Z,96nm,1.0s
CRQM IAMs_20 IAMs_20 09 16 58.8
comp=Z,20µm,22.0s
CLF Chambon-Foret 77.21 318 P **P** **08 42 08.3 +0.4**
CLF IAMs_20 IAMs_20 09 22 07.4
comp=Z,14µm,20.0s
PGBU Glenifferbraes 77.24 327 *eP* **P** **08 42 08.1 +0.1**
PGBU IAMs_20 IAMs_20 09 15 53.6
comp=Z,14µm,21.4s
SUCK Suckling Hills 77.25 28 P **P** **08 42 10.5 +2.5**
TGL Tana Glacier 77.27 27 P **P** **08 42 07.8 -0.4**
TGL IAmb IAmb 08 42 14.6
comp=Z,170nm,1.1s
TGL IAMs_20 IAMs_20 09 17 02.6
comp=Z,20µm,22.0s
BALM Baldy 77.31 27 P **P** **08 42 09.2 +0.8**
BALM IAmb IAmb 08 42 15.2
comp=Z,165nm,1.3s
BALM IAMs_20 IAMs_20 09 20 06.7
comp=Z,20µm,19.0s
NEWG New Galloway 77.46 326 *eP* **P** **08 42 09.3 +0.1**
NEWG IAMs_20 IAMs_20 09 18 54.0
comp=Z,13µm,18.1s
ISLE Juniper Island 77.56 27 P **P** **08 42 10.4 +0.5**
ISLE IAMs_20 IAMs_20 09 22 47.1
comp=Z,13µm,19.0s
BARN Barnard Glacie 77.58 27 P **P** **08 42 09.7 -0.4**
RES Resolute Bay 77.64 5 P **P** **08 42 09.2 -0.8**
comp=Z,62nm,1.0s,baz=348,slow=8.1,SNR=14
RES Resolute Bay 77.64 5 P **P** **08 42 09.0 -0.9**
KULLO Kullorsuaq 77.67 355 *i* P **P** **08 42 09.6 -0.4**
comp=Z,17µm,20.0s
KULLO Kullorsuaq 77.67 355 *i* P **P** **08 42 09.6 -0.4**
KULLO MLR MLR
comp=Z,17µm,20.0s
KULLO Kullorsuaq 77.67 355 *i* P **P** **08 42 09.6 -0.4**
KULLO IAMs_20 IAMs_20 09 15 24.7
comp=Z,17µm,19.6s
KEST Kesra 77.71 304 P **P** **08 42 10.8 -0.3**
comp=Z,16nm,0.7s,baz=61,slow=1.9,SNR=14
KEST LR LR 09 21 55.7
comp=Z,6µm,18.9s,baz=7.5,slow=40
KEST Kesra 77.71 304 P **P** **08 42 11.3 +0.2**
CTGM Chitina Glacie 77.76 27 P **P** **08 42 11.1 +0.1**
CTGM IAmb IAmb 08 42 20.0
comp=Z,223nm,1.4s
C36M Paulatuk 77.76 16 P **P** **08 42 09.5 -1.1**
baz=318
C36M S **S** **08 52 00.2 -2.1**
baz=318
C36M Paulatuk 77.76 16 P **P** **08 42 10.6 -0.1**
C36M IAMs_20 IAMs_20 09 22 18.1
comp=Z,14µm,20.0s
YAH Yahtse 77.94 27 P **P** **08 42 12.0 -0.1**
YAH IAmb IAmb 08 42 25.5
comp=Z,173nm,1.0s
YAH IAMs_20 IAMs_20 09 17 14.2
comp=Z,17µm,22.0s
MESA MESA 77.95 28 IAMs_20 IAMs_20 09 19 49.7
comp=Z,20µm,19.0s
STRD Stroud 78.01 322 *eP* **P** **08 42 12.0 -0.3**
STRD IAMs_20 IAMs_20 09 17 45.7
comp=Z,22µm,21.8s
FOEL Foel Wylfa 78.03 324 *eP* **P** **08 42 11.8 -0.7**
FOEL IAMs_20 IAMs_20 09 19 20.2
comp=Z,19µm,16.5s
HLM1 Long Mynd 78.04 323 *eP* **P** **08 42 12.7 +0.2**
HLM1 IAMs_20 IAMs_20 09 17 06.1
comp=Z,17µm,24.9s
IOMK Kirk Michael 78.06 325 *eP* **P** **08 42 11.6 -1.0**
IOMK IAMs_20 IAMs_20 09 18 53.5
comp=Z,38µm,18.7s
TABL Table Mountain 78.14 27 P **P** **08 42 14.3 +1.1**
TABL IAmb IAmb 08 42 24.0
comp=Z,218nm,1.2s
TABL IAMs_20 IAMs_20 09 17 21.5
comp=Z,19µm,22.0s
DZM Mont Dzumac 78.17 122 *eP* **P** **08 42 15.0 +1.2**
comp=Z,166nm,1.3s
DZM *eS* **S** **08 52 06.8 -1.5**
comp=Z,4µm,33.7s
DZM *eSS* **SS** **08 57 11.4 +0.5**
comp=Z,6µm,28.3s
DZM *eLR* LR 09 06 29.2
comp=Z,14µm,21.9s
DZM Mont Dzumac 78.17 122 P **P** **08 42 15.0 +1.2**
DZM IAmb IAmb 08 42 20.5
comp=Z,201nm,1.5s
MCH1 Michaelchurch 78.36 323 *eP* **P** **08 42 13.8 -0.5**
MCH1 IAMs_20 IAMs_20 09 18 38.9
comp=Z,23µm,17.9s
YLL Llanberis 78.41 324 *eP* **P** **08 42 15.4 +0.9**
WLF1 Llynfaes 78.46 324 *eP* **P** **08 42 14.7 -0.1**
WLF1 IAMs_20 IAMs_20 09 19 31.2
comp=Z,29µm,17.8s
PCA Pinnacle 78.70 27 P **P** **08 42 16.2 +0.1**
PCA IAmb IAmb 08 42 23.2
comp=Z,157nm,1.1s
PCA IAMs_20 IAMs_20 09 19 28.3
comp=Z,15µm,19.0s
CMAH Djebel Manchou 78.75 305 P **P** **08 42 17.9 +1.1**
BORG Borgarnes 78.86 339 IAMs_20 IAMs_20 09 18 45.1
comp=Z,13µm,18.0s
YKU2 Yakutat 79.28 28 IAMs_20 IAMs_20 09 21 11.7
comp=Z,14µm,20.0s
UPNV Upernavik 79.29 354 *i* P **P** **08 42 19.6 +0.6**
UPNV IAMs_20 IAMs_20 09 16 00.6
comp=Z,16µm,19.1s
RSBS Rosebush, Pemb 79.31 323 *eP* **P** **08 42 19.3 -0.2**
RSBS IAMs_20 IAMs_20 09 20 09.3
comp=Z,17µm,15.8s
CKFL Kef-Lekhel 79.35 305 P **P** **08 42 22.0 +1.8**
HYT Haines Junctio 79.36 26 P **P** **08 42 19.6 -0.2**
DSB Dublin 79.50 325 P **P** **08 42 23.0 +2.5**
DSB IAMs_20 IAMs_20 09 21 30.5
comp=Z,12µm,21.0s
MAHO Mahon 79.54 309 *eP* **P** **08 42 20.3 -0.7**
MAHO *i* S **S** **08 52 23.4 +1.0**
CASM Ain Smara 79.58 305 P **P** **08 42 19.9 -1.5**
DYA Yadsworthy 79.64 322 *eP* **P** **08 42 21.3 0.0**
DYA IAMs_20 IAMs_20 09 20 23.4
comp=Z,17µm,15.1s
DFRA Djebel Bou Aff 79.90 306 P **P** **08 42 24.5 +1.3**
NUUG Nuugaatsiaq 80.17 353 *i* P **P** **08 42 25.9 +2.1**
NUUG IAMs_20 IAMs_20 09 20 04.9
comp=Z,23µm,18.3s
ICESG Greenland Ices 80.27 347 *i* P **P** **08 42 24.8 0.0**
ICESG IAMs_20 IAMs_20 09 17 33.5
comp=Z,19µm,20.9s
SET Setif 80.40 306 P **P** **08 42 30.0 +4.1**
WHY Whitehorse 80.47 25 P **P** **08 42 25.8 0.0**
TAU Tasmania Unive 80.62 149 IAMs_20 IAMs_20 09 19 50.1
comp=Z,12µm,22.0s
SKAG Skagway 81.06 26 P **P** **08 42 28.7 -0.1**
BESE Bessie Mountai 81.82 27 P **P** **08 42 32.5 -0.5**
BESE IAMs_20 IAMs_20 09 22 39.7
comp=Z,14µm,19.0s
ILULI Ilulissat 82.07 351 *i* P **P** **08 42 34.0 0.0**
comp=Z,18µm,19.0s
ILULI Ilulissat 82.07 351 *i* P **P** **08 42 34.0 0.0**
ILULI MLR MLR
comp=Z,18µm,19.0s
ILULI Ilulissat 82.07 351 IAMs_20 IAMs_20 09 17 34.8
comp=Z,18µm,20.0s
ILULI Ilulissat 82.07 351 *i* P **P** **08 42 34.0 0.0**
ILULI IAMs_20 IAMs_20 09 17 28.2
comp=Z,18µm,19.2s
JIS Juneau Island 82.20 27 P **P** **08 42 34.7 -0.2**
JIS IAmb IAmb 08 42 41.9
comp=Z,152nm,1.2s
ANGG Ammassalik, Gr 82.74 345 IAMs_20 IAMs_20 09 22 28.6
comp=Z,13µm,20.0s
ANGG Ammassalik, Gr 82.74 345 *i* P **P** **08 42 39.3 +1.7**
ANGG IAMs_20 IAMs_20 09 22 23.3
comp=Z,13µm,18.9s
ISOG Isortoq, Green 83.11 345 *i* P **P** **08 42 40.6 +1.2**
ISOG IAMs_20 IAMs_20 09 17 55.0
comp=Z,20µm,25.1s
DLBC Dease Lake 83.80 25 P **P** **08 42 43.8 +0.5**
comp=Z,13nm,0.7s,baz=313,slow=6.0,SNR=24
DLBC Dease Lake 83.80 25 P **P** **08 42 43.3 0.0**
DLBC IAmb IAmb 08 42 54.7
comp=Z,217nm,1.6s
DLBC IAMs_20 IAMs_20 09 26 44.9
comp=Z,16µm,18.0s
SFJD Kangerlussuaq 84.05 350 *i* P **P** **08 42 42.8 -1.4**
comp=Z,1µm,18.0s
SFJD Kangerlussuaq 84.05 350 P **P** **08 42 43.7 -0.6**
SFJD pmax pmax
comp=Z,170nm,1.0s
SFJD MLR MLR
comp=Z,18µm,20.0s
SFJD Kangerlussuaq 84.05 350 P **P** **08 42 43.7 -0.6**
SFJD Kangerlussuaq 84.05 350 IAMs_20 IAMs_20 09 23 06.1
comp=Z,18µm,20.0s
SFJD Kangerlussuaq 84.05 350 *i* P **P** **08 42 42.8 -1.4**
SFJD IAMs_20 IAMs_20 09 22 55.1
comp=Z,1µm,18.3s
WRAK Wrangell Islan 84.26 28 P **P** **08 42 46.1 +0.5**
WRAK Wrangell Islan 84.26 28 IAMs_20 IAMs_20 09 23 25.4
comp=Z,1µm,18.0s
CART Cartagena 84.26 309 *i* P **P** **08 42 45.5 -0.4**
CART *i* S **S** **08 53 03.4 -7.8**
CART Cartagena 84.26 309 P **P** **08 42 44.7 -1.2**
CART IAmb IAmb 08 42 53.5
comp=Z,107nm,1.1s
LSZ Lusaka 84.28 250 P **P** **08 42 45.3 -1.1**
LSZ pmax pmax
comp=Z,78nm,1.2s
LSZ MLR MLR
comp=Z,7µm,18.0s
LSZ Lusaka 84.28 250 P **P** **08 42 45.3 -1.1**
LSZ IAmb IAmb 08 42 52.2
comp=Z,78nm,1.2s
UCM Universidad Co 84.39 313 *eP* **P** **08 42 45.8 -0.8**
UCM *i* S **S** **08 53 12.0 -0.5**
MSVF Nonsavu 84.98 113 *i* P **P** **08 42 50.0 +0.1**
MSVF pmax pmax
comp=Z,81nm,1.1s
MSVF Nonsavu 84.98 113 P **P** **08 42 50.2 +0.3**
MSVF IAmb IAmb 08 42 57.8
comp=Z,86nm,1.1s
ES09 SONSECA Array 85.15 312 IAMs_20 IAMs_20 09 25 39.7
comp=Z,9µm,20.0s
ES08 SONSECA Array 85.16 312 IAMs_20 IAMs_20 09 25 41.0
comp=Z,9µm,20.0s
ES10 SONSECA Array 85.16 312 IAMs_20 IAMs_20 09 25 41.1
comp=Z,9µm,20.0s
ES18 SONSECA Array 85.17 312 IAMs_20 IAMs_20 09 28 12.2
comp=Z,10µm,21.0s
ES03 SONSECA Array 85.18 312 IAMs_20 IAMs_20 09 25 39.5
comp=Z,9µm,20.0s
ES11 SONSECA Array 85.18 312 IAMs_20 IAMs_20 09 25 40.5
comp=Z,9µm,20.0s
ES07 SONSECA Array 85.18 312 IAMs_20 IAMs_20 09 28 02.5
comp=Z,10µm,22.0s
ES01 SONSECA Array 85.19 312 IAMs_20 IAMs_20 09 28 02.7
comp=Z,10µm,22.0s
ES06 SONSECA Array 85.19 312 IAMs_20 IAMs_20 09 28 02.7
comp=Z,10µm,22.0s
ES17 SONSECA Array 85.19 312 IAMs_20 IAMs_20 09 28 11.7
comp=Z,11µm,21.0s
ESBB Sonseca Array 85.19 312 P **P** **08 42 50.5 -0.2**
ESBB IAMs_20 IAMs_20 09 28 01.9
comp=Z,10µm,22.0s
ESDC Sonseca Array 85.19 312 P **P** **08 42 51.0 +0.3**
comp=Z,7.8nm,0.7s,baz=44,slow=5.3,SNR=36
ESDC PP **PP** **08 46 10.4 +2.7**
comp=Z,8.1nm,1.1s,baz=58,slow=7.7,SNR=4.1
ESDC LR LR 09 26 01.2
comp=Z,8µm,18.4s,baz=50,slow=39
ES05 SONSECA Array 85.20 312 IAMs_20 IAMs_20 09 28 03.0
comp=Z,11µm,21.0s
ES13 SONSECA Array 85.21 312 IAMs_20 IAMs_20 09 25 39.3
comp=Z,9µm,20.0s
ES16 SONSECA Array 85.21 312 IAMs_20 IAMs_20 09 28 03.3
comp=Z,11µm,21.0s
ES14 SONSECA Array 85.22 312 IAMs_20 IAMs_20 09 28 03.7
comp=Z,10µm,21.0s
ES15 SONSECA Array 85.22 312 IAMs_20 IAMs_20 09 28 03.7
comp=Z,11µm,21.0s
PAB San Pablo 85.52 312 P **P** **08 42 51.7 -0.6**
PAB pmax pmax
comp=Z,89nm,1.6s
PAB MLR MLR
comp=Z,9µm,21.0s
PAB San Pablo 85.52 312 P **P** **08 42 51.7 -0.6**
YKA Yellowknife Ar 85.56 17 P **P** **08 42 50.4 -1.6**
comp=Z,31nm,0.9s,baz=330,slow=4.8,SNR=69
YKA PP **PP** **08 46 11.2 +1.4**
comp=Z,6.7nm,0.9s,baz=330,slow=7.6,SNR=3.7
YKA S **S** **08 53 25.3 +2.1**
comp=Z,2.8nm,1.1s,baz=333,slow=9.1,SNR=7.0
YKA PKKPbc **PKKPbc** **09 00 53.4 -2.7**
comp=Z,1.2nm,0.8s,baz=144,slow=2.4,SNR=8.6
YKA PKPPKP 09 09 02.0
comp=Z,0.4nm,0.7s,baz=157,slow=2.0,SNR=6.4
YKA LR LR 09 26 35.2
comp=Z,13µm,18.3s,baz=0.0,slow=40
PBRG Braganca 85.84 315 *eP* **P** **08 42 53.9 0.0**
PBRG Braganca 85.84 315 *eP* PP 08 46 15.3 +2.4
MVO Moncorvo 86.37 315 *eP* **P** **08 42 57.1 +0.6**
comp=Z,127nm,1.3s
MVO Moncorvo 86.37 315 *e*SKS **S** **08 53 34.1 +2.0**
MVO *e*SS **SS** **08 59 12.8 +1.9**
MVO Moncorvo 86.37 315 *e*LR LR 09 15 00.0
comp=Z,7µm,18.0s
DIB Dawson Inlet, 86.38 30 P **P** **08 42 55.6 -0.5**
TAM Tamanrasset 86.44 294 P **P** **08 42 56.7 -0.6**
TAM pmax pmax
comp=Z,18nm,1.0s
TAM Tamanrasset 86.44 294 P **P** **08 42 56.7 -0.6**
PCAB Cabril 86.70 316 *eP* **P** **08 42 58.8 +0.7**
comp=Z,151nm,2.3s
PGAV Gavieira, Arco 86.70 316 *eP* **P** **08 42 58.9 +0.7**
comp=Z,179nm,1.6s
PGAV Gavieira, Arco 86.70 316 *e*PP PP 08 46 27.7 +7.8
PGAV *e*SKS **S** **08 53 39.6 +4.2**
PGAV *e*SS **SS** **08 59 21.1 +5.3**
PGAV Gavieira, Arco 86.70 316 *e*LR LR 09 17 38.6
comp=Z,9µm,20.0s
PVRL Vila Real 86.75 315 *eP* **P** **08 42 58.9 +0.6**
comp=Z,83nm,2.1s
EMAL Malaga-Limoner 87.03 310 *eP* P 08 42 49.8 -10
EMAL *i* S **S** **08 53 35.7 -2.8**
MTE Manteigas 87.12 314 *eP* **P** **08 43 01.0 +0.8**
comp=Z,139nm,1.3s
MTE Manteigas 87.12 314 *e*PP PP 08 46 30.5 +7.2
MTE *e*SKS **S** **08 53 35.4 -4.0**
MTE *e*SS **SS** **08 59 25.8 +3.9**
MTE Manteigas 87.12 314 *e*LR LR 09 17 45.9
comp=Z,8µm,20.0s
MTE Manteigas 87.12 314 P **P** **08 43 01.2 +1.0**
MTE IAmb IAmb 08 43 08.7
comp=Z,122nm,1.4s
MTE IAMs_20 IAMs_20 09 23 17.8
comp=Z,9µm,21.0s
PVIS Viseu 87.17 315 *eP* **P** **08 43 01.4 +1.0**
comp=Z,130nm,1.4s
PVIS Viseu 87.17 315 *eP* PP 08 46 24.7 +1.1
PCBR Castelo Branco 87.39 314 *eP* **P** **08 43 01.7 +0.3**
comp=Z,68nm,2.2s
PMRV Marv??o 87.56 314 *eP* **P** **08 43 02.8 +0.5**
comp=Z,120nm,1.5s
PMRV Marv??o 87.56 314 *e*PP PP 08 46 28.5 +1.7
PMRV *e*SKS **SKSac** **08 53 27.9 -2.2**
PMRV *e*SS **SS** **08 59 32.3 +4.0**
PMRV Marv??o 87.56 314 *e*LR LR 09 15 52.3
comp=Z,6µm,20.0s
COI Coimbra 87.78 315 *eP* **P** **08 43 05.6 +2.3**
comp=Z,126nm,2.3s
COI Coimbra 87.78 315 *e*SKS **S** **08 53 49.2 +3.7**
COI Coimbra 87.78 315 IAMs_20 IAMs_20 09 24 24.2
comp=Z,9µm,21.0s
PVLZ Peæn de 87.78 309 *eP* P 08 43 08.3 +5.0
PVLZ *i* S **S** **08 53 41.5 -4.2**
PCAS Casmilo, Conde 87.92 315 *eP* **P** **08 43 02.8 -1.2**

PCAS Casmilo, Conde 87.92 315 *e*PP PP 08 46 30.4 +0.8
PCAS *e*SKS **S** **08 53 39.8 -7.1**
PCAS *e*SS **SS** **08 59 30.1 -3.3**
CEU Ceuta 88.14 310 *e*P **P** **08 43 03.9 -1.2**
CEU *i* S **S** **08 53 46.4 -2.7**
PMTG Montargil 88.30 314 *e*P **P** **08 43 03.5 -2.3**
comp=Z,107nm,1.7s
PMTG Montargil 88.30 314 *e*PP PP 08 46 34.8 +2.2
NRS Narsarsuaq 88.37 345 *i* P **P** **08 43 04.5 -1.1**
comp=Z,15µm,19.0s
NRS Narsarsuaq 88.37 345 *i* P **P** **08 43 04.5 -1.1**
NRS MLR MLR
comp=Z,15µm,19.0s
NRS Narsarsuaq 88.37 345 P **P** **08 43 04.0 -1.6**
NRS IAMs_20 IAMs_20 09 23 25.5
comp=Z,15µm,20.0s
NRS Narsarsuaq 88.37 345 *i* P **P** **08 43 04.5 -1.1**
NRS IAMs_20 IAMs_20 09 23 18.9
comp=Z,15µm,18.7s
SFS San Fernando 88.40 311 *e*P **P** **08 43 06.7 +0.4**
SFS *i* S **S** **08 53 52.8 +1.2**
PSBE So Bento 88.41 314 *e*P **P** **08 43 07.2 +0.8**
comp=Z,156nm,1.4s
PSBE So Bento 88.41 314 *e*SKS **SKSac** **08 53 34.0 -1.2**
PSBE *e*SS **SS** **08 59 44.7 +4.0**
EVO Evora 88.46 313 *e*P **P** **08 43 06.6 0.0**
EVO *i* S **S** **08 53 51.3 -0.8**
EVO Evora 88.46 313 *e*P **P** **08 43 07.2 +0.6**
comp=Z,109nm,2.0s
PBEJ Beja 88.65 313 *e*P **P** **08 43 07.8 +0.4**
comp=Z,91nm,1.8s
PBEJ Beja 88.65 313 *e*PP PP 08 46 38.6 +3.1
PVAQ Vaqueiros 88.89 312 *e*P **P** **08 43 09.7 +1.1**
comp=Z,91nm,1.5s
PVAQ Vaqueiros 88.89 312 *e*SKS **SKSac** **08 53 40.0 +1.9**
PVAQ *e*SS **SS** **08 59 49.6 +1.9**
PVAQ Vaqueiros 88.89 312 *e*LR LR 09 18 28.8
comp=Z,9µm,20.0s
PVAQ Vaqueiros 88.89 312 P **P** **08 43 08.3 -0.3**
PVAQ IAmb IAmb 08 43 16.8
comp=Z,70nm,1.3s
PVAQ IAMs_20 IAMs_20 09 24 49.9
comp=Z,10µm,19.0s
IVI Ivigtut 88.92 347 P **P** **08 43 06.8 -1.4**
IVI IAMs_20 IAMs_20 09 26 10.9
comp=Z,13µm,20.0s
PCVE Castro Verde 88.98 312 *e*P **P** **08 43 09.4 +0.4**
comp=Z,72nm,1.5s
PCVE Castro Verde 88.98 312 *e*SKS **SKSac** **08 53 47.1 +8.5**
PCVE *e*SS **SS** **08 59 44.7 -4.3**
BBB Bella Bella 88.99 29 P **P** **08 43 08.8 0.0**
comp=Z,17nm,0.8s,baz=337,slow=4.1,SNR=10
BBB Bella Bella 88.99 29 P **P** **08 43 10.5 +1.8**
PNCL Nicolau / Gran 89.03 313 *e*P **P** **08 43 10.2 +1.0**
comp=Z,107nm,1.9s
PNCL Nicolau / Gran 89.03 313 *e*PP PP 08 46 41.3 +2.8
PNCL *e*SKS **SKSac** **08 53 37.5 -1.4**
PMAFR Mafra 89.04 314 *e*P **P** **08 43 09.8 +0.5**
comp=Z,196nm,1.2s
PMAFR Mafra 89.04 314 *e*SKS **SKSac** **08 53 38.5 -0.4**
PMAFR *e*SS **SS** **08 59 55.2 +5.4**
LIS Lisbon 89.09 314 *e*P **P** **08 43 08.9 -0.6**
LIS *e*SS SS 08 59 52.2 +1.8
LIS AMS AMS 09 25 11.1
comp=E,12µm,21.3s
LIS Lisbon 89.09 314 *e*P **P** **08 43 08.9 -0.6**
LIS *e*SS SS 08 59 52.2 +1.7
LIS Lisbon 89.09 314 *e*P **P** **08 43 08.4 -1.1**
comp=E,172nm,2.1s
PBDV Barranco-do-Ve 89.13 312 *e*P **P** **08 43 10.6 +0.9**
comp=E,116nm,1.8s
PBDV Barranco-do-Ve 89.13 312 *e*PP PP 08 46 40.1 +0.7
PBDV *e*SKS **SKSac** **08 53 43.9 +4.4**
IFR Ifrane 89.24 308 *e*P **P** **08 43 07.6 -2.9**
IFR *i* S **S** **08 53 53.2 -6.8**
PTEO Sao Teotonio 89.48 313 *e*P **P** **08 43 13.3 +2.0**
comp=E,134nm,1.6s
PFVI Vila Bisbo 89.78 312 *e*P **P** **08 43 13.5 +0.7**
comp=E,118nm,1.4s
PFVI Vila Bisbo 89.78 312 *e*SKS **SKSac** **08 53 48.2 +4.9**
PFVI *e*SS **SS** **09 00 09.1 +8.5**
PFVI Vila Bisbo 89.78 312 IAMs_20 IAMs_20 09 22 17.3
comp=Z,12µm,20.0s
RTC Rabat Centre 90.20 309 IAMs_20 IAMs_20 09 25 34.6
comp=Z,13µm,22.0s
KHU Kahuku 90.61 68 pP 08 43 21.6 -0.9
AVE Averroes 90.97 308 *e*P **P** **08 43 19.8 +1.5**
AVE *e*S **S** **08 54 11.2 -4.4**
LBTB Lobatse 91.21 243 P **P** **08 43 17.5 -2.1**
LBTB pmax pmax
comp=Z,58nm,1.3s
LBTB Lobatse 91.21 243 P **P** **08 43 17.5 -2.1**
FCC Fort Churchill 93.11 9 P **P** **08 43 26.7 -1.0**
FCC pmax pmax
comp=Z,107nm,1.2s
FCC Fort Churchill 93.11 9 P **P** **08 43 26.7 -1.0**
FCC IAmb IAmb 08 43 36.2
comp=Z,107nm,1.2s
FCC IAMs_20 IAMs_20 09 31 46.8
comp=Z,14µm,18.0s
BOSA Boshof 93.23 240 P **P** **08 43 27.2 -1.7**
comp=Z,11nm,1.0s,baz=48,slow=8.6,SNR=6.7
BOSA PKKPbc **PKKPbc** **09 00 39.5 +2.4**
comp=Z,4.0nm,1.1s,baz=0.0,slow=1.0,SNR=3.5
BOSA LR LR 09 25 26.0
comp=Z,7µm,18.9s,baz=64,slow=36
BOSA Boshof 93.23 240 P **P** **08 43 28.6 -0.3**
BOSA pmax pmax
comp=Z,57nm,1.4s
BOSA Boshof 93.23 240 P **P** **08 43 28.6 -0.3**
BOSA IAmb IAmb 08 43 37.5
comp=Z,56nm,1.4s
WKZ Wanaka 93.31 140 IAMs_20 IAMs_20 09 31 28.1
comp=Z,9µm,21.0s
CASY Casey 93.36 177 IAMs_20 IAMs_20 09 19 37.8
comp=Z,11µm,21.0s
PGC Sidney 93.62 29 P **P** **08 43 33.2 +3.0**
PGC IAmb IAmb 08 43 37.3
comp=Z,92nm,1.5s
LBZ Lake Benmore 93.73 139 IAMs_20 IAMs_20 09 29 44.4
comp=Z,10µm,22.0s
RPZ Rata Peaks 93.87 138 IAMs_20 IAMs_20 09 29 55.0
comp=Z,9µm,20.0s
A04D Lummi Island 93.88 29 P **P** **08 43 33.9 +2.4**
baz=320
LTZ Lake Taylor 94.08 137 IAMs_20 IAMs_20 09 26 27.8
comp=Z,8µm,20.0s
OXZ Oxford 94.24 137 IAMs_20 IAMs_20 09 29 59.0
comp=Z,7µm,19.0s
NLWA Neilton Lookou 94.39 30 P **P** **08 43 33.1 -0.8**
NLWA IAmb IAmb 08 43 41.4
comp=Z,106nm,1.6s
NLWA IAMs_20 IAMs_20 09 28 07.3
comp=Z,11µm,21.0s
B05A Bryant 94.49 29 P **P** **08 43 36.0 +1.7**
baz=320
B06A Marblemount 94.55 28 P **P** **08 43 33.3 -1.3**
B06A IAmb IAmb 08 43 41.0
comp=Z,94nm,1.4s
B06A IAMs_20 IAMs_20 09 30 23.7
comp=Z,13µm,19.0s
D03D Eldon 94.62 30 P **P** **08 43 37.0 +2.1**
baz=320
KHZ Kahutara 94.67 136 IAMs_20 IAMs_20 09 26 53.2
comp=Z,9µm,21.0s
D04E Lakebay 95.03 30 P **P** **08 43 40.1 +3.3**
baz=320
E03A Lebam 95.16 30 P **P** **08 43 35.6 -1.8**
E03A IAMs_20 IAMs_20 09 26 51.9
comp=Z,9µm,20.0s
D05A Enumclaw 95.37 29 IAMs_20 IAMs_20 09 27 41.3
comp=Z,9µm,22.0s
FFC Flin Flon 95.51 14 P **P** **08 43 38.0 -0.9**
FFC pmax pmax
comp=Z,62nm,1.2s
FFC Flin Flon 95.51 14 P **P** **08 43 38.0 -0.9**
FFC IAmb IAmb 08 43 46.4
comp=Z,62nm,1.2s
B08A Colville Reser 95.57 27 P **P** **08 43 38.9 -0.4**
B08A IAMs_20 IAMs_20 09 30 17.3
comp=Z,10µm,19.0s
E04D Cinebar 95.60 30 P **P** **08 43 41.6 +2.2**
baz=320
F03A Seaside 95.63 31 IAMs_20 IAMs_20 09 28 55.6
comp=Z,9µm,20.0s

LTY Liberty 95.88 28 P **P** **08 43 39.8 -1.0**
LTY IAMs_20 IAMs_20 09 31 15.2
comp=Z,11µm,20.0s
F04A Amboy 96.14 30 P **P** **08 43 45.0 +3.1**
G03D McMinnville, O 96.31 31 P **P** **08 43 44.4 +1.7**
baz=319
C09A Chrisman Ranch 96.44 27 P **P** **08 43 43.9 +0.6**
C09A IAmb IAmb 08 43 51.0
comp=Z,44nm,1.2s
C09A IAMs_20 IAMs_20 09 30 52.5
comp=Z,13µm,18.0s
NEW Newport 96.52 26 P **P** **08 43 44.8 +1.1**
baz=324
NEW Newport 96.52 26 P **P** **08 43 44.3 +0.6**
NEW pmax pmax
comp=Z,33nm,1.3s
NEW Newport 96.52 26 P **P** **08 43 44.3 +0.6**
NEW Newport 96.52 26 IAMs_20 IAMs_20 09 31 00.1
comp=Z,11µm,19.0s
F05D White Salmon 96.61 30 P **P** **08 43 48.1 +4.0**
baz=321
COR Corvallis 96.77 32 IAMs_20 IAMs_20 09 26 09.4
comp=Z,8µm,21.0s
E07A Sunnyside 96.78 28 IAMs_20 IAMs_20 09 31 51.5
comp=Z,10µm,19.0s
HAWA Hanford 97.04 28 P **P** **08 43 45.9 -0.1**
HAWA IAMs_20 IAMs_20 09 31 59.2
comp=Z,10µm,18.0s
WALA Waterton Lakes 97.06 24 P Pdif 08 43 46.4 +0.1
WALA IAmb IAmb 08 43 56.6
comp=Z,77nm,1.6s
H04D Lebanon 97.08 31 P Pdif 08 43 49.2 +2.9
baz=320
G05D Wamic, OR 97.17 30 P Pdif 08 43 48.6 +1.9
baz=321
H04A Detroit Lake 97.21 31 P Pdif 08 43 47.0 +0.1
H04A IAmb IAmb 08 43 53.0
comp=Z,50nm,1.6s
H04A IAMs_20 IAMs_20 09 29 54.1
comp=Z,8µm,20.0s
F07A Phinny Hill Vi 97.27 29 IAMs_20 IAMs_20 09 31 35.5
comp=Z,12µm,18.0s
I03D Drain, OR 97.42 32 P Pdif 08 43 51.8 +4.0
baz=319
E09A Wood Farm, Sta 97.53 28 IAMs_20 IAMs_20 09 33 58.3
comp=Z,9µm,18.0s
I04A Tendick Farm, 97.78 32 P Pdif 08 43 51.0 +1.5
baz=320
PMOZ Porto Moniz, M 97.85 313 *e*PP **PP** **08 47 46.2 -1.6**
PMOZ Porto Moniz, M 97.85 313 eLR LR 09 19 16.3
comp=Z,6µm,20.0s
SCHQ Schefferville 97.86 354 P **P** **08 43 48.8 -0.7**
comp=Z,16nm,0.8s,baz=40,slow=3.9,SNR=24
SCHQ PP **PP** **08 47 45.9 -0.9**
comp=Z,3.8nm,0.8s,baz=191,slow=1.8,SNR=3.5
SCHQ PKKP **PKKPdf** **09 00 26.6 +0.8**
comp=Z,2.0nm,0.8s,baz=263,slow=5.1,SNR=3.5
SCHQ LR LR 09 32 28.4
comp=Z,6µm,18.8s,baz=16,slow=38
SCHQ Schefferville 97.86 354 P **P** **08 43 49.0 -0.5**
SCHQ IAmb IAmb 08 43 56.5
comp=Z,27nm,1.1s
I05D Terrebonne, OR 97.86 31 P Pdif 08 43 50.8 +0.9
baz=321
K02D Willamette Mer 98.02 33 P Pdif 08 43 53.3 +2.6
baz=319
JTMT Jette 98.03 25 IAMs_20 IAMs_20 09 28 37.6
comp=Z,14µm,22.0s
G08A Pilot Rock 98.16 29 P **P** **08 43 50.6 -0.6**
G08A IAMs_20 IAMs_20 09 29 31.2
comp=Z,10µm,22.0s
F10A Beach Ranch, E 98.34 27 P Pdif 08 43 52.1 +0.1
F10A IAMs_20 IAMs_20 09 34 31.8
comp=Z,13µm,19.0s
J04D Umpqua Nationa 98.35 32 P Pdif 08 43 52.4 +0.2
baz=320
SUR Sutherland 98.38 238 IAMs_20 IAMs_20 09 26 53.6
comp=Z,12µm,20.0s
PINE Pine Mountain 98.46 31 P **P** **08 43 52.5 -0.2**
J05D Fort Rock, OR 98.72 31 Pdif Pdif 08 43 55.5 +1.6
baz=321
I07A Izee 98.88 30 **P** **08 43 54.1 -0.3**
I07A IAMs_20 IAMs_20 09 31 08.3
comp=Z,9µm,21.0s
MSO Missoula 98.92 25 Pdif Pdif 08 43 55.8 +1.2
baz=327
MSO Missoula 98.92 25 **P** **08 43 54.2 -0.4**
L04D Klamath Falls 99.04 33 Pdif **Pdif** **08 43 57.0 +1.7**
baz=320
YBH Yreka Blue Hor 99.21 33 P **Pdif** **08 43 58.8 +2.9**
comp=Z,3.8nm,1.0s,baz=60,slow=8.2,SNR=4.5
YBH Yreka Blue Hor 99.21 33 P **Pdif** **08 44 02.4 +6.4**
YBH pmax pmax
comp=Z,21nm,1.5s
YBH Yreka Blue Hor 99.21 33 P **Pdif** **08 44 02.4 +6.4**
BMO Blue Mountains 99.21 28 P **Pdif** **08 43 55.4 -0.6**
BMO pmax pmax
comp=Z,3.0nm,0.8s
BMO Blue Mountains 99.21 28 P **Pdif** **08 43 55.4 -0.6**
BMO IAMs_20 IAMs_20 09 34 09.9
comp=Z,8µm,19.0s
MAW Mawson 99.27 195 P **Pdif** **08 43 53.0 -2.1**
comp=Z,1.7nm,1.0s,baz=80,slow=23,SNR=2.6
MAW PKKPbc **PKKPbc** **09 00 22.3 +0.5**
comp=Z,2.4nm,0.8s,baz=96,slow=6.1,SNR=3.5
MAW LR LR 09 24 29.7
comp=Z,8µm,21.1s,baz=24,slow=33
K05A Summer Lake 99.31 31 P **Pdif** **08 43 56.3 -0.2**
K05A IAmb IAmb 08 44 02.7
comp=Z,36nm,1.4s
K05A IAMs_20 IAMs_20 09 27 07.7
comp=Z,8µm,22.0s
EGMT Eagleton 99.38 22 Pdif **Pdif** **08 43 57.7 +1.1**
baz=330
EGMT Eagleton 99.38 22 **Pdif** **08 43 56.2 -0.3**
EGMT IAmb IAmb 08 44 02.6
comp=Z,44nm,1.4s
M02C Callahan 99.40 33 Pdif **Pdif** **08 43 59.0 +2.2**
baz=319
CMLA Cha da Macela 99.57 321 IAMs_20 IAMs_20 09 30 35.9
comp=Z,10µm,21.0s
M04C Macdoel 99.59 33 Pdif **Pdif** **08 43 59.8 +2.1**
baz=320
KMRM Mail Ridge 99.85 35 IAMs_20 IAMs_20 09 35 15.8
comp=Z,7µm,19.0s
J08A Circle Bar Ran 99.91 30 IAMs_20 IAMs_20 09 33 58.5
comp=Z,9µm,19.0s
MOD Modoc Plateau 100.23 32 IAMs_20 IAMs_20 09 29 48.1
comp=Z,7µm,21.0s
O02D Mt. Diablo Mer 100.35 34 Pdif **Pdif** **08 44 03.6 +2.5**
baz=319
ROSA Rosais 100.36 324 IAMs_20 IAMs_20 09 30 54.5
comp=Z,8µm,19.0s
WVOR Wild Horse Val 100.57 30 IAMs_20 IAMs_20 09 33 28.1
comp=Z,7µm,21.0s
DGMT Dagmar 100.69 18 Pdif **Pdif** **08 44 02.8 +0.5**
baz=335
O03E Paynes Creek 100.75 34 Pdif **Pdif** **08 44 07.3 +4.5**
baz=320
BOZ Bozeman (W) 100.82 24 Pdif **Pdif** **08 44 03.6 +0.5**
baz=329
ULM Lac du Bonnet 100.99 12 P **Pdif** **08 44 03.9 +0.3**
comp=Z,3.3nm,0.7s,baz=342,slow=6.6,SNR=3.5
ULM PP **PP** **08 48 15.5 +4.8**
comp=Z,4.2nm,0.8s,baz=359,slow=6.7,SNR=3.4
ULM PKKPbc **PKKPbc** **09 00 14.9 -0.9**
comp=Z,2.2nm,0.6s,baz=125,slow=8.4,SNR=3.0
ULM Lac du Bonnet 100.99 12 IAMs_20 IAMs_20 09 37 07.4
comp=Z,11µm,19.0s
MFID Camas Ranch 101.00 28 IAMs_20 IAMs_20 09 36 15.8
comp=Z,10µm,19.0s
HLID Hailey 101.46 27 Pdif **Pdif** **08 44 07.4 +1.3**
baz=326
HLID Hailey 101.46 27 IAMs_20 IAMs_20 09 34 36.8
comp=Z,12µm,18.0s
DRLN Deer Lake 101.99 347 IAMs_20 IAMs_20 09 33 23.4
comp=Z,12µm,19.0s
RLMT Red Lodge 102.08 23 Pdif **Pdif** **08 44 09.3 +0.5**
baz=331
RLMT Red Lodge 102.08 23 IAMs_20 IAMs_20 09 35 01.3
comp=Z,11µm,20.0s
H17A Grant Village 102.24 24 Pdif **Pdif** **08 44 12.8 +3.2**
baz=330
PAHR Pah Rah Range 102.38 32 IAMs_20 IAMs_20 09 35 25.0
comp=Z,8µm,20.0s
MDND Maddock 102.46 16 IAMs_20 IAMs_20 09 33 07.3
comp=Z,13µm,22.0s

FLWY Flagg Ranch 102.46 24 IAMs_20 IAMs_20 09 34 55.7
comp=Z,8µm,19.0s
IMW Indian Meadow 102.53 25 IAMs_20 IAMs_20 09 37 48.8
comp=Z,7µm,19.0s
FXWY Fox Creek 102.72 25 IAMs_20 IAMs_20 09 36 49.8
comp=Z,8µm,20.0s
TPAW Teton Pass 102.88 25 IAMs_20 IAMs_20 09 37 05.1
comp=Z,8µm,19.0s
SNOW Snow King Moun 102.97 25 IAMs_20 IAMs_20 09 38 02.2
comp=Z,7µm,18.0s
DBIC Dimbokro 103.01 285 PP **PKiKP** **08 48 28.9 -4.5**
comp=Z,8.6nm,1.0s,baz=8.9,slow=5.3,SNR=3.2
DBIC PKKPbc **PKKPbc** **09 00 12.5 +3.4**
comp=Z,5.2nm,0.9s,baz=354,slow=5.9,SNR=3.3
CHGQ Chibougamau 103.19 359 Pdiff **Pdif** **08 44 12.5 -0.9**
baz=2.0
WAKR Walker 103.30 33 IAMs_20 IAMs_20 09 40 31.4
comp=Z,7µm,20.0s
E28A Huff 103.37 17 IAMs_20 IAMs_20 09 34 32.5
comp=Z,13µm,21.0s
ELK Elko 103.44 29 Pdiff **Pdif** **08 44 19.1 +4.1**
comp=Z,0.8nm,0.7s,baz=274,slow=6.1,SNR=5.4
ELK PP **PP** **08 48 26.5 -3.3**
comp=Z,2.6nm,0.9s,baz=348,slow=14,SNR=3.5
ELK PKKPbc **PKKPbc** **09 00 08.8 -0.1**
baz=159,slow=2.7
ELK Elko 103.44 29 IAMs_20 IAMs_20 09 29 57.9
comp=Z,9µm,22.0s
KVN Kaiserville 103.51 32 IAMs_20 IAMs_20 09 36 38.2
comp=Z,7µm,18.0s
RYN Ryan 103.64 33 IAMs_20 IAMs_20 09 38 43.8
comp=Z,6µm,19.0s
NVAR Mina Array Bea 103.90 33 Pdiff **Pdif** **08 44 17.4 +0.4**
comp=Z,1.5nm,0.8s,baz=278,slow=4.2,SNR=10
NVAR PKiKP **PKiKP** **08 48 34.1 -0.7**
comp=Z,2.0nm,0.9s,baz=277,slow=3.4,SNR=4.1
NVAR PKKPbc **PKKPbc** **09 00 04.4 -3.0**
comp=Z,1.1nm,0.7s,baz=140,slow=3.0,SNR=6.7
EYMN Ely 103.99 10 Pdiff **Pdif** **08 44 15.8 -1.1**
baz=346
EYMN Ely 103.99 10 IAMs_20 IAMs_20 09 37 53.8
comp=Z,10µm,19.0s
BW06 Boulder Array 104.02 24 Pdiff **Pdif** **08 44 17.9 +0.4**
baz=330
PDAR Pinedale Array 104.02 24 Pdiff **Pdif** **08 44 20.2 +2.7**
comp=Z,1.3nm,0.9s,baz=14,slow=3.1,SNR=9.0
PDAR PP **PP** **08 48 27.2 -6.7**
comp=Z,1.3nm,0.9s,baz=343,slow=7.7,SNR=4.0
PDAR PKKPbc **PKKPbc** **09 00 10.9 +3.7**
comp=Z,0.4nm,0.9s,baz=160,slow=4.7,SNR=3.6
LSQQ Lebel-sur-Quev 104.07 0 Pdiff **Pdif** **08 44 18.0 +0.7**
baz=360
OMMB Old Mammoth Mi 104.21 34 IAMs_20 IAMs_20 09 31 58.8
comp=Z,8µm,22.0s
HWUT Hardwre Ranch 104.25 26 IAMs_20 IAMs_20 09 36 34.5
comp=Z,12µm,19.0s
RSSD Black Hills 104.68 20 Pdiff **Pdif** **08 44 22.1 +1.7**
baz=335
DUG Dugway, Tooele 104.93 28 Pdiff **Pdif** **08 44 23.9 +2.3**
baz=327
VLDQ Val d'Or 105.01 1 IAMs_20 IAMs_20 09 40 22.0
comp=Z,10µm,21.0s
TIN Tinemaha, Big 105.02 33 Pdiff **Pdif** **08 44 24.7 +2.8**
baz=322
K22A Casper 105.19 22 Pdiff **Pdif** **08 44 23.5 +0.8**
baz=333
K22A Casper 105.19 22 IAMs_20 IAMs_20 09 37 18.1
comp=Z,11µm,19.0s
R11A Troy Canyon, C 105.24 31 Pdiff **Pdif** **08 44 24.6 +1.6**
baz=325
R11A Troy Canyon, C 105.24 31 IAMs_20 IAMs_20 09 39 26.0
comp=Z,7µm,18.0s
BATG Bathurst New B 105.25 353 IAMs_20 IAMs_20 09 32 59.4
comp=Z,12µm,21.0s
D41A Chassel 105.28 8 IAMs_20 IAMs_20 09 37 41.3
comp=Z,10µm,19.0s
E38A The Farm, Brul 105.28 11 IAMs_20 IAMs_20 09 37 57.4
comp=Z,8µm,21.0s
F36A Milaca 105.65 12 IAMs_20 IAMs_20 09 38 53.3
comp=Z,10µm,18.0s
D62A Allapoint, All 105.74 355 IAMs_20 IAMs_20 09 36 11.3
comp=Z,9µm,21.0s
SUSD Miller 105.80 16 Pdiff **Pdif** **08 44 26.5 +1.4**
baz=339
D48A Paudash Townsh 105.80 4 Pdiff **Pdif** **08 44 24.5 -0.5**
baz=355
RWWY Rawlins 105.81 23 IAMs_20 IAMs_20 09 35 36.0
comp=Z,10µm,21.0s
D47A Chapleau 105.84 5 Pdiff **Pdif** **08 44 26.7 +1.5**
baz=354
D50A G1974 Best Tow 105.90 2 Pdiff **Pdif** **08 44 28.0 +2.5**
baz=357
D58A Chemin du LacG 105.96 357 Pdiff **Pdif** **08 44 26.7 +1.0**
baz=3.4
ISA Isabella, Lake 106.00 34 IAMs_20 IAMs_20 09 37 59.3
comp=Z,8µm,20.0s
D53A Lac Vacive, Po 106.04 1 Pdiff **Pdif** **08 44 31.0 +4.8**
baz=359
D53A Lac Vacive, Po 106.04 1 IAMs_20 IAMs_20 09 40 40.4
comp=Z,10µm,21.0s
PQI Presque Isle 106.05 354 IAMs_20 IAMs_20 09 38 41.2
comp=Z,8µm,20.0s
TPNV Topopah Spring 106.06 32 IAMs_20 IAMs_20 09 36 28.5
comp=Z,6µm,20.0s
D57A Chemin Vers le 106.07 358 Pdiff **Pdif** **08 44 27.6 +1.3**
baz=2.5
E43A Lone Tree Farm 106.14 7 IAMs_20 IAMs_20 09 39 01.2
comp=Z,12µm,21.0s
MPMC Manual Prospec 106.18 34 Pdiff **Pdif** **08 44 32.5 +5.3**
baz=323
E62A Clayton Lake 106.23 355 IAMs_20 IAMs_20 09 42 26.4
comp=Z,9µm,21.0s
E63A Oxbow 106.34 354 IAMs_20 IAMs_20 09 41 49.2
comp=Z,9µm,21.0s
SPMN Marine on St. 106.40 12 IAMs_20 IAMs_20 09 35 50.4
comp=Z,10µm,19.0s
E47A Iron Bridge 106.42 5 Pdiff **Pdif** **08 44 27.3 -0.5**
baz=354
F42A Maple Grove Fa 106.61 8 IAMs_20 IAMs_20 09 39 56.6
comp=Z,10µm,19.0s
E57A Chemin Saint G 106.69 358 Pdiff **Pdif** **08 44 32.1 +3.1**
baz=2.2
OSI Osito Audit: C 106.69 35 IAMs_20 IAMs_20 09 30 50.7
comp=Z,6µm,21.0s
E58A La Victoria 106.70 358 Pdiff **Pdif** **08 44 32.0 +3.0**
baz=3.0
PHWY Pilot Hill 106.75 22 IAMs_20 IAMs_20 09 38 12.0
comp=Z,9µm,19.0s
O20A White River Ci 106.79 25 Pdiff **Pdif** **08 44 31.3 +1.4**
baz=331
O20A White River Ci 106.79 25 IAMs_20 IAMs_20 09 36 51.5
comp=Z,7µm,20.0s
G40A Rib Lake 106.80 10 IAMs_20 IAMs_20 09 36 15.8
comp=Z,13µm,22.0s
EDW2 Edwards Air Fo 106.85 35 Pdiff **Pdif** **08 44 34.0 +3.9**
baz=322
F64A Sherman 106.88 354 IAMs_20 IAMs_20 09 42 16.7
comp=Z,8µm,20.0s
SHPR Sheep Range 106.94 32 IAMs_20 IAMs_20 09 35 51.9
comp=Z,8µm,20.0s
N23A Red Feather La 106.95 23 Pdiff **Pdif** **08 44 33.4 +2.7**
baz=333
N23A Red Feather La 106.95 23 IAMs_20 IAMs_20 09 39 18.6
comp=Z,11µm,20.0s
F62A Pittston Farm, 106.99 355 IAMs_20 IAMs_20 09 42 08.4
comp=Z,9µm,20.0s
F48A Evansville 107.09 4 Pdiff **Pdif** **08 44 33.4 +2.6**
baz=354
F63A Nahmakanta, Br 107.11 355 IAMs_20 IAMs_20 09 43 29.6
comp=Z,8µm,21.0s
GSC Goldstone, Bar 107.11 34 Pdiff **Pdif** **08 44 33.6 +2.4**
baz=323
PASC Pasadena Art C 107.31 35 IAMs_20 IAMs_20 09 30 45.8
comp=Z,7µm,21.0s
MWC Mount Wilson 107.34 35 IAMs_20 IAMs_20 09 30 49.8
comp=Z,7µm,21.0s
I37A Lemond, Waseca 107.45 13 IAMs_20 IAMs_20 09 40 36.0
comp=Z,12µm,20.0s
G65A Princeton 107.46 353 IAMs_20 IAMs_20 09 39 22.0
comp=Z,10µm,20.0s
GGN Saint George 107.47 353 IAMs_20 IAMs_20 09 34 17.1
comp=Z,9µm,20.0s
HAL Halifax 107.52 350 IAMs_20 IAMs_20 09 36 54.4
comp=Z,9µm,20.0s
PKME Peaks-Kenny Pk 107.56 355 IAMs_20 IAMs_20 09 43 39.6
comp=Z,8µm,20.0s
G45A Suttons Bay 107.61 7 IAMs_20 IAMs_20 09 38 19.0
comp=Z,12µm,21.0s

G62A	West of Eustis	107.70	356	IAMs_20	IAMs_20	09 34 40.3		
	comp=Z,8µm,21.0s							
H43A	Windswept, Lux	107.93	8	IAMs_20	IAMs_20	09 38 46.4		
	comp=Z,12µm,19.0s							
EMMW	East Machias	107.94	353	IAMs_20	IAMs_20	09 34 31.6		
	comp=Z,9µm,20.0s							
PV22	Blue Mesa, Par	107.97	26	IAMs_20	IAMs_20	09 40 21.5		
	comp=Z,11µm,18.0s							
G53A	Haliburton	107.98	2	Pdiff	**Pdif**	**08 44 36.0**	**+1.2**	
	baz=358							
ISCO	Idaho Springs	108.04	23	Pdiff	**Pdif**	**08 44 39.6**	**+4.0**	
	baz=333							
I40A	Norwalk	108.07	11	IAMs_20	IAMs_20	09 37 20.4		
	comp=Z,13µm,22.0s							
PLVO	Plevna	108.09	0	IAMs_20	IAMs_20	09 33 51.5		
	comp=Z,10µm,20.0s							
PV19	Morning Glory	108.09	26	IAMs_20	IAMs_20	09 40 27.0		
	comp=Z,11µm,20.0s							
PV16	Nyswonger Mesa	108.11	26	IAMs_20	IAMs_20	09 40 26.7		
	comp=Z,11µm,20.0s							
PV03	Paradox Valley	108.19	26	IAMs_20	IAMs_20	09 40 38.7		
	comp=Z,12µm,20.0s							
FRNY	Flat Rock	108.24	358	IAMs_20	IAMs_20	09 43 05.6		
	comp=Z,9µm,20.0s							
PV15	Paradox Valley	108.26	26	IAMs_20	IAMs_20	09 40 37.5		
	comp=Z,9µm,18.0s							
WVL	Waterville	108.29	355	IAMs_20	IAMs_20	09 34 21.8		
	comp=Z,8µm,20.0s							
U15A	North Rim	108.30	30	IAMs_20	IAMs_20	09 41 19.0		
	comp=Z,8µm,21.0s							
SADO	Sadowa	108.32	2	IAMs_20	IAMs_20	09 37 01.7		
	comp=Z,9µm,19.0s							
I42A	Draeger Farm,	108.34	9	IAMs_20	IAMs_20	09 36 18.5		
	comp=Z,12µm,21.0s							
H62A	Milan	108.38	356	IAMs_20	IAMs_20	09 39 20.4		
	comp=Z,7µm,20.0s							
LONY	Lake Ozonia	108.49	359	IAMs_20	IAMs_20	09 42 59.1		
	comp=Z,7µm,20.0s							
DELO	Deloro Mine	108.61	1	IAMs_20	IAMs_20	09 33 59.2		
	comp=Z,10µm,20.0s							
PFO	Pinyon Flats O	108.63	34	PKiKP	**PKiKP**	**08 48 46.8**	**+3.3**	
	comp=Z,2.7nm,1.0s,baz=259,slow=4.1,SNR=4.5							
PFO				PP	**PP**	**08 49 09.1**	**+1.0**	
	comp=Z,2.8nm,0.9s,baz=133,slow=2.1,SNR=6.2							
PFO	Pinyon Flats O	108.63	34	IAMs_20	IAMs_20	09 32 03.1		
	comp=Z,9µm,22.0s							
XPFO	Pion Flat	108.63	34	IAMs_20	IAMs_20	09 32 02.1		
	comp=Z,9µm,21.0s							
VT1	Waterbury	108.71	357	IAMs_20	IAMs_20	09 41 16.3		
	comp=Z,7µm,18.0s							
LBNH	Lisbon	108.76	356	IAMs_20	IAMs_20	09 41 52.4		
	comp=Z,7µm,20.0s							
I63A	Otisfield	108.87	355	IAMs_20	IAMs_20	09 34 20.1		
	comp=Z,10µm,22.0s							
K38A	Parkersburg	108.89	13	IAMs_20	IAMs_20	09 42 35.1		
	comp=Z,13µm,21.0s							
MBO	M'Bour	108.92	298	IAMs_20	IAMs_20	09 41 45.3		
	comp=Z,7µm,19.0s							
I62A	Tamworth	109.09	356	IAMs_20	IAMs_20	09 32 34.1		
	comp=Z,10µm,22.0s							
MVCO	Mesa Verde	109.23	27	IAMs_20	IAMs_20	09 41 23.4		
	comp=Z,9µm,20.0s							
HNH	Hanover	109.31	357	IAMs_20	IAMs_20	09 42 34.0		
	comp=Z,7µm,20.0s							
S22A	4UR Ranch, Cre	109.41	25	IAMs_20	IAMs_20	09 40 25.9		
	comp=Z,8µm,19.0s							
J47A	Sunmer	109.48	6	IAMs_20	IAMs_20	09 36 05.5		
	comp=Z,11µm,21.0s							
K43A	Burlington	109.58	9	IAMs_20	IAMs_20	09 39 06.3		
	comp=Z,12µm,21.0s							
J59A	Piesco	109.64	358	IAMs_20	IAMs_20	09 37 38.6		
	comp=Z,7µm,20.0s							
ACCN	Adirondack Com	109.69	358	IAMs_20	IAMs_20	09 43 41.0		
	comp=Z,8µm,19.0s							
J57A	Williamstown	109.72	360	IAMs_20	IAMs_20	09 41 56.6		
	comp=Z,10µm,19.0s							
L40A	Anamosa	109.75	12	IAMs_20	IAMs_20	09 39 06.7		
	comp=Z,12µm,21.0s							
J58A	Remsen	109.76	359	IAMs_20	IAMs_20	09 43 06.7		
	comp=Z,10µm,18.0s							
J54A	Appleton	109.83	2	IAMs_20	IAMs_20	09 39 13.6		
	comp=Z,10µm,20.0s							
GLA	Glamis	109.89	34	IAMs_20	IAMs_20	09 33 00.4		
	comp=Z,7µm,22.0s							
SDCO	Great Sand Dun	109.90	24	IAMs_20	IAMs_20	09 42 36.6		
	comp=Z,10µm,19.0s							
MEDO	Medina	109.94	1	IAMs_20	IAMs_20	09 39 15.6		
	comp=Z,9µm,20.0s							
VNDA	Vanda	110.04	169	Pdiff	**Pdif**	**08 44 48.0**	**+5.0**	
	comp=Z,0.4nm,0.8s,baz=315,slow=8.6,SNR=2.1							
VNDA				PP	**PP**	**08 49 17.7**	**-0.6**	
	comp=Z,2.1nm,1.0s,baz=312,slow=7.9,SNR=3.7							
VNDA				PKKPbc	**PKKPbc**	**08 59 48.2**	**-0.9**	
	comp=Z,2.0nm,0.9s,baz=111,slow=2.3,SNR=7.9							
Y14A	Wickenburg	110.05	32	IAMs_20	IAMs_20	09 44 33.2		
	comp=Z,6µm,19.0s							
L42A	Oliver, Polo	110.07	10	IAMs_20	IAMs_20	09 39 28.1		
	comp=Z,11µm,20.0s							
L44A	Lake County Fo	110.16	9	IAMs_20	IAMs_20	09 39 31.5		
	comp=Z,12µm,20.0s							
TRY	Troy	110.35	358	IAMs_20	IAMs_20	09 43 59.3		
	comp=Z,8µm,18.0s							
K62A	Royalston	110.35	357	IAMs_20	IAMs_20	09 44 36.4		
	comp=Z,9µm,19.0s							
K58A	Earlville	110.36	359	IAMs_20	IAMs_20	09 43 51.7		
	comp=Z,6µm,18.0s							
HRV	Adam Dziewonsk	110.47	356	IAMs_20	IAMs_20	09 36 22.5		
	comp=Z,8µm,21.0s							
AAM	Ann Arbor	110.52	6	IAMs_20	IAMs_20	09 35 21.9		
	comp=Z,10µm,21.0s							
W18A	Petrified Fore	110.52	29	IAMs_20	IAMs_20	09 42 02.5		
	comp=Z,10µm,18.0s							
HQIL	Hanson Quary C	110.54	9	IAMs_20	IAMs_20	09 38 02.5		
	comp=Z,11µm,19.0s							
WES	Weston	110.58	356	IAMs_20	IAMs_20	09 43 18.3		
	comp=Z,8µm,20.0s							
BCX	Boston College	110.61	356	IAMs_20	IAMs_20	09 35 20.4		
	comp=Z,7µm,22.0s							
WVNY	West Valley, N	110.70	2	IAMs_20	IAMs_20	09 40 56.6		
	comp=Z,10µm,20.0s							
QUA2	Belchertown	110.74	357	IAMs_20	IAMs_20	09 44 46.7		
	comp=Z,8µm,21.0s							
T25A	Trinidad	110.84	24	IAMs_20	IAMs_20	09 40 18.5		
	comp=Z,10µm,18.0s							
L59A	Walton	110.92	359	IAMs_20	IAMs_20	09 38 18.6		
	comp=Z,8µm,20.0s							
BINY	Binghamton	110.93	360	IAMs_20	IAMs_20	09 44 01.7		
	comp=Z,9µm,18.0s							
ERPA	Erie	110.94	3	IAMs_20	IAMs_20	09 41 03.0		
	comp=Z,9µm,21.0s							
L56A	Greenwood	110.99	1	IAMs_20	IAMs_20	09 35 29.2		
	comp=Z,10µm,20.0s							
BRYW	Bryant College	111.05	356	IAMs_20	IAMs_20	09 44 54.0		
	comp=Z,8µm,20.0s							
KSCT	Kent School, K	111.34	358	IAMs_20	IAMs_20	09 41 33.6		
	comp=Z,7µm,19.0s							
M65A	Busby, Falmout	111.35	355	IAMs_20	IAMs_20	09 43 44.8		
	comp=Z,9µm,18.0s							
M50A	Fremont	111.46	5	IAMs_20	IAMs_20	09 41 02.9		
	comp=Z,11µm,19.0s							
HDIL	Hopedale	111.54	10	IAMs_20	IAMs_20	09 40 21.1		
	comp=Z,11µm,21.0s							
M54A	Oil Creek Stat	111.56	3	IAMs_20	IAMs_20	09 41 23.4		
	comp=Z,10µm,21.0s							
KSPA	Keystone Colle	111.57	359	IAMs_20	IAMs_20	09 44 22.6		
	comp=Z,10µm,18.0s							
M53A	WI Miller and	111.58	3	IAMs_20	IAMs_20	09 40 13.0		
	comp=Z,12µm,21.0s							
M56A	Emporium	111.63	1	IAMs_20	IAMs_20	09 36 59.2		
	comp=Z,8µm,21.0s							
M55A	Ridgway	111.63	2	IAMs_20	IAMs_20	09 41 34.2		
	comp=Z,12µm,21.0s							
N47A	Urbana	111.72	7	IAMs_20	IAMs_20	09 37 44.7		
	comp=Z,11µm,22.0s							
YLE	Yale	111.73	357	IAMs_20	IAMs_20	09 42 38.9		
	comp=Z,9µm,19.0s							
M57A	Sunshine Farm,	111.79	0	IAMs_20	IAMs_20	09 36 04.5		
	comp=Z,11µm,21.0s							
N49A	Columbus Grove	111.84	6	IAMs_20	IAMs_20	09 37 27.8		
	comp=Z,12µm,20.0s							
WSPT	Westport, CT	111.89	357	IAMs_20	IAMs_20	09 44 55.1		
	comp=Z,9µm,18.0s							
N51A	Ashland	112.00	5	IAMs_20	IAMs_20	09 41 21.0		
	comp=Z,9µm,19.0s							
ANMO	Albuquerque	112.01	26	Pdiff	**Pdif**	**08 44 56.3**	**+3.1**	
	comp=Z,0.2nm,0.3s,baz=0.0,slow=6.1,SNR=1.5							
ANMO				PKiKP	**PKiKP**	**08 48 50.0**	**+0.1**	
	comp=Z,4.8nm,0.9s,baz=259,slow=1.6,SNR=14							
ANMO	Albuquerque	112.01	26	*i* PKiKP	**PKiKP**	**08 48 50.0**	**+0.1**	
ODNJ	Ogdensburg	112.02	358	IAMs_20	IAMs_20	09 36 36.6		
	comp=Z,9µm,22.0s							
SFIN	Lafayette	112.04	9	IAMs_20	IAMs_20	09 38 45.2		
	comp=Z,12µm,21.0s							
N59A	State Game Lan	112.21	359	IAMs_20	IAMs_20	09 44 41.5		
	comp=Z,9µm,18.0s							
P43A	Skaggs, Pawnee	112.40	11	IAMs_20	IAMs_20	09 37 36.8		
	comp=Z,10µm,21.0s							
BRNJ	Basking Ridge	112.42	358	IAMs_20	IAMs_20	09 39 36.1		
	comp=Z,8µm,20.0s							
TUC	Tucson	112.43	31	IAMs_20	IAMs_20	09 42 32.3		
	comp=Z,8µm,19.0s							
SSPA	Standing Stone	112.48	1	IAMs_20	IAMs_20	09 40 00.8		
	comp=Z,12µm,21.0s							
Y22D	IRIS PASSCAL I	112.59	27	IAMs_20	IAMs_20	09 41 53.2		
	comp=Z,9µm,21.0s							
ACSO	Alum Creek Sta	112.63	5	IAMs_20	IAMs_20	09 40 44.8		
	comp=Z,7µm,20.0s							
PPT2	Papeete2	112.63	99	*e*Pdif	**Pdif**	**08 44 55.1**	**-0.8**	
	comp=Z,80nm,27.0s							
PPT2	Papeete2	112.63	99	*e*PP	**PP**	**08 49 33.4**	**-5.0**	
	comp=Z,264nm,28.2s							
PPT2				*e*Sdif	Sdif	08 57 17.8	-2.1	
	comp=Z,661nm,30.0s							
PPT2				*e*SP	SP	08 59 10.2	-1.2	
	comp=Z,2µm,27.0s							
PPT2				*e*SS	**SS**	**09 05 22.5**	**+2.2**	
	comp=Z,4µm,25.8s							
PPT2	Papeete2	112.63	99	*e*LQ	LQ	09 17 41.9		
	comp=Z,6µm,33.8s							
PPT2				*e*LR	LR	09 22 31.0		
	comp=Z,10µm,25.8s							
O53A	New Philadelph	112.74	4	IAMs_20	IAMs_20	09 43 35.6		
	comp=Z,10µm,19.0s							
O52A	Adamsville	112.83	4	IAMs_20	IAMs_20	09 41 48.1		
	comp=Z,9µm,19.0s							
O56A	Blue Knob Stat	112.83	2	IAMs_20	IAMs_20	09 43 29.1		
	comp=Z,11µm,20.0s							
PAGS	Pennsylvania G	112.90	0	IAMs_20	IAMs_20	09 44 57.8		
	comp=Z,9µm,18.0s							
P48A	Milroy	113.15	7	IAMs_20	IAMs_20	09 40 57.7		
	comp=Z,8µm,21.0s							
Q44A	Meyer Farm, Va	113.20	11	IAMs_20	IAMs_20	09 41 41.0		
	comp=Z,12µm,21.0s							
P52A	Corning	113.29	5	IAMs_20	IAMs_20	09 46 29.2		
	comp=Z,9µm,18.0s							
P51A	Williamsport	113.37	5	IAMs_20	IAMs_20	09 42 22.3		
	comp=Z,10µm,18.0s							
MCWV	Mont Chateau	113.40	3	IAMs_20	IAMs_20	09 42 45.1		
	comp=Z,9µm,20.0s							
P61A	Hammonton	113.43	359	IAMs_20	IAMs_20	09 40 14.9		
	comp=Z,9µm,20.0s							
P53A	Whipple	113.49	4	IAMs_20	IAMs_20	09 42 02.4		
	comp=Z,10µm,19.0s							
121A	Cookes Peak, D	113.56	29	IAMs_20	IAMs_20	09 43 17.2		
	comp=Z,9µm,20.0s							
P57A	Homestead Farm	113.63	1	IAMs_20	IAMs_20	09 40 43.2		
	comp=Z,9µm,21.0s							
AMTX	Amarillo	113.82	22	IAMs_20	IAMs_20	09 43 20.1		
	comp=Z,9µm,20.0s							
FVM	French Village	113.85	12	IAMs_20	IAMs_20	09 41 24.4		
	comp=Z,10µm,20.0s							
319A	Douglas	113.90	30	IAMs_20	IAMs_20	09 43 49.2		
	comp=Z,7µm,21.0s							
Q54A	Coxs Mills	114.02	4	IAMs_20	IAMs_20	09 41 54.6		
	comp=Z,11µm,21.0s							
Q60A	Greensboro	114.12	359	IAMs_20	IAMs_20	09 40 29.2		
	comp=Z,8µm,20.0s							
MSTX	Muleshoe	114.27	24	IAMs_20	IAMs_20	09 44 09.0		
	comp=Z,8µm,19.0s							
R49A	Shelbyville	114.34	7	IAMs_20	IAMs_20	09 38 58.0		
	comp=Z,9µm,20.0s							
R53A	Hurricane	114.60	5	IAMs_20	IAMs_20	09 38 52.9		
	comp=Z,9µm,20.0s							
R55A	Marlinton	114.76	3	IAMs_20	IAMs_20	09 47 51.0		
	comp=Z,10µm,18.0s							
EPT	El Paso	114.76	28	IAMs_20	IAMs_20	09 44 13.5		
	comp=Z,9µm,20.0s							
TBI	Tubuai	114.83	105	*e*SP	SP	08 59 30.7	-0.6	
	comp=Z,2µm,26.8s							
TBI				*e*SS	**SS**	**09 05 51.4**	**+2.3**	
	comp=Z,2µm,32.5s							
TBI	Tubuai	114.83	105	*e*LQ	LQ	09 18 35.8		
	comp=Z,3µm,27.5s							
TBI				*e*LR	LR	09 23 31.3		
	comp=Z,8µm,26.2s							
CBN	Corbin Frederi	114.92	1	IAMs_20	IAMs_20	09 45 24.2		
	comp=Z,9µm,20.0s							
PBMO	Poplar Bluff	115.02	12	IAMs_20	IAMs_20	09 41 09.3		
	comp=Z,10µm,20.0s							
HSIG		115.09	33	IAMs_20	IAMs_20	09 43 03.0		
	comp=Z,6µm,21.0s							
T45A	Paducah	115.10	11	IAMs_20	IAMs_20	09 42 13.4		
	comp=Z,10µm,20.0s							
S51A	Beattyville	115.15	6	IAMs_20	IAMs_20	09 38 05.4		
	comp=Z,10µm,21.0s							
S54A	Dingess, Beckl	115.17	4	IAMs_20	IAMs_20	09 43 03.0		
	comp=Z,9µm,21.0s							
PARMO	Parma	115.26	12	IAMs_20	IAMs_20	09 39 36.5		
	comp=Z,10µm,21.0s							
MNTX	Cornudas Mount	115.29	27	PKiKP	**PKiKP**	**08 48 55.7**	**-0.3**	
T47A	Sharon Grove	115.37	9		**PKiKP**	**08 48 55.5**	**-0.5**	
S61A	Accomac	115.44	359	IAMs_20	IAMs_20	09 43 59.0		
	comp=Z,8µm,20.0s							
PENMO	Penman	115.49	12	IAMs_20	IAMs_20	09 39 42.6		
	comp=Z,11µm,21.0s							
S58A	Poland Farm, P	115.50	1		**PKiKP**	**08 48 54.8**	**-1.5**	
PVMO	Portageville	115.51	12	IAMs_20	IAMs_20	09 39 43.2		
	comp=Z,11µm,21.0s							
FCAR	Ozark Folk Cen	115.53	14		**PKiKP**	**08 48 54.4**	**-2.0**	
LCAR	Lake Charles	115.56	13		**PKiKP**	**08 48 55.5**	**-1.0**	
T50A	Nancy	115.63	7		**PKiKP**	**08 48 54.9**	**-1.7**	
PEBM	Pemiscott Bayo	115.77	12	IAMs_20	IAMs_20	09 43 30.2		
	comp=Z,8µm,18.0s							
BLA	Blacksburg	115.81	3	IAMs_20	IAMs_20	09 44 00.9		
	comp=Z,11µm,20.0s							
W39A	Magazine	115.82	16		**PKiKP**	**08 48 56.8**	**-0.2**	
LNXT	Lenox	115.85	12	IAMs_20	IAMs_20	09 43 10.2		
	comp=Z,11µm,20.0s							
NVL	N'lazarevskaya	115.94	202	*e*PKiKP	PKiKP	08 49 09.1	+13	
NVL				*e*		08 50 00.8		
NVL				*e*PPP	PPP	08 52 33.8		
NVL				*e*		08 55 58.7		
NVL				*e*SP	SP	08 59 31.1	-7.7	
NVL				*e*PS	**PS**	**08 59 47.0**	**+5.5**	
NVL				*e*SS	**SS**	**09 06 11.7**	**+10**	
NVL				*e*SSS	SSS	09 10 13.2		
NVL				pmax	pmax			
	comp=Z,8.0nm,0.7s							
NVL				MLR	MLR			
	comp=Z,5µm,18.0s							
T60A	Surry	115.98	0	IAMs_20	IAMs_20	09 45 45.5		
	comp=Z,10µm,20.0s							
U49A	Red Boiling Sp	116.02	8		**PKiKP**	**08 48 56.2**	**-1.1**	
U49A				IAMs_20	IAMs_20	09 46 15.5		
	comp=Z,10µm,20.0s							
HALT	Halls	116.06	12	IAMs_20	IAMs_20	09 43 24.8		
	comp=Z,11µm,20.0s							
WVT	Waverly	116.10	10	PKiKP	**PKiKP**	**08 48 55.0**	**-2.5**	
WVT	Waverly	116.10	10		**PKiKP**	**08 48 55.0**	**-2.5**	
T59A	Double "B" Far	116.14	1	IAMs_20	IAMs_20	09 45 30.7		
	comp=Z,9µm,20.0s							
W41B	Gary Mavity, V	116.20	14		**PKPdf**	**08 48 57.8**	**+0.1**	
CLTN	Cedars of Leba	116.36	9	PKPdf	**PKiKP**	**08 48 56.8**	**-1.1**	
U54A	Nelsons Funny	116.41	5	IAMs_20	IAMs_20	09 42 55.8		
	comp=Z,9µm,19.0s							
MIAR	Mount Ida	116.49	16	PKiKP	**PKiKP**	**08 48 57.8**	**-0.5**	
MIAR	Mount Ida	116.49	16		**PKiKP**	**08 48 57.8**	**-0.5**	
ABTX	Abilene, Hawle	116.56	22	PKPdf	**PKPdf**	**08 48 58.3**	**-0.2**	
V48A	Smith Brothers	116.64	9		**PKPdf**	**08 48 57.2**	**-1.3**	
Z35A	Perchaven, San	116.66	19	IAMs_20	IAMs_20	09 44 29.0		
	comp=Z,11µm,21.0s							
HDBT	Hernando Brdge	116.67	12	IAMs_20	IAMs_20	09 45 52.9		
	comp=Z,9µm,20.0s							
X40A	Basin Creek Fa	116.72	15		**PKPdf**	**08 48 58.5**	**-0.2**	
U59A	Littleton	116.76	1	IAMs_20	IAMs_20	09 45 46.0		
	comp=Z,9µm,20.0s							
U61A	Possum Corner	116.79	360	IAMs_20	IAMs_20	09 46 09.8		
	comp=Z,11µm,20.0s							
V51A	Loudon	116.89	7	PKPdf	**PKPdf**	**08 48 57.7**	**-1.3**	
V52A	Sevierville	116.93	6		**PKPdf**	**08 48 58.2**	**-0.9**	
QSPA	South Pole Qui	117.01	180	PKP	**PKPdf**	**08 48 55.4**	**-2.8**	
	comp=Z,4.7nm,0.7s,baz=304,slow=0.3,SNR=24							
QSPA	South Pole Qui	117.01	180	PKPdf	**PKPdf**	**08 48 57.2**	**-1.0**	
QSPA	South Pole Qui	117.01	180	IAMs_20	IAMs_20	09 35 23.0		
	comp=Z,10µm,20.0s							
TKL	Tuckaleechee C	117.09	7	PKiKP	**PKPdf**	**08 48 58.8**	**-0.6**	
TKL				MLR	MLR			
	comp=Z,12µm,22.0s							
TKL	Tuckaleechee C	117.09	7		**PKPdf**	**08 48 58.8**	**-0.6**	
V55A	Taylorsville	117.11	4		**PKPdf**	**08 48 58.6**	**-0.9**	
X43A	Marvell	117.12	13	IAMs_20	IAMs_20	09 42 58.9		
	comp=Z,11µm,22.0s							
V53A	Saluda	117.17	6		**PKPdf**	**08 48 59.1**	**-0.5**	
V53A				IAMs_20	IAMs_20	09 42 07.0		
	comp=Z,11µm,22.0s							
PLAL	Pickwick Lake	117.18	11	PKPdf	**PKPdf**	**08 48 58.3**	**-1.3**	
CPCT	Cooper Cave	117.22	7		**PKPdf**	**08 48 58.8**	**-0.9**	
CPCT				IAMs_20	IAMs_20	09 40 45.3		
	comp=Z,10µm,21.0s							
V58A	Windy Hill, Pi	117.28	2	IAMs_20	IAMs_20	09 43 41.8		
	comp=Z,10µm,19.0s							
V61A	Roper	117.33	0	IAMs_20	IAMs_20	09 46 22.1		
	comp=Z,10µm,21.0s							
V60A	Jim Taylor Roa	117.35	1	IAMs_20	IAMs_20	09 43 06.7		
	comp=Z,10µm,21.0s							
TAOE	Nuku Hiva Isla	117.46	86	*e*PP	PP	08 50 09.6	-2.8	
	comp=Z,120nm,26.6s							
TAOE				*e*Sdif	Sdif	08 58 00.7	+0.3	
	comp=Z,458nm,28.1s							
TAOE	Nuku Hiva Isla	117.46	86	*e*PS	PS	08 59 53.0	-4.2	
	comp=Z,587nm,25.8s							
TAOE				*e*SS	SS	09 06 25.2	+1.5	
	comp=Z,2µm,30.0s							
TAOE	Nuku Hiva Isla	117.46	86	*e*LR	LR	09 24 43.2		
	comp=Z,7µm,26.4s							
TAOE	Nuku Hiva Isla	117.46	86	IAMs_20	IAMs_20	09 35 44.1		
	comp=Z,6µm,20.0s							
W52A	Murphy	117.64	7		**PKPdf**	**08 49 00.4**	**-0.1**	
KMSC	Kings Mountain	117.81	4		**PKPdf**	**08 48 59.6**	**-1.2**	
KMSC				IAMs_20	IAMs_20	09 43 56.0		
	comp=Z,9µm,19.0s							
BG3	Lake Jocassee	117.83	6		**PKPdf**	**08 49 00.6**	**-0.2**	
BG3				IAMs_20	IAMs_20	09 49 02.5		
	comp=Z,8µm,21.0s							
X48A	Hartselle	117.87	10	PKPdf	**PKPdf**	**08 49 00.0**	**-0.9**	
X48A				IAMs_20	IAMs_20	09 41 42.5		
	comp=Z,9µm,22.0s							
W57A	Gilead	117.88	3	PKPdf	**PKiKP**	**08 49 01.8**	**+0.8**	
TX31	Lajitas Ar. Si	118.06	27	PKPdf	**PKPdf**	**08 49 01.3**	**-0.3**	
TX32	Lajitas Array	118.06	27	PKPdf	**PKPdf**	**08 49 01.3**	**-0.3**	
TXAR	Lajitas Array	118.06	27	Pdiff	Pdif	08 45 42.0	+22	
	comp=Z,0.6nm,0.8s,baz=347,slow=5.1,SNR=5.4							
TXAR				PKP	**PKPdf**	**08 49 01.0**	**-0.6**	
	comp=Z,4.1nm,0.7s,baz=253,slow=0.5,SNR=39							
TXAR				PP	**PP**	**08 50 21.0**	**+6.0**	
	comp=Z,7.9nm,1.1s,baz=332,slow=4.3,SNR=6.7							
TXAR				PKKPab	**PKKPbc**	**08 59 23.3**	**+2.4**	
	comp=Z,0.6nm,0.7s,baz=150,slow=6.2,SNR=5.5							
TXAR				SKKPbc	SKKPbc	09 03 07.3	+2.2	
	comp=Z,1.4nm,1.1s,baz=144,slow=4.5,SNR=4.5							
PAULI	Pauline	118.10	5	PKPdf	**PKiKP**	**08 49 01.7**	**+0.3**	
PAULI				IAMs_20	IAMs_20	09 44 35.5		
	comp=Z,11µm,21.0s							
JCT	Junction City	118.48	23	PKIKP	**PKPdf**	**08 49 00.8**	**-1.4**	
JCT	Junction City	118.48	23	PKPdf	**PKPdf**	**08 49 00.8**	**-1.4**	
X58A	Rowland	118.51	3	IAMs_20	IAMs_20	09 44 38.3		
	comp=Z,11µm,21.0s							
Y49A	Blount Mountai	118.54	9	PKPdf	**PKPdf**	**08 49 01.3**	**-1.0**	
Y49A				IAMs_20	IAMs_20	09 45 12.4		
	comp=Z,10µm,20.0s							
HODGE	Hodges	118.65	5	PKPdf	**PKiKP**	**08 49 03.1**	**+0.6**	
HODGE				IAMs_20	IAMs_20	09 46 14.1		
	comp=Z,10µm,20.0s							
JSC	Jenkinsville	118.67	4	IAMs_20	IAMs_20	09 44 39.7		
	comp=Z,6µm,19.0s							
Y52A	Lilburn	118.84	7		**PKiKP

comp=Z,5µm,22.0s
BCIP Isla Barro Col 143.69 5 eP PKPab 08 49 45.5 -1.0
BCIP Isla Barro Col 143.69 5 PKIKP PKPbc 08 49 47.8 +0.6
BCIP Isla Barro Col 143.69 5 PKPdf PKPbc 08 49 47.8 +0.6
BCIP IAMs_20 IAMs_20 09 57 21.6
comp=Z,6µm,22.0s
SMLC San Martn de 144.11 356 eP PKPab 08 49 47.2 -0.9
CAPC Capurgana 144.35 1 eP PKPbc 08 49 49.8 +0.6
OCAC Ocana 144.61 354 eP PKPab 08 49 48.8 -1.3
UREC San Jos de Ur 145.22 358 eP PKPbc 08 49 52.0 -0.1
PAMC Pamplona, Colo 145.44 353 eP PKPbc 08 49 51.9 -1.5
ZARC Zaragoza, Cauc 145.46 357 eP PKPbc 08 49 52.0 -0.9
BRRC Barranca, Sant 145.77 355 eP PKPdf 08 49 53.1 -0.4
RIB01 Linhares ES 145.94 276 eP PKPdf 08 49 52.6 -1.0
RIB01 Linhares ES 145.94 276 eP PKPdf 08 49 52.2 -1.4
DBBC Dabeiba 145.97 359 eP PKPbc 08 49 54.5 -0.1
BSFB Barra de Sao F 146.18 277 eP PKPdf 08 49 53.1 -0.8
BSFB Barra de Sao F 146.18 277 eP PKPdf 08 49 52.7 -1.2
TAMC Tame, Arauca 146.23 351 eP PKPab 08 49 56.6 +0.6
BARC Barichara 146.23 354 eP PKPdf 08 49 53.5 -1.1
PTBC PUERTO BERRIO 146.38 356 eP PKPdf 08 49 53.5 -1.1
SJMB Sao Joao De Ma 146.43 277 eP PKPdf 08 49 54.1 -0.3
SJMB Sao Joao De Ma 146.43 277 eP PKPdf 08 49 52.9 -1.5
SOLC Bahia Solano 146.74 2 eP PKPdf 08 49 55.0 -0.2
HELC Santa Helena 146.77 358 eP PKPbc 08 49 56.7 -0.7
SDBA SAO DESIDERIO 146.89 290 eP PKPdf 08 49 54.0 -1.4
SDBA SAO DESIDERIO 146.89 290 eP PKPdf 08 49 53.9 -1.4
SDBA SAO DESIDERIO 146.89 290 eP PKPdf 08 49 53.5 -0.9
RUSC La Rusia 146.91 354 eP PKPdf 08 49 56.5 +0.4
MALB Monte Alegre 146.94 316 eP PKPdf 08 49 54.4 -1.1
MALB Monte Alegre 146.94 316 eP PKPdf 08 49 54.0 -1.5
PRPB Parauapebas 147.06 305 eP PKPdf 08 49 55.1 -0.6
PRPB Parauapebas 147.06 305 eP PKPdf 08 49 55.0 -0.6
PRPB Parauapebas 147.06 305 eP PKPdf 08 49 55.1 -0.6
SMTB Santa Maria do 147.09 298 eP PKPdf 08 49 54.7 -1.0
SMTB Santa Maria do 147.09 298 eP PKPdf 08 49 54.6 -1.1
SMTB Santa Maria do 147.09 298 eP PKPdf 08 49 55.4 -0.4
CBOC Ciudad Bolivar 147.11 359 eP PKPbc 08 49 57.1 -0.9
SPBC San Pablo de B 147.23 355 eP PKPdf 08 49 56.7 +0.6
NORC Norcasia 147.37 357 eP PKPdf 08 49 56.1 -0.1
JANB Januaria 147.68 285 eP PKPdf 08 49 56.8 +0.2
JANB Januaria 147.68 285 eP PKPdf 08 49 55.0 -1.6
JANB Januaria 147.68 285 eP PKPdf 08 49 56.2 -0.4
GUY2C Guyana, Caldas 147.73 358 eP PKPbc 08 49 58.9 -1.2
CAM01 Campos-RJ 147.86 272 eP PKPdf 08 49 57.0 +0.3
CAM01 Campos-RJ 147.86 272 eP PKPdf 08 49 55.1 -1.6
PIZC Pizarro, Choco 148.06 357 eP PKPbc 08 50 00.9 +0.7
RREF El Recreo 148.05 358 eP PKPbc 08 50 00.6 -0.6
ROSC El Rosal 148.06 356 PKPbc PKPbc 08 49 59.8 -1.1
comp=Z,350nm,0.8s,baz=112,slow=7.0,SNR=46
ROSC El Rosal 148.06 356 eP PKPbc 08 49 60.0 -1.0
ROSC El Rosal 148.06 356 PKPdf PKPdf 08 49 58.5 +0.7
ROSC IAMs_20 IAMs_20 10 04 16.0
comp=Z,5µm,21.0s
PLMC San Jos del P 148.06 359 eP PKPdf 08 49 58.9 +1.5
MC01 Montes Claros 148.08 282 eP PKPdf 08 49 55.9 -1.4
MC01 Montes Claros 148.08 282 eP PKPdf 08 49 55.7 -1.6
CHIC Chingaza 148.22 355 eP PKPdf 08 49 58.1 0.0
TOLC Tolima 148.36 358 eP PKPdf 08 49 59.1 +0.8
ANIL Santa Ana 148.46 351 eP PKPdf 08 50 02.4 +0.5
PTGC Puerto Gaitan, 148.47 352 eP PKPdf 08 49 57.4 -0.7
VILC Villavicencio, 148.73 354 eP PKPbc 08 50 01.3 -1.1
YOTC Yotoco, Valle 148.98 360 eP PKPdf 08 49 59.1 +0.1
ORTC Ortega, Tolima 149.03 357 eP PKPdf 08 49 56.9 -2.1
PRAC Prado 149.21 357 eP PKPdf 08 49 55.9 -3.4
PTGA Pitinga 149.22 326 PKPbc PKPbc 08 50 02.4 -1.1
comp=Z,75nm,0.8s,baz=47,slow=4.4,SNR=49
PTGA Pitinga 149.22 326 eP PKPdf 08 49 58.5 -0.8
PTGA Pitinga 149.22 326 eP PKPdf 08 49 57.6 -1.6
PTGA Pitinga 149.22 326 eP PKPdf 08 49 58.5 -0.8
PTGA Pitinga 149.22 326 PKPdf PKPdf 08 50 00.0 +0.8
ITTB Itaituba 149.81 315 eP PKPdf 08 49 59.8 -0.4
ITTB Itaituba 149.81 315 eP PKPdf 08 49 58.4 -1.8
MARP Paez Belalcaza 150.11 359 eP PKPdf 08 50 01.9 +0.9
GUVC San Jose del G 150.17 352 eP PKPbc 08 50 03.4 -2.4
MAN01 Angra dos Reis 150.20 271 eP PKPdf 08 50 00.1 -0.5
MAN01 Angra dos Reis 150.20 271 eP PKPdf 08 49 59.1 -1.4
MAN01 Angra dos Reis 150.20 271 eP PKPdf 08 49 56.9 -3.6
BETC Betania 150.25 358 eP PKPdf 08 50 01.7 +0.8
BSCB Bom Sucesso 150.38 275 eP PKPdf 08 49 59.8 -1.2
BSCB Bom Sucesso 150.38 275 eP PKPdf 08 49 59.3 -1.6
BSCB Bom Sucesso 150.38 275 eP PKPdf 08 49 57.9 -3.0
PAYG Puerto Ayora 150.50 29 IAMs_20 IAMs_20 09 48 17.5
comp=Z,4µm,22.0s
PCON Cinco Dias 150.62 360 eP PKPdf 08 50 03.5 +1.3
MACC Macarena, Meta 150.69 354 eP PKPdf 08 50 01.4 -0.2
GARC Garzon, Huila 150.75 358 eP PKPdf 08 50 02.4 +0.4
BBAC Balboa, Cauca 150.92 1 eP PKPdf 08 50 02.4 +0.2
BDFB Brasilia 151.11 288 PKPbc PKPbc 08 50 07.1 -1.0
comp=Z,15nm,0.5s,baz=24,slow=2.4,SNR=11
BDFB Brasilia 151.11 288 PKPdf PKPdf 08 50 02.3 +0.1
BDFB IAMs_20 IAMs_20 10 11 27.4
comp=Z,4µm,21.0s
FLOC Florencia 151.35 358 eP PKPdf 08 50 03.4 +0.8
CRUC La Cruz 151.38 1 eP PKPbc 08 50 08.3 -0.8
NPGB Novo Progresso 151.58 311 eP PKPdf 08 50 01.3 -1.6
MACA Manacapuru-AM 151.66 325 eP PKPdf 08 50 02.6 -0.4
MACA Manacapuru-AM 151.66 325 eP PKPdf 08 50 01.9 -1.1
GCUF Volcan Galeras 151.71 2 eP PKPdf 08 50 05.4 +1.6
PARB Paraibuna 151.79 271 eP PKPdf 08 50 02.5 -0.5
PARB Paraibuna 151.79 271 eP PKPdf 08 50 00.6 -2.5
PARB Paraibuna 151.79 271 eP PKPdf 08 49 59.5 -3.5
EFI East Falkland 151.87 205 PKIKP PKPbc 08 50 07.7 -0.9
EFI East Falkland 151.87 205 PKPbc PKPbc 08 50 07.7 -0.9
EFI East Falkland 151.87 205 IAMs_20 IAMs_20 10 14 07.1
comp=Z,4µm,22.0s
IPMB Ipameri, GO 152.31 283 eP PKPdf 08 50 03.2 -0.7
IPMB Ipameri, GO 152.31 283 eP PKPdf 08 50 01.8 -2.2
IPMB Ipameri, GO 152.31 283 eP PKPdf 08 50 01.7 -2.2
VAO Valinhos 152.90 272 eP PKPdf 08 50 03.7 -0.9
VAO Valinhos 152.90 272 eP PKPdf 08 50 02.9 -1.8
VAO Valinhos 152.90 272 eP PKPdf 08 50 00.5 -4.1
RCLB Rio Claro- Sao 153.25 274 eP PKPdf 08 50 03.3 -1.9
RCLB Rio Claro- Sao 153.25 274 eP PKPdf 08 50 02.4 -2.8
SPB Sao Paulo 153.47 271 eP PKPdf 08 50 05.3 0.0
SPB Sao Paulo 153.47 271 eP PKPdf 08 50 04.0 -1.4
SPB Sao Paulo 153.47 271 eP PKPdf 08 50 02.4 -3.0
SPB Sao Paulo 153.47 271 PKPdf 08 50 04.5 -0.8
SPB IAMs_20 IAMs_20 10 02 51.3
comp=Z,6µm,21.0s
PET01 Itanhaem-SP 153.49 270 eP PKPdf 08 50 05.2 -0.2
PET01 Itanhaem-SP 153.49 270 eP PKPdf 08 50 01.6 -3.8
BB19B Bebedouro 153.73 277 eP PKPdf 08 50 03.8 -2.1
BB19B Bebedouro 153.73 277 eP PKPdf 08 50 03.4 -2.5
GO10 Punta Arenas 153.77 188 IAMs_20 IAMs_20 09 58 03.6
comp=Z,7µm,21.0s
ARAG Araguaiana, MT 154.33 291 eP PKPdf 08 50 07.2 +0.4
ARAG Araguaiana, MT 154.33 291 eP PKPdf 08 50 05.4 -1.4
ARAG Araguaiana, MT 154.33 291 eP PKPdf 08 50 04.2 -2.6
CLDB Colider 154.58 306 eP PKPdf 08 50 06.5 -0.8
CLDB Colider 154.58 306 eP PKPdf 08 50 07.0 -0.2
CLDB Colider 154.58 306 eP PKPdf 08 50 07.2 0.0
ITRB Iturama 154.86 282 eP PKPdf 08 50 07.5 0.0
ITRB Iturama 154.86 282 eP PKPdf 08 50 08.3 +0.8
ITRB Iturama 154.86 282 eP PKPdf 08 50 05.1 -2.4
TIJ01 Guaruva-PR 155.23 268 eP PKPdf 08 50 07.4 -0.5
TIJ01 Guaruva-PR 155.23 268 eP PKPdf 08 50 04.3 -3.6
FRTB Fartura 155.30 273 eP PKPdf 08 50 06.3 -1.7
FRTB Fartura 155.30 273 eP PKPdf 08 50 05.8 -2.2
PCMB Pacaembu 156.31 278 eP PKPdf 08 50 07.8 -1.6
PCMB Pacaembu 156.31 278 eP PKPdf 08 50 07.0 -2.3
SALV Santo Antonio 157.60 296 eP PKPdf 08 50 10.8 -0.3
SALV Santo Antonio 157.60 296 eP PKPdf 08 50 10.1 -1.0
SALV Santo Antonio 157.60 296 eP PKPdf 08 50 10.3 -0.8
PTGB Pitanga 157.84 271 eP PKPdf 08 50 10.5 -0.8
PTGB Pitanga 157.84 271 eP PKPdf 08 50 08.9 -2.4
SAML Samuel 157.86 323 PKIKP PKPdf 08 50 11.2 -0.3
SAML Samuel 157.86 323 eP PKPdf 08 50 08.8 -2.7
SAML Samuel 157.86 323 eP PKPdf 08 50 10.1 -1.4
SAML Samuel 157.86 323 PKPdf 08 50 11.2 -0.3
SAML Samuel 157.86 323 IAMs_20 IAMs_20 10 13 12.8
comp=Z,6µm,20.0s
TRCB Terra Rica 157.88 276 eP PKPdf 08 50 11.2 -0.2
TRCB Terra Rica 157.88 276 eP PKPdf 08 50 08.9 -2.5
ITAB Concordia 158.28 264 eP PKPdf 08 50 08.8 -2.9
VILB Vilhena 159.12 310 eP PKPdf 08 50 12.5 -0.5
VILB Vilhena 159.12 310 eP PKPdf 08 50 11.3 -1.7
VILB Vilhena 159.12 310 eP PKPdf 08 50 12.8 -0.3
CPSB Cacapava Do Su 159.50 256 eP PKPdf 08 50 11.3 -1.7
CPSB Cacapava Do Su 159.50 256 eP PKPdf 08 50 09.6 -3.4
PLTB Pedras Altas 159.52 252 eP PKPdf 08 50 12.6 -0.4
PLTB Pedras Altas 159.52 252 eP PKPdf 08 50 10.6 -2.4
PLTB Pedras Altas 159.52 252 eP PKPdf 08 50 10.2 -2.8
AQDB Aquidauana 159.78 285 eP PKPdf 08 50 12.4 -1.2
AQDB Aquidauana 159.78 285 eP PKPdf 08 50 12.2 -1.4
AQDB Aquidauana 159.78 285 eP PKPdf 08 50 12.0 -1.6
PTLB Pontes e Lacer 160.01 302 eP PKPdf 08 50 12.9 -1.1
PTLB Pontes e Lacer 160.01 302 eP PKPdf 08 50 12.8 -1.1
PTLB Pontes e Lacer 160.01 302 eP PKPdf 08 50 13.3 -0.6
ETMB Extrema 160.12 329 eP PKPdf 08 50 12.9 -1.3
ETMB Extrema 160.12 329 eP PKPdf 08 50 12.4 -1.8
CZSB Cruzeiro do Su 160.27 349 eP PKPdf 08 50 13.7 -0.7
CZSB Cruzeiro do Su 160.27 349 eP PKPdf 08 50 12.2 -2.2
SIV San Ignacio 161.79 305 PKP PKPdf 08 50 14.8 -1.1
comp=Z,5.9nm,0.9s,baz=115,slow=0.7,SNR=19
SIV PKPab PKPab 08 51 00.8 -0.5
comp=Z,17nm,1.1s,baz=77,slow=5.2,SNR=6.7
SIV PP PP 08 54 46.8 +2.0
comp=Z,3.5nm,1.0s,baz=104,slow=7.4,SNR=2.6
CPUP Villa Florida 162.80 269 PKP PKPdf 08 50 15.7 -0.9
comp=Z,3.7nm,0.7s,baz=45,slow=1.1,SNR=7.9
CPUP PKPab PKPab 08 51 05.5 -0.2
comp=Z,6.5nm,1.0s,baz=126,slow=3.7,SNR=3.7
CPUP Villa Florida 162.80 269 eP PKPdf 08 50 15.4 -1.2
CPUP Villa Florida 162.80 269 eP PKPdf 08 50 15.1 -1.6
NNA Nana 164.84 1 PKIKP PKPdf 08 50 18.2 -0.7
NNA Nana 164.84 1 PKPdf 08 50 18.2 -0.7
PLCA Paso Flores 165.63 199 PKP PKPdf 08 50 19.7 +0.8
comp=Z,6.5nm,0.9s,baz=205,slow=8.8,SNR=7.1
PLCA PKPab PKPab 08 51 17.8 +0.2
comp=Z,15nm,0.8s,baz=165,slow=3.9,SNR=9.3
PLCA Paso Flores 165.63 199 eP PKPdf 08 50 15.9 -2.9
PLCA Paso Flores 165.63 199 PKPdf 08 50 20.2 +1.3
PLCA PKPab PKPab 08 51 18.6 +1.0
LPAZ La Paz 166.60 323 PKP PKPdf 08 50 20.9 -0.1
comp=Z,15nm,1.1s,baz=31,slow=4.1,SNR=25
LPAZ PKPab PKPab 08 51 23.1 0.0
comp=Z,13nm,0.9s,baz=36,slow=6.5,SNR=7.5
LPAZ La Paz 166.60 323 eP PKPdf 08 50 18.3 -2.7
PB16 IPOC Station P 169.03 322 PKPdf 08 50 23.2 +0.6
PB12 IPOC Station P 169.69 325 PKPdf 08 50 23.6 +1.2
MNMC Minye Minye 169.71 320 PKPdf 08 50 22.1 -0.5
GO01 Chusmiza 169.89 316 PKPdf 08 50 22.2 -0.8
PB11 IPOC Station P 170.24 318 PKPdf 08 50 22.8 +0.1
BO02 Sierra Bellavi 170.97 212 PKPdf 08 50 22.1 -0.5
BO02 PKPab PKPab 08 51 41.4 0.0
BO01 Tunca 171.44 212 PKPab 08 51 43.2 -0.1
CFA Coronel Fontan 171.53 237 PKP PKPdf 08 50 23.5 +0.5
comp=Z,18nm,1.3s,baz=270,slow=1.0,SNR=3.5
CFA PKPab PKPab 08 51 42.6 -1.5
comp=Z,13nm,0.8s,baz=121,slow=2.4,SNR=8.5
CFA PP PP 08 55 39.8 +4.8
comp=Z,3.3nm,1.0s,baz=85,slow=6.0,SNR=4.4
LVC Limon Verde 171.68 302 PKP PKPdf 08 50 25.2 +1.5
comp=Z,7.5nm,0.8s,baz=112,slow=4.2,SNR=6.5
LVC PP PP 08 55 41.5 +5.3
comp=Z,5.9nm,1.0s,baz=44,slow=5.9,SNR=3.4
LVC Limon Verde 171.68 302 PKIKP PKPdf 08 50 24.3 +0.6
LVC Limon Verde 171.68 302 eP PKPdf 08 50 21.4 -2.4
LVC Limon Verde 171.68 302 PKPdf 08 50 24.3 +0.6
MT05 Renca 172.05 218 PKPdf 08 50 22.6 -0.5
MT05 PKPab 08 51 47.0 +0.7
PEL Peldehue 172.21 219 PKIKP PKPdf 08 50 22.7 -0.6
PEL Peldehue 172.21 219 PKPdf 08 50 22.7 -0.6
VA03 San Esteban 172.40 222 PKPdf 08 50 22.9 -0.5
PB15 IPOC Station P 172.44 300 PKPdf 08 50 23.1 -0.7
GO02 Mina Guanaco 173.41 287 PKPdf 08 50 23.8 -0.6
GO04 Tololo Observa 174.14 238 PKPdf 08 50 22.0 -2.4
AC05 El Transito 174.21 252 PKPdf 08 50 23.4 -0.9

*IDC **03** 08:36:40.2±1.4, 55°.28S×27°.42W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.8/18, mbtmp4.0/2, MS4.2/1, Ms1 4.2/1, ms1mx3.5/20, Error ellipse: s-maj=112.5km s-min=33.6km az=87.0*
*NEIC **03** 08:36:41.7±0.8, 55°.3S±0°.1×27°.5W±0°.2, h10km±1km, mb4.2/5, Error ellipse: s-maj=25.1km s-min=13.9km az=44.0*
ISC 03 08:36:41.8±1.3, 55°.3S±0°.2×27°.5W±0°.1, h10km, n12, σ1s02/12, mb4.2/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	5.28	277	Pn	Pn	08 38 01.1	+0.4
HOPE				Sn	Sn	08 38 59.6	-1.9
SNAA	Sanae	19.51	157	P	P	08 41 07.4	-1.5
PMSA	Palmer Station	20.26	227	P	P	08 41 18.5	+1.5
PMSA				IAmb	IAmb	08 41 22.7	
	comp=Z,3.5nm,0.8s						
QSPA	South Pole Qui	34.96	180	P	P	08 43 33.7	0.0
	comp=Z,2.0nm,0.5s,baz=197,slow=3.1,SNR=39						
QSPA	South Pole Qui	34.96	180	P	P	08 43 33.8	0.0
QSPA				IAmb	IAmb	08 43 34.8	
	comp=Z,2.6nm,0.6s						
MT02	Curacav	37.37	288	P	P	08 43 55.2	+0.7
MT02				IAmb	IAmb	08 44 03.6	
	comp=Z,10nm,1.4s						
LVC	Limon Verde	44.76	300	LR	LR	09 05 04.1	
	comp=Z,257nm,19.0s,baz=344,slow=38						
VNDA	Vanda	47.32	183	P	P	08 45 14.9	0.0
	comp=Z,1.0nm,0.6s,baz=193,slow=6.7,SNR=13						
VNDA	Vanda	47.32	183	P	P	08 45 15.3	+0.4
YKA	Yellowknife Ar	135.48	319	PKP	PKPdf	08 56 00.6	+0.1
	comp=Z,0.3nm,0.8s,baz=111,slow=2.3,SNR=2.4						
ILAR	Eielson Array	149.46	313	PKPbc	PKPbc	08 56 29.2	-0.4
	comp=Z,1.5nm,0.9s,baz=123,slow=1.7,SNR=12						
SONM	Songino Array	150.87	85	PKPbc	PKPbc	08 56 33.4	-0.3
	comp=Z,0.7nm,0.6s,baz=197,slow=4.5,SNR=2.2						

*IDC **03** 08:45:18.4±1.1, 27°.28N×103°.58E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.5/43, mbtmp3.7/7, Error ellipse: s-maj=105.9km s-min=20.0km az=58.0*
*BJI **03** 08:45:20.1±0.0, 27°.13N×103°.35E, h7km, ML3.6/8*
ISC 03 08:45:20.2±0.8, 27°.26N±0°.05×103°.45E±0°.06, h10km, n12, σ0s90/16, mb3.9/7, 1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	Kunming	2.23	197	↓eP	g Pn	08 45 57.5	+0.1
KMI				Sg	Sb	08 46 27.9	-0.5
KMI				smax	smax		
	comp=N,210nm,1.3s						
KMI				smax	smax		
	comp=E,460nm,1.3s						
GYA	Guiyang	2.98	105	Pg	Pg	08 46 18.1	+0.8
GYA				Sn	Sb	08 46 48.3	-1.6
GYA				Sg	Sg	08 46 56.6	+0.7
GYA				smax	smax		
	comp=N,350nm,0.8s						
GYA				smax	smax		
	comp=E,180nm,0.9s						
CD2	Chengdu	3.64	4	Pg	Pg	08 46 29.7	-0.4
CD2				Sn	Sn	08 47 00.0	+0.2
CD2				Sg	Sg	08 47 18.0	+0.7
CD2				smax	smax		
	comp=N,600nm,0.7s						
CD2				smax	smax		
	comp=E,620nm,0.8s						
WMQ	Urumqi	20.85	326	eP	Pn	08 50 04.8	0.0
MKAR	Makanchi Array	25.66	325	P	P	08 50 51.3	+1.2
	0.5nm,0.6s,baz=134,slow=9.5,SNR=2.5						
WRA	Warramunga Arr	55.65	144	P	P	08 54 55.7	-1.0
	2.5nm,1.1s,baz=330,slow=8.6,SNR=11						
ASAR	Alice Springs	58.55	147	P	P	08 55 17.0	-0.2
	0.7nm,0.7s,baz=328,slow=7.1,SNR=6.6						
FINES	FINESS Array B	60.46	327	P	P	08 55 29.1	-0.8
	4.2nm,1.2s,baz=84,slow=9.8,SNR=4.2						
ARCES	ARCESS Array B	60.53	337	P	P	08 55 29.1	-1.2
	0.6nm,0.6s,baz=94,slow=12,SNR=1.8						
NB2	NORSAR Subarra	67.60	328	P	P	08 56 17.7	+0.8
	comp=Z,0.8nm,0.7s,baz=75,slow=6.5						
NOA	NORSAR Array B	67.60	328	P	P	08 56 17.8	+0.8
	comp=Z,0.3nm,0.5s,baz=74,slow=6.3,SNR=3.5						
YKA	Yellowknife Ar	85.52	17	P	P	08 57 58.2	0.0
	comp=Z,0.3nm,0.8s,baz=339,slow=4.9,SNR=3.8						

*JMA **03** 08:49:10.2±0.1, 28°.07N×128°.15E, h10km, M3.6*
*IDC **03** 08:49:12.6±1.2, 27°.88N×127°.48E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.5/36, mbtmp3.5/7, ML3.3/2, Error ellipse: s-maj=37.1km s-min=21.6km az=76.0*

ISC 03 08:49:11.2±0.9, 28°.02N±0°.06×128°.24E±0°.09, h10km, n20, σ1s30/15, mb3.4/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	Tokunoshima	0.68	110	P	Pb	08 49 24.6	-0.5
JOKE	Okinoerabujima	0.72	156	P	Pb	08 49 25.4	-0.5
JAMN	Amaminishikomi	0.86	75	P	Pb	08 49 27.7	-0.5
JIH	Iheya	1.01	194	P	Pg	08 49 29.8	-0.9
JYRO	Yoronjima	1.01	169	P	Pn	08 49 30.6	-0.9
JOW	Kunigami	1.19	178	P	Pb	08 49 33.1	-0.7
JAM	Amami Oshima	1.27	72	P	Pb	08 49 34.5	-0.7
JTAJ	Takarajima	1.41	37	P	Pn	08 49 35.8	-1.1
JNTH	Nagotoyohara	1.51	187	P	Pn	08 49 37.8	-0.5
JAGN	Aguni-jima	1.68	212	P	Pn	08 49 39.4	-1.2
JNU	Nakatsue	5.57	24	Pn	Pn	08 50 40.7	+6.5
	1.7nm,0.3s,baz=230,slow=6.5,SNR=12						
MJAR	Matsushiro Arr	11.96	42	Pn	Pn	08 52 14.1	+12
	0.0nm,0.3s,baz=243,slow=13,SNR=5.0						
SONM	Songino Array	26.07	325	P	P	08 54 46.1	+1.1
	2.7nm,1.0s,baz=111,slow=7.0,SNR=3.6						
H11N2	WAKE ISLAND Hy	36.18	95	T	T	09 34 05.2	
	baz=286,slow=74,SNR=3.8						
H11N1	WAKE ISLAND Hy	36.18	95	T	T	09 33 56.3	
	baz=286						
H11N3	WAKE ISLAND Hy	36.20	95	T	T	09 34 06.9	
	baz=286,slow=74,SNR=3.9						
MKAR	Makanchi Array	40.36	310	P	P	08 56 49.1	-0.1
	0.2nm,0.6s,baz=110,slow=8.4,SNR=1.9						
KURBB	Kurchatov Arra	43.57	315	P	P	08 57 14.3	-1.0
	0.3nm,0.4s,baz=104,slow=8.7,SNR=1.4						
WRA	Warramunga Arr	48.05	172	P	P	08 57 53.2	+2.4
	1.0nm,0.8s,baz=352,slow=8.4,SNR=5.1						
ASAR	Alice Springs	51.68	173	P	P	08 58 20.9	+2.4
	0.3nm,0.8s,baz=358,slow=9.3,SNR=4.5						

*MOS **03** 09:08:29.3±0.8, 49°.34N×156°.36E, h37km, mb4.1/1, Error ellipse: s-maj=24.3km s-min=4.2km az=77.0*
*KRSC **03** 09:08:30.1±2.2, 49°.49N×156°.82E, h40km±24km, ML4.5*
*IDC **03** 09:08:35.2±3.0, 49°.79N×155°.71E, h78km±27km, mb3.2/8, mb1 3.4/11, mb1mx3.2/50, mbtmp3.5/11, Error ellipse: s-maj=30.5km s-min=17.1km az=151.0*
ISC 03 09:08:31.0±1.6, 49°.41N±0°.09×156°.32E±0°.07, h42km±16km, n77, σ1s72/98, mb3.5/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.28	354	eP	Pn	09 08 51.1	-1.2
SKR				eS	Sn	09 09 07.0	-1.2
SKR	Severo-Kuril's	1.28	354	PN	Pn	09 08 51.1	-1.2
SKR				S	Sn	09 09 07.0	-1.2
ALID	Alaid	1.54	342	eP	Pn	09 08 55.7	-0.3
ALID				eS	Sn	09 09 15.4	+0.5
ALID	Alaid	1.54	342	PN	Pn	09 08 55.7	-0.3
ALID				S	Sn	09 09 15.4	+0.5
PAU	Pauzhetka	2.08	9	eP	Pn	09 09 03.0	-0.3
PAU				eS	Sn	09 09 27.9	-0.1
PAU	Pauzhetka	2.08	9	PN	Pn	09 09 03.0	-0.3
PAU				S	Sn	09 09 27.9	-0.1
KDTR	Khodutka, Kamc	2.65	24	eP	Pn	09 09 10.3	-0.8
KDTR				eS	Sn	09 09 40.7	-1.2
KDTR	Khodutka, Kamc	2.65	24	PN	Pn	09 09 10.3	-0.8
KDTR				S	Sn	09 09 40.7	-1.2
MIPR	Malaya Ipel'ka	2.88	5	eP	Pn	09 09 14.6	+0.3
MIPR	Malaya Ipel'ka	2.88	5	PN	Pn	09 09 14.6	+0.3
ASAK	Asacha	3.14	18	eP	Pn	09 09 18.6	+0.7
ASAK				eS	Sn	09 09 54.5	+0.4
ASAK	Asacha	3.14	18	PN	Pn	09 09 18.6	+0.7
ASAK				S	Sn	09 09 54.5	+0.4
MTVR	Mutnovka	3.29	20	eP	Pn	09 09 20.6	+0.5
MTVR				eS	Sn	09 09 57.6	-0.4
MTVR	Mutnovka	3.29	20	PN	Pn	09 09 20.6	+0.5
MTVR				S	Sn	09 09 57.6	-0.4
RUS	Russkaya	3.33	24	eP	Pn	09 09 20.5	+0.1
RUS				eS	Sn	09 09 57.2	-1.5
RUS	Russkaya	3.33	24	PN	Pn	09 09 20.5	+0.1
GRL	Gorelyy	3.33	19	eP	Pn	09 09 21.3	+0.7
GRL				eS	Sn	09 09 59.6	+0.6
GRL	Gorelyy	3.33	19	PN	Pn	09 09 21.3	+0.7
GRL				S	Sn	09 09 59.6	+0.6
APC	Apacha	3.56	8	eS	Sn	09 10 05.1	+0.8
KRMR	Karymshinskiy	3.61	18	eP	Pn	09 09 25.2	+0.9
KRMR				eS	Sn	09 10 05.8	+0.3
KRMR	Karymshinskiy	3.61	18	PN	Pn	09 09 25.2	+0.9
KRMR				S	Sn	09 10 05.8	+0.3
PETK	Petropavlovsk-	3.80	13	P	Pn	09 09 28.6	+1.6
	2.6nm,0.3s,baz=174,slow=13,SNR=48						
PETK				S	Sn	09 10 18.9	+8.6
	2.5nm,0.3s,baz=154,slow=18,SNR=3.9						
PET	Petropavlovsk	3.90	21	PN	Pn	09 09 29.1	+0.8
DALK	Dalny	3.93	22	eP	Pn	09 09 28.8	+0.1
DALK				eS	Sn	09 10 13.1	-0.5
DALK	Dalny	3.93	22	PN	Pn	09 09 28.8	+0.1
UGLR	Uglovaya	4.11	22	eP	Pn	09 09 32.9	+1.6
UGLR				eS	Sn	09 10 19.8	+1.6
UGLR	Uglovaya	4.11	22	PN	Pn	09 09 32.9	+1.6
UGLR				S	Sn	09 10 19.8	+1.6
AVH	Avacha	4.14	21	eP	Pn	09 09 34.1	+2.4
AVH				eS	Sn	09 10 16.7	-2.2
AVH	Avacha	4.14	21	PN	Pn	09 09 34.1	+2.4
KOK	Koryaka	4.15	20	eP	Pn	09 09 34.0	+2.2
KOK	Koryaka	4.15	20	PN	Pn	09 09 34.0	+2.2
SMAR	Somma	4.16	21	eP	Pn	09 09 34.1	+2.1
SMAR				eS	Sn	09 10 18.5	-0.9
SMAR	Somma	4.16	21	PN	Pn	09 09 34.1	+2.1
KRER	Koryakskii	4.18	20	eP	Pn	09 09 33.7	+1.3
KRER	Koryakskii	4.18	20	PN	Pn	09 09 33.7	+1.3
SDLR	Sedlovina	4.19	22	eP	Pn	09 09 33.3	+0.9
SDLR				eS	Sn	09 10 19.1	-1.0
SDLR	Sedlovina	4.19	22	PN	Pn	09 09 33.3	+0.9
NLC	Nalytchevo	4.21	26	eP	Pn	09 09 32.3	-0.3
NLC				eS	Sn	09 10 18.0	-2.5
NLC	Nalytchevo	4.21	26	PN	Pn	09 09 32.3	-

BVAR	**Borovoye Array**	**50.84**	**309**	P		**P**	**09 17 23.1**		**-3.9**
	0.5nm,0.4s,baz=53,slow=13,SNR=3.8								
NVAR	**Mina Array Bea**	**59.33**	**66**	P		**P**	**09 18 29.9**		**+1.2**
	0.2nm,0.5s,baz=291,slow=5.6,SNR=4.1								
TXAR	**Lajitas Array**	**74.34**	**63**	P		**P**	**09 20 05.1**		**+0.8**
	0.4nm,0.7s,baz=311,slow=5.2,SNR=5.1								
ASAR	**Alice Springs**	**75.44**	**201**	P		**P**	**09 20 12.9**		**+2.6**
	0.4nm,1.0s,baz=19,slow=5.9,SNR=1.9								
ASAR	**Alice Springs**	**75.44**	**201**	P		**P**	**09 20 13.0**		**+2.6**
H03N2	**Juan Fernandez**	**136.60**	**90**	T		T	11 59 48.9		
	baz=313,slow=77,SNR=8.3								
H03N1	**Juan Fernandez**	**136.62**	**90**	T		T	11 59 54.9		
	baz=313,slow=77,SNR=8.3								
H03N3	**Juan Fernandez**	**136.62**	**90**	T		T	11 59 55.6		
	baz=313,slow=77,SNR=9.6								

IDC 03 09:13:11.7±1.4, 27.08N×104.06E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/46, mbtmp3.5/4, Error ellipse: s-maj=90.3km s-min=23.2km az=64.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**20.80**	**4**	P	P	09 17 54.6	-0.1
	0.5nm,0.5s,baz=198,slow=13,SNR=2.5						
MKAR	**Makanchi Array**	**26.11**	**325**	P	P	09 18 47.4	0.0
	0.5nm,0.6s,baz=134,slow=12,SNR=5.4						
WRA	**Warramunga Arr**	**55.19**	**145**	P	P	09 22 46.3	-0.2
	0.8nm,0.5s,baz=333,slow=8.5,SNR=21						
ASAR	**Alice Springs**	**58.11**	**147**	P	P	09 23 07.3	+0.1
	0.4nm,0.7s,baz=323,slow=6.5,SNR=7.0						

IDC 03 09:22:09.3±1.5, 26.98N×103.49E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/45, mbtmp3.4/4, Error ellipse: s-maj=91.0km s-min=24.0km az=65.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**20.94**	**5**	P	P	09 26 54.1	+0.3
	0.3nm,0.4s,baz=180,slow=12,SNR=1.9						
MKAR	**Makanchi Array**	**25.90**	**325**	P	P	09 27 42.8	-0.2
	0.4nm,0.6s,baz=130,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**55.41**	**144**	P	P	09 31 44.8	-0.9
	0.5nm,0.5s,baz=333,slow=8.5,SNR=9.4						
ASAR	**Alice Springs**	**58.30**	**147**	P	P	09 32 07.0	+0.9
	0.3nm,0.6s,baz=320,slow=6.7,SNR=5.2						

IDC 03 09:37:23.1±2.3, 1.67S×133.79E, h0km, mb3.5/2, mb1 3.9/5, mb1mx3.6/39, mbtmp3.7/5, ML3.6/3, Error ellipse: s-maj=57.4km s-min=24.3km az=69.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.65**	**287**	Pn	Pn	09 38 06.7	-0.5
	12nm,0.3s,baz=255,slow=22,SNR=45						
SIJI				Sn	Sn	09 38 37.6	-2.4
	8.7nm,0.3s,baz=310,slow=23,SNR=6.7						
WRA	**Warramunga Arr**	**18.17**	**178**	P	P	09 41 37.2	-0.2
	0.2nm,0.3s,baz=359,slow=12,SNR=20						
FITZ	**Fitzroy Crossi**	**18.18**	**206**	P	Pn	09 41 35.6	-1.5
	0.1nm,0.3s,baz=43,slow=12,SNR=1.5						
FITZ				S	Sn	09 44 47.8	-13
	0.1nm,0.3s,baz=160,slow=23,SNR=1.2						
ASAR	**Alice Springs**	**21.87**	**180**	P	P	09 42 18.2	+0.5
	1.4nm,0.7s,baz=7.1,slow=13,SNR=13						
MKAR	**Makanchi Array**	**66.02**	**324**	P	P	09 48 11.8	+0.1
	0.4nm,0.6s,baz=116,slow=8.1,SNR=4.7						

*NEIC **03** 09:37:44.8±2.9, 19.75S×176.0W±0.1, h263km±8km, mb4.3/21, Error ellipse: s-maj=22.3km s-min=13.7km az=184.0*

*IDC **03** 09:37:49.7±3.1, 19.95S×176.41W, h280km±29km, mb3.6/8, mb1 3.7/9, mb1mx3.4/50, mbtmp4.3/9, Error ellipse: s-maj=31.0km s-min=18.8km az=23.0*

ISC 03 09:37:43.7±0.7, 19.6S±0.1×176.05W±0.09, h250km, n35, σ1s55/35, mb4.2/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.81**	**85**	Pn	**Pn**	**09 39 08.4**	**-1.1**
MSVF	**Nonsavu**	**5.90**	**288**	Pn	Pn	09 39 15.5	+4.7
DZM	**Mont Dzumac**	**16.54**	**259**	P	**Pn**	**09 41 22.4**	**0.0**
	2.0nm,0.3s,baz=79,slow=18,SNR=40						
DZM	**Mont Dzumac**	**16.54**	**259**	P	**Pn**	**09 41 23.3**	**+1.0**
URZ	**Urewera**	**19.48**	**196**	P	**Pn**	**09 41 53.0**	**-3.5**
URZ				IAmb	IAmb	09 41 53.6	
	comp=Z,19nm,1.1s						
QRZ	**Quartz Range**	**23.27**	**202**	P	**P**	**09 42 28.7**	**-0.4**
THZ	**Tophouse**	**23.97**	**201**	P	**P**	**09 42 37.0**	**+1.5**
LTZ	**Lake Taylor**	**25.09**	**201**	P	**P**	**09 42 46.3**	**+0.7**
LTZ				IAmb	IAmb	09 42 55.7	
	comp=Z,28nm,1.3s						
WHZ	**Wether Hill Ro**	**29.32**	**203**	P	**P**	**09 43 25.2**	**+2.0**
EIDS	**Eidsvold**	**30.84**	**253**	P	**P**	**09 43 36.7**	**-0.2**
EIDS				IAmb	IAmb	09 43 54.8	
	comp=Z,18nm,1.3s						
CTA	**Charters Tower**	**35.41**	**263**	P	**P**	**09 44 16.8**	**+0.4**
	comp=Z,7.4nm,0.6s,baz=98,slow=10,SNR=18						
CTAO	**Charters Tower**	**35.41**	**263**	P	**P**	**09 44 16.9**	**+0.6**
COEN	**Coen**	**39.37**	**272**	P	**P**	**09 44 50.4**	**+0.8**
COEN				IAmb	IAmb	09 44 52.3	
	comp=Z,22nm,1.4s						
STKA	**Stephens Creek**	**39.81**	**244**	P	**P**	**09 44 53.2**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=78,slow=9.3,SNR=1.5						
STKA	**Stephens Creek**	**39.81**	**244**	P	**P**	**09 44 53.0**	**0.0**
BBOO	**Buckleboo**	**44.57**	**243**	P	**P**	**09 45 31.1**	**-0.2**
BBOO				IAmb	IAmb	09 45 45.8	
	comp=Z,15nm,1.2s						
JAY	**Jayapura**	**45.53**	**286**	P	**P**	**09 45 40.8**	**+1.7**
	comp=Z,12nm,0.7s,baz=100,slow=6.2,SNR=5.2						
WR0	**Warramunga Arr**	**46.35**	**261**	P	**P**	**09 45 44.5**	**-0.8**
AS31	**Alice Springs**	**46.50**	**256**	P	**P**	**09 45 46.3**	**-0.3**
AS31				IAmb	IAmb	09 45 47.7	
	comp=Z,1.9nm,0.3s						
ASAR	**Alice Springs**	**46.50**	**256**	P	**P**	**09 45 45.9**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=86,slow=8.4,SNR=74						
ASAR				S	**S**	**09 52 11.7**	**-4.1**
	comp=Z,0.1nm,0.5s,baz=94,slow=15,SNR=4.3						
WB0	**Warramunga Arr**	**46.52**	**261**	P	**P**	**09 45 45.7**	**-0.9**
WB2	**Warramunga Arr**	**46.53**	**261**	P	**P**	**09 45 45.7**	**-1.0**
WRA	**Warramunga Arr**	**46.54**	**261**	P	**P**	**09 45 45.8**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=96,slow=7.5,SNR=63						
MTN	**Manton Dam**	**51.00**	**269**	P	**P**	**09 46 21.1**	**+0.5**
MTN				IAmb	IAmb	09 46 28.1	
	comp=Z,24nm,1.3s						
KNRA	**Kununurra**	**52.55**	**265**	P	**P**	**09 46 33.2**	**+1.1**
KNRA				IAmb	IAmb	09 46 45.6	
	comp=Z,14nm,1.2s						
FITZ	**Fitzroy Crossi**	**54.96**	**261**	P	**P**	**09 46 50.3**	**+0.8**
	comp=Z,2.6nm,1.0s,baz=60,slow=8.7,SNR=6.1						
FITZ	**Fitzroy Crossi**	**54.96**	**261**	P	**P**	**09 46 50.5**	**+1.0**
FITZ				IAmb	IAmb	09 47 04.1	
	comp=Z,10nm,1.4s						
VNDA	**Vanda**	**58.93**	**185**	P	**P**	**09 47 17.5**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=20,slow=6.6,SNR=3.6						
VNDA	**Vanda**	**58.93**	**185**	P	**P**	**09 47 17.7**	**+1.4**
QSPA	**South Pole Qui**	**70.43**	**180**	P	**P**	**09 48 31.6**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=198,slow=2.3,SNR=11						
QSPA	**South Pole Qui**	**70.43**	**180**	P	**P**	**09 48 31.7**	**+1.0**
QSPA				IAmb	IAmb	09 48 37.1	
	comp=Z,6.5nm,1.4s						
SRIG	**Santa Rosalia**	**77.43**	**55**	P	**P**	**09 49 12.0**	**+0.4**
SRIG				IAmb	IAmb	09 49 13.4	
	comp=Z,7.6nm,0.9s						
FINES	**FINESS Array B**	**135.44**	**345**	PKP	**PKiKP**	**09 56 37.5**	**+2.6**
	comp=Z,1.5nm,0.9s,baz=116,slow=4.4,SNR=4.1						
AKBB	**Malin Array Si**	**143.11**	**333**	PKPdf	**PKPdf**	**09 56 46.4**	**-1.3**
GERES	**GERESS Array B**	**149.82**	**347**	PKPbc	**PKPab**	**09 57 06.7**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=50,slow=1.5,SNR=4.1						

*VAO **03** 09:38:00.6±0.4, 3.47N×77.61W, h10km, mb5.4*

*MOS **03** 09:38:03.0±1.0, 3.68N×77.70W, h38km, mb5.5/36, Error ellipse: s-maj=10.7km s-min=6.0km az=92.3*

*RSNC **03** 09:38:04.8±1.4, 3.66N×77.86W, h56km±12km, ML4.8, Mw5.0, Fault plane solution: NP1:φs126.00000°, δ48.00000°, λ158.00000°.*

*UPA **03** 09:38:05.5±1.7, 3.57N×77.83W, h75km, MW5.0*

*IDC **03** 09:38:06.4±0.6, 3.61N×77.59W, h59km±4km, mb4.7/34, mb1 4.8/41, mb1mx4.8/48, mbtmp5.0/41, MS4.4/1,*

Ms1 4.4/1, ms1mx3.9/30, Error ellipse: s-maj=13.3km s-min=7.8km az=53.0

*NEIC **03** 09:38:06.8±1.9, 3.59N±0.07×77.69W±0.06, h62km±4km, mb5.2/553, Mwr5.0(RSNC), Error ellipse: s-maj=10.4km s-min=8.3km az=217.0*

*BGR **03** 09:38:14.9±0.0, 4.09N×76.24W, h33km, mb5.4*

ISC 03 09:38:06.5±0.3, 3.65N±0.02×77.74W±0.03, h61km±2km, h61km:pP-P, n1265, σ1s56/1235, mb5.2/377, 80C-23D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALC	**Bahia Malaga**	**0.54**	**48**	⇓*iP*	**Pn**	**09 38 17.6**	**-1.3**
MALC				*eS*	**Sn**	**09 38 28.1**	**0.0**
MALC				*i*		09 38 31.2	
	comp=Z,105μm,0.3s						
PIZC	**Pizarro, Choco**	**1.36**	**16**	⇓*iP*	**Pn**	**09 38 27.6**	**-1.8**
PIZC				*eS*	**Sn**	**09 38 44.6**	**-1.9**
PIZC				*i*		09 38 52.4	
	comp=Z,10μm,0.4s						
YOTC	**Yotoco, Valle**	**1.43**	**76**	⇑*iP*	**Pn**	**09 38 27.4**	**-2.9**
YOTC				*eS*	**Sn**	**09 38 45.0**	**-3.3**
YOTC				*i*		09 38 48.6	
	comp=Z,12μm,0.3s						
BBAC	**Balboa, Cauca**	**1.69**	**163**	⇓*iP*	**Pn**	**09 38 31.4**	**-2.5**
BBAC				*eS*	**Sn**	**09 38 52.4**	**-2.2**
BBAC				*i*		09 39 05.0	
	comp=Z,10μm,0.4s						
PCON	**Cinco Dias**	**1.87**	**134**	⇓*iP*	**Pn**	**09 38 35.9**	**-0.9**
PCON				*eS*	**Sn**	**09 39 00.0**	**+0.4**
PCON				*i*		09 39 07.3	
	comp=Z,16μm,0.6s						
SOTA	**Rioblanco**	**1.88**	**143**	*eS*	**Sn**	**09 38 59.4**	**-0.3**
PLMC	**San Jos del P**	**1.92**	**49**	⇓*iP*	**Pn**	**09 38 34.5**	**-2.4**
PLMC				*eS*	**Sn**	**09 38 59.0**	**-1.0**
MARP	**Paez Belalcaza**	**1.95**	**114**	⇑*iP*	**Pn**	**09 38 37.0**	**-0.5**
MARP				*eS*	**Sn**	**09 39 00.5**	**-0.6**
MARP				*i*		09 39 01.2	
	comp=Z,3μm,0.3s						
CRUC	**La Cruz**	**2.21**	**159**	⇓*iP*	**Pn**	**09 38 40.5**	**-0.6**
CRUC				*eS*	**Sn**	**09 39 06.7**	**-0.9**
CRUC				*i*		09 39 10.5	
	comp=Z,11μm,0.7s						
GCUF	**Volcan Galeras**	**2.44**	**171**	⇓*iP*	**Pn**	**09 38 43.7**	**-0.6**
GCUF				*eS*	**Sn**	**09 39 12.2**	**-1.1**
GCUF				*i*		09 39 17.9	
	comp=Z,6μm,0.7s						
ANIL	**Santa Ana**	**2.48**	**70**	⇑*iP*	**Pn**	**09 38 43.9**	**-0.8**
ANIL				*eS*	**Sn**	**09 39 14.6**	**+0.6**
ANIL				*i*		09 39 20.1	
	comp=Z,17μm,0.4s						
BETC	**Betania**	**2.49**	**113**	⇑*iP*	**Pn**	**09 38 45.5**	**+0.9**
BETC				*eS*	**Sn**	**09 39 15.2**	**+1.3**
ORTC	**Ortega, Tolima**	**2.50**	**84**	⇑*iP*	**Pn**	**09 38 45.2**	**+0.4**
ORTC				*eS*	**Sn**	**09 39 14.9**	**+0.6**
ORTC				*i*		09 39 26.0	
	comp=Z,7μm,0.7s						
SOLC	**Bahia Solano**	**2.58**	**7**	⇓*iP*	**Pn**	**09 38 43.6**	**-2.3**
SOLC				*eS*	**Sn**	**09 39 13.3**	**-2.9**
TOLC	**Tolima**	**2.59**	**69**	⇑*iP*	**Pn**	**09 38 45.7**	**-0.5**
TOLC				*eS*	**Sn**	**09 39 17.0**	**+0.3**
TOLC				*i*		09 39 23.2	
	comp=Z,11μm,0.6s						
GARC	**Garzon, Huila**	**2.67**	**123**	⇑*iP*	**Pn**	**09 38 47.7**	**+0.3**
GARC				*eS*	**Sn**	**09 39 20.5**	**+1.8**
GARC				*i*		09 39 25.0	
	comp=Z,3μm,0.5s						
CMBC	**Cumbal**	**2.69**	**182**	*eP*	**Pn**	**09 38 45.8**	**-2.0**
CMBC				*eS*	**Sn**	**09 39 17.6**	**-1.8**
RREF	**El Recreo**	**2.69**	**62**	⇑*iP*	**Pn**	**09 38 47.4**	**-0.6**
RREF				*eS*	**Sn**	**09 39 20.1**	**+0.4**
RREF				*i*		09 39 26.5	
	comp=Z,3μm,0.5s						
CBOC	**Ciudad Bolivar**	**2.79**	**38**	⇓*iP*	**Pn**	**09 38 46.6**	**-2.4**
CBOC				*i*		09 39 34.0	
	comp=Z,4μm,0.6s						
GUY2C	**Guyana, Caldas**	**2.84**	**56**	⇑*iP*	**Pn**	**09 38 49.6**	**-0.2**
GUY2C				*eS*	**Sn**	**09 39 22.7**	**-0.4**
GUY2C				*i*		09 39 29.9	
	comp=Z,6μm,0.7s						
PRAC	**Prado**	**2.85**	**89**	⇑*iP*	**Pn**	**09 38 49.8**	**+0.3**
PRAC				*eS*	**Sn**	**09 39 23.6**	**+0.9**
PRAC				*i*		09 39 28.3	
	comp=Z,6μm,0.5s						
FLOC	**Florencia**	**2.92**	**134**	⇓*iP*	**Pn**	**09 38 50.7**	**+0.1**
FLOC				*eS*	**Sn**	**09 39 25.1**	**+0.5**
FLOC				*i*		09 39 33.3	
	comp=Z,3μm,0.6s						
PUAC	**Puerto Asis, P**	**3.29**	**159**	⇓*iP*	**Pn**	**09 38 55.3**	**-0.3**
HELC	**Santa Helena**	**3.35**	**41**	⇓*iP*	**Pn**	**09 38 55.7**	**-1.1**
HELC				*eS*	**Sn**	**09 39 34.5**	**-1.0**
HELC				*i*		09 39 36.0	
	comp=Z,5μm,0.7s						
HELC	**Santa Helena**	**3.35**	**41**	⇓*iP*	**Pn**	**09 38 55.7**	**-1.1**
HELC				*eS*	**Sn**	**09 39 36.1**	**+0.6**
NORC	**Norcasia**	**3.44**	**56**	⇑*iP*	**Pn**	**09 38 58.1**	**+0.5**
NORC				*eS*	**Sn**	**09 39 37.6**	**+0.4**
NORC				*i*		09 39 40.6	
	comp=Z,3μm,0.5s						
PTAC	**Punta Ardita,**	**3.48**	**359**	*eP*	**Pn**	**09 38 55.5**	**-2.7**
ROSC	**El Rosal**	**3.61**	**71**	P	**Pn**	**09 39 00.4**	**+0.1**
	comp=Z,330nm,0.3s,baz=218,slow=4.8,SNR=439						
ROSC				S	**Sn**	**09 39 37.5**	**-4.4**
	comp=Z,303nm,0.3s,baz=253,slow=23,SNR=5.6						
ROSC	**El Rosal**	**3.61**	**71**	⇑*iP*	**Pn**	**09 39 01.9**	**+1.7**
ROSC				*eS*	**Sn**	**09 39 47.6**	**+5.7**
ROSC				*i*		09 39 53.0	
	comp=Z,1μm,0.6s						
ROSC	**El Rosal**	**3.61**	**71**	Pn	**Pn**	**09 39 02.0**	**+1.7**
ROSC				Sn	**Sn**	**09 39 47.2**	**+5.3**
VILC	**Villavicencio,**	**4.06**	**83**	⇑*iP*	**Pn**	**09 39 07.3**	**+1.0**
VILC				*eS*	**Sn**	**09 39 55.6**	**+2.9**
VILC				*i*		09 39 58.6	
	comp=Z,3μm,0.5s						
CHIC	**Chingaza**	**4.11**	**76**	⇑*iP*	**Pn**	**09 39 08.3**	**+1.1**
CHIC				*eS*	**Sn**	**09 39 57.2**	**+2.9**
CHIC				*i*		09 39 59.6	
	comp=Z,2μm,0.5s						
MACC	**Macarena, Meta**	**4.16**	**111**	⇑*iP*	**Pn**	**09 39 07.5**	**-0.1**
MACC				*eS*	**Sn**	**09 39 52.9**	**-2.1**
MACC				*i*		09 40 14.2	
	comp=Z,2μm,0.7s						
SPBC	**San Pablo de B**	**4.16**	**61**	⇑*iP*	**Pn**	**09 39 08.2**	**+0.6**
SPBC				*eS*	**Sn**	**09 39 51.3**	**-3.7**
SPBC				*i*		09 40 04.0	
	comp=Z,550nm,0.4s						
PTBC	**PUERTO BERRIO,**	**4.35**	**49**	*iP*	**Pn**	**09 39 09.9**	**-0.3**
PTBC				⇓*eP*	**Pn**	**09 39 09.9**	**-0.3**
PTBC				*eS*	**Sn**	**09 39 54.9**	**-4.8**
PTBC				*i*		09 40 03.3	
	comp=Z,1μm,0.5s						
PTLC	**Puerto Leguiza**	**4.53**	**140**	⇓*iP*	**Pn**	**09 39 15.6**	**+2.9**
PTLC				*eS*	Sn	09 40 21.9	+18
PTLC				*i*		09 40 36.2	
	comp=Z,859nm,0.8s						
UREC	**San Jos de Ur**	**4.63**	**28**	*eP*	**Pn**	**09 39 13.8**	**-0.2**
UREC				*eS*	**Sn**	**09 40 03.6**	**-2.9**
UREC				*i*		09 40 13.2	
	comp=Z,704nm,0.6s						
ZARC	**Zaragoza, Cauc**	**4.78**	**37**	*eP*	**Pn**	**09 39 15.5**	**-0.5**
ZARC				*eS*	**Sn**	**09 40 07.8**	**-2.2**
CAPC	**Capurgana**	**4.97**	**4**	⇓*iP*	**Pn**	**09 39 17.8**	**-0.8**
CAPC				*eS*	**Sn**	**09 40 12.4**	**-2.4**
CAPC				*i*		09 40 21.1	
	comp=Z,358nm,0.5s						
CAP2	**Capurgana**	**4.99**	**4**	⇑*iP*	**Pn**	**09 39 18.8**	**0.0**
CAP2				*eS*	**Sn**	**09 40 13.5**	**-1.7**
RUSC	**La Rusia**	**5.15**	**64**	⇑*iP*	**Pn**	**09 39 22.2**	**+0.7**
RUSC				*eS*	**Sn**	**09 40 21.4**	**+1.6**
RUSC				*i*		09 40 33.6	
	comp=Z,397nm,0.8s						
GUVC	**San Jose del G**	**5.22**	**102**	*eP*	**Pn**	**09 39 21.4**	**-0.7**
GUVC				*eS*	**Sn**	**09 40 16.9**	**-4.1**
GUVC				*i*		09 40 49.0	
	comp=Z,820nm,0.6s						
BRRC	**Barranca, Sant**	**5.28**	**49**	*eP*	**Pn**	**09 39 22.1**	**-0.8**
BRRC				*eS*	**Sn**	**09 40 20.8**	**-1.7**
BRRC				*i*		09 40 28.1	
	comp=Z,425nm,0.5s						
BRRC				*i*		09 40 28.1	
	comp=Z,425nm,0.5s						
LCBC	**Los crdobas,**	**5.35**	**15**	*eP*	**Pn**	**09 39 24.9**	**+1.0**
LCBC				*eP*	**Pn**	**09 39 24.9**	**+1.0**

BARC	**Barichara**	**5.40**	**57**	⇓*eP*		**Pn**	**09 39 25.4**		**+0.7**
BARC				⇓*eP*		**Pn**	**09 39 25.4**		**+0.7**
BARC				*i*			09 40 35.0		
	comp=Z,864nm,0.5s								
BARC				*i*			09 40 35.0		
	comp=Z,864nm,0.5s								
TABO3	**Taboga, Panama**	**5.42**	**341**	⇑*eP*		**Pn**	**09 39 23.4**		**-1.4**
TABO3				*eS*		**Sn**	**09 40 23.1**		**-2.9**
VTON	**El Valle, Cocl**	**5.47**	**335**	*eP*		**Pn**	**09 39 24.3**		**-1.2**
VTON				*eS*		**Sn**	**09 40 26.9**		**-0.3**
UPA	**Univ. de Panam**	**5.59**	**341**	*eP*		**Pn**	**09 39 24.7**		**-2.5**
UPA				*eS*		**Sn**	**09 40 26.9**		**-3.1**
CHOR3	**La Chorrera**	**5.59**	**339**	⇑*iP*		**Pn**	**09 39 26.1**		**-1.0**
CHOR3				*eS*		**Sn**	**09 40 23.4**		**-6.7**
ARRA3	**Arraijan, Pana**	**5.62**	**340**	⇑*iP*		**Pn**	**09 39 26.2**		**-1.3**
PTGC	**Puerto Gaitan,**	**5.62**	**84**	⇑*iP*		**Pn**	**09 39 26.7**		**-0.8**
PTGC				⇑*iP*		**Pn**	**09 39 26.7**		**-0.8**
PTGC				*eS*		**Sn**	**09 40 35.8**		**+5.1**
PTGC				*eS*		**Sn**	**09 40 35.8**		**+5.1**
PTGC				*i*			09 40 53.7		
	comp=Z,765nm,0.6s								
PTGC				*i*			09 40 53.7		
	comp=Z,765nm,0.6s								
CNTA3	**Canitas, Panam**	**5.65**	**348**	*eP*		**Pn**	**09 39 27.5**		**-0.5**
CHPO	**Chepo, Panama**	**5.66**	**346**	⇓*iP*		**Pn**	**09 39 26.2**		**-1.8**
CHPO				*eS*		**Sn**	**09 40 28.0**		**-3.6**
ZANG	**Zanguenga, Cho**	**5.68**	**338**	⇓*iP*		**Pn**	**09 39 27.1**		**-1.3**
ZANG				*eS*		**Sn**	**09 40 30.7**		**-1.6**
BCIP	**Isla Barro Col**	**5.87**	**339**	⇓*iP*		**Pn**	**09 39 29.4**		**-1.5**
BCIP				⇓*iP*		**Pn**	**09 39 29.4**		**-1.5**
BCIP				*eS*		**Sn**	**09 40 33.1**		**-3.7**
BCIP				*eS*		**Sn**	**09 40 33.1**		**-3.7**
BCIP				*i*			09 40 44.1		
	comp=Z,348nm,0.7s								
BCIP				*i*			09 40 44.1		
	comp=Z,348nm,0.7s								
BCIP	**Isla Barro Col**	**5.87**	**339**	⇓*iP*		**Pn**	**09 39 29.4**		**-1.5**
BCIP				*eS*		**Sn**	**09 40 36.0**		**-0.9**
BCIP	**Isla Barro Col**	**5.87**	**339**	P		**Pn**	**09 39 29.4**		**-1.5**
BCIP							09 40 35.5		
BCIP	**Isla Barro Col**	**5.87**	**339**	Pn		**Pn**	**09 39 29.4**		**-1.5**
BCIP				Sn		**Sn**	**09 40 35.5**		**-1.3**
PAMC	**Pamplona, Colo**	**6.21**	**54**	*eP*		**Pn**	**09 39 36.2**		**+0.2**
PAMC				*eP*		**Pn**	**09 39 36.2**		**+0.2**
PAMC				*eS*		**Sn**	**09 40 41.3**		**-4.7**
PAMC				*eS*		**Sn**	**09 40 41.3**		**-4.7**
PAMC				*i*			09 40 54.3		
	comp=Z,330nm,0.5s								
PAMC				*i*			09 40 54.3		
	comp=Z,330nm,0.5s								
SMLC	**San Martn de**	**6.29**	**35**	*eP*		**Pn**	**09 39 37.8**		**+1.2**
SMLC				*eP*		**Pn**	**09 39 37.8**		**+1.2**
SMLC				*eS*		**Sn**	**09 40 43.0**		**-4.1**
SMLC				*eS*		**Sn**	**09 40 43.0**		**-4.1**
SMLC				*i*			09 41 16.1		
	comp=Z,146nm,0.6s								
SMLC				*i*			09 41 16.1		
	comp=Z,146nm,0.6s								
OCAC	**Ocana**	**6.33**	**44**	*eP*		**Pn**	**09 39 37.4**		**0.0**
OCAC				*eP*		**Pn**	**09 39 37.4**		**0.0**
OCAC				*eS*		**Sn**	**09 40 48.8**		**+0.3**
OCAC				*eS*		**Sn**	**09 40 48.8**		**+0.3**
OCAC				*i*			09 40 54.4		
	comp=Z,615nm,0.6s								
OCAC				*i*			09 40 54.4		
	comp=Z,615nm,0.6s								
TAMC	**Tame, Arauca**	**6.54**	**65**	⇑*iP*		**Pn**	**09 39 40.2**		**0.0**
TAMC				⇑*iP*		**Pn**	**09 39 40.2**		**0.0**
TAMC				*eS*		**Sn**	**09 40 53.2**		**-0.2**
TAMC				*eS*		**Sn**	**09 40 53.2**		**-0.2**
TAMC				*i*			09 42 03.0		
	comp=Z,117nm,0.5s								
TAMC				*i*			09 42 03.0		
	comp=Z,117nm,0.5s								
SJCC	**San Jacinto, C**	**6.71**	**22**	*eP*		**Pn**	**09 39 43.8**		**+1.3**
SJCC				*eP*		**Pn**	**09 39 43.8**		**+1.3**
SJCC	**San Jacinto, C**	**6.71**	**22**	⇑*eP*		**Pn**	**09 39 43.7**		**+1.3**
ARGC	**Ariguani, Magd**	**7.08**	**29**	*eP*		**Pn**	**09 39 49.4**		**+1.9**
ARGC				*eP*		**Pn**	**09 39 49.4**		**+1.9**
ARGC				*eS*		**Sn**	**09 41 13.2**		**+6.6**
ARGC				*eS*		**Sn**	**09 41 13.2**		**+6.6**
ARGC				*i*			09 41 40.1		
	comp=Z,114nm,0.7s								
ARGC				*i*			09 41 40.1		
	comp=Z,114nm,0.7s								
SDV	**Santo Domingo**	**8.77**	**53**	P		**Pn**	**09 40 10.8**		**-0.1**
	comp=Z,24nm,0.3s,baz=194,slow=6.2,SNR=38								

PTGA Pitinga 18.29 103 P P 09 42 13.5 -2.1
PTGA IAmb IAmb 09 42 17.6
comp=Z,220nm,0.9s
PTGA Pitinga 18.29 103 eP P 09 42 13.4 -2.1
MACA Manacapuru-AM 18.34 111 eP P 09 42 14.4 -1.8
GCMP Grenada, Carri 18.37 61 e P 09 42 15.1 -1.4
GCPR Guaynabo City 18.51 37 P P 09 42 18.2 +0.3
GCPR PcP PcP 09 46 46.6 +0.6
HUMP Col San Antoni 18.52 38 IAmb IAmb 09 42 21.2
comp=Z,177nm,0.7s
TOSP Speyside 18.66 65 e P 09 42 19.2 -0.5
MTP Monte Pirata 18.67 39 IAmb IAmb 09 42 26.1
comp=Z,121nm,0.8s
SVB Belmont 18.89 59 e P 09 42 21.7 -0.5
CDVI St. Croix 18.92 41 e Pn 09 42 24.4 +0.7
CDVI St. Croix 18.92 41 P P 09 42 22.9 +0.3
SVV Soufriere Volc 18.94 59 e P 09 42 23.3 +0.5
SSV Crater Summit 18.96 59 e P 09 42 23.6 +0.5
SVCV St. Vincent, C 18.98 59 e P 09 42 22.1 -1.1
SFAN Fancy Village 19.01 58 e P 09 42 19.4 -4.2
SAML Samuel 19.16 131 eP P 09 42 23.4 -1.7
SLDE Delcer 19.31 57 e P 09 42 27.3 +0.4
SLB Belfond 19.34 57 e P 09 42 27.3 +0.1
MCLT Moule a Chique 19.36 58 e P 09 42 25.7 -1.7
MCLT Moule a Chique 19.36 58 P P 09 42 26.3 -1.1
TEIG Tepich 19.42 329 P P 09 42 28.7 +0.8
comp=Z,1.0nm,0.3s,baz=139,slow=3.3,SNR=8.8
TEIG Tepich 19.42 329 P Pn 09 42 30.6 +1.0
SLPA Patience 19.45 58 e P 09 42 29.1 +0.7
SLBI Saint Lucia, B 19.49 57 e P 09 42 27.3 -1.5
SLAC Saint Lucia, A 19.50 57 e P 09 42 27.6 -1.2
SLW Petit Monier 19.52 57 e P 09 42 29.2 +0.1
BIM Bigot 19.66 56 e Pn 09 42 32.2 -0.4
FDF Fort de France 19.71 55 e Pn 09 42 33.0 -0.2
MPOM Morne Pois Mar 19.80 56 e P 09 42 31.8 -0.3
MDN Morne-Daniel 19.84 53 e Pn 09 42 34.8 +0.2
DSLB Salisbury 19.88 53 e P 09 42 33.4 +0.3
TBG Guadaloupe-3 19.94 51 e Pn 09 42 42.0 +6.2
TDBA Terre de Bas, 19.95 51 e Pn 09 42 40.9 +5.0
DLPL La Plaine 19.96 53 e Pn 09 42 39.7 +3.7
ILAM Ilet Lapin Mar 19.96 55 e Pn 09 42 35.8 -0.2
SEUS St. Eustatius 19.97 45 e Pn 09 42 35.6 -0.5
SEUS St. Eustatius 19.97 45 P P 09 42 34.1 +0.2
SKOC St. Kitts, UWI 20.02 46 e Pn 09 42 36.7 0.0
SKI Saint Kitts 20.04 46 e Pn 09 42 36.6 -0.3
SKI Saint Kitts 20.04 46 P P 09 42 34.6 -0.1
SKI pmax pmax
comp=Z,454nm,0.7s
SKI Saint Kitts 20.04 46 P P 09 42 34.6 -0.1
MLYT Lee's Yard 20.05 49 e Pn 09 42 36.4 -0.7
CBE Ff, Capester 20.10 51 e P 09 42 35.8 +0.3
BCHC Barbados, Cave 20.22 61 e P 09 42 35.6 -1.1
SMRT St. Maarten 20.28 44 e Pn 09 42 38.7 -1.1
SMRT St. Maarten 20.28 44 P P 09 42 36.2 -1.1
MAGL Barre de l'ile 20.28 52 e Pn 09 42 42.3 +2.5
BBGH Gun Hill 20.29 61 e P 09 42 36.6 -0.9
BBSP Saint Philip 20.36 61 e P 09 42 36.9 -1.3
ABD La Joyeuse, An 20.43 50 e P 09 42 39.0 +0.1
ANWB Willy Bob 20.95 47 e P 09 42 42.5 -2.0
ANWB Willy Bob 20.95 47 P P 09 42 42.4 -2.1
CMIG Matias Romero 21.48 310 P P 09 42 51.4 +1.1
comp=Z,5.5nm,0.8s,baz=106,slow=7.1,SNR=5.6
LPAZ La Paz 21.97 155 P P 09 42 54.2 -1.8
comp=Z,35nm,0.8s,baz=333,slow=10,SNR=172
LPAZ La Paz 21.97 155 P P 09 42 53.5 -2.6
061Z Ochoppi 22.30 352 IAmb IAmb 09 43 03.4
comp=Z,146nm,1.1s
PB12 IPOC Station P 23.29 162 P P 09 43 07.7 -1.6
PB12 IAmb IAmb 09 43 11.9
comp=Z,89nm,0.7s
PB16 IPOC Station P 23.30 160 P P 09 43 09.3 -0.6
PB16 IAmb IAmb 09 43 11.0
comp=Z,78nm,0.8s
ITTB Itaituba 23.38 110 eP P 09 43 07.4 -2.8
ITTB eS S 09 47 21.2 +2.4
VILB Vilhena 23.99 134 eP P 09 43 14.4 -1.3
VILB eS S 09 47 30.1 +1.5
MALB Monte Alegre 24.09 103 eP P 09 43 15.2 -1.5
MALB eS S 09 47 33.3 +3.1
PSGCX Pisagua 24.28 162 IAmb IAmb 09 43 33.9
comp=Z,92nm,1.0s
DWPF Disney Wildern 24.58 352 P P 09 43 23.2 +2.3
baz=171
DWPF Disney Wildern 24.58 352 P P 09 43 22.7 +1.8
DWPF IAmb IAmb 09 43 24.1
comp=Z,85nm,0.8s
TLIG Tlapa 24.66 306 P P 09 43 25.6 +3.6
TLIG IAmb IAmb 09 43 42.5
comp=Z,162nm,1.7s
NPGB Novo Progresso 24.73 115 eP P 09 43 21.2 -1.4
MDP Montagnes des 25.06 86 P P 09 43 23.4 -2.1
comp=Z,62nm,0.8s,baz=266,slow=8.7,SNR=45
TA01 Diego Aracena 25.18 163 P P 09 43 26.5 +0.1
SIV San Ignacio 25.54 140 P P 09 43 28.1 -1.7
comp=Z,9.4nm,0.6s,baz=329,slow=9.9,SNR=46
PB01 IPOC Station P 25.84 162 IAmb IAmb 09 43 37.9
comp=Z,96nm,0.9s
656A Willston 25.98 350 IAmb IAmb 09 43 36.9
comp=Z,117nm,1.4s
CLDB Colider 26.17 124 eP P 09 43 32.7 -2.8
PTLB Pontes e Lacer 26.44 136 eP P 09 43 36.2 -1.7
PB06 IPOC Station P 27.38 163 IAmb IAmb 09 43 53.4
comp=Z,63nm,0.9s
LVC Limon Verde 27.48 162 P P 09 43 47.9 +0.2
comp=Z,25nm,0.8s,baz=347,slow=7.7,SNR=12
LVC Limon Verde 27.48 162 P P 09 43 48.3 +0.7
LVC IAmb IAmb 09 43 54.4
comp=Z,73nm,1.2s
LVC Limon Verde 27.48 162 eP P 09 43 45.8 -1.8
PB15 IPOC Station P 27.88 164 IAmb IAmb 09 43 58.0
comp=Z,46nm,0.7s
TIGA Tifton 28.19 349 P P 09 43 55.4 +2.0
baz=168
PB14 IPOC Station P 28.99 166 IAmb IAmb 09 44 24.9
comp=Z,88nm,1.4s
SALV Santo Antonio 29.20 132 eP P 09 44 00.9 -1.7
250A Grady 29.30 345 P P 09 44 04.0 +0.7
250A IAmb IAmb 09 44 25.7
comp=Z,70nm,1.4s
250A PcP PcP 09 47 09.7 +0.9
PRPB Parauapebas 29.54 109 eP P 09 44 03.9 -1.7
152A Waverly Hall 29.60 348 IAmb IAmb 09 44 08.5
comp=Z,34nm,0.9s
Z57A Bowman 29.63 355 P P 09 44 08.1 +2.0
baz=174
GO02 Mina Guanaco 29.71 165 IAmb IAmb 09 44 21.5
comp=Z,36nm,0.8s
GOGA Godfrey 30.09 350 P P 09 44 12.2 +1.9
baz=168,SNR=23
GOGA Godfrey 30.09 350 IAmb IAmb 09 44 13.0
comp=Z,39nm,0.7s
Y56A Pelion 30.18 354 P P 09 44 12.7 +1.7
baz=173
Y59A Loris 30.21 358 P P 09 44 13.4 +2.1
baz=178
344A Westbrook Farm 30.25 338 IAmb IAmb 09 44 37.5
comp=Z,58nm,0.8s
Y57A Sumter 30.32 356 P P 09 44 14.3 +2.0
baz=175
Y57A Sumter 30.32 356 IAmb IAmb 09 44 15.0
comp=Z,26nm,0.7s
Y55A Saluda 30.38 353 P P 09 44 14.9 +2.0
baz=172,SNR=16
LRAL Lakeview Retre 30.49 345 P P 09 44 15.2 +1.4
baz=162,SNR=16
ZAIG Zacatecas 30.65 311 P P 09 44 18.0 +2.4
ZAIG pP pwP 09 44 31.7 -0.6
JSC Jenkinsville 30.66 354 P P 09 44 17.6 +2.3
JSC PcP PcP 09 47 12.9 +0.6
HODGE Hodges 30.72 353 IAmb IAmb 09 44 18.9
comp=Z,61nm,1.2s
146A Union 30.73 341 P P 09 44 16.3 +0.4
146A PcP PcP 09 47 14.2 +1.7
X60A Albert Glenn T 30.78 360 P P 09 44 18.1 +1.8
baz=179
X59A McDuffie Farm, 30.78 359 P P 09 44 18.3 +2.0
baz=178
X58A Rowland 30.79 357 P P 09 44 18.3 +1.9
baz=177,SNR=6.6
X58A Rowland 30.79 357 IAmb IAmb 09 44 19.2
comp=Z,34nm,0.7s
X56A White Oak 30.84 355 P P 09 44 18.8 +1.9
baz=174,SNR=6.6
VBMS Vicksburg 30.85 339 P P 09 44 18.3 +1.4
baz=155
X55A Gracelyn & Ava 30.88 354 P P 09 44 19.3 +2.0
baz=172,SNR=11
BIRD Birdtown, Kers 30.95 356 IAmb IAmb 09 44 20.5
comp=Z,31nm,0.9s
X54A Belton 31.05 353 P P 09 44 20.7 +2.1
baz=171
BBSR BB Station 31.09 22 P P 09 44 20.2 +1.2
BBSR IAmb IAmb 09 44 22.0
comp=Z,42nm,0.8s
PAULI Pauline 31.25 354 IAmb IAmb 09 44 23.4
comp=Z,27nm,0.7s
HKT Hockley 31.27 329 P P 09 44 21.1 +0.4
HKT *PP pP 09 44 36.3 +1.1
HKT pmax pmax
comp=Z,26nm,1.6s
HKT Hockley 31.27 329 P P 09 44 21.1 +0.4
HKT pP pP 09 44 36.2 +1.1
W57A Gilead 31.42 356 P P 09 44 23.2 +1.2
baz=176
AC02 Maricunga 31.43 165 IAmb IAmb 09 44 40.3
comp=Z,55nm,1.5s
CNNC Cliffs of the 31.44 360 P P 09 44 23.7 +1.6
baz=180
W56A Indian Trail 31.44 356 P P 09 44 23.6 +1.4
baz=174,SNR=6.1
KMSC Kings Mountain 31.52 354 P P 09 44 24.8 +2.0
baz=173,SNR=6.5
W54A Cherokee Point 31.55 353 P P 09 44 25.5 +2.4
baz=172,SNR=13
BG3 Lake Jocassee 31.56 352 IAmb IAmb 09 44 26.4
comp=Z,49nm,0.9s
FPAL Fort Paine 31.60 348 IAmb IAmb 09 44 25.6
comp=Z,27nm,0.7s
143A Socs Landing, 31.61 338 P P 09 44 24.1 +0.4
143A PcP 09 47 16.0 +1.1
W52A Murphy 31.81 350 IAmb IAmb 09 44 28.2
comp=Z,30nm,0.8s
X48A Hartselle 31.85 345 IAmb IAmb 09 44 27.5
comp=Z,19nm,0.7s
V59A Middlesex 31.96 359 P P 09 44 28.4 +1.7
baz=179,SNR=8.0
V60A Jim Taylor Roa 31.96 1 P P 09 44 28.7 +2.0
baz=181
V58A Windy Hill, Pi 32.02 358 P P 09 44 28.8 +1.6
baz=177,SNR=7.0
V58A Windy Hill, Pi 32.02 358 IAmb IAmb 09 44 29.8
comp=Z,37nm,1.1s
833A Chaparral WMA, 32.05 322 P P 09 44 28.3 +0.7
baz=136
ARAG Araguaiana, MT 32.06 128 eP P 09 44 25.8 -2.1
V56A Mocksville 32.11 356 P P 09 44 29.9 +2.0
baz=175,SNR=10
V57A Coltrane Farms 32.14 357 P P 09 44 30.0 +1.7
baz=176,SNR=10
W50A Signal Mountai 32.17 348 IAmb IAmb 09 44 31.0
comp=Z,26nm,0.8s
NATX Nacogdoches 32.18 332 P P 09 44 30.1 +1.4
baz=147
NATX Nacogdoches 32.18 332 P P 09 44 29.1 +0.4
V55A Taylorsville 32.21 355 P P 09 44 30.9 +2.0
baz=173,SNR=6.2
V53A Saluda 32.21 352 IAmb IAmb 09 44 31.9
comp=Z,44nm,0.9s
V54A Nebo 32.21 354 P P 09 44 31.2 +2.2
baz=172,SNR=20
CPCT Cooper Cave 32.26 350 IAmb IAmb 09 44 32.1
comp=Z,33nm,0.7s
AQDB Aquidauana 32.29 139 eP P 09 44 27.8 -2.0
V52A Sevierville 32.49 351 IAmb IAmb 09 44 34.0
comp=Z,39nm,0.8s
SMTB Santa Maria do 32.52 113 eP P 09 44 31.0 -1.0
U59A Littleton 32.55 360 P P 09 44 33.5 +1.7
baz=180
U61A Possum Corner 32.55 2 P P 09 44 33.7 +1.9
baz=182
OXF Oxford 32.57 342 P P 09 44 32.8 +0.7
baz=158
V51A Loudon 32.58 350 IAmb IAmb 09 44 34.8
comp=Z,38nm,1.1s
U58A Oxford 32.60 359 P P 09 44 33.8 +1.6
baz=178,SNR=6.4
PLAL Pickwick Lake 32.62 344 P P 09 44 32.0 -0.5
PLAL PcP 09 47 17.2 -0.4
U56A King 32.63 356 P P 09 44 35.0 +2.4
baz=175,SNR=20
Z41A Richland Creek 32.65 336 P P 09 44 33.2 +0.4
baz=151
U57A Blanch 32.66 358 P P 09 44 34.4 +1.6
baz=177,SNR=27
U60A Pendleton 32.67 1 P P 09 44 34.4 +1.5
baz=181
CCAR Cane Creek 32.84 338 IAmb IAmb 09 44 35.7
comp=Z,30nm,0.6s
U55A TA2, Sparta 32.84 355 P P 09 44 36.5 +2.0
baz=174,SNR=7.4
435B Jarrell 32.85 327 P P 09 44 35.5 +0.8
baz=142
435B Jarrell 32.85 327 P P 09 44 35.0 +0.4
435B pP pP 09 44 49.8 +0.6
U54A Nelsons Funny 32.93 354 P P 09 44 37.1 +1.8
baz=172,SNR=24
U54A Nelsons Funny 32.93 354 P P 09 44 36.7 +1.4
U54A PcP 09 47 18.9 +0.4
AC05 El Transito 33.08 168 IAmb IAmb 09 44 39.4
comp=Z,44nm,1.1s
T58A Grand View Acr 33.15 359 P P 09 44 38.7 +1.6
baz=178,SNR=5.1
T59A Double "B" Far 33.16 0 P P 09 44 39.0 +1.7
baz=180,SNR=8.8
T59A Double "B" Far 33.16 0 P P 09 44 38.6 +1.4
T59A IAmb IAmb 09 44 39.5
comp=Z,26nm,0.7s
T59A pP pP 09 44 52.7 +0.6
T59A PcP PcP 09 47 20.0 +1.0
TZTN Tazewell 33.17 351 P P 09 44 39.1 +1.7
baz=169,SNR=11
TZTN Tazewell 33.17 351 P P 09 44 38.5 +1.2
TZTN IAmb IAmb 09 44 39.5
comp=Z,30nm,0.7s
TZTN PcP PcP 09 47 20.3 +1.2
T57A Hurt 33.22 358 P P 09 44 39.5 +1.8
baz=177,SNR=17
T57A Hurt 33.22 358 IAmb IAmb 09 44 40.4
comp=Z,43nm,0.8s
CLTN Cedars of Leba 33.25 347 P P 09 44 38.4 +0.4
CLTN PcP 09 47 19.6 +0.3
T56A Rocky Mt 33.29 357 P P 09 44 40.7 +2.4
baz=176,SNR=16
T55A Pulaski 33.43 356 P P 09 44 41.6 +2.0
baz=174,SNR=14
T54A Tazewell 33.44 354 P P 09 44 41.7 +2.0
baz=173,SNR=30
T53A Wise 33.47 353 P P 09 44 41.8 +1.9
baz=171,SNR=15
BLA Blacksburg 33.49 356 P P 09 44 42.5 +2.3
baz=175,SNR=18
U49A Red Boiling Sp 33.54 348 IAmb IAmb 09 44 42.5
comp=Z,104nm,2.0s
WVT Waverly 33.64 345 P P 09 44 41.4 0.0
baz=162
WVT Waverly 33.64 345 P P 09 44 41.0 -0.4
WVT pmax pmax
comp=Z,10.0nm,0.8s
WVT Waverly 33.64 345 P P 09 44 41.0 -0.4
WHTX Lake Whitney, 33.74 329 P P 09 44 42.3 +0.1
baz=143,SNR=6.6
X40A Basin Creek Fa 33.74 337 P P 09 44 42.7 +0.3
baz=152,SNR=11
S58A Poland Farm, P 33.81 360 P P 09 44 44.4 +1.6
baz=179
JCT Junction City 33.87 324 P P 09 44 43.9 +0.4
baz=138
JCT Junction City 33.87 324 P P 09 44 42.8 -0.7
JCT pP pP 09 44 58.1 0.0
JCT PcP 09 47 21.5 +0.3
S56A Natural Bridge 33.91 357 P P 09 44 45.6 +1.8
baz=177,SNR=8.8
S60A Water View 33.91 2 P P 09 44 45.8 +2.1
baz=182
S59A Mechanicsville 33.96 1 P P 09 44 46.1 +2.0
baz=181
S57A Dark Hollow, R 33.97 358 P P 09 44 45.8 +1.5
baz=178,SNR=5.1
S55A Lewisburg 34.06 356 P P 09 44 47.4 +2.3
baz=175,SNR=21
MIAR Mount Ida 34.09 336 P P 09 44 45.2 -0.1
baz=151,SNR=8.7
S53A Williamson 34.11 354 P P 09 44 46.9 +1.4
baz=172,SNR=28
W41B Gary Mavity, V 34.13 339 P P 09 44 45.6 -0.1
baz=154,SNR=8.7
S54A Dingess, Becki 34.15 355 P P 09 44 47.6 +1.7
baz=174,SNR=11
R58B Mineral 34.16 360 P P 09 44 47.3 +1.5
baz=180,SNR=7.4
ROSB Rosrio 34.22 101 eP P 09 44 45.2 -1.5
WHAR Wooly Hollow 34.25 339 IAmb IAmb 09 44 47.6
comp=Z,70nm,1.7s
S51A Beattyville 34.25 352 P P 09 44 47.7 +1.0
S51A pP pP 09 45 02.5 +1.0
S51A IAmb IAmb 09 45 07.5
comp=Z,42nm,0.8s
S51A PcP 09 47 22.9 +0.7
T47A Sharon Grove 34.28 347 IAmb IAmb 09 44 48.4
comp=Z,35nm,0.8s
R59A King George, V 34.40 1 P P 09 44 50.3 +2.4
baz=181,SNR=6.9
CBN Corbin Frederi 34.40 1 P P 09 44 49.5 +1.6
baz=181
CBN Corbin Frederi 34.40 1 IAmb IAmb 09 45 05.8
comp=Z,55nm,1.4s
R58A Rapidan 34.49 360 P P 09 44 51.0 +2.3
baz=180,SNR=14
R57A Stanardsville 34.49 359 P P 09 44 50.8 +2.0
baz=179
R54A Victor 34.50 355 P P 09 44 50.9 +2.0
baz=174,SNR=13
R55A Marlinton 34.54 357 P P 09 44 51.6 +2.3
baz=176,SNR=12
R55A Marlinton 34.54 357 P P 09 44 51.4 +2.2
R55A IAmb IAmb 09 44 52.7
comp=Z,45nm,0.9s
R55A PcP 09 47 23.6 +0.6
LCAR Lake Charles 34.56 341 IAmb IAmb 09 44 50.3
comp=Z,28nm,1.2s
R61A Willards 34.59 3 P P 09 44 50.9 +1.3
baz=184
R56A Bull Pasture M 34.63 358 P P 09 44 51.6 +1.5
baz=177,SNR=6.9
R53A Hurricane 34.73 354 P P 09 44 52.6 +1.7
baz=173,SNR=14
R53A Hurricane 34.73 354 P P 09 44 51.8 +1.0
R53A IAmb IAmb 09 44 53.1
comp=Z,36nm,0.7s
R53A pP pP 09 45 06.7 +1.1
R53A PcP 09 47 24.3 +0.8
W39A Magazine 34.74 337 P P 09 44 51.5 +0.5
baz=151,SNR=14
W39A Magazine 34.74 337 IAmb IAmb 09 44 52.4
comp=Z,26nm,1.1s
CO03 El Pedregal 34.95 169 IAmb IAmb 09 44 55.6
comp=Z,27nm,1.1s
PBMO Poplar Bluff 34.98 342 P P 09 44 52.7 -0.2
PBMO IAmb IAmb 09 44 54.1
comp=Z,45nm,1.4s
PBMO PcP 09 47 24.1 -0.2
R50A Paris 34.99 351 IAmb IAmb 09 44 55.4
comp=Z,32nm,0.8s
BDFB Brasilia 35.11 124 P P 09 44 52.9 -1.6
comp=Z,6.5nm,0.4s,baz=288,slow=11,SNR=16
BDFB Brasilia 35.11 124 P P 09 44 53.0 -1.5
BDFB pmax pmax
comp=Z,37nm,1.4s
BDFB Brasilia 35.11 124 P P 09 44 53.0 -1.5
BDFB IAmb IAmb 09 45 19.8
comp=Z,37nm,1.4s
Q58A Fox Den Farm, 35.13 0 P P 09 44 56.4 +2.1
baz=180,SNR=14
R49A Shelbyville 35.15 350 IAmb IAmb 09 44 56.2
comp=Z,31nm,0.7s
Q53A Leroy 35.22 355 P P 09 44 57.0 +2.0
baz=173,SNR=40
Q57A Strasburg 35.23 359 P P 09 44 57.4 +2.3
baz=179,SNR=8.4
Q60A Greensboro 35.23 3 P P 09 44 57.5 +2.4
baz=183
Q55A Buckhannon 35.25 357 P P 09 44 58.2 +2.8
baz=176,SNR=30
Q56A Snyder Ridge, 35.26 358 P P 09 44 57.6 +2.3
baz=177,SNR=8.2
Q56A Snyder Ridge, 35.26 358 P P 09 44 57.0 +1.6
Q56A IAmb IAmb 09 44 58.9
comp=Z,26nm,0.8s
Q56A pP 09 45 11.9 +1.8
Q54A Coxs Mills 35.29 356 P P 09 44 57.3 +1.8
baz=175,SNR=16
WCI Wyandotte Cave 35.30 348 P P 09 44 56.2 +0.5
baz=165
WCI Wyandotte Cave 35.30 348 P P 09 44 55.8 +0.1
WCI IAmb IAmb 09 44 57.1
comp=Z,41nm,0.9s
WCI PcP PcP 09 47 26.9 +1.7
ABTX Abilene, Hawle 35.38 327 P P 09 44 56.6 0.0
baz=140,SNR=11
ABTX Abilene, Hawle 35.38 327 P P 09 44 56.8 +0.2
ABTX pP 09 45 12.1 +0.8
ABTX IAmb IAmb 09 45 13.2
comp=Z,23nm,1.0s
ABTX PcP 09 47 27.0 +1.4
Q52A Bidwell 35.39 354 P P 09 44 58.2 +1.7
baz=172,SNR=36
U40A Yellville 35.41 339 P P 09 44 56.9 +0.2
baz=153,SNR=34
U40A Yellville 35.41 339 IAmb IAmb 09 44 57.8
comp=Z,33nm,0.8s
T42A Van Buren 35.42 341 IAmb IAmb 09 44 57.4
comp=Z,28nm,1.1s
TXAR Lajitas Array 35.46 319 P P 09 44 58.3 +0.9
comp=Z,4.9nm,0.8s,baz=145,slow=8.8,SNR=71
TXAR pP pP 09 45 13.6 +1.5
comp=Z,16nm,1.1s,baz=151,slow=9.7,SNR=13
TXAR PcP PcP 09 47 27.3 +1.3
comp=Z,5.1nm,0.8s,baz=143,slow=5.7,SNR=8.7
TXAR pPcP 09 47 44.1
comp=Z,2.9nm,0.7s,baz=131,slow=5.1,SNR=4.7
TX32 Lajitas Array 35.46 319 P P 09 44 58.9 +1.5
TX32 pP pP 09 45 14.1 +2.0
TX32 IAmb IAmb 09 45 14.8
comp=Z,31nm,1.3s
TX32 PcP PcP 09 47 27.7 +1.8
S44A Carbondale 35.49 344 IAmb IAmb 09 45 25.6
comp=Z,32nm,1.1s
ITRB Iturama 35.53 132 eP P 09 44 56.0 -2.0
Q51A Peebles 35.58 352 IAmb IAmb 09 45 00.7
comp=Z,70nm,1.5s
P57A Homestead Farm 35.67 360 P P 09 45 01.6 +2.7
baz=180,SNR=7.3
P57A Homestead Farm 35.67 360 IAmb IAmb 09 45 02.8
comp=Z,71nm,1.4s
P58A Pank, Wackersv 35.68 1 P P 09 45 00.9 +2.0
baz=181,SNR=9.7
P56A Dayton Farm, R 35.71 359 P P 09 45 01.8 +2.6
baz=178,SNR=12
P55A Reedsville 35.75 357 P P 09 45 02.0 +2.4
baz=176,SNR=11
HHAR Hobbs 35.75 337 IAmb IAmb 09 45 00.4
comp=Z,23nm,0.9s
CPUP Villa Florida 35.75 148 P P 09 44 57.5 -2.3
comp=Z,2.0nm,0.8s,baz=342,slow=10,SNR=4.9
CPUP Villa Florida 35.75 148 P P 09 44 58.3 -1.4
P59A Jarrettsville 35.82 2 P P 09 45 01.8 +1.7
baz=182
P53A Whipple 35.83 355 P P 09 45 02.1 +1.9
baz=174,SNR=34
P54A Burton 35.88 356 P P 09 45 02.7 +2.0
baz=175,SNR=20
MCWV Mont Chateau 35.90 357 P P 09 45 02.9 +2.1
baz=176,SNR=10
MCWV Mont Chateau 35.90 357 IAmb IAmb 09 45 04.1
comp=Z,28nm,1.1s
MGMO Mountain Grove 35.92 340 IAmb IAmb 09 45 02.0
comp=Z,57nm,1.6s
P61A Hammonton 35.96 4 P P 09 45 03.7 +2.3
baz=185
P51A Williamsport 36.00 353 P P 09 45 03.6 +2.0
baz=171
P51A Williamsport 36.00 353 IAmb IAmb 09 45 04.0
comp=Z,33nm,1.2s
P52A Corning 36.04 354 P P 09 45 03.6 +1.5
baz=172,SNR=36
P60A Greenville 36.05 3 P P 09 45 03.6 +1.5
baz=184
U38A Gravette 36.06 337 IAmb IAmb 09 45 02.9

comp=Z,17nm,0.8s
PCMB Pacaembu 36.08 135 *e*P P 09 45 00.1 -2.6
FVM French Village 36.09 343 IAmb IAmb 09 45 03.5
comp=Z,28nm,0.8s
OLIL Olney 36.18 346 P P **09 45 03.0 -0.3**
OLIL PcP **09 47 28.2 +0.4**
TUL1 Leonard 36.18 335 P P **09 45 03.3 +0.1**
baz=148,SNR=20
TUL1 Leonard 36.18 335 IAmb IAmb 09 45 04.5
comp=Z,67nm,1.3s
IPMB Ipameri, GO 36.19 127 *e*P P 09 45 01.3 -2.3
MVL Millersville 36.21 2 IAmb IAmb 09 45 06.7
comp=Z,35nm,0.9s
P49A Miami Univ. Ec 36.28 351 P P **09 45 04.4 +0.4**
baz=168,SNR=16
P49A Miami Univ. Ec 36.28 351 IAmb IAmb 09 45 05.4
comp=Z,43nm,1.0s
O58A Lewisberry 36.32 1 P P **09 45 06.8 +2.4**
baz=181,SNR=10
SDBA SAO DESIDERIO 36.32 117 *e*P P 09 45 03.7 -1.1
P48A Milroy 36.33 350 IAmb IAmb 09 45 05.5
comp=Z,36nm,0.7s
O61A Allentown 36.40 4 P P **09 45 06.4 +1.3**
baz=185
O57A Amberson 36.40 0 P P **09 45 07.3 +2.2**
baz=180,SNR=7.5
CCM Cathedral Cave 36.41 342 P P **09 45 04.9 -0.3**
baz=157
CCM Cathedral Cave 36.41 342 P P **09 45 04.5 -0.7**
CCM pmax pmax
comp=Z,33nm,0.7s
CCM Cathedral Cave 36.41 342 P P **09 45 04.5 -0.7**
CCM IAmb IAmb 09 45 05.7
comp=Z,33nm,0.7s
O55A Ligonier 36.42 358 P P **09 45 07.5 +2.2**
baz=177,SNR=13
PAGS Pennsylvania G 36.43 1 P P **09 45 06.4 +1.1**
PAGS PcP **09 47 28.7 +0.2**
O54A Avella 36.45 357 P P **09 45 07.3 +1.8**
baz=176,SNR=24
O56A Blue Knob Stat 36.46 359 P P **09 45 08.1 +2.4**
baz=178,SNR=11
O56A Blue Knob Stat 36.46 359 IAmb IAmb 09 45 09.2
comp=Z,34nm,0.9s
O52A Adamsville 36.49 355 P P **09 45 07.4 +1.5**
baz=173,SNR=24
OKCFA Oklahoma City 36.50 332 IAmb IAmb 09 45 22.1
comp=Z,27nm,0.9s
O59A Robesonia 36.53 2 P P **09 45 08.4 +2.3**
baz=182
O60A Telford 36.57 3 P P **09 45 08.4 +1.9**
baz=184
O53A New Philadelph 36.57 356 P P **09 45 08.3 +1.7**
baz=174,SNR=22
WMOK Wichita Mounta 36.59 330 P P **09 45 06.7 -0.1**
baz=143,SNR=17
WMOK Wichita Mounta 36.59 330 P P **09 45 06.3 -0.6**
WMOK pP **pP 09 45 21.7 0.0**
WMOK PcP **PcP 09 47 30.4 +1.3**
O51A Pataskala 36.60 354 P P **09 45 08.1 +1.3**
baz=172,SNR=18
ACSO Alum Creek Sta 36.73 353 P P **09 45 09.2 +1.3**
baz=171,SNR=12
ACSO Alum Creek Sta 36.73 353 IAmb IAmb 09 45 10.2
comp=Z,29nm,0.8s
SSPA Standing Stone 36.82 360 P P **09 45 11.0 +2.3**
baz=180
SSPA Standing Stone 36.82 360 P P **09 45 10.7 +2.0**
SSPA IAmb IAmb 09 45 11.4
comp=Z,23nm,0.8s
SSPA PcP **09 47 30.2 +0.5**
VA03 San Esteban 36.85 170 IAmb IAmb 09 45 24.8
comp=Z,50nm,0.9s
O49A Covington 36.86 352 IAmb IAmb 09 45 10.6
comp=Z,40nm,1.1s
N57A Milroy 36.94 0 P P **09 45 11.6 +1.9**
baz=180,SNR=5.0
N55A Marion Center 36.99 358 P P **09 45 12.4 +2.3**
baz=178,SNR=26
N58A Sunbury 37.04 1 P P **09 45 12.6 +2.1**
baz=182,SNR=6.1
N58A Sunbury 37.04 1 P P **09 45 12.0 +1.5**
N58A IAmb IAmb 09 45 13.8
comp=Z,29nm,1.1s
N58A PcP **09 47 30.5 +0.2**
N61A South Mountain 37.07 4 P P **09 45 13.1 +2.3**
baz=186,SNR=5.2
N53A Lisbon 37.10 356 P P **09 45 12.6 +1.5**
baz=175,SNR=23
N56A West Decatur 37.11 359 P P **09 45 13.2 +2.0**
baz=179,SNR=16
N60A Cedar Hill Far 37.13 3 P P **09 45 13.5 +2.2**
baz=184
N59A State Game Lan 37.15 2 P P **09 45 13.9 +2.4**
baz=183,SNR=8.7
N59A State Game Lan 37.15 2 IAmb IAmb 09 45 14.4
comp=Z,26nm,0.7s
N52A McGinn's Farm, 37.17 355 P P **09 45 12.9 +1.3**
baz=173,SNR=12
N54A Moraine State 37.20 357 P P **09 45 14.1 +2.1**
baz=176,SNR=32
T35A Sooner Cattle 37.34 335 P P **09 45 12.8 -0.4**
T35A IAmb IAmb 09 45 14.4
comp=Z,36nm,0.8s
T35A pP **pP 09 45 27.6 -0.4**
T35A PcP **09 47 31.9 +0.5**
N51A Ashland 37.34 354 P P **09 45 14.0 +0.9**
baz=172,SNR=12
N51A Ashland 37.34 354 IAmb IAmb 09 45 15.2
comp=Z,46nm,0.9s
PAL Palisades 37.35 5 P P **09 45 14.9 +1.8**
baz=186,SNR=7.2
PAL Palisades 37.35 5 IAmb IAmb 09 45 15.7
comp=Z,34nm,0.8s
ODNJ Ogdensburg 37.38 4 P P **09 45 14.7 +1.3**
ODNJ PcP **09 47 28.8 -2.5**
P43A Skaggs, Pawnee 37.39 345 IAmb IAmb 09 45 14.3
comp=Z,39nm,1.1s
M57A Sunshine Farm, 37.53 1 P P **09 45 17.2 +2.5**
baz=181,SNR=15
M57A Sunshine Farm, 37.53 1 P P **09 45 16.8 +2.2**
M57A pP **pP 09 45 32.5 +2.8**
M57A PcP **09 47 32.6 +0.9**
SFIN Lafayette 37.53 348 P P **09 45 14.3 -0.4**
baz=165,SNR=15
SFIN Lafayette 37.53 348 IAmb IAmb 09 45 15.0
comp=Z,24nm,0.6s
N49A Columbus Grove 37.56 352 IAmb IAmb 09 45 31.8
comp=Z,35nm,1.0s
M58A Price's Panora 37.58 2 P P **09 45 17.5 +2.4**
baz=182,SNR=8.6
O44A Mansfield 37.62 346 IAmb IAmb 09 45 15.8
comp=Z,32nm,0.7s
M60A Port Jervis 37.62 4 P P **09 45 16.5 +1.1**
baz=185
CROK Carrier 37.64 333 P P **09 45 15.4 -0.4**
CROK PcP **09 47 32.9 +0.6**
M55A Ridgway 37.67 359 P P **09 45 17.7 +1.9**
baz=178,SNR=14
M55A Ridgway 37.67 359 IAmb IAmb 09 45 18.3
comp=Z,29nm,0.8s
M61A Granite Spring 37.67 5 P P **09 45 16.5 +0.7**
baz=186
M56A Emporium 37.67 359 P P **09 45 17.9 +2.0**
baz=179,SNR=17
M56A Emporium 37.67 359 P P **09 45 17.6 +1.7**
M56A pP **pP 09 45 32.9 +1.9**
M56A PcP **09 47 33.1 +0.8**
M53A WI Miller and 37.72 356 P P **09 45 18.0 +1.7**
baz=175,SNR=22
BB19B Bebedouro 37.72 132 *e*P P 09 45 14.6 -2.0
M51A Elyria 37.73 355 P P **09 45 17.6 +1.2**
baz=173,SNR=6.0
M54A Oil Creek Stat 37.73 358 P P **09 45 18.5 +2.0**
baz=177,SNR=42
YLE Yale 37.75 6 P P **09 45 18.3 +1.8**
YLE IAmb IAmb 09 45 19.6
comp=Z,44nm,0.9s
N47A Urbana 37.76 350 IAmb IAmb 09 45 17.4
comp=Z,37nm,0.8s
M59A Waymart 37.78 3 P P **09 45 18.9 +2.1**
baz=184,SNR=6.7
M52A Chesterland 37.87 356 P P **09 45 18.8 +1.3**
baz=174,SNR=8.8
M52A Chesterland 37.87 356 IAmb IAmb 09 45 19.8
comp=Z,41nm,0.9s
M62A Hamden 37.88 6 P P **09 45 19.4 +1.8**
baz=188,SNR=7.2
M63A Gales Ferry 37.94 7 P P **09 45 20.4 +2.3**
baz=189,SNR=5.7
JANB Januaria 37.97 120 *e*P P 09 45 17.2 -1.5
U32A Winter Ranch, 38.01 332 IAmb IAmb 09 45 20.9
comp=Z,36nm,0.9s
KSCT Kent School, K 38.10 5 IAmb IAmb 09 45 21.7
comp=Z,20nm,0.7s
MNTX Cornudas Mount 38.13 320 P P **09 45 21.2 +1.3**
baz=132,SNR=39
MNTX Cornudas Mount 38.13 320 P P **09 45 20.5 +0.5**
MNTX IAmb IAmb 09 45 37.7
comp=Z,50nm,1.1s
MSTX Muleshoe 38.13 325 P P **09 45 20.3 +0.3**
baz=137,SNR=22
MSTX Muleshoe 38.13 325 IAmb IAmb 09 45 36.7
comp=Z,45nm,1.1s
M64A Tiverton 38.19 8 P P **09 45 22.3 +2.1**
baz=190
L57A Andrews Acres 38.20 1 P P **09 45 22.4 +2.1**
baz=181,SNR=10
HDIL Hopedale 38.20 346 P P **09 45 19.8 -0.5**
baz=161,SNR=11
AMTX Amarillo 38.20 327 P P **09 45 20.8 +0.3**
baz=139
L53A Girard 38.21 357 P P **09 45 22.1 +1.7**
baz=176,SNR=30
L58A Harry Jones Me 38.27 2 P P **09 45 23.2 +2.2**
baz=183,SNR=10
L60A Shokan 38.30 4 P P **09 45 23.3 +2.1**
baz=186,SNR=6.3
L56A Greenwood 38.32 0 P P **09 45 23.2 +1.8**
baz=180,SNR=7.0
BO01 Tunca 38.35 171 P P **09 45 21.6 0.0**
BO01 PcP **PcP 09 47 34.9 +0.5**
ERPA Erie 38.36 357 P P **09 45 23.5 +1.8**
baz=176,SNR=21
L55A Hinsdale 38.38 359 P P **09 45 23.9 +2.0**
baz=179,SNR=30
FRTB Fartura 38.40 136 *e*P P 09 45 19.3 -3.0
BINY Binghamton 38.42 2 P P **09 45 24.4 +2.2**
baz=183,SNR=12
BINY Binghamton 38.42 2 P P **09 45 24.2 +2.0**
BINY PcP **09 47 34.8 +0.3**
L63A North Scituate 38.44 7 P P **09 45 24.2 +1.9**
baz=190
L54A Sinclairville 38.45 358 P P **09 45 24.3 +1.9**
baz=177,SNR=41
L59A Walton 38.45 3 P P **09 45 24.5 +2.0**
baz=184,SNR=6.7
L59A Walton 38.45 3 IAmb IAmb 09 45 25.5
comp=Z,57nm,1.4s
L62A Suffield 38.49 6 P P **09 45 24.8 +2.1**
baz=188,SNR=7.1
L61A Hillsdale 1, H 38.56 5 P P **09 45 25.2 +1.9**
baz=187,SNR=11
L48A N Adams 38.60 352 IAmb IAmb 09 45 40.4
comp=Z,54nm,1.5s
WVNY West Valley, N 38.60 359 P P **09 45 25.4 +1.7**
WVNY pP **pP 09 45 40.9 +2.0**
WVNY PcP **09 47 35.9 +0.8**
QUA2 Belchertown 38.77 6 IAmb IAmb 09 45 27.2
comp=Z,27nm,0.9s
BO02 Sierra Bellavi 38.79 171 IAmb IAmb 09 45 51.2
comp=Z,33nm,1.0s
K54A Basiliko Farm, 38.80 359 P P **09 45 27.4 +2.0**
baz=178,SNR=12
AAM Ann Arbor 38.85 353 P P **09 45 27.3 +1.5**
baz=170,SNR=5.2
AAM Ann Arbor 38.85 353 IAmb IAmb 09 45 28.3
comp=Z,37nm,1.1s
K56A Middlesex 38.89 0 P P **09 45 27.8 +1.7**
baz=181,SNR=12
L61B Northampton 38.90 6 P P **09 45 27.8 +1.7**
baz=188
K55A Perry 38.91 360 P P **09 45 28.0 +1.7**
baz=179,SNR=14
MMNY Mt. Morris Dam 38.92 360 P P **09 45 27.8 +1.5**
MMNY pP **pP 09 45 43.5 +2.0**
MMNY PcP **PcP 09 47 37.3 +1.3**
K57A Scipio Center 38.93 1 P P **09 45 28.4 +1.9**
baz=182,SNR=17
K60A Five Rivers En 38.95 5 P P **09 45 28.6 +2.0**
baz=186
L46A Eue Claire 38.96 350 IAmb IAmb 09 45 27.0
comp=Z,28nm,0.8s
BCX Boston College 38.97 8 IAmb IAmb 09 45 29.9
comp=Z,40nm,0.8s
K58A Earlville 38.99 2 P P **09 45 29.0 +2.0**
baz=183,SNR=8.7
K58A Earlville 38.99 2 IAmb IAmb 09 45 30.1
comp=Z,92nm,1.5s
MC01 Montes Claros 39.04 122 *e*P P 09 45 26.1 -1.6
K59A Cooperstown 39.05 3 P P **09 45 29.5 +2.1**
baz=184,SNR=6.4
HQIL Hanson Quary C 39.05 348 IAmb IAmb 09 45 27.3
comp=Z,35nm,0.9s
K61A Williamtown 39.06 5 P P **09 45 29.4 +1.8**
baz=187
HRV Adam Dziewonsk 39.08 7 P P **09 45 29.7 +2.0**
baz=190
HRV Adam Dziewonsk 39.08 7 P P **09 45 29.5 +1.8**
HRV pmax pmax
comp=Z,38nm,0.8s
HRV Adam Dziewonsk 39.08 7 P P **09 45 29.5 +1.8**
HRV IAmb IAmb 09 45 30.7
comp=Z,38nm,0.8s
K62A Royalston 39.16 6 P P **09 45 30.4 +2.0**
baz=189,SNR=11
K62A Royalston 39.16 6 IAmb IAmb 09 45 31.4
comp=Z,45nm,0.9s
K50A Casco 39.20 354 IAmb IAmb 09 45 30.4
comp=Z,62nm,1.1s
KSU1 Kansas State U 39.24 337 P P **09 45 29.0 -0.1**
baz=149,SNR=27
K63A Dunstable 39.27 7 P P **09 45 31.2 +2.0**
baz=190,SNR=6.5
MEDO Medina 39.36 359 P P **09 45 30.6 +0.6**
MEDO IAmb IAmb 09 45 32.7
comp=Z,48nm,0.8s
MEDO pP **pP 09 45 47.3 +2.2**
MEDO PcP **PcP 09 47 38.1 +0.7**
L44A Lake County Fo 39.43 348 P P **09 45 29.7 -0.9**
baz=164
J55A Hilton 39.45 360 P P **09 45 32.3 +1.5**
baz=180,SNR=12
J55A Hilton 39.45 360 IAmb IAmb 09 45 33.4
comp=Z,44nm,0.8s
J54A Appleton 39.47 359 P P **09 45 32.7 +1.8**
baz=178,SNR=6.5
J56A Wolcott 39.47 1 P P **09 45 32.7 +1.8**
baz=181,SNR=38
R32A Long Quarter, 39.55 334 P P **09 45 31.8 0.0**
R32A IAmb IAmb 09 45 33.1
comp=Z,45nm,1.3s
R32A pP **pP 09 45 47.8 +1.2**
R32A PcP **09 47 39.3 +1.1**
J58A Remsen 39.61 3 P P **09 45 34.0 +2.0**
baz=184,SNR=23
J58A Remsen 39.61 3 IAmb IAmb 09 45 35.0
comp=Z,49nm,0.8s
J60A Lant Hill Farm 39.62 5 P P **09 45 34.3 +2.1**
baz=187,SNR=6.8
J57A Williamstown 39.63 2 P P **09 45 33.9 +1.7**
baz=183,SNR=15
J57A Williamstown 39.63 2 IAmb IAmb 09 45 34.4
comp=Z,33nm,0.7s
J59A Piesco 39.75 4 P P **09 45 35.1 +1.8**
baz=185,SNR=26
J62A Henniker 39.76 7 P P **09 45 34.8 +1.4**
baz=189,SNR=5.7
J61A Chester 39.80 6 P P **09 45 35.8 +2.1**
baz=188,SNR=5.3
J63A Strafford 39.91 8 P P **09 45 36.2 +1.6**
baz=190
J47A Sumner 39.92 352 IAmb IAmb 09 45 36.0
comp=Z,54nm,1.1s
I58A Old Forge 39.95 3 P P **09 45 36.7 +1.8**
baz=184,SNR=19
K43A Burlington 40.02 348 IAmb IAmb 09 45 35.3
comp=Z,21nm,0.8s
VAO Valinhos 40.04 133 *e*P P 09 45 33.8 -2.3
I53A Kortright Cn E 40.04 358 P P **09 45 37.0 +1.4**
baz=177,SNR=7.3
SPB Sao Paulo 40.07 134 *e*P P 09 45 33.4 -2.8
I51A Listowel 40.09 356 P P **09 45 37.1 +1.0**
baz=175,SNR=60
PECO Prince Edward 40.12 1 P P **09 45 37.4 +1.0**
PECO IAmb IAmb 09 45 38.2
comp=Z,32nm,0.7s
PECO pP **pP 09 45 53.0 +1.5**
PECO PcP **09 47 40.5 +0.7**
I59A Olmsteadville 40.13 4 P P **09 45 38.1 +1.7**
baz=186,SNR=23
121A Cookes Peak, D 40.22 319 P P **09 45 40.4 +2.8**
baz=129,SNR=25
121A Cookes Peak, D 40.22 319 IAmb IAmb 09 45 41.4
comp=Z,37nm,0.9s
I60A Shoreham 40.22 5 P P **09 45 39.2 +2.0**
baz=187,SNR=11
NCB Newcomb 40.28 4 IAmb IAmb 09 45 40.6
comp=Z,33nm,0.9s
I52A Shelburne 40.31 357 P P **09 45 39.1 +1.2**
baz=176,SNR=34
CBKS Cedar Bluff 40.33 333 P P **09 45 38.9 +0.7**
baz=145,SNR=17
CBKS Cedar Bluff 40.33 333 P P **09 45 38.8 +0.6**
CBKS *PP **pP 09 45 55.1 +1.9**
CBKS pmax pmax
comp=Z,73nm,0.8s
CBKS Cedar Bluff 40.33 333 P P **09 45 38.8 +0.6**
CBKS pP **pP 09 45 55.1 +1.9**
I49A Point Hope 40.38 354 IAmb IAmb 09 45 39.8
comp=Z,55nm,0.8s
I55A Frankford 40.40 0 P P **09 45 40.0 +1.3**
baz=180,SNR=22
N35A Tabor 40.41 339 IAmb IAmb 09 45 38.8
comp=Z,27nm,0.8s
I61A Oroboro, Fairl 40.41 6 P P **09 45 40.7 +1.9**
baz=188
I62A Tamworth 40.46 7 P P **09 45 41.1 +2.0**
baz=190
SCIA State Center 40.54 342 P P **09 45 39.4 -0.4**
baz=156,SNR=6.2
SCIA State Center 40.54 342 P P **09 45 38.9 -0.9**
SCIA IAmb IAmb 09 45 40.1
comp=Z,32nm,0.8s
SCIA PcP **PcP 09 47 41.9 +0.7**
BSCB Bom Sucesso 40.55 129 *e*P P 09 45 38.1 -2.2
PET01 Itanhaem-SP 40.61 135 *e*P P 09 45 38.3 -2.4
JFWS Jewell Farm 40.66 346 P P **09 45 40.2 -0.6**
baz=161,SNR=30
JFWS Jewell Farm 40.66 346 P P **09 45 39.8 -0.9**
JFWS IAmb IAmb 09 45 40.9
comp=Z,42nm,0.7s
JFWS PcP **PcP 09 47 42.0 +0.4**
Y22D IRIS PASSCAL I 40.67 322 IAmb IAmb 09 46 00.1
comp=Z,54nm,1.1s
H57A Richville 40.70 3 P P **09 45 42.7 +1.6**
baz=184,SNR=8.2
H58A Gabriels 40.72 4 P P **09 45 43.0 +1.6**
baz=185,SNR=24
I63A Otisfield 40.73 8 P P **09 45 43.3 +2.0**
baz=191,SNR=5.3
H55A Tweed 40.74 1 P P **09 45 42.9 +1.5**
baz=181,SNR=26
I64A Boothbay 40.74 9 P P **09 45 43.5 +2.1**
baz=192,SNR=6.4
LBNH Lisbon 40.75 6 P P **09 45 43.6 +2.1**
baz=189,SNR=14
LBNH Lisbon 40.75 6 IAmb IAmb 09 45 44.7
comp=Z,44nm,0.9s
VT1 Waterbury 40.76 5 P P **09 45 43.5 +1.9**
VT1 PcP **09 47 42.1 +0.2**
H53A Bobcaygeon 40.77 359 P P **09 45 43.0 +1.4**
baz=179,SNR=67
H56A Elgin 40.80 2 P P **09 45 43.8 +1.9**
baz=182,SNR=32
H52A Wyevale 40.87 358 P P **09 45 43.7 +1.2**
baz=177,SNR=21
LONY Lake Ozonia 40.90 3 P P **09 45 44.3 +1.6**
baz=185,SNR=18
LONY Lake Ozonia 40.90 3 IAmb IAmb 09 45 45.6
comp=Z,51nm,1.2s
I45A Fountain 40.92 351 IAmb IAmb 09 45 43.9
comp=Z,27nm,0.6s
ANMO Albuquerque 40.97 323 P P **09 45 45.6 +1.8**
comp=Z,19nm,0.8s,baz=137,slow=9.3,SNR=93
ANMO pP **pP 09 46 01.2 +2.5**
comp=Z,21nm,0.9s,baz=145,slow=10,SNR=11
ANMO Albuquerque 40.97 323 P P **09 45 45.6 +1.8**
baz=133
ANMO Albuquerque 40.97 323*c i*P P **09 45 45.4 +1.6**
ANMO pmax pmax
comp=Z,22nm,0.9s
ANMO Albuquerque 40.97 323 P P **09 45 45.3 +1.5**
ANMO pP **pP 09 46 00.4 +1.7**
ANMO IAmb IAmb 09 46 02.2
comp=Z,38nm,1.1s
SADO Sadowa 40.97 358 P P **09 45 44.5 +1.1**
comp=Z,73nm,0.8s,baz=199,slow=7.5,SNR=108
SADO pP **pP 09 45 60.0 +1.4**
comp=Z,37nm,0.9s,baz=194,slow=8.9,SNR=7.2
SADO PcP **PcP 09 47 42.8 +0.2**
comp=Z,17nm,0.8s,baz=244,slow=3.9,SNR=4.2
H59A Cadyville 40.99 4 P P **09 45 45.2 +1.8**
baz=186,SNR=17
H60A Morristown 40.99 5 P P **09 45 45.3 +1.8**
baz=188,SNR=6.1
H61A Lyndonville 41.04 6 P P **09 45 45.9 +2.0**
baz=189,SNR=6.6
K38A Parkersburg 41.08 343 IAmb IAmb 09 45 44.5
comp=Z,80nm,1.6s
H62A Milan 41.17 7 P P **09 45 47.0 +2.0**
baz=190,SNR=5.1
FRNY Flat Rock 41.18 4 P P **09 45 46.6 +1.6**
FRNY IAmb IAmb 09 45 48.1
comp=Z,67nm,1.2s
FRNY pP **pP 09 46 01.9 +1.7**
FRNY PcP **09 47 43.8 +0.5**
PLVO Plevna 41.23 1 IAmb IAmb 09 45 48.0
comp=Z,59nm,1.0s
PARB Paraibuna 41.23 132 *e*P P 09 45 43.9 -2.0
I42A Draeger Farm, 41.28 348 IAmb IAmb 09 45 46.4
comp=Z,35nm,0.7s
G53A Haliburton 41.31 359 P P **09 45 47.4 +1.3**
baz=179,SNR=43
T25A Trinidad 41.35 327 P P **09 45 49.0 +2.1**
baz=137,SNR=22
G57A Newington 41.36 3 P P **09 45 48.1 +1.6**
baz=184,SNR=16
H63A New Sharon 41.41 8 P P **09 45 49.3 +2.5**
baz=192
G55A Calabogie 41.45 1 P P **09 45 48.8 +1.6**
baz=182,SNR=31
GLMI Grayling 41.45 353 P P **09 45 47.7 +0.4**
baz=170
GLMI Grayling 41.45 353 P P **09 45 47.2 -0.1**
GLMI pP **09 46 01.9 -0.5**
GLMI IAmb IAmb 09 46 32.5
comp=Z,29nm,0.8s
GLMI PcP **PcP 09 47 45.4 +1.2**
G59A Clarenceville 41.46 5 P P **09 45 49.4 +2.1**
baz=187
G58A Ormstown 41.46 4 P P **09 45 49.2 +1.9**
baz=186,SNR=13
H64A Troy 41.51 9 P P **09 45 49.6 +1.9**
baz=193,SNR=5.0
G60A Masonville 41.55 6 P P **09 45 49.9 +1.7**
baz=188,SNR=7.1
G54A Lake Saint Pet 41.59 360 P P **09 45 49.7 +1.4**
baz=179,SNR=60
H43A Windswept, Lux 41.61 349 IAmb IAmb 09 45 48.9
comp=Z,38nm,0.7s
GDU01 Guandu, BA 41.61 115 *e*P P 09 45 47.5 -1.4
L34A Svendsen Farm, 41.64 339 IAmb IAmb 09 46 06.3
comp=Z,56nm,0.6s
ORIO Orleans, Innes 41.68 2 P P **09 45 50.5 +1.4**
baz=183,SNR=17
H65A Eastbrook 41.73 10 P P **09 45 51.2 +1.7**
baz=194,SNR=6.4
MOQ Mont Orford 41.77 6 P P **09 45 52.0 +2.0**
MOQ PcP **09 47 45.5 +0.2**
G45A Suttons Bay 41.81 352 IAmb IAmb 09 45 50.7
comp=Z,42nm,0.7s
BGNE Belgrade 41.82 337 P P **09 45 50.6 +0.2**
baz=149
BGNE Belgrade 41.82 337 IAmb IAmb 09 45 51.0
comp=Z,67nm,1.1s
G61A St-Isidore-de- 41.83 7 P P **09 45 52.1 +1.7**
baz=189,SNR=11
KSCO Kaye Shedlock' 41.85 331 P P **09 45 52.0 +1.2**
baz=141,SNR=9.0
G62A West of Eustis 41.88 8 P P **09 45 53.1 +2.3**

baz=191,SNR=15
G62A West of Eustis 41.88 8 IAmb IAmb 09 45 53.6
comp=Z,34nm,0.8s
EMMW East Machias 41.88 11 P P 09 45 52.3 +1.5
EMMW pP pP 09 46 06.6 +0.7
G63A Kingsbury 41.91 9 P P 09 45 53.0 +2.0
baz=192,SNR=6.0
H66A Whiting 41.99 11 P P 09 45 53.2 +1.6
baz=196,SNR=8.9
F52A Sundridge 42.00 358 P P 09 45 52.7 +0.9
baz=178,SNR=38
F55A Otter Lake 42.04 1 P P 09 45 53.7 +1.7
baz=182,SNR=14
PLTB Pedras Altas 42.04 149 eP P 09 45 51.3 -0.9
F57A Harrington 42.08 3 P P 09 45 53.9 +1.5
baz=184,SNR=6.1
PKME Peaks-Kenny Pk 42.11 9 P P 09 45 54.4 +1.9
baz=192,SNR=9.1
F49A Sandfield 42.12 356 P P 09 45 52.6 0.0
baz=174,SNR=17
ALGO Algonquin Park 42.14 360 P P 09 45 54.1 +1.3
baz=180,SNR=80
F51A Arnstein 42.16 358 P P 09 45 53.7 +0.7
baz=177,SNR=50
G64A Maxfield 42.18 9 P P 09 45 54.7 +1.5
baz=193
F48A Evansville 42.23 355 P P 09 45 53.7 +0.1
baz=173,SNR=31
F59A Saint Guilaume 42.26 5 P P 09 45 55.5 +1.7
baz=187,SNR=8.5
SJMB Sao Joao De Ma 42.29 123 eP P 09 45 52.8 -1.7
G65A Princeton 42.34 11 P P 09 45 56.4 +2.0
baz=195,SNR=9.1
G65A Princeton 42.34 11 IAmb IAmb 09 45 57.6
comp=Z,100nm,1.7s
SDCO Great Sand Dun 42.39 327 P P 09 45 57.3 +1.9
baz=136,SNR=58
SDCO Great Sand Dun 42.39 327 IAmb IAmb 09 45 58.5
comp=Z,47nm,1.2s
GGN Saint George 42.40 11 P P 09 45 56.4 +1.4
GGN IAmb IAmb 09 45 58.0
comp=Z,62nm,1.1s
GGN pP pP 09 46 11.2 +1.1
F60A Warwick 42.46 6 P P 09 45 57.2 +1.8
baz=188,SNR=9.2
E52A Mattawa 42.48 359 P P 09 45 56.5 +0.8
baz=179,SNR=64
E53A Dumoine, Ponti 42.56 0 P P 09 45 57.3 +0.9
baz=180,SNR=24
F63A Nahmakanta, Br 42.56 9 P P 09 45 57.6 +1.3
baz=193
F61A St Evariste 42.57 7 P P 09 45 57.8 +1.4
baz=190,SNR=9.5
E54A Lac Daplat, Po 42.62 1 P P 09 45 57.9 +1.2
baz=181,SNR=40
F62A Pittston Farm, 42.63 8 P P 09 45 58.3 +1.4
baz=191
BSFB Barra de Sao F 42.63 123 eP P 09 45 55.5 -1.8
E55A Montcerf-Lytto 42.66 2 P P 09 45 58.6 +1.5
baz=182,SNR=13
HAL Halifax 42.68 15 P P 09 45 58.9 +1.6
HAL pmax pmax
comp=Z,89nm,1.8s
HAL Halifax 42.68 15 P P 09 45 58.9 +1.6
HAL IAmb IAmb 09 46 00.2
comp=Z,89nm,1.8s
E50A Wahnapitae 42.69 357 P P 09 45 57.6 +0.3
baz=176,SNR=40
E57A Chemin Saint G 42.71 4 P P 09 45 59.0 +1.4
baz=185,SNR=29
E58A La Victoria 42.73 5 P P 09 45 59.3 +1.7
baz=186,SNR=21
E51A G1948 Merrick 42.75 358 P P 09 45 59.0 +1.3
baz=177,SNR=148
E56A St. Veronique 42.79 3 P P 09 45 59.7 +1.5
baz=184,SNR=17
RCBR Riachuelo 42.83 103 eP P 09 45 57.0 -2.0
E48A Lockeyer 42.84 356 P P 09 45 59.0 +0.4
baz=174,SNR=40
F64A Sherman 42.84 10 P P 09 46 00.3 +1.7
baz=194,SNR=13
F64A Sherman 42.84 10 IAmb IAmb 09 46 01.2
comp=Z,32nm,0.8s
G40A Rib Lake 42.87 347 IAmb IAmb 09 45 59.5
comp=Z,44nm,1.1s
E60A Ste Agathe de 42.91 6 P P 09 46 00.3 +1.2
baz=189,SNR=6.2
E47A Iron Bridge 42.91 354 P P 09 45 59.2 +0.1
baz=172,SNR=26
F42A Maple Grove Fa 42.92 349 IAmb IAmb 09 45 59.9
comp=Z,30nm,0.8s
E61A Lac Etchemin 43.08 7 P P 09 46 02.8 +2.3
baz=190,SNR=12
W18A Petrified Fore 43.11 321 P P 09 46 03.8 +2.6
baz=129,SNR=8.8
W18A Petrified Fore 43.11 321 IAmb IAmb 09 46 04.5
comp=Z,27nm,0.8s
S22A 4UR Ranch, Cre 43.13 326 P P 09 46 03.2 +1.8
baz=135,SNR=41
D52A ZEK Kipawa Sen 43.17 359 P P 09 46 02.6 +1.4
baz=179,SNR=59
RIB01 Linhares ES 43.23 123 eP P 09 46 00.3 -1.8
D55A Sainte-Anne-du 43.25 2 P P 09 46 03.3 +1.5
baz=183,SNR=23
D53A Lac Vacive, Po 43.27 0 P P 09 46 03.4 +1.4
baz=180,SNR=67
D53A Lac Vacive, Po 43.27 0 P P 09 46 03.1 +1.1
D53A pP pP 09 46 18.5 +1.2
D53A PcP PcP 09 47 50.6 +0.5
ECSD EROS Data Cent 43.28 340 P P 09 46 01.0 -1.1
baz=152,SNR=33
D51A Lot 18 Range I 43.30 358 P P 09 46 02.8 +0.6
baz=178,SNR=26
D56A ZEC Mazanza, M 43.31 3 P P 09 46 03.7 +1.3
baz=184,SNR=50
214A Organ Pipe Nat 43.32 315 P P 09 46 04.9 +2.2
baz=123,SNR=10
E43A Lone Tree Farm 43.32 351 IAmb IAmb 09 46 02.8
comp=Z,24nm,0.7s
D57A Chemin Vers le 43.33 4 P P 09 46 04.2 +1.6
baz=186,SNR=27
D54A Lac Fusel, La 43.35 1 P P 09 46 03.8 +1.1
baz=182,SNR=40
E63A Oxbow 43.37 9 P P 09 46 04.7 +1.9
baz=194,SNR=20
E63A Oxbow 43.37 9 IAmb IAmb 09 46 05.7
comp=Z,33nm,0.8s
D50A G1974 Best Tow 43.39 358 P P 09 46 03.4 +0.4
baz=177,SNR=24
E62A Clayton Lake 43.40 8 P P 09 46 05.3 +2.2
baz=192,SNR=29
E62A Clayton Lake 43.40 8 IAmb IAmb 09 46 06.3
comp=Z,53nm,0.8s
D46A Sault St. Mari 43.42 354 P P 09 46 03.1 -0.1
baz=171,SNR=11
COWI Conover 43.44 348 IAmb IAmb 09 46 04.3
comp=Z,94nm,1.6s
SPMN Marine on St. 43.47 345 P P 09 46 02.8 -0.8
baz=158,SNR=24
SPMN Marine on St. 43.47 345 IAmb IAmb 09 46 03.7
comp=Z,77nm,1.1s
E64A Bridgewater 43.47 10 P P 09 46 05.1 +1.5
baz=194,SNR=19
D58A Chemin du LacG 43.48 5 P P 09 46 05.4 +1.7
baz=187,SNR=27
D47A Chapleau 43.49 355 P P 09 46 03.6 -0.2
baz=172,SNR=34
D59A Saint-Raymond 43.49 6 P P 09 46 05.7 +1.8
baz=188
D48A Paudash Townsh 43.50 356 P P 09 46 03.9 0.0
baz=174,SNR=61
D60A Saint Jean D'O 43.50 7 P P 09 46 05.4 +1.6
baz=190,SNR=9.7
D49A Beulah Townshi 43.57 356 P P 09 46 04.7 +0.3
baz=175,SNR=20
PQI Presque Isle 43.68 10 IAmb IAmb 09 46 08.2
comp=Z,57nm,1.3s
MVCO Mesa Verde 43.72 324 P P 09 46 07.6 +1.5
baz=132,SNR=16
MVCO Mesa Verde 43.72 324 IAmb IAmb 09 46 24.5
comp=Z,86nm,1.8s
LATQ La Tuque 43.78 5 P P 09 46 07.8 +1.7
baz=187
D61A St Aubert, Com 43.88 7 P P 09 46 09.1 +2.2
baz=191,SNR=20
D62A Allapoint, All 43.92 9 P P 09 46 09.1 +1.9
baz=192,SNR=25
D62A Allapoint, All 43.92 9 IAmb IAmb 09 46 10.4
comp=Z,64nm,1.1s
ISCO Idaho Springs 43.95 329 P P 09 46 09.4 +1.4
baz=138,SNR=20
GBN Guysborough 43.96 16 P P 09 46 07.9 +0.4
GBN IAmb IAmb 09 46 09.9
comp=Z,91nm,1.4s
GBN PcP 09 47 53.2 +0.7
D63A Stockholm 44.02 9 P P 09 46 10.0 +2.0
baz=194,SNR=14
F36A Milaca 44.25 344 IAmb IAmb 09 46 10.0
comp=Z,40nm,0.8s
VLDQ Val d'Or 44.30 0 IAmb IAmb 09 46 28.2
comp=Z,45nm,0.8s
PV01 Paradox Valley 44.39 325 IAmb IAmb 09 46 14.6
comp=Z,32nm,1.0s
WUAZ Wupatki 44.41 320 P P 09 46 13.7 +2.1
baz=128,SNR=24
WUAZ Wupatki 44.41 320 IAmb IAmb 09 46 29.5
comp=Z,34nm,1.1s
E38A The Farm, Brul 44.45 346 P P 09 46 10.7 -0.8
E38A IAmb IAmb 09 46 11.9
comp=Z,37nm,0.9s
PV15 Paradox Valley 44.48 325 IAmb IAmb 09 46 15.4
comp=Z,60nm,0.9s
PV02 Paradox Valley 44.53 325 IAmb IAmb 09 46 15.5
comp=Z,41nm,0.9s
PV13 Radium Mtn., P 44.55 325 IAmb IAmb 09 46 15.6
comp=Z,59nm,1.0s
BATG Bathurst New B 44.62 11 IAmb IAmb 09 46 15.6
comp=Z,48nm,1.0s
PV03 Paradox Valley 44.63 325 IAmb IAmb 09 46 16.1
comp=Z,40nm,1.0s
PV12 Saucer Basin, 44.65 325 IAmb IAmb 09 46 16.4
comp=Z,44nm,1.0s
PLCA Paso Flores 44.65 172 P P 09 46 13.8 +0.6
comp=Z,9.1nm,0.7s,baz=347,slow=8.4,SNR=27
PLCA Paso Flores 44.65 172 P P 09 46 13.4 +0.1
PLCA pmax pmax
comp=Z,32nm,1.1s
PLCA Paso Flores 44.65 172 P P 09 46 13.4 +0.1
PLCA IAmb IAmb 09 46 28.5
comp=Z,32nm,1.1s
PV18 Skein Mesa, Pa 44.66 325 IAmb IAmb 09 46 16.2
comp=Z,48nm,1.1s
PV11 David Mesa, Pa 44.67 325 IAmb IAmb 09 46 16.5
comp=Z,42nm,1.1s
PV16 Nyswongan Mesa 44.71 325 IAmb IAmb 09 46 37.6
comp=Z,48nm,1.2s
PV17 East Wray Mesa 44.71 325 P P 09 46 15.4 +1.4
PV17 IAmb IAmb 09 46 16.6
comp=Z,48nm,1.1s
SUSD Miller 44.73 338 P P 09 46 12.9 -0.8
baz=149,SNR=13
SUSD Miller 44.73 338 IAmb IAmb 09 46 13.7
comp=Z,61nm,0.9s
PV10 Paradox Valley 44.82 325 IAmb IAmb 09 46 17.1
comp=Z,36nm,1.1s
N23A Red Feather La 44.93 330 P P 09 46 17.3 +1.5
baz=138,SNR=13
LSQQ Lebel-sur-Quev 45.25 1 P P 09 46 18.7 +0.9
baz=181
PDMCI Parker Dam,Lak 45.54 317 P P 09 46 22.2 +1.9
baz=124,SNR=5.5
U15A North Rim 45.55 320 IAmb IAmb 09 46 38.8
comp=Z,46nm,1.7s
O20A White River Ci 45.59 327 P P 09 46 22.5 +1.6
baz=135,SNR=32
O20A White River Ci 45.59 327 IAmb IAmb 09 46 23.9
comp=Z,28nm,0.7s
ESJX Sierra Juarez 45.61 313 P P 09 46 22.6 +1.4
EYMN Ely 45.70 347 P P 09 46 20.9 -0.5
baz=161,SNR=37
EYMN Ely 45.70 347 IAmb IAmb 09 46 21.7
comp=Z,58nm,1.2s
MATQ Matagami 45.95 0 P P 09 46 24.1 +0.8
baz=180
SWSC Sam W. Stewart 45.98 314 P P 09 46 25.6 +1.8
baz=121
IKP In-Ko-Pah, Jac 46.05 313 P P 09 46 26.6 +2.1
baz=121
BC3 Big Chuckawall 46.10 315 P P 09 46 26.7 +1.7
baz=122,SNR=8.2
IRM Iron Mountain 46.16 316 P P 09 46 27.3 +2.0
baz=123,SNR=13
RWWY Rawlins 46.16 329 IAmb IAmb 09 46 27.0
comp=Z,34nm,0.9s
CHGQ Chibougamau 46.19 3 P P 09 46 26.3 +1.1
baz=185,SNR=35
CBX Cerro Bola 46.29 313 P 09 46 28.4 +1.9
MONP2 Monument Peak 46.40 313 P P 09 46 28.9 +1.4
baz=121
RSSD Black Hills 46.51 334 P P 09 46 29.4 +1.3
baz=142
RSSD Black Hills 46.51 334 P P 09 46 29.2 +1.1
RSSD pmax pmax
comp=Z,55nm,0.8s
RSSD Black Hills 46.51 334 P P 09 46 29.2 +1.1
K22A Casper 46.53 331 P P 09 46 29.5 +1.3
baz=139,SNR=17
K22A Casper 46.53 331 IAmb IAmb 09 46 30.3
comp=Z,21nm,0.7s
B35A Bob, Littlefor 46.61 345 IAmb IAmb 09 46 28.8
comp=Z,30nm,1.1s
BELC Belle Mtn. Jos 46.67 315 P P 09 46 31.0 +1.6
baz=122,SNR=13
TMUT Trail Mountain 46.70 324 P P 09 46 30.6 +0.8
PFO Pinyon Flats O 46.80 314 P P 09 46 31.4 +1.0
comp=Z,2.3nm,0.9s,baz=113,slow=15,SNR=3.9
PFO Pinyon Flats O 46.80 314 P P 09 46 32.3 +1.9
baz=121
PFO Pinyon Flats O 46.80 314 P P 09 46 31.4 +1.0
PFO pmax pmax
comp=Z,8.0nm,1.1s
GMRC Granite Mounta 46.85 316 P P 09 46 32.6 +1.8
baz=123,SNR=11
AGMN Agassiz Nation 47.13 344 P P 09 46 31.8 -0.7
baz=155,SNR=14
AGMN Agassiz Nation 47.13 344 IAmb IAmb 09 48 04.7
comp=Z,20nm,0.8s
MURC Murrieta 47.32 314 P P 09 46 36.1 +1.7
baz=120
HEC Hector,Ludlow 47.34 316 P P 09 46 36.9 +2.3
baz=122
TUQ Turquoise Moun 47.39 317 P P 09 46 36.4 +1.4
baz=123,SNR=8.3
BBRC Big Bear Solar 47.46 315 P P 09 46 37.9 +2.2
baz=121,SNR=9.0
SHPR Sheep Range 47.47 318 P P 09 46 37.2 +1.6
SHOC Shoshone, Teco 47.88 317 P P 09 46 40.5 +1.9
baz=123,SNR=13
MDND Maddock 47.89 340 P P 09 46 38.2 -0.3
baz=150,SNR=12
GSC Goldstone, Bar 47.92 316 P P 09 46 40.7 +1.6
baz=122,SNR=10
BFSC Mount Baldy Ra 47.97 314 P P 09 46 41.0 +1.4
baz=121
BW06 Boulder Array 48.15 329 P P 09 46 41.5 +0.6
baz=135,SNR=40
BW06 Boulder Array 48.15 329 IAmb IAmb 09 47 09.3
comp=Z,22nm,1.1s
PD31 Pinedale Array 48.15 329 IAmb IAmb 09 47 09.2
comp=Z,22nm,1.1s
PDAR Pinedale Array 48.15 329 P P 09 46 41.5 +0.6
comp=Z,5.2nm,0.5s,baz=128,slow=9.5,SNR=91
DUG Dugway, Tooele 48.22 324 P P 09 46 43.0 +1.6
baz=130,SNR=25
DUG Dugway, Tooele 48.22 324 IAmb IAmb 09 46 44.0
comp=Z,23nm,1.0s
HWUT Hardware Ranch 48.43 326 IAmb IAmb 09 46 44.8
comp=Z,26nm,0.7s
TPNV Topopah Spring 48.44 318 P P 09 46 45.2 +2.0
baz=124,SNR=11
TPNV Topopah Spring 48.44 318 P P 09 46 45.0 +1.9
TPNV pmax pmax
comp=Z,14nm,0.9s
TPNV Topopah Spring 48.44 318 P P 09 46 45.0 +1.9
DECC Green Verdugo 48.46 314 P P 09 46 45.3 +2.1
baz=120
EDW2 Edwards Air Fo 48.54 315 P P 09 46 45.5 +1.7
baz=121,SNR=12
FURC Furnace Creek, 48.59 317 P P 09 46 46.3 +2.3
baz=123,SNR=5.8
MPMC Manual Prospec 48.80 316 P P 09 46 47.2 +1.3
baz=122,SNR=8.6
R11A Troy Canyon, C 48.80 320 P P 09 46 47.4 +1.4
baz=126,SNR=14
ULM Lac du Bonnet 48.91 345 P P 09 46 45.4 -0.9
comp=Z,46nm,0.7s,baz=155,slow=7.9,SNR=36
ULM Lac du Bonnet 48.91 345 P P 09 46 45.0 -1.2
AHID Auburn Hatcher 48.96 328 IAmb IAmb 09 46 48.8
comp=Z,26nm,0.8s
ARVC Arvin 49.25 315 P P 09 46 51.2 +2.0
baz=120
ISA Isabella, Lake 49.27 315 P P 09 46 50.7 +1.3
baz=121
SCZ2 Santa Cruz Isl 49.28 313 P P 09 46 51.0 +1.5
baz=119
TPAW Teton Pass 49.38 328 IAmb IAmb 09 46 52.3
comp=Z,22nm,0.7s
CWC Cottonwood Cre 49.40 317 P P 09 46 52.0 +1.4
baz=122
FXWY Fox Creek 49.52 328 IAmb IAmb 09 46 53.2
comp=Z,19nm,0.8s
IMW Indian Meadow 49.66 329 P P 09 46 53.2 +0.7
FLWY Flagg Ranch 49.66 329 IAmb IAmb 09 46 54.8
comp=Z,26nm,0.8s
RLMT Red Lodge 49.69 331 P P 09 46 53.4 +0.7
baz=137,SNR=30
RLMT Red Lodge 49.69 331 IAmb IAmb 09 46 54.3
comp=Z,23nm,0.8s
VES Vestal, Richgr 49.79 315 P P 09 46 55.4 +2.1
baz=120,SNR=12
H17A Grant Village 49.82 329 P P 09 46 54.3 +0.6
baz=135
TIN Tinemaha, Big 49.83 317 P P 09 46 55.6 +1.9
baz=122,SNR=6.1
PKM Mcpherson Peak 49.84 314 P P 09 46 54.9 +1.0
baz=119
YNE Yellowstone No 49.97 330 P P 09 46 55.0 +0.2
ELK Elko 50.01 323 P P 09 46 56.0 +0.8
comp=Z,4.5nm,0.8s,baz=116,slow=4.7,SNR=27
ELK PcP PcP 09 48 15.6 +1.2
comp=Z,5.2nm,0.8s,baz=130,slow=1.6,SNR=5.7
DGMT Dagmar 50.08 337 P P 09 46 56.1 +0.8
baz=145,SNR=12
DGMT Dagmar 50.08 337 IAmb IAmb 09 46 56.9
comp=Z,36nm,0.9s
SMMC Simmler 50.18 314 P P 09 46 57.8 +1.5
baz=119
YMR Madison River 50.21 329 P P 09 46 58.1 +1.5
NV11 Mina Array Sit 50.52 319 IAmb IAmb 09 47 16.7
comp=Z,30nm,1.1s
MLAC Mammoth, Mammo 50.54 317 P P 09 47 01.1 +1.8
baz=122
PAGB Antelope Grade 50.56 315 IAmb IAmb 09 47 16.8
comp=Z,51nm,1.4s
NVAR Mina Array Bea 50.61 319 P P 09 47 01.4 +1.7
comp=Z,14nm,0.8s,baz=128,slow=7.0,SNR=102
NVAR PcP PcP 09 48 17.4 +0.8
comp=Z,5.0nm,0.8s,baz=135,slow=5.4,SNR=4.0
OMMB Old Mammoth Mi 50.64 317 P P 09 47 01.8 +1.7
OMMB pP pP 09 47 16.4 +0.9
RYN Ryan 50.87 319 IAmb IAmb 09 47 19.0
comp=Z,21nm,1.1s
BOZ Bozeman (W) 51.20 330 P P 09 47 05.2 +1.3
baz=134,SNR=68
BOZ Bozeman (W) 51.20 330 IAmb IAmb 09 47 06.2
comp=Z,34nm,1.0s
HLID Hailey 51.30 326 P P 09 47 06.0 +1.2
baz=130,SNR=40
HLID Hailey 51.30 326 P P 09 47 05.8 +1.0
HLID IAmb IAmb 09 47 06.8
comp=Z,13nm,0.7s
HLID pP pP 09 47 21.0 +0.8
SCHQ Schefferville 51.79 8 P P 09 47 08.9 +0.9
comp=Z,29nm,0.7s,baz=196,slow=6.1,SNR=52
SCHQ PcP PcP 09 48 21.0 +0.6
comp=Z,20nm,0.8s,baz=152,slow=2.1,SNR=4.5
SCHQ Schefferville 51.79 8 P P 09 47 08.6 +0.6
SCHQ PcP 09 48 20.4 0.0
MFID Camas Ranch 52.00 325 IAmb IAmb 09 47 12.2
comp=Z,17nm,0.9s
PAHR Pah Rah Range 52.01 319 IAmb IAmb 09 47 27.6
comp=Z,20nm,1.1s
EGMT Eagleton 52.06 333 P P 09 47 10.9 +0.7
baz=138,SNR=10
EGMT Eagleton 52.06 333 P P 09 47 10.5 +0.3
EGMT IAmb IAmb 09 47 11.3
comp=Z,12nm,0.7s
EGMT pP pP 09 47 26.9 +1.3
MSO Missoula 53.21 330 P P 09 47 19.7 +1.0
baz=133,SNR=11
MSO Missoula 53.21 330 IAmb IAmb 09 47 20.6
comp=Z,14nm,0.8s
ORV Oroville 53.32 318 IAmb IAmb 09 47 37.4
comp=Z,17nm,1.1s
J08A Circle Bar Ran 53.50 324 IAmb IAmb 09 47 22.8
comp=Z,18nm,0.8s
O03E Paynes Creek 53.90 319 P P 09 47 24.4 +0.5
baz=121
F10A Beach Ranch, E 54.38 327 IAmb IAmb 09 47 29.1
comp=Z,28nm,1.1s
O02D Mt. Diablo Mer 54.49 318 P P 09 47 28.3 +0.1
baz=120
FFC Flin Flon 54.59 343 P P 09 47 28.2 -0.4
FFC IAmb IAmb 09 47 29.6
comp=Z,49nm,1.2s
FFC pP pP 09 47 44.3 0.0
M04C Macdoel 54.69 320 P P 09 47 30.9 +1.2
baz=122,SNR=7.8
N02D Trinity Center 54.84 319 P P 09 47 29.9 -0.8
baz=120
G08A Pilot Rock 54.93 325 IAmb IAmb 09 47 33.4
comp=Z,32nm,1.2s
K04D Chiloquin, OR 55.09 321 P P 09 47 33.6 +1.1
baz=122,SNR=6.9
J05D Fort Rock, OR 55.12 322 P P 09 47 34.2 +1.4
baz=123,SNR=18
M02C Callahan 55.15 319 P P 09 47 32.9 0.0
baz=121
E09A Wood Farm, Sta 55.21 327 IAmb IAmb 09 47 35.1
comp=Z,34nm,0.9s
L04D Klamath Falls 55.22 321 P P 09 47 34.0 +0.5
baz=122
YBH Yreka Blue Hor 55.23 320 P P 09 47 33.1 -0.4
comp=Z,3.6nm,0.7s,baz=144,slow=5.0,SNR=14
H07N1 FLORES T-PHASE 55.31 43 eP P 09 47 33.5 -0.6
KHMM Horse Mountain 55.46 319 IAmb IAmb 09 47 37.6
comp=Z,35nm,0.8s
J04D Umpqua Nationa 55.63 322 P P 09 47 37.7 +1.2
baz=122,SNR=14
I05D Terrebonne, OR 55.77 323 P P 09 47 38.7 +1.4
baz=124,SNR=11
NEW Newport 55.78 329 P P 09 47 37.9 +0.6
baz=130,SNR=17
NEW Newport 55.78 329 IAmb IAmb 09 47 38.8
comp=Z,18nm,0.9s
F07A Phinny Hill Vi 55.83 325 P P 09 47 39.0 +1.4
F07A IAmb IAmb 09 47 40.4
comp=Z,14nm,0.6s
C09A Chrisman Ranch 56.08 328 IAmb IAmb 09 47 42.6
comp=Z,15nm,0.8s
I04A Tendick Farm, 56.12 322 P P 09 47 40.2 +0.4
baz=122,SNR=7.9
E07A Sunnyside 56.18 326 IAmb IAmb 09 47 42.2
comp=Z,17nm,0.7s
G05D Wamic, OR 56.26 324 P P 09 47 42.9 +2.1
baz=124,SNR=15
K02D Willamette Mer 56.33 320 P P 09 47 42.0 +0.6
baz=121
H04A Detroit Lake 56.46 323 IAmb IAmb 09 47 43.9
comp=Z,14nm,0.8s
I03D Drain, OR 56.64 322 P P 09 47 44.5 +1.0
baz=122
PICO Pico 56.66 45 eP P 09 47 43.1 -0.7
comp=Z,197nm,1.1s
F05D White Salmon 56.70 325 P P 09 47 45.4 +1.5
baz=124
H04D Lebanon 56.70 323 P P 09 47 44.5 +0.6
baz=122
J01E Myrtle Point 56.73 321 P P 09 47 45.9 +1.8
baz=121,SNR=11
ROSA Rosais 56.88 45 eP P 09 47 44.7 -0.6
comp=Z,178nm,1.4s
ROSA Rosais 56.88 45 P P 09 47 46.6 +1.4
ROSA pP pP 09 48 00.6 -0.8
PMAN Manadas 56.95 45 eP P 09 47 45.1 -0.7
comp=Z,143nm,1.1s
LTY Liberty 57.05 326 IAmb IAmb 09 47 48.4
comp=Z,14nm,0.8s
I02D Swisshome 57.16 322 P P 09 47 48.6 +1.5
baz=121
G03D McMinnville, O 57.39 323 P P 09 47 50.1 +1.4
baz=122
E04D Cinebar 57.71 325 P P 09 47 51.8 +0.9

baz=124
D05A Enumclaw 57.74 326 IAmb IAmb 09 47 53.1
comp=Z,28nm,0.9s
D04E Lakebay 58.18 325 P **P** **09 47 55.5 +1.3**
baz=124,SNR=7.0
E03A Lebam 58.28 324 IAmb IAmb 09 47 57.3
comp=Z,22nm,0.9s
PSET Sete Cidades 58.34 47 *eP* **P** **09 47 55.6 0.0**
comp=Z,240nm,1.5s
B05A Bryant 58.41 327 P **P** **09 47 56.0 +0.2**
baz=125,SNR=9.8
PSMA Santa Maria 58.46 48 *eP* **P** **09 47 55.9 -0.5**
comp=Z,204nm,1.4s
PSMN Pico do Norte, 58.51 48 *eP* **P** **09 47 56.5 -0.3**
comp=Z,162nm,1.1s
D03D Eldon 58.55 326 P **P** **09 47 57.7 +0.9**
baz=124,SNR=6.8
NLWA Neilton Lookou 58.92 325 IAmb IAmb 09 48 02.2
comp=Z,20nm,0.9s
A04D Lummi Island 59.01 327 P **P** **09 48 01.2 +1.3**
baz=125,SNR=15
FRB Frobisher Bay 60.35 5 P **P** **09 48 08.6 -0.3**
comp=Z,33nm,0.6s,baz=212,slow=7.2,SNR=52
IVI Ivigtut 61.60 16 P **P** **09 48 17.4 0.0**
IVI pP **pP** **09 48 35.3 +1.9**
NRS Narsarsuaq 62.34 17 *iP* **P** **09 48 21.7 -0.7**
NRS Narsarsuaq 62.34 17 *iP* **P** **09 48 21.7 -0.7**
MACI Morro de la Ar 63.03 60 P **P** **09 48 28.5 +0.6**
BBB Bella Bella 63.79 328 P **P** **09 48 32.9 +0.7**
comp=Z,18nm,0.7s,baz=102,slow=5.2,SNR=21
BBB Bella Bella 63.79 328 IAmb IAmb 09 48 34.8
comp=Z,24nm,0.9s
YKA Yellowknife Ar 64.74 342 P **P** **09 48 37.9 -0.3**
comp=Z,27nm,0.7s,baz=135,slow=5.7,SNR=434
YKA pP **pP** **09 48 54.1 -0.2**
comp=Z,18nm,0.8s,baz=134,slow=6.1,SNR=9.0
SFJD Kangerlussuaq 65.97 11 P **P** **09 48 45.7 -0.3**
comp=Z,17nm,0.7s,baz=185,slow=7.2,SNR=5.2
SFJD Kangerlussuaq 65.97 11 *iP* **P** **09 48 45.7 -0.3**
SFJD Kangerlussuaq 65.97 11 IAmb IAmb 09 48 46.6
comp=Z,34nm,1.1s
ILULI Ilulissat 67.82 10⇑ *iP* **P** **09 48 57.6 -0.2**
comp=Z,38nm,0.8s
ILULI Ilulissat 67.82 10⇑ *iP* **P** **09 48 57.6 -0.2**
ILULI pmax pmax
comp=Z,38nm,0.8s
TTIG Tnine Tigouga, 70.35 59 P **P** **09 49 15.1 +0.7**
SNR=7.8
SKAG Skagway 70.89 333 IAmb IAmb 09 49 19.1
comp=Z,41nm,1.6s
OUK Oukaimeden 70.92 58 P **P** **09 49 19.2 +1.1**
SNR=14
PTEO Sao Teotonio 71.19 52 *eP* **P** **09 49 19.9 +0.7**
comp=Z,73nm,1.5s
PNCL Nicolau / Gran 71.44 51 *eP* **P** **09 49 21.1 +0.4**
comp=Z,58nm,1.1s
AVE Averroes 71.58 56 P **P** **09 49 22.9 +1.3**
SNR=6.9
RES Resolute Bay 71.68 355 P **P** **09 49 21.1 -0.4**
comp=Z,12nm,0.9s,baz=170,slow=6.9,SNR=6.8
RES Resolute Bay 71.68 355 P **P** **09 49 20.4 -1.1**
PBDV Barranco-do-Ve 71.76 52 *eP* **P** **09 49 23.3 +0.6**
comp=Z,31nm,1.5s
PCAS Casmilo, Conde 71.82 49 *eP* **P** **09 49 22.4 -0.6**
comp=Z,91nm,1.5s
OUZM OUZ 71.83 59 P **P** **09 49 25.0 +1.6**
SNR=18
PMTG Montargil 71.85 50 *eP* **P** **09 49 23.0 -0.1**
comp=Z,40nm,1.3s
KULLO Kullorsuaq 71.88 6⇑ *iP* **P** **09 49 22.8 +0.2**
comp=Z,67nm,1.1s
KULLO Kullorsuaq 71.88 6⇑ *iP* **P** **09 49 22.8 +0.2**
KULLO pmax pmax
comp=Z,67nm,1.1s
EVO Evora 71.92 51 *eP* **P** **09 49 23.6 0.0**
comp=Z,41nm,1.5s
PBEJ Beja 71.94 51 *eP* **P** **09 49 23.9 +0.2**
comp=Z,36nm,1.7s
PVAQ Vaqueiros 71.95 52 *eP* **P** **09 49 23.9 +0.1**
comp=Z,26nm,1.4s
PVAQ Vaqueiros 71.95 52 IAmb IAmb 09 49 25.7
comp=Z,60nm,1.8s
ZHG ZHG 72.24 56 P **P** **09 49 26.4 +0.6**
SNR=21
PGAV Gavieira, Arco 72.35 47 *eP* **P** **09 49 25.4 -0.9**
comp=Z,49nm,1.2s
TIC Toumodi 72.44 84 *eP* **P** **09 49 25.9 -1.3**
LIC Lamto 72.44 85 *eP* **P** **09 49 25.9 -1.3**
comp=Z,292nm,1.0s
PMRV Marv??o 72.55 50 *eP* **P** **09 49 27.0 -0.4**
comp=Z,29nm,1.4s
PCBR Castelo Branco 72.55 49 *eP* **P** **09 49 27.2 -0.1**
comp=Z,57nm,1.3s
DBIC Dimbokro 72.60 84 P **P** **09 49 27.1 -1.1**
comp=Z,67nm,0.7s,baz=253,slow=7.6,SNR=72
DBIC Dimbokro 72.60 84 P **P** **09 49 26.9 -1.1**
MTE Manteigas 72.60 49 *eP* **P** **09 49 27.3 -0.4**
comp=Z,43nm,1.9s
MTE Manteigas 72.60 49 IAmb IAmb 09 49 28.1
comp=Z,20nm,0.8s
ZGR Zagora 72.72 60 P **P** **09 49 30.0 +1.3**
SNR=25
KIC Kosan Boka 72.72 85 *eP* **P** **09 49 27.8 -1.0**
comp=Z,259nm,1.0s
SUMG Summit 72.97 12⇑ *iP* **P** **09 49 30.2 +0.6**
comp=Z,388nm,1.0s
SUMG Summit 72.97 12⇑ *iP* **P** **09 49 30.2 +0.6**
SUMG pmax pmax
comp=Z,390nm,1.0s
SUMG Summit 72.97 12 P **P** **09 49 29.9 +0.3**
RSA Sarsar 73.10 55 P **P** **09 49 32.0 +1.2**
SNR=9.6
MVO Moncorvo 73.12 48 *eP* **P** **09 49 30.8 0.0**
comp=Z,53nm,1.2s
SICH Sidi Chahed 73.42 56 P **P** **09 49 34.1 +1.5**
SNR=7.9
PBRG Braganca 73.45 48 *eP* **P** **09 49 32.6 -0.1**
comp=Z,28nm,1.5s
GOLM Goulmima 73.45 58 P **P** **09 49 35.0 +1.9**
SNR=6.3
CZD Col de Zad 73.52 57 P **P** **09 49 35.1 +1.5**
SNR=14
MDT Midelt 73.86 57 P **P** **09 49 36.3 +1.0**
SNR=22
HORN Hornachuelos 73.95 52 P **P** **09 49 35.8 +0.1**
SNR=7.5
ARF Arif 74.05 58 P **P** **09 49 38.0 +1.5**
SNR=22
A36M Sachs Harbour 74.35 346 P **P** **09 49 37.0 -0.2**
baz=130
INK Inuvik 74.50 341 P **P** **09 49 38.4 +0.3**
INK pmax pmax
comp=Z,19nm,0.8s
INK Inuvik 74.50 341 P **P** **09 49 38.4 +0.3**
INK IAmb IAmb 09 49 39.2
comp=Z,18nm,0.8s
EPYK Eagle Plains 74.63 339 P **P** **09 49 39.8 +0.8**
baz=118
AKLM AKL 74.66 55 P **P** **09 49 41.0 +1.0**
SNR=13
TGL Tana Glacier 74.84 333 IAmb IAmb 09 49 42.7
comp=Z,26nm,0.9s
PAB San Pablo 74.89 50 P **P** **09 49 41.2 0.0**
PAB pmax pmax
comp=Z,42nm,1.2s
PAB San Pablo 74.89 50 P **P** **09 49 41.2 0.0**
PAB IAmb IAmb 09 49 42.5
comp=Z,42nm,1.2s
MCARA McCarthy VSAT 75.15 333 IAmb IAmb 09 49 44.8
comp=Z,36nm,0.9s
ESDC Sonseca Array 75.20 50 P **P** **09 49 43.2 +0.3**
comp=Z,13nm,0.5s,baz=266,slow=6.2,SNR=149
ESBB Sonseca Array 75.20 50 IAmb IAmb 09 49 43.8
comp=Z,21nm,0.8s
GLB Gilahina Butte 75.53 333 IAmb IAmb 09 49 46.5
comp=Z,26nm,1.0s
SCO Scoresbysund 75.64 17 *iP* **P** **09 49 45.5 +0.8**
comp=Z,23nm,0.9s
SCO Scoresbysund 75.64 17 *iP* **P** **09 49 45.5 +0.8**
SCO pmax pmax
comp=Z,23nm,0.9s
SCO Scoresbysund 75.64 17 IAmb IAmb 09 49 46.3
comp=Z,25nm,0.9s
K27K Chicken 75.70 336 P **P** **09 49 46.7 +1.5**
baz=112
JBK JBK 75.71 56 P **P** **09 49 47.0 +0.8**
SNR=14

SESP Santiago Espad 76.11 52 P **P** **09 49 49.5 +1.2**
SNR=11
DOT Dot Lake 76.39 335 IAmb IAmb 09 49 51.2
comp=Z,29nm,1.0s
SCRK Sand Creek 76.47 335 P **P** **09 49 50.5 +0.8**
baz=110
RSBS Rosebush, Pemb 76.69 37 *eP* **P** **09 49 50.4 -0.6**
RSBS IAmb IAmb 09 49 51.7
comp=Z,25nm,0.8s
RIDG Independent Ri 76.75 335 P **P** **09 49 52.0 +0.8**
RIDG IAmb IAmb 09 49 53.3
comp=Z,26nm,1.0s
GAL1 Galloway 77.29 35 *eP* **P** **09 49 54.4 0.0**
GAL1 IAmb IAmb 09 49 55.5
comp=Z,32nm,0.9s
KAC Achnashellach 77.54 32 *eP* **P** **09 49 55.5 -0.2**
NEWG New Galloway 77.62 34 *eP* **P** **09 49 56.2 0.0**
NEWG IAmb IAmb 09 49 57.0
comp=Z,68nm,1.1s
PGBU Glenifferbraes 77.62 34 *eP* **P** **09 49 56.0 -0.1**
PGBU IAmb IAmb 09 49 56.5
comp=Z,84nm,1.2s
MCH1 Michaelchurch 77.76 38 *eP* **P** **09 49 56.8 -0.2**
MCH1 IAmb IAmb 09 49 57.6
comp=Z,29nm,0.8s
SEW Seward 77.79 331 IAmb IAmb 09 49 58.1
comp=Z,17nm,0.8s
FOEL Foel Wylfa 77.79 37 *eP* **P** **09 49 56.9 -0.3**
FOEL IAmb IAmb 09 49 57.9
comp=Z,30nm,0.8s
HDA Harding Lake 77.83 335 P **P** **09 49 57.4 +0.1**
baz=107
HDA Harding Lake 77.83 335 IAmb IAmb 09 49 58.4
comp=Z,21nm,0.7s
MONM Monmouth 77.85 38 *eP* **P** **09 49 57.7 +0.2**
MONM IAmb IAmb 09 49 58.0
comp=Z,56nm,0.7s
ILAR Eielson Array 77.92 336 P **P** **09 49 57.6 0.0**
comp=Z,5.5nm,0.6s,baz=110,slow=4.3,SNR=25
HLM1 Long Mynd 77.92 37 *eP* **P** **09 49 57.7 -0.2**
HLM1 IAmb IAmb 09 49 58.7
comp=Z,63nm,1.2s
GHO Glory Hole Cre 77.96 333 IAmb IAmb 09 49 59.4
comp=Z,34nm,0.9s
STRD Stroud 78.23 38 *eP* **P** **09 49 59.6 0.0**
STRD IAmb IAmb 09 50 00.4
comp=Z,100nm,0.7s
POKR Poker Flat Res 78.24 336 P **P** **09 49 59.9 +0.4**
baz=107
COLA College 78.34 336 *iP* **P** **09 49 59.7 -0.3**
COLA pmax pmax
comp=Z,8.0nm,1.1s
TCOL CIGO, UAF Yank 78.35 336 P **P** **09 50 00.4 +0.4**
baz=107
RND Reindeer 78.36 334 P **P** **09 50 00.4 +0.2**
RND pmax pmax
comp=Z,28nm,1.0s
RND Reindeer 78.36 334 P **P** **09 50 00.4 +0.2**
RND IAmb IAmb 09 50 20.1
comp=Z,28nm,1.0s
BRLK Bradley Lake 78.41 330 IAmb IAmb 09 50 01.8
comp=Z,28nm,0.9s
SUA Susitna One 78.73 332 IAmb IAmb 09 50 03.4
comp=Z,20nm,0.6s
CUT Chulitna 78.73 333 P **P** **09 50 02.6 +0.5**
baz=104
LBWR Ladybower, Pea 78.75 36 *eP* **P** **09 50 02.6 +0.1**
LBWR IAmb IAmb 09 50 03.7
comp=Z,94nm,1.1s
NEA2 Nenana 78.77 335 P **P** **09 50 02.5 +0.1**
baz=105
TORD Torodi Ar. Bea 78.90 77 P **P** **09 50 02.9 -1.2**
comp=Z,22nm,0.5s,baz=286,slow=6.3,SNR=142
CWF Charnwood Fore 78.90 37 *eP* **P** **09 50 03.1 -0.2**
CWF IAmb IAmb 09 50 04.2
comp=Z,200nm,2.1s
SKT Skwentna 79.21 333 IAmb IAmb 09 50 06.2
comp=Z,26nm,1.1s
SPU Mount Spurr 79.28 332 P **P** **09 50 05.0 -0.3**
DAG Danmarks Havn 79.66 12⇑ *iP* **P** **09 50 06.8 -0.2**
comp=Z,17nm,0.8s
DAG Danmarks Havn 79.66 12⇑ *iP* **P** **09 50 06.8 -0.2**
DAG pmax pmax
comp=Z,17nm,0.8s
JMIC Jan Mayen 79.88 18 *eP* **P** **09 50 09.8 +1.5**
COLD Coldfoot 79.91 338 P **P** **09 50 09.6 +1.1**
baz=105
TOLK Toolik Lake Re 80.05 339 P **P** **09 50 09.7 +0.4**
baz=106
WACR West Acre 80.06 37 *eP* **P** **09 50 09.4 -0.2**
WACR IAmb IAmb 09 50 10.3
comp=Z,122nm,0.9s
TTA Tatalina 81.43 333 P **P** **09 50 16.3 -0.6**
TTA **pP** **09 50 32.6 -0.9**
SSB Saint Sauveur 81.99 45 IAmb IAmb 09 50 21.7
comp=Z,20nm,0.9s
SNF Seneffe 82.12 40 P **P** **09 50 20.7 +0.1**
DOU Dourbes 82.29 40 ⇑P **P** **09 50 21.6 0.0**
comp=Z,23nm,0.8s
NOR Nord 82.33 7⇑ *iP* **P** **09 50 21.7 +0.6**
comp=Z,22nm,0.9s
NOR Nord 82.33 7⇑ *iP* **P** **09 50 21.7 +0.6**
NOR pmax pmax
comp=Z,22nm,0.9s
TAM Tamanrasset 82.39 68 IAmb IAmb 09 50 25.0
comp=Z,33nm,1.1s
BMRD Maredsous 82.42 40 ⇑P **P** **09 50 22.2 0.0**
comp=Z,18nm,1.4s
BGES Gesves 82.63 40 ⇑P **P** **09 50 23.2 -0.1**
comp=Z,21nm,1.3s
BCLA Clavier 82.77 40 ⇑P **P** **09 50 24.0 0.0**
BCLA PcP **PcP** **09 50 26.9 -1.9**
BSTI Sart Tilman 82.94 40 P **P** **09 50 25.4 +0.5**
BHOU Houvegnez 83.21 40 P **P** **09 50 26.9 +0.6**
comp=Z,26nm,1.2s
MEM Membach 83.22 40 P **P** **09 50 26.5 +0.1**
comp=Z,18nm,1.3s
WLF Walferdange 83.28 41 P **P** **09 50 27.1 +0.5**
comp=Z,52nm,0.8s
WLF Walferdange 83.28 41 *eP* **P** **09 50 26.9 +0.3**
comp=Z,61nm,0.8s,baz=270,slow=5.0
ECH Echery 83.89 42 IAmb IAmb 09 50 31.0
comp=Z,29nm,0.9s
AHRW Bad Neuenahr-A 83.90 40 *eP* **P** **09 50 30.3 +0.5**
comp=Z,34nm,0.9s,baz=270,slow=5.0
BLS5 Blasjo 83.92 31 *eP* **P** **09 50 30.7 +1.0**
BUG Bochum--Univer 84.05 39 *eP* **P** **09 50 30.7 +0.2**
comp=Z,30nm,1.0s,baz=270,slow=5.0
AKN Aaknes 84.33 28 *eP* **P** **09 50 32.6 +0.8**
IBBN Ibbenburen 84.38 38 *eP* **P** **09 50 32.5 +0.3**
comp=Z,27nm,0.8s,baz=270,slow=5.0
BFO Black Forest 84.68 42 P **P** **09 50 32.6 -1.3**
BFO pmax pmax
comp=Z,9.0nm,1.0s
BFO Black Forest 84.68 42 *eP* **P** **09 50 33.5 -0.4**
comp=Z,10nm,1.0s,baz=270,slow=5.0
BFO Black Forest 84.68 42 P **P** **09 50 32.6 -1.3**
TNS Taunus Mts 84.78 40 *eP* **P** **09 50 34.5 +0.1**
comp=Z,32nm,1.1s,baz=270,slow=5.0
STU Stuttgart 85.26 42 *eP* **P** **09 50 36.5 -0.2**
comp=Z,24nm,0.9s,baz=270,slow=5.0
STU Stuttgart 85.26 42 IAmb IAmb 09 50 37.9
comp=Z,29nm,1.0s
MUD Monsted U'grnd 85.27 34 *iP* **P** **09 50 37.8 +1.2**
comp=Z,28nm,0.7s
MUD Monsted U'grnd 85.27 34 *iP* **P** **09 50 37.8 +1.2**
MUD pmax pmax
comp=Z,28nm,0.7s
SKMB Sankelmark Bun 85.41 36 *eP* **P** **09 50 38.2 +0.9**
comp=Z,256nm,1.7s,baz=270,slow=5.0
KEST Kesra 85.52 55 P **P** **09 50 38.7 +0.2**
comp=Z,22nm,0.9s,baz=251,slow=1.0,SNR=18
KEST Kesra 85.52 55 IAmb IAmb 09 50 41.0
comp=Z,27nm,0.9s
DAVA Damuels 85.73 43 *iP* **P** **09 50 39.7 +0.4**
comp=Z,38nm,0.9s,SNR=19
GTTG Gottingen 85.74 39 *eP* **P** **09 50 39.7 +0.7**
comp=Z,48nm,1.3s,baz=270,slow=5.0
UBBA Unterbreizbach 85.77 39 *eP* **P** **09 50 39.4 +0.3**
comp=Z,20nm,1.4s,baz=270,slow=5.0
NRDL Niedersach Rie 85.82 38 *eP* **P** **09 50 40.2 +0.8**
comp=Z,97nm,1.9s,baz=270,slow=5.0
TBLU Trondheim 85.86 27 *eP* **P** **09 50 41.0 +1.5**
UBR Ueberruh 85.88 43 *eP* **P** **09 50 40.2 +0.2**
comp=Z,43nm,1.3s,baz=270,slow=5.0
BSEG Bad Segeberg 85.93 36 *eP* **P** **09 50 40.6 +0.7**
comp=Z,29nm,1.0s,baz=270,slow=5.0

CLZ Clausthal 85.99 38 *eP* **P** **09 50 40.8 +0.5**
comp=Z,52nm,1.3s,baz=270,slow=5.0
FUORN Ofenpass-Fuorn 86.00 44 IAmb IAmb 09 50 42.5
comp=Z,22nm,1.1s
OSL Oslo 86.10 30 *eP* **P** **09 50 41.4 +0.8**
NBO00 NORSAR Array S 86.11 29 P **P** **09 50 41.2 +0.5**
NBO00 **pP** **09 50 58.3 +0.5**
ASSE Asse, Remlinge 86.17 38 *eP* **P** **09 50 41.7 +0.6**
comp=Z,63nm,1.4s,baz=270,slow=5.0
FETA Feichten 86.31 43 *iP* **P** **09 50 42.6 +0.4**
comp=Z,29nm,1.0s,SNR=24
RETA Reutte 86.32 43 *iP* **P** **09 50 42.2 +0.1**
comp=Z,14nm,1.2s,SNR=8.1
NB2 NORSAR Subarra 86.33 29 P **P** **09 50 42.1 +0.3**
comp=Z,52nm,1.4s,baz=269,slow=4.6
NB2 NORSAR Subarra 86.33 29 P **P** **09 50 42.1 +0.3**
baz=269,slow=4.6
NOA NORSAR Array B 86.33 29 P **P** **09 50 42.3 +0.5**
comp=Z,12nm,1.0s,baz=269,slow=4.8,SNR=26
KBS Kingsbay 86.38 11 P **P** **09 50 43.0 +1.3**
KBS pmax pmax
comp=Z,34nm,0.8s
KBS Kingsbay 86.38 11 P **P** **09 50 43.0 +1.3**
KBS Kingsbay 86.38 11 *eP* **P** **09 50 43.5 +1.8**
NC602 NORSAR Array S 86.49 29 *eP* **P** **09 50 43.3 +0.7**
VNA3 Neumayer Olymp 86.51 163 P **P** **09 50 43.0 +0.6**
MOTA Moosalm 86.56 43 *iP* **P** **09 50 43.4 0.0**
comp=Z,21nm,1.3s,SNR=11
GRF Grafenberg Arr 86.57 41 *eP* **P** **09 50 43.8 +0.5**
comp=Z,30nm,1.3s,baz=270,slow=5.0
NSS Namsos 86.61 26 *eP* **P** **09 50 43.7 +0.7**
SQTA Sankt Quirin 86.63 43 *iP* **P** **09 50 43.9 +0.2**
comp=Z,16nm,0.8s,SNR=12
VNA1 Neumayer--Stat 86.73 162 P **P** **09 50 44.4 +1.0**
OSSC Osservatorio P 86.78 47 IAmb IAmb 09 50 48.1
comp=Z,51nm,1.9s
MOX Moxa 86.80 40 *eP* **P** **09 50 44.6 +0.3**
comp=Z,28nm,1.4s,baz=270,slow=5.0
NEUB Neuenburg 86.88 39 *eP* **P** **09 50 45.1 +0.4**
comp=Z,35nm,1.1s,baz=270,slow=5.0
WATA Walderalm 86.88 43 *iP* **P** **09 50 45.0 0.0**
comp=Z,19nm,1.4s,SNR=6.5
WTTA Wattenberg 86.92 43 *iP* **P** **09 50 45.4 +0.1**
comp=Z,14nm,1.0s,SNR=13
STOK Stokkvaagen 86.99 24 *eP* **P** **09 50 46.3 +1.4**
KONS Konsvik 87.03 24 *eP* **P** **09 50 45.9 +0.9**
LOF Lofoten 87.12 22 *eP* **P** **09 50 46.1 +0.7**
MANZ Manzenberg 87.14 40 *eP* **P** **09 50 46.6 +0.6**
comp=Z,23nm,1.1s,baz=270,slow=5.0
PLN Plauen 87.15 40 *eP* **P** **09 50 46.4 +0.4**
comp=Z,39nm,1.2s,baz=270,slow=5.0
ROTZ Rotzenmuhle 87.21 40 *eP* **P** **09 50 46.8 +0.5**
comp=Z,44nm,1.7s,baz=270,slow=5.0
HSPB Hornsund (broa 87.21 13 *eP* **P** **09 50 47.6 +1.9**
HSPB Hornsund (broa 87.21 13 *eP* **P** **09 50 47.7 +1.9**
GUNZ Gunzen 87.26 40 *eP* **P** **09 50 47.1 +0.5**
comp=Z,34nm,1.5s,baz=270,slow=5.0
WERN Wernitzgruen 87.30 40 *eP* **P** **09 50 47.2 +0.4**
comp=Z,41nm,1.3s,baz=270,slow=5.0
SPA0 Spitsbergen Ar 87.30 12 *eP* **P** **09 50 47.1 +0.9**
NKC Novy Kostel 87.34 40 *eP* **P** **09 50 47.6 +0.6**
NKC *e* 09 50 54.6
NKC Novy Kostel 87.34 40 *eP* **P** **09 50 47.6 +0.6**
NKC *ex* x 09 50 54.2
ABTA Abfaltersbach 87.54 43 *iP* **P** **09 50 48.5 +0.4**
comp=Z,33nm,0.8s,SNR=23
CLL Collm 87.65 39 *iP* **P** **09 50 49.0 +0.7**
comp=Z,35nm,1.1s
CLL *i* pP **pP** **09 51 05.3 -0.1**
CLL Collm 87.65 39 *iP* **P** **09 50 49.0 +0.7**
CLL pmax pmax
comp=Z,35nm,1.1s
CLL Collm 87.65 39 *eP* **P** **09 50 48.8 +0.4**
comp=Z,35nm,1.1s,baz=270,slow=5.0
MURB Monte Urbino 87.72 47 P **P** **09 50 47.4 -1.6**
MURB IAmb IAmb 09 50 48.7
comp=Z,13nm,0.8s
STEI Steigen 87.77 22 *eP* **P** **09 50 49.3 +0.7**
FAUS Fauske 87.83 23 *eP* **P** **09 50 49.8 +0.9**
ZOU Zoufplan 87.87 44 IAmb IAmb 09 50 51.1
comp=Z,20nm,1.0s
FBE Freiberg 87.89 39 *eP* **P** **09 50 50.4 +0.9**
comp=Z,38nm,1.2s,baz=270,slow=5.0
KBA Koelnbreinsper 88.10 43 *eP* **P** **09 50 51.1 +0.2**
comp=Z,12nm,1.0s,SNR=9.4
KHC Kasperske Hory 88.13 41 *ceP* **P** **09 50 51.0 +0.2**
KHC pmax pmax
comp=Z,99nm,1.7s
KHC Kasperske Hory 88.13 41 *eP* **P** **09 50 51.2 +0.4**
KHC *es*P **sP** **09 51 17.9 +3.4**
GEC2 GERESS Array S 88.23 41 *eP* **P** **09 50 51.2 -0.1**
comp=Z,23nm,1.1s,baz=270,slow=5.0
GEC2 GERESS Array S 88.23 41 IAmb IAmb 09 50 52.9
comp=Z,20nm,1.0s
GERES GERESS Array B 88.23 41 P **P** **09 50 51.3 -0.1**
comp=Z,13nm,1.0s,baz=272,slow=3.9,SNR=62
ROBS Robic 88.26 44 *iP* **P** **09 50 51.7 +0.3**
BRG Berggiesshubel 88.26 39 *iP* **P** **09 50 52.0 +0.7**
comp=Z,24nm,1.0s
BRG Berggiesshubel 88.26 39 *eP* **P** **09 50 52.0 +0.7**
comp=Z,28nm,1.1s,baz=270,slow=5.0
BJO1 Bjornoya 88.32 15 *eP* **P** **09 50 52.2 +1.2**
MYKA Terra Mystica 88.33 44 *iP* **P** **09 50 52.1 +0.3**
comp=Z,13nm,0.6s,SNR=12
PBCC Pribram 88.37 41 *eP* **P** **09 50 52.8 +0.9**
CADS Cadrg 88.42 44 *iP* **P** **09 50 52.5 +0.3**
BSD Bornholm Skovb 88.56 35 *iP* **P** **09 50 53.1 +0.5**
comp=Z,36nm,0.9s
BSD Bornholm Skovb 88.56 35 *iP* **P** **09 50 53.1 +0.5**
BSD pmax pmax
comp=Z,37nm,0.9s
MOA Molln 88.67 42 *eP* **P** **09 50 53.5 +0.1**
comp=Z,23nm,1.1s,SNR=16
PVCC Panska Ves 88.68 40 *eP* **P** **09 50 54.0 +0.7**
PVCC Panska Ves 88.68 40 *eP* **P** **09 50 54.0 +0.7**
PRU Pruhonice 88.70 40 *eP* **P** **09 50 54.3 +0.9**
PRU *e* 09 51 04.6
PRU Pruhonice 88.70 40 *eP* **P** **09 50 54.3 +0.9**
PRU *ex* x 09 51 04.6
SNAA Sanae 88.72 162 P **P** **09 50 53.8 +0.7**
SNAA Sanae 88.72 162 *iP* **P** **09 50 52.7 -0.4**
SNAA pmax pmax
comp=Z,15nm,1.0s
TRO Tromso 88.93 20 *eP* **P** **09 50 54.9 +0.8**
OBKA Obir 88.96 44 *eP* **P** **09 50 54.9 +0.1**
comp=Z,6.8nm,0.9s
LJU Ljubljana 88.98 44 *iP* **P** **09 50 55.5 +0.7**
SOKA Soboth 89.28 43 *iP* **P** **09 50 56.1 -0.2**
comp=Z,8.5nm,1.0s,SNR=6.5
TREC Trest 89.37 41 *eP* **P** **09 50 57.2 +0.6**
TREC Trest 89.37 41 *eP* **P** **09 50 57.2 +0.6**
ARSA Arzberg 89.57 43 *eP* **P** **09 50 57.7 +0.1**
comp=Z,8.7nm,0.8s,SNR=6.4
UPC Upice 89.60 40 *eP* **P** **09 50 58.6 +1.0**
UPC Upice 89.60 40 *eP* **P** **09 50 58.6 +1.0**
CHVC Chvalec 89.62 39 *eP* **P** **09 50 58.5 +0.8**
OSTC Ostas 89.73 40 *eP* **P** **09 50 59.2 +1.0**
OSTC *ex* x 09 51 07.7
CONA Conrad Observa 89.74 42 *eP*cP **P** **09 50 58.9 +0.5**
comp=Z,9.8nm,0.8s,SNR=7.0
KSP Ksiaz 89.75 39 *eP* **P** **09 50 59.5 +1.2**
DPC Dobruska-Polom 89.81 40 *eP* **P** **09 50 59.9 +1.2**
DPC Dobruska-Polom 89.81 40 *eP* **P** **09 50 59.9 +1.2**
KRUC Moravsky 89.98 41 *eP* **P** **09 50 59.9 +0.5**
VRAC Vranov 90.09 41 ⇑P **P** **09 51 00.6 +0.7**
VRAC Vranov 90.09 41 *eP* **P** **09 51 00.9 +1.0**
VRAC Vranov 90.09 41 ⇑P **P** **09 51 00.6 +0.7**
KRLC Kraliky 90.14 40 *eP* **P** **09 51 01.6 +1.4**
KRLC Kraliky 90.14 40 *eP* **P** **09 51 01.6 +1.4**
HAMF Hammerfest 90.36 19 *eP* **P** **09 51 01.1 +0.3**
MODS Modra-Piesok 90.64 42 *eP* **P** **09 51 02.1 -0.4**
MODS pmax pmax
comp=Z,15nm,1.1s
MODS Modra-Piesok 90.64 42 *eP* **P** **09 51 02.1 -0.4**
MORC Moravsky Berou 90.66 40 ⇑P **P** **09 51 03.5 +0.9**
MORC Moravsky Berou 90.66 40 *eP* **P** **09 51 03.7 +1.1**
MORC Moravsky Berou 90.66 40 ⇑P **P** **09 51 03.5 +0.9**
MORC Moravsky Berou 90.66 40 IAmb IAmb 09 51 04.5
comp=Z,10.0nm,1.1s
JAVC Velka Javorina 90.84 41 *eP* **P** **09 51 05.2 +1.7**
TIP Timpagrande 91.21 51 ⇑P **P** **09 51 03.8 -1.7**
ARCES ARCESS Array B 91.22 20 P **P** **09 51 04.8 0.0**
comp=Z,4.3nm,0.6s,baz=286,slow=4.2,SNR=31
ARCES PP **PP** **09 54 41.7 -0.4**
comp=Z,2.2nm,0.8s,baz=282,slow=6.9,SNR=4.1

ARE0	ARCESS Array S	91.22	20	eP		P	09 51 05.1	+0.3	
VYHS	Vyhne	91.65	41	eP		P	09 51 08.1	+0.9	
VYHS	comp=Z,11nm,1.2s			pmax	pmax				
VYHS	Vyhne	91.65	41	eP		P	09 51 08.1	+0.9	
OJC	Ojcow	92.04	40	eP		P	09 51 10.2	+1.2	
PSZ	Piszkesteto	92.43	42	⇑P		P	09 51 12.4	+1.5	
PSZ	Piszkesteto	92.43	42	⇑P		P	09 51 12.4	+1.5	
NIE	Niedzica	92.48	40	eP		P	09 51 12.6	+1.5	
ADK	Adak	92.67	322	P		P	09 51 12.2	+0.4	
ADK	comp=Z,27nm,1.1s			pmax	pmax				
ADK	Adak	92.67	322	P		P	09 51 12.2	+0.4	
PDG	Podgorica	92.72	47	⇑P		P	09 51 12.3	+0.1	
DIVS	Divibare	93.03	46	IAmb		IAmb	09 51 15.8		
NVL	comp=Z,12nm,1.0s N'lazarevskaya	93.28	161	eP		P	09 51 14.6	+0.5	
NVL	comp=Z,11nm,0.7s			pmax	pmax				
CRVS	Cervenica-Dubn	93.31	41	eP		P	09 51 16.2	+1.3	
CRVS	comp=Z,17nm,1.2s			pmax	pmax				
CRVS	Cervenica-Dubn	93.31	41	eP		P	09 51 16.2	+1.3	
FINES	FINESS Array B	93.39	28	P		P	09 51 14.9	+0.1	
FINES	comp=Z,6.8nm,0.9s,baz=327,slow=3.2,SNR=20 FINESS Array B	93.39	28	P		P	09 51 15.0	+0.1	
QSPA	South Pole Qui	93.67	180	P		P	09 51 16.9	+0.6	
QSPA	comp=Z,8.8nm,1.1s,baz=143,slow=2.6,SNR=13 South Pole Qui	93.67	180	P		P	09 51 17.0	+0.8	
SIRR	Siria	93.87	43	⇑P		P	09 51 18.2	+0.6	
BZS	Buzias	93.95	44	⇑P		P	09 51 18.8	+0.9	
BZS	Buzias	93.95	44	⇑P		P	09 51 18.8	+0.9	
MDVR	Moldovita	94.15	45	⇑P		P	09 51 19.2	+0.3	
TRPA	Tarpa	94.15	41	⇑P		P	09 51 19.6	+0.9	
VSU	Vasula	94.44	31	iP		P	09 51 18.0	-1.8	
VSU	comp=Z,43nm,0.9s			pmax	pmax				
FNA	Florina	94.53	49	IAmb		IAmb	09 51 22.2		
APA	comp=Z,9.8nm,1.0s Apatity	94.58	21	eP		P	09 51 20.0	-0.2	
APA	comp=Z,6.0nm,0.9s			pmax	pmax				
APA	comp=Z,300nm,23.0s			MLR	MLR				
LVZ	Lovozero	94.90	21	P		P	09 51 21.8	0.0	
LVZ	comp=Z,14nm,0.9s			pmax	pmax				
LVZ	Lovozero	94.90	21	P		P	09 51 21.8	0.0	
LVZ	comp=Z,14nm,0.9s			IAmb		IAmb	09 51 22.8		
CJR	Cluj-Napoca	95.11	43	⇑P		P	09 51 24.7	+1.4	
CJR	Cluj-Napoca	95.11	43	⇑P		P	09 51 24.7	+1.4	
ARCR	ARCALIA	95.55	42	⇑P		P	09 51 24.9	-0.3	
BURAR	Bucovina Array	96.02	42	⇑P		P	09 51 28.1	+0.7	
BURAR	Bucovina Array	96.02	42	⇑P		P	09 51 28.1	+0.7	
BILL	Bilibino	96.08	340	ceP		P	09 51 26.2	-0.9	
BILL				e			09 55 19.7		
BILL	comp=Z,6.0nm,1.0s			pmax	pmax				
TSUM	Tsumeb	96.21	109	P		P	09 51 28.1	-0.8	
TSUM	comp=Z,13nm,1.2s			IAmb		IAmb	09 51 29.3		
VOIR		96.35	44	⇑P		P	09 51 29.8	+0.8	
VOIR		96.35	44	⇑P		P	09 51 29.8	+0.8	
BIZ	Bicaz	96.75	42	⇑P		P	09 51 31.4	+0.7	
MLR	Muntele Rosu	96.96	44	⇑P		P	09 51 31.5	-0.3	
MLR	Muntele Rosu	96.96	44	⇑P		P	09 51 31.5	-0.3	
TMCR	Tamitsa	97.66	23	eP		P	09 51 31.9	-2.4	
TMCR	comp=Z,14nm,0.8s			pmax	pmax				
AKASG	Malin Array Be	97.84	38	P		P	09 51 35.1	-0.3	
AKASG	comp=Z,0.2nm,0.3s,baz=269,slow=3.8,SNR=6.3			PP		PP	09 55 31.2	-2.8	
SORM	comp=Z,0.3nm,0.3s,baz=286,slow=7.8,SNR=4.1 Soroca	97.95	41	⇑P		P	09 51 35.8	-0.2	
SORM	Soroca	97.95	41	⇑P		P	09 51 35.8	-0.2	
KLMR	Klimovskoe	99.71	26	eP		Pdif	09 51 41.3	-2.2	
KLMR				e			09 55 45.8		
KLMR	comp=Z,13nm,1.2s			pmax	pmax				
KLMR	Klimovskoe	99.71	26	AMP			09 51 45.6		
KLMR	comp=Z,13nm,1.2s Klimovskoe	99.71	26	ePP		PP	09 55 45.8	-2.2	
KLMR	Klimovskoe	99.71	26	eP		Pdif	09 51 41.3	-2.2	
OBN	Obninsk	100.62	32	eP		Pdif	09 51 46.4	-1.3	
OBN				e			09 55 57.4		
OBN	comp=Z,6.0nm,0.8s			pmax	pmax				
KUR	Kuril'sk	116.66	326	ePKIKP		PKPdf	09 56 34.0	-10	
KUR	comp=Z,28nm,0.5s			pmax	pmax				
KUR	comp=E,6.0nm,0.1s			pmax	pmax				
KUR	comp=N,12nm,0.4s			pmax	pmax				
BRVK	Borovoye	117.42	21	ciPKIKP		PKiKP	09 56 45.5	+0.2	
BRVK	comp=Z,1.0nm,0.6s			pmax	pmax				
ZALV	Zalesovo Beam	120.79	12	PKP		PKPdf	09 56 51.7	-0.1	
ZALV	comp=Z,6.7nm,0.5s,baz=263,slow=2.5,SNR=32			pPKP		pPKPdf	09 57 08.4	-1.0	
KLR	comp=Z,2.7nm,0.5s,baz=256,slow=2.4,SNR=4.0 Kul'dur	121.45	338	iPKIKP		PKPdf	09 56 52.7	-0.5	
GEYT	Alibeck	121.85	40	PKP		PKiKP	09 56 54.8	+0.3	
KURK	comp=Z,7.7nm,0.6s,baz=273,slow=5.3,SNR=12 Kurchatov	122.17	18	PKIKP		PKPdf	09 56 54.2	-0.3	
KURK	Kurchatov	122.17	18	PKPdf		PKPdf	09 56 54.2	-0.3	
MOY	Mondy	124.89	1	ePKIKP		PKPdf	09 56 58.9	-1.0	
MOY	comp=Z,15nm,1.5s			pmax	pmax				
BTLS	Baital baz=24	125.38	24	ePKP		PKiKP	09 57 02.3	+1.0	
BTLS	Baital	125.38	24	ePKIKP		PKiKP	09 57 02.2	+1.0	
USRK	Ussuriysk Ar.	125.41	334	PKP		PKPdf	09 57 01.0	+0.1	
USRK	comp=Z,3.3nm,0.7s,baz=10,slow=2.0,SNR=10 Ussuriysk Ar.	125.41	334	PKIKP		PKPdf	09 57 01.0	+0.1	
IUG	luzhnay baz=29	125.84	29	ePKP		PKiKP	09 57 02.8	+0.4	
IUG	luzhnay	125.84	29	ePKIKP		PKiKP	09 57 02.8	+0.4	
DZA	Taraz baz=28	125.89	28	ePKP		PKiKP	09 57 02.8	+0.3	
DZA	Taraz	125.89	28	ePKIKP		PKiKP	09 57 02.7	+0.3	
ZAK	Zakamensk	126.18	359	ePKIKP		PKiKP	09 57 02.9	+0.1	
ZAK	comp=Z,7.0nm,1.1s			pmax	pmax				
NAZ	Nazwa, Dubai	126.56	55	PKiKP		PKPdf	09 57 03.9	+0.2	
MAKZ	Makanchi	126.66	17	PKiKP		PKPdf	09 57 03.1	-0.2	
MAKZ	Makanchi	126.66	17	PKPdf		PKPdf	09 57 03.0	-0.2	
BANOM	Banah	126.67	54	PKiKP		PKPdf	09 57 04.0	0.0	
MKAR	Makanchi Array	126.77	17	PKP		PKPdf	09 57 03.4	-0.1	
MKAR	comp=Z,12nm,0.8s,baz=346,slow=2.1,SNR=61			PP		PP	09 58 59.9	-0.1	
MSFE	comp=Z,2.1nm,0.9s,baz=15,slow=5.0,SNR=3.8 Esma-Masafi	126.81	55	iPKiKP		PKPdf	09 57 04.3	+0.1	
ZSN	SNR=7.0 Zaisan baz=15	126.87	15	ePKP		PKPdf	09 57 03.8	+0.1	
ZSN	Zaisan	126.87	15	ePKIKP		PKPdf	09 57 03.8	+0.1	
SGDS	Sogindy	126.91	25	⇑PKP		PKiKP	09 57 05.0	+0.5	
SGDS	comp=Z,9.8nm,0.6s,baz=25 Sogindy	126.91	25	cePKIKP		PKiKP	09 57 05.0	+0.5	
MDH	comp=Z,10.0nm,0.6s Madha	126.95	55	PKiKP		PKPdf	09 57 04.6	+0.2	
USP	Ospenovka SNR=9.4	127.01	25	P		PKiKP	09 57 05.3	+0.7	
ASHO	Ashiyiah	127.02	55	PKiKP		PKPdf	09 57 04.4	-0.2	
HATD	Hatta, Dubai SNR=8.5	127.02	55	iPKiKP		PKPdf	09 57 04.6	0.0	
UOSS	Minazif SNR=6.4	127.03	55	iPKiKP		PKPdf	09 57 04.2	-0.4	
UOSS	Minazif	127.03	55	PKPdf		PKPdf	09 57 03.5	-1.1	
ALNE	Al Ain	127.03	56	PKiKP		PKiKP	09 57 04.9	-0.2	
TDK	Taldyqorghan baz=21	127.09	21	ePKP		PKiKP	09 57 04.8	+0.1	
TDK	Taldyqorghan	127.09	21	ePKIKP		PKiKP	09 57 04.8	+0.1	
EKS2	Erkin-Say SNR=24	127.19	26	P		PKiKP	09 57 06.2	+1.1	
KUU	Kurty comp=Z,22nm,0.5s,baz=23	127.25	23	ePKP		PKiKP	09 57 05.0	0.0	
KUU	Kurty	127.25	23	ePKIKP		PKiKP	09 57 05.0	0.0	
KUU	comp=Z,22nm,0.5s			pmax	pmax				
AAK	Ala-Archa	127.52	26	P		PKiKP	09 57 06.8	+1.0	
AAK	SNR=8.7 Ala-Archa	127.52	26	iPKiKP		PKiKP	09 57 06.5	+0.7	
AAK	SNR=8.9 Ala-Archa	127.52	26	ciPKIKP		PKiKP	09 57 06.8	+1.0	
AAK	comp=Z,29nm,1.3s Ala-Archa	127.52	26	PKPdf		PKiKP	09 57 05.7	-0.2	
CHKK	Chushkaly comp=Z,150nm,0.7s,baz=23	127.54	23	ePKP		PKPdf	09 57 05.3	+0.2	
CHKK	Chushkaly	127.54	23	ePKIKP		PKPdf	09 57 05.3	+0.2	
CHKK	comp=Z,150nm,0.7s			pmax	pmax				
AML	Almayashu SNR=17	127.57	27	P		PKiKP	09 57 07.2	+1.0	
SOHO	SOHO SNR=8.3	127.65	56	iPKiKP		PKPdf	09 57 05.5	-0.3	
TKM2	Tokmak 2 SNR=7.6	127.75	25	P		PKiKP	09 57 06.7	+0.4	
MAJO	Matsushiro	127.82	323	iPKIKP		PKPdf	09 57 04.7	-1.1	
MJAR	Matsushiro Arr comp=Z,3.0nm,0.8s,baz=96,slow=1.0,SNR=10.0	127.82	323	PKP		PKPdf	09 57 05.8	0.0	
MJAR				pPKP		pPKPdf	09 57 21.4	-1.9	
UCH	comp=Z,1.2nm,0.6s,baz=89,slow=0.3,SNR=4.2 Uchtor SNR=32	127.86	26	P		PKiKP	09 57 08.0	+1.1	
MTBS	Maitube baz=24	127.92	24	⇑ePKP		PKiKP	09 57 06.8	+0.3	
MTBS	Maitube	127.92	24	⇑ePKIKP		PKiKP	09 57 06.8	+0.3	
AAA	Alma-Ata comp=Z,26nm,0.9s,baz=23	128.05	23	ePKP		PKiKP	09 57 07.5	+0.7	
AAA	Alma-Ata	128.05	23	ePKIKP		PKiKP	09 57 07.4	+0.7	
AAA	comp=Z,26nm,0.9s			pmax	pmax				
MDOK	Medeo comp=Z,309nm,1.0s,baz=23	128.14	23	ePKP		PKiKP	09 57 07.6	+0.5	
MDOK	Medeo	128.14	23	ePKIKP		PKiKP	09 57 07.5	+0.5	
MDOK	comp=Z,309nm,1.0s			pmax	pmax				
TNSS	Tian-Shan comp=Z,542nm,0.5s,baz=24	128.21	24	ePKP		PKiKP	09 57 08.1	+0.5	
TNSS	Tian-Shan	128.21	24	ePKIKP		PKiKP	09 57 08.0	+0.5	
TNSS	comp=Z,542nm,0.5s			pmax	pmax				
KZA	Kyzart SNR=9.6	128.30	26	P		PKiKP	09 57 08.6	+0.9	
ULN	Ulaanbaatar comp=Z,22nm,1.0s	128.53	356	ciPKIKP		PKiKP	09 57 07.8	+0.1	
ULN				pmax	pmax				
ULNL	Ulaanbaatar	128.53	356	PKPdf		PKPdf	09 57 07.2	+0.2	
ULHL	Ulahol SNR=8.8	128.58	25	P		PKiKP	09 57 09.0	+1.0	
SONM	Songino Array comp=Z,17nm,1.0s,baz=327,slow=0.8,SNR=56	128.61	356	PKP		PKiKP	09 57 08.0	+0.3	
SONM				pPKP		pPKPdf	09 57 23.3	-1.6	
SATY	comp=Z,3.7nm,0.8s,baz=286,slow=0.6,SNR=5.2 Saty baz=22	128.76	22	⇑ePKP		PKiKP	09 57 08.1	-0.2	
SATY	Saty	128.76	22	⇑ePKIKP		PKiKP	09 57 08.0	-0.2	
SATY	Saty	128.76	22	⇑ePKIKP		PKiKP	09 57 08.0	-0.2	
UZB	Uzynbulak baz=22	128.91	22	ePKP		PKiKP	09 57 08.7	+0.1	
UZB	Uzynbulak	128.91	22	ePKIKP		PKiKP	09 57 08.6	+0.1	
SHLS	Shalkode baz=21	129.06	21	ePKP		PKiKP	09 57 09.4	+0.6	
SHLS	Shalkode	129.06	21	ePKIKP		PKiKP	09 57 09.4	+0.6	
KSH	Kashi	130.70	27	PKP		PKiKP	09 57 13.3	+1.1	
WMQ	Urumqi	130.96	14	ePKP		PKPdf	09 57 10.4	-1.3	
WMQ	comp=Z,250nm,24.1s			LR	LR				
WMQ	comp=Z,160nm,19.1s			LR	LR				
WMQ	comp=Z,340nm,22.5s			LR	LR				
KSRS	Korea Array comp=Z,4.5nm,0.7s,baz=20,slow=2.0,SNR=16	132.66	332	PKP		PKPdf	09 57 15.3	+0.4	
STKA	Stephens Creek comp=Z,3.4nm,0.6s,baz=303,slow=4.4,SNR=12	133.62	228	PKP		PKPdf	09 57 17.2	+0.3	
CTA	Charters Tower comp=Z,2.9nm,0.5s,baz=177,slow=4.3,SNR=2.7	134.14	245	PKP		PKPdf	09 57 18.3	+0.1	
BJI	Beijing	134.69	345	PKP		PKiKP	09 57 19.5	-0.6	
HHC	Hu-ho-hao-te	134.91	350	ePKP		PKiKP	09 57 20.8	+0.1	
GTA	Gaotai	137.10	3	PKP		PKPdf	09 57 24.2	+0.8	
GTA				sPKP			09 57 41.1		
NJ2	Nanjing	141.15	337	ePKP		PKPdf	09 57 30.4	-0.4	
XAN	Xi'an	141.99	351	PKP		PKPdf	09 57 30.1	-2.2	
PYUN	Piuthan comp=Z,119nm,1.2s	143.38	29	eP		PKPab	09 57 31.7	+0.4	
ASAR	Alice Springs comp=Z,9.1nm,0.6s,baz=118,slow=3.7,SNR=64	143.54	234	PKhKP		PKPpre	09 57 32.0		
DANN	Dangsing comp=Z,107nm,0.7s	143.54	28	eP		PKPbc	09 57 32.9	0.0	
KOLN	Koldanda comp=Z,38nm,0.9s	143.96	29	eP		PKPab	09 57 33.4	-0.1	
GKN	Gorkha	144.25	27	eP		PKPab	09 57 34.6	+0.1	
KKN	Kakani	144.72	27	eP		PKPbc	09 57 36.9	+0.4	
WB2	Warramunga Arr	144.77	240	PKPdf		PKPab	09 57 36.4	-0.1	
WRA	Warramunga Arr comp=Z,27nm,0.9s,baz=110,slow=3.0,SNR=87	144.78	240	PKP		PKPab	09 57 36.6	0.0	
DMN	Daman	144.80	27	eP		PKPab	09 57 36.6	-0.1	
GUN	Gumba comp=Z,635nm,1.1s	144.88	26	eP		PKPdf	09 57 37.6	-0.4	
PKI	Pulchoki comp=Z,256nm,1.2s	144.97	27	eP		PKPab	09 57 37.1	-0.3	
JIRN	Jiri comp=Z,366nm,1.2s	145.23	26	eP		PKPbc	09 57 38.3	0.0	
CD2	Chengdu	145.61	358	PKPbc		PKPdf	09 57 36.4	-2.3	
RAMN	Ramite comp=Z,44nm,0.6s	146.03	26	eP		PKPdf	09 57 40.2	+0.4	
TAPN	Taplejung	146.13	24	eP		PKPbc	09 57 41.3	+0.3	
ODAN	Odare comp=Z,183nm,1.1s	146.44	25	eP		PKPdf	09 57 40.9	+0.4	
H01W1	Cape Leeuwin H baz=148,slow=4.5,SNR=3.8	147.01	198	PKPbc		PKPbc	09 57 43.4	+0.8	
H01W2	Cape Leeuwin H baz=148,slow=4.5,SNR=3.8	147.01	198	PKPbc		PKPab	09 57 43.5	-0.7	
H01W3	Cape Leeuwin H baz=148,slow=4.5,SNR=3.5	147.02	198	PKPbc		PKPbc	09 57 43.1	+0.4	
GYA	Guiyang comp=Z,86nm,1.2s	149.77	352	P		PKPbc	09 57 50.9	+0.3	
GYA				pmax	pmax				
MTN	Manton Dam	150.03	251			PKPbc	09 57 50.7	-0.6	
SIJI	Sorong comp=Z,16nm,0.3s,baz=124,slow=6.8,SNR=3.5	150.89	275	PKPbc		PKPbc	09 57 53.0	-0.4	
KMI	Kunming	151.40	359	iP		PKiKP	09 57 55.0	-0.1	
KMI	comp=Z,72nm,1.0s			pmax	pmax				
KMI	comp=N,280nm,19.0s			LR	LR				
KMI	comp=E,280nm,20.8s			LR	LR				
KMI	comp=Z,410nm,18.1s			LR	LR				
FITZ	Fitzroy Crossi	152.98	236			PKPbc	09 57 57.7	-0.3	
SLVN	Son La	155.12	356	PKPdf		PKPdf	09 57 55.0	+1.2	
SLVN						pPKPdf	09 58 03.8	-7.8	
SLVN				PKPab		sPKPdf	09 58 17.9	-0.1	
CHTO	Chiang Mai	157.44	8	PKP2		PKPab	09 58 27.4	-0.8	
CHTO	Chiang Mai	157.44	8	PKPab		PKPab	09 58 27.4	-0.8	
CMAR	Chiang Mai Arr	157.79	8	PKP		PKPdf	09 57 58.3	+1.1	
CMAR	comp=Z,6.9nm,0.9s,baz=305,slow=2.5,SNR=24			PKPab		PKPab	09 58 29.7	-0.1	
CMAR	comp=Z,10nm,0.8s,baz=327,slow=5.4,SNR=16			PP		PP	10 02 07.5	-0.2	
CMAR	comp=Z,0.8nm,0.4s,baz=332,slow=7.2,SNR=4.8 Chiang Mai Arr	157.79	8	PKP2		PKPab	09 58 29.7	-0.1	
CMAR							10 57 58.3		
PBKT	Sadao Pong	159.87	4	PKPdf		PKPdf	09 58 00.2	+0.5	
PBKT				PKPab		PKPab	09 58 38.4	-0.3	

KRSC ***03*** *09:41:56.7±1.9, 54.˚94N×165.˚52E, h40km±14km, ML5.2*
IDC ***03*** *09:41:56.9±0.4, 55.˚07N×165.˚53E, h0km, mb4.5/36, mb1 4.7/38, mb1mx4.6/59, mbtmp4.5/38, ML4.1/2, Error ellipse: s-maj=14.4km s-min=8.7km az=157.0*
MOS ***03*** *09:42:00.5±0.9, 55.˚02N×165.˚45E, h41km, mb4.9/33, Error ellipse: s-maj=5.1km s-min=4.6km az=56.5*
BJI ***03*** *09:42:00.3±0.0, 55.˚25N×165.˚42E, h34km, mB5.4/12, mb4.8/32, Ms4.9/5, Ms7 4.8/5*
NEIC ***03*** *09:42:02.4±1.7, 55.˚07N±0.˚09×165.˚5E±0.˚1, h39km±4km, mb4.8/225, Error ellipse: s-maj=13.5km s-min=9.0km az=168.0*
ISC 03 09:41:59.4±1.0, 55.˚00N±0.˚03×165.˚53E±0.˚04, h17km±6km, n590, σ1§20/566, mb4.8/170, 9C-1D, Komandorsky

Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BKI	Bering	0.33	52	iP		Pg	09 42 05.3	-1.0
BKI				eS		Sg	09 42 10.4	-0.6
BKI	Bering	0.33	52	PN		Pg	09 42 05.3	-1.0
KBTR	Krutoberegovo	1.96	309	iP		Pn	09 42 29.2	-2.5
KBTR				eS		Sn	09 42 52.6	-3.2
KBTR	Krutoberegovo	1.96	309	PN		Pn	09 42 29.2	-2.5
KBTR				S		Sn	09 42 52.6	-3.2
KBG	Krutoberegovo	2.03	309	iP		Pn	09 42 30.1	-2.7
KBG				eS		Sn	09 42 55.1	-2.6
KBG	Krutoberegovo	2.03	309	PN		Pn	09 42 30.1	-2.7
KBG				S		Sn	09 42 55.1	-2.6
SMKR	Semkarok	2.79	306	eP		Pn	09 42 42.2	-1.0
SMKR				eS		Sn	09 43 15.5	-0.9
SMKR	Semkarok	2.79	306	PN		Pn	09 42 42.2	-1.0
SMKR				S		Sn	09 43 15.5	-0.9
ZLN	Zelenaya	2.87	293	eP		Pn	09 42 44.7	+0.3
ZLN				eS		Sn	09 43 18.7	+0.1
ZLN	Zelenaya	2.87	293	PN		Pn	09 42 44.7	+0.3
ZLN				S		Sn	09 43 18.7	+0.1
BDR	Baidarnaya	2.90	305	eP		Pn	09 42 44.3	-0.5
BDR				eS		Sn	09 43 18.5	-0.8
BDR	Baidarnaya	2.90	305	PN		Pn	09 42 44.3	-0.5
BDR				S		Sn	09 43 18.5	-0.8
CIRR	Tsirk	2.93	294	eP		Pn	09 42 46.0	+0.7
CIRR	Tsirk	2.93	294	PN		Pn	09 42 46.0	+0.7
TUMD	Tumrok D	2.95	276	eP		Pn	09 42 46.0	+0.5
TUMD				eS		Sn	09 43 20.6	+0.1
LGNR	Loginova	2.95	293	eP		Pn	09 42 46.6	+0.9
LGNR	Loginova	2.95	293	PN		Pn	09 42 46.6	+0.9
SRKR	Sorokina	2.96	306	eP		Pn	09 42 45.5	-0.2
SRKR	Sorokina	2.96	306	PN		Pn	09 42 45.5	-0.2
KZV	Kizimen	3.01	274	eP		Pn	09 42 46.4	0.0
KZV				eS		Sn	09 43 22.2	+0.1
KZV	Kizimen	3.01	274	PN		Pn	09 42 46.4	0.0
KZV				S		Sn	09 43 22.2	+0.1
BZWR	Bezymyannyi-We	3.02	291	eP		Pn	09 42 47.3	+0.8
BZWR	Bezymyannyi-We	3.02	291	PN		Pn	09 42 47.3	+0.8
KLY	Klyuchi	3.06	297	eP		Pn	09 42 45.2	-1.7
KLY				eS		Sn	09 43 20.8	-2.2
KLY	Klyuchi	3.06	297	PN		Pn	09 42 45.2	-1.7
KLY				S		Sn	09 43 20.8	-2.2
KRSR	Krestovskiy	3.07	295	eP		Pn	09 42 47.0	-0.1
KRSR	Krestovskiy	3.07	295	PN		Pn	09 42 47.0	-0.1
KIRR	Kirishev	3.10	290	eP		Pn	09 42 48.0	+0.4
KIRR				eS		Sn	09 43 24.9	+0.6
KIRR	Kirishev	3.10	290	PN		Pn	09 42 48.0	+0.4
KIRR				S		Sn	09 43 24.9	+0.6
TUMR	Tumrok	3.10	277	eP		Pn	09 42 48.3	+0.7
TUMR				eS		Sn	09 43 25.1	+0.8
TUMR	Tumrok	3.10	277	PN		Pn	09 42 46.0	-1.6
TUMR				S		Sn	09 43 20.6	-3.7
KMNR	Kamenistaya	3.11	286	eP		Pn	09 42 48.4	+0.7
KMNR				eS		Sn	09 43 24.8	+0.3
KMNR	Kamenistaya	3.11	286	PN		Pn	09 42 48.4	+0.7
KMNR				S		Sn	09 43 24.8	+0.3
KPT	Kopyto	3.17	290	eP		Pn	09 42 49.0	+0.5
KPT	Kopyto	3.17	290	PN		Pn	09 42 49.0	+0.5
KOZ	Kozyrevsk	3.38	291	eP		Pn	09 42 51.8	+0.4
KOZ	Kozyrevsk	3.38	291	PN		Pn	09 42 51.8	+0.4
SRDR	Sredinnyy	3.54	294	eP		Pn	09 42 54.6	+1.0
SRDR	Sredinnyy	3.54	294	PN		Pn	09 42 54.6	+1.0
KII	Karymskiy	3.67	257	eP		Pn	09 42 56.0	+0.6
KII				eS		Sn	09 43 37.2	-1.1
KII	Karymskiy	3.67	257	PN		Pn	09 42 56.0	+0.6
KII				S		Sn	09 43 37.2	-1.1
SPN	Mys Shipunski	3.76	242	eP		Pn	09 42 55.7	-0.9
SPN				eS		Sn	09 43 36.8	-3.6
SPN	Mys Shipunski	3.76	242	PN		Pn	09 42 55.7	-0.9
ESO	Esso	3.99	286	eP		Pn	09 43 00.6	+0.8
ESO	Esso	3.99	286	PN		Pn	09 43 00.6	+0.8
NLC	Nalytchevo	4.08	246	eP		Pn	09 43 00.7	-0.1
NLC				eS		Sn	09 43 45.6	-2.5
NLC	Nalytchevo	4.08	246	PN		Pn	09 43 00.7	-0.1
SDLR	Sedlovina	4.27	249	eP		Pn	09 43 04.1	+0.4
SDLR				eS		Sn	09 43 51.4	-1.7
SDLR	Sedlovina	4.27	249	PN		Pn	09 43 04.1	+0.4
SMAR	Somma	4.32	249	eP		Pn	09 43 04.8	+0.3
SMAR				eS		Sn	09 43 51.1	-3.4
SMAR	Somma	4.32	249	PN		Pn	09 43 04.8	+0.3
KRER	Koryakskii	4.33	250	eP		Pn	09 43 05.1	+0.5
KRER				eS		Sn	09 43 53.3	-1.4
KRER	Koryakskii	4.33	250	PN		Pn	09 43 05.1	+0.5
KRER				S		Sn	09 43 53.3	-1.4
UGLR	Uglovaya	4.33	248	iP		Pn	09 43 05.1	+0.6
UGLR				eS		Sn	09 43 52.9	-1.8
UGLR	Uglovaya	4.33	248	PN		Pn	09 43 05.1	+0.6
AVH	Avacha	4.36	249	eP		Pn	09 43 05.6	+0.8
AVH				eS		Sn	09 43 53.7	-1.4
AVH	Avacha	4.36	249	PN		Pn	09 43 05.6	+0.8
KRX	Arik	4.36	251	eP		Pn	09 43 05.5	+0.5
KRX				eS		Sn	09 43 54.0	-1.4
KRX	Arik	4.36	251	PN		Pn	09 43 05.5	+0.5
KOK	Koryaka	4.40	250	eP		Pn	09 43 06.2	+0.8
KOK

BILL Bilibino 13.09 1 *ce* PN **Pn 09 45 05.7 +1.5**
BILL pmax pmax
comp=Z,11nm,0.6s
BILL Bilibino 13.09 1 Pn **Pn 09 45 05.9 +1.7**
TYV Tymovskoe 14.38 263 *eP* **P 09 45 26.1 -2.7**
TYV pmax pmax
comp=Z,8.0nm,1.1s
GAMB Gambell 14.47 43 Pn **Pn 09 45 22.9 -0.1**
KUR Kuril'sk 14.92 236 *eP* **Pn 09 45 31.9 +2.6**
YSS Yuzh-Sakhalins 16.39 250 P **P 09 45 51.7 +0.5**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS Yuzh-Sakhalins 16.39 250 P **P 09 45 51.7 +0.5**
YUK Yuzh-Kuril'sk 16.77 237 P **Pn 09 45 52.1 -1.1**
YUK pmax pmax
comp=Z,141nm,0.7s
GRPR Tuman 16.85 237 *eP* **Pn 09 45 52.9 -1.3**
NMR Nemuro--Hokkai 17.33 236 *eP* **Pn 09 45 55.4 -4.9**
GRNR Gornyy 18.00 268 *eP* **Pn 09 46 07.1 -1.4**
GRNR pmax pmax
comp=Z,2.0nm,1.1s
GRNR MLR MLR
comp=E,350nm,16.0s
GRNR MLR MLR
comp=N,150nm,13.0s
GRNR MLR MLR
comp=Z,490nm,14.0s
JKA Kamikawa-asahi 18.34 243 **P 09 46 13.9 +1.2**
JKA IAmb IAmb 09 46 26.5
comp=Z,69nm,1.2s
ASAJ Asahikawa 18.34 243 Pn **Pn 09 46 12.4 -0.3**
comp=Z,1.3nm,0.3s,baz=41,slow=11,SNR=9.8
YAK Yakutsk 19.78 305 *eP* **Pn 09 46 30.8 +0.9**
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK Yakutsk 19.78 305 P **Pn 09 46 30.7 +0.9**
TTA Tatalina 21.06 52 P **P 09 46 42.4 0.0**
TTA pmax pmax
comp=Z,21nm,0.9s
TTA Tatalina 21.06 52 P **P 09 46 42.4 0.0**
KLR Kul'dur 21.38 268 *ce* P **P 09 46 47.7 +1.9**
KLR pmax pmax
comp=Z,8.0nm,1.0s
RSO Redoubt South 22.62 59 P **P 09 47 00.8 +1.5**
PPLA Purkeypile 22.81 53 P **P 09 47 01.8 +0.6**
PPLA IAmb IAmb 09 47 11.0
comp=Z,44nm,1.3s
TIXI Tiksi 22.83 331 *i* P **P 09 47 01.0 -0.1**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 22.83 331 P **P 09 47 00.3 -0.8**
KDAK Kodiak Island 23.08 66 P **P 09 47 02.3 -1.5**
comp=Z,14nm,0.7s,baz=268,slow=4.6,SNR=15
KDAK Kodiak Island 23.08 66 P **P 09 47 02.0 -1.8**
KDAK pmax pmax
comp=Z,22nm,1.0s
KDAK Kodiak Island 23.08 66 P **P 09 47 02.0 -1.8**
KDAK IAmb IAmb 09 47 05.4
comp=Z,22nm,0.9s
SKT Skwentna 23.13 55 P **P 09 47 04.6 +0.3**
TRF Thorofare Moun 23.68 51 IAmb IAmb 09 47 20.5
comp=Z,27nm,1.0s
COLD Coldfoot 24.01 42 P **P 09 47 12.9 +0.1**
baz=261,SNR=21
COLD Coldfoot 24.01 42 P **P 09 47 13.1 +0.3**
USRK Ussuriysk Ar. 24.04 257 P **P 09 47 12.8 -0.5**
comp=Z,3.7nm,0.8s,baz=61,slow=7.1,SNR=8.1
NEA2 Nenana 24.23 48 P **P 09 47 15.0 +0.1**
baz=268,SNR=16
MCK McKinley 24.28 51 IAmb IAmb 09 47 24.2
comp=Z,25nm,0.9s
SEW Seward 24.30 59 P **P 09 47 14.8 -0.7**
SEW IAmb IAmb 09 47 24.0
comp=Z,18nm,0.8s
RND Reindeer 24.32 51 IAmb IAmb 09 47 24.0
comp=Z,24nm,0.8s
TOLK Toolik Lake Re 24.49 39 P **P 09 47 17.6 +0.3**
baz=259,SNR=18
TOLK Toolik Lake Re 24.49 39 P **P 09 47 17.1 -0.1**
TOLK IAmb IAmb 09 47 32.1
comp=Z,27nm,0.9s
KNK Knik Glacier 24.63 56 IAmb IAmb 09 47 29.3
comp=Z,30nm,1.0s
SML Sawmill 24.65 55 IAmb IAmb 09 47 27.5
comp=Z,23nm,0.9s
WRH Wood River Hil 24.65 49 IAmb IAmb 09 47 27.0
comp=Z,26nm,0.9s
TCOL CIGO, UAF Yank 24.76 48 P **P 09 47 19.6 0.0**
baz=269,SNR=14
COLA College 24.76 48 P **P 09 47 18.9 -0.7**
COLA pmax pmax
comp=Z,24nm,0.8s
COLA College 24.76 48 P **P 09 47 18.9 -0.7**
COLA IAmb IAmb 09 47 27.9
comp=Z,24nm,0.8s
CCB Clear Creek Bu 24.78 48 IAmb IAmb 09 47 28.0
comp=Z,29nm,0.8s
POKR Poker Plat Res 24.95 47 P **P 09 47 20.7 -0.7**
baz=269
MDJ Mudanjiang 25.14 261 P **P 09 47 23.3 0.0**
MDJ pmax pmax
comp=Z,9.0nm,0.8s
HDA Harding Lake 25.15 49 P **P 09 47 22.2 -1.0**
baz=271,SNR=13
HDA Harding Lake 25.15 49 IAmb IAmb 09 47 32.0
comp=Z,24nm,0.8s
IL31 25.17 48 P **P 09 47 22.8 -0.5**
IL31 IAmb IAmb 09 47 30.7
comp=Z,23nm,0.8s
ILAR Eielson Array 25.17 48 P **P 09 47 22.8 -0.7**
comp=Z,5.2nm,0.8s,baz=256,slow=8.9,SNR=74
KLU Klutina 25.83 56 IAmb IAmb 09 47 43.2
comp=Z,17nm,0.8s
MJB9 Matsu-Tunnel 26.26 237 P **P 09 47 34.6 +1.0**
MJB9 IAmb IAmb 09 47 45.8
comp=Z,35nm,1.0s
MAJO Matsushiro 26.26 237 *i* P **P 09 47 34.2 +0.7**
MAJO pmax pmax
comp=Z,16nm,0.8s
MAJO Matsushiro 26.26 237 P **P 09 47 34.6 +1.0**
MAJO IAmb IAmb 09 47 45.9
comp=Z,35nm,1.0s
MAT Matsushiro 26.26 237 P **P 09 47 34.4 +0.9**
MAT *e* S **S 09 52 04.2 -0.9**
MJAR Matsushiro Arr 26.26 237 P **P 09 47 34.1 +0.5**
comp=Z,6.7nm,0.7s,baz=26,slow=7.7,SNR=36
SCRK Sand Creek 26.46 50 P **P 09 47 34.2 -1.0**
baz=274
CRQM Cirque 27.28 57 IAmb IAmb 09 48 01.1
comp=Z,24nm,0.9s
K27K Chicken 27.30 50 P **P 09 47 42.3 -0.3**
baz=276
EGAK Eagle 27.62 48 IAmb IAmb 09 47 52.3
comp=Z,14nm,0.8s
BOD Bodaibo 28.08 297 *eP* **P 09 47 49.7 +0.1**
BOD pmax pmax
comp=Z,5.0nm,1.0s
PCA Pinnacle 28.82 57 IAmb IAmb 09 48 01.1
comp=Z,16nm,0.6s
EPYK Eagle Plains 29.32 44 P **P 09 48 01.2 +0.6**
baz=276
INK Inuvik 30.37 40 P **P 09 48 10.2 +0.4**
comp=Z,7.0nm,0.5s,baz=266,slow=6.3,SNR=20
INK Inuvik 30.37 40 P **P 09 48 09.8 0.0**
INK pmax pmax
comp=Z,8.0nm,0.6s
INK Inuvik 30.37 40 P **P 09 48 09.8 0.0**
INK IAmb IAmb 09 48 14.6
comp=Z,7.7nm,0.6s
KSRS Korea Array 30.89 251 P **P 09 48 16.2 +1.5**
comp=Z,5.2nm,0.8s,baz=45,slow=9.4,SNR=13
JIS Juneau Island 32.25 59 IAmb IAmb 09 48 35.2
comp=Z,10.0nm,0.8s
C36M Paulatuk 33.62 37 P **P 09 48 38.7 +0.4**
baz=282
H11N2 WAKE ISLAND Hy 35.23 178 T T 10 26 22.3
baz=359,slow=76,SNR=976
H11N3 WAKE ISLAND Hy 35.24 178 T T 10 26 31.1
baz=359,slow=76,SNR=564
H11N1 WAKE ISLAND Hy 35.24 178 T T 10 26 22.6
baz=359,slow=76,SNR=672
BJI Beijing 35.72 266 P **P 09 48 57.7 +0.9**
BJI pmax pmax
comp=Z,5.0nm,0.5s
ULN Ulaanbaatar 36.18 284 *ce* P **P 09 49 01.6 +0.7**
ULN pmax pmax
comp=Z,8.0nm,1.3s
ULN Ulaanbaatar 36.18 284 P **P 09 49 01.4 +0.5**
NRIK Noril'sk 36.22 324 P **P 09 49 01.7 +0.9**
comp=Z,3.1nm,0.6s,baz=79,slow=3.3,SNR=6.1
SONM Songino Array 36.57 284 P **P 09 49 05.8 +1.7**
comp=Z,7.0nm,0.6s,baz=58,slow=8.5,SNR=44
SONM PcP **PcP 09 51 26.8 -0.4**
comp=Z,1.0nm,0.4s,baz=82,slow=2.3,SNR=3.7
ZAK Zakamensk 36.90 289 *eP* **P 09 49 07.7 +0.8**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
HHC Hu-ho-hao-te 37.84 271 *eP* **P 09 49 15.8 +0.8**
HHC pmax pmax
comp=Z,11nm,0.8s
YKA Yellowknife Ar 39.56 46 P **P 09 49 29.1 +0.1**
comp=Z,4.1nm,0.5s,baz=296,slow=7.7,SNR=24
YKA PcP **PcP 09 51 35.6 -0.4**
comp=Z,0.8nm,0.6s,baz=312,slow=3.4,SNR=4.3
YKA ScP **ScP 09 55 24.3 +0.8**
comp=Z,1.0nm,0.9s,baz=302,slow=4.4,SNR=6.1
NJ2 Nanjing 39.88 254 *eP* **P 09 49 32.5 +0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
D03D Eldon 43.47 69 P **P 09 50 02.3 +1.1**
baz=308
WHN Wuhan 43.54 257 P **P 09 50 02.6 +0.7**
B05A Bryant 43.56 68 P **P 09 50 02.5 +0.6**
baz=307
D04E Lakebay 43.86 69 P **P 09 50 06.1 +1.8**
baz=308
XAN Xi'an 44.05 266 P **P 09 50 08.8 +2.7**
XAN pmax pmax
comp=Z,8.0nm,0.7s
D05A Enumclaw 44.27 69 P **P 09 50 08.9 +1.2**
D05A IAmb IAmb 09 50 09.9
comp=Z,10nm,0.6s
E04D Cinebar 44.35 70 P **P 09 50 09.6 +1.3**
baz=309
ZALV Zalesovo Beam 44.42 304 P **P 09 50 09.8 +1.1**
comp=Z,0.6nm,0.4s,baz=77,slow=6.4,SNR=3.5
ZALV PcP **PP 09 51 51.8 -0.3**
comp=Z,1.0nm,0.6s,baz=51,slow=3.6,SNR=4.0
B08A Colville Reser 44.96 66 P **P 09 50 13.1 -0.1**
B08A IAmb IAmb 09 50 16.8
comp=Z,7.4nm,0.7s
LZH Lanzhou 45.52 272 *eP* **P 09 50 22.5 +4.6**
LZH pP pwP 09 50 32.3 +3.1
LZH sP sP 09 50 37.1 +14
LZH pmax pmax
comp=Z,25nm,1.1s
LZH LR LR
comp=Z,1μm,13.8s
LZH LR LR
comp=Z,1μm,13.8s
LZH LR LR
comp=Z,1μm,14.6s
GTA Gaotai 45.54 278 ||P **P 09 50 19.2 +1.2**
GTA pP pwP 09 50 29.5 +0.1
GTA sP sP 09 50 33.4 +10
GTA pmax pmax
comp=Z,15nm,0.7s
DGZ Jazzator, Alta 45.67 297 *i* P **P 09 50 19.1 +0.1**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
SPA0 Spitsbergen Ar 45.75 352 P **P 09 50 18.0 -1.1**
SPA0 IAmb IAmb 09 50 23.0
comp=Z,16nm,0.9s
NEW Newport 46.18 65 P **P 09 50 23.0 +0.2**
baz=309
I04A Tendick Farm, 46.20 73 P **P 09 50 23.8 +0.8**
baz=311
I05D Terrebonne, OR 46.43 71 P **P 09 50 25.0 +0.1**
baz=311
ENH Enshi 46.50 262 P **P 09 50 26.1 +0.5**
J04D Umpqua Nationa 46.73 73 P **P 09 50 28.5 +1.1**
baz=311
E09A Wood Farm, Sta 46.75 67 P **P 09 50 27.4 +0.1**
E09A IAmb IAmb 09 50 28.0
comp=Z,8.0nm,0.8s
J05D Fort Rock, OR 47.18 72 P **P 09 50 32.1 +1.2**
baz=311,SNR=7.0
L04D Klamath Falls 47.29 74 P **P 09 50 32.8 +1.0**
baz=312
YBH Yreka Blue Hor 47.39 75 P **P 09 50 33.8 +1.3**
comp=Z,3.0nm,0.7s,baz=355,slow=6.4,SNR=11
M04C Macdoel 47.84 74 P **P 09 50 37.1 +1.0**
baz=312
MOD Modoc Plateau 48.61 73 IAmb IAmb 09 50 43.7
comp=Z,7.2nm,0.7s
O03E Paynes Creek 48.87 76 P **P 09 50 44.2 +0.3**
baz=313
CD2 Chengdu 49.30 267 P **P 09 50 48.5 +1.2**
CD2 pmax pmax
comp=Z,20nm,0.8s
WMQ Urumqi 49.32 291 *eP* **P 09 50 49.2 +1.9**
KURK Kurchatov 49.41 303 *ce* P **P 09 50 46.8 -0.9**
KURK pmax pmax
comp=Z,14nm,0.8s
KURK Kurchatov 49.41 303 P **P 09 50 47.4 -0.4**
EGMT Eagleton 50.10 61 P **P 09 50 53.6 +0.4**
baz=312
EGMT Eagleton 50.10 61 IAmb IAmb 09 50 57.7
comp=Z,9.9nm,1.0s
MK31 Makanchi Array 50.17 297 P **P 09 50 52.9 -0.8**
MK31 pmax pmax
comp=Z,4.0nm,1.1s
MK31 Makanchi Array 50.17 297 P **P 09 50 52.9 -0.8**
MKAR Makanchi Array 50.17 297 P **P 09 50 52.9 -0.8**
comp=Z,3.1nm,0.7s,baz=53,slow=6.3,SNR=19
HLID Hailey 50.69 68 P **P 09 50 58.1 +0.3**
baz=313
VCNR Virginia City 50.76 75 IAmb IAmb 09 51 02.5
comp=Z,6.5nm,0.7s
BOZ Bozeman (W) 50.77 64 P **P 09 50 58.8 +0.4**
baz=313
WAKR Walker 51.43 76 P **P 09 51 04.6 +1.1**
BRVK Borovoye 51.69 310 *ce* P **P 09 51 04.7 -0.3**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 51.69 310 P **P 09 51 04.8 -0.1**
BRVK IAmb IAmb 09 51 16.1
comp=Z,11nm,0.9s
KVN Kaiserville 51.79 74 IAmb IAmb 09 51 08.1
comp=Z,6.1nm,0.7s
YNE Yellowstone No 52.01 64 P **P 09 51 08.3 +0.5**
NVAR Mina Array Bea 52.11 75 P **P 09 51 09.7 +1.1**
comp=Z,3.6nm,0.6s,baz=306,slow=7.8,SNR=27
NVAR PcP **PcP 09 52 20.7 +0.3**
comp=Z,1.4nm,0.7s,baz=297,slow=4.0,SNR=2.3
H17A Grant Village 52.14 65 P **P 09 51 10.8 +2.0**
baz=314,SNR=5.9
H17A Grant Village 52.14 65 IAmb IAmb 09 51 11.8
comp=Z,5.7nm,0.7s
ELK Elko 52.18 71 P **P 09 51 09.5 +0.4**
comp=Z,1.5nm,0.8s,baz=306,slow=6.6,SNR=5.5
FLWY Flagg Ranch 52.29 65 IAmb IAmb 09 51 12.1
comp=Z,7.5nm,0.7s
RLMT Red Lodge 52.31 63 P **P 09 51 11.0 +1.0**
baz=314,SNR=15
RLMT Red Lodge 52.31 63 P **P 09 51 09.6 -0.5**
DGMT Dagmar 52.54 57 P **P 09 51 11.9 +0.4**
baz=314
LAO LASA Array 52.77 60 P **P 09 51 14.3 +1.1**
baz=314
SVE Sverdlovsk 53.03 318 *eP* **P 09 51 14.7 -0.2**
TIN Tinemaha, Big 53.13 76 P **P 09 51 17.5 +1.5**
baz=316
VES Vestal, Richgr 53.52 78 P **P 09 51 19.1 +0.4**
baz=316
CWC Cottonwood Cre 53.65 77 P **P 09 51 21.1 +1.1**
baz=316
R11A Troy Canyon, C 53.68 73 P **P 09 51 20.6 +0.5**
baz=316
BW06 Boulder Array 53.80 65 P **P 09 51 21.4 +0.3**
baz=315,SNR=7.3
BW06 Boulder Array 53.80 65 P **P 09 51 21.7 +0.7**
PD31 Pinedale Array 53.80 65 P **P 09 51 21.3 +0.2**
PDAR Pinedale Array 53.80 65 P **P 09 51 20.7 -0.3**
comp=Z,3.7nm,0.7s,baz=325,slow=2.8,SNR=22
DUG Dugway, Tooele 53.88 70 P **P 09 51 22.5 +1.0**
baz=315
ISA Isabella, Lake 53.99 78 P **P 09 51 23.7 +1.4**
baz=316
ARU Arti 54.11 319 *c i* P **P 09 51 22.6 -0.2**
ARU 09 52 25.4
ARU 09 53 21.6
ARU S **S 09 58 57.7 -0.4**
ARU SS **SS 10 02 36.4 -2.6**
ARU pmax pmax
comp=Z,12nm,1.1s
ARU Arti 54.11 319 P **P 09 51 22.1 -0.7**
ARU IAmb IAmb 09 51 25.7
comp=Z,11nm,1.0s
MPMC Manual Prospec 54.26 77 P **P 09 51 25.4 +0.9**
baz=316,SNR=6.0
TPNV Topopah Spring 54.31 75 P **P 09 51 25.6 +0.9**
baz=316,SNR=7.6
TPNV Topopah Spring 54.31 75 IAmb IAmb 09 51 40.0
comp=Z,10nm,1.1s
FURC Furnace Creek, 54.31 76 P **P 09 51 26.2 +1.7**
baz=316,SNR=9.1
FRB Frobisher Bay 54.43 26 P **P 09 51 23.1 -1.8**
comp=Z,4.2nm,0.5s,baz=326,slow=7.9,SNR=5.4
PRGR Permogore 54.48 329 *eP* **P 09 51 26.8 +1.4**
PRGR pmax pmax
comp=Z,12nm,0.7s
EDW2 Edwards Air Fo 54.83 78 P **P 09 51 29.2 +0.8**
baz=317
SHOC Shoshone, Teco 55.05 76 P **P 09 51 31.2 +1.3**
baz=317,SNR=6.0
ULM Lac du Bonnet 55.15 51 P **P 09 51 30.7 +0.3**
comp=Z,8.9nm,0.8s,baz=321,slow=7.7,SNR=5.9
ULM Lac du Bonnet 55.15 51 IAmb IAmb 09 51 31.6
comp=Z,7.7nm,0.8s
MDND Maddock 55.17 55 P **P 09 51 31.3 +0.7**
baz=316,SNR=5.5
GSC Goldstone, Bar 55.19 77 P **P 09 51 32.1 +1.0**
baz=317,SNR=8.8
GSC Goldstone, Bar 55.19 77 IAmb IAmb 09 51 32.9
comp=Z,6.5nm,0.7s
TMUT Trail Mountain 55.39 69 P **P 09 51 33.8 +1.1**
K22A Casper 55.46 64 P **P 09 51 33.6 +0.6**
baz=316
K22A Casper 55.46 64 IAmb IAmb 09 51 35.0
comp=Z,6.3nm,0.9s
BFSC Mount Baldy Ra 55.48 78 P **P 09 51 34.0 +0.8**
baz=317
TUQ Turquoise Moun 55.59 76 P **P 09 51 35.0 +1.1**
baz=317
RSSD Black Hills 55.67 61 P **P 09 51 35.0 +0.4**
baz=316
RSSD Black Hills 55.67 61 P **P 09 51 34.4 -0.2**
RSSD pmax pmax
comp=Z,8.0nm,0.6s
RSSD Black Hills 55.67 61 P **P 09 51 34.4 -0.2**
RSSD IAmb IAmb 09 51 35.9
comp=Z,7.6nm,0.6s
RWWY Rawlins 55.79 65 IAmb IAmb 09 51 35.8
comp=Z,6.4nm,0.8s
BBRC Big Bear Solar 55.88 78 P **P 09 51 37.0 +0.8**
baz=317
GMRC Granite Mounta 56.21 76 P **P 09 51 39.4 +1.0**
baz=317,SNR=7.1
O20A White River Ci 56.37 67 P **P 09 51 40.3 +0.7**
baz=316,SNR=19
AGMN Agassiz Nation 56.58 52 P **P 09 51 40.7 0.0**
baz=317,SNR=5.7
AGMN Agassiz Nation 56.58 52 IAmb IAmb 09 51 41.8
comp=Z,7.7nm,0.8s
BELC Belle Mtn. Jos 56.59 77 P **P 09 51 41.4 +0.2**
baz=318
PFO Pinyon Flats O 56.62 78 P **P 09 51 40.8 -0.5**
comp=Z,2.5nm,0.7s,baz=320,slow=6.0,SNR=8.5
PFO Pinyon Flats O 56.62 78 P **P 09 51 41.1 -0.3**
baz=318
PFO Pinyon Flats O 56.62 78 P **P 09 51 40.5 -0.8**
PFO pmax pmax
comp=Z,3.0nm,0.8s
PFO Pinyon Flats O 56.62 78 P **P 09 51 40.5 -0.8**
IRM Iron Mountain 56.96 76 P **P 09 51 44.5 +0.9**
baz=318,SNR=5.8
N23A Red Feather La 57.03 65 P **P 09 51 45.3 +1.0**
baz=317,SNR=8.1
N23A Red Feather La 57.03 65 IAmb IAmb 09 51 46.3
comp=Z,8.8nm,0.7s
AAK Ala-Archa 57.05 298 *ce* P **P 09 51 44.2 -0.1**
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 57.05 298 P **P 09 51 43.6 -0.7**
AAK IAmb IAmb 09 52 02.0
comp=Z,8.1nm,1.1s
BC3 Big Chuckawall 57.15 77 P **P 09 51 45.4 +0.2**
baz=318
PV14 Lion Creek, Pa 57.23 69 IAmb IAmb 09 51 56.3
comp=Z,18nm,1.4s
PV22 Blue Mesa, Par 57.24 68 IAmb IAmb 09 51 52.5
comp=Z,8.8nm,0.7s
PV04 Paradox Valley 57.28 69 IAmb IAmb 09 51 57.7
comp=Z,10nm,0.8s
PV20 West Nyswonger 57.29 69 IAmb IAmb 09 51 52.8
comp=Z,6.8nm,0.8s
PV19 Morning Glory 57.30 69 IAmb IAmb 09 51 53.6
comp=Z,8.1nm,0.8s
PV16 Nyswonger Mesa 57.34 69 IAmb IAmb 09 52 06.1
comp=Z,9.9nm,0.9s
PV07 Paradox Valley 57.39 68 P **P 09 51 47.9 +1.1**
PV07 IAmb IAmb 09 52 00.6
comp=Z,9.5nm,0.7s
PV18 Skein Mesa, Pa 57.39 69 IAmb IAmb 09 51 58.4
comp=Z,9.1nm,0.8s
PDMCI Parker Dam,Lak 57.41 76 P **P 09 51 47.7 +1.0**
baz=318
PV03 Paradox Valley 57.41 69 IAmb IAmb 09 51 48.8
comp=Z,7.0nm,0.8s
B35A Bob, Littlefor 57.49 51 IAmb IAmb 09 51 57.3
comp=Z,13nm,1.5s
PV02 Paradox Valley 57.51 69 IAmb IAmb 09 52 01.3
comp=Z,7.6nm,0.7s
SUSD Miller 57.95 57 P **P 09 51 51.1 +0.6**
baz=318
ISCO Idaho Springs 58.00 65 P **P 09 51 52.4 +1.1**
baz=317
WUAZ Wupatki 58.05 73 P **P 09 51 52.7 +1.2**
baz=318
WUAZ Wupatki 58.05 73 P **P 09 51 52.1 +0.6**
MVCO Mesa Verde 58.37 69 P **P 09 51 54.7 +1.0**
baz=318
MVCO Mesa Verde 58.37 69 IAmb IAmb 09 51 59.0
comp=Z,3.7nm,0.7s
KSH Kashi 58.57 295 *eP* **P 09 51 58.5 +3.5**
KK31 Karatay Array 58.69 301 IAmb IAmb 09 51 59.2
comp=Z,5.0nm,0.8s
KKAR Karatay Array 58.69 301 IAmb IAmb 09 51 59.2
comp=Z,5.0nm,0.8s
EYMN Ely 58.80 50 P **P 09 51 56.4 +0.1**
baz=319,SNR=8.3
S22A 4UR Ranch, Cre 58.87 68 P **P 09 51 58.8 +1.5**
baz=318,SNR=9.2
S22A 4UR Ranch, Cre 58.87 68 IAmb IAmb 09 51 59.8
comp=Z,4.4nm,0.7s
FINES FINESS Array B 59.57 339 P **P 09 51 59.9 -1.5**
comp=Z,6.3nm,0.8s,baz=23,slow=8.7,SNR=10
SDCO Great Sand Dun 59.57 67 P **P 09 52 03.0 +0.8**
baz=318
SDCO Great Sand Dun 59.57 67 P **P 09 52 02.6 +0.4**
ECSD EROS Data Cent 59.60 56 P **P 09 52 01.7 -0.3**
KSCO Kaye Shedlock' 60.13 64 P **P 09 52 06.3 +0.4**
baz=319
SHL Shillong 60.17 273 P **P 09 52 05.0 -1.3**
SHL pmax pmax
comp=Z,7.0nm,0.6s
SHL Shillong 60.17 273 P **P 09 52 05.0 -1.3**
SPMN Marine on St. 60.27 53 P **P 09 52 06.7 +0.3**
baz=320
SPMN Marine on St. 60.27 53 IAmb IAmb 09 52 17.0
comp=Z,10.0nm,1.1s
T25A Trinidad 60.60 67 P **P 09 52 10.1 +1.0**
baz=319
T25A Trinidad 60.60 67 IAmb IAmb 09 52 10.9
comp=Z,5.8nm,0.9s
ANMO Albuquerque 61.15 70 P **P 09 52 13.8 +0.9**
comp=Z,1.8nm,0.7s,baz=333,slow=7.4,SNR=9.8
ANMO Albuquerque 61.15 70 P **P 09 52 13.3 +0.4**
baz=319
ANMO Albuquerque 61.15 70 P **P 09 52 13.6 +0.6**
CHTO Chiang Mai 61.39 262 P **P 09 52 15.1 +0.7**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 61.39 262 P **P 09 52 15.1 +0.7**
CHTO IAmb IAmb 09 52 16.0

comp=Z,6.5nm,0.9s
CMAR Chiang Mai Arr 61.67 262 P **P** **09 52 17.3 +1.0**
comp=Z,2.9nm,0.6s,baz=24,slow=7.1,SNR=12
GAR Garm 61.87 298 P **P** **09 52 17.5 -0.1**
SIJI Sorong 62.37 219 P **P** **09 52 22.1 +1.2**
comp=Z,31nm,0.9s,baz=11,slow=6.1,SNR=6.1
NC405 NORSAR Array S 62.39 346 P **P** **09 52 20.2 -0.3**
NC405 IAmb IAmb 09 52 35.8
comp=Z,11nm,1.1s
SCHQ Schefferville 62.41 31 P **P** **09 52 20.1 -0.7**
comp=Z,3.9nm,0.5s,baz=344,slow=6.1,SNR=11
SCHQ Schefferville 62.41 31 IAmb IAmb 09 52 20.8
comp=Z,4.6nm,0.8s
NB2 NORSAR Subarra 62.53 346 P **P** **09 52 20.8 -0.7**
comp=Z,1.3nm,0.5s,baz=16,slow=6.9
NOA NORSAR Array B 62.53 346 P **P** **09 52 21.0 -0.5**
comp=Z,3.4nm,0.8s,baz=13,slow=6.7,SNR=24
OBN Obninsk 62.56 330 eP **P** **09 52 22.0 +0.3**
OBN e 09 52 43.5
OBN e 09 53 01.9
OBN e 09 54 39.7
OBN pmax pmax
comp=Z,8.0nm,1.1s
SCIA State Center 62.62 56 P **P** **09 52 22.6 +0.2**
baz=321,SNR=5.9
CHGR Chuyangaron 62.71 299 P **P** **09 52 22.2 -1.0**
D46A Sault St. Mari 62.81 46 P **P** **09 52 22.1 -1.5**
baz=323
MATQ Matagami 63.03 40 P **P** **09 52 23.7 -1.3**
baz=325
D47A Chapleau 63.07 46 P **P** **09 52 23.9 -1.5**
baz=323
KSU1 Kansas State U 63.12 60 P **P** **09 52 24.8 -1.0**
baz=320
JFWS Jewell Farm 63.22 53 P **P** **09 52 25.7 -0.7**
baz=322
JFWS Jewell Farm 63.22 53 IAmb IAmb 09 52 36.3
comp=Z,5.4nm,0.8s
E47A Iron Bridge 63.48 46 P **P** **09 52 26.8 -1.3**
baz=323,SNR=6.5
D48A Paudash Townsh 63.50 45 P **P** **09 52 26.5 -1.7**
baz=324
D49A Beulah Townshi 63.61 44 P **P** **09 52 27.5 -1.4**
baz=324
LSQQ Lebel-sur-Quev 63.85 41 P **P** **09 52 29.3 -1.2**
baz=325
MSTX Muleshoe 63.87 68 P **P** **09 52 31.3 +0.4**
baz=320
E48A Lockeyer 63.92 45 P **P** **09 52 29.6 -1.3**
baz=324
CHGQ Chibougamau 64.10 38 P **P** **09 52 30.7 -1.4**
baz=326
MNTX Cornudas Mount 64.20 71 P **P** **09 52 34.2 +1.1**
baz=320,SNR=7.0
MNTX Cornudas Mount 64.20 71 IAmb IAmb 09 52 43.4
comp=Z,5.1nm,0.8s
P38A Dawn 64.23 57 IAmb IAmb 09 52 33.4
comp=Z,5.9nm,0.6s
F48A Evansville 64.25 46 P **P** **09 52 31.5 -1.6**
baz=324
D50A G1974 Best Tow 64.30 43 P **P** **09 52 31.7 -1.7**
baz=325
NIL Nilore 64.42 292 P **P** **09 52 35.1 +0.6**
NIL pmax pmax
comp=Z,14nm,0.9s
NIL Nilore 64.42 292 P **P** **09 52 35.1 +0.6**
E50A Wahnapitae 64.54 45 P **P** **09 52 33.6 -1.5**
baz=324
D51A Lot 18 Range I 64.55 43 P **P** **09 52 33.7 -1.3**
baz=325
F49A Sandfield 64.55 46 P **P** **09 52 33.7 -1.4**
baz=324
L44A Lake County Fo 64.87 52 P **P** **09 52 36.8 -0.4**
baz=323
E51A G1948 Merrick 64.95 44 P **P** **09 52 35.8 -1.9**
baz=325
D52A ZEK Kipawa Sen 65.02 43 P **P** **09 52 36.5 -1.7**
baz=325
P40A Paris 65.02 56 IAmb IAmb 09 52 38.7
comp=Z,6.8nm,0.7s
D53A Lac Vacive, Po 65.21 42 P **P** **09 52 37.6 -1.8**
baz=326
D53A Lac Vacive, Po 65.21 42 IAmb IAmb 09 52 49.4
comp=Z,5.5nm,0.8s
WMOK Wichita Mounta 65.38 64 P **P** **09 52 40.8 +0.1**
baz=321,SNR=9.0
WMOK Wichita Mounta 65.38 64 IAmb IAmb 09 52 51.6
comp=Z,5.7nm,0.8s
E52A Mattawa 65.49 43 P **P** **09 52 39.4 -1.8**
baz=325
HDIL Hopedale 65.52 54 P **P** **09 52 41.0 -0.5**
baz=322,SNR=5.7
HDIL Hopedale 65.52 54 P **P** **09 52 40.8 -0.7**
D54A Lac Fusel, La 65.55 42 P **P** **09 52 40.1 -1.4**
baz=326
F52A Sundridge 65.63 44 P **P** **09 52 40.7 -1.4**
baz=325
E53A Dumoine, Ponti 65.80 43 P **P** **09 52 41.7 -1.5**
baz=326
E54A Lac Daplat, Po 65.94 42 P **P** **09 52 42.3 -1.8**
baz=326
TUL1 Leonard 66.00 61 P **P** **09 52 44.6 -0.1**
baz=322
D55A Sainte-Anne-du 66.11 41 P **P** **09 52 43.9 -1.3**
baz=327
H52A Wyevale 66.34 45 P **P** **09 52 45.3 -1.4**
baz=325
D56A ZEC Mazanza, M 66.35 40 P **P** **09 52 45.3 -1.4**
baz=327
G53A Haliburton 66.46 44 P **P** **09 52 46.2 -1.2**
baz=326
SADO Sadowa 66.54 45 P **P** **09 52 46.1 -1.9**
comp=Z,2.6nm,0.7s,baz=348,slow=6.3,SNR=4.1
ABTX Abilene, Hawle 66.57 66 P **P** **09 52 48.5 +0.1**
baz=322
ABTX Abilene, Hawle 66.57 66 IAmb IAmb 09 52 49.3
comp=Z,4.7nm,0.8s
HHAR Hobbs 66.64 60 IAmb IAmb 09 52 48.5
comp=Z,4.9nm,0.5s
SFIN Lafayette 66.67 53 P **P** **09 52 47.9 -1.0**
baz=323
E56A St. Veronique 66.67 41 P **P** **09 52 47.1 -1.7**
baz=327
D57A Chemin Vers le 66.70 40 P **P** **09 52 48.0 -1.0**
baz=328,SNR=6.5
MGMO Mountain Grove 66.78 58 IAmb IAmb 09 52 49.6
comp=Z,6.6nm,0.6s
H53A Bobcaygeon 66.93 44 P **P** **09 52 48.3 -2.2**
baz=326
TX32 Lajitas Array 66.96 72 P **P** **09 52 51.6 +0.6**
TX32 IAmb IAmb 09 52 52.5
comp=Z,5.0nm,0.8s
TXAR Lajitas Array 66.97 72 P **P** **09 52 51.7 +0.6**
comp=Z,3.7nm,0.6s,baz=300,slow=4.3,SNR=55
G55A Calabogie 67.10 43 P **P** **09 52 49.5 -2.1**
baz=327
E57A Chemin Saint G 67.12 40 P **P** **09 52 50.4 -1.2**
baz=328
U40A Yellville 67.12 59 P **P** **09 52 50.8 -1.1**
baz=322
U40A Yellville 67.12 59 IAmb IAmb 09 53 02.0
comp=Z,5.2nm,0.8s
T42A Van Buren 67.45 57 IAmb IAmb 09 52 53.6
comp=Z,4.1nm,0.6s
E58A La Victoria 67.47 40 P **P** **09 52 52.9 -1.0**
baz=328
H55A Tweed 67.51 43 P **P** **09 52 53.0 -1.1**
baz=326
OLIL Olney 67.52 54 IAmb IAmb 09 52 56.5
comp=Z,7.0nm,0.9s
W39A Magazine 67.58 61 P **P** **09 52 54.3 -0.4**
baz=322
I55A Frankford 67.59 44 P **P** **09 52 53.0 -1.6**
baz=326
H56A Elgin 67.83 43 P **P** **09 52 54.1 -2.0**
baz=327
FCAR Ozark Folk Cen 67.85 59 P **P** **09 52 55.3 -1.1**
D61A St Aubert, Com 67.88 37 P **P** **09 52 55.4 -1.0**
baz=329
G57A Newington 67.90 42 P **P** **09 52 55.0 -1.5**
baz=327
PBMO Poplar Bluff 67.97 57 IAmb IAmb 09 52 57.5
comp=Z,7.2nm,0.6s
O49A Covington 68.07 51 IAmb IAmb 09 53 08.1
comp=Z,7.0nm,0.8s
F59A Saint Guilaume 68.10 40 P **P** **09 52 57.0 -0.7**
baz=328
E60A Ste Agathe de 68.14 39 P **P** **09 52 57.1 -1.0**
baz=329
JCT Junction City 68.16 68 P **P** **09 52 58.4 -0.1**
baz=322
JCT Junction City 68.16 68 IAmb IAmb 09 53 08.2
comp=Z,5.1nm,0.8s
MIAR Mount Ida 68.19 61 P **P** **09 52 58.2 -0.4**
baz=323
WHAR Woolly Hollow 68.25 59 IAmb IAmb 09 53 08.9
comp=Z,5.6nm,0.8s
J55A Hilton 68.32 45 P **P** **09 52 57.4 -1.8**
baz=326
N51A Ashland 68.34 49 P **P** **09 52 58.6 -0.9**
baz=325
W41B Gary Mavity, V 68.36 59 P **P** **09 52 58.7 -0.9**
baz=323
W41B Gary Mavity, V 68.36 59 IAmb IAmb 09 53 04.9
comp=Z,16nm,1.4s
D62A Allapoint, All 68.38 37 P **P** **09 52 59.1 -0.5**
baz=330
D62A Allapoint, All 68.38 37 P **P** **09 52 58.6 -0.9**
D62A IAmb IAmb 09 52 59.9
comp=Z,7.4nm,0.7s
ERPA Erie 68.38 47 P **P** **09 52 58.6 -1.0**
baz=326
PARMO Parma 68.39 57 P **P** **09 52 59.4 -0.4**
E61A Lac Etchemin 68.43 38 P **P** **09 52 59.2 -0.7**
baz=325
AKASG Malin Array Be 68.53 332 P **P** **09 52 59.4 -1.0**
comp=Z,2.0nm,0.5s,baz=27,slow=6.7,SNR=5.0
AKBB Malin Array Si 68.53 332 P **P** **09 52 59.7 -0.7**
AKBB pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 68.53 332 P **P** **09 52 59.7 -0.7**
E62A Clayton Lake 68.61 37 P **P** **09 53 00.4 -0.6**
baz=330
E62A Clayton Lake 68.61 37 P **P** **09 53 00.5 -0.6**
M53A WI Miller and 68.65 48 P **P** **09 53 01.1 -0.2**
baz=326,SNR=5.4
GEYT Alibeck 68.65 306 P **P** **09 53 01.4 -0.1**
comp=Z,3.3nm,0.6s,baz=3.7,slow=4.6,SNR=6.5
K55A Perry 68.67 45 P **P** **09 53 00.4 -1.1**
baz=326
J56A Wolcott 68.70 44 P **P** **09 53 00.2 -1.4**
baz=327
MMNY Mt. Morris Dam 68.73 45 IAmb IAmb 09 53 11.8
comp=Z,11nm,0.8s
WCI Wyandotte Cave 68.77 53 P **P** **09 53 01.8 -0.3**
baz=324
WCI Wyandotte Cave 68.77 53 P **P** **09 53 01.4 -0.7**
WCI pmax pmax
comp=Z,9.0nm,0.8s
WCI Wyandotte Cave 68.77 53 P **P** **09 53 01.4 -0.7**
WCI IAmb IAmb 09 53 12.8
comp=Z,8.6nm,0.8s
O51A Pataskala 68.87 50 P **P** **09 53 01.9 -0.8**
baz=325
L55A Hinsdale 68.97 46 P **P** **09 53 02.4 -0.9**
baz=326
K56A Middlesex 68.99 45 P **P** **09 53 01.6 -1.9**
baz=327
M54A Oil Creek Stat 69.02 47 P **P** **09 53 02.8 -0.8**
baz=326
GOF Gofitskoye 69.06 320 ⇑ eP **P** **09 53 04.8 +0.9**
I58A Old Forge 69.09 43 P **P** **09 53 03.3 -0.9**
baz=328
N53A Lisbon 69.10 48 P **P** **09 53 03.9 -0.3**
baz=326
E63A Oxbow 69.17 37 P **P** **09 53 02.7 -1.8**
baz=330
O52A Adamsville 69.24 49 P **P** **09 53 04.3 -0.7**
baz=326,SNR=6.9
J58A Remsen 69.25 43 P **P** **09 53 03.7 -1.4**
baz=328
N54A Moraine State 69.33 47 P **P** **09 53 04.5 -1.1**
baz=326
L56A Greenwood 69.37 45 P **P** **09 53 04.7 -1.2**
baz=327
E64A Bridgewater 69.37 36 P **P** **09 53 04.4 -1.3**
baz=331
O53A New Philadelph 69.40 49 P **P** **09 53 04.9 -1.2**
baz=326
M55A Ridgway 69.43 46 P **P** **09 53 05.4 -0.8**
baz=326
I59A Olmsteadville 69.43 42 P **P** **09 53 04.5 -1.7**
baz=328
J59A Pisco 69.47 42 P **P** **09 53 04.2 -2.2**
baz=328
P52A Corning 69.50 50 P **P** **09 53 05.2 -1.4**
baz=326
H61A Lyndonville 69.54 40 P **P** **09 53 06.5 -0.4**
baz=329
F63A Nahmakanta, Br 69.55 38 P **P** **09 53 06.2 -0.7**
baz=330
X43A Marvell 69.56 59 P **P** **09 53 07.3 +0.3**
baz=324
F64A Sherman 69.67 37 P **P** **09 53 06.4 -1.2**
baz=330
WVT Waverly 69.74 56 P **P** **09 53 08.1 -0.1**
baz=324
WVT Waverly 69.74 56 P **P** **09 53 07.9 -0.3**
WVT pmax pmax
comp=Z,8.0nm,0.6s
WVT Waverly 69.74 56 P **P** **09 53 07.9 -0.3**
WVT IAmb IAmb 09 53 09.0
comp=Z,8.0nm,0.6s
H62A Milan 69.79 40 P **P** **09 53 07.9 -0.5**
baz=329
NATX Nacogdoches 69.85 63 P **P** **09 53 09.0 +0.1**
baz=323
N55A Marion Center 69.91 47 P **P** **09 53 08.3 -0.9**
baz=327
K59A Cooperstown 69.92 43 P **P** **09 53 08.1 -1.1**
baz=328
N56A West Decatur 70.08 46 P **P** **09 53 09.4 -0.9**
baz=327
H63A New Sharon 70.12 39 P **P** **09 53 09.7 -0.6**
baz=330
L58A Harry Jones Me 70.14 44 P **P** **09 53 09.6 -0.9**
baz=328
KIV Kislovodsk 70.14 320 eP **P** **09 53 11.7 +1.1**
KIV pmax pmax
comp=Z,17nm,1.0s
M57A Sunshine Farm, 70.21 45 P **P** **09 53 10.1 -0.9**
baz=327
P54A Burton 70.25 49 P **P** **09 53 11.1 -0.2**
baz=326
O55A Ligonier 70.25 47 P **P** **09 53 10.5 -0.8**
baz=326
KBZ Khabaz 70.26 320 P **P** **09 53 10.8 -0.4**
comp=Z,5.4nm,0.9s,baz=234,slow=4.1,SNR=7.7
OXF Oxford 70.29 58 P **P** **09 53 10.7 -0.8**
baz=324
L59A Walton 70.33 43 P **P** **09 53 10.0 -1.8**
baz=328
Q53A Leroy 70.41 50 P **P** **09 53 11.7 -0.6**
baz=326
M58A Price's Panora 70.46 45 P **P** **09 53 11.1 -1.4**
baz=328
MCWV Mont Chateau 70.47 48 P **P** **09 53 12.0 -0.7**
baz=326
SSPA Standing Stone 70.49 46 P **P** **09 53 12.1 -0.6**
baz=327
G65A Princeton 70.52 37 P **P** **09 53 12.3 -0.5**
baz=331
N57A Milroy 70.53 46 P **P** **09 53 12.0 -0.9**
baz=327
V48A Smith Brothers 70.54 55 IAmb IAmb 09 53 13.7
comp=Z,9.1nm,0.7s
PLAL Pickwick Lake 70.55 57 IAmb IAmb 09 53 23.1
comp=Z,8.8nm,0.8s
Q54A Cox Mills 70.61 49 P **P** **09 53 12.8 -0.6**
baz=326
P55A Reedsville 70.61 48 P **P** **09 53 12.8 -0.7**
baz=326
R53A Hurricane 70.65 50 P **P** **09 53 13.2 -0.5**
baz=326
H65A Eastbrook 70.72 38 P **P** **09 53 13.6 -0.5**
baz=331
GGN Saint George 70.84 36 P **P** **09 53 14.6 -0.2**
GGN IAmb IAmb 09 53 15.0
comp=Z,6.4nm,0.7s
Q55A Buckhannon 70.92 49 P **P** **09 53 15.4 0.0**
baz=326
O57A Amberson 70.95 46 P **P** **09 53 15.1 -0.4**
baz=327
H66A Whiting 70.97 37 P **P** **09 53 14.8 -0.7**
baz=331
P56A Dayton Farm, R 71.03 48 P **P** **09 53 15.4 -0.6**
baz=327
S53A Williamson 71.11 51 P **P** **09 53 15.9 -0.7**
baz=326
N59A State Game Lan 71.12 45 P **P** **09 53 15.8 -0.8**
baz=328
R54A Victor 71.20 50 P **P** **09 53 16.8 -0.3**
baz=326
TZTN Tazewell 71.41 53 P **P** **09 53 18.5 +0.1**
baz=326
R55A Marlinton 71.50 49 P **P** **09 53 18.4 -0.6**
baz=327
T53A Wise 71.50 52 P **P** **09 53 19.0 0.0**
baz=326
CLL Collm 71.61 342 *i* P **P** **09 53 21.1 +1.8**
comp=Z,9.0nm,1.2s
CLL Collm 71.61 342 *i* P **P** **09 53 21.1 +1.8**
CLL pmax pmax
comp=Z,9.0nm,1.2s
R56A Bull Pasture M 71.71 49 P **P** **09 53 19.4 -0.8**
baz=327
T54A Tazewell 71.87 51 P **P** **09 53 20.9 -0.3**
baz=326
DPC Dobruska-Polom 71.91 340 eP **P** **09 53 21.6 +0.4**
DPC Dobruska-Polom 71.91 340 eP **P** **09 53 21.6 +0.4**
Q58A Fox Den Farm, 71.99 47 P **P** **09 53 21.0 -0.9**
baz=327
R57A Stanardsville 72.18 48 P **P** **09 53 22.5 -0.4**
baz=327
MORC Moravsky Berou 72.20 339 eP **P** **09 53 25.4 +2.4**
U54A Nelsons Funny 72.21 51 P **P** **09 53 23.3 0.0**
baz=326
S56A Natural Bridge 72.25 49 P **P** **09 53 23.6 +0.2**
baz=327
W52A Murphy 72.42 54 IAmb IAmb 09 53 35.5
comp=Z,8.0nm,0.8s
S57A Dark Hollow, R 72.44 49 P **P** **09 53 24.7 +0.2**
baz=327
U55A TA2, Sparta 72.57 51 P **P** **09 53 25.3 -0.1**
baz=326
PRU Pruhonice 72.60 341 eP **P** **09 53 27.7 +2.5**
PRU Pruhonice 72.60 341 eP **P** **09 53 27.7 +2.5**
GOPC GO Pecny, Ondr 72.62 341 eP **P** **09 53 27.4 +2.0**
GOPC GO Pecny, Ondr 72.62 341 eP **P** **09 53 27.4 +2.0**
LRAL Lakeview Retre 72.65 57 P **P** **09 53 25.0 -0.8**
baz=325,SNR=5.8
LRAL Lakeview Retre 72.65 57 IAmb IAmb 09 53 26.0
comp=Z,7.6nm,0.6s
NKC Novy Kostel 72.74 342 eP **P** **09 53 28.2 +2.0**
NKC Novy Kostel 72.74 342 eP **P** **09 53 28.2 +2.0**
V54A Nebo 72.77 52 P **P** **09 53 26.4 -0.1**
baz=326,SNR=5.2
VRAC Vranov 72.84 339 eP **P** **09 53 29.4 +2.6**
T57A Hurt 72.95 49 P **P** **09 53 27.1 -0.4**
baz=327
U56A King 73.00 50 P **P** **09 53 27.9 0.0**
baz=327
V55A Taylorsville 73.03 51 P **P** **09 53 27.8 -0.3**
baz=327
JAVC Velka Javorina 73.05 338 eP **P** **09 53 31.5 +3.5**
KRUC Moravsky 73.12 339 eP **P** **09 53 30.8 +2.4**
VYHS Vyhne 73.14 338 eP **P** **09 53 28.2 -0.3**
VYHS Vyhne 73.14 338 eP **P** **09 53 28.2 -0.3**
W54A Cherokee Point 73.23 52 P **P** **09 53 29.0 -0.3**
baz=326
Y52A Lilburn 73.37 54 IAmb IAmb 09 53 41.2
comp=Z,9.2nm,0.8s
U57A Blanch 73.39 50 P **P** **09 53 30.1 0.0**
baz=327
V56A Mocksville 73.39 51 P **P** **09 53 30.1 -0.1**
baz=327
X54A Belton 73.59 53 P **P** **09 53 31.5 +0.2**
baz=326
KHC Kasperske Hory 73.60 341 *i* P **P** **09 53 31.1 -0.2**
KHC pmax pmax
comp=Z,10.0nm,1.1s
KHC Kasperske Hory 73.60 341 eP **P** **09 53 30.8 -0.5**
V57A Coltrane Farms 73.65 50 P **P** **09 53 31.4 -0.3**
baz=327
GEC2 GERESS Array S 73.85 341 P **P** **09 53 33.0 +0.2**
GERES GERESS Array B 73.85 341 P **P** **09 53 32.9 +0.1**
comp=Z,2.3nm,0.8s,baz=33,slow=6.3,SNR=13
250A Grady 73.87 57 P **P** **09 53 32.6 -0.4**
250A IAmb IAmb 09 53 33.9
comp=Z,7.9nm,0.7s
HODGE Hodges 73.91 53 IAmb IAmb 09 53 33.8
comp=Z,7.8nm,0.6s
X55A Gracelyn & Ava 73.99 52 P **P** **09 53 33.1 -0.6**
baz=327
V58A Windy Hill, Pi 74.02 50 P **P** **09 53 33.7 -0.1**
baz=327
GOGA Godfrey 74.03 54 P **P** **09 53 33.5 -0.4**
baz=326
152A Waverly Hall 74.05 56 IAmb IAmb 09 53 44.6
comp=Z,8.0nm,1.0s
U59A Littleton 74.12 49 P **P** **09 53 34.5 0.0**
baz=328
W57A Gilead 74.17 51 P **P** **09 53 34.4 -0.3**
baz=327
X56A White Oak 74.25 52 P **P** **09 53 34.8 -0.4**
baz=327
U60A Pendleton 74.30 48 P **P** **09 53 35.2 -0.2**
baz=328
CONA Conrad Observa 74.31 339 eP **P** **09 53 35.9 +0.5**
comp=Z,2.1nm,0.6s
Y55A Saluda 74.33 53 P **P** **09 53 36.0 +0.2**
baz=327
V59A Middlesex 74.43 49 P **P** **09 53 35.5 -0.7**
baz=328
V60A Jim Taylor Roa 74.85 49 P **P** **09 53 38.7 +0.1**
baz=328
W60A Pink Hill 75.26 49 P **P** **09 53 41.5 +0.5**
baz=328
X60A Albert Glenn T 75.54 50 P **P** **09 53 43.1 +0.4**
baz=328
KBA Koelnbreinsper 75.62 341 eP **P** **09 53 44.4 +1.3**
comp=Z,13nm,1.0s
SOKA Soboth 75.67 340 eP **P** **09 53 43.9 +0.5**
comp=Z,6nm,0.6s
WATA Walderalm 75.69 342 eP **P** **09 53 44.1 +0.6**
comp=Z,9.9nm,1.2s
WTTA Wattenberg 75.75 342 eP **P** **09 53 44.5 +0.6**
comp=Z,10nm,1.4s
MOTA Moosalm 75.77 342 eP **P** **09 53 44.2 +0.2**
comp=Z,2.7nm,0.8s
SQTA Sankt Quirin 75.87 342 eP **P** **09 53 45.1 +0.6**
comp=Z,6.8nm,0.9s
OBKA Obir 75.93 340 eP **P** **09 53 46.6 +1.7**
comp=Z,5.6nm,0.8s
MYKA Terra Mystica 75.99 340 eP **P** **09 53 46.8 +1.6**
comp=Z,1.6nm,0.6s
DAVA Damuels 76.03 343 eP **P** **09 53 46.7 +1.2**
comp=Z,6.0nm,1.1s
ABTA Abfaltersbach 76.09 341 eP **P** **09 53 46.1 +0.3**
comp=Z,4.8nm,0.7s
FETA Feichten 76.14 343 eP **P** **09 53 46.3 +0.2**
comp=Z,7.6nm,1.2s
PRED Cave del Predi 76.18 340 IAmb IAmb 09 53 49.3
comp=Z,8.0nm,1.1s
CTA Charters Tower 76.58 199 P **P** **09 53 48.2 -0.3**
comp=Z,4.6nm,0.8s,baz=7.8,slow=7.8,SNR=5.1
CTI Castel Tesino 76.92 342 P **P** **09 53 50.3 -0.2**
CTI pmax pmax
comp=Z,5.0nm,0.9s
CTI Castel Tesino 76.92 342 P **P** **09 53 50.3 -0.2**
BRTR Keskin Array B 77.08 324 P **P** **09 53 51.5 0.0**
comp=Z,1.4nm,0.7s,baz=98,slow=1.6,SNR=5.5
WB0 Warramunga Arr 79.07 210 IAmb IAmb 09 54 03.4
comp=Z,10nm,0.7s
WR0 Warramunga Arr 79.21 210 P **P** **09 54 02.9 -0.3**
WR0 IAmb IAmb 09 54 04.9
comp=Z,6.8nm,0.8s
WRAB Tennant Creek 79.24 210 *ce*P **P** **09 54 03.2 -0.2**
WRAB pmax pmax
comp=Z,34nm,2.5s
WB2 Warramunga Arr 79.25 210 P **P** **09 54 02.6 -0.8**
WB2 IAmb IAmb 09 54 04.4
comp=Z,12nm,0.8s
WRA Warramunga Arr 79.25 210 P **P** **09 54 03.4 0.0**
comp=Z,8.6nm,0.7s,baz=24,slow=5.8,SNR=62
MURB Monte Urbino 79.44 340 IAmb IAmb 09 54 09.9
comp=Z,12nm,1.0s
AS31 Alice Springs 82.90 209 P **P** **09 54 22.9 0.0**
ASAR Alice Springs 82.90 209 P **P** **09 54 23.4 +0.5**
comp=Z,12nm,0.8s,baz=16,slow=5.7,SNR=122
ESBB Sonseca Array 85.26 352 P **P** **09 54 35.1 +0.2**
ESDC Sonseca Array 85.27 352 P **P** **09 54 35.1 +0.2**
comp=Z,7.1nm,1.0s,baz=358,slow=5.0,SNR=24

STKA	**Stephens Creek**	**88.94**	**200**	P		**P**	09 54 52.0	-0.5
	comp=Z,3.7nm,0.7s,baz=332,slow=6.4,SNR=11							
STKA	**Stephens Creek**	**88.94**	**200**	P		**P**	09 54 52.0	-0.5
STKA	**Stephens Creek**	**88.94**	**200**	P		**P**	09 54 53.1	+0.7
VNDA	**Vanda**	**132.28**	**181**	PKP	**PKiKP**		10 01 11.1	-0.5
	comp=Z,0.6nm,0.5s,baz=227,slow=19,SNR=9.5							
PLCA	**Paso Flores**	**140.86**	**93**	PKP		**PKPdf**	10 01 27.8	+0.2
	comp=Z,1.2nm,0.8s,baz=189,slow=1.8,SNR=3.3							
PLCA	**Paso Flores**	**140.86**	**93**			**PKPdf**	10 01 28.9	+1.2
BOSA	**Boshof**	**141.17**	**296**	PKP	**PKiKP**		10 01 30.2	-1.1
	comp=Z,2.5nm,0.9s,baz=360,slow=5.0,SNR=3.6							
MAW	**Mawson**	**143.45**	**219**	PKP	PKPbc		10 01 29.7	+1.1
	comp=Z,2.1nm,0.6s,baz=72,slow=2.5,SNR=11							
MAW	**Mawson**	**143.45**	**219**		PKPbc		10 01 28.9	+0.3
QSPA	**South Pole Qui**	**144.75**	**180**			**PKPab**	10 01 30.9	-1.7
SNAA	**Sanae**	**162.54**	**192**	PKPab		**PKPab**	10 02 45.6	-1.2
VNA3	**Neumayer Olymp**	**163.56**	**185**	PKPab		**PKPab**	10 02 50.0	-1.3
VNA1	**Neumayer--Stat**	**164.06**	**188**	PKPab		**PKPab**	10 02 52.9	-0.5

IDC ***03*** *09:53:01.3±0.4, 55.°04N×165.°50E, h0km, mb4.6/32, mb1 4.8/35, mb1mx4.7/50, mbtmp4.6/35, ML4.5/3, MS4.1/1, Ms1 4.1/1, ms1mx3.5/62, Error ellipse: s-maj=13.5km s-min=9.2km az=150.0*

KRSC ***03*** *09:53:01.1±1.6, 54.°96N×165.°54E, h44km±15km, ML5.3, FELT [III] at Nikolskoe.*

BJI ***03*** *09:53:03.2±0.0, 55.°32N×165.°59E, h28km, mB5.3/21, mb4.8/46, Ms4.8/10, Ms7 4.5/11*

MOS ***03*** *09:53:05.4±0.9, 55.°04N×165.°40E, h43km, mb4.9/49, MS3.9/8, Error ellipse: s-maj=4.9km s-min=4.3km az=72.3*

BGR ***03*** *09:53:05.2±0.0, 54.°07N×166.°33E, h33km, mb4.8*

NEIC ***03*** *09:53:07.5±1.8, 55.°09N×0.°10×165.°5E±0.°1, h40km±5km, mb4.9/338, Error ellipse: s-maj=14.5km s-min=8.9km az=168.0*

ISC 03 09:53:05.2±0.5,**55.°02N**±0.°04×**165.°50E**±0.°03,**h25**km±3km, **h28**km:**pP-P,n769,**σ†**09**/709,**mb4.8**/247,**13C-4D**,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.33**	**55**	*eP*		**Pb**	09 53 10.1	-2.5
BKI				*eS*		**Sb**	09 53 15.4	-2.3
BKI	**Bering**	**0.33**	**55**	PN		**Pb**	09 53 10.1	-2.5
KBTR	**Krutoberegovo**	**1.94**	**309**	*eP*		**Pn**	09 53 33.7	-2.7
KBTR				*eS*		**Sn**	09 53 57.7	-2.1
KBTR	**Krutoberegovo**	**1.94**	**309**	PN		**Pn**	09 53 33.7	-2.7
KBTR				S		**Sn**	09 53 57.7	-2.1
KBG	**Krutoberegovo**	**2.01**	**309**	*eP*		**Pn**	09 53 35.1	-2.3
KBG				*eS*		**Sn**	09 54 00.0	-1.8
KBG	**Krutoberegovo**	**2.01**	**309**	PN		**Pn**	09 53 35.1	-2.3
KBG				S		**Sn**	09 54 00.0	-1.8
SMKR	**Semkarok**	**2.77**	**306**	*eP*		**Pn**	09 53 46.7	-1.2
SMKR	**Semkarok**	**2.77**	**306**	PN		**Pn**	09 53 46.7	-1.2
ZLN	**Zelenaya**	**2.85**	**292**	*eP*		**Pn**	09 53 49.5	+0.4
ZLN	**Zelenaya**	**2.85**	**292**	PN		**Pn**	09 53 49.5	+0.4
BDR	**Baidarnaya**	**2.88**	**304**	*eP*		**Pn**	09 53 48.8	-0.6
BDR	**Baidarnaya**	**2.88**	**304**	PN		**Pn**	09 53 48.8	-0.6
CIRR	**Tsirk**	**2.92**	**294**	*eP*		**Pn**	09 53 50.3	+0.3
CIRR	**Tsirk**	**2.92**	**294**	PN		**Pn**	09 53 50.3	+0.3
LGNR	**Loginova**	**2.94**	**293**	*eP*		**Pn**	09 53 50.5	+0.1
LGNR	**Loginova**	**2.94**	**293**	PN		**Pn**	09 53 50.5	+0.1
TUMD	**Tumrok D**	**2.94**	**276**	*eP*		**Pn**	09 53 50.2	0.0
TUMD				*eS*		**Sn**	09 54 25.0	+0.4
SRKR	**Sorokina**	**2.94**	**306**	*eP*		**Pn**	09 53 50.1	-0.2
SRKR	**Sorokina**	**2.94**	**306**	PN		**Pn**	09 53 50.1	-0.2
KZV	**Kizimen**	**3.00**	**274**	*eP*		**Pn**	09 53 50.8	-0.3
KZV				*eS*		**Sn**	09 54 26.0	-0.3
KZV	**Kizimen**	**3.00**	**274**	PN		**Pn**	09 53 50.8	-0.3
KZV				S		**Sn**	09 54 26.0	-0.3
BZWR	**Bezymyannyi-We**	**3.00**	**290**	*eP*		**Pn**	09 53 51.3	+0.1
BZWR	**Bezymyannyi-We**	**3.00**	**290**	PN		**Pn**	09 53 51.3	+0.1
KLY	**Klyuchi**	**3.04**	**297**	*eP*		**Pn**	09 53 50.2	-1.3
KLY				*eS*		**Sn**	09 54 25.3	-1.7
KLY	**Klyuchi**	**3.04**	**297**	PN		**Pn**	09 53 50.2	-1.3
KLY				S		**Sn**	09 54 25.3	-1.7
KRSR	**Krestovskiy**	**3.05**	**295**	*eP*		**Pn**	09 53 51.3	-0.5
KRSR	**Krestovskiy**	**3.05**	**295**	PN		**Pn**	09 53 51.3	-0.5
KIRR	**Kirishev**	**3.08**	**290**	*eP*		**Pn**	09 53 52.2	-0.1
KIRR				*eS*		**Sn**	09 54 28.8	+0.4
KIRR	**Kirishev**	**3.08**	**290**	PN		**Pn**	09 53 52.2	-0.1
KIRR				S		**Sn**	09 54 28.8	+0.4
TUMR	**Tumrok**	**3.08**	**277**	*eP*		**Pn**	09 53 52.5	+0.2
TUMR				*eS*		**Sn**	09 54 27.7	-0.7
TUMR	**Tumrok**	**3.08**	**277**	PN		**Pn**	09 53 52.5	+0.2
TUMR				S		**Sn**	09 54 27.7	-0.7
KMNR	**Kamenistaya**	**3.09**	**286**	*i* P		**Pn**	09 53 52.7	+0.3
KMNR				*eS*		**Sn**	09 54 28.5	-0.1
KMNR	**Kamenistaya**	**3.09**	**286**	PN		**Pn**	09 53 52.7	+0.3
KMNR				S		**Sn**	09 54 28.5	-0.1
SRDR	**Sredinnyy**	**3.53**	**294**	*eP*		**Pn**	09 53 58.7	+0.4
SRDR	**Sredinnyy**	**3.53**	**294**	PN		**Pn**	09 53 58.7	+0.4
KII	**Karymskiy**	**3.66**	**257**	*eP*		**Pn**	09 54 00.4	+0.2
KII				*eS*		**Sn**	09 54 41.6	-0.9
KII	**Karymskiy**	**3.66**	**257**	PN		**Pn**	09 54 00.4	+0.2
KII				S		**Sn**	09 54 41.6	-0.9
SPN	**Mys Shipunski**	**3.76**	**241**	*eP*		**Pn**	09 54 00.5	-0.9
SPN				*eS*		**Sn**	09 54 41.0	-3.8
SPN	**Mys Shipunski**	**3.76**	**241**	PN		**Pn**	09 54 00.5	-0.9
ESO	**Esso**	**3.98**	**286**	*eP*		**Pn**	09 54 04.1	-0.4
ESO	**Esso**	**3.98**	**286**	PN		**Pn**	09 54 04.1	-0.4
NLC	**Nalytchevo**	**4.07**	**245**	*eP*		**Pn**	09 54 05.3	-0.4
NLC				*eS*		**Sn**	09 54 50.0	-2.4
NLC	**Nalytchevo**	**4.07**	**245**	PN		**Pn**	09 54 05.3	-0.4
SDLR	**Sedlovina**	**4.26**	**249**	*eP*		**Pn**	09 54 08.6	+0.1
SDLR				*eS*		**Sn**	09 54 56.8	-0.6
SDLR	**Sedlovina**	**4.26**	**249**	PN		**Pn**	09 54 08.6	+0.1
SDLR				S		**Sn**	09 54 56.8	-0.6
SMAR	**Somma**	**4.31**	**249**	*eP*		**Pn**	09 54 09.6	+0.3
SMAR	**Somma**	**4.31**	**249**	PN		**Pn**	09 54 09.6	+0.3
KRER	**Koryakskii**	**4.32**	**249**	*eP*		**Pn**	09 54 09.9	+0.5
KRER				*eS*		**Sn**	09 54 57.8	-1.2
KRER	**Koryakskii**	**4.32**	**249**	PN		**Pn**	09 54 09.9	+0.5
KRER				S		**Sn**	09 54 57.8	-1.2
UGLR	**Uglovaya**	**4.33**	**248**	*eP*		**Pn**	09 54 09.5	+0.2
UGLR				*eS*		**Sn**	09 54 56.5	-2.5
UGLR	**Uglovaya**	**4.33**	**248**	PN		**Pn**	09 54 09.5	+0.2
AVH	**Avacha**	**4.35**	**249**	*eP*		**Pn**	09 54 10.1	+0.5
AVH				*eS*		**Sn**	09 54 58.2	-1.2
AVH	**Avacha**	**4.35**	**249**	PN		**Pn**	09 54 10.1	+0.5
AVH				S		**Sn**	09 54 58.2	-1.2
KRX	**Arik**	**4.35**	**250**	*eP*		**Pn**	09 54 10.1	+0.3
KRX				*eS*		**Sn**	09 54 58.6	-1.1
KRX	**Arik**	**4.35**	**250**	PN		**Pn**	09 54 10.1	+0.3
KRX				S		**Sn**	09 54 58.6	-1.1
KOK	**Koryaka**	**4.39**	**250**	*eP*		**Pn**	09 54 10.6	+0.4
KOK				*eS*		**Sn**	09 54 59.6	-0.9
KOK	**Koryaka**	**4.39**	**250**	PN		**Pn**	09 54 10.6	+0.4
KOK				S		**Sn**	09 54 59.6	-0.9
DALK	**Dalny**	**4.45**	**246**	*eP*		**Pn**	09 54 10.9	0.0
DALK				*eS*		**Sn**	09 54 59.0	-2.8
DALK	**Dalny**	**4.45**	**246**	PN		**Pn**	09 54 10.9	0.0
PET	**Petropavlovsk**	**4.50**	**247**	*i* P		**Pn**	09 54 12.3	+0.6
PET	**Petropavlovsk**	**4.50**	**247**	*e*PN		**Pn**	09 54 11.7	0.0
PET				pmax	pmax			
	comp=Z,579nm,0.8s							
PET				MLR	MLR			
	comp=Z,3μm,16.0s							
KRMR	**Karymshinskiy**	**4.88**	**246**	*eP*		**Pn**	09 54 16.6	-0.2
KRMR				*eS*		**Sn**	09 55 09.9	-2.4
KRMR	**Karymshinskiy**	**4.88**	**246**	PN		**Pn**	09 54 16.6	-0.2
RUS	**Russkaya**	**4.89**	**241**	*eP*		**Pn**	09 54 16.4	-0.6
RUS				*eS*		**Sn**	09 55 09.7	-3.0
RUS	**Russkaya**	**4.89**	**241**	PN		**Pn**	09 54 16.4	-0.6
PEA0B	**Petropavlovsk-**	**4.98**	**251**	PN		**Pn**	09 54 18.7	+0.5
PEA0B	**Petropavlovsk-**	**4.98**	**251**	Pn		**Pn**	09 54 18.7	+0.5
PETK	**Petropavlovsk-**	**4.98**	**251**	Pn		**Pn**	09 54 18.9	+0.7
	comp=Z,50nm,0.3s,baz=77,slow=18,SNR=230							
PETK				Sn		**Sn**	09 55 16.9	+2.0
	comp=Z,34nm,0.3s,baz=88,slow=27,SNR=3.9							
PETK				LR		LR	09 56 21.7	
	comp=Z,2μm,19.4s,baz=126,slow=40							
MTVR	**Mutnovka**	**5.03**	**243**	*eP*		**Pn**	09 54 19.2	+0.2
MTVR				*eS*		**Sn**	09 55 13.5	-2.9
MTVR	**Mutnovka**	**5.03**	**243**	PN		**Pn**	09 54 19.2	+0.2
GRL	**Gorelyy**	**5.05**	**244**	*i* P		**Pn**	09 54 20.1	+0.8
GRL				*eS*		**Sn**	09 55 14.1	-2.7
GRL	**Gorelyy**	**5.05**	**244**	PN		**Pn**	09 54 20.1	+0.8
PALN	**Palana**	**5.08**	**326**	*eP*		**Pn**	09 54 19.7	+0.2
PALN	**Palana**	**5.08**	**326**	PN		**Pn**	09 54 19.7	+0.2
ASAK	**Asacha**	**5.23**	**243**	*eP*		**Pn**	09 54 22.4	+0.7
ASAK				*eS*		**Sn**	09 55 18.7	-2.5
ASAK	**Asacha**	**5.23**	**243**	PN		**Pn**	09 54 22.4	+0.7
APC	**Apacha**	**5.35**	**250**	*eP*		**Pn**	09 54 24.1	+0.8
APC	**Apacha**	**5.35**	**250**	PN		**Pn**	09 54 24.1	+0.8
TILK	**Tilichiki**	**5.46**	**3**	*eP*		**Pn**	09 54 24.7	0.0
TILK	**Tilichiki**	**5.46**	**3**	PN		**Pn**	09 54 24.7	0.0
KDTR	**Khodutka, Kamc**	**5.48**	**237**	*eP*		**Pn**	09 54 24.5	-0.6
KDTR				*eS*		**Sn**	09 55 22.7	-4.5
KDTR	**Khodutka, Kamc**	**5.48**	**237**	PN		**Pn**	09 54 24.5	-0.6
SMY	**Shemya**	**5.58**	**111**	PN		**Pn**	09 54 27.8	+1.4
SMY	**Shemya**	**5.58**	**111**	Pn		**Pn**	09 54 27.8	+1.4
MIPR	**Malaya Ipel'ka**	**5.88**	**246**	*eP*		**Pn**	09 54 31.8	+1.2
MIPR	**Malaya Ipel'ka**	**5.88**	**246**	PN		**Pn**	09 54 31.8	+1.2
PAU	**Pauzhetka**	**6.31**	**239**	*eP*		**Pn**	09 54 36.6	+0.1
PAU				*eS*		**Sn**	09 55 46.8	-0.9
PAU	**Pauzhetka**	**6.31**	**239**	PN		**Pn**	09 54 36.6	+0.1
SKR	**Severo-Kuril's**	**7.15**	**236**	*eP*		**Pn**	09 54 46.7	-1.2
SKR				*eS*		**Sn**	09 56 03.9	-4.3
SKR	**Severo-Kuril's**	**7.15**	**236**	*e*PN		**Pn**	09 54 47.5	-0.4
SKR				pmax	pmax			
	comp=Z,32nm,0.4s							
SKR				pmax	pmax			
	comp=Z,400nm,5.7s							
SKR				MLR	MLR			
	comp=Z,900nm,14.0s							
SKR				MLR	MLR			
	comp=N,700nm,15.0s							
SKR				MLR	MLR			
	comp=E,700nm,12.0s							
ALID	**Alaid**	**7.31**	**239**	*eP*		**Pn**	09 54 50.5	+0.2
ALID	**Alaid**	**7.31**	**239**	PN		**Pn**	09 54 50.5	+0.2
KMSK	**Kamenskaya**	**7.48**	**3**	*eP*		**Pn**	09 54 52.2	-0.3
KMSK	**Kamenskaya**	**7.48**	**3**	PN		**Pn**	09 54 52.2	-0.3
AMKA	**Amchitka**	**9.05**	**108**			**Pn**	09 55 14.3	+0.3
ADK	**Adak**	**11.07**	**99**	PN		**Pn**	09 55 43.2	+1.5
ADK	**Adak**	**11.07**	**99**	Pn		**Pn**	09 55 43.1	+1.5
GSTR	**Great Sitkin T**	**11.35**	**97**	Pn		**Pn**	09 55 48.1	+2.7
ATKA	**Atka Island**	**12.37**	**95**	Pn		**Pn**	09 56 01.1	+1.7
BILL	**Bilibino**	**13.07**	**1**	*e*PN		**Pn**	09 56 09.0	0.0
BILL				pmax	pmax			
	comp=Z,32nm,1.7s							
BILL				MLR	MLR			
	comp=Z,2μm,15.0s							
GAMB	**Gambell**	**14.47**	**44**	Pn		**Pn**	09 56 27.8	-0.1
KUR	**Kuril'sk**	**14.92**	**236**	*eP*		**Pn**	09 56 34.6	+0.5
KUR				S		**Sn**	09 59 15.1	-3.3
KUR				pmax	pmax			
	comp=Z,41nm,0.9s							
KUR				pmax	pmax			
	comp=E,20nm,0.7s							
KUR				pmax	pmax			
	comp=N,18nm,0.8s							
UNV	**Unalaska Valle**	**16.29**	**83**	P		**P**	09 56 56.6	+1.9
UNV				IAmb	IAmb		09 57 06.7	
	comp=Z,67nm,1.0s							
YSS	**Yuzh-Sakhalins**	**16.38**	**250**	P		**P**	09 56 59.4	+3.6
YSS				pmax	pmax			
	comp=Z,48nm,1.2s							
YSS	**Yuzh-Sakhalins**	**16.38**	**250**	P		**P**	09 56 59.4	+3.6
AKUT	**Akutan**	**16.63**	**81**	P		**P**	09 56 59.3	+0.9
AKUT				IAmb	IAmb		09 57 08.7	
	comp=Z,93nm,1.0s							
YUK	**Yuzh-Kuril'sk**	**16.77**	**237**	P		**Pn**	09 56 54.7	-3.3
YUK				pmax	pmax			
	comp=Z,104nm,0.5s							
YUK				pmax	pmax			
	comp=N,66nm,0.6s							
YUK				pmax	pmax			
	comp=E,59nm,0.5s							
GRPR	**Tuman**	**16.84**	**237**	*eP*		**Pn**	09 56 57.7	-1.3
ANM	**Nome**	**17.33**	**45**	P		**P**	09 57 07.5	+1.4
ANM				pmax	pmax			
	comp=Z,57nm,1.2s							
ANM	**Nome**	**17.33**	**45**			**P**	09 57 07.5	+1.4
NMR	**Nemuro--Hokkai**	**17.33**	**236**	*eP*		**Pn**	09 57 00.4	-4.7
FALS	**False Pass**	**17.79**	**78**	P		**P**	09 57 12.8	+1.5
FALS				IAmb	IAmb		09 57 19.1	
	comp=Z,53nm,0.6s							
GRNR	**Gornyy**	**17.98**	**268**	*eP*		**P**	09 57 14.9	+1.4
GRNR				pmax	pmax			
	comp=Z,7.0nm,0.9s							
GRNR				MLR	MLR			
	comp=E,360nm,14.0s							
GRNR				MLR	MLR			
	comp=N,250nm,12.0s							
GRNR				MLR	MLR			
	comp=Z,660nm,15.0s							
JKA	**Kamikawa-asahi**	**18.34**	**243**	P		**Pn**	09 57 18.6	+1.1
JKA				IAmb	IAmb		09 57 30.9	
	comp=Z,74nm,1.0s							
ASAJ	**Asahikawa**	**18.34**	**243**	P		**Pn**	09 57 17.9	+0.4
	comp=Z,1.5nm,0.3s,baz=69,slow=12,SNR=14							
ASAJ	**Asahikawa**	**18.34**	**243**	P		**Pn**	09 57 18.6	+1.1
ASAJ				pmax	pmax			
	comp=Z,74nm,1.0s							
SDPT	**Sand Point**	**19.32**	**75**	P		**Pn**	09 57 29.7	+0.5
ERM	**Erimo**	**19.59**	**238**	P		**P**	09 57 31.7	+0.5
ERM				pmax	pmax			
	comp=Z,22nm,0.7s							
ERM	**Erimo**	**19.59**	**238**	P		**P**	09 57 31.7	+0.5
RDOG	**Red Dog Mine**	**19.62**	**36**	P		**Pn**	09 57 32.3	-0.4
RDOG				IAmb	IAmb		09 57 41.2	
	comp=Z,76nm,1.4s							
YAK	**Yakutsk**	**19.76**	**305**	P		**Pn**	09 57 34.0	-0.4
	comp=Z,0.1nm,0.3s,baz=110,slow=3.1,SNR=5.2							
YAK	**Yakutsk**	**19.76**	**305**	*eP*		**Pn**	09 57 34.6	+0.2
YAK				pmax	pmax			
	comp=Z,22nm,0.9s							
YAK				pmax	pmax			
	comp=N,8.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,18nm,1.3s							
YAK	**Yakutsk**	**19.76**	**305**	P		**Pn**	09 57 34.3	-0.2
TTA	**Tatalina**	**21.06**	**52**	P		**P**	09 57 48.4	+1.3
TTA				pmax	pmax			
	comp=Z,26nm,0.9s							
TTA	**Tatalina**	**21.06**	**52**	P		**P**	09 57 48.4	+1.3
SVW2	**Sparrevohn**	**21.21**	**58**	P		**P**	09 57 49.5	+0.9
KLR	**Kul'dur**	**21.37**	**268**	*ce*P		**P**	09 57 52.8	+2.4
KLR				pmax	pmax			
	comp=Z,12nm,1.1s							
TIXI	**Tiksi**	**22.81**	**331**	*ce*P		**P**	09 58 05.2	-0.3
TIXI				pmax	pmax			
	comp=Z,21nm,2.5s							
TIXI	**Tiksi**	**22.81**	**331**	P		**P**	09 58 06.0	+0.5
PPLA	**Purkeypile**	**22.81**	**53**	P		**P**	09 58 06.4	+0.6
PPLA				IAmb	IAmb		09 58 15.9	
	comp=Z,74nm,1.3s							
A21K	**Barrow**	**23.02**	**30**	S		**S**	10 02 14.9	-1.5
	baz=245							
KDAK	**Kodiak Island**	**23.09**	**66**	P		**P**	09 58 07.5	-1.1
	comp=Z,13nm,0.6s,baz=320,slow=2.5,SNR=16							
KDAK	**Kodiak Island**	**23.09**	**66**	P		**P**	09 58 07.7	-0.8
KDAK				pmax	pmax			
	comp=Z,30nm,1.2s							
KDAK	**Kodiak Island**	**23.09**	**66**	P		**P**	09 58 07.7	-0.8
BPAW	**Bear Paw Mtn.**	**23.38**	**50**	IAmb	IAmb		09 58 22.6	
	comp=Z,42nm,1.2s							
CNPM	**China Poot**	**23.49**	**61**	IAmb	IAmb		09 58 22.5	
	comp=Z,52nm,1.1s							
SUA	**Susitna One**	**23.53**	**56**	IAmb	IAmb		09 58 14.4	
	comp=Z,35nm,1.0s							
TRF	**Thorofare Moun**	**23.68**	**51**	IAmb	IAmb		09 58 23.9	
	comp=Z,28nm,0.8s							
CUT	**Chulitna**	**23.70**	**54**	P		**P**	09 58 15.4	+0.8
	baz=272							
COLD	**Coldfoot**	**24.01**	**42**	P		**P**	09 58 17.5	+0.1
	baz=262,SNR=53							
COLD				S		**S**	10 02 31.2	-1.4
	baz=262							
COLD	**Coldfoot**	**24.01**	**42**	IAmb	IAmb		09 58 19.3	
	comp=Z,40nm,1.0s							
USRK	**Ussuriysk Ar.**	**24.03**	**257**	P		**P**	09 58 16.8	-1.0
	comp=Z,3.6nm,0.7s,baz=54,slow=7.3,SNR=8.5							
O22K	**Cooper Landing**	**24.12**	**59**	P		**P**	09 58 19.0	+0.5
	baz=277							
O22K				S		**S**	10 02 36.0	+1.6
	baz=277							
NEA2	**Nenana**	**24.23**	**48**	P		**P**	09 58 19.5	-0.1
	baz=268,SNR=26							
NEA2				S		**S**	10 02 36.2	0.0
	baz=268							
MCK	**McKinley**	**24.28**	**51**	P		**P**	09 58 19.6	-0.4
MCK				pmax	pmax			
	comp=Z,40nm,1.0s							
MCK	**McKinley**	**24.28**	**51**	P		**P**	09 58 19.6	-0.4
MCK				IAmb	IAmb		09 58 34.4	
	comp=Z,40nm,1.0s							
SEW	**Seward**	**24.30**	**59**	IAmb	IAmb		09 58 26.8	
	comp=Z,30nm,1.0s							
TOLK	**Toolik Lake Re**	**24.49**	**39**	P		**P**	09 58 21.8	-0.1
	baz=259,SNR=33							
TOLK				S		**S**	10 02 40.5	+0.1
	baz=259							
TOLK	**Toolik Lake Re**	**24.49**	**39**	P		**P**	09 58 21.8	-0.1
TOLK				IAmb	IAmb		09 58 24.0	
	comp=Z,33nm,0.8s							
KNK	**Knik Glacier**	**24.63**	**56**	IAmb	IAmb		09 58 23.7	
	comp=Z,33nm,1.0s							
SML	**Sawmill**	**24.65**	**55**	IAmb	IAmb		09 58 30.0	
	comp=Z,43nm,1.1s							
TCOL	**CIGO, UAF Yank**	**24.76**	**48**	P		**P**	09 58 24.4	+0.1
	baz=269,SNR=13							
COLA	**College**	**24.76**	**48**	*c i*P		**P**	09 58 23.2	-1.1
COLA				pmax	pmax			
	comp=Z,26nm,1.1s							
COLA	**College**	**24.76**	**48**	P		**P**	09 58 24.6	+0.3
COLA				IAmb	IAmb		09 58 34.7	
	comp=Z,34nm,0.8s							
POKR	**Poker Plat Res**	**24.95**	**47**	P		**P**	09 58 25.8	-0.2
	baz=269,SNR=8.3							
POKR				S		**S**	10 02 46.8	-0.9
	baz=269							
DHY	**Denali Highway**	**25.00**	**52**	IAmb	IAmb		09 58 35.8	
	comp=Z,19nm,0.8s							
MDJ	**Mudanjiang**	**25.13**	**261**	P		**P**	09 58 28.2	+0.4
MDJ				pP	sP		09 58 38.0	+2.5
MDJ				sP	pwP		09 58 44.3	+2.2
MDJ				pmax	pmax			
	comp=Z,16nm,1.1s							
HDA	**Harding Lake**	**25.15**	**49**	P		**P**	09 58 27.3	-0.5
	baz=271,SNR=24							
HDA	**Harding Lake**	**25.15**	**49**	IAmb	IAmb		09 58 34.9	
	comp=Z,26nm,0.9s							
IL31		**25.17**	**48**	P		**P**	09 58 27.4	-0.6
IL31				IAmb	IAmb		09 58 35.7	
	comp=Z,31nm,0.8s							
ILAR	**Eielson Array**	**25.17**	**48**	P		**P**	09 58 27.4	-0.6
	comp=Z,16nm,0.8s,baz=258,slow=8.9,SNR=115							
M24K	**Tolsona, Glenn**	**25.64**	**54**	S		**S**	10 02 57.0	-1.8
	baz=276							
FID	**Fort Fidalgo**	**25.67**	**57**	IAmb	IAmb		09 58 46.1	
	comp=Z,43nm,1.0s							
KLU	**Klutina**	**25.83**	**56**	IAmb	IAmb		09 58 39.8	
	comp=Z,28nm,1.0s							
MJB9	**Matsu-Tunnel**	**26.26**	**237**	P		**P**	09 58 39.8	+1.6
MJB9				IAmb	IAmb		09 58 58.9	
	comp=Z,42nm,1.1s							
MAJO	**Matsushiro**	**26.26**	**237**	*d i*P		**P**	09 58 39.0	+0.8
MAJO				pmax	pmax			
	comp=Z,18nm,0.9s							
MAJO	**Matsushiro**	**26.26**	**237**	P		**P**	09 58 38.9	+0.8
MAJO				IAmb	IAmb		09 58 40.6	
	comp=Z,20nm,0.8s							
MAT	**Matsushiro**	**26.26**	**237**	P		**P**	09 58 39.4	+1.3
MAT				*e*S		**S**	10 03 08.9	0.0
MJAR	**Matsushiro Arr**	**26.26**	**237**	P		**P**	09 58 38.3	+0.2
	comp=Z,8.5nm,0.8s,baz=26,slow=7.3,SNR=31							
SCRK	**Sand Creek**	**26.46**	**50**	P		**P**	09 58 38.4	-1.4
	baz=274							
SCRK				S		**S**	10 03 10.0	-1.9
	baz=274							
CRQM	**Cirque**	**27.28**	**57**	IAmb	IAmb		09 59 02.7	
	comp=Z,35nm,1.0s							
K27K	**Chicken**	**27.30**	**50**	P		**P**	09 58 46.9	-0.3
	baz=276							
K27K				S		**S**	10 03 25.2	+0.4
	baz=276							

GTA sP pwP 10 01 37.8 +1.4
GTA pmax pmax
comp=Z,16nm,0.9s
H04D Lebanon 45.56 72 P **P 10 01 23.5 +1.0**
baz=310
DGZ Jazzator, Alta 45.65 297 *e*P **P 10 01 23.2 -0.2**
DGZ pmax pmax
comp=Z,6.0nm,1.2s
SPA0 Spitsbergen Ar 45.73 352 P **P 10 01 23.3 -0.2**
SPITS Spitsbergen Ar 45.73 352 P **P 10 01 23.3 -0.2**
comp=Z,13nm,0.7s,baz=102,slow=7.8,SNR=9.7
I03D Drain, OR 45.75 73 P **P 10 01 25.2 +1.2**
baz=311
H04A Detroit Lake 45.75 72 IAmb IAmb 10 01 35.7
comp=Z,14nm,1.2s
G05D Wamic, OR 45.87 70 P **P 10 01 25.9 +0.9**
baz=310
C09A Chrisman Ranch 45.87 66 IAmb IAmb 10 01 25.9
comp=Z,8.5nm,0.7s
NEW Newport 46.19 65 P **P 10 01 27.8 +0.3**
baz=309,SNR=7.7
I04A Tendick Farm, 46.21 73 P **P 10 01 28.5 +0.8**
baz=311
I05D Terrebonne, OR 46.44 71 P **P 10 01 30.2 +0.7**
baz=311
ENH Enshi 46.48 262 P **P 10 01 30.7 +0.7**
J04D Umpqua Nationa 46.73 73 P **P 10 01 33.3 +1.2**
baz=311
E09A Wood Farm, Sta 46.76 67 IAmb IAmb 10 01 33.2
comp=Z,10nm,0.8s
J05D Fort Rock, OR 47.19 72 P **P 10 01 36.9 +1.4**
baz=311,SNR=9.4
L04D Klamath Falls 47.30 74 P **P 10 01 37.3 +0.9**
baz=312
M02C Callahan 47.55 75 P **P 10 01 39.9 +1.6**
baz=312
F10A Beach Ranch, E 47.59 67 P **P 10 01 38.6 0.0**
F10A IAmb IAmb 10 01 53.0
comp=Z,14nm,1.4s
M04C Macdoel 47.85 74 P **P 10 01 41.5 +0.9**
baz=312
N02D Trinity Center 47.91 76 P **P 10 01 42.6 +1.5**
baz=313
ZSN Zaisan 48.40 296 *e*P **P 10 01 44.5 -0.2**
comp=Z,1.6nm,0.8s,baz=296
ZSN LR LR 10 22 40.9
comp=Z,91nm,12.7s,baz=296
ZSN Zaisan 48.40 296 *e*P **P 10 01 44.5 -0.2**
ZSN pmax pmax
comp=Z,2.0nm,0.8s
ZSN MLR MLR
comp=Z,91nm,13.0s
MOD Modoc Plateau 48.62 73 IAmb IAmb 10 01 48.5
comp=Z,9.7nm,0.6s
MSO Missoula 48.76 64 P **P 10 01 48.0 +0.4**
baz=311,SNR=6.5
MSO Missoula 48.76 64 IAmb IAmb 10 01 53.9
comp=Z,10nm,1.3s
O03E Paynes Creek 48.88 76 P **P 10 01 48.9 +0.4**
baz=313
CD2 Chengdu 49.29 267 ⇓ *i*P **P 10 01 52.4 +0.6**
CD2 pmax pmax
comp=Z,50nm,0.8s
WMQ Urumqi 49.30 291 *e*P **P 10 01 53.0 +1.3**
WMQ pP sP 10 02 02.9 +2.9
WMQ sP pwP 10 02 06.1 +0.5
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax
comp=Z,190nm,7.9s
WMQ LR LR
comp=Z,720nm,19.9s
WMQ LR LR
comp=Z,510nm,22.1s
WMQ LR LR
comp=Z,710nm,20.7s
FFC Flin Flon 49.37 50 P **P 10 01 52.4 +0.4**
FFC pmax pmax
comp=Z,11nm,1.1s
FFC Flin Flon 49.37 50 P **P 10 01 52.4 +0.4**
FFC IAmb IAmb 10 02 03.7
comp=Z,11nm,1.1s
KURK Kurchatov 49.39 303 *ce*P **P 10 01 51.4 -0.8**
KURK pmax pmax
comp=Z,27nm,1.7s
KURK Kurchatov 49.39 303 P **P 10 01 52.3 +0.1**
KURK IAmb IAmb 10 01 56.4
comp=Z,14nm,0.9s
FCC Fort Churchill 49.95 42 P **P 10 01 57.0 +0.7**
FCC pmax pmax
comp=Z,26nm,0.7s
FCC Fort Churchill 49.95 42 P **P 10 01 57.0 +0.7**
EGMT Eagleton 50.11 61 P **P 10 01 57.6 -0.2**
baz=312,SNR=6.0
EGMT Eagleton 50.11 61 IAmb IAmb 10 01 58.8
comp=Z,9.3nm,0.8s
MK31 Makanchi Array 50.15 297 P **P 10 01 57.5 -0.6**
MK31 pmax pmax
comp=Z,4.0nm,0.9s
MK31 Makanchi Array 50.15 297 P **P 10 01 57.5 -0.6**
MKAR Makanchi Array 50.15 297 P **P 10 01 57.6 -0.5**
comp=Z,1.9nm,0.6s,baz=56,slow=6.6,SNR=14
MAKZ Makanchi 50.30 297 P **P 10 01 59.0 -0.2**
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
MAKZ Makanchi 50.30 297 P **P 10 01 59.0 -0.2**
MAKZ IAmb IAmb 10 02 10.1
comp=Z,9.3nm,1.1s
PAHR Pah Rah Range 50.63 75 IAmb IAmb 10 02 08.9
comp=Z,14nm,1.4s
HLID Hailey 50.69 68 P **P 10 02 02.7 +0.3**
baz=313,SNR=7.1
VCNR Virginia City 50.77 75 IAmb IAmb 10 02 05.0
comp=Z,7.0nm,0.7s
BOZ Bozeman (W) 50.78 64 P **P 10 02 03.3 +0.3**
baz=313,SNR=12
GYA Guiyang 50.99 261 ⇑ P **P 10 02 06.2 +1.4**
GYA pP sP 10 02 16.0 +2.7
GYA pmax pmax
comp=Z,12nm,0.8s
SUMG Summit 51.61 9 *i* P **P 10 02 09.0 -0.1**
comp=Z,24nm,0.9s
SUMG Summit 51.61 9 P **P 10 02 09.1 -0.1**
SUMG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 51.61 9 P **P 10 02 09.1 -0.1**
SUMG IAmb IAmb 10 02 10.3
comp=Z,8.5nm,0.8s
BRVK Borovoye 51.67 310 *ce*P **P 10 02 09.7 +0.3**
BRVK pmax pmax
comp=Z,27nm,1.7s
BRVK Borovoye 51.67 310 P **P 10 02 10.9 +1.5**
BRVK IAmb IAmb 10 02 27.8
comp=Z,14nm,0.9s
KVN Kaiserville 51.80 74 IAmb IAmb 10 02 12.8
comp=Z,7.5nm,0.6s
RYN Ryan 51.86 75 IAmb IAmb 10 02 12.8
comp=Z,5.7nm,0.6s
NVAR Mina Array Bea 52.12 75 P **P 10 02 14.4 +1.2**
comp=Z,5.1nm,0.6s,baz=304,slow=7.8,SNR=63
H17A Grant Village 52.14 65 P **P 10 02 15.5 +2.1**
baz=314,SNR=9.7
H17A Grant Village 52.14 65 IAmb IAmb 10 02 27.1
comp=Z,14nm,1.1s
NV11 Mina Array Sit 52.20 75 P **P 10 02 14.8 +1.0**
IMW Indian Meadow 52.30 65 IAmb IAmb 10 02 21.6
comp=Z,20nm,1.3s
OMMB Old Mammoth Mi 52.31 76 P **P 10 02 15.9 +1.1**
RLMT Red Lodge 52.32 63 P **P 10 02 15.6 +0.9**
baz=314,SNR=20
ARCES ARCESS Array B 52.40 343 P **P 10 02 13.8 -0.8**
comp=Z,3.8nm,0.7s,baz=32,slow=9.3,SNR=11
DGMT Dagmar 52.54 57 P **P 10 02 16.4 +0.4**
baz=314
DGMT Dagmar 52.54 57 IAmb IAmb 10 02 16.9
comp=Z,9.2nm,0.7s
LAO LASA Array 52.78 60 P **P 10 02 18.9 +1.1**
baz=314,SNR=5.2
LAO LASA Array 52.78 60 IAmb IAmb 10 02 19.3
comp=Z,14nm,0.8s
SVE Sverdlovsk 53.01 318 *e*P **P 10 02 20.1 +0.8**
TIN Tinemaha, Big 53.14 76 P **P 10 02 22.3 +1.6**
baz=316
SPUT South Promonto 53.30 69 P **P 10 02 22.9 +1.0**
VES Vestal, Richgr 53.53 78 P **P 10 02 23.8 +0.4**
baz=316
CWC Cottonwood Cre 53.66 77 P **P 10 02 25.7 +1.1**
baz=316
R11A Troy Canyon, C 53.69 73 P **P 10 02 25.7 +0.9**
baz=316,SNR=11
PKM Mcpherson Peak 53.80 79 P **P 10 02 26.6 +0.9**
baz=317
BW06 Boulder Array 53.81 65 P **P 10 02 26.3 +0.7**
baz=315,SNR=16
BW06 Boulder Array 53.81 65 IAmb IAmb 10 02 37.3
comp=Z,10nm,1.1s
PD31 Pinedale Array 53.81 65 IAmb IAmb 10 02 37.3
comp=Z,9.5nm,1.1s
PDAR Pinedale Array 53.81 65 P **P 10 02 26.2 +0.6**
comp=Z,5.7nm,0.8s,baz=329,slow=3.1,SNR=56
DUG Dugway, Tooele 53.89 70 P **P 10 02 27.4 +1.2**
baz=315,SNR=8.6
DUG Dugway, Tooele 53.89 70 IAmb IAmb 10 02 38.8
comp=Z,8.8nm,1.1s
ISA Isabella, Lake 54.00 78 P **P 10 02 27.1 +0.2**
baz=316
ARU Arti 54.09 319 *c i*P **P 10 02 26.7 -0.5**
ARU 10 03 30.4
ARU 10 04 28.6
ARU S **S 10 10 02.5 +0.9**
ARU SS **SS 10 13 39.9 -2.6**
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 54.09 319 P **P 10 02 27.4 +0.3**
ARU IAmb IAmb 10 02 37.6
comp=Z,18nm,1.1s
SHLS Shalkode 54.11 296 *e*P **P 10 02 26.1 -1.6**
comp=Z,4.2nm,0.9s,baz=295
SHLS LR LR 10 25 51.7
comp=Z,156nm,15.9s,baz=295
SHLS Shalkode 54.11 296 *e*P **P 10 02 26.1 -1.6**
SHLS pmax pmax
comp=Z,4.0nm,0.9s
SHLS MLR MLR
comp=Z,156nm,16.0s
KMI Kunming 54.26 263 P **P 10 02 31.1 +2.0**
KMI pmax pmax
comp=Z,9.0nm,1.3s
MPMC Manual Prospec 54.27 77 P **P 10 02 29.9 +0.8**
baz=316,SNR=8.1
TPNV Topopah Spring 54.32 75 P **P 10 02 30.7 +1.3**
baz=316,SNR=15
TPNV Topopah Spring 54.32 75 P **P 10 02 30.6 +1.3**
TPNV pmax pmax
comp=Z,19nm,1.3s
TPNV Topopah Spring 54.32 75 P **P 10 02 30.6 +1.2**
TPNV IAmb IAmb 10 02 31.6
comp=Z,20nm,1.2s
FURC Furnace Creek, 54.32 76 P **P 10 02 30.5 +1.4**
baz=316
UZB Uzynbulak 54.34 296 *e*P **P 10 02 28.8 -0.6**
comp=Z,1.2nm,0.8s,baz=296
UZB Uzynbulak 54.34 296 *e*P **P 10 02 28.8 -0.6**
UZB pmax pmax
comp=Z,1.0nm,0.8s
TMCR Tamitsa 54.45 335 *e*P **P 10 02 27.3 -2.4**
TMCR pmax pmax
comp=Z,12nm,0.8s
PRGR Permogore 54.46 329 *e*P **P 10 02 26.7 -3.1**
PRGR *e**PP **sP 10 02 37.9 -1.3**
PRGR pmax pmax
comp=Z,13nm,0.5s
SATY Saty 54.72 296 *e*P **P 10 02 31.9 -0.3**
comp=Z,1.7nm,1.0s,baz=296
SATY Saty 54.72 296 *e*P **P 10 02 31.9 -0.3**
SATY pmax pmax
comp=Z,2.0nm,1.0s
SATY Saty 54.72 296 *e*P **P 10 02 31.9 -0.3**
SATY pmax pmax
comp=Z,2.0nm,1.0s
EDW2 Edwards Air Fo 54.84 78 P **P 10 02 34.0 +1.0**
baz=317
CHKK Chushkaly 54.89 298 *e*P **P 10 02 33.0 -0.2**
baz=298
CHKK Chushkaly 54.89 298 *e*P **P 10 02 32.9 -0.2**
SHOC Shoshone, Teco 55.06 76 P **P 10 02 36.0 +1.4**
baz=317,SNR=5.5
DECC Green Verdugo 55.10 79 P **P 10 02 35.8 +0.9**
baz=317
ULM Lac du Bonnet 55.16 51 P **P 10 02 34.7 -0.3**
comp=Z,9.6nm,0.8s,baz=304,slow=7.7,SNR=8.6
MDND Maddock 55.17 55 P **P 10 02 36.0 +0.9**
baz=316,SNR=6.8
KUU Kurty 55.19 298 *e*P **P 10 02 34.2 -1.2**
comp=Z,4.2nm,1.0s,baz=298
KUU LR LR 10 26 48.1
comp=Z,136nm,12.6s,baz=298
KUU Kurty 55.19 298 *e*P **P 10 02 34.1 -1.2**
KUU pmax pmax
comp=Z,4.0nm,1.0s
KUU MLR MLR
comp=Z,136nm,13.0s
GSC Goldstone, Bar 55.20 77 P **P 10 02 36.7 +1.1**
baz=317,SNR=11
GSC Goldstone, Bar 55.20 77 IAmb IAmb 10 02 37.6
comp=Z,12nm,0.8s
PASC Pasadena Art C 55.25 79 IAmb IAmb 10 02 37.4
comp=Z,9.1nm,0.8s
MWC Mount Wilson 55.28 79 IAmb IAmb 10 02 38.2
comp=Z,21nm,1.3s
MDOK Medeo 55.35 297 *e*P **P 10 02 36.2 -0.6**
baz=297
MDOK Medeo 55.35 297 *e*P **P 10 02 36.1 -0.6**
TMUT Trail Mountain 55.40 69 P **P 10 02 38.6 +1.4**
K22A Casper 55.47 64 P **P 10 02 38.8 +1.2**
baz=316
K22A Casper 55.47 64 IAmb IAmb 10 02 49.6
comp=Z,16nm,1.1s
BFSC Mount Baldy Ra 55.49 78 P **P 10 02 38.9 +1.1**
baz=317
BTLS Baital 55.52 301 *e*P **P 10 02 37.1 -0.7**
comp=Z,3.0nm,1.1s,baz=301
BTLS Baital 55.52 301 *e*P **P 10 02 37.0 -0.7**
BTLS pmax pmax
comp=Z,3.0nm,1.1s
FMP Fort Macarthur 55.52 79 P **P 10 02 38.4 +0.5**
baz=318
TUQ Turquoise Moun 55.59 76 P **P 10 02 39.6 +1.0**
baz=317,SNR=6.7
RSSD Black Hills 55.68 61 P **P 10 02 39.6 +0.4**
baz=316
RSSD Black Hills 55.68 61 P **P 10 02 39.9 +0.7**
RSSD pmax pmax
comp=Z,9.0nm,0.7s
RSSD Black Hills 55.68 61 P **P 10 02 39.9 +0.7**
RSSD IAmb IAmb 10 02 40.2
comp=Z,9.5nm,0.7s
RWWY Rawlins 55.80 65 IAmb IAmb 10 02 50.5
comp=Z,13nm,0.9s
HEC Hector,Ludlow 55.81 77 P **P 10 02 41.2 +1.2**
baz=317
BBRC Big Bear Solar 55.89 78 P **P 10 02 41.7 +0.9**
baz=317
GMRC Granite Mounta 56.22 76 P **P 10 02 44.4 +1.4**
baz=317,SNR=12
MURC Murrieta 56.22 78 P **P 10 02 43.7 +0.7**
baz=318
SGDS Sogindy 56.37 299 *e*P **P 10 02 43.7 -0.2**
comp=Z,3.8nm,1.3s,baz=299
SGDS Sogindy 56.37 299 *e*P **P 10 02 43.7 -0.2**
SGDS pmax pmax
comp=Z,4.0nm,1.3s
O20A White River Ci 56.38 67 P **P 10 02 45.2 +1.1**
baz=317,SNR=24
AGMN Agassiz Nation 56.58 52 P **P 10 02 45.6 +0.4**
baz=317,SNR=10
BELC Belle Mtn. Jos 56.60 77 P **P 10 02 46.5 +0.7**
baz=318,SNR=8.2
PFO Pinyon Flats O 56.63 78 P **P 10 02 46.4 +0.5**
baz=318
TPFO Pinon Flats 56.64 78 P **P 10 02 46.4 +0.4**
baz=318
KLMR Klimovskoe 56.83 332 *e*P **P 10 02 44.8 -2.0**
KLMR pmax pmax
comp=Z,13nm,0.9s
KLMR Klimovskoe 56.83 332 *e*P **P 10 02 44.8 -2.0**
KLMR AMP 10 02 49.9
comp=Z,13nm,0.9s
IRM Iron Mountain 56.97 76 P **P 10 02 49.4 +1.2**
baz=318,SNR=7.9
AAK Ala-Archa 57.03 298 *ce*P **P 10 02 48.5 -0.2**
AAK pmax pmax
comp=Z,8.0nm,1.3s
AAK Ala-Archa 57.03 298 P **P 10 02 48.8 +0.1**
AAK IAmb IAmb 10 03 00.5
comp=Z,9.2nm,0.9s
N23A Red Feather La 57.03 65 P **P 10 02 50.1 +1.2**
baz=317,SNR=12
PV21 Cone Mtn., Par 57.13 69 IAmb IAmb 10 02 54.9
comp=Z,11nm,0.7s
BC3 Big Chuckawall 57.16 77 P **P 10 02 49.8 +0.1**
baz=318
MONP2 Monument Peak 57.18 78 P **P 10 02 50.7 +0.7**
baz=318
PV14 Lion Creek, Pa 57.24 69 IAmb IAmb 10 03 10.2
comp=Z,10nm,1.0s
PV22 Blue Mesa, Par 57.25 68 IAmb IAmb 10 02 54.7
comp=Z,20nm,1.3s
PV19 Morning Glory 57.31 69 IAmb IAmb 10 02 57.9
comp=Z,10nm,0.9s
PV16 Nyswonger Mesa 57.34 69 IAmb IAmb 10 03 06.4
comp=Z,10nm,0.7s
PV07 Paradox Valley 57.40 68 IAmb IAmb 10 02 55.7
comp=Z,11nm,0.8s
PDMCI Parker Dam,Lak 57.42 76 P **P 10 02 52.5 +1.1**
baz=318,SNR=5.7
PV03 Paradox Valley 57.42 69 P **P 10 02 53.1 +1.5**
PV03 IAmb IAmb 10 02 53.6
comp=Z,9.3nm,0.8s
SWSC Sam W. Stewart 57.49 78 P **P 10 02 52.1 +0.2**
baz=318
B35A Bob, Littlefor 57.50 51 IAmb IAmb 10 03 02.7
comp=Z,6.3nm,0.8s
PV02 Paradox Valley 57.52 69 IAmb IAmb 10 02 59.6
comp=Z,10.0nm,0.9s
IKP In-Ko-Pah, Jac 57.54 78 P **P 10 02 52.9 +0.6**
baz=318
ISCO Idaho Springs 58.01 65 P **P 10 02 57.3 +1.5**
baz=317,SNR=18
ISCO Idaho Springs 58.01 65 IAmb IAmb 10 03 08.4
comp=Z,3.9nm,0.9s
WUAZ Wupatki 58.06 73 P **P 10 02 57.4 +1.3**
baz=318,SNR=6.6
WUAZ Wupatki 58.06 73 P **P 10 02 57.8 +1.7**
WUAZ IAmb IAmb 10 02 58.0
comp=Z,5.3nm,0.6s
MVCO Mesa Verde 58.38 69 P **P 10 02 59.4 +1.0**
baz=318
MVCO Mesa Verde 58.38 69 IAmb IAmb 10 03 05.5
comp=Z,6.8nm,0.8s
KSH Kashi 58.55 295 *e*P **P 10 03 03.6 +4.2**
KK31 Karatay Array 58.67 301 IAmb IAmb 10 03 15.9
comp=Z,7.1nm,0.8s
KKAR Karatay Array 58.67 301 IAmb IAmb 10 03 15.9
comp=Z,7.1nm,0.8s
EYMN Ely 58.80 50 P **P 10 03 01.1 +0.3**
baz=319,SNR=11
S22A 4UR Ranch, Cre 58.87 68 P **P 10 03 03.5 +1.6**
baz=318,SNR=14
S22A 4UR Ranch, Cre 58.87 68 IAmb IAmb 10 03 14.4
comp=Z,8.3nm,0.9s
W18A Petrified Fore 59.25 72 P **P 10 03 05.5 +1.1**
baz=318
W18A Petrified Fore 59.25 72 IAmb IAmb 10 03 17.2
comp=Z,9.3nm,1.1s
FINES FINESS Array B 59.55 339 P **P 10 03 05.5 -0.3**
comp=Z,5.5nm,0.7s,baz=38,slow=9.6,SNR=22
SDCO Great Sand Dun 59.58 67 P **P 10 03 07.7 +1.0**
baz=318,SNR=7.8
SDCO Great Sand Dun 59.58 67 P **P 10 03 07.5 +0.8**
ECSD EROS Data Cent 59.61 56 P **P 10 03 06.3 -0.2**
baz=319
ECSD EROS Data Cent 59.61 56 P **P 10 03 06.3 -0.2**
ECSD IAmb IAmb 10 03 17.2
comp=Z,13nm,1.3s
IUG luzhnay 59.62 301 *e*P **P 10 03 06.5 -0.3**
comp=Z,4.1nm,0.9s,baz=301
IUG LR LR 10 30 04.2
comp=Z,72nm,12.1s,baz=301
IUG luzhnay 59.62 301 *e*P **P 10 03 06.4 -0.3**
IUG pmax pmax
comp=Z,4.0nm,0.9s
IUG MLR MLR
comp=Z,72nm,12.0s
214A Organ Pipe Nat 59.91 76 P **P 10 03 09.8 +1.1**
baz=319
KSCO Kaye Shedlock' 60.14 64 P **P 10 03 11.1 +0.7**
baz=319
KSCO Kaye Shedlock' 60.14 64 IAmb IAmb 10 03 11.8
comp=Z,6.7nm,0.8s
SHL Shillong 60.16 273 P **P 10 03 09.7 -1.1**
SHL pmax pmax
comp=Z,8.0nm,0.7s
SHL Shillong 60.16 273 P **P 10 03 09.7 -1.1**
SHL IAmb IAmb 10 03 22.0
comp=Z,7.9nm,0.7s
SPMN Marine on St. 60.27 53 P **P 10 03 11.4 +0.3**
baz=320
SPMN Marine on St. 60.27 53 IAmb IAmb 10 03 22.1
comp=Z,7.8nm,0.7s
BGNE Belgrade 60.61 59 P **P 10 03 13.7 +0.3**
T25A Trinidad 60.61 67 P **P 10 03 14.8 +1.0**
baz=319
T25A Trinidad 60.61 67 P **P 10 03 13.4 -0.4**
BTK Batken 60.79 299 P **P 10 03 14.5 -0.3**
BTK pmax pmax
comp=Z,14nm,0.9s
BTK Batken 60.79 299 P **P 10 03 14.5 -0.3**
ANMO Albuquerque 61.16 70 P **P 10 03 18.4 +0.9**
baz=319
ANMO Albuquerque 61.16 70 *ce*P **P 10 03 17.5 0.0**
ANMO pmax pmax
comp=Z,3.0nm,0.8s
ANMO Albuquerque 61.16 70 P **P 10 03 17.8 +0.3**
COWI Conover 61.25 50 IAmb IAmb 10 03 28.2
comp=Z,6.6nm,0.9s
CHTO Chiang Mai 61.38 262 P **P 10 03 19.7 +0.9**
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CHTO Chiang Mai 61.38 262 P **P 10 03 19.7 +0.9**
CHTO IAmb IAmb 10 03 20.7
comp=Z,8.0nm,0.9s
Y22D IRIS PASSCAL I 61.57 71 P **P 10 03 22.2 +2.0**
baz=319
CMAR Chiang Mai Arr 61.66 262 P **P 10 03 21.1 +0.3**
comp=Z,2.3nm,0.3s,baz=23,slow=7.0,SNR=14
CMAR Chiang Mai Arr 61.66 262 *i* P **P 10 03 22.2 +1.4**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
BNM Barren Site 61.67 70 P **P 10 03 22.0 +1.0**
MOS Moscow 61.69 330 *e*P P 10 03 28.4 +7.9
MOS *e* 10 03 44.3
CBKS Cedar Bluff 61.77 62 P **P 10 03 21.5 +0.1**
baz=320
I40A Norwalk 62.30 52 IAmb IAmb 10 03 28.5
comp=Z,7.0nm,0.6s
319A Douglas 62.31 74 IAmb IAmb 10 03 27.4
comp=Z,15nm,1.3s
SIJI Sorong 62.37 219 P **P 10 03 25.9 +0.4**
comp=Z,32nm,0.8s,baz=355,slow=8.4,SNR=8.5
SCHQ Schefferville 62.41 31 P **P 10 03 24.9 -0.5**
comp=Z,4.9nm,0.7s,baz=348,slow=7.3,SNR=12
SCHQ Schefferville 62.41 31 P **P 10 03 24.4 -1.0**
NB201 NORSAR Array S 62.49 346 P **P 10 03 25.9 +0.1**
NB2 NORSAR Subarra 62.51 346 P **P 10 03 25.2 -0.8**
comp=Z,6.0nm,0.7s,baz=17,slow=6.9
NOA NORSAR Array B 62.51 346 P **P 10 03 25.4 -0.6**
comp=Z,3.0nm,0.6s,baz=16,slow=6.9,SNR=21
OBN Obninsk 62.54 330 *e*P **P 10 03 25.3 -0.8**
OBN *i* 10 03 34.8
OBN *e* 10 05 43.0
OBN *e*PPP PPP 10 07 10.5
OBN pmax pmax
comp=Z,5.0nm,1.0s
SCIA State Center 62.62 56 P **P 10 03 27.0 +0.1**
baz=321,SNR=6.3
KKM Kota Kinabalu 62.67 238 P **P 10 03 28.9 +1.2**
MATQ Matagami 63.03 40 P **P 10 03 28.5 -1.1**
baz=325
D47A Chapleau 63.07 46 P **P 10 03 28.5 -1.4**
baz=323,SNR=5.4
I42A Draeger Farm, 63.07 51 IAmb IAmb 10 03 40.5
comp=Z,6.9nm,0.8s
KSU1 Kansas State U 63.13 60 P **P 10 03 29.5 -0.9**
baz=320
KSU1 Kansas State U 63.13 60 IAmb IAmb 10 03 40.3
comp=Z,8.0nm,0.8s
JFWS Jewell Farm 63.23 53 P **P 10 03 30.2 -0.7**
baz=322
JFWS Jewell Farm 63.23 53 P **P 10 03 30.1 -0.8**
JFWS pmax pmax

comp=Z,6.0nm,0.7s
JFWS **Jewell Farm** **63.23** **53** P **P** **10 03 30.1 -0.8**
JFWS IAmb IAmb 10 03 41.0
comp=Z,6.2nm,0.7s
L40A **Anamosa** **63.44** **54** IAmb IAmb 10 03 32.5
comp=Z,6.2nm,0.6s
E47A **Iron Bridge** **63.48** **46** P **P** **10 03 31.3 -1.2**
baz=323,SNR=9.0
D48A **Paudash Townsh** **63.50** **45** P **P** **10 03 31.4 -1.3**
baz=324
LSQQ **Lebel-sur-Quev** **63.85** **41** P **P** **10 03 33.8 -1.2**
baz=326
MSTX **Muleshoe** **63.88** **68** P **P** **10 03 36.1 +0.6**
baz=320,SNR=5.5
MSTX **Muleshoe** **63.88** **68** IAmb IAmb 10 03 36.9
comp=Z,12nm,1.2s
E48A **Lockeyer** **63.92** **45** P **P** **10 03 34.0 -1.4**
baz=324,SNR=7.1
LPSR **Galich'ya Gora** **63.99** **327** *e*P **P** **10 03 34.0 -1.8**
LPSR pmax pmax
comp=Z,8.0nm,1.0s
CHGQ **Chibougamau** **64.10** **38** P **P** **10 03 34.8 -1.8**
baz=326
MNTX **Cornudas Mount** **64.21** **71** P **P** **10 03 38.7 +1.1**
baz=320,SNR=14
MNTX **Cornudas Mount** **64.21** **71** IAmb IAmb 10 03 39.7
comp=Z,8.1nm,0.9s
F48A **Evansville** **64.25** **46** P **P** **10 03 36.6 -1.1**
baz=324,SNR=6.6
VRH **Novokhopyorsk** **64.28** **325** *e*P P 10 03 31.9 -5.8
VRH pmax pmax
comp=Z,5.0nm,0.8s
D50A **G1974 Best Tow** **64.30** **43** P **P** **10 03 36.5 -1.4**
baz=325
NIL **Nilore** **64.40** **292** P **P** **10 03 38.6 -0.3**
NIL pmax pmax
comp=Z,22nm,0.9s
NIL **Nilore** **64.40** **292** P **P** **10 03 38.6 -0.3**
E50A **Wahnapitae** **64.54** **45** P **P** **10 03 38.0 -1.6**
baz=324
D51A **Lot 18 Range I** **64.55** **43** P **P** **10 03 38.0 -1.6**
baz=325
F49A **Sandfield** **64.55** **46** P **P** **10 03 38.4 -1.1**
baz=324,SNR=7.2
L44A **Lake County Fo** **64.87** **52** P **P** **10 03 41.3 -0.4**
baz=323
E51A **G1948 Merrick** **64.95** **44** P **P** **10 03 40.5 -1.7**
baz=325
D52A **ZEK Kipawa Sen** **65.02** **43** P **P** **10 03 41.3 -1.3**
baz=325
P40A **Paris** **65.03** **56** IAmb IAmb 10 03 53.4
comp=Z,13nm,1.0s
VSR **Storozhevoye** **65.11** **326** *e*P **P** **10 03 41.5 -1.6**
VSR pmax pmax
comp=Z,6.0nm,0.9s
D53A **Lac Vacive, Po** **65.21** **42** P **P** **10 03 42.9 -1.0**
baz=326,SNR=7.3
D53A **Lac Vacive, Po** **65.21** **42** IAmb IAmb 10 03 44.0
comp=Z,11nm,1.0s
F51A **Arnstein** **65.28** **44** P **P** **10 03 42.7 -1.6**
baz=325
WMOK **Wichita Mounta** **65.39** **64** P **P** **10 03 45.5 +0.3**
baz=321,SNR=12
WMOK **Wichita Mounta** **65.39** **64** IAmb IAmb 10 03 56.5
comp=Z,9.2nm,0.8s
J47A **Sumner** **65.40** **49** IAmb IAmb 10 03 54.4
comp=Z,10nm,0.8s
E52A **Mattawa** **65.49** **43** P **P** **10 03 44.2 -1.5**
baz=325
HDIL **Hopedale** **65.52** **54** P **P** **10 03 45.7 -0.2**
baz=323
D54A **Lac Fusel, La** **65.55** **42** P **P** **10 03 44.7 -1.4**
baz=326
F52A **Sundridge** **65.62** **44** P **P** **10 03 45.6 -1.0**
baz=325
E53A **Dumoine, Ponti** **65.80** **43** P **P** **10 03 46.2 -1.5**
baz=326
E54A **Lac Daplat, Po** **65.94** **42** P **P** **10 03 46.7 -1.9**
baz=326
ALGO **Algonquin Park** **66.00** **43** P **P** **10 03 47.3 -1.7**
baz=326
D55A **Sainte-Anne-du** **66.11** **41** P **P** **10 03 48.8 -0.8**
baz=327,SNR=6.1
P43A **Skaggs, Pawnee** **66.14** **55** IAmb IAmb 10 03 50.5
comp=Z,9.6nm,0.7s
H52A **Wyevale** **66.34** **45** P **P** **10 03 49.7 -1.5**
baz=325
D56A **ZEC Mazanza, M** **66.35** **40** P **P** **10 03 49.9 -1.4**
baz=327
E55A **Montcerf-Lytto** **66.36** **42** P **P** **10 03 50.1 -1.2**
baz=327
G54A **Lake Saint Pet** **66.44** **44** P **P** **10 03 50.0 -1.8**
baz=326
G53A **Haliburton** **66.46** **44** P **P** **10 03 50.6 -1.3**
baz=326,SNR=7.5
I51A **Listowel** **66.56** **46** P **P** **10 03 52.0 -0.6**
baz=325
CCM **Cathedral Cave** **66.57** **57** P **P** **10 03 52.2 -0.5**
baz=322
CCM **Cathedral Cave** **66.57** **57** P **P** **10 03 52.3 -0.5**
CCM pmax pmax
comp=Z,6.0nm,0.8s
CCM **Cathedral Cave** **66.57** **57** P **P** **10 03 52.3 -0.5**
CCM IAmb IAmb 10 03 53.1
comp=Z,6.0nm,0.8s
ABTX **Abilene, Hawle** **66.58** **66** P **P** **10 03 53.2 +0.2**
baz=322,SNR=5.2
ABTX **Abilene, Hawle** **66.58** **66** IAmb IAmb 10 04 04.1
comp=Z,7.3nm,0.9s
L48A **N Adams** **66.61** **50** IAmb IAmb 10 03 53.6
comp=Z,7.5nm,0.9s
HHAR **Hobbs** **66.65** **60** IAmb IAmb 10 04 03.2
comp=Z,8.1nm,1.1s
E56A **St. Veronique** **66.67** **41** P **P** **10 03 52.2 -1.0**
baz=327
SFIN **Lafayette** **66.67** **53** P **P** **10 03 52.6 -0.8**
baz=323
D57A **Chemin Vers le** **66.70** **40** P **P** **10 03 52.8 -0.7**
baz=328,SNR=9.5
F55A **Otter Lake** **66.76** **42** P **P** **10 03 52.8 -1.1**
baz=327
MGMO **Mountain Grove** **66.79** **58** IAmb IAmb 10 03 54.0
comp=Z,7.3nm,0.7s
LATQ **La Tuque** **66.80** **39** P **P** **10 03 53.4 -0.6**
baz=328
N47A **Urbana** **66.91** **51** IAmb IAmb 10 04 04.6
comp=Z,5.8nm,0.8s
H53A **Bobcaygeon** **66.93** **44** P **P** **10 03 53.1 -1.8**
baz=326
TX32 **Lajitas Array** **66.97** **72** P **P** **10 03 56.1 +0.6**
TX32 IAmb IAmb 10 03 57.2
comp=Z,8.2nm,0.8s
TXAR **Lajitas Array** **66.97** **72** P **P** **10 03 56.3 +0.7**
comp=Z,6.0nm,0.6s,baz=300,slow=4.4,SNR=125
D58A **Chemin du LacG** **67.00** **39** P **P** **10 03 54.3 -1.1**
baz=328
G55A **Calabogie** **67.10** **43** P **P** **10 03 54.3 -1.8**
baz=327
E57A **Chemin Saint G** **67.11** **40** P **P** **10 03 54.8 -1.3**
baz=328,SNR=6.6
U40A **Yellville** **67.13** **59** P **P** **10 03 55.7 -0.7**
baz=322,SNR=6.9
U40A **Yellville** **67.13** **59** IAmb IAmb 10 03 56.4
comp=Z,6.9nm,0.8s
DELO **Deloro Mine** **67.36** **44** P **P** **10 03 56.6 -1.1**
DELO IAmb IAmb 10 04 07.8
comp=Z,11nm,1.2s
T42A **Van Buren** **67.46** **57** IAmb IAmb 10 03 58.4
comp=Z,4.7nm,0.7s
E58A **La Victoria** **67.47** **40** P **P** **10 03 57.5 -0.8**
baz=328,SNR=7.8
H55A **Tweed** **67.51** **43** P **P** **10 03 57.3 -1.3**
baz=326
OLIL **Olney** **67.53** **54** IAmb IAmb 10 04 02.4
comp=Z,12nm,0.9s
W39A **Magazine** **67.58** **61** P **P** **10 03 58.6 -0.6**
baz=322
I55A **Frankford** **67.58** **44** P **P** **10 03 57.8 -1.3**
baz=326
SBUM **Sibu** **67.75** **240** IAmb IAmb 10 04 02.8
comp=Z,9.0nm,1.0s
H56A **Elgin** **67.83** **43** P **P** **10 03 59.2 -1.5**
baz=327
D61A **St Aubert, Com** **67.88** **37** P **P** **10 04 00.4 -0.5**
baz=329
G57A **Newington** **67.90** **42** P **P** **10 03 59.6 -1.4**
baz=327
PBMO **Poplar Bluff** **67.98** **57** P **P** **10 04 00.9 -0.8**
PBMO IAmb IAmb 10 04 02.2
comp=Z,10nm,0.7s
O49A **Covington** **68.08** **51** IAmb IAmb 10 04 12.5
comp=Z,8.9nm,0.8s
F59A **Saint Guilaume** **68.09** **40** P **P** **10 04 01.7 -0.6**
baz=328
PECO **Prince Edward** **68.09** **44** IAmb IAmb 10 04 12.0
comp=Z,7.6nm,0.9s
E60A **Ste Agathe de** **68.14** **39** P **P** **10 04 01.6 -1.0**
baz=329
JCT **Junction City** **68.17** **68** P **P** **10 04 02.8 -0.3**
baz=322,SNR=5.8
JCT **Junction City** **68.17** **68** IAmb IAmb 10 04 04.1
comp=Z,7.7nm,0.9s
P48A **Milroy** **68.17** **52** IAmb IAmb 10 04 02.8
comp=Z,9.5nm,0.7s
MIAR **Mount Ida** **68.20** **61** P **P** **10 04 03.1 -0.1**
baz=323,SNR=5.9
MIAR **Mount Ida** **68.20** **61** IAmb IAmb 10 04 13.9
comp=Z,7.0nm,0.8s
WHTX **Lake Whitney,** **68.22** **65** P **P** **10 04 03.3 0.0**
baz=322
WHAR **Wooly Hollow** **68.25** **59** IAmb IAmb 10 04 13.8
comp=Z,9.5nm,1.0s
H57A **Richville** **68.28** **42** P **P** **10 04 01.3 -2.1**
baz=327
J55A **Hilton** **68.32** **45** P **P** **10 04 03.0 -0.7**
baz=326
N51A **Ashland** **68.34** **49** P **P** **10 04 03.4 -0.6**
baz=325
W41B **Gary Mavity, V** **68.36** **59** P **P** **10 04 03.4 -0.7**
baz=323,SNR=5.8
W41B **Gary Mavity, V** **68.36** **59** IAmb IAmb 10 04 04.7
comp=Z,20nm,1.4s
D62A **Allapoint, All** **68.37** **37** P **P** **10 04 03.1 -0.9**
baz=330
L53A **Girard** **68.40** **47** P **P** **10 04 03.7 -0.6**
baz=326
E61A **Lac Etchemin** **68.43** **38** P **P** **10 04 04.1 -0.3**
baz=329
LONY **Lake Ozonia** **68.46** **42** P **P** **10 04 03.3 -1.3**
baz=328
LONY **Lake Ozonia** **68.46** **42** P **P** **10 04 03.3 -1.3**
LONY IAmb IAmb 10 04 18.1
comp=Z,18nm,1.5s
K54A **Basiliko Farm,** **68.51** **46** P **P** **10 04 04.4 -0.6**
baz=326
AKASG **Malin Array Be** **68.52** **332** P **P** **10 04 04.1 -0.7**
comp=Z,2.1nm,0.6s,baz=27,slow=6.4,SNR=6.3
L54A **Sinclairville** **68.56** **46** P **P** **10 04 05.1 -0.2**
baz=326
E62A **Clayton Lake** **68.61** **37** P **P** **10 04 04.5 -1.0**
baz=330,SNR=6.4
X40A **Basin Creek Fa** **68.62** **60** P **P** **10 04 05.5 -0.2**
baz=323
GEYT **Alibeck** **68.63** **306** P **P** **10 04 05.0 -0.9**
comp=Z,5.3nm,0.7s,baz=11,slow=1.5,SNR=11
ACSO **Alum Creek Sta** **68.64** **50** P **P** **10 04 05.6 -0.3**
baz=325
F61A **St Evariste** **68.64** **39** P **P** **10 04 05.0 -0.7**
baz=329
M53A **WI Miller and** **68.65** **48** P **P** **10 04 05.4 -0.4**
baz=326,SNR=8.5
K55A **Perry** **68.67** **45** P **P** **10 04 04.9 -1.1**
baz=327
J56A **Wolcott** **68.70** **44** P **P** **10 04 04.8 -1.3**
baz=327
N52A **McGinn's Farm,** **68.73** **49** P **P** **10 04 05.9 -0.4**
baz=325
D63A **Stockholm** **68.74** **36** P **P** **10 04 05.4 -0.9**
baz=330
WCI **Wyandotte Cave** **68.77** **53** P **P** **10 04 06.2 -0.5**
baz=324
WCI **Wyandotte Cave** **68.77** **53** P **P** **10 04 05.6 -1.1**
WCI pmax pmax
comp=Z,9.0nm,0.8s
WCI **Wyandotte Cave** **68.77** **53** P **P** **10 04 05.6 -1.1**
WCI IAmb IAmb 10 04 07.2
comp=Z,8.5nm,0.8s
H59A **Cadyville** **68.78** **41** P **P** **10 04 05.3 -1.4**
baz=328
H58A **Gabriels** **68.79** **42** P **P** **10 04 05.6 -1.1**
baz=328
O51A **Pataskala** **68.88** **50** P **P** **10 04 06.6 -0.7**
baz=325
J57A **Williamstown** **68.93** **43** P **P** **10 04 07.5 0.0**
baz=327
L55A **Hinsdale** **68.97** **46** P **P** **10 04 07.4 -0.5**
baz=326
K56A **Middlesex** **68.99** **45** P **P** **10 04 07.2 -0.8**
baz=327
M54A **Oil Creek Stat** **69.02** **47** P **P** **10 04 07.3 -0.9**
baz=326
M54A **Oil Creek Stat** **69.02** **47** IAmb IAmb 10 04 18.9
comp=Z,18nm,1.1s
N53A **Lisbon** **69.10** **48** P **P** **10 04 07.7 -1.0**
baz=326
435B **Jarrell** **69.11** **66** P **P** **10 04 09.1 +0.3**
baz=322
E63A **Oxbow** **69.16** **37** P **P** **10 04 07.8 -1.1**
baz=330
P51A **Williamsport** **69.22** **50** P **P** **10 04 08.8 -0.6**
baz=325
O52A **Adamsville** **69.24** **49** P **P** **10 04 08.9 -0.6**
baz=326,SNR=8.5
J58A **Remsen** **69.25** **43** P **P** **10 04 08.5 -1.1**
baz=328
J58A **Remsen** **69.25** **43** IAmb IAmb 10 04 10.9
comp=Z,19nm,1.4s
N54A **Moraine State** **69.33** **47** P **P** **10 04 09.6 -0.5**
baz=325
N54A **Moraine State** **69.33** **47** IAmb IAmb 10 04 13.4
comp=Z,8.6nm,0.8s
E64A **Bridgewater** **69.37** **36** P **P** **10 04 09.4 -0.8**
baz=331
L56A **Greenwood** **69.37** **45** P **P** **10 04 09.6 -0.8**
baz=327
O53A **New Philadelph** **69.40** **49** P **P** **10 04 10.0 -0.6**
baz=326
O53A **New Philadelph** **69.40** **49** IAmb IAmb 10 04 11.2
comp=Z,10nm,0.8s
M55A **Ridgway** **69.43** **46** P **P** **10 04 10.1 -0.6**
baz=326
M55A **Ridgway** **69.43** **46** IAmb IAmb 10 04 14.1
comp=Z,11nm,0.8s
I59A **Olmsteadville** **69.43** **42** P **P** **10 04 09.4 -1.3**
baz=328
G62A **West of Eustis** **69.46** **39** P **P** **10 04 10.7 -0.2**
baz=330
G62A **West of Eustis** **69.46** **39** IAmb IAmb 10 04 11.3
comp=Z,9.7nm,1.0s
J59A **Piesco** **69.47** **42** P **P** **10 04 09.4 -1.5**
baz=328
P52A **Corning** **69.50** **50** P **P** **10 04 10.1 -1.0**
baz=326
P52A **Corning** **69.50** **50** IAmb IAmb 10 04 12.9
comp=Z,7.8nm,0.8s
H61A **Lyndonville** **69.53** **40** P **P** **10 04 11.2 -0.1**
baz=329
F63A **Nahmakanta, Br** **69.55** **38** P **P** **10 04 11.1 -0.3**
baz=330
X43A **Marvell** **69.56** **59** P **P** **10 04 11.5 -0.1**
baz=324
K58A **Earlville** **69.61** **43** P **P** **10 04 10.8 -1.1**
baz=328
R50A **Paris** **69.63** **52** IAmb IAmb 10 04 23.1
comp=Z,8.5nm,1.0s
M56A **Emporium** **69.66** **46** P **P** **10 04 11.3 -0.8**
baz=327
F64A **Sherman** **69.67** **37** P **P** **10 04 11.6 -0.5**
baz=330
F64A **Sherman** **69.67** **37** P **P** **10 04 10.5 -1.6**
F64A IAmb IAmb 10 04 22.9
comp=Z,15nm,1.1s
WVT **Waverly** **69.75** **56** P **P** **10 04 12.5 -0.2**
baz=324
WVT **Waverly** **69.75** **56** P **P** **10 04 12.2 -0.5**
WVT pmax pmax
comp=Z,10.0nm,0.7s
WVT **Waverly** **69.75** **56** P **P** **10 04 12.2 -0.5**
WVT IAmb IAmb 10 04 13.7
comp=Z,10nm,0.7s
L57A **Andrews Acres** **69.77** **45** P **P** **10 04 12.4 -0.4**
baz=327
H62A **Milan** **69.78** **40** P **P** **10 04 11.4 -1.5**
baz=329
LBNH **Lisbon** **69.79** **40** P **P** **10 04 12.8 -0.1**
baz=329
NATX **Nacogdoches** **69.86** **63** P **P** **10 04 13.4 -0.1**
baz=323
G63A **Kingsbury** **69.87** **38** P **P** **10 04 12.9 -0.5**
baz=330
N55A **Marion Center** **69.91** **47** P **P** **10 04 13.2 -0.5**
baz=327
K59A **Cooperstown** **69.91** **43** P **P** **10 04 12.6 -1.1**
baz=328
I61A **Oroboro, Fairl** **69.94** **41** P **P** **10 04 15.9 +2.1**
baz=329
P53A **Whipple** **69.95** **49** P **P** **10 04 13.3 -0.7**
baz=326
Q52A **Bidwell** **70.00** **50** P **P** **10 04 13.6 -0.6**
baz=326
G64A **Maxfield** **70.06** **38** P **P** **10 04 14.1 -0.4**
baz=330
J60A **Lant Hill Farm** **70.07** **42** P **P** **10 04 13.9 -0.7**
baz=328
N56A **West Decatur** **70.08** **46** P **P** **10 04 13.9 -0.8**
baz=327
H63A **New Sharon** **70.12** **39** P **P** **10 04 14.3 -0.5**
baz=330
KIV **Kislovodsk** **70.12** **320** *e*P P 10 04 06.7 -8.3
KIV pmax pmax
comp=Z,16nm,1.0s
L58A **Harry Jones Me** **70.14** **44** P **P** **10 04 13.8 -1.2**
baz=328
M57A **Sunshine Farm,** **70.21** **45** P **P** **10 04 14.8 -0.7**
baz=327
M57A **Sunshine Farm,** **70.21** **45** IAmb IAmb 10 04 17.4
comp=Z,10.0nm,0.7s
KBZ **Khabaz** **70.24** **320** P **P** **10 04 15.1 -0.4**
comp=Z,6.3nm,0.9s,baz=240,slow=1.4,SNR=11
P54A **Burton** **70.25** **49** P **P** **10 04 15.3 -0.5**
baz=326
O55A **Ligonier** **70.25** **47** P **P** **10 04 14.1 -1.7**
baz=327
OXF **Oxford** **70.29** **58** P **P** **10 04 16.1 +0.1**
baz=324
L59A **Walton** **70.33** **43** P **P** **10 04 15.2 -1.1**
baz=328
U49A **Red Boiling Sp** **70.40** **54** IAmb IAmb 10 04 17.5
comp=Z,7.9nm,0.9s
Q53A **Leroy** **70.41** **50** P **P** **10 04 16.5 -0.3**
baz=326,SNR=6.2
M58A **Price's Panora** **70.46** **45** P **P** **10 04 16.0 -1.1**
baz=328
MCWV **Mont Chateau** **70.47** **48** P **P** **10 04 17.5 +0.3**
baz=326
SSPA **Standing Stone** **70.49** **46** P **P** **10 04 16.6 -0.6**
baz=327
O56A **Blue Knob Stat** **70.51** **47** P **P** **10 04 17.1 -0.3**
baz=327
G65A **Princeton** **70.52** **37** P **P** **10 04 17.1 -0.2**
baz=331
N57A **Milroy** **70.53** **46** P **P** **10 04 16.6 -0.8**
baz=327
V48A **Smith Brothers** **70.54** **55** IAmb IAmb 10 04 28.9
comp=Z,14nm,0.9s
PLAL **Pickwick Lake** **70.56** **57** IAmb IAmb 10 04 28.3
comp=Z,12nm,0.8s
Q54A **Coxs Mills** **70.61** **49** P **P** **10 04 17.5 -0.5**
baz=326
P55A **Reedsville** **70.61** **48** P **P** **10 04 17.7 -0.3**
baz=326
R53A **Hurricane** **70.66** **50** P **P** **10 04 17.6 -0.6**
baz=326
R53A **Hurricane** **70.66** **50** IAmb IAmb 10 04 22.0
comp=Z,11nm,0.8s
ZEI **Tsey** **70.66** **318** *e*P **P** **10 04 17.0 -1.5**
M59A **Waymart** **70.73** **44** P **P** **10 04 16.9 -1.7**
baz=328
N58A **Sunbury** **70.80** **45** P **P** **10 04 18.2 -0.9**
baz=328
GGN **Saint George** **70.84** **36** P **P** **10 04 18.4 -0.8**
GGN IAmb IAmb 10 04 19.3
comp=Z,8.2nm,0.8s
Q55A **Buckhannon** **70.92** **49** P **P** **10 04 20.0 +0.1**
baz=326
NRDL **Niedersach Rie** **70.93** **344** *e*P **P** **10 04 20.8 +1.2**
comp=Z,2.6nm,0.8s,baz=15,slow=5.8
O57A **Amberson** **70.95** **46** P **P** **10 04 19.0 -1.1**
baz=327
H66A **Whiting** **70.97** **37** P **P** **10 04 19.5 -0.5**
baz=331
P56A **Dayton Farm, R** **71.03** **48** P **P** **10 04 20.2 -0.4**
baz=327
S53A **Williamson** **71.11** **51** P **P** **10 04 20.7 -0.4**
baz=326
N59A **State Game Lan** **71.12** **45** P **P** **10 04 19.8 -1.3**
baz=328
R54A **Victor** **71.20** **50** P **P** **10 04 21.4 -0.3**
baz=326
Q56A **Snyder Ridge,** **71.27** **48** P **P** **10 04 20.9 -1.2**
baz=327
TZTN **Tazewell** **71.41** **53** P **P** **10 04 22.5 -0.4**
baz=326
TZTN **Tazewell** **71.41** **53** IAmb IAmb 10 04 25.0
comp=Z,21nm,1.4s
IBBN **Ibbenburen** **71.46** **346** *e*P **P** **10 04 23.2 +0.4**
comp=Z,59nm,2.2s,baz=15,slow=5.8
X48A **Hartselle** **71.48** **56** IAmb IAmb 10 04 34.2
comp=Z,6.0nm,0.7s
R55A **Marlinton** **71.50** **49** P **P** **10 04 23.4 -0.1**
baz=327
T53A **Wise** **71.51** **52** P **P** **10 04 23.6 +0.1**
baz=326,SNR=6.0
CLZ **Clausthal** **71.52** **344** *e*P **P** **10 04 24.2 +0.8**
comp=Z,12nm,1.2s,baz=15,slow=5.8
CLL **Collm** **71.59** **342** *i* P **P** **10 04 23.8 +0.1**
comp=Z,14nm,1.3s
CLL *i* (pP) **sP** **10 04 33.4 +1.4**
CLL **Collm** **71.59** **342** *i* P **P** **10 04 23.8 +0.1**
CLL pmax pmax
comp=Z,14nm,1.3s
CLL **Collm** **71.59** **342** *e*P **P** **10 04 23.7 +0.1**
comp=Z,14nm,1.2s,baz=15,slow=5.8
CLL **Collm** **71.59** **342** P **P** **10 04 23.2 -0.5**
CLL IAmb IAmb 10 04 26.8
comp=Z,14nm,1.3s
R56A **Bull Pasture M** **71.71** **49** P **P** **10 04 24.4 -0.3**
baz=327
OSTC **Ostas** **71.71** **340** *e*P **P** **10 04 26.9 +2.4**
OSTC *ex* x 10 04 34.5
CHVC **Chvalec** **71.72** **340** *e*P **P** **10 04 24.9 +0.4**
CHVC *ex* x 10 04 34.0
UPC **Upice** **71.80** **340** *e*pP pP 10 04 35.4 +3.5
BRG **Berggiesshubel** **71.84** **341** *e*P **P** **10 04 28.1 +2.9**
comp=Z,9.2nm,1.4s
CPCT **Cooper Cave** **71.86** **54** IAmb IAmb 10 04 29.1
comp=Z,12nm,1.0s
T54A **Tazewell** **71.87** **51** P **P** **10 04 25.5 -0.2**
baz=326
DPC **Dobruska-Polom** **71.89** **340** *e*P **P** **10 04 26.1 +0.5**
DPC *e* 10 04 36.0
DPC **Dobruska-Polom** **71.89** **340** *e*P **P** **10 04 26.1 +0.5**
DPC *e*pP **sP** **10 04 36.0 +2.1**
FBE **Freiberg** **71.90** **342** *e*P **P** **10 04 26.4 +0.8**
comp=Z,14nm,1.2s,baz=15,slow=5.8
KOLS **Kolonicke sedl** **71.92** **335** *e*P **P** **10 04 26.1 +0.3**
KOLS **Kolonicke sedl** **71.92** **335** *e*P **P** **10 04 26.1 +0.3**
Q58A **Fox Den Farm,** **71.99** **47** P **P** **10 04 25.1 -1.2**
baz=328
R57A **Stanardsville** **72.18** **48** P **P** **10 04 27.1 -0.4**
baz=327
MORC **Moravsky Berou** **72.19** **339** *e*P **P** **10 04 28.0 +0.6**
U54A **Nelsons Funny** **72.21** **51** P **P** **10 04 27.0 -0.8**
baz=326
S56A **Natural Bridge** **72.25** **49** P **P** **10 04 28.0 +0.1**
baz=327
BLA **Blacksburg** **72.26** **50** P **P** **10 04 28.1 0.0**
baz=327
Y49A **Blount Mountai** **72.27** **56** IAmb IAmb 10 04 31.5
comp=Z,8.2nm,0.8s
R58A **Rapidan** **72.40** **48** P **P** **10 04 28.6 -0.2**
baz=327
S57A **Dark Hollow, R** **72.44** **49** P **P** **10 04 29.0 0.0**
baz=327
MOX **Moxa** **72.47** **343** *e*P **P** **10 04 29.5 +0.5**
comp=Z,6.0nm,1.1s,baz=15,slow=5.8
U55A **TA2, Sparta** **72.57** **51** P **P** **10 04 29.9 0.0**
baz=327
PRU **Pruhonice** **72.58** **341** *e*P **P** **10 04 29.9 +0.3**
PRU *e* 10 04 40.0
PRU **Pruhonice** **72.58** **341** *e*P **P** **10 04 29.9 +0.3**
PRU *e*pP **sP** **10 04 40.0 +2.0**
GUNZ **Gunzen** **72.62** **342** *e*P **P** **10 04 30.5 +0.6**

	comp=Z,38nm,2.3s,baz=15,slow=5.8							
LRAL	**Lakeview Retre**	**72.66**	**57**	P		**P**	**10 04 29.8**	**-0.5**
	baz=325,SNR=8.7							
LRAL	**Lakeview Retre**	**72.66**	**57**	P		**P**	**10 04 29.7**	**-0.7**
LRAL				IAmb		IAmb	10 04 30.4	
	comp=Z,9.1nm,0.6s							
WERN	**Wernitzgruen**	**72.69**	**342**	*eP*		**P**	**10 04 31.0**	**+0.7**
	comp=Z,11nm,1.4s,baz=15,slow=5.8							
V54A	**Nebo**	**72.77**	**52**	P		**P**	**10 04 31.1**	**+0.1**
	baz=326							
VRAC	**Vranov**	**72.83**	**339**	*eP*		**P**	**10 04 31.9**	**+0.8**
T57A	**Hurt**	**72.95**	**49**	P		**P**	**10 04 31.7**	**-0.4**
	baz=327							
BG3	**Lake Jocassee**	**72.97**	**53**	IAmb		IAmb	10 04 43.6	
	comp=Z,17nm,1.3s							
U56A	**King**	**73.00**	**50**	P		**P**	**10 04 32.4**	**0.0**
	baz=327							
MANZ	**Manzenberg**	**73.02**	**342**	*eP*		**P**	**10 04 32.5**	**+0.1**
	comp=Z,8.6nm,1.3s,baz=15,slow=5.8							
JAVC	**Velka Javorina**	**73.03**	**338**	*eP*		**P**	**10 04 34.2**	**+1.8**
V55A	**Taylorsville**	**73.04**	**51**	P		**P**	**10 04 32.2**	**-0.4**
	baz=327							
KRUC	**Moravsky**	**73.10**	**339**	*eP*		**P**	**10 04 33.5**	**+0.7**
VYHS	**Vyhne**	**73.12**	**338**	*eP*		**P**	**10 04 33.4**	**+0.5**
VYHS				pmax		pmax		
	comp=Z,7.0nm,1.3s							
VYHS	**Vyhne**	**73.12**	**338**	*eP*		**P**	**10 04 33.4**	**+0.5**
ROTZ	**Rotzenmuhle**	**73.22**	**342**	*eP*		**P**	**10 04 33.1**	**-0.3**
	comp=Z,8.8nm,1.4s,baz=15,slow=5.8							
W54A	**Cherokee Point**	**73.23**	**52**	P		**P**	**10 04 33.1**	**-0.7**
	baz=326							
MEM	**Membach**	**73.36**	**347**	P		**P**	**10 04 36.2**	**+2.0**
	comp=Z,11nm,1.3s							
Y52A	**Lilburn**	**73.38**	**54**	IAmb		IAmb	10 04 45.5	
	comp=Z,14nm,0.8s							
U57A	**Blanch**	**73.39**	**50**	P		**P**	**10 04 34.0**	**-0.6**
	baz=327							
V56A	**Mocksville**	**73.39**	**51**	P		**P**	**10 04 34.7**	**-0.1**
	baz=327,SNR=5.0							
GRF	**Grafenberg Arr**	**73.46**	**343**	*eP*		**P**	**10 04 35.5**	**+0.6**
	comp=Z,12nm,1.1s,baz=15,slow=5.8							
KMSC	**Kings Mountain**	**73.57**	**52**	P		**P**	**10 04 35.4**	**-0.4**
	baz=327							
KMSC	**Kings Mountain**	**73.57**	**52**	IAmb		IAmb	10 04 36.2	
	comp=Z,7.7nm,0.8s							
KHC	**Kasperske Hory**	**73.58**	**341**	*ceP*		**P**	**10 04 36.0**	**+0.3**
KHC				pmax		pmax		
	comp=Z,19nm,1.3s							
KHC	**Kasperske Hory**	**73.58**	**341**	*eP*		**P**	**10 04 36.3**	**+0.6**
KHC				*epP*		**sP**	**10 04 46.2**	**+2.2**
X54A	**Belton**	**73.59**	**53**	P		**P**	**10 04 35.8**	**-0.1**
	baz=326							
V57A	**Coltrane Farms**	**73.65**	**50**	P		**P**	**10 04 35.8**	**-0.4**
	baz=327							
WET	**Wettzell**	**73.70**	**342**	*eP*		**P**	**10 04 37.2**	**+0.9**
	comp=Z,9.9nm,1.2s,baz=15,slow=5.8							
U58A	**Oxford**	**73.76**	**49**	P		**P**	**10 04 37.2**	**+0.3**
	baz=328							
BMRD	**Maredsous**	**73.82**	**347**	P		**P**	**10 04 39.1**	**+2.1**
GEC2	**GERESS Array S**	**73.83**	**341**	*eP*		**P**	**10 04 37.6**	**+0.4**
	comp=Z,5.5nm,0.9s,baz=15,slow=5.8							
GEC2	**GERESS Array S**	**73.83**	**341**	P		**P**	**10 04 37.6**	**+0.4**
GERES	**GERESS Array B**	**73.83**	**341**	P		**P**	**10 04 37.5**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=28,slow=5.8,SNR=14							
HODGE	**Hodges**	**73.91**	**53**	IAmb		IAmb	10 04 38.5	
	comp=Z,11nm,0.7s							
X55A	**Gracelyn & Ava**	**74.00**	**52**	P		**P**	**10 04 37.9**	**-0.4**
	baz=327							
V58A	**Windy Hill, Pi**	**74.02**	**50**	P		**P**	**10 04 38.0**	**-0.4**
	baz=327							
V58A	**Windy Hill, Pi**	**74.02**	**50**	IAmb		IAmb	10 04 39.2	
	comp=Z,11nm,0.7s							
GOGA	**Godfrey**	**74.03**	**54**	P		**P**	**10 04 38.3**	**-0.2**
	baz=326							
152A	**Waverly Hall**	**74.05**	**56**	IAmb		IAmb	10 04 38.9	
	comp=Z,10.0nm,0.8s							
U59A	**Littleton**	**74.13**	**49**	P		**P**	**10 04 38.8**	**-0.2**
	baz=328							
W57A	**Gilead**	**74.17**	**51**	P		**P**	**10 04 38.9**	**-0.3**
	baz=327							
CONA	**Conrad Observa**	**74.29**	**339**	*eP*		**P**	**10 04 40.6**	**+0.7**
	comp=Z,7.0nm,0.9s							
Y55A	**Saluda**	**74.34**	**53**	P		**P**	**10 04 40.2**	**0.0**
	baz=327							
V59A	**Middlesex**	**74.43**	**49**	P		**P**	**10 04 40.8**	**+0.1**
	baz=328							
MOA	**Molln**	**74.68**	**340**	*eP*		**P**	**10 04 42.7**	**+0.6**
	comp=Z,3.6nm,1.3s							
W59A	**Clinton**	**74.84**	**50**	P		**P**	**10 04 43.6**	**+0.5**
	baz=328							
V60A	**Jim Taylor Roa**	**74.85**	**49**	P		**P**	**10 04 43.3**	**+0.1**
	baz=328							
X58A	**Rowland**	**74.96**	**51**	P		**P**	**10 04 43.9**	**+0.1**
	baz=328							
ARSA	**Arzberg**	**75.00**	**339**	*eP*		**P**	**10 04 45.0**	**+1.1**
	comp=Z,2.0nm,0.6s							
BFO	**Black Forest**	**75.25**	**344**	*eP*		**P**	**10 04 45.4**	**0.0**
	comp=Z,6.1nm,1.1s,baz=15,slow=5.8							
W60A	**Pink Hill**	**75.26**	**49**	P		**P**	**10 04 45.5**	**0.0**
	baz=328							
ECH	**Echery**	**75.54**	**345**	P		**P**	**10 04 48.3**	**+1.3**
ECH				pmax		pmax		
	comp=Z,12nm,1.5s							
ECH	**Echery**	**75.54**	**345**	P		**P**	**10 04 48.3**	**+1.3**
X60A	**Albert Glenn T**	**75.54**	**50**	P		**P**	**10 04 47.0**	**-0.2**
	baz=328							
UBR	**Ueberruh**	**75.59**	**343**	*eP*		**P**	**10 04 47.8**	**+0.5**
	comp=Z,12nm,1.2s,baz=15,slow=5.8							
KBA	**Koelnbreinsper**	**75.60**	**341**	*eP*		**P**	**10 04 49.0**	**+1.5**
	comp=Z,17nm,1.1s							
TIGA	**Tifton**	**75.60**	**56**	P		**P**	**10 04 47.8**	**+0.2**
	baz=326							
SOKA	**Soboth**	**75.65**	**339**	*eP*		**P**	**10 04 48.5**	**+0.7**
	comp=Z,15nm,2.0s							
WATA	**Walderalm**	**75.67**	**342**	*eP*		**P**	**10 04 46.3**	**-1.6**
	comp=Z,3.5nm,0.7s							
WTTA	**Wattenberg**	**75.73**	**342**	*eP*		**P**	**10 04 49.2**	**+0.9**
	comp=Z,14nm,1.4s							
MOTA	**Moosalm**	**75.75**	**342**	*eP*		**P**	**10 04 48.8**	**+0.5**
	comp=Z,3.6nm,0.7s							
SQTA	**Sankt Quirin**	**75.85**	**342**	*eP*		**P**	**10 04 49.6**	**+0.7**
	comp=Z,7.2nm,1.0s							
OBKA	**Obir**	**75.91**	**340**	*eP*		**P**	**10 04 49.6**	**+0.3**
	comp=Z,7.4nm,0.8s							
ABTA	**Abfaltersbach**	**76.07**	**341**	*eP*		**P**	**10 04 50.4**	**+0.2**
	comp=Z,10nm,0.9s							
FETA	**Feichten**	**76.13**	**343**	*eP*		**P**	**10 04 51.4**	**+0.9**
	comp=Z,3.4nm,0.8s							
CTA	**Charters Tower**	**76.59**	**199**	P		**P**	**10 04 53.2**	**+0.1**
	comp=Z,9.1nm,0.8s,baz=9.2,slow=9.0,SNR=6.1							
BRTR	**Keskin Array B**	**77.06**	**324**	P		**P**	**10 04 55.2**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=107,slow=1.0,SNR=8.2							
BRTR	**Keskin Array B**	**77.06**	**324**	*i P*		**P**	**10 04 56.0**	**+0.1**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
WR0	**Warramunga Arr**	**79.21**	**210**	IAmb		IAmb	10 05 08.3	
	comp=Z,8.9nm,0.8s							
WRAB	**Tennant Creek**	**79.24**	**210**	*ceP*		**P**	**10 05 08.2**	**+0.3**
WRAB				pmax		pmax		
	comp=Z,30nm,2.5s							
WB2	**Warramunga Arr**	**79.25**	**210**	P		**P**	**10 05 08.4**	**+0.5**
WRA	**Warramunga Arr**	**79.25**	**210**	P		**P**	**10 05 08.1**	**+0.1**
	comp=Z,11nm,0.8s,baz=25,slow=5.9,SNR=49							
NRCA	**Norcia**	**79.72**	**340**	IAmb		IAmb	10 05 16.6	
	comp=Z,18nm,1.0s							
AS31	**Alice Springs**	**82.91**	**209**	P		**P**	**10 05 28.1**	**+0.7**
ASAR	**Alice Springs**	**82.91**	**209**	P		**P**	**10 05 28.1**	**+0.7**
	comp=Z,15nm,0.8s,baz=16,slow=6.0,SNR=124							
ESBB	**Sonseca Array**	**85.25**	**352**	P		**P**	**10 05 38.9**	**-0.5**
ESBB				IAmb		IAmb	10 05 43.3	
	comp=Z,12nm,1.1s							
ESDC	**Sonseca Array**	**85.25**	**352**	P		**P**	**10 05 40.0**	**+0.7**
	comp=Z,6.3nm,0.9s,baz=0.8,slow=4.8,SNR=48							
PAB	**San Pablo**	**85.41**	**352**	P		**P**	**10 05 39.6**	**-0.6**
PAB				pmax		pmax		
	comp=Z,20nm,1.5s							
PAB	**San Pablo**	**85.41**	**352**	P		**P**	**10 05 39.6**	**-0.6**
STKA	**Stephens Creek**	**88.95**	**200**	P		**P**	**10 05 57.4**	**+0.4**
	comp=Z,5.5nm,0.8s,baz=338,slow=7.8,SNR=14							
STKA	**Stephens Creek**	**88.95**	**200**	P		**P**	**10 05 57.4**	**+0.4**
STKA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
STKA	**Stephens Creek**	**88.95**	**200**	P		**P**	**10 05 57.4**	**+0.4**
LPAZ	**La Paz**	**123.77**	**68**	PKP		**PKPdf**	**10 12 00.5**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=8.1,slow=15,SNR=3.8							
LPAZ	**La Paz**	**123.77**	**68**			**PKPdf**	**10 12 00.9**	**-0.5**
VNDA	**Vanda**	**132.29**	**181**	PKP		**PKPdf**	**10 12 14.8**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=277,slow=1.5,SNR=6.8							
PLCA	**Paso Flores**	**140.88**	**92**	PKP		**PKPdf**	**10 12 32.5**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=199,slow=3.7,SNR=2.8							
PLCA	**Paso Flores**	**140.88**	**92**	PKIKP		**PKPdf**	**10 12 32.0**	**-0.1**
PLCA	**Paso Flores**	**140.88**	**92**			**PKPdf**	**10 12 31.9**	**-0.1**
MAW	**Mawson**	**143.45**	**219**	PKP		PKPbc	10 12 33.5	+0.5
	comp=Z,4.4nm,0.9s,baz=75,slow=5.5,SNR=8.9							
MAW	**Mawson**	**143.45**	**219**			PKPbc	10 12 33.7	+0.7
QSPA	**South Pole Qui**	**144.77**	**180**	PKP		**PKPab**	**10 12 36.0**	**-1.1**
	comp=Z,26nm,0.7s,baz=338,slow=0.8,SNR=143							
QSPA	**South Pole Qui**	**144.77**	**180**			**PKPab**	**10 12 35.9**	**-1.2**
SYO	**Syowa Base**	**152.17**	**219**	*eP*		**PKPab**	**10 13 02.4**	**-4.2**
SYO	**Syowa Base**	**152.17**	**219**	*eP*		**PKPbc**	**10 12 55.3**	**-1.3**
PMSA	**Palmer Station**	**154.00**	**132**	PKPbc		**PKPbc**	**10 12 59.7**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=343,slow=3.7,SNR=4.5							
PMSA	**Palmer Station**	**154.00**	**132**			**PKiKP**	**10 13 00.7**	**-0.1**
SNAA	**Sanae**	**162.55**	**192**	PKPab		**PKPab**	**10 13 50.3**	**-1.1**
VNA3	**Neumayer Olymp**	**163.58**	**186**	PKPab		**PKPab**	**10 13 54.5**	**-1.3**
VNA1	**Neumayer--Stat**	**164.07**	**188**	PKPab		**PKPab**	**10 13 56.9**	**-1.0**

IDC 03 09:55:42.4±1.6, 0.44N×145.78E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/36, mbtmpg3.6/3, MS4.5/1, Ms1 4.4/1, ms1mx3.5/43, Error ellipse: s-maj=158.8km s-min=28.4km az=116.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.16**	**208**	P	P	10 00 49.7	-1.0
	1.1nm,0.5s,baz=31,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**26.60**	**205**	P	P	10 01 24.2	+1.5
	0.7nm,0.8s,baz=29,slow=12,SNR=3.0						
STKA	**Stephens Creek**	**32.39**	**187**	LR	LR	10 15 26.0	
	comp=Z,839nm,20.8s,baz=308,slow=36						
ILAR	**Eielson Array**	**80.09**	**24**	P	P	10 07 53.6	-0.3
	0.2nm,0.5s,baz=245,slow=5.6,SNR=5.4						

*KRSC **03** 10:08:36.4±1.8, 54.98N×165.57E, h44km±15km, ML3.8*
*IDC **03** 10:08:36.9±1.0, 54.88N×165.89E, h0km, mb3.3/6, mb1 3.7/7, mb1mx3.4/55, mbtmpg3.4/7, ML3.1/1, MS4.1/1, Ms1 4.1/1, ms1mx3.3/40, Error ellipse: s-maj=76.8km s-min=19.3km az=143.0*

ISC 03 10:08:38.9±0.8, 55.01N±0.05×165.68E±0.05, h20km, n54, σ2.204/79, mb3.5/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.26**	**41**	*i* P	**Pn**	**10 08 45.5**	**-2.1**
BKI				S	**Sn**	**10 08 50.5**	**-2.4**
KBTR	**Krutoberegovo**	**2.02**	**308**	P	**Pn**	**10 09 08.6**	**-3.2**
KBTR				S	**Sn**	**10 09 32.3**	**-4.1**
KBG	**Krutoberegovo**	**2.10**	**308**	S	**Sn**	**10 09 34.3**	**-4.0**
SMKR	**Semkarok**	**2.85**	**305**	*eP*	**Pn**	**10 09 22.1**	**-1.2**
SMKR				*eS*	**Sn**	**10 09 54.7**	**-2.3**
ZLN	**Zelenaya**	**2.95**	**292**	S	**Sn**	**10 09 59.8**	**+0.3**
BDR	**Baidarnaya**	**2.97**	**304**	*eP*	**Pn**	**10 09 23.6**	**-1.3**
BDR				*eS*	**Sn**	**10 09 56.7**	**-3.2**
CIRR	**Tsirk**	**3.01**	**294**	S	**Sn**	**10 10 00.0**	**-1.1**
SRKR	**Sorokina**	**3.03**	**305**	*eP*	**Pn**	**10 09 25.1**	**-0.7**
TUMD	**Tumrok D**	**3.04**	**276**	*eP*	**Pn**	**10 09 25.4**	**-0.5**
TUMD				*eS*	**Sn**	**10 09 59.2**	**-2.4**
KZV	**Kizimen**	**3.10**	**274**	*eP*	**Pn**	**10 09 25.9**	**-0.9**
KZV				S	**Sn**	**10 10 00.6**	**-2.7**
BZWR	**Bezymyannyi-We**	**3.10**	**290**	*eP*	**Pn**	**10 09 26.5**	**-0.4**
BZWR				S	**Sn**	**10 10 02.1**	**-1.2**
KLY	**Klyuchi**	**3.13**	**297**	P	**Pn**	**10 09 25.1**	**-2.0**
KLY				*eS*	**Sn**	**10 10 00.4**	**-3.4**
KRSR	**Krestovskiy**	**3.14**	**295**	*eP*	**Pn**	**10 09 27.0**	**-0.3**
KRSR				S	**Sn**	**10 10 02.2**	**-2.1**
KIRR	**Kirishev**	**3.18**	**289**	P	**Pn**	**10 09 27.2**	**-0.7**
KIRR				S	**Sn**	**10 10 04.5**	**-0.8**
TUMR	**Tumrok**	**3.19**	**277**	P	**Pn**	**10 09 27.6**	**-0.4**
TUMR				S	**Sn**	**10 10 04.8**	**-0.6**
KMNR	**Kamenistaya**	**3.19**	**286**	*eP*	**Pn**	**10 09 28.7**	**+0.7**
KMNR				S	**Sn**	**10 10 06.0**	**+0.5**
KPT	**Kopyto**	**3.25**	**289**	P	**Pn**	**10 09 28.8**	**0.0**
KPT				S	**Sn**	**10 10 05.7**	**-1.2**
KOZ	**Kozyrevsk**	**3.46**	**290**	P	**Pn**	**10 09 32.5**	**+0.9**
KOZ				S	**Sn**	**10 10 13.1**	**+1.1**
SRDR	**Sredinnyy**	**3.62**	**294**	P	**Pn**	**10 09 34.9**	**+1.0**
SRDR				S	**Sn**	**10 10 17.2**	**+1.2**
KII	**Karymskiy**	**3.76**	**257**	P	**Pn**	**10 09 36.0**	**+0.2**
KII				S	**Sn**	**10 10 17.8**	**-1.7**
SPN	**Mys Shipunski**	**3.85**	**242**	*eP*	**Pn**	**10 09 35.5**	**-1.4**
SPN				S	**Sn**	**10 10 16.8**	**-4.6**
ESO	**Esso**	**4.08**	**286**	P	**Pn**	**10 09 40.0**	**-0.1**
NLC	**Nalytchevo**	**4.16**	**246**	*eP*	**Pn**	**10 09 40.2**	**-1.0**
NLC				S	**Sn**	**10 10 25.7**	**-3.5**
SDLR	**Sedlovina**	**4.36**	**249**	*eP*	**Pn**	**10 09 43.8**	**-0.2**
SDLR				S	**Sn**	**10 10 31.3**	**-2.9**
SMAR	**Somma**	**4.41**	**249**	*eP*	**Pn**	**10 09 45.0**	**+0.2**
SMAR				S	**Sn**	**10 10 33.1**	**-2.5**
KRER	**Koryakskii**	**4.42**	**250**	*eP*	**Pn**	**10 09 45.0**	**0.0**
KRER				S	**Sn**	**10 10 33.6**	**-2.3**
UGLR	**Uglovaya**	**4.42**	**249**	*eP*	**Pn**	**10 09 45.0**	**+0.1**
UGLR				S	**Sn**	**10 10 32.7**	**-3.1**
AVH	**Avacha**	**4.44**	**250**	*eP*	**Pn**	**10 09 45.3**	**+0.1**
AVH				S	**Sn**	**10 10 32.9**	**-3.4**
KRX	**Arik**	**4.45**	**251**	*eP*	**Pn**	**10 09 45.4**	**+0.1**
KRX				S	**Sn**	**10 10 33.3**	**-3.2**
OSSR	**Ossora**	**4.48**	**343**	*eP*	**Pn**	**10 09 45.4**	**-0.2**
OSSR				S	**Sn**	**10 10 34.6**	**-2.5**
KOK	**Koryaka**	**4.49**	**250**	*eP*	**Pn**	**10 09 45.8**	**0.0**
KOK				S	**Sn**	**10 10 34.0**	**-3.4**
DALK	**Dalny**	**4.54**	**247**	P	**Pn**	**10 09 46.2**	**-0.2**
DALK				S	**Sn**	**10 10 34.5**	**-4.0**
PET	**Petropavlovsk**	**4.60**	**247**	*eP*	**Pn**	**10 09 47.0**	**-0.2**
KRMR	**Karymshinskiy**	**4.97**	**247**	*eP*	**Pn**	**10 09 52.0**	**-0.3**
KRMR				S	**Sn**	**10 10 45.4**	**-3.7**
RUS	**Russkaya**	**4.98**	**242**	*eP*	**Pn**	**10 09 52.0**	**-0.4**
RUS				S	**Sn**	**10 10 44.8**	**-4.5**
PETK	**Petropavlovsk-**	**5.07**	**251**	Pn	**Pn**	**10 09 54.1**	**+0.3**
	3.7nm,0.3s,baz=78,slow=18,SNR=93						
PETK				Sn	**Sn**	**10 10 52.9**	**+1.1**
	1.8nm,0.3s,baz=263,slow=25,SNR=6.9						
MTVR	**Mutnovka**	**5.12**	**243**	*eP*	**Pn**	**10 09 54.3**	**-0.2**
MTVR				S	**Sn**	**10 10 49.0**	**-4.0**
GRL	**Gorelyy**	**5.14**	**244**	*eP*	**Pn**	**10 09 55.5**	**+0.7**
GRL				S	**Sn**	**10 10 51.5**	**-2.0**
ASAK	**Asacha**	**5.32**	**244**	*eP*	**Pn**	**10 09 57.7**	**+0.5**
APC	**Apacha**	**5.45**	**251**	*eP*	**Pn**	**10 09 59.9**	**+1.0**
KDTR	**Khodutka, Kamc**	**5.56**	**238**	P	**Pn**	**10 09 59.4**	**-1.1**
TIXI	**Tiksi**	**22.86**	**331**	LR	LR	10 23 24.5	
	comp=Z,445nm,18.3s,baz=16,slow=38						
ILAR	**Eielson Array**	**25.10**	**48**	P	**P**	**10 14 01.6**	**-0.2**
	0.4nm,0.9s,baz=259,slow=7.5,SNR=4.5						
MJAR	**Matsushiro Arr**	**26.34**	**237**	P	**P**	**10 14 16.6**	**+3.2**
	0.8nm,0.5s,baz=54,slow=5.6,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**35.23**	**178**	T	T	10 53 03.0	
	baz=359,slow=76,SNR=54						
H11N3	**WAKE ISLAND Hy**	**35.25**	**178**	T	T	10 53 04.0	
	baz=359,slow=76,SNR=85						
H11N1	**WAKE ISLAND Hy**	**35.25**	**178**	T	T	10 53 04.1	
	baz=359,slow=76,SNR=47						
H11S1	**WAKE ISLAND Hy**	**36.45**	**178**	T	T	10 54 35.8	
	baz=359,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**36.46**	**178**	T	T	10 54 35.2	
	baz=359,slow=76,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**36.47**	**178**	T	T	10 54 35.4	
	baz=359,slow=76,SNR=12						
YKA	**Yellowknife Ar**	**39.49**	**46**	P	**P**	**10 16 08.8**	**+1.3**
	0.1nm,0.4s,baz=295,slow=7.3,SNR=8.6						
TXAR	**Lajitas Array**	**66.88**	**72**	P	**P**	**10 19 31.1**	**+1.6**
	0.3nm,0.7s,baz=308,slow=2.6,SNR=5.0						
WRA	**Warramunga Arr**	**79.30**	**210**	P	**P**	**10 20 42.2**	**-0.6**
	0.8nm,1.1s,baz=9.8,slow=5.9,SNR=1.9						
ASAR	**Alice Springs**	**82.95**	**209**	P	**P**	**10 21 03.1**	**+0.9**
	0.2nm,0.7s,baz=19,slow=6.9,SNR=1.8						

*DJA **03** 10:09:21.8±0.5, 2.5S×13.4E±*, h10km, M3.5/4, MLv3.5/4*
*IDC **03** 10:09:21.3±2.3, 1.69S×133.73E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.5/41, mbtmpg3.7/4, ML3.4/2, Error ellipse: s-maj=53.5km s-min=23.9km az=56.0*

ISC 03 10:09:22.3±0.9, 1.64S±0.09×133.78E±0.06, h10km, n6, σ0.668/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.41**	**72**	P	**Pg**	**10 09 29.8**	**-0.6**
RKPI				S	**Sg**	**10 09 36.6**	**+0.6**
FAKI	**Fak Fak**	**1.99**	**230**	P	**Pn**	**10 09 55.8**	**-0.2**
FAKI				S	**Sn**	**10 10 21.4**	**+0.3**
SIJI	**Sorong**	**2.63**	**287**	Pn	**Pn**	**10 10 04.0**	**-0.8**
	4.1nm,0.3s,baz=252,slow=21,SNR=35						
SIJI				Sn	**Sn**	**10 10 37.0**	**+0.2**
	3.4nm,0.3s,baz=298,slow=23,SNR=7.6						
WRA	**Warramunga Arr**	**18.20**	**178**	P	**P**	**10 13 35.4**	**-0.1**
	0.2nm,0.3s,baz=359,slow=11,SNR=16						
WRA				S	Sn	10 16 40.7	-18
	0.1nm,0.3s,baz=304,slow=18,SNR=2.2						
ASAR	**Alice Springs**	**21.90**	**180**	P	**P**	**10 14 15.4**	**-0.3**
	1.7nm,0.6s,baz=5.4,slow=11,SNR=10						
MKAR	**Makanchi Array**	**65.98**	**324**	P	**P**	**10 20 10.0**	**+1.0**
	0.3nm,0.5s,baz=111,slow=8.2,SNR=2.9						

DJA 03 10:09:35.9±0.7, 10.5S±5.5×11.9E±*, h12km±4km, M3.8/11, mb4.0/2, MLv3.8/11, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.54**	**28**	P	Pb	10 09 48.0	+0.6
WBSI				S	Sb	10 09 55.1	0.0
WSI	**Waingapu**	**1.23**	**69**	P	Pn	10 09 58.0	-1.0
BASI	**Baing, Sumba**	**1.43**	**94**	P	Pn	10 10 00.7	-1.0
BASI				S	Sb	10 10 20.7	0.0
PLAI	**Plampang**	**1.85**	**314**	P	Pn	10 10 07.1	-0.4
PLAI				S	Sn	10 10 31.6	+0.7
TWSI	**Taliwang, Sumb**	**2.61**	**302**	P	Pn	10 10 18.3	+0.4
TWSI				S	Sn	10 10 50.8	+1.2
EDFI	**Ende, Flores**	**2.87**	**62**	P	Pn	10 10 21.6	0.0
EDFI				S	Sn	10 10 56.7	+0.5
MMRI	**Maumere**	**3.40**	**65**	P	Pn	10 10 28.3	-0.6
DNP	**Denpasar**	**4.12**	**290**	P	Pn	10 10 38.9	+0.1
SRBI	**Singaraja**	**4.37**	**297**	P	Pn	10 10 42.2	+0.1
SOEI	**Soe**	**5.07**	**86**	P	Pn	10 10 52.8	+0.8
	0.2nm28nm,1.4s						
JAGI	**Jajag, Banyuwa**	**5.18**	**288**	P	Pn	10 10 52.3	-1.0

*IDC **03** 10:09:32.8±1.7, 44.30S×169.42E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/33, mbtmpg3.7/2, Error ellipse: s-maj=53.5km s-min=13.6km az=165.0*
*WEL **03** 10:09:37.8, 44.5S±1.4×17.7E±*, h40km±5km, M4.0/32, ML4.1/10, MLv4.0/32, Error ellipse: s-maj=0.0km s-min=0.0km az=103.3*
*NEIC **03** 10:09:38.2±2.0, 44.38S±0.03×169.62E±0.05, h41km±7km, Error ellipse: s-maj=6.4km s-min=1.7km az=121.0*

ISC 03 10:09:38.5±0.9, 44.36S±0.03×169.60E±0.03, h47km±8km, n60, σ0.895/71, mb4.0/4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	**Lake Benmore**	**0.42**	**94**	P	**Pn**	**10 09 48.9**	**+0.3**
LBZ				S	**Sn**	**10 09 55.4**	**-0.5**
LBZ	**Lake Benmore**	**0.42**	**94**		**Pn**	**10 09 48.7**	**0.0**
LBZ				Sn	**Sn**	**10 09 55.4**	**-0.5**
WKZ	**Wanaka**	**0.63**	**221**	P	**Pn**	**10 09 51.2**	**0.0**
WKZ				S	**Sn**	**10 10 00.3**	**0.0**
WKZ	**Wanaka**	**0.63**	**221**		**Pn**	**10 09 51.4**	**+0.1**
WKZ					**Sn**	**10 10 00.0**	**-0.4**
JCZ	**Jackson Bay**	**0.65**	**296**	P	**Pn**	**10 09 51.2**	**-0.4**
JCZ				S	**Sn**	**10 09 59.7**	**-1.4**
FOZ	**Fox Glacier**	**0.84**	**11**	P	**Pn**	**10 09 54.8**	**+0.8**
FOZ				S	**Sn**	**10 10 05.2**	**-0.1**
FOZ	**Fox Glacier**	**0.84**	**11**		**Pn**	**10 09 54.5**	**+0.5**
FOZ					**Sn**	**10 10 05.5**	**+0.3**
EAZ	**Earnscleugh**	**0.90**	**193**	P	**Pn**	**10 09 54.7**	**-0.1**
EAZ				S	**Sn**	**10 10 06.4**	**-0.4**
ODZ	**Otahua Downs**	**1.01**	**133**	P	**Pn**	**10 09 56.7**	**+0.3**
ODZ				S	**Sn**	**10 10 09.0**	**-0.5**
ODZ	**Otahua Downs**	**1.01**	**133**		**Pn**	**10 09 56.2**	**-0.1**
RPZ	**Rata Peaks**	**1.23**	**59**	Pg	**Pn**	**10 09 59.0**	**-0.4**
	78nm,0.3s,baz=210,slow=4.6,SNR=378						
RPZ				Lg	Lg	10 10

GYA					smax	smax			
	comp=E,120nm,1.1s								
CD2	**Chengdu**	**3.70**	**2**		Pn	**Pn**	**10 13 43.2**	**+1.2**	
CD2					Pg	**Pg**	**10 13 53.6**	**-2.0**	
CD2					Sn	**Sn**	**10 14 24.9**	**-0.8**	
CD2					Sg	**Sg**	**10 14 43.9**	**+0.3**	
CD2					smax	smax			
	comp=N,460nm,0.7s								
CD2					smax	smax			
	comp=E,460nm,0.6s								
SLVN	**Son La**	**5.85**	**177**			**Pn**	**10 14 12.7**	**+1.1**	
ENH	**Enshi**	**6.01**	**58**			Pn	10 14 18.9	+5.1	
XAN	**Xi'an**	**8.22**	**33**	P		**Pn**	**10 14 45.5**	**+1.4**	
XAN				S		**Sn**	**10 16 15.7**	**-1.4**	
XAN				smax	smax				
	comp=N,83nm,1.3s								
XAN				smax	smax				
	comp=E,100nm,1.1s								
XAN	**Xi'an**	**8.22**	**33**	Pn		**Pn**	**10 14 45.5**	**+1.4**	
CMAR	**Chiang Mai Arr**	**9.70**	**207**	Pg		Pn	10 15 44.5	+40	
	0.1nm,0.3s,baz=6.7,slow=16,SNR=1.8								
WHN	**Wuhan**	**10.00**	**68**	P		**Pn**	**10 15 11.3**	**+2.8**	
BRDH	**Bariadhala**	**11.74**	**250**	LR		LR	10 21 09.1		
	comp=Z,95nm,19.6s,baz=360,slow=42								
GTA	**Gaotai**	**12.58**	**346**	*e*P		**Pn**	**10 15 47.8**	**+3.9**	
GTA				pP			10 15 54.7		
GTA				sP			10 15 58.9		
SONM	**Songino Array**	**20.71**	**5**	P		**P**	**10 17 24.8**	**-0.5**	
	0.6nm,0.6s,baz=187,slow=8.7,SNR=2.2								
WMQ	**Urumqi**	**20.97**	**326**	*e*P		**P**	**10 17 28.4**	**+0.3**	
MK31	**Makanchi Array**	**25.77**	**325**	P		**P**	**10 18 18.6**	**+2.9**	
MK31				IAmb		IAmb	10 18 28.4		
	comp=Z,3.4nm,1.1s								
MKAR	**Makanchi Array**	**25.77**	**325**	P		**P**	**10 18 16.1**	**+0.4**	
	comp=Z,1.2nm,0.8s,baz=133,slow=12,SNR=6.8								
ZALV	**Zalesovo Beam**	**30.09**	**338**	P		**P**	**10 18 54.2**	**-0.1**	
	comp=Z,0.3nm,0.4s,baz=132,slow=10,SNR=1.9								
KURK	**Kurchatov**	**30.20**	**328**	P		**P**	**10 18 58.4**	**+3.2**	
KURK				IAmb		IAmb	10 18 58.4		
	comp=Z,1.7nm,0.7s								
TIXI	**Tiksi**	**46.66**	**11**	P		**P**	**10 21 11.0**	**-2.0**	
	comp=Z,1.1nm,0.5s,baz=270,slow=2.0,SNR=1.7								
TIXI	**Tiksi**	**46.66**	**11**	P		**P**	**10 21 12.7**	**-0.3**	
TIXI				IAmb		IAmb	10 21 29.9		
	comp=Z,4.7nm,1.4s								
WB0	**Warramunga Arr**	**55.42**	**144**	P		**P**	**10 22 20.2**	**+0.7**	
WB0				IAmb		IAmb	10 22 31.1		
	comp=Z,6.5nm,1.2s								
WRA	**Warramunga Arr**	**55.53**	**144**	P		**P**	**10 22 18.9**	**-1.5**	
	comp=Z,0.8nm,0.6s,baz=333,slow=8.5,SNR=22								
WB2	**Warramunga Arr**	**55.54**	**144**	P		**P**	**10 22 20.0**	**-0.4**	
WR0	**Warramunga Arr**	**55.65**	**144**	P		**P**	**10 22 20.6**	**-0.7**	
WR0				IAmb		IAmb	10 22 22.4		
	comp=Z,10.0nm,1.4s								
AS31	**Alice Springs**	**58.43**	**147**	P		**P**	**10 22 39.2**	**-1.7**	
ASAR	**Alice Springs**	**58.43**	**147**	P		**P**	**10 22 40.4**	**-0.6**	
	comp=Z,0.4nm,0.5s,baz=324,slow=6.9,SNR=9.8								
FINES	**FINESS Array B**	**60.57**	**327**	P		**P**	**10 22 55.1**	**-0.1**	
	comp=Z,0.8nm,0.7s,baz=64,slow=3.2,SNR=5.4								
ARCES	**ARCESS Array B**	**60.64**	**337**	P		**P**	**10 22 54.6**	**-0.9**	
	comp=Z,1.1nm,0.9s,baz=76,slow=8.9,SNR=1.6								
NOA	**NORSAR Array B**	**67.71**	**328**	P		**P**	**10 23 40.8**	**-1.4**	
	comp=Z,0.2nm,0.5s,baz=90,slow=4.9,SNR=1.1								
GERES	**GERESS Array B**	**69.97**	**315**	P		**P**	**10 23 56.8**	**+0.3**	
	comp=Z,0.3nm,0.5s,baz=76,slow=5.6,SNR=4.9								
YKA	**Yellowknife Ar**	**85.54**	**17**	P		**P**	**10 25 21.1**	**-1.7**	
	comp=Z,0.3nm,0.7s,baz=329,slow=5.2,SNR=5.2								

MEX 03 10:23:57.1±0.5, 15°20N×93°41W, h88km±55km, MD3.6, Near coast of Chiapas

*SNET **03** 10:33:57.6±0.5, 13°.40N×90°.37W, h66km±22km, ML3.0*
*GCG **03** 10:34:01.1±0.6, 13°.55N×90°.30W, h27km±43km, MD3.4*
ISC 03 10:33:58.9±3.5, 13°.3N±0°.2×90°.3W±0°.1, h38km, n8, σ0°59/11, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.81**	**43**	*e*S	**Sn**	**10 34 24.9**	**0.0**
IXG	**Ixpaco**	**0.87**	**354**	*e*P	**Pn**	**10 34 14.1**	**-0.7**
CEVE	**Cerro Verde**	**0.87**	**53**	*e*P	**Pn**	**10 34 14.7**	**-0.3**
CEVE				IAML		10 34 28.4	
	comp=Z,711nm,0.2s						
JAYA	**Jayaque - finc**	**0.94**	**68**	*e*P	**Pn**	**10 34 15.3**	**-0.4**
JAYA				*e*S	**Sn**	**10 34 28.5**	**+0.4**
	comp=Z,367nm,0.2s						
PCG	**Pacaya**	**1.11**	**347**	*e*P	**Pn**	**10 34 17.9**	**-0.4**
FUG	**Fuego 3**	**1.24**	**337**	*e*P	**Pn**	**10 34 20.4**	**+0.5**
FUG				*e*S	**Sn**	**10 34 35.3**	**-0.1**
NBG	**Las Nubes**	**1.28**	**360**	*e*P	**Pn**	**10 34 20.6**	**+0.1**
COEG	**Centro de Oper**	**1.46**	**77**	*e*P	**Pn**	**10 34 22.3**	**-0.5**
COEG				*e*S	**Sn**	**10 34 41.8**	**+1.1**
COEG				IAML		10 34 45.4	
	comp=Z,114nm,0.3s						

*IDC **03** 10:34:01.1±0.8, 27°.24N×103°.54E, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.7/64, mbtmp3.7/12, ML3.8/1, Error ellipse: s-maj=41.3km s-min=16.6km az=63.0*
*BJI **03** 10:34:02.5±0.0, 27°.11N×103°.35E, h11km, ML3.8/15*
*NEIC **03** 10:34:03.1±2.0, 27°.16N±0°.07×103°.4E±0°.1, h10km±1km, mb4.5/12, Error ellipse: s-maj=18.0km s-min=10.4km az=114.0*
ISC 03 10:34:03.5±0.5, 27°.25N±0°.04×103°.32E±0°.06, h10km, n38, σ1§31/44, mb4.1/15, 2D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.18**	**194**	⇓*e*P	**Pn**	**10 34 40.6**	**+0.5**
KMI				Sg	**Sb**	**10 35 11.0**	**+0.7**
KMI				smax	smax		
	comp=N,290nm,1.1s						
KMI				smax	smax		
	comp=E,330nm,0.9s						
KMI	**Kunming**	**2.18**	**194**		**Pn**	**10 34 38.9**	**-1.1**
GYA	**Guiyang**	**3.09**	**104**	⇓Pn	**Pn**	**10 34 53.1**	**+0.6**
GYA				Sn	**Sn**	**10 35 29.6**	**0.0**
GYA				Sg	**Sg**	**10 35 43.8**	**+0.9**
GYA				smax	smax		
	comp=N,210nm,1.2s						
GYA				smax	smax		
	comp=E,150nm,0.9s						
CD2	**Chengdu**	**3.67**	**6**	Pn	**Pn**	**10 35 01.0**	**+0.6**
CD2				Pg	**Pg**	**10 35 13.4**	**-0.5**
CD2				Sg	**Sg**	**10 36 00.8**	**-0.7**
CD2				smax	smax		
	comp=N,440nm,0.8s						
CD2				smax	smax		
	comp=E,380nm,0.7s						
SLVN	**Son La**	**5.91**	**175**		**Pn**	**10 35 31.4**	**+0.2**
ENH	**Enshi**	**6.20**	**59**		**Pn**	**10 35 37.2**	**+2.0**
XAN	**Xi'an**	**8.31**	**34**	P	**Pn**	**10 36 06.4**	**+2.2**
XAN				S	**Sn**	**10 37 38.8**	**+0.6**
XAN				smax	smax		
	comp=N,84nm,1.4s						
XAN	**Xi'an**	**8.31**	**34**	Pn	**Pn**	**10 36 04.2**	**0.0**
CMAR	**Chiang Mai Arr**	**9.63**	**206**	Pn	**Pn**	**10 36 22.9**	**+0.7**
	0.3nm,0.3s,baz=12,slow=11,SNR=6.7						
WHN	**Wuhan**	**10.21**	**69**	P	**Pn**	**10 36 31.2**	**+1.0**
GTA	**Gaotai**	**12.48**	**347**	*e*P	**Pn**	**10 37 00.3**	**-1.0**
GTA				pP		10 37 05.7	
GTA				sP		10 37 09.0	
BJT	**Baijiatuan**	**16.61**	**37**	P	**P**	**10 38 01.1**	**+2.1**
BJT				IAmb	IAmb	10 38 02.8	
	comp=Z,21nm,0.4s						
SONM	**Songino Array**	**20.69**	**6**	P	**P**	**10 38 43.6**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=179,slow=17,SNR=2.2						
WMQ	**Urumqi**	**20.80**	**327**	*e*P	**P**	**10 38 46.6**	**+1.6**
KS19	**Wonju Array Si**	**23.06**	**58**	P	**P**	**10 39 05.8**	**-3.3**
KKM	**Kota Kinabalu**	**24.40**	**147**	P	**P**	**10 39 22.5**	**+0.1**
KKM				IAmb	IAmb	10 39 24.2	
	comp=Z,17nm,1.2s						
TARG	**Taragay, Kyrgy**	**25.39**	**311**	P	**P**	**10 39 33.2**	**+1.7**
TARG				IAmb	IAmb	10 39 39.1	
	comp=Z,10nm,1.4s						
MK31	**Makanchi Array**	**25.60**	**325**	P	**P**	**10 39 34.9**	**+2.0**
MKAR	**Makanchi Array**	**25.60**	**325**	P	**P**	**10 39 33.7**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=125,slow=10,SNR=10.0						
HRA	**Herat**	**35.80**	**292**	P	**P**	**10 41 02.9**	**-0.5**
HRA				IAmb	IAmb	10 41 07.7	
	comp=Z,4.5nm,1.0s						

WB0	**Warramunga Arr**	**55.60**	**144**	P		**P**	**10 43 37.7**	**-1.9**	
WB0				IAmb		IAmb	10 43 56.3		
	comp=Z,5.4nm,1.2s								
WRA	**Warramunga Arr**	**55.71**	**144**	P		**P**	**10 43 38.1**	**-2.3**	
	comp=Z,2.1nm,0.7s,baz=333,slow=8.5,SNR=19								
WB2	**Warramunga Arr**	**55.72**	**144**	P		**P**	**10 43 39.1**	**-1.4**	
WR0	**Warramunga Arr**	**55.83**	**144**	P		**P**	**10 43 39.7**	**-1.6**	
WR0				IAmb		IAmb	10 43 46.6		
	comp=Z,7.6nm,1.3s								
AS31	**Alice Springs**	**58.60**	**147**	P		**P**	**10 43 59.8**	**-1.1**	
ASAR	**Alice Springs**	**58.60**	**147**	P		**P**	**10 43 59.6**	**-1.2**	
	comp=Z,0.7nm,0.6s,baz=329,slow=7.0,SNR=11								
CSS	**Mathiatis**	**59.33**	**296**	P		**P**	**10 44 05.5**	**-0.5**	
AKASG	**Malin Array Be**	**59.56**	**315**	P		**P**	**10 44 07.4**	**+0.2**	
	comp=Z,1.2nm,0.5s,baz=71,slow=6.0,SNR=5.0								
KEV	**Kevo**	**59.98**	**337**	P		**P**	**10 44 11.9**	**+2.1**	
FINES	**FINESS Array B**	**60.41**	**327**	P		**P**	**10 44 12.2**	**-0.6**	
	comp=Z,1.0nm,0.6s,baz=82,slow=6.4,SNR=5.2								
ARCES	**ARCESS Array B**	**60.50**	**337**	P		**P**	**10 44 13.1**	**-0.3**	
	comp=Z,0.8nm,0.7s,baz=95,slow=8.2,SNR=2.1								
HFS	**Hagfors**	**66.60**	**327**	P		**P**	**10 44 53.7**	**-0.1**	
	comp=Z,0.8nm,0.6s,baz=111,slow=7.9,SNR=1.5								
NC602	**NORSAR Array S**	**67.47**	**328**	P		**P**	**10 45 00.2**	**+0.9**	
NB2	**NORSAR Subarra**	**67.55**	**328**	P		**P**	**10 44 59.7**	**-0.2**	
	comp=Z,2.3nm,0.9s,baz=75,slow=6.9								
NOA	**NORSAR Array B**	**67.55**	**328**	P		**P**	**10 44 58.8**	**-1.1**	
	comp=Z,0.4nm,0.6s,baz=82,slow=4.3,SNR=3.9								
CLL	**Collm**	**69.42**	**318**	*e*(P)		**P**	**10 45 14.0**	**+2.3**	
CLL				Lm		MLR	12 04 00.0		
	comp=Z,300nm,20.5s								
GERES	**GERESS Array B**	**69.77**	**315**	P		**P**	**10 45 14.2**	**+0.1**	
	comp=Z,0.2nm,0.4s,baz=46,slow=7.0,SNR=2.1								
YKA	**Yellowknife Ar**	**85.57**	**17**	P		**P**	**10 46 40.9**	**-0.8**	
	comp=Z,0.3nm,0.8s,baz=329,slow=4.7,SNR=4.0								

IDC 03 10:34:11.8±6.8, 6°.90S×148°.52E, h93km±52km, mb3.7/2, mb1 3.6/4, mb1mx3.2/38, mbtmp3.7/4, Error ellipse: s-maj=95.7km s-min=55.4km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.83**	**208**	P	Pn	10 34 54.5	-0.6
	5.2nm,0.3s,baz=350,slow=6.1,SNR=10						
PMG				S	Sn	10 35 30.1	+1.5
	2.1nm,0.3s,baz=302,slow=17,SNR=1.6						
WRA	**Warramunga Arr**	**18.91**	**225**	P	P	10 38 24.4	-0.9
	0.2nm,0.3s,baz=54,slow=10,SNR=16						
ASAR	**Alice Springs**	**21.80**	**219**	P	P	10 38 56.6	+0.2
	1.7nm,0.5s,baz=52,slow=9.4,SNR=45						
FITZ	**Fitzroy Crossi**	**24.92**	**241**	P	P	10 39 25.5	-0.9
	2.9nm,0.4s,baz=57,slow=8.8,SNR=26						
TORD	**Torodi Ar. Bea**	**146.77**	**283**	PKPbc	PKPab	10 53 44.9	-0.6
	0.4nm,0.7s,baz=73,slow=3.4,SNR=2.3						

DJA 03 10:39:58.1±0.8, 2°N±6°×127°E±°, h127km±6km, M4.0/7, mB5.0/2, mb4.4/1, MLv3.7/7, Mw(mB)4.3/2, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.06**	**165**	P	Pn	10 40 21.8	+0.5
TNTI				S	Sn	10 40 39.6	+0.7
SANI	**Sanana**	**3.98**	**196**	P	Pn	10 40 57.2	-0.4
GTOI	**Gorontalo**	**4.24**	**254**	P	Pn	10 41 02.8	+1.8
GTOI				S	Sn	10 41 52.6	+2.8
NLAI	**Namlea**	**5.00**	**180**	P	Pn	10 41 11.3	0.0
LUWI	**Luwuk**	**5.16**	**237**	P	Pn	10 41 12.8	-0.5

*IDC **03** 10:42:42.4±1.7, 40°.35N×28°.91E, h0km, mb3.3/2, mb1 3.4/4, mb1mx3.1/41, mbtmp3.2/4, ML2.8/2, Error ellipse: s-maj=35.9km s-min=12.4km az=25.0*
*ISK **03** 10:42:44.5, 40°.61N×29°.16E, h3km, ML3.6/47*
*DDA **03** 10:42:45.3, 40°.61N×29°.17E, h4km±1km, MW3.6*
*THE **03** 10:42:46.9, 40°.87N×29°.41E, h27km±1km, ML3.2/5, Error ellipse: s-maj=2.8km s-min=0.6km az=26.0*
*BEO **03** 10:42:47.1±1.1, 40°.36N×29°.01E, h15km, ML3.1/5*
ISC 03 10:42:45.4±0.8, 40°.61N±0°.01×29°.16E±0°.01, h11km±6km, n135, σ1§07/175, 11C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEMT	**Gemlik**	**0.17**	**172**	PG	**Pg**	**10 42 48.7**	**-0.5**
GEMT				SG	**Sg**	**10 42 51.3**	**-0.5**
YLVH	**Yalova**	**0.18**	**61**	PG	**Pg**	**10 42 49.8**	**+0.4**
TUZL	**Tuzla-Istanbul**	**0.22**	**22**	PG	**Pg**	**10 42 49.8**	**-0.2**
TUZL				SG	**Sg**	**10 42 53.7**	**+0.5**
ARMT	**Armutlu**	**0.23**	**260**	PG	**Pg**	**10 42 49.9**	**-0.2**
ARMT				SG	**Sg**	**10 42 53.7**	**+0.3**
BUY	**Buyukada**	**0.25**	**353**	*i* P	**Pg**	**10 42 50.4**	**-0.1**
BUY				*i* S	**Sg**	**10 42 52.6**	**-1.3**
MDNY	**Mudanya-Bursa**	**0.32**	**221**	PG	**Pg**	**10 42 52.0**	**+0.3**
MDNY				SG	**Sg**	**10 42 56.9**	**+0.9**
IGD	**Bursa**	**0.34**	**174**	*i* P	**Pg**	**10 42 52.1**	**-0.1**
HVHR	**Bakirkoy-Istan**	**0.43**	**327**	PG	**Pg**	**10 42 54.1**	**+0.2**
KAVV	**Kandilli-Istan**	**0.46**	**351**	PG	**Pg**	**10 42 54.3**	**-0.1**
ISK	**Istanbul-Kandi**	**0.46**	**351**	P	**Pg**	**10 42 54.2**	**-0.3**
ISK				S	**Sg**	**10 43 00.2**	**-0.4**
	2µm,0.5s						
ISK	**Istanbul-Kandi**	**0.46**	**351**	PG	**Pg**	**10 42 54.2**	**-0.3**
ULDT	**Uludag**	**0.46**	**182**	*i* P	**Pg**	**10 42 54.4**	**-0.1**
ULDT				*i* S	**Sg**	**10 42 59.2**	**-1.5**
ADVT	**Abdulvahap**	**0.48**	**111**	PG	**Pg**	**10 42 54.4**	**-0.3**
AVCI	**Avcilar-stanb**	**0.51**	**320**	PG	**Pg**	**10 42 54.7**	**-0.6**
ORLT	**Orhaneli**	**0.59**	**200**	PG	**Pg**	**10 42 56.5**	**-0.4**
BGKT	**Bogazkoy**	**0.64**	**333**	PG	**Pg**	**10 42 57.7**	**-0.2**
KLYT	**Kilyos**	**0.65**	**352**	PG	**Pg**	**10 42 57.7**	**-0.3**
SILT	**Sile**	**0.66**	**34**	PG	**Pg**	**10 42 57.7**	**-0.4**
CAVI	**Cavuskoy**	**0.66**	**127**	PG	**Pg**	**10 42 57.9**	**-0.3**
ELBA	**Catalca**	**0.77**	**315**	*i* P	**Pg**	**10 42 59.8**	**-0.5**
ELBA				*i* S	**Sg**	**10 43 09.7**	**-0.6**
CTKS	**Kestanelik-??a**	**0.80**	**322**	PG	**Pg**	**10 43 00.2**	**-0.6**
GEYV	**SAKARYA_Geyve**	**0.88**	**98**	*i* P	**Pg**	**10 43 01.7**	**-0.6**
GEYV				*i* S	**Sg**	**10 43 12.7**	**-1.0**
GEYV				IAML		10 43 15.0	
	comp=N,909nm,0.4s						
GEYV				IAML		10 43 19.0	
	comp=E,1µm,0.4s						
SPNC	**Sapanca-Adapaz**	**0.88**	**84**	PG	**Pg**	**10 43 01.9**	**-0.4**
SAUV	**Serdivan-Sakar**	**0.90**	**81**	PG	**Pg**	**10 43 02.5**	**-0.2**
GPA	**Golpazari**	**0.94**	**109**	PG	**Pg**	**10 43 03.5**	**+0.1**
SLVT	**Silivri**	**0.95**	**311**	PG	**Pg**	**10 43 03.9**	**+0.2**
AUBOZ	**BOZOYUK**	**0.97**	**136**	PG	**Pg**	**10 43 03.6**	**-0.3**
AUBOZ	**BOZOYUK**	**0.97**	**136**	*i* P	**Pg**	**10 43 03.7**	**-0.3**
AUBOZ				*i* S	**Sg**	**10 43 15.7**	**-0.9**
AUBOZ				IAML		10 43 20.0	
	comp=E,5µm,0.6s						
AUBOZ				IAML		10 43 20.0	
	comp=N,3µm,0.4s						
BOTS	**Marmara Eregli**	**0.97**	**294**	PG	**Pg**	**10 43 03.9**	**-0.2**
EDC	**Edincik**	**1.02**	**256**	PG	**Pg**	**10 43 04.1**	**-0.9**
GULT	**Gulveren**	**1.05**	**99**	PG	**Pg**	**10 43 05.3**	**-0.3**
DST	**Dursunbey**	**1.08**	**203**	PN	**Pg**	**10 43 05.9**	**-0.3**
CTYL	**Yalikoy Yolu**	**1.09**	**323**	PN	**Pg**	**10 43 06.3**	**0.0**
MAR9	**Marsite Statio**	**1.11**	**271**	PN	**Pg**	**10 43 06.3**	**-0.4**
DURS	**Dursunbey**	**1.13**	**208**	*i* P	**Pg**	**10 43 06.5**	**-0.6**
DURS				*i* S	**Sg**	**10 43 21.5**	**-0.4**
DURS				IAML		10 43 24.0	
	comp=N,2µm,0.3s						
DURS				IAML		10 43 25.0	
	comp=E,2µm,0.5s						
TVSB	**Tavsanli**	**1.18**	**168**	PN	**Pg**	**10 43 07.8**	**-0.2**
MRMT	**Marmara Adasi**	**1.19**	**270**	PN	**Pg**	**10 43 08.1**	**-0.1**
CRLT	**Corlu**	**1.20**	**296**	PN	**Pg**	**10 43 08.1**	**-0.3**
BORA	**Eskisehir**	**1.23**	**126**	PN	**Pg**	**10 43 08.7**	**-0.3**
BORA	**Eskisehir**	**1.23**	**126**	*i* P	**Pg**	**10 43 08.4**	**-0.6**
BORA				*i* S	**Sg**	**10 43 24.9**	**-0.1**
GONE	**Gonen-Balikesi**	**1.26**	**244**	PN	**Pg**	**10 43 09.1**	**-0.4**
SRCK	**Saricakaya, Es**	**1.26**	**116**	PN	**Pg**	**10 43 09.2**	**-0.3**
KNL	**Balikesir**	**1.29**	**255**	*i* P	**Pg**	**10 43 07.7**	**-2.4**
SAHE	**Sakarya_HENDEK**	**1.31**	**79**	*i* P	**Pg**	**10 43 09.3**	**-0.4**
SAHE				*i* S	**Sg**	**10 43 25.9**	**-1.8**
SAHE				IAML		10 43 30.0	
	comp=E,700nm,0.7s						
SAHE				IAML		10 43 31.0	
	comp=N,811nm,0.5s						
BALB	**Balikesir**	**1.38**	**226**	PN	**Pn**	**10 43 11.3**	**+0.8**
BTAS	**Taskesti**	**1.40**	**91**	*i* P	**Pn**	**10 43 11.4**	**+0.5**
BTAS				*i* S	**Sb**	**10 43 28.0**	**-1.6**
BTAS				IAML		10 43 33.0	
	comp=E,1µm,0.5s						
BTAS				IAML		10 43 33.0	
	comp=N,723nm,0.8s						
MAR2	**Marsite Statio**	**1.41**	**275**	PN	**Pn**	**10 43 11.6**	**+0.7**
MAR3	**Marsite Statio**	**1.42**	**276**	PN	**Pb**	**10 43 12.2**	**+0.3**
MAR4	**Marsite Statio**	**1.42**	**278**	PN	**Pn**	**10 43 11.4**	**+0.2**
MAR6	**Marsite Statio**	**1.44**	**274**	PN	**Pn**	**10 43 12.2**	**+0.8**
BALY	**Balya**	**1.46**	**234**	*i* P	**Pn**	**10 43 11.8**	**0.0**
BALY				*i* S	**Sb**	**10 43 29.6**	**-1.6**
BALY				IAML		10 43 35.0	
	comp=N,1µm,0.6s						
BALY				IAML		10 43 35.0	
	comp=E,644nm,0.5s						
SART	**Tekirdag**	**1.51**	**274**	*i* P	**Pn**	**10 43 12.3**	**0.0**
SART				*i* S	**Sn**	**10 43 33.1**	**+1.1**
RKY	**Sarkoy-Tekirda**	**1.51**	**274**	PN	**Pn**	**10 43 13.2**	**+0.8**
SIMA	**Simav-Kutahya**	**1.53**	**185**	PN	**Pn**	**10 43 13.0**	**+0.3**
GDZ	**Gediz**	**1.54**	**171**	*i* P	**Pn**	**10 43 13.1**	**+0.2**
GDZ				*i* S	**Sn**	**10 43 33.1**	**+0.2**
GDZ				IAML		10 43 38.0	
	comp=E,435nm,0.3s						
GDZ				IAML		10 43 39.0	
	comp=N,410nm,0.7s						
MDUB	**Mudurnu**	**1.56**	**94**	PN	**Pn**	**10 43 13.9**	**+0.7**
GEDZ	**Gediz**	**1.57**	**173**	PN	**Pn**	**10 43 14.1**	**+0.8**
PHSR	**Pinarhisar**	**1.60**	**310**	PN	**Pn**	**10 43 14.8**	**+1.2**
STEP	**BALIKESIR_Sava**	**1.65**	**222**	*i* P	**Pn**	**10 43 13.7**	**-0.6**
STEP				*i* S	**Sn**	**10 43 35.0**	**-0.6**
STEP				IAML		10 43 40.0	
	comp=E,1µm,0.4s						
STEP				IAML		10 43 40.0	
	comp=N,982nm,0.6s						
ESKT	**Eskisehir**	**1.69**	**129**	PN	**Pn**	**10 43 15.8**	**+0.8**
AUKIR	**Kırka- Seyitga**	**1.70**	**141**	*i* P	**Pg**	**10 43 18.2**	**+0.2**
AUKIR				*i* S	**Sb**	**10 43 38.6**	**+0.6**
AUKIR				IAML		10 43 43.0	
	comp=N,784nm,0.3s						
AUKIR				IAML		10 43 44.0	
	comp=E,451nm,0.5s						
YIGI	**Dzce**	**1.78**	**78**	*i* P	**Pn**	**10 43 16.4**	**+0.4**
YIGI				*i* S	**Sn**	**10 43 39.1**	**+0.5**
YIGI				IAML		10 43 41.0	
	comp=N,231nm,1.1s						
YIGI				IAML		10 43 44.0	
	comp=E,323nm,0.5s						
LPK	**Lapseki**	**1.84**	**263**	PN	**Pn**	**10 43 17.9**	**+1.0**
KDZE	**Karadeniz Ereo**	**1.87**	**67**	⇓P	**Pn**	**10 43 17.9**	**+0.6**
KDZE				⇓S	**Sn**	**10 43 41.7**	**+0.8**
USAK	**Uak-Merkez**	**1.89**	**183**	*i* P	**Pb**	**10 43 20.8**	**+0.8**
USAK				IAML		10 43 46.0	
	comp=N,833nm,0.3s						
KESN	**Edirne-Kesan**	**1.90**	**277**	*i* P	**Pn**	**10 43 17.0**	**-1.0**
KESN				*i* S	**Sn**	**10 43 40.5**	**-1.5**
KESN				IAML		10 43 46.0	
	comp=N,272nm,0.3s						
KESN				IAML		10 43 49.0	
	comp=E,336nm,0.3s						
CIFT	**Cifteler, Eski**	**1.92**	**130**	PN	**Pn**	**10 43 19.4**	**+1.3**
AUMIH	**MIHALICIK**	**1.93**	**112**	PN	**Pn**	**10 43 19.8**	**+1.6**
AUMIH	**MIHALICIK**	**1.93**	**112**	*i* P	**Pb**	**10 43 20.4**	**-0.2**
AUMIH				IAML		10 43 52.0	
	comp=E,289nm,0.6s						
YUVA	**Yuva-Kibriscik**	**1.94**	**96**	PN	**Pn**	**10 43 19.2**	**+0.8**
KIRK	**Kırklareli**	**1.95**	**308**	*i* P	**Pn**	**10 43 17.8**	**-0.6**
UKOP	**Uzunkopru-Edir**	**1.98**	**286**	PN	**Pn**	**10 43 19.8**	**+1.0**
AKHS	**Akhisar**	**2.01**	**211**	*i* P	**Pn**	**10 43 18.4**	**-0.8**
AFYO	**Afyonkarahisar**	**2.02**	**154**	*i* P	**Pb**	**10 43 22.8**	**+0.6**
AFYO				IAML		10 43 54.0	
	comp=N,672nm,0.6s						
AFYO				IAML		10 43 59.0	
	comp=E,807nm,0.6s						
KULA	**Kula-Manisa**	**2.12**	**191**	P	**Pb**	**10 43 24.2**	**+0.3**
KULA	**Kula-Manisa**	**2.12**	**191**	PN	**Pn**	**10 43 21.9**	**+1.0**
SVRH	**Sivrihisar-ESK**	**2.15**	**122**	PN	**Pn**	**10 43 22.4**	**+1.1**
MANT	**Manisa**	**2.16**	**193**	*i* P	**Pb**	**10 43 25.4**	**+0.7**
MANT				IAML		10 43 55.0	
	comp=E,590nm,0.4s						
MANT				IAML		10 43 58.0	
	comp=N,274nm,0

BZK				⇑S	Sn	10 44 33.2	+2.4
MMB	**Musomiste**	**4.22**	**285**	*i* P	Pn	10 43 47.0	-2.6
SRS	**Serrai**	**4.25**	**279**	*e*Pn	Pn	10 43 49.9	-0.1
CFR	**Carcaliu**	**4.63**	**351**	⇑S	Sn	10 44 50.5	+1.6
KKB	**Krupnik**	**4.75**	**287**	*i* P	Pn	10 43 58.4	+1.5
VTS	**Vitosha**	**4.87**	**296**	*e*Pn	Pn	10 43 59.6	+0.9
VTS				*e*Sn	Sn	10 44 54.0	-1.2
VTS	**Vitosha**	**4.87**	**296**	⇑P	Pn	10 43 59.9	+1.2
VTS				⇑S	Sn	10 44 58.1	+2.9
BOSS	**Bosilegrad**	**5.35**	**293**	*e*Pn	Pn	10 44 06.0	+0.8
BOSS				*e*Sn	Sn	10 45 05.3	-1.5
STIP	**Stip**	**5.37**	**284**	*i* Pn	Pn	10 44 03.8	-1.6
MLR	**Muntele Rosu**	**5.42**	**335**	Pn	Pn	10 44 08.3	+2.2
	comp=N,0.2nm,0.3s,baz=144,slow=17,SNR=2.4						
ZAPS	**Zavoj**	**5.55**	**301**	*e*Pn	Pn	10 44 09.0	+1.1
ZAPS				*e*Sn	Sn	10 45 11.3	-0.3
VRI	**Vrincioaia**	**5.55**	**342**	⇑S	Sn	10 45 12.9	+1.2
PLOR	**Plostina**	**5.55**	**342**	⇑S	Sn	10 45 13.4	+1.7
BARS	**Barje**	**5.92**	**294**	*e*Pn	Pn	10 44 14.0	+1.0
FINES	**FINESS Array B**	**20.95**	**356**	P	P	10 47 27.6	-0.3
	comp=N,0.8nm,0.6s,baz=167,slow=9.6,SNR=4.0						
ESDC	**Sonseca Array**	**25.26**	**279**	P	P	10 48 09.4	-2.1
	comp=N,0.4nm,0.7s,baz=72,slow=9.1,SNR=5.1						

NEIC ***03*** *10:44:37.3±2.7, 10.89S±0.04×161.99E±0.08, h10km±1km, mb5.1/108, Error ellipse: s-maj=13.2km s-min=5.6km az=81.0*

BJI ***03*** *10:44:40.6±0.0, 10.59S×162.17E, h47km, mB5.4/18, mb4.9/27, Ms5.0/11, Ms7 4.8/12*

GCMT ***03*** *10:44:42.3±0.2, 11.06S±0.02×161.91E±0.02, h31km, MW5.3/93, Moment Tensor Solution. s56,c83; s93,c143; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr 0.92±.04; Mθθ -0.67±.03; Mφφ -0.24±.03; Mrθ -0.07±.04; Mrφ 0.61±.02; Mθφ -0.33±.04; Best double couple: M0 1.08100×10^17 NP1 φs 287.00000°, δ 45.00000°, λ 61.00000°. NP2 φs 144.00000°, δ 52.00000°, λ 115.00000°. Principal axes: T 1.0410, Plg 70.0000°, Azm 116.0000°; N 0.0800, Plg 20.0000°, Azm 308.0000°; P -1.1210, Plg 4.0000°, Azm 216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***03*** *10:44:42.9±1.1, 10.83S×161.78E, h66km, mb5.1/15 Error ellipse: s-maj=8.6km s-min=8.4km az=38.8*

IDC ***03*** *10:44:44.2±2.4, 10.86S×161.79E, h63km±20km, mb4.4/25, mb1 4.5/30, mb1mx4.4/43, mbtmp4.7/30, MS4.6/23, Ms1 4.6/23, ms1mx4.4/40, Error ellipse: s-maj=15.3km s-min=11.7km az=99.0*

ISC 03 10:44:41.2±0.3, 10.89S±0.05×161.99E±0.05, h36km, n256, σ1§28/222, mb5.0/102, MS4.7/26, 1C-1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.48**	**306**	P		P	**Pn**	**10 45 19.7**	**+0.6**
	239nm,0.3s,baz=192,slow=6.0,SNR=56								
HNR				S			**Sn**	**10 45 49.6**	**+1.5**
	747nm,0.3s,baz=249,slow=16,SNR=6.9								
HNR				LR		LR	LR	10 46 27.4	
	comp=Z,16μm,18.8s,baz=133,slow=45								
HNR	**Honiara**	**2.48**	**306**	P		P	**Pn**	**10 45 19.3**	**+0.2**
HNR								10 45 48.7	
HNR	**Honiara**	**2.48**	**306**	Pn		P	**Pn**	**10 45 19.3**	**+0.2**
HNR				Sn			**Sn**	**10 45 48.7**	**+0.6**
KRVT	**Keravat (AS076**	**11.84**	**303**	P		P	**Pn**	**10 47 28.4**	**+0.7**
	2.7nm,0.3s,baz=113,slow=5.1,SNR=2.0								
KRVT				S			Sn	10 49 50.1	+11
	8.2nm,0.3s,baz=24,slow=22,SNR=4.4								
DZM	**Mont Dzumac**	**11.91**	**160**	*e*Pn			**Pn**	**10 47 30.5**	**+1.9**
	25nm,0.7s								
DZM				*e*Sn			**Sn**	**10 49 36.2**	**-4.1**
	14nm,0.6s								
DZM				*e*LR		LR	LR	10 50 19.0	
	comp=Z,6μm,23.8s								
DZM	**Mont Dzumac**	**11.91**	**160**	P			**Pn**	**10 47 30.7**	**+2.1**
	1.5nm,0.3s,baz=32,slow=7.7,SNR=62								
DZM				LR		LR	LR	10 51 24.3	
	comp=Z,5μm,19.8s,baz=336,slow=33								
DZM	**Mont Dzumac**	**11.91**	**160**				**Pn**	**10 47 30.5**	**+1.9**
PMG	**Port Moresby**	**14.68**	**274**	P			**Pn**	**10 48 06.4**	**+0.1**
	0.6nm,0.3s,baz=152,slow=17,SNR=2.3								
PMG				LR		LR	LR	10 53 41.2	
	comp=Z,4μm,19.0s,baz=114,slow=37								
PMG	**Port Moresby**	**14.68**	**274**	*i* P			**Pn**	**10 48 05.6**	**-0.8**
PMG	**Port Moresby**	**14.68**	**274**	P			**P**	**10 48 12.9**	**+0.8**
TARA	**Tarawa**	**16.31**	**42**	P			**Pn**	**10 48 28.6**	**+0.9**
MSVF	**Nonsavu**	**16.97**	**115**	*i* P			**P**	**10 48 38.3**	**+0.6**
MSVF				pmax		pmax	pmax		
	comp=Z,30nm,1.2s								
CTA	**Charters Tower**	**17.70**	**237**	P			**P**	**10 48 44.7**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=65,slow=14,SNR=18								
CTAO	**Charters Tower**	**17.70**	**237**	P			**P**	**10 48 45.8**	**+0.2**
CTAO				pmax		pmax	pmax		
	comp=Z,54nm,1.0s								
CTAO	**Charters Tower**	**17.70**	**237**				**P**	**10 48 45.8**	**+0.2**
EIDS	**Eidsvold**	**17.73**	**214**	P			**P**	**10 48 45.7**	**-0.2**
	baz=18,SNR=10								
EIDS	**Eidsvold**	**17.73**	**214**	P			**P**	**10 48 46.6**	**+0.8**
PATS	**Pohnpei**	**17.99**	**348**	P			**Pn**	**10 48 47.9**	**-0.7**
	baz=18,SNR=13								
PATS	**Pohnpei**	**17.99**	**348**				**Pn**	**10 48 48.0**	**-0.6**
PATS				IAmb		IAmb	IAmb	10 49 18.8	
	comp=Z,137nm,0.9s								
MTSU	**Mount Surprise**	**18.56**	**245**	P			**Pn**	**10 48 56.4**	**+0.9**
	baz=19,SNR=11								
COEN	**Coen**	**18.63**	**259**	P			**Pn**	**10 48 57.0**	**+0.6**
	baz=19,SNR=8.9								
COEN	**Coen**	**18.63**	**259**	P			**Pn**	**10 48 59.0**	**+2.5**
RMQ	**Roma**	**19.92**	**217**	P			**Pn**	**10 49 12.6**	**+0.9**
	baz=20,SNR=46								
KWAJ	**Kwajalein Atol**	**20.35**	**16**	P			Pn	10 49 17.1	+0.3
KWAJ				pmax		pmax	pmax		
	comp=Z,229nm,0.6s								
KWAJ	**Kwajalein Atol**	**20.35**	**16**				Pn	10 49 17.1	+0.3
ARMA	**Armidale**	**21.69**	**205**	P			**P**	**10 49 30.4**	**+1.3**
	baz=22,SNR=7.9								
ARMA	**Armidale**	**21.69**	**205**	P			**P**	**10 49 29.9**	**+0.8**
JAY	**Jayapura**	**22.70**	**290**	P			**P**	**10 49 37.4**	**-2.7**
	comp=Z,8.2nm,0.4s,baz=146,slow=3.0,SNR=8.3								
JAY				LR		LR	LR	10 57 56.8	
	comp=Z,666nm,21.1s,baz=85,slow=35								
QLP	**Quilpie**	**22.90**	**225**	P			**P**	**10 49 44.7**	**+2.7**
	baz=23,SNR=4.0								
GENI	**Genyem**	**23.17**	**289**	P			**P**	**10 49 48.5**	**+3.7**
QIS	**Mount Isa**	**23.57**	**243**	P			**P**	**10 49 49.0**	**+0.3**
	baz=24,SNR=5.4								
MGCD	**Mangrove Creek**	**24.36**	**203**	P			**P**	**10 49 57.9**	**+1.9**
	baz=24,SNR=5.0								
SMPI	**Sarmi**	**24.75**	**289**	P			**P**	**10 50 01.3**	**+1.7**
	comp=Z,2μmcomp=Z,56nm,0.9s								
RIV	**Riverview**	**24.90**	**202**	P			**P**	**10 50 02.9**	**+2.2**
	baz=25,SNR=3.3								
CMSA	**Cobar Meteorol**	**25.49**	**214**	P			**P**	**10 50 06.5**	**+0.4**
	baz=26,SNR=24								
CNB	**Canberra Magne**	**26.89**	**203**	P			**P**	**10 50 19.7**	**+0.8**
	baz=27,SNR=6.3								
CAN	**Canberra**	**27.04**	**204**	P			**P**	**10 50 19.7**	**-0.5**
CAN				pmax		pmax			
	comp=Z,73nm,1.9s								
CAN	**Canberra**	**27.04**	**204**	P			**P**	**10 50 19.7**	**-0.5**
CAN				IAmb		IAmb	IAmb	10 51 17.6	
	comp=Z,73nm,1.9s								
KNTN	**Kanton**	**27.30**	**75**	P			**P**	**10 50 23.8**	**+1.1**
WR0	**Warramunga Arr**	**27.92**	**248**	P			**P**	**10 50 27.7**	**-0.6**
WR0				IAmb		IAmb	IAmb	10 51 13.7	
	comp=Z,32nm,1.1s								
WB0	**Warramunga Arr**	**28.01**	**248**	P			**P**	**10 50 28.5**	**-0.6**
WB0				IAmb		IAmb	IAmb	10 50 39.1	
	comp=Z,29nm,0.7s								
WRAB	**Tennant Creek**	**28.09**	**248**	*i* P			**P**	**10 50 27.8**	**-1.9**
WRAB				pmax		pmax	pmax		
	comp=Z,16nm,0.9s								
WB2	**Warramunga Arr**	**28.09**	**248**	P			**P**	**10 50 29.4**	**-0.3**
WB2				IAmb		IAmb	IAmb	10 50 40.0	
	comp=Z,26nm,1.1s								
WRA	**Warramunga Arr**	**28.10**	**248**	P			**P**	**10 50 28.9**	**-1.0**
	comp=Z,3.2nm,0.4s,baz=76,slow=9.0,SNR=38								
WRA	**Warramunga Arr**	**28.10**	**248**	*i* P			**P**	**10 50 28.8**	**-1.1**
WRA				pmax		pmax	pmax		
	comp=Z,4.0nm,0.4s								
STKA	**Stephens Creek**	**28.13**	**219**	P			**P**	**10 50 30.0**	**0.0**
	comp=Z,4.3nm,0.7s,baz=23,slow=12,SNR=9.3								
STKA				PcP		PcP	**PcP**	**10 53 42.5**	**-1.2**
	comp=Z,3.8nm,0.7s,baz=82,slow=4.5,SNR=3.4								
STKA				LR		LR	LR	11 01 44.5	
	comp=Z,4μm,18.5s,baz=49,slow=36								
STKA	**Stephens Creek**	**28.13**	**219**	P			**P**	**10 50 30.9**	**+0.9**
	baz=28,SNR=7.5								
STKA	**Stephens Creek**	**28.13**	**219**	P			**P**	**10 50 31.4**	**+1.4**
STKA				pmax		pmax	pmax		
	comp=Z,6.0nm,1.4s								
STKA	**Stephens Creek**	**28.13**	**219**	P			**P**	**10 50 31.4**	**+1.4**
KDU	**Kakadu**	**28.95**	**263**	P			**P**	**10 50 36.7**	**-0.7**
	baz=29,SNR=12								
AS31	**Alice Springs**	**29.61**	**241**	P			**P**	**10 50 42.3**	**-1.0**
ASAR	**Alice Springs**	**29.61**	**241**	P			**P**	**10 50 41.6**	**-1.7**
	comp=Z,3.0nm,0.9s,baz=65,slow=10.0,SNR=20								
ASAR				LR		LR	LR	11 01 49.6	
	comp=Z,2μm,20.4s,baz=74,slow=35								
MTN	**Manton Dam**	**30.25**	**263**	P			**P**	**10 50 50.5**	**+1.5**
	baz=30,SNR=11								
MTN	**Manton Dam**	**30.25**	**263**	P			**P**	**10 50 49.2**	**+0.2**
TOO	**Toolangi**	**30.43**	**206**	P			**P**	**10 50 51.0**	**+0.7**
	baz=31,SNR=9.4								
FAKI	**Fak Fak**	**30.55**	**283**	P			**P**	**10 50 51.9**	**+0.3**
FAKI				IAmb		IAmb	IAmb	10 51 20.9	
	comp=Z,38nm,1.0s								
HTT	**Hallett**	**30.84**	**220**	P			**P**	**10 50 54.0**	**0.0**
	baz=31,SNR=4.5								
BKZ	**Black Stump Fm**	**30.98**	**158**	P			**P**	**10 50 56.6**	**+1.3**
ARPS	**Mount Arapiles**	**31.54**	**212**	P			**P**	**10 51 00.8**	**+0.7**
	baz=32,SNR=10								
BBOO	**Buckleboo**	**32.32**	**224**	P			**P**	**10 51 06.7**	**-0.4**
	baz=32,SNR=22								
BBOO	**Buckleboo**	**32.32**	**224**	IAmb		IAmb	IAmb	10 51 15.9	
	comp=Z,24nm,0.7s								
KNRA	**Kununurra**	**32.67**	**258**	P			**P**	**10 51 09.5**	**-0.7**
	baz=33,SNR=56								
MQZ	**McQueen's Vall**	**33.98**	**166**	P			**P**	**10 51 22.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**35.87**	**254**	P			**P**	**10 51 36.9**	**-1.0**
	comp=Z,19nm,0.5s,baz=75,slow=7.8,SNR=86								
FITZ	**Fitzroy Crossi**	**35.87**	**254**	P			**P**	**10 51 36.7**	**-1.3**
	baz=36,SNR=62								
FITZ	**Fitzroy Crossi**	**35.87**	**254**	IAmb		IAmb	IAmb	10 51 39.3	
	comp=Z,18nm,0.6s								
SANI	**Sanana**	**36.80**	**281**	P			**P**	**10 51 48.1**	**+2.1**
	comp=Z,986nmcomp=Z,39nm,1.0s								
FORT	**Forrest**	**37.16**	**233**	P			**P**	**10 51 48.7**	**-0.1**
	baz=37,SNR=7.6								
FORT	**Forrest**	**37.16**	**233**	P			**P**	**10 51 49.0**	**+0.1**
FORT				IAmb		IAmb	IAmb	10 51 59.1	
	comp=Z,38nm,0.7s								
BATI	**Baumata**	**37.67**	**267**	P			**P**	**10 51 52.6**	**-0.8**
	comp=Z,59nm,0.6s,baz=159,slow=4.2,SNR=8.5								
EDFI	**Ende, Flores**	**39.75**	**269**	P			**P**	**10 52 11.3**	**+0.3**
	comp=Z,11nm,1.1s								
LUWI	**Luwuk**	**40.16**	**281**	P			**P**	**10 52 15.3**	**+1.0**
GTOI	**Gorontalo**	**40.41**	**284**	P			**P**	**10 52 16.9**	**+0.6**
	comp=Z,612nmcomp=Z,54nm,0.5s								
PSA00	**Pilbara Seismi**	**41.72**	**250**	IAmb		IAmb	IAmb	10 52 29.3	
	comp=Z,53nm,1.3s								
BNSI	**Bone**	**41.98**	**276**	P			**P**	**10 52 30.8**	**+1.6**
	comp=Z,6μmcomp=Z,62nm,1.0s								
KAPI	**Kappang**	**42.21**	**275**	P			**P**	**10 52 30.8**	**-0.2**
	comp=Z,23nm,0.9s,baz=126,slow=5.1,SNR=6.3								
KAPI	**Kappang**	**42.21**	**275**	P			**P**	**10 52 31.4**	**+0.3**
KAPI				pmax		pmax	pmax		
	comp=Z,64nm,1.4s								
KAPI	**Kappang**	**42.21**	**275**	P			**P**	**10 52 31.4**	**+0.3**
KAPI				IAmb		IAmb	IAmb	10 52 34.6	
	comp=Z,64nm,1.4s								
SPSI	**Sidrap Palu**	**42.39**	**276**	P			**P**	**10 52 34.4**	**+1.8**
	comp=Z,16nm,0.6s								
MPSI	**Mapaga**	**43.30**	**282**	P			**P**	**10 52 40.5**	**+0.5**
	comp=Z,28nm,0.9s								
PLAI	**Plampang**	**43.59**	**269**	P			**P**	**10 52 43.2**	**+1.0**
	comp=Z,53nm,1.3s								
MEEK	**Meekatharra**	**43.72**	**243**	P			**P**	**10 52 44.3**	**+1.1**
	baz=44,SNR=15								
KLBR	**Kellerberrin**	**45.70**	**236**	P			**P**	**10 52 59.8**	**+0.9**
	baz=46,SNR=8.7								
BKB	**Balikpapan**	**45.79**	**279**	P			**P**	**10 53 00.6**	**+0.8**
	comp=Z,75nm,1.1s								
MYLDM	**Lahad Datu**	**46.14**	**288**	P			**P**	**10 53 03.6**	**+1.0**
BLDU	**Balliduo**	**46.30**	**238**	P			**P**	**10 53 03.1**	**-0.5**
	baz=46,SNR=32								
MORW	**Morawa**	**46.48**	**240**	P			**P**	**10 53 06.1**	**+1.0**
	baz=47,SNR=9.4								
MORW	**Morawa**	**46.48**	**240**	P			**P**	**10 53 06.5**	**+1.4**
NWAO	**Narrogin (SRO)**	**46.52**	**235**	P			**P**	**10 53 04.9**	**-0.5**
	comp=Z,6.0nm,0.7s,baz=125,slow=1.8,SNR=3.5								
NWAO	**Narrogin (SRO)**	**46.52**	**235**	P			**P**	**10 53 05.7**	**+0.4**
NWAO				pmax		pmax	pmax		
	comp=Z,23nm,1.3s								
NWAO	**Narrogin (SRO)**	**46.52**	**235**	P			**P**	**10 53 05.7**	**+0.4**
NWAO				IAmb		IAmb	IAmb	10 53 08.2	
	comp=Z,23nm,1.2s								
MUN	**Mundaring**	**47.08**	**236**	P			**P**	**10 53 10.6**	**+0.9**
	baz=47,SNR=5.3								
JAGI	**Jajag, Banyuwa**	**47.19**	**269**	P			**P**	**10 53 11.8**	**+1.0**
	comp=Z,58nm,1.0s								
JAGI	**Jajag, Banyuwa**	**47.19**	**269**	P			**P**	**10 53 09.4**	**-1.4**
BBKI	**Banjar Baru**	**47.31**	**275**	P			**P**	**10 53 13.3**	**+1.5**
	comp=Z,33nm,0.8s								
PPT	**Papeete**	**47.31**	**104**	LR		LR	LR	11 09 13.8	
	comp=Z,368nm,19.9s,baz=254,slow=31								
PPT2	**Papeete2**	**47.31**	**104**	*e*LQ		LQ	LQ	11 04 40.8	
	comp=Z,1μm,27.2s								
PPT2				*e*LR		LR	LR	11 06 44.6	
	comp=Z,804nm,23.8s,baz=268								
TGY	**Tagaytay City**	**47.69**	**300**	LR		LR	LR	11 12 16.9	
	comp=Z,304nm,20.5s,baz=90,slow=35								
TBI	**Tubuai**	**47.81**	**112**	*e*LR		LR	LR	11 06 58.1	
	comp=Z,1μm,31.0s								
KKM	**Kota Kinabalu**	**48.57**	**288**	P			**P**	**10 53 21.4**	**-0.3**
UGM	**Wanagama**	**50.82**	**269**	P			**P**	**10 53 37.5**	**-1.2**
SBUM	**Sibu**	**51.26**	**282**	P			**P**	**10 53 40.6**	**-1.4**
SBUM				IAmb		IAmb	IAmb	10 53 51.3	
	comp=Z,41nm,1.9s								
AIN	**Ainahou**	**51.59**	**55**	P			**P**	**10 53 45.7**	**+1.2**
MJAR	**Matsuhiro Arr**	**52.23**	**336**	P			**P**	**10 53 47.1**	**-1.7**
	comp=Z,1.8nm,0.5s,baz=166,slow=8.2,SNR=12								
MAJO	**Matsushiro**	**52.23**	**336**	P			**P**	**10 53 48.1**	**-0.7**
MAJO				pmax		pmax	pmax		
	comp=Z,32nm,1.4s								
MAJO	**Matsushiro**	**52.23**	**336**	P			**P**	**10 53 48.1**	**-0.7**
MAJO				IAmb		IAmb	IAmb	10 53 58.2	
	comp=Z,32nm,1.4s								
MAT	**Matsushiro**	**52.23**	**336**	P			**P**	**10 53 46.3**	**-2.5**
MJB9	**Matsu-Tunnel**	**52.23**	**336**	P			**P**	**10 53 47.6**	**-1.2**
MJB9				IAmb		IAmb	IAmb	10 53 58.1	
	comp=Z,31nm,1.4s								
KSM	**Kuching**	**52.84**	**280**	P			**P**	**10 53 55.0**	**+1.2**
JNU	**Nakatsue**	**52.87**	**327**	P			**P**	**10 53 52.5**	**-1.2**
JNU				IAmb		IAmb	IAmb	10 54 02.2	
	comp=Z,29nm,0.9s								
YHNB	**Yeheng**	**53.10**	**312**	P			**P**	**10 53 56.7**	**+1.2**
CISI	**Cisompet, Garu**	**53.53**	**269**	P			**P**	**10 54 00.6**	**+1.7**
	comp=Z,2μmcomp=Z,80nm,0.7s								
LEM	**Lembang**	**53.82**	**269**	P			**P**	**10 53 59.0**	**-2.2**
	comp=Z,45nm,0.7s,baz=328,slow=22,SNR=6.5								
SKJI	**Sukabumi**	**54.84**	**269**	P			**P**	**10 54 10.6**	**+2.2**
	comp=Z,247nm,0.9s								
JKA	**Kamikawa-asahi**	**57.51**	**344**	P			**P**	**10 54 28.1**	**+1.2**
JKA				IAmb		IAmb	IAmb	10 54 48.8	
	comp=Z,23nm,0.9s								
ASAJ	**Asahikawa**	**57.51**	**344**	LR		LR	LR	11 15 42.2	
	comp=Z,652nm,21.6s,baz=160,slow=32								
ASAJ	**Asahikawa**	**57.51**	**344**	P			**P**	**10 54 28.1**	**+1.2**
ASAJ				pmax		pmax	pmax		
	comp=Z,23nm,0.9s								
MDSI	**Maura Dua**	**57.58**	**272**	P			**P**	**10 54 26.3**	**-1.6**
KSRS	**Korea Array**	**57.73**	**328**	P			**P**	**10 54 27.9**	**-0.6**
	comp=Z,4.4nm,0.9s,baz=147,slow=7.0,SNR=10								
KSRS				LR		LR	LR	11 17 23.0	
	comp=Z,423nm,20.7s,baz=112,slow=34								
NJ2	**Nanjing**	**59.37**	**318**	*e*P			**P**	**10 54 41.4**	**+1.4**
NJ2				pmax		pmax	pmax		
	comp=Z,13nm,0.5s								
SDSI	**Sungai Dareh**	**60.94**	**275**	P			P	10 54 55.6	+4.4
USA0B	**Ussuriysk Arra**	**61.22**	**336**	P			**P**	**10 54 53.1**	**+0.6**
USA0B				pmax		pmax	pmax		
	comp=Z,14nm,1.0s								
USA0B	**Ussuriysk Arra**	**61.22**	**336**	P			**P**	**10 54 53.1**	**+0.6**
USA0B				IAmb		IAmb	IAmb	10 55 16.7	
	comp=Z,14nm,0.9s								
USRK	**Ussuriysk Ar.**	**61.22**	**336**	P			**P**	**10 54 53.4**	**+0.9**
	comp=Z,2.5nm,0.5s,baz=156,slow=5.2,SNR=9.2								
WHN	**Wuhan**	**61.57**	**314**	P			P	10 55 02.8	+7.7
MNSI	**Mandailing Nat**	**63.11**	**276**	P			**P**	**10 55 06.7**	**+0.9**
	comp=Z,45nm,0.5s								
TYV	**Tymovskoe**	**63.76**	**346**	*e*P			P	10 55 19.1	+10
TYV				*e*S			S	11 04 00.1	+19
TYV				pmax		pmax	pmax		
	comp=Z,200nm,4.6s								
TYV				pmax		pmax	pmax		
	comp=Z,15nm,1.5s								
TYV				smax		smax	smax		
	comp=E,400nm,7.6s								
CN2	**Changchun**	**63.77**	**331**	*e*P			**P**	**10 55 08.3**	**-1.2**
AMKA	**Amchitka**	**63.80**	**12**	P			**P**	**10 55 10.1**	**+0.5**
PETK	**Petropavlovsk-**	**63.85**	**357**	P			**P**	**10 55 11.2**	**+1.3**
	comp=E,5.9nm,0.8s,baz=150,slow=6.2,SNR=8.9								
PETK				LR		LR	LR	11 20 10.7	
	comp=E,366nm,20.1s,baz=96,slow=33								
ADK	**Adak**	**65.18**	**14**	P			**P**	**10 55 18.3**	**-0.2**
ADK				pmax		pmax	pmax		
	comp=Z,137nm,1.9s								
ADK	**Adak**	**65.18**	**14**	P			**P**	**10 55 18.3**	**-0.2**
GRNR	**Gornyy**	**65.32**	**342**	*e*P			**P**	**10 55 19.5**	**0.0**
KLR	**Kul'dur**	**65.51**	**339**	*i* P			**P**	**10 55 19.5**	**-1.3**
KLR				pmax		pmax	pmax		
	comp=Z,4.0nm,1.2s								
BJI	**Beijing**	**66.09**	**323**	P			**P**	**10 55 24.2**	**-0.5**
BJI				pmax		pmax	pmax		
	comp=Z,5.0nm,0.8s								
ATKA	**Atka Island**	**66.10**	**16**	P			**P**	**10 55 25.8**	**+1.3**
PBKT	**Sadao Pong**	**66.23**	**294**	P			**P**	**10 55 25.2**	**-0.8**
PBKT				IAmb		IAmb	IAmb	10 55 28.9	
	comp=Z,5.4nm,0.6s								
VNDA	**Vanda**	**66.62**	**180**	P			**P**	**10 55 28.4**	**+0.9**
	comp=Z,8.1nm,0.7s,baz=344,slow=6.5,SNR=87								
VNDA				LR		LR	LR	11 18 48.1	
	comp=Z,605nm,21.7s,baz=30,slow=31								
VNDA	**Vanda**	**66.62**	**180**	P			**P**	**10 55 28.1**	**+0.6**
VNDA				pmax		pmax	pmax		
	comp=Z,17nm,1.2s								
VNDA	**Vanda**	**66.62**	**180**	P			**P**	**10 55 28.1**	**+0.6**
VNDA				IAmb		IAmb	IAmb	10 55 31.2	
	comp=Z,16nm,1.2s								
XAN	**Xi'an**	**67.33**	**314**	P			**P**	**10 55 31.3**	**-1.5**
XAN				pP		pP	pP	10 55 40.6	-3.2
XAN				pmax		pmax	pmax		
	comp=Z,11nm,0.9s								
XAN				pmax		pmax	pmax		
	comp=Z,200nm,3.5s								
CMAR	**Chiang Mai Arr**	**68.69**	**295**	P			**P**	**10 55 40.6**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=126,slow=5.4,SNR=8.5								
HHC	**Hu-ho-hao-te**	**69.37**	**321**	*e*P			**P**	**10 55 45.7**	**+0.2**
HHC				pmax		pmax	pmax		
	comp=Z,23nm,0.9s								
HHC				pmax		pmax	pmax		
	comp=Z,310nm,9.7s								
HHC				LR		LR	LR		
	comp=Z,250nm,15.3s								
HHC				LR		LR	LR		
	comp=Z,270nm,17.5s								
HHC				LR		LR	LR		
	comp=Z,630nm,17.8s								
CD2	**Chengdu**	**69.61**	**309**	*e*P			**P**	**10 55 46.6**	**-0.5**
CD2				pmax		pmax	pmax		
	comp=Z,10.0nm,0.5s								
HIA	**Hailar**	**70.46**	**332**	*i* P			**P**	**10 55 50.6**	**-1.3**
HIA				pmax		pmax	pmax		
	comp=Z,6.0nm,1.0s								
MA2	**Magadan**	**70.81**	**354**	LR		LR	LR	11 23 36.3	
	comp=Z,264nm,20.6s,baz=137,slow=33								
ZEA	**Zeya**	**70.82**	**339**	*e*P			**P**	**10 55 56.8**	**+2.8**
ZEA				pmax		pmax	pmax		
	comp=Z,17nm,1.0s								
LZH	**Lanzhou**	**71.95**	**314**	*e*P			**P**	**10 56 02.4**

COLA College 84.32 19 *i* P **P 10 57 07.6 -1.5**
COLA pmax pmax
comp=Z,10.0nm,0.9s
COLA College 84.32 19 P **P 10 57 08.6 -0.4**
COLA IAmb IAmb 10 57 10.8
comp=Z,10nm,0.7s
MENT Mentasta 84.53 22 IAmb IAmb 10 57 17.3
comp=Z,5.9nm,0.6s
IL31 84.57 20 IAmb IAmb 10 57 11.7
comp=Z,22nm,1.6s
ILAR Eielson Array 84.57 20 P **P 10 57 09.7 -0.7**
comp=Z,3.2nm,0.5s,baz=250,slow=5.2,SNR=51
ILAR PKKPbc **PKKPdf 11 15 19.0 +2.7**
comp=Z,0.7nm,0.5s,baz=352,slow=2.3,SNR=12
ILAR LR LR 11 30 44.9
comp=Z,721nm,20.1s,baz=202,slow=33
RIDG Independent Ri 84.61 21 IAmb IAmb 10 57 19.2
comp=Z,8.1nm,0.6s
DOT Dot Lake 84.83 21 IAmb IAmb 10 57 14.0
comp=Z,6.7nm,0.6s
WMQ Urumqi 86.39 316 *eP* **P 10 57 21.2 +1.2**
WMQ LR LR
comp=Z,260nm,22.9s
WMQ LR LR
comp=Z,270nm,21.1s
WMQ LR LR
comp=Z,410nm,22.9s
EGAK Eagle 86.53 21 IAmb IAmb 10 57 22.9
comp=Z,21nm,1.0s
DAWY Dawson 86.77 22 P **P 10 57 22.2 +0.9**
DAWY IAmb IAmb 10 57 24.3
comp=Z,20nm,1.4s
WAKR Walker 87.92 50 IAmb IAmb 10 57 56.7
comp=Z,19nm,1.9s
PNTR Pine Nut 87.95 50 IAmb IAmb 10 57 45.9
comp=Z,7.7nm,1.1s
DGZ Jazzator, Alta 88.45 321 *i* P **P 10 57 27.0 -2.9**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
NVAR Mina Array Bea 88.76 51 P **P 10 57 32.3 +0.6**
comp=Z,4.1nm,0.6s,baz=236,slow=7.0,SNR=36
NVAR LR LR 11 30 06.8
comp=Z,255nm,20.6s,baz=280,slow=31
NV11 Mina Array Sit 88.87 51 IAmb IAmb 10 57 34.6
comp=Z,21nm,1.9s
EPYK Eagle Plains 88.94 21 P **P 10 57 32.6 +0.9**
PFO Pinyon Flats O 89.02 56 P **P 10 57 34.3 +1.3**
comp=Z,1.5nm,0.6s,baz=260,slow=1.9,SNR=6.5
PFO Pinyon Flats O 89.02 56 P **P 10 57 33.2 +0.3**
PFO pmax pmax
comp=Z,5.0nm,1.3s
PFO Pinyon Flats O 89.02 56 P **P 10 57 33.2 +0.3**
I07A Izee 89.37 45 IAmb IAmb 10 57 37.1
comp=Z,21nm,2.0s
WVOR Wild Horse Val 89.54 47 IAmb IAmb 10 57 38.0
comp=Z,15nm,1.5s
TPNV Topopah Spring 89.97 52 IAmb IAmb 10 57 40.8
comp=Z,21nm,1.9s
G08A Pilot Rock 90.07 44 P **P 10 57 39.6 +2.0**
G08A IAmb IAmb 10 57 41.0
comp=Z,18nm,1.9s
SHPR Sheep Range 90.72 53 P **P 10 57 41.6 +0.7**
SYO Syowa Base 90.83 198 ‖ *eP* **P 10 57 40.0 -0.5**
SYO Syowa Base 90.83 198 ‖ *ep* P **P 10 57 43.6 +3.1**
MK31 Makanchi Array 90.90 317 P **P 10 57 39.7 -1.6**
MK31 pmax pmax
comp=Z,2.0nm,1.0s
MK31 Makanchi Array 90.90 317 P **P 10 57 39.7 -1.6**
MKAR Makanchi Array 90.90 317 P **P 10 57 39.1 -2.1**
comp=Z,3.0nm,0.6s,baz=94,slow=5.4,SNR=18
ZALV Zalesovo Beam 91.29 325 P **P 10 57 41.0 -1.9**
comp=Z,1.0nm,0.3s,baz=134,slow=4.2,SNR=2.6
ZALV Zalesovo Beam 91.29 325 P **P 10 57 41.0 -1.9**
F10A Beach Ranch, E 91.42 44 IAmb IAmb 10 58 11.0
comp=Z,10nm,1.4s
MFID Camas Ranch 91.78 46 P **P 10 57 46.3 +0.7**
MFID IAmb IAmb 10 57 48.3
comp=Z,18nm,1.9s
U15A North Rim 92.97 54 IAmb IAmb 10 58 19.4
comp=Z,9.7nm,1.8s
NRIK Noril'sk 94.70 340 LR LR 11 38 07.2
comp=Z,294nm,21.7s,baz=92,slow=34
HRY Holter Researc 95.23 44 P **P 10 58 02.0 +0.6**
AAK Ala-Archa 95.45 312 LR LR 11 43 43.6
comp=Z,218nm,18.5s,baz=344,slow=37
PDAR Pinedale Array 96.17 48 P **P 10 58 08.0 +2.1**
comp=Z,0.3nm,0.5s,baz=234,slow=1.3,SNR=4.6
PDAR LR LR 11 36 00.7
comp=Z,198nm,20.2s,baz=294,slow=32
YKA Yellowknife Ar 96.54 28 P **P 10 58 05.7 -1.1**
comp=Z,1.7nm,0.5s,baz=264,slow=4.7,SNR=48
YKA PKKPbc **PKKPbc 11 14 48.6 -4.8**
comp=Z,0.3nm,0.5s,baz=68,slow=2.8,SNR=12
YKA LR LR 11 39 56.2
comp=Z,281nm,18.2s,baz=0.0,slow=34
SNAA Sanae 97.00 185 P **P 10 58 08.1 -0.9**
SNAA Sanae 97.00 185 *eP* **P 10 58 07.4 -1.5**
SNAA pmax pmax
comp=Z,2.0nm,1.0s
VNA3 Neumayer Olymp 97.86 183 P **P 10 58 11.8 -1.0**
VNA2 Neumayer--Watz 98.06 184 P **P 10 58 13.2 -0.4**
baz=185,slow=4.1
TXAR Lajitas Array 99.00 62 P **Pdif 10 58 20.5 +1.7**
comp=Z,0.2nm,1.0s,baz=354,slow=1.8,SNR=2.0
TXAR LR LR 11 37 48.7
comp=Z,269nm,18.8s,baz=0.0,slow=32
ARCES ARCESS Array B 115.23 344 PKP **PKiKP 11 03 15.8 -2.5**
comp=Z,1.1nm,0.5s,baz=56,slow=2.2,SNR=15
AKT Akhty 115.29 311 *i* PKIKP **PKPdf 11 03 18.0 -1.4**
AKT *e* 11 04 18.6
AKT pmax pmax
comp=Z,15nm,1.5s
OBN Obninsk 118.73 328 *e*PKIKP **PKPdf 11 03 23.7 -1.7**
OBN *e*PPP PPP 11 07 10.4
OBN pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 120.24 337 PKP **PKPdf 11 03 25.6 -2.5**
comp=Z,0.5nm,0.5s,baz=73,slow=6.4,SNR=5.9
BOSA Boshof 122.65 226 PKP **PKPdf 11 03 33.0 -0.9**
comp=Z,3.8nm,0.5s,baz=134,slow=2.3,SNR=22
BOSA Boshof 122.65 226 PKIKP **PKPdf 11 03 33.7 -0.3**
BOSA Boshof 122.65 226 **PKPdf 11 03 33.7 -0.3**
LPAZ La Paz 123.54 118 PKP **PKPdf 11 03 36.3 -0.2**
comp=Z,1.2nm,0.6s,baz=261,slow=5.9,SNR=10
LPAZ La Paz 123.54 118 PKIKP **PKPdf 11 03 36.2 -0.4**
LPAZ La Paz 123.54 118 **PKPdf 11 03 36.2 -0.4**
NB2 NORSAR Subarra 125.53 343 PKPdf **PKPdf 11 03 37.1 -1.3**
comp=Z,0.4nm,0.5s,baz=39,slow=1.8
NOA NORSAR Array B 125.53 343 PKP **PKPdf 11 03 36.5 -1.9**
comp=Z,0.4nm,0.5s,baz=75,slow=1.9,SNR=5.3
NOA PKKPbc **PKKPab 11 13 14.2 +0.2**
comp=Z,0.5nm,0.6s,baz=215,slow=3.9,SNR=4.8
CPUP Villa Florida 126.81 135 PKP **PKPdf 11 03 41.0 -0.8**
comp=Z,2.7nm,1.0s,baz=26,slow=3.6,SNR=4.3
CPUP Villa Florida 126.81 135 PKIKP **PKPdf 11 03 41.5 -0.4**
CPUP Villa Florida 126.81 135 **PKPdf 11 03 41.5 -0.4**
GERES GERESS Array B 133.86 331 PKP **PKPdf 11 03 54.4 -0.3**
comp=Z,0.3nm,0.6s,baz=49,slow=9.0,SNR=4.5
PTGA Pitinga 136.72 103 **PKPdf 11 04 00.9 0.0**
BDFB Brasilia 140.28 131 PKP **PKPdf 11 04 08.5 +1.1**
comp=Z,3.1nm,0.6s,baz=134,slow=0.6,SNR=4.7
BDFB Brasilia 140.28 131 PKIKP **PKPdf 11 04 08.8 +1.3**
BDFB Brasilia 140.28 131 **PKPdf 11 04 08.8 +1.3**
KEST Kesra 144.98 319 PKP **PKPab 11 04 14.2 -0.3**
comp=Z,1.9nm,0.5s,baz=108,slow=3.2,SNR=2.9
PBRG Braganca 147.66 344 *e*PKPbc **PKPbc 11 04 21.2 -1.1**
PGAV Gavieira, Arco 147.89 346 *e*PKPbc **PKPab 11 04 25.1 -0.4**
MVO Moncorvo 148.33 344 *e*PKPbc **PKPbc 11 04 23.3 -0.8**
PVRL Vila Real 148.41 345 *e*PKPbc **PKPbc 11 04 24.0 -0.3**
ESDC Sonseca Array 148.73 339 PKPbc **PKPbc 11 04 23.7 -1.5**
comp=Z,0.6nm,0.7s,baz=8.3,slow=3.4,SNR=10.0
PVIS Viseu 148.98 345 *e*PKPbc **PKPbc 11 04 25.9 +0.1**
MTE Manteigas 149.18 344 *e*PKPbc **PKPbc 11 04 25.5 -0.8**
PCBR Castelo Branco 149.69 344 *e*PKPbc **PKPbc 11 04 27.1 -0.4**
PCAS Casmilo, Conde 149.75 345 *e*PKPbc **PKiKP 11 04 28.8 +0.1**
PMRV Marv??o 150.05 343 *e*PKPbc **PKPbc 11 04 28.0 -0.4**
PMTG Montargil 150.61 344 *e*PKPbc **PKPbc 11 04 28.5 -1.2**
EVO Evora 151.06 344 *e*PKPbc **PKPbc 11 04 30.1 -0.7**
PBEJ Beja 151.49 343 *e*PKPbc **PKPbc 11 04 31.9 +0.1**
PNCL Nicolau / Gran 151.59 344 *e*PKPbc **PKPbc 11 04 31.8 -0.2**
TORD Torodi Ar. Bea 160.60 279 PKP **PKPdf 11 04 36.4 -1.9**
comp=Z,3.7nm,1.1s,baz=61,slow=1.6,SNR=10
TORD PKPab **PKPab 11 05 19.1 -0.8**
comp=Z,1.2nm,0.8s,baz=89,slow=4.0,SNR=5.2

IDC 03 11:01:43.6±5.3, 66°08N×172°35W, h0km, mb3.0/3, mb1 3.7/5, mb1mx3.2/53, mbtmp3.3/5, ML3.6/2, Error ellipse: s-maj=79.6km s-min=59.9km az=82.0, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**10.65**	**85**	Pn	Pn	11 04 10.2	-7.1
	0.5nm,0.3s,baz=285,slow=13,SNR=13						
ILAR				Sn	Sn	11 05 54.9	-22
	0.1nm,0.3s,baz=284,slow=23,SNR=4.3						
KDAK	**Kodiak Island**	**12.42**	**123**	Pn	Pn	11 04 38.8	-2.6
	0.4nm,0.3s,baz=343,slow=19,SNR=0.9						
YKA	**Yellowknife Ar**	**24.53**	**71**	P	P	11 07 03.9	-0.4
	0.2nm,0.7s,baz=301,slow=8.2,SNR=3.9						
NVAR	**Mina Array Bea**	**41.13**	**105**	P	P	11 09 29.5	+0.2
	0.2nm,0.7s,baz=313,slow=9.3,SNR=2.8						
TXAR	**Lajitas Array**	**54.94**	**96**	P	P	11 11 16.3	+0.3
	0.1nm,0.5s,baz=316,slow=5.0,SNR=2.0						

*IDC **03** 11:07:20.4±0.7, 27°24N×103°67E, h0km, mb4.0/23, mb1 4.1/24, mb1mx3.9/58, mbtmp3.9/24, ML3.9/1, MS4.4/1, Ms1 4.4/1, ms1mx3.2/55, Error ellipse: s-maj=17.2km s-min=13.8km az=52.0*
*BJI **03** 11:07:21.2±0.0, 27°08N×103°37E, h21km, mB4.5/5, mb4.4/23, ML4.3/20, Ms4.1/21, Ms7 3.8/21*
*NEIC **03** 11:07:22.3±2.0, 27°17N±0°04×103°67E±0°09, h10km±1km, mb4.4/29, Error ellipse: s-maj=13.9km s-min=7.0km az=95.0*

ISC 03 11:07:22.5±0.4, 27°13N±0°04×103°59E±0°04, h10km, n74, σ1°62/83, mb4.2/36, 2D, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.15**	**201**	‖ *eP*	**Pn**	**11 07 59.2**	**+0.7**
KMI				Sg	**Sn**	**11 08 25.1**	**-0.2**
KMI				smax	smax		
	comp=N,820nm,0.9s						
KMI				smax	smax		
	comp=E,1μm,1.2s						
KMI	**Kunming**	**2.15**	**201**		**Pn**	**11 07 59.1**	**+0.6**
KMI				Sn	**Sb**	**11 08 27.0**	**-1.3**
GYA	**Guiyang**	**2.83**	**103**	‖ Pn	**Pb**	**11 08 12.7**	**-0.4**
GYA				Sn	**Sb**	**11 08 48.9**	**+1.1**
GYA				Sg	**Sg**	**11 08 57.6**	**+4.3**
GYA				smax	smax		
	comp=N,2μm,0.8s						
GYA				smax	smax		
	comp=E,890nm,0.9s						
GYA				LR	LR		
	comp=E,2μm,4.6s						
GYA				LR	LR		
	comp=Z,1μm,5.1s						
CD2	**Chengdu**	**3.77**	**2**	Pn	**Pn**	**11 08 22.1**	**+1.4**
CD2				Pg	**Pg**	**11 08 32.7**	**-1.9**
CD2				Sg	**Sg**	**11 09 22.9**	**-0.5**
CD2				smax	smax		
	comp=N,2μm,1.1s						
CD2				smax	smax		
	comp=E,4μm,1.2s						
CD2				LR	LR		
	comp=N,2μm,7.1s						
CD2				LR	LR		
	comp=E,7μm,8.8s						
CD2				LR	LR		
	comp=Z,3μm,5.7s						
SLVN	**Son La**	**5.78**	**177**	Pn	**Pn**	**11 08 47.6**	**-0.8**
ENH	**Enshi**	**6.05**	**57**	Pn	**Pn**	**11 08 54.1**	**+2.1**
XAN	**Xi'an**	**8.27**	**32**	P	**Pn**	**11 09 22.7**	**+0.1**
XAN				S	**Sn**	**11 10 57.4**	**+1.3**
XAN				smax	smax		
	comp=N,330nm,0.9s						
XAN				smax	smax		
	comp=E,370nm,1.0s						
XAN				LR	LR		
	comp=E,770nm,6.2s						
XAN				LR	LR		
	comp=Z,1μm,7.3s						
XAN	**Xi'an**	**8.27**	**32**		**Pn**	**11 09 21.9**	**-0.7**
LZH	**Lanzhou**	**8.93**	**1**	*eP*	**Pn**	**11 09 31.8**	**+0.1**
LZH				*eS*	**Sn**	**11 11 18.3**	**+5.9**
LZH				sS	sS	11 11 27.8	
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
LZH				LR	LR		
	comp=N,550nm,7.1s						
LZH				LR	LR		
	comp=Z,600nm,10.6s						
CHTO	**Chiang Mai**	**9.32**	**208**	Pn	**Pn**	**11 09 39.5**	**+2.5**
CMAR	**Chiang Mai Arr**	**9.64**	**207**	Pn	**Pn**	**11 09 42.6**	**+1.2**
	0.3nm,0.3s,baz=14,slow=11,SNR=9.4						
CMAR				Lg	Lg	11 12 29.7	
	baz=35,slow=25,SNR=2.4						
QIZ	**Qiongzhong**	**9.90**	**143**	P	**Pn**	**11 09 43.6**	**-1.4**
QIZ				S	**Sn**	**11 11 35.6**	**-0.7**
QIZ				LR	LR		
	comp=N,530nm,7.8s						
QIZ				LR	LR		
	comp=E,610nm,5.6s						
QIZ				LR	LR		
	comp=Z,520nm,7.8s						
WHN	**Wuhan**	**10.02**	**68**	P	Pn	11 09 51.6	+5.1
WHN				S	**Sn**	**11 11 41.8**	**+2.7**
WHN				LR	LR		
	comp=E,830nm,4.7s						
WHN				LR	LR		
	comp=Z,930nm,10.2s						
GTA	**Gaotai**	**12.64**	**347**	*eP*	**Pn**	**11 10 25.4**	**+2.9**
GTA				pP		11 10 29.5	
GTA				sP		11 10 32.2	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA				LR	LR		
	comp=N,330nm,14.3s						
GTA				LR	LR		
	comp=E,690nm,14.6s						
GTA				LR	LR		
	comp=Z,160nm,13.0s						
NJ2	**Nanjing**	**14.15**	**66**	*eP*	**Pn**	**11 10 41.5**	**-1.5**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**15.18**	**24**	*eP*	**Pn**	**11 10 56.1**	**-1.0**
HHC				S	**Sn**	**11 13 47.5**	**+2.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				LR	LR		
	comp=N,410nm,11.2s						
HHC				LR	LR		
	comp=Z,350nm,12.6s						
BJT	**Baijiatuan**	**16.56**	**36**	P	**P**	**11 11 15.6**	**-1.6**
BJI	**Beijing**	**16.58**	**36**	P	**Pn**	**11 11 15.6**	**+0.7**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BJI				LR	LR		
	comp=N,350nm,17.3s						
BJI				LR	LR		
	comp=E,250nm,8.4s						
BJI				LR	LR		
	comp=Z,260nm,26.5s						
SONM	**Songino Array**	**20.78**	**5**	P	**P**	**11 12 01.7**	**-2.0**
	1.7nm,0.8s,baz=185,slow=8.2,SNR=9.0						
ULN	**Ulaanbaatar**	**20.87**	**7**	P	**P**	**11 12 04.3**	**-0.4**
WMQ	**Urumqi**	**21.03**	**326**	*eP*	**P**	**11 12 10.0**	**+3.6**
IPM	**Ipoh**	**22.66**	**187**	P	**P**	**11 12 24.9**	**+0.9**
IPM				IAmb	IAmb	11 12 26.2	
	comp=Z,11nm,0.9s						
KSRS	**Korea Array**	**22.94**	**57**	P	**P**	**11 12 25.8**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=246,slow=10,SNR=9.6						
KKM	**Kota Kinabalu**	**24.17**	**148**	P	**P**	**11 12 40.2**	**+1.0**
KKM				IAmb	IAmb	11 12 41.8	
	comp=Z,17nm,1.1s						
CN2	**Changchun**	**24.25**	**41**	*eP*	**P**	**11 12 40.2**	**+0.6**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
TARG	**Taragay, Kyrgy**	**25.65**	**311**	P	**P**	**11 12 52.8**	**0.0**
TARG				IAmb	IAmb	11 13 02.9	
	comp=Z,4.4nm,0.8s						
MK31	**Makanchi Array**	**25.83**	**325**	P	**P**	**11 12 53.2**	**-0.8**
MKAR	**Makanchi Array**	**25.83**	**325**	P	**P**	**11 12 53.1**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=130,slow=12,SNR=14						
MAKZ	**Makanchi**	**26.00**	**325**	P	**P**	**11 12 56.8**	**+1.3**
NIL	**Nilore**	**26.91**	**291**	P	**P**	**11 13 05.8**	**+2.0**
NIL				IAmb	IAmb	11 13 18.4	
	comp=Z,7.1nm,0.7s						
AAK	**Ala-Archa**	**28.26**	**311**	P	**P**	**11 13 16.8**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=165,slow=14,SNR=1.4						
AAK	**Ala-Archa**	**28.26**	**311**	P	**P**	**11 13 17.5**	**+1.4**
USRK	**Ussuriysk Ar.**	**28.47**	**46**	P	**P**	**11 13 16.9**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=270,slow=4.5,SNR=5.3						
ZALV	**Zalesovo Beam**	**30.16**	**338**	P	**P**	**11 13 32.0**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=128,slow=6.0,SNR=4.6						
KURBB	**Kurchatov Arra**	**30.24**	**328**	P	**P**	**11 13 31.5**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=135,slow=9.7,SNR=6.4						
KURK	**Kurchatov**	**30.26**	**328**	P	**P**	**11 13 34.1**	**+0.6**
MJAR	**Matsushiro Arr**	**30.73**	**64**	P	**P**	**11 13 36.8**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=277,slow=14,SNR=4.2						
KLR	**Kul'dur**	**30.95**	**37**	P	**P**	**11 13 38.1**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=257,slow=8.7,SNR=4.1						
KKAR	**Karatay Array**	**31.16**	**309**	P	**P**	**11 13 43.5**	**+2.0**
BVAR	**Borovoye Array**	**35.71**	**325**	P	**P**	**11 14 20.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=139,slow=9.0,SNR=2.6						
GEYT	**Alibeck**	**39.48**	**298**	P	**P**	**11 14 53.9**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=126,slow=7.5,SNR=4.0						
AKTO	**Aktyubinsk**	**41.61**	**317**	P	**P**	**11 15 11.1**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=79,slow=14,SNR=2.4						
NRIK	**Noril'sk**	**43.27**	**352**	P	**P**	**11 15 22.6**	**-1.3**
	comp=Z,2.7nm,0.6s,baz=8.5,slow=11,SNR=2.4						
ARU	**Arti**	**43.36**	**325**	P	**P**	**11 15 24.1**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=306,slow=2.0,SNR=4.6						
ARU	**Arti**	**43.36**	**325**	P	**P**	**11 15 23.9**	**-0.8**
ARU				IAmb	IAmb	11 15 31.5	
	comp=Z,6.3nm,1.0s						
TIXI	**Tiksi**	**46.72**	**11**	P	**P**	**11 15 49.2**	**-2.0**
	comp=Z,1.2nm,0.3s,baz=125,slow=16,SNR=2.7						
TIXI	**Tiksi**	**46.72**	**11**	P	**P**	**11 15 50.1**	**-1.1**
TIXI				IAmb	IAmb	11 15 55.1	
	comp=Z,2.5nm,0.8s						
KLMR	**Klimovskoe**	**54.10**	**327**	*e*	**P**	**11 16 48.4**	**+1.2**
KLMR				AMP		11 16 51.8	
	comp=Z,7.0nm,0.7s						
WB0	**Warramunga Arr**	**55.36**	**144**	P	**P**	**11 16 56.4**	**-0.4**
WB0				IAmb	IAmb	11 17 04.8	
	comp=Z,6.1nm,1.1s						
WRA	**Warramunga Arr**	**55.48**	**144**	P	**P**	**11 16 57.2**	**-0.5**
	comp=Z,4.9nm,0.8s,baz=333,slow=8.2,SNR=22						
WB2	**Warramunga Arr**	**55.48**	**144**	P	**P**	**11 16 57.7**	**0.0**
WR0	**Warramunga Arr**	**55.60**	**144**	P	**P**	**11 16 58.5**	**0.0**
PMG	**Port Moresby**	**55.70**	**125**	LR	LR	11 44 07.3	
	comp=Z,297nm,18.9s,baz=212,slow=40						
BR131	**Keskin Array S**	**58.38**	**302**	P	**P**	**11 17 19.4**	**+1.1**
BR131				IAmb	IAmb	11 17 19.4	
	comp=Z,3.0nm,0.8s						
ASAR	**Alice Springs**	**58.38**	**147**	P	**P**	**11 17 18.0**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=325,slow=6.4,SNR=14						
KEV	**Kevo**	**60.18**	**337**	P	**P**	**11 17 28.7**	**-1.4**
FINES	**FINESS Array B**	**60.63**	**327**	P	**P**	**11 17 30.9**	**-2.4**
	comp=Z,1.1nm,0.5s,baz=98,slow=8.3,SNR=9.7						
ARCES	**ARCESS Array B**	**60.70**	**337**	P	**P**	**11 17 32.1**	**-1.6**
	comp=Z,2.8nm,0.9s,baz=82,slow=8.7,SNR=5.2						
MLR	**Muntele Rosu**	**62.84**	**309**	P	**P**	**11 17 51.2**	**+2.6**
NB2	**NORSAR Subarra**	**67.77**	**328**	P	**P**	**11 18 17.2**	**-3.0**
	comp=Z,0.5nm,0.5s,baz=74,slow=6.5						
NOA	**NORSAR Array B**	**67.77**	**328**	P	**P**	**11 18 17.7**	**-2.6**
	comp=Z,0.6nm,0.5s,baz=73,slow=6.2,SNR=5.1						
NC204	**NORSAR Array S**	**67.92**	**329**	P	**P**	**11 18 19.4**	**-1.7**
GERES	**GERESS Array B**	**70.02**	**315**	P	**P**	**11 18 34.8**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=65,slow=6.3,SNR=6.1						
TTA	**Tatalina**	**70.74**	**28**	P	**P**	**11 18 38.1**	**-0.6**
TTA				IAmb	IAmb	11 18 38.6	
	comp=Z,2.9nm,1.1s						
CNBA	**Chernabura Isl**	**72.02**	**37**	P	**P**	**11 18 45.3**	**-1.1**
BPAW	**Bear Paw Mtn.**	**72.33**	**26**	P	**P**	**11 18 48.4**	**+0.3**
BPAW				IAmb	IAmb	11 19 06.8	
	comp=Z,7.5nm,1.3s						
PPLA	**Purkeypile**	**72.36**	**28**	P	**P**	**11 18 48.9**	**+0.4**
MDM	**Murphy Dome**	**73.01**	**25**	P	**P**	**11 18 51.9**	**-0.3**
MDM				IAmb	IAmb	11 18 55.8	
	comp=Z,3.8nm,1.0s						
MCK	**McKinley**	**73.31**	**26**	P	**P**	**11 18 54.6**	**+0.6**
MCK				IAmb	IAmb	11 19 03.8	
	comp=Z,9.5nm,1.4s						
RND	**Reindeer**	**73.49**	**27**	P	**P**	**11 18 54.4**	**-0.7**
RND				IAmb	IAmb	11 18 59.5	
	comp=Z,6.8nm,1.4s						
ILAR	**Eielson Array**	**73.61**	**25**	P	**P**	**11 18 53.5**	**-2.1**
	comp=Z,0.8nm,1.1s,baz=293,slow=5.8,SNR=5.3						
RIDG	**Independent Ri**	**74.89**	**25**	P	**P**	**11 19 01.6**	**-1.6**
RIDG				IAmb	IAmb	11 19 02.4	
	comp=Z,2.7nm,0.7s						
DAWY	**Dawson**	**76.74**	**24**	P	**P**	**11 19 12.7**	**-1.1**
DAWY				IAmb	IAmb	11 19 18.4	
	comp=Z,4.6nm,1.4s						
YKA	**Yellowknife Ar**	**85.61**	**17**	P	**P**	**11 19 59.8**	**-1.1**
	comp=Z,1.7nm,1.1s,baz=325,slow=4.7,SNR=9.0						

IDC 03 11:07:57.0±4.8, 48°25N×33°40E, h0km, mb3.2/1, mb1 3.5/2, mb1mx3.0/51, mbtmp3.4/2, ML2.6/2, Error ellipse: s-maj=55.8km s-min=35.4km az=10.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**3.66**	**314**	Pn	Pn	11 08 55.5	+0.7
	0.7nm,0.3s,baz=131,slow=17,SNR=2.3						
AKASG				Lg	Lg	11 09 52.5	
	8.8nm,0.3s,baz=130,slow=29,SNR=15						
FINES	**FINESS Array B**	**13.86**	**345**	Pn	Pn	11 11 08.4	-6.0
	0.1nm,0.3s,baz=157,slow=14,SNR=1.2						
ARCES	**ARCESS Array B**	**21.69**	**352**	P	P	11 12 47.2	-1.8
	0.4nm,0.4s,baz=177,slow=9.7,SNR=5.1						

IDC 03 11:12:52.1±8.1, 30°00S×177°20W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/31, mbtmp3.4/2, Error ellipse: s-maj=337.3km s-min=63.1km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.82**	**266**	P	P	11 21 00.2	+0.1
	0.2nm,0.4s,baz=98,slow=7.3,SNR=2.5						
WRA	**Warramunga Arr**	**44.78**	**271**	P	P	11 21 07.4	-0.3
	0.4nm,0.5s,baz=110,slow=8.1,SNR=1.1						
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc	PKPbc	11 32 29.0	-0.9
	1.1nm,0.9s,baz=46,slow=5.5,SNR=3.3						

*IDC **03** 11:16:09.0±1.1, 45°77S×120°62E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/34, mbtmp3.5/6, MS4.2/1, Ms1 4.2/1, ms1mx3.4/25, Error ellipse: s-maj=52.5km s-min=21.5km az=112.0*

ISC 03 11:16:10.5±1.0, 45°8S±0°2×120°6E±0°3, h10km, n12, σ0°66/8, mb3.6/6, South of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**11.93**	**333**	T	T	11 29 17.6	
	baz=159,slow=74,SNR=16						
H01W2	**Cape Leeuwin H**	**11.93**	**333**	T	T	11 29 18.4	
	baz=159,slow=74,SNR=19						
H01W3	**Cape Leeuwin H**	**11.94**	**333**	T	T	11 29 18.6	
	baz=159,slow=74,SNR=17						
STKA	**Stephens Creek**	**21.35**	**57**	P	**P**	**11 20 58.6**	**+0.8**
	1.2nm,0.6s,baz=214,slow=3.6,SNR=4.2						
ASAR	**Alice Springs**	**24.54**	**30**	P	**P**	**11 21 30.2**	**-0.2**
	0.3nm,0.7s,baz=205,slow=8.5,SNR=4.2						
WRA	**Warramunga Arr**	**28.14**	**28**	P	**P**	**11 22 01.8**	**-0.9**
	0.5nm,1.0s,baz=204,slow=8.3,SNR=1.3						
DZM	**Mont Dzumac**	**44.01**	**73

MQZ	**McQueen's Vall**	**0.13**	**182**	P	Pg	11 18 18.7 +1.7
MQZ				S	Sg	11 18 21.1 +2.2
OKCZ	**Okains Bay**	**0.33**	**117**	P	Pb	11 18 21.8 -0.9
OKCZ				S	Sg	11 18 26.4 +1.4
AKCZ	**Akaroa Harbour**	**0.35**	**149**	P	Pb	11 18 22.5 -0.5
AKCZ				S	Sb	11 18 27.3 -1.6
AMCZ	**Amberley**	**0.40**	**359**	P	Pb	11 18 24.3 +0.4
OXZ	**Oxford**	**0.52**	**299**	P	Pb	11 18 26.6 +0.6
OXZ				S	Sb	11 18 34.5 +0.8
GVZ	**Greta Valley S**	**0.67**	**24**	P	Pb	11 18 28.9 +0.4
WACZ	**Wakanui South**	**0.70**	**238**	P	Pn	11 18 30.5 -0.4
LTZ	**Lake Taylor**	**0.84**	**340**	P	Pn	11 18 32.7 -0.2
RPZ	**Rata Peaks**	**1.18**	**263**	P	Pn	11 18 37.7 +0.3
INZ	**Inchbonnie**	**1.23**	**313**	P	Pn	11 18 39.3 +1.1
KHZ	**Kahutara**	**1.32**	**29**	P	Pn	11 18 38.7 -0.8
WVZ	**Waitaha Valley**	**1.49**	**289**	P	Pg	11 18 43.1 +0.1
THZ	**Tophouse**	**1.82**	**6**	P	Pn	11 18 46.4 0.0
DSZ	**Denniston Nort**	**1.94**	**341**	P	Pn	11 18 48.7 +0.7
LBZ	**Lake Benmore**	**1.96**	**245**	P	Pn	11 18 48.9 +0.6
ODZ	**Otahua Downs**	**2.06**	**224**	P	Pn	11 18 49.5 -0.2
BSWZ	**Blackbirch Sta**	**2.06**	**26**	P	Pn	11 18 49.9 +0.2
FOZ	**Fox Glacier**	**2.07**	**270**	P	Pb	11 18 51.8 -0.6
NNZ	**Nelson**	**2.42**	**13**	P	Pn	11 18 54.6 +0.1
QRZ	**Quartz Range**	**2.75**	**358**	P	Pn	11 19 00.1 +1.0
JCZ	**Jackson Bay**	**2.85**	**259**	P	Pn	11 19 01.4 +0.9
EAZ	**Earnscleugh**	**2.92**	**234**	P	Pn	11 19 01.8 +0.4
CAW	**Cannon Point**	**3.04**	**37**	P	Pn	11 19 02.0 -1.1
TUZ	**Tuapeka**	**3.21**	**221**	P	Pn	11 19 05.3 -0.1
MLZ	**Mavora Lakes**	**3.71**	**240**	P	Pn	11 19 12.5 +0.1
SYZ	**Scrubby Hill**	**3.87**	**219**	P	Pn	11 19 14.8 +0.3
WHZ	**Wether Hill Ro**	**4.08**	**234**	P	Pn	11 19 16.6 -0.8
APZ	**The Paps**	**4.64**	**224**	P	Pn	11 19 25.3 +0.2

*KRNET **03** 11:30:04.8±0.1, 41°.60N×72°.66E, h13km, mb2.4*
*SOME **03** 11:30:05.5, 41°.70N×72°.63E, h5km*
*NNC **03** 11:30:06.5±1.0, 41°.71N×72°.61E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=9.9km s-min=3.9km az=173.0*

ISC 03 11:30:04.4±1.1, 41°.61N±0°.03×72°.65E±0°.02, h7km±10km, n26, σ1§16/42, 14C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.38**	**138**	⇓	*iP*		**Pg**	**11 30 11.8**	**-0.1**
	baz=39								
ARSB				⇓	*iS*		**Sg**	**11 30 17.3**	**+0.4**
	baz=39								
ARK	**Arkit**	**0.55**	**291**	⇓	*iP*		**Pg**	**11 30 15.1**	**+0.1**
	baz=89								
ARK				⇓	*iS*		**Sg**	**11 30 22.9**	**+0.8**
	baz=89								
AML	**Almayashu**	**0.94**	**56**	⇑	*iP*		**Pg**	**11 30 22.7**	**+0.2**
	baz=55								
AML				⇑	*iS*		**Sb**	**11 30 35.4**	**-0.8**
	baz=55								
OHH	**Osh**	**1.09**	**174**	⇓	*iP*		**Pb**	**11 30 25.1**	**-0.6**
	baz=75								
OHH				⇓	*iS*		**Sg**	**11 30 40.1**	**+0.7**
	baz=75								
MRKS	**Merke**	**1.22**	**21**		*eP*		**Pg**	**11 30 27.9**	**+0.2**
	1.5nm,0.1s								
MRKS					*eS*		**Sn**	**11 30 44.3**	**-0.5**
	4.8nm,0.1s								
MRKS	**Merke**	**1.22**	**21**	P			**Pg**	**11 30 27.9**	**+0.2**
	1.5nm,0.1s								
MRKS				S			**Sn**	**11 30 44.3**	**-0.5**
	4.8nm,0.1s								
ARLS	**Aral**	**1.28**	**78**	⇑	*iP*		**Pn**	**11 30 28.7**	**-0.2**
	baz=77								
ARLS				⇑	*iS*		**Sn**	**11 30 46.1**	**-0.4**
	baz=77								
UCH	**Uchtor**	**1.52**	**65**	⇑	*iP*		**Pb**	**11 30 33.3**	**0.0**
	baz=65								
UCH				⇑	*iS*		**Sg**	**11 30 53.3**	**-0.2**
	baz=65								
AAK	**Ala-Archa**	**1.72**	**53**	⇑	*eP*		**Pb**	**11 30 36.4**	**0.0**
	baz=52								
AAK				⇑	*iS*		**Sg**	**11 30 58.8**	**-0.8**
	baz=52								
AAK	**Ala-Archa**	**1.72**	**53**	⇑	P		**Pg**	**11 30 37.9**	**+0.6**
	3.4nm,0.5s								
AAK				⇑	S		**Sg**	**11 31 00.8**	**+1.2**
	3.6nm,0.6s								
KZA	**Kyzart**	**2.00**	**76**	⇓	*eP*		**Pb**	**11 30 41.1**	**-0.3**
	baz=75								
KZA				⇓	*iS*		**Sb**	**11 31 07.4**	**+0.7**
	baz=75								
IUG	**Iuzhnay**	**2.03**	**286**		*eP*		**Pg**	**11 30 42.8**	**-0.5**
	7.0nm,0.1s								
IUG					*eS*		**Sg**	**11 31 09.8**	**+0.3**
	14nm,0.2s								
IUG	**Iuzhnay**	**2.03**	**286**		Pg		**Pg**	**11 30 42.8**	**-0.5**
	7.0nm,0.1s								
IUG					Lg		Lg	11 31 09.8	
	14nm,0.2s								
BTK	**Batken**	**2.08**	**222**	⇓	*iP*		**Pb**	**11 30 42.2**	**-0.4**
	baz=23								
BTK				⇓	*iS*		**Sb**	**11 31 09.6**	**+1.0**
	baz=23								
KK31	**Karatay Array**	**2.18**	**314**	⇑	Pg		**Pb**	**11 30 44.3**	**+0.1**
	0.4nm,0.2s,baz=143,slow=17,SNR=7.4								
KK31					Lg		Lg	11 31 12.3	
	2.5nm,0.3s,baz=127,slow=27,SNR=10								
SGDS	**Sogindy**	**2.35**	**38**		Pg		**Pb**	**11 30 47.8**	**+0.6**
	7.1nm,0.3s								
SGDS					Lg		Lg	11 31 18.1	
	4.7nm,0.4s								
BRLS	**Borolday**	**2.52**	**305**		*eP*		**Pb**	**11 30 50.8**	**+0.7**
	1.8nm,0.3s								
BRLS					*eS*		**Sg**	**11 31 23.3**	**-2.1**
	8.6nm,0.4s								
BRLS	**Borolday**	**2.52**	**305**		Pg		**Pb**	**11 30 50.8**	**+0.7**
BRLS					Lg		Lg	11 31 23.3	
TKM2	**Tokmak 2**	**2.55**	**58**	⇑	Pg		**Pb**	**11 30 51.6**	**+0.9**
	3.3nm,0.6s								
TKM2				⇑	Lg		Lg	11 31 27.9	
	8.0nm,0.8s								
DGS	**Degeres**	**2.83**	**54**		*eP*		**Pb**	**11 30 57.0**	**+1.6**
	3.5nm,0.5s								
DGS					*eS*		**Sg**	**11 31 34.0**	**-1.4**
	4.6nm,0.6s								
DGS	**Degeres**	**2.83**	**54**		Pg		**Pb**	**11 30 57.0**	**+1.6**
	3.5nm,0.5s								
DGS					Lg		Lg	11 31 34.0	
	4.6nm,0.6s								
MDOK	**Medeo**	**3.61**	**63**		*eP*		**Pb**	**11 31 09.9**	**+1.2**
	2.1nm,0.3s								
MDOK					*eS*		**Sb**	**11 31 56.4**	**+3.6**
	2.7nm,0.2s								
MDOK	**Medeo**	**3.61**	**63**	⇑	Lg		Lg	11 31 59.7	
	2.2nm,0.6s								
MDOK	**Medeo**	**3.61**	**63**		Pg		**Pb**	**11 31 09.9**	**+1.2**
	2.1nm,0.3s								
MDOK					Lg		Lg	11 31 56.4	
	2.7nm,0.2s								
KTBS	**Karatobe**	**3.64**	**53**		*eP*		**Pg**	**11 31 11.9**	**-2.3**
	1.1nm,0.3s								
KTBS					*eS*		**Sg**	**11 31 59.5**	**-1.9**
	3.8nm,0.3s								
KTBS	**Karatobe**	**3.64**	**53**		Pg		**Pg**	**11 31 12.0**	**-2.3**
	1.1nm,0.3s								
KTBS					Lg		Lg	11 31 59.5	
	3.8nm,0.3s								

*IDC **03** 11:42:13.5±1.0, 21°.26S×68°.52W, h112km±18km, mb3.4/3, mb1 3.3/5, mb1mx3.1/30, mbtmp3.8/5, MS3.1/1, Ms1 3.1/1, ms1mx2.7/13, Error ellipse: s-maj=39.9km s-min=11.8km az=96.0*
*GUC **03** 11:42:14.4±0.6, 21°.33S×68°.73W, h125km±3km, ML3.5*

ISC 03 11:42:13.2±0.9, 21°.31S±0°.03×68°.74W±0°.08, h130km±9km, n24, σ0§75/44, 13C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.68**	**224**	⇑	*iP*		**Pn**	**11 42 34.0**	**+0.3**
PB09					*i* S		**Sn**	**11 42 49.0**	**-0.1**
PB09					IAML			11 42 50.7	
	comp=N,636nm,0.4s								
PB01	**IPOC Station P**	**0.74**	**290**	⇑	*iP*		**Pn**	**11 42 34.0**	**0.0**
PB01					*i* S		**Sn**	**11 42 49.1**	**-0.8**
PB01					IAML			11 42 49.9	
	comp=E,2μm,0.1s								
PB07	**IPOC Station P**	**1.15**	**248**	⇑	*iP*		**Pn**	**11 42 38.0**	**+0.3**
PB07					*i* S		**Sn**	**11 42 55.8**	**-0.6**
PB07					IAML			11 42 57.2	
	comp=E,836nm,0.4s								
PB03	**IPOC Station P**	**1.20**	**232**	⇑	*iP*		**Pn**	**11 42 38.5**	**+0.3**
PB03					*i* S		**Sn**	**11 42 56.8**	**-0.5**
PB03					IAML			11 42 57.5	
	comp=E,1μm,0.2s								
PB08	**IPOC Station P**	**1.22**	**342**	⇓	*iP*		**Pn**	**11 42 39.4**	**+0.6**
PB08					*i* S		**Sn**	**11 42 59.0**	**+0.8**
PB08					IAML			11 42 59.4	
	comp=E,709nm,0.3s								
LVC	**Limon Verde**	**1.31**	**187**		P		**Pn**	**11 42 40.0**	**+0.4**
	comp=E,18nm,0.3s,baz=15,slow=11,SNR=150								
LVC					S		**Sn**	**11 42 59.1**	**-0.7**
	comp=E,29nm,0.3s,baz=266,slow=23,SNR=24								
LVC	**Limon Verde**	**1.31**	**187**		*eP*		**Pn**	**11 42 40.2**	**+0.5**
LVC					*i* S		**Sn**	**11 42 59.7**	**-0.1**
PATCX	**Punta Patache**	**1.41**	**290**	⇑	*iP*		**Pn**	**11 42 40.9**	**+0.5**
PATCX					*i* S		**Sn**	**11 43 01.0**	**0.0**
TA01	**Diego Aracena**	**1.53**	**298**	⇑	*iP*		**Pn**	**11 42 41.8**	**0.0**
TA01					*i* S		**Sn**	**11 43 02.9**	**-0.5**
TA01					IAML			11 43 04.4	
	comp=E,890nm,0.2s								
PB06	**IPOC Station P**	**1.59**	**209**	⇑	*iP*		**Pn**	**11 42 43.1**	**+0.5**
PB06					*i* S		**Sn**	**11 43 04.8**	**-0.2**
PB06					IAML			11 43 05.8	
	comp=E,692nm,0.7s								
PB04	**IPOC Station P**	**1.66**	**232**	⇑	*eP*		**Pn**	**11 42 43.6**	**+0.2**
PB04					*i* S		**Sn**	**11 43 05.7**	**-0.6**
PB04					IAML			11 43 13.2	
	comp=N,332nm,0.2s								
GO01	**Chusmiza**	**1.68**	**345**	⇑	*eP*		**Pn**	**11 42 44.6**	**+0.6**
GO01					*i* S		**Sn**	**11 43 08.0**	**+0.6**
GO01					IAML			11 43 09.9	
	comp=N,640nm,0.2s								
PB11	**IPOC Station P**	**1.76**	**331**	⇓	*iP*		**Pn**	**11 42 44.7**	**+0.2**
PB11					*i* S		**Sn**	**11 43 08.5**	**+0.1**
PB11					IAML			11 43 10.3	
	comp=E,835nm,0.4s								
PB15	**IPOC Station P**	**2.01**	**200**	⇑	*iP*		**Pn**	**11 42 48.1**	**+0.5**
PB15					*i* S		**Sn**	**11 43 14.2**	**+0.3**
PB05	**IPOC Station P**	**2.05**	**221**	⇑	*iP*		**Pn**	**11 42 48.1**	**+0.2**
PB05					*e*S		**Sn**	**11 43 13.9**	**-0.7**
PB05					IAML			11 43 24.1	
	comp=N,113nm,0.5s								
PSGC	**Pisagua**	**2.14**	**322**	⇑	*eP*		**Pn**	**11 42 48.6**	**-0.4**
PSGC					*i* S		**Sn**	**11 43 15.6**	**-0.8**
PSGC					IAML			11 43 19.1	
	comp=N,431nm,0.8s								
MNMC	**Minye Minye**	**2.31**	**340**	⇑	*iP*		**Pn**	**11 42 52.0**	**+0.7**
MNMC					*i* S		**Sn**	**11 43 21.3**	**+0.8**
MNMC					IAML			11 43 23.1	
	comp=E,636nm,0.3s								
PB12	**IPOC Station P**	**3.07**	**331**		*eP*		**Pn**	**11 43 00.9**	**+0.1**
PB12					*i* S		**Sn**	**11 43 37.2**	**-0.4**
PB12					IAML			11 43 48.7	
	comp=E,108nm,0.2s								
GO02	**Mina Guanaco**	**3.92**	**191**		*eP*		**Pn**	**11 43 12.4**	**+0.2**
GO02					*i* S		**Sn**	**11 43 56.4**	**-1.4**
LPAZ	**La Paz**	**5.03**	**7**		P		**Pn**	**11 43 27.9**	**+0.6**
	comp=E,0.4nm,0.3s,baz=196,slow=5.9,SNR=15								
LPAZ					S		**Sn**	**11 44 23.5**	**-1.3**
	comp=E,0.1nm,0.3s,baz=184,slow=5.1,SNR=4.3								
SIV	**San Ignacio**	**8.99**	**55**		P		**Pn**	**11 44 17.4**	**-2.7**
	comp=E,2.7nm,0.3s,baz=273,slow=9.1,SNR=42								
SIV					LR		LR	11 47 45.8	
	comp=E,136nm,21.6s,baz=271,slow=38								
BDFB	**Brasilia**	**20.44**	**77**		P		**P**	**11 46 40.3**	**-0.3**
	comp=E,2.3nm,0.4s,baz=272,slow=11,SNR=7.4								
PTGA	**Pitinga**	**22.17**	**24**		P		**P**	**11 46 58.0**	**-0.8**
	comp=E,1.1nm,0.3s,baz=238,slow=19,SNR=2.7								
TORD	**Torodi Ar. Bea**	**77.14**	**70**		P		**P**	**11 53 54.4**	**+1.4**
	comp=E,0.2nm,0.5s,baz=254,slow=5.6,SNR=4.6								

*IDC **03** 11:46:32.4±1.2, 27°.12N×103°.58E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/54, mbtmp3.6/7, Error ellipse: s-maj=40.5km s-min=20.2km az=66.0*
*NEIC **03** 11:46:33.9±1.5, 27°.08N±0°.09×103°.5E±0°.2, h10km±1km, mb4.4/10, Error ellipse: s-maj=24.6km s-min=11.1km az=295.0*

ISC 03 11:46:37.2±0.8, 27°.10N±0°.09×103°.4E±0°.1, h35km, n21, σ0§86/21, mb4.2/12, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.07**	**198**			Pn	**Pn**	**11 47 09.7**	**0.0**
SLVN	**Son La**	**5.76**	**176**			Pn	**Pn**	**11 48 00.6**	**+0.3**
ENH	**Enshi**	**6.18**	**58**			Pn	**Pn**	**11 48 06.4**	**+0.4**
XAN	**Xi'an**	**8.37**	**33**			Pn	**Pn**	**11 48 35.4**	**-0.7**
SONM	**Songino Array**	**20.82**	**6**		P	P	**P**	**11 51 14.6**	**-1.1**
	1.4nm,0.7s,baz=184,slow=11,SNR=5.9								
KSRS	**Korea Array**	**23.07**	**57**		P	P	**P**	**11 51 38.6**	**-1.0**
	1.4nm,0.6s,baz=242,slow=9.6,SNR=7.2								
HIA	**Hailar**	**25.46**	**25**		P	P	**P**	**11 52 02.2**	**+0.4**
MK31	**Makanchi Array**	**25.78**	**325**		P	P	**P**	**11 52 07.0**	**+2.3**
MKAR	**Makanchi Array**	**25.78**	**325**		P	P	**P**	**11 52 06.2**	**+1.6**
	0.3nm,0.5s,baz=137,slow=11,SNR=3.5								
KURBB	**Kurchatov Arra**	**30.19**	**328**		P	P	**P**	**11 52 44.5**	**+0.5**
	0.2nm,0.4s,baz=138,slow=8.5,SNR=2.0								
WB0	**Warramunga Arr**	**55.42**	**144**		P	P	**P**	**11 56 08.1**	**-0.1**
WB0						IAmb	IAmb	11 56 10.1	
	comp=Z,6.7nm,1.3s								
WRA	**Warramunga Arr**	**55.53**	**144**		P	P	**P**	**11 56 08.9**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=334,slow=8.4,SNR=7.7								
WB2	**Warramunga Arr**	**55.54**	**144**		P	P	**P**	**11 56 08.7**	**-0.5**
WB2						IAmb	IAmb	11 56 15.3	
	comp=Z,2.6nm,0.8s								
WR0	**Warramunga Arr**	**55.65**	**144**		P	P	**P**	**11 56 09.7**	**-0.2**
WR0						IAmb	IAmb	11 56 16.6	
	comp=Z,3.6nm,1.1s								
ASAR	**Alice Springs**	**58.43**	**147**		P	P	**P**	**11 56 29.8**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=330,slow=6.7,SNR=12								
BPAW	**Bear Paw Mtn.**	**72.42**	**26**		P	P	**P**	**11 57 59.5**	**-0.1**
BPAW						IAmb	IAmb	11 58 01.4	
	comp=Z,2.0nm,0.7s								
PPLA	**Purkeypile**	**72.45**	**28**		P	P	**P**	**11 58 00.6**	**+0.7**
MDM	**Murphy Dome**	**73.10**	**25**		P	P	**P**	**11 58 04.0**	**+0.4**
MDM						IAmb	IAmb	11 58 04.5	
	comp=Z,3.9nm,0.9s								
RIDG	**Independent Ri**	**74.98**	**25**		P	P	**P**	**11 58 13.9**	**-0.7**
RIDG						IAmb	IAmb	11 58 17.0	
	comp=Z,2.8nm,1.0s								
DAWY	**Dawson**	**76.82**	**24**		P	P	**P**	**11 58 24.3**	**-0.8**
YKA	**Yellowknife Ar**	**85.67**	**17**		P	P	**P**	**11 59 11.9**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=327,slow=4.7,SNR=5.1								

*NEIC **03** 12:02:15.2±1.9, 8°.3S±0°.1×119°.62E±0°.09, h179km±7km, mb4.1/7, Error ellipse: s-maj=16.3km s-min=10.6km az=209.0*
*IDC **03** 12:02:17.1±2.0, 8°.09S×119°.94E, h194km±16km, mb3.5/5, mb1 3.5/8, mb1mx3.2/41, mbtmp4.0/8, Error ellipse: s-maj=50.9km s-min=9.2km az=52.0*

ISC 03 12:02:14.4±0.8, 8°.34S±0°.09×119°.64E±0°.08, h170km, n22, σ1§73/24, mb4.0/5, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**2.58**	**97**			Pn	**Pn**	**12 02 58.8**	**+1.3**
BATI	**Baumata**	**4.38**	**115**		P	P	**Pn**	**12 03 21.8**	**+1.6**
	24nm,0.3s,baz=298,slow=3.4,SNR=14								
BATI					S		**Sn**	**12 04 12.2**	**+0.6**
	22nm,0.3s,baz=136,slow=18,SNR=7.6								
SOEI	**Soe**	**4.78**	**107**			Pn	**Pn**	**12 03 27.9**	**+2.4**
JAGI	**Jajag, Banyuwa**	**5.43**	**268**			Pn	**Pn**	**12 03 34.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**11.32**	**150**		P	Pn	**Pn**	**12 04 52.5**	**+1.1**
	0.2nm,0.3s,baz=316,slow=8.3,SNR=6.5								
FITZ					S		**Sn**	**12 06 52.3**	**-4.7**
	0.9nm,0.3s,baz=198,slow=17,SNR=12								
FITZ	**Fitzroy Crossi**	**11.32**	**150**			Pn	**Pn**	**12 04 53.1**	**+1.8**
KNURA	**Kununurra**	**11.52**	**130**			Pn	**Pn**	**12 04 53.9**	**-0.1**
MTN	**Manton Dam**	**12.15**	**113**			Pn	**Pn**	**12 05 02.1**	**0.0**
FAKI	**Fak Fak**	**13.65**	**67**			Pn	**Pn**	**12 05 20.2**	**-1.1**
WB0	**Warramunga Arr**	**18.25**	**130**		P	P	**Pn**	**12 06 16.4**	**-0.8**
WB0						IAmb	IAmb	12 06 18.7	
	comp=Z,3.6nm,0.6s								
WRA	**Warramunga Arr**	**18.31**	**131**		P	P	**Pn**	**12 06 16.9**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=304,slow=12,SNR=83								
WRA					S		**S**	**12 09 35.9**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=194,slow=1.1,SNR=12								
WB2	**Warramunga Arr**	**18.32**	**131**		P	P	**Pn**	**12 06 17.2**	**-0.8**
WB2						IAmb	IAmb	12 06 19.8	
	comp=Z,17nm,1.4s								
WR0	**Warramunga Arr**	**18.48**	**130**		P	P	**Pn**	**12 06 19.1**	**-0.7**
WR0						IAmb	IAmb	12 06 20.0	
	comp=Z,7.6nm,1.0s								
AS31	**Alice Springs**	**20.47**	**140**		P	P	Pn	12 06 40.6	-2.9
AS31						IAmb	IAmb	12 06 43.9	
	comp=Z,2.1nm,0.8s								
ASAR	**Alice Springs**	**20.47**	**140**		P	P	Pn	12 06 40.6	-2.9
	comp=Z,2.1nm,0.4s,baz=314,slow=9.5,SNR=70								
ASAR					S		**S**	**12 10 17.8**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=322,slow=22,SNR=6.8								
COEN	**Coen**	**23.74**	**106**		P	P	**P**	**12 07 12.5**	**+1.1**
BBOO	**Buckleboo**	**28.71**	**150**		P	P	**P**	**12 07 57.8**	**+2.0**
BBOO						IAmb	IAmb	12 08 13.2	
	comp=Z,12nm,1.4s								
STKA	**Stephens Creek**	**31.07**	**142**		P	P	**P**	**12 08 18.9**	**+2.4**
	comp=Z,1.2nm,0.4s,baz=310,slow=12,SNR=7.1								
STKA	**Stephens Creek**	**31.07**	**142**		P	P	**P**	**12 08 18.8**	**+2.2**
SONM	**Songino Array**	**57.15**	**349**		P	P	**P**	**12 11 43.2**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=183,slow=8.5,SNR=4.6								
MKAR	**Makanchi Array**	**64.17**	**332**		P	P	**P**	**12 12 30.1**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=147,slow=7.4,SNR=14								
ZALV	**Zalesovo Beam**	**68.66**	**339**		P	P	**P**	**12 12 57.2**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=141,slow=5.7,SNR=4.0								

*IDC **03** 12:05:40.3±0.9, 0°.68N×146°.45E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.0/32, mbtmp4.0/11, MS3.9/1, Ms1 3.9/1, ms1mx2.8/34, Error ellipse: s-maj=34.3km s-min=17.5km az=102.0*
*NEIC **03** 12:05:42.9±2.1, 0°.72N±0°.09×146°.4E±0°.1, h14km±3km, mb4.3/12, Error ellipse: s-maj=18.3km s-min=10.7km az=115.0*

ISC 03 12:05:42.8±0.6, 0°.70N±0°.09×146°.4E±0°.1, h10km, n29, σ1§49/25, mb4.2/16, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.06**	**176**			Pn	**Pn**	**12 08 06.8**	**-0.8**
PATS	**Pohnpei**	**13.33**	**62**			Pn	**Pn**	**12 08 51.5**	**-0.8**
WR0	**Warramunga Arr**	**23.61**	**209**		P	P	**P**	**12 10 53.2**	**-1.0**
WB2	**Warramunga Arr**	**23.68**	**209**		P	P	**P**	**12 10 53.8**	**-1.1**
WB2						IAmb	IAmb	12 10 57.3	
	comp=Z,6.6nm,0.8s								
WRA	**Warramunga Arr**	**23.69**	**209**		P	P	**P**	**12 10 54.1**	**-0.9**
	comp=Z,4.4nm,0.7s,baz=32,slow=10,SNR=9.4								
KNRA	**Kununurra**	**23.86**	**226**		P	P	**P**	**12 10 55.1**	**-1.6**
KNRA						IAmb	IAmb	12 10 56.6	
	comp=Z,8.0nm,0.8s								
ASAR	**Alice Springs**	**27.11**	**206**		P	P	**P**	**12 11 26.4**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=36,slow=8.5,SNR=8.2								
FITZ	**Fitzroy Crossi**	**27.70**	**227**		P	P	**P**	**12 11 30.1**	**-1.3**
	comp=Z,2.9nm,0.6s,baz=49,slow=8.1,SNR=8.0								
FITZ	**Fitzroy Crossi**	**27.70**	**227**		P	P	**P**	**12 11 30.5**	**-1.0**
FITZ						IAmb	IAmb	12 11 32.5	
	comp=Z,14nm,1.4s								
FORT	**Forrest**	**35.85**	**208**		P	P	**P**	**12 12 43.6**	**+0.7**
GIRL	**Giralia**	**39.01**	**231**		P	P	**P**	**12 13 10.8**	**+0.9**
MORW	**Morawa**	**41.48**	**222**		P	P	**P**	**12 13 29.4**	**-0.9**
MORW						IAmb	IAmb	12 13 46.2	
	comp=Z,10nm,1.2s								
CMWZ	**Cape Campbell**	**49.16**	**153**		P	P	**P**	**12 14 31.2**	**+0.2**
RPZ	**Rata Peaks**	**49.40**	**157**		LR	LR		12 32 14.1	
	comp=Z,122nm,21.7s,baz=284,slow=32								
CMAR	**Chiang Mai Arr**	**49.82**	**294**		P	P	**P**	**12 14 36.4**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=111,slow=6.1,SNR=10								
PETK	**Petropavlovsk-**	**53.07**	**8**		P	P	**P**	**12 15 00.3**	**+0.1**
	comp=Z,5.2nm,1.1s,baz=209,slow=12,SNR=2.6								
SONM	**Songino Array**	**58.35**	**329**		P	P	**P**	**12 15 37.5**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=150,slow=8.2,SNR=5.2								
CASY	**Casey**	**71.54**	**194**		P	P	**P**	**12 17 03.8**	**+0.1**
MKAR	**Makanchi Array**	**72.04**	**319**		P	P	**P**	**12 17 06.1**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=99,slow=7.5,SNR=9.2								
MAKZ	**Makanchi**	**72.25**	**319**		P	P	**P**	**12 17 07.7**	**-0.8**
MAKZ						IAmb	IAmb	12 17 07.8	
	comp=Z,2.0nm,0.6s								
ZALV

WRA	**Warramunga Arr**	**23.65**	**209**	P	**P**	**12 37 56.4**	**+0.1**
	comp=Z,12nm,0.6s,baz=31,slow=11,SNR=179						
KNRA	**Kununurra**	**23.72**	**226**	P	**P**	**12 37 57.2**	**+0.1**
KNRA				IAmb	IAmb	12 38 11.3	
	comp=Z,31nm,1.1s						
ASAR	**Alice Springs**	**27.08**	**205**	P	**P**	**12 38 28.8**	**+1.1**
	comp=Z,6.6nm,0.9s,baz=37,slow=9.5,SNR=36						
FITZ	**Fitzroy Crossi**	**27.56**	**226**	P	**P**	**12 38 31.7**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=29,slow=8.8,SNR=6.6						
FITZ	**Fitzroy Crossi**	**27.56**	**226**	P	**P**	**12 38 31.9**	**-0.1**
FITZ				IAmb	IAmb	12 38 46.1	
	comp=Z,6.6nm,1.0s						
STKA	**Stephens Creek**	**32.80**	**187**	P	**P**	**12 39 17.7**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=353,slow=17,SNR=4.4						
STKA	**Stephens Creek**	**32.80**	**187**	P	**P**	**12 39 18.2**	**0.0**
KSM	**Kuching**	**35.80**	**271**	P	**P**	**12 39 45.5**	**+1.0**
CMAR	**Chiang Mai Arr**	**49.48**	**294**	P	**P**	**12 41 37.4**	**+1.8**
	comp=Z,3.3nm,0.6s,baz=114,slow=6.4,SNR=18						
PEA0B	**Petropavlovsk-**	**52.99**	**9**	P	**P**	**12 42 01.6**	**+0.2**
PETK	**Petropavlovsk-**	**52.99**	**9**	P	**P**	**12 42 00.2**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=152,slow=6.4,SNR=14						
AMKA	**Amchitka**	**57.62**	**24**	P	**P**	**12 42 34.2**	**-0.5**
ADK	**Adak**	**59.68**	**26**	P	**P**	**12 42 48.7**	**-0.4**
MKAR	**Makanchi Array**	**71.73**	**320**	P	**P**	**12 44 06.7**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=101,slow=6.4,SNR=7.9						
TTA	**Tatalina**	**75.17**	**24**	P	**P**	**12 44 27.3**	**+0.2**
TTA				IAmb	IAmb	12 44 28.6	
	comp=Z,4.7nm,1.4s						
KURK	**Kurchatov**	**75.27**	**323**	P	**P**	**12 44 28.2**	**+0.4**
IL31		**79.61**	**24**	P	**P**	**12 44 50.4**	**-1.4**
ILAR	**Eielson Array**	**79.61**	**24**	P	**P**	**12 44 50.0**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=247,slow=5.5,SNR=9.4						

*IDC **03** 12:57:27.9±1.8,4.95N×125.32E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.5/31,mbtmp3.7/5,MS3.6/3,Ms1 3.6/3, ms1mx2.8/50,Error ellipse: s-maj=120.9km s-min=25.0km az=66.0*

*NEIC **03** 12:57:28.7±2.7,5.05N±0.08×125.41E±0.08,h10km±1km, mb4.2/6,Error ellipse: s-maj=17.3km s-min=9.0km az=227.0*

ISC 03 12:57:32.4±0.9,5.04N±0.08×125.3E±0.1,h35km,n16, σ1§40/14,mb4.0/8,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAV	**Davao City (W)**	**2.04**	**8**	Sn		**Sn**	**12 58 30.4**	**+1.9**
	26nm,0.3s,baz=104,slow=23,SNR=4.2							
DAV				LR		LR	12 59 09.4	
	comp=Z,445nm,19.4s,baz=216,slow=48							
DAV	**Davao City (W)**	**2.04**	**8**	Pn		**Pn**	**12 58 02.3**	**-2.0**
KKM	**Kota Kinabalu**	**9.10**	**277**	Pn		**Pn**	**12 59 40.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**22.99**	**179**	P		**P**	**13 02 35.1**	**+0.9**
	2.5nm,0.9s,baz=2.2,slow=13,SNR=1.6							
FITZ	**Fitzroy Crossi**	**22.99**	**179**	P		**P**	**13 02 35.4**	**+1.2**
FITZ				IAmb		IAmb	13 02 47.9	
	comp=Z,12nm,1.4s							
WB0	**Warramunga Arr**	**26.22**	**160**	P		**P**	**13 03 02.3**	**-1.9**
WB0				IAmb		IAmb	13 03 18.1	
	comp=Z,4.3nm,0.9s							
WRA	**Warramunga Arr**	**26.37**	**161**	P		**P**	**13 03 04.2**	**-1.4**
	comp=Z,2.1nm,0.5s,baz=337,slow=12,SNR=16							
WB2	**Warramunga Arr**	**26.37**	**161**	P		**P**	**13 03 05.2**	**-0.4**
WR0	**Warramunga Arr**	**26.45**	**160**	P		**P**	**13 03 07.6**	**+1.3**
WR0				IAmb		IAmb	13 03 17.2	
	comp=Z,5.3nm,1.1s							
ASAR	**Alice Springs**	**29.74**	**164**	P		**P**	**13 03 35.0**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=349,slow=7.6,SNR=1.9							
STKA	**Stephens Creek**	**39.86**	**158**	P		**P**	**13 05 03.3**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=337,slow=12,SNR=3.2							
STKA	**Stephens Creek**	**39.86**	**158**	P		**P**	**13 05 02.4**	**-0.4**
MKAR	**Makanchi Array**	**55.68**	**325**	P		**P**	**13 07 06.5**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=126,slow=7.8,SNR=5.0							
KURK	**Kurchatov**	**59.88**	**328**	P		**P**	**13 07 35.6**	**+1.0**
KURK				IAmb		IAmb	13 07 47.8	
	comp=Z,1.8nm,0.7s							
KIRV	**Kirov**	**78.37**	**329**	LR		LR	13 46 55.7	
	comp=Z,35nm,18.3s,baz=128,slow=38							
PPT	**Papeete**	**86.87**	**108**	LR		LR	13 42 32.6	
	comp=Z,79nm,19.9s,baz=292,slow=31							

*RSNC **03** 13:06:38.7±0.9,6.81N×73.16W,h144km±4km,ML3.2, Mw3.5*

*IDC **03** 13:06:39.2±4.1,6.59N×73.35W,h180km±28km,mb2.9/2, mb1 3.3/2,mb1mx2.9/24,mbtmp3.4/2,Error ellipse: s-maj=86.9km s-min=32.8km az=85.0*

ISC 03 13:06:36.5±0.9,6.84N±0.03×73.11W±0.04,h157km±6km, n37,σ1§43/66,1C-3D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BARC	**Barichara**	**0.25**	**197**	eP		**Pn**	**13 06 58.3**	**+0.3**
BARC				eS		**Sn**	**13 07 12.9**	**-1.6**
BARC				*i*			13 07 14.9	
	comp=Z,250nm,0.4s							
PAMC	**Pamplona, Colo**	**0.64**	**39**	eP		**Pn**	**13 07 01.1**	**+1.1**
PAMC				eS		**Sn**	**13 07 18.3**	**+0.4**
PAMC				*i*			13 07 20.4	
	comp=Z,437nm,0.6s							
BRRC	**Barranca, Sant**	**0.66**	**294**	*i*P		**Pn**	**13 07 00.2**	**+0.7**
BRRC				eS		**Sn**	**13 07 16.3**	**-0.8**
BRRC				*i*			13 07 20.5	
	comp=Z,251nm,0.4s							
RUSC	**La Rusia**	**0.94**	**179**	eP		**Pn**	**13 07 02.2**	**+0.2**
RUSC				eS		**Sn**	**13 07 20.9**	**-0.6**
RUSC				*i*			13 07 23.6	
	comp=Z,144nm,0.4s							
TAMC	**Tame, Arauca**	**1.36**	**107**	*i*P		**Pn**	**13 07 06.5**	**+1.2**
TAMC				eS		**Sn**	**13 07 28.0**	**+0.7**
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	eP		**Pn**	**13 07 04.9**	**-0.4**
PTBC				eS		**Sn**	**13 07 26.1**	**-1.3**
PTBC				*i*			13 07 27.8	
	comp=Z,715nm,1.0s							
OCAC	**Ocana**	**1.41**	**351**	eP		**Pn**	**13 07 06.5**	**+0.6**
OCAC				eS		**Sn**	**13 07 28.2**	**-0.2**
OCAC				*i*			13 07 33.0	
	comp=Z,204nm,0.2s							
SPBC	**San Pablo de B**	**1.52**	**219**	eP		**Pn**	**13 07 07.2**	**+0.3**
SPBC				eS		**Sn**	**13 07 29.1**	**-1.1**
SPBC				*i*			13 07 31.8	
	comp=Z,402nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	eP		**Pn**	**13 07 11.0**	**+0.6**
ZARC				eS		**Sn**	**13 07 36.4**	**-0.1**
ZARC				*i*			13 07 44.4	
	comp=Z,129nm,0.3s							
CTAB	**Cerro Tablazo,**	**2.12**	**211**	eP		**Pn**	**13 07 15.4**	**+1.6**
NORC	**Norcasia**	**2.16**	**234**	eP		**Pn**	**13 07 14.1**	**+0.1**
NORC				eS		**Sn**	**13 07 42.0**	**-0.8**
NORC				*i*			13 07 49.7	
	comp=Z,122nm,0.2s							
SMLC	**San Martn de**	**2.17**	**334**	eP		**Pn**	**13 07 14.5**	**+0.4**
SMLC				eS		**Sn**	**13 07 43.0**	**-0.1**
SMLC				*i*			13 07 50.9	
	comp=Z,125nm,0.2s							
CHIC	**Chingaza**	**2.28**	**196**	eP		**Pn**	**13 07 16.2**	**+0.5**
CHIC				eS		**Sn**	**13 07 45.4**	**-0.6**
CHIC				*i*			13 07 48.9	
	comp=Z,72nm,0.5s							
ROSC	**El Rosal**	**2.32**	**211**	P		**Pn**	**13 07 18.3**	**+2.1**
	comp=Z,27nm,0.3s,baz=245,slow=21,SNR=39							
ROSC				S		**Sn**	**13 07 45.4**	**-1.5**
	comp=Z,29nm,0.3s,baz=91,slow=15,SNR=11							
ROSC	**El Rosal**	**2.32**	**211**	eP		**Pn**	**13 07 17.9**	**+1.7**
HELC	**Santa Helena**	**2.49**	**255**	eP		**Pn**	**13 07 18.9**	**+0.7**
HELC				eS		**Sn**	**13 07 49.7**	**-0.6**
HELC				*i*			13 07 56.2	
	comp=Z,56nm,0.3s							
CVER	**Cruz Verde, Cu**	**2.49**	**203**	eP		**Pn**	**13 07 19.2**	**+0.9**
UREC	**San Jos de Ur**	**2.57**	**291**	eP		**Pn**	**13 07 18.2**	**-0.6**
UREC				eS		**Sn**	**13 07 50.0**	**-1.6**
UREC				*i*			13 08 00.4	
	comp=Z,99nm,0.3s							
GUY2C	**Guyana, Caldas**	**2.76**	**235**	eP		**Pn**	**13 07 22.3**	**+0.7**
GUY2C				eS		**Sn**	**13 07 59.9**	**+3.5**
GUY2C				*i*			13 08 06.0	
	comp=Z,101nm,0.5s							
VILC	**Villavicencio,**	**2.77**	**192**	eP		**Pn**	**13 07 21.5**	**+0.1**
VILC				eS		**Sn**	**13 07 55.1**	**-1.1**
VILC				*i*			13 08 01.2	
	comp=Z,99nm,0.5s							
PTGC	**Puerto Gaitan,**	**2.79**	**160**	eP		**Pn**	**13 07 20.8**	**-0.8**
PTGC				eS		**Sn**	**13 07 54.6**	**-1.9**
PTGC				*i*			13 07 57.9	
	comp=Z,60nm,0.1s							
RREF	**El Recreo**	**2.94**	**229**	eP		**Pn**	**13 07 25.3**	**+1.2**
RREF				eS		**Sn**	**13 08 03.6**	**+2.8**
RREF				*i*			13 08 10.6	
	comp=Z,118nm,0.3s							
CBOC	**Ciudad Bolivar**	**3.04**	**252**	eP		**Pn**	**13 07 26.2**	**+1.4**
CBOC				eS		**Sn**	**13 08 00.7**	**-1.6**
CBOC				*i*			13 08 08.7	
	comp=Z,31nm,0.2s							
DBBC	**Dabeiba**	**3.09**	**274**	eP		**Pn**	**13 07 25.4**	**+0.1**
TOLC	**Tolima**	**3.14**	**225**	eP		**Pn**	**13 07 27.5**	**+1.3**
TOLC				eS		**Sn**	**13 08 05.1**	**+0.4**
TOLC				*i*			13 08 09.3	
	comp=Z,164nm,0.5s							
ARGC	**Ariguani, Magd**	**3.21**	**339**	eP		**Pn**	**13 07 28.0**	**+1.2**
ARGC				eS		**Sn**	**13 08 06.0**	**+0.2**
ARGC				*i*			13 08 11.4	
	comp=Z,30nm,0.5s							
ANIL	**Santa Ana**	**3.26**	**225**	eP		**Pn**	**13 07 28.9**	**+1.1**
ANIL				eS		**Sn**	**13 08 06.5**	**-1.0**
ORTC	**Ortega, Tolima**	**3.60**	**216**	eP		**Pn**	**13 07 32.3**	**+0.4**
ORTC				eS		**Sn**	**13 08 15.6**	**+0.6**
SJCC	**San Jacinto, C**	**3.67**	**326**	eP		**Pn**	**13 07 32.4**	**-0.3**
SJCC				eS		**Sn**	**13 08 13.4**	**-3.0**
SJCC				*i*			13 08 18.3	
	comp=Z,29nm,0.4s							
PLMC	**San Jos del P**	**3.70**	**239**	eP		**Pn**	**13 07 34.3**	**+1.2**
PLMC				eS		**Sn**	**13 08 16.2**	**-0.9**
PLMC				*i*			13 08 29.3	
	comp=Z,65nm,1.0s							
YOTC	**Yotoco, Valle**	**4.29**	**229**	eP		**Pn**	**13 07 40.7**	**-0.2**
YOTC				eS		**Sn**	**13 08 28.8**	**-2.2**
MACC	**Macarena, Meta**	**4.72**	**189**	eP		**Pn**	**13 07 44.6**	**-1.7**
MACC				eS		**Sn**	**13 08 36.6**	**-4.3**
MACC				*i*			13 08 41.3	
	comp=Z,11nm,0.3s							
URIC	**Uribia, Colomb**	**4.96**	**13**	eP		**Pn**	**13 07 48.4**	**-1.1**
URIC				eS		**Sn**	**13 08 42.7**	**-3.9**
TXAR	**Lajitas Array**	**36.46**	**312**	P		**P**	**13 13 28.1**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=109,slow=11,SNR=2.4							
YKA	**Yellowknife Ar**	**63.26**	**340**	P		**P**	**13 16 48.4**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=130,slow=6.7,SNR=7.4							
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc		**PKPbc**	**13 26 05.8**	**-1.4**
	comp=Z,0.3nm,0.9s,baz=109,slow=3.6,SNR=1.6							
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc		**PKPbc**	**13 26 09.4**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=105,slow=2.9,SNR=4.6							

*IDC **03** 13:07:29.2±1.0,9.89N×123.11E,h0km,mb3.9/8, mb1 3.9/8,mb1mx3.7/39,mbtmp3.9/8,Error ellipse: s-maj=172.4km s-min=17.0km az=67.0*

*NEIC **03** 13:07:31.0±0.6,9.7N±0.1×122.6E±0.1,h10km±1km, mb4.4/10,Error ellipse: s-maj=23.3km s-min=17.5km az=89.0*

*MAN **03** 13:07:31.3,9.64N×122.30E,h12km,MS4.1*

MAN Intensity IV- Sipalay, Negros Occidental; Intensity III- Hinoba-an, Negros Occidental; Basay, Negros Oriental; Intensity I - Bayawan, Negros Oriental.

ISC 03 13:07:33.7±1.0,9.74N±0.04×122.41E±0.05,h28km±7km, n36,σ1§68/46,mb4.1/12,2C-1D,Negros

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CNOP	**Candoni, Negro**	**0.25**	**69**	eP		**Pb**	**13 07 39.6**	**-0.7**
CNOP				eS		**Sb**	**13 07 44.6**	**-0.1**
GUIM	**Jordan**	**0.90**	**12**	eP		**Pn**	**13 07 50.5**	**0.0**
GUIM				eS		**Sb**	**13 08 04.1**	**+1.7**
TBP	**Tagbilaran**	**1.44**	**92**	*i* P		**Pb**	**13 07 58.7**	**-1.2**
TBP				*i* S		**Sb**	**13 08 19.2**	**+1.5**
LLP	**Lapu-Lapu**	**1.64**	**69**	eP		**Pb**	**13 08 01.8**	**-1.5**
LLP				eS		**Sb**	**13 08 24.2**	**+0.6**
CUYO	**Cuyo Island**	**1.76**	**309**	eP		**Pn**	**13 08 02.5**	**+0.2**
CUYO				eS		**Sn**	**13 08 24.3**	**+0.5**
PAGZ	**Pagadian**	**2.11**	**153**	eP		**Pn**	**13 08 06.1**	**-1.1**
PAGZ				eS		**Sb**	**13 08 39.0**	**+1.8**
MSLP	**Maasin**	**2.45**	**81**	eP		**Pb**	**13 08 13.3**	**-3.7**
MSLP				eS		**Sb**	**13 08 51.9**	**+5.1**
OCLP	**Ormoc**	**2.53**	**59**	eP		**Pn**	**13 08 14.4**	**+1.4**
OCLP				eS		**Sb**	**13 08 48.4**	**-0.8**
OTRP	**Odiongan**	**2.63**	**352**	eP		**Pn**	**13 08 16.0**	**+1.6**
SJMP	**San Jose**	**2.99**	**335**	eP		**Pn**	**13 08 19.8**	**+0.6**
BUKP	**Musuan**	**3.21**	**125**	eP		**Pn**	**13 08 22.9**	**+0.5**
ENPP	**El Nido**	**3.27**	**297**	eP		**Pn**	**13 08 22.0**	**-1.2**
ENPP				eS		**Sn**	**13 08 58.0**	**-3.3**
BOAC	**Boac**	**3.74**	**352**	eP		**Pn**	**13 08 31.3**	**+1.7**
BOAC				eS		**Sn**	**13 09 14.7**	**+2.0**
KCP	**Kidapawan**	**3.80**	**135**	eP		**Pb**	**13 08 42.4**	**+2.3**
LQP	**Lukban**	**4.43**	**349**	eP		**Pn**	**13 08 38.4**	**-0.9**
MYLDM	**Lahad Datu**	**5.96**	**221**			**Pn**	**13 09 01.1**	**+1.0**
KKM	**Kota Kinabalu**	**7.15**	**240**			**Pn**	**13 09 17.0**	**+0.4**
SBUM	**Sibu**	**12.45**	**235**			**Pn**	**13 10 30.3**	**+1.2**
WRA	**Warramunga Arr**	**31.75**	**158**	P		**P**	**13 13 53.7**	**-2.0**
	0.5nm,0.6s,baz=341,slow=9.3,SNR=4.7							
WB2	**Warramunga Arr**	**31.75**	**158**	P		**P**	**13 13 54.1**	**-1.5**
RABL	**Rabaul**	**32.72**	**114**	P		**P**	**13 14 02.6**	**-1.7**
AS31	**Alice Springs**	**35.05**	**161**	P		**P**	**13 14 23.7**	**-0.8**
ASAR	**Alice Springs**	**35.05**	**161**	P		**P**	**13 14 23.4**	**-1.1**
	0.7nm,0.6s,baz=341,slow=6.9,SNR=14							
ERM	**Erimo**	**36.96**	**26**	P		**P**	**13 14 39.9**	**-0.7**
SONM	**Songino Array**	**40.31**	**343**	P		**P**	**13 15 09.1**	**+0.4**
	1.0nm,0.5s,baz=171,slow=9.4,SNR=7.2							
STKA	**Stephens Creek**	**45.27**	**157**	P		**P**	**13 15 48.2**	**-0.7**
	1.2nm,0.8s,baz=345,slow=8.9,SNR=3.2							
STKA	**Stephens Creek**	**45.27**	**157**	P		**P**	**13 15 48.0**	**-1.0**
STKA				IAmb		IAmb	13 16 32.8	
	comp=Z,6.1nm,2.0s							
MK31	**Makanchi Array**	**50.20**	**325**	P		**P**	**13 16 28.7**	**+1.6**
MKAR	**Makanchi Array**	**50.20**	**325**	P		**P**	**13 16 29.2**	**+2.0**
	comp=Z,2.9nm,1.0s,baz=127,slow=8.4,SNR=14							
MAKZ	**Makanchi**	**50.39**	**325**	P		**P**	**13 16 30.7**	**+2.1**
MAKZ				IAmb		IAmb	13 16 31.2	
	comp=Z,6.4nm,1.4s							
ZAA0	**Zalesovo Array**	**53.32**	**333**	P		**P**	**13 16 51.0**	**+0.7**
ZAA0				IAmb		IAmb	13 17 20.4	
	comp=Z,5.3nm,1.6s							
ZALV	**Zalesovo Beam**	**53.32**	**333**	P		**P**	**13 16 51.0**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=104,slow=4.7,SNR=6.0							
KURK	**Kurchatov**	**54.40**	**327**	P		**P**	**13 16 59.7**	**+1.6**
KURK				IAmb		IAmb	13 17 00.6	
	comp=Z,13nm,1.4s							
BRVK	**Borovoye**	**60.05**	**327**	P		**P**	**13 17 39.6**	**+1.5**
BRVK				IAmb		IAmb	13 17 40.3	
	comp=Z,3.2nm,1.0s							
ARCES	**ARCESS Array B**	**83.36**	**339**	P		**P**	**13 19 58.0**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=66,slow=9.0,SNR=2.0							
FINES	**FINESS Array B**	**84.54**	**331**	P		**P**	**13 20 05.0**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=93,slow=7.6,SNR=4.2							

*MAN **03** 13:14:25.1,4.96N×126.70E,h8km,MS3.9*

*IDC **03** 13:14:34.7±2.8,5.53N×126.75E,h61km±26km,mb3.6/12, mb1 3.7/12,mb1mx3.5/38,mbtmp3.9/12,MS3.6/3, Ms1 3.6/3,ms1mx2.9/44,Error ellipse: s-maj=36.9km s-min=12.7km az=72.0*

*NEIC **03** 13:14:35.2±1.2,5.58N±0.07×126.7E±0.1,h66km±5km, mb4.5/14,Error ellipse: s-maj=19.6km s-min=8.9km az=71.0*

ISC 03 13:14:28.6±1.7,5.58N±0.06×126.92E±0.08,h14km±10km, n46,σ1§60/43,mb4.2/17,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DDMP	**Don Marcelino,**	**1.31**	**294**	eP		**Pn**	**13 14 51.3**	**-1.2**
DDMP				eS		**Sg**	**13 15 12.5**	**+1.5**
MATI	**Mati**	**1.51**	**334**	eP		**Pb**	**13 14 56.1**	**-0.4**
MATI				eS		**Sg**	**13 15 22.1**	**+4.7**
DAV	**Davao City (W)**	**1.99**	**318**	P		**Pg**	**13 15 05.4**	**-1.5**
	50nm,0.3s,baz=25,slow=1.0,SNR=5.0							
DAV				LR		LR	13 15 27.1	
	comp=Z,100nm,19.6s,baz=194,slow=27							
DAV				S		**Sg**	**13 15 35.4**	**+2.6**
	90nm,0.3s,baz=72,slow=24,SNR=4.9							
DAV	**Davao City (W)**	**1.99**	**318**			**Pg**	**13 15 05.2**	**-1.7**
KCP	**Kidapawan**	**2.31**	**308**	eP		**Pb**	**13 15 08.2**	**-1.9**
KCP				*i* S		**Sg**	**13 15 42.9**	**-0.1**
SKMP	**Bagumbayan, Su**	**2.54**	**292**	eP		**Pn**	**13 15 08.9**	**-0.6**
SKMP				eS		**Sn**	**13 15 41.5**	**+1.3**
BUKP	**Musuan**	**2.94**	**321**	eP		**Pb**	**13 15 17.9**	**-2.9**
BUKP				eS		**Sb**	**13 15 58.9**	**+2.3**
TNTI	**Ternate**	**4.79**	**175**	Pn		Pn	13 15 45.6	+5.2
LUWI	**Luwuk**	**7.77**	**212**	Pn		**Pn**	**13 16 25.1**	**+3.8**
MYLDM	**Lahad Datu**	**8.39**	**268**	Pn		**Pn**	**13 16 32.3**	**+2.4**
FAKI	**Fak Fak**	**9.98**	**148**	Pn		**Pn**	**13 16 50.4**	**-1.3**
TGY	**Tagaytay City**	**10.32**	**326**	LR		LR	13 21 17.0	
	comp=Z,81nm,18.8s,baz=221,slow=39							
FITZ	**Fitzroy Crossi**	**23.56**	**183**	P		**P**	**13 19 38.8**	**-0.1**
	3.1nm,0.9s,baz=354,slow=6.8,SNR=7.1							
FITZ	**Fitzroy Crossi**	**23.56**	**183**	IAmb		IAmb	13 20 21.9	
	comp=Z,49nm,1.9s							
WB0	**Warramunga Arr**	**26.24**	**164**	P		**P**	**13 20 04.7**	**+1.2**
WB0				IAmb		IAmb	13 20 11.1	
	comp=Z,6.9nm,0.7s							
WRA	**Warramunga Arr**	**26.39**	**164**	P		**P**	**13 20 06.0**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=342,slow=10,SNR=19							
WB2	**Warramunga Arr**	**26.39**	**164**	P		**P**	**13 20 05.5**	**+0.6**
WB2				IAmb		IAmb	13 20 47.1	
	comp=Z,22nm,1.4s							
WR0	**Warramunga Arr**	**26.46**	**164**	P		**P**	**13 20 06.4**	**+0.9**
WR0				IAmb		IAmb	13 20 32.8	
	comp=Z,27nm,1.8s							
PSA00	**Pilbara Seismi**	**27.86**	**194**	P		**P**	**13 20 16.9**	**-1.0**
ASAR	**Alice Springs**	**29.85**	**167**	P		**P**	**13 20 37.4**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=353,slow=7.5,SNR=9.2							
ASAR				PcP		**PcP**	**13 23 38.7**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=355,slow=2.9,SNR=5.6							
CMAR	**Chiang Mai Arr**	**30.15**	**298**	P		**P**	**13 20 37.9**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=115,slow=8.0,SNR=1.2							
CHTO	**Chiang Mai**	**30.28**	**298**	P		**P**	**13 20 39.6**	**0.0**
CHTO				IAmb		IAmb	13 21 35.9	
	comp=Z,21nm,1.9s							
MJAR	**Matsushiro Arr**	**32.51**	**17**	P		**P**	**13 20 59.0**	**0.0**
	comp=Z,0.6nm,0.7s,baz=206,slow=12,SNR=2.0							
MORW	**Morawa**	**36.00**	**196**	P		**P**	**13 21 28.2**	**-1.2**
BBOO	**Buckleboo**	**39.15**	**168**	P		**P**	**13 21 55.2**	**-0.8**
NWAO	**Narrogin (SRO)**	**39.38**	**193**	P		**P**	**13 21 56.6**	**-1.3**
STKA	**Stephens Creek**	**39.79**	**160**	P		**P**	**13 22 00.8**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=335,slow=9.0,SNR=4.2							
H11S3	**WAKE ISLAND Hy**	**40.84**	**68**	T		T	14 06 06.4	
	baz=257,slow=74,SNR=9.6							
H11S1	**WAKE ISLAND Hy**	**40.86**	**68**	T		T	14 06 07.1	
	baz=257,slow=74,SNR=9.2							
H11S2	**WAKE ISLAND Hy**	**40.86**	**68**	T		T	14 06 07.3	
	baz=257,slow=74,SNR=21							
H11N1	**WAKE ISLAND Hy**	**41.32**	**66**	T		T	14 06 42.7	
	baz=255,slow=75,SNR=14							
H11N2	**WAKE ISLAND Hy**	**41.33**	**66**	T		T	14 06 41.8	
	baz=255,slow=75,SNR=18							
H11N3	**WAKE ISLAND Hy**	**41.34**	**66**	T		T	14 06 43.1	
	baz=255,slow=75,SNR=12							
SONM	**Songino Array**	**45.62**	**341**	P		**P**	**13 22 50.2**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=155,slow=4.8,SNR=2.7							
PETK	**Petropavlovsk-**	**53.66**	**23**	P		**P**	**13 23 51.7**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=276,slow=5.5,SNR=1.5							
MK31	**Makanchi Array**	**56.16**	**324**	P		**P**	**13 24 07.5**	**-0.4**
MKAR	**Makanchi Array**	**56.16**	**324**	P		**P**	**13 24 07.4**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=124,slow=8.0,SNR=18							
MKAR				PcP		**PcP**	**13 25 05.3**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=119,slow=4.7,SNR=3.9							
MAKZ	**Makanchi**	**56.35**	**324**	P		**P**	**13 24 08.9**	**-0.4**
ZALV	**Zalesovo Beam**	**59.04**	**332**	P		**P**	**13 24 27.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=122,slow=5.4,SNR=5.0							
KURK	**Kurchatov**	**60.30**	**327**	P		**P**	**13 24 35.9**	**-0.9**
RPZ	**Rata Peaks**	**63.16**	**146**	LR		LR	13 51 25.2	
	comp=Z,173nm,21.3s,baz=198,slow=35							
BRVK	**Borovoye**	**65.96**	**326**	P		**P**	**13 25 13.7**	**-0.6**
BRVK				IAmb		IAmb	13 25 16.8	
	comp=Z,5.1nm,0.8s							
AKTO	**Aktyubinsk**	**72.34**	**321**	LR		LR	13 59 39.4	
	comp=Z,38nm,19.2s,baz=126,slow=37							
ARCES	**ARCESS Array B**	**86.79**	**340**	P		**P**	**13 27 21.1**	**-0.6**
	comp=Z,0.8nm

comp=Z,0.9nm,0.4s,baz=54,slow=3.7,SNR=5.6

DJA 03 13:38:08.5±1.0, 9°S±3'×11°0E±°, h21km±10km, M3.8/10, mb3.9/1, MLv3.8/10, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.02**	**7**	P	Pn	13 38 27.7	+0.1
UGM				S	Sb	13 38 40.7	+0.3
YOGI	**Yogyakarta**	**1.11**	**355**	P	Pb	13 38 29.0	0.0
YOGI				S	Sn	13 38 43.3	-0.2
WOJI	**Wonogiri, Jawa**	**1.21**	**26**	P	Pn	13 38 29.7	-0.5
WOJI				S	Sb	13 38 44.5	-1.3
SMRI	**Semarang**	**1.87**	**2**	P	Pn	13 38 39.3	0.0
SMRI				S	Sb	13 39 03.8	-1.1
CMJI	**Cimerak**	**2.23**	**301**	P	Pn	13 38 44.6	+0.3
CMJI				S	Sn	13 39 10.3	-0.9
CISI	**Cisompet, Garu**	**2.89**	**298**	P	Pn	13 38 53.8	+0.4
CNJI	**Cibinong**	**3.61**	**296**	P	Pn	13 39 03.9	+0.7
JAGI	**Jajag, Banyuwa**	**3.75**	**83**	P	Pn	13 39 05.8	+0.7

*MAN **03** 13:43:21.8, 5°.36N×126°.79E, h0km, MS4.7*
*IDC **03** 13:43:27.4±2.1, 5°.36N×126°.36E, h37km±17km, mb4.1/33, mb1 4.1/35, mb1mx4.1/56, mbtmp4.3/35, ML4.1/2, MS4.0/26, Ms1 4.0/26, ms1mx3.8/44, Error ellipse: s-maj=22.2km s-min=9.6km az=76.0*
*DJA **03** 13:43:28.2±0.5, 6°N±3'×12°7E±°, h44km±6km, M4.7/19, mb4.6/19, mB5.2/6, MLv4.8/10, Mw(mB)4.6/6, Mwp5.7/2*
*GCMT **03** 13:43:28.1±0.4, 5°.54N±0°.03×126°.83E±0°.04, h30km, MW4.9/63, Moment Tensor Solution. s24,c24; s63,c79; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.94±.23; Mθθ -0.60±.13; Mϕϕ -2.34±.15; Mrθ 0.30±.18; Mrϕ -0.90±.09; Mθϕ 0.93±.18; Best double couple: Mo 2.99300×10^16 NP1 :ϕs 204.00000°, δ 36.00000°, λ 92.00000°. NP2: ϕs 21.00000°, δ 55.00000°, λ 88.00000°. Principal axes: T 3.1050, Plg 80.0000°, Azm 284.0000°; N -0.2250, Plg 1.0000°, Azm 22.0000°; P -2.8810, Plg 9.0000°, Azm 113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **03** 13:43:29.2±0.0, 5°.41N×126°.46E, h58km, mB5.0/19, mb4.6/26, Ms4.5/12, MS7 4.3/13*
*NEIC **03** 13:43:29.1±2.3, 5°.51N±0°.06×126°.69E±0°.05, h54km±5km, mb4.8/47, Error ellipse: s-maj=11.3km s-min=3.0km az=221.0*

ISC 03 13:43:29.9±0.8, 5°.44N±0°.04×126°.70E±0°.06, h60km±8km, n141, σ1§47/138, mb4.5/56, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.19**	**304**	*e*P	Pn	13 43 45.5	-4.9
DDMP				*e*S	**Sn**	**13 44 05.3**	**-0.3**
MATI	**Mati**	**1.56**	**344**	*e*P	**Pn**	**13 43 51.5**	**-3.9**
MATI				*e*S	**Sn**	**13 44 15.2**	**+0.5**
DAV	**Davao City (W)**	**1.96**	**325**	Pn	**Pn**	**13 43 58.7**	**-2.2**
	99nm,0.3s,baz=114,slow=2.0,SNR=13						
DAV				Sn	**Sn**	**13 44 25.6**	**+1.1**
	281nm,0.3s,baz=87,slow=24,SNR=8.3						
DAV				LR	LR	13 44 58.0	
	comp=Z,5μm,18.1s,baz=231,slow=49						
DAV	**Davao City (W)**	**1.96**	**325**	Pn	**Pn**	**13 43 58.2**	**-2.7**
DAV	**Davao City (W)**	**1.96**	**325**	*e*P	**Pn**	**13 43 58.4**	**-2.5**
KCP	**Kidapawan**	**2.23**	**314**	*e*P	**Pn**	**13 44 03.0**	**-1.6**
KCP				*i* S	**Sn**	**13 44 32.2**	**+1.0**
SKMP	**Bagumbayan, Su**	**2.40**	**297**	*e*P	**Pn**	**13 44 04.8**	**-2.1**
SKMP				*e*S	**Sn**	**13 44 36.8**	**+1.7**
BUKP	**Musuan**	**2.92**	**326**	*e*P	**Pn**	**13 44 12.2**	**-1.7**
BUKP				*e*S	**Sn**	**13 44 53.0**	**+5.2**
PAGZ	**Pagadian**	**4.07**	**306**	*e*P	**Pn**	**13 44 26.2**	**-3.5**
PAGZ				*e*S	**Sn**	**13 45 18.3**	**+2.2**
TNTI	**Ternate**	**4.69**	**172**	P	**Pn**	**13 44 37.7**	**-0.4**
TNTI	**Ternate**	**4.69**	**172**	Pn	**Pn**	**13 44 38.0**	**-0.1**
TBP	**Tagbilaran**	**5.07**	**326**	*e*P	**Pn**	**13 44 44.7**	**+1.3**
KMSI	**Cibinong**	**5.55**	**209**	P	**Pn**	**13 44 48.5**	**-1.4**
	0.9nm2μm188nm,0.6s						
GTOI	**Gorontalo**	**6.03**	**218**	P	**Pn**	**13 44 55.0**	**-1.5**
	0.2nm785nm60nm,0.6s						
SANI	**Sanana**	**7.47**	**185**	P	**Pn**	**13 45 16.2**	**-0.1**
	0.3nm47nm,0.7s						
LUWI	**Luwuk**	**7.54**	**211**	P	**Pn**	**13 45 18.3**	**+1.0**
	1.0nm3μm247nm,1.3s						
LUWI	**Luwuk**	**7.54**	**211**	Pn	**Pn**	**13 45 18.1**	**+0.8**
SIJI	**Sorong**	**7.75**	**144**	Pn	**Pn**	**13 45 18.6**	**-1.5**
	1.2nm,0.3s,baz=294,slow=23,SNR=2.5						
SIJI				Sn	**Sn**	**13 46 44.3**	**-2.2**
	1.1nm,0.3s,baz=143,slow=19,SNR=1.1						
SIJI				LR	LR	13 48 29.3	
	comp=Z,752nm,20.9s,baz=335,slow=38						
MYLDM	**Lahad Datu**	**8.17**	**269**	Pn	**Pn**	**13 45 25.1**	**-0.7**
MPSI	**Mapaga**	**8.48**	**233**	P	**Pn**	**13 45 28.8**	**-1.3**
	26nm,0.9s						
FAKI	**Fak Fak**	**9.98**	**146**	Pn	**Pn**	**13 45 50.4**	**-0.3**
LQP	**Lukban**	**10.00**	**330**	*e*P	**Pn**	**13 45 55.6**	**+4.5**
TGY	**Tagaytay City**	**10.31**	**327**	LR	LR	13 50 41.0	
	comp=Z,2μm,18.9s,baz=98,slow=42						
KKM	**Kota Kinabalu**	**10.45**	**274**	Pn	**Pn**	**13 45 57.5**	**+0.3**
KAPI	**Kappang**	**12.49**	**214**	Pn	**Pn**	**13 46 24.5**	**-0.5**
	1.8nm,0.3s,baz=86,slow=19,SNR=1.8						
KAPI				LR	LR	13 51 54.4	
	comp=Z,964nm,18.4s,baz=60,slow=41						
KAPI	**Kappang**	**12.49**	**214**	Pn	**Pn**	**13 46 27.3**	**+2.3**
SBUM	**Sibu**	**14.75**	**259**	Pn	**Pn**	**13 46 56.5**	**+1.3**
BBKI	**Banjar Baru**	**14.78**	**234**	P	**Pn**	**13 46 56.8**	**+1.1**
	2μm35nm,1.0s						
EDFI	**Ende, Flores**	**14.96**	**200**	P	**Pn**	**13 46 59.1**	**+1.1**
	14nm,1.4s						
SOEI	**Soe**	**15.29**	**189**	P	**Pn**	**13 47 03.7**	**+1.4**
	52nm,1.0s						
SOEI	**Soe**	**15.29**	**189**	P	**P**	**13 47 07.5**	**+1.5**
SOEI				IAmb	IAmb	13 48 05.8	
	comp=Z,130nm,1.4s						
BATI	**Baumata**	**15.84**	**191**	Pn	**Pn**	**13 47 06.4**	**-2.8**
	comp=Z,1.7nm,0.3s,baz=300,slow=18,SNR=1.7						
BATI	**Baumata**	**15.84**	**191**	P	**Pn**	**13 47 09.4**	**+0.2**
	comp=Z,25nm,0.6s						
JAY	**Jayapura**	**16.07**	**119**	LR	LR	13 53 28.4	
	comp=Z,689nm,19.2s,baz=309,slow=37						
WBSI	**Waikabubak, Su**	**16.66**	**206**	P	**Pn**	**13 47 19.8**	**+0.2**
KSM	**Kuching**	**16.83**	**257**	Pn	**Pn**	**13 47 21.5**	**-0.2**
TWSI	**Taliwang, Sumb**	**17.15**	**215**	P	**Pn**	**13 47 25.6**	**-0.1**
	comp=Z,31nm,0.9s						
JAGI	**Jajag, Banyuwa**	**18.64**	**222**	P	**Pn**	**13 47 45.3**	**+1.4**
	comp=Z,36nm,1.2s						
JAGI	**Jajag, Banyuwa**	**18.64**	**222**	P	**Pn**	**13 47 44.0**	**+0.1**
JAGI				IAmb	IAmb	13 48 27.7	
	comp=Z,69nm,1.2s						
GUMO	**Guam**	**19.65**	**64**	LR	LR	13 54 07.0	
	comp=Z,565nm,20.7s,baz=225,slow=32						
KNRA	**Kununurra**	**21.08**	**174**	P	**P**	**13 48 09.7**	**+0.3**
KNRA				IAmb	IAmb	13 48 21.5	
	comp=Z,42nm,0.7s						
QIZ	**Qiongzhong**	**21.27**	**311**	P	**P**	**13 48 11.0**	**-0.5**
QIZ				IAmb	IAmb	13 48 48.8	
	comp=Z,74nm,1.7s						
ANA2	**Anatahan**	**21.56**	**58**	P	**P**	**13 48 14.7**	**+0.2**
LEM	**Lembang**	**22.61**	**238**	P	**P**	**13 48 24.9**	**-1.2**
	comp=Z,31nm,0.9s,baz=158,slow=22,SNR=4.3						
LEM				LR	LR	13 58 24.1	
	comp=Z,463nm,20.0s,baz=10,slow=40						
CISI	**Cisompet, Garu**	**22.84**	**236**	P	**P**	**13 48 28.4**	**+0.1**
MYKOM	**Kota Tinggi**	**23.09**	**262**	P	**P**	**13 48 30.6**	**-0.2**
MYKOM				IAmb	IAmb	13 48 32.4	
	comp=Z,82nm,1.5s						
FITZ	**Fitzroy Crossi**	**23.41**	**183**	P	**P**	**13 48 32.8**	**-1.0**
	comp=Z,4.7nm,0.7s,baz=15,slow=5.8,SNR=10						
FITZ	**Fitzroy Crossi**	**23.41**	**183**	P	**P**	**13 48 33.0**	**-0.7**
FITZ				IAmb	IAmb	13 48 47.6	
	comp=Z,91nm,2.0s						
PMBI	**Palembang**	**23.43**	**250**	P	**P**	**13 48 35.0**	**+0.9**
MDSI	**Maura Dua**	**24.56**	**247**	P	**P**	**13 48 46.8**	**+2.5**
	comp=Z,16nm,1.0s						
PMG	**Port Moresby**	**25.16**	**126**	LR	LR	14 00 04.1	
	comp=Z,241nm,19.7s,baz=310,slow=39						
COEN	**Coen**	**25.27**	**140**	P	**P**	**13 48 51.5**	**+0.7**
IPM	**Ipoh**	**25.60**	**269**	P	**P**	**13 48 53.5**	**-0.3**
IPM	**Ipoh**	**25.60**	**269**	P	**P**	**13 48 55.0**	**+1.2**
KULM	**Kulim**	**25.94**	**271**	P	**P**	**13 48 57.8**	**+1.0**
KULM				IAmb	IAmb	13 49 06.0	
	comp=Z,80nm,2.0s						
KULM	**Kulim**	**25.94**	**271**	P	**P**	**13 48 59.0**	**+2.1**
SDSI	**Sungai Dareh**	**26.02**	**257**	P	**P**	**13 48 55.8**	**-1.8**
WB0	**Warramunga Arr**	**26.17**	**163**	P	**P**	**13 48 59.6**	**+0.7**
WB0				IAmb	IAmb	13 49 08.2	
	comp=Z,47nm,1.4s						
WRA	**Warramunga Arr**	**26.32**	**164**	P	**P**	**13 49 00.3**	**+0.1**
	comp=Z,3.2nm,0.5s,baz=342,slow=10,SNR=26						
WB2	**Warramunga Arr**	**26.32**	**164**	P	**P**	**13 49 00.5**	**+0.2**
WB2				IAmb	IAmb	13 49 11.2	
	comp=Z,23nm,1.0s						
WR0	**Warramunga Arr**	**26.39**	**163**	P	**P**	**13 49 01.3**	**+0.4**
WR0				IAmb	IAmb	13 49 11.2	
	comp=Z,22nm,1.0s						
NJ2	**Nanjing**	**27.47**	**345**	*e*P	**P**	**13 49 10.1**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PBKT	**Sadao Pong**	**27.53**	**296**	P	**P**	**13 49 11.7**	**+0.6**
PSA00	**Pilbara Seismi**	**27.68**	**194**	P	**P**	**13 49 11.8**	**-0.5**
PSA00				IAmb	IAmb	13 49 29.2	
	comp=Z,44nm,1.4s						
JNU	**Nakatsue**	**27.81**	**8**	P	**P**	**13 49 13.0**	**-0.6**
RPSI	**Rantau Prapat**	**27.84**	**265**	P	**P**	**13 49 14.8**	**+0.8**
GSI	**Gunungsitoli**	**29.36**	**263**	P	**P**	**13 49 25.6**	**-1.9**
AS31	**Alice Springs**	**29.77**	**167**	P	**P**	**13 49 31.5**	**+0.5**
ASAR	**Alice Springs**	**29.77**	**167**	P	**P**	**13 49 31.1**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=350,slow=7.3,SNR=18						
ASAR				PcP	**PcP**	**13 52 33.0**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=347,slow=2.9,SNR=2.6						
ASAR				ScP	**ScP**	**13 56 13.9**	**+3.2**
	comp=Z,0.9nm,0.7s,baz=346,slow=2.5,SNR=6.5						
ASAR				LR	LR	14 03 42.4	
	comp=Z,86nm,18.7s,baz=360,slow=41						
CMAR	**Chiang Mai Arr**	**30.02**	**298**	P	**P**	**13 49 30.6**	**-2.7**
	comp=Z,1.4nm,0.7s,baz=110,slow=7.5,SNR=6.2						
CMAR				LR	LR	14 02 05.7	
	comp=Z,378nm,18.5s,baz=178,slow=38						
CHTO	**Chiang Mai**	**30.15**	**299**	P	**P**	**13 49 34.3**	**-0.2**
INU	**Inuyama**	**31.25**	**16**	P	**P**	**13 49 43.3**	**-0.6**
INU				IAmb	IAmb	13 50 37.0	
	comp=Z,16nm,1.2s						
KSRS	**Korea Array**	**31.88**	**2**	P	**P**	**13 49 51.4**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=179,slow=9.0,SNR=2.7						
KSRS				LR	LR	14 05 53.1	
	comp=Z,138nm,18.1s,baz=199,slow=42						
MJAR	**Matsushiro Arr**	**32.70**	**17**	P	**P**	**13 49 58.0**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=189,slow=8.8,SNR=2.2						
MJAR				LR	LR	14 02 31.1	
	comp=Z,271nm,20.6s,baz=200,slow=35						
CD2	**Chengdu**	**33.27**	**322**	*e*P	**P**	**13 50 00.5**	**-1.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BJT	**Baijiatuan**	**35.71**	**346**	P	**P**	**13 50 22.2**	**-0.4**
BJI	**Beijing**	**35.73**	**346**	P	**P**	**13 50 22.1**	**-0.7**
BJI				pmax	pmax		
	comp=Z,11nm,1.3s						
BJI				LR	LR		
	comp=Z,270nm,13.9s						
BJI				LR	LR		
	comp=Z,150nm,13.5s						
BJI				LR	LR		
	comp=Z,360nm,23.5s						
FORT	**Forrest**	**36.04**	**178**	P	**P**	**13 50 27.4**	**+1.8**
SHL	**Shillong**	**38.86**	**305**	P	**P**	**13 50 49.4**	**-0.4**
SHL				IAmb	IAmb	13 50 53.8	
	comp=Z,14nm,0.7s						
USRK	**Ussuriysk Ar.**	**38.88**	**6**	P	**P**	**13 50 51.5**	**+2.0**
	comp=Z,1.1nm,0.5s,baz=179,slow=10,SNR=3.5						
BBOO	**Buckleboo**	**39.07**	**167**	P	**P**	**13 50 51.3**	**+0.1**
MDJ	**Mudanjiang**	**39.10**	**3**	P	**P**	**13 50 51.4**	**+0.1**
MDJ				pP	pP	13 51 05.7	+0.3
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,83nm,4.6s						
NWAO	**Narrogin (SRO)**	**39.20**	**193**	P	**P**	**13 50 52.2**	**-0.1**
STKA	**Stephens Creek**	**39.73**	**160**	P	**P**	**13 50 56.3**	**-0.4**
	comp=Z,7.0nm,0.9s,baz=341,slow=9.9,SNR=8.0						
STKA				LR	LR	14 08 48.8	
	comp=Z,144nm,19.9s,baz=341,slow=38						
STKA	**Stephens Creek**	**39.73**	**160**	P	**P**	**13 50 56.4**	**-0.4**
ASAJ	**Asahikawa**	**40.98**	**18**	P	**P**	**13 51 07.8**	**+1.0**
	comp=Z,4.0nm,0.7s,baz=168,slow=7.7,SNR=7.3						
JKA	**Kamikawa-asahi**	**40.98**	**18**	P	**P**	**13 51 07.8**	**+1.0**
H11S3	**WAKE ISLAND Hy**	**41.10**	**68**	T	T	14 35 02.4	
	baz=257,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**41.11**	**68**	T	T	14 35 01.5	
	baz=257,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**41.11**	**68**	T	T	14 34 59.3	
	baz=257,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**41.58**	**66**	T	T	14 35 35.2	
	baz=255,slow=75,SNR=29						
H11N2	**WAKE ISLAND Hy**	**41.59**	**66**	T	T	14 35 37.7	
	baz=255,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**41.59**	**66**	T	T	14 35 38.2	
	baz=255,slow=75,SNR=23						
GTA	**Gaotai**	**41.63**	**328**	*e*P	**P**	**13 51 13.3**	**+0.9**
GTA				pP	pP	13 51 27.0	-0.4
GTA				sP	sP	13 51 31.4	-2.8
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,58nm,5.0s						
GTA				LR	LR		
	comp=Z,280nm,19.4s						
GTA				LR	LR		
	comp=Z,390nm,19.7s						
GTA				LR	LR		
	comp=Z,520nm,19.0s						
KLR	**Kul'dur**	**43.84**	**5**	P	**P**	**13 51 28.2**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=250,slow=4.0,SNR=6.8						
ULN	**Ulaanbaatar**	**45.49**	**341**	P	**P**	**13 51 42.8**	**-0.6**
ULN				IAmb	IAmb	13 51 57.8	
	comp=Z,13nm,1.1s						
SONM	**Songino Array**	**45.68**	**341**	P	**P**	**13 51 45.2**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=158,slow=8.7,SNR=6.9						
SONM				LR	LR	14 14 44.7	
	comp=Z,151nm,18.1s,baz=154,slow=41						
DZM	**Mont Dzumac**	**47.55**	**127**	LR	LR	14 11 55.3	
	comp=Z,126nm,19.7s,baz=302,slow=36						
TLY	**Talaya**	**49.91**	**341**	P	**P**	**13 52 18.2**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=147,slow=7.5,SNR=6.6						
WMQ	**Urumqi**	**51.32**	**324**	*e*P	**P**	**13 52 29.1**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,15nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,41nm,5.7s						
WMQ				LR	LR		
	comp=Z,240nm,21.3s						
WMQ				LR	LR		
	comp=Z,200nm,19.1s						
WMQ				LR	LR		
	comp=Z,460nm,23.3s						
PETK	**Petropavlovsk-**	**53.87**	**23**	P	**P**	**13 52 48.8**	**+2.0**
	comp=Z,4.0nm,0.8s,baz=198,slow=9.1,SNR=4.8						
PETK				LR	LR	14 14 26.1	
	comp=Z,83nm,22.0s,baz=237,slow=34						
MKAR	**Makanchi Array**	**56.15**	**325**	P	**P**	**13 53 03.3**	**-0.1**
	comp=Z,7.0nm,0.8s,baz=123,slow=8.4,SNR=10						
MKAR				PcP	**PcP**	**13 54 00.6**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=108,slow=4.7,SNR=1.2						
MKAR				ScP	**ScP**	**13 57 58.2**	**+3.2**
	comp=Z,0.6nm,0.8s,baz=116,slow=5.6,SNR=4.3						
MKAR				LR	LR	14 18 21.2	
	comp=Z,277nm,20.8s,baz=96,slow=37						
MAKZ	**Makanchi**	**56.34**	**324**	P	**P**	**13 53 04.2**	**-0.6**
MAKZ				IAmb	IAmb	13 53 07.4	
	comp=Z,8.5nm,1.1s						
YAK	**Yakutsk**	**56.51**	**2**	P	**P**	**13 53 05.0**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=59,slow=2.5,SNR=1.7						
YAK	**Yakutsk**	**56.51**	**2**	P	**P**	**13 53 03.3**	**-2.3**
YAK				IAmb	IAmb	13 53 25.0	
	comp=Z,12nm,0.9s						
ZAA0	**Zalesovo Array**	**59.06**	**333**	P	**P**	**13 53 23.2**	**-0.4**
ZALV	**Zalesovo Beam**	**59.06**	**333**	P	**P**	**13 53 22.6**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=120,slow=8.5,SNR=10						
ZALV				LR	LR	14 19 49.2	
	comp=Z,120nm,21.9s,baz=155,slow=37						
KURBB	**Kurchatov Arra**	**60.30**	**327**	P	**P**	**13 53 30.6**	**-1.7**
	comp=Z,11nm,0.7s,baz=120,slow=8.0,SNR=8.4						
KURK	**Kurchatov**	**60.30**	**327**	P	**P**	**13 53 30.8**	**-1.5**
GAR	**Garm**	**60.76**	**312**	P	**P**	**13 53 34.4**	**-1.4**
CHGR	**Chuyangaron**	**61.52**	**311**	P	**P**	**13 53 39.5**	**-1.5**
KK31	**Karatay Array**	**61.97**	**316**		**P**	**13 53 42.0**	**-1.8**
KK31				IAmb	IAmb	13 53 46.1	
	comp=Z,4.9nm,0.9s						
KKAR	**Karatay Array**	**61.97**	**316**		**P**	**13 53 42.1**	**-1.7**
KKAR				IAmb	IAmb	13 53 46.1	
	comp=Z,4.9nm,0.9s						
BKZ	**Black Stump Fm**	**63.87**	**139**	P	**P**	**13 53 57.7**	**+1.2**
BVAR	**Borovoye Array**	**65.88**	**327**	P	**P**	**13 54 07.8**	**-1.5**
	comp=Z,8.0nm,0.7s,baz=126,slow=7.5,SNR=24						
BRVK	**Borovoye**	**65.95**	**327**	P	**P**	**13 54 09.0**	**-0.7**
BRVK				IAmb	IAmb	13 54 23.3	
	comp=Z,11nm,0.8s						
TIXI	**Tiksi**	**66.14**	**1**	P	**P**	**13 54 10.1**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=237,slow=1.8,SNR=4.2						
TIXI	**Tiksi**	**66.14**	**1**	P	**P**	**13 54 09.9**	**-0.6**
TIXI				IAmb	IAmb	13 54 22.0	
	comp=Z,5.7nm,0.8s						
NRIK	**Noril'sk**	**68.77**	**346**	P	**P**	**13 54 27.7**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=126,slow=6.0,SNR=5.9						
GEYT	**Alibeck**	**69.81**	**308**	P	**P**	**13 54 33.8**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=210,slow=8.6,SNR=4.7						
AKTO	**Aktyubinsk**	**72.31**	**321**	P	**P**	**13 54 47.3**	**-1.8**
	comp=Z,4.1nm,0.7s,baz=94,slow=8.3,SNR=11						
CASY	**Casey**	**72.50**	**187**	P	**P**	**13 54 50.3**	**+0.5**
ARU	**Arti**	**73.48**	**327**	P	**P**	**13 54 55.7**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=138,slow=1.5,SNR=14						
ARU	**Arti**	**73.48**	**327**	P	**P**	**13 54 55.2**	**-0.7**
ARU				IAmb	IAmb	13 55 11.6	
	comp=Z,12nm,0.9s						
KBZ	**Khabaz**	**81.79**	**313**	P	**P**	**13 55 42.4**	**0.0**
	comp=Z,2.1nm,0.9s,baz=41,slow=18,SNR=3.7						
KBZ				LR	LR	14 37 13.9	
	comp=Z,53nm,18.1s,baz=62,slow=40						
ILAR	**Eielson Array**	**83.58**	**25**	P	**P**	**13 55 52.6**	**+1.3**
	comp=Z,3.3nm,1.1s,baz=244,slow=5.1,SNR=11						
KLMR	**Klimovskoe**	**83.91**	**331**	*e*P	**P**	**13 55 50.8**	**-2.3**
KLMR				AMP		13 56 01.0	
	comp=Z,36nm,1.5s						
VNDA	**Vanda**	**85.12**	**173**	P	**P**	**13 55 58.2**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=324,slow=5.0,SNR=8.0						
VNDA				LR	LR	14 32 56.4	
	comp=Z,57nm,20.9s,baz=327,slow=35						
MAW	**Mawson**	**85.34**	**200**	P	**P**	**13 56 00.4**	**+0.3**
	comp=Z,2.5nm,1.0s,baz=80,slow=11,SNR=4.0						
MAW				LR	LR	14 28 43.3	
	comp=Z,49nm,21.7s,baz=60,slow=32						
MAW	**Mawson**	**85.34**	**200**	IAmb	IAmb	13 56 01.7	
	comp=Z,1.5nm,1.4s						
ARCES	**ARCESS Array B**	**88.84**	**340**	P	**P**	**13 56 15.2**	**-2.0**
	comp=Z,1.5nm,0.6s,baz=78,slow=7.1,SNR=12						
ARCES				LR	LR	14 41 11.9	
	comp=Z,107nm,18.7s,baz=90,slow=39						
BRTR	**Keskin Array B**	**88.91**	**310**	P	**P**	**13 56 16.6**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=143,slow=3.6,SNR=2.2						
BRTR				LR	LR	14 43 14.1	
	comp=Z,22nm,18.7s,baz=68,slow=40						
KMBO	**Kilima Mbogo**	**89.56**	**269**	LR	LR	14 37 42.0	
	comp=Z,60nm,18.3s,baz=92,slow=36						
FINES	**FINESS Array B**	**90.32**	**332**	P	**P**	**13 56 23.5**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=120,slow=7.5,SNR=8.5						
FINES				LR	LR	14 41 35.3	
	comp=Z,134nm,18.5s,baz=62,slow=39						
AKASG	**Malin Array Be**	**90.56**	**321**	P	**P**	**13 56 24.2**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=78,slow=4.0,SNR=1.8						
AKASG				LR	LR	14 39 51.8	
	comp=Z,75nm,20.4s,baz=35,slow=37						
QSPA	**South Pole Qui**	**95.34**	**180**	P	**P**	**13 56 48.5**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=319,slow=3.2						
NB2	**NORSAR Subarra**	**97.25**	**334**	P	Pdif	13 56 56.3	+0.2
	comp=Z,0.9nm,0.7s,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**97.25**	**334**	P	**P**	**13 56 56.1**	**0.0**
	comp=Z,0.6nm,0.8s,baz=67,slow=4.7,SNR=2.8						
NOA				LR	LR	14 46 01.4	
	comp=Z,142nm,19.0s,baz=70,slow=39						
YKA	**Yellowknife Ar**	**97.96**	**24**	P	Pdif	13 57 00.0	+0.9
	comp=Z,0.4nm,0.8s,baz=310,slow=4.8,SNR=3.4						
YKA				PKKP	**PKKPdf**	**14 13 37.2**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=116,slow=3.1,SNR=3.7						
GERES	**GERESS Array B**	**100.73**	**322**	P	**Pdif**	**13 57 11.2**	**-0.8**
	comp=Z,3.3nm,0.6s,baz=346,slow=4.4,SNR=1.7						
TORD	**Torodi Ar. Bea**	**122.35**	**289**	PKP	**PKPdf**	**14 02 18.9**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=60,slow=2.0,SNR=4.0						

ZUR 03 13:43:58.2, 46°.66N×7°.57E, h8km±1km, MLh0.6/4, 2C-1D, Error ellipse: s-maj=2.8km s-min=0.9km az=119.0, Switzerland

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

QIZ					S	Sn	13 51 26.4	-1.8		
QIZ					pmax	pmax				
	comp=Z,12nm,1.4s									
QIZ					LR	LR				
	comp=N,480nm,6.3s									
WHN	**Wuhan**	**10.19**	**68**		P	**Pn**	**13 49 39.2**	**+3.0**		
WHN					S	**Sn**	**13 51 30.0**	**-0.6**		
WHN					LR	LR				
	comp=Z,1μm,6.2s									
GTA	**Gaotai**	**12.52**	**347**	*eP*		**Pn**	**13 50 09.2**	**+1.0**		
GTA					pP		13 50 13.4			
GTA					sP		13 50 16.6			
GTA					pmax	pmax				
	comp=Z,2.0nm,1.0s									
GTA					pmax	pmax				
	comp=Z,71nm,6.1s									
GTA					LR	LR				
	comp=N,170nm,13.3s									
GTA					LR	LR				
	comp=E,460nm,14.6s									
NJ2	**Nanjing**	**14.31**	**67**	*eP*		**Pn**	**13 50 31.8**	**-0.8**		
NJ2					pmax	pmax				
	comp=Z,7.0nm,0.5s									
NJ2					LR	LR				
	comp=N,690nm,21.8s									
NJ2					LR	LR				
	comp=E,540nm,19.0s									
NJ2					LR	LR				
	comp=Z,920nm,22.7s									
BTO	**Baotou**	**14.46**	**21**	*eP*		**P**	**13 50 42.0**	**+0.5**		
BTO					S	**Sn**	**13 53 15.4**	**+0.4**		
HHC	**Hu-ho-hao-te**	**15.20**	**24**	*eP*		**Pn**	**13 50 45.9**	**+1.2**		
HHC					sP	pP	13 50 53.2	-0.1		
HHC					PP	sP	13 51 02.4	+7.4		
HHC					S	**Sn**	**13 53 32.8**	**-0.4**		
HHC					SS	**S**	**13 53 50.6**	**+0.4**		
HHC					pmax	pmax				
	comp=Z,16nm,1.1s									
HHC					pmax	pmax				
	comp=Z,81nm,5.0s									
HHC					LR	LR				
	comp=E,360nm,10.4s									
HHC					LR	LR				
	comp=Z,200nm,11.5s									
BJI	**Beijing**	**16.64**	**36**	P		**Pn**	**13 51 03.1**	**-0.1**		
BJI					pmax	pmax				
	comp=Z,7.0nm,0.8s									
BJI					LR	LR				
	comp=N,180nm,6.1s									
BJI					LR	LR				
	comp=E,250nm,7.8s									
WMQ	**Urumqi**	**20.85**	**327**	*eP*		Pn	13 51 57.0	+2.7		
IPM	**Ipoh**	**22.71**	**186**	P		**P**	**13 52 11.4**	**-0.5**		
IPM					IAmb	IAmb	13 52 19.9			
	comp=Z,11nm,0.9s									
KS19	**Wonju Array Si**	**23.05**	**57**	P		**P**	**13 52 14.9**	**-0.4**		
KSRS	**Korea Array**	**23.08**	**58**	P		**P**	**13 52 11.9**	**-3.6**		
	comp=Z,0.8nm,0.6s,baz=241,slow=10,SNR=2.9									
KKM	**Kota Kinabalu**	**24.34**	**148**	P		**P**	**13 52 28.4**	**+0.2**		
KKM					IAmb	IAmb	13 52 37.6			
	comp=Z,16nm,0.9s									
TLY	**Talaya**	**24.44**	**0**	LR		LR	14 03 42.2			
	comp=Z,36nm,18.2s,baz=189,slow=41									
JNU	**Nakatsue**	**24.48**	**69**	P		**P**	**13 52 29.0**	**-0.2**		
TARG	**Taragay, Kyrgy**	**25.44**	**311**	P		**P**	**13 52 38.6**	**+0.3**		
MK31	**Makanchi Array**	**25.65**	**325**	P		**P**	**13 52 40.1**	**+0.5**		
MKAR	**Makanchi Array**	**25.65**	**325**	P		**P**	**13 52 39.8**	**+0.1**		
	comp=Z,1.4nm,0.7s,baz=147,slow=10.0,SNR=12									
MKAR					LR	LR	14 03 00.2			
	comp=Z,73nm,20.5s,baz=142,slow=37									
MAKZ	**Makanchi**	**25.82**	**325**	P		**P**	**13 52 42.9**	**+1.6**		
USRK	**Ussuriysk Ar.**	**28.57**	**46**	P		**P**	**13 53 04.8**	**-1.2**		
	comp=Z,1.5nm,0.6s,baz=251,slow=9.0,SNR=2.9									
ZALV	**Zalesovo Beam**	**30.01**	**338**	P		**P**	**13 53 18.1**	**-0.5**		
	comp=Z,1.3nm,0.5s,baz=147,slow=8.4,SNR=3.2									
ZALV	**Zalesovo Beam**	**30.01**	**338**			**P**	**13 53 18.1**	**-0.5**		
KURBB	**Kurchatov Arra**	**30.07**	**328**	P		**P**	**13 53 19.8**	**+0.7**		
	comp=Z,0.7nm,0.5s,baz=138,slow=9.4,SNR=10									
KURK	**Kurchatov**	**30.09**	**328**	P		**P**	**13 53 18.9**	**-0.4**		
PSA00	**Pilbara Seismi**	**51.05**	**160**	P		**P**	**13 56 13.0**	**+0.6**		
WRA	**Warramunga Arr**	**55.66**	**144**	P		**P**	**13 56 45.4**	**-1.0**		
	comp=Z,1.3nm,0.4s,baz=332,slow=8.5,SNR=21									
WB2	**Warramunga Arr**	**55.67**	**144**	P		**P**	**13 56 45.0**	**-1.4**		
WB2					IAmb	IAmb	13 56 56.7			
	comp=Z,7.7nm,0.8s									
WR0	**Warramunga Arr**	**55.78**	**144**	P		**P**	**13 56 45.8**	**-1.5**		
WR0					IAmb	IAmb	13 56 58.2			
	comp=Z,15nm,1.3s									
ASAR	**Alice Springs**	**58.55**	**147**	P		**P**	**13 57 06.0**	**-0.9**		
	comp=Z,0.7nm,0.4s,baz=328,slow=7.1,SNR=11									
AKASG	**Malin Array Be**	**59.61**	**315**	P		**P**	**13 57 12.9**	**-1.0**		
	comp=Z,0.2nm,0.3s,baz=71,slow=6.2,SNR=1.9									
FINES	**FINESS Array B**	**60.46**	**327**	P		**P**	**13 57 18.4**	**-1.0**		
	comp=Z,0.5nm,0.5s,baz=104,slow=5.9,SNR=1.2									
ARCES	**ARCESS Array B**	**60.55**	**337**	P		**P**	**13 57 19.0**	**-1.0**		
	comp=Z,1.4nm,0.7s,baz=72,slow=12,SNR=1.9									
NB2	**NORSAR Subarra**	**67.60**	**328**	P		**P**	**13 58 04.9**	**-1.6**		
	comp=Z,1.2nm,0.7s,baz=75,slow=6.5									
NOA	**NORSAR Array B**	**67.60**	**328**	P		**P**	**13 58 05.1**	**-1.4**		
	comp=Z,0.5nm,0.6s,baz=74,slow=6.2,SNR=5.2									
GERES	**GERESS Array B**	**69.82**	**315**	P		**P**	**13 58 20.1**	**-0.5**		
	comp=Z,0.2nm,0.3s,baz=28,slow=4.8,SNR=4.0									
COLD	**Coldfoot**	**71.29**	**23**	P		**P**	**13 58 30.9**	**+1.8**		
BPAW	**Bear Paw Mtn.**	**72.36**	**26**	P		**P**	**13 58 38.0**	**+2.3**		
BPAW					IAmb	IAmb	13 58 50.4			
	comp=Z,3.9nm,0.9s									
PPLA	**Purkeypile**	**72.39**	**28**	P		**P**	**13 58 38.3**	**+2.2**		
RND	**Reindeer**	**73.52**	**27**	P		**P**	**13 58 43.8**	**+1.1**		
RND					IAmb	IAmb	13 58 59.0			
	comp=Z,17nm,1.8s									
ILAR	**Eielson Array**	**73.63**	**25**	P		**P**	**13 58 41.4**	**-1.8**		
	comp=Z,0.2nm,0.4s,baz=276,slow=4.1,SNR=2.5									
RIDG	**Independent Ri**	**74.92**	**25**	P		**P**	**13 58 51.1**	**+0.3**		
DOT	**Dot Lake**	**75.26**	**25**	P		**P**	**13 58 54.4**	**+1.7**		
DOT					IAmb	IAmb	14 00 27.7			
	comp=Z,5.7nm,1.5s									
YKA	**Yellowknife Ar**	**85.60**	**17**	P		**P**	**13 59 48.2**	**+0.1**		
	comp=Z,0.2nm,0.5s,baz=329,slow=3.8,SNR=2.8									
BOSA	**Boshof**	**93.17**	**240**	LR		LR	14 40 47.6			
	comp=Z,51nm,21.1s,baz=60,slow=34									

JMA 03 13:54:19.9±0.1, 29.87N×141.20E, h84km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.90**	**162**	S	Sn	13 55 38.5	+0.7
JHCJ	**Hachijojimakas**	**3.41**	**340**	P	Pn	13 55 12.1	+1.3
JHJ2	**Mitsune**	**3.44**	**340**	*eS*	Sn	13 55 51.9	+1.0
BSO1	**Boso 1**	**4.77**	**358**	P	Pn	13 55 31.4	+2.5
JHU	**Hanno**	**6.18**	**345**	*eS*	Sn	13 56 57.8	+0.1
JAG	**Ashikaga**	**6.70**	**348**	P	Pn	13 55 56.9	+1.3
JHO	**Hitachi**	**6.74**	**356**	P	Pn	13 55 57.7	+1.5

*IDC **03** 13:59:24.8±0.6, 55.25N×162.93E, h0km, mb4.0/28, mb1 4.2/30, mb1mx4.1/46, mbtmp4.0/30, ML4.0/2, MS3.4/6, Ms1 3.4/6, ms1mx3.0/56, Error ellipse: s-maj=18.7km s-min=10.7km az=163.0*

*KRSC **03** 13:59:26.6±1.4, 55.18N×163.42E, h55km±28km, ML4.8*

*MOS **03** 13:59:29.3±1.0, 55.23N×163.18E, h47km, mb4.6/27, MS3.3/5, Error ellipse: s-maj=5.8km s-min=3.7km az=68.1*

*NEIC **03** 13:59:31.1±1.4, 55.42N±0.08×162.9E±0.1, h41km±3km, mb4.6/154, Error ellipse: s-maj=12.7km s-min=10.0km az=150.0*

ISC 03 13:59:30.9±0.8, 55.23N±0.03×163.23E±0.03, h48km±7km, n412, σ1.875/475, mb4.5/107, MS3.7/6, 1C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.00**	**347**	*eP*	**Pn**	**13 59 46.4**	**-2.2**
KBTR				*eS*	**Sn**	**14 00 00.6**	**-1.0**
KBTR	**Krutoberegovo**	**1.00**	**347**	PN	**Pn**	**13 59 46.4**	**-2.2**
KBTR				S	**Sn**	**14 00 00.6**	**-1.0**
KBG	**Krutoberegovo**	**1.07**	**344**	*eP*	**Pn**	**13 59 47.4**	**-2.0**
KBG				*eS*	**Sn**	**14 00 02.6**	**-0.5**
KBG	**Krutoberegovo**	**1.07**	**344**	PN	**Pn**	**13 59 47.4**	**-2.0**
KBG				S	**Sn**	**14 00 02.6**	**-0.5**
BKI	**Bering**	**1.57**	**90**	*eP*	**Pn**	**13 59 53.8**	**-2.5**
BKI				*eS*	**Sn**	**14 00 12.9**	**-2.5**
BKI	**Bering**	**1.57**	**90**	PN	**Pn**	**13 59 53.8**	**-2.5**
BKI				S	**Sn**	**14 00 12.9**	**-2.5**
ZLN	**Zelenaya**	**1.58**	**301**	*eP*	**Pn**	**13 59 55.7**	**-0.9**
ZLN	**Zelenaya**	**1.58**	**301**	PN	**Pn**	**13 59 55.7**	**-0.9**
TUMD	**Tumrok D**	**1.62**	**270**	P	**Pn**	**13 59 55.6**	**-1.5**
TUMD				S	**Sn**	**14 00 16.5**	**-0.3**
CIRR	**Tsirk**	**1.66**	**303**	*eP*	**Pn**	**13 59 57.3**	**-0.4**
CIRR				S	**Sn**	**14 00 19.8**	**+1.9**
CIRR	**Tsirk**	**1.66**	**303**	PN	**Pn**	**13 59 57.3**	**-0.4**
CIRR				S	**Sn**	**14 00 19.8**	**+1.9**
LGNR	**Loginova**	**1.67**	**302**	P	**Pn**	**13 59 57.6**	**-0.4**
LGNR				S	**Sn**	**14 00 22.2**	**+3.8**
LGNR	**Loginova**	**1.67**	**302**	PN	**Pn**	**13 59 57.6**	**-0.4**
LGNR				S	**Sn**	**14 00 22.2**	**+3.8**
SMKR	**Semkarok**	**1.68**	**324**	P	**Pn**	**13 59 57.6**	**-0.2**
SMKR	**Semkarok**	**1.68**	**324**	PN	**Pn**	**13 59 57.6**	**-0.2**
KZV	**Kizimen**	**1.69**	**267**	*eP*	**Pn**	**13 59 55.7**	**-2.4**
KZV				*eS*	**Sn**	**14 00 16.9**	**-1.7**
KZV	**Kizimen**	**1.69**	**267**	PN	**Pn**	**13 59 55.7**	**-2.4**
KZV				S	**Sn**	**14 00 16.9**	**-1.7**
BZMR	**Bezymyannaya**	**1.71**	**295**	*eP*	**Pn**	**13 59 57.6**	**-0.7**
BZMR	**Bezymyannaya**	**1.71**	**295**	PN	**Pn**	**13 59 57.6**	**-0.7**
BZWR	**Bezymyannyi-We**	**1.72**	**296**	*eP*	**Pn**	**13 59 57.9**	**-0.6**
BZWR	**Bezymyannyi-We**	**1.72**	**296**	PN	**Pn**	**13 59 57.9**	**-0.6**
BDR	**Baidarnaya**	**1.76**	**320**	*eP*	**Pn**	**13 59 58.7**	**-0.2**
BDR				S	**Sn**	**14 00 22.6**	**+2.4**
BDR	**Baidarnaya**	**1.76**	**320**	PN	**Pn**	**13 59 58.7**	**-0.2**
BDR				S	**Sn**	**14 00 22.6**	**+2.4**
TUMR	**Tumrok**	**1.77**	**273**	*eP*	**Pn**	**13 59 57.4**	**-1.7**
TUMR				*eS*	**Sn**	**14 00 20.3**	**-0.2**
TUMR	**Tumrok**	**1.77**	**273**	PN	**Pn**	**13 59 55.6**	**-3.5**
TUMR				S	**Sn**	**14 00 16.5**	**-4.0**
KMNR	**Kamenistaya**	**1.78**	**288**	*eP*	**Pn**	**13 59 58.7**	**-0.6**
KMNR				S	**Sn**	**14 00 23.4**	**+2.6**
KMNR	**Kamenistaya**	**1.78**	**288**	PN	**Pn**	**13 59 58.7**	**-0.6**
KMNR				S	**Sn**	**14 00 23.4**	**+2.6**
KIRR	**Kirishev**	**1.79**	**295**	*eP*	**Pn**	**13 59 58.3**	**-1.2**
KIRR				*eS*	**Sn**	**14 00 22.1**	**+1.0**
KIRR	**Kirishev**	**1.79**	**295**	PN	**Pn**	**13 59 58.3**	**-1.2**
KIRR				S	**Sn**	**14 00 22.1**	**+1.0**
KRSR	**Krestovskiy**	**1.80**	**304**	*eP*	**Pn**	**13 59 58.5**	**-1.1**
KRSR				S	**Sn**	**14 00 22.9**	**+1.6**
KRSR	**Krestovskiy**	**1.80**	**304**	PN	**Pn**	**13 59 58.5**	**-1.1**
KRSR				S	**Sn**	**14 00 22.9**	**+1.6**
KLY	**Klyuchi**	**1.81**	**308**	*eP*	**Pn**	**13 59 57.1**	**-2.5**
KLY				*eS*	**Sn**	**14 00 19.8**	**-1.6**
KLY	**Klyuchi**	**1.81**	**308**	PN	**Pn**	**13 59 57.1**	**-2.5**
KLY				S	**Sn**	**14 00 19.8**	**-1.6**
SRKR	**Sorokina**	**1.84**	**322**	P	**Pn**	**13 59 59.5**	**-0.5**
SRKR	**Sorokina**	**1.84**	**322**	PN	**Pn**	**13 59 59.5**	**-0.5**
KPT	**Kopyto**	**1.86**	**294**	*eP*	**Pn**	**14 00 00.5**	**+0.2**
KPT				S	**Sn**	**14 00 26.5**	**+3.8**
KPT	**Kopyto**	**1.86**	**294**	PN	**Pn**	**14 00 00.5**	**+0.2**
KPT				S	**Sn**	**14 00 26.5**	**+3.8**
KOZ	**Kozyrevsk**	**2.08**	**295**	*eP*	**Pn**	**14 00 03.4**	**+0.2**
KOZ				*eS*	**Sn**	**14 00 31.9**	**+4.0**
KOZ	**Kozyrevsk**	**2.08**	**295**	PN	**Pn**	**14 00 03.4**	**+0.2**
KOZ				S	**Sn**	**14 00 31.9**	**+4.0**
SRDR	**Sredinnyy**	**2.26**	**300**	P	**Pn**	**14 00 06.0**	**+0.2**
SRDR				*eS*	**Sn**	**14 00 35.9**	**+3.4**
SRDR	**Sredinnyy**	**2.26**	**300**	PN	**Pn**	**14 00 06.0**	**+0.2**
SRDR				S	**Sn**	**14 00 35.9**	**+3.4**
KII	**Karymskiy**	**2.51**	**243**	*eP*	**Pn**	**14 00 07.7**	**-1.5**
KII				*eS*	**Sn**	**14 00 38.9**	**+0.4**
KII	**Karymskiy**	**2.51**	**243**	PN	**Pn**	**14 00 07.7**	**-1.5**
KII				S	**Sn**	**14 00 38.9**	**+0.4**
ESO	**Esso**	**2.67**	**287**	*eP*	**Pn**	**14 00 10.5**	**-0.8**
ESO				*eS*	**Sn**	**14 00 42.1**	**-0.3**
ESO	**Esso**	**2.67**	**287**	PN	**Pn**	**14 00 10.5**	**-0.8**
ESO				S	**Sn**	**14 00 42.1**	**-0.3**
SPN	**Mys Shipunski**	**2.85**	**223**	*eP*	**Pn**	**14 00 11.0**	**-2.9**
SPN				*eS*	**Sn**	**14 00 44.7**	**-2.2**
SPN	**Mys Shipunski**	**2.85**	**223**	PN	**Pn**	**14 00 11.0**	**-2.9**
SPN				S	**Sn**	**14 00 44.7**	**-2.2**
NLC	**Nalytchevo**	**3.08**	**229**	*eP*	**Pn**	**14 00 16.7**	**-0.3**
NLC				*eS*	**Sn**	**14 00 53.0**	**+0.5**
NLC	**Nalytchevo**	**3.08**	**229**	PN	**Pn**	**14 00 16.7**	**-0.3**
NLC				S	**Sn**	**14 00 53.0**	**+0.5**
SDLR	**Sedlovina**	**3.22**	**234**	*eP*	**Pn**	**14 00 18.4**	**-0.6**
SDLR				*eS*	**Sn**	**14 00 56.6**	**+0.5**
SDLR	**Sedlovina**	**3.22**	**234**	PN	**Pn**	**14 00 18.4**	**-0.6**
SDLR				S	**Sn**	**14 00 56.6**	**+0.5**
KRER	**Koryakskii**	**3.26**	**235**	*eP*	**Pn**	**14 00 20.1**	**+0.4**
KRER	**Koryakskii**	**3.26**	**235**	PN	**Pn**	**14 00 20.1**	**+0.4**
SMAR	**Somma**	**3.27**	**235**	*eP*	**Pn**	**14 00 19.1**	**-0.6**
SMAR				*eS*	**Sn**	**14 00 58.5**	**+1.1**
SMAR	**Somma**	**3.27**	**235**	PN	**Pn**	**14 00 19.1**	**-0.6**
SMAR				S	**Sn**	**14 00 58.5**	**+1.1**
KRX	**Arik**	**3.28**	**237**	*eP*	**Pn**	**14 00 19.6**	**-0.2**
KRX				*eS*	**Sn**	**14 00 59.2**	**+1.6**
KRX	**Arik**	**3.28**	**237**	PN	**Pn**	**14 00 19.6**	**-0.2**
KRX				S	**Sn**	**14 00 59.2**	**+1.6**
UGLR	**Uglovaya**	**3.29**	**234**	*eP*	**Pn**	**14 00 19.6**	**-0.3**
UGLR				*eS*	**Sn**	**14 00 59.9**	**+2.1**
UGLR	**Uglovaya**	**3.29**	**234**	PN	**Pn**	**14 00 19.6**	**-0.3**
UGLR				S	**Sn**	**14 00 59.9**	**+2.1**
AVH	**Avacha**	**3.29**	**235**	*eP*	**Pn**	**14 00 19.3**	**-0.7**
AVH				*eS*	**Sn**	**14 00 59.9**	**+2.0**
AVH	**Avacha**	**3.29**	**235**	PN	**Pn**	**14 00 19.3**	**-0.7**
AVH				S	**Sn**	**14 00 59.9**	**+2.0**
KOK	**Koryaka**	**3.33**	**236**	*eP*	**Pn**	**14 00 20.0**	**-0.4**
KOK	**Koryaka**	**3.33**	**236**	PN	**Pn**	**14 00 20.0**	**-0.4**
DALK	**Dalny**	**3.44**	**232**	*eP*	**Pn**	**14 00 21.2**	**-0.7**
DALK				*eS*	**Sn**	**14 01 02.6**	**+1.3**
DALK	**Dalny**	**3.44**	**232**	PN	**Pn**	**14 00 21.2**	**-0.7**
DALK				S	**Sn**	**14 01 02.6**	**+1.3**
PET	**Petropavlovsk**	**3.49**	**232**	*eP*	**Pn**	**14 00 22.0**	**-0.5**
PET	**Petropavlovsk**	**3.49**	**232**	*ePN*	**Pn**	**14 00 22.3**	**-0.2**
PET				*eS*	**Sn**	**14 01 04.0**	**+1.5**
PET				pmax	pmax		
	comp=Z,263nm,0.6s						
PET				smax	smax		
	comp=E,1μm,0.7s						
PET				smax	smax		
	comp=N,938nm,0.6s						
PET				MLR	MLR		
	comp=Z,600nm,11.0s						
KRMR	**Karymshinskiy**	**3.85**	**233**	*eP*	**Pn**	**14 00 28.8**	**+1.2**
KRMR				*eS*	**Sn**	**14 01 14.8**	**+3.3**
KRMR	**Karymshinskiy**	**3.85**	**233**	PN	**Pn**	**14 00 28.8**	**+1.2**
KRMR				S	**Sn**	**14 01 14.8**	**+3.3**
PEA0B	**Petropavlovsk-**	**3.89**	**239**	PN	**Pn**	**14 00 27.9**	**-0.2**
PEA0B	**Petropavlovsk-**	**3.89**	**239**	Pn	**Pn**	**14 00 27.9**	**-0.2**
PETK	**Petropavlovsk-**	**3.89**	**239**	Pn	**Pn**	**14 00 27.9**	**-0.2**
	comp=Z,8.2nm,0.3s,baz=68,slow=18,SNR=56						
PETK				Sn	**Sn**	**14 01 16.0**	**+3.6**
	comp=Z,6.5nm,0.3s,baz=94,slow=19,SNR=1.8						
PETK				LR	LR	14 01 53.0	
	comp=Z,135nm,18.8s,baz=66,slow=40						
RUS	**Russkaya**	**3.96**	**227**	*eP*	**Pn**	**14 00 28.4**	**-0.6**
RUS				*eS*	**Sn**	**14 01 14.0**	**-0.2**
RUS	**Russkaya**	**3.96**	**227**	PN	**Pn**	**14 00 28.4**	**-0.6**
RUS				S	**Sn**	**14 01 14.0**	**-0.2**
OSSR	**Ossora**	**4.03**	**359**	*eP*	**Pn**	**14 00 27.8**	**-2.1**
OSSR				*eS*	**Sn**	**14 01 13.9**	**-1.9**
OSSR	**Ossora**	**4.03**	**359**	PN	**Pn**	**14 00 27.8**	**-2.1**
OSSR				S	**Sn**	**14 01 13.9**	**-1.9**
GRL	**Gorelyy**	**4.07**	**231**	*eP*	**Pn**	**14 00 32.2**	**+1.6**
GRL				*eS*	**Sn**	**14 01 20.5**	**+3.5**
GRL	**Gorelyy**	**4.07**	**231**	PN	**Pn**	**14 00 32.2**	**+1.6**
GRL				S	**Sn**	**14 01 20.5**	**+3.5**
MTVR	**Mutnovka**	**4.07**	**229**	*eP*	**Pn**	**14 00 30.7**	**+0.1**
MTVR				*eS*	**Sn**	**14 01 18.5**	**+1.5**
MTVR	**Mutnovka**	**4.07**	**229**	PN	**Pn**	**14 00 30.7**	**+0.1**
MTVR				S	**Sn**	**14 01 18.5**	**+1.5**
PALN	**Palana**	**4.25**	**337**	P	**Pn**	**14 00 35.3**	**+2.3**
PALN	**Palana**	**4.25**	**337**	PN	**Pn**	**14 00 35.3**	**+2.3**
APC	**Apacha**	**4.26**	**240**	*eP*	**Pn**	**14 00 33.8**	**+0.7**
APC	**Apacha**	**4.26**	**240**	PN	**Pn**	**14 00 33.8**	**+0.7**
ASAK	**Asacha**	**4.26**	**230**	*eP*	**Pn**	**14 00 33.5**	**+0.3**
ASAK				*eS*	**Sn**	**14 01 22.5**	**+0.8**
ASAK	**Asacha**	**4.26**	**230**	PN	**Pn**	**14 00 33.5**	**+0.3**
ASAK				S	**Sn**	**14 01 22.5**	**+0.8**
KDTR	**Khodutka, Kamc**	**4.61**	**224**	*eP*	**Pn**	**14 00 36.9**	**-1.0**
KDTR				*eS*	**Sn**	**14 01 27.8**	**-2.3**
KDTR	**Khodutka, Kamc**	**4.61**	**224**	PN	**Pn**	**14 00 36.9**	**-1.0**
MIPR	**Malaya Ipel'ka**	**4.85**	**235**	*eP*	**Pn**	**14 00 40.7**	**-0.6**
MIPR	**Malaya Ipel'ka**	**4.85**	**235**	PN	**Pn**	**14 00 40.7**	**-0.6**
PAU	**Pauzhetka**	**5.39**	**228**	*eP*	**Pn**	**14 00 48.7**	**+0.1**
PAU	**Pauzhetka**	**5.39**	**228**	PN	**Pn**	**14 00 48.7**	**+0.1**
TILK	**Tilichiki**	**5.45**	**15**	P	**Pn**	**14 00 49.8**	**+0.4**
TILK				*eS*	**Sn**	**14 01 50.6**	**-0.2**
TILK	**Tilichiki**	**5.45**	**15**	PN	**Pn**	**14 00 49.8**	**+0.4**
SKR	**Severo-Kuril's**	**6.26**	**226**	*eP*	**Pn**	**14 01 00.2**	**-0.4**
SKR	**Severo-Kuril's**	**6.26**	**226**	*ePN*	**Pn**	**14 01 02.7**	**+2.1**
SKR				*eS*	**Sn**	**14 02 18.1**	**+7.3**
SKR				pmax	pmax		
	comp=Z,40nm,1.0s						
SKR				pmax	pmax		
	comp=Z,200nm,2.6s						
SKR				smax	smax		
	comp=N,57nm,0.9s						
SKR				smax	smax		
	comp=E,94nm,0.8s						
SKR				MLR	MLR		
	comp=Z,100nm,14.0s						
SKR				MLR	MLR		
	comp=N,200nm,16.0s						
SKR				MLR	MLR		
	comp=E,300nm,13.0s						
ALID	**Alaid**	**6.37**	**230**	*eP*	**Pn**	**14 01 04.3**	**+2.1**
ALID	**Alaid**	**6.37**	**230**	PN	**Pn**	**14 01 04.3**	**+2.1**
SMY	**Shemya**	**6.88**	**107**	PN	**Pn**	**14 01 08.3**	**-0.8**
SMY	**Shemya**	**6.88**	**107**	Pn	**Pn**	**14 01 08.3**	**-0.8**
KMSK	**Kamenskaya**	**7.42**	**11**	*eP*	**Pn**	**14 01 16.8**	**+0.5**
KMSK	**Kamenskaya**	**7.42**	**11**	PN	**Pn**	**14 01 16.8**	**+0.5**
MA2	**Magadan**	**8.01**	**308**	LR	LR	14 04 47.1	
	comp=E,185nm,18.4s,baz=131,slow=41						
MA2	**Magadan**	**8.01**	**308**	PN	Pn	14 01 19.0	-5.5
MA2	**Magadan**	**8.01**	**308**	Pn	Pn	14 01 19.0	-5.5
AMKA	**Amchitka**	**10.36**	**105**	Pn	**Pn**	**14 01 55.5**	**-1.2**
ADK	**Adak**	**12.39**	**97**	PN	**Pn**	**14 02 23.6**	**-0.8**
ADK	**Adak**	**12.39**	**97**	Pn	**Pn**	**14 02 23.6**	**-0.8**
GSTR	**Great Sitkin T**	**12.67**	**96**	Pn	**Pn**	**14 02 27.2**	**-0.9**
BILL	**Bilibino**	**12.93**	**5**	*ePN*	**Pn**	**14 02 33.2**	**+1.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TYV	**Tymovskoe**	**13.11**	**259**	*ePN*	**Pn**	**14 02 38.4**	**+4.2**
TYV				*e*		14 05 06.3	
TYV				pmax	pmax		
	comp=Z,11nm,1.3s						
TYV				MLR	MLR		
	comp=Z,300nm,16.0s						
ATKA	**Atka Island**	**13.69**	**93**	Pn	**Pn**	**14 02 41.0**	**-1.1**
KUR	**Kuril'sk**	**14.00**	**231**	*eP*	**Pn**	**14 02 45.1**	**-1.2**
KUR				pmax	pmax		
	comp=E,7.0nm,0.5s						
KUR				pmax	pmax		
	comp=Z,18nm,0.5s						
KUR				pmax	pmax		
	comp=N,4.0nm,0.3s						
KUR				MLR	MLR		
	comp=Z,326nm,18.0s						
GAMB	**Gambell**	**15.23**	**46**	Pn	**Pn**	**14 03 03.7**	**+1.3**
YSS	**Yuzh-Sakhalins**	**15.26**	**246**	P	**P**	**14 03 06.7**	**-0.3**
YSS				pmax	pmax		
	comp=Z,13nm,0.9s						
YSS	**Yuzh-Sakhalins**	**15.26**	**246**	P	**P**	**14 03 06.7**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**15.83**	**232**	P	**Pn**	**14 03 08.1**	**-2.2**
YUK				pmax	pmax		
	comp=Z,82nm,0.8s						
YUK				pmax	pmax		
	comp=N,91nm,0.5s						
YUK				pmax	pmax		
	comp=E,73nm,0.6s						
YUK				MLR	MLR		
	comp=Z,167nm,15.0s						
GRPR	**Tuman**	**15.90**	**232**	P	**Pn**	**14 03 12.0**	**+0.8**
NMR	**Nemuro--Hokkai**	**16.41**	**231**	P	**Pn**	**14 03 14.7**	**-3.0**
GRNR	**Gornyy**	**16.69**	**266**	*iP*	**Pn**	**14 03 21.5**	**+0.3**
GRNR				*eS*	**Sn**	**14 06

O22K **Cooper Landing** 25.12 59 P P 14 04 52.3 +1.5
baz=280
TOLK **Toolik Lake Re** 25.14 39 P P 14 04 51.8 +0.8
baz=262,SNR=15
TOLK **Toolik Lake Re** 25.14 39 P P 14 04 51.5 +0.5
TOLK IAmb IAmb 14 04 53.7
comp=Z,20nm,1.2s
MCK **McKinley** 25.15 51 P P 14 04 52.3 +1.2
MCK pmax pmax
comp=Z,23nm,1.6s
MCK **McKinley** 25.15 51 P P 14 04 52.3 +1.2
MCK IAmb IAmb 14 04 54.0
comp=Z,22nm,1.6s
RND **Reindeer** 25.21 52 P P 14 04 51.7 0.0
RND pmax pmax
comp=Z,6.0nm,0.7s
RND **Reindeer** 25.21 52 P P 14 04 51.7 0.0
MJA0 **Matsu Arr-Jizo** 25.30 233 eP P 14 04 52.6 -0.1
MJA0 pmax pmax
comp=Z,6.0nm,0.5s
MJB9 **Matsu-Tunnel** 25.32 233 P P 14 04 52.7 -0.2
MJB9 IAmb IAmb 14 05 04.5
comp=Z,17nm,0.8s
MJAR **Matsushiro Arr** 25.32 233 P P 14 04 52.7 -0.2
comp=Z,6.3nm,0.5s,baz=24,slow=7.7,SNR=27
MAJO **Matsushiro** 25.32 233 i P P 14 04 52.6 -0.3
MAJO pmax pmax
comp=Z,13nm,0.9s
MAJO **Matsushiro** 25.32 233 P P 14 04 52.8 -0.1
MAJO IAmb IAmb 14 05 04.6
comp=Z,16nm,0.7s
MAT **Matsushiro** 25.32 233 P P 14 04 52.6 -0.3
MAT eS S 14 09 16.1 +0.6
GHO **Glory Hole Cre** 25.32 55 P P 14 04 53.3 +0.5
GHO IAmb IAmb 14 04 53.4
comp=Z,28nm,1.6s
MDM **Murphy Dome** 25.42 48 P P 14 04 54.4 +0.8
WRH **Wood River Hil** 25.49 49 P P 14 04 55.2 +1.0
WRH IAmb IAmb 14 04 55.9
comp=Z,9.4nm,0.7s
TCOL **CIGO, UAF Yank** 25.58 48 P P 14 04 55.7 +0.8
baz=272
COLA **College** 25.59 48 i P P 14 04 55.9 +0.9
COLA pmax pmax
comp=Z,4.0nm,1.0s
COLA **College** 25.59 48 P P 14 04 56.2 +1.2
SML **Sawmill** 25.60 55 P P 14 04 55.7 +0.5
SML IAmb IAmb 14 04 57.2
comp=Z,12nm,0.6s
CCB **Clear Creek Bu** 25.61 49 P P 14 04 55.8 +0.6
CCB IAmb IAmb 14 04 58.2
comp=Z,37nm,1.7s
POKR **Poker Plat Res** 25.76 48 P P 14 04 57.6 +1.0
baz=272
DHY **Denali Highway** 25.90 52 P P 14 04 58.3 +0.2
DHY IAmb IAmb 14 04 59.3
comp=Z,7.9nm,0.5s
HDA **Harding Lake** 25.99 49 P P 14 04 58.7 0.0
baz=274
HDA **Harding Lake** 25.99 49 P P 14 04 58.8 +0.1
IL31 26.00 48 P P 14 04 58.4 -0.3
ILAR **Eielson Array** 26.00 48 P P 14 04 59.0 +0.1
comp=Z,3.4nm,0.8s,baz=264,slow=8.9,SNR=56
ILAR LR LR 14 15 38.4
comp=Z,53nm,18.1s,baz=326,slow=37
ILAR **Eielson Array** 26.00 48 eP P 14 04 58.9 +0.1
ILAR pmax pmax
comp=Z,4.0nm,0.8s
INU **Inuyama** 26.85 233 P P 14 05 06.1 -0.6
INU IAmb IAmb 14 05 18.6
comp=Z,28nm,1.4s
HIA **Hailar** 26.93 275 i P P 14 05 05.5 -1.8
HIA pmax pmax
comp=Z,6.0nm,0.8s
RIDG **Independent Ri** 26.97 51 P P 14 05 06.7 -0.9
SCRK **Sand Creek** 27.32 50 P P 14 05 10.5 -0.3
baz=277
DOT **Dot Lake** 27.32 51 P P 14 05 10.1 -0.7
RAGM **Ragged Mountai** 27.60 58 P P 14 05 14.3 +1.1
GLB **Gilahina Butte** 27.79 55 P P 14 05 16.0 +1.1
K27K **Chicken** 28.15 50 P P 14 05 18.6 +0.5
baz=279
EGAK **Eagle** 28.45 48 P P 14 05 20.5 -0.2
ISLE **Juniper Island** 28.67 57 P P 14 05 25.1 +2.2
ISLE IAmb IAmb 14 05 27.9
comp=Z,24nm,1.1s
BARN **Barnard Glacie** 28.89 56 P P 14 05 26.7 +1.8
BARN IAmb IAmb 14 05 53.1
comp=Z,22nm,1.6s
KSRS **Korea Array** 29.73 248 LR LR 14 18 03.9
comp=Z,90nm,18.3s,baz=170,slow=38
EPYK **Eagle Plains** 30.07 44 P P 14 05 36.1 +1.0
baz=279
EPYK **Eagle Plains** 30.07 44 P P 14 05 36.4 +1.3
EPYK IAmb IAmb 14 05 38.0
comp=Z,25nm,1.8s
INK **Inuvik** 31.04 40 P P 14 05 44.8 +1.3
comp=Z,5.0nm,0.6s,baz=276,slow=6.3,SNR=20
INK **Inuvik** 31.04 40 P P 14 05 44.9 +1.3
INK IAmb IAmb 14 05 45.6
comp=Z,5.4nm,0.7s
WHY **Whitehorse** 32.19 55 P P 14 05 55.3 +1.4
WHY IAmb IAmb 14 05 56.9
comp=Z,5.2nm,0.7s
JIS **Juneau Island** 33.26 59 P P 14 06 05.4 +2.4
JIS IAmb IAmb 14 06 06.4
comp=Z,15nm,1.2s
C36M **Paulatuk** 34.23 37 P P 14 06 12.2 +0.8
baz=284
C36M **Paulatuk** 34.23 37 P P 14 06 12.5 +1.2
ULN **Ulaanbaatar** 34.85 282 i P P 14 06 14.2 -3.0
ULN pmax pmax
comp=Z,1.0nm,0.9s
WRAK **Wrangell Islan** 35.02 61 P P 14 06 21.4 +3.0
WRAK IAmb IAmb 14 06 22.2
comp=Z,9.7nm,0.9s
SONM **Songino Array** 35.23 282 P P 14 06 19.3 -1.2
comp=Z,0.4nm,0.5s,baz=65,slow=6.8,SNR=3.3
DLBC **Dease Lake** 35.30 57 P P 14 06 23.9 +3.0
comp=Z,5.7nm,0.7s,baz=294,slow=11,SNR=24
DLBC **Dease Lake** 35.30 57 P P 14 06 23.8 +3.0
DLBC IAmb IAmb 14 06 24.7
comp=Z,6.1nm,0.8s
H11N2 **WAKE ISLAND Hy** 35.55 174 T T 14 43 54.6
baz=356
H11N3 **WAKE ISLAND Hy** 35.57 174 T T 14 43 54.4
baz=356
H11N1 **WAKE ISLAND Hy** 35.57 174 T T 14 43 55.9
baz=356
DIB **Dawson Inlet,** 36.46 66 P P 14 06 33.2 +2.5
HHC **Hu-ho-hao-te** 36.53 269 eP P 14 06 31.7 +0.1
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,120nm,6.9s
HHC LR LR
comp=N,330nm,14.1s
HHC LR LR
comp=E,190nm,13.3s
HHC LR LR
comp=Z,180nm,14.2s
NJ2 **Nanjing** 38.69 252 eP P 14 06 48.3 -1.5
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
BBB **Bella Bella** 39.26 65 P P 14 06 54.4 +0.1
comp=Z,9.5nm,1.0s,baz=114,slow=1.3,SNR=3.9
YKA **Yellowknife Ar** 40.34 45 P P 14 07 04.5 +1.4
comp=Z,6.1nm,0.7s,baz=300,slow=8.2,SNR=47
ZALV **Zalesovo Beam** 43.18 302 P P 14 07 25.4 -1.1
comp=Z,0.6nm,0.5s,baz=87,slow=7.7,SNR=2.2
PGC **Sidney** 43.73 67 P P 14 07 33.7 +2.7
GTA **Gaotai** 44.20 276 eP P 14 07 43.2 +8.1
GTA pP pwP 14 07 56.5 +4.1
GTA sP sP 14 08 02.8 +11
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA LR LR
comp=N,250nm,15.2s
GTA LR LR
comp=E,250nm,15.2s
GTA LR LR
comp=Z,410nm,14.0s
NLWA **Neilton Lookou** 44.28 68 P P 14 07 38.0 +2.5
NLWA IAmb IAmb 14 07 39.0
comp=Z,11nm,1.0s
DGZ **Jazzator, Alta** 44.39 296 i P P 14 07 34.2 -2.2
DGZ pmax pmax
comp=Z,1.0nm,0.7s
D03D **Eldon** 44.61 68 P P 14 07 40.4 +2.3
baz=309
B05A **Bryant** 44.68 66 P P 14 07 40.5 +1.9
baz=309
E04D **Cinebar** 45.50 69 P P 14 07 47.3 +2.2
baz=310
LTY **Liberty** 46.06 67 P P 14 07 51.0 +1.4
LTY IAmb IAmb 14 07 52.3
comp=Z,6.3nm,1.1s
B08A **Colville Reser** 46.06 65 P P 14 07 51.2 +1.6
B08A IAmb IAmb 14 07 52.4
comp=Z,7.9nm,0.8s
C09A **Chrisman Ranch** 46.97 65 P P 14 07 58.2 +1.6
C09A IAmb IAmb 14 07 59.2
comp=Z,5.8nm,0.9s
NEW **Newport** 47.26 64 P P 14 08 00.6 +1.6
baz=310,SNR=5.1
NEW **Newport** 47.26 64 P P 14 08 00.5 +1.6
NEW pmax pmax
comp=Z,7.0nm,1.2s
NEW **Newport** 47.26 64 P P 14 08 00.5 +1.6
NEW IAmb IAmb 14 08 01.5
comp=Z,7.1nm,1.1s
E09A **Wood Farm, Sta** 47.87 66 P P 14 08 05.0 +1.4
WMQ **Urumqi** 48.00 289 eP P 14 08 05.3 +0.5
KURK **Kurchatov** 48.17 302 i P P 14 08 02.5 -3.4
KURK pmax pmax
comp=Z,2.0nm,0.9s
KURK **Kurchatov** 48.17 302 P P 14 08 03.4 -2.5
KURK IAmb IAmb 14 08 15.8
comp=Z,5.6nm,1.1s
J05D **Fort Rock, OR** 48.36 71 P P 14 08 10.2 +2.5
baz=313,SNR=7.4
WALA **Waterton Lakes** 48.38 61 P P 14 08 09.0 +1.3
L04D **Klamath Falls** 48.49 73 P P 14 08 11.1 +2.4
baz=313
YBH **Yreka Blue Hor** 48.60 74 P P 14 08 11.8 +2.3
YBH pmax pmax
comp=Z,25nm,1.9s
YBH **Yreka Blue Hor** 48.60 74 P P 14 08 11.8 +2.3
F10A **Beach Ranch, E** 48.70 66 P P 14 08 11.8 +1.6
F10A IAmb IAmb 14 08 12.8
comp=Z,4.9nm,1.0s
MK31 **Makanchi Array** 48.89 296 P P 14 08 09.4 -2.1
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MK31 **Makanchi Array** 48.89 296 P P 14 08 09.4 -2.1
MKAR **Makanchi Array** 48.89 296 P P 14 08 09.6 -1.9
comp=Z,0.5nm,0.6s,baz=70,slow=7.9,SNR=5.8
K05A **Summer Lake** 48.92 71 P P 14 08 14.1 +2.1
JTMT **Jette** 49.05 62 P P 14 08 14.4 +1.6
MOD **Modoc Plateau** 49.80 72 P P 14 08 20.7 +2.1
MOD IAmb IAmb 14 08 22.0
comp=Z,10nm,1.2s
MSO **Missoula** 49.83 63 P P 14 08 21.0 +2.2
baz=312
MSO **Missoula** 49.83 63 P P 14 08 20.0 +1.2
MSO IAmb IAmb 14 08 21.4
comp=Z,8.6nm,1.2s
O03E **Paynes Creek** 50.08 74 P P 14 08 22.6 +1.9
baz=314
FFC **Flin Flon** 50.21 49 P P 14 08 22.6 +1.2
FFC pmax pmax
comp=Z,4.0nm,1.2s
FFC **Flin Flon** 50.21 49 P P 14 08 22.6 +1.2
BRVK **Borovoye** 50.52 309 i P P 14 08 21.5 -2.3
BRVK pmax pmax
comp=Z,1.0nm,1.0s
ORV **Oroville** 50.76 75 P P 14 08 27.4 +1.6
ORV pmax pmax
comp=Z,4.0nm,1.2s
ORV **Oroville** 50.76 75 P P 14 08 27.4 +1.6
HRY **Holter Researc** 50.98 62 P P 14 08 29.3 +1.8
MFID **Camas Ranch** 51.16 67 P P 14 08 30.5 +1.6
SUMG **Summit** 51.59 8 P P 14 08 31.6 -0.4
SUMG pmax pmax
comp=Z,7.0nm,1.1s
SUMG **Summit** 51.59 8 P P 14 08 31.6 -0.4
SUMG IAmb IAmb 14 08 49.6
comp=Z,7.2nm,1.1s
MCMT **McKenzie Canyo** 51.75 64 P P 14 08 34.6 +1.2
HLID **Hailey** 51.81 66 P P 14 08 35.4 +1.6
baz=314
HLID **Hailey** 51.81 66 P P 14 08 35.5 +1.6
ARCES **ARCESS Array B** 51.81 342 P P 14 08 32.5 -0.7
comp=Z,0.7nm,0.9s,baz=44,slow=20,SNR=1.6
PAHR **Pah Rah Range** 51.82 73 P P 14 08 35.5 +1.6
BOZ **Bozeman (W)** 51.85 63 P P 14 08 35.7 +1.6
baz=314
BOZ **Bozeman (W)** 51.85 63 P P 14 08 34.9 +0.9
BOZ pmax pmax
comp=Z,9.0nm,1.6s
BOZ **Bozeman (W)** 51.85 63 P P 14 08 34.9 +0.9
BOZ IAmb IAmb 14 08 36.9
comp=Z,9.3nm,1.6s
PNTR **Pine Nut** 52.14 74 P P 14 08 38.2 +1.8
PNTR IAmb IAmb 14 08 40.1
comp=Z,11nm,1.4s
YHL **Hebgen Lake** 52.59 63 P P 14 08 41.4 +1.6
YHB **Horse Butte** 52.65 63 P P 14 08 42.3 +2.2
GCMT **Greycliff** 52.70 61 P P 14 08 42.5 +2.1
YHH **Holmes Hill** 52.80 63 P P 14 08 43.1 +1.8
KVN **Kaiserville** 52.99 73 P P 14 08 45.2 +2.6
KVN pmax pmax
comp=Z,9.0nm,1.3s
KVN **Kaiserville** 52.99 73 P P 14 08 45.2 +2.6
KVN IAmb IAmb 14 08 46.2
comp=Z,8.7nm,1.3s
RYN **Ryan** 53.06 74 P P 14 08 45.1 +2.0
RYN IAmb IAmb 14 08 46.5
comp=Z,9.9nm,1.6s
ARU **Arti** 53.06 318 c i P P 14 08 38.3 -4.3
ARU S S 14 16 04.0 -4.8
ARU SS SS 14 19 43.4 -4.3
ARU pmax pmax
comp=Z,1.0nm,0.5s
YNE **Yellowstone No** 53.08 62 P P 14 08 45.0 +1.8
NVAR **Mina Array Bea** 53.32 74 P P 14 08 47.9 +2.8
comp=Z,2.0nm,0.8s,baz=300,slow=7.0,SNR=15
FLWY **Flagg Ranch** 53.37 64 P P 14 08 47.8 +2.4
FLWY IAmb IAmb 14 08 49.5
comp=Z,4.2nm,0.7s
RLMT **Red Lodge** 53.37 62 P P 14 08 47.9 +2.4
baz=315,SNR=7.2
RLMT **Red Lodge** 53.37 62 P P 14 08 47.6 +2.2
RLMT IAmb IAmb 14 08 48.2
comp=Z,5.2nm,0.7s
IMW **Indian Meadow** 53.38 64 P P 14 08 47.8 +2.2
IMW IAmb IAmb 14 08 49.7
comp=Z,3.6nm,0.8s
NV11 **Mina Array Sit** 53.40 74 P P 14 08 48.0 +2.4
NV11 IAmb IAmb 14 09 57.2
comp=Z,14nm,1.7s
FXWY **Fox Creek** 53.52 64 P P 14 08 48.6 +2.1
TPAW **Teton Pass** 53.66 64 P P 14 08 48.7 +1.1
HWUT **Hardware Ranch** 54.68 66 P P 14 08 57.2 +2.3
HWUT IAmb IAmb 14 08 58.5
comp=Z,14nm,1.6s
R11A **Troy Canyon, C** 54.86 72 P P 14 08 58.5 +2.2
baz=317
R11A **Troy Canyon, C** 54.86 72 P P 14 08 58.4 +2.1
CWC **Cottonwood Cre** 54.87 75 P P 14 08 58.9 +2.5
baz=317
BW06 **Boulder Array** 54.89 64 P P 14 08 58.5 +2.0
baz=316
BW06 **Boulder Array** 54.89 64 P P 14 08 58.5 +2.0
PD31 **Pinedale Array** 54.89 64 P P 14 08 58.4 +1.9
PD31 IAmb IAmb 14 08 59.5
comp=Z,8.6nm,1.6s
PDAR **Pinedale Array** 54.89 64 P P 14 08 58.5 +1.9
comp=Z,1.7nm,0.6s,baz=328,slow=3.0,SNR=26
DUG **Dugway, Tooele** 55.03 68 P P 14 08 59.8 +2.3
baz=316,SNR=7.0
DUG **Dugway, Tooele** 55.03 68 P P 14 08 59.2 +1.8
DUG pmax pmax
comp=Z,7.0nm,1.1s
DUG **Dugway, Tooele** 55.03 68 P P 14 08 59.2 +1.8
DUG IAmb IAmb 14 09 00.9
comp=Z,6.8nm,1.1s
MPMC **Manual Prospec** 55.48 75 P P 14 09 03.0 +2.2
baz=317
TPNV **Topopah Spring** 55.51 73 P P 14 09 03.4 +2.4
baz=317
TPNV **Topopah Spring** 55.51 73 P P 14 09 03.1 +2.1
TPNV pmax pmax
comp=Z,5.0nm,1.2s
TPNV **Topopah Spring** 55.51 73 P P 14 09 03.1 +2.1
TPNV IAmb IAmb 14 09 26.2
comp=Z,5.2nm,1.2s
FURC **Furnace Creek,** 55.53 74 P P 14 09 03.8 +3.0
baz=317
PSUT **Pine Spring** 55.67 70 P P 14 09 03.5 +1.3
AAK **Ala-Archa** 55.77 297 i P P 14 09 00.3 -2.4
AAK pmax pmax
comp=Z,2.0nm,1.2s
ULM **Lac du Bonnet** 56.01 49 P P 14 09 04.5 +0.3
comp=Z,2.7nm,0.7s,baz=335,slow=14,SNR=2.3
ULM **Lac du Bonnet** 56.01 49 P P 14 09 04.5 +0.3
ULM pmax pmax
comp=Z,7.0nm,1.2s
ULM **Lac du Bonnet** 56.01 49 IAmb IAmb 14 09 06.8
comp=Z,6.6nm,1.1s
EDW2 **Edwards Air Fo** 56.06 76 P P 14 09 06.7 +1.9
baz=318
MDND **Maddock** 56.10 54 P P 14 09 06.7 +1.9
baz=317
MDND **Maddock** 56.10 54 P P 14 09 06.2 +1.4
TCRU **Three Creeks R** 56.37 69 P P 14 09 09.4 +2.2
GSC **Goldstone, Bar** 56.41 75 P P 14 09 09.8 +2.5
baz=318
GSC **Goldstone, Bar** 56.41 75 P P 14 09 09.5 +2.2
GSC pmax pmax
comp=Z,3.0nm,0.8s
GSC **Goldstone, Bar** 56.41 75 P P 14 09 09.5 +2.2
RDMU **Red Mountain** 56.47 66 P P 14 09 09.5 +1.7
TMUT **Trail Mountain** 56.53 68 P P 14 09 10.0 +1.6
CCUT **Cedar City** 56.65 71 P P 14 09 11.4 +2.3
P17A **Butcher Ranch,** 56.65 68 P P 14 09 11.4 +2.3
RSSD **Black Hills** 56.70 59 P P 14 09 11.0 +1.6
baz=317
RSSD **Black Hills** 56.70 59 P P 14 09 11.1 +1.7
RSSD pmax pmax
comp=Z,5.0nm,0.6s
RSSD **Black Hills** 56.70 59 P P 14 09 11.1 +1.7
RSSD IAmb IAmb 14 09 11.7
comp=Z,5.3nm,0.6s
BFSC **Mount Baldy Ra** 56.72 77 P P 14 09 11.7 +2.1
baz=318
TUQ **Turquoise Moun** 56.80 74 P P 14 09 12.2 +2.0
baz=318
Q16A **Castle Valley** 56.83 68 P P 14 09 12.7 +2.4
RWWY **Rawlins** 56.88 63 P P 14 09 11.7 +1.0
SRU **San Rafael Swe** 57.03 68 P P 14 09 14.1 +2.3
SRU pmax pmax
comp=Z,9.0nm,0.7s
SRU **San Rafael Swe** 57.03 68 P P 14 09 14.1 +2.3
LCMT **Little Creek M** 57.11 71 P P 14 09 14.9 +2.6
KNB **Kanab** 57.33 71 P P 14 09 16.2 +2.3
KNB pmax pmax
comp=Z,7.0nm,1.3s
KNB **Kanab** 57.33 71 P P 14 09 16.2 +2.3
GMRC **Granite Mounta** 57.43 75 P P 14 09 17.0 +2.5
baz=318
AGMN **Agassiz Nation** 57.47 51 P P 14 09 16.1 +1.6
baz=319
AGMN **Agassiz Nation** 57.47 51 P P 14 09 15.9 +1.5
AGMN IAmb IAmb 14 09 16.4
comp=Z,4.6nm,0.9s
O20A **White River Ci** 57.48 65 P P 14 09 17.2 +2.2
baz=318,SNR=10
O20A **White River Ci** 57.48 65 P P 14 09 17.1 +2.2
U15A **North Rim** 58.05 71 P P 14 09 21.8 +2.7
U15A IAmb IAmb 14 11 20.9
comp=Z,8.9nm,1.6s
N23A **Red Feather La** 58.11 63 P P 14 09 22.1 +2.7
baz=318,SNR=8.8
N23A **Red Feather La** 58.11 63 P P 14 09 21.8 +2.4
PV23 **Carpenter Ridg** 58.31 67 P P 14 09 23.4 +2.4
PV23 IAmb IAmb 14 10 56.9
comp=Z,6.2nm,1.0s
PV14 **Lion Creek, Pa** 58.37 67 P P 14 09 23.6 +2.3
PV22 **Blue Mesa, Par** 58.37 67 P P 14 09 23.5 +2.2
PV22 IAmb IAmb 14 09 28.7
comp=Z,4.3nm,0.7s
PV04 **Paradox Valley** 58.41 67 P P 14 09 23.8 +2.3
PV04 IAmb IAmb 14 09 24.8
comp=Z,6.2nm,0.8s
PV19 **Morning Glory** 58.44 67 P P 14 09 23.7 +2.0
PV16 **Nyswonger Mesa** 58.47 67 P P 14 09 23.8 +1.8
PV16 IAmb IAmb 14 09 25.2
comp=Z,4.8nm,0.9s
PV17 **East Wray Mesa** 58.47 67 P P 14 09 24.1 +2.1
PV11 **David Mesa, Pa** 58.50 67 P P 14 09 24.1 +2.0
PV07 **Paradox Valley** 58.52 67 P P 14 09 24.1 +1.8
PV07 IAmb IAmb 14 09 25.4
comp=Z,5.0nm,1.0s
PV18 **Skein Mesa, Pa** 58.52 67 P P 14 09 24.2 +1.9
PV12 **Saucer Basin,** 58.52 67 P P 14 09 24.7 +2.4
PV12 IAmb IAmb 14 09 25.6
comp=Z,6.6nm,0.9s
PV05 **Paradox Valley** 58.55 68 P P 14 09 24.7 +2.2
PV03 **Paradox Valley** 58.55 67 P P 14 09 24.5 +2.0
PV03 IAmb IAmb 14 09 25.7
comp=Z,5.6nm,0.9s
PV13 **Radium Mtn., P** 58.63 67 P P 14 09 24.9 +1.8
PV15 **Paradox Valley** 58.68 67 P P 14 09 25.7 +2.3
PV01 **Paradox Valley** 58.78 67 P P 14 09 25.9 +1.7
FINES **FINESS Array B** 58.87 338 P P 14 09 23.9 -0.2
comp=Z,0.5nm,0.5s,baz=46,slow=8.0,SNR=5.1
ISCO **Idaho Springs** 59.09 64 P P 14 09 29.0 +2.7
baz=319,SNR=9.4
ISCO **Idaho Springs** 59.09 64 P P 14 09 28.5 +2.2
ISCO pmax pmax
comp=Z,7.0nm,1.0s
ISCO **Idaho Springs** 59.09 64 P P 14 09 28.5 +2.2
ISCO IAmb IAmb 14 09 30.2
comp=Z,6.7nm,1.0s
F33A **5 Mile Ranch,** 59.11 53 P P 14 09 27.4 +1.4
WUAZ **Wupatki** 59.23 71 P P 14 09 29.6 +2.4
WUAZ IAmb IAmb 14 11 09.0
comp=Z,4.3nm,0.8s
MVCO **Mesa Verde** 59.51 68 P P 14 09 31.5 +2.3
baz=319
EYMN **Ely** 59.65 49 P P 14 09 30.8 +1.1
baz=321
EYMN **Ely** 59.65 49 P P 14 09 30.3 +0.6
EYMN IAmb IAmb 14 09 31.9
comp=Z,6.0nm,1.1s
S22A **4UR Ranch, Cre** 59.99 66 P P 14 09 34.7 +2.2
baz=319,SNR=9.2
S22A **4UR Ranch, Cre** 59.99 66 P P 14 09 34.7 +2.2
S22A IAmb IAmb 14 09 36.4
comp=Z,4.8nm,1.1s
CMAR **Chiang Mai Arr** 60.41 260 P P 14 09 34.5 -0.7
comp=Z,0.7nm,0.7s,baz=19,slow=7.6,SNR=4.7
ECSD **EROS Data Cent** 60.56 55 P P 14 09 37.3 +1.2
baz=320
ECSD **EROS Data Cent** 60.56 55 P P 14 09 37.2 +1.2
ECSD IAmb IAmb 14 09 38.2
comp=Z,12nm,1.7s
E38A **The Farm, Brul** 60.65 50 P P 14 09 37.6 +1.1
SDCO **Great Sand Dun** 60.68 65 P P 14 09 39.7 +2.5
baz=320,SNR=5.5
SDCO **Great Sand Dun** 60.68 65 P P 14 09 39.5 +2.2
KSCO **Kaye Shedlock'** 61.21 62 P P 14 09 43.5 +2.9
baz=320
NB2 **NORSAR Subarra** 61.97 345 P P 14 09 45.9 +0.6
comp=Z,2.5nm,1.1s,baz=18,slow=6.9
NOA **NORSAR Array B** 61.97 345 P P 14 09 46.1 +0.8
comp=Z,0.5nm,0.8s,baz=5.4,slow=5.2,SNR=1.7
ANMO **Albuquerque** 62.30 68 P P 14 09 50.0 +1.9
baz=320
ANMO **Albuquerque** 62.30 68 i P P 14 09 47.0 -1.1
ANMO pmax pmax
comp=Z,1.0nm,1.0s
SCHQ **Schefferville** 62.88 30 P P 14 09 51.8 +0.4
comp=Z,1.7nm,0.6s,baz=290,slow=9.1,SNR=3.8
SCHQ **Schefferville** 62.88 30 P P 14 09 52.0 +0.6
VLDQ **Val d'Or** 65.14 40 P P 14 10 05.4 -0.9
MNTX **Cornudas Mount** 65.37 70 P P 14 10 10.3 +2.2
baz=322,SNR=5.3
MNTX **Cornudas Mount** 65.37 70 P P 14 10 10.1 +2.0
D54A **Lac Fusel, La** 66.24 40 P P 14 10 13.3 -0.1
baz=328
WMOK **Wichita Mounta** 66.46 63 P P 14 10 16.2 +1.1
baz=322,SNR=5.9
WMOK **Wichita Mounta** 66.46 63 P P 14 10 16.2 +1.1
WMOK pmax pmax

comp=Z,5.0nm,0.9s
WMOK Wichita Mounta 66.46 63 P **P** **14 10 16.2 +1.1**
WMOK IAmb IAmb 14 10 38.1
comp=Z,4.6nm,0.9s
R40A Maddies Statio 66.86 56 P **P** **14 10 18.1 +0.6**
R40A IAmb IAmb 14 10 18.6
comp=Z,3.7nm,0.8s
D57A Chemin Vers le 67.36 39 P **P** **14 10 20.8 +0.3**
baz=329
GEYT Alibeck 67.44 304 P **P** **14 10 20.8 -0.5**
comp=Z,1.6nm,0.7s,baz=25,slow=4.9,SNR=3.7
AKASG Malin Array Be 67.69 330 P **P** **14 10 22.1 -0.5**
comp=Z,0.7nm,0.5s,baz=28,slow=6.3,SNR=3.1
E57A Chemin Saint G 67.78 39 P **P** **14 10 23.4 +0.2**
baz=329
E58A La Victoria 68.12 38 P **P** **14 10 25.2 -0.2**
baz=330
TX31 Lajitas Ar. Si 68.13 70 P **P** **14 10 27.5 +1.7**
TX32 Lajitas Array 68.13 70 P **P** **14 10 27.5 +1.7**
TX32 IAmb IAmb 14 10 29.1
comp=Z,10nm,1.6s
TXAR Lajitas Array 68.13 70 P **P** **14 10 27.7 +1.9**
comp=Z,1.4nm,0.6s,baz=305,slow=4.7,SNR=19
D62A Allapoint, All 68.97 35 P **P** **14 10 31.4 +0.8**
baz=331
D62A Allapoint, All 68.97 35 P **P** **14 10 31.3 +0.7**
KIV Kislovodsk 69.10 318 *eP* **P** **14 10 31.2 -0.4**
KIV pmax pmax
comp=Z,13nm,0.9s
E62A Clayton Lake 69.21 36 P **P** **14 10 32.9 +0.7**
baz=331
E62A Clayton Lake 69.21 36 P **P** **14 10 32.9 +0.7**
E62A IAmb IAmb 14 10 33.6
comp=Z,5.8nm,0.9s
KBZ Khabaz 69.21 318 P **P** **14 10 31.8 -0.4**
comp=Z,0.8nm,0.4s,baz=22,slow=11,SNR=2.2
N55A Marion Center 70.69 45 P **P** **14 10 41.1 -0.2**
baz=328
CLL Collm 70.97 341 *es*P sP 14 11 01.0 +0.9
G65A Princeton 71.11 35 P **P** **14 10 44.2 +0.4**
baz=332
N57A Milroy 71.30 44 P **P** **14 10 45.3 +0.3**
baz=329
PLAL Pickwick Lake 71.51 55 P **P** **14 10 47.3 +0.9**
PLAL IAmb IAmb 14 10 48.1
comp=Z,4.7nm,0.8s
GERES GERESS Array B 73.19 340 P **P** **14 10 58.3 +2.0**
comp=Z,0.2nm,0.6s,baz=335,slow=9.0,SNR=1.5
GERES LR LR 14 46 40.1
comp=Z,70nm,19.0s,baz=83,slow=39
WRA Warramunga Arr 78.82 208 P **P** **14 11 27.3 -1.1**
comp=Z,0.6nm,0.6s,baz=18,slow=5.8,SNR=1.6
ASAR Alice Springs 82.49 207 P **P** **14 11 49.0 +1.1**
comp=Z,1.2nm,0.6s,baz=17,slow=5.1,SNR=16
ESDC Sonseca Array 84.83 350 P **P** **14 12 00.9 +0.9**
comp=Z,1.0nm,0.7s,baz=356,slow=4.7,SNR=14

IDC 03 14:10:14.5±3.3, 20°09'S×175°05'W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.4/38, mbtmp3.6/2, Error ellipse: s-maj=226.3km s-min=43.0km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.31**	**256**	P	P	14 18 51.0	+0.8
ASAR	0.5nm,0.6s,baz=88,slow=7.5,SNR=16			PcP	PcP	14 20 19.1	-2.3
WRA	**Warramunga Arr**	**47.40**	**261**	P	P	14 18 50.5	-0.5
ARCES	0.3nm,0.3s,baz=97,slow=7.7,SNR=5.9 **ARCESS Array B**	**128.99**	**351**	PKP	PKiKP	14 29 24.1	-0.2
GERES	0.5nm,0.5s,baz=35,slow=3.0,SNR=5.2 **GERESS Array B**	**150.46**	**348**	PKPbc	PKPbc	14 30 08.0	-0.2
	0.2nm,0.4s,baz=32,slow=3.9,SNR=3.5						

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*JMA **03** 14:14:09.8, 28°.05N×142°.56E, h26km±2km, M4.0*
*IDC **03** 14:14:10.0±0.9, 27°.72N×141°.72E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/44, mbtmp3.7/8, ML3.1/2, Error ellipse: s-maj=46.9km s-min=12.3km az=63.0*
ISC 03 14:14:11.1±1.4, 27°.98N±0°.05×142°.7E±0°.2, h25km, n17, σ1°62/22, mb3.5/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.98**	**207**	P	**Pn**	**14 14 28.0**	**-1.3**
CBIJ				*eS*	**Sb**	**14 14 41.2**	**-0.8**
JCJ	**Chichijima**	**0.98**	**207**	Pn	**Pn**	**14 14 28.6**	**-0.7**
JCJ	87nm,0.3s,baz=311,slow=13,SNR=16			Sn	**Sb**	**14 14 40.6**	**-1.4**
JHH2	103nm,0.3s,baz=284,slow=23,SNR=6.7 **Haha-jima-NKT2**	**1.41**	**199**	*eS*	**Sn**	**14 14 53.0**	**0.0**
JHJ	**Hachijo jima 2**	**5.70**	**335**	Pn	**Pn**	**14 15 35.4**	**+1.1**
JHJ	2.8nm,0.3s,baz=66,slow=20,SNR=1.5			Sn	**Sn**	**14 16 38.0**	**-0.8**
BSO1	3.0nm,0.3s,baz=73,slow=19,SNR=2.5 **Boso 1**	**6.81**	**348**	P	**Pn**	**14 15 49.3**	**+0.3**
BSO3	**Boso 3**	**7.05**	**345**	P	**Pn**	**14 15 53.7**	**+1.2**
JHU	**Hanno**	**8.37**	**341**	P	**Pn**	**14 16 11.0**	**+0.2**
JHO	**Hitachi**	**8.79**	**349**	P	**Pn**	**14 16 15.4**	**-1.2**
JHO				*eS*	**Sn**	**14 17 49.6**	**-5.3**
JAG	**Ashikaga**	**8.86**	**343**	P	**Pn**	**14 16 17.8**	**+0.3**
JAG				*eS*	**Sn**	**14 17 55.8**	**-0.7**
MJAR	**Matsushiro Arr**	**9.34**	**337**	Pn	**Pn**	**14 16 24.1**	**0.0**
KLR	0.1nm,0.3s,baz=162,slow=12,SNR=10.0 **Kul'dur**	**22.83**	**341**	P	**P**	**14 19 13.3**	**+1.2**
SONM	0.5nm,0.4s,baz=122,slow=15,SNR=2.1 **Songino Array**	**34.39**	**315**	P	**P**	**14 20 58.3**	**+2.0**
WRA	0.3nm,0.5s,baz=111,slow=7.9,SNR=2.0 **Warramunga Arr**	**48.31**	**191**	P	**P**	**14 22 49.8**	**-0.8**
ZALV	0.7nm,0.5s,baz=10,slow=8.5,SNR=7.7 **Zalesovo Beam**	**49.12**	**319**	P	**P**	**14 22 58.0**	**+1.6**
MKAR	0.8nm,0.5s,baz=82,slow=5.8,SNR=2.8 **Makanchi Array**	**50.26**	**309**	P	**P**	**14 23 05.2**	**-0.1**
ASAR	0.4nm,0.7s,baz=100,slow=8.3,SNR=4.7 **Alice Springs**	**52.03**	**190**	P	**P**	**14 23 17.5**	**-1.2**
FINES	0.2nm,0.6s,baz=12,slow=8.2,SNR=4.9 **FINESS Array B**	**77.35**	**334**	P	**P**	**14 26 04.5**	**+1.1**
	0.5nm,0.4s,baz=79,slow=2.9,SNR=7.9						

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*EAF **03** 14:14:36.0±0.8, 24°.29S×26°.79E, h10km, MD3.2*
*PRE **03** 14:14:37.4±1.1, 25°.43S×26°.69E, h5km, ML2.0*
ISC 03 14:14:37.1±1.5, 25°38S±0°.08×26°74E±0°.09, h10km, n9, σ0°56/14, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**1.09**	**289**	*i* P	**Pn**	**14 14 58.8**	**+0.3**
LBTB	**Lobatse**	**1.09**	**289**	*eP*	**Pg**	**14 14 57.9**	**-0.2**
LBTB				*eS*	**Sb**	**14 15 13.0**	**+0.5**
LBTB				AML	AML	14 15 22.2	
	comp=Z,60nm,0.3s						
LBTB	**Lobatse**	**1.09**	**289**	*i* P	**Pn**	**14 14 58.8**	**+0.3**
WDLM	**Western Deep L**	**1.21**	**150**	*eP*	**Pb**	**14 14 59.9**	**-0.4**
WDLM				*eS*	**Sn**	**14 15 17.0**	**+0.1**
WDLM				AML	AML	14 15 23.3	
	comp=Z,54nm,1.0s						
PRYS	**Parys**	**1.64**	**160**	*eP*	**Pb**	**14 15 07.2**	**-0.4**
PRYS				*eS*	**Sg**	**14 15 29.7**	**-0.3**
PRYS				AML	AML	14 15 37.3	
	comp=Z,14nm,0.5s						
SWZ	**Schweizer**	**2.20**	**215**	*eP*	**Pn**	**14 15 13.5**	**-0.3**
SWZ				*eS*	**Sn**	**14 15 40.8**	**-0.4**
SWZ				AML	AML	14 15 57.7	
	comp=Z,9.2nm,0.3s						
BOSA	**Boshof**	**3.48**	**202**	*i* P	**Pg**	**14 15 44.1**	**+0.2**
BOSA	**Boshof**	**3.48**	**202**	*eP*	**Pn**	**14 15 32.9**	**+1.4**
BOSA				*eS*	**Sn**	**14 16 12.3**	**-0.6**
BOSA				AML	AML	14 16 41.5	
	comp=Z,4.9nm,0.7s						
BOSA	**Boshof**	**3.48**	**202**	*i* P	**Pg**	**14 15 44.1**	**+0.2**

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*MAN **03** 14:17:19.7, 4°.79N×127°.09E, h0km, MS4.4*
*NEIC **03** 14:17:35.0±2.0, 5°.66N±0°.07×127°.00E±0°.04, h57km±8km, mb4.6/16, Error ellipse: s-maj=11.0km s-min=5.4km az=194.0*
*IDC **03** 14:17:35.1±2.8, 5°.73N×127°.11E, h53km±25km, mb3.6/10, mb1 3.8/13, mb1mx3.6/42, mbtmp4.0/13, ML4.1/3, MS3.4/6, Ms1 3.4/6, ms1mx2.9/50, Error ellipse: s-maj=47.5km s-min=13.2km az=64.0*
ISC 03 14:17:33.2±0.6, 5°63N±0°.07×127°11E±0°.08, h35km, n47, σ2°03/45, mb4.2/17, MS3.6/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.47**	**289**	*eP*	**Pn**	**14 17 53.0**	**-4.3**
DDMP				*eS*	**Sn**	**14 18 16.3**	**+1.0**
MATI	**Mati**	**1.56**	**327**	*eP*	**Pn**	**14 17 58.3**	**-0.2**
MATI				*eS*	Sn	14 18 29.2	+12
DAV	**Davao City (W)**	**2.09**	**313**	P	**Pn**	**14 18 07.0**	**+1.2**
DAV	65nm,0.3s,baz=25,slow=0.7,SNR=8.3			S	**Sn**	**14 18 36.7**	**+6.1**
DAV	59nm,0.3s,baz=248,slow=19,SNR=6.2			LR	LR	14 18 44.8	
	comp=Z,332nm,21.4s,baz=234,slow=34						
DAV	**Davao City (W)**	**2.09**	**313**		**Pn**	**14 18 06.1**	**+0.3**
KCP	**Kidapawan**	**2.43**	**304**	*eP*	**Pn**	**14 18 09.8**	**-0.8**
KCP				*i* S	**Sn**	**14 18 45.2**	**+6.0**
SKMP	**Bagumbayan, Su**	**2.70**	**289**	*eP*	**Pn**	**14 18 10.1**	**-4.1**
SKMP				*eS*	**Sn**	**14 18 48.3**	**+2.6**
BUKP	**Musuan**	**3.02**	**318**	*eP*	**Pn**	**14 18 19.3**	**+0.6**
BUKP				*eS*	Sn	14 19 03.2	+9.4
PAGZ	**Pagadian**	**4.31**	**301**	*eP*	**Pn**	**14 18 34.5**	**-1.9**
TNTI	**Ternate**	**4.83**	**177**	Pn	**Pn**	**14 18 46.2**	**+2.7**
SIJI	**Sorong**	**7.67**	**147**	P	**Pn**	**14 19 25.0**	**+2.5**
	1.1nm,0.3s,baz=127,slow=20,SNR=2.0						
LUWI	**Luwuk**	**7.91**	**213**		**Pn**	**14 19 26.7**	**+0.9**
MYLDM	**Lahad Datu**	**8.58**	**267**		**Pn**	**14 19 34.6**	**-0.5**
KAPI	**Kappang**	**12.87**	**215**	LR	LR	14 26 17.4	
	comp=Z,110nm,19.4s,baz=334,slow=40						
SBUM	**Sibu**	**15.18**	**259**	Pn	**Pn**	**14 21 05.0**	**-0.2**
JAY	**Jayapura**	**15.80**	**120**	LR	LR	14 27 33.5	
	comp=Z,97nm,18.4s,baz=348,slow=38						
BATI	**Baumata**	**16.10**	**192**	P	**Pn**	**14 21 19.4**	**+2.4**
	1.7nm,0.3s,baz=311,slow=9.3,SNR=2.0						
KSM	**Kuching**	**17.27**	**257**		**Pn**	**14 21 31.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**23.62**	**183**	P	**P**	**14 22 39.3**	**-1.9**
	2.9nm,0.8s,baz=1.2,slow=8.9,SNR=2.5						
WB0	**Warramunga Arr**	**26.23**	**164**	P	**P**	**14 23 05.7**	**+0.6**
WB0				IAmb	IAmb	14 23 10.0	
	comp=Z,7.9nm,0.5s						
WRA	**Warramunga Arr**	**26.38**	**165**	P	**P**	**14 23 07.3**	**+0.8**
	comp=Z,3.2nm,0.5s,baz=343,slow=10,SNR=40						
WB2	**Warramunga Arr**	**26.39**	**165**	P	**P**	**14 23 07.5**	**+1.0**
WB2				IAmb	IAmb	14 23 39.1	
	comp=Z,19nm,1.4s						
WR0	**Warramunga Arr**	**26.45**	**164**	P	**P**	**14 23 08.1**	**+1.0**
WR0				IAmb	IAmb	14 23 38.5	
	comp=Z,47nm,2.0s						
KRVT	**Karvat (AS076**	**26.77**	**111**	LR	LR	14 32 58.6	
	comp=Z,57nm,18.9s,baz=45,slow=34						
PSA00	**Pilbara Seismi**	**27.95**	**195**	P	**P**	**14 23 18.6**	**-2.0**
ASAR	**Alice Springs**	**29.86**	**167**	P	**P**	**14 23 38.9**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=348,slow=7.2,SNR=11						
ASAR				PcP	**PcP**	**14 26 40.2**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=345,slow=2.6,SNR=4.5						
CMAR	**Chiang Mai Arr**	**30.29**	**297**	P	**P**	**14 23 40.9**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=114,slow=7.2,SNR=2.0						
CTAO	**Charters Tower**	**31.74**	**144**	P	**P**	**14 23 53.6**	**-0.5**
BBOO	**Buckleboo**	**39.16**	**168**	P	**P**	**14 24 58.4**	**+0.7**
STKA	**Stephens Creek**	**39.77**	**161**	P	**P**	**14 25 03.6**	**+0.8**
	comp=Z,3.8nm,1.1s,baz=355,slow=7.3,SNR=4.4						
STKA				LR	LR	14 43 58.0	
	comp=Z,90nm,18.2s,baz=220,slow=40						
STKA	**Stephens Creek**	**39.77**	**161**	IAmb	IAmb	14 25 06.0	
	comp=Z,7.8nm,2.0s						
H11N1	**WAKE ISLAND Hy**	**41.13**	**66**	T	T	15 09 51.7	
	baz=258,slow=75						
H11N2	**WAKE ISLAND Hy**	**41.14**	**66**	T	T	15 09 46.9	
	baz=258						
H11N3	**WAKE ISLAND Hy**	**41.15**	**66**	T	T	15 09 51.8	
	baz=258,slow=75						
SONM	**Songino Array**	**45.64**	**341**	P	**P**	**14 25 50.6**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=151,slow=6.3,SNR=3.1						
DZM	**Mont Dzumac**	**47.34**	**127**	P	**P**	**14 26 03.8**	**-0.3**
TLY	**Talaya**	**49.86**	**341**	LR	LR	14 50 22.1	
	comp=Z,77nm,18.4s,baz=169,slow=40						
MK31	**Makanchi Array**	**56.23**	**324**	P	**P**	**14 27 08.6**	**-1.4**
MKAR	**Makanchi Array**	**56.23**	**324**	P	**P**	**14 27 08.6**	**-1.4**
	comp=Z,1.6nm,0.5s,baz=122,slow=8.2,SNR=16						
MKAR				PcP	**PcP**	**14 28 06.8**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=114,slow=5.4,SNR=4.0						
MAKZ	**Makanchi**	**56.42**	**324**	P	**P**	**14 27 10.8**	**-0.6**
ZALV	**Zalesovo Beam**	**59.09**	**332**	P	**P**	**14 27 29.5**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=98,slow=8.0,SNR=3.1						
KURK	**Kurchatov**	**60.36**	**327**	P	**P**	**14 27 36.6**	**-2.1**
KURK				IAmb	IAmb	14 27 40.4	
	comp=Z,4.9nm,0.7s						
KKAR	**Karatay Array**	**62.12**	**316**	P	**P**	**14 27 49.1**	**-1.8**
KKAR				IAmb	IAmb	14 27 59.2	
	comp=Z,8.7nm,1.8s						
BRVK	**Borovoye**	**66.03**	**326**	P	**P**	**14 28 15.7**	**-0.6**
BRVK				IAmb	IAmb	14 28 18.0	
	comp=Z,4.5nm,0.7s						
ILAR	**Eielson Array**	**83.24**	**26**	P	**P**	**14 29 54.8**	**-1.1**
	comp=Z,0.2nm,0.9s,baz=250,slow=6.2,SNR=1.6						
ARCES	**ARCESS Array B**	**88.81**	**340**	P	**P**	**14 30 22.0**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=76,slow=7.5,SNR=6.1						
FINES	**FINESS Array B**	**90.35**	**332**	P	**P**	**14 30 30.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=113,slow=3.2,SNR=1.4						
TORD	**Torodi Ar. Bea**	**122.67**	**289**	PKP	**PKPdf**	**14 36 25.2**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=51,slow=3.4,SNR=3.2						

IDC 03 14:26:10.7±1.7, 3°75S×140°52E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/44, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=37.5km s-min=13.9km az=103.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.23**	**8**	Pg	Pb	14 26 34.9	-0.1
JAY	3.0nm,0.3s,baz=190,slow=23,SNR=48			Lg	Lg	14 26 50.2	
WRA	8.2nm,0.3s,baz=142,slow=22,SNR=11 **Warramunga Arr**	**17.19**	**200**	P	Pn	14 30 13.0	+0.5
ASAR	0.1nm,0.3s,baz=24,slow=11,SNR=4.7 **Alice Springs**	**20.81**	**197**	P	P	14 30 53.3	-0.7
MKAR	1.1nm,0.6s,baz=28,slow=9.5,SNR=22 **Makanchi Array**	**71.71**	**322**	P	P	14 37 35.1	+0.3
	0.3nm,0.7s,baz=108,slow=4.7,SNR=2.1						

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*IDC **03** 14:28:29.5±0.6, 27°.20N×103°.57E, h0km, mb4.0/23, mb1 4.1/24, mb1mx4.0/60, mbtmp4.0/24, ML3.6/1, MS3.6/13, Ms1 3.6/13, ms1mx3.3/48, Error ellipse: s-maj=17.8km s-min=12.8km az=62.0*
*BJI **03** 14:28:30.5±0.0, 27°.11N×103°.34E, h8km, mB4.5/15, mb4.2/30, ML4.2/22, Ms4.2/32, Ms7 3.9/31*
*NEIC **03** 14:28:31.6±1.9, 27°.15N±0°.07×103°.5E±0°.1, h10km±1km, mb4.7/39, Error ellipse: s-maj=16.9km s-min=10.0km az=113.0*
*MOS **03** 14:28:32.6±1.2, 27°.15N×103°.51E, h39km, mb4.5/17, Error ellipse: s-maj=10.9km s-min=6.1km az=93.4*
ISC 03 14:28:31.3±0.4, 27°21N±0°.04×103°38E±0°.04, h10km, n118, σ1°60/122, mb4.3/51, MS3.5/14, 7C-1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.16**	**195**	*ie*Pg	**Pn**	**14 29 07.5**	**-0.1**
KMI				Sg	**Sb**	**14 29 36.2**	**-1.3**
KMI				smax	smax		
	comp=N,760nm,1.6s						
KMI				smax	smax		
	comp=E,1μm,1.3s						
KMI	**Kunming**	**2.16**	**195**	P	**Pn**	**14 29 06.9**	**-0.7**
KMI	**Kunming**	**2.16**	**195**		**Pn**	**14 29 06.9**	**-0.7**
GYA	**Guiyang**	**3.03**	**104**	⇑Pn	**Pn**	**14 29 21.6**	**+2.1**
GYA				Sn	**Sb**	**14 29 59.4**	**-3.3**
GYA				Sg	**Sg**	**14 30 13.1**	**+4.3**
GYA				smax	smax		
	comp=N,450nm,1.0s						
GYA				smax	smax		
	comp=E,370nm,1.0s						
GYA				LR	LR		
	comp=N,3μm,5.1s						
GYA				LR	LR		
	comp=E,2μm,3.9s						
GYA				LR	LR		
	comp=Z,1μm,5.1s						
CD2	**Chengdu**	**3.70**	**5**	Pn	**Pn**	**14 29 31.3**	**+2.7**
CD2				Pg	**Pg**	**14 29 41.4**	**-0.9**
CD2				Sg	**Sg**	**14 30 28.7**	**-1.5**
CD2				smax	smax		
	comp=N,2μm,0.8s						
CD2				smax	smax		
	comp=E,2μm,1.0s						
CD2				LR	LR		
	comp=N,2μm,4.1s						
CD2				LR	LR		
	comp=E,7μm,7.8s						
CD2				LR	LR		
	comp=Z,3μm,5.4s						
SLVN	**Son La**	**5.87**	**175**	Pn	**Pn**	**14 29 58.3**	**-0.3**
ENH	**Enshi**	**6.17**	**59**	Pn	**Pn**	**14 30 03.8**	**+1.2**
XAN	**Xi'an**	**8.31**	**34**	P	**Pn**	**14 30 32.2**	**+0.2**
XAN				S	**Sn**	**14 32 04.7**	**-1.3**
XAN				smax	smax		
	comp=N,290nm,1.0s						
XAN				smax	smax		
	comp=E,300nm,1.0s						
XAN				LR	LR		
	comp=N,1μm,6.5s						
XAN				LR	LR		
	comp=E,810nm,5.4s						
XAN				LR	LR		
	comp=Z,920nm,8.4s						
XAN	**Xi'an**	**8.31**	**34**	P	**Pn**	**14 30 32.2**	**+0.2**
XAN	**Xi'an**	**8.31**	**34**	Pn	**Pn**	**14 30 32.2**	**+0.2**
LZH	**Lanzhou**	**8.86**	**2**	*eP*	Pn	14 30 49.6	+10
LZH				pP	Pg	14 30 52.4	-29
LZH				sP		14 30 55.0	
LZH				*eS*	Sn	14 32 33.9	+14
LZH				sS	Sg	14 32 40.7	-35
LZH				SS	**SbSb**	**14 32 53.9**	**-1.6**
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
LZH				pmax	pmax		
	comp=Z,160nm,4.3s						
LZH				LR	LR		
	comp=N,700nm,7.3s						
LZH				LR	LR		
	comp=E,3μm,8.1s						
LZH				LR	LR		
	comp=Z,520nm,8.9s						
CHTO	**Chiang Mai**	**9.30**	**207**	P	**Pn**	**14 30 46.9**	**+1.3**
CHTO	**Chiang Mai**	**9.30**	**207**	Pn	**Pn**	**14 30 46.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**9.62**	**206**	Pn	**Pn**	**14 30 51.8**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=12,slow=12,SNR=8.6						
CMAR				Lg	Lg	14 33 35.9	
	comp=Z,0.2nm,0.3s,baz=25,slow=31,SNR=1.6						
QIZ	**Qiongzhong**	**10.09**	**143**	P	**Pn**	**14 30 55.3**	**-1.0**
QIZ				S	**Sn**	**14 32 47.6**	**-2.0**
QIZ				pmax	pmax		
	comp=Z,12nm,2.1s						
QIZ				LR	LR		
	comp=Z,700nm,9.2s						
QIZ				LR	LR		
	comp=Z,740nm,8.6s						
QIZ				LR	LR		
	comp=Z,450nm,8.0s						
WHN	**Wuhan**	**10.18**	**68**	P	Pn	14 31 03.7	+6.2
WHN				S	**Sn**	**14 32 52.9**	**+1.2**
WHN				LR	LR		
	comp=Z,2μm,9.3s						
WHN				LR	LR		
	comp=Z,2μm,8.0s						
WHN				LR	LR		
	comp=Z,1μm,11.2s						
GTA	**Gaotai**	**12.52**	**347**	*eP*	Pn	14 31 36.2	+6.5
GTA				pP		14 31 39.8	
GTA				sP		14 31 42.1	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,53nm,4.6s						
GTA				LR	LR		
	comp=Z,420nm,15.2s						
GTA				LR	LR		
	comp=Z,910nm,13.3s						
GTA				LR	LR		
	comp=Z,290nm,12.1s						
NJ2	**Nanjing**	**14.30**	**67**	*eP*	**Pn**	**14 31 54.1**	**+0.2**
NJ2				S	**Sn**	**14 34 35.5**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,2μm,12.4s						
NJ2				LR	LR		
	comp=Z,840nm,10.4s						
NJ2				LR	LR		
	comp=Z,640nm,14.5s						
BTO	**Baotou**	**14.45**	**21**	*eP*	**Pn**	**14 31 58.0**	**+2.0**
BTO				S	**Sn**	**14 34 35.0**	**-1.3**
HHC	**Hu-ho-hao-te**	**15.19**	**24**	*eP*	**Pn**	**14 32 08.1**	**+2.1**
HHC				S	**Sn**	**14 34 54.3**	**-0.1**
HHC				pmax	pmax		
	comp=Z,26nm,0.8s						
HHC				pmax	pmax		
	comp=Z,80nm,6.4s						
HHC				LR	LR		
	comp=Z,430nm,9.8s						
HHC				LR	LR		
	comp=Z,380nm,8.0s						
HHC				LR	LR		
	comp=Z,340nm,12.4s						
BJI	**Beijing**	**16.63**	**36**	P	**Pn**	**14 32 24.5**	**0.0**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BJI				LR	LR		
	comp=Z,200nm,7.3s						
BJI				LR	LR		
	comp=Z,230nm,10.8s						
BJI				LR	LR		
	comp=Z,300nm,24.6s						
SRIT	**Nakonsritamara**	**18.86**	**192**	P	**Pn**	**14 32 52.3**	**0.0**
SONM	**Songino Array**	**20.72**	**6**	P	**P**	**14 33 12.7**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=192,slow=12,SNR=10						
SONM				LR	LR	14 42 14.5	
	comp=Z,112nm,18.3s,baz=182,slow=40						
ULN	**Ulaanbaatar**	**20.82**	**7**	*ce*P	**P**	**14 33 13.6**	**+0.5**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ULN	**Ulaanbaatar**	**20.82**	**7**	P	**P**	**14 33 13.2**	**+0.2**
WMQ	**Urumqi**	**20.86**	**327**	*eP*	Pn	14 33 18.2	+2.3
WMQ				LR	LR		
	comp=Z,300nm,15.5s						
WMQ				LR	LR		
	comp=Z,190nm,16.5s						
WMQ				LR	LR		
	comp=Z,150nm,19.3s						
IPM	**Ipoh**	**22.72**	**186**	P	**P**	**14 33 33.6**	**+0.1**
IPM				IAmb	IAmb	14 33 35.8	
	comp=Z,13nm,0.8s						
KS19	**Wonju Array Si**	**23.03**	**57**	P	**P**	**14 33 37.1**	**+0.4**
KSRS	**Korea Array**	**23.06**	**58**	P	**P**	**14 33 34.7**	**-2.2**
	comp=Z,1.8nm,0.5s,baz=244,slow=10,SNR=13						
KSRS				LR	LR	14 42 17.3	
	comp=Z,119nm,19.6s,baz=218,slow=36						
ZAK	**Zakamensk**	**23.14**	**360**	*eP*	**P**	**14 33 40.4**	**+2.7**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KKM	**Kota Kinabalu**	**24.34**	**148**	P	**P**	**14 33 49.2**	**-0.4**
KKM				IAmb	IAmb	14 33 53.7	
	comp=Z,24nm,1.0s						
HIA	**Hailar**	**25.39**	**25**	*i* P	**P**	**14 33 59.0**	**+0.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TARG	**Taragay, Kyrgy**	**25.45**	**311**	P	**P**	**14 34 01.9**	**+2.0**
TARG				IAmb	IAmb	14 34 12.3	
	comp=Z,9.9nm,1.0s						
DGZ	**Jazzator, Alta**	**25.59**	**336**	*i* P	**P**	**14 34 01.9**	**+1.2**
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MK31	**Makanchi Array**	**25.66**	**325**	P	**P**	**14 34 03.0**	**+1.8**
MK31				pmax	pmax		
	comp=Z,7.0nm,1.0s					

KDJ	Kajisay	26.05	312	P		P	14 34 05.8	+0.7
NIL	Nilore	26.70	291	P		P	14 34 11.6	+0.8
NIL				pmax		pmax		
	comp=Z,7.0nm,0.8s							
NIL	Nilore	26.70	291	P		P	14 34 11.6	+0.8
NIL				IAmb		IAmb	14 34 24.4	
	comp=Z,7.2nm,0.8s							
AAK	Ala-Archa	28.07	311	LR		LR	14 48 10.6	
	comp=Z,86nm,18.5s,baz=156,slow=42							
AAK	Ala-Archa	28.07	311	*i* P		P	14 34 21.5	-1.7
AAK				pmax		pmax		
	comp=Z,3.0nm,1.0s							
USRK	Ussuriysk Ar.	28.56	46	P		P	14 34 26.9	-0.4
	comp=Z,2.3nm,0.7s,baz=241,slow=9.7,SNR=5.7							
USRK				LR		LR	14 45 47.6	
	comp=Z,74nm,22.0s,baz=204,slow=36							
PALK	Pallekele	29.26	231	LR		LR	14 48 38.5	
	comp=Z,130nm,18.3s,baz=174,slow=41							
ZALV	Zalesovo Beam	30.01	338	P		P	14 34 40.3	+0.2
	comp=Z,1.3nm,0.6s,baz=148,slow=6.3,SNR=1.6							
KURBB	Kurchatov Arra	30.07	328	P		P	14 34 41.8	+1.2
	comp=Z,0.9nm,0.5s,baz=134,slow=10.0,SNR=12							
KURK	Kurchatov	30.09	328	P		P	14 34 41.8	+1.0
KURK	Kurchatov	30.09	328	P		P	14 34 41.6	+0.8
MJAR	Matsushiro Arr	30.87	64	LR		LR	14 46 43.3	
	comp=Z,109nm,19.7s,baz=290,slow=36							
KLR	Kul'dur	31.00	37	P		P	14 34 48.4	-0.5
	comp=Z,0.8nm,0.5s,baz=244,slow=11,SNR=4.0							
KLR				LR		LR	14 49 14.2	
	comp=Z,146nm,18.6s,baz=218,slow=40							
KLR	Kul'dur	31.00	37	*ce*P		P	14 34 47.6	-1.3
KLR				pmax		pmax		
	comp=Z,2.0nm,1.0s							
ZEA	Zeya	31.82	27	*e*P		P	14 34 57.0	+0.9
JHJ	Hachijo jima 2	31.91	70	LR		LR	14 47 21.4	
	comp=Z,96nm,20.3s,baz=308,slow=36							
BVAR	Borovoye Array	35.54	326	P		P	14 35 30.3	+1.9
	comp=Z,0.8nm,0.7s,baz=90,slow=7.2,SNR=4.4							
BRVK	Borovoye	35.61	326	*i* P		P	14 35 29.2	+0.2
BRVK				pmax		pmax		
	comp=Z,2.0nm,1.1s							
YAK	Yakutsk	38.97	19	P		P	14 35 56.8	-0.6
	comp=Z,3.7nm,0.5s,baz=124,slow=0.3,SNR=5.6							
YAK	Yakutsk	38.97	19	P		P	14 35 57.0	-0.4
YAK				pmax		pmax		
	comp=Z,9.0nm,0.6s							
YAK	Yakutsk	38.97	19	P		P	14 35 57.0	-0.4
YAK				IAmb		IAmb	14 36 00.6	
	comp=Z,9.3nm,0.6s							
GEYT	Alibeck	39.27	297	P		P	14 36 02.9	+2.6
	comp=Z,1.6nm,0.7s,baz=83,slow=6.0,SNR=4.6							
AKTO	Aktyubinsk	41.42	317	P		P	14 36 19.4	+1.5
	comp=Z,1.3nm,0.5s,baz=96,slow=14,SNR=3.1							
BATI	Baumata	42.08	149	P		P	14 36 21.5	-2.1
	comp=Z,14nm,0.7s,baz=236,slow=7.3,SNR=1.7							
NRIK	Noril'sk	43.17	352	P		P	14 36 32.1	+0.3
	comp=Z,2.4nm,0.7s,baz=156,slow=4.6,SNR=4.6							
ARU	Arti	43.18	325	P		P	14 36 32.9	+0.7
	comp=Z,0.8nm,0.4s,baz=115,slow=6.3,SNR=4.6							
ARU	Arti	43.18	325	*d i* P		P	14 36 30.0	-2.2
ARU							14 38 18.6	
ARU				S		S	14 42 57.2	-1.4
ARU				SS		SS	14 46 07.1	-4.1
ARU				pmax		pmax		
	comp=Z,3.0nm,1.0s							
TIXI	Tiksi	46.68	11	*i* P		P	14 36 58.9	-0.9
TIXI				pmax		pmax		
	comp=Z,2.0nm,0.8s							
TIXI	Tiksi	46.68	11	P		P	14 36 58.8	-0.9
TIXI				IAmb		IAmb	14 37 02.2	
	comp=Z,2.5nm,0.5s							
PETK	Petropavlovsk-	47.47	42	LR		LR	14 59 36.3	
	comp=Z,62nm,19.4s,baz=239,slow=39							
KIV	Kislovodsk	50.99	306	*e*P		P	14 37 35.0	+1.6
KIV				pmax		pmax		
	comp=Z,18nm,1.1s							
KLMR	Klimovskoe	53.93	327	*e*P		P	14 37 52.9	-1.9
KLMR				pmax		pmax		
	comp=Z,9.0nm,1.1s							
KLMR	Klimovskoe	53.93	327	*e*P		P	14 37 52.9	-1.9
KLMR				AMP			14 37 59.9	
	comp=Z,9.0nm,1.1s							
BILL	Bilibino	54.97	24	*ce*P		P	14 38 02.5	+0.2
BILL				pmax		pmax		
	comp=Z,4.0nm,0.6s							
BILL	Bilibino	54.97	24	P		P	14 38 04.4	+2.2
BILL				IAmb		IAmb	14 38 09.2	
	comp=Z,6.0nm,0.5s							
OBN	Obninsk	54.98	320	*e*P		P	14 38 01.1	-1.5
OBN				*e*			14 39 02.5	
OBN				*e*			14 40 04.4	
OBN				pmax		pmax		
	comp=Z,4.0nm,0.8s							
WB0	Warramunga Arr	55.54	144	P		P	14 38 05.5	-1.5
WRAB	Tennant Creek	55.65	144	*ce*P		P	14 38 05.1	-2.7
WRAB				pmax		pmax		
	comp=Z,12nm,1.3s							
WRA	Warramunga Arr	55.65	144	P		P	14 38 07.0	-0.9
	comp=Z,4.7nm,0.9s,baz=333,slow=8.5,SNR=32							
WRA	Warramunga Arr	55.65	144	P		P	14 38 07.0	-0.9
WB2	Warramunga Arr	55.66	144	P		P	14 38 06.5	-1.4
WR0	Warramunga Arr	55.77	144	P		P	14 38 07.3	-1.3
AS31	Alice Springs	58.55	147	P		P	14 38 28.0	-0.3
ASAR	Alice Springs	58.55	147	P		P	14 38 27.9	-0.4
	comp=Z,1.9nm,0.8s,baz=326,slow=6.6,SNR=24							
AKASG	Malin Array Be	59.62	315	P		P	14 38 35.6	+0.2
	comp=Z,0.3nm,0.4s,baz=68,slow=6.0,SNR=2.7							
FINES	FINESS Array B	60.46	327	P		P	14 38 40.2	-0.7
	comp=Z,1.4nm,0.7s,baz=107,slow=8.9,SNR=10							
ARCES	ARCESS Array B	60.55	337	P		P	14 38 40.8	-0.8
	comp=Z,0.8nm,0.6s,baz=88,slow=7.2,SNR=6.3							
NC405	NORSAR Array S	67.35	328	P		P	14 39 26.7	+0.3
NC602	NORSAR Array S	67.53	328	P		P	14 39 28.7	+1.1
NB201	NORSAR Array S	67.56	328	P		P	14 39 28.3	+0.5
NB2	NORSAR Subarra	67.60	328	P		P	14 39 27.3	-0.7
	comp=Z,0.9nm,0.6s,baz=74,slow=6.9							
NOA	NORSAR Array B	67.60	328	P		P	14 39 26.6	-1.5
	comp=Z,0.6nm,0.5s,baz=74,slow=6.4,SNR=7.8							
ITM	Ithomi	67.70	301	P		P	14 39 28.7	-0.3
NBO00	NORSAR Array S	67.81	328	P		P	14 39 31.3	+2.0
KHC	Kasperske Hory	69.81	316	*ce*P		P	14 39 38.4	-3.7
KHC				pmax		pmax		
	comp=Z,10.0nm,2.5s							
GERES	GERESS Array B	69.83	315	P		P	14 39 42.2	0.0
	comp=Z,0.4nm,0.5s,baz=51,slow=6.4,SNR=5.5							
TOLK	Toolik Lake Re	70.88	22	P		P	14 39 50.1	+1.9
COLD	Coldfoot	71.28	23	P		P	14 39 52.5	+1.8
COLD				IAmb		IAmb	14 39 54.9	
	comp=Z,3.1nm,0.9s							
BPAW	Bear Paw Mtn.	72.35	26	P		P	14 39 57.3	+0.2
BPAW				IAmb		IAmb	14 40 01.0	
	comp=Z,6.9nm,0.8s							
PPLA	Purkeypile	72.38	28	P		P	14 39 57.9	+0.4
PPLA				IAmb		IAmb	14 40 01.9	
	comp=Z,7.2nm,0.7s							
EUNU	Eureka	72.82	2	P		P	14 40 00.8	+1.1
TRF	Thorofare Moun	72.92	27	P		P	14 40 01.6	+0.9
MDM	Murphy Dome	73.02	25	P		P	14 40 01.3	+0.2
MDM				IAmb		IAmb	14 40 05.4	
	comp=Z,6.7nm,0.8s							
COLA	College	73.20	25	*i* P		P	14 40 00.0	-2.1
COLA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
CCB	Clear Creek Bu	73.33	25	P		P	14 40 04.8	+1.9
ILAR	Eielson Array	73.62	25	P		P	14 40 02.7	-1.9
	comp=Z,0.3nm,0.5s,baz=298,slow=3.9,SNR=3.0							
ILAR				LR		LR	15 14 56.8	
	comp=Z,42nm,19.9s,baz=326,slow=38							
DHY	Denali Highway	74.26	27	P		P	14 40 08.8	+0.2
DHY				IAmb		IAmb	14 42 43.7	
	comp=Z,17nm,1.8s							
SML	Sawmill	74.48	28	P		P	14 40 10.9	+1.1
SML				IAmb		IAmb	14 40 21.9	
	comp=Z,13nm,1.0s							
RIDG	Independent Ri	74.91	25	P		P	14 40 12.7	+0.5
KLU	Klutina	75.64	28	P		P	14 40 17.9	+1.4
KLU				IAmb		IAmb	14 40 18.5	
	comp=Z,6.6nm,0.8s							
EGAK	Eagle	75.70	24	P		P	14 40 18.1	+1.4
EGAK				IAmb		IAmb	14 40 31.8	
	comp=Z,8.1nm,1.6s							
INK	Inuvik	76.03	19	P		P	14 40 19.7	+1.3
INK				pmax		pmax		
	comp=Z,10.0nm,1.5s							
INK	Inuvik	76.03	19	P		P	14 40 19.7	+1.3
INK				IAmb		IAmb	14 42 52.2	
	comp=Z,9.8nm,1.5s							
GLB	Gilahina Butte	76.53	27	P		P	14 40 21.9	+0.3
GLB				IAmb		IAmb	14 40 30.2	
	comp=Z,7.6nm,1.1s							
DAWY	Dawson	76.74	24	P		P	14 40 22.9	+0.2
YKA	Yellowknife Ar	85.59	17	P		P	14 41 09.6	0.0
	comp=Z,1.0nm,0.7s,baz=329,slow=4.9,SNR=11							
YKA				LR		LR	15 25 08.2	
	comp=Z,28nm,18.2s,baz=0.0,slow=40							
MATP	Matopo	86.55	245	LR		LR	15 19 56.2	
	comp=Z,53nm,18.5s,baz=54,slow=36							

IDC ***03*** *14:40:35.1±0.9,27.46N×129.72E,h0km,mb3.8/10, mb1 3.9/13,mb1mx3.7/37,mbtmp3.7/13,ML2.9/3, Error ellipse: s-maj=36.3km s-min=17.9km az=82.0*

NEIC ***03*** *14:40:38.7±1.4,27.50N±0.10×129.9E±0.2,h26km±6km, mb4.5/5,Error ellipse: s-maj=24.5km s-min=13.6km az=94.0*

JMA ***03*** *14:40:38.8±0.1,27.52N×129.80E,h63km±2km,M3.4*

ISC 03 14:40:36.2±1.7,27.45N±0.04×129.88E±0.04,h8km±10km, n33,σ1°47/44,mb4.0/13,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	Kikaishima	0.86	5	P	Pn	14 40 54.6	0.0
JZK				*e*S	Sb	14 41 06.0	+0.9
JTK	Tokunoshima	0.89	292	P	Pn	14 40 54.7	-0.3
JTK				*e*S	Sb	14 41 06.2	+0.3
JAM	Amami Oshima	0.99	346	P	Pb	14 40 55.8	+0.3
JAM				*e*S	Sb	14 41 08.5	-0.1
JAMN	Amaminishikomi	1.01	322	P	Pb	14 40 55.9	+0.1
JAMN				*e*S	Sg	14 41 08.6	0.0
JOKE	Okinoerabujima	1.17	266	P	Pg	14 40 58.4	-0.2
JOKE				*e*S	Sg	14 41 12.7	-1.1
JYRO	Yoronjima	1.34	252	P	Pn	14 41 01.2	0.0
JYRO				*e*S	Sb	14 41 17.8	-1.1
JOW	Kunigami	1.56	247	P	Pn	14 41 04.1	-0.1
JOW				*e*S	Sn	14 41 23.2	-1.4
JIH	Iheya	1.76	257	P	Pn	14 41 07.0	+0.2
JIH				*e*S	Sn	14 41 27.8	-1.6
JTAJ	Takarajima	1.80	341	P	Pn	14 41 06.8	-0.6
JTAJ				*e*S	Sn	14 41 27.5	-2.9
JNTH	Nagotoyohara	1.90	241	P	Pn	14 41 08.8	-0.1
JNTH				S	Sn	14 41 31.4	-1.6
JKDJ	Kitadaitoujima	1.96	139	*e*S	Sn	14 41 31.3	-3.1
JMZ	Minamidaito 2	2.02	143	S	Sn	14 41 32.6	-3.3
JNU	Nakatsue	5.71	8	Pn	Pn	14 42 02.4	+1.0
	1.8nm,0.3s,baz=335,slow=4.3,SNR=12						
JNU				Sn	Sn	14 43 01.9	-5.2
	baz=211,slow=18,SNR=0.8						
JNU	Nakatsue	5.71	8		Pn	14 42 02.2	+0.8
MJAR	Matsushiro Arr	11.48	36	Pn	Pn	14 43 19.4	-1.0
	0.0nm,0.3s,baz=214,slow=14,SNR=4.2						
USRK	Ussuriysk Ar.	16.80	5	Pn	Pn	14 44 32.7	+1.0
	baz=168,slow=9.8,SNR=1.8						
XAN	Xi'an	19.16	295	P	P	14 44 59.9	-0.2
XAN				IAmb	IAmb	14 45 01.3	
	comp=Z,59nm,1.8s						
MKAR	Makanchi Array	41.84	310	P	P	14 48 24.9	-1.7
	comp=Z,0.4nm,0.6s,baz=86,slow=8.8,SNR=3.1						
WB0	Warramunga Arr	47.14	174	P	P	14 49 08.9	-0.1
WRA	Warramunga Arr	47.31	174	P	P	14 49 10.4	0.0
	comp=Z,1.1nm,0.7s,baz=353,slow=8.4,SNR=11						
WB2	Warramunga Arr	47.31	174	P	P	14 49 10.4	+0.1
WB2				IAmb	IAmb	14 50 21.8	
	comp=Z,24nm,1.7s						
PSA00	Pilbara Seismi	49.70	192	P	P	14 49 29.5	+0.8
AS31	Alice Springs	50.97	175	P	P	14 49 38.8	+0.4
AS31				IAmb	IAmb	14 50 25.1	
	comp=Z,2.8nm,1.6s						
ASAR	Alice Springs	50.97	175	P	P	14 49 38.9	+0.5
	comp=Z,1.5nm,0.6s,baz=6.3,slow=14,SNR=32						
ARCES	ARCESS Array B	69.41	339	P	P	14 51 44.2	0.0
	comp=Z,0.6nm,0.7s,baz=76,slow=7.5,SNR=1.5						
KBZ	Khabaz	69.53	309	P	P	14 51 46.4	+1.0
	comp=Z,1.1nm,0.6s,baz=108,slow=3.2,SNR=2.4						
FINES	FINESS Array B	72.53	331	P	P	14 52 02.5	-0.8
	comp=Z,1.1nm,0.6s,baz=58,slow=5.2,SNR=9.8						
AKASG	Malin Array Be	75.56	320	P	P	14 52 20.3	-0.8
	comp=Z,0.8nm,0.5s,baz=43,slow=13,SNR=1.8						
YKA	Yellowknife Ar	76.79	25	P	P	14 52 29.4	+1.4
	comp=Z,0.3nm,0.8s,baz=303,slow=6.4,SNR=2.6						
BRTR	Keskin Array B	77.44	308	P	P	14 52 32.3	0.0
	comp=Z,1.1nm,0.8s,baz=77,slow=4.5,SNR=3.9						
NB2	NORSAR Subarra	78.86	334	P	P	14 52 40.6	+1.0
	comp=Z,0.4nm,0.6s,baz=50,slow=5.9						
NOA	NORSAR Array B	78.86	334	P	P	14 52 39.7	+0.1
	comp=Z,1.0nm,0.8s,baz=49,slow=5.4,SNR=5.0						
GERES	GERESS Array B	85.11	323	P	P	14 53 15.2	+2.4
	comp=Z,0.3nm,0.5s,baz=45,slow=4.7,SNR=4.0						

IDC ***03*** *15:08:29.8±1.2,27.85N×104.61E,h0km,mb3.5/5, mb1 3.8/5,mb1mx3.4/49,mbtmp3.5/5,MS2.9/2,Ms1 3.0/2, ms1mx2.6/38,Error ellipse: s-maj=282.2km s-min=21.2km az=55.0*

NEIC ***03*** *15:08:32.0±1.2,27.13N±0.08×103.4E±0.1,h10km±1km, mb4.3/4,Error ellipse: s-maj=23.7km s-min=9.2km az=117.0*

ISC 03 15:08:35.3±0.8,27.13N±0.10×103.4E±0.1,h35km,n15, σ0°89/13,mb3.7/7,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	Kunming	2.08	197		Pn	15 09 07.5	-0.5
SLVN	Son La	5.79	175	Pn	Pn	15 09 58.6	-0.3
ENH	Enshi	6.20	58		Pn	15 10 04.9	+0.5
XAN	Xi'an	8.37	33	Pn	Pn	15 10 33.1	-1.1
CMAR	Chiang Mai Arr	9.56	206	LR	LR	15 14 59.0	
	comp=Z,61nm,20.9s,baz=180,slow=36						
MKAR	Makanchi Array	25.73	325	P	P	15 14 02.0	-0.4
	0.2nm,0.4s,baz=135,slow=11,SNR=2.4						
MJAR	Matsushiro Arr	30.89	64	LR	LR	15 25 47.1	
	comp=Z,33nm,21.9s,baz=235,slow=35						
WB0	Warramunga Arr	55.46	144	P	P	15 18 06.2	-0.5
WRA	Warramunga Arr	55.58	144	P	P	15 18 06.4	-1.1
	1.5nm,0.9s,baz=332,slow=8.3,SNR=18						
WB2	Warramunga Arr	55.58	144	P	P	15 18 07.6	0.0
WB2				IAmb	IAmb	15 18 55.5	
	comp=Z,16nm,1.4s						
WR0	Warramunga Arr	55.70	144	P	P	15 18 08.6	+0.2
AS31	Alice Springs	58.47	147	P	P	15 18 28.5	+0.5
AS31				IAmb	IAmb	15 19 50.3	
	comp=Z,0.7nm,0.9s						
ASAR	Alice Springs	58.47	147	P	P	15 18 28.4	+0.4
	comp=Z,0.4nm,0.5s,baz=329,slow=7.1,SNR=14						
NOA	NORSAR Array B	67.68	328	P	P	15 19 28.1	-0.7
	comp=Z,0.2nm,0.5s,baz=90,slow=6.8,SNR=1.6						
GERES	GERESS Array B	69.90	315	P	P	15 19 44.7	+1.9
	comp=Z,0.2nm,0.4s,baz=78,slow=5.1,SNR=2.0						

IDC ***03*** *15:18:36.0±2.3,5.66S×133.76E,h0km,mb4.2/2, mb1 4.0/6,mb1mx3.7/28,mbtmp3.9/6,ML3.5/4,Error ellipse: s-maj=96.9km s-min=24.5km az=82.0*

NEIC ***03*** *15:18:37.4±0.8,5.72S±0.08×133.5E±0.2,h12km±8km, mb4.5/3,Error ellipse: s-maj=24.6km s-min=11.2km az=88.0*

ISC 03 15:18:40.0±0.9,5.83S±0.07×133.5E±0.1,h35km,n15, σ2°03/18,mb4.3/5,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	Fak Fak	3.13	338	Pn	Pn	15 19 24.6	-2.3
SIJI	Sorong	5.39	336	Pn	Pn	15 19 56.4	-1.6
	2.6nm,0.3s,baz=148,slow=23,SNR=27						
SIJI				Sn	Sn	15 20 49.4	-9.5
	16nm,0.3s,baz=223,slow=22,SNR=14						
COEN	Coen	12.53	131	Pn	Pn	15 21 36.2	+0.3
WB0	Warramunga Arr	13.88	176	Pn	Pn	15 21 55.6	+1.2
WRA	Warramunga Arr	14.05	177	Pn	Pn	15 21 58.3	+1.5
	0.2nm,0.3s,baz=355,slow=13,SNR=8.1						
WRA				Sn	Sn	15 24 27.5	-4.1
	0.2nm,0.3s,baz=352,slow=24,SNR=2.5						
WB2	Warramunga Arr	14.05	176	Pn	Pn	15 21 58.0	+1.2
WR0	Warramunga Arr	14.08	176	Pn	Pn	15 21 58.1	+1.0
FITZ	Fitzroy Crossi	14.38	211	Pn	Pn	15 22 04.8	+3.7
	0.2nm,0.3s,baz=38,slow=13,SNR=7.7						
FITZ				Sn	Sn	15 24 37.4	-2.1
	0.1nm,0.3s,baz=112,slow=19,SNR=1.4						
FITZ	Fitzroy Crossi	14.38	211		Pn	15 22 01.4	+0.3
ASAR	Alice Springs	17.74	179	P	P	15 22 46.4	+1.4
	0.2nm,0.3s,baz=6.7,slow=8.7,SNR=15						
ASAR				S	Sn	15 25 59.5	-1.6
	0.0nm,0.3s,baz=356,slow=22,SNR=1.4						
MK31	Makanchi Array	69.18	325	P	P	15 29 44.3	+1.1
MK31				IAmb	IAmb	15 30 04.5	
	comp=Z,5.1nm,1.5s						
MKAR	Makanchi Array	69.18	325	P	P	15 29 45.4	+2.3
	comp=Z,1.1nm,0.6s,baz=115,slow=8.0,SNR=16						
MAKZ	Makanchi	69.37	325	P	P	15 29 45.5	+1.2
MAKZ				IAmb	IAmb	15 29 47.8	
	comp=Z,13nm,1.9s						
ZAA0	Zalesovo Array	72.11	332	P	P	15 30 00.7	0.0
ZAA0				IAmb	IAmb	15 30 02.2	
	comp=Z,1.8nm,0.7s						
ZALV	Zalesovo Beam	72.11	332	P	P	15 30 01.6	+0.9
	comp=Z,2.0nm,0.6s,baz=128,slow=7.0,SNR=7.7						

JMA ***03*** *15:38:57.3±0.3,25.99N×126.91E,h42km±3km,M3.4*
JMA Felt I J1.

NIED ***03*** *15:38:57.4,25.99N×126.91E,h42km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.15; Mθθ-1.67; Mφφ-0.48; Mrθ0.04; Mrφ-1.21; Mθφ-0.58; Fault plane solution: M₀2.37000×10¹⁵ NP1: φs224.00000°,δ50.00000°,λ71.00000°. NP2:φs72.00000°, δ43.00000°,λ111.00000°.*

NEIC ***03*** *15:38:58.0±1.1,25.95N±0.04×126.90E±0.09,h65km±7km, mb4.4/12 Error ellipse: s-maj=12.7km s-min=2.7km az=70.0*

IDC ***03*** *15:38:58.5±4.3,26.00N×126.97E,h68km±39km,mb3.6/15, mb1 3.7/16,mb1mx3.6/41,mbtmp3.9/16,ML3.3/1,MS3.2/5, Ms1 3.2/5,ms1mx2.9/25,Error ellipse: s-maj=24.9km s-min=17.6km az=20.0*

ISC 03 15:38:57.0±0.9,25.98N±0.07×126.89E±0.05,h53km±8km, n45,σ0°98/47,mb3.9/20,MS3.5/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	Kume jima 2	0.36	346	P	Pn	15 39 06.2	-0.7
JKE				S	Sn	15 39 13.2	-0.8
JAGN	Aguni-jima	0.69	28	P	Pn	15 39 10.3	-0.4
JAGN				S	Sn	15 39 20.3	-0.3
JJT3	Tamagusuku3	0.82	78	P	Pn	15 39 13.0	+0.6
JJT3				*e*S	Sn	15 39 24.5	+0.7
JNTH	Nagotoyohara	1.16	62	P	Pn	15 39 16.9	+0.1
JIH	Iheya	1.43	42	P	Pn	15 39 21.1	+0.5
JIH				S	Sn	15 39 38.2	-0.1
JOW	Kunigami	1.51	55	P	Pn	15 39 22.1	+0.5
JOW				*e*S	Sn	15 39 39.5	-0.7
JYRO	Yoronjima	1.75	53	P	Pn	15 39 24.9	0.0
YOJ	Yonaguni jima	3.82	248	Pn	Pn	15 39 53.6	+0.4
TATO	Taipei	4.98	260	Pn	Pn	15 40 12.8	+3.6
YHNB	Yeheng	5.15	257		Pn	15 40 14.8	+3.2
SSLB	Suanglung	5.81	249	Pn	Pn	15 40 21.5	+0.9
TPUB	Ta-pu	6.28	246	Pn	Pn	15 40 27.7	+0.5
JNU	Nakatsue	7.92	25	P	Pn	15 40 51.3	+1.7
	0.4nm,0.3s,baz=198,slow=9.6,SNR=3.6						
JNU				LR	LR	15 43 52.5	
	comp=Z,112nm,19.4s,baz=169,slow=37						
KSRS	Korea Array	11.48	4	P	Pn	15 41 43.6	+5.5
	0.1nm,0.3s,baz=189,slow=15,SNR=5.1						
KSRS				LR	LR	15 45 36.1	
	comp=Z,54nm,21.9s,baz=210,slow=35						
MJAR	Matsushiro Arr	14.29	40	P	P	15 42 24.4	+2.1
	0.0nm,0.3s,baz=225,slow=9.7,SNR=8.2						
GUMO	Guam	20.90	123	LR	LR	15 49 14.7	
	comp=Z,63nm,21.0s,baz=210,slow=30						
ASAJ	Asahikawa	22.14	31	P	P	15 43 47.4	-0.7
	3.4nm,0.8s,baz=245,slow=12,SNR=6.1						
JKA	Kamikawa-asahi	22.14	31	P	P	15 43 47.4	-0.8
JKA	Kamikawa-asahi	22.14	31	IAmb	IAmb	15 43 57.3	
	comp=Z,42nm,1.7s						
SONM	Songino Array	27.13	329	P	P	15 44 35.7	+0.5
	comp=Z,1.0nm,0.5s,baz=149,slow=9.6,SNR=3.2						
PETK	Petropavlovsk-	35.55	32	P	P	15 45 48.4	-0.5
	comp=Z,1.6nm,0.9s,baz=65,slow=1.6,SNR=5.2						
MK31	Makanchi Array	40.81	312	P	P	15 46 33.0	-0.2
MKAR	Makanchi Array	40.81	312	P	P	15 46 33.1	-0.1
	comp=Z,1.0nm,0.4s,baz=95,slow=9.8,SNR=24						
MAKZ	Makanchi	41.02	312	P	P	15 46 35.0	0.0
KNRA	Kununurra	41.44	177	P	P	15 46 38.8	+0.2
ZAA0	Zalesovo Array	41.72	323	P	P	15 46 40.1	-0.5
ZAA0				IAmb	IAmb	15 46 42.3	
	comp=Z,1.8nm,0.5s						
ZALV	Zalesovo Beam	41.72	323	P	P	15 46 40.4	-0.2
	comp=Z,2.1nm,0.4s,baz=109,slow=9.3,SNR=13						
WB0	Warramunga Arr	46.05	170	P	P	15 47 15.2	-0.4
WRA	Warramunga Arr	46.22	170	P	P	15 47 16.8	-0.2
	comp=Z,0.7nm,0.5s,baz=352,slow=8.7,SNR=3.8						
WB2	Warramunga Arr	46.22	170	P	P	15 47 16.4	-0.6
WR0	Warramunga Arr	46.26	170	P	P	15 47 17.0	-0.3
WR0				IAmb	IAmb	15 47 17.9	
	comp=Z,13n

KRNET ***03*** *15:42:04.3±0.1,41°.88N×72°.19E,h8km,mb2.0*
NNC ***03*** *15:42:04.9±0.8,42°.05N×72°.05E,h0km,mb2.6,mpv2.7, Error ellipse: s-maj=7.4km s-min=2.6km az=177.0*
SOME ***03*** *15:42:05.0,42°.02N×72°.02E,h15km*
ISC 03 15:42:03.4±0.9,41°.95N±0°.04×72°.09E±0°.02,h10km±10km, n19,σ0s83/35,11C-5D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.18**	**211**	⇓*i*P	**Pg**	**15 42 07.6**	**+0.3**
	baz=38						
ARK				⇓*i*S	**Sg**	**15 42 10.8**	**+0.8**
	baz=38						
ARSB	**Arslanbob**	**0.92**	**133**	⇑*i*P	**Pg**	**15 42 20.0**	**-1.1**
	baz=33						
ARSB				⇑*i*S	**Sg**	**15 42 31.9**	**-1.2**
	baz=33						
MRKS	**Merke**	**1.16**	**46**	*e*P	**Pn**	**15 42 26.2**	**+0.5**
	1.0nm,0.1s						
MRKS				*e*S	**Sg**	**15 42 41.3**	**+0.6**
	4.1nm,0.2s						
MRKS	**Merke**	**1.16**	**46**	P	**Pn**	**15 42 26.2**	**+0.5**
	1.0nm,0.1s						
MRKS				S	**Sg**	**15 42 41.3**	**+0.6**
	4.1nm,0.2s						
AML	**Almayashu**	**1.21**	**81**	⇑*i*P	**Pb**	**15 42 26.2**	**-0.4**
	baz=77						
AML				⇑*i*S	**Sb**	**15 42 42.2**	**-0.3**
	baz=77						
EKS2	**Erkin-Say**	**1.44**	**60**	⇑*i*P	**Pg**	**15 42 31.6**	**+0.5**
	baz=56						
EKS2				⇑*i*S	**Sg**	**15 42 50.9**	**+1.1**
	baz=56						
IUG	**Iuzhnay**	**1.54**	**278**	*e*P	**Pg**	**15 42 32.4**	**-0.6**
	2.6nm,0.1s						
IUG				*e*S	**Sg**	**15 42 52.0**	**-1.0**
	5.1nm,0.3s						
IUG	**Iuzhnay**	**1.54**	**278**	P	**Pg**	**15 42 32.4**	**-0.6**
	2.6nm,0.1s						
IUG				S	**Sg**	**15 42 52.0**	**-1.0**
	5.1nm,0.3s						
KK31	**Karatay Array**	**1.64**	**315**	⇑P	**Pb**	**15 42 33.3**	**-0.3**
	0.2nm,0.2s,baz=132,slow=16,SNR=4.9						
KK31				⇓S	**Sb**	**15 42 54.4**	**0.0**
	0.6nm,0.2s,baz=129,slow=26,SNR=8.7						
ARLS	**Aral**	**1.67**	**92**	⇑*i*P	**Pb**	**15 42 34.3**	**-0.1**
	baz=90						
ARLS				⇑*i*S	**Sn**	**15 42 55.8**	**+1.4**
	baz=90						
UCH	**Uchtor**	**1.83**	**80**	⇓*e*P	**Pb**	**15 42 37.6**	**+0.4**
	baz=78						
UCH				⇓*i*S	**Sb**	**15 43 01.5**	**+1.2**
	baz=78						
BRLS	**Borolday**	**1.98**	**304**	*e*P	**Pb**	**15 42 39.9**	**+0.3**
	0.6nm,0.2s						
BRLS				*e*S	**Sb**	**15 43 04.5**	**+0.1**
	5.5nm,0.2s						
BRLS	**Borolday**	**1.98**	**304**	P	**Pb**	**15 42 39.9**	**+0.3**
	0.6nm,0.2s						
BRLS				S	**Sb**	**15 43 04.5**	**+0.1**
	5.5nm,0.2s						
KZA	**Kyzart**	**2.36**	**86**	⇑*e*P	**Pb**	**15 42 46.0**	**-0.2**
	baz=84						
KZA				⇑*i*S	**Sb**	**15 43 15.9**	**+0.3**
	baz=84						
SGDS	**Sogindy**	**2.40**	**50**	Pg	**Pg**	**15 42 48.5**	**-0.9**
	0.7nm,0.2s						
SGDS				Lg	Lg	15 43 19.3	
	4.0nm,0.3s						
DGS	**Degeres**	**3.01**	**63**	*e*P	**Pg**	**15 43 00.0**	**-1.1**
	1.0nm,0.4s						
DGS				*e*S	**Sg**	**15 43 39.1**	**-1.1**
	3.2nm,0.3s						
DGS	**Degeres**	**3.01**	**63**	Pg	**Pg**	**15 43 00.0**	**-1.1**
	1.0nm,0.4s						
DGS				Lg	Lg	15 43 39.1	
	3.2nm,0.3s						
KST	**Kastek**	**3.07**	**68**	*e*P	**Pg**	**15 43 00.9**	**-1.3**
	1.8nm,0.4s						
KST				*e*S	**Sg**	**15 43 40.9**	**-1.0**
	3.0nm,0.4s						
KST	**Kastek**	**3.07**	**68**	Pg	**Pg**	**15 43 00.9**	**-1.3**
	1.8nm,0.4s						
KST				Lg	Lg	15 43 40.9	
	3.0nm,0.4s						

JMA ***03*** *15:44:48.5±0.7,46°.25N×152°.52E,h30km,M4.4*
SKHL ***03*** *15:44:49.1±0.2,45°.94N×152°.71E,h57km±4km,mb4.7/6*
MOS ***03*** *15:44:50.7±1.1,46°.29N×152°.26E,h49km,mb4.1/3,Error ellipse: s-maj=15.6km s-min=10.7km az=139.5*
IDC ***03*** *15:44:55.5±2.9,46°.42N×152°.19E,h71km±26km,mb3.3/12, mb1 3.6/15,mb1mx3.4/41,mbtmp3.7/15,MS2.9/3, Ms1 3.0/3,ms1mx2.6/22,Error ellipse: s-maj=27.6km s-min=18.4km az=137.0*
ISC 03 15:44:47.3±1.1,45°.56N±0°.09×152°.87E±0°.09,h50km,n71, σ2s76/71,mb3.7/12,2C,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.54**	**266**	*i*P	**Pn**	**15 45 40.9**	**+1.2**
KUR				AMB	AMB	15 45 44.1	
	60nm,0.5s						
KUR				AMB	AMB	15 45 44.1	
	130nm,0.5s						
KUR				*i*S	**Sn**	**15 46 19.7**	**-0.6**
KUR				A	A	15 46 30.8	
	380nm,0.4s						
KUR				A	A	15 46 30.8	
	290nm,0.4s						
KUR	**Kuril'sk**	**3.54**	**266**	*c i*PN	**Pn**	**15 45 40.9**	**+1.2**
KUR				*i*S	**Sn**	**15 46 21.2**	**+0.9**
KUR				pmax	pmax		
	comp=Z,138nm,0.5s						
KUR				pmax	pmax		
	comp=E,61nm,0.3s						
KUR				smax	smax		
	comp=N,379nm,0.4s						
KUR				smax	smax		
	comp=E,286nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.22**	**255**	*e*P	**Pn**	**15 46 05.6**	**+2.9**
YUK				AMB	AMB	15 46 10.5	
	comp=E,40nm,0.4s						
YUK				AMB	AMB	15 46 10.5	
	comp=E,50nm,0.4s						
YUK				AMB	AMB	15 46 10.5	
	comp=E,60nm,0.4s						
YUK				*e*S	**Sn**	**15 47 03.1**	**+1.6**
YUK				A	A	15 47 22.8	
	comp=E,160nm,0.5s						
YUK				A	A	15 47 22.8	
	comp=E,320nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.22**	**255**	*e*PN	**Pn**	**15 46 05.6**	**+2.9**
YUK				*e*S	**Sn**	**15 47 03.1**	**+1.6**
YUK				pmax	pmax		
	comp=N,41nm,0.4s						
YUK				pmax	pmax		
	comp=E,49nm,0.4s						
YUK				pmax	pmax		
	comp=Z,115nm,0.4s						
YUK				smax	smax		
	comp=N,162nm,0.5s						
YUK				smax	smax		
	comp=E,320nm,0.4s						
GRPR	**Tuman**	**5.29**	**255**	*i*P	**Pn**	**15 46 07.4**	**+3.6**
GRPR				AMB	AMB	15 46 12.0	
	comp=E,90nm,0.6s						
GRPR				AMB	AMB	15 46 12.0	
	comp=E,80nm,0.6s						
GRPR				AMB	AMB	15 46 12.0	
	comp=E,100nm,0.6s						
GRPR				*e*S	**Sn**	**15 47 06.0**	**+2.6**
GRPR				A	A	15 47 13.0	
	comp=E,180nm,0.5s						
GRPR				A	A	15 47 13.0	
	comp=E,120nm,0.5s						
GRPR	**Tuman**	**5.29**	**255**	⇑*i*PN	**Pn**	**15 46 07.4**	**+3.6**
GRPR				*e*S	**Sn**	**15 47 06.0**	**+2.6**
GRPR				pmax	pmax		
	comp=N,88nm,0.4s						
GRPR				pmax	pmax		
	comp=E,81nm,0.4s						
GRPR				pmax	pmax		
	comp=Z,100nm,0.4s						
GRPR				smax	smax		
	comp=N,180nm,0.5s						
GRPR				smax	smax		
	comp=E,118nm,0.5s						
GLVR	**Golovnino**	**5.55**	**253**	*e*P	**Pn**	**15 46 10.1**	**+2.8**
GLVR				AMB	AMB	15 46 14.0	
	comp=E,30nm,0.2s						
GLVR				AMB	AMB	15 46 14.0	
	comp=E,40nm,0.2s						
GLVR				AMB	AMB	15 46 14.0	
	comp=E,50nm,0.4s						
GLVR				*i*S	**Sn**	**15 47 11.0**	**+1.2**
GLVR				A	A	15 47 22.0	
	comp=E,190nm,0.5s						
GLVR				A	A	15 47 22.0	
	comp=E,90nm,0.5s						
GLVR	**Golovnino**	**5.55**	**253**	*e*PN	**Pn**	**15 46 10.1**	**+2.8**
GLVR				pmax	pmax		
	comp=Z,92nm,0.4s						
GLVR				pmax	pmax		
	comp=N,30nm,0.2s						
GLVR				pmax	pmax		
	comp=E,41nm,0.2s						
NEM2	**Nemuro 2**	**5.55**	**249**	P	**Pn**	**15 46 09.2**	**+1.8**
NEM2				*e*S	**Sn**	**15 47 08.6**	**-1.2**
NMR	**Nemuro--Hokkai**	**5.56**	**249**	*e*P	**Pn**	**15 46 09.4**	**+1.9**
NMR				*e*S	**Sn**	**15 47 11.1**	**+1.1**
NMR	**Nemuro--Hokkai**	**5.56**	**249**	*e*PN	**Pn**	**15 46 09.4**	**+1.9**
JRA	**Rausu**	**5.75**	**256**	P	**Pn**	**15 46 13.6**	**+3.5**
JNK	**Nakash**	**6.15**	**254**	P	**Pn**	**15 46 18.2**	**+2.7**
JNK				*e*S	**Sn**	**15 47 24.5**	**0.0**
JAK	**Akkeshi**	**6.40**	**249**	P	**Pn**	**15 46 20.8**	**+1.8**
JAK				*e*S	**Sn**	**15 47 29.4**	**-1.3**
JTKR	**Abashiri--Toko**	**6.58**	**259**	P	**Pn**	**15 46 24.2**	**+2.8**
JAR	**Ashorobuto**	**6.90**	**254**	P	**Pn**	**15 46 28.9**	**+3.1**
JAR				*e*S	**Sn**	**15 47 42.6**	**-0.3**
JMP	**Maruseppu**	**6.95**	**260**	P	**Pn**	**15 46 29.6**	**+3.1**
JOB	**Onbets**	**7.01**	**251**	P	**Pn**	**15 46 29.7**	**+2.3**
JOB				*e*S	**Sn**	**15 47 45.1**	**-0.6**
YSS	**Yuzh-Sakhalins**	**7.15**	**285**	*e*P	**Pn**	**15 46 29.5**	**+0.3**
YSS				AMB	AMB	15 46 29.7	
	comp=E,20nm,0.3s						
YSS				*e*S	**Sn**	**15 47 44.7**	**-4.3**
YSS				A	A	15 47 48.0	
	comp=E,30nm,0.4s						
YSS				A	A	15 47 48.0	
	comp=E,30nm,0.4s						
JKK2	**Kamakawa 2**	**7.41**	**260**	P	**Pn**	**15 46 36.0**	**+3.2**
JKA	**Kamikawa-asahi**	**7.44**	**262**	*e*P	**Pn**	**15 46 37.0**	**+3.7**
ASAJ	**Asahikawa**	**7.45**	**262**	P	**Pn**	**15 46 37.0**	**+3.7**
	comp=E,1.8nm,0.3s,baz=69,slow=19,SNR=25						
ASAJ				S	Sn	15 48 10.7	+14
	comp=E,0.4nm,0.3s,baz=90,slow=20,SNR=1.5						
ASAJ				LR	LR	15 49 17.4	
	comp=E,78nm,19.1s,baz=327,slow=37						
ASAJ	**Asahikawa**	**7.45**	**262**	P	**Pn**	**15 46 36.9**	**+3.7**
ASAJ	**Asahikawa**	**7.45**	**262**	PN	**Pn**	**15 46 37.0**	**+3.7**
JCH	**Churui**	**7.45**	**250**	P	**Pn**	**15 46 35.5**	**+2.1**
JCH				*e*S	**Sn**	**15 47 54.2**	**-2.3**
JFR	**Furan**	**7.75**	**256**	P	**Pn**	**15 46 40.4**	**+3.0**
ERM	**Erimo**	**7.87**	**247**	*i* PN	**Pn**	**15 46 38.1**	**-1.0**
JNBK	**Urakawa-nobuka**	**8.01**	**249**	P	**Pn**	**15 46 41.7**	**+0.7**
JBT2	**Biratori 2**	**8.05**	**254**	P	**Pn**	**15 46 43.5**	**+1.9**
PETK	**Petropavlovsk-**	**8.18**	**21**	P	**Pn**	**15 46 43.0**	**-0.4**
	comp=E,0.1nm,0.3s,baz=181,slow=11,SNR=6.3						
PETK	**Petropavlovsk-**	**8.18**	**21**	PN	**Pn**	**15 46 43.0**	**-0.4**
JNB	**Noboribetsu**	**9.07**	**254**	P	**Pn**	**15 46 57.7**	**+2.2**
JNB				*e*S	**Sn**	**15 48 34.0**	**-2.1**
JKB	**Kayabe**	**9.32**	**251**	P	**Pn**	**15 47 00.4**	**+1.4**
JKB				*e*S	**Sn**	**15 48 37.6**	**-4.8**
JANG	**Nango**	**9.80**	**242**	P	**Pn**	**15 47 05.7**	**+0.1**
JTH	**Tanohata**	**9.85**	**239**	*e*S	**Sn**	**15 48 49.6**	**-5.7**
JTM	**Tenmabayashi**	**9.85**	**245**	*e*S	**Sn**	**15 48 49.8**	**-5.5**
JRG	**Rokugo**	**10.93**	**240**	*e*S	**Sn**	**15 49 16.4**	**-5.4**
JIO	**Ouri**	**11.12**	**234**	*e*S	**Sn**	**15 49 21.6**	**-4.9**
MA2	**Magadan**	**14.10**	**356**	LR	LR	15 52 24.3	
	comp=E,53nm,19.9s,baz=135,slow=34						
MA2	**Magadan**	**14.10**	**356**	*i* PN	P	15 48 17.3	+6.9
MJAR	**Matsushiro Arr**	**14.25**	**236**	P	**P**	**15 48 16.5**	**+4.2**
	comp=E,0.1nm,0.3s,baz=33,slow=8.8,SNR=9.0						
KLR	**Kul'dur**	**14.76**	**292**	*i* P	**Pn**	**15 48 10.5**	**-2.3**
KLR	**Kul'dur**	**14.76**	**292**	*i* P	**Pn**	**15 48 10.5**	**-2.3**
EKMR	**Ekimchan**	**14.97**	**307**	*e*P	**Pn**	**15 48 11.3**	**-4.4**
EKMR				AMB	AMB	15 48 22.0	
	comp=E,10.0nm,0.8s						
BMKR	**Bomnak**	**17.84**	**310**	*e*P	**Pn**	**15 48 47.0**	**-4.7**
BMKR				AMB	AMB	15 48 54.5	
	comp=E,2.0nm,0.6s						
KROS	**Kirovskiy**	**18.78**	**308**	*e*P	**Pn**	**15 49 02.6**	**-0.5**
KSRS	**Korea Array**	**20.30**	**255**	P	Pn	15 49 24.4	+3.1
	comp=E,1.1nm,0.7s,baz=56,slow=11,SNR=2.8						
YAK	**Yakutsk**	**21.24**	**329**	P	**P**	**15 49 24.4**	**-4.4**
	comp=E,2.3nm,0.6s,baz=322,slow=1.6,SNR=1.9						
BILL	**Bilibino**	**23.59**	**13**	*e*P	P	15 50 02.7	+10
BILL				*e**PP	pwP	15 50 34.0	+22
H11N2	**WAKE ISLAND Hy**	**28.25**	**151**	T	T	16 21 04.5	
	baz=338,slow=76,SNR=127						
H11N1	**WAKE ISLAND Hy**	**28.26**	**151**	T	T	16 21 24.6	
	baz=338,slow=76,SNR=83						
H11N3	**WAKE ISLAND Hy**	**28.27**	**151**	T	T	16 21 25.1	
	baz=338,slow=76,SNR=85						
TIXI	**Tiksi**	**28.56**	**344**	*i* P	**P**	**15 50 41.3**	**+3.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
H11S1	**WAKE ISLAND Hy**	**29.32**	**152**	T	T	16 22 35.0	
	baz=336,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.33**	**152**	T	T	16 22 35.4	
	baz=336,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.34**	**152**	T	T	16 22 36.4	
	baz=336						
MKAR	**Makanchi Array**	**47.35**	**298**	P	**P**	**15 53 15.8**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=78,slow=6.3,SNR=4.7						
CMAR	**Chiang Mai Arr**	**51.93**	**257**	P	P	15 53 56.0	+4.8
	comp=Z,0.8nm,0.7s,baz=32,slow=7.7,SNR=4.2						
FINES	**FINESS Array B**	**65.04**	**335**	P	**P**	**15 55 20.5**	**-1.4**
	comp=Z,1.1nm,0.9s,baz=35,slow=7.7,SNR=6.1						
FINES	**FINESS Array B**	**65.04**	**335**	*i* P	**P**	**15 55 22.2**	**+0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**65.59**	**53**	P	P	15 55 31.7	+5.7
	comp=Z,0.1nm,0.3s,baz=338,slow=7.0,SNR=1.5						
NB2	**NORSAR Subarra**	**69.30**	**341**	P	**P**	**15 55 49.1**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**69.30**	**341**	P	**P**	**15 55 49.5**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=31,slow=6.7,SNR=5.9						
NOA				LR	LR	16 29 48.1	
	comp=Z,12nm,19.1s,baz=100,slow=39						
ASAR	**Alice Springs**	**71.03**	**198**	P	P	15 56 08.2	+8.4
	comp=Z,0.3nm,0.8s,baz=16,slow=6.2,SNR=2.4						
KBZ	**Khabaz**	**71.57**	**314**	P	**P**	**15 56 03.3**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=46,slow=3.0,SNR=2.9						
AKASG	**Malin Array Be**	**72.44**	**326**	P	**P**	**15 56 06.6**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=34,slow=6.3,SNR=2.7						
TXAR	**Lajitas Array**	**78.23**	**60**	P	P	15 56 47.8	+6.0
	comp=Z,0.1nm,0.4s,baz=299,slow=4.2,SNR=3.8						
GERES	**GERESS Array B**	**79.45**	**334**	P	**P**	**15 56 49.4**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=26,slow=5.4,SNR=2.6						
H03N2	**Juan Fernandez**	**138.90**	**92**	T	T	18 39 47.2	
	baz=308,slow=77,SNR=5.6						
H03N3	**Juan Fernandez**	**138.91**	**92**	T	T	18 39 55.4	
	baz=308,slow=77,SNR=7.9						
H03N1	**Juan Fernandez**	**138.92**	**92**	T	T	18 39 47.8	
	baz=308,slow=77,SNR=5.7						

WEL 03 15:47:55.8,43°.6S±0°.8×17°.3E±°,h8km,M2.7/6,ML2.9/6, MLv2.7/6,Error ellipse: s-maj=0.0km s-min=0.0km az=77.1,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.12**	**172**	P	Pg	15 48 00.1	+1.6
MQZ				S	Sg	15 48 02.0	+1.7
OKCZ	**Okains Bay**	**0.34**	**114**	P	Pb	15 48 04.0	-0.1
OKCZ				S	Sb	15 48 08.8	-1.0
AKCZ	**Akaroa Harbour**	**0.35**	**145**	P	Pb	15 48 04.2	-0.2
AKCZ				S	Sb	15 48 08.9	-1.3
AMCZ	**Amberley**	**0.41**	**2**	P	Pb	15 48 06.2	+1.0
OXZ	**Oxford**	**0.50**	**301**	P	Pb	15 48 07.6	+0.7
WACZ	**Wakanui South**	**0.68**	**238**	P	Pn	15 48 11.3	-0.3
WACZ				S	Sn	15 48 21.2	-1.3
GVZ	**Greta Valley S**	**0.68**	**26**	P	Pn	15 48 11.0	-0.8
GVZ				S	Sb	15 48 20.9	+1.4
LTZ	**Lake Taylor**	**0.84**	**342**	P	Pn	15 48 13.8	-0.2
RPZ	**Rata Peaks**	**1.15**	**263**	P	Pn	15 48 18.6	+0.3
INZ	**Inchbonnie**	**1.22**	**314**	P	Pn	15 48 20.6	+1.5
KHZ	**Kahutara**	**1.34**	**30**	P	Pn	15 48 20.5	-0.3
WVZ	**Waitaha Valley**	**1.47**	**290**	P	Pg	15 48 24.2	+0.3
THZ	**Tophouse**	**1.83**	**6**	P	Pn	15 48 27.6	0.0
DSZ	**Denniston Nort**	**1.94**	**341**	P	Pb	15 48 30.4	-0.9
LBZ	**Lake Benmore**	**1.94**	**245**	P	Pg	15 48 34.1	+1.2
ODZ	**Otahua Downs**	**2.04**	**224**	P	Pn	15 48 30.6	+0.2
BSWZ	**Blackbirch Sta**	**2.08**	**27**	P	Pn	15 48 31.6	+0.6

DDA ***03*** *15:51:59.5,40°.18N×42°.04E,h7km±2km,ML2.4*
ISK ***03*** *15:51:59.8,40°.11N×42°.04E,h16km,ML2.7/7*
ISC 03 15:52:00.0±1.0,40°.14N±0°.03×42°.05E±0°.03,h14km±8km, n17,σ0s50/27,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPR	**Koprukoy-ERZUR**	**0.21**	**226**	PG	**Pg**	**15 52 04.6**	**-0.2**
KOPR				SG	**Sg**	**15 52 08.1**	**+0.1**
EATA	**Eleskirt**	**0.44**	**128**	*i* P	**Pg**	**15 52 08.8**	**-0.1**
EATA				*i* S	**Sb**	**15 52 16.1**	**-0.1**
EATA				IAML		15 52 18.0	
	comp=E,194nm,0.3s						
SENK	**Senkaya-Erzuru**	**0.48**	**29**	PG	**Pb**	**15 52 09.8**	**-0.6**
SENK				SG	**Sb**	**15 52 18.3**	**+0.8**
AKDA	**Akdag**	**0.52**	**267**	*i* P	**Pg**	**15 52 09.8**	**-0.6**
EJDE	**Erzurum, Palan**	**0.65**	**242**	*i* P	**Pg**	**15 52 12.4**	**-0.4**
EJDE				*i* S	**Sb**	**15 52 22.6**	**+0.4**
EJDE				IAML		15 52 24.0	
	comp=Z,215nm,0.4s						
EJDE				IAML		15 52 25.0	
	comp=E,700nm,0.4s						
ATA5	**Erzurum, Merke**	**0.66**	**250**	*i* P	**Pb**	**15 52 13.0**	**-0.3**
ATA5				*i* S	**Sb**	**15 52 22.6**	**+0.2**
ATA5				IAML		15 52 26.0	
	comp=E,122nm,0.3s						
EKAR	**Karacoban**	**0.88**	**179**	*i* P	**Pn**	**15 52 18.4**	**+0.2**
KRIK	**Erzurum-spir**	**0.88**	**284**	*i* P	**Pb**	**15 52 17.0**	**-0.2**
KRIK				*i* S	**Sn**	**15 52 30.3**	**-0.5**
AGRB	**Hanur-Agry**	**0.92**	**127**	PG	**Pb**	**15 52 17.7**	**-0.1**
VRTB	**Varto-Mus**	**1.07**	**205**	PG	**Pb**	**15 52 20.4**	**-0.1**
VRTB				SG	**Sn**	**15 52 35.3**	**-0.2**
BCA	**Borcka**	**1.35**	**346**	PN	**Pb**	**15 52 24.9**	**-0.1**
YEDI	**Yedisu-Bingol**	**1.35**	**239**	PN	**Pn**	**15 52 24.4**	**-0.1**
CHOM	**Cayeli-Rize**	**1.37**	**315**	PN	**Pb**	**15 52 25.2**	**-0.2**
BAYB	**BAYBURT**	**1.38**	**276**	*i* P	**Pb**	**15 52 25.3**	**-0.3**
BAYB				*i* S	**Sg**	**15 52 46.0**	**+1.7**
BAYB				IAML		15 52 47.0	
	comp=E,67nm,0.4s						
BAYB				IAML		15 52 48.0	
	comp=N,74nm,0.5s						
MUSM	**Mu-Merkez**	**1.47**	**196**	*i* P	**Pn**	**15 52 26.4**	**+0.3**
MUSM				*i* S	**Sg**	**15 52 47.5**	**+0.2**
BATM	**Batumi**	**1.49**	**350**	PN	**Pb**	**15 52 26.9**	**-0.6**
BATM	**Batumi**	**1.49**	**350**	*i* P	**Pb**	**15 52 27.4**	**-0.1**
BATM				*i* S	**Sb**	**15 52 46.6**	**+0.4**

ROM 03 16:06:10.6±0.2,42°.856N±0°.006×13°.39E±0°.01,h24km±1km, ML1.9/2,1C-2D,Error ellipse: s-maj=1.2km s-min=0.5km az=82.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.23**	**189**	⇑P	Pb	16 06 16.6	-0.1
SMA1				S	Sb	16 06 20.9	+0.1
FEMA	**Monte Fema**	**0.27**	**293**	P	Pb	16 06 17.6	+0.4
FEMA				S	Sb	16 06 22.3	+0.5
CSP1	**Cessapalombo**	**0.27**	**331**	⇓P	Pb	16 06 17.1	-0.1
CSP1				S	Sb	16 06 22.1	+0.3
TERO	**Teramo**	**0.28**	**145**	P	Pb	16 06 17.2	-0.1
TERO				S	Sb	16 06 22.7	+0.7
FDMO	**Fiordimonte**	**0.28**	**309**	P	Pb	16 06 17.3	-0.1
FDMO				S	Sb	16 06 22.1	+0.1
CAMP	**Campotosto**	**0.32**	**177**	P	Pb	16 06 17.9	-0.1
CAMP				S	Sb	16 06 23.3	+0.3
RM33	**Pellescritta (**	**0.37**	**200**	P	Pb	16 06 18.7	0.0
RM33				S	Sb	16 06 25.1	+0.9
GUMA	**Gualdo di Mace**	**0.45**	**63**	⇓P	Pb	16 06 16.5	-3.5
GUMA				S	Sb	16 06 21.1	-5.3
ARRO	**Arrone**	**0.54**	**239**	AML	AML		
	comp=N,32μm,0.8s						
ARRO				AML	AML		
	comp=E,49μm,1.3s						
ASSB	**Assisi San Ben**	**0.57**	**289**	AML	AML		
	comp=E,77μm,0.1s						
ASSB				AML	AML		
	comp=N,35μm,0.5s						
FAGN	**Fagnano**	**0.61**	**166**	P	Pb	16 06 22.7	+0.1
FAGN				S	Sn	16 06 32.3	-0.5
SSFR	**Montelago di S**	**0.73**	**323**	AML	AML		
	comp=E,376μm,0.2s						
SSFR				AML	AML		
	comp=N,156μm,0.5s						
SSFR				AML	AML		
	comp=N,245μm,0.1s						

UPA ***03*** *16:29:40.7±1.8,8°.37N×82°.91W,h4km±5km,MW4.3*
UCR ***03*** *16:29:40.5±1.7,8°.24N×82°.90W,h13km±5km,MD3.7*
ISC 03 16:29:39.4±1.2,8°.28N±0°.04×82°.90W±0°.03,h14km±9km, n26,σ1s11/46,1C-7D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAGA3	**Bagala, Chiriq**	**0.41**	**63**	⇓*i*P	**Pn**	**16 29 50.0**	**-1.0**
PIRO	**Carate, Puerto**	**0.45**	**286**	*e*P	**Pg**	**16 29 48.0**	**-0.4**
PIRO				*e*S	**Sb**	**16 29 56.2**	**+0.5**
DVD	**David**	**0.47**	**71**	⇑*i*P	**Pb**	**16 29 50.6**	**+1.2**
DVD				*e*S	**Sn**	**16 29 58.6**	**-1.2**
PTJ1	**Puerto Jimnez**	**0.47**	**302**	*e*P	**Pg**	**16 29 49.5**	**+0.7**
PTJ1				*e*S	**Sn**	**16 29 58.3**	**-1.6**
PTJ1	**Puerto Jimnez**	**0.47**	**302**	*e*P	**Pg**	**16 29 49.2**	**+0.4**
PTJ1				*e*S	**Sn**	**16 29 58.4**	**-1.6**
LOCO3	**Loma Colorada,**	**0.49**	**75**	*e*P	**Pn**	**16 29 51.1**	**-0.9**
LOCO3				*e*S	**Sn**	**16 29 58.4**	**-2.0**
EDSV	**San Vito**	**0.54**	**352**	*e*P	**Pb**	**16 29 50.

$M_{\theta\theta}$0.33±.06; $M_{\phi\phi}$0.85±.04; $M_{r\theta}$-0.12±.28; $M_{\theta\phi}$-0.30±.04; M_{rr}0.69±.24; Best double couple: $M_0$1.29400×10^{16} NP1:ϕ_s331.00000°,δ29.00000°,λ-100.00000°. NP2: ϕ_s163.00000°,δ61.00000°,λ-84.00000°. Principal axes: T 1.1880, Plg16.0000°, Azm248.0000°; N 0.2100, Plg5.0000°, Azm340.0000°; P -1.4000, Plg73.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*NEIC **03** 17:00:33.1±1.7,50.1N±0.1×28.85W±0.03,h10km±1km, mb4.7/24 Error ellipse: s-maj=17.9km s-min=3.1km az=173.0*

*BGR **03** 17:00:38.4±0.0,49.18N×28.36W,h10km,mb4.7,Ms3.8*

ISC 03 17:00:33.1±0.4,**50.03N**±0.08×**28.87W**±0.06,**h10km**,**n128,s0998**/106,**mb4.3**/52,**MS3.8**/46,**1C-2D,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DSB	**Dublin**	**14.32**	**68**	Pn		**Pn**		**17 03 55.0**	**-0.6**
NRS	**Narsarsuaq**	**14.50**	**327**	Pn		**Pn**		**17 03 55.4**	**-2.8**
BORG	**Borgarnes**	**15.29**	**12**	LR		LR		17 08 24.1	
	comp=Z,246nm,19.0s,baz=197,slow=31								
BORG	**Borgarnes**	**15.29**	**12**	Pn		**Pn**		**17 04 07.4**	**-1.2**
ESK	**Eskdalemuir**	**16.39**	**61**	Pn		**Pn**		**17 04 22.3**	**-0.7**
PGAV	**Gavieira, Arco** 33nm,1.6s	**16.39**	**112**	*e*P		**Pn**		**17 04 21.7**	**-1.5**
EKA	**Eskdalemuir Ar** baz=260,slow=12,SNR=13	**16.42**	**61**	Pn		**Pn**		**17 04 21.9**	**-1.5**
PVIS	**Viseu**	**17.38**	**114**	*e*P		**P**		**17 04 37.3**	**+0.3**
PBRG	**Braganca** 16nm,1.9s	**17.41**	**110**	*e*P		**Pn**		**17 04 36.3**	**+0.3**
PCAS	**Casmilo, Conde** 24nm,0.8s	**17.46**	**117**	*e*P		**P**		**17 04 39.4**	**+1.6**
MVO	**Moncorvo** 20nm,1.5s	**17.62**	**112**	*e*P		**P**		**17 04 41.0**	**+1.4**
MTE	**Manteigas** 26nm,1.4s	**17.79**	**115**	*e*P		**P**		**17 04 42.0**	**+0.5**
PMTG	**Montargil** 30nm,1.3s	**18.28**	**119**	*e*P		**P**		**17 04 47.5**	**+0.7**
PMRV	**Marv??o** 19nm,1.5s	**18.51**	**117**	*e*P		**Pn**		**17 04 50.6**	**+1.1**
EVO	**Evora** 23nm,1.4s	**18.77**	**120**	*e*P		**Pn**		**17 04 53.5**	**+0.8**
PNCL	**Nicolau / Gran**	**18.78**	**122**	*e*P		**Pn**		**17 04 53.1**	**+0.3**
PCVE	**Castro Verde** 34nm,1.3s	**19.40**	**122**	*e*P		**P**		**17 04 59.7**	**+0.6**
PBDV	**Barranco-do-Ve**	**19.74**	**122**	*e*P		**Pn**		**17 05 05.7**	**+1.4**
PVAQ	**Vaqueiros** 28nm,1.5s	**19.74**	**122**	*e*P		**P**		**17 05 03.3**	**+0.5**
ICESG	**Greenland Ices**	**19.82**	**349**	*i* P		**Pn**		**17 05 06.7**	**+1.2**
SFJD	**Kangerlussuaq** comp=Z,139nm,21.0s,baz=134,slow=32	**20.25**	**335**	LR		LR		17 11 22.6	
ESDC	**Sonseca Array** 7.3nm,1.0s,baz=307,slow=9.1,SNR=34	**20.38**	**111**	P		**P**		**17 05 09.1**	**-0.7**
ESDC	comp=Z,332nm,20.5s,baz=300,slow=32			LR		LR		17 11 17.3	
SCO	**Scoresbysund** 16nm,1.1s	**20.78**	**7**	*i* P		Pn		17 05 17.4	+1.1
SCO	**Scoresbysund**	**20.78**	**7**	*i* P		Pn		17 05 17.4	+1.2
SCO	comp=Z,16nm,1.1s			IAmb		IAmb		17 05 18.7	
SNF	**Seneffe**	**21.10**	**76**	P		**P**		**17 05 18.1**	**+0.6**
DOU	**Dourbes**	**21.39**	**77**	⇓P		**P**		**17 05 20.9**	**+0.4**
BMRD	**Maredsous**	**21.45**	**76**	⇑P		**P**		**17 05 21.9**	**+0.6**
BGES	**Gesves**	**21.63**	**76**	P		**P**		**17 05 22.8**	**-0.4**
BCLA	**Clavier**	**21.76**	**76**	⇓P		**P**		**17 05 24.3**	**-0.2**
BSTI	**Sart Tilman**	**21.89**	**75**	P		**P**		**17 05 26.9**	**+0.9**
BEBN	**Eben Emael**	**21.91**	**75**	P		**P**		**17 05 26.2**	**0.0**
MEM	**Membach**	**22.16**	**75**	P		**P**		**17 05 29.6**	**+0.8**
GBN	**Guysborough**	**22.34**	**271**	P		**P**		**17 05 29.2**	**-1.6**
GBN	comp=Z,33nm,0.9s			IAmb		IAmb		17 05 37.0	
SUMG	**Summit** comp=Z,36nm,1.1s	**23.03**	**353**	*i* P		**P**		**17 05 40.2**	**+1.9**
SUMG	**Summit**	**23.03**	**353**	*i* P		**P**		**17 05 40.2**	**+1.9**
SUMG	comp=Z,36nm,1.1s			IAmb		IAmb		17 05 44.8	
JMIC	**Jan Mayen** comp=Z,178nm,18.9s,baz=213,slow=31	**23.05**	**17**	LR		LR		17 12 19.9	
SCHQ	**Schefferville** comp=Z,1.9nm,0.5s,baz=278,slow=3.2,SNR=3.6	**23.43**	**296**	P		**P**		**17 05 40.7**	**-1.5**
SCHQ	comp=Z,151nm,21.9s,baz=102,slow=32			LR		LR		17 13 02.0	
BATG	**Bathurst New B**	**24.56**	**278**	P		**P**		**17 05 52.1**	**-0.8**
NBO00	**NORSAR Array S**	**24.59**	**48**	P		**P**		**17 05 51.6**	**-1.4**
NC204	**NORSAR Array S**	**24.62**	**48**	P		**P**		**17 05 52.5**	**-0.9**
NB2	**NORSAR Subarra** comp=Z,2.8nm,0.8s,baz=262,slow=11	**24.80**	**48**	P		**P**		**17 05 55.9**	**+1.0**
NOA	**NORSAR Array B** comp=Z,6.6nm,1.0s,baz=262,slow=9.9,SNR=12	**24.80**	**48**	P		**P**		**17 05 54.1**	**-0.8**
NOA	comp=Z,262nm,18.7s,baz=260,slow=35			LR		LR		17 15 04.4	
MDT	**Midelt** comp=Z,2.6nm,0.8s,baz=322,slow=14,SNR=4.6	**24.86**	**125**	P		**P**		**17 05 55.5**	**-0.3**
FRB	**Frobisher Bay** comp=Z,125nm,21.2s,baz=146,slow=31	**25.14**	**318**	LR		LR		17 13 24.4	
MOX	**Moxa** comp=Z,265nm,20.8s	**25.62**	**73**	*e*L		L		17 14 59.6	
GRF	**Grafenberg Arr** comp=Z,19nm,1.0s,baz=284,slow=9.1	**25.63**	**75**	*e*P		**P**		**17 06 03.6**	**+1.1**
GRF	comp=Z,300nm,21.1s			*e*L		L		17 14 58.9	
GGN	**Saint George**	**25.89**	**274**	P		**P**		**17 06 04.9**	**0.0**
RETA	**Reutte** comp=Z,6.4nm,1.1s	**26.04**	**80**	*e*P		**P**		**17 06 07.3**	**+1.0**
FETA	**Feichten** comp=Z,4.4nm,1.3s	**26.18**	**81**	*e*P		**P**		**17 06 08.0**	**+0.2**
NKC	**Novy Kostel** comp=Z,400nm,15.5s	**26.25**	**73**	AMS		AMS		17 15 50.0	
MOTA	**Moosalm** comp=Z,7.9nm,1.0s	**26.31**	**80**	*e*pP		**P**		**17 06 10.0**	**+1.2**
CLL	**Collm** comp=Z,8.0nm,1.1s	**26.31**	**71**	*i* P		**P**		**17 06 09.1**	**+0.4**
CLL	comp=Z,200nm,18.3s			L		L		17 16 00.0	
G65A	**Princeton**	**26.32**	**274**	P		**P**		**17 06 09.0**	**+0.2**
G65A	comp=Z,26nm,1.0s			IAmb		IAmb		17 06 17.1	
E63A	**Oxbow**	**26.38**	**278**	P		**P**		**17 06 09.1**	**-0.3**
E63A	comp=Z,14nm,0.9s			IAmb		IAmb		17 06 18.9	
SQTA	**Sankt Quirin** comp=Z,7.0nm,1.2s	**26.42**	**81**	*e*pP		**P**		**17 06 10.4**	**+0.5**
WATA	**Walderalm** comp=Z,8.5nm,1.3s	**26.61**	**80**	*e*pP		**P**		**17 06 12.8**	**+1.2**
WTTA	**Wattenberg** comp=Z,8.5nm,1.1s	**26.67**	**80**	*e*pP		**P**		**17 06 13.0**	**+0.8**
KHC	**Kasperske Hory**	**27.27**	**75**	*e*P		**P**		**17 06 17.7**	**+0.3**
KHC	comp=Z,300nm,18.0s			AMS		AMS		17 16 30.0	
GERES	**GERESS Array B** comp=Z,2.8nm,1.0s,baz=288,slow=9.1,SNR=14	**27.44**	**76**	P		**P**		**17 06 18.9**	**-0.1**
GERES	comp=Z,242nm,18.8s,baz=284,slow=36			LR		LR		17 16 54.8	
PVCC	**Panska Ves** comp=Z,300nm,24.4s	**27.47**	**72**	AMS		AMS		17 15 40.0	
PRA	**Prague** comp=Z,200nm,18.6s	**27.52**	**73**	AMS		AMS		17 16 20.0	
PRU	**Pruhonice**	**27.61**	**73**	*e*P		**P**		**17 06 23.2**	**+2.9**
PRU	comp=Z,300nm,19.0s			AMS		AMS		17 16 30.0	
GOPC	**GO Pecny, Ondr** comp=Z,300nm,14.4s	**27.78**	**73**	AMS		AMS		17 16 40.0	
MOA	**Molln** comp=Z,5.6nm,1.6s	**28.13**	**78**	*e*P		**P**		**17 06 25.0**	**0.0**
MYKA	**Terra Mystica** comp=Z,3.6nm,0.6s	**28.18**	**80**	*e*pP		**P**		**17 06 26.3**	**+0.6**
UPC	**Upice** comp=Z,200nm,19.4s	**28.36**	**72**	AMS		AMS		17 17 20.0	
CHVC	**Chvalec**	**28.36**	**71**	*e*P		**P**		**17 06 27.5**	**+0.4**
CHVC				*ex*		x		17 06 33.4	
CHVC	comp=Z,200nm,17.2s			AMS		AMS		17 17 20.0	
TREC	**Trest** comp=Z,300nm,19.9s	**28.41**	**74**	AMS		AMS		17 16 50.0	
OSTC	**Ostas**	**28.47**	**71**	*e*P		**P**		**17 06 27.9**	**-0.2**
OSTC				*ex*		x		17 06 35.1	
OSTC	comp=Z,200nm,16.7s			AMS		AMS		17 17 30.0	
DPC	**Dobruska-Polom**	**28.60**	**72**	*e*P		**P**		**17 06 30.8**	**+1.6**
DPC	comp=Z,200nm,15.6s			AMS		AMS		17 17 20.0	
OBKA	**Obir** comp=Z,3.3nm,0.8s	**28.81**	**80**	*e*P		**P**		**17 06 30.3**	**-0.9**
KRLC	**Kraliky** comp=Z,300nm,18.5s	**28.96**	**72**	AMS		AMS		17 17 40.0	
SOKA	**Soboth** comp=Z,4.8nm,1.0s	**29.05**	**79**	*e*P		**P**		**17 06 33.4**	**0.0**
VRAC	**Vranov** comp=Z,1.1nm,0.5s,baz=321,slow=15,SNR=2.2	**29.09**	**74**	P		**P**		**17 06 33.1**	**-0.5**
VRAC	comp=Z,281nm,18.1s,baz=291,slow=36			LR		LR		17 17 55.6	
ARSA	**Arzberg** comp=Z,5.6nm,1.2s	**29.14**	**78**	*e*P		**P**		**17 06 34.0**	**-0.1**
KEST	**Kesra** comp=Z,4.0nm,0.8s,baz=238,slow=4.4,SNR=4.6	**31.06**	**103**	P		**P**		**17 06 51.4**	**+0.1**
KEST	comp=Z,149nm,19.2s,baz=241,slow=35			LR		LR		17 18 32.1	
KEST	**Kesra** comp=Z,14nm,1.3s	**31.06**	**103**	IAmb		IAmb		17 07 07.5	
FINES	**FINESS Array B** comp=Z,3.8nm,0.8s,baz=256,slow=7.7,SNR=14	**31.98**	**48**	P		**P**		**17 06 59.0**	**+0.1**
FINES	comp=Z,346nm,20.2s,baz=274,slow=35			LR		LR		17 18 59.0	
ARCES	**ARCESS Array B** comp=Z,4.1nm,0.8s,baz=253,slow=8.5,SNR=20	**32.05**	**33**	P		**P**		**17 06 59.9**	**+0.4**
ARCES	comp=Z,74nm,19.8s,baz=224,slow=34			LR		LR		17 18 31.9	
DELO	**Deloro Mine**	**33.05**	**280**	P		**P**		**17 07 08.6**	**+0.2**
DELO	comp=Z,7.8nm,0.9s			IAmb		IAmb		17 07 16.2	
LVZ	**Lovozero**	**35.29**	**36**	P		**P**		**17 07 25.0**	**-2.7**
LVZ	comp=Z,15nm,1.1s			IAmb		IAmb		17 07 30.6	
AKASG	**Malin Array Be** comp=Z,3.7nm,0.9s,baz=289,slow=8.4,SNR=7.4	**36.24**	**66**	P		**P**		**17 07 35.9**	**-0.1**
AKASG	comp=Z,224nm,19.6s,baz=290,slow=37			LR		LR		17 23 07.6	
KLMR	**Klimovskoe**	**38.49**	**47**	*e*P		**P**		**17 07 53.9**	**-1.0**
KLMR	comp=Z,14nm,0.9s			AMP				17 07 57.1	
EYMN	**Ely**	**40.08**	**292**	P		**P**		**17 08 08.7**	**+0.3**
ULM	**Lac du Bonnet** comp=Z,5.5nm,0.6s,baz=57,slow=7.8,SNR=4.9	**41.61**	**297**	P		**P**		**17 08 20.9**	**0.0**
ULM	comp=Z,56nm,18.8s,baz=358,slow=34			LR		LR		17 23 49.9	
H05N1	**Guadeloupe/Mar** SNR=8.2	**42.48**	**229**	T		T		17 53 12.9	
BRTR	**Keskin Array B** comp=Z,1.4nm,0.8s,baz=284,slow=5.0,SNR=5.0	**44.27**	**79**	P		**P**		**17 08 43.1**	**+0.4**
BRTR	comp=Z,76nm,18.7s,baz=300,slow=38			LR		LR		17 28 23.1	
TOA0	**Torodi Ar. Sit**	**44.46**	**135**	P		**P**		**17 08 43.3**	**-1.1**
TOA0	comp=Z,10nm,0.7s			IAmb		IAmb		17 08 44.2	
TORD	**Torodi Ar. Bea** comp=Z,9.4nm,0.6s,baz=336,slow=8.4,SNR=78	**44.46**	**135**	P		**P**		**17 08 43.4**	**-1.0**
TORD	comp=Z,90nm,18.1s,baz=85,slow=35			LR		LR		17 26 25.5	
ECSD	**EROS Data Cent**	**45.29**	**289**	P		**P**		**17 08 50.8**	**+0.1**
ECSD	comp=Z,10nm,1.1s			IAmb		IAmb		17 08 59.2	
YKA	**Yellowknife Ar** comp=Z,1.2nm,0.8s,baz=60,slow=8.0,SNR=11	**45.64**	**320**	P		**P**		**17 08 53.1**	**-0.1**
YKA	comp=Z,1.2nm,0.7s,baz=58,slow=4.1,SNR=12			PcP		**PcP**		**17 10 30.8**	**-0.4**
YKA	comp=Z,57nm,18.1s,baz=0.0,slow=34			LR		LR		17 26 28.8	
T42A	**Van Buren**	**45.67**	**278**	P		**P**		**17 08 54.5**	**+0.7**
T42A	comp=Z,7.4nm,0.9s			IAmb		IAmb		17 09 01.2	
DBIC	**Dimbokro** comp=Z,7.1nm,1.0s,baz=326,slow=7.4,SNR=3.9	**47.67**	**147**	P		**P**		**17 09 08.9**	**-0.7**
DBIC	comp=Z,64nm,21.8s,baz=322,slow=33			LR		LR		17 26 39.7	
DBIC	**Dimbokro** comp=Z,14nm,1.2s	**47.67**	**147**	IAmb		IAmb		17 09 10.4	
KBZ	**Khabaz** comp=Z,117nm,20.9s,baz=322,slow=37	**47.72**	**69**	LR		LR		17 29 38.3	
ARU	**Arti**	**49.34**	**47**	P		**P**		**17 09 22.6**	**+0.5**
AKTO	**Aktyubinsk** comp=Z,85nm,19.3s,baz=315,slow=36	**52.41**	**54**	LR		LR		17 32 06.0	
PDAR	**Pinedale Array** comp=Z,2.3nm,0.8s,baz=57,slow=5.5,SNR=20	**53.57**	**295**	P		**P**		**17 09 53.7**	**-0.5**
ILAR	**Eielson Array** comp=Z,1.3nm,0.9s,baz=38,slow=6.5,SNR=10	**55.90**	**333**	P		**P**		**17 10 10.5**	**0.0**
ILAR	comp=Z,1.4nm,1.0s,baz=11,slow=2.4,SNR=4.6			PcP		**PcP**		**17 11 09.2**	**+0.1**
ILAR	comp=Z,68nm,18.4s,baz=70,slow=35			LR		LR		17 32 50.4	
PV14	**Lion Creek, Pa**	**56.00**	**291**	P		**P**		**17 10 13.0**	**+1.0**
SRU	**San Rafael Swe**	**56.43**	**293**	P		**P**		**17 10 15.3**	**+0.4**
PTGA	**Pitinga**	**57.15**	**218**	P		**P**		**17 10 20.0**	**+0.1**
PTGA	comp=Z,8.6nm,0.8s			IAmb		IAmb		17 10 27.2	
TXAR	**Lajitas Array** comp=Z,0.7nm,0.7s,baz=57,slow=7.1,SNR=11	**58.66**	**279**	P		**P**		**17 10 30.9**	**+0.3**
TXAR	comp=Z,98nm,19.5s,baz=0.0,slow=36			LR		LR		17 35 28.9	
ROSC	**El Rosal** comp=Z,80nm,21.8s,baz=74,slow=33	**59.01**	**236**	LR		LR		17 32 37.6	
GEYT	**Alibeck** comp=Z,3.2nm,1.0s,baz=297,slow=12,SNR=6.9	**60.35**	**65**	P		**P**		**17 10 41.9**	**-0.2**
GEYT	comp=Z,50nm,21.5s,baz=30,slow=36			LR		LR		17 37 12.9	
NVAR	**Mina Array Bea** comp=Z,0.6nm,0.7s,baz=44,slow=6.0,SNR=5.7	**61.44**	**297**	P		**P**		**17 10 49.8**	**0.0**
NVAR	comp=Z,72nm,18.1s,baz=76,slow=36			LR		LR		17 37 01.2	
KURK	**Kurchatov**	**62.18**	**43**	P		**P**		**17 10 54.9**	**+0.7**
KURK	comp=Z,6.3nm,0.9s			IAmb		IAmb		17 10 55.9	
ZALV	**Zalesovo Beam** comp=Z,74nm,18.3s,baz=291,slow=37	**62.40**	**38**	LR		LR		17 39 21.8	
GSC	**Goldstone, Bar**	**62.70**	**293**	P		**P**		**17 10 59.0**	**+0.9**
GSC	comp=Z,6.4nm,0.8s			IAmb		IAmb		17 11 01.7	
MK31	**Makanchi Array**	**66.71**	**44**	P		**P**		**17 11 25.1**	**+1.1**
MK31	comp=Z,3.4nm,0.7s			IAmb		IAmb		17 11 25.8	
MKAR	**Makanchi Array** comp=Z,4.4nm,0.7s,baz=331,slow=5.8,SNR=38	**66.71**	**44**	P		**P**		**17 11 24.9**	**+0.9**
MKAR	comp=Z,130nm,21.4s,baz=297,slow=35			LR		LR		17 39 52.1	
KSH	**Kashi**	**69.11**	**53**	*e*P		**P**		**17 11 41.7**	**+2.4**
WMQ	**Urumqi**	**71.42**	**43**	*e*P		**P**		**17 11 54.7**	**+1.3**
WMQ	comp=Z,12nm,0.7s			pmax		pmax			
WMQ	comp=Z,58nm,4.5s			pmax		pmax			
WMQ	comp=N,70nm,21.5s			LR		LR			
WMQ	comp=E,62nm,24.5s			LR		LR			
WMQ	comp=Z,170nm,26.9s			LR		LR			
LPAZ	**La Paz** comp=Z,68nm,20.9s,baz=34,slow=33	**74.54**	**219**	LR		LR		17 41 11.4	
SONM	**Songino Array** comp=Z,1.8nm,0.9s,baz=323,slow=5.2,SNR=12	**75.16**	**29**	P		**P**		**17 12 17.2**	**+1.7**
SONM	comp=Z,61nm,19.0s,baz=199,slow=38			LR		LR		17 47 50.1	
PETK	**Petropavlovsk-** comp=Z,30nm,18.2s,baz=246,slow=38	**77.09**	**356**	LR		LR		17 49 43.3	
CPUP	**Villa Florida** comp=Z,23nm,18.7s,baz=40,slow=33	**80.11**	**206**	LR		LR		17 44 48.6	
GTA	**Gaotai**	**80.16**	**38**	*e*P		**P**		**17 12 43.7**	**+0.3**
GTA				pP		pwP		17 12 49.0	-1.0
GTA				sP		PcP		17 12 52.0	+1.3
GTA	comp=Z,3.0nm,1.0s			pmax		pmax			
GTA	comp=Z,98nm,5.6s			pmax		pmax			
GTA	comp=N,100nm,17.5s			LR		LR			
GTA	comp=E,80nm,19.4s			LR		LR			
GTA	comp=Z,130nm,19.4s			LR		LR			
HHC	**Hu-ho-hao-te**	**83.06**	**29**	*e*P		**P**		**17 12 58.2**	**-0.6**
HHC	comp=Z,9.0nm,0.9s			pmax		pmax			
HHC	comp=Z,38nm,6.0s			pmax		pmax			
USRK	**Ussuriysk Ar.** comp=Z,1.8nm,0.8s,baz=316,slow=5.3,SNR=4.4	**84.68**	**14**	P		**P**		**17 13 05.2**	**-1.5**
BOSA	**Boshof** comp=Z,56nm,18.8s,baz=42,slow=35	**91.82**	**135**	LR		LR		17 54 24.0	
NJ2	**Nanjing**	**93.41**	**27**	*e*P		**P**		**17 13 47.1**	**-1.4**
NJ2	comp=Z,5.0nm,0.5s			pmax		pmax			
WRA	**Warramunga Arr** comp=Z,3.1nm,0.9s,baz=336,slow=3.3,SNR=11	**147.14**	**30**	PKPbc		**PKPbc**		**17 20 16.3**	**-0.1**
WB2	**Warramunga Ar**	**147.14**	**30**			**PKPbc**		**17 20 16.4**	**0.0**
AS31	**Alice Springs**	**150.44**	**33**			**PKiKP**		**17 20 25.4**	**-0.2**
ASAR	**Alice Springs** comp=Z,4.5nm,0.7s,baz=351,slow=2.0,SNR=50	**150.44**	**33**	PKPbc		**PKPbc**		**17 20 24.4**	**-0.4**
ASAR	comp=Z,2.7nm,0.8s,baz=348,slow=2.1,SNR=11			PKPab		**sPKPbc**		**17 20 28.9**	**+1.0**
VNDA	**Vanda** baz=253,slow=7.4,SNR=11	**152.10**	**185**	PKPbc		**PKiKP**		**17 20 27.4**	**+0.1**
VNDA	**Vanda** comp=Z,3.8nm,0.7s,baz=240,slow=1.9,SNR=28	**152.10**	**185**			**PKiKP**		**17 20 28.0**	**+0.7**

*IDC **03** 17:36:51.7±2.8,3.26N×128.39E,h43km±27km,mb3.9/16, mb1 4.1/17,mb1mx3.8/45,mbtmp4.1/17,ML4.4/1,MS3.3/4, Ms1 3.3/4,ms1mx2.9/34,Error ellipse: s-maj=26.6km s-min=11.7km az=80.0*

*DJA **03** 17:36:52.0±0.5,3.N±5.×12.8E±.,h10km,M4.3/8,mb4.3/6, MLv4.3/8*

*NEIC **03** 17:36:53.4±1.2,3.21N±0.06×128.32E±0.02,h61km±7km, mb4.4/27,Error ellipse: s-maj=8.8km s-min=1.6km az=165.0*

ISC 03 17:36:52.1±0.5,**3.23N**±0.05×**128.34E**±0.08,**h50km**,**n64,s1905/59,mb4.3/28,1C,North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.62**	**202**	P		**P**		**17 37 32.5**	**+0.5**
TNTI	**Ternate**	**2.62**	**202**	Pn		**Pn**		**17 37 32.6**	**+0.5**
DAV	**Davao City (W)** comp=Z,186nm,20.4s,baz=147,slow=42	**4.71**	**324**	LR		LR		17 40 07.3	
DAV	**Davao City (W)**	**4.71**	**324**	Pn		**Pn**		**17 38 02.2**	**+1.5**
KCP	**Kidapawan**	**4.96**	**319⇑**	*e*P		**Pn**		**17 38 06.2**	**+2.0**
SIJI	**Sorong** 14nm,0.3s,baz=268,slow=23,SNR=58	**5.01**	**144**	P		**Pn**		**17 38 06.2**	**+1.4**
SIJI	2.3nm,0.3s,baz=215,slow=23,SNR=6.7			S		**Sn**		**17 39 00.3**	**-1.1**
KMSI	**Cibinong**	**5.09**	**239**	P		**Pn**		**17 38 05.7**	**-0.2**
GTOI	**Gorontalo** 0.1nm19nm,0.6s	**5.91**	**244**	P		**Pn**		**17 38 17.8**	**+0.6**
LUWI	**Luwuk** 0.4nm22nm,0.5s	**7.00**	**233**	P		**Pn**		**17 38 32.3**	**+0.3**
LUWI	**Luwuk**	**7.00**	**233**	Pn		**Pn**		**17 38 33.2**	**+1.1**
FAKI	**Fak Fak**	**7.25**	**147**	Pn		**Pn**		**17 38 37.6**	**+2.1**
MPSI	**Mapaga** 24nm,0.9s	**8.91**	**251**	P		**Pn**		**17 39 00.1**	**+1.8**
MYLDM	**Lahad Datu**	**10.00**	**282**	Pn		**Pn**		**17 39 15.1**	**+1.8**
JAY	**Jayapura** comp=Z,68nm,19.8s,baz=219,slow=32	**13.61**	**115**	LR		LR		17 44 05.1	
SBUM	**Sibu**	**16.12**	**268**	P		**P**		**17 40 38.7**	**+0.7**
MTN	**Manton Dam**	**16.20**	**170**	P		**P**		**17 40 38.9**	**-0.1**
JAGI	**Jajag, Banyuwa**	**18.31**	**231**	P		**Pn**		**17 41 02.7**	**0.0**
KNRA	**Kununurra**	**18.79**	**179**	P		**Pn**		**17 41 08.3**	**0.0**
KNRA	comp=Z,14nm,0.9s			IAmb		IAmb		17 41 17.5	
UGM	**Wanagama**	**20.94**	**238**	P		**P**		**17 41 28.6**	**-2.4**
TPUB	**Ta-pu**	**21.31**	**340**	P		**P**		**17 41 32.7**	**-2.1**
TPUB	comp=Z,18nm,1.1s			IAmb		IAmb		17 41 48.7	
FITZ	**Fitzroy Crossi** comp=Z,1.7nm,0.7s,baz=91,slow=7.3,SNR=1.7	**21.36**	**187**	P		**P**		**17 41 35.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**21.36**	**187**	P		**P**		**17 41 32.8**	**-2.6**
FITZ	comp=Z,14nm,1.4s			IAmb		IAmb		17 41 35.6	
WB0	**Warramunga Arr** comp=Z,7.7nm,0.8s	**23.61**	**166**	P		**P**		**17 41 59.0**	**+0.2**
WB0				IAmb		IAmb		17 42 13.2	
WRA	**Warramunga Arr** comp=Z,3.9nm,0.5s,baz=344,slow=10.0,SNR=47	**23.77**	**166**	P		**P**		**17 42 00.2**	**0.0**
WB2	**Warramunga Arr**	**23.77**	**166**	P		**P**		**17 42 00.6**	**+0.4**
WB2	comp=Z,13nm,0.8s			IAmb		IAmb		17 42 14.8	
WR0	**Warramunga Arr** comp=Z,5.8nm,0.6s	**23.83**	**165**	P		**P**		**17 42 01.4**	**+0.6**
WR0				IAmb		IAmb		17 42 15.0	
KRVT	**Keravat (AS076** comp=Z,68nm,18.6s,baz=243,slow=32	**24.82**	**107**	LR		LR		17 50 08.9	
AS31	**Alice Springs**	**27.27**	**169**	P		**P**		**17 42 32.0**	**0.0**
ASAR	**Alice Springs** comp=Z,0.8nm,0.4s,baz=343,slow=6.8,SNR=51	**27.27**	**169**	P		**P**		**17 42 31.9**	**-0.1**
ASAR	comp=Z,0.7nm,0.4s,baz=351,slow=2.2,SNR=14			PcP		**PcP**		**17 45 51.2**	**+0.2**
PBKT	**Sadao Pong**	**29.99**	**298**	P		**P**		**17 42 55.8**	**-0.4**
CMAR	**Chiang Mai Arr** comp=Z,1.8nm,0.8s,baz=115,slow=7.7,SNR=11	**32.51**	**300**	P		**P**		**17 43 19.4**	**+1.0**
CHTO	**Chiang Mai**	**32.66**	**301**	P		**P**		**17 43 20.1**	**+0.3**
CHTO	comp=Z,3.3nm,0.8s			IAmb		IAmb		17 43 21.7	
INU	**Inuyama**	**32.96**	**13**	P		**P**		**17 43 22.1**	**0.0**
INU	comp=Z,13nm,1.1s			IAmb		IAmb		17 43 23.2	
KSRS	**Korea Array** comp=Z,1.3nm,0.6s,baz=176,slow=9.1,SNR=6.3	**34.07**	**359**	P		**P**		**17 43 32.1**	**+0.5**
MJAR	**Matsushiro Ar** comp=Z,2.9nm,0.7s,baz=187,slow=10.0,SNR=20	**34.38**	**14**	P		**P**		**17 43 33.5**	**-1.0**
MAJO	**Matsushiro** comp=Z,5.7nm,0.8s	**34.38**	**14**	P		**P**		**17 43 33.8**	**-0.7**
MAJO				IAmb		IAmb		17 43 35.8	
MJB9	**Matsu-Tunnel** comp=Z,5.7nm,0.8s	**34.38**	**14**	P		**P**		**17 43 33.7**	**-0.9**
MJB9				IAmb		IAmb		17 43 35.7	
BBOO	**Buckleboo**	**36.58**	**169**	P		**P**		**17 43 53.5**	**+0.1**
STKA	**Stephens Creek** comp=Z,1.8nm,0.3s,baz=333,slow=9.1,SNR=27	**37.11**	**161**	P		**P**		**17 43 58.6**	**+0.7**
STKA	**Stephens Creek**	**37.11**	**161**	P		**P**		**17 43 58.0**	**0.0**
H11S3	**WAKE ISLAND Hy** baz=253,slow=74,SNR=11	**40.47**	**65**	T		T		18 27 39.7	
H11S2	**WAKE ISLAND Hy** baz=253,slow=74,SNR=10	**40.49**	**65**	T		T		18 27 43.8	
H11S1	**WAKE ISLAND Hy** baz=253,slow=74,SNR=7.6	**40.49**	**65**	T		T		18 27 39.5	
ERM	**Erimo** comp=Z,12nm,1.1s

mb4.9/12, Error ellipse: s-maj=22.7km s-min=15.0km az=65.0

*GCMT **03** 17:39:07.9±0.4, 30°.27S±0°.04×176°.79W±0°.03, h20km±1km, MW4.9/87, Moment Tensor Solution. s22,c27; s87,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.89±.21; $M_{\theta\theta}$-0.34±.12; $M_{\phi\phi}$-2.55±.14; $M_{r\theta}$-0.11±.30; $M_{\theta\phi}$-0.37±.08; $M_{\phi r}$1.59±.24; Best double couple: M_o3.17700×10^{16} NP1:ϕs194.00000°, δ30.00000°, λ100.00000°. NP2: ϕs3.00000°, δ60.00000°, λ84.00000°. Principal axes: T 3.3320, Plg74.0000°, Azm258.0000°; N -0.3060, Plg5.0000°, Azm6.0000°; P -3.0220, Plg15.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 17:39:08.7±0.5, 30°.46S±0°.05×177°.13W±0°.08, h24km, n104, σ1s98/104, mb4.6/62, MS4.1/17, 3C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.37**	**330**	P	**Pn**	**17 39 31.1**	**-1.2**
GLKZ				S	**Sn**	**17 39 50.2**	**+0.4**
RAO	**Raoul Island**	**1.38**	**330**	Pn	**Pn**	**17 39 31.0**	**-1.4**
	293nm,0.3s,baz=288,slow=19,SNR=6.5						
RAO				Sn	**Sn**	**17 39 47.2**	**-2.8**
	798nm,0.3s,baz=91,slow=22,SNR=5.2						
RAO	**Raoul Island**	**1.38**	**330**	Pn	**Pn**	**17 39 31.4**	**-1.0**
RIZ	**Raoul Island**	**1.39**	**330**	P	**Pn**	**17 39 30.7**	**-1.9**
MXZ	**Matakaoa Point**	**8.04**	**207**	S	**Sn**	**17 42 34.9**	**+0.9**
WMGZ	**Waiomatatini S**	**8.22**	**205**	P	**Pn**	**17 41 05.6**	**-0.9**
WMGZ				S	**Sn**	**17 42 38.2**	**-0.3**
PKGZ	**Pakihiroa**	**8.41**	**207**	P	**Pn**	**17 41 05.3**	**-3.8**
PKGZ				S	**Sn**	**17 42 44.6**	**+1.3**
HAZ	**Te Kaha**	**8.41**	**209**	P	**Pn**	**17 41 06.3**	**-2.7**
HAZ				S	**Sn**	**17 42 45.2**	**+2.0**
PUZ	**Puketiti**	**8.50**	**205**	P	**Pn**	**17 41 05.7**	**-4.6**
PUZ				S	**Sn**	**17 42 45.0**	**-0.5**
RUGZ	**Raukumara Rang**	**8.63**	**208**	P	**Pn**	**17 41 10.1**	**-2.2**
RUGZ				S	**Sn**	**17 42 48.5**	**-0.4**
TWGZ	**Tauwhareparae**	**8.70**	**206**	P	**Pn**	**17 41 10.5**	**-2.5**
TWGZ				S	**Sn**	**17 42 49.0**	**-1.3**
CNGZ	**Carnagh Statio**	**8.88**	**204**	P	**Pn**	**17 41 12.1**	**-3.4**
TKGZ	**Te Karaka**	**8.98**	**206**	P	**Pn**	**17 41 12.9**	**-3.9**
TKGZ				S	**Sn**	**17 42 55.5**	**-1.6**
WCZ	**Waipu Caves**	**8.99**	**230**	P	Pn	17 41 24.3	+7.2
MWZ	**Matawai**	**9.01**	**208**	P	**Pn**	**17 41 15.3**	**-2.1**
MWZ				S	**Sn**	**17 42 57.9**	**-0.1**
URZ	**Urewera**	**9.12**	**210**	Pn	**Pn**	**17 41 15.8**	**-2.9**
	0.8nm,0.3s,baz=171,slow=22,SNR=2.4						
URZ				Sn	**Sn**	**17 42 57.0**	**-3.7**
	3.2nm,0.3s,baz=245,slow=20,SNR=8.9						
URZ	**Urewera**	**9.12**	**210**	P	**Pn**	**17 41 16.0**	**-2.8**
URZ				S	**Sn**	**17 42 57.8**	**-2.8**
OUZ	**Omahuta**	**9.13**	**236**	P	Pn	17 41 25.2	+6.3
RAGZ	**Rawiri**	**9.20**	**208**	P	**Pn**	**17 41 16.1**	**-3.7**
RAGZ				S	**Sn**	**17 43 02.4**	**-0.3**
RIGZ	**Rimuhau**	**9.24**	**206**	P	**Pn**	**17 41 17.0**	**-3.5**
RIGZ				S	**Sn**	**17 43 02.4**	**-1.4**
MUGZ	**Murupara**	**9.45**	**211**	P	**Pn**	**17 41 19.1**	**-4.2**
SNGZ	**Shannon Statio**	**9.47**	**207**	P	**Pn**	**17 41 22.6**	**-1.0**
SNGZ				S	**Sn**	**17 43 08.2**	**-1.1**
RTZ	**Ruatahuna**	**9.48**	**209**	P	**Pn**	**17 41 19.1**	**-4.6**
RTZ				S	**Sn**	**17 43 05.8**	**-3.8**
MTHZ	**Maungataniwha**	**9.73**	**209**	P	**Pn**	**17 41 26.7**	**-0.5**
TLZ	**Tolley Road**	**9.91**	**216**	P	**Pn**	**17 41 30.5**	**+0.8**
BKZ	**Black Stump Fm**	**10.14**	**209**	P	**Pn**	**17 41 29.7**	**-3.2**
RPZ	**Rata Peaks**	**16.23**	**212**	Pn	**Pn**	**17 42 51.3**	**-3.7**
	1.0nm,0.3s,baz=125,slow=22,SNR=1.8						
RPZ				Sn	Sn	17 45 41.2	-13
	0.3nm,0.3s,baz=73,slow=23,SNR=1.5						
RPZ				LR	LR	17 49 42.9	
	comp=Z,580nm,19.6s,baz=37,slow=39						
DZM	**Mont Dzumac**	**16.92**	**296**	*e*Pn	**P**	**17 43 06.7**	**+0.8**
	216nm,1.4s						
DZM				*e*LR	LR	17 46 56.3	
	comp=Z,1μm,25.5s						
DZM	**Mont Dzumac**	**16.92**	**296**	Pn	**P**	**17 43 06.9**	**+1.0**
	0.2nm,0.3s,baz=108,slow=12,SNR=9.7						
DZM				LR	LR	17 48 05.3	
	comp=Z,1μm,21.6s,baz=119,slow=32						
ODZ	**Otahua Downs**	**17.45**	**210**		**P**	**17 43 10.6**	**-0.8**
RAR	**Rarotonga**	**18.11**	**64**	LR	LR	17 48 06.9	
	comp=Z,518nm,21.9s,baz=263,slow=30						
TBI	**Tubuai**	**25.63**	**81**	*e*LR	LR	17 50 45.7	
	comp=Z,1μm,28.8s,baz=251						
PPT2	**Papeete2**	**28.15**	**69**	*e*LQ	LQ	17 50 26.3	
	539nm,24.5s						
PPT2				*e*LR	LR	17 51 51.6	
	comp=Z,920nm,27.2s,baz=236						
PPT	**Papeete**	**28.16**	**69**	LR	LR	17 54 08.5	
	comp=Z,159nm,19.0s,baz=232,slow=32						
RMQ	**Roma**	**30.18**	**269**	P	**P**	**17 45 19.7**	**+2.5**
	baz=29,SNR=10						
CMSA	**Cobar Meteorol**	**31.79**	**258**	P	**P**	**17 45 33.4**	**+2.1**
	baz=31,SNR=7.2						
QLP	**Quilpie**	**34.06**	**267**	P	**P**	**17 45 53.0**	**+1.8**
	baz=33,SNR=4.0						
CTA	**Charters Tower**	**34.55**	**279**	P	**P**	**17 45 56.2**	**+0.7**
	6.0nm,0.9s,baz=116,slow=10,SNR=6.1						
CTAO	**Charters Tower**	**34.55**	**279**	P	**P**	**17 45 56.5**	**+1.0**
STKA	**Stephens Creek**	**35.20**	**257**	P	**P**	**17 46 01.4**	**+0.3**
	11nm,1.1s,baz=83,slow=8.1,SNR=9.3						
STKA	**Stephens Creek**	**35.20**	**257**	P	**P**	**17 46 03.8**	**+2.8**
	baz=34,SNR=4.9						
STKA	**Stephens Creek**	**35.20**	**257**	P	**P**	**17 46 01.3**	**+0.3**
HTT	**Hallett**	**37.21**	**254**	P	**P**	**17 46 19.5**	**+1.3**
	baz=36,SNR=6.4						
BBOO	**Buckleboo**	**39.68**	**254**	P	**P**	**17 46 39.2**	**+0.2**
	baz=38,SNR=6.5						
BBOO	**Buckleboo**	**39.68**	**254**	P	**P**	**17 46 38.3**	**-0.7**
BBOO				IAmb	IAmb	17 46 40.2	
	comp=Z,25nm,0.9s						
TAOE	**Nuku Hiva Isla**	**40.64**	**66**	*e*S	**S**	**17 52 51.2**	**-4.7**
	comp=Z,87nm,23.4s						
TAOE				*e*LR	LR	17 57 36.4	
	comp=Z,526nm,27.3s						
AS31	**Alice Springs**	**43.86**	**267**	P	**P**	**17 47 12.8**	**-0.5**
ASAR	**Alice Springs**	**43.86**	**267**	P	**P**	**17 47 13.1**	**-0.3**
	comp=Z,5.6nm,0.9s,baz=112,slow=7.8,SNR=26						
ASAR				LR	LR	18 04 49.4	
	comp=Z,350nm,18.1s,baz=114,slow=35						
WR0	**Warramunga Arr**	**44.67**	**272**	P	**P**	**17 47 20.5**	**+0.7**
WB2	**Warramunga Arr**	**44.84**	**272**	P	**P**	**17 47 21.2**	**0.0**
WRA	**Warramunga Arr**	**44.85**	**272**	P	**P**	**17 47 21.1**	**-0.2**
	comp=Z,15nm,0.9s,baz=112,slow=7.7,SNR=28						
WRA				LR	LR	18 04 31.0	
	comp=Z,377nm,20.1s,baz=110,slow=34						
WB0	**Warramunga Arr**	**44.87**	**272**	P	**P**	**17 47 20.2**	**-1.3**
VNDA	**Vanda**	**48.12**	**186**	P	P	17 47 49.7	+3.6
	comp=Z,1.8nm,1.0s,baz=4.4,slow=5.7,SNR=6.2						
VNDA				LR	LR	18 05 41.9	
	comp=Z,95nm,19.6s,baz=21,slow=33						
WRKA	**Warakurna**	**48.22**	**262**	P	**P**	**17 47 48.0**	**+0.4**
	baz=47,SNR=4.3						
MTN	**Manton Dam**	**50.73**	**278**	P	**P**	**17 48 05.4**	**-1.5**
MTN				IAmb	IAmb	17 48 07.7	
	comp=Z,28nm,1.2s						
KNRA	**Kununurra**	**51.46**	**274**	P	**P**	**17 48 16.3**	**+4.0**
	baz=51,SNR=3.3						
CASY	**Casey**	**55.44**	**208**	P	**P**	**17 48 41.2**	**+0.4**
CASY				IAmb	IAmb	17 48 43.3	
	comp=Z,17nm,1.0s						
GUMO	**Guam**	**57.05**	**314**	LR	LR	18 09 51.2	
	comp=Z,72nm,21.4s,baz=164,slow=32						
QSPA	**South Pole Qui**	**59.66**	**180**	P	**P**	**17 49 12.9**	**+2.2**
	comp=Z,5.5nm,0.9s,baz=35,slow=3.0,SNR=15						
QSPA	**South Pole Qui**	**59.66**	**180**	P	**P**	**17 49 13.3**	**+2.6**
MAW	**Mawson**	**72.52**	**200**	P	**P**	**17 50 34.7**	**+1.7**
	comp=Z,7.1nm,1.0s,baz=107,slow=7.8,SNR=11						
MAW	**Mawson**	**72.52**	**200**	P	**P**	**17 50 35.1**	**+2.1**
	baz=71,SNR=8.2						
MAW	**Mawson**	**72.52**	**200**	P	**P**	**17 50 35.4**	**+2.3**
MAW				IAmb	IAmb	17 50 36.6	
	comp=Z,3.3nm,1.1s						
LEM	**Lembang**	**73.87**	**272**	LR	LR	18 24 41.5	
	comp=Z,240nm,19.1s,baz=226,slow=37						
SYO	**Syowa Base**	**77.23**	**193**	*e*P	**P**	**17 51 00.5**	**+0.2**
SYO	**Syowa Base**	**77.23**	**193**	*e*pP	pP	17 51 02.4	-3.7
SYO	**Syowa Base**	**77.23**	**193**	*e*PcP	**PcP**	**17 51 12.6**	**+1.7**
SNAA	**Sanae**	**78.08**	**178**	P	**P**	**17 51 05.4**	**+0.2**
SNAA	**Sanae**	**78.08**	**178**	P	**P**	**17 51 06.6**	**+1.5**
SNAA				IAmb	IAmb	17 51 21.3	
	comp=Z,11nm,1.2s						
VNA3	**Neumayer Olymp**	**78.20**	**176**	P	**P**	**17 51 05.9**	**+0.2**
MJAR	**Matsushiro Arr**	**78.72**	**325**	P	**P**	**17 51 07.8**	**-1.1**
	comp=Z,4.5nm,1.1s,baz=170,slow=5.4,SNR=9.3						
VNA1	**Neumayer--Stat**	**78.87**	**176**	P	**P**	**17 51 10.4**	**+1.1**
H03S2	**Juan Fernandez**	**79.81**	**123**	T	T	19 19 02.4	
	baz=239,slow=74,SNR=5.0						
H03S1	**Juan Fernandez**	**79.82**	**123**	T	T	19 18 56.2	
	baz=239,slow=74,SNR=3.7						
H03S3	**Juan Fernandez**	**79.82**	**123**	T	T	19 18 53.0	
	baz=239,slow=74,SNR=4.9						
PLCA	**Paso Flores**	**81.92**	**133**	LR	LR	18 22 13.4	
	comp=Z,78nm,18.1s,baz=292,slow=32						
ADK	**Adak**	**81.98**	**0**	P	**P**	**17 51 25.6**	**-0.5**
ADK				IAmb	IAmb	17 51 27.5	
	comp=Z,21nm,1.1s						
KSRS	**Korea Array**	**84.88**	**319**	P	**P**	**17 51 41.5**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=145,slow=4.6,SNR=5.3						
PFO	**Pinyon Flats O**	**85.69**	**47**	P	**P**	**17 51 46.8**	**+1.1**
	comp=Z,1.7nm,0.9s,baz=216,slow=5.5,SNR=5.0						
PETK	**Petropavlovsk-**	**86.06**	**345**	P	**P**	**17 51 46.9**	**0.0**
	comp=Z,4.1nm,0.8s,baz=116,slow=6.8,SNR=5.6						
PETK				LR	LR	18 27 05.8	
	comp=Z,46nm,19.3s,baz=236,slow=34						
USRK	**Ussuriysk Ar.**	**87.62**	**326**	P	**P**	**17 51 55.0**	**+0.3**
	comp=Z,3.7nm,0.9s,baz=149,slow=4.4,SNR=9.4						
NVAR	**Mina Array Bea**	**87.77**	**42**	P	**P**	**17 51 57.5**	**+1.6**
	comp=Z,3.0nm,1.0s,baz=223,slow=6.8,SNR=9.5						
NVAR				LR	LR	18 26 34.2	
	comp=Z,110nm,18.1s,baz=266,slow=32						
CN2	**Changchun**	**90.64**	**322**	*e*P	**P**	**17 52 10.4**	**+1.5**
ELK	**Elko**	**91.08**	**42**	P	**P**	**17 52 12.4**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=205,slow=3.9,SNR=4.0						
TXAR	**Lajitas Array**	**91.79**	**57**	P	**P**	**17 52 17.3**	**+2.5**
	comp=Z,0.9nm,1.0s,baz=192,slow=4.7,SNR=6.3						
TXAR				LR	LR	18 23 57.6	
	comp=Z,53nm,21.4s,baz=0.0,slow=29						
GYA	**Guiyang**	**92.23**	**299**	*e*P	**P**	**17 52 18.1**	**+1.2**
GYA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**94.13**	**289**	P	**P**	**17 52 26.8**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=142,slow=4.8,SNR=5.2						
CMAR				LR	LR	18 37 17.0	
	comp=Z,39nm,19.5s,baz=140,slow=37						
PDAR	**Pinedale Array**	**95.66**	**43**	LR	LR	18 31 00.4	
	comp=Z,59nm,18.5s,baz=252,slow=33						
LPAZ	**La Paz**	**97.44**	**114**	LR	LR	18 27 22.5	
	comp=Z,56nm,21.0s,baz=178,slow=30						
CPUP	**Villa Florida**	**99.36**	**128**	LR	LR	18 32 51.6	
	comp=Z,68nm,18.1s,baz=218,slow=32						
MKAR	**Makanchi Array**	**118.38**	**310**	PKP	**PKPdf**	**17 57 52.6**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=122,slow=23,SNR=2.8						
ARCES	**ARCESS Array B**	**138.80**	**348**	PKP	**PKiKP**	**17 58 34.0**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=343,slow=1.3,SNR=6.2						
FINES	**FINESS Array B**	**145.45**	**340**	PKPbc	**PKPdf**	**17 58 43.2**	**-0.7**
	comp=Z,22nm,0.9s,baz=66,slow=4.8,SNR=48						
KBZ	**Khabaz**	**145.77**	**304**	PKPbc	**PKPab**	**17 58 45.4**	**-0.5**
	comp=Z,5.9nm,1.0s,baz=1.6,slow=1.4,SNR=12						
NC303	**NORSAR Array S**	**148.72**	**352**		**PKiKP**	**17 58 53.4**	**-1.3**
NB2	**NORSAR Subarra**	**148.91**	**352**	PKP	**PKPbc**	**17 58 53.4**	**-0.4**
	comp=Z,21nm,1.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.91**	**352**	PKPbc	**PKPbc**	**17 58 52.8**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=6.3,slow=4.0,SNR=13						
AKASG	**Malin Array Be**	**151.80**	**323**	PKPbc	**PKiKP**	**17 59 00.4**	**-0.9**
	comp=Z,4.9nm,0.8s,baz=48,slow=2.9,SNR=22						
BRTR	**Keskin Array B**	**153.29**	**299**	PKPbc	**PKiKP**	**17 59 05.2**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=63,slow=14,SNR=4.6						
CLL	**Collm**	**157.85**	**343**	*i* PKPab	**PKPab**	**17 59 35.5**	**-0.2**
	comp=Z,0.7nm,1.4s						
KHC	**Kasperske Hory**	**159.65**	**339**	*e*PKPAB	**PKPab**	**17 59 40.3**	**-3.3**
KHC				*ex*	x	17 59 57.1	
GERES	**GERESS Array B**	**159.87**	**339**	PKPab	**PKPab**	**17 59 43.7**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=15,slow=5.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**162.74**	**176**	PKP	**PKPdf**	**17 59 08.9**	**-0.5**
	comp=Z,0.9nm,1.0s,baz=160,slow=0.1,SNR=2.5						
TORD				PKPab	**PKPab**	**17 59 57.2**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=197,slow=3.8,SNR=3.7						
ESDC	**Sonseca Array**	**169.24**	**29**	PKPab	**PKPab**	**18 00 25.7**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=298,slow=4.0,SNR=2.7						

*NEIC **03** 17:45:28.5±1.9, 43°.69N±0°.01×105°.23W±0°.09, h0km±2km, ML3.5/39, Error ellipse: s-maj=11.2km s-min=3.0km az=80.0*

*IDC **03** 17:45:29.3±0.9, 44°.03N×105°.94W, h0km, mb4.1/1, mb1 3.6/6, mb1mx3.4/52, mbtmp3.2/6, ML3.0/5, MS2.9/1, Ms1 2.9/1, ms1mx2.2/54, Error ellipse: s-maj=22.6km s-min=8.0km az=145.0*

ISC 03 17:45:27.8±0.8, 43°.69N±0°.05×105°.34W±0°.05, h0km, n42, σ1s62/41, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.04**	**65**		**Pg**	**17 45 47.0**	**-0.7**
K22A	**Casper**	**1.35**	**220**	Pn	**Pg**	**17 45 52.4**	**-1.3**
K22A				IAML		17 46 17.1	
	comp=E,603nm,0.8s						
K22A				IAML		17 46 17.6	
	comp=N,480nm,0.6s						
PHWY	**Pilot Hill**	**2.39**	**182**		**Pn**	**17 46 09.1**	**+0.6**
RWWY	**Rawlins**	**2.43**	**215**		**Pn**	**17 46 09.5**	**+0.5**
RWWY				IAML		17 46 46.4	
	comp=N,322nm,1.3s						
N23A	**Red Feather La**	**2.83**	**189**		**Pn**	**17 46 15.3**	**+0.8**
N23A				IAML		17 46 58.1	
	comp=E,121nm,0.7s						
N23A				IAML		17 47 05.7	
	comp=N,150nm,1.0s						
RLMT	**Red Lodge**	**3.16**	**298**	Pn	**Pn**	**17 46 19.7**	**+0.7**
RLMT				IAML		17 48 00.6	
	comp=N,84nm,1.3s						
BW06	**Boulder Array**	**3.22**	**255**		**Pn**	**17 46 22.2**	**+2.3**
BW06				IAML		17 47 11.7	
	comp=N,90nm,0.7s						
PD31	**Pinedale Array**	**3.22**	**255**		**Pn**	**17 46 20.5**	**+0.7**
PDAR	**Pinedale Array**	**3.22**	**255**	Pn	**Pn**	**17 46 20.6**	**+0.7**
	comp=N,1.8nm,0.3s,baz=72,slow=15,SNR=35						
PDAR				Pg	**Pb**	**17 46 24.4**	**-1.6**
	comp=N,5.9nm,0.3s,baz=74,slow=15,SNR=33						
PDAR				Lg	Lg	17 47 03.2	
	comp=N,12nm,0.3s,baz=219,slow=42,SNR=3.8						
YNE	**Yellowstone No**	**3.60**	**293**		**Pn**	**17 46 25.2**	**+0.2**
YMP	**Mirror Lake PI**	**3.62**	**289**		**Pn**	**17 46 26.4**	**+1.0**
GCMT	**Greycliff**	**3.73**	**306**		**Pn**	**17 46 27.9**	**+1.1**
YPP	**Pitchstone Pla**	**3.99**	**280**		**Pn**	**17 46 32.3**	**+1.9**
IMW	**Indian Meadow**	**4.06**	**275**	Pn	**Pn**	**17 46 33.6**	**+2.2**
IMW				IAML		17 47 45.4	
	comp=N,57nm,0.7s						
IMW				IAML		17 47 48.1	
	comp=N,60nm,0.8s						
TPAW	**Teton Pass**	**4.08**	**269**	Pn	**Pn**	**17 46 33.8**	**+2.1**
TPAW				IAML		17 47 53.3	
	comp=N,51nm,1.6s						
TPAW				IAML		17 48 03.6	
	comp=N,53nm,1.5s						
YHH	**Holmes Hill**	**4.11**	**287**		**Pn**	**17 46 35.8**	**+3.6**
FXWY	**Fox Creek**	**4.13**	**271**		**Pn**	**17 46 34.0**	**+1.7**
O20A	**White River Ci**	**4.16**	**212**		**Pn**	**17 46 33.7**	**+0.9**
O20A				IAML		17 48 20.6	
	comp=E,83nm,2.0s						
E28A	**Huff**	**4.37**	**47**		**Pn**	**17 46 36.0**	**+0.4**
E28A				IAML		17 48 28.8	
	comp=E,82nm,1.4s						
DGMT	**Dagmar**	**4.85**	**9**		**Pn**	**17 46 41.8**	**-0.3**
BOZ	**Bozeman (W)**	**4.88**	**295**		**Pn**	**17 46 43.3**	**+0.8**
BOZ				IAML		17 48 05.8	
	comp=E,21nm,1.5s						
BOZ				IAML		17 48 05.8	
	comp=E,20nm,1.6s						
TCUT	**Toone Canyon**	**5.18**	**242**		**Pn**	**17 46 49.4**	**+2.6**
EGMT	**Eeeton**	**5.32**	**326**	Pn	**Pn**	**17 46 50.2**	**+1.6**
PV22	**Blue Mesa, Par**	**5.77**	**208**	Pn	**Pn**	**17 46 55.5**	**+0.6**
PV07	**Paradox Valley**	**5.81**	**207**		**Pn**	**17 46 57.1**	**+1.7**
PV04	**Paradox Valley**	**5.94**	**208**		**Pn**	**17 46 58.4**	**+1.3**
PV12	**Saucer Basin,**	**5.97**	**207**		**Pn**	**17 46 58.6**	**+1.0**
PV14	**Lion Creek, Pa**	**6.00**	**209**		**Pn**	**17 46 58.8**	**+0.8**
PV20	**West Nyswonger**	**6.00**	**208**		**Pn**	**17 46 59.9**	**+1.8**
PV16	**Nyswonger Mesa**	**6.01**	**208**	Pn	**Pn**	**17 46 59.6**	**+1.3**
ECSD	**EROS Data Cent**	**6.32**	**87**	Pn	**Pn**	**17 47 01.8**	**-0.5**
Q16A	**Castle Valley**	**6.48**	**225**		**Pn**	**17 47 05.3**	**+0.6**
DUG	**Dugway, Tooele**	**6.58**	**240**	Pn	**Pn**	**17 47 06.6**	**+0.8**
ELK	**Elko**	**7.91**	**252**	Pn	**Pn**	**17 47 27.5**	**+3.2**
	comp=E,0.1nm,0.3s,baz=210,slow=19,SNR=1.9						
ELK				Lg	Lg	17 49 27.1	
	comp=E,0.1nm,0.3s,baz=163,slow=13,SNR=1.8						
ANMO	**Albuquerque**	**8.77**	**186**	Lg	Lg	17 50 15.7	
	comp=E,0.1nm,0.3s,baz=46,slow=7.6,SNR=3.7						
ULM	**Lac du Bonnet**	**9.21**	**41**	Pn	**Pn**	**17 47 42.1**	**+0.2**
	comp=E,1.4nm,0.3s,baz=236,slow=14,SNR=7.1						
ULM				Lg	Lg	17 50 13.2	
	comp=E,0.3nm,0.3s,baz=133,slow=20,SNR=2.3						
B35A	**Bob, Littlefor**	**9.33**	**56**	Pn	**Pn**	**17 47 43.3**	**-0.2**
NVAR	**Mina Array Bea**	**11.11**	**246**	Pn	**Pn**	**17 48 07.9**	**-0.2**
	comp=E,0.0nm,0.3s,baz=61,slow=9.4,SNR=2.7						
TXAR	**Lajitas Array**	**14.39**	**174**	Pn	**P**	**17 49 01.9**	**+1.9**
	comp=E,0.0nm,0.3s,baz=356,slow=12,SNR=2.8						
TXAR				Pg		17 49 57.9	
	comp=E,0.0nm,0.3s,baz=11,slow=14,SNR=5.8						
TXAR				Lg	Lg	17 53 04.8	
	comp=E,0.0nm,0.3s,baz=196,slow=22,SNR=5.3						
BBB	**Bella Bella**	**17.41**	**307**	LR	LR	17 56 50.1	
	comp=E,38nm,20.3s,baz=263,slow=40						
YKA	**Yellowknife Ar**	**19.60**	**347**	P	**P**	**17 49 53.2**	**-4.2**
	comp=E,0.0nm,0.3s,baz=157,slow=11,SNR=1.3						
ARCES	**ARCESS Array B**	**61.48**	**18**	P	**P**	**17 55 47.0**	**+1.2**
	comp=E,2.5nm,1.1s,baz=340,slow=6.8,SNR=6.5						

*IDC **03** 17:59:48.2±3.2, 38°.10N×142°.40E, h53km±26km, mb3.0/2, mb1 3.4/6, mb1mx3.1/35, mbtmp3.6/6, ML3.0/4, MS2.4/1, Ms1 2.4/1, ms1mx1.9/19, Error ellipse: s-maj=39.6km s-min=14.0km az=121.0*

*JMA **03** 17:59:49.6±0.1, 38°.04N×141°.98E, h46km±1km, M3.7*

ISC 03 17:59:43.5±2.0, 38°.02N±0°.04×142°.26E±0°.08, h10km±10km, n27, σ1s88/35, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**0.69**	**295**	P	**Pn**	**18 00 00.5**	**+1.1**
JIKH				S	**Sb**	**18 00 08.0**	**+0.6**
JIO	**Ouri**	**0.84**	**302**	P	**Pn**	**18 00 02.5**	**+1.0**
JIO				S	**Sb**	**18 00 11.6**	**-0.1**
JKMT	**Kesennumamotoy**	**1.01**	**322**	P	**Pn**	**18 00 05.4**	**+1.7**
JKMT				S	**Sn**	**18 00 17.1**	**-0.9**
JMST	**Minamisoumatoc**	**1.13**	**256**	P	**Pg**	**18 00 06.0**	**+0.8**
JMST				S	**Sg**	**18 00 18.2**	**-1.6**
JMM	**Marumori**	**1.17**	**263**	P	**Pg**	**18 00 06.5**	**+0.5**
JMM				S	**Sg**	**18 00 18.9**	**-2.4**
JMK	**Ichinoseki**	**1.24**	**319**	P	**Pn**	**18 00 08.8**	**+1.8**
JMK				S	**Sb**	**18 00 22.8**	**-0.4**
JFK	**Kawauchi**	**1.28**	**240**	P	**Pn**	**18 00 08.4**	**+0.9**
JFK				S	**Sb**	**18 00 22.2**	**-2.0**
JOU	**Okura**	**1.31**	**286**	P	**Pg**	**18 00 08.9**	**+0.3**
JOU				*e*S	**Sb**	**18 00 22.9**	**-2.2**
JFT	**Otama**	**1.61**	**253**	P	**Pn**	**18 00 13.4**	**+1.4**
JFT				*e*S	**Sn**	**18 00 30.9**	**-1.9**
JOM	**Ohasama**	**1.64**	**333**	P	**Pg**	**18 00 15.1**	**+0.1**
JOM				S	**Sb**	**18 00 34.3**	**-0.4**
JYK	**Kaneyama**	**1.75**	**302**	P	**Pn**	**18 00 15.3**	**+1.4**
JYK				*e*S	**Sn**	**18 00 34.8**	**-1.4**
JYS	**Shirataka**	**1.75**	**277**	P	**Pn**	**18 00 15.0**	**+1.1**
JRG	**Rokugo**	**1.88**	**318**	P	**Pb**	**18 00 18.2**	**+0.3**
JYA	**Atsumi**	**2.09**	**287**	P	**Pn**	**18 00 20.0**	**+1.4**
JFY	**Yanaizu**	**2.12**	**254**	P	**Pn**	**18 00 20.8**	**+1.8**
MJAR	**Matsushiro Arr**	**3.55**	**247**	P	**Pn**	**18 00 41.0**	**+2.2**
	0.2nm,0.3s,baz=59,slow=11,SNR=16						
MJAR				S	**Sn**	**18 01 25.2**	**+4.3**
	0.3nm,0.3s,baz=84,slow=29,SNR=5.4						
JHJ	**Hachijo jima 2**	**5.29**	**203**	P	**Pn**	**18 01 06.0**	**+3.4**
	4.7nm,0.3s,baz=143,slow=24,SNR=8.3						
JHJ		

MJAR Sn **Sn** **18 09 51.0 +0.1**
1.7nm,0.3s,baz=115,slow=32,SNR=4.8
MJAR LR LR 18 10 42.8
comp=Z,622nm,18.5s,baz=120,slow=46
MAJO Matsushiro 3.09 269 Pn Pn 18 09 16.6 +2.1
MAT Matsushiro 3.09 269 P Pn 18 09 16.1 +1.6
MAT S **Sn** **18 09 53.9 +3.0**
JHJ2 Mitsune 4.00 208 Pn 18 09 28.0 +0.9
JHJ Hachijo jima 2 4.01 208 Pn Pn 18 09 26.9 -0.3
23nm,0.3s,baz=319,slow=20,SNR=28
JHJ Sn **Sn** **18 10 10.5 -3.2**
100nm,0.3s,baz=57,slow=24,SNR=16
INU Inuyama 4.28 253 Pn Pn 18 09 33.8 +2.8
ERM Erimo 5.39 9 Pn Pn 18 09 45.2 -1.0
JKA Kamikawa-asahi 7.44 3 Pn Pn 18 10 13.7 -0.6
ASAJ Asahikawa 7.44 3 Pn Pn 18 10 14.0 -0.3
3.7nm,0.3s,baz=217,slow=11,SNR=39
ASAJ Sn **Sn** **18 11 35.5 -2.6**
1.0nm,0.3s,baz=301,slow=6.9,SNR=1.5
JNU Nakatsue 9.83 252 Pn Pn 18 10 46.1 -1.1
0.1nm,0.3s,baz=182,slow=17,SNR=1.4
USRK Ussuriysk Ar. 10.72 318 Pn Pn 18 11 00.9 +1.6
baz=108,slow=12,SNR=18
USRK LR LR 18 14 51.1
comp=Z,277nm,19.6s,baz=131,slow=36
KSRS Korea Array 11.31 278 Pn Pn 18 11 07.3 0.0
0.1nm,0.3s,baz=355,slow=39,SNR=1.6
KSRS LR LR 18 15 23.3
comp=Z,279nm,19.8s,baz=113,slow=37
KLR Kul'dur 14.61 332 Pn P 18 11 56.4 -2.3
0.2nm,0.3s,baz=135,slow=13,SNR=2.7
KLR LR LR 18 17 25.5
comp=Z,193nm,18.7s,baz=167,slow=37
YAK Yakutsk 26.52 347 P P 18 14 02.9 0.0
3.5nm,0.3s,baz=339,slow=1.0,SNR=13
YAK Yakutsk 26.52 347 P P 18 14 02.2 -0.7
YAK IAmb IAmb 18 14 04.3
comp=Z,17nm,0.8s
H11N2 WAKE ISLAND Hy 27.54 121 T T 18 43 39.0
baz=314,slow=75,SNR=31
H11N1 WAKE ISLAND Hy 27.55 121 T T 18 43 33.8
baz=314,slow=75,SNR=34
H11N3 WAKE ISLAND Hy 27.56 121 T T 18 43 25.4
baz=314,slow=75,SNR=25
ENH Enshi 27.81 266 P P 18 14 14.8 0.0
ULN Ulaanbaatar 27.97 305 P P 18 14 14.9 -1.4
H11S1 WAKE ISLAND Hy 28.25 123 T T 18 44 19.7
baz=315,slow=76,SNR=21
H11S3 WAKE ISLAND Hy 28.25 123 T T 18 44 26.9
baz=315,slow=76,SNR=19
H11S2 WAKE ISLAND Hy 28.26 123 T T 18 44 17.2
baz=315,slow=76,SNR=14
SONM Songino Array 28.40 304 P P 18 14 20.3 +0.2
comp=Z,7.1nm,0.8s,baz=105,slow=9.2,SNR=34
GTA Gaotai 33.15 288 *e*P **P 18 15 02.9 +0.8**
GTA pP pP 18 15 07.5 +0.4
GTA sP pwP 18 15 10.0 -0.3
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,28nm,6.2s
GTA LR LR
comp=Z,96nm,15.2s
GTA LR LR
comp=Z,81nm,14.9s
GTA LR LR
comp=Z,93nm,16.8s
CMAR Chiang Mai Arr 41.90 256 P P 18 16 15.5 -0.6
comp=Z,0.8nm,0.6s,baz=50,slow=8.0,SNR=7.5
ZALV Zalesovo Beam 42.52 313 P P 18 16 19.5 -1.3
comp=Z,2.3nm,0.5s,baz=116,slow=3.4,SNR=12
ZALV PcP **PcP** **18 13 7.7 +0.5**
comp=Z,0.3nm,0.4s,baz=286,slow=38,SNR=2.5
NRIK Noril'sk 43.80 335 P P 18 16 31.2 +0.3
comp=Z,0.9nm,0.3s,baz=126,slow=4.7,SNR=1.9
MK31 Makanchi Array 44.73 303 P P 18 16 39.0 +0.3
MKAR Makanchi Array 44.73 303 P P 18 16 38.3 -0.4
comp=Z,2.3nm,0.8s,baz=88,slow=9.7,SNR=17
KURK Kurchatov 46.54 308 P P 18 16 52.6 -0.4
KURK IAmb IAmb 18 17 04.3
comp=Z,7.0nm,0.8s
KURBB Kurchatov Arra 46.61 308 P P 18 16 53.8 +0.3
comp=Z,1.5nm,0.4s,baz=83,slow=8.4,SNR=29
ILAR Eielson Array 49.52 32 P P 18 17 16.4 +0.5
comp=Z,0.6nm,0.7s,baz=262,slow=5.6,SNR=7.1
KK31 Karatay Array 53.73 301 P P 18 17 45.5 -2.2
KK31 IAmb IAmb 18 17 50.3
comp=Z,3.6nm,1.1s
KKAR Karatay Array 53.73 301 P P 18 17 45.4 -2.3
KKAR IAmb IAmb 18 17 50.3
comp=Z,3.6nm,1.1s
CHGR Chuyangaron 56.27 296 P P 18 18 03.8 -2.3
FITZ Fitzroy Crossi 56.64 199 P P 18 18 06.5 -2.3
comp=Z,4.9nm,1.1s,baz=74,slow=15,SNR=2.6
FITZ Fitzroy Crossi 56.64 199 IAmb IAmb 18 18 08.0
comp=Z,7.0nm,1.1s
WR0 Warramunga Arr 56.78 188 P P 18 18 09.9 +0.2
WR0 IAmb IAmb 18 18 14.5
comp=Z,6.0nm,1.1s
WRA Warramunga Arr 56.79 189 P P 18 18 09.1 -0.7
comp=Z,0.7nm,0.6s,baz=11,slow=4.7,SNR=6.8
ASAR Alice Springs 60.51 189 P P 18 18 36.0 +0.3
comp=Z,0.7nm,0.7s,baz=14,slow=8.4,SNR=10
YKA Yellowknife Ar 63.86 30 P P 18 18 59.7 +2.0
comp=Z,0.1nm,0.5s,baz=279,slow=13,SNR=1.3
GEYT Alibeck 64.44 299 P P 18 19 02.0 0.0
comp=Z,1.3nm,0.7s,baz=335,slow=5.6,SNR=3.5
ARCES ARCESS Array B 64.50 340 P P 18 19 03.7 +1.9
comp=Z,1.0nm,0.7s,baz=54,slow=27,SNR=2.2
FINES FINESS Array B 69.36 333 P P 18 19 33.1 +0.3
comp=Z,1.5nm,0.7s,baz=116,slow=4.4,SNR=6.2
FINES LR LR 18 52 57.1
comp=Z,44nm,18.0s,baz=73,slow=38
KBZ Khabaz 71.51 311 P P 18 19 46.7 +0.5
comp=Z,2.3nm,0.8s,baz=55,slow=1.5,SNR=4.0
NB2 NORSAR Subarra 74.70 338 P P 18 20 05.4 +0.5
comp=Z,1.6nm,0.9s,baz=39,slow=6.2
NOA NORSAR Array B 74.70 338 P P 18 20 05.0 0.0
comp=Z,0.8nm,0.8s,baz=39,slow=5.8,SNR=6.2
NOA LR LR 18 55 21.7
comp=Z,48nm,21.3s,baz=15,slow=38
NVAR Mina Array Bea 74.80 53 P P 18 20 06.2 +0.1
comp=Z,0.1nm,0.5s,baz=318,slow=6.0,SNR=3.0
AKASG Malin Array Be 74.88 323 P P 18 20 06.1 0.0
comp=Z,1.5nm,0.5s,baz=46,slow=6.0,SNR=12
PDAR Pinedale Array 77.55 46 P P 18 20 23.2 +1.5
comp=Z,0.1nm,0.3s,baz=315,slow=54,SNR=2.0
BRTR Keskin Array B 79.46 312 P P 18 20 33.5 +1.3
comp=Z,1.5nm,0.9s,baz=210,slow=4.3,SNR=3.8
CLL Collm 81.65 330 *i* P **P 18 20 44.2 +0.7**
comp=Z,5.0nm,1.1s
GERES GERESS Array B 83.27 329 P P 18 20 52.3 +0.1
comp=Z,0.6nm,0.8s,baz=28,slow=6.0,SNR=4.7
PPT Papeete 84.03 117 LR LR 18 52 43.1
comp=Z,26nm,20.6s,baz=312,slow=32
TXAR Lajitas Array 89.94 53 P P 18 21 26.3 +1.2
comp=Z,0.0nm,0.4s,baz=224,slow=56,SNR=2.4
LPAZ La Paz 146.43 61 PKPbc PKPab 18 28 08.5 -0.2
comp=Z,0.9nm,0.7s,baz=12,slow=7.0,SNR=4.7

*BEO **03** 18:15:23.4±0.8,38°.00N×20°.10E,h15km,ML3.0/7*
*ATH **03** 18:15:24.1,38°.14N×20°.43E,h16km,ML2.9/19,Error ellipse: s-maj=1.8km s-min=0.9km az=243.0*
*THE **03** 18:15:24.1,38°.15N×20°.35E,h2km±1km,ML2.8/3,Error ellipse: s-maj=2.1km s-min=0.6km az=80.0*
*IDC **03** 18:15:24.3±15.0,38.56N×20.32E,h0km,mb3.4/2, mb1 3.4/3,mb1mx3.1/40,mbtmp3.3/3,ML3.4/1,Error ellipse: s-maj=289.8km s-min=39.8km az=36.0*

ISC 03 18:15:23.6±0.9,38.13N±0.03×20.32E±0.04,h16km±4km, n95,σ1§32/119,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEF3	**Kipouria, Keph**	**0.07**	**19**	P	**Pg**	**18 15 27.5**	**+0.8**
KEF3				S	**Sg**	**18 15 30.1**	**+1.3**
ARG2	**Argostoli**	**0.14**	**71**	P	**Pg**	**18 15 26.9**	**-0.6**
ARG2				S	**Sg**	**18 15 28.6**	**-1.4**
KEF4	**Livadi, Kephal**	**0.15**	**34**	P	**Pg**	**18 15 27.8**	**+0.2**
KEF4				S	**Sg**	**18 15 30.5**	**+0.3**
KEF5	**Kardakata, Kep**	**0.19**	**40**	P	**Pg**	**18 15 28.1**	**-0.1**
KEF5				S	**Sg**	**18 15 30.8**	**-0.4**
VLS	**Valsamata**	**0.22**	**78**	P	**Pg**	**18 15 27.9**	**-0.7**
VLS				S	**Sg**	**18 15 30.6**	**-1.5**
VLS	**Valsamata**	**0.22**	**78**	P	**Pg**	**18 15 28.0**	**-0.7**
VLS				S	**Sg**	**18 15 30.6**	**-1.5**
VLS				AML	AML	18 15 30.6	
VLS				AML	AML	18 15 30.8	
VSK1	**VASILIKIADES**	**0.34**	**35**	P	**Pg**	**18 15 29.3**	**-1.3**
VSK1				S	**Sg**	**18 15 34.3**	**-1.1**
VLMS	**Volimes, Zakyn**	**0.38**	**133**	P	**Pg**	**18 15 31.2**	**-0.1**
VLMS				S	**Sg**	**18 15 36.4**	**-0.1**
VLMS				AML	AML	18 15 37.2	
	comp=N,31833μm,0.1s						
VLMS				AML	AML	18 15 37.8	
	comp=E,45115μm,0.2s						
EVGI	**Lefkada island**	**0.56**	**29**	P	**Pg**	**18 15 34.2**	**-0.4**
EVGI				S	**Sb**	**18 15 42.4**	**-0.3**
	comp=E,798nm,0.1s						
EVGI	**Lefkada island**	**0.56**	**29**	P	**Pg**	**18 15 34.0**	**-0.6**
ZAK2	**Zakynthos**	**0.58**	**127**	P	**Pg**	**18 15 35.2**	**+0.3**
ZAK2				S	**Sg**	**18 15 43.1**	**+0.5**
KRI1	**kERI**	**0.61**	**140**	P	**Pg**	**18 15 35.2**	**-0.5**
KRI1				S	**Sb**	**18 15 45.1**	**+0.8**
MGNA	**Meganis**	**0.64**	**35**	P	**Pg**	**18 15 35.5**	**-0.7**
MGNA				S	**Sg**	**18 15 44.6**	**-0.1**
LKD2	**Lefkada island**	**0.71**	**22**	P	**Pg**	**18 15 36.9**	**-0.5**
LKD2	**Lefkada island**	**0.71**	**22**	P	**Pg**	**18 15 37.0**	**-0.4**
LKD2				AML	AML	18 15 54.3	
	comp=E,2236μm,0.4s						
LKD2				AML	AML	18 15 58.6	
	comp=N,1652μm,0.4s						
VTN	**Vitineika**	**0.72**	**107**	P	**Pg**	**18 15 37.2**	**-0.4**
VTN				S	**Sg**	**18 15 47.4**	**+0.3**
VTN	**Vitineika**	**0.72**	**107**	P	**Pg**	**18 15 37.2**	**-0.4**
AST1	**Astakos**	**0.73**	**56**	P	**Pg**	**18 15 36.8**	**-1.1**
TSLK	**Tsoukalades, L**	**0.74**	**21**	P	**Pg**	**18 15 37.9**	**-0.1**
TSLK	**Tsoukalades, L**	**0.74**	**21**	P	**Pg**	**18 15 37.9**	**-0.1**
RLS	**Riolos of Patr**	**0.91**	**94**	P	**Pb**	**18 15 40.1**	**-0.9**
RLS				S	**Sg**	**18 15 53.5**	**+0.3**
	comp=N,365nm,0.5s						
RLS	**Riolos of Patr**	**0.91**	**94**	P	**Pb**	**18 15 39.2**	**-1.8**
RLS				AML	AML	18 15 59.6	
	comp=N,897μm,0.3s						
RLS				AML	AML	18 15 59.9	
	comp=E,796μm,0.4s						
PVO	**Paravola**	**1.07**	**63**	P	**Pb**	**18 15 43.2**	**-0.4**
PVO				S	**Sn**	**18 15 59.0**	**+0.7**
	comp=E,1μm,0.6s						
PVO	**Paravola**	**1.07**	**63**	P	**Pb**	**18 15 43.3**	**-0.4**
PVO				AML	AML	18 16 03.7	
	comp=E,2484μm,0.3s						
PVO				AML	AML	18 16 04.3	
	comp=N,2692μm,0.3s						
DRO	**Drossia**	**1.11**	**99**	P	**Pb**	**18 15 44.0**	**-0.5**
DRO	**Drossia**	**1.11**	**99**	P	**Pb**	**18 15 43.6**	**-0.8**
DRO				AML	AML	18 16 07.6	
	comp=E,935μm,0.4s						
DRO				AML	AML	18 16 10.2	
	comp=N,1630μm,0.5s						
AMT	**Artemida-Makis**	**1.25**	**118**	P	**Pg**	**18 15 47.7**	**-0.1**
AMT	**Artemida-Makis**	**1.25**	**118**	P	**Pb**	**18 15 46.8**	**-0.1**
AMT				AML	AML	18 16 17.9	
	comp=N,1118μm,0.6s						
AMT				AML	AML	18 16 18.4	
	comp=E,1172μm,0.4s						
EFP	**Efpalio**	**1.28**	**76**	P	**Pb**	**18 15 47.3**	**-0.1**
ANX	**Ano Chora**	**1.34**	**69**	P	**Pn**	**18 15 48.0**	**+0.2**
ANX	**Ano Chora**	**1.34**	**69**	P	**Pb**	**18 15 48.3**	**-0.1**
ANX				AML	AML	18 16 12.1	
	comp=E,1334μm,0.5s						
ANX				AML	AML	18 16 18.8	
	comp=N,2063μm,0.5s						
IGT	**Igoumenitsa**	**1.40**	**0**	P	**Pb**	**18 15 49.7**	**+0.4**
IGT	**Igoumenitsa**	**1.40**	**0**	*e*Sg	**Pg**	**18 15 51.0**	**+0.5**
IGT	**Igoumenitsa**	**1.40**	**0**	*e*Pg	**Sg**	**18 16 12.6**	**+3.9**
IGT	**Igoumenitsa**	**1.40**	**0**	P	**Pg**	**18 15 49.9**	**-0.5**
SERG	**Sergoula**	**1.40**	**78**	P	**Pb**	**18 15 49.7**	**+0.4**
SERG	**Sergoula**	**1.40**	**78**	P	**Pn**	**18 15 48.2**	**-0.2**
SERG				AML	AML	18 16 14.6	
	comp=N,846μm,0.5s						
SERG				AML	AML	18 16 15.9	
	comp=E,791μm,0.4s						
TRIZ	**Trizonia**	**1.40**	**80**	P	**Pn**	**18 15 48.1**	**-0.3**
EVR	**Evrytania**	**1.41**	**56**	P	**Pb**	**18 15 49.6**	**+0.1**
EVR	**Evrytania**	**1.41**	**56**	P	**Pb**	**18 15 49.3**	**-0.3**
EVR				AML	AML	18 16 17.3	
	comp=E,402μm,0.6s						
EVR				AML	AML	18 16 18.6	
	comp=N,484μm,0.7s						
KLV	**Kalavryta, Ach**	**1.45**	**93**	P	**Pn**	**18 15 49.5**	**+0.3**
KLV	**Kalavryta, Ach**	**1.45**	**93**	P	**Pn**	**18 15 49.3**	**+0.1**
KLV				AML	AML	18 16 21.6	
	comp=N,418μm,0.5s						
KLV				AML	AML	18 16 24.4	
	comp=E,247μm,0.6s						
JAN	**Janina**	**1.58**	**15**	P	**Pg**	**18 15 53.3**	**-0.6**
JAN				AML	AML	18 16 22.1	
	comp=N,447μm,0.4s						
JAN				AML	AML	18 16 26.1	
	comp=E,498μm,0.3s						
ITM	**Ithomi**	**1.59**	**126**	P	**Pb**	**18 15 52.5**	**-0.1**
ITM	**Ithomi**	**1.59**	**126**	P	**Pb**	**18 15 52.7**	**0.0**
ITM				AML	AML	18 16 21.5	
	comp=N,319μm,0.4s						
ITM				AML	AML	18 16 25.7	
	comp=E,355μm,0.3s						
GUR	**Goura**	**1.61**	**96**	P	**Pn**	**18 15 52.2**	**+0.7**
GUR				AML	AML	18 16 28.0	
	comp=E,728μm,0.8s						
GUR				AML	AML	18 16 28.3	
	comp=N,936μm,0.4s						
KEK	**Kerkira**	**1.63**	**346**	P	**Pb**	**18 15 53.3**	**+0.1**
KEK	**Kerkira**	**1.63**	**346**	P	**Pb**	**18 15 53.4**	**+0.2**
KEK				AML	AML	18 16 28.8	
	comp=E,389μm,0.4s						
KEK				AML	AML	18 16 34.0	
	comp=N,285μm,0.5s						
TRIP	**Tripoli**	**1.66**	**111**	P	**Pb**	**18 15 54.5**	**+0.7**
TRIP				AML	AML	18 16 29.2	
	comp=N,336μm,0.6s						
TRIP				AML	AML	18 16 34.0	
	comp=E,305μm,0.5s						
MAKR	**Makrakomi, Fth**	**1.67**	**58**	P	**Pg**	**18 15 55.0**	**-0.8**
MAKR				AML	AML	18 16 24.9	
	comp=N,608μm,0.6s						
MAKR				AML	AML	18 16 30.9	
	comp=E,1124μm,0.4s						
PYL	**PYLOS**	**1.68**	**137**	P	**Pb**	**18 15 53.4**	**-0.6**
AGG	**Agios Georgios**	**1.81**	**60**	P	**Pb**	**18 15 56.7**	**+0.3**
AGG				AML	AML	18 16 30.4	
	comp=N,379μm,0.7s						
AGG				AML	AML	18 16 34.3	
	comp=E,299μm,0.7s						
THL	**Klokotos Trika**	**1.95**	**42**	P	**Pb**	**18 15 58.2**	**-0.5**
KPRO	**Kipourio**	**1.99**	**24**	P	**Pb**	**18 15 59.6**	**+0.1**
LTK	**Loutraki**	**2.09**	**92**	P	**Pb**	**18 15 59.7**	**-1.5**
LOUT	**Loutraki**	**2.10**	**93**	P	**Pn**	**18 15 58.6**	**+0.5**
PENT	**Pentalofos**	**2.16**	**17**	P	**Pb**	**18 16 02.5**	**+0.2**
LKR	**Lokris**	**2.17**	**75**	P	**Pb**	**18 16 01.2**	**-1.3**
VIL2	**Platees**	**2.33**	**87**	P	**Pn**	**18 16 03.0**	**+1.8**
VIL2				AML	AML	18 16 54.6	
	comp=E,265μm,0.7s						
VIL2				AML	AML	18 16 57.5	
	comp=N,115μm,0.7s						
DID	**Didima**	**2.40**	**104**	P	**Pn**	**18 16 04.1**	**+1.9**
KZN	**Kozani**	**2.45**	**27**	P	**Pb**	**18 16 05.8**	**-1.5**
MRKA	**Markates**	**2.63**	**76**	P	**Pn**	**18 16 07.3**	**+1.9**
SKIA	**Skiathos**	**2.67**	**66**	P	**Pn**	**18 16 07.9**	**+2.0**
ATHU	**Athens Univers**	**2.74**	**92**	P	**Pn**	**18 16 08.0**	**+1.1**
FNA	**Florina**	**2.77**	**17**	*e*Pn	**Pn**	**18 16 09.7**	**+2.3**
FNA				*e*Sn	**Sb**	**18 16 45.3**	**-1.2**
PTL	**Penteli**	**2.80**	**91**	P	**Pn**	**18 16 08.7**	**+0.9**
DION	**Dionisos Attik**	**2.85**	**90**	P	**Pn**	**18 16 09.8**	**+1.4**
KTHA	**Kythira Island**	**2.88**	**130**	P	**Pn**	**18 16 11.8**	**+2.9**
AOS	**Alonnisos**	**2.98**	**69**	P	**Pn**	**18 16 11.9**	**+1.8**
TIR	**Tirane**	**3.23**	**354**	*e*Pn	**Pn**	**18 16 16.1**	**+2.5**
STIP	**Stip**	**3.84**	**21**	*i* Pn	**Pn**	**18 16 25.7**	**+3.8**
SKO	**Skopje**	**3.93**	**12**	*e*Pn	**Pn**	**18 16 26.2**	**+3.0**
PDG	**Podgorica**	**4.37**	**350**	*e*Pn	**Pn**	**18 16 29.4**	**+0.2**
PDG				*e*Sn	**Sn**	**18 17 20.6**	**+0.8**
BOSS	**Bosilegrad**	**4.66**	**20**	*e*Pn	**Pn**	**18 16 35.0**	**+1.7**
BARS	**Barje**	**4.81**	**13**	*e*Pn	**Pn**	**18 16 37.3**	**+1.9**
TREB	**Trebinje**	**4.82**	**342**	*e*Pn	**Pn**	**18 16 35.9**	**+0.5**
TREB				*e*Sn	**Sn**	**18 17 30.8**	**-0.1**
DBRK	**Dubrovnik**	**4.82**	**341**	*e*Pn	**Pn**	**18 16 34.9**	**-0.6**
DBRK				Sn	**Sn**	**18 17 29.7**	**-1.4**
VTS	**Vitosha**	**5.00**	**26**	*e*Sn	**Sn**	**18 17 36.5**	**+0.8**
SJES	**Sjenica**	**5.13**	**357**	*e*Pn	**Pn**	**18 16 41.7**	**+1.9**
STON	**Ston**	**5.14**	**338**	*e*Pn	**Pn**	**18 16 39.4**	**-0.4**
STON				Sn	**Sn**	**18 17 36.4**	**-2.3**
ZAPS	**Zavoj**	**5.43**	**18**	*e*Pn	**Pn**	**18 16 46.3**	**+2.4**
IVAS	**Ivanjica**	**5.44**	**359**	*e*Pn	**Pn**	**18 16 44.7**	**+0.7**
MAKA	**Makarska**	**5.73**	**335**	*e*Pn	**Pn**	**18 16 49.2**	**+1.3**
MAKA				Sn	**Sn**	**18 17 50.7**	**-2.5**
BBLS	**Lazi?i**	**5.77**	**353**	*e*Pn	**Pn**	**18 16 49.6**	**+1.0**
HVAR	**Hvar**	**5.83**	**331**	*e*Pn	**Pn**	**18 16 48.4**	**-1.0**
RICI	**Ricice**	**5.87**	**337**	*e*Pn	**Pn**	**18 16 49.9**	**0.0**
RICI				Sn	**Sn**	**18 17 54.4**	**-2.5**
DIVS	**Divibare**	**5.96**	**358**	*e*Pn	**Pn**	**18 16 53.1**	**+1.8**
ZIRJ	**Zirje**	**6.55**	**329**	*e*Pn	**Pn**	**18 16 59.7**	**+0.4**
ZIRJ				Sn	**Sn**	**18 18 08.7**	**-4.9**
DUGI	**Dugi Otok**	**7.07**	**327**	*e*Pn	**Pn**	**18 17 07.9**	**+1.5**
DUGI				Sn	**Sn**	**18 18 24.4**	**-2.0**
SOKA	**Soboth**	**9.39**	**337**	*i* Pn	**Pn**	**18 17 38.5**	**+0.3**
	comp=N,2.0nm,0.4s,SNR=6.2						
OBKA	**Obir**	**9.39**	**335**	*e*Pn	**Pn**	**18 17 39.9**	**+1.6**
	comp=N,1.3nm,0.3s						
MOA	**Molln**	**10.67**	**337**	*e*Pn	**Pn**	**18 17 57.2**	**+1.5**
	comp=N,1.3nm,0.3s,baz=143,slow=15,SNR=6.7						
GERES	**GERESS Array B**	**11.73**	**338**	Pn	**Pn**	**18 18 08.8**	**-1.4**
	comp=N,0.1nm,0.3s,baz=143,slow=15,SNR=2.6						
FINES	**FINESS Array B**	**23.61**	**7**	P	**P**	**18 20 32.5**	**-1.0**
	comp=N,0.4nm,0.4s,baz=181,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**45.46**	**58**	P	**P**	**18 23 43.1**	**+1.3**
	comp=N,0.3nm,0.5s,baz=287,slow=7.4,SNR=2.4						

IDC 03 18:20:40.6±7.3,30°.42S×177°.09W,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.4/37,mbtmp3.4/2,Error ellipse: s-maj=311.0km s-min=56.2km az=155.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.89**	**267**	P	P	18 28 48.8	-0.4
	0.4nm,0.9s,baz=101,slow=7.0,SNR=4.9						
WRA	**Warramunga Arr**	**44.88**	**272**	P	P	18 28 57.1	0.0
	0.4nm,0.6s,baz=113,slow=7.2,SNR=5.0						
FINES	**FINESS Array B**	**145.43**	**341**	PKPbc	PKPbc	18 40 19.1	-0.8
	0.6nm,0.4s,baz=38,slow=2.5,SNR=10						

*IDC **03** 19:30:30.9±0.5,27°.25N×103°.55E,h0km,mb4.2/26, mb1 4.3/27,mb1mx4.2/51,mbtmp4.2/27,ML3.9/1,MS3.6/18, Ms1 3.6/18,ms1mx3.4/50,Error ellipse: s-maj=15.5km s-min=11.7km az=48.0*
*BJI **03** 19:30:31.6±0.0,27°.09N×103°.36E,h5km,mB4.5/26, mb4.4/38,ML4.5/20,Ms4.4/45,Ms7 4.1/36*
*NEIC **03** 19:30:32.3±1.6,27°.16N±0°.06×103°.44E±0°.09,h10km±1km, mb4.6/24,Error ellipse: s-maj=13.7km s-min=9.9km az=113.0*
*MOS **03** 19:30:32.8±1.1,27°.18N×103°.48E,h26km,mb4.7/23,Error ellipse: s-maj=8.7km s-min=5.6km az=92.2*

ISC 03 19:30:32.2±0.3,27°.10N±0°.03×103°.51E±0°.04,h10km,n141, σ1§77/145,mb4.4/62,MS3.5/20,15C-5D,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.09**	**200**	*e*Pg	**Pb**	**19 31 09.5**	**-0.8**
KMI				Sg	**Sb**	**19 31 35.9**	**-0.5**
KMI				smax	smax		
	comp=N,1μm,1.3s						
KMI				smax	smax		
	comp=E,2μm,1.0s						
KMI	**Kunming**	**2.09**	**200**	P	**Pn**	**19 31 08.5**	**+1.0**
KMI	**Kunming**	**2.09**	**200**		**Pn**	**19 31 08.5**	**+1.0**
GYA	**Guiyang**	**2.89**	**102**	↑Pn	**Pb**	**19 31 22.6**	**-1.3**
GYA				Sn	**Sb**	**19 31 59.4**	**0.0**
GYA				Sg	**Sg**	**19 32 08.4**	**+3.4**
GYA				smax	smax		
	comp=N,3μm,0.8s						
GYA				smax	smax		
	comp=E,1μm,0.9s						
GYA				LR	LR		
	comp=N,5μm,4.1s						
GYA				LR	LR		
	comp=E,3μm,4.2s						
GYA				LR	LR		
	comp=Z,2μm,7.8s						
CD2	**Chengdu**	**3.81**	**3**	↑*i*Pn	**Pn**	**19 31 32.9**	**+1.9**
CD2				Pg	**Pg**	**19 31 44.2**	**-1.0**
CD2				Sn	**Sn**	**19 32 14.5**	**-1.3**
CD2				Sg	**Sg**	**19 32 32.4**	**-2.1**
CD2				smax	smax		
	comp=N,3μm,1.1s						
CD2				smax	smax		
	comp=E,7μm,1.2s						
CD2				LR	LR		
	comp=N,4μm,6.2s						
CD2				LR	LR		
	comp=E,12μm,9.2s						
CD2				LR	LR		
	comp=Z,5μm,5.4s						
ENH	**Enshi**	**6.13**	**58**	Pn	**Pn**	**19 32 05.4**	**+2.6**
XAN	**Xi'an**	**8.34**	**33**	P	**Pn**	**19 32 33.5**	**+0.2**
XAN				S	**Sn**	**19 34 05.8**	**-1.8**
XAN				smax	smax		
	comp=N,510nm,0.9s						
XAN				smax	smax		
	comp=E,420nm,1.1s						
XAN				LR	LR		
	comp=N,2μm,7.1s						
XAN				LR	LR		
	comp=E,1μm,6.8s						
XAN				LR	LR		
	comp=Z,2μm,7.3s						
XAN	**Xi'an**	**8.34**	**33**	P	**Pn**	**19 32 33.8**	**+0.5**
XAN	**Xi'an**	**8.34**	**33**	Pn	**Pn**	**19 32 33.8**	**+0.5**
LZH	**Lanzhou**	**8.97**	**2**	*e*P	**Pn**	**19 32 44.7**	**+2.7**
LZH				pP	Pg	19 32 47.4	-37
LZH				sP		19 32 48.8	
LZH				*e*S	**Sn**	**19 34 27.3**	**+4.2**
LZH				sS	Sg	19 34 33.3	-47
LZH				SS	**SnSn**	**19 34 45.2**	**+10**
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
LZH				pmax	pmax		
	comp=Z,150nm,4.6s						
LZH				LR	LR		
	comp=N,1μm,7.0s						
LZH				LR	LR		
	comp=E,4μm,7.6s						
LZH				LR	LR		
	comp=Z,940nm,7.6s						
CHTO	**Chiang Mai**	**9.26**	**208**	P	**Pn**	**19 32 45.8**	**-0.1**
CHTO	**Chiang Mai**	**9.26**	**208**	Pn	**Pn**	**19 32 45.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**9.58**	**207**	Pn	**Pn**	**19 32 54.2**	**+4.0**
	0.3nm,0.3s,baz=19,slow=12,SNR=11						
CMAR				Pg		19 33 35.8	
	0.0nm,0.3s,baz=12,slow=13,SNR=3.0						
CMAR				Lg	Lg	19 35 42.4	
	0.1nm,0.3s,baz=342,slow=30,SNR=1.5						
CMAR				LR	LR	19 36 57.7	
	comp=Z,540nm,19.2s,baz=20,slow=40						
QIZ	**Qiongzhong**	**9.92**	**143**	P	**Pn**	**19 32 53.6**	**-1.3**
QIZ				S	**Sn**	**19 34 45.3**	**-1.1**
QI

GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,43nm,4.0s
GTA LR LR
comp=Z,530nm,15.9s
GTA LR LR
comp=Z,1μm,15.2s
NJ2 Nanjing 14.23 66 *e*P **Pn 19 33 50.6 -3.2**
NJ2 S **Sn 19 36 33.6 +1.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 LR LR
comp=N,2μm,11.5s
NJ2 LR LR
comp=E,690nm,12.6s
NJ2 LR LR
comp=Z,850nm,11.6s
TIA Tai'an 14.71 49 P **Pn 19 34 00.4 -0.1**
TIA pmax pmax
comp=Z,13nm,1.3s
TIA LR LR
comp=Z,350nm,11.6s
TIA LR LR
comp=Z,280nm,17.3s
TIA LR LR
comp=Z,460nm,15.5s
HHC Hu-ho-hao-te 15.24 24 *e*P **Pn 19 34 07.0 -0.7**
HHC PP **sP 19 34 21.1 +3.4**
HHC SS **S 19 37 13.2 -0.3**
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,140nm,5.6s
HHC LR LR
comp=Z,530nm,9.1s
HHC LR LR
comp=Z,660nm,8.1s
HHC LR LR
comp=Z,610nm,11.4s
BJI Beijing 16.65 36 P **P 19 34 26.7 -1.4**
BJI pmax pmax
comp=Z,14nm,1.1s
BJI LR LR
comp=Z,370nm,11.2s
BJI LR LR
comp=Z,440nm,11.6s
SONM Songino Array 20.82 5 P **P 19 35 13.9 -0.1**
comp=Z,7.0nm,0.9s,baz=187,slow=10.0,SNR=20
SONM LR LR 19 43 28.1
comp=Z,146nm,19.2s,baz=184,slow=38
ULN Ulaanbaatar 20.92 7 *ce*P **P 19 35 13.7 -1.3**
ULN pmax pmax
comp=Z,11nm,1.3s
ULN Ulaanbaatar 20.92 7 P **P 19 35 12.8 -2.2**
WMQ Urumqi 21.02 327 *e*P **P 19 35 18.0 +1.9**
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,32nm,4.3s
WMQ LR LR
comp=Z,280nm,15.7s
WMQ LR LR
comp=Z,170nm,16.1s
TJN Taejon 22.25 60 *i* P **P 19 35 29.9 +0.6**
IPM Ipoh 22.62 186 P **P 19 35 32.8 -0.6**
IPM IAmb IAmb 19 35 38.8
comp=Z,11nm,0.8s
KSRS Korea Array 23.02 57 P **P 19 35 37.1 -0.3**
comp=Z,4.1nm,0.6s,baz=245,slow=10,SNR=22
KSRS LR LR 19 45 42.0
comp=Z,150nm,20.5s,baz=230,slow=40
ZAK Zakamensk 23.25 360 *e*P **P 19 35 39.5 -0.3**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
KKM Kota Kinabalu 24.18 148 P **P 19 35 43.8 -5.2**
KKM IAmb IAmb 19 35 53.1
comp=Z,27nm,1.1s
CN2 Changchun 24.32 41 *e*P **P 19 35 50.0 0.0**
CN2 pmax pmax
comp=Z,30nm,0.7s
JNU Nakatsue 24.38 69 P **P 19 35 51.3 +0.5**
comp=Z,15nm,0.9s,baz=209,slow=15,SNR=3.8
JNU LR LR 19 45 27.1
comp=Z,120nm,20.4s,baz=205,slow=37
JNU Nakatsue 24.38 69 IAmb IAmb 19 35 52.2
comp=Z,30nm,1.1s
TLY Talaya 24.55 0 LR LR 19 46 58.6
comp=Z,58nm,19.6s,baz=174,slow=40
MOY Mondy 24.61 356 *e*P **P 19 35 52.8 +0.1**
MOY pmax pmax
comp=Z,13nm,1.8s
IRK Irkutsk 25.12 1 *e*P **P 19 35 55.3 -1.9**
IRK pmax pmax
comp=Z,25nm,0.8s
HIA Hailar 25.44 25 *i* P **P 19 35 58.9 -1.2**
HIA pmax pmax
comp=Z,21nm,0.9s
DGZ Jazzator, Alta 25.74 336 *i* P **P 19 36 01.4 -1.6**
DGZ pmax pmax
comp=Z,13nm,1.1s
MK31 Makanchi Array 25.82 325 P **P 19 36 03.5 -0.1**
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 25.82 325 P **P 19 36 03.5 -0.1**
MK31 IAmb IAmb 19 36 10.4
comp=Z,6.5nm,0.8s
MKAR Makanchi Array 25.82 325 P **P 19 36 03.8 +0.1**
comp=Z,3.0nm,0.6s,baz=127,slow=11,SNR=23
MKAR LR LR 19 47 13.8
comp=Z,141nm,20.7s,baz=135,slow=39
MAKZ Makanchi 25.99 325 P **P 19 36 03.9 -1.3**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ Makanchi 25.99 325 P **P 19 36 03.9 -1.3**
KSH Kashi 26.03 305 *e*P **P 19 36 06.9 +1.2**
KSH pmax pmax
comp=Z,8.0nm,0.6s
KDJ Kajisay 26.22 312 P **P 19 36 07.1 -0.4**
KDJ pmax pmax
comp=Z,8.0nm,0.9s
KDJ Kajisay 26.22 312 P **P 19 36 07.1 -0.4**
KDJ IAmb IAmb 19 36 11.5
comp=Z,7.6nm,0.8s
SDSI Sungai Dareh 27.94 184 P **P 19 36 23.7 +0.8**
comp=Z,5.9nm,0.9s
AAK Ala-Archa 28.23 311 P **P 19 36 26.3 +0.7**
comp=Z,2.3nm,0.5s,baz=126,slow=4.8,SNR=3.5
AAK Ala-Archa 28.23 311 *ce*P **P 19 36 24.4 -1.2**
AAK pmax pmax
comp=Z,5.0nm,1.3s
USRK Ussuriysk Ar. 28.55 46 P **P 19 36 27.6 -0.5**
comp=Z,5.8nm,0.8s,baz=240,slow=8.0,SNR=11
USRK LR LR 19 49 35.0
comp=Z,95nm,20.8s,baz=217,slow=40
ZALV Zalesovo Beam 30.16 338 P **P 19 36 42.0 -0.4**
comp=Z,2.3nm,0.6s,baz=139,slow=10,SNR=9.7
ZALV LR LR 19 49 46.1
comp=Z,65nm,20.9s,baz=152,slow=38
ZALV Zalesovo Beam 30.16 338 *i* P **P 19 36 42.5 +0.2**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
KURBB Kurchatov Arra 30.23 328 P **P 19 36 42.4 -0.6**
comp=Z,0.7nm,0.4s,baz=132,slow=10,SNR=13
KURBB PcP **PcP 19 39 42.8 -0.8**
comp=Z,0.5nm,0.6s,baz=128,slow=1.8,SNR=4.0
KURK Kurchatov 30.25 328 *ce*P **P 19 36 42.3 -0.9**
KURK pmax pmax
comp=Z,12nm,2.5s
KURK Kurchatov 30.25 328 P **P 19 36 42.6 -0.5**
KURK IAmb IAmb 19 36 56.1
comp=Z,4.0nm,0.7s
MJAR Matsushiro Arr 30.81 64 P **P 19 36 47.5 -0.8**
comp=Z,1.2nm,0.9s,baz=267,slow=11,SNR=5.2
MJAR LR LR 19 50 28.6
comp=Z,116nm,18.6s,baz=245,slow=39
KLR Kul'dur 31.02 37 P **P 19 36 49.0 -0.9**
comp=Z,1.6nm,0.6s,baz=272,slow=9.6,SNR=8.1
KLR LR LR 19 50 51.9
comp=Z,121nm,21.0s,baz=228,slow=40
KLR Kul'dur 31.02 37 *ce*P **P 19 36 48.8 -1.2**
KLR pmax pmax
comp=Z,3.0nm,0.9s
ZEA Zeya 31.87 27 *e*P **P 19 36 57.8 +0.4**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=Z,400nm,14.0s
ZEA MLR MLR
comp=E,200nm,10.0s
SKJI Sukabumi 34.03 175 P **P 19 37 19.7 +3.1**
ERM Erimo 35.54 55 *ce*P **P 19 37 31.4 +1.9**
ERM pmax pmax
comp=Z,18nm,1.7s
BRVK Borovoye 35.77 326 *ce*P **P 19 37 29.8 -1.5**
BRVK pmax pmax
comp=Z,5.0nm,1.3s
BRVK Borovoye 35.77 326 P **P 19 37 31.7 +0.4**
YAK Yakutsk 39.03 19 *e*P **P 19 37 57.9 -0.9**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK Yakutsk 39.03 19 P **P 19 37 57.8 -1.0**
YAK IAmb IAmb 19 37 59.5
comp=Z,16nm,0.7s
GEYT Alibeck 39.44 298 P **P 19 38 02.7 +0.1**
comp=Z,2.5nm,0.7s,baz=67,slow=5.0,SNR=6.0
SVE Sverdlovsk 42.47 326 *e*P **P 19 38 27.6 +0.3**
SVE pmax pmax
comp=Z,9.0nm,1.1s
NRIK Noril'sk 43.30 352 P **P 19 38 33.0 -0.8**
comp=Z,4.3nm,0.7s,baz=110,slow=3.9,SNR=3.1
NRIK LR LR 19 57 30.7
comp=Z,106nm,21.3s,baz=204,slow=38
ARU Arti 43.35 325 P **P 19 38 34.3 -0.1**
comp=Z,1.2nm,0.3s,baz=121,slow=5.3,SNR=13
ARU Arti 43.35 325 *c i*P **P 19 38 34.1 -0.3**
ARU 19 40 11.9
ARU S **S 19 45 04.3 +2.4**
ARU pmax pmax
comp=Z,9.0nm,0.8s
TIXI Tiksi 46.77 11 *i* P **P 19 39 00.3 -1.1**
TIXI pmax pmax
comp=Z,4.0nm,1.2s
TIXI Tiksi 46.77 11 P **P 19 38 59.0 -2.3**
TIXI IAmb IAmb 19 39 05.5
comp=Z,4.5nm,0.6s
PETK Petropavlovsk- 47.47 42 LR LR 20 01 39.4
comp=Z,61nm,18.5s,baz=241,slow=40
PET Petropavlovsk 48.02 42 P P 19 39 05.7 -5.7
PET Petropavlovsk 48.02 42 P P 19 39 05.7 -5.7
SOCY Socotra 48.64 262 P P 19 39 12.0 -4.8
KBZ Khabaz 51.01 306 LR LR 20 05 40.0
comp=Z,50nm,18.1s,baz=101,slow=41
KIV Kislovodsk 51.16 306 *e*P **P 19 39 36.9 +1.3**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,84nm,16.0s
PRGR Permogore 51.36 329 *e*P **P 19 39 32.5 -4.2**
KLMR Klimovskoe 54.10 327 *e*P **P 19 39 55.5 -1.4**
KLMR pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 54.10 327 *e*P **P 19 39 55.5 -1.4**
KLMR AMP 19 40 00.3
comp=Z,9.0nm,0.8s
BILL Bilibino 55.02 24 *e*P **P 19 40 02.7 -0.9**
BILL *e* 19 41 08.3
BILL pmax pmax
comp=Z,4.0nm,0.5s
OBN Obninsk 55.15 320 *e*P **P 19 40 06.2 +1.5**
OBN *e* 19 41 09.5
OBN *e* 19 42 08.1
OBN pmax pmax
comp=Z,7.0nm,1.0s
TMCR Tamitsa 55.29 331 *e*P **P 19 40 05.8 +0.3**
TMCR pmax pmax
comp=Z,6.0nm,0.6s
WB0 Warramunga Arr 55.37 144 P **P 19 40 07.2 +0.4**
WRA Warramunga Arr 55.49 144 P **P 19 40 08.0 +0.4**
comp=Z,6.0nm,0.6s,baz=333,slow=8.5,SNR=102
WRA Warramunga Arr 55.49 144 *ce*P P 19 40 19.2 +12
WRA pmax pmax
comp=Z,2.0nm,0.4s
WB2 Warramunga Arr 55.49 144 P **P 19 40 08.3 +0.8**
WR0 Warramunga Arr 55.61 144 P **P 19 40 09.4 +1.0**
LVZ Lovozero 57.24 335 P **P 19 40 19.2 -0.3**
LVZ pmax pmax
comp=Z,15nm,1.1s
LVZ Lovozero 57.24 335 P **P 19 40 19.2 -0.3**
BRTR Keskin Array B 58.33 302 P **P 19 40 27.4 -0.4**
comp=Z,1.0nm,0.7s,baz=268,slow=28,SNR=4.0
BRTR LR LR 20 07 19.7
comp=Z,28nm,21.2s,baz=80,slow=38
BRTR Keskin Array B 58.33 302 *ce*P **P 19 40 29.6 +1.8**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 58.38 147 P **P 19 40 29.0 +1.0**
comp=Z,2.5nm,0.5s,baz=325,slow=6.5,SNR=50
AKASG Malin Array Be 59.79 315 P **P 19 40 36.0 -1.5**
comp=Z,1.7nm,0.7s,baz=72,slow=6.5,SNR=6.8
AKASG Malin Array Be 59.79 315 *ce*P **P 19 40 39.7 +2.2**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
KEV Kevo 60.19 337 P **P 19 40 39.9 0.0**
KEV pmax pmax
comp=Z,5.0nm,0.6s
KEV Kevo 60.19 337 P **P 19 40 39.9 0.0**
KEV IAmb IAmb 19 40 42.4
comp=Z,4.8nm,0.6s
FINES FINESS Array B 60.62 327 P **P 19 40 42.1 -0.9**
comp=Z,1.3nm,0.4s,baz=99,slow=7.0,SNR=19
FINES FINESS Array B 60.62 327 *i* P **P 19 40 42.5 -0.5**
FINES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 60.71 337 P **P 19 40 42.4 -1.1**
comp=Z,1.4nm,0.3s,baz=237,slow=8.4,SNR=25
CFR Carcaliu 61.35 309 ⇓P **P 19 40 46.7 -1.5**
VRI Vrincioaia 62.19 310 ⇓P **P 19 40 53.8 -0.1**
PLOR Plostina 62.25 310 ⇑P **P 19 40 54.3 0.0**
CTA Charters Tower 62.57 134 P **P 19 40 58.0 +1.3**
comp=Z,5.5nm,0.9s,baz=285,slow=6,SNR=2.1
MLR Mumtele Rosu 62.80 309 ⇓P **P 19 40 59.0 +0.8**
DOPR Dopca 63.09 310 ⇓P **P 19 41 04.0 +4.0**
VTS Vitosha 65.37 307 ⇓P **P 19 41 15.1 0.0**
BZS Buzias 65.74 310 ⇑P **P 19 41 17.4 +0.1**
VYHS Vyhne 66.84 314 *e*P **P 19 41 27.7 +3.4**
VYHS Vyhne 66.84 314 *e*P **P 19 41 27.7 +3.4**
NB2 NORSAR Subarra 67.77 328 P **P 19 41 28.3 -1.7**
comp=Z,1.9nm,0.7s,baz=74,slow=6.5
NOA NORSAR Array B 67.77 328 P **P 19 41 28.6 -1.3**
comp=Z,1.5nm,0.7s,baz=74,slow=6.4,SNR=12
NOA LR LR 20 15 22.3
comp=Z,30nm,19.4s,baz=120,slow=40
CONA Conrad Observa 68.91 314 *e*P **P 19 41 36.7 -0.7**
comp=Z,1.0nm,0.6s
STKA Stephens Creek 68.97 146 P **P 19 41 38.6 +0.9**
comp=Z,1.6nm,0.8s,baz=327,slow=5.9,SNR=4.1
STKA Stephens Creek 68.97 146 IAmb IAmb 19 41 48.0
comp=Z,1.7nm,1.3s
SOKA Soboth 69.83 313 *e*P **P 19 41 40.2 -3.0**
comp=Z,2.6nm,1.3s
KHC Kasperske Hory 69.98 316 *e*P **P 19 41 46.0 +2.0**
KHC Kasperske Hory 69.98 316 *e*P **P 19 41 46.0 +2.0**
GERES GERESS Array B 70.00 315 P **P 19 41 43.4 -0.8**
comp=Z,1.0nm,0.6s,baz=69,slow=7.6,SNR=12
GERES LR LR 20 13 37.6
comp=Z,59nm,20.8s,baz=92,slow=37
KBA Koelnbreinsper 70.80 314 *e*P **P 19 41 48.9 -0.2**
comp=Z,2.4nm,0.9s
WTTA Wattenberg 71.83 314 *ep*P **P 19 41 56.0 +0.6**
comp=Z,2.6nm,0.6s
SQTA Sankt Quirin 72.12 314 *e*P **P 19 41 55.5 -1.5**
comp=Z,3.1nm,0.6s
MOTA Moosalm 72.14 314 *ep*P **P 19 41 57.8 +0.6**
comp=Z,2.2nm,0.6s
RETA Reutte 72.31 315 *ep*P **P 19 41 58.6 +0.5**
comp=Z,1.0nm,0.5s
BPAW Bear Paw Mtn. 72.40 26 P **P 19 41 58.2 -0.1**
BPAW IAmb IAmb 19 42 00.2
comp=Z,5.8nm,0.6s
PPLA Purkeypile 72.43 28 P **P 19 41 58.6 -0.1**
FETA Feichten 72.49 314 *e*P **P 19 41 57.7 -1.6**
comp=Z,6.9nm,1.2s
ILAR Eielson Array 73.67 25 P **P 19 42 04.0 -1.8**
comp=Z,0.6nm,0.5s,baz=274,slow=7.1,SNR=9.9
ILAR Eielson Array 73.67 25 P **P 19 42 04.0 -1.8**
RIDG Independent Ri 74.96 25 P **P 19 42 12.1 -1.3**
RIDG IAmb IAmb 19 42 13.2
comp=Z,5.3nm,0.8s
INK Inuvik 76.10 19 P **P 19 42 18.9 -0.9**
comp=Z,3.7nm,0.9s,baz=283,slow=9.5,SNR=3.4
INK Inuvik 76.10 19 IAmb IAmb 19 42 20.3
comp=Z,7.6nm,1.2s
ESDC Sonseca Array 85.33 312 LR LR 20 24 49.7
comp=Z,46nm,18.6s,baz=165,slow=38
YKA Yellowknife Ar 85.66 17 P **P 19 43 09.9 -1.0**
comp=Z,1.8nm,0.9s,baz=327,slow=4.7,SNR=9.4
TORD Torodi Ar. Bea 94.33 287 LR LR 20 31 18.7
comp=Z,36nm,19.0s,baz=105,slow=39
ROSC El Rosal 148.18 356 PKPbc **PKiKP 19 50 20.6 -0.9**
comp=Z,18nm,0.7s,baz=136,slow=11,SNR=8.2

*IDC **03** 19:56:55.1±1.4,55.5°54S×29.6°69W,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.6/21,mbtmp3.7/4,ML3.1/1,Error ellipse: s-maj=76.3km s-min=27.9km az=91.0*
*NEIC **03** 19:56:56.3±1.9,55.5°5S±0.1°×29.5°5W±0.2°,h10km±1km, mb4.5/7,Error ellipse: s-maj=24.2km s-min=14.9km az=203.0*
ISC 03 19:56:59.3±0.8,55.5°S±0.1°×29.6°W±0.1°,h28km,n16, σ1ᵍ05/15,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.17**	**284**	Pn	**Pn**	**19 58 02.2**	**+1.2**
EFI	**East Falkland**	**17.27**	**271**	Pn	**Pn**	**20 00 57.1**	**-1.1**
EFI				IAmb	IAmb	20 01 14.1	
	comp=Z,26nm,1.1s						
VNA1	**Neumayer--Stat**	**17.82**	**157**	P	**P**	**20 01 07.3**	**+2.0**
VNA3	**Neumayer Olymp**	**17.97**	**159**	P	**P**	**20 01 08.8**	**+1.7**
SNAA	**Sanae**	**19.80**	**155**	P	**P**	**20 01 26.9**	**-0.2**
SNAA	**Sanae**	**19.80**	**155**	P	**P**	**20 01 26.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=309,slow=9.4,SNR=6.7						
SNAA	**Sanae**	**19.80**	**155**	IAmb	IAmb	20 01 35.6	
	comp=Z,9.8nm,1.5s						
QSPA	**South Pole Qui**	**34.75**	**180**	P	**P**	**20 03 46.7**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=209,slow=0.7,SNR=6.6						
QSPA	**South Pole Qui**	**34.75**	**180**	P	**P**	**20 03 46.2**	**-0.6**
QSPA				IAmb	IAmb	20 04 02.3	
	comp=Z,4.6nm,1.4s						
MT02	**Curacav**	**36.33**	**290**	P	**P**	**20 04 01.2**	**+0.7**
MT02				IAmb	IAmb	20 04 11.2	
	comp=Z,29nm,1.4s						
PATCX	**Punta Patache**	**45.98**	**302**	P	**P**	**20 05 19.2**	**-0.8**
VNDA	**Vanda**	**47.05**	**183**	P	**P**	**20 05 26.9**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=193,slow=5.0,SNR=9.9						
VNDA	**Vanda**	**47.05**	**183**	P	**P**	**20 05 26.9**	**-0.7**
VNDA				IAmb	IAmb	20 05 28.6	
	comp=Z,1.8nm,0.9s						
RCBR	**Riachuelo**	**49.80**	**352**	P	**P**	**20 05 48.8**	**-0.7**
RCBR				IAmb	IAmb	20 06 03.2	
	comp=Z,17nm,1.1s						
TORD	**Torodi Ar. Bea**	**73.28**	**32**	P	**P**	**20 08 28.6**	**+0.8**
	comp=Z,0.3nm,0.9s,baz=208,slow=8.1,SNR=1.5						
ILAR	**Eielson Array**	**148.75**	**313**	PKPbc	**PKPbc**	**20 16 42.0**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=115,slow=1.8,SNR=4.3						

IDC 03 20:13:03.2±4.4,0.13S×146.15E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.5/48,mbtmp3.5/4,ML3.0/1,Error ellipse: s-maj=86.2km s-min=37.0km az=79.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**5.94**	**246**	Pn	Pn	20 14 34.1	+1.6
	0.4nm,0.3s,baz=326,slow=22,SNR=1.4						
JAY				Sn	Sn	20 15 38.8	-2.6
	0.3nm,0.3s,baz=101,slow=13,SNR=2.1						
WRA	**Warramunga Arr**	**22.84**	**210**	P	P	20 18 07.3	-0.8
	0.7nm,0.5s,baz=32,slow=11,SNR=24						
ASAR	**Alice Springs**	**26.25**	**206**	P	P	20 18 40.8	+0.6
	0.4nm,0.8s,baz=28,slow=10,SNR=4.5						
CMAR	**Chiang Mai Arr**	**49.90**	**294**	P	P	20 21 58.6	-0.4
	1.0nm,0.8s,baz=114,slow=6.8,SNR=5.4						

*BJI **03** 20:15:57.2±0.0,23.10N×143.06E,h53km,mB4.8/13, mb4.5/16,Ms4.2/3*
*IDC **03** 20:15:57.8±2.6,23.11N×143.41E,h51km±21km,mb3.9/23, mb1 4.0/27,mb1mx3.9/65,mbtmp4.2/27,ML3.8/4,MS3.5/12, Ms1 3.5/12,ms1mx3.3/48,Error ellipse: s-maj=24.2km s-min=12.3km az=82.0*
*NEIC **03** 20:15:58.6±2.1,23.04N±0.07×143.1E±0.1,h50km±6km, mb4.8/20,Error ellipse: s-maj=18.9km s-min=9.7km az=74.0*
ISC 03 20:16:00.8±0.6,23.18N±0.07×143.2E±0.1,h71km,n74, σ1ᵍ74/62,mb4.3/33,1D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.01**	**347**	P	**Pn**	**20 16 59.8**	**+0.1**
	40nm,0.3s,baz=130,slow=23,SNR=24						
JCJ				S	**Sn**	**20 17 45.3**	**-0.2**
	100nm,0.3s,baz=288,slow=23,SNR=10						
JCJ				LR	LR	20 18 31.5	
	comp=Z,572nm,21.1s,baz=136,slow=37						
JCJ	**Chichijima**	**4.01**	**347**	Pn	**Pn**	**20 16 59.7**	**-0.1**
GUMO	**Guam**	**9.67**	**170**	LR	LR	20 20 26.6	
	comp=Z,212nm,19.1s,baz=298,slow=28						
JHJ2	**Mitsune**	**10.34**	**344**	Pn	**Pn**	**20 18 24.8**	**-1.4**
JHJ	**Hachijo jima 2**	**10.35**	**344**	P	**Pn**	**20 18 24.3**	**-2.1**
	2.4nm,0.3s,baz=64,slow=21,SNR=1.6						
JHJ				S	**Sn**	**20 20 16.5**	**-4.3**
	6.0nm,0.3s,baz=69,slow=18,SNR=1.6						
JHJ				LR	LR	20 22 19.5	
	comp=Z,447nm,20.2s,baz=158,slow=36						
INU	**Inuyama**	**13.27**	**337**	Pn	**Pn**	**20 19 04.4**	**-1.7**
MJAR	**Matsushiro Ar**	**14.00**	**343**	P	**Pn**	**20 19 11.5**	**-4.3**
	0.1nm,0.3s,baz=161,slow=10,SNR=12						
MJAR				S	Sn	20 21 39.2	-10
	0.0nm,0.3s,baz=102,slow=16,SNR=2.6						
MJAR				LR	LR	20 24 18.9	
	comp=Z,364nm,18.8s,baz=160,slow=36						
MAJO	**Matsushiro**	**14.00**	**343**	Pn	**Pn**	**20 19 15.3**	**-0.5**
MJB9	**Matsu-Tunnel**	**14.01**	**343**	Pn	**Pn**	**20 19 15.3**	**-0.6**
JNU	**Nakatsue**	**14.69**	**315**	P	**Pn**	**20 19 25.7**	**+0.9**
	0.2nm,0.3s,baz=157,slow=13,SNR=2.2						
JNU				LR	LR	20 25 10.7	
	comp=Z,140nm,18.3s,baz=167,slow=37						
JNU	**Nakatsue**	**14.69**	**315**		**Pn**	**20 19 23.2**	**-1.6**
YOJ	**Yonaguni jima**	**18.51**	**278**	P	**P**	**20 20 06.7**	**-4.8**
YOJ				IAmb	IAmb	20 20 24.9	
	comp=Z,154nm,1.3s						
ERM	**Erimo**	**18.79**	**360**	P	**P**	**20 20 14.4**	**+0.1**
KSRS	**Korea Array**	**19.36**	**321**	P	**P**	**20 20 20.6**	**0.0**
	comp=Z,0.3nm,0.3s,baz=134,slow=12,SNR=20						
KSRS				LR	LR	20 27 00.7	
	comp=Z,50nm,20.1s,baz=140,slow=34						
ASAJ	**Asahikawa**	**20.89**	**359**	P	Pn	20 20 41.1	+0.8
ASAJ				LR	LR	20 29 17.3	
	comp=Z,78nm,20.8s,baz=184,slow=38						
H11N1	**WAKE ISLAND Hy 22.32**	**94**		T	T	20 44 36.3	
	baz=282,slow=75,SNR=93						
H11N2	**WAKE ISLAND Hy 22.32**	**94**		T	T	20 44 43.4	
	baz=282,slow=75,SNR=164						
H11N3	**WAKE ISLAND Hy 22.34**	**94**		T	T	20 44 40.3	
	baz=282,slow=75,SNR=115						
H11S3	**WAKE ISLAND Hy 22.44**	**98**		T	T	20 44 27.6	
	baz=285,slow=75,SNR=132						
H11S1	**WAKE ISLAND Hy 22.45**	**98**		T	T	20 44 29.3	
	baz=285,slow=75,SNR=72						
H11S2	**WAKE ISLAND Hy 22.46**	**98**		T	T	20 44 29.9	
	baz=285,slow=75,SNR=106						
USRK	**Ussuriysk Ar.**	**22.90**	**339**	P	**P**	**20 20 57.6**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=171,slow=11,SNR=5.2						
JAY	**Jayapura**	**25.65**	**186**	LR	LR	20 29 24.3	
	comp=Z,106nm,21.2s,baz=334,slow=32						
WHN	**Wuhan**	**26.71**	**292**	⇓P	**P**	**20 21 40.5**	**+7.0**
WHN				S	S	20 25 48.0	-16
WHN				pmax	pmax		
	comp=Z,48nm,1.3s						
WHN				LR	LR		
	comp=Z,620nm,12.5s						
KLR	**Kul'dur**	**27.53**	**344**	P	**P**	**20 21 42.3**	**+1.7**
	comp=Z,4.8nm,0.6s,baz=158,slow=7.1,SNR=21						
SONM	**Songino Array**	**38.22**	**319**	P	**P**	**20 23 14.8**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=123,slow=6.2,SNR=4.4						
YAK	**Yakutsk**	**39.92**	**350**	P	**P**	**20 23 29.7**	**+2.1**
GTA	**Gaotai**	**40.04**	**304**	*e*P	P	20 23 34.7	+5.5
GTA				pP	pP	20 23 39.1	-6.5
GTA				sP	pwP	20 23 41.8	-7.9
GTA				pmax	pmax		

comp=Z,2.0nm,1.0s
CMAR Chiang Mai Arr 41.51 272 P **P** **20 23 41.3 -0.1**
comp=Z,0.4nm,0.6s,baz=66,slow=7.7,SNR=2.0
CMAR LR LR 20 40 27.6
comp=Z,49nm,19.9s,baz=240,slow=35
ADK Adak 41.99 37 P **P** **20 23 47.4 +2.6**
ADK IAmb IAmb 20 23 49.5
comp=Z,24nm,1.2s
GSTR Great Sitkin T 42.43 37 P **P** **20 23 48.9 +0.4**
WB0 Warramunga Arr 43.54 192 P **P** **20 23 56.3 -1.3**
WRA Warramunga Arr 43.72 192 P **P** **20 23 57.2 -1.9**
comp=Z,1.0nm,1.0s,baz=17,slow=9.1,SNR=14
FITZ Fitzroy Crossi 44.46 204 P **P** **20 24 04.0 -1.0**
comp=Z,2.5nm,1.0s,baz=24,slow=10.0,SNR=2.0
ASAR Alice Springs 47.43 192 P **P** **20 24 26.8 -1.6**
comp=Z,0.3nm,0.5s,baz=16,slow=8.4,SNR=6.0
ASAR LR LR 20 42 29.0
comp=Z,108nm,21.7s,baz=310,slow=34
TIXI Tiksi 49.19 354 P **P** **20 24 40.1 -1.2**
comp=Z,3.6nm,0.7s,baz=177,slow=3.6,SNR=3.7
TIXI Tiksi 49.19 354 IAmb IAmb 20 24 42.7
comp=Z,8.6nm,1.2s
ZAA0 Zalesovo Array 53.07 321 P **P** **20 25 10.9 +0.2**
ZALV Zalesovo Beam 53.07 321 P **P** **20 25 10.0 -0.7**
comp=Z,2.4nm,0.6s,baz=106,slow=7.2,SNR=13
MK31 Makanchi Array 53.71 312 P **P** **20 25 16.0 +0.5**
MK31 IAmb IAmb 20 25 22.9
comp=Z,4.8nm,0.9s
MKAR Makanchi Array 53.71 312 P **P** **20 25 16.3 +0.7**
comp=Z,4.0nm,0.6s,baz=87,slow=9.5,SNR=31
MAKZ Makanchi 53.93 312 P **P** **20 25 17.9 +0.7**
MAKZ IAmb IAmb 20 25 18.8
comp=Z,6.3nm,0.8s
STKA Stephens Creek 54.76 182 P **P** **20 25 22.7 -0.5**
comp=Z,0.8nm,0.4s,baz=357,slow=8.6,SNR=4.8
KURK Kurchatov 56.41 316 P **P** **20 25 35.0 +0.2**
KURK IAmb IAmb 20 25 36.7
comp=Z,9.4nm,1.0s
KURBB Kurchatov Arra 56.46 316 P **P** **20 25 35.8 +0.5**
baz=93,slow=7.6
NRIK Noril'sk 56.62 339 P **P** **20 25 36.6 +0.6**
comp=Z,2.4nm,0.2s,baz=115,slow=11,SNR=3.6
ILAR Eielson Array 60.73 27 LR LR 20 50 24.5
comp=Z,41nm,20.3s,baz=292,slow=34
BVAR Borovoye Array 61.56 319 P **P** **20 26 11.4 +0.9**
comp=Z,20nm,0.5s,baz=90,slow=7.0,SNR=9.4
BRVK Borovoye 61.62 319 P **P** **20 26 11.9 +1.0**
KK31 Karatay Array 62.15 308 P **P** **20 26 15.9 +1.2**
KK31 IAmb IAmb 20 26 23.5
comp=Z,3.5nm,0.7s
KKAR Karatay Array 62.15 308 P **P** **20 26 15.6 +0.9**
KKAR IAmb IAmb 20 26 23.5
comp=Z,3.5nm,0.7s
CHGR Chuyangaron 63.79 303 P **P** **20 26 25.7 0.0**
ARU Arti 68.08 323 P **P** **20 26 53.4 +0.5**
comp=Z,3.1nm,0.5s,baz=90,slow=3.7
ARU Arti 68.08 323 P **P** **20 26 53.1 +0.3**
ARU IAmb IAmb 20 26 54.1
comp=Z,9.9nm,0.5s
AKTO Aktyubinsk 69.49 317 P **P** **20 27 01.9 +0.2**
comp=Z,1.6nm,0.5s,baz=91,slow=16,SNR=3.8
RPZ Rata Peaks 71.31 159 LR LR 20 56 50.5
comp=Z,34nm,18.7s,baz=260,slow=34
GEYT Alibeck 72.42 304 P **P** **20 27 20.9 +1.1**
comp=Z,0.4nm,0.4s,baz=170,slow=8.8,SNR=1.1
ARCES ARCESS Array B 77.53 341 P **P** **20 27 48.6 +0.1**
comp=Z,2.3nm,0.7s,baz=57,slow=7.5,SNR=8.7
KBZ Khabaz 81.35 314 P **P** **20 28 10.8 +1.1**
comp=Z,4.9nm,0.8s,baz=99,slow=4.6,SNR=11
FINES FINESS Array B 81.86 334 P **P** **20 28 12.2 +0.1**
comp=Z,2.8nm,0.5s,baz=69,slow=5.2,SNR=48
DUG Dugway, Tooele 85.35 48 P **P** **20 28 31.9 +1.3**
DUG IAmb IAmb 20 28 39.9
comp=Z,13nm,1.1s
PFO Pinyon Flats O 85.55 55 P **P** **20 28 28.9 -2.7**
comp=Z,0.5nm,0.3s,baz=245,slow=13,SNR=1.2
PFO Pinyon Flats O 85.55 55 IAmb IAmb 20 28 47.7
comp=Z,4.8nm,0.8s
AKASG Malin Array Be 86.31 324 P **P** **20 28 33.7 -1.2**
comp=Z,0.9nm,0.5s,baz=50,slow=4.9,SNR=5.4
PDAR Pinedale Array 86.34 45 P **P** **20 28 33.8 -1.8**
comp=Z,1.2nm,0.7s,baz=298,slow=3.2,SNR=4.3
KNB Kanab 86.76 51 P **P** **20 28 39.0 +1.4**
NB201 NORSAR Array S 87.54 339 P **P** **20 28 39.7 -1.1**
NB2 NORSAR Subarra 87.58 339 P **P** **20 28 40.4 -0.5**
comp=Z,0.9nm,0.7s,baz=45,slow=4.6
NOA NORSAR Array B 87.58 339 P **P** **20 28 40.0 -0.9**
comp=Z,1.7nm,0.8s,baz=47,slow=4.6,SNR=9.5
BRTR Keskin Array B 89.34 313 P **P** **20 28 49.2 -0.6**
comp=Z,0.7nm,0.7s,baz=46,slow=4.2,SNR=2.6
VYHS Vyhne 93.05 327 *eP* **P** **20 29 07.4 +0.7**
TORD Torodi Ar. Bea 127.81 310 PKP **PKPdf** **20 34 58.2 -0.9**
comp=Z,0.2nm,0.7s,baz=78,slow=0.2,SNR=1.3
PLCA Paso Flores 146.71 130 PKPbc **PKPdf** **20 35 33.0 -0.1**
comp=Z,1.0nm,0.4s,baz=360,slow=19,SNR=2.0
LPAZ La Paz 149.77 83 PKPbc **PKiKP** **20 35 44.5 -0.7**
comp=Z,2.2nm,0.7s,baz=274,slow=2.6,SNR=11

SGS ***03*** *20:21:11, 17°.35N×42°.71E, h4km, Ml4.0*
IDC ***03*** *20:21:12.3±14.0, 17°.19N×42°.80E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.3/46, mbtmp3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/44, Error ellipse: s-maj=549.5km s-min=28.2km az=153.0*
ISC 03 20:21:11.7±0.9, 17°.32N±0°.07×42°.75E±0°.06, h10km, n10, σ2s27/11, mb3.5/4, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKWA	**Algayed**	**0.08**	**216**	P		**Pg**	**20 21 13.1**	**-0.9**
AKWA				S		**Sg**	**20 21 14.6**	**-1.1**
JAZS2	**Jazan**	**0.63**	**153**	P		**Pg**	**20 21 22.8**	**-1.2**
DJNS	**Zahran al Janu**	**0.85**	**64**	P		**Pg**	**20 21 27.3**	**-0.8**
DJNS				S		**Sg**	**20 21 38.5**	**-0.7**
KNGHS	**KNGHS**	**1.20**	**36**	P		**Pb**	**20 21 33.1**	**-1.6**
AMGES	**AMGES**	**1.62**	**315**	P		**Pn**	**20 21 37.6**	**-2.8**
MMAI	**Mount Meron Ar**	**16.97**	**338**	LR		LR	20 31 50.4	
	comp=Z,54nm,18.2s,baz=115,slow=37							
TORD	**Torodi Ar. Bea**	**39.77**	**270**	P		**P**	**20 28 47.5**	**+2.4**
	0.6nm,0.8s,baz=85,slow=8.5,SNR=6.5							
KURBB	**Kurchatov Arra**	**43.80**	**33**	P		**P**	**20 29 20.6**	**+2.9**
	0.5nm,0.6s,baz=235,slow=8.5,SNR=4.6							
MKAR	**Makanchi Array**	**43.85**	**39**	P		**P**	**20 29 20.8**	**+2.6**
	0.4nm,0.6s,baz=233,slow=7.0,SNR=5.1							
ZALV	**Zalesovo Beam**	**48.87**	**32**	P		**P**	**20 29 59.8**	**+2.4**
	1.1nm,0.5s,baz=245,slow=8.2,SNR=5.8							

MOS ***03*** *20:21:50.8±0.8, 55°.67N×157°.21W, h10km, mb5.4/56, MS4.6/13, Error ellipse: s-maj=9.2km s-min=4.5km az=95.4*
BJI ***03*** *20:21:51.0±0.0, 55°.88N×157°.66W, h6km, mB5.0/35, mb5.1/52, Ms4.7/19, Ms7 4.4/19*
AEIC ***03*** *20:21:55.6±2.7, 55°.54N±0°.06×156°.99W±0°.06, h12km±3km, ML4.5/61, mb5.1/64(NEIC), Error ellipse: s-maj=9.3km s-min=4.3km az=159.0*
IDC ***03*** *20:21:55.8±3.3, 55°.82N×157°.28W, h24km±21km, mb4.7/38, mb1 4.7/41, mb1mx4.6/60, mbtmp4.8/41, ML4.8/3, MS4.1/26, Ms1 4.1/26, ms1mx3.9/60, Error ellipse: s-maj=15.1km s-min=9.9km az=3.0*
NEIC ***03*** *20:21:56.5±1.8, 55°.59N±0°.06×156°.99W±0°.07, h36km±4km, Error ellipse: s-maj=9.8km s-min=4.9km az=160.0*
GCMT ***03*** *20:21:56.6±0.4, 55°.76N±0°.03×156°.82W±0°.05, h15km, MW5.1/70, Moment Tensor Solution. s19,c20; s70,c86; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.00±.09; Mθθ-0.54±.07; Mφφ0.54±.07; Mrθ5.13±.55; Mrφ0.23±.06; Mθφ1.31±.30; Best double couple: M0 5.31800×10^16 NP1:φ335.00000°, δ5.00000°, λ169.00000°. NP2: φ75.00000°, δ89.00000°, λ85.00000°. Principal axes: T 5.1380, Plg46.0000°, Azm340.0000°; N 0.3610, Plg5.0000°, Azm75.0000°; P -5.4980, Plg44.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 20:21:56.6±0.4, 55.71N±0°.05×157°.11W±0°.03, h38km±1km, h39km:pP-P, n659, σ1s18/648, mb5.0/180, MS4.3/46, 60C-7D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHIR	**Chirikof Islan**	**0.85**	**82**			**Pn**	**20 22 10.9**	**-1.1**
CHIR						**Sn**	**20 22 22.3**	**-1.0**

VNSG	**Veniaminof 6**	**1.19**	**291**			**Pn**	**20 22 18.0**	**+1.3**
VNNF	**Veniaminof 3**	**1.36**	**296**			**Pn**	**20 22 21.1**	**+1.9**
VNFG	**Fog Glacier, M**	**1.49**	**294**			**Pn**	**20 22 22.7**	**+1.8**
CNBA	**Chernabura Isl**	**1.67**	**239**			**Pn**	**20 22 22.4**	**-1.0**
SII	**Sitkinak Islan**	**1.85**	**61**			**Pn**	**20 22 25.5**	**-0.2**
SII						**Sn**	**20 22 48.4**	**+0.5**
SDPT	**Sand Point**	**1.95**	**261**			**Pn**	**20 22 27.7**	**+0.7**
SDPT						**Sn**	**20 22 52.4**	**+2.2**
PLK3	**Peulik 3**	**2.04**	**13**			**Pn**	**20 22 30.1**	**+1.7**
PLK3						**Sn**	**20 22 57.3**	**+4.7**
PLK1	**Peulik 1**	**2.12**	**7**			**Pn**	**20 22 31.3**	**+1.9**
PLK5	**Peulik 5**	**2.30**	**3**			**Pn**	**20 22 33.9**	**+2.0**
CAHL	**Cahill**	**2.55**	**22**			**Pn**	**20 22 36.5**	**+1.1**
OHAK	**Old Harbor**	**2.61**	**53**			**Pn**	**20 22 35.7**	**-0.5**
PVV	**Pavlof Volcano**	**2.68**	**265**			**Pn**	**20 22 37.8**	**+0.7**
PS4A	**Pavlof South-4**	**2.72**	**264**			**Pn**	**20 22 38.4**	**+0.7**
HAG	**Hague Volcano**	**2.75**	**264**	P		**Pn**	**20 22 39.0**	**+0.8**
HAG	**Hague Volcano**	**2.75**	**264**			**Pn**	**20 22 39.0**	**+0.8**
KABU	**Katmai Buttres**	**2.76**	**21**			**Pn**	**20 22 40.1**	**+1.8**
KELA	**Mount Kelaz**	**2.84**	**15**			**Pn**	**20 22 40.5**	**+1.1**
KAHC	**Katmai Hardscr**	**3.16**	**20**			**Pn**	**20 22 45.2**	**+1.4**
KDAK	**Kodiak Island**	**3.25**	**48**		Pn	**Pn**	**20 22 44.4**	**-0.5**
	4.0nm,0.3s,baz=191,slow=6.4,SNR=116							
KDAK					Sn	**Sn**	**20 23 20.2**	**-2.1**
	57nm,0.3s,baz=287,slow=12,SNR=5.3							
KDAK					Lg	Lg	20 23 40.3	
	38nm,0.3s,baz=40,slow=12,SNR=7.2							
KDAK	**Kodiak Island**	**3.25**	**48**			**Pn**	**20 22 44.7**	**-0.2**
FALS	**False Pass**	**3.71**	**259**			**Pn**	**20 22 51.9**	**+0.6**
FALS						**Sn**	**20 23 35.6**	**+2.1**
SSBA	**Shishaldin**	**4.12**	**260**			**Pn**	**20 22 57.5**	**+0.5**
WEBT	**Westdahl Beart**	**4.52**	**259**			**Pn**	**20 23 03.4**	**+0.9**
WESP	**Westdahl Peak**	**4.54**	**258**			**Pn**	**20 23 03.8**	**+1.1**
CNPM	**China Poot**	**4.96**	**37**			**Pn**	**20 23 08.7**	**+0.2**
AKSA	**Akutan Strait**	**5.20**	**256**			**Pn**	**20 23 12.6**	**+0.9**
AKUT	**Akutan**	**5.24**	**256**		Pn	**Pn**	**20 23 12.9**	**+0.7**
RED	**Redoubt Volcan**	**5.25**	**24**			**Pn**	**20 23 14.0**	**+1.5**
BRLK	**Bradley Lake**	**5.26**	**37**			**Pn**	**20 23 12.0**	**-0.6**
BRSE	**Bradley Lake S**	**5.29**	**38**			**Pn**	**20 23 12.7**	**-0.3**
RSO	**Redoubt South**	**5.30**	**24**			**Pn**	**20 23 14.9**	**+1.6**
RDWB	**Redoubt West**	**5.30**	**24**			**Pn**	**20 23 14.7**	**+1.4**
AKLV	**Akutan Long Va**	**5.33**	**257**			**Pn**	**20 23 13.9**	**+0.4**
AKGG	**Akutan Green G**	**5.34**	**257**			**Pn**	**20 23 13.9**	**+0.3**
SVW2	**Sparrevohn**	**5.46**	**8**		Pn	**Pn**	**20 23 16.4**	**+1.0**
UNV	**Unalaska Valle**	**5.75**	**255**			**Pn**	**20 23 19.1**	**-0.1**
MNAT	**Makushin Natee**	**5.83**	**256**			**Pn**	**20 23 20.2**	**-0.2**
MREP	**Makushin Rep't**	**5.89**	**255**			**Pn**	**20 23 21.3**	**0.0**
MAPS	**Pakushin South**	**6.00**	**256**			**Pn**	**20 23 22.6**	**-0.2**
SEW	**Seward**	**6.01**	**40**			**Pn**	**20 23 22.3**	**-0.5**
SLKM	**Skilak Lake**	**6.04**	**34**			**Pn**	**20 23 23.7**	**+0.4**
SUA	**Susitna One**	**6.66**	**27**			**Pn**	**20 23 31.9**	**+0.1**
SKT	**Skwentna**	**6.92**	**22**			**Pn**	**20 23 36.3**	**+0.9**
PWL	**Port Wells**	**6.93**	**38**			**Pn**	**20 23 34.3**	**-1.2**
PMR	**Palmer**	**7.22**	**32**	P		**Pn**	**20 23 40.7**	**+1.3**
PMR	**Palmer**	**7.22**	**32**			**Pn**	**20 23 40.7**	**+1.3**
TT01	**Tatalina**	**7.24**	**4**			**Pn**	**20 23 40.9**	**+1.2**
TTA	**Tatalina**	**7.27**	**4**	P		**Pn**	**20 23 41.0**	**+0.9**
TTA	**Tatalina**	**7.27**	**4**	Pn		**Pn**	**20 23 41.0**	**+0.9**
KNK	**Knik Glacier**	**7.29**	**35**			**Pn**	**20 23 42.0**	**+1.6**
HIN	**Hinchinbrook I**	**7.33**	**46**	Pn		**Pn**	**20 23 41.6**	**+0.6**
NIKH	**Nikolski High**	**7.39**	**253**			**Pn**	**20 23 42.2**	**+0.4**
GLI	**Glacier Island**	**7.39**	**41**			**Pn**	**20 23 42.6**	**+1.2**
GHO	**Glory Hole Ce**	**7.42**	**32**			**Pn**	**20 23 42.4**	**+0.1**
SPIA	**Saint Paul Isl**	**7.43**	**287**			**Pn**	**20 23 43.9**	**+1.6**
FID	**Port Fidalgo**	**7.55**	**44**			**Pn**	**20 23 42.5**	**-1.5**
SML	**Sawmill**	**7.63**	**33**	Pn		**Pn**	**20 23 46.5**	**+1.4**
PPLA	**Purkeypile**	**7.63**	**17**	Pn		**Pn**	**20 23 48.0**	**+2.7**
EYAK	**Cordova Ski Ar**	**7.72**	**46**			**Pn**	**20 23 46.7**	**+0.4**
SCM	**Sheep Creek Mo**	**7.97**	**36**	P		**Pn**	**20 23 50.2**	**+0.5**
SCM	**Sheep Creek Mo**	**7.97**	**36**			**Pn**	**20 23 50.2**	**+0.5**
GOAT	**Goat Mountain**	**8.17**	**48**			**Pn**	**20 23 51.9**	**-0.5**
KLU	**Klutina**	**8.22**	**41**			**Pn**	**20 23 52.6**	**-0.7**
WAT7	**Susitna Watana**	**8.30**	**27**			**Pn**	**20 23 54.2**	**-0.1**
WAT1	**Susitna Watana**	**8.37**	**28**			**Pn**	**20 23 55.2**	**-0.1**
WAT6	**Susitna Watana**	**8.40**	**31**			**Pn**	**20 23 54.9**	**-0.9**
WAT2	**Susitna Watana**	**8.47**	**27**			**Pn**	**20 23 55.7**	**-1.0**
TRF	**Thorofare Moun**	**8.50**	**21**			**Pn**	**20 23 57.1**	**0.0**
RND	**Reindeer**	**8.78**	**25**	P		**Pn**	**20 24 00.8**	**0.0**
RND	**Reindeer**	**8.78**	**25**			**Pn**	**20 24 00.8**	**0.0**
DHY	**Denali Highway**	**8.89**	**30**			**Pn**	**20 24 02.6**	**+0.1**
CRQM	**Cirque**	**8.93**	**50**			**Pn**	**20 24 04.7**	**+1.6**
BPAW	**Bear Paw Mtn.**	**8.96**	**18**	Pn		**Pn**	**20 24 03.8**	**+0.5**
GLB	**Gilahina Butte**	**9.01**	**45**	Pn		**Pn**	**20 24 05.1**	**+1.2**
MCK	**McKinley**	**9.04**	**24**	P		**Pn**	**20 24 05.3**	**+0.9**
MCK	**McKinley**	**9.04**	**24**	Pn		**Pn**	**20 24 05.3**	**+0.9**
TGL	**Tana Glacier**	**9.07**	**50**			**Pn**	**20 24 05.3**	**+0.5**
YAH	**Yahtse**	**9.38**	**54**			**Pn**	**20 24 10.1**	**+0.8**
PAX	**Paxson**	**9.39**	**34**	P		**Pn**	**20 24 10.4**	**+1.2**
PAX	**Paxson**	**9.39**	**34**			**Pn**	**20 24 10.4**	**+1.2**
BALM	**Baldy**	**9.41**	**49**			**Pn**	**20 24 09.0**	**-0.5**
BARN	**Barnard Glacie**	**9.71**	**50**			**Pn**	**20 24 14.3**	**+0.6**
NEA2	**Nenana**	**9.76**	**21**	P		**Pn**	**20 24 13.6**	**-0.7**
	baz=208,SNR=21							
ANM	**Nome**	**9.78**	**339**	P		**Pn**	**20 24 16.8**	**+2.3**
ANM	**Nome**	**9.78**	**339**	Pn		**Pn**	**20 24 16.8**	**+2.3**
PCA	**Pinnacle**	**9.98**	**57**	Pn		**Pn**	**20 24 19.1**	**+1.7**
HDA	**Harding Lake**	**10.08**	**26**	P		**Pn**	**20 24 18.1**	**-0.6**
	baz=214							
RIDG	**Independent Ri**	**10.14**	**32**	Pn		**Pn**	**20 24 20.4**	**+0.9**
COLA	**College**	**10.26**	**23**	*i* P		**Pn**	**20 24 19.3**	**-1.8**
DOT	**Dot Lake**	**10.32**	**34**	Pn		**Pn**	**20 24 22.5**	**+0.6**
IL31		**10.40**	**25**	Pn		**Pn**	**20 24 21.4**	**-1.5**
ILAR	**Eielson Array**	**10.40**	**25**	Pn		**Pn**	**20 24 20.8**	**-2.1**
	1.2nm,0.3s,baz=217,slow=14,SNR=36							
ILAR					Sn	**Sn**	**20 26 11.6**	**-6.3**
	baz=211,slow=28,SNR=1.3							
ILAR					LR	LR	20 28 41.4	
	comp=Z,1μm,21.8s,baz=229,slow=39							
POKR	**Poker Plat Res**	**10.56**	**23**	P		**Pn**	**20 24 24.4**	**-0.8**
	baz=211							
SCRK	**Sand Creek**	**10.58**	**33**	P		**Pn**	**20 24 25.2**	**-0.3**
	baz=224							
ATKA	**Atka Island**	**10.66**	**258**	Pn		**Pn**	**20 24 25.5**	**-1.0**
GAMB	**Gambell**	**10.91**	**324**	Pn		**Pn**	**20 24 31.4**	**+1.6**
K27K	**Chicken**	**11.22**	**36**	P		**Pn**	**20 24 34.2**	**0.0**
	baz=229							
GSTR	**Great Sitkin T**	**11.74**	**260**			**Pn**	**20 24 40.8**	**-0.6**
COLD	**Coldfoot**	**12.01**	**13**	P		**Pn**	**20 24 44.9**	**-0.1**
	baz=199							
COLD	**Coldfoot**	**12.01**	**13**	Pn		**Pn**	**20 24 45.0**	**0.0**
EGAK	**Eagle**	**12.02**	**34**	Pn		**Pn**	**20 24 45.1**	**0.0**
DAWY	**Dawson**	**12.18**	**39**	Pn		**Pn**	**20 24 49.0**	**+1.7**
ADK	**Adak**	**12.18**	**260**	P		**Pn**	**20 24 46.0**	**-1.3**
ADK	**Adak**	**12.18**	**260**	Pn		**Pn**	**20 24 46.0**	**-1.3**
SKAG	**Skagway**	**12.26**	**63**	Pn		**Pn**	**20 24 47.8**	**-0.5**
RDOG	**Red Dog Mine**	**12.68**	**350**	Pn		**Pn**	**20 24 56.8**	**+2.7**
WHY	**Whitehorse**	**12.70**	**58**	Pn		**Pn**	**20 24 55.9**	**+1.4**
TOLK	**Toolik Lake Re**	**13.43**	**12**	P		**Pn**	**20 25 06.9**	**+2.5**
	baz=198							
EPYK	**Eagle Plains**	**14.46**	**34**	P		**Pn**	**20 25 18.7**	**+0.4**
	baz=232,SNR=11							
DLBC	**Dease Lake**	**14.94**	**68**	Pn		**Pn**	**20 25 26.6**	**+1.7**
	0.1nm,0.3s,baz=265,slow=11,SNR=2.2							
DLBC					LR	LR	20 31 09.3	
	comp=Z,542nm,20.1s,baz=292,slow=37							
DLBC	**Dease Lake**	**14.94**	**68**			**Pn**	**20 25 26.9**	**+2.1**
INK	**Inuvik**	**16.63**	**31**	Pn		**Pn**	**20 25 46.8**	**+0.3**
	1.2nm,0.3s,baz=214,slow=12,SNR=25							
INK					Sn	**Sn**	**20 28 50.9**	**+1.2**
	0.1nm,0.3s,baz=1.9,slow=31,SNR=1.1							
INK					LR	LR	20 32 49.2	
	comp=Z,1μm,19.6s,baz=220,slow=39							
INK	**Inuvik**	**16.63**	**31**	P		**Pn**	**20 25 47.1**	**+0.7**
INK					pmax	pmax		
	comp=Z,124nm,1.3s							
INK	**Inuvik**	**16.63**	**31**	Pn		**Pn**	**20 25 47.1**	**+0.7**
BBB	**Bella Bella**	**17.37**	**90**	LR		LR	20 31 03.0	
	comp=Z,406nm,20.8s,baz=307,slow=31							
C36M	**Paulatuk**	**20.10**	**34**	P		**P**	**20 26 26.8**	**+0.3**
	baz=244,SNR=5.3							
C36M	**Paulatuk**	**20.10**	**34**	P		**P**	**20 26 26.1**	**-0.4**
C36M						IAmb	IAmb	20 26 42.2
	comp=Z,74nm,0.9s							
BILL	**Bilibino**	**20.81**	**321**	*iP*		**P**	**20 26 33.8**	**-0.5**
BILL				*e*			20 26 49.8	
BILL				*e*			20 30 42.2	
BILL					pmax	pmax		
	comp=Z,69nm,1.0s							
A36M	**Sachs Harbour**	**21.09**	**27**	P		**P**	**20 26 37.7**	**+0.6**
	baz=236							
D03D	**Eldon**	**22.46**	**97**	P		**P**	**20 26 55.9**	**+3.8**
	baz=304							

YKA	**Yellowknife Ar**	**22.50**	**55**	P		**P**	**20 26 51.9**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=278,slow=10,SNR=14							
YKA					LR	LR	20 36 39.9	
	comp=Z,569nm,18.1s,baz=0.0,slow=39							
B05A	**Bryant**	**22.62**	**94**	P		**P**	**20 26 57.1**	**+3.3**
	baz=302							
E04D	**Cinebar**	**23.31**	**99**	P		**P**	**20 27 04.8**	**+4.0**
	baz=306,SNR=5.4							
H04D	**Lebanon**	**24.46**	**103**	P		**P**	**20 27 13.6**	**+1.9**
	baz=309							
J01E	**Myrtle Point**	**24.70**	**107**	P		**P**	**20 27 15.4**	**+1.6**
	baz=312							
G05D	**Wamic, OR**	**24.80**	**100**	P		**P**	**20 27 17.4**	**+2.7**
	baz=308							
I04A	**Tendick Farm,**	**25.11**	**104**	P		**P**	**20 27 20.1**	**+2.5**
	baz=310							
K02D	**Willamette Mer**	**25.16**	**107**	P		**P**	**20 27 22.3**	**+4.2**
	baz=313							
I05D	**Terrebonne, OR**	**25.35**	**102**	P		**P**	**20 27 22.2**	**+2.4**
	baz=309							
NEW	**Newport**	**25.43**	**90**	P		**P**	**20 27 22.4**	**+1.9**
	baz=302							
NEW	**Newport**	**25.43**	**90**	P		**P**	**20 27 20.7**	**+0.2**
NEW					pmax	pmax		
	comp=Z,12nm,1.0s							
NEW	**Newport**	**25.43**	**90**	P		**P**	**20 27 20.7**	**+0.2**
PET	**Petropavlovsk**	**25.58**	**283**	*eP*		**P**	**20 27 21.7**	**0.0**
PET				*eS*		**S**	**20 31 43.7**	**-3.0**
PET					pmax	pmax		
	comp=Z,129nm,1.1s							
PET					MLR	MLR		
	comp=Z,400nm,20.0s							
PET					MLR	MLR		
	comp=Z,400nm,20.0s							
J04D	**Umpqua Nationa**	**25.64**	**104**	P		**P**	**20 27 24.9**	**+2.3**
	baz=311							
PETK	**Petropavlovsk-**	**26.07**	**283**	P		**P**	**20 27 26.0**	**-0.2**
	comp=Z,37nm,0.8s,baz=80,slow=13,SNR=39							
PETK					LR	LR	20 37 49.8	
	comp=Z,304nm,20.9s,baz=82,slow=37							
J05D	**Fort Rock, OR**	**26.09**	**103**	P		**P**	**20 27 28.9**	**+2.3**
	baz=311,SNR=6.9							
YBH	**Yreka Blue Hor**	**26.33**	**108**	P		**P**	**20 27 31.3**	**+2.5**
	comp=Z,1.1nm,0.7s,baz=132,slow=7.7,SNR=2.3							
YBH					LR	LR	20 35 36.0	
	comp=Z,549nm,20.8s,baz=280,slow=31							
M02C	**Callahan**	**26.49**	**108**	P		**P**	**20 27 32.9**	**+2.7**
	baz=314							
M04C	**Macdoel**	**26.77**	**106**	P		**P**	**20 27 35.4**	**+2.6**
	baz=313							
N02D	**Trinity Center**	**26.86**	**109**	P		**P**	**20 27 39.2**	**+5.7**
	baz=315							
JTMT	**Jette**	**27.32**	**89**			**P**	**20 27 38.5**	**+0.8**
MA2	**Magadan**	**27.56**	**300**	P		**P**	**20 27 40.0**	**+0.5**
	comp=Z,33nm,0.8s,baz=78,slow=12,SNR=9.2							
MA2					LR	LR	20 40 13.2	
	comp=Z,332nm,18.6s,baz=126,slow=40							
O03E	**Paynes Creek**	**27.83**	**109**	P		**P**	**20 27 43.4**	**+1.2**
	baz=315							
HLID	**Hailey**	**29.71**	**96**	P		**P**	**20 28 00.9**	**+1.9**
	baz=309,SNR=7.1							
BOZ	**Bozeman (W)**	**30.04**	**90**	P		**P**	**20 28 03.7**	**+1.8**
	baz=306							
RES	**Resolute Bay**	**30.13**	**28**	LR		LR	20 41 16.2	
	comp=Z,384nm,19.3s,baz=276,slow=39							
NVAR	**Nona Array Bea**	**31.05**	**107**	P		**P**	**20 28 12.8**	**+1.9**
	comp=Z,1.4nm,0.7s,baz=300,slow=8.4,SNR=14							
NVAR					LR	LR	20 38 31.3	
	comp=Z,678nm,21.0s,baz=276,slow=32							
ELK	**Elko**	**31.11**	**101**	P		**P**	**20 28 13.7**	**+2.3**
	comp=Z,2.8nm,0.8s,baz=301,slow=8.9,SNR=8.6							
ELK	**Elko**	**31.11**	**101**	P		**P**	**20 28 13.0**	**+1.6**
ELK					pmax	pmax		
	comp=Z,15nm,1.0s							
ELK	**Elko**	**31.11**	**101**	P		**P**	**20 28 13.0**	**+1.6**
RLMT	**Red Lodge**	**31.66**	**89**	P		**P**	**20 28 15.7**	**-0.5**
	baz=307							
LAO	**LASA Array**	**32.46**	**84**	P		**P**	**20 28 21.5**	**-1.6**
	baz=305							
SMMC

comp=N,14nm,1.5s
YAK smax smax

comp=E,8.0nm,1.5s
YAK Yakutsk 36.47 311 P P 20 28 55.9 -1.5
SWSC Sam W. Stewart 36.52 111 P P 20 28 59.3 +1.2
baz=321
WUAZ Wupatki 36.96 104 P P 20 29 01.7 -0.4
baz=318
AGMN Agassiz Nation 37.30 75 P P 20 29 05.0 +0.3
baz=305
YSS Yuzh-Sakhalins 37.47 282⇑ eP P 20 29 05.8 -0.2
YSS pmax pmax

comp=Z,20nm,1.2s
YSS pmax pmax

comp=E,20nm,1.1s
YSS MLR MLR

comp=Z,200nm,19.0s
YUK Yuzh-Kuril'sk 37.51 276 P P 20 29 05.4 -1.0
YUK MLR MLR

comp=Z,190nm,20.0s
Q24A Divide 37.98 94 P P 20 29 12.1 +1.2
baz=314
SDCO Great Sand Dun 38.63 96 P P 20 29 15.6 -0.7
baz=315
GRNR Gornyy 38.70 291 ⇓ iP P 20 29 14.7 -1.8
GRNR pmax pmax

comp=Z,20nm,0.9s
GRNR MLR MLR

comp=E,160nm,20.0s
GRNR MLR MLR

comp=N,80nm,12.0s
GRNR MLR MLR

comp=Z,120nm,16.0s
214A Organ Pipe Nat 38.87 109 P P 20 29 19.2 +1.1
baz=321
ASAJ Asahikawa 39.29 279 P P 20 29 21.1 -0.4
comp=Z,59nm,1.0s,baz=22,slow=4.7,SNR=22
ECSD EROS Data Cent 39.65 81 P P 20 29 24.4 -0.1
baz=309
T25A Trinidad 39.67 95 P P 20 29 26.5 +1.5
baz=315
EYMN Ely 39.88 73 P P 20 29 26.7 +0.4
baz=306
EYMN Ely 39.88 73 P P 20 29 26.1 -0.2
ANMO Albuquerque 40.10 100 i P P 20 29 27.6 -0.9
ANMO pmax pmax

comp=Z,2.0nm,1.0s
ERM Erimo 40.33 276 *ce* **P P 20 29 30.2 +0.2**
ERM pmax pmax

comp=Z,93nm,1.3s
ERM Erimo 40.33 276 P P 20 29 30.5 +0.5
ERM IAmb IAmb 20 29 31.9

comp=Z,98nm,1.2s
NOR Nord 41.30 8⇑ iP P 20 29 38.0 +0.4
comp=Z,20nm,1.0s
NOR Nord 41.30 8⇑ iP P 20 29 38.0 +0.4
NOR pmax pmax

comp=Z,20nm,1.0s
ZEA Zeya 41.70 300 *eP* **P 20 29 39.8 -1.4**
ZEA pmax pmax

comp=E,24nm,1.0s
ZEA pmax pmax

comp=Z,52nm,1.0s
ZEA MLR MLR

comp=Z,400nm,20.0s
KLR Kul'dur 42.05 292 P P 20 29 43.5 -0.6
comp=Z,17nm,1.0s,baz=60,slow=8.1,SNR=33
KLR LR LR 20 49 52.2

comp=Z,163nm,18.4s,baz=32,slow=40
KLR Kul'dur 42.05 292 *ce* **P P 20 29 43.1 -1.0**
KLR pmax pmax

comp=Z,28nm,1.1s
AMTX Amarillo 42.83 95 P P 20 29 51.3 +0.5
baz=317
MSTX Muleshoe 42.88 97 P P 20 29 52.2 +1.0
baz=318
MNTX Cornudas Mount 43.12 102 P P 20 29 54.7 +1.7
baz=319,SNR=7.0
MNTX Cornudas Mount 43.12 102 P P 20 29 54.2 +1.1
WMOK Wichita Mounta 44.57 93 P P 20 30 05.3 +0.7
baz=317,SNR=7.3
WMOK Wichita Mounta 44.57 93 P P 20 30 05.4 +0.7
WMOK pmax pmax

comp=Z,9.0nm,1.0s
WMOK Wichita Mounta 44.57 93 P P 20 30 05.4 +0.7
D47A Chapleau 44.91 69 P P 20 30 07.3 +0.1
baz=310
H11N2 WAKE ISLAND Hy 44.92 232 T T 21 17 17.2
baz=28,slow=76,SNR=3.7
H11N3 WAKE ISLAND Hy 44.93 232 T T 21 17 18.2
baz=28,slow=76,SNR=3.3
H11N1 WAKE ISLAND Hy 44.94 232 T T 21 17 13.3
baz=28,slow=76,SNR=3.1
USRK Ussuriysk Ar. 45.09 286 P P 20 30 07.7 -0.9
comp=Z,1.4nm,0.6s,baz=66,slow=11,SNR=2.4
USRK LR LR 20 49 04.3

comp=Z,152nm,20.3s,baz=40,slow=36
DAG Danmarks Havn 45.20 12⇑ iP P 20 30 09.1 +0.1
comp=Z,61nm,1.0s
DAG Danmarks Havn 45.20 12⇑ iP P 20 30 09.1 +0.1
DAG pmax pmax

comp=Z,61nm,1.0s
SUMG Summit 45.22 22⇑ iP P 20 30 10.4 +0.6
comp=Z,62nm,1.0s
SUMG Summit 45.22 22⇑ iP P 20 30 10.4 +0.6
SUMG pmax pmax

comp=Z,62nm,1.0s
BOD Bodaibo 45.38 311 *eP* **P 20 30 09.4 -1.4**
BOD pmax pmax

comp=Z,37nm,1.2s
KBS Kingsbay 45.46 3 *ce* **P P 20 30 12.4 +1.3**
KBS pmax pmax

comp=Z,42nm,1.3s
D48A Paudash Townsh 45.52 68 P P 20 30 11.8 -0.1
baz=310
ABTX Abilene, Hawle 45.64 96 P P 20 30 13.8 +0.6
baz=318
D49A Beulah Townshi 45.69 67 P P 20 30 13.2 -0.2
baz=310
HDIL Hopedale 45.83 80 P P 20 30 14.4 -0.2
baz=313
HDIL Hopedale 45.83 80 P 20 30 14.3 -0.2
HDIL IAmb IAmb 20 30 31.6

comp=Z,22nm,0.7s
TX31 Lajitas Ar. Si 45.88 102 P P 20 30 16.4 +1.3
TX31 IAmb IAmb 20 30 27.8

comp=Z,20nm,0.9s
TX32 Lajitas Array 45.88 102 P P 20 30 16.5 +1.4
TXAR Lajitas Array 45.88 102 P P 20 30 16.6 +1.5
comp=Z,2.9nm,0.7s,baz=312,slow=5.6,SNR=32
TXAR LR LR 20 48 33.6

comp=Z,354nm,18.3s,baz=0.0,slow=35
H11S1 WAKE ISLAND Hy 46.08 231 T T 21 18 55.7
baz=27,slow=74
H11S2 WAKE ISLAND Hy 46.10 231 T T 21 18 57.2
baz=27,slow=74
H11S3 WAKE ISLAND Hy 46.10 231 T T 21 18 58.9
baz=27
D50A G1974 Best Tow 46.55 66 P P 20 30 19.5 -0.6
baz=310
U40A Yellville 46.76 86 P P 20 30 21.4 -0.5
baz=316
NRIK Noril'sk 46.78 334 P P 20 30 21.5 -0.1
comp=Z,32nm,0.8s,baz=56,slow=6.0,SNR=37
LSQQ Lebel-sur-Quev 46.78 63 P P 20 30 21.2 -0.7
baz=310
D51A Lot 18 Range I 46.84 66 P P 20 30 21.7 -0.7
baz=311
MJAR Matsushiro Arr 46.87 274 P P 20 30 21.7 -1.0
comp=Z,6.2nm,0.9s,baz=31,slow=5.4,SNR=24
MJAR LR LR 20 49 06.8

comp=Z,56nm,22.0s,baz=45,slow=35
MJB9 Matsu-Tunnel 46.87 274 P P 20 30 22.9 +0.1
MJB9 IAmb IAmb 20 30 25.0

comp=Z,33nm,0.9s
MAJO Matsushiro 46.87 274 *c iP* **P 20 30 22.5 -0.2**
MAJO pmax pmax

comp=Z,31nm,0.9s
MAJO Matsushiro 46.87 274 P P 20 30 22.9 +0.2
MAJO IAmb IAmb 20 30 25.1

comp=Z,34nm,0.9s
W39A Magazine 47.07 88 P P 20 30 24.4 +0.1
baz=316,SNR=6.2
E51A G1948 Merrick 47.14 67 P P 20 30 24.0 -0.7
baz=311
JCT Junction City 47.16 98 P P 20 30 25.7 +0.6
baz=320

HSPB Hornsund (broa 47.47 2 *eP* **P 20 30 26.9 0.0**
CHGQ Chibougamau 47.53 60 P P 20 30 26.7 -1.0
baz=310
MIAR Mount Ida 47.66 89 P P 20 30 30.0 +1.1
baz=317,SNR=6.2
D53A Lac Vacive, Po 47.71 65 P P 20 30 28.9 -0.2
baz=311
F52A Sundridge 47.72 68 P P 20 30 28.4 -0.8
baz=312
E52A Mattawa 47.74 67 P P 20 30 28.6 -0.8
baz=311
SCHQ Schefferville 47.87 51 LR LR 20 52 15.5
comp=Z,263nm,18.4s,baz=297,slow=38
HIA Hailar 48.15 299 *i P* **P 20 30 31.5 -1.1**
HIA pmax pmax

comp=Z,11nm,1.1s
I51A Listowel 48.15 71 P P 20 30 33.0 +0.4
baz=312
E53A Dumoine, Ponti 48.19 66 P P 20 30 32.3 -0.6
baz=312
ALGO Algonquin Park 48.27 67 P P 20 30 33.0 -0.5
baz=312
E54A Lac Daplat, Po 48.40 66 P P 20 30 34.1 -0.4
baz=312
G53A Haliburton 48.53 68 P P 20 30 35.5 0.0
baz=312
CN2 Changchun 48.87 290 *eP* **P 20 30 37.4 -0.7**
CN2 pmax pmax

comp=Z,20nm,0.9s
D55A Sainte-Anne-du 48.89 64 P P 20 30 37.8 -0.4
baz=312
H53A Bobcaygeon 48.92 68 P P 20 30 39.2 +0.7
baz=313
D56A ZEC Mazanza, M 49.23 63 P P 20 30 40.2 -0.7
baz=312
CIT Chita 49.29 305 *eP* **P 20 30 41.3 0.0**
CIT *e* 20 30 46.6
CIT pmax pmax

comp=Z,78nm,1.6s
G55A Calabogie 49.44 66 P P 20 30 41.8 -0.6
baz=313
D57A Chemin Vers le 49.69 63 P P 20 30 43.7 -0.7
baz=312
WVT Waverly 49.76 83 P P 20 30 45.1 +0.1
baz=316
WVT Waverly 49.76 83 P P 20 30 45.0 +0.1
WVT pmax pmax

comp=Z,19nm,0.8s
WVT Waverly 49.76 83 P P 20 30 45.0 +0.1
WVT IAmb IAmb 20 30 56.9

comp=Z,19nm,0.8s
E57A Chemin Saint G 49.97 64 P P 20 30 45.8 -0.7
baz=313
H56A Elgin 50.13 67 P P 20 30 47.5 -0.2
baz=313
D58A Chemin du LacG 50.14 62 P P 20 30 46.8 -1.0
baz=313
K54A Basiliko Farm, 50.21 70 P P 20 30 48.5 +0.1
baz=314
E58A La Victoria 50.44 63 P P 20 30 50.3 +0.3
baz=313
L55A Hinsdale 50.64 70 P P 20 30 51.7 0.0
baz=314
I57A Carthage 50.89 67 P P 20 30 52.7 -0.8
baz=314
M55A Ridgway 50.97 71 P P 20 30 53.9 -0.2
baz=314
O54A Avella 51.00 74 P P 20 30 53.5 -0.9
baz=315
L56A Greenwood 51.14 70 P P 20 30 55.3 -0.1
baz=314
D60A Saint Jean D'O 51.24 61 P P 20 30 55.4 -0.6
baz=314
M56A Emporium 51.27 71 P P 20 30 56.2 -0.2
baz=315
N55A Marion Center 51.33 72 P P 20 30 56.1 -0.7
baz=315
G59A Clarenceville 51.38 64 P P 20 30 55.6 -1.4
baz=314
F60A Warwick 51.38 63 P P 20 30 56.2 -1.0
baz=314
H59A Cadyville 51.42 65 P P 20 30 56.9 -0.5
baz=314
I58A Old Forge 51.42 67 P P 20 30 57.4 -0.1
baz=314
J58A Remsen 51.49 67 P P 20 30 58.0 +0.1
baz=314
N56A West Decatur 51.61 72 P P 20 30 58.6 -0.3
baz=315
L57A Andrews Acres 51.62 70 P P 20 30 58.7 -0.3
baz=315
KS19 Wonju Array Si 51.97 283 P P 20 31 02.7 +1.1
KS19 IAmb IAmb 20 31 09.2

comp=Z,95nm,1.7s
KSRS Kore Array 51.97 283 P P 20 31 02.1 +0.5
comp=Z,16nm,0.7s,baz=46,slow=6.9,SNR=60
KSRS LR LR 20 54 13.3

comp=Z,59nm,19.6s,baz=134,slow=37
SSPA Standing Stone 52.02 72 P P 20 31 02.3 +0.4
baz=315
D62A Allapoint, All 52.05 60 P P 20 31 01.3 -0.8
baz=314
T53A Wise 52.10 78 P P 20 31 02.6 0.0
baz=316
L58A Harry Jones Me 52.11 69 P P 20 31 02.2 -0.5
baz=315
N57A Milroy 52.12 71 P P 20 31 02.6 -0.1
baz=315
K59A Cooperstown 52.12 68 P P 20 31 02.7 -0.1
baz=315
E62A Clayton Lake 52.14 61 P P 20 31 02.1 -0.6
baz=314
Y49A Blount Mountai 52.20 84 IAmb IAmb 20 31 14.5
comp=Z,14nm,0.8s
F62A Pittston Farm, 52.43 62 P P 20 31 04.4 -0.5
baz=314
O57A Amberson 52.46 72 P P 20 31 05.2 -0.1
baz=315
J60A Lant Hill Farm 52.54 66 P P 20 31 06.0 +0.2
baz=315
D63A Stockholm 52.55 59 P P 20 31 03.7 -2.1
baz=314
G62A West of Eustis 52.62 63 P P 20 31 05.8 -0.5
baz=315
S55A Lewisburg 52.65 76 P P 20 31 06.3 -0.4
baz=316
I61A Oroboro, Fairl 52.68 65 P P 20 31 06.4 -0.3
baz=315
M59A Waymart 52.69 69 P P 20 31 06.3 -0.7
baz=315
H62A Milan 52.76 64 P P 20 31 06.7 -0.7
baz=315
E63A Oxbow 52.82 60 P P 20 31 06.8 -1.0
baz=315
TJN Taejon 53.06 282 *ce* **P P 20 31 09.9 +0.3**
E64A Bridgewater 53.12 60 P P 20 31 08.7 -1.3
baz=315
O59A Robesonia 53.16 71 P P 20 31 10.1 -0.3
baz=316
L61A Hillsdale 1, H 53.21 67 P P 20 31 10.6 -0.2
baz=315
F64A Sherman 53.25 61 P P 20 31 10.2 -0.7
baz=315
F64A Sherman 53.25 61 IAmb IAmb 20 31 26.4
comp=Z,18nm,1.2s
M60A Port Jervis 53.27 69 P P 20 31 08.6 -2.5
baz=316
V54A Nebo 53.30 79 P P 20 31 13.6 +2.1
baz=317
Q58A Fox Den Farm, 53.34 73 P P 20 31 11.0 -0.8
baz=316
BATG Bathurst New B 53.37 58 P P 20 31 11.8 -0.1
BATG IAmb IAmb 20 31 12.4

comp=Z,15nm,1.0s
HAMF Hammerfest 53.95 360 *eP* **P 20 31 14.9 -0.8**
TLY Talaya 53.95 311 P P 20 31 16.3 +0.3
comp=Z,6.2nm,0.6s,baz=18,slow=8.6,SNR=5.2
TLY LR LR 20 57 44.0

comp=Z,126nm,18.6s,baz=29,slow=40
V56A Mocksville 54.08 78 P P 20 31 18.5 +1.3
baz=317
KEV Kevo 54.80 358 P P 20 31 21.9 0.0
KEV pmax pmax

comp=Z,47nm,1.0s
KEV Kevo 54.80 358 P P 20 31 21.9 0.0
TRO Tromso 54.93 2 *eP* **P 20 31 23.2 +0.4**
ARCES ARCESS Array B 55.05 359 P P 20 31 23.6 -0.2
comp=Z,17nm,0.9s,baz=23,slow=7.2,SNR=56

ARCES LR LR 20 55 49.1
comp=Z,103nm,19.7s,baz=346,slow=37
ARE0 ARCESS Array S 55.05 359 P P 20 31 23.5 -0.2
ARE0 ARCESS Array S 55.05 359 *eP* **P 20 31 23.0 -0.8**
ZAK Zakamensk 55.05 310 *eP* **P 20 31 23.3 -0.9**
ZAK pmax pmax

comp=Z,8.0nm,1.4s
MOY Mondy 55.09 312 *eP* **P 20 31 24.7 +0.3**
MOY pmax pmax

comp=Z,30nm,2.2s
ULN Ulaanbaatar 55.20 305 *ce* **P P 20 31 24.4 -0.9**
ULN pmax pmax

comp=Z,19nm,2.5s
ULN Ulaanbaatar 55.20 305 P P 20 31 24.3 -1.0
SONM Songino Array 55.52 306 P P 20 31 27.8 +0.2
comp=Z,12nm,0.6s,baz=47,slow=6.5,SNR=114
SONM PcP PcP 20 32 27.9 +0.7

comp=Z,8.5nm,0.8s,baz=43,slow=2.4,SNR=6.8
SONM ScP ScP 20 36 24.8 +2.1

comp=Z,1.3nm,1.0s,baz=29,slow=3.4,SNR=4.2
SONM LR LR 20 56 53.6

comp=Z,321nm,20.3s,baz=30,slow=38
LOF Lofoten 56.28 4 *eP* **P 20 31 32.4 -0.1**
LVZ Lovozero 56.40 355 *ce* **P P 20 31 32.6 -0.9**
LVZ pmax pmax

comp=Z,129nm,1.0s
LVZ Lovozero 56.40 355 P P 20 31 33.5 0.0
BJI Beijing 56.41 293 P P 20 31 33.8 -0.1
BJI pmax pmax

comp=Z,6.0nm,1.0s
STEI Steigen 56.54 3 *eP* **P 20 31 34.8 +0.4**
FAUS Fauske 57.09 3 *eP* **P 20 31 38.3 0.0**
KONS Konsvik 57.89 5 *eP* **P 20 31 44.0 +0.1**
HHC Hu-ho-hao-te 58.18 297 *eP* **P 20 31 47.1 +0.6**
HHC pmax pmax

comp=Z,22nm,1.0s
HHC pmax pmax

comp=Z,77nm,4.8s
ZAA0 Zalesovo Array 59.50 323 P P 20 31 56.1 +0.8
ZAA0 IAmb IAmb 20 31 57.6

comp=Z,26nm,1.2s
ZALV Zalesovo Beam 59.50 323 P P 20 31 55.6 +0.3
comp=Z,7.6nm,0.7s,baz=51,slow=7.9,SNR=31
ZALV PcP PcP 20 32 42.9 +0.4

comp=Z,4.6nm,0.8s,baz=9.7,slow=5.9,SNR=4.5
ZALV LR LR 21 00 02.9

comp=Z,433nm,18.4s,baz=27,slow=38
NSS Namsos 59.80 5 *eP* **P 20 31 57.4 +0.2**
TMCR Tamitsa 59.89 352 *eP* **P 20 31 55.6 -2.2**
TMCR pmax pmax

comp=Z,38nm,0.9s
TBLU Trondheim 60.97 6 *eP* **P 20 32 04.9 -0.4**
MOL Molde 61.45 8 *eP* **P 20 32 08.8 +0.3**
PRGR Permogore 61.64 348⇑ iP P 20 32 09.6 -0.1
PRGR pmax pmax

comp=Z,111nm,1.0s
DGZ Jazzator, Alta 62.03 318 *i* **P P 20 32 12.8 0.0**
DGZ pmax pmax

comp=Z,4.0nm,0.9s
DOMB Dombas 62.09 7 *eP* **P 20 32 13.2 +0.3**
NC204 NORSAR Array S 62.97 7 P P 20 32 19.6 +0.9
KLMR Klimovskoe 63.04 351 *eP* **P 20 32 16.4 -2.7**
KLMR pmax pmax

comp=Z,86nm,1.1s
KLMR Klimovskoe 63.04 351 *eP* **P 20 32 16.4 -2.7**
KLMR AMP 20 32 20.1

comp=Z,86nm,1.1s
NC303 NORSAR Array S 63.05 6 P P 20 32 20.0 +0.7
FINES FINESS Array B 63.16 358 P P 20 32 20.2 +0.3
comp=Z,34nm,0.9s,baz=14,slow=8.5,SNR=78
NB2 NORSAR Subarra 63.23 6 P P 20 32 20.6 +0.1
comp=Z,31nm,1.1s,baz=352,slow=6.5
NB2 NORSAR Subarra 63.23 6 P P 20 32 20.6 +0.1
baz=352,slow=6.5
NOA NORSAR Array B 63.23 6 P P 20 32 20.8 +0.3
comp=Z,12nm,1.0s,baz=352,slow=6.7,SNR=40
SKAR Skarslia 63.38 8 *eP* **P 20 32 22.2 +0.7**
NC602 NORSAR Array S 63.55 6 *eP* **P 20 32 22.9 +0.3**
SVE Sverdlovsk 63.73 338 *d iP* **P 20 32 23.9 +0.1**
SVE pmax pmax

comp=Z,76nm,1.1s
KIRV Kirov 64.08 345 P P 20 32 26.2 +0.1
comp=Z,54nm,0.8s,baz=27,slow=4.2,SNR=30
KURK Kurchatov 64.29 324 *ce* **P P 20 32 27.2 -0.4**
KURK pmax pmax

comp=Z,46nm,1.3s
KURK Kurchatov 64.29 324 P P 20 32 28.2 +0.7
OSL Oslo 64.29 7 *eP* **P 20 32 28.5 +1.1**
KURBB Kurchatov Arra 64.40 324 P P 20 32 28.4 +0.1
comp=Z,14nm,0.9s,baz=27,slow=6.3,SNR=69
KURBB PP PP 20 34 48.9 -0.6

comp=Z,1.9nm,0.9s,baz=42,slow=9.8,SNR=4.1
BLS5 Blasjo 64.47 9 *eP* **P 20 32 29.4 +0.8**
KONO Kongsberg 64.50 7 *ce* **P P 20 32 29.3 +0.5**
KONO pmax pmax

comp=Z,36nm,1.7s
KONO Kongsberg 64.50 7 P P 20 32 29.8 +1.1
KONO Kongsberg 64.50 7 *eP* **P 20 32 29.9 +1.1**
ARU Arti 64.53 339 P P 20 32 28.8 -0.2
comp=Z,16nm,0.9s,baz=17,slow=4.1,SNR=67
ARU Arti 64.53 339 *c iP* **P 20 32 28.6 -0.4**
ARU S S 20 41 10.8 +5.7
ARU SS SS 20 45 14.5 -0.2
ARU pmax pmax

comp=Z,68nm,1.0s
ARU MLR MLR

comp=Z,254nm,22.0s
ARU Arti 64.53 339 P P 20 32 28.7 -0.4
WHN Wuhan 64.57 287 P P 20 32 30.0 +0.3
PUL Pulkovo 64.71 356 *ce* **P P 20 32 30.5 +0.4**
PUL pmax pmax

comp=Z,74nm,0.6s
XAN Xi'an 64.73 294 P P 20 32 30.1 -0.7
XAN pP pP 20 32 41.3 -0.9
XAN pmax pmax

comp=Z,24nm,1.1s
XAN pmax pmax

comp=Z,140nm,5.7s
BRVK Borovoye 64.78 331 *ce* **P P 20 32 30.4 -0.3**
BRVK pmax pmax

comp=Z,57nm,1.7s
BRVK Borovoye 64.78 331 P P 20 32 31.7 +0.9
BRVK IAmb IAmb 20 32 32.2

comp=Z,27nm,0.9s
BVAR Borovoye Array 64.78 331 P P 20 32 31.1 +0.3
comp=Z,17nm,0.7s,baz=38,slow=7.5,SNR=80
ZSN Zaisan 64.85 319⇑ iP P 20 32 31.8 +0.4
comp=Z,17nm,0.8s,baz=318
ZSN Zaisan 64.85 319 *c iP* **P 20 32 31.7 +0.4**
ZSN pmax pmax

comp=Z,17nm,0.8s
GTA Gaotai 65.03 304 ⇑P P 20 32 32.2 -0.6
GTA pP pP 20 32 35.6 -8.6
GTA sP sP 20 32 38.4 -10
GTA pmax pmax

comp=Z,20nm,1.1s
GTA pmax pmax

comp=Z,75nm,5.4s
GTA LR LR

comp=Z,180nm,18.4s
GTA LR LR

comp=Z,160nm,19.4s
GTA LR LR

comp=Z,240nm,19.7s
LZH Lanzhou 65.71 299 *eP* **P 20 32 37.0 -0.2**
LZH pP pP 20 32 41.2 -7.5
LZH sP sP 20 32 44.1 -9.0
LZH pmax pmax

comp=Z,28nm,1.2s
LZH LR LR

comp=Z,280nm,11.7s
LZH LR LR

comp=Z,310nm,14.4s
LZH LR LR

comp=Z,290nm,15.2s
HOMB Homborsund 65.78 8 *eP* **P 20 32 38.2 +1.1**
TAOE Nuku Hiva Isla 65.86 162 *eLR* LR 20 52 15.9
comp=Z,290nm,27.8s
TAOE Nuku Hiva Isla 65.86 162 *eT* T 21 43 40.9
comp=Z,48nm,0.3s
VSU Vasula 66.14 358 *eP* **P 20 32 38.3 -1.1**
VSU Vasula 66.14 358 *c iP* **P 20 32 39.4 0.0**
VSU pmax pmax

comp=Z,155nm,1.0s
MKAR Makanchi Array 66.35 320 P P 20 32 40.8 -0.3

MKAR PP PP 20 35 01.0 -5.8
comp=Z,8.0nm,0.8s,baz=46,slow=6.2,SNR=40
MKAR LR LR 21 03 29.8
comp=Z,2.0nm,0.8s,baz=47,slow=9.1,SNR=3.5
MAKZ Makanchi 66.46 320 P P 20 32 41.4 -0.3
comp=Z,190nm,21.6s,baz=20,slow=38
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
MAKZ Makanchi 66.46 320 P P 20 32 41.4 -0.3
MAKZ IAmb IAmb 20 32 43.2
comp=Z,8.3nm,0.8s
WMQ Urumqi 66.77 315 eP P 20 32 45.9 +2.1
WMQ LR LR
comp=Z,180nm,25.1s
WMQ LR LR
comp=Z,170nm,25.1s
WMQ LR LR
comp=Z,170nm,24.1s
BRZS Berezniki 66.81 328 eP P 20 32 43.8 -0.2
comp=Z,26nm,1.4s,baz=327
BRZS Berezniki 66.81 328 eP P 20 32 43.7 -0.2
BRZS pmax pmax
comp=Z,26nm,1.4s
SLIT Slitere, Latvi 67.02 0 eP P 20 32 45.2 +0.2
MOS Moscow 68.26 351 eP P 20 32 50.6 -2.3
MOS eS S 20 41 49.8 -0.5
MOS pmax pmax
comp=Z,40nm,0.8s
MOS pmax pmax
comp=Z,100nm,0.9s
MOS MLR MLR
comp=Z,500nm,22.0s
PBUR Paburge 68.62 1 eP P 20 32 55.8 +0.7
IZAR Zarasai 68.87 358 eP P 20 32 56.9 +0.3
OBN Obninsk 68.97 352 eP P 20 32 56.5 -0.8
OBN e 20 33 19.0
OBN e 20 35 27.2
OBN ePPP PPP 20 37 06.8
OBN pmax pmax
comp=Z,84nm,1.7s
OBN MLR MLR
comp=Z,137nm,22.0s
ISAL Salakas 69.05 358 eP P 20 32 58.2 +0.4
PABE Paberze 69.14 359 eP P 20 32 59.0 +0.6
TDK Taldyqorghan 69.29 321 eP P 20 32 59.8 +0.3
comp=Z,20nm,1.1s,baz=321
TDK LR LR 21 05 03.5
comp=Z,334nm,16.4s,baz=321
TDK Taldyqorghan 69.29 321 eP P 20 32 59.8 +0.3
TDK pmax pmax
comp=Z,20nm,1.1s
TDK MLR MLR
comp=Z,334nm,16.0s
IDID Didziasalis 69.29 358 eP P 20 32 59.8 +0.5
NACGM Naroch 69.70 358 e P 20 33 01.0 -0.8
KLNR Kaliningrad 70.03 2 iP P 20 33 03.0 -0.8
KLNR pmax pmax
comp=Z,57nm,1.0s
MICGM Minsk 70.07 357 e P 20 33 04.0 -0.1
MNK Minsk 70.07 357 eP P 20 33 04.0 -0.1
BSEG Bad Segeberg 70.23 8 eP P 20 33 06.5 +1.4
comp=Z,42nm,1.1s,baz=353,slow=5.9
AKTO Aktyubinsk 70.26 337 P P 20 33 05.4 +0.1
comp=Z,16nm,0.9s,baz=30,slow=6.4,SNR=26
SHLS Shalkode 70.50 320 iP P 20 33 06.8 -0.3
comp=Z,20nm,0.8s,baz=319
SHLS Shalkode 70.50 320 iP P 20 33 06.8 -0.3
SHLS pmax pmax
comp=Z,20nm,0.8s
SUW Suwalki 70.64 360 eP P 20 33 07.2 -0.4
UZB Uzynbulak 70.67 320 eP P 20 33 08.3 +0.1
baz=320
UZB Uzynbulak 70.67 320 eP P 20 33 08.3 +0.1
BTLS Baital 70.75 324 iP P 20 33 08.6 +0.1
comp=Z,9.8nm,0.8s,baz=324
BTLS Baital 70.75 324 iP P 20 33 08.5 +0.1
BTLS pmax pmax
comp=Z,10.0nm,0.8s
CHKK Chushkaly 70.79 322 eP P 20 33 08.6 -0.2
baz=321
CHKK Chushkaly 70.79 322 eP P 20 33 08.5 -0.2
SATY Saty 70.97 320 eP P 20 33 10.4 +0.4
comp=Z,5.4nm,1.0s,baz=320
SATY Saty 70.97 320 eP P 20 33 10.4 +0.4
SATY pmax pmax
comp=Z,5.0nm,1.0s
SATY Saty 70.97 320 eP P 20 33 10.4 +0.4
SATY pmax pmax
comp=Z,5.0nm,1.0s
KUU Kurty 70.98 322 eP P 20 33 08.6 -1.3
comp=Z,63nm,2.6s,baz=322
KUU LR LR 21 06 29.6
comp=Z,265nm,15.4s,baz=322
KUU Kurty 70.98 322 eP P 20 33 08.6 -1.3
KUU pmax pmax
comp=Z,63nm,2.6s
KUU MLR MLR
comp=Z,265nm,15.0s
LPSR Galich'ya Gora 71.24 350 eP P 20 33 10.8 -0.5
LPSR e 20 33 25.4
LPSR pmax pmax
comp=Z,40nm,0.9s
GKP Gorka Klasztor 71.29 4 eP P 20 33 12.7 +1.2
MDOK Medeo 71.37 321 eP P 20 33 12.6 +0.2
baz=321
MDOK LR LR 21 06 16.6
comp=Z,193nm,18.6s,baz=321
MDOK Medeo 71.37 321 eP P 20 33 12.6 +0.2
MDOK MLR MLR
comp=Z,193nm,19.0s
AAA Alma-Ata 71.38 321 iP P 20 33 12.9 +0.5
baz=321
AAA LR LR 21 06 21.6
comp=Z,205nm,18.7s,baz=321
AAA Alma-Ata 71.38 321 iP P 20 33 12.8 +0.5
AAA MLR MLR
comp=Z,205nm,19.0s
TNSS Tian-Shan 71.52 321 iP P 20 33 13.9 +0.3
baz=321
TNSS Tian-Shan 71.52 321 iP P 20 33 13.9 +0.3
MTBS Maitube 71.62 322 eP P 20 33 15.3 +1.4
baz=321
MTBS Maitube 71.62 322 eP P 20 33 15.2 +1.4
NRDL Niedersach Rie 71.65 8 eP P 20 33 14.8 +1.2
comp=Z,29nm,1.0s,baz=353,slow=5.9
RUE Ruedersdorf 71.91 6 eP P 20 33 16.3 +1.1
RUE Ruedersdorf 71.91 6 eP P 20 33 16.4 +1.1
comp=Z,60nm,0.9s,baz=353,slow=5.9
GYA Guiyang 71.92 290 ⇑P P 20 33 15.7 -0.2
GYA pmax pmax
comp=Z,32nm,0.9s
SGDS Sogindy 71.95 323 iP P 20 33 16.4 +0.5
comp=Z,10nm,1.1s,baz=323
SGDS Sogindy 71.95 323 iP P 20 33 16.3 +0.5
SGDS pmax pmax
comp=Z,11nm,1.1s
ASSE Asse, Remlinge 72.05 8 eP P 20 33 17.2 +1.1
comp=Z,28nm,1.1s,baz=353,slow=5.9
TKM2 Tokmak 2 72.09 322 P P 20 33 17.6 +0.7
SNR=19
USP Ospenovka 72.16 323 P P 20 33 17.9 +0.8
SNR=12
KDJ Kajisay 72.23 321 P P 20 33 19.8 +2.2
KDJ pmax pmax
comp=Z,13nm,1.0s
KDJ Kajisay 72.23 321 P P 20 33 19.8 +2.2
KDJ IAmb IAmb 20 33 20.5
comp=Z,13nm,0.9s
VRH Novokhopyorsk 72.31 348 eP P 20 33 16.8 -0.9
VRH e 20 33 31.4
VRH pmax pmax
comp=Z,20nm,0.8s
CHMS Chumysh 72.31 323 P P 20 33 18.9 +0.9
SNR=18
CLZ Clausthal 72.31 8 eP P 20 33 19.2 +1.4
comp=Z,40nm,1.1s,baz=353,slow=5.9
TARG Taragay, Kyrgy 72.35 320 IAmb IAmb 20 33 22.6
comp=Z,9.0nm,0.7s
BUG Bochum--Univer 72.43 10 eP P 20 33 19.4 +1.0
comp=Z,40nm,1.0s,baz=353,slow=5.9
KBK Karagaybulak 72.55 322 P P 20 33 20.0 +0.5
SNR=16
GTTG Gottingen 72.58 8 eP P 20 33 20.7 +1.4
comp=Z,55nm,1.2s,baz=353,slow=5.9
VSR Storozhevoye 72.59 349 eP P 20 33 18.8 -0.6
VSR e 20 33 33.6
VSR pmax pmax
comp=Z,40nm,0.8s
AAK Ala-Archa 72.72 323 P P 20 33 21.3 +0.8
comp=Z,16nm,0.8s,baz=60,slow=2.4,SNR=13
AAK Ala-Archa 72.72 323 P P 20 33 21.4 +0.8
SNR=11
AAK Ala-Archa 72.72 323 ceP P 20 33 20.9 +0.4
AAK pmax pmax
comp=Z,31nm,1.3s
AAK Ala-Archa 72.72 323 P P 20 33 21.5 +1.0
AAK IAmb IAmb 20 33 23.5
comp=Z,18nm,0.8s
VORD Divnogorie 72.82 349 eP P 20 33 20.0 -0.7
VORD e 20 33 35.0
VORD pmax pmax
comp=Z,30nm,0.9s
EKS2 Erkin-Say 72.94 323 P P 20 33 22.7 +0.9
SNR=17
CLL Collm 73.03 6 iP P 20 33 22.2 +0.2
comp=Z,5.0nm,0.9s
CLL iP(2)
comp=Z,26nm,1.5s
CLL iPcP sP 20 33 37.5 -0.5
comp=Z,22nm,1.0s
CLL Collm 73.03 6 iP P 20 33 22.2 +0.2
CLL pmax pmax
comp=Z,26nm,1.5s
CLL Collm 73.03 6 eP P 20 33 22.7 +0.7
comp=Z,22nm,1.0s,baz=353,slow=5.9
NEUB Neuenburg 73.05 7 eP P 20 33 23.0 +0.9
comp=Z,43nm,1.0s,baz=353,slow=5.9
TIAR Tiarei 73.27 172 eT T 21 53 02.9
comp=Z,25nm,0.3s
PPT2 Papeete2 73.29 172 eS S 20 42 46.0 -3.5
comp=Z,282nm,27.5s
PPT2 Papeete2 73.29 172 eLR LR 20 55 47.7
comp=Z,170nm,23.2s
PPT2 Papeete2 73.29 172 eT T 21 53 04.2
comp=Z,8.1nm,0.3s
AHRW Bad Neuenahr-A 73.30 10 eP P 20 33 24.5 +0.9
comp=Z,15nm,1.1s,baz=353,slow=5.9
PAE Paea 73.36 173 eT T 21 53 09.5
comp=Z,2.5nm,0.3s
FBE Freiberg 73.44 6 eP P 20 33 25.5 +1.1
comp=Z,39nm,1.1s,baz=353,slow=5.9
AML Almayashu 73.44 323 P P 20 33 25.9 +0.8
SNR=20
TVO Taravao 73.50 172 eT T 21 53 20.1
comp=Z,2.5nm,0.3s
BRG Berggiesshubel 73.53 6 iP P 20 33 25.4 +0.4
comp=Z,9.1nm,1.1s
BRG e 20 33 36.7
comp=Z,22nm,1.3s
BRG Berggiesshubel 73.53 6 eP P 20 33 25.7 +0.8
comp=Z,31nm,1.2s,baz=353,slow=5.9
DZA Taraz 73.55 325 eP P 20 33 25.7 +0.4
comp=Z,7.7nm,0.8s,baz=325
DZA Taraz 73.55 325 eP P 20 33 25.7 +0.4
DZA pmax pmax
comp=Z,8.0nm,0.8s
MOX Moxa 73.60 7 eP P 20 33 26.3 +0.9
comp=Z,30nm,1.0s,baz=353,slow=5.9
KK31 Karatay Array 73.62 326 IAmb IAmb 20 33 28.6
comp=Z,20nm,0.9s
KKAR Karatay Array 73.62 326 IAmb IAmb 20 33 28.6
comp=Z,20nm,0.9s
KSP Ksiaz 73.67 4 eP P 20 33 26.2 +0.4
TNS Taunus Mts 73.75 10 eP P 20 33 27.3 +0.9
comp=Z,19nm,1.1s,baz=353,slow=5.9
PLN Plauen 73.80 7 eP P 20 33 27.3 +0.7
comp=Z,14nm,1.0s,baz=353,slow=5.9
AKASG Malin Array Be 73.83 356 P P 20 33 26.1 -0.5
comp=Z,14nm,0.8s,baz=8.3,slow=6.1,SNR=35
TANN Tannenbergstha 73.89 7 eP P 20 33 28.1 +0.9
comp=Z,41nm,1.3s,baz=353,slow=5.9
PVCC Panska Ves 73.91 6 eP P 20 33 28.2 +1.0
PVCC e 20 33 38.6
PVCC Panska Ves 73.91 6 eP P 20 33 28.2 +1.0
PVCC epP pP 20 33 38.6 -0.2
CHVC Chvalec 73.92 5 eP P 20 33 27.5 +0.2
CHVC epP pP 20 33 39.1 +0.2
OSTC Ostas 73.96 4 eP P 20 33 28.2 +0.7
OSTC ex x 20 33 43.0
UPC Upice 74.00 5 eP P 20 33 28.2 +0.5
UPC e 20 33 39.8
UPC MLR MLR
comp=Z,700nm,19.6s
UPC Upice 74.00 5 eP P 20 33 28.2 +0.5
UPC epP pP 20 33 39.8 +0.5
NKC Novy Kostel 74.07 7 eP P 20 33 28.5 +0.3
NKC e 20 33 40.2
NKC Novy Kostel 74.07 7 eP P 20 33 28.5 +0.3
NKC epP pP 20 33 40.2 +0.4
WLF Walferdange 74.07 11 eP P 20 33 29.5 +1.3
comp=Z,16nm,1.0s,baz=353,slow=5.9
DPC Dobruska-Polom 74.17 4 eP P 20 33 29.1 +0.3
DPC e 20 33 41.5
DPC MLR MLR
comp=Z,700nm,21.7s
DPC Dobruska-Polom 74.17 4 eP P 20 33 29.1 +0.3
DPC epP pP 20 33 41.5 +1.1
MANZ Manzenberg 74.29 7 eP P 20 33 30.2 +0.8
comp=Z,13nm,1.2s,baz=353,slow=5.9
ARSB Arslanbob 74.40 323 IAmb IAmb 20 33 33.1
comp=Z,26nm,1.1s
OJC Ojcow 74.41 2 eP P 20 33 30.2 +0.1
PRU Pruhonice 74.44 6 eP P 20 33 30.9 +0.6
PRU e 20 33 42.5
PRU MLR MLR
comp=Z,500nm,25.9s
PRU Pruhonice 74.44 6 eP P 20 33 30.9 +0.6
PRU epP pP 20 33 42.5 +0.6
KRLC Kraliky 74.46 4 eP P 20 33 30.9 +0.4
KRLC e 20 33 42.4
KRLC Kraliky 74.46 4 eP P 20 33 30.9 +0.4
KRLC epP pP 20 33 42.4 +0.3
ROTZ Rotzenmuhle 74.52 7 eP P 20 33 31.8 +1.0
comp=Z,21nm,1.1s,baz=353,slow=5.9
GRF Grafenberg Arr 74.52 8 eP P 20 33 31.9 +1.1
comp=Z,14nm,1.2s,baz=353,slow=5.9
GOPC GO Pecny, Ondr 74.53 5 eP P 20 33 43.9 +13
GOPC MLR MLR
comp=Z,600nm,28.5s
GOPC GO Pecny, Ondr 74.53 5 epP pP 20 33 43.9 +1.4
IUG luzhnay 74.64 326 i/iP P 20 33 32.4 +0.6
comp=Z,14nm,0.9s,baz=325
IUG luzhnay 74.64 326 ciP P 20 33 32.3 +0.6
IUG pmax pmax
comp=Z,14nm,0.9s
PBCC Pribram 74.71 6 eP P 20 33 32.6 +0.7
PBCC epP sP 20 33 48.1 +0.2
OKC Ostrava-Krasne 74.75 3 eP P 20 33 33.2 +1.1
OKC e 20 33 44.9
OKC Ostrava-Krasne 74.75 3 eP P 20 33 33.2 +1.1
OKC epP PcP 20 33 44.9 -1.2
MORC Moravsky Berou 74.79 4 ⇑P P 20 33 32.8 +0.4
MORC Moravsky Berou 74.79 4 eP P 20 33 32.6 +0.2
MORC e 20 33 44.5
KSH Kashi 74.96 320 P P 20 33 37.6 +4.0
KSH pmax pmax
comp=Z,32nm,1.0s
KWP Kalwaria Pacla 75.03 0 eP P 20 33 34.1 +0.4
KMI Kunming 75.06 293 ⇓eP P 20 33 34.6 0.0
KMI pmax pmax
comp=Z,10.0nm,0.8s
WET Wettzell 75.18 7 eP P 20 33 36.0 +1.3
comp=Z,20nm,1.5s,baz=353,slow=5.9
TREC Trest 75.18 5 eP P 20 33 34.8 +0.2
TREC e 20 33 46.2
TREC Trest 75.18 5 eP P 20 33 34.8 +0.2
TREC epP pP 20 33 46.2 -0.1
NIE Niedzica 75.22 2 eP P 20 33 36.1 +1.3
VRAC Vranov 75.22 4 ⇑P P 20 33 35.8 +0.9
VRAC Vranov 75.22 4 eP P 20 33 35.3 +0.5
VRAC e 20 33 47.2
KHC Kasperske Hory 75.24 6 ceP P 20 33 35.9 +0.9
KHC pmax pmax
comp=Z,27nm,1.3s
KHC Kasperske Hory 75.24 6 eP P 20 33 36.1 +1.1
KHC epP PcP 20 33 48.0 -0.3
KRUC Moravsky 75.46 4 eP P 20 33 36.3 +0.1
KRUC e 20 33 48.3
LANS Liptovska Anna 75.47 2 eP P 20 33 37.5 +1.2
LANS pmax pmax
comp=Z,7.0nm,1.0s
LANS Liptovska Anna 75.47 2 eP P 20 33 37.5 +1.2
GEC2 GERESS Array S 75.53 6 eP P 20 33 37.5 +0.8
comp=Z,13nm,1.0s,baz=353,slow=5.9
GERES GERESS Array B 75.53 6 P P 20 33 37.2 +0.4
comp=Z,2.4nm,0.8s,baz=359,slow=5.3,SNR=17
JAVC Velka Javorina 75.71 4 eP P 20 33 39.1 +1.4
JAVC e 20 33 50.7
KOLS Kolonicke sedl 75.73 0 eP P 20 33 38.5 +0.8
KOLS pmax pmax
comp=Z,16nm,1.1s
KOLS Kolonicke sedl 75.73 0 eP P 20 33 38.5 +0.8
CRVS Cervenica-Dubn 75.75 1 eP P 20 33 38.6 +0.7
CRVS pmax pmax
comp=Z,11nm,1.2s
CRVS Cervenica-Dubn 75.75 1 eP P 20 33 38.5 +0.7
UZH Uzhgorod 76.03 0 eP P 20 33 40.2 +0.8
UZH e 20 33 44.2
UZH e 20 33 49.1
VYHS Vyhne 76.11 3 eP P 20 33 40.6 +0.7
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 76.11 3 eP P 20 33 40.6 +0.7
KECS Kecovo 76.16 2 eP P 20 33 40.4 +0.2
KECS pmax pmax
comp=Z,4.0nm,0.8s
KECS Kecovo 76.16 2 eP P 20 33 40.4 +0.2
CONA Conrad Observa 76.56 5 eP P 20 33 43.3 +0.7
comp=Z,8.3nm,1.4s,SNR=5.1
RETA Reutte 76.67 8 eP P 20 33 43.6 +0.4
comp=Z,4.2nm,1.0s
PSZ Piszkesteto 76.71 2 ⇑P P 20 33 44.6 +1.2
MOTA Moosalm 76.84 8 eP P 20 33 44.7 +0.4
comp=Z,7.7nm,0.9s
WATA Walderalm 76.89 8 iP P 20 33 45.1 +0.6
comp=Z,9.3nm,1.0s,SNR=6.7
WTTA Wattenberg 76.96 8 iP P 20 33 45.8 +0.8
comp=Z,9.4nm,0.8s
SQTA Sankt Quirin 76.97 8 eP P 20 33 45.7 +0.7
comp=Z,12nm,0.9s,SNR=8.1
BUR08 Bucovina Ar. S 77.00 358 IAmb IAmb 20 34 01.8
comp=Z,13nm,1.1s
BURAR Bucovina Array 77.03 358 ⇑P P 20 33 45.4 +0.2
LSA Lhasa 77.05 304 IAmb IAmb 20 33 48.0
comp=Z,24nm,0.7s
FETA Feichten 77.13 8 iP P 20 33 46.7 +0.8
comp=Z,7.2nm,0.9s,SNR=6.5
ARSA Arzberg 77.22 5 eP P 20 33 47.1 +0.9
comp=Z,6.3nm,1.1s
KBA Koelnbreinsper 77.27 7 iP P 20 33 47.6 +0.9
comp=Z,16nm,1.3s,SNR=7.7
FUORN Ofenpass-Fuorn 77.49 9 IAmb IAmb 20 34 05.7
comp=Z,10nm,0.9s
ABTA Abfaltersbach 77.54 7 eP P 20 33 49.0 +0.9
comp=Z,3.3nm,0.9s
ARCR ARCALIA 77.57 359 ⇑P P 20 33 49.2 +1.1
BIZ Bicaz 77.69 358 ⇓P P 20 33 49.8 +1.0
MYKA Terra Mystica 77.74 7 eP P 20 33 49.4 +0.2
comp=Z,6.3nm,1.3s
SOKA Soboth 77.77 6 eP P 20 33 50.0 +0.7
comp=Z,9.6nm,1.1s,SNR=7.4
PERS Pernice 77.82 5 iP P 20 33 50.1 +0.5
OBKA Obir 77.91 6 eP P 20 33 50.6 +0.4
comp=Z,16nm,0.8s,SNR=6.0
VASR Vaslui 77.94 357 ⇑P P 20 33 50.6 +0.4
CJR Cluj-Napoca 77.95 359 ⇑P P 20 33 50.6 +0.2
GROS Grobnik 78.01 5 iP P 20 33 51.0 +0.3
TESR Tescani 78.10 357 ⇑P P 20 33 50.9 -0.2
CADS Cadrg 78.14 6 iP P 20 33 51.0 -0.4
GOF Gofitskoye 78.17 346 ⇑eP P 20 33 52.2 +0.7
GOF pmax pmax
comp=Z,67nm,0.6s
SIRR Siria 78.39 1 ⇑P P 20 33 54.0 +1.2
DOPR Dopca 78.67 358 ⇓P P 20 33 55.4 +1.0
VRI Vrincioaia 78.74 357 ⇓P P 20 33 55.4 +0.7
PLOR Plostina 78.76 357 ⇑P P 20 33 55.0 +0.2
TBI Tubuai 79.01 173 eT T 22 00 12.9
comp=Z,21nm,0.3s
BZS Buzias 79.04 1 ⇑P P 20 33 56.8 +0.5
MLR Muntele Rosu 79.14 358 ⇓P P 20 33 58.3 +1.2
VOIR 79.21 358 ⇑P P 20 33 58.7 +1.4
ARR Arges 79.28 359 ⇑P P 20 33 59.2 +1.5
KVAR Kislovodsk Arr 79.30 346 P P 20 33 58.4 +0.4
comp=Z,4.3nm,0.7s,baz=270,slow=20,SNR=3.4
KIV Kislovodsk 79.30 346 ⇑P P 20 33 58.4 +0.5
KIV Kislovodsk 79.30 346 eP P 20 33 57.9 0.0
KIV pmax pmax
comp=Z,64nm,1.1s
KIV MLR MLR
comp=Z,291nm,19.0s
KIV Kislovodsk 79.30 346 P P 20 33 58.4 +0.5
KIV IAmb IAmb 20 34 14.7
comp=Z,32nm,1.1s
CFR Carcaliu 79.39 356 ⇑P P 20 33 58.1 0.0
PCAB Cabril 79.46 23 eP P 20 33 59.7 +1.0
comp=Z,13nm,1.7s
KBZ Khabaz 79.49 345 P P 20 33 59.5 +0.7
comp=Z,12nm,0.9s,baz=338,slow=4.3,SNR=19
KBZ LR LR 21 12 19.4
comp=Z,178nm,21.8s,baz=24,slow=38
MAK Makhachkala 79.51 342 eP P 20 33 54.1 -4.8
MAK eS S 20 43 52.2 -5.0
MAK pmax pmax
comp=Z,145nm,1.3s
MAK MLR MLR
comp=Z,227nm,18.0s
GROC Groznyy 79.56 343 eP P 20 33 59.9 +0.7
GROC e 20 34 09.3
GROC e 20 36 57.0
GROC pmax pmax
comp=Z,27nm,1.9s
PBRG Braganca 79.65 22 eP P 20 34 00.8 +1.0
comp=Z,16nm,1.6s
TOPG Topolog 79.68 356 ⇑P P 20 34 00.4 +0.7
MDVR Moldovita 79.88 1 ⇑P P 20 34 01.4 +0.5
HARR Harsova 79.88 356 ⇑P P 20 34 01.5 +0.6
PVRL Vila Real 79.94 23 eP P 20 34 02.9 +1.5
comp=Z,17nm,1.5s
TIRR Tirgusor 80.09 356 ⇑P P 20 34 02.2 +0.2
HUMR Humele 80.12 358 ⇑P P 20 34 01.7 -0.5
MVO Moncorvo 80.20 22 eP P 20 34 02.9 +0.1
comp=Z,15nm,1.3s
ZEI Tsey 80.27 344 eP P 20 33 59.9 -3.4
ZEI pmax pmax
comp=Z,8.0nm,0.4s
PVIS Viseu 80.44 23 eP P 20 34 05.4 +1.3
comp=Z,27nm,1.5s
SIJI Sorong 80.44 254 P P 20 34 05.0 +0.6
comp=Z,9.4nm,0.8s,baz=34,slow=7.3,SNR=2.5
TAPN Taplejung 80.64 305 eP P 20 34 05.8 +0.1
comp=Z,86nm,0.9s
MTE Manteigas 80.82 23 eP P 20 34 07.1 +1.0
comp=Z,20nm,1.4s
AKT Akhty 80.90 341 eP P 20 34 06.7 +0.1
AKT e 20 34 12.0
AKT pmax pmax
comp=Z,20nm,0.9s
PCAS Casmilo, Conde 80.94 24 eP P 20 34 07.8 +1.1
comp=Z,24nm,1.4s
JIRN Jiri 81.07 307 eP P 20 34 08.5 +0.5
comp=Z,142nm,0.8s
NIL Nilore 81.17 319 P P 20 34 08.8 +0.8
NIL pmax pmax
comp=Z,51nm,1.0s
NIL Nilore 81.17 319 P P 20 34 08.8 +0.8
ODAN Odare 81.21 305 eP P 20 34 08.6 0.0
comp=Z,44nm,0.9s
PCBR Castelo Branco 81.37 23 eP P 20 34 09.8 +0.9
comp=Z,11nm,1.4s
PSBE So Bento 81.38 24 eP P 20 34 09.9 +0.8
GKN Gorkha 81.48 308 eP P 20 34 09.9 0.0
comp=Z,55nm,0.9s
RAMN Ramite 81.49 306 eP P 20 34 10.2 +0.1
comp=Z,72nm,0.8s
PKI Pulchoki 81.50 307 eP P 20 34 10.1 -0.2
comp=Z,27nm,0.9s
DANN Dangsing 81.57 309 eP P 20 34 10.9 +0.3
comp=Z,186nm,0.8s
DMN Daman 81.61 307 eP P 20 34 10.7 0.0
comp=Z,36nm,0.8s
AKH Akhalkalaki 81.68 344 ⇑P P 20 34 12.5 +1.7
PMRV Marv??o 81.78 23 eP P 20 34 11.7 +0.5
PMAFR Mafra 81.80 25 eP P 20 34 12.6 +1.4
comp=Z,106nm,1.4s
KBL Kabul 81.86 323 P P 20 34 11.7 -0.2
KBL pmax pmax

	comp=Z,14nm,1.0s								
KBL	**Kabul**		**81.86**	**323**	P		**P**	**20 34 11.7**	**-0.2**
KBL					IAmb		IAmb	20 34 11.7	
	comp=Z,14nm,0.9s								
GEYT	**Alibeck**		**82.01**	**333**	P		**P**	**20 34 13.4**	**+1.0**
	comp=Z,12nm,0.8s,baz=323,slow=3.9,SNR=16								
GEYT					LR		LR	21 16 01.8	
	comp=Z,188nm,19.5s,baz=205,slow=40								
VTS	**Vitosha**		**82.04**	**360**	⇑P		**P**	**20 34 12.7**	**+0.1**
PYUN	**Piuthan**		**82.12**	**309**	*e*P		**P**	**20 34 13.6**	**+0.2**
	comp=Z,121nm,1.1s								
KOLN	**Koldanda**		**82.14**	**309**	*e*P		**P**	**20 34 13.5**	**0.0**
	comp=Z,59nm,1.0s								
ESBB	**Sonseca Array**		**82.27**	**21**	P		**P**	**20 34 14.6**	**+0.9**
ESBB					IAmb		IAmb	20 34 15.8	
	comp=Z,15nm,1.2s								
ESDC	**Sonseca Array**		**82.27**	**21**	P		**P**	**20 34 14.7**	**+0.9**
	comp=Z,7.6nm,1.0s,baz=342,slow=4.8,SNR=34								
PAB	**San Pablo**		**82.32**	**21**	P		**P**	**20 34 14.3**	**+0.2**
PAB					pmax		pmax		
	comp=Z,17nm,1.4s								
PAB	**San Pablo**		**82.32**	**21**	P		**P**	**20 34 14.3**	**+0.2**
PAB					IAmb		IAmb	20 34 16.0	
	comp=Z,17nm,1.4s								
DIKM	**Dikmen**		**82.44**	**351**	⇑P		**P**	**20 34 16.5**	**+1.9**
CM31	**Chiang Mai Arr**		**82.53**	**292**	P		**P**	**20 34 15.5**	**+0.1**
CM31					IAmb		IAmb	20 34 16.4	
	comp=Z,26nm,0.8s								
CMAR	**Chiang Mai Arr**		**82.53**	**292**	P		**P**	**20 34 15.7**	**+0.3**
	comp=Z,20nm,0.8s,baz=11,slow=5.4,SNR=110								
CMAR					LR		LR	21 15 14.7	
	comp=Z,79nm,18.6s,baz=40,slow=39								
CMAR	**Chiang Mai Arr**		**82.53**	**292**	*ce*P		**P**	**20 34 15.6**	**+0.3**
CMAR					pmax		pmax		
	comp=Z,21nm,0.8s								
PNCL	**Nicolau / Gran**		**82.78**	**24**	*e*P		**P**	**20 34 15.9**	**-0.4**
	comp=Z,27nm,1.7s								
PBKT	**Sadao Pong**		**83.02**	**289**	P		**P**	**20 34 16.3**	**-1.6**
PBKT					IAmb		IAmb	20 34 18.6	
	comp=Z,10.0nm,0.9s								
DZM	**Mont Dzumac**		**83.43**	**214**	eLR		LR	21 00 26.6	
	comp=Z,122nm,22.4s								
PVAQ	**Vaqueiros**		**83.64**	**24**	*e*P		**P**	**20 34 20.2**	**-0.6**
	comp=Z,23nm,1.4s								
PBDV	**Barranco-do-Ve**		**83.75**	**24**	*e*P		**P**	**20 34 22.4**	**+1.0**
	comp=Z,36nm,1.3s								
ANTO	**Ankara**		**84.42**	**352**	⇑P		**P**	**20 34 26.1**	**+1.2**
BRTR	**Keskin Array B**		**84.49**	**352**	P		**P**	**20 34 25.8**	**+0.5**
	comp=Z,11nm,0.9s,baz=52,slow=2.4,SNR=32								
BRTR	**Keskin Array B**		**84.49**	**352**	*ce*P		**P**	**20 34 26.2**	**+0.9**
BRTR					pmax		pmax		
	comp=Z,11nm,0.9s								
TIP	**Timpagrande**		**85.34**	**5**	⇑P		**P**	**20 34 29.2**	**-0.3**
TIP	**Timpagrande**		**85.34**	**5**	IAmb		IAmb	20 34 30.7	
	comp=Z,7.9nm,0.8s								
KEST	**Kesra**		**88.19**	**11**	P		**P**	**20 34 44.2**	**+0.8**
	comp=Z,2.8nm,0.8s,baz=344,slow=7.4,SNR=3.9								
WRA	**Warramunga Arr**		**94.86**	**241**	P		**P**	**20 35 17.0**	**+2.7**
	comp=Z,0.8nm,1.1s,baz=35,slow=5.4,SNR=2.0								
ASAR	**Alice Springs**		**98.22**	**240**	P		Pdif	20 35 32.0	+2.5
	comp=Z,0.3nm,0.7s,baz=28,slow=4.7,SNR=2.1								
ETMB	**Extrema**		**98.53**	**95**	*e*P		**P**	**20 35 28.9**	**-2.3**
H03N2	**Juan Fernandez**		**110.81**	**119**	T		T	22 40 44.1	
	baz=325,slow=78,SNR=25								
H03N1	**Juan Fernandez**		**110.82**	**119**	T		T	22 40 45.4	
	baz=325,slow=78,SNR=20								
H03N3	**Juan Fernandez**		**110.83**	**119**	T		T	22 40 44.0	
	baz=325,slow=78,SNR=35								
BLWY	**Bulawayo**		**144.23**	**351**	*i* P		PKPbc	20 41 26.9	+0.3
BLWY	**Bulawayo**		**144.23**	**351**	*i* P		**PKPdf**	**20 41 28.9**	**+0.5**
BLWY	**Bulawayo**		**144.23**	**351**	*i* P		PKPbc	20 41 26.9	+0.3
MATP	**Matopo**		**144.52**	**351**	*i* P		**PKPab**	**20 41 27.5**	**+0.3**
MATP	**Matopo**		**144.52**	**351**	*i* P		**PKPab**	**20 41 27.4**	**+0.3**
MATP	**Matopo**		**144.52**	**351**	*i* P		**PKPab**	**20 41 27.5**	**+0.3**
QSPA	**South Pole Qui**		**145.49**	**180**	PKPbc		**PKPdf**	**20 41 28.7**	**-0.2**
	baz=33,slow=0.9								
QSPA	**South Pole Qui**		**145.49**	**180**			**PKPdf**	**20 41 29.0**	**+0.1**
LBTB	**Lobatse**		**149.27**	**355**	PKP2		**PKPbc**	**20 41 41.6**	**+0.6**
LBTB	**Lobatse**		**149.27**	**355**			**PKPbc**	**20 41 41.6**	**+0.6**
BOSA	**Boshof**		**152.87**	**355**	PKPbc		**PKPbc**	**20 41 49.4**	**+0.1**
	comp=Z,3.0nm,0.9s,baz=42,slow=5.7,SNR=3.1								
BOSA	**Boshof**		**152.87**	**355**	*i* P		**PKPab**	**20 41 59.6**	**-0.8**
BOSA	**Boshof**		**152.87**	**355**	*i* P		**PKiKP**	**20 41 49.9**	**+0.4**
BOSA	**Boshof**		**152.87**	**355**	*i* P		**PKiKP**	**20 41 49.9**	**+0.4**

*IDC **03** 20:27:53.8±5.0, 36°.19N×71°.04E, h75km±32km, mb3.5/4, mb1 3.5/9, mb1mx3.2/47, mbtmp3.7/9, Error ellipse: s-maj=64.1km s-min=29.3km az=143.0*

ISC 03 20:27:54.0±0.7, 36°.32N±0'.07×71°.20E±0'.07, h100km, n21, σ2§28/25, mb3.8/4, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.39**	**135**	*e*P			**Pn**	**20 29 14.5**	**+2.6**
THN				*e*S			**Sn**	**20 30 12.5**	**-0.1**
KK31	**Karatay Array**	**6.79**	**356**	P			**Pn**	**20 29 31.1**	**+0.1**
	5.0nm,0.4s,baz=179,slow=13,SNR=94								
KK31				S			**Sn**	**20 30 43.1**	**-3.6**
	3.8nm,0.3s,baz=184,slow=25,SNR=14								
AAK	**Ala-Archa**	**6.80**	**21**	P			**Pn**	**20 29 32.3**	**+1.0**
	1.5nm,0.3s,baz=202,slow=8.1,SNR=7.7								
AAK				S			**Sn**	**20 30 45.5**	**-1.7**
	0.9nm,0.3s,baz=326,slow=21,SNR=6.9								
GEYT	**Alibeck**	**10.57**	**283**	P			**Pn**	**20 30 21.6**	**-0.8**
	0.4nm,0.3s,baz=108,slow=14,SNR=7.7								
GEYT				S			**Sn**	**20 32 13.8**	**-4.9**
	2.1nm,0.3s,baz=288,slow=25,SNR=12								
PYUN	**Piuthan**	**12.91**	**126**	*e*P			**Pn**	**20 30 52.2**	**-1.7**
DANN	**Dangsing**	**13.26**	**123**	*e*P			**Pn**	**20 30 55.8**	**-2.7**
MKAR	**Makanchi Array**	**13.34**	**35**	P			**P**	**20 31 04.3**	**-0.9**
	0.1nm,0.3s,baz=208,slow=9.3,SNR=5.8								
KOLN	**Koldanda**	**13.53**	**126**	*e*P			**Pn**	**20 30 59.9**	**-2.1**
GKN	**Gorkha**	**14.07**	**122**	*e*P			**Pn**	**20 31 06.7**	**-2.3**
DMN	**Daman**	**14.64**	**122**	*e*P			**Pn**	**20 31 14.1**	**-2.4**
PKI	**Pulchoki**	**14.88**	**122**	*e*P			**Pn**	**20 31 17.5**	**-2.0**
KURBB	**Kurchatov Arra**	**15.24**	**18**	P			**P**	**20 31 26.2**	**0.0**
	0.0nm,0.3s,baz=203,slow=11,SNR=7.2								
JIRN	**Jiri**	**15.36**	**120**	*e*P			**Pn**	**20 31 23.3**	**-2.3**
TAPN	**Taplejung**	**16.62**	**118**	*e*P			**Pn**	**20 31 40.6**	**-0.7**
ODAN	**Odare**	**16.69**	**120**	*e*P			**P**	**20 31 42.0**	**-0.7**
AKTO	**Aktyubinsk**	**17.01**	**330**	P			**P**	**20 31 46.8**	**+1.0**
	0.3nm,0.3s,baz=159,slow=10.0,SNR=5.3								
AKTO				S			Sn	20 34 45.0	-9.5
	0.1nm,0.3s,baz=105,slow=18,SNR=1.0								
FINES	**FINESS Array B**	**37.72**	**326**	P			**P**	**20 35 02.5**	**+2.9**
	1.0nm,0.6s,baz=119,slow=9.8,SNR=7.9								
ARCES	**ARCESS Array B**	**41.37**	**338**	P			**P**	**20 35 32.5**	**+2.8**
	1.1nm,0.3s,baz=115,slow=8.6,SNR=4.3								
NB2	**NORSAR Subarra**	**44.62**	**323**	P			**P**	**20 35 58.2**	**+2.1**
	comp=Z,0.5nm,0.5s,baz=94,slow=7.9								
NOA	**NORSAR Array B**	**44.62**	**323**	P			**P**	**20 35 58.2**	**+2.1**
	comp=Z,0.6nm,0.5s,baz=97,slow=7.8,SNR=6.2								
TORD	**Torodi Ar. Bea**	**65.87**	**269**	P			**P**	**20 38 30.7**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=48,slow=6.0,SNR=5.5								

*NIED **03** 20:39:52.3, 28°.11N×127°.99E, h16km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.72; $M_{\theta\theta}$2.62; $M_{\phi\phi}$-3.34; $M_{r\theta}$-2.97; $M_{\theta\phi}$4.15; $M_{\phi r}$-2.16; Fault plane solution: $M_0$6.21000×10^{14} NP1: ϕ_s194.00000°, δ74.00000°, λ153.00000°. NP2: ϕ_s293.00000°, δ64.00000°, λ18.00000°.*

JMA 03 20:39:52.3±0.1, 28°.11N×127°.99E, h16km±2km, M3.6, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.91**	**145**	P			Pb	20 40 09.2	-0.5
JOKE				S			Sb	20 40 21.4	-0.1
JTK	**Tokunoshima**	**0.91**	**111**	P			Pb	20 40 09.1	-0.6
JTK				*e*S			Sb	20 40 20.8	-0.8
JAMN	**Amaminishikomi**	**1.05**	**83**	P			Pb	20 40 11.9	-0.3
JAMN				S			Sb	20 40 26.0	+0.3
JIH	**Iheya**	**1.07**	**181**	P			Pb	20 40 12.1	-0.4
JIH				S			Sb	20 40 26.4	+0.2
JYRO	**Yoronjima**	**1.16**	**159**	P			Pn	20 40 13.4	-0.4
JYRO				*e*S			Sb	20 40 28.8	+0.2
JOW	**Kunigami**	**1.30**	**169**	P			Pn	20 40 15.6	-0.2
JOW				*e*S			Sb	20 40 32.6	-0.2
JAM	**Amami Oshima**	**1.46**	**78**	P			Pn	20 40 18.3	+0.4
JAM				*e*S			Sn	20 40 36.9	+0.2
JTAJ	**Takarajima**	**1.49**	**45**	P			Pn	20 40 18.4	0.0
JNTH	**Nagotoyohara**	**1.59**	**179**	P			Pn	20 40 20.2	+0.5
JNTH				*e*S			Sn	20 40 40.2	+0.3
JAGN	**Aguni-jima**	**1.66**	**204**	P			Pn	20 40 20.7	0.0

*IDC **03** 20:40:12.6±0.5, 55°.36S×27°.32W, h0km, mb4.5/11, mb1 4.5/12, mb1mx4.3/26, mbtmp4.5/12, ML4.3/1, MS3.7/6, Ms1 3.7/6, ms1mx3.6/28, Error ellipse: s-maj=21.6km s-min=15.8km az=79.0*

*NEIC **03** 20:40:14.0±1.8, 55°.3S±0'.1×27°.4W±0'.2, h10km±1km, mb4.8/15, Error ellipse: s-maj=22.2km s-min=16.9km az=205.0*

ISC 03 20:40:13.6±0.4, 55°.34S±0'.08×27°.40W±0'.09, h10km, n68, σ0§70/63, mb4.8/13, MS3.6/5, 3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.36**	**278**				**Pn**	**20 41 33.1**	**-0.4**
VNA1	**Neumayer--Stat**	**17.50**	**159**	P			P	**20 44 19.1**	**+0.6**
VNA3	**Neumayer Olymp**	**17.70**	**161**	P			**Pn**	**20 44 19.5**	**-0.4**
VNA2	**Neumayer--Watz**	**17.90**	**159**	P			**Pn**	**20 44 22.2**	**-0.1**
	baz=321,slow=10								
SNAA	**Sanae**	**19.44**	**157**	P			**P**	**20 44 39.1**	**-0.8**
SNAA	**Sanae**	**19.44**	**157**	P			**P**	**20 44 39.2**	**-0.8**
	0.8nm,0.3s,baz=309,slow=10,SNR=33								
SNAA				LR			LR	20 51 11.8	
	comp=Z,108nm,20.5s,baz=316,slow=34								
SNAA	**Sanae**	**19.44**	**157**	P			**P**	**20 44 39.8**	**-0.1**
PMSA	**Palmer Station**	**20.29**	**228**	P			**P**	**20 44 50.2**	**+1.2**
	14nm,0.8s,baz=78,slow=8.2,SNR=11								
PMSA				LR			LR	20 51 05.1	
	comp=Z,226nm,21.7s,baz=84,slow=32								
PMSA	**Palmer Station**	**20.29**	**228**	P			**P**	**20 44 49.2**	**+0.2**
PMSA				IAmb			IAmb	20 44 57.5	
	comp=Z,41nm,1.1s								
PLCA	**Paso Flores**	**31.77**	**279**	LR			LR	21 00 54.4	
	comp=Z,127nm,18.3s,baz=128,slow=39								
SYO	**Syowa Base**	**32.21**	**142**	*e*P			**P**	**20 46 40.0**	**-1.3**
SYO	**Syowa Base**	**32.21**	**142**	*e*pP			**P**	**20 46 41.0**	**-0.3**
SYO	**Syowa Base**	**32.21**	**142**	*i* sP			sP	20 46 42.6	+0.2
QSPA	**South Pole Qui**	**34.91**	**180**	P			**P**	**20 47 05.5**	**+0.4**
	comp=Z,11nm,0.7s,baz=185,slow=2.8,SNR=58								
QSPA	**South Pole Qui**	**34.91**	**180**	P			**P**	**20 47 04.9**	**-0.2**
QSPA				IAmb			IAmb	20 47 06.6	
	comp=Z,12nm,0.8s								
CPUP	**Villa Florida**	**36.25**	**311**	P			**P**	**20 47 16.8**	**0.0**
	comp=Z,1.4nm,0.6s,baz=164,slow=8.7,SNR=3.8								
CPUP	**Villa Florida**	**36.25**	**311**	P			**P**	**20 47 15.0**	**-1.8**
CPUP				IAmb			IAmb	20 47 29.9	
	comp=Z,13nm,1.4s								
PEL	**Peldehue**	**37.30**	**288**	P			**P**	**20 47 23.6**	**-2.0**
PEL				IAmb			IAmb	20 47 27.4	
	comp=Z,14nm,0.7s								
ROC1	**El Roble**	**37.60**	**288**	P			**P**	**20 47 29.1**	**+0.6**
MAW	**Mawson**	**40.80**	**144**	P			**P**	**20 47 54.8**	**+0.4**
	comp=Z,4.5nm,0.7s,baz=238,slow=7.2,SNR=23								
MAW				LR			LR	21 03 30.6	
	comp=Z,85nm,19.6s,baz=243,slow=34								
MAW	**Mawson**	**40.80**	**144**	P			**P**	**20 47 54.9**	**+0.4**
BOSA	**Boshof**	**45.91**	**77**	P			**P**	**20 48 36.5**	**+0.1**
	comp=Z,5.0nm,1.1s,baz=204,slow=8.3,SNR=5.7								
BOSA				LR			LR	21 04 31.4	
	comp=Z,310nm,18.7s,baz=202,slow=32								
BOSA	**Boshof**	**45.91**	**77**	P			**P**	**20 48 34.4**	**-2.0**
BOSA				IAmb			IAmb	20 48 39.0	
	comp=Z,16nm,1.4s								
PB01	**IPOC Station P**	**46.45**	**300**	P			**P**	**20 48 42.0**	**+1.4**
PB01				IAmb			IAmb	20 48 54.9	
	comp=Z,11nm,0.7s								
VNDA	**Vanda**	**47.28**	**183**	P			**P**	**20 48 46.8**	**+0.5**
	comp=Z,9.6nm,0.7s,baz=186,slow=6.2,SNR=76								
VNDA				LR			LR	21 07 21.3	
	comp=Z,47nm,18.7s,baz=246,slow=34								
VNDA	**Vanda**	**47.28**	**183**	P			**P**	**20 48 46.7**	**+0.3**
GO01	**Chusmiza**	**47.47**	**302**	P			**P**	**20 48 48.1**	**-0.9**
GO01				IAmb			IAmb	20 49 03.9	
	comp=Z,10nm,0.8s								
PB11	**IPOC Station P**	**47.62**	**301**	P			**P**	**20 48 49.1**	**-0.8**
H10N3	**ASCENSION HYDR**	**48.47**	**17**	T			T	21 41 11.8	
	baz=263,slow=74,SNR=7.4								
H10N2	**ASCENSION HYDR**	**48.49**	**17**	T			T	21 41 13.6	
	baz=191,slow=74,SNR=5.4								
LPAZ	**La Paz**	**49.87**	**305**	P			**P**	**20 49 08.7**	**+1.0**
	comp=Z,3.8nm,0.7s,baz=150,slow=5.4,SNR=26								
LPAZ	**La Paz**	**49.87**	**305**	P			**P**	**20 49 08.2**	**+0.5**
LPAZ				IAmb			IAmb	20 49 22.0	
	comp=Z,9.1nm,0.8s								
SAML	**Samuel**	**54.22**	**315**	P			**P**	**20 49 39.0**	**-0.4**
DBIC	**Dimbokro**	**64.57**	**25**	P			**P**	**20 50 51.5**	**+0.7**
	comp=Z,4.3nm,1.0s,baz=180,slow=11,SNR=3.7								
TOA0	**Torodi Ar. Sit**	**72.49**	**30**	P			**P**	**20 51 40.8**	**+0.5**
TOA0				IAmb			IAmb	20 51 42.9	
	comp=Z,8.0nm,0.8s								
TORD	**Torodi Ar. Bea**	**72.49**	**30**	P			**P**	**20 51 41.0**	**+0.7**
	comp=Z,6.5nm,0.7s,baz=202,slow=6.3,SNR=44								
TEIG	**Tepich**	**91.20**	**305**	P			**P**	**20 53 18.5**	**-0.1**
ESDC	**Sonseca Array**	**96.74**	**18**	P			**P**	**20 53 43.7**	**0.0**
	comp=Z,0.3nm,0.5s,baz=217,slow=2.7,SNR=2.8								
ASAR	**Alice Springs**	**99.70**	**163**	P			**Pdif**	**20 53 56.3**	**-1.4**
	comp=Z,0.7nm,0.9s,baz=189,slow=3.3,SNR=5.3								
NOA	**NORSAR Array B**	**119.98**	**21**	PKP			**PKiKP**	**20 59 03.3**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=206,slow=2.0,SNR=2.0								
FINES	**FINESS Array B**	**129.81**	**28**	PKP			**PKPdf**	**20 59 10.1**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=170,slow=9.9,SNR=5.5								
CMAR	**Chiang Mai Arr**	**125.42**	**110**	PKP			**PKiKP**	**20 59 15.1**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=230,slow=4.1,SNR=16								
ARCES	**ARCESS Array B**	**130.32**	**22**	PKP			**PKPdf**	**20 59 22.1**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=241,slow=1.2,SNR=14								
YKA	**Yellowknife Ar**	**135.56**	**319**	PKP			**PKPdf**	**20 59 32.9**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=121,slow=2.0,SNR=12								
MKAR	**Makanchi Array**	**136.77**	**71**	PKP			**PKiKP**	**20 59 36.4**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=250,slow=6.3,SNR=3.9								
ZALV	**Zalesovo Beam**	**142.16**	**63**	PKhKP			PKPpre	20 59 42.1	
	comp=Z,0.5nm,0.6s,baz=295,slow=24,SNR=2.4								
HYT	**Haines Junctio**	**144.26**	**308**				**PKPdf**	**20 59 48.3**	**-0.2**
INK	**Inuvik**	**145.18**	**321**	PKPbc			**PKPab**	**20 59 49.6**	**+0.3**
	comp=Z,18nm,0.8s,baz=97,slow=3.9,SNR=24								
INK	**Inuvik**	**145.18**	**321**				**PKPdf**	**20 59 49.9**	**+0.3**
EPYK	**Eagle Plains**	**145.82**	**317**				**PKPab**	**20 59 52.2**	**+0.2**
DAWY	**Dawson**	**146.22**	**313**				**PKPbc**	**20 59 52.9**	**+0.1**
DOT	**Dot Lake**	**148.09**	**311**				**PKiKP**	**20 59 59.1**	**-0.6**
KLU	**Klutina**	**148.32**	**307**				**PKiKP**	**21 00 00.2**	**-0.2**
RIDG	**Independent Ri**	**148.45**	**311**				**PKiKP**	**21 00 00.2**	**-0.3**
NRIK	**Norilʹsk**	**148.52**	**38**	PKPbc			**PKPbc**	**20 59 59.6**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=214,slow=3.1,SNR=5.0								
PAX	**Paxson**	**148.53**	**309**				**PKiKP**	**21 00 00.8**	**+0.1**
ILAR	**Eielson Array**	**149.55**	**313**	PKPbc			**PKPbc**	**21 00 01.9**	**+0.3**
	comp=Z,11nm,0.8s,baz=129,slow=1.9,SNR=83								
CCB	**Clear Creek Bu**	**149.91**	**312**				**PKPbc**	**21 00 02.7**	**+0.2**
WRH	**Wood River Hil**	**150.00**	**312**				**PKPbc**	**21 00 03.1**	**+0.4**
RND	**Reindeer**	**150.12**	**310**				**PKiKP**	**21 00 04.3**	**+0.3**
MDM	**Murphy Dome**	**150.15**	**313**				**PKiKP**	**21 00 03.9**	**0.0**
MCK	**McKinley**	**150.22**	**310**				**PKiKP**	**21 00 04.7**	**+0.6**
KDAK	**Kodiak Island**	**150.39**	**298**	PKPbc			**PKPbc**	**21 00 04.1**	**+0.3**
	comp=Z,6.3nm,0.6s,baz=143,slow=1.7,SNR=6.2								
KDAK	**Kodiak Island**	**150.39**	**298**				**PKiKP**	**21 00 04.7**	**+0.1**
TRF	**Thorofare Moun**	**150.76**	**309**				**PKiKP**	**21 00 05.7**	**+0.3**
SONM	**Songino Array**	**150.79**	**85**	PKPbc			**PKPbc**	**21 00 05.7**	**+0.4**
	comp=Z,4.8nm,0.7s,baz=225,slow=3.0,SNR=33								
SKT	**Skwentna**	**151.03**	**306**				**PKiKP**	**21 00 06.3**	**+0.5**
BPAW	**Bear Paw Mtn.**	**151.18**	**311**				**PKiKP**	**21 00 06.1**	**0.0**

*IDC **03** 20:54:54.5±1.5, 27°.70N×111°.56W, h0km, mb1 3.8/6, mb1mx3.5/54, mbtmp3.4/6, ML3.7/6, Error ellipse: s-maj=20.0km s-min=12.9km az=37.0*

*MEX **03** 20:54:54.3±1.1, 27°.50N×111°.46W, h10km, MD4.1*

ISC 03 20:54:55.1±0.9, 27°.65N±0'.07×111°.57W±0'.06, h10km, n12, σ1§87/15, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.68**	**241**	*e*P			**Pg**	**20 55 06.7**	**-1.7**
SRIG				*e*S			**Sg**	**20 55 16.0**	**-1.3**
HSIG		**1.47**	**22**	*e*P			**Pn**	**20 55 18.5**	**-3.1**
HSIG				*e*S			**Sn**	**20 55 38.9**	**-2.0**
TSIG	**Topolobambo**	**3.05**	**132**	*e*P			Pn	20 55 30.9	-13
TSIG				*i* S			Sn	20 56 05.0	-15
NZIG	**Nacozari, Sono**	**3.23**	**33**	*e*P			**Pb**	**20 55 53.5**	**+0.7**
NZIG				*e*S			**Sb**	**20 56 32.2**	**0.0**
LPIG	**La Paz**	**3.71**	**162**	Pn			**Pn**	**20 55 53.7**	**+1.2**
	2.6nm,0.3s,baz=330,slow=20,SNR=1.4								
LPIG				Lg			Lg	20 56 53.9	
	1.3nm,0.3s,baz=198,slow=19,SNR=1.4								
SPIG	**San Pedro Mart**	**4.79**	**316**	*i* P			**Pn**	**20 56 10.9**	**+3.2**
TXAR	**Lajitas Array**	**7.15**	**75**	Pn			**Pn**	**20 56 40.9**	**+1.0**
	1.4nm,0.3s,baz=252,slow=13,SNR=66								
TXAR				Pg			**Pg**	**20 57 11.1**	**-1.0**
	1.0nm,0.3s,baz=248,slow=16,SNR=8.3								
TXAR				Sn			**Sn**	**20 57 59.9**	**-1.4**
	0.5nm,0.3s,baz=293,slow=29,SNR=4.1								
TXAR				Lg			Lg	20 58 40.4	
	2.8nm,0.3s,baz=252,slow=26,SNR=7.2								
PFO	**Pinyon Flats O**	**7.28**	**326**	Pn			**Pn**	**20 56 42.0**	**+0.3**
	0.2nm,0.3s,baz=232,slow=16,SNR=2.0								
PFO				Lg			Lg	20 58 50.2	
	0.2nm,0.3s,baz=98,slow=13,SNR=9.4								
ANMO	**Albuquerque**	**8.48**	**30**	Pn			Pn	20 57 05.2	+7.0
	0.2nm,0.3s,baz=198,slow=11,SNR=3.2								
ANMO				Lg			Lg	20 59 18.4	
	2.8nm,0.3s,baz=356,slow=14,SNR=12								
NVAR	**Mina Array Bea**	**12.13**	**334**	Pn			**Pn**	**20 57 50.8**	**+2.4**
	0.2nm,0.3s,baz=160,slow=14,SNR=5.5								
ELK	**Elko**	**13.40**	**348**	Pn			**Pn**	**20 58 06.8**	**+1.1**
	0.1nm,0.3s,baz=179,slow=11,SNR=2.3								
ELK				Lg			Lg	21 02 01.7	
	0.1nm,0.3s,baz=198,slow=14,SNR=4.5								
PDAR	**Pinedale Array**	**15.17**	**6**	Pn			**P**	**20 58 35.2**	**+0.4**
	0.1nm,0.3s,baz=170,slow=11,SNR=9.4								

*NEIC **03** 21:02:40.0±1.3, 3°.93S±0'.07×80°.92W±0'.09, h16km±3km, mb4.9/293, Mwb5.4/58, ML5.8(ARE), Error ellipse: s-maj=13.6km s-min=9.0km az=59.0*

*NEIC **03** 21:02:40, 3°.92S×80°.91W, h20km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.87; $M_{\theta\theta}$0.26; $M_{\phi\phi}$-1.14; $M_{r\theta}$0.20; $M_{\theta\phi}$-0.40; $M_{\phi r}$-0.73; Fault plane solution: $M_0$1.34000×10^{17} NP1: ϕ_s40.15000°, δ34.28000°, λ130.67000°. NP2: ϕ_s174.02000°, δ64.71000°, λ66.05000°. Principal axes: T 1.2178, Plg62.0000°, Azm46.0000°; N 0.2195, Plg22.0000°, Azm185.0000°; P -1.4372, Plg16.0000°, Azm281.0000°;*

*ARE **03** 21:02:40±2.3, 4°.00S±0'.07×81°.11W±0'.09, h38km±4km Error ellipse: s-maj=13.1km s-min=8.5km az=65.0*

*BJI **03** 21:02:42.7±0.0, 3°.90S×80°.80W, h20km, mB5.3/15, Ms5.5/23, Ms7 5.3/23*

*VAO **03** 21:02:43.2±0.5, 4°.14S×80°.55W, h10km, mb5.3*

*GCMT **03** 21:02:43.

TA01 Diego Aracena 19.52 149 P P 21 07 08.4 +0.2
TA01 IAmb IAmb 21 07 16.0
comp=Z,115nm,1.0s
PB08 IPOC Station P 19.74 145 P P 21 07 10.3 -0.7
PATCX Punta Patache 19.75 149 P P 21 07 09.8 -0.9
MACA Manacapuru-AM 20.21 88 eP P 21 07 14.7 -1.0
MACA eS S 21 10 58.6 -2.0
PB01 IPOC Station P 20.28 148 IAmb IAmb 21 07 24.7
comp=Z,50nm,1.0s
PB04 IPOC Station P 21.02 151 P P 21 07 24.3 -0.3
PB04 IAmb IAmb 21 07 36.0
comp=Z,73nm,1.1s
PTGA Pitinga 21.18 82 P P 21 07 25.4 -0.8
comp=Z,27nm,0.8s,baz=261,slow=12,SNR=50
PTGA S S 21 11 14.4 -5.4
comp=Z,11nm,0.6s,baz=277,slow=22,SNR=1.7
PTGA Pitinga 21.18 82 P P 21 07 24.3 -1.9
PTGA IAmb IAmb 21 07 31.7
comp=Z,46nm,0.7s
PTGA S 21 11 17.9 -1.9
PTGA Pitinga 21.18 82 eP P 21 07 25.4 -0.8
PTGA eS S 21 11 19.2 -0.6
PB06 IPOC Station P 21.62 150 P P 21 07 30.2 -0.8
PB06 IAmb IAmb 21 07 37.2
comp=Z,55nm,0.8s
PB10 IPOC Station P 21.85 154 P P 21 07 33.0 -0.3
PB10 IAmb IAmb 21 07 37.6
comp=Z,63nm,0.8s
LVC Limon Verde 21.87 149 P P 21 07 35.3 +1.4
comp=Z,70nm,1.0s,baz=309,slow=9.0,SNR=32
LVC Limon Verde 21.87 149 P P 21 07 32.6 -1.3
LVC Limon Verde 21.87 149 eP P 21 07 33.1 -0.8
PB15 IPOC Station P 22.09 151 IAmb IAmb 21 07 51.4
comp=Z,52nm,0.9s
MTDJ Mount Denham 22.31 8 P P 21 07 37.1 -1.3
VILB Vilhena 22.33 115 eP P 21 07 38.1 -0.5
VILB eS S 21 11 40.1 -1.9
SIV San Ignacio 22.87 123 P P 21 07 44.0 -0.3
comp=Z,39nm,0.8s,baz=300,slow=9.4,SNR=67
SIV S S 21 11 50.7 -0.8
comp=Z,9.2nm,0.8s,baz=233,slow=20,SNR=1.7
SIV LR LR 21 17 14.9
comp=Z,6µm,20.4s,baz=314,slow=38
GO02 Mina Guanaco 23.71 154 P P 21 07 52.4 -0.5
PTLB Pontes e Lacer 24.27 119 eP P 21 07 57.9 +0.1
GTBY Guantanamo Bay 24.43 13 P P 21 07 57.0 -2.1
SDDR Presa de Saban 24.70 22 P P 21 07 59.9 -1.7
SDDR IAmb IAmb 21 08 08.7
comp=Z,24nm,0.8s
CMIG Matias Romero 25.07 327 P P 21 08 06.8 +1.8
comp=Z,4.6nm,0.8s,baz=147,slow=9.0,SNR=6.2
TEIG Tepich 25.11 344 P P 21 08 06.6 +1.3
comp=Z,16nm,0.6s,baz=321,slow=3.8,SNR=28
TEIG Tepich 25.11 344 P P 21 08 03.7 -1.6
TEIG IAmb IAmb 21 08 08.8
comp=Z,25nm,0.8s
ITTB Itaituba 25.12 92 eP P 21 08 04.9 -0.6
ITTB eS S 21 12 30.0 +2.1
AZAP Zapla 25.27 144 i P P 21 08 08.7 +1.7
TOSP Speyside 25.33 53 P P 21 08 05.6 -1.7
GCMP Grenada, Carri 25.35 50 eP P 21 07 59.4 -8.1
SLA San Lorenzo 25.41 146 i P P 21 08 10.8 +2.6
GO03 Copiap 25.60 158 IAmb IAmb 21 08 27.3
comp=Z,39nm,1.1s
NPGB Novo Progresso 25.62 98 eP P 21 08 09.0 -1.1
NPGB eS S 21 12 37.1 +1.2
CLDB Colider 25.82 107 eP P 21 08 10.4 -1.5
SVB Belmont 25.98 48 eP P 21 08 11.4 -1.9
HUMP Col San Antoni 26.53 34 IAmb IAmb 21 08 38.5
comp=Z,44nm,0.9s
SLAC Saint Lucia, A 26.64 48 eP P 21 08 18.2 -1.0
SLBI Saint Lucia, B 26.67 48 eP P 21 08 27.3 +7.9
MALB Monte Alegre 26.70 86 eP P 21 08 19.7 -0.1
AC05 El Transito 26.71 159 IAmb IAmb 21 08 27.6
comp=Z,40nm,1.1s
CDVI St. Croix 26.83 36 eP P 21 08 31.3 +10
BIM Bigot 26.92 47 eP P 21 08 19.3 -2.4
FDF Fort de France 27.01 46 eP P 21 08 21.5 -1.0
AHML Horco Molle 27.14 148 i P P 21 08 24.5 +0.8
BBGH Gun Hill 27.19 51 eP P 21 08 19.3 -4.8
DSLB Salisbury 27.29 45 eP P 21 08 23.3 -1.7
DLPL La Plaine 27.34 45 eP P 21 08 19.3 -6.2
TDBA Terre de Bas, 27.42 44 eP P 21 08 27.3 +1.1
VCA Vinchina 27.43 155 i P P 21 08 27.5 +1.1
SALV Santo Antonio 27.48 117 eP P 21 08 27.1 +0.3
CBE Ff, Capester 27.60 43 eP P 21 08 27.3 -0.5
MLYT Lee's Yard 27.67 41 eP P 21 08 19.3 -9.1
SEUS St. Eustatius 27.72 39 eP P 21 08 23.3 -5.6
MAGL Barre de l'ile 27.74 44 eP P 21 08 19.3 -10
SKI Saint Kitts 27.76 40 eP P 21 08 23.3 -5.9
ABD La Joyeuse, An 27.96 43 eP P 21 08 29.3 -1.7
CYA Choya 28.26 151 i P P 21 08 35.0 +1.3
CO03 El Pedregal 28.41 161 P P 21 08 33.3 -1.7
ACLC CERRO LA CRUZ 28.57 154 i P P 21 08 37.8 +1.2
ANWB Willy Bob 28.62 41 eP P 21 08 31.3 -5.6
CO02 Combarbal 28.65 162 IAmb IAmb 21 08 57.1
comp=Z,18nm,0.9s
ACCO Cerro Coronel 28.74 158 i P P 21 08 40.0 +1.8
APLL PUNTA DE LOS L 29.59 154 i P P 21 08 46.8 +1.3
MDP Montagnes des 29.65 73 P P 21 08 45.8 -0.3
comp=Z,14nm,0.8s,baz=251,slow=8.8,SNR=7.0
MDP LR LR 21 21 08.1
comp=Z,14µm,18.3s,baz=276,slow=37
RTLS Leoncito 29.75 160 i P P 21 08 48.6 +1.5
CFA Coronel Fontan 29.96 158 P P 21 08 49.6 +0.9
comp=Z,9.5nm,0.7s,baz=336,slow=7.2,SNR=17
CFA LR LR 21 18 55.9
comp=Z,3µm,21.4s,baz=13,slow=32
CFA Coronel Fontan 29.96 158 i P P 21 08 50.0 +1.3
RTCV Cerro Valdivia 30.08 159 i P P 21 08 50.4 +0.6
AUSP Uspallata 30.11 160 i P P 21 08 52.8 +2.5
VA03 San Esteban 30.24 162 IAmb IAmb 21 08 53.7
comp=Z,26nm,1.1s
ASAL Salagasta 30.64 160 i P P 21 08 56.2 +1.5
ARAG Araguaiana, MT 30.90 114 eP P 21 08 56.8 -0.4
PRPB Parauapebas 31.05 95 eP P 21 08 58.2 -0.4
AAGR Agrelo 31.09 160 i P P 21 08 59.4 +0.7
C2SB Chapadao do Su 31.13 120 eP P 21 08 59.8 +0.7
TCA Tanti 31.25 152 i P P 21 09 01.1 +0.9
MRA San Martin 31.68 155 i P P 21 09 05.1 +1.2
CPUP Villa Florida 31.69 137 P P 21 09 04.0 -0.1
comp=Z,9.6nm,0.8s,baz=314,slow=9.9,SNR=26
CPUP LR LR 21 24 24.7
comp=Z,5µm,19.7s,baz=318,slow=41
CPUP Villa Florida 31.69 137 IAmb IAmb 21 09 05.3
comp=Z,15nm,0.9s
TRCB Terra Rica 33.15 127 eP P 21 09 16.6 -0.3
PEXB Peixe 33.26 106 eP P 21 09 17.6 -0.3
SMTB Santa Maria do 33.46 100 eP P 21 09 19.4 -0.3
ITRB Iturama 33.65 120 eP P 21 09 21.1 -0.2
PCMB Pacaembu 33.70 124 eP P 21 09 21.4 -0.3
BI02 San Fabin de 33.72 166 P P 21 09 20.6 -1.2
BDFB Brasilia 34.37 112 P P 21 09 27.8 +0.1
comp=Z,14nm,0.8s,baz=268,slow=11,SNR=28
BDFB LR LR 21 25 03.1
comp=Z,4µm,18.3s,baz=285,slow=39
BDFB Brasilia 34.37 112 P P 21 09 25.7 -2.0
BDFB IAmb IAmb 21 09 28.8
comp=Z,22nm,0.9s
IPMB Ipameri, GO 34.91 116 eP P 21 09 31.4 -0.9
LC01 Cunco 35.72 168 P P 21 09 40.2 +1.3
LC01 IAmb IAmb 21 09 56.4
comp=Z,23nm,0.9s
ITAB Concordia 35.92 133 eP P 21 09 40.5 -0.3
152A Waverly Hall 36.62 355 IAmb IAmb 21 09 47.5
comp=Z,13nm,0.9s
HKT Hockley 36.63 338 P P 21 09 45.9 -0.8
HKT IAmb IAmb 21 10 01.4
comp=Z,16nm,1.1s
ROSB Rosrio 36.74 90 eP P 21 09 47.7 -0.2
Z57A Bowman 37.07 0 P P 21 09 51.4 +1.0
baz=180
RCLB Rio Claro- Sao 37.17 123 eP P 21 09 50.9 -0.6
H06E1 SOCORRO T-PHAS 37.21 308 T T 21 49 18.6
SNR=29
LRAL Lakeview Retre 37.26 352 P P 21 09 52.0 0.0
baz=170,SNR=8.9
LRAL Lakeview Retre 37.26 352 IAmb IAmb 21 10 04.6
comp=Z,18nm,0.8s
GOGA Godfrey 37.26 356 P P 21 09 52.0 -0.1
baz=176
TIJ01 Guaruva-PR 37.28 128 eP P 21 09 53.8 +1.3
LPA La Plata 37.44 148 eP P 21 09 45.9 -7.6
LPA PP PP 21 11 02.7 -17
LPA PCP PcP **21 12 13.7 +2.0**
LPA S S **21 15 38.1 -1.3**
LPA PSP PSP 21 15 57.3
LPA SS SnSn **21 18 17.9 -1.1**
LPA SSS SSS 21 18 37.8
LPA SCS ScS **21 20 04.6 +0.3**
LPA SKIKP 21 22 58.2
Z47A Carrollton 37.59 350 IAmb IAmb 21 09 55.9
comp=Z,23nm,0.8s
JANB Januaria 37.68 110 eP P 21 09 55.7 -0.2
Y55A Saluda 37.72 359 P P 21 09 55.4 -0.5
baz=178
PLCA Paso Flores 37.77 167 P P 21 09 57.3 +0.9
comp=Z,5.3nm,0.8s,baz=349,slow=10,SNR=5.0
PLCA PcP PcP **21 12 14.2 +1.5**
comp=Z,5.2nm,0.8s,baz=338,slow=2.3,SNR=4.6
PLCA LR LR 21 23 30.2
comp=Z,2µm,19.3s,baz=3.5,slow=33
PLCA Paso Flores 37.77 167 P P 21 09 56.3 -0.1
PLCA PcP **21 12 12.6 -0.1**
PLCA Paso Flores 37.77 167 eP P 21 09 57.6 +1.2
Y59A Loris 37.81 3 P P 21 09 57.7 +1.0
baz=183
VAO Valinhos 37.88 123 eP P 21 09 56.8 -0.8
CNLB Canela 38.04 135 eP P 21 09 58.7 -0.1
435B Jarrell 38.05 336 IAmb IAmb 21 10 15.5
comp=Z,31nm,1.1s
PET01 Itanhaem-SP 38.18 125 eP P 21 09 59.5 -0.6
X55A Gracelyn & Ava 38.25 359 P P 21 10 00.5 +0.1
baz=179
X56A White Oak 38.26 360 P P 21 10 00.4 -0.1
baz=180
MC01 Montes Claros 38.42 112 eP P 21 10 02.0 -0.2
Z41A Richland Creek 38.70 344 P P 21 10 06.1 +1.9
baz=161
JCT Junction City 38.73 333 P P 21 10 06.8 +2.3
baz=149
W54A Cherokee Point 38.87 358 P P 21 10 05.4 -0.2
baz=178
W56A Indian Trail 38.90 0 P P 21 10 05.7 -0.2
baz=180
KMSC Kings Mountain 38.91 359 P P 21 10 05.6 -0.3
baz=179,SNR=5.3
KMSC Kings Mountain 38.91 359 P P 21 10 04.9 -1.0
KMSC IAmb IAmb 21 10 07.4
comp=Z,22nm,1.0s
BSCB Bom Sucesso 38.99 119 eP P 21 10 06.1 -0.8
OXF Oxford 39.11 349 P P 21 10 07.7 +0.1
baz=166
PARB Paraibuna 39.15 123 eP P 21 10 07.7 -0.6
WLAR White Oak Lake 39.19 344 IAmb IAmb 21 10 11.6
comp=Z,41nm,0.9s
SLBS Sierra La Lagu 39.45 316 P P 21 10 10.5 -0.3
SLBS IAmb IAmb 21 10 26.7
comp=Z,20nm,0.8s
TKL Tuckaleechee C 39.52 356 P P 21 10 10.6 -0.4
comp=Z,5.7nm,0.9s,baz=151,slow=3.9,SNR=6.6
V54A Nebo 39.56 359 P P 21 10 11.1 -0.3
baz=178
V56A Mocksville 39.58 1 P P 21 10 10.9 -0.6
baz=180
V58A Windy Hill, Pi 39.60 2 P P 21 10 11.5 -0.2
baz=183
TXAR Lajitas Array 39.67 328 P P 21 10 14.1 +1.6
comp=Z,1.6nm,0.8s,baz=147,slow=8.2,SNR=13
TXAR PcP PcP **21 12 20.3 +1.4**
comp=Z,2.7nm,0.8s,baz=152,slow=5.5,SNR=6.7
TXAR LR LR 21 25 13.6
comp=Z,824nm,21.6s,baz=0.0,slow=34
TX32 Lajitas Array 39.67 328 P P 21 10 09.3 -3.1
V52A Sevierville 39.69 357 IAmb IAmb 21 10 29.6
comp=Z,24nm,1.1s
X40A Basin Creek Fa 39.87 345 P P 21 10 14.9 +1.0
baz=161
U56A King 40.12 1 P P 21 10 15.9 -0.1
baz=181
U56A King 40.12 1 IAmb IAmb 21 10 17.0
comp=Z,26nm,1.1s
MIAR Mount Ida 40.13 344 P P 21 10 16.6 +0.5
baz=160,SNR=10
Z35A Perchaven, San 40.20 339 IAmb IAmb 21 10 31.9
comp=Z,39nm,1.1s
U57A Blanch 40.22 2 P P 21 10 16.3 -0.6
baz=182
U55A TA2, Sparta 40.27 360 P P 21 10 17.3 -0.1
baz=180,SNR=5.5
U54A Nelsons Funny 40.30 359 P P 21 10 16.0 -1.5
baz=178
MAN01 Angra dos Reis 40.37 121 eP P 21 10 17.9 -0.4
W41B Gary Mavity, V 40.37 346 P P 21 10 18.4 +0.3
baz=162,SNR=9.8
W41B Gary Mavity, V 40.37 346 IAmb IAmb 21 10 19.8
comp=Z,17nm,0.8s
TZTN Tazewell 40.38 357 P P 21 10 17.4 -0.8
baz=176
WVT Waverly 40.42 351 P P 21 10 17.1 -1.3
baz=169
WVT Waverly 40.42 351 P P 21 10 17.8 -0.7
WHAR Wooly Hollow 40.49 346 IAmb IAmb 21 10 32.6
comp=Z,28nm,0.9s
ABTX Abilene, Hawle 40.51 335 P P 21 10 20.6 +1.3
baz=180,SNR=8.8
ABTX Abilene, Hawle 40.51 335 IAmb IAmb 21 10 34.3
comp=Z,28nm,1.1s
X37A Clayton 40.70 342 IAmb IAmb 21 10 35.6
comp=Z,34nm,1.1s
T53A Wise 40.77 358 P P 21 10 21.2 -0.3
baz=177
T57A Hurt 40.79 2 P P 21 10 20.4 -1.2
baz=182
W39A Magazine 40.80 344 P P 21 10 22.9 +1.3
baz=160,SNR=23
T56A Rocky Mt 40.80 1 P P 21 10 21.9 +0.2
baz=181
T54A Tazewell 40.83 359 P P 21 10 21.7 -0.3
baz=179
T59A Double "B" Far 40.86 4 P P 21 10 22.0 -0.1
baz=185
T55A Pulaski 40.88 0 P P 21 10 21.9 -0.4
baz=180
LCAR Lake Charles 40.97 347 IAmb IAmb 21 10 24.8
comp=Z,26nm,1.1s
FCAR Ozark Folk Cen 41.02 346 IAmb IAmb 21 10 25.3
comp=Z,22nm,0.8s
S56A Natural Bridge 41.46 2 P P 21 10 26.8 -0.2
baz=182
S53A Williamson 41.46 359 P P 21 10 26.0 -1.0
baz=178
SJMB Sao Joao De Ma 41.48 114 eP P 21 10 26.7 -0.9
S54A Dingess, Beckl 41.56 360 P P 21 10 27.5 -0.4
baz=179
S54A Dingess, Beckl 41.56 360 IAmb IAmb 21 10 32.1
comp=Z,22nm,1.1s
U40A Yellville 41.65 345 P P 21 10 29.4 +0.8
baz=162,SNR=42
R58B Mineral 41.82 4 P P 21 10 30.2 +0.2
baz=184
BSFB Barra de Sao F 41.83 114 eP P 21 10 29.9 -0.5
HHAR Hobbs 41.86 344 P P 21 10 29.3 -1.0
HHAR IAmb IAmb 21 10 32.3
comp=Z,26nm,0.7s
GDU01 Guandu, BA 41.92 106 eP P 21 10 30.6 -0.6
R54A Victor 41.94 360 P P 21 10 30.9 -0.1
baz=180,SNR=5.7
FNO Franklin 41.98 340 P P 21 10 30.8 -0.6
CAM01 Campos-RJ 42.00 118 eP P 21 10 32.0 +0.3
WMOK Wichita Mounta 42.02 338 P P 21 10 32.7 +1.0
baz=153,SNR=9.3
WMOK Wichita Mounta 42.02 338 P P 21 10 30.0 -1.7
TUL1 Leonard 42.05 342 P P 21 10 32.8 +0.9
baz=157,SNR=7.7
TUL1 Leonard 42.05 342 P P 21 10 30.9 -1.0
R53A Hurricane 42.10 359 P P 21 10 32.1 -0.1
baz=178
U38A Gravette 42.13 344 P P 21 10 30.5 -2.1
R58A Rapidan 42.15 3 P P 21 10 32.4 -0.2
baz=184
OK025 Westminster Rd 42.26 340 P P 21 10 32.5 -1.1
MGMO Mountain Grove 42.26 346 P P 21 10 31.8 -1.8
MGMO IAmb IAmb 21 10 48.1
comp=Z,32nm,1.0s
WCI Wyandotte Cave 42.29 354 P P 21 10 32.7 -1.0
baz=172
WCI Wyandotte Cave 42.29 354 P P 21 10 31.5 -2.3
RIB01 Linhares ES 42.37 114 eP P 21 10 34.1 -0.7
BCOK Bluff Creek, N 42.42 340 P P 21 10 32.8 -2.1
MNTX Cornudas Mount 42.44 328 P P 21 10 36.4 +1.3
baz=142,SNR=16
Q53A Leroy 42.62 359 P P 21 10 36.5 0.0
baz=179,SNR=5.7
Q52A Bidwell 42.74 358 P P 21 10 36.8 -0.7
baz=178
Q54A Coxs Mills 42.74 0 P P 21 10 36.9 -0.6
baz=180
Q55A Buckhannon 42.76 1 P P 21 10 36.9 -0.8
baz=181
Q58A Fox Den Farm, 42.81 4 P P 21 10 38.4 +0.4
baz=185
Q56A Snyder Ridge, 42.83 2 P P 21 10 38.7 +0.5
baz=182
Q51A Peebles 42.85 357 IAmb IAmb 21 10 39.1
comp=Z,17nm,0.9s
CCM Cathedral Cave 42.90 348 P P 21 10 39.3 +0.5
baz=165
CCM Cathedral Cave 42.90 348 P P 21 10 36.4 -2.4
MSTX Muleshoe 43.01 333 P P 21 10 41.3 +1.4
baz=147,SNR=15
MSTX Muleshoe 43.01 333 IAmb IAmb 21 10 54.7
comp=Z,35nm,1.1s
S39A Bolivar 43.03 346 P P 21 10 38.5 -1.4
S39A IAmb IAmb 21 10 42.0
comp=Z,34nm,0.8s
T35A Sooner Cattle 43.20 342 IAmb IAmb 21 10 43.5
comp=Z,27nm,0.8s
AMTX Amarillo 43.31 335 P P 21 10 43.9 +1.6
baz=149
AMTX Amarillo 43.31 335 IAmb IAmb 21 10 58.4
comp=Z,18nm,0.8s
P56A Dayton Farm, R 43.31 2 P P 21 10 41.9 -0.1
baz=183
CROK Carrier 43.31 340 P P 21 10 40.1 -2.0
R40A Maddies Statio 43.35 347 P P 21 10 41.0 -1.4
P52A Corning 43.41 359 P P 21 10 42.1 -0.7
baz=178
O52A Adamsville 43.88 359 P P 21 10 46.1 -0.6
baz=178
O51A Pataskala 43.93 358 P P 21 10 46.0 -1.1
baz=177
O55A Ligonier 43.99 2 P P 21 10 46.9 -0.7
baz=182
ACSO Alum Creek Sta 44.03 358 P P 21 10 47.3 -0.5
baz=177
ACSO Alum Creek Sta 44.03 358 IAmb IAmb 21 10 48.0
comp=Z,25nm,1.1s
O58A Lewisberry 44.04 4 P P 21 10 48.6 +0.7
baz=186
O57A Amberson 44.07 4 P P 21 10 47.6 -0.6
baz=184
O59A Robesonia 44.28 5 P P 21 10 52.9 +3.0
baz=187
319A Douglas 44.34 324 IAmb IAmb 21 11 07.8
comp=Z,21nm,0.9s
121A Cookes Peak, D 44.37 327 P P 21 10 53.3 +2.4
baz=140,SNR=7.9
121A Cookes Peak, D 44.37 327 P P 21 10 49.2 -1.7
SSPA Standing Stone 44.48 3 P P 21 10 51.5 +0.1
baz=184
P40A Paris 44.49 348 P P 21 10 49.1 -2.4
P40A IAmb IAmb 21 11 08.1
comp=Z,14nm,1.1s
SFIN Lafayette 44.50 353 P P 21 10 50.5 -1.1
baz=171
N55A Marion Center 44.58 2 P P 21 10 52.2 0.0
baz=183
N54A Moraine State 44.73 1 P P 21 10 51.7 -1.7
baz=181
N56A West Decatur 44.74 3 P P 21 10 53.5 -0.1
baz=184
N58A Sunbury 44.76 5 P P 21 10 52.9 -0.8
baz=186
N58A Sunbury 44.76 5 IAmb IAmb 21 10 55.8
comp=Z,13nm,1.1s
RCBR Riachuelo 44.88 94 LR LR 21 33 19.2
comp=Z,3µm,19.1s,baz=272,slow=41
P38A Dawn 44.91 346 IAmb IAmb 21 11 08.2
comp=Z,14nm,0.8s
N59A State Game Lan 44.92 6 P P 21 10 56.0 +1.0
baz=187
BNM Barren Site 45.01 329 P P 21 10 53.0 -3.1
M57A Sunshine Farm, 45.23 4 P P 21 10 57.2 -0.2
baz=185
KSU1 Kansas State U 45.24 343 P P 21 10 58.2 +0.7
baz=158,SNR=11
KSU1 Kansas State U 45.24 343 P P 21 10 53.8 -3.8
M54A Oil Creek Stat 45.28 1 P P 21 10 57.2 -0.6
baz=182
M56A Emporium 45.31 3 P P 21 10 57.3 -0.7
baz=184
M56A Emporium 45.31 3 IAmb IAmb 21 11 03.3
comp=Z,13nm,0.9s
ANMO Albuquerque 45.56 330 P P 21 11 02.0 +1.7
baz=143
ANMO Albuquerque 45.56 330 P P 21 10 58.4 -1.9
ANMO IAmb IAmb 21 11 03.7
comp=Z,15nm,0.9s
L57A Andrews Acres 45.91 4 P P 21 11 02.2 -0.6
baz=186
N38A Joes South For 45.96 347 P P 21 11 00.9 -2.3
CBKS Cedar Bluff 45.99 339 P P 21 11 05.4 +1.9
baz=153
CBKS Cedar Bluff 45.99 339 P P 21 11 01.0 -2.6
L55A Hinsdale 46.00 3 P P 21 11 02.9 -0.6
baz=183
L56A Greenwood 46.00 3 P P 21 11 03.3 -0.2
baz=184
BINY Binghamton 46.17 5 P P 21 11 04.4 -0.5
baz=187
BINY Binghamton 46.17 5 IAmb IAmb 21 11 11.1
comp=Z,20nm,1.1s
T25A Trinidad 46.39 334 P P 21 11 08.9 +1.9
baz=147,SNR=12
T25A Trinidad 46.39 334 IAmb IAmb 21 11 09.8
comp=Z,12nm,0.9s
L42A Oliver, Polo 46.45 351 P P 21 11 04.5 -2.5
K55A Perry 46.56 3 P P 21 11 07.1 -0.7
baz=184
K57A Scipio Center 46.66 4 P P 21 11 08.1 -0.5
baz=186
L40A Anamosa 46.77 349 P P 21 11 06.3 -3.2
L40A IAmb IAmb 21 11 25.0
comp=Z,14nm,0.9s
K59A Cooperstown 46.86 6 P P 21 11 09.9 -0.3
baz=188
214A Organ Pipe Nat 46.86 322 P P 21 11 12.2 +1.7
baz=134,SNR=6.8
214A Organ Pipe Nat 46.86 322 IAmb IAmb 21 11 13.3
comp=Z,10nm,1.0s
SDCO Great Sand Dun 47.38 333 P P 21 11 16.1 +1.4
baz=146,SNR=20
SDCO Great Sand Dun 47.38 333 P P 21 11 12.5 -2.2
SDCO IAmb IAmb 21 11 17.8
comp=Z,11nm,0.8s
W18A Petrified Fore 47.38 328 P P 21 11 16.5 +1.8
baz=139,SNR=6.9
W18A Petrified Fore 47.38 328 P P 21 11 13.7 -1.0
JFWS Jewell Farm 47.43 351 P P 21 11 14.0 -0.6
baz=167
J60A Lant Hill Farm 47.49 7 P P 21 11 15.2 +0.1
baz=190
I51A Listowel 47.56 360 P P 21 11 14.0 -1.7
baz=180
J59A Piesco 47.58 6 P P 21 11 14.4 -1.4
baz=188
J59A Piesco 47.58 6 IAmb IAmb 21 11 16.3
comp=Z,8.3nm,1.0s
I52A Shelburne 47.83 1 P P 21 11 16.2 -1.6
baz=181
I59A Olmsteadville 47.98 7 P P 21 11 19.0 +0.1
baz=189
S22A 4UR Ranch, Cre 47.98 332 P P 21 11 21.4 +2.0
baz=144,SNR=6.4
S22A 4UR Ranch, Cre 47.98 332 P P 21 11 17.8 -1.6
I60A Shoreham 48.09 7 P P 21 11 20.1 +0.4
baz=190,SNR=6.3
MVCO Mesa Verde 48.36 330 P P 21 11 23.9 +1.7
baz=142,SNR=5.7
MVCO Mesa Verde 48.36 330 P P 21 11 20.7 -1.6
MVCO IAmb IAmb 21 11 25.9
comp=Z,11nm,1.1s
Y14A Wickenburg 48.36 324 IAmb IAmb 21 11 25.2
comp=Z,7.1nm,0.9s
H57A Richville 48.47 5 P P 21 11 21.6 -1.0
baz=187

H56A Elgin 48.53 4 P P 21 11 22.2 -0.9
baz=186
H58A Gabriels 48.55 6 P P 21 11 22.9 -0.4
baz=189
WUAZ Wupatki 48.57 327 P P 21 11 25.9 +2.1
baz=138,SNR=11
WUAZ Wupatki 48.57 327 IAmb IAmb 21 11 27.4
comp=Z,15nm,0.9s
LBNH Lisbon 48.67 9 P P 21 11 24.9 +0.6
baz=192
I63A Otisfield 48.70 10 P P 21 11 24.9 +0.5
baz=194
H59A Cadyville 48.83 7 P P 21 11 25.2 -0.3
baz=189
H61A Lyndonville 48.96 9 P P 21 11 27.4 +0.9
baz=192
H62A Milan 49.12 9 P P 21 11 28.0 +0.4
baz=193
H62A Milan 49.12 9 IAmb IAmb 21 11 30.4
comp=Z,11nm,0.9s
PV01 Paradox Valley 49.12 331 P P 21 11 26.9 -1.2
PV01 IAmb IAmb 21 11 30.7
comp=Z,9.3nm,1.0s
ISCO Idaho Springs 49.13 335 P P 21 11 29.5 +1.3
baz=146,SNR=12
ISCO Idaho Springs 49.13 335 IAmb IAmb 21 11 30.6
comp=Z,8.1nm,0.9s
G57A Newington 49.15 6 P P 21 11 27.3 -0.6
baz=188
G55A Calabogie 49.15 4 P P 21 11 27.4 -0.5
baz=185
PV02 Paradox Valley 49.26 331 P P 21 11 27.6 -1.6
G59A Clarenceville 49.33 7 P P 21 11 28.7 -0.5
baz=190
PV03 Paradox Valley 49.35 331 IAmb IAmb 21 11 32.6
comp=Z,13nm,0.8s
PV18 Skein Mesa, Pa 49.37 331 P P 21 11 28.9 -1.1
PV18 IAmb IAmb 21 11 32.8
comp=Z,17nm,0.9s
H63A New Sharon 49.39 10 P P 21 11 31.2 +1.5
baz=194
PV07 Paradox Valley 49.40 331 IAmb IAmb 21 11 33.3
comp=Z,15nm,1.0s
G60A Masonville 49.45 8 P P 21 11 30.7 +0.5
baz=191
PV20 West Nyswonger 49.47 331 IAmb IAmb 21 11 32.9
comp=Z,9.2nm,1.0s
PV22 Blue Mesa, Par 49.54 331 IAmb IAmb 21 11 50.7
comp=Z,9.2nm,1.0s
ECSD EROS Data Cent 49.55 345 P P 21 11 30.5 -0.5
baz=159,SNR=6.2
F48A Evansville 49.61 358 P P 21 11 29.8 -1.5
baz=178
W13A Hualapai Mount 49.69 324 P P 21 11 31.8 -0.7
G61A St-Isidore-de- 49.75 9 P P 21 11 32.6 +0.1
baz=192,SNR=5.4
ALGO Algonquin Park 49.78 3 P P 21 11 31.5 -1.1
baz=184
IRM Iron Mountain 49.80 322 P P 21 11 35.0 +2.0
baz=133,SNR=7.6
G62A West of Eustis 49.85 10 P P 21 11 33.9 +0.6
baz=193,SNR=6.7
G63A Kingsbury 49.91 10 P P 21 11 34.2 +0.5
baz=195
H66A Whiting 50.05 13 P P 21 11 34.9 +0.2
baz=196
E52A Mattawa 50.08 2 P P 21 11 32.7 -2.3
baz=183
PKME Peaks-Kenny Pk 50.11 11 P P 21 11 35.1 -0.1
baz=195
PKME Peaks-Kenny Pk 50.11 11 P P 21 11 34.5 -0.7
PKME IAmb IAmb 21 11 36.8
comp=Z,18nm,1.0s
SPMN Marine on St. 50.12 349 P P 21 11 35.0 -0.2
baz=164
SPMN Marine on St. 50.12 349 P P 21 11 34.2 -1.1
SPMN IAmb IAmb 21 11 35.6
comp=Z,15nm,1.1s
N23A Red Feather La 50.18 335 P P 21 11 37.9 +1.8
baz=147,SNR=6.8
N23A Red Feather La 50.18 335 IAmb IAmb 21 11 50.4
comp=Z,9.6nm,0.9s
BELC Belle Mtn. Jos 50.22 322 P P 21 11 38.5 +2.1
baz=132
PFO Pinyon Flats O 50.25 321 P P 21 11 39.0 +2.4
baz=131
E48A Lockeyer 50.25 359 P P 21 11 34.3 -1.9
baz=178
TRQ Mont Tremblant 50.30 6 P P 21 11 35.2 -1.4
E54A Lac Daplat, Po 50.30 3 P P 21 11 35.1 -1.4
baz=185
E51A G1948 Merrick 50.31 1 P P 21 11 34.9 -1.7
baz=182,SNR=5.6
F60A Warwick 50.36 8 P P 21 11 37.6 +0.6
baz=192
G65A Princeton 50.39 12 P P 21 11 37.9 +0.6
baz=197
E43A Lone Tree Farm 50.42 355 P P 21 11 36.2 -1.3
E43A IAmb IAmb 21 11 37.6
comp=Z,19nm,0.8s
E57A Chemin Saint G 50.53 6 P P 21 11 37.3 -1.1
baz=189,SNR=11
GMRC Granite Mounta 50.53 323 P P 21 11 41.0 +2.2
baz=132
O20A White River Ci 50.56 333 P P 21 11 40.5 +1.6
baz=144,SNR=7.6
O20A White River Ci 50.56 333 IAmb IAmb 21 11 56.7
comp=Z,16nm,1.0s
E56A St. Veronique 50.57 5 P P 21 11 37.4 -1.3
baz=187,SNR=7.2
E58A La Victoria 50.59 7 P P 21 11 38.1 -0.6
baz=190
LCMT Little Creek M 50.69 326 P P 21 11 38.8 -1.1
D52A ZEK Kipawa Sen 50.78 2 P P 21 11 38.8 -1.5
baz=183
E60A Ste Agathe de 50.83 8 P P 21 11 39.7 -0.9
baz=192,SNR=5.2
SUSD Miller 50.84 343 P P 21 11 41.2 +0.4
baz=156
D47A Chapleau 50.85 358 P P 21 11 39.0 -1.8
baz=177
F64A Sherman 50.87 11 P P 21 11 41.4 +0.5
baz=196
F36A Milaca 50.87 349 IAmb IAmb 21 11 42.0
comp=Z,12nm,0.9s
D53A Lac Vacive, Po 50.92 3 P P 21 11 39.6 -1.6
baz=184,SNR=6.1
D53A Lac Vacive, Po 50.92 3 P P 21 11 39.9 -1.4
D48A Paudash Townsh 50.94 359 P P 21 11 39.6 -1.9
baz=179
HEC Hector,Ludlow 50.97 322 P P 21 11 44.6 +2.6
baz=132,SNR=9.4
D55A Sainte-Anne-du 51.00 5 P P 21 11 40.8 -1.1
baz=187
Q16A Castle Valley 51.01 330 P P 21 11 40.7 -1.7
E61A Lac Etchemin 51.03 9 P P 21 11 42.9 +0.7
baz=193
D54A Lac Fusel, La 51.05 4 P P 21 11 40.4 -1.8
baz=185
D56A ZEC Mazanza, M 51.10 5 P P 21 11 41.6 -1.1
baz=188
D57A Chemin Vers le 51.15 6 P P 21 11 41.7 -1.3
baz=189,SNR=6.0
D41A Chassel 51.27 353 P P 21 11 42.6 -1.2
D58A Chemin du LacG 51.34 7 P P 21 11 43.3 -1.2
baz=190,SNR=6.1
RWWY Rawlins 51.37 335 IAmb IAmb 21 11 56.4
comp=Z,16nm,0.8s
E62A Clayton Lake 51.38 10 P P 21 11 45.3 +0.5
baz=194,SNR=7.9
E62A Clayton Lake 51.38 10 P P 21 11 43.9 -0.8
E62A IAmb IAmb 21 11 46.4
comp=Z,11nm,0.8s
E63A Oxbow 51.39 11 P P 21 11 44.8 0.0
baz=196,SNR=8.5
E63A Oxbow 51.39 11 P P 21 11 43.7 -1.1
E63A IAmb IAmb 21 11 46.3
comp=Z,12nm,0.8s
BFSC Mount Baldy Ra 51.41 321 P P 21 11 47.2 +1.8
baz=130
D60A Saint Jean D'O 51.44 9 P P 21 11 45.1 0.0
baz=193,SNR=5.5
E64A Bridgewater 51.50 12 P P 21 11 46.0 +0.3
baz=197
GSC Goldstone, Bar 51.58 322 P P 21 11 48.5 +2.0
baz=132,SNR=7.7
SHOC Shoshone, Teco 51.66 323 P P 21 11 49.1 +2.1
baz=133,SNR=6.1

USHA Ushuaia 51.70 171 LR LR 21 30 25.2
comp=Z,2µm,21.2s,baz=346,slow=32
D61A St Aubert, Com 51.83 9 P P 21 11 48.4 +0.3
baz=194,SNR=6.0
K22A Casper 51.88 336 P P 21 11 50.4 +1.6
baz=147
D62A Allapoint, All 51.91 10 P P 21 11 49.0 +0.3
baz=195,SNR=11
D62A Allapoint, All 51.91 10 P P 21 11 47.2 -1.5
D62A IAmb IAmb 21 11 50.2
comp=Z,20nm,0.8s
VLDQ Val d'Or 51.96 3 P P 21 11 47.9 -1.1
EDW2 Edwards Air Fo 52.04 321 P P 21 11 51.5 +1.6
baz=130
D63A Stockholm 52.04 11 P P 21 11 50.0 +0.3
baz=196
RSSD Black Hills 52.19 339 P P 21 11 52.3 +1.1
baz=150
RSSD Black Hills 52.19 339 P P 21 11 50.5 -0.7
RSSD IAmb IAmb 21 11 53.3
comp=Z,9.5nm,0.8s
TPNV Topopah Spring 52.35 324 P P 21 11 54.7 +2.3
baz=133,SNR=8.5
FURC Furnace Creek, 52.39 323 P P 21 11 54.9 +2.5
baz=132,SNR=8.5
MPMC Manual Prospec 52.49 323 P P 21 11 54.9 +1.4
baz=131,SNR=6.6
EYMN Ely 52.53 351 P P 21 11 52.6 -0.7
baz=166,SNR=9.5
EYMN Ely 52.53 351 P P 21 11 51.7 -1.6
BATG Bathurst New B 52.69 13 P P 21 11 53.3 -1.1
BATG IAmb IAmb 21 11 55.8
comp=Z,10nm,0.8s
DUG Dugway, Tooele 52.81 329 P P 21 11 57.3 +1.6
baz=138,SNR=8.2
DUG Dugway, Tooele 52.81 329 P P 21 11 51.6 -4.1
ISA Isabella, Lake 52.84 321 P P 21 11 57.8 +1.9
baz=130
LSQQ Lebeau-Quev 52.93 3 P P 21 11 53.8 -2.4
baz=185
R11A Troy Canyon, C 52.94 326 P P 21 11 58.5 +1.8
baz=135,SNR=17
CWC Cottonwood Cre 53.10 322 P P 21 12 00.1 +2.2
baz=131
PKM Mcpherson Peak 53.20 320 P P 21 12 00.2 +1.5
baz=128
BW06 Boulder Array 53.26 334 P P 21 11 59.6 +0.5
baz=143,SNR=7.9
PDAR Pinedale Array 53.26 334 P P 21 11 59.3 +0.2
comp=Z,7.7nm,0.9s,baz=133,slow=8.5,SNR=50
PDAR LR LR 21 34 48.0
comp=Z,781nm,18.5s,baz=156,slow=36
HWUT Hardware Ranch 53.27 332 P P 21 11 58.4 -0.7
B35A Bob, Littlefor 53.31 349 IAmb IAmb 21 12 00.3
comp=Z,18nm,0.8s
BGU Big Grassy Mou 53.46 330 P P 21 11 59.5 -1.0
MATQ Matagami 53.59 3 P P 21 11 59.4 -1.7
baz=184
AGMN Agassiz Nation 53.67 348 P P 21 12 01.8 +0.1
baz=161,SNR=14
AGMN Agassiz Nation 53.67 348 P P 21 12 01.4 -0.3
AGMN IAmb IAmb 21 12 03.1
comp=Z,20nm,0.8s
AHID Auburn Hatcher 53.95 333 IAmb IAmb 21 12 21.8
comp=Z,8.2nm,0.7s
CHGQ Chibougamau 53.97 5 P P 21 12 02.6 -1.2
baz=188
REDW Red Tail Meadow 54.31 333 IAmb IAmb 21 12 27.5
comp=Z,14nm,0.9s
OMMB Old Mammoth Mi 54.43 323 IAmb IAmb 21 12 10.8
comp=Z,13nm,1.1s
TPAW Teton Pass 54.45 333 IAmb IAmb 21 12 23.0
comp=Z,14nm,1.1s
ELK Elko 54.46 328 P P 21 12 06.5 -1.4
ELK IAmb IAmb 21 12 10.9
comp=Z,9.3nm,0.9s
NV11 Mina Array Sit 54.47 324 IAmb IAmb 21 12 10.7
comp=Z,8.9nm,0.9s
NVAR Mina Array Bea 54.55 324 P P 21 12 10.3 +1.7
comp=Z,5.0nm,0.7s,baz=136,slow=7.3,SNR=30
NVAR LR LR 21 35 01.7
comp=Z,535nm,19.3s,baz=108,slow=36
PMPB Monarch Peak 54.65 321 IAmb IAmb 21 12 12.1
comp=Z,15nm,0.9s
IMW Indian Meadow 54.77 334 IAmb IAmb 21 12 20.9
comp=Z,5.8nm,0.7s
FLWY Flagg Ranch 54.81 334 IAmb IAmb 21 12 31.8
comp=Z,12nm,1.0s
YPP Pitchstone Pla 55.01 334 P 21 12 14.9 +3.1
RLMT Red Lodge 55.04 336 P P 21 12 12.5 +0.5
baz=145,SNR=6.1
LAO LASA Array 55.19 339 P P 21 12 13.8 +0.9
baz=149
LAO LASA Array 55.19 339 IAmb IAmb 21 12 14.3
comp=Z,14nm,1.1s
ULM Lac du Bonnet 55.53 348 P P 21 12 14.7 -0.4
comp=Z,16nm,0.9s,baz=159,slow=7.1,SNR=11
ULM Lac du Bonnet 55.53 348 P P 21 12 14.4 -0.7
YHL Hebgen Lake 55.63 334 P P 21 12 15.9 -0.5
PNTR Pine Nut 55.75 324 IAmb IAmb 21 12 19.9
comp=Z,9.9nm,1.0s
GCMT Greycliff 55.75 336 P P 21 12 16.2 -0.8
VCNR Virginia City 55.91 324 IAmb IAmb 21 12 30.2
comp=Z,8.1nm,0.8s
HLID Hailey 56.12 331 P P 21 12 21.1 +1.4
baz=138,SNR=20
HLID Hailey 56.12 331 P P 21 12 19.0 -0.7
HLID IAmb IAmb 21 12 22.2
comp=Z,11nm,0.9s
MCMT McKenzie Canyo 56.35 333 P P 21 12 20.8 -0.7
BOZ Bozeman (W) 56.42 335 P P 21 12 22.8 +1.0
baz=142,SNR=18
BOZ Bozeman (W) 56.42 335 IAmb IAmb 21 12 23.9
comp=Z,10nm,0.9s
ORV Oroville 57.17 323 IAmb IAmb 21 12 29.8
comp=Z,11nm,1.1s
HRY Hot Springs 57.38 335 P P 21 12 28.3 -0.3
WVOR Wild Horse Val 57.46 328 P P 21 12 28.1 -1.0
WVOR IAmb IAmb 21 12 45.2
comp=Z,22nm,1.1s
EGMT Eagleton 57.61 337 P P 21 12 31.3 +1.2
baz=145
EGMT Eagleton 57.61 337 IAmb IAmb 21 12 31.8
comp=Z,8.0nm,0.9s
O03E Paynes Creek 57.82 324 P P 21 12 32.7 +0.9
baz=130
MOD Modoc Plateau 58.01 326 IAmb IAmb 21 12 35.2
comp=Z,12nm,0.8s
J08A Circle Bar Ran 58.01 328 P P 21 12 32.0 -1.1
J08A IAmb IAmb 21 12 44.0
comp=Z,8.2nm,0.6s
MSO Missoula 58.38 334 P P 21 12 37.1 +1.6
baz=140,SNR=9.7
MSO Missoula 58.38 334 P P 21 12 33.9 -1.6
MSO IAmb IAmb 21 12 38.3
comp=Z,16nm,1.1s
M04C Macdoel 58.80 325 P P 21 12 39.6 +1.0
baz=130,SNR=9.2
TAOE Nuku Hiva Isla 59.01 262 *eT* T 22 16 00.0
comp=Z,42nm,0.3s
I07A Izee 59.05 328 IAmb IAmb 21 12 43.5
comp=Z,6.7nm,0.8s
M02C Callahan 59.13 324 P P 21 12 41.4 +0.5
baz=129
F10A Beach Ranch, E 59.25 331 P P 21 12 41.0 -0.6
YBH Yreka Blue Hor 59.27 325 IAmb IAmb 21 12 43.1
comp=Z,9.0nm,0.9s
L04D Klamath Falls 59.34 325 P P 21 12 43.1 +0.7
baz=130
J05D Fort Rock, OR 59.44 327 P P 21 12 44.7 +1.7
baz=131,SNR=9.2
G08A Pilot Rock 59.61 330 P P 21 12 43.0 -1.1
SCHQ Schefferville 59.76 9 P P 21 12 43.4 -1.4
comp=Z,5.9nm,0.9s,baz=198,slow=4.4,SNR=7.8
SCHQ LR LR 21 37 13.6
comp=Z,571nm,21.8s,baz=192,slow=35
SCHQ Schefferville 59.76 9 IAmb IAmb 21 12 45.0
comp=Z,9.3nm,1.0s
J04D Umpqua Nationa 59.89 326 P P 21 12 48.1 +1.9
baz=130
L02E Cave Junction 60.05 324 P P 21 12 48.3 +1.2
baz=129
WALA Waterton Lakes 60.10 336 IAmb IAmb 21 12 59.0
comp=Z,13nm,0.8s
I04A Tendick Farm, 60.42 327 P P 21 12 50.7 +1.1
baz=130
K02D Willamette Mer 60.42 325 P P 21 12 51.0 +1.3
baz=129
HAWA Hanford 60.67 330 IAmb IAmb 21 13 05.0
comp=Z,5.6nm,0.8s
D08A Wollman Farm, 60.84 331 P P 21 12 51.5 -0.8
J01E Myrtle Point 60.87 325 P P 21 12 55.1 +2.5
baz=129
NEW Newport 60.88 333 P P 21 12 52.9 +0.3
baz=138,SNR=5.2
NEW Newport 60.88 333 P P 21 12 52.3 -0.4
NEW IAmb IAmb 21 12 54.4
comp=Z,8.1nm,1.0s
E07A Sunnyside 60.95 330 P P 21 12 52.4 -0.7
E07A IAmb IAmb 21 12 55.6
comp=Z,13nm,0.9s
FFC Flin Flon 61.06 346 P P 21 12 53.3 -0.3
H04D Lebanon 61.07 327 P P 21 12 55.0 +1.0
baz=130
B05A Bryant 63.23 330 P P 21 13 09.2 +0.9
baz=133
FCC Fort Churchill 63.42 352 IAmb IAmb 21 13 10.2
comp=Z,13nm,0.9s
NLWA Neilton Lookou 63.54 329 IAmb IAmb 21 13 13.3
comp=Z,12nm,0.9s
ROSA Rosais 64.52 44 *eP* P 21 13 18.7 +1.7
comp=Z,78nm,1.9s
PGRA Graciosa 64.84 43 *eP* P 21 13 19.3 +0.2
comp=Z,41nm,1.1s
PSET Sete Cidades 65.87 45 *eP* P 21 13 26.5 +0.6
comp=Z,111nm,1.5s
PSMA Santa Maria 65.93 46 *eP* P 21 13 26.7 +0.5
comp=Z,87nm,1.3s
CMLA Cha da Maceda 65.98 46 *eP* P 21 13 26.6 0.0
comp=Z,154nm,1.6s
PSMN Pico do Norte, 65.98 46 *eP* P 21 13 27.1 +0.5
comp=Z,77nm,2.0s
PPT2 Papeete2 68.47 253 *eS* S 21 22 39.5 -2.9
comp=Z,2µm,28.0s
PPT2 Papeete2 68.47 253 *eLR* LR 21 34 24.1
comp=Z,2µm,28.2s,baz=92
TBI Tubuai 68.74 247 *eS* S 21 22 42.0 -3.4
comp=Z,1µm,30.2s
TBI Tubuai 68.74 247 *eLR* LR 21 34 30.5
comp=Z,1µm,27.2s,baz=87
TBI Tubuai 68.74 247 *eT* T 22 28 12.0
comp=Z,8.1nm,0.3s
PMOZ Porto Moniz, M 70.44 53 *eLR* LR 21 41 23.9
comp=Z,612nm,20.0s
YKA Yellowknife Ar 71.07 344 P P 21 13 57.0 -0.8
comp=Z,4.7nm,1.0s,baz=135,slow=5.4,SNR=28
DLBC Dease Lake 73.44 335 P P 21 14 11.5 -0.7
DLBC IAmb IAmb 21 14 14.5
comp=Z,8.3nm,0.9s
LIC Lamto 76.45 83 *eP* P 21 14 30.6 +0.3
comp=Z,93nm,0.9s
TIC Toumodi 76.50 82 *eP* P 21 14 30.8 +0.2
DBIC Dimbokro 76.66 82 P P 21 14 31.9 +0.4
comp=Z,28nm,0.8s,baz=243,slow=5.0,SNR=27
DBIC LR LR 21 47 51.4
comp=Z,831nm,18.4s,baz=242,slow=35
DBIC Dimbokro 76.66 82 P P 21 14 30.4 -1.1
KIC Kosan Boka 76.74 83 *eP* P 21 14 32.2 +0.2
comp=Z,112nm,1.1s
PFVI Vila Bisbo 78.24 51 *eP* P 21 14 41.3 +1.4
comp=Z,70nm,1.7s
PTEO Sao Teotonio 78.42 51 *eP* P 21 14 43.6 +2.7
comp=Z,57nm,1.2s
PNCL Nicolau / Gran 78.71 50 *eP* P 21 14 41.5 -1.0
comp=Z,39nm,1.7s
PNCL Nicolau / Gran 78.71 50 *eS* S 21 24 42.8 +5.5
PBDV Barranco-do-Ve 78.96 51 *eP* P 21 14 45.2 +1.2
comp=Z,39nm,1.8s
PCVE Castro Verde 78.97 51 *eP* P 21 14 45.6 +1.6
comp=Z,30nm,1.7s
PVAQ Vaqueiros 79.17 51 *eP* P 21 14 46.6 +1.6
comp=Z,25nm,2.2s
PVAQ Vaqueiros 79.17 51 *eS* SKSac 21 25 04.8 +6.6
PVAQ Vaqueiros 79.17 51 *eLR* LR 21 40 45.4
comp=Z,768nm,20.0s
PMTG Montargil 79.18 49 *eP* P 21 14 46.4 +1.4
comp=Z,29nm,1.9s
PMTG Montargil 79.18 49 *eS* SKSac 21 25 05.6 +7.4
EVO Evora 79.21 50 *eP* P 21 14 45.7 +0.5
comp=Z,27nm,1.9s
PCAS Casmilo, Conde 79.21 48 *eP* P 21 14 47.2 +2.0
comp=Z,55nm,1.9s
COI Coimbra 79.32 48 *eP* P 21 14 47.0 +1.2
comp=Z,90nm,2.1s
PVIS Viseu 79.83 48 *eP* P 21 14 49.7 +1.1
comp=Z,24nm,2.1s
PGAV Gavieira, Arco 79.86 46 *eP* P 21 14 49.7 +0.9
comp=Z,20nm,1.3s
PGAV *eS* S 21 24 49.1 -0.5
PGAV Gavieira, Arco 79.86 46 *eLQ* LQ 21 35 12.2
PGAV *eLR* LR 21 41 12.0
comp=Z,701nm,22.0s
PMRV Marv??o 79.89 49 *eS* SKSac 21 25 08.8 +5.5
PMRV Marv??o 79.89 49 *eLQ* LQ 21 35 43.8
PMRV *eLR* LR 21 40 36.1
comp=Z,575nm,18.0s
PCBR Castelo Branco 79.92 49 *eP* P 21 14 50.3 +1.2
comp=Z,24nm,1.8s
PCAB Cabril 79.97 47 *eP* P 21 14 50.8 +1.4
comp=Z,40nm,1.7s
MTE Manteigas 80.01 48 *eP* P 21 14 49.9 +0.3
comp=Z,30nm,2.0s
MTE Manteigas 80.01 48 *eS* SKSac 21 25 12.6 +8.4
MTE Manteigas 80.01 48 *eLQ* LQ 21 38 17.8
MTE *eLR* LR 21 41 12.0
comp=Z,414nm,20.0s
MTE Manteigas 80.01 48 P P 21 14 48.4 -1.2
MTE IAmb IAmb 21 14 51.2
comp=Z,12nm,0.9s
PVRL Vila Real 80.09 47 *eP* P 21 14 50.3 +0.3
comp=Z,22nm,2.1s
VNA3 Neumayer Olymp 80.28 162 P P 21 14 50.6 +0.2
VNA1 Neumayer--Stat 80.56 161 P P 21 14 52.6 +0.8
MVO Moncorvo 80.57 47 *eP* P 21 14 52.7 +0.1
comp=Z,32nm,1.9s
MVO Moncorvo 80.57 47 *eS* SKSac 21 25 08.2 +0.1
MVO Moncorvo 80.57 47 *eLQ* LQ 21 37 13.2
MVO *eLR* LR 21 41 13.2
comp=Z,410nm,22.0s
VNA2 Neumayer--Watz 80.91 161 P P 21 14 53.3 -0.4
baz=299,slow=6.6
PBRG Braganca 80.93 47 *eP* P 21 14 55.8 +1.3
comp=Z,30nm,1.7s
SUMG Summit 81.02 12 P P 21 14 54.2 -0.6
K27K Chicken 81.37 337 P P 21 14 57.3 +1.0
baz=118
EGAK Eagle 81.38 338 IAmb IAmb 21 15 08.0
comp=Z,12nm,1.1s
SCRK Sand Creek 82.10 337 P P 21 15 00.8 +0.5
baz=116
PAB San Pablo 82.21 49 P P 21 15 00.5 -0.9
PAX Paxson 82.27 335 IAmb IAmb 21 15 02.7
comp=Z,7.0nm,0.9s
RIDG Independent Ri 82.34 336 IAmb IAmb 21 15 12.9
comp=Z,15nm,1.2s
SNAA Sanae 82.50 162 P P 21 15 02.3 +0.1
SNAA Sanae 82.50 162 P P 21 15 02.5 +0.3
ESDC Sonseca Array 82.53 49 P P 21 15 03.5 +0.5
comp=Z,3.4nm,0.8s,baz=266,slow=5.0,SNR=21
ESDC LR LR 21 51 21.8
comp=Z,208nm,18.3s,baz=245,slow=35
ESBB Sonseca Array 82.53 49 P P 21 15 02.5 -0.5
HDA Harding Lake 83.45 336 P P 21 15 07.6 +0.4
baz=113
ILAR Eielson Array 83.58 337 P P 21 15 07.3 -0.5
comp=Z,2.0nm,0.9s,baz=143,slow=3.9,SNR=16
ILAR LR LR 21 54 32.3
comp=Z,699nm,18.8s,baz=124,slow=37
TOA0 Torodi Ar. Sit 83.72 76 IAmb IAmb 21 15 12.7
comp=Z,9.9nm,0.8s
TORD Torodi Ar. Bea 83.72 76 P P 21 15 09.2 -0.4
comp=Z,6.8nm,0.7s,baz=272,slow=5.8,SNR=38
TORD LR LR 21 52 09.6
comp=Z,2µm,18.7s,baz=265,slow=36
MDM Murphy Dome 84.18 337 IAmb IAmb 21 15 20.2
comp=Z,6.7nm,1.0s
NEA2 Nenana 84.37 336 P P 21 15 12.5 +0.6
baz=111
RSBS Rosebush, Pemb 84.64 37 *eP* P 21 15 13.1 -0.4
RSBS IAmb IAmb 21 15 14.7
comp=Z,21nm,1.0s
BPAW Bear Paw Mtn. 84.98 336 IAmb IAmb 21 15 30.0
comp=Z,7.0nm,1.0s
KPL Plockton 85.43 32 *eP* P 21 15 17.6 +0.3

COLD Coldfoot 85.76 339 P **P** **21 15 20.2 +1.4**
baz=110
QSPA South Pole Qui 86.10 180 P **P** **21 15 20.6 0.0**
ESK Eskdalemuir 86.28 34 *e*P **P** **21 15 21.2 -0.3**
ESK IAmb IAmb 21 15 22.0
comp=Z,60nm,0.9s
ESY Stoneypath 86.74 34 *e*P **P** **21 15 24.7 +0.9**
LBWR Ladybower, Pea 86.74 36 *e*P **P** **21 15 24.1 +0.2**
LBWR IAmb IAmb 21 15 25.7
comp=Z,50nm,0.8s
CWF Charnwood Fore 86.86 37 *e*P **P** **21 15 25.2 +0.7**
CWF IAmb IAmb 21 15 25.8
comp=Z,32nm,1.0s
HPK Haverah Park 86.91 36 *e*P **P** **21 15 25.6 +1.0**
TAM Tamanrasset 88.25 67 IAmb IAmb 21 15 33.8
comp=Z,7.3nm,1.0s
DOU Dourbes 90.14 40 P **P** **21 15 41.1 +1.0**
BMRD Maredsous 90.27 40 P **P** **21 15 40.9 +0.2**
RDOG Red Dog Mine 90.66 338 IAmb IAmb 21 15 44.0
comp=Z,8.0nm,1.0s
BNI Bardonecchia 91.08 45 IAmb IAmb 21 15 48.0
comp=Z,4.7nm,0.9s
ECH Echery 91.65 42 IAmb IAmb 21 15 48.7
comp=Z,6.1nm,1.0s
VNDA Vanda 91.84 191 P **P** **21 15 48.7 +1.2**
comp=Z,0.9nm,0.6s,baz=20,slow=2.3,SNR=11
VNDA LR LR 21 50 36.0
comp=Z,305nm,18.8s,baz=121,slow=31
VNDA Vanda 91.84 191 P **P** **21 15 48.2 +0.8**
KEST Kesra 92.51 55 P **P** **21 15 51.7 +0.2**
comp=Z,2.7nm,0.8s,baz=233,slow=6.0,SNR=3.5
KEST LR LR 21 55 21.4
comp=Z,551nm,21.8s,baz=204,slow=34
KEST Kesra 92.51 55 IAmb IAmb 21 15 52.5
comp=Z,5.6nm,1.1s
UBR Ueberruh 93.60 43 *e*P **P** **21 15 57.4 +1.2**
comp=Z,19nm,1.4s,baz=269,slow=4.7
CLZ Clausthal 93.90 38 *e*P **P** **21 15 59.1 +1.6**
comp=Z,14nm,1.1s,baz=269,slow=4.7
FETA Feichten 94.01 43 *e*PcP **P** **21 15 59.2 +0.9**
comp=Z,3.5nm,1.0s
ASSE Asse, Remlinge 94.09 38 *e*P **P** **21 16 00.3 +2.1**
comp=Z,13nm,1.1s,baz=269,slow=4.7
MOTA Moosalm 94.27 43 *e*PcP **P** **21 16 00.4 +1.0**
comp=Z,3.3nm,0.9s
SQTA Sankt Quirin 94.34 43 *e*PcP **P** **21 16 00.5 +0.8**
comp=Z,6.7nm,0.9s
GRF Grafenberg Arr 94.39 41 *e*L L 21 56 11.8
comp=Z,376nm,20.6s
NB2 NORSAR Subarra 94.49 29 P **P** **21 16 00.1 +0.1**
comp=Z,0.6nm,0.8s,baz=267,slow=4.8
NOA NORSAR Array B 94.49 29 P **P** **21 15 59.9 -0.1**
comp=Z,1.1nm,0.9s,baz=269,slow=4.7,SNR=5.3
NOA LR LR 21 58 37.8
comp=Z,401nm,19.1s,baz=250,slow=36
CTI Castel Tesino 94.62 44 IAmb IAmb 21 16 02.4
comp=Z,5.2nm,0.7s
WTTA Wattenberg 94.63 43 *e*PcP **P** **21 16 02.3 +1.2**
comp=Z,4.6nm,0.9s
MOX Moxa 94.66 40 *e*P **P** **21 16 02.5 +1.5**
comp=Z,51nm,2.4s,baz=269,slow=4.7
MOX *e*L L 21 55 45.6
comp=Z,769nm,20.2s
MANZ Manzenberg 94.97 40 *e*P **P** **21 16 04.1 +1.7**
comp=Z,20nm,1.7s,baz=269,slow=4.7
PLN Plauen 95.00 40 *e*P **P** **21 16 04.0 +1.5**
comp=Z,28nm,2.0s,baz=269,slow=4.7
WERN Wernitzgruen 95.14 40 *e*P **P** **21 16 05.1 +1.8**
comp=Z,57nm,2.3s,baz=269,slow=4.7
CIMO Cimolais 95.17 44 IAmb IAmb 21 16 13.7
comp=Z,4.8nm,1.0s
NKC Novy Kostel 95.19 40 *e*P **P** **21 16 05.1 +1.7**
NKC *e*SKS **SKSac** **21 26 36.2 -0.1**
NKC AMS AMS 21 54 50.0
comp=Z,700nm,22.2s
TANN Tannenbergstha 95.20 40 *e*P **P** **21 16 05.2 +1.7**
comp=Z,20nm,1.1s,baz=269,slow=4.7
ABTA Abfaltersbach 95.22 44 *e*PcP **P** **21 16 04.8 +1.0**
comp=Z,4.0nm,1.0s
CLL Collm 95.53 39 *i* P **P** **21 16 06.3 +1.4**
comp=Z,46nm,2.1s
CLL *i* 21 16 14.5
CLL *e*PP **PP** **21 19 55.0 -1.2**
CLL *e*SKSac **SKSac** **21 26 40.0 +2.0**
CLL *e*S **S** **21 27 19.0 +0.2**
comp=E,100nm,18.0s
CLL *e*PS **PS** **21 28 42.0 +0.3**
CLL *e*SS **SS** **21 33 54.0 +6.5**
CLL L L 21 56 00.0
comp=Z,500nm,20.7s
CLL Collm 95.53 39 *e*P **P** **21 16 06.4 +1.5**
comp=Z,79nm,0.1s,baz=269,slow=4.7
CLL Collm 95.53 39 P **P** **21 16 04.0 -0.9**
CLL IAmb IAmb 21 16 08.9
comp=Z,8.4nm,1.1s
FBE Freiberg 95.76 39 *e*P **P** **21 16 07.9 +1.9**
comp=Z,31nm,1.8s,baz=269,slow=4.7
KBA Koelnbreinsper 95.80 43 *e*PcP **P** **21 16 07.2 +0.7**
comp=Z,4.7nm,1.1s
KHC Kasperske Hory 95.93 41 *e*P **P** **21 16 06.2 -0.7**
KHC *e*SKS **SKSac** **21 26 41.9 +1.6**
KHC AMS AMS 21 50 50.0
comp=Z,400nm,22.7s
PRED Cave del Predi 95.95 44 IAmb IAmb 21 16 16.8
comp=Z,6.3nm,1.0s
MYKA Terra Mystica 96.00 44 *e*PcP **P** **21 16 07.2 -0.1**
comp=Z,4.2nm,1.0s
GERES GERESS Array B 96.02 41 P **P** **21 16 07.5 +0.1**
comp=Z,0.2nm,0.4s,baz=264,slow=5.4,SNR=4.9
GERES LR LR 21 56 37.8
comp=Z,266nm,21.3s,baz=261,slow=34
BRG Berggiesshubel 96.13 39 *e*P **P** **21 16 09.2 +1.6**
comp=Z,7.7nm,1.2s
BRG *e* 21 26 42.0
BRG *e* 21 28 52.0
comp=Z,725nm,23.7s
comp=N,261nm,19.9s
comp=E,577nm,19.9s
BRG Berggiesshubel 96.13 39 *e*P **P** **21 16 09.3 +1.6**
comp=E,43nm,2.3s,baz=269,slow=4.7
MOA Molln 96.41 42 *e*PcP **PcP** **21 16 10.0 +0.8**
comp=E,2.4nm,0.9s
PRA Prague 96.47 40 AMS AMS 21 55 40.0
comp=E,200nm,20.1s
PRU Pruhonice 96.54 40 *e*SKS **SKSac** **21 26 41.3 -2.0**
PRU AMS AMS 21 51 20.0
comp=E,500nm,25.9s
PVCC Panska Ves 96.54 40 AMS AMS 21 56 30.0
comp=E,800nm,20.4s
GOPC GO Pecny, Ondr 96.70 40 *e*SKS **SKSac** **21 26 51.5 +7.3**
GOPC AMS AMS 21 51 30.0
comp=E,600nm,28.5s
TSUM Tsumeb 96.71 110 P **P** **21 16 09.6 -1.6**
SYO Syowa Base 96.79 162 *e*P **P** **21 16 08.9 -1.4**
SYO Syowa Base 96.79 162 *e*pP P 21 16 15.7 +5.4
TREC Trest 97.18 41 AMS AMS 21 51 10.0
comp=E,500nm,32.7s
ARSA Arzberg 97.28 43 *e*PcP Pdif 21 16 13.8 +0.7
comp=E,1.8nm,0.8s
UPC Upice 97.46 40 *e*SKS **SKSac** **21 26 50.3 +2.2**
UPC AMS AMS 21 57 20.0
comp=E,700nm,19.6s
CONA Conrad Observa 97.48 42 *e*PcP Pdif 21 16 15.0 +0.9
comp=E,1.5nm,0.9s
CHVC Chvalec 97.48 40 AMS AMS 21 57 50.0
comp=E,800nm,21.7s
OSTC Ostas 97.59 40 *e*SKS **SKSac** **21 26 59.0 +10**
OSTC AMS AMS 21 58 10.0
comp=E,700nm,18.0s
DPC Dobruska-Polom 97.67 40 *e*SKS **SKSac** **21 26 50.2 +0.9**
DPC AMS AMS 21 56 40.0
comp=E,700nm,21.7s
KRLC Kraliky 97.98 40 AMS AMS 21 57 10.0
comp=E,500nm,21.0s
ARCES ARCESS Array B 99.42 20 LR LR 21 57 43.4
comp=E,201nm,21.5s,baz=289,slow=33
VYHS Vyhne 99.43 42 *e*PDIFF **Pdif** **21 16 25.6 +3.0**
FINES FINESS Array B 101.57 28 P **Pdif** **21 16 32.1 +0.3**
comp=E,2.0nm,0.9s,baz=295,slow=5.9,SNR=6.4
DZM Mont Dzumac 109.30 245 *e*PS PS 21 31 05.4 -3.0
comp=E,258nm,22.0s
DZM Mont Dzumac 109.30 245 *e*LR LR 21 53 22.0
comp=E,358nm,22.1s
KBZ Khabaz 116.74 42 PKP **PKiKP** **21 21 25.1 +0.7**
comp=E,2.7nm,0.9s,baz=145,slow=1.6,SNR=7.2
BRVK Borovoye 125.63 21 PKPdf **PKPdf** **21 21 41.2 +0.1**
STKA Stephens Creek 126.12 225 PKP **PKPdf** **21 21 42.6 -0.2**
comp=E,6.1nm,0.7s,baz=260,slow=2.3,SNR=17
STKA Stephens Creek 126.12 225 PKPdf **PKPdf** **21 21 42.4 -0.4**
KLR Kul'dur 127.05 334 PKP **PKPdf** **21 21 43.4 -0.6**
comp=E,1.2nm,0.3s,baz=9.5,slow=5.6,SNR=6.6
ZALV Zalesovo Beam 128.83 11 PKP **PKPdf** **21 21 47.0 -0.3**
comp=E,12nm,0.8s,baz=297,slow=1.0,SNR=34
GEYT Alibeck 129.63 42 PKP **PKiKP** **21 21 50.0 -0.2**
GYA0B ALIBECK ARRAY 129.63 42 PKPdf **PKPdf** **21 21 48.6 -0.8**
KURK Kurchatov 130.34 17 PKPdf **PKPdf** **21 21 49.0 -1.3**
USRK Ussuriysk Ar. 130.56 329 PKP **PKPdf** **21 21 51.1 +0.3**
comp=E,2.8nm,0.8s,baz=21,slow=4.4,SNR=6.5
MJAR Matsushiro Arr 131.61 317 PKP **PKPdf** **21 21 53.3 +0.1**
comp=E,1.1nm,0.7s,baz=86,slow=0.7,SNR=4.6
MAKZ Makanchi 134.83 17 PKPdf **PKPdf** **21 21 58.4 -0.5**
MKAR Makanchi Array 134.93 16 PKP **PKPdf** **21 21 58.4 -0.7**
comp=E,4.1nm,0.7s,baz=1.8,slow=2.1,SNR=27
AAK Ala-Archa 135.72 26 PKPdf **PKPdf** **21 22 00.2 -0.7**
ULN Ulaanbaatar 135.74 352 PKPdf **PKPdf** **21 22 00.1 -0.7**
SONM Songino Array 135.85 353 PKhKP PKPpre 21 21 47.4
comp=E,0.6nm,0.7s,baz=318,slow=1.9,SNR=2.0
SONM PKP **PKPdf** **21 22 00.8 -0.1**
comp=E,2.7nm,0.8s,baz=345,slow=1.6,SNR=15
ASAR Alice Springs 136.34 229 PKhKP PKPpre 21 21 54.5
comp=E,5.2nm,0.8s,baz=123,slow=3.3,SNR=4.7
ASAR PKP **PKPdf** **21 22 02.6 +0.2**
comp=E,4.9nm,0.8s,baz=119,slow=2.3,SNR=24
KSRS Korea Array 137.49 325 PKP **PKPdf** **21 22 04.6 +0.6**
comp=E,3.8nm,0.7s,baz=12,slow=1.6,SNR=15
WB2 Warramunga Arr 137.98 234 PKP **PKPdf** **21 22 04.1 -1.4**
WRA Warramunga Arr 137.99 234 PKP **PKPdf** **21 22 05.9 +0.4**
comp=E,4.2nm,0.7s,baz=116,slow=2.2,SNR=19
H01W1 Cape Leeuwin H 138.82 199 T T 23 56 30.7
baz=153,slow=75,SNR=17
H01W2 Cape Leeuwin H 138.82 199 T T 23 56 30.6
baz=153,slow=75,SNR=16
H01W3 Cape Leeuwin H 138.83 199 T T 23 56 31.5
baz=153,slow=75,SNR=17
KSH Kashi 138.89 27 PKP **PKiKP** **21 22 09.1 +0.1**
WMQ Urumqi 139.06 13 *e*PKP **PKiKP** **21 22 08.0 -1.1**
WMQ LR LR
comp=E,230nm,22.9s
WMQ LR LR
comp=E,200nm,25.3s
WMQ LR LR
comp=E,450nm,26.1s
BJI Beijing 140.91 339 PKP **PKPdf** **21 22 10.5 +0.3**
HHC Hu-ho-hao-te 141.61 345 *e*PKP **PKPdf** **21 22 11.5 -0.1**
HHC LR LR
comp=E,350nm,18.6s
HHC LR LR
comp=E,250nm,20.0s
HHC LR LR
comp=E,470nm,21.8s
GTA Gaotai 144.72 359 PKP PKPbc 21 22 16.2 +0.1
GTA PP **PP** **21 25 38.9 +6.1**
GTA SS SS 21 44 18.3 +0.9
GTA AMB AMB
comp=E,130nm,5.7s
GTA LR LR
comp=E,320nm,21.6s
GTA LR LR
comp=E,240nm,22.2s
GTA LR LR
comp=E,540nm,24.1s
KNRA Kununurra 144.73 236 PKPbc 21 22 16.7 +0.1
FITZ Fitzroy Crossi 145.84 229 PKPbc **PKPbc** **21 22 19.8 -0.3**
comp=E,14nm,0.9s,baz=172,slow=3.5,SNR=14
FITZ Fitzroy Crossi 145.84 229 PKPdf **PKPdf** **21 22 19.1 -0.4**
NJZ Nanjing 146.47 329 *e*PKPbc **PKPbc** **21 22 21.8 +0.2**
PSA00 Pilbara Seismi 147.47 218 PKPdf **PKPdf** **21 22 21.4 -0.8**
LZH Lanzhou 147.75 353 *e*PKPbc **PKPbc** **21 22 25.1 -0.2**
LZH pPKP PKPab 21 22 29.2 +1.6
LZH sPKP 21 22 31.5
LZH SS SS 21 44 55.3 +3.5
LZH LR LR
comp=E,360nm,16.0s
LZH LR LR
comp=E,230nm,14.4s
LZH LR LR
comp=E,430nm,17.3s
XAN Xi'an 148.72 344 PKPbc **PKPbc** **21 22 27.9 +0.2**
XAN pPKP pPKPdf 21 22 36.8 +0.4
XAN LR LR
comp=E,280nm,17.6s
XAN LR LR
comp=E,310nm,18.2s
XAN LR LR
comp=E,550nm,23.9s
XAN Xi'an 148.72 344 PKPdf **PKPdf** **21 22 23.7 -0.2**
WHN Wuhan 149.90 333 PKPbc **PKPbc** **21 22 30.9 +0.2**
WHN PP **PP** **21 26 08.6 +5.1**
WHN SS SS 21 45 20.4 +4.0
WHN LR LR
comp=E,870nm,20.5s
PYUN Piuthan 151.53 31 *e*P **PKiKP** **21 22 35.7 +0.3**
DANN Dangsing 151.71 29 *e*P **PKiKP** **21 22 35.7 -0.2**
comp=E,252nm,0.8s
ENH Enshi 152.06 341 PKPdf **PKPdf** **21 22 28.2 -1.1**
KOLN Koldanda 152.11 30 *e*P **PKPbc** **21 22 35.7 -0.6**
comp=E,47nm,0.9s
GKN Gorkha 152.43 28 *e*P **PKPbc** **21 22 36.9 0.0**
comp=E,73nm,0.8s
CD2 Chengdu 152.85 351 PKPbc **PKPdf** **21 22 30.0 -0.4**
KKN Kakani 152.91 28 *e*P **PKiKP** **21 22 38.4 +0.2**
DMN Daman 152.98 28 *e*P **PKPbc** **21 22 37.1 -1.2**
PKI Pulchoki 153.15 28 *e*P **PKPbc** **21 22 38.7 0.0**
LSA Lhasa 153.33 16 PKPbc **PKPdf** **21 22 32.8 +1.1**
LSA Lhasa 153.33 16 **PKPdf** **21 22 29.0 -2.7**
GYA Guiyang 156.49 343 PKP **PKPdf** **21 22 38.7 +3.0**
GYA PKPab **PKPab** **21 23 04.8 +0.6**
GYA PP PP 21 26 49.6 +8.9
GYA AMB AMB
comp=E,140nm,10.0s
SHL Shillong 157.45 17 **PKPab** **21 23 07.1 -1.3**
QIZ Qiongzhong 161.71 326 PKP **PKPdf** **21 22 42.1 +0.3**
QIZ PP **PP** **21 27 11.2 +1.7**
QIZ SS SS 21 47 30.6 +6.1
QIZ LR LR
comp=E,350nm,18.4s
QIZ LR LR
comp=E,310nm,12.6s
CMAR Chiang Mai Arr 165.61 1 PKP **PKPdf** **21 22 45.5 +0.1**
comp=E,3.5nm,0.9s,baz=279,slow=1.5,SNR=20
CMAR PKPab **PKPab** **21 23 43.5 -0.3**
comp=E,2.7nm,0.8s,baz=341,slow=5.3,SNR=7.3

*IDC **03** 21:05:43.7±3.5, 1.70N×128.54E, h170km±39km, mb3.3/4, mb1 3.4/6, mb1mx3.1/41, mbtmp3.7/6, Error ellipse: s-maj=70.5km s-min=21.4km az=74.0*
ISC 03 21:05:43.1±1.4, **1.6N**±0.2×**128.4E**±0.3, **h150**km, **n6**, σ**0s95/6**, **mb3.6/4**, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.77**	**130**	P		**Pn**	**21 06 40.9**	**+0.5**
	3.2nm,0.3s,baz=330,slow=16,SNR=11							
FITZ	**Fitzroy Crossi**	**19.74**	**188**	P		**P**	**21 10 02.0**	**+0.7**
	0.1nm,0.3s,baz=9.5,slow=12,SNR=2.4							
WRA	**Warramunga Arr**	**22.17**	**165**	P		**P**	**21 10 25.9**	**-1.2**
	2.4nm,0.7s,baz=344,slow=9.4,SNR=20							
ASAR	**Alice Springs**	**25.66**	**168**	P		**P**	**21 10 58.4**	**-0.8**
	0.8nm,0.5s,baz=341,slow=7.3,SNR=16							
STKA	**Stephens Creek**	**35.55**	**160**	P		**P**	**21 12 25.9**	**-0.1**
	0.7nm,0.6s,baz=333,slow=6.8,SNR=2.8							
MKAR	**Makanchi Array**	**60.25**	**325**	P		**P**	**21 15 35.6**	**0.0**
	0.2nm,0.4s,baz=116,slow=8.8,SNR=1.7							

*ANF **03** 21:13:44.6±0.4, 35.83N×119.78W, h14km±3km, ML3.1/24, Error ellipse: s-maj=3.8km s-min=2.0km az=111.0*
*NCEDC **03** 21:13:44.7±2.5, 35.84N±0.01×119.82W±0.01, h11km±3km, ML3.0/25, Error ellipse: s-maj=1.6km s-min=1.4km az=155.0*
ISC 03 21:13:44.6±0.9, **35.84N**±0.02×**119.82W**±0.01, **h17**km±7km, **n204**, σ**1s08/230**, **Central California**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PKEM	**Kettleman Hill**	**0.32**	**314**			**Pb**	**21 13 52.5**	**+0.6**
PBPM	**Bitterwater Pu**	**0.33**	**219**			**Pg**	**21 13 51.8**	**+0.2**
PMRM	**Maxey Ranch**	**0.34**	**261**			**Pg**	**21 13 51.7**	**-0.1**
THIS	**South End of C**	**0.35**	**251**			**Pg**	**21 13 51.9**	**0.0**
PAGB	**Antelope Grade**	**0.36**	**253**			**Pg**	**21 13 52.0**	**-0.2**
PTRM	**Twissleman Ran**	**0.36**	**240**			**Pg**	**21 13 52.3**	**+0.1**
PSRM	**Scobie Ranch**	**0.37**	**273**			**Pg**	**21 13 52.5**	**+0.1**
PSNM	**Stone Corral**	**0.39**	**263**			**Pg**	**21 13 52.4**	**-0.2**
TRAM	**Private Proper**	**0.40**	**246**			**Pg**	**21 13 52.8**	**0.0**
TRAM						**Sb**	**21 14 00.2**	**+1.1**
YEG	**Yeguas Mountai**	**0.41**	**195**			**Pg**	**21 13 53.5**	**+0.3**
PKLM	**Kerr Lake**	**0.42**	**261**			**Pg**	**21 13 53.2**	**0.0**
CTM	**Castle Mountai**	**0.43**	**283**			**Pb**	**21 13 54.2**	**+0.5**
GHC	**Gold Hill**	**0.43**	**269**			**Pg**	**21 13 53.2**	**-0.2**
PHAM	**Harlan Ranch**	**0.47**	**270**			**Pg**	**21 13 54.2**	**+0.1**
PHFM	**Heflinger Ranc**	**0.47**	**275**			**Pg**	**21 13 54.2**	**+0.1**
PHFM						**Sb**	**21 14 02.1**	**+1.0**
PCMM	**Cholame Hills**	**0.48**	**266**			**Pg**	**21 13 54.4**	**+0.1**
TCHL	**Shandon**	**0.49**	**253**			**Pg**	**21 13 54.7**	**+0.2**
TCHL						**Sb**	**21 14 03.8**	**+2.0**
TSCN	**Private Proper**	**0.52**	**236**			**Pg**	**21 13 55.1**	**+0.1**
CARC	**Carrizo Plain**	**0.53**	**182**			**Pb**	**21 13 55.8**	**+0.3**
CARC						**Sb**	**21 14 04.9**	**+2.1**
SMMC	**Simmler**	**0.54**	**195**	P		**Pg**	**21 13 55.7**	**+0.3**
	baz=16,SNR=85							
SMMC				S		**Sb**	**21 14 04.8**	**+1.7**
	baz=16							
SMMC	**Simmler**	**0.54**	**195**			**Pg**	**21 13 55.7**	**+0.3**
PSTM	**Stockdale Moun**	**0.56**	**279**			**Pg**	**21 13 55.7**	**-0.1**
PVCM	**Vineyard Canyo**	**0.58**	**278**			**Pg**	**21 13 56.0**	**-0.2**
PARM	**Anticline Ridg**	**0.59**	**315**			**Pb**	**21 13 56.9**	**+0.5**
PKD	**Bear Valley Ra**	**0.59**	**281**			**Pg**	**21 13 56.0**	**-0.3**
CRGC	**Crocker Grade**	**0.60**	**172**			**Pb**	**21 13 57.1**	**+0.4**
VOG	**Valley Oaks Go**	**0.60**	**36**	P		**Pg**	**21 13 56.1**	**-0.4**
	baz=216,SNR=13							
VOG				S		**Sg**	**21 14 04.1**	**-0.4**
	baz=216							
VOG	**Valley Oaks Go**	**0.60**	**36**			**Sg**	**21 14 04.1**	**-0.4**
VES	**Vestal, Richgr**	**0.60**	**89**	P		**Pg**	**21 13 55.9**	**-0.6**
	baz=270,SNR=26							
VES				S		**Sg**	**21 14 04.8**	**+0.2**
	baz=270							
VES	**Vestal, Richgr**	**0.60**	**89**			**Pg**	**21 13 55.9**	**-0.6**
VES	**Vestal, Richgr**	**0.60**	**89**			**Sg**	**21 14 04.7**	**+0.2**
PPO	**Portuguese Can**	**0.64**	**273**			**Pg**	**21 13 57.4**	**+0.1**
PHPM	**Hope Ranch**	**0.65**	**283**			**Pg**	**21 13 57.1**	**-0.4**
PDRM	**Domengine Ranc**	**0.67**	**319**			**Pb**	**21 13 58.0**	**+0.2**
PSMM	**Smith Mountain**	**0.67**	**291**			**Pg**	**21 13 58.1**	**+0.3**
PWMM	**Westland Maint**	**0.67**	**332**			**Pb**	**21 13 58.3**	**+0.4**
BCH	**Branch Mountai**	**0.69**	**198**			**Pg**	**21 13 57.7**	**-0.4**
MRHM	**Rocky Hill**	**0.75**	**53**			**Pg**	**21 13 58.3**	**-0.9**
PTAM	**Tassajara Cree**	**0.85**	**239**			**Pg**	**21 14 00.6**	**-0.5**
RAMR	**Ramage Ranch**	**0.87**	**257**			**Pg**	**21 14 01.1**	**-0.6**
PMPB	**Monarch Peak**	**0.88**	**296**			**Pg**	**21 14 01.0**	**-0.7**
PANM	**San Antonio Re**	**0.88**	**267**			**Pg**	**21 14 01.2**	**-0.6**
PSAM	**San Ardo**	**0.88**	**283**			**Pg**	**21 14 00.9**	**-1.0**
EFD	**Emergency Oper**	**0.90**	**235**			**Pg**	**21 14 01.4**	**-0.7**
SPG2	**Springville 2**	**0.93**	**67**			**Sg**	**21 14 13.8**	**-1.2**
SPG2	**Springville 2**	**0.93**	**67**			**Pg**	**21 14 01.3**	**-1.4**
BLDC	**Black Mountain**	**0.93**	**251**			**Pg**	**21 14 01.7**	**-1.0**
BLDC	**Black Mountain**	**0.93**	**251**			**Pg**	**21 14 01.7**	**-1.0**
PKM	**Mcpherson Peak**	**0.95**	**179**	P		**Pg**	**21 14 02.0**	**-1.0**
	baz=360,SNR=18							
PKM				S		**Sg**	**21 14 15.5**	**-0.1**
	baz=360							
PKM	**Mcpherson Peak**	**0.95**	**179**			**Pg**	**21 14 02.3**	**-0.7**
WOFM	**Oak Flat**	**0.95**	**108**			**Pg**	**21 14 01.7**	**-1.5**
BCW	**Bitter Crk WRg**	**0.96**	**159**			**Pg**	**21 14 01.7**	**-1.5**
PHRM	**Hernandez Vall**	**0.97**	**304**			**Pg**	**21 14 01.9**	**-1.5**
DPD	**Davis Peak**	**0.99**	**233**			**Pg**	**21 14 03.0**	**-0.7**
LSDC	**Los Osos Digit**	**0.99**	**237**			**Pg**	**21 14 03.0**	**-0.8**
ARDC	**Alexander Ranc**	**1.01**	**249**			**Pg**	**21 14 02.8**	**-1.5**
PBWM	**Bitterwater Cr**	**1.01**	**298**			**Pg**	**21 14 03.0**	**-1.3**
WASM	**Alta Sierra Ca**	**1.03**	**95**			**Pg**	**21 14 03.0**	**-1.7**
WASM						**Sg**	**21 14 17.1**	**-1.3**
DCD	**Diablo Creek**	**1.04**	**233**			**Pb**	**21 14 03.9**	**-0.2**
VPDC	**Valencia Peak**	**1.04**	**235**			**Pb**	**21 14 03.7**	**-0.5**
PCBM	**Cambria**	**1.06**	**253**			**Pb**	**21 14 03.5**	**-0.9**
HELL	**Mitchell Peak,**	**1.06**	**37**			**Pg**	**21 14 03.3**	**-1.9**
LRC	**Lone Oak Road**	**1.07**	**293**			**Pb**	**21 14 03.6**	**-1.1**
ARVC	**Arvin**	**1.08**	**131**	P		**Pb**	**21 14 03.9**	**-0.9**
	baz=312,SNR=27							
ARVC				S		**Sb**	**21 14 19.0**	**+0.5**
	baz=312							
ARVC	**Arvin**	**1.08**	**131**			**Pb**	**21 14 03.6**	**-1.2**
PHCM	**Hearst Castle**	**1.09**	**262**			**Pb**	**21 14 04.2**	**-0.9**
ABL	**Mount Abel**	**1.10**	**153**			**Pb**	**21 14 03.7**	**-1.6**
TEJ	**El Tejon**	**1.11**	**123**			**Pb**	**21 14 03.9**	**-1.5**
ISA	**Isabella, Lake**	**1.11**	**99**	P		**Pb**	**21 14 04.4**	**-1.1**
	baz=280,SNR=77							
ISA				S		**Sb**	**21 14 19.4**	**-0.3**
	baz=280							
ISA	**Isabella, Lake**	**1.11**	**99**			**Pb**	**21 14 04.4**	**-1.1**
FIGC	**Figueroa Mtn.**	**1.11**	**187**			**Pb**	**21 14 05.5**	**0.0**
PCCM	**Crazy Canyon**	**1.12**	**283**			**Pb**	**21 14 04.2**	**-1.2**
LRV	**Little Rabbit**	**1.13**	**302**			**Pb**	**21 14 05.2**	**-0.5**
BMSM	**Mercy Hot Spri**	**1.13**	**317**			**Pb**	**21 14 04.9**	**-0.9**
PMLM	**Mount Lospe**	**1.14**	**215**			**Pb**	**21 14 05.1**	**-0.8**
WHFM	**Hanning Flat**	**1.21**	**96**			**Sb**	**21 14 22.4**	**0.0**
BBGB	**Big Mountain B**	**1.23**	**307**			**Pn**	**21 14 06.5**	**-0.6**
PAPM	**Alder Peak**	**1.25**	**274**			**Pn**	**21 14 05.9**	**-1.5**
WLHM	**Little Horse**	**1.27**	**75**			**Sb**	**21 14 24.4**	**+0.1**
BAVM	**Antelope Valle**	**1.27**	**310**			**Pn**	**21 14 06.8**	**-0.7**
BPIM	**Pinnacles**	**1.27**	**301**			**Pn**	**21 14 06.7**	**-0.8**
MHDM	**Hidden Dam**	**1.28**	**357**			**Pn**	**21 14 06.5**	**-1.1**
BRMM	**Rolling Bench**	**1.28**	**321**			**Pn**	**21 14 07.3**	**-0.4**
BSGM	**Shirttail Gulc**	**1.29**	**297**			**Pn**	**21 14 06.8**	**-1.1**
SYP	**Santa Ynez Pea**	**1.31**	**186**			**Pn**	**21 14 08.5**	**+0.2**
BEMM	**Emmet**	**1.32**	**309**			**Pn**	**21 14 07.7**	**-0.5**
BVL	**Bear Valley**	**1.33**	**304**			**Pn**	**21 14 07.8**	**-0.6**
NJQ	**Nojoqui County**	**1.33**	**193**			**Pn**	**21 14 08.3**	**-0.1**
BEHM	**Elkhorn Ranch**	**1.37**	**307**			**Pn**	**21 14 08.8**	**-0.1**
SBC	**Santa Barbara**	**1.40**	**176**	P		**Pb**	**21 14 10.6**	**+0.4**
	baz=357							
WBSM	**Bird Springs**	**1.40**	**102**			**Pn**	**21 14 09.6**	**-0.1**
WBSM						**Sb**	**21 14 28.4**	**+0.3**
BSMM	**Soledad Missio**	**1.41**	**293**			**Pn**	**21 14 08.3**	**-1.3**
WCHM	**Chimney Peak**	**1.42**	**88**			**Pn**	**21 14 10.2**	**+0.3**
BLRM	**Lewis Ranch**	**1.43**	**306**			**Pn**	**21 14 10.7**	**+0.9**
BJCM	**Johnson Can.**	**1.45**	**300**			**Pn**	**21 14 09.2**	**-0.9**
SCZ	**Santa Cruz**	**1.48**	**301**			**Pn**	**21 14 09.6**	**-0.9**
BCWM	**Chews Ridge**	**1.49**	**289**			**Pn**	**21 14 09.3**	**-1.4**
HAST	**Hastings Reser**	**1.50**	**292**			**Pn**	**21 14 09.4**	**-1.4**
BCGM	**Cienega Road**	**1.50**	**306**			**Pn**	**21 14 10.9**	**+0.1**
BAPM	**Anderson Peak**	**1.51**	**283**			**Pn**	**21 14 09.4**	**-1.6**
OSI	**Osito Audit: C**	**1.52**	**143**	S		**Sn**	**21 14 30.7**	**+0.3**
	baz=324							
CWC	**Cottonwood Cre**	**1.53**	**66**	Pb		**Pn**	**21 14 12.2**	**+0.9**
	baz=247							
CWC				S		**Sb**	**21 14 32.4**	**+0.6**
	baz=247							
CWC	**Cottonwood Cre**	**1.53**	**66**			**Pn**	**21 14 12.2**	**+0.9**
HJSM	**John Smith Roa**	**1.54**	**310**			**Pn**	**21 14 12.0**	**+0.7**
PYR	**Pyramid**	**1.55**	**145**			**Pn**	**21 14 11.4**	**-0.1**
BSLM	**Silva Ranch**	**1.55**	**308**			**Pn**	**21 14 11.8**	**+0.4**
WRVM	**Rose V. Centra**	**1.58**	**83**			**Pn**	**21 14 12.8**	**+0.9**
MMIM	**Miami Mountain**	**1.58**	**2**			**Pn**	**21 14 11.7**	**-0.2**
BSRM	**Salinas Radio**	**1.60**	**302**			**Pn**	**21 14 11.3**	**-0.8**
SAO	**San Andreas Ge**	**1.60**	**306**			**Pn**	**21 14 11.6

EDW2					Sb		**Sb**	**21 14 39.3 +0.6**
	baz=303								
LRMC	**Laurel Mtn Rad**	**1.78**	**101**		Pb		**Pn**	**21 14 15.8 +1.1**
	baz=282,SNR=11								
LRMC					Sb		**Sb**	**21 14 39.3 +0.4**
	baz=282								
CGO	**Cerro Gordo**	**1.78**	**66**				**Pb**	**21 14 16.9 -0.2**
CLC	**China Lake**	**1.81**	**90**				**Pn**	**21 14 16.0 +1.0**
GHS	**Gilroy Hot Spr**	**1.81**	**314**				**Pn**	**21 14 14.5 -0.7**
MTUM	**Tungsten Hills**	**1.82**	**33**				**Pn**	**21 14 16.7 +1.4**
HMOM	**Monterey**	**1.86**	**295**				**Pn**	**21 14 14.9 -0.8**
MRDM	**Red Cones**	**1.86**	**19**				**Pn**	**21 14 16.8 +0.8**
HSPM	**Sheep**	**1.87**	**314**				**Pn**	**21 14 15.4 -0.5**
RCCR	**Rock Creek Can**	**1.87**	**28**				**Pn**	**21 14 17.4 +1.3**
MMPM	**Mammoth Pass**	**1.88**	**20**				**Pn**	**21 14 17.3 +1.0**
MDPB	**Devils Postpil**	**1.89**	**18**				**Pn**	**21 14 17.4 +1.1**
OMMB	**Old Mammoth Mi**	**1.89**	**20**				**Pn**	**21 14 17.4 +1.0**
MPMC	**Manual Prospec**	**1.91**	**83**		Pb		**Pb**	**21 14 18.8 -0.2**
	baz=264,SNR=36								
MPMC					Sb		**Sb**	**21 14 43.6 +1.0**
	baz=264								
MPMC	**Manual Prospec**	**1.91**	**83**				**Pb**	**21 14 18.9 -0.2**
MLIM	**Lincoln Peak**	**1.91**	**20**				**Pn**	**21 14 18.2 +1.5**
MINS	**Minaret Summit**	**1.91**	**18**				**Pn**	**21 14 17.7 +0.9**
MLCM	**Laurel Creek C**	**1.92**	**22**				**Pn**	**21 14 18.1 +1.4**
MCVM	**Convict Lake**	**1.92**	**24**				**Pn**	**21 14 18.1 +1.3**
MCMM	**Convict Lake**	**1.93**	**23**				**Pn**	**21 14 18.2 +1.4**
MDYM	**Dry Creek**	**1.93**	**19**				**Pn**	**21 14 18.4 +1.5**
MGPM	**Gravel Pit**	**1.93**	**22**				**Pn**	**21 14 18.4 +1.5**
MMLB	**Mammoth Lakes**	**1.94**	**20**				**Pn**	**21 14 18.5 +1.5**
MFBM	**Five Bridges**	**1.94**	**35**				**Pb**	**21 14 19.1 -0.6**
MCBM	**Casa Benchmark**	**1.95**	**22**				**Pn**	**21 14 18.8 +1.6**
MLAC	**Mammoth, Mammo**	**1.96**	**24**		Pb		**Pn**	**21 14 19.1 +1.8**
	baz=204,SNR=29								
MLAC					Sb		**Sb**	**21 14 45.2 +1.0**
	baz=204								
MLAC	**Mammoth, Mammo**	**1.96**	**24**				**Pn**	**21 14 19.0 +1.8**
MCSM	**Casa Diablo Ho**	**1.96**	**22**				**Pn**	**21 14 18.9 +1.6**
MDRNC	**Doe Ridge**	**1.96**	**24**				**Pn**	**21 14 19.0 +1.7**
POCCA	**Poleta Canyon**	**1.96**	**39**				**Pn**	**21 14 19.2 +1.9**
MDCM	**Deadman Creek**	**1.97**	**18**				**Pn**	**21 14 18.7 +1.2**
MLHM	**Little Hot Cre**	**2.01**	**23**				**Pb**	**21 14 20.1 -0.7**
JLAB	**Laurel Hill**	**2.02**	**311**				**Pn**	**21 14 17.1 -0.9**
ORC	**Owens River**	**2.02**	**27**				**Pn**	**21 14 19.9 +1.7**
MCDM	**Chidago Canyon**	**2.04**	**33**				**Pb**	**21 14 20.7 -0.5**
JNH	**Juniper Hills**	**2.07**	**132**				**Pn**	**21 14 19.5 +0.9**
MHC	**Mount Hamilton**	**2.10**	**316**				**Pn**	**21 14 18.3 -0.7**
CMMM	**Mount Mocho**	**2.10**	**321**				**Pn**	**21 14 19.4 +0.4**
MRCM	**Red Rock Canyo**	**2.12**	**30**				**Pb**	**21 14 21.7 -0.9**
BENR	**Benton**	**2.13**	**28**				**Pn**	**21 14 21.5 +1.9**
JUMM	**Mount Umunhum**	**2.13**	**309**				**Pn**	**21 14 18.6 -0.9**
PASC	**Pasadena Art C**	**2.14**	**141**		Pn		**Pn**	**21 14 19.9 +0.3**
MWC	**Mount Wilson**	**2.17**	**138**				**Pn**	**21 14 20.2 +0.1**
MGNR	**McGee Canyon**	**2.17**	**24**				**Pb**	**21 14 22.9 -0.6**
XTL	**Crystal Lake,**	**2.23**	**133**				**Pn**	**21 14 21.3 +0.4**
MCUB	**Copperopolis B**	**2.23**	**344**				**Pn**	**21 14 21.1 +0.3**
CMB	**Columbia Colle**	**2.24**	**349**				**Pn**	**21 14 22.3 +1.3**
LUL	**Lundy Lake**	**2.27**	**13**				**Pn**	**21 14 23.6 +2.0**
SSK	**Sunset Peak**	**2.39**	**132**				**Pn**	**21 14 23.5 +0.4**
BFSC	**Mount Baldy Ra**	**2.39**	**131**		P		**Pn**	**21 14 23.6 +0.5**
	baz=313								
BFSC					S		**Sn**	**21 14 52.0 0.0**
	baz=313								
BONR	**Boundary Peak**	**2.44**	**30**				**Pn**	**21 14 26.0 +2.1**
HCK	**Huntoon Valley**	**2.44**	**23**				**Pn**	**21 14 25.3 +1.6**
FURC	**Furnace Creek,**	**2.48**	**74**		Sb		**Sb**	**21 15 01.7 +2.9**
	baz=256								
GSC	**Goldstone, Bar**	**2.52**	**101**		P		**Pn**	**21 14 25.8 +0.9**
	baz=283,SNR=13								
GSC					S		**Sn**	**21 14 57.1 +1.9**
	baz=283								
GSC	**Goldstone, Bar**	**2.52**	**101**				**Pn**	**21 14 25.9 +1.1**
WAKR	**Walker**	**2.68**	**7**				**Pn**	**21 14 30.3 +3.1**
SHOC	**Shoshone, Teco**	**2.88**	**88**		P		**Pn**	**21 14 30.5 +0.8**
	baz=270								
SHOC					S		**Sn**	**21 15 06.0 +2.0**
	baz=270								
RYN	**Ryan**	**2.97**	**20**		Pn		**Pn**	**21 14 31.4 +0.3**
HEC	**Hector,Ludlow**	**3.02**	**108**		P		**Pn**	**21 14 31.4 -0.4**
	baz=291								
HEC					S		**Sn**	**21 15 09.4 +1.8**
	baz=291								
TPNV	**Topopah Spring**	**3.09**	**68**		P		**Pn**	**21 14 34.3 +1.5**
	baz=250,SNR=11								
TPNV	**Topopah Spring**	**3.09**	**68**		Pn		**Pn**	**21 14 33.5 +0.7**
TUQ	**Turquoise Moun**	**3.20**	**96**		S		**Sn**	**21 15 12.9 +0.8**
	baz=278								
AFDM	**Forest Hills D**	**3.24**	**344**				**Pn**	**21 14 35.3 +0.7**
NOLM	**Olema**	**3.24**	**314**				**Pb**	**21 14 40.4 -1.2**
PNTR	**Pine Nut**	**3.25**	**3**		Pn		**Pn**	**21 14 35.7 +0.7**
KVN	**Kaiserville**	**3.49**	**23**		Pn		**Pn**	**21 14 38.2 0.0**
PFO	**Pinyon Flats O**	**3.55**	**128**		Pn		**Pn**	**21 14 39.4 +0.3**
GMRC	**Granite Mounta**	**3.56**	**106**		S		**Sn**	**21 15 20.8 -0.3**
	baz=288								
SHPR	**Sheep Range**	**3.83**	**79**		Pn		**Pn**	**21 14 43.4 +0.4**
PAHR	**Pah Rah Range**	**3.88**	**5**				**Pn**	**21 14 44.1 +0.5**
GGUM	**Gualala**	**4.20**	**317**				**Pn**	**21 14 47.3 -0.6**
R11A	**Troy Canyon, C**	**4.21**	**52**		Pb		**Pb**	**21 14 59.7 +1.3**
	baz=235								
R11A					Sb		**Sg**	**21 15 55.1 -4.8**
	baz=235								
R11A	**Troy Canyon, C**	**4.21**	**52**		Pn		**Pn**	**21 14 47.5 -0.8**
O03E	**Paynes Creek**	**4.71**	**341**		Sb		**Sb**	**21 16 07.6 +4.2**
	baz=160								
PSUT	**Pine Spring**	**5.47**	**59**		Pn		**Pn**	**21 15 05.3 -0.2**

NEIC ***03*** *21:13:58.3±1.4, 7.˚10N±0.˚10×124.˚1E±0.˚1, h562km±7km, mb4.3/44, Error ellipse: s-maj=16.8km s-min=13.0km az=61.0*

IDC ***03*** *21:13:58.6±1.4, 7.˚11N×124.˚19E, h564km±17km, mb3.3/14, mb1 3.5/17, mb1mx3.2/50, mbtmp4.4/17, Error ellipse: s-maj=31.3km s-min=8.6km az=73.0*

DJA ***03*** *21:14:01.2±1.0, 7.˚N±11.˚×12.˚4E±.˚, h547km±6km, M4.5/24, mb4.3/24, mB4.9/7, MLv4.7/8, Mw(mB)4.2/7*

ISC 03 21:13:57.5±0.4, 7.˚14N±0.˚06×124.˚18E±0.˚09, h550km, n93, σ0s89/99, mb4.2/36, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.91**	**98**	||P	**P**	**21 15 04.7 +1.0**
MYLDM	**Lahad Datu**	**5.97**	**251**	P	**P**	**21 15 37.1 +1.2**
KMSI	**Cibinong**	**6.52**	**182**	P	**P**	**21 15 42.3 +1.2**
	0.4nm3µm42nm,0.5s						
GTOI	**Gorontalo**	**6.56**	**190**	P	**P**	**21 15 39.6 -1.8**
	0.1nm18nm,0.7s						
TNTI	**Ternate**	**7.08**	**153**	P	**P**	**21 15 48.7 +2.4**
	0.5nm32nm,0.5s						
TNTI	**Ternate**	**7.08**	**153**	P	**P**	**21 15 47.5 +1.2**
TNTI					**S**	**21 17 16.5 +1.2**
KKM	**Kota Kinabalu**	**7.99**	**263**	P	**P**	**21 15 56.3 +0.9**
MPSI	**Mapaga**	**7.99**	**212**	P	**P**	**21 15 55.3 0.0**
	0.2nm1µm31nm,0.8s						
LUWI	**Luwuk**	**8.24**	**190**	P	**P**	**21 15 58.6 +0.8**
LUWI	**Luwuk**	**8.24**	**190**	P	**P**	**21 15 58.3 +0.6**
LUWI					**S**	**21 17 37.8 +1.4**
SANI	**Sanana**	**9.30**	**169**	P	**P**	**21 16 07.1 -1.3**
	73nm,0.9s						
SIJI	**Sorong**	**10.64**	**138**	P	**P**	**21 16 23.1 +0.9**
	1.6nm,0.3s,baz=344,slow=7.4,SNR=6.4						
NLAI	**Namlea**	**10.71**	**164**	P	**P**	**21 16 24.6 +1.7**
	48nm,0.6s						
BKB	**Balikpapan**	**11.06**	**221**	P	**P**	**21 16 24.6 -1.9**
SPSI	**Sidrap Palu**	**11.87**	**202**	P	**P**	**21 16 34.3 -0.6**
	73nm,0.9s						
BNSI	**Bone**	**12.16**	**200**	P	**P**	**21 16 39.1 +1.3**
	72nm,0.9s						
MTKI	**Muara Teweh, K**	**12.26**	**229**	P	**P**	**21 16 38.3 -0.5**
	23nm,0.5s						
SBUM	**Sibu**	**12.79**	**249**	P	**P**	**21 16 44.7 +0.4**
FAKI	**Fak Fak**	**12.83**	**141**	P	**P**	**21 16 43.6 -1.2**
FAKI	**Fak Fak**	**12.83**	**141**	P	**P**	**21 16 46.1 +1.3**
KAPI	**Kappang**	**12.85**	**200**	P	**P**	**21 16 45.7 +0.7**
	0.5nm,0.3s,baz=12,slow=12,SNR=5.9						
KAPI	**Kappang**	**12.85**	**200**	P	**P**	**21 16 45.1 +0.1**
KBKI	**Kotabaru**	**13.09**	**218**	P	**P**	**21 16 47.2 -0.3**
BBKI	**Banjar Baru**	**14.06**	**222**	P	**P**	**21 16 55.9 -1.6**
	1µm15nm,2.0s						
KSM	**Kuching**	**14.93**	**248**	P	**P**	**21 17 06.0 -0.4**
MMRI	**Maumere**	**15.79**	**187**	P	**P**	**21 17 16.3 +1.2**
	44nm,0.7s						
TWG	**Pinlang**	**15.88**	**349**	P	**P**	**21 17 14.4 -1.4**
TPUB	**Ta-pu**	**16.43**	**348**	P	**P**	**21 17 20.9 -0.3**
SOEI	**Soe**	**16.78**	**180**	P	**P**	**21 17 24.7 +0.2**
SSLB	**Suanglung**	**16.84**	**350**	P	**P**	**21 17 25.0 +0.2**
SSLB				IAmb	IAmb	21 17 25.9	
	comp=Z,6.0nm,0.7s						
PLAI	**Plampang**	**17.09**	**202**	P	**P**	**21 17 27.4 +0.2**
	comp=Z,2µmcomp=Z,175nm,0.7s						
BATI	**Baumata**	**17.24**	**182**	P	**P**	**21 17 28.3 -0.3**
	comp=Z,16nm,0.3s,baz=42,slow=4.1,SNR=15						
BATI	**Baumata**	**17.24**	**182**	P	**P**	**21 17 27.6 -1.0**
	comp=Z,40nm,0.7s						
WBSI	**Waikabubak, Su**	**17.34**	**196**	P	**P**	**21 17 28.3 -1.2**
	comp=Z,28nm,0.6s						
TWSI	**Taliwang, Sumb**	**17.37**	**205**	P	**P**	**21 17 30.1 +0.4**
	comp=Z,26nm,0.9s						
YHNB	**Yeheng**	**17.64**	**352**	P	**P**	**21 17 32.2 0.0**
JAGI	**Jagaj, Banyuwa**	**18.45**	**213**	P	**P**	**21 17 40.0 +0.3**
WOJI	**Wonogiri, Jawa**	**19.90**	**222**	P	**P**	**21 17 54.2 +1.4**
MTN	**Manton Dam**	**21.02**	**161**	P	**P**	**21 18 02.9 0.0**
MTN				IAmb	IAmb	21 18 09.2	
	comp=Z,12nm,1.1s						
KNRA	**Kununurra**	**23.12**	**169**	P	**P**	**21 18 21.0 -0.7**
PBKT	**Sadao Pong**	**24.55**	**295**	P	**P**	**21 18 34.9 +0.4**
FITZ	**Fitzroy Crossi**	**25.12**	**177**	P	**P**	**21 18 39.2 -0.2**
	comp=Z,1.9nm,0.4s,baz=348,slow=6.4,SNR=24						
FITZ	**Fitzroy Crossi**	**25.12**	**177**	P	**P**	**21 18 39.1 -0.2**
GSI	**Gunungsitoli**	**27.14**	**259**	P	**P**	**21 18 57.1 -0.4**
CHTO	**Chiang Mai**	**27.15**	**298**	P	**P**	**21 18 57.8 +0.5**
KMI	**Kunming**	**27.20**	**314**	P	**P**	**21 18 57.7 -0.2**
COEN	**Coen**	**28.19**	**138**	P	**P**	**21 19 06.2 -0.3**
COEN				IAmb	IAmb	21 19 18.2	
	comp=Z,6.5nm,1.1s						
WB0	**Warramunga Arr**	**28.56**	**160**	P	**P**	**21 19 09.3 -0.4**
WB0				IAmb	IAmb	21 19 09.6	
	comp=Z,3.7nm,0.5s						
WRA	**Warramunga Arr**	**28.71**	**160**	P	**P**	**21 19 10.7 -0.3**
	comp=Z,2.7nm,0.4s,baz=330,slow=11,SNR=87						
WRA				ScP	**ScP**	**21 24 52.9 -0.4**
	comp=Z,1.7nm,0.5s,baz=342,slow=3.2,SNR=8.7						
WB2	**Warramunga Arr**	**28.71**	**160**	P	**P**	**21 19 10.8 -0.2**
WB2				IAmb	IAmb	21 19 11.7	
	comp=Z,7.8nm,1.1s						
PSAD1	**Pilbara Seismi**	**28.73**	**188**	P	**P**	**21 19 10.0 -1.1**
PSAD1				IAmb	IAmb	21 19 21.9	
	comp=Z,15nm,1.1s						
WC3	**Warramunga Arr**	**28.73**	**160**	P	**P**	**21 19 10.6 -0.6**
WC3				IAmb	IAmb	21 19 11.3	
	comp=Z,6.0nm,0.6s						
WR0	**Warramunga Arr**	**28.79**	**159**	P	**P**	**21 19 11.1 -0.6**
PSAC2	**Pilbara Seismi**	**28.83**	**188**	P	**P**	**21 19 11.2 -0.8**
PSAC2				IAmb	IAmb	21 19 27.1	
	comp=Z,14nm,1.1s						
PSAA3	**Pilbara Seismi**	**28.85**	**188**	P	**P**	**21 19 11.2 -0.9**
PSAA3				IAmb	IAmb	21 19 22.9	
	comp=Z,12nm,1.0s						
PSAB3	**Pilbara Seismi**	**28.86**	**188**	P	**P**	**21 19 11.3 -0.9**
PSAB3				IAmb	IAmb	21 19 11.8	
	comp=Z,5.3nm,0.8s						
GIRL	**Giralia**	**31.16**	**198**	P	**P**	**21 19 32.5 +0.5**
AS31	**Alice Springs**	**32.05**	**163**	P	**P**	**21 19 40.3 +0.6**
AS31				IAmb	IAmb	21 19 40.7	
	comp=Z,4.3nm,0.3s						
ASAR	**Alice Springs**	**32.06**	**163**	P	**P**	**21 19 40.2 +0.5**
	comp=Z,5.4nm,0.3s,baz=339,slow=7.0,SNR=292						
ASAR				S	**S**	**21 24 11.1 -2.3**	
	comp=Z,0.6nm,0.6s,baz=333,slow=11,SNR=3.0						
ASAR				ScP	**ScP**	**21 25 03.5 -0.8**	
	comp=Z,0.8nm,0.9s,baz=341,slow=3.1,SNR=2.6						
SHL	**Shillong**	**35.84**	**305**	P	**P**	**21 20 12.0 +0.3**
MORW	**Morawa**	**36.84**	**192**	P	**P**	**21 20 18.9 -0.6**
MORW				IAmb	IAmb	21 20 19.9	
	comp=Z,15nm,1.1s						
FORT	**Forrest**	**37.88**	**175**	P	**P**	**21 20 27.7 -0.4**
GTA	**Gaotai**	**38.89**	**329**	*eP*	**P**	**21 20 37.4 +1.1**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NWAO	**Narrogin (SRO)**	**40.39**	**189**	P	**P**	**21 20 48.4 +0.2**
NWAO				IAmb	IAmb	21 21 02.5	
	comp=Z,9.9nm,0.9s						
BBOO	**Buckleboo**	**41.30**	**165**	P	**P**	**21 20 55.9 +0.4**
BBOO				IAmb	IAmb	21 20 56.7	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**42.21**	**158**	P	**P**	**21 21 03.2 +0.5**
	comp=Z,1.5nm,0.4s,baz=337,slow=7.4,SNR=11						
STKA	**Stephens Creek**	**42.21**	**158**	P	**P**	**21 21 02.5 -0.1**
KLR	**Kul'dur**	**42.43**	**7**	P	**P**	**21 21 04.2 +0.1**
	comp=Z,0.8nm,0.4s,baz=191,slow=5.0,SNR=4.4						
SONM	**Songino Array**	**43.29**	**343**	P	**P**	**21 21 11.9 +0.8**
	comp=Z,0.8nm,0.8s,baz=138,slow=7.8,SNR=5.9						
MK31	**Makanchi Array**	**53.33**	**325**	P	**P**	**21 22 25.8 +0.2**
MKAR	**Makanchi Array**	**53.33**	**325**	P	**P**	**21 22 26.3 +0.7**
	comp=Z,6.0nm,0.5s,baz=119,slow=7.6,SNR=74						
MKAR				PcP	**PcP**	**21 23 23.5 -0.7**	
	comp=Z,1.0nm,0.5s,baz=110,slow=4.9,SNR=4.0						
MAKZ	**Makanchi**	**53.51**	**325**	P	**P**	**21 22 27.5 +0.6**
KDJ	**Kajisay**	**54.13**	**318**	P	**P**	**21 22 32.5 +0.9**
KDJ				IAmb	IAmb	21 22 33.3	
	comp=Z,6.8nm,0.5s						
ZALV	**Zalesovo Beam**	**56.42**	**333**	P	**P**	**21 22 46.1 -0.9**
	comp=Z,1.1nm,0.5s,baz=132,slow=8.0,SNR=1.3						
ARSB	**Arslanbob**	**56.66**	**315**	P	**P**	**21 22 49.5 +0.3**
KURK	**Kurchatov**	**57.52**	**327**	P	**P**	**21 22 54.5 -0.1**
KURK				IAmb	IAmb	21 22 55.8	
	comp=Z,9.2nm,0.6s						
BTK	**Batken**	**57.75**	**313**	P	**P**	**21 22 56.7 +0.3**
GAR	**Garm**	**57.77**	**312**	P	**P**	**21 22 56.2 -0.5**
GAR				IAmb	IAmb	21 22 57.8	
	comp=Z,14nm,1.0s						
KK31	**Karatay Array**	**59.03**	**317**	P	**P**	**21 23 04.7 -0.3**
KKAR	**Karatay Array**	**59.03**	**317**	P	**P**	**21 23 04.7 -0.2**
BRVK	**Borovoye**	**63.17**	**327**	P	**P**	**21 23 31.7 -0.1**
BRVK				IAmb	IAmb	21 23 33.0	
	comp=Z,5.6nm,0.8s						
NRIK	**Noril'sk**	**66.54**	**347**	P	**P**	**21 23 53.1 +0.3**
	comp=Z,3.6nm,0.5s,baz=118,slow=6.4,SNR=5.3						
BKZ	**Black Stump Fm**	**66.80**	**138**	P	**P**	**21 23 55.8 +0.9**
BKZ				IAmb	IAmb	21 24 03.1	
	comp=Z,13nm,1.0s						
GEYT	**Alibeck**	**66.80**	**308**	P	**P**	**21 23 56.2 +1.1**
	comp=Z,0.5nm,0.4s,baz=113,slow=3.7,SNR=3.3						
UOSS	**Minazif**	**67.07**	**294**	P	**P**	**21 23 56.0 -1.0**
UOSS				IAmb	IAmb	21 23 57.0	
	comp=Z,7.9nm,1.1s						
BPAW	**Bear Paw Mtn.**	**81.37**	**26**	P	**P**	**21 25 16.9 +0.1**
BPAW				IAmb	IAmb	21 25 19.0	
	comp=Z,6.2nm,0.8s						
MCK	**McKinley**	**82.27**	**27**	P	**P**	**21 25 21.1 -0.3**
MCK				IAmb	IAmb	21 25 22.9	
	comp=Z,8.6nm,0.7s						
ILAR	**Eielson Array**	**83.14**	**26**	P	**P**	**21 25 25.5 -0.2**
	comp=Z,0.5nm,0.5s,baz=246,slow=4.9,SNR=5.9						
ARCES	**ARCESS Array B**	**86.39**	**340**	P	**P**	**21 25 40.6 -0.9**
	comp=Z,0.6nm,0.4s,baz=87,slow=5.7,SNR=14						
FINES	**FINESS Array B**	**87.65**	**332**	P	**P**	**21 25 46.5 -0.9**
	comp=Z,1.8nm,0.6s,baz=60,slow=5.7,SNR=22						
NB2	**NORSAR Subarra**	**94.62**	**333**	P	**P**	**21 26 18.2 -1.5**
	comp=Z,0.4nm,0.6s,baz=65,slow=4.4						
NOA	**NORSAR Array B**	**94.62**	**333**	P	**P**	**21 26 18.2 -1.5**
	comp=Z,0.5nm,0.6s,baz=65,slow=4.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**119.42**	**289**	PKP	**PKPdf**	**21 31 44.5 -1.3**
	comp=Z,0.3nm,0.4s,baz=63,slow=2.0,SNR=10						

BJI ***03*** *21:45:04.3±0.0, 2.˚03N×99.˚04E, h146km, mB4.8/20, mb4.6/32*

NEIC ***03*** *21:45:07.2±1.4, 2.˚39N±0.˚05×98.˚96E±0.˚06, h140km±3km, mb4.4/42, Error ellipse: s-maj=8.1km s-min=7.1km az=96.0*

IDC ***03*** *21:45:07.5±0.6, 2.˚37N×99.˚07E, h136km±4km, mb3.9/26, mb1 4.0/28, mb1mx3.9/49, mbtmp4.3/28, MS4.3/3, Ms1 4.3/3, ms1mx3.3/63, Error ellipse: s-maj=13.1km s-min=9.2km az=48.0*

DJA ***03*** *21:45:08.4±0.2, 2.˚N±2.˚×9.˚9E±.˚, h137km±2km, M4.3/19, mb4.5/19, mB5.4/2, MLv4.2/15, Mw(mB)4.8/2*

KLM ***03*** *21:45:09.0, 2.˚38N×98.˚90E, h136km, mb4.5*

ISC 03 21:45:08.1±0.3, 2.˚37N±0.˚04×98.˚95E±0.˚04, h150km, n128, σ1s39/137, mb4.3/56, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPSI	**Rantau Prapat**	**0.32**	**356**	Pn	**Pn**	**21 45 27.7**	**-1.0**
RPSI				Sn	**Sn**	**21 45 41.7**	**-2.8**
TSI	**Tuntungan**	**1.19**	**341**	P	**Pn**	**21 45 34.9**	**+0.3**
MNSI	**Mandailing Nat**	**1.69**	**158**	P	**Pn**	**21 45 39.7**	**0.0**
GSI	**Gunungsitoli**	**1.73**	**232**	P	**Pn**	**21 45 40.0**	**-0.2**
GSI	**Gunungsitoli**	**1.73**	**232**	Pn	**Pn**	**21 45 39.8**	**-0.4**
GSI				Sn	**Sn**	**21 46 03.0**	**-1.8**
BKNI	**Bangkinang**	**2.91**	**134**	P	**Pn**	**21 45 54.6**	**+0.2**
BKNI	**Bangkinang**	**2.91**	**134**	Pn	**Pn**	**21 45 54.3**	**-0.1**
IPM	**Ipoh**	**2.95**	**45**	Pn	**Pn**	**21 45 54.2**	**-0.6**
IPM				Sn	**Sn**	**21 46 31.4**	**+0.4**
IPM	**Ipoh**	**2.95**	**45**	P	**Pn**	**21 45 56.0**	**+1.2**
MLSI	**Meulaboh, Aceh**	**3.16**	**307**	P	**Pn**	**21 45 57.6**	**+0.1**
KULM	**Kulim**	**3.36**	**30**	Pn	**Pn**	**21 45 59.2**	**-0.8**
KULM				Sn	**Sn**	**21 46 38.3**	**-2.1**
KULM	**Kulim**	**3.36**	**30**	P	**Pn**	**21 46 00.0**	**-0.1**
LHMI	**Lhok Sumawe**	**3.47**	**325**	P	**Pn**	**21 46 02.1**	**+0.6**
LHMI	**Lhok Sumawe**	**3.47**	**325**	Pn	**Pn**	**21 46 00.7**	**-0.8**
LHMI				Sn	**Sn**	**21 46 42.4**	**-0.6**
SISI	**Saibi**	**3.67**	**178**	P	**Pn**	**21 46 04.3**	**+0.2**
SDSI	**Sungai Dareh**	**4.11**	**143**	P	**Pn**	**21 46 10.2**	**+0.4**
KRJI	**Kerinci**	**5.09**	**150**	P	**Pn**	**21 46 24.4**	**+1.5**
	0.8nm82nm,1.0s						
KSI	**Kapahiang**	**7.00**	**149**	P	**Pn**	**21 46 48.0**	**-0.3**
	0.6nm4µm31nm,0.9s						
LHSI	**Lahat**	**7.67**	**143**	P	**Pn**	**21 46 57.0**	**-0.1**
	0.4nm36nm,0.8s						
MDSI	**Maura Dua**	**8.58**	**142**	P	**Pn**	**21 47 07.3**	**-2.0**
	9.2nm,1.0s						
SBUM	**Sibu**	**13.26**	**89**	Pn	**Pn**	**21 48 09.7**	**-1.1**
SBUM	**Sibu**	**13.26**	**89**	P	**P**	**21 48 13.0**	**-2.1**
PBKT	**Sadao Pong**	**14.25**	**8**	Pn	**Pn**	**21 48 23.3**	**+0.1**
CM31	**Chiang Mai Arr**	**15.99**	**360**	P	**Pn**	**21 48 44.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**15.99**	**360**	P	**P**	**21 48 46.7**	**+1.4**
	1.5nm,0.3s,baz=190,slow=10,SNR=29						
CMAR				ScP	**ScP**	**21 56 54.5**	**+1.4**
	0.1nm,0.3s,baz=214,slow=2.9,SNR=7.8						
CHTO	**Chiang Mai**	**16.34**	**360**			**Pn**	**21 48 48.4**	**-0.7**
BBKI	**Banjar Baru**	**16.91**	**110**	P		**Pn**	**21 48 57.6**	**+1.6**
KKM	**Kota Kinabalu**	**17.60**	**77**	P		**Pn**	**21 49 02.0**	**-1.2**
PALK	**Pallekele**	**18.82**	**286**	P		**Pn**	**21 49 19.1**	**+0.4**
	0.5nm,0.3s,baz=211,slow=9.6,SNR=4.1						
PALK				S		**S**	**21 52 35.6**	**-7.2**
	0.3nm,0.3s,baz=308,slow=19,SNR=1.4						
PALK	**Pallekele**	**18.82**	**286**	P		**P**	**21 49 16.0**	**-0.5**
PALK				IAmb	IAmb	21 49 24.7	
	comp=Z,16nm,1.1s						
SLVN	**Son La**	**19.46**	**14**	P		**P**	**21 49 22.3**	**-1.1**
SLVN				IAmb	IAmb	21 49 25.6	
	comp=Z,17nm,0.9s						
MYLDM	**Lahad Datu**	**19.71**	**81**	P		**P**	**21 49 26.0**	**0.0**
MPSI	**Mapaga**	**21.04**	**95**	P		**P**	**21 49 41.8**	**+1.4**
	comp=Z,10.0nm,0.8s						
KAPI	**Kappang**	**22.04**	**109**	P		**P**	**21 49 51.0**	**+0.1**
	comp=Z,17nm,0.7s,baz=274,slow=9.0,SNR=7.5						
KAPI	**Kappang**	**22.04**	**109**	P		**P**	**21 49 50.5**	**-0.4**
BNSI	**Bone**	**22.19**	**108**	P		**P**	**21 49 53.9**	**+1.5**
	comp=Z,70nm,1.5s						
WBSI	**Waikabubak, Su**	**23.60**	**121**	P		**P**	**21 50 01.6**	**-4.0**
SHL	**Shillong**	**24.05**	**344**	P		**P**	**21 50 09.5**	**-0.1**
SHL				IAmb	IAmb	21 50 12.2	

MK31	**Makanchi Array**	**46.57**	**344**	P	**P**	**21 53 21.2**	**+0.4**
MK31				IAmb	IAmb	21 53 22.2		
	comp=Z,4.1nm,0.7s							
MKAR	**Makanchi Array**	**46.57**	**344**	P	**P**	**21 53 21.8**	**+1.0**
	comp=Z,6.3nm,0.7s,baz=156,slow=8.6,SNR=68							
MAKZ	**Makanchi**	**46.66**	**344**	P	**P**	**21 53 21.1**	**-0.4**
MAKZ				IAmb	IAmb	21 53 23.2		
	comp=Z,5.2nm,0.7s							
COEN	**Coen**	**46.74**	**112**	P	**P**	**21 53 21.7**	**-0.9**
COEN				IAmb	IAmb	21 53 22.3		
	comp=Z,13nm,1.1s							
KK31	**Karatay Array**	**47.82**	**332**	P	**P**	**21 53 30.4**	**-0.1**
KKAR	**Karatay Array**	**47.82**	**332**	P	**P**	**21 53 30.4**	**-0.1**
BBOO	**Buckleboo**	**49.54**	**138**	P	**P**	**21 53 43.6**	**-0.2**
BBOO				IAmb	IAmb	21 54 03.5		
	comp=Z,5.0nm,0.9s							
MJAR	**Matsushiro Arr**	**49.66**	**42**	P	**P**	**21 53 44.5**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=226,slow=6.8,SNR=7.1							
USRK	**Ussuriysk Ar.**	**50.88**	**30**	P	**P**	**21 53 54.3**	**+0.6**
	comp=Z,3.7nm,0.8s,baz=236,slow=11,SNR=7.5							
KURBB	**Kurchatov Arra**	**51.09**	**343**	P	**P**	**21 53 55.7**	**+0.6**
	comp=Z,5.5nm,0.7s,baz=166,slow=7.2,SNR=32							
KURK	**Kurchatov**	**51.15**	**344**	P	**P**	**21 53 56.2**	**+0.6**
KURK				IAmb	IAmb	21 53 57.6		
	comp=Z,7.9nm,0.8s							
GEYT	**Alibeck**	**51.47**	**319**	P	**P**	**21 53 58.8**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=101,slow=7.6,SNR=3.0							
GEYT				pP	**pP**	**21 54 29.6**	**-3.3**
	comp=Z,1.9nm,0.7s,baz=156,slow=8.0,SNR=3.6							
ZAA0	**Zalesovo Array**	**52.71**	**350**	P	**P**	**21 54 07.3**	**+0.2**
ZALV	**Zalesovo Beam**	**52.71**	**350**	P	**P**	**21 54 07.8**	**+0.8**
	comp=Z,7.0nm,0.4s,baz=164,slow=6.9,SNR=44							
STKA	**Stephens Creek**	**52.87**	**134**	P	**P**	**21 54 08.4**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=303,slow=6.8,SNR=6.3							
STKA	**Stephens Creek**	**52.87**	**134**	P	**P**	**21 54 08.6**	**0.0**
KLR	**Kul'dur**	**54.44**	**26**	P	**P**	**21 54 20.6**	**+0.8**
	comp=Z,5.3nm,0.9s,baz=253,slow=8.8,SNR=15							
KLR				LR	LR	22 19 47.7		
	comp=Z,175nm,20.8s,baz=18,slow=38							
BRVK	**Borovoye**	**55.81**	**340**		**P**	**21 54 29.3**	**-0.3**
BRVK				IAmb	IAmb	21 54 30.5		
	comp=Z,3.4nm,0.6s							
KMBO	**Kilima Mbogo**	**61.78**	**267**	P	**P**	**21 55 15.4**	**+3.6**
	comp=Z,2.8nm,0.9s,baz=67,slow=8.4,SNR=7.7							
NRIK	**Noril'sk**	**67.29**	**356**	P	**P**	**21 55 46.9**	**+0.7**
	comp=Z,8.0nm,0.5s,baz=137,slow=4.6,SNR=15							
BRTR	**Keskin Array B**	**69.63**	**312**	P	**P**	**21 56 02.4**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=152,slow=4.7,SNR=3.6							
BRTR				pP	**pP**	**21 56 36.7**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=116,slow=5.6,SNR=3.9							
PETK	**Petropavlovsk-**	**69.80**	**33**	P	**P**	**21 56 03.1**	**+1.0**
	comp=Z,3.3nm,0.8s,baz=270,slow=1.5,SNR=4.0							
TIXI	**Tiksi**	**71.74**	**10**	P	**P**	**21 56 14.2**	**+0.7**
AKASG	**Malin Array Be**	**75.41**	**322**	P	**P**	**21 56 35.0**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=94,slow=4.4,SNR=3.1							
AKASG				pP	**pP**	**21 57 09.4**	**-3.3**
	comp=Z,1.3nm,0.6s,baz=88,slow=4.5,SNR=4.0							
BOSA	**Boshof**	**76.87**	**240**	P	**P**	**21 56 46.1**	**+1.8**
	comp=Z,2.9nm,0.7s,baz=91,slow=8.0,SNR=6.6							
BOSA	**Boshof**	**76.87**	**240**	P	**P**	**21 56 44.1**	**-0.1**
BOSA				IAmb	IAmb	21 56 46.7		
	comp=Z,8.9nm,1.0s							
BUR08	**Bucovina Ar. S**	**77.33**	**318**	P	**P**	**21 56 48.2**	**+1.8**
FINES	**FINESS Array B**	**79.78**	**332**	P	**P**	**21 57 00.4**	**+1.1**
	comp=Z,1.2nm,0.4s,baz=105,slow=5.6,SNR=24							
FINES				pP	**pP**	**21 57 35.0**	**-2.0**
	comp=Z,2.0nm,0.7s,baz=101,slow=8.0,SNR=3.4							
ARCES	**ARCESS Array B**	**82.03**	**340**	P	**P**	**21 57 12.3**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=94,slow=5.5,SNR=12							
AMKA	**Amchitka**	**82.13**	**39**	P	**P**	**21 57 10.7**	**-1.3**
SOKA	**Soboth**	**84.11**	**317**	epP	pP	21 57 58.6	-1.7
	comp=Z,4.6nm,1.2s							
GSTR	**Great Sitkin T**	**85.06**	**38**	P	**P**	**21 57 26.4**	**-0.6**
GERES	**GERESS Array B**	**85.09**	**319**	P	**P**	**21 57 28.7**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=91,slow=7.1,SNR=1.9							
GERES				pP	**pP**	**21 58 03.0**	**-2.2**
	comp=Z,0.8nm,0.8s,baz=93,slow=5.9,SNR=5.9							
CIMO	**Cimolais**	**85.88**	**316**	P	**P**	**21 57 30.7**	**-0.5**
WTTA	**Wattenberg**	**86.45**	**317**	epP	pP	21 58 09.4	-2.9
	comp=Z,2.8nm,0.8s							
NC405	**NORSAR Array S**	**86.60**	**331**	P	**P**	**21 57 34.8**	**+0.4**
NC602	**NORSAR Array S**	**86.68**	**331**	P	**P**	**21 57 35.6**	**+0.9**
NC602				IAmb	IAmb	21 57 39.0		
	comp=Z,2.8nm,0.8s							
NC303	**NORSAR Array S**	**86.77**	**331**	P	**P**	**21 57 35.6**	**+0.4**
NC303				IAmb	IAmb	21 57 42.1		
	comp=Z,7.4nm,1.1s							
NB201	**NORSAR Array S**	**86.80**	**331**	P	**P**	**21 57 37.3**	**+1.9**
MOTA	**Moosalm**	**86.81**	**317**	epP	pP	21 58 12.0	-2.1
	comp=Z,2.3nm,0.8s							
NB2	**NORSAR Subarra**	**86.84**	**331**	P	**P**	**21 57 36.5**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=95,slow=5.3							
NOA	**NORSAR Array B**	**86.84**	**331**	P	**P**	**21 57 36.2**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=93,slow=4.7,SNR=5.5							
NOA				pP	**pP**	**21 58 11.6**	**-2.1**
	comp=Z,1.3nm,0.8s,baz=93,slow=4.9,SNR=5.3							
KBS	**Kingsbay**	**87.11**	**349**	P	**P**	**21 57 40.0**	**+3.5**
KEST	**Kesra**	**88.31**	**306**	pP	pP	21 58 20.3	-1.4
	comp=Z,3.6nm,0.9s,baz=76,slow=8.3,SNR=3.2							
SDPT	**Sand Point**	**94.07**	**34**	P	**P**	**21 58 09.8**	**+0.4**
NVAR	**Mina Array Bea**	**126.81**	**36**	PKP	**PKiKP**	**22 03 56.6**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=75,slow=1.7,SNR=4.1							
NVAR				SKP		22 07 18.3		
	comp=Z,0.6nm,0.6s,baz=320,slow=1.3,SNR=3.5							
TXAR	**Lajitas Array**	**141.75**	**33**	PKhKP	PKPpre	22 04 19.2		
	comp=Z,0.5nm,0.8s,baz=281,slow=1.0,SNR=4.4							
TXAR				SKPbc	**SKiKP**	**22 07 47.9**	**0.0**	
	comp=Z,1.5nm,0.6s,baz=300,slow=0.7,SNR=16							
BDFB	**Brasilia**	**144.88**	**246**	PKP	PKPbc	22 04 27.9	-0.1	
	comp=Z,3.9nm,0.7s,baz=152,slow=6.7,SNR=7.0							
BDFB	**Brasilia**	**144.88**	**246**		PKPbc	22 04 27.5	-0.5	
CPUP	**Villa Florida**	**147.04**	**222**	PKPbc	**PKPbc**	**22 04 34.6**	**+0.6**	
	comp=Z,1.6nm,0.8s,baz=88,slow=4.5,SNR=3.3							
CPUP	**Villa Florida**	**147.04**	**222**		**PKPbc**	**22 04 33.7**	**-0.3**	
CFA	**Coronel Fontan**	**148.51**	**201**	PKPbc	**PKPbc**	**22 04 38.5**	**+0.6**	

VAO ***03*** *22:04:06.0±1.0, 4.°08S×81.°04W, h10km, mb4.7*
ARE ***03*** *22:04:06±2.2, 4.°01S±0.°08×81.°1W±0.°1, h37km±2km, ML5.3, mb4.5/73(NEIC), Error ellipse: s-maj=16.0km s-min=9.4km az=57.0*
NEIC ***03*** *22:04:11.2±1.9, 4.°02S±0.°09×80.°8W±0.°1, h38km±6km, Error ellipse: s-maj=21.4km s-min=10.5km az=63.0*
IDC ***03*** *22:04:13.8±2.6, 4.°00S×80.°77W, h55km±24km, mb3.9/17, mb1 4.1/21, mb1mx4.0/44, mbtmp4.3/21, ML4.2/4, MS4.1/6, Ms1 4.1/6, ms1mx3.7/35, Error ellipse: s-maj=22.3km s-min=13.0km az=54.0*

ISC 03 22:04:11.4±0.4, 4.00S±0.05×80.94W±0.07, h39km, n214, σ1§62/210, mb4.5/47, MS4.0/5, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.01**	**141**	P		**Pn**	**22 05 13.0**	**+2.3**
	22nm,0.3s,baz=351,slow=8.1,SNR=77							
ATAH				S		**Sn**	**22 05 58.5**	**+1.8**
	55nm,0.3s,baz=302,slow=22,SNR=10.0							
ATAH				LR		LR	22 06 53.2	
	comp=Z,3μm,18.3s,baz=285,slow=41							
PUAC	**Puerto Asis, P**	**6.28**	**44**	*e*P		**Pn**	**22 05 37.1**	**-4.5**
GCUF	**Volcan Galeras**	**6.31**	**35**	*e*P		**Pn**	**22 05 42.5**	**+0.1**
CRUC	**La Cruz**	**6.81**	**36**	*e*P		**Pn**	**22 05 48.9**	**-0.3**
BBAC	**Balboa, Cauca**	**7.03**	**32**	*e*P		**Pn**	**22 05 50.5**	**-1.4**
PTLC	**Puerto Leguiza**	**7.40**	**56**	*e*P		Pn	22 05 45.2	-12
GR1C	**Gorgona, Isla**	**7.49**	**22**	*e*P		**Pn**	**22 05 59.4**	**+1.3**
FLOC	**Florencia**	**7.66**	**44**	*e*P		**Pn**	**22 05 57.8**	**-2.7**
GARC	**Garzon, Huila**	**8.21**	**42**	*e*P		**Pn**	**22 06 04.2**	**-4.0**
MARP	**Paez Belalcaza**	**8.42**	**36**	*e*P		**Pn**	**22 06 09.8**	**-1.4**
NNA	**Nana**	**8.91**	**153**	P		**Pn**	**22 06 17.8**	**+0.1**
	2.3nm,0.3s,baz=332,slow=9.4,SNR=3.9							
NNA				S		**Sn**	**22 07 53.1**	**-3.8**
	2.3nm,0.3s,baz=239,slow=18,SNR=1.6							
NNA	**Nana**	**8.91**	**153**	Pn		**Pn**	**22 06 12.9**	**-4.8**
NNA						**Sn**	**22 07 56.3**	**-0.6**
CZSB	**Cruzeiro do Su**	**8.99**	**115**	*e*P		**Pn**	**22 06 17.7**	**-1.0**
YOTC	**Yotoco, Valle**	**9.16**	**30**	*e*P		**Pn**	**22 06 18.0**	**-3.2**
ORTC	**Ortega, Tolima**	**9.70**	**36**	*e*P		**Pn**	**22 06 24.1**	**-4.3**
PAYG	**Puerto Ayora**	**9.91**	**289**	Pn		Pn	22 06 23.5	-7.8
TOLC	**Tolima**	**10.21**	**33**	*e*P		**Pn**	**22 06 32.3**	**-3.4**
RREF	**El Recreo**	**10.46**	**32**	*e*P		**Pn**	**22 06 40.5**	**+1.1**
GUY2C	**Guyana, Caldas**	**10.72**	**31**	*e*P		**Pn**	**22 06 40.4**	**-2.4**
VILC	**Villavicencio,**	**10.83**	**42**	*e*P		Pn	22 06 54.9	+11
CBOC	**Ciudad Bolivar**	**10.96**	**27**	*e*P		**Pn**	**22 06 41.2**	**-4.7**
CHIC	**Chingaza**	**11.19**	**40**	*e*P		**Pn**	**22 06 45.2**	**-4.0**
NORC	**Norcasia**	**11.27**	**33**	*e*P		Pn	22 06 44.6	-5.4
DBBC	**Dabeiba**	**11.92**	**23**	*e*P		**Pn**	**22 06 59.7**	**+0.8**
RUSC	**La Rusia**	**12.57**	**39**	*e*P		**Pn**	**22 07 09.2**	**+1.0**
OCAC	**Ocana**	**14.34**	**32**	*e*P		Pn	22 07 25.6	-6.4
SMLC	**San Martn de**	**14.44**	**28**	*e*P		Pn	22 07 27.6	-5.6
SJCC	**San Jacinto, C**	**14.95**	**23**	*e*P		Pn	22 07 33.8	-6.3
ETMB	**Extrema**	**15.71**	**112**	*e*P		**Pn**	**22 07 46.7**	**-3.3**
SDV	**Santo Domingo**	**16.41**	**39**	P		**Pn**	**22 08 00.2**	**+1.1**
	4.9nm,0.3s,baz=219,slow=11,SNR=6.7							
ACON	**Acoyapa**	**16.41**	**345**	Pn		**Pn**	**22 07 59.2**	**+0.3**
LPAZ	**La Paz**	**17.53**	**135**	P		**Pn**	**22 08 12.9**	**-0.7**
	0.7nm,0.3s,baz=322,slow=6.9,SNR=16							
LPAZ	**La Paz**	**17.53**	**135**	*e*P		**Pn**	**22 08 13.8**	**+0.2**
LPAZ	**La Paz**	**17.53**	**135**			**Pn**	**22 08 12.4**	**-1.2**
LPAZ	**La Paz**	**17.53**	**135**	*e*P		**Pn**	**22 08 12.8**	**-0.8**
PB16	**IPOC Station P**	**18.11**	**143**	P		**Pn**	**22 08 20.1**	**-0.5**
SAML	**Samuel**	**18.31**	**106**	P		**P**	**22 08 21.1**	**-1.2**
MNMC	**Minye Minye**	**18.68**	**145**	P		**P**	**22 08 26.5**	**-0.2**
PSGCX	**Pisagua**	**18.75**	**147**	P		**Pn**	**22 08 28.0**	**0.0**
TGUH	**Tegucigalpa,Un**	**19.01**	**341**	P		**Pn**	**22 08 31.5**	**+0.4**
TGUH				IAmb		IAmb	22 08 50.8	
	comp=Z,11nm,0.5s							
PB11	**IPOC Station P**	**19.14**	**146**	P		**Pn**	**22 08 32.4**	**-0.3**
GO01	**Chusmiza**	**19.33**	**145**	P		**P**	**22 08 33.4**	**-0.6**
GO01				IAmb		IAmb	22 08 38.7	
	comp=Z,18nm,1.1s							
PB08	**IPOC Station P**	**19.73**	**145**	P		**P**	**22 08 36.5**	**-1.7**
PATCX	**Punta Patache**	**19.74**	**149**	P		**P**	**22 08 38.0**	**-0.1**
PATCX				IAmb		IAmb	22 08 45.2	
	comp=Z,35nm,1.0s							
HATO	**Hato, Curacao**	**20.00**	**36**	P		**P**	**22 08 39.6**	**-1.3**
MACA	**Manacapuru-AM**	**20.23**	**88**	*e*P		**P**	**22 08 42.8**	**-0.5**
MACA	**Manacapuru-AM**	**20.23**	**88**	*e*P		**P**	**22 08 42.3**	**-1.1**
PB01	**IPOC Station P**	**20.27**	**148**	P		**P**	**22 08 43.9**	**+0.1**
PB09	**IPOC Station P**	**21.02**	**148**	P		**P**	**22 08 52.1**	**+0.1**
PB09				IAmb		IAmb	22 08 58.3	
	comp=Z,25nm,1.0s							
PTGA	**Pitinga**	**21.20**	**82**	P		**P**	**22 08 52.7**	**-1.1**
	comp=Z,9.4nm,0.6s,baz=265,slow=11,SNR=12							
PTGA				S		**S**	**22 12 45.3**	**-2.3**
	comp=Z,3.3nm,0.8s,baz=311,slow=19,SNR=1.5							
PTGA				LR		LR	22 17 49.3	
	comp=Z,1μm,18.4s,baz=266,slow=39							
PTGA	**Pitinga**	**21.20**	**82**	P		**P**	**22 08 53.2**	**-0.6**
PTGA				IAmb		IAmb	22 08 58.9	
	comp=Z,13nm,0.6s							
PTGA	**Pitinga**	**21.20**	**82**	*e*P		**P**	**22 08 53.3**	**-0.6**
PTGA	**Pitinga**	**21.20**	**82**	*e*P		**P**	**22 08 53.2**	**-0.6**
LVC	**Limon Verde**	**21.86**	**149**	P		**P**	**22 09 02.9**	**+1.7**
	comp=Z,14nm,0.9s,baz=311,slow=6.0,SNR=8.2							
LVC	**Limon Verde**	**21.86**	**149**	P		**P**	**22 09 01.2**	**0.0**
LVC				IAmb		IAmb	22 09 04.2	
	comp=Z,29nm,1.1s							
VILB	**Vilhena**	**22.34**	**115**	*e*P		**P**	**22 09 05.8**	**-0.3**
VILB	**Vilhena**	**22.34**	**115**	*e*P		**P**	**22 09 05.7**	**-0.3**
SIV	**San Ignacio**	**22.87**	**123**	P		**P**	**22 09 10.4**	**-1.4**
	comp=Z,3.4nm,0.5s,baz=307,slow=9.3,SNR=19							
SIV				S		**S**	**22 13 17.9**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=329,slow=18,SNR=1.3							
GO02	**Mina Guanaco**	**23.70**	**154**	P		**P**	**22 09 20.8**	**+0.6**
GO02				IAmb		IAmb	22 09 23.7	
	comp=Z,12nm,0.8s							
AC01	**Pan de Azucar**	**24.15**	**157**	P		**P**	**22 09 24.8**	**+0.8**
AC01				IAmb		IAmb	22 09 30.4	
	comp=Z,22nm,1.1s							
PTLB	**Pontes e Lacer**	**24.28**	**119**	*e*P		**P**	**22 09 24.3**	**-0.9**
PTLB	**Pontes e Lacer**	**24.28**	**119**	*e*P		**P**	**22 09 24.1**	**-1.1**
GTBY	**Guantanamo Bay**	**24.46**	**13**	P		**P**	**22 09 26.6**	**-0.1**
TEIG	**Tepich**	**25.13**	**344**	P		**P**	**22 09 35.4**	**+2.6**
	comp=Z,4.1nm,0.6s,baz=139,slow=9.3,SNR=6.9							
TEIG				LR		LR	22 18 42.0	
	comp=Z,337nm,19.5s,baz=228,slow=34							
TEIG	**Tepich**	**25.13**	**344**	P		**P**	**22 09 32.9**	**+0.1**
TEIG				IAmb		IAmb	22 09 51.7	
	comp=Z,7.3nm,0.8s							
ITTB	**Itaituba**	**25.14**	**92**	*e*P		**P**	**22 09 32.8**	**-0.3**
DR12	**Loma Pena Alta**	**25.34**	**26**	P		**P**	**22 09 35.3**	**+0.4**
TOSP	**Speyside**	**25.36**	**53**	P		**P**	**22 09 34.9**	**-0.1**
NPGB	**Novo Progresso**	**25.64**	**98**	*e*P		**P**	**22 09 36.8**	**-0.8**
NPGB	**Novo Progresso**	**25.64**	**98**	*e*P		**P**	**22 09 36.8**	**-0.8**
NPGB				*e*S		**S**	**22 14 10.1**	**+6.6**
CRPR	**Cabo Rojo, PR**	**25.77**	**32**	P		**P**	**22 09 39.2**	**+0.5**
MLPR	**Magueyes Islan**	**25.77**	**32**	P		**P**	**22 09 39.2**	**+0.5**
CLDB	**Colider**	**25.83**	**107**	*e*P		**P**	**22 09 38.0**	**-1.3**
CLDB	**Colider**	**25.83**	**107**	*e*P		**P**	**22 09 37.1**	**-2.2**
CLDB				*e*S		**S**	**22 14 12.3**	**+5.7**
HUMP	**Col San Antoni**	**26.56**	**34**	P		**P**	**22 09 46.4**	**+0.6**
GCPR	**Guaynabo City**	**26.57**	**33**	P		**P**	**22 09 46.8**	**+0.9**
CBYP	**Canovanas**	**26.66**	**33**	P		**P**	**22 09 47.6**	**+0.8**
MTP	**Monte Pirata**	**26.69**	**34**	P		**P**	**22 09 48.2**	**+1.2**
MALB	**Monte Alegre**	**26.72**	**86**	*e*P		**P**	**22 09 46.5**	**-0.9**
MALB	**Monte Alegre**	**26.72**	**86**	*e*P		**P**	**22 09 46.0**	**-1.4**
MALB				*e*S		**S**	**22 14 25.0**	**+4.3**
SALV	**Santo Antonio**	**27.49**	**117**	*e*P		**P**	**22 09 52.5**	**-1.8**
SALV	**Santo Antonio**	**27.49**	**117**	*e*P		**P**	**22 09 54.5**	**+0.3**
MCPB	**Macapa, AP**	**29.08**	**84**	*e*P		**P**	**22 10 08.5**	**0.0**
MCPB	**Macapa, AP**	**29.08**	**84**	*e*P		**P**	**22 10 06.2**	**-2.3**
MCPB				*e*S		**S**	**22 15 02.0**	**+4.1**
MDP	**Montagnes des**	**29.67**	**72**	P		**P**	**22 10 13.4**	**-0.3**
	comp=Z,4.3nm,0.7s,baz=240,slow=7.8,SNR=4.3							
CFA	**Coronel Fontan**	**29.95**	**158**	P		**P**	**22 10 16.2**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=330,slow=8.4,SNR=5.2							
ARAG	**Araguaiana, MT**	**30.91**	**114**	*e*P		**P**	**22 10 24.0**	**-0.6**
ARAG	**Araguaiana, MT**	**30.91**	**114**	*e*P		**P**	**22 10 23.8**	**-0.8**
CPUP	**Villa Florida**	**31.69**	**137**	P		**P**	**22 10 31.0**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=311,slow=12,SNR=3.5							
CPUP	**Villa Florida**	**31.69**	**137**	*e*P		**P**	**22 10 30.9**	**-0.4**
TRCB	**Terra Rica**	**33.15**	**127**	*e*P		**P**	**22 10 44.2**	**-0.1**
PEXB	**Peixe**	**33.27**	**106**	*e*P		**P**	**22 10 44.3**	**-1.1**
SMTB	**Santa Maria do**	**33.47**	**100**	*e*P		**P**	**22 10 46.0**	**-1.2**
ITRB	**Iturama**	**33.65**	**120**	*e*P		**P**	**22 10 48.5**	**-0.3**
PCMB	**Pacaembu**	**33.70**	**124**	*e*P		**P**	**22 10 47.2**	**-1.9**
PCMB	**Pacaembu**	**33.70**	**124**	*e*P		**P**	**22 10 48.7**	**-0.4**
PCMB				*e*S		**S**	**22 16 16.4**	**+6.5**
BDFB	**Brasilia**	**34.38**	**112**	P		**P**	**22 10 54.7**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=256,slow=8.6,SNR=5.0							
BDFB	**Brasilia**	**34.38**	**112**	P		**P**	**22 10 53.6**	**-1.5**
BDFB				IAmb		IAmb	22 10 55.5	
	comp=Z,4.8nm,1.0s							
PTGB	**Pitanga**	**34.58**	**129**	*e*P		**P**	**22 10 55.2**	**-1.7**
PTGB	**Pitanga**	**34.58**	**129**	*e*P		**P**	**22 10 56.3**	**-0.5**
IPMB	**Ipameri, GO**	**34.91**	**116**	*e*P		**P**	**22 10 58.5**	**-1.2**
IPMB	**Ipameri, GO**	**34.91**	**116**	*e*P		**P**	**22 10 59.2**	**-0.5**
RPN	**Rapa Nui**	**35.56**	**227**	LR		LR	22 21 36.2	
	comp=Z,364nm,19.2s,baz=60,slow=29							
BB19B	**Bebedouro**	**35.77**	**121**	*e*P		**P**	**22 11 06.2**	**-0.9**
BB19B	**Bebedouro**	**35.77**	**121**	*e*P		**P**	**22 11 06.4**	**-0.8**
FRTB	**Fartura**	**35.89**	**125**	*e*P		**P**	**22 11 06.3**	**-1.8**
ITAB	**Concordia**	**35.92**	**133**	*e*P		**P**	**22 11 07.4**	**-0.8**
SDBA	**SAO DESIDERIO**	**36.59**	**105**	*e*P		**P**	**22 11 13.7**	**-0.4**
SDBA	**SAO DESIDERIO**	**36.59**	**105**	*e*P		**P**	**22 11 13.6**	**-0.6**
ROSB	**Rosrio**	**36.76**	**89**	*e*P		**P**	**22 11 15.0**	**-0.5**
ROSB	**Rosrio**	**36.76**	**89**	*e*P		**P**	**22 11 14.8**	**-0.8**
H06E1	**SOCORRO T-PHAS**	**37.21**	**308**	T		T	22 50 45.9	
	SNR=6.8							
LRAL	**Lakeview Retre**	**37.28**	**352**	P		**P**	**22 11 19.1**	**-0.5**
LRAL				IAmb		IAmb	22 11 20.4	
	comp=Z,6.0nm,0.8s							
TIJ01	**Guaruva-PR**	**37.28**	**128**	*e*P		**P**	**22 11 19.0**	**-0.9**
JANB	**Januaria**	**37.69**	**109**	*e*P		**P**	**22 11 22.7**	**-0.8**
JANB	**Januaria**	**37.69**	**109**	*e*P		**P**	**22 11 23.0**	**-0.4**
JANB				*e*S		**S**	**22 17 16.4**	**+5.1**
SPB	**Sao Paulo**	**37.75**	**124**	*e*P		**P**	**22 11 23.0**	**-0.8**
SPB	**Sao Paulo**	**37.75**	**124**	*e*P		**P**	**22 11 23.2**	**-0.6**
VAO	**Valinhos**	**37.88**	**123**	*e*P		**P**	**22 11 24.2**	**-0.8**
VAO	**Valinhos**	**37.88**	**123**	*e*P		**P**	**22 11 24.4**	**-0.7**
CNLB	**Canela**	**38.03**	**135**	*e*P		**P**	**22 11 24.2**	**-2.0**
CNLB	**Canela**	**38.03**	**135**	*e*P		**P**	**22 11 26.1**	**-0.1**
PET01	**Itanhaem-SP**	**38.18**	**125**	*e*P		**P**	**22 11 26.7**	**-0.8**
PET01	**Itanhaem-SP**	**38.18**	**125**	*e*P		**P**	**22 11 26.6**	**-0.8**
MC01	**Montes Claros**	**38.43**	**112**	*e*P		**P**	**22 11 28.1**	**-1.6**
MC01	**Montes Claros**	**38.43**	**112**	*e*P		**P**	**22 11 29.0**	**-0.7**
BSCB	**Bom Sucesso**	**38.99**	**119**	*e*P		**P**	**22 11 32.7**	**-1.7**
BSCB	**Bom Sucesso**	**38.99**	**119**	*e*P		**P**	**22 11 32.6**	**-1.8**
PARB	**Paraibuna**	**39.15**	**123**	*e*P		**P**	**22 11 35.0**	**-0.7**
SLBS	**Sierra La Lagu**	**39.45**	**316**	P		**P**	**22 11 37.4**	**-0.8**
TXAR	**Lajitas Array**	**39.68**	**328**	P		**P**	**22 11 42.2**	**+2.2**
	comp=Z,0.4nm,0.8s,baz=146,slow=12,SNR=3.6							
TXAR				PcP		**PcP**	**22 13 47.4**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=116,slow=4.1,SNR=3.8							
TX31	**Lajitas Ar. Si**	**39.68**	**328**	P		**P**	**22 11 38.2**	**-1.8**
MAN01	**Angra dos Reis**	**40.37**	**121**	*e*P		**P**	**22 11 44.4**	**-1.4**
MAN01	**Angra dos Reis**	**40.37**	**121**	*e*P		**P**	**22 11 45.0**	**-0.8**
WHAR	**Wooly Hollow**	**40.51**	**346**	P		**P**	**22 11 46.2**	**-0.5**
WHAR				IAmb		IAmb	22 11 49.2	
	comp=Z,7.6nm,0.8s							
W39A	**Magazine**	**40.81**	**344**	P		**P**	**22 11 50.0**	**+0.8**
T57A	**Hurt**	**40.82**	**2**	P		**P**	**22 11 49.3**	**+0.1**
T57A				IAmb		IAmb	22 11 50.1	
	comp=Z,7.6nm,1.0s							
FCAR	**Ozark Folk Cen**	**41.04**	**346**	P		**P**	**22 11 50.6**	**-0.4**
FCAR				IAmb		IAmb	22 11 53.3	
	comp=Z,6.6nm,0.8s							
SJMB	**Sao Joao De Ma**	**41.49**	**114**	*e*P		**P**	**22 11 53.5**	**-1.6**
SJMB	**Sao Joao De Ma**	**41.49**	**114**	*e*P		**P**	**22 11 53.0**	**-2.0**
U40A	**Yellville**	**41.66**	**345**	P		**P**	**22 11 56.2**	**+0.1**
U40A				IAmb		IAmb	22 11 58.6	
	comp=Z,11nm,0.8s							
BSFB	**Barra de Sao F**	**41.83**	**114**	*e*P		**P**	**22 11 57.2**	**-0.6**
BSFB	**Barra de Sao F**	**41.83**	**114**	*e*P		**P**	**22 11 57.4**	**-0.5**
HHAR	**Hobbs**	**41.88**	**344**	P		**P**	**22 11 58.6**	**+0.7**
HHAR				IAmb		IAmb	22 12 00.3	
	comp=Z,7.8nm,0.8s	

ISC 03 22:08:29.5±0.9, 9°85N±0°08×126°8E±0°1, h42km, n19, σ1§15/14, mb3.6/8, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**2.82**	**280⇑**	*eP*	**Pn**	**22 09 12.5**	**+0.4**
LLP				*i* S	**Sn**	**22 09 45.5**	**+0.6**
TBP	**Tagbilaran**	**2.89**	**267**	*eP*	**Pn**	**22 09 10.6**	**-2.4**
DAV	**Davao City (W)**	**3.01**	**204**	Lg	Lg	22 10 00.0	
	50nm,0.3s,baz=248,slow=20,SNR=4.9						
DAV				LR	LR	22 10 24.2	
	comp=Z,218nm,20.0s,baz=236,slow=39						
KCP	**Kidapawan**	**3.28**	**211⇑**	*eP*	**Pn**	**22 09 18.4**	**-0.1**
KCP				*i* S	**Sn**	**22 09 58.2**	**+1.8**
BATI	**Baumata**	**20.16**	**189**	P	Pn	22 13 01.6	-1.1
	17nm,0.3s,baz=99,slow=10,SNR=2.3						
FITZ	**Fitzroy Crossi**	**27.79**	**182**	P	**P**	**22 14 14.4**	**-0.3**
	2.6nm,0.9s,baz=2.4,slow=12,SNR=5.8						
WRA	**Warramunga Arr**	**30.52**	**166**	P	**P**	**22 14 38.2**	**-0.8**
	0.4nm,0.7s,baz=345,slow=9.5,SNR=1.7						
ASAR	**Alice Springs**	**34.03**	**168**	P	**P**	**22 15 08.7**	**-1.1**
	0.1nm,0.3s,baz=349,slow=7.0,SNR=5.3						
H11S3	**WAKE ISLAND Hy**	**39.55**	**73**	T	T	22 59 02.6	
	baz=265						
H11S1	**WAKE ISLAND Hy**	**39.57**	**73**	T	T	22 58 58.9	
	baz=265						
H11S2	**WAKE ISLAND Hy**	**39.57**	**73**	T	T	22 59 02.4	
	baz=265						
H11N1	**WAKE ISLAND Hy**	**39.91**	**71**	T	T	22 59 22.8	
	baz=266,slow=74						
H11N2	**WAKE ISLAND Hy**	**39.91**	**71**	T	T	22 59 25.2	
	baz=266						
H11N3	**WAKE ISLAND Hy**	**39.92**	**71**	T	T	22 59 28.6	
	baz=266,slow=74						
SONM	**Songino Array**	**41.59**	**339**	P	**P**	**22 16 14.3**	**+0.8**
	0.4nm,0.3s,baz=157,slow=7.4,SNR=2.4						
STKA	**Stephens Creek**	**43.84**	**162**	P	**P**	**22 16 31.3**	**-0.4**
	0.5nm,0.3s,baz=343,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**52.67**	**323**	P	**P**	**22 17 39.3**	**-0.4**
	0.4nm,0.6s,baz=121,slow=8.8,SNR=4.6						
MKAR				PcP	**PcP**	**22 18 50.4**	**+1.1**
	0.3nm,0.6s,baz=140,slow=3.1,SNR=1.9						
ARCES	**ARCESS Array B**	**84.77**	**340**	P	**P**	**22 20 59.9**	**+0.8**
	1.2nm,0.8s,baz=75,slow=6.9,SNR=6.5						
FINES	**FINESS Array B**	**86.50**	**332**	P	**P**	**22 21 07.8**	**0.0**
	1.0nm,0.7s,baz=76,slow=5.9,SNR=5.9						

*ARE **03** 22:09:35±2.2, 4°05S±0°10×81°2W±0°1, h44km±5km, ML5.2, mb4.5/81(NEIC), Error ellipse: s-maj=18.1km s-min=9.7km az=52.0*
*NEIC **03** 22:09:36.2±1.5, 4°06S±0°07×80°92W±0°09, h19km±3km, Error ellipse: s-maj=13.3km s-min=9.3km az=101.0*
*IDC **03** 22:09:43.1±2.5, 4°00S×80°83W, h69km±24km, mb4.0/18, mb1 4.2/21, mb1mx4.0/43, mbtmp4.4/21, MS4.1/10, Ms1 4.1/10, ms1mx3.8/30, Error ellipse: s-maj=24.1km s-min=12.6km az=53.0*

ISC 03 22:09:39.2±0.5, 4°00S±0°06×80°95W±0°10, h39km, n121, σ1§39/114, mb4.5/50, MS4.1/7, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.02**	**141**	P	**Pn**	**22 10 41.4**	**+2.7**
	11nm,0.3s,baz=5.1,slow=6.8,SNR=12						
ATAH				S	**Sn**	**22 11 28.9**	**+4.1**
	48nm,0.3s,baz=65,slow=17,SNR=3.1						
NNA	**Nana**	**8.92**	**153**	P	**Pn**	**22 11 49.6**	**+4.0**
	1.2nm,0.3s,baz=321,slow=14,SNR=2.4						
NNA				S	**Sn**	**22 13 26.5**	**+1.6**
	1.4nm,0.3s,baz=324,slow=19,SNR=1.6						
NNA	**Nana**	**8.92**	**153**	Pn	**Pn**	**22 11 41.9**	**-3.8**
NNA					**Sn**	**22 13 25.7**	**+0.8**
PAYG	**Puerto Ayora**	**9.90**	**289**	Pn	Pn	22 11 51.5	-7.5
JTS	**Las Juntas de**	**14.74**	**344**	LR	LR	22 17 56.8	
	comp=Z,647nm,20.5s,baz=226,slow=33						
SDV	**Santo Domingo**	**16.42**	**39**	P	**P**	**22 13 29.5**	**+0.1**
	6.5nm,0.3s,baz=210,slow=9.8,SNR=11						
SDV				LR	LR	22 20 57.0	
	comp=Z,693nm,20.9s,baz=218,slow=41						
SDV	**Santo Domingo**	**16.42**	**39**		**Pn**	**22 13 27.0**	**0.0**
LPAZ	**La Paz**	**17.54**	**135**	LR	LR	22 21 25.2	
	comp=Z,828nm,18.3s,baz=305,slow=40						
LPAZ	**La Paz**	**17.54**	**135**	Pn	**Pn**	**22 13 41.4**	**-0.2**
PB16	**IPOC Station P**	**18.12**	**143**	P	**Pn**	**22 13 44.1**	**-4.4**
PB11	**IPOC Station P**	**19.15**	**146**	P	**P**	**22 13 55.4**	**-4.2**
GO01	**Chusmiza**	**19.34**	**145**	P	**P**	**22 13 57.5**	**-4.5**
GO01				IAmb	IAmb	22 14 12.7	
	comp=Z,23nm,1.1s						
PB08	**IPOC Station P**	**19.74**	**145**	P	**P**	**22 14 01.7**	**-4.5**
PB07	**IPOC Station P**	**20.64**	**150**	P	**P**	**22 14 11.3**	**-4.4**
PB09	**IPOC Station P**	**21.02**	**148**	P	**P**	**22 14 18.5**	**-1.5**
PB09				IAmb	IAmb	22 14 26.1	
	comp=Z,32nm,1.0s						
PTGA	**Pitinga**	**21.21**	**82**	P	**P**	**22 14 21.9**	**+0.1**
	comp=Z,18nm,0.8s,baz=287,slow=20,SNR=2.3						
PTGA	**Pitinga**	**21.21**	**82**	P	**P**	**22 14 20.6**	**-1.2**
PTGA				IAmb	IAmb	22 14 27.0	
	comp=Z,22nm,0.9s						
LVC	**Limon Verde**	**21.87**	**149**	P	**P**	**22 14 30.7**	**+1.5**
	comp=Z,19nm,0.9s,baz=298,slow=9.3,SNR=10						
LVC	**Limon Verde**	**21.87**	**149**	P	**P**	**22 14 29.6**	**+0.4**
LVC				IAmb	IAmb	22 14 33.6	
	comp=Z,28nm,1.0s						
SIV	**San Ignacio**	**22.88**	**123**	P	**P**	**22 14 40.7**	**+1.0**
	comp=Z,13nm,1.0s,baz=250,slow=19,SNR=6.3						
GO02	**Mina Guanaco**	**23.71**	**154**	P	**P**	**22 14 47.9**	**-0.1**
GO02				IAmb	IAmb	22 14 51.0	
	comp=Z,14nm,0.8s						
TEIG	**Tepich**	**25.13**	**344**	P	**P**	**22 15 01.4**	**+0.7**
	comp=Z,6.2nm,0.7s,baz=140,slow=3.3,SNR=8.2						
TEIG	**Tepich**	**25.13**	**344**	P	**P**	**22 15 01.4**	**+0.7**
DR12	**Loma Pena Alta**	**25.34**	**26**	P	**P**	**22 15 02.8**	**0.0**
TOSP	**Speyside**	**25.36**	**53**	P	**P**	**22 15 03.5**	**+0.6**
AC02	**Maricunga**	**25.37**	**155**	P	**P**	**22 15 02.6**	**-0.8**
GCPR	**Guaynabo City**	**26.57**	**33**	P	**P**	**22 15 12.5**	**-1.3**
CBYP	**Canovanas**	**26.66**	**33**	P	**P**	**22 15 14.8**	**+0.1**
MTP	**Monte Pirata**	**26.69**	**34**	P	**P**	**22 15 15.6**	**+0.7**
AC05	**El Transito**	**26.70**	**159**	P	**P**	**22 15 16.5**	**+1.4**
MDP	**Montagnes des**	**29.68**	**73**	P	**P**	**22 15 41.0**	**-0.7**
	comp=Z,4.2nm,0.7s,baz=222,slow=7.8,SNR=3.6						
CFA	**Coronel Fontan**	**29.95**	**158**	P	**P**	**22 15 44.2**	**+0.3**
	comp=Z,4.1nm,0.9s,baz=351,slow=6.6,SNR=6.5						
CPUP	**Villa Florida**	**31.70**	**137**	P	**P**	**22 15 58.9**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=320,slow=9.8,SNR=6.9						
CPUP				LR	LR	22 31 19.1	
	comp=Z,615nm,18.5s,baz=316,slow=41						
CPUP	**Villa Florida**	**31.70**	**137**	P	**P**	**22 15 58.9**	**-0.4**
BDFB	**Brasilia**	**34.39**	**112**	P	**P**	**22 16 22.5**	**-0.6**
	comp=Z,4.2nm,0.9s,baz=271,slow=12,SNR=5.9						
BDFB	**Brasilia**	**34.39**	**112**	P	**P**	**22 16 21.2**	**-1.9**
BDFB				IAmb	IAmb	22 16 23.4	
	comp=Z,8.0nm,1.1s						
H06E1	**SOCORRO T-PHAS**	**37.20**	**308**	T	T	22 56 14.0	
	SNR=12						
LRAL	**Lakeview Retre**	**37.27**	**352**	P	**P**	**22 16 46.6**	**-0.8**
LRAL				IAmb	IAmb	22 17 03.7	
	comp=Z,4.9nm,0.8s						
PLCA	**Paso Flores**	**37.75**	**167**	LR	LR	22 30 16.1	
	comp=Z,209nm,18.5s,baz=352,slow=33						
SPB	**Sao Paulo**	**37.76**	**124**	P	**P**	**22 16 50.4**	**-1.3**
SLBS	**Sierra La Lagu**	**39.45**	**316**	P	**P**	**22 17 06.9**	**+0.9**
TXAR	**Lajitas Array**	**39.67**	**328**	P	**P**	**22 17 09.9**	**+2.2**
	comp=Z,0.8nm,0.9s,baz=153,slow=8.1,SNR=4.3						
MIAR	**Mount Ida**	**40.14**	**344**	P	**P**	**22 17 10.6**	**-0.9**
W41B	**Gary Mavity, V**	**40.39**	**346**	P	**P**	**22 17 13.0**	**-0.5**
WHAR	**Wooly Hollow**	**40.51**	**346**	P	**P**	**22 17 14.6**	**+0.1**
WHAR				IAmb	IAmb	22 17 32.4	
	comp=Z,9.8nm,1.0s						
W39A	**Magazine**	**40.81**	**344**	P	**P**	**22 17 16.9**	**-0.2**
W39A				IAmb	IAmb	22 17 19.6	
	comp=Z,9.8nm,0.8s						
LCAR	**Lake Charles**	**40.99**	**347**	P	**P**	**22 17 18.6**	**+0.2**
LCAR				IAmb	IAmb	22 17 32.2	
	comp=Z,8.0nm,0.8s						
FCAR	**Ozark Folk Cen**	**41.04**	**346**	P	**P**	**22 17 19.3**	**+0.4**
FCAR				IAmb	IAmb	22 17 36.6	
	comp=Z,8.9nm,0.9s						
U40A	**Yellville**	**41.66**	**345**	P	**P**	**22 17 24.1**	**+0.2**
HHAR	**Hobbs**	**41.87**	**344**	P	**P**	**22 17 25.3**	**-0.4**
HHAR				IAmb	IAmb	22 17 38.5	
	comp=Z,6.5nm,0.7s						
FNO	**Franklin**	**42.00**	**340**	P	**P**	**22 17 26.5**	**-0.3**
TUL1	**Leonard**	**42.07**	**342**	P	**P**	**22 17 27.4**	**0.0**
TUL1				IAmb	IAmb	22 17 29.2	
	comp=Z,11nm,0.8s						
U38A	**Gravette**	**42.14**	**344**	P	**P**	**22 17 27.0**	**-1.0**
U38A				IAmb	IAmb	22 17 46.3	
	comp=Z,10nm,0.9s						
MGMO	**Mountain Grove**	**42.28**	**347**	P	**P**	**22 17 29.1**	**0.0**
MGMO				IAmb	IAmb	22 17 43.3	
	comp=Z,10nm,1.1s						
MSTX	**Muleshoe**	**43.02**	**333**	P	**P**	**22 17 35.3**	**+0.1**
S39A	**Bolivar**	**43.04**	**346**	P	**P**	**22 17 34.8**	**-0.4**
S39A				IAmb	IAmb	22 17 53.7	
	comp=Z,12nm,0.8s						
T35A	**Sooner Cattle**	**43.22**	**342**	P	**P**	**22 17 37.4**	**+0.7**
T35A				IAmb	IAmb	22 17 49.6	
	comp=Z,8.0nm,0.8s						
ANMO	**Albuquerque**	**45.56**	**330**	P	**P**	**22 17 55.2**	**-0.5**
ANMO				IAmb	IAmb	22 18 14.8	
	comp=Z,5.8nm,0.9s						
SDCO	**Great Sand Dun**	**47.38**	**333**	P	**P**	**22 18 10.2**	**+0.1**
SDCO				IAmb	IAmb	22 18 13.3	
	comp=Z,3.5nm,0.8s						
W18A	**Petrified Fore**	**47.39**	**328**	P	**P**	**22 18 10.1**	**+0.1**
W18A				IAmb	IAmb	22 18 25.2	
	comp=Z,6.4nm,0.9s						
WUAZ	**Wupatki**	**48.57**	**327**	P	**P**	**22 18 19.4**	**+0.3**
WUAZ				IAmb	IAmb	22 18 33.5	
	comp=Z,5.0nm,1.1s						
PV15	**Paradox Valley**	**49.25**	**331**	P	**P**	**22 18 23.2**	**-1.2**
PV15				IAmb	IAmb	22 18 38.0	
	comp=Z,6.3nm,0.9s						
PV13	**Radium Mtn., P**	**49.27**	**331**	P	**P**	**22 18 24.5**	**0.0**
PV13				IAmb	IAmb	22 18 43.3	
	comp=Z,5.9nm,1.0s						
PV03	**Paradox Valley**	**49.35**	**331**	P	**P**	**22 18 24.9**	**-0.2**
PV03				IAmb	IAmb	22 18 43.8	
	comp=Z,3.5nm,0.8s						
PV12	**Saucer Basin,**	**49.38**	**331**	P	**P**	**22 18 24.7**	**-0.7**
PV12				IAmb	IAmb	22 18 38.7	
	comp=Z,5.1nm,0.8s						
ECSD	**EROS Data Cent**	**49.57**	**345**	P	**P**	**22 18 26.5**	**+0.1**
KNB	**Kanab**	**50.47**	**327**	P	**P**	**22 18 33.4**	**-0.2**
PKCU	**Pink Cliffs**	**50.50**	**328**	P	**P**	**22 18 33.4**	**-0.6**
RDMU	**Red Mountain**	**51.52**	**332**	P	**P**	**22 18 41.4**	**-0.1**
D62A	**Allapoint, All**	**51.93**	**10**	P	**P**	**22 18 43.4**	**-0.7**
D62A				IAmb	IAmb	22 18 45.6	
	comp=Z,7.0nm,0.8s						
PSUT	**Pine Spring**	**52.13**	**327**	P	**P**	**22 18 45.9**	**-0.1**
RSSD	**Black Hills**	**52.20**	**339**	P	**P**	**22 18 46.1**	**-0.4**
RSSD				IAmb	IAmb	22 19 02.1	
	comp=Z,3.9nm,0.7s						
R11A	**Troy Canyon, C**	**52.95**	**326**	P	**P**	**22 18 51.1**	**-1.0**
PDAR	**Pinedale Array**	**53.27**	**334**	P	**P**	**22 18 55.1**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=128,slow=8.4,SNR=17						
HWUT	**Hardware Ranch**	**53.27**	**332**	P	**P**	**22 18 54.3**	**-0.1**
B35A	**Bob, Littlefor**	**53.33**	**349**	IAmb	IAmb	22 18 55.2	
	comp=Z,4.9nm,0.8s						
BGU	**Big Grassy Mou**	**53.47**	**330**	P	**P**	**22 18 56.5**	**+0.7**
AGMN	**Agassiz Nation**	**53.69**	**348**	P	**P**	**22 18 57.4**	**+0.3**
AGMN				IAmb	IAmb	22 19 15.4	
	comp=Z,7.6nm,1.1s						
ELK	**Elko**	**54.47**	**328**	P	**P**	**22 19 03.4**	**+0.2**
NV11	**Mina Array Sit**	**54.47**	**324**	P	**P**	**22 19 02.4**	**-0.8**
NVAR	**Mina Array Bea**	**54.55**	**324**	P	**P**	**22 19 05.8**	**+1.9**
	comp=Z,1.6nm,0.8s,baz=133,slow=7.0,SNR=7.0						
ULM	**Lac du Bonnet**	**55.55**	**348**	P	**P**	**22 19 10.9**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=156,slow=8.2,SNR=3.2						
ULM	**Lac du Bonnet**	**55.55**	**348**	IAmb	IAmb	22 19 20.1	
	comp=Z,4.7nm,0.8s						
YHL	**Hebgen Lake**	**55.64**	**334**	P	**P**	**22 19 10.8**	**-0.9**
GCMT	**Greyclift**	**55.76**	**336**	P	**P**	**22 19 12.3**	**-0.1**
HLID	**Hailey**	**56.12**	**331**	P	**P**	**22 19 15.0**	**-0.1**
HLID				IAmb	IAmb	22 19 31.0	
	comp=Z,4.5nm,1.0s						
MCMT	**McKenzie Canyo**	**56.36**	**333**	P	**P**	**22 19 18.2**	**+1.4**
BOZ	**Bozeman (W)**	**56.42**	**335**	P	**P**	**22 19 17.3**	**+0.2**
BOZ				IAmb	IAmb	22 19 32.7	
	comp=Z,4.5nm,0.9s						
K05A	**Summer Lake**	**58.89**	**326**	P	**P**	**22 19 35.7**	**+1.1**
I07A	**Izee**	**59.06**	**328**	P	**P**	**22 19 37.6**	**+2.0**
F10A	**Beach Ranch, E**	**59.26**	**331**	P	**P**	**22 19 38.5**	**+1.6**
F10A				IAmb	IAmb	22 19 48.2	
	comp=Z,5.8nm,0.9s						
G08A	**Pilot Rock**	**59.62**	**330**	P	**P**	**22 19 40.5**	**+1.1**
PINE	**Pine Mountain**	**59.62**	**327**	P	**P**	**22 19 39.9**	**+0.3**
KRMB	**Red Mountain**	**59.84**	**324**	P	**P**	**22 19 40.0**	**-1.0**
WALA	**Waterton Lakes**	**60.11**	**336**	P	**P**	**22 19 42.9**	**+0.1**
PPT	**Papeete**	**68.44**	**253**	LR	LR	22 42 28.7	
	comp=Z,109nm,19.4s,baz=54,slow=29						
YKA	**Yellowknife Ar**	**71.08**	**344**	P	**P**	**22 20 52.7**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=136,slow=5.6,SNR=7.6						
YKA				LR	LR	22 54 10.0	
	comp=Z,66nm,19.0s,baz=0.0,slow=38						
LIC	**Lamto**	**76.47**	**83**	*eP*	**P**	**22 21 26.0**	**+0.2**
	comp=Z,43nm,1.1s						
TIC	**Toumodi**	**76.52**	**82**	*eP*	**P**	**22 21 27.0**	**+0.9**
DBIC	**Dimbokro**	**76.69**	**82**	P	**P**	**22 21 27.2**	**+0.2**
	comp=Z,9.2nm,0.8s,baz=235,slow=4.6,SNR=8.7						
DBIC				LR	LR	22 53 40.5	
	comp=Z,108nm,18.3s,baz=240,slow=34						
DBIC	**Dimbokro**	**76.69**	**82**	P	**P**	**22 21 25.7**	**-1.3**
KIC	**Kosan Boka**	**76.77**	**83**	*eP*	**P**	**22 21 27.8**	**+0.3**
	comp=Z,35nm,1.0s						
RAR	**Rarotonga**	**78.16**	**249**	LR	LR	22 50 06.4	
	comp=Z,110nm,18.1s,baz=107,slow=31						
VNA3	**Neumayer Olymp**	**80.26**	**162**	P	**P**	**22 21 46.3**	**+0.7**
MDT	**Midelt**	**80.73**	**56**	P	**P**	**22 21 50.4**	**+1.4**
	comp=Z,3.6nm,1.0s,baz=243,slow=3.7,SNR=4.8						
SUMG	**Summit**	**81.05**	**12**	P	**P**	**22 21 50.4**	**+0.1**
SNAA	**Sanae**	**82.49**	**162**	P	**P**	**22 21 57.4**	**0.0**
SNAA	**Sanae**	**82.49**	**162**	P	**P**	**22 21 57.4**	**0.0**
SNAA				IAmb	IAmb	22 21 58.7	
	comp=Z,7.9nm,1.1s						
ESDC	**Sonseca Array**	**82.56**	**49**	P	**P**	**22 21 59.0**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=268,slow=4.8,SNR=8.5						
TORD	**Torodi Ar. Bea**	**83.75**	**76**	P	**P**	**22 22 04.6**	**-0.4**
	comp=Z,3.0nm,1.0s,baz=272,slow=3.4,SNR=11						
QSPA	**South Pole Qui**	**86.08**	**180**	P	**P**	**22 22 15.4**	**-0.4**
QSPA				IAmb	IAmb	22 22 17.2	
	comp=Z,4.9nm,1.0s						
EKA	**Eskdalemuir Ar**	**86.34**	**34**	P	**P**	**22 22 17.8**	**+0.6**
	comp=Z,4.7nm,0.9s,baz=243,slow=3.7,SNR=6.3						
NOA	**NORSAR Array B**	**94.52**	**29**	LR	LR	23 05 04.3	
	comp=Z,34nm,19.1s,baz=90,slow=35						
BVAR	**Borovoye Array**	**125.73**	**21**	PKP	**PKPdf**	**22 28 36.9**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=27,slow=3.6,SNR=6.1						
ZALV	**Zalesovo Beam**	**128.86**	**11**	PKP	**PKPdf**	**22 28 42.6**	**0.0**
	comp=Z,2.1nm,0.8s,baz=321,slow=1.9,SNR=9.1						
MKAR	**Makanchi Array**	**134.96**	**16**	PKP	**PKPdf**	**22 28 53.8**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=357,slow=2.4,SNR=9.5						
SONM	**Songino Array**	**135.87**	**353**	PKP	**PKPdf**	**22 28 56.2**	**0.0**
	comp=Z,0.3nm,0.4s,baz=318,slow=3.0,SNR=2.5						
ASAR	**Alice Springs**	**136.30**	**229**	PKP	**PKPdf**	**22 28 57.2**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=98,slow=2.7,SNR=7.6						
WRA	**Warramunga Arr**	**137.96**	**234**	PKP	**PKPdf**	**22 29 00.7**	**0.0**
	comp=Z,0.6nm,0.7s,baz=111,slow=2.3,SNR=4.9						
LZH	**Lanzhou**	**147.76**	**353**	*e*PKPbc	**PKPdf**	**22 29 17.7**	**-0.1**
LZH				pPKP	PKPab	22 29 26.5	+3.6
LZH				sPKP		22 29 29.7	
CMAR	**Chiang Mai Arr**	**165.63**	**0**	PKP	**PKPdf**	**22 29 40.1**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=331,slow=1.8,SNR=2.3						

IDC 03 22:18:18.4±1.4, 27°13N×103°45E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/45, mbtmp3.7/5, Error ellipse: s-maj=89.4km s-min=22.6km az=64.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**20.80**	**6**	P	P	22 23 01.7	+0.4
	0.6nm,0.2s,baz=185,slow=13,SNR=3.7						
MKAR	**Makanchi Array**	**25.76**	**325**	P	P	22 23 51.1	+0.4
	0.6nm,0.7s,baz=126,slow=9.1,SNR=2.1						
WRA	**Warramunga Arr**	**55.55**	**144**	P	P	22 27 55.6	-0.2
	0.8nm,0.7s,baz=332,slow=8.1,SNR=7.5						
ASAR	**Alice Springs**	**58.44**	**147**	P	P	22 28 16.4	+0.2
	0.5nm,0.8s,baz=325,slow=6.1,SNR=2.0						
ARCES	**ARCESS Array B**	**60.65**	**337**	P	P	22 28 30.4	-0.5
	0.8nm,0.4s,baz=94,slow=6.3,SNR=3.5						

*BEO **03** 22:22:12.2±1.0, 39°26N×31°84E, h0km, ML4.4/5*
*IDC **03** 22:22:44.0±0.7, 40°61N×29°19E, h0km, mb3.7/14, mb1 3.8/19, mb1mx3.7/45, mbtmp3.7/19, ML3.4/5, MS4.2/1, Ms1 4.2/1, ms1mx2.7/46, Error ellipse: s-maj=14.1km s-min=11.1km az=34.0*

*DDA **03** 22:22:44.7, 40°59N×29°17E, h10km±1km, MW4.0*
*ISK **03** 22:22:44.4, 40°61N×29°17E, h12km, ML4.1/61*
*NEIC **03** 22:22:45.4±1.9, 40°62N±0°04×29°21E±0°05, h10km±5km, mb4.0/17, ML4.2/2(BUC), Error ellipse: s-maj=6.7km s-min=5.7km az=203.0*
*THE **03** 22:22:47.0, 40°71N×28°97E, h0km±1km, ML3.4/4, Error ellipse: s-maj=2.3km s-min=0.5km az=128.0*

ISC 03 22:22:44.9±0.8, 40°60N±0°01×29°18E±0°01, h8km±4km, n280, σ1§15/362, mb3.8/20, 65C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRML	**Termal-Yalova**	**0.01**	**346**	PG	**Pg**	**22 22 45.6**	**-0.7**
TSVK	**Tesvikiye-Yalo**	**0.07**	**291**	PG	**Pg**	**22 22 47.1**	**+0.2**
CFTB	**Yalova**	**0.11**	**56**	PG	**Pg**	**22 22 47.8**	**+0.3**
CFTB				SG	**Sg**	**22 22 49.9**	**+0.7**
GEMT	**Gemlik**	**0.17**	**177**	PG	**Pg**	**22 22 48.6**	**+0.2**
GEMT				SG	**Sg**	**22 22 51.5**	**+0.8**
TUZL	**Tuzla-Istanbul**	**0.22**	**18**	PG	**Pg**	**22 22 49.8**	**+0.4**
TUZL				SG	**Sg**	**22 22 53.3**	**+0.9**
ARMT	**Armutlu**	**0.24**	**262**	PG	**Pg**	**22 22 50.1**	**+0.3**
ARMT				SG	**Sg**	**22 22 53.8**	**+0.8**
BUY	**Buyukada**	**0.26**	**350⇑**	*i* P	**Pg**	**22 22 50.4**	**+0.4**
BUY				IAML		22 22 54.0	
	comp=E,33μm,0.4s						
BUY				*i* S	**Sg**	**22 22 54.4**	**+0.9**
BUY				IAML		22 22 55.0	
	comp=N,18μm,0.4s						
MDNY	**Mudanya-Bursa**	**0.32**	**224**	PG	**Pg**	**22 22 51.9**	**+0.7**
IGD	**Bursa**	**0.34**	**177⇑**	*i* P	**Pg**	**22 22 52.1**	**+0.5**
IGD				*i* S	**Sg**	**22 22 57.1**	**+1.1**
ULDT	**Uludag**	**0.46**	**184⇑**	*i* P	**Pg**	**22 22 54.3**	**+0.4**
ULDT				*i* S	**Sg**	**22 23 01.0**	**+1.1**
ADVT	**Abdulvahap**	**0.46**	**111**	PG	**Pg**	**22 22 54.2**	**+0.3**
ADVT				SG	**Sg**	**22 23 00.8**	**+0.9**
KAVV	**Kandilli-Istan**	**0.47**	**349**	PG	**Pg**	**22 22 54.3**	**+0.2**
KAVV				SG	**Sg**	**22 23 01.2**	**+0.9**
ISK	**Istanbul-Kandi**	**0.47**	**349**	P	**Pg**	**22 22 54.1**	**0.0**
ISK				S	**Sg**	**22 23 00.5**	**+0.2**
	comp=N,10μm,0.5s						
ISK	**Istanbul-Kandi**	**0.47**	**349**	PG	**Pg**	**22 22 54.2**	**+0.1**
ISK				SG	**Sg**	**22 23 00.9**	**+0.6**
AVCI	**Avcilar-stanb**	**0.52**	**319**	PG	**Pg**	**22 22 55.2**	**+0.1**
YKBL	**Yakuplu-Istanb**	**0.55**	**315**	PG	**Pg**	**22 22 54.8**	**-0.8**
ORLT	**Orhaneli**	**0.59**	**201**	PG	**Pg**	**22 22 56.2**	**-0.2**
CAVI	**Cavuskoy**	**0.65**	**128**	PG	**Pg**	**22 22 57.7**	**+0.3**
BGKT	**Bogazkoy**	**0.66**	**332**	PG	**Pg**	**22 22 57.5**	**-0.1**
BGKT				SG	**Sg**	**22 23 06.6**	**+0.5**
SILT	**Sile**	**0.66**	**33**	PG	**Pg**	**22 22 57.7**	**+0.1**
SILT				SG	**Sg**	**22 23 06.9**	**+0.8**
KLYT	**Kilyos**	**0.66**	**351**	PG	**Pg**	**22 22 57.8**	**+0.1**
KLYT				SG	**Sg**	**22 23 06.9**	**+0.6**
KCTX	**Karacabey (Bur**	**0.71**	**242**	PG	**Pg**	**22 22 58.5**	**-0.1**
ELBA	**Catalca**	**0.79**	**314⇑**	*i* P	**Pg**	**22 22 59.8**	**-0.2**
ELBA				*i* S	**Sg**	**22 23 10.2**	**-0.1**
CTKS	**Kestanelik-??a**	**0.81**	**322**	PG	**Pg**	**22 23 00.2**	**-0.4**
CTKS				SG	**Sg**	**22 23 10.8**	**-0.4**
GEYV	**SAKARYA_Geyve**	**0.86**	**97⇓**	*i* P	**Pg**	**22 23 01.4**	**-0.1**
GEYV				*i* S	**Sb**	**22 23 13.6**	**-0.2**
GEYV				IAML		22 23 19.0	
	comp=E,4μm,0.5s						
GEYV				IAML		22 23 19.0	
	comp=N,5μm,0.4s						
SPNC	**Sapanca-Adapaz**	**0.86**	**84**	PG	**Pg**	**22 23 01.6**	**0.0**
SAUV	**Serdivan-Sakar**	**0.

KESN				*i* S	Sb	22 23 44.3	-0.1	
YUVA	**Yuva-Kibriscik**	**1.93**	**95**	PN	Pn	22 23 18.1	-0.1	
KIRK	**Kirklareli**	**1.96**	**308**	*i* P	Pn	22 23 18.2	-0.3	
UKOP	**Uzunkopru-Edir**	**2.00**	**286**	PN	Pn	22 23 18.9	-0.2	
AFYO	**Afyonkarahisar**	**2.01**	**154**	*i* P	Pb	22 23 20.7	-1.1	
AFYO				*i* S	Sg	22 23 53.0	+3.6	
AFYO				IAML		22 23 54.0		
	comp=E,3μm,1.0s							
KULA	**Kula-Manisa**	**2.12**	**191**	P	Pb	22 23 24.2	+0.5	
KULA	**Kula-Manisa**	**2.12**	**191**	PN	Pn	22 23 20.9	+0.1	
SVRH	**Sivrihisar-ESK**	**2.14**	**122**	PN	Pn	22 23 21.1	0.0	
AUSIV	**SIVRIHISAR**	**2.15**	**122**	PN	Pn	22 23 21.2	0.0	
AUSIV	**SIVRIHISAR**	**2.15**	**122**	*i* P	Pn	22 23 20.7	-0.6	
MANT	**Manisa**	**2.16**	**193**		Pn	22 23 23.0	+1.5	
BAYC	**CANAKKALE_Bayr**	**2.19**	**248**	*i* P	Pn	22 23 22.2	+0.5	
BAYC				*i* S	Sb	22 23 53.7	+1.6	
BCAM	**Yenicaga**	**2.21**	**83**	*i* P	Pn	22 23 22.7	+0.7	
EDRB	**Edirne**	**2.22**	**305**	P	Pn	22 23 21.2	-0.9	
EDRB				S	Sn	22 23 48.2	-1.5	
	comp=E,585nm,0.8s							
EDRB	**Edirne**	**2.22**	**305**	PN	Pn	22 23 21.6	-0.5	
ENEZ	**Enez**	**2.30**	**274**	P	Pn	22 23 22.8	-0.4	
ENEZ	**Enez**	**2.30**	**274**	PN	Pn	22 23 22.8	-0.4	
SHUT	**Suhut-Afyon**	**2.30**	**152**	PN	Pn	22 23 23.6	+0.2	
EZN	**Ezine**	**2.32**	**251**	P	Pn	22 23 23.8	+0.4	
EZN	**Ezine**	**2.32**	**251**	PN	Pn	22 23 23.5	+0.1	
DKL	**Dikili**	**2.32**	**230**	PN	Pn	22 23 23.4	-0.1	
ALN	**Alexandroupoli**	**2.40**	**278**	P	Pn	22 23 23.5	-1.0	
ALN				S	Sn	22 23 53.7	-0.4	
	comp=E,465nm,0.7s							
ALN	**Alexandroupoli**	**2.40**	**278**	PN	Pn	22 23 23.8	-0.7	
ALN	**Alexandroupoli**	**2.40**	**278**	Pn	Pn	22 23 23.8	-0.7	
BOZC	**Bozcaada**	**2.51**	**253**	PN	Pn	22 23 26.2	+0.1	
GADA	**Gvkgeada**	**2.54**	**262**	P	Pn	22 23 26.4	0.0	
GADA	**Gvkgeada**	**2.54**	**262**	PN	Pn	22 23 26.4	0.0	
PRK	**Paraskevi**	**2.61**	**240**	P	Pn	22 23 28.8	+1.3	
KIZT	**Kizilcal**	**2.70**	**129**	PN	Pn	22 23 28.9	+0.1	
BLCB	**Balcova**	**2.76**	**217**	PN	Pn	22 23 28.9	-0.6	
BASM	**Basmaki-Afyon**	**2.76**	**166**	PN	Pn	22 23 29.9	+0.3	
SMTH	**Samothraki Isl**	**2.78**	**269**	P	Pn	22 23 28.8	-1.0	
SMTH				S	Sn	22 24 02.9	-0.7	
	comp=E,758nm,0.8s							
RDO	**Rodhopi**	**2.81**	**282**	P	Pn	22 23 30.0	-0.2	
RDO	**Rodhopi**	**2.81**	**282**	PN	Pn	22 23 29.8	-0.4	
AYDB	**Zeytinkoy-Aydi**	**2.83**	**201**	PN	Pn	22 23 30.3	-0.3	
LOD	**Lodumlu**	**2.84**	**103**	PN	Pn	22 23 31.0	+0.3	
BR231	**Keskin MP Arra**	**2.86**	**104**		Pn	22 23 31.0	0.0	
BR231				Sn	Sn	22 24 03.9	-1.8	
ANTO	**Ankara**	**2.86**	**104**	⇑P	Pn	22 23 31.6	+0.6	
ANTO	**Ankara**	**2.86**	**104**	PN	Pn	22 23 31.5	+0.5	
ANTO	**Ankara**	**2.86**	**104**		Pn	22 23 30.8	-0.3	
SIGR	**SIGRI**	**2.91**	**243**	P	Pn	22 23 32.8	+1.3	
SIGR	**SIGRI**	**2.91**	**243**	PN	Pn	22 23 32.6	+1.1	
KURC	**Kurucasile-Bar**	**2.96**	**64**	PN	Pn	22 23 32.8	+0.5	
ISP	**Isparta**	**2.96**	**159**	PN	Pn	22 23 32.7	+0.2	
ISP	**Isparta**	**2.96**	**159**	Pn	Pn	22 23 32.6	+0.2	
ISP				Sn	Sn	22 24 07.1	-1.2	
URLA	**Izmir**	**3.00**	**223**	PN	Pn	22 23 33.8	+0.9	
KDZ	**Kurdzhali**	**3.03**	**291**	PN	Pn	22 23 33.5	+0.3	
LIA	**Limnos Island**	**3.14**	**258**	PN	Pn	22 23 34.3	+0.2	
AFSR	**Afar-Bala (An**	**3.20**	**110**	PN	Pn	22 23 36.3	+0.6	
TSMN	**Mangalia Port-**	**3.23**	**352**	⇑S	Sn	22 24 14.1	-0.5	
TSMN	**Mangalia Port-**	**3.23**	**352**		Sn	22 24 14.1	-0.5	
MANR	**Mangalia**	**3.24**	**352**	⇑P	Pn	22 23 36.9	+0.7	
MANR				⇑S	Sn	22 24 15.7	+0.7	
MANR	**Mangalia**	**3.24**	**352**		Pn	22 23 36.9	+0.7	
MANR					Sn	22 24 15.7	+0.7	
CHOS	**Chios island**	**3.27**	**229**	PN	Pn	22 23 37.2	+0.5	
BCK	**Bucak**	**3.32**	**160**	PN	Pn	22 23 38.2	+0.9	
ELND	**Elena**	**3.39**	**314**	⇑S	Sn	22 24 20.9	+2.2	
ELND	**Elena**	**3.39**	**314**		Sn	22 24 20.9	+2.2	
ILGA	**Ilgaz**	**3.47**	**81**	Pn	Pn	22 23 38.6	-0.9	
EFOR	**EFORIE**	**3.50**	**354**	⇑S	Sn	22 24 20.6	-0.7	
EFOR	**EFORIE**	**3.50**	**354**		Sn	22 24 20.6	-0.7	
BR131	**Keskin Array S**	**3.53**	**103**	Pn	Pn	22 23 40.1	-0.2	
BR131				Sn	Sn	22 24 18.4	-3.9	
BRTR	**Keskin Array B**	**3.53**	**103**	Pn	Pn	22 23 40.5	+0.2	
	comp=E,1.0nm,0.3s,baz=279,slow=11,SNR=45							
BRTR				Sn	Sn	22 24 21.2	-1.1	
	comp=E,5.0nm,0.3s,baz=282,slow=24,SNR=3.7							
BRTR	**Keskin Array B**	**3.53**	**103**	PN	Pn	22 23 40.6	+0.3	
KAVA	**Kavala**	**3.56**	**278**	P	Pn	22 23 40.8	+0.3	
RAZG	**Razgrad**	**3.57**	**327**	⇑P	Pn	22 23 41.6	+1.0	
RAZG				⇓S	Sn	22 24 24.2	+1.2	
RAZG	**Razgrad**	**3.57**	**327**		Pn	22 23 41.6	+1.0	
RAZG					Sn	22 24 24.2	+1.2	
ICOR	**Ion Corvin**	**3.66**	**344**	⇓S	Sn	22 24 25.2	0.0	
ICOR	**Ion Corvin**	**3.66**	**344**		Sn	22 24 25.2	0.0	
PLD	**Plovdiv**	**3.69**	**296**	*e*Pn	Pn	22 23 41.9	-0.4	
PLD				*e*Sn	Sg	22 24 49.9	+6.6	
CVDA	**Cernavoda**	**3.83**	**348**	⇑S	Sn	22 24 29.1	-0.4	
CVDA	**Cernavoda**	**3.83**	**348**		Sn	22 24 28.9	-0.4	
TIRR	**Tirgusor**	**3.90**	**352**	⇑P	Pn	22 23 45.7	+0.5	
TIRR				⇑S	Sn	22 24 29.7	-1.3	
TIRR	**Tirgusor**	**3.90**	**352**	Pn	Pn	22 23 45.6	+0.5	
TIRR				Sn	Sn	22 24 27.8	-3.2	
TIRR	**Tirgusor**	**3.90**	**352**		Pn	22 23 45.7	+0.5	
TIRR					Sn	22 24 29.7	-1.3	
RASA	**Rasa**	**3.91**	**338**	⇑P	Pn	22 23 46.5	+1.2	
RASA				⇑S	Sn	22 24 32.1	+0.6	
RASA	**Rasa**	**3.91**	**338**		Pn	22 23 46.5	+1.2	
RASA					Sn	22 24 32.0	+0.6	
TLBR	**Topalu**	**4.03**	**348**	⇑P	Pn	22 23 47.7	+0.8	
TLBR				⇑S	Sn	22 24 33.6	-0.7	
ZIMR		**4.17**	**318**	⇑P	Pn	22 23 50.6	+1.8	
ZIMR		**4.17**	**318**		Pn	22 23 50.6	+1.8	
HARR	**Harsova**	**4.19**	**348**	⇑P	Pn	22 23 49.0	-0.2	
HARR	**Harsova**	**4.19**	**348**		Pn	22 23 49.0	-0.2	
AMRR	**Amara**	**4.23**	**342**	⇓S	Sn	22 24 39.6	+0.2	
AMRR	**Amara**	**4.23**	**342**		Sn	22 24 39.6	+0.2	
SRS	**Serrai**	**4.27**	**279**	*e*Pn	Pn	22 23 49.3	-1.0	
SRS				*e*Sn	Sg	22 25 02.1	+0.2	
TOPG	**Topolog**	**4.31**	**352**	⇓P	Pn	22 23 52.1	+1.2	
TOPG				⇑S	Sn	22 24 40.7	-0.7	
APE	**Apeiranthos**	**4.53**	**220**	⇑P	Pb	22 24 00.4	-4.3	
APE				⇑S	Sb	22 24 57.3	-2.3	
APE	**Apeiranthos**	**4.53**	**220**		Pb	22 24 00.4	-4.3	
APE					Sb	22 24 57.3	-2.3	
COPA	**Copaceanca**	**4.59**	**322**	⇑P	Pn	22 23 54.9	+0.3	
COPA	**Copaceanca**	**4.59**	**322**		Pn	22 23 54.9	+0.3	
TLCR		**4.59**	**357**	⇑P	Pn	22 23 55.4	+0.7	
TLCR				⇑S	Sn	22 24 46.9	-1.3	
TLCR		**4.59**	**357**		Pn	22 23 55.4	+0.7	
TLCR					Sn	22 24 46.9	-1.3	
SULR		**4.61**	**333**	⇓P	Pn	22 23 56.0	+1.0	
SULR		**4.61**	**333**		Pn	22 23 56.0	+1.0	
CFR	**Carcaliu**	**4.64**	**351**	⇓P	Pn	22 23 55.3	0.0	
CFR				⇑S	Sn	22 24 48.3	-1.1	
CFR	**Carcaliu**	**4.64**	**351**		Pn	22 23 55.4	0.0	
CFR					Sn	22 24 48.3	-1.1	
VTS	**Vitosha**	**4.89**	**296**	*e*Pn	Pn	22 23 59.3	+0.4	
VTS	**Vitosha**	**4.89**	**296**	Pn	Pn	22 23 58.7	-0.2	
VLAD	**Vladila**	**4.90**	**315**	⇓P	Pn	22 23 59.7	+0.7	
VLAD	**Vladila**	**4.90**	**315**		Pn	22 23 59.7	+0.7	
ISR	**Istrita**	**4.91**	**338**	⇑P	Pn	22 23 60.0	+0.8	
ISR	**Istrita**	**4.91**	**338**		Pn	22 23 60.0	+0.8	
HUMR	**Humele**	**5.00**	**323**	⇓P	Pn	22 24 01.8	+1.5	
HUMR	**Humele**	**5.00**	**323**		Pn	22 24 01.8	+1.5	
VAY	**Valandovo**	**5.05**	**280**	*i* Pn	Pg	22 24 22.1	+0.3	
TUDR		**5.11**	**348**	⇓P	Pn	22 24 02.7	+0.8	
TUDR				⇑S	Sn	22 25 00.6	-0.4	
TUDR		**5.11**	**348**		Pn	22 24 02.7	+0.8	
TUDR					Sn	22 25 00.6	-0.4	
SANT	**Santorini**	**5.13**	**216**		Pn	22 24 01.9	-0.2	
LIT	**Litokhoron**	**5.13**	**267**		Pn	22 24 02.7	+0.5	
BISRR	**Bisoca**	**5.26**	**341**	⇑P	Pn	22 24 04.1	+0.1	
BISRR				⇑S	Sn	22 25 04.5	-0.4	
BISRR	**Bisoca**	**5.26**	**341**		Pn	22 24 04.1	+0.1	
BISRR					Sn	22 25 04.5	-0.4	
NEHR	**Nehoiu**	**5.27**	**337**	⇑P	Pn	22 24 04.8	+0.8	
KARP	**Karpathos**	**5.29**	**198**	Pn	Pn	22 24 03.6	-0.8	
BOSS	**Bosilegrad**	**5.37**	**293**	*e*Pn	Pn	22 24 05.9	+0.5	
BOSS				*e*Sn	Sg	22 25 32.2	-5.1	
VARL	**Varlezi**	**5.38**	**350**	⇑P	Pn	22 24 06.4	+0.9	
VARL				⇑S	Sn	22 25 06.9	-0.8	
STIP	**Stip**	**5.39**	**284**	*i* Pn	Pn	22 24 03.7	-2.0	
MLR	**Muntele Rosu**	**5.43**	**335**	Pn	Pn	22 24 07.1	+0.7	
	comp=E,0.8nm,0.3s,baz=180,slow=2.0,SNR=18							
MLR				Sn	Sn	22 25 10.3	+1.2	
	comp=E,0.7nm,0.3s,baz=139,slow=19,SNR=1.6							
MLR	**Muntele Rosu**	**5.43**	**335**	⇑P	Pn	22 24 07.4	+1.1	
MLR	**Muntele Rosu**	**5.43**	**335**		Pn	22 24 05.9	-0.5	
AGG	**Agios Georgios**	**5.50**	**256**		Pn	22 24 08.1	+0.8	
VRI	**Vrincioaia**	**5.56**	**342**	⇓P	Pn	22 24 09.4	+1.4	
VRI				⇑S	Sn	22 25 12.2	+0.1	
VRI	**Vrincioaia**	**5.56**	**342**		Pn	22 24 09.4	+1.4	
VRI					Sn	22 25 12.2	+0.1	
PLOR	**Plostina**	**5.56**	**341**	⇑P	Pn	22 24 09.3	+1.2	
PLOR				⇑S	Sn	22 25 12.6	+0.4	
PLOR	**Plostina**	**5.56**	**341**		Pn	22 24 09.3	+1.2	
PLOR					Sn	22 25 12.6	+0.4	
GHRR		**5.61**	**347**	⇑P	Pn	22 24 09.0	+0.4	
GHRR				⇑S	Sn	22 25 14.4	+1.2	
GHRR		**5.61**	**347**		Pn	22 24 09.0	+0.4	
GHRR					Sn	22 25 14.4	+1.2	
VOIR		**5.70**	**329**	⇑P	Pn	22 24 12.0	+2.0	
VOIR		**5.70**	**329**		Pn	22 24 12.0	+2.0	
BIR	**Birlad**	**5.78**	**349**	⇑P	Pn	22 24 11.0	+0.1	
BIR				⇑S	Sn	22 25 16.0	-1.4	
BIR	**Birlad**	**5.78**	**349**		Pn	22 24 11.0	+0.1	
BIR					Sn	22 25 16.0	-1.4	
ARR	**Arges**	**5.81**	**327**	⇑P	Pn	22 24 12.0	+0.4	
ARR	**Arges**	**5.81**	**327**		Pn	22 24 12.0	+0.4	
FNA	**Florina**	**5.93**	**274**	Pn	Pn	22 24 12.6	-0.6	
BARS	**Barje**	**5.94**	**294**	*e*Pn	Pn	22 24 14.3	+1.1	
BARS				*e*Sn	Sb	22 25 45.6	+5.6	
OZUR		**6.02**	**337**	⇑P	Pn	22 24 15.8	+1.4	
OZUR		**6.02**	**337**		Pn	22 24 15.8	+1.4	
DOPR	**Dopca**	**6.03**	**334**	⇑P	Pn	22 24 15.3	+0.7	
DOPR	**Dopca**	**6.03**	**334**		Pn	22 24 15.3	+0.7	
VASR	**Vaslui**	**6.12**	**351**	⇑P	Pn	22 24 16.8	+1.1	
VASR				⇑S	Sn	22 25 26.8	+0.8	
TESR	**Tescani**	**6.19**	**344**	⇑P	Pn	22 24 16.6	0.0	
TESR	**Tescani**	**6.19**	**344**		Pn	22 24 16.6	0.0	
LOT	**Lotru**	**6.26**	**323**	⇑P	Pn	22 24 18.9	+1.2	
LOT	**Lotru**	**6.26**	**323**		Pn	22 24 18.9	+1.2	
IDI	**Anoyia**	**6.29**	**214**	Pn	Pn	22 24 18.7	+0.5	
	comp=E,0.2nm,0.3s,baz=36,slow=8.7,SNR=1.8							
IDI				Sn	Sn	22 25 29.1	-1.2	
	comp=E,0.3nm,0.3s,baz=341,slow=18,SNR=1.0							
IDI	**Anoyia**	**6.29**	**214**		Pn	22 24 18.8	+0.7	
KIS	**Kishinev**	**6.40**	**358**	*e*P	Pn	22 24 21.0	+1.5	
CSS	**Mathiatis**	**6.52**	**148**	Pn	Pn	22 24 22.4	+1.2	
SELS	**Selova**	**6.55**	**296**	*e*Pn	Pn	22 24 21.2	-0.5	
HERR	**Herculane**	**6.56**	**313**	⇑P	Pn	22 24 22.7	+0.9	
HERR	**Herculane**	**6.56**	**313**		Pn	22 24 22.7	+0.9	
GIRR	**Girov**	**6.64**	**344**	⇑P	Pn	22 24 22.8	0.0	
GIRR	**Girov**	**6.64**	**344**		Pn	22 24 22.9	0.0	
BIZ	**Bicaz**	**6.71**	**342**	⇑S	Sn	22 25 41.1	+0.6	
BIZ	**Bicaz**	**6.71**	**342**		Sn	22 25 41.1	+0.6	
MDVR	**Moldovita**	**6.91**	**310**	⇑P	Pn	22 24 27.0	+0.5	
MDVR	**Moldovita**	**6.91**	**310**		Pn	22 24 27.0	+0.5	
GRUS	**Gruza**	**7.08**	**300**	*e*Pn	Pn	22 24 28.9	0.0	
ARCR	**ARCALIA**	**7.36**	**333**	⇑P	Pn	22 24 33.7	+1.0	
ARCR	**ARCALIA**	**7.36**	**333**		Pn	22 24 33.7	+1.0	
SJES	**Sjenica**	**7.36**	**294**	*e*Pn	Pn	22 24 32.3	-0.5	
TRUS	**Trudelj**	**7.43**	**302**	*e*Pn	Pn	22 24 33.7	0.0	
BZS	**Buzias**	**7.46**	**315**	*e*Pn	Pn	22 24 34.3	+0.2	
BURAR	**Bucovina Array**	**7.57**	**339**	⇑P	Pn	22 24 37.2	+1.5	
BURAR	**Bucovina Array**	**7.57**	**339**		Pn	22 24 37.2	+1.5	
BUR08	**Bucovina Ar. S**	**7.60**	**339**	Pn	Pn	22 24 35.4	-0.7	
BUR08				Sn	Sn	22 26 01.1	-1.4	
DIVS	**Divibare**	**7.65**	**300**	*e*Pn	Pn	22 24 35.3	-0.4	
DIVS	**Divibare**	**7.65**	**300**	Pn	Pn	22 24 36.6	-0.2	
PDG	**Podgorica**	**7.67**	**287**	⇑P	Pn	22 24 40.4	+3.5	
PDG	**Podgorica**	**7.67**	**287**		Pn	22 24 37.5	+0.5	
MMAI	**Mount Meron Ar**	**9.07**	**145**	Pn	Pn	22 24 56.8	+0.6	
	comp=E,0.8nm,0.3s,baz=341,slow=13,SNR=8.3							
KOLS	**Kolonicke sedl**	**9.67**	**332**	*e*PN	Pn	22 25 08.9	+4.6	
AKASG	**Malin Array Be**	**10.10**	**0**	Pn	Pn	22 25 08.5	-1.7	
	comp=E,2.3nm,0.3s,baz=190,slow=11,SNR=12							
AKASG				Sn	Sn	22 26 57.2	-6.5	
	comp=E,1.9nm,0.3s,baz=182,slow=22,SNR=4.8							
AKBB	**Malin Array Si**	**10.10**	**0**	Pn	Pn	22 25 09.1	-1.1	
KWP	**Kalwaria Pacla**	**10.12**	**335**	Pn	Pn	22 25 10.1	-0.4	
VLC	**Villacollemand**	**14.33**	**291**	Pn	Pn	22 26 09.3	+1.1	
NACGM	**Naroch**	**14.40**	**354**	*e*	Pn	22 26 08.0	-1.0	
BFO	**Black Forest**	**16.73**	**304**	Pn	Pn	22 26 39.2	-0.5	
BNI	**Bardonecchia**	**17.08**	**293**	Pn	Pn	22 26 43.8	-0.4	
ECH	**Echery**	**17.44**	**303**		P	22 26 50.0	+0.2	
FINES	**FINESS Array B**	**20.96**	**356**	P	P	22 27 27.4	-0.7	
	comp=E,2.5nm,0.6s,baz=157,slow=11,SNR=18							
KLMR	**Klimovskoe**	**21.26**	**14**	*e*P	P	22 27 31.7	+0.3	
KLMR				AMP		22 27 37.6		
	comp=E,11nm,1.3s							
GEYT	**Alibeck**	**22.52**	**87**	P	P	22 27 45.6	+0.4	
	comp=E,5.2nm,0.8s,baz=299,slow=10.0,SNR=11							
GYA0B	**ALIBECK ARRAY**	**22.52**	**87**	P	P	22 27 45.2	0.0	
GYA0B				IAmb	IAmb	22 27 48.5		
	comp=E,7.6nm,1.0s							
NB2	**NORSAR Subarra**	**23.25**	**338**	P	P	22 27 52.7	+0.2	
	comp=E,0.6nm,0.7s,baz=145,slow=10							
NOA	**NORSAR Array B**	**23.25**	**338**	P	P	22 27 52.8	+0.2	
	comp=E,0.8nm,0.6s,baz=140,slow=9.3,SNR=7.0							
ARU	**Arti**	**24.82**	**40**	P	P	22 28 06.8	-0.6	
	comp=E,0.4nm,0.3s,baz=217,slow=9.0,SNR=6.0							
ARU	**Arti**	**24.82**	**40**	P	P	22 28 07.2	-0.3	
ARU				IAmb	IAmb	22 28 08.8		
	comp=E,3.3nm,0.8s							
ESBB	**Sonseca Array**	**25.27**	**279**	P	P	22 28 11.4	-0.3	
ESBB				IAmb	IAmb	22 28 20.7		
	comp=E,2.8nm,1.1s							
ESDC	**Sonseca Array**	**25.27**	**279**	P	P	22 28 11.4	-0.4	
	comp=E,2.7nm,1.0s,baz=68,slow=8.0,SNR=14							
PAB	**San Pablo**	**25.59**	**279**	P	P	22 28 15.0	+0.3	
PAB				IAmb	IAmb	22 28 20.0		
	comp=E,3.3nm,0.8s							
EKA	**Eskdalemuir Ar**	**25.89**	**316**	P	P	22 28 16.9	-0.2	
	comp=E,0.7nm,0.6s,baz=113,slow=12,SNR=1.5							
HRA	**Herat**	**26.86**	**93**	P	P	22 28 26.4	0.0	
HRA				IAmb	IAmb	22 28 28.9		
	comp=E,3.3nm,1.0s							
MDT	**Midelt**	**28.05**	**265**	P	P	22 28 36.7	-0.2	
	comp=E,1.9nm,1.0s,baz=84,slow=9.2,SNR=3.5							
PFVI	**Vila Bisbo**	**29.64**	**276**	P	P	22 28 51.2	+0.3	
KK31	**Karatay Array**	**30.67**	**71**	P	P	22 28 58.9	-1.1	
KK31				IAmb	IAmb	22 29 02.8		
	comp=E,1.2nm,1.0s							
KKAR	**Karatay Array**	**30.67**	**71**	P	P	22 28 58.9	-1.1	
KKAR				IAmb	IAmb	22 29 02.8		
	comp=E,1.2nm,1.0s							
GAR	**Garm**	**31.45**	**79**	P	P	22 29 06.8	-0.2	
TORD	**Torodi Ar. Bea**	**36.43**	**229**	P	P	22 29 50.2	-0.1	
	comp=E,1.0nm,0.8s,baz=39,slow=9.4,SNR=6.0							
TORD				PcP	PcP	22 32 16.1	+1.6	
	comp=E,0.5nm,0.8s,baz=63,slow=1.9,SNR=2.8							
MK31	**Makanchi Array**	**38.28**	**63**	P	P	22 30 04.0	-1.8	
MKAR	**Makanchi Array**	**38.28**	**63**	P	P	22 30 06.3	+0.6	
	comp=E,0.6nm,0.6s,baz=273,slow=8.8,SNR=4.8							
ZALV	**Zalesovo Beam**	**39.02**	**51**	P	P	22 30 12.2	+0.4	
	comp=E,1.4nm,0.6s,baz=273,slow=9.1,SNR=4.5							
MACI	**Morro de la Ar**	**39.24**	**266**	P	P	22 30 14.6	+0.4	
WMQ	**Urumqi**	**42.68**	**66**	*e*P	P	22 30 42.8	+0.5	
SHL	**Shillong**	**53.59**	**86**	P	P	22 32 05.8	-1.1	
SHL				IAmb	IAmb	22 32 09.4		
	comp=E,3.7nm,0.9s							
SONM	**Songino Array**	**53.66**	**55**	P	P	22 32 07.7	+0.6	
	comp=E,2.0nm,0.7s,baz=291,slow=4.0,SNR=4.0							
SONM				LR	LR	22 56 22.1		
	comp=E,228nm,20.9s,baz=232,slow=38							
SCHQ	**Schefferville**	**61.14**	**319**	P	P	22 32 59.5	-0.1	
	comp=E,1.6nm,0.7s,baz=76,slow=4.2,SNR=3.8							
SCHQ	**Schefferville**	**61.14**	**319**	P	P	22 32 59.8	+0.1	
YKA	**Yellowknife Ar**	**73.21**	**343**	P	P	22 34 16.6	+0.7	
	comp=E,0.8nm,1.1s,baz=42,slow=6.6,SNR=3.7							
ILAR	**Eielson Array**	**74.92**	**358**	P	P	22 34 26.9	+0.9	
	comp=E,0.2nm,0.5s,baz=352,slow=5.5,SNR=2.1							

ISK 03 22:28:13.1, 40.61N×29.18E, h5km, ML1.3/3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TRML	**Termal-Yalova**	**0.01**	**313**			PG	Pg	22 28 14.2	+0.1
TSVK	**Tesvikiye-Yalo**	**0.07**	**287**			PG	Pg	22 28 15.5	+0.7
TSVK						SG	Sg	22 28 16.8	+0.8
CFTB	**Yalova**	**0.11**	**57**			PG	Pg	22 28 15.8	+0.4
GEMT	**Gemlik**	**0.17**	**178**			PG	Pg	22 28 17.2	+0.7
GEMT						SG	Sg	22 28 19.6	+0.9
ARMT	**Armutlu**	**0.25**	**261**			PG	Pg	22 28 18.4	+0.5
ARMT						SG	Sg	22 28 21.9	+0.7
MDNY	**Mudanya-Bursa**	**0.33**	**224**			PG	Pg	22 28 19.9	+0.5
MDNY						SG	Sg	22 28 25.1	+1.4

DDA 03 22:28:57.4, 40.59N×29.27E, h7km±1km, ML1.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BUY	**Buyukada**	**0.28**	**336**	*i* P		Pg		22 29 03.4	+0.4
BUY				IAML				22 29 07.0	
	comp=N,90nm,0.3s								
BUY				IAML				22 29 07.0	
	comp=E,117nm,0.3s								
BUY				*i* S		Sg		22 29 07.2	+0.4
IGD	**Bursa**	**0.33**	**189**	*i* P		Pg		22 29 04.6	+0.7
IGD				IAML				22 29 06.0	
	comp=N,92nm,1.3s								
IGD				*i* S		Sb		22 29 10.1	-1.1
ULDT	**Uludag**	**0.46**	**193**	*i* P		Pg		22 29 06.7	+0.3
ULDT				*i* S		Sg		22 29 13.8	+1.3
ELBA	**Catalca**	**0.84**	**311**	*i* P		Pg		22 29 13.7	0.0
ELBA				*i* S		Sg		22 29 23.0	-1.6

*IDC **03** 22:30:02.2±3.4, 3.°57S×80.°56W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.6/25, mbtmp3.9/4, ML4.1/1, Error ellipse: s-maj=124.7km s-min=34.1km az=44.0*
*ARE **03** 22:30:03.2±2.3, 4.°1S±0.°1×81.°0W±0.°1, h36km±6km, ML4.7, mb4.1/13(NEIC), Error ellipse: s-maj=18.4km s-min=11.0km az=219.0*
*NEIC **03** 22:30:05.5±1.7, 4.°1S±0.°1×81.°0W±0.°2, h52km±11km, Error ellipse: s-maj=25.8km s-min=13.5km az=51.0*

ISC 03 22:30:04.8±0.7, 4.°1S±0.°1×81.°0W±0.°1, h39km, n20, σ0.°91/19, mb4.2/9, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
NNA	**Nana**	**8.87**	**153**	Pn		Pn		22 32 11.6	+1.0
PAYG	**Puerto Ayora**	**9.89**	**290**	Pn		Pn		22 32 24.6	+0.1
LPAZ	**La Paz**	**17.52**

PSAC1	**Pilbara Seismi**	**31.85**	**192**	P	**P**	**22 42 30.3**	**-0.3**
PSAC2	**Pilbara Seismi**	**31.86**	**192**	P	**P**	**22 42 30.4**	**-0.4**
PSA00	**Pilbara Seismi**	**31.88**	**192**	P	**P**	**22 42 30.6**	**-0.3**
LZH	**Lanzhou**	**33.37**	**325**	*e*P	P	22 42 48.6	+4.6
LZH				pP	pwP	22 43 03.4	+0.2
LZH				sP	sP	22 43 09.1	+7.5
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				LR	LR		
	comp=N,300nm,15.7s						
LZH				LR	LR		
	comp=E,200nm,15.5s						
LZH				LR	LR		
	comp=Z,360nm,16.0s						
HHC	**Hu-ho-hao-te**	**33.68**	**339**	*e*P	**P**	**22 42 46.4**	**-0.2**
HHC				pP	sP	22 43 00.2	-3.2
HHC				S	**S**	**22 48 01.8**	**-4.3**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,6.9s						
HHC				LR	LR		
	comp=N,310nm,15.5s						
HHC				LR	LR		
	comp=E,300nm,17.7s						
HHC				LR	LR		
	comp=Z,450nm,18.4s						
AS31	**Alice Springs**	**34.01**	**168**	P	**P**	**22 42 49.6**	**0.0**
ASAR	**Alice Springs**	**34.01**	**168**	P	**P**	**22 42 48.6**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=348,slow=7.2,SNR=12						
ASAR				PcP	**PcP**	**22 45 27.4**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=346,slow=3.2,SNR=4.3						
ASAR				LR	LR	22 56 54.3	
	comp=Z,248nm,21.8s,baz=276,slow=37						
USRK	**Ussuriysk Ar.**	**34.59**	**7**	P	**P**	**22 42 54.6**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=197,slow=4.5,SNR=1.8						
GTA	**Gaotai**	**37.97**	**325**	*e*P	**P**	**22 43 23.6**	**+0.2**
GTA				pP	sP	22 43 37.8	-3.3
GTA				sP	pwP	22 43 43.8	+1.1
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				LR	LR		
	comp=N,200nm,18.7s						
GTA				LR	LR		
	comp=E,270nm,20.0s						
GTA				LR	LR		
	comp=Z,390nm,20.0s						
KLR	**Kul'dur**	**39.54**	**5**	P	**P**	**22 43 38.7**	**+2.5**
	comp=Z,1.0nm,0.6s,baz=207,slow=6.8,SNR=2.1						
H11N1	**WAKE ISLAND Hy**	**40.07**	**71**	T	T	23 27 08.1	
	baz=265,slow=74,SNR=20						
H11N2	**WAKE ISLAND Hy**	**40.07**	**71**	T	T	23 27 12.9	
	baz=265,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy**	**40.09**	**71**	T	T	23 27 11.3	
	baz=265,slow=74,SNR=12						
ULN	**Ulaanbaatar**	**41.38**	**340**	P	**P**	**22 43 51.1**	**-0.6**
ULN				IAmb	IAmb	22 43 54.4	
	comp=Z,6.6nm,1.1s						
SONM	**Songino Array**	**41.58**	**339**	P	**P**	**22 43 54.8**	**+1.5**
	comp=Z,3.2nm,0.9s,baz=157,slow=9.3,SNR=14						
STKA	**Stephens Creek**	**43.84**	**162**	P	**P**	**22 44 11.6**	**0.0**
	comp=Z,0.9nm,0.4s,baz=337,slow=7.2,SNR=5.8						
STKA	**Stephens Creek**	**43.84**	**162**	P	**P**	**22 44 11.3**	**-0.3**
WMQ	**Urumqi**	**47.81**	**322**	*e*P	**P**	**22 44 43.8**	**+0.9**
MK31	**Makanchi Array**	**52.62**	**323**	P	**P**	**22 45 17.8**	**-1.4**
MKAR	**Makanchi Array**	**52.62**	**323**	P	**P**	**22 45 19.1**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=117,slow=8.0,SNR=18						
MKAR				PcP	**PcP**	**22 46 29.4**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=104,slow=3.3,SNR=1.7						
ZALV	**Zalesovo Beam**	**55.21**	**331**	P	**P**	**22 45 37.7**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=126,slow=6.9,SNR=5.2						
ARSB	**Arslanbob**	**56.55**	**313**	P	**P**	**22 45 47.0**	**-1.0**
ARSB				IAmb	IAmb	22 46 06.0	
	comp=Z,3.0nm,1.1s						
KURK	**Kurchatov**	**56.66**	**326**	P	**P**	**22 45 46.7**	**-1.6**
KURK				IAmb	IAmb	22 45 49.4	
	comp=Z,3.7nm,0.7s						
GAR	**Garm**	**57.87**	**310**	P	**P**	**22 45 55.2**	**-2.0**
KBL	**Kabul**	**57.89**	**305**	P	**P**	**22 45 55.6**	**-2.0**
KBL				IAmb	IAmb	22 45 57.9	
	comp=Z,3.5nm,0.6s						
KK31	**Karatay Array**	**58.83**	**315**	P	**P**	**22 46 03.3**	**-0.4**
KK31				IAmb	IAmb	22 46 04.5	
	comp=Z,3.3nm,0.9s						
KKAR	**Karatay Array**	**58.83**	**315**	P	**P**	**22 46 03.3**	**-0.5**
KKAR				IAmb	IAmb	22 46 04.5	
	comp=Z,3.3nm,0.9s						
NRIK	**Noril'sk**	**64.56**	**346**	P	**P**	**22 46 42.7**	**+0.9**
	comp=Z,4.7nm,0.6s,baz=156,slow=5.7,SNR=6.1						
GEYT	**Alibeck**	**67.11**	**307**	P	**P**	**22 46 59.4**	**+0.5**
	comp=Z,5.1nm,1.0s,baz=103,slow=6.2,SNR=10						
ARU	**Arti**	**69.81**	**327**	P	**P**	**22 47 14.8**	**-0.5**
ARU				IAmb	IAmb	22 47 15.9	
	comp=Z,3.3nm,0.5s						
AKH	**Akhalkalaki**	**78.47**	**310**	P	**P**	**22 48 05.3**	**-1.0**
AKH				IAmb	IAmb	22 48 09.1	
	comp=Z,5.8nm,1.1s						
ILAR	**Eielson Array**	**79.71**	**26**	P	**P**	**22 48 14.4**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=265,slow=3.3,SNR=4.1						
KLMR	**Klimovskoe**	**80.11**	**330**	*e*	**P**	**22 48 14.0**	**-0.6**
KLMR				AMP		22 48 16.8	
	comp=Z,10.0nm,1.2s						
ARCES	**ARCESS Array B**	**84.76**	**340**	P	**P**	**22 48 39.8**	**+1.1**
	comp=Z,4.0nm,0.6s,baz=80,slow=6.5,SNR=25						
ARE0	**ARCESS Array S**	**84.76**	**340**	P	**P**	**22 48 39.1**	**+0.4**
BRTR	**Keskin Array B**	**86.11**	**309**	P	**P**	**22 48 47.2**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=109,slow=4.7,SNR=2.2						
FINES	**FINESS Array B**	**86.47**	**332**	P	**P**	**22 48 48.1**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=66,slow=4.7,SNR=19						
AKASG	**Malin Array Be**	**87.15**	**321**	P	**P**	**22 48 50.4**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=62,slow=4.7,SNR=3.9						
VNDA	**Vanda**	**89.42**	**173**	P	**P**	**22 49 01.5**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=311,slow=6.5,SNR=4.2						
NB2	**NORSAR Subarra**	**93.34**	**334**	P	**P**	**22 49 19.3**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=67,slow=4.6						
NOA	**NORSAR Array B**	**93.34**	**334**	P	**P**	**22 49 19.2**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=66,slow=4.6,SNR=5.0						
YKA	**Yellowknife Ar**	**94.04**	**24**	P	**P**	**22 49 25.1**	**+2.4**
	comp=Z,0.8nm,0.7s,baz=299,slow=4.5,SNR=7.3						
TXAR	**Lajitas Array**	**117.86**	**49**	PKP	**PKiKP**	**22 54 54.1**	**+2.2**
	comp=Z,0.3nm,0.8s,baz=266,slow=2.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**120.77**	**292**	PKP	**PKPdf**	**22 54 57.3**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=61,slow=2.3,SNR=2.6						
PLCA	**Paso Flores**	**145.63**	**157**	PKPbc	**PKPab**	**22 55 45.5**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=180,slow=4.0,SNR=2.0						
PLCA	**Paso Flores**	**145.63**	**157**	PKPdf	**PKPdf**	**22 55 42.6**	**-0.9**

*IDC **03** 22:56:22.9±0.7,29.07N×142.55E,h0km,mb3.9/12, mb1 4.1/14,mb1mx3.9/33,mbtmp3.9/14,ML3.3/2,MS3.7/1, Ms1 3.7/1,ms1mx2.7/48,Error ellipse: s-maj=25.0km s-min=17.7km az=95.0*

*NEIC **03** 22:56:26.5±1.1,29.07N±0.05×142.6E±0.1,h25km±4km, mb4.4/8,Error ellipse: s-maj=14.9km s-min=5.4km az=72.0.*

ISC 03 22:56:26.9±0.6,29.10N±0.05×142.5E±0.1,h27km,n31, σ1s36/35,mb4.0/16,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.02**	**188**	Pn	**Pn**	**22 56 58.5**	**-0.7**
	6.2nm,0.3s,baz=46,slow=23,SNR=6.4						
JCJ				Sn	**Sn**	**22 57 22.6**	**-0.9**
	30nm,0.3s,baz=308,slow=23,SNR=8.9						
JHJ2	**Mitsune**	**4.62**	**331**	Pn	**Pn**	**22 57 35.5**	**+0.7**
JHJ	**Hachijo jima 2**	**4.63**	**330**	Pn	**Pn**	**22 57 36.0**	**+0.9**
	5.0nm,0.3s,baz=53,slow=20,SNR=1.8						
JHJ				Sn	**Sn**	**22 58 26.1**	**-1.9**
	13nm,0.3s,baz=246,slow=19,SNR=2.5						
MJAR	**Matsushiro Arr**	**8.25**	**335**	Pn	**Pn**	**22 58 24.9**	**0.0**
	0.2nm,0.3s,baz=154,slow=9.9,SNR=9.4						
MJAR				Sn	**Sn**	**22 59 52.1**	**-5.1**
	0.1nm,0.3s,baz=139,slow=22,SNR=1.9						
SONM	**Songino Array**	**33.50**	**314**	P	**P**	**23 03 07.6**	**+3.6**
	0.9nm,0.8s,baz=99,slow=4.8,SNR=4.9						
ZALV	**Zalesovo Beam**	**48.18**	**318**	P	**P**	**23 05 05.6**	**+0.9**
	0.7nm,0.4s,baz=103,slow=7.9,SNR=4.3						
WB0	**Warramunga Arr**	**49.21**	**190**	P	**P**	**23 05 12.2**	**-0.7**
WB0				IAmb	IAmb	23 05 20.4	
	comp=Z,5.5nm,1.0s						
WR0	**Warramunga Arr**	**49.38**	**190**	P	**P**	**23 05 13.6**	**-0.6**
WB2	**Warramunga Arr**	**49.39**	**190**	P	**P**	**23 05 14.3**	**+0.1**
WB2				IAmb	IAmb	23 05 21.2	
	comp=Z,5.1nm,0.9s						
WRA	**Warramunga Arr**	**49.39**	**190**	P	**P**	**23 05 13.6**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=14,slow=8.7,SNR=9.7						
WRA				PcP	**PcP**	**23 06 36.8**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=3.3,slow=3.7,SNR=1.5						
MK31	**Makanchi Array**	**49.44**	**308**	P	**P**	**23 05 15.5**	**+1.0**
MKAR	**Makanchi Array**	**49.44**	**308**	P	**P**	**23 05 14.8**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=91,slow=9.1,SNR=5.0						
MKAR				LR	LR	23 26 52.8	
	comp=Z,67nm,18.5s,baz=294,slow=37						
FITZ	**Fitzroy Crossi**	**49.67**	**201**	P	**P**	**23 05 17.3**	**+0.9**
KDAK	**Kodiak Island**	**52.60**	**38**	P	**P**	**23 05 37.7**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=222,slow=16,SNR=4.1						
KDAK	**Kodiak Island**	**52.60**	**38**	P	**P**	**23 05 37.9**	**-0.1**
ILAR	**Eielson Array**	**55.83**	**29**	P	**P**	**23 06 01.1**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=252,slow=7.1,SNR=6.2						
KK31	**Karatay Array**	**58.16**	**305**	P	**P**	**23 06 18.6**	**+0.3**
KKAR	**Karatay Array**	**58.16**	**305**	P	**P**	**23 06 18.9**	**+0.6**
KKAR				IAmb	IAmb	23 06 21.7	
	comp=Z,1.2nm,0.7s						
INK	**Inuvik**	**61.10**	**25**	P	**P**	**23 06 38.6**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=322,slow=10,SNR=3.9						
INK	**Inuvik**	**61.10**	**25**	P	**P**	**23 06 37.4**	**-0.7**
INK				IAmb	IAmb	23 06 40.0	
	comp=Z,4.0nm,0.9s						
YKA	**Yellowknife Ar**	**70.25**	**29**	P	**P**	**23 07 37.4**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=295,slow=6.3,SNR=10						
FINES	**FINESS Array B**	**76.28**	**334**	P	**P**	**23 08 13.0**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=63,slow=3.7,SNR=1.6						
NVAR	**Mina Array Bea**	**79.06**	**52**	P	**P**	**23 08 30.0**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=264,slow=4.9,SNR=6.0						
LRM	**Limekiln Ridge**	**79.22**	**43**	P	**P**	**23 08 28.9**	**-1.0**
NB2	**NORSAR Subarra**	**81.86**	**338**	P	**P**	**23 08 43.3**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=42,slow=4.8						
NOA	**NORSAR Array B**	**81.86**	**338**	P	**P**	**23 08 43.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=40,slow=5.0,SNR=3.8						
PDAR	**Pinedale Array**	**82.60**	**45**	P	**P**	**23 08 48.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=180,slow=0.4,SNR=4.2						
TXAR	**Lajitas Array**	**94.18**	**53**	P	**P**	**23 09 45.2**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=287,slow=4.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**123.46**	**312**	PKP	**PKiKP**	**23 15 22.5**	**-0.1**
	comp=Z,1.5nm,1.4s,baz=51,slow=2.6,SNR=1.8						
LPAZ	**La Paz**	**149.10**	**72**	PKPbc	**PKiKP**	**23 16 14.2**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=355,slow=1.9,SNR=5.7						
LPAZ	**La Paz**	**149.10**	**72**		**PKPbc**	**23 16 12.3**	**-1.8**

*IDC **03** 23:06:09.8±1.0,27.14N×103.33E,h0km,mb3.7/9, mb1 3.8/9,mb1mx3.6/36,mbtmp3.7/9,MS3.2/1,Ms1 3.4/1, ms1mx2.7/55,Error ellipse: s-maj=41.8km s-min=17.9km az=59.0*

*BJI **03** 23:06:10.8±0.0,27.09N×103.34E,h7km,mb4.0/4, ML3.9/19,Ms3.8/4,Ms7 3.5/8*

*NEIC **03** 23:06:11.2±2.4,27.22N±0.07×103.33E±0.06,h10km±1km, mb4.3/14,Error ellipse: s-maj=12.4km s-min=7.7km az=152.0*

ISC 03 23:06:10.9±0.5,27.13N±0.04×103.27E±0.06,h10km,n35, σ1s67/41,mb4.1/16,2D,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.06**	**193**	⇓*e*Pg	**Pb**	**23 06 49.0**	**+0.6**
KMI				Sg	**Sb**	**23 07 16.8**	**+2.6**
KMI				smax	smax		
	comp=N,310nm,1.1s						
KMI				smax	smax		
	comp=E,400nm,1.2s						
KMI	**Kunming**	**2.06**	**193**		**Pb**	**23 06 48.8**	**+0.3**
GYA	**Guiyang**	**3.11**	**102**	⇓Pn	**Pn**	**23 07 02.3**	**+2.2**
GYA				Sn	**Sn**	**23 07 39.7**	**+2.3**
GYA				Sg	**Sg**	**23 07 49.8**	**-1.1**
GYA				smax	smax		
	comp=N,320nm,0.8s						
GYA				smax	smax		
	comp=E,170nm,0.9s						
GYA				LR	LR		
	comp=E,690nm,4.6s						
GYA				LR	LR		
	comp=Z,470nm,5.6s						
CD2	**Chengdu**	**3.79**	**6**	Pn	**Pn**	**23 07 12.4**	**+3.0**
CD2				Pg	**Pg**	**23 07 23.0**	**-0.5**
CD2				Sn	**Sn**	**23 07 57.5**	**+3.5**
CD2				Sg	**Sg**	**23 08 15.7**	**+3.1**
CD2				smax	smax		
	comp=N,910nm,0.7s						
CD2				smax	smax		
	comp=E,2μm,1.2s						
SLVN	**Son La**	**5.80**	**174**		**Pn**	**23 07 39.3**	**+2.2**
ENH	**Enshi**	**6.30**	**59**		**Pn**	**23 07 43.9**	**+0.1**
XAN	**Xi'an**	**8.43**	**34**	P	**Pn**	**23 08 12.8**	**-0.4**
XAN				S	**Sn**	**23 09 45.4**	**-3.1**
XAN				smax	smax		
	comp=N,110nm,1.1s						
XAN				smax	smax		
	comp=E,120nm,0.9s						
XAN				LR	LR		
	comp=Z,500nm,7.6s						
XAN	**Xi'an**	**8.43**	**34**		**Pn**	**23 08 13.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**9.51**	**206**	LR	LR	23 12 37.8	
	comp=Z,132nm,20.1s,baz=5.0,slow=41						
WHN	**Wuhan**	**10.30**	**68**	P	**Pn**	**23 08 40.9**	**+2.2**
WHN				S	**Sn**	**23 10 33.1**	**-1.1**
WHN				LR	LR		
	comp=Z,560nm,10.4s						
GTA	**Gaotai**	**12.58**	**348**	*e*P	**Pn**	**23 09 11.1**	**+1.1**
GTA				pP		23 09 15.4	
GTA				sP		23 09 18.3	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GTA				LR	LR		
	comp=N,190nm,9.8s						
GTA				LR	LR		
	comp=Z,110nm,13.3s						
SONM	**Songino Array**	**20.81**	**6**	P	**P**	**23 10 53.1**	**+0.6**
	1.0nm,0.7s,baz=186,slow=9.1,SNR=6.4						
WMQ	**Urumqi**	**20.87**	**327**	*e*P	Pn	23 10 56.8	+1.2
IPM	**Ipoh**	**22.63**	**186**	P	**P**	**23 11 11.4**	**-0.7**
IPM				IAmb	IAmb	23 11 16.1	
	comp=Z,5.0nm,0.7s						
KSRS	**Korea Array**	**23.18**	**57**	P	**P**	**23 11 16.9**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=242,slow=9.0,SNR=2.5						
KKM	**Kota Kinabalu**	**24.33**	**147**	P	**P**	**23 11 29.6**	**+0.6**
KKM				IAmb	IAmb	23 11 38.6	
	comp=Z,12nm,1.0s						
PRZ	**Przheval'sk**	**25.39**	**314**	P	**P**	**23 11 36.7**	**-1.9**
PRZ				IAmb	IAmb	23 11 52.3	
	comp=Z,6.6nm,1.0s						
TARG	**Taragay, Kyrgy**	**25.43**	**311**	P	**P**	**23 11 39.7**	**+0.5**
TARG				IAmb	IAmb	23 11 48.4	
	comp=Z,3.0nm,0.7s						
MK31	**Makanchi Array**	**25.66**	**325**	P	**P**	**23 11 41.6**	**+0.8**
MKAR	**Makanchi Array**	**25.66**	**325**	P	**P**	**23 11 41.8**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=134,slow=10,SNR=12						
MYLDM	**Lahad Datu**	**26.22**	**144**	P	**P**	**23 11 44.6**	**-1.5**
MYLDM				IAmb	IAmb	23 12 04.1	
	comp=Z,7.2nm,1.0s						
NIL	**Nilore**	**26.63**	**291**	P	**P**	**23 11 51.4**	**+1.6**
NIL				IAmb	IAmb	23 12 04.5	
	comp=Z,3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**30.05**	**338**	P	**P**	**23 12 21.5**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=144,slow=10.0,SNR=4.2						
KURK	**Kurchatov**	**30.11**	**328**	P	**P**	**23 12 20.7**	**+0.2**
ARU	**Arti**	**43.19**	**325**	P	**P**	**23 14 11.7**	**-0.1**
PEA0B	**Petropavlovsk-**	**47.59**	**42**	P	**P**	**23 14 45.5**	**-1.2**
WRA	**Warramunga Arr**	**55.65**	**144**	P	**P**	**23 15 47.5**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=333,slow=8.4,SNR=17						
ASAR	**Alice Springs**	**58.53**	**147**	P	**P**	**23 16 08.2**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=325,slow=6.5,SNR=6.1						
ATD	**Arta Tunnel**	**58.58**	**267**	P	**P**	**23 16 04.7**	**-3.6**
FINES	**FINESS Array B**	**60.48**	**327**	P	**P**	**23 16 20.7**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=72,slow=4.5,SNR=1.1						
ARCES	**ARCESS Array B**	**60.59**	**337**	P	**P**	**23 16 21.7**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=100,slow=7.6,SNR=3.8						
NOA	**NORSAR Array B**	**67.62**	**328**	P	**P**	**23 17 07.7**	**0.0**
	comp=Z,0.3nm,0.6s,baz=74,slow=6.3,SNR=2.2						
MDM	**Murphy Dome**	**73.14**	**25**	P	**P**	**23 17 40.5**	**-0.8**
MDM				IAmb	IAmb	23 17 42.5	
	comp=Z,2.9nm,1.0s						
VLC	**Villacollemand**	**73.58**	**311**	P	**P**	**23 17 42.7**	**-1.6**
VLC				IAmb	IAmb	23 17 50.5	
	comp=Z,5.2nm,1.0s						
SML	**Sawmill**	**74.60**	**28**	P	**P**	**23 17 48.9**	**-1.1**

*IDC **03** 23:36:10.5±1.0,84.73N×100.87E,h0km,mb3.4/7, mb1 3.7/9,mb1mx3.4/55,mbtmp3.5/9,ML3.2/2,MS3.3/2, Ms1 3.3/2,ms1mx2.6/51,Error ellipse: s-maj=35.5km s-min=19.8km az=122.0*

ISC 03 23:36:11.9±0.8,84.8N±0.1×98.56E±0.10,h10km,n11, σ1s53/11,mb3.4/7,North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZFI2	**Zemlya Franca-**	**7.19**	**265**	*e*P	**Pn**	**23 37 57.5**	**+0.7**
ZFI2				*e*S	**Sn**	**23 39 15.4**	**-3.0**
	6.6nm,1.0s						
NRIK	**Noril'sk**	**15.65**	**195**	Pn	**Pn**	**23 39 51.0**	**-1.1**
	0.4nm,0.3s,baz=26,slow=10,SNR=4.5						
ARCES	**ARCESS Array B**	**19.68**	**267**	P	**Pn**	**23 40 43.5**	**+1.4**
	0.1nm,0.3s,baz=27,slow=12,SNR=2.2						
ILAR	**Eielson Array**	**27.95**	**56**	P	**P**	**23 42 01.5**	**-0.3**
	0.2nm,0.7s,baz=347,slow=7.4,SNR=2.0						
BVAR	**Borovoye Array**	**32.60**	**212**	P	**P**	**23 42 43.9**	**+0.9**
	0.3nm,0.6s,baz=25,slow=7.9,SNR=1.5						
BVAR				LR	LR	23 57 09.4	
	comp=Z,34nm,21.5s,baz=17,slow=38						
AKTO	**Aktyubinsk**	**35.89**	**225**	LR	LR	23 59 12.9	
	comp=Z,65nm,20.5s,baz=28,slow=38						
SONM	**Songino Array**	**37.15**	**171**	P	**P**	**23 43 21.5**	**-0.9**
	0.3nm,0.4s,baz=14,slow=6.5,SNR=2.4						
MKAR	**Makanchi Array**	**38.37**	**198**	P	**P**	**23 43 33.2**	**+0.6**
	0.7nm,0.7s,baz=6.7,slow=7.7,SNR=5.9						
PDAR	**Pinedale Array**	**52.11**	**26**	P	**P**	**23 45 20.5**	**-1.4**
	0.2nm,0.7s,baz=59,slow=3.5,SNR=2.5						
TXAR	**Lajitas Array**	**65.72**	**21**	P	**P**	**23 46 56.5**	**+0.2**
	0.3nm,0.8s,baz=12,slow=4.7,SNR=1.8						
TORD	**Torodi Ar. Bea**	**77.62**	**278**	P	**P**	**23 48 09.4**	**+1.4**
	0.9nm,1.1s,baz=350,slow=4.7,SNR=2.8						

*STR **03** 23:58:31.5±0.9,51.1N±9.1×1.3E±.,h0km,mb3.3/3, MLv4.5/13,smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11 preliminary*

*DNK **03** 23:58:37.5±2.6,49.82N×12.94E,h81km±999km*

*IDC **03** 23:58:38.7±1.2,50.16N×12.42E,h0km,mb3.4/2, mb1 3.4/6,mb1mx3.2/53,mbtmp3.3/6,ML3.2/4,Error ellipse: s-maj=15.4km s-min=9.6km az=67.0*

*IPEC **03** 23:58:39.9±0.1,50.23N×12.48E,h10km,ML3.6/10,Error ellipse: s-maj=0.9km s-min=0.5km az=33.0*

*LDG **03** 23:58:39.5±0.2,50.19N×12.61E,h15km,Ml3.8/32,Error ellipse: s-maj=5.6km s-min=4.6km az=128.0*

*BGR **03** 23:58:40.2±0.2,50.23N×12.44E,h10km±1km,ML3.8/7, Error ellipse: s-maj=1.1km s-min=1.1km az=93.0*

*WBNET **03** 23:58:40.4,50.23N×12.45E,h9km,Ml3.6*

*CLL **03** 23:58:40.7±0.3,50.23N×12.44E,h8km±1km,ML3.6/8*

*BNS **03** 23:58:42.1±0.4,50.14N×12.35E,h10km,ML3.4*

ISC 03 23:58:39.1±0.7,50.19N±0.01×12.43E±0.01,h15km±3km, n189,σ1s69/320,5C-5D,Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.04**	**18**	*i* Pg	**Pg**	**23 58 42.1**	**+0.2**
NKC				*i* Sg	**Sg**	**23 58 43.2**	**-0.5**
NKC	**Novy Kostel**	**0.04**	**18**	*e*PG	**Pg**	**23 58 41.7**	**-0.2**
NKC				*e*SG	**Sg**	**23 58 43.0**	**-0.7**
	comp=Z,42μm,0.3s						
NKC	**Novy Kostel**	**0.04**	**18**	⇑P	**Pg**	**23 58 42.1**	**+0.2**
NKC				S	**Sg**	**23 58 43.2**	**-0.5**
SKC	**Skalna**	**0.05**	**241**	⇑P	**Pg**	**23 58 42.6**	**+0.7**
SKC				S	**Sg**	**23 58 44.1**	**+0.4**
VAC	**Vackov**	**0.05**	**322**	⇓P	**Pg**	**23 58 42.3**	**+0.3**
VAC				S	**Sg**	**23 58 43.5**	**-0.3**
KVC	**Kvetna**	**0.06**	**77**	⇑P	**Pg**	**23 58 42.2**	**+0.2**
KVC				S	**Sg**	**23 58 43.4**	**-0.5**
LBCW	**Luby**	**0.07**	**352**	⇓P	**Pg**	**23 58 42.3**	**+0.2**
LBCW				S	**Sg**	**23 58 43.7**	**-0.4**
KACW	**Kaceov**	**0.08**	**131**	⇓P	**Pg**	**23 58 42.8**	**+0.7**
KACW				S	**Sg**	**23 58 44.5**	**+0.4**
ROHR	**Rohrbach**	**0.08**	**300**	*i* Pg	**Pg**	**23 58 42.6**	**+0.4**
ROHR				*i* Sg	**Sg**	**23 58 44.2**	**-0.1**
	41μm,0.2s						
STCW	**Studenec**	**0.09**	**42**	⇑P	**Pg**	**23 58 42.4**	**+0.1**
STCW				S	**Sg**	**23 58 43.6**	**-0.7**
WERN	**Wernitzgruen**	**0.10**	**341**	*i* Pg	**Pg**	**23 58 42.7**	**+0.3**
WERN				*i* Sg	**Sg**	**23 58 44.2**	**-0.4**
	31μm,0.3s						
POCW	**Potky**	**0.13**	**360**	P	**Pg**	**23 58 43.0**	**+0.2**
KOCW	**Kopaniny**	**0.14**	**300**	⇓P	**Pb**	**23 58 43.6**	**0.0**
ZHC	**Zelena Hora**	**0.14**	**212**	⇓P	**Pb**	**23 58 44.2**	**+0.6**
ZHC				S	**Sb**	**23 58 46.7**	**+0.2**
KRCW	**Kraslice**	**0.15**	**25**	⇑P	**Pg**	**23 58 43.2**	**+0.1**
KRCW				S

WIMM	**Wimmelburg**	**1.45**	**337**	*e*Pn		**Pn**	**23 59 05.2**	**+0.3**
WIMM				*e*Pg		**Pg**	**23 59 07.2**	**+0.2**
POSS	**Possen**	**1.51**	**320**	*e*Pn		**Pn**	**23 59 06.4**	**+0.8**
POSS				*e*Pg		**Pg**	**23 59 08.7**	**+0.6**
GOPC	**GO Pecny, Ondr**	**1.55**	**100**	*e*PG		**Pb**	**23 59 08.2**	**+0.7**
GOPC				*e*SG		**Sg**	**23 59 28.1**	**-0.8**
	comp=E,492nm,0.5s							
GEC2	**GERESS Array S**	**1.58**	**148**	*e*Pn		**Pb**	**23 59 08.1**	**0.0**
GEC2				*e*Pg		**Pg**	**23 59 11.0**	**+1.4**
GEC2				*e*Sg		**Sg**	**23 59 30.8**	**+0.7**
GERES	**GERESS Array B**	**1.58**	**148**	Pg		**Pn**	**23 59 07.8**	**+1.0**
	comp=E,166nm,0.3s,baz=329,slow=16,SNR=770							
GERES				Lg		Lg	23 59 29.7	
	comp=E,163nm,0.3s,baz=330,slow=26,SNR=14							
UBBA	**Unterbreizbach**	**1.67**	**293**	*e*Pn		**Pn**	**23 59 08.8**	**+1.0**
UBBA				*e*Sg		**Sb**	**23 59 31.8**	**+1.4**
CHRS	**Christianenhau**	**1.75**	**325**	*e*Pn		**Pn**	**23 59 09.5**	**+0.6**
CHRS				*e*Pg		**Pg**	**23 59 13.0**	**+0.4**
GTTG	**Gottingen**	**2.07**	**312**	*e*Pg		**Pg**	**23 59 19.2**	**+0.5**
GTTG				*e*Sg		**Sg**	**23 59 45.2**	**-0.3**
CLZ	**Clausthal**	**2.10**	**323**	*e*Pn		**Pn**	**23 59 14.3**	**+0.5**
CLZ				*e*Pg		**Pg**	**23 59 19.2**	**-0.1**
CLZ				*e*Sg		**Sg**	**23 59 45.2**	**-1.4**
FUR	**Furstenfeldbru**	**2.17**	**201**	*e*Pn		**Pn**	**23 59 15.3**	**+0.6**
FUR				*e*Pg		**Pg**	**23 59 20.7**	**+0.1**
FUR				*e*Sg		**Sg**	**23 59 49.4**	**+0.7**
TREC	**Trest**	**2.18**	**113**	*e*PN		**Pn**	**23 59 16.5**	**+1.6**
TREC				*e*PG		**Pb**	**23 59 19.5**	**+1.3**
TREC				*e*SG		**Sg**	**23 59 47.6**	**-1.5**
	comp=E,280nm,0.5s							
ASSE	**Asse, Remlinge**	**2.23**	**331**	*e*Pn		**Pn**	**23 59 15.9**	**+0.4**
ASSE				*e*Pg		**Pg**	**23 59 22.0**	**+0.2**
UPC	**Upice**	**2.32**	**81**	*e*PN		**Pn**	**23 59 18.6**	**+1.9**
UPC				*e*PG		**Pb**	**23 59 21.4**	**+0.8**
UPC				*e*SG		**Sg**	**23 59 51.6**	**-1.9**
	comp=E,361nm,0.8s							
CHVC	**Chvalec**	**2.35**	**79**	*e*PN		**Pn**	**23 59 19.0**	**+1.7**
CHVC				*e*PG		**Pb**	**23 59 21.0**	**-0.2**
CHVC				*e*SG		**Sg**	**23 59 53.6**	**-1.1**
	comp=E,181nm,0.6s							
OSTC	**Ostas**	**2.45**	**80**	*e*PN		**Pn**	**23 59 20.4**	**+1.8**
OSTC				*e*SG		**Sg**	**23 59 56.2**	**-1.7**
	comp=E,271nm,0.9s							
DPC	**Dobruska-Polom**	**2.50**	**85**	*e*PN		**Pn**	**23 59 20.7**	**+1.4**
DPC				*e*PG		**Pb**	**23 59 24.7**	**+0.9**
DPC				*e*SG		**Sg**	**23 59 57.5**	**-2.0**
	comp=E,205nm,0.3s							
STU	**Stuttgart**	**2.54**	**237**	*e*Pg		**Pg**	**23 59 27.9**	**+0.1**
STU				*e*Sg		**Sg**	**23 59 59.9**	**-0.9**
KSP	**Ksiaz**	**2.55**	**74**	*e*Pn		**Pn**	**23 59 21.5**	**+1.5**
KSP				*e*Pg		**Pg**	**23 59 27.3**	**-0.7**
KSP				*i* Sg		**Sg**	**23 59 49.4**	**-1.4**
TNS	**Taunus Mts**	**2.56**	**272**	*e*Pn		**Pn**	**23 59 21.4**	**+1.3**
TNS				*e*Pg		**Pg**	**23 59 27.9**	**-0.2**
TNS				*e*Sg		**Sg**	**23 59 59.5**	**-1.8**
MOA	**Molln**	**2.64**	**152**	*e*Pn		**Pn**	**23 59 22.5**	**+1.4**
	comp=E,0.7nm,0.1s,SNR=29							
NRDL	**Niedersach Rie**	**2.73**	**329**	*e*Pg		**Pg**	**23 59 31.3**	**0.0**
NRDL				*e*Sg		**Sg**	**00 00 06.5**	**-0.1**
KRLC	**Kraliky**	**2.80**	**91**	*e*PN		**Pn**	**23 59 24.8**	**+1.3**
KRLC				*e*SG		**Sg**	**00 00 08.7**	**-0.4**
	comp=E,222nm,0.8s							
KRUC	**Moravsky**	**2.82**	**112**	*e*PN		**Pn**	**23 59 24.5**	**+0.9**
KRUC				*e*SG		**Sg**	**00 00 07.6**	**-1.9**
KRUC	**Moravsky**	**2.82**	**112**	*e*Pn		**Pn**	**23 59 24.5**	**+0.9**
	baz=296							
KRUC				*e*Sg		**Sg**	**00 00 07.4**	**-2.1**
	comp=E,332nm,0.6s,baz=296							
VRAC	**Vranov**	**2.84**	**107**	Pn		**Pn**	**23 59 24.9**	**+0.8**
	comp=E,2.7nm,0.3s,baz=288,slow=14,SNR=31							
VRAC				Pg		**Pb**	**23 59 30.5**	**+0.9**
VRAC				Lg		Lg	00 00 05.5	
	comp=E,35nm,0.3s,baz=188,slow=19,SNR=8.0							
VRAC	**Vranov**	**2.84**	**107**	*e*PN		**Pn**	**23 59 24.8**	**+0.8**
VRAC				*e*SG		**Sg**	**00 00 08.3**	**-2.1**
VRAC	**Vranov**	**2.84**	**107**	*e*Pn		**Pn**	**23 59 24.8**	**+0.8**
	baz=291							
VRAC				*e*Sg		**Sg**	**00 00 08.3**	**-2.1**
	comp=E,328nm,0.5s,baz=291							
WATA	**Walderalm**	**2.92**	**191**	*e*Pn		**Pn**	**23 59 25.8**	**+0.7**
	comp=E,8.6nm,0.2s,SNR=5.7							
WATA				Sn		**Sn**	**00 00 02.2**	**+2.3**
	comp=E,151nm,0.3s							
RETA	**Reutte**	**2.92**	**203**	*e*Pn		**Pn**	**23 59 25.3**	**+0.1**
	comp=E,7.6nm,0.2s,SNR=10.0							
RETA				Sn		**Sn**	**00 00 00.6**	**+0.6**
	comp=E,18nm,0.2s							
UBR	**Ueberruh**	**2.94**	**212**	*e*Pn		**Pn**	**23 59 25.4**	**0.0**
UBR				*e*Sg		**Sg**	**00 00 13.8**	**+0.2**
KTD	**Kalmit**	**2.95**	**254**	Pn		**Pn**	**23 59 27.9**	**+2.5**
KTD	**Kalmit**	**2.95**	**254**	Pg		**Pg**	**23 59 35.8**	**+0.2**
KTD	**Kalmit**	**2.95**	**254**	Pn		**Pn**	**23 59 27.9**	**+2.5**
KTD	**Kalmit**	**2.95**	**254**	Sn		**Sg**	**00 00 13.9**	**+0.1**
WTTA	**Wattenberg**	**2.98**	**190**	*e*Pn		**Pn**	**23 59 27.0**	**+1.0**
	comp=E,2.2nm,0.2s							
WTTA				*e*Pg		**Pg**	**23 59 37.3**	**+1.2**
	comp=E,19nm,0.2s							
WTTA				*e*Sn		**Sn**	**00 00 03.3**	**+1.7**
	comp=E,28nm,0.4s							
MOTA	**Moosalm**	**2.98**	**198**	*e*Pn		**Pn**	**23 59 26.2**	**+0.2**
	comp=E,3.3nm,0.1s							
MOTA				Sn		**Sn**	**00 00 02.5**	**+0.9**
	comp=E,17nm,0.1s							
SQTA	**Sankt Quirin**	**3.08**	**196**	*i* Pn		**Pn**	**23 59 27.9**	**+0.5**
	comp=E,6.7nm,0.3s							
SQTA				*e*Sn		**Sn**	**00 00 05.7**	**+1.6**
	comp=E,18nm,0.2s							
ABH	**Alteburg**	**3.16**	**266**	Pn		**Pn**	**23 59 30.0**	**+1.6**
KBA	**Koelnbreinsper**	**3.18**	**169**	*i* Pn		**Pn**	**23 59 30.8**	**+2.1**
	comp=E,4.2nm,0.3s,SNR=9.9							
CONA	**Conrad Observa**	**3.20**	**134**	*i* Pn		**Pn**	**23 59 30.0**	**+1.1**
	comp=E,1.6nm,0.1s,SNR=9.8							
CONA				*e*Pg		**Pg**	**23 59 39.6**	**-0.7**
	comp=E,30nm,0.3s							
LANF	**Langenberg**	**3.24**	**250**	Pn		**Pn**	**23 59 31.9**	**+2.4**
SUBF	**Surbourg**	**3.25**	**249**	Pn		**Pn**	**23 59 30.6**	**+1.1**
OPP	**Oppenau**	**3.25**	**240**	Pn		**Pn**	**23 59 29.4**	**-0.2**
OPP				Pg		**Pg**	**23 59 41.7**	**+0.4**
OPP				Sn		**Sg**	**00 00 21.9**	**-1.6**
BFO	**Black Forest**	**3.27**	**237**	*e*Pn		**Pn**	**23 59 29.5**	**-0.3**
BFO				*e*Pg		**Pg**	**23 59 41.5**	**-0.2**
BFO				*e*Sg		**Sg**	**00 00 23.5**	**-0.6**
BGG	**Burgeitz**	**3.27**	**272**	*e*Pn		**Pn**	**23 59 31.3**	**+1.5**
MORC	**Moravsky Berou**	**3.33**	**95**	*e*PN		**Pn**	**23 59 31.5**	**+0.8**
MORC				*e*SG		**Sg**	**00 00 23.2**	**-2.7**
MORC	**Moravsky Berou**	**3.33**	**95**	*e*Pn		**Pn**	**23 59 31.5**	**+0.8**
	baz=280							
MORC				*e*Sg		**Sg**	**00 00 23.2**	**-2.7**
	comp=E,218nm,0.5s,baz=280							
DAVA	**Damuels**	**3.36**	**211**	*i* Pn		**Pn**	**23 59 31.1**	**-0.1**
	comp=E,1.8nm,0.1s,SNR=7.2							
DAVA				*i* Sn		**Sn**	**00 00 12.9**	**+1.9**
	comp=E,20nm,0.2s							
DAVA				Sg		**Sg**	**00 00 28.6**	**+1.5**
	comp=E,80nm,0.4s							
FETA	**Feichten**	**3.37**	**200**	*i* Pn		**Pn**	**23 59 31.6**	**+0.2**
	comp=E,1.4nm,0.1s							
FETA				*e*Sn		**Sn**	**00 00 11.2**	**+0.1**
	comp=E,5.5nm,0.2s							
BNS	**Bensberg**	**3.44**	**285**	*e*Pn		**Pn**	**23 59 34.1**	**+2.0**
ABTA	**Abfaltersbach**	**3.45**	**179**	*i* Pn		**Pn**	**23 59 34.7**	**+2.3**
	comp=E,3.2nm,0.1s,SNR=12							
ABTA				Pg		**Pg**	**23 59 45.6**	**+0.5**
	comp=E,20nm,0.3s							
ABTA				*e*Sn		**Sn**	**00 00 16.0**	**+3.0**
	comp=E,13nm,0.2s							
BUG	**Bochum--Univer**	**3.50**	**293**	*e*Pn		**Pn**	**23 59 35.0**	**+2.1**
ARSA	**Arzberg**	**3.59**	**144**	*e*Pn		**Pn**	**23 59 36.6**	**+2.4**
	comp=E,5.5nm,0.3s,SNR=10							
ARSA				*e*Pg		**Pg**	**23 59 46.7**	**-1.1**
	comp=E,20nm,0.3s							
STB	**Steinbach**	**3.60**	**279**	*e*Pn		**Pn**	**23 59 35.8**	**+1.5**
STB				*e*Sn		**Sn**	**00 00 16.8**	**+0.3**
	comp=E,77nm,0.3s							
MYKA	**Terra Mystica**	**3.66**	**167**	*i* Pn		**Pn**	**23 59 38.1**	**+2.9**
	comp=E,0.8nm,0.1s							
MYKA				Pg		**Pg**	**23 59 49.4**	**+0.3**
	comp=E,11nm,0.2s							
JAVC	**Velka Javorina**	**3.67**	**109**	*e*PN		**Pn**	**23 59 36.9**	**+1.6**
OKC	**Ostrava-Krasne**	**3.71**	**93**	*e*SG		**Sg**	**00 00 36.6**	**-1.4**
KIZ	**Kirchzarten**	**3.71**	**235**	Pn		**Pn**	**23 59 35.4**	**-0.6**
KIZ	**Kirchzarten**	**3.71**	**235**	Pg		**Pg**	**23 59 50.2**	**0.0**
KIZ	**Kirchzarten**	**3.71**	**235**	Sn		**Sg**	**00 00 35.8**	**-2.5**
WLS	**Welschbruch**	**3.77**	**244**	Pn		**Pn**	**23 59 38.2**	**+1.4**
CDF	**Champ du Feu**	**3.81**	**244**	*e*Pn		**Pn**	**23 59 37.2**	**-0.2**
CDF	**Champ du Feu**	**3.81**	**244**	*e*Pg		**Pg**	**23 59 53.0**	**+0.9**
CDF				*e*Sn		**Sn**	**00 00 25.1**	**+3.1**
	comp=E,157nm,0.5s							
SOKA	**Soboth**	**3.92**	**153**	*i* Pn		**Pn**	**23 59 40.7**	**+1.8**
	comp=E,1.5nm,0.3s							
KLL	**Kalltalsperre**	**3.94**	**279**	*e*Pn		**Pn**	**23 59 40.6**	**+1.6**
OBKA	**Obir**	**3.95**	**158**	*e*Pn		**Pn**	**23 59 41.4**	**+2.1**
	comp=E,3.4nm,0.2s,SNR=7.8							
BSEG	**Bad Segeberg**	**3.97**	**342**	*e*Pn		**Pn**	**23 59 39.6**	**+0.2**
ECH	**Echery**	**3.98**	**242**	Pn		**Pn**	**23 59 39.1**	**-0.5**
DREG	**Dreilaegerbach**	**3.99**	**279**	*e*Pn		**Pn**	**23 59 41.1**	**+1.4**
WLF	**Walferdange**	**4.09**	**265**	*e*Pn		**Pn**	**23 59 43.1**	**+2.1**
MOF	**Molkenrain**	**4.20**	**238**	Pn		**Pn**	**23 59 42.1**	**-0.6**
HINF	**Hinteralfeld**	**4.37**	**239**	*e*Pn		**Pn**	**23 59 43.8**	**-1.2**
HINF	**Hinteralfeld**	**4.37**	**239**	*e*Pg		**Pg**	**00 00 04.0**	**+1.2**
HINF				*e*Sn		**Sn**	**00 00 37.7**	**+2.0**
	comp=E,55nm,0.3s							
HAU	**Haudompre**	**4.55**	**244**	*e*Pn		**Pn**	**23 59 46.8**	**-0.7**
HAU	**Haudompre**	**4.55**	**244**	*e*Pg		**Pg**	**00 00 05.9**	**-0.4**
HAU				*e*Sn		**Sn**	**00 00 43.7**	**+3.5**
	comp=E,95nm,0.4s							
THEF	**They Montfort**	**4.66**	**247**	Pn		**Pn**	**23 59 49.6**	**+0.7**
PAGF	**Fort de Pagny**	**4.68**	**252**	*e*Pn		**Pn**	**23 59 49.9**	**+0.8**
PAGF				*e*Sn		**Sn**	**00 00 48.3**	**+5.2**
	comp=E,125nm,0.8s							
CHMF	**Charmoille**	**4.83**	**235**	Pn		**Pn**	**23 59 50.1**	**-1.2**
CHMF				Pg		**Pg**	**00 00 10.6**	**-0.9**
GIVF	**Givet**	**4.89**	**272**	*e*Pn		**Pn**	**23 59 54.8**	**+2.7**
GIVF				*e*Sn		**Sb**	**00 00 56.3**	**-6.7**
	comp=E,141nm,0.7s							
DOU	**Dourbes**	**5.04**	**272**	Pn		**Pn**	**23 59 56.2**	**+2.1**
MEZF	**Maizieres J'vi**	**5.11**	**253**	*e*Pn		**Pn**	**23 59 55.7**	**+0.6**
	baz=81							
MEZF	**Maizieres J'vi**	**5.11**	**253**	*e*Pg		**Pg**	**00 00 20.0**	**+3.1**
	baz=80							
MEZF				*e*Sn		**Sn**	**00 00 58.5**	**+4.7**
	comp=E,39nm,0.5s							
BSD	**Bornholm Skovb**	**5.16**	**16**	*e*S		**Sn**	**00 00 49.6**	**-5.2**
SFTF	**Sexfontaines**	**5.24**	**250**	*e*Pn		**Pn**	**23 59 57.5**	**+0.6**
	baz=78							
SFTF	**Sexfontaines**	**5.24**	**250**	*e*Pg		**Pg**	**00 00 23.1**	**+3.8**
	baz=79							
SFTF				*e*Sn		**Sn**	**00 00 59.9**	**+2.9**
	comp=E,40nm,0.4s							
BAIF	**Baives**	**5.29**	**272**	*e*Pg		**Pg**	**00 00 24.0**	**+3.7**
BAIF				*e*Sn		**Sn**	**00 01 05.4**	**+7.2**
	comp=E,42nm,0.5s							
BAIF	**Baives**	**5.29**	**272**	*e*Pn		**Pn**	**23 59 59.7**	**+2.1**
CABF	**La Chapelle**	**5.54**	**232**	*e*Pg		**Pg**	**00 00 24.4**	**-0.7**
CABF				*e*Sn		**Sn**	**00 01 03.5**	**-1.0**
CABF				*e*Sg		**Sg**	**00 01 39.7**	**+2.9**
	comp=E,82nm,0.8s							
CABF	**La Chapelle**	**5.54**	**232**	*e*Pn		**Pn**	**23 59 59.6**	**-1.5**
LPL	**La Plagne**	**6.05**	**221**	*e*P		**Pn**	**00 00 08.9**	**+0.7**
LPL	**La Plagne**	**6.05**	**221**	*e*Pg		**Pg**	**00 00 31.0**	**-3.8**
LPL				*e*Sg		**Sg**	**00 01 52.9**	**-0.2**
	comp=E,19nm,0.5s							
LPG	**La Plagne**	**6.05**	**221**	*e*P		**Pn**	**00 00 08.6**	**+0.3**
LPG	**La Plagne**	**6.05**	**221**	*e*Pg		**Pg**	**00 00 30.9**	**-4.1**
LPG				*e*Sg		**Sg**	**00 01 52.9**	**-0.4**
	comp=E,34nm,0.8s							
OG35	**Corcelles**	**6.19**	**230**	Pn		**Pn**	**00 00 08.4**	**-1.6**
OG35				Pg		**Pg**	**00 00 37.4**	**-0.2**
LOR	**Lormes**	**6.38**	**246**	*e*Pn		**Pn**	**00 00 12.2**	**-0.4**
	baz=75							
LOR	**Lormes**	**6.38**	**246**	*e*Pg		**Pg**	**00 00 41.7**	**+0.5**
	baz=72							
LOR				*e*Sn		**Sn**	**00 01 26.5**	**+1.4**
	comp=E,29nm,0.3s							
LOR	**Lormes**	**6.38**	**246**	Pn		**Pn**	**00 00 12.8**	**+0.2**
MUD	**Monsted U'grnd**	**6.57**	**344**	*i* P		**Pn**	**00 00 16.8**	**+1.7**
MUD				*e*S		**Sn**	**00 01 24.2**	**-5.4**
MUD	**Monsted U'grnd**	**6.57**	**344**	*i* P		**Pn**	**00 00 16.8**	**+1.7**
MUD				*e*S		**Sn**	**00 01 24.3**	**-5.4**
MBDF	**Montbardon**	**6.68**	**217**	*e*Pn		Pn	00 00 11.5	-5.3
MBDF	**Montbardon**	**6.68**	**217**	*e*Pg		Pg	00 00 41.5	-5.4
MBDF				*e*Sg		**Sg**	**00 02 10.4**	**-2.9**
	comp=E,17nm,0.7s							
SSF	**Saint Saulge**	**6.69**	**245**	*e*Pn		**Pn**	**00 00 16.4**	**-0.4**
SSF	**Saint Saulge**	**6.69**	**245**	*e*Pg		**Pg**	**00 00 47.0**	**-0.1**
SSF				*e*Sn		**Sn**	**00 01 34.3**	**+1.5**
	comp=E,39nm,0.7s							
SMF	**Signal de Mont**	**6.73**	**241**	*e*Pn		**Pn**	**00 00 16.3**	**-1.0**
SMF	**Signal de Mont**	**6.73**	**241**	*e*Pg		**Pg**	**00 00 46.0**	**-1.8**
SMF				*e*Sn		**Sn**	**00 01 34.4**	**+0.8**
	comp=E,32nm,0.5s							
ORIF	**Oris-en-Rattie**	**6.89**	**222**	*e*Pn		**Pn**	**00 00 15.4**	**-4.2**
ORIF	**Oris-en-Rattie**	**6.89**	**222**	*e*Pg		**Pg**	**00 00 46.5**	**-4.4**
ORIF				*e*Sg		**Sg**	**00 02 19.2**	**-0.8**
	comp=E,24nm,0.7s							
AVF	**Avril sur Loir**	**6.92**	**244**	*e*Pn		**Pn**	**00 00 19.3**	**-0.7**
AVF	**Avril sur Loir**	**6.92**	**244**	*e*Pg		**Pg**	**00 00 51.6**	**0.0**
AVF				*e*Sn		**Sn**	**00 01 39.4**	**+0.9**
	comp=E,32nm,0.8s							
CLF	**Chambon-Foret**	**7.02**	**256**	Pn		**Pn**	**00 00 21.3**	**0.0**
SAOF	**Saorge**	**7.04**	**210**	Pn		**Pn**	**00 00 23.4**	**+1.8**
HYF	**Humbligny**	**7.10**	**249**	*e*Pn		**Pn**	**00 00 22.4**	**-0.1**
HYF	**Humbligny**	**7.10**	**249**	*e*Pg		**Pg**	**00 00 55.7**	**+0.7**
HYF				*e*Sn		**Sn**	**00 01 44.8**	**+1.9**
TURF	**col de Turini**	**7.11**	**211**	Pn		**Pn**	**00 00 24.2**	**+1.5**
SBF	**Sospel**	**7.19**	**210**	*e*P		**Pn**	**00 00 22.7**	**-1.1**
SBF				*e*Sn		Sn	00 01 35.3	-10
	comp=E,8.1nm,0.4s							
BGF	**Bois d'Agland**	**7.34**	**244**	*e*Pn		**Pn**	**00 00 25.2**	**-0.6**
BGF	**Bois d'Agland**	**7.34**	**244**	*e*Pg		**Pg**	**00 00 59.1**	**-0.5**
BGF				*e*Sn		**Sn**	**00 01 49.2**	**+0.4**
	comp=E,39nm,0.5s							
CALF	**Calern**	**7.46**	**212**	Pn		**Pn**	**00 00 29.1**	**+1.6**
VIVF	**Saint-Julien-l**	**7.49**	**227**	*e*Pn		**Pn**	**00 00 24.5**	**-3.2**
VIVF	**Saint-Julien-l**	**7.49**	**227**	*e*Pg		**Pg**	**00 00 58.2**	**-4.1**
VIVF				*e*Sn		**Sn**	**00 01 48.1**	**-4.3**
VIVF				*e*Sg		**Sg**	**00 02 39.5**	**+0.4**
	comp=E,20nm,0.8s							
FRF	**La Foret Royal**	**7.72**	**213**	*e*P		**Pn**	**00 00 30.9**	**-0.1**
SMRF	**Simiane la Rot**	**7.78**	**220**	*e*P		**Pn**	**00 00 31.5**	**-0.3**
SMRF				*e*Sn		**Sn**	**00 01 52.4**	**-7.2**
	comp=E,1.9nm,0.4s							
TCF	**Toulx Ste Croi**	**7.86**	**244**	*e*Pn		**Pn**	**00 00 31.8**	**-1.1**
TCF	**Toulx Ste Croi**	**7.86**	**244**	*e*Pg		**Pg**	**00 01 07.6**	**-1.9**
TCF				*e*Sn		**Sn**	**00 02 01.8**	**+0.2**
	comp=E,19nm,0.7s							
LMR	**La Mourre**	**7.97**	**213**	*e*P		**Pn**	**00 00 33.9**	**-0.5**
LMR				*e*Sn		Sn	00 01 54.9	-9.3
	comp=E,0.9nm,0.3s							
PGF	**Pioggiola**	**8.01**	**199**	*e*Pn		Pn	00 00 25.6	-9.3
PGF				*e*Sn		Sn	00 01 50.8	-14
LDF	**La Druitiere**	**8.34**	**264**	*e*Pn		**Pn**	**00 00 40.8**	**+1.3**
LASF	**Ste Croix**	**8.46**	**227**	*e*Pn		**Pn**	**00 00 37.5**	**-3.6**
LASF				*e*Sn		**Sn**	**00 02 11.1**	**-5.1**
	comp=E,7.4nm,0.6s							
FLN	**La Foliniere**	**8.53**	**265**	*e*Pn		**Pn**	**00 00 42.1**	**+0.1**
	baz=88							
CAF	**Calviac**	**8.76**	**237**	*e*P		**Pn**	**00 00 47.9**	**+2.6**
CAF				*e*Sg		**Sg**	**00 03 21.7**	**+1.6**
	comp=E,12nm,0.8s							
RJF	**Les Rejaudoux**	**8.83**	**241**	*e*Pn		**Pn**	**00 00 44.5**	**-1.6**
RJF	**Les Rejaudoux**	**8.83**	**241**	*e*Pg		**Pg**	**00 01 25.8**	**-2.1**
RJF				*e*Sn		**Sn**	**00 02 24.0**	**-1.3**
	comp=E,17nm,0.8s							
GRR	**Gorron**	**8.87**	**263**	*e*Pn		**Pn**	**00 00 47.8**	**+1.1**
MFF	**Saint Martin d**	**9.10**	**252**	*e*Pn		**Pn**	**00 00 49.7**	**-0.2**
MFF				*e*Sn		**Sn**	**00 02 33.7**	**+1.7**
	comp=E,1.5nm,0.4s							
LFF	**La Frestale**	**9.48**	**241**	*e*Pn		**Pn**	**00 00 53.7**	**-1.4**
LFF				*e*Sn		**Sn**	**00 02 39.4**	**-2.0**
	comp=E,27nm,0.7s							
SGMF	**Saint Gilles**	**10.00**	**265**	*e*Pn		**Pn**	**00 01 03.1**	**+1.0**
SGMF				*e*Sn		**Sn**	**00 02 56.7**	**+2.8**
	comp=E,0.9nm,0.4s							
ROSF	**Rostrenen**	**10.43**	**266**	*e*Pn		**Pn**	**00 01 09.0**	**+0.9**
QUIF	**Quistinic**	**10.49**	**263**	*e*Pn		**Pn**	**00 01 09.9**	**+1.1**
QUIF				*e*Sn		**Sn**	**00 03 07.1**	**+1.2**
QUIF				*e*Sg			00 04 22.1	
	comp=E,1.2nm,0.4s							
AKASG	**Malin Array Be**	**10.73**	**81**	Lg		Lg	00 04 16.8	
	comp=E,0.2nm,0.3s,baz=266,slow=27,SNR=2.0							
EKA	**Eskdalemuir Ar**	**10.75**	**305**	Pn		**Pn**	**00 01 12.8**	**+0.5**
	baz=111,slow=14,SNR=5.8							
EKA				Sn		**Sn**	**00 03 08.1**	**-4.2**
	baz=115,slow=27,SNR=4.3							
NOA	**NORSAR Array B**	**10.89**	**357**	Pn		**Pn**	**00 01 13.5**	**-0.9**
	comp=E,0.0nm,0.3s,baz=183,slow=12,SNR=1.4							
NOA				Sn		Sn	00 03 04.2	-12
	comp=E,0.0nm,0.3s,baz=170,slow=17,SNR=1.2							
FINES	**FINESS Array B**	**13.60**	**29**	Pn		**Pn**	**00 01 48.8**	**-2.4**
	comp=E,0.2nm,0.3s,baz=217,slow=11,SNR=8.3							
FINES				Sn		Sn	00 04 07.7	-14
	comp=E,0.1nm,0.3s,baz=210,slow=24,SNR=1.3							
ARCES	**ARCESS Array B**	**20.39**	**13**	P		Pn	00 03 18.0	+0.8
	comp=E,0.6nm,0.3s,baz=200,slow=12,SNR=4.1							
TORD	**Torodi Ar. Bea**	**37.97**	**197**	P		**P**	**00 05 57.7**	**+1.4**
	comp=E,0.5nm,0.9s,baz=17,slow=8.4,SNR=2.0							

GCG ***04*** *00:01:35.4±0.3, 13°.21N×93°.01W, h105km±30km, MD4.2*
MEX ***04*** *00:01:36.6±0.5, 13°.79N×92°.93W, h5km, MD3.9*
IDC ***04*** *00:01:38.5±3.4, 14°.23N×92°.75W, h0km, mb3.6/4, mb1 4.0/7, mb1mx3.7/39, mbtmp3.7/7, ML3.7/3, MS3.5/2, Ms1 3.5/2, ms1mx2.7/35, Error ellipse: s-maj=64.8km s-min=45.8km az=6.0*
NEIC ***04*** *00:01:41.1±4.3, 14°.07N±0°.06×92°.86W±0°.05, h35km±2km, Error ellipse: s-maj=10.6km s-min=8.0km az=201.0*

ISC 04 00:01:36.8±2.9, 14°.03N±0°.07×92°.90W±0°.06, h2km±18km, n49, σ1°.42/57, mb4.0/10, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
THIG		**1.07**	**35**	*i* P		**Pb**	**00 01 57.0**	**-1.1**
THIG				*i* S		**Sb**	**00 02 13.5**	**+0.9**
THIG		**1.07**	**35**			**Pn**	**00 01 57.0**	**-1.1**
THIG						**Sb**	**00 02 13.5**	**+0.9**
RTAL	**Retalhuleu**	**1.27**	**67**			**Pn**	**00 02 01.3**	**-0.4**
ERG	**Entre ros, C**	**1.36**	**72**	*e*P		**Pn**	**00 02 03.2**	**+0.4**
PCIG		**1.70**	**350**	*i* P		**Pn**	**00 02 06.1**	**-1.3**
PCIG				*i* S		**Sn**	**00 02 28.8**	**-1.0**
PCIG		**1.70**	**350**			**Pn**	**00 02 06.1**	**-1.3**
PCIG						**Sn**	**00 02 28.8**	**-1.0**
HUEH	**Huehuetenango**	**1.87**	**46**	Pn		**Pn**	**00 02 09.9**	**-0.2**
FUG	**Fuego 3**	**2.04**	**78**	*e*P		**Pn**	**00 02 12.0**	**-0.4**
FUG				*e*S		**Sb**	**00 02 40.6**	**-0.1**
CCIG	**Comitan**	**2.36**	**18**	*i* P		**Pn**	**00 02 19.4**	**+2.6**
CCIG				*i* S		**Sg**	**00 02 53.3**	**+0.5**
CCIG	**Com

POCW	**Potky**	**0.09**	**352**	⇑P		Pg		00 05 02.1	+0.1
POCW				S		Sg		00 05 03.8	+0.1
KACW	**Kaceov**	**0.10**	**152**	⇓P		Pg		00 05 02.0	+0.1
KACW				S		Sg		00 05 03.7	0.0
KRCW	**Kraslice**	**0.12**	**28**	⇑P		Pg		00 05 02.3	0.0
KRCW				S		Sg		00 05 04.2	-0.1
ZHC	**Zelena Hora**	**0.18**	**209**	⇑P		Pg		00 05 03.4	+0.1
ZHC				S		Sg		00 05 05.9	0.0
BRG	**Berggiesshubel**	**1.15**	**55**	PG		Pb		00 05 21.3	-0.3
BRG				SG		Sg		00 05 36.0	-0.6
	1.2nm,0.2s								
KHC	**Kasperske Hory**	**1.32**	**146**	*e*PG		Pn		00 05 22.9	-1.3
KHC				*e*SG		Sb		00 05 41.7	+0.1
PRU	**Pruhonice**	**1.37**	**99**	*e*PG		Pn		00 05 23.8	-1.0
PRU				*e*SG		Sg		00 05 44.2	+0.6

PRU ***04*** *00:05:46.7±0.0, 50°21′N × 12°42′E, h3km, West Bohemia Swarm*

WBNET 04 00:05:46.4, 50°22′N × 12°45′E, h9km, Ml1.1, 4C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
NKC	**Novy Kostel**	**0.01**	**4**	*e*PG	Pg		00 05 47.8	-0.3
NKC				*e*SG	Sg		00 05 49.0	-0.3
	comp=Z,65nm,0.2s							
NKC	**Novy Kostel**	**0.01**	**4**	⇓P	Pg		00 05 48.2	+0.1
NKC				S	Sg		00 05 49.3	0.0
VAC	**Vackov**	**0.05**	**284**	⇓P	Pg		00 05 48.4	+0.1
VAC				S	Sg		00 05 49.6	0.0
LBCW	**Luby**	**0.05**	**332**	⇓P	Pg		00 05 48.4	+0.1
LBCW				S	Sg		00 05 49.9	+0.1
STCW	**Studenec**	**0.06**	**53**	⇑P	Pg		00 05 48.5	0.0
STCW				S	Sg		00 05 49.7	-0.2
SKC	**Skalna**	**0.08**	**226**	⇓P	Pg		00 05 48.7	0.0
SKC				S	Sg		00 05 50.1	-0.1
KACW	**Kaceov**	**0.09**	**151**	⇓P	Pg		00 05 48.9	+0.1
KACW				S	Sg		00 05 50.6	0.0
POCW	**Potky**	**0.10**	**352**	⇑P	Pg		00 05 49.1	+0.1
POCW				S	Sg		00 05 50.8	+0.1
KRCW	**Kraslice**	**0.12**	**26**	⇑P	Pg		00 05 49.3	0.0
KRCW				S	Sg		00 05 51.2	-0.1
ZHC	**Zelena Hora**	**0.18**	**210**	⇑P	Pg		00 05 50.2	+0.1
ZHC				S	Sg		00 05 52.7	0.0
CLL	**Collm**	**1.14**	**18**	*i* Sg	Sb		00 06 23.5	+0.3
CLL				*i*			00 06 25.3	
BRG	**Berggiesshubel**	**1.16**	**55**	SG	Sg		00 06 23.1	-0.5
	3.2nm,0.2s							
BRG				PG	Pn		00 06 45.3	+37
BRG				SG	Sn		00 06 59.7	+35
	1.0nm,0.2s							
KHC	**Kasperske Hory**	**1.32**	**146**	*e*PG	Pn		00 06 10.9	-0.1
KHC				*e*SG	Sb		00 06 28.5	+0.2
	comp=Z,1.1nm,0.3s							
PRU	**Pruhonice**	**1.37**	**99**	*e*PG	Pb		00 06 12.1	-0.1
PRU				*e*SG	Sg		00 06 30.3	-0.1
	comp=Z,0.8nm,0.4s							
PVCC	**Panska Ves**	**1.39**	**77**	*e*SG	Sg		00 06 32.0	+0.8
	comp=Z,2.4nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	Sg		00 06 35.5	-0.4

PRU ***04*** *00:06:23.6±0.0, 50°21′N × 12°40′E, h2km, West Bohemia Swarm*

WBNET 04 00:06:23.6, 50°23′N × 12°45′E, h9km, Ml0.9, 5C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
NKC	**Novy Kostel**	**0.00**	**30**	*e*PG	Pg		00 06 24.2	-1.1
NKC				*e*SG	Sg		00 06 26.1	-0.3
	comp=Z,31nm,0.2s							
NKC	**Novy Kostel**	**0.00**	**30**	⇑P	Pg		00 06 25.4	+0.1
NKC				S	Sg		00 06 26.5	0.0
LBCW	**Luby**	**0.04**	**328**	⇓P	Pg		00 06 25.6	+0.1
LBCW				S	Sg		00 06 27.0	+0.2
VAC	**Vackov**	**0.04**	**276**	⇓P	Pg		00 06 25.6	+0.1
VAC				S	Sg		00 06 26.8	0.0
STCW	**Studenec**	**0.06**	**59**	⇑P	Pg		00 06 25.6	0.0
STCW				S	Sg		00 06 26.9	-0.2
SKC	**Skalna**	**0.08**	**222**	⇓P	Pg		00 06 25.9	0.0
SKC				S	Sg		00 06 27.4	-0.1
POCW	**Potky**	**0.09**	**352**	⇑P	Pg		00 06 26.2	+0.2
POCW				S	Sg		00 06 27.9	+0.1
KACW	**Kaceov**	**0.10**	**152**	⇓P	Pg		00 06 26.2	+0.1
KACW				S	Sg		00 06 27.9	0.0
KRCW	**Kraslice**	**0.11**	**28**	⇑P	Pg		00 06 26.4	0.0
KRCW				S	Sg		00 06 28.3	0.0
ZHC	**Zelena Hora**	**0.18**	**209**	⇑P	Pg		00 06 27.5	+0.1
ZHC				S	Sg		00 06 30.1	0.0
KHC	**Kasperske Hory**	**1.32**	**146**	*e*SG	Sn		00 07 06.0	-0.1
PRU	**Pruhonice**	**1.37**	**99**	*e*PG	Pb		00 06 49.3	-0.1
PRU				*e*SG	Sg		00 07 08.2	+0.5

IDC ***04*** *00:10:53.7±1.1, 52°72′N × 160°54′E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.7/45, mbtmp3.8/11, MS4.2/1, Ms1 4.2/1, ms1mx2.9/41, Error ellipse: s-maj=31.1km s-min=18.0km az=6.0*

KRSC ***04*** *00:10:54.8±1.8, 52°58′N × 160°76′E, h22km±24km, ML3.9*

NEIC ***04*** *00:11:00.2±3.0, 52°8′N±0°.1× 160°56′E±0°.08, h46km±8km, mb4.5/8, Error ellipse: s-maj=17.1km s-min=7.4km az=182.0*

ISC 04 00:10:56.6±1.5, 52°80′N±0°.05× 160°67′E±0°.04, h17km±9km, n68, σ1$65/75, mb4.1/15, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
SPN	**Mys Shipunski**	**0.49**	**308**	*i* P	**Pn**		**00 11 09.0**	**+0.2**
SPN				*e*S	**Sn**		**00 11 16.9**	**-0.1**
NLC	**Nalytchevo**	**0.88**	**296**	*e*P	**Pn**		**00 11 14.0**	**-0.2**
NLC				*e*S	**Sn**		**00 11 26.4**	**-0.1**
DALK	**Dalny**	**1.18**	**282**	*e*P	**Pn**		**00 11 18.3**	**0.0**
DALK				*e*S	**Sg**		**00 11 34.6**	**-0.2**
UGLR	**Uglovaya**	**1.19**	**291**	*e*P	**Pb**		**00 11 18.7**	**0.0**
SMAR	**Somma**	**1.22**	**293**	*e*P	**Pb**		**00 11 19.2**	**-0.1**
PET	**Petropavlovsk**	**1.24**	**281**	Pn	**Pb**		**00 11 19.8**	**+0.3**
AVH	**Avacha**	**1.25**	**293**	*e*P	**Pb**		**00 11 20.0**	**+0.2**
KRER	**Koryakskii**	**1.26**	**294**	*e*P	**Pb**		**00 11 20.0**	**0.0**
KOK	**Koryaka**	**1.32**	**293**	*e*P	**Pb**		**00 11 21.0**	**+0.1**
KRX	**Arik**	**1.34**	**296**	*e*P	**Pg**		**00 11 22.2**	**-0.2**
RUS	**Russkaya**	**1.36**	**255**	*e*P	**Pn**		**00 11 19.7**	**-1.1**
RUS				*e*S	**Sn**		**00 11 37.0**	**-1.4**
KII	**Karymskiy**	**1.44**	**330**	*e*P	**Pg**		**00 11 24.7**	**+0.4**
KII				*e*S	**Sg**		**00 11 45.7**	**+2.7**
KRMR	**Karymshinskiy**	**1.54**	**272**	*e*P	**Pn**		**00 11 23.5**	**+0.3**
KRMR				*e*S	**Sb**		**00 11 43.5**	**-0.3**
MTVR	**Mutnovka**	**1.54**	**259**	*e*P	**Pn**		**00 11 22.9**	**-0.5**
MTVR				*e*S	**Sn**		**00 11 42.5**	**-0.7**
GRL	**Gorelyy**	**1.60**	**262**	*e*P	**Pn**		**00 11 24.3**	**+0.2**
GRL				*e*S	**Sn**		**00 11 44.4**	**0.0**
ASAK	**Asacha**	**1.74**	**257**	*e*P	**Pn**		**00 11 26.0**	**0.0**
ASAK				*e*S	**Sn**		**00 11 47.3**	**-0.5**
PEA0B	**Petropavlovsk-**	**1.82**	**281**		**Pn**		**00 11 28.1**	**+1.0**
PETK	**Petropavlovsk-**	**1.82**	**281**	Pn	**Pn**		**00 11 27.1**	**0.0**
	19nm,0.3s,baz=94,slow=14,SNR=119							
PETK				Sn	**Sn**		**00 11 50.5**	**+0.7**
	13nm,0.3s,baz=102,slow=20,SNR=4.0							
PETK				LR	LR		00 12 11.8	
	comp=Z,219nm,20.5s,baz=59,slow=44							
KDTR	**Khodutka, Kamc**	**1.87**	**239**	*e*P	**Pn**		**00 11 26.3**	**-1.5**
KDTR				*e*S	**Sn**		**00 11 48.4**	**-2.6**
KZV	**Kizimen**	**2.33**	**355**	*e*P	**Pb**		**00 11 38.0**	**-0.2**
KZV				*e*S	**Sg**		**00 12 08.8**	**-2.7**
TUMD	**Tumrok D**	**2.42**	**356**	*e*P	**Pb**		**00 11 39.2**	**-0.3**
TUMD				*e*S	**Sb**		**00 12 10.2**	**+1.2**
MIPR	**Malaya Ipel'ka**	**2.44**	**259**	*e*P	**Pn**		**00 11 37.4**	**+1.8**
TUMR	**Tumrok**	**2.51**	**353**	*e*P	**Pn**		**00 11 41.0**	**-0.2**
TUMR				*e*S	**Sb**		**00 12 13.4**	**+1.6**
PAU	**Pauzhetka**	**2.72**	**242**	P	**Pn**		**00 11 39.3**	**-0.2**
KMNR	**Kamenistaya**	**2.98**	**355**	*e*P	**Pb**		**00 11 46.0**	**-3.1**
BZWR	**Bezymyannyi-We**	**3.17**	**358**	*e*P	**Pb**		**00 11 51.1**	**-1.5**
KPT	**Kopyto**	**3.19**	**356**	*e*P	**Pb**		**00 11 50.8**	**-1.9**
ZLN	**Zelenaya**	**3.23**	**1**	*e*P	**Pb**		**00 11 51.6**	**-1.8**
KOZ	**Kozyrevsk**	**3.30**	**352**	*e*P	**Pb**		**00 11 52.3**	**-2.3**
CIRR	**Tsirk**	**3.33**	**1**	*e*P	**Pb**		**00 11 51.7**	**-3.4**
KRSR	**Krestovskiy**	**3.43**	**359**	*e*P	**Pb**		**00 11 52.9**	**-3.9**
KLY	**Klyuchi**	**3.52**	**360**	*e*P	**Pb**		**00 11 54.9**	**-3.5**
SRDR	**Sredinnyy**	**3.57**	**351**	*e*P	**Pb**		**00 11 55.8**	**-3.4**
KBTR	**Krutoberegovo**	**3.64**	**19**	*e*P	**Pb**		**00 11 56.5**	**-3.9**
SMKR	**Semkarok**	**3.82**	**7**	*e*P	**Pb**		**00 12 01.1**	**-2.4**
SRKR	**Sorokina**	**3.88**	**4**	*e*P	**Pb**		**00 12 01.6**	**-2.8**
BKI	**Bering**	**3.95**	**50**	*e*P	**Pn**		**00 11 57.8**	**+1.5**
BKI				*e*S	**Sn**		**00 12 42.0**	**-0.2**
SMY	**Shemya**	**8.15**	**85**	Pn	**Pn**		**00 12 55.9**	**+1.9**
MA2	**Magadan**	**8.74**	**325**	LR	LR		00 16 57.5	
	comp=Z,58nm,19.8s,baz=120,slow=42							
MA2	**Magadan**	**8.74**	**325**	Pn	**Pn**		**00 13 02.4**	**+0.3**
AMKA	**Amchitka**	**11.55**	**90**	Pn	**Pn**		**00 13 44.7**	**+4.2**
ERM	**Erimo**	**15.98**	**235**	Pn	**Pn**		**00 14 39.0**	**-1.4**
SPIA	**Saint Paul Isl**	**17.18**	**64**		**P**		**00 14 57.8**	**+0.8**
AKUT	**Akutan**	**19.92**	**73**	P	**Pn**		**00 15 29.8**	**+1.0**
AKUT				IAmb	IAmb		00 15 44.8	
	comp=Z,48nm,1.1s							
DHY	**Denali Highway**	**28.62**	**48**	P	**P**		**00 16 52.7**	**+0.8**
GLI	**Glacier Island**	**28.97**	**53**	P	**P**		**00 16 53.6**	**-1.1**
TGL	**Tana Glacier**	**31.05**	**53**	P	**P**		**00 17 12.0**	**-1.3**
TGL				IAmb	IAmb		00 17 27.8	
	comp=Z,11nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**33.36**	**169**	T	T		00 53 53.9	
	baz=351,slow=76,SNR=27							
H11N3	**WAKE ISLAND Hy**	**33.37**	**169**	T	T		00 53 55.3	
	baz=351,slow=76,SNR=15							
H11N1	**WAKE ISLAND Hy**	**33.37**	**169**	T	T		00 53 55.4	
	baz=351,slow=76,SNR=21							
SONM	**Songino Array**	**34.31**	**284**	P	**P**		**00 17 39.9**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=61,slow=6.8,SNR=2.8							
H11S1	**WAKE ISLAND Hy**	**34.54**	**170**	T	T		00 55 22.7	
	baz=351,slow=76,SNR=5.5							
H11S3	**WAKE ISLAND Hy**	**34.55**	**170**	T	T		00 55 24.1	
	baz=351,slow=76,SNR=4.8							
H11S2	**WAKE ISLAND Hy**	**34.56**	**170**	T	T		00 55 23.4	
	baz=351,slow=76,SNR=3.8							
MOBC	**Moresby Island**	**39.20**	**62**	P	**P**		**00 18 24.2**	**+0.9**
MOBC				IAmb	IAmb		00 18 26.2	
	comp=Z,11nm,1.1s							
SPITS	**Spitsbergen Ar**	**47.48**	**351**	P	**P**		**00 19 30.7**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=60,slow=14,SNR=5.2							
KURK	**Kurchatov**	**48.18**	**302**	P	**P**		**00 19 32.9**	**-2.7**
KURK				IAmb	IAmb		00 19 34.6	
	comp=Z,2.1nm,0.9s							
MKAR	**Makanchi Array**	**48.59**	**296**	P	**P**		**00 19 36.9**	**-2.0**
	comp=Z,0.4nm,0.8s,baz=54,slow=6.2,SNR=3.9							
ARCES	**ARCESS Array B**	**53.68**	**342**	P	**P**		**00 20 16.4**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=21,slow=7.0,SNR=5.6							
PDAR	**Pinedale Array**	**57.36**	**61**	P	**P**		**00 20 45.1**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=348,slow=3.1,SNR=2.9							
FINES	**FINESS Array B**	**60.53**	**337**	P	**P**		**00 21 05.1**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=28,slow=9.5,SNR=11							
AKASG	**Malin Array Be**	**69.05**	**329**	P	**P**		**00 22 00.9**	**0.0**
	comp=Z,0.8nm,0.5s,baz=28,slow=7.3,SNR=5.1							
KBZ	**Khabaz**	**69.39**	**317**	P	**P**		**00 22 07.1**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=212,slow=7.7,SNR=4.2							
TXAR	**Lajitas Array**	**70.43**	**67**	P	**P**		**00 22 11.3**	**+1.4**
	comp=Z,0.7nm,1.0s,baz=344,slow=8.4,SNR=3.4							
LPIG	**La Paz**	**70.61**	**76**	P	**P**		**00 22 10.2**	**-0.7**
	comp=Z,42nm,0.3s,baz=302,slow=2.4,SNR=4.5							
ASAR	**Alice Springs**	**79.63**	**205**	P	**P**		**00 23 02.5**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=12,slow=5.1,SNR=4.2							
ESDC	**Sonseca Array**	**86.94**	**348**	P	**P**		**00 23 41.2**	**+0.8**
	comp=Z,0.7nm,1.1s,baz=25,slow=3.4,SNR=3.8							
MDT	**Midelt**	**93.78**	**348**	LR	LR		01 08 00.1	
	comp=Z,118nm,22.0s,baz=309,slow=36							

MEX ***04*** *00:21:51.2±2.3, 17°21′N × 100°78′W, h16km±28km, MD5.0*

IDC ***04*** *00:21:51.5±4.7, 17°44′N × 100°66′W, h33km±32km, mb4.2/18, mb1 4.4/21, mb1mx4.2/39, mbtmp4.3/21, ML3.6/3, MS4.3/23, Ms1 4.3/23, ms1mx4.2/30, Error ellipse: s-maj=27.5km s-min=14.6km az=41.0*

NEIC ***04*** *00:21:52.0±2.6, 17°29′N±0°.05× 100°70′W±0°.04, h48km±5km, Error ellipse: s-maj=8.6km s-min=4.4km az=210.0*

GCMT ***04*** *00:21:53.6±0.3, 17°35′N±0°.02× 100°67′W±0°.02, h33km, MW5.0/97, Moment Tensor Solution. s57,c75; s97,c150; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.19±.17; $M_{\theta\theta}$=-3.09±.10; $M_{\phi\phi}$=-1.10±.10; $M_{r\theta}$=2.05±.10; $M_{r\phi}$=1.40±.07; $M_{\theta\phi}$=-1.57±.11; Best double couple: M=4.76000×10^{16} NP1:ϕ_s=293.00000°, δ29.00000°, λ82.00000°. NP2: ϕ_s=122.00000°, δ61.00000°, λ95.00000°. Principal axes: T 4.9650, Plg73.0000°, Azm44.0000°; N -0.4090, Plg4.0000°, Azm300.0000°; P -4.5550, Plg16.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 00:21:49.1±1.0, 17°24′N±0°.03× 100°74′W±0°.03, h25km±7km, n954, σ1$29/943, mb4.8/190, MS4.3/24, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CAIG	**El Cayaco**	**0.50**	**113**	*e*P	**Pb**		**00 21 59.3**	**0.0**
CAIG	baz=290,slow=14			*i* S	**Sb**		**00 22 06.1**	**0.0**
CAIG	**El Cayaco**	**0.50**	**113**		**Pb**		**00 21 59.2**	**0.0**
CAIG					**Sb**		**00 22 06.1**	**0.0**
ZIIG	**Zihuatanejo**	**0.78**	**298**	*e*P	**Pb**		**00 22 02.6**	**-1.3**
ZIIG				*i* S	**Sb**		**00 22 13.1**	**-1.1**
ZIIG	**Zihuatanejo**	**0.78**	**298**		**Pb**		**00 22 02.6**	**-1.3**
ZIIG					**Sb**		**00 22 13.1**	**-1.1**
ACP2	**Acapulco**	**0.90**	**114**	*e*P	**Pb**		**00 22 05.7**	**-0.4**
ACP2				*i* S	**Sb**		**00 22 16.5**	**-1.1**
ACP2	**Acapulco**	**0.90**	**114**		**Pb**		**00 22 05.7**	**-0.4**
ACP2					**Sb**		**00 22 16.5**	**-1.1**
CRIG	**Cruz Grande**	**1.62**	**108**	*i* P	**Pn**		**00 22 16.2**	**0.0**
CRIG				*i* S	**Sn**		**00 22 35.2**	**-1.1**
PLIG	**Platanillo**	**1.65**	**46**	*i* P	**Pn**		**00 22 17.6**	**+1.0**
PLIG				*i* S	**Sb**		**00 22 38.9**	**-0.3**
PLIG	**Platanillo**	**1.65**	**46**		**Pn**		**00 22 17.6**	**+1.0**
PLIG					**Sb**		**00 22 38.9**	**-0.3**
MAVM	**Malinalco, Edo**	**2.08**	**35**	*e*P	**Pn**		**00 22 23.1**	**+0.5**
MAVM				*i* S	**Sn**		**00 22 48.0**	**+0.2**
MAVM	**Malinalco, Edo**	**2.08**	**35**		**Pb**		**00 22 25.1**	**-1.2**
MAVM					**Sb**		**00 22 52.0**	**+0.2**
TLIG	**Tlapa**	**2.10**	**81**	*i* P	**Pn**		**00 22 24.0**	**+1.2**
TLIG	**Tlapa**	**2.10**	**81**		**Pn**		**00 22 24.4**	**+1.5**
HMTT	**Tlapaneco**	**2.16**	**75**	*e*P	**Pn**		**00 22 24.7**	**+1.1**
HMTT	**Tlapaneco**	**2.16**	**75**		**Pn**		**00 22 24.7**	**+1.1**
YAIG	**Yautepec**	**2.27**	**44**	*i* P	**Pn**		**00 22 25.5**	**+0.4**
YAIG	**Yautepec**	**2.27**	**44**		**Pn**		**00 22 25.5**	**+0.4**
TOVM	**TOLUCA**	**2.27**	**26**	*e*P	**Pn**		**00 22 23.5**	**-1.9**
MOIG	**Morelia**	**2.46**	**350**	*i* P	**Pn**		**00 22 28.1**	**+0.2**
MOIG	**Morelia**	**2.46**	**350**	Pn	**Pb**		**00 22 30.5**	**-2.2**
URUA	**Uruapan**	**2.51**	**330**	*e*P	**Pn**		**00 22 28.6**	**+0.1**
URUA	**Uruapan**	**2.51**	**330**		**Pn**		**00 22 30.6**	**+2.1**
UNM	**Universidad Na**	**2.55**	**35**	*i* P	**Pn**		**00 22 30.5**	**+1.3**
UNM				*i* S	**Sb**		**00 23 08.0**	**+2.5**
UNM	**Universidad Na**	**2.55**	**35**	Pn	**Pn**		**00 22 30.8**	**+1.6**
FTIG	**Fresnillo de T**	**2.58**	**75**	*i* P	**Pn**		**00 22 30.8**	**+1.4**
CVM	**Colonia del Va**	**2.60**	**35**	*e*P	**Pn**		**00 22 30.6**	**+1.1**
CVM				*e*S	**Sn**		**00 23 01.5**	**+1.2**
AMVM	**AMECAMECA**	**2.65**	**44**	*e*P	**Pn**		**00 22 31.4**	**+0.9**
AMVM				*i* S	**Sn**		**00 23 03.2**	**+1.2**
AMVM	**AMECAMECA**	**2.65**	**44**		**Pn**		**00 22 32.4**	**+1.9**
AMVM					**Sb**		**00 23 11.2**	**+3.0**
PNIG	**Pinotepa**	**2.65**	**108**	*i* P	**Pn**		**00 22 30.6**	**+0.4**
PNIG	**Pinotepa**	**2.65**	**108**		**Pn**		**00 22 30.6**	**+0.4**
ATVM	**ATLACOMULCO**	**2.65**	**19**	*e*P	**Pn**		**00 22 31.1**	**+0.6**
ATVM				*i* S	**Sn**		**00 23 02.5**	**+0.5**
ATVM	**ATLACOMULCO**	**2.65**	**19**		**Pb**		**00 22 35.1**	**-1.0**
PPM	**Popocatepetl**	**2.71**	**48**	*i* P	**Pn**		**00 22 32.3**	**+0.7**
PTVM	**Pico Tres Padr**	**2.80**	**33**	*e*P	**Pn**		**00 22 33.8**	**+1.1**
PTVM				*e*S	**Sn**		**00 23 06.3**	**+0.5**
ACIG	**Acambay**	**2.84**	**17**	*e*P	**Pn**		**00 22 34.5**	**+1.4**
TXIG	**Tlaxiaco**	**2.84**	**89**	*i* P	**Pn**		**00 22 34.6**	**+1.4**
HLIG	**Huajuapan de L**	**2.87**	**78**	*i* P	**Pn**		**00 22 34.8**	**+1.3**
YOIG	**Yosondua**	**3.08**	**97**	*i* P	**Pn**		**00 22 38.3**	**+1.8**
YOIG				*i* S	**Sb**		**00 23 19.6**	**-1.1**
VTVM	**Tizayuca**	**3.13**	**36**	*e*P	**Pn**		**00 22 37.8**	**+0.6**
VTVM				*e*S	**Sb**		**00 23 23.5**	**+1.3**
VTVM	**Tizayuca**	**3.13**	**36**		**Pn**		**00 22 37.8**	**+0.6**
DEIG	**Demacu**	**3.45**	**28**	*i* P	**Pn**		**00 22 41.6**	**+0.1**
DEIG				*i* S	**Sn**		**00 23 23.8**	**+2.2**
IGIG	**Irapuato, Guan**	**3.54**	**351**	*e*P	**Pn**		**00 22 44.2**	**+1.5**
IGIG				*i* S	**Sn**		**00 23 23.7**	**-0.1**
IGIG	**Irapuato, Guan**	**3.54**	**351**		**Pb**		**00 22 50.4**	**-0.7**
TOIG	**Toxpalan**	**3.61**	**76**	*i* P	**Pn**		**00 22 44.9**	**+1.3**
TOIG				*i* S	**Sn**		**00 23 26.7**	**+1.2**
PEIG	**Puerto Escondi**	**3.66**	**109**	*i* P	**Pn**		**00 22 46.3**	**+2.1**
VHO	**Vista Hermosa**	**3.84**	**92**	*i* P	**Pn**		**00 22 48.6**	**+1.8**
VHO				*i* S	**Sn**		**00 23 32.2**	**+0.9**
CJM	**Chamela**	**4.66**	**299**	*e*P	**Pn**		**00 22 58.6**	**+0.7**
HUIG	**Huatulco**	**4.68**	**108**	*e*P	**Pn**		**00 22 59.8**	**+1.6**
HUIG				*i* S	**Sn**		**00 23 52.1**	**+0.3**
HUIG	**Huatulco**	**4.68**	**108**		**Pn**		**00 22 60.0**	**+1.7**
HUIG					**Sn**		**00 23 44.7**	**-7.1**
AAIG	**Aguscalientes**	**4.95**	**342**	*e*P	**Pn**		**00 23 03.1**	**+1.0**
AAIG				*i* S	**Sn**		**00 23 59.0**	**+0.3**
ANIG	**Ahuacatlan**	**5.21**	**317**	*i* P	**Pn**		**00 23 07.0**	**+1.5**
ANIG				*e*P	**Pn**		**00 23 08.2**	**+2.7**
ANIG				*i* S	**Sn**		**00 24 09.8**	**+4.9**
ANIG	**Ahuacatlan**	**5.21**	**317**		**Pb**		**00 23 18.2**	**-1.3**
CMIG	**Matias Romero**	**5.60**	**91**	Pn	**Pn**		**00 23 12.3**	**+1.3**
	2.6nm,0.3s,baz=266,slow=11,SNR=22							
CMIG				Sn	**Sn**		**00 24 13.0**	**-1.6**
	12nm,0.3s,baz=216,slow=3.1,SNR=4.3							
CMIG				Lg	Lg		00 24 47.5	
	22nm,0.3s,baz=193,slow=24,SNR=8.6							
CMIG				LR	LR		00 25 42.9	
	comp=Z,3μm,20.7s,baz=258,slow=42							
CMIG	**Matias Romero**	**5.60**	**91**	*e*P	**Pn**		**00 23 13.8**	**+2.8**
CMIG	**Matias Romero**	**5.60**	**91**		**Pn**		**00 23 13.8**	**+2.8**
ZAIG	**Zacatecas**	**5.76**	**343**	*e*P	**Pn**		**00 23 11.9**	**-1.4**
ZAIG	**Zacatecas**	**5.76**	**343**	Pn	**Pn**		**00 23 16.6**	**+3.3**
GTIG	**Gomez Farias**	**5.98**	**14**	*e*P	**Pn**		**00 23 17.9**	**+1.9**
TGIG		**7.31**	**93**	*e*P	**Pn**		**00 23 36.2**	**+1.9**
TGIG		**7.31**	**93**		**Pn**		**00 23 36.2**	**+1.9**
PCIG		**7.38**	**101**	*e*P	**Pn**		**00 23 38.3**	**+3.0**
PCIG		**7.38**	**101**		**Pn**		**00 23 38.3**	**+3.0**
CCIG	**Comitan**	**8.30**	**95**		**Pn**		**00 23 51.2**	**+3.1**
RTAL	**Retalhuleu**	**9.12**	**106**	Pn	**Pn**		**00 24 02.6**	**+3.5**
KVTX	**Kingsville**	**10.59**	**14**	Pn	**Pn**		**00 24 20.2**	**+1.0**
HPIG		**10.67**	**336**		**Pn**		**00 24 24.4**	**+3.8**
SLBS	**Sierra La Lagu**	**10.74**	**308**	Pn	**Pn**		**00 24 24.6**	**+3.1**
833A	**Chaparral WMA,**	**11.10**	**6**	P	**Pn**		**00 24 26.6**	**+0.3**
	baz=186,SNR=7.1							
833A	**Chaparral WMA,**	**11.10**	**6**	Pn	**Pn**		**00 24 29.8**	**+3.5**
LPIG	**La Paz**	**11.25**	**309**	LR	LR		00 28 23.2	
	comp=Z,2μm,20.2s,baz=120,slow=35							
MTO3	**Montecristo**	**11.31**	**103**		**Pn**		**00 24 32.0**	**+2.6**
735A	**Kenedy**	**11.87**	**13**	Pn	**Pn**		**00 24 40.8**	**+3.9**
TEIG	**Tepich**	**12.18**	**74**	Pn	**Pn**		**00 24 38.8**	**-2.3**
	0.4nm,0.3s,baz=136,slow=0.3,SNR=5.1							
TEIG				Sn	**Sn**		**00 26 47.9**	**-8.2**
	1.3nm,0.3s,baz=319,slow=20,SNR=1.5							
TEIG	**Tepich**	**12.18**	**74**		**Pn**		**00 24 43.5**	**+2.4**

X40A	Basin Creek Fa	18.58	21	P		P	00 26 03.6	-0.7	
	baz=204,SNR=6.2								
X40A	Basin Creek Fa	18.58	21	P		P	00 26 02.9	-1.4	
146A	Union	18.61	32	P		P	00 26 03.0	-1.7	
BRAL	Brewton	18.63	39	P		P	00 26 04.6	-0.3	
	baz=225								
BRAL	Brewton	18.63	39	P		P	00 26 01.9	-3.0	
BRAL				IAmb		IAmb	00 26 15.9		
	comp=Z,141nm,1.4s								
FSCY	Frank Sound, G	18.69	81	P		P	00 26 05.2	-0.4	
OK029	Liberty Lake	18.71	8	P		P	00 26 04.5	-1.3	
OK029				IAmb		IAmb	00 26 16.7		
	comp=Z,40nm,0.7s								
SFX	San Felipe	18.80	320	P		Pn	00 26 08.9	+1.5	
W39A	Magazine	18.93	18	P		Pn	00 26 08.5	-0.4	
	baz=200,SNR=29								
W39A	Magazine	18.93	18	P		P	00 26 07.5	-0.7	
W39A				IAmb		IAmb	00 26 20.6		
	comp=Z,82nm,1.2s								
UALR	University of	19.01	22	P		P	00 26 09.1	+0.1	
UALR				IAmb		IAmb	00 26 20.1		
	comp=Z,78nm,1.4s								
451A	Vernon	19.08	43	P		P	00 26 08.4	-1.5	
TUL1	Leonard	19.11	12	P		P	00 26 09.5	-0.6	
	baz=194,SNR=30								
TUL1	Leonard	19.11	12	P		P	00 26 09.6	-0.5	
U32A	Winter Ranch,	19.12	4	P		P	00 26 09.2	-1.1	
U32A				IAmb		IAmb	00 26 24.5		
	comp=Z,50nm,0.8s								
SPX	San Pedro Mart	19.18	318			Pn	00 26 13.1	+0.7	
QUOK	Quay	19.19	10	P		P	00 26 10.6	-0.5	
QUOK				IAmb		IAmb	00 26 29.8		
	comp=Z,50nm,1.0s								
X43A	Marvell	19.34	25	P		P	00 26 11.5	-1.2	
	baz=209								
X43A	Marvell	19.34	25	P		P	00 26 12.0	-0.6	
CROK	Carrier	19.34	7	P		P	00 26 11.5	-1.2	
Y45A	Yeager Farm, C	19.37	29	P		P	00 26 12.2	-0.8	
W41B	Gary Mavity, V	19.40	21	P		P	00 26 13.1	-0.3	
	baz=205,SNR=9.8								
W41B	Gary Mavity, V	19.40	21	P		P	00 26 13.4	+0.1	
113A	Mohawk Valley,	19.42	325	P		Pn	00 26 15.2	+0.3	
WHAR	Wooly Hollow	19.49	21	P		P	00 26 13.0	-1.3	
WHAR				IAmb		IAmb	00 26 28.4		
	comp=Z,91nm,1.3s								
W18A	Petrified Fore	19.53	337	P		Pn	00 26 17.3	+1.0	
	baz=153,SNR=8.6								
W18A	Petrified Fore	19.53	337	P		Pn	00 26 17.7	+1.4	
W18A				IAmb		IAmb	00 26 30.4		
	comp=Z,118nm,1.3s								
Z47A	Carrollton	19.56	33	P		P	00 26 13.9	-1.2	
Z47A				IAmb		IAmb	00 26 27.0		
	comp=Z,78nm,1.4s								
X16A	Lo Mia Camp, P	19.60	333	P		Pn	00 26 18.6	+1.4	
250A	Grady	19.68	39	P		P	00 26 16.5	+0.1	
250A				IAmb		IAmb	00 26 30.2		
	comp=Z,47nm,1.1s								
553A	Crawfordville	19.70	46	P		P	00 26 15.2	-1.4	
553A				IAmb		IAmb	00 26 15.9		
	comp=Z,95nm,1.4s								
LCCY	Blossom Villag	19.75	80	P		P	00 26 16.8	-0.5	
HHAR	Hobbs	19.90	16	P		P	00 26 18.6	-0.2	
HHAR				IAmb		IAmb	00 26 29.3		
	comp=Z,31nm,0.6s								
KAN13	South Haven SW	19.90	8	P		P	00 26 18.4	-0.5	
KAN10	Anthony SW Sta	19.94	6	P		P	00 26 18.9	-0.3	
T35A	Sooner Cattle	19.95	10	P		P	00 26 18.2	-1.2	
T35A				IAmb		IAmb	00 26 29.3		
	comp=Z,49nm,0.6s								
OXF	Oxford	19.97	28	P		P	00 26 20.2	+0.7	
	baz=213								
OXF	Oxford	19.97	28	P		P	00 26 19.0	-0.5	
OXF				IAmb		IAmb	00 26 32.5		
	comp=Z,74nm,1.4s								
LRAL	Lakeview Retre	20.02	36	P		P	00 26 19.5	-0.7	
	baz=221,SNR=11								
LRAL	Lakeview Retre	20.02	36	P		P	00 26 19.8	-0.3	
LRAL				IAmb		IAmb	00 26 30.9		
	comp=Z,52nm,1.4s								
CBCY	The Bluff, Cay	20.06	80	P		P	00 26 20.8	+0.1	
T25A	Trinidad	20.08	351	P		P	00 26 21.9	+0.8	
	baz=169,SNR=15								
T25A	Trinidad	20.08	351	P		Pn	00 26 22.7	-0.2	
FCAR	Ozark Folk Cen	20.09	21	P		P	00 26 20.6	-0.3	
KAN12	Harper NE Stat	20.12	6	P		P	00 26 20.9	-0.3	
ESJX	Sierra Juarez	20.14	320	P		Pn	00 26 23.5	-0.1	
352A	Blakely	20.18	42	P		P	00 26 22.7	+0.8	
GLA	Glamis	20.22	324	P		Pn	00 26 24.7	+0.3	
	baz=137,SNR=10								
GLA	Glamis	20.22	324	P		Pn	00 26 24.3	-0.1	
GLA				IAmb		IAmb	00 26 35.4		
	comp=Z,58nm,1.2s								
U40A	Yellville	20.28	19	P		P	00 26 22.4	-0.6	
	baz=202,SNR=24								
U40A	Yellville	20.28	19	P		P	00 26 22.1	-0.9	
U40A				IAmb		IAmb	00 26 35.3		
	comp=Z,49nm,0.7s								
CCX	Cicese	20.50	318	P		Pn	00 26 27.1	-0.5	
LPAR	Lepanto	20.51	25	P		P	00 26 24.9	-0.5	
LPAR				IAmb		IAmb	00 26 39.3		
	comp=Z,70nm,0.9s								
WUAZ	Wupatki	20.51	335	P		Pn	00 26 28.1	+0.2	
	baz=149,SNR=37								
WUAZ	Wupatki	20.51	335	P		Pn	00 26 28.4	+0.5	
PAYG	Puerto Ayora	20.57	149	P		Pn	00 26 30.5	+1.9	
PAYG				IAmb		IAmb	00 26 32.6		
	comp=Z,46nm,1.2s								
LCAR	Lake Charles	20.59	23	P		P	00 26 25.9	-0.5	
LCAR				IAmb		IAmb	00 26 40.9		
	comp=Z,87nm,1.2s								
W45A	Hickory Valley	20.61	28	P		P	00 26 25.9	-0.5	
IKP	In-K-o-Pah, Jac	20.68	321	P		Pn	00 26 29.2	-0.6	
	baz=134								
SWSC	Sam W. Stewart	20.70	322	P		Pn	00 26 29.8	-0.2	
	baz=135								
PDMCI	Parker Dam,Lak	20.80	327	P		Pn	00 26 30.9	-0.2	
	baz=141,SNR=8.3								
DWPF	Disney Wildern	20.82	55	P		P	00 26 27.4	-1.4	
	baz=243								
SDCO	Great Sand Dun	20.85	349	P		P	00 26 30.1	+0.7	
	baz=166,SNR=38								
SDCO	Great Sand Dun	20.85	349	P		P	00 26 30.3	+0.9	
TKX	Tecate	20.93	320	P		Pn	00 26 32.3	-0.4	
Y49A	Blount Mountai	20.96	35			P	00 26 30.8	+0.5	
PLAL	Pickwick Lake	20.98	30	P		P	00 26 29.9	-0.5	
BC3	Big Chuckawall	21.02	324	P		P	00 26 33.0	+1.9	
	baz=137,SNR=7.9								
TIGA	Tifton	21.03	45	P		P	00 26 30.9	-0.2	
MVCO	Mesa Verde	21.04	343	P		P	00 26 32.5	+1.2	
	baz=158								
MVCO	Mesa Verde	21.04	343	P		P	00 26 31.5	+0.1	
MVCO				IAmb		IAmb	00 26 44.5		
	comp=Z,86nm,1.4s								
MONP2	Monument Peak	21.04	321	P		P	00 26 33.2	+1.7	
	baz=133								
BAR	Barrett	21.05	320	P		P	00 26 33.7	+2.4	
X48A	Hartselle	21.07	33	P		P	00 26 30.5	-1.0	
X48A				IAmb		IAmb	00 26 45.5		
	comp=Z,64nm,1.1s								
152A	Waverly Hall	21.10	40	P		P	00 26 32.1	+0.3	
S22A	4UR Ranch, Cre	21.12	347	P		P	00 26 33.9	+1.6	
	baz=163,SNR=28								
S22A	4UR Ranch, Cre	21.12	347	P		P	00 26 32.8	+0.5	
S22A				IAmb		IAmb	00 26 49.5		
	comp=Z,43nm,1.0s								
PEBM	Pemiscott Bayo	21.13	25	P		P	00 26 32.2	+0.1	
HALT	Halls	21.18	26	P		P	00 26 34.2	+1.6	
R32A	Long Quarter,	21.18	4	P		P	00 26 31.9	-0.7	
R32A				IAmb		IAmb	00 26 42.6		
	comp=Z,32nm,0.8s								
MGMO	Mountain Grove	21.20	19	P		P	00 26 31.7	-1.2	
MGMO				IAmb		IAmb	00 26 45.8		
	comp=Z,35nm,0.8s								
IRM	Iron Mountain	21.22	325	P		P	00 26 35.2	+2.0	
	baz=138,SNR=23								
Z51A	Franklin	21.27	38	P		P	00 26 33.4	-0.4	
Z51A				IAmb		IAmb	00 26 47.7		
	comp=Z,38nm,1.0s								
LNXT	Lenox	21.27	26	P		P	00 26 35.5	+1.8	
W13A	Hualapai Mount	21.30	329	P		P	00 26 35.6	+1.4	
S39A	Bolivar	21.39	16	P		P	00 26 34.2	-0.7	
S39A				IAmb		IAmb	00 26 49.7		
	comp=Z,98nm,1.5s								
109C	Camp Elliot, M	21.46	320	P		P	00 26 38.0	+2.3	
	baz=132								
109C	Camp Elliot, M	21.46	320	P		P	00 26 38.0	+2.3	
T42A	Van Buren	21.48	21	P		P	00 26 35.3	-0.5	
PBMO	Poplar Bluff	21.49	23	P		P	00 26 35.0	-1.0	
GLAT	Glass	21.50	26	P		P	00 26 36.5	+0.4	
CBKS	Cedar Bluff	21.51	2	P		P	00 26 35.3	-1.0	
CBKS				IAmb		IAmb	00 26 52.3		
	comp=Z,35nm,0.8s								
XPFO	Pion Flat	21.56	322	P		P	00 26 39.6	+2.6	
XPFO				IAmb		IAmb	00 26 54.3		
	comp=Z,34nm,1.2s								
PFO	Pinyon Flats O	21.57	322	P		P	00 26 37.5	+0.5	
	comp=Z,7.2nm,1.0s,baz=135,slow=5.5,SNR=9.1								
PFO	Pinyon Flats O	21.57	322	P		P	00 26 38.9	+1.9	
	baz=134,SNR=5.9								
PFO	Pinyon Flats O	21.57	322	P		P	00 26 38.7	+1.7	
BELC	Belle Mtn. Jos	21.58	324	P		P	00 26 39.0	+1.8	
	baz=136,SNR=8.5								
PARMO	Parma	21.65	25	P		P	00 26 36.7	-1.1	
PARMO				IAmb		IAmb	00 26 48.7		
	comp=Z,44nm,0.7s								
U15A	North Rim	21.68	334	P		P	00 26 40.6	+2.3	
U15A				IAmb		IAmb	00 26 52.4		
	comp=Z,83nm,1.4s								
KSCO	Kaye Shedlock'	21.75	356	P		P	00 26 38.9	0.0	
	baz=175								
KSCO	Kaye Shedlock'	21.75	356	P		P	00 26 39.6	+0.7	
HICK	Hickman	21.76	26	P		P	00 26 38.9	0.0	
HENM	Henderson Moun	21.81	25	P		P	00 26 40.6	+1.2	
FPAL	Fort Paine	21.91	35	P		P	00 26 39.7	-0.8	
FPAL				IAmb		IAmb	00 26 53.2		
	comp=Z,29nm,0.9s								
PV01	Paradox Valley	21.92	343	P		P	00 26 42.3	+1.4	
PV01				IAmb		IAmb	00 26 54.0		
	comp=Z,34nm,1.2s								
GMRC	Granite Mounta	21.97	326	P		P	00 26 43.2	+1.9	
	baz=138,SNR=9.6								
Q24A	Divide	21.98	351	P		P	00 26 42.2	+0.6	
MURC	Murrieta	22.00	321	P		P	00 26 43.4	+1.9	
	baz=133								
PV13	Radium Mtn., P	22.01	343	P		P	00 26 43.1	+1.3	
PV05	Paradox Valley	22.02	342	P		P	00 26 43.4	+1.5	
WVT	Waverly	22.03	29	P		P	00 26 41.7	-0.1	
	baz=214								
WVT	Waverly	22.03	29	P		P	00 26 41.6	-0.1	
PV02	Paradox Valley	22.03	343	P		P	00 26 43.0	+0.9	
KSU1	Kansas State U	22.08	9	P		P	00 26 41.0	-1.3	
	baz=190								
KSU1	Kansas State U	22.08	9	P		P	00 26 42.1	-0.2	
255A	Hazlehurst	22.08	45	P		P	00 26 41.5	-0.8	
255A				IAmb		IAmb	00 26 49.3		
	comp=Z,24nm,0.7s								
154A	Montrose	22.09	43	P		P	00 26 42.4	0.0	
PV15	Paradox Valley	22.09	344	P		P	00 26 42.9	+0.2	
PV15				IAmb		IAmb	00 26 57.4		
	comp=Z,52nm,1.1s								
PV03	Paradox Valley	22.11	343	P		P	00 26 44.1	+1.3	
PV18	Skein Mesa, Pa	22.12	343	P		P	00 26 42.5	-0.4	
MTDJ	Mount Denham	22.13	84	P		P	00 26 41.2	-1.9	
PV12	Saucer Basin,	22.15	343	P		P	00 26 44.6	+1.3	
PV12				IAmb		IAmb	00 27 03.8		
	comp=Z,50nm,1.3s								
PV11	David Mesa, Pa	22.16	343	P		P	00 26 46.6	+3.3	
PV17	East Wray Mesa	22.16	343	P		P	00 26 46.6	+3.1	
PV17				IAmb		IAmb	00 26 59.1		
	comp=Z,27nm,1.0s								
PV16	Nyswonger Mesa	22.18	343	P		P	00 26 45.2	+1.6	
V48A	Smith Brothers	22.20	31	P		P	00 26 43.6	+0.1	
V48A				IAmb		IAmb	00 26 58.6		
	comp=Z,29nm,1.1s								
PV19	Morning Glory	22.20	343	P		P	00 26 45.5	+1.7	
PV19				IAmb		IAmb	00 26 57.8		
	comp=Z,37nm,1.3s								
PV20	West Nyswonger	22.22	343	P		P	00 26 45.0	+1.0	
PV07	Paradox Valley	22.22	343	P		P	00 26 44.7	+0.6	
PV07				IAmb		IAmb	00 26 57.6		
	comp=Z,35nm,1.1s								
SWET	Sewanee	22.24	34	P		P	00 26 43.0	-1.2	
SWET				IAmb		IAmb	00 26 58.6		
	comp=Z,22nm,0.9s								
R40A	Maddies Statio	22.25	18	P		P	00 26 42.9	-1.2	
R40A				IAmb		IAmb	00 26 58.7		
	comp=Z,32nm,0.8s								
PV04	Paradox Valley	22.25	343	P		P	00 26 45.6	+1.2	
PV04				IAmb		IAmb	00 26 57.1		
	comp=Z,42nm,1.2s								
PV14	Lion Creek, Pa	22.27	343	P		P	00 26 45.5	+0.9	
PV14				IAmb		IAmb	00 26 58.5		
	comp=Z,37nm,1.3s								
PV10	Paradox Valley	22.27	343	P		P	00 26 44.7	0.0	
PV10				IAmb		IAmb	00 26 57.8		
	comp=Z,69nm,1.3s								
BBRC	Big Bear Solar	22.30	323	P		P	00 26 46.7	+1.7	
	baz=135								
Y52A	Lilburn	22.32	39	P		P	00 26 45.2	+0.3	
PV23	Carpenter Ridg	22.34	343	P		P	00 26 47.0	+1.6	
PV23				IAmb		IAmb	00 26 58.4		
	comp=Z,28nm,1.0s								
CCM	Cathedral Cave	22.35	20	P		P	00 26 44.2	-1.0	
	baz=204								
CCM	Cathedral Cave	22.35	20	P		P	00 26 44.0	-1.2	
CCM				IAmb		IAmb	00 26 57.2		
	comp=Z,38nm,1.1s								
PV22	Blue Mesa, Par	22.35	343	P		P	00 26 47.0	+1.5	
PV22				IAmb		IAmb	00 27 02.6		
	comp=Z,40nm,1.2s								
HEC	Hector,Ludlow	22.38	324	P		P	00 26 47.3	+1.7	
	baz=137,SNR=5.8								
GOGA	Godfrey	22.38	41	P		P	00 26 44.2	-1.3	
	baz=228								
GOGA	Godfrey	22.38	41	P		P	00 26 45.1	-0.4	
GOGA				IAmb		IAmb	00 26 56.2		
	comp=Z,32nm,1.0s								
KNB	Kanab	22.40	334	P		P	00 26 48.2	+2.2	
T45A	Paducah	22.41	26	P		P	00 26 46.0	+0.1	
SCI2	San Clemente I	22.43	318	P		P	00 26 47.6	+1.5	
	baz=129								
PV21	Cone Mtn., Par	22.43	343	P		P	00 26 47.7	+1.3	
PKCU	Pink Cliffs	22.56	335	P		P	00 26 50.2	+2.4	
W50A	Signal Mountai	22.56	35	P		P	00 26 47.7	+0.1	
W50A				IAmb		IAmb	00 27 02.2		
	comp=Z,26nm,0.9s								
LCMT	Little Creek M	22.57	333	P		P	00 26 49.5	+1.7	
TUQ	Turquoise Moun	22.61	326	P		P	00 26 49.4	+1.3	
	baz=139,SNR=5.7								
CIS	Catalina Islan	22.62	319	P		P	00 26 51.0	+2.9	
	baz=130								
BFSC	Mount Baldy Ra	22.71	321	P		P	00 26 51.3	+2.0	
	baz=133								
CLTN	Cedars of Leba	22.71	31	P		P	00 26 47.7	-1.4	
CLTN				IAmb		IAmb	00 27 00.8		
	comp=Z,70nm,1.5s								
S44A	Carbondale	22.74	24	P		P	00 26 49.8	+0.4	
FMP	Fort Macarthur	22.75	319	P		P	00 26 51.3	+1.8	
	baz=131								
RRX	Edison Barstow	22.78	324	P		P	00 26 51.6	+1.8	
	baz=136								
ISCO	Idaho Springs	22.87	350	P		P	00 26 51.2	+0.1	
	baz=167,SNR=24								
ISCO	Idaho Springs	22.87	350	P		P	00 26 51.4	+0.3	
MWC	Mount Wilson	22.95	321	P		P	00 26 53.0	+1.2	
GSC	Goldstone, Bar	22.98	325	P		P	00 26 53.9	+1.8	
	baz=137,SNR=8.7								
GSC	Goldstone, Bar	22.98	325	P		P	00 26 54.1	+2.1	
GSC				IAmb		IAmb	00 27 07.7		
	comp=Z,36nm,1.4s								
SZCU	Shurtz Canyon	23.00	334	P		P	00 26 55.2	+2.9	
MTPU	Mount Pierson	23.03	336	P		P	00 26 54.3	+1.5	
SHPR	Sheep Range	23.04	329	P		P	00 26 54.2	+1.5	
T47A	Sharon Grove	23.06	29	P		P	00 26 51.2	-1.5	
T47A				IAmb		IAmb	00 27 06.5		
	comp=Z,23nm,0.8s								
CCUT	Cedar City	23.08	334	P		P	00 26 54.4	+1.2	
DECC	Green Verdugo	23.13	320	P		P	00 26 55.3	+1.8	
	baz=132								
SHOC	Shoshone, Teco	23.14	326	P		P	00 26 55.1	+1.5	
	baz=139								
P38A	Dawn	23.17	14	P		P	00 26 51.6	-2.2	
P38A				IAmb		IAmb	00 27 04.5		
	comp=Z,34nm,1.1s								
CPCT	Cooper Cave	23.18	35	P		P	00 26 53.9	0.0	
CPCT				IAmb		IAmb	00 27 10.1		
	comp=Z,30nm,1.4s								
SNCC	San Nicolas Is	23.23	317	P		P	00 26 56.1	+1.6	
	baz=128								
W52A	Murphy	23.26	37	P		P	00 26 53.2	-1.6	
W52A				IAmb		IAmb	00 27 06.0		
	comp=Z,18nm,0.7s								
U49A	Red Boiling Sp	23.32	32	P		P	00 26 54.3	-1.1	
EDW2	Edwards Air Fo	23.36	322	P		P	00 26 57.9	+2.1	
	baz=134								
SRU	San Rafael Swe	23.40	341	P		P	00 26 56.6	+0.3	
Q16A	Castle Valley	23.44	339	P		P	00 26 58.4	+1.6	
P40A	Paris	23.46	17	P		P	00 26 55.1	-1.6	
P40A				IAmb		IAmb	00 27 10.2		
	comp=Z,27nm,0.8s								
157A	Early Branch	23.53	46	P		P	00 26 55.9	-1.6	
	baz=234								
V51A	Loudon	23.54	35	P		P	00 26 56.2	-1.2	
V51A				IAmb		IAmb	00 27 08.0		
	comp=Z,23nm,0.9s								
LRMC	Laurel Mtn Rad	23.60	324	P		P	00 26 59.7	+1.4	
	baz=135								
OSI	Osito Audit: C	23.61	321	P		P	00 26 59.9	+1.6	
	baz=132								
TCRU	Three Creeks R	23.62	337	P		P	00 27 00.5	+1.9	
USIN	University of	23.62	27	P		P	00 26 58.3	+0.1	
Z56A	Williston	23.67	44	P		P	00 26 58.1	-0.7	
	baz=232								
HODGE	Hodges	23.67	41	P		P	00 26 57.8	-1.0	
HODGE				IAmb		IAmb	00 27 11.5		
	comp=Z,43nm,1.4s								
O20A	White River Ci	23.72	346	P		P	00 26 59.8	+0.4	
	baz=161,SNR=5.4								
O20A	White River Ci	23.72	346	P		P	00 26 59.9	+0.5	
O20A				IAmb		IAmb	00 27 14.0		
	comp=Z,45nm,1.2s								
Y55A	Saluda	23.73	42	P		P	00 26 58.1	-1.2	
	baz=230								
TKL	Tuckaleechee C	23.75	36	P		P	00 26 57.9	-1.7	
	comp=Z,5.3nm,0.5s,baz=194,slow=12,SNR=11								
TKL	Tuckaleechee C	23.75	36	P		P	00 26 58.4	-1.2	
TKL				IAmb		IAmb	00 27 12.7		
	comp=Z,27nm,0.9s								
BG3	Lake Jocassee	23.77	39	P		P	00 26 58.4	-1.4	
BG3				IAmb		IAmb	00 27 11.1		
	comp=Z,43nm,1.4s								
SCZ2	Santa Cruz Isl	23.77	318	P		P	00 27 01.2	+1.4	
	baz=129								
TMUT	Trail Mountain	23.79	340	P		P	00 27 00.2	0.0	
P17A	Butcher Ranch,	23.80	341	P		P	00 27 00.5	+0.4	
X54A	Belton	23.81	40	P		P	00 26 58.6	-1.5	
	baz=228								
FURC	Furnace Creek,	23.88	326	P		P	00 27 02.0	+1.3	
	baz=138								
Q44A	Meyer Farm, Va	23.89	23	P		P	00 26 59.7	-1.1	
MPMC	Manual Prospec	23.91	325	P		P	00 27 03.0	+1.7	
	baz=137,SNR=21								
TPNV	Topopah Spring	23.93	328	P		P	00 27 03.2	+1.8	
	baz=140,SNR=47								
TPNV	Topopah Spring	23.93	328	P		P	00 27 03.2	+1.8	
TPNV				IAmb		IAmb	00 27 05.8		
	comp=Z,28nm,0.9s								
N35A	Tabor	23.95	10	P		P	00 27 00.7	-0.6	
V52A	Sevierville	23.98	36	P		P	00 27 00.8	-1.0	
V52A				IAmb		IAmb	00 27 15.0		
	comp=Z,24nm,1.1s								
N23A	Red Feather La	23.99	350	P		P	00 27 02.2	+0.1	
	baz=167,SNR=10								
N23A	Red Feather La	23.99	350	P		P	00 27 02.7	+0.6	
N23A				IAmb		IAmb	00 27 20.0		
	comp=Z,22nm,1.1s								
ARVC	Arvin	24.03	321	P		P	00 27 04.0	+1.9	
	baz=133								
Z57A	Bowman	24.10	45	P		P	00 27 02.5	-0.3	
	baz=233								
OLIL	Olney	24.10	25	P		P	00 27 02.1	-0.7	
OLIL				IAmb		IAmb	00 27 17.9		
	comp=Z,19nm,0.8s								
SBC	Santa Barbara	24.11	319	P		P	00 27 05.0	+2.1	
	baz=130								
158A	Hollywood	24.12	46	P		P	00 27 03.4	+0.5	
	baz=235								
PSUT	Pine Spring	24.12	334	P		P	00 27 05.2	+2.0	
BGNE	Belgrade	24.19	5	P		P	00 27 02.5	-1.0	
	baz=186								
BGNE	Belgrade	24.19	5	P		P	00 27 02.6	-1.0	
ISA	Isabella, Lake	24.19	323	P		P	00 27 05.5	+1.7	
	baz=134,SNR=7.4								
ISA	Isabella, Lake	24.19	323	P		P	00 27 06.2	+2.5	
ISA				IAmb		IAmb	00 27 17.1		
	comp=Z,43nm,1.5s								
T50A	Nancy	24.19	32	P		P	00 27 02.0	-1.6	
T50A				IAmb		IAmb	00 27 17.0		
	comp=Z,19nm,0.9s								
RGRS	Roger Stewart	24.21	46	P		P	00 27 02.9	-0.9	
X55A	Gracelyn & Ava	24.22	41	P		P	00 27 03.2	-0.7	
	baz=230								
W54A	Cherokee Point	24.28	39	P		P	00 27 04.1	-0.4	
	baz=229								
V53A	Saluda	24.31	38	P		P	00 27 04.5	-0.3	
PHWY	Pilot Hill	24.32	351	P		P	00 27 05.1	0.0	
PAULI	Pauline	24.33	40	P		P	00 27 05.1	+0.1	
PAULI				IAmb		IAmb	00 27 18.0		
	comp=Z,28nm,1.0s								
JSC	Jenkinsville	24.34	42	P		P	00 27 04.6	-0.4	
JSC				IAmb		IAmb	00 27 16.0		
	comp=Z,20nm,1.1s								
N38A	Joes South For	24.35	14	P		P	00 27 04.2	-0.9	
P43A	Skaggs, Pawnee

comp=Z,13nm,0.7s
HDIL Hopedale 25.25 21 P P 00 27 11.9 -1.3
baz=206,SNR=8.1
HDIL Hopedale 25.25 21 P P 00 27 12.8 -0.4
PAGB Antelope Grade 25.29 321 P P 00 27 14.9 +1.2
S51A Beattyville 25.31 33 P P 00 27 13.3 -0.5
S51A IAmb IAmb 00 27 24.9
comp=Z,22nm,0.8s
W56A Indian Trail 25.31 41 P P 00 27 13.0 -0.8
baz=230
K31A O'Neill 25.35 3 P P 00 27 15.9 +1.7
K31A IAmb IAmb 00 27 26.2
comp=Z,25nm,0.7s
V55A Taylorsville 25.38 39 P P 00 27 14.3 -0.2
baz=228,SNR=6.4
V55A Taylorsville 25.38 39 P P 00 27 14.6 +0.1
T53A Wise 25.40 36 P P 00 27 13.3 -1.4
baz=224
SCIA State Center 25.41 13 P P 00 27 14.9 +0.2
baz=197
SCIA State Center 25.41 13 P P 00 27 14.7 0.0
R50A Paris 25.42 31 P P 00 27 13.9 -0.9
U54A Nelsons Funny 25.48 37 P P 00 27 15.0 -0.4
baz=226,SNR=7.0
U54A Nelsons Funny 25.48 37 P P 00 27 15.4 0.0
TCUT Toone Canyon 25.51 341 P P 00 27 17.5 +1.7
W57A Gilead 25.69 42 P P 00 27 16.5 -0.8
baz=231
W57A Gilead 25.69 42 P P 00 27 18.1 +0.8
Y59A Loris 25.74 45 P P 00 27 17.0 -0.7
baz=235
Y59A Loris 25.74 45 P P 00 27 17.5 -0.2
X58A Rowland 25.75 44 P P 00 27 17.3 -0.5
baz=233
X58A Rowland 25.75 44 P P 00 27 17.1 -0.8
X58A IAmb IAmb 00 27 31.8
comp=Z,27nm,0.8s
V56A Mocksville 25.80 40 P P 00 27 17.8 -0.4
baz=229
MLAC Mammoth, Mammo 25.80 325 P P 00 27 19.6 +1.1
baz=136
K22A Casper 25.80 350 P P 00 27 20.2 +1.8
baz=167,SNR=12
K22A Casper 25.80 350 P P 00 27 20.6 +2.2
P48A Milroy 25.84 28 P P 00 27 18.3 -0.3
P48A IAmb IAmb 00 27 32.3
comp=Z,23nm,1.4s
BGU Big Grassy Mou 25.87 338 P P 00 27 20.4 +1.3
OMMB Old Mammoth Mi 25.88 325 P P 00 27 21.9 +2.6
OMMB IAmb IAmb 00 27 35.1
comp=Z,37nm,1.4s
SFIN Lafayette 25.91 24 P P 00 27 18.4 -0.8
baz=211,SNR=7.3
SFIN Lafayette 25.91 24 P P 00 27 18.8 -0.3
SFIN IAmb IAmb 00 27 20.6
comp=Z,22nm,0.9s
U55A TA2, Sparta 25.92 38 P P 00 27 19.4 0.0
baz=227
MDPB Devils Postpil 25.93 325 P P 00 27 22.5 +2.7
MDPB IAmb IAmb 00 27 35.5
comp=Z,34nm,1.3s
PMPB Monarch Peak 25.94 321 P P 00 27 20.8 +1.2
T54A Tazewell 25.99 37 P P 00 27 19.1 -1.1
baz=226,SNR=5.4
HWUT Hardware Ranch 26.00 341 P P 00 27 21.3 +1.0
HWUT IAmb IAmb 00 27 36.2
comp=Z,24nm,1.1s
SPUT South Promonto 26.01 340 P P 00 27 21.0 +0.7
NV11 Mina Array Sit 26.04 328 P P 00 27 22.9 +2.3
NV11 IAmb IAmb 00 27 36.6
comp=Z,44nm,1.2s
L40A Anamosa 26.05 16 P P 00 27 21.5 +1.0
W58A Raeford 26.10 43 P P 00 27 20.3 -0.7
baz=233
NVAR Mina Array Bea 26.11 327 P P 00 27 22.2 +0.9
comp=Z,17nm,0.9s,baz=151,slow=9.3,SNR=60
NVAR LR LR 00 37 45.0
comp=Z,865nm,19.1s,baz=136,slow=37
S53A Williamson 26.12 35 P P 00 27 20.7 -0.6
baz=224,SNR=6.6
Y60A Bolivia 26.20 46 P P 00 27 21.4 -0.4
baz=236
U56A King 26.21 39 P P 00 27 21.4 -0.7
baz=229
U56A King 26.21 39 P P 00 27 21.4 -0.7
K38A Parkersburg 26.22 13 P P 00 27 22.6 +0.6
P49A Miami Univ. Ec 26.23 29 P P 00 27 20.5 -1.6
baz=216,SNR=7.4
P49A Miami Univ. Ec 26.23 29 P P 00 27 21.2 -0.9
P49A IAmb IAmb 00 27 35.5
comp=Z,32nm,0.9s
X59A McDuffie Farm, 26.26 45 P P 00 27 22.1 -0.3
baz=234
V57A Coltrane Farms 26.29 41 P P 00 27 22.1 -0.7
baz=230
RYN Ryan 26.38 327 P P 00 27 26.5 +2.9
L42A Oliver, Polo 26.44 19 P P 00 27 23.5 -0.5
KVN Kaiserville 26.48 329 P P 00 27 26.9 +2.2
KVN IAmb IAmb 00 27 41.0
comp=Z,46nm,1.3s
Q51A Peebles 26.48 31 P P 00 27 23.3 -1.2
Q51A IAmb IAmb 00 27 35.9
comp=Z,24nm,0.8s
T55A Pulaski 26.49 38 P P 00 27 23.5 -1.0
baz=227
BW06 Boulder Array 26.53 345 P P 00 27 25.2 +0.1
baz=160,SNR=12
BW06 Boulder Array 26.53 345 P P 00 27 25.7 +0.6
BW06 IAmb IAmb 00 27 39.8
comp=Z,28nm,1.4s
PD31 Pinedale Array 26.53 345 P P 00 27 26.1 +1.0
PD31 IAmb IAmb 00 27 39.8
comp=Z,26nm,1.4s
PDAR Pinedale Array 26.53 345 P P 00 27 25.0 -0.1
comp=Z,5.8nm,0.9s,baz=147,slow=8.5,SNR=39
PDAR PcP PcP 00 30 49.9 +0.5
comp=Z,1.0nm,0.8s,baz=122,slow=7.2,SNR=3.5
PDAR LR LR 00 39 12.1
comp=Z,1μm,21.3s,baz=181,slow=40
ELK Elko 26.56 335 P P 00 27 26.2 +0.9
comp=Z,0.5nm,0.6s,baz=160,slow=9.7,SNR=4.7
ELK Elko 26.56 335 P P 00 27 26.0 +0.6
ECSD EROS Data Cent 26.64 7 P P 00 27 25.5 -0.3
baz=188,SNR=6.4
ECSD EROS Data Cent 26.64 7 P P 00 27 25.8 0.0
V58A Windy Hill, Pi 26.65 42 P P 00 27 24.9 -1.1
baz=232
V58A Windy Hill, Pi 26.65 42 P P 00 27 25.5 -0.5
V58A IAmb IAmb 00 27 39.6
comp=Z,42nm,1.1s
S54A Dingess, Beckl 26.66 36 P P 00 27 25.5 -0.6
baz=225
S54A Dingess, Beckl 26.66 36 P P 00 27 26.4 +0.2
S54A IAmb IAmb 00 27 39.9
comp=Z,18nm,0.8s
X60A Albert Glenn T 26.68 45 P P 00 27 25.9 -0.3
baz=235
R53A Hurricane 26.69 34 P P 00 27 25.0 -1.3
baz=223
R53A Hurricane 26.69 34 P P 00 27 24.4 -1.9
R53A IAmb IAmb 00 27 37.0
comp=Z,24nm,0.8s
SAO San Andreas Ge 26.70 321 P P 00 27 27.5 +1.1
WAKR Walker 26.76 326 P P 00 27 29.2 +2.0
WAKR IAmb IAmb 00 27 44.1
comp=Z,24nm,1.2s
BLA Blacksburg 26.77 38 P P 00 27 26.4 -0.6
baz=227
BLA Blacksburg 26.77 38 P P 00 27 26.5 -0.6
HQIL Hanson Quary C 26.86 22 P P 00 27 27.1 -0.6
T56A Rocky Mt 26.88 39 P P 00 27 27.6 -0.4
baz=228
N47A Urbana 26.90 26 P P 00 27 27.1 -1.1
U57A Blanch 26.91 41 P P 00 27 28.2 -0.1
baz=230
O49A Covington 26.92 29 P P 00 27 26.3 -2.0
O49A IAmb IAmb 00 27 41.5
comp=Z,23nm,0.8s
AHID Auburn Hatcher 26.93 343 P P 00 27 28.6 0.0
RSSD Black Hills 26.94 355 P P 00 27 28.9 +0.1
baz=173
RSSD Black Hills 26.94 355 P P 00 27 29.3 +0.5
CMB Columbia Colle 26.94 324 P P 00 27 30.5 +1.9
P51A Williamsport 26.98 31 P P 00 27 26.9 -2.0
baz=220,SNR=5.9
P51A Williamsport 26.98 31 P P 00 27 28.1 -0.8
P51A IAmb IAmb 00 27 39.0
comp=Z,22nm,0.9s
Q52A Bidwell 26.99 33 P P 00 27 27.3 -1.7
baz=222,SNR=7.5
S55A Lewisburg 27.10 37 P P 00 27 28.9 -1.2
baz=226
JFWS Jewell Farm 27.11 17 P P 00 27 30.6 +0.6
baz=202
JFWS Jewell Farm 27.11 17 P P 00 27 30.7 +0.7
R54A Victor 27.11 36 P P 00 27 29.2 -0.9
baz=225
CNNC Cliffs of the 27.12 44 P P 00 27 30.5 +0.3
V59A Middlesex 27.20 43 P P 00 27 31.1 +0.3
baz=233
ECR Eagle Creek 27.27 343 P P 00 27 32.9 +1.2
PNTR Pine Nut 27.28 327 P P 00 27 32.4 +0.6
PNTR IAmb IAmb 00 27 35.6
comp=Z,21nm,1.0s
Q53A Leroy 27.30 34 P P 00 27 31.6 -0.2
baz=223
T57A Hurt 27.33 40 P P 00 27 31.9 -0.1
baz=230
T57A Hurt 27.33 40 P P 00 27 32.4 +0.3
T57A IAmb IAmb 00 27 36.6
comp=Z,30nm,1.5s
U58A Oxford 27.38 42 P P 00 27 32.2 -0.4
baz=232
I37A Lemond, Waseca 27.40 12 P P 00 27 32.7 +0.1
I37A IAmb IAmb 00 27 48.5
comp=Z,24nm,0.8s
REDW Red Top Meadow 27.41 344 P P 00 27 33.8 +0.8
REDW IAmb IAmb 00 27 49.7
comp=Z,25nm,1.4s
VCNR Virginia City 27.46 327 P P 00 27 34.8 +1.3
SNOW Snow King Moun 27.48 344 P P 00 27 34.9 +1.2
SNOW IAmb IAmb 00 27 50.4
comp=Z,38nm,1.3s
P52A Corning 27.56 32 P P 00 27 33.0 -1.1
baz=221
P52A Corning 27.56 32 P P 00 27 33.5 -0.6
P52A IAmb IAmb 00 27 44.6
comp=Z,19nm,0.9s
TPAW Teton Pass 27.56 344 P P 00 27 34.7 +0.3
TPAW IAmb IAmb 00 27 51.0
comp=Z,28nm,1.1s
N49A Columbus Grove 27.58 28 P P 00 27 33.5 -0.7
N49A IAmb IAmb 00 27 43.8
comp=Z,14nm,0.8s
S56A Natural Bridge 27.58 38 P P 00 27 33.2 -1.2
baz=228
ACSO Alum Creek Sta 27.59 30 P P 00 27 33.3 -1.1
baz=219
ACSO Alum Creek Sta 27.59 30 P P 00 27 32.8 -1.6
BBAC Balboa, Cauca 27.61 121 eP P 00 27 28.8 -6.2
BBAC *i* 00 28 05.8
comp=Z,13nm,0.2s
PAHR Pah Rah Range 27.63 328 P P 00 27 36.1 +1.2
R55A Marlinton 27.67 37 P P 00 27 34.4 -0.8
baz=226
R55A Marlinton 27.67 37 P P 00 27 32.9 -2.3
R55A IAmb IAmb 00 27 36.1
comp=Z,16nm,0.9s
O51A Pataskala 27.71 31 P P 00 27 34.2 -1.2
baz=220
FXWY Fox Creek 27.72 344 P P 00 27 36.9 +1.1
T58A Grand View Acr 27.74 41 P P 00 27 34.9 -0.8
baz=231
Q54A Coxs Mills 27.77 35 P P 00 27 35.2 -0.8
baz=224
P53A Whipple 27.83 33 P P 00 27 35.9 -0.6
baz=222
U59A Linton 27.84 42 P P 00 27 35.1 -1.6
baz=233
V60A Jim Taylor Roa 27.84 44 P P 00 27 35.7 -0.9
baz=234
AFDM Forest Hills D 27.91 325 P P 00 27 37.8 +0.5
IMW Indian Meadow 27.93 344 P P 00 27 38.5 +0.7
SDDR Presa de Saban 28.04 82 P P 00 27 39.3 +0.6
SDDR IAmb IAmb 00 27 59.1
comp=Z,13nm,0.8s
FLWY Flagg Ranch 28.05 345 P P 00 27 38.6 0.0
O52A Adamsville 28.07 32 P P 00 27 37.2 -1.5
baz=221,SNR=7.6
O52A Adamsville 28.07 32 P P 00 27 37.0 -1.6
O52A IAmb IAmb 00 27 51.6
comp=Z,20nm,0.8s
R56A Bull Pasture M 28.17 37 P P 00 27 38.1 -1.5
baz=227
Q55A Buckhannon 28.19 36 P P 00 27 39.2 -0.6
baz=225
GRTK Grand Turk 28.23 77 P P 00 27 38.4 -1.9
YPP Pitchstone Pla 28.25 345 P P 00 27 41.7 +1.1
L48A N Adams 28.31 26 P P 00 27 40.1 -0.6
L48A IAmb IAmb 00 27 53.5
comp=Z,16nm,0.8s
U60A Pendleton 28.32 43 P P 00 27 40.7 -0.3
baz=234
T59A Double "B" Far 28.37 42 P P 00 27 41.2 -0.1
baz=232
T59A Double "B" Far 28.37 42 P P 00 27 41.5 +0.2
I42A Draeger Farm, 28.39 18 P P 00 27 41.0 -0.4
I42A IAmb IAmb 00 27 50.5
comp=Z,15nm,1.2s
P54A Burton 28.40 34 P P 00 27 41.4 -0.3
baz=224
N51A Ashland 28.42 30 P P 00 27 40.6 -1.2
baz=219
N51A Ashland 28.42 30 P P 00 27 39.9 -1.9
N51A IAmb IAmb 00 27 54.4
comp=Z,28nm,1.2s
S58A Poland Farm, P 28.46 40 P P 00 27 41.1 -1.0
baz=230
O53A New Philadelph 28.49 32 P P 00 27 41.6 -0.7
baz=222
YMP Mirror Lake Pl 28.53 346 P P 00 27 44.4 +1.3
R57A Stanardsville 28.61 38 P P 00 27 43.0 -0.5
baz=229
ORV Oroville 28.63 325 P P 00 27 45.1 +1.5
ROSC El Rosal 28.66 112 LR LR 00 39 36.6
comp=Z,119nm,19.8s,baz=72,slow=37
YMR Madison River 28.66 345 P P 00 27 45.6 +1.5
N52A McGinn's Farm, 28.67 31 P P 00 27 43.3 -0.7
baz=220
HLID Hailey 28.68 339 P P 00 27 45.2 +0.9
baz=151
HLID Hailey 28.68 339 P P 00 27 44.1 -0.2
P55A Reedsville 28.69 35 P P 00 27 43.5 -0.7
baz=225
RLMT Red Lodge 28.70 347 P P 00 27 45.0 +0.6
baz=162
RLMT Red Lodge 28.70 347 P P 00 27 45.5 +1.1
Q56A Snyder Ridge, 28.72 37 P P 00 27 44.3 -0.2
baz=227
YHH Holmes Hill 28.75 345 P P 00 27 45.8 +0.8
YNE Yellowstone No 28.75 346 S 00 32 33.0 -0.1
MCWV Mont Chateau 28.78 35 P P 00 27 44.0 -1.0
baz=225
M51A Elyria 28.83 30 P P 00 27 44.4 -1.0
baz=219
O54A Avella 28.87 34 P P 00 27 45.6 -0.2
baz=223
YHL Hebgen Lake 28.89 345 P P 00 27 46.7 +0.5
R58A Rapidan 28.92 39 P P 00 27 45.7 -0.5
baz=230
AAM Ann Arbor 28.93 27 P P 00 27 46.0 -0.3
baz=215
AAM Ann Arbor 28.93 27 P P 00 27 45.1 -1.2
AAM IAmb IAmb 00 27 46.3
comp=Z,21nm,0.7s
GARC Garzon, Huila 28.97 118 eP P 00 27 36.6 -11
T60A Surry 28.99 42 P P 00 27 45.6 -1.3
baz=233
BCYI Bear Canyon 29.02 341 P P 00 27 48.2 +0.9
MFID Camas Ranch 29.06 337 P P 00 27 47.5 0.0
N53A Lisbon 29.09 32 P P 00 27 47.2 -0.6
baz=222
N53A Lisbon 29.09 32 P P 00 27 46.8 -1.0
N53A IAmb IAmb 00 27 57.6
comp=Z,25nm,1.2s
F36A Milaca 29.16 10 P P 00 27 47.7 -0.6
Q57A Strasburg 29.16 37 P P 00 27 47.6 -0.8
baz=228
P56A Dayton Farm, R 29.24 36 P P 00 27 48.6 -0.4
baz=227
O03E Paynes Creek 29.32 326 P P 00 27 51.5 +1.6
baz=135
MCMT McKenzie Canyo 29.32 342 P P 00 27 50.7 +0.7
M52A Chesterland 29.39 31 P P 00 27 49.3 -1.1
baz=220
M52A Chesterland 29.39 31 P P 00 27 49.2 -1.1
M52A IAmb IAmb 00 28 01.6
comp=Z,15nm,0.7s
WVOR Wild Horse Val 29.39 332 P P 00 27 51.1 +0.6
O55A Ligonier 29.47 35 P P 00 27 51.0 -0.1
baz=225
N54A Moraine State 29.64 33 P P 00 27 52.1 -0.5
baz=223
N54A Moraine State 29.64 33 P P 00 27 51.1 -1.5
N54A IAmb IAmb 00 27 53.6
comp=Z,14nm,1.1s
M53A WI Miller and 29.64 31 P P 00 27 52.3 -0.4
baz=221
M53A WI Miller and 29.64 31 P P 00 27 50.2 -2.4
M53A IAmb IAmb 00 27 55.2
comp=Z,12nm,1.1s
P57A Homestead Farm 29.69 37 P P 00 27 52.1 -1.0
baz=228
BOZ Bozeman (W) 29.70 344 P P 00 27 54.0 +0.8
baz=158,SNR=9.6
BOZ Bozeman (W) 29.70 344 P P 00 27 53.8 +0.5
DLMT Dillon 29.74 343 P P 00 27 53.7 +0.1
MOD Modoc Plateau 29.75 330 P P 00 27 53.2 -0.5
MOD IAmb IAmb 00 27 56.6
comp=Z,14nm,1.0s
K50A Casco 29.77 27 P P 00 27 52.1 -1.5
O56A Blue Knob Stat 29.91 35 P P 00 27 54.1 -1.0
baz=226
O56A Blue Knob Stat 29.91 35 P P 00 27 55.0 -0.1
O56A IAmb IAmb 00 27 56.5
comp=Z,12nm,1.1s
N55A Marion Center 30.04 34 P P 00 27 55.2 -1.0
baz=225
J08A Circle Bar Ran 30.07 334 P P 00 27 58.3 +1.8
J08A IAmb IAmb 00 27 59.4
comp=Z,16nm,1.2s
LRM Limekiln Ridge 30.12 344 P P 00 27 58.3 +1.2
M54A Oil Creek Stat 30.21 32 P P 00 27 56.7 -1.0
baz=223
M54A Oil Creek Stat 30.21 32 P P 00 27 57.4 -0.2
M54A IAmb IAmb 00 28 10.9
comp=Z,10nm,0.8s
L53A Girard 30.24 31 P P 00 27 57.3 -0.6
baz=221
N02D Trinity Center 30.29 326 P P 00 27 59.6 +1.2
baz=134
KMRM Mail Ridge 30.32 324 P P 00 27 57.2 -1.5
KMRM IAmb IAmb 00 28 02.3
comp=Z,22nm,1.0s
MACC Macarena, Meta 30.39 117 eP P 00 28 00.4 +0.8
O57A Amberson 30.39 36 P P 00 27 57.7 -1.6
baz=228
M04C Macdoel 30.42 328 P P 00 28 01.0 +1.4
baz=137,SNR=5.9
ERPA Erie 30.49 31 P P 00 27 59.3 -0.8
baz=222
N56A West Decatur 30.51 35 P P 00 27 59.1 -1.3
baz=226,SNR=6.2
SSPA Standing Stone 30.54 36 P P 00 28 00.1 -0.5
SSPA IAmb IAmb 00 28 11.5
comp=Z,22nm,1.1s
M55A Ridgway 30.65 33 P P 00 28 00.5 -1.0
baz=224
M55A Ridgway 30.65 33 P P 00 28 01.1 -0.5
M55A IAmb IAmb 00 28 14.7
comp=Z,11nm,0.9s
GLMI Grayling 30.65 23 P P 00 28 01.4 -0.1
baz=211
M02C Callahan 30.66 326 P P 00 28 02.9 +1.2
baz=135
P59A Jarrettsville 30.70 39 P P 00 28 01.1 -0.9
baz=230
O58A Lewisberry 30.75 37 P P 00 28 01.7 -0.7
baz=229
HRY Holter Researc 30.79 345 P P 00 28 04.6 +1.8
N57A Milroy 30.81 36 P P 00 28 02.7 -0.3
baz=227
BMO Blue Mountains 30.84 337 P P 00 28 03.0 -0.3
L54A Sinclairville 30.92 32 P P 00 28 03.2 -0.7
baz=223
M56A Emporium 30.97 34 P P 00 28 03.3 -1.0
baz=225
M56A Emporium 30.97 34 P P 00 28 03.0 -1.3
M56A IAmb IAmb 00 28 15.3
comp=Z,14nm,1.1s
L04D Klamath Falls 30.97 328 P P 00 28 05.2 +0.7
baz=136
I07A Izee 31.09 333 P P 00 28 07.0 +1.5
AGMN Agassiz Nation 31.23 6 P P 00 28 05.7 -0.9
baz=189,SNR=8.7
AGMN Agassiz Nation 31.23 6 P P 00 28 06.0 -0.5
AGMN IAmb IAmb 00 28 07.8
comp=Z,18nm,1.2s
J05D Fort Rock, OR 31.25 330 P P 00 28 07.6 +0.6
baz=139
DGMT Dagmar 31.27 356 P P 00 28 07.0 0.0
baz=173
DGMT Dagmar 31.27 356 P P 00 28 07.3 +0.4
DGMT IAmb IAmb 00 28 10.1
comp=Z,15nm,0.8s
I51A Listowel 31.29 28 P P 00 28 05.6 -1.5
baz=218,SNR=5.7
O59A Robesonia 31.30 38 P P 00 28 06.5 -0.8
baz=230
P60A Greenville 31.31 39 P P 00 28 06.7 -0.6
baz=231
P60A Greenville 31.31 39 P P 00 28 06.0 -1.3
P60A IAmb IAmb 00 28 07.9
comp=Z,15nm,1.1s
L55A Hinsdale 31.33 33 P P 00 28 06.3 -1.3
baz=224
N58A Sunbury 31.34 36 P P 00 28 06.2 -1.4
baz=228
N58A Sunbury 31.34 36 P P 00 28 07.3 -0.3
N58A IAmb IAmb 00 28 18.2
comp=Z,11nm,1.0s
D41A Chassel 31.39 16 P P 00 28 06.8 -1.2
D41A IAmb IAmb 00 28 17.5
comp=Z,17nm,1.1s
WVNY West Valley, N 31.40 32 P P 00 28 07.8 -0.4
WVNY IAmb IAmb 00 28 09.5
comp=Z,16nm,0.9s
M57A Sunshine Farm, 31.44 35 P P 00 28 07.6 -0.9
baz=227
M57A Sunshine Farm, 31.44 35 P P 00 28 08.5 0.0
M57A IAmb IAmb 00 28 19.3
comp=Z,11nm,0.7s
MSO Missoula 31.46 343 P P 00 28 09.2 +0.5
baz=155
MSO Missoula 31.46 343 P P 00 28 08.8 +0.1
PINE Pine Mountain 31.50 331 P P 00 28 09.7 +0.5
K54A Basiliko Farm, 31.51 32 P P 00 28 07.6 -1.4
baz=223
EYMN Ely 31.55 12 P P 00 28 09.1 -0.3
baz=197
J04D Umpqua Nationa 31.63 329 P P 00 28 11.1 +0.7
baz=138
L56A Greenwood 31.76 34 P P 00 28 10.5 -0.8
baz=225
L56A Greenwood 31.76 34 P P 00 28 08.2 -3.2
L56A IAmb IAmb 00 28 13.0
comp=Z,10nm,0.9s
O60A Telford 31.76 38 P P 00 28 10.2 -1.1
baz=231
F10A Beach Ranch, E 31.77 338 P P 00 28 11.9 +0.5
F10A IAmb IAmb 00 28 13.5
comp=Z,14nm,1.0s
M58A Price's Panora 31.84 36 P P 00 28 11.6 -0.4
baz=226
G08A Pilot Rock 31.85 335 P P 00 28 12.8 +0.6
G08A IAmb IAmb 00 28 14.2
comp=Z,14nm,1.2s
I52A Shelburne 31.88 29 P P 00 28 11.2 -1.2
baz=219
N59A State Game Lan 31.93 37 P P 00 28 12.0 -0.8
baz=230
LUPA Lehigh Univers 31.96 38 P P 00 28 11.6 -1.5
LUPA IAmb IAmb 00 28 14.0
comp=Z,10nm,0.7s
I53A Kortright Cn E 31.97 30 P P 00 28 12.6 -0.5
baz=220
MMNY Mt. Morris Dam 32.00 33 P P 00 28 11.7 -1.7
MMNY IAmb IAmb 00 28 14.6

comp=Z,12nm,1.1s
J54A Appleton 32.02 31 P P 00 28 12.6 -0.9
baz=222
L57A Andrews Acres 32.04 35 P P 00 28 12.3 -1.5
baz=227
I05D Terrebonne, OR 32.10 332 P P 00 28 15.8 +1.5
baz=140
F48A Evansville 32.26 24 P P 00 28 14.6 -1.0
baz=214
K56A Middlesex 32.27 33 P P 00 28 14.9 -0.9
baz=225,SNR=5.6
N60A Cedar Hill Far 32.29 38 P P 00 28 15.2 -0.8
baz=231
JTMT Jette 32.39 343 P P 00 28 16.5 -0.4
J55A Hilton 32.42 32 P P 00 28 16.2 -0.8
baz=224
J55A Hilton 32.42 32 P P 00 28 14.6 -2.5
F49A Sandfield 32.43 25 P P 00 28 16.8 -0.4
baz=215
J01E Myrtle Point 32.48 328 P P 00 28 18.8 +1.2
baz=135
M59A Waymart 32.53 37 P P 00 28 17.1 -1.0
baz=229
E09A Wood Farm, Sta 32.56 337 P P 00 28 17.3 -0.9
I03D Drain, OR 32.58 329 P P 00 28 19.5 +1.1
baz=136
L58A Harry Jones Me 32.62 36 P P 00 28 18.5 -0.4
baz=228
BINY Binghamton 32.65 35 P P 00 28 18.5 -0.7
baz=228,SNR=6.8
BINY Binghamton 32.65 35 P P 00 28 18.5 -0.7
BINY IAmb IAmb 00 28 20.8
comp=Z,18nm,0.9s
K57A Scipio Center 32.73 34 P P 00 28 18.4 -1.3
baz=226
H04A Detroit Lake 32.76 331 P P 00 28 19.9 -0.2
H04A IAmb IAmb 00 28 22.3
comp=Z,19nm,1.0s
M60A Port Jervis 32.86 38 P P 00 28 20.2 -0.8
baz=231
SADO Sadowa 32.90 29 P P 00 28 19.9 -1.3
SADO IAmb IAmb 00 28 21.4
comp=Z,9.8nm,0.6s
J56A Wolcott 32.92 33 P P 00 28 20.9 -0.6
baz=225
J56A Wolcott 32.92 33 P P 00 28 20.6 -0.9
H53A Bobcaygeon 33.01 30 P P 00 28 20.5 -1.7
baz=227,SNR=6.2
PAL Palisades 33.08 39 P P 00 28 21.6 -1.2
baz=232
PAL Palisades 33.08 39 P P 00 28 21.7 -1.2
PAL IAmb IAmb 00 28 24.0
comp=Z,15nm,0.9s
I02D Swisshome 33.12 329 P P 00 28 24.5 +1.3
baz=136
ULM Lac du Bonnet 33.16 6 P P 00 28 22.0 -1.4
comp=Z,12nm,1.1s,baz=192,slow=10,SNR=4.6
ULM LR LR 00 43 31.3
comp=Z,147nm,21.3s,baz=183,slow=39
ULM Lac du Bonnet 33.16 6 P P 00 28 20.9 -2.5
ULM IAmb IAmb 00 28 33.1
comp=Z,7.7nm,0.8s
L59A Walton 33.17 36 P P 00 28 23.1 -0.6
baz=229
L59A Walton 33.17 36 P P 00 28 23.9 +0.1
L59A IAmb IAmb 00 28 25.4
comp=Z,14nm,0.8s
K58A Earlville 33.22 35 P P 00 28 23.0 -1.1
baz=228,SNR=6.8
K58A Earlville 33.22 35 P P 00 28 22.6 -1.5
K58A IAmb IAmb 00 28 25.3
comp=Z,23nm,1.1s
F05D White Salmon 33.37 333 P P 00 28 26.9 +1.6
baz=142,SNR=6.6
G53A Haliburton 33.40 29 P P 00 28 24.5 -1.2
baz=221
DELO Deloro Mine 33.43 31 P P 00 28 24.0 -1.9
DELO IAmb IAmb 00 28 26.3
comp=Z,9.2nm,1.0s
F51A Arnstein 33.45 27 P P 00 28 24.9 -1.1
baz=218
J57A Williamstown 33.47 34 P P 00 28 24.9 -1.4
baz=226
J57A Williamstown 33.47 34 P P 00 28 25.4 -0.8
WALA Waterton Lakes 33.49 344 P P 00 28 28.8 +2.2
E50A Wahnapitae 33.50 25 P P 00 28 25.4 -1.0
baz=216
F52A Sundridge 33.60 27 P P 00 28 26.6 -0.8
baz=219
G03D McMinnville, O 33.66 331 P P 00 28 29.0 +1.1
baz=138
K59A Cooperstown 33.66 35 P P 00 28 27.1 -0.9
baz=229,SNR=5.7
H55A Tweed 33.67 31 P P 00 28 27.0 -1.0
baz=223
NEW Newport 33.72 340 P P 00 28 29.8 +1.4
baz=150
KSCT Kent School, K 33.77 38 P P 00 28 29.3 +0.4
KSCT IAmb IAmb 00 28 39.6
comp=Z,10nm,0.8s
J58A Remsen 33.81 34 P P 00 28 28.6 -0.7
baz=227
G54A Lake Saint Pet 33.86 29 P P 00 28 28.1 -1.5
baz=221,SNR=5.6
I57A Carthage 34.01 33 P P 00 28 29.4 -1.5
baz=226
L61A Hillsdale 1, H 34.02 37 P P 00 28 30.4 -0.7
baz=231
E51A G1948 Merrick 34.11 27 P P 00 28 30.7 -1.0
baz=218
LTY Liberty 34.14 336 P P 00 28 32.4 +0.2
LTY IAmb IAmb 00 28 34.1
comp=Z,13nm,1.2s
H56A Elgin 34.16 32 P P 00 28 31.6 -0.6
baz=225
I58A Old Forge 34.20 34 P P 00 28 31.3 -1.4
baz=228,SNR=6.1
E52A Mattawa 34.28 28 P P 00 28 31.8 -1.5
baz=219
ALGO Algonquin Park 34.30 29 P P 00 28 32.7 -0.7
baz=221
J59A Piesco 34.31 35 P P 00 28 32.7 -0.9
baz=228
J59A Piesco 34.31 35 P P 00 28 32.5 -1.1
E04D Cinebar 34.37 333 P P 00 28 35.1 +1.0
baz=141
G55A Calabogie 34.41 31 P P 00 28 33.2 -1.1
baz=223
M63A Gales Ferry 34.44 40 P P 00 28 33.8 -1.0
baz=234
D50A G1974 Best Tow 34.46 25 P P 00 28 34.0 -0.9
baz=217
H57A Richville 34.51 33 P P 00 28 33.8 -1.4
baz=226,SNR=10.0
B08A Colville Reser 34.55 338 P P 00 28 36.9 +1.3
D51A Lot 18 Range I 34.60 26 P P 00 28 35.2 -0.7
baz=218
D05A Enumclaw 34.62 334 P P 00 28 36.3 +0.1
D05A IAmb IAmb 00 28 39.0
comp=Z,23nm,1.3s
L61B Northampton 34.69 38 P P 00 28 36.4 -0.5
baz=232
ACCN Adirondack Com 34.72 36 P P 00 28 36.5 -0.6
ACCN IAmb IAmb 00 28 47.8
comp=Z,9.5nm,0.8s
J60A Lant Hill Farm 34.76 36 P P 00 28 37.2 -0.3
baz=230
E53A Dumoine, Ponti 34.79 28 P P 00 28 36.5 -1.2
baz=221,SNR=5.8
NCB Newcomb 34.80 34 P P 00 28 36.8 -1.0
E03A Lebam 34.80 332 P P 00 28 38.1 +0.4
I59A Olmsteadville 34.87 35 P P 00 28 37.1 -1.3
baz=229,SNR=6.7
D52A ZEK Kipawa Sen 34.92 27 P P 00 28 37.5 -1.2
baz=219
F55A Otter Lake 35.00 30 P P 00 28 38.9 -0.6
baz=223
LONY Lake Ozonia 35.04 33 P P 00 28 39.6 -0.3
baz=227
LONY Lake Ozonia 35.04 33 P P 00 28 37.6 -2.2
LONY IAmb IAmb 00 28 53.3
comp=Z,11nm,1.1s
M64A Tiverton 35.04 40 P P 00 28 39.5 -0.4
baz=235
BRYW Bryant College 35.05 39 P P 00 28 38.4 -1.7
BRYW IAmb IAmb 00 28 52.4
comp=Z,10nm,0.9s

E54A Lac Daplat, Po 35.05 29 P P 00 28 39.0 -0.9
baz=222,SNR=6.2
K62A Royalston 35.08 38 P P 00 28 39.6 -0.7
baz=232
H58A Gabriels 35.12 34 P P 00 28 39.9 -0.6
baz=228
ORIO Orleans, Innes 35.14 31 P P 00 28 39.5 -1.2
baz=225
ORIO Orleans, Innes 35.14 31 P P 00 28 39.5 -1.2
G57A Newington 35.16 32 P P 00 28 39.3 -1.6
baz=226,SNR=7.4
I60A Shoreham 35.22 35 P P 00 28 40.4 -1.0
baz=230
D53A Lac Vacive, Po 35.31 28 P P 00 28 42.1 0.0
baz=220
D53A Lac Vacive, Po 35.31 28 P P 00 28 41.4 -0.7
J61A Chester 35.32 37 P P 00 28 42.4 +0.1
baz=231
D03D Eldon 35.36 334 P P 00 28 43.4 +0.9
baz=141
HRV Adam Dziewonsk 35.39 39 P P 00 28 43.0 +0.2
baz=233
B06A Marblemount 35.49 336 P P 00 28 43.4 -0.2
B06A IAmb IAmb 00 28 46.9
comp=Z,7.8nm,0.6s
L64A Middleborough 35.49 40 P P 00 28 43.4 -0.3
baz=235
K63A Dunstable 35.51 38 P P 00 28 42.7 -1.3
baz=233
B05A Bryant 35.52 335 P P 00 28 44.3 +0.4
baz=143
H59A Cadyville 35.53 34 P P 00 28 43.3 -0.8
baz=228
J62A Henniker 35.67 37 P P 00 28 44.8 -0.5
baz=232
G58A Ormstown 35.67 33 P P 00 28 44.2 -1.0
baz=227,SNR=7.7
HNH Hanover 35.70 36 P P 00 28 43.8 -1.7
HNH IAmb IAmb 00 28 47.9
comp=Z,14nm,1.0s
FRNY Flat Rock 35.71 34 P P 00 28 44.5 -1.1
BBSR BB Station 35.83 58 P P 00 28 44.2 -2.6
BBSR IAmb IAmb 00 28 59.2
comp=Z,15nm,1.0s
D54A Lac Fusel, La 35.83 28 P P 00 28 45.9 -0.7
baz=222
I61A Oroboro, Fairl 35.88 36 P P 00 28 46.7 -0.4
baz=231
H60A Morristown 36.01 35 P P 00 28 48.0 -0.2
baz=230
G59A Clarenceville 36.09 34 P P 00 28 48.8 0.0
baz=228
A04D Lummi Island 36.13 335 P P 00 28 50.1 +1.0
baz=142
J63A Strafford 36.13 38 P P 00 28 49.6 +0.4
baz=233
E56A St. Vernique 36.15 31 P P 00 28 48.7 -0.7
baz=224
TRQ Mont Tremblant 36.16 31 P P 00 28 49.0 -0.5
LBNH Lisbon 36.23 36 P P 00 28 50.7 +0.5
baz=231
LBNH Lisbon 36.23 36 P P 00 28 49.0 -1.2
D55A Sainte-Anne-du 36.28 30 P P 00 28 49.2 -1.3
baz=223,SNR=6.8
I62A Tamworth 36.34 37 P P 00 28 50.5 -0.5
baz=232,SNR=5.4
I62A Tamworth 36.34 37 P P 00 28 50.8 -0.2
I62A IAmb IAmb 00 28 53.2
comp=Z,16nm,0.8s
H61A Lyndonville 36.42 35 P P 00 28 51.6 -0.1
baz=231
E57A Chemin Saint G 36.49 31 P P 00 28 51.1 -1.2
baz=226,SNR=5.3
G60A Masonville 36.55 34 P P 00 28 52.1 -0.8
baz=230,SNR=5.7
D56A ZEC Mazanza, M 36.64 30 P P 00 28 52.6 -1.0
baz=224,SNR=7.9
MOQ Mont Orford 36.74 34 P P 00 28 54.6 +0.1
H62A Milan 36.87 36 P P 00 28 55.8 +0.2
baz=232
I63A Otisfield 36.88 37 P P 00 28 55.5 -0.1
baz=233
E58A La Victoria 36.90 32 P P 00 28 54.9 -0.9
baz=227
D57A Chemin Vers le 37.04 31 P P 00 28 56.2 -0.8
baz=225,SNR=7.2
G61A St-Isidore-de- 37.11 35 P P 00 28 57.1 -0.5
baz=230
LSQQ Lebel-sur-Quev 37.14 26 P P 00 28 56.8 -0.9
baz=219
F60A Warwick 37.32 34 P P 00 28 58.5 -0.9
baz=229
I64A Boothbay 37.35 38 P P 00 28 59.2 -0.4
baz=234
MATQ Matagami 37.41 25 P P 00 28 59.0 -1.1
baz=218,SNR=6.7
FFC Flin Flon 37.42 359 P P 00 28 59.6 -0.5
D58A Chemin du LacG 37.59 32 P P 00 29 00.6 -1.1
baz=227,SNR=5.5
G62A West of Eustis 37.62 36 P P 00 29 01.2 -0.7
baz=232,SNR=13
G62A West of Eustis 37.62 36 P P 00 29 02.0 +0.1
G62A IAmb IAmb 00 29 04.3
comp=Z,23nm,0.9s
WVL Waterville 37.72 37 P P 00 29 03.7 +1.0
WVL IAmb IAmb 00 29 14.2
comp=Z,18nm,1.3s
F61A St Evariste 37.84 34 P P 00 29 03.4 -0.3
baz=230
LATQ La Tuque 37.84 31 P P 00 29 03.3 -0.4
baz=227
LATQ La Tuque 37.84 31 P P 00 29 02.4 -1.3
E60A Ste Agathe de 37.85 34 P P 00 29 03.3 -0.5
baz=230,SNR=5.2
H64A Troy 38.02 37 P P 00 29 04.9 -0.4
baz=234,SNR=7.2
G63A Kingsbury 38.07 36 P P 00 29 05.7 0.0
baz=233,SNR=5.4
PKME Peaks-Kenny Pk 38.34 36 P P 00 29 07.8 -0.1
baz=233
PKME Peaks-Kenny Pk 38.34 36 P P 00 29 06.5 -1.5
F62A Pittston Farm, 38.35 35 P P 00 29 07.5 -0.6
baz=232
F62A Pittston Farm, 38.35 35 P P 00 29 06.8 -1.2
E61A Lac Etchemin 38.40 34 P P 00 29 08.6 +0.1
baz=231
D60A Saint Jean D'O 38.48 33 P P 00 29 08.7 -0.4
baz=230
H65A Eastbrook 38.62 38 P P 00 29 10.9 +0.6
baz=235
G64A Maxfield 38.64 37 P P 00 29 10.3 -0.2
baz=234
F63A Nahmakanta, Br 38.71 36 P P 00 29 10.9 -0.2
baz=233
F63A Nahmakanta, Br 38.71 36 P P 00 29 10.4 -0.7
CHGQ Chibougamau 38.90 27 P P 00 29 12.1 -0.5
baz=222,SNR=6.4
E62A Clayton Lake 39.04 35 P P 00 29 13.4 -0.4
baz=232,SNR=7.1
E62A Clayton Lake 39.04 35 P P 00 29 13.3 -0.6
D61A St Aubert, Com 39.05 33 P P 00 29 13.8 -0.1
baz=230
H66A Whiting 39.22 38 P P 00 29 14.7 -0.6
baz=236
F64A Sherman 39.23 36 P P 00 29 15.1 -0.3
baz=234,SNR=5.9
F64A Sherman 39.23 36 P P 00 29 15.2 -0.3
G65A Princeton 39.30 38 P P 00 29 16.0 0.0
baz=236
G65A Princeton 39.30 38 P P 00 29 15.3 -0.7
E63A Oxbow 39.52 36 P P 00 29 17.6 -0.3
baz=233,SNR=7.8
E63A Oxbow 39.52 36 P P 00 29 17.5 -0.4
E63A IAmb IAmb 00 29 19.5
comp=Z,12nm,0.8s
D62A Allapoint, All 39.58 34 P P 00 29 18.1 -0.2
baz=232,SNR=11
D62A Allapoint, All 39.58 34 P P 00 29 18.4 +0.1
D62A IAmb IAmb 00 29 20.4
comp=Z,14nm,0.8s
E64A Bridgewater 39.85 36 P P 00 29 20.3 -0.3
baz=234
PQI Presque Isle 39.90 35 P P 00 29 22.0 +1.1
D63A Stockholm 40.06 35 P P 00 29 22.2 -0.1
baz=233,SNR=7.5
BATG Bathurst New B 41.34 36 P P 00 29 32.6 -0.2
HAL Halifax 41.41 41 P P 00 29 31.4 -2.1

GBN Guysborough 43.07 41 P P 00 29 45.5 -1.4
GBN IAmb IAmb 00 30 00.0
comp=Z,44nm,1.5s
DIB Dawson Inlet, 43.59 333 P P 00 29 52.3 +1.2
DIB IAmb IAmb 00 29 54.2
comp=Z,17nm,1.0s
SCHQ Schefferville 45.64 27 P P 00 30 07.6 +0.2
comp=Z,9.4nm,0.5s,baz=236,slow=7.1,SNR=30
SCHQ Schefferville 45.64 27 P P 00 30 06.4 -1.1
SCHQ IAmb IAmb 00 30 08.6
comp=Z,12nm,0.8s
WRAK Wrangell Islan 45.80 336 P P 00 30 08.9 +0.3
WRAK IAmb IAmb 00 30 23.7
comp=Z,10nm,1.1s
YKA Yellowknife Ar 46.23 351 P P 00 30 10.9 -1.1
comp=Z,6.5nm,0.8s,baz=160,slow=7.5,SNR=27
YKA PcP PcP 00 31 47.8 +0.5
comp=Z,2.2nm,1.0s,baz=152,slow=3.1,SNR=5.4
YKA LR LR 00 51 01.9
comp=Z,2µm,18.1s,baz=0.0,slow=38
LPAZ La Paz 46.30 134 LR LR 00 47 52.2
comp=Z,259nm,19.4s,baz=315,slow=34
DLBC Dease Lake 46.45 339 P P 00 30 16.3 +2.4
TAOE Nuku Hiva Isla 46.79 239 eLR LR 00 43 18.9
comp=Z,518nm,26.5s
TAOE Nuku Hiva Isla 46.79 239 eT T 01 20 00.7
comp=Z,112nm,0.2s
PB16 IPOC Station P 46.84 138 P P 00 30 19.3 +1.3
DRLN Deer Lake 47.26 38 P P 00 30 18.1 -2.1
JIS Juneau Island 47.89 337 P P 00 30 25.9 +0.9
JIS IAmb IAmb 00 30 32.8
comp=Z,11nm,1.0s
BESE Bessie Mountai 48.28 337 P P 00 30 25.9 -2.2
BESE IAmb IAmb 00 30 37.8
comp=Z,6.9nm,1.0s
SKAG Skagway 49.08 337 P P 00 30 34.5 +0.4
SKAG IAmb IAmb 00 30 37.1
comp=Z,13nm,1.2s
WHY Whitehorse 49.76 339 P P 00 30 39.5 +0.1
YKU2 Yakutat 50.77 336 P P 00 30 45.9 -1.0
HYT Haines Junctio 50.81 338 P P 00 30 47.2 -0.2
HYT IAmb IAmb 00 30 51.4
comp=Z,23nm,1.2s
PCA Pinnacle 51.37 336 P P 00 30 51.0 -0.5
PCA IAmb IAmb 00 30 54.2
comp=Z,25nm,1.2s
TABL Table Mountain 51.92 336 P P 00 30 56.1 +0.2
MCARA McCarthy VSAT 53.23 336 P P 00 31 06.0 +0.7
GLB Gilahina Butte 53.57 336 P P 00 31 07.8 0.0
GLB IAmb IAmb 00 31 21.7
comp=Z,16nm,1.1s
DAWY Dawson 53.65 340 P P 00 31 08.3 0.0
DAWY IAmb IAmb 00 31 21.9
comp=Z,12nm,1.3s
FID Port Fidalgo 54.25 334 P P 00 31 12.7 -0.1
MENT Mentasta 54.42 337 P P 00 31 13.5 -0.5
MENT IAmb IAmb 00 31 27.5
comp=Z,12nm,1.2s
KLU Klutina 54.43 335 P P 00 31 14.9 +0.7
EPYK Eagle Plains 54.45 343 P P 00 31 15.2 +1.1
baz=136
EPYK Eagle Plains 54.45 343 P P 00 31 14.6 +0.4
H03N2 Juan Fernandez 54.53 158 T T 01 29 58.3
baz=334,slow=77,SNR=118
H03N1 Juan Fernandez 54.54 158 T T 01 30 02.8
baz=334,slow=77,SNR=168
H03N3 Juan Fernandez 54.55 158 T T 01 30 01.8
baz=334,slow=77,SNR=152
EGAK Eagle 54.69 340 P P 00 31 16.0 +0.1
DOT Dot Lake 54.98 338 P P 00 31 17.8 -0.2
PAX Paxson 55.09 337 P P 00 31 19.9 +1.0
INK Inuvik 55.10 346 P P 00 31 18.5 -0.2
SCRK Sand Creek 55.15 338 P P 00 31 20.9 +1.5
baz=127
SCM Sheep Creek Mo 55.18 335 P P 00 31 19.6 0.0
SCM IAmb IAmb 00 31 27.5
comp=Z,8.4nm,0.9s
RIDG Independent Ri 55.31 338 P P 00 31 21.1 +0.7
BRLK Bradley Lake 55.66 332 P P 00 31 23.8 +0.8
PMR Palmer 55.79 334 P P 00 31 25.4 +1.6
PMR IAmb IAmb 00 31 37.0
comp=Z,12nm,1.2s
SUA Susitna One 56.40 334 P P 00 31 30.6 +2.2
HDA Harding Lake 56.45 338 P P 00 31 29.3 +0.8
baz=124,SNR=7.4
HDA Harding Lake 56.45 338 P P 00 31 29.8 +1.2
HDA IAmb IAmb 00 31 41.9
comp=Z,14nm,1.0s
RND Reindeer 56.62 336 P P 00 31 31.6 +1.8
IL31 56.64 338 P P 00 31 31.0 +1.2
ILAR Eielson Array 56.64 338 P P 00 31 31.1 +1.2
comp=Z,6.7nm,1.0s,baz=149,slow=5.7,SNR=33
ILAR LR LR 00 57 42.4
comp=Z,458nm,18.6s,baz=122,slow=38
RSO Redoubt South 56.81 332 P P 00 31 31.8 +0.4
MCK McKinley 56.82 337 P P 00 31 32.8 +1.6
MCK IAmb IAmb 00 31 34.3
comp=Z,12nm,1.0s
CCB Clear Creek Bu 56.89 338 P P 00 31 32.4 +0.8
WRH Wood River Hil 56.90 338 P P 00 31 33.1 +1.4
WRH IAmb IAmb 00 31 34.7
comp=Z,7.2nm,1.0s
SKT Skwentna 56.98 334 P P 00 31 33.8 +1.5
SKT IAmb IAmb 00 31 36.0
comp=Z,14nm,0.9s
POKR Poker Plat Res 57.02 338 P P 00 31 33.3 +0.7
baz=124
TRF Thorofare Moun 57.19 336 P P 00 31 35.6 +1.6
MDM Murphy Dome 57.22 338 P P 00 31 34.6 +0.6
NEA2 Nenana 57.32 337 P P 00 31 35.2 +0.5
baz=122
MT02 Curacav 57.63 151 P P 00 31 37.1 -0.1
MT02 IAmb IAmb 00 31 41.5
comp=Z,19nm,1.1s
PPLA Purkeypile 57.68 335 P P 00 31 37.6 +0.2
BPAW Bear Paw Mtn. 57.79 336 P P 00 31 38.4 +0.3
BPAW IAmb IAmb 00 31 51.4
comp=Z,12nm,1.2s
SVW2 Sparrevohn 58.34 332 P P 00 31 41.6 -0.3
SVW2 IAmb IAmb 00 31 44.9
comp=Z,6.7nm,0.9s
BO02 Sierra Bellavi 59.07 151 P P 00 31 49.6 +2.2
BO02 IAmb IAmb 00 32 05.3
comp=Z,10nm,1.2s
COLD Coldfoot 59.12 340 P P 00 31 48.5 +1.2
baz=122,SNR=9.8
COLD Coldfoot 59.12 340 P P 00 31 48.0 +0.7
PPT2 Papeete2 59.23 237 eS S 00 39 57.9 +2.2
comp=Z,139nm,27.8s
PPT2 eLR LR 00 49 05.6
comp=Z,517nm,25.8s,baz=58
TTA Tatalina 59.27 334 P P 00 31 48.8 +0.4
TTA IAmb IAmb 00 31 49.7
comp=Z,6.6nm,1.0s
TOLK Toolik Lake Re 59.70 341 P P 00 31 52.6 +1.4
baz=123
TOLK Toolik Lake Re 59.70 341 P P 00 31 51.7 +0.5
TOLK IAmb IAmb 00 32 04.8
comp=Z,14nm,1.1s
ILULI Ilulissat 60.26 18 P P 00 31 54.3 -0.7
FALS False Pass 60.40 324 P P 00 31 57.1 +1.0
CPUP Villa Florida 60.46 135 P P 00 31 59.9 +2.8
comp=Z,2.1nm,0.9s,baz=336,slow=12,SNR=2.0
CPUP Villa Florida 60.46 135 P P 00 31 58.9 +1.9
BDFB Brasilia 61.41 119 P P 00 32 03.0 -0.8
BDFB IAmb IAmb 00 32 05.2
comp=Z,12nm,1.4s
TBI Tubuai 62.40 231 eLR LR 00 50 44.1
comp=Z,440nm,26.8s,baz=57
TBI Tubuai 62.40 231 eT T 01 39 32.2
comp=Z,3.6nm,0.2s
EUNU Eureka 63.19 3 P P 00 32 13.6 -1.1
RDOG Red Dog Mine 63.85 338 P P 00 32 19.2 0.0
RDOG IAmb IAmb 00 32 20.5
comp=Z,9.3nm,1.1s
PLCA Paso Flores 64.14 155 LR LR 00 55 32.4
comp=Z,185nm,18.1s,baz=310,slow=31
SUMG Summit 65.49 17 i P P 00 32 31.0 +0.7
comp=Z,32nm,0.9s
SUMG i 00 32 42.4
SUMG Summit 65.49 17 P P 00 32 29.2 -1.1
ADK Adak 67.97 320 P P 00 32 46.2 +0.3
BORG Borgarnes 70.04 27 LR LR 01 04 46.0
comp=Z,142nm,20.0s,baz=274,slow=37
JMIC Jan Mayen 74.57 20 LR LR 01 07 35.4

comp=Z,153nm,20.4s,baz=272,slow=37
PMOZ Porto Moniz, M 75.56 60 *e*LQ LQ 00 53 14.7
PMOZ *e*LR LR 00 58 10.0
comp=Z,169nm,20.0s
PMPS Porto Santo 76.23 59 *i* LQ LQ 00 33 56.7
KBS Kingsbay 77.42 11 P **P** **00 33 41.6 -0.1**
KBS IAmb IAmb 00 33 45.0
comp=Z,15nm,1.1s
SPA0 Spitsbergen Ar 78.55 11 P **P** **00 33 47.8 -0.3**
SPA0 IAmb IAmb 00 34 04.2
comp=Z,17nm,1.2s
SPITS Spitsbergen Ar 78.55 11 LR LR 01 09 41.9
comp=Z,218nm,19.4s,baz=335,slow=37
PGAV Gavieira, Arco 80.47 49 *e*LR LR 01 04 48.3
comp=Z,123nm,20.0s
PCAS Casmilo, Conde 80.79 51 *e*P **P** **00 34 02.1 +1.3**
comp=Z,8.6nm,1.4s
PMTG Montargil 81.24 52 *e*P **P** **00 34 04.3 +1.0**
comp=Z,7.5nm,1.3s
MTE Manteigas 81.41 50 *e*P **P** **00 34 05.7 +1.5**
comp=Z,17nm,1.5s
MTE Manteigas 81.41 50 *e*LR LR 01 04 34.5
comp=Z,165nm,18.0s
MVO Moncorvo 81.58 50 *e*P P 00 33 59.3 -5.8
comp=Z,11nm,1.4s
MVO Moncorvo 81.58 50 *e*LR LR 01 05 28.4
comp=Z,112nm,18.0s
PMRV Marv??o 81.77 51 *i* LQ LQ 00 34 36.2
PMRV Marv??o 81.77 51 *e*LR LR 01 05 19.3
comp=Z,92nm,20.0s
PVAQ Vaqueiros 82.07 53 *i* LQ LQ 00 34 37.8
PVAQ Vaqueiros 82.07 53 *e*LR LR 01 02 37.5
comp=Z,104nm,20.0s
PVAQ Vaqueiros 82.07 53 P **P** **00 34 05.9 -1.8**
PETK Petropavlovsk- 83.13 323 P **P** **00 34 11.8 -1.1**
comp=Z,10nm,1.2s,baz=67,slow=11,SNR=4.1
PAB San Pablo 84.00 51 P **P** **00 34 17.3 -0.5**
PAB IAmb IAmb 00 34 20.0
comp=Z,10nm,1.2s
ESDC Sonseca Array 84.25 50 P **P** **00 34 20.1 +1.2**
comp=Z,1.8nm,1.0s,baz=303,slow=5.4,SNR=9.6
ESDC LR LR 01 12 11.7
comp=Z,54nm,18.4s,baz=275,slow=36
NB2 NORSAR Subarra 85.21 27 P **P** **00 34 24.2 +0.8**
comp=Z,0.7nm,0.6s,baz=296,slow=4.8
NOA NORSAR Array B 85.21 27 P **P** **00 34 24.6 +1.2**
comp=Z,1.3nm,0.7s,baz=299,slow=4.7,SNR=6.7
NOA LR LR 01 13 44.1
comp=Z,80nm,20.8s,baz=290,slow=37
TIXI Tiksi 85.22 346 P **P** **00 34 23.5 +0.3**
comp=Z,6.4nm,0.9s,baz=59,slow=1.7,SNR=5.6
TIXI Tiksi 85.22 346 IAmb IAmb 00 34 24.6
comp=Z,10nm,1.0s
ARCES ARCESS Array B 85.58 17 P **P** **00 34 24.6 -0.4**
comp=Z,2.4nm,0.8s,baz=316,slow=5.1,SNR=12
ARCES LR LR 01 15 27.7
comp=Z,110nm,18.8s,baz=328,slow=38
CLF Chambon-Foret 85.75 41 P **P** **00 34 25.6 -0.6**
DOU Dourbes 86.41 38 PcP **PcP** **00 34 30.9 -1.0**
BGES Gesves 86.59 38 PcP **P** **00 34 31.4 +1.0**
MEM Membach 87.04 38 PcP **P** **00 34 33.6 +1.1**
CART Cartagena 87.11 52 P **P** **00 34 30.8 -2.3**
MSVF Nonsavu 87.13 251 P **P** **00 34 35.0 +1.4**
WLF Walferdange 87.51 38 PcP **P** **00 34 35.4 +0.6**
SSB Saint Sauveur 88.24 43 P **P** **00 34 36.8 -1.7**
BNI Bardonecchia 89.71 43 P **P** **00 34 43.6 -1.9**
BNI IAmb IAmb 00 34 46.7
comp=Z,13nm,1.5s
FINES FINESS Array B 90.96 23 P **P** **00 34 50.3 -0.5**
comp=Z,1.6nm,0.9s,baz=126,slow=2.6,SNR=4.2
FINES LR LR 01 15 49.7
comp=Z,259nm,21.8s,baz=310,slow=36
GERES GERESS Array B 92.30 37 P **P** **00 34 57.7 +0.3**
comp=Z,0.4nm,0.7s,baz=313,slow=2.7,SNR=4.1
GERES LR LR 01 18 17.1
comp=Z,90nm,18.0s,baz=283,slow=37
CIMO Cimolais 92.78 40 P **P** **00 34 58.3 -1.3**
CIMO IAmb IAmb 00 35 17.2
comp=Z,2.8nm,0.9s
ZOU Zoufplan 92.98 39 P **P** **00 34 57.1 -3.6**
ZOU IAmb IAmb 00 35 13.0
comp=Z,5.3nm,1.2s
PRED Cave del Predi 93.39 39 P **P** **00 34 59.3 -3.2**
PRED IAmb IAmb 00 35 09.6
comp=Z,5.2nm,1.3s
NRIK Noril'sk 93.45 357 P **P** **00 35 02.5 +0.4**
comp=Z,3.8nm,0.9s,baz=18,slow=4.0,SNR=5.8
NRIK LR LR 01 20 07.8
comp=Z,225nm,19.3s,baz=38,slow=38
DBIC Dimbokro 93.63 82 LR LR 01 15 45.7
comp=Z,93nm,18.9s,baz=274,slow=35
KLMR Klimovskoe 95.90 18 *e*P **P** **00 35 12.0 -1.5**
KLMR AMP 00 35 18.9
comp=Z,7.0nm,1.4s
TORD Torodi Ar. Bea 97.70 74 LR LR 01 18 04.4
comp=Z,124nm,19.0s,baz=280,slow=35
DZM Mont Dzumac 98.83 250 *e*LR LR 01 07 49.6
comp=Z,371nm,27.8s
AKASG Malin Array Be 99.38 30 LR LR 01 23 03.2
comp=Z,40nm,18.8s,baz=315,slow=37
MKAR Makanchi Array 116.21 358 PKP **PKiKP** **00 40 30.2 -0.3**
comp=Z,0.3nm,0.5s,baz=329,slow=1.2,SNR=2.8
NJ2 Nanjing 118.01 322 *e*P **PKiKP** **00 40 35.4 +1.1**
NJ2 Nanjing 118.01 322 pmax pmax
comp=Z,7.0nm,0.5s
GEYT Alibeck 121.63 20 PKP **PKPdf** **00 40 40.9 -0.3**
comp=Z,1.4nm,0.7s,baz=270,slow=1.5,SNR=3.6
STKA Stephens Creek 122.16 243 PKP **PKiKP** **00 40 43.1 +0.7**
comp=Z,2.1nm,0.9s,baz=113,slow=9.3,SNR=4.2
CD2 Chengdu 126.64 334 Pdif **Pdif** **00 37 29.7 -1.5**
WRA Warramunga Arr 127.91 258 PKP **PKiKP** **00 40 54.0 -0.2**
comp=Z,1.9nm,0.7s,baz=84,slow=2.3,SNR=12
MAW Mawson 128.57 172 PKP **PKiKP** **00 40 54.8 +0.8**
comp=Z,1.8nm,0.9s,baz=41,slow=5.2,SNR=4.9
ASAR Alice Springs 128.65 253 PKP **PKiKP** **00 40 55.9 +0.3**
comp=Z,1.1nm,0.8s,baz=78,slow=2.0,SNR=8.2
CMAR Chiang Mai Arr 139.58 330 PKP **PKPdf** **00 41 14.4 -1.1**
comp=Z,0.7nm,0.3s,baz=308,slow=2.2,SNR=1.7

PRU ***04*** *00:26:14.5±0.0, 50°24N×12°42E, h7km, West Bohemia Swarm*

WBNET 04 00:26:14.8, 50°23N×12°45E, h9km, Ml0.9, 3C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.00**	**359**	*e*P	G	Pg	00 26 16.1	-0.3
NKC				*e*SG		Sg	00 26 17.3	-0.2
	comp=Z,41nm,0.4s							
NKC	**Novy Kostel**	**0.00**	**359**	⇓P		Pg	00 26 16.5	+0.1
NKC				S		Sg	00 26 17.6	0.0
LBCW	**Luby**	**0.04**	**328**	⇓P		Pg	00 26 16.7	+0.1
VAC	**Vackov**	**0.05**	**278**	⇓P		Pg	00 26 16.7	+0.1
VAC				S		Sg	00 26 17.9	0.0
STCW	**Studenec**	**0.06**	**57**	⇑P		Pg	00 26 16.7	0.0
STCW				S		Sg	00 26 18.0	-0.2
SKC	**Skalna**	**0.08**	**223**	⇓P		Pg	00 26 17.0	+0.1
SKC				S		Sg	00 26 18.6	0.0
POCW	**Potky**	**0.09**	**352**	⇓P		Pg	00 26 17.3	+0.1
KACW	**Kaceov**	**0.10**	**152**	⇑P		Pg	00 26 17.3	+0.1
KRCW	**Kraslice**	**0.12**	**27**	⇓P		Pg	00 26 17.6	+0.1
KRCW				S		Sg	00 26 19.4	-0.1
KOCW	**Kopaniny**	**0.14**	**285**	⇓P		Pg	00 26 18.0	+0.1
KOCW				S		Sg	00 26 20.1	0.0
ZHC	**Zelena Hora**	**0.18**	**210**	⇑P		Pg	00 26 18.6	+0.1
ZHC				S		Sg	00 26 21.2	0.0
BRG	**Berggiesshubel**	**1.15**	**55**	PG		Pb	00 26 36.3	-0.6
BRG				SG		Sg	00 26 51.5	-0.3
	13nm,0.3s							
KHC	**Kasperske Hory**	**1.32**	**146**	*e*SG		Sb	00 26 57.0	+0.2
PRU	**Pruhonice**	**1.37**	**99**	*e*SG		Sn	00 26 58.5	+0.2

IDC ***04*** *00:38:26.0±20.0, 26°82N×128°70E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/42, mbtmp3.7/6, ML3.5/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/34, Error ellipse: s-maj=374.1km s-min=55.7km az=141.0*

NIED ***04*** *00:38:33.2, 28°07N×127°98E, h12km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.38; Mθθ=1.00; Mφφ=-0.63; Mrθ=0.79; Mθφ=0.08; Mφr=0.87; Fault plane solution: M₀=1.47000×10¹⁵ NP1:φs=49.00000°, δ=81.00000°, λ=-123.00000°. NP2:φs=305.00000°, δ=35.00000°, λ=-16.00000°.*

JMA ***04*** *00:38:33.1±0.2, 28°07N×127°98E, h12km±2km, M3.6*

ISC 04 00:38:35.4±1.5, 27°92N±0°04×128°17E±0°05, h7km±11km, n21, σ1°61/27, mb3.5/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JOKE	**Okinoerabujima**	**0.66**	**147**	P		Pb	**00 38 49.8**	**+0.6**
JOKE				*e*S		Sn	**00 39 01.3**	**-0.5**
JTK	**Tokunoshima**	**0.70**	**100**	P		Pb	**00 38 50.0**	**0.0**
JTK				S		Sn	**00 39 02.3**	**-0.6**
JIH	**Iheya**	**0.90**	**192**	P		Pg	**00 38 52.4**	**-0.2**
JIH				S		Sn	**00 39 06.5**	**-1.1**
JYRO	**Yoronjima**	**0.92**	**164**	P		Pb	**00 38 53.8**	**+0.1**
JYRO				S		Sn	**00 39 08.4**	**+0.1**
JAMN	**Amaminishikomi**	**0.95**	**70**	P		Pg	**00 38 53.0**	**-0.5**
JAMN				S		Sb	**00 39 06.9**	**0.0**
JOW	**Kunigami**	**1.08**	**175**	P		Pb	**00 38 56.4**	**-0.1**
JOW				*e*S		Sn	**00 39 12.8**	**+0.5**
JAM	**Amami Oshima**	**1.36**	**68**	P		Pn	**00 39 00.0**	**-0.8**
JAM				*e*S		Sg	**00 39 18.7**	**-0.4**
JNTH	**Nagotoyohara**	**1.40**	**185**	P		Pn	**00 39 00.9**	**-0.4**
JNTH				*e*S		Sg	**00 39 21.4**	**+1.1**
JTAJ	**Takarajima**	**1.53**	**36**	P		Pn	**00 39 00.2**	**-3.0**
JTAJ				*e*S		Sn	**00 39 19.7**	**-3.7**
JAGN	**Aguni-jima**	**1.56**	**212**	P		Pn	**00 39 00.9**	**-2.6**
JAGN				*e*S		Sn	**00 39 22.0**	**-2.0**
JKE	**Kume jima 2**	**2.01**	**218**	P		Pn	**00 39 07.9**	**-1.8**
JNU	**Nakatsue**	**5.69**	**24**	Pn		Pn	**00 40 03.8**	**+3.3**
	1.0nm,0.3s,baz=166,slow=3.4,SNR=7.4							
KSRS	**Korea Array**	**9.51**	**359**	LR		LR	00 44 29.7	
	comp=Z,114nm,19.1s,baz=200,slow=34							
JCJ	**Chichijima**	**12.47**	**91**	LR		LR	00 46 01.5	
	comp=Z,35nm,18.5s,baz=79,slow=38							
KLR	**Kul'dur**	**21.46**	**6**	LR		LR	00 51 26.4	
	comp=Z,91nm,19.1s,baz=222,slow=35							
SONM	**Songino Array**	**26.12**	**325**	P		**P**	**00 44 12.6**	**+2.4**
	0.3nm,0.3s,baz=137,slow=9.3,SNR=4.7							
MKAR	**Makanchi Array**	**40.39**	**310**	P		**P**	**00 46 14.6**	**+0.5**
	1.0nm,0.8s,baz=95,slow=9.9,SNR=7.6							
ZALV	**Zalesovo Beam**	**40.88**	**322**	P		**P**	**00 46 18.3**	**+0.4**
	0.3nm,0.4s,baz=104,slow=18,SNR=2.3							
KURBB	**Kurchatov Arra**	**43.61**	**315**	P		**P**	**00 46 40.2**	**-0.1**
	0.3nm,0.5s,baz=102,slow=8.7,SNR=2.6							
BVAR	**Borovoye Array**	**48.99**	**317**	P		**P**	**00 47 23.0**	**+0.4**
	0.4nm,0.4s,baz=96,slow=8.9,SNR=5.0							
BRTR	**Keskin Array B**	**75.96**	**308**	LR		LR	01 28 18.3	
	comp=Z,47nm,18.4s,baz=308,slow=39							

JMA 04 00:45:51.4, 37°04N×140°71E, h13km±1km, M3.7, 4C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.09**	**49**	⇑P		Pg	00 45 54.4	0.0
ONAJ				S		Sg	00 45 56.3	-0.2
JFFD	**Fukushimafurud**	**0.13**	**293**	⇓P		Pg	00 45 54.8	0.0
JFFD				S		Sg	00 45 56.9	-0.3
JFK	**Kawauchi**	**0.35**	**22**	⇑P		Pg	00 45 58.4	-0.1
JFK				S		Sg	00 46 03.3	-0.1
JHO	**Hitachi**	**0.44**	**195**	⇑P		Pg	00 45 59.9	-0.3
JHO				S		Sg	00 46 05.8	-0.3
JFT	**Otama**	**0.56**	**328**	⇓P		Pg	00 46 02.4	0.0
JFT				S		Sg	00 46 10.1	+0.2
JSB	**Shiboa**	**0.64**	**264**	⇑P		Pb	00 46 04.2	-0.2
JSB				S		Sg	00 46 12.5	+0.3
JMM	**Marumori**	**0.83**	**5**	⇓P		Pg	00 46 06.7	-0.7
JMM				S		Sg	00 46 17.7	-0.6
JFY	**Yanaizu**	**0.88**	**295**	P		Pg	00 46 08.1	-0.4
JFY				S		Sg	00 46 19.4	-0.6
MAT	**Matsushiro**	**2.07**	**257**	P		Pn	00 46 26.9	+1.0
MAT				S		Sb	00 46 54.6	+0.1

PRU 04 00:57:15.3±0.0, 50°18N×12°27E, h0km, West Bohemia Swarm, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.13**	**65**	*e*PG		Pg	00 57 17.9	+0.2
NKC				*e*SG		Sg	00 57 19.1	-0.2
	comp=Z,9.5nm,0.2s							
KHC	**Kasperske Hory**	**1.35**	**141**	*e*SG		Sg	00 57 58.1	-0.6

IPEC ***04*** *00:57:28.9±0.2, 51°48N×16°37E, h0km, ML2.0/3, Error ellipse: s-maj=1.6km s-min=1.4km az=56.0*

VIE ***04*** *00:57:30.9±0.8, 51°35N×16°10E, h0km, mb2.0/4, ml2.6/5, Error ellipse: s-maj=9.7km s-min=3.9km az=54.0 69 km WNW of Wroclaw Suspected Mining induced.*

PRU ***04*** *00:57:30.3±0.0, 51°42N×16°19E, h0km*

IDC ***04*** *00:57:30.6±1.2, 51°40N×16°09E, h0km, mb1 3.4/4, mb1mx3.1/38, mbtmp3.2/4, ML2.5/4, Error ellipse: s-maj=19.2km s-min=10.6km az=108.0*

ISC 04 00:57:28.0±0.8, 51°54N±0°03×16°27E±0°03, h0km, n38, σ0°91/70, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**179**	*e*Pg		**Pg**	**00 57 41.4**	**0.0**
KSP				*e*Sg		**Sg**	**00 57 49.3**	**-1.1**
CHVC	**Chvalec**	**0.96**	**188**	*e*PG		**Pg**	**00 57 46.3**	**-0.1**
CHVC				*e*SG		**Sg**	**00 57 58.1**	**-0.8**
	comp=Z,24nm,0.6s							
OSTC	**Ostas**	**0.99**	**182**	*e*PG		**Pg**	**00 57 47.0**	**+0.1**
OSTC				*e*SG		**Sg**	**00 57 58.9**	**-0.7**
	comp=Z,29nm,0.6s							
UPC	**Upice**	**1.05**	**189**	*e*PG		**Pg**	**00 57 47.6**	**-0.4**
UPC				*e*SG		**Sg**	**00 58 00.4**	**-1.2**
	comp=Z,48nm,0.5s							
DPC	**Dobruska-Polom**	**1.19**	**178**	*e*PG		**Pg**	**00 57 50.1**	**-0.7**
DPC				*e*SG		**Sg**	**00 58 04.6**	**-1.6**
	comp=Z,22nm,0.6s							
PVCC	**Panska Ves**	**1.48**	**227**	*e*PG		**Pn**	**00 57 55.4**	**-0.4**
PVCC				*e*SG		**Sg**	**00 58 14.6**	**-0.7**
	comp=Z,88nm,0.3s							
KRLC	**Kraliky**	**1.50**	**167**	*e*PG		**Pn**	**00 57 55.7**	**-0.5**
KRLC				*e*SG		**Sg**	**00 58 15.8**	**-0.4**
	comp=Z,20nm,0.4s							
BRG	**Berggiesshubel**	**1.61**	**246**	PN		**Pn**	**00 57 57.8**	**+0.2**
BRG				PG		**Pg**	**00 57 59.0**	**+0.2**
BRG				SG		**Sn**	**00 58 19.1**	**+0.1**
	33nm,0.4s							
PRA	**Prague**	**1.88**	**219**	*e*PG		**Pn**	**00 58 01.7**	**+0.4**
PRA				*e*SG		**Sn**	**00 58 26.2**	**+0.5**
	comp=Z,6.7nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.88**	**211**	*e*PG		**Pb**	**00 58 02.6**	**-0.6**
GOPC				*e*SG		**Sn**	**00 58 25.9**	**+0.1**
	comp=Z,15nm,0.5s							
PRU	**Pruhonice**	**1.90**	**216**	*e*PG		**Pn**	**00 58 02.2**	**+0.5**
PRU				*e*SG		**Sn**	**00 58 26.6**	**+0.3**
	comp=Z,14nm,0.4s							
MORC	**Moravsky Berou**	**1.94**	**155**	*e*PN		**Pn**	**00 58 02.0**	**-0.3**
MORC				*e*SG		**Sn**	**00 58 27.4**	**0.0**
MORC	**Moravsky Berou**	**1.94**	**155**	*e*Pn		**Pn**	**00 58 02.0**	**-0.3**
	baz=337							
MORC				*e*Sg		**Sn**	**00 58 27.3**	**-0.1**
	12nm,0.3s,baz=337							
CLL	**Collm**	**2.06**	**265**	*i* Pn		**Pn**	**00 58 05.0**	**+1.2**
CLL				*i* Pg		**Pg**	**00 58 07.4**	**0.0**
CLL				*i*			00 58 09.9	
CLL				*i* Sg		**Sg**	**00 58 34.9**	**+0.9**
	comp=Z,14nm,0.8s							
OKC	**Ostrava-Krasne**	**2.08**	**144**	*e*PG		**Pg**	**00 58 07.7**	**-0.2**
OKC				*e*SG		**Sg**	**00 58 34.5**	**-0.3**
	comp=Z,370nm,0.9s							
VRAC	**Vranov**	**2.24**	**175**	Pn		**Pn**	**00 58 07.0**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=341,slow=16,SNR=15							
VRAC				Lg		Lg	00 58 37.7	
	comp=Z,1.6nm,0.3s,baz=74,slow=23,SNR=11							
VRAC	**Vranov**	**2.24**	**175**	*e*PN		**Pn**	**00 58 06.4**	**0.0**
VRAC				*e*SG		**Sb**	**00 58 37.2**	**-0.5**
VRAC	**Vranov**	**2.24**	**175**	*e*Pn		**Pn**	**00 58 06.4**	**0.0**
	baz=356							
VRAC				*e*Sg		**Sb**	**00 58 37.2**	**-0.5**
	comp=Z,8.0nm,0.4s,baz=356							
TREC	**Trest**	**2.30**	**193**	*e*PG		**Pb**	**00 58 10.2**	**-0.2**
TREC				*e*SG		**Sb**	**00 58 39.6**	**+0.2**
	comp=Z,8.7nm,0.5s							
PBCC	**Pribram**	**2.35**	**219**	*e*PG		**Pb**	**00 58 11.4**	**+0.1**
PBCC				*e*SG		**Sb**	**00 58 41.3**	**+0.5**
	comp=Z,7.1nm,0.4s							
KRUC	**Moravsky**	**2.48**	**178**	*e*PN		**Pn**	**00 58 09.9**	**+0.2**
KRUC				*e*SG		**Sb**	**00 58 44.8**	**+0.2**
KRUC	**Moravsky**	**2.48**	**178**	*e*Pn		**Pn**	**00 58 09.8**	**+0.1**
	baz=360							
KRUC				*e*Sg		**Sb**	**00 58 44.7**	**+0.2**
	comp=Z,7.1nm,0.4s,baz=360							
OJC	**Ojcow**	**2.60**	**119**	*e*Pg		**Pg**	**00 58 17.6**	**-0.2**
OJC				*e*Sg		**Sg**	**00 58 52.9**	**+1.5**
NKC	**Novy Kostel**	**2.75**	**243**	*e*SG		**Sg**	**00 58 55.1**	**-1.2**
	comp=Z,16nm,0.3s							
JAVC	**Velka Javorina**	**2.83**	**161**	*e*PN		**Pn**	**00 58 14.5**	**-0.1**
JAVC	**Velka Javorina**	**2.83**	**161**	*e*Pn		**Pn**	**00 58 14.4**	**-0.1**
	baz=343							
KHC	**Kasperske Hory**	**2.96**	**217**	*e*PN		**Pn**	**00 58 16.2**	**-0.1**
KHC				*e*PG		**Pb**	**00 58 22.1**	**+0.4**
KHC				*e*SG		**Sb**	**00 59 00.3**	**+1.9**
	comp=Z,7.2nm,0.4s							
SMOL	**Smolenice**	**3.12**	**166**	*e*PG		**Pg**	**00 58 28.4**	**+0.6**
SMOL				*e*SG		**Sg**	**00 59 11.1**	**+2.9**
LANS	**Liptovska Anna**	**3.15**	**138**	*e*SG		**Sg**	**00 59 09.8**	**+0.6**
GERES	**GERESS Array B**	**3.16**	**212**	Pn		**Pn**	**00 58 18.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=30,slow=12,SNR=9.0							
GERES				Pg		**Pb**	**00 58 25.4**	**+0.3**
	comp=Z,2.7nm,0.3s,baz=30,slow=18,SNR=44							
GERES				Lg		Lg	00 59 05.1	
	comp=Z,3.8nm,0.3s,baz=31,slow=28,SNR=13							
MODS	**Modra-Piesok**	**3.24**	**168**	*e*PG		**Pg**	**00 58 29.7**	**-0.3**
MODS				*e*SG		**Sg**	**00 59 13.8**	**+1.9**
CONA	**Conrad Observa**	**3.62**	**184**	*e*Pn		**Pn**	**00 58 26.2**	**+0.7**
	comp=Z,0.4nm,0.2s							
CONA				Sg		**Sg**	**00 59 21.8**	**-2.6**
	comp=Z,3.3nm,0.3s							
BSD	**Bornholm Skovb**	**3.67**	**348**	*i* P		**Pn**	**00 58 27.1**	**+1.1**
BSD				*i* S		**Sn**	**00 59 07.6**	**-2.3**
BSD	**Bornholm Skovb**	**3.67**	**348**	*e*		**Pn**	**00 58 26.8**	**+0.8**
	baz=168,slow=11							
BSD				*i* P		Pb	00 58 27.1	-6.5
BSD				*i* S		**Sn**	**00 59 07.6**	**-2.3**
BSD				IAML			00 59 23.1	
	comp=Z,1.2nm,0.4s							
MOA	**Molln**	**3.92**	**200**	*e*Pn		**Pn**	**00 58 29.3**	**-0.1**
	comp=Z,0.9nm,0.2s							
ARSA	**Arzberg**	**4.32**	**187**	Pg		**Pg**	**00 58 49.9**	**-0.9**
	comp=Z,2.9nm,0.6s							
FINES	**FINESS Array B**	**11.29**	**25**	Pn		**Pn**	**01 00 10.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=1.7							
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn		**Pn**	**01 01 46.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=199,slow=10,SNR=4.2							

WBNET 04 00:58:14.9, 50°22N×12°45E, h9km, Ml0.6, 5C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.01**	**357**	⇑P		Pg	00 58 16.6	+0.1
NKC				S		Sg	00 58 17.7	+0.1
VAC	**Vackov**	**0.05**	**287**	⇓P		Pg	00 58 16.8	+0.1
VAC				S		Sg	00 58 18.0	0.0
LBCW	**Luby**	**0.05**	**332**	⇓P		Pg	00 58 16.9	+0.1
LBCW				S		Sg	00 58 18.2	+0.1
STCW	**Studenec**	**0.06**	**50**	⇑P		Pg	00 58 16.9	0.0
STCW				S		Sg	00 58 18.1	-0.1
SKC	**Skalna**	**0.08**	**228**	S		Sg	00 58 18.5	0.0
POCW	**Potky**	**0.10**	**352**	S		Sg	00 58 19.2	+0.1
KRCW	**Kraslice**	**0.12**	**25**	⇑P		Pg	00 58 17.8	0.0
KRCW				S		Sg	00 58 19.7	-0.1
KOCW	**Kopaniny**	**0.14**	**288**	⇑P		Pg	00 58 18.1	+0.1
KOCW				S		Sg	00 58 20.3	0.0
ZHC	**Zelena Hora**	**0.18**	**211**	⇑P		Pg	00 58 18.7	+0.1
ZHC				S		Sg	00 58 21.5	+0.5

NEIC ***04*** *01:43:05.2±1.4, 5°6S±0°1×147°6E±0°1, h169km±13km, mb4.1/5, Error ellipse: s-maj=22.5km s-min=15.9km az=119.0*

IDC ***04*** *01:43:05.5±2.2, 5°65S×147°75E, h171km±22km, mb3.4/3, mb1 3.8/5, mb1mx3.2/39, mbtmp4.0/5, Error ellipse: s-maj=57.4km s-min=17.0km az=116.0*

ISC 04 01:43:05.4±1.3, 5°61S±0°09×147°7E±0°2, h170km, n14, σ0°94/18, mb3.9/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.80**	**188**	P		**Pn**	**01 44 04.9**	**+1.2**
	24nm,0.3s,baz=7.6,slow=15,SNR=18							
PMG				S		**Sn**	**01 44 48.7**	**-0.7**
	25nm,0.3s,baz=234,slow=20,SNR=8.4							
PMG	**Port Moresby**	**3.80**	**188**			**Pn**	**01 44 04.8**	**+1.0**
PMG					Sn	**Sn**	**01 44 48.0**	**-1.3**
COEN	**Coen**	**9.40**	**208**	Pn		**Pn**	**01 45 19.2**	**+1.8**
COEN					Sn	**Sn**	**01 47 00.5**	**-1.6**
CTAO	**Charters Tower**	**14.46**	**185**			**P**	**01 46 23.9**	**-0.4**
FAKI	**Fak Fak**	**15.62**	**279**			**Pn**	**01 46 36.2**	**-0.5**
WB0	**Warramunga Arr**	**19.11**	**221**	P		**P**	**01 47 15.0**	**-0.5**
WB0				IAmb	IAmb		01 47 21.3	
	comp=Z,11nm,1.2s							
WB2	**Warramunga Arr**	**19.26**	**221**	P		**P**	**01 47 17.0**	**-0.1**
WB2				IAmb	IAmb		01 47 20.8	
	comp=Z,7.2nm,0.8s							
WRA	**Warramunga Arr**	**19.27**	**221**	P		**P**	**01 47 17.6**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=47,slow=12,SNR=37							
AS31	**Alice Springs**	**22.32**	**215**	P		**P**	**01 47 49.4**	**+0.1**
ASAR	**Alice Springs**	**22.32**	**215**	P		**P**	**01 47 49.6**	**+0.3**
	comp=Z,2.3nm,0.4s,baz=48,slow=8.6,SNR=54							
ASAR				S		**S**	**01 51 43.5**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=31,slow=22,SNR=5.2							
FITZ	**Fitzroy Crossi**	**24.84**	**238**	P		**P**	**01 48 12.2**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=63,slow=13,SNR=1.4							
FITZ	**Fitzroy Crossi**	**24.84**	**238**	P		**P**	**01 48 12.1**	**-0.2**
FITZ				IAmb	IAmb		01 48 14.5	
	comp=Z,5.9nm,1.2s							
ILAR	**Eielson Array**	**84.86**	**23**	P		**P**	**01 55 20.4**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=260,slow=4.5,SNR=4.8				

KRJI	Kerinci	1.69	346	P	Pn	02 24 42.8	-0.4
PPSI	Pulau Pagai	2.10	297	P	Pn	02 24 47.7	-0.9
MDSI	Maura Dua	2.41	108	P	Pn	02 24 55.2	+2.4
LWLI	Liwa	2.52	120	P	Pn	02 24 55.0	+0.7
SDSI	Sungai Dareh	2.83	351	P	Pn	02 24 59.8	+1.4
PMBI	Palembang	3.00	74	Pn	Pn	02 24 54.1	-6.7
KASI	Kota Agung	3.15	124	P	Pn	02 25 04.9	+2.0
RGRI	Rengat	3.40	8	P	Pn	02 25 07.0	+0.8
SISI	Saibi	3.67	311	P	Pn	02 25 10.3	+0.3
BKNI	Bangkinang	4.12	348	Pn	Pn	02 25 14.8	-1.4
DSRI	Dabo	4.21	40	P	Pn	02 25 18.3	+0.9
GSI	Gunungsitoli	6.60	319	Pn	Pn	02 25 49.8	-0.2
H08S2	Diego Garcia H	29.49	261	T	T	03 00 02.8	
	baz=84,slow=75,SNR=10						
H08S3	Diego Garcia H	29.50	261	T	T	03 00 03.5	
	baz=84,slow=75,SNR=14						
H08S1	Diego Carcia H	29.51	261	T	T	03 00 12.1	
	baz=84,slow=75,SNR=9.6						
WB0	Warramunga Arr	35.48	119	P	P	02 31 05.4	-0.2
WRA	Warramunga Arr	35.50	120	P	P	02 31 04.7	-1.1
	0.3nm,0.5s,baz=299,slow=8.9,SNR=2.1						
WB2	Warramunga Arr	35.52	120	P	P	02 31 05.3	-0.6
WB2				IAmb	IAmb	02 31 14.4	
	comp=Z,6.4nm,1.1s						
ASAR	Alice Springs	36.72	126	P	P	02 31 16.2	+0.1
	comp=Z,0.3nm,0.4s,baz=301,slow=8.8,SNR=4.2						
BBOO	Buckleboo	43.10	136	P	P	02 32 09.0	+0.1
BBOO				IAmb	IAmb	02 32 24.8	
	comp=Z,14nm,1.3s						
STKA	Stephens Creek	46.60	132	P	P	02 32 36.1	-0.6
SONM	Songino Array	51.51	4	P	P	02 33 14.5	+0.4
	comp=Z,0.8nm,0.6s,baz=178,slow=8.1,SNR=4.8						
MK31	Makanchi Array	53.21	343	P	P	02 33 26.3	-0.3
MK31				IAmb	IAmb	02 33 39.6	
	comp=Z,1.8nm,1.1s						
MKAR	Makanchi Array	53.21	343	P	P	02 33 26.5	-0.1
	comp=Z,0.7nm,0.4s,baz=159,slow=8.9,SNR=8.8						
USA0B	Ussuriysk Arra	54.84	26	P	P	02 33 38.2	-0.3
USA0B				IAmb	IAmb	02 33 51.2	
	comp=Z,3.1nm,0.6s						
KURK	Kurchatov	57.80	343	P	P	02 33 59.2	-0.3
KURK				IAmb	IAmb	02 34 00.8	
	comp=Z,1.3nm,0.9s						
ZALV	Zalesovo Beam	59.23	348	P	P	02 34 08.8	-0.5
	comp=Z,1.5nm,0.4s,baz=169,slow=4.5,SNR=5.8						
QSPA	South Pole Qui	86.23	180	P	P	02 36 51.4	+2.2

*IDC **04** 02:34:07.5±0.7, 15°.79S×177°.60E, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.5/25, mbtmp4.4/14, MS4.1/27, Ms1 4.1/27, ms1mx4.0/37, Error ellipse: s-maj=25.5km s-min=17.6km az=134.0*

*BJI **04** 02:34:08.0±0.0, 16°.50S×178°.30E, h17km, mB5.3/16, mb5.0/21, Ms5.0/2, Ms7 4.7/2*

*NEIC **04** 02:34:09.5±1.0, 16°.36S±0°.06×178°.0E±0°.1, h25km±4km, mb4.9/117, Error ellipse: s-maj=19.4km s-min=8.7km az=90.0*

*GCMT **04** 02:34:11.5±0.2, 16°.24S±0°.02×177°.95E±0°.01, h17km, MW5.1/118, Moment Tensor Solution. s50,c71; s118,c174; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-3.24±.19; Mθθ-2.76±.14; Mϕϕ6.00±.15; Mrθ-2.73±.42; Mθϕ1.82±.11; Mϕr0.97±.32; Best double couple: Mo6.22000×10^16^ NP1:ϕs46.00000°, δ57.00000°, λ-34.00000°. NP2:ϕs156.00000°, δ62.00000°, λ-142.00000°. Principal axes: T 6.3830, Plg3.0000°, Azm280.0000°; N -0.3260, Plg44.0000°, Azm188.0000°; P -6.0570, Plg46.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 02:34:08.5±0.4, 16°.43S±0°.06×178°.19E±0°.09, h21km, n213, σ1§18/189, mb4.8/75, MS4.1/27, 2C-2D, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	1.30	186	Pn	Pn	02 34 31.1	-0.4
MSVF				Sn	Sb	02 34 49.3	+0.7
AFI	Afiamalu	10.01	77	LR	LR	02 39 40.9	
	comp=Z,3μm,21.0s,baz=233,slow=32						
DZM	Mont Dzumac	12.43	241	eLQ	LQ	02 39 21.7	
	5μm,26.5s						
DZM				eLR	LR	02 39 58.5	
	comp=Z,2μm,25.1s						
DZM	Mont Dzumac	12.43	241	LR	LR	02 41 07.3	
	comp=Z,1μm,19.7s,baz=68,slow=34						
HNR	Honiara	19.08	289	LR	LR	02 44 58.1	
	comp=Z,553nm,18.3s,baz=136,slow=36						
RAR	Rarotonga	21.39	106	LR	LR	02 45 38.0	
	comp=Z,346nm,21.6s,baz=296,slow=31						
URZ	Urewera	21.77	182	LR	LR	02 45 57.2	
	comp=Z,934nm,19.4s,baz=12,slow=32						
RPZ	Rata Peaks	27.86	191	LR	LR	02 50 03.1	
	comp=Z,799nm,18.3s,baz=8.0,slow=34						
RPZ	Rata Peaks	27.86	191	P	P	02 39 57.3	+0.6
RPZ				IAmb	IAmb	02 40 12.7	
	comp=Z,47nm,1.5s						
FOZ	Fox Glacier	27.94	193	P	P	02 39 59.2	+2.0
FOZ				IAmb	IAmb	02 40 03.4	
	comp=Z,26nm,1.0s						
KRVT	Keravat (AS076	28.37	292	LR	LR	02 50 47.1	
	comp=Z,342nm,19.7s,baz=115,slow=36						
WHZ	Wether Hill Ro	30.60	194	P	P	02 40 21.6	+0.7
WHZ				IAmb	IAmb	02 40 30.0	
	comp=Z,25nm,1.0s						
PPT2	Papeete2	30.83	97	eS	S	02 45 22.8	-3.4
PPT2	comp=Z,353nm,25.2s						
				eLQ	LQ	02 47 07.9	
PPT2	comp=Z,563nm,25.2s						
				eLR	LR	02 48 22.3	
	comp=Z,2μm,29.8s,baz=256						
PPT	Papeete	30.83	97	LR	LR	02 52 19.3	
	comp=Z,114nm,18.0s,baz=284,slow=35						
TBI	Tubuai	31.14	108	eS	S	02 45 27.0	-3.8
	comp=Z,402nm,26.5s						
TBI				eLQ	LQ	02 47 14.8	
	comp=Z,1μm,30.5s						
TBI				eLR	LR	02 48 32.8	
	comp=Z,2μm,30.2s,baz=284						
TOO	Toolangi	35.67	227	P	P	02 41 05.6	+0.3
TOO				IAmb	IAmb	02 41 16.7	
	comp=Z,18nm,1.1s						
H11S2	WAKE ISLAND Hy	36.50	341	T	T	03 19 34.1	
	baz=163,slow=76,SNR=14						
H11S3	WAKE ISLAND Hy	36.51	341	T	T	03 19 34.7	
	baz=163,slow=76,SNR=28						
H11S1	WAKE ISLAND Hy	36.52	341	T	T	03 19 34.8	
	baz=163,slow=76,SNR=17						
STKA	Stephens Creek	36.55	238	P	P	02 41 13.6	+0.6
	comp=Z,10nm,1.0s,baz=62,slow=7.3,SNR=8.2						
STKA				LR	LR	02 54 32.7	
	comp=Z,629nm,20.6s,baz=65,slow=34						
STKA	Stephens Creek	36.55	238	P	P	02 41 12.9	0.0
BBOO	Buckleboo	41.33	239	P	P	02 41 51.7	-1.2
WB0	Warramunga Arr	41.68	259	P	P	02 41 54.7	-1.3
WB0				IAmb	IAmb	02 42 01.3	
	comp=Z,22nm,1.2s						
WB2	Warramunga Arr	41.71	258	P	P	02 41 54.5	-1.7
WB2				IAmb	IAmb	02 42 03.4	
	comp=Z,29nm,1.4s						
WRA	Warramunga Arr	41.72	258	P	P	02 41 54.0	-2.4
	comp=Z,3.3nm,1.0s,baz=89,slow=8.7,SNR=7.8						
WRA				LR	LR	02 57 14.3	
	comp=Z,264nm,20.9s,baz=90,slow=34						
AS31	Alice Springs	42.09	253	P	P	02 41 57.9	-1.4
ASAR	Alice Springs	42.09	253	P	P	02 41 57.7	-1.6
	comp=Z,10nm,1.0s,baz=82,slow=8.5,SNR=37						
ASAR				LR	LR	02 58 05.5	
	comp=Z,414nm,20.0s,baz=95,slow=34						
FORT	Forrest	47.73	243	P	P	02 42 43.5	-0.6
FITZ	Fitzroy Crossi	50.07	260	P	P	02 43 01.0	-1.2
JCJ	Chichijima	55.62	321	LR	LR	03 02 25.7	
	comp=Z,179nm,20.7s,baz=172,slow=31						
DAV	Davao City (W)	57.04	290	LR	LR	03 04 43.7	
	comp=Z,163nm,21.5s,baz=155,slow=33						
NWAO	Narrogin (SRO)	57.05	241	P	P	02 43 53.0	-0.2
VNDA	Vanda	61.66	184	P	P	02 44 32.0	+7.6
	comp=Z,0.9nm,0.8s,baz=27,slow=5.4,SNR=5.7						
VNDA				LR	LR	03 07 49.4	
	comp=Z,173nm,19.1s,baz=9.0,slow=32						
VNDA	Vanda	61.66	184	P	P	02 44 25.6	+1.2
MJAR	Matsushiro Arr	64.81	325	P	P	02 44 43.1	-2.7
	comp=Z,3.8nm,0.8s,baz=163,slow=6.5,SNR=11						
MJAR				LR	LR	03 11 07.7	
	comp=Z,40nm,19.3s,baz=255,slow=35						
MAJO	Matsushiro	64.81	325	P	P	02 44 45.8	-0.1
MAT	Matsushiro	64.81	325	P	P	02 44 44.6	-1.3
MAT				eS	S	02 53 30.2	+4.4
MJB9	Matsu-Tunnel	64.82	325	P	P	02 44 45.2	-0.7
KKM	Kota Kinabalu	65.22	285	P	P	02 44 47.6	-1.5
CASY	Casey	66.13	204	P	P	02 44 54.2	+0.3
CASY				IAmb	IAmb	02 45 04.2	
	comp=Z,9.9nm,0.8s						
SBUM	Sibu	67.76	280	P	P	02 45 04.4	-0.8
SBUM				IAmb	IAmb	02 45 12.7	
	comp=Z,11nm,1.2s						
ADK	Adak	68.17	3	P	P	02 45 07.1	+0.2
ASAJ	Asahikawa	68.47	333	LR	LR	03 08 48.5	
	comp=Z,136nm,21.9s,baz=144,slow=31						
KSRS	Korea Array	71.46	320	LR	LR	03 11 09.9	
	comp=Z,78nm,20.8s,baz=144,slow=32						
PEA0B	Petropavlovsk-	71.48	347	P	P	02 45 27.5	+0.2
PETK	Petropavlovsk-	71.48	347	P	P	02 45 25.7	-1.6
	comp=Z,5.1nm,0.9s,baz=90,slow=8.9,SNR=6.6						
PETK				LR	LR	03 13 03.5	
	comp=Z,53nm,18.9s,baz=190,slow=33						
USA0B	Ussuriysk Arra	73.59	327	P	P	02 45 40.2	+0.1
USRK	Ussuriysk Ar.	73.59	327	P	P	02 45 39.0	-1.0
	comp=Z,1.3nm,0.6s,baz=137,slow=6.5,SNR=9.0						
USRK				LR	LR	03 18 07.8	
	comp=Z,72nm,18.4s,baz=126,slow=36						
QSPA	South Pole Qui	73.61	180	P	P	02 45 40.6	+0.4
QSPA				IAmb	IAmb	02 45 50.9	
	comp=Z,15nm,1.1s						
NJ2	Nanjing	74.50	311	eP	P	02 45 49.3	+3.6
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
MDJ	Mudanjiang	75.14	326	P	P	02 45 48.8	-0.3
CN2	Changchun	76.89	324	eP	P	02 45 59.5	+0.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KLR	Kul'dur	77.22	331	LR	LR	03 15 12.3	
	comp=Z,80nm,21.9s,baz=152,slow=32						
PMPB	Monarch Peak	77.83	46	P	P	02 46 04.9	+0.2
PMPB				IAmb	IAmb	02 46 08.0	
	comp=Z,16nm,1.1s						
MA2	Magadan	78.96	346	LR	LR	03 17 33.2	
	comp=Z,64nm,20.1s,baz=138,slow=33						
WDC	Whiskeytown Da	78.97	42	P	P	02 46 10.9	+0.1
WDC				IAmb	IAmb	02 46 13.9	
	comp=Z,15nm,1.4s						
IPM	Ipoh	79.00	278	P	P	02 46 10.2	-1.3
CMB	Columbia Colle	79.05	45	P	P	02 46 12.3	+1.0
ORV	Oroville	79.10	43	P	P	02 46 12.7	+1.2
ORV				IAmb	IAmb	02 46 14.2	
	comp=Z,13nm,1.5s						
AFDM	Forest Hills D	79.13	44	P	P	02 46 12.4	+0.7
ISA	Isabella, Lake	79.19	48	P	P	02 46 13.3	+1.1
ISA				IAmb	IAmb	02 46 15.2	
	comp=Z,15nm,1.4s						
YBH	Yreka Blue Hor	79.49	41	LR	LR	03 17 07.3	
	comp=Z,60nm,18.0s,baz=236,slow=32						
YBH	Yreka Blue Hor	79.49	41	P	P	02 46 14.0	+0.3
YBH				IAmb	IAmb	02 46 16.9	
	comp=Z,11nm,1.2s						
MDPB	Devils Postpil	79.74	46	P	P	02 46 16.2	+0.8
MDPB				IAmb	IAmb	02 46 18.2	
	comp=Z,9.3nm,1.2s						
OMMB	Old Mammoth Mi	79.78	46	P	P	02 46 15.9	+0.3
WAKR	Walker	79.93	45	P	P	02 46 17.9	+1.6
GSC	Goldstone, Bar	80.22	49	P	P	02 46 18.6	+0.9
GSC				IAmb	IAmb	02 46 20.6	
	comp=Z,11nm,1.2s						
BJT	Baijiatuan	80.46	317	P	P	02 46 18.3	-0.6
RPSI	Rantau Prapat	80.48	276	P	P	02 46 18.5	-1.0
RPSI				IAmb	IAmb	02 46 26.6	
	comp=Z,17nm,1.2s						
PAHR	Pah Rah Range	80.57	44	P	P	02 46 20.4	+0.7
RYN	Ryan	80.61	45	P	P	02 46 20.9	+0.9
NVAR	Mina Array Bea	80.67	45	P	P	02 46 22.2	+1.9
	comp=Z,3.7nm,1.1s,baz=224,slow=8.7,SNR=18						
NV11	Mina Array Sit	80.77	45	P	P	02 46 21.8	+1.1
NV11				IAmb	IAmb	02 46 23.7	
	comp=Z,14nm,1.4s						
MOD	Modoc Plateau	81.10	42	P	P	02 46 23.4	+0.9
MOD				IAmb	IAmb	02 46 25.1	
	comp=Z,9.9nm,1.3s						
KVN	Kaiserville	81.11	45	P	P	02 46 23.7	+1.1
K05A	Summer Lake	81.16	41	P	P	02 46 23.6	+0.7
K05A				IAmb	IAmb	02 46 25.9	
	comp=Z,12nm,1.1s						
TPNV	Topopah Spring	81.39	48	P	P	02 46 24.8	+0.7
TTA	Tatalina	81.64	12	P	P	02 46 25.7	+0.9
TTA				IAmb	IAmb	02 46 26.7	
	comp=Z,14nm,1.4s						
PINE	Pine Mountain	81.70	40	P	P	02 46 26.5	+0.9
PINE				IAmb	IAmb	02 46 28.7	
	comp=Z,14nm,1.1s						
SHPR	Sheep Range	81.96	48	P	P	02 46 28.5	+1.4
SHPR				IAmb	IAmb	02 46 30.3	
	comp=Z,14nm,1.4s						
HSIG		81.96	57	P	P	02 46 28.5	+1.4
W13A	Hualapai Mount	82.25	50	P	P	02 46 29.3	+0.5
Y14A	Wickenburg	82.40	51	P	P	02 46 30.3	+0.9
R11A	Troy Canyon, C	82.50	47	P	P	02 46 31.0	+1.0
I07A	Izee	82.73	40	P	P	02 46 31.5	+0.5
I07A				IAmb	IAmb	02 46 33.8	
	comp=Z,9.2nm,1.1s						
XAN	Xi'an	82.79	308	P	P	02 46 31.8	+0.4
XAN				pP	sP	02 46 39.4	-1.2
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,120nm,5.2s						
XAN	Xi'an	82.79	308	P	P	02 46 30.8	-0.5
XAN				IAmb	IAmb	02 46 40.3	
	comp=Z,11nm,1.1s						
PBKT	Sadao Pong	82.88	290	P	P	02 46 31.2	-0.8
PBKT				IAmb	IAmb	02 46 40.3	
	comp=Z,8.4nm,1.1s						
D05A	Enumclaw	82.91	36	P	P	02 46 32.9	+1.3
J08A	Circle Bar Ran	83.01	41	P	P	02 46 33.2	+0.8
J08A				IAmb	IAmb	02 46 42.0	
	comp=Z,8.2nm,1.1s						
TABL	Table Mountain	83.29	19	P	P	02 46 33.0	-0.6
TRF	Thorofare Moun	83.31	14	P	P	02 46 32.7	-0.8
LCMT	Little Creek M	83.56	49	P	P	02 46 37.3	+1.9
RND	Reindeer	83.61	14	P	P	02 46 35.0	0.0
DHY	Denali Highway	83.68	15	P	P	02 46 35.5	+0.1
DHY				IAmb	IAmb	02 46 40.8	
	comp=Z,11nm,1.4s						
G08A	Pilot Rock	83.69	39	P	P	02 46 36.7	+0.8
G08A				IAmb	IAmb	02 46 38.4	
	comp=Z,9.5nm,1.2s						
LTY	Liberty	83.70	37	P	P	02 46 36.5	+0.7
LTY				IAmb	IAmb	02 46 37.9	
	comp=Z,13nm,1.4s						
CCUT	Cedar City	83.71	48	P	P	02 46 36.9	+0.6
X16A	Lo Mia Camp, P	83.78	52	P	P	02 46 37.9	+1.3
X16A				IAmb	IAmb	02 46 40.1	
	comp=Z,6.5nm,1.0s						
PSUT	Pine Spring	83.80	47	P	P	02 46 37.5	+0.8
ELK	Elko	83.85	45	P	P	02 46 37.3	+0.4
ELK				IAmb	IAmb	02 46 39.6	
	comp=Z,7.7nm,1.2s						
MCK	McKinley	83.87	14	P	P	02 46 36.0	-0.2
HAWA	Hanford	83.91	38	P	P	02 46 38.1	+1.3
HAWA				IAmb	IAmb	02 46 46.4	
	comp=Z,7.0nm,0.9s						
HHC	Hu-ho-hao-te	83.93	316	eP	P	02 46 40.1	+2.9
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,5.7s						
U15A	North Rim	84.00	49	P	P	02 46 39.3	+1.4
MAW	Mawson	84.12	200	LR	LR	03 20 11.5	
	comp=Z,151nm,20.9s,baz=66,slow=33						
MAW	Mawson	84.12	200	P	P	02 46 38.1	+0.5
KMI	Kunming	84.27	298	eP	P	02 46 47.2	+7.8
KMI				pP	sP	02 46 49.5	+1.4
KMI				sP	pP	02 46 52.9	+7.0
KMI				pmax	pmax		
	comp=Z,15nm,0.5s						
KMI				pmax	pmax		
	comp=Z,170nm,5.8s						
WUAZ	Wupatki	84.29	51	P	P	02 46 40.7	+1.5
WUAZ				IAmb	IAmb	02 46 42.5	
	comp=Z,9.3nm,1.1s						
BMO	Blue Mountains	84.48	40	P	P	02 46 40.4	+0.5
BMO				IAmb	IAmb	02 46 42.2	
	comp=Z,11nm,1.5s						
D08A	Wollman Farm,	84.62	38	P	P	02 46 41.2	+0.8
WRH	Wood River Hil	84.69	14	P	P	02 46 39.6	-0.7
WRH				IAmb	IAmb	02 46 41.9	
	comp=Z,8.6nm,1.1s						
MFID	Camas Ranch	84.72	42	P	P	02 46 41.9	+0.7
MFID				IAmb	IAmb	02 46 51.3	
	comp=Z,6.7nm,1.0s						
MTPU	Mount Pierson	84.77	48	P	P	02 46 43.4	+1.6
E09A	Wood Farm, Sta	84.80	38	P	P	02 46 42.1	+0.8
E09A				IAmb	IAmb	02 46 44.3	
	comp=Z,9.7nm,1.3s						
CCB	Clear Creek Bu	84.91	14	P	P	02 46 40.5	-0.9
CCB				IAmb	IAmb	02 46 42.0	
	comp=Z,10nm,1.0s						
DOT	Dot Lake	85.01	16	P	P	02 46 41.6	-0.4
DOT				IAmb	IAmb	02 46 43.2	
	comp=Z,7.3nm,1.0s						
B08A	Colville Reser	85.05	36	P	P	02 46 42.5	0.0
MDM	Murphy Dome	85.07	14	P	P	02 46 42.2	-0.1
F10A	Beach Ranch, E	85.08	39	P	P	02 46 43.4	+0.5
F10A				IAmb	IAmb	02 46 45.0	
	comp=Z,12nm,1.1s						
IL31		85.23	14	P	P	02 46 42.6	-0.4
IL31				IAmb	IAmb	02 46 43.7	
	comp=Z,11nm,1.1s						
ILAR	Eielson Array	85.23	14	P	P	02 46 42.4	-0.6
	comp=Z,4.2nm,0.9s,baz=232,slow=5.9,SNR=39						
ILAR				LR	LR	03 17 33.0	
	comp=Z,103nm,21.7s,baz=224,slow=31						
CMAR	Chiang Mai Arr	85.32	291	P	P	02 46 44.3	-0.3
	comp=Z,1.0nm,0.3s,baz=106,slow=3.6,SNR=7.2						
CMAR				LR	LR	03 25 05.2	
	comp=Z,121nm,18.8s,baz=231,slow=36						
C09A	Chrisman Ranch	85.37	37	P	P	02 46 44.7	+0.6
C09A				IAmb	IAmb	02 46 53.2	
	comp=Z,7.6nm,1.4s						
CHTO	Chiang Mai	85.44	291	P	P	02 46 44.0	-1.2
CHTO				IAmb	IAmb	02 46 53.0	
	comp=Z,3.7nm,0.7s						
CD2	Chengdu	85.54	304	eP	P	02 46 47.4	+1.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HLID	Hailey	85.70	42	P	P	02 46 47.1	+1.0
HLID				IAmb	IAmb	02 46 49.1	
	comp=Z,5.8nm,1.0s						
DLBC	Dease Lake	85.81	24	P	P	02 46 47.1	+1.0
DLBC				IAmb	IAmb	02 46 48.4	
	comp=Z,14nm,1.4s						
TMUT	Trail Mountain	85.99	47	P	P	02 46 49.2	+1.4
DAWY	Dawson	86.62	17	P	P	02 46 50.4	+0.4
DAWY				IAmb	IAmb	02 46 51.4	
	comp=Z,7.1nm,1.2s						
EGAK	Eagle	86.68	16	P	P	02 46 50.5	+0.3
EGAK				IAmb	IAmb	02 46 52.2	
	comp=Z,6.5nm,1.2s						
ZAIG	Zacatecas	86.73	65	P	P	02 46 52.4	+0.6
ZAIG				IAmb	IAmb	02 46 56.4	
	comp=Z,7.6nm,1.5s						
PV03	Paradox Valley	87.25	49	P	P	02 46 54.5	+0.5
MCMT	McKenzie Canyo	87.27	42	P	P	02 46 55.4	+1.5
LZH	Lanzhou	87.42	309	eP	P	02 47 03.4	+8.7
LZH				pP	sP	02 47 09.6	+5.6
LZH				sP	pP	02 47 13.0	+12
LZH				pmax	pmax		
	comp=Z,26nm,1.2s						
MNTX	Cornudas Mount	87.42	56	P	P	02 46 56.0	+1.3
DLMT	Dillon	87.67	41	P	P	02 46 56.5	+0.8
ANMO	Albuquerque	87.77	53	P	P	02 46 57.0	+0.6
TPAW	Teton Pass	87.93	43	P	P	02 46 57.7	+0.6
FXWY	Fox Creek	87.94	43	P	P	02 46 58.2	+1.0
FXWY				IAmb	IAmb	02 47 00.0	
	comp=Z,10.0nm,1.5s						
LRM	Limekiln Ridge	87.96	41	P	P	02 46 57.6	+0.4
TX32	Lajitas Array	87.99	59	P	P	02 46 59.2	+1.7
TXAR	Lajitas Array	87.99	59	P	P	02 47 00.7	+3.1
	comp=Z,1.2nm,1.0s,baz=243,slow=5.5,SNR=8.0						
TXAR				LR	LR	03 17 49.7	
	comp=Z,213nm,22.0s,baz=0.0,slow=30						
IMW	Indian Meadow	88.11	43	P	P	02 46 59.1	+1.2
YHL	Hebgen Lake	88.35	42	P	P	02 47 00.5	+1.4
BOZ	Bozeman (W)	88.38	41	P	P	02 47 00.2	+1.1
WALA	Waterton Lakes	88.53	38	P	P	02 47 00.2	+0.5
WALA				IAmb	IAmb	02 47 01.9	
	comp=Z,6.0nm,1.1s						
PD31	Pinedale Array	88.56	45	P	P	02 47 00.8	+0.8
PD31				IAmb	IAmb	02 47 02.3	
	comp=Z,8.4nm,1.3s						
PDAR	Pinedale Array	88.56	45	P	P	02 47 01.8	+1.7
	comp=Z,2.6nm,1.1s,baz=225,slow=5.7,SNR=13						
HRY	Holter Researc	88.74	40	P	P	02 47 00.9	+0.2
SDCO	Great Sand Dun	89.50	50	P	P	02 47 05.1	+0.4
RLMT	Red Lodge	89.70	42	P	P	02 47 06.5	+1.1
RWWY	Rawlins	89.74	46	P	P	02 47 06.0	+0.3
SYO	Syowa Base	89.83	194	eP	cP	02 47 07.4	+0.8
SYO	Syowa Base	89.83	194	ep	P	02 47 11.0	-1.3
SYO	Syowa Base	89.83	194	es	P	02 47 17.6	+2.8
ISCO	Idaho Springs	90.17	48	P	P	02 47 08.8	+1.1
SONM	Songino Array	90.33	320	P	P	02 47 05.9	-2.2
	comp=Z,1.1nm,0.8s,baz=139,slow=5.3,SNR=7.2						
SONM				LR	LR	03 24 18.1	
	comp=Z,79nm,19.7s,baz=144,slow=34						
N23A	Red Feather La	90.33	47	P	P	02 47 09.5	+1.0
N23A				IAmb	IAmb	02 47 11.5	
	comp=Z,11nm,1.3s						
K22A	Casper	90.57	46	P	P	02 47 09.4	-0.1
K22A				IAmb	IAmb	02 47 11.2	
	comp=Z,4.3nm,1.0s						
GTA	Gaotai	91.60	311	eP	P	02 47 08.9	-5.3
GTA				pP	pP	02 47 19.0	-1.8
GTA				sP	sP	02 47 23.2	-0.3
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,84nm,4.6s						
GTA				LR	LR		
	comp=N,79nm,18.4s						
GTA				LR	LR		
	comp=E,200nm,20.6s						
GTA				LR	LR		
	comp=Z,

comp=Z,9.5nm,1.3s
OBKA Obir 147.06 339 *e*PKPbc **PKPbc 02 53 49.2 -0.7**
comp=Z,5.8nm,1.2s
BFO Black Forest 147.12 348 PKPbc **PKPbc 02 53 49.5 -0.5**
WATA Walderalm 147.25 343 *e*PKPab **PKPbc 02 53 50.5 -0.1**
comp=Z,8.8nm,1.0s,SNR=5.7
MYKA Terra Mystica 147.26 340 *i* PKPbc **PKPbc 02 53 49.8 -0.7**
comp=Z,2.8nm,0.5s
MOZS Mozjanca 147.29 339 *e*PKPbc **PKPbc 02 53 50.6 +0.1**
WTTA Wattenberg 147.30 343 *e*PKPab **PKPbc 02 53 50.7 0.0**
comp=Z,18nm,1.5s,SNR=7.1
CRES Cresnjev 147.33 337 *e*PKPbc **PKPab 02 53 52.2 -0.3**
RETA Reutte 147.34 344 *e*PKPab **PKPbc 02 53 50.8 +0.1**
comp=Z,15nm,1.6s,SNR=6.8
MOTA Moosalm 147.38 344 *e*PKPab **PKPbc 02 53 50.5 -0.4**
comp=Z,7.7nm,1.1s
STIP Stip 147.44 326 *i* P **PKPbc 02 53 50.8 -0.3**
ECH Echery 147.46 349 PKPbc 02 53 50.9 0.0
SQTA Sankt Quirin 147.46 343 *e*PKPab **PKPbc 02 53 50.8 -0.3**
comp=Z,8.4nm,1.0s
ABTA Abfaltersbach 147.51 342 *e*PKPbc **PKPbc 02 53 50.4 -0.8**
comp=Z,6.8nm,1.2s
GBAS Gorenja Brezov 147.60 339 *e*PKPbc **PKPbc 02 53 52.3 +0.9**
SKO Skopje 147.65 327 *i* P **PKPdf 02 53 49.8 +0.9**
FETA Feichten 147.77 344 *e*PKPbc **PKPbc 02 53 51.7 -0.3**
comp=Z,9.2nm,1.2s,SNR=5.4
STAL STALIGIAL 147.89 341 PKPdf 02 53 48.3 -0.9
FUORN Ofenpass-Fuorn 148.27 344 PKPbc 02 53 53.6 +0.1
TUE Stuetta 148.64 345 PKPbc 02 53 54.7 +0.3
SENIN Lac Senin/Sane 149.21 348 PKPdf 02 53 52.1 +0.5
ITM Ithomi 150.55 319 PKPbc 02 53 57.9 -1.3
SSB Saint Sauveur 150.75 351 PKPdf **PKPdf 02 53 54.6 +0.8**
ESDC Sonseca Array 156.77 4 PKPab **PKPab 02 54 31.4 -0.5**
comp=Z,0.8nm,0.9s,baz=349,slow=5.5,SNR=5.8

*IDC **04** 02:41:55.8±0.6,28.6ºS×62.1ºE, 16f, h0km, mb4.0/13, mb1 4.1/13, mb1mx3.9/35, mbtmp4.0/13, Error ellipse: s-maj=25.3km s-min=17.5km az=87.0*
*NEIC **04** 02:41:57.0±0.8, 28.7ºS±0.1ºx62.1ºE±0.1ºx, h10km±1km, mb4.5/14, Error ellipse: s-maj=22.8km s-min=16.7km az=224.0*

ISC 04 02:41:57.2±0.5,**28.7S**±0.1ºx**62.1E**±0.1º,**h10**km,**n30,** σ0.8**74**/30,**mb4.2**/18,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABPO	**Ambohimpanom**	**16.64**	**302**	Pn	**Pn**	**02 45 49.5**	**-1.4**
ABPO				IAmb	IAmb	02 46 05.4	
	comp=Z,40nm,1.6s						
OPO	**Ambohidratompo**	**16.95**	**303**	Pn	**P**	**02 45 58.7**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=171,slow=13,SNR=3.8						
LSZ	**Lusaka**	**34.03**	**286**	P	**P**	**02 48 41.5**	**-0.3**
LSZ				IAmb	IAmb	02 48 43.0	
	comp=Z,6.6nm,1.0s						
SUR	**Sutherland**	**35.60**	**254**	P	**P**	**02 48 55.2**	**-0.1**
MAW	**Mawson**	**38.96**	**180**	P	**P**	**02 49 24.7**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=354,slow=9.4,SNR=2.0						
MAW	**Mawson**	**38.96**	**180**	P	**P**	**02 49 22.7**	**-0.4**
TSUM	**Tsumeb**	**41.57**	**273**	P	**P**	**02 49 44.8**	**-0.8**
SNAA	**Sanae**	**55.21**	**200**	P	**P**	**02 51 30.2**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=72,slow=3.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**58.85**	**42**	P	**P**	**02 51 56.9**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=231,slow=7.5,SNR=6.7						
QSPA	**South Pole Qui**	**61.48**	**180**	P	**P**	**02 52 14.0**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=264,slow=3.6,SNR=20						
QSPA	**South Pole Qui**	**61.48**	**180**	P	**P**	**02 52 13.3**	**-0.7**
QSPA				IAmb	IAmb	02 52 16.7	
	comp=Z,4.3nm,0.8s						
ASAR	**Alice Springs**	**63.76**	**104**	P	**P**	**02 52 29.0**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=248,slow=5.4,SNR=10						
VNDA	**Vanda**	**64.31**	**166**	P	**P**	**02 52 32.4**	**0.0**
	comp=Z,0.5nm,0.7s,baz=270,slow=4.6,SNR=3.6						
VNDA	**Vanda**	**64.31**	**166**	P	**P**	**02 52 32.5**	**+0.1**
VNDA				IAmb	IAmb	02 52 35.5	
	comp=Z,3.7nm,1.4s						
WRA	**Warramunga Arr**	**65.54**	**100**	P	**P**	**02 52 41.0**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=214,slow=11,SNR=2.4						
WB0	**Warramunga Arr**	**65.66**	**100**	P	**P**	**02 52 41.6**	**-0.5**
TOA0	**Torodi Ar. Sit**	**71.65**	**297**	P	**P**	**02 53 19.2**	**-0.2**
TOA0				IAmb	IAmb	02 53 20.6	
	comp=Z,3.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**71.65**	**297**	P	**P**	**02 53 19.4**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=114,slow=4.6,SNR=9.2						
BR131	**Keskin Array S**	**73.03**	**337**	P	**P**	**02 53 28.0**	**+0.7**
BR131				IAmb	IAmb	02 53 30.0	
	comp=Z,4.3nm,1.1s						
MK31	**Makanchi Array**	**77.30**	**14**	P	**P**	**02 53 50.2**	**-1.5**
MKAR	**Makanchi Array**	**77.30**	**14**	P	**P**	**02 53 51.9**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=220,slow=3.2,SNR=7.7						
AKASG	**Malin Array Bo**	**84.21**	**340**	P	**P**	**02 54 28.8**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=163,slow=4.4,SNR=4.4						
AKBB	**Malin Array Si**	**84.21**	**340**	P	**P**	**02 54 28.0**	**-0.5**
AKBB				IAmb	IAmb	02 54 29.2	
	comp=Z,2.8nm,0.8s						
ZAA0	**Zalesovo Array**	**84.60**	**13**	P	**P**	**02 54 30.2**	**-0.2**
ZAA0				IAmb	IAmb	02 54 31.6	
	comp=Z,3.2nm,0.8s						
ZALV	**Zalesovo Beam**	**84.60**	**13**	P	**P**	**02 54 30.2**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=209,slow=4.8,SNR=9.2						
SONM	**Songino Array**	**85.93**	**28**	P	**P**	**02 54 37.3**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=235,slow=3.8,SNR=4.9						
ESDC	**Sonseca Array**	**91.63**	**315**	P	**P**	**02 55 05.4**	**+0.9**
	comp=Z,1.3nm,1.2s,baz=97,slow=3.7,SNR=4.2						
YKA	**Yellowknife Ar**	**146.11**	**357**	PKPbc	**PKPdf**	**03 01 35.9**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=354,slow=3.7,SNR=12						
DLBC	**Dease Lake**	**149.08**	**12**	PKPbc	**PKPbc**	**03 01 45.2**	**0.0**
	comp=Z,0.7nm,0.5s,baz=313,slow=4.1,SNR=3.3						
PDAR	**Pinedale Array**	**164.41**	**337**	PKPab	**PKPab**	**03 02 55.6**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=86,slow=4.9,SNR=2.5						

*JMA **04** 03:00:59.1±0.2, 35.6ºN×140.0ºE, h71km±2km, M3.2*
JMA Felt I J1.
*IDC **04** 03:01:03.0±2.0, 35.2ºN×139.2ºE, h87km±11km, mb3.1/2, mb1 3.3/3, mb1mx3.0/40, mbtmp3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/18, Error ellipse: s-maj=64.1km s-min=6.5km az=68.0*

ISC 04 03:00:58.9±1.1,**35.5ºN**±0.1ºx**140.0ºE**±0.1º,**h78**km±7km, **n18,** σ0.9**76**/26,**3C-5D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.20**	**141**	↑P	**Pn**	**03 01 10.6**	**+0.2**
JCN				S	**Sn**	**03 01 19.3**	**+0.4**
TOK	**Tokyo**	**0.27**	**296**	*e*S	**Sn**	**03 01 20.0**	**+0.6**
JSMT	**Sammumatsuo**	**0.33**	**77**	↑P	**Pn**	**03 01 11.1**	**0.0**
JOD2	**Odawara 2**	**0.85**	**249**	↓P	**Pn**	**03 01 15.8**	**-0.3**
JOD2				*e*S	**Sn**	**03 01 27.7**	**-1.1**
BSO3	**Boso 3**	**0.85**	**154**	↑P	**Pn**	**03 01 15.8**	**-0.1**
BSO3				X		03 01 29.1	
JAG	**Ashikaga**	**0.98**	**330**	↓P	**Pn**	**03 01 17.3**	**-0.3**
JAG				*e*S	**Sn**	**03 01 30.1**	**-1.5**
JIM2	**Oshima 3**	**0.99**	**211**	*e*S	**Sn**	**03 01 30.9**	**-0.9**
JRY	**Ryogami san**	**1.04**	**296**	↓P	**Pn**	**03 01 18.7**	**+0.4**
JFNN	**Fujinakano**	**1.18**	**252**	P	**Pn**	**03 01 20.3**	**+0.3**
JFNN				*e*S	**Sn**	**03 01 36.0**	**+0.1**
BSO1	**Boso 1**	**1.19**	**140**	P	**Pn**	**03 01 19.4**	**-0.2**
BSO1				*e*X		03 01 35.2	
JYN	**Shimob**	**1.23**	**267**	↓P	**Pn**	**03 01 21.0**	**+0.2**
JYN				*e*S	**Sn**	**03 01 36.9**	**-0.3**
JIZS	**Izushimoda**	**1.28**	**229**	↓P	**Pn**	**03 01 21.5**	**+0.1**
JIZS				S	**Sn**	**03 01 37.7**	**-0.6**
MJAR	**Matsushiro Arr**	**1.78**	**303**	P	**Pn**	**03 01 27.7**	**-0.2**
	1.9nm,0.3s,baz=149,slow=14,SNR=60						
MJAR				S	**Sn**	**03 01 49.1**	**-0.7**
	1.5nm,0.3s,baz=175,slow=9.4,SNR=4.9						
MAT	**Matsushiro**	**1.78**	**303**	P	**Pn**	**03 01 28.5**	**+0.6**
MAT				*e*S	**Sn**	**03 01 48.5**	**-1.4**
JHJ	**Hachijo jima 2**	**2.46**	**185**	P	**Pn**	**03 01 37.5**	**+0.6**
	18nm,0.3s,baz=327,slow=23,SNR=14						
JHJ				S	**Sn**	**03 02 04.3**	**-1.7**
	44nm,0.3s,baz=255,slow=22,SNR=11						
YAK	**Yakutsk**	**27.28**	**349**	LR	LR	03 18 56.3	
	comp=Z,57nm,21.5s,baz=83,slow=39						
MKAR	**Makanchi Array**	**43.98**	**303**	P	**P**	**03 08 59.3**	**+0.9**
	0.4nm,0.6s,baz=92,slow=8.9,SNR=3.2						
WRA	**Warramunga Arr**	**55.47**	**187**	P	**P**	**03 10 25.7**	**-0.1**
	0.5nm,0.7s,baz=2.6,slow=7.7,SNR=5.1						

*IDC **04** 03:20:05.9±0.4, 6.8ºS×81.6ºW, h0km, mb4.9/26,*
mb1 5.0/32, mb1mx5.0/35, mbtmp4.9/32, ML4.3/5, MS4.6/18, Ms1 4.6/18, ms1mx4.5/23, Error ellipse: s-maj=15.7km s-min=9.4km az=61.0
*GCMT **04** 03:20:07.5±0.1, 7.1ºS±0.1ºx81.2ºW±0.1ºx12km, MW5.3/131, Moment Tensor Solution. s101,c147; s131,c249; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=-1.20±.01; Mθθ=0.33±.01; Mϕϕ=0.87±.02; Mrθ=0.12±.04; Mϕs=-0.58±.01; Mrr=-0.11±.04; Best double couple: Mo=1.23300×10^17 NP1:ϕs=149.00000°, δ=41.00000°, λ=-87.00000°. NP2:ϕs=326.00000°, δ=49.00000°, λ=-92.00000°. Principal axes: T 1.2550, Plg=4.0000°, Azm=57.0000°; N -0.0410, Plg=2.0000°, Azm=327.0000°; P -1.2120, Plg=86.0000°, Azm=211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*VAO **04** 03:20:08.3±0.4, 6.7ºS×81.4ºW, h10km, mb5.3*
*NEIC **04** 03:20:09.5, 6.9ºS×81.5ºW, h4km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.84; Mθθ=0.29; Mϕϕ=0.56; Mrθ=0.00; Mθϕ=-0.27; Mϕr=-0.79; Fault plane solution: Mo=1.12000×10^17 NP1:ϕs=137.64000°, δ=25.41000°, λ=-118.45000°. NP2:ϕs=348.60000°, δ=67.84000°, λ=-77.25000°. Principal axes: T 1.0016, Plg=22.0000°, Azm=69.0000°; N 0.2045, Plg=12.0000°, Azm=164.0000°; P -1.2061, Plg=65.0000°, Azm=280.0000°;*
*NEIC **04** 03:20:09.5±1.3, 6.9ºS±0.7ºx81.6ºW±0.7ºx, h23km±3km, mb5.4/272, Mwb5.3/23 Error ellipse: s-maj=11.4km s-min=8.8km az=223.0*
*MOS **04** 03:20:09.8±0.8, 6.8ºS×81.5ºW, h35km, mb5.5/47, Error ellipse: s-maj=12.9km s-min=5.7km az=105.8*

ISC 04 03:20:08.7±0.7,**6.9ºS**±0.4ºx**81.6ºW**±0.5º,**h19**km±2km, **h17**km:**pP-P,n1008,**σ1.9**14**/1000,**mb5.3**/183,**MS4.8**/32, **15C-7D,Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.20**	**94**	Pn	**Pn**	**03 20 59.1**	**+0.8**
	58nm,0.3s,baz=294,slow=5.8,SNR=133						
ATAH				Sn	**Sn**	**03 21 37.8**	**+1.7**
	72nm,0.3s,baz=140,slow=6.8,SNR=9.6						
NNA	**Nana**	**6.88**	**137**	Pn	**Pn**	**03 21 48.7**	**0.0**
	15nm,0.3s,baz=320,slow=11,SNR=19						
NNA				Sn	**Sn**	**03 22 59.8**	**-6.8**
	13nm,0.3s,baz=4.1,slow=21,SNR=1.8						
NNA				LR	LR	03 24 41.0	
	comp=Z,2μm,18.3s,baz=327,slow=40						
NNA	**Nana**	**6.88**	**137**	*e*P	**Pn**	**03 21 49.3**	**+0.6**
NNA				pmax	pmax		
	comp=Z,44nm,0.7s						
NNA	**Nana**	**6.88**	**137**	Pn	**Pn**	**03 21 49.1**	**+0.4**
CZSB	**Cruzeiro do Su**	**8.87**	**96**	*e*P	**Pn**	**03 22 11.9**	**-4.0**
PUAC	**Puerto Asis, P**	**8.97**	**34**	*e*P	Pn	03 22 12.3	-5.0
GCUF	**Volcan Galeras**	**9.15**	**28**	*e*P	**Pn**	**03 22 18.9**	**-1.4**
CRUC	**La Cruz**	**9.63**	**29**	*e*P	**Pn**	**03 22 24.7**	**-2.0**
PTLC	**Puerto Leguiza**	**9.79**	**44**	*e*P	Pn	03 22 19.1	-10
BBAC	**Balboa, Cauca**	**9.90**	**26**	*e*P	**Pn**	**03 22 26.5**	**-3.7**
FLOC	**Florencia**	**10.33**	**35**	*e*P	**Pn**	**03 22 31.7**	**-4.4**
GR1C	**Gorgona, Isla**	**10.44**	**19**	*e*P	**Pn**	**03 22 33.5**	**-4.0**
PCON	**Cinco Dias**	**10.56**	**30**	*e*P	**Pn**	**03 22 36.4**	**-3.3**
PAYG	**Puerto Ayora**	**10.65**	**305**	Pn	**Pn**	**03 22 41.2**	**+0.8**
GARC	**Garzon, Huila**	**10.92**	**34**	*e*P	**Pn**	**03 22 40.1**	**-4.2**
MARP	**Paez Belalcaza**	**11.23**	**30**	*e*P	**Pn**	**03 22 44.9**	**-3.6**
MACC	**Macarena, Meta**	**11.88**	**41**	*e*P	Pn	03 22 51.4	-5.9
RREF	**El Recreo**	**13.31**	**28**	*e*P	**Pn**	**03 23 13.2**	**-4.0**
VILC	**Villavicencio,**	**13.52**	**36**	*e*P	**Pn**	**03 23 15.2**	**-3.5**
GUY2C	**Guyana, Caldas**	**13.58**	**27**	*e*P	**Pn**	**03 23 19.0**	**-1.9**
SOLC	**Bahia Solano**	**13.72**	**18**	*e*P	**Pn**	**03 23 19.5**	**-2.8**
ROSC	**El Rosal**	**13.77**	**32**	Pn	**Pn**	**03 23 22.9**	**-0.5**
ROSC				LR	LR	03 29 01.6	
	comp=Z,1.3nm,0.3s,baz=38,slow=13,SNR=6.2						
	comp=Z,10μm,20.4s,baz=219,slow=39						
ROSC	**El Rosal**	**13.77**	**32**	Pn	**Pn**	**03 23 21.4**	**-2.0**
CBOC	**Ciudad Bolivar**	**13.88**	**24**	*e*P	**Pn**	**03 23 21.4**	**-3.2**
CHIC	**Chingaza**	**13.91**	**35**	*e*P	**Pn**	**03 23 22.2**	**-3.2**
NORC	**Norcasia**	**14.11**	**29**	*e*P	**Pn**	**03 23 24.2**	**-3.5**
HELC	**Santa Helena**	**14.37**	**25**	*e*P	**Pn**	**03 23 29.5**	**-2.1**
PTGC	**Puerto Gaitan,**	**14.54**	**41**	*e*P	Pn	03 23 27.8	-5.9
SPBC	**San Pablo de B**	**14.58**	**31**	*e*P	**Pn**	**03 23 33.3**	**-1.0**
DBBC	**Labateba**	**14.86**	**21**	*e*P	**Pn**	**03 23 36.8**	**-1.2**
PTBC	**PUERTO BERRIO,**	**15.16**	**28**	*e*P	**Pn**	**03 23 40.3**	**-1.6**
RUSC	**La Rusia**	**15.31**	**34**	*e*P	**Pn**	**03 23 39.4**	**-5.1**
ZARC	**Zaragoza, Cauc**	**15.83**	**25**	*e*P	**Pn**	**03 23 47.9**	**-2.8**
PB12	**IPOC Station P**	**15.99**	**138**	Pn	**Pn**	**03 23 53.3**	**+0.6**
BRRC	**Barranca, Sant**	**16.01**	**30**	*e*P	**Pn**	**03 23 54.0**	**+1.0**
BCIP	**Isla Barro Col**	**16.08**	**6**	*e*P	**P**	**03 23 55.5**	**-1.7**
BCIP	**Isla Barro Col**	**16.08**	**6**	P	**Pn**	**03 23 54.7**	**+0.8**
BCIP				pmax	pmax		
	comp=Z,88nm,0.7s						
BCIP	**Isla Barro Col**	**16.08**	**6**	Pn	**Pn**	**03 23 54.7**	**+0.8**
LPAZ	**La Paz**	**16.14**	**126**	Pn	**Pn**	**03 23 55.0**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=311,slow=11,SNR=54						
LPAZ				LR	LR	03 31 03.8	
	comp=Z,2μm,18.0s,baz=310,slow=41						
LPAZ	**La Paz**	**16.14**	**126**	P	**Pn**	**03 23 55.6**	**+0.4**
LPAZ				pmax	pmax		
	comp=Z,121nm,1.3s						
LPAZ	**La Paz**	**16.14**	**126**	Pn	**Pn**	**03 23 55.6**	**+0.4**
LPAZ	**La Paz**	**16.14**	**126**	*e*P	**Pn**	**03 23 54.8**	**-0.5**
PB16	**IPOC Station P**	**16.36**	**135**		**Pn**	**03 23 58.2**	**+0.2**
PAMC	**Pamplona, Colo**	**16.73**	**32**	*e*P	**Pn**	**03 23 59.9**	**-2.7**
PSGCX	**Pisagua**	**16.82**	**140**	P	**P**	**03 24 04.7**	**-0.8**
MNMC	**Minye Minye**	**16.84**	**137**	Pn	**Pn**	**03 24 04.6**	**+0.8**
HDC	**Heredia**	**17.00**	**352**	Pn	**Pn**	**03 24 05.9**	**+0.2**
OCAC	**Ocana**	**17.18**	**29**	*e*P	**Pn**	**03 24 06.4**	**-1.6**
PB11	**IPOC Station P**	**17.25**	**139**		**Pn**	**03 24 09.1**	**+0.3**
SMLC	**San Martin de**	**17.34**	**26**	*e*P	**Pn**	**03 24 07.4**	**-2.4**
JTS	**Las Juntas de**	**17.43**	**349**	P	**P**	**03 24 12.4**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=298,slow=3.9,SNR=8.1						
JTS				LR	LR	03 29 04.3	
	comp=Z,1μm,18.6s,baz=232,slow=31						
JTS	**Las Juntas de**	**17.43**	**349**	*i* P	**P**	**03 24 13.3**	**+1.2**
JTS	**Las Juntas de**	**17.43**	**349**	Pn	**Pn**	**03 24 10.9**	**0.0**
GO01	**Chusmiza**	**17.49**	**138**	Pn	**Pn**	**03 24 12.3**	**+0.2**
TA01	**Diego Aracena**	**17.50**	**142**		**P**	**03 24 13.1**	**+0.2**
PATCX	**Punta Patache**	**17.71**	**142**		**P**	**03 24 15.1**	**-0.2**
PB08	**IPOC Station P**	**17.85**	**139**	Pn	**Pn**	**03 24 15.8**	**-0.7**
SJCC	**San Jacinto, C**	**17.90**	**21**	*e*P	**Pn**	**03 24 14.7**	**-2.1**
ARGC	**Ariguani, Magd**	**18.21**	**24**	*e*P	**P**	**03 24 22.9**	**+2.2**
PB01	**IPOC Station P**	**18.29**	**141**		**Pn**	**03 24 20.5**	**-1.2**
SAML	**Samuel**	**18.36**	**98**	P	**P**	**03 24 18.3**	**-4.1**
SAML				pmax	pmax		
	comp=Z,490nm,1.6s						
SAML	**Samuel**	**18.36**	**98**		**P**	**03 24 18.3**	**-4.1**
SAML				IAmb	IAmb	03 24 23.7	
	comp=Z,490nm,1.6s						
PB07	**IPOC Station P**	**18.57**	**144**	P	**P**	**03 24 24.6**	**-0.3**
PB09	**IPOC Station P**	**19.00**	**142**	P	**Pn**	**03 24 30.5**	**+0.1**
ACON	**Acoyapa**	**19.10**	**349**	P	**Pn**	**03 24 31.4**	**0.0**
SDV	**Santo Domingo**	**19.14**	**35**	P	**P**	**03 24 30.2**	**-1.0**
	comp=Z,3.1nm,0.3s,baz=211,slow=9.8,SNR=44						
SDV	**Santo Domingo**	**19.14**	**35**	*e*P	**P**	**03 24 28.7**	**-2.5**
SDV	**Santo Domingo**	**19.14**	**35**	P	**P**	**03 24 29.4**	**-1.7**
SDV	**Santo Domingo**	**19.14**	**35**	*e*P	**P**	**03 24 29.5**	**-1.7**
ESPN	**Las Esperanzas**	**19.18**	**352**	P	**Pn**	**03 24 32.6**	**+0.2**
SMRC	**Santa Marta, M**	**19.42**	**22**	*e*P	**P**	**03 24 34.5**	**+0.5**
BOAB	**BOACO BROADBAN**	**19.67**	**348**	P	**Pn**	**03 24 38.0**	**-0.1**
BOAB				IAmb	IAmb	03 24 48.6	
	comp=Z,152nm,1.0s						
LVC	**Limon Verde**	**19.82**	**143**	P	**Pn**	**03 24 40.4**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=316,slow=7.7,SNR=8.4						
LVC	**Limon Verde**	**19.82**	**143**	P	**Pn**	**03 24 39.7**	**-0.6**
LVC				pmax	pmax		
	comp=Z,133nm,1.5s						
LVC	**Limon Verde**	**19.82**	**143**	P	**Pn**	**03 24 39.6**	**-0.6**
LVC	**Limon Verde**	**19.82**	**143**	*e*P	**Pn**	**03 24 39.8**	**-0.6**
MATN	**Matagalpa**	**20.19**	**348**	P	**P**	**03 24 43.1**	**+0.6**
MATN				IAmb	IAmb	03 25 05.9	
	comp=Z,146nm,1.1s						
CRIN	**San Cristobal**	**20.23**	**344**	P	**P**	**03 24 43.0**	**+0.1**
ESTN	**Estel**	**20.45**	**347**	P	**P**	**03 24 46.2**	**+0.9**
ESTN				IAmb	IAmb	03 25 01.6	
	comp=Z,313nm,1.5s						
PB14	**IPOC Station P**	**20.61**	**150**	P	**P**	**03 24 47.6**	**+0.3**
URIC	**Uribia, Colomb**	**20.83**	**27**	*e*P	**P**	**03 24 47.8**	**-1.6**
MACA	**Manacapuru-AM**	**21.17**	**81**	*e*P	**P**	**03 24 52.5**	**-0.6**
GO02	**Mina Guanaco**	**21.47**	**149**	P	**P**	**03 24 57.8**	**+1.2**
GO02				IAmb	IAmb	03 25 06.6	
	comp=Z,89nm,1.0s						
TGUH	**Tegucigalpa,Un**	**21.59**	**345**	P	**P**	**03 24 58.6**	**+0.9**
TGUH				IAmb	IAmb	03 25 02.5	
	comp=Z,211nm,1.2s						
SNET	**Serv Nac Est T**	**21.83**	**340**	P	**P**	**03 24 59.8**	**-0.4**
SNET				IAmb	IAmb	03 25 15.4	
	comp=Z,266nm,1.3s						
VILB	**Vilhena**	**21.91**	**108**	*e*P	**P**	**03 25 02.1**	**+1.0**
SIV	**San Ignacio**	**22.03**	**116**	P	**P**	**03 25 03.2**	**+0.9**
	comp=Z,18nm,0.7s,baz=301,slow=9.2,SNR=95						
PTGA	**Pitinga**	**22.44**	**75**	P	**P**	**03 25 06.2**	**-0.6**
	comp=Z,196nm,0.7s,baz=250,slow=12,SNR=512						
PTGA	**Pitinga**	**22.44**	**75**	P	**P**	**03 25 06.2**	**-0.6**
PTGA	**Pitinga**	**22.44**	**75**	*e*P	**P**	**03 25 06.2**	**-0.6**
MTO3	**Montecristo**	**22.54**	**340**	P	**P**	**03 25 08.4**	**+0.4**
ESQI	**Esquipulas**	**22.68**	**340**	P	**P**	**03 25 09.9**	**+0.5**
AC02	**Maricunga**	**23.09**	**151**	P	**P**	**03 25 14.1**	**+0.2**
PTLB	**Pontes e Lacer**	**23.59**	**113**	*e*P	**P**	**03 25 17.9**	**-0.7**
HUEH	**Huehuetenango**	**24.18**	**336**	P	**P**	**03 25 24.8**	**+0.5**
HUEH				IAmb	IAmb	03 25 30.2	
	comp=Z,230nm,1.5s						
AC05	**El Transito**	**24.28**	**155**	P	**P**	**03 25 25.7**	**+0.6**
CCIG	**Comitan**	**25.30**	**336**	P	**P**	**03 25 34.5**	**0.0**
CCIG				IAmb	IAmb	03 26 02.5	
	comp=Z,100nm,1.4s						
MTDJ	**Mount Denham**	**25.31**	**9**	P	**P**	**03 25 35.5**	**+1.0**
CO01	**Juntas del Tor**	**25.36**	**156**	P	**P**	**03 25 36.0**	**+1.0**
CLDB	**Colider**	**25.79**	**101**	*e*P	**P**	**03 25 38.1**	**-0.7**
ITTB	**Itaituba**	**25.87**	**86**	*e*P	**P**	**03 25 39.6**	**+0.1**
CO03	**El Pedregal**	**25.90**	**158**	P	**P**	**03 25 40.1**	**+0.5**
NPGB	**Novo Progresso**	**26.05**	**92**	*e*P	**P**	**03 25 40.9**	**-0.3**
CO02	**Combarbal**	**26.11**	**159**	P	**P**	**03 25 42.3**	**+0.6**
H03N2	**Juan Fernandez**	**26.50**	**175**	T	T	03 54 00.3	
	baz=356,slow=76,SNR=62						
H03N1	**Juan Fernandez**	**26.50**	**175**	T	T	03 53 59.9	
	baz=356,slow=76,SNR=78						
H03N3	**Juan Fernandez**	**26.52**	**175**	T	T	03 53 58.3	
	baz=356,slow=76,SNR=69						
SALV	**Santo Antonio**	**26.89**	**112**	*e*P	**P**	**03 25 49.7**	**+0.9**
CMIG	**Matias Romero**	**27.23**	**331**	P	**P**	**03 25 51.7**	**0.0**
	comp=Z,9.4nm,1.0s,baz=135,slow=7.1,SNR=9.2						
GTBY	**Guantanamo Bay**	**27.44**	**13**	P	**P**	**03 25 54.9**	**+1.4**
GTBY				IAmb	IAmb	03 26 06.0	
	comp=Z,88nm,1.0s						
CFA	**Coronel Fontan**	**27.55**	**155**	P	**P**	**03 25 55.7**	**+1.2**
	comp=Z,13nm,0.8s,baz=328,slow=8.8,SNR=20						
CFA				PcP	**PcP**	**03 29 12.4**	**+0.1**
	comp=Z,4.1nm,0.6s,baz=314,slow=4.8,SNR=6.2						
SDDR	**Presa de Saban**	**27.68**	**21**	P	**P**	**03 25 56.5**	**+0.8**
SDDR				IAmb	IAmb	03 26 29.3	
	comp=Z,50nm,0.9s						
VA03	**San Esteban**	**27.69**	**160**	P	**P**	**03 25 56.3**	**+0.5**
TOSP	**Speyside**	**27.70**	**49**	P	**P**	**03 25 56.7**	**+0.7**
MALB	**Monte Alegre**	**27.72**	**81**	*e*P	**P**	**03 25 56.1**	**0.0**
ROC1	**El Roble**	**27.73**	**161**	P	**P**	**03 25 57.0**	**+0.7**
TEIG	**Tepich**	**27.77**	**346**	P	**P**	**03 25 56.9**	**+0.5**
	comp=Z,20nm,0.9s,baz=140,slow=6.3,SNR=15						
TEIG	**Tepich**	**27.77**	**346**	P	**P**	**03 25 57.0**	**+0.5**
PEL	**Peldehue**	**27.99**	**160**	P	**P**	**03 25 58.6**	**+0.2**
PE

comp=Z,143nm,1.8s
250A PcP **PcP** **03 29 44.3 +0.3**
833A Chaparral WMA, **39.02 335** P **P** **03 27 35.4 +1.1**
baz=151,SNR=5.7
833A Chaparral WMA, **39.02 335** P **P** **03 27 35.1 +0.8**
HKT Hockley **39.13 340** P **P** **03 27 35.9 +0.9**
HKT pmax pmax
comp=Z,79nm,1.4s
HKT Hockley **39.13 340** P **P** **03 27 35.9 +0.9**
HKT IAmb IAmb 03 27 37.9
comp=Z,79nm,1.4s
344A Westbrook Farm **39.15 348** P **P** **03 27 36.4 +1.2**
344A IAmb IAmb 03 27 49.2
comp=Z,116nm,1.1s
157A Early Branch **39.39 1** P **P** **03 27 38.3 +1.1**
baz=181
342A Flagon Creek P **39.44 346** P **P** **03 27 38.3 +0.6**
342A IAmb IAmb 03 27 50.7
comp=Z,48nm,0.9s
342A PcP **PcP** **03 29 46.8 +1.2**
158A Hollywood **39.47 2** P **P** **03 27 38.0 +0.1**
baz=182
152A Waverly Hall **39.49 356** P **P** **03 27 37.7 -0.3**
NHSC New Hope **39.84 2** P **P** **03 27 41.6 +0.7**
baz=182
VBMS Vicksburg **39.84 348** P **P** **03 27 41.8 +0.7**
baz=166
VBMS Vicksburg **39.84 348** P **P** **03 27 41.8 +0.7**
VBMS IAmb IAmb 03 27 54.4
comp=Z,65nm,0.8s
146A Union **39.98 350** P **P** **03 27 42.6 +0.4**
146A IAmb IAmb 03 27 45.9
comp=Z,112nm,1.2s
Z59A Georgetown, SC **40.01 3** P **P** **03 27 43.1 +0.7**
baz=184
Z57A Bowman **40.01 1** P **P** **03 27 42.8 +0.4**
baz=181
Z56A Williston **40.03 0** P **P** **03 27 42.0 -0.5**
baz=180
LRAL Lakeview Retre **40.07 353** P **P** **03 27 42.8 -0.1**
baz=172
LRAL Lakeview Retre **40.07 353** P **P** **03 27 43.0 +0.1**
Z58A St. Stephen **40.08 2** P **P** **03 27 43.3 +0.4**
baz=183
GOGA Godfrey **40.15 358** P **P** **03 27 43.6 +0.1**
baz=177
GOGA Godfrey **40.15 358** P **P** **03 27 43.3 -0.3**
GOGA pmax pmax
comp=Z,29nm,1.0s
GOGA Godfrey **40.15 358** P **P** **03 27 43.2 -0.3**
Z51A Franklin **40.16 355** P **P** **03 27 43.8 +0.1**
Z47A Carrollton **40.37 352** P **P** **03 27 45.7 +0.3**
Z47A IAmb IAmb 03 27 57.8
comp=Z,46nm,0.7s
NATX Nacogdoches **40.44 343** P **P** **03 27 47.2 +1.2**
baz=160,SNR=18
NATX Nacogdoches **40.44 343** P **P** **03 27 47.2 +1.2**
Y56A Pelion **40.50 0** P **P** **03 27 46.0 -0.4**
baz=180
143A Socs Landing, **40.50 347** P **P** **03 27 46.7 +0.3**
143A IAmb IAmb 03 28 00.3
comp=Z,38nm,0.8s
435B Jarrell **40.50 339** P **P** **03 27 47.6 +1.0**
baz=155,SNR=6.4
435B Jarrell **40.50 339** P **P** **03 27 47.5 +1.0**
435B IAmb IAmb 03 27 49.0
comp=Z,69nm,0.9s
Y55A Saluda **40.64 360** P **P** **03 27 47.3 -0.3**
baz=180
Y58A Scranton **40.65 2** P **P** **03 27 48.3 +0.6**
baz=183
Y57A Sumter **40.74 2** P **P** **03 27 48.7 +0.3**
baz=182
Y57A Sumter **40.74 2** P **P** **03 27 47.9 -0.5**
Y49A Blount Mountai **40.81 354** P **P** **03 27 49.2 +0.1**
Y60A Bolivia **40.83 4** P **P** **03 27 49.7 +0.5**
baz=185
HODGE Hodges **40.94 359** P **P** **03 27 49.5 -0.6**
HPIG **40.94 326** P **P** **03 27 50.7 +0.2**
HPIG IAmb IAmb 03 27 53.4
comp=Z,81nm,1.4s
JSC Jenkinsville **40.98 0** P **P** **03 27 49.8 -0.6**
JSC 03 29 50.1
JSC pmax pmax
comp=Z,19nm,1.1s
JSC Jenkinsville **40.98 0** P **P** **03 27 49.8 -0.6**
JSC PcP **PcP** **03 29 50.1 -0.4**
SJMB Sao Joao De Ma **41.01 111** *e*P **P** **03 27 51.7 +0.7**
237A Washetta, Mont **41.01 341** P **P** **03 27 51.6 +0.9**
JCT Junction City **41.08 336** P **P** **03 27 52.4 +1.0**
baz=152,SNR=27
JCT Junction City **41.08 336** P **P** **03 27 51.9 +0.5**
JCT pmax pmax
comp=Z,145nm,1.6s
JCT Junction City **41.08 336** P **P** **03 27 51.9 +0.5**
JCT IAmb IAmb 03 27 53.9
comp=Z,145nm,1.6s
SLBS Sierra La Lagu **41.13 319** P **P** **03 27 52.4 +0.5**
X55A Gracelyn & Ava **41.17 360** P **P** **03 27 51.2 -0.7**
baz=180
X56A White Oak **41.20 1** P **P** **03 27 51.6 -0.6**
baz=181
X54A Belton **41.26 359** P **P** **03 27 51.6 -1.1**
baz=179
Y45A Yeager Farm, C **41.26 350** P **P** **03 27 53.7 +1.0**
BSFB Barra de Sao F **41.35 111** *e*P **P** **03 27 53.6 -0.1**
Z41A Richland Creek **41.35 346** P **P** **03 27 54.5 +0.9**
baz=163,SNR=6.3
Z41A Richland Creek **41.35 346** P **P** **03 27 54.4 +0.9**
Z41A IAmb IAmb 03 28 07.1
comp=Z,137nm,1.6s
BIRD Birdtown, Kers **41.36 1** P **P** **03 27 53.4 -0.1**
X59A McDuffie Farm, **41.37 4** P **P** **03 27 54.4 +0.8**
baz=184
X60A Albert Glenn T **41.42 5** P **P** **03 27 53.9 -0.1**
baz=185
NBMO Morrinhos-CE **41.54 87** *e*P **P** **03 27 56.0 +0.5**
WHTX Lake Whitney, **41.55 340** P **P** **03 27 55.6 +0.4**
baz=156
WHTX Lake Whitney, **41.55 340** P **P** **03 27 55.4 +0.3**
WHTX IAmb IAmb 03 27 57.5
comp=Z,163nm,1.9s
WHTX PcP **PcP** **03 29 52.7 +0.3**
CCAR Cane Creek **41.75 347** P **P** **03 27 57.6 +0.9**
CCAR IAmb IAmb 03 28 10.5
comp=Z,114nm,1.3s
W58A Raeford **41.78 3** P **P** **03 27 57.1 +0.2**
baz=184
W54A Cherokee Point **41.79 359** P **P** **03 27 57.7 +0.6**
baz=179
TXAR Lajitas Array **41.84 331** P **P** **03 27 58.4 +0.7**
comp=Z,7.3nm,0.9s,baz=150,slow=11,SNR=64
TXAR PcP **PcP** **03 29 54.3 +0.8**
comp=Z,4.0nm,0.7s,baz=152,slow=5.9,SNR=8.3
TX32 Lajitas Array **41.84 331** P **P** **03 27 58.1 +0.4**
WLAR White Oak Lake **41.84 346** P **P** **03 27 59.0 +1.5**
KMSC Kings Mountain **41.84 0** P **P** **03 27 56.3 -1.2**
baz=180,SNR=6.4
W56A Indian Trail **41.85 1** P **P** **03 27 56.6 -0.9**
baz=182
NAN01 Guarapari, ES **41.85 109** *e*P **P** **03 27 58.8 +0.9**
GDU01 Guandu, BA **41.85 103** *e*P **P** **03 27 58.4 +0.5**
RIB01 Linhares ES **41.87 111** *e*P **P** **03 27 58.3 +0.3**
OXF Oxford **41.87 350** P **P** **03 27 57.4 -0.3**
baz=168
OXF Oxford **41.87 350** P **P** **03 27 58.0 +0.3**
OXF pmax pmax
comp=Z,55nm,1.1s
OXF Oxford **41.87 350** P **P** **03 27 58.0 +0.3**
OXF IAmb IAmb 03 28 01.1
comp=Z,55nm,1.1s
W57A Gilead **41.88 2** P **P** **03 27 57.1 -0.7**
baz=182
W57A Gilead **41.88 2** P **P** **03 27 57.1 -0.7**
W60A Pink Hill **41.91 5** P **P** **03 27 58.2 +0.1**
baz=186
Z38A Mt. Pleasant **41.94 343** P **P** **03 27 59.6 +1.3**
Z38A IAmb IAmb 03 28 12.3
comp=Z,102nm,1.1s
W61A Ground Anchor **42.10 6** P **P** **03 28 00.3 +0.7**
baz=187
PLAL Pickwick Lake **42.13 352** P **P** **03 27 59.4 -0.4**
X43A Marvell **42.14 349** P **P** **03 28 00.6 +0.7**
baz=166
X43A Marvell **42.14 349** P **P** **03 28 00.6 +0.7**
X43A IAmb IAmb 03 28 03.8
comp=Z,142nm,1.4s
CPCT Cooper Cave **42.24 356** P **P** **03 28 00.6 -0.1**
BBSR BB Station **42.27 21** P **P** **03 28 02.6 +1.6**
BBSR IAmb IAmb 03 28 13.2
comp=Z,45nm,0.9s
TKL Tuckaleechee C **42.41 357** P **P** **03 28 01.8 -0.3**
TKL pmax pmax
comp=Z,42nm,1.0s
TKL Tuckaleechee C **42.41 357** P **P** **03 28 01.8 -0.3**
W45A Hickory Valley **42.46 351** P **P** **03 28 02.6 +0.1**
W45A IAmb IAmb 03 28 14.6
comp=Z,63nm,0.8s
V54A Nebo **42.48 360** P **P** **03 28 03.1 +0.4**
baz=180
V56A Mocksville **42.52 1** P **P** **03 28 02.6 -0.4**
baz=182
X40A Basin Creek Fa **42.54 346** P **P** **03 28 03.6 +0.4**
baz=163,SNR=13
X40A Basin Creek Fa **42.54 346** P **P** **03 28 03.7 +0.6**
V55A Taylorsville **42.55 0** P **P** **03 28 02.1 -1.2**
baz=181
V58A Windy Hill, Pi **42.56 3** P **P** **03 28 02.2 -1.1**
baz=184
V58A Windy Hill, Pi **42.56 3** P **P** **03 28 04.1 +0.8**
V58A IAmb IAmb 03 28 15.5
comp=Z,127nm,1.9s
V59A Middlesex **42.58 4** P **P** **03 28 03.2 -0.3**
baz=185
V57A Coltrane Farms **42.62 2** P **P** **03 28 03.4 -0.4**
baz=183
V60A Jim Taylor Roa **42.66 5** P **P** **03 28 03.7 -0.4**
baz=186
V60A Jim Taylor Roa **42.66 5** P **P** **03 28 03.6 -0.5**
Z35A Perchaven, San **42.70 341** P **P** **03 28 05.5 +1.0**
V48A Smith Brothers **42.72 354** P **P** **03 28 04.0 -0.6**
V48A IAmb IAmb 03 28 16.5
comp=Z,122nm,1.8s
V61A Roper **42.75 6** P **P** **03 28 04.3 -0.5**
baz=187
MIAR Mount Ida **42.77 345** P **P** **03 28 05.8 +0.7**
baz=182,SNR=44
MIAR Mount Ida **42.77 345** P **P** **03 28 05.5 +0.4**
MIAR pmax pmax
comp=Z,49nm,0.9s
MIAR Mount Ida **42.77 345** P **P** **03 28 05.5 +0.4**
MIAR IAmb IAmb 03 28 18.4
comp=Z,48nm,0.9s
ABTX Abilene, Hawle **42.92 337** P **P** **03 28 07.2 +0.9**
baz=153,SNR=64
U56A King **43.06 1** P **P** **03 28 07.8 +0.4**
baz=182
U56A King **43.06 1** P **P** **03 28 06.7 -0.7**
U56A IAmb IAmb 03 28 20.3
comp=Z,111nm,1.9s
W41B Gary Mavity, V **43.06 347** P **P** **03 28 07.8 +0.4**
baz=164,SNR=13
LPAR Lepanto **43.09 350** P **P** **03 28 07.8 +0.2**
LPAR IAmb IAmb 03 28 20.4
comp=Z,120nm,1.1s
U57A Blanch **43.18 3** P **P** **03 28 08.5 +0.2**
baz=183
WHAR Wooly Hollow **43.18 347** P **P** **03 28 08.8 +0.5**
WHAR IAmb IAmb 03 28 21.5
comp=Z,51nm,0.8s
U58A Oxford **43.19 4** P **P** **03 28 08.2 -0.2**
baz=184
U59A Littleton **43.20 5** P **P** **03 28 08.7 +0.3**
baz=186
U59A Littleton **43.20 5** P **P** **03 28 09.0 +0.5**
U55A TA2, Sparta **43.20 1** P **P** **03 28 08.2 -0.4**
baz=181
U54A Nelsons Funny **43.22 360** P **P** **03 28 08.0 -0.7**
baz=180
WVT Waverly **43.23 353** P **P** **03 28 07.7 -1.0**
baz=171
WVT Waverly **43.23 353** P **P** **03 28 07.8 -1.0**
WVT pmax pmax
comp=Z,20nm,0.7s
WVT Waverly **43.23 353** P **P** **03 28 07.8 -1.0**
TZTN Tazewell **43.28 358** P **P** **03 28 08.8 -0.4**
baz=177
X37A Clayton **43.29 343** P **P** **03 28 10.2 +0.9**
U61A Possum Corner **43.30 6** P **P** **03 28 09.4 +0.1**
baz=187
U60A Pendleton **43.37 5** P **P** **03 28 09.3 -0.5**
baz=186
LNXT Lenox **43.44 351** P **P** **03 28 11.1 +0.6**
LNXT IAmb IAmb 03 28 45.7
comp=Z,108nm,1.2s
W39A Magazine **43.44 345** P **P** **03 28 11.7 +1.2**
baz=162,SNR=51
W39A Magazine **43.44 345** P **P** **03 28 10.9 +0.4**
W39A IAmb IAmb 03 28 14.9
comp=Z,102nm,1.1s
T53A Wise **43.69 359** P **P** **03 28 11.5 -1.0**
baz=179
LCAR Lake Charles **43.70 349** P **P** **03 28 12.8 +0.3**
LCAR IAmb IAmb 03 28 25.4
comp=Z,83nm,1.0s
FCAR Ozark Folk Cen **43.72 348** P **P** **03 28 12.6 -0.1**
FCAR IAmb IAmb 03 28 25.6
comp=Z,54nm,0.9s
T58A Grand View Acr **43.74 4** P **P** **03 28 12.3 -0.5**
baz=184
T56A Rocky Mt **43.75 2** P **P** **03 28 12.8 -0.2**
baz=182
T57A Hurt **43.75 3** P **P** **03 28 13.1 +0.2**
baz=183
T57A Hurt **43.75 3** P **P** **03 28 12.7 -0.3**
T57A IAmb IAmb 03 28 25.1
comp=Z,48nm,1.2s
T54A Tazewell **43.76 0** P **P** **03 28 11.8 -1.3**
baz=180
T55A Pulaski **43.82 1** P **P** **03 28 12.5 -1.0**
baz=181
T50A Nancy **43.82 356** P **P** **03 28 13.0 -0.5**
HICK Hickman **43.83 351** P **P** **03 28 14.3 +0.8**
HICK IAmb IAmb 03 28 25.5
comp=Z,75nm,0.9s
T59A Double "B" Far **43.83 5** P **P** **03 28 12.4 -1.2**
baz=186
BLA Blacksburg **43.92 1** P **P** **03 28 14.0 -0.3**
baz=182
T47A Sharon Grove **43.99 354** P **P** **03 28 14.0 -0.8**
T60A Surry **44.07 6** P **P** **03 28 15.5 0.0**
baz=187
PBMO Poplar Bluff **44.25 350** P **P** **03 28 16.5 -0.5**
PBMO IAmb IAmb 03 28 29.5
comp=Z,81nm,1.5s
U40A Yellville **44.33 347** P **P** **03 28 18.5 +0.8**
baz=164,SNR=35
U40A Yellville **44.33 347** P **P** **03 28 18.1 +0.5**
S51A Beattyville **44.37 358** P **P** **03 28 17.0 -1.0**
S51A IAmb IAmb 03 28 29.3
comp=Z,30nm,0.8s
S53A Williamson **44.38 359** P **P** **03 28 16.2 -1.8**
baz=179
S56A Natural Bridge **44.41 2** P **P** **03 28 16.6 -1.7**
baz=183
S58A Poland Farm, P **44.43 4** P **P** **03 28 18.0 -0.4**
baz=185
S55A Lewisburg **44.48 1** P **P** **03 28 18.2 -0.7**
baz=182
S54A Dingess, Beckl **44.49 0** P **P** **03 28 18.9 -0.1**
baz=180
S54A Dingess, Beckl **44.49 0** P **P** **03 28 18.7 -0.3**
S54A IAmb IAmb 03 28 32.2
comp=Z,46nm,1.2s
WMOK Wichita Mounta **44.50 340** P **P** **03 28 19.4 +0.3**
baz=155,SNR=69
WMOK Wichita Mounta **44.50 340** P **P** **03 28 19.1 0.0**
WMOK pmax pmax
comp=Z,57nm,1.2s
WMOK Wichita Mounta **44.50 340** P **P** **03 28 19.1 0.0**
WMOK IAmb IAmb 03 28 20.7
comp=Z,57nm,1.1s
HHAR Hobbs **44.51 346** P **P** **03 28 19.6 +0.5**
HHAR IAmb IAmb 03 28 32.4
comp=Z,118nm,1.5s
S57A Dark Hollow, R **44.52 3** P **P** **03 28 19.2 0.0**
baz=184
MNTX Cornudas Mount **44.62 331** P **P** **03 28 20.4 +0.3**
baz=145,SNR=114
MNTX Cornudas Mount **44.62 331** P **P** **03 28 20.3 +0.3**
MNTX IAmb IAmb 03 28 21.8
comp=Z,89nm,1.2s
S59A Mechanicsville **44.64 5** P **P** **03 28 20.3 +0.3**
baz=186
S60A Water View **44.64 6** P **P** **03 28 19.9 -0.2**
baz=187
TUL1 Leonard **44.65 344** P **P** **03 28 20.6 +0.4**
baz=160,SNR=28
TUL1 Leonard **44.65 344** P **P** **03 28 20.5 +0.4**
R58B Mineral **44.79 4** P **P** **03 28 20.9 -0.4**
baz=185
R58B Mineral **44.79 4** P **P** **03 28 21.4 +0.1**
R58B IAmb IAmb 03 28 33.2
comp=Z,45nm,1.1s
R54A Victor **44.88 1** P **P** **03 28 21.3 -0.7**
baz=181
S44A Carbondale **44.96 351** P **P** **03 28 22.4 -0.2**
S44A IAmb IAmb 03 28 34.7
comp=Z,42nm,0.8s
MGMO Mountain Grove **44.97 348** P **P** **03 28 22.6 -0.2**
R55A Marlinton **45.00 2** P **P** **03 28 21.8 -1.2**
baz=182
R55A Marlinton **45.00 2** P **P** **03 28 22.0 -1.0**
R55A IAmb IAmb 03 28 35.9
comp=Z,100nm,1.8s
R53A Hurricane **45.02 360** P **P** **03 28 22.5 -0.6**
baz=180
R50A Paris **45.05 357** P **P** **03 28 23.2 -0.1**
CBN Corbin Frederi **45.07 5** P **P** **03 28 22.8 -0.6**
baz=186
R57A Stanardsville **45.08 3** P **P** **03 28 23.7 +0.2**
baz=184
R59A King George, V **45.09 5** P **P** **03 28 23.4 -0.2**
baz=186
R49A Shelbyville **45.11 356** P **P** **03 28 22.6 -1.2**
R49A IAmb IAmb 03 28 35.0
comp=Z,29nm,0.8s
R58A Rapidan **45.12 4** P **P** **03 28 23.2 -0.6**
baz=185
WCI Wyandotte Cave **45.13 355** P **P** **03 28 23.5 -0.5**
baz=173
WCI Wyandotte Cave **45.13 355** P **P** **03 28 23.5 -0.5**
WCI pmax pmax
comp=Z,52nm,0.8s
WCI Wyandotte Cave **45.13 355** P **P** **03 28 23.5 -0.5**
WCI IAmb IAmb 03 30 04.9
comp=Z,52nm,0.8s
SRIG Santa Rosalia **45.14 320** P **P** **03 28 24.9 +0.7**
SRIG IAmb IAmb 03 28 26.9
comp=Z,100nm,1.6s
R56A Bull Pasture M **45.15 2** P **P** **03 28 23.7 -0.5**
baz=183
MSTX Muleshoe **45.35 335** P **P** **03 28 26.5 +0.5**
baz=150,SNR=66
MSTX Muleshoe **45.35 335** P **P** **03 28 26.2 +0.3**
RCBR Riachuelo **45.42 91** P **P** **03 28 28.7 +1.9**
comp=Z,12nm,0.8s,baz=251,slow=11,SNR=4.9
RCBR Riachuelo **45.42 91** P **P** **03 28 27.1 +0.3**
RCBR pmax pmax
comp=Z,41nm,1.2s
RCBR Riachuelo **45.42 91** P **P** **03 28 27.1 +0.3**
RCBR IAmb IAmb 03 28 37.9
comp=Z,41nm,1.1s
Q53A Leroy **45.55 0** P **P** **03 28 26.2 -1.1**
baz=180
HSIG **45.56 323** P **P** **03 28 27.7 +0.1**
CCM Cathedral Cave **45.64 349** P **P** **03 28 28.0 0.0**
baz=167
CCM Cathedral Cave **45.64 349** P **P** **03 28 27.5 -0.5**
CCM pmax pmax
comp=Z,43nm,0.9s
CCM Cathedral Cave **45.64 349** P **P** **03 28 27.5 -0.5**
CCM IAmb IAmb 03 28 40.6
comp=Z,43nm,0.9s
Q52A Bidwell **45.66 359** P **P** **03 28 27.0 -1.2**
baz=179
Q54A Coxs Mills **45.68 1** P **P** **03 28 27.8 -0.5**
baz=181
AMTX Amarillo **45.70 337** P **P** **03 28 29.3 +0.6**
baz=152
AMTX Amarillo **45.70 337** P **P** **03 28 29.0 +0.3**
AMTX IAmb IAmb 03 28 30.5
comp=Z,86nm,1.2s
Q55A Buckhannon **45.71 2** P **P** **03 28 28.1 -0.6**
baz=182,SNR=7.9
Q58A Fox Den Farm, **45.78 4** P **P** **03 28 28.7 -0.4**
baz=185
Q56A Snyder Ridge, **45.79 3** P **P** **03 28 29.3 +0.1**
baz=183
T35A Sooner Cattle **45.79 343** P **P** **03 28 29.6 +0.3**
Q57A Strasburg **45.82 3** P **P** **03 28 30.5 +1.1**
baz=184
OLIL Olney **45.83 353** P **P** **03 28 29.0 -0.4**
OLIL IAmb IAmb 03 30 10.2
comp=Z,86nm,1.3s
Q61A Milford **45.95 7** P **P** **03 28 30.4 0.0**
baz=189
R40A Maddies Statio **46.07 348** P **P** **03 28 31.1 -0.3**
R40A IAmb IAmb 03 28 43.9
comp=Z,32nm,0.9s
P53A Whipple **46.18 0** P **P** **03 28 32.1 -0.1**
baz=180
P51A Williamsport **46.19 358** P **P** **03 28 31.8 -0.6**
baz=178
P56A Dayton Farm, R **46.27 3** P **P** **03 28 32.8 -0.2**
baz=184
SDMD Soldier's Deli **46.31 5** P **P** **03 28 33.0 -0.3**
P49A Miami Univ. Ec **46.31 357** P **P** **03 28 32.5 -0.8**
baz=176
P52A Corning **46.33 359** P **P** **03 28 33.3 -0.1**
baz=179
P52A Corning **46.33 359** P **P** **03 28 32.7 -0.7**
P52A IAmb IAmb 03 28 44.6
comp=Z,25nm,0.9s
P58A Pank, Wackersv **46.35 5** P **P** **03 28 33.1 -0.5**
baz=186
319A Douglas **46.37 327** P **P** **03 28 35.0 +1.0**
MCWV Mont Chateau **46.38 2** P **P** **03 28 32.7 -1.1**
baz=182
121A Cookes Peak, D **46.49 329** P **P** **03 28 36.6 +1.6**
baz=143,SNR=34
121A Cookes Peak, D **46.49 329** P **P** **03 28 36.2 +1.2**
P59A Jarrettsville **46.55 6** P **P** **03 28 34.0 -1.1**
baz=187
P61A Hammonton **46.79 7** P **P** **03 28 36.8 -0.2**
baz=189
O52A Adamsville **46.81 360** P **P** **03 28 37.2 0.0**
baz=180
P60A Greenville **46.83 6** P **P** **03 28 37.7 +0.4**
baz=188
P60A Greenville **46.83 6** P **P** **03 28 37.4 +0.1**
P60A IAmb IAmb 03 28 49.2
comp=Z,30nm,0.9s
O51A Pataskala **46.85 359** P **P** **03 28 37.2 -0.3**
baz=179
O54A Avella **46.89 1** P **P** **03 28 36.9 -1.0**
baz=182
GO10 Punta Arenas **46.89 171** **P** **03 28 39.0 +1.3**
ACSO Alum Creek Sta **46.94 359** P **P** **03 28 36.9 -1.3**
baz=178
ACSO Alum Creek Sta **46.94 359** P **P** **03 28 37.2 -1.0**
ACSO IAmb IAmb 03 28 49.6
comp=Z,33nm,0.8s
MVL Millersville **46.94 6** P **P** **03 28 38.0 -0.2**
MVL IAmb IAmb 03 28 50.4
comp=Z,50nm,1.3s
O53A New Philadelph **46.94 0** P **P** **03 28 38.3 +0.1**
baz=180
O53A New Philadelph **46.94 0** P **P** **03 28 38.3 +0.1**
O53A IAmb IAmb 03 28 49.7
comp=Z,46nm,1.4s
O55A Ligonier **46.95 2** P **P** **03 28 37.3 -1.0**
baz=183
O58A Lewisberry **47.01 5** P **P** **03 28 38.3 -0.5**
baz=186
O56A Blue Knob Stat **47.04 3** P **P** **03 28 38.3 -0.8**
baz=184
O57A Amberson **47.04 4** P **P** **03 28 38.5 -0.5**
baz=185
PAGS Pennsylvania G **47.13 5** P **P** **03 28 39.8 +0.1**
PAGS IAmb IAmb 03 28 51.7
comp=Z,54nm,1.2s
BNM Barren Site **47.22 331** P **P** **03 28 41.8 +1.0**
O61A Allentown **47.24 7** P **P** **03 28 39.8 -0.6**
baz=190
O59A Robesonia **47.27 6** P **P** **03 28 40.9 +0.1**
baz=187
Y22D IRIS PASSCAL I **47.30 331** P **P** **03 28 42.2 +0.9**
baz=145

Y22D **IRIS PASSCAL I** 47.30 331 P **P** 03 28 42.4 +1.0
Y22D IAmb IAmb 03 28 44.3
comp=Z,54nm,1.1s

SFIN **Lafayette** 47.34 354 P **P** 03 28 40.2 -1.1
baz=173

O60A **Telford** 47.36 6 P **P** 03 28 40.8 -0.6
baz=188

SSPA **Standing Stone** 47.45 4 P **P** 03 28 41.7 -0.5

N53A **Lisbon** 47.50 1 P **P** 03 28 40.5 -2.1
baz=181

N52A **McGinn's Farm,** 47.50 360 P **P** 03 28 40.9 -1.7
baz=180

N55A **Marion Center** 47.53 3 P **P** 03 28 41.8 -1.1
baz=184

N57A **Milroy** 47.59 4 P **P** 03 28 41.9 -1.4
baz=185

N51A **Ashland** 47.61 359 P **P** 03 28 42.2 -1.3
baz=179

LUPA **Lehigh Univers** 47.64 6 P **P** 03 28 43.3 -0.3
LUPA IAmb IAmb 03 28 56.0
comp=Z,38nm,1.1s

N54A **Moraine State** 47.67 2 P **P** 03 28 42.6 -1.3
baz=182

N56A **West Decatur** 47.70 3 P **P** 03 28 42.7 -1.5
baz=184

N58A **Sunbury** 47.74 5 P **P** 03 28 43.4 -1.1
baz=186

N58A **Sunbury** 47.74 5 P **P** 03 28 44.2 -0.3
N58A IAmb IAmb 03 28 55.8
comp=Z,22nm,0.9s

HDIL **Hopedale** 47.77 352 P **P** 03 28 43.5 -1.2
baz=170

HDIL **Hopedale** 47.77 352 P **P** 03 28 44.2 -0.5
HDIL IAmb IAmb 03 28 56.3
comp=Z,36nm,0.7s

ANMO **Albuquerque** 47.80 332 *ce* P **P** 03 28 46.3 +1.1
ANMO pmax pmax
comp=Z,61nm,1.1s

ANMO **Albuquerque** 47.80 332 P **P** 03 28 45.7 +0.5

R32A **Long Quarter,** 47.84 342 P **P** 03 28 45.7 +0.4

KSU1 **Kansas State U** 47.86 344 P **P** 03 28 45.6 +0.2
baz=160,SNR=14

N59A **State Game Lan** 47.91 6 P **P** 03 28 45.4 -0.3
baz=188

TUC **Tucson** 47.91 326 P **P** 03 28 44.7 -1.3
baz=139

N61A **South Mountain** 47.92 7 P **P** 03 28 44.2 -1.6
baz=190

N60A **Cedar Hill Far** 47.94 7 P **P** 03 28 45.1 -0.9
baz=189

M51A **Elyria** 48.02 359 P **P** 03 28 44.7 -1.9
baz=179

M53A **WI Miller and** 48.14 1 P **P** 03 28 46.0 -1.5
baz=181

N41A **Harden Midland** 48.16 351 P **P** 03 28 47.4 -0.3
N41A IAmb IAmb 03 28 59.7
comp=Z,44nm,0.8s

M57A **Sunshine Farm,** 48.20 5 P **P** 03 28 47.5 -0.5
baz=186

M57A **Sunshine Farm,** 48.20 5 P **P** 03 28 47.1 -0.9

ODNJ **Ogdensburg** 48.20 7 P **P** 03 28 47.8 -0.2
ODNJ IAmb IAmb 03 28 59.8
comp=Z,37nm,1.5s

N62A **Caumsett State** 48.21 8 P **P** 03 28 48.2 +0.1
baz=191

PAL **Palisades** 48.22 8 P **P** 03 28 47.6 -0.5
baz=190

M55A **Ridgway** 48.23 3 P **P** 03 28 47.3 -1.0
baz=184

M55A **Ridgway** 48.23 3 P **P** 03 28 48.2 -0.1
M55A IAmb IAmb 03 29 00.8
comp=Z,84nm,1.6s

M54A **Oil Creek Stat** 48.23 2 P **P** 03 28 46.1 -2.1
baz=183

M54A **Oil Creek Stat** 48.23 2 P **P** 03 28 47.4 -0.8
M54A IAmb IAmb 03 28 59.6
comp=Z,45nm,1.4s

M52A **Chesterland** 48.23 0 P **P** 03 28 46.8 -1.4
baz=180

M52A **Chesterland** 48.23 0 P **P** 03 28 47.8 -0.4
M52A IAmb IAmb 03 29 00.3
comp=Z,94nm,1.7s

M56A **Emporium** 48.28 3 P **P** 03 28 47.6 -1.0
baz=184

M56A **Emporium** 48.28 3 P **P** 03 28 47.2 -1.3
M56A IAmb IAmb 03 29 00.1
comp=Z,50nm,1.2s

M58A **Price's Panora** 48.29 5 P **P** 03 28 48.1 -0.7
baz=187

M60A **Port Jervis** 48.44 7 P **P** 03 28 48.3 -1.6
baz=189

CBKS **Cedar Bluff** 48.52 341 P **P** 03 28 51.2 +0.6
baz=156,SNR=11

CBKS **Cedar Bluff** 48.52 341 P **P** 03 28 51.1 +0.5
CBKS pmax pmax
comp=Z,56nm,0.8s

CBKS **Cedar Bluff** 48.52 341 P **P** 03 28 51.1 +0.5

M61A **Granite Spring** 48.54 8 P **P** 03 28 50.1 -0.4
baz=190

KSPA **Keystone Colle** 48.54 6 P **P** 03 28 50.6 0.0
KSPA IAmb IAmb 03 29 02.6
comp=Z,81nm,1.5s

M59A **Waymart** 48.56 6 P **P** 03 28 49.9 -0.9
baz=188

L53A **Girard** 48.66 1 P **P** 03 28 50.4 -1.2
baz=182

EFI **East Falkland** 48.66 161 P **P** 03 28 52.3 +0.9
EFI pmax pmax
comp=Z,265nm,1.8s

EFI **East Falkland** 48.66 161 P **P** 03 28 52.3 +0.9

T25A **Trinidad** 48.75 336 P **P** 03 28 53.7 +1.1
baz=149,SNR=44

T25A **Trinidad** 48.75 336 P **P** 03 28 52.8 +0.2

M62A **Hamden** 48.79 9 P **P** 03 28 52.1 -0.4
baz=192

214A **Organ Pipe Nat** 48.80 324 P **P** 03 28 54.2 +1.4
baz=137,SNR=62

ERPA **Erie** 48.83 2 P **P** 03 28 51.7 -1.2
baz=182

L57A **Andrews Acres** 48.88 5 P **P** 03 28 52.4 -0.9
baz=186,SNR=6.5

M63A **Gales Ferry** 48.89 10 P **P** 03 28 53.7 +0.5
baz=193,SNR=6.6

USHA **Ushuaia** 48.93 170 P **P** 03 28 54.8 +1.3
comp=Z,5.8nm,0.6s,baz=159,slow=7.1,SNR=5.6

L55A **Hinsdale** 48.96 3 P **P** 03 28 52.7 -1.1
baz=184

L56A **Greenwood** 48.97 4 P **P** 03 28 52.7 -1.2
baz=185

L56A **Greenwood** 48.97 4 P **P** 03 28 53.5 -0.4

L54A **Sinclairville** 48.97 2 P **P** 03 28 52.0 -1.9
baz=183

L58A **Harry Jones Me** 49.02 6 P **P** 03 28 53.6 -0.7
baz=188,SNR=7.7

AAM **Ann Arbor** 49.03 358 P **P** 03 28 54.1 -0.2
baz=177

M66A **Nantucket** 49.09 11 P **P** 03 28 55.1 +0.3
baz=195

L60A **Shokan** 49.15 7 P **P** 03 28 55.8 +0.6
baz=190

BINY **Binghamton** 49.16 6 P **P** 03 28 54.5 -0.9
baz=187

M64A **Tiverton** 49.17 10 P **P** 03 28 54.6 -0.8
baz=194

L44A **Lake County Fo** 49.21 354 P **P** 03 28 54.6 -1.1
baz=172

L59A **Walton** 49.25 6 P **P** 03 28 56.7 +0.7
baz=189,SNR=5.7

L59A **Walton** 49.25 6 P **P** 03 28 56.0 -0.1

M65A **Busby, Falmout** 49.29 11 P **P** 03 28 55.7 -0.6
baz=194

M65A **Busby, Falmout** 49.29 11 P **P** 03 28 56.5 +0.2
M65A IAmb IAmb 03 30 40.1
comp=Z,27nm,0.7s

SFX **San Felipe** 49.36 322 P **P** 03 28 57.3 +0.2

K54A **Basiliko Farm,** 49.37 3 P **P** 03 28 55.7 -1.3
baz=184

L62A **Suffield** 49.40 9 P **P** 03 28 56.2 -1.0
baz=192

L63A **North Scituate** 49.41 10 P **P** 03 28 56.9 -0.3
baz=193

L61A **Hillsdale 1, H** 49.43 8 P **P** 03 28 57.1 -0.3
baz=190

BRYW **Bryant College** 49.47 10 P **P** 03 28 58.2 +0.4
BRYW IAmb IAmb 03 29 10.1
comp=Z,50nm,1.0s

K55A **Perry** 49.52 3 P **P** 03 28 56.4 -1.8
baz=185

W18A **Petrified Fore** 49.52 329 P **P** 03 28 59.8 +1.2
baz=142,SNR=36

K56A **Middlesex** 49.54 4 P **P** 03 28 57.0 -1.3
baz=186

L64A **Middleborough** 49.61 11 P **P** 03 28 58.8 0.0
baz=194,SNR=5.9

K57A **Scipio Center** 49.64 5 P **P** 03 28 57.7 -1.3
baz=187,SNR=6.5

KSCO **Kaye Shedlock'** 49.69 339 P **P** 03 29 00.1 +0.5
baz=152,SNR=9.2

QUA2 **Belchertown** 49.69 9 P **P** 03 28 59.4 0.0
QUA2 IAmb IAmb 03 29 11.4
comp=Z,43nm,1.1s

SDCO **Great Sand Dun** 49.72 335 P **P** 03 29 01.0 +0.9
baz=148,SNR=70

SDCO **Great Sand Dun** 49.72 335 P **P** 03 29 01.3 +1.3
SDCO IAmb IAmb 03 29 02.3
comp=Z,56nm,1.1s

SCIA **State Center** 49.74 349 P **P** 03 28 59.7 -0.1
baz=165

SCIA **State Center** 49.74 349 P **P** 03 28 59.6 -0.3
SCIA IAmb IAmb 03 29 25.6
comp=Z,43nm,0.9s

K58A **Earlville** 49.75 6 P **P** 03 28 59.4 -0.4
baz=188

K60A **Five Rivers En** 49.81 7 P **P** 03 29 00.9 +0.6
baz=190

L61B **Northampton** 49.81 9 P **P** 03 29 01.0 +0.7
baz=192,SNR=6.2

K59A **Cooperstown** 49.84 7 P **P** 03 28 59.6 -1.0
baz=189

K61A **Williamstown** 49.94 8 P **P** 03 29 01.5 +0.2
baz=191

TRY **Troy** 49.95 8 P **P** 03 29 01.3 0.0

WES **Weston** 49.96 10 P **P** 03 29 02.1 +0.7
WES pmax pmax
comp=Z,60nm,1.2s

WES **Weston** 49.96 10 P **P** 03 29 02.1 +0.7
WES IAmb IAmb 03 29 13.9
comp=Z,60nm,1.2s

J54A **Appleton** 50.03 3 P **P** 03 29 01.0 -1.0
baz=184

HRV **Adam Dziewonsk** 50.04 10 P **P** 03 29 01.3 -0.8
baz=193

HRV **Adam Dziewonsk** 50.04 10 P **P** 03 29 02.8 +0.7
HRV pmax pmax
comp=Z,41nm,1.1s

HRV **Adam Dziewonsk** 50.04 10 P **P** 03 29 02.8 +0.7
HRV IAmb IAmb 03 29 14.6
comp=Z,41nm,1.1s

J55A **Hilton** 50.07 4 P **P** 03 29 00.9 -1.4
baz=185

K62A **Royalston** 50.09 9 P **P** 03 29 02.0 -0.5
baz=192

K62A **Royalston** 50.09 9 P **P** 03 29 02.8 +0.4

J56A **Wolcott** 50.15 5 P **P** 03 29 01.7 -1.1
baz=186,SNR=5.1

JFWS **Jewell Farm** 50.22 352 P **P** 03 29 02.6 -0.9
baz=169,SNR=7.8

K63A **Dunstable** 50.23 10 P **P** 03 29 02.3 -1.1
baz=193,SNR=6.5

S22A **4UR Ranch, Cre** 50.29 334 P **P** 03 29 05.2 +0.8
baz=147,SNR=43

J57A **Williamstown** 50.36 5 P **P** 03 29 02.6 -1.9
baz=187

K38A **Parkersburg** 50.38 349 P **P** 03 29 04.1 -0.5

J58A **Remsen** 50.38 6 P **P** 03 29 03.5 -1.1
baz=188

BGNE **Belgrade** 50.44 344 P **P** 03 29 04.5 -0.7
baz=159

J60A **Lant Hill Farm** 50.48 8 P **P** 03 29 05.5 +0.1
baz=190,SNR=5.6

I51A **Listowel** 50.49 1 P **P** 03 29 03.9 -1.6
baz=181,SNR=7.1

J59A **Piesco** 50.57 7 P **P** 03 29 05.4 -0.7
baz=189

J59A **Piesco** 50.57 7 P **P** 03 29 06.1 0.0

ACCN **Adirondack Com** 50.59 7 P **P** 03 29 06.7 +0.5
ACCN IAmb IAmb 03 29 19.2
comp=Z,85nm,1.5s

MVCO **Mesa Verde** 50.60 332 P **P** 03 29 07.6 +0.9
baz=145,SNR=42

Q24A **Divide** 50.61 336 P **P** 03 29 07.3 +0.5
baz=149,SNR=5.8

WUAZ **Wupatki** 50.67 328 P **P** 03 29 08.4 +1.3
baz=140,SNR=114

WUAZ **Wupatki** 50.67 328 P **P** 03 29 08.5 +1.3

J62A **Henniker** 50.70 9 P **P** 03 29 07.3 +0.2
baz=193

J61A **Chester** 50.71 9 P **P** 03 29 07.2 +0.1
baz=192,SNR=6.1

ESJX **Sierra Juarez** 50.71 322 P **P** 03 29 08.6 +1.1

I58A **Old Forge** 50.74 6 P **P** 03 29 05.4 -1.9
baz=188

GLA **Glamis** 50.76 324 P **P** 03 29 08.7 +0.9
baz=136,SNR=12

I52A **Shelburne** 50.77 1 P **P** 03 29 06.3 -1.3
baz=182,SNR=6.1

J63A **Strafford** 50.88 10 P **P** 03 29 08.1 -0.2
baz=194

I57A **Carthage** 50.91 6 P **P** 03 29 07.7 -1.0
baz=188

I59A **Olmsteadville** 50.97 7 P **P** 03 29 08.5 -0.5
baz=190

I55A **Frankford** 51.03 4 P **P** 03 29 07.6 -1.8
baz=185

I60A **Shoreham** 51.09 8 P **P** 03 29 09.4 -0.5
baz=191,SNR=6.9

HNH **Hanover** 51.10 9 P **P** 03 29 10.6 +0.6
HNH IAmb IAmb 03 29 22.7
comp=Z,68nm,1.3s

IKP **In-Ko-Pah, Jac** 51.25 322 P **P** 03 29 12.0 +0.5
baz=134,SNR=19

PDMCI **Parker Dam,Lak** 51.27 325 P **P** 03 29 11.8 +0.4
baz=137,SNR=8.3

SWSC **Sam W. Stewart** 51.27 323 P **P** 03 29 11.8 +0.3
baz=134,SNR=8.8

I61A **Oroboro, Fairl** 51.33 9 P **P** 03 29 11.9 +0.1
baz=192

H53A **Bobcaygeon** 51.33 3 P **P** 03 29 09.8 -1.9
baz=184,SNR=7.1

H55A **Tweed** 51.39 4 P **P** 03 29 10.7 -1.5
baz=186

I62A **Tamworth** 51.41 9 P **P** 03 29 11.6 -0.8
baz=193

H57A **Richville** 51.46 6 P **P** 03 29 11.4 -1.3
baz=188,SNR=6.4

H56A **Elgin** 51.51 5 P **P** 03 29 11.9 -1.2
baz=187,SNR=5.9

ISCO **Idaho Springs** 51.52 336 P **P** 03 29 14.4 +0.8
baz=149,SNR=44

ISCO **Idaho Springs** 51.52 336 P **P** 03 29 14.2 +0.6
ISCO pmax pmax
comp=Z,57nm,1.3s

ISCO **Idaho Springs** 51.52 336 P **P** 03 29 14.2 +0.6
ISCO IAmb IAmb 03 29 17.6
comp=Z,57nm,1.3s

H58A **Gabriels** 51.54 7 P **P** 03 29 13.5 +0.1
baz=189

BC3 **Big Chuckawall** 51.56 324 P **P** 03 29 14.9 +1.1
baz=135,SNR=36

GLMI **Grayling** 51.58 357 P **P** 03 29 12.5 -1.1
baz=176

MONP2 **Monument Peak** 51.61 322 P **P** 03 29 15.4 +1.0
baz=134,SNR=12

VT1 **Waterbury** 51.64 8 P **P** 03 29 13.9 -0.2
VT1 IAmb IAmb 03 29 26.3
comp=Z,34nm,1.2s

LBNH **Lisbon** 51.67 9 P **P** 03 29 13.7 -0.7
baz=192,SNR=5.1

LBNH **Lisbon** 51.67 9 P **P** 03 29 14.9 +0.6
LBNH pmax pmax
comp=Z,26nm,1.0s

LBNH **Lisbon** 51.67 9 P **P** 03 29 14.9 +0.6
LBNH IAmb IAmb 03 29 26.8
comp=Z,26nm,0.9s

LONY **Lake Ozonia** 51.70 6 P **P** 03 29 12.8 -1.7
baz=189,SNR=6.0

LONY **Lake Ozonia** 51.70 6 P **P** 03 29 13.9 -0.6
LONY IAmb IAmb 03 29 25.9
comp=Z,40nm,1.2s

I63A **Otisfield** 51.71 10 P **P** 03 29 14.8 +0.2
baz=194,SNR=8.2

I63A **Otisfield** 51.71 10 P **P** 03 29 14.7 +0.1
I63A IAmb IAmb 03 29 27.3
comp=Z,62nm,1.0s

IRM **Iron Mountain** 51.74 324 P **P** 03 29 16.4 +1.3
baz=136,SNR=59

I64A **Boothbay** 51.76 11 P **P** 03 29 16.2 +1.3
baz=195,SNR=7.4

I37A **Lemond, Waseca** 51.81 349 P **P** 03 29 14.8 -0.6
I37A IAmb IAmb 03 30 31.5
comp=Z,46nm,1.2s

H59A **Cadyville** 51.83 7 P **P** 03 29 14.9 -0.5
baz=190

H60A **Morristown** 51.88 8 P **P** 03 29 15.6 -0.2
baz=191

G53A **Haliburton** 51.88 3 P **P** 03 29 14.1 -1.7
baz=184

PLVO **Plevna** 51.89 4 P **P** 03 29 15.3 -0.6
PLVO IAmb IAmb 03 29 26.9
comp=Z,39nm,1.2s

H61A **Lyndonville** 51.96 9 P **P** 03 29 17.6 +1.1
baz=192,SNR=5.7

109C **Camp Elliot, M** 52.02 322 P **P** 03 29 18.0 +0.8
baz=133,SNR=6.2

109C **Camp Elliot, M** 52.02 322 P **P** 03 29 17.5 +0.3
109C IAmb IAmb 03 29 19.5
comp=Z,87nm,1.4s

FRNY **Flat Rock** 52.03 7 P **P** 03 29 16.3 -0.7

H62A **Milan** 52.12 9 P **P** 03 29 17.6 -0.1
baz=193,SNR=10.0

BELC **Belle Mtn. Jos** 52.12 324 P **P** 03 29 18.9 +0.8
baz=135,SNR=28

G55A **Calabogie** 52.13 4 P **P** 03 29 16.1 -1.6
baz=186,SNR=5.9

PFO **Pinyon Flats O** 52.13 323 P **P** 03 29 19.1 +1.0
baz=134,SNR=18

PFO **Pinyon Flats O** 52.13 323 P **P** 03 29 18.9 +0.8
PFO pmax pmax
comp=Z,28nm,0.9s

PFO **Pinyon Flats O** 52.13 323 P **P** 03 29 18.9 +0.8
PFO IAmb IAmb 03 29 20.0
comp=Z,28nm,0.9s

G57A **Newington** 52.13 6 P **P** 03 29 16.3 -1.4
baz=188,SNR=6.2

G54A **Lake Saint Pet** 52.18 3 P **P** 03 29 16.1 -2.0
baz=184,SNR=10

ECSD **EROS Data Cent** 52.22 346 P **P** 03 29 17.6 -0.9
baz=161

ECSD **EROS Data Cent** 52.22 346 P **P** 03 29 17.6 -0.9

G58A **Ormstown** 52.28 7 P **P** 03 29 17.5 -1.3
baz=190

G59A **Clarenceville** 52.32 8 P **P** 03 29 17.8 -1.3
baz=191

WVL **Waterville** 52.37 11 P **P** 03 29 19.9 +0.4

H63A **New Sharon** 52.40 10 P **P** 03 29 20.2 +0.5
baz=194,SNR=5.2

ORIO **Orleans, Innes** 52.43 5 P **P** 03 29 18.4 -1.5
baz=188

F49A **Sandfield** 52.45 360 P **P** 03 29 18.2 -1.9
baz=180

G60A **Masonville** 52.45 8 P **P** 03 29 19.7 -0.4
baz=192

GMRC **Granite Mounta** 52.48 324 P **P** 03 29 21.7 +0.9
baz=136,SNR=26

F52A **Sundridge** 52.52 2 P **P** 03 29 19.7 -0.9
baz=183

F48A **Evansville** 52.52 359 P **P** 03 29 18.1 -2.5
baz=179

H64A **Troy** 52.53 11 P **P** 03 29 19.4 -1.3
baz=196,SNR=6.4

MURC **Murrieta** 52.56 322 P **P** 03 29 22.1 +0.9
baz=133,SNR=8.2

N23A **Red Feather La** 52.58 337 P **P** 03 29 21.8 +0.3
baz=149,SNR=9.6

F51A **Arnstein** 52.64 1 P **P** 03 29 19.1 -2.4
baz=182

F55A **Otter Lake** 52.73 5 P **P** 03 29 20.1 -2.1
baz=186

ALGO **Algonquin Park** 52.74 3 P **P** 03 29 21.1 -1.1
baz=184,SNR=10

G61A **St-Isidore-de-** 52.75 9 P **P** 03 29 22.5 +0.1
baz=193,SNR=8.0

H65A **Eastbrook** 52.78 12 P **P** 03 29 22.1 -0.4
baz=197,SNR=8.7

G62A **West of Eustis** 52.85 10 P **P** 03 29 23.3 +0.2
baz=194,SNR=16

BBRC **Big Bear Solar** 52.85 323 P **P** 03 29 24.7 +1.1
baz=134,SNR=14

F57A **Harrington** 52.86 6 P **P** 03 29 21.2 -2.0
baz=189

SPMN **Marine on St.** 52.88 350 P **P** 03 29 22.3 -1.0
baz=166,SNR=8.1

O20A **White River Ci** 52.88 334 P **P** 03 29 24.1 +0.4
baz=146,SNR=30

HEC **Hector,Ludlow** 52.91 324 P **P** 03 29 25.2 +1.5
baz=135,SNR=28

G63A **Kingsbury** 52.91 11 P **P** 03 29 23.6 +0.1
baz=195,SNR=8.7

SCI2 **San Clemente I** 52.98 321 P **P** 03 29 24.6 +0.3
baz=132

E52A **Mattawa** 53.04 3 P **P** 03 29 22.1 -2.3
baz=184

H66A **Whiting** 53.06 13 P **P** 03 29 22.3 -2.3
baz=198

TUQ **Turquoise Moun** 53.10 325 P **P** 03 29 25.4 +0.2
baz=136,SNR=26

E50A **Wahnapitae** 53.12 1 P **P** 03 29 23.3 -1.7
baz=181

PKME **Peaks-Kenny Pk** 53.12 11 P **P** 03 29 25.1 +0.1
baz=195,SNR=11

PKME **Peaks-Kenny Pk** 53.12 11 P **P** 03 29 25.2 +0.2

F59A **Saint Guilaume** 53.13 8 P **P** 03 29 26.9 +1.8
baz=191

E47A **Iron Bridge** 53.16 359 P **P** 03 29 23.8 -1.6
baz=178

E48A **Lockeyer** 53.17 360 P **P** 03 29 23.8 -1.6
baz=179

CIS **Catalina Islan** 53.18 321 P **P** 03 29 26.1 +0.3
baz=132

E53A **Dumoine, Ponti** 53.18 3 P **P** 03 29 23.7 -1.8
baz=185

G64A **Maxfield** 53.21 11 P **P** 03 29 26.5 +0.8
baz=196,SNR=6.4

E51A **G1948 Merrick** 53.26 2 P **P** 03 29 24.4 -1.6
baz=183,SNR=14

CCUT **Cedar City** 53.26 329 P **P** 03 29 27.4 +0.9

E54A **Lac Daplat, Po** 53.27 4 P **P** 03 29 23.7 -2.4
baz=186,SNR=6.6

BFSC **Mount Baldy Ra** 53.28 323 P **P** 03 29 26.8 +0.2
baz=133

TRQ **Mont Tremblant** 53.28 6 P **P** 03 29 25.4 -0.9

F60A **Warwick** 53.36 8 P **P** 03 29 25.1 -1.7
baz=192,SNR=6.1

E55A **Montcerf-Lytto** 53.37 5 P **P** 03 29 24.8 -2.1
baz=187

G65A **Princeton** 53.40 12 P **P** 03 29 27.3 +0.2
baz=197,SNR=14

SUSD **Miller** 53.47 345 P **P** 03 29 27.2 -0.5
baz=158,SNR=5.8

GGN **Saint George** 53.48 13 P **P** 03 29 27.9 +0.3
GGN IAmb IAmb 03 29 40.5
comp=Z,50nm,1.2s

GSC **Goldstone, Bar** 53.51 324 P **P** 03 29 29.4 +1.1
baz=135,SNR=32

E57A **Chemin Saint G** 53.52 6 P **P** 03 29 26.7 -1.2
baz=189,SNR=9.8

E56A **St. Veronique** 53.55 6 P **P** 03 29 26.7 -1.5
baz=188,SNR=10

F63A **Nahmakanta, Br** 53.58 11 P **P** 03 29 28.0 -0.4
baz=195,SNR=6.7

E58A **La Victoria** 53.58 7 P **P** 03 29 26.7 -1.6
baz=190

F62A **Pittston Farm,** 53.61 10 P **P** 03 29 29.3 +0.7
baz=194

SHOC **Shoshone, Teco** 53.63 325 P **P** 03 29 29.7 +0.6
baz=136,SNR=7.7

DECC **Green Verdugo** 53.70 322 P **P** 03 29 30.5 +0.9
baz=133

D52A **ZEK Kipawa Sen** 53.74 3 P **P** 03 29 27.6 -1.9
baz=184

D47A **Chapleau** 53.76 359 P **P** 03 29 27.7 -2.1
baz=178

SNCC **San Nicolas Is** 53.77 320 P **P** 03 29 27.3 -2.8
baz=131

D51A **Lot 18 Range I** 53.82 2 P **P** 03 29 27.9 -2.3
baz=183

E60A **Ste Agathe de** 53.83 9 P **P** 03 29 29.2 -1.0
baz=192,SNR=6.0

D48A **Paudash Townsh** 53.86 360 P **P** 03 29 27.8 -2.7
baz=180

F64A **Sherman** 53.87 11 P **P** 03 29 30.9 +0.3
baz=196,SNR=18

F64A **Sherman** 53.87 11 P P 03 29 30.9 +0.3
D50A **G1974 Best Tow** 53.88 1 P P 03 29 28.7 -1.9
baz=182
D53A **Lac Vacive, Po** 53.88 3 P P 03 29 28.9 -1.7
baz=185,SNR=8.2
EDW2 **Edwards Air Fo** 53.92 323 P P 03 29 31.9 +0.6
baz=133,SNR=26
D49A **Beulah Townshi** 53.96 0 P P 03 29 28.9 -2.3
baz=180
D55A **Sainte-Anne-du** 53.98 5 P P 03 29 29.3 -2.1
baz=188
D54A **Lac Fusel, La** 54.02 4 P P 03 29 29.2 -2.4
baz=186
E61A **Lac Etchemin** 54.04 9 P P 03 29 30.1 -1.7
baz=194
D56A **ZEC Mazanza, M** 54.08 6 P P 03 29 31.2 -0.9
baz=188,SNR=5.3
D57A **Chemin Vers le** 54.14 7 P P 03 29 30.7 -1.8
baz=189,SNR=8.3
LRMC **Laurel Mtn Rad** 54.15 324 P P 03 29 33.7 +0.7
baz=134,SNR=28
OSI **Osito Audit: C** 54.18 322 P P 03 29 33.9 +0.7
baz=132
OSI **Osito Audit: C** 54.18 322 P P 03 29 33.7 +0.5
OSI IAmb IAmb 03 29 34.7
comp=Z,36nm,0.9s
K22A **Casper** 54.31 338 P P 03 29 33.9 -0.1
baz=149,SNR=38
SCZ2 **Santa Cruz Isl** 54.33 321 P P 03 29 33.6 -0.6
baz=131
D58A **Chemin du LacG** 54.34 7 P P 03 29 33.3 -0.7
baz=191,SNR=5.4
TPNV **Topopah Spring** 54.36 326 P P 03 29 35.8 +1.3
baz=136,SNR=54
FURC **Furnace Creek,** 54.37 325 P P 03 29 34.1 -0.2
baz=135,SNR=30
E62A **Clayton Lake** 54.38 10 P P 03 29 34.8 +0.6
baz=195,SNR=15
D59A **Saint-Raymond** 54.39 8 P P 03 29 34.0 -0.3
baz=192
E63A **Oxbow** 54.40 11 P P 03 29 34.7 +0.3
baz=196,SNR=20
MPMC **Manual Prospec** 54.44 324 P P 03 29 35.7 +0.5
baz=134,SNR=34
D60A **Saint Jean D'O** 54.44 9 P P 03 29 34.0 -0.6
baz=193,SNR=6.1
E64A **Bridgewater** 54.51 12 P P 03 29 35.4 +0.2
baz=197,SNR=8.8
ARVC **Arvin** 54.59 323 P P 03 29 37.1 +1.1
baz=133,SNR=10
LATQ **La Tuque** 54.64 7 P P 03 29 34.7 -1.4
baz=191
LATQ **La Tuque** 54.64 7 P P 03 29 35.3 -0.7
RSSD **Black Hills** 54.70 340 P P 03 29 37.5 +0.6
baz=152
RSSD **Black Hills** 54.70 340 P P 03 29 37.6 +0.6
RSSD pmax pmax
comp=Z,38nm,1.1s
RSSD **Black Hills** 54.70 340 P P 03 29 37.6 +0.6
RSSD IAmb IAmb 03 29 40.7
comp=Z,38nm,1.1s
ISA **Isabella, Lake** 54.74 323 P P 03 29 38.1 +0.9
baz=133,SNR=17
D61A **St Aubert, Com** 54.84 10 P P 03 29 37.7 +0.1
baz=194,SNR=15
D62A **Allapoint, All** 54.91 10 P P 03 29 38.1 0.0
baz=195,SNR=26
D62A **Allapoint, All** 54.91 10 P P 03 29 38.4 +0.3
DUG **Dugway, Tooele** 55.01 331 P P 03 29 40.3 +1.1
baz=141,SNR=63
R11A **Troy Canyon, C** 55.02 328 P P 03 29 40.5 +1.2
baz=138,SNR=103
PKM **Mcpherson Peak** 55.03 322 P P 03 29 40.1 +0.7
baz=132,SNR=8.5
CWC **Cottonwood Cre** 55.05 324 P P 03 29 40.1 +0.6
baz=134
D63A **Stockholm** 55.05 11 P P 03 29 39.3 +0.2
baz=196,SNR=12
GBN **Guysborough** 55.13 17 P P 03 29 39.9 +0.2
GBN IAmb IAmb 03 29 52.0
comp=Z,38nm,1.0s
VES **Vestal, Richgr** 55.23 323 P P 03 29 41.5 +0.9
baz=133,SNR=35
EYMN **Ely** 55.33 352 P P 03 29 40.5 -0.7
baz=168,SNR=9.2
SMMC **Simmler** 55.43 322 P P 03 29 43.6 +1.4
baz=132,SNR=11
TIN **Tinemaha, Big** 55.56 325 P P 03 29 44.3 +1.2
baz=134,SNR=6.9
BW06 **Boulder Array** 55.61 335 P P 03 29 43.1 -0.5
baz=146
PD31 **Pinedale Array** 55.61 335 P P 03 29 43.6 +0.1
PD31 IAmb IAmb 03 29 44.4
comp=Z,21nm,0.8s
PDAR **Pinedale Array** 55.61 335 P P 03 29 43.7 +0.1
comp=Z,19nm,0.7s,baz=132,slow=7.9,SNR=168
PDAR PcP PcP 03 30 42.6 -0.5
comp=Z,4.9nm,0.9s,baz=141,slow=5.8,SNR=1.6
BATG **Bathurst New B** 55.70 13 P P 03 29 43.7 -0.1
VOG **Valley Oaks Go** 55.73 323 P P 03 29 44.2 0.0
baz=133
LSQQ **Lebel-sur-Quev** 55.90 4 P P 03 29 43.4 -1.7
baz=186
MLAC **Mammoth, Mammo** 56.30 325 P P 03 29 49.8 +1.2
baz=134,SNR=5.5
AGMN **Agassiz Nation** 56.40 349 P P 03 29 48.6 -0.2
baz=163,SNR=18
MATQ **Matagami** 56.56 3 P P 03 29 47.9 -1.9
baz=185,SNR=6.2
NVAR **Mina Array Bea** 56.56 326 P P 03 29 51.6 +1.2
comp=Z,29nm,0.8s,baz=143,slow=6.8,SNR=221
NVAR PcP PcP 03 30 47.7 +0.8
comp=Z,4.0nm,0.7s,baz=130,slow=4.9,SNR=2.0
NVAR S S 03 37 36.0 -5.5
comp=Z,0.3nm,0.3s,baz=140,slow=16,SNR=5.9
NVAR LR LR 03 52 47.0
comp=Z,100nm,18.9s,baz=134,slow=35
MDND **Maddock** 56.81 346 P P 03 29 51.6 -0.2
baz=159
CHGQ **Chibougamau** 56.95 6 P P 03 29 51.0 -1.6
baz=189,SNR=6.8
H17A **Grant Village** 57.37 336 P P 03 29 57.0 +0.8
baz=145
LKWY **Lake** 57.44 336 P P 03 29 57.8 +1.2
LKWY pmax pmax
comp=Z,31nm,1.1s
LKWY **Lake** 57.44 336 P P 03 29 57.8 +1.2
LKWY IAmb IAmb 03 29 59.5
comp=Z,32nm,1.1s
RLMT **Red Lodge** 57.46 337 P P 03 29 56.8 +0.1
baz=147,SNR=27
LAO **LASA Array** 57.69 340 P P 03 29 58.1 0.0
baz=151
ULM **Lac du Bonnet** 58.27 349 P P 03 30 01.3 -0.6
comp=Z,21nm,1.0s,baz=169,slow=7.0,SNR=9.8
ULM PcP PcP 03 30 52.4 -0.6
comp=Z,12nm,0.6s,baz=182,slow=3.3,SNR=6.1
ULM **Lac du Bonnet** 58.27 349*d* iP P 03 30 01.0 -1.0
ULM **Lac du Bonnet** 58.27 349 P P 03 30 01.4 -0.6
ULM IAmb IAmb 03 30 04.3
comp=Z,54nm,1.4s
HLID **Hailey** 58.38 332 P P 03 30 04.2 +1.1
baz=141,SNR=138
HLID **Hailey** 58.38 332 P P 03 30 04.2 +1.1
DGMT **Dagmar** 58.63 343 P P 03 30 04.8 +0.2
baz=154
BOZ **Bozeman (W)** 58.79 336 P P 03 30 06.2 +0.3
baz=145,SNR=76
PMSA **Palmer Station** 59.08 171 P P 03 30 07.5 +0.2
comp=Z,13nm,0.8s,baz=4.9,slow=4.5,SNR=14
PMSA **Palmer Station** 59.08 171 P P 03 30 08.6 +1.3
PMSA **Palmer Station** 59.08 171 *eP* P 03 30 08.9 +1.6
DRLN **Deer Lake** 59.78 18 P P 03 30 13.3 +0.8
O03E **Paynes Creek** 59.81 325 P P 03 30 12.4 -0.6
baz=132,SNR=23
EGMT **Eagleton** 60.08 339 P P 03 30 14.7 +0.1
baz=147,SNR=38
J08A **Circle Bar Ran** 60.17 330 P P 03 30 15.7 +0.3
J08A IAmb IAmb 03 30 17.0
comp=Z,21nm,0.8s
O02D **Mt. Diablo Mer** 60.30 324 P P 03 30 16.1 -0.1
baz=131,SNR=15
BMO **Blue Mountains** 60.71 332 P P 03 30 18.8 -0.2
BMO pmax pmax
comp=Z,37nm,1.5s
BMO **Blue Mountains** 60.71 332 P P 03 30 18.8 -0.2
BMO IAmb IAmb 03 30 20.3
comp=Z,37nm,1.5s
MSO **Missoula** 60.73 335 P P 03 30 20.1 +0.9
baz=143,SNR=71
MSO **Missoula** 60.73 335 P P 03 30 20.1 +0.9
N02D **Trinity Center** 60.77 325 P P 03 30 18.9 -0.7
baz=132,SNR=9.8
M04C **Macdoel** 60.83 326 P P 03 30 20.5 +0.5
baz=133,SNR=26
M02C **Callahan** 61.14 325 P P 03 30 21.9 -0.1
baz=132,SNR=12
K04D **Chiloquin, OR** 61.36 327 P P 03 30 24.1 +0.6
baz=133,SNR=7.7
L04D **Klamath Falls** 61.38 327 P P 03 30 24.0 +0.3
baz=133,SNR=19
J05D **Fort Rock, OR** 61.54 328 P P 03 30 25.6 +0.8
baz=134,SNR=39
J04D **Umpqua Nationa** 61.97 327 P P 03 30 28.5 +0.7
baz=133,SNR=13
L02E **Cave Junction** 62.06 326 P P 03 30 28.9 +0.8
baz=131,SNR=15
I05D **Terrebonne, OR** 62.33 329 P P 03 30 31.0 +1.0
baz=134,SNR=43
K02D **Willamette Mer** 62.45 326 P P 03 30 32.0 +1.1
baz=132,SNR=36
I04A **Tendick Farm,** 62.51 328 P P 03 30 31.3 +0.1
baz=133,SNR=15
SCHQ **Schefferville** 62.76 10 P P 03 30 31.6 -0.9
comp=Z,7.3nm,1.1s,baz=186,slow=6.3,SNR=5.8
SCHQ LR LR 03 58 06.9
comp=Z,163nm,21.2s,baz=187,slow=36
J01E **Myrtle Point** 62.91 326 P P 03 30 35.1 +1.4
baz=131,SNR=17
I03D **Drain, OR** 62.95 327 P P 03 30 34.9 +1.0
baz=132,SNR=14
G05D **Wamic, OR** 62.95 330 P P 03 30 35.3 +1.3
baz=135,SNR=13
H04D **Lebanon** 63.18 328 P P 03 30 35.8 +0.3
baz=133,SNR=7.8
NEW **Newport** 63.20 334 P P 03 30 36.4 +0.7
baz=140,SNR=19
NEW **Newport** 63.20 334 P P 03 30 35.7 0.0
NEW pmax pmax
comp=Z,59nm,1.5s
NEW **Newport** 63.20 334 P P 03 30 35.7 0.0
NEW IAmb IAmb 03 30 37.6
comp=Z,59nm,1.4s
F05D **White Salmon** 63.47 330 P P 03 30 38.5 +1.0
baz=135,SNR=7.4
I02D **Swisshome** 63.49 327 P P 03 30 37.2 -0.4
baz=132
COR **Corvallis** 63.52 328 P P 03 30 38.3 +0.6
COR pmax pmax
comp=Z,165nm,1.2s
COR **Corvallis** 63.52 328 P P 03 30 38.3 +0.6
FFC **Flin Flon** 63.75 347 P P 03 30 38.6 -0.5
FFC pmax pmax
comp=Z,21nm,1.4s
FFC **Flin Flon** 63.75 347 P P 03 30 38.6 -0.5
G03D **McMinnville, O** 63.92 328 P P 03 30 39.4 -1.1
baz=133
F04D **Rainier, OR** 64.39 329 P P 03 30 44.7 +1.2
baz=133
E04D **Cinebar** 64.49 330 P P 03 30 44.6 +0.5
baz=134,SNR=16
C06D **Leavenworth** 64.65 332 P P 03 30 45.8 +0.7
baz=136
D04E **Lakebay** 65.02 330 P P 03 30 48.8 +1.3
baz=134
D03D **Eldon** 65.42 330 P P 03 30 50.9 +0.7
baz=134,SNR=17
B05A **Bryant** 65.46 332 P P 03 30 50.5 +0.2
baz=135,SNR=19
A04D **Lummi Island** 66.07 332 P P 03 30 55.3 +1.1
baz=134,SNR=9.5
PGC **Sidney** 66.37 331 P P 03 30 55.9 -0.3
PPT **Papeete** 66.97 254 LR LR 03 52 15.7
comp=Z,865nm,19.1s,baz=122,slow=29
PPT2 **Papeete2** 66.97 254 *eS* S 03 39 49.7 -4.1
comp=Z,1μm,30.0s
PPT2 **Papeete2** 66.97 254 *e*LR LR 03 51 12.0
comp=Z,3μm,25.8s,baz=92
TBI **Tubuai** 66.97 248 *e*S S 03 39 49.8 -3.6
comp=Z,1μm,31.8s
TBI **Tubuai** 66.97 248 *e*LR LR 03 51 01.4
comp=Z,1μm,28.8s,baz=81
ROSA **Rosais** 67.12 43 P P 03 31 02.6 +1.3
MBO **M'Bour** 67.53 71 P P 03 31 05.3 +1.0
FUL **Funchal** 72.94 53 *e*pP pP 03 31 57.7 +16
YKA **Yellowknife Ar** 73.71 345 P P 03 31 40.3 -0.7
comp=Z,6.7nm,1.0s,baz=138,slow=6.1,SNR=40
SFJD **Kangerlussuaq** 77.03 12 P P 03 31 59.9 -0.1
SFJD pmax pmax
comp=Z,32nm,1.0s
SFJD **Kangerlussuaq** 77.03 12 P P 03 31 59.9 -0.1
SFJD IAmb IAmb 03 32 10.0
comp=Z,32nm,0.9s
LIC **Lamto** 77.52 82 *e*P P 03 32 04.8 +0.9
comp=Z,55nm,1.6s
TIC **Toumodi** 77.58 82 *e*P P 03 32 05.9 +1.6
VNA3 **Neumayer Olymp** 77.71 162 P P 03 32 04.4 +0.5
DBIC **Dimbokro** 77.75 82 P P 03 32 05.9 +0.8
comp=Z,30nm,1.2s,baz=254,slow=5.9,SNR=7.9
DBIC LR LR 04 04 54.1
comp=Z,1μm,19.8s,baz=240,slow=35
DBIC **Dimbokro** 77.75 82 P P 03 32 05.7 +0.5
DBIC pmax pmax
comp=Z,64nm,1.1s
DBIC **Dimbokro** 77.75 82 P P 03 32 05.7 +0.5
KIC **Kosan Boka** 77.82 82 *e*P P 03 32 07.2 +1.6
comp=Z,52nm,1.0s
VNA1 **Neumayer--Stat** 78.01 161 P P 03 32 06.4 +0.9
VNA2 **Neumayer--Watz** 78.35 161 P P 03 32 07.7 +0.3
SKAG **Skagway** 78.64 335 P P 03 32 08.8 -0.3
ILULI **Ilulissat** 78.84 11 P P 03 32 09.6 -0.4
ILULI pmax pmax
comp=Z,43nm,1.0s
ILULI **Ilulissat** 78.84 11 P P 03 32 09.6 -0.4
ILULI IAmb IAmb 03 32 20.4
comp=Z,43nm,1.0s
SNAA **Sanae** 79.93 162 P P 03 32 16.8 +0.6
SNAA **Sanae** 79.93 162 P P 03 32 16.7 +0.6
comp=Z,25nm,0.7s,baz=331,slow=6.2,SNR=20
SNAA **Sanae** 79.93 162 *ce*P P 03 32 15.9 -0.2
SNAA pmax pmax
comp=Z,32nm,0.9s
SNAA **Sanae** 79.93 162 P P 03 32 16.0 -0.2
SNAA IAmb IAmb 03 32 17.2
comp=Z,35nm,0.8s
PNCL **Nicolau / Gran** 81.12 50 *e*pP pP 03 32 34.0 +6.2
PSBE **So Bento** 81.31 48 *e*P P 03 32 25.7 +1.6
comp=Z,49nm,1.4s
PSBE *e*pP pwP 03 32 35.3 -0.3
PBDV **Barranco-do-Ve** 81.34 51 *e*pP pP 03 32 36.0 +6.9
C36M **Paulatuk** 81.50 346 P P 03 32 24.2 -0.1
baz=137
PVAQ **Vaqueiros** 81.55 51 *e*pP pP 03 32 39.3 +9.2
PVAQ **Vaqueiros** 81.55 51 *e*S S 03 42 41.3 +4.7
PVAQ **Vaqueiros** 81.55 51 *e*LR LR 03 58 48.1
comp=Z,336nm,18.0s
PBEJ **Beja** 81.60 50 *e*pP pP 03 32 36.8 +6.4
PMTG **Montargil** 81.61 49 *e*P P 03 32 25.6 -0.1
comp=Z,40nm,1.3s
PMTG *e*pP pwP 03 32 36.4 -0.7
PCAS **Casmilo, Conde** 81.69 48 *e*P P 03 32 28.9 +2.9
comp=Z,53nm,2.0s
PCAS *e*pP pwP 03 32 37.3 -0.2
COI **Coimbra** 81.79 48 P P 03 32 27.2 +0.6
COI pmax pmax
comp=Z,59nm,1.0s
COI **Coimbra** 81.79 48 *e*P P 03 32 28.2 +1.6
comp=Z,60nm,1.6s
COI *e*pP pwP 03 32 37.7 -0.3
COI **Coimbra** 81.79 48 P P 03 32 27.2 +0.6
PTO **Porto** 81.91 47 *e*pP pP 03 32 38.3 +6.4
PVIS **Viseu** 82.31 47 *e*P P 03 32 30.5 +1.1
comp=Z,48nm,1.6s
PVIS *e*pP pwP 03 32 40.1 -0.7
PMRV **Marv??o** 82.33 49 *e*LR LR 03 59 17.7
comp=Z,367nm,20.0s
PCBR **Castelo Branco** 82.38 48 *e*P P 03 32 32.1 +2.4
comp=Z,15nm,1.2s
PCBR *e*pP pwP 03 32 40.0 -1.1
PGAV **Gavieira, Arco** 82.39 46 *e*P P 03 32 32.1 +2.3
comp=Z,47nm,1.6s
PGAV **Gavieira, Arco** 82.39 46 *e*LR LR 04 00 33.4
comp=Z,542nm,22.0s
MTE **Manteigas** 82.48 48 *e*P P 03 32 31.2 +0.9
comp=Z,28nm,1.5s
MTE *e*pP pwP 03 32 41.0 -0.7
MTE **Manteigas** 82.48 48 *e*S S 03 42 42.3 -3.9
MTE **Manteigas** 82.48 48 *e*LQ LQ 03 56 52.5
MTE *e*LR LR 03 59 32.7
comp=Z,302nm,22.0s
MTE **Manteigas** 82.48 48 P P 03 32 30.2 -0.1
PCAB **Cabril** 82.49 46 *e*P P 03 32 33.2 +2.9
comp=Z,46nm,1.7s
TGL **Tana Glacier** 82.51 334 P P 03 32 30.5 +0.5
TGL IAmb IAmb 03 33 19.3
comp=Z,29nm,0.7s
PVRL **Vila Real** 82.59 47 *e*P P 03 32 33.3 +2.5
comp=Z,35nm,1.7s
PVRL *e*pP pwP 03 32 41.5 -0.8
MVO **Moncorvo** 83.06 47 *e*P P 03 32 34.1 +0.8
comp=Z,60nm,1.6s
MVO *e*pP pwP 03 32 43.9 -0.9
MVO **Moncorvo** 83.06 47 *e*S S 03 43 03.6 +11
MVO **Moncorvo** 83.06 47 *e*LQ LQ 03 56 59.6
MVO *e*LR LR 03 59 41.2
comp=Z,341nm,20.0s
EPYK **Eagle Plains** 83.15 341 P P 03 32 33.1 0.0
baz=125,SNR=18
QSPA **South Pole Qui** 83.17 180 P P 03 32 34.2 +0.8
PBRG **Braganca** 83.44 47 *e*P P 03 32 36.3 +1.1
comp=Z,75nm,1.5s
PBRG *e*pP pwP 03 32 45.8 -0.9
A36M **Sachs Harbour** 83.70 348 P P 03 32 35.4 -0.4
baz=136
EGAK **Eagle** 83.84 338 P P 03 32 36.8 +0.2
SUMG **Summit** 84.03 12 ⇓ *i*P P 03 32 38.2 +0.2
comp=Z,139nm,1.3s
SUMG **Summit** 84.03 12 ⇓ *i*P P 03 32 38.2 +0.2
SUMG pmax pmax
comp=Z,140nm,1.3s
SUMG **Summit** 84.03 12 P P 03 32 38.1 +0.2
SCRK **Sand Creek** 84.52 337 P P 03 32 40.1 -0.2
baz=118
PAB **San Pablo** 84.64 49 P P 03 32 42.2 +0.8
PAB pmax pmax
comp=Z,76nm,1.3s
PAB **San Pablo** 84.64 49 P P 03 32 42.2 +0.8
NVL **N'lazarevskaya** 84.65 161 *e*P P 03 32 40.6 -0.1
NVL *e*S S 03 43 01.7 -5.1
NVL pmax pmax
comp=Z,17nm,0.9s
ESDC **Sonseca Array** 84.96 49 P P 03 32 44.3 +1.3
comp=Z,39nm,1.2s,baz=269,slow=4.1,SNR=57
ESDC LR LR 04 10 37.4
comp=Z,468nm,18.1s,baz=250,slow=36
ESBB **Sonseca Array** 84.97 49 P P 03 32 43.4 +0.4
TOA0 **Torodi Ar. Sit** 85.08 76 P P 03 32 44.0 -0.1
TORD **Torodi Ar. Bea** 85.08 76 P P 03 32 44.4 +0.4
comp=Z,42nm,1.2s,baz=273,slow=3.7,SNR=42
TORD LR LR 04 08 43.5
comp=Z,2μm,21.8s,baz=265,slow=34
O22K **Cooper Landing** 85.46 333 P P 03 32 44.5 -0.4
baz=112
HDA **Harding Lake** 85.87 337 P P 03 32 46.2 -0.7
baz=115,SNR=12
HDA **Harding Lake** 85.87 337 P P 03 32 46.6 -0.3
HDA IAmb IAmb 03 32 48.0
comp=Z,32nm,1.4s
IL31 **Ilulissat** 86.00 337 P P 03 32 47.1 -0.4
IL31 IAmb IAmb 03 32 48.6
comp=Z,18nm,1.3s
ILAR **Eielson Array** 86.00 337 P P 03 32 47.1 -0.5
comp=Z,5.6nm,1.0s,baz=148,slow=3.7,SNR=42
ILAR PP PP 03 36 09.3 +1.6
comp=Z,3.5nm,1.1s,baz=124,slow=7.5,SNR=10
ILAR LR LR 04 11 51.1
comp=Z,156nm,19.2s,baz=106,slow=36
CAPN **Captain Cook N** 86.22 333 P P 03 32 47.0 -1.6
baz=111
CCB **Clear Creek Bu** 86.31 337 P P 03 32 49.2 +0.2
POKR **Poker Plat Res** 86.36 337 P P 03 32 48.9 -0.4
baz=115
COLA **College** 86.42 337 *d* iP P 03 32 49.4 -0.2
COLA pmax pmax
comp=Z,10.0nm,1.3s
TCOL **CIGO, UAF Yank** 86.42 337 P P 03 32 49.1 -0.5
baz=114
CUT **Chulitna** 86.43 334 P P 03 32 49.7 +0.1
baz=112
MDM **Murphy Dome** 86.60 337 P P 03 32 50.1 -0.4
MDM IAmb IAmb 03 32 51.9
comp=Z,36nm,1.3s
NEA2 **Nenana** 86.78 336 P P 03 32 51.0 -0.4
baz=113,SNR=34
SKT **Skwentna** 86.83 334 P P 03 32 51.7 0.0
EUNU **Eureka** 86.90 359 P P 03 32 52.0 +0.3
EUNU IAmb IAmb 03 32 55.5
comp=Z,29nm,1.1s
COLD **Coldfoot** 88.24 339 P P 03 32 59.2 +0.8
baz=112,SNR=26
TOLK **Toolik Lake Re** 88.57 340 P P 03 33 00.1 +0.2
baz=113,SNR=7.3
VNDA **Vanda** 88.83 191 P P 03 33 02.2 +1.1
comp=Z,7.0nm,0.9s,baz=121,slow=4.0,SNR=44
VNDA LR LR 04 04 41.7
comp=Z,163nm,21.8s,baz=126,slow=30
VNDA **Vanda** 88.83 191 P P 03 33 01.6 +0.6
VNDA pmax pmax
comp=Z,12nm,1.0s
VNDA **Vanda** 88.83 191 P P 03 33 01.6 +0.6
VNDA IAmb IAmb 03 33 03.0
comp=Z,12nm,1.0s
TTA **Tatalina** 89.11 334 P P 03 33 01.9 -0.7
TTA pmax pmax
comp=Z,14nm,1.2s
TTA **Tatalina** 89.11 334 P P 03 33 01.9 -0.7
TTA IAmb IAmb 03 33 05.5
comp=Z,14nm,1.2s
TAM **Tamanrasset** 90.02 67 P P 03 33 07.6 -0.3
TAM pmax pmax
comp=Z,12nm,1.0s
TAM **Tamanrasset** 90.02 67 P P 03 33 07.6 -0.3
DAG **Danmarks Havn** 90.72 12 *i* P P 03 33 09.8 0.0
comp=Z,46nm,1.3s
DAG **Danmarks Havn** 90.72 12 *i* P P 03 33 09.8 0.0
DAG pmax pmax
comp=Z,46nm,1.3s
FALS **False Pass** 90.92 325 P P 03 33 11.3 +0.3
CLF **Chambon-Foret** 91.01 42 P P 03 33 11.6 -0.1
CLF IAmb IAmb 03 33 22.7
comp=Z,24nm,0.9s
UCC **Uccle** 92.77 39 P P 03 33 19.8 0.0
UCC pmax pmax
comp=Z,13nm,0.5s
UCC **Uccle** 92.77 39 P P 03 33 19.8 0.0
DOU **Dourbes** 92.83 40 PcP P 03 33 20.5 +0.4
BCLA **Clavier** 93.32 40 PcP PcP 03 33 22.9 0.0
WLF **Walferdange** 93.78 41 PcP PcP 03 33 25.5 +0.5
WLF **Walferdange** 93.78 41 P P 03 33 24.4 -0.1
WLF pmax pmax
comp=Z,33nm,1.3s
WLF **Walferdange** 93.78 41 P P 03 33 24.4 -0.1
MEM **Membach** 93.78 40 PcP PcP 03 33 25.9 +1.0
SYO **Syowa Base** 94.22 162 ⇑ *i*P P 03 33 25.0 -1.1
SYO **Syowa Base** 94.22 162 ⇓ *e*PcP P 03 33 26.0 -0.1
SYO **Syowa Base** 94.22 162 ⇓ *e*pP pP 03 33 32.0 +1.3
SYO **Syowa Base** 94.22 162 ⇑ *e*sP sP 03 33 34.1 +1.8
ECH **Echery** 94.29 42 P P 03 33 26.6 -0.3
ECH pmax pmax
comp=Z,12nm,1.1s
ECH **Echery** 94.29 42 P P 03 33 26.6 -0.3
ECH IAmb IAmb 03 33 30.0
comp=Z,12nm,1.1s
KEST **Kesra** 94.77 55 LR LR 04 15 27.7
comp=Z,217nm,20.5s,baz=200,slow=35
DAVA **Damuels** 96.05 43 *e*PcP PcP 03 33 35.6 +0.2
comp=Z,9.8nm,1.2s
FUORN **Ofenpass-Fuorn** 96.27 44 P P 03 33 36.4 +0.1
FUORN IAmb IAmb 03 33 47.4
comp=Z,13nm,1.5s
TSUM **Tsumeb** 96.36 110 P P 03 33 37.2 +0.1
TSUM IAmb IAmb 03 33 40.6
comp=Z,12nm,1.1s
FETA **Feichten** 96.61 43 *e*PcP PcP 03 33 38.1 +0.2
comp=Z,9.8nm,1.3s
RETA **Reutte** 96.66 43 *e*P P 03 33 37.1 -0.7
comp=Z,3.3nm,1.1s
MOTA **Moosalm** 96.88 43 *e*PcP P 03 33 39.2 +0.2

	comp=Z,8.5nm,1.3s								
SQTA	**Sankt Quirin**	**96.94**	**43**	*e*P		**P**	**03 33 38.3**	**-0.9**	
	comp=Z,6.5nm,0.9s								
CTI	**Castel Tesino**	**97.20**	**44**	P		**P**	**03 33 40.3**	**-0.1**	
CTI				pmax		pmax			
	comp=Z,12nm,1.3s								
CTI	**Castel Tesino**	**97.20**	**44**	P		**P**	**03 33 40.2**	**-0.1**	
CTI				IAmb		IAmb	03 33 50.9		
	comp=Z,12nm,1.3s								
WATA	**Walderalm**	**97.20**	**43**	PcP		Pdif	03 33 40.9	+0.4	
	comp=Z,4.7nm,0.7s								
WTTA	**Wattenberg**	**97.24**	**43**	*e*PcP		Pdif	03 33 41.5	+0.8	
	comp=Z,11nm,1.2s								
NB2	**NORSAR Subarra**	**97.38**	**29**	P		**P**	**03 33 40.7**	**0.0**	
	comp=Z,18nm,2.0s,baz=266,slow=4.6								
NB2	**NORSAR Subarra**	**97.38**	**29**	P		**P**	**03 33 40.7**	**0.0**	
	baz=266,slow=4.6								
NOA	**NORSAR Array B**	**97.38**	**29**	P		**P**	**03 33 40.5**	**-0.3**	
	comp=Z,1.5nm,1.1s,baz=268,slow=4.5,SNR=4.8								
NOA				LR		LR	04 17 08.0		
	comp=Z,118nm,19.3s,baz=260,slow=35								
CIMO	**Cimolais**	**97.75**	**44**	P		**P**	**03 33 42.7**	**-0.1**	
CIMO				IAmb		IAmb	03 33 53.5		
	comp=Z,9.6nm,1.3s								
ABTA	**Abfaltersbach**	**97.82**	**44**	*e*PcP		Pdif	03 33 43.8	+0.6	
	comp=Z,7.3nm,1.2s								
NKC	**Novy Kostel**	**97.87**	**40**	AMS		AMS	04 09 20.0		
	comp=Z,500nm,28.3s								
CLL	**Collm**	**98.24**	**39**⇑	*i* Pdif		Pdif	03 33 47.1	+2.3	
	comp=Z,8.0nm,1.3s								
CLL				*i* PP		**PP**	**03 37 43.9**	**-0.6**	
	comp=Z,10.0nm,1.4s								
CLL				*e*PPlp			03 37 52.0		
CLL				*e*SKSac		**SKSac**	**03 44 24.0**	**+2.4**	
CLL				*e*S		**ScS**	**03 45 14.0**	**+2.4**	
CLL				*e*SS		**SS**	**03 51 54.0**	**-0.9**	
CLL				L		L	04 13 00.0		
	comp=Z,200nm,21.4s								
CLL	**Collm**	**98.24**	**39**⇑	*i* P		Pdif	03 33 47.1	+2.3	
CLL				*e*			03 44 24.0		
CLL				pmax		pmax			
	comp=Z,8.0nm,1.3s								
KBA	**Koelnbreinsper**	**98.40**	**43**	*e*Pdiff		Pdif	03 33 47.2	+1.3	
	comp=Z,3.8nm,1.1s								
PRED	**Cave del Predi**	**98.54**	**44**	P		Pdif	03 33 46.8	+0.5	
PRED				IAmb		IAmb	03 33 49.6		
	comp=Z,10nm,1.2s								
KHC	**Kasperske Hory**	**98.58**	**41**	*c*eP		Pdif	03 33 47.0	+0.6	
KHC				pmax		pmax			
	comp=Z,5.0nm,1.2s								
KHC	**Kasperske Hory**	**98.58**	**41**	*e*PDIFF		Pdif	03 33 47.1	+0.7	
KHC				*ep*P		pwP	03 33 56.0	-1.8	
KHC				AMS		AMS	04 12 50.0		
	comp=Z,300nm,23.8s								
GERES	**GERESS Array B**	**98.66**	**42**	P		**P**	**03 33 46.8**	**-0.1**	
	comp=Z,0.8nm,0.9s,baz=256,slow=5.4,SNR=5.0								
GERES				LR		LR	04 16 34.7		
	comp=Z,105nm,20.7s,baz=270,slow=34								
BRG	**Berggiesshubel**	**98.83**	**40**	*e*P		Pdif	03 33 49.9	+2.5	
	comp=Z,9.9nm,1.4s								
BRG				*e*			03 33 57.4		
	comp=Z,4.0nm,1.1s								
	comp=Z,390nm,24.8s								
	comp=N,162nm,29.3s								
	comp=E,314nm,29.3s								
MOA	**Molln**	**99.03**	**43**	*e*Pdiff		**Pdif**	**03 33 49.1**	**+0.7**	
	comp=E,6.1nm,1.3s								
PRA	**Prague**	**99.14**	**40**	AMS		AMS	04 09 50.0		
	comp=E,200nm,32.1s								
PRU	**Pruhonice**	**99.22**	**41**	AMS		AMS	04 10 00.0		
	comp=E,400nm,30.7s								
OBKA	**Obir**	**99.22**	**44**	*e*Pdiff		**Pdif**	**03 33 51.2**	**+1.8**	
	comp=E,3.5nm,1.2s								
PVCC	**Panska Ves**	**99.23**	**40**	AMS		AMS	04 09 50.0		
	comp=E,400nm,27.2s								
GOPC	**GO Pecny, Ondr**	**99.37**	**41**	AMS		AMS	04 10 00.0		
	comp=E,400nm,32.0s								
SOKA	**Soboth**	**99.55**	**44**	*e*Pdiff		**Pdif**	**03 33 52.0**	**+1.2**	
	comp=E,3.3nm,1.2s								
TREC	**Trest**	**99.84**	**41**	AMS		AMS	04 22 00.0		
	comp=E,300nm,18.5s								
CONA	**Conrad Observa**	**100.11**	**43**	*e*Pdiff		**Pdif**	**03 33 54.0**	**+0.7**	
	comp=E,3.9nm,1.4s								
UPC	**Upice**	**100.15**	**40**	AMS		AMS	04 10 20.0		
	comp=E,600nm,36.3s								
CHVC	**Chvalec**	**100.18**	**40**	AMS		AMS	04 09 50.0		
	comp=E,600nm,43.3s								
OSTC	**Ostas**	**100.28**	**40**	AMS		AMS	04 09 50.0		
	comp=E,500nm,32.2s								
DPC	**Dobruska-Polom**	**100.35**	**40**	AMS		AMS	04 11 10.0		
	comp=E,400nm,28.7s								
KRLC	**Kraliky**	**100.66**	**40**	AMS		AMS	04 10 30.0		
	comp=E,300nm,31.5s								
ARCES	**ARCESS Array B**	**102.41**	**20**	P		**Pdif**	**03 34 01.2**	**-1.7**	
	comp=E,1.0nm,0.8s,baz=336,slow=8.4,SNR=3.7								
ARCES				PKKPbc		**PKKPbc**	**03 50 05.7**	**-1.3**	
	comp=E,0.6nm,0.6s,baz=60,slow=2.9,SNR=3.9								
FINES	**FINESS Array B**	**104.48**	**28**	PKKPbc		PKKPbc	03 49 58.4	-2.2	
	comp=E,1.2nm,0.6s,baz=2.9,slow=3.8,SNR=5.2								
DZM	**Mont Dzumac**	**107.42**	**244**	*e*SP		SP	03 48 08.8	-4.8	
	comp=E,144nm,27.9s								
DZM	**Mont Dzumac**	**107.42**	**244**	*e*LR		LR	04 09 56.7		
	comp=E,899nm,30.6s								
AKASG	**Malin Array Be**	**108.48**	**39**	PP		**PP**	**03 39 07.7**	**+6.8**	
	comp=E,1.2nm,0.7s,baz=270,slow=6.5,SNR=8.2								
TMCR	**Tamitsa**	**108.83**	**24**	*e*P		**Pdif**	**03 34 30.1**	**-1.5**	
KLMR	**Klimovskoe**	**110.84**	**27**	*e*PP		**PP**	**03 39 20.4**	**+2.9**	
KLMR				AMP			03 39 24.2		
	comp=Z,9.0nm,1.2s								
TIXI	**Tiksi**	**112.62**	**350**	*i* PKIKP		**PKiKP**	**03 38 43.3**	**0.0**	
KIV	**Kislovodsk**	**119.13**	**43**	*i* PKIKP		**PKPdf**	**03 38 54.4**	**-2.4**	
KIV				pmax		pmax			
	comp=Z,16nm,1.1s								
KBZ	**Khabaz**	**119.36**	**43**	PKP		**PKiKP**	**03 38 57.8**	**+0.6**	
	comp=Z,3.6nm,0.7s,baz=266,slow=4.3,SNR=9.4								
ARU	**Arti**	**121.55**	**25**	*i* PKIKP		**PKPdf**	**03 39 00.5**	**-0.4**	
ARU							03 40 34.3		
ARU							03 46 09.5		
ARU				SS		SS	03 57 02.5	-3.9	
ARU	**Arti**	**121.55**	**25**			**PKPdf**	**03 39 00.6**	**-0.4**	
STKA	**Stephens Creek**	**123.55**	**224**	PKP		**PKPdf**	**03 39 05.3**	**-0.3**	
	comp=Z,5.1nm,0.7s,baz=124,slow=2.8,SNR=16								
YSS	**Yuzh-Sakhalins**	**124.99**	**324**⇑	*e*PKIKP		**PKPdf**	**03 39 04.1**	**-3.7**	
YSS				pmax		pmax			
	comp=Z,20nm,1.2s								
BOD	**Bodaibo**	**127.80**	**349**	*e*PKIKP		**PKPdf**	**03 39 11.5**	**-1.3**	
BOD				pmax		pmax			
	comp=Z,6.0nm,1.7s								
ZEA	**Zeya**	**127.80**	**339**	*e*PKIKP		**PKPdf**	**03 39 12.8**	**-0.2**	
ZEA				pmax		pmax			
	comp=Z,23nm,1.0s								
BRVK	**Borovoye**	**128.61**	**21**	*c i*PKIKP		**PKPdf**	**03 39 14.2**	**-0.4**	
BRVK				pmax		pmax			
	comp=Z,10.0nm,1.3s								
BRVK	**Borovoye**	**128.61**	**21**	PKPdf		**PKPdf**	**03 39 14.9**	**+0.3**	
KLR	**Kul'dur**	**129.35**	**332**	*c i*PKIKP		**PKPdf**	**03 39 15.1**	**-1.0**	
ZAA0	**Zalesovo Array**	**131.84**	**11**	PKPdf		**PKPdf**	**03 39 20.1**	**-0.5**	
ZALV	**Zalesovo Beam**	**131.84**	**11**	PKP		**PKPdf**	**03 39 19.6**	**-1.0**	
	comp=Z,4.4nm,0.5s,baz=277,slow=1.2,SNR=25								
GEYT	**Alibeck**	**132.25**	**44**	PKP		**PKPdf**	**03 39 22.4**	**+0.4**	
	comp=Z,3.3nm,0.6s,baz=308,slow=7.3,SNR=7.0								
USA0B	**Ussuriysk Arra**	**132.69**	**327**	PKIKP		**PKPdf**	**03 39 23.1**	**+0.5**	
USA0B	**Ussuriysk Arra**	**132.69**	**327**	PKPdf		**PKPdf**	**03 39 23.1**	**+0.5**	
USRK	**Ussuriysk Ar.**	**132.69**	**327**	PKP		**PKPdf**	**03 39 22.1**	**-0.4**	
	comp=Z,3.7nm,0.8s,baz=40,slow=3.2,SNR=13								
MJAR	**Matsushiro Arr**	**133.25**	**315**	PKP		**PKPdf**	**03 39 23.1**	**-0.8**	
	comp=Z,1.2nm,0.4s,baz=137,slow=1.3,SNR=6.0								
MAJO	**Matsushiro**	**133.25**	**315**	*i* PKIKP		**PKPdf**	**03 39 23.0**	**-0.9**	
KURK	**Kurchatov**	**133.35**	**17**	*c i*PKIKP		**PKPdf**	**03 39 23.7**	**+0.1**	
KURK				pmax		pmax			
	comp=Z,21nm,1.3s								
KURK	**Kurchatov**	**133.35**	**17**	PKPdf		**PKPdf**	**03 39 23.7**	**+0.1**	
AS31	**Alice Springs**	**133.88**	**228**	PKPdf		**PKPdf**	**03 39 24.7**	**-0.8**	
ASAR	**Alice Springs**	**133.88**	**228**	PKhKP		PKPpre	03 39 15.8		
	comp=Z,0.4nm,0.6s,baz=130,slow=3.3,SNR=4.9								
ASAR				PKP		**PKPdf**	**03 39 24.6**	**-0.9**	
	comp=Z,6.1nm,0.7s,baz=117,slow=2.2,SNR=45								
WR0	**Warramunga Arr**	**135.52**	**232**	PKPdf		**PKPdf**	**03 39 28.1**	**-0.5**	
WB2	**Warramunga Arr**	**135.68**	**232**	PKPdf		**PKPdf**	**03 39 28.7**	**-0.2**	
WRAB	**Tennant Creek**	**135.68**	**232**	*c i*PKIKP		**PKPdf**	**03 39 27.5**	**-1.4**	
WRAB				pmax		pmax			
	comp=Z,14nm,0.8s								
WRA	**Warramunga Arr**	**135.68**	**232**	PKP		**PKPdf**	**03 39 28.2**	**-0.7**	
	comp=Z,15nm,0.9s,baz=119,slow=2.0,SNR=31								
WB0	**Warramunga Arr**	**135.74**	**232**	PKPdf		**PKPdf**	**03 39 28.8**	**-0.2**	
ZAK	**Zakamensk**	**136.50**	**355**	*e*PKIKP		**PKPdf**	**03 39 29.6**	**0.0**	
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.4s								
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.4s								
MK31	**Makanchi Array**	**137.94**	**17**	PKIKP		**PKPdf**	**03 39 31.7**	**-0.6**	
MK31	**Makanchi Array**	**137.94**	**17**	PKPdf		**PKPdf**	**03 39 31.6**	**-0.6**	
MKAR	**Makanchi Array**	**137.94**	**17**	PKhKP		PKPpre	03 39 23.1		
	comp=Z,0.6nm,0.6s,baz=340,slow=2.5,SNR=6.1								
MKAR				PKP		**PKPdf**	**03 39 30.9**	**-1.4**	
	comp=Z,1.7nm,0.6s,baz=342,slow=3.0,SNR=13								
ULN	**Ulaanbaatar**	**138.54**	**351**	PKIKP		**PKPdf**	**03 39 33.6**	**0.0**	
ULN	**Ulaanbaatar**	**138.54**	**351**			**PKPdf**	**03 39 33.6**	**0.0**	
AAK	**Ala-Archa**	**138.65**	**27**	*i* PKIKP		**PKPdf**	**03 39 33.3**	**-0.6**	
AAK	**Ala-Archa**	**138.65**	**27**	PKPdf		**PKPdf**	**03 39 34.5**	**+0.6**	
SONM	**Songino Array**	**138.67**	**352**	PKhKP		PKPpre	03 39 23.3		
	comp=Z,3.9nm,0.9s,baz=344,slow=2.2,SNR=15								
SONM				PKP		**PKPdf**	**03 39 32.3**	**-1.4**	
	comp=Z,4.9nm,0.8s,baz=335,slow=0.9,SNR=11								
CHGR	**Chuyangaron**	**138.84**	**36**	PKPdf		**PKPdf**	**03 39 34.4**	**+0.1**	
KSRS	**Korea Array**	**139.46**	**323**	PKP		**PKPdf**	**03 39 34.8**	**-0.5**	
	comp=Z,11nm,0.9s,baz=23,slow=0.8,SNR=5.7								
KS19	**Wonju Array Si**	**139.47**	**323**			**PKPdf**	**03 39 35.2**	**-0.2**	
PRZ	**Przheval'sk**	**140.42**	**23**	PKIKP		**PKiKP**	**03 39 38.6**	**-1.2**	
PRZ	**Przheval'sk**	**140.42**	**23**			**PKiKP**	**03 39 38.6**	**-1.2**	
TARG	**Taragay, Kyrgy**	**140.81**	**25**	PKPdf		**PKPdf**	**03 39 38.9**	**+0.6**	
KSH	**Kashi**	**141.80**	**28**	*e*PKP		**PKPdf**	**03 39 39.3**	**-0.4**	
WMQ	**Urumqi**	**142.07**	**13**	*e*PKP		**PKPdf**	**03 39 37.8**	**-2.2**	
WMQ				AMB		AMB			
	comp=Z,100nm,7.1s								
WMQ				LR		LR			
	comp=Z,140nm,23.9s								
WMQ				LR		LR			
	comp=Z,170nm,23.9s								
WMQ				LR		LR			
	comp=Z,290nm,23.9s								
FITZ	**Fitzroy Crossi**	**143.37**	**227**			**PKPdf**	**03 39 42.6**	**-0.3**	
BJI	**Beijing**	**143.37**	**337**	PKP		PKPab	03 39 38.2	-0.1	
HHC	**Hu-ho-hao-te**	**144.23**	**343**	*e*PKP		**PKiKP**	**03 39 46.8**	**-0.7**	
NIL	**Nilore**	**144.66**	**38**	PKIKP		PKPbc	03 39 43.8	+0.2	
NIL	**Nilore**	**144.66**	**38**	PKPdf		PKPbc	03 39 43.8	+0.2	
PSA00	**Pilbara Seismi**	**144.71**	**216**	PKPdf		**PKPab**	**03 39 43.7**	**-0.2**	
BTO	**Baotou**	**144.89**	**345**	*e*PKP		**PKPab**	**03 39 43.0**	**-1.1**	
TIA	**Tai'an**	**146.19**	**332**	PKPbc		**PKPdf**	**03 39 47.0**	**-0.3**	
GTA	**Gaotai**	**147.63**	**358**	⇓PKPbc		**PKPbc**	**03 39 52.1**	**-0.4**	
GTA				pPKP		sPKPab	03 40 02.0	+1.2	
GTA				LR		LR			
	comp=Z,160nm,20.0s								
GTA				LR		LR			
	comp=Z,180nm,21.6s								
GTA				LR		LR			
	comp=Z,210nm,19.4s								
NJ2	**Nanjing**	**148.55**	**325**	*e*PKPbc		**PKPdf**	**03 39 50.9**	**-0.4**	
SOEI	**Soe**	**149.36**	**238**			**PKPbc**	**03 39 58.2**	**+0.5**	
LZH	**Lanzhou**	**150.55**	**351**	*e*PKPbc		**PKiKP**	**03 40 00.6**	**-0.1**	
XAN	**Xi'an**	**151.32**	**342**	PKPbc		**PKPdf**	**03 39 55.9**	**+0.2**	
XAN				pPKP		PKPbc	03 40 01.7	0.0	
XAN	**Xi'an**	**151.32**	**342**	PKIKP		**PKPdf**	**03 39 55.2**	**-0.5**	
XAN							03 40 00.9		
XAN	**Xi'an**	**151.32**	**342**			**PKPdf**	**03 39 55.2**	**-0.5**	
XAN				PKPbc		**sPKPdf**	**03 40 00.9**	**-1.2**	
WHN	**Wuhan**	**152.14**	**329**	PKPbc		**PKPbc**	**03 40 02.8**	**-0.8**	
SSLB	**Suanglung**	**152.61**	**310**			**PKPdf**	**03 39 55.7**	**-2.2**	
ENH	**Enshi**	**154.54**	**337**			**PKPdf**	**03 40 00.1**	**-0.4**	
ENH						**PKPbc**	**03 40 08.2**	**-0.7**	
CD2	**Chengdu**	**155.62**	**349**	PKP		**PKPdf**	**03 40 00.5**	**-1.5**	
GYA	**Guiyang**	**159.04**	**339**	⇑PKP		**PKPdf**	**03 40 06.6**	**+0.1**	
GYA				pPKP		pPKPdf	03 40 11.5	+0.2	
GYA				PKPab		**PKPab**	**03 40 42.1**	**-0.7**	
GYA				PP		**PP**	**03 44 27.8**	**+5.5**	
GYA				AMB		AMB			
	comp=Z,100nm,5.0s								
KMI	**Kunming**	**161.43**	**348**	⇓*e*PKP		**PKPdf**	**03 40 10.9**	**+1.6**	
KMI				pPKP		pPKPdf	03 40 13.8	-0.3	
KMI				sPKP			03 40 20.6		
QIZ	**Qiongzhong**	**163.61**	**318**	PKP		**PKPdf**	**03 40 10.9**	**-0.4**	
QIZ				PP		**PP**	**03 44 47.5**	**0.0**	
QIZ				SS		SS	04 05 17.7	+3.5	
QIZ				AMB		AMB			
	comp=Z,170nm,4.9s								
QIZ				LR		LR			
	comp=Z,210nm,8.8s								
SLVN	**Son La**	**164.72**	**340**			**PKPdf**	**03 40 12.7**	**+0.3**	
SLVN				PKPab		**PKPab**	**03 41 08.1**	**+0.5**	
KSM	**Kuching**	**166.94**	**246**			**PKPdf**	**03 40 14.0**	**-0.4**	
KSM				PKPab		**PKPab**	**03 41 17.3**	**-0.5**	
CHTO	**Chiang Mai**	**168.17**	**357**	PKP2		**PKPab**	**03 41 21.7**	**-1.1**	
CHTO							04 40 14.3		
CHTO	**Chiang Mai**	**168.17**	**357**	PKPdf		**PKPdf**	**03 40 14.2**	**-0.8**	
CHTO				PKPab		**PKPab**	**03 41 21.7**	**-1.1**	
CMAR	**Chiang Mai Arr**	**168.53**	**357**	PKP		**PKPdf**	**03 40 14.6**	**-0.7**	
	comp=Z,2.5nm,0.7s,baz=296,slow=1.8,SNR=14								
CMAR				PKPab		**PKPab**	**03 41 23.6**	**-0.7**	
	comp=Z,9.0nm,0.9s,baz=344,slow=5.0,SNR=17								
CMAR	**Chiang Mai Arr**	**168.53**	**357**	PKP2		**PKPab**	**03 41 23.6**	**-0.7**	
CMAR							04 40 14.6		
RPSI	**Rantau Prapat**	**175.76**	**187**			**PKPdf**	**03 40 18.0**	**-0.7**	
PSI	**Prapat**	**175.87**	**187**	PKIKP		**PKPdf**	**03 40 18.0**	**-0.9**	

*NEIC **04** 03:35:57.0±0.9, 35.°19N±0.°04×113.°60W±0.°04, h7km±6km, ML2.5/64, Error ellipse: s-maj=5.8km s-min=4.6km az=167.0*
*ANF **04** 03:35:58.5±0.5, 35.°16N×113.°63W, h22km±5km, ML2.7/15, Error ellipse: s-maj=4.0km s-min=2.3km az=153.0*
ISC 04 03:35:57.7±1.2, 35.°17N±0.°03×113.°62W±0.°03, h10km±9km, n43, σ0°78/51, Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
W13A	**Hualapai Mount**	**0.23**	**252**	Pg	**Pg**	**03 36 01.9**	**-0.5**
W13A				Sg	**Sg**	**03 36 06.2**	**+0.4**
W13A				IAML		03 36 06.6	
	comp=N,562nm,0.5s						
PDMCI	**Parker Dam,Lak**	**0.96**	**206**	P	**Pg**	**03 36 15.7**	**-0.5**
	baz=26,SNR=42						
PDMCI				S	**Sb**	**03 36 29.1**	**-0.2**
	baz=26						
Y14A	**Wickenburg**	**1.33**	**157**	Pn	**Pn**	**03 36 21.2**	**-1.2**
IRM	**Iron Mountain**	**1.61**	**232**	P	**Pn**	**03 36 25.5**	**-0.7**
	baz=50,SNR=19						
IRM				S	**Sn**	**03 36 46.5**	**-0.5**
	baz=50						
U15A	**North Rim**	**1.66**	**40**	Pn	**Pn**	**03 36 25.8**	**-1.3**
U15A				IAML		03 36 48.9	
	comp=E,57nm,0.5s						
U15A				IAML		03 36 49.5	
	comp=N,68nm,0.5s						
GMRC	**Granite Mounta**	**1.72**	**258**	P	**Pn**	**03 36 27.0**	**-0.7**
	baz=76,SNR=11						
SHPR	**Sheep Range**	**1.83**	**317**		**Pn**	**03 36 28.4**	**-0.9**
LCMT	**Little Creek M**	**1.86**	**9**		**Pn**	**03 36 29.2**	**-0.5**
WUAZ	**Wupatki**	**1.87**	**79**	P	**Pn**	**03 36 29.8**	**-0.1**
	baz=260,SNR=8.1						
WUAZ				S	**Sn**	**03 36 52.8**	**-0.9**
	baz=260						
WUAZ	**Wupatki**	**1.87**	**79**	Pn	**Pn**	**03 36 29.9**	**-0.1**
WUAZ				IAML		03 36 54.4	
	comp=N,70nm,0.7s						
WUAZ				IAML		03 36 56.5	
	comp=N,60nm,0.5s						
TUQ	**Turquoise Moun**	**1.90**	**279**	P	**Pn**	**03 36 29.6**	**-0.7**
	baz=97,SNR=11						
X16A	**Lo Mia Camp, P**	**1.95**	**112**		**Pn**	**03 36 30.5**	**-0.4**
KNB	**Kanab**	**1.95**	**19**		**Pn**	**03 36 30.5**	**-0.6**
HEC	**Hector,Ludlow**	**2.25**	**262**	P	**Pn**	**03 36 34.1**	**-0.9**
	baz=80						
GLA	**Glamis**	**2.34**	**206**	Pb	**Pb**	**03 36 40.4**	**+0.5**
	baz=25						
GLA				Sb	**Sb**	**03 37 10.0**	**+1.2**
	baz=25						
GLA	**Glamis**	**2.34**	**206**		**Pn**	**03 36 36.2**	**+0.1**
GLA				IAML		03 37 20.2	
	comp=N,43nm,0.6s						
CCUT	**Cedar City**	**2.38**	**5**	Pn	**Pn**	**03 36 36.3**	**-0.7**
113A	**Mohawk Valley,**	**2.40**	**183**	Pn	**Pn**	**03 36 37.5**	**+0.6**
113A				IAML		03 37 15.7	
	comp=N,33nm,0.6s						
113A				IAML		03 37 15.9	
	comp=E,18nm,0.6s						
SZCU	**Shurtz Canyon**	**2.46**	**10**		**Pn**	**03 36 37.8**	**-0.2**
PKCU	**Pink Cliffs**	**2.50**	**25**		**Pn**	**03 36 38.4**	**-0.4**
GSC	**Goldstone, Bar**	**2.61**	**274**	P	**Pn**	**03 36 39.3**	**-0.6**
	baz=92						
GSC	**Goldstone, Bar**	**2.61**	**274**	Pn	**Pn**	**03 36 39.2**	**-0.8**
GSC				IAML		03 37 26.1	
	comp=E,24nm,1.0s						
GSC				IAML		03 37 26.8	
	comp=N,17nm,0.9s						
TPNV	**Topopah Spring**	**2.77**	**311**	P	**Pn**	**03 36 42.1**	**-0.1**
	baz=129,SNR=17						
TPNV	**Topopah Spring**	**2.77**	**311**		**Pn**	**03 36 42.3**	**+0.1**
TPNV				IAML		03 37 27.3	
	comp=N,25nm,0.8s						
TPNV				IAML		03 37 27.3	
	comp=N,26nm,0.6s						
XPFO	**Pion Flat**	**2.81**	**237**	Pn	**Pn**	**03 36 42.5**	**-0.3**
TPFO	**Pinon Flats**	**2.81**	**237**	P	**Pn**	**03 36 42.8**	**-0.1**
	baz=55						
TPFO				S	**Sn**	**03 37 16.3**	**-0.6**
	baz=55						
PFO	**Pinyon Flats O**	**2.81**	**237**	P	**Pn**	**03 36 42.8**	**-0.1**
	baz=55						
PFO				S	**Sn**	**03 37 16.2**	**-0.7**
	baz=55						
PFO	**Pinyon Flats O**	**2.81**	**237**	Pn	**Pn**	**03 36 42.9**	**+0.1**
MTPU	**Mount Pierson**	**3.09**	**22**	Pn	**Pn**	**03 36 45.6**	**-1.2**
W18A	**Petrified Fore**	**3.19**	**90**	Sb	**Sb**	**03 37 35.0**	**+1.6**
	baz=272						
MPMC	**Manual Prospec**	**3.27**	**287**	P	**Pn**	**03 36 48.9**	**-0.3**
	baz=104						
214A	**Organ Pipe Nat**	**3.28**	**168**	Pb	**Pb**	**03 36 56.1**	**+0.1**
	baz=349						
214A	**Organ Pipe Nat**	**3.28**	**168**	Pn	**Pn**	**03 36 49.2**	**+0.1**
PSUT	**Pine Spring**	**3.36**	**357**	Pn	**Pn**	**03 36 49.4**	**-1.1**
R11A	**Troy Canyon, C**	**3.54**	**334**	P	**Pn**	**03 36 52.4**	**-0.5**
	baz=153,SNR=7.2						
R11A				Sb	**Sb**	**03 37 46.5**	**+2.8**
	baz=153						
R11A	**Troy Canyon, C**	**3.54**	**334**	Pn	**Pn**	**03 36 52.7**	**-0.2**
BAR	**Barrett**	**3.55**	**226**	Pn	**Pn**	**03 36 51.8**	**-1.1**
BAR				IAML		03 37 33.1	
	comp=E,5.8nm,4.6s						
TCRU	**Three Creeks R**	**3.56**	**15**	Pn	**Pn**	**03 36 52.9**	**-0.3**
ESJX	**Sierra Juarez**	**3.71**	**212**	Pn	**Pn**	**03 36 55.4**	**+0.2**
ESJX				IAML		03 37 37.2	
	comp=N,9.8nm,0.1s						
ESJX				IAML		03 37 37.5	
	comp=E,8.6nm,0.1s						
CBX	**Cerro Bola**	**3.81**	**222**	Pn	**Pn**	**03 36 56.4**	**-0.2**
CBX				IAML		03 38 09.7	
	comp=N,8.2nm,1.9s						
CBX				IAML		03 39 03.9	
	comp=E,6.8nm,2.3s						
ISA	**Isabella, Lake**	**3.99**	**278**	Pn	**Pn**	**03 36 58.5**	**-0.5**
ISA				IAML		03 38 44.6	
	comp=E,4.2nm,4.5s						
ISA				IAML		03 39 03.3	
	comp=N,4.7nm,4.2s						
PV17	**East Wray Mesa**	**4.86**	**49**	Pn	**Pn**	**03 37 10.3**	**-0.8**
319A	**Douglas**	**5.25**	**135**	Pn	**Pn**	**03 37 16.0**	**-0.3**

*IDC **04** 03:43:08.0±5.2, 11.°90S×166.°54E, h170km±46km, mb3.4/6, mb1 3.6/7, mb1mx3.4/31, mbtmp3.9/7, Error ellipse: s-maj=30.3km s-min=28.3km az=88.0*
*NEIC **04** 03:43:08.9±1.1, 11.°9S±0.°1×166.°5E±0.°2, h176km±7km, mb4.5/16, Error ellipse: s-maj=23.9km s-min=16.8km az=93.0*
ISC 04 03:43:06.0±0.7, 11.°81S±0.°09×166.°5E±0.°1, h150km, n28, σ0°91/29, mb4.4/13, Santa Cruz Islands

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

WRA	**Warramunga Arr**	**32.59**	**262**	P	**P**	03 52 10.7	**0.0**
	comp=Z,1.3nm,0.9s,baz=93,slow=6.7,SNR=3.7						
AS31	**Alice Springs**	**32.93**	**255**	P	**P**	03 52 14.3	**+0.7**
AS31				IAmb	IAmb	03 52 15.3	
	comp=Z,2.1nm,0.6s						
ASAR	**Alice Springs**	**32.93**	**255**	P	**P**	03 52 14.7	**+1.0**
	comp=Z,5.8nm,0.7s,baz=85,slow=9.0,SNR=59						
FITZ	**Fitzroy Crossi**	**40.97**	**264**	P	**P**	03 53 22.0	**+0.4**
KAPI	**Kappang**	**49.82**	**280**	LR	LR	04 18 02.2	
	comp=Z,77nm,18.8s,baz=108,slow=38						
QSPA	**South Pole Qui**	**71.29**	**180**	P	**P**	03 56 55.6	**-0.6**
QSPA				IAmb	IAmb	03 56 58.6	
	comp=Z,4.4nm,1.1s						

*OTT **04** 03:50:26.2±0.5, 69.°55N×54.°01W, h18km, MN2.8/2, 466km northeast from Qikiqtarjuaq, Nu Eastern Arctic Background Seismic Zone.*
*DNK **04** 03:50:27.5±2.1, 69.°49N×54.°14W, h32km±26km, ML2.9*
ISC 04 03:50:22.7±0.8, 69.°57N±0.°05×54.°30W±0.°04, h10km, n17, σ2s57/28, 3C, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILULI	**Ilulissat**	**1.19**	**106** ⇑	*i*P	**Pg**	**03 50 46.8**	**+1.4**
ILULI				*i* S	**Sn**	**03 51 02.4**	**+1.0**
ILULI	**Ilulissat**	**1.19**	**106**	PN	**Pg**	**03 50 46.9**	**+1.4**
ILULI				SN	**Sb**	**03 51 01.2**	**+0.6**
ILULI				Trac		03 51 03.3	
	comp=Z,146nm,0.1s						
ILULI	**Ilulissat**	**1.19**	**106** ⇑	*i*P	**Pg**	**03 50 46.9**	**+1.4**
ILULI				*i* S	**Sn**	**03 51 02.5**	**+1.0**
ILULI				IAML		03 51 09.6	
	comp=Z,136nm,0.3s						
SFJD	**Kangerlussuaq**	**2.92**	**150**	*i* P	**Pn**	**03 51 10.4**	**+1.3**
SFJD	**Kangerlussuaq**	**2.92**	**150**	PN	**Pn**	**03 51 10.4**	**+1.3**
SFJD				SN	**Sn**	**03 51 43.5**	**-0.7**
SFJD				Trac		03 51 52.1	
	comp=Z,2.2nm,0.1s						
SFJD	**Kangerlussuaq**	**2.92**	**150**	*i* P	**Pn**	**03 51 10.4**	**+1.3**
SFJD				IAML		03 51 54.0	
	comp=Z,2.1nm,0.3s						
UPNV	**Upernavik**	**3.29**	**350** ⇑	*i*P	**Pb**	**03 51 19.1**	**-1.9**
UPNV				*e*S	**Sn**	**03 51 55.8**	**+2.6**
UPNV				IAML		03 51 57.6	
	comp=Z,21nm,0.3s						
CLRN	**Clyde River**	**4.98**	**287**	PN	**Pn**	**03 51 41.7**	**+4.3**
CLRN				SN	**Sn**	**03 52 35.0**	**+0.1**
KULLO	**Kullorsuaq**	**5.12**	**351**	PN	**Pn**	**03 51 41.5**	**+2.2**
ICESG	**Greenland Ices**	**5.21**	**88**	*i* P	**Sn**	**03 51 43.9**	**+3.0**
ICESG				*i* S	**Sn**	**03 52 37.7**	**-3.5**
ICESG				IAML		03 53 10.1	
	comp=Z,16nm,0.4s						
SUMG	**Summit**	**5.97**	**52**	*i* P	**Pn**	**03 51 52.4**	**+1.2**
SUMG				*i* S	**Sn**	**03 52 56.9**	**-2.8**
SUMG	**Summit**	**5.97**	**52**	*i* P	**Pn**	**03 51 52.5**	**+1.2**
SUMG				*i* S	**Sn**	**03 52 57.0**	**-2.8**
SUMG				IAML		03 53 31.8	
	comp=Z,21nm,0.4s						
ANGG	**Ammassalik, Gr**	**7.49**	**114**	*i* P	Pn	03 52 02.7	-9.0
ANGG				*e*S	**Sn**	**03 53 29.6**	**-6.9**
ANGG				IAML		03 53 33.3	
	comp=Z,5.8nm,0.4s						
FRB	**Frobisher Bay**	**8.11**	**231**	PN	**Pn**	**03 52 22.2**	**+1.9**
FRB				SN	**Sn**	**03 53 51.7**	**-0.2**
ILON	**Igloolik, Nuna**	**9.63**	**282**	PN	**Pn**	**03 52 42.6**	**+1.5**
ILON				SN	**Sn**	**03 54 24.1**	**-5.0**
KNGQ	**Kangiqsujuaq**	**10.79**	**231**	PN	**Pn**	**03 52 57.6**	**+0.6**
DAG	**Danmarks Havn**	**12.35**	**39**	*i* P	**Pn**	**03 53 18.6**	**+0.4**
DAG				*i*		03 55 27.8	
DAG				IAML		03 55 37.6	
	comp=Z,1.0nm,0.3s						

WEL 04 03:53:18.0, 38.°S±4.°×17.°6E±.°, h189km±7km, M3.6/107, MLv3.6/107, Error ellipse: s-maj=0.0km s-min=0.0km az=11.4, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARZ	**Kaharoa**	**0.17**	**193**	P	Pn	03 53 43.0	0.0
OPRZ	**Ohinepanea**	**0.21**	**87**	P	Pn	03 53 42.8	-0.1
OMRZ	**Omania**	**0.26**	**166**	P	Pn	03 53 43.2	+0.1
KMRZ	**Kaimai**	**0.28**	**272**	P	Pn	03 53 43.2	0.0
MARZ	**Manawahe**	**0.33**	**113**	P	Pn	03 53 43.5	+0.2
HLRZ	**Highlands Stat**	**0.40**	**173**	P	Pn	03 53 44.5	+1.0
TARZ	**Mount Tarawera**	**0.41**	**156**	P	Pn	03 53 43.9	+0.3
RRRZ	**Republican Roa**	**0.51**	**160**	P	Pn	03 53 44.1	+0.2
HRRZ	**Handcock Road**	**0.53**	**181**	P	Pn	03 53 44.1	+0.1
TOZ	**Tahuroa Road**	**0.64**	**281**	P	Pn	03 53 44.4	0.0
PRRZ	**Plateau Road**	**0.65**	**173**	P	Pn	03 53 44.6	+0.1
ALRZ	**Allen Road**	**0.71**	**177**	P	Pn	03 53 45.0	+0.3
MUGZ	**Murupara**	**0.73**	**149**	P	Pn	03 53 44.6	-0.3
MUGZ				S	Sn	03 54 03.1	-2.6
TLZ	**Tolley Road**	**0.76**	**231**	P	Pn	03 53 45.1	0.0
URZ	**Urewera**	**0.76**	**122**	P	Pn	03 53 44.6	-0.4
URZ				S	Sn	03 54 04.5	-1.4
RTZ	**Ruatahuna**	**0.93**	**145**	P	Pn	03 53 46.1	-0.1
RTZ				S	Sn	03 54 07.0	-1.2
MTHZ	**Maungataniwha**	**1.08**	**157**	P	Pn	03 53 47.2	-0.1
MTHZ				S	Sn	03 54 08.6	-1.5
MWZ	**Matawai**	**1.08**	**116**	P	Pn	03 53 47.1	-0.1
MWZ				S	Sn	03 54 09.4	-0.5
RATZ	**Rangitukua**	**1.09**	**202**	P	Pn	03 53 47.1	-0.2
RAGZ	**Rawiri**	**1.09**	**126**	P	Pn	03 53 47.6	+0.3
RUGZ	**Raukumara Rang**	**1.10**	**96**	P	Pn	03 53 46.5	-1.0
RITZ	**Rihia Road**	**1.17**	**197**	P	Pn	03 53 48.1	+0.2
MKAZ	**Moumakai**	**1.17**	**309**	P	Pn	03 53 48.0	+0.1
HAZ	**Te Kaha**	**1.19**	**86**	P	Pn	03 53 47.5	-0.5
HAZ				S	Sn	03 54 10.1	-1.0
KUZ	**Kuaotunu**	**1.20**	**337**	P	Pn	03 53 48.0	-0.2
RAHZ	**Arahi**	**1.23**	**150**	P	Pn	03 53 48.8	+0.4
RAHZ				S	Sn	03 54 11.4	-0.6
SNGZ	**Shannon Statio**	**1.24**	**139**	P	Pn	03 53 48.8	+0.4
SNGZ				S	Sn	03 54 11.1	-1.1
NMHZ	**Naumai**	**1.30**	**162**	P	Pn	03 53 48.9	-0.2
HIZ	**Hauiti**	**1.31**	**239**	P	Pn	03 53 48.8	-0.2
BKZ	**Black Stump Fm**	**1.32**	**173**	P	Pn	03 53 48.7	-0.4
BKZ				S	Sn	03 54 11.1	-2.4
TKZ	**Te Karaka**	**1.36**	**116**	P	Pn	03 53 49.9	+0.5
TWGZ	**Tauwhareparae**	**1.37**	**104**	P	Pn	03 53 50.1	+0.5
TWVZ	**Taurewa**	**1.39**	**209**	P	Pn	03 53 49.5	-0.2
OTVZ	**Oturere**	**1.40**	**200**	P	Pn	03 53 49.8	-0.1
WIAZ	**Waiheke Island**	**1.41**	**319**	P	Pn	03 53 50.0	+0.1
PKGZ	**Pakihiroa**	**1.41**	**92**	P	Pn	03 53 50.3	+0.3
WHHZ	**Waihua**	**1.43**	**149**	P	Pn	03 53 50.4	+0.4
RIGZ	**Rimuhau**	**1.44**	**127**	P	Pn	03 53 50.6	+0.5
TUVZ	**Tukino**	**1.50**	**199**	P	Pn	03 53 50.5	-0.3
ARHZ	**Aropaoanui**	**1.51**	**159**	P	Pn	03 53 51.1	+0.4
FWVZ	**Far West T-bar**	**1.51**	**202**	P	Pn	03 53 50.7	-0.4
WHVZ	**Whangaehu Hut**	**1.53**	**201**	P	Pn	03 53 50.8	-0.4
MBAZ	**Motutapu North**	**1.55**	**314**	P	Pn	03 53 51.7	+0.4
TRVZ	**Turoa**	**1.55**	**202**	P	Pn	03 53 51.1	-0.3
PUZ	**Puketiti**	**1.57**	**98**	P	Pn	03 53 51.3	-0.1
KWHZ	**Kaweka Forest**	**1.57**	**176**	P	Pn	03 53 51.2	-0.2
KNZ	**Kokohu**	**1.59**	**137**	P	Pn	03 53 51.7	+0.2
MOVZ	**Moawhango**	**1.60**	**195**	P	Pn	03 53 50.8	-0.9
PKVZ	**Pokaka**	**1.61**	**207**	P	Pn	03 53 51.4	-0.4
MCHZ	**McNeill Hill**	**1.62**	**169**	P	Pn	03 53 52.3	+0.5
MXZ	**Matakaoa Point**	**1.62**	**80**	P	Pn	03 53 52.3	+0.5
CNGZ	**Carnagh Statio**	**1.63**	**113**	P	Pn	03 53 53.0	+1.0
BHHZ	**Black Hill Sta**	**1.64**	**186**	P	Pn	03 53 51.3	-0.8
PRGZ	**Paritu Road**	**1.64**	**131**	P	Pn	03 53 52.4	+0.3
MTVZ	**Mangateitei**	**1.66**	**203**	P	Pn	03 53 51.8	-0.4
WMGZ	**Waiomatatini S**	**1.68**	**89**	P	Pn	03 53 52.7	+0.3
VRZ	**Vera Road**	**1.75**	**223**	P	Pn	03 53 53.1	0.0
KRHZ	**Kereru**	**1.79**	**178**	P	Pn	03 53 53.0	-0.5
MHGZ	**Mahia Peninsul**	**1.81**	**136**	P	Pn	03 53 54.3	+0.6
CKHZ	**Cape Kidnapper**	**1.90**	**161**	P	Pn	03 53 54.9	+0.3
KAHZ	**Kahuranaki**	**1.99**	**167**	P	Pn	03 53 55.5	0.0
PNHZ	**Pukenui**	**2.06**	**182**	P	Pn	03 53 55.4	-0.9
DREZ	**Durham Road**	**2.11**	**230**	P	Pn	03 53 57.2	+0.4
WAZ	**Wanganui**	**2.15**	**208**	P	Pn	03 53 56.4	-0.9
LREZ	**Lake Rotokare**	**2.18**	**222**	P	Pn	03 53 57.6	0.0
WPHZ	**Waipukurau**	**2.21**	**177**	P	Pn	03 53 57.0	-0.9
TSZ	**Takapari Road**	**2.21**	**187**	P	Pn	03 53 57.0	-1.0
PXZ	**Pawanui**	**2.22**	**169**	P	Pn	03 53 57.6	-0.4
PREZ	**Palmer Road**	**2.23**	**228**	P	Pn	03 53 58.4	+0.2
PKE	**Pukeiti**	**2.25**	**233**	P	Pn	03 53 58.6	+0.2
KHEZ	**Kahui Hut**	**2.29**	**230**	P	Pn	03 53 59.1	+0.2
NBEZ	**Newall Road No**	**2.37**	**233**	P	Pn	03 53 59.9	+0.2
PRHZ	**Porangahau**	**2.42**	**174**	P	Pn	03 53 59.5	-0.8
DVHZ	**Dannevirke**	**2.44**	**182**	P	Pn	03 53 59.1	-1.5
NMEZ	**Namu Road**	**2.45**	**230**	P	Pn	03 54 01.0	+0.4
OHWZ	**Ohakea**	**2.47**	**198**	P	Pn	03 53 59.8	-0.9
WCZ	**Waipu Caves**	**2.47**	**320**	P	Pn	03 53 57.4	-3.5
POWZ	**Post Office Ro**	**2.56**	**189**	P	Pn	03 54 00.3	-1.6
ANWZ	**Angora Road**	**2.60**	**177**	P	Pn	03 54 01.4	-1.0
PRWZ	**Pori Road**	**2.71**	**185**	P	Pn	03 54 02.1	-1.4
BFZ	**Birch Farm**	**2.82**	**181**	P	Pn	03 54 03.2	-1.7
MRZ	**Mangatainoka R**	**2.85**	**191**	P	Pn	03 54 03.2	-2.1
TIWZ	**Tintock**	**2.93**	**186**	P	Pn	03 54 04.4	-1.9
CPWZ	**Castlepoint**	**3.05**	**181**	P	Pn	03 54 06.3	-1.3
OGWZ	**Otaki Gorge**	**3.08**	**196**	P	Pn	03 54 05.7	-2.3
HOWZ	**Holdsworth Sta**	**3.10**	**191**	P	Pn	03 54 05.7	-2.5
KIW	**Kapiti Island**	**3.19**	**199**	P	Pn	03 54 06.5	-2.8
TMWZ	**Te Maipa**	**3.26**	**185**	P	Pn	03 54 07.7	-2.5
CAW	**Cannon Point**	**3.38**	**196**	P	Pn	03 54 08.9	-2.8
DUWZ	**D'Urville Isla**	**3.47**	**211**	P	Pn	03 54 09.7	-3.1
TRWZ	**Traveller**	**3.57**	**187**	P	Pn	03 54 11.1	-2.9
PAWZ	**Paruwai Farm**	**3.58**	**190**	P	Pn	03 54 11.0	-3.2
WEL	**Wellington**	**3.62**	**199**	P	Pn	03 54 11.4	-3.2
MSWZ	**Moikau Station**	**3.65**	**192**	P	Pn	03 54 11.6	-3.3
TCW	**Tory Channel**	**3.69**	**204**	P	Pn	03 54 12.3	-3.2
BHW	**Baring Head**	**3.71**	**197**	P	Pn	03 54 12.3	-3.4
PLWZ	**Palliser**	**3.79**	**192**	P	Pn	03 54 13.3	-3.5
TUWZ	**Tuamarina**	**4.00**	**206**	P	Pn	03 54 15.8	-3.6
NNZ	**Nelson**	**4.04**	**213**	P	Pn	03 54 16.2	-3.6
QRZ	**Quartz Range**	**4.16**	**223**	P	Pn	03 54 17.6	-3.8
CMWZ	**Cape Campbell**	**4.21**	**202**	P	Pn	03 54 19.7	-2.2
BSWZ	**Blackbirch Sta**	**4.28**	**205**	P	Pn	03 54 19.4	-3.5
THZ	**Tophouse**	**4.69**	**213**	P	Pn	03 54 24.3	-3.9
KHZ	**Kahutara**	**5.02**	**204**	P	Pn	03 54 28.6	-3.7
DSZ	**Denniston Nort**	**5.20**	**220**	P	Pn	03 54 31.0	-3.7
GVZ	**Greta Valley S**	**5.68**	**205**	P	Pn	03 54 36.6	-4.3
LTZ	**Lake Taylor**	**5.80**	**211**	P	Pn	03 54 38.0	-4.5
INZ	**Inchbonnie**	**6.11**	**216**	P	Pn	03 54 41.9	-4.6
OXZ	**Oxford**	**6.35**	**209**	P	Pn	03 54 44.2	-5.4
OKCZ	**Okains Bay**	**6.35**	**202**	P	Pn	03 54 45.1	-4.6
MQZ	**McQueen's Vall**	**6.46**	**204**	P	Pn	03 54 45.3	-5.7
AKCZ	**Akaroa Harbour**	**6.53**	**202**	P	Pn	03 54 47.1	-4.9
RPZ	**Rata Peaks**	**7.07**	**213**	P	Pn	03 54 54.6	-4.5
FOZ	**Fox Glacier**	**7.50**	**219**	P	Pn	03 55 00.1	-4.5
LBZ	**Lake Benmore**	**7.99**	**213**	P	Pn	03 55 06.1	-5.0
ODZ	**Otahua Downs**	**8.34**	**209**	P	Pn	03 55 10.8	-4.8
JCZ	**Jackson Bay**	**8.41**	**220**	P	Pn	03 55 11.0	-5.7

*IDC **04** 04:02:31.9±1.1, 0.°76N×146.°47E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.0/32, mbtmp4.1/9, ML3.1/1, Error ellipse: s-maj=37.8km s-min=18.9km az=110.0*
*NEIC **04** 04:02:34.8±1.6, 0.°78N±0.°08×146.°27E±0.°08, h15km±5km, mb4.4/9, Error ellipse: s-maj=14.2km s-min=7.4km az=131.0*
ISC 04 04:02:34.2±0.6, 0.°76N±0.°09×146.°30E±0.°09, h10km, n22, σ1s00/22, mb4.2/11, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**6.47**	**240**	Pn	**Pn**	**04 04 09.1**	**-0.5**
	0.4nm,0.3s,baz=326,slow=21,SNR=1.2						
JAY				Sn	Sn	04 05 12.7	-11
	0.6nm,0.3s,baz=94,slow=22,SNR=1.2						
RABL	**Rabaul**	**7.65**	**130**	Pn	**Pn**	**04 04 27.0**	**+1.1**
PATS	**Pohnpei**	**13.41**	**63**	Pn	**Pn**	**04 05 44.4**	**-0.5**
COEN	**Coen**	**14.95**	**192**		**P**	**04 06 10.6**	**-0.7**
ANA2	**Anatahan**	**15.49**	**358**		**P**	**04 06 16.1**	**-1.4**
MTN	**Manton Dam**	**20.23**	**228**	P	**P**	**04 07 08.9**	**-0.7**
MTN				IAmb	IAmb	04 07 20.7	
	comp=Z,32nm,1.1s						
CTAO	**Charters Tower**	**20.72**	**180**	P	**P**	**04 07 15.2**	**+0.2**
CTAO				IAmb	IAmb	04 07 21.8	
	comp=Z,21nm,1.3s						
WB0	**Warramunga Arr**	**23.50**	**209**	P	**P**	**04 07 43.7**	**-0.9**
WB0				IAmb	IAmb	04 07 45.5	
	comp=Z,8.8nm,0.9s						
WB2	**Warramunga Arr**	**23.68**	**209**	P	**P**	**04 07 45.8**	**-0.5**
WB2				IAmb	IAmb	04 07 46.8	
	comp=Z,8.6nm,0.6s						
WRA	**Warramunga Arr**	**23.68**	**209**	P	**P**	**04 07 46.2**	**-0.1**
	comp=Z,5.9nm,0.6s,baz=31,slow=11,SNR=75						
ASAR	**Alice Springs**	**27.11**	**206**	P	**P**	**04 08 17.5**	**0.0**
	comp=Z,3.2nm,0.8s,baz=36,slow=10,SNR=22						
FITZ	**Fitzroy Crossi**	**27.65**	**226**	P	**P**	**04 08 22.2**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=151,slow=23,SNR=1.3						
FITZ	**Fitzroy Crossi**	**27.65**	**226**	P	**P**	**04 08 22.0**	**-0.3**
XMIS	**Christmas Isla**	**41.95**	**253**	P	**P**	**04 10 26.1**	**+0.4**
USA0B	**Ussuriysk Arra**	**45.09**	**345**	P	**P**	**04 10 53.5**	**+2.9**
USA0B				IAmb	IAmb	04 10 57.3	
	comp=Z,6.2nm,1.1s						
CMAR	**Chiang Mai Arr**	**49.68**	**294**	P	**P**	**04 11 27.7**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=127,slow=6.4,SNR=6.5						
PETK	**Petropavlovsk-**	**53.03**	**9**	P	**P**	**04 11 50.6**	**-0.7**
	comp=Z,6.3nm,1.0s,baz=219,slow=8.3,SNR=2.9						
MK31	**Makanchi Array**	**71.90**	**319**	P	**P**	**04 13 57.7**	**-0.1**
MKAR	**Makanchi Array**	**71.90**	**319**	P	**P**	**04 13 57.6**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=99,slow=7.5,SNR=4.7						
VNDA	**Vanda**	**78.66**	**177**	P	**P**	**04 14 35.8**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=344,slow=6.0,SNR=3.5						
VNDA	**Vanda**	**78.66**	**177**	P	**P**	**04 14 36.4**	**+0.4**
ILAR	**Eielson Array**	**79.59**	**24**	P	**P**	**04 14 39.8**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=250,slow=5.7,SNR=10.0						

*GCG **04** 04:25:26.3±3.4, 15.°65N×95.°24W, h12km±999km, MD5.0*
*IDC **04** 04:25:30.9±1.1, 16.°00N×94.°60W, h58km±9km, mb4.3/23, mb1 4.5/25, mb1mx4.5/34, mbtmp4.6/25, MS3.8/22, Ms1 3.8/22, ms1mx3.8/27, Error ellipse: s-maj=14.4km s-min=9.4km az=61.0*
*MEX **04** 04:25:31.1±1.2, 15.°83N×94.°91W, h16km±13km, MD5.0*
*NEIC **04** 04:25:31.5±2.1, 15.°96N±0.°05×94.°81W±0.°05, h67km±5km, Error ellipse: s-maj=8.3km s-min=5.8km az=220.0*
ISC 04 04:25:30.2±0.8, 15.°89N±0.°04×94.°88W±0.°03, h58km±7km, n747, σ1s41/771, mb4.8/127, MS4.0/24, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.19**	**265**	*i* P	**Pn**	**04 25 49.0**	**-1.7**
HUIG				*i* S	**Sn**	**04 26 02.9**	**-3.1**
CMIG	**Matias Romero**	**1.20**	**360**	P	**Pn**	**04 25 50.2**	**-0.6**
	296nm,0.3s,baz=183,slow=11,SNR=5819						
CMIG				S	**Sn**	**04 26 05.0**	**-1.2**
	2μm,0.3s,baz=166,slow=14,SNR=23						
CMIG				LR	LR	04 26 31.8	
	comp=Z,4μm,18.8s,baz=187,slow=55						
CMIG	**Matias Romero**	**1.20**	**360**	*e*P	**Pn**	**04 25 50.3**	**-0.6**
CMIG				*i* S	**Sn**	**04 26 05.1**	**-1.0**
PANG	**Puerto Angel**	**1.55**	**262**	*i* P	**Pn**	**04 25 53.6**	**-1.9**
PANG				*i* S	**Sn**	**04 26 11.1**	**-3.5**
PCIG		**1.61**	**96**	*i* P	**Pn**	**04 25 55.8**	**-0.5**
PCIG				*i* S	**Sn**	**04 26 15.7**	**-0.3**
PCIG		**1.61**	**96**		**Pn**	**04 25 55.8**	**-0.5**
PCIG					**Sn**	**04 26 15.7**	**-0.3**
TGIG		**1.90**	**62**	*i* P	**Pn**	**04 26 00.2**	**-0.2**
TGIG				*i* S	**Sn**	**04 26 24.3**	**+1.0**
TGIG		**1.90**	**62**		**Pn**	**04 26 00.2**	**-0.2**
TGIG					**Sn**	**04 26 24.3**	**+1.0**
OXBJ	**Oaxaca**	**2.13**	**304**	*e*P	**Pn**	**04 26 03.7**	**+0.1**
OXBJ				*e*S	**Sn**	**04 26 28.6**	**-0.3**
OXBJ	**Oaxaca**	**2.13**	**304**		**Pn**	**04 26 04.7**	**+1.1**
VHO	**Vista Hermosa**	**2.14**	**304**	*i* P	**Pn**	**04 26 03.8**	**+0.1**
VHO				*e*S	**Sn**	**04 26 28.0**	**-1.2**
TUIG	**Tuzandepetl**	**2.18**	**11**	*e*P	**Pn**	**04 26 04.6**	**+0.5**
TUIG				*i* S	**Sn**	**04 26 30.6**	**+0.7**
TUIG	**Tuzandepetl**	**2.18**	**11**		**Pn**	**04 26 04.6**	**+0.5**
PEIG	**Puerto Escondi**	**2.19**	**273**	*i* P	**Pn**	**04 26 02.8**	**-1.4**
PEIG				*i* S	**Sn**	**04 26 28.7**	**-1.5**
CCIG	**Comitan**	**2.66**	**81**	*e*P	**Pn**	**04 26 11.0**	**+0.2**
CCIG				*i* S	**Sn**	**04 26 42.8**	**+0.7**
CCIG	**Comitan**	**2.66**	**81**		**Pn**	**04 26 10.9**	**0.0**
CCIG				Sn	**Sn**	**04 26 41.0**	**-1.0**
THIG		**2.70**	**111**	*i* P	**Pn**	**04 26 10.9**	**-0.2**
THIG				*i* S	**Sn**	**04 26 41.7**	**-0.9**
THIG		**2.70**	**111**		**Pn**	**04 26 10.9**	**-0.2**
THIG					**Sn**	**04 26 41.9**	**-0.8**
TXIG	**Tlaxiaco**	**3.09**	**297**	*e*P	**Pn**	**04 26 17.9**	**+1.1**
TXIG				*i* S	**Sn**	**04 26 52.6**	**0.0**
PNIG	**Pinotepa**	**3.16**	**280**	*e*P	**Pn**	**04 26 16.9**	**-0.6**
PNIG	**Pinotepa**	**3.16**	**280**		**Pn**	**04 26 16.9**	**-0.6**
HUEH	**Huehuetenango**	**3.30**	**99**		**Pn**	**04 26 21.0**	**+1.4**
RTAL	**Retalhuleu**	**3.36**	**113**	Pn	**Pn**	**04 26 20.4**	**+0.3**
HLIG	**Huajuapan de L**	**3.40**	**305**	*e*P	**Pn**	**04 26 22.6**	**+1.6**
HLIG				*e*S	**Sn**	**04 27 00.8**	**+0.5**
TPIG	**Tehuac#an**	**3.46**	**317**	*e*P	**Pn**	**04 26 22.3**	**+0.6**
TPIG				*i* S	**Sn**	**04 27 03.0**	**+1.4**
TPIG	**Tehuac#an**	**3.46**	**317**		**Pn**	**04 26 23.7**	**+1.9**
TPIG					**Sn**	**04 27 05.0**	**+3.4**
ERG	**Entre ros, C**	**3.50**	**114**	*e*P	Pn	04 26 31.0	+8.8
TLIG	**Tlapa**	**3.91**	**296**	*e*P	**Pn**	**04 26 29.4**	**+1.6**
TLIG				*e*S	**Sn**	**04 27 11.2**	**-1.3**
TLIG	**Tlapa**	**3.91**	**296**	Pn	**Pn**	**04 26 29.0**	**+1.2**
HMTT	**Tlapaneco**	**4.01**	**299**	*e*P	**Pn**	**04 26 31.6**	**+2.4**
HMTT				*i* S	**Sn**	**04 27 14.4**	**-0.5**
HMTT	**Tlapaneco**	**4.01**	**299**		**Pn**	**04 26 31.6**	**+2.4**
FUG	**Fuego 3**	**4.15**	**110**	*e*P	**Pn**	**04 26 33.3**	**+2.1**
CRIG	**Cruz Grande**	**4.17**	**282**	*e*P	**Pn**	**04 26 30.9**	**-0.4**
CRIG				*i* S	**Sn**	**04 27 18.9**	**0.0**
PCG	**Pacaya**	**4.38**	**109**	*e*P	**Pn**	**04 26 37.3**	**+2.8**
NBG	**Las Nubes**	**4.56**	**106**	*e*P	**Pn**	**04 26 39.7**	**+2.8**
IXG	**Ixpaco**	**4.61**	**111**	*e*P	**Pn**	**04 26 39.8**	**+2.3**
PETF	**Flores**	**4.92**	**77**		**Pn**	**04 26 41.8**	**+0.3**
AMVM	**AMECAMECA**	**4.93**	**311**	*e*P	**Pn**	**04 26 43.9**	**+1.8**
AMVM	**AMECAMECA**	**4.93**	**311**		**Pn**	**04 26 43.9**	**+1.8**
UNM	**Universidad Na**	**5.34**	**310**	Pn	**Pn**	**04 26 49.0**	**+1.3**
VTVM	**Tizayuca**	**5.36**	**317**	*e*P	**Pn**	**04 26 49.0**	**+1.2**
VTVM	**Tizayuca**	**5.36**	**317**		Pn	04 26 59.0	+11
MAVM	**Malinalco, Edo**	**5.36**	**305**	*e*P	**Pn**	**04 26 50.6**	**+2.7**
MAVM	**Malinalco, Edo**	**5.36**	**305**		**Pn**	**04 26 50.6**	**+2.7**
CVM	**Colonia del Va**	**5.38**	**311**	*i* P	**Pn**	**04 26 48.6**	**+0.7**
CVM				*e*P	**Pn**	**04 26 49.3**	**+1.5**
PTVM	**Pico Tres Padr**	**5.47**	**313**	*e*P	**Pn**	**04 26 50.9**	**+1.6**
ESQI	**Esquipulas**	**5.50**	**103**		**Pn**	**04 26 50.2**	**+0.6**
MTO3	**Montecristo**	**5.53**	**105**		**Pn**	**04 26 50.5**	**+0.4**
SNET	**Serv Nac Est T**	**5.88**	**111**	Pn	**Pn**	**04 26 55.6**	**+0.7**
ATVM	**ATLACOMULCO**	**6.10**	**310**	*e*P	**Pn**	**04 26 58.6**	**+0.5**
MOIG	**Morelia**	**7.10**	**303**	Pn	**Pn**	**04 27 14.4**	**+2.7**
TGUH	**Tegucigalpa,Un**	**7.57**	**103**	Pn	**Pn**	**04 27 19.5**	**+1.5**
TEIG	**Tepich**	**7.62**	**55**	P	**Pn**	**04 27 16.8**	**-1.7**
	80nm,0.3s,baz=319,slow=0.7,SNR=487						
TEIG				S	**Sn**	**04 28 36.5**	**-7.0**
	74nm,0.3s,baz=139,slow=23,SNR=20						
TEIG				LR	LR	04 30 38.1	
	comp=Z,2μm,20.8s,baz=240,slow=42						
TEIG	**Tepich**	**7.62**	**55**	*e*P	**Pn**	**04 27

baz=183,SNR=35
MIAR Mount Ida 18.62 3 P P 04 29 42.3 -0.6
X37A Clayton 18.63 359 P P 04 29 43.2 +0.1
X37A IAmb IAmb 04 29 50.9
comp=Z,68nm,0.7s
X43A Marvell 18.90 10 P P 04 29 45.7 -0.2
baz=191
X43A Marvell 18.90 10 P P 04 29 46.0 0.0
X43A IAmb IAmb 04 29 52.1
comp=Z,62nm,0.9s
152A Waverly Hall 19.08 27 P P 04 29 47.5 -0.5
WMOK Wichita Mounta 19.10 350 P P 04 29 48.1 -0.1
baz=168,SNR=45
WMOK Wichita Mounta 19.10 350 P P 04 29 47.9 -0.3
OXF Oxford 19.19 14 P P 04 29 48.1 -1.1
baz=196
OXF Oxford 19.19 14 P P 04 29 48.0 -1.1
OXF IAmb IAmb 04 29 55.9
comp=Z,41nm,0.9s
GTBY Guantanamo Bay 19.23 75 P P 04 29 48.2 -1.6
GTBY IAmb IAmb 04 30 02.6
comp=Z,56nm,0.7s
W39A Magazine 19.25 3 P P 04 29 50.0 +0.1
baz=183,SNR=19
W39A Magazine 19.25 3 P P 04 29 49.6 -0.3
W41B Gary Mavity, V 19.35 7 P P 04 29 50.3 -0.7
baz=187,SNR=14
W41B Gary Mavity, V 19.35 7 P P 04 29 50.2 -0.7
MSTX Muleshoe 19.36 340 P P 04 29 51.3 +0.1
baz=156,SNR=40
MSTX Muleshoe 19.36 340 P P 04 29 51.8 +0.6
MSTX IAmb IAmb 04 29 56.3
comp=Z,71nm,1.1s
Y49A Blount Mountai 19.46 22 P P 04 29 50.8 -1.3
WHAR Wooly Hollow 19.46 6 P P 04 29 51.8 -0.3
HSIG 19.75 314 P Pn 04 29 56.9 -0.4
154A Montrose 19.78 31 P P 04 29 55.2 -0.4
154A IAmb IAmb 04 30 12.7
comp=Z,121nm,1.4s
X48A Hartselle 19.78 19 P P 04 29 53.6 -2.1
BCOK Bluff Creek, N 19.84 353 P P 04 29 56.6 +0.3
W45A Hickory Valley 19.86 14 P P 04 29 56.2 -0.2
W45A IAmb IAmb 04 30 02.8
comp=Z,144nm,1.5s
AMTX Amarillo 19.88 343 P P 04 29 57.5 +0.7
baz=160
AMTX Amarillo 19.88 343 P P 04 29 57.0 +0.2
HBAR Harrisburg 19.95 10 P P 04 29 56.2 -1.2
HBAR IAmb IAmb 04 30 03.0
comp=Z,47nm,0.9s
TUL1 Leonard 19.96 358 P P 04 29 56.6 -0.9
baz=177,SNR=34
TUL1 Leonard 19.96 358 P P 04 29 56.4 -1.1
TUL1 IAmb IAmb 04 30 03.0
comp=Z,57nm,0.8s
FCAR Ozark Folk Cen 20.07 7 P P 04 29 57.9 -0.9
FCAR IAmb IAmb 04 29 58.9
comp=Z,36nm,1.0s
QUOK Quay 20.27 356 P P 04 30 00.4 -0.5
GOGA Godfrey 20.27 29 P P 04 30 00.1 -0.8
baz=213,SNR=6.6
GOGA Godfrey 20.27 29 P P 04 30 00.8 -0.1
GOGA IAmb IAmb 04 30 05.6
comp=Z,30nm,0.9s
DBBC Dabeiba 20.29 114 eP **P 04 30 01.9 +0.4**
121A Cookes Peak, D 20.30 327 P Pn 04 30 04.3 +0.4
baz=141,SNR=27
121A Cookes Peak, D 20.30 327 P Pn 04 30 03.7 -0.1
121A IAmb IAmb 04 30 05.4
comp=Z,51nm,0.9s
HHAR Hobbs 20.33 2 P P 04 30 00.3 -1.2
HHAR IAmb IAmb 04 30 06.2
comp=Z,29nm,0.8s
FPAL Fort Paine 20.36 22 P P 04 29 59.9 -2.0
LCAR Lake Charles 20.37 9 P P 04 30 00.5 -1.5
LCAR IAmb IAmb 04 30 01.5
comp=Z,24nm,0.7s
Y52A Lilburn 20.39 27 P P 04 29 59.6 -2.6
Y52A IAmb IAmb 04 30 07.6
comp=Z,51nm,1.1s
U40A Yellville 20.47 5 P P 04 30 02.4 -0.7
baz=185,SNR=43
U40A Yellville 20.47 5 P P 04 30 02.4 -0.7
U40A IAmb IAmb 04 30 03.5
comp=Z,42nm,0.8s
U38A Gravette 20.48 1 P P 04 30 02.3 -0.9
U38A IAmb IAmb 04 30 07.1
comp=Z,59nm,1.1s
CROK Carrier 20.72 353 P P 04 30 05.0 -0.8
U32A Winter Ranch, 20.74 351 P P 04 30 06.0 0.0
SWET Sewanee 20.85 21 P P 04 30 05.2 -2.1
T35A Sooner Cattle 21.00 356 P P 04 30 07.4 -1.3
CBOC Ciudad Bolivar 21.01 116 eP **P 04 30 09.3 0.0**
BNM Barren Site 21.04 332 P P 04 30 11.3 +1.8
V48A Smith Brothers 21.04 19 P P 04 30 06.7 -2.5
Y22D IRIS PASSCAL I 21.11 331 P P 04 30 12.4 +2.2
baz=146
Y22D IRIS PASSCAL I 21.11 331 P P 04 30 11.4 +1.3
WVT Waverly 21.12 16 P P 04 30 08.0 -2.0
baz=199
WVT Waverly 21.12 16 P P 04 30 08.3 -1.8
PBMO Poplar Bluff 21.18 10 P P 04 30 08.9 -1.8
PBMO IAmb IAmb 04 30 19.9
comp=Z,27nm,0.9s
PLMC San Jos del P 21.27 119 eP **P 04 30 12.7 +0.7**
HELC Santa Helena 21.27 115 eP **P 04 30 12.7 +0.4**
MGMO Mountain Grove 21.31 6 P P 04 30 10.5 -1.6
MGMO IAmb IAmb 04 30 15.3
comp=Z,28nm,1.1s
T42A Van Buren 21.33 8 P P 04 30 10.5 -1.8
KAN10 Anthony SW Sta 21.34 353 P P 04 30 12.5 0.0
HODGE Hodges 21.51 30 P P 04 30 12.6 -1.6
CLTN Cedars of Leba 21.52 19 P P 04 30 12.0 -2.4
Z57A Bowman 21.56 34 P P 04 30 15.0 +0.2
baz=220
CPCT Cooper Cave 21.57 24 P P 04 30 13.4 -1.5
ANMO Albuquerque 21.64 333 P P 04 30 17.4 +1.6
comp=Z,5.2nm,0.8s,baz=145,slow=13,SNR=27
ANMO Albuquerque 21.64 333 P P 04 30 17.4 +1.6
baz=148
ANMO Albuquerque 21.64 333 P P 04 30 17.0 +1.2
X54A Belton 21.72 29 P P 04 30 16.1 -0.4
baz=214
YOTC Yotoco, Valle 21.72 121 eP **P 04 30 17.5 +0.6**
S39A Bolivar 21.76 3 P P 04 30 15.6 -1.4
S39A IAmb IAmb 04 30 18.8
comp=Z,25nm,0.6s
BG3 Lake Jocassee 21.84 27 P P 04 30 16.5 -1.3
GUY2C Guyana, Caldas 21.89 117 eP **P 04 30 20.2 +1.3**
X55A Gracelyn & Ava 22.00 30 P P 04 30 18.7 -0.8
baz=216
TKL Tuckaleechee C 22.05 25 P P 04 30 17.5 -2.5
comp=Z,7.4nm,0.8s,baz=209,slow=11,SNR=5.9
TKL S **S 04 34 18.0 -2.0**
comp=Z,4.0nm,0.6s,baz=136,slow=21,SNR=1.8
TKL Tuckaleechee C 22.05 25 P P 04 30 17.3 -2.7
TKL IAmb IAmb 04 30 26.9
comp=Z,27nm,1.0s
PTBC PUERTO BERRIO, 22.06 113 eP **P 04 30 20.4 +0.1**
RREF El Recreo 22.07 118 eP **P 04 30 22.9 +1.8**
Z58A St. Stephen 22.07 35 P P 04 30 19.1 -1.2
baz=221
U49A Red Boiling Sp 22.08 20 P P 04 30 17.5 -2.8
U49A IAmb IAmb 04 30 27.2
comp=Z,27nm,0.8s
NORC Norcasia 22.15 115 eP **P 04 30 22.9 +1.5**
BBAC Balboa, Cauca 22.17 127 eP **P 04 30 23.1 +1.3**
ANIL Santa Ana 22.23 119 eP **P 04 30 23.9 +1.4**
W54A Cherokee Point 22.25 28 P P 04 30 21.2 -1.0
baz=214
TOLC Tolima 22.25 118 eP **P 04 30 24.4 +1.6**
V52A Sevierville 22.28 25 P P 04 30 20.8 -1.8
S44A Carbondale 22.28 12 P P 04 30 21.0 -1.5
CCM Cathedral Cave 22.32 8 P P 04 30 20.6 -2.2
baz=189
CCM Cathedral Cave 22.32 8 P P 04 30 20.7 -2.2
CCM IAmb IAmb 04 30 24.7
comp=Z,26nm,0.8s
X56A White Oak 22.32 31 P P 04 30 21.0 -1.9
baz=217
R40A Maddies Statio 22.44 5 P P 04 30 22.4 -1.8
R40A IAmb IAmb 04 30 26.2
comp=Z,48nm,0.9s
V53A Saluda 22.46 26 P P 04 30 22.6 -1.9
ORTC Ortega, Tolima 22.68 120 eP **P 04 30 27.6 +0.6**

KMSC Kings Mountain 22.69 30 P P 04 30 25.3 -1.6
baz=215
KMSC Kings Mountain 22.69 30 P P 04 30 25.7 -1.3
KMSC IAmb IAmb 04 30 43.1
comp=Z,26nm,0.9s
MARP Paez Belalcaza 22.69 123 eP **P 04 30 30.5 +3.0**
R32A Long Quarter, 22.70 352 P P 04 30 27.5 +0.4
X57A Johnson Farm, 22.78 33 P P 04 30 25.0 -2.9
baz=219
T25A Trinidad 22.80 340 P P 04 30 30.3 +2.0
baz=155,SNR=66
SPBC San Pablo de B 22.80 114 eP **P 04 30 27.7 -0.7**
214A Organ Pipe Nat 22.85 318 P P 04 30 30.6 +1.9
baz=130,SNR=12
214A Organ Pipe Nat 22.85 318 P P 04 30 30.0 +1.3
USIN University of 22.90 15 P P 04 30 26.3 -2.7
USIN IAmb IAmb 04 30 28.4
comp=Z,23nm,0.6s
TZTN Tazewell 22.91 24 P P 04 30 26.6 -2.6
baz=209
TZTN Tazewell 22.91 24 P P 04 30 26.4 -2.8
V54A Nebo 22.93 28 P P 04 30 26.8 -2.6
baz=213
ROSC El Rosal 22.98 116 P P 04 30 33.3 +2.8
comp=Z,71nm,0.8s,baz=273,slow=0.2,SNR=49
ROSC LR LR 04 41 33.6
comp=Z,53nm,18.3s,baz=244,slow=42
ROSC El Rosal 22.98 116 eP **P 04 30 32.6 +2.1**
ROSC El Rosal 22.98 116 P P 04 30 32.1 +1.6
SLM Saint Louis 23.03 9 P P 04 30 28.1 -2.2
SLM IAmb IAmb 04 30 45.5
comp=Z,27nm,1.0s
BARC Barichara 23.17 111 eP **P 04 30 33.4 +1.1**
KSU1 Kansas State U 23.18 357 P P 04 30 30.0 -1.8
baz=175,SNR=15
KSU1 Kansas State U 23.18 357 P P 04 30 30.2 -1.6
CBKS Cedar Bluff 23.24 350 P P 04 30 33.1 +0.7
baz=168,SNR=12
CBKS Cedar Bluff 23.24 350 P P 04 30 32.5 +0.1
W18A Petrified Fore 23.32 328 P P 04 30 35.4 +2.0
baz=141
V55A Taylorsville 23.33 29 P P 04 30 31.3 -2.0
baz=215
V55A Taylorsville 23.33 29 P P 04 30 31.1 -2.2
W57A Gilead 23.36 32 P P 04 30 31.7 -1.9
baz=218
GARC Garzon, Huila 23.45 124 eP **P 04 30 33.4 -1.5**
Q44A Meyer Farm, Va 23.50 12 P P 04 30 32.5 -2.3
Q44A IAmb IAmb 04 30 48.7
comp=Z,38nm,1.1s
WCI Wyandotte Cave 23.51 17 P P 04 30 32.3 -2.7
baz=201
WCI Wyandotte Cave 23.51 17 P P 04 30 32.1 -2.8
WCI IAmb IAmb 04 30 34.9
comp=Z,25nm,0.8s
RUSC La Rusia 23.57 113 eP **P 04 30 36.5 +0.3**
CHIC Chingaza 23.59 116 eP **P 04 30 37.7 +1.3**
U54A Nelsons Funny 23.61 27 P P 04 30 35.4 -0.6
baz=212
PUAC Puerto Asis, P 23.63 128 eP **P 04 30 38.0 +1.7**
P38A Dawn 23.68 3 P P 04 30 34.6 -1.9
P38A IAmb IAmb 04 30 37.2
comp=Z,34nm,1.1s
P40A Paris 23.69 5 P P 04 30 34.6 -1.9
P40A IAmb IAmb 04 30 36.4
comp=Z,80nm,1.4s
FLOC Florencia 23.69 125 eP **P 04 30 38.1 +1.2**
T53A Wise 23.70 25 P P 04 30 34.9 -1.9
baz=210
SDCO Great Sand Dun 23.71 339 P P 04 30 38.7 +1.5
baz=153,SNR=77
SDCO Great Sand Dun 23.71 339 P P 04 30 38.3 +1.1
SDCO IAmb IAmb 04 30 40.4
comp=Z,42nm,1.0s
X16A Lo Mia Camp, P 23.71 324 P P 04 30 39.0 +1.9
X16A IAmb IAmb 04 30 42.3
comp=Z,34nm,1.1s
VILC Villavicencio, 23.89 117 eP **P 04 30 40.1 +1.4**
U55A TA2, Sparta 23.94 28 P P 04 30 37.0 -2.0
baz=214
113A Mohawk Valley, 23.99 318 P P 04 30 40.7 +1.3
KSCO Kaye Shedlock' 24.02 345 P P 04 30 40.8 +1.0
baz=161,SNR=15
KSCO Kaye Shedlock' 24.02 345 P P 04 30 40.3 +0.5
V57A Coltrane Farms 24.05 31 P P 04 30 38.6 -1.3
baz=28
SPX San Pedro Mart 24.11 312 P P 04 30 41.9 +1.0
U56A King 24.12 30 P P 04 30 39.3 -1.3
baz=216
T54A Tazewell 24.17 27 P P 04 30 41.0 0.0
baz=212
S22A 4UR Ranch, Cre 24.20 336 P P 04 30 43.2 +1.5
baz=150,SNR=18
S22A 4UR Ranch, Cre 24.20 336 P P 04 30 42.0 +0.4
Y14A Wickenburg 24.29 321 P P 04 30 43.1 +0.9
Y14A IAmb IAmb 04 30 46.7
comp=Z,29nm,1.1s
V58A Windy Hill, Pi 24.31 32 P P 04 30 40.5 -1.8
baz=219
MVCO Mesa Verde 24.43 333 P P 04 30 45.5 +1.8
baz=146,SNR=24
MVCO Mesa Verde 24.43 333 P P 04 30 44.6 +1.0
MVCO IAmb IAmb 04 30 53.9
comp=Z,25nm,1.1s
WUAZ Wupatki 24.49 326 P P 04 30 46.4 +2.3
baz=138,SNR=54
WUAZ Wupatki 24.49 326 P P 04 30 45.9 +1.8
T55A Pulaski 24.56 28 P P 04 30 43.9 -0.7
baz=214
P46A Rosedale 24.58 14 P P 04 30 43.0 -1.7
SDV Santo Domingo 24.66 104 P P 04 30 46.3 +0.3
comp=Z,14nm,0.7s,baz=272,slow=4.1,SNR=6.0
SDV Santo Domingo 24.66 104 P P 04 30 46.2 +0.3
SDV IAmb IAmb 04 31 05.7
comp=Z,16nm,0.8s
SDV Santo Domingo 24.66 104 eP **P 04 30 45.7 -0.3**
Q24A Divide 24.70 341 P P 04 30 46.5 +0.4
baz=155
U57A Blanch 24.70 31 P P 04 30 45.5 -0.3
baz=218
BLA Blacksburg 24.80 28 P P 04 30 45.5 -1.3
baz=215
MACC Macarena, Meta 24.81 121 eP **P 04 30 48.6 +1.5**
T56A Rocky Mt 24.84 29 P P 04 30 46.5 -0.6
baz=216
GLA Glamis 24.86 317 P P 04 30 49.6 +2.2
baz=128,SNR=6.8
GLA Glamis 24.86 317 P P 04 30 49.2 +1.9
S54A Dingess, Beckl 24.90 26 P P 04 30 46.1 -1.6
baz=212
ESJX Sierra Juarez 24.99 314 P P 04 30 50.2 +1.5
W61A Ground Anchor 25.01 37 P P 04 30 46.3 -2.4
baz=224
HDIL Hopedale 25.06 10 P P 04 30 47.1 -1.9
baz=192,SNR=6.5
HDIL Hopedale 25.06 10 P P 04 30 47.8 -1.2
HDIL IAmb IAmb 04 30 48.8
comp=Z,48nm,1.4s
U58A Oxford 25.07 32 P P 04 30 47.9 -1.3
baz=219
R53A Hurricane 25.09 25 P P 04 30 47.2 -2.1
baz=210
P49A Miami Univ. Ec 25.18 19 P P 04 30 48.0 -2.2
baz=203
T57A Hurt 25.18 30 P P 04 30 47.9 -2.3
baz=217
PDMCI Parker Dam,Lak 25.23 320 P P 04 30 52.7 +2.1
baz=132,SNR=8.1
S55A Lewisburg 25.23 27 P P 04 30 49.1 -1.6
baz=214
PV01 Paradox Valley 25.24 334 P P 04 30 52.6 +1.6
PV01 IAmb IAmb 04 31 10.8
comp=Z,20nm,0.9s
SFIN Lafayette 25.33 14 P P 04 30 49.9 -1.6
baz=197
R54A Victor 25.36 26 P P 04 30 52.1 +0.3
baz=212
SWSC Sam W. Stewart 25.44 316 P P 04 30 54.5 +1.9
baz=126
IKP In-Ko-Pah, Jac 25.48 315 P P 04 30 55.6 +2.6
baz=126,SNR=5.5
T58A Grand View Acr 25.50 32 P P 04 30 51.4 -1.7
baz=219
Q52A Bidwell 25.51 23 P P 04 30 51.4 -1.8
baz=209
S56A Natural Bridge 25.58 29 P P 04 30 52.6 -1.2

baz=216
BGNE Belgrade 25.59 354 P P 04 30 53.7 -0.2
baz=172,SNR=5.7
BGNE Belgrade 25.59 354 P P 04 30 54.1 +0.2
ISCO Idaho Springs 25.60 341 P P 04 30 54.5 +0.2
baz=155,SNR=14
ISCO Idaho Springs 25.60 341 P P 04 30 55.3 +1.0
BC3 Big Chuckawall 25.64 317 P P 04 30 56.1 +1.5
baz=128,SNR=20
P51A Williamsport 25.68 21 P P 04 30 53.4 -1.3
baz=207
P51A Williamsport 25.68 21 P P 04 30 54.1 -0.6
IRM Iron Mountain 25.76 319 P P 04 30 57.8 +2.3
baz=130,SNR=11
R55A Marlinton 25.82 27 P P 04 30 53.7 -2.4
baz=214
MONP2 Monument Peak 25.83 315 P P 04 30 57.9 +1.5
baz=126,SNR=5.5
U60A Pendleton 25.86 34 P P 04 30 55.0 -1.3
baz=222
BAR Barrett 25.88 314 P P 04 30 57.6 +1.0
S57A Dark Hollow, R 25.93 30 P P 04 30 56.2 -0.8
baz=217
SCIA State Center 25.97 3 P P 04 30 56.3 -1.0
baz=183
SCIA State Center 25.97 3 P P 04 30 56.3 -1.0
L34A Svendsen Farm, 26.02 357 P P 04 30 57.4 -0.3
P52A Corning 26.15 23 P P 04 30 56.9 -2.0
baz=208
BELC Belle Mtn. Jos 26.21 317 P P 04 31 00.6 +0.8
baz=128,SNR=5.3
L40A Anamosa 26.28 6 P P 04 30 58.1 -1.9
L40A IAmb IAmb 04 31 01.4
comp=Z,26nm,0.9s
XPFO Pion Flat 26.28 316 P P 04 31 01.9 +1.5
PFO Pinyon Flats O 26.28 316 P P 04 31 02.5 +2.1
comp=Z,2.2nm,0.7s,baz=102,slow=6.5,SNR=4.4
PFO Pinyon Flats O 26.28 316 P P 04 31 02.1 +1.7
baz=127
PFO Pinyon Flats O 26.28 316 P P 04 31 01.4 +1.1
109C Camp Elliot, M 26.30 314 P P 04 31 01.4 +1.0
baz=124
P53A Whipple 26.31 24 P P 04 30 58.5 -1.8
baz=210
ACSO Alum Creek Sta 26.38 21 P P 04 30 59.6 -1.4
baz=206
KNB Kanab 26.39 326 P P 04 31 03.0 +1.6
L42A Oliver, Polo 26.41 9 P P 04 30 59.3 -2.0
L42A IAmb IAmb 04 31 01.4
comp=Z,34nm,0.8s
Q55A Buckhannon 26.43 27 P P 04 31 00.8 -0.8
baz=213
O51A Pataskala 26.43 21 P P 04 31 01.0 -0.5
baz=207
GMRC Granite Mounta 26.49 319 P P 04 31 03.7 +1.5
baz=130,SNR=8.5
R57A Stanardsville 26.57 30 P P 04 31 01.5 -1.2
baz=217
R58B Mineral 26.62 31 P P 04 31 02.2 -0.9
baz=219
O52A Adamsville 26.68 23 P P 04 31 01.6 -2.1
baz=209,SNR=5.7
N23A Red Feather La 26.70 341 P P 04 31 04.3 0.0
baz=155
MURC Murrieta 26.77 315 P P 04 31 05.6 +0.9
baz=125
P54A Burton 26.77 25 P P 04 31 03.0 -1.6
baz=212
R58A Rapidan 26.82 30 P P 04 31 03.4 -1.6
baz=218
O20A White River Ci 26.82 337 P P 04 31 05.8 +0.6
baz=150
K31A O'Neill 26.85 354 P P 04 31 05.8 +0.5
Q56A Snyder Ridge, 26.86 28 P P 04 31 04.7 -0.6
baz=215
L44A Lake County Fo 26.88 12 P P 04 31 04.1 -1.3
baz=195
PHWY Pilot Hill 26.93 342 P P 04 31 06.8 +0.5
HEC Hector,Ludlow 26.95 318 P P 04 31 07.5 +1.2
baz=129,SNR=6.9
P55A Reedsville 26.96 26 P P 04 31 05.7 -0.6
baz=213
O53A New Philadelph 27.03 23 P P 04 31 04.7 -2.2
baz=210
S60A Water View 27.05 33 P P 04 31 04.9 -2.1
baz=221
TUQ Turquoise Moun 27.08 320 P P 04 31 07.5 0.0
baz=130,SNR=7.5
JFWS Jewell Farm 27.23 7 P P 04 31 07.0 -1.6
baz=189,SNR=14
JFWS Jewell Farm 27.23 7 P P 04 31 06.9 -1.7
JFWS IAmb IAmb 04 31 10.4
comp=Z,24nm,0.6s
K43A Burlington 27.31 11 P P 04 31 07.8 -1.5
K43A IAmb IAmb 04 31 09.0
comp=Z,18nm,0.6s
TMUT Trail Mountain 27.36 332 P P 04 31 18.1 +1.6
N53A Lisbon 27.66 23 P P 04 31 10.1 -2.4
baz=210
ECSD EROS Data Cent 27.80 357 P P 04 31 12.7 -1.0
baz=176,SNR=25
ECSD EROS Data Cent 27.80 357 P P 04 31 13.1 -0.6
ECSD IAmb IAmb 04 31 14.8
comp=Z,25nm,0.8s
EDW2 Edwards Air Fo 28.06 317 P P 04 31 17.4 +1.1
baz=126
ATAH Atahualpa 28.10 143 P P 04 31 18.1 +0.9
comp=Z,10nm,0.8s,baz=307,slow=6.4,SNR=5.9
M52A Chesterland 28.11 22 P P 04 31 13.8 -2.6
baz=208
SNCC San Nicolas Is 28.19 312 P P 04 31 19.0 +1.7
baz=122
LRMC Laurel Mtn Rad 28.22 318 P P 04 31 18.9 +1.2
baz=128
M53A WI Miller and 28.27 23 P P 04 31 15.5 -2.4
baz=210
TPNV Topopah Spring 28.27 322 P P 04 31 20.0 +1.8
baz=132,SNR=12
TPNV Topopah Spring 28.27 322 P P 04 31 19.6 +1.4
FURC Furnace Creek, 28.32 321 P P 04 31 20.9 +2.4
baz=130
I42A Draeger Farm, 28.37 9 P P 04 31 17.6 -1.2
I42A IAmb IAmb 04 31 18.5
comp=Z,22nm,1.4s
MPMC Manual Prospec 28.45 319 P P 04 31 21.9 +2.1
baz=129,SNR=9.2
K22A Casper 28.48 342 P P 04 31 21.0 +1.0
baz=156,SNR=7.4
K22A Casper 28.48 342 P P 04 31 20.8 +0.8
K22A IAmb IAmb 04 31 24.3
comp=Z,26nm,1.4s
P59A Jarrettsville 28.61 31 P P 04 31 20.4 -0.5
baz=219
SUSD Miller 28.68 354 P P 04 31 21.5 0.0
baz=171
SUSD Miller 28.68 354 P P 04 31 21.2 -0.3
SUSD IAmb IAmb 04 31 22.4
comp=Z,33nm,0.9s
M54A Oil Creek Stat 28.71 24 P P 04 31 22.2 +0.3
baz=211
ARVC Arvin 28.76 316 P P 04 31 24.5 +2.2
baz=125
DUG Dugway, Tooele 28.82 331 P P 04 31 24.7 +1.7
baz=142
DUG Dugway, Tooele 28.82 331 P P 04 31 24.2 +1.2
ISA Isabella, Lake 28.84 317 P P 04 31 25.5 +2.3
baz=127
R11A Troy Canyon, C 28.86 325 P P 04 31 25.9 +2.5
baz=135,SNR=10
L53A Girard 28.87 23 P P 04 31 21.0 -2.3
baz=210
M55A Ridgway 29.05 25 P P 04 31 26.1 +1.2
baz=213
CWC Cottonwood Cre 29.06 319 P P 04 31 26.7 +1.4
baz=128
ERPA Erie 29.11 23 P P 04 31 23.8 -1.6
baz=210
RSSD Black Hills 29.20 346 P P 04 31 27.2 +0.8
baz=161
RSSD Black Hills 29.20 346 P P 04 31 27.3 +0.8
SPMN Marine on St. 29.30 3 P P 04 31 25.7 -1.3
baz=184,SNR=32
SPMN Marine on St. 29.30 3 P P 04 31 25.6 -1.4
HWUT Hardware Ranch 29.40 334 P P 04 31 29.1 +0.8
HWUT PcP **PcP 04 34 33.3 +0.2**
L54A Sinclairville 29.47 24 P P 04 31 26.8 -1.8
baz=211

G40A Rib Lake 29.55 7 P P 04 31 27.6 -1.7
G40A IAmb IAmb 04 31 28.9
comp=Z,16nm,1.4s
PD31 Pinedale Array 29.60 338 P P 04 31 30.2 +0.2
PDAR Pinedale Array 29.60 338 P P 04 31 31.1 +1.1
comp=Z,1.0nm,0.7s,baz=148,slow=9.0,SNR=9.6
PDAR PcP PcP 04 34 33.2 -0.4
comp=Z,0.9nm,0.6s,baz=137,slow=4.0,SNR=4.3
L55A Hinsdale 29.78 25 P P 04 31 29.2 -2.1
baz=213
F36A Milaca 29.91 2 P P 04 31 30.8 -1.6
F36A IAmb IAmb 04 31 32.2
comp=Z,28nm,1.1s
K54A Basiliko Farm, 30.03 24 P P 04 31 31.3 -2.3
baz=212
GLMI Grayling 30.12 15 P P 04 31 32.5 -1.8
baz=200
AHID Auburn Hatcher 30.18 336 P P 04 31 35.8 +0.7
AHID IAmb IAmb 04 31 38.6
comp=Z,22nm,1.4s
I51A Listowel 30.22 20 P P 04 31 32.9 -2.3
baz=207,SNR=6.2
NV11 Mina Array Sit 30.39 322 P P 04 31 39.3 +2.4
NV11 IAmb IAmb 04 31 41.1
comp=Z,18nm,1.0s
ELK Elko 30.42 329 P P 04 31 39.5 +2.2
ELK IAmb IAmb 04 31 40.8
comp=Z,11nm,0.9s
ELK PcP PcP 04 34 36.8 +0.9
MDPB Devils Postpil 30.43 320 P P 04 31 39.4 +1.9
MDPB IAmb IAmb 04 31 41.3
comp=Z,11nm,0.9s
NVAR Mina Array Bea 30.47 322 P P 04 31 40.8 +3.0
comp=Z,12nm,0.8s,baz=140,slow=9.2,SNR=87
NVAR PcP PcP 04 34 37.5 +1.5
comp=Z,2.8nm,0.8s,baz=137,slow=2.6,SNR=5.8
NVAR LR LR 04 44 46.8
comp=Z,244nm,19.5s,baz=130,slow=38
COWI Conover 30.50 8 P P 04 31 35.4 -2.3
COWI IAmb IAmb 04 31 37.1
comp=Z,11nm,1.0s
ECR Eagle Creek 30.53 336 P P 04 31 39.1 +0.9
SNOW Snow King Moun 30.64 337 P P 04 31 40.2 +1.0
K56A Middlesex 30.66 26 P P 04 31 36.9 -2.2
baz=214
RYN Ryan 30.73 322 P P 04 31 41.9 +1.9
RYN IAmb IAmb 04 31 44.0
comp=Z,11nm,1.1s
E38A The Farm, Brul 30.75 4 P P 04 31 38.6 -1.3
KVN Kaiserville 30.77 323 P P 04 31 42.0 +1.7
L58A Harry Jones Me 30.78 28 P P 04 31 40.1 -0.1
baz=218
BINY Binghamton 30.84 28 P P 04 31 39.8 -0.9
baz=217
K57A Scipio Center 31.04 27 P P 04 31 41.4 -1.1
baz=216
IMW Indian Meadow 31.08 337 P P 04 31 43.7 +0.6
IMW PcP PcP 04 34 38.3 +0.7
L59A Walton 31.27 29 P P 04 31 43.6 -0.9
baz=219
H17A Grant Village 31.38 338 P P 04 31 47.0 +1.3
baz=150
H17A Grant Village 31.38 338 P P 04 31 47.2 +1.5
K58A Earlville 31.44 28 P P 04 31 44.5 -1.5
baz=217
CMB Columbia Colle 31.49 319 P P 04 31 47.7 +1.1
D41A Chassel 31.52 8 P P 04 31 45.2 -1.4
D41A IAmb IAmb 04 31 48.0
comp=Z,14nm,0.9s
RLMT Red Lodge 31.57 340 P P 04 31 47.5 +0.1
baz=152,SNR=12
RLMT Red Lodge 31.57 340 P P 04 31 47.5 +0.1
RLMT IAmb IAmb 04 31 49.2
comp=Z,14nm,1.1s
PNTR Pine Nut 31.67 322 P P 04 31 49.9 +1.5
PNTR IAmb IAmb 04 31 52.4
comp=Z,18nm,1.1s
SADO Sadowa 31.71 22 P P 04 31 45.0 -3.3
comp=Z,5.5nm,0.9s,baz=238,slow=8.4,SNR=7.3
H53A Bobcaygeon 31.75 22 P P 04 31 45.4 -3.2
baz=211,SNR=8.7
J57A Williamstown 31.81 27 P P 04 31 47.3 -1.9
baz=216
E47A Iron Bridge 31.98 15 P P 04 31 48.3 -2.4
baz=201
EYMN Ely 32.09 4 P P 04 31 49.9 -1.7
baz=186,SNR=16
EYMN Ely 32.09 4 P P 04 31 49.9 -1.7
MDND Maddock 32.11 354 P P 04 31 51.8 0.0
baz=171,SNR=8.8
MDND Maddock 32.11 354 P P 04 31 51.1 -0.7
CZSB Cruzeiro do Su 32.13 135 eP P 04 31 52.9 +0.6
D46A Sault St. Mari 32.20 14 P P 04 31 50.3 -2.3
baz=200
G53A Haliburton 32.20 22 P P 04 31 49.5 -3.1
baz=210
HLID Hailey 32.22 333 P P 04 31 54.5 +1.5
baz=143,SNR=21
HLID Hailey 32.22 333 P P 04 31 54.0 +1.0
HLID IAmb IAmb 04 31 56.0
comp=Z,11nm,0.9s
H55A Tweed 32.26 24 P P 04 31 50.4 -2.7
baz=213
E48A Lockeyer 32.30 17 P P 04 31 50.9 -2.5
baz=203
AGMN Agassiz Nation 32.33 359 P P 04 31 52.9 -0.8
baz=178,SNR=74
AGMN Agassiz Nation 32.33 359 P P 04 31 52.8 -0.9
F51A Arnstein 32.47 20 P P 04 31 51.8 -3.2
baz=207
I58A Old Forge 32.48 27 P P 04 31 52.0 -3.1
baz=217
K61A Williamstown 32.48 30 P P 04 31 53.9 -1.2
baz=221
F52A Sundridge 32.55 20 P P 04 31 52.5 -3.1
baz=208
D47A Chapleau 32.58 15 P P 04 31 53.3 -2.7
baz=201
G54A Lake Saint Pet 32.63 22 P P 04 31 53.5 -2.9
baz=211
H56A Elgin 32.66 25 P P 04 31 53.3 -3.3
baz=214
BOZ Bozeman (W) 32.79 338 P P 04 31 59.3 +1.4
baz=149,SNR=9.8
BOZ Bozeman (W) 32.79 338 P P 04 31 59.5 +1.6
G55A Calabogie 33.03 24 P P 04 31 57.1 -2.7
baz=213
D48A Paudash Townsh 33.03 16 P P 04 31 57.4 -2.4
baz=203
M66A Nantucket 33.11 35 P P 04 31 58.4 -2.2
baz=227
ORV Oroville 33.11 321 P P 04 32 01.8 +1.1
E51A G1948 Merrick 33.14 20 P P 04 31 57.6 -3.2
baz=208
L64A Middleborough 33.19 34 P P 04 31 59.8 -1.5
baz=226
E52A Mattawa 33.20 21 P P 04 31 59.2 -2.2
baz=209
D49A Beulah Townshi 33.24 17 P P 04 31 58.7 -3.0
baz=204
J61A Chester 33.34 30 P P 04 32 01.0 -1.6
baz=221
DGMT Dagmar 33.38 349 P P 04 32 02.7 -0.2
baz=163
DGMT Dagmar 33.38 349 P P 04 32 03.1 +0.1
DGMT IAmb IAmb 04 32 05.0
comp=Z,19nm,1.1s
LONY Lake Ozonia 33.39 27 P P 04 32 01.8 -1.3
baz=217
WVOR Wild Horse Val 33.40 327 P P 04 32 03.8 +0.6
WVOR IAmb IAmb 04 32 06.4
comp=Z,24nm,1.1s
H58A Gabriels 33.40 27 P P 04 32 02.3 -0.9
baz=218
D50A G1974 Best Tow 33.59 19 P P 04 32 02.7 -2.1
baz=206
E53A Dumoine, Ponti 33.63 22 P P 04 32 02.8 -2.2
baz=211
F55A Otter Lake 33.65 24 P P 04 32 02.3 -2.9
baz=213
ORIO Orleans, Innes 33.67 25 P P 04 32 03.1 -2.3
baz=215
D51A Lot 18 Range I 33.67 19 P P 04 32 02.5 -2.9
baz=207
H59A Cadyville 33.80 28 P P 04 32 05.1 -1.5
baz=218
HRY Holter Researc 33.82 339 P P 04 32 08.0 +1.1
E54A Lac Daplat, Po 33.84 22 P P 04 32 03.8 -3.1
baz=211,SNR=6.7
D52A ZEK Kipawa Sen 33.89 20 P P 04 32 04.9 -2.4
baz=209
I61A Oroboro, Fairl 33.94 30 P P 04 32 06.3 -1.5
baz=221
H60A Morristown 34.19 29 P P 04 32 06.5 -3.4
baz=220
D53A Lac Vacive, Po 34.22 21 P P 04 32 07.6 -2.6
baz=210
ULM Lac du Bonnet 34.28 359 P P 04 32 09.3 -1.4
comp=Z,19nm,0.8s,baz=182,slow=9.1,SNR=16
ULM PcP PcP 04 34 46.2 +0.4
comp=Z,5.9nm,0.7s,baz=253,slow=2.0,SNR=3.5
ULM LR LR 04 48 05.8
comp=Z,109nm,20.7s,baz=156,slow=40
ULM Lac du Bonnet 34.28 359 P P 04 32 09.4 -1.3
ULM PcP PcP 04 34 45.6 -0.3
LBNH Lisbon 34.31 30 P P 04 32 08.4 -2.6
baz=222
LBNH Lisbon 34.31 30 P P 04 32 10.9 -0.1
EGMT Eagleton 34.31 342 P P 04 32 10.1 -1.0
baz=154,SNR=15
EGMT Eagleton 34.31 342 P P 04 32 12.0 +0.9
I62A Tamworth 34.32 31 P P 04 32 08.3 -2.9
baz=223
G59A Clarenceville 34.37 28 P P 04 32 09.2 -2.3
baz=219
BMO Blue Mountains 34.52 331 P P 04 32 13.9 +0.9
BMO IAmb IAmb 04 32 15.2
comp=Z,15nm,1.3s
D54A Lac Fusel, La 34.65 22 P P 04 32 11.1 -2.8
baz=212
MSO Missoula 34.69 337 P P 04 32 14.8 +0.4
baz=146,SNR=8.9
MSO Missoula 34.69 337 P P 04 32 15.0 +0.6
MSO IAmb IAmb 04 32 16.8
comp=Z,23nm,1.4s
E56A St. Veronique 34.75 24 P P 04 32 12.0 -2.9
baz=215
D55A Sainte-Anne-du 34.98 23 P P 04 32 13.6 -3.1
baz=214,SNR=6.8
E57A Chemin Saint G 35.01 25 P P 04 32 14.5 -2.5
baz=216
I07A Izee 35.02 328 P P 04 32 17.8 +0.5
L04D Klamath Falls 35.26 324 P P 04 32 20.3 +1.0
baz=130
G61A St-Isidore-de- 35.27 29 P P 04 32 17.9 -1.5
baz=221
D56A ZEC Mazanza, M 35.28 24 P P 04 32 17.7 -1.6
baz=215
F10A Beach Ranch, E 35.35 333 P P 04 32 21.1 +1.0
PINE Pine Mountain 35.55 327 P P 04 32 22.6 +0.6
PINE IAmb IAmb 04 32 24.3
comp=Z,10nm,0.9s
JTMT Jette 35.58 337 P P 04 32 22.9 +0.8
JTMT PcP PcP 04 34 49.6 -0.3
D57A Chemin Vers le 35.60 25 P P 04 32 19.6 -2.5
baz=216
F60A Warwick 35.60 28 P P 04 32 20.1 -2.0
baz=220
G08A Pilot Rock 35.63 330 P P 04 32 22.7 +0.2
G08A PcP PcP 04 34 50.6 +0.6
G62A West of Eustis 35.70 30 P P 04 32 21.7 -1.2
baz=223
J04D Umpqua Nationa 35.81 325 P P 04 32 25.1 +0.9
baz=131
H64A Troy 35.93 32 P P 04 32 23.7 -1.3
baz=225
L02E Cave Junction 35.97 323 P P 04 32 27.1 +1.8
baz=128
D58A Chemin du LacG 36.08 26 P P 04 32 24.2 -2.0
baz=218
E60A Ste Agathe de 36.13 28 P P 04 32 25.7 -1.0
baz=220
I05D Terrebonne, OR 36.14 327 P P 04 32 27.6 +0.8
baz=133
LSQQ Lebel-sur-Quev 36.17 20 P P 04 32 26.2 -0.8
baz=210
PKME Peaks-Kenny Pk 36.34 31 P P 04 32 27.3 -1.1
baz=224
I04A Tendick Farm, 36.34 326 P P 04 32 28.8 +0.3
baz=131
H65A Eastbrook 36.47 33 P P 04 32 27.6 -1.9
baz=226
WALA Waterton Lakes 36.56 339 P P 04 32 31.4 +1.0
WALA IAmb IAmb 04 32 33.0
comp=Z,18nm,1.3s
MATQ Matagami 36.57 19 P P 04 32 29.4 -0.9
baz=208
G64A Maxfield 36.60 31 P P 04 32 29.5 -1.1
baz=225
HAWA Hanford 36.71 331 P P 04 32 31.7 +0.1
F63A Nahmakanta, Br 36.74 31 P P 04 32 31.4 -0.5
baz=224
G05D Wamic, OR 36.75 328 P P 04 32 34.0 +2.1
baz=134,SNR=5.4
J01E Myrtle Point 36.78 324 P P 04 32 34.2 +2.0
baz=128
I03D Drain, OR 36.79 325 P P 04 32 33.4 +1.1
baz=130
H04A Detroit Lake 36.81 327 P P 04 32 33.3 +0.8
H04D Lebanon 37.00 326 P P 04 32 35.0 +0.9
baz=131,SNR=6.1
H66A Whiting 37.02 33 P P 04 32 33.3 -0.9
baz=228
NEW Newport 37.11 335 P P 04 32 35.2 +0.2
baz=143,SNR=10
NEW Newport 37.11 335 P P 04 32 35.6 +0.6
G65A Princeton 37.17 32 P P 04 32 33.9 -1.5
baz=227
C09A Chrisman Ranch 37.22 334 P P 04 32 37.0 +1.1
F05D White Salmon 37.27 329 P P 04 32 37.2 +0.8
baz=134,SNR=10.0
I02D Swisshome 37.33 325 P P 04 32 38.2 +1.4
baz=130
E63A Oxbow 37.59 30 P P 04 32 39.0 0.0
baz=224
G03D McMinnville, O 37.74 327 P P 04 32 41.3 +1.0
baz=131
D62A Allapoint, All 37.76 29 P P 04 32 39.3 -1.2
baz=223
CHGQ Chibougamau 37.79 22 P P 04 32 39.9 -0.7
baz=213
E64A Bridgewater 37.88 31 P P 04 32 40.6 -0.8
baz=225
D63A Stockholm 38.18 30 P P 04 32 43.0 -0.9
baz=224
ETMB Extrema 38.18 130 eP P 04 32 44.3 -0.1
F04D Rainier, OR 38.19 328 P P 04 32 45.8 +1.8
baz=132
PTGA Pitinga 38.22 112 P P 04 32 44.4 -0.4
PTGA IAmb IAmb 04 32 45.7
comp=Z,23nm,0.8s
PTGA Pitinga 38.22 112 eP P 04 32 44.7 -0.1
C06D Leavenworth 38.47 332 P P 04 32 47.5 +1.0
baz=137
MACA Manacapuru-AM 38.75 116 eP P 04 32 48.8 -0.5
D04E Lakebay 38.82 329 P P 04 32 50.6 +1.3
baz=134
FFC Flin Flon 39.15 353 P P 04 32 51.7 -0.3
FFC IAmb IAmb 04 32 52.7
comp=Z,9.4nm,0.7s
B06A Marblemount 39.17 332 P P 04 32 53.0 +0.7
B06A IAmb IAmb 04 32 54.0
comp=Z,16nm,0.7s
D03D Eldon 39.23 330 P P 04 32 53.6 +0.9
baz=134,SNR=8.6
B05A Bryant 39.27 331 P P 04 32 53.3 +0.2
baz=136
A04D Lummi Island 39.88 331 P P 04 32 59.3 +1.2
baz=135,SNR=8.3
SAML Samuel 39.92 126 P P 04 32 57.8 -1.1
SAML IAmb IAmb 04 32 58.9
comp=Z,22nm,1.0s
SAML Samuel 39.92 126 eP P 04 32 57.8 -1.1
PGC Sidney 40.18 331 P P 04 33 01.2 +0.6
PGC IAmb IAmb 04 33 03.1
comp=Z,20nm,0.9s
LPAZ La Paz 41.46 139 P P 04 33 12.7 +0.4
comp=Z,4.8nm,0.7s,baz=333,slow=5.4,SNR=38
LPAZ LR LR 04 50 03.7
comp=Z,42nm,21.8s,baz=316,slow=36
LPAZ La Paz 41.46 139 P P 04 33 12.7 +0.4
LPAZ La Paz 41.46 139 eP P 04 33 12.8 +0.5
PB16 IPOC Station P 42.20 143 P P 04 33 18.5 +0.3
PB16 IAmb IAmb 04 33 21.0
comp=Z,13nm,0.9s
MNMC Minye Minye 42.77 144 P P 04 33 23.5 +0.9
MNMC IAmb IAmb 04 33 25.2
comp=Z,31nm,1.0s
FCC Fort Churchill 42.81 1 P P 04 33 21.7 -0.3
FCC IAmb IAmb 04 33 22.8
comp=Z,22nm,0.9s
PB11 IPOC Station P 43.24 144 P P 04 33 26.5 +0.3
PB11 IAmb IAmb 04 33 28.1
comp=Z,18nm,0.9s
GO01 Chusmiza 43.43 144 P P 04 33 29.1 +1.1
GO01 IAmb IAmb 04 33 30.9
comp=Z,16nm,1.0s
MALB Monte Alegre 43.83 110 eP P 04 33 29.9 -1.0
SCHQ Schefferville 44.50 23 P P 04 33 33.4 -2.2
comp=Z,5.8nm,0.9s,baz=232,slow=6.1,SNR=7.9
SCHQ PcP PcP 04 35 17.7 -0.4
comp=Z,6.5nm,0.9s,baz=209,slow=4.4,SNR=5.3
SCHQ LR LR 04 54 12.7
comp=Z,176nm,21.9s,baz=251,slow=39
SCHQ Schefferville 44.50 23 P P 04 33 33.5 -2.2
VILB Vilhena 44.69 128 eP P 04 33 37.5 -0.3
PB07 IPOC Station P 44.70 146 P P 04 33 38.1 +0.3
PB07 IAmb IAmb 04 33 43.8
comp=Z,24nm,1.3s
PB09 IPOC Station P 45.10 145 P P 04 33 42.1 +1.0
PB09 IAmb IAmb 04 33 43.8
comp=Z,19nm,1.0s
MCPB Macapa, AP 45.24 107 eP P 04 33 40.7 -1.4
NPGB Novo Progresso 45.28 117 eP P 04 33 40.7 -1.7
LVC Limon Verde 45.94 146 P P 04 33 49.1 +1.2
LVC IAmb IAmb 04 33 50.6
comp=Z,9.0nm,0.9s
LVC Limon Verde 45.94 146 eP P 04 33 47.9 0.0
PTLB Pontes e Lacer 47.06 130 eP P 04 33 56.1 -0.3
DIB Dawson Inlet, 47.47 330 P P 04 34 00.1 +1.0
GO02 Mina Guanaco 47.67 148 P P 04 34 02.7 +1.4
YKA Yellowknife Ar 48.59 348 P P 04 34 07.7 +0.2
comp=Z,14nm,0.8s,baz=154,slow=6.8,SNR=94
YKA PcP PcP 04 35 32.1 -0.2
comp=Z,2.8nm,0.9s,baz=145,slow=3.5,SNR=6.9
AC02 Maricunga 49.28 149 P P 04 34 15.8 +1.9
AC02 IAmb IAmb 04 34 16.9
comp=Z,16nm,0.9s
PRPB Parauapebas 49.70 113 eP P 04 34 16.2 -0.6
DLBC Dease Lake 49.82 337 P P 04 34 19.4 +2.3
SALV Santo Antonio 49.94 127 eP P 04 34 18.1 -0.4
AC05 El Transito 50.42 152 P P 04 34 23.1 +1.0
TAOE Nuku Hiva Isla 51.12 244 eLR LR 04 49 03.6
comp=Z,426nm,26.3s
CO03 El Pedregal 51.96 153 P P 04 34 34.5 +0.9
CO03 IAmb IAmb 04 34 35.7
comp=Z,21nm,1.0s
AQDB Aquidauana 52.78 132 eP P 04 34 38.7 -1.0
ARAG Araguaiana, MT 52.85 124 eP P 04 34 39.7 -0.6
SMTB Santa Maria do 52.88 114 eP P 04 34 40.7 +0.1
WHY Whitehorse 53.15 337 P P 04 34 42.9 +0.9
WHY IAmb IAmb 04 34 44.8
comp=Z,11nm,0.9s
ROSB Rosrio 53.53 106 eP P 04 34 43.9 -1.5
PEXB Peixe 53.82 118 eP P 04 34 47.4 -0.1
MT05 Renca 54.15 155 P P 04 34 50.6 +1.0
HYT Haines Junctio 54.26 336 P P 04 34 52.1 +1.9
CPUP Villa Florida 55.62 138 P P 04 34 58.6 -1.6
comp=Z,7.4nm,1.0s,baz=335,slow=9.0,SNR=12
CPUP LR LR 04 58 16.2
comp=Z,139nm,19.7s,baz=347,slow=35
CPUP Villa Florida 55.62 138 P P 04 34 59.0 -1.2
CPUP IAmb IAmb 04 35 00.5
comp=Z,14nm,1.1s
CPUP Villa Florida 55.62 138 eP P 04 34 59.2 -1.1
BDFB Brasilia 55.87 122 P P 04 35 02.8 +0.3
comp=Z,9.5nm,0.4s,baz=301,slow=5.3,SNR=24
BDFB LR LR 05 00 45.5
comp=Z,131nm,18.6s,baz=296,slow=38
BDFB Brasilia 55.87 122 P P 04 35 02.2 -0.2
BARN Barnard Glacie 56.07 335 P P 04 35 04.0 +0.7
ITRB Iturama 56.27 127 eP P 04 35 04.5 -0.6
PCMB Pacaembu 56.72 130 eP P 04 35 07.5 -0.7
MCARA McCarthy VSAT 56.80 335 P P 04 35 09.7 +1.4
SDBA SAO DESIDERIO 56.87 117 eP P 04 35 09.3 -0.1
DAWY Dawson 56.90 338 P P 04 35 09.1 +0.1
DAWY IAmb IAmb 04 35 10.6
comp=Z,5.7nm,0.8s
IPMB Ipameri, GO 56.97 124 eP P 04 35 10.0 -0.1
GLB Gilahina Butte 57.16 334 P P 04 35 12.2 +1.4
GLB IAmb IAmb 04 35 14.1
comp=Z,19nm,1.0s
EPYK Eagle Plains 57.46 341 P P 04 35 13.3 +0.5
baz=130,SNR=5.4
EPYK Eagle Plains 57.46 341 P P 04 35 13.6 +0.8
EPYK IAmb IAmb 04 35 14.8
comp=Z,14nm,1.1s
INK Inuvik 57.86 344 P P 04 35 16.2 +0.6
MENT Mentasta 57.89 336 P P 04 35 17.4 +1.4
MENT IAmb IAmb 04 35 18.7
comp=Z,18nm,1.4s
EGAK Eagle 57.94 339 P P 04 35 16.6 +0.4
EGAK IAmb IAmb 04 35 17.3
comp=Z,6.7nm,0.8s
KLU Klutina 58.07 334 P P 04 35 18.6 +1.4
KLU IAmb IAmb 04 35 20.4
comp=Z,15nm,0.9s
PTGB Pitanga 58.07 133 eP P 04 35 17.0 -0.8
BB19B Bebedouro 58.45 128 eP P 04 35 20.2 -0.3
SCRK Sand Creek 58.53 337 P P 04 35 21.8 +1.3
baz=121
JANB Januaria 58.65 119 eP P 04 35 21.9 -0.1
RIDG Independent Ri 58.74 337 P P 04 35 22.8 +0.9
RES Resolute Bay 58.80 360 P P 04 35 21.6 -0.4
FRTB Fartura 59.02 130 eP P 04 35 23.4 -0.9
ITAB Concordia 59.64 136 eP P 04 35 28.3 -0.3
HDA Harding Lake 59.87 337 P P 04 35 30.0 +0.3
baz=118,SNR=9.1
HDA Harding Lake 59.87 337 P P 04 35 29.9 +0.3
HDA IAmb IAmb 04 35 30.9
comp=Z,9.8nm,0.8s
IL31 60.02 337 P P 04 35 31.3 +0.7
ILAR Eielson Array 60.02 337 P P 04 35 31.4 +0.7
comp=Z,6.6nm,0.9s,baz=134,slow=4.8,SNR=54
ILAR PcP PcP 04 36 16.2 +0.1
comp=Z,1.6nm,0.7s,baz=138,slow=1.8,SNR=6.7
ILAR LR LR 05 04 53.3
comp=Z,141nm,18.3s,baz=131,slow=39
SUA Susitna One 60.14 333 P P 04 35 32.7 +1.1
RND Reindeer 60.16 335 P P 04 35 32.6 +1.0
MCK McKinley 60.33 336 P P 04 35 33.4 +0.6
MCK IAmb IAmb 04 35 34.4
comp=Z,9.2nm,0.7s
POKR Poker Plat Res 60.40 337 P P 04 35 33.9 +0.8
baz=118
TCOL CIGO, UAF Yank 60.44 337 P P 04 35 34.2 +0.8
baz=118
RSO Redoubt South 60.67 331 P P 04 35 36.3 +1.0
SKT Skwentna 60.69 333 P P 04 35 36.0 +0.7
PLCA Paso Flores 60.69 159 P P 04 35 36.0 +0.4
comp=Z,12nm,0.8s,baz=326,slow=8.3,SNR=19
PLCA LR LR 04 56 40.9
comp=Z,59nm,21.8s,baz=320,slow=31
PLCA Paso Flores 60.69 159 P P 04 35 36.0 +0.4
PLCA Paso Flores 60.69 159 eP P 04 35 36.7 +1.2
SPB Sao Paulo 60.74 129 P P 04 35 35.6 -0.5
SPB Sao Paulo 60.74 129 eP P 04 35 36.1 0.0
VAO Valinhos 60.75 128 eP P 04 35 36.5 +0.2
TRF Thorofare Moun 60.76 335 P P 04 35 36.7 +0.8
NEA2 Nenana 60.77 336 P P 04 35 35.7 0.0
baz=116,SNR=6.7
CPSB Cacapava Do Su 60.91 139 eP P 04 35 36.4 -0.7
PET01 Itanhaem-SP 61.26 130 eP P 04 35 39.1 -0.5
BSCB Bom Sucesso 61.33 125 eP P 04 35 40.5 +0.3
PLTB Pedras Altas 61.73 140 eP P 04 35 42.6 -0.2
CNLB Canela 61.85 136 eP P 04 35 43.7 +0.1
GDU01 Guandu, BA 62.08 115 eP P 04 35 45.4 +0.1
RCBR Riachuelo 62.23 106 P P 04 35 46.8 +0.4
COLD Coldfoot 62.37 339 P P 04 35 47.6 +1.1
baz=116,SNR=12
COLD Coldfoot 62.37 339 P P 04 35 47.6 +1.1
COLD IAmb IAmb 04 35 49.3
comp=Z,14nm,1.2s
TOLK Toolik Lake Re 62.82 340 P P 04 35 50.3 +0.8
baz=118
TOLK Toolik Lake Re 62.82 340 P P 04 35 50.0 +0.5
TTA Tatalina 62.97 333 P P 04 35 50.0 -0.6
TTA IAmb IAmb 04 35 52.0

comp=Z,11nm,1.1s
SJMB Sao Joao De Ma 63.04 121 eP P 04 35 51.6 0.0
PPT Papeete 63.33 241 LR LR 04 55 53.9
comp=Z,72nm,20.8s,baz=104,slow=29
PPT2 Papeete2 63.34 241 eLR LR 04 54 41.1
comp=Z,379nm,28.2s
BSFB Barra de Sao F 63.38 121 eP P 04 35 54.4 +0.5
NAN01 Guarapari, ES 63.50 120 eP P 04 35 54.6 -0.1
RIB01 Linhares ES 63.99 121 eP P 04 35 58.2 +0.3
EUNU Eureka 64.32 2 P P 04 35 59.5 +0.3
SUMG Summit 65.18 16 *i* P P 04 36 05.0 -0.4
comp=Z,42nm,1.1s
SUMG Summit 65.18 16 P P 04 36 05.2 -0.2
SUMG IAmb IAmb 04 36 05.7
comp=Z,14nm,1.0s
TBI Tubuai 66.09 235 eLR LR 04 56 11.9
comp=Z,275nm,28.5s,baz=55
RDOG Red Dog Mine 67.21 338 P P 04 36 18.5 +0.6
DAG Danmarks Havn 71.49 14 *i* P P 04 36 43.2 -1.0
comp=Z,25nm,0.8s
ADK Adak 72.63 320 P P 04 36 51.8 +0.3
NOR Nord 72.66 9 *i* P P 04 36 50.5 -0.7
comp=Z,16nm,0.8s
AMKA Amchitka 75.17 320 P P 04 37 06.5 +0.2
PGAV Gavieira, Arco 77.07 50 *eP* P 04 37 17.0 -0.5
comp=Z,26nm,1.4s
PGAV Gavieira, Arco 77.07 50 eLR LR 05 02 15.7
comp=Z,113nm,22.0s
PSBE So Bento 77.10 52 *eP* P 04 37 17.7 +0.1
comp=Z,43nm,2.0s
PCAS Casmilo, Conde 77.23 52 *eP* P 04 37 18.3 0.0
comp=Z,60nm,1.3s
COI Coimbra 77.27 52 *eP* P 04 37 18.7 +0.2
comp=Z,44nm,1.9s
COI Coimbra 77.27 52 P P 04 37 18.3 -0.2
PCAB Cabril 77.30 50 *eP* P 04 37 18.2 -0.5
comp=Z,28nm,2.2s
PNCL Nicolau / Gran 77.55 54 *eP* P 04 37 19.4 -0.7
comp=Z,35nm,1.5s
PVIS Viseu 77.57 51 *eP* P 04 37 19.9 -0.3
comp=Z,33nm,0.9s
PVRL Vila Real 77.60 50 *eP* P 04 37 20.2 -0.2
comp=Z,26nm,1.3s
PMTG Montargil 77.61 53 *eP* P 04 37 19.9 -0.5
comp=Z,42nm,1.5s
KBS Kingsbay 77.70 11 P P 04 37 21.6 +1.4
EVO Evora 77.88 53 *eP* P 04 37 21.7 -0.2
comp=Z,41nm,1.4s
MTE Manteigas 77.89 51 *eP* P 04 37 21.6 -0.5
comp=Z,56nm,1.3s
MTE Manteigas 77.89 51 eLR LR 05 02 41.5
comp=Z,109nm,20.0s
MTE Manteigas 77.89 51 P P 04 37 21.5 -0.5
PCBR Castelo Branco 78.04 52 *eP* P 04 37 22.6 -0.2
comp=Z,40nm,1.3s
PBEJ Beja 78.08 54 *eP* P 04 37 23.2 +0.1
comp=Z,25nm,1.6s
MVO Moncorvo 78.13 50 *eP* P 04 37 23.1 -0.3
comp=Z,50nm,1.2s
MVO Moncorvo 78.13 50 eLR LR 05 02 29.3
comp=Z,87nm,20.0s
PMRV Marv??o 78.18 52 *eP* P 04 37 23.2 -0.4
comp=Z,31nm,1.6s
PMRV Marv??o 78.18 52 eLR LR 05 02 59.2
comp=Z,107nm,22.0s
PBRG Braganca 78.22 50 *eP* P 04 37 23.5 -0.3
comp=Z,39nm,1.4s
PVAQ Vaqueiros 78.32 54 *eP* P 04 37 24.9 +0.5
comp=Z,30nm,1.3s
PVAQ Vaqueiros 78.32 54 eLR LR 05 02 39.8
comp=Z,119nm,20.0s
BILL Bilibino 78.68 338 P P 04 37 25.9 +0.1
TTIG Tnine Tigouga, 79.09 61 P P 04 37 29.0 0.0
SNR=6.7
OUK Oukaimeden 79.44 61 P P 04 37 32.0 +0.9
SNR=8.8
HORN Hornachuelos 80.14 53 P P 04 37 34.2 -0.1
SNR=20
OUZM OUZ 80.43 61 P P 04 37 37.0 +0.8
SNR=24
PAB San Pablo 80.47 52 P P 04 37 36.0 -0.1
ESDC Sonseca Array 80.73 51 P P 04 37 37.6 +0.1
comp=Z,24nm,1.0s,baz=292,slow=5.6,SNR=104
ESDC LR LR 05 09 02.0
comp=Z,97nm,20.8s,baz=275,slow=32
ESBB Sonseca Array 80.73 51 P P 04 37 37.3 -0.2
CZD Col de Zad 81.38 58 P P 04 37 43.0 +1.6
SNR=12
ZGR Zagora 81.57 61 P P 04 37 43.1 +0.9
SNR=9.7
PALE Palemas 81.76 56 P P 04 37 43.1 +0.1
SNR=17
SESP Santiago Espad 82.16 53 P P 04 37 45.9 +0.6
SNR=7.9
ARF Arif 82.43 60 P P 04 37 47.3 +0.6
SNR=25
JBK JBK 83.07 56 P P 04 37 50.2 +0.1
SNR=19
NB2 NORSAR Subarra 83.81 28 P P 04 37 53.8 +0.7
comp=Z,114nm,2.5s,baz=292,slow=5.1
NB2 NORSAR Subarra 83.81 28 P P 04 37 53.8 +0.7
baz=292,slow=5.1
NOA NORSAR Array B 83.81 28 P P 04 37 53.9 +0.7
comp=Z,7.3nm,0.9s,baz=292,slow=5.1,SNR=34
NOA LR LR 05 15 12.6
comp=Z,64nm,20.5s,baz=280,slow=36
NB201 NORSAR Array S 83.84 28 P P 04 37 53.5 +0.2
DOU Dourbes 83.91 40 P P 04 37 53.6 -0.2
BMRD Maredsous 83.95 39 P P 04 37 54.3 +0.2
BGES Gesves 84.12 39 ⇑P P 04 37 54.0 -0.9
BCLA Clavier 84.24 39 P P 04 37 54.5 -1.0
MEM Membach 84.61 39 P P 04 37 58.2 +0.9
BHOU Houvegnez 84.69 39 P P 04 37 58.7 +0.9
WLF Walferdange 85.00 40 P P 04 37 59.9 +0.5
WLF Walferdange 85.00 40 P P 04 37 59.6 +0.3
ARCES ARCESS Array B 85.21 18 P P 04 37 59.8 -0.2
comp=Z,4.9nm,0.7s,baz=301,slow=3.7,SNR=25
ARCES LR LR 05 16 08.7
comp=Z,61nm,21.5s,baz=26,slow=36
ARE0 ARCESS Array S 85.21 18 P P 04 37 59.7 -0.3
SSB Saint Sauveur 85.33 44 P P 04 38 00.5 -0.7
SSB IAmb IAmb 04 38 01.8
comp=Z,6.3nm,0.9s
KEV Kevo 85.52 17 P P 04 38 01.2 -0.3
KEV IAmb IAmb 04 38 01.8
comp=Z,6.5nm,1.0s
ECH Echery 86.10 41 P P 04 38 04.6 -0.3
ECH IAmb IAmb 04 38 06.1
comp=Z,9.7nm,0.9s
BFO Black Forest 86.80 41 P P 04 38 07.4 -0.9
BFO IAmb IAmb 04 38 11.1
comp=Z,9.6nm,1.3s
SENIN Lac Senin/Sane 86.81 43 P P 04 38 08.2 -0.5
SENIN IAmb IAmb 04 38 10.4
comp=Z,9.0nm,1.0s
STU Stuttgart 87.18 40 P P 04 38 09.6 -0.5
TIC Toumodi 88.07 84 *eP* P 04 38 14.5 -0.6
TUE Stuetta 88.10 42 P P 04 38 14.5 -0.3
TUE IAmb IAmb 04 38 19.6
comp=Z,5.0nm,0.8s
LIC Lamto 88.18 84 *eP* P 04 38 14.7 -0.8
comp=Z,94nm,1.8s
DBIC Dimbokro 88.22 84 P P 04 38 15.4 -0.3
comp=Z,7.0nm,1.0s,baz=274,slow=2.3,SNR=4.3
DBIC LR LR 05 11 49.7
comp=Z,42nm,21.3s,baz=270,slow=32
DBIC Dimbokro 88.22 84 P P 04 38 15.0 -0.8
KIC Kosan Boka 88.41 84 *eP* P 04 38 16.0 -0.7
comp=Z,55nm,1.1s
FUORN Ofenpass-Fuorn 88.63 42 P P 04 38 17.4 0.0
FUORN IAmb IAmb 04 38 19.7
comp=Z,5.2nm,0.8s
BRG Berggiesshubel 89.21 37 *eP* P 04 38 20.2 +0.5
comp=Z,8.9nm,1.4s
KHC Kasperske Hory 89.71 39 *eP* P 04 38 21.9 -0.2
KHC Kasperske Hory 89.71 39 P P 04 38 22.1 -0.1
GEC2 GERESS Array S 89.90 39 P P 04 38 23.0 -0.1
GEC2 IAmb IAmb 04 38 24.3
comp=Z,5.2nm,1.1s
GERES GERESS Array B 89.90 39 P P 04 38 23.3 +0.2
comp=Z,2.1nm,0.9s,baz=302,slow=3.0,SNR=16
GERES LR LR 05 18 48.9
comp=Z,48nm,19.9s,baz=288,slow=36
FINES FINESS Array B 89.96 24 P P 04 38 22.0 -1.0
comp=Z,3.2nm,1.0s,baz=264,slow=6.7,SNR=4.4
FINES LR LR 05 17 39.4
comp=Z,55nm,22.0s,baz=334,slow=35
CHVC Chvalec 90.55 37 *eP* P 04 38 26.4 +0.4
VSL Villasalto 90.63 49 P P 04 38 26.6 0.0
DPC Dobruska-Polom 90.81 37 *eP* P 04 38 27.8 +0.6
KRLC Kraliky 91.19 37 *eP* P 04 38 29.6 +0.6
KEST Kesra 91.96 52 P P 04 38 32.3 -0.6
comp=Z,2.7nm,0.8s,baz=292,slow=3.1,SNR=5.1
KEST LR LR 05 16 20.0
comp=Z,43nm,19.4s,baz=302,slow=33
TORD Torodi Ar. Bea 92.62 76 P P 04 38 35.1 -1.1
comp=Z,0.7nm,0.8s,baz=290,slow=6.1,SNR=3.6
TORD LR LR 05 15 50.2
comp=Z,107nm,21.6s,baz=165,slow=33
VYHS Vyhne 93.11 38 *eP* P 04 38 37.7 -0.2
TAM Tamanrasset 93.18 65 P P 04 38 39.0 +0.1
TAM IAmb IAmb 04 38 42.1
comp=Z,3.3nm,0.9s
PSZ Piszkesteto 94.01 38 P P 04 38 42.2 +0.1
NRIK Noril'sk 94.98 359 LR LR 05 25 31.4
comp=Z,54nm,20.9s,baz=4.0,slow=38
AKASG Malin Array Be 97.65 32 LR LR 05 25 18.5
comp=Z,29nm,19.3s,baz=280,slow=37
MKAR Makanchi Array 117.56 2 PKP **PKPdf** 04 44 09.0 -0.7
comp=Z,1.2nm,0.7s,baz=8.5,slow=2.5,SNR=9.6
GTA Gaotai 123.31 346 PKP **PKiKP** 04 44 21.3 -0.1
GTA pPKP pPKPdf 04 44 33.5 -4.8
GTA sPKP 04 44 37.9
GTA LR LR
comp=N,110nm,20.6s
GTA LR LR
comp=E,310nm,20.3s
GTA LR LR
comp=Z,110nm,21.9s
BOSA Boshof 123.66 114 PKP **PKPdf** 04 44 20.9 -1.1
comp=Z,8.8nm,0.9s,baz=222,slow=0.5,SNR=13
LZH Lanzhou 125.36 341 *e*PKP **PKiKP** 04 44 28.3 +2.7
LZH sPKP 04 44 42.2
MAW Mawson 126.34 170 PKP **PKPdf** 04 44 25.9 +0.2
comp=Z,2.4nm,0.8s,baz=301,slow=19,SNR=6.7
MAW Mawson 126.34 170 **PKiKP** 04 44 26.2 0.0
STKA Stephens Creek 126.52 242 PKP **PKiKP** 04 44 27.6 -0.1
comp=Z,3.0nm,0.8s,baz=49,slow=1.2,SNR=6.6
STKA Stephens Creek 126.52 242 **PKiKP** 04 44 27.9 +0.2
CD2 Chengdu 130.14 339 Pdif **Pdif** 04 41 22.4 -1.2
WRA Warramunga Arr 133.12 257 PKP **PKPdf** 04 44 40.4 +0.3
comp=Z,2.4nm,0.8s,baz=80,slow=2.0,SNR=11
ASAR Alice Springs 133.63 252 PKP **PKPdf** 04 44 41.4 +0.4
comp=Z,1.2nm,0.8s,baz=139,slow=3.0,SNR=8.1
CMAR Chiang Mai Arr 143.26 338 PKhKP PKPpre 04 44 55.4
comp=Z,1.2nm,0.3s,baz=350,slow=4.2,SNR=8.1

IDC 04 04:31:22.3±10.0, 23.98S×179.94W, h534km±140km, mb2.7/4, mb1 3.1/5, mb1mx2.9/23, mbtmp3.7/5, Error ellipse: s-maj=89.2km s-min=28.5km az=4.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.45**	**189**	P	P	04 34 26.9	+0.9
	0.6nm,0.3s,baz=22,slow=11,SNR=2.6						
URZ				S	S	04 36 53.3	-4.4
	0.3nm,0.3s,baz=91,slow=23,SNR=2.3						
ASAR	**Alice Springs**	**42.08**	**261**	P	P	04 38 28.2	+0.6
	0.2nm,0.4s,baz=94,slow=9.4,SNR=1.9						
WRA	**Warramunga Arr**	**42.46**	**266**	P	P	04 38 30.2	-0.4
	0.8nm,0.5s,baz=97,slow=8.4,SNR=14						
NVAR	**Mina Array Bea**	**84.77**	**44**	P	P	04 43 00.1	-0.4
	0.3nm,0.7s,baz=212,slow=8.5,SNR=2.5						
TXAR	**Lajitas Array**	**90.43**	**58**	P	P	04 43 27.3	+0.1
	0.3nm,0.7s,baz=223,slow=5.8,SNR=6.1						

DJA 04 04:43:10.9±0.9, 9°S±4°×11°1E±°, h15km±8km, M3.7/11, MLv3.7/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WOJI	**Wonogiri, Jawa**	**1.29**	**342**	P	Pn	04 43 33.8	-0.6
WOJI				S	Sb	04 43 51.2	-0.1
UGM	**Wanagama**	**1.40**	**325**	P	Pn	04 43 35.3	-0.7
UGM				S	Sn	04 43 54.2	0.0
YOGI	**Yogyakarta**	**1.61**	**320**	P	Pn	04 43 38.3	-0.6
YOGI				S	Sn	04 43 59.3	-0.1
NGJI	**Ngawi**	**1.70**	**4**	P	Pn	04 43 40.2	+0.2
NGJI				S	Sb	04 44 02.6	-0.4
SMRI	**Semarang**	**2.19**	**336**	P	Pn	04 43 45.4	-1.4
GMJI	**Gumukmas**	**2.23**	**69**	P	Pn	04 43 46.8	-0.6
GMJI				S	Sn	04 44 15.2	+0.4
GRJI	**Gresik**	**2.42**	**28**	P	Pn	04 43 50.9	+0.9
JAGI	**Jajag, Banyuwa**	**2.85**	**78**	P	Pn	04 43 55.1	-0.8
JAGI				S	Sn	04 44 27.9	-2.1
CISI	**Cisompet, Garu**	**3.79**	**293**	P	Pn	04 44 10.1	+1.2
DBJI	**Dramaga**	**5.18**	**299**	P	Pg	04 44 46.3	-3.9

*IDC **04** 04:52:24.9±1.9, 52°.55N×159°.90E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/50, mbtmp3.4/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/30, Error ellipse: s-maj=57.0km s-min=15.0km az=12.0*
*KRSC **04** 04:52:25.3±1.7, 52°.13N×159°.58E, h53km±21km, ML3.7*
ISC 04 04:52:25.9±1.7, 52°.16N±0°.06×159°.44E±0°.05, h8km±10km, n41, σ1°00/42, mb3.5/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.63**	**296**	*e*P	**Pb**	04 52 40.3	+1.2
RUS				*e*S	**Sn**	04 52 49.9	-1.4
MTVR	**Mutnovka**	**0.83**	**293**	*e*P	**Pb**	04 52 43.5	+0.8
MTVR				*e*S	**Sb**	04 52 55.2	+1.1
KDTR	**Khodutka, Kamc**	**0.91**	**248**	*i* P	**Pb**	04 52 43.9	0.0
KDTR				*e*S	**Sb**	04 52 55.9	-0.2
GRL	**Gorelyy**	**0.92**	**296**	*e*P	**Pn**	04 52 45.4	+0.1
GRL				*e*S	**Sn**	04 52 58.3	-0.4
DALK	**Dalny**	**0.97**	**335**	*e*P	**Pb**	04 52 44.9	0.0
DALK				*e*S	**Sb**	04 52 57.7	-0.1
ASAK	**Asacha**	**0.97**	**284**	*e*P	**Pb**	04 52 45.6	+0.6
ASAK				*e*S	**Sb**	04 52 58.8	+0.8
SPN	**Mys Shipunski**	**1.01**	**21**	*e*P	**Pg**	04 52 45.6	+0.4
SPN				*e*S	**Sg**	04 52 58.9	+0.6
NLC	**Nalytchevo**	**1.01**	**357**	*e*P	**Pg**	04 52 45.5	+0.1
NLC				*e*S	**Sg**	04 52 59.0	+0.4
KRMR	**Karymshinskiy**	**1.04**	**311**	*i* P	**Pb**	04 52 46.2	0.0
KRMR				*e*S	**Sb**	04 52 59.6	-0.4
UGLR	**Uglovaya**	**1.11**	**341**	*e*P	**Pg**	04 52 47.3	0.0
SDLR	**Sedlovina**	**1.17**	**344**	*i* P	**Pg**	04 52 47.8	-0.6
SMAR	**Somma**	**1.17**	**341**	*e*P	**Pb**	04 52 49.0	+0.5
AVH	**Avacha**	**1.19**	**339**	*e*P	**Pg**	04 52 48.4	-0.3
AVH				*e*S	**Sg**	04 53 03.7	-0.4
KRER	**Koryakskii**	**1.22**	**340**	*e*P	**Pg**	04 52 48.6	-0.7
KOK	**Koryaka**	**1.23**	**337**	*e*P	**Pg**	04 52 49.1	-0.5
KRX	**Arik**	**1.29**	**339**	*e*P	**Pg**	04 52 49.5	-1.2
KRX				*e*S	**Sg**	04 53 06.2	-1.3
PETK	**Petropavlovsk-**	**1.42**	**313**	Pg	**Pg**	04 52 52.1	-1.1
	60nm,0.3s,baz=116,slow=18,SNR=1020						
PETK				Lg	Lg	04 53 10.5	
	24nm,0.3s,baz=104,slow=34,SNR=12						
APC	**Apacha**	**1.59**	**300**	*e*P	**Pn**	04 52 54.9	+0.6
APC				*e*S	**Sg**	04 53 16.2	-0.7
MIPR	**Malaya Ipel'ka**	**1.65**	**275**	*e*P	**Pn**	04 52 56.1	+0.9
KII	**Karymskiy**	**1.88**	**0**	*e*P	**Pn**	04 52 58.8	+0.4
KII				*e*S	**Sn**	04 53 22.8	+0.5
KZV	**Kizimen**	**3.00**	**9**	*e*P	**Pn**	04 53 14.1	+0.2
TUMD	**Tumrok D**	**3.10**	**10**	*e*P	**Pn**	04 53 15.4	+0.3
TUMD				*e*S	**Sn**	04 53 50.6	-1.7
TUMR	**Tumrok**	**3.16**	**7**	*e*P	**Pn**	04 53 16.8	+0.9
SRDR	**Sredinnyy**	**4.17**	**2**	*e*P	**Pn**	04 53 31.7	+1.9
KBTR	**Krutoberegovo**	**4.52**	**25**	*e*P	**Pn**	04 53 33.9	-0.6
SRKR	**Sorokina**	**4.62**	**12**	*e*P	**Pn**	04 53 37.1	+1.2
BKI	**Bering**	**4.94**	**49**	*e*S	Sn	04 54 29.1	-8.4
USRK	**Ussuriysk Ar.**	**19.87**	**257**	LR	LR	05 05 59.4	
	comp=Z,83nm,19.1s,baz=226,slow=40						
H11N2	**WAKE ISLAND Hy**	**32.89**	**167**	T	T	05 34 03.5	
	baz=349						
H11N3	**WAKE ISLAND Hy**	**32.90**	**167**	T	T	05 34 04.6	
	baz=349,slow=74						
H11N1	**WAKE ISLAND Hy**	**32.90**	**167**	T	T	05 34 02.3	
	baz=349,slow=74						
SONM	**Songino Array**	**33.73**	**284**	P	**P**	**04 59 10.0**	**+2.4**
	0.3nm,0.4s,baz=56,slow=11,SNR=2.1						
H11S1	**WAKE ISLAND Hy**	**34.06**	**168**	T	T	05 35 29.0	
	baz=351,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**34.08**	**168**	T	T	05 35 30.3	
	baz=351,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**34.08**	**168**	T	T	05 35 32.1	
	baz=351,slow=76,SNR=10.0						
PDAR	**Pinedale Array**	**58.33**	**60**	P	**P**	**05 02 18.8**	**-2.6**
	0.2nm,0.5s,baz=320,slow=2.7,SNR=2.4						
GEYT	**Alibeck**	**67.26**	**303**	LR	LR	05 35 39.6	
	comp=Z,77nm,21.3s,baz=195,slow=39						
TXAR	**Lajitas Array**	**71.38**	**66**	P	P	05 03 43.7	-2.7
	0.2nm,0.5s,baz=302,slow=5.2,SNR=4.2						
H03N2	**Juan Fernandez**	**134.60**	**89**	T	T	07 41 50.3	
	baz=314,slow=77,SNR=27						
H03N1	**Juan Fernandez**	**134.62**	**89**	T	T	07 41 55.2	
	baz=314,slow=77,SNR=13						
H03N3	**Juan Fernandez**	**134.62**	**89**	T	T	07 41 53.5	
	baz=314,slow=77,SNR=11						

IDC 04 04:58:55.3±2.0, 3.76S×144.13E, h0km, mb3.2/2, mb1 3.8/3, mb1mx3.4/30, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=106.5km s-min=30.7km az=116.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.70**	**210**	P	Pn	05 03 15.8	0.0
	0.3nm,0.3s,baz=31,slow=11,SNR=11						
ASAR	**Alice Springs**	**22.12**	**206**	P	P	05 03 51.6	-0.9
	0.5nm,0.5s,baz=26,slow=13,SNR=5.5						
ILAR	**Eielson Array**	**84.58**	**24**	P	P	05 11 30.7	+0.5
	0.1nm,0.5s,baz=255,slow=3.5,SNR=1.7						

*IDC **04** 05:11:58.5±1.0, 1°.06N×146°.35E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/31, mbtmp3.9/8, Error ellipse: s-maj=43.9km s-min=21.5km az=107.0*
*NEIC **04** 05:11:59.6±1.0, 1°.0N±0°.1×146°.4E±0°.2, h10km±1km, mb4.3/9, Error ellipse: s-maj=38.2km s-min=24.6km az=90.0*
ISC 04 05:11:59.5±0.8, 0°.9N±0°.1×146°.4E±0°.2, h10km, n17, σ0°.83/17, mb4.0/13, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WB0	**Warramunga Arr**	**23.70**	**209**	P	**P**	**05 17 12.6**	**+0.8**
WB0				IAmb	IAmb	05 17 30.6	
	comp=Z,12nm,1.2s						
WR0	**Warramunga Arr**	**23.80**	**209**	P	**P**	**05 17 12.4**	**-0.2**
WR0				IAmb	IAmb	05 17 15.1	
	comp=Z,8.4nm,0.9s						
WB2	**Warramunga Arr**	**23.87**	**209**	P	**P**	**05 17 13.6**	**+0.2**
WB2				IAmb	IAmb	05 17 19.1	
	comp=Z,7.9nm,1.1s						
WRA	**Warramunga Arr**	**23.88**	**209**	P	**P**	**05 17 14.2**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=30,slow=11,SNR=18						
AS31	**Alice Springs**	**27.30**	**206**	P	**P**	**05 17 43.9**	**-0.7**
ASAR	**Alice Springs**	**27.30**	**206**	P	**P**	**05 17 46.8**	**+2.2**
	comp=Z,0.8nm,0.8s,baz=36,slow=8.7,SNR=7.6						
FITZ	**Fitzroy Crossi**	**27.84**	**226**	P	**P**	**05 17 49.7**	**+0.3**
ARMA	**Armidale**	**31.57**	**171**	P	**P**	**05 18 21.5**	**-0.9**
SONM	**Songino Array**	**58.14**	**329**	P	**P**	**05 21 53.5**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=146,slow=8.2,SNR=5.8						
MK31	**Makanchi Array**	**71.85**	**319**	P	**P**	**05 23 22.1**	**-0.6**
MKAR	**Makanchi Array**	**71.85**	**319**	P	**P**	**05 23 22.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=99,slow=7.9,SNR=5.8						
ZALV	**Zalesovo Beam**	**72.89**	**327**	P	**P**	**05 23 27.9**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=103,slow=5.0,SNR=2.9						
KURK	**Kurchatov**	**75.36**	**323**	P	**P**	**05 23 42.8**	**-0.5**
KURK				IAmb	IAmb	05 23 43.8	
	comp=Z,2.3nm,0.8s						
IL31		**79.40**	**24**	P	**P**	**05 24 05.3**	**-0.2**
IL31				IAmb	IAmb	05 24 05.8	
	comp=Z,2.3nm,0.9s						
ILAR	**Eielson Array**	**79.40**	**24**	P	**P**	**05 24 05.7**	**0.0**
	comp=Z,1.4nm,0.6s,baz=248,slow=5.4,SNR=13						
YKA	**Yellowknife Ar**	**93.34**	**27**	P	**P**	**05 25 15.5**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=276,slow=5.4,SNR=4.0						
NVAR	**Mina Array Bea**	**93.58**	**52**	P	**P**	**05 25 16.7**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=263,slow=6.3,SNR=4.0						

*IDC **04** 05:34:07.7±3.7, 6°.02S×154°.56E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/35, mbtmp3.7/2, MS4.7/1, Ms1 4.7/1, ms1mx2.9/41, Error ellipse: s-maj=172.4km s-min=52.4km az=127.0*
*NEIC **04** 05:34:10.9±1.2, 6°.5S±0°.2×155°.2E±0°.2, h35km±2km, mb4.3/3, Error ellipse: s-maj=41.4km s-min=28.3km az=27.0*
ISC 04 05:34:11.6±2.6, 6°.6S±0°.5×155°.3E±0°.2, h35km, n9, σ0°.51/8, mb4.2/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.45**	**122**	Pn	**Pn**	**05 35 30.1**	**-0.2**
WR0	**Warramunga Arr**	**24.10**	**235**	P	**P**	**05 39 23.9**	**-0.3**
WR0				IAmb	IAmb	05 39 30.9	
	comp=Z,11nm,1.3s						
WB0	**Warramunga Arr**	**24.12**	**235**	P	**P**	**05 39 23.8**	**-0.6**
WB0				IAmb	IAmb	05 39 28.9	
	comp=Z,18nm,1.4s						
WB2	**Warramunga Arr**	**24.25**	**235**	P	**P**	**05 39 25.8**	**+0.3**
WB2				IAmb	IAmb	05 39 36.1	
	comp=Z,8.4nm,1.2s						
WRA	**Warramunga Arr**	**24.26**	**235**	P	**P**	**05 39 25.3**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=57,slow=9.7,SNR=11						
ASAR	**Alice Springs**	**26.63**	**228**	P	**P**	**05 39 46.8**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=61,slow=8.9,SNR=14						
TGY	**Tagaytay City**	**39.77**	**301**	LR	LR	05 59 11.9	
	comp=Z,914nm,18.2s,baz=302,slow=39						
QSPA	**South Pole Qui**	**83.39**	**180**	P	**P**	**05 46 35.8**	**+0.7**
TORD	**Torodi Ar. Bea**	**153.16**	**286**	PKPbc	**PKPbc**	**05 54 06.6**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=57,slow=2.3,SNR=1.9						

IDC 04 05:38:01.9±3.2, 17.70S×175.85E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/44, mbtmp4.0/4, MS3.5/8, Ms1 3.5/8, ms1mx3.2/37, Error ellipse: s-maj=189.8km s-min=26.8km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.86**	**242**	*e*LR	LR	05 42 55.6	
	comp=Z,414nm,28.4s						
AFI	**Afiamalu**	**12.49**	**74**	LR	LR	05 44 48.1	
	comp=Z,180nm,20.8s,baz=225,slow=32						
URZ	**Urewera**	**20.52**	**177**	LR	LR	05 48 18.1	
	comp=Z,158nm,19.5s,baz=327,slow=30						
RAR	**Rarotonga**	**23.24**	**103**	LR	LR	05 51 14.7	
	comp=Z,69nm,19.6s,baz=228,slow=34						
PPT2	**Papeete2**	**32.92**	**95**	*e*LR	LR	05 53 13.6	
	comp=Z,142nm,25.5s						
PPT	**Papeete**	**32.92**	**95**	LR	LR	05 54 24.7	
	comp=Z,44nm,20.4s,baz=288,slow=30						
STKA	**Stephens Creek**	**33.99**	**239**	LR	LR	05 57 46.0	
	comp=Z,89nm,18.9s,baz=11,slow=35						
H11S2	**WAKE ISLAND Hy**	**37.07**	**346**	T	T	06 24 28.4	
	baz=166,slow=76,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**37.08**	**345**	T	T	06 24 28.0	
	baz=166,slow=76,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**37.09**	**346**	T	T	06 24 28.6	
	baz=166,slow=76,SNR=5.5						
WRA	**Warramunga Arr**	**39.28**	**260**	P	P	05 45 32.3	-0.5
	1.7nm,0.7s,baz=92,slow=8.7,SNR=15						
WRA				LR	LR	05 59 35.9	
	comp=Z,91nm,20.5s,baz=225,slow=33						
ASAR	**Alice Springs**	**39.58**	**254**	P	P	05 45 35.5	+0.2
	4.1nm,0.8s,baz=86,slow=8.7,SNR=31						
TAOE	**Nuku Hiva Isla**	**43.63**	**84**	*e*LR	LR	05 58 13.2	
	comp=Z,79nm,25.8s						
JCJ	**Chichijima**	**55.22**	**323**	LR	LR	06 06 40.1	
	comp=Z,67nm,20.9s,baz=148,slow=31						
NVAR	**Mina Array Bea**	**83.15**	**46**	P	P	05 50 30.1	-0.1
	0.9nm,0.9s,baz=233,slow=8.9,SNR=6.8						
ILAR	**Eielson Array**	**87.01**	**15**	P	P	05 50 48.8	+0.1

mb1 4.2/16,mb1mx4.0/46,mbtmp4.6/16,Error ellipse: s-maj=22.2km s-min=12.7km az=88.0
*NEIC **04** 05:43:36.5±2.0, 7.°03S±0.°06×129.°90E±0.°07,h135km±2km, mb4.6/32,Error ellipse: s-maj=9.6km s-min=8.2km az=93.0*

ISC 04 05:43:37.1±0.4,**7.°14S**±0.°04×**129.°97E**±0.°05,**h150**km,**n107,** σ2§**11**/117,**mb4.5**/30,**1D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.56**	**122**	P	**Pn**	**05 44 08.0**	**+0.6**
SAUI				S	**Sn**	**05 44 33.2**	**+2.6**
SAUI	**Saumlaki**	**1.56**	**122**	Pn	**Pn**	**05 44 08.6**	**+1.2**
SAUI				Sn	**Sn**	**05 44 29.0**	**-1.5**
BNDI	**Bandanaira**	**2.60**	**359**	P	**Pn**	**05 44 20.1**	**+0.5**
AAI	**Ambon**	**3.86**	**333**	P	**Pn**	**05 44 33.3**	**-2.3**
MSAI	**Masohi**	**3.91**	**345**	P	**Pn**	**05 44 36.3**	**0.0**
FAKI	**Fak Fak**	**4.77**	**29**	P	**Pn**	**05 44 45.5**	**-2.1**
FAKI				S	**Sn**	**05 45 37.2**	**-5.4**
FAKI	**Fak Fak**	**4.77**	**29**	Pn	**Pn**	**05 44 45.1**	**-2.5**
FAKI				Sn	**Sn**	**05 45 36.4**	**-6.2**
MTN	**Manton Dam**	**5.78**	**169**	Pn	**Pn**	**05 45 00.6**	**-0.3**
MTN				Sn	**Sn**	**05 46 02.8**	**-3.7**
SOEI	**Soe**	**6.21**	**245**	P	**Pn**	**05 45 06.0**	**-0.8**
	2.7nm7μm858nm,0.9s						
SOEI	**Soe**	**6.21**	**245**	Pn	**Pn**	**05 45 05.9**	**-0.8**
SOEI				Sn	**Sn**	**05 46 14.3**	**-2.5**
SIJI	**Sorong**	**6.37**	**12**	P	**Pn**	**05 45 06.3**	**-2.6**
	26nm,0.3s,baz=70,slow=3.5,SNR=24						
SIJI				S	**Sn**	**05 46 12.8**	**-7.8**
	22nm,0.3s,baz=284,slow=23,SNR=13						
LBMI	**Labuha**	**6.92**	**339**	P	**Pn**	**05 45 17.7**	**+1.6**
	0.6nm2μm206nm,0.8s						
BATI	**Baumata**	**6.93**	**244**	P	**Pn**	**05 45 16.1**	**-0.4**
	107nm,0.3s,baz=120,slow=2.9,SNR=26						
BATI				S	**Sn**	**05 46 28.7**	**-5.5**
	33nm,0.3s,baz=75,slow=21,SNR=3.2						
BATI	**Baumata**	**6.93**	**244**	P	**Pn**	**05 45 16.0**	**-0.4**
	0.9nm2μm250nm,1.1s						
RKPI	**Ransiki, Papua**	**7.00**	**37**	P	**Pn**	**05 45 15.7**	**-1.5**
	2.6nm8μm606nm,0.6s						
MMRI	**Maumere**	**7.80**	**259**	Pn	**Pn**	**05 45 27.4**	**-0.5**
MMRI				Sn	**Sn**	**05 46 55.9**	**+0.9**
EDFI	**Ende, Flores**	**8.35**	**258**	P	**Pn**	**05 45 35.2**	**-0.2**
	22nm,0.9s						
KNRA	**Kununurra**	**8.56**	**188**	Pn	**Pn**	**05 45 36.7**	**-1.4**
KNRA				Sn	**Sn**	**05 47 06.3**	**-7.0**
WAMI	**Wamena**	**9.29**	**70**	P	Pn	05 45 59.1	+11
BASI	**Baing, Sumba**	**9.77**	**251**	P	**Pn**	**05 45 51.1**	**-3.1**
	135nm,0.7s						
SMPI	**Sarmi**	**10.11**	**60**	P	**Pn**	**05 45 56.1**	**-2.6**
	20nm,0.6s						
WBSI	**Waikabubak, Su**	**10.75**	**256**	P	**Pn**	**05 46 05.1**	**-2.1**
	126nm,1.1s						
FITZ	**Fitzroy Crossi**	**11.68**	**201**	P	**Pn**	**05 46 16.1**	**-3.2**
	9.8nm,0.3s,baz=30,slow=10,SNR=293						
FITZ				S	Sn	05 48 16.0	-12
	8.7nm,0.3s,baz=79,slow=17,SNR=6.8						
FITZ	**Fitzroy Crossi**	**11.68**	**201**	Pn	**Pn**	**05 46 17.4**	**-1.9**
PLAI	**Plampang**	**12.19**	**261**	P	**Pn**	**05 46 23.3**	**-2.7**
WB0	**Warramunga Arr**	**13.26**	**162**	Pn	**Pn**	**05 46 37.3**	**-2.5**
WRA	**Warramunga Arr**	**13.41**	**162**	P	**Pn**	**05 46 39.1**	**-2.6**
	4.9nm,0.3s,baz=343,slow=14,SNR=82						
WRA				S	Sn	05 49 00.6	-10
	13nm,0.3s,baz=336,slow=23,SNR=9.6						
WB2	**Warramunga Arr**	**13.41**	**162**	Pn	**Pn**	**05 46 38.9**	**-2.9**
WR0	**Warramunga Arr**	**13.49**	**161**		**Pn**	**05 46 40.4**	**-2.3**
AS31	**Alice Springs**	**16.86**	**167**	P	**Pn**	**05 47 24.6**	**+0.1**
AS31				IAmb	IAmb	05 47 29.7	
	comp=Z,8.0nm,0.3s						
ASAR	**Alice Springs**	**16.86**	**167**	P	**Pn**	**05 47 24.6**	**+0.2**
	comp=Z,2.8nm,0.3s,baz=341,slow=9.1,SNR=101						
ASAR				S	**S**	**05 50 23.3**	**-8.6**
	comp=Z,3.1nm,0.3s,baz=357,slow=30,SNR=7.4						
PSA00	**Pilbara Seismi**	**17.36**	**213**	P	**Pn**	**05 47 30.1**	**-0.3**
KKM	**Kota Kinabalu**	**18.97**	**313**	P	**P**	**05 47 46.8**	**-0.5**
KKM				IAmb	IAmb	05 47 56.8	
	comp=Z,36nm,1.0s						
SBUM	**Sibu**	**20.11**	**298**	P	Pn	05 48 01.2	-1.7
SBUM				IAmb	IAmb	05 48 03.2	
	comp=Z,18nm,0.8s						
KSM	**Kuching**	**21.40**	**293**	P	**P**	**05 48 13.3**	**0.0**
FORT	**Forrest**	**23.58**	**184**	P	**P**	**05 48 36.2**	**+2.0**
FORT				IAmb	IAmb	05 48 51.8	
	comp=Z,15nm,0.7s						
MORW	**Morawa**	**25.46**	**209**	P	**P**	**05 48 52.6**	**+1.3**
BBOO	**Buckleboo**	**26.16**	**168**	P	**P**	**05 48 58.8**	**+1.2**
STKA	**Stephens Creek**	**26.89**	**158**	P	**P**	**05 49 05.8**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=333,slow=9.8,SNR=4.3						
STKA	**Stephens Creek**	**26.89**	**158**	P	**P**	**05 49 04.4**	**+0.2**
RPSI	**Rantau Prapat**	**32.48**	**286**	P	**P**	**05 49 54.7**	**+0.9**
RPSI				IAmb	IAmb	05 49 55.8	
	comp=Z,13nm,1.0s						
CMAR	**Chiang Mai Arr**	**39.80**	**310**	P	**P**	**05 50 55.9**	**0.0**
	comp=Z,8.3nm,0.8s,baz=140,slow=7.5,SNR=32						
CMAR				PcP	**PcP**	**05 53 01.4**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=160,slow=2.9,SNR=4.8						
CHTO	**Chiang Mai**	**40.01**	**311**	P	**P**	**05 50 57.5**	**-0.1**
WHN	**Wuhan**	**40.35**	**339**	P	**P**	**05 51 01.0**	**+0.8**
NJ2	**Nanjing**	**40.39**	**345**	*eP*	**P**	**05 51 01.6**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KMI	**Kunming**	**41.61**	**321**	⇓*eP*	**P**	**05 51 13.2**	**+2.3**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,190nm,5.1s						
MJAR	**Matsushiro Arr**	**44.14**	**10**	P	**P**	**05 51 30.3**	**-0.5**
	comp=Z,4.5nm,0.7s,baz=192,slow=9.9,SNR=13						
MAJO	**Matsushiro**	**44.14**	**10**	P	**P**	**05 51 30.4**	**-0.4**
MAJO				IAmb	IAmb	05 51 31.3	
	comp=Z,7.0nm,0.7s						
MAT	**Matsushiro**	**44.14**	**10**	P	**P**	**05 51 30.2**	**-0.6**
MJB9	**Matsu-Tunnel**	**44.14**	**10**	P	**P**	**05 51 30.5**	**-0.4**
MJB9				IAmb	IAmb	05 51 31.2	
	comp=Z,7.1nm,0.7s						
KSRS	**Korea Array**	**44.41**	**358**	P	**P**	**05 51 33.5**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=172,slow=9.2,SNR=4.4						
XAN	**Xi'an**	**45.55**	**335**	P	**P**	**05 51 41.2**	**-0.9**
XAN				pmax	pmax		
	comp=Z,22nm,0.8s						
XAN				pmax	pmax		
	comp=Z,150nm,6.2s						
XAN	**Xi'an**	**45.55**	**335**	P	**P**	**05 51 41.8**	**-0.3**
XAN				IAmb	IAmb	05 51 41.9	
	comp=Z,13nm,0.6s						
BJT	**Baijiatuau**	**48.63**	**346**	P	**P**	**05 52 05.8**	**0.0**
BJT				IAmb	IAmb	05 52 06.4	
	comp=Z,10nm,0.7s						
BJI	**Beijing**	**48.65**	**346**	P	**P**	**05 52 05.3**	**-0.6**
BJI				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC	**Hu-ho-hao-te**	**50.67**	**342**	*eP*	**P**	**05 52 23.0**	**+1.7**
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				pmax	pmax		
	comp=Z,140nm,5.8s						
USRK	**Ussuriysk Ar.**	**51.14**	**2**	P	**P**	**05 52 25.3**	**+0.7**
	comp=Z,3.0nm,0.5s,baz=184,slow=7.8,SNR=10						
ODAN	**Odare**	**53.33**	**311**	*eP*	**P**	**05 52 41.0**	**-0.4**
	comp=Z,13nm,0.5s						
TAPN	**Taplejung**	**53.36**	**312**	*eP*	**P**	**05 52 41.6**	**-0.1**
	comp=Z,14nm,0.4s						
RAMN	**Ramite**	**53.97**	**311**	*eP*	**P**	**05 52 46.0**	**-0.1**
	comp=Z,31nm,0.5s						
GTA	**Gaotai**	**54.08**	**331**	P	**P**	**05 52 47.2**	**+0.7**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,100nm,5.6s						
GTA				LR	LR		
	comp=Z,110nm,19.4s						
GTA				LR	LR		
	comp=Z,310nm,20.6s						
GTA				LR	LR		
	comp=Z,110nm,20.0s						
JIRN	**Jiri**	**54.66**	**311**	*eP*	**P**	**05 52 50.8**	**-0.4**
GUN	**Gumba**	**55.02**	**311**	*eP*	**P**	**05 52 53.2**	**-0.6**
	comp=Z,42nm,0.9s						
PKI	**Pulchoki**	**55.19**	**311**	*eP*	**P**	**05 52 54.4**	**-0.6**
	comp=Z,5.4nm,0.5s						
GKN	**Gorkha**	**56.00**	**311**	*eP*	**P**	**05 53 00.2**	**-0.4**
KLR	**Kul'dur**	**56.16**	**1**	P	**P**	**05 53 01.8**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=222,slow=3.2,SNR=9.1						
KOLN	**Koldanda**	**56.67**	**310**	*eP*	**P**	**05 53 04.9**	**-0.5**
PYUN	**Piuthan**	**57.30**	**310**	*eP*	**P**	**05 53 09.6**	**-0.2**
ULN	**Ulaanbaatar**	**58.39**	**342**	P	**P**	**05 53 18.0**	**+1.0**
SONM	**Songino Array**	**58.57**	**342**	P	**P**	**05 53 18.9**	**+0.8**
	comp=Z,4.0nm,0.6s,baz=156,slow=6.8,SNR=18						
WMQ	**Urumqi**	**63.50**	**327**	*eP*	**P**	**05 53 53.6**	**+2.2**
PETK	**Petropavlovsk-**	**64.47**	**18**	P	**P**	**05 53 59.3**	**+1.8**
	comp=Z,8.1nm,0.7s,baz=186,slow=6.9,SNR=8.4						
MK31	**Makanchi Array**	**68.33**	**327**	P	**P**	**05 54 23.4**	**+1.2**
MKAR	**Makanchi Array**	**68.33**	**327**	P	**P**	**05 54 22.9**	**+0.7**
	comp=Z,23nm,0.6s,baz=122,slow=8.0,SNR=164						
MAKZ	**Makanchi**	**68.51**	**327**	P	**P**	**05 54 24.3**	**+1.0**
KDJ	**Kajisay**	**68.66**	**321**	P	**P**	**05 54 25.5**	**+0.9**
TKM2	**Tokmak 2**	**70.07**	**321**	P	**P**	**05 54 34.6**	**+1.3**
	SNR=5.5						
UCH	**Uchtor**	**70.41**	**320**	P	**P**	**05 54 37.3**	**+1.6**
	SNR=9.2						
AAK	**Ala-Archa**	**70.63**	**320**	P	**P**	**05 54 38.0**	**+1.4**
AAK				IAmb	IAmb	05 54 38.8	
	comp=Z,10.0nm,0.9s						
AML	**Almayashu**	**70.90**	**319**	P	**P**	**05 54 39.8**	**+1.3**
	SNR=16						
USP	**Ospenovka**	**70.94**	**320**	P	**P**	**05 54 39.3**	**+1.0**
	SNR=10.0						
ARSB	**Arslanbob**	**70.97**	**318**	P	**P**	**05 54 40.2**	**+1.5**
EKS2	**Erkin-Say**	**71.10**	**320**	P	**P**	**05 54 41.1**	**+1.7**
	SNR=14						
ZAA0	**Zalesovo Array**	**71.70**	**334**	P	**P**	**05 54 42.8**	**+0.3**
ZAA0				IAmb	IAmb	05 54 43.2	
	comp=Z,7.9nm,0.9s						
ZALV	**Zalesovo Beam**	**71.70**	**334**	P	**P**	**05 54 42.6**	**0.0**
	comp=Z,4.8nm,0.7s,baz=123,slow=5.5,SNR=17						
GAR	**Garm**	**71.74**	**315**	P	**P**	**05 54 44.0**	**+0.7**
BTK	**Batken**	**71.86**	**316**	P	**P**	**05 54 45.0**	**+1.0**
CHGR	**Chuyangaron**	**72.42**	**314**	P	**P**	**05 54 47.8**	**+0.5**
KURK	**Kurchatov**	**72.62**	**329**	P	**P**	**05 54 48.5**	**+0.4**
KURK				IAmb	IAmb	05 54 49.5	
	comp=Z,13nm,0.9s						
KK31	**Karatay Array**	**73.43**	**319**	P	**P**	**05 54 53.5**	**+0.4**
KK31				IAmb	IAmb	05 54 54.6	
	comp=Z,9.1nm,1.1s						
KKAR	**Karatay Array**	**73.43**	**319**	P	**P**	**05 54 53.6**	**+0.5**
KKAR				IAmb	IAmb	05 54 54.6	
	comp=Z,9.1nm,1.1s						
MAW	**Mawson**	**74.80**	**201**	P	**P**	**05 55 02.3**	**+1.7**
	comp=Z,0.6nm,0.2s,baz=353,slow=5.3,SNR=4.6						
MAW	**Mawson**	**74.80**	**201**	P	**P**	**05 55 03.5**	**+3.0**
BRVK	**Borovoye**	**78.24**	**328**	P	**P**	**05 55 20.1**	**0.0**
BRVK				IAmb	IAmb	05 55 21.5	
	comp=Z,7.4nm,0.8s						
GEYT	**Alibeck**	**80.28**	**310**	P	**P**	**05 55 32.8**	**+1.1**
	comp=Z,2.5nm,0.7s,baz=148,slow=4.2,SNR=3.7						
CCB	**Clear Creek Bu**	**93.08**	**25**	P	**P**	**05 56 34.3**	**+0.7**
ILAR	**Eielson Array**	**93.49**	**25**	P	**P**	**05 56 35.0**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=255,slow=4.7,SNR=7.2						
GERES	**GERESS Array B**	**112.51**	**320**	PKiKP	**PKiKP**	**06 01 56.2**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=86,slow=1.9,SNR=6.7						
TXAR	**Lajitas Array**	**125.03**	**59**	PKP	**PKiKP**	**06 02 22.9**	**+2.1**
	comp=Z,0.2nm,0.6s,baz=207,slow=1.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**128.80**	**281**	PKP	**PKiKP**	**06 02 28.9**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=77,slow=1.2,SNR=13						
DBIC	**Dimbokro**	**135.16**	**272**	PKP	**PKiKP**	**06 02 42.6**	**+1.2**
	comp=Z,5.1nm,1.1s,baz=345,slow=2.5,SNR=3.9						
MATN	**Matagalpa**	**144.22**	**78**		**PKPdf**	**06 02 57.4**	**+1.0**
BOAB	**BOACO BROADBAND**	**144.52**	**79**		**PKiKP**	**06 02 58.0**	**-2.5**
CPUP	**Villa Florida**	**145.98**	**168**	PKPbc	**PKiKP**	**06 03 02.5**	**-0.8**
	comp=Z,4.4nm,0.6s,baz=126,slow=0.9,SNR=15						
CPUP	**Villa Florida**	**145.98**	**168**	PKPab	**PKiKP**	**06 03 02.8**	**-0.5**
PB16	**IPOC Station P**	**148.22**	**143**	PKPab	**PKPab**	**06 03 10.6**	**+0.2**
LPAZ	**La Paz**	**150.63**	**143**	PKPbc	**PKiKP**	**06 03 16.0**	**+2.1**
	comp=Z,4.8nm,0.4s,baz=26,slow=1.2,SNR=90						

*ROM **04** 05:54:00.8±0.2,38.°691N±0.°010×15.°73E±0.°01, h176km±1km,ML4.3/28,Error ellipse: s-maj=1.4km s-min=0.7km az=129.0*
*NEIC **04** 05:54:01.5±2.3,38.°76N±0.°05×15.°75E±0.°05,h182km±6km, Error ellipse: s-maj=7.2km s-min=5.3km az=207.0*
*MED_RC **04** 05:54:01.0±1.0,38.°71N×15.°69E,h179km±6km,MW4.1/6, Moment Tensor Solution.Mantle waves: s6,c9; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; M_{rr}0.66±.14; $M_{\theta\theta}$-0.36±.33; $M_{\phi\phi}$-0.30±.34; $M_{r\theta}$-0.10±.17; $M_{\theta\phi}$-0.07±.25; $M_{\phi r}$-1.56±.20; Best double couple: M_o1.64000×10¹⁵ NP1:ϕs22.00000°,δ9.00000°,λ107.00000°. NP2: ϕs185.00000°,δ81.00000°,λ87.00000°. Principal axes: T 1.8100, Plg54.0000°, Azm92.0000°; N -0.3500, Plg3.0000°, Azm185.0000°; P -1.4700, Plg36.0000°, Azm277.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*PDG **04** 05:54:02.5±0.4,38.°97N×16.°12E,h0km±11km,ML4.0/5 Error ellipse: s-maj=1.8km s-min=1.8km az=0.0*
*THE **04** 05:54:02.3,38.°48N×15.°77E,h76km±22km,ML3.6/10, Error ellipse: s-maj=22.2km s-min=1.5km az=61.0*
*IDC **04** 05:54:02.3±0.7,38.°82N×15.°56E,h191km±8km,mb3.6/17, mb1 3.6/25,mb1mx3.5/58,mbtmp4.1/25,Error ellipse: s-maj=12.9km s-min=9.6km az=131.0*
*LDG **04** 05:54:03.1±0.1,38.°86N×15.°46E,h143km,Ml3.1/4,Error ellipse: s-maj=4.8km s-min=2.6km az=60.0*
*BEO **04** 05:54:03.9±0.7,39.°00N×16.°00E,h0km,ML3.7/10*

ISC 04 05:54:00.9±0.5,**38.°79N**±0.°03×**15.°71E**±0.°03,**h173**km±5km, **n312,** σ1§**42**/355,**mb4.2**/19,**56C-19D,Sicily**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOPP	**Joppolo**	**0.23**	**143**	⇑P	**Pn**	**05 54 24.1**	**+0.1**
JOPP				S	**Sn**	**05 54 40.8**	**-0.9**
JOPP				AML	AML		
	comp=N,8740μm,1.0s						
JOPP				AML	AML		
	comp=E,8605μm,0.3s						
IST3	**Stromboli F**	**0.38**	**272**	⇑P	**Pn**	**05 54 24.9**	**+0.6**
IST3				S	**Sn**	**05 54 43.5**	**+1.2**
IST3				AML	AML		
	comp=N,8660μm,0.3s						
IST3				AML	AML		
	comp=E,6860μm,0.6s						
ISTR	**Stromboli Gino**	**0.41**	**270**	P	**Pn**	**05 54 25.1**	**+0.7**
CEL	**Celeste**	**0.55**	**165**	⇑P	**Pn**	**05 54 25.0**	**-0.1**
CEL				S	**Sn**	**05 54 43.1**	**-0.7**
CEL				AML	AML		
	comp=N,11500μm,0.3s						
CEL				AML	AML		
	comp=E,9875μm,1.4s						
CEL				AML	AML		
	comp=E,8195μm,1.4s						
CEL				AML	AML		
	comp=N,14250μm,0.3s						
CEL	**Celeste**	**0.55**	**165**	Pn	**Pn**	**05 54 24.8**	**-0.3**
CEL				Sn	**Sn**	**05 54 42.4**	**-1.3**
MSRU	**Castanea**	**0.55**	**197**	⇑P	**Pn**	**05 54 24.7**	**-0.4**
MSRU				S	**Sn**	**05 54 42.2**	**-1.4**
MSRU				AML	AML		
	comp=E,19200μm,1.3s						
MSRU				AML	AML		
	comp=N,16950μm,0.3s						
GRI	**Girifalco**	**0.55**	**86**	⇑P	**Pn**	**05 54 26.1**	**+1.0**
GRI				S	**Sn**	**05 54 44.1**	**+0.5**
GRI				AML	AML		
	comp=E,11195μm,0.3s						
GRI				AML	AML		
	comp=N,8430μm,0.4s						
MSCL	**Scilla**	**0.56**	**174**	⇑P	**Pn**	**05 54 25.0**	**-0.2**
MSCL				S	**Sn**	**05 54 42.5**	**-1.4**
MSCL				AML	AML		
	comp=E,42750μm,0.3s						
MSCL				AML	AML		
	comp=N,33050μm,1.2s						
CAR1	**CAROLEI**	**0.61**	**40**	⇑P	**Pn**	**05 54 26.1**	**+0.7**
CAR1				S	**Sn**	**05 54 44.6**	**+0.3**
CAR1				AML	AML		
	comp=N,12700μm,0.5s						
CAR1				AML	AML		
	comp=E,13850μm,0.3s						
CAR1				AML	AML		
	comp=E,13100μm,0.4s						
CAR1				AML	AML		
	comp=N,12700μm,0.5s						
CAR1				AML	AML		
	comp=N,12650μm,0.5s						
CAR1				AML	AML		
	comp=N,12750μm,0.5s						
GMB	**Gambarie**	**0.62**	**172**	⇑P	**Pn**	**05 54 25.6**	**0.0**
GMB				S	**Sn**	**05 54 44.1**	**-0.5**
GMB				AML	AML		
	comp=E,70400μm,0.2s						
GMB				AML	AML		
	comp=N,76050μm,0.6s						
MILZ	**Milazzo**	**0.64**	**216**	⇑P	**Pn**	**05 54 25.3**	**-0.2**
MILZ				S	**Sn**	**05 54 43.1**	**-1.2**
MILZ				AML	AML		
	comp=N,29350μm,0.4s						
MILZ				AML	AML		
	comp=E,19700μm,0.5s						
MILZ				AML	AML		
	comp=N,29350μm,0.4s						
ATN	**Antennamare**	**0.66**	**197**	⇑P	**Pn**	**05 54 25.1**	**-0.6**
ATN				S	**Sn**	**05 54 43.4**	**-1.5**
ATN				AML	AML		
	comp=E,6μm,0.2s						
ATN				AML	AML		
	comp=N,12850μm,0.2s						
ATN				AML	AML		
	comp=E,6μm,0.2s						
PLAC	**Placanica**	**0.66**	**120**	⇓P	**Pn**	**05 54 26.1**	**+0.4**
PLAC				S	**Sn**	**05 54 44.4**	**-0.3**
PLAC				AML	AML		
	comp=E,8270μm,0.4s						
PLAC				AML	AML		
	comp=E,9430μm,0.2s						
PLAC				AML	AML		
	comp=N,8865μm,0.4s						
PLAC				AML	AML		
	comp=N,8955μm,0.2s						
PLAC				AML	AML		
	comp=N,8960μm,0.2s						
LLI	**Lipari**	**0.69**	**241**	⇑P	**Pn**	**05 54 26.4**	**+0.7**
LLI				S	**Sn**	**05 54 45.7**	**+0.8**
LLI				AML	AML		
	comp=N,47550μm,0.4s						
LLI				AML	AML		
	comp=E,21750μm,0.4s						
LLI				AML	AML		
	comp=N,47550μm,0.4s						
MPNC	**Port Mandanici**	**0.70**	**204**	⇑P	**Pn**	**05 54 25.3**	**-0.6**
MPNC				S	**Sn**	**05 54 43.2**	**-1.9**
MPNC				AML	AML		
	comp=E,13850μm,0.6s						
MPNC				AML	AML		
	comp=N,15200μm,0.6s						
VPL	**Vulcano Piano**	**0.70**	**235**	⇑P	**Pn**	**05 54 25.8**	**-0.1**
VPL				S	**Sn**	**05 54 45.3**	**+0.2**
VPL				AML	AML		
	comp=E,19500μm,0.5s						
VPL				AML	AML		
	comp=N,13350μm,0.9s						
SOI	**Samo**	**0.76**	**159**	⇑P	**Pn**	**05 54 26.3**	**+0.1**
SOI				S	**Sn**	**05 54 44.5**	**-1.2**
SOI				AML	AML		
	comp=N,7850μm,0.6s						
SOI				AML	AML		
	comp=E,5640μm,0.4s						
SOI				AML	AML		
	comp=N,7845μm,0.6s						
CET2	**Cetraro**	**0.76**	**14**	⇑P	**Pn**	**05 54 27.2**	**+0.9**
CET2				S	**Sn**	**05 54 46.0**	**+0.1**
CET2				AML	AML		
	comp=E,10190μm,0.5s						
CET2				AML	AML		
	comp=N,15750μm,0.4s						
CET2				AML	AML		
	comp=N,15750μm,0.4s						
MTTG	**Motta San Giov**	**0.78**	**181**	P	**Pn**	**05 54 26.7**	**+0.3**
MTTG				S	**Sn**	**05 54 45.0**	**-1.0**
SERS	**Sersale**	**0.80**	**72**	⇓P	**Pn**	**05 54 27.6**	**+1.1**
SERS				S	**Sn**	**05 54 46.6**	**+0.2**
SERS				AML	AML		
	comp=E,5525μm,1.2s						
SERS				AML	AML		
	comp=N,7065μm,0.3s						
SERS				AML	AML		
	comp=E,6810μm,0.3s						
SERS				AML	AML		
	comp=N,7060μm,0.3s						
SERS				AML	AML		
	comp=N,6680μm,1.2s						
MCSR	**Castroreale**	**0.81**	**207**	⇑P	**Pn**	**05 54 26.5**	**-0.2**
MCSR				S	**Sn**	**05 54 45.5**	**-1.0**
MCSR				AML	AML		
	comp=E,16350μm,0.4s						
MCSR				AML	AML		
	comp=N,14650μm,0.3s						
MCSR				AML	AML		
	comp=N,14650μm,0.3s						
MCSR				AML	AML		
	comp=E,16350μm,0.4s						
MPAZ	**Palizzi**	**0.86**	**164**	⇑P	**Pn**	**05 54 26.9**	**0.0**
MPAZ				S	**Sn**	**05 54 45.6**	**-1.4**
MPAZ				AML	AML		
	comp=N,8560μm,0.5s						
MPAZ				AML	AML		
	comp=E,7555μm,0.7s						
CELI	**Celico**	**0.87**	**45**	⇑P	**Pn**	**05 54 28.7**	**+1.6**
CELI				S	**Sn**	**05 54 48.8**	**+1.5**
CELI				AML	AML		
	comp=N,11500μm,0.6s						
CELI				AML	AML		
	comp=E,4955μm,1.6s						
CELI				AML	AML		
	comp=N,4595μm,0.6s						
CELI				AML	AML		
	comp=E,12545μm,1.6s						
CELI				AML	AML		
	comp=E,12525μm,1.6s						
NOV	**Novara**	**0.88**	**211**	⇑P	**Pn**	**05 54 27.4**	**+0.3**
NOV				S	**Sn**	**05 54 47.6**	**+0.3**
NOV				AML	AML		
	comp=E,8215μm,0.5s						
NOV				AML	AML		
	comp=N,9875μm,0.4s						
AIO	**Antillo**	**0.90**	**205**	⇑P	**Pn**	**05 54 27.4**	**+0.1**
AIO				S	**Sn**	**05 54 47.0**	**-0.4**
AIO				AML	AML		
	comp=E,5640μm,0.4s						
AIO				AML	AML		
	comp=N,4410μm,0.4s						
TIP	**Timpagrande**	**0.90**	**64**	⇑P	**Pn**	**05 54 28.4**	**+1.2**
TIP				⇑S	**Sn**	**05 54 45.9**	**-1.6**
TIP	**Timpagrande**	**0.90**	**64**	⇓P	**Pn**	**05 54 28.4**	**+1.2**
TIP				S	**Sn**	**05 54 48.9**	**+1.4**
TIP				AML	AML		
	comp=E,4295μm,0.8s						
TIP				AML	AML		
	comp=N,3470μm,0.5s						
TIP				AML	AML		
	comp=N,2740μm,0.5s						
TIP				AML	AML		
	comp=E,5030μm,0.8s						
TIP				AML	AML		

IACL AML AML
comp=E,1126µm,0.8s
IACL AML AML
comp=N,1220µm,0.5s
IACL AML AML
comp=E,1126µm,0.8s
LADO San Nicola del 1.10 63 ⇓P Pn 05 54 29.6 +1.0
LADO AML AML
comp=E,4050µm,0.8s
LADO AML AML
comp=N,3660µm,0.5s
PIPA Pietrapaola 1.10 51 ⇓P Pn 05 54 30.0 +1.3
PIPA S Sn 05 54 51.3 +1.1
PIPA AML AML
comp=E,3445µm,0.5s
PIPA AML AML
comp=N,3690µm,0.3s
PIPA AML AML
comp=N,3700µm,0.3s
PIPA AML AML
comp=N,3685µm,0.3s
PIPA AML AML
comp=E,3475µm,1.5s
MMN Mormanno 1.12 11 P Pn 05 54 29.9 +1.1
MMN AML AML
comp=E,640µm,0.3s
MMN AML AML
comp=N,2410µm,0.3s
MSFR San Fratello 1.16 230 ⇑P Pn 05 54 29.5 +0.3
MSFR S Sn 05 54 51.0 0.0
MSFR AML AML
comp=E,372µm,1.2s
MSFR AML AML
comp=N,511µm,1.6s
MNO Monte Soro 1.17 224 AML AML
comp=N,2010µm,1.6s
MNO AML AML
comp=E,1475µm,1.4s
EPZF Pizzo Felice 1.17 215 P Pn 05 54 30.4 +1.0
EPZF AML AML
comp=N,3140µm,0.3s
EPZF AML AML
comp=E,2950µm,0.4s
SALB San Lorenzo Be 1.19 24 ⇓P Pn 05 54 31.4 +1.9
SALB AML AML
comp=E,2705µm,0.3s
SALB AML AML
comp=N,1765µm,0.7s
SALB AML AML
comp=E,2805µm,0.3s
SALB AML AML
comp=N,2075µm,1.1s
CUC Castrocucco 1.21 4 ⇑P Pn 05 54 30.6 +1.1
CUC AML AML
comp=E,1135µm,1.2s
CUC AML AML
comp=N,802µm,0.3s
CUC AML AML
comp=E,1395µm,1.2s
CUC AML AML
comp=N,996µm,0.3s
BULG Bulgheria - Ca 1.32 349 ⇑P Pn 05 54 32.3 +1.7
BULG AML AML
comp=E,648µm,1.3s
BULG AML AML
comp=N,1224µm,0.4s
BULG AML AML
comp=E,684µm,1.3s
BULG AML AML
comp=N,1280µm,0.4s
ESML S. M. di Licod 1.34 210 AML AML
comp=E,1320µm,0.4s
ESML AML AML
comp=N,1780µm,0.4s
MGR Morigerati 1.35 355 ⇑P Pn 05 54 32.4 +1.5
MGR AML AML
comp=E,824µm,0.3s
MGR AML AML
comp=N,634µm,0.5s
MGR AML AML
comp=E,868µm,0.2s
MGR AML AML
comp=N,667µm,0.5s
ORI Oriolo Calabro 1.40 24 P Pn 05 54 32.9 +1.6
SIRI Monte Sirino - 1.40 5 ⇑P Pn 05 54 32.6 +1.2
SIRI AML AML
comp=E,1225µm,0.3s
SIRI AML AML
comp=E,1255µm,0.3s
SIRI AML AML
comp=N,952µm,0.4s
SIRI AML AML
comp=N,976µm,0.4s
GALF Gagliano Caste 1.40 220 ⇑P Pn 05 54 32.2 +0.8
GALF AML AML
comp=E,1195µm,0.4s
GALF AML AML
comp=N,1445µm,0.5s
MTSN Montesano sull 1.48 1 ⇑P Pn 05 54 33.3 +1.2
MTSN AML AML
comp=E,568µm,0.4s
MTSN AML AML
comp=N,702µm,0.8s
CAGR Agira 1.51 220 AML AML
comp=E,2465µm,0.4s
CAGR AML AML
comp=N,3300µm,0.7s
MCEL Monticello 1.54 3 P Pn 05 54 34.0 +1.4
MCEL AML AML
comp=E,618µm,0.4s
MCEL AML AML
comp=N,714µm,0.4s
MCEL AML AML
comp=E,630µm,0.4s
MCEL AML AML
comp=N,743µm,0.4s
GIB Gibilmanna 1.55 240 ⇑P Pn 05 54 32.8 0.0
GIB AML AML
comp=E,1930µm,0.5s
GIB AML AML
comp=N,1555µm,0.5s
CMPR Campora 1.56 348 ⇑P Pn 05 54 34.6 +1.8
CMPR AML AML
comp=E,433µm,0.3s
CMPR AML AML
comp=N,492µm,0.6s
HAGA Augusta 1.56 197 ⇑P Pn 05 54 31.7 -1.1
PETRA Petralia Sopra 1.58 233 ⇑P Pn 05 54 33.6 +0.4
PETRA AML AML
comp=E,875µm,0.7s
PETRA AML AML
comp=N,908µm,1.0s
HLNI Lentini 1.58 205 AML AML
comp=E,936µm,1.3s
HLNI AML AML
comp=N,648µm,0.7s
HCRL Carlentini 1.59 200 AML AML
comp=N,1395µm,1.4s
HCRL AML AML
comp=E,1900µm,1.0s
SLCN Sala Consilina 1.60 358 P Pn 05 54 34.8 +1.5
SLCN AML AML
comp=E,316µm,1.6s
SLCN AML AML
comp=N,437µm,1.2s
SLCN AML AML
comp=E,932µm,0.3s
SLCN AML AML
comp=N,804µm,0.4s
VAE Valguarnera 1.66 219 P Pn 05 54 35.8 +1.8
comp=N,29nm,0.3s,baz=35,slow=5.9,SNR=16
VAE S Sn 05 55 03.8 +4.4
comp=N,8.4nm,0.3s,baz=217,slow=16,SNR=3.8
SSY Sortino 1.71 197 AML AML
comp=N,2095µm,0.3s
SSY AML AML
comp=E,890µm,1.0s
CDRU Civita di Ruta 1.73 350 ⇑P Pn 05 54 36.6 +2.0
CDRU AML AML
comp=E,246µm,0.3s
CDRU AML AML
comp=N,172µm,0.9s
RESU Resuttano 1.73 229 AML AML
comp=N,745µm,0.8s
RESU AML AML
comp=E,549µm,0.9s
MEU Monte Lauro 1.79 200 AML AML
comp=E,2815µm,0.3s
MEU AML AML
comp=N,2980µm,0.3s
SOLUN Solunto 1.85 249 ⇑P Pn 05 54 36.3 +0.5
SOLUN AML AML
comp=E,492µm,0.8s
SOLUN AML AML
comp=N,586µm,1.2s
ALJA Alia 1.86 237 AML AML
comp=N,694µm,0.3s
ALJA AML AML
comp=E,640µm,0.8s
HAVL Avola 1.88 195 AML AML
comp=N,1460µm,0.3s
HAVL AML AML
comp=E,1535µm,0.7s
MIGL Miglionico 1.90 17 AML AML
comp=E,2500µm,0.4s
MIGL AML AML
comp=N,2070µm,0.7s
MPG Monte Pellegri 1.95 252 ⇑P Pn 05 54 37.5 +0.5
MPG AML AML
comp=E,436µm,0.9s
MPG AML AML
comp=N,492µm,0.8s
HMDC Modica 1.97 202 AML AML
comp=E,722µm,0.6s
HMDC AML AML
comp=N,719µm,1.6s
MRLC Muro Lucano 1.98 355 AML AML
comp=E,241µm,0.4s
MRLC AML AML
comp=N,220µm,0.3s
USI Ustica 1.98 269 ⇑P Pn 05 54 38.3 +1.0
USI AML AML
comp=E,1370µm,0.3s
USI AML AML
comp=N,1490µm,0.3s
ACER Acerenza 2.00 5 AML AML
comp=N,608µm,1.2s
ACER AML AML
comp=E,1165µm,0.6s
ACER AML AML
comp=E,1250µm,0.2s
ACER AML AML
comp=N,621µm,0.9s
MATE Matera 2.01 22 ⇑P Pn 05 54 37.7 +0.2
MATE ⇓S Sn 05 55 01.5 -4.5
MATE Matera 2.01 22 AML AML
comp=N,1475µm,1.6s
MATE AML AML
comp=E,1320µm,0.4s
CORL Corleone 2.09 246 ⇑P Pn 05 54 39.4 +0.8
CORL AML AML
comp=E,1455µm,0.4s
CORL AML AML
comp=N,1550µm,0.4s
CORL Corleone 2.09 246 Pn Pn 05 54 39.3 +0.8
TAR1 Taranto 2.12 34 ⇓iPn Pn 05 54 38.4 -0.3
TAR1 Sn Sn 05 55 07.3 -0.8
CLTA Licata 2.14 221 AML AML
comp=E,1760µm,0.5s
CLTA AML AML
comp=N,2835µm,1.5s
HPAC Pachino 2.14 193 AML AML
comp=E,1125µm,0.4s
HPAC AML AML
comp=N,1019µm,0.8s
PALZ Palazzo San Ge 2.16 5 AML AML
comp=E,504µm,0.3s
PALZ AML AML
comp=N,874µm,0.3s
SNAL S. Angelo Dei 2.17 350 AML AML
comp=E,256µm,1.2s
SNAL AML AML
comp=E,220µm,1.2s
SNAL AML AML
comp=N,244µm,1.2s
SNAL AML AML
comp=N,246µm,1.2s
SG1 Sgolgore (BA) 2.18 20 ⇓iPn Pn 05 54 39.4 0.0
SG1 Sn Sn 05 55 09.0 -0.5
FAVR Favara 2.22 227 AML AML
comp=E,658µm,0.8s
FAVR AML AML
comp=N,682µm,1.5s
AMUR Altamura 2.23 18 AML AML
comp=E,2190µm,1.1s
AMUR AML AML
comp=N,1640µm,0.2s
NOCI Noci 2.25 27 AML AML
comp=N,7795µm,0.3s
NOCI AML AML
comp=E,6780µm,0.4s
MRVN Minervino Murg 2.30 9 AML AML
comp=N,1115µm,0.2s
MRVN AML AML
comp=E,650µm,0.4s
CGL1 Ceglie Messapi 2.31 36 ⇑iPn Pn 05 54 41.0 +0.1
CGL1 Sn Sn 05 55 11.2 -0.8
CLTB Caltabellotta 2.31 239 Pn Pn 05 54 41.8 +0.8
MESG Mesagne 2.44 42 AML AML
comp=E,2125µm,0.7s
MESG AML AML
comp=N,2395µm,0.9s
BAI Bari 2.48 21 ⇑iPn Pn 05 54 42.7 -0.2
BAI Sn Sn 05 55 14.4 -1.2
SCTE Santa Cesarea 2.49 58 AML AML
comp=N,2250µm,0.5s
SCTE AML AML
comp=E,3120µm,0.4s
SCTE Santa Cesarea 2.49 58 Pn Pn 05 54 43.2 +0.2
SGG Gregorio Mates 2.79 339 AML AML
comp=N,57µm,0.5s
SGG AML AML
comp=E,58µm,0.6s
MSAG Monte S. Angel 2.92 3 AML AML
comp=E,166µm,0.5s
MSAG AML AML
comp=N,386µm,0.3s
SGRT San Giovanni R 2.96 0 AML AML
comp=N,196µm,1.0s
SGRT AML AML
comp=E,150µm,0.9s
SGRT San Giovanni R 2.96 0 Pn 05 54 50.1 +1.4
SGRT Sn Sn 05 55 27.4 +1.2
KEK Kerkira 3.30 72 P Pn 05 54 53.1 +0.2
KEK S Sn 05 55 32.4 -1.1
comp=E,425nm,0.3s
KEK Kerkira 3.30 72 AML AML
comp=N,111µm,0.3s
KEK AML AML
comp=E,116µm,0.8s
TREM Isole Tremiti 3.34 357 AML AML
comp=E,138µm,0.9s
TREM AML AML
comp=N,214µm,0.6s
VLO Vlora 3.37 59 AML AML
comp=E,1315µm,0.2s
VLO AML AML
comp=N,1945µm,0.7s
LATB Latina 3.43 323 AML AML
comp=N,16µm,1.6s
LATB AML AML
comp=E,19µm,0.7s
SRN Sarande 3.50 70 P Pn 05 54 55.6 +0.3
INTR Introdacqua 3.50 337 Pn Pn 05 54 58.4 +2.9
IGT Igoumenitsa 3.67 77 P Pn 05 54 57.7 +0.2
IGT S Sn 05 55 40.5 -1.1
comp=E,180nm,0.8s
VSK1 VASILIKIADES 3.82 94 P Pn 05 54 58.5 -0.9
TSLK Tsoukalades, L 3.86 88 P Pn 05 55 00.2 +0.3
TSLK S Sn 05 55 44.3 -1.7
comp=E,220nm,0.8s
LKD2 Lefkada island 3.86 88 P Pn 05 55 00.1 +0.1
LKD2 S Sn 05 55 44.0 -2.2
comp=E,142nm,0.4s
EVGI Lefkada island 3.87 91 P Pn 05 55 00.1 0.0
VLS Valsamata 3.88 98 P Pn 05 54 59.7 -0.4
VLS S Sn 05 55 43.9 -2.5
comp=E,202nm,0.7s
VLS Valsamata 3.88 98 AML AML
comp=N,56µm,0.3s
VLS AML AML
comp=E,112µm,0.3s
AQU L'Aquila 3.97 334 ePn Pn 05 55 05.2 +3.8
AQU L'Aquila 3.97 334 Pn 05 55 03.1 +1.8
JAN Janina 4.08 76 P Pn 05 55 03.8 +1.0
TIR Tirane 4.08 50 ePn Pn 05 55 03.5 +0.8
TIR eSn Sn 05 55 47.2 -4.0
TIR Tirane 4.08 50 ⇓P Pn 05 55 03.9 +1.2
TIR Tirane 4.08 50 Pn 05 55 03.5 +0.8
TIR Sn 05 55 51.5 +0.3
ULC Ulcinj 4.16 39 ePn Pn 05 55 04.3 +0.5
ULC *i* Sn Sn 05 55 51.8 -1.3
HCY Herceg Novi 4.22 29 ⇓iPn Pn 05 55 05.2 +0.7
HCY *i* Sn Sn 05 55 53.4 -1.0
HCY Herceg Novi 4.22 29 ePn Pn 05 55 04.6 +0.1
BUM Brajici-Budva 4.26 34 ePn Pn 05 55 05.8 +0.7
BUM *i* Sn Sn 05 55 54.2 -1.3
DBRK Dubrovnik 4.30 25 ePn Pn 05 55 05.8 +0.4
DBRK Sn Sn 05 55 54.4 -1.7
DRME Dracevica, Mon 4.30 37 ⇑iPn Pn 05 55 06.4 +0.8
DRME *i* Sn Sn 05 55 55.1 -1.2
DRME Dracevica, Mon 4.30 37 ePn Pn 05 55 06.6 +1.0
STON Ston 4.35 20 ePn Pn 05 55 06.5 +0.4
STON Sn Sn 05 55 56.0 -1.3
TREB Trebinje 4.41 26 ePn Pn 05 55 08.0 +1.1
TREB eSn Sn 05 55 55.3 -3.4
TREB Trebinje 4.41 26 ePn Pn 05 55 07.9 +1.1
HVAR Hvar 4.42 7 ePn Pn 05 55 08.5 +1.4
NEST Nestorio 4.43 67 P Pn 05 55 09.3 +2.0
CEME Cevo 4.48 32 ⇓iPn Pn 05 55 08.5 +0.6
CEME *i* Sn Sn 05 55 59.2 -1.2
PDG Podgorica 4.53 35 ePn Pn 05 55 09.6 +1.2
PDG eSn Sn 05 55 59.0 -2.4
PDG Podgorica 4.53 35 ePn Pn 05 55 09.0 +0.6
PDG Podgorica 4.53 35 Pn Pn 05 55 09.3 +0.8
TTG Podgorica 4.53 35 ⇑iPn Pn 05 55 09.2 +0.8
TTG *i* Sn Sn 05 56 00.0 -1.4
KPRO Kipourio 4.53 73 P Pn 05 55 10.1 +1.5
KPRO S Sn 05 56 03.7 +2.1
comp=E,168nm,0.6s
OHR Ohrid 4.54 58 ⇓iPn Pn 05 55 12.0 +3.2
PVO Paravola 4.55 90 P Pn 05 55 09.6 +0.8
PVO S Sn 05 56 01.9 -0.1
comp=E,122nm,0.5s
MAKA Makarska 4.60 12 ePn Pn 05 55 10.8 +1.4
MAKA Sn Sn 05 56 03.7 +0.5
BRY Bratogost 4.63 27 ⇓iPn Pn 05 55 10.8 +0.8
BRY *i* Sn Sn 05 56 03.0 -1.2
BRY Bratogost 4.63 27 ePn Pn 05 55 11.1 +1.1
NKY Niksic 4.73 31 ⇓iPn Pn 05 55 12.0 +0.8
NKY *i* Sn Sn 05 56 05.1 -1.2
EVR Evrytania 4.76 87 P Pn 05 55 12.7 +1.1
EVR S Sn 05 56 06.8 -0.2
comp=E,70nm,0.7s
DRO Drossia 4.79 98 P Pn 05 55 12.3 +0.4
FNA Florina 4.80 64 Pn Pn 05 55 13.0 +1.0
RICI Ricice 4.82 12 ePn Pn 05 55 13.5 +1.2
RICI Sn Sn 05 56 08.6 +0.2
LATE Laterza 4.84 323 Pn 05 55 14.8 +2.2
ANX Ano Chora 4.86 90 P Pn 05 55 13.9 +1.0
ANX S Sn 05 56 09.7 +0.3
comp=E,128nm,0.5s
EFP Efpalio 4.86 92 P Pn 05 55 13.6 +0.7
AMT Artemida-Makis 4.89 103 P Pn 05 55 13.1 -0.1
VSL Villasalto 4.98 280 Pn Pn 05 55 15.9 +1.6
KOME Kolasin 4.98 34 ⇓iPn Pn 05 55 15.9 +1.5
KOME *i* Sn Sn 05 56 10.8 -1.3
PVY Plav 4.99 39 ⇑iPn Pn 05 55 15.2 +0.6
PVY *i* Sn Sn 05 56 10.8 -1.6
TRIZ Trizonia 5.00 93 P Pn 05 55 15.3 +0.7
MAKR Makrakomi, Fth 5.01 85 P Pn 05 55 16.4 +1.6
UPM Unac-Piva 5.03 28 ⇑iPn Pn 05 55 16.0 +0.8
UPM *i* Sn Sn 05 56 12.2 -1.2
UPM Unac-Piva 5.03 28 ePn Pn 05 55 16.7 +1.5
MORI Morici 5.07 360 ePn Pn 05 55 16.8 +1.3
MURB Monte Urbino 5.08 333 Pn 05 55 19.4 +3.7
KLV Kalavryta, Ach 5.11 96 P Pn 05 55 16.5 +0.4
PYL PYLOS 5.13 110 P Pn 05 55 15.5 -0.9
ITM Ithomi 5.16 106 P Pn 05 55 16.6 -0.2
ITM Ithomi 5.16 106 AML AML
comp=N,66µm,0.4s
ITM AML AML
comp=E,73µm,1.6s
ITM Ithomi 5.16 106 Pn Pn 05 55 16.4 -0.4
AGG Agios Georgios 5.17 85 P Pn 05 55 17.9 +1.1
AGG S Sn 05 56 18.1 +1.7
comp=E,80nm,0.6s
AGG Agios Georgios 5.17 85 Pn Pn 05 55 17.6 +0.7
IVA Berane 5.17 37 ⇓iPn Pn 05 55 17.5 +0.6
IVA *i* Sn Sn 05 56 15.1 -1.4
GUR Goura 5.28 97 P Pn 05 55 19.4 +1.0
TRIP Tripoli 5.32 102 P Pn 05 55 19.4 +0.5
PLE Pljevlja 5.32 30 ⇑iPn Pn 05 55 19.8 +0.9
PLE *i* Sn Sn 05 56 18.8 -1.4
DSF Desfina 5.35 92 P Pn 05 55 19.9 +0.6
LIT Litokhoron 5.41 74 Pn Pn 05 55 20.4 +0.4
CASP Castiglione de 5.43 319 Pn Pn 05 55 22.6 +2.3
VLX Vlachokerasia 5.45 103 P Pn 05 55 20.9 +0.3
SJES Sjenica 5.51 34 ePn Pn 05 55 22.8 +1.4
SJES eSn Sn 05 56 21.4 -3.2
MGRS Mrkonjic Grad 5.72 10 ePn Pn 05 55 23.0 -1.0
STIP Stip 5.74 58 *i* Pn Pn 05 55 27.6 +3.3
BBLS Lazići 5.79 28 ePn Pn 05 55 26.5 +1.6
BBLS eSn Sn 05 56 28.6 -2.4
BBLS Lazići 5.79 28 ePn Pn 05 55 26.2 +1.3
OSSC Osservatorio P 5.81 326 Pn 05 55 25.1 -0.1
VAY Valandovo 5.84 62 ⇓iPn Pn 05 55 26.6 +1.0
KEST Kesra 5.92 241 P Pn 05 55 28.3 +1.4
comp=E,0.3nm,0.3s,baz=128,slow=11,SNR=4.3
KEST S Sn 05 56 34.1 -0.3
baz=100,slow=23,SNR=0.7
SELS Selova 6.03 41 ePn Pn 05 55 29.5 +1.4
VLI Veliai 6.08 108 P Pn 05 55 29.4 +0.5
BARS Barje 6.13 47 ePn Pn 05 55 29.9 +0.4
BARS eSn Sn 05 56 36.5 -2.7
DIVS Divibare 6.20 30 ePn Pn 05 55 31.4 +1.0
DIVS eSn Sn 05 56 38.2 -2.8
DIVS Divibare 6.20 30 ePn Pn 05 55 30.7 +0.3
DIVS Divibare 6.20 30 Pn Pn 05 55 30.8 +0.3
GRUS Gruza 6.33 35 ePn Pn 05 55 32.6 +0.5
PGF Pioggiola 6.34 308 ePn Pn 05 55 31.3 -0.9
PGF eSn Sn 05 56 28.4 -16
comp=E,0.9nm,0.3s
BOSS Bosilegrad 6.34 52 ePn Pn 05 55 34.3 +2.1
BOSS eSn Sn 05 56 40.6 -3.5
KTHA Kythira Island 6.36 111 P Pn 05 55 32.6 0.0
TRUS Trudelj 6.47 31 ePn Pn 05 55 35.5 +1.6
ANKY Antikythira Is 6.71 113 P Pn 05 55 37.1 0.0
MMB Musomiste 6.74 63 eP Pn 05 55 38.2 +0.6
MMB eS Sn 05 56 54.5 +0.8
VTS Vitosha 6.88 54 ePn Pn 05 55 40.8 +1.4
VTS Vitosha 6.88 54 ⇑P Pn 05 55 40.8 +1.4
VTS Vitosha 6.88 54 Pn Pn 05 55 40.2 +0.7
VTS Vitosha 6.88 54 eP Pn 05 55 40.1 +0.7
ZAPS Zavoj 6.89 47 ePn Pn 05 55 41.2 +1.8
ZAPS eSn Sn 05 56 54.9 -2.2
CEY Cerknica 7.01 353 ePn Pn 05 55 42.9 +1.9
ZAGS Zajecar 7.02 42 ePn Pn 05 55 42.0 +0.9
ZAGS eSn Sn 05 56 57.0 -3.2
CRES Cresnjev 7.04 359 ePn Pn 05 55 43.1 +1.7
MDVR Moldovita 7.48 35 ⇑P Pn 05 55 46.5 -0.7
OBKA Obir 7.76 354 ePn Pn 05 55 52.8 +1.8
comp=E,1.8nm,0.5s
STAL STALIGIAL 7.79 344 Pn 05 55 52.2 +0.9
PRED Cave del Predi 7.81 349 Pn 05 55 53.7 +2.1
SALO Salr 7.84 332 Pn 05 55 51.1 -0.8
CTI Castel Tesino 7.85 339 Pn Pn 05 55 50.6 -1.6
HERR Herculane 7.88 37 ⇑P Pn 05 55 51.1 -1.4
CIMO Cimolais 7.90 343 Pn 05 55 52.1 -0.6
SOKA Soboth 7.90 357 ePn Pn 05 55 54.6 +1.8
comp=E,1.4nm,0.4s
ZOU Zoufplan 8.02 346 Pn 05 55 56.4 +1.8
SBF Sospel 8.03 312 ePn Pn 05 55 53.7 -0.8
SBF eSn Sn 05 57 18.2 -6.2
comp=E,2.6nm,0.4s
BZS Buzias 8.11 31 ⇑P Pn 05 55 55.3 -0.1
IDI Anoyia 8.13 113 P Pn 05 55 55.2 -0.7
comp=E,2.6nm,0.3s,baz=294,slow=12,SNR=13
IDI Anoyia 8.13 113 ⇑P Pn 05 55 55.5 -0.4
ALN Alexandroupoli 8.22 72 Pn Pn 05 55 57.4 +0.4
ABTA Abfaltersbach 8.30 345 ePn Pn 05 56 00.1 +2.1
comp=E,3.3nm,0.7s
LMR La Mourre 8.30 306 eP Pn 05 55 59.1 +1.0
LMR eSn Sn 05 57 16.0 -15
comp=E,1.5nm,0.4s
FRF La Foret Royal 8.33 308 eP Pn 05 55 59.1 +0.6

FUORN **Ofenpass-Fuorn** 8.79 335 Pn **Pn** 05 56 06.2 +1.4
MBDF **Montbardon** 8.93 314 *e*P **Pn** 05 56 07.5 +1.0
WTTA **Wattenberg** 8.98 342 *e*Pn **Pn** 05 56 09.8 +2.6
comp=E,2.2nm,0.7s
TUE **Stuetta** 9.00 331 Pn **Pn** 05 56 07.8 +0.4
FETA **Feichten** 9.00 338 *e*Pn **Pn** 05 56 10.2 +2.8
comp=E,8.7nm,0.8s
SQTA **Sankt Quirin** 9.05 340 *e*Pn **Pn** 05 56 11.1 +3.1
comp=E,3.3nm,0.7s
BNI **Bardonecchia** 9.19 316 Pn **Pn** 05 56 09.8 -0.1
MOTA **Moosalm** 9.19 340 *e*Pn **Pn** 05 56 12.0 +2.1
comp=E,9.1nm,1.1s
SMRF **Simiane la Rot** 9.21 307 *e*P **Pn** 05 56 10.4 +0.3
SMRF *e*Sn Sn 05 57 45.0 -7.7
comp=E,1.6nm,0.4s
RETA **Reutte** 9.42 339 *e*Pn **Pn** 05 56 15.8 +3.1
comp=E,3.7nm,1.0s
LPG **La Plagne** 9.44 318 *e*P **Pn** 05 56 14.5 +1.1
LPL **La Plagne** 9.47 318 *e*P **Pn** 05 56 15.5 +1.9
DAVA **Damuels** 9.51 335 *e*Pn **Pn** 05 56 16.9 +2.9
comp=E,3.5nm,0.6s
ORIF **Oris-en-Rattie** 9.55 313 *e*P **Pn** 05 56 16.4 +1.8
SENIN **Lac Senin/Sane** 9.78 323 Pn **Pn** 05 56 20.3 +2.5
MLR **Muntele Rosu** 10.12 45 P Pn 05 56 27.4 +5.2
comp=E,0.9nm,0.3s,baz=325,slow=12,SNR=6.1
MLR **Muntele Rosu** 10.12 45 ⇑P **Pn** 05 56 20.5 -1.6
MLR **Muntele Rosu** 10.12 45 **Pn** 05 56 20.3 -1.8
GEC2 **GERESS Array S** 10.16 352 Pn **Pn** 05 56 19.8 -2.7
GERES **GERESS Array B** 10.16 352 P **Pn** 05 56 24.4 +1.8
comp=E,0.4nm,0.3s,baz=166,slow=12,SNR=15
CABF **La Chapelle** 10.54 321 *e*P **Pn** 05 56 29.2 +1.6
VRI **Vrincioaia** 10.79 45 ⇑P **Pn** 05 56 29.8 -0.9
HINF **Hinteralfeld** 11.09 327 *e*P **Pn** 05 56 36.5 +1.9
BURAR **Bucovina Array** 11.21 35 ⇓P **Pn** 05 56 34.7 -1.6
ECH **Echery** 11.28 329 Pn **Pn** 05 56 37.3 +0.2
GRA1 **Grafenberg Arr** 11.37 345 **Pn** 05 56 38.0 -0.2
CDF **Champ du Feu** 11.39 330 *e*P **Pn** 05 56 39.9 +1.3
HAU **Haudompre** 11.45 327 *e*P **Pn** 05 56 40.6 +1.3
SMF **Signal de Mont** 11.73 316 *e*P **Pn** 05 56 44.7 +1.8
AVF **Avril sur Loir** 12.09 315 *e*P **Pn** 05 56 49.3 +1.8
LOR **Lormes** 12.12 318 *e*P **Pn** 05 56 49.4 +1.5
SSF **Saint Saulge** 12.17 317 *e*P **Pn** 05 56 49.9 +1.4
EPF **Esparros** 12.38 295 *e*P **Pn** 05 56 52.8 +1.5
CLL **Collm** 12.66 352 *i* (P) **P** 05 56 58.4 -1.0
comp=E,5.0nm,0.6s
WLF **Walferdange** 12.84 331 Pn **Pn** 05 56 57.1 0.0
ETSF **Etsaut** 12.99 294 *e*P **Pn** 05 57 00.7 +1.6
SJPF **Ste Jean** 13.51 294 *e*P **Pn** 05 57 07.4 +1.8
BRTR **Keskin Array B** 13.93 81 P **P** 05 57 13.4 -0.3
comp=Z,2.0nm,0.3s,baz=263,slow=12,SNR=11
LDF **La Druitiere** 15.05 316 *e*P **P** 05 57 26.7 +0.8
AKASG **Malin Array Be** 15.27 34 P **Pn** 05 57 28.4 +1.1
comp=Z,19nm,0.3s,baz=227,slow=11,SNR=73
AKASG S **S** 06 00 19.0 +0.1
baz=219,slow=20,SNR=4.3
ESBB **Sonseca Array** 15.28 280 **Pn** 05 57 27.9 +0.2
ESBB IAmb IAmb 05 57 28.9
comp=Z,11nm,1.0s
ESDC **Sonseca Array** 15.28 280 P **Pn** 05 57 27.7 0.0
comp=Z,0.2nm,0.3s,baz=78,slow=12,SNR=40
FLN **La Foliniere** 15.34 316 *e*P **P** 05 57 30.1 +1.0
baz=132
GRR **Gorron** 15.34 314 *e*P **P** 05 57 30.0 +0.9
PAB **San Pablo** 15.58 279 **Pn** 05 57 32.2 +0.8
ROSF **Rostrenen** 16.71 311 *e*P **P** 05 57 44.7 +0.5
MMAI **Mount Meron Ar** 16.95 104 P **P** 05 57 48.0 +0.9
comp=Z,1.0nm,0.3s,baz=279,slow=12,SNR=2.0
PBRG **Braganca** 17.39 287 *e*P **P** 05 57 52.9 +1.2
comp=Z,17nm,1.6s
MDT **Midelt** 17.52 256 P **P** 05 57 53.6 +0.3
comp=Z,0.2nm,0.3s,baz=83,slow=15,SNR=7.1
MVO **Moncorvo** 17.59 285 *e*P **P** 05 57 55.9 +1.9
comp=Z,16nm,1.7s
PMRV **Marv??o** 17.94 279 *e*P **P** 05 57 58.0 +0.2
comp=Z,11nm,1.5s
PCBR **Castelo Branco** 17.97 281 *e*P **P** 05 57 58.6 +0.5
comp=Z,13nm,1.4s
MTE **Manteigas** 17.99 282 *e*P **Pn** 05 58 01.1 +0.9
comp=Z,15nm,1.1s
PVRL **Vila Real** 18.11 285 *e*P **P** 05 58 00.6 +1.0
comp=Z,16nm,1.9s
PVIS **Viseu** 18.25 284 *e*P **P** 05 58 01.6 +0.4
comp=Z,16nm,1.3s
PCAB **Cabril** 18.34 287 *e*P **P** 05 58 03.2 +1.0
comp=Z,19nm,1.1s
ASF **Jabal al Asfar** 18.45 104 P **P** 05 58 04.7 +1.2
comp=Z,0.2nm,0.3s,baz=257,slow=18,SNR=1.8
PVAQ **Vaqueiros** 18.49 273 *e*P **P** 05 57 58.4 -5.3
comp=Z,35nm,1.5s
PBEJ **Beja** 18.49 275 *e*P **P** 05 58 02.5 -1.3
comp=Z,17nm,1.4s
EVO **Evora** 18.53 277 *e*P **P** 05 57 59.1 -5.0
comp=Z,19nm,1.2s
PMTG **Montargil** 18.62 278 *e*P **P** 05 58 05.0 -0.2
comp=Z,26nm,1.9s
PCAS **Casmilo, Conde** 18.74 282 *e*P **P** 05 58 07.8 +1.3
comp=Z,22nm,1.8s
PNCL **Nicolau / Gran** 18.99 276 *e*P **P** 05 58 09.7 +0.5
comp=Z,17nm,1.3s
EKA **Eskdalemuir Ar** 20.84 329 P **P** 05 58 28.9 0.0
comp=Z,0.8nm,0.4s,baz=155,slow=12,SNR=5.0
KBZ **Khabaz** 20.98 68 P **P** 05 58 31.6 +1.2
comp=Z,4.4nm,0.7s,baz=293,slow=8.4,SNR=8.1
NB2 **NORSAR Subarra** 22.45 354 P **P** 05 58 44.6 -0.7
comp=Z,1.0nm,0.5s,baz=170,slow=10
NOA **NORSAR Array B** 22.45 354 P **P** 05 58 43.8 -1.5
comp=Z,0.8nm,0.5s,baz=161,slow=9.3,SNR=8.6
FINES **FINESS Array B** 23.58 12 P **P** 05 58 54.8 -0.6
comp=Z,4.3nm,0.5s,baz=185,slow=8.4,SNR=33
TORD **Torodi Ar. Bea** 28.40 210 P **P** 05 59 39.1 -0.2
comp=Z,0.3nm,0.5s,baz=25,slow=8.9,SNR=4.6
ARCES **ARCESS Array B** 31.25 7 P **P** 06 00 02.5 -1.3
comp=Z,0.5nm,0.5s,baz=193,slow=9.3,SNR=8.9
AKTO **Aktyubinsk** 31.87 55 P **P** 06 00 10.0 +0.6
comp=Z,3.7nm,0.4s,baz=270,slow=5.3,SNR=9.9
GEYT **Alibeck** 33.05 78 P **P** 06 00 20.7 +0.8
comp=Z,2.2nm,0.5s,baz=263,slow=12,SNR=4.1
ARU **Arti** 33.17 44 P **P** 06 00 20.9 +0.3
comp=Z,1.9nm,0.2s,baz=271,slow=4.7,SNR=5.0
ARU **Arti** 33.17 44 IAmb IAmb 06 00 21.2
comp=Z,4.5nm,0.6s
DBIC **Dimbokro** 36.98 215 P **P** 06 00 53.2 -0.5
comp=Z,2.5nm,1.0s,baz=18,slow=9.6,SNR=1.7
DBIC **Dimbokro** 36.98 215 IAmb IAmb 06 01 04.2
comp=Z,9.2nm,1.1s
BRVK **Borovoye** 39.57 51 P **P** 06 01 15.9 +1.1
BVAR **Borovoye Array** 39.63 51 P **P** 06 01 16.3 +0.9
comp=Z,1.9nm,0.3s,baz=243,slow=6.2,SNR=17
KK31 **Karatay Array** 41.00 66 P **P** 06 01 27.4 +0.6
KKAR **Karatay Array** 41.00 66 P **P** 06 01 27.4 +0.6
CHGR **Chuyangaron** 41.19 73 P **P** 06 01 29.4 +0.9
KURK **Kurchatov** 44.94 53 P **P** 06 01 58.5 +0.2
KURK IAmb IAmb 06 01 59.5
comp=Z,6.3nm,0.8s
ZAA0 **Zalesovo Array** 48.09 48 P **P** 06 02 23.2 +0.5
ZAA0 IAmb IAmb 06 02 23.6
comp=Z,6.7nm,0.9s
ZALV **Zalesovo Beam** 48.09 48 P **P** 06 02 22.9 +0.2
comp=Z,3.6nm,0.3s,baz=279,slow=8.1,SNR=7.6
MK31 **Makanchi Array** 48.18 58 P **P** 06 02 23.9 +0.3
MKAR **Makanchi Array** 48.18 58 P **P** 06 02 23.9 +0.3
comp=Z,6.6nm,0.3s,baz=282,slow=7.2,SNR=135
WMQ **Urumqi** 52.74 60 *e*P **P** 06 02 59.1 +1.3
GTA **Gaotai** 62.83 60 *e*P **P** 06 04 07.4 -0.9
GTA pP PcP 06 04 12.4 -33
GTA sP pP 06 04 15.4 -34
GTA pmax pmax
comp=Z,3.0nm,1.0s
SONM **Songino Array** 62.95 49 P **P** 06 04 08.6 -0.3
comp=Z,1.6nm,0.8s,baz=289,slow=9.0,SNR=3.8
BOSA **Boshof** 67.64 171 P **P** 06 04 38.7 -0.4
comp=Z,4.5nm,1.0s,baz=342,slow=4.5,SNR=7.6
HHC **Hu-ho-hao-te** 69.75 54 *e*P **P** 06 04 53.6 +1.3
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,62nm,5.4s
YKA **Yellowknife Ar** 71.47 338 P **P** 06 05 00.9 -1.2
comp=Z,0.5nm,0.8s,baz=37,slow=5.9,SNR=5.9
CMAR **Chiang Mai Arr** 73.51 79 P **P** 06 05 15.1 +0.2
comp=Z,1.9nm,0.5s,baz=304,slow=7.2,SNR=5.5
ASAR **Alice Springs** 125.98 93 PKP **PKPdf** 06 12 41.8 -0.8
comp=Z,0.2nm,0.4s,baz=332,slow=2.3,SNR=1.4

*BJI **04** 05:58:21.4±0.0, 39.18N×142.24E, h69km, mB4.9/22, mb4.5/30, Ms4.0/8, Ms7 3.6/7*
*NEIC **04** 05:58:21.4±2.7, 39.23N±0.06×142.2E±0.1, h35km±2km, mb4.7/14, Error ellipse: s-maj=15.6km s-min=8.8km az=111.0*
*NIED **04** 05:58:23.7, 39.34N×142.07E, h48km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.70; Mθθ-0.13; Mφφ-1.57; Mrθ1.20; Mθφ-0.36; Mφr2.56; Fault plane solution: M0 3.29000×10^15 NP1:φ=23.00000°, δ=75.00000°, λ=95.00000°. NP2:φ=184.00000°, δ=16.00000°, λ=72.00000°.*
*JMA **04** 05:58:23.7, 39.34N×142.07E, h48km±1km, M4.1*
JMA Felt II J1.
*IDC **04** 05:58:25.8±2.0, 39.30N×142.04E, h73km±18km, mb3.7/22, mb1 3.9/27, mb1mx3.7/63, mbtmp4.0/27, MS3.3/18, Ms1 3.3/18, ms1mx3.2/50, Error ellipse: s-maj=15.4km s-min=13.8km az=102.0*
ISC 04 05:58:23.4±1.0, 39.31N±0.04×142.14E±0.07, h48km±7km, n90, σ1§45/84, mb4.4/34, MS3.5/14, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.36**	**317**	P		**Pn**	**05 58 32.7**	**-0.3**
MIYJ				S		**Sn**	**05 58 38.9**	**-1.0**
OFUJ	**Ofunato**	**0.43**	**238**	P		**Pn**	**05 58 33.8**	**0.0**
OFUJ				S		**Sn**	**05 58 40.7**	**-0.5**
JTH	**Tanohata**	**0.66**	**341**	P		**Pn**	**05 58 36.2**	**-0.4**
JTH				S		**Sn**	**05 58 45.2**	**-0.9**
JOM	**Ohasama**	**0.68**	**284**	P		**Pn**	**05 58 36.2**	**-0.6**
JOM				S		**Sn**	**05 58 45.7**	**-0.7**
JKMT	**Kesennumamotoy**	**0.72**	**226**	P		**Pn**	**05 58 37.3**	**-0.1**
JKMT				S		**Sn**	**05 58 46.8**	**-0.7**
JMK	**Ichinoseki**	**0.80**	**244**	P		**Pn**	**05 58 38.1**	**-0.3**
JMK				S		**Sn**	**05 58 48.5**	**-0.8**
JKZ	**Kuzumaki**	**0.92**	**317**	P		**Pn**	**05 58 39.9**	**-0.2**
JKZ				*e*S		**Sn**	**05 58 51.6**	**-0.6**
JIO	**Ouri**	**1.06**	**216**	P		**Pn**	**05 58 41.8**	**-0.1**
JIO				S		**Sn**	**05 58 54.6**	**-0.9**
JANG	**Nango**	**1.16**	**336**	P		**Pn**	**05 58 42.8**	**-0.5**
JRG	**Rokugo**	**1.17**	**275**	P		**Pn**	**05 58 43.0**	**-0.4**
JYK	**Kaneyama**	**1.44**	**255**	P		**Pn**	**05 58 47.0**	**-0.1**
JAH	**Hinai**	**1.45**	**308**	P		**Pn**	**05 58 47.0**	**-0.2**
ERM	**Erimo**	**2.81**	**16**	Pn		**Pn**	**05 59 06.6**	**+0.8**
ERM				Sn		**Sn**	**05 59 39.1**	**+0.7**
MAJO	**Matsushiro**	**4.16**	**230**			**Pn**	**05 59 26.4**	**+2.0**
MAT	**Matsushiro**	**4.16**	**230**	P		**Pn**	**05 59 27.2**	**+2.8**
MAT				*e*S		**Sn**	**06 00 16.6**	**+4.8**
MJAR	**Matsushiro Arr**	**4.16**	**230**	P		**Pn**	**05 59 26.1**	**+1.7**
	0.4nm,0.3s,baz=36,slow=10,SNR=43							
MJAR				LR		LR	06 01 11.2	
	comp=Z,217nm,21.5s,baz=70,slow=40							
MJB9	**Matsu-Tunnel**	**4.16**	**230**			**Pn**	**05 59 26.8**	**+2.4**
ASAJ	**Asahikawa**	**4.81**	**4**	P		**Pn**	**05 59 34.8**	**+1.5**
	2.1nm,0.3s,baz=210,slow=32,SNR=4.2							
ASAJ				S		**Sn**	**06 00 28.9**	**+1.1**
	1.9nm,0.3s,baz=157,slow=26,SNR=2.3							
JKA	**Kamikawa-asahi**	**4.81**	**4**			Pn	05 59 29.6	-3.7
INU	**Inuyama**	**5.68**	**227**	Pn		**Pn**	**05 59 46.6**	**+1.3**
JHJ2	**Mitsune**	**6.47**	**198**	Pn		Pn	05 59 51.7	-4.3
JHJ	**Hachijo jima 2**	**6.47**	**198**	P		**Pn**	**05 59 56.1**	**0.0**
	7.6nm,0.3s,baz=281,slow=20,SNR=2.3							
JHJ				S		**Sn**	**06 01 04.2**	**-4.3**
	8.1nm,0.3s,baz=62,slow=20,SNR=2.1							
USA0B	**Ussuriysk Arra**	**9.02**	**306**	Pn		**Pn**	**06 00 30.8**	**-0.1**
USRK	**Ussuriysk Ar.**	**9.02**	**306**	P		**Pn**	**06 00 33.0**	**+2.1**
	baz=115,slow=14,SNR=26							
USRK				LR		LR	06 03 52.9	
	comp=Z,252nm,20.0s,baz=87,slow=36							
MDJ	**Mudanjiang**	**10.74**	**304**	P		Pn	06 00 58.8	+4.3
MDJ				pmax		pmax		
	comp=Z,32nm,1.0s							
MDJ	**Mudanjiang**	**10.74**	**304**	Pn		**Pn**	**06 00 57.1**	**+2.7**
JNU	**Nakatsue**	**10.99**	**239**	LR		LR	06 06 06.9	
	comp=Z,35nm,19.9s,baz=356,slow=42							
KSRS	**Korea Array**	**11.31**	**265**	P		Pn	06 01 07.0	+4.7
	0.3nm,0.3s,baz=83,slow=13,SNR=7.4							
KSRS				LR		LR	06 05 00.5	
	comp=Z,107nm,20.4s,baz=92,slow=35							
KLR	**Kul'dur**	**12.38**	**327**	P		**Pn**	**06 01 20.3**	**+3.4**
	0.1nm,0.3s,baz=131,slow=12,SNR=6.2							
CN2	**Changchun**	**13.28**	**295**	*e*P		**Pn**	**06 01 31.8**	**+2.7**
PETK	**Petropavlovsk-**	**17.45**	**33**	LR		LR	06 10 12.1	
	comp=Z,37nm,19.3s,baz=238,slow=40							
BJI	**Beijing**	**19.98**	**280**	P		**P**	**06 02 50.2**	**-1.5**
BJI				pmax		pmax		
	comp=Z,8.0nm,0.8s							
TIA	**Tai'an**	**20.00**	**269**	P		**P**	**06 02 50.4**	**-1.5**
NJ2	**Nanjing**	**20.22**	**256**	*e*P		**P**	**06 02 54.1**	**-0.2**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
MA2	**Magadan**	**21.01**	**12**	LR		LR	06 10 32.3	
	comp=Z,47nm,20.1s,baz=136,slow=34							
HHC	**Hu-ho-hao-te**	**23.39**	**284**	*e*P		**P**	**06 03 27.7**	**-0.3**
HHC				pmax		pmax		
	comp=Z,17nm,1.1s							
HHC				pmax		pmax		
	comp=Z,54nm,5.8s							
WHN	**Wuhan**	**24.33**	**257**	P		**P**	**06 03 41.0**	**+4.4**
GUMO	**Guam**	**25.74**	**174**	LR		LR	06 13 53.9	
	comp=Z,16nm,20.1s,baz=300,slow=36							
SONM	**Songino Array**	**27.06**	**300**	P		**P**	**06 04 01.3**	**0.0**
	0.3nm,0.3s,baz=110,slow=12,SNR=1.9							
SONM				LR		LR	06 14 42.1	
	comp=Z,117nm,21.5s,baz=120,slow=36							
H11N2	**WAKE ISLAND Hy**	**28.91**	**125**	T		T	06 34 42.4	
	baz=318,slow=75,SNR=888							
H11N1	**WAKE ISLAND Hy**	**28.92**	**125**	T		T	06 34 44.8	
	baz=318,slow=75,SNR=1104							
H11N3	**WAKE ISLAND Hy**	**28.93**	**125**	T		T	06 34 45.5	
	baz=318,slow=75,SNR=791							
TLY	**Talaya**	**29.33**	**308**	LR		LR	06 16 39.1	
	comp=Z,80nm,19.2s,baz=148,slow=37							
H11S1	**WAKE ISLAND Hy**	**29.70**	**127**	T		T	06 35 56.7	
	baz=320,slow=76,SNR=240							
H11S3	**WAKE ISLAND Hy**	**29.70**	**127**	T		T	06 35 52.9	
	baz=320,slow=76,SNR=306							
H11S2	**WAKE ISLAND Hy**	**29.72**	**127**	T		T	06 35 58.0	
	baz=320,slow=76,SNR=224							
GYA	**Guiyang**	**32.22**	**257**	⇓P		**P**	**06 04 46.4**	**-0.9**
GYA				pP		pP	06 04 59.4	-0.6
GYA				pmax		pmax		
	comp=Z,11nm,1.2s							
CD2	**Chengdu**	**32.30**	**267**	*e*P		**P**	**06 04 46.5**	**-1.3**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
GTA	**Gaotai**	**32.51**	**284**	*e*P		**P**	**06 04 52.3**	**+2.7**
GTA				pP		pP	06 05 01.7	-0.7
GTA				pmax		pmax		
	comp=Z,89nm,4.9s							
GTA				LR		LR		
	comp=N,110nm,17.8s							
GTA				LR		LR		
	comp=E,300nm,17.8s							
GTA				LR		LR		
	comp=Z,120nm,19.0s							
WMQ	**Urumqi**	**40.37**	**295**	*e*P		**P**	**06 05 55.8**	**-0.7**
WMQ				pmax		pmax		
	comp=Z,17nm,1.5s							
WMQ				pmax		pmax		
	comp=Z,56nm,4.7s							
ZAA0	**Zalesovo Array**	**40.84**	**310**	P		**P**	**06 06 01.6**	**+1.5**
ZAA0				IAmb		IAmb	06 06 17.8	
	comp=Z,11nm,0.7s							
ZALV	**Zalesovo Beam**	**40.84**	**310**	P		**P**	**06 05 59.7**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=86,slow=7.6,SNR=8.8							
ZALV				LR		LR	06 22 46.2	
	comp=Z,52nm,21.4s,baz=122,slow=36							
NRIK	**Noril'sk**	**41.45**	**334**	LR		LR	06 24 16.0	
	comp=Z,93nm,19.9s,baz=81,slow=37							
CMAR	**Chiang Mai Arr**	**42.66**	**253**	P		**P**	**06 06 15.2**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=41,slow=8.4,SNR=4.4							
CMAR				LR		LR	06 24 55.2	
	comp=Z,37nm,20.9s,baz=215,slow=37							
MK31	**Makanchi Array**	**43.43**	**300**	P		**P**	**06 06 20.1**	**-1.4**
MKAR	**Makanchi Array**	**43.43**	**300**	P		**P**	**06 06 20.9**	**-0.5**
	comp=Z,3.3nm,1.0s,baz=88,slow=8.6,SNR=12							
MAKZ	**Makanchi**	**43.64**	**300**	P		**P**	**06 06 22.9**	**-0.2**
MAKZ				IAmb		IAmb	06 06 41.0	
	comp=Z,8.0nm,0.9s							
KURK	**Kurchatov**	**45.01**	**306**	P		**P**	**06 06 34.3**	**+0.4**
KURK				IAmb		IAmb	06 06 51.7	
	comp=Z,17nm,0.9s							
KDAK	**Kodiak Island**	**45.04**	**43**	P		**P**	**06 06 35.5**	**+1.5**
	comp=Z,4.3nm,0.8s,baz=7.1,slow=8.1,SNR=1.7							
KDAK	**Kodiak Island**	**45.04**	**43**	P		**P**	**06 06 35.7**	**+1.6**
GHO	**Glory Hole Cre**	**46.55**	**38**	P		**P**	**06 06 45.4**	**-0.7**
GHO				IAmb		IAmb	06 06 46.5	
	comp=Z,7.6nm,1.2s							
ILAR	**Eielson Array**	**47.27**	**3**	P		**P**	**06 06 52.9**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=268,slow=6.4,SNR=16							
BVAR	**Borovoye Array**	**49.49**	**311**	P		**P**	**06 07 08.0**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=74,slow=8.0,SNR=6.2							
BVAR				PcP		**PcP**	**06 08 29.9**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=81,slow=4.5,SNR=4.3							
AAK	**Ala-Archa**	**49.94**	**297**	P		**P**	**06 07 11.4**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=137,slow=1.0,SNR=3.6							
AAK	**Ala-Archa**	**49.94**	**297**	IAmb		IAmb	06 07 13.3	
	comp=Z,6.8nm,1.4s							
ARSB	**Arslanbob**	**51.47**	**296**	P		**P**	**06 07 24.4**	**+0.4**
ARSB				IAmb		IAmb	06 07 43.0	
	comp=Z,12nm,0.9s							
KK31	**Karatay Array**	**52.50**	**299**	P		**P**	**06 07 31.3**	**-0.2**
KKAR	**Karatay Array**	**52.50**	**299**	P		**P**	**06 07 31.2**	**-0.4**
KKAR				IAmb		IAmb	06 07 49.8	
	comp=Z,4.8nm,0.9s							
ARU	**Arti**	**55.05**	**318**	P		**P**	**06 07 49.5**	**-0.4**
	comp=Z,1.6nm,0.2s,baz=59,slow=4.3,SNR=9.4							
ARU				LR		LR	06 33 16.3	
	comp=Z,119nm,19.9s,baz=98,slow=38							
ARU	**Arti**	**55.05**	**318**	P		**P**	**06 07 49.6**	**-0.4**
CHGR	**Chuyangaron**	**55.23**	**294**	P		**P**	**06 07 49.9**	**-1.7**
AKTO	**Aktyubinsk**	**57.59**	**311**	P		**P**	**06 08 07.4**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=74,slow=13,SNR=7.6							
KIRV	**Kirov**	**58.79**	**322**	LR		LR	06 35 31.1	
	comp=Z,36nm,19.8s,baz=128,slow=38							
WRA	**Warramunga Arr**	**59.39**	**189**	P		**P**	**06 08 20.3**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=174,slow=10,SNR=7.3							
YKA	**Yellowknife Ar**	**61.56**	**31**	P		**P**	**06 08 35.0**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=303,slow=6.3,SNR=2.6							
ASAR	**Alice Springs**	**63.12**	**188**	P		**P**	**06 08 46.2**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=5.0,slow=5.9,SNR=7.4							
GEYT	**Alibeck**	**63.25**	**298**	P		**P**	**06 08 47.0**	**0.0**
	comp=Z,1.2nm,0.4s,baz=95,slow=31,SNR=2.3							
GEYT				LR		LR	06 37 14.8	
	comp=Z,60nm,19.2s,baz=190,slow=37							
FINES	**FINESS Array B**	**67.07**	**332**	P		**P**	**06 09 10.4**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=49,slow=6.1,SNR=9.8							
FINES				LR		LR	06 40 19.5	
	comp=Z,51nm,19.1s,baz=46,slow=38							
KBZ	**Khabaz**	**69.86**	**310**	P		**P**	**06 09 28.5**	**-0.4**
	comp=Z,3.8nm,0.9s,baz=26,slow=3.9,SNR=5.8							
NC204	**NORSAR Array S**	**72.25**	**338**	P		**P**	**06 09 42.5**	**-0.8**
NC204				IAmb		IAmb	06 09 44.0	
	comp=Z,15nm,1.1s							
NB2	**NORSAR Subarra**	**72.31**	**337**	P		**P**	**06 09 43.2**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=36,slow=6.2							
NOA	**NORSAR Array B**	**72.31**	**337**	P		**P**	**06 09 42.3**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=38,slow=6.0,SNR=4.7							
NOA				LR		LR	06 44 08.4	
	comp=Z,27nm,21.6s,baz=100,slow=38							
AKASG	**Malin Array Be**	**72.85**	**322**	P		**P**	**06 09 45.3**	**-1.6**
	comp=Z,1.8nm,0.6s,baz=45,slow=5.9,SNR=9.1							
NVAR	**Mina Array Bea**	**73.18**	**54**	P		**P**	**06 09 50.2**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=278,slow=4.6,SNR=5.3							
PDAR	**Pinedale Array**	**75.67**	**46**	P		**P**	**06 10 02.1**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=280,slow=2.7,SNR=2.7							
BUR08	**Bucovina Ar. S**	**76.87**	**322**	P		**P**	**06 10 09.0**	**-1.3**
BRTR	**Keskin Array B**	**77.77**	**312**	LR		LR	06 50 53.3	
	comp=Z,20nm,18.2s,baz=102,slow=40							
CLL	**Collm**	**79.41**	**330**	*i* P		**P**	**06 10 24.4**	**+0.2**
	comp=Z,5.0nm,0.9s							
GERES	**GERESS Array B**	**81.08**	**328**	P		**P**	**06 10 33.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=51,slow=5.2,SNR=4.4							
TXAR	**Lajitas Array**	**88.28**	**53**	P		**P**	**06 11 08.8**	**-1.2**
	comp=Z,0.3nm,0.9s,baz=318,slow=1.2,SNR=1.7							

*IDC **04** 06:05:06.1±0.8, 21.21S×174.55W, h0km, mb4.0/10, mb1 4.3/11, mb1mx4.1/40, mbtmp4.0/11, ML3.9/1, MS3.8/12, Ms1 3.8/12, ms1mx3.6/32, Error ellipse: s-maj=31.7km s-min=21.6km az=136.0*
*NEIC **04** 06:05:07.5±1.8, 21.15S±0.08×174.6W±0.1, h10km±1km, mb4.6/9, Error ellipse: s-maj=18.2km s-min=13.2km az=114.0*
ISC 04 06:05:07.1±0.6, 21.13S±0.09×174.6W±0.1, h10km, n37, σ1§47/25, mb4.4/15, MS3.8/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.66**	**21**	Pn		**Pn**	**06 06 56.0**	**-2.9**
	4.4nm,0.3s,baz=189,slow=19,SNR=4.1							
AFI				Sn		Sn	06 08 14.0	-12
	7.1nm,0.3s,baz=17,slow=21,SNR=5.9							
AFI				LR		LR	06 09 49.3	
	comp=Z,343nm,21.0s,baz=198,slow=37							
AFI	**Afiamalu**	**7.66**	**21**			**Pn**	**06 06 55.2**	**-3.6**
MSVF	**Nonsavu**	**7.73**	**295**	Pn		**Pn**	**06 06 59.4**	**-0.3**
RAO	**Raoul Island**	**8.63**	**200**	Pn		**Pn**	**06 07 09.9**	**-2.2**
DZM	**Mont Dzumac**	**17.67**	**263**	*e*LQ		LQ	06 12 57.2	
	898nm,24.7s							
DZM				*e*LR		LR	06 13 45.0	
	comp=Z,324nm,21.1s							
DZM	**Mont Dzumac**	**17.67**	**263**	LR		LR	06 15 16.8	
	comp=Z,438nm,18.6s,baz=124,slow=34							
URZ	**Urewera**	**18.52**	**201**	P		**P**	**06 09 22.8**	**-0.8**
	0.4nm,0.3s,baz=356,slow=13,SNR=1.4							
TBI	**

ULM	**Lac du Bonnet**	**99.06**	**40**	LR	LR	06 59 39.8		
	comp=Z,79nm,18.6s,baz=284,slow=33							
AKASG	**Malin Array Be**	**145.06**	**333**	PKPbc	**PKPab**	**06 24 44.4**	**+0.4**	
	comp=Z,0.7nm,0.4s,baz=39,slow=4.8,SNR=10							
BRTR	**Keskin Array B**	**149.60**	**314**	PKPbc	**PKiKP**	**06 24 58.5**	**+0.2**	
	comp=Z,1.8nm,0.9s,baz=64,slow=2.9,SNR=5.6							

IDC 04 06:06:41.7±3.0, 5.73S×133.47E, h0km, mb3.9/1, mb1 3.8/5, mb1mx3.6/45, mbtmp3.7/5, ML3.6/4, Error ellipse: s-maj=119.1km s-min=25.7km az=82.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.31**	**335**	Pn	Pn	06 08 01.6	-0.7
	3.1nm,0.3s,baz=116,slow=22,SNR=1.9						
SIJI				Sn	Sn	06 08 53.3	-11
	3.6nm,0.3s,baz=216,slow=23,SNR=2.0						
WRA	**Warramunga Arr**	**14.15**	**177**	Pn	Pn	06 10 02.9	-0.8
	0.2nm,0.3s,baz=353,slow=13,SNR=6.0						
WRA				Sn	Sn	06 12 26.5	-15
	baz=356,slow=20,SNR=1.6						
FITZ	**Fitzroy Crossi**	**14.48**	**211**	Pn	Pn	06 10 09.1	+1.0
	0.4nm,0.3s,baz=36,slow=8.8,SNR=9.8						
FITZ				Sn	Sn	06 12 39.6	-10
	0.2nm,0.3s,baz=175,slow=23,SNR=1.8						
ASAR	**Alice Springs**	**17.84**	**179**	P	Pn	06 10 51.4	-0.2
	0.2nm,0.3s,baz=356,slow=14,SNR=8.2						
MKAR	**Makanchi Array**	**69.11**	**325**	P	P	06 17 50.0	+0.2
	0.7nm,0.5s,baz=125,slow=7.7,SNR=11						

*NEIC **04** 06:09:48.9±1.6, 41.84N±0.05×125.7W±0.1, h9km±9km, Error ellipse: s-maj=12.6km s-min=7.7km az=96.0*
*ANF **04** 06:09:50.0±0.8, 41.95N×125.61W, h11km±6km, ML2.4/7, Error ellipse: s-maj=5.7km s-min=3.2km az=79.0*
*NCEDC **04** 06:09:50.2±2.2, 41.87N±0.03×125.9W±0.1, h22km±9km, Md3.0/14, Error ellipse: s-maj=12.6km s-min=3.3km az=81.0*

ISC 04 06:09:48.1±1.8, 41.87N±0.04×125.79W±0.09, h11km, n52, σ0.89/65, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSXB	**Camp Six Broad**	**1.43**	**91**		**Pn**	**06 10 13.7**	**-0.4**
KSXB					**Sn**	**06 10 31.9**	**-1.1**
KRMB	**Red Mountain**	**1.45**	**103**		**Pn**	**06 10 14.0**	**-0.4**
KRMB					**Sn**	**06 10 32.5**	**-1.0**
L02E	**Cave Junction**	**1.66**	**79**	P	**Pn**	**06 10 16.9**	**-0.2**
	baz=261,SNR=160						
L02E				S	**Sn**	**06 10 37.8**	**-0.6**
	baz=261						
L02E	**Cave Junction**	**1.66**	**79**		**Pn**	**06 10 17.0**	**-0.2**
KCTM	**Capetown**	**1.77**	**141**		**Pn**	**06 10 19.0**	**+0.2**
K02D	**Willamette Mer**	**1.78**	**62**	P	**Pn**	**06 10 18.6**	**-0.4**
	baz=244,SNR=67						
K02D				Sb	**Sn**	**06 10 41.9**	**+0.3**
	baz=244						
KTRM	**Thompson Ridge**	**1.80**	**88**		**Pn**	**06 10 18.9**	**-0.4**
KHMM	**Horse Mountain**	**1.84**	**122**		**Pn**	**06 10 19.2**	**-0.6**
KOMM	**Orleans Mounta**	**1.85**	**108**		**Pn**	**06 10 19.9**	**-0.1**
J01E	**Myrtle Point**	**1.89**	**46**	P	**Pn**	**06 10 19.3**	**-0.9**
	baz=229						
J01E				S	**Sn**	**06 10 43.2**	**-0.9**
	baz=229						
KSMM	**Slide Mountain**	**2.08**	**143**		**Pn**	**06 10 21.9**	**-1.2**
KCSM	**Cold Springs**	**2.17**	**127**		**Pn**	**06 10 24.3**	**-0.1**
M02C	**Callahan**	**2.25**	**101**	P	**Pn**	**06 10 25.9**	**+0.5**
	baz=283,SNR=55						
M02C				S	**Sn**	**06 10 53.1**	**-0.1**
	baz=283						
M02C	**Callahan**	**2.25**	**101**		**Pn**	**06 10 26.1**	**+0.7**
KMRM	**Mail Ridge**	**2.28**	**136**		**Pn**	**06 10 26.3**	**+0.5**
KMRM					**Sn**	**06 10 53.6**	**-0.3**
KHBM	**Hayfork Bally**	**2.29**	**121**		**Pn**	**06 10 25.7**	**-0.2**
YBH	**Yreka Blue Hor**	**2.31**	**92**	Pn	**Pn**	**06 10 27.3**	**+1.1**
LGPM	**Granite Peak**	**2.43**	**112**		**Pn**	**06 10 27.8**	**0.0**
LBKM	**Bonanza King**	**2.48**	**107**		**Pn**	**06 10 29.6**	**+1.1**
N02D	**Trinity Center**	**2.49**	**110**	P	**Pn**	**06 10 28.7**	**0.0**
	baz=292,SNR=19						
N02D				S	**Sn**	**06 10 59.2**	**+0.2**
	baz=292						
N02D	**Trinity Center**	**2.49**	**110**		**Pn**	**06 10 28.8**	**+0.2**
B040	**Montague**	**2.52**	**90**		**Pn**	**06 10 29.9**	**+0.9**
I03D	**Drain, OR**	**2.56**	**44**	P	**Pn**	**06 10 28.9**	**-0.7**
	baz=226,SNR=16						
I03D				S	**Sn**	**06 10 59.5**	**-1.2**
	baz=226						
KBSM	**Bell Springs**	**2.56**	**139**		**Pn**	**06 10 29.5**	**-0.2**
L04D	**Klamath Falls**	**2.62**	**81**	P	**Pn**	**06 10 31.7**	**+1.2**
	baz=264,SNR=85						
L04D				Sb	**Sb**	**06 11 06.4**	**-1.0**
	baz=264						
L04D	**Klamath Falls**	**2.62**	**81**		**Pn**	**06 10 32.0**	**+1.4**
I02D	**Swisshome**	**2.65**	**32**	P	**Pn**	**06 10 30.4**	**-0.4**
	baz=214,SNR=32						
I02D				S	**Sn**	**06 11 01.7**	**-1.2**
	baz=214						
KCPM	**Cahto Peak**	**2.75**	**142**	Pn	**Pn**	**06 10 31.5**	**-0.8**
WDC	**Whiskeytown Da**	**2.77**	**117**	Pn	**Pn**	**06 10 34.1**	**+1.6**
O02D	**Mt. Diablo Mer**	**2.83**	**126**	P	**Pn**	**06 10 33.5**	**+0.1**
	baz=307,SNR=11						
O02D				S	**Sn**	**06 11 07.6**	**+0.1**
	baz=307						
M04C	**Macdoel**	**2.96**	**90**	P	**Pn**	**06 10 36.5**	**+1.4**
	baz=273,SNR=9.5						
COR	**Corvallis**	**3.27**	**33**	Pn	**Pn**	**06 10 39.9**	**+0.7**
O03E	**Paynes Creek**	**3.40**	**116**	P	**Pn**	**06 10 41.9**	**+0.7**
	baz=298,SNR=14						
O03E				S	**Sn**	**06 11 22.1**	**+0.6**
	baz=298						
H04D	**Lebanon**	**3.47**	**39**	S	**Sn**	**06 11 23.1**	**0.0**
	baz=222						
HOPS	**Hopland Field**	**3.54**	**143**	Pn	**Pn**	**06 10 43.1**	**+0.1**
J05D	**Fort Rock, OR**	**3.65**	**66**	P	**Pn**	**06 10 44.8**	**+0.1**
	baz=249,SNR=7.3						
K05A	**Summer Lake**	**3.73**	**75**	Pn	**Pn**	**06 10 46.8**	**+1.0**
G03D	**McMinnville, O**	**3.81**	**28**	S	**Sn**	**06 11 31.1**	**-0.5**
	baz=210						
H04A	**Detroit Lake**	**3.85**	**42**	Pn	**Pn**	**06 10 47.4**	**0.0**
ORV	**Oroville**	**4.00**	**124**	Pn	**Pn**	**06 10 50.3**	**+1.0**
PINE	**Pine Mountain**	**4.05**	**60**	Pn	**Pn**	**06 10 51.8**	**+1.6**
MOD	**Modoc Plateau**	**4.10**	**88**	Pn	**Pn**	**06 10 51.7**	**+0.8**
F03A	**Seaside**	**4.37**	**21**	Pn	**Pn**	**06 10 55.6**	**+1.2**
AFDM	**Forest Hills D**	**4.70**	**127**	Pn	**Pn**	**06 10 58.7**	**-0.3**
E03A	**Lebam**	**4.94**	**18**	Pn	**Pn**	**06 11 03.7**	**+1.5**
E04D	**Cinebar**	**5.23**	**25**	P	**Pn**	**06 11 07.5**	**+1.3**
	baz=208,SNR=31						
PAHR	**Pah Rah Range**	**5.32**	**112**	Pn	**Pn**	**06 11 09.9**	**+2.2**
VCNR	**Virginia City**	**5.34**	**117**	Pn	**Pn**	**06 11 09.2**	**+1.3**
WVOR	**Wild Horse Val**	**5.35**	**82**	Pn	**Pn**	**06 11 07.9**	**-0.1**
PNTR	**Pine Nut**	**5.48**	**118**	Pn	**Pn**	**06 11 11.8**	**+1.9**
D03D	**Eldon**	**5.98**	**18**	P	**Pn**	**06 11 17.5**	**+0.9**
	baz=200,SNR=12						
KVN	**Kaiserville**	**6.51**	**113**	Pn	**Pn**	**06 11 25.3**	**+1.3**

*IDC **04** 06:19:18.0±0.8, 36.19N×67.74E, h0km, mb3.8/14, mb1 4.0/19, mb1mx3.8/55, mbtmp3.9/19, ML3.9/5, MS3.5/4, Ms1 3.5/4, ms1mx2.9/51, Error ellipse: s-maj=18.1km s-min=15.9km az=8.0*
*NNC **04** 06:19:23.1±3.7, 36.87N×67.49E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=46.0km s-min=15.7km az=158.0*

ISC 04 06:19:22.9±0.6, 36.62N±0.06×67.64E±0.05, h22km, n46, σ2.23/52, mb3.8/13, 6C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**4.47**	**127**	P	**Pn**	**06 20 29.8**	**+0.4**
CEP				S	**Sb**	**06 21 38.0**	**+3.8**
THW	**Thamme Wali**	**5.09**	**137**	P	**Pn**	**06 20 41.2**	**+3.3**
KK31	**Karatay Array**	**6.84**	**18**	P	**Pn**	**06 21 05.4**	**+3.5**
	2.6nm,0.3s,baz=206,slow=16,SNR=64						
KK31					||S	**Sn**	**06 22 20.1**	**+0.9**
	23nm,0.7s,baz=205,slow=24,SNR=4.0						
AML	**Almayashu**	**7.23**	**39**	P	**Pn**	**06 21 09.5**	**+1.9**
	SNR=15						
EKS2	**Erkin-Say**	**7.67**	**36**	P	**Pn**	**06 21 15.8**	**+2.5**
	SNR=8.4						
GEYT	**Alibeck**	**7.71**	**283**	Pn	**Pn**	**06 21 13.4**	**-0.3**
	1.7nm,0.3s,baz=134,slow=11,SNR=8.6						
GEYT					Sn	**Sn**	**06 22 38.4**	**-2.0**
	4.8nm,0.3s,baz=49,slow=20,SNR=7.8						

GYA0B	**ALIBECK ARRAY**	**7.71**	**283**	⇑P		**Pn**	**06 21 14.8**	**+1.0**
GYA0B				⇑S		**Sn**	**06 22 38.6**	**-1.8**
UCH	**Uchtor**	**7.72**	**41**	P		**Pn**	**06 21 16.4**	**+2.0**
	SNR=36							
THN	**Thein Dam**	**7.86**	**120**	*eP*		Pn	06 21 25.5	+10
THN				*eS*		**Sn**	**06 22 45.5**	**+1.4**
AAK	**Ala-Archa**	**8.01**	**39**	Pn		**Pn**	**06 21 20.0**	**+2.0**
	4.2nm,0.3s,baz=203,slow=7.1,SNR=32							
AAK				Sn		**Sn**	**06 22 48.4**	**+0.5**
	1.0nm,0.3s,baz=175,slow=7.6,SNR=1.5							
AAK	**Ala-Archa**	**8.01**	**39**	P		**Pn**	**06 21 20.3**	**+2.3**
	SNR=18							
AAK	**Ala-Archa**	**8.01**	**39**	⇑P		**Pn**	**06 21 20.1**	**+2.0**
	11nm,0.5s							
AAK				⇑S		**Sn**	**06 22 47.5**	**-0.5**
	8.4nm,0.5s							
KZA	**Kyzart**	**8.03**	**45**	P		**Pn**	**06 21 20.4**	**+1.9**
	SNR=28							
KBK	**Karagaybulak**	**8.25**	**41**	P		**Pn**	**06 21 24.3**	**+2.9**
	SNR=15							
DHRM	**DHARAMSHALA**	**8.37**	**119**	*eP*		**Pn**	**06 21 22.5**	**-0.6**
DHRM				*eS*		**Sn**	**06 22 54.4**	**-2.7**
CHMS	**Chumysh**	**8.40**	**38**	P		**Pn**	**06 21 25.4**	**+2.1**
	SNR=6.8							
USP	**Ospenovka**	**8.47**	**36**	P		**Pn**	**06 21 25.9**	**+1.5**
	SNR=10							
ULHL	**Ulahol**	**8.71**	**47**	P		**Pn**	**06 21 29.7**	**+2.0**
	SNR=5.3							
TKM2	**Tokmak 2**	**8.78**	**42**	P		**Pn**	**06 21 30.1**	**+1.4**
	SNR=9.6							
TKM2	**Tokmak 2**	**8.78**	**42**	⇓P		**Pn**	**06 21 30.4**	**+1.7**
	6.1nm,0.5s							
TKM2				⇑S		**Sn**	**06 23 07.1**	**+0.1**
	5.4nm,0.5s							
SMLA	**Simla**	**9.62**	**122**	*eP*		**Pn**	**06 21 37.0**	**-3.0**
SMLA				*eS*		**Sn**	**06 23 24.6**	**-2.9**
MDOK	**Medeo**	**9.74**	**45**	⇓P		**Pn**	**06 21 42.5**	**+0.7**
	4.3nm,0.4s							
AB31	**Akbulak array**	**13.82**	**338**	⇑P		**Pn**	**06 22 37.3**	**0.0**
	1.5nm,0.5s							
MK31	**Makanchi Array**	**14.91**	**42**	P		**Pn**	**06 22 51.5**	**-0.8**
	3.6nm,0.8s,baz=224,slow=13,SNR=25							
MKAR	**Makanchi Array**	**14.91**	**42**	Pn		**Pn**	**06 22 52.0**	**-0.3**
	0.2nm,0.3s,baz=229,slow=14,SNR=25							
AKTO	**Aktyubinsk**	**15.46**	**336**	Pn		**Pn**	**06 23 00.0**	**+0.6**
	0.3nm,0.3s,baz=151,slow=16,SNR=6.4							
AKTO	**Aktyubinsk**	**15.46**	**336**	⇓P		**Pn**	**06 23 00.2**	**+0.8**
	2.5nm,0.7s							
BVA0	**Borovoye Array**	**16.52**	**6**	⇓P		**P**	**06 23 17.2**	**+1.7**
	2.8nm,0.6s,baz=177,slow=12,SNR=14							
BVAR	**Borovoye Array**	**16.52**	**6**	Pn		**Pn**	**06 23 13.4**	**+0.4**
	0.4nm,0.3s,baz=168,slow=12,SNR=7.1							
BVAR					Sn	**Sn**	**06 26 07.5**	**-8.2**
	0.4nm,0.3s,baz=200,slow=16,SNR=3.4							
ARU	**Arti**	**20.75**	**346**	P		Pn	06 24 04.1	-0.2
	1.6nm,0.5s,baz=277,slow=23,SNR=1.4							
ZALV	**Zalesovo Beam**	**21.03**	**29**	P		**P**	**06 24 05.9**	**+0.9**
	4.4nm,0.6s,baz=224,slow=10,SNR=12							
SONM	**Sogino Array**	**30.51**	**56**	P		**P**	**06 25 34.9**	**+0.5**
	0.3nm,0.3s,baz=278,slow=12,SNR=4.3							
AKASG	**Malin Array Be**	**30.77**	**309**	LR		LR	06 40 18.3	
	comp=Z,34nm,20.3s,baz=70,slow=40							
CMAR	**Chiang Mai Arr**	**32.92**	**115**	P		**P**	**06 25 53.6**	**-2.1**
	0.7nm,0.4s,baz=301,slow=7.3,SNR=5.2							
CMAR					LR	LR	06 40 59.0	
	comp=Z,57nm,21.3s,baz=235,slow=40							
NRIK	**Noril'sk**	**34.55**	**12**	LR		LR	06 41 25.9	
	comp=Z,34nm,18.8s,baz=242,slow=38							
FINES	**FINESS Array B**	**35.90**	**327**	P		**P**	**06 26 22.7**	**+1.7**
	0.7nm,0.6s,baz=146,slow=14,SNR=3.7							
ARCES	**ARCESS Array B**	**40.02**	**338**	P		**P**	**06 26 57.3**	**+1.6**
	1.2nm,0.8s,baz=121,slow=8.7,SNR=6.1							
NOA	**NORSAR Array B**	**42.66**	**323**	P		**P**	**06 27 19.3**	**+1.8**
	0.2nm,0.5s,baz=285,slow=6.9,SNR=1.5							
ESDC	**Sonseca Array**	**55.00**	**297**	P		**P**	**06 28 52.8**	**+0.2**
	0.6nm,0.7s,baz=70,slow=7.4,SNR=5.5							
TORD	**Torodi Ar. Bea**	**63.02**	**267**	P		**P**	**06 29 47.8**	**-0.7**
	1.1nm,0.5s,baz=46,slow=6.3,SNR=18							
INK	**Inuvik**	**74.20**	**8**	P		**P**	**06 30 58.6**	**+1.3**
	1.5nm,0.6s,baz=341,slow=4.4,SNR=2.1							
ILAR	**Eielson Array**	**75.38**	**15**	P		**P**	**06 31 05.3**	**+1.0**
	0.4nm,0.7s,baz=308,slow=4.4,SNR=3.8							
YKA	**Yellowknife Ar**	**81.22**	**1**	P		**P**	**06 31 37.6**	**+1.0**
	0.8nm,0.6s,baz=353,slow=5.7,SNR=17							
WRA	**Warramunga Arr**	**84.37**	**120**	P		**P**	**06 31 50.0**	**-3.6**
	0.6nm,0.6s,baz=328,slow=5.0,SNR=6.5							
ASAR	**Alice Springs**	**86.57**	**123**	P		**P**	**06 32 01.3**	**-3.2**
	0.3nm,0.6s,baz=302,slow=4.7,SNR=6.4							
KRVT	**Keravat (AS076**	**88.04**	**97**	LR		LR	07 12 48.2	
	comp=Z,145nm,19.9s,baz=226,slow=36							

*IDC **04** 06:57:24.6±1.0, 35.15N×113.61W, h0km, mb1 3.1/4, mb1mx3.1/35, mbtmp2.6/4, ML3.2/4, Error ellipse: s-maj=11.9km s-min=10.0km az=180.0*
*NEIC **04** 06:57:25.7±1.4, 35.17N±0.02×113.58W±0.02, h5km±2km, ML2.9/94, Error ellipse: s-maj=4.2km s-min=3.1km az=143.0*
*ANF **04** 06:57:25.4±0.4, 35.20N×113.68W, h4km±2km, ML3.2/27, Error ellipse: s-maj=2.1km s-min=1.9km az=36.0*

ISC 04 06:57:25.8±1.1, 35.19N±0.02×113.62W±0.02, h8km±9km, n82, σ1.05/104, Western Arizona

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
W13A	**Hualapai Mount**	**0.24**	**247**	Pg	**Pg**	**06 57 30.8**	**+0.1**
W13A				Sg	**Sg**	**06 57 34.8**	**+0.9**
W13A				IAML		06 57 35.1	
	comp=N,2μm,0.5s						
PDMCI	**Parker Dam,Lak**	**0.99**	**206**	P	**Pg**	**06 57 44.2**	**-0.5**
	baz=23,SNR=222						
PDMCI				S	**Sb**	**06 57 57.5**	**-0.8**
	baz=23						
Y14A	**Wickenburg**	**1.35**	**158**		**Pn**	**06 57 49.8**	**-1.2**
Y14A				Sg	**Sg**	**06 58 07.7**	**-1.6**
IRM	**Iron Mountain**	**1.63**	**231**	P	**Pn**	**06 57 54.0**	**-0.8**
	baz=49,SNR=65						
IRM				S	**Sn**	**06 58 15.3**	**-0.7**
	baz=49						
U15A	**North Rim**	**1.64**	**41**		**Pn**	**06 57 54.3**	**-0.8**
U15A				Sn	**Sn**	**06 58 14.3**	**-2.2**
U15A				IAML		06 58 17.5	
	comp=E,146nm,0.5s						
U15A				IAML		06 58 18.0	
	comp=N,174nm,0.5s						
GMRC	**Granite Mounta**	**1.72**	**257**	P	**Pn**	**06 57 55.5**	**-0.7**
	baz=75,SNR=29						
GMRC				Sg	**Sg**	**06 58 21.1**	**-0.1**
	baz=75						
SHPR	**Sheep Range**	**1.81**	**317**	Pn	**Pn**	**06 57 57.0**	**-0.5**
LCMT	**Little Creek M**	**1.84**	**9**		**Pn**	**06 57 57.6**	**-0.3**
LCMT				Sn	**Sn**	**06 58 21.6**	**+0.3**
WUAZ	**Wupatki**	**1.86**	**79**	P	**Pn**	**06 57 58.4**	**+0.2**
	baz=261						
WUAZ				S	**Sn**	**06 58 21.8**	**-0.2**
	baz=261						
WUAZ	**Wupatki**	**1.86**	**79**	Pn	**Pn**	**06 57 58.4**	**+0.2**
WUAZ				Sn	**Sn**	**06 58 21.1**	**-0.9**
WUAZ				IAML		06 58 22.9	
	comp=N,183nm,0.5s						
WUAZ				IAML		06 58 25.0	
	comp=N,182nm,0.5s						
TUQ	**Turquoise Moun**	**1.90**	**278**	P	**Pn**	**06 57 58.1**	**-0.5**
	baz=97,SNR=61						
TUQ				Sg	**Sg**	**06 58 26.9**	**+0.1**
	baz=97						
KNB	**Kanab**	**1.93**	**19**	Pn	**Pn**	**06 57 59.1**	**0.0**
X16A	**Lo Mia Camp, P**	**1.95**	**113**	Pn	**Pn**	**06 57 58.4**	**-1.0**
BC3	**Big Chuckawall**	**2.16**	**225**	Pg	**Pg**	**06 58 06.1**	**-1.0**
	baz=43						
BC3				Sg	**Sg**	**06 58 35.2**	**+0.1**
	baz=43						
HEC	**Hector,Ludlow**	**2.26**	**262**	P	**Pn**	**06 58 02.9**	**-0.6**
	baz=80,SNR=16						
HEC				Sg	**Sg**	**06 58 38.9**	**+0.6**
	baz=80						
SHOC	**Shoshone, Teco**	**2.28**	**289**	Pg	**Pb**	**06 58 08.2**	**+1.0**
	baz=108						
SHOC				Sg	**Sg**	**06 58 39.5**	**+0.6**
	baz=108						
BELC	**Belle Mtn. Jos**	**2.29**	**239**	P	**Pn**	**06 58 03.6**	**-0.5**
	baz=57						
BELC				Sg	**Sg**	**06 58 39.4**	**-0.2**
	baz=57						
GLA	**Glamis**	**2.36**	**205**	P	**Pn**	**06 58 04.3**	**-0.6**
	baz=24,SNR=38						

GLA				Sb	**Sg**	**06 58 40.0**	**-1.6**
	baz=24							
GLA	**Glamis**	**2.36**	**205**	Pn	**Pn**	**06 58 04.2**	**-0.7**
GLA				IAML		06 58 48.7		
	comp=N,117nm,0.6s							
CCUT	**Cedar City**	**2.36**	**5**	Pn	**Pn**	**06 58 05.7**	**+0.6**
113A	**Mohawk Valley,**	**2.42**	**183**	Pn	**Pn**	**06 58 05.0**	**-0.7**
113A				IAML		06 58 44.2		
	comp=N,103nm,0.6s							
113A				IAML		06 58 44.4		
	comp=E,56nm,0.6s							
SZCU	**Shurtz Canyon**	**2.44**	**10**		**Pn**	**06 58 06.2**	**+0.2**
PKCU	**Pink Cliffs**	**2.48**	**25**	Pn	**Pn**	**06 58 07.5**	**+0.7**
GSC	**Goldstone, Bar**	**2.61**	**273**	P	**Pn**	**06 58 07.8**	**-0.6**
	baz=91							
GSC				Sg	**Sg**	**06 58 50.1**	**+0.5**
	baz=91							
GSC	**Goldstone, Bar**	**2.61**	**273**		**Pn**	**06 58 07.9**	**-0.4**
GSC				IAML		06 58 54.7		
	comp=E,70nm,0.8s							
GSC				IAML		06 58 55.4		
	comp=N,48nm,0.9s							
TPNV	**Topopah Spring**	**2.76**	**310**	P	**Pn**	**06 58 10.4**	**-0.1**
	baz=129,SNR=38							
TPNV				Sg	**Sg**	**06 58 53.6**	**-0.8**
	baz=129							
TPNV	**Topopah Spring**	**2.76**	**310**	Pn	**Pn**	**06 58 11.2**	**+0.8**
TPNV				IAML		06 58 55.8		
	comp=N,72nm,0.8s							
TPNV				IAML		06 58 55.8		
	comp=N,73nm,0.6s							
RRX	**Edison Barstow**	**2.79**	**264**	Sg	**Sg**	**06 58 55.8**	**+0.4**
	baz=82							
XPFO	**Pion Flat**	**2.83**	**237**	Pn	**Pn**	**06 58 11.9**	**+0.6**
PFO	**Pinyon Flats O**	**2.83**	**237**	Pn	**Pn**	**06 58 11.4**	**0.0**
	comp=N,1.0nm,0.3s,baz=41,slow=9.4,SNR=20							
PFO				Sn	**Sn**	**06 58 44.9**	**-0.8**
	comp=N,1.5nm,0.3s,baz=255,slow=22,SNR=6.1							
PFO				Lg	Lg	06 58 54.2		
	comp=N,2.0nm,0.3s,baz=289,slow=21,SNR=10							
PFO	**Pinyon Flats O**	**2.83**	**237**	P	**Pn**	**06 58 11.3**	**-0.1**
	baz=54							
PFO				S	**Sn**	**06 58 45.5**	**-0.2**
	baz=54							
PFO	**Pinyon Flats O**	**2.83**	**237**	Pn	**Pn**	**06 58 11.8**	**+0.4**
TPFO	**Pinon Flats**	**2.83**	**237**	S	**Sn**	**06 58 45.2**	**-0.5**
	baz=54							
SWSC	**Sam W. Stewart**	**2.88**	**220**	P	**Pn**	**06 58 12.2**	**+0.2**
	baz=37							
MTPU	**Mount Pierson**	**3.07**	**22**	Pn	**Pn**	**06 58 17.4**	**+2.5**
W18A	**Petrified Fore**	**3.18**	**90**	Pb	**Pb**	**06 58 23.2**	**+0.4**
	baz=273							
W18A	**Petrified Fore**	**3.18**	**90**	Pn	**Pn**	**06 58 16.4**	**+0.1**
W18A				IAML		06 59 11.1		
	comp=E,49nm,0.7s							
MPMC	**Manual Prospec**	**3.27**	**286**	P	**Pn**	**06 58 17.0**	**-0.5**
	baz=104							
MPMC				Sg	**Sg**	**06 59 11.0**	**+0.3**
	baz=104							
MONP2	**Monument Peak**	**3.27**	**226**	P	**Pn**	**06 58 17.5**	**0.0**
	baz=44							
MONP2				S	**Sn**	**06 58 59.0**	**+2.3**
	baz=44							
214A	**Organ Pipe Nat**	**3.30**	**168**	Pb	**Pb**	**06 58 24.9**	**+0.3**
	baz=348,SNR=16							
214A	**Organ Pipe Nat**	**3.30**	**168**	Pn	**Pn**	**06 58 18.9**	**+1.1**
214A				IAML		06 59 14.8		
	comp=E,56nm,0.7s							
214A				IAML		06 59 15.9		
	comp=N,55nm,0.5s							
LRMC	**Laurel Mtn Rad**	**3.33**	**276**	P	**Pn**	**06 58 17.9**	**-0.5**
	baz=94							
PSUT	**Pine Spring**	**3.34**	**357**	Pn	**Pn**	**06 58 19.2**	**+0.7**
MURC	**Murrieta**	**3.36**	**243**	P	**Pn**	**06 58 18.4**	**-0.1**
	baz=60							
R11A	**Troy Canyon, C**	**3.52**	**334**	P	**Pn**	**06 58 21.0**	**0.0**
	baz=154,SNR=12							
R11A	**Troy Canyon, C**	**3.52**	**334**	Pn	**Pn**	**06 58 21.3**	**+0.3**
R11A				IAML		06 59 16.9		
	comp=E,11nm,0.7s							
BAR	**Barrett**	**3.57**	**226**	Pn	**Pn**	**06 58 22.5**	**+1.1**
EDW2	**Edwards Air Fo**	**3.60**	**266**	P	**Pn**	**06 58 22.1**	**+0.2**
	baz=84							
109C	**Camp Elliot, M**	**3.69**	**233**	Pn	**Pn**	**06 58 24.0**	**+0.9**
109C				IAML		06 59 25.9		
	comp=E,20nm,0.4s							
109C				IAML		06 59 28.4		
	comp=N,26nm,0.5s							
ESJX	**Sierra Juarez**	**3.73**	**212**		**Pn**	**06 58 24.4**	**+0.7**
MWC	**Mount Wilson**	**3.78**	**256**	Pn	**Pn**	**06 58 25.5**	**+1.0**
MWC				IAML		06 59 30.5		
	comp=E,23nm,1.1s							
MWC				IAML		06 59 32.2		
	comp=N,27nm,1.1s							
CBX	**Cerro Bola**	**3.83**	**222**	Pn	**Pn**	**06 58

TXAR				Lg	Lg	07 02 48.7	
	comp=E,0.0nm,0.3s,baz=297,slow=28,SNR=5.4						

ISC 04 07:11:56.1±1.3, **50.12N**±0.06×**19.08E**±0.05, **h0**km, **n5**, σ**0**§**62**/10, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.47**	**77**	*e*Pg	**Pg**	**07 12 05.3**	**+0.1**
OJC				*e*Sg	**Sg**	**07 12 11.5**	**+0.3**
LANS	**Liptovska Anna**	**1.00**	**165**	*e*PG	**Pg**	**07 12 15.4**	**+0.1**
LANS				*e*SG	**Sg**	**07 12 28.9**	**+0.6**
LANS				*e*LG	Lg	07 12 33.2	
MORC	**Moravsky Berou**	**1.05**	**252**	*e*PG	**Pb**	**07 12 17.5**	**+0.3**
MORC				*e*SG	**Sg**	**07 12 30.5**	**+0.6**
NIE	**Niedzica**	**1.06**	**131**	*e*Pg	**Pg**	**07 12 16.8**	**+0.5**
NIE				*e*Sg	**Sb**	**07 12 31.9**	**+0.3**
VYHS	**Vyhne**	**1.64**	**186**	*e*PN	**Pn**	**07 12 25.2**	**-0.9**
VYHS				*e*SN	**Sn**	**07 12 47.2**	**-0.7**

*IDC **04** 07:13:55.5±1.4, 5.75S×128.99E, h312km±15km, mb3.2/3, mb1 3.6/8, mb1mx3.2/44, mbtmp4.3/8, Error ellipse: s-maj=31.9km s-min=15.5km az=94.0*
*NEIC **04** 07:13:55.4±1.6, 5.75S±0.07×128.92E±0.04, h312km±9km, mb4.3/7, Error ellipse: s-maj=10.7km s-min=6.0km az=186.0*

ISC 04 07:13:54.3±0.6, **5.74S**±0.06×**128.88E**±0.08, **h300**km, **n24**, σ**1**§**64**/29, **mb4.0**/5, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.28**	**133**	Pn	**Pn**	**07 14 54.9**	**+2.1**
SAUI				S	**S**	**07 15 38.6**	**-1.1**
FAKI	**Fak Fak**	**4.38**	**50**		**Pn**	**07 15 06.2**	**+1.4**
FAKI				S	**S**	**07 15 59.3**	**-1.9**
SIJI	**Sorong**	**5.39**	**26**	P	**Pn**	**07 15 17.6**	**+1.0**
	41nm,0.3s,baz=218,slow=12,SNR=29						
SIJI				S	**S**	**07 16 19.7**	**-2.9**
	14nm,0.3s,baz=81,slow=23,SNR=12						
SOEI	**Soe**	**6.07**	**229**	Pn	**Pn**	**07 15 26.7**	**+2.1**
BATI	**Baumata**	**6.81**	**229**	P	**Pn**	**07 15 35.0**	**+1.5**
	27nm,0.3s,baz=70,slow=5.6,SNR=8.2						
BATI				S	**S**	**07 16 49.1**	**-4.4**
	10nm,0.3s,baz=24,slow=22,SNR=1.8						
MTN	**Manton Dam**	**7.40**	**163**		**Pn**	**07 15 41.6**	**+1.1**
KAPI	**Kappang**	**9.12**	**274**	Pn	**Pn**	**07 16 04.1**	**+2.5**
KNRA	**Kununurra**	**9.88**	**181**	Pn	**Pn**	**07 16 11.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**12.68**	**194**	P	**Pn**	**07 16 45.2**	**+0.1**
	1.2nm,0.3s,baz=26,slow=14,SNR=26						
FITZ	**Fitzroy Crossi**	**12.68**	**194**		**Pn**	**07 16 45.7**	**+0.6**
WB0	**Warramunga Arr**	**14.94**	**159**	P	**P**	**07 17 11.0**	**+0.2**
WRA	**Warramunga Arr**	**15.08**	**160**	P	**Pn**	**07 17 13.1**	**-0.7**
	1.1nm,0.3s,baz=341,slow=11,SNR=42						
WB2	**Warramunga Arr**	**15.09**	**160**	P	**P**	**07 17 12.7**	**+0.3**
WR0	**Warramunga Arr**	**15.17**	**159**	P	**P**	**07 17 13.6**	**+0.3**
WR0				IAmb	IAmb	07 17 22.7	
	comp=Z,18nm,1.5s						
COEN	**Coen**	**16.27**	**121**	P	**P**	**07 17 26.3**	**+0.9**
PSA00	**Pilbara Seismi**	**18.01**	**208**	P	**P**	**07 17 44.2**	**+0.1**
PSA00				IAmb	IAmb	07 17 59.5	
	comp=Z,9.9nm,0.8s						
AS31	**Alice Springs**	**18.47**	**165**	P	**P**	**07 17 49.5**	**+0.5**
AS31				IAmb	IAmb	07 17 56.2	
	comp=Z,4.7nm,0.3s						
ASAR	**Alice Springs**	**18.47**	**165**	P	**P**	**07 17 49.9**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=342,slow=11,SNR=59						
ASAR				ScP	**ScP**	**07 25 08.7**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=337,slow=1.9,SNR=7.4						
FORT	**Forrest**	**24.92**	**182**	P	**P**	**07 18 50.9**	**+0.1**
FORT				IAmb	IAmb	07 19 07.6	
	comp=Z,18nm,1.2s						
BBOO	**Buckleboo**	**27.75**	**167**	P	**P**	**07 19 15.9**	**-0.1**
BBOO				IAmb	IAmb	07 19 21.8	
	comp=Z,13nm,1.2s						
KLR	**Kulʲdur**	**54.80**	**2**	P	**P**	**07 22 52.9**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=175,slow=8.3,SNR=3.7						
PETK	**Petropavlovsk-**	**63.49**	**19**	P	**P**	**07 23 53.0**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=189,slow=5.8,SNR=4.2						
MKAR	**Makanchi Array**	**66.57**	**327**	P	**P**	**07 24 14.2**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=129,slow=8.2,SNR=4.1						
TXAR	**Lajitas Array**	**125.22**	**58**	PKP	**PKPdf**	**07 32 19.0**	**-1.2**
	comp=Z,0.0nm,0.4s,baz=360,slow=1.4,SNR=3.6						

IDC 04 07:18:48.2±2.2, **13.60N**×**93.34E**, **h0**km, **mb3.6**/3, **mb1 3.8**/4, **mb1mx3.4**/59, **mbtmp3.6**/4, **ML4.0**/1, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.6**/44, **Error ellipse: s-maj=66.8km s-min=28.6km az=67.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.23**	**47**	Pn	Pn	07 20 35.2	0.0
	0.6nm,0.3s,baz=234,slow=16,SNR=2.3						
H08S3	**Diego Garcia H**	**29.56**	**226**	T	T	07 56 16.1	
	baz=44,slow=74						
H08S2	**Diego Garcia H**	**29.57**	**226**	T	T	07 56 10.5	
	baz=44,slow=74						
H08S1	**Diego Carcia H**	**29.58**	**226**	T	T	07 56 04.6	
	baz=44						
MKAR	**Makanchi Array**	**34.36**	**347**	P	P	07 25 36.8	0.0
	0.5nm,0.7s,baz=170,slow=8.8,SNR=3.9						
WRA	**Warramunga Arr**	**52.33**	**129**	P	P	07 28 01.9	-0.3
	1.0nm,0.9s,baz=312,slow=8.1,SNR=5.2						
ASAR	**Alice Springs**	**54.27**	**133**	P	P	07 28 16.4	0.0
	0.6nm,0.6s,baz=308,slow=6.7,SNR=8.8						
BRTR	**Keskin Array B**	**58.19**	**308**	LR	LR	07 56 49.2	
	comp=Z,29nm,18.6s,baz=125,slow=39						

*NEIC **04** 07:19:13.4±1.6, 35.20N±0.03×113.58W±0.03, h5km±2km, ML2.7/70, Error ellipse: s-maj=5.3km s-min=3.1km az=319.0*
*ANF **04** 07:19:15.3±0.5, 35.16N×113.58W, h29km±5km, ML3.0/18, Error ellipse: s-maj=3.7km s-min=2.6km az=158.0*

ISC 04 07:19:13.7±1.1, **35.18N**±0.03×**113.60W**±0.03, **h11**km±9km, **n51**, σ**0**§**83**/63, **Western Arizona**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
W13A	**Hualapai Mount**	**0.24**	**251**	Pg	**Pg**	**07 19 18.7**	**-0.2**
W13A				Sg	**Sg**	**07 19 22.8**	**+0.4**
W13A				IAML		07 19 23.1	
	comp=N,1μm,0.4s						
W13A				IAML		07 19 23.2	
	comp=E,850nm,0.1s						
PDMCI	**Parker Dam,Lak**	**0.98**	**207**	P	**Pg**	**07 19 32.2**	**-0.3**
	baz=28,SNR=190						
PDMCI				S	**Sg**	**07 19 45.7**	**+0.3**
	baz=28						
Y14A	**Wickenburg**	**1.33**	**158**		**Pn**	**07 19 37.8**	**-0.5**
Y14A				Sn	**Sn**	**07 19 56.4**	**+0.4**
IRM	**Iron Mountain**	**1.63**	**232**	P	**Pn**	**07 19 42.1**	**-0.3**
	baz=52,SNR=47						
IRM				S	**Sn**	**07 20 02.9**	**-0.4**
	baz=52						
U15A	**North Rim**	**1.64**	**40**	Pn	**Pn**	**07 19 42.4**	**-0.3**
U15A				Sn	**Sn**	**07 20 02.4**	**-1.5**
U15A				IAML		07 20 05.5	
	comp=E,82nm,0.5s						
U15A				IAML		07 20 07.1	
	comp=N,100nm,0.6s						
GMRC	**Granite Mounta**	**1.73**	**257**	P	**Pn**	**07 19 43.5**	**-0.3**
	baz=77,SNR=20						
GMRC				Sb	**Sb**	**07 20 08.9**	**+1.4**
	baz=77						
SHPR	**Sheep Range**	**1.83**	**317**	Pn	**Pn**	**07 19 44.8**	**-0.4**
LCMT	**Little Creek M**	**1.85**	**9**		**Pn**	**07 19 45.6**	**+0.1**
WUAZ	**Wupatki**	**1.85**	**79**	Pb	**Pb**	**07 19 46.9**	**-0.8**
	baz=259						
WUAZ				S	**Sn**	**07 20 08.9**	**-0.1**
	baz=259						
WUAZ	**Wupatki**	**1.85**	**79**		**Pb**	**07 19 46.4**	**-1.3**
WUAZ				Sn	**Sb**	**07 20 09.4**	**-1.5**
WUAZ				IAML		07 20 11.0	
	comp=N,93nm,0.7s						
WUAZ				IAML		07 20 13.1	
	comp=N,107nm,0.5s						
TUQ	**Turquoise Moun**	**1.91**	**278**	P	**Pn**	**07 19 46.2**	**-0.2**
	baz=98,SNR=24						
TUQ				Sb	**Sg**	**07 20 14.8**	**-0.5**
	baz=98						
X16A	**Lo Mia Camp, P**	**1.94**	**113**	Pn	**Pn**	**07 19 46.8**	**+0.1**
KNB	**Kanab**	**1.94**	**19**		**Pn**	**07 19 47.3**	**+0.5**
BC3	**Big Chuckawall**	**2.16**	**226**	P	**Pn**	**07 19 49.3**	**-0.3**
	baz=45,SNR=35						
HEC	**Hector,Ludlow**	**2.27**	**262**	P	**Pn**	**07 19 50.9**	**-0.3**
	baz=81						
SHOC	**Shoshone, Teco**	**2.29**	**289**	Sb	**Sg**	**07 20 27.6**	**+0.2**
	baz=108						
BELC	**Belle Mtn. Jos**	**2.30**	**240**	P	**Pn**	**07 19 51.4**	**-0.2**
	baz=59						
BELC				S	**Sn**	**07 20 19.7**	**-0.3**
	baz=59						
GLA	**Glamis**	**2.35**	**206**	Sb	**Sg**	**07 20 28.3**	**-1.0**
	baz=26						
GLA	**Glamis**	**2.35**	**206**	Pn	**Pn**	**07 19 52.5**	**+0.2**
GLA				IAML		07 20 36.7	
	comp=N,80nm,0.7s						
CCUT	**Cedar City**	**2.37**	**5**	Pn	**Pn**	**07 19 53.8**	**+1.0**
SZCU	**Shurtz Canyon**	**2.45**	**10**		**Pn**	**07 19 54.6**	**+0.8**
PKCU	**Pink Cliffs**	**2.49**	**24**	Pn	**Pn**	**07 19 55.7**	**+1.3**
GSC	**Goldstone, Bar**	**2.62**	**274**	P	**Pn**	**07 19 55.9**	**-0.2**
	baz=92						
GSC	**Goldstone, Bar**	**2.62**	**274**	Pn	**Pn**	**07 19 56.1**	**+0.1**
GSC				IAML		07 20 40.6	
	comp=N,33nm,1.3s						
GSC				IAML		07 20 42.7	
	comp=E,39nm,1.0s						
TPNV	**Topopah Spring**	**2.78**	**310**	P	**Pn**	**07 19 58.5**	**+0.3**
	baz=129,SNR=21						
TPNV				Sb	**Sg**	**07 20 40.9**	**-2.0**
	baz=129						
TPNV	**Topopah Spring**	**2.78**	**310**		**Pn**	**07 19 59.1**	**+0.9**
TPNV				IAML		07 20 43.1	
	comp=E,40nm,0.7s						
TPNV				IAML		07 20 43.8	
	comp=E,42nm,0.8s						
XPFO	**Pion Flat**	**2.83**	**237**	Pn	**Pn**	**07 19 59.6**	**+0.7**
PFO	**Pinyon Flats O**	**2.83**	**237**	P	**Pn**	**07 19 59.2**	**+0.3**
	baz=56						
PFO				S	**Sn**	**07 20 32.8**	**-0.3**
	baz=56						
PFO	**Pinyon Flats O**	**2.83**	**237**	Pn	**Pn**	**07 19 59.6**	**+0.7**
MTPU	**Mount Pierson**	**3.08**	**21**		**Pn**	**07 20 03.7**	**+1.2**
MONP2	**Monument Peak**	**3.27**	**227**	P	**Pn**	**07 20 04.9**	**-0.1**
	baz=45						
214A	**Organ Pipe Nat**	**3.28**	**168**	Pb	**Pb**	**07 20 12.4**	**+0.5**
	baz=349,SNR=6.8						
214A	**Organ Pipe Nat**	**3.28**	**168**	Pn	**Pn**	**07 20 05.7**	**+0.7**
214A				IAML		07 21 02.8	
	comp=E,41nm,0.7s						
214A				IAML		07 21 03.9	
	comp=N,39nm,0.5s						
MPMC	**Manual Prospec**	**3.28**	**287**	P	**Pn**	**07 20 05.0**	**-0.2**
	baz=105,SNR=7.3						
R11A	**Troy Canyon, C**	**3.54**	**334**	P	**Pn**	**07 20 08.8**	**+0.1**
	baz=153,SNR=9.3						
R11A	**Troy Canyon, C**	**3.54**	**334**	Pn	**Pn**	**07 20 08.9**	**+0.1**
R11A				IAML		07 21 04.9	
	comp=E,7.5nm,0.7s						
TCRU	**Three Creeks R**	**3.55**	**15**	Pn	**Pn**	**07 20 11.3**	**+2.4**
BAR	**Barrett**	**3.57**	**227**	Pn	**Pn**	**07 20 09.2**	**+0.2**
ESJX	**Sierra Juarez**	**3.72**	**212**	Pn	**Pn**	**07 20 12.2**	**+1.0**
CBX	**Cerro Bola**	**3.83**	**223**	Pn	**Pn**	**07 20 13.7**	**+1.0**
CBX				IAML		07 21 26.7	
	comp=N,8.1nm,1.9s						
CBX				IAML		07 21 33.1	
	comp=E,9.2nm,1.4s						
ISA	**Isabella, Lake**	**4.01**	**278**	P	**Pn**	**07 20 14.8**	**-0.3**
	baz=96						
ISA	**Isabella, Lake**	**4.01**	**278**	Pn	**Pn**	**07 20 15.5**	**+0.5**
ISA				IAML		07 21 52.4	
	comp=E,7.0nm,4.3s						
SPX	**San Pedro Mart**	**4.42**	**201**	Pn	**Pn**	**07 20 21.3**	**+0.4**
SPX				IAML		07 21 48.5	
	comp=N,5.3nm,4.1s						
SPX				IAML		07 22 07.1	
	comp=E,7.0nm,4.2s						
MVCO	**Mesa Verde**	**4.60**	**62**	Pb	**Pb**	**07 20 36.4**	**+1.9**
	baz=245,SNR=10						
PV10	**Paradox Valley**	**4.86**	**48**	Pn	**Pn**	**07 20 28.3**	**+1.3**
PV20	**West Nyswonger**	**4.88**	**48**	Pn	**Pn**	**07 20 28.2**	**+1.0**
NV11	**Mina Array Sit**	**4.89**	**313**	Pn	**Pn**	**07 20 28.2**	**+1.0**
NV11				IAML		07 22 28.3	
	comp=E,4.6nm,4.2s						
NV11				IAML		07 22 30.7	
	comp=N,4.3nm,4.1s						
PV03	**Paradox Valley**	**4.90**	**50**	Pn	**Pn**	**07 20 27.4**	**-0.1**
319A	**Douglas**	**5.24**	**135**		**Pn**	**07 20 33.2**	**+1.1**
KVN	**Kaiserville**	**5.28**	**318**	Pn	**Pn**	**07 20 33.2**	**+0.6**
KVN				IAML		07 22 07.0	
	comp=N,3.8nm,4.0s						
KVN				IAML		07 22 34.5	
	comp=E,3.6nm,4.7s						
121A	**Cookes Peak, D**	**5.51**	**117**	Pn	**Pn**	**07 20 36.1**	**+0.2**

*IDC **04** 08:04:24.6±0.8, 0.80N×146.31E, h0km, mb3.9/11, mb1 4.2/11, mb1mx3.9/34, mbtmp3.9/11, MS3.0/1, Ms1 3.0/1, ms1mx2.5/38, Error ellipse: s-maj=31.2km s-min=17.9km az=102.0*
*NEIC **04** 08:04:25.2±2.6, 0.79N±0.09×146.5E±0.1, h10km±1km, mb4.5/10, Error ellipse: s-maj=18.3km s-min=14.0km az=110.0*

ISC 04 08:04:25.8±0.6, **0.8N**±0.1×**146.5E**±0.1, **h10**km, **n26**, σ**1**§**49**/25, **mb4.0**/16, **Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.67**	**240**	Pn	**Pn**	**08 06 06.3**	**+2.3**
	0.9nm,0.3s,baz=148,slow=18,SNR=2.1						
JAY				Sn	Sn	08 07 06.0	-14
	0.7nm,0.3s,baz=264,slow=23,SNR=1.9						
JAY				LR	LR	08 08 16.4	
	comp=Z,114nm,18.6s,baz=7.5,slow=36						
PATS	**Pohnpei**	**13.21**	**63**	Pn	**Pn**	**08 07 34.0**	**+0.3**
WB0	**Warramunga Arr**	**23.66**	**209**	P	**P**	**08 09 34.7**	**-2.9**
WB0				IAmb	IAmb	08 09 45.7	
	comp=Z,20nm,1.5s						
WR0	**Warramunga Arr**	**23.75**	**209**	P	**P**	**08 09 36.2**	**-2.3**
WR0				IAmb	IAmb	08 09 52.9	
	comp=Z,11nm,1.2s						
WB2	**Warramunga Arr**	**23.82**	**209**	P	**P**	**08 09 37.7**	**-1.6**
WB2				IAmb	IAmb	08 09 39.2	
	comp=Z,6.4nm,0.8s						
WRA	**Warramunga Arr**	**23.83**	**209**	P	**P**	**08 09 37.8**	**-1.5**
	comp=Z,3.4nm,0.7s,baz=32,slow=11,SNR=24						
TARA	**Tarawa**	**26.43**	**89**	P	**P**	**08 10 01.5**	**-1.6**
ASAR	**Alice Springs**	**27.25**	**206**	P	**P**	**08 10 10.1**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=37,slow=7.3,SNR=12						
FITZ	**Fitzroy Crossi**	**27.83**	**226**	P	**P**	**08 10 13.8**	**-1.8**
	comp=Z,3.3nm,0.8s,baz=38,slow=10,SNR=5.8						
FITZ	**Fitzroy Crossi**	**27.83**	**226**	P	**P**	**08 10 13.7**	**-2.0**
FITZ				IAmb	IAmb	08 10 32.6	
	comp=Z,6.1nm,1.1s						
FORT	**Forrest**	**35.99**	**208**	P	**P**	**08 11 26.4**	**-0.7**
KSRS	**Korea Array**	**40.28**	**337**	P	**P**	**08 12 02.7**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=152,slow=7.9,SNR=6.1						
CMAR	**Chiang Mai Arr**	**49.83**	**294**	P	**P**	**08 13 20.1**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=106,slow=5.1,SNR=6.7						
MKAR	**Makanchi Array**	**71.98**	**319**	P	**P**	**08 15 49.6**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=99,slow=7.5,SNR=5.2						
ZALV	**Zalesovo Beam**	**73.03**	**327**	P	**P**	**08 15 55.4**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=94,slow=4.8,SNR=1.8						
RDOG	**Red Dog Mine**	**75.42**	**17**	P	**P**	**08 16 09.1**	**-0.5**
RDOG				IAmb	IAmb	08 16 20.8	
	comp=Z,6.2nm,0.6s						
KURK	**Kurchatov**	**75.50**	**323**	P	**P**	**08 16 07.8**	**-2.5**
NIL	**Nilore**	**75.62**	**304**	P	**P**	**08 16 11.0**	**-0.6**
NIL				IAmb	IAmb	08 16 12.7	
	comp=Z,6.2nm,0.8s						
VNDA	**Vanda**	**78.71**	**177**	P	**P**	**08 16 28.3**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=341,slow=7.6,SNR=4.3						
VNDA	**Vanda**	**78.71**	**177**	P	**P**	**08 16 28.8**	**+0.9**
ILAR	**Eielson Array**	**79.46**	**24**	P	**P**	**08 16 32.4**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=248,slow=5.1,SNR=7.9						
YKA	**Yellowknife Ar**	**93.39**	**27**	P	**P**	**08 17 42.4**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=289,slow=4.3,SNR=2.4						
NVAR	**Mina Array Bea**	**93.58**	**52**	P	**P**	**08 17 44.6**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=246,slow=6.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**142.44**	**293**	PKhKP	PKPpre	08 23 56.4	
	comp=Z,0.3nm,0.5s,baz=67,slow=4.8,SNR=2.1						
CPUP	**Villa Florida**	**145.81**	**140**	PKPbc	**PKPab**	**08 24 07.3**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=203,slow=3.3,SNR=3.1						
DBIC	**Dimbokro**	**150.46**	**285**	PKPbc	**PKPbc**	**08 24 18.6**	**-0.3**
	comp=Z,3.3nm,0.9s,baz=55,slow=3.4,SNR=4.1						

IDC 04 08:17:51.6±1.9, **0.22S**×**147.90E**, **h0**km, **mb3.4**/3, **mb1 3.7**/3, **mb1mx3.4**/28, **mbtmp3.4**/3, **Error ellipse: s-maj=82.4km s-min=32.5km az=116.0, Admiralty Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.68**	**213**	P	P	08 23 06.1	+1.0
	1.0nm,1.1s,baz=32,slow=11,SNR=4.6						
MKAR	**Makanchi Array**	**73.68**	**319**	P	P	08 29 28.4	+1.1
	0.2nm,0.5s,baz=123,slow=7.2,SNR=2.0						
ILAR	**Eielson Array**	**79.85**	**23**	P	P	08 30 00.5	-1.3
	0.5nm,0.8s,baz=245,slow=5.8,SNR=5.6						

*NEIC **04** 08:27:45.2±2.1, 7.64S±0.07×155.3E±0.1, h10km±1km, mb4.1/3, Error ellipse: s-maj=22.3km s-min=10.5km az=103.0*
*IDC **04** 08:27:45.4±1.2, 7.09S×154.90E, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.9/35, mbtmp3.9/10, ML2.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/39, Error ellipse: s-maj=38.9km s-min=22.6km az=137.0*

ISC 04 08:27:47.6±0.9, **6.97S**±0.09×**154.77E**±0.10, **h10**km, **n18**, σ**1**§**95**/17, **mb4.0**/11, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.79**	**317**		**Pb**	**08 28 55.5**	**+0.9**
KRVT	**Keravat (AS076**	**3.80**	**314**	Pn	**Pn**	**08 28 47.1**	**+0.8**
	6.4nm,0.3s,baz=26,slow=1.7,SNR=2.1						
KRVT				Sn	**Sn**	**08 29 29.1**	**-2.0**
	14nm,0.3s,baz=262,slow=6.0,SNR=3.7						
HNR	**Honiara**	**5.68**	**116**	LR	LR	08 30 40.8	
	comp=Z,34nm,21.7s,baz=10.0,slow=32						
PMG	**Port Moresby**	**7.91**	**252**	Pn	**Pn**	**08 29 44.6**	**+1.9**
	1.2nm,0.3s,baz=6.5,slow=17,SNR=1.3						
PMG				Sn	**Sn**	**08 31 10.0**	**-2.3**
	0.8nm,0.3s,baz=186,slow=16,SNR=1.9						
PMG	**Port Moresby**	**7.91**	**252**		**Pn**	**08 29 45.6**	**+2.8**
WR0	**Warramunga Arr**	**23.49**	**235**	P	**P**	**08 32 55.6**	**-2.1**
WR0				IAmb	IAmb	08 33 00.5	
	comp=Z,8.0nm,1.1s						
WB2	**Warramunga Arr**	**23.63**	**235**	P	**P**	**08 32 55.2**	**-4.0**
WB2				IAmb	IAmb	08 32 59.4	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**23.64**	**235**	P	**P**	**08 32 58.2**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=61,slow=9.8,SNR=8.0						
ASAR	**Alice Springs**	**26.02**	**228**	P	**P**	**08 33 20.6**	**-0.5**
	comp=Z,1.1nm,1.0s,baz=64,slow=8.9,SNR=6.2						
CMAR	**Chiang Mai Arr**	**60.57**	**296**	P	**P**	**08 38 01.4**	**+2.6**
	comp=Z,0.9nm,0.3s,baz=120,slow=4.7,SNR=4.3						
SONM	**Songino Array**	**69.19**	**327**	P	**P**	**08 38 54.5**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=145,slow=5.3,SNR=2.5						
QSPA	**South Pole Qui**	**83.00**	**180**	P	P	08 40 07.2	-5.8
QSPA				IAmb	IAmb	08 40 24.0	
	comp=Z,0.2nm,0.7s						
MKAR	**Makanchi Array**	**83.24**	**319**	P	**P**	**08 40 14.0**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=104,slow=5.1,SNR=6.5						
ILAR	**Eielson Array**	**83.44**	**22**	P	**P**	**08 40 14.3**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=246,slow=5.7,SNR=2.8						
AAK	**Ala-Archa**	**87.57**	**313**	LR	LR	09 21 44.0	
	comp=Z,67nm,18.7s,baz=64,slow=37						
NVAR	**Mina Array Bea**	**91.89**	**52**	P	**P**	**08 40 57.2**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=259,slow=7.3,SNR=4.9						
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**08 41 16.4**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=268,slow=4.3,SNR=7.9						
TORD	**Torodi Ar. Bea**	**152.80**	**285**	PKPbc	**PKPbc**	**08 47 45.0**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=43,slow=1.0,SNR=4.3						

IDC 04 08:39:31.8±3.1, **5.76S**×**133.50E**, **h0**km, **mb3.8**/1, **mb1 3.7**/5, **mb1mx3.5**/35, **mbtmp3.6**/5, **ML3.3**/4, **Error ellipse: s-maj=124.7km s-min=26.4km az=81.0, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.35**	**335**	Pn	Pn	08 40 52.0	-1.0
	2.1nm,0.3s,baz=143,slow=20,SNR=1.7						
SIJI				Sn	Sn	08 41 44.9	-10
	1.3nm,0.3s,baz=306,slow=23,SNR=1.9						
WRA	**Warramunga Arr**	**14.12**	**177**	Pn	Pn	08 42 53.3	0.0
	0.1nm,0.3s,baz=352,slow=14,SNR=7.2						
WRA				Sn		08 45 20.1	-11
	0.1nm,0.3s,baz=352,slow=24,SNR=1.0						
FITZ	**Fitzroy Crossi**	**14.46**	**211**	Pn	Pn	08 42 58.9	+0.9
	0.2nm,0.3s,baz=41,slow=12,SNR=1.5						
FITZ				Sn	Sn	08 45 34.8	-4.4
	0.2nm,0.3s,baz=5.2,slow=3.2,SNR=2.8						
ASAR	**Alice Springs**	**17.80**	**179**	P	Pn	08 43 40.3	-0.9
	0.0nm,0.3s,baz=7.5,slow=15,SNR=4.5						
MKAR	**Makanchi Array**	**69.16**	**325**	P	P	08 50 40.5	+0.3
	0.6nm,0.6s,baz=118,slow=7.4,SNR=6.8						

*RHSSO **04** 08:50:39.4±0.3, 43.23N×17.71E, h4km±2km, ML2.8/11*
*PDG **04** 08:50:40.4±0.1, 43.19N×17.79E, h2km, MD3.1/1, ML2.6/11, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*
*BEO **04** 08:50:40.7±0.5, 43.23N×17.69E, h0km, ML2.6/12*

ISC 04 08:50:39.9±1.0, **43.22N**±0.

BLY	**Banja Luka**	**1.58**	**346**	*e*Pn	**Pn**	**08 51 08.3**	**+0.1**
BLY				*e*Sn	**Sb**	**08 51 29.0**	**-0.5**
ZIRJ	**Zirje**	**1.58**	**287**	*e*Pn	**Pb**	**08 51 08.9**	**-0.5**
ZIRJ				Sn	**Sg**	**08 51 32.7**	**+1.9**
MORI	**Morici**	**1.61**	**294**	*e*Pn	**Pb**	**08 51 08.8**	**-1.0**
MORI				Sn	**Sg**	**08 51 33.9**	**+2.3**
IVA	**Berane**	**1.62**	**102**	*e*Pg	**Pb**	**08 51 09.5**	**-0.6**
IVA				*i* Sg	**Sg**	**08 51 33.9**	**+1.9**
SJES	**Sjenica**	**1.64**	**88**	*e*Pg	**Pg**	**08 51 11.2**	**-0.1**
SJES				*e*Sg	**Sg**	**08 51 33.2**	**+0.6**
ULC	**Ulcinj**	**1.68**	**138**	⇓*i*Pn	**Pb**	**08 51 10.3**	**-0.8**
ULC				*i* Sn	**Sg**	**08 51 35.5**	**+1.7**
PVY	**Plav**	**1.75**	**110**	*e*Pn	**Pb**	**08 51 11.7**	**-0.6**
PVY				*i* Sn	**Sg**	**08 51 37.3**	**+1.1**
TEKS	**Tekeris**	**1.86**	**44**	*e*Pg	**Pb**	**08 51 14.7**	**+0.6**
TEKS				*e*Sg	**Sg**	**08 51 40.5**	**+0.8**
TEKS	**Tekeris**	**1.86**	**44**	*e*Pn	**Pn**	**08 51 11.9**	**-0.2**
TEKS				*e*Sn	**Sn**	**08 51 35.9**	**+0.1**
DIVS	**Divibare**	**1.86**	**61**	*e*Pg	**Pb**	**08 51 13.8**	**-0.4**
DIVS				*e*Sg	**Sg**	**08 51 40.6**	**+0.9**
DIVS	**Divibare**	**1.86**	**61**	*e*Pn	**Pn**	**08 51 11.3**	**-0.9**
DIVS				*e*Sn	**Sn**	**08 51 36.1**	**+0.2**
UDBI	**Udbina**	**1.93**	**313**	*e*Pn	**Pg**	**08 51 16.4**	**-0.5**
UDBI				Sn	**Sg**	**08 51 43.7**	**+1.7**
DUGI	**Dugi Otok**	**2.09**	**293**	*e*Pn	**Pb**	**08 51 17.0**	**-1.1**
DUGI				Sn	**Sg**	**08 51 46.1**	**-0.9**
TRUS	**Trudelj**	**2.18**	**62**	*e*Pn	**Pb**	**08 51 19.3**	**-0.4**
GRUS	**Gruza**	**2.27**	**72**	*e*Pg	**Pb**	**08 51 21.7**	**+0.6**
GRUS				*e*Sg	**Sg**	**08 51 53.9**	**+1.1**
NVLJ	**Novalja**	**2.47**	**304**	*e*Pn	**Pn**	**08 51 21.6**	**+1.2**
NVLJ				Pg	**Pg**	**08 51 25.7**	**-1.5**
NVLJ				Sn	**Sb**	**08 51 55.0**	**0.0**
SELS	**Selova**	**2.48**	**89**	*e*Pn	**Pn**	**08 51 21.7**	**+1.1**
MOSL	**Moslavina**	**2.50**	**344**	*e*Pn	**Pn**	**08 51 22.2**	**+1.4**
MOSL				Sn	**Sb**	**08 51 53.6**	**-2.3**
MATE	**Matera**	**2.68**	**197**	⇓P	**Pg**	**08 51 33.2**	**+2.0**
MATE				⇑S	**Sn**	**08 51 53.8**	**-2.1**
PTJ	**Puntijarka**	**2.97**	**335**	*e*Pn	**Pn**	**08 51 28.9**	**+1.5**
BARS	**Barje**	**3.02**	**96**	*e*Pn	**Pn**	**08 51 29.8**	**+1.8**
BARS				*e*Sn	**Sb**	**08 52 07.4**	**-3.6**
KALN	**Kalnik**	**3.05**	**343**	*e*Pn	**Pn**	**08 51 29.2**	**+0.7**
KALN				Sn	**Sn**	**08 52 06.8**	**+1.6**
MORH	**Mrgy, Hungar**	**3.07**	**12**	*e*Pn	**Pn**	**08 51 27.8**	**-0.8**
MORH				*e*Sn	**Sn**	**08 52 05.7**	**+0.2**
CRES	**Cresnjev**	**3.07**	**329**	*e*Pn	**Pn**	**08 51 28.2**	**-0.6**
CRES				*e*Sn	**Sn**	**08 52 05.4**	**-0.3**
MDVR	**Moldovita**	**3.27**	**60**	⇓P	**Pb**	**08 51 36.9**	**-1.3**
MDVR				⇑S	**Sn**	**08 52 09.2**	**-1.4**
ZAGS	**Zajecar**	**3.33**	**78**	*e*Pg	**Pb**	**08 51 40.4**	**+1.3**
CEY	**Cerknica**	**3.46**	**318**	*e*Pn	**Pn**	**08 51 33.3**	**-0.7**
CEY				*e*Sn	**Sn**	**08 52 14.3**	**-0.9**
BOSS	**Bosilegrad**	**3.56**	**100**	*e*Pn	**Pn**	**08 51 37.2**	**+1.7**
BOSS				*e*Sn	**Sn**	**08 52 20.5**	**+2.7**
ZAPS	**Zavoj**	**3.58**	**87**	*e*Sn	**Sn**	**08 52 20.4**	**+2.1**
BLKB	**Belogradchik**	**3.62**	**82**	⇑S	**Sn**	**08 52 21.4**	**+2.1**
BZS	**Buzias**	**3.67**	**48**	*e*Pn	**Pn**	**08 51 39.0**	**+2.0**
BZS	**Buzias**	**3.67**	**48**	⇑P	**Pg**	**08 51 49.6**	**-0.7**
BZS				⇑S	**Sn**	**08 52 20.6**	**+0.1**
HERR	**Herculane**	**3.76**	**62**	⇑P	**Pn**	**08 51 41.0**	**+2.8**
SOKA	**Soboth** 1.9nm,0.2s	**3.96**	**332**	*e*Pn	**Pn**	**08 51 42.0**	**+1.1**
OBKA	**Obir** 1.5nm,0.2s	**3.99**	**327**	*e*Pn	**Pn**	**08 51 42.9**	**+1.4**
ARSA	**Arzberg** 2.9nm,0.4s	**4.32**	**340**	*e*Pn	**Pn**	**08 51 46.6**	**+0.6**

ROM 04 08:51:05.6±0.0, 42°885N×0°002×12°927E±0°003, h10km, ML1.4/2, 1C-1D, Error ellipse: s-maj=0.2km s-min=0.2km az=57.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.19**	**38**	⇑P	Pg	08 51 10.3	+0.6
FDMO				S	Sg	08 51 13.7	+1.2
ASSB	**Assisi San Ben**	**0.25**	**309**	P	Pg	08 51 11.5	+0.7
ASSB				S	Sb	08 51 15.6	-1.1
CSP1	**Cessapalombo**	**0.29**	**45**	P	Pg	08 51 12.2	+0.6
CSP1				S	Sb	08 51 16.8	-1.1
LNSS	**Leonessa**	**0.29**	**163**	⇓P	Pg	08 51 12.2	+0.6
LNSS				S	Sb	08 51 16.9	-1.1
LNSS				AML	AML		
	comp=N,104μm,0.1s						
LNSS				AML	AML		
	comp=E,79μm,0.2s						
LNSS				AML	AML		
	comp=N,105μm,0.1s						

WBNET 04 08:54:03.2, 50°23N×12°45E, h9km, MI0.3, 4C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**327**	⇓P	Pg	08 54 04.9	+0.1
NKC				S	Sg	08 54 06.0	+0.1
LBCW	**Luby**	**0.04**	**325**	⇓P	Pg	08 54 05.1	+0.1
LBCW				S	Sg	08 54 06.5	+0.2
VAC	**Vackov**	**0.05**	**275**	⇓P	Pg	08 54 05.1	+0.1
VAC				S	Sg	08 54 06.3	0.0
STCW	**Studenec**	**0.05**	**58**	⇑P	Pg	08 54 05.1	0.0
STCW				S	Sg	08 54 06.4	-0.1
SKC	**Skalna**	**0.08**	**223**	⇑P	Pg	08 54 05.4	0.0
SKC				S	Sg	08 54 06.9	0.0
POCW	**Potky**	**0.09**	**351**	⇓P	Pg	08 54 05.7	+0.1
POCW				S	Sg	08 54 07.4	+0.1
KACW	**Kaceov**	**0.10**	**154**	⇓P	Pg	08 54 05.7	+0.1
KACW				S	Sg	08 54 07.4	+0.1
KRCW	**Kraslice**	**0.11**	**27**	⇑P	Pg	08 54 05.9	+0.1
KRCW				S	Sg	08 54 07.8	0.0
KOCW	**Kopaniny**	**0.14**	**284**	⇓P	Pg	08 54 06.4	+0.1
KOCW				S	Sg	08 54 08.5	0.0
ZHC	**Zelena Hora**	**0.18**	**210**	⇑P	Pg	08 54 07.0	0.0

*PRU **04** 08:54:38.4±0.0, 50°25N×12°50E, h4km, West Bohemia Swarm*

WBNET 04 08:54:38.3, 50°23N×12°45E, h9km, MI1.1, 4C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**359**	*e*PG	Pg	08 54 39.6	-0.4
NKC				*e*SG	Sg	08 54 40.8	-0.3
	comp=Z,40nm,0.2s						
NKC	**Novy Kostel**	**0.00**	**359**	⇓P	Pg	08 54 40.1	+0.1
NKC				S	Sg	08 54 41.2	+0.1
LBCW	**Luby**	**0.04**	**328**	⇓P	Pg	08 54 40.3	+0.1
LBCW				S	Sg	08 54 41.7	+0.1
VAC	**Vackov**	**0.05**	**278**	⇓P	Pg	08 54 40.3	+0.1
VAC				S	Sg	08 54 41.5	0.0
STCW	**Studenec**	**0.06**	**57**	⇑P	Pg	08 54 40.3	0.0
STCW				S	Sg	08 54 41.6	-0.1
SKC	**Skalna**	**0.08**	**223**	⇑P	Pg	08 54 40.6	0.0
SKC				S	Sg	08 54 42.2	0.0
POCW	**Potky**	**0.09**	**352**	⇓P	Pg	08 54 40.9	+0.1
POCW				S	Sg	08 54 42.6	+0.1
KACW	**Kaceov**	**0.10**	**152**	⇓P	Pg	08 54 40.9	+0.1
KACW				S	Sg	08 54 42.6	0.0
KRCW	**Kraslice**	**0.12**	**27**	⇑P	Pg	08 54 41.1	0.0
KRCW				S	Sg	08 54 43.0	-0.1
ZHC	**Zelena Hora**	**0.18**	**210**	⇑P	Pg	08 54 42.2	+0.1
ZHC				S	Sg	08 54 44.8	0.0
KHC	**Kasperske Hory**	**1.32**	**146**	*e*SG	Sb	08 55 20.1	-0.3

WBNET 04 09:11:39.3, 50°23N×12°45E, h9km, MI0.5, 4C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**273**	⇑P	Pg	09 11 41.0	+0.1
NKC				S	Sg	09 11 42.1	+0.1
LBCW	**Luby**	**0.04**	**323**	⇓P	Pg	09 11 41.2	+0.1
LBCW				S	Sg	09 11 42.6	+0.2
VAC	**Vackov**	**0.05**	**273**	⇓P	Pg	09 11 41.2	+0.1
VAC				S	Sg	09 11 42.4	0.0
STCW	**Studenec**	**0.05**	**59**	⇑P	Pg	09 11 41.2	0.0
STCW				S	Sg	09 11 42.5	-0.1
SKC	**Skalna**	**0.09**	**222**	⇓P	Pg	09 11 41.6	0.0
SKC				S	Sg	09 11 43.1	0.0
POCW	**Potky**	**0.09**	**350**	⇓P	Pg	09 11 41.8	+0.2
POCW				S	Sg	09 11 43.5	+0.2
KACW	**Kaceov**	**0.10**	**155**	⇓P	Pg	09 11 41.8	+0.1
KACW				S	Sg	09 11 43.5	+0.1
KRCW	**Kraslice**	**0.11**	**27**	⇑P	Pg	09 11 42.0	+0.1
KRCW				S	Sg	09 11 43.9	0.0
KOCW	**Kopaniny**	**0.14**	**283**	⇓P	Pg	09 11 42.5	0.0
KOCW				S	Sg	09 11 44.6	0.0
ZHC	**Zelena Hora**	**0.19**	**209**	⇑P	Pg	09 11 43.2	0.0
ZHC				S	Sg	09 11 45.7	-0.1

*NEIC **04** 09:11:36.4±1.5, 16°.8N±0°.2×96°.2E±0°.2, h10km±10km, Error ellipse: s-maj=32.3km s-min=14.1km az=137.0*

NEIC 04 09:11:50.5±1.4, 16°.14N±0°.09×96°.0E±0°.1, h10km±2km, ML2.9/2, Error ellipse: s-maj=26.2km s-min=5.8km az=304.0, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**3.63**	**50**		Pn	09 12 47.3	+0.5
CM31				Sn	Sn	09 13 30.9	+1.2
CHTO	**Chiang Mai**	**3.86**	**46**		Pn	09 12 50.6	+0.6
CHTO				Sn	Sn	09 13 35.0	-0.4
CHTO				IAML		09 13 41.5	
	16nm,0.8s						
CHTO				IAML		09 13 41.6	
	19nm,0.7s						
PBKT	**Sadao Pong**	**4.78**	**84**	Pn	Pn	09 13 02.1	-0.5

*PRU **04** 09:12:12.7±0.0, 50°.26N×12°.47E, h3km, West Bohemia Swarm*

WBNET 04 09:12:12.0, 50°.23N×12°.45E, h9km, MI0.6, 5C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**309**	*e*PG	Pg	09 12 13.4	-0.2
NKC				*e*SG	Sg	09 12 14.6	0.0
	comp=Z,40nm,0.2s						
NKC	**Novy Kostel**	**0.00**	**309**	⇑P	Pg	09 12 13.7	+0.1
NKC				S	Sg	09 12 14.8	+0.1
LBCW	**Luby**	**0.04**	**324**	⇓P	Pg	09 12 13.9	+0.1
LBCW				S	Sg	09 12 15.3	+0.2
VAC	**Vackov**	**0.05**	**274**	⇓P	Pg	09 12 13.9	+0.1
VAC				S	Sg	09 12 15.1	0.0
STCW	**Studenec**	**0.05**	**59**	⇑P	Pg	09 12 13.9	0.0
STCW				S	Sg	09 12 15.2	-0.1
SKC	**Skalna**	**0.09**	**223**	⇓P	Pg	09 12 14.3	0.0
SKC				S	Sg	09 12 15.8	0.0
POCW	**Potky**	**0.09**	**350**	⇑P	Pg	09 12 14.5	+0.1
KACW	**Kaceov**	**0.10**	**154**	⇓P	Pg	09 12 14.5	+0.1
KRCW	**Kraslice**	**0.11**	**27**	⇑P	Pg	09 12 14.7	+0.1
KOCW	**Kopaniny**	**0.14**	**284**	⇓P	Pg	09 12 15.2	0.0
ZHC	**Zelena Hora**	**0.18**	**209**	⇑P	Pg	09 12 15.8	0.0
CLL	**Collm**	**1.13**	**18**	*i* Sg	Sb	09 12 48.8	+0.2
KHC	**Kasperske Hory**	**1.32**	**146**	*e*PG	Pb	09 12 37.1	+0.1
KHC				*e*SG	Sn	09 12 54.6	+0.1
	comp=Z,1.3nm,0.4s						
PRU	**Pruhonice**	**1.37**	**99**	*e*SG	Sg	09 12 56.2	+0.2
	comp=Z,2.4nm,0.4s						

*BEO **04** 09:14:32.9±1.3, 40°.10N×31°.85E, h0km, ML3.6/3*
*DDA **04** 09:15:05.7, 39°.49N×27°.59E, h13km±1km, ML2.9*
*ATH **04** 09:15:05.2, 39°.47N×27°.68E, h23km±4km, ML3.0/3, Error ellipse: s-maj=8.4km s-min=2.9km az=278.0*
*ISK **04** 09:15:06.6, 39°.50N×27°.58E, h5km, ML3.2/41*
*THE **04** 09:15:07.0, 39°.47N×27°.58E, h2km±2km, ML2.7/5, Error ellipse: s-maj=2.7km s-min=0.9km az=186.0*

ISC 04 09:15:06.3±0.9, 39°.49N±0°.02×27°.58E±0°.02, h10km±7km, n79, σ0°.83/105, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	**BALIKESIR_Sava**	**0.16**	**138**	*i* P	**Pg**	**09 15 09.7**	**-0.1**
STEP				*i* S	**Sg**	**09 15 12.7**	**+0.5**
STEP				IAML		09 15 15.0	
	comp=E,5μm,0.6s						
STEP				IAML		09 15 15.0	
	comp=N,5μm,0.7s						
BALY	**Balya**	**0.25**	**7**	*i* P	**Pg**	**09 15 11.2**	**-0.2**
BALY				IAML		09 15 15.0	
	comp=N,3μm,0.4s						
BALY				*i* S	**Sg**	**09 15 15.4**	**+0.6**
BALY				IAML		09 15 17.0	
	comp=E,2μm,0.7s						
BALB	**Balikesir**	**0.27**	**58**	PG	**Pg**	**09 15 11.7**	**-0.2**
BALB				SG	**Sg**	**09 15 16.1**	**+0.5**
AKHS	**Akhisar**	**0.64**	**163**	*i* P	**Pg**	**09 15 18.6**	**-0.1**
AKHS				*i* S	**Sb**	**09 15 28.1**	**-0.4**
AKS	**Akhisar**	**0.64**	**164**	PG	**Pb**	**09 15 19.6**	**0.0**
ZEDA	**zmir-Bergama**	**0.66**	**217**	*i* P	**Pg**	**09 15 18.9**	**-0.1**
ZEDA				*i* S	**Sb**	**09 15 28.7**	**-0.3**
DKL	**Dikili**	**0.67**	**231**	PG	**Pb**	**09 15 20.0**	**-0.1**
DURS	**Dursunbey**	**0.70**	**81**	*i* P	**Pg**	**09 15 18.9**	**-0.9**
DURS				IAML		09 15 29.0	
	comp=E,413nm,0.2s						
DURS				*i* S	**Sb**	**09 15 29.2**	**-1.2**
AYVA	**Ayvalik**	**0.71**	**255**	*i* P	**Pb**	**09 15 20.1**	**-0.7**
AYVA				*i* S	**Sb**	**09 15 30.5**	**-0.1**
AYVA				IAML		09 15 31.0	
	comp=N,681nm,0.3s						
AYVA				IAML		09 15 33.0	
	comp=E,461nm,0.5s						
KNL	**Balıkesir**	**0.78**	**357**	*i* P	**Pg**	**09 15 20.7**	**-0.6**
KNL				*i* S	**Sb**	**09 15 31.9**	**-0.6**
KNL				IAML		09 15 34.0	
	comp=E,2μm,0.6s						
DST	**Dursunbey**	**0.81**	**82**	PG	**Pb**	**09 15 22.6**	**+0.1**
GOMA	**Golmarmara-Man**	**0.83**	**161**	PG	**Pb**	**09 15 23.1**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.84**	**288**	*i* P	**Pg**	**09 15 21.7**	**-0.7**
BAYC				*i* S	**Sg**	**09 15 33.2**	**-0.1**
BAYC				IAML		09 15 37.0	
	comp=N,575nm,0.3s						
BAYC				IAML		09 15 37.0	
	comp=E,452nm,0.5s						
EDC	**Edincik**	**0.88**	**14**	PG	**Pb**	**09 15 23.9**	**+0.2**
EDC				SG	**Sb**	**09 15 36.5**	**+1.0**
KCTX	**Karacabey (Bur**	**0.97**	**38**	PG	**Pn**	**09 15 25.6**	**-0.5**
KCTX				SG	**Sb**	**09 15 39.2**	**+1.0**
EZN	**Ezine**	**1.02**	**289**	P	**Pg**	**09 15 25.7**	**-0.3**
EZN				S	**Sn**	**09 15 40.9**	**-0.2**
	comp=E,310nm,0.6s						
PRK	**Paraskevi**	**1.04**	**257**	P	**Pn**	**09 15 26.9**	**0.0**
PRK				S	**Sn**	**09 15 42.1**	**+0.5**
	comp=E,870nm,0.5s						
PRK	**Paraskevi**	**1.04**	**257**	P	**Pn**	**09 15 27.0**	**0.0**
PRK				S	**Sn**	**09 15 41.8**	**+0.2**
PRK				AML	AML	09 15 44.5	
	comp=N,1902μm,0.6s						
PRK				AML	AML	09 15 47.6	
	comp=E,1513μm,0.4s						
LPK	**Lapseki**	**1.08**	**325**	PG	**Pn**	**09 15 27.4**	**-0.1**
MAR9	**Marsite Statio**	**1.13**	**5**	PN	**Pn**	**09 15 28.2**	**+0.1**
ORLT	**Orhaneli**	**1.15**	**61**	PN	**Pn**	**09 15 28.9**	**+0.3**
SIMA	**Simav-Kutahya**	**1.16**	**110**	PN	**Pn**	**09 15 29.3**	**+0.6**
BLCB	**Balcova**	**1.18**	**201**	P	**Pn**	**09 15 28.9**	**0.0**
BLCB				S	**Sn**	**09 15 45.3**	**+0.3**
BLCB	**Balcova**	**1.18**	**201**	PN	**Pn**	**09 15 29.7**	**+0.8**
KRBN	**Karaburun**	**1.20**	**222**	PN	**Pn**	**09 15 29.9**	**+0.8**
BOZC	**Bozcaada**	**1.23**	**287**	PN	**Pn**	**09 15 30.2**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.23**	**346**	PN	**Pn**	**09 15 30.3**	**+0.7**
MAR6	**Marsite Statio**	**1.23**	**349**	PN	**Pn**	**09 15 30.4**	**+0.8**
MAR2	**Marsite Statio**	**1.24**	**351**	PN	**Pn**	**09 15 30.5**	**+0.8**
MANT	**Manisa**	**1.26**	**142**	*i* P	**Pn**	**09 15 30.2**	**+0.1**
MANT				*i* S	**Sg**	**09 15 46.0**	**-0.9**
MAR3	**Marsite Statio**	**1.27**	**350**	PN	**Pb**	**09 15 31.2**	**+0.9**
KULA	**Kula-Manisa**	**1.29**	**139**	P	**Pb**	**09 15 30.9**	**+0.3**
KULA				S	**Sb**	**09 15 47.6**	**+0.3**
KULA	**Kula-Manisa**	**1.29**	**139**	PN	**Pb**	**09 15 31.0**	**+0.3**
MAR4	**Marsite Statio**	**1.31**	**351**	PN	**Pg**	**09 15 31.7**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.33**	**48**	PN	**Pg**	**09 15 31.2**	**-0.6**
ULDT	**Uludag**	**1.36**	**61**	*i* P	**Pn**	**09 15 31.5**	**0.0**
ULDT				*i* S	**Sb**	**09 15 49.6**	**+0.1**
ULDT				IAML		09 15 52.0	
	comp=E,385nm,0.5s						
ULDT				IAML		09 15 54.0	
	comp=N,259nm,0.6s						
USAK	**Uak-Merkez**	**1.36**	**124**	*i* P	**Pg**	**09 15 31.9**	**-0.6**
USAK				*i* S	**Sg**	**09 15 49.5**	**-0.7**
SIGR	**SIGRI**	**1.37**	**259**	P	**Pg**	**09 15 33.2**	**+0.7**
SIGR				S	**Sn**	**09 15 51.8**	**+2.3**
SIGR				AML	AML	09 15 54.1	
	comp=E,1320μm,0.5s						
SIGR				AML	AML	09 15 54.5	
	comp=N,1093μm,0.3s						
SIGR	**SIGRI**	**1.37**	**259**	PN	**Pg**	**09 15 32.7**	**+0.2**
URLA	**Izmir**	**1.37**	**214**	PN	**Pg**	**09 15 32.6**	**0.0**
URLA	**Izmir**	**1.37**	**214**	*i* P	**Pn**	**09 15 30.9**	**-0.6**
URLA				*i* S	**Sn**	**09 15 50.9**	**+1.2**
ARMT	**Armutlu**	**1.45**	**42**	PN	**Pg**	**09 15 34.0**	**-0.2**
TVSB	**Tavsanli**	**1.46**	**91**	PN	**Pg**	**09 15 33.8**	**-0.5**
GADA	**Gvkgeada**	**1.47**	**299**	P	**Pb**	**09 15 33.6**	**-0.1**
GADA				S	**Sg**	**09 15 54.4**	**+0.8**
	comp=N,135nm,0.4s						
GADA	**Gvkgeada**	**1.47**	**299**	PN	**Pg**	**09 15 33.9**	**-0.6**
GEDZ	**Gediz**	**1.49**	**107**	PN	**Pg**	**09 15 34.5**	**-0.4**
GEMT	**Gemlik**	**1.55**	**52**	PN	**Pg**	**09 15 35.4**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.56**	**171**	PN	**Pg**	**09 15 35.8**	**-0.5**
TSVK	**Tesvikiye-Yalo**	**1.62**	**45**	PN	**Pb**	**09 15 36.1**	**-0.1**
CHOS	**Chios island**	**1.62**	**228**	P	**Pn**	**09 15 34.7**	**-0.4**
CHOS	**Chios island**	**1.62**	**228**	P	**Pn**	**09 15 34.6**	**-0.4**
CHOS				AML	AML	09 16 05.2	
	comp=N,440μm,0.3s						
CHOS				AML	AML	09 16 08.9	
	comp=E,441μm,0.4s						
CHOS	**Chios island**	**1.62**	**228**	PN	**Pg**	**09 15 36.6**	**-0.8**
ENEZ	**Enez**	**1.66**	**319**	PN	**Pb**	**09 15 36.7**	**-0.2**
TRML	**Termal-Yalova**	**1.66**	**47**	PN	**Pb**	**09 15 36.7**	**-0.2**
UKOP	**Uzunkopru-Edir**	**1.79**	**336**	PN	**Pb**	**09 15 38.5**	**-0.6**
SLVT	**Silivri**	**1.80**	**15**	PN	**Pb**	**09 15 38.9**	**-0.4**
ALN	**Alexandroupoli**	**1.83**	**321**	P	**Pn**	**09 15 38.4**	**+0.6**
ALN				S	**Sb**	**09 16 03.3**	**+0.5**
	comp=E,192nm,0.4s						
ALN	**Alexandroupoli**	**1.83**	**321**	P	**Pn**	**09 15 38.3**	**+0.5**
ALN	**Alexandroupoli**	**1.83**	**321**	PN	**Pb**	**09 15 39.3**	**-0.5**
SMTH	**Samothraki Isl**	**1.85**	**302**	P	**Pb**	**09 15 39.7**	**-0.6**
SMTH				S	**Sb**	**09 16 03.4**	**-0.1**
	comp=E,172nm,0.7s						
SMTH	**Samothraki Isl**	**1.85**	**302**	P	**Pn**	**09 15 38.6**	**+0.5**
CTKS	**Kestenelik-??a**	**1.88**	**22**	PN	**Pb**	**09 15 39.9**	**-0.8**
CAVI	**Cavuskoy**	**1.88**	**67**	PN	**Pb**	**09 15 40.2**	**-0.5**
LIA	**Limnos Island**	**1.89**	**283**	P	**Pn**	**09 15 39.4**	**+0.8**
ADVT	**Abdulvahap**	**1.91**	**60**	PN	**Pb**	**09 15 40.7**	**-0.4**
BGKT	**Bogazkoy**	**1.92**	**28**	PN	**Pb**	**09 15 40.8**	**-0.5**
ISK	**Istanbul-Kandi**	**1.94**	**35**	PN	**Pb**	**09 15 41.1**	**-0.5**
AUBOZ	**BOZOYUK**	**1.94**	**77**	PN	**Pb**	**09 15 40.8**	**-0.9**
CTYL	**Yalikoy Yolu**	**2.05**	**15**	PN	**Pb**	**09 15 42.8**	**-0.8**
KLYT	**Kilyos**	**2.08**	**32**	PN	**Pb**	**09 15 42.9**	**-1.2**
RDO	**Rodhopi**	**2.27**	**317**	P	**Pn**	**09 15 44.8**	**+0.9**
RDO	**Rodhopi**	**2.27**	**317**	P	**Pn**	**09 15 45.0**	**+1.1**
SILT	**Sile**	**2.29**	**43**	PN	**Pn**	**09 15 45.7**	**+1.6**
SRCK	**Saricakaya, Es**	**2.41**	**76**	PN	**Pn**	**09 15 47.4**	**+1.6**
GULT	**Gulveren**	**2.44**	**66**	PN	**Pn**	**09 15 48.0**	**+1.7**
SAUV	**Serdivan-Sakar**	**2.45**	**59**	PN	**Pb**	**09 15 48.5**	**-1.9**
PLD	**Plovdiv**	**3.40**	**321**	*e*Pn	**Pn**	**09 16 00.2**	**+0.8**
VTS	**Vitosha**	**4.53**	**315**	*e*Pn	**Pn**	**09 16 13.7**	**-1.4**
VTS				*e*Sn	**Sg**	**09 17 31.9**	**+0.1**
BARS	**Barje**	**5.47**	**309**	*e*Pn	**Pn**	**09 16 29.6**	**+1.7**
BARS				*e*Sn	**Sg**	**09 17 57.9**	**-4.0**

*MAN **04** 09:17:07.9, 9°.87N×126°.73E, h1km, MS3.6*
*NEIC **04** 09:17:23.1±1.2, 9°.66N±0°.09×126°.4E±0°.2, h136km±8km, mb4.3/11, Error ellipse: s-maj=23.8km s-min=13.2km az=88.0*
*IDC **04** 09:17:24.0±2.0, 9°.66N×126°.47E, h145km±18km, mb3.6/19, mb1 3.8/21, mb1mx3.6/53, mbtmp4.1/21, MS3.4/2, Ms1 3.4/2, ms1mx2.8/51, Error ellipse: s-maj=29.3km s-min=11.5km az=74.0*

ISC 04 09:17:12.9±0.6, 9°.84N±0°.05×126°.72E±0°.07, h42km, n50, σ2°.25/48, mb4.0/22, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIP	**Bislig**	**1.67**	**196**	*e*P	**Pn**	**09 17 35.2**	**-4.5**
BIP				*e*S	**Sn**	**09 17 55.0**	**-5.0**
MSLP	**Maasin**	**1.85**	**279**	*e*P	**Pn**	**09 17 41.2**	**-1.0**
BUKP	**Musuan**	**2.54**	**220**	*e*P	**Pn**	**09 17 51.7**	**-0.1**
BUKP				*e*S	**Sn**	**09 18 24.9**	**+3.4**
LLP	**Lapu-Lapu**	**2.75**	**280**	*e*P	**Pn**	**09 17 55.5**	**+1.0**
LLP				*e*S	**Sn**	**09 18 29.1**	**+2.6**
TBP	**Tagbilaran**	**2.82**	**267**	*e*P	**Pn**	**09 17 54.0**	**-1.5**
MATI	**Mati**	**2.91**	**189**	*e*P	**Pn**	**09 17 57.7**	**+0.9**
MATI				*e*S	**Sn**	**09 18 32.9**	**+2.3**
DAV	**

GEYT	**Alibeck**	**67.15**	**307**	P	**P**	**09 28 01.3**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=87,slow=5.1,SNR=1.4						
AKTO	**Aktyubinsk**	**68.93**	**320**	P	**P**	**09 28 12.0**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=135,slow=7.1,SNR=1.7						
KBZ	**Khabaz**	**78.82**	**313**	P	**P**	**09 29 12.1**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=145,slow=14,SNR=2.2						
FINES	**FINESS Array B**	**86.47**	**332**	P	**P**	**09 29 51.7**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=54,slow=9.7,SNR=6.2						
VNDA	**Vanda**	**89.45**	**173**	P	**P**	**09 30 03.5**	**-1.3**
	comp=Z,1.2nm,1.1s,baz=308,slow=4.6,SNR=2.0						
NOA	**NORSAR Array B**	**93.33**	**334**	P	**P**	**09 30 22.9**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=62,slow=5.4,SNR=2.7						
YKA	**Yellowknife Ar**	**93.97**	**24**	P	**P**	**09 30 26.7**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=299,slow=4.4,SNR=3.6						

*IDC **04** 09:22:18.8±4.7,36°.96N×72°.33E,h216km±34km,mb3.2/4, mb1 3.4/9,mb1mx3.1/51,mbtmp4.0/9,MS2.4/1,Ms1 2.4/1, ms1mx2.1/28,Error ellipse: s-maj=55.6km s-min=25.7km az=148.0*

*NNC **04** 09:22:24.6±3.7,37°.49N×72°.00E,h199km±43km,mb2.7, mpv3.8,Error ellipse: s-maj=36.5km s-min=27.0km az=174.0*

ISC 04 09:22:17.5±1.9,37°.1N±0°.2×72°.11E±0°.10,h200km,n17, σ2s33/18,mb3.3/4,5C-4D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.85**	**18**	P	**Pn**	**09 23 45.5**	**+2.6**
	1.9nm,0.3s,baz=188,slow=6.1,SNR=14						
AAK				S	**Sn**	**09 24 49.5**	**-0.9**
	5.6nm,0.3s,baz=301,slow=20,SNR=16						
AAK	**Ala-Archa**	**5.85**	**18**	⇓P	**Pn**	**09 23 45.2**	**+2.4**
	5.4nm,0.5s						
AAK				⇓S	**Sn**	**09 24 49.1**	**-1.3**
	11nm,0.4s						
KK31	**Karatay Array**	**6.14**	**349**	⇑P	**Pn**	**09 23 48.6**	**+2.1**
	1.7nm,0.2s,baz=157,slow=11,SNR=42						
KK31				⇑S	**Sn**	**09 24 53.5**	**-3.6**
	6.2nm,0.3s,baz=170,slow=24,SNR=6.7						
TKM2	**Tokmak 2**	**6.42**	**24**	⇑P	**Pn**	**09 23 52.2**	**+1.9**
	7.3nm,0.4s						
TKM2				⇓S	**Sn**	**09 25 04.4**	**+0.6**
	4.9nm,0.7s						
GEYT	**Alibeck**	**11.15**	**279**	S	**S**	**09 26 53.7**	**-2.5**
	0.7nm,0.3s,baz=25,slow=25,SNR=1.6						
MKAR	**Makanchi Array**	**12.30**	**35**	P	**P**	**09 25 06.8**	**-3.5**
	0.3nm,0.3s,baz=219,slow=8.5,SNR=8.5						
AB31	**Akbulak array**	**15.04**	**328**	⇑P	**P**	**09 25 44.3**	**+3.7**
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**15.99**	**356**	P	**Pn**	**09 25 52.8**	**+1.3**
	1.1nm,0.3s,baz=162,slow=10,SNR=10.0						
BRVK	**Borovoye**	**16.03**	**356**	⇓P	**Pn**	**09 25 53.0**	**+1.0**
	1.4nm,0.5s						
AKTO	**Aktyubinsk**	**16.75**	**327**	P	**Pn**	**09 26 01.6**	**+1.1**
	0.5nm,0.3s,baz=118,slow=12,SNR=6.3						
AKTO	**Aktyubinsk**	**16.75**	**327**	⇑P	**Pn**	**09 26 01.5**	**+0.9**
	1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**19.03**	**24**	P	**Pn**	**09 26 24.8**	**-2.5**
	5.7nm,0.3s,baz=223,slow=11,SNR=67						
BRDH	**Bariadhala**	**22.14**	**125**	LR	LR	09 36 13.6	
	comp=Z,10nm,21.6s,baz=128,slow=38						
ARCES	**ARCESS Array B**	**40.96**	**337**	P	**P**	**09 29 41.2**	**+1.1**
	5.0nm,1.0s,baz=123,slow=9.8,SNR=7.2						
TORD	**Torodi Ar. Bea**	**66.62**	**269**	P	P	09 32 47.4	+0.7
	0.3nm,0.4s,baz=48,slow=5.5,SNR=7.5						
ILAR	**Eielson Array**	**73.98**	**16**	P	**P**	**09 33 30.0**	**-0.6**
	0.3nm,0.9s,baz=316,slow=3.8,SNR=2.3						
YKA	**Yellowknife Ar**	**80.62**	**3**	P	P	09 34 08.1	+0.7
	0.3nm,0.6s,baz=352,slow=6.1,SNR=5.4						

*CNRM **04** 09:23:03.0±2.0,36°.42N×2°.15W,h135km±21km,Error ellipse: s-maj=15.7km s-min=7.0km az=87.0*

*INMG **04** 09:23:04.8±1.7,36°.53N×2°.27W,h13km±5km,ML2.3,Error ellipse: s-maj=3.3km s-min=3.2km az=130.0*

*SFS **04** 09:23:04.0,36°.52N×2°.26W,h5km,ML2.7,ALBORAN N.*

*MDD **04** 09:23:04.8±0.5,36°.53N×2°.29W,h11km,mbLg2.7/16, Error ellipse: s-maj=5.3km s-min=3.2km az=140.0, PRXIMO*

ISC 04 09:23:04.8±1.1,36°.46N±0°.02×2°.32W±0°.03,h33km±11km, n47,σ2s02/68,2C-2D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENIJ	**Nijar**	**0.51**	**10**	⇓Pg	**Pb**	**09 23 13.1**	**-2.5**
	64nm,0.2s,SNR=18						
ENIJ				Lg	Lg	09 23 18.7	
	930nm,0.2s,SNR=7.9						
EBER	**Berja**	**0.63**	**313**	⇓Pg	**Pb**	**09 23 16.1**	**-1.5**
	98nm,0.3s,SNR=18						
EBER				Lg	Lg	09 23 24.1	
	716nm,0.2s,SNR=45						
EALB	**Alboran**	**0.78**	**228**	Pg	**Pn**	**09 23 19.9**	**+0.4**
	2.4nm,0.1s,SNR=19						
EALB				Lg	Lg	09 23 31.6	
	88nm,0.3s,SNR=13						
ELGU	**Los Guajares,**	**1.13**	**291**	Pg	**Pn**	**09 23 24.2**	**-0.2**
	3.3nm,0.2s,SNR=7.9						
ELGU				Lg	Lg	09 23 39.1	
	250nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.17**	**310**	⇑Pg	**Pb**	**09 23 26.2**	**-0.3**
	21nm,0.2s,SNR=18						
EQUE				Lg	Lg	09 23 38.7	
	114nm,0.5s,SNR=9.0						
GORA	**Gorafe**	**1.17**	**330**	Pg	**Pb**	**09 23 26.8**	**+0.3**
	46nm,0.2s,SNR=7.9						
GORA				Lg	Lg	09 23 39.5	
	139nm,0.3s,SNR=7.9						
TLOR	**Lorca, Murcia**	**1.29**	**23**	Lg	Lg	09 23 41.8	
	338nm,0.2s,SNR=7.9						
GOG	**Mont Gurugu**	**1.36**	**204**	P	**Pb**	**09 23 29.6**	**0.0**
GOG				S	**Sb**	**09 23 53.2**	**+6.4**
EQES	**Quesada**	**1.47**	**336**	Pg	**Pb**	**09 23 30.6**	**-0.9**
	13nm,0.3s,SNR=36						
EQES				Lg	Lg	09 23 49.9	
	59nm,0.7s						
EGOR	**Sierra Gorda,**	**1.58**	**295**	Pg	**Pb**	**09 23 33.6**	**+0.1**
	4.6nm,0.4s,SNR=7.9						
EGOR				Lg	Lg	09 23 53.2	
	55nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**1.62**	**32**	Pn	**Pn**	**09 23 30.5**	**-0.6**
	1.0nm,0.4s,SNR=6.3						
EMUR				Sn	**Sn**	**09 23 48.6**	**-2.3**
	57nm,0.3s						
EMUR				Lg	Lg	09 23 53.9	
	84nm,0.4s,SNR=7.9						
TAF	**Taforalt**	**1.65**	**183**	P	**Pb**	**09 23 33.3**	**-1.3**
TAF				S	**Sb**	**09 23 57.2**	**+2.1**
SESP	**Santiago Espad**	**1.66**	**354**	⇑Pn	**Pb**	**09 23 33.0**	**-1.9**
	21nm,0.3s,SNR=18						
SESP				Sn	**Sb**	**09 23 53.0**	**-2.5**
	33nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**1.66**	**354**	P	**Pb**	**09 23 32.4**	**-2.5**
SESP				S	**Sb**	**09 23 58.0**	**+2.4**
EMAL	**Malaga-Limoner**	**1.73**	**281**	Pn	**Pb**	**09 23 33.6**	**-2.3**
EMAL				Sn	**Sn**	**09 23 50.2**	**-3.3**
EMAL	**Malaga-Limoner**	**1.73**	**281**	*e*P	**Pb**	**09 23 33.6**	**-2.3**
EMAL				*e*S	**Sn**	**09 23 50.2**	**-3.3**
PALE	**Palemas**	**1.81**	**227**	P	**Pb**	**09 23 35.6**	**-1.7**
PALE				S	**Sb**	**09 23 58.6**	**-1.1**
EMIJ	**Mijas**	**1.98**	**274**	Pn	**Pn**	**09 23 35.4**	**-0.7**
	2.9nm,0.2s,SNR=7.2						
EMIJ				Sn	**Sn**	**09 23 57.4**	**-2.4**
	45nm,0.3s,SNR=11						
JBK	**JBK**	**2.13**	**186**	P	**Pb**	**09 23 40.8**	**-2.1**
JBK				S	**Sb**	**09 24 09.6**	**+0.5**
ETOB	**Tobarra**	**2.26**	**15**	Pn	**Pn**	**09 23 40.3**	**+0.3**
	1.1nm,0.3s,SNR=8.7						
ETOB				Sn	**Sn**	**09 24 06.5**	**-0.3**
	65nm,0.4s,SNR=12						
AKLM	**AKL**	**2.32**	**213**	P	**Pn**	**09 23 40.2**	**-0.6**
AKLM				S	**Sn**	**09 24 10.7**	**+2.4**
OKGL	**Djebel Kef Gue**	**2.43**	**99**	Sn	**Sn**	**09 24 11.1**	**+0.3**
	65nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**2.48**	**314**	Pg	**Pb**	**09 23 47.7**	**-1.0**
	1.7nm,0.2s,SNR=11						
EADA				Sn	**Sn**	**09 24 12.2**	**+0.1**
	25nm,0.3s,SNR=4.0						
EADA				Lg	Lg	09 24 21.8	
	25nm,0.3s,SNR=5.0						
ECEU	**Ceuta**	**2.54**	**258**	Pn	**Pb**	**09 23 46.9**	**-2.9**
	4.0nm,0.4s,SNR=7.9						
ECEU				Sn	**Sn**	**09 24 15.4**	**+1.9**
	1.5nm,0.2s,SNR=7.9						

AFON	**Font Roja**	**2.61**	**32**	Sn	**Sn**	**09 24 14.5**	**-1.0**
	4.8nm,0.2s,SNR=6.4						
HORN	**Hornachuelos**	**2.73**	**301**	P	**Pb**	**09 23 49.3**	**-3.6**
HORN				S	**Sb**	**09 24 25.6**	**-0.3**
EBEN2	**Beniarda presa**	**2.78**	**37**	Pn	**Pn**	**09 23 48.6**	**+1.6**
	5.1nm,0.2s,SNR=4.0						
EBEN2				Sn	**Sn**	**09 24 16.9**	**-2.6**
	5.7nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**2.95**	**304**	Lg	Lg	09 24 32.5	
	9.5nm,0.3s,SNR=4.0						
ECHE	**Chera**	**3.30**	**18**	Pg	**Pb**	**09 24 02.2**	**-0.5**
	1.6nm,0.3s,SNR=7.9						
ECHE				Sn	**Sn**	**09 24 29.6**	**-2.7**
	SNR=7.9						
ESDC	**Sonseca Array**	**3.46**	**338**	Pn	**Pn**	**09 23 57.3**	**+0.9**
	0.7nm,0.5s,baz=154,slow=12,SNR=29						
ESDC				Pg	**Pb**	**09 24 06.7**	**+1.3**
	4.7nm,0.6s,baz=157,slow=17,SNR=4.4						
ESDC				Lg	Lg	09 24 49.8	
	13nm,0.8s,baz=154,slow=28,SNR=7.5						
PAB	**San Pablo**	**3.47**	**333**	Pn	**Pn**	**09 23 58.2**	**+1.6**
	1.5nm,0.6s,SNR=7.9						
PAB				Pg	**Pb**	**09 24 07.9**	**+2.4**
	3.6nm,0.4s,SNR=7.9						
PAB				Sn	**Sn**	**09 24 35.9**	**-0.7**
	0.1nm,0.0s,SNR=4.0						
PAB				Lg	Lg	09 24 51.6	
	7.7nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.72**	**292**	Pn	**Pn**	**09 24 01.6**	**+1.7**
	0.3nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.87**	**47**	Pn	**Pn**	**09 24 01.5**	**-0.5**
	1.5nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**09 24 44.5**	**-1.8**
	2.7nm,0.2s,SNR=7.9						
UCM	**Universidad Co**	**3.91**	**350**	Pg	Pb	09 24 17.7	+4.7
UCM				Lg	Lg	09 25 05.7	
UCM	**Universidad Co**	**3.91**	**350**	*e*P	Pb	09 24 17.7	+4.7
UCM				*e*S	**Sb**	**09 25 05.7**	**+5.9**
EGRO	**El Granado**	**4.27**	**286**	Sn	**Sn**	**09 24 55.6**	**-0.6**
	1.9nm,0.3s,SNR=7.9						
ETOR	**Torete**	**4.35**	**3**	Pg	Pb	09 24 24.5	+3.9
	6.7nm,0.3s,SNR=7.9						
ETOR				Lg	Lg	09 25 17.9	
	9.2nm,0.4s,SNR=7.9						
EBAD	**Badajoz**	**4.38**	**303**	Pn	**Pn**	**09 24 10.0**	**+1.0**
	0.6nm,0.2s,SNR=7.9						
EBAD				Sn	**Sn**	**09 24 57.6**	**-1.2**
	3.4nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**4.41**	**342**	Pn	**Pn**	**09 24 10.2**	**+0.5**
	0.3nm,0.2s,SNR=7.9						
GUD				Pg	**Pb**	**09 24 24.7**	**+3.0**
	1.8nm,0.3s,SNR=7.9						
GUD				Lg	Lg	09 25 19.0	
	4.3nm,0.5s,SNR=6.2						
PVAQ	**Vaqueiros**	**4.43**	**284**	Pn	**Pn**	**09 24 10.4**	**+0.7**
PVAQ				Sn	**Sn**	**09 24 59.3**	**-0.8**
	3.1nm,0.7s						
PVAQ	**Vaqueiros**	**4.43**	**284**	*e*P	**Pn**	**09 24 10.4**	**+0.7**
PVAQ				*e*S	**Sn**	**09 24 59.3**	**-0.8**
PVAQ				A	A	09 25 04.9	
	3.1nm,0.7s						
PBDV	**Barranco-do-Ve**	**4.57**	**281**	Sn	**Sn**	**09 25 02.5**	**-1.2**
PBDV	**Barranco-do-Ve**	**4.57**	**281**	*e*S	**Sn**	**09 25 02.5**	**-1.2**
EPLA	**Plasencia**	**4.66**	**322**	Pg	Pb	09 24 29.6	+3.8
	1.1nm,0.2s,SNR=7.9						
EPLA				Lg	Lg	09 25 30.1	
	1.1nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**5.22**	**49**	Pn	**Pn**	**09 24 21.5**	**+1.0**
	0.9nm,0.3s,SNR=5.2						
ETOS				Sn	**Sn**	**09 25 17.0**	**-2.6**
	0.7nm,0.3s,SNR=7.9						
PNCL	**Nicolau / Gran**	**5.22**	**290**	Pn	**Pn**	**09 24 21.7**	**+1.1**
PNCL	**Nicolau / Gran**	**5.22**	**290**	*e*P	**Pn**	**09 24 21.7**	**+1.1**

WBNET 04 09:25:10.6,50°.23N×12°.45E,h9km,MI0.0,6C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.00**	**327**	⇑P	Pg	09 25 12.3	+0.1
NKC				S	Sg	09 25 13.5	+0.1
LBCW	**Luby**	**0.04**	**325**	⇓P	Pg	09 25 12.6	+0.1
LBCW				S	Sg	09 25 14.0	+0.2
VAC	**Vackov**	**0.05**	**275**	S	Sg	09 25 13.8	0.0
STCW	**Studenec**	**0.05**	**58**	⇑P	Pg	09 25 12.6	0.0
STCW				S	Sg	09 25 13.9	-0.1
SKC	**Skalna**	**0.08**	**223**	⇑P	Pg	09 25 12.9	0.0
SKC				S	Sg	09 25 14.4	0.0
POCW	**Potky**	**0.09**	**351**	⇑P	Pg	09 25 13.2	+0.2
POCW				S	Sg	09 25 14.9	+0.1
KACW	**Kaceov**	**0.10**	**154**	⇓P	Pg	09 25 13.1	+0.1
KACW				S	Sg	09 25 14.9	+0.1
KRCW	**Kraslice**	**0.11**	**27**	⇑P	Pg	09 25 13.4	+0.1
KRCW				S	Sg	09 25 15.3	0.0
KOCW	**Kopaniny**	**0.14**	**284**	⇓P	Pg	09 25 13.8	+0.1
KOCW				S	Sg	09 25 15.9	0.0
ZHC	**Zelena Hora**	**0.18**	**210**	⇑P	Pg	09 25 14.5	0.0
ZHC				S	Sg	09 25 17.1	0.0

*PRU **04** 09:25:58.4±0.0,50°.19N×12°.41E,h2km,West Bohemia Swarm*

WBNET 04 09:25:58.6,50°.23N×12°.45E,h9km,MI1.7,5C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.00**	**10**	*e*PG	Pg	09 26 00.0	-0.3
NKC				*e*SG	Sg	09 26 00.9	-0.5
	comp=Z,170nm,0.2s						
NKC	**Novy Kostel**	**0.00**	**10**	⇑P	Pg	09 26 00.3	+0.1
NKC				S	Sg	09 26 01.5	+0.1
LBCW	**Luby**	**0.04**	**328**	⇓P	Pg	09 26 00.6	+0.1
LBCW				S	Sg	09 26 02.0	+0.2
VAC	**Vackov**	**0.04**	**277**	⇓P	Pg	09 26 00.5	+0.1
VAC				S	Sg	09 26 01.8	0.0
STCW	**Studenec**	**0.06**	**58**	⇑P	Pg	09 26 00.6	0.0
STCW				S	Sg	09 26 01.9	-0.2
SKC	**Skalna**	**0.08**	**223**	⇑P	Pg	09 26 00.9	0.0
SKC				S	Sg	09 26 02.4	0.0
POCW	**Potky**	**0.09**	**352**	⇓P	Pg	09 26 01.2	+0.1
POCW				S	Sg	09 26 02.9	+0.1
KACW	**Kaceov**	**0.10**	**152**	⇓P	Pg	09 26 01.1	+0.1
KACW				S	Sg	09 26 02.9	0.0
KRCW	**Kraslice**	**0.12**	**28**	⇑P	Pg	09 26 01.4	0.0
KRCW				S	Sg	09 26 03.3	-0.1
ZHC	**Zelena Hora**	**0.18**	**209**	⇑P	Pg	09 26 02.5	0.0
ZHC				S	Sg	09 26 05.1	0.0
CLL	**Collm**	**1.14**	**18**	*i* Sg	Sb	09 26 35.4	+0.2
BRG	**Berggiesshubel**	**1.15**	**55**	PG	Pb	09 26 20.2	-0.4
BRG				SG	Sg	09 26 35.4	-0.2
	5.7nm,0.3s						
KHC	**Kasperske Hory**	**1.32**	**146**	*e*SG	Sb	09 26 40.0	-0.7
	comp=Z,2.9nm,0.5s						
PRU	**Pruhonice**	**1.37**	**99**	*e*SG	Sn	09 26 42.3	+0.2
	comp=Z,3.9nm,0.4s						
PVCC	**Panska Ves**	**1.39**	**77**	*e*SG	Sg	09 26 43.9	+0.6
	comp=Z,11nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	Sb	09 26 46.9	0.0
	comp=Z,3.0nm,0.3s						

*PRU **04** 09:26:14.6±0.0,50°.25N×12°.48E,h4km,West Bohemia Swarm*

WBNET 04 09:26:14.5,50°.23N×12°.45E,h9km,MI1.5,4C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.00**	**358**	*e*PG	Pg	09 26 15.7	-0.4
NKC				*e*SG	Sg	09 26 16.9	-0.4
	comp=Z,124nm,0.2s						
NKC	**Novy Kostel**	**0.00**	**358**	⇓P	Pg	09 26 16.2	+0.1
NKC				S	Sg	09 26 17.3	+0.1
LBCW	**Luby**	**0.04**	**326**	⇓P	Pg	09 26 16.4	+0.1
LBCW				S	Sg	09 26 17.8	+0.2
VAC	**Vackov**	**0.05**	**276**	⇓P	Pg	09 26 16.4	+0.1
VAC				S	Sg	09 26 17.7	0.0
STCW	**Studenec**	**0.05**	**59**	⇑P	Pg	09 26 16.5	0.0
STCW				S	Sg	09 26 17.7	-0.2
SKC	**Skalna**	**0.08**	**222**	⇑P	Pg	09 26 16.8	0.0
SKC				S	Sg	09 26 18.3	-0.1
POCW	**Potky**	**0.09**	**351**	⇓P	Pg	09 26 17.1	+0.1
POCW				S	Sg	09 26 18.8	+0.1
KACW	**Kaceov**	**0.10**	**153**	⇓P	Pg	09 26 17.0	+0.1
KACW				S	Sg	09 26 18.7	0.0
KRCW	**Kraslice**	**0.11**	**28**	⇑P	Pg	09 26 17.3	0.0
KRCW				S	Sg	09 26 19.1	0.0
ZHC	**Zelena Hora**	**0.18**	**209**	⇑P	Pg	09 26 18.4	0.0
ZHC				S	Sg	09 26 21.0	0.0
CLL	**Collm**	**1.13**	**18**	*i* Sg	Sb	09 26 51.4	+0.3
CLL				*i*		09 26 54.6	
BRG	**Berggiesshubel**	**1.15**	**55**	SG	Sg	09 26 51.0	-0.5
	5.6nm,0.3s						
KHC	**Kasperske Hory**	**1.32**	**146**	*e*SG	Sg	09 26 57.0	0.0
	comp=Z,2.8nm,0.4s						
PRU	**Pruhonice**	**1.37**	**99**	*e*SG	Sb	09 26 57.9	0.0
	comp=Z,3.1nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	Sb	09 27 02.8	0.0
	comp=Z,2.6nm,0.4s						

*PRU **04** 09:26:41.7±0.0,50°.24N×12°.51E,h1km,West Bohemia Swarm*

WBNET 04 09:26:41.1,50°.23N×12°.44E,h9km,MI1.5,3C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.00**	**103**	*e*PG	Pg	09 26 42.4	-0.3
NKC				*e*SG	Sg	09 26 43.6	-0.2
	comp=Z,104nm,0.2s						
NKC	**Novy Kostel**	**0.00**	**103**	⇓P	Pg	09 26 42.8	+0.1
NKC				S	Sg	09 26 43.9	+0.1
LBCW	**Luby**	**0.04**	**329**	⇓P	Pg	09 26 43.0	+0.1
LBCW				S	Sg	09 26 44.4	+0.2
VAC	**Vackov**	**0.04**	**272**	⇓P	Pg	09 26 43.0	+0.1
VAC				S	Sg	09 26 44.2	0.0
STCW	**Studenec**	**0.06**	**63**	⇑P	Pg	09 26 43.0	0.0
STCW				S	Sg	09 26 44.3	-0.2
SKC	**Skalna**	**0.08**	**219**	⇓P	Pg	09 26 43.4	+0.1
SKC				S	Sg	09 26 44.9	-0.1
POCW	**Potky**	**0.09**	**354**	⇓P	Pg	09 26 43.6	+0.2
POCW				S	Sg	09 26 45.3	+0.2
KACW	**Kaceov**	**0.10**	**152**	⇓P	Pg	09 26 43.6	0.0
KRCW	**Kraslice**	**0.11**	**30**	⇑P	Pg	09 26 43.9	0.0
KRCW				S	Sg	09 26 45.7	0.0
ZHC	**Zelena Hora**	**0.18**	**208**	⇑P	Pg	09 26 45.0	0.0
ZHC				S	Sg	09 26 47.5	0.0
BRG	**Berggiesshubel**	**1.15**	**56**	PG	Pb	09 27 02.5	-0.6
BRG				SG	Sg	09 27 17.6	-0.5
	4.7nm,0.2s						
KHC	**Kasperske Hory**	**1.33**	**146**	*e*SG	Sb	09 27 23.4	+0.1
	comp=Z,1.5nm,0.2s						
PRU	**Pruhonice**	**1.37**	**100**	*e*SG	Sb	09 27 24.6	0.0
	comp=Z,1.9nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	Sn	09 27 29.0	0.0
	comp=Z,2.5nm,0.3s						

WBNET 04 09:28:20.8,50°.23N×12°.44E,h9km,MI0.4,5C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.00**	**110**	⇑P	Pg	09 28 22.5	+0.1
LBCW	**Luby**	**0.04**	**327**	⇓P	Pg	09 28 22.7	+0.1
VAC	**Vackov**	**0.04**	**272**	⇓P	Pg	09 28 22.7	+0.1
STCW	**Studenec**	**0.06**	**63**	⇑P	Pg	09 28 22.7	0.0
SKC	**Skalna**	**0.08**	**220**	⇑P	Pg	09 28 23.1	+0.1
POCW	**Potky**	**0.09**	**353**	⇓P	Pg	09 28 23.3	+0.2
POCW				S	Sg	09 28 25.0	+0.2
KACW	**Kaceov**	**0.10**	**153**	⇓P	Pg	09 28 23.3	0.0
KACW				S	Sg	09 28 25.1	0.0
KRCW	**Kraslice**	**0.11**	**30**	⇑P	Pg	09 28 23.5	0.0
KRCW				S	Sg	09 28 25.4	0.0
ZHC	**Zelena Hora**	**0.18**	**208**	⇑P	Pg	09 28 24.6	0.0
ZHC				S	Sg	09 28 27.3	0.0

*PRU **04** 09:28:22.4±0.0,50°.25N×12°.48E,h3km,West Bohemia Swarm*

WBNET 04 09:28:21.9,50°.23N×12°.45E,h9km,MI0.9,5C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.00**	**358**	*e*PG	Pg	09 28 23.3	-0.3
NKC				*e*SG	Sg	09 28 24.3	-0.4
	comp=Z,35nm,0.2s						
NKC	**Novy Kostel**	**0.00**	**358**	⇑P	Pg	09 28 23.6	+0.1
NKC				S	Sg	09 28 24.8	0.0
LBCW	**Luby**	**0.04**	**326**	⇓P	Pg	09 28 23.9	+0.1
LBCW				S	Sg	09 28 25.3	+0.2
VAC	**Vackov**	**0.05**	**276**	⇓P	Pg	09 28 23.8	+0.1
VAC				S	Sg	09 28 25.1	0.0
STCW	**Studenec**	**0.05**	**59**	⇑P	Pg	09 28 23.9	0.0
STCW				S	Sg	09 28 25.2	-0.2
SKC	**Skalna**	**0.08**	**222**	⇑P	Pg	09 28 24.2	0.0
SKC				S	Sg	09 28 25.8	0.0
POCW	**Potky**	**0.09**	**351**	⇓P	Pg	09 28 24.5	+0.1
POCW				S	Sg	09 28 26.2	+0.1
KACW	**Kaceov**	**0.10**	**153**	⇓P	Pg	09 28 24.4	+0.1
KACW				S	Sg	09 28 26.2	0.0
KRCW	**Kraslice**	**0.11**	**28**	⇑P	Pg	09 28 24.7	0.0
KRCW				S	Sg

BRG **Berggiesshubel** **1.15 56** PG Pb 09 35 19.2 -0.4
BRG SG Sg 09 35 34.1 -0.5
2.2nm,0.2s
KHC **Kasperske Hory** **1.33 146** *e*PG Pn 09 35 22.4 0.0
KHC *e*SG Sb 09 35 39.9 +0.1
PRU **Pruhonice** **1.37 99** *e*SG Sb 09 35 40.9 -0.1
comp=Z,2.0nm,0.4s

BJI ***04*** *09:40:15.6±0.0,0.89N×146.82E,h10km,mB5.1/38, mb4.8/56,Ms4.6/33,Ms7 4.3/31*
IDC ***04*** *09:40:18.2±0.4,0.86N×146.22E,h0km,mb4.7/35, mb1 4.8/40,mb1mx4.7/56,mbtmp4.8/40,ML2.3/1,MS4.0/26, Ms1 4.0/26,ms1mx3.9/38,Error ellipse: s-maj=13.8km s-min=8.8km az=91.0*
NEIC ***04*** *09:40:19.8±1.2,0.82N±0.07×146.24E±0.07,h10km±1km, mb5.2/146,Error ellipse: s-maj=11.8km s-min=11.5km az=91.0*
GCMT ***04*** *09:40:22.8±0.2,0.96N±0.01×146.20E±0.01,h20km, MW5.1/123,Moment Tensor Solution. s68,c89; s123,c206; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.90±.13; Mθθ-2.78±.11; Mφφ0.88±.12; Mrθ-1.11±.22; Mθφ5.04±.09; Mrφ-0.49±.21; Best double couple: M≤5.57400×10¹⁶ NP1:φ169.00000°,δ73.00000°, λ169.00000°. NP2:φ262.00000°,δ79.00000°,λ18.00000°. Principal axes: T 4.7890, Plg20.0000°, Azm126.0000°; N 1.5730, Plg70.0000°, Azm293.0000°; P -6.3600, Plg4.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***04*** *09:40:22.1±0.8,0.88N×146.16E,h38km,mb5.1/38 Error ellipse: s-maj=11.1km s-min=6.5km az=104.1*
DJA ***04*** *09:40:24.7±1.1,1.1N±4.4×14.6E±.7,h30km±9km,M5.1/42, mb5.2/42,mB5.5/18,MLv5.4/4,Mw(mB)5.0/18,Mwp5.7/1*

ISC 04 09:40:19.8±0.3,0.86N±0.04×146.26E±0.05,h10km,n351, σ1s20/312,mb5.1/137,MS4.1/35,10C-10D,Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.48**	**239**	Pn		**Pn**		**09 41 53.2**	**-2.2**
	3.8nm,0.3s,baz=146,slow=5.5,SNR=14								
JAY				Sn		**Sn**		**09 43 02.7**	**-6.8**
	8.2nm,0.3s,baz=348,slow=4.5,SNR=1.4								
JAY				LR		LR		09 44 04.8	
	comp=Z,4μm,20.4s,baz=40,slow=35								
JAY	**Jayapura**	**6.48**	**239**	P		**Pn**		**09 41 54.1**	**-1.3**
	0.3nm852nm74nm,0.9s								
GENI	**Genyem**	**6.99**	**241**	P		**Pn**		**09 42 03.3**	**+1.0**
	2.0nm3μm284nm,0.7s								
KRVT	**Keravat (AS076**	**7.72**	**132**	Pn		**Pn**		**09 42 11.9**	**-0.4**
	125nm,0.3s,baz=133,slow=3.7,SNR=55								
RABL	**Rabaul**	**7.75**	**130**	Pn		**Pn**		**09 42 12.5**	**-0.2**
SMPI	**Sarmi**	**8.06**	**249**	P		**Pn**		**09 42 16.0**	**-1.0**
	0.5nm110nm,1.0s								
PMG	**Port Moresby**	**10.23**	**175**	Pn		**Pn**		**09 42 46.2**	**-0.7**
	1.2nm,0.3s,baz=51,slow=23,SNR=1.9								
PMG				LR		LR		09 46 15.9	
	comp=Z,893nm,18.0s,baz=332,slow=35								
PMG	**Port Moresby**	**10.23**	**175**	⇑*i*P		**Pn**		**09 42 46.6**	**-0.3**
PMG				pmax		pmax			
	comp=Z,20nm,1.0s								
PMG	**Port Moresby**	**10.23**	**175**			**Pn**		**09 42 51.2**	**+4.3**
GUMO	**Guam**	**12.72**	**354**	Pn		**Pn**		**09 43 19.5**	**-1.5**
	comp=Z,6.3nm,0.3s,baz=351,slow=22,SNR=2.2								
GUMO				LR		LR		09 47 39.0	
	comp=Z,108nm,18.7s,baz=186,slow=35								
GUMO	**Guam**	**12.72**	**354**	P		**Pn**		**09 43 19.7**	**-1.3**
GUMO	**Guam**	**12.72**	**354**			**Pn**		**09 43 19.6**	**-1.3**
PATS	**Pohnpei**	**13.41**	**63**	P		**Pn**		**09 43 26.6**	**-3.8**
	baz=14,SNR=19								
PATS				S		Sn		09 45 45.3	-14
	baz=14								
PATS	**Pohnpei**	**13.41**	**63**	Pn		**Pn**		**09 43 26.4**	**-4.0**
FAKI	**Fak Fak**	**14.50**	**255**	P		**Pn**		**09 43 45.7**	**+0.4**
	comp=Z,128nm,1.1s								
FAKI	**Fak Fak**	**14.50**	**255**	Pn		**Pn**		**09 43 44.8**	**-0.5**
FAKI						**P**		**09 43 52.9**	**+0.9**
COEN	**Coen**	**15.03**	**192**	P		**Pn**		**09 43 53.6**	**+1.1**
	baz=15,SNR=8.0								
COEN	**Coen**	**15.03**	**192**	Pn		**Pn**		**09 43 53.5**	**+1.1**
SIJI	**Sorong**	**15.09**	**264**	Pn		**Pn**		**09 43 51.9**	**-1.4**
	baz=73,slow=12,SNR=6.8								
HNR	**Honiara**	**17.04**	**127**	P		**Pn**		**09 44 18.8**	**+0.4**
	comp=Z,2.3nm,0.3s,baz=169,slow=5.7,SNR=6.3								
HNR				LR		LR		09 50 42.4	
	comp=Z,1μm,21.5s,baz=294,slow=37								
HNR	**Honiara**	**17.04**	**127**	P		**P**		**09 44 19.8**	**-0.4**
HNR				pmax		pmax			
	comp=Z,187nm,1.0s								
HNR	**Honiara**	**17.04**	**127**	P		**P**		**09 44 19.8**	**-0.4**
HNR				IAmb		IAmb		09 44 23.8	
	comp=Z,187nm,1.0s								
MTSU	**Mount Surprise**	**18.97**	**186**	P		**Pn**		**09 44 43.4**	**+1.2**
	baz=19,SNR=13								
KDU	**Kakadu**	**19.19**	**225**	P		**P**		**09 44 43.2**	**-0.7**
	baz=19,SNR=14								
NLAI	**Namlea**	**19.57**	**258**	P		**Pn**		**09 44 49.5**	**0.0**
	comp=Z,2μmcomp=Z,51nm,0.6s								
MTN	**Manton Dam**	**20.26**	**227**	P		**P**		**09 44 55.8**	**+0.2**
	baz=20,SNR=18								
MTN	**Manton Dam**	**20.26**	**227**			**P**		**09 44 55.7**	**+0.1**
CTA	**Charters Tower**	**20.82**	**180**	P		**P**		**09 45 02.7**	**+1.0**
	comp=Z,53nm,0.9s,baz=348,slow=11,SNR=26								
CTA	**Charters Tower**	**20.82**	**180**	P		**P**		**09 45 02.6**	**+1.0**
	baz=21								
CTAO	**Charters Tower**	**20.82**	**180**	P		**P**		**09 45 01.4**	**-0.2**
CTAO				pmax		pmax			
	comp=Z,91nm,1.1s								
CTAO	**Charters Tower**	**20.82**	**180**			**P**		**09 45 01.4**	**-0.2**
CTAO				IAmb		IAmb		09 45 04.2	
	comp=Z,91nm,1.1s								
QIS	**Mount Isa**	**22.26**	**197**	P		**P**		**09 45 16.8**	**-0.4**
	baz=22,SNR=42								
GTOI	**Gorontalo**	**23.24**	**270**	P		**P**		**09 45 27.6**	**0.0**
	comp=Z,856nmcomp=Z,92nm,0.8s								
LUWI	**Luwuk**	**23.56**	**265**	P		P		09 45 41.0	+10
WB0	**Warramunga Arr**	**23.57**	**209**	P		**P**		**09 45 29.7**	**-1.1**
WB0				IAmb		IAmb		09 45 30.7	
	comp=Z,106nm,0.9s								
WR0	**Warramunga Arr**	**23.66**	**208**	P		**P**		**09 45 30.8**	**-0.9**
WRAB	**Tennant Creek**	**23.73**	**209**	*d*iP		**P**		**09 45 31.3**	**-1.1**
WRAB				pmax		pmax			
	comp=Z,163nm,0.7s								
WB2	**Warramunga Arr**	**23.74**	**209**	P		**P**		**09 45 31.4**	**-1.1**
WC3	**Warramunga Arr**	**23.74**	**209**	P		**P**		**09 45 31.4**	**-1.1**
	baz=24								
WRA	**Warramunga Arr**	**23.74**	**209**	P		**P**		**09 45 31.4**	**-1.1**
	comp=Z,122nm,0.7s,baz=32,slow=11,SNR=207								
WRA				LR		LR		09 55 09.2	
	comp=Z,633nm,21.3s,baz=45,slow=38								
KNRA	**Kununurra**	**23.85**	**226**	P		**P**		**09 45 32.1**	**-1.4**
	baz=24,SNR=18								
KNRA	**Kununurra**	**23.85**	**226**	P		**P**		**09 45 32.3**	**-1.2**
SOEI	**Soe**	**24.30**	**244**	P		**P**		**09 45 40.7**	**+2.8**
	comp=Z,3μmcomp=Z,134nm,0.8s								
SOEI	**Soe**	**24.30**	**244**	P		**P**		**09 45 37.7**	**-0.2**
BATI	**Baumata**	**25.02**	**243**	P		**P**		**09 45 44.8**	**+0.4**
	comp=Z,101nm,0.7s,baz=65,slow=5.6,SNR=6.3								
BATI	**Baumata**	**25.02**	**243**	P		**P**		**09 45 46.6**	**+2.2**
	comp=Z,130nm,0.9s								
EDFI	**Ende, Flores**	**26.27**	**248**	P		P		09 46 10.3	+14
MPSI	**Mapaga**	**26.36**	**269**	P		P		09 46 07.3	+11
JCJ	**Chichijima**	**26.38**	**352**	P		**P**		**09 45 55.6**	**-0.9**
	comp=Z,46nm,0.5s,baz=297,slow=22,SNR=2.2								
EIDS	**Eidsvold**	**26.49**	**170**	P		**P**		**09 45 57.7**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**26.64**	**48**	T		T		10 14 16.0	
	baz=229,slow=76								
BNSI	**Bone**	**26.64**	**258**	P		**P**		**09 46 04.0**	**+4.9**
	comp=Z,8μmcomp=Z,40nm,1.1s								
H11S2	**WAKE ISLAND Hy**	**26.65**	**48**	T		T		10 14 21.3	
	baz=229,slow=76								
H11S1	**WAKE ISLAND Hy**	**26.65**	**48**	T		T		10 14 11.7	
	baz=229,slow=76								
SPSI	**Sidrap Palu**	**26.90**	**260**	P		P		09 46 18.8	+17
KAPI	**Kappang**	**27.11**	**257**	P		**P**		**09 46 01.6**	**-1.7**
	comp=Z,5.8nm,0.3s,baz=193,slow=14,SNR=2.0								
AS31	**Alice Springs**	**27.17**	**205**	P		**P**		**09 46 03.5**	**-0.2**
AS31						**P**		**09 46 03.9**	**+0.2**
ASAR	**Alice Springs**	**27.17**	**205**	P		**P**		**09 46 03.6**	**-0.2**
	comp=Z,84nm,0.9s,baz=34,slow=6.4,SNR=76								
ASAR				LR		LR		09 56 56.0	
	comp=Z,553nm,20.3s,baz=26,slow=37								
RMQ	**Roma**	**27.29**	**175**	P		**P**		**09 46 05.4**	**+0.7**
	baz=27,SNR=6.5								
QLP	**Quilpie**	**27.35**	**184**	P		**P**		**09 46 05.6**	**+0.4**
	baz=27,SNR=17								
H11N1	**WAKE ISLAND Hy**	**27.56**	**46**	T		T		10 15 00.2	
	baz=223								
H11N2	**WAKE ISLAND Hy**	**27.57**	**46**	T		T		10 15 10.0	
	baz=223								
H11N3	**WAKE ISLAND Hy**	**27.57**	**46**	T		T		10 15 01.9	
	baz=223								
FITZ	**Fitzroy Crossi**	**27.68**	**226**	P		**P**		**09 46 07.4**	**-0.9**
	comp=Z,39nm,0.7s,baz=43,slow=8.8,SNR=49								
FITZ				LR		LR		09 57 22.6	
	comp=Z,670nm,18.9s,baz=60,slow=37								
FITZ	**Fitzroy Crossi**	**27.68**	**226**	P		**P**		**09 46 07.4**	**-0.9**
	baz=28,SNR=25								
FITZ	**Fitzroy Crossi**	**27.68**	**226**	P		**P**		**09 46 07.6**	**-0.7**
FITZ				IAmb		IAmb		09 46 08.4	
	comp=Z,53nm,0.9s								
WSI	**Waingapu**	**27.88**	**247**	P		**P**		**09 46 07.3**	**-2.9**
	comp=Z,1μm,0.5s								
DZM	**Mont Dzumac**	**30.12**	**140**	*e*P		**P**		**09 46 32.0**	**+1.9**
	comp=Z,93nm,1.4s								
DZM				*e*S		**S**		**09 51 31.5**	**+2.4**
	comp=Z,274nm,24.6s								
DZM				*e*LR		LR		09 54 22.7	
	comp=Z,844nm,27.4s								
DZM	**Mont Dzumac**	**30.12**	**140**	P		**P**		**09 46 30.6**	**+0.5**
	comp=Z,16nm,0.8s,baz=346,slow=9.0,SNR=7.8								
DZM	**Mont Dzumac**	**30.12**	**140**	P		**P**		**09 46 30.6**	**+0.5**
DZM				IAmb		IAmb		09 46 36.2	
	comp=Z,35nm,1.1s								
KKM	**Kota Kinabalu**	**30.42**	**280**	P		**P**		**09 46 32.4**	**-0.4**
WRKA	**Warakurna**	**31.07**	**213**	P		**P**		**09 46 37.4**	**-1.0**
	baz=31,SNR=14								
MTKI	**Muara Teweh, K**	**31.41**	**267**	P		P		09 46 53.3	+12
ARMA	**Armidale**	**31.52**	**171**	P		**P**		**09 46 42.9**	**+0.5**
	baz=32,SNR=4.3								
ARMA	**Armidale**	**31.52**	**171**	P		**P**		**09 46 41.8**	**-0.6**
ARMA						**P**		**09 46 43.2**	**+0.9**
CMSA	**Cobar Meteorol**	**32.22**	**181**	P		**P**		**09 46 48.0**	**-0.3**
	baz=32,SNR=8.0								
STKA	**Stephens Creek**	**32.85**	**187**	P		**P**		**09 46 53.2**	**-0.7**
	comp=Z,7.2nm,0.7s,baz=3.5,slow=7.7,SNR=20								
STKA				LR		LR		10 00 34.3	
	comp=Z,359nm,19.1s,baz=2.2,slow=37								
STKA	**Stephens Creek**	**32.85**	**187**	P		**P**		**09 46 53.3**	**-0.7**
	baz=33,SNR=19								
STKA	**Stephens Creek**	**32.85**	**187**			**P**		**09 46 53.3**	**-0.7**
SSLB	**Suanglung**	**33.48**	**315**	P		**P**		**09 46 58.6**	**-1.0**
SSLB				IAmb		IAmb		09 47 12.7	
	comp=Z,35nm,1.5s								
YHNB	**Yeheng**	**33.76**	**316**	P		**P**		**09 47 01.4**	**-0.6**
TATO	**Taipei**	**33.88**	**317**	P		**P**		**09 47 03.5**	**+0.5**
SBUM	**Sibu**	**34.06**	**273**	P		**P**		**09 47 07.9**	**+3.2**
SBUM				IAmb		IAmb		09 47 08.7	
	comp=Z,70nm,1.9s								
PSA00	**Pilbara Seismi**	**34.09**	**228**	P		**P**		**09 47 03.9**	**-1.0**
PSA00				IAmb		IAmb		09 48 19.3	
	comp=Z,35nm,1.1s								
HTT	**Hallett**	**34.80**	**191**	P		**P**		**09 47 10.5**	**-0.4**
	baz=35,SNR=8.2								
BBOO	**Buckleboo**	**34.84**	**195**	P		**P**		**09 47 10.2**	**-1.0**
	baz=35,SNR=16								
BBOO	**Buckleboo**	**34.84**	**195**	P		**P**		**09 47 10.6**	**-0.7**
BBOO						**P**		**09 47 10.8**	**-0.4**
BBOO				IAmb		IAmb		09 47 11.6	
	comp=Z,40nm,0.9s								
YNG	**Young**	**35.03**	**177**	P		**P**		**09 47 13.3**	**+0.5**
	baz=35,SNR=5.9								
JNU	**Nakatsue**	**35.20**	**337**	P		**P**		**09 47 13.7**	**-0.7**
	comp=Z,16nm,0.8s,baz=144,slow=4.7,SNR=6.3								
JNU	**Nakatsue**	**35.20**	**337**	P		**P**		**09 47 13.9**	**-0.4**
JNU				IAmb		IAmb		09 48 02.6	
	comp=Z,49nm,1.3s								
FORT	**Forrest**	**35.91**	**207**	P		**P**		**09 47 20.0**	**-0.4**
	baz=36,SNR=37								
FORT	**Forrest**	**35.91**	**207**	P		**P**		**09 47 19.5**	**-0.9**
KSM	**Kuching**	**35.95**	**271**	P		**P**		**09 47 20.4**	**-0.6**
KSM				IAmb		IAmb		09 47 30.6	
	comp=Z,32nm,1.1s								
CNB	**Canberra Magne**	**36.10**	**176**	P		**P**		**09 47 22.0**	**-0.1**
	baz=36								
MJAR	**Matsushiro Arr**	**36.28**	**349**	P		**P**		**09 47 22.5**	**-1.0**
	comp=Z,3.0nm,0.9s,baz=177,slow=10,SNR=7.3								
MJAR				PcP		**PcP**		**09 49 48.7**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=189,slow=2.6,SNR=2.5								
MJAR				LR		LR		09 59 55.3	
	comp=Z,127nm,21.5s,baz=170,slow=32								
MSVF	**Nonsavu**	**36.34**	**122**	⇑*i*P		**P**		**09 47 25.7**	**+1.3**
MSVF				pmax		pmax			
	comp=Z,65nm,1.0s								
MSVF	**Nonsavu**	**36.34**	**122**	P		**P**		**09 47 26.4**	**+2.0**
MSVF				IAmb		IAmb		09 47 27.1	
	comp=Z,55nm,0.9s								
ARPS	**Mount Arapiles**	**37.66**	**186**	P		**P**		**09 47 35.6**	**+0.4**
	baz=38,SNR=5.8								
MEEK	**Meekatharra**	**38.17**	**222**	P		**P**		**09 47 39.3**	**-0.5**
	baz=38,SNR=6.8								
TOO	**Toolangi**	**38.24**	**181**	P		**P**		**09 47 40.4**	**+0.2**
TOO				pmax		pmax			
	comp=Z,47nm,1.5s								
TOO	**Toolangi**	**38.24**	**181**	P		**P**		**09 47 40.4**	**+0.2**
TOO				IAmb		IAmb		09 47 53.7	
	comp=Z,47nm,1.4s								
GIRL	**Giralia**	**38.97**	**231**	P		**P**		**09 47 47.3**	**+0.9**
	baz=39,SNR=5.8								
GIRL	**Giralia**	**38.97**	**231**	P		**P**		**09 47 46.5**	**+0.1**
KMBL	**Kambalda**	**39.52**	**214**	P		**P**		**09 47 50.2**	**-0.9**
	baz=40,SNR=11								
QIZ	**Qiongzhong**	**40.00**	**299**	P		**P**		**09 47 54.4**	**-0.8**
QIZ				S		**S**		**09 54 00.8**	**-0.3**
QIZ				LR		LR			
	comp=Z,300nm,6.1s								
QIZ				LR		LR			
	comp=Z,260nm,9.6s								
QIZ				LR		LR			
	comp=Z,370nm,24.9s								
QIZ	**Qiongzhong**	**40.00**	**299**	IAmb		IAmb		09 48 06.1	
	comp=Z,52nm,1.1s								
KSRS	**Korea Array**	**40.15**	**337**	P		**P**		**09 47 55.9**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=162,slow=9.3,SNR=12								
KSRS				PcP		**PcP**		**09 50 01.5**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=154,slow=5.0,SNR=1.7								
KSRS				LR		LR		10 03 32.0	
	comp=Z,133nm,18.4s,baz=156,slow=35								
NJ2	**Nanjing**	**40.39**	**323**	*e*P		**P**		**09 47 58.2**	**0.0**
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
MORW	**Morawa**	**41.48**	**222**	P		**P**		**09 48 07.0**	**-0.3**
	baz=42,SNR=22								
MORW	**Morawa**	**41.48**	**222**	P		**P**		**09 48 07.3**	**+0.1**
MORW				IAmb		IAmb		09 48 08.0	
	comp=Z,70nm,0.9s								
BLDU	**Ballidu**	**42.07**	**219**	P		**P**		**09 48 11.5**	**-0.5**
	baz=42,SNR=10.0								
KLBR	**Kellerberrin**	**42.09**	**217**	P		**P**		**09 48 11.5**	**-0.7**
	baz=42,SNR=18								
KASI	**Kota Agung**	**42.18**	**261**	P		P		09 48 22.2	+9.0
WHN	**Wuhan**	**42.28**	**317**	P		P		09 48 19.1	+5.3
MDSI	**Maura Dua**	**42.37**	**262**	P		P		09 48 23.1	+8.3
ASAJ	**Asahikawa**	**43.20**	**356**	P		**P**		**09 48 22.1**	**+1.1**
	comp=Z,1.9nm,0.3s,baz=50,slow=18,SNR=4.5								
MUN	**Mundaring**	**43.30**	**218**	P		**P**		**09 48 21.9**	**-0.1**
	baz=43,SNR=5.8								
NWAO	**Narrogin (SRO)**	**43.34**	**216**	P		**P**		**09 48 21.9**	**-0.4**
	comp=Z,29nm,1.0s,baz=36,slow=7.7,SNR=9.4								
NWAO	**Narrogin (SRO)**	**43.34**	**216**	P		**P**		**09 48 22.0**	**-0.4**
	baz=43,SNR=6.4								
NWAO	**Narrogin (SRO)**	**43.34**	**216**	P		**P**		**09 48 22.3**	**0.0**
NWAO				pmax		pmax			
	comp=Z,32nm,1.1s								
NWAO	**Narrogin (SRO)**	**43.34**	**216**	P		**P**		**09 48 22.3**	**0.0**
NWAO				IAmb		IAmb		09 48 23.1	
	comp=Z,40nm,1.1s								
NWAO	**Narrogin (SRO)**	**43.34**	**216**	P		**P**		**09 48 22.3**	**0.0**
NWAO				IAmb		IAmb		09 48 23.0	
	comp=Z,32nm,1.1s								
TIA	**Tai'an**	**44.35**	**326**	P		**P**		**09 48 30.0**	**-0.4**
TIA				pmax		pmax			
	comp=Z,8.0nm,1.4s								
SDSI	**Sungai Dareh**	**44.86**	**268**	P		**P**		**09 48 36.0**	**+1.1**
	comp=Z,3μmcomp=Z,23nm,1.4s								
USRK	**Ussuriysk Ar.**	**44.98**	**345**	P		**P**		**09 48 35.6**	**+0.3**
	comp=Z,4.6nm,0.7s,baz=164,slow=7.0,SNR=13								
USRK				LR		LR		10 05 20.6	
	comp=Z,118nm,18.7s,baz=145,slow=33								
USA0B	**Ussuriysk Arra**	**44.98**	**345**	P		**P**		**09 48 35.5**	**+0.2**
USA0B				pmax		pmax			
	comp=Z,8.0nm,0.8s								
USA0B	**Ussuriysk Arra**	**44.98**	**345**	P		**P**		**09 48 35.5**	**+0.2**
GYA	**Guiyang**	**45.79**	**307**	⇑P		**P**		**09 48 45.8**	**+3.6**
GYA				S		**S**		**09 55 28.5**	**+2.3**
GYA				SS		**SS**		**09 58 49.3**	**-1.5**
GYA				pmax		pmax			
	comp=Z,10.0nm,1.6s								
GYA				LR		LR			
	comp=Z,200nm,18.0s								
GYA				LR		LR			
	comp=Z,200nm,16.1s								
GYA				LR		LR			
	comp=Z,350nm,16.8s								
YSS	**Yuzh-Sakhalins**	**46.01**	**357**	⇓*e*P		P		09 48 53.7	+10
YSS				*e*				09 58 42.5	
YSS				pmax		pmax			
	comp=Z,10.0nm,1.2s								
YSS				MLR		MLR			
	comp=Z,200nm,17.0s								
YSS				MLR		MLR			
	comp=N,100nm,13.0s								
YSS				MLR		MLR			
	comp=E,100nm,14.0s								
CN2	**Changchun**	**46.61**	**339**	*e*P		P		09 48 55.4	+7.2
CN2				*e*S		**S**		**09 55 33.1**	**-4.1**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CN2				LR		LR			
	comp=N,300nm,14.0s								
CN2				LR		LR			
	comp=E,300nm,14.0s								
CN2				LR		LR			
	comp=Z,200nm,15.0s								
MNSI	**Mandailing Nat**	**46.67**	**270**	P		**P**		**09 48 48.4**	**-0.8**
	comp=Z,28nm,0.9s								
PBKT	**Sadao Pong**	**47.25**	**292**	P		**P**		**09 48 53.8**	**+0.2**
PBKT				IAmb		IAmb		09 49 04.7	
	comp=Z,21nm,1.0s								
BJI	**Beijing**	**47.64**	**329**	P		**P**		**09 48 55.7**	**-0.6**
BJI				S		**S**		**09 55 55.3**	**+3.2**
BJI				pmax		pmax			
	comp=Z,4.0nm,1.1s								
BJI				LR		LR			
	comp=Z,190nm,13.5s								
BJI				LR		LR			
	comp=Z,190nm,13.1s								
BJI				LR		LR			
	comp=Z,140nm,24.6s								
XAN	**Xi'an**	**48.05**	**317**	P		**P**		**09 48 59.4**	**-0.3**
XAN				pP		pwP		09 49 06.6	-0.7
XAN				pmax		pmax			
	comp=Z,13nm,1.0s								
XAN				pmax		pmax			
	comp=Z,200nm,4.6s								
XAN	**Xi'an**	**48.05**	**317**	IAmb		IAmb		09 49 09.9	
	comp=Z,36nm,1.4s								
URZ	**Urewera**	**48.20**	**147**	P		**P**		**09 49 01.0**	**+0.4**
	comp=Z,14nm,1.0s,baz=152,slow=8.8,SNR=3.2								
URZ	**Urewera**	**48.20**	**147**	IAmb		IAmb		09 49 02.1	
	comp=Z,78nm,1.4s								
KMI	**Kunming**	**48.43**	**303**	⇑*e*P		P		09 49 08.6	+5.6
KMI				pP		pwP		09 49 13.3	+2.7
KMI				pmax		pmax			
	comp=Z,9.0nm,0.5s								
KMI				pmax		pmax			
	comp=Z,270nm,6.1s								
GSI	**Gunungsitoli**	**48.67**	**271**	P		**P**		**09 49 04.5**	**-0.3**
	comp=Z,72nm,0.9s								
BSWZ	**Blackbirch Sta**	**49.20**	**153**			**P**		**09 49 08.4**	**+0.1**
LTZ	**Lake Taylor**	**49.35**	**155**	P		**P**		**09 49 10.3**	**+0.8**
LTZ				IAmb		IAmb		09 49 48.4	
	comp=Z,63nm,1.7s								
CMAR	**Chiang Mai Arr**	**49.60**	**294**	P		**P**		**09 49 13.2**	**+1.5**
	comp=Z,5.3nm,0.6s,baz=114,slow=5.7,SNR=17								
CMAR				LR		LR		10 10 11.0	
	comp=Z,162nm,19.2s,baz=195,slow=36								
MSWZ	**Moikau Station**	**49.61**	**151**	P		**P**		**09 49 11.6**	**+0.1**
RPZ	**Rata Peaks**	**49.61**	**156**	P		**P**		**09 49 12.4**	**+0.9**
	comp=Z,32nm,1.0s,baz=297,slow=2.0,SNR=5.8								
RPZ	**Rata Peaks**	**49.61**	**156**	P		**P**		**09 49 12.8**	**+1.3**
PLWZ	**Palliser**	**49.73**	**152**	P		**P**		**09 49 12.7**	**+0.3**
KLR	**Kul'dur**	**49.77**	**348**	P		**P**		**09 49 12.4**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=159,slow=4.7,SNR=19								
KLR	**Kul'dur**	**49.77**	**348**	⇓*i*P		**P**		**09 49 11.9**	**-0.7**
KLR				pmax		pmax			
	comp=Z,9.0nm,1.1s								
CD2	**Chengdu**	**50.12**	**311**	P		**P**		**09 49 15.3**	**-0.3**
CD2				pmax		pmax			
	comp=Z,40nm,0.5s								
MQZ	**McQueen's Vall**	**50.26**	**155**	P		**P**		**09 49 16.6**	**+0.2**
MQZ				IAmb

TLY IAmb IAmb 09 50 51.0
comp=Z,14nm,1.1s
ODAN Odare 62.06 300 *e*P **P** 09 50 41.4 0.0
comp=Z,103nm,0.9s
BOD Bodaibo 62.28 341 *e*P **P** 09 50 41.7 -0.3
BOD pmax pmax
comp=Z,11nm,1.2s
RAMN Ramite 62.77 300 *e*P **P** 09 50 46.6 +0.5
comp=Z,46nm,0.9s
MOY Mondy 63.26 330 *e*P **P** 09 50 49.4 +0.6
MOY pmax pmax
comp=Z,36nm,2.3s
JIRN Jiri 63.29 301 *e*P **P** 09 50 50.3 +0.5
GUN Gumba 63.62 301 *e*P **P** 09 50 52.5 +0.6
comp=Z,138nm,1.0s
PKI Pulchoki 63.95 300 *e*P **P** 09 50 53.9 -0.1
comp=Z,102nm,1.3s
DMN Daman 64.22 300 *e*P **P** 09 50 56.2 +0.5
comp=Z,119nm,1.0s
GKN Gorkha 64.71 301 *e*P **P** 09 50 58.9 +0.1
comp=Z,123nm,0.9s
KOLN Koldanda 65.55 300 *e*P **P** 09 51 04.5 +0.1
comp=Z,120nm,0.9s
PPT Papeete 65.72 110 LR LR 10 15 19.1
comp=Z,66nm,19.8s,baz=310,slow=32
PPT2 Papeete2 65.72 110 *e*LR LR 10 10 46.3
comp=Z,233nm,27.0s
PYUN Piuthan 66.15 300 *e*P **P** 09 51 08.3 +0.1
comp=Z,120nm,0.8s
TBI Tubuai 66.86 116 *e*LR LR 10 11 27.5
comp=Z,353nm,26.5s
WMQ Urumqi 67.19 318 *e*P **P** 09 51 13.9 -0.5
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,48nm,4.3s
WMQ LR LR
comp=Z,370nm,25.9s
WMQ LR LR
comp=Z,200nm,23.9s
WMQ LR LR
comp=Z,140nm,24.9s
BILL Bilibino 68.46 8⇑*i*P **P** 09 51 22.2 +0.4
BILL pmax pmax
comp=Z,7.0nm,0.7s
HYB Hyderabad 68.49 288 *i* P **P** 09 51 24.0 +1.0
SDPT Sand Point 69.28 29 P **P** 09 51 27.2 +0.1
CNBA Chernabura Isl 69.45 30 IAmb IAmb 09 51 40.8
comp=Z,22nm,0.9s
DGZ Jazzator, Alta 69.67 324⇑*i*P **P** 09 51 29.9 0.0
DGZ pmax pmax
comp=Z,13nm,1.2s
ZSN Zaisan 70.38 321 *e*P **P** 09 51 33.6 -0.6
baz=321
ZSN Zaisan 70.38 321 *e*P **P** 09 51 33.5 -0.6
MK31 Makanchi Array 71.80 319 P **P** 09 51 42.6 -0.2
MK31 pmax pmax
comp=Z,12nm,1.0s
MK31 Makanchi Array 71.80 319 P **P** 09 51 42.5 -0.2
MKAR Makanchi Array 71.80 319 P **P** 09 51 43.0 +0.2
comp=Z,5.8nm,0.8s,baz=98,slow=7.5,SNR=25
MKAR LR LR 10 23 01.9
comp=Z,82nm,19.2s,baz=96,slow=36
MKAR Makanchi Array 71.80 319 *i* P **P** 09 51 43.0 +0.2
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MAKZ Makanchi 72.01 319 P **P** 09 51 44.1 +0.1
MAKZ pmax pmax
comp=Z,20nm,1.0s
MAKZ Makanchi 72.01 319 P **P** 09 51 44.1 +0.1
MAKZ IAmb IAmb 09 51 54.7
comp=Z,20nm,1.0s
ANM Nome 72.53 20 P **P** 09 51 46.9 +0.2
ANM pmax pmax
comp=Z,11nm,0.8s
ANM Nome 72.53 20 P **P** 09 51 46.9 +0.2
ANM IAmb IAmb 09 51 58.9
comp=Z,11nm,0.8s
SHLS Shalkode 72.64 315 *e*P **P** 09 51 45.5 -2.5
comp=Z,5.4nm,1.1s,baz=315
SHLS Shalkode 72.64 315 *e*P **P** 09 51 45.5 -2.5
SHLS pmax pmax
comp=Z,5.0nm,1.1s
ZALV Zalesovo Beam 72.87 327 LR LR 10 24 15.3
comp=Z,119nm,18.7s,baz=120,slow=36
UZB Uzynbulak 72.94 315 *i* P **P** 09 51 49.2 -0.6
comp=Z,5.1nm,1.1s,baz=315
UZB Uzynbulak 72.94 315 *i* P **P** 09 51 49.2 -0.6
UZB pmax pmax
comp=Z,5.0nm,1.1s
SATY Saty 73.36 315 *e*P **P** 09 51 51.8 -0.6
comp=Z,5.2nm,1.2s,baz=315
SATY Saty 73.36 315 *e*P **P** 09 51 51.7 -0.6
SATY pmax pmax
comp=Z,5.0nm,1.2s
SATY Saty 73.36 315 *e*P **P** 09 51 51.7 -0.6
SATY pmax pmax
comp=Z,5.0nm,1.2s
TDK Taldyqorghan 73.86 317 *e*P **P** 09 51 54.7 -0.4
baz=317
TDK Taldyqorghan 73.86 317 *e*P **P** 09 51 54.7 -0.4
TAOE Nuku Hiva Isla 73.93 99 *e*LR LR 10 14 41.4
comp=Z,177nm,22.2s
KDAK Kodiak Island 74.28 29 P **P** 09 51 57.6 +0.4
comp=Z,5.4nm,0.5s,baz=208,slow=5.5,SNR=10.0
KDAK Kodiak Island 74.28 29 P **P** 09 51 57.8 +0.6
KDAK pmax pmax
comp=Z,49nm,1.2s
KDAK Kodiak Island 74.28 29 P **P** 09 51 57.8 +0.6
KSH Kashi 74.31 311 P **P** 09 52 00.4 +2.4
KSH pP pwP 09 52 07.2 +1.5
KSH S **S** **10 01 32.4 0.0**
KSH pmax pmax
comp=Z,15nm,0.9s
KSH pmax pmax
comp=Z,140nm,2.7s
KSH LR LR
comp=Z,290nm,11.3s
KSH LR LR
comp=Z,230nm,10.8s
MDOK Medeo 74.34 315 *e*P **P** 09 51 57.5 -0.6
baz=315
MDOK Medeo 74.34 315 *e*P **P** 09 51 57.5 -0.6
SVW2 Sparrevohn 74.38 25 P **P** 09 51 58.2 +0.5
TNSS Tian-Shan 74.39 315 *i* P **P** 09 51 58.9 +0.2
baz=314
TNSS Tian-Shan 74.39 315 *i* P **P** 09 51 58.8 +0.2
KUU Kurty 75.02 315 *e*P **P** 09 52 01.1 -0.8
comp=Z,16nm,1.1s,baz=315
KUU Kurty 75.02 315 *e*P **P** 09 52 01.0 -0.8
KUU pmax pmax
comp=Z,15nm,1.1s
TTA Tatalina 75.08 24 IAmb IAmb 09 52 13.7
comp=Z,19nm,0.8s
KURK Kurchatov 75.33 323*d*iP **P** 09 52 02.5 -0.8
KURK pmax pmax
comp=Z,16nm,1.1s
KURK Kurchatov 75.33 323 P **P** 09 52 02.5 -0.8
KURK IAmb IAmb 09 52 13.7
comp=Z,19nm,0.8s
NIL Nilore 75.41 304 P **P** 09 52 04.0 -0.3
NIL pmax pmax
comp=Z,99nm,1.1s
NIL Nilore 75.41 304 P **P** 09 52 04.0 -0.3
CNPM China Poot 75.64 28 P **P** 09 52 05.6 +0.6
BRLK Bradley Lake 75.90 28 P **P** 09 52 06.4 -0.1
BRLK IAmb IAmb 09 52 17.0
comp=Z,21nm,1.0s
AAK Ala-Archa 76.06 314 P **P** 09 52 10.1 +2.1
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 76.06 314 P **P** 09 52 10.1 +2.1
SGDS Sogindy 76.13 315 *e*P **P** 09 52 07.2 -1.1
comp=Z,3.2nm,1.3s,baz=314
SGDS Sogindy 76.13 315 *e*P **P** 09 52 07.2 -1.1
SGDS pmax pmax
comp=Z,3.0nm,1.3s
PPLA Purkeypile 76.62 24 P **P** 09 52 10.6 -0.1
PPLA IAmb IAmb 09 52 15.9
comp=Z,50nm,1.7s
SUA Susitna One 76.64 26 P **P** 09 52 10.7 -0.1
SUA IAmb IAmb 09 52 21.7
comp=Z,22nm,0.8s
O22K Cooper Landing 76.71 27 P **P** 09 52 11.4 +0.3
baz=248
ARSB Arslanbob 76.91 312 IAmb IAmb 09 52 17.2
comp=Z,49nm,1.5s
PMR Palmer 77.41 26 P **P** 09 52 14.7 -0.2
PMR pmax pmax
comp=Z,26nm,0.9s
PMR Palmer 77.41 26 P **P** 09 52 14.7 -0.2
PMR IAmb IAmb 09 52 26.3
comp=Z,26nm,0.9s
GHO Glory Hole Cre 77.56 26 P **P** 09 52 15.8 -0.2
GHO IAmb IAmb 09 52 37.3
comp=Z,24nm,1.0s
BPAW Bear Paw Mtn. 77.62 24 IAmb IAmb 09 52 27.2
comp=Z,20nm,0.9s
SML Sawmill 77.84 26 P **P** 09 52 17.7 +0.2
SCM Sheep Creek Mo 78.29 26 P **P** 09 52 20.0 0.0
SCM pmax pmax
comp=Z,84nm,1.0s
SCM Sheep Creek Mo 78.29 26 P **P** 09 52 20.0 0.0
FID Port Fidalgo 78.30 28 IAmb IAmb 09 52 31.3
comp=Z,30nm,0.8s
MCK McKinley 78.31 24 P **P** 09 52 19.6 -0.4
MCK pmax pmax
comp=Z,28nm,1.0s
MCK McKinley 78.31 24 P **P** 09 52 19.6 -0.4
MCK IAmb IAmb 09 52 41.1
comp=Z,28nm,1.0s
GAR Garm 78.55 310 IAmb IAmb 09 52 32.9
comp=Z,25nm,1.0s
NRIK Noril'sk 78.57 342 P **P** 09 52 20.8 -0.5
comp=Z,1.1nm,0.4s,baz=128,slow=9.6,SNR=4.3
NRIK LR LR 10 25 27.7
comp=Z,48nm,21.2s,baz=89,slow=34
NEA2 Nenana 78.58 23 P **P** 09 52 21.6 +0.1
baz=247
VNDA Vanda 78.75 177 P **P** 09 52 21.9 -0.3
comp=Z,2.6nm,0.7s,baz=322,slow=5.9,SNR=20
VNDA LR LR 10 24 44.9
comp=Z,133nm,19.5s,baz=344,slow=34
VNDA Vanda 78.75 177 P **P** 09 52 21.9 -0.3
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA Vanda 78.75 177 P **P** 09 52 21.9 -0.3
KLU Klutina 78.81 27 P **P** 09 52 23.2 +0.3
BRZS Berezniki 78.82 321 *i* P **P** 09 52 22.2 -1.0
comp=Z,5.9nm,1.0s,baz=321
BRZS Berezniki 78.82 321 *i* P **P** 09 52 22.1 -1.0
BRZS pmax pmax
comp=Z,6.0nm,1.0s
M24K Tolsona, Glenn 78.90 26 P **P** 09 52 22.7 -0.7
baz=250
WRH Wood River Hil 78.93 24 P **P** 09 52 22.6 -0.8
WRH IAmb IAmb 09 52 34.3
comp=Z,31nm,0.9s
KBL Kabul 78.98 305 P **P** 09 52 24.4 -0.2
KBL pmax pmax
comp=Z,26nm,1.0s
KBL Kabul 78.98 305 P **P** 09 52 24.4 -0.2
KBL IAmb IAmb 09 52 34.7
comp=Z,26nm,0.9s
CCB Clear Creek Bu 79.11 24 IAmb IAmb 09 52 34.7
comp=Z,25nm,0.9s
TCOL CIGO, UAF Yank 79.17 23 P **P** 09 52 24.5 -0.1
baz=248
COLA College 79.17 23*d*iP **P** 09 52 24.2 -0.5
COLA pmax pmax
comp=Z,9.0nm,0.9s
COLA College 79.17 23 P **P** 09 52 24.7 0.0
COLA IAmb IAmb 09 52 35.5
comp=Z,22nm,0.8s
COLD Coldfoot 79.22 21 P **P** 09 52 25.6 +0.7
baz=246
COLD Coldfoot 79.22 21 IAmb IAmb 09 52 37.5
comp=Z,29nm,0.9s
IUG Iuzhnay 79.22 313 *e*P **P** 09 52 25.0 -0.7
baz=313
IUG Iuzhnay 79.22 313 *e*P **P** 09 52 24.9 -0.7
HDA Harding Lake 79.37 24 P **P** 09 52 25.0 -0.8
baz=249
HDA Harding Lake 79.37 24 IAmb IAmb 09 52 36.8
comp=Z,25nm,0.9s
POKR Poker Plat Res 79.43 23 P **P** 09 52 26.1 -0.1
baz=245
PAX Paxson 79.50 26 IAmb IAmb 09 52 37.8
comp=Z,19nm,0.9s
IL31 79.52 24 IAmb IAmb 09 52 36.9
comp=Z,24nm,0.8s
ILAR Eielson Array 79.52 24 P **P** 09 52 25.6 -1.0
comp=Z,9.7nm,0.6s,baz=250,slow=5.6,SNR=62
ILAR LR LR 10 25 17.7
comp=Z,65nm,19.5s,baz=280,slow=34
GLB Gilahina Butte 79.75 27 P **P** 09 52 28.4 +0.4
GLB IAmb IAmb 09 52 39.6
comp=Z,20nm,0.8s
TGL Tana Glacier 80.01 28 IAmb IAmb 09 52 41.3
comp=Z,24nm,0.8s
RIDG Independent Ri 80.01 25 P **P** 09 52 29.3 -0.1
RIDG IAmb IAmb 09 52 40.6
comp=Z,35nm,0.9s
TOLK Toolik Lake Re 80.01 20 P **P** 09 52 30.1 +0.8
baz=246
TOLK Toolik Lake Re 80.01 20 IAmb IAmb 09 52 41.3
comp=Z,17nm,0.8s
MCARA McCarthy VSAT 80.10 27 P **P** 09 52 30.3 +0.5
MCARA IAmb IAmb 09 52 42.0
comp=Z,29nm,0.9s
MENT Mentasta 80.25 26 IAmb IAmb 09 52 42.3
comp=Z,16nm,0.8s
SCRK Sand Creek 80.45 25 P **P** 09 52 31.5 -0.3
baz=252
BARN Barnard Glacie 80.64 28 P **P** 09 52 33.6 +0.6
CTGM Chitina Glacie 80.77 28 P **P** 09 52 34.5 +0.9
BRVK Borovoye 80.90 324⇓*i*P **P** 09 52 34.3 0.0
BRVK pmax pmax
comp=Z,15nm,1.7s
BRVK Borovoye 80.90 324 P **P** 09 52 34.4 +0.1
K27K Chicken 81.27 25 P **P** 09 52 37.5 +1.5
baz=254
EGAK Eagle 81.86 24 IAmb IAmb 09 52 52.0
comp=Z,15nm,0.9s
DAWY Dawson 82.42 25 IAmb IAmb 09 52 54.2
comp=Z,21nm,1.0s
HYT Haines Junctio 82.56 29 P **P** 09 52 43.9 +0.9
SKAG Skagway 83.38 30 IAmb IAmb 09 53 02.1
comp=Z,18nm,0.9s
EPYK Eagle Plains 84.03 23 P **P** 09 52 50.6 +0.2
baz=258
EPYK Eagle Plains 84.03 23 P **P** 09 52 50.6 +0.2
EPYK IAmb IAmb 09 53 02.8
comp=Z,21nm,1.1s
WRAK Wrangell Islan 84.52 34 P **P** 09 52 54.2 +1.2
WRAK IAmb IAmb 09 53 04.9
comp=Z,13nm,0.9s
PTCN Pitcairn Islan 84.60 115 P **P** 09 52 54.3 +0.2
INK Inuvik 85.59 22 P **P** 09 52 58.2 +0.1
comp=Z,7.2nm,0.9s,baz=238,slow=6.0,SNR=6.7
INK Inuvik 85.59 22 IAmb IAmb 09 53 09.3
comp=Z,22nm,0.9s
DLBC Dease Lake 85.97 32 P **P** 09 53 00.9 +0.6
comp=Z,5.1nm,0.8s,baz=269,slow=4.6,SNR=9.9
DLBC Dease Lake 85.97 32 IAmb IAmb 09 53 12.4
comp=Z,14nm,0.8s
GEYT Alibeck 88.01 308 P **P** 09 53 11.0 +0.3
comp=Z,1.4nm,0.4s,baz=98,slow=3.1,SNR=3.7
MAW Mawson 88.26 202 P **P** 09 53 10.9 -0.2
comp=Z,2.3nm,0.7s,baz=59,slow=9.4,SNR=4.0
MAW LR LR 10 31 34.7
comp=Z,88nm,18.5s,baz=61,slow=35
MAW Mawson 88.26 202 P **P** 09 53 10.9 -0.2
MAW pmax pmax
comp=Z,3.0nm,1.5s
YBH Yreka Blue Hor 90.21 48 P **P** 09 53 21.5 +0.5
comp=Z,1.7nm,0.9s,baz=55,slow=14,SNR=2.7
YBH Yreka Blue Hor 90.21 48 P **P** 09 53 21.6 +0.5
YBH pmax pmax
comp=Z,20nm,1.7s
YBH Yreka Blue Hor 90.21 48 IAmb IAmb 09 54 55.3
comp=Z,20nm,1.7s
AFDM Forest Hills D 91.63 51 IAmb IAmb 09 53 28.9
comp=Z,9.1nm,1.1s
MOD Modoc Plateau 92.00 48 P **P** 09 53 29.7 +0.3
MOD IAmb IAmb 09 53 31.7
comp=Z,13nm,1.5s
PNTR Pine Nut 92.69 51 IAmb IAmb 09 53 45.1
comp=Z,5.7nm,0.8s
G08A Pilot Rock 92.77 45 P **P** 09 53 34.0 +1.1
G08A IAmb IAmb 09 53 34.5
comp=Z,10nm,1.5s
MDPB Devils Postpil 93.18 52 P **P** 09 53 35.5 +0.4
WVOR Wild Horse Val 93.20 48 P **P** 09 53 35.3 +0.3
WVOR pmax pmax
comp=Z,8.0nm,0.9s
WVOR Wild Horse Val 93.20 48 P **P** 09 53 35.3 +0.3
WVOR IAmb IAmb 09 53 46.7
comp=Z,7.8nm,0.9s
J08A Circle Bar Ran 93.26 47 IAmb IAmb 09 53 46.8
comp=Z,6.4nm,0.8s
YKA Yellowknife Ar 93.47 27 P **P** 09 53 35.3 -0.2
comp=Z,2.0nm,0.8s,baz=281,slow=5.0,SNR=14
YKA PP **PP** 09 57 20.4 +0.7
comp=Z,0.8nm,1.0s,baz=277,slow=5.5,SNR=3.3
YKA LR LR 10 31 26.1
comp=Z,90nm,21.9s,baz=0.0,slow=33
RYN Ryan 93.56 51 IAmb IAmb 09 53 49.7
comp=Z,10nm,1.5s
NVAR Mina Array Bea 93.74 52 P **P** 09 53 37.9 +0.2
comp=Z,2.3nm,0.7s,baz=260,slow=5.7,SNR=25
NVAR LR LR 10 31 20.9
comp=Z,80nm,18.8s,baz=266,slow=33
NEW Newport 93.78 42 P **P** 09 53 37.1 -0.3
NEW pmax pmax
comp=Z,5.0nm,1.1s
NEW Newport 93.78 42 P **P** 09 53 37.1 -0.3
NV11 Mina Array Sit 93.86 52 P **P** 09 53 37.4 -0.7
F10A Beach Ranch, E 93.93 44 P **P** 09 53 38.4 +0.3
MFID Camas Ranch 95.17 46 P **P** 09 53 44.9 +1.0
MFID IAmb IAmb 09 53 55.7
comp=Z,13nm,0.9s
PFO Pinyon Flats O 95.60 56 P **P** 09 53 45.5 -0.6
comp=Z,0.9nm,0.7s,baz=265,slow=8.4,SNR=3.5
PFO Pinyon Flats O 95.60 56 P **P** 09 53 45.6 -0.6
PFO pmax pmax
comp=Z,3.0nm,1.0s
ELK Elko 95.89 49 P **P** 09 53 47.5 0.0
comp=Z,1.5nm,0.8s,baz=178,slow=3.9,SNR=6.0
HLID Hailey 96.18 46 P **P** 09 53 49.2 +0.6
HLID IAmb IAmb 09 54 00.8
comp=Z,8.0nm,0.9s
SYO Syowa Base 96.73 200⇑*e*X P 09 53 45.3 -4.9
SYO Syowa Base 96.73 200⇑*e*PcP **PcP** 09 53 49.5 -0.7
SYO Syowa Base 96.73 200⇓*e*pP pP 09 53 53.0 +0.9
SYO Syowa Base 96.73 200⇓*e*P P 09 54 03.0 +13
TMCR Tamitsa 97.10 335 *e*P **P** 09 53 50.3 -1.7
TMCR pmax pmax
comp=Z,64nm,0.4s
KIV Kislovodsk 99.16 315 *e*P **Pdif** 09 53 59.4 -2.5
KIV pmax pmax
comp=Z,16nm,0.9s
KIV MLR MLR
comp=Z,170nm,20.0s
ARCES ARCESS Array B 99.55 342 LR LR 10 44 53.3
comp=Z,33nm,18.0s,baz=74,slow=39
PDAR Pinedale Array 99.81 46 P **Pdif** 09 54 04.8 -0.3
comp=Z,0.6nm,0.8s,baz=300,slow=1.2,SNR=7.1
PDAR LR LR 10 35 58.8
comp=Z,61nm,18.0s,baz=276,slow=34
KHC Kasperske Hory 115.72 328⇑*i*PKIKP **PKiKP** 09 59 01.1 -1.7
PLCA Paso Flores 128.17 145 PKP **PKiKP** 09 59 27.7 +0.1
comp=Z,1.7nm,0.8s,baz=25,slow=14,SNR=2.6
TORD Torodi Ar. Bea 142.21 293 PKiKP PKPpre 09 59 50.2
comp=Z,0.6nm,0.8s,baz=354,slow=1.4,SNR=3.0
TORD PKP **PKPdf** 09 59 54.2 +0.5
comp=Z,1.0nm,0.6s,baz=89,slow=2.1,SNR=7.3
TORD PP **PP** 10 03 00.5 +0.7
comp=Z,0.9nm,0.8s,baz=63,slow=5.9,SNR=3.6
LPAZ La Paz 142.81 116 PKP **PKPdf** 09 59 52.8 -2.7
comp=Z,4.0nm,0.8s,baz=315,slow=2.6,SNR=12
CPUP Villa Florida 145.99 140 PKPbc **PKPdf** 09 59 58.8 -1.2
comp=Z,7.4nm,1.0s,baz=241,slow=3.3,SNR=8.4
CPUP Villa Florida 145.99 140 PKP2 **PKPdf** 10 00 00.3 +0.3
CPUP Villa Florida 145.99 140 **PKPdf** 10 00 00.3 +0.3
SAML Samuel 149.61 106 PKHKP PKPpre 10 00 06.6
SAML Samuel 149.61 106 **PKPdf** 10 00 06.6 +0.3
KiC Kosan Boka 150.18 284 *e*P **PKPbc** 10 00 10.5 -1.8
comp=Z,9.8nm,1.1s
DBIC Dimbokro 150.22 285 PKPbc **PKPbc** 10 00 11.4 -0.9
comp=Z,6.0nm,0.8s,baz=103,slow=3.1,SNR=7.9
DBIC Dimbokro 150.22 285 PKIKP **PKPbc** 10 00 12.7 +0.3
DBIC Dimbokro 150.22 285 **PKPbc** 10 00 12.7 +0.3
TIC Toumodi 150.38 285 *e*P **PKPbc** 10 00 12.0 -0.8
LIC Lamto 150.48 284 *e*P **PKPbc** 10 00 12.0 -1.0
comp=Z,35nm,1.0s
PTGA Pitinga 153.78 90 **PKPbc** 10 00 20.9 +0.4

UCR 04 10:10:18.8±1.5, 9.62N×84.76W, h5km, MD3.7, 2C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRA1	**San Ramn**	**0.54**	**31**⇓	*i*P	Pg	10 10 29.5	+0.3
SRA1				*e*S	Sg	10 10 37.3	+1.0
JTS	**Las Juntas de**	**0.69**	**344**⇓	*i*P	Pg	10 10 31.6	-0.5
HDC	**Heredia**	**0.74**	**59**	*e*P	Pg	10 10 32.9	-0.2
HDC				*e*S	Sb	10 10 44.2	-0.6
LCR2	**La Lucha 2**	**0.76**	**81**	*e*P	Pg	10 10 33.0	-0.5
SJS	**Escuela Geolog**	**0.77**	**66**⇑	*e*P	Pg	10 10 33.6	0.0
CASO	**Castillo**	**0.81**	**2**	*i* P	Pg	10 10 34.0	-0.3
CASO				*i* S	Sb	10 10 47.4	+0.7
ARE1	**Arenal 1**	**0.83**	**3**⇓	*i*P	Pg	10 10 34.8	0.0
ARE1				*e*S	Sb	10 10 47.6	+0.2
FORC	**Fortuna**	**0.84**	**6**	*i* P	Pg	10 10 34.7	-0.3
CEDE	**Laguna Cedeo**	**0.86**	**4**	*i* P	Pg	10 10 35.1	-0.3
PLVR	**Palo Verde**	**0.93**	**321**	*i* P	Pg	10 10 35.8	-0.8
PLVR				*e*S	Sb	10 10 50.0	-0.1
EDDO	**Dominical**	**0.96**	**112**	*e*P	Pg	10 10 37.0	-0.2
EDDO				*e*S	Sb	10 10 50.5	-0.5
ACAL	**Aguas Claras**	**1.04**	**345**	*i* P	Pg	10 10 37.8	-1.0
ACAL				*i* S	Sb	10 10 54.0	+0.7
CVTR	**Volcan Turrial**	**1.07**	**68**⇑	*e*P	Pg	10 10 39.6	+0.3
CVTR				*e*S	Sn	10 10 56.0	-0.2
CUI	**Cuipilapa**	**1.10**	**339**	*i* P	Pg	10 10 38.5	-1.4
CUI				*e*S	Sb	10 10 55.2	0.0
PTEN	**Parque Tenorio**	**1.11**	**349**	*i* P	Pg	10 10 39.0	-1.1
COLC	**Colonia**	**1.12**	**337**	*i* P	Pg	10 10 39.1	-1.3
HORNC	**Hornillas**	**1.16**	**339**	*i* P	Pg	10 10 39.2	-1.9
GUAB	**Guayabo de Bag**	**1.17**	**337**	*i* P	Pg	10 10 39.6	-1.7
GUAB				*i* S	Sb	10 10 57.1	0.0
EDLM	**Las Mercedes**	**1.21**	**106**	*e*P	Pg	10 10 41.0	-1.0
EDLM				*e*S	Sb	10 10 58.6	+0.4
GPS2	**Hotel Rincn d**	**1.26**	**333**	*i* P	Pg	10 10 41.2	-1.8
GPS2				*e*S	Sb	10 11 00.2	+0.4
GPS3	**Bodega del ICE**	**1.27**	**332**	*i* P	Pg	10 10 41.5	-1.8
GPS3				*i* S	Sb	10 11 00.2	+0.2
GPS1	**Guardaparques**	**1.28**	**333**	*i* P	Pg	10 10 41.3	-2.2
GPS1				*i* S	Sb	10 11 00.5	+0.2
LAPC	**Finca la Perla**	**1.31**	**330**	*i* P	Pn	10 10 41.7	-2.2
BUEV	**Buena Vista**	**1.33**	**332**	*e*P	Pn	10 10 42.1	-2.1
BUEV				*e*S	Sb	10 11 01.9	+0.2
GB1A	**Borinquen Arri**	**1.34**	**332**	*e*P	Pn	10 10 42.5	-1.9
GB1A				*e*S	Sg	10 11 02.0	0.0
EDPN	**Palmar Norte**	**1.45**	**117**	*e*P	Pn	10 10 43.5	-2.1
EDBA	**Buenos Aires**	**1.54**	**107**	*e*P	Pn	10 10 46.5	-0.5
EDBA				*e*S	Sg	10 11 08.5	+0.2
ESPN	**Las Esperanzas**	**2.60**	**10**	*e*P	Pn	10 11 01.0	-0.5

IDC 04 10:11:43.5±7.7, 18.95S×169.59E, h145km±86km, mb3.1/3, mb1 3.5/4, mb1mx3.2/21, mbtmp3.6/4, MS2.7/1, Ms1 2.7/1, ms1mx2.6/8, Error ellipse: s-maj=149.3km s-min=34.9km az=160.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.29**	**223**	P	Pn	10 12 48.3	+0.8
	8.6nm,0.3s,baz=56,slow=7.3,SNR=225						
DZM				S	Sn	10 13 37.2	-0.1
	27nm,0.3s,baz=143,slow=23,SNR=19						
DZM				LR	LR	10 14 01.4	
	comp=Z,74nm,18.1s,baz=18,slow=32						
WRA	**Warramunga Arr**	**33.22**	**262**	P	P	10 18 05.6	-1.4
	0.4nm,0.8s,baz=80,slow=6.1,SNR=1.6						
ASAR	**Alice Springs**	**33.52**	**256**	P	P	10 18 10.3	+0.8
	0.6nm,0.8s,baz=83,slow=8.3,SNR=11						
NVAR	**Mina Array Bea**	**88.36**	**48**	P	P	10 24 19.0	-0.3
	0.2nm,0.6s,baz=224,slow=3.8,SNR=2.0						

*IDC **04** 10:29:59.6±0.6, 55.13N×165.45E, h0km, mb3.8/20, mb1 4.0/22, mb1mx3.9/51, mbtmp3.9/22, ML4.0/2, MS4.1/1, Ms1 4.1/1, ms1mx2.7/46, Error ellipse: s-maj=22.8km s-min=11.7km az=155.0*

*KRSC **04** 10:29:59.6±1.4,54˚.98N×165˚.45E, h42km±14km, ML4.6*
*MOS **04** 10:30:02.7±0.7,55˚.04N×165˚.43E, h39km, mb4.3/9, Error ellipse: s-maj=6.4km s-min=5.2km az=143.2*
*NEIC **04** 10:30:05.0±0.9,55˚.2N±0˚.1×165˚.36E±0˚.02, h37km±7km, mb4.2/30, Error ellipse: s-maj=18.6km s-min=1.3km az=178.0*

ISC 04 10:30:01.2±1.3, 55˚.05N±0˚.04×165˚.40E±0˚.04, h15km±8km, n168, σ1§45/203, mb4.0/33, 4C-2D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.36**	**65**	*i*	P		**Pg**	**10 30 08.2**	**-0.4**
BKI					eS		**Sg**	**10 30 13.3**	**-0.3**
BKI	**Bering**	**0.36**	**65**		PN		**Pg**	**10 30 08.2**	**-0.4**
KBTR	**Krutoberegovo**	**1.87**	**309**	*e*	P		**Pn**	**10 30 31.4**	**-1.2**
KBTR					eS		**Sn**	**10 30 54.0**	**-1.9**
KBTR	**Krutoberegovo**	**1.87**	**309**		PN		**Pn**	**10 30 31.4**	**-1.2**
KBTR					S		**Sn**	**10 30 54.0**	**-1.9**
KBG	**Krutoberegovo**	**1.94**	**309**	*e*	P		**Pn**	**10 30 32.5**	**-1.1**
KBG					eS		**Sn**	**10 30 57.2**	**-0.6**
KBG	**Krutoberegovo**	**1.94**	**309**		PN		**Pn**	**10 30 32.5**	**-1.1**
KBG					S		**Sn**	**10 30 57.2**	**-0.6**
SMKR	**Semkarok**	**2.70**	**306**	*e*	P		**Pn**	**10 30 44.7**	**+0.6**
SMKR					eS		**Sn**	**10 31 18.0**	**+1.5**
SMKR	**Semkarok**	**2.70**	**306**		PN		**Pn**	**10 30 44.7**	**+0.6**
SMKR					S		**Sn**	**10 31 18.0**	**+1.5**
ZLN	**Zelenaya**	**2.78**	**292**	*e*	P		**Pn**	**10 30 46.5**	**+1.2**
ZLN	**Zelenaya**	**2.78**	**292**		PN		**Pn**	**10 30 46.5**	**+1.2**
BDR	**Baidarnaya**	**2.81**	**304**	*e*	P		**Pn**	**10 30 46.1**	**+0.5**
BDR					eS		**Sn**	**10 31 19.9**	**+0.6**
BDR	**Baidarnaya**	**2.81**	**304**		PN		**Pn**	**10 30 46.1**	**+0.5**
BDR					S		**Sn**	**10 31 19.9**	**+0.6**
CIRR	**Tsirk**	**2.85**	**294**	*e*	P		**Pn**	**10 30 48.7**	**+2.5**
CIRR	**Tsirk**	**2.85**	**294**		PN		**Pn**	**10 30 48.7**	**+2.5**
LGNR	**Loginova**	**2.87**	**293**	*e*	P		**Pn**	**10 30 48.6**	**+2.0**
LGNR	**Loginova**	**2.87**	**293**		PN		**Pn**	**10 30 48.6**	**+2.0**
TUMD	**Tumrok D**	**2.87**	**275**	*e*	P		**Pn**	**10 30 47.7**	**+1.2**
TUMD					eS		**Sn**	**10 31 21.9**	**+1.1**
BZWR	**Bezymyannyi-We**	**2.93**	**290**	*e*	P		**Pn**	**10 30 49.5**	**+2.1**
BZWR					eS		**Sn**	**10 31 24.0**	**+1.6**
BZWR	**Bezymyannyi-We**	**2.93**	**290**		PN		**Pn**	**10 30 49.5**	**+2.1**
BZWR					S		**Sn**	**10 31 24.0**	**+1.6**
KZV	**Kizimen**	**2.93**	**273**	*e*	P		**Pn**	**10 30 48.6**	**+1.2**
KZV					eS		**Sn**	**10 31 23.4**	**+1.0**
KZV	**Kizimen**	**2.93**	**273**		PN		**Pn**	**10 30 48.6**	**+1.2**
KZV					S		**Sn**	**10 31 23.4**	**+1.0**
KLY	**Klyuchi**	**2.97**	**297**	*e*	P		**Pn**	**10 30 47.7**	**0.0**
KLY					eS		**Sn**	**10 31 22.5**	**-0.5**
KLY	**Klyuchi**	**2.97**	**297**		PN		**Pn**	**10 30 47.7**	**0.0**
KLY					S		**Sn**	**10 31 22.5**	**-0.5**
KRSR	**Krestovskiy**	**2.98**	**295**	*e*	P		**Pn**	**10 30 49.1**	**+1.1**
KRSR	**Krestovskiy**	**2.98**	**295**		PN		**Pn**	**10 30 49.1**	**+1.1**
KIRR	**Kirishev**	**3.01**	**290**	*e*	P		**Pn**	**10 30 50.0**	**+1.5**
KIRR					eS		**Sn**	**10 31 24.6**	**+0.2**
KIRR	**Kirishev**	**3.01**	**290**		PN		**Pn**	**10 30 50.0**	**+1.5**
KIRR					S		**Sn**	**10 31 24.6**	**+0.2**
TUMR	**Tumrok**	**3.02**	**277**	*e*	P		**Pn**	**10 30 50.0**	**+1.4**
TUMR					eS		**Sn**	**10 31 26.2**	**+1.7**
TUMR	**Tumrok**	**3.02**	**277**		PN		**Pn**	**10 30 50.0**	**+1.4**
TUMR					S		**Sn**	**10 31 26.2**	**+1.7**
KMNR	**Kamenistaya**	**3.03**	**286**	*e*	P		**Pn**	**10 30 50.5**	**+1.9**
KMNR					eS		**Sn**	**10 31 25.9**	**+1.3**
KMNR	**Kamenistaya**	**3.03**	**286**		PN		**Pn**	**10 30 50.5**	**+1.9**
KMNR					S		**Sn**	**10 31 25.9**	**+1.3**
KPT	**Kopyto**	**3.08**	**289**	*e*	P		**Pn**	**10 30 51.3**	**+1.9**
KPT	**Kopyto**	**3.08**	**289**		PN		**Pn**	**10 30 51.3**	**+1.9**
KOZ	**Kozyrevsk**	**3.30**	**290**	*e*	P		**Pn**	**10 30 54.3**	**+2.1**
KOZ	**Kozyrevsk**	**3.30**	**290**		PN		**Pn**	**10 30 54.3**	**+2.1**
KII	**Karymskiy**	**3.61**	**256**	*e*	P		**Pn**	**10 30 58.3**	**+1.7**
KII					eS		**Sn**	**10 31 39.9**	**+0.9**
KII	**Karymskiy**	**3.61**	**256**		PN		**Pn**	**10 30 58.3**	**+1.7**
KII					S		**Sn**	**10 31 39.9**	**+0.9**
SPN	**Mys Shipunski**	**3.72**	**240**	*e*	P		**Pn**	**10 30 58.0**	**-0.1**
SPN					eS		**Sn**	**10 31 39.8**	**-1.8**
SPN	**Mys Shipunski**	**3.72**	**240**		PN		**Pn**	**10 30 58.0**	**-0.1**
ESO	**Esso**	**3.91**	**286**	*e*	P		**Pn**	**10 31 02.3**	**+1.6**
ESO	**Esso**	**3.91**	**286**		PN		**Pn**	**10 31 02.3**	**+1.6**
NLC	**Nalytchevo**	**4.03**	**245**	*e*	P		**Pn**	**10 31 02.9**	**+0.6**
NLC					eS		**Sn**	**10 31 47.6**	**-1.5**
NLC	**Nalytchevo**	**4.03**	**245**		PN		**Pn**	**10 31 02.9**	**+0.6**
SDLR	**Sedlovina**	**4.22**	**248**	*e*	P		**Pn**	**10 31 05.9**	**+0.9**
SDLR					eS		**Sn**	**10 31 53.4**	**-0.7**
SDLR	**Sedlovina**	**4.22**	**248**		PN		**Pn**	**10 31 05.9**	**+0.9**
SMAR	**Somma**	**4.27**	**248**	*e*	P		**Pn**	**10 31 07.8**	**+2.0**
SMAR					eS		**Sn**	**10 31 55.1**	**-0.4**
SMAR	**Somma**	**4.27**	**248**		PN		**Pn**	**10 31 07.8**	**+2.0**
KRER	**Koryakskii**	**4.28**	**249**	*e*	P		**Pn**	**10 31 07.7**	**+1.8**
KRER					eS		**Sn**	**10 31 55.5**	**-0.2**
KRER	**Koryakskii**	**4.28**	**249**		PN		**Pn**	**10 31 07.7**	**+1.8**
UGLR	**Uglovaya**	**4.28**	**247**	*e*	P		**Pn**	**10 31 07.2**	**+1.3**
UGLR					eS		**Sn**	**10 31 55.3**	**-0.3**
UGLR	**Uglovaya**	**4.28**	**247**		PN		**Pn**	**10 31 07.2**	**+1.3**
AVH	**Avacha**	**4.30**	**248**	*e*	P		**Pn**	**10 31 07.8**	**+1.7**
AVH					eS		**Sn**	**10 31 55.7**	**-0.4**
AVH	**Avacha**	**4.30**	**248**		PN		**Pn**	**10 31 07.8**	**+1.7**
KRX	**Arik**	**4.31**	**250**	*e*	P		**Pn**	**10 31 07.8**	**+1.5**
KRX					eS		**Sn**	**10 31 55.8**	**-0.5**
KRX	**Arik**	**4.31**	**250**		PN		**Pn**	**10 31 07.8**	**+1.5**
KOK	**Koryaka**	**4.35**	**249**	*e*	P		**Pn**	**10 31 08.4**	**+1.7**
KOK					eS		**Sn**	**10 31 56.4**	**-0.8**
KOK	**Koryaka**	**4.35**	**249**		PN		**Pn**	**10 31 08.4**	**+1.7**
OSSR	**Ossora**	**4.40**	**344**	*e*	P		**Pn**	**10 31 07.8**	**+0.5**
OSSR					eS		**Sn**	**10 31 59.1**	**+0.9**
OSSR	**Ossora**	**4.40**	**344**		PN		**Pn**	**10 31 07.8**	**+0.5**
OSSR					S		**Sn**	**10 31 59.1**	**+0.9**
DALK	**Dalny**	**4.41**	**245**	*e*	P		**Pn**	**10 31 08.4**	**+0.9**
DALK					eS		**Sn**	**10 31 56.8**	**-1.7**
DALK	**Dalny**	**4.41**	**245**		PN		**Pn**	**10 31 08.4**	**+0.9**
PET	**Petropavlovsk**	**4.46**	**246**	*e*	PN		**Pn**	**10 31 09.0**	**+0.8**
PET	comp=Z,100nm,2.3s				pmax	pmax			
PET	comp=Z,139nm,0.4s				pmax	pmax			
PET	comp=Z,200nm,19.0s				MLR	MLR			
KRMR	**Karymshinskiy**	**4.83**	**246**	*e*	P		**Pn**	**10 31 15.6**	**+2.3**
KRMR					eS		**Sn**	**10 32 09.1**	**+0.1**
KRMR	**Karymshinskiy**	**4.83**	**246**		PN		**Pn**	**10 31 15.6**	**+2.3**
RUS	**Russkaya**	**4.86**	**240**	*e*	P		**Pn**	**10 31 14.4**	**+0.8**
RUS					eS		**Sn**	**10 32 08.2**	**-1.3**
RUS	**Russkaya**	**4.86**	**240**		PN		**Pn**	**10 31 14.4**	**+0.8**
PEA0B	**Petropavlovsk-**	**4.93**	**250**		PN		**Pn**	**10 31 16.7**	**+2.0**
PEA0B	**Petropavlovsk-**	**4.93**	**250**		Pn		**Pn**	**10 31 16.7**	**+2.0**
PETK	**Petropavlovsk-**	**4.93**	**250**		Pn		**Pn**	**10 31 16.6**	**+1.8**
PETK	comp=Z,22nm,0.3s,baz=74,slow=17,SNR=522				Sn		**Sn**	**10 32 12.2**	**+0.8**
PETK	comp=Z,6.7nm,0.3s,baz=87,slow=32,SNR=1.5				LR		LR	10 32 25.8	
MTVR	**Mutnovka**	**4.99**	**242**	*e*	P		**Pn**	**10 31 17.2**	**+1.5**
MTVR					eS		**Sn**	**10 32 11.3**	**-1.9**
MTVR	**Mutnovka**	**4.99**	**242**		PN		**Pn**	**10 31 17.2**	**+1.5**
GRL	**Gorelyy**	**5.01**	**243**	*e*	P		**Pn**	**10 31 17.8**	**+1.9**
GRL					eS		**Sn**	**10 32 12.2**	**-1.4**
GRL	**Gorelyy**	**5.01**	**243**		PN		**Pn**	**10 31 17.8**	**+1.9**
PALN	**Palana**	**5.02**	**326**	*e*	P		**Pn**	**10 31 17.3**	**+1.5**
PALN	**Palana**	**5.02**	**326**		PN		**Pn**	**10 31 17.3**	**+1.5**
ASAK	**Asacha**	**5.19**	**242**	*e*	P		**Pn**	**10 31 20.2**	**+1.9**
ASAK					eS		**Sn**	**10 32 16.2**	**-1.8**
ASAK	**Asacha**	**5.19**	**242**		PN		**Pn**	**10 31 20.2**	**+1.9**
APC	**Apacha**	**5.31**	**250**	*e*	P		**Pn**	**10 31 21.7**	**+1.9**
APC					eS		**Sn**	**10 32 20.3**	**-0.4**
APC	**Apacha**	**5.31**	**250**		PN		**Pn**	**10 31 21.7**	**+1.9**
KDTR	**Khodutka, Kamc**	**5.45**	**236**	*e*	P		**Pn**	**10 31 22.0**	**+0.2**
KDTR					eS		**Sn**	**10 32 20.5**	**-3.6**
KDTR	**Khodutka, Kamc**	**5.45**	**236**		PN		**Pn**	**10 31 22.0**	**+0.2**
SMY	**Shemya**	**5.65**	**111**		PN		**Pn**	**10 31 27.2**	**+2.7**
SMY	**Shemya**	**5.65**	**111**		Pn		**Pn**	**10 31 27.2**	**+2.7**
MIPR	**Malaya Ipel'ka**	**5.84**	**245**	*e*	P		**Pn**	**10 31 29.6**	**+2.4**
MIPR	**Malaya Ipel'ka**	**5.84**	**245**		PN		**Pn**	**10 31 29.6**	**+2.4**
PAU	**Pauzhetka**	**6.28**	**239**	*e*	P		**Pn**	**10 31 34.8**	**+1.6**
PAU	**Pauzhetka**	**6.28**	**239**		PN		**Pn**	**10 31 34.8**	**+1.6**
SKR	**Severo-Kuril's**	**7.12**	**236**	*e*	P		**Pn**	**10 31 45.3**	**+0.6**
SKR					eS		**Sn**	**10 33 02.3**	**-2.9**
SKR	**Severo-Kuril's**	**7.12**	**236**	*e*	PN		**Pn**	**10 31 45.1**	**+0.4**
SKR	comp=Z,47nm,0.4s				pmax	pmax			
ALID	**Alaid**	**7.27**	**239**	*e*	P		**Pn**	**10 31 49.5**	**+2.6**
ALID	**Alaid**	**7.27**	**239**		PN		**Pn**	**10 31 49.5**	**+2.6**
KMSK	**Kamenskaya**	**7.45**	**3**	*e*	P		**Pn**	**10 31 50.5**	**+1.3**
KMSK	**Kamenskaya**	**7.45**	**3**		PN		**Pn**	**10 31 50.5**	**+1.3**
AMKA	**Amchitka**	**9.12**	**108**		Pn		**Pn**	**10 32 14.2**	**+2.2**
ADK	**Adak**	**11.14**	**99**		PN		**Pn**	**10 32 41.9**	**+2.2**
ADK	**Adak**	**11.14**	**99**		Pn		**Pn**	**10 32 41.9**	**+2.2**
BILL	**Bilibino**	**13.04**		1⇑	ePN		**Pn**	**10 33 01.7**	**-4.0**
BILL	comp=Z,5.0nm,0.3s				pmax	pmax			
BILL	comp=Z,137nm,19.0s				MLR	MLR			
YSS	**Yuzh-Sakhalins**	**16.34**	**250**		P		**Pn**	**10 33 50.7**	**+0.9**
UNV	**Unalaska Valle**	**16.34**	**83**		P		**Pn**	**10 33 53.6**	**+0.9**
UNV	comp=Z,27nm,1.4s				IAmb		IAmb	10 34 01.7	
AKUT	**Akutan**	**16.68**	**81**		P		**Pn**	**10 33 57.7**	**+1.2**
FALS	**False Pass**	**17.84**	**78**		P		**Pn**	**10 34 08.8**	**+0.3**
FALS	comp=Z,19nm,1.0s				IAmb		IAmb	10 34 22.7	
JKA	**Kamikawa-asahi**	**18.30**	**243**		P		**P**	**10 34 15.9**	**+1.5**
JKA	comp=Z,24nm,1.3s				IAmb		IAmb	10 34 19.5	
ASAJ	**Asahikawa**	**18.30**	**243**		P		**P**	**10 34 16.5**	**+2.1**
ASAJ	comp=Z,0.9nm,0.3s,baz=88,slow=7.1,SNR=7.9				pmax		pmax		
ASAJ	**Asahikawa**	**18.30**	**243**		P		**P**	**10 34 15.9**	**+1.5**
ASAJ	comp=Z,24nm,1.3s				pmax		pmax		
ERM	**Erimo**	**19.56**	**237**	*c i*	P		**P**	**10 34 29.0**	**+0.8**
ERM	comp=Z,13nm,1.0s				pmax		pmax		
ERM	**Erimo**	**19.56**	**237**		P		**Pn**	**10 34 29.4**	**-0.2**
ERM	comp=Z,10nm,0.7s				IAmb		IAmb	10 34 40.4	
CNBA	**Chernabura Isl**	**20.00**	**76**		P		**Pn**	**10 34 34.3**	**-0.3**
KLR	**Kul'dur**	**21.31**	**268**		P		**P**	**10 34 48.1**	**+1.0**
TIXI	**Tiksi**	**22.75**	**331**	⇓	*i* P		**P**	**10 34 59.5**	**-2.9**
TIXI	comp=Z,13nm,1.5s				pmax		pmax		
KDAK	**Kodiak Island**	**23.13**	**66**		P		**P**	**10 35 05.4**	**-1.0**
KDAK	comp=Z,4.2nm,0.6s,baz=341,slow=2.1,SNR=12				pmax		pmax		
KDAK	**Kodiak Island**	**23.13**	**66**		P		**P**	**10 35 05.4**	**-1.0**
KDAK	comp=Z,18nm,1.3s				pmax		pmax		
BPAW	**Bear Paw Mtn.**	**23.41**	**50**		P		**P**	**10 35 10.2**	**+1.0**
CNPM	**China Poot**	**23.53**	**61**		P		**P**	**10 35 10.2**	**-0.2**
CNPM	comp=Z,17nm,1.4s				IAmb		IAmb	10 35 18.0	
SUA	**Susitna One**	**23.56**	**56**		P		**P**	**10 35 11.2**	**+0.4**
TRF	**Thorofare Moun**	**23.70**	**51**		P		**P**	**10 35 12.6**	**+0.3**
TRF	comp=Z,13nm,1.5s				IAmb		IAmb	10 35 31.8	
COLD	**Coldfoot**	**24.02**	**42**		P		**P**	**10 35 15.3**	**+0.2**
PMR	**Palmer**	**24.32**	**56**		P		**P**	**10 35 19.1**	**+1.2**
PMR	comp=Z,3.0nm,0.9s				pmax		pmax		
PMR	**Palmer**	**24.32**	**56**		P		**P**	**10 35 19.1**	**+1.2**
GHO	**Glory Hole Cre**	**24.41**	**55**		P		**P**	**10 35 18.7**	**0.0**
GHO	comp=Z,8.5nm,1.3s				IAmb		IAmb	10 35 37.0	
WRH	**Wood River Hil**	**24.68**	**49**		P		**P**	**10 35 21.9**	**+0.8**
WRH	comp=Z,6.0nm,1.1s				IAmb		IAmb	10 35 35.8	
SML	**Sawmill**	**24.68**	**55**		P		**P**	**10 35 21.7**	**+0.5**
CCB	**Clear Creek Bu**	**24.80**	**48**		P		**P**	**10 35 22.7**	**+0.6**
CCB	comp=Z,5.3nm,0.9s				IAmb		IAmb	10 35 37.0	
DHY	**Denali Highway**	**25.03**	**52**		P		**P**	**10 35 23.9**	**-0.5**
SCM	**Sheep Creek Mo**	**25.15**	**55**		P		**P**	**10 35 25.7**	**+0.2**
SCM	comp=Z,7.0nm,1.0s				pmax		pmax		
SCM	**Sheep Creek Mo**	**25.15**	**55**		P		**P**	**10 35 25.7**	**+0.2**
SCM	comp=Z,6.7nm,1.0s				IAmb		IAmb	10 35 30.9	
ILAR	**Eielson Array**	**25.20**	**48**		P		**P**	**10 35 26.1**	**+0.4**
MJAR	**Matsushiro Arr**	**26.23**	**236**		P		**P**	**10 35 38.6**	**+3.2**
MENT	**Mentasta**	**26.70**	**52**		P		**P**	**10 35 40.1**	**+0.6**
INK	**Inuvik**	**30.38**	**40**		P		**P**	**10 36 12.3**	**+0.3**
INK	**Inuvik**	**30.38**	**40**		IAmb		IAmb	10 36 14.2	
KSRS	**Korea Array**	**30.83**	**251**		P		**P**	**10 36 16.5**	**+0.2**
DLBC	**Dease Lake**	**34.36**	**57**		P		**P**	**10 36 48.0**	**+0.9**
DLBC	**Dease Lake**	**34.36**	**57**		IAmb		IAmb	10 36 55.1	
H11N2	**WAKE ISLAND Hy**	**35.28**	**178**		T		T	11 14 26.0	
H11N3	**WAKE ISLAND Hy**	**35.29**	**178**		T		T	11 14 26.9	
H11N1	**WAKE ISLAND Hy**	**35.30**	**178**		T		T	11 14 30.2	
NRIK	**Noril'sk**	**36.14**	**324**		P		**P**	**10 37 03.1**	**+1.0**
SONM	**Songino Array**	**36.48**	**284**		P		**P**	**10 37 07.6**	**+2.0**
H11S1	**WAKE ISLAND Hy**	**36.49**	**178**		T		T	11 15 59.2	
H11S3	**WAKE ISLAND Hy**	**36.50**	**178**		T		T	11 15 58.3	
H11S2	**WAKE ISLAND Hy**	**36.51**	**178**		T		T	11 15 58.6	
KRAR	**Krasnoyarsk**	**39.31**	**302**	⇑	*i* P		**P**	**10 37 25.7**	**-3.4**
YKA	**Yellowknife Ar**	**39.58**	**46**		P		**P**	**10 37 31.4**	**+0.1**
MKAR	**Makanchi Array**	**50.08**	**297**		P		**P**	**10 38 52.5**	**-2.7**
PNTR	**Pine Nut**	**50.99**	**75**		P		**P**	**10 39 03.2**	**+0.9**
WAKR	**Walker**	**51.49**	**76**		P		**P**	**10 39 06.8**	**+0.7**
BVAR	**Borovoye Array**	**51.58**	**310**		P		**P**	**10 39 06.4**	**+0.1**
KVN	**Kaiserville**	**51.85**	**74**		P		**P**	**10 39 09.7**	**+0.9**
KVN	comp=Z,1.0nm,0.7s				pmax		pmax		
KVN	**Kaiserville**	**51.85**	**74**		P		**P**	**10 39 09.7**	**+0.9**
KVN	comp=Z,1.4nm,0.7s				IAmb		IAmb	10 39 10.3	
NVAR	**Mina Array Bea**	**52.17**	**75**		P		**P**	**10 39 12.2**	**+1.0**
ARCES	**ARCESS Array B**	**52.35**	**343**		P		**P**	**10 39 11.2**	**-0.7**
PDAR	**Pinedale Array**	**53.85**	**65**		P		**P**	**10 39 24.2**	**+0.7**
ARU	**Arti**	**54.02**	**319**	⇑	*i* P		**P**	**10 39 21.3**	**-3.0**
ARU	comp=Z,2.0nm,1.0s				pmax		pmax		
CCUT	**Cedar City**	**55.53**	**72**		P		**P**	**10 39 35.8**	**0.0**
SRU	**San Rafael Swe**	**55.94**	**69**		P		**P**	**10 39 39.2**	**+0.5**
SRU	comp=Z,4.0nm,0.7s				pmax		pmax		
SRU	**San Rafael Swe**	**55.94**	**69**		P		**P**	**10 39 39.2**	**+0.5**
ANMO	**Albuquerque**	**61.21**	**70**	⇓	*i* P		**P**	**10 40 16.0**	**+0.6**
ANMO	comp=Z,1.0nm,0.7s				pmax		pmax		
CMAR	**Chiang Mai Ar**	**61.60**	**262**	*i*	P		P	10 40 14.6	-3.4
CMAR	comp=Z,11nm,0.8s				pmax		pmax		
SCHQ	**Schefferville**	**62.41**	**31**		P		**P**	**10 40 22.5**	**-0.5**
NB2	**NORSAR Subarra**	**62.46**	**346**		P		**P**	**10 40 23.0**	**-0.3**
NOA	**NORSAR Array B**	**62.46**	**346**		P		**P**	**10 40 22.3**	**-0.9**
TX31	**Lajitas Ar. Si**	**67.02**	**72**		P		**P**	**10 40 53.8**	**+0.2**
TX32	**Lajitas Array**	**67.02**	**72**		P		**P**	**10 40 53.9**	**+0.3**
TX32	comp=Z,4.2nm,1.5s				IAmb		IAmb	10 41 02.8	
TXAR	**Lajitas Array**	**67.02**	**71**		P		**P**	**10 40 54.1**	**+0.5**
WRA	**Warramunga Arr**	**79.25**	**210**		P		**P**	**10 42 05.8**	**+0.2**
ASAR	**Alice Springs**	**82.91**	**209**		P		**P**	**10 42 25.8**	**+0.7**
ESDC	**Sonseca Array**	**85.21**	**352**		P		**P**	**10 42 37.3**	**+0.5**
KEST	**Kesra**	**87.27**	**341**		LR		LR	11 25 07.0	

comp=Z,110nm,21.2s,baz=295,slow=38

KRSC 04 10:32:41.5±1.1, 54˚.99N×165˚.39E, h30km±11km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.40**	**57**	*e*	P		Pb	10 32 50.3	+0.1
BKI					eS		Sb	10 32 55.4	-0.8
KBTR	**Krutoberegovo**	**1.91**	**311**	*e*	P		Pn	10 33 13.2	+1.3
KII	**Karymskiy**	**3.59**	**257**	*e*	P		Pb	10 33 40.0	-4.3
SPN	**Mys Shipunski**	**3.69**	**241**	*e*	P		Pn	10 33 40.0	+3.6
SPN					eS		Sn	10 34 22.1	+3.3
NLC	**Nalytchevo**	**4.00**	**245**	*e*	P		Pn	10 33 45.3	+4.7
NLC					eS		Sn	10 34 30.1	+3.7
SMAR	**Somma**	**4.25**	**249**	*e*	P		Pn	10 33 49.6	+5.4
KRER	**Koryakskii**	**4.25**	**249**	*e*	P		Pn	10 33 49.9	+5.5
AVH	**Avacha**	**4.28**	**249**	*e*	P		Pn	10 33 49.9	+5.3
KRX	**Arik**	**4.29**	**250**	*e*	P		Pn	10 33 50.3	+5.6
KOK	**Koryaka**	**4.32**	**250**	*e*	P		Pn	10 33 50.5	+5.3
KRMR	**Karymshinskiy**	**4.81**	**246**	*e*	P		Pn	10 33 57.3	+5.6
KRMR					eS		Sn	10 34 50.5	+4.2
RUS	**Russkaya**	**4.82**	**241**	*e*	P		Pn	10 33 56.6	+4.7
MTVR	**Mutnovka**	**4.96**	**243**	*e*	P		Pn	10 33 59.4	+5.4
MTVR					eS		Sn	10 34 53.9	+3.5
ASAK	**Asacha**	**5.16**	**243**	*e*	P		Pn	10 34 02.1	+5.4

*BGR **04** 10:35:55.6±0.0,4.˚10N×95˚.64E, h33km, mb5.3*
*MOS **04** 10:36:07.0±1.1,5˚.56N×94˚.70E, h42km, mb5.6/73, MS4.5/7, Error ellipse: s-maj=7.0km s-min=3.9km az=109.5*
*BJI **04** 10:36:07.3±0.0,5˚.30N×94˚.62E, h64km, mB5.1/49, mb5.4/70, Ms4.6/60, Ms7 4.4/60*
*GCMT **04** 10:36:08.8±0.2,5˚.27N±0˚.02×94˚.56E±0˚.02, h51km±1km, MW5.0/103, Moment Tensor Solution. s74,c111; s103,c154; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.93±.14; $M_{\theta\theta}$-1.65±.10; $M_{\phi\phi}$-2.28±.13; $M_{r\theta}$1.91±.08; $M_{\theta\phi}$2.17±.08; $M_{\phi r}$-1.57±.10; Best double couple: M_o4.74100×10^{16} NP1:ϕ_s325.00000°, δ30.00000°, λ99.00000°. NP2:ϕ_s134.00000°, δ61.00000°, λ85.00000°. Principal axes: T 4.6440, Plg74.0000°, Azm30.0000°; N 0.1940, Plg5.0000°, Azm137.0000°; P -4.8380, Plg16.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **04** 10:36:09.8±1.8,5˚.40N±0˚.08×94˚.65E±0˚.07, h57km±4km, mb5.3/149 Error ellipse: s-maj=11.3km s-min=10.4km az=215.0*
*DJA **04** 10:36:09.5±0.3,5˚.N±3˚×9˚5E±˚, h51km±3km, M5.2/40, mb5.3/40, mB5.6/18, MLv5.3/12, Mw(mB)5.2/18, Mwp5.2/3*
*IDC **04** 10:36:11.0±1.1,5˚.51N×94˚.76E, h64km±9km, mb4.8/59, mb1 4.8/59, mb1mx4.8/60, mbtmp5.1/59, MS4.0/31, Ms1 4.1/31, ms1mx3.9/39, Error ellipse: s-maj=8.9km s-min=7.5km az=47.0*
*KLM **04** 10:36:12.0,5˚.52N×94˚.66E, h70km, mb5.2*

ISC 04 10:36:10.1±0.4, 5˚.40N±0˚.04×94˚.65E±0˚.04, h60km±2km, h60km:pP-P, n994, σ1§12/1010, mb5.3/231, 128C-14D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**2.08**	**123**		P		**Pn**	**10 36 42.8**	**+0.1**
LHMI	**Lhok Sumawe**	**2.30**	**94**		P		**Pn**	**10 36 45.6**	**-0.1**
LHMI					S		**Sn**	**10 37 13.8**	**+0.9**
LHMI	**Lhok Sumawe**	**2.30**	**94**				**Pn**	**10 36 46.5**	**+0.9**
TPTI		**3.31**	**130**		P		**Pn**	**10 36 58.3**	**-1.1**
TPTI					S		**Sn**	**10 37 35.4**	**-2.1**
PSI	**Prapat**	**4.99**	**121**		P		**Pn**	**10 37 24.2**	**+1.6**
GSI	**Gunungsitoli**	**5.01**	**144**		P		**Pn**	**10 37 20.8**	**-2.0**
GSI	**Gunungsitoli**	**5.01**	**144**		Pn		**Pn**	**10 37 21.2**	**-1.6**
RPSI	**Rantau Prapat**	**5.04**	**122**		Pn		**Pn**	**10 37 24.2**	**+0.9**
KULM	**Kulim**	**5.98**	**91**				**Pn**	**10 37 36.1**	**0.0**
KULM	**Kulim**	**5.98**	**91**		P		**Pn**	**10 37 37.0**	**+0.9**
IPM	**Ipoh**	**6.42**	**98**				**Pn**	**10 37 41.8**	**-0.4**
IPM	**Ipoh**	**6.42**	**98**		P		**Pn**	**10 37 42.0**	**-0.2**
PBSI	**Pulau Batu**	**6.52**	**146**		P		**Pn**	**10 37 42.3**	**-1.2**
MNSI	**Mandailing Nat**	**6.72**	**133**		P		**Pn**	**10 37 45.0**	**-1.3**
BKNI	**Bangkinang**	**8.14**	**128**		P		**Pn**	**10 38 10.1**	**+4.5**
SDSI	**Sungai Dareh**	**9.25**	**133**		P		**Pn**	**10 38 19.7**	**-1.1**

QIZ pmax pmax
comp=Z,180nm,2.2s
QIZ LR LR
comp=Z,1μm,14.5s
QIZ LR LR
comp=Z,970nm,18.4s
QIZ LR LR
comp=Z,1μm,19.4s
QIZ Qiongzhong 20.07 46 Pn Pn 10 40 40.5 -0.5
QIZ lAmb lAmb 10 41 03.8
comp=Z,147nm,1.4s
SHL Shillong 20.22 353 *e*P **P** **10 40 37.0 -3.5**
SHL *e*S **S** **10 44 25.0 +0.6**
SHL Shillong 20.22 353 P **P** **10 40 37.9 -2.6**
SHL pmax pmax
comp=Z,46nm,0.6s
SHL Shillong 20.22 353 P **P** **10 40 37.9 -2.6**
SRSP Sriramsagar 20.82 312 *e*P **P** **10 40 47.5 +0.7**
SRSP IVmB_BB 10 40 51.9
comp=Z,491nm,0.7s
SRSP *e* 10 44 27.1
SRSP IVMs_BB IVMs_BB 10 48 17.9
comp=Z,348nm,4.0s
NGJI Ngawi 21.04 127 P **P** **10 40 55.7 +6.5**
KMI Kunming 21.09 21⇑ *i*P **P** **10 40 51.8 +1.9**
KMI S S 10 44 29.9 -12
KMI SS **SnSn** **10 45 15.8 +8.5**
KMI pmax pmax
comp=Z,41nm,0.7s
KMI pmax pmax
comp=Z,350nm,4.9s
KMI LR LR
comp=Z,580nm,20.7s
KMI LR LR
comp=Z,650nm,21.3s
KMI LR LR
comp=Z,890nm,22.6s
KMI Kunming 21.09 21 P **P** **10 40 52.2 +2.3**
KMI pmax pmax
comp=Z,110nm,1.0s
KMI Kunming 21.09 21 P **P** **10 40 52.2 +2.3**
KMI lAmb lAmb 10 40 54.9
comp=Z,110nm,1.0s
KKM Kota Kinabalu 21.47 87 P **P** **10 40 54.9 +0.9**
KLRI Killari 21.66 307 *e*P **P** **10 40 56.6 +0.6**
KLRI IVmB_BB 10 41 16.0
comp=Z,882nm,3.6s
KLRI *e* 10 44 44.0
KLRI IVMs_BB IVMs_BB 10 47 50.8
comp=Z,387nm,3.5s
NGP Nagpur 21.77 317 *e*P **P** **10 40 58.2 +1.2**
NGP *ex* x 10 41 03.7
comp=Z,107nm,1.2s
NGP eS **S** **10 44 55.7 +1.1**
BBKI Banjar Baru 22.01 113 P **P** **10 41 00.1 +0.4**
comp=Z,4μmcomp=Z,260nm,0.7s
ODAN Odare 22.43 343 *e*P **P** **10 41 04.1 -0.2**
comp=Z,135nm,0.6s
RAMN Ramite 22.76 341 *e*P **P** **10 41 07.0 -0.8**
TAPN Taplejung 22.80 344 *e*P **P** **10 41 06.0 -2.3**
SMKI Samarinda 23.27 104 P **P** **10 41 17.1 +4.3**
comp=Z,6μmcomp=Z,122nm,0.5s
JIRN Jiri 23.55 341 *e*P **P** **10 41 13.5 -2.2**
PKI Pulchoki 23.73 339 *e*P **P** **10 41 15.8 -1.5**
MYLDM Lahad Datu 23.75 89 P **P** **10 41 18.2 +0.9**
DMN Daman 23.88 339 *e*P **P** **10 41 18.1 -0.4**
GYA Guiyang 23.88 27⇑ P **P** **10 41 18.2 -0.2**
GYA pP pP 10 41 34.0 +1.2
GYA sP sP 10 41 39.8 +0.2
GYA S **S** **10 45 33.8 +3.3**
GYA sS sS 10 45 54.6 +0.3
GYA pmax pmax
comp=Z,210nm,0.7s
GYA pmax pmax
comp=Z,250nm,4.8s
GYA LR LR
comp=Z,700nm,21.1s
GYA LR LR
comp=Z,640nm,21.1s
GYA LR LR
comp=Z,1μm,19.5s
GUN Gumba 23.89 341 *e*P **P** **10 41 17.1 -1.6**
KKN Kakani 23.98 339 *e*P **P** **10 41 18.6 -0.8**
comp=Z,64nm,0.8s
LSA Lhasa 24.39 353 P **P** **10 41 24.3 +0.9**
LSA Lhasa 24.39 353 lAmb lAmb 10 41 25.0
comp=Z,72nm,0.6s
GKN Gorkha 24.41 338 *e*P **P** **10 41 22.8 -0.4**
SRBI Singaraja 24.50 123 P **P** **10 41 25.2 +1.2**
comp=Z,3μmcomp=Z,445nm,0.8s
KOLN Koldanda 24.60 336 *e*P **P** **10 41 25.1 +0.1**
DANN Dangsing 25.05 337 *e*P **P** **10 41 29.1 -0.2**
PYUN Piuthan 25.14 335 *e*P **P** **10 41 30.2 +0.2**
H08S2 Diego Garcia H 25.62 240 T T 11 07 42.8
baz=60,slow=74
H08S3 Diego Garcia H 25.62 240 T T 11 07 36.4
baz=60,slow=74
H08S1 Diego Carcia H 25.64 240 T T 11 07 44.6
baz=60
MPSI Mapaga 25.71 100 P **P** **10 41 35.6 +0.6**
comp=Z,751nmcomp=Z,76nm,1.3s
CD2 Chengdu 26.78 18⇑ *i*P **P** **10 41 43.8 -0.8**
CD2 pP pP 10 41 56.2 -3.0
CD2 sP sP 10 42 03.8 -2.4
CD2 S **S** **10 46 18.2 +1.7**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,500nm,6.7s
CD2 LR LR
comp=Z,720nm,20.1s
CD2 LR LR
comp=Z,760nm,22.4s
CD2 LR LR
comp=Z,800nm,15.5s
KAPI Kappang 27.12 112 P **P** **10 41 48.0 +0.2**
comp=Z,40nm,0.6s,baz=273,slow=11,SNR=16
KAPI LR LR 10 52 33.7
comp=Z,352nm,20.3s,baz=294,slow=36
KAPI Kappang 27.12 112 P **P** **10 41 48.0 +0.2**
KAPI pmax pmax
comp=Z,276nm,1.6s
KAPI Kappang 27.12 112 P **P** **10 41 48.0 +0.2**
TGY Tagaytay City 27.29 70 P **P** **10 41 50.5 +1.1**
comp=Z,87nm,0.4s,baz=217,slow=5.1,SNR=2.0
SONA Sohna 28.18 326 *e*P **P** **10 41 56.9 -0.2**
ENH Enshi 28.42 28 P **P** **10 41 58.1 -1.1**
ENH lAmb lAmb 10 41 59.3
comp=Z,36nm,0.7s
DAV Davao City (W) 30.79 85 LR LR 10 56 60.0
comp=Z,237nm,19.9s,baz=297,slow=41
WHN Wuhan 31.14 34⇓ *i*P **P** **10 42 23.9 +0.7**
WHN S **S** **10 47 31.4 +6.6**
WHN pmax pmax
comp=Z,130nm,1.2s
WHN LR LR
comp=Z,1μm,11.9s
WHN LR LR
comp=Z,2μm,16.9s
WHN LR LR
comp=Z,3μm,16.4s
SSLB Suanglung 31.23 52 P **P** **10 42 27.1 +2.9**
XAN Xi'an 31.42 23 P **P** **10 42 24.6 -1.2**
XAN pP pP 10 42 39.3 -1.1
XAN sP sP 10 42 46.6 -0.8
XAN PP **PnPn** **10 43 29.2 -1.5**
XAN S **S** **10 47 28.1 -1.3**
XAN sS sS 10 47 53.1 -0.4
XAN pmax pmax
comp=Z,210nm,5.4s
XAN LR LR
comp=Z,620nm,17.9s
XAN LR LR
comp=Z,530nm,18.7s
XAN LR LR
comp=Z,1μm,19.7s
XAN Xi'an 31.42 23 P **P** **10 42 24.8 -1.0**
XAN pmax pmax
comp=Z,97nm,0.6s
XAN Xi'an 31.42 23 P **P** **10 42 24.8 -1.0**
LZH Lanzhou 31.69 14 *e*P **P** **10 42 27.2 -1.0**
LZH pP pP 10 42 42.0 -0.7
LZH sP sP 10 42 49.3 -0.3
LZH PcP **PcP** **10 45 19.9 +1.0**
LZH pmax pmax
comp=Z,29nm,1.1s
LZH LR LR
comp=Z,220nm,15.2s
LZH LR LR
comp=Z,610nm,15.5s
LZH LR LR
comp=Z,570nm,16.3s
NLAI Namlea 33.54 104 P P 10 42 51.0 +6.5
comp=Z,2μmcomp=Z,54nm,0.6s
GTA Gaotai 34.18 7⇑ P **P** **10 42 49.3 -0.6**
GTA pP pP 10 43 03.5 -0.9
GTA sP sP 10 43 12.2 +0.8
GTA ScP **ScP** **10 49 07.0 +1.2**
GTA pmax pmax
comp=Z,83nm,1.0s
GTA pmax pmax
comp=Z,140nm,4.9s
GTA LR LR
comp=Z,250nm,19.0s
GTA LR LR
comp=Z,360nm,18.1s
GTA LR LR
comp=Z,420nm,21.3s
NIL Nilore 34.43 327 P **P** **10 42 51.3 -0.7**
NIL pmax pmax
comp=Z,52nm,0.6s
NIL Nilore 34.43 327 P **P** **10 42 51.3 -0.7**
NJ2 Nanjing 34.87 38⇑ *i*P **P** **10 42 56.4 +0.7**
NJ2 pP **pP** **10 43 13.2 +2.5**
NJ2 sP **sP** **10 43 21.6 +3.9**
NJ2 pmax pmax
comp=Z,79nm,0.9s
NJ2 LR LR
comp=Z,800nm,16.7s
NJ2 LR LR
comp=Z,700nm,12.9s
NJ2 LR LR
comp=Z,1μm,15.7s
TIY Taiyuan 36.02 24 *e*P **P** **10 43 05.7 0.0**
TIY pmax pmax
comp=Z,22nm,0.5s
TIY LR LR
comp=Z,490nm,13.3s
TIY LR LR
comp=Z,230nm,9.6s
TIY LR LR
comp=Z,700nm,17.0s
TIA Tai'an 36.96 31 P **P** **10 43 13.8 +0.1**
TIA pmax pmax
comp=Z,61nm,0.9s
TIA LR LR
comp=Z,450nm,18.2s
TIA LR LR
comp=Z,430nm,16.9s
TIA LR LR
comp=Z,910nm,19.6s
SIJI Sorong 37.10 99 LR LR 10 59 12.8
comp=Z,139nm,18.4s,baz=238,slow=37
KBL Kabul 37.44 324 P **P** **10 43 17.4 -0.6**
KBL pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 37.44 324 P **P** **10 43 17.4 -0.6**
BTO Baotou 37.67 19 *e*P **P** **10 43 19.1 -0.6**
KSH Kashi 37.92 336 P **P** **10 43 20.0 -1.8**
KSH pP pP 10 43 34.6 -1.9
KSH S **S** **10 49 03.3 -6.1**
KSH pmax pmax
comp=Z,44nm,0.9s
KSH LR LR
comp=Z,400nm,12.9s
KSH LR LR
comp=Z,280nm,12.3s
HHC Hu-ho-hao-te 38.42 21 *e*P **P** **10 43 26.5 +0.5**
HHC S **S** **10 49 17.3 +0.5**
HHC pmax pmax
comp=Z,61nm,1.1s
HHC pmax pmax
comp=Z,130nm,5.8s
HHC LR LR
comp=Z,720nm,20.6s
HHC LR LR
comp=Z,470nm,18.0s
HHC LR LR
comp=Z,700nm,22.8s
FITZ Fitzroy Crossi 38.48 128 PcP **PcP** **10 45 39.1 +0.3**
comp=Z,3.8nm,0.5s,baz=281,slow=5.2,SNR=1.9
FITZ ScP **ScP** **10 49 20.5 -1.4**
comp=Z,5.2nm,0.9s,baz=220,slow=3.9,SNR=3.7
FITZ Fitzroy Crossi 38.48 128 P **P** **10 43 26.0 -0.6**
baz=39,SNR=23
FITZ Fitzroy Crossi 38.48 128 P **P** **10 43 26.0 -0.6**
FITZ lAmb lAmb 10 43 26.9
comp=Z,24nm,0.8s
WMQ Urumqi 38.75 352 *e*P **P** **10 43 29.1 +0.4**
WMQ pP pP 10 43 41.3 -2.1
WMQ pmax pmax
comp=Z,64nm,0.9s
WMQ pmax pmax
comp=Z,89nm,5.3s
WMQ LR LR
comp=Z,200nm,19.5s
WMQ LR LR
comp=Z,280nm,24.1s
WMQ LR LR
comp=Z,310nm,25.1s
WSAR Wadi Sarin 38.97 301 P **P** **10 43 33.2 +2.4**
comp=Z,18nm,0.6s,baz=142,slow=6.5,SNR=21
WSAR LR LR 10 57 50.9
comp=Z,132nm,20.0s,baz=130,slow=33
TARG Taragay, Kyrgy 39.17 340 P **P** **10 43 32.8 +0.2**
MEEK Meekatharra 39.41 145 P **P** **10 43 34.9 +0.5**
baz=40,SNR=5.2
BJI Beijing 39.56 26⇑ P **P** **10 43 36.6 +1.2**
BJI sP **sP** **10 43 54.4 -2.8**
BJI S **S** **10 49 37.1 +3.3**
BJI pmax pmax
comp=Z,96nm,1.0s
BJI LR LR
comp=Z,420nm,25.0s
KNRA Kununurra 39.75 122 P **P** **10 43 36.1 -1.2**
baz=40,SNR=7.1
SHLS Shalkode 39.93 343⇑ *i*P **P** **10 43 38.8 +0.2**
comp=Z,144nm,0.9s,baz=343
SHLS *i* S **S** **10 49 39.3 -0.2**
baz=343
SHLS Shalkode 39.93 343 *c* *i*P **P** **10 43 38.7 +0.2**
SHLS *i* S **S** **10 49 39.3 -0.2**
SHLS pmax pmax
comp=Z,144nm,0.9s
MORW Morawa 39.98 150 P **P** **10 43 41.1 +2.1**
baz=40,SNR=5.0
UZB Uzynbulak 40.05 342⇑ *i*P **P** **10 43 40.6 +1.0**
comp=Z,88nm,0.7s,baz=342
UZB *i* S **S** **10 49 42.7 +1.2**
baz=342
UZB Uzynbulak 40.05 342 *c* *i*P **P** **10 43 40.6 +1.0**
UZB *i* S **S** **10 49 42.6 +1.2**
UZB pmax pmax
comp=Z,88nm,0.7s
PDGK Podgornoye 40.07 343 P **P** **10 43 40.4 +0.6**
SATY Saty 40.16 341⇑ *i*P **P** **10 43 41.6 +1.0**
comp=Z,87nm,0.7s,baz=342
SATY *i* S **S** **10 49 44.9 +1.8**
baz=342
SATY Saty 40.16 341 *c* *i*P **P** **10 43 41.5 +1.0**
SATY *i* S **S** **10 49 44.8 +1.8**
SATY pmax pmax
comp=Z,87nm,0.7s
SATY Saty 40.16 341 *c* *i*P **P** **10 43 41.5 +1.0**
SATY *i* S **S** **10 49 44.8 +1.8**
SATY pmax pmax
comp=Z,87nm,0.7s
ULHL Ulahol 40.17 339 P **P** **10 43 41.4 +0.7**
SNR=8.7
KZA Kyzart 40.40 338 P **P** **10 43 43.6 +0.8**
SNR=29
MTN Manton Dam 40.53 117 P **P** **10 43 42.6 -1.3**
baz=41,SNR=9.2
MTN Manton Dam 40.53 117 P **P** **10 43 42.7 -1.1**
MTN lAmb lAmb 10 43 48.0
comp=Z,69nm,1.2s
TNSS Tian-Shan 40.62 340⇑ *i*P **P** **10 43 45.4 +0.7**
baz=340
TNSS Tian-Shan 40.62 340 *c* *i*P **P** **10 43 45.3 +0.7**
MDOK Medeo 40.70 340 *i*P **P** **10 43 46.1 +1.1**
baz=340
MDOK *i* S **S** **10 49 51.9 +0.7**
baz=340
MDOK Medeo 40.70 340 *i*P **P** **10 43 46.1 +1.1**
MDOK *i* S **S** **10 49 51.8 +0.7**
AAA Alma-Ata 40.78 340⇑ *i*P **P** **10 43 46.6 +1.0**
baz=340
AAA *i* S **S** **10 49 53.8 +1.6**
baz=340
AAA Alma-Ata 40.78 340 *c* *i*P **P** **10 43 46.6 +1.0**
AAA *i* S **S** **10 49 53.7 +1.6**
UCH Uchtor 40.81 337 P **P** **10 43 47.0 +0.7**
SNR=149
MTBS Maitube 40.88 340⇑ *i*P **P** **10 43 46.9 +0.4**
baz=340
MTBS Maitube 40.88 340⇑ *i*P **P** **10 43 46.8 +0.4**
TKM2 Tokmak 2 40.99 339 P **P** **10 43 48.1 +0.6**
SNR=44
TKM2 Tokmak 2 40.99 339 P **P** **10 43 47.7 +0.2**
KBK Karagaybulak 41.01 338 P **P** **10 43 48.9 +1.3**
SNR=81
AML Almayashu 41.05 336 P **P** **10 43 49.1 +0.9**
SNR=24
SOHO SOHO 41.09 301 P **P** **10 43 50.8 +2.5**
AAK Ala-Archa 41.16 337 P **P** **10 43 49.6 +0.8**
comp=Z,72nm,0.8s,baz=150,slow=6.4,SNR=82
AAK ScP **ScP** **10 49 32.8 +0.7**
comp=Z,1.7nm,0.4s,baz=183,slow=4.3,SNR=4.2
AAK LR LR 11 02 21.2
comp=Z,144nm,20.3s,baz=137,slow=38
AAK Ala-Archa 41.16 337 P **P** **10 43 49.8 +1.0**
SNR=44
AAK Ala-Archa 41.16 337 *i* P **P** **10 43 49.9 +1.0**
SNR=49
AAK Ala-Archa 41.16 337 P **P** **10 43 49.5 +0.7**
AAK Ala-Archa 41.16 337 P **P** **10 43 49.8 +1.0**
AAK lAmb lAmb 10 43 52.3
comp=Z,72nm,0.8s
CHKK Chushkaly 41.33 341⇑ *i*P **P** **10 43 49.9 -0.2**
baz=341
CHKK Chushkaly 41.33 341 *c* *i*P **P** **10 43 49.8 -0.2**
DL2 Dalian 41.34 32 P **P** **10 43 51.0 +0.8**
DL2 pmax pmax
comp=Z,120nm,0.8s
DL2 LR LR
comp=Z,560nm,18.9s
DL2 LR LR
comp=Z,430nm,17.9s
DL2 LR LR
comp=Z,580nm,23.7s
CHMS Chumysh 41.37 338 P **P** **10 43 50.8 +0.4**
SNR=25
EKS2 Erkin-Say 41.46 337 P **P** **10 43 52.3 +1.0**
SNR=93
KUU Kurty 41.58 340⇑ *i*P **P** **10 43 52.2 0.0**
comp=Z,139nm,1.2s,baz=340
KUU Kurty 41.58 340 *c* *i*P **P** **10 43 52.1 0.0**
KUU pmax pmax
comp=Z,139nm,1.2s
UOSS Minazif 41.66 302 P **P** **10 43 54.2 +1.2**
KDU Kakadu 41.67 116 P **P** **10 43 52.0 -1.1**
baz=42,SNR=14
HATD Hatta, Dubai 41.67 302 P **P** **10 43 55.5 +2.4**
ASHO Ashiyiah 41.69 301 *i* P **P** **10 43 55.6 +2.3**
SNR=6.3
USP Ospenovka 41.70 338 P **P** **10 43 53.7 +0.6**
SNR=118
ALNE Al Ain 41.73 300 P **P** **10 43 56.2 +2.6**
SGDS Sogindy 41.81 338⇑ *i*P **P** **10 43 54.3 +0.3**
comp=Z,115nm,2.2s,baz=338
SGDS Sogindy 41.81 338 *c* *i*P **P** **10 43 54.3 +0.3**
SGDS pmax pmax
comp=Z,115nm,2.2s
MSFE Esma-Masafi 41.85 302 P **P** **10 43 56.7 +2.1**
TDK Taldyqorghan 41.92 343 *i* P **P** **10 43 54.8 -0.1**
baz=343
TDK Taldyqorghan 41.92 343 *i* P **P** **10 43 54.7 -0.1**
SHME Shamm 42.12 303 P **P** **10 43 58.8 +2.0**
NAZ Nazwa, Dubai 42.13 302 P **P** **10 43 59.1 +2.3**
MUN Mundaring 42.47 152 P **P** **10 44 01.0 +1.6**
baz=43,SNR=3.7
MK31 Makanchi Array 42.59 347 *i* P **P** **10 44 00.0 -0.3**
MK31 Makanchi Array 42.59 347 lAmb lAmb 10 44 01.2
comp=Z,52nm,0.9s
MKAR Makanchi Array 42.59 347 P **P** **10 44 00.2 -0.1**
comp=Z,43nm,0.6s,baz=162,slow=8.7,SNR=419
MKAR PcP **PcP** **10 45 51.6 -0.1**
comp=Z,5.5nm,0.6s,baz=186,slow=3.6,SNR=2.3
MKAR LR LR 11 04 44.4
comp=Z,127nm,20.6s,baz=158,slow=40
MKAR Makanchi Array 42.59 347 *i* P **P** **10 44 00.2 -0.1**
MKAR pmax pmax
comp=Z,44nm,0.6s
IUG luzhnay 42.64 333⇑ *i*P **P** **10 44 01.3 +0.5**
comp=Z,27nm,0.5s,baz=333
IUG luzhnay 42.64 333 *c* *i*P **P** **10 44 01.3 +0.5**
IUG pmax pmax
comp=Z,27nm,0.5s
DZA Taraz 42.66 335 *i* P **P** **10 44 00.7 -0.2**
baz=334
DZA Taraz 42.66 335 *i* P **P** **10 44 00.7 -0.2**
MAKZ Makanchi 42.68 347 P **P** **10 44 00.8 -0.2**
MAKZ pmax pmax
comp=Z,57nm,0.8s
MAKZ Makanchi 42.68 347 P **P** **10 44 00.8 -0.2**
MAKZ lAmb lAmb 10 44 01.7
comp=Z,57nm,0.8s
ZSN Zaisan 42.73 350⇑ *i*P **P** **10 44 02.0 +0.6**
comp=Z,19nm,0.6s,baz=350
ZSN Zaisan 42.73 350 *c* *i*P **P** **10 44 01.9 +0.6**
ZSN pmax pmax
comp=Z,19nm,0.6s
KLBR Kellerberrin 42.89 151 P **P** **10 44 05.3 +2.5**
baz=43,SNR=5.5
TJN Taejon 43.01 40⇑ *i*P **P** **10 44 03.7 -0.1**
KK31 Karatay Array 43.19 334 *i* P **P** **10 44 04.8 -0.3**
KK31 Karatay Array 43.19 334 lAmb lAmb 10 44 06.1
comp=Z,36nm,0.7s
KKAR Karatay Array 43.19 334 lAmb lAmb 10 44 06.1
comp=Z,36nm,0.7s
INCN Inchon 43.24 38 P **P** **10 44 05.4 -0.3**
INCN pmax pmax
comp=Z,47nm,0.9s
INCN Inchon 43.24 38 P **P** **10 44 05.4 -0.3**
INCN lAmb lAmb 10 44 06.2
comp=Z,47nm,0.9s
SONM Songino Array 43.46 12 P **P** **10 44 06.8 -0.6**
comp=Z,44nm,0.8s,baz=191,slow=8.5,SNR=185
SONM PcP **PcP** **10 45 55.3 +0.6**
comp=Z,7.0nm,0.5s,baz=195,slow=3.6,SNR=13
SONM ScP **ScP** **10 49 40.9 -0.2**
comp=Z,3.2nm,0.9s,baz=191,slow=4.1,SNR=7.0
SONM LR LR 11 04 21.3
comp=Z,320nm,20.0s,baz=195,slow=39
JNU Nakatsue 43.55 46 P **P** **10 44 08.4 +0.2**
comp=Z,27nm,0.7s,baz=250,slow=2.5,SNR=13
JNU Nakatsue 43.55 46 P **P** **10 44 08.4 +0.2**
JNU lAmb lAmb 10 44 09.5
comp=Z,36nm,0.9s
ULN Ulaanbaatar 43.62 12 *c* *i*P **P** **10 44 07.9 -0.8**
ULN pmax pmax
comp=Z,26nm,0.6s
ULN Ulaanbaatar 43.62 12 P **P** **10 44 08.1 -0.7**
ULN lAmb lAmb 10 44 08.9
comp=Z,32nm,0.7s
NWAO Narrogin (SRO) 43.74 152 LR LR 10 59 37.6
comp=Z,222nm,20.9s,baz=299,slow=32
KS19 Wonju Array Si 44.02 39 lAmb lAmb 10 44 12.1
comp=Z,96nm,1.6s
KSRS Korea Array 44.03 39 P **P** **10 44 11.3 -0.6**
comp=Z,19nm,0.9s,baz=218,slow=8.9,SNR=68
KSRS ScP **ScP** **10 49 42.8 -0.7**
comp=Z,0.5nm,0.6s,baz=227,slow=5.0,SNR=4.7
KSRS LR LR 11 02 41.4
comp=Z,339nm,21.2s,baz=221,slow=36
H01W3 Cape Leeuwin H 44.08 157 T T 11 32 11.3
baz=331,slow=76,SNR=13
H01W2 Cape Leeuwin H 44.09 157 T T 11 32 12.8
baz=331,slow=76,SNR=15
H01W1 Cape Leeuwin H 44.10 157 T T 11 32 09.5
baz=331,slow=76,SNR=14
SNY Shenyang 44.49 31⇑ P **P** **10 44 15.2 -0.4**
SNY S **S** **10 50 44.2 -2.3**
SNY pmax pmax
comp=Z,53nm,0.7s
SNY pmax pmax
comp=Z,220nm,3.3s

SNY LR LR
comp=Z,430nm,14.1s
SNY LR LR
comp=Z,260nm,13.9s
SNY LR LR
comp=Z,720nm,19.2s
DGZ Jazzator, Alta 44.56 353⇑ *i*P **P 10 44 16.3 +0.1**
DGZ pmax pmax
comp=Z,18nm,0.5s
WRKA Warakurna 44.57 134 P **P 10 44 16.5 0.0**
baz=45,SNR=29
ZAK Zakamensk 45.41 8 *e*P **P 10 44 22.0 -0.9**
ZAK pmax pmax
comp=Z,16nm,1.4s
ZAK pmax pmax
comp=Z,8.0nm,1.1s
GEYT Alibeck 46.38 319 P **P 10 44 31.2 +0.6**
comp=Z,29nm,0.5s,baz=148,slow=8.7,SNR=39
GEYT ScP **ScP 10 49 54.0 +0.7**
comp=Z,1.5nm,0.5s,baz=193,slow=5.9,SNR=4.2
GYA0 ALIBECK ARRAY 46.38 319 P **P 10 44 30.9 +0.2**
GYA0B ALIBECK ARRAY 46.38 319 P **P 10 44 31.3 +0.7**
GYA0B IAmb IAmb 10 44 31.7
comp=Z,36nm,0.6s
WB0 Warramunga Arr 46.41 124 P **P 10 44 31.1 0.0**
MOY Mondy 46.41 5 *e*P **P 10 44 30.2 -0.6**
MOY pmax pmax
comp=Z,25nm,1.7s
WRA Warramunga Arr 46.45 124 P **P 10 44 31.4 0.0**
comp=Z,36nm,0.7s,baz=307,slow=8.4,SNR=420
WRA ScP **ScP 10 49 53.1 -0.8**
comp=Z,2.1nm,0.8s,baz=304,slow=3.7,SNR=4.7
WRA S **S 10 51 14.6 -0.8**
comp=Z,0.8nm,0.8s,baz=234,slow=15,SNR=2.4
WRA PKiKP **PKiKP 10 52 59.0 -1.6**
comp=Z,0.4nm,0.6s,baz=297,slow=1.5,SNR=1.6
WRA LR LR 11 05 08.7
comp=Z,109nm,21.3s,baz=210,slow=37
WRA Warramunga Arr 46.45 124 *i*P **P 10 44 31.5 0.0**
WRA pmax pmax
comp=Z,39nm,0.6s
WRAB Tennant Creek 46.45 124*c i*P **P 10 44 31.6 +0.1**
WRAB pmax pmax
comp=Z,66nm,0.7s
WB2 Warramunga Arr 46.46 124 P **P 10 44 31.2 -0.3**
baz=47
WB2 Warramunga Arr 46.46 124 P **P 10 44 31.4 -0.1**
TLY Talaya 46.73 8 P **P 10 44 33.4 +0.2**
comp=Z,14nm,0.7s,baz=201,slow=1.9,SNR=5.5
TLY Talaya 46.73 8*c i*P **P 10 44 33.4 +0.2**
TLY pmax pmax
comp=Z,22nm,0.9s
TLY Talaya 46.73 8 P **P 10 44 33.6 +0.5**
OTUK Ortayu 46.74 340 P **P 10 44 33.9 +0.6**
CN2 Changchun 46.87 31 *e*P **P 10 44 34.0 -0.3**
CN2 PcP **PcP 10 46 05.9 -0.5**
CN2 *e*S **S 10 51 12.7 -8.0**
CN2 pmax pmax
comp=Z,50nm,0.6s
CN2 LR LR
comp=Z,400nm,19.0s
CN2 LR LR
comp=Z,400nm,19.0s
CN2 LR LR
comp=Z,400nm,19.0s
KURK Kurchatov 47.11 346 P **P 10 44 36.4 +0.3**
KURK Kurchatov 47.11 346 P **P 10 44 36.2 +0.1**
IRK Irkutsk 47.37 8 *e*P **P 10 44 36.4 -1.7**
IRK pmax pmax
comp=Z,45nm,2.2s
ASAR Alice Springs 47.97 129 P **P 10 44 43.3 0.0**
comp=Z,28nm,0.7s,baz=301,slow=7.6,SNR=409
ASAR PcP **PcP 10 46 10.8 0.0**
comp=Z,4.6nm,0.6s,baz=305,slow=3.3,SNR=1.6
ASAR S **S 10 51 35.3 -1.7**
comp=Z,3.5nm,0.9s,baz=295,slow=14,SNR=17
ASAR PKiKP **PKiKP 10 53 00.8 -1.3**
comp=Z,0.2nm,0.4s,baz=340,slow=0.5,SNR=6.2
ASAR LR LR 11 05 29.1
comp=Z,146nm,21.5s,baz=304,slow=37
AS31 Alice Springs 47.97 129 P **P 10 44 42.9 -0.4**
FORT Forrest 48.12 140 P **P 10 44 45.0 +0.8**
baz=48,SNR=11
FORT Forrest 48.12 140 P **P 10 44 44.3 +0.1**
BRZS Berezniki 48.13 341 *i*P **P 10 44 44.6 +0.5**
comp=Z,128nm,0.9s,baz=341
BRZS Berezniki 48.13 341 *i*P **P 10 44 44.5 +0.5**
BRZS pmax pmax
comp=Z,128nm,0.9s
HIA Hailar 48.60 22*c i*P **P 10 44 47.3 -0.4**
HIA pmax pmax
comp=Z,30nm,0.7s
ZALV Zalesovo Beam 49.06 352 P **P 10 44 51.0 0.0**
comp=Z,87nm,0.7s,baz=182,slow=7.1,SNR=221
ZALV ScP **ScP 10 50 03.2 -0.9**
comp=Z,2.4nm,0.6s,baz=172,slow=3.0,SNR=4.0
ZALV S **S 10 51 51.5 +0.2**
comp=Z,2.3nm,0.8s,baz=173,slow=13,SNR=4.9
ZALV LR LR 11 08 01.7
comp=Z,89nm,21.7s,baz=188,slow=39
INU Inuyama 49.07 47 P **P 10 44 51.2 -0.3**
INU IAmb IAmb 10 44 52.3
comp=Z,43nm,0.8s
MDJ Mudanjiang 49.59 33 P **P 10 44 55.9 +0.6**
MDJ pmax pmax
comp=Z,40nm,0.7s
VLA Vladivostok 49.90 35⇑ *i*P **P 10 44 58.2 +0.5**
VLA pmax pmax
comp=Z,88nm,1.6s
MJB9 Matsu-Tunnel 50.47 46 P **P 10 45 02.2 0.0**
MAJO Matsushiro 50.47 46⇑ *i*P **P 10 45 01.6 -0.5**
MAJO pmax pmax
comp=Z,14nm,0.7s
MAJO Matsushiro 50.47 46 P **P 10 45 01.7 -0.5**
MAT Matsushiro 50.47 46 P **P 10 45 01.5 -0.7**
MAT *e*S **S 10 52 11.0 -0.7**
MJAR Matsushiro Arr 50.47 46 P **P 10 45 01.9 -0.2**
comp=Z,7.5nm,0.8s,baz=250,slow=9.4,SNR=18
MJAR PcP **PcP 10 46 19.9 +0.2**
comp=Z,6.5nm,1.0s,baz=259,slow=5.2,SNR=6.5
MJAR ScP **ScP 10 50 10.3 -0.3**
comp=Z,1.0nm,0.7s,baz=243,slow=5.6,SNR=4.1
MJAR LR LR 11 08 05.6
comp=Z,289nm,19.1s,baz=245,slow=38
USA0B Ussuriysk Arra 50.63 34 P **P 10 45 03.1 -0.1**
USA0B pmax pmax
comp=Z,48nm,1.4s
USA0B Ussuriysk Arra 50.63 34 P **P 10 45 03.1 -0.1**
USA0B IAmb IAmb 10 45 04.1
comp=Z,48nm,1.4s
USRK Ussuriysk Ar. 50.63 34 P **P 10 45 03.1 -0.1**
comp=Z,13nm,0.6s,baz=244,slow=7.3,SNR=23
USRK PcP **PcP 10 46 19.3 -0.7**
comp=Z,3.2nm,0.7s,baz=228,slow=4.7,SNR=1.9
USRK LR LR 11 08 46.8
comp=Z,426nm,19.0s,baz=209,slow=39
QIS Mount Isa 51.13 122 P **P 10 45 07.2 -0.2**
baz=51,SNR=15
BVAR Borovoye Array 51.48 342 P **P 10 45 09.2 -0.1**
comp=Z,54nm,0.7s,baz=143,slow=8.4,SNR=250
BVAR ScP **ScP 10 50 14.5 -0.1**
comp=Z,0.6nm,0.4s,baz=160,slow=4.6,SNR=2.9
BVAR S **S 10 52 24.1 -0.9**
comp=Z,3.7nm,0.8s,baz=136,slow=16,SNR=9.0
BRVK Borovoye 51.54 341 P **P 10 45 09.8 0.0**
BRVK pmax pmax
comp=Z,186nm,1.5s
BRVK Borovoye 51.54 341 P **P 10 45 09.8 0.0**
COEN Coen 51.85 112 P **P 10 45 11.9 -0.9**
baz=52,SNR=16
KLR Kul'dur 53.76 29 P **P 10 45 26.5 +0.1**
comp=Z,20nm,0.9s,baz=256,slow=6.4,SNR=56
KLR Kul'dur 53.76 29*c i*P **P 10 45 26.4 +0.1**
KLR pmax pmax
comp=Z,42nm,1.0s
TEY Ternei 53.78 36⇑ *e*P **P 10 45 26.0 -0.5**
TEY pmax pmax
comp=Z,20nm,1.0s
MTSU Mount Surprise 54.28 117 P **P 10 45 29.9 -0.7**
baz=54,SNR=7.4
AKTO Aktyubinsk 54.35 332 P **P 10 45 30.2 -0.3**
comp=Z,29nm,0.6s,baz=122,slow=7.8,SNR=74
PMG Port Moresby 54.36 106 P **P 10 45 31.4 +0.1**
PMG pmax pmax
comp=Z,31nm,0.7s
PMG Port Moresby 54.36 106 P **P 10 45 31.4 +0.1**
PMG IAmb IAmb 10 45 31.9
comp=Z,31nm,0.7s
BOD Bodaibo 54.43 13 *e*P **P 10 45 30.6 -0.4**
BOD pmax pmax
comp=Z,58nm,1.1s
ZEA Zeya 55.01 23 *e*P **P 10 45 35.1 -0.2**
ZEA pmax pmax
comp=Z,20nm,0.7s
AKT Akhty 55.06 318 *e*P **P 10 45 35.4 -0.7**
AKT *e* 10 46 38.2
AKT pmax pmax
comp=Z,36nm,1.1s
ASAJ Asahikawa 56.96 40 P **P 10 45 49.4 -0.1**
comp=Z,12nm,0.7s,baz=266,slow=11,SNR=16
JKA Kamikawa-asahi 56.97 40 P **P 10 45 48.3 -1.1**
JKA IAmb IAmb 10 45 58.7
comp=Z,62nm,1.5s
HTT Hallett 56.99 136 P **P 10 45 50.2 +0.4**
baz=57,SNR=3.7
GRNR Gornyy 57.06 30⇑ *i*P **P 10 45 45.9 -4.2**
GRNR *e*S **S 10 53 40.1 -0.3**
GRNR pmax pmax
comp=E,5.0nm,0.9s
GRNR pmax pmax
comp=E,4.0nm,0.8s
GRNR smax smax
comp=E,2.0nm,0.8s
GRNR MLR MLR
comp=E,300nm,16.0s
GRNR MLR MLR
comp=N,250nm,19.0s
GRNR MLR MLR
comp=Z,220nm,14.0s
GROC Groznyy 57.12 319 *e*P **P 10 45 49.4 -1.2**
GROC *e**PP **pP 10 46 06.6 +0.8**
GROC *e*S **S 10 53 38.3 -3.1**
GROC pmax pmax
comp=Z,70nm,0.8s
TBLG Delisi 57.18 317 IAmb IAmb 10 45 52.0
comp=Z,47nm,1.0s
TBLG pP pP 10 46 06.6 +0.2
QLP Quilpie 57.57 126 P **P 10 45 54.5 +0.5**
baz=58,SNR=21
KMBO Kilima Mbogo 57.68 265 P **P 10 45 57.8 +2.5**
comp=Z,1.2nm,0.3s,baz=59,slow=9.7,SNR=7.5
KMBO LR LR 11 06 30.0
comp=Z,332nm,21.9s,baz=94,slow=32
SVE Sverdlovsk 57.87 339*de*P **P 10 45 55.8 +0.2**
SVE pmax pmax
comp=Z,92nm,1.0s
AKH Akhalkalaki 57.90 316 P **P 10 45 55.6 -0.8**
AKH pmax pmax
comp=Z,23nm,1.2s
AKH Akhalkalaki 57.90 316 P **P 10 45 55.6 -0.8**
AKH IAmb IAmb 10 45 57.5
comp=Z,23nm,1.2s
STKA Stephens Creek 58.06 133 P **P 10 45 57.4 +0.1**
comp=Z,8.7nm,0.6s,baz=318,slow=5.7,SNR=23
STKA LR LR 11 15 06.4
comp=Z,122nm,18.1s,baz=333,slow=40
STKA Stephens Creek 58.06 133 P **P 10 45 57.5 +0.1**
baz=58,SNR=20
ZEI Tsey 58.19 318 *e*P **P 10 45 55.4 -3.0**
ZEI pmax pmax
comp=Z,28nm,0.7s
ARU Arti 58.35 337 P **P 10 45 58.5 -0.4**
comp=Z,3.6nm,0.4s,baz=143,slow=5.2,SNR=38
ARU Arti 58.35 337*c i*P **P 10 45 58.4 -0.4**
ARU pmax pmax
comp=Z,47nm,1.0s
ARU Arti 58.35 337 P **P 10 45 58.6 -0.4**
YSS Yuzh-Sakhalins 58.43 37⇓ *e*P **P 10 45 59.0 -0.7**
YSS *e**PP **pP 10 46 17.3 +1.9**
YSS *e* 10 46 49.3
YSS *e*PPP PPP 10 49 27.5
YSS *e*S **S 10 53 54.7 -3.6**
YSS *e*SS **SS 10 57 56.0 +4.5**
YSS pmax pmax
comp=Z,200nm,3.4s
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=Z,200nm,14.0s
YSS MLR MLR
comp=N,100nm,17.0s
YSS MLR MLR
comp=E,200nm,15.0s
YSS Yuzh-Sakhalins 58.43 37 P **P 10 45 59.6 -0.1**
KBZ Khabaz 59.25 319 P **P 10 46 05.0 -0.4**
comp=E,19nm,0.9s,baz=137,slow=6.1,SNR=38
KBZ Khabaz 59.25 319 P **P 10 46 05.0 -0.4**
KVAR Kislovodsk Arr 59.48 319 P **P 10 46 07.5 +0.3**
comp=E,4.3nm,0.3s,baz=270,slow=20,SNR=2.9
KIV Kislovodsk 59.48 319 *i*P **P 10 46 06.7 -0.5**
SNR=6.2
KIV Kislovodsk 59.48 319 *e*P **P 10 46 06.6 -0.6**
KIV pmax pmax
comp=Z,123nm,1.1s
KIV Kislovodsk 59.48 319 P **P 10 46 06.8 -0.4**
KIV IAmb IAmb 10 46 07.7
comp=Z,30nm,0.8s
GOF Gofitskoye 59.72 320⇑ *e*P **P 10 46 08.2 -0.4**
ASF Jabal al Asfar 59.99 304 P **P 10 46 12.6 +1.7**
comp=Z,11nm,0.9s,baz=57,slow=5.2,SNR=14
TYV Tymovskoe 60.37 33 *e*P **P 10 46 13.7 +0.7**
TYV *e* 10 54 29.8
TYV pmax pmax
comp=Z,25nm,1.4s
TYV pmax pmax
comp=Z,200nm,4.1s
TYV MLR MLR
comp=Z,700nm,18.0s
KUR Kuril'sk 60.83 40 *e*P P 10 46 29.6 +13
KUR pmax pmax
comp=Z,29nm,0.6s
KUR pmax pmax
comp=N,12nm,0.4s
KUR pmax pmax
comp=E,24nm,0.4s
CMSA Cobar Meteorol 60.94 131 P **P 10 46 17.9 +0.7**
baz=61,SNR=48
GAZ Gaziantep 61.03 310 IAmb IAmb 10 46 19.5
comp=Z,38nm,0.9s
EIL Elat 61.10 301 P **P 10 46 19.6 +1.2**
comp=Z,11nm,0.8s,baz=110,slow=3.0,SNR=10
RMQ Roma 61.21 124 P **P 10 46 20.2 +1.0**
baz=61,SNR=6.6
MMAI Mount Meron Ar 61.41 305 P **P 10 46 22.4 +1.9**
comp=Z,23nm,0.8s,baz=99,slow=8.8,SNR=17
YAK Yakutsk 62.17 18 P **P 10 46 23.7 -1.3**
comp=Z,25nm,0.5s,baz=329,slow=0.2,SNR=12
YAK Yakutsk 62.17 18 *e*P **P 10 46 23.2 -1.7**
YAK *e**PP **pP 10 46 37.4 -3.3**
YAK *e* 10 47 02.7
YAK *e*S **S 10 54 48.8 +3.1**
YAK *e**SS **pS 10 55 04.9 +0.8**
YAK pmax pmax
comp=Z,45nm,0.8s
YAK pmax pmax
comp=N,26nm,1.4s
YAK pmax pmax
comp=E,13nm,1.4s
YAK pmax pmax
comp=Z,120nm,4.4s
YAK pmax pmax
comp=N,149nm,4.1s
YAK pmax pmax
comp=E,68nm,4.1s
YAK smax smax
comp=E,80nm,3.7s
YAK smax smax
comp=N,60nm,3.5s
YAK MLR MLR
comp=Z,330nm,23.0s
YAK MLR MLR
comp=N,280nm,24.0s
YAK MLR MLR
comp=E,104nm,20.0s
YAK Yakutsk 62.17 18 P **P 10 46 23.7 -1.3**
VRH Novokhopyorsk 63.23 326 *e*P **P 10 46 30.9 -1.3**
VRH pmax pmax
comp=Z,100nm,0.7s
ANN Anapa 63.29 318 *e*P **P 10 46 29.1 -3.6**
ANN *e* 10 48 50.4
ANN *e*S **S 10 54 59.8 -0.5**
ANN *e*SS **SS 10 59 06.6 -1.1**
ANN pmax pmax
comp=Z,80nm,1.4s
KIRV Kirov 63.45 335 P **P 10 46 33.1 -0.4**
comp=Z,27nm,0.7s,baz=120,slow=3.1,SNR=14
TOO Toolangi 63.72 137 P **P 10 46 37.4 +1.6**
baz=64,SNR=9.9
NRIK Noril'sk 64.02 357 P **P 10 46 36.5 -0.6**
comp=Z,40nm,0.7s,baz=152,slow=5.6,SNR=52
NRIK LR LR 11 18 30.9
comp=Z,57nm,18.1s,baz=189,slow=40
BR131 Keskin Array S 64.42 312 IAmb IAmb 10 46 40.7
comp=Z,20nm,0.8s
BRTR Keskin Array B 64.42 312 P **P 10 46 39.6 -0.8**
comp=Z,16nm,0.7s,baz=128,slow=7.5,SNR=79
BRTR LR LR 11 16 41.9
comp=Z,74nm,21.7s,baz=98,slow=38
VORD Divnogorie 64.51 325 *e*P **P 10 46 38.8 -1.8**
VORD pmax pmax
comp=Z,50nm,0.7s
VSR Storozhevoye 64.69 325 *e*P **P 10 46 40.2 -1.6**
VSR pmax pmax
comp=Z,50nm,0.5s
ILGA Ilgaz 64.72 313 IAmb IAmb 10 46 43.3
comp=Z,30nm,0.9s
ANTO Ankara 65.09 312⇑ P **P 10 46 44.3 -0.5**
ANTO Ankara 65.09 312 P **P 10 46 44.4 -0.3**
ANTO pmax pmax
comp=Z,23nm,0.9s
ANTO Ankara 65.09 312 P **P 10 46 44.4 -0.3**
ANTO IAmb IAmb 10 46 44.7
comp=Z,22nm,0.8s
CAN Canberra 65.12 133 P **P 10 46 45.1 +0.1**
CAN pmax pmax
comp=Z,104nm,2.0s
CAN Canberra 65.12 133 P **P 10 46 45.1 +0.1**
CAN IAmb IAmb 10 46 47.8
comp=Z,104nm,2.0s
LPSR Galich'ya Gora 65.41 326 *e*P **P 10 46 45.1 -1.3**
LPSR pmax pmax
comp=Z,50nm,0.7s
PRGR Permogore 66.80 337⇑ *i*P **P 10 46 54.4 -0.7**
PRGR *e*S **S 10 55 41.5 -1.3**
PRGR pmax pmax
comp=Z,79nm,0.6s
MOS Moscow 67.44 329 *e*P **P 10 46 56.4 -2.9**
MOS *e* 10 47 10.2
MOS pmax pmax
comp=Z,73nm,0.6s
OBN Obninsk 67.73 328 P **P 10 47 00.1 -1.1**
comp=Z,6.9nm,0.4s,baz=91,slow=8.9,SNR=12
OBN Obninsk 67.73 328⇑ *i*P **P 10 47 00.2 -0.9**
OBN *e* 10 47 31.9
OBN *e* 10 49 28.9
OBN pmax pmax
comp=Z,111nm,1.7s
OBN MLR MLR
comp=Z,86nm,23.0s
MA2 Magadan 68.72 27 P **P 10 47 06.4 -0.8**
comp=Z,17nm,0.5s,baz=285,slow=6.4,SNR=14
MA2 Magadan 68.72 27⇑ *i*P **P 10 47 06.5 -0.8**
MA2 pmax pmax
comp=Z,29nm,0.8s
KLMR Klimovskoe 68.89 334 *e*P **P 10 47 06.4 -1.9**
KLMR pmax pmax
comp=Z,52nm,1.4s
KLMR Klimovskoe 68.89 334 *e*P **P 10 47 06.4 -1.9**
KLMR AMP 10 47 08.7
comp=Z,52nm,1.4s
TIRR Tirgusor 69.35 316⇑ P **P 10 47 11.2 -0.3**
TIXI Tiksi 69.55 11 P **P 10 47 11.0 -1.2**
comp=Z,36nm,0.6s,baz=221,slow=3.9,SNR=32
TIXI Tiksi 69.55 11⇓ *i*P **P 10 47 11.0 -1.2**
TIXI pmax pmax
comp=Z,34nm,0.6s
TIXI Tiksi 69.55 11 P **P 10 47 11.1 -1.2**
TIXI IAmb IAmb 10 47 11.7
comp=Z,42nm,0.6s
MILM Milestii Mici 69.67 318⇑ P **P 10 47 12.5 -0.9**
CFR Carcaliu 69.71 316⇑ P **P 10 47 13.4 -0.3**
PETK Petropavlovsk- 69.72 35 P **P 10 47 12.4 -1.3**
comp=Z,3.9nm,0.9s,baz=60,slow=3.6,SNR=9.5
PETK LR LR 11 17 59.7
comp=Z,209nm,21.9s,baz=241,slow=36
HARR Harsova 69.74 316⇑ P **P 10 47 14.3 +0.4**
PRD Provadia 69.79 314 *e*P **P 10 47 13.8 -0.5**
MATP Matopo 69.81 246 P **P 10 47 16.2 +1.3**
comp=Z,3.1nm,0.4s,baz=72,slow=6.6,SNR=14
MATP Matopo 69.81 246 *i*P **P 10 47 17.0 +2.1**
MATP Matopo 69.81 246 *i*P **P 10 47 17.0 +2.1**
NEF NEVSHA 69.90 314 *e*P **P 10 47 14.5 -0.4**
CHOS Chios island 69.91 309 P **P 10 47 15.6 +0.4**
SIGR SIGRI 70.20 310 P **P 10 47 18.1 +1.3**
JMB Yambol 70.24 313 *e*P **P 10 47 17.0 0.0**
PET Petropavlovsk 70.24 35 *e*P **P 10 47 15.3 -1.5**
PET pmax pmax
comp=Z,24nm,0.8s
IOSP Ios island 70.26 307 P **P 10 47 16.6 -0.7**
SORM Soroca 70.27 319⇑ P **P 10 47 16.2 -0.9**
ALN Alexandroupoli 70.34 311 P **P 10 47 17.1 -0.6**
ALN Alexandroupoli 70.34 311 IAmb IAmb 10 47 18.6
comp=Z,29nm,1.0s
IDI Anoyia 70.39 305 P **P 10 47 18.1 0.0**
comp=Z,50nm,0.6s,baz=80,slow=8.0,SNR=67
IDI Anoyia 70.39 305 P **P 10 47 18.0 -0.2**
IDI Anoyia 70.39 305⇑ P **P 10 47 18.8 +0.6**
AKASG Malin Array Be 70.39 322 P **P 10 47 16.3 -1.5**
comp=Z,5.5nm,0.4s,baz=88,slow=5.2,SNR=33
AKBB Malin Array Si 70.39 322 P **P 10 47 15.6 -2.2**
AKBB pmax pmax
comp=Z,18nm,0.6s
AKBB Malin Array Si 70.39 322 P **P 10 47 15.6 -2.2**
AKBB IAmb IAmb 10 47 16.9
comp=Z,18nm,0.6s
RAZG Razgrad 70.50 314⇑ P **P 10 47 18.5 -0.1**
SMTH Samothraki Isl 70.66 311 P **P 10 47 19.1 -0.5**
RDO Rodhopi 70.76 312 P **P 10 47 19.6 -0.6**
BISRR Bisoca 70.77 316⇓ P **P 10 47 21.6 +1.3**
LIA Limnos Island 70.82 310 P **P 10 47 19.8 -0.8**
VRI Vrincioaia 70.83 317⇑ P **P 10 47 21.1 +0.5**
PLOR Plostina 70.88 317⇑ P **P 10 47 21.4 +0.5**
DIM Dimitrovgrad 70.92 313 *e*P **P 10 47 20.8 -0.4**
KDZ Kurdzhali 70.94 312 *e*P **P 10 47 21.1 -0.3**
SERI Serifos 70.96 307 P **P 10 47 20.3 -1.3**
VAM Vamos 70.96 305 P **P 10 47 22.3 +0.7**
TESR Tescani 71.02 317⇑ P **P 10 47 21.7 0.0**
TMCR Tamitsa 71.08 337 *e*P **P 10 47 20.6 -1.1**
TMCR pmax pmax
comp=Z,44nm,0.8s
IMMV Iera Moni Meta 71.15 306 P **P 10 47 23.2 +0.5**
MLR Muntele Rosu 71.28 316 P **P 10 47 23.7 +0.2**
comp=Z,30nm,0.7s,baz=102,slow=1.7,SNR=34
MLR Muntele Rosu 71.28 316⇑ P **P 10 47 23.8 +0.3**
MLR Muntele Rosu 71.28 316 IAmb IAmb 10 47 24.8
comp=Z,46nm,0.9s
THAS Thassos island 71.29 311 P **P 10 47 21.9 -1.5**
BIZ Bicaz 71.48 318⇑ P **P 10 47 24.5 0.0**
DION Dionisos Attik 71.52 308 P **P 10 47 24.0 -0.9**
VLY Voula,Athens 71.60 308 P **P 10 47 24.0 -1.4**
ANKY Antikythira Is 71.75 306 P **P 10 47 24.9 -1.4**
DOPR Dopca 71.76 317⇑ P **P 10 47 25.1 -1.2**
HUMR Humele 71.77 315⇑ P **P 10 47 26.6 +0.3**
OUR Ouranopolis 71.80 311 P **P 10 47 26.0 -0.5**
MTUR Matau 71.84 316⇑ P **P 10 47 26.0 -0.8**
VOIR 71.89 316⇑ P **P 10 47 26.4 -0.7**
PAIG Paliouri 71.97 310 P **P 10 47 27.1 -0.5**
DID Didima 71.99 308 P **P 10 47 26.1 -1.7**
PGB Panagyurishte 72.01 313 *e*P **P 10 47 26.9 -0.9**
NVR Nevrokopi 72.04 312 P **P 10 47 27.4 -0.6**
ARR Arges 72.17 316⇑ P **P 10 47 28.3 -0.4**
MMB Musomiste 72.18 312 *e*P **P 10 47 27.8 -1.1**
BURAR Bucovina Array 72.21 318⇑ P **P 10 47 29.6 +0.6**
MICGM Minsk 72.24 326 *e* **P 10 47 27.0 -1.8**
MNK Minsk 72.24 326 *e*P **P 10 47 27.0 -1.8**
KKB Krupnik 72.70 312 *e*P **P 10 47 31.0 -0.9**
VTS Vitosha 72.70 313⇑ P **P 10 47 31.8 -0.2**
VTS Vitosha 72.70 313 *e*P **P 10 47 31.6 -0.5**
GUR Goura 72.75 308 P **P 10 47 30.8 -1.6**
TRIP Tripoli 72.76 307 P **P 10 47 31.4 -1.0**
LIT Litokhoron 72.90 310 P **P 10 47 31.8 -1.3**
LIT Litokhoron 72.90 310 IAmb IAmb 10 47 32.9
comp=Z,39nm,0.8s
KLV Kalavryta, Ach 72.91 308 P **P 10 47 31.9 -1.4**
NACGM Naroch 72.96 326 *e* **P 10 47 32.0 -1.1**
ITM Ithomi 72.99 307 IAmb IAmb 10 47 33.9

comp=Z,55nm,0.8s
VAY Valandovo 73.00 311 *i* P **P** **10 47 32.9 -0.8**
ANX Ano Chora 73.15 309 P **P** **10 47 32.8 -2.0**
DRO Drossia 73.25 308 P **P** **10 47 34.5 -0.7**
STIP Stip 73.34 312 *i* P **P** **10 47 33.6 -2.0**
LVV L'vov 73.42 320 *eP* P 10 47 51.1 +15
DEV Deva 73.45 316 ⇑P **P** **10 47 36.6 +0.4**
LBTB Lobatse 73.52 242 P **P** **10 47 39.7 +2.5**
comp=Z,6.0nm,0.8s,baz=97,slow=4.8,SNR=7.6
LBTB Lobatse 73.52 242 *i* P **P** **10 47 40.1 +2.9**
LBTB Lobatse 73.52 242 P **P** **10 47 40.2 +3.1**
LBTB pmax pmax
comp=Z,22nm,1.0s
LBTB Lobatse 73.52 242 P **P** **10 47 40.2 +3.1**
LBTB Lobatse 73.52 242 *i* P **P** **10 47 40.1 +2.9**
HERR Herculane 73.63 315 ⇑P **P** **10 47 37.2 -0.1**
VSU Vasula 73.96 330*c* *i* P **P** **10 47 38.3 -0.6**
VSU pmax pmax
comp=Z,45nm,0.6s
LVZ Lovozero 74.04 340 ⇑ *i* P **P** **10 47 38.5 -0.7**
LVZ pmax pmax
comp=Z,27nm,0.6s
LVZ Lovozero 74.04 340 P **P** **10 47 38.6 -0.7**
LVZ IAmb IAmb 10 47 39.4
comp=Z,33nm,0.7s
TRPA Tarpa 74.08 318 ⇑P **P** **10 47 40.3 +0.5**
MDVR Moldovita 74.11 315 ⇓P **P** **10 47 40.0 -0.2**
LKD2 Lefkada island 74.16 309 P **P** **10 47 39.6 -1.0**
KWP Kalwaria Pacla 74.23 320 *eP* **P** **10 47 40.9 +0.2**
BZS Buzias 74.30 316 ⇑P **P** **10 47 41.2 0.0**
UZH Uzhgorod 74.32 319 *eP* **P** **10 47 40.8 -0.4**
UZH *e* 10 47 56.4
APA Apatity 74.32 340 ⇑ *i* P **P** **10 47 38.4 -2.5**
APA *i* 10 47 54.5
APA *eS* **SKiKP** **10 57 06.0 +3.5**
APA pmax pmax
comp=Z,30nm,0.8s
APA MLR MLR
comp=Z,200nm,22.0s
SIRR Siria 74.37 316 ⇑P **P** **10 47 41.9 +0.3**
KOLS Kolonicke sedl 74.39 319 *eP* **P** **10 47 42.2 +0.5**
KOLS *e* 10 47 57.1
KOLS pmax pmax
comp=Z,20nm,0.9s
KOLS Kolonicke sedl 74.39 319 *eP* **P** **10 47 42.2 +0.5**
KOLS *e* 10 47 57.1
BOSA Boshof 74.72 239 P **P** **10 47 45.1 +1.1**
comp=Z,3.6nm,0.6s,baz=77,slow=3.8,SNR=13
BOSA LR LR 11 14 17.6
comp=Z,304nm,20.3s,baz=17,slow=30
BOSA Boshof 74.72 239 *i* P **P** **10 47 46.0 +1.9**
BOSA Boshof 74.72 239 P **P** **10 47 45.6 +1.5**
BOSA pmax pmax
comp=Z,24nm,1.1s
BOSA Boshof 74.72 239 P **P** **10 47 45.6 +1.5**
BOSA Boshof 74.72 239 *i* P **P** **10 47 46.0 +1.9**
SUW Suwalki 74.79 325 *eP* **P** **10 47 43.1 -0.7**
SUW Suwalki 74.79 325 **PcP** **10 47 55.5 -2.2**
CRVS Cervenica-Dubn 74.91 319 *eP* **P** **10 47 45.1 +0.4**
CRVS *e* 10 48 01.6
CRVS pmax pmax
comp=Z,77nm,1.3s
CRVS Cervenica-Dubn 74.91 319 *eP* **P** **10 47 45.1 +0.4**
CRVS *e* 10 48 01.6
FINES FINESS Array B 75.12 332 P **P** **10 47 44.9 -0.7**
comp=Z,8.7nm,0.5s,baz=102,slow=5.5,SNR=71
FINES LR LR 11 24 57.3
comp=Z,73nm,20.9s,baz=136,slow=39
DIVS Divibare 75.24 314 ⇑ *i* P **P** **10 47 46.2 -0.6**
KECS Kecovo 75.48 319 *eP* **P** **10 47 48.3 +0.3**
KECS pmax pmax
comp=Z,18nm,0.7s
KECS Kecovo 75.48 319 *eP* **P** **10 47 48.3 +0.3**
FRGS Fruska Gora 75.50 315 ⇑ *i* P **P** **10 47 46.6 -1.6**
PDG Podgorica 75.59 312 ⇓P **P** **10 47 48.0 -0.7**
PDG Podgorica 75.59 312 ⇑ *i* P **P** **10 47 47.7 -1.0**
PDG Podgorica 75.59 312 IAmb IAmb 10 48 04.0
comp=Z,29nm,0.9s
DRME Dracevica, Mon 75.62 312 ⇑ *i* P **P** **10 47 47.9 -1.0**
RUDO Rudo 75.64 314 *eP* **P** **10 47 47.9 -1.1**
BBLS Lazići 75.64 314 ⇑ *i* P **P** **10 47 49.0 -0.1**
NIE Niedzica 75.74 320 *eP* **P** **10 47 50.2 +0.7**
PSZ Piszkesteto 75.80 318 ⇑P **P** **10 47 49.6 -0.3**
PSZ Piszkesteto 75.80 318 IAmb IAmb 10 47 50.5
comp=Z,22nm,0.7s
UPM Unac-Piva 75.93 313 ⇑ *i* P **P** **10 47 49.9 -1.0**
BRY Bratogost 76.17 313 *eP* **P** **10 47 51.3 -0.9**
OJC Ojcow 76.18 320 *eP* **P** **10 47 52.1 +0.2**
OJC Ojcow 76.18 320 IAmb IAmb 10 47 53.0
comp=Z,49nm,0.8s
MAW Mawson 76.23 192 P **P** **10 47 54.0 +2.2**
comp=Z,1.4nm,0.6s,baz=44,slow=8.6,SNR=4.2
MAW LR LR 11 18 32.7
comp=Z,116nm,18.4s,baz=52,slow=33
MAW Mawson 76.23 192 P **P** **10 47 54.0 +2.2**
LANS Liptovska Anna 76.24 319 *eP* **P** **10 47 52.8 +0.4**
LANS pmax pmax
comp=Z,16nm,1.6s
LANS Liptovska Anna 76.24 319 *eP* **P** **10 47 52.8 +0.4**
MORH Mrgy, Hungar 76.44 316 ⇑ *i* P **P** **10 47 52.9 -0.5**
VYHS Vyhne 76.57 318 *eP* **P** **10 47 54.3 +0.1**
VYHS *e* 10 48 09.9
VYHS pmax pmax
comp=Z,20nm,0.8s
VYHS Vyhne 76.57 318 *eP* **P** **10 47 54.3 +0.1**
VYHS *e* 10 48 09.9
OKC Ostrava-Krasne 77.19 320 *eP* **P** **10 47 58.2 +0.6**
OKC *e* 10 48 14.0
OKC Ostrava-Krasne 77.19 320 *eP* **P** **10 47 58.2 +0.6**
OKC *e*pP **pP** **10 48 14.0 +0.4**
TIP Timpagrande 77.22 309 ⇑P **P** **10 47 58.5 +0.4**
TIP Timpagrande 77.22 309 IAmb IAmb 10 47 59.4
comp=Z,37nm,1.4s
BLY Banja Luka 77.31 315 ⇑ *i* P **P** **10 47 58.3 -0.1**
KEV Kevo 77.32 341 P **P** **10 47 57.6 -0.3**
KEV pmax pmax
comp=Z,34nm,0.7s
KEV Kevo 77.32 341 P **P** **10 47 57.6 -0.3**
KEV IAmb IAmb 10 47 58.7
comp=Z,34nm,0.7s
JAVC Velka Javorina 77.38 319 ⇑ *i* P **P** **10 47 59.8 +1.0**
JAVC *e* 10 48 15.6
SMOL Smolenice 77.50 318 *eP* **P** **10 47 59.5 +0.1**
SMOL Smolenice 77.50 318 *eP* **P** **10 47 59.5 +0.1**
MORC Moravsky Berou 77.57 320 ⇑P **P** **10 48 00.2 +0.4**
MORC Moravsky Berou 77.57 320 ⇑ *i* P **P** **10 48 00.1 +0.3**
MORC *e* 10 48 15.7
MORC Moravsky Berou 77.57 320 IAmb IAmb 10 48 01.4
comp=Z,61nm,1.4s
MODS Modra-Piesok 77.59 318 *eP* **P** **10 47 59.3 -0.6**
MODS pmax pmax
comp=Z,22nm,0.9s
MODS Modra-Piesok 77.59 318 *eP* **P** **10 47 59.3 -0.6**
ARCES ARCESS Array B 77.75 340 P **P** **10 48 00.2 -0.1**
comp=Z,21nm,0.6s,baz=96,slow=6.1,SNR=187
ARCES PP **PP** **10 50 56.8 +0.5**
comp=Z,8.7nm,0.9s,baz=102,slow=9.2,SNR=5.3
ARCES LR LR 11 25 39.1
comp=Z,108nm,21.5s,baz=114,slow=38
ARE0 ARCESS Array S 77.75 340 ⇑ *i* P **P** **10 48 00.3 -0.1**
BEHE Becsehely 77.75 316 ⇑ *i* P **P** **10 48 02.1 +1.3**
CEL Celeste 77.84 308 IAmb IAmb 10 48 03.4
comp=Z,34nm,0.9s
KRLC Kraliky 78.09 320 *eP* **P** **10 48 02.9 +0.2**
KRLC *e* 10 48 15.2
KRLC Kraliky 78.09 320 *eP* **P** **10 48 02.9 +0.2**
KRLC *ex* x 10 48 15.2
KOGS Kog 78.11 316 *i* P **P** **10 48 03.2 +0.4**
KOGS *e*pP **pP** **10 48 18.8 -0.1**
KOGS *e* 10 48 23.4
VRAC Vranov 78.13 319 P **P** **10 48 03.1 +0.2**
comp=Z,5.0nm,0.5s,baz=104,slow=6.5,SNR=6.2
VRAC Vranov 78.13 319 ⇑ *i* P **P** **10 48 02.9 0.0**
BILL Bilibino 78.19 21 ⇓ *i* P **P** **10 48 02.0 -0.8**
BILL *e* 10 48 14.5
BILL *e* 10 51 03.6
BILL *e*SS SS 11 02 56.6 +1.2
BILL pmax pmax
comp=Z,19nm,1.2s
BILL MLR MLR
comp=Z,602nm,19.0s
KRUC Moravsky 78.24 319 ⇑ *i* P **P** **10 48 03.5 0.0**
DPC Dobruska-Polom 78.41 320 *eP* **P** **10 48 05.0 +0.5**
DPC *e* 10 48 17.0
DPC Dobruska-Polom 78.41 320 *eP* **P** **10 48 05.0 +0.5**
DPC *ex* x 10 48 17.0
KSP Ksiaz 78.48 321 *eP* **P** **10 48 05.2 +0.4**
CONA Conrad Observa 78.49 318 *eP* **P** **10 48 04.9 -0.1**
comp=Z,19nm,1.2s,SNR=11
OSTC Ostas 78.50 320 *eP* **P** **10 48 05.1 +0.2**
CHVC Chvalec 78.60 320 *eP* **P** **10 48 06.0 +0.5**
CHVC *ex* x 10 48 22.0
CRES Cresnjev 78.61 316 ⇑ *i* P **P** **10 48 05.5 -0.1**
UPC Upice 78.62 320 *eP* **P** **10 48 06.1 +0.5**
UPC Upice 78.62 320 *eP* **P** **10 48 06.1 +0.5**
ARSA Arzberg 78.67 317 *eP* **P** **10 48 06.4 +0.4**
comp=Z,30nm,1.2s,SNR=13
HAMF Hammerfest 78.67 341 ⇑ *i* P **P** **10 48 05.3 -0.1**
PERS Pernice 78.90 316 *i* P **P** **10 48 07.7 +0.4**
PERS *i* pP **pP** **10 48 23.3 0.0**
PERS *e* 10 48 27.9
SOKA Soboth 78.96 316 *eP* **P** **10 48 08.0 +0.4**
comp=Z,36nm,0.9s,SNR=35
VAE Valguarnera 78.99 307 P **P** **10 48 08.2 +0.3**
comp=Z,16nm,0.6s,baz=163,slow=1.2,SNR=2.0
LJU Ljubljana 79.27 316 *i* P **P** **10 48 09.7 +0.5**
LJU *i* pP **pP** **10 48 25.6 +0.2**
LJU Ljubljana 79.27 316 ⇑ *i* P **P** **10 48 09.6 +0.4**
OBKA Obir 79.28 316 *eP* **P** **10 48 09.8 +0.4**
comp=Z,13nm,0.7s,SNR=14
CEY Cerknica 79.33 315 ⇑ *i* P **P** **10 48 09.4 -0.2**
GOPC GO Pecny, Ondr 79.36 320 *eP* **P** **10 48 09.9 +0.3**
GOPC *e* 10 48 16.7
GOPC GO Pecny, Ondr 79.36 320 *eP* **P** **10 48 09.9 +0.3**
GOPC *e*PCP **PcP** **10 48 16.7 -0.9**
SUR Sutherland 79.36 236 P **P** **10 48 12.9 +2.8**
comp=Z,8.5nm,0.9s,baz=76,slow=7.2,SNR=6.6
PRU Pruhonice 79.52 320 *eP* **P** **10 48 10.5 0.0**
PRU *e* 10 48 22.6
PRU Pruhonice 79.52 320 *eP* **P** **10 48 10.5 0.0**
PRU *ex* x 10 48 22.6
MOA Molln 79.56 318 *i* P **P** **10 48 10.6 -0.2**
comp=Z,11nm,0.9s,SNR=7.3
TSUM Tsumeb 79.62 249 pwP 10 48 29.9 -1.0
PBCC Pribram 79.85 319 *eP* **P** **10 48 12.2 -0.1**
PBCC *ex* x 10 48 24.7
AQU L'Aquila 79.91 312 ⇑ *i* P **P** **10 48 12.5 -0.4**
MYKA Terra Mystica 79.92 316 *eP* **P** **10 48 12.8 0.0**
comp=Z,8.0nm,0.6s,SNR=9.4
PRED Cave del Predi 79.96 316 IAmb IAmb 10 48 14.2
comp=Z,35nm,0.9s
BRG Berggiesshubel 79.96 321 ⇑ *i* P **P** **10 48 13.2 +0.3**
comp=Z,16nm,1.0s
BRG *e* 10 48 25.2
comp=Z,11nm,1.1s
BRG Berggiesshubel 79.96 321 *eP* **P** **10 48 13.1 +0.3**
comp=Z,48nm,1.8s,baz=92,slow=5.2
GEC2 GERESS Array S 79.99 319 *eP* **P** **10 48 13.7 +0.5**
comp=Z,40nm,0.9s,baz=92,slow=5.2
GEC2 GERESS Array S 79.99 319 IAmb IAmb 10 48 14.6
comp=Z,33nm,0.8s
GERES GERESS Array B 79.99 319 P **P** **10 48 13.5 +0.3**
comp=Z,23nm,0.7s,baz=91,slow=5.5,SNR=166
GERES PP **PP** **10 51 17.3 +1.7**
comp=Z,0.8nm,0.7s,baz=102,slow=8.1,SNR=2.5
TRO Tromso 80.00 340 ⇑ *i* P **P** **10 48 11.9 -0.7**
HOPEN Hopen 80.08 347 ⇑ *i* P **P** **10 48 12.8 -0.2**
KHC Kasperske Hory 80.09 319*c* *i* P **P** **10 48 13.7 +0.1**
KHC pmax pmax
comp=Z,26nm,0.8s
KHC Kasperske Hory 80.09 319 *eP* **P** **10 48 13.5 -0.1**
KHC *ex* x 10 48 24.1
KBA Koelnbreinsper 80.14 317 *i* P **P** **10 48 13.4 -0.7**
comp=Z,6.6nm,0.5s,SNR=8.5
FBE Freiberg 80.34 321 *eP* **P** **10 48 15.3 +0.4**
comp=Z,25nm,1.0s,baz=92,slow=5.2
ZOU Zoufplan 80.37 316 IAmb IAmb 10 48 18.6
comp=Z,89nm,1.7s
WET Wettzell 80.55 319 *eP* **P** **10 48 16.6 +0.5**
comp=Z,22nm,1.0s,baz=92,slow=5.2
CLL Collm 80.58 321 ⇑ *i* P **P** **10 48 15.9 -0.3**
comp=Z,34nm,1.8s
CLL *i* (pP) **pP** **10 48 28.8 -3.5**
comp=Z,16nm,1.3s
CLL Collm 80.58 321 ⇑ *i* P **P** **10 48 15.9 -0.3**
CLL pmax pmax
comp=Z,34nm,1.8s
CLL Collm 80.58 321 *eP* **P** **10 48 15.8 -0.3**
comp=Z,34nm,1.8s,baz=92,slow=5.2
MURB Monte Urbino 80.58 313 IAmb IAmb 10 48 36.8
comp=Z,30nm,1.0s
ABTA Abfaltersbach 80.70 316 *eP* **P** **10 48 16.4 -0.6**
comp=Z,8.1nm,0.6s,SNR=7.0
CIMO Cimolais 80.73 316 IAmb IAmb 10 48 18.3
comp=Z,50nm,0.9s
N2IH Innhavet 80.78 338 ⇑ *i* P **P** **10 48 16.8 -0.1**
TANN Tannenbergstha 80.88 320 *eP* **P** **10 48 17.9 0.0**
comp=Z,32nm,1.5s,baz=92,slow=5.2
NKC Novy Kostel 80.88 320 *eP* **P** **10 48 17.7 -0.1**
NKC *e* 10 48 34.1
NKC Novy Kostel 80.88 320 *eP* **P** **10 48 17.7 -0.1**
NKC *ex* x 10 48 34.1
FAUS Fauske 80.94 337 ⇑ *i* P **P** **10 48 17.2 -0.5**
BJO1 Bjornoya 81.00 345 ⇑ *i* P **P** **10 48 17.8 -0.1**
ROTZ Rotzenmuhle 81.02 319 *eP* **P** **10 48 18.9 +0.4**
comp=Z,18nm,0.9s,baz=92,slow=5.2
N2TV T¥rnvik 81.03 338 ⇑ *i* P **P** **10 48 17.7 -0.5**
STEI Steigen 81.04 338 ⇑ *i* P **P** **10 48 17.7 -0.6**
PLN Plauen 81.08 320 *eP* **P** **10 48 18.9 +0.1**
comp=Z,26nm,1.8s,baz=92,slow=5.2
MANZ Manzenberg 81.09 320 *eP* **P** **10 48 19.5 +0.5**
comp=Z,32nm,1.2s,baz=92,slow=5.2
LATE Laterza 81.10 312 IAmb IAmb 10 48 19.8
comp=Z,36nm,1.2s
LATE pP 10 48 33.2 -2.2
NBB28 Valnes 81.24 337 ⇑ *i* P **P** **10 48 18.7 -0.6**
CTI Castel Tesino 81.28 316 IAmb IAmb 10 48 21.0
comp=Z,32nm,0.8s
WTTA Wattenberg 81.31 317 *i* P **P** **10 48 19.8 -0.6**
comp=Z,18nm,0.5s,SNR=12
WATA Walderalm 81.36 317 *eP* **P** **10 48 19.9 -0.7**
comp=Z,11nm,0.5s,SNR=8.2
NBB05 Inndyr 81.39 337 ⇑ *i* P **P** **10 48 20.0 -0.1**
MOX Moxa 81.43 320 *eP* **P** **10 48 20.6 -0.1**
comp=Z,27nm,1.7s,baz=92,slow=5.2
N2VI Vinje 81.48 338 ⇑ *i* P **P** **10 48 19.9 -0.6**
NBB30 Fines 81.50 337 ⇑ *i* P **P** **10 48 20.0 -0.6**
OSSC Osservatorio P 81.52 313 pP 10 48 38.3 +0.7
SQTA Sankt Quirin 81.60 317 *i* P **P** **10 48 21.3 -0.5**
comp=Z,18nm,0.5s,SNR=13
GRF Grafenberg Arr 81.65 319 *eP* **P** **10 48 22.6 +0.7**
comp=Z,23nm,0.9s,baz=92,slow=5.2
MOTA Moosalm 81.68 317 *i* P **P** **10 48 21.6 -0.7**
comp=Z,22nm,0.7s,SNR=14
KONS Konsvik 81.69 336 *eP* **P** **10 48 21.9 +0.2**
LOF Lofoten 81.70 338 ⇑ *i* P **P** **10 48 20.8 -0.9**
ZCCA Zocca 81.72 314 IAmb IAmb 10 48 25.2
comp=Z,29nm,0.7s
N2SV S¸rv¥gen 81.87 338 ⇑ *i* P **P** **10 48 21.5 -1.1**
RETA Reutte 81.91 317 *i* P **P** **10 48 23.1 -0.3**
comp=Z,19nm,0.5s,SNR=17
FETA Feichten 81.93 317 *i* P **P** **10 48 23.4 -0.2**
comp=Z,9.2nm,0.6s,SNR=10
NC602 NORSAR Array S 81.94 330 *eP* **P** **10 48 22.8 -0.3**
NSS Namsos 82.00 334 ⇑ *i* P **P** **10 48 22.6 -0.8**
ASSE Asse, Remlinge 82.06 322 *eP* **P** **10 48 23.8 -0.1**
comp=Z,18nm,1.1s,baz=92,slow=5.2
NB2 NORSAR Subarra 82.12 331 P **P** **10 48 23.2 -1.0**
comp=Z,20nm,1.4s,baz=98,slow=5.1
NB2 NORSAR Subarra 82.12 331 P **P** **10 48 23.2 -1.0**
baz=98,slow=5.1
NOA NORSAR Array B 82.12 331 P **P** **10 48 23.6 -0.6**
comp=Z,4.0nm,0.9s,baz=94,slow=5.4,SNR=10
NOA PP **PP** **10 51 34.0 +1.3**
comp=Z,1.0nm,0.7s,baz=90,slow=8.7,SNR=4.2
NOA LR LR 11 29 09.3
comp=Z,40nm,19.1s,baz=75,slow=39
N2RO R¸st 82.18 337 ⇑ *i* P **P** **10 48 23.1 -1.1**
CLZ Clausthal 82.24 321 *eP* **P** **10 48 25.2 +0.2**
comp=Z,19nm,1.0s,baz=92,slow=5.2
FUORN Ofenpass-Fuorn 82.24 316 IAmb IAmb 10 48 27.1
comp=Z,84nm,1.6s
HSPB Hornsund (broa 82.32 347 ⇑ *i* P **P** **10 48 24.3 -0.5**
BSEG Bad Segeberg 82.32 324 *eP* **P** **10 48 25.4 +0.2**
comp=Z,23nm,0.9s,baz=92,slow=5.2
SPA0 Spitsbergen Ar 82.34 348 ⇑ *eP* **P** **10 48 24.4 -0.6**
SPITS Spitsbergen Ar 82.34 348 P **P** **10 48 24.6 -0.4**
comp=Z,27nm,0.6s,baz=97,slow=12,SNR=85
UBR Ueberruh 82.36 317 *eP* **P** **10 48 25.3 -0.4**
comp=Z,16nm,0.8s,baz=92,slow=5.2
NRDL Niedersach Rie 82.42 322 *eP* **P** **10 48 26.3 +0.5**
comp=Z,32nm,1.4s,baz=92,slow=5.2
DAVA Damuels 82.51 317 *eP* **P** **10 48 26.6 -0.1**
comp=Z,30nm,1.3s,SNR=7.9
MSSA Maissana 82.77 314 IAmb IAmb 10 48 27.7
comp=Z,22nm,0.8s
KONO Kongsberg 82.86 329 ⇑ *i* P **P** **10 48 27.6 -0.4**
KONO Kongsberg 82.86 329 *eP* **P** **10 48 27.8 -0.2**
VSL Villasalto 82.94 309 IAmb IAmb 10 48 30.1
comp=Z,31nm,1.0s
KEST Kesra 83.06 305 P **P** **10 48 30.9 +1.2**
comp=Z,30nm,0.9s,baz=18,slow=1.0,SNR=28
KEST Kesra 83.06 305 IAmb IAmb 10 48 32.0
comp=Z,45nm,1.1s
DOMB Dombas 83.19 332 ⇑ *i* P **P** **10 48 29.2 -0.5**
SYO Syowa Base 83.21 197 ⇓ *eP* **P** **10 48 29.8 +0.3**
SYO Syowa Base 83.21 197 ⇑ *e*PcP **PcP** **10 48 34.8 +0.9**
SYO Syowa Base 83.21 197 ⇑ *e*pP pP 10 48 47.0 +1.5
KBS Kingsbay 83.33 349 ⇓ *i* P **P** **10 48 29.6 -0.5**
KBS Kingsbay 83.33 349 ⇑ *i* P **P** **10 48 29.1 -0.9**
TNS Taunus Mts 83.45 320 *eP* **P** **10 48 31.4 +0.1**
comp=Z,18nm,1.1s,baz=92,slow=5.2
SKAR Skarslia 83.53 330 *eP* **P** **10 48 30.8 -0.7**
BFO Black Forest 83.55 318 P **P** **10 48 31.4 -0.4**
BFO pmax pmax
comp=Z,10.0nm,0.8s
BFO Black Forest 83.55 318 *eP* **P** **10 48 31.4 -0.4**
comp=Z,13nm,0.8s,baz=92,slow=5.2
BFO Black Forest 83.55 318 P **P** **10 48 31.4 -0.4**
MOL Molde 83.90 332 ⇑ *i* P **P** **10 48 33.3 0.0**
AKN Aaknes 84.16 332 *eP* **P** **10 48 34.5 -0.2**
SENIN Lac Senin/Sane 84.30 316 IAmb IAmb 10 48 37.5
comp=Z,20nm,0.8s
BLS5 Blasjo 84.46 329 *eP* **P** **10 48 36.4 +0.1**
CMAH Djebel Manchou 84.59 306 P **P** **10 48 38.5 +1.1**
WLF Walferdange 84.94 319 ⇓P **P** **10 48 39.1 +0.3**
WLF Walferdange 84.94 319 *eP* **P** **10 48 39.0 +0.1**
comp=Z,26nm,1.2s,baz=92,slow=5.2
ADK Adak 84.97 38 P **P** **10 48 38.0 -0.9**
ADK pmax pmax
comp=Z,65nm,1.3s
ADK Adak 84.97 38 P **P** **10 48 38.0 -0.9**
CTEI Djebel Teioual 85.43 306 P **P** **10 48 43.0 +1.2**
BMRD Maredsous 85.81 320 P **P** **10 48 42.6 -0.5**
DFRA Djebel Bou Aff 85.83 306 P **P** **10 48 45.8 +2.1**
SNF Seneffe 86.10 320 ⇓P **P** **10 48 44.3 -0.2**
TAM Tamanrasset 87.13 292 **pwP** **10 49 08.2 -1.6**
TAM IAmb IAmb 10 49 13.9
comp=Z,16nm,1.1s
CLF Chambon-Foret 87.62 318 IAmb IAmb 10 48 52.8
comp=Z,16nm,0.7s
NOR Nord 87.75 352 ⇑ *i* P **P** **10 48 51.1 -0.9**
comp=Z,23nm,0.8s
NOR Nord 87.75 352 ⇑ *i* P **P** **10 48 51.1 -0.9**
NOR pmax pmax
comp=Z,23nm,0.8s
JMIC Jan Mayen 89.19 341 P **P** **10 49 00.1 +1.2**
comp=Z,20nm,0.7s,baz=68,slow=1.7,SNR=4.5
JMIC Jan Mayen 89.19 341 *eP* **P** **10 48 58.5 -0.4**
ANM Nome 89.44 25 IAmb IAmb 10 49 01.6
comp=Z,23nm,1.2s
DAG Danmarks Havn 89.98 348 ⇑ *i* P **P** **10 49 01.4 -1.1**
comp=Z,11nm,0.6s
DAG Danmarks Havn 89.98 348 ⇑ *i* P **P** **10 49 01.4 -1.1**
DAG pmax pmax
comp=Z,11nm,0.6s
VNDA Vanda 90.42 168 P **P** **10 49 04.5 -0.1**
comp=Z,1.5nm,0.9s,baz=307,slow=5.5,SNR=6.1
VNDA LR LR 11 25 33.0
comp=Z,130nm,18.6s,baz=312,slow=33
VNDA Vanda 90.42 168 P **P** **10 49 04.8 +0.3**
VNDA pmax pmax
comp=Z,14nm,1.5s
VNDA Vanda 90.42 168 P **P** **10 49 04.8 +0.3**
A21K Barrow 90.83 18 P **P** **10 49 06.0 -0.6**
baz=289
TORD Torodi Ar. Bea 91.65 283 P **P** **10 49 12.3 +0.7**
comp=Z,4.2nm,0.9s,baz=82,slow=4.2,SNR=20
TORD PKKPbc **PKKPbc** **11 06 30.6 0.0**
comp=Z,0.5nm,0.5s,baz=289,slow=2.4,SNR=8.0
TORD LR LR 11 29 13.2
comp=Z,157nm,19.3s,baz=80,slow=35
ESBB Sonseca Array 93.18 310 IAmb IAmb 10 49 20.0
comp=Z,23nm,1.5s
ESDC Sonseca Array 93.18 310 P **P** **10 49 18.9 +0.6**
comp=Z,3.8nm,0.5s,baz=59,slow=4.4,SNR=27
ESDC LR LR 11 35 50.3
comp=Z,33nm,19.6s,baz=305,slow=38
PAB San Pablo 93.50 310 P **P** **10 49 20.7 +1.0**
PAB pmax pmax
comp=Z,5.0nm,0.8s
PAB San Pablo 93.50 310 P **P** **10 49 20.7 +1.0**
TTA Tatalina 93.88 26 IAmb IAmb 10 49 22.4
comp=Z,28nm,1.4s
TOLK Toolik Lake Re 94.11 19 P **P** **10 49 21.8 -0.1**
baz=296
TOLK Toolik Lake Re 94.11 19 IAmb IAmb 10 49 23.1
comp=Z,21nm,0.9s
COLD Coldfoot 94.51 21 P **P** **10 49 23.7 +0.1**
baz=295
SVW2 Sparrevohn 94.70 27 IAmb IAmb 10 49 26.2
comp=Z,18nm,1.2s
MDT Midelt 94.84 303 P **P** **10 49 27.2 +1.2**
comp=Z,1.6nm,0.7s,baz=31,slow=6.8,SNR=4.5
PPLA Purkeypile 95.52 25 IAmb IAmb 10 49 29.4
comp=Z,37nm,1.8s
BPAW Bear Paw Mtn. 95.53 24 IAmb IAmb 10 49 30.3
comp=Z,16nm,0.9s
NEA2 Nenana 96.08 23 P **P** **10 49 30.7 -0.2**
baz=296
TRF Thorofare Moun 96.08 24 IAmb IAmb 10 49 34.5
comp=Z,7.6nm,1.0s
MCK McKinley 96.51 24 IAmb IAmb 10 49 33.1
comp=Z,7.5nm,0.8s
SUMG Summit 96.65 347 *i* P **P** **10 49 32.5 -1.3**
SUMG Summit 96.65 347 *i* P **P** **10 49 32.5 -1.3**
RND Reindeer 96.69 24 IAmb IAmb 10 49 34.0
comp=Z,31nm,1.9s
IL31 96.83 22 IAmb IAmb 10 50 06.5
comp=Z,15nm,1.9s
ILAR Eielson Array 96.83 22 P **P** **10 49 33.0 -1.3**
comp=Z,1.5nm,0.5s,baz=292,slow=3.7,SNR=21
ILAR PP **PP** **10 53 29.1 -0.5**
comp=Z,1.4nm,1.1s,baz=274,slow=8.3,SNR=5.2
ILAR LR LR 11 38 15.3
comp=Z,71nm,19.7s,baz=310,slow=38
HDA Harding Lake 96.98 23 P **P** **10 49 33.8 -1.1**
baz=298
PMR Palmer 97.37 26 IAmb IAmb 10 49 37.2
comp=Z,6.4nm,0.9s
SNAA Sanae 97.45 198 ⇓ *i* P pdif 10 49 39.1 +2.0
SML Sawmill 97.61 25 IAmb IAmb 10 49 39.3
comp=Z,11nm,0.8s
RIDG Independent Ri 98.11 23 IAmb IAmb 10 49 40.2
comp=Z,6.2nm,1.0s
SCRK Sand Creek 98.32 22 P **P** **10 49 40.4 -0.8**
baz=301
A36M Sachs Harbour 98.56 12 P **P** **10 49 41.6 -0.3**
baz=320
DBIC Dimbokro 98.77 278 P pdif 10 49 45.0 +0.9
comp=Z,4.3nm,0.9s,baz=128,slow=7.0,SNR=3.8
DBIC LR LR 11 33 51.5
comp=Z,85nm,19.2s,baz=62,slow=35
DBIC Dimbokro 98.77 278 P pdif 10 49 45.0 +0.9
MENT Mentasta 98.96 23 IAmb IAmb 10 49 45.2
comp=Z,7.3nm,0.9s
INK Inuvik 99.21 16 P **Pdif** **10 49 44.2 -0.7**
comp=Z,5.9nm,0.9s,baz=308,slow=5.5,SNR=7.5
INK Inuvik 99.21 16 IAmb IAmb 10 49 46.2
comp=Z,9.1nm,1.1s
EPYK Eagle Plains 99.50 19 P **Pdif** **10 49 45.4 -0.8**
baz=308
DAWY Dawson 99.97 21 IAmb IAmb 10 49 49.1
comp=Z,22nm,1.9s
C36M Paulatuk 100.84 13 P **Pdif** **10 49 51.6 -0.5**
baz=321
YKA Yellowknife Ar 108.69 14 Pdiff **Pdif** **10 50 28.6 +1.4**
comp=Z,0.5nm,0.8s,baz=335,slow=6.2,SNR=5.8
YKA PKiKP **PKiKP** **10 54 31.2 -0.8**
comp=Z,0.4nm,0.6s,baz=1.0,slow=2.7,SNR=13
YKA PP **PP** **10 54 56.1 -2.0**
comp=Z,1.6nm,0.8s,baz=336,slow=8.0,SNR=9.5
YKA PKKPbc **PKKPbc** **11 05 39.6 -4.0**
comp=Z,0.3nm,0.7s,baz=146,slow=3.3,SNR=4.8

YKA				PKKP	PKKPdf	11 05 57.0	-0.6		
	comp=Z,0.4nm,0.7s,baz=143,slow=3.0,SNR=4.5								
B05A	Bryant	117.61	27	P	PKiKP	10 54 49.6	0.0		
	baz=318,SNR=5.9								
D03D	Eldon	117.69	28	P	PKiKP	10 54 49.8	0.0		
	baz=317								
SCHQ	Schefferville	118.03	348	PKP	PKPdf	10 54 50.0	-0.2		
	comp=Z,3.4nm,0.4s,baz=12,slow=2.1,SNR=13								
E04D	Cinebar	118.65	28	P	PKiKP	10 54 51.6	0.0		
	baz=317								
G03D	McMinnville, O	119.28	30	P	PKiKP	10 54 52.9	0.0		
	baz=316								
F05D	White Salmon	119.67	28	P	PKPdf	10 54 53.4	-0.2		
	baz=318								
NEW	Newport	119.74	24	P	PKPdf	10 54 53.7	0.0		
	baz=323								
H04D	Lebanon	120.04	30	P	PKiKP	10 54 54.7	+0.3		
	baz=316								
G05D	Wamic, OR	120.21	29	P	PKPdf	10 54 54.6	-0.1		
	baz=318								
I03D	Drain, OR	120.31	31	P	PKiKP	10 54 55.3	+0.3		
	baz=315								
J01E	Myrtle Point	120.38	32	P	PKPdf	10 54 54.9	-0.1		
	baz=314								
I04A	Tendick Farm,	120.72	31	P	PKPdf	10 54 55.2	-0.5		
	baz=316								
K02D	Willamette Mer	120.85	32	P	PKPdf	10 54 55.6	-0.5		
	baz=314								
I05D	Terrebonne, OR	120.86	29	P	PKiKP	10 54 56.2	+0.1		
	baz=317								
L02E	Cave Junction	121.25	33	P	PKPdf	10 54 56.8	+0.1		
	baz=314								
J04D	Umpqua Nationa	121.27	31	P	PKPdf	10 54 57.1	+0.1		
	baz=316								
J05D	Fort Rock, OR	121.68	30	P	PKiKP	10 54 58.2	+0.3		
	baz=317								
L04D	Klamath Falls	121.90	32	P	PKPdf	10 54 58.1	-0.1		
	baz=315								
MSO	Missoula	122.16	23	P	PKPdf	10 54 57.9	-0.6		
	baz=326,SNR=20								
M02C	Callahan	122.19	33	P	PKiKP	10 54 59.0	+0.1		
	baz=314								
M04C	Macdoel	122.45	32	P	PKiKP	10 54 59.6	+0.1		
	baz=316								
N02D	Trinity Center	122.56	33	P	PKiKP	10 54 59.7	+0.1		
	baz=314								
EGMT	Eagleton	122.64	19	P	PKPdf	10 54 59.2	-0.1		
	baz=331								
O02D	Mt. Diablo Mer	123.07	34	P	PKiKP	10 55 00.8	+0.1		
	baz=314								
O03E	Paynes Creek	123.53	33	P	PKPdf	10 55 00.7	-0.6		
	baz=315								
ULM	Lac du Bonnet	123.83	8	PKP	PKPdf	10 55 01.0	-0.4		
	comp=Z,17nm,0.7s,baz=15,slow=3.0,SNR=16								
DGMT	Dagmar	123.87	15	P	PKPdf	10 55 01.7	+0.1		
	baz=337								
BOZ	Bozeman (W)	124.07	22	P	PKPdf	10 55 02.3	0.0		
	baz=328,SNR=15								
CHGQ	Chibougamau	124.09	351	P	PKPdf	10 55 01.4	-0.6		
	baz=13								
HLID	Hailey	124.64	25	P	PKiKP	10 55 03.9	+0.2		
	baz=324								
MATQ	Matagami	124.66	354	P	PKPdf	10 55 02.4	-0.6		
	baz=9.3								
BATG	Bathurst New B	124.84	344		PKiKP	10 55 03.9	+0.1		
LAO	LASA Array	124.93	17	P	PKiKP	10 55 04.8	+0.7		
	baz=334								
LSQQ	Lebel-sur-Quev	125.27	353	P	PKPdf	10 55 04.2	-0.1		
	baz=10								
RLMT	Red Lodge	125.33	21	P	PKiKP	10 55 05.1	-0.1		
	baz=330,SNR=7.9								
H17A	Grant Village	125.48	22	P	PKiKP	10 55 06.2	+0.7		
	baz=329,SNR=6.7								
MDND	Maddock	125.51	12	P	PKPdf	10 55 04.8	+0.1		
	baz=342								
D63A	Stockholm	125.60	346	P	PKPdf	10 55 04.8	-0.1		
	baz=21								
AGMN	Agassiz Nation	125.74	9	P	PKPdf	10 55 04.4	-0.8		
	baz=347,SNR=5.4								
D62A	Allapoint, All	125.79	346	P	PKPdf	10 55 04.6	-0.7		
	baz=20								
D61A	St Aubert, Com	125.93	347	P	PKPdf	10 55 05.5	0.0		
	baz=19								
E64A	Bridgewater	126.11	345	P	PKPdf	10 55 05.9	0.0		
	baz=22								
E63A	Oxbow	126.25	346	P	PKPdf	10 55 05.9	-0.3		
	baz=21								
VLDQ	Val d'Or	126.26	353	PKPdf	PKPdf	10 55 05.9	-0.2		
LATQ	La Tuque	126.28	349	P	PKPdf	10 55 05.8	-0.4		
	baz=16,SNR=8.0								
E62A	Clayton Lake	126.33	347	P	PKPdf	10 55 05.8	-0.5		
	baz=20								
D60A	Saint Jean D'O	126.36	348	P	PKPdf	10 55 05.8	-0.6		
	baz=18								
D58A	Chemin du LacG	126.58	349	P	PKPdf	10 55 06.4	-0.4		
	baz=16								
EYMN	Ely	126.60	5	P	PKPdf	10 55 06.8	0.0		
	baz=352,SNR=20								
E61A	Lac Etchemin	126.73	347	P	PKPdf	10 55 07.0	-0.1		
	baz=18,SNR=9.2								
NVAR	Mina Arrary Bea	126.75	32	PKP	PKiKP	10 55 08.8	+0.7		
	comp=Z,3.9nm,0.6s,baz=292,slow=2.4,SNR=55								
F64A	Sherman	126.75	345	P	PKPdf	10 55 06.7	-0.4		
	baz=21,SNR=5.3								
D57A	Chemin Vers le	126.83	350	P	PKPdf	10 55 06.7	-0.6		
	baz=14,SNR=7.0								
D56A	ZEC Mazanza, M	126.94	351	P	PKPdf	10 55 06.9	-0.6		
	baz=13,SNR=10								
E60A	Ste Agathe de	126.99	348	P	PKPdf	10 55 07.0	-0.6		
	baz=17								
MLAC	Mammoth, Mammt	127.05	33	P	PKPdf	10 55 07.7	-0.6		
	baz=317								
D55A	Sainte-Anne-du	127.08	352	P	PKPdf	10 55 07.4	-0.4		
	baz=12,SNR=13								
F63A	Nahmakanta, Br	127.09	346	P	PKPdf	10 55 06.8	-1.0		
	baz=20								
D54A	Lac Fusel, La	127.11	353	P	PKPdf	10 55 07.0	-0.8		
	baz=11,SNR=5.1								
F62A	Pittston Farm,	127.12	347	P	PKPdf	10 55 07.6	-0.3		
	baz=19								
G65A	Princeton	127.16	344	P	PKPdf	10 55 06.3	-1.6		
	baz=22								
BW06	Boulder Array	127.26	22	P	PKPdf	10 55 08.2	-0.4		
	baz=329								
PDAR	Pinedale Array	127.26	22	PKP	PKPdf	10 55 08.2	-0.3		
	comp=Z,3.9nm,0.5s,baz=103,slow=2.0,SNR=52								
F61A	St Evariste	127.27	347	P	PKPdf	10 55 07.9	-0.3		
	baz=18								
D53A	Lac Vacive, Po	127.31	353	P	PKPdf	10 55 07.3	-0.9		
	baz=9.6,SNR=9.8								
D53A	Lac Vacive, Po	127.31	353	PKPdf	PKPdf	10 55 08.1	-0.1		
E58A	La Victoria	127.34	350	P	PKPdf	10 55 07.6	-0.7		
	baz=15,SNR=5.2								
G64A	Maxfield	127.43	345	P	PKPdf	10 55 08.3	-0.2		
	baz=21								
D50A	G1974 Best Tow	127.43	355	P	PKPdf	10 55 07.5	-0.9		
	baz=6.9,SNR=9.1								
D49A	Beulah Townshi	127.43	357	P	PKPdf	10 55 07.8	-0.6		
	baz=5.0								
E57A	Chemin Saint G	127.46	350	P	PKPdf	10 55 08.2	-0.3		
	baz=14								
D51A	Lot 18 Range I	127.47	355	P	PKPdf	10 55 07.6	-0.9		
	baz=7.5,SNR=6.6								
E56A	St. Veronique	127.47	351	P	PKPdf	10 55 08.2	-0.3		
	baz=13,SNR=12								
H66A	Whiting	127.48	344	P	PKPdf	10 55 08.3	-0.3		
	baz=23,SNR=7.4								
F60A	Warwick	127.48	348	P	PKPdf	10 55 08.3	-0.2		
	baz=17,SNR=7.4								
D52A	ZEK Kipawa Sen	127.49	354	P	PKPdf	10 55 08.0	-0.6		
	baz=8.7,SNR=9.9								
PKME	Peaks-Kenny Pk	127.55	346	P	PKPdf	10 55 08.5	-0.2		
	baz=20								
D48A	Paudash Townsh	127.56	357	P	PKPdf	10 55 07.8	-0.8		
	baz=4.4,SNR=8.7								
E55A	Montcerf-Lytto	127.71	352	P	PKPdf	10 55 08.7	-0.3		
	baz=12								
D47A	Chapleau	127.73	358	P	PKPdf	10 55 08.2	-0.8		
	baz=2.8								
F59A	Saint Guilaume	127.75	349	P	PKPdf	10 55 08.8	-0.3		
	baz=16								
G63A	Kingsbury	127.77	346	P	PKPdf	10 55 08.8	-0.3		
	baz=20								
TIN	Tinemaha, Big	127.79	33	P	PKPdf	10 55 09.6	0.0		
	baz=317								
H65A	Eastbrook	127.81	345	P	PKPdf	10 55 08.8	-0.4		
	baz=22								
E54A	Lac Daplat, Po	127.88	353	P	PKPdf	10 55 08.3	-1.0		
	baz=10,SNR=6.0								
G62A	West of Eustis	127.89	347	P	PKPdf	10 55 08.8	-0.6		
	baz=19								
RSSD	Black Hills	127.91	17	P	PKPdf	10 55 09.5	-0.2		
	baz=336								
RSSD	Black Hills	127.91	17	PKiKP	PKPdf	10 55 09.9	+0.2		
RSSD	Black Hills	127.91	17	PKPdf	PKPdf	10 55 09.9	+0.2		
D46A	Sault St. Mari	127.92	359	P	PKPdf	10 55 08.8	-0.6		
	baz=1.6,SNR=12								
E53A	Dumoine, Ponti	128.00	353	P	PKPdf	10 55 08.9	-0.6		
	baz=9.7,SNR=8.9								
E51A	G1948 Merrick	128.03	355	P	PKPdf	10 55 09.0	-0.6		
	baz=7.4,SNR=7.0								
SMMC	Simmler	128.03	36	P	PKPdf	10 55 10.2	+0.2		
	baz=314								
G61A	St-Isidore-de-	128.04	348	P	PKPdf	10 55 09.1	-0.6		
	baz=18								
DUG	Dugway, Tooele	128.07	27	P	PKiKP	10 55 10.4	-0.2		
	baz=324								
H64A	Troy	128.12	345	P	PKPdf	10 55 08.9	-0.9		
	baz=20								
VES	Vestal, Richgr	128.19	35	P	PKPdf	10 55 09.8	-0.4		
	baz=315								
E52A	Mattawa	128.20	354	P	PKPdf	10 55 09.2	-0.7		
	baz=8.5,SNR=6.2								
R11A	Troy Canyon, C	128.21	30	P	PKiKP	10 55 11.2	+0.1		
	baz=320								
E50A	Wahnapitae	128.24	356	P	PKPdf	10 55 09.5	-0.5		
	baz=5.8,SNR=7.7								
E48A	Lockeyer	128.27	357	P	PKPdf	10 55 09.4	-0.7		
	baz=4.0,SNR=6.4								
CWC	Cottonwood Cre	128.32	34	P	PKPdf	10 55 10.8	+0.2		
	baz=317								
E47A	Iron Bridge	128.34	358	P	PKPdf	10 55 09.9	-0.3		
	baz=2.6								
G60A	Masonville	128.39	348	P	PKPdf	10 55 10.1	-0.3		
	baz=17								
PKM	Mcpherson Peak	128.43	36	P	PKiKP	10 55 12.0	+0.4		
	baz=314								
K22A	Casper	128.45	20	P	PKPdf	10 55 10.6	-0.2		
	baz=333								
ALGO	Algonquin Park	128.46	353	P	PKPdf	10 55 09.7	-0.7		
	baz=9.3,SNR=6.0								
G59A	Clarenceville	128.57	349	P	PKPdf	10 55 10.5	-0.1		
	baz=16								
ORIO	Orleans, Innes	128.61	351	P	PKPdf	10 55 10.6	-0.1		
	baz=12								
H62A	Milan	128.64	347	P	PKPdf	10 55 10.7	-0.2		
	baz=18								
ISA	Isabella, Lake	128.66	35	P	PKPdf	10 55 11.2	-0.1		
	baz=316								
F51A	Arnstein	128.67	355	P	PKPdf	10 55 10.6	-0.2		
	baz=6.9								
G58A	Ormstown	128.67	350	P	PKPdf	10 55 10.6	-0.2		
	baz=14								
F52A	Sundridge	128.75	355	P	PKPdf	10 55 10.6	-0.3		
	baz=7.7,SNR=7.4								
H61A	Lyndonville	128.84	348	P	PKPdf	10 55 11.1	-0.1		
	baz=17,SNR=5.3								
G57A	Newington	128.87	351	P	PKPdf	10 55 10.8	-0.4		
	baz=13								
SUSD	Miller	128.90	12	P	PKPdf	10 55 10.7	-0.6		
	baz=342								
I64A	Boothbay	128.90	345	P	PKPdf	10 55 10.9	-0.3		
	baz=20								
MPMC	Manual Prospec	128.93	34	P	PKiKP	10 55 12.9	+0.3		
	baz=317								
TPNV	Topopah Spring	128.94	32	P	PKiKP	10 55 12.2	-0.3		
	baz=319								
F48A	Evansville	128.94	358	P	PKPdf	10 55 11.0	-0.3		
	baz=3.5								
FURC	Furnace Creek,	128.97	33	P	PKiKP	10 55 12.3	0.0		
	baz=318								
F49A	Sandfield	128.98	357	P	PKPdf	10 55 10.6	-0.8		
	baz=4.2								
G55A	Calabogie	128.98	352	P	PKPdf	10 55 10.7	-0.7		
	baz=11								
I63A	Otisfield	129.00	346	P	PKPdf	10 55 11.7	+0.2		
	baz=19								
G54A	Lake Saint Pet	129.01	353	P	PKPdf	10 55 11.0	-0.5		
	baz=9.3,SNR=5.5								
H59A	Cadyville	129.09	349	P	PKPdf	10 55 11.5	-0.2		
	baz=15,SNR=5.3								
LBNH	Lisbon	129.12	348	P	PKPdf	10 55 11.9	+0.2		
	baz=17								
SPMN	Marine on St.	129.16	7	P	PKiKP	10 55 12.2	-0.3		
	baz=350								
LRMC	Laurel Mtn Rad	129.24	34	P	PKiKP	10 55 13.2	0.0		
	baz=317								
LONY	Lake Ozonia	129.27	350	P	PKPdf	10 55 11.4	-0.6		
	baz=14,SNR=5.5								
G53A	Haliburton	129.34	354	P	PKPdf	10 55 11.4	-0.7		
	baz=8.6								
I62A	Tamworth	129.34	347	P	PKPdf	10 55 11.1	-1.1		
	baz=18								
H58A	Gabriels	129.40	350	P	PKPdf	10 55 11.5	-0.8		
	baz=14								
I61A	Oroboro, Fairl	129.48	348	P	PKPdf	10 55 12.5	+0.1		
	baz=17								
EDW2	Edwards Air Fo	129.50	35	P	PKPdf	10 55 13.0	+0.1		
	baz=316								
H57A	Richville	129.56	351	P	PKPdf	10 55 12.4	-0.2		
	baz=13,SNR=5.3								
H56A	Elgin	129.56	352	P	PKPdf	10 55 12.8	+0.3		
	baz=12,SNR=6.7								
SHOC	Shoshone, Teco	129.71	33	P	PKiKP	10 55 13.8	-0.1		
	baz=318								
H55A	Tweed	129.73	352	P	PKPdf	10 55 12.8	-0.1		
	baz=11,SNR=6.7								
I60A	Shoreham	129.78	349	P	PKPdf	10 55 13.2	+0.2		
	baz=16,SNR=6.1								
J63A	Strafford	129.85	346	P	PKPdf	10 55 13.4	+0.3		
	baz=19								
GSC	Goldstone, Bar	129.86	34	P	PKiKP	10 55 14.0	-0.3		
	baz=318								
H53A	Bobcaygeon	129.88	354	P	PKPdf	10 55 13.0	-0.2		
	baz=8.8								
I59A	Olmsteadville	129.94	349	P	PKPdf	10 55 13.7	+0.4		
	baz=15								
GLMI	Grayling	130.00	359	P	PKPdf	10 55 13.3	-0.1		
	baz=0.9								
O20A	White River Ci	130.03	23	P	PKPdf	10 55 14.1	+0.2		
	baz=330								
ECSD	EROS Data Cent	130.04	11	P	PKPdf	10 55 13.2	-0.4		
	baz=345,SNR=19								
J62A	Henniker	130.07	347	P	PKPdf	10 55 13.9	+0.4		
	baz=18								
J61A	Chester	130.11	348	P	PKiKP	10 55 14.1	-0.3		
	baz=17								
I57A	Carthage	130.11	351	P	PKPdf	10 55 14.0	+0.4		
	baz=13								
I55A	Frankford	130.13	353	P	PKPdf	10 55 13.7	+0.1		
	baz=10.0								
BFSC	Mount Baldy Ra	130.15	35	P	PKPdf	10 55 14.5	+0.4		
	baz=316								
FMP	Fort Macarthur	130.15	36	P	PKPdf	10 55 14.1	+0.1		
	baz=316								
N23A	Red Feather La	130.21	20	P	PKPdf	10 55 13.7	-0.6		
	baz=333								
I58A	Old Forge	130.24	350	P	PKPdf	10 55 14.1	+0.2		
	baz=14								
TUQ	Turquoise Moun	130.24	33	P	PKiKP	10 55 15.0	-0.1		
	baz=319								
CIS	Catalina Islan	130.30	37	P	PKPdf	10 55 13.1	-1.2		
	baz=315								
J59A	Pesco	130.38	350	P	PKPdf	10 55 14.1	-0.1		
	baz=14								
J60A	Lant Hill Farm	130.39	349	P	PKiKP	10 55 14.8	-0.3		
	baz=16								
HEC	Hector,Ludlow	130.47	34	P	PKiKP	10 55 15.3	-0.2		
	baz=318								
I52A	Shelburne	130.54	355	P	PKPdf	10 55 14.7	+0.2		
	baz=6.8								
BBRC	Big Bear Solar	130.56	35	P	PKiKP	10 55 15.7	-0.2		
	baz=317								
J58A	Remsen	130.62	350	P	PKiKP	10 55 15.1	-0.4		
	baz=13								
J57A	Williamstown	130.68	351	P	PKPdf	10 55 14.7	-0.1		
	baz=12,SNR=5.4								
K62A	Royalston	130.69	347	P	PKiKP	10 55 15.6	-0.1		
	baz=17								
I53A	Kortright Cn E	130.73	354	P	PKPdf	10 55 15.0	+0.3		
	baz=7.5								
I51A	Listowel	130.87	356	P	PKPdf	10 55 15.3	+0.2		
	baz=5.7								
GMRC	Granite Mounta	130.87	33	P	PKiKP	10 55 16.7	+0.2		
	baz=318								
MURC	Murrieta	130.88	36	P	PKiKP	10 55 16.2	-0.1		
	baz=316								
J56A	Wolcott	130.94	352	P	PKPdf	10 55 15.5	+0.3		
	baz=11								
L61B	Northampton	131.00	348	P	PKPdf	10 55 15.7	+0.3		
	baz=17								
J55A	Hilton	131.08	353	P	PKPdf	10 55 15.3	-0.1		
	baz=9.9								
K58A	Earlville	131.26	350	P	PKiKP	10 55 16.4	-0.4		
	baz=13								
BELC	Belle Mtn. Jos	131.27	34	P	PKiKP	10 55 17.4	+0.2		
	baz=318								
PFO	Pinyon Flats O	131.29	35	P	PKiKP	10 55 17.1	-0.2		
	baz=317								
PFO	Pinyon Flats O	131.29	35	⇓ i PKIKP	PKPdf	10 55 15.7	-0.7		
ISCO	Idaho Springs	131.29	21	P	PKPdf	10 55 16.2	-0.3		
	baz=333								
K57A	Scipio Center	131.42	351	P	PKiKP	10 55 16.7	-0.4		
	baz=12								
L61A	Hillsdale 1, H	131.43	348	P	PKiKP	10 55 16.7	-0.4		
	baz=16								
K56A	Middlesex	131.57	352	P	PKPdf	10 55 16.8	+0.3		
	baz=11								
IRM	Iron Mountain	131.62	33	P	PKiKP	10 55 17.6	-0.2		
	baz=319								
K55A	Perry	131.64	353	P	PKPdf	10 55 17.0	+0.4		
	baz=9.7								
JFWS	Jewell Farm	131.71	5	P	PKPdf	10 55 16.6	-0.1		
	baz=354,SNR=5.0								
L59A	Walton	131.71	350	P	PKiKP	10 55 17.8	0.0		
	baz=14								
BC3	Big Chuckawall	131.83	34	P	PKiKP	10 55 18.0	-0.3		
	baz=318								
K54A	Basiliko Farm,	131.83	353	P	PKPdf	10 55 17.0	0.0		
	baz=8.9								
MONP2	Monument Peak	131.83	36	P	PKiKP	10 55 18.0	-0.5		
	baz=316								
BINY	Binghamton	131.86	351	P	PKiKP	10 55 17.6	-0.4		
	baz=12								
BGNE	Belgrade	131.97	13	P	PKPdf	10 55 17.3	0.0		
	baz=343								
L58A	Harry Jones Me	131.99	350	P	PKPdf	10 55 17.3	0.0		
	baz=13								
M62A	Hamden	132.01	347	P	PKiKP	10 55 17.8	-0.5		
	baz=17								
PDMCI	Parker Dam,Lak	132.06	32	P	PKiKP	10 55 18.3	-0.3		
	baz=320								
L56A	Greenwood	132.16	352	P	PKPdf	10 55 18.0	+0.3		
	baz=10								
IKP	In-Ko-Pah, Jac	132.19	36	P	PKiKP	10 55 19.0	0.0		
	baz=317								
L57A	Andrews Acres	132.19	351	P	PKPdf	10 55 18.0	+0.4		
	baz=11								
Q24A	Divide	132.20	21	P	PKPdf	10 55 18.3	+0.1		
	baz=333								
L55A	Hinsdale	132.22	353	P	PKPdf	10 55 18.0	+0.2		
	baz=9.3								
L54A	Sinclairville	132.27	354	P	PKPdf	10 55 17.4	-0.4		
	baz=8.1,SNR=6.2								
M61A	Granite Spring	132.32	348	P	PKPdf	10 55 18.0	+0.2		
	baz=16								
M59A	Waymart	132.41	350	P	PKiKP	10 55 18.8	-0.4		
	baz=13								
MVCO	Mesa Verde	132.42	25	P	PKPdf	10 55 18.7	+0.2		
	baz=328								
ERPA	Erie	132.45	355	P	PKPdf	10 55 18.4	+0.3		
	baz=7.2								
M60A	Port Jervis	132.47	349	P	PKPdf	10 55 18.4	+0.3		
	baz=14								
WUAZ	Wupatki	132.52	29	P	PKiKP	10 55 19.4	-0.4		
	baz=324								
GLA	Glamis	132.62	34	P	PKiKP	10 55 19.4	-0.5		
	baz=318								
S22A	HJR Ranch, Cre	132.64	23	P	PKPdf	10 55 19.0	0.0		
	baz=330								
M58A	Price's Panora	132.75	351	P	PKPdf	10 55 18.8	+0.1		
	baz=12								
M57A	Sunshine Farm,	132.88	352	P	PKPdf	10 55 19.2	+0.2		
	baz=11								
M56A	Emporium	132.88	353	P	PKPdf	10 55 19.2	+0.2		
	baz=9.7								
N61A	South Mountain	132.96	349	P	PKPdf	10 55 19.4	+0.3		
	baz=15								
M55A	Ridgway	132.97	353	P	PKPdf	10 55 19.2	+0.1		
	baz=8.9								
N60A	Cedar Hill Far	133.00	349	P	PKPdf	10 55 19.2	0.0		
	baz=14								
KSCO	Kaye Shedlock'	133.00	18	P	PKPdf	10 55 19.5	0.0		
	baz=336								
M54A	Oil Creek Stat	133.03	354	P	PKPdf	10 55 19.5	+0.2		
	baz=7.7								
N59A	State Game Lan	133.07	350	P	PKPdf	10 55 19.9	+0.5		
	baz=13								
M52A	Chesterland	133.14	356	P	PKPdf	10 55 19.6	+0.1		
	baz=5.4								
SDCO	Great Sand Dun	133.15	22	P	PKPdf	10 55 19.5	-0.4		
	baz=332								
M53A	WI Miller and	133.19	355	P	PKPdf	10 55 19.3	-0.2		
	baz=6.4								
N58A	Sunbury	133.31	351	P	PKPdf	10 55 19.8	0.0		
	baz=12								
N57A	Milroy	133.51	352	P	PKPdf	10 55 20.5	+0.3		
	baz=11								
O60A	Telford	133.59	349	P	PKiKP	10 55 21.0	-0.6		
	baz=14								
N54A	Moraine State	133.60	354	P	PKiKP	10 55 21.1	-0.5		
	baz=7.3								
N55A	Marion Center	133.67	353	P	PKPdf	10 55 20.5	-0.1		
	baz=8.7								
O59A	Robesonia	133.74	350	P	PKPdf	10 55 20.2	-0.4		
	baz=13								
N53A	Lisbon	133.83	355	P	PKPdf	10 55 20.6	-0.1		
	baz=6.2								
N52A	McGinn's Farm,	133.89	356	P	PKPdf	10 55 21.0	+0.1		
	baz=5.0								
T25A	Trinidad	134.09	21	P	PKPdf	10 55 22.1	+0.4		
	baz=333								
HDIL	Hopedale	134.12	4	P	PKPdf	10 55 21.4	+0.1		
	baz=354								
P60A	Greenville	134.13	350	P	PKPdf	10 55 21.5	+0.2		
	baz=14								
O56A	Blue Knob Stat	134

P51A	**Williamsport**	**135.29**	**357**	P		**PKPdf**	10 55 23.8 +0.3
	baz=3.2						
Q58A	**Fox Den Farm,**	**135.31**	**351**	P		**PKPdf**	10 55 23.6 0.0
	baz=11						
Q57A	**Strasburg**	**135.32**	**352**	P		**PKPdf**	10 55 24.3 +0.7
	baz=9.8						
Q56A	**Snyder Ridge,**	**135.41**	**353**	P		**PKPdf**	10 55 23.9 +0.1
	baz=8.7						
Q55A	**Buckhannon**	**135.56**	**354**	P		**PKiKP**	10 55 25.0 -0.7
	baz=7.5						
Q54A	**Coxs Mills**	**135.64**	**355**	P		**PKiKP**	10 55 25.2 -0.5
	baz=6.4						
Q52A	**Bidwell**	**135.77**	**357**	P		**PKPdf**	10 55 25.1 +0.7
	baz=4.4						
Q53A	**Leroy**	**135.82**	**356**	P		**PKPdf**	10 55 25.3 +0.8
	baz=5.4						
R58A	**Rapidan**	**135.99**	**352**	P		**PKiKP**	10 55 26.0 -0.5
	baz=10						
R57A	**Stanardsville**	**136.06**	**352**	P		**PKiKP**	10 55 26.4 -0.3
	baz=9.8						
R56A	**Bull Pasture M**	**136.06**	**353**	P		**PKPdf**	10 55 25.7 +0.6
	baz=8.5						
R58B	**Mineral**	**136.30**	**351**	P		**PKiKP**	10 55 26.7 -0.4
	baz=11						
R53A	**Hurricane**	**136.38**	**356**	P		**PKiKP**	10 55 26.8 -0.5
	baz=4.9						
CCM	**Cathedral Cave**	**136.42**	**7**	P		**PKPdf**	10 55 25.9 +0.2
	baz=352						
CCM	**Cathedral Cave**	**136.42**	**7**	PKIKP		**PKiKP**	10 55 26.7 -0.7
CCM	**Cathedral Cave**	**136.42**	**7**	PKPdf		**PKiKP**	10 55 26.7 -0.7
R54A	**Victor**	**136.45**	**355**	P		**PKPdf**	10 55 25.7 -0.1
	baz=6.3						
WCI	**Wyandotte Cave**	**136.58**	**1**	P		**PKPdf**	10 55 26.4 +0.5
	baz=359						
WCI	**Wyandotte Cave**	**136.58**	**1**	PKIKP		**PKiKP**	10 55 27.0 -0.7
WCI	**Wyandotte Cave**	**136.58**	**1**	PKPdf		**PKiKP**	10 55 27.0 -0.7
S57A	**Dark Hollow, R**	**136.65**	**353**	P		**PKPdf**	10 55 26.8 +0.7
	baz=9.3						
121A	**Cookes Peak, D**	**136.66**	**28**	P		**PKPdf**	10 55 27.3 +0.7
	baz=326						
S58A	**Poland Farm, P**	**136.67**	**352**	P		**PKiKP**	10 55 27.1 -0.7
	baz=11						
S56A	**Natural Bridge**	**136.80**	**353**	P		**PKiKP**	10 55 28.0 -0.3
	baz=8.4						
S55A	**Lewisburg**	**136.81**	**354**	P		**PKPdf**	10 55 27.3 +0.8
	baz=7.0						
S54A	**Dingess, Beckl**	**136.85**	**355**	P		**PKPdf**	10 55 27.3 +0.7
	baz=5.9						
T60A	**Surry**	**136.92**	**350**	P		**PKPdf**	10 55 26.9 +0.3
	baz=13						
S53A	**Williamson**	**137.03**	**356**	P		**PKPdf**	10 55 27.1 +0.3
	baz=4.7						
T59A	**Double "B" Far**	**137.22**	**351**	P		**PKPdf**	10 55 27.6 +0.5
	baz=11						
BLA	**Blacksburg**	**137.36**	**354**	P		**PKPdf**	10 55 28.2 +0.7
	baz=7.2						
T58A	**Grand View Acr**	**137.39**	**352**	P		**PKPdf**	10 55 28.1 +0.6
	baz=10.0						
T57A	**Hurt**	**137.44**	**353**	P		**PKPdf**	10 55 28.0 +0.4
	baz=8.9						
T56A	**Rocky Mt**	**137.50**	**354**	P		**PKPdf**	10 55 28.4 +0.7
	baz=7.8						
MSTX	**Muleshoe**	**137.52**	**22**	P		**PKPdf**	10 55 28.1 +0.1
	baz=334						
T54A	**Tazewell**	**137.61**	**356**	P		**PKPdf**	10 55 28.5 +0.5
	baz=5.5						
U60A	**Pendleton**	**137.64**	**350**	P		**PKPdf**	10 55 28.6 +0.7
	baz=12						
T53A	**Wise**	**137.75**	**357**	P		**PKPdf**	10 55 28.3 +0.1
	baz=4.2						
TUL1	**Leonard**	**137.75**	**13**	P		**PKPdf**	10 55 27.8 -0.4
	baz=344						
U59A	**Littleton**	**137.86**	**351**	P		**PKPdf**	10 55 28.0 -0.4
	baz=11						
U40A	**Yellville**	**137.87**	**9**	P		**PKPdf**	10 55 27.9 -0.5
	baz=349						
U58A	**Oxford**	**137.94**	**352**	P		**PKPdf**	10 55 28.7 +0.2
	baz=10						
U57A	**Blanch**	**138.00**	**353**	P		**PKPdf**	10 55 29.0 +0.4
	baz=8.9						
U55A	**TA2, Sparta**	**138.12**	**355**	P		**PKPdf**	10 55 29.1 +0.2
	baz=6.4						
TZTN	**Tazewell**	**138.24**	**358**	P		**PKPdf**	10 55 29.3 +0.2
	baz=2.7						
MNTX	**Cornudas Mount**	**138.46**	**26**	P		**PKPdf**	10 55 29.9 +0.3
	baz=329						
V59A	**Middlesex**	**138.51**	**351**	P		**PKPdf**	10 55 29.8 +0.3
	baz=11						
V57A	**Coltrane Farms**	**138.59**	**353**	P		**PKPdf**	10 55 30.4 +0.7
	baz=8.4						
WVT	**Waverly**	**138.62**	**3**	P		**PKPdf**	10 55 30.8 +1.0
	baz=356						
WVT	**Waverly**	**138.62**	**3**	PKHKP		PKPpre	10 55 22.9
WVT	**Waverly**	**138.62**	**3**			PKPpre	10 55 22.9
V56A	**Mocksville**	**138.75**	**354**	P		**PKiKP**	10 55 31.6 -0.6
	baz=7.3						
V55A	**Taylorsville**	**138.78**	**355**	P		**PKiKP**	10 55 31.8 -0.5
	baz=6.2						
W39A	**Magazine**	**138.84**	**11**	P		**PKiKP**	10 55 31.6 -0.8
	baz=347						
W61A	**Ground Anchor**	**138.88**	**350**	P		**PKPdf**	10 55 30.8 +0.5
	baz=13						
V54A	**Nebo**	**138.91**	**356**	P		**PKiKP**	10 55 31.6 -1.0
	baz=5.1						
W41B	**Gary Mavity, V**	**139.12**	**9**	P		**PKPdf**	10 55 30.7 0.0
	baz=350						
W60A	**Pink Hill**	**139.12**	**350**	P		**PKiKP**	10 55 32.2 -0.8
	baz=12						
W57A	**Gilead**	**139.35**	**353**	P		**PKPdf**	10 55 30.9 -0.2
	baz=8.2						
W58A	**Raeford**	**139.38**	**352**	P		**PKPdf**	10 55 31.1 -0.1
	baz=9.3						
W56A	**Indian Trail**	**139.43**	**354**	P		**PKPdf**	10 55 32.2 +0.9
	baz=7.3						
MIAR	**Mount Ida**	**139.52**	**10**	P		**PKPdf**	10 55 32.3 +0.9
	baz=347						
W54A	**Cherokee Point**	**139.62**	**356**	P		**PKPdf**	10 55 32.6 +1.0
	baz=4.8						
X60A	**Albert Glenn T**	**139.63**	**351**	P		**PKPdf**	10 55 32.8 +1.1
	baz=11						
X40A	**Basin Creek Fa**	**139.70**	**10**	P		**PKPdf**	10 55 32.9 +1.1
	baz=348						
ABTX	**Abilene, Hawle**	**139.82**	**19**	P		**PKPdf**	10 55 32.8 +0.7
	baz=338						
X58A	**Rowland**	**139.85**	**352**	P		**PKPdf**	10 55 33.1 +1.0
	baz=9.3						
OXF	**Oxford**	**140.12**	**5**	P		**PKPdf**	10 55 32.7 +0.2
	baz=354						
X54A	**Belton**	**140.17**	**356**	P		**PKPdf**	10 55 33.6 +1.0
	baz=4.6						
X55A	**Gracelyn & Ava**	**140.19**	**355**	P		**PKPdf**	10 55 33.8 +1.1
	baz=5.8						
Y60A	**Bolivia**	**140.23**	**351**	P		**PKiKP**	10 55 34.2 -1.1
	baz=11						
Y55A	**Saluda**	**140.73**	**355**	P		**PKiKP**	10 55 35.7 -0.6
	baz=5.5						
WHTX	**Lake Whitney,**	**141.07**	**16**	P		**PKiKP**	10 55 36.5 -0.5
	baz=341						
Z58A	**St. Stephen**	**141.12**	**353**	P		**PKiKP**	10 55 36.9 -0.2
	baz=8.8						
TXAR	**Lajitas Array**	**141.24**	**26**	PKhKP		PKPpre	10 55 28.4
	comp=Z,0.7nm,0.5s,baz=43,slow=1.0,SNR=20						
TXAR				PKP		**PKPdf**	**10 55 35.1 +0.3**
	comp=Z,3.9nm,0.5s,baz=348,slow=0.1,SNR=20						
TXAR				PP		PP	10 58 43.9 +7.9
	comp=Z,1.2nm,0.9s,baz=354,slow=5.0,SNR=4.5						
TXAR				SKPbc		**SKPbc**	**10 59 06.4 -0.5**
	comp=Z,1.2nm,0.8s,baz=341,slow=2.7,SNR=4.2						
HKT	**Hockley**	**143.44**	**15**	PKiKP		**PKPdf**	**10 55 39.7 +1.2**
HKT	**Hockley**	**143.44**	**15**	PKPdf		**PKPdf**	**10 55 39.7 +1.2**
LC01	**Cunco**	**144.49**	**198**	PKPdf		PKPbc	10 55 39.1 +0.3
MDP	**Montagnes des**	**145.71**	**287**	PKPbc		**PKPab**	**10 55 43.9 0.0**
	comp=Z,14nm,0.5s,baz=65,slow=2.7,SNR=13						
CPUP	**Villa Florida**	**146.10**	**229**	PKPbc		**PKPdf**	**10 55 43.0 -0.3**
	comp=Z,6.1nm,0.7s,baz=133,slow=2.4,SNR=14						
CPUP	**Villa Florida**	**146.10**	**229**	PKP2		**PKPbc**	**10 55 44.5 +0.3**
CPUP	**Villa Florida**	**146.10**	**229**			**PKPbc**	**10 55 44.5 +0.3**
DWPF	**Disney Wildern**	**146.47**	**354**	P		**PKPbc**	**10 55 45.6 +0.4**
	baz=7.0						
DWPF	**Disney Wildern**	**146.47**	**354**			**PKPab**	**10 55 45.9 -0.3**
ZAIG	**Zacatecas**	**147.33**	**30**			**PKPbc**	**10 55 47.5 -0.8**
CUPR	**Culebra, Puert**	**149.23**	**320**			**PKPbc**	**10 55 53.3 +0.3**
CFA	**Coronel Fontan**	**149.39**	**210**	PKPbc		**PKPbc**	**10 55 53.2 +0.1**
	comp=Z,13nm,0.5s,baz=162,slow=2.0,SNR=8.2						
MTP	**Monte Pirata**	**149.55**	**321**			**PKiKP**	**10 55 54.3 -0.5**
AC02	**Maricunga**	**153.66**	**214**			**PKiKP**	**10 56 05.1 +1.4**
SIV	**San Ignacio**	**153.96**	**244**	PKP		**PKPdf**	**10 55 56.1 +0.2**
	comp=Z,0.9nm,0.7s,baz=133,slow=2.4,SNR=4.9						
SIV				PKPbc		**PKPbc**	**10 56 03.1 -0.8**
	comp=Z,2.1nm,0.6s,baz=109,slow=3.3,SNR=7.6						
PTGA	**Pitinga**	**154.23**	**280**	PKPdf		**PKPdf**	**10 55 57.4 +1.0**
PTGA						**PKiKP**	**10 56 05.4 +0.7**
TEIG	**Tepich**	**154.37**	**6**	PKPdf		**PKPdf**	**10 55 57.4 +1.1**
LPAZ	**La Paz**	**159.94**	**236**	PKP		**PKPdf**	**10 56 04.8 +0.5**
	comp=Z,2.9nm,0.8s,baz=34,slow=1.9,SNR=14						
LPAZ	**La Paz**	**159.94**	**236**	PKPdf		**PKPdf**	**10 56 05.0 +0.7**
ROSC	**El Rosal**	**165.00**	**313**	PKP		**PKPdf**	**10 56 09.9 +0.7**
	comp=Z,7.2nm,0.4s,baz=131,slow=20,SNR=4.9						

ROM 04 10:46:31.0±0.1, 43°.295N±0°.003×12°.519E±0°.006, h8km, Md1.2/3, 1C-1D, Error ellipse: s-maj=0.6km s-min=0.1km az=237.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MURB	**Monte Urbino**	**0.03**	**172**	P		P	Pg	10 46 32.7	+0.1
MURB				S		S	Sg	10 46 34.0	+0.2
MURB				END					
ATVO	**AVT- Monte Val**	**0.12**	**317**	↑P		P	Pg	10 46 34.0	+0.3
ATVO				S		S	Sg	10 46 36.3	+0.8
ATVO				AML		AML			
	comp=E,27μm,0.6s								
ATVO				AML		AML			
	comp=N,35μm,0.6s								
ATVO				END					
ATPI	**Pietralunga -**	**0.18**	**331**	↓P		P	Pg	10 46 35.3	+0.6
ATPI				S		S	Sg	10 46 38.3	+1.1
ATPI				END					

*DJA **04** 12:00:06.1±0.6, 6°.S±7°.×14°.7E±°, h10km, M4.6/6, mB6.3/1, mb4.5/6, MLv4.6/2, Mw(mB)6.0/1*
*IDC **04** 12:00:07.9±0.9, 6°.50S×147°.56E, h0km, mb3.9/12, mb1 4.1/15, mb1mx4.0/34, mbtmp3.9/15, ML3.6/2, MS3.7/7, Ms1 3.7/7, ms1mx3.3/31, Error ellipse: s-maj=30.2km s-min=11.7km az=103.0*
*NEIC **04** 12:00:09.8±2.2, 6°.42S±0°.06×147°.39E±0°.10, h10km±1km, mb4.1/9, Error ellipse: s-maj=18.1km s-min=6.9km az=60.0*

ISC 04 12:00:09.7±0.7, 6°.46S±0°.06×147°.5E±0°.1, h10km, n32, σ1§21/28, mb4.0/12, MS3.6/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PMG	**Port Moresby**	**2.95**	**187**	Pn		**Pn**		**12 00 57.5**	**+0.8**
	11nm,0.3s,baz=48,slow=5.5,SNR=22								
PMG				Sn		**Sn**		**12 01 33.4**	**+1.2**
	19nm,0.3s,baz=62,slow=23,SNR=3.1								
PMG				LR		LR		12 02 20.9	
	comp=Z,1μm,18.3s,baz=334,slow=46								
PMG	**Port Moresby**	**2.95**	**187**			**Pn**		**12 00 58.2**	**+1.5**
KRVT	**Keravat (AS076**	**4.98**	**65**	LR		LR		12 03 28.9	
	comp=Z,611nm,19.7s,baz=270,slow=41								
JAY	**Jayapura**	**7.83**	**300**	LR		LR		12 05 22.1	
	comp=Z,392nm,18.1s,baz=106,slow=40								
COEN	**Coen**	**8.59**	**209**	Pn		**Pn**		**12 02 13.3**	**-0.9**
CTA	**Charters Tower**	**13.61**	**185**	Pn		**Pn**		**12 03 21.2**	**-1.8**
	0.1nm,0.3s,baz=3.4,slow=12,SNR=1.2								
SIJI	**Sorong**	**17.13**	**288**	LR		LR		12 11 22.1	
	comp=Z,143nm,20.2s,baz=102,slow=39								
MTN	**Manton Dam**	**17.34**	**247**			**Pn**		**12 04 12.1**	**0.0**
MTN				IAmb		IAmb		12 04 22.1	
	comp=Z,30nm,1.3s								
WB0	**Warramunga Arr**	**18.37**	**223**	P		**P**		**12 04 23.0**	**-1.8**
WB0				IAmb		IAmb		12 04 37.4	
	comp=Z,15nm,1.1s								
WR0	**Warramunga Arr**	**18.41**	**222**	P		**P**		**12 04 24.7**	**-0.6**
WR0				IAmb		IAmb		12 04 31.9	
	comp=Z,13nm,1.1s								
WB2	**Warramunga Arr**	**18.52**	**222**	P		**P**		**12 04 25.7**	**-0.7**
WB2				IAmb		IAmb		12 04 34.2	
	comp=Z,9.4nm,0.9s								
WRA	**Warramunga Arr**	**18.53**	**222**	P		**P**		**12 04 24.2**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=50,slow=11,SNR=12								
EIDS	**Eidsvold**	**19.12**	**170**	P		**P**		**12 04 33.1**	**+0.1**
EIDS				IAmb		IAmb		12 04 40.3	
	comp=Z,9.7nm,0.9s								
GUMO	**Guam**	**20.09**	**353**	LR		LR		12 10 49.1	
	comp=Z,167nm,18.5s,baz=184,slow=32								
KNRA	**Kununurra**	**20.54**	**242**	P		**P**		**12 04 48.4**	**-0.1**
AS31	**Alice Springs**	**21.54**	**216**	P		**P**		**12 04 58.9**	**-0.4**
ASAR	**Alice Springs**	**21.54**	**216**	P		**P**		**12 04 58.5**	**-0.9**
	comp=Z,2.3nm,0.6s,baz=54,slow=8.8,SNR=35								
ASAR				S		**S**		**12 09 00.3**	**+2.0**
	comp=Z,1.6nm,1.0s,baz=38,slow=18,SNR=4.2								
ASAR				LR		LR		12 14 40.0	
	comp=Z,265nm,21.1s,baz=18,slow=40								
FITZ	**Fitzroy Crossi**	**24.26**	**240**	P		**P**		**12 05 25.9**	**-1.4**
	comp=Z,4.4nm,0.8s,baz=64,slow=6.1,SNR=7.8								
STKA	**Stephens Creek**	**25.89**	**192**	P		**P**		**12 05 40.3**	**-1.6**
	comp=Z,4.5nm,1.0s,baz=358,slow=12,SNR=5.2								
STKA				LR		LR		12 16 11.9	
	comp=Z,311nm,18.6s,baz=5.7,slow=37								
STKA	**Stephens Creek**	**25.89**	**192**	IAmb		IAmb		12 05 44.1	
	comp=Z,2.9nm,1.4s								
KASI	**Kota Agung**	**42.78**	**269**	P		P		12 08 02.1	-5.9
	comp=Z,3μmcomp=Z,93nm,0.4s								
MJAR	**Matsushiro Arr**	**43.65**	**349**	P		**P**		**12 08 14.8**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=179,slow=8.0,SNR=5.5								
KSRS	**Korea Array**	**47.36**	**339**	P		**P**		**12 08 44.0**	**0.0**
	comp=Z,1.4nm,0.8s,baz=157,slow=8.7,SNR=5.8								
CMAR	**Chiang Mai Arr**	**53.91**	**298**	P		**P**		**12 09 34.6**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=120,slow=5.0,SNR=5.6								
PETK	**Petropavlovsk-**	**59.96**	**7**	P		**P**		**12 10 17.3**	**+1.2**
	comp=Z,4.5nm,1.1s,baz=346,slow=3.1,SNR=3.5								
SONM	**Songino Array**	**65.05**	**331**	P		**P**		**12 10 51.6**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=148,slow=8.5,SNR=1.9								
VNDA	**Vanda**	**71.43**	**177**	P		**P**		**12 11 29.5**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=328,slow=6.1,SNR=8.6								
MKAR	**Makanchi Array**	**78.17**	**320**	P		**P**		**12 12 09.3**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=108,slow=8.0,SNR=4.1								
ZALV	**Zalesovo Beam**	**79.66**	**328**	P		**P**		**12 12 15.6**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=104,slow=6.1,SNR=1.8								
QSPA	**South Pole Qui**	**83.52**	**180**	P		**P**		**12 12 38.6**	**+0.8**
ILAR	**Eielson Array**	**85.70**	**23**	P		**P**		**12 12 47.3**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=247,slow=4.8,SNR=5.9								
TORD	**Torodi Ar. Bea**	**145.69**	**284**	PKPbc		**PKPab**		**12 19 50.7**	**+0.5**
	comp=Z,4.4nm,0.8s,baz=79,slow=3.8,SNR=17								

WBNET 04 12:01:21.2, 50°.23N×12°.45E, h9km, MI0.7, 5C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
NKC	**Novy Kostel**	**0.00**	**237**	↓P		P	Pg	12 01 22.9	+0.1
NKC				S		S	Sg	12 01 24.0	+0.2
LBCW	**Luby**	**0.04**	**323**	↓P		P	Pg	12 01 23.1	+0.1
LBCW				S		S	Sg	12 01 24.5	+0.2
VAC	**Vackov**	**0.05**	**272**	↓P		P	Pg	12 01 23.1	+0.1
VAC				S		S	Sg	12 01 24.3	0.0
STCW	**Studenec**	**0.05**	**61**	↑P		P	Pg	12 01 23.1	0.0
STCW				S		S	Sg	12 01 24.4	-0.1
SKC	**Skalna**	**0.09**	**222**	↑P		P	Pg	12 01 23.5	0.0
SKC				S		S	Sg	12 01 25.0	0.0
POCW	**Potky**	**0.09**	**350**	↓P		P	Pg	12 01 23.7	+0.2
POCW				S		S	Sg	12 01 25.4	+0.2
KACW	**Kaceov**	**0.10**	**154**	↑P		P	Pg	12 01 23.7	+0.1
KACW				S		S	Sg	12 01 25.4	+0.1
KRCW	**Kraslice**	**0.11**	**28**	↑P		P	Pg	12 01 23.9	+0.1
KRCW				S		S	Sg	12 01 25.8	0.0
KOCW	**Kopaniny**	**0.14**	**283**	↓P		P	Pg	12 01 24.4	+0.1
KOCW				S		S	Sg	12 01 26.5	0.0
ZHC	**Zelena Hora**	**0.19**	**209**	↑P		P	Pg	12 01 25.1	0.0
ZHC				S		S	Sg	12 01 27.7	-0.1

*PRU **04** 12:01:27.7±0.0, 50°.23N×12°.50E, h1km, West Bohemia Swarm*

WBNET 04 12:01:27.3, 50°.23N×12°.45E, h9km, MI1.7, 5C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
NKC	**Novy Kostel**	**0.00**	**79**	*e*P		P	Pg	12 01 28.8	-0.1
NKC				*e*S		S	Sg	12 01 29.8	-0.2
	comp=Z,291nm,0.2s								
NKC	**Novy Kostel**	**0.00**	**79**	↑P		P	Pg	12 01 29.0	+0.1
NKC				S		S	Sg	12 01 30.1	+0.1
LBCW	**Luby**	**0.04**	**326**	↓P		P	Pg	12 01 29.2	+0.1
LBCW				S		S	Sg	12 01 30.6	+0.2
VAC	**Vackov**	**0.04**	**273**	↓P		P	Pg	12 01 29.2	+0.1
VAC				S		S	Sg	12 01 30.5	0.0
STCW	**Studenec**	**0.05**	**61**	↑P		P	Pg	12 01 29.2	0.0
STCW				S		S	Sg	12 01 30.5	-0.2
SKC	**Skalna**	**0.08**	**221**	↑P		P	Pg	12 01 29.6	+0.1
SKC				S		S	Sg	12 01 31.1	0.0
POCW	**Potky**	**0.09**	**352**	↓P		P	Pg	12 01 29.8	+0.1
POCW				S		S	Sg	12 01 31.5	+0.1
KACW	**Kaceov**	**0.10**	**153**	↓P		P	Pg	12 01 29.8	+0.1
KACW				S		S	Sg	12 01 31.6	0.0
KRCW	**Kraslice**	**0.11**	**28**	↑P		P	Pg	12 01 30.0	0.0
KRCW				S		S	Sg	12 01 31.9	-0.1
ZHC	**Zelena Hora**	**0.18**	**209**	↑P		P	Pg	12 01 31.2	0.0
ZHC				S		S	Sg	12 01 33.8	0.0
CLL	**Collm**	**1.13**	**18**	*i* Pg		P	Pb	12 01 48.4	-0.6
CLL				*i*				12 01 50.5	
CLL				*i* Sg		Sb		12 02 04.0	+0.2
	comp=Z,6.0nm,0.3s								
CLL				*i*				12 02 07.3	
PBCC	**Pribram**	**1.14**	**118**	*e*SG		Sg		12 02 02.6	-1.3
	comp=Z,1.8nm,0.3s								
BRG	**Berggiesshubel**	**1.15**	**56**	PG		Pb		12 01 48.7	-0.6
BRG				SG		Sg		12 02 03.6	-0.6
	comp=Z,9.9nm,0.6s								
KHC	**Kasperske Hory**	**1.33**	**146**	*e*PG		Pn		12 01 52.0	0.0
KHC				*e*SG		Sb		12 02 08.6	-0.8
	comp=Z,3.1nm,0.5s								
PRU	**Pruhonice**	**1.37**	**99**	*e*PG		Pn		12 01 51.7	-0.8
PRU				*e*SG		Sn		12 02 11.0	+0.2
	comp=Z,4.4nm,0.2s								
PVCC	**Panska Ves**	**1.39**	**77**	*e*SG		Sb		12 02 11.2	0.0
	comp=Z,9.1nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*PG		Pn		12 01 55.4	+0.5
GOPC				*e*SG		Sb		12 02 15.5	-0.1
	comp=Z,5.5nm,0.4s								
UPC	**Upice**	**2.30**	**82**	*e*SG		Sg		12 02 39.9	-1.2
	comp=Z,2.3nm,0.5s								
CHVC	**Chvalec**	**2.33**	**80**	*e*SG		Sg		12 02 40.9	-1.3
OSTC	**Ostas**	**2.43**	**81**	*e*SG		Sg		12 02 44.0	-1.4
DPC	**Dobruska-Polom**	**2.49**	**86**	*e*SG		Sb		12 02 44.6	+1.7
	comp=Z,1.4nm,0.2s								

*IDC **04** 12:09:39.5±0.6, 0°.08N×98°.56E, h0km, mb4.5/26, mb1 4.6/27, mb1mx4.4/52, mbtmp4.5/27, ML4.9/1, MS3.7/18, Ms1 3.7/18, ms1mx3.5/44, Error ellipse: s-maj=22.1km s-min=11.8km az=48.0*
*BJI **04** 12:09:42.0±0.0, 0°.36S×98°.76E, h47km, mB5.0/39, mb5.0/59, Ms4.4/28, MS7 4.1/26*
*MOS **04** 12:09:45.7±0.8, 0°.14N×98°.71E, h55km, mb5.1/39, Error ellipse: s-maj=10.5km s-min=4.6km az=103.1*
*DJA **04** 12:09:46.6±0.3, 0°N±2°×98°60E±0°.05, h48km, n258, σ1§31/266, mb4.9/92, MS3.9/23, 14C-4D, Northern Sumatera*
*NEIC **04** 12:09:47.5±1.2, 0°.16N±0°.07×98°.63E±0°.07, h56km±5km, mb5.0/59, Error ellipse: s-maj=12.5km s-min=7.4km az=223.0*
*KLM **04** 12:09:47.0, 0°.13N×98°.58E, h50km, mb5.0*

ISC 04 12:09:46.5±0.3, 0°.12N±0°.04×98°.60E±0°.05, h48km, n258, σ1§31/266, mb4.9/92, MS3.9/23, 14C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PBSI	**Pulau Batu**	**0.36**	**241**	P		P	**Pn**	**12 09 56.6**	**+0.5**
PBSI				S		S	**Sn**	**12 10 02.8**	**-0.1**
MNSI	**Mandailing Nat**	**1.19**	**56**	P		P	**Pn**	**12 10 06.8**	**0.0**
SBSI	**Sibolga**	**1.45**	**12**	P		P	**Pn**	**12 10 10.9**	**+0.5**
SISI	**Saibi**	**1.52**	**161**	P		P	**Pn**	**12 10 12.1**	**+0.8**
SISI				S		S	**Sn**	**12 10 33.2**	**+3.2**
GSI	**Gunungsitoli**	**1.56**	**319**	P		P	**Pn**	**12 10 12.6**	**+0.7**
GSI				S		S	**Sn**	**12 10 31.2**	**+0.3**
GSI	**Gunungsitoli**	**1.56**	**319**				**Pn**	**12 10 12.5**	**+0.7**
BKNI	**Bangkinang**	**2.45**	**85**	P		P	**Pn**	**12 10 25.8**	**+1.7**
BKNI	**Bangkinang**	**2.45**	**85**				**Pn**	**12 10 24.6**	**+0.5**
RPSI	**Rantau Prapat**	**2.58**	**7**	Pn		Pn	**Pn**	**12 10 26.2**	**+0.4**
PSI	**Prapat**	**2.68**	**7**	P		P	**Pn**	**12 10 26.2**	**-1.2**
SDSI	**Sungai Dareh**	**3.02**	**110**	P		P	**Pn**	**12 10 34.2**	**+2.3**
PPSI	**Pulau Pagai**	**3.19**	**154**	P		P	**Pn**	**12 10 35.1**	**+0.8**
TPTI		**3.42**	**336**	P		P	**Pn**	**12 10 37.1**	**-0.3**
KRJI	**Kerinci**	**3.61**	**128**	P		P	**Pn**	**12 10 42.9**	**+2.8**
**M

HYB Hyderabad 26.17 312 *i* P P 12 15 25.0 +8.3
H08S2 Diego Garcia H 27.15 253 T T 12 43 17.9
baz=75,slow=76,SNR=924
H08S3 Diego Garcia H 27.15 253 T T 12 43 16.5
baz=75,slow=76,SNR=958
H08S1 Diego Garcia H 27.17 253 T T 12 43 19.1
baz=75,slow=76,SNR=229
GYA Guiyang 27.31 16 ⇑P **P 12 15 27.2 +0.2**
GYA pP pP 12 15 41.9 +2.4
GYA pmax pmax
comp=Z,30nm,0.9s
DAV Davao City (W) 27.78 75 LR LR 12 28 34.2
comp=Z,164nm,18.2s,baz=239,slow=41
PSA00 Pilbara Seismi 29.92 137 P **P 12 15 50.5 +0.3**
PSA00 lAmb lAmb 12 16 00.2
comp=Z,28nm,1.4s
LSA Lhasa 30.26 347 P **P 12 15 53.5 -0.1**
LSA pmax pmax
comp=Z,8.0nm,0.6s
LSA Lhasa 30.26 347 P **P 12 15 53.5 -0.1**
CD2 Chengdu 31.01 9 P **P 12 16 01.2 +1.5**
CD2 pmax pmax
comp=Z,30nm,0.5s
ENH Enshi 31.72 18 P **P 12 16 05.6 -0.4**
FITZ Fitzroy Crossi 32.17 126 P **P 12 16 08.1 -1.9**
comp=Z,2.1nm,0.6s,baz=325,slow=5.2,SNR=8.0
FITZ Fitzroy Crossi 32.17 126 P **P 12 16 09.4 -0.7**
baz=32,SNR=4.8
YHNB Yeheng 32.89 40 P **P 12 16 15.9 -0.4**
YHNB lAmb lAmb 12 16 22.5
comp=Z,26nm,1.3s
KNRA Kununurra 33.67 119 P **P 12 16 20.5 -2.7**
KNRA lAmb lAmb 12 16 37.0
comp=Z,28nm,1.1s
WHN Wuhan 33.76 25 P **P 12 16 24.3 +0.6**
WHN pmax pmax
comp=Z,60nm,1.2s
FAKI Fak Fak 33.77 95 P **P 12 16 23.3 -0.9**
MTN Manton Dam 34.74 113 P **P 12 16 32.5 0.0**
baz=35,SNR=4.4
MTN Manton Dam 34.74 113 P **P 12 16 32.4 -0.1**
XAN Xi'an 35.10 15 P **P 12 16 35.4 -0.1**
XAN pP pP 12 16 46.8 -1.3
XAN pmax pmax
comp=Z,96nm,0.7s
XAN pmax pmax
comp=Z,180nm,4.9s
XAN Xi'an 35.10 15 P **P 12 16 35.3 -0.1**
XAN pmax pmax
comp=Z,59nm,0.7s
XAN Xi'an 35.10 15 P **P 12 16 35.3 -0.1**
LZH Lanzhou 36.11 7 *eP* **P 12 16 44.9 +0.7**
LZH pP pP 12 16 59.3 +2.4
LZH sP sP 12 17 05.1 +2.5
LZH pmax pmax
comp=Z,28nm,1.2s
LZH LR LR
comp=Z,350nm,12.9s
LZH LR LR
comp=Z,290nm,13.2s
LZH LR LR
comp=Z,280nm,17.1s
KLBR Kellerberrin 36.39 152 P **P 12 16 47.7 +1.3**
baz=36
NJ2 Nanjing 37.08 29 *eP* **P 12 16 53.8 +1.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
NWAO Narrogin (SRO) 37.27 154 P **P 12 16 54.7 +0.7**
NWAO pmax pmax
comp=Z,30nm,1.4s
NWAO Narrogin (SRO) 37.27 154 P **P 12 16 54.6 +0.7**
NWAO lAmb lAmb 12 16 57.3
comp=Z,30nm,1.4s
NWAO Narrogin (SRO) 37.27 154 P **P 12 16 54.6 +0.7**
NWAO lAmb lAmb 12 16 57.3
comp=Z,37nm,1.4s
WRKA Warakurna 38.09 133 P **P 12 17 01.5 +0.5**
baz=38,SNR=18
KMBL Kambalda 38.31 147 P **P 12 17 03.5 +0.7**
baz=38
GTA Gaotai 39.12 1 ⇑P **P 12 17 09.7 +0.2**
GTA pP pP 12 17 20.4 -1.9
GTA sP sP 12 17 24.4 -3.6
GTA pmax pmax
comp=Z,12nm,1.0s
GTA pmax pmax
comp=Z,57nm,4.3s
GTA LR LR
comp=Z,120nm,16.5s
GTA LR LR
comp=Z,200nm,17.5s
GTA LR LR
comp=Z,160nm,18.4s
TIA Tai'an 39.82 24 P **P 12 17 14.2 -1.1**
TIA pmax pmax
comp=Z,11nm,0.8s
WB0 Warramunga Arr 40.25 122 P **P 12 17 17.9 -1.2**
WRA Warramunga Arr 40.28 122 P **P 12 17 17.9 -1.5**
comp=Z,2.7nm,0.4s,baz=306,slow=8.6,SNR=51
WRA PcP **PcP 12 19 23.2 +0.7**
comp=Z,1.7nm,0.6s,baz=312,slow=2.5,SNR=5.8
WRA S **S 12 23 18.0 -5.8**
comp=Z,1.2nm,1.1s,baz=294,slow=17,SNR=3.7
WRAB Tennant Creek 40.29 122 ⇓ *iP* **P 12 17 18.5 -0.9**
WRAB pmax pmax
comp=Z,27nm,2.3s
WB2 Warramunga Arr 40.29 122 P **P 12 17 18.1 -1.3**
baz=40
WB2 Warramunga Arr 40.29 122 P **P 12 17 18.5 -1.0**
WB2 lAmb lAmb 12 17 35.1
comp=Z,18nm,1.2s
WR0 Warramunga Arr 40.46 122 P **P 12 17 19.7 -1.2**
NIL Nilore 40.97 327 P **P 12 17 25.2 +0.3**
NIL pmax pmax
comp=Z,22nm,0.6s
NIL Nilore 40.97 327 P **P 12 17 25.2 +0.3**
NIL lAmb lAmb 12 17 26.0
comp=Z,22nm,0.6s
FORT Forrest 41.56 140 P **P 12 17 32.0 +2.3**
baz=42,SNR=15
FORT Forrest 41.56 140 P **P 12 17 31.5 +1.8**
BTO Baotou 41.61 13 *eP* **P 12 17 31.4 +1.3**
ASAR Alice Springs 41.63 127 P **P 12 17 29.9 -0.6**
comp=Z,3.9nm,0.6s,baz=300,slow=7.4,SNR=86
ASAR PcP **PcP 12 19 27.9 +1.1**
comp=Z,1.4nm,0.6s,baz=309,slow=3.0,SNR=4.8
ASAR S **S 12 23 40.4 -3.5**
comp=Z,1.6nm,0.9s,baz=295,slow=14,SNR=8.7
ASAR LR LR 12 36 54.0
comp=Z,110nm,20.1s,baz=308,slow=39
HHC Hu-ho-hao-te 42.21 15 *eP* **P 12 17 37.1 +2.1**
HHC pmax pmax
comp=Z,38nm,1.1s
HHC pmax pmax
comp=Z,73nm,5.4s
HHC LR LR
comp=Z,320nm,16.5s
HHC LR LR
comp=Z,130nm,14.4s
HHC LR LR
comp=Z,320nm,18.2s
BJT Baijiatuau 42.82 20 P **P 12 17 40.3 +0.5**
BJT pmax pmax
comp=Z,32nm,0.8s
BJT Baijiatuau 42.82 20 P **P 12 17 40.3 +0.5**
BJI Beijing 42.84 20 P **P 12 17 41.2 +1.2**
BJI pmax pmax
comp=Z,43nm,0.7s
BJI LR LR
comp=Z,160nm,5.4s
KSH Kashi 44.33 335 *eP* **P 12 17 56.4 +4.3**
WMQ Urumqi 44.58 349 *eP* **P 12 17 56.0 +2.0**
WMQ pP pP 12 18 07.5 +0.5
WMQ pmax pmax
comp=Z,23nm,1.3s
WMQ pmax pmax
comp=Z,110nm,4.3s
WMQ LR LR
comp=Z,83nm,22.5s
WMQ LR LR
comp=Z,130nm,22.5s
WMQ LR LR
comp=Z,83nm,25.3s
JNU Nakatsue 44.71 40 P **P 12 17 54.8 -0.4**
JNU lAmb lAmb 12 17 55.7
comp=Z,26nm,0.9s

TJN Taejon 44.87 33 ⇑ *iP* **P 12 17 56.3 0.0**
TARG Taragay, Kyrgy 45.48 338 P **P 12 18 01.4 -0.2**
TARG lAmb lAmb 12 18 04.3
comp=Z,11nm,0.9s
KSRS Korea Array 45.96 33 P **P 12 18 04.4 -0.6**
comp=Z,8.4nm,0.5s,baz=226,slow=7.7,SNR=38
KSRS LR LR 12 37 53.2
comp=Z,70nm,19.4s,baz=218,slow=37
KS19 Wonju Array Si 45.97 33 P **P 12 18 04.5 -0.5**
KS19 lAmb lAmb 12 18 04.9
comp=Z,13nm,0.6s
KDJ Kajisay 46.06 338 P **P 12 18 07.2 +1.3**
KDJ pmax pmax
comp=Z,23nm,1.0s
KDJ Kajisay 46.06 338 P **P 12 18 07.2 +1.3**
KDJ lAmb lAmb 12 18 08.6
comp=Z,23nm,0.9s
SHLS Shalkode 46.15 341 *i* P **P 12 18 07.1 +0.5**
comp=Z,8.0nm,0.6s,baz=341
SHLS Shalkode 46.15 341 *i* P **P 12 18 07.0 +0.5**
SHLS pmax pmax
comp=Z,8.0nm,0.6s
UZB Uzynbulak 46.29 340 *eP* **P 12 18 09.2 +1.6**
comp=Z,20nm,1.5s,baz=340
UZB Uzynbulak 46.29 340 *eP* **P 12 18 09.2 +1.6**
UZB pmax pmax
comp=Z,20nm,1.5s
PDGK Podgornoye 46.29 341 P **P 12 18 08.6 +0.9**
SATY Saty 46.42 340 *i* P **P 12 18 10.3 +1.6**
comp=Z,10.0nm,0.9s,baz=340
SATY Saty 46.42 340 *i* P **P 12 18 10.2 +1.6**
SATY pmax pmax
comp=Z,10.0nm,0.9s
SATY Saty 46.42 340 *i* P **P 12 18 10.2 +1.6**
SATY pmax pmax
comp=Z,10.0nm,0.9s
CHGR Chuyangaron 46.91 328 P **P 12 18 12.7 +0.1**
CHGR lAmb lAmb 12 18 13.3
comp=Z,22nm,1.2s
TNSS Tian-Shan 46.93 338 *i* P **P 12 18 14.4 +1.4**
baz=338
TNSS Tian-Shan 46.93 338 *i* P **P 12 18 14.3 +1.4**
MDOK Medeo 47.00 338 *i* P **P 12 18 14.9 +1.7**
baz=338
MDOK Medeo 47.00 338 *i* P **P 12 18 14.9 +1.7**
AAA Alma-Ata 47.09 338 *eP* **P 12 18 15.9 +2.0**
baz=338
AAA Alma-Ata 47.09 338 *eP* **P 12 18 15.8 +2.0**
ARSB Arslanbob 47.11 334 P **P 12 18 14.1 0.0**
ARSB pmax pmax
comp=Z,17nm,0.9s
ARSB Arslanbob 47.11 334 P **P 12 18 14.1 0.0**
ARSB lAmb lAmb 12 18 16.0
comp=Z,17nm,0.8s
UCH Uchtor 47.20 336 P **P 12 18 16.6 +1.5**
SNR=9.3
MTBS Maitube 47.20 338 *eP* **P 12 18 15.8 +1.1**
baz=338
MTBS Maitube 47.20 338 *eP* **P 12 18 15.8 +1.1**
TKM2 Tokmak 2 47.34 337 P **P 12 18 17.1 +1.1**
SNR=17
TKM2 Tokmak 2 47.34 337 P **P 12 18 16.7 +0.7**
AML Almayashu 47.46 335 P **P 12 18 18.6 +1.5**
SNR=7.2
AAK Ala-Archa 47.55 336 ⇑ *iP* **P 12 18 19.1 +1.6**
AAK pmax pmax
comp=Z,13nm,1.6s
EKS2 Erkin-Say 47.86 335 P **P 12 18 21.7 +1.8**
SNR=5.3
KUU Kurty 47.89 338 ⇑ *iP* **P 12 18 20.7 +0.7**
comp=Z,28nm,1.2s,baz=338
KUU Kurty 47.89 338 *c iP* **P 12 18 20.7 +0.7**
KUU pmax pmax
comp=Z,28nm,1.2s
SONM Songino Array 48.00 7 P **P 12 18 22.0 +1.1**
comp=Z,26nm,0.7s,baz=191,slow=9.3,SNR=62
SONM PcP **PcP 12 19 49.3 +0.9**
comp=Z,3.6nm,0.4s,baz=186,slow=3.9,SNR=7.7
SONM LR LR 12 40 37.0
comp=Z,187nm,18.5s,baz=196,slow=39
USP Ospenovka 48.07 336 P **P 12 18 22.7 +1.3**
SNR=12
ULN Ulaanbaatar 48.12 8 ⇑ *iP* **P 12 18 22.9 +1.1**
ULN pmax pmax
comp=Z,23nm,0.7s
ULN Ulaanbaatar 48.12 8 P **P 12 18 22.3 +0.5**
TDK Taldyqorghan 48.14 341 *eP* **P 12 18 22.4 +0.5**
comp=Z,9.1nm,0.6s,baz=341
TDK Taldyqorghan 48.14 341 *eP* **P 12 18 22.3 +0.5**
TDK pmax pmax
comp=Z,9.0nm,0.6s
BBOO Buckleboo 48.14 137 P **P 12 18 22.8 +0.7**
baz=48,SNR=7.9
BBOO Buckleboo 48.14 137 P **P 12 18 22.6 +0.5**
BBOO lAmb lAmb 12 18 39.7
comp=Z,18nm,1.1s
SGDS Sogindy 48.17 337 ⇑ *iP* **P 12 18 23.3 +1.0**
baz=337
SGDS Sogindy 48.17 337 *c iP* **P 12 18 23.2 +1.0**
MK31 Makanchi Array 48.63 345 *eP* **P 12 18 25.7 +0.1**
MK31 Makanchi Array 48.63 345 lAmb lAmb 12 18 27.2
comp=Z,10nm,0.6s
MKAR Makanchi Array 48.63 345 P **P 12 18 26.4 +0.8**
comp=Z,13nm,0.5s,baz=155,slow=9.0,SNR=187
ZSN Zaisan 48.63 348 *eP* **P 12 18 26.1 +0.5**
comp=Z,5.2nm,1.0s,baz=348
ZSN Zaisan 48.63 348 *eP* **P 12 18 26.9 +1.3**
ZSN pmax pmax
comp=Z,5.0nm,1.0s
MAKZ Makanchi 48.72 345 P **P 12 18 26.7 +0.4**
MAKZ pmax pmax
comp=Z,9.0nm,0.7s
MAKZ Makanchi 48.72 345 P **P 12 18 26.7 +0.4**
MAKZ lAmb lAmb 12 18 27.8
comp=Z,8.8nm,0.7s
DZA Taraz 49.10 334 *eP* **P 12 18 29.9 +0.5**
comp=Z,7.3nm,0.6s,baz=334
DZA Taraz 49.10 334 *eP* **P 12 18 29.8 +0.5**
DZA pmax pmax
comp=Z,7.0nm,0.6s
IUG Iuzhnay 49.11 332 *eP* **P 12 18 30.6 +1.1**
comp=Z,16nm,1.3s,baz=332
IUG Iuzhnay 49.11 332 *eP* **P 12 18 30.6 +1.1**
IUG pmax pmax
comp=Z,16nm,1.3s
KK31 Karatay Array 49.64 333 *i* P **P 12 18 33.9 +0.5**
CN2 Changchun 49.65 25 *eP* **P 12 18 32.8 -0.6**
CN2 pmax pmax
comp=Z,20nm,0.6s
INU Inuyama 50.08 41 P **P 12 18 36.4 -0.5**
INU lAmb lAmb 12 18 37.5
comp=Z,8.0nm,0.7s
ZAK Zakamensk 50.23 4 *eP* **P 12 18 38.1 +0.3**
ZAK pmax pmax
comp=Z,5μm,1.0s
DGZ Jazzator, Alta 50.31 351 *c iP* **P 12 18 39.6 +1.1**
DGZ pmax pmax
comp=Z,8.0nm,0.6s
HTT Hallett 50.48 135 P **P 12 18 41.2 +1.2**
baz=51,SNR=5.4
QLP Quilpie 51.30 125 P **P 12 18 46.6 +0.4**
baz=51,SNR=5.4
MOY Mondy 51.40 2 *eP* **P 12 18 47.6 +1.0**
TLY Talaya 51.55 4 *eP* **P 12 18 48.6 +1.0**
TLY pmax pmax
comp=Z,16nm,0.6s
TLY MLR MLR
comp=Z,405nm,14.0s
MAJO Matsushiro 51.56 41 ⇓ *iP* **P 12 18 48.0 0.0**
MAJO pmax pmax
comp=Z,4.0nm,0.5s
MAJO Matsushiro 51.56 41 P **P 12 18 46.6 -1.4**
MAJO lAmb lAmb 12 18 49.0
comp=Z,6.9nm,0.5s
MAT Matsushiro 51.56 41 P **P 12 18 46.3 -1.7**
MAT *eS* S 12 25 51.2 -14
MJAR Matsushiro Arr 51.56 41 P **P 12 18 46.5 -1.5**
comp=Z,4.2nm,0.7s,baz=228,slow=7.5,SNR=14
MJAR LR LR 12 41 36.1
comp=Z,43nm,19.1s,baz=215,slow=37
STKA Stephens Creek 51.60 132 P **P 12 18 48.3 -0.1**
comp=Z,2.6nm,0.5s,baz=308,slow=8.4,SNR=13
STKA Stephens Creek 51.60 132 P **P 12 18 49.2 +0.9**
baz=52,SNR=8.1
STKA Stephens Creek 51.60 132 P **P 12 18 48.9 +0.5**
STKA pmax pmax
comp=Z,1.0nm,0.7s
STKA Stephens Creek 51.60 132 P **P 12 18 48.9 +0.5**
USRK Ussuriysk Ar. 52.99 30 P **P 12 18 58.3 -0.1**
comp=Z,18nm,0.8s,baz=226,slow=5.3,SNR=28
USRK LR LR 12 42 03.2
comp=Z,106nm,20.9s,baz=210,slow=37
OTUK Ortayu 53.06 338 P **P 12 18 59.4 +0.5**
KURK Kurchatov 53.19 344 P **P 12 19 00.2 +0.4**
KURK pmax pmax
comp=Z,11nm,1.0s
KURK Kurchatov 53.19 344 P **P 12 19 00.2 +0.4**
KURK lAmb lAmb 12 19 01.5
comp=Z,11nm,0.9s
BRZS Berezniki 54.39 340 *eP* **P 12 19 09.1 +0.4**
baz=340
BRZS Berezniki 54.39 340 *eP* **P 12 19 09.0 +0.4**
CMSA Cobar Meteorol 54.53 130 P **P 12 19 10.9 +0.9**
baz=55,SNR=5.7
ZAA0 Zalesovo Array 54.84 350 P **P 12 19 12.2 +0.5**
ZALV Zalesovo Beam 54.84 350 P **P 12 19 12.1 +0.3**
comp=Z,16nm,0.5s,baz=167,slow=6.8,SNR=66
KLR Kul'dur 56.60 25 *c iP* **P 12 19 24.6 +0.1**
KLR pmax pmax
comp=Z,22nm,0.9s
EIDS Eidsvold 56.63 121 P **P 12 19 24.9 -0.3**
EIDS lAmb lAmb 12 19 43.8
comp=Z,11nm,0.9s
BVA0 Borovoye Array 57.72 340 *i* P **P 12 19 31.6 -0.8**
BRVK Borovoye 57.79 340 P **P 12 19 32.7 -0.1**
BRVK pmax pmax
comp=Z,19nm,1.3s
BRVK Borovoye 57.79 340 P **P 12 19 32.7 -0.1**
BRVK lAmb lAmb 12 19 33.5
comp=Z,19nm,1.3s
ZEA Zeya 58.47 20 *eP* **P 12 19 38.1 +0.6**
CAN Canberra 58.67 132 P **P 12 19 39.4 0.0**
CAN pmax pmax
comp=Z,10.0nm,1.1s
CAN Canberra 58.67 132 P **P 12 19 39.4 0.0**
CAN lAmb lAmb 12 19 45.0
comp=Z,10nm,1.1s
ASAJ Asahikawa 58.70 36 P **P 12 19 39.3 0.0**
ASAJ pmax pmax
comp=Z,21nm,1.4s
JKA Kamikawa-asahi 58.70 36 P **P 12 19 39.3 0.0**
JKA lAmb lAmb 12 19 40.9
comp=Z,21nm,1.4s
ARMA Armidale 58.77 126 P **P 12 19 39.3 -1.0**
ARMA lAmb lAmb 12 19 47.5
comp=Z,11nm,1.1s
BOD Bodaibo 58.82 10 *eP* **P 12 19 40.4 +0.5**
BOD pmax pmax
comp=Z,17nm,1.0s
AB31 Akbulak array 59.12 332 P **P 12 19 41.5 -0.6**
YSS Yuzh-Sakhalins 60.46 33 *eP* **P 12 19 51.5 +0.1**
YSS *e* 12 20 15.3
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=Z,100nm,14.0s
AKTO Aktyubinsk 60.84 332 P **P 12 19 53.2 -0.7**
comp=Z,2.1nm,0.5s,baz=112,slow=8.1,SNR=3.3
SVE Sverdlovsk 64.20 338 *eP* **P 12 20 16.6 +0.4**
ARU Arti 64.72 337 P **P 12 20 19.0 -0.5**
comp=Z,0.8nm,0.3s,baz=82,slow=7.1,SNR=5.7
ARU Arti 64.72 337 *c iP* **P 12 20 19.1 -0.5**
ARU *PP **pP 12 20 31.5 -1.7**
ARU 12 20 53.4
ARU S **S 12 28 56.0 -0.3**
ARU pmax pmax
comp=Z,13nm,1.5s
KBZ Khabaz 65.80 319 P **P 12 20 26.5 -0.4**
comp=Z,2.8nm,0.7s,baz=114,slow=7.1,SNR=7.4
KBZ LR LR 12 52 52.9
comp=Z,31nm,18.1s,baz=92,slow=39
YAK Yakutsk 66.07 15 *eP* **P 12 20 27.6 -0.6**
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
NRIK Noril'sk 69.49 356 P **P 12 20 49.1 -0.6**
comp=E,2.8nm,0.4s,baz=166,slow=4.9,SNR=7.7
NRIK LR LR 12 54 37.4
comp=E,67nm,19.3s,baz=183,slow=39
KIRV Kirov 69.87 335 P **P 12 20 51.9 -0.3**
comp=E,9.2nm,0.6s,baz=151,slow=10,SNR=4.0
BRTR Keskin Array B 70.86 312 P **P 12 20 58.2 -0.7**
comp=E,1.7nm,0.7s,baz=140,slow=6.9,SNR=9.1
BRTR Keskin Array B 70.86 312 *ceP* **P 12 20 58.5 -0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
PETK Petropavlovsk- 71.86 33 P **P 12 21 04.7 +0.3**
comp=Z,3.8nm,0.7s,baz=213,slow=0.7,SNR=12
PET Petropavlovsk 72.35 33 *eP* **P 12 21 05.9 -1.4**
PET pmax pmax
comp=Z,15nm,0.6s
PRGR Permogore 73.17 337 *eP* **P 12 21 09.4 -2.6**
PRGR *e*PP **pP 12 21 24.3 -1.5**
PRGR pmax pmax
comp=Z,16nm,0.8s
TIXI Tiksi 74.00 10 P **P 12 21 16.8 +0.1**
TIXI pmax pmax
comp=Z,11nm,0.8s
TIXI Tiksi 74.00 10 P **P 12 21 16.8 +0.1**
TIXI lAmb lAmb 12 21 30.8
comp=Z,11nm,0.8s
KLMR Klimovskoe 75.32 334 P **P** 12 21 15.3 -9.2
KLMR pmax pmax
comp=Z,6.0nm,1.2s
KLMR Klimovskoe 75.32 334 P **P** 12 21 15.4 -9.1
KLMR AMP 12 21 26.5
comp=Z,6.0nm,1.2s
BOSA Boshof 75.46 240 LR LR 12 47 19.0
comp=Z,74nm,18.7s,baz=11,slow=90
IDI Anoyia 76.66 306 P **P 12 21 33.3 +0.5**
comp=Z,3.7nm,0.6s,baz=355,slow=11,SNR=1.7
AKASG Malin Array Be 76.96 322 P **P 12 21 33.6 -0.5**
comp=Z,0.8nm,0.5s,baz=95,slow=4.4,SNR=4.6
AKASG LR LR 12 59 04.8
comp=Z,30nm,19.9s,baz=95,slow=38
MLR Muntele Rosu 77.81 317 P **P 12 21 38.3 -0.8**
comp=Z,5.6nm,0.9s,baz=225,slow=4.8,SNR=5.7
THZ Tophouse 78.41 133 P **P 12 21 42.5 +0.1**
THZ lAmb lAmb 12 21 44.7
comp=Z,17nm,0.7s
KHZ Kahutara 78.99 133 P **P 12 21 45.8 +0.3**
KHZ lAmb lAmb 12 21 45.9
comp=Z,18nm,1.1s
TUWZ Tuamarina 79.11 132 P **P 12 21 45.8 -0.4**
SNZO South Karori 79.66 132 P **P 12 21 49.6 +0.5**
BHW Baring Head 79.80 132 P **P 12 21 50.1 +0.2**
MSVF Nonsavu 79.99 108 ⇑ *iP* **P 12 21 49.5 -2.1**
MSVF pmax pmax
comp=Z,36nm,1.4s
MSWZ Moikau Station 80.08 132 P **P 12 21 52.0 +0.4**
BKZ Black Stump Fm 80.69 130 P **P 12 21 55.5 +0.5**
BFZ Birch Farm 80.72 131 P **P 12 21 55.7 +0.7**
KOLS Kolonicke sedl 80.94 320 *eP* **P 12 21 57.7 +1.7**
KOLS pmax pmax
comp=Z,6.0nm,1.0s
KOLS Kolonicke sedl 80.94 320 *eP* **P 12 21 57.7 +1.7**
URZ Urewera 81.06 129 P **P 12 21 56.5 -0.2**
URZ lAmb lAmb 12 22 13.2
comp=Z,35nm,1.5s
FIA1 FINESS Array S 81.59 332 P **P 12 21 59.3 +0.2**
FIA1 lAmb lAmb 12 21 59.5
comp=Z,19nm,1.4s
FINES FINESS Array B 81.59 332 P **P 12 21 59.1 0.0**
comp=Z,4.8nm,0.5s,baz=103,slow=5.6,SNR=38
FINES LR LR 12 59 51.1
comp=Z,34nm,21.6s,baz=44,slow=37
VYHS Vyhne 83.12 319 *eP* **P 12 22 08.3 +0.9**
VYHS Vyhne 83.12 319 *eP* **P 12 22 08.3 +0.9**
ARCES ARCESS Array B 84.01 340 P **P 12 22 11.7 +0.2**
comp=Z,1.8nm,0.4s,baz=103,slow=5.4,SNR=27
ARCES LR LR 13 03 07.5
comp=Z,47nm,19.0s,baz=100,slow=38
AMKA Amchitka 84.09 38 P **P 12 22 11.6 -0.7**
GERES GERESS Array B 86.54 319 P **P 12 22 24.9 +0.1**
comp=Z,0.4nm,0.5s,baz=133,slow=7.5,SNR=5.9
CLL Collm 87.14 321 *i* P **P 12 22 28.4 +0.9**
CLL Collm 87.14 321 *i* P **P 12 22 28.4 +0.9**
SPITS Spitsbergen Ar 88.28 348 P **P 12 22 32.3 -0.2**

	comp=Z,1.5nm,0.4s,baz=95,slow=9.5,SNR=9.4								
SPITS					LR	LR	13 08 09.4		
	comp=Z,59nm,19.9s,baz=35,slow=40								
NOA	**NORSAR Array B**	**88.62**	**331**		P	**P**	**12 22 34.8**	**+0.4**	
	comp=Z,0.5nm,0.6s,baz=98,slow=6.8,SNR=1.7								
NOA					LR	LR	13 05 32.2		
	comp=Z,23nm,19.9s,baz=80,slow=38								
KBS	**Kingsbay**	**89.23**	**349**	↓	*i*P	**P**	**12 22 36.9**	**0.0**	
KBS					pmax	pmax			
	comp=Z,7.0nm,1.1s								
YKA	**Yellowknife Ar**	**112.74**	**16**		PKiKP	**PKiKP**	**12 28 17.6**	**-0.1**	
	comp=Z,0.4nm,0.9s,baz=318,slow=1.8,SNR=4.7								
DLMT	**Dillon**	**126.98**	**27**			**PKiKP**	**12 28 47.1**	**+0.9**	
ULM	**Lac du Bonnet**	**128.31**	**12**		PKP	**PKPdf**	**12 28 46.8**	**-1.1**	
	comp=Z,3.9nm,0.5s,baz=324,slow=3.2,SNR=3.5								
NVAR	**Mina Array Bea**	**128.81**	**37**		PKP	**PKiKP**	**12 28 50.4**	**+0.2**	
	comp=Z,0.6nm,0.8s,baz=271,slow=1.3,SNR=4.8								
PDAR	**Pinedale Array**	**130.38**	**27**		PKP	**PKiKP**	**12 28 53.2**	**-0.1**	
	comp=Z,0.3nm,0.5s,baz=126,slow=1.3,SNR=5.9								
R11A	**Troy Canyon, C**	**130.47**	**36**		PKPdf	**PKiKP**	**12 28 53.2**	**-0.3**	
BDFB	**Brasilia**	**143.61**	**243**		PKP	PKPbc	12 29 14.9	+0.1	
	comp=Z,2.7nm,0.4s,baz=185,slow=5.2,SNR=4.8								
TX32	**Lajitas Array**	**143.81**	**34**		PKPdf	PKPbc	12 29 16.1	+1.0	
TXAR	**Lajitas Array**	**143.81**	**34**		PKP	PKPbc	12 29 15.7	+0.6	
	comp=Z,0.7nm,0.5s,baz=1.7,slow=1.0,SNR=17								
CPUP	**Villa Florida**	**145.12**	**220**		PKPbc	**PKPdf**	**12 29 19.9**	**+0.4**	
	comp=Z,2.4nm,0.9s,baz=3.1,slow=3.5,SNR=4.2								
CPUP	**Villa Florida**	**145.12**	**220**		PKiKP	**PKPdf**	**12 29 20.0**	**+0.4**	
X48A	**Hartselle**	**145.20**	**8**			**PKPbc**	**12 29 18.9**	**-0.2**	
HODGE	**Hodges**	**145.82**	**1**			**PKPbc**	**12 29 21.0**	**0.0**	

IDC 04 12:21:12.6±2.0, 6°68S×151°28E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/29, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=75.5km s-min=20.6km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.47**	**18**	Pn	Pn	12 21 54.8	+0.7
	11nm,0.3s,baz=94,slow=2.0,SNR=19						
KRVT				Sn	Sn	12 22 24.8	-0.2
	6.8nm,0.3s,baz=92,slow=23,SNR=8.9						
WRA	**Warramunga Arr**	**21.08**	**230**	P	P	12 25 58.9	+0.2
	0.7nm,0.6s,baz=55,slow=9.8,SNR=5.7						
ASAR	**Alice Springs**	**23.75**	**223**	P	P	12 26 27.0	+0.1
	0.5nm,0.6s,baz=54,slow=9.4,SNR=11						
STKA	**Stephens Creek**	**26.65**	**199**	P	P	12 26 53.0	-0.2
	2.7nm,1.0s,baz=48,slow=1.2,SNR=2.7						
FITZ	**Fitzroy Crossi**	**27.45**	**243**	P	P	12 27 00.2	-0.3
	3.9nm,1.1s,baz=59,slow=7.9,SNR=1.7						

WBNET 04 12:23:10.4, 50°23N×12°45E, h9km, MI0.7, 5C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.00**	**237**	↑↑P		Pg	12 23 12.0	+0.1
LBCW	**Luby**	**0.04**	**323**	↓↓P		Pg	12 23 12.3	+0.1
VAC	**Vackov**	**0.05**	**272**	↓↓P		Pg	12 23 12.2	+0.1
VAC				S		Sg	12 23 13.5	0.0
STCW	**Studenec**	**0.05**	**61**	↑↑P		Pg	12 23 12.3	0.0
SKC	**Skalna**	**0.09**	**222**	↑↑P		Pg	12 23 12.6	0.0
POCW	**Potky**	**0.09**	**350**	↓↓P		Pg	12 23 12.9	+0.2
POCW				S		Sg	12 23 14.5	+0.2
KACW	**Kaceov**	**0.10**	**154**	↓↓P		Pg	12 23 12.9	+0.1
KRCW	**Kraslice**	**0.11**	**28**	↑↑P		Pg	12 23 13.1	+0.1
KOCW	**Kopaniny**	**0.14**	**283**	↓↓P		Pg	12 23 13.5	+0.1
KOCW				S		Sg	12 23 15.7	0.0
ZHC	**Zelena Hora**	**0.19**	**209**	↑↑P		Pg	12 23 14.2	0.0
ZHC				S		Sg	12 23 16.8	0.0

*PRU **04** 12:23:12.4±0.0, 50°24N×12°52E, h0km, West Bohemia Swarm*

WBNET 04 12:23:11.7, 50°23N×12°44E, h9km, MI1.6, 4C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.00**	**110**	*e*Pg		Pg	12 23 12.9	-0.4
NKC				*e*Sg		Sg	12 23 14.2	-0.3
	comp=Z,137nm,0.2s							
NKC	**Novy Kostel**	**0.00**	**110**	↓↓P		Pg	12 23 13.4	+0.1
NKC				S		Sg	12 23 14.6	+0.1
LBCW	**Luby**	**0.04**	**327**	↓↓P		Pg	12 23 13.7	+0.1
LBCW				S		Sg	12 23 15.0	+0.2
VAC	**Vackov**	**0.04**	**272**	S		Sg	12 23 14.9	0.0
STCW	**Studenec**	**0.06**	**63**	↑↑P		Pg	12 23 13.7	0.0
STCW				S		Sg	12 23 14.9	-0.2
SKC	**Skalna**	**0.08**	**220**	↑↑P		Pg	12 23 14.0	+0.1
SKC				S		Sg	12 23 15.6	0.0
POCW	**Potky**	**0.09**	**353**	S		Sg	12 23 15.9	+0.1
KACW	**Kaceov**	**0.10**	**153**	↓↓P		Pg	12 23 14.3	0.0
KACW				S		Sg	12 23 16.0	0.0
KRCW	**Kraslice**	**0.11**	**30**	↑↑P		Pg	12 23 14.5	+0.1
KRCW				S		Sg	12 23 16.3	0.0
ZHC	**Zelena Hora**	**0.18**	**208**	↑↑P		Pg	12 23 15.6	+0.1
ZHC				S		Sg	12 23 18.3	0.0
CLL	**Collm**	**1.13**	**18**	*i* Sg		Sb	12 23 48.6	+0.3
	comp=Z,4.0nm,0.3s							
CLL				*i*			12 23 51.9	
CLL				LmV			14 32 00.0	
	comp=Z,200nm,18.5s							
BRG	**Berggiesshubel**	**1.15**	**56**	PG		Pb	12 23 32.0	-1.7
BRG				SG		Sg	12 23 47.0	-1.7
	comp=Z,5.5nm,0.3s							
KHC	**Kasperske Hory**	**1.33**	**146**	*e*PG		Pn	12 23 35.9	-0.5
KHC				*e*SG		Sb	12 23 53.2	-0.7
	comp=Z,2.4nm,0.3s							
PRU	**Pruhonice**	**1.37**	**100**	*e*SG		Sb	12 23 55.2	0.0
	comp=Z,3.8nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG		Sb	12 24 00.2	+0.1
	comp=Z,2.7nm,0.3s							
DPC	**Dobruska-Polom**	**2.49**	**86**	*e*SG		Sb	12 24 28.9	+1.5
	comp=Z,1.6nm,0.6s							

*NEIC **04** 12:37:37.2±1.3, 10°44S±0°09×161°54E±0°06, h10km±1km, mb4.4/15, Error ellipse: s-maj=18.5km s-min=3.9km az=33.0*

*IDC **04** 12:37:44.0±2.5, 10°38S×161°48E, h64km±21km, mb3.8/14, mb1 4.0/16, mb1mx3.9/35, mbtmp4.1/16, MS3.6/8, Ms1 3.5/8, ms1mx3.2/32, Error ellipse: s-maj=21.3km s-min=13.3km az=87.0*

ISC 04 12:37:43.8±0.6, 10°45S±0°07×161°47E±0°09, h61km, n42, σ0s84/32, mb4.1/19, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.80**	**304**	P	**Pn**	**12 38 11.8**	**-0.8**
	225nm,0.3s,baz=181,slow=4.8,SNR=134						
HNR				S	**Sn**	**12 38 34.8**	**+0.3**
	177nm,0.3s,baz=228,slow=17,SNR=5.1						
HNR				LR	LR	12 39 11.3	
	comp=Z,682nm,18.1s,baz=212,slow=49						
KRVT	**Keravat (AS076**	**11.17**	**302**	LR	LR	12 45 19.5	
	comp=Z,254nm,19.6s,baz=133,slow=41						
DZM	**Mont Dzumac**	**12.51**	**158**	P	**Pn**	**12 40 39.7**	**+0.7**
	0.7nm,0.3s,baz=27,slow=10.0,SNR=73						
DZM				S	**Sn**	**12 42 54.3**	**-2.5**
	0.3nm,0.3s,baz=184,slow=19,SNR=0.8						
DZM				LR	LR	12 44 32.1	
	comp=Z,236nm,20.4s,baz=0.5,slow=32						
PMG	**Port Moresby**	**14.13**	**273**	LR	LR	12 46 10.9	
	comp=Z,290nm,18.6s,baz=96,slow=36						
PATS	**Pohnpei**	**17.45**	**350**		**P**	**12 41 43.8**	**+0.2**
CTA	**Charters Tower**	**17.51**	**235**	P	**P**	**12 41 44.6**	**+0.3**
	0.3nm,0.3s,baz=58,slow=14,SNR=2.7						
COEN	**Coen**	**18.21**	**257**	P	**Pn**	**12 41 52.3**	**-0.2**
ARMA	**Armidale**	**21.88**	**203**	P	**P**	**12 42 31.4**	**-0.4**
ARMA				IAmb	IAmb	12 42 39.4	
	comp=Z,8.5nm,1.0s						
WR0	**Warramunga Arr**	**27.61**	**247**	P	**P**	**12 43 25.2**	**-0.5**
WR0				IAmb	IAmb	12 43 26.3	
	comp=Z,5.8nm,1.1s						
WB0	**Warramunga Arr**	**27.69**	**247**	P	**P**	**12 43 26.3**	**-0.2**
WB2	**Warramunga Arr**	**27.78**	**247**	P	**P**	**12 43 26.9**	**-0.3**
WB2				IAmb	IAmb	12 43 41.4	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**27.79**	**247**	P	**P**	**12 43 27.1**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=76,slow=9.1,SNR=19						

STKA	**Stephens Creek**	**28.15**	**218**		P	**P**	**12 43 30.3**	**-0.1**	
	comp=Z,4.4nm,1.2s,baz=18,slow=16,SNR=3.2								
STKA					LR	LR	12 54 31.9		
	comp=Z,210nm,19.4s,baz=25,slow=36								
STKA	**Stephens Creek**	**28.15**	**218**		IAmb	IAmb	12 43 32.2		
	comp=Z,1.3nm,1.4s								
GUMO	**Guam**	**29.01**	**325**		LR	LR	12 53 41.9		
	comp=Z,56nm,19.9s,baz=144,slow=33								
H11S2	**WAKE ISLAND Hy**	**29.21**	**10**		T	T	13 14 36.5		
	baz=188,slow=76,SNR=24								
H11S3	**WAKE ISLAND Hy**	**29.22**	**10**		T	T	13 14 36.5		
	baz=188,slow=76,SNR=16								
H11S1	**WAKE ISLAND Hy**	**29.23**	**10**		T	T	13 14 36.5		
	baz=188,slow=76,SNR=6.1								
ASAR	**Alice Springs**	**29.37**	**240**		P	**P**	**12 43 40.4**	**-1.0**	
	comp=Z,1.6nm,0.9s,baz=63,slow=9.8,SNR=10								
ASAR					LR	LR	12 55 25.4		
	comp=Z,216nm,18.4s,baz=66,slow=36								
H11N1	**WAKE ISLAND Hy**	**30.44**	**10**		T	T	13 16 12.3		
	baz=188,slow=76,SNR=4.8								
H11N3	**WAKE ISLAND Hy**	**30.45**	**10**		T	T	13 16 07.7		
	baz=188,slow=76,SNR=5.3								
H11N2	**WAKE ISLAND Hy**	**30.46**	**10**		T	T	13 16 10.6		
	baz=188,slow=76,SNR=4.3								
KNRA	**Kununurra**	**32.25**	**257**		P	**P**	**12 44 06.5**	**-0.3**	
BBOO	**Buckleboo**	**32.29**	**223**		P	**P**	**12 44 07.3**	**+0.4**	
TUWZ	**Tuamarina**	**32.76**	**163**		P	**P**	**12 44 11.1**	**+0.2**	
FITZ	**Fitzroy Crossi**	**35.49**	**254**		P	**P**	**12 44 34.7**	**-0.1**	
KSRS	**Korea Array**	**57.09**	**328**		P	**P**	**12 47 23.6**	**-0.3**	
	comp=Z,0.4nm,0.5s,baz=138,slow=9.1,SNR=4.2								
KSRS					LR	LR	13 11 28.7		
	comp=Z,24nm,18.9s,baz=225,slow=36								
USRK	**Ussuriysk Ar.**	**60.61**	**336**		P	**P**	**12 47 47.7**	**-0.4**	
	comp=Z,1.2nm,0.5s,baz=145,slow=5.3,SNR=3.5								
VNDA	**Vanda**	**67.06**	**180**		P	**P**	**12 48 31.3**	**+1.2**	
	comp=Z,3.1nm,0.7s,baz=345,slow=6.4,SNR=21								
VNDA	**Vanda**	**67.06**	**180**		P	**P**	**12 48 31.3**	**+1.2**	
SONM	**Songino Array**	**75.74**	**325**		P	**P**	**12 49 23.6**	**+0.6**	
	comp=Z,0.8nm,0.5s,baz=127,slow=4.6,SNR=3.6								
KDAK	**Kodiak Island**	**77.63**	**23**		P	**P**	**12 49 30.8**	**-2.4**	
	comp=Z,4.2nm,1.0s,baz=212,slow=4.8,SNR=13								
QSPA	**South Pole Qui**	**79.55**	**180**		P	**P**	**12 49 44.4**	**+0.3**	
	comp=Z,2.5nm,0.9s,baz=189,slow=0.8,SNR=13								
QSPA	**South Pole Qui**	**79.55**	**180**		IAmb	IAmb	12 49 46.0		
	comp=Z,5.4nm,1.2s								
MAW	**Mawson**	**83.68**	**202**		P	**P**	**12 50 05.9**	**+0.4**	
	comp=Z,1.8nm,0.5s,baz=112,slow=9.2,SNR=12								
WRH	**Wood River Hil**	**83.74**	**20**		P	**P**	**12 50 05.9**	**+0.1**	
WRH					IAmb	IAmb	12 50 08.0		
	comp=Z,5.9nm,1.4s								
CCB	**Clear Creek Bu**	**83.94**	**20**		P	**P**	**12 50 07.3**	**+0.5**	
CCB					IAmb	IAmb	12 50 08.5		
	comp=Z,4.7nm,1.4s								
ILAR	**Eielson Array**	**84.33**	**20**		P	**P**	**12 50 08.6**	**-0.2**	
	comp=Z,0.5nm,0.6s,baz=239,slow=4.5,SNR=7.8								
NVAR	**Mina Array Bea**	**88.88**	**51**		P	**P**	**12 50 32.6**	**+0.7**	
	comp=Z,0.3nm,0.6s,baz=249,slow=6.4,SNR=3.7								
MKAR	**Makanchi Array**	**90.23**	**318**		P	**P**	**12 50 37.0**	**-0.8**	
	comp=Z,0.5nm,0.7s,baz=104,slow=5.1,SNR=4.6								
PDAR	**Pinedale Array**	**96.25**	**48**		LR	LR	13 33 31.2		
	comp=Z,14nm,19.0s,baz=312,slow=35								
YKA	**Yellowknife Ar**	**96.39**	**28**		P	**P**	**12 51 05.9**	**+0.2**	
	comp=Z,0.2nm,0.5s,baz=264,slow=4.7,SNR=8.4								

*IDC **04** 12:43:21.2±1.4, 6°76N×73°01W, h168km±14km, mb3.2/3, mb1 3.7/6, mb1mx3.2/31, mbtmp3.9/6, MS3.1/1, Ms1 3.1/1, ms1mx2.5/12, Error ellipse: s-maj=31.7km s-min=20.9km az=111.0*

*RSNC **04** 12:43:22.1±0.9, 6°81N×73°15W, h140km±3km, ML3.7, Mw3.8, Fault plane solution: NP1:φs108.00000°, δ24.00000°, λ-52.00000°.*

ISC 04 12:43:20.0±0.8, 6°84N±0°03×73°13W±0°04, h159km±5km, n50, σ2s07/91, mb3.3/3, 5C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**193**	↓*i*P		**Pn**	**12 43 41.5**	**-0.2**
BARC				*e*S		**Sn**	**12 43 55.9**	**-2.5**
BARC				*i*			12 43 58.0	
	comp=Z,1μm,0.2s							
BRRC	**Barranca, Sant**	**0.64**	**295**	↓*i*P		**Pn**	**12 43 43.3**	**+0.2**
BRRC				*e*S		**Sn**	**12 43 59.1**	**-1.6**
BRRC				*i*			12 44 03.5	
	comp=Z,615nm,0.4s							
PAMC	**Pamplona, Colo**	**0.65**	**40**	↓*e*P		**Pn**	**12 43 44.4**	**+0.7**
PAMC				*e*S		**Sn**	**12 43 59.8**	**-2.0**
PAMC				*i*			12 44 04.6	
	comp=Z,405nm,0.5s							
RUSC	**La Rusia**	**0.94**	**177**	↑*i*P		**Pn**	**12 43 45.5**	**-0.2**
RUSC				*e*S		**Sn**	**12 44 02.8**	**-2.6**
RUSC				*i*			12 44 05.7	
	comp=Z,421nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	*e*P		**Pn**	**12 43 48.1**	**-0.6**
PTBC				*e*S		**Sn**	**12 44 08.9**	**-1.9**
PTBC				*i*			12 44 11.0	
	comp=Z,616nm,0.4s							
TAMC	**Tame, Arauca**	**1.38**	**107**	↑*i*P		**Pn**	**12 43 49.9**	**+0.8**
TAMC				*e*S		**Sn**	**12 44 10.8**	**-0.6**
TAMC				*i*			12 44 12.3	
	comp=Z,240nm,0.6s							
OCAC	**Ocana**	**1.41**	**352**	*e*P		**Pn**	**12 43 49.5**	**+0.1**
OCAC				*e*S		**Sn**	**12 44 11.0**	**-1.2**
OCAC				*i*			12 44 16.2	
	comp=Z,410nm,0.3s							
SPBC	**San Pablo de B**	**1.51**	**219**	*e*P		**Pn**	**12 43 50.3**	**-0.1**
SPBC				*e*S		**Sn**	**12 44 12.4**	**-1.4**
SPBC				*i*			12 44 17.4	
	comp=Z,772nm,0.4s							
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P		**Pn**	**12 43 53.8**	**0.0**
ZARC				*e*S		**Sn**	**12 44 19.4**	**-0.5**
ZARC				*i*			12 44 29.4	
	comp=Z,391nm,0.3s							
CTAB	**Cerro Tablazo,**	**2.11**	**211**	*e*P		**Pn**	**12 43 59.8**	**+2.4**
NORC	**Norcasia**	**2.15**	**234**	*e*P		**Pn**	**12 43 57.3**	**-0.1**
NORC				*e*S		**Sn**	**12 44 25.2**	**-1.1**
NORC				*i*			12 44 30.8	
	comp=Z,561nm,0.5s							
SMLC	**San Martn de**	**2.17**	**334**	*e*P		**Pn**	**12 43 57.5**	**-0.1**
SMLC				*e*S		**Sn**	**12 44 26.6**	**0.0**
SMLC				*i*			12 44 28.6	
	comp=Z,344nm,0.3s							
CHIC	**Chingaza**	**2.27**	**195**	↑*e*P		**Pn**	**12 43 59.5**	**+0.2**
CHIC				*e*S		**Sn**	**12 44 28.7**	**-0.9**
CHIC				*i*			12 44 36.3	
	comp=Z,311nm,0.5s							
ROSC	**El Rosal**	**2.31**	**211**	P		**Pn**	**12 44 01.6**	**+1.9**
ROSC				S		**Sn**	**12 44 30.0**	**-0.4**
	comp=Z,209nm,0.3s,baz=118,slow=21,SNR=28							
ROSC	**El Rosal**	**2.31**	**211**	↑*i*P		**Pn**	**12 44 01.4**	**+1.7**
ROSC				*e*S		**Sn**	**12 44 29.6**	**-0.7**
ROSC				*i*			12 44 38.3	
	comp=Z,587nm,0.3s							
HELC	**Santa Helena**	**2.47**	**255**	*e*P		**Pn**	**12 44 02.2**	**+0.7**
HELC				*e*S		**Sn**	**12 44 33.2**	**-0.5**
HELC				*i*			12 44 39.7	
	comp=Z,268nm,0.4s							
CVER	**Cruz Verde, Cu**	**2.49**	**202**	*e*P		**Pn**	**12 44 03.0**	**+1.1**
CVER				*e*S		**Sn**	**12 44 34.2**	**0.0**
CVER				*i*			12 44 41.6	
	comp=Z,4μm,0.4s							
UREC	**San Jos de Ur**	**2.56**	**291**	*e*P		**Pn**	**12 44 01.6**	**-0.6**
UREC				*e*S		**Sn**	**12 44 30.8**	**-4.1**
UREC				*i*			12 44 46.1	
	comp=Z,192nm,0.3s							
GUY2C	**Guyana, Caldas**	**2.74**	**234**	*e*P		**Pn**	**12 44 05.6**	**+0.6**
GUY2C				*e*S		**Sn**	**12 44 39.1**	**-0.7**
GUY2C				*i*			12 44 51.0	
	comp=Z,266nm,0.3s							
VILC	**Villavicencio,**	**2.77**	**192**	*e*P		**Pn**	**12 44 04.8**	**-0.1**
VILC				*e*S		**Sn**	**12 44 38.8**	**-1.0**
VILC				*i*			12 44 50.1	
	comp=Z,468nm,0.4s							
PTGC	**Puerto Gaitan,**	**2.80**	**159**	↑*i*P		**Pn**	**12 44 04.8**	**-0.5**
PTGC				*e*S		**Sn**	**12 44 37.2**	**-3.1**
PTGC				*i*			12 44 40.9	
	comp=Z,158nm,0.3s							
RREF	**El Recreo**	**2.93**	**229**	*e*P		**Pn**	**12 44 08.0**	**+0.6**
RREF				*e*S		**Sn**	**12 44 44.2**	**+0.1**
RREF				*i*			12 44 55.8	
	comp=Z,312nm,0.3s							
CBOC	**Ciudad Bolivar**	**3.03**	**252**	*e*P		**Pn**	**12 44 08.8**	**+0.5**
CBOC				*e*S		**Sn**	**12 44 44.9**	**-0.7**
CBOC				*i*			12 44 55.0	
	comp=Z,118nm,0.3s							
DBBC	**Dabeiba**	**3.07**	**274**	↓*e*P		**Pn**	**12 44 09.2**	**+0.5**
DBBC				*e*S		**Sn**	**12 44 42.8**	**-3.5**
DBBC				*i*			12 44 54.2	
	comp=Z,496nm,0.3s							
TOLC	**Tolima**	**3.13**	**224**	*e*P		**Pn**	**12 44 10.6**	**+0.9**
TOLC				*e*S		**Sn**	**12 44 48.2**	**+0.1**
TOLC				*i*			12 44 55.9	
	comp=Z,873nm,0.5s							
ARGC	**Ariguani, Magd**	**3.20**	**340**	*e*P		**Pn**	**12 44 11.6**	**+1.3**
ARGC				*e*S		**Sn**	**12 44 49.9**	**+0.6**
ARGC				*i*			12 44 57.1	
	comp=Z,80nm,0.4s							
SDV	**Santo Domingo**	**3.20**	**50**	P		**Pn**	**12 44 11.5**	**+1.1**
	comp=Z,34nm,0.3s,baz=241,slow=3.3,SNR=12							
SDV				S		**Sn**	**12 44 47.8**	**-1.8**
	comp=Z,12nm,0.3s,baz=307,slow=17,SNR=9.2							
SDV	**Santo Domingo**	**3.20**	**50**	*e*P		**Pn**	**12 44 11.3**	**+0.9**
SDV				*e*S		**Sn**	**12 44 47.2**	**-2.3**
SDV				*i*			12 44 50.4	
	comp=Z,40nm,0.3s							
ANIL	**Santa Ana**	**3.25**	**224**	*e*P		**Pn**	**12 44 12.4**	**+1.2**
ANIL				*e*S		**Sn**	**12 44 50.3**	**-0.5**
ANIL				*i*			12 44 56.3	
	comp=Z,738nm,0.3s							
PRAC	**Prado**	**3.56**	**210**	*e*P		**Pn**	**12 44 14.8**	**-0.1**
PRAC				*e*S		**Sn**	**12 44 56.6**	**-1.1**
PRAC				*i*			12 45 04.7	
	comp=Z,354nm,0.5s							
ORTC	**Ortega, Tolima**	**3.59**	**216**	*e*P		**Pn**	**12 44 15.6**	**+0.3**
ORTC				*e*S		**Sn**	**12 44 57.1**	**-1.3**
ORTC				*i*			12 45 04.0	
	comp=Z,234nm,0.4s							
SJCC	**San Jacinto, C**	**3.66**	**326**	*e*P		**Pn**	**12 44 15.6**	**-0.5**
SJCC				*e*S		**Sn**	**12 44 54.6**	**-5.2**
SJCC				*i*			12 45 01.3	
	comp=Z,117nm,0.5s							
PLMC	**San Jos del P**	**3.68**	**239**	*e*P		**Pn**	**12 44 17.2**	**+0.8**
PLMC				*e*S		**Sn**	**12 45 00.1**	**-0.2**
PLMC				*i*			12 45 05.9	
	comp=Z,327nm,0.2s							
LCBC	**Los crdobas,**	**3.79**	**302**	*e*S		**Sn**	**12 44 59.9**	**-2.8**
LCBC				*i*			12 45 07.7	
	comp=Z,95nm,0.2s							
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P		**Pn**	**12 44 24.2**	**-0.1**
YOTC				*e*S		**Sn**	**12 45 13.6**	**-0.8**
YOTC				*i*			12 45 26.6	
	comp=Z,24nm,0.7s							
GUVC	**San Jose del G**	**4.29**	**173**	*e*P		**Pn**	**12 44 23.7**	**-0.6**
GUVC				*e*S		**Sn**	**12 45 12.4**	**-2.1**
GUVC				*i*			12 45 17.3	
	comp=Z,143nm,0.2s							
SMRC	**Santa Marta, M**	**4.43**	**346**	*e*P		**Pn**	**12 44 25.9**	**-0.3**
SMRC				*e*S		**Sn**	**12 45 13.3**	**-4.5**
CAPC	**Capurgana**	**4.55**	**293**	*e*P		**Pn**	**12 44 26.3**	**-1.4**
CAPC				*e*S		**Sn**	**12 45 13.4**	**-7.1**
CAPC				*i*			12 45 20.3	
	comp=Z,34nm,0.4s							
MACC	**Macarena, Meta**	**4.72**	**189**	*e*P		**Pn**	**12 44 28.3**	**-1.7**
MACC				*e*S		**Sn**	**12 45 18.5**	**-6.0**
MACC				*i*			12 45 25.4	
	comp=Z,51nm,0.5s							
MARP	**Paez Belalcaza**	**4.87**	**216**	*e*P		**Pn**	**12 44 31.2**	**-0.9**
MARP				*e*S		**Sn**	**12 45 24.9**	**-3.5**
MARP				*i*			12 45 34.0	
	comp=Z,14nm,0.3s							
GARC	**Garzon, Huila**	**5.19**	**207**	*e*P		**Pn**	**12 44 35.9**	**-0.4**
GARC				*e*S		**Sn**	**12 45 30.9**	**-5.0**
GARC				*i*			12 45 37.2	
	comp=Z,71nm,0.3s							
FLOC	**Florencia**	**5.80**	**206**	*e*P		**Pn**	**12 44 44.0**	**-0.2**
FLOC				*e*S		**Sn**	**12 45 42.2**	**-7.9**
FLOC				*i*			12 45 55.8	
	comp=Z,25nm,0.4s							
FLOC				*i*			12 45 55.8	
	comp=Z,25nm,0.4s							
BBAC	**Balboa, Cauca**	**6.30**	**221**	*e*P		**Pn**	**12 44 52.3**	**+1.2**
BBAC				*e*P		**Pn**	**12 44 52.3**	**+1.2**
BBAC				*e*S		**Sn**	**12 46 02.1**	**-0.4**
BBAC				*i*			12 46 06.5	
	comp=Z,16nm,0.4s							
TEIG	**Tepich**	**19.83**	**314**	P		**P**	**12 47 39.7**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=139

RSO	Redoubt South	14.27	46		S		13 02 19.1	+1.8
CNPM	China Poot	14.59	50	Pn	Pn		12 59 27.3	+0.5
SUA	Susitna One	15.60	44		P		12 59 41.7	-1.5
SEW	Seward	15.63	50	Pn	Pn		12 59 39.8	-0.6
TRF	Thorofare Moun	16.76	38		P		12 59 55.6	-0.6
BPAW	Bear Paw Mtn.	16.86	36	Pn	Pn		12 59 56.2	+0.4
RND	Reindeer	17.29	39		P		13 00 01.4	-0.5
DHY	Denali Highway	17.73	41	P	Pn		13 00 06.0	-0.6
WRH	Wood River Hil	18.12	37	P	Pn		13 00 12.3	+1.1
CCB	Clear Creek Bu	18.32	37	P	P		13 00 12.9	-0.2
MDM	Murphy Dome	18.33	36	P	Pn		13 00 13.4	-0.3
HDA	Harding Lake	18.52	38		P		13 00 15.3	0.0
IL31		18.72	37		Pn		13 00 18.1	-0.3
ILAR	Eielson Array	18.72	37	P	P		13 00 16.5	-1.1
	0.7nm,0.3s,baz=236,slow=10,SNR=41							
RIDG	Independent Ri	19.04	41	P	P		13 00 21.0	-0.1
DOT	Dot Lake	19.33	42	P	P		13 00 24.1	0.0
EGAK	Eagle	20.93	40	P	P		13 00 42.0	+0.5
MA2	Magadan	21.13	305	LR	LR		13 08 24.0	
	comp=Z,78nm,18.7s,baz=175,slow=36							
DAWY	Dawson	21.41	43	P	P		13 00 46.1	-0.6
INK	Inuvik	25.06	34	P	P		13 01 21.2	-1.2
	2.7nm,0.9s,baz=209,slow=10,SNR=4.9							
YKA	Yellowknife Ar	32.41	48	P	P		13 02 27.4	-0.5
	0.2nm,0.6s,baz=271,slow=8.0,SNR=8.0							
YKA				PcP	PcP		13 05 14.8	+0.9
	0.3nm,0.6s,baz=286,slow=3.4,SNR=4.8							
H11N2	WAKE ISLAND Hy	35.69	213	T	T		13 40 49.6	
	baz=18,slow=76							
H11N3	WAKE ISLAND Hy	35.69	213	T	T		13 40 49.1	
	baz=18,slow=76							
H11N1	WAKE ISLAND Hy	35.70	213	T	T		13 40 52.0	
	baz=18,slow=76							
H11S1	WAKE ISLAND Hy	36.89	212	T	T		13 42 15.9	
	baz=20,slow=76							
H11S2	WAKE ISLAND Hy	36.91	212	T	T		13 42 18.5	
	baz=20,slow=76							
H11S3	WAKE ISLAND Hy	36.91	212	T	T		13 42 17.0	
	baz=20,slow=76							
NVAR	Mina Array Bea	40.30	87	P	P		13 03 36.9	+1.2
	0.6nm,0.7s,baz=293,slow=7.5,SNR=5.4							
NVAR				PcP	PcP		13 05 39.1	+0.8
	0.4nm,0.6s,baz=289,slow=2.7,SNR=3.6							
KSRS	Korea Array	42.81	274	LR	LR		13 23 38.2	
	comp=Z,9.2nm,18.0s,baz=150,slow=39							
PDAR	Pinedale Array	43.04	76	P	P		13 03 58.7	+0.7
	1.7nm,0.5s,baz=296,slow=4.2,SNR=21							
TXAR	Lajitas Array	55.39	85	P	P		13 05 32.3	0.0
	1.0nm,0.8s,baz=300,slow=5.5,SNR=14							
ZALV	Zalesovo Beam	55.83	316	LR	LR		13 32 32.6	
	comp=Z,32nm,18.4s,baz=116,slow=40							
WRA	Warramunga Arr	84.80	228	P	P		13 08 32.1	+0.1
	0.7nm,0.6s,baz=31,slow=5.5,SNR=7.3							
ASAR	Alice Springs	86.23	227	P	P		13 08 49.7	+0.9
	1.7nm,0.8s,baz=23,slow=4.8,SNR=26							
H03N2	Juan Fernandez	118.29	109	T	T		15 23 58.8	
	baz=317,slow=77,SNR=22							
H03N1	Juan Fernandez	118.31	109	T	T		15 24 00.1	
	baz=317,slow=77,SNR=23							
H03N3	Juan Fernandez	118.31	109	T	T		15 24 09.2	
	baz=317,slow=77,SNR=17							

IDC 04 12:57:07.1±1.6,24°23S×175°77W,h0km,mb3.8/4, mb1 4.3/5,mb1mx3.9/26,mbtmp4.1/5,ML4.1/1,MS3.3/4, Ms1 3.3/4,ms1mx2.9/34,Error ellipse: s-maj=67.5km s-min=23.5km az=148.0,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	10.94	21	Pn	Pn	12 59 45.5	+0.5
	1.5nm,0.3s,baz=234,slow=18,SNR=2.7						
AFI				Sn	Sn	13 01 49.1	+0.8
	0.9nm,0.3s,baz=170,slow=22,SNR=2.0						
RAR	Rarotonga	15.07	82	LR	LR	13 04 29.4	
	comp=Z,85nm,21.4s,baz=260,slow=29						
DZM	Mont Dzumac	16.50	274	LR	LR	13 06 19.3	
	comp=Z,181nm,18.7s,baz=254,slow=34						
PPT	Papeete	25.33	80	LR	LR	13 09 24.8	
	comp=Z,38nm,21.9s,baz=115,slow=29						
HNR	Honiara	27.44	298	LR	LR	13 11 38.7	
	comp=Z,77nm,19.6s,baz=302,slow=32						
ASAR	Alice Springs	45.79	260	P	P	13 05 30.5	-0.4
	1.0nm,0.4s,baz=92,slow=7.0,SNR=30						
WRA	Warramunga Arr	46.23	265	P	P	13 05 34.5	+0.1
	0.8nm,0.6s,baz=104,slow=7.7,SNR=7.7						
NVAR	Mina Array Bea	82.36	42	P	P	13 09 32.0	+0.8
	0.2nm,0.5s,baz=201,slow=7.8,SNR=5.4						
TXAR	Lajitas Array	87.36	56	P	P	13 09 55.6	-0.9
	0.4nm,0.8s,baz=216,slow=7.8,SNR=5.2						

*CRAAG **04** 13:17:49.6,35°.49N×5°.48E,MI3.2*
*MDD **04** 13:17:56.5±2.0,35°.71N×5°.44E,h0km,mb4.2/3,Error ellipse: s-maj=19.4km s-min=7.8km az=19.0,PRXIMO*
ISC 04 13:17:55.6±2.0,35°.7N±0°.1×5°.47E±0°.07,h14km,n18, σ1§13/21,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHR	Kef el Ahmar	0.33	6	P	Pg	13 18 01.5	-0.9
CKHR	Kef el Ahmar	0.33	6	P	Pg	13 18 01.5	-0.9
SET	Setif	0.52	354	P	Pg	13 18 06.0	+0.2
SET	Setif	0.52	354	P	Pg	13 18 06.0	+0.2
CTEI	Djebel Teioual	0.85	63	P	Pg	13 18 11.3	-0.7
CTEI	Djebel Teioual	0.85	63	P	Pg	13 18 11.3	-0.7
DFRA	Djebel Bou Aff	0.92	21	P	Pg	13 18 14.0	+0.7
DFRA	Djebel Bou Aff	0.92	21	P	Pg	13 18 14.0	+0.7
CASM	Ain Smara	1.00	55	P	Pb	13 18 14.5	-0.3
CASM	Ain Smara	1.00	55	P	Pb	13 18 14.5	-0.3
CKFL	Kef-Lekhel	1.24	55	P	Pb	13 18 19.4	+0.6
CKFL	Kef-Lekhel	1.24	55	P	Pb	13 18 19.4	+0.6
CMAH	Djebel Manchou	1.83	59	P	Pb	13 18 30.4	+1.5
CMAH	Djebel Manchou	1.83	59	P	Pb	13 18 30.4	+1.5
ETOS	Mallorca	4.58	333	P	Pn	13 19 04.9	+0.4
	5.2nm,0.3s,SNR=7.9						
ETOS				S	Sn	13 19 55.8	-1.8
	2.9nm,0.4s,SNR=7.9						
EIBI	Ibiza	4.68	317	P	Pn	13 19 06.7	+0.9
	3.6nm,0.2s,SNR=7.9						
EIBI				S	Sn	13 19 59.9	0.0
	2.4nm,0.3s,SNR=7.9						
ETOB	Tobarra	6.33	300	P	Pn	13 19 28.1	-0.4
	1.6nm,0.3s,SNR=7.9						
ETOB				S	Sn	13 20 41.8	+1.1
	1.1nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	6.62	317	S	Sn	13 20 44.9	-2.9
	0.9nm,0.3s,SNR=7.9						

*IDC **04** 13:35:33.4±0.9,51°.50N×174°.94W,h0km,mb3.8/15, mb1 4.0/16,mb1mx3.8/61,mbtmp3.8/16,ML4.1/1,MS3.1/1, Ms1 3.1/1,ms1mx2.4/51,Error ellipse: s-maj=27.8km s-min=15.2km az=171.0*
*AEIC **04** 13:35:37±2.1,51°.31N±0°.07×174°.83W±0°.06,h24km±4km, ML3.8/32,mb4.3/60(NEIC),Error ellipse: s-maj=11.1km s-min=4.9km az=161.0*
ISC 04 13:35:38.6±0.6,51°.34N±0°.09×174°.83W±0°.05,h40km, n234,σ0§89/230,mb4.2/30,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.95	24		Pn	13 35 54.7	-0.7
ATKA					Sn	13 36 08.4	+0.7
GSMY	Great Sitkin M	1.03	313		Pn	13 35 56.2	-0.5
KOFP	Korovin Flat P	1.04	26		Pn	13 35 56.7	-0.1
GSTR	Great Sitkin T	1.07	315		Pn	13 35 57.1	-0.1
GSTD	Great Sitkin T	1.08	312		Pn	13 35 57.0	-0.4
ETKA	Kagalaska Isla	1.11	299		Pn	13 35 57.1	-0.6
ETKA					Sn	13 36 12.6	+0.8
KOSE	Korovin Southe	1.11	26		Pn	13 35 58.0	+0.2
ADAG	Mount Adagdak	1.27	301		Pn	13 36 00.3	+0.4
ADK	Adak	1.27	296		Pn	13 35 59.0	-0.9
KIKV	Kanaga Island	1.55	291		Pn	13 36 03.7	0.0
KIMD	Kanaga Island	1.56	287		Pn	13 36 03.3	-0.5
KIMD					Sn	13 36 23.7	+1.0
KICM	Kanaga Island	1.58	292		Pn	13 36 04.3	+0.2
TAPA	Tanaga Point A	1.92	285		Pn	13 36 09.1	+0.3
TAFP	Tanaga Falls P	2.04	287		Pn	13 36 11.0	+0.5
TASE	Tanaga Southea	2.06	285		Pn	13 36 11.4	+0.6
GAEA	Gareloi East	2.48	282		Pn	13 36 17.6	+1.1
CERAA	Semis' Rag'd T	3.46	282		Pn	13 36 30.4	+0.4
CESW	Semis' Southwe	3.54	281		Pn	13 36 31.1	+0.1
CEAP	Semis' Anvil P	3.54	283		Pn	13 36 31.6	+0.6
AMKA	Amchitka	3.68	273		Pn	13 36 32.5	-0.4
NIKH	Nikolski High	4.03	64		Pn	13 36 38.5	+0.7
LSPA	Little Sitkin	4.15	281		Pn	13 36 40.0	+0.6
LSNW	Little Sitkin	4.19	281		Pn	13 36 40.4	+0.4
LSSA	Little Sitkin	4.19	281		Pn	13 36 40.3	+0.4
OKNC	Okmok New Cone	4.62	60		Pn	13 36 47.5	+1.7
MAPS	Pakushin South	5.41	60		Pn	13 36 58.4	+1.7
MREP	Makushin Rep't	5.51	60		Pn	13 36 59.5	+1.3
UNV	Unalaska Valle	5.66	60		Pn	13 37 01.1	+1.0
AKUT	Akutan	6.17	60	Pn	Pn	13 37 08.8	+1.7
SPIA	Saint Paul Isl	6.43	23	Pn	Pn	13 37 12.3	+1.7
SMY	Shemya	6.97	286	Pn	Pn	13 37 19.1	+1.0
FALS	False Pass	7.72	58	Pn	Pn	13 37 30.8	+2.4
SDPT	Sand Point	9.47	59	Pn	Pn	13 37 52.0	-0.4
CNBA	Chernabura Isl	9.81	63	Pn	Pn	13 37 55.6	-1.3
CHIR	Chirikof Islan	12.25	61	Pn	Pn	13 38 28.5	-1.8
SII	Sitkinak Islan	13.21	59	Pn	Pn	13 38 42.2	-1.3
KDAK	Kodiak Island	14.38	55	Pn	Pn	13 38 56.4	-2.9
	0.4nm,0.3s,baz=191,slow=2.7,SNR=20						
KDAK				Sn	Sn	13 41 28.4	-8.9
	0.1nm,0.3s,baz=280,slow=15,SNR=0.9						
KDAK	Kodiak Island	14.38	55		Pn	13 38 58.2	-1.2
SVW2	Sparrevohn	14.44	40	P	P	13 39 03.5	-2.7
CNPM	China Poot	15.63	49	Pn	Pn	13 39 14.3	-1.5
CNPM				IAmb	IAmb	13 39 47.8	
	comp=Z,31nm,1.6s						
BRLK	Bradley Lake	15.88	49	Pn	Pn	13 39 17.5	-1.5
BRLK				IAmb	IAmb	13 39 29.4	
	comp=Z,39nm,1.8s						
CAPN	Captain Cook N	16.16	45	P	Pn	13 39 21.5	-0.9
	baz=245						
SKT	Skwentna	16.55	41	Pn	Pn	13 39 27.7	+0.2
SKT				IAmb	IAmb	13 39 58.9	
	comp=Z,16nm,1.7s						
SUA	Susitna One	16.64	43	Pn	Pn	13 39 28.9	+0.2
PETK	Petropavlovsk-	16.88	287	LR	LR	13 45 11.0	
	comp=Z,62nm,21.2s,baz=63,slow=34						
PMR	Palmer	17.39	44	Pn	Pn	13 39 37.1	-0.8
PMR				IAmb	IAmb	13 39 58.5	
	comp=Z,22nm,1.8s						
GHO	Glory Hole Cre	17.56	44	Pn	Pn	13 39 39.3	-0.8
GHO				IAmb	IAmb	13 40 09.7	
	comp=Z,16nm,1.4s						
RDOG	Red Dog Mine	17.75	15		Pn	13 39 42.0	-0.3
TRF	Thorofare Moun	17.79	38	P	P	13 39 44.8	+1.3
SML	Sawmill	17.83	44	P	Pn	13 39 43.6	+0.2
BPAW	Bear Paw Mtn.	17.89	35	P	P	13 39 45.9	+1.5
SCM	Sheep Creek Mo	18.27	44	P	P	13 39 47.0	-1.7
SCM				IAmb	IAmb	13 40 23.6	
	comp=Z,9.7nm,1.1s						
FID	Port Fidalgo	18.28	48	P	P	13 39 45.6	-3.1
FID				IAmb	IAmb	13 40 23.9	
	comp=Z,25nm,1.4s						
RND	Reindeer	18.33	39	P	P	13 39 48.6	-0.7
MCK	McKinley	18.46	38	P	P	13 39 50.4	-0.2
DHY	Denali Highway	18.77	41	P	P	13 39 54.3	+0.1
KLU	Klutina	18.78	46	P	P	13 39 53.0	-1.2
KLU				IAmb	IAmb	13 39 54.0	
	comp=Z,18nm,1.7s						
NEA2	Nenana	18.86	35	P	P	13 39 55.4	+0.4
	baz=237						
WRH	Wood River Hil	19.15	36	P	P	13 39 57.8	-0.4
CCB	Clear Creek Bu	19.35	36	P	P	13 39 58.2	-2.2
PAX	Paxson	19.52	42	P	P	13 40 02.1	-0.2
HDA	Harding Lake	19.55	37	P	P	13 40 02.5	-0.1
	baz=241,SNR=14						
HDA	Harding Lake	19.55	37	P	P	13 40 02.3	-0.3
HDA				IAmb	IAmb	13 40 04.0	
	comp=Z,6.6nm,0.6s						
IL31		19.75	36		P	13 40 04.3	-0.5
ILAR	Eielson Array	19.75	36	P	P	13 40 03.0	-1.8
	comp=Z,0.5nm,0.3s,baz=228,slow=8.1,SNR=25						
COLD	Coldfoot	20.06	28	P	P	13 40 08.7	+0.7
	baz=230,SNR=6.0						
COLD	Coldfoot	20.06	28	P	P	13 40 08.0	-0.1
RIDG	Independent Ri	20.08	40	P	P	13 40 08.1	-0.3
RIDG				IAmb	IAmb	13 40 28.3	
	comp=Z,6.7nm,1.0s						
DOT	Dot Lake	20.37	41	P	P	13 40 09.1	-2.4
DOT				IAmb	IAmb	13 40 17.9	
	comp=Z,4.9nm,0.5s						
SCRK	Sand Creek	20.53	40	P	P	13 40 13.0	-0.3
	baz=246,SNR=19						
TOLK	Toolik Lake Re	21.17	26	P	P	13 40 20.1	0.0
	baz=228,SNR=9.2						
TOLK	Toolik Lake Re	21.17	26		P	13 40 20.6	+0.5
TOLK				IAmb	IAmb	13 40 21.8	
	comp=Z,7.9nm,0.6s						
K27K	Chicken	21.32	41	P	P	13 40 21.6	-0.1
	baz=249						
EGAK	Eagle	21.97	39	P	P	13 40 28.1	-0.5
EGAK				IAmb	IAmb	13 40 31.7	
	comp=Z,7.1nm,0.8s						
DAWY	Dawson	22.45	42	P	P	13 40 33.9	0.0
DAWY				IAmb	IAmb	13 40 41.2	
	comp=Z,12nm,1.8s						
INK	Inuvik	26.08	34	P	P	13 41 07.2	-0.7
	comp=Z,1.5nm,0.6s,baz=236,slow=8.2,SNR=5.2						
INK	Inuvik	26.08	34	P	P	13 41 07.3	-0.7
INK				IAmb	IAmb	13 41 51.4	
	comp=Z,13nm,1.6s						
C36M	Paulatuk	29.66	34	P	P	13 41 39.0	-0.9
	baz=259						
YKA	Yellowknife Ar	33.45	47	P	P	13 42 13.4	+0.2
	comp=Z,0.1nm,0.4s,baz=290,slow=6.8,SNR=2.0						
KLR	Kul'dur	33.57	288	P	P	13 42 14.3	-0.2
	comp=Z,1.5nm,0.4s,baz=75,slow=7.3,SNR=7.5						
H11N2	WAKE ISLAND Hy	34.67	211	T	T	14 19 22.5	
	baz=19,slow=76,SNR=22						
H11N3	WAKE ISLAND Hy	34.68	211	T	T	14 19 41.7	
	baz=19,slow=76,SNR=17						
H11N1	WAKE ISLAND Hy	34.69	211	T	T	14 19 23.9	
	baz=19,slow=76,SNR=15						
USRK	Ussurisk Ar.	35.76	280	P	P	13 42 33.5	0.0
	comp=Z,1.1nm,0.6s,baz=64,slow=8.8,SNR=3.1						
H11S1	WAKE ISLAND Hy	35.88	211	T	T	14 21 43.4	
	baz=20,slow=76,SNR=28						
H11S2	WAKE ISLAND Hy	35.89	211	T	T	14 21 44.6	
	baz=20,slow=76,SNR=13						
H11S3	WAKE ISLAND Hy	35.89	211	T	T	14 21 42.2	
	baz=20,slow=76,SNR=9.9						
F07A	Phinny Hill Vi	35.97	77	P	P	13 42 35.8	+0.6
NVAR	Mina Array Bea	41.08	86	P	P	13 43 19.9	+1.4
	comp=Z,0.1nm,0.3s,baz=331,slow=7.2,SNR=1.5						
KSRS	Korea Array	42.12	274	P	P	13 43 26.3	-0.4
	comp=Z,1.8nm,0.8s,baz=55,slow=7.4,SNR=4.2						
SCZ2	Santa Cruz Isl	43.04	92	P	P	13 43 33.7	-0.5
	baz=311						
TPNV	Topopah Spring	43.27	86	P	P	13 43 35.8	-0.5
	baz=309						
PDAR	Pinedale Array	43.94	75	P	P	13 43 42.5	+0.8
	comp=Z,0.8nm,0.8s,baz=297,slow=6.0,SNR=4.7						
BC3	Big Chuckawall	45.89	89	P	P	13 43 56.1	-1.0
	baz=311						
AGMN	Agassiz Nation	48.71	61	P	P	13 44 18.9	+0.2
	baz=305						
SONM	Songino Array	48.87	299	P	P	13 44 21.1	+0.9
	comp=Z,0.3nm,0.4s,baz=59,slow=5.6,SNR=2.3						
SPA0	Spitsbergen Ar	50.56	357	P	P	13 44 32.4	-0.1
SPITS	Spitsbergen Ar	50.56	357	P	P	13 44 31.8	-0.7
	comp=Z,1.3nm,0.4s,baz=48,slow=6.4,SNR=6.7						
EYMN	Ely	51.28	59	P	P	13 44 38.4	+0.2
	baz=307						
E43A	Lone Tree Farm	54.66	58	P	P	13 45 03.7	+0.6
E43A				IAmb	IAmb	13 45 05.0	
	comp=Z,6.3nm,0.7s						
D46A	Sault St. Mari	55.89	56	P	P	13 45 12.5	+0.5
	baz=311						
TXAR	Lajitas Array	56.19	84	P	P	13 45 16.0	+1.5
	comp=Z,0.3nm,0.7s,baz=312,slow=6.7,SNR=5.3						
D47A	Chapleau	56.26	55	P	P	13 45 15.1	+0.4
	baz=311						
E47A	Iron Bridge	56.57	56	P	P	13 45 17.2	+0.3
	baz=311						
D48A	Paudash Townsh	56.85	54	P	P	13 45 19.2	+0.3
	baz=312,SNR=5.3						
D49A	Beulah Townshi	57.01	54	P	P	13 45 20.7	+0.7
	baz=312						
E48A	Lockeyer	57.12	55	P	P	13 45 21.5	+0.7
	baz=312						
MATQ	Matagami	57.19	50	P	P	13 45 21.4	+0.3
	baz=312						
D50A	G1974 Best Tow	57.85	53	P	P	13 45 26.2	+0.3
	baz=312						
E50A	Wahnapitae	57.90	55	P	P	13 45 26.6	+0.4
	baz=312						
LSQQ	Lebel-sur-Quev	57.98	50	P	P	13 45 26.8	0.0
	baz=313						
D51A	Lot 18 Range I	58.14	53	P	P	13 45 28.1	+0.2
	baz=313						
VLDQ	Val d'Or	58.39	51	P	P	13 45 28.1	-1.5
VLDQ				IAmb	IAmb	13 45 29.3	
	comp=Z,4.7nm,0.8s						
E51A	G1948 Merrick	58.45	54	P	P	13 45 30.2	+0.1
	baz=313						
ARCES	ARCESS Array B	58.52	352	P	P	13 45 28.6	-1.7
	comp=Z,1.9nm,0.8s,baz=333,slow=7.5,SNR=4.9						
CHGQ	Chibougamau	58.63	48	P	P	13 45 31.5	+0.2
	baz=314						
F51A	Arnstein	58.65	55	P	P	13 45 32.0	+0.6
	baz=313						
D52A	ZEK Kipawa Sen	58.70	53	P	P	13 45 32.0	+0.2
	baz=313						
D53A	Lac Vacive, Po	58.98	52	P	P	13 45 34.0	+0.2
	baz=314						
D53A	Lac Vacive, Po	58.98	52	P	P	13 45 33.9	+0.2
D53A				IAmb	IAmb	13 45 35.4	
	comp=Z,6.6nm,0.9s						
F52A	Sundridge	59.05	54	P	P	13 45 34.9	+0.6
	baz=313						
E52A	Mattawa	59.05	54	P	P	13 45 34.7	+0.5
	baz=313						
D54A	Lac Fusel, La	59.45	52	P	P	13 45 36.8	-0.2
	baz=314						
E53A	Dumoine, Ponti	59.48	53	P	P	13 45 37.5	+0.2
	baz=314,SNR=5.8						
I51A	Listowel	59.53	57	P	P	13 45 38.9	+1.3
	baz=314						
ALGO	Algonquin Park	59.58	53	P	P	13 45 38.6	+0.7
	baz=314						
E54A	Lac Daplat, Po	59.68	53	P	P	13 45 38.8	+0.1
	baz=314,SNR=5.9						
G53A	Haliburton	59.87	54	P	P	13 45 40.7	+0.8
	baz=314,SNR=6.4						
G54A	Lake Saint Pet	59.95	54	P	P	13 45 41.0	+0.5
	baz=314						
D55A	Sainte-Anne-du	60.12	51	P	P	13 45 41.5	-0.1
	baz=314,SNR=5.2						
H53A	Bobcaygeon	60.27	55	P	P	13 45 43.3	+0.6
	baz=314						
D56A	ZEC Mazanza, M	60.45	51	P	P	13 45 43.7	-0.1
	baz=315						
E56A	St. Veronique	60.67	51	P	P	13 45 45.7	+0.3
	baz=315						
PLVO	Plevna	60.71	54	P	P	13 45 46.4	+0.7
PLVO				IAmb	IAmb	13 45 47.2	
	comp=Z,5.4nm,0.6s						
G55A	Calabogie	60.74	53	P	P	13 45 46.5	+0.6
	baz=315						
DELO	Deloro Mine	60.80	54	P	P	13 45 47.4	+1.1
DELO				IAmb	IAmb	13 45 48.6	
	comp=Z,10nm,1.1s						
N51A	Ashland	60.80	60	P	P	13 45 46.3	-0.1
	baz=314						
KURK	Kurchatov	60.81	316	P	P	13 45 46.4	+0.1
D57A	Chemin Vers le	60.89	50	P	P	13 45 46.7	-0.1
	baz=315						
I55A	Frankford	60.98	55	P	P	13 45 48.4	+0.9
	baz=315						
H55A	Tweed	61.00	54	P	P	13 45 48.6	+1.0
	baz=315						
E57A	Chemin Saint G	61.19	51	P	P	13 45 48.9	-0.1
	baz=315						
D58A	Chemin du LacG	61.32	50	P	P	13 45 49.5	-0.2
	baz=316						
MEDO	Medina	61.32	56	P	P	13 45 51.2	+1.4
H56A	Elgin	61.44	54	P	P	13 45 51.4	+0.8
	baz=315						
PECO	Prince Edward	61.53	55	P	P	13 45 51.9	+0.7
J55A	Hilton	61.58	56	P	P	13 45 52.5	+1.0
	baz=315						
G57A	Newington	61.71	52	P	P	13 45 52.7	+0.3
	baz=316						
K55A	Perry	61.83	56	P	P	13 45 54.2	+0.9
	baz=315						
H57A	Richville	61.97	53	P	P	13 45 54.6	+0.4
	baz=316						
MK31	Makanchi Array	61.97	311	P	P	13 45 53.9	-0.3
MK31				IAmb	IAmb	13 47 03.7	
	comp=Z,2.0nm,1.0s						
MKAR	Makanchi Array	61.97	311	P	P	13 45 54.0	-0.3
	comp=Z,1.3nm,0.4s,baz=47,slow=5.8,SNR=22						
N54A	Moraine State	62.06	59	P	P	13 45 56.1	+1.2
	baz=315						
N54A	Moraine State	62.06	59	P	P	13 45 56.6	+1.7
J56A	Wolcott	62.07	55	P	P	13 45 55.9	+1.0
	baz=315						
J56A	Wolcott	62.07	55	P	P	13 45 56.0	+1.2
MAKZ	Makanchi	62.11	311	P	P	13 45 55.0	-0.1
MAKZ				IAmb	IAmb	13 47 05.6	
	comp=Z,3.8nm,1.1s						
G58A	Ormstown	62.14	52	P	P	13 45 55.8	+0.5
	baz=316						
I57A	Carthage	62.20	54	P	P	13 45 56.2	+0.4
	baz=316						
K56A	Middlesex	62.24	56	P	P	13 45 57.2	+1.2
	baz=315,SNR=7.9						
LONY	Lake Ozonia	62.26	53	P	P	13 45 56.2	+0.1
	baz=316						
LONY	Lake Ozonia	62.26	53	P	P	13 45 56.2	+0.1
LONY				IAmb	IAmb	13 45 56.8	
	comp=Z,6.4nm,1.1s						
M55A	Ridgway	62.35	58	P	P	13 45 57.6	+0.7
	baz=315						
M55A	Ridgway	62.35	58	P	P	13 45 56.7	-0.1
J57A	Williamstown	62.41	54	P	P	13 45 57.7	+0.5
	baz=316

	baz=316							
N57A	**Milroy**	**63.51**	**57**	P	**P**	**13 46 05.8**	**+1.4**
	baz=316							
D63A	**Stockholm**	**63.59**	**47**	P	**P**	**13 46 05.5**	**+0.6**
	baz=318							
H61A	**Lyndonville**	**63.63**	**51**	P	**P**	**13 46 06.2**	**+0.9**
	baz=317							
G62A	**West of Eustis**	**63.80**	**50**	P	**P**	**13 46 06.6**	**+0.2**
	baz=317							
G62A	**West of Eustis**	**63.80**	**50**	P	**P**	**13 46 06.6**	**+0.2**
J60A	**Lant Hill Farm**	**63.83**	**53**	P	**P**	**13 46 07.3**	**+0.8**
	baz=317							
E63A	**Oxbow**	**63.91**	**48**	P	**P**	**13 46 07.2**	**+0.2**
	baz=318							
E63A	**Oxbow**	**63.91**	**48**	P	**P**	**13 46 06.8**	**-0.2**
E63A				IAmb	IAmb	13 46 07.5		
	comp=Z,4.8nm,0.8s							
T54A	**Tazewell**	**63.97**	**63**	P	**P**	**13 46 09.6**	**+2.0**
	baz=316							
H62A	**Milan**	**63.98**	**51**	P	**P**	**13 46 07.9**	**+0.4**
	baz=317							
H62A	**Milan**	**63.98**	**51**	P	**P**	**13 46 08.1**	**+0.6**
M59A	**Waymart**	**64.05**	**55**	P	**P**	**13 46 08.9**	**+0.9**
	baz=317							
S55A	**Lewisburg**	**64.05**	**61**	P	**P**	**13 46 09.8**	**+1.6**
	baz=316							
F63A	**Nahmakanta, Br**	**64.12**	**49**	P	**P**	**13 46 08.6**	**+0.1**
	baz=318							
F63A	**Nahmakanta, Br**	**64.12**	**49**	P	**P**	**13 46 08.2**	**-0.3**
P57A	**Homestead Farm**	**64.18**	**59**	P	**P**	**13 46 10.4**	**+1.5**
	baz=316							
E64A	**Bridgewater**	**64.18**	**47**	P	**P**	**13 46 08.8**	**0.0**
	baz=318							
J61A	**Chester**	**64.19**	**52**	P	**P**	**13 46 09.4**	**+0.4**
	baz=317							
O58A	**Lewisberry**	**64.29**	**57**	P	**P**	**13 46 10.5**	**+0.8**
	baz=316							
G63A	**Kingsbury**	**64.31**	**49**	P	**P**	**13 46 09.9**	**+0.2**
	baz=318							
L60A	**Shokan**	**64.34**	**54**	P	**P**	**13 46 09.2**	**-0.8**
	baz=317							
BATG	**Bathurst New B**	**64.34**	**46**	P	**P**	**13 46 10.1**	**+0.2**
F64A	**Sherman**	**64.36**	**48**	P	**P**	**13 46 10.1**	**+0.2**
	baz=318							
F64A	**Sherman**	**64.36**	**48**	P	**P**	**13 46 10.0**	**0.0**
F64A				IAmb	IAmb	13 46 10.8		
	comp=Z,6.6nm,1.0s							
PKME	**Peaks-Kenny Pk**	**64.36**	**49**	P	**P**	**13 46 10.4**	**+0.5**
G64A	**Maxfield**	**64.62**	**49**	P	**P**	**13 46 12.0**	**+0.3**
	baz=318							
I63A	**Otisfield**	**64.64**	**51**	P	**P**	**13 46 11.6**	**-0.3**
	baz=318							
I63A	**Otisfield**	**64.64**	**51**	P	**P**	**13 46 12.4**	**+0.6**
J62A	**Henniker**	**64.64**	**52**	P	**P**	**13 46 12.5**	**+0.6**
	baz=318							
H65A	**Eastbrook**	**65.28**	**49**	P	**P**	**13 46 16.3**	**+0.3**
	baz=319							
X54A	**Belton**	**65.33**	**65**	P	**P**	**13 46 17.1**	**+0.6**
	baz=316							
GOGA	**Godfrey**	**65.52**	**67**	P	**P**	**13 46 18.3**	**+0.6**
	baz=317							
H66A	**Whiting**	**65.65**	**48**	P	**P**	**13 46 18.7**	**+0.3**
	baz=319							
CMAR	**Chiang Mai Arr**	**73.48**	**279**	P	**P**	**13 47 08.7**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=33,slow=6.9,SNR=2.4							
AKASG	**Malin Array Be**	**76.30**	**345**	P	**P**	**13 47 21.7**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=14,slow=5.6,SNR=3.0							
ASAR	**Alice Springs**	**87.19**	**226**	P	**P**	**13 48 20.6**	**+0.1**
	comp=Z,1.5nm,1.1s,baz=28,slow=4.2,SNR=3.7							
MAW	**Mawson**	**147.97**	**218**	PKPbc	**PKPbc**	**13 55 17.4**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=340,slow=9.0,SNR=4.5							
BOSA	**Boshof**	**152.74**	**319**	PKPbc	**PKPbc**	**13 55 30.8**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=315,slow=4.3,SNR=2.2							

*IDC **04** 13:39:12.8±1.2,27.7′74N×127.7′90E,h0km,mb3.7/7, mb1 3.9/11,mb1mx3.7/59,mbtmp3.7/11,ML3.4/3,MS3.8/27, Ms1 3.8/27,ms1mx3.6/47,Error ellipse: s-maj=30.7km s-min=23.2km az=86.0*

*JMA **04** 13:39:14.1±1.2,27.8′08N×128.1′13E,h9km±3km,M4.5*

JMA Felt I J1.

*NEIC **04** 13:39:14.1±1.2,27.7′6N±0.7′09×127.7′9E±0.7′1,h10km±1km, mb4.4/6,Error ellipse: s-maj=22.9km s-min=7.8km az=50.0*

*NIED **04** 13:39:14.2,28.0′8N×128.1′13E,h9km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.24; $M_{\theta\theta}$4.25; $M_{\phi\phi}$-4.49; $M_{r\theta}$-2.37; $M_{\theta\phi}$3.86; $M_{r\phi}$0.64; Fault plane solution: $M_0$6.33000×10^{15} NP1: ϕ_s295.00000°,δ86.00000°,λ23.00000°. NP2: ϕ_s203.00000°,δ67.00000°,λ176.00000°.*

*BJI **04** 13:39:17.8±0.0,27.7′56N×128.1′65E,h97km,mB4.6/21, mb4.3/26*

ISC 04 13:39:16.0±1.3,**27.99N**±0.03×**128.22E**±0.04,**h16**km±9km, **n60**,σ1§**88**/52,**mb3.8**/10,**MS3.7**/25,**1C**,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.68**	**107**	P	**Pg**	**13 39 29.2**	**-0.1**
JTK				*e*S	**Sb**	**13 39 39.4**	**+0.7**
JOKE	**Okinoerabujima**	**0.70**	**153**	P	**Pb**	**13 39 29.4**	**-0.5**
JOKE				*e*S	**Sb**	**13 39 40.6**	**+1.3**
JAMN	**Amaminishikomi**	**0.88**	**73**	P	**Pg**	**13 39 32.1**	**-1.1**
JAMN				*e*S	**Sg**	**13 39 44.5**	**-0.3**
JIH	**Iheya**	**0.97**	**193**	P	**Pb**	**13 39 33.9**	**-0.7**
JIH				*e*S	**Sn**	**13 39 47.9**	**-0.7**
JYRO	**Yoronjima**	**0.98**	**168**	P	**Pb**	**13 39 34.3**	**-0.4**
JYRO				*e*S	**Sn**	**13 39 49.2**	**+0.4**
JOW	**Kunigami**	**1.15**	**178**	P	**Pn**	**13 39 37.2**	**-0.4**
JOW				*e*S	**Sn**	**13 39 53.9**	**+0.8**
JAM	**Amami Oshima**	**1.29**	**71**	P	**Pn**	**13 39 38.5**	**-1.0**
JAM				*e*S	**Sb**	**13 39 56.4**	**-0.1**
JTAJ	**Takarajima**	**1.45**	**36**	P	**Pn**	**13 39 39.8**	**-1.9**
JTAJ				*e*S	**Sn**	**13 39 58.1**	**-2.3**
JNTH	**Nagotoyohara**	**1.47**	**187**	P	**Pb**	**13 39 42.2**	**-0.9**
JNTH				*e*S	**Sg**	**13 40 01.7**	**-1.9**
JZK	**Kikaishima**	**1.58**	**78**	P	**Pb**	**13 39 44.9**	**-0.1**
JAGN	**Aguni-jima**	**1.64**	**212**	P	**Pn**	**13 39 43.7**	**-0.6**
JKE	**Kume jima 2**	**2.09**	**218**	P	**Pn**	**13 39 49.9**	**-0.6**
JKE				*e*S	**Sn**	**13 40 16.4**	**+0.2**
JYAK	**Yakushimahirau**	**3.01**	**41**	P	**Pn**	**13 40 03.5**	**+0.4**
JYAK				*e*S	**Sn**	**13 40 39.5**	**+0.6**
JMTN	**Minamitane**	**3.36**	**44**	P	**Pn**	**13 40 09.1**	**+1.2**
JKDJ	**Kitadaitoujima**	**3.42**	**126**	P	**Pn**	**13 40 09.1**	**+0.4**
JKDJ				*e*S	**Sn**	**13 40 49.0**	**+0.1**
JTN	**Tanegashima 3**	**3.59**	**42**	P	**Pn**	**13 40 12.1**	**+1.0**
JNU	**Nakatsue**	**5.61**	**23**	Pn	**Pn**	**13 40 43.1**	**+4.2**
	3.8nm,0.3s,baz=191,slow=9.0,SNR=18						
KSRS	**Korea Array**	**9.44**	**359**	Pn	**Pn**	**13 41 32.4**	**+0.9**
	0.1nm,0.3s,baz=182,slow=14,SNR=6.5						
KSRS				LR	LR	13 45 11.5	
	comp=Z,630nm,19.8s,baz=178,slow=37						
JHJ	**Hachijo jima 2**	**11.20**	**60**	LR	LR	13 46 08.8	
	comp=Z,353nm,20.2s,baz=330,slow=36						
MJAR	**Matsushiro Arr**	**12.00**	**42**	Pn	**Pn**	**13 42 08.7**	**+2.1**
	baz=230,slow=14,SNR=1.4						
MJAR				LR	LR	13 47 30.9	
	comp=Z,264nm,18.6s,baz=220,slow=40						
JCJ	**Chichijima**	**12.43**	**91**	LR	LR	13 46 49.7	
	comp=Z,278nm,18.8s,baz=267,slow=36						
BJT	**Baijiatuan**	**15.60**	**323**	P	**P**	**13 42 58.2**	**-1.2**
BJT				IAmb	IAmb	13 43 02.1	
	comp=Z,26nm,1.2s						
BJI	**Beijing**	**15.61**	**323**	P	**P**	**13 43 00.8**	**+1.3**
BJI				S	**S**	**13 46 00.8**	**-2.5**
BJI				pmax	pmax		
	comp=Z,18nm,1.0s						
BJI				LR	LR		
	comp=Z,380nm,14.3s						
BJI				LR	LR		
	comp=Z,520nm,13.9s						
BJI				LR	LR		
	comp=Z,190nm,18.9s						
CN2	**Changchun**	**15.94**	**353**	*e*P	**P**	**13 43 05.9**	**+2.7**
CN2				*e*S	**S**	**13 46 04.4**	**-5.6**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				LR	LR		
	comp=Z,700nm,13.0s						
CN2				LR	LR		
	comp=Z,800nm,13.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
USA0B	**Ussuriysk Arra**	**16.46**	**10**	P	**P**	**13 43 10.2**	**+1.3**
USRK	**Ussuriysk Ar.**	**16.46**	**10**	Pn	**P**	**13 43 08.9**	**-0.1**
	baz=195,slow=10,SNR=3.3						
XAN	**Xi'an**	**17.60**	**295**	P	**P**	**13 43 25.5**	**+3.8**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,89nm,3.5s						
XAN				LR	LR		
	comp=Z,2μm,16.0s						
XAN				LR	LR		
	comp=Z,820nm,14.4s						
XAN				LR	LR		
	comp=Z,1μm,14.1s						
DAV	**Davao City (W)**	**20.95**	**187**	LR	LR	13 51 39.9	
	comp=Z,166nm,20.0s,baz=348,slow=36						
GUMO	**Guam**	**21.12**	**129**	LR	LR	13 50 47.7	
	comp=Z,270nm,19.7s,baz=319,slow=33						
KLR	**Kul'dur**	**21.39**	**6**	P	**P**	**13 44 05.6**	**+2.7**
	comp=Z,2.7nm,1.1s,baz=185,slow=11,SNR=3.2						
KLR				LR	LR	13 52 03.7	
	comp=Z,188nm,19.9s,baz=182,slow=36						
KMI	**Kunming**	**22.96**	**269**	*i*P	**P**	**13 44 24.9**	**+4.7**
KMI				pP	sP	13 44 38.6	+12
KMI				S	S	13 48 02.9	-27
KMI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,170nm,7.8s						
KMI				LR	LR		
	comp=N,440nm,11.1s						
KMI				LR	LR		
	comp=E,520nm,12.5s						
KMI				LR	LR		
	comp=Z,400nm,16.0s						
ULN	**Ulaanbaatar**	**25.78**	**326**	P	**P**	**13 44 45.1**	**-1.3**
SONM	**Songino Array**	**26.09**	**325**	P	**P**	**13 44 49.4**	**+0.2**
	comp=Z,4.2nm,0.9s,baz=139,slow=10,SNR=18						
SONM				LR	LR	13 56 10.3	
	comp=Z,186nm,19.0s,baz=138,slow=39						
GTA	**Gaotai**	**26.13**	**303**	*e*P	**P**	**13 44 49.8**	**+0.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,80nm,5.1s						
GTA				LR	LR		
	comp=Z,770nm,16.8s						
GTA				LR	LR		
	comp=Z,310nm,16.8s						
GTA				LR	LR		
	comp=Z,350nm,16.2s						
CMAR	**Chiang Mai Arr**	**28.46**	**257**	LR	LR	13 56 47.9	
	comp=Z,134nm,18.6s,baz=20,slow=38						
JAY	**Jayapura**	**32.62**	**156**	LR	LR	13 55 43.6	
	comp=Z,151nm,20.4s,baz=25,slow=30						
PETK	**Petropavlovsk-**	**33.22**	**33**	LR	LR	14 00 19.7	
	comp=Z,82nm,18.9s,baz=236,slow=38						
MKAR	**Makanchi Array**	**40.38**	**310**	P	**P**	**13 46 51.5**	**-1.8**
	comp=Z,1.0nm,0.7s,baz=107,slow=9.3,SNR=8.1						
ZALV	**Zalesovo Beam**	**40.86**	**322**	P	**P**	**13 46 55.5**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=133,slow=8.1,SNR=2.1						
ZALV				LR	LR	14 05 22.7	
	comp=Z,111nm,18.6s,baz=118,slow=38						
NRIK	**Noril'sk**	**47.58**	**342**	LR	LR	14 09 34.4	
	comp=Z,301nm,18.8s,baz=163,slow=38						
WB0	**Warramunga Arr**	**47.85**	**172**	P	**P**	**13 47 50.8**	**-2.5**
WRA	**Warramunga Arr**	**48.02**	**172**	P	**P**	**13 47 52.2**	**-2.3**
	comp=Z,1.0nm,0.8s,baz=354,slow=8.5,SNR=4.8						
WB2	**Warramunga Arr**	**48.02**	**172**	P	**P**	**13 47 51.9**	**-2.7**
HNR	**Honiara**	**48.23**	**136**	LR	LR	14 06 24.0	
	comp=Z,93nm,19.9s,baz=214,slow=34						
BRVK	**Borovoye**	**49.04**	**317**	P	**P**	**13 48 01.0**	**-1.2**
BRVK				IAmb	IAmb	13 48 13.6	
	comp=Z,5.9nm,1.1s						
ASAR	**Alice Springs**	**51.65**	**173**	LR	LR	14 12 19.8	
	comp=Z,57nm,18.7s,baz=342,slow=39						
GEYT	**Alibeck**	**58.41**	**299**	LR	LR	14 16 51.7	
	comp=Z,103nm,18.4s,baz=185,slow=39						
STKA	**Stephens Creek**	**60.88**	**167**	LR	LR	14 15 58.6	
	comp=Z,47nm,19.1s,baz=223,slow=36						
KDAK	**Kodiak Island**	**61.12**	**37**	LR	LR	14 13 51.0	
	comp=Z,59nm,21.9s,baz=282,slow=34						
DZM	**Mont Dzumac**	**61.96**	**139**	LR	LR	14 16 03.5	
	comp=Z,129nm,18.1s,baz=270,slow=36						
ILAR	**Eielson Array**	**62.90**	**29**	LR	LR	14 18 27.6	
	comp=Z,30nm,18.1s,baz=351,slow=37						
KBZ	**Khabaz**	**68.05**	**309**	LR	LR	14 24 56.9	
	comp=Z,49nm,18.8s,baz=23,slow=40						
ARCES	**ARCESS Array B**	**68.37**	**338**	LR	LR	14 26 40.0	
	comp=Z,116nm,18.1s,baz=62,slow=42						
FINES	**FINESS Array B**	**71.33**	**330**	LR	LR	14 25 28.1	
	comp=Z,105nm,20.3s,baz=59,slow=39						
AKASG	**Malin Array Be**	**74.19**	**319**	LR	LR	14 25 53.0	
	comp=Z,158nm,18.0s,baz=80,slow=38						
BRTR	**Keskin Array B**	**75.95**	**308**	LR	LR	14 30 08.5	
	comp=Z,311nm,18.2s,baz=38,slow=40						
YKA	**Yellowknife Ar**	**76.94**	**25**	P	**P**	**13 51 08.9**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=302,slow=6.0,SNR=4.9						
NOA	**NORSAR Array B**	**77.74**	**334**	LR	LR	14 28 50.6	
	comp=Z,87nm,19.3s,baz=45,slow=38						
PPT	**Papeete**	**91.47**	**109**	LR	LR	14 28 46.6	
	comp=Z,26nm,18.6s,baz=37,slow=32						
PDAR	**Pinedale Array**	**91.80**	**39**	P	**P**	**13 52 24.4**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=316,slow=3.8,SNR=1.8						

*DNK **04** 13:44:40.0±4.8,59.7′32N×5.7′55E,h15km±85km,ML1.7*

BER 04 13:44:40.9±1.4,**59.38N**×**6.06E**,**h0**km,**ML1.5**,**1C**, **Explosion**,**Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLS5	**Blasjo**	**0.21**	**79**	*e*P	Pg	13 44 45.1	+0.2
BLS5				*e*S	Sg	13 44 48.3	+0.8
BLS5				IAML		13 44 51.8	
	comp=Z,67nm,0.6s						
KMY	**Karmoy**	**0.45**	**248**	*e*P	Pg	13 44 49.5	-0.1
KMY				*e*S	Sg	13 44 55.2	-0.1
KMY				IAML		13 45 01.6	
	comp=Z,23nm,0.8s						
ODD1	**Odda**	**0.60**	**28**	*e*P	Pn	13 44 55.8	-0.9
ODD1				*e*S	Sb	13 45 03.9	+0.5
ODD1				IAML		13 45 05.8	
	comp=Z,28nm,0.8s						
BER	**Bergen**	**1.07**	**340**	*e*P	Pg	13 45 00.5	-0.9
BER				IAML		13 45 19.2	
	comp=Z,13nm,0.7s						
ASK	**Askoy**	**1.19**	**339**	*e*P	Pg	13 45 02.4	-1.2
ASK				*e*S	Sg	13 45 17.0	-2.0
ASK				IAML		13 45 21.2	
	comp=Z,8.2nm,0.5s						
SNART	**Snartemo**	**1.21**	**150**	*e*P	Pg	13 45 03.1	-0.9
SNART				*e*S	Sg	13 45 18.4	-1.2
SNART				IAML		13 45 21.6	
	comp=Z,27nm,0.8s						
SNART	**Snartemo**	**1.21**	**150**	*i*P	Pg	13 45 03.1	-0.9
SNART				*i* S	Sg	13 45 19.3	-0.3
SNART				IAML		13 45 20.1	
	comp=Z,5.6nm,0.3s						
HOMB	**Homborsund**	**1.69**	**130**	*e*P	Pn	13 45 09.0	-2.7
HOMB				*e*S	Sn	13 45 29.7	-4.3
HOMB				IAML		13 45 36.7	
	comp=Z,7.1nm,0.6s						
HOMB	**Homborsund**	**1.69**	**130**	*e*	Pn	13 45 09.6	-2.1
	baz=326,slow=11						
HOMB				*i* P	Pb	13 45 10.5	-2.4
HOMB				*i* S	Sn	13 45 33.3	-0.7
HOMB				IAML		13 45 39.8	
	comp=Z,2.2nm,0.4s						
SKAR	**Skarslia**	**1.72**	**40**	*e*P	Pn	13 45 09.7	-2.5
SKAR				IAML		13 45 36.8	
	comp=Z,16nm,0.7s						
KONO	**Kongsberg**	**1.82**	**80**	*e*P	Pn	13 45 10.5	-3.0
KONO				*e*S	Sn	13 45 32.1	-5.1
KONO				IAML		13 45 38.2	
	comp=Z,7.8nm,0.5s						
STRU	**Stroemstad**	**2.66**	**95**	*e*P	Pn	13 45 26.4	+1.5
STRU				*i* S	Sb	13 46 03.0	+0.6

HEL 04 13:45:22.6±0.1,**60.08N**×**24.91E**,**h0**km,**ML1.0**, **Explosion**,**Finland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.29**	**298**	*e*P	Pg	13 45 27.9	-0.2
MEF				*e*S	Sg	13 45 31.3	-0.5
PVF	**Pernaja**	**0.66**	**45**	*e*P	Pg	13 45 34.5	-0.8
PVF				*e*S	Sg	13 45 42.1	-1.8
VJF	**Virojoki**	**1.40**	**70**	*e*P	Pn	13 45 47.4	-1.9
VJF				*e*S	Sg	13 46 05.6	-1.8
VJF				MSG		13 46 10.5	
	comp=Z,1.1nm,0.1s						
FIA0	**FINESS Array S**	**1.48**	**22**	*e*P	Pn	13 45 49.3	-1.2
FIA0				*e*S	Sg	13 46 08.0	-2.1
FIA1	**FINESS Array S**	**1.48**	**22**	*e*P	Pn	13 45 49.3	-1.2
FIA1				*e*S	Sg	13 46 08.0	-2.2

*NEIC **04** 14:01:33.1±1.0,6.7′12S±0.7′05×152.7′59E±0.7′10,h40km±5km, mb4.5/16,Error ellipse: s-maj=14.4km s-min=7.4km az=83.0*

*IDC **04** 14:01:33.9±2.6,6.7′11S×152.7′46E,h43km±20km,mb3.8/12, mb1 4.0/13,mb1mx3.8/38,mbtmp4.1/13,ML2.8/1,MS3.3/3, Ms1 3.3/3,ms1mx2.9/27,Error ellipse: s-maj=29.7km s-min=9.3km az=107.0*

ISC 04 14:01:33.0±0.6,**6.11S**±0.07×**152.6E**±0.1,**h38**km,**n37**, σ1§**19**/36,**mb4.2**/17,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.88**	**342**	P	**Pn**	**14 02 02.8**	**+0.2**
	151nm,0.3s,baz=169,slow=1.4,SNR=463						
KRVT				S	**Sn**	**14 02 25.4**	**+0.3**
	537nm,0.3s,baz=75,slow=22,SNR=37						
KRVT				LR	LR	14 02 45.6	
	comp=Z,378nm,20.8s,baz=162,slow=39						
RABL	**Rabaul**	**1.95**	**347**	Pn	**Pn**	**14 02 03.6**	**0.0**
PMG	**Port Moresby**	**6.31**	**238**	P	**Pn**	**14 03 04.1**	**+0.6**
	13nm,0.3s,baz=44,slow=4.1,SNR=32						
PMG				S	**Sn**	**14 04 14.0**	**-0.4**
	2.2nm,0.3s,baz=15,slow=20,SNR=1.6						
PMG	**Port Moresby**	**6.31**	**238**	Pn	**Pn**	**14 03 03.7**	**+0.2**
COEN	**Coen**	**12.12**	**229**	Pn	**Pn**	**14 04 22.4**	**-0.8**
JAY	**Jayapura**	**12.39**	**286**	LR	LR	14 09 17.0	
	comp=Z,111nm,18.7s,baz=204,slow=38						
PATS	**Pohnpei**	**14.07**	**24**	Pn	**Pn**	**14 04 47.5**	**-2.3**
CTAO	**Charters Tower**	**15.20**	**203**	Pn	**Pn**	**14 05 04.6**	**-0.5**
CTAO				IAmb	IAmb	14 05 31.7	
	comp=Z,19nm,1.2s						
EIDS	**Eidsvold**	**19.21**	**184**	Pn	**Pn**	**14 05 54.8**	**-0.2**
EIDS				IAmb	IAmb	14 06 00.7	
	comp=Z,30nm,1.4s						
FAKI	**Fak Fak**	**20.53**	**278**	Pn	Pn	14 06 10.4	-0.3
SIJI	**Sorong**	**21.91**	**283**	LR	LR	14 15 48.2	
	comp=Z,54nm,21.0s,baz=292,slow=39						
MTN	**Manton Dam**	**22.20**	**251**	P	**P**	**14 06 31.0**	**+4.8**
WR0	**Warramunga Arr**	**22.30**	**230**	P	**P**	**14 06 27.1**	**-0.2**
WR0				IAmb	IAmb	14 07 06.3	
	comp=Z,25nm,1.5s						
WB0	**Warramunga Arr**	**22.31**	**231**	P	**P**	**14 06 28.1**	**+0.7**
WB0				IAmb	IAmb	14 06 32.9	
	comp=Z,78nm,2.0s						
WB2	**Warramunga Arr**	**22.44**	**231**	P	**P**	**14 06 29.5**	**+0.7**
WB2				IAmb	IAmb	14 06 40.6	
	comp=Z,45nm,1.8s						
WRA	**Warramunga Arr**	**22.45**	**231**	P	**P**	**14 06 27.8**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=56,slow=10,SNR=15						
WRA				PcP	**PcP**	**14 10 22.9**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=60,slow=1.9,SNR=2.2						
ARMA	**Armidale**	**24.20**	**182**	P	**P**	**14 06 47.0**	**+0.8**
ARMA				IAmb	IAmb	14 06 55.7	
	comp=Z,32nm,1.6s						
AS31	**Alice Springs**	**25.06**	**224**	P	**P**	**14 06 54.3**	**+0.3**
ASAR	**Alice Springs**	**25.07**	**224**	P	**P**	**14 06 53.8**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=56,slow=9.8,SNR=43						
STKA	**Stephens Creek**	**27.62**	**201**	P	**P**	**14 07 15.4**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=23,slow=18,SNR=3.4						
FITZ	**Fitzroy Crossi**	**28.88**	**243**	P	**P**	**14 07 27.1**	**-1.3**
	comp=Z,4.0nm,0.8s,baz=63,slow=5.5,SNR=6.8						
FITZ	**Fitzroy Crossi**	**28.88**	**243**	IAmb	IAmb	14 08 29.3	
	comp=Z,28nm,1.6s						
DAV	**Davao City (W)**	**29.97**	**295**	LR	LR	14 17 55.4	
	comp=Z,77nm,18.5s,baz=262,slow=33						
FORT	**Forrest**	**33.66**	**220**	P	**P**	**14 08 09.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**58.26**	**296**	P	**P**	**14 11 23.7**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=111,slow=4.9,SNR=5.5						
PETK	**Petropavlovsk-**	**59.15**	**4**	P	**P**	**14 11 29.9**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=160,slow=7.4,SNR=2.0						
SONM	**Songino Array**	**67.32**	**328**	P	**P**	**14 12 24.5**	**+0.3**
	comp=Z,2.6nm,1.1s,baz=138,slow=4.5,SNR=9.5						
VNDA	**Vanda**	**71.54**	**178**	P	**P**	**14 12 50.2**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=23,slow=7.7,SNR=2.1						
CNPM	**China Poot**	**78.97**	**26**	P	**P**	**14 13 34.3**	**+1.7**
MK31	**Makanchi Array**	**81.18**	**319**	P	**P**	**14 13 44.8**	**0.0**
MKAR	**Makanchi Array**	**81.18**	**319**	P	**P**	**14 13 44.8**	**0.0**
	comp=Z,2.1nm,0.9s,baz=109,slow=5.5,SNR=13						
MAKZ	**Makanchi**	**81.39**	**319**	P	**P**	**14 13 45.9**	**0.0**
MAKZ				IAmb	IAmb	14 13 47.1	
	comp=Z,5.3nm,1.1s						
ZALV	**Zalesovo Beam**	**82.13**	**326**	P	**P**	**14 13 49.2**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=96,slow=4.5,SNR=7.3						
ILAR	**Eielson Array**	**83.44**	**22**	P	**P**	**14 13 56.2**	**0.0**
	comp=Z,0.8nm,0.8s,baz=267,slow=4.7,SNR=7.4						
NIL	**Nilore**	**84.55**	**305**	P	**P**	**14 14 02.3**	**-0.3**
NVAR	**Mina Array Bea**	**93.04**	**52**	P	**P**	**14 14 45.2**	**+2.0**
	comp=Z,0.8nm,0.8s,baz=254,slow=6.7,SNR=5.4						
TORD	**Torodi Ar. Bea**	**150.50**	**286**	PKPbc	**PKPbc**	**14 21 21.2**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=62,slow=2.6,SNR=18						
TORD				PKPab	**PKPab**	**14 21 27.6**	**-0.8**
	comp=Z,2.5nm,0.9s,baz=73,slow=3.1,SNR=8.0						

*IDC **04** 14:05

TX31				IAmb	IAmb	14 10 02.4	
	comp=Z,36nm,2.0s						
TX32	**Lajitas Array**	**16.11**	**331**	Pn	**P**	**14 09 30.1**	**-1.7**
TXAR	**Lajitas Array**	**16.11**	**331**	Pn	**P**	**14 09 31.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=146,slow=11,SNR=7.9						
344A	**Westbrook Farm**	**16.36**	**12**	P	**P**	**14 09 37.1**	**+2.7**
344A				IAmb	IAmb	14 09 40.3	
	comp=Z,15nm,0.6s						
346A	**Big Creek Wild**	**16.59**	**16**	Pn	**P**	**14 09 36.6**	**-0.4**
WHTX	**Lake Whitney,**	**16.67**	**352**	Pn	**Pn**	**14 09 35.1**	**-0.5**
WHTX				IAmb	IAmb	14 09 49.0	
	comp=Z,26nm,1.1s						
ABTX	**Abilene, Hawle**	**17.69**	**346**		**P**	**14 09 52.2**	**+3.0**
ABTX				IAmb	IAmb	14 10 01.1	
	comp=Z,16nm,1.1s						
W35A	**Tecumseh**	**19.73**	**355**	P	**Pn**	**14 10 13.9**	**+0.8**
MSTX	**Muleshoe**	**19.84**	**340**	P	**Pn**	**14 10 14.9**	**+0.5**
MSTX				IAmb	IAmb	14 10 25.9	
	comp=Z,11nm,0.8s						
121A	**Cookes Peak, D**	**20.76**	**327**		Pn	14 10 26.6	+1.2
U40A	**Yellville**	**20.90**	**4**	P	**P**	**14 10 24.4**	**0.0**
U40A				IAmb	IAmb	14 10 44.2	
	comp=Z,5.0nm,0.8s						
T35A	**Sooner Cattle**	**21.45**	**356**	P	**P**	**14 10 33.7**	**+3.4**
BNM	**Barren Site**	**21.51**	**332**	P	**P**	**14 10 32.4**	**+1.2**
LENM	**Lemitar**	**21.68**	**332**	P	**P**	**14 10 35.5**	**+2.6**
PFO	**Pinyon Flats O**	**26.71**	**317**	LR	LR	14 21 54.1	
	comp=Z,51nm,18.0s,baz=352,slow=36						
NVAR	**Mina Array Bea**	**30.92**	**322**	LR	LR	14 23 50.6	
	comp=Z,46nm,20.8s,baz=354,slow=35						
MCMT	**McKenzie Canyo**	**33.07**	**336**	P	**P**	**14 12 20.4**	**+2.6**
YKA	**Yellowknife Ar**	**49.06**	**348**	P	**P**	**14 14 29.7**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=157,slow=6.5,SNR=4.2						
PLCA	**Paso Flores**	**60.22**	**159**	P	**P**	**14 15 46.1**	**-4.0**
	comp=Z,2.1nm,1.0s,baz=315,slow=7.1,SNR=2.2						
ILAR	**Eielson Array**	**60.50**	**337**	P	**P**	**14 15 52.7**	**+1.1**
	comp=Z,0.5nm,1.0s,baz=127,slow=5.8,SNR=3.4						
NOA	**NORSAR Array B**	**84.14**	**28**	LR	LR	14 55 07.0	
	comp=Z,10nm,19.1s,baz=85,slow=35						
DBIC	**Dimbokro**	**88.12**	**84**	LR	LR	14 56 40.2	
	comp=Z,16nm,19.1s,baz=42,slow=35						

*NEIC **04** 14:09:59.5±1.2, 17.°41S±0.°08×173.°7W±0.°1, h24km±5km, mb4.5/10, Error ellipse: s-maj=16.4km s-min=11.8km az=102.0*
*IDC **04** 14:10:03.4±3.5, 17.°36S×173.°79W, h50km±31km, mb3.6/7, mb1 3.9/8, mb1mx3.6/31, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=43.1km s-min=17.6km az=136.0*

ISC 04 14:10:01.7±0.6, 17.°44S±0.°07×173.°6W±0.°1, h39km, n24, σ1§47/25, mb3.9/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.82**	**116**		**Pn**	**14 10 57.1**	**-0.9**
NIUE					Sn	14 11 36.1	-5.6
AFI	**Afiamalu**	**3.91**	**26**	P	**Pn**	**14 11 01.2**	**+1.9**
	6.6nm,0.3s,baz=339,slow=1.6,SNR=11						
AFI				S	**Sn**	**14 11 40.3**	**-3.8**
	26nm,0.3s,baz=268,slow=20,SNR=9.8						
AFI	**Afiamalu**	**3.91**	**26**		**Pn**	**14 10 58.8**	**-0.5**
RAO	**Raoul Island**	**12.42**	**198**	Pn	**Pn**	**14 12 55.6**	**-0.3**
OUZ	**Omahuta**	**21.08**	**210**	P	**P**	**14 14 40.3**	**-2.4**
URZ	**Urewera**	**22.29**	**200**	P	**P**	**14 14 56.6**	**+0.9**
	6.5nm,0.4s,baz=347,slow=3.6,SNR=14						
URZ	**Urewera**	**22.29**	**200**	P	**P**	**14 14 56.2**	**+0.6**
BKZ	**Black Stump Fm**	**23.32**	**200**	P	**P**	**14 15 05.2**	**-1.1**
QRZ	**Quartz Range**	**26.21**	**204**	P	**P**	**14 15 34.2**	**+1.4**
WR0	**Warramunga Arr**	**49.06**	**258**	P	**P**	**14 18 44.6**	**-0.8**
WB0	**Warramunga Arr**	**49.22**	**259**	P	**P**	**14 18 45.6**	**-1.0**
WB2	**Warramunga Arr**	**49.24**	**258**	P	**P**	**14 18 45.8**	**-1.0**
WB2				IAmb	IAmb	14 20 03.5	
	comp=Z,26nm,1.8s						
WRA	**Warramunga Arr**	**49.25**	**258**	P	**P**	**14 18 45.6**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=98,slow=6.7,SNR=16						
AS31	**Alice Springs**	**49.35**	**254**	P	**P**	**14 18 46.5**	**-1.1**
AS31				IAmb	IAmb	14 18 50.6	
	comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**49.35**	**254**	P	**P**	**14 18 47.0**	**-0.6**
	comp=Z,3.4nm,0.6s,baz=90,slow=8.1,SNR=75						
NWAO	**Narrogin (SRO)**	**63.50**	**241**	P	**P**	**14 20 27.2**	**-1.0**
QSPA	**South Pole Qui**	**72.62**	**180**	P	**P**	**14 21 27.1**	**+2.1**
QSPA				IAmb	IAmb	14 21 33.0	
	comp=Z,8.0nm,1.4s						
NVAR	**Mina Array Bea**	**75.95**	**42**	P	**P**	**14 21 46.9**	**+2.1**
	comp=Z,1.0nm,0.9s,baz=228,slow=10,SNR=6.7						
TXAR	**Lajitas Array**	**81.88**	**56**	P	**P**	**14 22 18.0**	**+0.6**
	comp=Z,0.2nm,0.8s,baz=212,slow=8.5,SNR=3.5						
PDAR	**Pinedale Array**	**83.88**	**42**	P	**P**	**14 22 27.9**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=197,slow=2.8,SNR=3.9						
ILAR	**Eielson Array**	**84.47**	**11**	P	**P**	**14 22 30.2**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=204,slow=5.9,SNR=4.4						
BVAR	**Borovoye Array**	**119.38**	**321**	PKP	**PKiKP**	**14 28 47.0**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=116,slow=3.4,SNR=2.5						
BRTR	**Keskin Array B**	**147.61**	**319**	PKPbc	**PKPbc**	**14 29 41.5**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=149,slow=5.5,SNR=4.5						
GERES	**GERESS Array B**	**148.12**	**351**	PKPbc	**PKPdf**	**14 29 41.5**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=21,slow=3.6,SNR=3.2						

IDC 04 15:15:44.7±7.7, 30.°16S×177.°61W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/30, mbtmp3.4/2, Error ellipse: s-maj=323.0km s-min=59.8km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.46**	**267**	P	P	15 23 49.9	+0.1
	0.4nm,0.9s,baz=107,slow=7.5,SNR=1.8						
WRA	**Warramunga Arr**	**44.43**	**272**	P	P	15 23 57.3	-0.3
	0.3nm,0.3s,baz=110,slow=8.1,SNR=14						
FINES	**FINESS Array B**	**145.03**	**340**	PKPbc	PKPbc	15 35 21.8	-0.8
	0.6nm,0.5s,baz=99,slow=7.2,SNR=5.1						

WBNET 04 15:16:27.8, 50.°23N×12.°45E, h8km, MI0.3, 4C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**237**	⇑P	Pg	15 16 29.5	+0.1
NKC				S	Sg	15 16 30.6	+0.2
LBCW	**Luby**	**0.04**	**323**	⇓P	Pg	15 16 29.7	+0.1
LBCW				S	Sg	15 16 31.1	+0.2
VAC	**Vackov**	**0.05**	**272**	⇓P	Pg	15 16 29.7	+0.1
VAC				S	Sg	15 16 30.9	0.0
STCW	**Studenec**	**0.05**	**61**	⇑P	Pg	15 16 29.7	0.0
STCW				S	Sg	15 16 31.0	0.0
SKC	**Skalna**	**0.09**	**222**	⇓P	Pg	15 16 30.1	0.0
SKC				S	Sg	15 16 31.6	0.0
POCW	**Potky**	**0.09**	**350**	⇓P	Pg	15 16 30.3	+0.2
POCW				S	Sg	15 16 32.0	+0.2
KACW	**Kaceov**	**0.10**	**154**	⇓P	Pg	15 16 30.4	+0.1
KACW				S	Sg	15 16 32.0	0.0
KRCW	**Kraslice**	**0.11**	**28**	⇑P	Pg	15 16 30.5	0.0
KRCW				S	Sg	15 16 32.4	0.0
KOCW	**Kopaniny**	**0.14**	**283**	⇓P	Pg	15 16 31.0	0.0
KOCW				S	Sg	15 16 33.1	0.0
ZHC	**Zelena Hora**	**0.19**	**209**	⇑P	Pg	15 16 31.7	0.0
ZHC				S	Sg	15 16 34.3	-0.1

WBNET 04 15:16:27.3, 50.°23N×12.°45E, h9km, MI0.2, 4C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**273**	⇑P	Pg	15 16 29.0	+0.1
NKC				S	Sg	15 16 30.1	+0.1
LBCW	**Luby**	**0.04**	**323**	⇓P	Pg	15 16 29.2	+0.1
LBCW				S	Sg	15 16 30.6	+0.2
VAC	**Vackov**	**0.05**	**273**	⇓P	Pg	15 16 29.2	+0.1
VAC				S	Sg	15 16 30.5	0.0
STCW	**Studenec**	**0.05**	**59**	⇑P	Pg	15 16 29.3	0.0
STCW				S	Sg	15 16 30.5	-0.1
SKC	**Skalna**	**0.09**	**222**	⇓P	Pg	15 16 29.6	+0.1
SKC				S	Sg	15 16 31.1	-0.1
POCW	**Potky**	**0.09**	**350**	⇓P	Pg	15 16 29.8	+0.2
POCW				S	Sg	15 16 31.5	+0.1
KACW	**Kaceov**	**0.10**	**155**	⇓P	Pg	15 16 29.8	0.0
KACW				S	Sg	15 16 31.6	+0.1
KRCW	**Kraslice**	**0.11**	**27**	⇑P	Pg	15 16 30.1	+0.1
KRCW				S	Sg	15 16 31.9	0.0
KOCW	**Kopaniny**	**0.14**	**283**	⇓P	Pg	15 16 30.5	+0.1
KOCW				S	Sg	15 16 32.6	0.0
ZHC	**Zelena Hora**	**0.19**	**209**	⇑P	Pg	15 16 31.2	0.0
ZHC				S	Sg	15 16 33.8	0.0

*PRU **04** 15:16:49.9±0.0, 50.°26N×12.°49E, h2km, West Bohemia Swarm*

WBNET 04 15:16:49.4, 50.°23N×12.°45E, h9km, MI1.2, 3C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**358**	*e*PG	Pg	15 16 50.7	-0.4
NKC				*e*SG	Sg	15 16 51.9	-0.3
	comp=Z,63nm,0.2s						
NKC	**Novy Kostel**	**0.00**	**358**	⇓P	Pg	15 16 51.1	+0.1
NKC				S	Sg	15 16 52.3	+0.1
LBCW	**Luby**	**0.04**	**326**	⇓P	Pg	15 16 51.4	+0.1
LBCW				S	Sg	15 16 52.8	+0.1
VAC	**Vackov**	**0.05**	**276**	⇓P	Pg	15 16 51.3	+0.1
VAC				S	Sg	15 16 52.6	0.0
STCW	**Studenec**	**0.05**	**59**	⇑P	Pg	15 16 51.4	0.0
STCW				S	Sg	15 16 52.7	-0.2
SKC	**Skalna**	**0.08**	**222**	⇑P	Pg	15 16 51.7	0.0
SKC				S	Sg	15 16 53.3	0.0
POCW	**Potky**	**0.09**	**351**	⇓P	Pg	15 16 52.0	+0.1
KACW	**Kaceov**	**0.10**	**153**	⇓P	Pg	15 16 51.9	+0.1
KACW				S	Sg	15 16 53.7	0.0
KRCW	**Kraslice**	**0.11**	**28**	⇑P	Pg	15 16 52.2	0.0
KRCW				S	Sg	15 16 54.1	-0.1
ZHC	**Zelena Hora**	**0.18**	**209**	S	Sg	15 16 55.9	0.0
CLL	**Collm**	**1.13**	**18**	*i* Sg	Sb	15 17 26.1	+0.1
CLL	**Collm**	**1.13**	**18**	*i* Sg	Sn	15 17 29.3	+2.2
	comp=Z,3.0nm,0.3s						
CLL				*i*		15 17 32.7	
BRG	**Berggiesshubel**	**1.15**	**55**	PG	Pn	15 17 14.2	+2.5
BRG				SG	Sg	15 17 25.9	-0.5
	comp=Z,2.0nm,0.3s						
BRG	**Berggiesshubel**	**1.15**	**55**	SG	Sn	15 17 29.2	+1.7
	comp=Z,1.7nm,0.3s						
KHC	**Kasperske Hory**	**1.32**	**146**	*e*PG	Pb	15 17 14.4	0.0
KHC				*e*SG	Sg	15 17 32.2	+0.3
	comp=Z,1.4nm,0.6s						
PRU	**Pruhonice**	**1.37**	**99**	*e*SG	Sb	15 17 32.7	-0.1
	comp=Z,2.2nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	Sb	15 17 37.7	0.0
	comp=Z,2.4nm,0.6s						

*IDC **04** 15:23:26.6±3.3, 17.°41S×175.°77W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/48, mbtmp4.1/4, ML4.0/1, Error ellipse: s-maj=186.9km s-min=31.1km az=146.0*
*NEIC **04** 15:23:37.5±1.5, 17.°1S±0.°1×175.°0W±0.°2, h148km±12km, mb4.5/8, Error ellipse: s-maj=22.7km s-min=17.6km az=83.0*

ISC 04 15:23:37.6±0.8, 17.°1S±0.°1×174.°9W±0.°1, h150km, n14, σ1§16/15, mb4.1/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.43**	**44**	Pn	**Pn**	**15 24 45.6**	**+2.0**
	5.7nm,0.3s,baz=239,slow=1.6,SNR=12						
AFI				Sn	**Sn**	**15 25 33.7**	**-1.3**
	45nm,0.3s,baz=45,slow=21,SNR=22						
AFI	**Afiamalu**	**4.43**	**44**		**Sn**	**15 25 33.0**	**-2.0**
NIUE	**Niue**	**5.14**	**113**	Pn	**Pn**	**15 24 53.1**	**+0.2**
BHW	**Baring Head**	**25.72**	**198**	P	**P**	**15 28 55.1**	**+1.1**
ARMA	**Armidale**	**33.19**	**240**	P	**P**	**15 30 00.3**	**0.0**
ARMA				IAmb	IAmb	15 31 00.7	
	comp=Z,29nm,1.8s						
STKA	**Stephens Creek**	**41.90**	**241**	P	**P**	**15 31 12.8**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=73,slow=12,SNR=3.6						
BBOO	**Buckleboo**	**46.67**	**241**	P	**P**	**15 31 50.1**	**-1.3**
WR0	**Warramunga Arr**	**47.84**	**258**	P	**P**	**15 32 00.4**	**-0.1**
WR0				IAmb	IAmb	15 32 21.7	
	comp=Z,34nm,1.9s						
WB0	**Warramunga Arr**	**47.99**	**259**	P	**P**	**15 32 01.1**	**-0.7**
WB2	**Warramunga Arr**	**48.02**	**258**	P	**P**	**15 32 01.3**	**-0.6**
WRA	**Warramunga Arr**	**48.03**	**258**	P	**P**	**15 32 01.4**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=97,slow=7.0,SNR=25						
AS31	**Alice Springs**	**48.18**	**253**	P	**P**	**15 32 02.7**	**-0.5**
AS31				IAmb	IAmb	15 33 06.1	
	comp=Z,1.3nm,0.5s						
ASAR	**Alice Springs**	**48.18**	**253**	P	**P**	**15 32 02.3**	**-0.9**
	comp=Z,4.2nm,0.7s,baz=88,slow=8.4,SNR=51						
CASY	**Casey**	**68.22**	**205**	P	**P**	**15 34 22.6**	**+1.0**

*NEIC **04** 15:30:42.7±1.0, 35.°85N±0.°03×97.°42W±0.°05, h6km±9km, Error ellipse: s-maj=6.7km s-min=1.0km az=51.0*
*NEIC **04** 15:30:42.7, 35.°83N×97.°43W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.02; $M_{\theta\theta}$1.06; $M_{\phi\phi}$-1.08; $M_{r\theta}$-0.50; $M_{r\phi}$0.40; $M_{\theta\phi}$-0.41; Fault plane solution: $M_0$1.31000×10^{14} NP1:φs213.89000°, δ84.94000°, λ152.03000°. NP2:φs306.57000°, δ62.14000°, λ5.73000°. Principal axes: T 1.3702, Plg23.0000°, Azm167.0000°; N -0.1333, Plg62.0000°, Azm24.0000°; P -1.2369, Plg16.0000°, Azm263.0000°;*
*TUL **04** 15:30:42.8±1.3, 35.°82N±0.°04×97.°42W±0.°05, h4km±7km, ML3.4, Mwr3.3/17(NEIC) Error ellipse: s-maj=6.0km s-min=5.1km az=224.0*
*ANF **04** 15:30:45.1±0.5, 35.°78N×97.°39W, h25km±6km, ML4.5/14, Error ellipse: s-maj=2.8km s-min=1.9km az=135.0*

ISC 04 15:30:42.4±0.9, 35.°84N±0.°02×97.°44W±0.°03, h7km±6km, n97, σ1§18/113, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.05**	**198**	Pg	**Pg**	**15 30 44.0**	**0.0**
OK029				Sg	**Sg**	**15 30 44.7**	**-0.3**
ADOK	**Arcadia Dam**	**0.20**	**164**	Pg	**Pg**	**15 30 46.4**	**0.0**
BCOK	**Bluff Creek, N**	**0.23**	**217**	Pg	**Pg**	**15 30 47.4**	**+0.3**
BCOK				Sg	**Sg**	**15 30 50.6**	**+0.4**
OK025	**Westminster Rd**	**0.27**	**163**	Pg	**Pg**	**15 30 47.9**	**+0.1**
OK025				Sg	**Sg**	**15 30 51.4**	**0.0**
OKCFA	**Oklahoma City**	**0.43**	**182**	Pg	**Pg**	**15 30 50.6**	**-0.1**
OKCFA				Sg	**Sg**	**15 30 56.3**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.44**	**180**	Pg	**Pg**	**15 30 50.8**	**-0.1**
OKCSW				Sg	**Sg**	**15 30 56.7**	**+0.1**
FNO	**Franklin**	**0.58**	**177**	Pg	**Pg**	**15 30 54.0**	**+0.3**
QUOK	**Quay**	**0.68**	**61**	Pg	**Pg**	**15 30 55.9**	**+0.4**
CROK	**Carrier**	**0.80**	**326**		**Pg**	**15 30 58.5**	**+0.8**
KAN13	**South Haven SW**	**1.17**	**358**		**Pg**	**15 31 05.2**	**+0.4**
T35A	**Sooner Cattle**	**1.31**	**35**		**Pn**	**15 31 07.2**	**+0.1**
TUL1	**Leonard**	**1.34**	**87**	P	**Pn**	**15 31 06.6**	**-0.9**
	baz=267,SNR=96						
TUL1				S	**Sb**	**15 31 24.5**	**-0.7**
	baz=267						
TUL1	**Leonard**	**1.34**	**87**	Pn	**Pn**	**15 31 06.7**	**-0.9**
U32A	**Winter Ranch,**	**1.38**	**293**	Pn	**Pn**	**15 31 08.2**	**+0.1**
KAN10	**Anthony SW Sta**	**1.38**	**338**		**Pn**	**15 31 08.6**	**+0.4**
KAN12	**Harper NE Stat**	**1.52**	**343**		**Pn**	**15 31 10.7**	**+0.6**
WMOK	**Wichita Mounta**	**1.56**	**225**	P	**Pn**	**15 31 10.7**	**+0.1**
	baz=45						
WMOK				S	**Sn**	**15 31 31.0**	**0.0**
	baz=45						
WMOK	**Wichita Mounta**	**1.56**	**225**	Pn	**Pn**	**15 31 10.7**	**+0.1**
X37A	**Clayton**	**2.10**	**126**		**Pn**	**15 31 18.6**	**+0.5**
Z35A	**Perchaven, San**	**2.51**	**176**	Pn	**Pn**	**15 31 24.6**	**+0.9**
U38A	**Gravette**	**2.54**	**76**	Pn	**Pn**	**15 31 24.7**	**+0.6**
HHAR	**Hobbs**	**2.87**	**80**		**Pn**	**15 31 29.4**	**+0.8**
W39A	**Magazine**	**3.05**	**101**	P	**Pn**	**15 31 31.8**	**+0.7**
	baz=283,SNR=22						
W39A	**Magazine**	**3.05**	**101**	Pn	**Pn**	**15 31 31.7**	**+0.7**
Z38A	**Mt. Pleasant**	**3.28**	**141**	Pn	**Pn**	**15 31 34.8**	**+0.7**
KSU1	**Kansas State U**	**3.32**	**11**	P	**Pn**	**15 31 36.2**	**+1.4**
	baz=191,SNR=10						
KSU1				Sb	**Sg**	**15 32 27.9**	**-1.1**
	baz=191						
KSU1	**Kansas State U**	**3.32**	**11**	Pn	**Pn**	**15 31 36.2**	**+1.4**
MIAR	**Mount Ida**	**3.42**	**111**		**Pn**	**15 31 37.2**	**+1.1**
CBKS	**Cedar Bluff**	**3.49**	**329**	P	**Pn**	**15 31 39.2**	**+2.0**
	baz=148,SNR=25						
CBKS				Sb	**Sg**	**15 32 33.2**	**-1.2**
	baz=148						
CBKS	**Cedar Bluff**	**3.49**	**329**	Pn	**Pn**	**15 31 38.6**	**+1.5**
AMTX	**Amarillo**	**3.60**	**256**	P	**Pn**	**15 31 40.5**	**+1.8**
	baz=74						
AMTX				Sb	**Sb**	**15 32 34.3**	**+3.9**
	baz=74						
AMTX	**Amarillo**	**3.60**	**256**	Pn	**Pn**	**15 31 40.1**	**+1.4**
ABTX	**Abilene, Hawle**	**3.69**	**210**	P	**Pn**	**15 31 40.3**	**+0.3**
	baz=29						
ABTX	**Abilene, Hawle**	**3.69**	**210**	Pn	**Pn**	**15 31 40.4**	**+0.3**
U40A	**Yellville**	**3.75**	**81**	P	**Pn**	**15 31 41.4**	**+0.7**
	baz=263,SNR=16						
U40A	**Yellville**	**3.75**	**81**		**Pn**	**15 31 41.1**	**+0.4**
S39A	**Bolivar**	**3.78**	**60**	Pn	**Pn**	**15 31 41.8**	**+0.6**
WHTX	**Lake Whitney,**	**3.84**	**180**	P	**Pn**	**15 31 42.6**	**+0.7**
	baz=0.4,SNR=16						
WHTX				Sb	**Sb**	**15 32 39.3**	**+2.0**
	baz=0.4						
WHTX	**Lake Whitney,**	**3.84**	**180**	Pn	**Pn**	**15 31 42.5**	**+0.5**
X40A	**Basin Creek Fa**	**4.00**	**108**	P	**Pn**	**15 31 44.6**	**+0.4**
	baz=291						
X40A	**Basin Creek Fa**	**4.00**	**108**		**Pn**	**15 31 44.5**	**+0.2**
237A	**Washetta, Mont**	**4.06**	**160**	Pn	**Pn**	**15 31 45.5**	**+0.5**
WLAR	**White Oak Lake**	**4.16**	**120**	Pn	**Pn**	**15 31 46.0**	**-0.3**
WHAR	**Wooly Hollow**	**4.23**	**96**		**Pn**	**15 31 47.7**	**+0.3**
W41B	**Gary Mavity, V**	**4.29**	**97**	P	**Pn**	**15 31 48.8**	**+0.7**
	baz=280						
W41B	**Gary Mavity, V**	**4.29**	**97**		**Pn**	**15 31 48.8**	**+0.7**
FCAR	**Ozark Folk Cen**	**4.32**	**88**		**Pn**	**15 31 48.8**	**+0.3**
MGMO	**Mountain Grove**	**4.36**	**71**		**Pn**	**15 31 49.2**	**+0.1**
Z41A	**Richland Creek**	**4.61**	**123**	S	**Sn**	**15 32 44.7**	**-1.6**
	baz=305						
MSTX	**Muleshoe**	**4.77**	**248**	P	**Pn**	**15 31 56.1**	**+1.3**
	baz=66,SNR=13						
MSTX				Sb	**Sg**	**15 33 11.2**	**-4.3**
	baz=66						
MSTX	**Muleshoe**	**4.77**	**248**	Pn	**Pn**	**15 31 56.0**	**+1.2**
R40A	**Maddies Statio**	**4.80**	**58**	Pn	**Pn**	**15 31 55.7**	**+0.5**
P38A	**Dawn**	**4.88**	**38**	Pn	**Pn**	**15 31 56.8**	**+0.6**
435B	**Jarrell**	**5.05**	**181**	S	**Sn**	**15 32 55.8**	**-1.4**
	baz=1.5						
LCAR	**Lake Charles**	**5.10**	**86**		**Pn**	**15 31 59.0**	**-0.3**
KSCO	**Kaye Shedlock'**	**5.20**	**309**	Pn	**Pn**	**15 32 01.2**	**+0.4**
N35A	**Tabor**	**5.21**	**15**		**Pn**	**15 32 00.7**	**0.0**
T42A	**Van Buren**	**5.25**	**75**		**Pn**	**15 32 01.9**	**+0.6**
CCM	**Cathedral Cave**	**5.43**	**64**	P	**Pn**	**15 32 04.8**	**+1.0**
	baz=248						
CCM				S	**Sn**	**15 33 06.5**	**0.0**
	baz=248						
CCM	**Cathedral Cave**	**5.43**	**64**		**Pn**	**15 32 04.3**	**+0.5**
X43A	**Marvell**	**5.53**	**102**		**Pn**	**15 32 05.3**	**+0.1**
BGNE	**Belgrade**	**5.59**	**354**	S	**Sn**	**15 33 10.9**	**+0.4**
	baz=174						
BGNE	**Belgrade**	**5.59**	**354**	Pn	**Pn**	**15 32 06.3**	**+0.3**
P40A	**Paris**	**5.64**	**48**		**Pn**	**15 32 06.9**	**+0.3**
JCT	**Junction City**	**5.70**	**201**	P	**Pn**	**15 32 08.3**	**+0.6**
	baz=20						
JCT	**Junction City**	**5.70**	**201**	Pn	**Pn**	**15 32 08.1**	**+0.5**
PBMO	**Poplar Bluff**	**5.74**	**79**	Pn	**Pn**	**15 32 09.0**	**+1.1**
T25A	**Trinidad**	**5.77**	**285**	P	**Pn**	**15 32 09.8**	**+1.2**
	baz=101						
T25A				Sb	**Sg**	**15 33 41.2**	**-6.3**
	baz=101						
T25A	**Trinidad**	**5.77**	**285**		**Pn**	**15 32 09.4**	**+0.7**
N38A	**Joes South For**	**5.94**	**32**	Pn	**Pn**	**15 32 11.2**	**+0.4**
CPRX	**Cap Rock**	**6.01**	**244**	Pn	**Pn**	**15 32 12.3**	**+0.4**
L34A	**Svendsen Farm,**	**6.17**	**7**	Pn	**Pn**	**15 32 14.5**	**+0.5**
OXF	**Oxford**	**6.71**	**99**	P	**Pn**	**15 32 21.1**	**-0.2**
	baz=284						
OXF				S	**Sn**	**15 33 36.7**	**-1.3**
	baz=284						
OXF	**Oxford**	**6.71**	**99**		**Pn**	**15 32 21.5**	**+0.1**
SDCO	**Great Sand Dun**	**6.74**	**289**	P	**Pn**	**15 32 23.6**	**+1.4**
	baz=104						
SDCO	**Great Sand Dun**	**6.74**	**289**		**Pn**	**15 32 23.4**	**+1.2**
S44A	**Carbondale**	**6.82**	**72**	Pn	**Pn**	**15 32 23.2**	**+0.3**
Q24A	**Divide**	**6.88**	**299**	P	**Pn**	**15 32 26.1**	**+2.0**
	baz=115						
SCIA	**State Center**	**6.89**	**27**	P	**Pn**	**15 32 25.6**	**+1.7**
	baz=210						
SCIA				S	**Sn**	**15 33 44.2**	**+1.7**
	baz=210						
SCIA	**State Center**	**6.89**	**27**	Pn	**Pn**	**15 32 24.9**	**+1.1**
N41A	**Harden Midland**	**7.10**	**45**	Pn	**Pn**	**15 32 26.8**	**+0.2**
P43A	**Skaggs, Pawnee**	**7.33**	**56**	Pn	**Pn**	**15 32 30.6**	**+0.7**
ISCO	**Idaho Springs**	**7.58**	**304**	P	**Pn**	**15 32 35.2**	**+1.6**
	baz=119						
MNTX	**Cornudas Mount**	**7.80**	**240**	P	**Pn**	**15 32 36.6**	**+0.2**
	baz=56						
MNTX	**Cornudas Mount**	**7.80**	**240**		**Pn**	**15 32 36.3**	**-0.1**
L40A	**Anamosa**

MTVR				*eS*	**Sn**	**16 23 04.6**	**-3.5**
GRL	**Gorelyy**	**5.12**	**244**	*eP*	**Pn**	**16 22 11.1**	**+1.0**
GRL				*eS*	**Sn**	**16 23 06.1**	**-2.5**
ASAK	**Asacha**	**5.30**	**243**	*eP*	**Pn**	**16 22 14.0**	**+1.5**
APC	**Apacha**	**5.42**	**251**	*eP*	**Pn**	**16 22 16.5**	**+2.4**
KDTR	**Khodutka, Kamc**	**5.54**	**238**	*eP*	**Pn**	**16 22 15.1**	**-0.7**
KDTR				*eS*	**Sn**	**16 23 15.9**	**-3.0**
ILAR	**Eielson Array**	**25.12**	**48**	P	**P**	**16 26 19.0**	**+1.4**
	0.6nm,0.3s,baz=259,slow=10,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**35.25**	**178**	T	T	17 05 18.9	
	baz=360,slow=76,SNR=148						
H11N3	**WAKE ISLAND Hy**	**35.26**	**178**	T	T	17 05 20.1	
	baz=360,slow=76,SNR=139						
H11N1	**WAKE ISLAND Hy**	**35.26**	**178**	T	T	17 05 20.3	
	baz=360,slow=76,SNR=159						
H11S1	**WAKE ISLAND Hy**	**36.46**	**178**	T	T	17 06 50.8	
	baz=359,slow=76,SNR=8.6						
H11S3	**WAKE ISLAND Hy**	**36.47**	**178**	T	T	17 06 47.3	
	baz=359,slow=76,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**36.48**	**178**	T	T	17 06 46.2	
	baz=359,slow=76,SNR=9.0						
NVAR	**Mina Array Bea**	**52.05**	**75**	P	**P**	**16 30 05.5**	**+2.6**
	0.3nm,0.5s,baz=298,slow=8.0,SNR=3.6						
PDAR	**Pinedale Array**	**53.74**	**65**	P	**P**	**16 30 17.9**	**+2.6**
	0.1nm,0.4s,baz=354,slow=7.6,SNR=3.7						
TXAR	**Lajitas Array**	**66.90**	**72**	P	**P**	**16 31 46.5**	**+1.2**
	0.3nm,0.6s,baz=290,slow=3.7,SNR=2.2						

NEIC ***04*** *16:23:54.8±1.5,0˚.23N±0˚.07×122˚.29E±0˚.07,h190km±7km, mb4.5/25, Error ellipse: s-maj=13.2km s-min=4.8km az=46.0*

DJA ***04*** *16:23:55.0±0.4,0˚N±4˚×12˚2E±˚,h171km±5km,M4.3/13, mB4.9/4,mb4.2/4,MLv4.3/13,Mw(mB)4.2/4,Mwp6.5/1*

IDC ***04*** *16:23:55.8±2.7,0˚.20N×122˚.30E,h197km±25km,mb3.4/6, mb1 3.6/8,mb1mx3.3/43,mbtmp4.0/8,Error ellipse: s-maj=48.5km s-min=11.7km az=61.0*

ISC 04 16:23:55.5±0.5,**0˚.21N**±0˚.06×**122˚.31E**±0˚.06,**h202**km,**n58,** σ1$**42**/66,**mb4.3**/19,**1C, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.81**	**59**	P	**Pn**	**16 24 21.1**	**-3.3**
GTOI				S	**S**	**16 24 41.4**	**-5.2**
LUWI	**Luwuk**	**1.33**	**160**	P	**Pn**	**16 24 25.9**	**-2.1**
LUWI				S	**S**	**16 24 49.3**	**-3.6**
LUWI	**Luwuk**	**1.33**	**160**		**Pn**	**16 24 25.9**	**-2.1**
KMSI	**Cibinong**	**1.71**	**78**	P	**Pn**	**16 24 30.3**	**-1.0**
MPSI	**Mapaga**	**2.42**	**273**	P	**Pn**	**16 24 34.7**	**-4.0**
SANI	**Sanana**	**4.31**	**121**	P	**Pn**	**16 24 59.8**	**-1.5**
SPSI	**Sidrap Palu**	**4.87**	**211**	P	**Pn**	**16 25 07.3**	**-1.0**
BNSI	**Bone**	**5.08**	**206**	P	**Pn**	**16 25 10.6**	**-0.5**
TNTI	**Ternate**	**5.08**	**84**	P	**Pn**	**16 25 10.4**	**-0.7**
	0.3nm1µm40nm,1.1s						
TNTI	**Ternate**	**5.08**	**84**	Pn	**Pn**	**16 25 10.2**	**-0.9**
KAPI	**Kappang**	**5.79**	**206**	P	**Pn**	**16 25 19.7**	**-0.4**
	8.2nm,0.3s,baz=19,slow=5.5,SNR=14						
KAPI	**Kappang**	**5.79**	**206**	Pn	**Pn**	**16 25 19.6**	**-0.6**
NLAI	**Namlea**	**5.88**	**126**	P	**Pn**	**16 25 21.9**	**+0.5**
KKM	**Kota Kinabalu**	**8.40**	**314**	Pn	**Pn**	**16 25 53.2**	**-1.0**
KSM	**Kuching**	**12.07**	**276**	P	**P**	**16 26 46.1**	**+0.2**
MTN	**Manton Dam**	**15.64**	**146**	P	**Pn**	**16 27 27.5**	**+1.9**
KNRA	**Kununurra**	**17.02**	**158**	Pn	**Pn**	**16 27 42.3**	**+0.2**
DLV	**T Lat**	**18.01**	**311**	Pn	**Pn**	**16 27 53.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**18.49**	**170**	P	**P**	**16 27 57.0**	**+0.4**
	0.3nm,0.3s,baz=341,slow=5.5,SNR=11						
FITZ	**Fitzroy Crossi**	**18.49**	**170**		**P**	**16 27 57.8**	**+1.2**
IPM	**Ipoh**	**21.68**	**282**	P	**P**	**16 28 31.1**	**+0.4**
IPM				IAmb	IAmb	16 28 31.9	
	comp=Z,9.5nm,1.0s						
PSA00	**Pilbara Seismi**	**21.79**	**186**	P	**P**	**16 28 31.2**	**-0.4**
KULM	**Kulim**	**22.21**	**283**	P	**P**	**16 28 35.1**	**-0.7**
KULM				IAmb	IAmb	16 29 22.9	
	comp=Z,32nm,1.5s						
WB0	**Warramunga Arr**	**23.12**	**150**	P	**P**	**16 28 44.0**	**0.0**
WB0				IAmb	IAmb	16 29 38.1	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**23.24**	**150**	P	**P**	**16 28 45.4**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=328,slow=11,SNR=24						
WRA				pP	**pP**	**16 29 20.1**	**-1.8**
	comp=Z,1.8nm,1.0s,baz=326,slow=11,SNR=3.3						
WRA				PcP	**PcP**	**16 32 27.3**	**+0.4**
	comp=Z,0.7nm,1.1s,baz=330,slow=2.0,SNR=1.5						
WB2	**Warramunga Arr**	**23.24**	**150**	P	**P**	**16 28 46.2**	**+1.1**
WB2				IAmb	IAmb	16 29 19.5	
	comp=Z,46nm,1.9s						
HKPS	**Hong Kong Po S**	**23.33**	**341**	P	**P**	**16 28 46.1**	**+0.3**
WR0	**Warramunga Arr**	**23.35**	**150**	P	**P**	**16 28 47.8**	**+1.7**
WR0				IAmb	IAmb	16 28 55.4	
	comp=Z,17nm,1.6s						
SSLB	**Suanglung**	**23.47**	**357**	P	**P**	**16 28 49.0**	**+1.8**
SSLB				IAmb	IAmb	16 29 14.1	
	comp=Z,15nm,1.2s						
GSI	**Gunungsitoli**	**24.76**	**273**	P	**P**	**16 28 58.4**	**-0.6**
AS31	**Alice Springs**	**26.27**	**155**	P	**P**	**16 29 13.2**	**+0.8**
ASAR	**Alice Springs**	**26.27**	**155**	P	**P**	**16 29 13.3**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=342,slow=14,SNR=24						
ASAR				pP	**pP**	**16 29 51.2**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=343,slow=15,SNR=5.4						
ASAR				PcP	**PcP**	**16 32 34.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=336,slow=2.3,SNR=12						
ASAR				ScP	**ScP**	**16 35 55.1**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=339,slow=2.7,SNR=16						
CMAR	**Chiang Mai Arr**	**29.25**	**310**	P	**P**	**16 29 40.2**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=136,slow=7.2,SNR=5.7						
STKA	**Stephens Creek**	**36.76**	**152**	P	**P**	**16 30 44.8**	**+1.0**
	comp=Z,1.1nm,0.4s,baz=336,slow=8.1,SNR=6.2						
LSA	**Lhasa**	**41.73**	**317**	P	**P**	**16 31 27.0**	**+1.5**
LSA				IAmb	IAmb	16 31 28.0	
	comp=Z,12nm,0.5s						
ODAN	**Odare**	**42.77**	**311**	*eP*	**P**	**16 31 34.4**	**+0.7**
TAPN	**Taplejung**	**42.80**	**312**	*eP*	**P**	**16 31 34.5**	**+0.5**
CAN	**Canberra**	**43.24**	**148**	P	**P**	**16 31 39.6**	**+2.5**
CAN				IAmb	IAmb	16 32 36.6	
	comp=Z,37nm,1.7s						
JIRN	**Jiri**	**44.10**	**311**	*eP*	**P**	**16 31 45.1**	**+0.6**
	comp=Z,54nm,0.7s						
GTA	**Gaotai**	**44.11**	**335**	⇑P	**P**	**16 31 45.3**	**+1.3**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PKI	**Pulchoki**	**44.64**	**311**	*eP*	**P**	**16 31 48.9**	**+0.2**
KKN	**Kakani**	**44.85**	**311**	*eP*	**P**	**16 31 50.6**	**+0.4**
	comp=Z,9.7nm,0.5s						
DMN	**Daman**	**44.89**	**311**	*eP*	**P**	**16 31 51.0**	**+0.4**
	comp=Z,16nm,0.6s						
GKN	**Gorkha**	**45.45**	**311**	*eP*	**P**	**16 31 55.3**	**+0.4**
	comp=Z,36nm,0.5s						
KOLN	**Koldanda**	**46.12**	**310**	*eP*	**P**	**16 32 00.8**	**+0.6**
	comp=Z,37nm,0.6s						
DANN	**Dangsing**	**46.29**	**311**	*eP*	**P**	**16 32 02.0**	**+0.4**
	comp=Z,80nm,0.6s						
PYUN	**Piuthan**	**46.76**	**310**	*eP*	**P**	**16 32 05.8**	**+0.7**
	comp=Z,57nm,0.5s						
DZM	**Mont Dzumac**	**48.36**	**120**	P	**P**	**16 32 16.1**	**-1.3**
SONM	**Songino Array**	**49.41**	**346**	P	**P**	**16 32 25.8**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=160,slow=7.6,SNR=5.8						
MK31	**Makanchi Array**	**58.08**	**329**	P	**P**	**16 33 27.8**	**+0.1**
MKAR	**Makanchi Array**	**58.08**	**329**	P	**P**	**16 33 28.3**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=128,slow=8.8,SNR=38						
MKAR				PcP	**PcP**	**16 34 16.7**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=125,slow=5.1,SNR=8.4						
KDJ	**Kajisay**	**58.18**	**322**	P	**P**	**16 33 29.1**	**+0.3**
MAKZ	**Makanchi**	**58.25**	**328**	P	**P**	**16 33 29.0**	**+0.1**
KBL	**Kabul**	**60.28**	**310**	P	**P**	**16 33 43.0**	**-0.3**
KBL				IAmb	IAmb	16 33 45.0	
	comp=Z,5.2nm,0.6s						
KURK	**Kurchatov**	**62.45**	**330**	P	**P**	**16 33 57.2**	**0.0**
KK31	**Karatay Array**	**62.91**	**320**	P	**P**	**16 33 59.5**	**-1.0**
KK31				IAmb	IAmb	16 35 43.6	
	comp=Z,8.6nm,1.9s						
KKAR	**Karatay Array**	**62.91**	**320**	P	**P**	**16 33 59.6**	**-0.9**
KKAR				IAmb	IAmb	16 35 43.6	
	comp=Z,8.6nm,1.9s						
CASY	**Casey**	**66.88**	**185**	P	**P**	**16 34 25.9**	**+0.4**
CASY				IAmb	IAmb	16 35 00.6	
	comp=Z,26nm,1.8s						

IDC 04 16:40:14.9±43.0,**24˚.36S**×**68˚.53E,h0**km,**mb3.6**/3, **mb1 3.8**/3,**mb1mx3.5**/36,**mbtmp3.6**/3,**Error ellipse: s-maj=1410.0km s-min=44.1km az=52.0,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.04**	**13**	T	T	17 00 49.0	
	baz=191,slow=76,SNR=80						
H08S2	**Diego Garcia H**	**17.04**	**14**	T	T	17 00 48.1	
	baz=191,slow=76,SNR=52						
H08S3	**Diego Garcia H**	**17.06**	**13**	T	T	17 00 50.5	
	baz=191,slow=76,SNR=75						
H01W2	**Cape Leeuwin H**	**40.71**	**116**	T	T	17 30 43.3	
	baz=273,slow=75,SNR=5.1						
H01W3	**Cape Leeuwin H**	**40.71**	**116**	T	T	17 30 36.2	
	baz=273,slow=75,SNR=5.5						
H01W1	**Cape Leeuwin H**	**40.72**	**116**	T	T	17 30 40.1	
	baz=273,slow=75,SNR=6.0						
ASAR	**Alice Springs**	**59.19**	**104**	P	P	16 50 18.3	+0.1
	0.6nm,1.0s,baz=257,slow=5.6,SNR=4.6						
WRA	**Warramunga Arr**	**60.62**	**100**	P	P	16 50 27.8	-0.2
	0.3nm,0.7s,baz=258,slow=5.8,SNR=3.5						
MKAR	**Makanchi Array**	**71.90**	**10**	P	P	16 51 39.8	+0.1
	0.5nm,0.8s,baz=188,slow=4.1,SNR=4.9						

AEIC ***04*** *16:44:13±1.2,63˚.21N±0˚.04×152˚.05W±0˚.09,h31km±8km, ML2.2,Error ellipse: s-maj=6.2km s-min=5.3km az=51.0*

IDC ***04*** *16:44:48.1±5.0,63˚.25N×151˚.07W,h0km,mb1 2.2/1, mb1mx2.2/44,mbtmp1.8/1,ML2.1/1,Error ellipse: s-maj=44.3km s-min=39.8km az=178.0*

ISC 04 16:44:08.7±1.1,**63˚.30N**±0˚.04×**151˚.87W**±0˚.05,**h5**km,**n25,** σ1$**80**/24,**Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	**Purkeypile**	**0.43**	**200**		**Pb**	**16 44 20.3**	**+1.5**
TRF	**Thorofare Moun**	**0.73**	**77**		**Pn**	**16 44 27.7**	**+1.9**
BPAW	**Bear Paw Mtn.**	**0.89**	**26**		**Pn**	**16 44 30.7**	**+2.8**
SKT	**Skwentna**	**1.33**	**173**	Pn	**Pn**	**16 44 33.3**	**-0.7**
SKT					**Pg**	**16 44 34.9**	**+0.6**
RND	**Reindeer**	**1.36**	**84**	Pn	**Pg**	**16 44 36.9**	**+2.1**
MCK	**McKinley**	**1.39**	**70**	Pn	**Pg**	**16 44 36.9**	**+1.7**
SUA	**Susitna One**	**1.92**	**164**	Pn	**Pn**	**16 44 42.3**	**+0.3**
TTA	**Tatalina**	**1.92**	**261**	Pn	**Pn**	**16 44 41.7**	**-0.3**
WRH	**Wood River Hil**	**2.04**	**53**	Pn	**Pg**	**16 44 46.6**	**-1.2**
DHY	**Denali Highway**	**2.05**	**94**		**Pg**	**16 44 47.5**	**-0.4**
GHO	**Glory Hole Cre**	**2.06**	**137**	Pn	**Pn**	**16 44 44.7**	**+0.8**
PMR	**Palmer**	**2.14**	**142**	Pn	**Pn**	**16 44 45.9**	**+0.9**
SML	**Sawmill**	**2.22**	**131**	Pn	**Pb**	**16 44 48.8**	**-0.5**
MDM	**Murphy Dome**	**2.31**	**42**	Pn	**Pb**	**16 44 50.0**	**-0.7**
I53US	**FAIRBANKS INFR**	**2.37**	**46**	*i*		17 00 25.0	
	baz=225,slow=308,SNR=9.9						
SCM	**Sheep Creek Mo**	**2.57**	**123**	Pn	**Pb**	**16 44 52.9**	**-2.4**
ILAR	**Eielson Array**	**2.64**	**54**	Pn	**Sb**	**16 45 26.5**	**-2.7**
	0.4nm,0.3s,baz=228,slow=15,SNR=6.9						
ILAR				Lg	Lg	16 46 03.4	
	0.5nm,0.3s,baz=223,slow=28,SNR=3.0						
SVW2	**Sparrevohn**	**2.81**	**220**	Pn	**Pn**	**16 44 54.6**	**+0.4**
PAX	**Paxson**	**2.93**	**94**	Pn	**Pn**	**16 44 57.0**	**+1.2**
RIDG	**Independent Ri**	**3.18**	**79**	Pn	**Pb**	**16 45 02.7**	**-2.9**
KLU	**Klutina**	**3.31**	**121**	Pn	**Pn**	**16 45 03.0**	**+1.9**
DOT	**Dot Lake**	**3.52**	**81**	Pn	**Pn**	**16 45 06.7**	**+2.7**
FID	**Port Fidalgo**	**3.61**	**133**	Pn	**Pn**	**16 45 07.6**	**+2.5**
HIN	**Hinchinbrook I**	**3.87**	**136**	Pn	**Pn**	**16 45 10.2**	**+1.4**
I44RU	**PETROPAVLOVSK**	**27.71**	**272**	*i*		19 34 00.0	
	baz=49,slow=319,SNR=1.1						

BJI ***04*** *16:50:04.1±0.0,30˚.15S×176˚.65W,h6km,mB5.7/21, mb5.2/27,Ms5.1/8,Ms7 4.8/8*

NEIC ***04*** *16:50:06.6±1.4,30˚.40S±0˚.05×177˚.2W±0˚.1,h10km±1km, mb5.1/81,Error ellipse: s-maj=18.4km s-min=4.3km az=61.0*

MOS ***04*** *16:50:07.4±0.9,30˚.39S×177˚.20W,h20km,mb5.2/12, Error ellipse: s-maj=11.6km s-min=10.8km az=131.4*

IDC ***04*** *16:50:08.4±3.4,30˚.33S×177˚.19W,h17km±20km,mb4.6/22, mb1 4.7/22,mb1mx4.6/33,mbtmp4.6/22,MS4.2/34, Ms1 4.2/34,ms1mx4.2/42,Error ellipse: s-maj=16.7km s-min=13.6km az=62.0*

GCMT ***04*** *16:50:09.6±0.2,30˚.30S±0˚.02×176˚.89W±0˚.01,h12km, MW5.0/104,Moment Tension Solution. s52,c73; s104,c154; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.33±.10; $M_{\theta\theta}$0.77±.11; $M_{\phi\phi}$-4.10±.08; $M_{r\theta}$0.18±.38; $M_{\theta\phi}$-0.27±.09; $M_{r\phi}$1.81±.25; Best double couple: M_o4.14300×10^{16} NP1:ϕ181.00000°,δ32.00000°, λ87.00000°. NP2:ϕ5.00000°,δ58.00000°,λ92.00000°. Principal axes: T 3.7520, Plg77.0000°, Azm280.0000°; N 0.7850, Plg1.0000°, Azm184.0000°; P -4.5350, Plg13.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 16:50:08.7±0.3,**30˚.43S**±0˚.05×**176˚.98W**±0˚.06,**h24**km, **n348,** σ1$**68**/335,**mb5.0**/65,**MS4.4**/38,**6C-8D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.43**	**325**	P	**Pn**	**16 50 30.0**	**-3.1**
RAO	**Raoul Island**	**1.43**	**325**	Pn	**Pn**	**16 50 32.2**	**-1.0**
	576nm,0.3s,baz=44,slow=20,SNR=8.0						
RAO				Sn	**Sn**	**16 50 48.6**	**-2.7**
	2µm,0.3s,baz=92,slow=20,SNR=13						
RAO	**Raoul Island**	**1.43**	**325**	P	**Pn**	**16 50 30.8**	**-2.4**
RAO						16 50 48.7	
RAO	**Raoul Island**	**1.43**	**325**	P	**Pn**	**16 50 29.3**	**-3.9**
RAO	**Raoul Island**	**1.43**	**325**	Pn	**Pn**	**16 50 30.8**	**-2.4**
RIZ	**Raoul Island**	**1.45**	**325**	P	**Pn**	**16 50 30.6**	**-2.7**
MXZ	**Matakaoa Point**	**8.12**	**208**	P	**Pn**	**16 52 04.0**	**-1.1**
MXZ				S	**Sn**	**16 53 35.8**	**-0.2**
WMGZ	**Waiomatatini S**	**8.30**	**206**	P	**Pn**	**16 52 06.4**	**-1.1**
WMGZ				S	**Sn**	**16 53 42.1**	**+1.7**
PKGZ	**Pakihiroa**	**8.49**	**208**	P	**Pn**	**16 52 06.6**	**-3.6**
PKGZ				S	**Sn**	**16 53 45.3**	**0.0**
HAZ	**Te Kaha**	**8.50**	**209**	P	**Pn**	**16 52 06.5**	**-3.7**
HAZ				S	**Sn**	**16 53 45.9**	**+0.5**
PUZ	**Puketiti**	**8.58**	**206**	P	**Pn**	**16 52 07.0**	**-4.4**
PUZ				S	**Sn**	**16 53 47.2**	**-0.2**
RUGZ	**Raukumara Rang**	**8.72**	**209**	P	**Pn**	**16 52 11.0**	**-2.4**
KUZ	**Kuaotunu**	**8.76**	**222**	P	**Pn**	**16 52 17.9**	**+4.1**
TWGZ	**Tauwhareparae**	**8.78**	**207**	P	**Pn**	**16 52 10.9**	**-3.2**
CNGZ	**Carnagh Station**	**8.96**	**205**	P	**Pn**	**16 52 12.8**	**-3.8**
TKGZ	**Te Karaka**	**9.05**	**207**	P	**Pn**	**16 52 13.7**	**-4.2**
MWZ	**Matawai**	**9.09**	**208**	P	**Pn**	**16 52 14.5**	**-3.9**
WCZ	**Waipu Caves**	**9.11**	**231**	P	**Pn**	**16 52 20.6**	**+1.9**
WIAZ	**Waiheke Island**	**9.13**	**224**	P	**Pn**	**16 52 20.8**	**+1.8**
URZ	**Urewera**	**9.21**	**210**	Pn	**Pn**	**16 52 15.7**	**-4.3**
	2.2nm,0.3s,baz=335,slow=1.0,SNR=9.0						
URZ				Sn	**Sn**	**16 54 00.0**	**-2.8**
	8.1nm,0.3s,baz=145,slow=21,SNR=10						
URZ	**Urewera**	**9.21**	**210**	P	**Pn**	**16 52 15.8**	**-4.2**
URZ				S	**Sn**	**16 54 01.3**	**-1.5**
OUZ	**Omahuta**	**9.26**	**236**	P	**Pn**	**16 52 25.1**	**+4.4**
OUZ	**Omahuta**	**9.26**	**236**	Pn	**Pn**	**16 52 21.8**	**+1.1**
MKAZ	**Moumakai**	**9.33**	**222**	P	**Pn**	**16 52 22.4**	**+0.7**
ETAZ	**East Tamaki Re**	**9.37**	**224**	P	**Pn**	**16 52 22.1**	**-0.1**
MUGZ	**Murupara**	**9.54**	**211**	P	**Pn**	**16 52 23.1**	**-1.5**
SNGZ	**Shannon Statio**	**9.55**	**208**	P	**Pn**	**16 52 23.5**	**-1.3**
RTZ	**Ruatahuna**	**9.56**	**210**	P	**Pn**	**16 52 22.5**	**-2.4**
TOZ	**Tahuroa Road**	**9.58**	**219**	P	**Pn**	**16 52 26.1**	**+1.0**
RAHZ	**Arahi**	**9.77**	**208**	P	**Pn**	**16 52 24.3**	**-3.4**
MTHZ	**Maungataniwha**	**9.82**	**210**	P	**Pn**	**16 52 25.8**	**-2.7**
MTHZ				S	**Sn**	**16 54 17.3**	**-0.6**
BKZ	**Black Stump Fm**	**10.23**	**210**	P	Pn	16 52 28.7	-5.4
BKZ	**Black Stump Fm**	**10.23**	**210**	Pn	Pn	16 52 28.2	-5.9
HIZ	**Hauiti**	**10.50**	**218**	Pn	**Pn**	**16 52 37.6**	**-0.2**
OTVZ	**Oturere**	**10.60**	**213**	P	**Pn**	**16 52 37.5**	**-1.7**
PLWZ	**Palliser**	**12.76**	**207**	Pn	**Pn**	**16 53 06.3**	**-2.4**
BHW	**Baring Head**	**12.78**	**209**	Pn	**Pn**	**16 53 07.1**	**-1.8**
QRZ	**Quartz Range**	**13.42**	**217**	Pn	**Pn**	**16 53 17.6**	**0.0**
BSWZ	**Blackbirch Sta**	**13.46**	**211**	Pn	**Pn**	**16 53 16.6**	**-1.6**
THZ	**Tophouse**	**13.94**	**213**	Pn	**Pn**	**16 53 22.4**	**-2.4**
LTZ	**Lake Taylor**	**15.03**	**212**	Pn	**Pn**	**16 53 34.4**	**-5.2**
RPZ	**Rata Peaks**	**16.31**	**212**	Pn	**Pn**	**16 53 49.8**	**-6.4**
	1.6nm,0.3s,baz=33,slow=15,SNR=3.4						
RPZ				LR	LR	17 00 52.6	
	comp=Z,2µm,18.8s,baz=34,slow=40						
RPZ	**Rata Peaks**	**16.31**	**212**	P	**Pn**	**16 53 50.5**	**-5.7**
FOZ	**Fox Glacier**	**16.77**	**215**	P	**Pn**	**16 54 00.3**	**-1.6**
DZM	**Mont Dzumac**	**17.03**	**295**	*e*Pn	**P**	**16 54 09.3**	**+2.2**
	369nm,1.6s						
DZM				*e*LQ	LQ	16 57 26.5	
	2µm,29.2s						
DZM				*e*LR	LR	16 58 08.1	
	comp=Z,4µm,26.0s						
DZM	**Mont Dzumac**	**17.03**	**295**	Pn	**P**	**16 54 10.4**	**+3.3**
	1.1nm,0.3s,baz=125,slow=11,SNR=7.7						
DZM				LR	LR	16 59 05.4	
	comp=Z,2µm,21.4s,baz=114,slow=32						
DZM	**Mont Dzumac**	**17.03**	**295**	P	**P**	**16 54 07.3**	**+0.2**
DZM				IAmb	IAmb	16 54 11.4	
	comp=Z,303nm,1.7s						
AFI	**Afiamalu**	**17.13**	**17**	LR	LR	17 00 47.8	
	comp=Z,170nm,21.3s,baz=206,slow=37						
LBZ	**Lake Benmore**	**17.23**	**213**	P	**Pn**	**16 54 07.7**	**0.0**
RAR	**Rarotonga**	**17.99**	**63**	LR	LR	16 59 16.2	
	comp=Z,724nm,21.6s,baz=251,slow=30						
LHI	**Lord Howe Isla**	**20.57**	**261**	P	**P**	**16 54 46.5**	**+0.8**
	baz=21,SNR=7.0						
TBI	**Tubuai**	**25.49**	**81**	*e*LR	LR	17 01 36.4	
	comp=Z,2µm,28.2s,baz=243						
ARMA	**Armidale**	**27.03**	**262**	P	**P**	**16 55 51.1**	**+1.9**
	baz=27,SNR=9.6						
ARMA	**Armidale**	**27.03**	**262**	P	**P**	**16 55 46.7**	**-2.5**
ARMA				IAmb	IAmb	16 56 29.0	
	comp=Z,44nm,1.4s						
KNTN	**Kanton**	**27.96**	**11**	P	**P**	**16 55 58.3**	**+0.8**
KNTN				IAmb	IAmb	16 56 25.5	
	comp=Z,36nm,1.0s						
PPT2	**Papeete2**	**28.02**	**69**	*e*LR	LR	17 02 44.5	
	comp=Z,2µm,27.5s,baz=235						
PPT	**Papeete**	**28.03**	**69**	LR	LR	17 06 53.8	
	comp=Z,290nm,18.2s,baz=263,slow=36						
CNB	**Canberra Magne**	**28.60**	**251**	P	**P**	**16 56 05.0**	**+1.8**
	baz=29,SNR=4.7						
EIDS	**Eidsvold**	**28.62**	**272**	P	**P**	**16 56 04.1**	**+0.7**
	baz=29,SNR=4.7						
EIDS	**Eidsvold**	**28.62**	**272**	P	**P**	**16 56 03.6**	**+0.3**
EIDS				IAmb	IAmb	16 56 12.8	
	comp=Z,26nm,1.1s						
CAN	**Canberra**	**28.90**	**251**	P	**P**	**16 56 06.4**	**+0.6**
CAN				pmax	pmax		
	comp=Z,21nm,0.9s						
CAN	**Canberra**	**28.90**	**251**	P	**P**	**16 56 06.4**	**+0.6**
CAN				IAmb	IAmb	16 56 08.8	
	comp=Z,21nm,0.9s						
HNR	**Honiara**	**30.00**	**309**	LR	LR	17 07 10.0	
	comp=Z,480nm,19.0s,baz=184,slow=34						
RMQ	**Roma**	**30.31**	**269**	P	**P**	**16 56 19.6**	**+1.2**
	baz=30,SNR=29						
TOO	**Toolangi**	**31.76**	**247**	P	**P**	**16 56 30.4**	**-0.8**
	baz=32,SNR=5.7						
TOO	**Toolangi**	**31.76**	**247**	P	**P**	**16 56 31.6**	**+0.5**
TOO				pmax	pmax		
	comp=Z,40nm,1.3s						
TOO	**Toolangi**	**31.76**	**247**	P	**P**	**16 56 31.6**	**+0.5**
TOO				IAmb	IAmb	16 57 02.5	
	comp=Z,40nm,1.3s						
CMSA	**Cobar Meteorol**	**31.93**	**258**	P	**P**	**16 56 34.0**	**+1.5**
	baz=32,SNR=8.1						
QLP	**Quilpie**	**34.19**	**267**	P	**P**	**16 56 52.8**	**+0.5**
	baz=34,SNR=21						
CTA	**Charters Tower**	**34.68**	**279**	P	**P**	**16 56 55.9**	**-0.8**
	comp=Z,11nm,0.8s,baz=96,slow=11,SNR=7.0						
CTAO	**Charters Tower**	**34.68**	**279**	P	**P**	**16 56 56.4**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,34nm,0.8s						
CTAO	**Charters Tower**	**34.68**	**279**	P	**P**	**16 56 56.4**	**-0.3**
STKA	**Stephens Creek**	**35.33**	**257**	P	**P**	**16 57 02.5**	**+0.3**
	comp=Z,11nm,0.8s,baz=97,slow=11,SNR=26						
STKA				LR	LR	17 10 59.7	
	comp=Z,673nm,18.0s,baz=94,slow=36						
STKA	**Stephens Creek**	**35.33**	**257**	P

baz=239,slow=74,SNR=7.9
H03S3 Juan Fernandez 79.72 123 T T 18 30 05.1
baz=239,slow=74,SNR=9.5
JNU Nakatsue 80.17 318 LR LR 17 32 01.1
comp=Z,63nm,21.8s,baz=165,slow=31
ERM Erimo 80.91 331 ⇑*i*P **P 17 02 22.3 +1.6**
ERM pmax pmax
comp=Z,24nm,0.9s
PLCA Paso Flores 81.83 133 P **P 17 02 28.0 +1.9**
comp=Z,5.1nm,0.9s,baz=233,slow=6.0,SNR=6.3
PLCA LR LR 17 32 55.9
comp=Z,143nm,18.4s,baz=292,slow=31
PLCA Paso Flores 81.83 133 P **P 17 02 28.0 +1.9**
PLCA pmax pmax
comp=Z,15nm,1.2s
PLCA Paso Flores 81.83 133 IAmb IAmb 17 02 31.1
comp=Z,16nm,1.1s
ASAJ Asahikawa 82.88 332 P **P 17 02 31.8 +0.7**
comp=Z,16nm,0.8s,baz=238,slow=9.3,SNR=11
ASAJ LR LR 17 35 16.1
comp=Z,179nm,19.8s,baz=168,slow=33
SKR Severo-Kuril's 84.20 343 *e*P P 17 02 46.3 +8.7
SKR MLR MLR
comp=Z,100nm,19.0s
ESJX Sierra Juarez 84.86 48 P **P 17 02 42.5 +0.7**
KSRS Korea Array 84.95 319 P **P 17 02 42.0 +0.2**
comp=Z,2.9nm,0.8s,baz=146,slow=5.4,SNR=14
KSRS LR LR 17 36 02.2
comp=Z,91nm,21.5s,baz=152,slow=32
KSRS Korea Array 84.95 319 P **P 17 02 42.0 +0.2**
MURC Murrieta 85.11 46 P **P 17 02 43.3 +0.6**
baz=228
MONP2 Monument Peak 85.13 47 P **P 17 02 43.9 +0.8**
baz=229
YSS Yuzh-Sakhalins 85.17 334 *e*P **P 17 02 43.6 +1.0**
YSS *e* 17 06 09.0
YSS *e*PPP PPP 17 07 56.2
YSS *e*S **S 17 13 14.4 +3.6**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,200nm,15.0s
YSS Yuzh-Sakhalins 85.17 334 P **P 17 02 43.5 +1.0**
IKP In-Ko-Pah, Jac 85.17 48 P **P 17 02 43.6 +0.5**
baz=229
VES Vestal, Richgr 85.46 44 P **P 17 02 44.9 +0.5**
baz=227
EDW2 Edwards Air Fo 85.47 45 P **P 17 02 44.5 0.0**
baz=228,SNR=5.5
SWSC Sam W. Stewart 85.56 48 P **P 17 02 44.7 -0.3**
baz=229
PFO Pinyon Flats O 85.58 47 P **P 17 02 45.3 +0.1**
baz=229
PFO Pinyon Flats O 85.58 47 ⇑*i*P **P 17 02 46.3 +1.1**
PFO pmax pmax
comp=Z,7.0nm,0.9s
PFO Pinyon Flats O 85.58 47 P **P 17 02 46.0 +0.8**
PFO IAmb IAmb 17 02 49.1
comp=Z,23nm,1.6s
XPFO Pion Flat 85.58 47 P **P 17 02 45.9 +0.7**
XPFO IAmb IAmb 17 02 49.1
comp=Z,25nm,1.7s
ISA Isabella, Lake 85.70 44 P **P 17 02 46.4 +0.7**
baz=228,SNR=6.9
ISA Isabella, Lake 85.70 44 P **P 17 02 45.9 +0.2**
ISA pmax pmax
comp=Z,24nm,1.5s
ISA Isabella, Lake 85.70 44 P **P 17 02 45.9 +0.2**
ISA IAmb IAmb 17 03 06.0
comp=Z,24nm,1.5s
LRMC Laurel Mtn Rad 86.06 45 P **P 17 02 48.0 +0.5**
baz=228
PETK Petropavlovsk- 86.07 345 P **P 17 02 47.0 +0.1**
comp=Z,7.2nm,0.8s,baz=126,slow=7.5,SNR=12
PETK LR LR 17 42 58.2
comp=Z,68nm,18.3s,baz=232,slow=37
BELC Belle Mtn. Jos 86.13 47 P **P 17 02 48.3 +0.4**
baz=229,SNR=7.8
CMB Columbia Colle 86.20 41 P **P 17 02 49.3 +1.2**
CMB pmax pmax
comp=Z,6.0nm,0.9s
CMB Columbia Colle 86.20 41 P **P 17 02 49.3 +1.2**
BC3 Big Chuckawall 86.25 47 P **P 17 02 49.0 +0.5**
baz=230,SNR=8.5
GLA Glamis 86.26 48 P **P 17 02 48.7 +0.3**
baz=230
O02D Mt. Diablo Mer 86.37 39 P **P 17 02 50.3 +1.4**
baz=225
HEC Hector Ludlow 86.46 46 P **P 17 02 50.0 +0.5**
baz=229
CWC Cottonwood Cre 86.46 44 P **P 17 02 50.6 +1.0**
baz=228
GSC Goldstone, Bar 86.48 45 P **P 17 02 50.6 +1.1**
baz=229,SNR=6.9
GSC Goldstone, Bar 86.48 45 P **P 17 02 49.9 +0.3**
GSC pmax pmax
comp=Z,19nm,1.4s
GSC Goldstone, Bar 86.48 45 P **P 17 02 49.9 +0.3**
GSC IAmb IAmb 17 03 09.9
comp=Z,19nm,1.4s
AFDM Forest Hills D 86.50 40 P **P 17 02 49.7 +0.2**
MPMC Manual Prospec 86.56 44 P **P 17 02 50.8 +0.7**
baz=228,SNR=8.1
IRM Iron Mountain 86.77 47 P **P 17 02 52.2 +1.3**
baz=230,SNR=7.8
TIN Tinemaha, Big 86.78 43 P **P 17 02 52.0 +1.0**
baz=228
WDC Whiskeytown Da 86.79 38 P **P 17 02 49.1 -1.7**
WDC pmax pmax
comp=Z,31nm,1.5s
WDC Whiskeytown Da 86.79 38 P **P 17 02 49.1 -1.7**
GMRC Granite Mounta 86.85 46 P **P 17 02 52.9 +1.4**
baz=229
214A Organ Pipe Nat 86.88 50 P **P 17 02 51.9 +0.4**
baz=231
214A Organ Pipe Nat 86.88 50 P **P 17 02 52.0 +0.4**
NJ2 Nanjing 86.94 310 *e*P **P 17 02 51.3 -0.5**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
N02D Trinity Center 86.98 38 P **P 17 02 53.2 +1.4**
baz=225
O03E Paynes Creek 86.99 39 P **P 17 02 52.9 +1.0**
baz=225
WAKR Walker 87.06 42 P **P 17 02 53.5 +1.0**
TUQ Turquoise Moun 87.11 46 P **P 17 02 53.8 +1.1**
baz=229
PNTR Pine Nut 87.37 41 P **P 17 02 53.9 -0.1**
PNTR IAmb IAmb 17 03 13.8
comp=Z,12nm,0.9s
PDMCI Parker Dam,Lak 87.50 47 P **P 17 02 56.1 +1.7**
baz=230
YBH Yreka Blue Hor 87.52 37 P **P 17 02 56.0 +1.5**
comp=Z,1.8nm,0.8s,baz=354,slow=6.4,SNR=4.3
YBH LR LR 17 37 31.0
comp=Z,127nm,18.2s,baz=230,slow=32
YBH Yreka Blue Hor 87.52 37 P **P 17 02 56.0 +1.5**
YBH pmax pmax
comp=Z,21nm,1.8s
YBH Yreka Blue Hor 87.52 37 IAmb IAmb 17 05 30.0
comp=Z,21nm,1.8s
NVAR Mina Array Bea 87.67 42 P **P 17 02 56.8 +1.4**
comp=Z,5.5nm,0.9s,baz=221,slow=8.3,SNR=26
NVAR LR LR 17 37 43.7
comp=Z,192nm,18.3s,baz=256,slow=32
RYN Ryan 87.67 42 P **P 17 02 56.2 +0.8**
RYN IAmb IAmb 17 03 03.5
comp=Z,24nm,1.9s
USRK Ussuriysk Ar. 87.68 326 P **P 17 02 54.9 -0.1**
comp=Z,5.7nm,0.8s,baz=114,slow=4.0,SNR=9.0
K02D Willamette Mer 87.71 36 P **P 17 02 56.9 +1.6**
baz=224
NV11 Mina Array Sit 87.75 42 P **P 17 02 56.5 +0.8**
NV11 IAmb IAmb 17 02 59.2
comp=Z,6.9nm,1.1s
TPNV Topopah Spring 87.90 44 P **P 17 02 58.2 +1.7**
baz=229
TPNV Topopah Spring 87.90 44 P **P 17 02 57.4 +0.9**
TPNV pmax pmax
comp=Z,10.0nm,1.1s
TPNV Topopah Spring 87.90 44 P **P 17 02 57.4 +0.9**
TPNV IAmb IAmb 17 03 16.2
comp=Z,10.0nm,1.1s
J01E Myrtle Point 87.91 36 P **P 17 02 58.7 +2.5**
baz=224
Y14A Wickenburg 87.99 48 P **P 17 02 58.2 +1.3**
Y14A IAmb IAmb 17 03 01.0
comp=Z,20nm,1.7s

M04C Macdoel 88.01 38 P **P 17 02 58.5 +1.6**
baz=225
L04D Klamath Falls 88.08 37 P **P 17 02 58.8 +1.6**
baz=225
W13A Hualapai Mount 88.17 47 P **P 17 02 59.1 +1.3**
KVN Kaiserville 88.20 42 P **P 17 02 58.6 +0.7**
KVN pmax pmax
comp=Z,5.0nm,1.0s
KVN Kaiserville 88.20 42 P **P 17 02 58.6 +0.7**
SHPR Sheep Range 88.27 45 P **P 17 02 59.5 +1.2**
SHPR IAmb IAmb 17 03 18.2
comp=Z,14nm,1.4s
TUC Tucson 88.44 51 P **P 17 03 00.9 +1.8**
baz=232
TUC Tucson 88.44 51 P **P 17 02 59.9 +0.8**
TUC pmax pmax
comp=Z,34nm,2.0s
TUC Tucson 88.44 51 P **P 17 02 59.9 +0.8**
J04D Umpqua Nationa 88.90 37 P **P 17 03 03.2 +2.1**
baz=225
MOD Modoc Plateau 88.92 39 P **P 17 03 01.9 +0.7**
K05A Summer Lake 89.17 38 P **P 17 03 03.6 +1.2**
R11A Troy Canyon, C 89.21 44 P **P 17 03 04.1 +1.4**
baz=229
R11A Troy Canyon, C 89.21 44 P **P 17 03 03.7 +1.0**
X16A Lo Mia Camp, P 89.31 49 P **P 17 03 05.1 +1.9**
X16A IAmb IAmb 17 03 07.2
comp=Z,7.7nm,0.9s
J05D Fort Rock, OR 89.39 37 P **P 17 03 05.4 +2.1**
baz=226
LCMT Little Creek M 89.78 46 P **P 17 03 06.3 +1.0**
H04A Detroit Lake 89.88 36 P **P 17 03 05.7 +0.2**
H04A IAmb IAmb 17 03 14.1
comp=Z,22nm,1.4s
PINE Pine Mountain 89.89 37 P **P 17 03 06.5 +0.7**
U15A North Rim 90.01 47 P **P 17 03 07.3 +0.7**
U15A IAmb IAmb 17 03 10.5
comp=Z,10nm,0.9s
KNB Kanab 90.04 46 P **P 17 03 07.8 +1.2**
KNB pmax pmax
comp=Z,25nm,1.4s
KNB Kanab 90.04 46 P **P 17 03 07.8 +1.2**
CCUT Cedar City 90.05 45 P **P 17 03 07.3 +0.6**
I05D Terrebonne, OR 90.07 36 P **P 17 03 08.4 +2.0**
baz=226
KDAK Kodiak Island 90.24 13 LR LR 17 37 25.3
comp=Z,60nm,19.3s,baz=140,slow=32
PSUT Pine Spring 90.37 44 P **P 17 03 08.4 +0.3**
TIA Tai'an 90.64 312 P **P 17 03 09.2 0.0**
TIA pmax pmax
comp=Z,13nm,1.1s
CN2 Changchun 90.71 322 *e*P **P 17 03 09.5 +0.2**
CN2 *e*S **S 17 13 58.9 -4.9**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,16.0s
G05D Wamic, OR 90.72 36 P **P 17 03 11.2 +1.8**
baz=226
GRNR Gornyy 90.72 333 ⇑*i*P **P 17 03 10.2 +1.0**
GRNR pmax pmax
comp=Z,1μm,1.1s
I07A Izee 90.84 37 P **P 17 03 11.3 +1.2**
W18A Petrified Fore 90.84 49 P **P 17 03 12.1 +1.7**
baz=233
W18A Petrified Fore 90.84 49 P **P 17 03 11.3 +0.9**
W18A IAmb IAmb 17 03 15.3
comp=Z,18nm,1.4s
J08A Circle Bar Ran 90.90 38 P **P 17 03 11.5 +1.2**
J08A IAmb IAmb 17 03 23.1
comp=Z,19nm,1.6s
ELK Elko 90.97 42 LR LR 17 35 14.2
comp=Z,160nm,21.1s,baz=235,slow=30
ELK Elko 90.97 42 P **P 17 03 11.8 +0.9**
ELK pmax pmax
comp=Z,13nm,1.9s
ELK Elko 90.97 42 P **P 17 03 11.8 +0.9**
ELK IAmb IAmb 17 03 30.5
comp=Z,13nm,1.9s
MTPU Mount Pierson 91.08 46 P **P 17 03 13.8 +2.2**
D03D Eldon 91.47 33 P **P 17 03 14.7 +1.9**
baz=224
KLR Kul'dur 91.51 329 P **P 17 03 13.3 +0.4**
comp=Z,1.9nm,0.8s,baz=94,slow=3.3,SNR=6.5
KLR Kul'dur 91.51 329 ⇓*i*P **P 17 03 14.2 +1.3**
KLR pmax pmax
comp=Z,9.0nm,1.5s
TX31 Lajitas Ar. Si 91.67 57 P **P 17 03 15.2 +1.0**
TX32 Lajitas Array 91.67 57 P **P 17 03 15.3 +1.1**
TXAR Lajitas Array 91.67 57 P **P 17 03 15.6 +1.4**
comp=Z,1.6nm,1.0s,baz=216,slow=6.2,SNR=8.3
TXAR LR LR 17 34 57.3
comp=Z,115nm,21.6s,baz=0.0,slow=29
MNTX Cornudas Mount 91.78 54 P **P 17 03 16.0 +1.4**
baz=235
MNTX Cornudas Mount 91.78 54 P **P 17 03 14.7 +0.1**
CMIG Matias Romero 91.92 71 LR LR 17 34 16.7
comp=Z,72nm,21.9s,baz=204,slow=29
G08A Pilot Rock 91.95 37 P **P 17 03 15.7 +0.5**
G08A IAmb IAmb 17 03 18.6
comp=Z,7.8nm,1.0s
GYA Guiyang 92.34 299 *e*P **P 17 03 19.9 +2.5**
GYA pmax pmax
comp=Z,6.0nm,1.0s
ENH Enshi 92.35 304 P **P 17 03 16.3 -1.0**
MFID Camas Ranch 92.38 40 P **P 17 03 17.6 +0.4**
MFID IAmb IAmb 17 03 20.5
comp=Z,7.7nm,1.1s
HAWA Hanford 92.41 36 P **P 17 03 18.4 +1.2**
TMUT Trail Mountain 92.46 45 P **P 17 03 18.2 +0.3**
BMO Blue Mountains 92.52 38 P **P 17 03 17.3 -0.5**
BMO pmax pmax
comp=Z,4.0nm,1.1s
BMO Blue Mountains 92.52 38 P **P 17 03 17.3 -0.5**
BBB Bella Bella 92.71 28 LR LR 17 38 58.3
comp=Z,121nm,18.9s,baz=208,slow=32
RSO Redoubt South 92.72 12 P **P 17 03 20.0 +1.5**
ANMO Albuquerque 92.91 51 P **P 17 03 21.2 +1.2**
baz=235
ANMO Albuquerque 92.91 51 ⇓*i*P **P 17 03 21.5 +1.5**
ANMO pmax pmax
comp=Z,3.0nm,1.1s
E09A Wood Farm, Sta 93.20 36 P **P 17 03 22.0 +1.3**
E09A IAmb IAmb 17 03 24.4
comp=Z,10nm,1.3s
HLID Hailey 93.26 40 P **P 17 03 23.0 +1.7**
baz=230
HLID Hailey 93.26 40 P **P 17 03 22.5 +1.2**
F10A Beach Ranch, E 93.31 37 P **P 17 03 21.6 +0.1**
F10A IAmb IAmb 17 03 26.5
comp=Z,5.2nm,0.7s
CMAR Chiang Mai Arr 94.25 289 P **P 17 03 26.1 -0.2**
comp=Z,1.6nm,0.8s,baz=143,slow=3.4,SNR=7.4
CMAR LR LR 17 47 34.1
comp=Z,74nm,18.2s,baz=216,slow=37
CMAR Chiang Mai Arr 94.25 289 *i*P **P 17 03 26.6 +0.3**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
S22A 4UR Ranch, Cre 94.28 48 P **P 17 03 27.6 +1.3**
baz=235
BCYI Bear Canyon 94.30 40 P **P 17 03 27.0 +0.8**
KMI Kunming 94.63 296 ⇑*i*P **P 17 03 29.5 +1.3**
KMI pP pP 17 03 34.1 -0.3
KMI pmax pmax
comp=Z,5.0nm,0.5s
KMI pmax pmax
comp=Z,69nm,5.1s
MCMT McKenzie Canyo 94.93 40 P **P 17 03 29.7 +0.6**
FXWY Fox Creek 95.22 42 P **P 17 03 30.9 +0.4**
IMW Indian Meadow 95.43 42 P **P 17 03 31.8 +0.3**
IMW IAmb IAmb 17 03 51.4
comp=Z,14nm,1.8s
BW06 Boulder Array 95.55 43 P **P 17 03 33.1 +1.1**
baz=233
PDAR Pinedale Array 95.55 43 P **P 17 03 32.0 0.0**
comp=Z,0.6nm,0.8s,baz=224,slow=4.1,SNR=4.5
PDAR LR LR 17 38 15.2
comp=Z,131nm,20.7s,baz=251,slow=30
BOZ Bozeman (W) 96.08 40 P **P 17 03 35.8 +1.6**
baz=232
CD2 Chengdu 96.86 302 *e*P **P 17 03 37.0 -1.0**

CD2 pmax pmax
comp=Z,10.0nm,0.5s
JTS Las Juntas de 96.86 82 LR LR 17 41 49.5
comp=Z,123nm,18.1s,baz=301,slow=32
HHC Hu-ho-hao-te 96.89 314 *e*P **P 17 03 37.2 -0.8**
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,67nm,5.6s
LPAZ La Paz 97.32 114 P Pdif 17 03 43.0 +1.8
comp=Z,0.9nm,0.8s,baz=199,slow=1.2,SNR=3.9
LPAZ LR LR 17 40 40.8
comp=Z,54nm,19.0s,baz=282,slow=31
LPAZ La Paz 97.32 114 P Pdif 17 03 43.0 +1.7
LPAZ pmax pmax
comp=Z,4.0nm,1.3s
LPAZ La Paz 97.32 114 IAmb IAmb 17 07 08.7
comp=Z,4.2nm,1.3s
ILAR Eielson Array 97.76 13 P Pdif 17 03 43.2 +2.0
comp=Z,0.3nm,0.5s,baz=288,slow=3.6,SNR=2.8
ILAR LR LR 17 45 10.6
comp=Z,46nm,18.2s,baz=209,slow=34
TEIG Tepich 98.91 72 LR LR 17 39 45.6
comp=Z,35nm,21.0s,baz=49,slow=30
CPUP Villa Florida 99.27 128 LR LR 17 44 27.7
comp=Z,148nm,18.0s,baz=225,slow=33
Y55A Saluda 110.13 62 P **PKiKP 17 08 39.2 +0.7**
baz=246
V54A Nebo 110.79 60 P **PKiKP 17 08 40.5 +0.8**
baz=247
WMQ Urumqi 113.94 308 *e*PKP **PKiKP 17 08 46.1 +0.6**
O58A Lewisberry 116.05 57 P **PKiKP 17 08 50.0 +0.4**
baz=251
MKAR Makanchi Array 118.47 310 PKP **PKPdf 17 08 52.5 -1.6**
comp=Z,0.5nm,0.8s,baz=96,slow=1.2,SNR=4.9
MKAR Makanchi Array 118.47 310*c* *i*PKIKP **PKPdf 17 08 52.9 -1.2**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 121.71 314 PKIKP **PKPdf 17 08 58.3 -1.8**
KURK Kurchatov 121.71 314 **PKPdf 17 08 58.3 -1.8**
KK31 Karatay Array 125.83 303 PKIKP **PKPdf 17 09 06.2 -2.1**
KK31 Karatay Array 125.83 303 **PKPdf 17 09 06.2 -2.1**
KKAR Karatay Array 125.83 303 PKIKP **PKPdf 17 09 06.3 -2.1**
KKAR Karatay Array 125.83 303 **PKPdf 17 09 06.2 -2.1**
BRVK Borovoye 127.11 316 ⇓*i*PKIKP **PKPdf 17 09 10.5 +0.1**
ARU Arti 133.68 321 ⇓*i*PKIKP **PKiKP 17 09 24.9 +0.9**
GEYT Alibeck 134.37 295 PKP **PKPdf 17 09 23.7 -1.0**
comp=Z,1.7nm,0.7s,baz=54,slow=2.5,SNR=2.2
PRGR Permogore 138.28 331 *e*PKIKP **PKiKP 17 09 33.3 +0.1**
PRGR pmax pmax
comp=Z,8.0nm,0.7s
ARCES ARCESS Array B 138.81 348 PKP **PKPdf 17 09 32.0 0.0**
comp=Z,5.0nm,0.8s,baz=27,slow=1.4,SNR=8.3
KLMR Klimovskoe 141.21 332 *e*PKIKP **PKPdf 17 09 36.8 +0.3**
KLMR pmax pmax
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 141.21 332 *e*PKPdf **PKPdf 17 09 36.9 +0.4**
KLMR AMP 17 09 50.9
comp=Z,7.0nm,1.0s
GROC Groznyy 143.84 303 *e*PKIKP PKPbc 17 09 39.4 -0.1
GROC *e* 17 16 49.8
GROC pmax pmax
comp=Z,13nm,0.4s
MOS Moscow 144.86 326 *e*PKIKP **PKPab 17 09 41.4 -0.8**
ZEI Tsey 145.27 302 *i* PKIKP **PKPbc 17 09 43.7 -0.6**
ZEI pmax pmax
comp=Z,21nm,0.9s
FIA1 FINESS Array S 145.47 341 **PKPdf 17 09 42.9 -1.1**
FINES FINESS Array B 145.47 341 PKPbc **PKPdf 17 09 43.1 -0.8**
comp=Z,25nm,0.7s,baz=64,slow=4.4,SNR=74
GOF Gofitskoye 145.52 306⇑*e*PKIKP **PKPab 17 09 45.6 +0.6**
OBN Obninsk 145.70 326*d* *i*PKIKP **PKPdf 17 09 44.3 -0.2**
OBN *e* 17 13 12.2
OBN *e*SS SS 17 31 58.2 +0.5
OBN pmax pmax
comp=Z,94nm,2.1s
OBN Obninsk 145.70 326 **PKPdf 17 09 43.5 -1.0**
LPSR Galich'ya Gora 145.70 321 *e*PKIKP **PKPdf 17 09 44.6 -0.1**
LPSR pmax pmax
comp=Z,40nm,1.0s
KBZ Khabaz 145.86 304 PKPbc **PKPab 17 09 46.2 -0.1**
comp=Z,6.1nm,0.9s,baz=210,slow=3.1,SNR=11
KIV Kislovodsk 145.98 305 *i* PKP2 **PKiKP 17 09 49.3 -0.4**
KIV pmax pmax
comp=Z,41nm,0.9s
KIV MLR MLR
comp=Z,287nm,24.0s
VSR Storozhevoye 146.15 318 *e*PKP2 **PKPdf 17 09 45.6 +0.1**
VSR pmax pmax
comp=Z,20nm,1.0s
VORD Divnogorie 146.18 318 *e*PKIKP **PKPdf 17 09 44.8 -0.7**
VORD pmax pmax
comp=Z,10.0nm,0.6s
NOA NORSAR Array B 148.91 352 PKPbc **PKPbc 17 09 53.7 -0.2**
comp=Z,5.6nm,0.9s,baz=32,slow=2.1,SNR=6.3
IZAR Zarasai 149.82 334 *e*P **PKiKP 17 09 56.8 -0.4**
IDID Didziasalis 149.95 333 *e*P **PKPbc 17 09 54.7 -1.8**
ISAL Salakas 150.00 334 *e*P **PKPbc 17 09 55.4 -1.2**
MIGM Minsk 150.05 331 *e* **PKPab 17 10 01.0 -1.6**
MNK Minsk 150.05 331 *e*PKP2 **PKPab 17 10 01.0 -1.6**
PABE Paberze 150.86 335 *e*P **PKPbc 17 09 57.9 -0.7**
AKASG Malin Array Be 151.86 323 PKPbc **PKPbc 17 09 59.2 -1.9**
comp=Z,6.9nm,0.7s,baz=49,slow=2.9,SNR=24
AKBB Malin Array Si 151.86 323 PKIKP **PKPbc 17 10 00.4 -0.7**
AKBB Malin Array Si 151.86 323 **PKPbc 17 10 00.4 -0.7**
BRTR Keskin Array B 153.39 299 PKPbc **PKPbc 17 10 05.1 0.0**
comp=Z,1.2nm,0.6s,baz=213,slow=3.8,SNR=4.6
BRTR PKPab **PKPab 17 10 16.2 -1.1**
comp=Z,5.0nm,0.8s,baz=127,slow=2.4,SNR=13
BUR08 Bucovina Ar. S 155.80 321 **PKPab 17 10 26.4 -0.8**
KOLS Kolonicke sedl 156.44 327 *e*PKP2 **PKPab 17 10 30.1 +0.3**
KOLS Kolonicke sedl 156.44 327 *e*PKP **PKPab 17 10 30.1 +0.3**
UZH Uzhgorod 156.64 326 *e*PKIKP **PKPdf 17 10 01.7 +0.3**
UZH *e* 17 10 27.5
DPC Dobruska-Polom 157.74 337 *e*pPKP PKPab 17 10 44.8 +9.4
DPC *ex* x 17 10 52.7
CLL Collm 157.86 343 *i* PKPdf **PKPdf 17 10 05.1 +2.2**
CLL *i* PKPdiff **sPKPdf 17 10 16.4 +5.5**
CLL *i* PKPab **PKPab 17 10 36.0 +0.2**
comp=Z,3.0nm,0.8s
CLL *i* 17 10 44.8
comp=Z,12nm,1.1s
CLL *i* 17 10 53.5
comp=Z,8.0nm,1.0s
CLL L L 18 25 00.0
comp=Z,100nm,20.2s
CLL Collm 157.86 343 *i* PKP2 **PKPab 17 10 36.0 +0.2**
CLL pmax pmax
comp=Z,3.0nm,0.8s
VYHS Vyhne 158.30 331 *e*PKP2 **PKPab 17 10 39.8 +2.0**
VYHS Vyhne 158.30 331 *e*PKP **PKPab 17 10 39.8 +2.0**
GOPC GO Pecny, Ondr 158.62 339 *e*PKP2 **PKPab 17 10 39.8 +0.7**
GOPC GO Pecny, Ondr 158.62 339 *e*PKPAB **PKPab 17 10 39.8 +0.7**
GOPC *ex* x 17 10 48.6
PRU Pruhonice 158.63 339 *e*pPKP PKPab 17 10 48.2 +9.1
PBCC Pribram 159.06 340 *e*PKPAB **PKPab 17 10 40.5 -0.6**
PBCC *ex* x 17 10 50.5
KHC Kasperske Hory 159.68 340 *e*PKP2 **PKPab 17 10 43.8 0.0**
KHC Kasperske Hory 159.68 340 *e*PKPAB **PKPab 17 10 43.8 0.0**
KHC *ex* x 17 10 52.9
KHC Kasperske Hory 159.68 340 PKPab **PKPab 17 10 43.8 0.0**
VTS Vitosha 159.77 312 PKP2 **PKPab 17 10 44.0 -0.6**
VTS Vitosha 159.77 312 **PKPab 17 10 44.0 -0.6**
GERES GERESS Array B 159.89 339 PKP **PKPdf 17 10 08.7 +3.1**
comp=Z,0.1nm,0.3s,baz=57,slow=2.7,SNR=1.8
GERES PKPab **PKPab 17 10 45.0 +0.1**
comp=Z,0.6nm,0.7s,baz=35,slow=4.9,SNR=4.2
ARSA Arzberg 160.63 334 *i* PKPab **PKPab 17 10 46.9 -1.1**
comp=Z,4.0nm,1.1s
SOKA Soboth 161.29 333 *i* PKPab **PKPab 17 10 50.7 -0.3**
comp=Z,7.4nm,1.8s
OBKA Obir 161.62 334 *i* PKPab **PKPab 17 10 49.8 -2.6**
comp=Z,5.2nm,1.2s
WATA Walderalm 161.88 341 *i* PKPab **PKPab 17 10 54.1 +0.6**
comp=Z,14nm,1.5s
WTTA Wattenberg 161.93 341 *i* PKPab **PKPab 17 10 53.0 -0.8**
comp=Z,5.2nm,0.7s
RETA Reutte 161.96 343 *i* PKPab **PKPab 17 10 53.2 -0.6**
comp=Z,6.0nm,0.9s
MOTA Moosalm 162.00 342 *i* PKPab **PKPab 17 10 54.0 -0.1**
comp=Z,16nm,1.1s
PRED Cave del Predi 162.04 336 PKPab **PKPab 17 10 53.4 -0.9**
SQTA Sankt Quirin 162.08 342 *i* PKPab **PKPab 17 10 54.3 -0.1**
comp=Z,11nm,1.0s
ABTA Abfaltersbach 162.12 338 *i* PKPab **PKPab 17 10 55.6 +1.0**

	comp=Z,3.6nm,0.8s							
DAVA	**Damuels**	**162.36**	**344**	*i* PKPab	**PKPab**	**17**	**10**	**55.4 -0.3**
	comp=Z,5.0nm,0.7s							
FETA	**Feichten**	**162.40**	**342**	*i* pPKPab	**PKPab**	**17**	**10**	**57.2 +1.3**
	comp=Z,6.0nm,1.1s							
TORD	**Torodi Ar. Bea**	**162.75**	**176**	PKP	**PKPdf**	**17**	**10**	**10.2 +0.7**
	comp=Z,1.0nm,0.9s,baz=358,slow=2.2,SNR=4.5							
TORD				PKPab	**PKPab**	**17**	**10**	**58.2 +0.3**
	comp=Z,1.7nm,0.7s,baz=191,slow=3.6,SNR=4.0							
FUORN	**Ofenpass-Fuorn**	**162.89**	**343**		**PKPab**	**17**	**10**	**57.9 -0.3**
TUE	**Stuetta**	**163.25**	**345**		**PKPab**	**17**	**10**	**59.0 -0.6**
ESDC	**Sonseca Array**	**169.15**	**30**	PKP	**PKPdf**	**17**	**10**	**18.9 +5.0**
	comp=Z,0.7nm,0.9s,baz=318,slow=1.7,SNR=4.3							
ESDC				PKPab	**PKPab**	**17**	**11**	**24.7 -1.1**
	comp=Z,0.6nm,0.7s,baz=324,slow=6.3,SNR=2.3							

*NNC **04** 16:51:10.8±6.3,48.80N×85.46E,h0km,mb2.4,mpv2.1, Error ellipse: s-maj=46.0km s-min=31.7km az=76.0*

SOME 04 16:51:08.9,46.10N×86.17E,h10km,2C-3D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**1.62**	**327**	*e*P	Pg	16 51 42.1	+2.1
	3.2nm,0.3s						
ZSN				*e*S	Sg	16 52 05.5	+4.5
	4.5nm,0.2s						
MK31	**Makanchi Array**	**2.77**	**286**	⇓Pg	Pg	16 52 04.9	+2.9
	0.1nm,0.2s,baz=50,slow=13,SNR=40						
MK31				⇑Lg	Lg	16 52 45.2	
	0.5nm,0.3s,baz=56,slow=25,SNR=6.0						
MAKZ	**Makanchi**	**2.98**	**285**	⇓Pg	Pg	16 52 06.5	+0.5
	0.5nm,0.3s						
MAKZ				⇓Lg	Lg	16 52 47.8	
	0.8nm,0.4s						
KAPS	**Kapalarasan**	**4.84**	**263**	*e*P	Pg	16 52 38.7	-2.9
	0.6nm,0.4s						
KAPS				*e*S	Sg	16 53 43.8	-0.4
	1.0nm,0.3s						
KURK	**Kurchatov**	**6.82**	**315**	⇑Lg	Lg	16 53 43.5	
	2.3nm,0.5s						

*KRSC **04** 16:53:04.8±1.6,54.93N×165.44E,h33km±11km,ML4.0*
*IDC **04** 16:53:05.3±1.9,55.03N×165.61E,h0km,mb3.4/4, mb1 3.7/5,mb1mx3.4/48,mbtmp3.4/5,ML3.1/1,MS3.3/3, Ms1 3.3/3,ms1mx2.7/48, Error ellipse: s-maj=97.2km s-min=23.9km az=166.0*

ISC 04 16:53:06.8±1.4,55.00N±0.05×165.51E±0.08,h16km±11km, n51,σ1§42/68,mb3.4/4,MS3.3/3,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.33**	**52**	*e*P	**Pg**	**16 53 13.4**	**-0.3**
BKI				*e*S	**Sg**	**16 53 18.3**	**-0.1**
KBTR	**Krutoberegovo**	**1.95**	**309**	*e*P	**Pn**	**16 53 36.6**	**-2.6**
KBTR				*e*S	**Sn**	**16 54 00.6**	**-2.7**
KBG	**Krutoberegovo**	**2.03**	**309**	*e*P	**Pn**	**16 53 38.2**	**-2.1**
KBG				*e*S	**Sn**	**16 54 02.5**	**-2.8**
SMKR	**Semkarok**	**2.78**	**306**	*e*P	**Pn**	**16 53 50.8**	**+0.1**
SMKR				*e*S	**Sn**	**16 54 23.6**	**-0.3**
BDR	**Baidarnaya**	**2.89**	**305**	*e*P	**Pn**	**16 53 52.4**	**+0.1**
BDR				*e*S	**Sn**	**16 54 27.6**	**+0.8**
CIRR	**Tsirk**	**2.93**	**294**	*e*S	**Sn**	**16 54 27.8**	**+0.1**
TUMD	**Tumrok D**	**2.95**	**276**	*e*P	**Pn**	**16 53 53.1**	**+0.2**
TUMD				*e*S	**Sn**	**16 54 27.1**	**-0.9**
SRKR	**Sorokina**	**2.96**	**306**	*e*P	**Pn**	**16 53 52.3**	**-0.9**
KZV	**Kizimen**	**3.00**	**274**	*e*P	**Pn**	**16 53 53.8**	**-0.1**
BZWR	**Bezymyannyi-We**	**3.01**	**291**	*e*P	**Pn**	**16 53 55.2**	**+1.2**
KLY	**Klyuchi**	**3.05**	**297**	*e*P	**Pn**	**16 53 53.5**	**-0.9**
KLY				*e*S	**Sn**	**16 54 27.8**	**-2.7**
KRSR	**Krestovskiy**	**3.06**	**295**	*e*P	**Pn**	**16 53 54.9**	**+0.3**
KRSR				*e*S	**Sn**	**16 54 30.7**	**-0.2**
KIRR	**Kirishev**	**3.09**	**290**	*e*P	**Pn**	**16 53 56.2**	**+1.1**
KIRR				*e*S	**Sn**	**16 54 32.5**	**+0.7**
TUMR	**Tumrok**	**3.09**	**277**	*e*P	**Pn**	**16 53 55.7**	**+0.6**
TUMR				*e*S	**Sn**	**16 54 31.4**	**-0.4**
KMNR	**Kamenistaya**	**3.10**	**286**	*e*P	**Pn**	**16 53 55.4**	**+0.2**
KMNR				*e*S	**Sn**	**16 54 32.1**	**+0.1**
KPT	**Kopyto**	**3.16**	**290**	*e*P	**Pn**	**16 53 56.5**	**+0.5**
KOZ	**Kozyrevsk**	**3.38**	**291**	*e*P	**Pn**	**16 53 59.4**	**+0.6**
SRDR	**Sredinnyy**	**3.54**	**294**	*e*P	**Pn**	**16 54 02.0**	**+0.9**
KII	**Karymskiy**	**3.67**	**257**	*e*P	**Pn**	**16 54 03.2**	**+0.3**
KII				*e*S	**Sn**	**16 54 45.1**	**-0.7**
SPN	**Mys Shipunski**	**3.76**	**242**	*e*P	**Pn**	**16 54 03.2**	**-0.9**
SPN				*e*S	**Sn**	**16 54 44.9**	**-3.0**
ESO	**Esso**	**3.99**	**286**	*e*P	**Pn**	**16 54 08.2**	**+0.9**
NLC	**Nalytchevo**	**4.07**	**246**	*e*P	**Pn**	**16 54 08.4**	**+0.1**
NLC				*e*S	**Sn**	**16 54 53.2**	**-2.4**
SMAR	**Somma**	**4.32**	**249**	*e*P	**Pn**	**16 54 12.7**	**+0.8**
SMAR				*e*S	**Sn**	**16 55 01.2**	**-0.8**
KRER	**Koryakskii**	**4.33**	**250**	*e*P	**Pn**	**16 54 13.0**	**+0.9**
UGLR	**Uglovaya**	**4.33**	**248**	*e*P	**Pn**	**16 54 13.1**	**+1.1**
UGLR				*e*S	**Sn**	**16 55 00.8**	**-1.4**
AVH	**Avacha**	**4.35**	**249**	*e*P	**Pn**	**16 54 13.5**	**+1.2**
AVH				*e*S	**Sn**	**16 55 01.0**	**-1.6**
KRX	**Arik**	**4.36**	**251**	*e*P	**Pn**	**16 54 12.8**	**+0.4**
KRX				*e*S	**Sn**	**16 55 01.3**	**-1.6**
KOK	**Koryaka**	**4.39**	**250**	*e*P	**Pn**	**16 54 14.0**	**+1.1**
DALK	**Dalny**	**4.45**	**246**	*e*P	**Pn**	**16 54 13.9**	**+0.3**
DALK				*e*S	**Sn**	**16 55 02.6**	**-2.4**
KRMR	**Karymshinskiy**	**4.88**	**247**	*e*P	**Pn**	**16 54 21.1**	**+1.7**
KRMR				*e*S	**Sn**	**16 55 14.2**	**-1.3**
RUS	**Russkaya**	**4.89**	**241**	*e*P	**Pn**	**16 54 19.6**	**0.0**
RUS				*e*S	**Sn**	**16 55 12.5**	**-3.3**
PETK	**Petropavlovsk-**	**4.98**	**251**	Pn	**Pn**	**16 54 22.0**	**+1.1**
	3.7nm,0.3s,baz=77,slow=18,SNR=85						
PETK				Sn	**Sn**	**16 55 18.1**	**+0.1**
	1.5nm,0.3s,baz=225,slow=25,SNR=2.2						
MTVR	**Mutnovka**	**5.03**	**243**	*e*P	**Pn**	**16 54 22.5**	**+0.8**
MTVR				*e*S	**Sn**	**16 55 16.6**	**-2.9**
GRL	**Gorelyy**	**5.05**	**244**	*e*P	**Pn**	**16 54 22.7**	**+0.8**
GRL				*e*S	**Sn**	**16 55 18.6**	**-1.4**
ASAK	**Asacha**	**5.23**	**243**	*e*P	**Pn**	**16 54 25.7**	**+1.3**
ASAK				*e*S	**Sn**	**16 55 23.1**	**-1.2**
APC	**Apacha**	**5.35**	**251**	*e*P	**Pn**	**16 54 27.9**	**+1.9**
KDTR	**Khodutka, Kamc**	**5.48**	**237**	*e*P	**Pn**	**16 54 27.6**	**-0.1**
KDTR				*e*S	**Sn**	**16 55 26.8**	**-3.5**
MIPR	**Malaya Ipel'ka**	**5.88**	**246**	*e*P	**Pn**	**16 54 34.5**	**+1.3**
ILAR	**Eielson Array**	**25.18**	**48**	P	**P**	**16 58 31.4**	**+0.3**
	0.3nm,0.5s,baz=268,slow=10,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**35.23**	**178**	T	T	17 37 49.7	
	baz=359,slow=76,SNR=51						
H11N3	**WAKE ISLAND Hy**	**35.24**	**178**	T	T	17 37 46.0	
	baz=359,slow=76,SNR=53						
H11N1	**WAKE ISLAND Hy**	**35.25**	**178**	T	T	17 37 42.0	
	baz=359,slow=76,SNR=71						
TLY	**Talaya**	**36.03**	**291**	LR	LR	17 15 51.3	
	comp=Z,48nm,18.9s,baz=166,slow=38						
H11S1	**WAKE ISLAND Hy**	**36.44**	**178**	T	T	17 39 05.3	
	baz=1.8,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**36.45**	**178**	T	T	17 39 13.9	
	baz=1.8						
H11S2	**WAKE ISLAND Hy**	**36.46**	**178**	T	T	17 39 18.8	
	baz=1.8						
SONM	**Songino Array**	**36.56**	**284**	P	**P**	**17 00 13.0**	**+1.3**
	0.4nm,0.6s,baz=67,slow=8.0,SNR=2.2						
NVAR	**Mina Array Bea**	**52.12**	**75**	P	**P**	**17 02 16.9**	**+0.7**
	0.4nm,0.6s,baz=289,slow=8.1,SNR=2.7						
PDAR	**Pinedale Array**	**53.81**	**65**	P	**P**	**17 02 29.2**	**+0.5**
	0.2nm,0.5s,baz=337,slow=5.9,SNR=3.1						
JMIC	**Jan Mayen**	**54.24**	**358**	LR	LR	17 26 26.0	
	comp=Z,14nm,18.4s,baz=44,slow=37						
DAV	**Davao City (W)**	**57.43**	**229**	LR	LR	17 27 17.3	
	comp=Z,46nm,20.8s,baz=156,slow=36						

*IDC **04** 16:54:32.1±4.6,30.52S×176.88W,h0km,mb3.9/4, mb1 4.0/4,mb1mx3.7/33,mbtmp3.9/4, Error ellipse: s-maj=171.5km s-min=50.9km az=154.0*
*NEIC **04** 16:54:33.5±0.4,30.4S±0.3×177.0W±0.2,h10km±2km, mb4.4/7, Error ellipse: s-maj=49.1km s-min=31.7km az=168.0*

ISC 04 16:54:34.7±3.1,30.5S±0.3×176.8W±0.4,h24km,n12, σ1§14/11,mb4.0/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OXZ	**Oxford**	**15.61**	**212**	P	**P**	**16 58 18.0**	**+0.9**
CTA	**Charters Tower**	**34.86**	**278**	P	**P**	**17 01 25.6**	**+1.4**
	4.1nm,0.9s,baz=90,slow=14,SNR=1.7						
STKA	**Stephens Creek**	**35.49**	**257**	P	**P**	**17 01 30.8**	**+1.3**
	1.0nm,0.6s,baz=84,slow=10,SNR=1.5						
STKA	**Stephens Creek**	**35.49**	**257**	IAmb	IAmb	17 01 39.5	
	comp=Z,4.6nm,1.7s						
BBOO	**Buckleboo**	**39.96**	**254**	P	**P**	**17 02 06.7**	**-0.7**
ASAR	**Alice Springs**	**44.16**	**266**	P	**P**	**17 02 40.6**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=104,slow=6.8,SNR=2.1						
WR0	**Warramunga Arr**	**44.98**	**272**	P	**P**	**17 02 47.6**	**-0.7**
WB2	**Warramunga Arr**	**45.15**	**272**	P	**P**	**17 02 48.8**	**-0.8**
WRA	**Warramunga Arr**	**45.16**	**272**	P	**P**	**17 02 48.9**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=113,slow=7.3,SNR=3.8						
WB0	**Warramunga Arr**	**45.18**	**272**	P	**P**	**17 02 49.0**	**-0.9**
WB0				IAmb	IAmb	17 04 00.9	
	comp=Z,19nm,1.4s						
NWAO	**Narrogin (SRO)**	**55.35**	**249**	P	**P**	**17 04 05.7**	**-1.2**
FINES	**FINESS Array B**	**145.59**	**341**	PKPbc	**PKPab**	**17 14 11.1**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=66,slow=3.2,SNR=8.8						

*NEIC **04** 16:59:29.1±2.7,47.66N±0.1×93.13W±0.05,h0km±2km, mb_Lg2.7/37,Error ellipse: s-maj=20.5km s-min=3.9km az=347.0*
*IDC **04** 16:59:33.0±4.3,47.52N×93.22W,h0km,mb1 2.6/1, mb1mx2.6/42,mbtmp2.6/1,ML1.1/1,Error ellipse: s-maj=72.3km s-min=29.6km az=59.0*

ISC 04 16:59:27.6±0.9,47.55N±0.05×93.21W±0.05,h0km,n27, σ1§28/12,Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EYMN	**Ely**	**1.22**	**71**		**Pn**	**16 59 52.1**	**+0.1**
EYMN				Sg	**Sb**	**17 00 07.4**	**-0.6**
E38A	**The Farm, Brul**	**1.48**	**129**		**Pb**	**16 59 55.2**	**-0.7**
E38A				IAmb_Lg		17 00 15.0	
	comp=Z,44nm,0.7s						
F36A	**Milaca**	**1.71**	**187**		**Pb**	**16 59 59.0**	**-0.9**
SPMN	**Marine on St.**	**2.35**	**173**	Pn	**Pb**	**17 00 09.5**	**-1.3**
D32A	**Dogwood Acres,**	**2.62**	**262**		**Sg**	**17 00 53.2**	**+1.3**
F33A	**5 Mile Ranch,**	**2.73**	**232**	Pn	**Pb**	**17 00 15.5**	**-1.8**
F33A				IAmb_Lg		17 00 56.0	
	comp=Z,17nm,0.9s						
G40A	**Rib Lake**	**3.09**	**137**		**Pn**	**17 00 18.0**	**+0.3**
COWI	**Conover**	**3.15**	**116**	IAmb_Lg		17 01 06.1	
	comp=Z,20nm,0.8s						
ULM	**Lac du Bonnet**	**3.22**	**328**	Pn	**Pb**	**17 00 23.9**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=139,slow=6.4,SNR=1.6						
ULM				Pg	**Pg**	**17 00 31.0**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=139,slow=17,SNR=2.6						
ULM				Sn	**Sn**	**17 00 57.9**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=71,slow=3.7,SNR=3.0						
ULM				Lg	Lg	17 01 13.4	
	comp=Z,2.1nm,0.3s,baz=240,slow=22,SNR=9.9						
I10CA	**LAC DU BONNET**	**3.24**	**326**	*i*		17 19 50.0	
	baz=144,slow=314,SNR=4.7						
I37A	**Lemond, Waseca**	**3.54**	**182**	IAmb_Lg		17 01 31.6	
	comp=Z,17nm,1.0s						
F42A	**Maple Grove Fa**	**3.93**	**115**	IAmb_Lg		17 01 30.4	
	comp=Z,15nm,0.7s						
I40A	**Norwalk**	**4.09**	**153**	IAmb_Lg		17 01 40.6	
	comp=Z,11nm,0.8s						
MDND	**Maddock**	**4.33**	**276**	IAmb_Lg		17 01 49.7	
	comp=Z,14nm,0.7s						
E43A	**Lone Tree Farm**	**4.41**	**103**	Pn	**Pn**	**17 00 36.4**	**+0.5**
ECSD	**EROS Data Cent**	**4.50**	**213**	IAmb_Lg		17 01 52.3	
	comp=Z,11nm,0.9s						
H43A	**Windswept, Lux**	**4.88**	**127**	IAmb_Lg		17 02 13.1	
	comp=Z,16nm,0.8s						
K38A	**Parkersburg**	**4.92**	**176**	IAmb_Lg		17 02 18.4	
	comp=Z,14nm,0.9s						
JFWS	**Jewell Farm**	**5.09**	**155**	IAmb_Lg		17 02 18.7	
	comp=Z,11nm,0.8s						
L40A	**Anamosa**	**5.67**	**165**	IAmb_Lg		17 02 30.6	
	comp=Z,11nm,0.9s						
K43A	**Burlington**	**5.95**	**143**	IAmb_Lg		17 02 33.4	
	comp=Z,16nm,0.9s						
L42A	**Oliver, Polo**	**6.09**	**154**	IAmb_Lg		17 02 38.2	
	comp=Z,12nm,0.8s						
N35A	**Tabor**	**6.92**	**196**	IAmb_Lg		17 03 18.8	
	comp=Z,12nm,1.0s						
N41A	**Harden Midland**	**7.05**	**165**	IAmb_Lg		17 03 11.8	
	comp=Z,11nm,0.9s						
SFIN	**Lafayette**	**8.42**	**146**	IAmb_Lg		17 04 15.1	
	comp=Z,10nm,0.7s						
K50A	**Casco**	**8.87**	**119**	IAmb_Lg		17 04 25.1	
	comp=Z,11nm,0.8s						
I56US	**NEWPORT INFRAS**	**16.04**	**281**	*i*		18 32 10.0	
	baz=85,slow=313,SNR=2.1						

*KRSC **04** 17:02:45.0±1.6,54.95N×165.51E,h40km±14km,ML4.0*
*IDC **04** 17:02:45.0±1.7,54.34N×165.75E,h0km,mb3.5/4, mb1 3.9/5,mb1mx3.4/49,mbtmp3.6/5,ML3.2/1,Error ellipse: s-maj=88.1km s-min=21.0km az=169.0*

ISC 04 17:02:47.2±1.6,55.02N±0.05×165.46E±0.07,h11km±12km, n45,σ1§49/67,mb3.6/4,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.35**	**57**	*i* P	**Pg**	**17 02 53.8**	**-0.3**
BKI				*e*S	**Sg**	**17 02 58.7**	**-0.1**
KBTR	**Krutoberegovo**	**1.92**	**310**	*e*P	**Pn**	**17 03 16.8**	**-2.9**
KBTR				*e*S	**Sn**	**17 03 39.6**	**-4.1**
KBG	**Krutoberegovo**	**1.99**	**310**	*e*P	**Pn**	**17 03 18.0**	**-2.7**
KBG				*e*S	**Sn**	**17 03 43.2**	**-2.4**
SMKR	**Semkarok**	**2.75**	**306**	*e*P	**Pn**	**17 03 30.1**	**-1.0**
SMKR				*e*S	**Sn**	**17 04 03.9**	**-0.4**
BDR	**Baidarnaya**	**2.86**	**305**	*e*P	**Pn**	**17 03 32.3**	**-0.4**
BDR				*e*S	**Sn**	**17 04 07.7**	**+0.6**
TUMD	**Tumrok D**	**2.91**	**276**	*e*P	**Pn**	**17 03 34.0**	**+0.6**
TUMD				*e*S	**Sn**	**17 04 08.7**	**+0.4**
SRKR	**Sorokina**	**2.92**	**306**	*e*P	**Pn**	**17 03 33.1**	**-0.5**
KZV	**Kizimen**	**2.97**	**274**	*e*P	**Pn**	**17 03 34.7**	**+0.4**
KZV				*e*S	**Sn**	**17 04 09.8**	**-0.2**
BZWR	**Bezymyannyi-We**	**2.98**	**291**	*e*P	**Pn**	**17 03 34.8**	**+0.4**
KLY	**Klyuchi**	**3.02**	**297**	*e*P	**Pn**	**17 03 33.9**	**-0.9**
KLY				*e*S	**Sn**	**17 04 08.6**	**-2.2**
KRSR	**Krestovskiy**	**3.02**	**295**	*e*P	**Pn**	**17 03 34.5**	**-0.5**
KRSR				*e*S	**Sn**	**17 04 10.9**	**-0.3**
KIRR	**Kirishev**	**3.06**	**290**	*e*P	**Pn**	**17 03 36.1**	**+0.6**
TUMR	**Tumrok**	**3.06**	**277**	*e*P	**Pn**	**17 03 36.3**	**+0.8**
TUMR				*e*S	**Sn**	**17 04 12.7**	**+0.6**
KMNR	**Kamenistaya**	**3.07**	**286**	*e*P	**Pn**	**17 03 36.6**	**+1.0**
KMNR				*e*S	**Sn**	**17 04 12.3**	**0.0**
KPT	**Kopyto**	**3.13**	**290**	*e*P	**Pn**	**17 03 37.2**	**+0.8**
KPT				*e*S	**Sn**	**17 04 13.6**	**-0.1**
KOZ	**Kozyrevsk**	**3.34**	**290**	*e*P	**Pn**	**17 03 40.5**	**+1.2**
SRDR	**Sredinnyy**	**3.50**	**294**	*e*P	**Pn**	**17 03 42.2**	**+0.7**
KII	**Karymskiy**	**3.64**	**257**	*e*P	**Pn**	**17 03 44.0**	**+0.6**
KII				*e*S	**Sn**	**17 04 25.3**	**-1.0**
SPN	**Mys Shipunski**	**3.74**	**241**	*e*P	**Pn**	**17 03 43.7**	**-1.0**
SPN				*e*S	**Sn**	**17 04 25.3**	**-3.3**
ESO	**Esso**	**3.95**	**286**	*e*P	**Pn**	**17 03 48.3**	**+0.6**
NLC	**Nalytchevo**	**4.05**	**245**	*e*P	**Pn**	**17 03 48.8**	**-0.1**
NLC				*e*S	**Sn**	**17 04 34.1**	**-2.1**
SMAR	**Somma**	**4.29**	**249**	*e*P	**Pn**	**17 03 53.0**	**+0.5**
SMAR				*e*S	**Sn**	**17 04 41.5**	**-1.1**
KRER	**Koryakskii**	**4.30**	**249**	*e*P	**Pn**	**17 03 53.3**	**+0.7**
KRER				*e*S	**Sn**	**17 04 41.3**	**-1.5**
UGLR	**Uglovaya**	**4.30**	**248**	*e*P	**Pn**	**17 03 53.5**	**+0.9**
UGLR				*e*S	**Sn**	**17 04 41.4**	**-1.4**
AVH	**Avacha**	**4.32**	**249**	*e*P	**Pn**	**17 03 53.6**	**+0.8**
AVH				*e*S	**Sn**	**17 04 42.4**	**-0.8**
KRX	**Arik**	**4.33**	**250**	*e*P	**Pn**	**17 03 53.3**	**+0.3**
KRX				*e*S	**Sn**	**17 04 41.9**	**-1.6**
KOK	**Koryaka**	**4.37**	**249**	*e*P	**Pn**	**17 03 54.4**	**+1.0**
DALK	**Dalny**	**4.43**	**246**	*e*P	**Pn**	**17 03 54.4**	**+0.3**
DALK				*e*S	**Sn**	**17 04 42.9**	**-2.7**
KRMR	**Karymshinskiy**	**4.85**	**246**	*e*P	**Pn**	**17 04 00.5**	**+0.5**
KRMR				*e*S	**Sn**	**17 04 54.1**	**-2.0**
RUS	**Russkaya**	**4.87**	**241**	*e*P	**Pn**	**17 04 00.3**	**+0.1**
RUS				*e*S	**Sn**	**17 04 54.2**	**-2.3**
PETK	**Petropavlovsk-**	**4.96**	**250**	Pn	**Pn**	**17 04 02.2**	**+0.8**
	4.6nm,0.3s,baz=77,slow=18,SNR=83						
PETK				Sn	**Sn**	**17 04 58.6**	**-0.1**
	1.5nm,0.3s,baz=110,slow=42,SNR=2.2						
MTVR	**Mutnovka**	**5.01**	**243**	*e*P	**Pn**	**17 04 02.4**	**+0.1**
MTVR				*e*S	**Sn**	**17 04 57.2**	**-3.0**
GRL	**Gorelyy**	**5.03**	**244**	*e*P	**Pn**	**17 04 02.9**	**+0.4**
GRL				*e*S	**Sn**	**17 04 58.8**	**-1.8**
ASAK	**Asacha**	**5.21**	**243**	*e*P	**Pn**	**17 04 05.7**	**+0.7**
ASAK				*e*S	**Sn**	**17 05 03.3**	**-1.7**
KDTR	**Khodutka, Kamc**	**5.46**	**237**	*e*P	**Pn**	**17 04 07.6**	**-0.7**
KDTR				*e*S	**Sn**	**17 05 07.3**	**-3.7**
ILAR	**Eielson Array**	**25.19**	**48**	P	**P**	**17 08 15.2**	**+2.9**
	0.4nm,0.5s,baz=251,slow=8.5,SNR=1.7						
H11N2	**WAKE ISLAND Hy**	**35.24**	**178**	T	T	17 47 16.1	
	baz=359,slow=76,SNR=55						
H11N3	**WAKE ISLAND Hy**	**35.26**	**178**	T	T	17 47 22.2	
	baz=359,slow=76,SNR=42						
H11N1	**WAKE ISLAND Hy**	**35.26**	**178**	T	T	17 47 17.4	
	baz=359,slow=76,SNR=57						
H11S1	**WAKE ISLAND Hy**	**36.46**	**178**	T	T	17 48 48.7	
	baz=7.7,slow=74,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**36.47**	**178**	T	T	17 49 01.3	
	baz=7.7						
H11S2	**WAKE ISLAND Hy**	**36.47**	**178**	T	T	17 48 49.2	
	baz=7.7,slow=74,SNR=4.3						
SONM	**Songino Array**	**36.53**	**284**	P	**P**	**17 09 53.9**	**+1.5**
	0.5nm,0.4s,baz=34,slow=10,SNR=2.0						
NVAR	**Mina Array Bea**	**52.15**	**75**	P	**P**	**17 11 57.6**	**0.0**
	0.5nm,0.6s,baz=291,slow=7.8,SNR=5.0						
TXAR	**Lajitas Array**	**67.00**	**72**	P	**P**	**17 13 39.6**	**-0.4**
	0.4nm,0.6s,baz=300,slow=4.5,SNR=6.6						

*IDC **04** 17:17:23.0±0.5,57.68N×123.01W,h0km,mb3.9/11, mb1 4.1/19,mb1mx3.9/62,mbtmp3.9/19,ML3.5/7,MS3.4/9, Ms1 3.3/9,ms1mx2.9/52,Error ellipse: s-maj=9.4km s-min=6.8km az=129.0*
*PGC **04** 17:17:24.3±0.3,57.56N×122.94W,h5km,ML4.3/10, Mw4.4, 140km south of Fort Nelson, Bc British Columbia, Canada*
*NEIC **04** 17:17:25.1±2.6,57.61N±0.05×122.78W±0.1,h14km±3km, Error ellipse: s-maj=9.9km s-min=6.7km az=119.0*

ISC 04 17:17:24.4±0.9,57.60N±0.03×122.78W±0.04,h9km±6km, n328,σ1§42/333,mb4.4/44,MS3.8/5,British Columbia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NBC5	**NorthernBC 5**	**0.09**	**144**	P	**Pg**	**17 17 26.8**	**-0.1**
NBC5				S	**Sg**	**17 17 29.4**	**+0.8**
NBC6	**NorthernBC 6**	**1.25**	**37**	P	**Pg**	**17 17 48.4**	**+0.3**
NBC6				S	**Sg**	**17 18 06.2**	**+1.6**
BMBC	**Bull Mountain**	**1.60**	**167**	Pn	**Pn**	**17 17 52.4**	**-0.5**
BMBC				Sg	**Sn**	**17 18 13.6**	**-0.1**
NBC1	**NorthernBC 1**	**2.13**	**346**	Pn	**Pn**	**17 18 00.2**	**0.0**
NBC1				Sg	**Sb**	**17 18 30.2**	**+0.4**
NBC2	**NorthernBC 2**	**2.19**	**4**	Pn	**Pn**	**17 18 02.6**	**+1.6**
NBC2				Sg	**Sb**	**17 18 32.4**	**+1.0**
NBC4	**NorthernBC 4**	**2.25**	**148**	Pn	**Pn**	**17 18 02.2**	**+0.4**
NBC4				Sn	**Sn**	**17 18 29.8**	**+0.2**
NBC3	**NorthernBC 3**	**2.32**	**28**	Pn	**Pn**	**17 18 03.1**	**+0.3**
NBC3				Sg	**Sg**	**17 18 39.6**	**+0.6**
HILA	**High Level**	**3.21**	**70**	Pn	**Pn**	**17 18 15.3**	**+0.4**
HILA				Sn	**Sn**	**17 18 54.0**	**+0.8**
FSB	**Fort Saint Jam**	**3.25**	**196**	Pn	**Pn**	**17 18 14.8**	**-0.7**
FSB				Sg	**Sb**	**17 19 03.7**	**+1.8**
DLBC	**Dease Lake**	**3.94**	**285**	Pn	**Pn**	**17 18 23.6**	**-1.5**
	2.6nm,0.3s,baz=89,slow=7.7,SNR=33						
DLBC				Sn	**Sn**	**17 19 08.8**	**-2.7**
	6.2nm,0.3s,baz=330,slow=25,SNR=3.6						
DLBC				Lg	Lg	17 19 22.9	
	10nm,0.3s,baz=324,slow=12,SNR=9.6						
DLBC				LR	LR	17 20 09.1	
	comp=Z,183nm,20.2s,baz=116,slow=44						
DLBC	**Dease Lake**	**3.94**	**285**	Pn	**Pn**	**17 18 23.7**	**-1.5**
DLBC				Sg	**Sb**	**17 19 24.7**	**+2.8**
DLBC	**Dease Lake**	**3.94**	**285**	Pn	**Pn**	**17 18 23.4**	**-1.7**
RUBB	**Prince Rupert**	**5.33**	**235**	Pn	**Pn**	**17 18 41.8**	**-2.2**
RUBB				Sg	**Sb**	**17 20 07.2**	**+5.8**
WRAK	**Wrangell Islan**	**5.36**	**261**		**Pn**

EGMT Eagleton 12.39 135 Pn 17 20 18.5 -2.3
G05D Wamic, OR 12.41 175 P Pn 17 20 20.6 -0.5
baz=356
G08A Pilot Rock 12.55 167 Pn 17 20 22.8 -0.3
HRY Holter Researc 12.79 144 Pn 17 20 23.5 -2.8
BMO Blue Mountains 13.21 163 Pn Pn 17 20 33.8 +1.8
LRM Limekiln Ridge 13.40 147 Pn 17 20 33.6 -1.2
ILAR Eielson Array 13.59 312 Pn Pn 17 20 37.6 +0.5
baz=112,slow=13,SNR=2.0
ILAR Lg Lg 17 24 26.8
0.1nm,0.3s,baz=113,slow=29,SNR=4.0
I07A Izee 13.69 170 Pn 17 20 38.1 -0.5
DLMT Dillon 13.78 148 Pn 17 20 41.0 +1.1
I04A Tendick Farm, 13.82 179 P Pn 17 20 42.3 +1.8
baz=359
BOZ Bozeman (W) 13.85 145 P Pn 17 20 40.2 -0.6
baz=334
BOZ Bozeman (W) 13.85 145 Pn 17 20 38.8 -2.0
PINE Pine Mountain 13.87 174 Pn Pn 17 20 43.1 +1.9
I03D Drain, OR 13.92 182 P Pn 17 20 40.2 -1.5
baz=0.9
MDM Murphy Dome 14.20 312 P P 17 20 53.6 +0.7
MCMT McKenzie Canyo 14.20 150 Pn 17 20 44.9 -0.8
GCMT Greycliff 14.31 140 Pn 17 20 44.2 -3.0
J05D Fort Rock, OR 14.37 175 P Pn 17 20 48.9 +1.0
baz=356
DGMT Dagmar 14.40 121 P Pn 17 20 45.6 -2.6
baz=316
DGMT Dagmar 14.40 121 Pn Pn 17 20 43.3 -4.9
NEA2 Nenana 14.42 310 P Pn 17 20 46.5 -1.9
baz=107
J08A Circle Bar Ran 14.51 167 Pn Pn 17 20 51.1 +1.2
BCYI Bear Canyon 14.54 152 Pn 17 20 50.5 +0.2
YHL Hebgen Lake 14.66 146 Pn Pn 17 20 49.4 -2.6
YHB Horse Butte 14.74 146 Pn Pn 17 20 50.6 -2.5
YHH Holmes Hill 14.81 145 Pn Pn 17 20 51.5 -2.7
MFID Camas Ranch 14.86 160 Pn Pn 17 20 55.4 +0.7
LAO LASA Array 14.87 130 P Pn 17 20 52.8 -1.9
baz=323
LAO LASA Array 14.87 130 Pn 17 20 51.2 -3.5
YNE Yellowstone No 14.89 142 Pn 17 20 51.0 -4.1
K05A Summer Lake 14.94 175 Pn Pn 17 20 56.2 +0.5
HLID Hailey 15.01 156 P Pn 17 20 58.0 +1.4
baz=342
HLID Hailey 15.01 156 P Pn 17 20 58.8 +2.1
HLID IAmb IAmb 17 21 04.8
comp=Z,13nm,0.8s
RLMT Red Lodge 15.04 140 P Pn 17 20 58.4 +1.3
baz=331
RLMT Red Lodge 15.04 140 Pn Pn 17 20 57.7 +0.7
RLMT IAmb IAmb 17 21 25.3
comp=Z,11nm,0.8s
YMP Mirror Lake Pl 15.08 143 P Pn 17 20 57.4 -0.3
BPAW Bear Paw Mtn. 15.11 307 P Pn 17 21 00.2 +2.5
BPAW IAmb IAmb 17 21 22.1
comp=Z,17nm,1.8s
FCC Fort Churchill 15.13 73 Pn Pn 17 20 56.2 -1.7
FCC IAmb IAmb 17 21 12.4
comp=Z,20nm,0.9s
YPP Pitchstone Pla 15.30 146 Pn 17 21 00.9 +0.3
L04D Klamath Falls 15.40 179 P Pn 17 21 02.9 +1.1
baz=359
WVOR Wild Horse Val 15.41 168 Pn Pn 17 21 03.0 +1.0
WVOR IAmb IAmb 17 21 20.4
comp=Z,8.0nm,0.7s
L02E Cave Junction 15.47 182 P Pn 17 21 04.0 +1.5
baz=1.3
FLWY Flagg Ranch 15.50 146 P Pn 17 21 02.5 -0.7
FLWY IAmb IAmb 17 21 33.7
comp=Z,11nm,0.9s
IMW Indian Meadow 15.60 147 Pn Pn 17 21 04.2 -0.3
COLD Coldfoot 15.79 319 P P 17 21 09.2 -1.3
baz=115
COLD Coldfoot 15.79 319 Pn Pn 17 21 07.2 +0.6
MOD Modoc Plateau 15.79 173 Pn 17 21 08.4 +1.5
MOD IAmb IAmb 17 21 15.5
comp=Z,15nm,1.1s
FXWY Fox Creek 15.81 147 P Pn 17 21 06.8 -0.4
M04C Macdoel 15.84 177 P Pn 17 21 08.0 +0.4
baz=358,SNR=13
YBH Yreka Blue Hor 15.88 180 Pn Pn 17 21 09.9 +1.8
comp=Z,0.1nm,0.3s,baz=38,slow=7.2,SNR=5.3
YBH Yreka Blue Hor 15.88 180 P 17 21 10.2 -1.6
TPAW Teton Pass 15.96 147 P Pn 17 21 08.7 -0.6
TPAW IAmb IAmb 17 21 39.4
comp=Z,14nm,0.8s
SNOW Snow King Moun 16.05 147 P Pn 17 21 10.3 0.0
SNOW IAmb IAmb 17 21 19.3
comp=Z,17nm,0.9s
M02C Callahan 16.22 180 P Pn 17 21 13.2 +0.8
baz=360
ECR Eagle Creek 16.25 149 P Pn 17 21 13.6 +0.8
AHID Auburn Hatcher 16.59 149 P Pn 17 21 16.4 -0.7
AHID IAmb IAmb 17 22 15.5
comp=Z,14nm,0.7s
N02D Trinity Center 16.64 180 P Pn 17 21 18.2 +0.5
baz=360
MDND Maddock 17.02 115 Pn Pn 17 21 20.6 -1.8
MDND IAmb IAmb 17 21 50.6
comp=Z,36nm,1.1s
WDC Whiskeytown Da 17.04 179 Pn 17 21 23.6 +0.9
BW06 Boulder Array 17.04 145 P Pn 17 21 22.3 -0.7
PD31 Pinedale Array 17.04 145 P Pn 17 21 23.7 +0.7
PDAR Pinedale Array 17.04 145 Pn Pn 17 21 23.6 +0.7
baz=344,slow=14,SNR=13
HVU Hansel Valley 17.07 154 Pn Pn 17 21 22.1 -1.2
TTA Tatalina 17.18 302 P P 17 21 25.5 -0.5
O03E Paynes Creek 17.33 177 P P 17 21 27.8 -0.1
baz=358,SNR=15
ULM Lac du Bonnet 17.38 103 Pn Pn 17 21 25.1 -1.8
comp=Z,0.4nm,0.3s,baz=307,slow=6.0,SNR=5.1
ULM Sn Sn 17 24 25.4 -15
comp=Z,0.6nm,0.3s,baz=193,slow=3.7,SNR=2.5
ULM Lg Lg 17 26 20.6
baz=218,slow=22,SNR=1.1
ULM LR LR 17 28 21.4
comp=Z,92nm,18.8s,baz=360,slow=38
ULM Lac du Bonnet 17.38 103 P Pn 17 21 25.4 -1.5
E28A Huff 17.40 120 Pn 17 21 25.5 -1.7
O02D Mt. Diablo Mer 17.44 180 P P 17 21 29.3 +0.3
baz=360,SNR=6.6
HWUT Hardware Ranch 17.54 151 P 17 21 31.2 +1.0
HWUT IAmb IAmb 17 21 33.8
comp=Z,20nm,0.9s
ELK Elko 17.55 161 P P 17 21 31.4 +0.9
comp=Z,0.1nm,0.3s,baz=344,slow=11,SNR=7.0
ELK Lg Lg 17 26 27.1
comp=Z,0.1nm,0.3s,baz=51,slow=12,SNR=3.5
ELK Elko 17.55 161 P P 17 21 31.7 +1.2
BGU Big Grassy Mou 17.83 155 Pn Pn 17 21 32.3 -0.4
RSSD Black Hills 17.86 131 P Pn 17 21 33.6 +0.5
baz=326
RSSD Black Hills 17.86 131 P Pn 17 21 32.0 -1.1
TCUT Toone Canyon 18.04 151 P P 17 21 36.3 +0.5
PAHR Pah Rah Range 18.04 172 P P 17 21 36.8 +1.1
ORV Oroville 18.08 177 Pn 17 21 35.4 -0.2
K22A Casper 18.16 138 P P 17 21 38.0 +0.9
baz=331
K22A Casper 18.16 138 P P 17 21 37.4 +0.3
K22A IAmb IAmb 17 22 19.1
comp=Z,14nm,0.8s
VCNR Virginia City 18.43 172 P P 17 21 39.4 -0.7
JLU Jordanelle 18.51 152 P P 17 21 41.3 +0.2
DUG Dugway, Tooele 18.57 155 P P 17 21 41.5 -0.1
baz=343
DUG Dugway, Tooele 18.57 155 Pn 17 21 42.5 +0.7
AGMN Agassiz Nation 18.59 108 P Pn 17 21 42.5 +0.8
baz=310
AGMN Agassiz Nation 18.59 108 P 17 21 41.4 -0.1
PNTR Pine Nut 18.64 172 Pn 17 21 43.5 +0.8
AFDM Forest Hills D 18.70 176 Pn 17 21 43.5 +0.2
RWWY Rawlins 18.77 141 P P 17 21 42.7 -1.2
D32A Dogwood Acres, 18.78 113 P P 17 21 43.0 -0.6
KVN Kaiserville 18.81 169 P Pn 17 21 45.8 +1.1
RDMU Red Mountain 19.05 148 P Pn 17 21 47.5 +0.5
RYN Ryan 19.19 170 P Pn 17 21 50.2 +0.9
WAKR Walker 19.23 172 P 17 21 47.7 -1.2
NVAR Mina Array Bea 19.41 169 P Pn 17 21 53.8 +1.8
comp=Z,0.2nm,0.3s,baz=348,slow=9.0,SNR=22
NV11 Mina Array Sit 19.42 169 P Pn 17 21 52.7 +0.7
NV11 IAmb IAmb 17 21 57.0
comp=Z,13nm,1.2s
CMB Columbia Colle 19.64 174 P 17 21 53.7 +0.5
PHWY Pilot Hill 19.72 138 P P 17 21 54.2 -0.1

P17A Butcher Ranch, 19.76 151 P Pn 17 21 55.7 -0.4
TMUT Trail Mountain 19.81 153 P Pn 17 21 56.8 0.0
SUSD Miller 19.81 121 P P 17 21 55.3 +0.3
R11A Troy Canyon, C 19.83 163 P Pn 17 21 57.0 0.0
baz=348,SNR=18
R11A Troy Canyon, C 19.83 163 P Pn 17 21 57.5 +0.5
O20A White River Ci 19.85 145 P Pn 17 21 56.6 -0.5
baz=336,SNR=16
O20A White River Ci 19.85 145 P Pn 17 21 56.7 -0.5
N23A Red Feather La 19.91 140 P Pn 17 21 57.9 -0.1
baz=333,SNR=31
N23A Red Feather La 19.91 140 P Pn 17 21 58.1 +0.1
PSUT Pine Spring 19.95 159 P Pn 17 21 58.8 +0.4
F33A 5 Mile Ranch, 20.04 115 P P 17 21 56.5 -0.9
F33A IAmb IAmb 17 22 19.7
comp=Z,8.1nm,0.8s
RES Resolute Bay 20.14 21 P P 17 21 57.2 -1.0
comp=Z,6.9nm,0.6s,baz=201,slow=11,SNR=8.6
RES S S 17 25 32.6 -12
comp=Z,5.2nm,0.8s,baz=78,slow=9.0,SNR=4.0
RES Lg Lg 17 27 48.8
comp=Z,11nm,0.9s,baz=126,slow=21,SNR=2.5
RES Resolute Bay 20.14 21 P 17 21 58.3 0.0
RES IAmb IAmb 17 22 31.0
comp=Z,10nm,0.9s
SRU San Rafael Swe 20.16 151 P Pn 17 22 00.3 -0.5
TCRU Three Creeks R 20.17 156 P Pn 17 22 00.6 -0.4
Q16A Castle Valley 20.18 153 P Pn 17 22 00.8 -0.2
MTPU Mount Pierson 20.77 156 Pn 17 22 08.1 -0.1
TIN Tinemaha, Big 20.78 170 P Pn 17 22 07.8 -0.2
baz=353
SAO San Andreas Ge 20.86 177 P Pn 17 22 09.6 +0.7
SAO IAmb IAmb 17 22 13.7
comp=Z,11nm,0.9s
ISCO Idaho Springs 21.00 141 P P 17 22 09.7 +1.5
baz=334,SNR=16
ISCO Idaho Springs 21.00 141 P P 17 22 09.9 +1.6
ISCO IAmb IAmb 17 22 16.1
comp=Z,13nm,0.9s
CCUT Cedar City 21.00 159 P P 17 22 09.5 +1.3
EYMN Ely 21.07 104 P P 17 22 10.2 +1.6
baz=309
EYMN Ely 21.07 104 P P 17 22 09.0 +0.4
EYMN IAmb IAmb 17 22 35.3
comp=Z,10nm,0.8s
TPNV Topopah Spring 21.11 165 P P 17 22 11.0 +1.7
baz=350,SNR=11
TPNV Topopah Spring 21.11 165 P P 17 22 11.3 +2.1
TPNV IAmb IAmb 17 22 27.2
comp=Z,41nm,1.6s
PV22 Blue Mesa, Par 21.16 148 P P 17 22 10.7 +0.8
PV23 Carpenter Ridg 21.18 149 P P 17 22 11.3 +1.1
PV10 Paradox Valley 21.24 149 P P 17 22 12.2 +1.4
PV14 Lion Creek, Pa 21.25 149 P P 17 22 11.6 +0.8
PV14 IAmb IAmb 17 22 15.3
comp=Z,17nm,0.7s
PV04 Paradox Valley 21.26 149 P P 17 22 12.3 +1.4
PV04 IAmb IAmb 17 22 25.3
comp=Z,32nm,1.1s
PV07 Paradox Valley 21.29 148 P P 17 22 11.5 +0.2
PV07 IAmb IAmb 17 22 18.9
comp=Z,16nm,0.8s
PV19 Morning Glory 21.32 149 P P 17 22 12.1 +0.5
PV19 IAmb IAmb 17 22 16.7
comp=Z,17nm,1.0s
PKCU Pink Cliffs 21.32 157 P P 17 22 12.1 +0.4
PV16 Nyswonger Mesa 21.34 149 P P 17 22 12.6 +0.8
PV16 IAmb IAmb 17 22 25.2
comp=Z,20nm,0.8s
PV17 East Wray Mesa 21.35 149 P P 17 22 12.9 +0.9
PV17 IAmb IAmb 17 22 17.0
comp=Z,30nm,1.1s
PV11 David Mesa, Pa 21.36 149 P P 17 22 13.1 +1.1
PV12 Saucer Basin, 21.36 149 P P 17 22 12.0 0.0
PV12 IAmb IAmb 17 22 15.0
comp=Z,25nm,1.0s
CWC Cottonwood Cre 21.40 170 P P 17 22 15.3 +2.9
baz=353
PV18 Skein Mesa, Pa 21.40 149 P P 17 22 13.0 +0.5
PV18 IAmb IAmb 17 22 17.0
comp=Z,11nm,0.8s
F36A Milaca 21.40 111 P P 17 22 11.3 -0.9
F36A IAmb IAmb 17 22 40.0
comp=Z,17nm,0.9s
PV03 Paradox Valley 21.41 149 P P 17 22 13.1 +0.5
PV03 IAmb IAmb 17 22 20.1
comp=Z,15nm,0.9s
PV15 Paradox Valley 21.43 148 P P 17 22 13.7 +0.9
ECSD EROS Data Cent 21.44 119 P P 17 22 14.7 +2.1
baz=319,SNR=6.3
ECSD EROS Data Cent 21.44 119 P P 17 22 13.1 +0.4
ECSD IAmb IAmb 17 22 22.3
comp=Z,9.1nm,0.9s
PV02 Paradox Valley 21.48 149 P P 17 22 13.1 -0.3
PV02 IAmb IAmb 17 22 18.9
comp=Z,14nm,0.8s
FURC Furnace Creek, 21.51 167 P P 17 22 17.7 +4.4
baz=351
PV13 Radium Mtn., P 21.51 149 P P 17 22 14.4 +0.8
PV13 IAmb IAmb 17 22 16.6
comp=Z,19nm,0.8s
LCMT Little Creek M 21.55 159 P P 17 22 14.0 +0.1
PV01 Paradox Valley 21.60 148 P P 17 22 15.4 +0.8
PV01 IAmb IAmb 17 22 17.4
comp=Z,19nm,0.9s
KNB Kanab 21.63 158 P P 17 22 14.3 -0.5
SHPR Sheep Range 21.70 163 P P 17 22 17.3 +1.7
SHPR IAmb IAmb 17 22 35.4
comp=Z,7.8nm,1.0s
MPMC Manual Prospec 21.84 168 P P 17 22 18.9 +1.8
baz=352,SNR=17
Q24A Divide 21.91 141 P P 17 22 20.6 +2.6
baz=334
Q24A Divide 21.91 141 P P 17 22 18.1 +0.1
Q24A IAmb IAmb 17 22 22.9
comp=Z,11nm,0.9s
ISA Isabella, Lake 22.13 171 P P 17 22 23.0 +2.8
baz=354
ISA Isabella, Lake 22.13 171 P P 17 22 22.6 +2.4
ISA IAmb IAmb 17 22 29.5
comp=Z,8.0nm,0.9s
SPMN Marine on St. 22.21 111 P P 17 22 23.3 +2.5
baz=315
U15A North Rim 22.30 157 P P 17 22 25.1 +2.9
U15A IAmb IAmb 17 22 43.1
comp=Z,7.1nm,0.9s
LRMC Laurel Mtn Rad 22.39 169 P P 17 22 25.9 +2.9
baz=353
S22A 4UR Ranch, Cre 22.47 145 P P 17 22 24.4 +0.4
baz=337,SNR=9.9
S22A 4UR Ranch, Cre 22.47 145 P P 17 22 25.0 +0.9
S22A IAmb IAmb 17 22 27.0
comp=Z,15nm,1.5s
MVCO Mesa Verde 22.48 149 P P 17 22 25.2 +1.2
baz=340,SNR=11
MVCO Mesa Verde 22.48 149 P P 17 22 24.5 +0.5
TUQ Turquoise Moun 22.64 165 P P 17 22 27.3 +1.6
baz=350
GSC Goldstone, Bar 22.66 167 P P 17 22 26.6 +0.7
GSC IAmb IAmb 17 22 34.8
comp=Z,29nm,1.9s
KSCO Kaye Shedlock' 22.77 136 P P 17 22 27.1 +0.1
I37A Lemond, Waseca 22.78 114 P P 17 22 27.3 +0.4
SDCO Great Sand Dun 22.89 143 P P 17 22 28.8 +0.4
baz=336,SNR=14
SDCO Great Sand Dun 22.89 143 P P 17 22 29.1 +0.7
SDCO IAmb IAmb 17 22 31.4
comp=Z,6.1nm,0.8s
L34A Svendsen Farm, 22.92 122 P P 17 22 28.7 +0.3
EDW2 Edwards Air Fo 22.95 170 P P 17 22 30.2 +1.4
baz=353
HEC Hector,Ludlow 23.19 166 P P 17 22 33.0 +1.8
baz=351
W13A Hualapai Mount 23.29 161 P P 17 22 32.5 0.0
GMRC Granite Mounta 23.32 165 P P 17 22 32.7 0.0
baz=350
BFSC Mount Baldy Ra 23.62 169 P P 17 22 37.8 +2.1
baz=353
IRM Iron Mountain 24.01 164 P P 17 22 41.4 +2.1
baz=350
PDMCI Parker Dam,Lak 24.02 162 P P 17 22 42.9 +3.5
baz=348
BELC Belle Mtn. Jos 24.05 166 P P 17 22 42.0 +2.2
baz=351,SNR=8.4
CBKS Cedar Bluff 24.06 131 P P 17 22 40.5 +0.7
baz=329
CBKS Cedar Bluff 24.06 131 P P 17 22 40.9 +1.1
K38A Parkersburg 24.10 115 P P 17 22 41.1 +1.0
N35A Tabor 24.13 122 P P 17 22 41.1 +0.7
F42A Maple Grove Fa 24.24 104 P P 17 22 41.4 0.0
I40A Norwalk 24.26 110 P P 17 22 41.5 0.0
I40A IAmb IAmb 17 23 40.3
comp=Z,8.3nm,0.8s
PFO Pinyon Flats O 24.37 167 P P 17 22 43.4 +0.6
baz=352
TPFO Pinon Flats 24.38 167 P P 17 22 42.4 -0.4
baz=352
X16A Lo Mia Camp, P 24.42 157 P P 17 22 45.7 +2.4
X16A IAmb IAmb 17 22 47.6
comp=Z,18nm,1.9s
BC3 Big Chuckawall 24.46 165 P P 17 22 46.3 +2.8
baz=350,SNR=8.4
Y14A Wickenburg 24.58 160 P P 17 22 44.8 +0.2
Y14A IAmb IAmb 17 23 00.3
comp=Z,8.9nm,1.2s
R32A Long Quarter, 24.82 130 P P 17 22 47.2 +0.6
MONP2 Monument Peak 25.09 167 P P 17 22 52.8 +3.5
baz=352
I42A Draeger Farm, 25.12 108 P P 17 22 50.2 +0.9
I42A IAmb IAmb 17 22 51.8
comp=Z,12nm,0.9s
KSU1 Kansas State U 25.14 126 P P 17 22 49.8 +0.3
baz=326
KSU1 Kansas State U 25.14 126 P P 17 22 49.4 -0.1
JFWS Jewell Farm 25.15 112 P P 17 22 48.3 -1.3
ANMO Albuquerque 25.18 147 P P 17 22 51.7 +1.5
comp=Z,5.0nm,0.9s,baz=334,slow=11,SNR=11
ANMO Albuquerque 25.18 147 P P 17 22 51.8 +1.7
baz=339
ANMO Albuquerque 25.18 147 P P 17 22 51.1 +1.0
ANMO IAmb IAmb 17 22 55.7
comp=Z,7.2nm,1.0s
L40A Anamosa 25.30 114 P P 17 22 51.3 +0.4
N38A Joes South For 25.30 119 P P 17 22 51.2 +0.2
BNM Barren Site 25.87 148 P P 17 22 56.9 +0.4
P38A Dawn 26.09 121 P P 17 22 58.2 +0.1
P38A IAmb IAmb 17 23 51.6
comp=Z,8.0nm,0.7s
L42A Oliver, Polo 26.11 112 P P 17 22 57.7 -0.6
K43A Burlington 26.27 110 P P 17 23 00.2 +0.5
FRB Frobisher Bay 26.53 54 LR LR 17 33 42.4
comp=Z,82nm,18.4s,baz=250,slow=37
D48A Paudash Townsh 26.69 95 P P 17 23 05.7 +2.2
baz=308
P40A Paris 26.86 119 P P 17 23 04.9 -0.2
P40A IAmb IAmb 17 23 45.0
comp=Z,6.9nm,0.8s
D49A Beulah Townshi 26.87 95 P P 17 23 07.2 +2.0
baz=308
T35A Sooner Cattle 27.01 129 P P 17 23 06.0 -0.5
T35A IAmb IAmb 17 23 57.8
comp=Z,7.1nm,0.8s
MATQ Matagami 27.41 87 P P 17 23 13.5 +3.6
baz=304
F49A Sandfield 27.46 98 P P 17 23 13.1 +2.7
baz=310
D51A Lot 18 Range I 28.05 93 P P 17 23 17.3 +1.6
baz=308
CCM Cathedral Cave 28.41 120 P P 17 23 20.7 +1.8
baz=324
MNTX Cornudas Mount 28.53 148 P P 17 23 21.6 +1.5
baz=340,SNR=5.7
MNTX Cornudas Mount 28.53 148 P P 17 23 21.4 +1.3
MNTX IAmb IAmb 17 23 46.7
comp=Z,4.7nm,1.1s
W39A Magazine 29.63 127 P P 17 23 29.9 +0.1
baz=328
SADO Sadowa 29.66 97 LR LR 17 35 42.4
comp=Z,38nm,21.7s,baz=278,slow=37
MIAR Mount Ida 30.28 127 P P 17 23 35.0 -0.6
baz=329
MIAR Mount Ida 30.28 127 P P 17 23 35.6 +0.1
MIAR IAmb IAmb 17 23 36.5
comp=Z,7.1nm,1.0s
SCHQ Schefferville 30.49 71 P P 17 23 36.6 -0.6
comp=Z,3.6nm,0.8s,baz=314,slow=8.8,SNR=6.1
SCHQ Schefferville 30.49 71 IAmb IAmb 17 23 39.6
comp=Z,5.7nm,1.0s
D57A Chemin Vers le 31.05 88 P P 17 23 40.7 -1.5
baz=308
TXAR Lajitas Array 31.25 147 P P 17 23 46.0 +1.7
comp=Z,0.3nm,0.7s,baz=342,slow=7.9,SNR=4.2
WVT Waverly 31.58 118 P P 17 23 47.1 +0.1
baz=324
WVT Waverly 31.58 118 P P 17 23 46.5 -0.5
WVT IAmb IAmb 17 23 47.8
comp=Z,6.6nm,1.0s
OXF Oxford 32.16 121 P P 17 23 52.7 +0.6
baz=326
H59A Cadyville 32.67 92 P P 17 23 57.5 +1.0
baz=311
F60A Warwick 32.75 88 P P 17 23 57.6 +0.4
baz=310
G60A Masonville 33.10 90 P P 17 24 00.3 0.0
baz=311
E61A Lac Etchemin 33.24 87 P P 17 24 02.4 +0.9
baz=309
D62A Allapoint, All 33.61 85 P P 17 24 04.3 -0.3
baz=308
E62A Clayton Lake 33.64 86 P P 17 24 04.7 -0.3
baz=309
LBNH Lisbon 33.88 91 P P 17 24 07.1 0.0
baz=312
I61A Oroboro, Fairl 33.94 91 P P 17 24 06.9 -0.6
baz=312
P57A Homestead Farm 33.95 103 P P 17 24 07.6 -0.2
baz=317
O58A Lewisberry 34.06 101 P P 17 24 09.8 +1.1
baz=316
F63A Nahmakanta, Br 34.45 87 P P 17 24 10.7 -1.3
baz=310
G63A Kingsbury 34.55 88 P P 17 24 12.2 -0.7
baz=311
E64A Bridgewater 34.68 85 P P 17 24 13.3 -0.7
baz=309
V54A Nebo 34.74 111 P P 17 24 14.0 -0.7
baz=322
F64A Sherman 34.75 86 P P 17 24 14.7 +0.1
baz=310
SUMG Summit 34.96 32 P P 17 24 17.1 +0.5
V56A Mocksville 35.45 109 P P 17 24 21.8 +1.1
baz=321
Q60A Greensboro 35.45 101 P P 17 24 22.4 +1.7
baz=317
H65A Eastbrook 35.56 87 P P 17 24 20.2 -1.4
baz=311
NOA NORSAR Array B 56.35 25 P P 17 27 05.9 +0.7
comp=Z,1.3nm,0.8s,baz=330,slow=7.1,SNR=4.6
FINES FINESS Array B 58.83 17 P P 17 27 22.7 +0.1
comp=Z,4.2nm,0.9s,baz=1.4,slow=8.0,SNR=11
ZALV Zalesovo Beam 66.57 343 P P 17 28 13.5 -0.8
comp=Z,0.3nm,0.3s,baz=1.6,slow=10,SNR=4.4
ZALV LR LR 18 01 55.7
comp=Z,61nm,18.9s,baz=98,slow=40
GERES GERESS Array B 67.99 29 P P 17 28 24.7 +1.2
comp=Z,0.1nm,0.3s,baz=320,slow=4.2,SNR=2.2
AKASG Malin Array Be 69.63 19 P P 17 28 32.6 -0.9
comp=Z,0.2nm,0.3s,baz=352,slow=6.0,SNR=1.8
ESDC Sonseca Array 70.39 46 P P 17 28 38.5 0.0
comp=Z,2.0nm,1.0s,baz=326,slow=5.4,SNR=8.6
MKAR Makanchi Array 73.91 342 P P 17 28 59.8 +0.4
comp=Z,0.1nm,0.4s,baz=31,slow=5.9,SNR=2.7
GEYT Ailbeck 84.83 359 LR LR 18 11 09.0
comp=Z,56nm,20.7s,baz=170,slow=38
EIL Elat 91.07 19 LR LR 18 14 07.4
comp=Z,94nm,20.0s,baz=98,slow=37
ASAR Alice Springs 116.75 268 PKP PKPdf 17 36 08.6 -0.1
comp=Z,0.4nm,1.0s,baz=7.4,slow=2.1,SNR=2.8

IDC ***04*** *17:24:04.3±1.0, 19.84N×121.46E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/53, mbtmp3.7/8, ML3.8/1, Error ellipse: s-maj=56.4km s-min=19.8km az=71.0*
NEIC ***04*** *17:24:10.1±0.8, 19.83N±0.09×121.4E±0.3, h41km±8km, mb4.1/3, Error ellipse: s-maj=34.4km s-min=13.3km az=85.0*
ISC 04 17:24:09.9±0.9, 19.8N±0.1×121.4E±0.3, h40km, n18, o0s45/15, mb3.8/9, Philippine Islands region

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

TWG	**Pinlang**	**3.00**	**354**	Pn	**Pn**	**17 24 55.0**	**0.0**
TPUB	**Ta-pu**	**3.54**	**348**	Pn	**Pn**	**17 25 01.7**	**-0.7**
SSLB	**Suanglung**	**3.97**	**354**	Pn	**Pn**	**17 25 08.8**	**+0.5**
YHNB	**Yeheng**	**4.82**	**359**	Pn	**Pn**	**17 25 20.6**	**+0.5**
KSRS	**Korea Array**	**18.45**	**16**	P	**P**	**17 28 21.2**	**-0.9**
	0.3nm,0.3s,baz=194,slow=12,SNR=7.5						
SONM	**Songino Array**	**30.49**	**340**	P	**P**	**17 30 19.2**	**0.0**
	0.5nm,0.6s,baz=171,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**41.49**	**162**	P	**P**	**17 31 52.8**	**-0.5**
	0.8nm,0.5s,baz=343,slow=8.9,SNR=2.8						
MKAR	**Makanchi Array**	**41.70**	**319**	P	**P**	**17 31 55.0**	**+0.1**
	0.3nm,0.5s,baz=116,slow=9.0,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**42.67**	**84**	T	T	18 17 26.1	
	baz=274,slow=74,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**42.68**	**84**	T	T	18 17 42.5	
	baz=274,slow=74,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**42.69**	**84**	T	T	18 17 32.9	
	baz=274						
ZAA0	**Zalesovo Array**	**44.06**	**330**	P	**P**	**17 32 13.8**	**0.0**
ZAA0				IAmb	IAmb	17 32 48.9	
	comp=Z,1.6nm,0.9s						
ZALV	**Zalesovo Beam**	**44.06**	**330**	P	**P**	**17 32 13.8**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=117,slow=5.5,SNR=5.0						
AS31	**Alice Springs**	**44.90**	**164**	P	**P**	**17 32 20.6**	**-0.2**
AS31				IAmb	IAmb	17 32 57.8	
	comp=Z,2.1nm,1.4s						
ASAR	**Alice Springs**	**44.91**	**164**	P	**P**	**17 32 21.4**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=349,slow=6.6,SNR=8.1						
FINES	**FINESS Array B**	**75.32**	**330**	P	**P**	**17 35 48.9**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=38,slow=14,SNR=3.7						
YKA	**Yellowknife Ar**	**86.88**	**23**	P	**P**	**17 36 50.4**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=310,slow=5.0,SNR=4.6						
AC01	**Pan de Azucar**	**167.26**	**122**		**PKPdf**	**17 44 12.3**	**+0.2**

IDC 04 17:25:24.3±2.2,7.01S×129.29E, h0km,mb3.5/1, mb1 3.8/4,mb1mx3.5/38,mbtmp3.6/4,ML3.7/3,Error ellipse: s-maj=87.3km s-min=28.7km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.59**	**198**	Pn	Pn	17 28 10.9	-0.2
	0.2nm,0.3s,baz=15,slow=9.7,SNR=18						
FITZ				Sn	Sn	17 30 04.0	-17
	0.2nm,0.3s,baz=119,slow=13,SNR=1.9						
WRA	**Warramunga Arr**	**13.76**	**160**	Pn	Pn	17 28 41.3	+0.4
	0.7nm,0.3s,baz=343,slow=13,SNR=14						
WRA				Sn	Sn	17 31 02.1	-12
	0.5nm,0.3s,baz=321,slow=26,SNR=7.5						
ASAR	**Alice Springs**	**17.15**	**166**	P	Pn	17 29 25.4	-0.1
	0.2nm,0.3s,baz=341,slow=9.7,SNR=31						
MKAR	**Makanchi Array**	**67.85**	**327**	P	P	17 36 24.5	0.0
	0.1nm,0.4s,baz=116,slow=7.9,SNR=4.6						

*ISK **04** 17:33:35.6,37.35N×42.61E,h8km,ML2.8/11*
*DDA **04** 17:33:35.8,37.39N×42.59E,h6km±3km,ML2.2*
ISC 04 17:33:35.8±1.4,37.34N±0.06×42.60E±0.03,h7km±10km, n18,σ0971/27,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.20**	**323**	PG	**Pg**	**17 33 40.3**	**+0.4**
SIRT				SG	**Sg**	**17 33 43.5**	**+0.8**
SIRN	**Sırnak**	**0.21**	**317**	*i* P	**Pg**	**17 33 39.4**	**-0.7**
SIRN				IAML		17 33 43.0	
	comp=E,3μm,0.2s						
SIRN				IAML		17 33 43.0	
	comp=N,3μm,0.2s						
SIRN				*i* S	**Sg**	**17 33 43.2**	**+0.2**
CUKT	**Cukurca**	**0.81**	**96**	PG	**Pg**	**17 33 51.5**	**+0.1**
CUKT				SG	**Sb**	**17 34 03.1**	**-0.4**
CUKT	**Cukurca**	**0.81**	**96**	*i* P	**Pg**	**17 33 51.5**	**+0.1**
CUKT				IAML		17 34 04.0	
	comp=N,127nm,0.6s						
CUKT				*i* S	**Sb**	**17 34 04.4**	**+0.9**
CUKT				IAML		17 34 07.0	
	comp=E,283nm,0.4s						
HAKT	**HAKKARI**	**0.91**	**76**	*i* P	**Pg**	**17 33 52.8**	**-0.5**
HAKT				*i* S	**Sb**	**17 34 06.1**	**-0.4**
HAKT				IAML		17 34 08.0	
	comp=E,46nm,0.3s						
HAKT				IAML		17 34 09.0	
	comp=N,46nm,0.3s						
AKDM	**Akdamar-Van**	**1.03**	**17**	PG	**Pb**	**17 33 55.6**	**-0.5**
BTMN	**Batman**	**1.19**	**298**	*i* P	**Pg**	**17 33 58.2**	**-0.4**
BTMN				*i* S	**Sn**	**17 34 15.8**	**+0.4**
BTMN				IAML		17 34 19.0	
	comp=N,99nm,0.4s						
GURO	**Guroymak-BITLI**	**1.29**	**340**	PN	**Pg**	**17 34 00.4**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.37**	**307**	PN	**Pn**	**17 34 01.2**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.37**	**307**	*i* P	**Pn**	**17 34 01.2**	**-0.2**
SVAN				*i* S	**Sn**	**17 34 20.7**	**+0.8**
SVAN				IAML		17 34 22.0	
	comp=N,37nm,0.3s						
SVAN				IAML		17 34 23.0	
	comp=E,32nm,0.2s						
MARD	**Mardin**	**1.45**	**270**	*i* P	**Pn**	**17 34 01.6**	**-1.0**
MARD				*i* S	**Sn**	**17 34 20.8**	**-1.0**
MUSM	**Mu-Merkez**	**1.63**	**329**	*i* P	**Pn**	**17 34 05.0**	**0.0**
MUSM				*i* S	**Sg**	**17 34 27.5**	**-0.6**
MUSM				IAML		17 34 29.0	
	comp=E,41nm,0.4s						
MUSM				IAML		17 34 31.0	
	comp=N,30nm,0.5s						
MAZI	**Mazidag**	**1.71**	**275**	PN	**Pn**	**17 34 06.3**	**+0.1**
AGRB	**Hanur-Agry**	**2.25**	**8**	PN	**Pn**	**17 34 14.1**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.80**	**293**	PN	**Pn**	**17 34 22.0**	**+0.8**
PTK	**Pertek**	**2.96**	**303**	PN	**Pn**	**17 34 24.5**	**+1.0**
URFA	**Urfa**	**3.01**	**273**	PN	**Pn**	**17 34 25.1**	**+1.2**
MALT	**Malatya**	**3.44**	**288**	PN	**Pn**	**17 34 31.3**	**+1.4**

UPA 04 17:59:33.9±0.7,7.39N×81.44W,h0km±3km,MW4.1, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**0.42**	**29**	*eP*	Pb	17 59 43.4	-0.9
GMAL				*eS*	Sb	17 59 51.6	+0.3
MARI3	**Mariato, Verag**	**0.52**	**60**	*eP*	Pb	17 59 45.3	-0.5
CACAO	**El Cacao, Vera**	**0.58**	**94**	*eP*	Pg	17 59 45.8	+0.8
CACAO				*eS*	Sb	17 59 56.1	+0.4
RSUS3	**Rio de Jesus,**	**0.65**	**25**	*eP*	Pb	17 59 47.8	-0.4
RSUS3				*eS*	Sb	17 59 58.1	+0.3
PVID3	**Puerto Vidal,**	**0.67**	**346**	*eP*	Pb	17 59 48.2	-0.3
PVID3				*eS*	Sb	17 59 59.0	+0.6
STIA3	**Santiago, Vera**	**0.84**	**34**	*eP*	Pb	17 59 51.7	+0.3
REME3	**Remedios, Chir**	**0.92**	**335**	*eP*	Pb	17 59 52.8	+0.1
REME3				*eS*	Sb	18 00 06.3	+0.9
SFRA3	**San Francisco,**	**0.97**	**29**	*eP*	Pg	17 59 53.1	+0.5
PCRI3	**Pocri, Los San**	**1.34**	**78**	*eS*	Pg	17 59 59.8	+0.2
DVD	**David**	**1.44**	**316**	*eP*	Pn	18 00 00.1	-1.1
DVD				*eS*	Sb	18 00 20.5	0.0
CHGR2	**Aguacate**	**1.69**	**336**	*eP*	Pn	18 00 03.1	-1.5
CHGR2				*eS*	Sn	18 00 26.9	-0.1
BCO2	**Palmira**	**1.70**	**321**	*eP*	Pn	18 00 04.2	-0.8
BCO2				*eS*	Sn	18 00 27.5	-0.1
VTON	**El Valle, Cocl**	**1.79**	**47**	*eP*	Pn	18 00 05.2	-1.0
VTON				*eS*	Sn	18 00 29.7	+0.1
BC3P	**Paso Ancho**	**1.83**	**321**	*eP*	Pn	18 00 06.9	+0.1
BC3P				*eS*	Sn	18 00 30.4	-0.4
BRU2	**Volcan**	**1.86**	**319**	*eP*	Pn	18 00 06.8	-0.4
BRU2				*eS*	Sb	18 00 32.2	-0.6
BCIP	**Isla Barro Col**	**2.37**	**42**	*eP*	Pn	18 00 15.2	+1.0
BCIP				*eS*	Sb	18 00 48.2	+0.7

*TUL **04** 18:23:01.5±1.3,35.60N±0.04×97.41W±0.05,h6km±4km, ML3.5,Mwr3.2/8(SLM),Error ellipse: s-maj=6.3km s-min=5.4km az=51.0,Moment Tensor Solution. Moment tensor: Scale 10^13Nm; Mrr-1.81; Mθθ3.05; Mφφ-1.25; Mrθ-1.92; Mθφ6.99; Mφr2.82;*
*NEIC **04** 18:23:01.4±1.4,35.61N±0.04×97.38W±0.05,h5km±5km Error ellipse: s-maj=6.7km s-min=5.1km az=47.0*
*ANF **04** 18:23:03.6±0.8,35.64N×97.42W,h27km±8km,ML4.2/14, Error ellipse: s-maj=3.1km s-min=1.8km az=168.0*
ISC 04 18:23:01.5±0.8,35.60N±0.02×97.40W±0.02,h9km±4km, n84,σ0977/102,Oklahoma

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

OK009	**Oakdale Elemen**	**0.03**	**226**	Pg	**Pg**	**18 23 02.4**	**-0.8**
OK009				Sg	**Sg**	**18 23 03.3**	**-1.2**
OK025	**Westminster Rd**	**0.05**	**113**		**Pg**	**18 23 03.2**	**-0.2**
OK025				Sg	**Sg**	**18 23 04.6**	**-0.2**
ADOK	**Arcadia Dam**	**0.06**	**23**		**Pg**	**18 23 04.8**	**+1.3**
OK001	**Jones High Sch**	**0.10**	**115**	Pg	**Pg**	**18 23 03.9**	**-0.1**
OK001				Sg	**Sg**	**18 23 05.7**	**0.0**
OK005	**Luther M Schoo**	**0.18**	**72**	Pg	**Pg**	**18 23 05.0**	**-0.2**
OK005					**Sg**	**18 23 05.3**	**-2.5**
BCOK	**Bluff Creek, N**	**0.18**	**288**	Pg	**Pg**	**18 23 05.1**	**-0.2**
BCOK				Sg	**Sg**	**18 23 08.0**	**0.0**
OKCFA	**Oklahoma City**	**0.19**	**193**	Pg	**Pg**	**18 23 04.7**	**-0.8**
OKCFA				Sg	**Sg**	**18 23 08.2**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.20**	**190**	Pg	**Pg**	**18 23 05.0**	**-0.6**
OKCSW				Sg	**Sg**	**18 23 08.6**	**+0.2**
OK029	**Liberty Lake**	**0.20**	**346**	Pg	**Pg**	**18 23 05.8**	**+0.1**
OK029				Sg	**Sg**	**18 23 09.0**	**+0.5**
FNO	**Franklin**	**0.34**	**180**	Pg	**Pg**	**18 23 08.6**	**+0.3**
W35A	**Tecumseh**	**0.62**	**136**	Pg	**Pg**	**18 23 13.2**	**-0.3**
QUOK	**Quay**	**0.80**	**44**	Pg	**Pg**	**18 23 16.4**	**-0.5**
CROK	**Carrier**	**1.02**	**332**		**Pg**	**18 23 20.4**	**-0.7**
X34A	**Smith Ranch, M**	**1.06**	**200**		**Pg**	**18 23 21.5**	**-0.3**
TUL1	**Leonard**	**1.34**	**76**	P	**Pn**	**18 23 25.4**	**-0.9**
	baz=258,SNR=51						
TUL1				S	**Sb**	**18 23 44.1**	**0.0**
	baz=258						
TUL1	**Leonard**	**1.34**	**76**		**Pn**	**18 23 25.2**	**-1.1**
KAN13	**South Haven SW**	**1.41**	**357**		**Pn**	**18 23 27.4**	**+0.1**
WMOK	**Wichita Mounta**	**1.42**	**233**	P	**Pn**	**18 23 26.9**	**-0.7**
	baz=52						
WMOK				S	**Sb**	**18 23 46.0**	**-0.4**
	baz=52						
WMOK	**Wichita Mounta**	**1.42**	**233**	Pn	**Pn**	**18 23 26.8**	**-0.7**
T35A	**Sooner Cattle**	**1.49**	**28**		**Pn**	**18 23 28.4**	**-0.1**
U32A	**Winter Ranch,**	**1.52**	**301**	Pn	**Pn**	**18 23 28.8**	**0.0**
KAN10	**Anthony SW Sta**	**1.62**	**340**		**Pn**	**18 23 30.5**	**+0.3**
KAN12	**Harper NE Stat**	**1.76**	**344**		**Pn**	**18 23 32.8**	**+0.6**
X37A	**Clayton**	**1.94**	**121**		**Pn**	**18 23 35.6**	**+1.0**
Z35A	**Perchaven, San**	**2.27**	**177**		**Pn**	**18 23 40.2**	**+1.1**
U38A	**Gravette**	**2.58**	**70**	Pn	**Pn**	**18 23 44.0**	**+0.6**
HHAR	**Hobbs**	**2.89**	**75**		**Pn**	**18 23 47.8**	**+0.2**
W39A	**Magazine**	**2.98**	**97**	P	**Pn**	**18 23 49.3**	**+0.4**
	baz=279,SNR=7.3						
W39A				S	**Sn**	**18 24 25.3**	**+0.6**
	baz=279						
W39A	**Magazine**	**2.98**	**97**	Pn	**Pn**	**18 23 49.4**	**+0.5**
R32A	**Long Quarter,**	**3.00**	**340**	Pn	**Pn**	**18 23 49.2**	**-0.1**
R32A				Pg	**Pb**	**18 23 56.7**	**+1.5**
Z38A	**Mt. Pleasant**	**3.07**	**139**	Pn	**Pn**	**18 23 49.8**	**-0.3**
Z38A					**Pb**	**18 23 57.7**	**+1.4**
MIAR	**Mount Ida**	**3.31**	**107**	S	**Sn**	**18 24 33.6**	**+0.8**
	baz=290						
MIAR	**Mount Ida**	**3.31**	**107**	Pn	**Pn**	**18 23 53.3**	**-0.1**
ABTX	**Abilene, Hawle**	**3.51**	**213**	P	**Pn**	**18 23 56.5**	**+0.4**
	baz=31						
ABTX	**Abilene, Hawle**	**3.51**	**213**	Pn	**Pn**	**18 23 56.8**	**+0.6**
KSU1	**Kansas State U**	**3.55**	**10**	P	**Pn**	**18 23 56.0**	**-0.7**
	baz=190,SNR=5.3						
KSU1	**Kansas State U**	**3.55**	**10**	Pn	**Pn**	**18 23 57.3**	**+0.6**
KSU1				Pg	**Pb**	**18 24 05.6**	**+1.2**
AMTX	**Amarillo**	**3.58**	**260**	P	**Pn**	**18 23 57.4**	**+0.2**
	baz=77						
AMTX	**Amarillo**	**3.58**	**260**	Pn	**Pn**	**18 23 58.5**	**+1.2**
WHTX	**Lake Whitney,**	**3.60**	**181**	P	**Pn**	**18 23 58.0**	**+0.6**
	baz=0.8						
WHTX				S	**Sn**	**18 24 41.3**	**+1.2**
	baz=0.8						
WHTX	**Lake Whitney,**	**3.60**	**181**		**Pn**	**18 23 58.2**	**+0.7**
U40A	**Yellville**	**3.76**	**77**	P	**Pn**	**18 23 59.3**	**-0.3**
	baz=260,SNR=9.3						
U40A	**Yellville**	**3.76**	**77**	Pn	**Pn**	**18 23 59.3**	**-0.3**
S39A	**Bolivar**	**3.88**	**56**	Pn	**Pn**	**18 24 01.5**	**+0.1**
X40A	**Basin Creek Fa**	**3.91**	**105**	P	**Pn**	**18 24 02.8**	**+1.2**
	baz=288						
X40A				S	**Sn**	**18 24 48.8**	**+1.3**
	baz=288						
X40A	**Basin Creek Fa**	**3.91**	**105**		**Pn**	**18 24 02.0**	**+0.4**
WLAR	**White Oak Lake**	**4.02**	**117**		**Pn**	**18 24 03.4**	**+0.3**
WHAR	**Wooly Hollow**	**4.18**	**93**	Pn	**Pn**	**18 24 05.9**	**+0.5**
W41B	**Gary Mavity, V**	**4.23**	**94**	P	**Pn**	**18 24 06.5**	**+0.5**
	baz=278,SNR=6.8						
W41B				S	**Sn**	**18 24 55.5**	**0.0**
	baz=278						
W41B	**Gary Mavity, V**	**4.23**	**94**		**Pn**	**18 24 06.6**	**+0.5**
FCAR	**Ozark Folk Cen**	**4.30**	**85**		**Pn**	**18 24 07.1**	**+0.1**
Z41A	**Richland Creek**	**4.46**	**120**	S	**Sn**	**18 25 01.7**	**+0.5**
	baz=303						
MSTX	**Muleshoe**	**4.71**	**251**	P	**Pn**	**18 24 13.5**	**+0.7**
	baz=68						
MSTX	**Muleshoe**	**4.71**	**251**		**Pn**	**18 24 12.5**	**-0.3**
435B	**Jarrell**	**4.81**	**182**	S	**Sn**	**18 25 11.1**	**+1.2**
	baz=1.9						
435B	**Jarrell**	**4.81**	**182**	Pn	**Pn**	**18 24 13.2**	**-0.8**
R40A	**Maddies Statio**	**4.91**	**55**	Pn	**Pn**	**18 24 15.1**	**-0.3**
P38A	**Dawn**	**5.05**	**36**	Pn	**Pn**	**18 24 17.8**	**+0.4**
LCAR	**Lake Charles**	**5.09**	**83**	Pn	**Pn**	**18 24 17.1**	**-0.9**
T42A	**Van Buren**	**5.29**	**73**	Pn	**Pn**	**18 24 20.2**	**-0.4**
KSCO	**Kaye Shedlock'**	**5.38**	**311**	Pn	**Pn**	**18 24 22.2**	**+0.2**
N35A	**Tabor**	**5.43**	**14**	Pn	**Pn**	**18 24 22.2**	**-0.3**
JCT	**Junction City**	**5.49**	**202**	Pn	**Pn**	**18 24 21.5**	**-2.0**
CCM	**Cathedral Cave**	**5.51**	**62**	P	**Pn**	**18 24 23.9**	**+0.3**
	baz=245						
CCM	**Cathedral Cave**	**5.51**	**62**	Pn	**Pn**	**18 24 22.9**	**-0.7**
P40A	**Paris**	**5.78**	**46**	Pn	**Pn**	**18 24 27.3**	**0.0**
BGNE	**Belgrade**	**5.83**	**354**	S	**Sn**	**18 25 33.7**	**-1.3**
	baz=174						
T25A	**Trinidad**	**5.86**	**287**	P	**Pn**	**18 24 28.6**	**-0.1**
	baz=103						
T25A	**Trinidad**	**5.86**	**287**	Pn	**Pn**	**18 24 28.7**	**0.0**
L34A	**Svendsen Farm,**	**6.41**	**7**	Pn	**Pn**	**18 24 35.2**	**-0.7**
OXF	**Oxford**	**6.64**	**97**	P	**Pn**	**18 24 39.4**	**+0.2**
	baz=282						
OXF	**Oxford**	**6.64**	**97**	Pn	**Pn**	**18 24 38.5**	**-0.7**
SDCO	**Great Sand Dun**	**6.86**	**291**	P	**Pn**	**18 24 42.9**	**+0.5**
	baz=106						
SDCO	**Great Sand Dun**	**6.86**	**291**	Pn	**Pn**	**18 24 43.1**	**+0.7**
SCIA	**State Center**	**7.09**	**26**	P	**Pn**	**18 24 45.0**	**-0.4**
	baz=209						
SCIA	**State Center**	**7.09**	**26**	Pn	**Pn**	**18 24 45.5**	**+0.2**
ANMO	**Albuquerque**	**7.44**	**268**	P	**Pn**	**18 24 50.7**	**+0.3**
	baz=82						
MNTX	**Cornudas Mount**	**7.71**	**242**	P	**Pn**	**18 24 55.0**	**+1.1**
	baz=120						
ISCO	**Idaho Springs**	**7.74**	**305**	P	**Pn**	**18 24 54.7**	**+0.1**
	baz=120						
ISCO				S	**Sn**	**18 26 20.3**	**-2.2**
	baz=120						
HDIL	**Hopedale**	**8.08**	**50**	P	**Pn**	**18 24 58.2**	**-0.7**
	baz=235						
ECSD	**EROS Data Cent**	**8.14**	**4**	P	**Pn**	**18 24 58.6**	**-1.3**
	baz=184						
N23A	**Red Feather La**	**8.55**	**311**	P	**Pn**	**18 25 05.7**	**+0.1**
	baz=126						
JFWS	**Jewell Farm**	**9.16**	**35**	P	**Pn**	**18 25 12.6**	**-1.2**
	baz=220						
U56A	**King**	**13.80**	**82**	P	**Pn**	**18 26 17.2**	**-0.1**
	baz=272						

IDC 04 18:53:35.5±37.0,21.06S×177.76E,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.7/29,mbtmp4.0/4,Error ellipse: s-maj=655.5km s-min=131.0km az=77.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**29.48**	**266**	P	P	18 59 41.6	0.0
	3.5nm,0.7s,baz=95,slow=11						
STKA	**Stephens Creek**	**33.97**	**244**	P	P	19 00 20.2	-0.7
	2.1nm,0.8s,baz=77,slow=14,SNR=4.4						
ASAR	**Alice Springs**	**40.52**	**258**	P	P	19 01 17.1	+0.4
	1.0nm,0.3s,baz=88,slow=8.6,SNR=32						
WRA	**Warramunga Arr**	**40.59**	**264**	P	P	19 01 17.0	-0.3
	0.4nm,0.3s,baz=97,slow=8.5,SNR=24						

*NEIC **04** 19:04:20.3±1.4,43.81N±0.05×105.23W±0.07,h0km±1km, ML3.5/65,Error ellipse: s-maj=9.1km s-min=8.3km az=263.0*
*IDC **04** 19:04:21.1±0.9,44.05N×105.71W,h0km,mb4.1/3, mb1 4.0/8,mb1mx3.6/47,mbtmp3.7/8,ML3.1/3,Error ellipse: s-maj=22.9km s-min=7.9km az=144.0*
ISC 04 19:04:19.6±0.8,43.79N±0.06×105.26W±0.07,h0km,n92,

σ1§08/91,mb4.1/3,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**69**		**Pb**	**19 04 39.3**	**+0.4**
K22A	**Casper**	**1.47**	**220**	Pn	**Pn**	**19 04 46.3**	**-1.3**
K22A				IAML		19 05 10.2	
	comp=N,594nm,0.3s						
K22A				IAML		19 05 10.5	
	comp=E,675nm,0.6s						
PHWY	**Pilot Hill**	**2.50**	**184**	Pn	**Pn**	**19 05 02.1**	**+0.4**
RWWY	**Rawlins**	**2.55**	**215**	Pn	**Pn**	**19 05 02.8**	**+0.3**
RWWY				IAML		19 05 37.9	
	comp=E,287nm,0.6s						
RWWY				IAML		19 05 38.5	
	comp=E,275nm,1.0s						
N23A	**Red Feather La**	**2.94**	**190**	Pn	**Pn**	**19 05 08.5**	**+0.7**
N23A				IAML		19 05 51.7	
	comp=E,124nm,0.6s						
N23A				IAML		19 05 56.0	
	comp=N,153nm,0.4s						
LAO	**LASA Array**	**2.98**	**347**		**Pn**	**19 05 08.0**	**-0.2**
RLMT	**Red Lodge**	**3.17**	**296**	Pn	**Pn**	**19 05 10.9**	**0.0**
RLMT				IAML		19 06 05.0	
	comp=N,104nm,0.7s						
RLMT				IAML		19 06 08.3	
	comp=N,75nm,0.5s						
BW06	**Boulder Array**	**3.31**	**253**	Pn	**Pn**	**19 05 13.6**	**+0.8**
PD31	**Pinedale Array**	**3.31**	**253**	Pn	**Pn**	**19 05 13.1**	**+0.2**
PDAR	**Pinedale Array**	**3.31**	**253**	Pn	**Pn**	**19 05 14.7**	**+1.8**
	comp=N,13nm,0.3s,baz=68,slow=18,SNR=26						
PDAR				Lg	Lg	19 05 57.5	
	comp=N,20nm,0.3s,baz=69,slow=36,SNR=13						
YNE	**Yellowstone No**	**3.62**	**291**	Pn	**Pn**	**19 05 18.2**	**+1.1**
YMP	**Mirror Lake Pl**	**3.65**	**287**	Pn	**Pn**	**19 05 18.3**	**+0.8**
GCMT	**Greycliff**	**3.72**	**304**	Pn	**Pn**	**19 05 19.3**	**+0.8**
LKWY	**Lake**	**3.78**	**284**	Pn	**Pn**	**19 05 20.6**	**+1.2**
LKWY				IAML		19 05 52.2	
	comp=N,75nm,0.6s						
H17A	**Grant Village**	**3.88**	**281**		**Pn**	**19 05 22.0**	**+1.2**
H17A				IAML		19 06 26.7	
	comp=N,58nm,0.7s						
FLWY	**Flagg Ranch**	**3.94**	**276**	Pn	**Pn**	**19 05 22.3**	**+0.7**
FLWY				IAML		19 06 31.7	
	comp=N,58nm,1.8s						
FLWY				IAML		19 06 59.6	
	comp=N,70nm,1.1s						
ISCO	**Idaho Springs**	**4.00**	**184**	Pn	**Pn**	**19 05 23.8**	**+1.3**
SNOW	**Snow King Moun**	**4.01**	**267**	Pn	**Pn**	**19 05 23.1**	**+0.5**
SNOW				IAML		19 06 28.4	
	comp=N,78nm,1.1s						
SNOW				IAML		19 06 38.6	
	comp=N,65nm,0.8s						
YPP	**Pitchstone Pla**	**4.03**	**279**	Pn	**Pn**	**19 05 23.9**	**+1.0**
IMW	**Indian Meadow**	**4.11**	**273**	Pn	**Pn**	**19 05 25.2**	**+1.2**
IMW				IAML		19 05 54.2	
	comp=N,56nm,0.5s						
IMW				IAML		19 06 39.8	
	comp=N,39nm,0.6s						
TPAW	**Teton Pass**	**4.15**	**268**	Pn	**Pn**	**19 05 25.0**	**+0.6**
TPAW				IAML		19 06 40.6	
	comp=N,63nm,0.9s						
TPAW				IAML		19 06 44.8	
	comp=N,41nm,0.8s						
FXWY	**Fox Creek**	**4.19**	**270**	Pn	**Pn**	**19 05 26.0**	**+1.0**
E28A	**Huff**	**4.26**	**48**	Pn	**Pn**	**19 05 27.9**	**+2.2**
O20A	**White River Ci**	**4.28**	**212**	Pn	**Pn**	**19 05 27.0**	**+0.8**
O20A				IAML		19 06 49.9	
	comp=N,76nm,1.1s						
O20A				IAML		19 06 52.1	
	comp=E,54nm,0.9s						
YHB	**Horse Butte**	**4.37**	**285**	Pn	**Pn**	**19 05 27.9**	**+0.4**
YHL	**Hebgen Lake**	**4.38**	**286**	Pn	**Pn**	**19 05 27.8**	**+0.1**
AHID	**Auburn Hatcher**	**4.39**	**258**		**Pn**	**19 05 28.1**	**+0.3**
AHID				IAML		19 06 47.7	
	comp=N,66nm,0.7s						
AHID				IAML		19 06 51.6	
	comp=E,56nm,0.9s						
ECR	**Eagle Creek**	**4.52**	**263**		**Pn**	**19 05 27.6**	**-1.9**
RDMU	**Red Mountain**	**4.54**	**226**		**Pn**	**19 05 31.3**	**+1.4**
DGMT	**Dagmar**	**4.74**	**9**	Pn	**Pn**	**19 05 34.8**	**+2.5**
Q24A	**Divide**	**4.83**	**179**	Pn	**Pn**	**19 05 34.2**	**+0.4**
Q24A				IAML		19 07 02.9	
	comp=E,42nm,0.8s						
BOZ	**Bozeman (W)**	**4.89**	**294**	Pn	**Pn**	**19 05 37.3**	**+2.8**
BOZ				IAML		19 06 54.0	
	comp=E,27nm,0.9s						
BOZ				IAML		19 07 02.5	
	comp=E,22nm,0.8s						
K31A	**O'Neill**	**4.89**	**102**	Pn	**Pn**	**19 05 32.9**	**-1.6**
HWUT	**Hardware Ranch**	**5.14**	**247**	Pn	**Pn**	**19 05 39.0**	**+1.0**
HWUT				IAML		19 07 12.5	
	comp=E,41nm,0.8s						
HWUT				IAML		19 07 13.1	
	comp=E,45nm,0.9s

comp=E,0.5nm,0.6s,baz=11,slow=5.0,SNR=7.1

TIR ***04*** *19:06:14.7, 41.92N× 19.36E, h8km, Md2.8/4*
THE ***04*** *19:06:14.6, 42.00N× 19.36E, h7km± 1km, ML2.6/1, Error ellipse: s-maj=1.9km s-min=1.2km az=139.0*
RHSSO ***04*** *19:06:14.9± 0.8, 41.84N× 19.54E, h3km± 2km, ML2.7/8*
ATH ***04*** *19:06:15.4, 41.84N× 19.26E, h16km± 2km, ML2.7/2, Error ellipse: s-maj=5.3km s-min=1.7km az=173.0*
PDG ***04*** *19:06:15.5± 0.2, 41.89N× 19.37E, h11km, ML2.2/12, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
BEO ***04*** *19:06:18.1± 0.3, 41.97N× 19.53E, h5km± 2km, ML2.5/8*

ISC 04 19:06:16.0±0.9, **41.89N**±0.02× **19.36E**±0.02, **h8**km±7km, **n93**, σ1**s00**/154, **18C-10D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.11**	**313**	⇓*i*	Pg		**Pg**	**19 06 18.6**	**0.0**
ULC				*i*	Sg		**Sg**	**19 06 21.0**	**+0.6**
DRME	**Dracevica, Mon**	**0.33**	**337**	⇑*i*	Pg		**Pg**	**19 06 27.0**	**-0.5**
DRME				*i*	Sg		**Sg**	**19 06 27.2**	**+0.4**
DRME	**Dracevica, Mon**	**0.33**	**337**	*e*	Pg		**Pg**	**19 06 22.7**	**+0.2**
DRME				*e*	Sg		**Sb**	**19 06 28.4**	**-1.2**
PUK	**Puka**	**0.43**	**68**	*i*	PG		**Pg**	**19 06 23.3**	**-1.1**
PUK				*i*	SG		**Sg**	**19 06 29.7**	**-0.4**
BUM	**Brajici-Budva**	**0.54**	**320**	⇓*i*	Pg		**Pg**	**19 06 25.6**	**-0.9**
BUM				*i*	Sg		**Sb**	**19 06 34.5**	**-1.3**
PDG	**Podgorica**	**0.55**	**352**	*e*	Pg		**Pg**	**19 06 26.1**	**-0.5**
PDG				*e*	Sg		**Sb**	**19 06 35.4**	**-0.6**
PDG	**Podgorica**	**0.55**	**352**	⇑	P		**Pg**	**19 06 26.4**	**-0.2**
PDG				⇑	S		**Sb**	**19 06 35.2**	**-0.8**
PDG	**Podgorica**	**0.55**	**352**	*e*	Pg		**Pg**	**19 06 26.3**	**-0.3**
PDG				*e*	Sg		**Sb**	**19 06 35.2**	**-0.8**
TTG	**Podgorica**	**0.55**	**352**	⇓*i*	Pg		**Pg**	**19 06 25.9**	**-0.7**
TTG	**Podgorica**	**0.55**	**352**	*e*	Pg		**Pg**	**19 06 26.3**	**-0.3**
TTG				*i*	Sg		**Sg**	**19 06 34.4**	**+0.6**
TIR	**Tirane**	**0.66**	**145**	P			**Pg**	**19 06 28.3**	**-0.4**
TIR				S			**Sb**	**19 06 39.9**	**+0.8**
TIR	**Tirane**	**0.66**	**145**	*i*	PG		**Pg**	**19 06 28.5**	**-0.2**
TIR				*i*	SG		**Sb**	**19 06 38.9**	**-0.2**
TIR	**Tirane**	**0.66**	**145**	*e*	Pg		**Pb**	**19 06 29.0**	**-0.8**
TIR				*e*	Sg		**Sb**	**19 06 40.4**	**+1.3**
TIR	**Tirane**	**0.66**	**145**	P			**Pg**	**19 06 28.2**	**-0.5**
TIR				S			**Sb**	**19 06 38.0**	**-1.1**
TIR				AML		AML		19 06 42.5	
	comp=N,1062μm,0.5s								
TIR				AML		AML		19 06 43.1	
	comp=E,1916μm,0.4s								
TIR	**Tirane**	**0.66**	**145**	⇑	S		**Sb**	**19 06 40.3**	**+1.1**
BCI	**Bajram Curri**	**0.71**	**48**	*i*	PG		**Pg**	**19 06 28.4**	**-1.4**
BCI				*i*	SG		**Sg**	**19 06 38.7**	**-0.3**
CEME	**Cevo**	**0.74**	**334**	⇓*i*	Pg		**Pg**	**19 06 29.5**	**-0.7**
CEME				*i*	Sg		**Sg**	**19 06 41.3**	**-0.4**
PHP	**Peshkopia**	**0.83**	**104**	P			**Pg**	**19 06 30.8**	**-1.3**
PHP				S			**Sb**	**19 06 43.5**	**-0.8**
PHP	**Peshkopia**	**0.83**	**104**	*i*	PG		**Pg**	**19 06 31.2**	**-0.9**
PHP				*i*	SG		**Sb**	**19 06 43.7**	**-0.6**
PVY	**Plav**	**0.84**	**32**	⇑*i*	Pg		**Pg**	**19 06 30.9**	**-1.2**
PVY				*i*	Sg		**Sg**	**19 06 43.5**	**+0.5**
HCY	**Herceg Novi**	**0.85**	**311**	⇓*i*	Pg		**Pg**	**19 06 31.4**	**-1.0**
HCY				*i*	Sg		**Sb**	**19 06 45.1**	**+0.4**
HCY	**Herceg Novi**	**0.85**	**311**	*e*	Pg		**Pb**	**19 06 32.2**	**-0.9**
HCY				*e*	Sg		**Sn**	**19 06 46.4**	**-0.7**
NKY	**Niksic**	**0.96**	**344**	⇑*i*	Pg		**Pg**	**19 06 33.0**	**-1.6**
NKY				*i*	Sg		**Sb**	**19 06 47.9**	**-0.2**
KOME	**Kolasin**	**0.97**	**7**	⇑*i*	Pg		**Pg**	**19 06 33.5**	**-1.2**
KOME				*i*	Sg		**Sb**	**19 06 48.7**	**+0.5**
IVA	**Berane**	**1.06**	**22**	⇑*i*	Pg		**Pg**	**19 06 35.1**	**-1.3**
IVA	**Berane**	**1.06**	**22**	*e*	Pg		**Pg**	**19 06 35.1**	**-1.3**
IVA				*i*	Sg		**Sb**	**19 06 51.7**	**+0.8**
TREB	**Trebinje**	**1.12**	**318**	*e*	Pg		**Pn**	**19 06 37.8**	**-0.2**
TREB				*e*	Sg		**Sn**	**19 06 55.7**	**+2.1**
TREB	**Trebinje**	**1.12**	**318**	*e*	Pg		**Pn**	**19 06 37.5**	**-0.5**
TREB				*e*	Sg		**Sn**	**19 06 54.7**	**+1.1**
BRY	**Bratogost**	**1.18**	**329**	⇑*i*	Pg		**Pg**	**19 06 37.0**	**-1.7**
BRY				*i*	Sg		**Sn**	**19 06 55.0**	**-0.4**
BRY	**Bratogost**	**1.18**	**329**	*e*	Pg		**Pg**	**19 06 38.1**	**-0.6**
BRY				*e*	Sg		**Sn**	**19 06 56.4**	**+1.0**
DBRK	**Dubrovnik**	**1.19**	**311**	*e*	Pg		**Pg**	**19 06 37.8**	**-1.1**
DBRK				Sg			**Sn**	**19 06 56.7**	**+1.2**
OHR	**Ohrid**	**1.33**	**125**	*i*	Pn		**Pn**	**19 06 39.5**	**-1.5**
UPM	**Unac-Piva**	**1.36**	**346**	⇓*i*	Pg		**Pn**	**19 06 40.4**	**-1.1**
UPM				*i*	Sg		**Sn**	**19 07 01.5**	**+1.7**
UPM	**Unac-Piva**	**1.36**	**346**	⇓*i*	Pg		**Pn**	**19 06 40.7**	**-0.8**
UPM				*e*	Sg		**Sn**	**19 07 01.1**	**+1.3**
PLE	**Pljevlja**	**1.44**	**1**	⇓*i*	Pg		**Pn**	**19 06 42.2**	**-0.4**
PLE				*i*	Sg		**Sg**	**19 07 04.3**	**+1.9**
SJES	**Sjenica**	**1.45**	**18**	*e*	Pg		**Pn**	**19 06 42.2**	**-0.5**
SJES				*e*	Sg		**Sb**	**19 07 01.2**	**-0.8**
SKO	**Skopje**	**1.56**	**86**	*e*	Pg		**Pb**	**19 06 45.0**	**-0.1**
SKO				*e*	Sg		**Sn**	**19 07 03.4**	**-1.1**
SKO	**Skopje**	**1.56**	**86**	*i*	Pn		**Pg**	**19 06 45.6**	**-0.3**
STON	**Ston**	**1.57**	**309**	*e*	Pn		**Pb**	**19 06 44.9**	**-0.5**
STON				Sn			**Sg**	**19 07 08.6**	**+2.0**
RUDO	**Rudo**	**1.73**	**0**	⇑*i*	Pn		**Pn**	**19 06 46.8**	**+0.3**
RUDO				*e*	Sn		**Sb**	**19 07 10.0**	**0.0**
SELS	**Selova**	**1.86**	**44**	*e*	Pg		**Pn**	**19 06 48.5**	**+0.2**
SELS				*e*	Sg		**Sn**	**19 07 11.2**	**-0.9**
FNA	**Florina**	**1.88**	**125**	P			**Pn**	**19 06 47.8**	**-0.7**
FNA				S			**Sn**	**19 07 12.5**	**0.0**
	comp=E,112nm,0.5s								
FNA	**Florina**	**1.88**	**125**	P			**Pb**	**19 06 49.7**	**-0.9**
FNA				AML		AML		19 07 17.5	
	comp=N,220μm,0.7s								
FNA				AML		AML		19 07 23.0	
	comp=E,230μm,0.4s								
SCTE	**Santa Cesarea**	**1.93**	**201**	P			**Pn**	**19 06 48.8**	**-0.4**
NEST	**Nestorio**	**1.95**	**138**	P			**Pb**	**19 06 51.1**	**-0.8**
BBLS	**Lazići**	**1.98**	**1**	*e*	Pg		**Pb**	**19 06 52.1**	**-0.3**
BBLS				*e*	Sg		**Sg**	**19 07 19.0**	**-0.6**
BBLS	**Lazići**	**1.98**	**1**	*e*	Pn		**Pn**	**19 06 50.0**	**+0.1**
BBLS				*e*	Sn		**Sn**	**19 07 15.3**	**+0.3**
BARS	**Barje**	**2.04**	**62**	*e*	Pg		**Pn**	**19 06 51.5**	**+0.7**
BARS				*e*	Sg		**Sb**	**19 07 18.6**	**-0.5**
NOCI	**Noci**	**2.04**	**238**	P			**Pn**	**19 06 50.5**	**-0.3**
SRN	**Sarande**	**2.06**	**166**	P			**Pn**	**19 06 51.1**	**+0.1**
STIP	**Stip**	**2.12**	**94**	*i*	Pn		**Pb**	**19 06 54.5**	**-0.3**
PENT	**Pentalofos**	**2.16**	**141**	P			**Pb**	**19 06 53.7**	**-1.8**
KEK	**Kerkira**	**2.20**	**171**	P			**Pn**	**19 06 52.4**	**-0.4**
KEK	**Kerkira**	**2.20**	**171**	P			**Pn**	**19 06 52.4**	**-0.4**
MAKA	**Makarska**	**2.22**	**310**	*e*	Pn		**Pn**	**19 06 54.4**	**+1.2**
MAKA				Sn			**Sb**	**19 07 23.1**	**-1.1**
GRUS	**Gruza**	**2.24**	**26**	*e*	Pg		**Pn**	**19 06 54.6**	**+1.2**
GRUS				*e*	Sg		**Sb**	**19 07 24.8**	**+0.3**
DIVS	**Divibare**	**2.26**	**12**	*e*	Pn		**Pn**	**19 06 54.7**	**+0.9**
DIVS				*e*	Sn		**Sn**	**19 07 21.7**	**-0.2**
DIVS	**Divibare**	**2.26**	**12**	*e*	Pn		**Pn**	**19 06 53.5**	**-0.3**
DIVS				*e*	Sn		**Sn**	**19 07 21.8**	**-0.2**
RICI	**Ricice**	**2.30**	**315**	*e*	Pn		**Pb**	**19 06 56.2**	**-1.5**
RICI				Sn			**Sb**	**19 07 25.9**	**-0.4**
BOSS	**Bosilegrad**	**2.40**	**74**	*e*	Pg		**Pb**	**19 06 59.0**	**-0.5**
BOVS	**Bovan**	**2.46**	**44**	*e*	Pg		**Pb**	**19 07 00.3**	**-0.2**
BOVS				*e*	Sg		**Sb**	**19 07 31.0**	**+0.1**
TRUS	**Trudelj**	**2.46**	**18**	*e*	Pn		**Pn**	**19 06 57.4**	**+0.9**
IGT	**Igoumenitsa**	**2.47**	**162**	P			**Pn**	**19 06 56.3**	**-0.3**
IGT	**Igoumenitsa**	**2.47**	**162**	P			**Pn**	**19 06 57.4**	**+0.9**
HVAR	**Hvar**	**2.51**	**302**	*e*	Pn		**Pn**	**19 06 58.6**	**+1.5**
HVAR				Sn			**Sb**	**19 07 30.1**	**-2.3**
TEKS	**Tekeris**	**2.67**	**3**	*e*	Pn		**Pn**	**19 07 00.2**	**+0.9**
TEKS				*e*	Sn		**Sn**	**19 07 33.1**	**+1.3**
ZAPS	**Zavoj**	**2.79**	**59**	*e*	Pg		**Pb**	**19 07 05.7**	**-0.4**
ZAPS				*e*	Sn		**Sn**	**19 07 33.2**	**-1.7**
ZAGS	**Zajecar**	**2.86**	**47**	*e*	Pn		**Pn**	**19 07 02.5**	**+0.5**
VTS	**Vitosha**	**2.97**	**74**	*e*	Pn		**Pn**	**19 07 04.3**	**+0.7**
VTS	**Vitosha**	**2.97**	**74**	⇑	P		**Pn**	**19 07 05.1**	**+1.5**
VTS				⇑	S		**Sn**	**19 07 40.5**	**+0.9**
VTS	**Vitosha**	**2.97**	**74**	*i*	P		**Pn**	**19 07 04.6**	**+1.0**
VTS					S		**Sn**	**19 07 40.4**	**+0.9**
VTS					S		**Sg**	**19 07 55.2**	**+3.8**
BLKB	**Belogradchik**	**3.00**	**54**	⇑	S		**Sn**	**19 07 41.6**	**+1.5**
THL	**Klokotos Trika**	**3.08**	**138**	P			**Pn**	**19 07 05.8**	**+0.9**
HORT	**Hortiatis**	**3.10**	**113**	P			**Pn**	**19 07 06.2**	**+0.8**
TSLK	**Tsoukalades, L**	**3.21**	**162**	P			**Pn**	**19 07 07.7**	**+0.8**
LKD2	**Lefkada island**	**3.25**	**162**	P			**Pn**	**19 07 07.5**	**+0.2**
ZIRJ	**Zirje**	**3.25**	**304**	*e*	Pn		**Pn**	**19 07 09.1**	**+1.7**
ZIRJ				Sn			**Sn**	**19 07 49.0**	**+2.7**
SRS	**Serrai**	**3.27**	**102**	P			**Pn**	**19 07 09.0**	**+1.3**
CUC	**Castrocucco**	**3.28**	**236**	P			**Pn**	**19 07 07.8**	**0.0**
FRGS	**Fruska Gora**	**3.29**	**6**	*e*	Pn		**Pn**	**19 07 08.9**	**+1.0**
FRGS	**Fruska Gora**	**3.29**	**6**	*e*	Pn		**Pn**	**19 07 08.1**	**+0.2**
FRGS				*e*	Sn		**Sn**	**19 07 47.3**	**+0.1**
MORI	**Morici**	**3.33**	**308**	*e*	Pn		**Pn**	**19 07 11.0**	**+2.5**
MORI				Sn			**Sn**	**19 07 49.1**	**+0.8**
MDVR	**Moldovita**	**3.37**	**30**	⇓	P		**Pn**	**19 07 10.1**	**+1.2**
NVR	**Nevrokopi**	**3.42**	**98**	P			**Pn**	**19 07 11.0**	**+1.3**
MAKR	**Makrakomi, Fth**	**3.57**	**143**	P			**Pn**	**19 07 12.7**	**+1.0**
HERR	**Herculane**	**3.73**	**36**	⇑	P		**Pn**	**19 07 14.7**	**+0.8**
HERR				⇑	S		**Sn**	**19 07 59.6**	**+1.5**
DUGI	**Dugi Otok**	**3.79**	**305**	*e*	Pn		**Pn**	**19 07 16.4**	**+1.6**
DUGI				Sn			**Sn**	**19 08 00.1**	**+0.4**
BZS	**Buzias**	**4.07**	**23**	*e*	Pn		**Pn**	**19 07 18.9**	**+0.3**
BZS	**Buzias**	**4.07**	**23**	⇓	P		**Pn**	**19 07 19.5**	**+0.8**
BZS				⇑	S		**Sn**	**19 08 06.4**	**-0.1**
MORH	**Mrgy, Hungar**	**4.36**	**353**	*e*	Pn		**Pn**	**19 07 22.8**	**+0.3**
MORH				*e*	Sn		**Sn**	**19 08 13.2**	**-0.3**
SIRR	**Siria**	**4.68**	**20**	⇑	P		**Pn**	**19 07 27.5**	**+0.4**
SIRR				⇑	S		**Sn**	**19 08 21.3**	**-0.3**
CRES	**Cresnjev**	**4.84**	**326**	*e*	Pn		**Pn**	**19 07 30.4**	**+1.2**
CEY	**Cerknica**	**5.25**	**319**	*e*	Pn		**Pn**	**19 07 34.5**	**-0.3**
CEY				*e*	Sn		**Sn**	**19 08 35.8**	**+0.2**

NNC ***04*** *19:21:48.1± 12.0, 37.81N× 72.53E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=125.2km s-min=74.6km az=145.0*

ISC 04 19:21:47.0±4.7, **37.6N**±0.3× **72.1E**±0.2, **h130**km, **n11**, σ0**s66**/14, **5C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.71**	**15**	P			**Pn**	**19 22 57.1**	**+0.5**
	SNR=98								
UCH	**Uchtor**	**5.01**	**21**	P			**Pn**	**19 23 00.9**	**+0.4**
	SNR=30								
KZA	**Kyzart**	**5.11**	**27**	P			**Pn**	**19 23 01.5**	**-0.4**
	SNR=12								
EKS2	**Erkin-Say**	**5.24**	**14**	P			**Pn**	**19 23 04.0**	**+0.6**
	SNR=9.8								
AAK	**Ala-Archa**	**5.38**	**19**	P			**Pn**	**19 23 06.0**	**+0.6**
	SNR=12								
AAK	**Ala-Archa**	**5.38**	**19**	⇑	P		**Pn**	**19 23 05.9**	**+0.6**
	9.6nm,0.5s								
AAK				⇓	S		**Sn**	**19 24 06.6**	**+0.3**
	4.2nm,0.6s								
ULHL	**Ulahol**	**5.65**	**33**	P			**Pn**	**19 23 08.3**	**-0.6**
	SNR=12								
KK31	**Karatay Array**	**5.65**	**348**	⇑	P		**Pn**	**19 23 09.2**	**+0.4**
	2.3nm,0.4s,baz=152,slow=13,SNR=80								
KK31				⇑	S		**Sn**	**19 24 11.2**	**-1.4**
	3.6nm,0.3s,baz=158,slow=24,SNR=5.0								
CHMS	**Chumysh**	**5.79**	**20**	P			**Pn**	**19 23 10.9**	**+0.3**
	SNR=5.5								
TKM2	**Tokmak 2**	**5.97**	**26**	P			**Pn**	**19 23 13.3**	**0.0**
	SNR=6.5								
TKM2	**Tokmak 2**	**5.97**	**26**	⇑	P		**Pn**	**19 23 13.0**	**-0.3**
	6.0nm,0.8s								
TKM2				⇑	S		**Sn**	**19 24 21.0**	**+0.3**
	0.8nm,0.5s								

IDC 04 19:27:19.9±3.2, **7.75S**×**146.72E, h0**km, **mb3.2**/1, **mb1 3.8**/2, **mb1mx3.3**/38, **mbtmp3.6**/2, **ML3.3**/1, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.8**/18, **Error ellipse: s-maj=63.8km s-min=30.4km az=62.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.71**	**165**	P		Pn		19 27 50.5	-0.4
	4.8nm,0.3s,baz=348,slow=9.3,SNR=21								
PMG				Sn		Sg		19 28 15.4	+0.7
	6.5nm,0.3s,baz=336,slow=22,SNR=12								
WRA	**Warramunga Arr**	**17.06**	**223**	P		Pn		19 31 20.4	+0.3
	0.1nm,0.3s,baz=48,slow=11,SNR=6.9								
ASAR	**Alice Springs**	**20.04**	**216**	P		P		19 31 54.1	-0.7
	0.8nm,0.5s,baz=47,slow=10,SNR=7.9								
ASAR				LR		LR		19 39 49.3	
	comp=Z,109nm,20.2s,baz=14,slow=37								
TORD	**Torodi Ar. Bea**	**145.21**	**282**	PKPbc		PKPbc		19 46 60.0	-0.3
	0.7nm,0.7s,baz=62,slow=3.0,SNR=3.1								

MOS ***04*** *19:36:33.2± 0.8, 32.55N× 140.69E, h53km, mb5.0/31, Error ellipse: s-maj=8.5km s-min=4.7km az=118.8*
BJI ***04*** *19:36:34.0± 0.0, 32.60N× 140.70E, h65km, mB4.9/26, mb4.6/42, Ms4.6/4, Ms7 4.4/4*
NIED ***04*** *19:36:36.9, 32.73N× 140.78E, h68km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr 2.52; Mθθ -0.09; Mφφ -2.43; Mrθ 0.38; Mθφ -0.90; Mφr -3.15; Fault plane solution: M 4.13000×10^15 NP1: φs 180.00000°, δ 71.00000°, λ 76.00000°. NP2: φs 37.00000°, δ 23.00000°, λ 125.00000°.*
JMA ***04*** *19:36:36.8± 0.2, 32.73N× 140.78E, h68km, M4.5*
JMA Felt I J1.
NEIC ***04*** *19:36:37.0± 1.1, 32.60N± 0.08× 140.68E± 0.09, h69km± 5km, mb4.7/132, Error ellipse: s-maj=12.9km s-min=10.4km az=220.0*
IDC ***04*** *19:36:36.4± 0.8, 32.59N× 140.70E, h65km± 5km, mb4.2/29, mb1 4.3/33, mb1mx4.2/57, mbtmp4.5/33, MS3.2/12, Ms1 3.2/12, ms1mx3.0/56, Error ellipse: s-maj=13.2km s-min=9.4km az=24.0*

ISC 04 19:36:36.6±0.6, **32.62N**±0.05× **140.80E**±0.05, **h71**km±4km, **h72**km:**pP-P, n361**, σ1**s31**/373, **mb4.8**/131, **14C-21D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**0.89**	**260**	⇑	P		**Pn**	**19 36 54.2**	**+0.4**
JHCJ	**Hachijojimakas**	**0.95**	**298**	⇑	P		**Pn**	**19 36 54.0**	**-0.6**
JHCJ					S		**Sn**	**19 37 06.3**	**-1.7**
JHJ2	**Mitsune**	**0.96**	**301**	⇑	P		**Pn**	**19 36 54.2**	**-0.4**
JHJ2					S		**Sn**	**19 37 06.9**	**-1.2**
JHJ2	**Mitsune**	**0.96**	**301**		Pn		**Pn**	**19 36 54.2**	**-0.4**
JHJ	**Hachijo jima 2**	**0.99**	**300**		P		**Pn**	**19 36 54.0**	**-1.0**
	547nm,0.3s,baz=316,slow=7.2,SNR=1714								
JHJ					S		**Sn**	**19 37 06.6**	**-2.1**
	3μm,0.3s,baz=62,slow=23,SNR=20								
JHJ					LR		LR	19 37 23.1	
	comp=Z,2μm,18.4s,baz=278,slow=51								
JMKN	**Mikurajimanish**	**1.62**	**322**	⇓	P		**Pn**	**19 37 02.5**	**-0.7**
JMKN					S		**Sn**	**19 37 21.7**	**-1.6**
BSO1	**Boso 1**	**2.03**	**4**		P		**Pn**	**19 37 07.3**	**-0.9**
BSO3	**Boso 3**	**2.19**	**354**		P		**Pn**	**19 37 09.4**	**-1.1**
BSO3				*e*	S		**Sn**	**19 37 34.9**	**-1.6**
JIM2	**Oshima 3**	**2.38**	**332**	⇓	P		**Pn**	**19 37 12.5**	**-0.9**
JIM2					S		**Sn**	**19 37 38.5**	**-3.1**
JIZS	**Izushimoda**	**2.63**	**323**	⇓	P		**Pn**	**19 37 16.9**	**+0.1**
JIZS				*e*	S		**Sn**	**19 37 46.2**	**-1.5**
TK02	**Tokai 2**	**2.87**	**298**		P		**Pn**	**19 37 21.2**	**+1.4**
JOD2	**Odawara 2**	**2.99**	**332**	⇓	P		**Pn**	**19 37 21.2**	**-0.5**
JOD2				*e*	S		**Sn**	**19 37 53.8**	**-2.7**
TK04	**Tokai 4**	**3.01**	**307**		P		**Pn**	**19 37 23.1**	**+1.3**
JFNN	**Fujinakano**	**3.11**	**326**		P		**Pn**	**19 37 23.5**	**+0.2**
SHZ3	**Shizuoka 3**	**3.25**	**319**		P		**Pn**	**19 37 26.4**	**+1.1**
JYN	**Shimob**	**3.42**	**327**	⇓	P		**Pn**	**19 37 28.4**	**+0.7**
TTO1	**TONANKAI O.B.S**	**3.51**	**288**	⇓	P		**Pn**	**19 37 30.3**	**+1.8**
JRY	**Ryogami san**	**3.73**	**336**		P		**Pn**	**19 37 31.6**	**-0.2**
JIE	**Ise**	**3.85**	**298**		P		**Pn**	**19 37 34.4**	**+1.1**
JAG	**Ashikaga**	**3.95**	**344**		P		**Pn**	**19 37 33.1**	**-1.7**
INU	**Inuyama**	**4.16**	**312**		Pn		**Pn**	**19 37 38.6**	**+1.0**
MJAR	**Matsushiro Arr**	**4.46**	**332**		P		**Pn**	**19 37 41.5**	**-0.2**
	0.8nm,0.3s,baz=152,slow=11,SNR=43								
MJAR					S		**Sn**	**19 38 30.1**	**-2.1**
	1.2nm,0.3s,baz=294,slow=21,SNR=5.3								
MJAR					LR		LR	19 38 54.8	
	comp=Z,63nm,21.5s,baz=175,slow=31								
MAJO	**Matsushiro**	**4.46**	**332**	*c*	P		**Pn**	**19 37 41.2**	**-0.5**
MAJO					pmax	pmax			
	comp=Z,18nm,0.9s								
MAJO	**Matsushiro**	**4.46**	**332**		Pn		**Pn**	**19 37 41.7**	**+0.1**
MAT	**Matsushiro**	**4.46**	**332**		P		**Pn**	**19 37 41.8**	**+0.1**
MAT					S		**Sn**	**19 38 29.6**	**-2.7**
MJB9	**Matsu-Tunnel**	**4.46**	**332**		Pn		**Pn**	**19 37 41.6**	**-0.2**
JCJ	**Chichijima**	**5.64**	**167**		S		**Sn**	**19 38 55.1**	**-6.1**
	comp=Z,42nm,0.3s,baz=244,slow=22,SNR=6.2								
JCJ					LR		LR	19 40 07.3	
	comp=Z,93nm,20.8s,baz=12,slow=38								
JNU	**Nakatsue**	**8.36**	**276**		P		**Pn**	**19 38 35.6**	**+0.6**
	comp=Z,2.9nm,0.3s,baz=126,slow=4.1,SNR=24								
JNU					LR		LR	19 41 43.7	
	comp=Z,268nm,21.3s,baz=162,slow=37								
JNU	**Nakatsue**	**8.36**	**276**		Pn		**Pn**	**19 38 37.9**	**+2.9**
ERM	**Erimo**	**9.56**	**11**	⇑	P		**Pn**	**19 38 48.7**	**-2.6**
ERM	**Erimo**	**9.56**	**11**		Pn		**Pn**	**19 38 47.9**	**-3.5**
ERM							**Sn**	**19 40 30.5**	**-6.6**
NMR	**Nemuro--Hokkai**	**11.41**	**18**	⇓	P		Pn	19 39 12.0	-4.5
ASAJ	**Asahikawa**	**11.56**	**6**		P		**Pn**	**19 39 14.8**	**-3.8**
	comp=Z,1.6nm,0.3s,baz=208,slow=14,SNR=21								
ASAJ	**Asahikawa**	**11.56**	**6**		P		**Pn**	**19 39 18.8**	**+0.2**
JKA	**Kamikawa-asahi**	**11.56**	**6**		Pn		**Pn**	**19 39 18.8**	**+0.1**
KSRS	**Korea Array**	**11.60**	**298**		P		**Pn**	**19 39 19.9**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=108,slow=13,SNR=8.5								
KSRS					LR		LR	19 43 55.5	
	comp=Z,174nm,19.0s,baz=94,slow=38								
KS19	**Wonju Array Si**	**11.66**	**298**		Pn		**Pn**	**19 39 19.6**	**-0.4**
GLVR	**Golovnino**	**11.70**	**17**	*e*	P		**Pn**	**19 39 16.6**	**-3.9**
GRPR	**Tuman**	**12.00**	**18**		P		Pn	19 39 20.1	-4.5
YUK	**Yuzh-Kuril'sk**	**12.06**	**18**	*e*	P		Pn	19 39 20.3	-5.2
YUK					pmax	pmax			
	comp=Z,61nm,0.6s								
TEY	**Ternei**	**12.82**	**346**	*e*	P		**Pn**	**19 39 31.3**	**-4.4**
USRK	**Ussuriysk Ar.**	**13.45**	**332**		P		**Pn**	**19 39 43.0**	**-1.3**
	baz=99,slow=13,SNR=6.4								
USRK					LR		LR	19 44 29.7	
	comp=Z,108nm,21.1s,baz=159,slow=35								
USRK	**Ussuriysk Ar.**	**13.45**	**332**		P			**19 39 43.0**	**-1.3**
KUR	**Kuril'sk**	**13.73**	**21**	*e*	P		**Pn**	**19 39 44.8**	**-3.1**
YSS	**Yuzh-Sakhalins**	**14.39**	**5**	*e*	P		**Pn**	**19 39 54.4**	**-2.1**
CN2	**Changchun**	**16.41**	**317**	*e*	P		**P**	**19 40 24.3**	**+0.4**
CN2					pmax	pmax			
	comp=Z,10.0nm,0.6s								
YOJ	**Yonaguni jima**	**17.60**	**247**		P		**P**	**19 40 38.2**	**+1.0**
YOJ					pmax	pmax			
	comp=Z,88nm,0.7s								
YOJ	**Yonaguni jima**	**17.60**	**247**		P		**P**	**19 40 38.2**	**+1.0**
KLR	**Kul'dur**	**17.92**	**340**		P		**P**	**19 40 37.3**	**-3.2**
	comp=Z,1.4nm,0.3s,baz=152,slow=8.0,SNR=28								
KLR	**Kul'dur**	**17.92**	**340**	⇓	*i* P		**P**	**19 40 39.7**	**-0.8**
KLR					pmax	pmax			
	comp=Z,2.0nm,0.9s								
TYV	**Tymovskoe**	**18.28**	**4**	*e*	P		**Pn**	**19 40 49.6**	**+4.5**
TYV	

CHTO Chiang Mai 39.88 260 P **P** **19 44 02.8 -0.8**
CHTO pmax pmax
comp=Z,13nm,1.0s
CHTO Chiang Mai 39.88 260 P **P** **19 44 02.8 -0.8**
CHTO IAmb IAmb 19 44 03.8
comp=Z,13nm,1.0s
CM31 Chiang Mai Arr 40.05 260 P **P** **19 44 04.4 -0.6**
CM31 IAmb IAmb 19 44 05.2
comp=Z,8.1nm,0.9s
CMAR Chiang Mai Arr 40.05 260 P **P** **19 44 03.6 -1.4**
comp=Z,3.2nm,0.8s,baz=50,slow=7.5,SNR=25
CMAR LR LR 20 03 03.2
comp=Z,42nm,18.3s,baz=248,slow=40
KSM Kuching 42.21 229 P **P** **19 44 21.7 -1.0**
DGZ Jazzator, Alta 42.69 310*d* iP **P** **19 44 27.1 +0.6**
DGZ pmax pmax
comp=Z,21nm,0.9s
ZSN Zaisan 44.37 306 *i* P **P** **19 44 40.5 +0.6**
comp=Z,14nm,1.0s,baz=306
ZSN Zaisan 44.37 306 *i* P **P** **19 44 40.4 +0.6**
ZSN pmax pmax
comp=Z,14nm,1.0s
ZAA0 Zalesovo Array 44.61 316 P **P** **19 44 41.2 -0.4**
ZALV Zalesovo Beam 44.61 316 P **P** **19 44 41.4 -0.3**
comp=Z,2.2nm,0.4s,baz=102,slow=8.1,SNR=12
ZALV PcP **PcP** **19 46 23.2 -0.1**
comp=Z,0.9nm,0.5s,baz=116,slow=4.3,SNR=2.7
ZALV Zalesovo Beam 44.61 316 *i* P **P** **19 44 42.0 +0.4**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
HNR Honiara 45.64 153 LR LR 20 02 52.6
comp=Z,48nm,21.2s,baz=332,slow=34
TAPN Taplejung 45.89 278 *e*P **P** **19 44 51.7 -0.8**
comp=Z,17nm,0.4s
MK31 Makanchi Array 46.15 306 P **P** **19 44 54.0 0.0**
MK31 pmax pmax
comp=Z,31nm,0.9s
MK31 Makanchi Array 46.15 306 P **P** **19 44 54.0 0.0**
MKAR Makanchi Array 46.15 306 P **P** **19 44 54.0 +0.1**
comp=Z,32nm,0.6s,baz=90,slow=9.8,SNR=343
MKAR ScP **ScP** **19 50 14.7 -1.1**
comp=Z,1.1nm,0.7s,baz=85,slow=4.6,SNR=8.2
SDPT Sand Point 46.32 42 P **P** **19 44 54.8 -0.2**
ODAN Odare 46.33 277 *e*P **P** **19 44 55.2 -0.6**
comp=Z,37nm,0.5s
MAKZ Makanchi 46.37 306 P **P** **19 44 55.6 0.0**
MAKZ pmax pmax
comp=Z,32nm,0.7s
MAKZ Makanchi 46.37 306 P **P** **19 44 55.6 0.0**
CNBA Chernabura Isl 46.80 43 P **P** **19 44 59.0 +0.3**
JIRN Jiri 47.06 279 *e*P **P** **19 45 01.4 -0.3**
PKI Pulchoki 47.74 279 *e*P **P** **19 45 05.8 -1.1**
comp=Z,24nm,0.9s
KKN Kakani 47.77 280 *e*P **P** **19 45 06.4 -0.6**
comp=Z,41nm,0.9s
DMN Daman 47.98 279 *e*P **P** **19 45 07.9 -0.8**
comp=Z,24nm,0.9s
GKN Gorkha 48.23 280 *e*P **P** **19 45 09.8 -0.7**
comp=Z,50nm,0.9s
KURK Kurchatov 48.35 311*d* iP **P** **19 45 10.1 -0.8**
KURK pmax pmax
comp=Z,24nm,0.8s
KURK Kurchatov 48.35 311 P **P** **19 45 10.4 -0.5**
SHLS Shalkode 48.56 301 *e*P **P** **19 45 09.1 -3.7**
comp=Z,4.3nm,0.5s,baz=300
SHLS Shalkode 48.56 301 *e*P **P** **19 45 09.0 -3.7**
SHLS pmax pmax
comp=Z,4.0nm,0.5s
DANN Dangsing 48.84 281 *e*P **P** **19 45 15.1 -0.3**
UZB Uzynbulak 48.88 301 *e*P **P** **19 45 14.8 -0.5**
baz=301
UZB Uzynbulak 48.88 301 *e*P **P** **19 45 14.7 -0.5**
TDK Taldyqorghan 49.04 304 *e*P **P** **19 45 16.0 -0.3**
comp=Z,8.8nm,0.7s,baz=303
TDK Taldyqorghan 49.04 304 *e*P **P** **19 45 16.0 -0.3**
TDK pmax pmax
comp=Z,9.0nm,0.7s
KOLN Koldanda 49.17 280 *e*P **P** **19 45 17.0 -0.8**
SATY Saty 49.34 301 *e*P **P** **19 45 18.4 -0.4**
baz=301
SATY Saty 49.34 301 *e*P **P** **19 45 18.3 -0.4**
SATY Saty 49.34 301 *e*P **P** **19 45 18.3 -0.4**
TTA Tatalina 49.37 33 P **P** **19 45 19.9 +1.3**
TTA Tatalina 49.37 33 P **P** **19 45 19.9 +1.3**
SVW2 Sparrevohn 49.37 35 P **P** **19 45 20.5 +1.9**
SVW2 IAmb IAmb 19 45 21.6
comp=Z,14nm,1.4s
PRZ Przheval'sk 49.44 300 P **P** **19 45 20.3 +0.7**
PRZ pmax pmax
comp=Z,13nm,0.8s
PRZ Przheval'sk 49.44 300 P **P** **19 45 20.3 +0.7**
PYUN Piuthan 49.57 281 *e*P **P** **19 45 20.4 -0.4**
comp=Z,67nm,0.4s
TARG Taragay, Kyrgy 50.01 299 P **P** **19 45 24.5 +0.2**
TARG IAmb IAmb 19 45 25.6
comp=Z,8.0nm,0.8s
CHKK Chushkaly 50.22 302 *i* P **P** **19 45 25.5 +0.2**
baz=302
CHKK Chushkaly 50.22 302 *i* P **P** **19 45 25.5 +0.2**
MDOK Medeo 50.30 301 *i* P **P** **19 45 26.4 +0.3**
baz=301
MDOK Medeo 50.30 301 *i* P **P** **19 45 26.3 +0.3**
AAA Alma-Ata 50.38 302 *e*P **P** **19 45 27.1 +0.4**
comp=Z,12nm,0.7s,baz=301
AAA Alma-Ata 50.38 302 *e*P **P** **19 45 27.0 +0.4**
AAA pmax pmax
comp=Z,11nm,0.7s
OHAK Old Harbor 50.39 40 P **P** **19 45 26.7 +0.4**
OHAK IAmb IAmb 19 45 28.3
comp=Z,8.2nm,0.8s
TNSS Tian-Shan 50.39 301 *e*P **P** **19 45 28.0 +0.9**
baz=301
TNSS Tian-Shan 50.39 301 *e*P **P** **19 45 28.0 +0.9**
KUU Kurty 50.67 303⇓ iP **P** **19 45 28.5 -0.3**
comp=Z,29nm,1.3s,baz=302
KUU Kurty 50.67 303*d* iP **P** **19 45 28.4 -0.3**
KUU pmax pmax
comp=Z,29nm,1.3s
MDSI Maura Dua 50.69 230 P **P** **19 45 28.2 -0.9**
comp=Z,11nm,0.7s
KDAK Kodiak Island 50.77 39 P **P** **19 45 29.8 +0.7**
comp=Z,17nm,0.5s,baz=263,slow=4.5,SNR=28
KDAK Kodiak Island 50.77 39 P **P** **19 45 29.8 +0.7**
KDAK pmax pmax
comp=Z,24nm,0.9s
KDAK Kodiak Island 50.77 39 P **P** **19 45 29.8 +0.7**
PPLA Purkeypile 51.10 33 P **P** **19 45 33.2 +1.4**
GSI Gunungsitoli 51.18 241 P **P** **19 45 32.0 -0.8**
comp=Z,36nm,2.6s
GSI Gunungsitoli 51.18 241 P **P** **19 45 31.8 -1.0**
SKT Skwentna 51.37 34 P **P** **19 45 35.0 +1.3**
SKT IAmb IAmb 19 45 35.6
comp=Z,7.0nm,1.1s
TKM2 Tokmak 2 51.39 301 P **P** **19 45 35.2 +0.9**
SNR=11
CNPM China Poot 51.47 37 P **P** **19 45 35.2 +0.8**
CNPM IAmb IAmb 19 45 39.6
comp=Z,15nm,1.1s
BPAW Bear Paw Mtn. 51.72 31 P **P** **19 45 36.8 +0.6**
SUA Susitna One 51.73 35 P **P** **19 45 37.0 +0.6**
SUA IAmb IAmb 19 45 38.2
comp=Z,8.5nm,0.8s
KBK Karagaybulak 51.91 301 P **P** **19 45 38.9 +0.7**
SNR=9.2
SGDS Sogindy 51.98 302⇓ iP **P** **19 45 38.4 -0.2**
comp=Z,6.0nm,0.8s,baz=302
SGDS Sogindy 51.98 302*d* iP **P** **19 45 38.3 -0.2**
SGDS pmax pmax
comp=Z,6.0nm,0.8s
CHMS Chumysh 51.98 302 P **P** **19 45 38.9 +0.4**
SNR=5.8
BTLS Baital 52.08 304⇓ iP **P** **19 45 39.1 -0.2**
comp=Z,10nm,0.9s,baz=304
BTLS Baital 52.08 304*d* iP **P** **19 45 39.0 -0.2**
BTLS pmax pmax
comp=Z,10.0nm,0.9s
USP Ospenovka 52.11 302 P **P** **19 45 39.5 0.0**
SNR=6.0
BRZS Berezniki 52.21 311⇓ iP **P** **19 45 39.7 -0.4**
comp=Z,7.7nm,0.7s,baz=310
BRZS Berezniki 52.21 311*d* iP **P** **19 45 39.7 -0.4**
BRZS pmax pmax
comp=Z,8.0nm,0.7s
AAK Ala-Archa 52.24 301 P **P** **19 45 41.1 +0.4**
comp=Z,5.0nm,0.6s,baz=109,slow=5.5,SNR=10
AAK Ala-Archa 52.24 301 P **P** **19 45 40.8 +0.2**

AAK Ala-Archa 52.24 301⇑ iP **P** **19 45 40.8 +0.2**
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 52.24 301 P **P** **19 45 40.9 +0.2**
AAK IAmb IAmb 19 45 41.5
comp=Z,7.2nm,0.8s
UCH Uchtor 52.31 301 P **P** **19 45 41.4 -0.1**
SNR=5.9
WB0 Warramunga Arr 52.45 188 P **P** **19 45 41.9 -0.3**
WB0 IAmb IAmb 19 46 06.8
comp=Z,16nm,1.2s
PMR Palmer 52.50 35 P **P** **19 45 42.9 +0.9**
PMR pmax pmax
comp=Z,14nm,1.0s
PMR Palmer 52.50 35 P **P** **19 45 42.9 +0.9**
PMR IAmb IAmb 19 45 43.3
comp=Z,14nm,1.0s
WR0 Warramunga Arr 52.63 187 P **P** **19 45 43.5 +0.1**
WR0 IAmb IAmb 19 45 56.7
comp=Z,15nm,1.4s
WB2 Warramunga Arr 52.63 188 P **P** **19 45 43.5 +0.1**
WB2 IAmb IAmb 19 46 10.3
comp=Z,12nm,1.4s
WRA Warramunga Arr 52.63 188 P **P** **19 45 43.2 -0.2**
comp=Z,2.0nm,0.3s,baz=4.0,slow=7.5,SNR=53
RND Reindeer 52.64 32 P **P** **19 45 43.8 +0.7**
RND pmax pmax
comp=Z,6.0nm,0.6s
RND Reindeer 52.64 32 P **P** **19 45 43.8 +0.7**
RND IAmb IAmb 19 45 44.1
comp=Z,5.8nm,0.6s
SML Sawmill 52.88 34 P **P** **19 45 45.5 +0.6**
SML IAmb IAmb 19 45 47.2
comp=Z,14nm,0.9s
AML Almayashu 52.93 301 P **P** **19 45 46.7 +0.7**
SNR=22
MDM Murphy Dome 52.94 30 P **P** **19 45 46.6 +1.3**
WRH Wood River Hil 52.99 31 P **P** **19 45 46.4 +0.8**
WRH IAmb IAmb 19 45 48.9
comp=Z,4.2nm,0.6s
COLA College 53.10 30⇓ iP **P** **19 45 48.2 +1.8**
COLA pmax pmax
comp=Z,6.0nm,0.8s
CCB Clear Creek Bu 53.12 31 P **P** **19 45 47.6 +1.1**
CCB IAmb IAmb 19 45 49.8
comp=Z,4.5nm,0.7s
BVAR Borovoye Array 53.24 315 P **P** **19 45 47.4 -0.2**
comp=Z,11nm,0.6s,baz=104,slow=7.4,SNR=80
BRVK Borovoye 53.30 315⇑ iP **P** **19 45 48.2 +0.2**
BRVK pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 53.30 315 P **P** **19 45 48.2 +0.2**
BRVK IAmb IAmb 19 45 50.5
comp=Z,9.3nm,0.7s
SCM Sheep Creek Mo 53.35 34 P **P** **19 45 49.5 +1.1**
SCM pmax pmax
comp=Z,16nm,0.9s
SCM Sheep Creek Mo 53.35 34 P **P** **19 45 49.5 +1.1**
HDA Harding Lake 53.49 31 P **P** **19 45 49.8 +0.5**
HDA IAmb IAmb 19 45 50.4
comp=Z,9.9nm,0.8s
IL31 53.51 31 P **P** **19 45 49.8 +0.4**
IL31 IAmb IAmb 19 45 50.6
comp=Z,6.3nm,0.7s
ILAR Eielson Array 53.51 31 P **P** **19 45 50.0 +0.6**
comp=Z,5.3nm,0.7s,baz=264,slow=6.1,SNR=56
RIDG Independent Ri 54.43 32 P **P** **19 45 56.8 +0.6**
RIDG IAmb IAmb 19 45 58.3
comp=Z,4.9nm,0.6s
DZA Taraz 54.45 302 *e*P **P** **19 45 56.8 0.0**
comp=Z,5.1nm,0.7s,baz=302
DZA Taraz 54.45 302 *e*P **P** **19 45 56.7 0.0**
DZA pmax pmax
comp=Z,5.0nm,0.7s
DOT Dot Lake 54.78 32 P **P** **19 45 59.2 +0.5**
DOT IAmb IAmb 19 46 00.2
comp=Z,5.9nm,0.7s
MENT Mentasta 54.98 33 P **P** **19 46 01.3 +1.1**
MENT IAmb IAmb 19 46 09.7
comp=Z,11nm,1.1s
KK31 Karatay Array 54.98 303 P **P** **19 46 00.6 +0.1**
KK31 pmax pmax
comp=Z,17nm,0.8s
KK31 Karatay Array 54.98 303 P **P** **19 46 00.6 +0.1**
KKAR Karatay Array 54.98 303 P **P** **19 46 00.7 +0.2**
KKAR pmax pmax
comp=Z,17nm,0.8s
KKAR Karatay Array 54.98 303 P **P** **19 46 00.7 +0.2**
BTK Batken 55.55 299 P **P** **19 46 04.6 -0.1**
BTK pmax pmax
comp=Z,8.0nm,1.0s
BTK Batken 55.55 299 P **P** **19 46 04.6 -0.1**
BTK IAmb IAmb 19 46 05.4
comp=Z,8.4nm,1.0s
IUG luzhnay 55.57 302 *e*P **P** **19 46 05.2 +0.3**
comp=Z,18nm,0.8s,baz=301
IUG luzhnay 55.57 302 *e*P **P** **19 46 05.1 +0.3**
IUG pmax pmax
comp=Z,18nm,0.8s
NIL Nilore 55.61 291 P **P** **19 46 05.2 0.0**
NIL pmax pmax
comp=Z,21nm,0.8s
NIL Nilore 55.61 291 P **P** **19 46 05.2 0.0**
EGAK Eagle 55.97 30 P **P** **19 46 07.8 +0.6**
GAR Garm 56.22 298 P **P** **19 46 09.6 0.0**
AS31 Alice Springs 56.36 188 P **P** **19 46 10.3 -0.1**
ASAR Alice Springs 56.36 188 P **P** **19 46 10.5 +0.1**
comp=Z,0.6nm,0.4s,baz=7.3,slow=6.9,SNR=23
CHGR Chuyangaron 57.19 298 P **P** **19 46 16.3 -0.1**
SVE Sverdlovsk 58.17 320 *e*P **P** **19 46 23.2 +0.4**
SVE pmax pmax
comp=Z,9.0nm,1.1s
HYT Haines Junctio 58.17 35 P **P** **19 46 25.1 +2.1**
INK Inuvik 58.55 26 P **P** **19 46 25.4 +0.2**
comp=Z,5.3nm,0.7s,baz=306,slow=8.8,SNR=10
INK Inuvik 58.55 26 P **P** **19 46 26.2 +0.9**
INK pmax pmax
comp=Z,6.0nm,0.8s
INK Inuvik 58.55 26 P **P** **19 46 26.2 +0.9**
INK IAmb IAmb 19 46 27.0
comp=Z,5.9nm,0.8s
KBL Kabul 58.61 293 P **P** **19 46 26.0 -0.5**
KBL pmax pmax
comp=Z,13nm,0.9s
KBL Kabul 58.61 293 P **P** **19 46 25.9 -0.5**
ARU Arti 59.37 320 P **P** **19 46 31.6 +0.4**
comp=Z,2.1nm,0.6s,baz=81,slow=3.5,SNR=15
ARU Arti 59.37 320⇑ iP **P** **19 46 31.1 -0.1**
ARU pmax pmax
comp=Z,9.0nm,0.9s
ARU Arti 59.37 320 P **P** **19 46 31.0 -0.1**
ARU IAmb IAmb 19 46 32.9
comp=Z,7.1nm,0.7s
WHY Whitehorse 59.46 35 P **P** **19 46 33.3 +1.4**
DZM Mont Dzumac 59.65 152 LR LR 20 12 12.6
comp=Z,46nm,18.3s,baz=39,slow=36
AKTO Aktyubinsk 61.30 314 P **P** **19 46 45.5 +1.0**
comp=Z,6.0nm,0.5s,baz=74,slow=14,SNR=23
DLBC Dease Lake 62.44 36 P **P** **19 46 53.3 +1.2**
comp=Z,1.1nm,0.5s,baz=294,slow=10,SNR=3.3
KIRV Kirov 63.49 324 P **P** **19 47 00.2 +1.4**
comp=Z,14nm,0.6s,baz=93,slow=6.7,SNR=5.1
HRA Herat 63.89 295 P **P** **19 47 02.4 +0.2**
HRA IAmb IAmb 19 47 03.6
comp=Z,10nm,0.7s
STKA Stephens Creek 64.16 179 P **P** **19 47 02.6 -0.9**
comp=Z,0.9nm,0.7s,baz=340,slow=15,SNR=1.6
STKA Stephens Creek 64.16 179 P **P** **19 47 02.6 -0.9**
STKA pmax pmax
comp=Z,2.0nm,1.4s
FORT Forrest 64.20 192 P **P** **19 47 04.9 +1.1**
PRGR Permogore 64.21 328 *e*P **P** **19 47 01.4 -2.1**
PRGR pmax pmax
comp=Z,28nm,1.4s
GEYT Alibeck 65.58 301 P **P** **19 47 13.4 +0.5**
comp=Z,2.3nm,0.7s,baz=45,slow=2.5,SNR=5.6
GEYT LR LR 20 19 32.6
comp=Z,32nm,19.0s,baz=75,slow=39
TMCR Tamitsa 66.38 332 *e*P **P** **19 47 16.1 -1.4**
TMCR pmax pmax
comp=Z,7.0nm,0.4s
KLMR Klimovskoe 67.23 329 *e*P **P** **19 47 21.8 -1.2**
KLMR pmax pmax
comp=Z,5.0nm,0.9s
KLMR Klimovskoe 67.23 329 *e*P **P** **19 47 21.9 -1.1**

KLMR AMP 19 47 24.1
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 67.95 340 P **P** **19 47 27.6 +0.2**
comp=Z,0.9nm,0.6s,baz=62,slow=11,SNR=1.9
ARE0 ARCESS Array S 67.95 340 P **P** **19 47 29.6 +2.2**
AKT Akhty 71.33 308 *e*P **P** **19 47 48.8 -0.1**
AKT *e* 19 48 07.4
AKT pmax pmax
comp=Z,16nm,0.6s
SHME Shamm 72.24 290 *i* P **P** **19 47 54.8 +0.3**
SNR=7.2
B08A Colville Reser 72.34 44 P **P** **19 47 56.2 +1.5**
B08A IAmb IAmb 19 47 56.9
comp=Z,5.6nm,0.8s
MDH Madha 72.47 289 P **P** **19 47 55.3 -0.5**
FIA1 FINESS Array S 72.48 333 P **P** **19 47 55.4 +0.2**
FIA1 pP **PcP** **19 48 13.4 +0.8**
FIA1 IAmb IAmb 19 48 14.1
comp=Z,7.6nm,0.8s
FINES FINESS Array B 72.48 333 P **P** **19 47 55.3 +0.1**
comp=Z,3.7nm,0.7s,baz=103,slow=5.0,SNR=16
FINES pP **PcP** **19 48 13.6 +1.0**
comp=Z,5.7nm,0.8s,baz=56,slow=7.6,SNR=6.3
MSFE Esma-Masafi 72.55 289 P **P** **19 47 56.8 +0.5**
UOSS Minazif 72.71 289 P **P** **19 47 57.3 0.0**
HATD Hatta, Dubai 72.82 289 P **P** **19 47 58.5 +0.5**
SOHO SOHO 72.83 288 *i* P **P** **19 47 58.1 +0.2**
SNR=9.4
ASHO Ashiyiah 72.95 289 P **P** **19 47 58.8 +0.1**
KBZ Khabaz 73.41 311 P **P** **19 48 01.8 +0.8**
comp=Z,7.4nm,1.0s,baz=129,slow=0.8,SNR=9.3
KIV Kislovodsk 73.44 312 *i* P **P** **19 48 04.2 +2.8**
SNR=6.0
KIV Kislovodsk 73.44 312 *e*P **P** **19 48 03.5 +2.2**
KIV pmax pmax
comp=Z,38nm,1.0s
KIV MLR MLR
comp=Z,113nm,18.0s
KIV Kislovodsk 73.44 312 P **P** **19 48 02.9 +1.6**
KIV IAmb IAmb 19 48 04.5
comp=Z,9.8nm,0.8s
YBH Yreka Blue Hor 73.48 51 P **P** **19 48 02.5 +0.9**
comp=Z,2.0nm,0.6s,baz=288,slow=4.9,SNR=8.1
YBH Yreka Blue Hor 73.48 51 P **P** **19 48 03.4 +1.8**
YBH pmax pmax
comp=Z,8.0nm,1.4s
YBH Yreka Blue Hor 73.48 51 P **P** **19 48 03.4 +1.8**
YBH IAmb IAmb 19 48 07.2
comp=Z,7.9nm,1.4s
ALNE Al Ain 73.50 288 P **P** **19 48 02.2 +0.3**
PINE Pine Mountain 73.61 48 P **P** **19 48 03.8 +1.3**
PINE IAmb IAmb 19 48 05.5
comp=Z,9.1nm,0.8s
VSU Vasula 74.00 330⇑ iP **P** **19 48 03.4 -0.8**
VSU pmax pmax
comp=Z,42nm,1.3s
K05A Summer Lake 74.17 49 P **P** **19 48 07.5 +1.7**
K05A IAmb IAmb 19 48 08.7
comp=Z,9.9nm,0.9s
MOD Modoc Plateau 74.96 50 P **P** **19 48 11.7 +1.4**
WALA Waterton Lakes 75.06 41 P **P** **19 48 12.9 +2.2**
BMO Blue Mountains 75.32 46 P **P** **19 48 13.6 +1.4**
BMO pmax pmax
comp=Z,3.0nm,0.7s
BMO Blue Mountains 75.32 46 P **P** **19 48 13.6 +1.4**
ORV Oroville 75.35 52 P **P** **19 48 13.3 +0.9**
ORV pmax pmax
comp=Z,2.0nm,0.7s
ORV Oroville 75.35 52 P **P** **19 48 13.3 +0.9**
J08A Circle Bar Ran 75.38 48 P **P** **19 48 14.4 +1.8**
J08A IAmb IAmb 19 48 15.2
comp=Z,10nm,1.3s
JTMT Jette 75.56 42 P **P** **19 48 16.0 +2.3**
JTMT IAmb IAmb 19 48 16.3
comp=Z,4.0nm,0.7s
ANN Anapa 76.24 315 *e*P P 19 48 10.9 -6.4
ANN *e**PP **PcP** **19 48 26.5 -2.5**
ANN *e* 19 51 07.6
ANN *e*S S 19 57 47.0 -9.0
ANN *e*SS **SS** **20 02 47.7 -2.5**
ANN pmax pmax
comp=Z,42nm,1.0s
CMB Columbia Colle 76.88 53 P **P** **19 48 22.3 +1.2**
CMB pmax pmax
comp=Z,6.0nm,1.2s
CMB Columbia Colle 76.88 53 P **P** **19 48 22.3 +1.2**
CMB IAmb IAmb 19 48 23.5
comp=Z,6.4nm,1.1s
MFID Camas Ranch 76.98 47 P **P** **19 48 23.0 +1.3**
WAKR Walker 77.27 52 P **P** **19 48 25.3 +1.7**
AKASG Malin Array Be 77.48 323 P **P** **19 48 24.6 +0.4**
comp=Z,0.9nm,0.4s,baz=48,slow=6.3,SNR=8.0
AKBB Malin Array Si 77.48 323 P **P** **19 48 24.2 0.0**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 77.48 323 P **P** **19 48 24.1 0.0**
LRM Limekiln Ridge 77.67 43 P **P** **19 48 27.1 +1.3**
FFC Flin Flon 77.70 32 P **P** **19 48 25.7 +0.4**
FFC pmax pmax
comp=Z,4.0nm,0.9s
FFC Flin Flon 77.70 32 P **P** **19 48 25.7 +0.4**
HLID Hailey 77.77 46 P **P** **19 48 27.6 +1.4**
KVN Kaiserville 77.87 51 P **P** **19 48 28.1 +1.2**
KVN pmax pmax
comp=Z,8.0nm,1.3s
KVN Kaiserville 77.87 51 P **P** **19 48 28.1 +1.2**
KVN IAmb IAmb 19 48 29.3
comp=Z,8.4nm,1.3s
NOA NORSAR Array B 78.05 337 P **P** **19 48 27.3 0.0**
comp=Z,1.4nm,0.7s,baz=52,slow=6.6,SNR=6.1
NOA pP **pP** **19 48 45.8 0.0**
comp=Z,3.3nm,0.8s,baz=41,slow=5.8,SNR=7.5
NVAR Mina Array Bea 78.06 52 P **P** **19 48 29.4 +1.4**
comp=Z,1.5nm,0.6s,baz=292,slow=5.5,SNR=14
NV11 Mina Array Sit 78.16 52 P **P** **19 48 29.9 +1.4**
PAGB Antelope Grade 78.17 55 P **P** **19 48 30.1 +1.7**
PAGB IAmb IAmb 19 48 30.8
comp=Z,8.0nm,0.8s
ELK Elko 78.81 49 P **P** **19 48 33.6 +1.5**
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 78.81 49 P **P** **19 48 33.6 +1.5**
ECR Eagle Creek 79.89 45 P **P** **19 48 39.2 +1.3**
R11A Troy Canyon, C 79.90 51 P **P** **19 48 39.0 +1.0**
TPNV Topopah Spring 80.23 52 P **P** **19 48 41.0 +1.2**
TPNV pmax pmax
comp=Z,4.0nm,0.7s
TPNV Topopah Spring 80.23 52 P **P** **19 48 41.0 +1.2**
TPNV IAmb IAmb 19 48 41.5
comp=Z,4.2nm,0.7s
HWUT Hardware Ranch 80.61 46 P **P** **19 48 43.5 +1.8**
DUG Dugway, Tooele 80.65 48 P **P** **19 48 43.5 +1.6**
DUG pmax pmax
comp=Z,5.0nm,0.9s
DUG Dugway, Tooele 80.65 48 P **P** **19 48 43.5 +1.6**
GSC Goldstone, Bar 80.76 54 P **P** **19 48 43.6 +1.0**
GSC pmax pmax
comp=Z,6.0nm,1.3s
GSC Goldstone, Bar 80.76 54 P **P** **19 48 43.6 +1.0**
PSUT Pine Spring 80.93 50 P **P** **19 48 44.2 +0.7**
TCUT Toone Canyon 80.99 47 P **P** **19 48 45.0 +1.1**
PD31 Pinedale Array 81.14 45 P **P** **19 48 45.0 +0.4**
PDAR Pinedale Array 81.14 45 P **P** **19 48 45.2 +0.6**
comp=Z,0.8nm,0.6s,baz=288,slow=3.7,SNR=6.0
SHPR Sheep Range 81.21 52 P **P** **19 48 46.6 +1.6**
BRTR Keskin Array B 81.40 312 P **P** **19 48 46.8 +0.8**
comp=Z,3.0nm,0.8s,baz=104,slow=5.2,SNR=10
BUR08 Bucovina Ar. S 81.45 322 P **P** **19 48 46.8 +0.8**
KOLS Kolonicke sedl 82.09 324 *e*P **P** **19 48 49.7 +0.5**
KOLS pmax pmax
comp=Z,3.0nm,1.2s
KOLS Kolonicke sedl 82.09 324 *e*P **P** **19 48 49.7 +0.5**
MTPU Mount Pierson 82.28 50 P **P** **19 48 52.7 +1.8**
P17A Butcher Ranch, 82.36 48 P **P** **19 48 52.6 +1.6**
RDMU Red Mountain 82.44 46 P **P** **19 48 52.8 +1.3**
SRU San Rafael Swe 82.71 48 P **P** **19 48 54.0 +1.1**
SRU pmax pmax
comp=Z,10.0nm,0.7s
SRU San Rafael Swe 82.71 48 P **P** **19 48 54.0 +1.1**
PPT Papeete 83.15 116 LR LR 20 20 49.9
comp=Z,27nm,21.0s,baz=308,slow=32
O20A White River Ci 83.51 46 P **P** **19 48 57.7 +0.8**
O20A IAmb IAmb 19 48 58.9
comp=Z,9.8nm,1.1s

MORC	**Moravsky Berou**	**83.77**	**327**	*e*P		**P**		**19 48 57.9**	**0.0**
MORC				*e*				19 49 16.3	
MORC	**Moravsky Berou**	**83.77**	**327**	P		**P**		**19 48 58.6**	**+0.7**
MORC				pmax	pmax				
	comp=Z,5.0nm,1.0s								
MORC	**Moravsky Berou**	**83.77**	**327**	P		**P**		**19 48 58.6**	**+0.7**
KRLC	**Kraliky**	**83.91**	**328**	*e*P		**P**		**19 48 59.1**	**+0.5**
KRLC	**Kraliky**	**83.91**	**328**	*e*P		**P**		**19 48 59.1**	**+0.5**
KRLC				*e*PCP		**PcP**		**19 49 03.9**	**+1.4**
DPC	**Dobruska-Polom**	**83.92**	**328**	*e*P		**P**		**19 48 59.6**	**+0.9**
DPC	**Dobruska-Polom**	**83.92**	**328**	*e*P		**P**		**19 48 59.6**	**+0.9**
DPC				*e*PCP		**PcP**		**19 49 04.3**	**+1.8**
PV21	**Cone Mtn., Par**	**84.01**	**48**	P		**P**		**19 49 01.0**	**+1.4**
PV23	**Carpenter Ridg**	**84.05**	**48**	P		**P**		**19 49 01.0**	**+1.1**
VYHS	**Vyhne**	**84.06**	**325**	*e*P		**P**		**19 49 00.5**	**+1.1**
VYHS	**Vyhne**	**84.06**	**325**	*e*P		**P**		**19 49 00.5**	**+1.1**
PV10	**Paradox Valley**	**84.08**	**48**	P		**P**		**19 49 01.2**	**+1.2**
PV14	**Lion Creek, Pa**	**84.09**	**48**	P		**P**		**19 49 01.1**	**+1.1**
Y14A	**Wickenburg**	**84.12**	**53**	P		**P**		**19 49 00.9**	**+0.9**
PV22	**Blue Mesa, Par**	**84.14**	**48**	P		**P**		**19 49 01.7**	**+1.5**
PV22				IAmb	IAmb			19 49 02.4	
	comp=Z,4.3nm,0.7s								
PV04	**Paradox Valley**	**84.16**	**48**	P		**P**		**19 49 01.7**	**+1.4**
PV04				IAmb	IAmb			19 49 02.6	
	comp=Z,6.7nm,0.9s								
PV19	**Morning Glory**	**84.16**	**48**	P		**P**		**19 49 01.5**	**+1.1**
PV17	**East Wray Mesa**	**84.19**	**48**	P		**P**		**19 49 01.7**	**+1.2**
PV16	**Nyswonger Mesa**	**84.20**	**48**	P		**P**		**19 49 01.9**	**+1.3**
PV16				IAmb	IAmb			19 49 02.7	
	comp=Z,8.4nm,0.7s								
PV11	**David Mesa, Pa**	**84.23**	**48**	P		**P**		**19 49 02.2**	**+1.5**
PV11				IAmb	IAmb			19 49 04.0	
	comp=Z,9.0nm,0.8s								
PV18	**Skein Mesa, Pa**	**84.24**	**48**	P		**P**		**19 49 01.9**	**+1.1**
PV03	**Paradox Valley**	**84.28**	**48**	P		**P**		**19 49 02.1**	**+1.2**
PV03				IAmb	IAmb			19 49 03.0	
	comp=Z,7.4nm,0.8s								
PV13	**Radium Mtn., P**	**84.35**	**48**	P		**P**		**19 49 02.4**	**+1.0**
PV13				IAmb	IAmb			19 49 03.3	
	comp=Z,9.4nm,0.7s								
JAVC	**Velka Javorina**	**84.36**	**326**	*e*P		**P**		**19 49 02.8**	**+1.9**
JAVC				*e*				19 49 20.3	
PV02	**Paradox Valley**	**84.37**	**48**	P		**P**		**19 49 02.6**	**+1.1**
PV02				IAmb	IAmb			19 49 03.5	
	comp=Z,6.0nm,0.8s								
N23A	**Red Feather La**	**84.42**	**44**	P		**P**		**19 49 03.1**	**+1.5**
N23A				IAmb	IAmb			19 49 04.2	
	comp=Z,8.2nm,1.1s								
PV01	**Paradox Valley**	**84.52**	**48**	P		**P**		**19 49 03.4**	**+1.1**
PV01				IAmb	IAmb			19 49 04.1	
	comp=Z,6.8nm,0.6s								
VRAC	**Vranov**	**84.54**	**327**	*e*P		**P**		**19 49 02.6**	**+0.8**
VRAC				*e*				19 49 21.0	
BRG	**Berggiesshubel**	**84.58**	**329**	*e*P		**P**		**19 49 02.1**	**+0.1**
	comp=Z,4.2nm,1.1s								
CLL	**Collm**	**84.66**	**330**	*i* P		**P**		**19 49 02.2**	**0.0**
	comp=Z,6.0nm,1.0s								
CLL				*i* pP		**pP**		**19 49 21.6**	**+0.5**
	comp=Z,7.0nm,0.9s								
CLL				*i* sP		**sP**		**19 49 32.1**	**+3.5**
	comp=Z,4.0nm,1.1s								
CLL				LmH				20 28 00.0	
	comp=N,200nm,19.2s								
CLL				LmH				20 28 00.0	
	comp=E,100nm,19.7s								
CLL	**Collm**	**84.66**	**330**	P		**P**		**19 49 02.3**	**0.0**
CLL				pmax	pmax				
	comp=Z,6.0nm,0.8s								
CLL	**Collm**	**84.66**	**330**	P		**P**		**19 49 02.3**	**0.0**
CLL				IAmb	IAmb			19 49 22.3	
	comp=Z,5.7nm,0.8s								
KRUC	**Moravsky**	**84.81**	**327**	*e*P		**P**		**19 49 03.8**	**+0.7**
KRUC				*e*				19 49 22.2	
PRU	**Pruhonice**	**84.97**	**328**	*e*P		**P**		**19 49 04.5**	**+0.6**
PRU	**Pruhonice**	**84.97**	**328**	*e*P		**P**		**19 49 04.5**	**+0.6**
PRU				*e*PCP		**PcP**		**19 49 09.5**	**+2.4**
ISCO	**Idaho Springs**	**85.30**	**45**	P		**P**		**19 49 07.4**	**+1.2**
ISCO				pmax	pmax				
	comp=Z,3.0nm,0.9s								
ISCO	**Idaho Springs**	**85.30**	**45**	P		**P**		**19 49 07.4**	**+1.2**
KHC	**Kasperske Hory**	**86.03**	**328**	⇑*i* P		**P**		**19 49 09.7**	**+0.5**
KHC				pmax	pmax				
	comp=Z,5.0nm,1.1s								
KHC	**Kasperske Hory**	**86.03**	**328**	*e*P		**P**		**19 49 07.6**	**-1.6**
KHC				*e*PCP		**PcP**		**19 49 14.1**	**+2.3**
KHC				*e*pP		**pP**		**19 49 28.4**	**+0.2**
GERES	**GERESS Array B**	**86.18**	**328**	P		**P**		**19 49 10.9**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=45,slow=4.3,SNR=10.0								
GERES				pP		**pP**		**19 49 29.2**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=36,slow=5.0,SNR=5.6								
SDCO	**Great Sand Dun**	**86.67**	**47**	P		**P**		**19 49 14.6**	**+1.6**
TX31	**Lajitas Ar. Si**	**93.22**	**52**	P		**P**		**19 49 44.6**	**+1.0**
TX32	**Lajitas Array**	**93.22**	**52**	P		**P**		**19 49 44.5**	**+0.9**
TXAR	**Lajitas Array**	**93.22**	**52**	P		**P**		**19 49 44.7**	**+1.1**
	comp=Z,4.0nm,0.6s,baz=302,slow=3.2,SNR=53								
K58A	**Earlville**	**97.87**	**26**	P		**P**		**19 50 04.2**	**-0.1**
LPAZ	**La Paz**	**149.19**	**65**	PKPbc		**PKPbc**		**19 56 19.1**	**+0.9**
	comp=Z,2.0nm,0.5s,baz=14,slow=9.1,SNR=6.2								

IDC 04 19:41:50.1±3.6,**14°97S**×**172°80W**,**h0km**,**mb3.9**/3,
mb1 4.1/3,**mb1mx3.6**/41,**mbtmp3.9**/3,**Error ellipse:**
s-maj=204.3km s-min=18.2km az=141.0,**Samoa Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.44**	**43**	Pn	Pb	19 42 17.8	0.0
	49nm,0.3s,baz=196,slow=4.0,SNR=61						
AFI				Sn	Sn	19 42 37.2	0.0
	129nm,0.3s,baz=102,slow=21,SNR=22						
STKA	**Stephens Creek**	**44.76**	**240**	P	P	19 50 04.7	-0.9
	1.5nm,0.7s,baz=90,slow=14,SNR=2.0						
WRA	**Warramunga Arr**	**50.51**	**256**	P	P	19 50 50.6	+0.1
	0.9nm,1.0s,baz=90,slow=7.4,SNR=4.7						
ASAR	**Alice Springs**	**50.80**	**252**	P	P	19 50 52.8	+0.1
	1.9nm,0.5s,baz=88,slow=8.2,SNR=26						

*IDC **04** 19:47:16.3*±*1.9,20°.21S*×*177°.52W,h454km*±*20km,mb3.9/3,*
mb1 3.9/6,mb1mx3.3/42,mbtmp4.7/6,Error ellipse:
s-maj=36.1km s-min=19.1km az=141.0
*NEIC **04** 19:47:22.6*±*1.0,20°.3S*±*0°.2*×*178°.1W*±*0°.2,h495km*±*10km,*
mb4.7/33,Error ellipse: s-maj=27.1km s-min=21.8km
az=157.0

ISC 04 19:47:22.5±0.8,**20°26S**±0°.10×**178°0W**±0°.1,**h500km**,**n66,**
σ**2**§**18**/69,**mb4.7**/19,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.50**	**303**	P	**P**	**19 48 44.3**	**-1.0**
AFI	**Afiamalu**	**8.68**	**44**	P	P	19 49 15.9	-10
	13nm,0.3s,baz=225,slow=2.1,SNR=9.5						
AFI				S	S	19 50 49.2	-18
	13nm,0.3s,baz=147,slow=23,SNR=6.3						
AFI	**Afiamalu**	**8.68**	**44**	P		19 49 16.4	-10
AFI				S		19 50 48.5	-19
DZM	**Mont Dzumac**	**14.62**	**260**	P	P	**19 50 30.1**	**+1.1**
	0.9nm,0.3s,baz=96,slow=18,SNR=3.3						
DZM	**Mont Dzumac**	**14.62**	**260**	P	P	19 50 27.9	-1.0
KUZ	**Kuaotunu**	**17.32**	**197**	P	P	19 50 54.7	-1.8
WIAZ	**Waiheke Island**	**17.53**	**199**	P	P	19 50 60.0	+1.5
MXZ	**Matakaoa Point**	**17.54**	**190**	P	P	19 50 58.3	-0.2
MXZ	**Matakaoa Point**	**17.54**	**190**	P	P	19 50 53.4	-5.1
MKAZ	**Moumakai**	**17.81**	**198**	P	P	**19 51 01.7**	**+0.7**
HAZ	**Te Kaha**	**17.82**	**191**	P	P	19 51 01.0	0.0
PKGZ	**Pakihiroa**	**17.90**	**190**	P	P	19 51 02.1	+0.2
RUGZ	**Raukumara Rang**	**18.04**	**191**	P	P	19 51 03.2	0.0
PUZ	**Puketiti**	**18.05**	**190**	P	P	**19 51 04.0**	**+0.8**
MWZ	**Matawai**	**18.43**	**191**	P	P	19 51 05.1	-1.6
MWZ				S	S	19 54 11.6	+2.2
URZ	**Urewera**	**18.43**	**192**	P	P	19 51 03.7	-3.0
	2.4nm,0.3s,baz=276,slow=3.3,SNR=9.3						
URZ	**Urewera**	**18.43**	**192**	P	P	**19 51 04.6**	**-2.1**
URZ				S	S	19 54 10.3	+0.9
URZ	**Urewera**	**18.43**	**192**	P	P	19 51 02.7	-4.0
URZ				IAmb	IAmb	19 51 23.3	
	comp=Z,40nm,1.3s						
MUGZ	**Murupara**	**18.71**	**193**	P	P	**19 51 08.7**	**-0.6**
RTZ	**Ruatahuna**	**18.80**	**192**	P	P	**19 51 09.4**	**-0.8**
RTZ				S	S	19 54 18.4	+2.8
TLZ	**Tolley Road**	**18.86**	**196**	P	P	**19 51 12.6**	**+2.0**
KUTZ	**Kaahu Road**	**18.94**	**195**	P	P	**19 51 13.8**	**+2.4**
MTHZ	**Maungataniwha**	**19.06**	**192**	P	P	**19 51 12.8**	**+0.3**
BKZ	**Black Stump Fm**	**19.43**	**193**	P	P	**19 51 11.5**	**-4.4**
OTVZ	**Oturere**	**19.62**	**195**	P	P	**19 51 15.9**	**-1.8**
KRHZ	**Kereru**	**19.92**	**193**	P	P	**19 51 18.3**	**-2.0**
BFZ	**Birch Farm**	**20.94**	**192**	P	P	**19 51 26.8**	**-2.8**
SNZO	**South Karori**	**21.88**	**195**	P	P	**19 51 35.7**	**-2.3**
BHW	**Baring Head**	**21.94**	**194**	P	P	**19 51 33.8**	**-4.7**
PLWZ	**Palliser**	**22.00**	**194**	P	P	**19 51 35.1**	**-4.1**
QRZ	**Quartz Range**	**22.04**	**199**	P	P	**19 51 36.6**	**-2.9**
NNZ	**Nelson**	**22.14**	**197**	P	P	**19 51 35.5**	**-4.9**
NNZ				IAmb	IAmb	19 51 38.6	
	comp=Z,34nm,1.2s						
BSWZ	**Blackbirch Sta**	**22.47**	**196**	P	P	**19 51 37.5**	**-5.8**
THZ	**Tophouse**	**22.78**	**198**	P	P	**19 51 43.2**	**-3.0**
THZ				IAmb	IAmb	19 51 50.7	
	comp=Z,13nm,1.2s						
LTZ	**Lake Taylor**	**23.90**	**198**	P	P	**19 51 52.8**	**-3.3**
LTZ				IAmb	IAmb	19 52 13.3	
	comp=Z,38nm,1.5s						
EIDS	**Eidsvold**	**28.91**	**254**	P	P	**19 52 39.9**	**-0.6**
ARMA	**Armidale**	**29.17**	**244**	P	P	**19 52 43.0**	**+0.1**
CTAO	**Charters Tower**	**33.51**	**264**	P	P	**19 53 20.6**	**+0.5**
CTAO				IAmb	IAmb	19 53 21.8	
	comp=Z,27nm,0.7s						
TOO	**Toolangi**	**36.04**	**233**	P	P	**19 53 41.5**	**+0.4**
TOO				IAmb	IAmb	19 53 58.2	
	comp=Z,43nm,1.4s						
COEN	**Coen**	**37.56**	**273**	P	P	**19 53 54.6**	**+0.6**
COEN				IAmb	IAmb	19 53 55.6	
	comp=Z,20nm,1.0s						
STKA	**Stephens Creek**	**37.89**	**244**	P	P	**19 53 57.1**	**+0.7**
	comp=Z,4.6nm,0.6s,baz=93,slow=9.8,SNR=20						
STKA	**Stephens Creek**	**37.89**	**244**	P	P	**19 53 56.5**	**+0.1**
BBOO	**Buckleboo**	**42.65**	**243**	P	P	**19 54 34.4**	**-0.2**
BBOO				IAmb	IAmb	19 54 35.4	
	comp=Z,15nm,0.6s						
WR0	**Warramunga Arr**	**44.44**	**262**	P	P	**19 54 48.0**	**-0.8**
AS31	**Alice Springs**	**44.57**	**256**	P	P	**19 54 49.8**	**0.0**
ASAR	**Alice Springs**	**44.57**	**256**	P	P	**19 54 50.0**	**+0.2**
	comp=Z,16nm,0.7s,baz=93,slow=8.0,SNR=134						
ASAR				PcP	**PcP**	**19 56 22.1**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=106,slow=3.8,SNR=8.9						
ASAR				ScP	**ScP**	**19 59 31.2**	**+4.7**
	comp=Z,0.7nm,0.8s,baz=100,slow=3.3,SNR=4.7						
WB0	**Warramunga Arr**	**44.61**	**262**	P	P	**19 54 50.1**	**+0.1**
WB0				IAmb	IAmb	19 54 50.4	
	comp=Z,9.7nm,0.5s						
WB2	**Warramunga Arr**	**44.62**	**262**	P	P	**19 54 49.4**	**-0.7**
WB2				IAmb	IAmb	19 54 50.1	
	comp=Z,9.3nm,0.8s						
WRAB	**Tennant Creek**	**44.62**	**262**	P	P	**19 54 47.9**	**-2.3**
WRAB				IAmb	IAmb	19 54 50.8	
	comp=Z,22nm,1.1s						
WRA	**Warramunga Arr**	**44.63**	**262**	P	P	**19 54 49.8**	**-0.4**
	comp=Z,3.3nm,0.3s,baz=97,slow=7.5,SNR=141						
MTN	**Manton Dam**	**49.16**	**270**	P	P	**19 55 24.4**	**-0.1**
MTN				IAmb	IAmb	19 55 49.0	
	comp=Z,64nm,1.5s						
FORT	**Forrest**	**49.39**	**246**	P	P	**19 55 25.8**	**-0.2**
FORT				IAmb	IAmb	19 55 26.4	
	comp=Z,27nm,0.6s						
KNRA	**Kununurra**	**50.67**	**266**	P	P	**19 55 35.9**	**+0.3**
KNRA				IAmb	IAmb	19 55 59.8	
	comp=Z,69nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.05**	**262**	P	P	**19 55 53.9**	**+1.1**
FITZ				IAmb	IAmb	19 55 59.8	
	comp=Z,28nm,1.5s						
SOEI	**Soe**	**56.49**	**272**	P	P	**19 56 17.6**	**+0.4**
PSA00	**Pilbara Seismi**	**57.72**	**257**	P	P	**19 56 25.3**	**0.0**
PSA00				IAmb	IAmb	19 56 26.0	
	comp=Z,18nm,0.7s						
MORW	**Morawa**	**59.91**	**248**	P	P	**19 56 39.8**	**-0.3**
GIRL	**Giralia**	**62.61**	**254**	P	P	**19 56 59.5**	**+1.7**
CASY	**Casey**	**64.18**	**205**	P	P	**19 57 07.0**	**-0.1**
QSPA	**South Pole Qui**	**69.81**	**180**	P	P	**19 57 42.0**	**-0.1**
AHID	**Auburn Hatcher**	**87.80**	**43**	P	P	**19 59 19.7**	**+1.4**
AHID				IAmb	IAmb	19 59 21.0	
	comp=Z,12nm,0.8s						
T35A	**Sooner Cattle**	**95.42**	**53**	P	P	**19 59 54.4**	**+1.1**
AKASG	**Malin Array Be**	**142.80**	**331**	PKP	**PKPdf**	**20 05 54.2**	**-4.2**
	comp=Z,0.4nm,0.4s,baz=44,slow=4.2,SNR=5.0						
BRTR	**Keskin Array B**	**146.67**	**313**	PKPbc	**PKPdf**	**20 06 06.0**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=99,slow=4.5,SNR=2.2						
CLL	**Collm**	**147.83**	**347**	*e*PKPbc	**PKPbc**	**20 06 10.0**	**-0.7**
GERES	**GERESS Array B**	**149.97**	**344**	PKPbc	**PKPbc**	**20 06 15.6**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=29,slow=3.0,SNR=6.5						

*BJI **04** 19:55:51.8*±*0.0,44°.12N*×*107°.07E,h10km,mB4.5/10,*
mb4.2/17,ML4.7/10,Ms4.2/17,Ms7 3.9/15
*IDC **04** 19:55:53.2*±*0.7,44°.10N*×*107°.02E,h0km,mb4.1/11,*
mb1 4.1/17,mb1mx3.9/47,mbtmp4.0/17,ML3.3/5,MS3.4/13,
Ms1 3.4/13,ms1mx3.2/46,Error ellipse: s-maj=18.4km
s-min=12.2km az=68.0
*NEIC **04** 19:55:56.1*±*1.6,44°.13N*±*0°.07*×*107°.0E*±*0°.1,h16km*±*4km,*
mb4.3/24,Error ellipse: s-maj=12.1km s-min=9.2km
az=63.0

ISC 04 19:55:55.3±0.4,**44°10N**±0°.04×**106°87E**±0°.04,**h10km**,**n77,**
σ**1**§**56**/81,**mb4.3**/20,**MS3.5**/7,**2C-1D**,**Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**3.71**	**355**	Pg	**Pb**	**19 57 01.4**	**+0.4**
	baz=175,slow=15						
I34MN				Lg	Lg	19 57 47.8	
	baz=160,slow=26,SNR=0.4						
SONM	**Songino Array**	**3.75**	**355**	Pn	**Pn**	**19 56 52.3**	**-1.0**
	6.6nm,0.3s,baz=172,slow=14,SNR=65						
SONM				Pg	**Pb**	**19 57 00.8**	**-0.8**
	157nm,0.3s,baz=177,slow=17,SNR=80						
SONM				Lg	Lg	19 57 51.2	
	200nm,0.3s,baz=178,slow=30,SNR=21						
ULN	**Ulaanbaatar**	**3.77**	**2**		**Pn**	**19 56 53.2**	**-0.3**
BTO	**Baotou**	**4.20**	**145**	*e*Pn	**Pn**	**19 56 56.7**	**-2.8**
BTO				*e*Pg	**Pb**	**19 57 07.6**	**-1.8**
BTO				Sg	**Sb**	**19 57 57.8**	**-2.4**
GTA	**Gaotai**	**7.06**	**231**	⇑Pn	**Pn**	**19 57 38.9**	**+0.1**
GTA				Pg	**Pb**	**19 58 00.3**	**+2.3**
GTA				Sn	**Sn**	**19 58 56.8**	**-2.3**
GTA				Sg	Sb	19 59 34.4	+12
GTA				smax	smax		
	comp=N,270nm,1.2s						
GTA				smax	smax		
	comp=E,250nm,1.2s						
GTA				LR	LR		
	comp=N,2μm,9.2s						
GTA				LR	LR		
	comp=E,2μm,8.9s						
GTA				LR	LR		
	comp=Z,1μm,8.9s						
TLY	**Talaya**	**7.89**	**345**	Pn	**Pn**	**19 57 50.0**	**0.0**
	0.0nm,0.3s,baz=100,slow=5.7,SNR=3.1						
TLY				Lg	Lg	20 00 03.2	
	0.2nm,0.3s,baz=165,slow=6.9,SNR=20						
TLY				LR	LR	20 01 03.4	
	comp=Z,205nm,20.4s,baz=154,slow=39						
TLY	**Talaya**	**7.89**	**345**	Pn	**Pn**	**19 57 49.5**	**-0.5**
BJI	**Beijing**	**8.02**	**117**	Pn	**Pb**	**19 58 15.2**	**+0.9**
BJI				Pg	Pg	19 58 51.2	+22
BJI				Sn	**Sn**	**19 59 30.0**	**+7.5**
BJI				Sg	**Sg**	**20 00 11.9**	**-0.7**
BJI				smax	smax		
	comp=N,260nm,0.8s						
BJI				smax	smax		
	comp=E,160nm,0.6s						
BJT	**Baijiatuan**	**8.03**	**117**		**Pn**	**19 57 52.2**	**+0.2**
LZH	**Lanzhou**	**8.34**	**197**	*e*P	**Pn**	**19 57 56.9**	**+0.6**
LZH				pP	Pb	19 57 59.7	-20
LZH				sP	Pg	19 58 01.9	-33
LZH				pmax	pmax		
	comp=E,26nm,1.0s						
LZH				LR	LR		
	comp=E,900nm,6.1s						
LZH				LR	LR		
	comp=E,2μm,8.5s						
LZH				LR	LR		
	comp=E,540nm,6.9s						
XAN	**Xi'an**	**10.17**	**170**	P	**Pn**	**19 58 21.2**	**-0.2**
XAN				S	**Sn**	**20 00 11.4**	**-4.2**
XAN				LR	LR		
	comp=E,710nm,7.1s						
XAN				LR	LR		
	comp=E,780nm,8.9s						
XAN				LR	LR		
	comp=E,560nm,9.0s						
XAN	**Xi'an**	**10.17**	**170**	Pn	**Pn**	**19 58 21.3**	**-0.2**
HIA	**Hailar**	**10.23**	**55**		**Pn**	**19 58 20.5**	**-1.7**
WHN	**Wuhan**	**14.77**	**154**	P	**P**	**19 59 29.9**	**-0.4**
KSRS	**Korea Array**	**17.25**	**105**	P	**Pn**	**19 59 54.2**	**-2.0**
	comp=E,0.2nm,0.3s,baz=292,slow=11,SNR=11						
KSRS				LR	LR	20 06 52.7	
	comp=E,114nm,18.2s,baz=278,slow=38						
ZALV	**Zalesovo Beam**	**17.43**	**312**	P	**Pn**	**19 59 58.1**	**-0.2**
	baz=132,slow=11,SNR=2.2						
ZALV				Lg	Lg	20 05 06.7	
	comp=E,0.1nm,0.3s,baz=118,slow=22,SNR=11						
ZALV				LR	LR	20 07 03.7	
	comp=E,75nm,19.1s,baz=118,slow=38						
MK31	**Makanchi Array**	**17.44**	**288**		**Pn**	**19 59 58.3**	**-0.3**
MKAR	**Makanchi Array**	**17.44**	**288**	P	**Pn**	**19 59 58.1**	**-0.5**
	comp=E,0.1nm,0.3s,baz=95,slow=12,SNR=12						
MKAR				Lg	Lg	20 05 14.6	
	comp=E,0.1nm,0.3s,baz=87,slow=32,SNR=7.4						
MKAR				LR	LR	20 07 04.7	
	comp=E,110nm,21.6s,baz=90,slow=38						
GYA	**Guiyang**	**17.61**	**181**	⇑P	**Pn**	**20 00 00.9**	**+0.1**
GYA				sP	sP	20 00 08.5	+2.0
GYA				S	**Sn**	**20 03 22.4**	**+5.4**
GYA				pmax	pmax		
	comp=E,11nm,0.9s						
MAKZ	**Makanchi**	**17.66**	**288**	P	**Pn**	**20 00 01.6**	**+0.3**
KLR	**Kul'dur**	**17.79**	**64**	Lg	Lg	20 05 20.4	
	comp=E,0.1nm,0.3s,baz=133,slow=9.0,SNR=4.3						
KLR				LR	LR	20 07 17.9	
	comp=E,74nm,19.6s,baz=260,slow=39						
USRK	**Ussuriysk Ar.**	**18.01**	**81**	P	**Pn**	**20 00 04.7**	**-0.9**
	baz=277,slow=12,SNR=2.1						
USRK				LR	LR	20 06 47.6	
	comp=E,112nm,18.6s,baz=263,slow=36						
LSA	**Lhasa**	**19.05**	**226**		**P**	**20 00 18.1**	**-0.1**
KMI	**Kunming**	**19.23**	**191**	⇓*e*P	**Pn**	**20 00 22.0**	**+1.2**
KMI				pP	sP	20 00 25.8	+1.2
KMI				sP	pP	20 00 29.5	+6.4
KMI				pmax	pmax		
	comp=E,5.0nm,0.5s						
KMI				pmax	pmax		
	comp=E,160nm,6.2s						
KMI				LR	LR		
	comp=E,250nm,7.5s						
KMI				LR	LR		
	comp=E,350nm,10.8s						
KMI				LR	LR		
	comp=E,240nm,8.3s						
KURK	**Kurchatov**	**20.15**	**299**	P	**P**	**20 00 29.9**	**+0.3**
KURK				IAmb	IAmb	20 00 31.0	
	comp=Z,9.7nm,0.7s						
TARG	**Taragay, Kyrgy**	**21.38**	**274**		**P**	**20 00 43.4**	**+0.1**
TKM2	**Tokmak 2**	**22.65**	**278**	P	**P**	**20 00 59.6**	**+2.9**
	SNR=7.8						
TAPN	**Taplejung**	**22.75**	**229**	*e*P	**P**	**20 00 58.7**	**+0.8**
SLVN	**Son La**	**22.84**	**187**	P	**P**	**20 00 59.4**	**+0.7**
KBK	**Karagaybulak**	**23.18**	**278**	P	**P**	**20 01 04.7**	**+2.5**
	SNR=9.2						
ODAN	**Odare**	**23.31**	**229**	*e*P	**P**	**20 01 03.6**	**-0.1**
USP	**Ospenovka**	**23.35**	**279**	P	**P**	**20 01 05.3**	**+1.5**
	SNR=7.4						
AAK	**Ala-Archa**	**23.51**	**278**	P	**P**	**20 01 06.3**	**+0.8**
	comp=Z,8.8nm,0.8s,baz=92,slow=4.0,SNR=11						
AAK	**Ala-Archa**	**23.51**	**278**	P	**P**	**20 01 06.5**	**+1.0**
AAK				IAmb	IAmb	20 01 10.1	
	comp=Z,7.6nm,0.8s						
UCH	**Uchtor**	**23.60**	**277**	P	**P**	**20 01 08.1**	**+1.3**
	SNR=12						
KKN	**Kakani**	**23.78**	**234**	*e*P	**P**	**20 01 08.2**	**-0.1**
	comp=Z,32nm,0.5s						
PKI	**Pulchoki**	**23.87**	**233**	*e*P	**P**	**20 01 08.8**	**-0.5**
	comp=Z,21nm,0.6s						
GKN	**Gorkha**	**24.00**	**235**	*e*P	**P**	**20 01 09.9**	**-0.4**
	comp=Z,19nm,0.4s						
DMN	**Daman**	**24.02**	**234**	*e*P	**P**	**20 01 10.5**	**-0.1**
	comp=Z,36nm,0.8s						
AML	**Almayashu**	**24.21**	**277**	P	**P**	**20 01 14.3**	**+1.8**
	SNR=6.5						
DANN	**Dangsing**	**24.27**	**237**	*e*P	**P**	**20 01 13.3**	**+0.3**
KOLN	**Koldanda**	**24.79**	**237**	*e*P	**P**	**20 01 18.0**	**+0.4**
	comp=Z,54nm,0.7s						
PYUN	**Piuthan**	**24.92**	**238**	*e*P	**P**	**20 01 19.3**	**+0.5**
	comp=Z,41nm,0.4s						
BVAR	**Borovoye Array**	**25.50**	**303**	P	**P**	**20 01 23.8**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=103,slow=9.1,SNR=13						
ASAJ	**Asahikawa**	**25.53**	**77**	LR	LR	20 11 35.2	
	comp=Z,82nm,18.5s,baz=344,slow=37						
BRVK	**Borovoye**	**25.57**	**304**		**P**	**20 01 24.6**	**+0.5**
BRVK				IAmb	IAmb	20 01 30.8	
	comp=Z,5.9nm,1.0s						
CHTO	**Chiang Mai**	**26.08**	**197**	P	**P**	**20 01 30

SUJ	**Sinuiju**	**2.00 113**	Pg	**Pg**	**19 58 07.6**	**+1.2**
SUJ			Sg	**Sb**	**19 58 29.3**	**-0.1**
DL2	**Dalian**	**2.04 190**	Pg	**Pg**	**19 58 07.1**	**-0.2**
DL2			Sg	**Sn**	**19 58 28.2**	**+0.1**
DL2			smax	smax		
	comp=N,64nm,0.7s					
DL2			smax	smax		
	comp=E,58nm,0.6s					
PYS	**Pyongsong**	**3.33 119**	Pg	**Pg**	**19 58 30.8**	**-1.0**
PYS			Sg	**Sb**	**19 59 09.0**	**+1.3**
PYAG	**Pyongyang**	**3.37 122**	Sg	**Sg**	**19 59 16.4**	**0.0**
KGE	**Kanggye**	**3.42 88**	Sg	**Sg**	**19 59 18.3**	**+0.5**
HJU	**Haeju**	**4.02 135**	Sg	**Sb**	**19 59 28.4**	**+0.9**
HHU	**Hamhung**	**4.26 102**	Sg	**Sg**	**19 59 42.1**	**-2.7**

*IDC **04** 20:00:42.9±1.3, 12°.23N×86°.83W, h118km±15km, mb3.7/11, mb1 4.0/14, mb1mx3.7/40, mbtmp4.2/14, MS3.3/1, Ms1 3.2/1, ms1mx2.5/31, Error ellipse: s-maj=31.5km s-min=12.1km az=53.0*

*NEIC **04** 20:00:43.3±1.1, 12°.23N±0°.08×86°.95W±0°.07, h113km±6km, mb4.2/49, Error ellipse: s-maj=12.5km s-min=8.3km az=219.0*

*INET **04** 20:00:43.7, 12°.24N×86°.97W, h102km, ML4.5*

*SNET **04** 20:00:43.5±1.3, 12°.12N×87°.05W, h99km±40km, ML4.3*

*UCR **04** 20:00:43.7±1.3, 12°.19N×86°.97W, h96km±6km, MD4.2, ML4.0, mb4.3(NEIC)*

*UPA **04** 20:00:45.2±1.1, 12°.22N×86°.70W, h10km±999km, MW4.6*

ISC 04 20:00:42.7±0.7, 12°.21N±0°.05×86°.98W±0°.05, h111km±6km, n160, σ1$23/199, mb4.2/33, 5C-2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.49**	**352**	*eP*	**Pn**	**20 00 59.6**	**-0.2**
CRIN				*eS*	**Sn**	**20 01 12.8**	**+0.3**
CRIN	**San Cristobal**	**0.49**	**352**	Pn	**Pn**	**20 00 59.3**	**-0.5**
MASN	**Masaya**	**0.84**	**105**	*eP*	**Pn**	**20 01 02.3**	**-0.2**
MASN				*eS*	**Sn**	**20 01 16.4**	**-1.0**
ESTN	**Estel**	**1.07**	**34**	*i* P	**Pn**	**20 01 05.1**	**+0.3**
ESTN				*eS*	**Sn**	**20 01 21.7**	**+0.2**
ESTN	**Estel**	**1.07**	**34**	Pn	**Pn**	**20 01 04.8**	**-0.1**
MATN	**Matagalpa**	**1.25**	**55**	*i* P	**Pn**	**20 01 07.0**	**+0.1**
MATN				*eS*	**Sn**	**20 01 25.4**	**+0.3**
MATN	**Matagalpa**	**1.25**	**55**		**Pn**	**20 01 06.9**	**+0.1**
BOAB	**BOACO BROADBAN**	**.30**	**79**		**Pn**	**20 01 06.7**	**-0.6**
LCND	**La Caada**	**1.41**	**321**	*eP*	**Pn**	**20 01 08.5**	**0.0**
LCND				*eS*	**Sn**	**20 01 29.5**	**+1.4**
LCND				IAML		20 01 33.4	
	comp=Z,2µm,0.3s						
LCND	**La Caada**	**1.41**	**321**	*eP*	**Pn**	**20 01 08.5**	**0.0**
LCND				*eS*	**Sn**	**20 01 29.5**	**+1.4**
LCND				IAML		20 01 33.4	
	comp=Z,2µm,0.3s						
JUCU	**Jucuarįn**	**1.61**	**310**	*eP*	**Pn**	**20 01 11.4**	**+0.3**
JUCU				*eS*	**Sn**	**20 01 33.4**	**+0.8**
JUCU	**Jucuarįn**	**1.61**	**310**	*eP*	**Pn**	**20 01 11.4**	**+0.3**
JUCU				*eS*	**Sn**	**20 01 33.4**	**+0.8**
LCY	**Lacayo**	**1.76**	**313**	*eP*	**Pn**	**20 01 13.5**	**+0.6**
LCY	**Lacayo**	**1.76**	**313**	*eP*	**Pn**	**20 01 13.5**	**+0.6**
ACON	**Acoyapa**	**1.78**	**98**	*eP*	**Pn**	**20 01 13.3**	**+0.3**
ACON	**Acoyapa**	**1.78**	**98**		**Pn**	**20 01 13.1**	**+0.1**
FAGO	**Alcalda de S**	**1.84**	**323**	*eP*	**Pn**	**20 01 14.1**	**+0.3**
FAGO	**Alcalda de S**	**1.84**	**323**	*eP*	**Pn**	**20 01 14.1**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.86**	**351**		**Pn**	**20 01 14.6**	**+0.5**
ALJI	**Alcalda de J**	**1.91**	**306**	*eP*	**Pn**	**20 01 15.4**	**+0.8**
ALJI				*eS*	**Sn**	**20 01 39.3**	**+0.4**
ALJI				IAML		20 01 41.9	
	comp=Z,2µm,0.2s						
ALJI	**Alcalda de J**	**1.91**	**306**	*eP*	**Pn**	**20 01 15.4**	**+0.8**
ALJI				*eS*	**Sn**	**20 01 39.3**	**+0.4**
ALJI				IAML		20 01 41.9	
	comp=Z,2µm,0.2s						
TECA	**Tecapa**	**1.96**	**311**	*eP*	**Pn**	**20 01 16.2**	**+0.7**
TECA	**Tecapa**	**1.96**	**311**	*eP*	**Pn**	**20 01 16.2**	**+0.7**
COEB	**Comit de Eme**	**1.98**	**310**	*eP*	**Pn**	**20 01 16.5**	**+0.8**
COEB				*eS*	**Sn**	**20 01 43.2**	**+2.4**
COEB	**Comit de Eme**	**1.98**	**310**	*eP*	**Pn**	**20 01 16.5**	**+0.8**
COEB				*eS*	**Sn**	**20 01 43.2**	**+2.4**
BUEV	**Buena Vista**	**2.08**	**132**	*i* P	**Pn**	**20 01 17.4**	**+0.5**
LAPC	**Finca la Perla**	**2.09**	**133**	*i* P	**Pn**	**20 01 16.6**	**-0.4**
LAPC				*i* S	**Sn**	**20 01 42.5**	**-0.5**
GPS1	**Guardaparques**	**2.14**	**132**	*i* P	**Pn**	**20 01 18.3**	**+0.6**
GPS2	**Hotel Rincn d**	**2.15**	**132**	*eP*	**Pn**	**20 01 18.6**	**+0.8**
GUAB	**Guayabo de Bag**	**2.27**	**131**	*i* P	**Pn**	**20 01 20.1**	**+0.7**
GUAB				*i* S	**Sn**	**20 01 47.9**	**+0.5**
HORNC	**Hornillas**	**2.31**	**130**	*i* P	**Pn**	**20 01 19.9**	**+0.1**
HORNC				*i* S	**Sn**	**20 01 48.5**	**+0.3**
COLC	**Colonia**	**2.32**	**131**	*i* P	**Pn**	**20 01 20.8**	**+0.8**
COLC				*i* S	**Sn**	**20 01 48.7**	**+0.3**
COEG	**Centro de Oper**	**2.32**	**307**	*eP*	**Pn**	**20 01 20.8**	**+0.9**
COEG				*eS*	**Sn**	**20 01 50.9**	**+2.4**
COEG				IAML		20 01 54.7	
	comp=Z,876nm,0.2s						
COEG	**Centro de Oper**	**2.32**	**307**	*eP*	**Pn**	**20 01 20.8**	**+0.9**
COEG				*eS*	**Sn**	**20 01 50.9**	**+2.4**
COEG				IAML		20 01 54.7	
	comp=Z,876nm,0.2s						
CUI	**Cuipilapa**	**2.35**	**131**	*i* P	**Pn**	**20 01 20.9**	**+0.6**
CUI				*i* S	**Sn**	**20 01 49.3**	**0.0**
PAVA	**Las Pavas**	**2.42**	**308**	*eP*	**Pn**	**20 01 22.5**	**+1.1**
PAVA	**Las Pavas**	**2.42**	**308**	*eP*	**Pn**	**20 01 22.5**	**+1.1**
PTEN	**Parque Tenorio**	**2.45**	**127**	*i* P	**Pn**	**20 01 22.3**	**+0.6**
PTEN				*i* S	**Sn**	**20 01 52.4**	**+0.8**
ACAL	**Aguas Claras**	**2.47**	**129**	*i* P	**Pn**	**20 01 22.6**	**+0.8**
ACAL				*i* S	**Sn**	**20 01 53.4**	**+1.6**
LFRS	**El Faro**	**2.47**	**305**	*eP*	**Pn**	**20 01 22.8**	**+0.9**
LFRS	**El Faro**	**2.47**	**305**	*eP*	**Pn**	**20 01 22.8**	**+0.9**
LBRS	**Las Brisas**	**2.52**	**307**	*eP*	**Pn**	**20 01 24.0**	**+1.4**
LBRS	**Las Brisas**	**2.52**	**307**	*eP*	**Pn**	**20 01 24.0**	**+1.4**
LFU	**La Fuente**	**2.58**	**307**	*eP*	**Pn**	**20 01 25.1**	**+1.7**
LFU	**La Fuente**	**2.58**	**307**	*eP*	**Pn**	**20 01 25.1**	**+1.7**
ESPN	**Las Esperanzas**	**2.62**	**90**	*eP*	**Pn**	**20 01 24.4**	**+0.7**
ESPN	**Las Esperanzas**	**2.62**	**90**		**Pn**	**20 01 24.5**	**+0.7**
SNET	**Serv Nac Est T**	**2.64**	**304**	*eP*	**Pn**	**20 01 25.4**	**+1.2**
SNET				IAML		20 02 00.6	
	comp=Z,1µm,0.2s						
SNET	**Serv Nac Est T**	**2.64**	**304**	*eP*	**Pn**	**20 01 25.4**	**+1.2**
SNET				*eS*	**Sn**	**20 01 56.2**	**+0.3**
SNET				IAML		20 02 00.6	
	comp=Z,1µm,0.2s						
SNET	**Serv Nac Est T**	**2.64**	**304**	Pn	**Pn**	**20 01 24.8**	**+0.7**
BOQS	**Boqueron**	**2.71**	**304**	*eP*	**Pn**	**20 01 26.7**	**+1.6**
BOQS	**Boqueron**	**2.71**	**304**	*eP*	**Pn**	**20 01 26.7**	**+1.6**
JTS	**Las Juntas de**	**2.75**	**134**	P	**Pn**	**20 01 26.3**	**+0.8**
	comp=Z,104nm,0.3s,baz=33,slow=2.5,SNR=88						
JTS				S	**Sn**	**20 01 57.1**	**-1.5**
	comp=Z,68nm,0.3s,baz=332,slow=20,SNR=6.2						
JTS	**Las Juntas de**	**2.75**	**134**	*i* P	**Pn**	**20 01 26.3**	**+0.8**
JTS				*eS*	**Sn**	**20 01 57.5**	**-1.1**
JTS	**Las Juntas de**	**2.75**	**134**	*eP*	**Pn**	**20 01 26.4**	**+0.8**
JTS	**Las Juntas de**	**2.75**	**134**	Pn	**Pn**	**20 01 25.6**	**0.0**
JAYA	**Jayaque - finc**	**2.80**	**301**	*eP*	**Pn**	**20 01 27.1**	**+0.8**
JAYA				*eS*	**Sn**	**20 02 01.2**	**+1.3**
JAYA				IAML		20 02 02.3	
	comp=Z,3µm,0.2s						
JAYA	**Jayaque - finc**	**2.80**	**301**	*eP*	**Pn**	**20 01 27.1**	**+0.8**
JAYA				*eS*	**Sn**	**20 02 01.2**	**+1.3**
JAYA				IAML		20 02 02.3	
	comp=Z,3µm,0.2s						
CEDE	**Laguna Cedeo**	**2.81**	**127**	*i* P	**Pn**	**20 01 27.0**	**+0.7**
ARE1	**Arenal 1**	**2.82**	**128**	*eP*	**Pn**	**20 01 27.3**	**+0.9**
CASO	**Castillo**	**2.82**	**129**	*i* P	**Pn**	**20 01 27.7**	**+1.2**
CASO				*i* S	**Sn**	**20 02 00.4**	**+0.3**
CEVE	**Cerro Verde**	**3.04**	**302**	*eP*	**Pn**	**20 01 30.9**	**+1.4**
CEVE				*eS*	**Sn**	**20 02 07.8**	**+2.2**
CEVE	**Cerro Verde**	**3.04**	**302**	*eP*	**Pn**	**20 01 30.9**	**+1.4**
CEVE				*eS*	**Sn**	**20 02 07.8**	**+2.2**
SBLS	**San Blas**	**3.04**	**302**	*eP*	**Pn**	**20 01 31.1**	**+1.5**
SBLS	**San Blas**	**3.04**	**302**	*eP*	**Pn**	**20 01 31.1**	**+1.5**
SNJE	**San Jose**	**3.04**	**303**	*eP*	**Pn**	**20 01 31.0**	**+1.5**
SNJE	**San Jose**	**3.04**	**303**	*eP*	**Pn**	**20 01 31.0**	**+1.5**
MTO3	**Montecristo**	**3.18**	**313**		**Pn**	**20 01 32.1**	**+0.7**
NUBE	**Las Nubes**	**3.21**	**302**	*eP*	**Pn**	**20 01 32.5**	**+0.9**
NUBE				IAML		20 02 14.7	
	comp=Z,455nm,0.2s						
NUBE	**Las Nubes**	**3.21**	**302**	*eP*	**Pn**	**20 01 32.5**	**+0.9**
NUBE				*eS*	**Sn**	**20 02 09.6**	**+0.3**
NUBE				IAML		20 02 14.7	
	comp=Z,455nm,0.2s						
SRA1	**San Ramn**	**3.24**	**131**	*eP*	**Pn**	**20 01 33.1**	**+1.1**
ESQI	**Esquipulas**	**3.28**	**316**		**Pn**	**20 01 33.7**	**+1.1**
HDC	**Heredia**	**3.57**	**128**	*eP*	**Pn**	**20 01 37.9**	**+1.4**
HDC				*eS*	**Sn**	**20 02 20.2**	**+2.2**
HDC	**Heredia**	**3.57**	**128**	*eP*	**Pn**	**20 01 37.7**	**+1.3**
HDC	**Heredia**	**3.57**	**128**	Pn	**Pn**	**20 01 37.1**	**+0.7**
HDC					**Sn**	**20 02 20.3**	**+2.4**
LCR2	**La Lucha 2**	**3.81**	**130**	*eP*	**Pn**	**20 01 40.9**	**+1.0**
CVTR	**Volcan Turrial**	**3.84**	**124**	*eP*	**Pn**	**20 01 40.9**	**+0.6**
IXG	**Ixpaco**	**3.90**	**300**	*eP*	**Pn**	**20 01 41.8**	**+1.0**
IXG	**Ixpaco**	**3.90**	**300**	*eP*	**Pn**	**20 01 41.8**	**+1.0**
EDLM	**Las Mercedes**	**4.42**	**131**	*eP*	**Pn**	**20 01 50.3**	**+2.4**
EDBA	**Buenos Aires**	**4.74**	**129**	*eP*	**Pn**	**20 01 53.9**	**+1.8**
RTAL	**Retalhuleu**	**5.13**	**297**	Pn	**Pn**	**20 01 58.7**	**+1.3**
PTJ1	**Puerto Jimnez**	**5.14**	**135**	*eP*	**Pn**	**20 01 59.4**	**+2.0**
PTJ1				*eS*	**Sn**	**20 02 55.9**	**+0.3**
PTJ1	**Puerto Jimnez**	**5.14**	**135**	*eP*	**Pn**	**20 01 59.7**	**+2.2**
PIRO	**Carate, Puerto**	**5.21**	**136**	*eP*	**Pn**	**20 02 00.3**	**+1.9**
PIRO				*eS*	**Sn**	**20 02 57.5**	**+0.1**
BRU2	**Volcan**	**5.41**	**128**	*eP*	**Pn**	**20 02 03.6**	**+2.2**
BRU2				*eS*	**Sn**	**20 03 01.8**	**-0.7**
BRU2	**Volcan**	**5.41**	**128**	*eP*	**Pn**	**20 02 03.2**	**+1.9**
PETF	**Flores**	**5.45**	**329**	Pn	**Pn**	**20 02 03.8**	**+2.1**
BC3P	**Paso Ancho**	**5.46**	**128**	*eP*	**Pn**	**20 02 04.2**	**+2.2**
BCO2	**Palmira**	**5.58**	**128**	*eP*	**Pn**	**20 02 04.8**	**+1.1**
BCO2				*eS*	**Sn**	**20 03 04.5**	**-2.2**
CHGR2	**Aguacate**	**5.76**	**124**	*eP*	**Pn**	**20 02 07.2**	**+1.3**
CHGR2				*eS*	**Sn**	**20 03 15.1**	**+4.4**
CCIG	**Comitan**	**6.43**	**310**		**Pn**	**20 02 15.8**	**+0.7**
BCIP	**Isla Barro Col**	**7.64**	**113**		**Pn**	**20 02 33.0**	**+1.6**
TEIG	**Tepich**	**8.07**	**351**	P	**Pn**	**20 02 38.5**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=319,slow=20,SNR=14						
TEIG	**Tepich**	**8.07**	**351**	Pn	**Pn**	**20 02 39.5**	**+2.4**
CMIG	**Matias Romero**	**9.06**	**303**	P	**Pn**	**20 02 51.1**	**+0.5**
	comp=Z,1.8nm,0.3s,baz=152,slow=9.7,SNR=68						
CMIG				S	**Sn**	**20 04 24.4**	**-6.4**
	comp=Z,0.3nm,0.3s,baz=290,slow=10,SNR=1.5						
TLIG	**Tlapa**	**12.40**	**297**	Pn	**Pn**	**20 03 37.3**	**+1.8**
Y49A	**Blount Mountai**	**21.55**	**1**	P	**P**	**20 05 23.7**	**+0.4**
Y49A				IAmb	IAmb	20 05 23.9	
	comp=Z,11nm,1.1s						
Y52A	**Lilburn**	**21.72**	**7**	P	**P**	**20 05 25.0**	**0.0**
SWET	**Sewanee**	**22.92**	**2**	P	**P**	**20 05 37.6**	**+0.3**
SWET				IAmb	IAmb	20 05 38.5	
	comp=Z,5.0nm,0.5s						
W50A	**Signal Mountai**	**22.94**	**4**	P	**P**	**20 05 38.2**	**+0.8**
W50A				IAmb	IAmb	20 05 39.2	
	comp=Z,7.3nm,0.8s						
MIAR	**Mount Ida**	**23.03**	**346**	P	**P**	**20 05 38.2**	**-0.1**
MIAR				IAmb	IAmb	20 05 39.3	
	comp=Z,8.4nm,0.9s						
TXAR	**Lajitas Array**	**23.05**	**320**	P	**P**	**20 05 39.2**	**+0.5**
	comp=Z,4.6nm,0.4s,baz=139,slow=9.8,SNR=65						
TX31	**Lajitas Ar. Si**	**23.05**	**320**	P	**P**	**20 05 39.1**	**+0.4**
TX31				IAmb	IAmb	20 05 40.3	
	comp=Z,18nm,0.8s						
TX32	**Lajitas Array**	**23.05**	**320**	P	**P**	**20 05 38.9**	**+0.2**
CPCT	**Cooper Cave**	**23.24**	**5**	P	**P**	**20 05 40.8**	**+0.6**
CPCT				IAmb	IAmb	20 05 42.3	
	comp=Z,7.1nm,0.8s						
ABTX	**Abilene, Hawle**	**23.41**	**332**	P	**P**	**20 05 42.1**	**+0.3**
ABTX				IAmb	IAmb	20 05 43.0	
	comp=Z,9.4nm,0.8s						
TKL	**Tuckaleechee C**	**23.52**	**7**	P	**P**	**20 05 43.9**	**+1.1**
	comp=Z,5.2nm,0.6s,baz=269,slow=5.2,SNR=4.2						
W39A	**Magazine**	**23.70**	**346**	P	**P**	**20 05 44.6**	**+0.2**
CLTN	**Cedars of Leba**	**23.78**	**1**	P	**P**	**20 05 46.4**	**+1.2**
CLTN				IAmb	IAmb	20 05 47.0	
	comp=Z,8.9nm,0.6s						
LCAR	**Lake Charles**	**24.05**	**352**	P	**P**	**20 05 47.8**	**+0.3**
LCAR				IAmb	IAmb	20 05 48.1	
	comp=Z,14nm,1.8s						
V58A	**Windy Hill, Pi**	**24.53**	**16**	P	**P**	**20 05 52.3**	**+0.4**
U40A	**Yellville**	**24.62**	**349**	P	**P**	**20 05 53.0**	**+0.2**
HHAR	**Hobbs**	**24.77**	**346**	P	**P**	**20 05 54.2**	**+0.1**
FNO	**Franklin**	**24.81**	**339**	P	**P**	**20 05 55.0**	**+0.4**
WMOK	**Wichita Mounta**	**24.86**	**336**	P	**P**	**20 05 56.0**	**+1.0**
WMOK				IAmb	IAmb	20 05 57.6	
	comp=Z,11nm,0.9s						
QUOK	**Quay**	**25.42**	**341**	P	**P**	**20 05 59.1**	**-0.9**
MNTX	**Cornudas Mount**	**25.76**	**322**	P	**P**	**20 06 03.1**	**-0.1**
MSTX	**Muleshoe**	**26.01**	**329**	P	**P**	**20 06 05.5**	**0.0**
MSTX				IAmb	IAmb	20 06 06.5	
	comp=Z,9.6nm,0.8s						
T35A	**Sooner Cattle**	**26.05**	**342**	P	**P**	**20 06 05.4**	**-0.3**
T35A				IAmb	IAmb	20 06 05.6	
	comp=Z,7.9nm,1.1s						
AMTX	**Amarillo**	**26.22**	**332**	P	**P**	**20 06 09.0**	**+1.6**
AMTX				IAmb	IAmb	20 06 10.7	
	comp=Z,7.6nm,0.7s						
121A	**Cookes Peak, D**	**27.81**	**320**	P	**P**	**20 06 22.6**	**+0.8**
121A				IAmb	IAmb	20 06 29.0	
	comp=Z,5.1nm,1.0s						
ANMO	**Albuquerque**	**28.72**	**325**	P	**P**	**20 06 31.1**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=152,slow=13,SNR=4.3						
SDCO	**Great Sand Dun**	**30.35**	**330**	P	**P**	**20 06 44.9**	**+0.6**
X16A	**Lo Mia Camp, P**	**31.36**	**319**	P	**P**	**20 06 54.4**	**+1.3**
X16A				IAmb	IAmb	20 06 55.1	
	comp=Z,3.4nm,0.7s						
PV03	**Paradox Valley**	**32.45**	**327**	P	**P**	**20 07 02.1**	**-0.5**
PV03				IAmb	IAmb	20 07 04.1	
	comp=Z,3.9nm,0.6s						
PV12	**Saucer Basin,**	**32.47**	**327**	P	**P**	**20 07 03.8**	**+0.9**
PV18	**Skein Mesa, Pa**	**32.47**	**327**	P	**P**	**20 07 03.4**	**+0.5**
PV11	**David Mesa, Pa**	**32.49**	**327**	P	**P**	**20 07 03.3**	**+0.3**
PV17	**East Wray Mesa**	**32.52**	**327**	P	**P**	**20 07 04.1**	**+0.8**
PV04	**Paradox Valley**	**32.58**	**327**	P	**P**	**20 07 04.3**	**+0.5**
PV04				IAmb	IAmb	20 07 05.3	
	comp=Z,3.1nm,0.8s						
SADO	**Sadowa**	**33.13**	**10**	P	**P**	**20 07 08.0**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=245,slow=6.5,SNR=3.9						
W13A	**Hualapai Mount**	**33.37**	**318**	P	**P**	**20 07 11.8**	**+1.1**
O20A	**White River Ci**	**33.55**	**330**	P	**P**	**20 07 13.0**	**+0.8**
O20A				IAmb	IAmb	20 07 14.6	
	comp=Z,4.4nm,0.8s						
SRU	**San Rafael Swe**	**33.97**	**326**	P	**P**	**20 07 16.4**	**+0.5**
MTPU	**Mount Pierson**	**34.17**	**323**	P	**P**	**20 07 19.3**	**+1.5**
P17A	**Butcher Ranch,**	**34.35**	**326**	P	**P**	**20 07 19.2**	**+0.1**
G62A	**West of Eustis**	**35.77**	**20**	P	**P**	**20 07 31.2**	**+0.2**
TPNV	**Topopah Spring**	**36.00**	**318**	P	**P**	**20 07 34.5**	**+1.2**
TPNV				IAmb	IAmb	20 07 36.7	
	comp=Z,2.5nm,0.8s						
PD31	**Pinedale Array**	**36.20**	**331**	P	**P**	**20 07 34.5**	**-0.5**
PDAR	**Pinedale Array**	**36.20**	**331**	P	**P**	**20 07 34.7**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=129,slow=10,SNR=18						
PKME	**Peaks-Kenny Pk**	**36.23**	**21**	P	**P**	**20 07 35.1**	**+0.2**
HWUT	**Hardware Ranch**	**36.32**	**328**	P	**P**	**20 07 36.1**	**+0.1**
HWUT				IAmb	IAmb	20 07 36.9	
	comp=Z,3.5nm,0.6s						
TPAW	**Teton Pass**	**37.41**	**331**	P	**P**	**20 07 44.9**	**-0.4**
IMW	**Indian Meadow**	**37.72**	**331**	P	**P**	**20 07 47.9**	**0.0**
ELK	**Elko**	**37.73**	**324**	P	**P**	**20 07 48.4**	**+0.5**
D62A	**Allapoint, All**	**37.90**	**20**	P	**P**	**20 07 49.4**	**+0.4**
SIV	**San Ignacio**	**37.98**	**137**	P	**P**	**20 07 48.4**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=322,slow=7.2,SNR=5.3						
NVAR	**Mina Array Bea**	**38.19**	**319**	P	**P**	**20 07 52.0**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=131,slow=7.5,SNR=6.8						
NVAR				PcP	**PcP**	**20 10 05.0**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=134,slow=4.5,SNR=7.1						
KVN	**Kaiserville**	**38.41**	**320**	P	**P**	**20 07 54.5**	**+0.8**
ULM	**Lac du Bonnet**	**38.63**	**351**	P	**P**	**20 07 52.7**	**-2.4**
	comp=Z,3.5nm,0.4s,baz=185,slow=7.1,SNR=4.1						
ULM				LR	LR	20 27 34.0	
	comp=Z,37nm,18.7s,baz=69,slow=42						
MCMT	**McKenzie Canyo**	**39.32**	**331**	P	**P**	**20 08 02.1**	**+0.9**
BOZ	**Bozeman (W)**	**39.33**	**332**	P	**P**	**20 08 01.6**	**+0.4**
BOZ				IAmb	IAmb	20 08 47.8	
	comp=Z,12nm,1.9s						
FFC	**Flin Flon**	**44.03**	**348**	P	**P**	**20 08 38.1**	**-1.0**
FFC				IAmb	IAmb	20 08 38.9	
	comp=Z,3.1nm,0.7s						
SCHQ	**Schefferville**	**45.38**	**16**	P	**P**	**20 08 48.3**	**-1.6**
	comp=Z,1.2nm,0.4s,baz=239,slow=9.9,SNR=3.6						
YKA	**Yellowknife Ar**	**53.96**	**345**	P	**P**	**20 09 53.1**	**-1.7**
	comp=Z,1.7nm,0.7s,baz=143,slow=6.7,SNR=8.9						
ILAR	**Eielson Array**	**66.42**	**336**	P	**P**	**20 11 18.0**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=148,slow=4.7,SNR=6.2						
ASAR	**Alice Springs**	**139.61**	**248**	PKhKP	PKPpre	20 19 49.8	
	comp=Z,0.3nm,0.6s,baz=108,slow=3.1,SNR=4.6						
ASAR				PKP	**PKPdf**	**20 19 58.5**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=92,slow=2.3,SNR=5.0						
WRA	**Warramunga Arr**	**139.65**	**254**	PKhKP	PKPpre	20 19 51.5	
	comp=Z,0.6nm,0.9s,baz=91,slow=3.2,SNR=7.0						
WRA				PKP	**PKPdf**	**20 19 58.2**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=91,slow=2.6,SNR=19						
CMAR	**Chiang Mai Arr**	**148.97**	**349**	PKPbc	**PKPbc**	**20 20 18.3**	**-0.3**
	comp=Z,0.8nm,1.0s,baz=323,slow=3.3,SNR=5.2						

*NEIC **04** 20:07:42.8±1.1, 20°.9S±0°.3×178°.3W±0°.2, h555km±10km, mb4.3/7, Error ellipse: s-maj=41.4km s-min=23.3km az=148.0*

*IDC **04** 20:07:42.7±7.0, 20°.65S×178°.44W, h542km±69km, mb3.2/9, mb1 3.4/9, mb1mx3.2/24, mbtmp4.1/9, Error ellipse: s-maj=61.4km s-min=29.9km az=132.0*

ISC 04 20:07:46.4±1.2, 20°.6S±0°.2×178°.6W±0°.2, h587km, n26, σ1$08/28, mb3.8/13, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.26**	**311**	P	**P**	**20 09 10.4**	**-2.6**
CTA	**Charters Tower**	**32.93**	**265**	P	**P**	**20 13 34.4**	**+0.5**
	4.3nm,0.4s,baz=92,slow=10.0,SNR=15						
CTAO	**Charters Tower**	**32.93**	**265**	P	**P**	**20 13 34.4**	**+0.5**
CTAO				IAmb	IAmb	20 13 34.4	
	comp=Z,27nm,1.4s						
COEN	**Coen**	**37.03**	**274**	P	**P**	**20 14 09.2**	**+1.2**
STKA	**Stephens Creek**	**37.25**	**244**	P	**P**	**20 14 09.5**	**0.0**
	comp=Z,1.3nm,0.6s,baz=102,slow=13,SNR=4.3						
BBOO	**Buckleboo**	**42.01**	**244**	P	**P**	**20 14 47.2**	**-0.4**
BBOO				IAmb	IAmb	20 15 05.7	
	comp=Z,13nm,1.2s						
WR0	**Warramunga Arr**	**43.85**	**262**	P	**P**	**20 15 02.1**	**+0.1**
WR0				IAmb	IAmb	20 15 26.3	
	comp=Z,16nm,1.5s						
AS31	**Alice Springs**	**43.95**	**257**	P	**P**	**20 15 02.1**	**-0.7**
ASAR	**Alice Springs**	**43.96**	**257**	P	**P**	**20 15 02.9**	**0.0**
	comp=Z,3.0nm,0.8s,baz=96,slow=7.8,SNR=29						
ASAR				PcP	**PcP**	**20 16 35.9**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=102,slow=3.6,SNR=6.9						
WB0	**Warramunga Arr**	**44.02**	**263**	P	**P**	**20 15 03.2**	**-0.1**
WB0				IAmb	IAmb	20 15 03.7	
	comp=Z,4.9nm,0.6s						
WRA	**Warramunga Arr**	**44.04**	**262**	P	**P**	**20 15 03.2**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=97,slow=7.4,SNR=98						
ADK	**Adak**	**72.19**	**1**	P	**P**	**20 18 13.0**	**+0.7**
ADK				IAmb	IAmb	20 18 13.2	
	comp=Z,5.0nm,0.6s						
PETK	**Petropavlovsk-**	**76.22**	**346**	P	**P**	**20 18 36.0**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=141,slow=7.6,SNR=4.2						
KSRS	**Korea Array**	**76.59**	**319**	P	**P**	**20 18 37.5**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=128,slow=5.1,SNR=2.6						
ILAR	**Eielson Array**	**88.53**	**13**	P	**P**	**20 19 36.7**	**-0.1**
	comp=

JYNG	**Yonagunijimaku**	**0.80**	**77**	P		**Pn**	**20 13 55.4**	**+0.2**
JYNG				S		**Sn**	**20 14 06.9**	**+0.5**
TWT	**Tachien**	**0.84**	**269**	P		**Pn**	**20 13 56.3**	**+0.4**
	baz=264							
TWT				S		**Sn**	**20 14 08.6**	**+1.0**
	baz=264							
TWA	**Mucha**	**0.84**	**327**	P		**Pn**	**20 13 55.2**	**-0.6**
	baz=319							
TWA				eS		**Sn**	**20 14 06.2**	**-1.3**
	baz=319							
NWF	**Wu-fen Shan**	**0.84**	**340**	eP		**Pn**	**20 13 55.2**	**-0.7**
	baz=358							
NWF				eS		**Sn**	**20 14 06.8**	**-0.8**
	baz=358							
WFSB	**Wu-fen Shan**	**0.84**	**340**	P		**Pn**	**20 13 55.3**	**-0.5**
	baz=358							
WFSB				eS		**Sn**	**20 14 06.9**	**-0.6**
	baz=358							
TDCB	**Techi**	**0.85**	**269**	P		**Pn**	**20 13 55.8**	**-0.3**
	baz=265							
TDCB				eS		**Sn**	**20 14 07.5**	**-0.5**
	baz=265							
EGFH	**Guangfu**	**0.86**	**225**	eP		**Pn**	**20 13 56.1**	**+0.2**
	baz=205							
EGFH				eS		**Sn**	**20 14 08.2**	**+0.3**
	baz=205							
NHDH	**Xindian Distri**	**0.86**	**323**	eP		**Pb**	**20 13 54.9**	**-0.6**
	baz=317							
NHDH				eS		**Sn**	**20 14 07.5**	**-0.4**
	baz=317							
YOJ	**Yonaguni jima**	**0.86**	**77**	P		**Pn**	**20 13 56.3**	**+0.3**
YOJ				S		**Sn**	**20 14 08.4**	**+0.5**
CHGB	**Renai**	**0.86**	**256**	P		**Pn**	**20 13 56.0**	**-0.3**
	baz=238							
CHGB				S		**Sn**	**20 14 08.4**	**0.0**
	baz=238							
OWD	**Renai**	**0.90**	**249**	eP		**Pn**	**20 13 56.1**	**-0.5**
	baz=232							
TAP1	**Taipei**	**0.92**	**326**	P		**Pn**	**20 13 57.0**	**+0.1**
	baz=341							
TAP1				eS		**Sn**	**20 14 09.9**	**+0.5**
	baz=341							
TAP	**Taipei**	**0.93**	**325**	P		**Pb**	**20 13 55.6**	**-1.1**
	baz=341							
TAP				S		**Sn**	**20 14 10.1**	**+0.5**
	baz=341							
WLTB	**Daxi**	**0.96**	**307**	eP		**Pn**	**20 13 57.4**	**+0.1**
	baz=312							
WLTB				eS		**Sn**	**20 14 09.8**	**-0.5**
	baz=312							
YM01	**YM01**	**0.99**	**331**	P		**Pn**	**20 13 58.0**	**+0.1**
	baz=347							
YM01				S		**Sn**	**20 14 12.2**	**+1.0**
	baz=347							
HGSD	**Ruisui**	**0.99**	**218**	eP		**Pn**	**20 13 57.7**	**-0.1**
	baz=201							
HGSD				eS		**Sn**	**20 14 11.2**	**+0.1**
	baz=201							
YM10	**YM10**	**1.00**	**331**	P		**Pn**	**20 13 58.0**	**0.0**
	baz=346							
YM10				eS		**Sn**	**20 14 12.8**	**+1.3**
	baz=346							
YM11	**YM11**	**1.00**	**332**	P		**Pn**	**20 13 58.3**	**+0.2**
	baz=347							
YM11				eS		**Sn**	**20 14 11.3**	**-0.3**
	baz=347							
YM05	**YM05**	**1.01**	**332**	P		**Pn**	**20 13 58.0**	**-0.1**
	baz=346							
YM05				eS		**Sn**	**20 14 11.5**	**-0.2**
	baz=346							
YM04	**YM04**	**1.01**	**330**	P		**Pn**	**20 13 58.0**	**-0.1**
	baz=344							
YM04				eS		**Sn**	**20 14 11.4**	**-0.3**
	baz=344							
VWDT	**VWDT**	**1.01**	**239**	eP		**Pn**	**20 13 57.5**	**-0.6**
	baz=234							
VWDT				eS		**Sn**	**20 14 12.8**	**+1.1**
	baz=234							
YM08	**YM08**	**1.02**	**333**	eP		**Pn**	**20 13 58.2**	**0.0**
	baz=336							
YM08				eS		**Sn**	**20 14 12.6**	**+0.8**
	baz=336							
TWS1	**Kuangyinshan**	**1.03**	**323**	P		**Pn**	**20 13 58.3**	**0.0**
	baz=337							
TWS1				S		**Sn**	**20 14 11.9**	**-0.1**
	baz=337							
YM03	**YM03**	**1.03**	**331**	eP		**Pn**	**20 13 58.2**	**-0.2**
	baz=345							
YM03				eS		**Sn**	**20 14 11.7**	**-0.6**
	baz=345							
EHY	**Hungye**	**1.04**	**223**	eP		**Pn**	**20 13 58.0**	**-0.6**
	baz=216							
EHY				S		**Sn**	**20 14 12.5**	**+0.1**
	baz=216							
WHP	**Taichung City**	**1.04**	**270**	P		**Pn**	**20 13 59.9**	**+1.2**
	baz=267							
WHP				S		**Sn**	**20 14 11.8**	**-0.8**
	baz=267							
ANP	**Anpu**	**1.05**	**330**	eP		**Pn**	**20 13 58.5**	**-0.2**
	baz=345							
ANP				eS		**Sn**	**20 14 12.2**	**-0.5**
	baz=345							
LIOB	**Emei**	**1.05**	**291**	P		**Pn**	**20 13 58.9**	**+0.2**
	baz=289							
LIOB				eS		**Sn**	**20 14 13.3**	**+0.7**
	baz=289							
NSTT	**Nanjuang**	**1.05**	**290**	eP		**Pn**	**20 13 59.1**	**+0.4**
	baz=288							
NSTT				S		**Sn**	**20 14 13.5**	**+0.7**
	baz=288							
NTST	**Danshui**	**1.06**	**327**	eP		**Pn**	**20 14 00.2**	**+1.4**
	baz=340							
NTST				S		**Sn**	**20 14 14.4**	**+1.6**
	baz=340							
NCU	**National Centr**	**1.07**	**310**	P		**Pb**	**20 13 57.8**	**-1.4**
	baz=311							
NCU				S		**Sn**	**20 14 14.0**	**+0.8**
	baz=311							
NCUH	**Zhongli**	**1.08**	**310**	P		**Pn**	**20 13 59.2**	**+0.2**
	baz=311							
NCUH				eS		**Sn**	**20 14 13.5**	**+0.3**
	baz=311							
TWY	**Chenhua**	**1.09**	**336**	eP		**Pb**	**20 13 59.8**	**+0.3**
	baz=339							
TWY				eS		**Sn**	**20 14 13.8**	**+0.2**
	baz=339							
SBCB	**Hsinchu**	**1.13**	**297**	eP		**Pb**	**20 14 00.9**	**+0.8**
	baz=297							
SBCB				eS		**Sn**	**20 14 16.5**	**+1.9**
	baz=297							
SSLB	**Suanglung**	**1.15**	**245**	eP		**Pb**	**20 13 59.5**	**-0.9**
	baz=240							
SSLB				eS		**Sn**	**20 14 15.3**	**+0.2**
	baz=240							
SMLT	**Sun Moon Lake**	**1.16**	**251**	eP		**Pb**	**20 14 01.3**	**+0.7**
	baz=234							
SMLT				eS		**Sn**	**20 14 17.1**	**+1.7**
	baz=234							
TWF1	**Yuli**	**1.17**	**219**	eP		**Pn**	**20 13 59.6**	**-0.7**
	baz=211							
TWF1				S		**Sn**	**20 14 15.7**	**+0.1**
	baz=211							
TYC	**Yuchr**	**1.19**	**252**	eP		**Pb**	**20 14 01.3**	**+0.3**
	baz=235							
TYC				eS		**Sn**	**20 14 16.8**	**+0.8**
	baz=235							
TWQ1	**Liyutan**	**1.21**	**274**	P		**Pb**	**20 14 01.9**	**+0.5**
	baz=270							
TWQ1				S		**Sn**	**20 14 18.6**	**+2.1**
	baz=270							
NMLH	**Miaoli**	**1.21**	**283**	eP		**Pb**	**20 14 00.3**	**-1.2**
	baz=280							
NMLH				eS		**Sn**	**20 14 19.3**	**+2.7**
	baz=280							
NSY	**Sanyi**	**1.22**	**277**	P		**Pb**	**20 14 02.4**	**+0.8**
	baz=274							
NSY				S		**Sn**	**20 14 19.8**	**+2.9**
	baz=274							
WHYT	**Xinyi Township**	**1.27**	**243**	eP		**Pb**	**20 14 02.4**	**-0.1**
	baz=224							
WHYT				eS		**Sn**	**20 14 19.9**	**+1.8**
	baz=224							
FULB	**Fuli**	**1.30**	**214**	eP		**Pb**	**20 14 02.6**	**-0.4**
	baz=192							
FULB				eS		**Sb**	**20 14 21.0**	**+1.8**
	baz=192							
TCU	**Taichung**	**1.30**	**265**	eS		**Sb**	**20 14 22.1**	**+2.9**
	baz=260							
WJS	**Zhushan**	**1.32**	**250**	eP		**Pb**	**20 14 04.5**	**+1.1**
	baz=236							
WJS				eS		**Sb**	**20 14 23.1**	**+3.1**
	baz=236							
WDJ	**Dajia District**	**1.33**	**273**	eS		**Sb**	**20 14 21.2**	**+1.2**
	baz=270							
WNT	**Mingjian**	**1.35**	**253**	eP		**Pb**	**20 14 02.7**	**-1.1**
	baz=247							
WNT				S		**Sb**	**20 14 22.7**	**+2.1**
	baz=247							
PCYT	**Pengchaiyu**	**1.35**	**359**	eP		**Pn**	**20 14 01.7**	**-1.0**
	baz=4.0							
PCYT				eS		**Sn**	**20 14 19.5**	**-0.5**
	baz=4.0							
ALS	**Alishan**	**1.40**	**237**	P		**Pb**	**20 14 05.0**	**+0.1**
	baz=218							
ALS				eS		**Sb**	**20 14 22.8**	**+0.4**
	baz=218							
WCHH	**Zhanghua**	**1.41**	**262**	eS		**Sb**	**20 14 24.6**	**+2.2**
	baz=258							
CHN5	**Tsauling**	**1.46**	**243**	eP		**Pb**	**20 14 05.9**	**+0.1**
	baz=222							
CHN5				eS		**Sb**	**20 14 25.0**	**+1.1**
	baz=222							
ELDTW	**Lidau**	**1.46**	**223**	eP		**Pb**	**20 14 04.8**	**-1.0**
	baz=204							
ELDTW				eS		**Sn**	**20 14 22.0**	**-1.0**
	baz=204							
EDH	**Donghe**	**1.48**	**209**	eP		**Pn**	**20 14 04.2**	**-0.4**
	baz=192							
EDH				S		**Sn**	**20 14 21.0**	**-2.3**
	baz=192							
IRIF	**Iriomote-Funau**	**1.50**	**87**	P		**Pn**	**20 14 05.1**	**+0.3**
IRIF				S		**Sb**	**20 14 24.9**	**0.0**
WGK	**Gukeng**	**1.52**	**248**	eP		**Pb**	**20 14 07.0**	**+0.4**
	baz=241							
WGK				S		**Sb**	**20 14 27.2**	**+1.7**
	baz=241							
WDLH	**Douliu**	**1.54**	**248**	eP		**Pb**	**20 14 07.9**	**+0.9**
	baz=226							
WDLH				S		**Sb**	**20 14 29.1**	**+3.1**
	baz=226							
LONT	**Longtian**	**1.62**	**213**	eP		**Pn**	**20 14 05.8**	**-0.8**
	baz=205							
LONT				S		**Sb**	**20 14 26.5**	**-2.1**
	baz=205							
RLNB	**Erlin**	**1.63**	**257**	eP		**Pb**	**20 14 06.9**	**-1.7**
	baz=251							
RLNB				eS		**Sb**	**20 14 30.9**	**+2.3**
	baz=251							
STYT	**Tauyuan**	**1.65**	**228**	P		**Pb**	**20 14 08.2**	**-0.8**
	baz=207							
STYT				eS		**Sb**	**20 14 29.4**	**0.0**
	baz=207							
TPUB	**Ta-pu**	**1.65**	**234**	P		**Pb**	**20 14 08.6**	**-0.5**
	baz=217							
TPUB				S		**Sb**	**20 14 30.4**	**+0.9**
	baz=217							
WTK	**Tuku**	**1.66**	**250**	eP		**Pb**	**20 14 08.6**	**-0.6**
	baz=243							
WTK				eS		**Sb**	**20 14 31.1**	**+1.4**
	baz=243							
LDUT	**Ludao**	**1.69**	**200**	eS		**Sn**	**20 14 26.1**	**-2.4**
	baz=193							
WTP	**Ta-pu**	**1.70**	**233**	eP		**Pb**	**20 14 09.3**	**-0.5**
	baz=210							
WTP				S		**Sb**	**20 14 32.5**	**+1.7**
	baz=210							
CHY	**Chiayi**	**1.71**	**243**	S		**Sb**	**20 14 33.2**	**+2.1**
	baz=221							
TWGBT	**Beinan**	**1.72**	**213**	eS		**Sn**	**20 14 28.1**	**-1.1**
	baz=205							
TWG	**Pinlang**	**1.72**	**213**	eP		**Pb**	**20 14 09.3**	**-0.9**
	baz=205							
TWG				S		**Sn**	**20 14 28.7**	**-0.6**
	baz=205							
TTN	**Taitung**	**1.74**	**210**	eS		**Sb**	**20 14 31.9**	**-0.1**
	baz=192							
JKRS	**Kuro-shima**	**1.75**	**91**	P		**Pn**	**20 14 09.1**	**+0.8**
JKRS				S		**Sn**	**20 14 31.4**	**+1.5**
TWK	**Hsinying**	**1.78**	**236**	eP		**Pb**	**20 14 09.4**	**-1.8**
	baz=228							
TWK				S		**Sb**	**20 14 34.0**	**+0.9**
	baz=228							
CHN1	**Nanshi**	**1.80**	**233**	P		**Pb**	**20 14 11.5**	**0.0**
	baz=225							
CHN1				S		**Sb**	**20 14 34.9**	**+1.3**
	baz=225							
SNST	**Tainan City**	**1.80**	**235**	eP		**Pb**	**20 14 12.1**	**+0.6**
	baz=226							
SNST				eS		**Sb**	**20 14 35.0**	**+1.4**
	baz=226							
WLGB	**Puzi**	**1.82**	**245**	eS		**Sb**	**20 14 35.5**	**+1.3**
	baz=220							
SGST	**Jiashian**	**1.82**	**230**	P		**Pb**	**20 14 10.9**	**-1.0**
	baz=208							
SGST				eS		**Sb**	**20 14 34.4**	**+0.1**
	baz=208							
WSF	**Szhu**	**1.82**	**250**	S		**Sb**	**20 14 35.0**	**+0.7**
	baz=243							
SLGT	**Liugui**	**1.84**	**226**	eP		**Pb**	**20 14 10.9**	**-1.2**
	baz=209							
SLGT				eS		**Sb**	**20 14 35.4**	**+0.6**
	baz=209							
JIJ	**Ishigaki jima**	**1.87**	**87**	P		**Pn**	**20 14 11.1**	**+1.1**
JIJ				S		**Sn**	**20 14 33.1**	**+0.1**
ICHU	**Yijhu**	**1.89**	**242**	eS		**Sb**	**20 14 37.2**	**+0.9**
	baz=217							
ECL	**Taimali**	**1.97**	**212**	eP		**Pn**	**20 14 10.7**	**-0.6**
	baz=203							
ECL				eS		**Sn**	**20 14 33.5**	**-1.9**
	baz=203							
SCST	**Cishan**	**2.02**	**227**	eS		**Sb**	**20 14 40.6**	**+0.8**
	baz=218							
SSD	**Sandimen**	**2.03**	**222**	eP		**Pb**	**20 14 15.4**	**0.0**
	baz=197							
SSD				eS		**Sb**	**20 14 38.6**	**-1.6**
	baz=197							
JISG	**Ishigakijimahi**	**2.05**	**81**	P		**Pn**	**20 14 12.9**	**+0.6**
JISG				S		**Sn**	**20 14 37.8**	**+0.6**
TSMG	**Majia**	**2.05**	**221**	eP		**Pb**	**20 14 14.4**	**-1.3**
	baz=197							
TSMG				eS		**Sb**	**20 14 40.9**	**0.0**
	baz=197							
EAST	**Anshuo**	**2.20**	**212**	eP		**Pn**	**20 14 14.9**	**+0.3**
	baz=206							
VWUC	**VWUC**	**2.51**	**287**	eP		**Pn**	**20 14 18.4**	**-0.3**
	baz=286							

*IDC **04** 20:47:32.8±44.0, 15°.58S×173°.33W, h0^km, mb4.4/3, mb1 4.5/3, mb1mx3.8/36, mbtmp4.4/3, Error ellipse: s-maj=855.6km s-min=163.3km az=79.0*
*NEIC **04** 20:48:35.7±2.5, 16°.35S±0°.08×175°.0W±0°.2, h520^km±11^km, mb4.3/16, Error ellipse: s-maj=28.7km s-min=8.4km az=107.0*

ISC 04 20:48:34.0±1.5, 16°.4S±0°.3×174°.9W±0°.2, h500^km, n23, σ1$51/23, mb4.3/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
MSVF	**Nonsavu**	**6.86**	**258**	P		**P**	**20 50 21.7**		**+2.7**
EIDS	**Eidsvold**	**32.92**	**249**	P		**P**	**20 54 22.6**		**-3.9**
ARMA	**Armidale**	**33.58**	**239**	P		**P**	**20 54 30.5**		**-1.7**
ARMA					IAmb	IAmb	20 54 33.3		
	comp=Z,16nm,1.5s								
STKA	**Stephens Creek**	**42.27**	**241**	P		**P**	**20 55 43.0**		**-0.1**
	comp=Z,3.1nm,0.4s,baz=92,slow=11,SNR=21								
STKA	**Stephens Creek**	**42.27**	**241**	P		**P**	**20 55 42.9**		**-0.2**
BBOO	**Buckleboo**	**47.05**	**240**	P		**P**	**20 56 20.6**		**+0.6**
WR0	**Warramunga Arr**	**48.02**	**258**	P		**P**	**20 56 27.1**		**-0.4**
WB0	**Warramunga Arr**	**48.17**	**258**	P		**P**	**20 56 27.3**		**-1.3**
WB0					IAmb	IAmb	20 56 41.7		
	comp=Z,15nm,1.4s								
WB2	**Warramunga Arr**	**48.20**	**258**	P		**P**	**20 56 27.4**		**-1.4**
WB2					IAmb	IAmb	20 56 34.4		
	comp=Z,21nm,1.5s								
WRA	**Warramunga Arr**	**48.21**	**258**	P		**P**	**20 56 27.6**		**-1.3**
	comp=Z,0.8nm,0.6s,baz=95,slow=8.2,SNR=24								
WRA	**Warramunga Arr**	**48.21**	**258**	P		**P**	**20 56 27.6**		**-1.3**
AS31	**Alice Springs**	**48.42**	**253**	P		**P**	**20 56 30.1**		**-0.4**
ASAR	**Alice Springs**	**48.42**	**253**	P		**P**	**20 56 29.9**		**-0.5**
	comp=Z,7.1nm,0.5s,baz=89,slow=8.1,SNR=152								
ASAR	**Alice Springs**	**48.42**	**253**	P		**P**	**20 56 29.9**		**-0.5**
FORT	**Forrest**	**53.66**	**244**	P		**P**	**20 57 09.6**		**+1.1**
FORT					IAmb	IAmb	20 57 10.4		
	comp=Z,10nm,0.8s								
KNRA	**Kununurra**	**53.99**	**262**	P		**P**	**20 57 12.1**		**+1.1**
FITZ	**Fitzroy Crossi**	**56.59**	**259**	P		**P**	**20 57 31.3**		**+2.2**
FITZ					IAmb	IAmb	20 57 54.2		
	comp=Z,17nm,1.5s								
MAJO	**Matsushiro**	**68.81**	**321**	P		**P**	**20 58 47.3**		**-0.5**
MAJO					IAmb	IAmb	20 59 05.9		
	comp=Z,13nm,0.9s								
MAT	**Matsushiro**	**68.81**	**321**	P		**P**	**20 58 47.0**		**-0.8**
MJB9	**Matsu-Tunnel**	**68.81**	**321**	P		**P**	**20 58 47.2**		**-0.6**
MJB9					IAmb	IAmb	20 59 05.7		
	comp=Z,13nm,0.9s								
SZCU	**Shurtz Canyon**	**79.09**	**45**	P		**P**	**20 59 47.8**		**+1.3**
Q16A	**Castle Valley**	**81.06**	**45**	P		**P**	**20 59 56.9**		**+0.2**
SRU	**San Rafael Swe**	**81.59**	**45**	P		**P**	**20 59 58.6**		**-0.9**

TRN 04 20:55:10.7, 17°.05N×60°.30W, h41^km, MD4.4, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
ABD	**La Joyeuse, An**	**1.28**	**243**	eP		Pn	20 55 33.9		+1.9
ABD				eS		Sn	20 55 50.9		+3.0
MAGL	**Barre de l'ile**	**1.45**	**221**	eP		Pn	20 55 35.9		+1.5
MAGL				eS		Sn	20 55 54.3		+2.1
ANWB	**Willy Bob**	**1.55**	**294**	eP		Pn	20 55 36.5		+0.7
ANWB				eS		Sn	20 55 56.5		+1.9
CBE	**Ff, Capester**	**1.59**	**232**	eP		Pn	20 55 38.3		+1.8
CBE				eS		Sn	20 55 58.7		+2.9
TDBA	**Terre de Bas,**	**1.75**	**227**	eP		Pn	20 55 40.9		+2.3
MLYT	**Lee's Yard**	**1.84**	**260**	eP		Pn	20 55 42.4		+2.6
MLYT				eS		Sn	20 56 04.6		+2.7
DSLB	**Salisbury**	**1.94**	**214**	eP		Pn	20 55 42.7		+1.5
DSLB				eS		Sn	20 56 05.9		+1.6
DLPL	**La Plaine**	**1.94**	**208**	eS		Sn	20 56 05.7		+1.3
MDN	**Morne-Daniel**	**2.02**	**211**	eP		Pn	20 55 43.8		+1.5
MDN				eS		Sn	20 56 08.4		+2.1
NVBH	**Bath Hotel, Ne**	**2.22**	**272**	eP		Pn	20 55 46.6		+1.6
NVBH				eS		Sn	20 56 13.2		+2.0
ILAM	**Ilet Lapin Mar**	**2.33**	**194**	eP		Pn	20 55 48.4		+1.8
ILAM				eS		Sn	20 56 15.8		+1.7
SKOC	**St. Kitts, UWI**	**2.34**	**276**	eP		Pn	20 55 48.5		+1.8
SKOC				eS		Sn	20 56 15.9		+1.7
SKI	**Saint Kitts**	**2.35**	**277**	eP		Pn	20 55 48.8		+2.0
SKI				eS		Sn	20 56 16.7		+2.2
SVN	**Savane Anatole**	**2.35**	**201**	eP		Pn	20 55 49.5		+2.6
BAMF	**Morne Balai**	**2.37**	**200**	eP		Pn	20 55 49.4		+2.2
CXM	**Morne La Croix**	**2.38**	**201**	eP		Pn	20 55 48.7		+1.3
PCM	**Pelee Case Pet**	**2.39**	**202**	eP		Pn	20 55 48.8		+1.4
GBMF	**Grand Be**	**2.39**	**200**	eP		Pn	20 55 48.6		+1.1
PML	**Morne Lenard**	**2.42**	**201**	eP		Pn	20 55 49.6		+1.8
FDF	**Fort de France**	**2.45**	**200**	eP		Pn	20 55 49.4		+1.2
FDF				eS		Sn	20 56 18.6		+1.6
LPMF	**Morne Lapointe**	**2.55**	**195**	eP		Pn	20 55 50.8		+1.2
MVM	**Montagne Vaucl**	**2.55**	**193**	eP		Pn	20 55 51.8		+2.2
ZAM	**Aeronautique**	**2.56**	**196**	eP		Pn	20 55 51.1		+1.3
SEUS	**St. Eustatius**	**2.60**	**280**	eS		Sn	20 56 22.9		+2.3
BIM	**Bigot**	**2.63**	**197**	eP		Pn	20 55 52.9		+2.2
BIM				eS		Sn	20 56 23.1		+1.6
MPOM	**Morne Pois Mar**	**2.65**	**192**	eP		Pn	20 55 52.8		+1.8
MPOM				eS		Sn	20 56 23.5		+1.7
SMRT	**St. Maarten**	**2.83**	**291**	eS		Sn	20 56 27.6		+1.3
SLBI	**Saint Lucia, B**	**3.08**	**192**	eP		Pn	20 55 58.2		+1.3
SLBI				eS		Sn	20 56 34.0		+1.5
SLAC	**Saint Lucia, A**	**3.19**	**190**	eP		Pn	20 56 00.6		+2.2
SLAC				eS		Sn	20 56 36.0		+0.7
SLB	**Belfond**	**3.29**	**193**	eP		Pn	20 56 01.8		+2.0
SLB				eS		Sn	20 56 39.8		+2.1
MCLT	**Moule a Chique**	**3.38**	**191**	eP		Pn	20 56 02.5		+1.5
MCLT				eS		Sn	20 56 40.6		+0.6
SSV	**Crater Summit**	**3.81**	**193**	eP		Pn	20 56 08.3		+1.4
SSV				eS		Sn	20 56 50.8		+0.4
SVV	**Soufriere Volc**	**3.82**	**194**	eP		Pn	20 56 09.2		+2.2
SVV				eS		Sn	20 56 51.8		+1.1
SVCV	**St. Vincent, C**	**3.85**	**192**	eP		Pn	20 56 10.1		+2.7
SVCV				eS		Sn	20 56 53.0		+1.6
SVB	**Belmont**	**3.87**	**194**	eP		Pn	20 56 10.7		+2.9
SVB				eS		Sn	20 56 53.7		+1.7
AOPR	**Arecibo Observ**	**6.29**	**283**	eP		Pn	20 56 42.4		+1.5
AOPR	**Arecibo Observ**	**6.29**	**283**	eS		Sn	20 57 50.2		-1.4

IDC 04 21:14:38.7±1.5, 27°.14N×103°.48E, h0^km, mb3.4/4, mb1 3.6/4, mb1mx3.3/54, mbtmp3.4/4, MS2.6/1, Ms1 2.8/1, ms1mx2.5/20, Error ellipse: s-maj=88.2km s-min=24.3km az=64.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
CMAR	**Chiang Mai Arr**	**9.60**	**207**	LR		LR	21 21 13.3		
	comp=Z,36nm,18.8s,baz=190,slow=41								
SONM	**Songino Array**	**20.78**	**6**	P		P	21 19 20.4		-1.0
	0.3nm,0.3s,baz=190,slow=7.3,SNR=2.7								
MKAR	**Makanchi Array**	**25.77**	**325**	P		P	21 20 11.7		+0.6
	0.7nm,0.7s,baz=129,slow=11,SNR=7.1								
WRA	**Warramunga Arr**	**55.54**	**144**	P		P	21 24 16.2		+0.2
	0.6nm,0.6s,baz=320,slow=6.2,SNR=5.4								
ASAR	**Alice Springs**	**58.44**	**147**	P		P	21 24 36.1		-0.5
	0.3nm,0.6s,baz=333,slow=8.2,SNR=1.9								

*IDC **04** 21:20:54.0±2.8, 12°.47S×165°.85E, h0^km, mb4.0/6, mb1 4.2/6, mb1mx3.8/38, mbtmp4.0/6, MS3.5/2, Ms1 3.5/2, ms1mx2.8/28, Error ellipse: s-maj=102.0km s-min=29.2km az=138.0*
*NEIC **04** 21:20:57.9±1.0, 12°.1S±0°.1×165°.35E±0°.07, h10^km±1^km, mb4.4/10, Error ellipse: s-maj=17.3km s-min=11.1km az=1.0*

ISC 04 21:21:01.4±0.8, 12°.1S±0°.1×165°.3E±0°.1, h35^km, n22, σ1$07/20, mb4.2/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
HNR	**Honiara**	**5.91**	**296**	Pn		**Pn**	**21 22 24.7**		**-1.7**
DZM	**Mont Dzumac**	**9.98**	**174**	Pn		**Pn**	**21 23 22.1**		**-0.4**
RABL	**Rabaul**	**15.20**	**300**	Pn		**Pn**	**21 24 32.5**		**-1.1**
STKA	**Stephens Creek**	**29.40**	**224**	LR		LR	21 38 09.5		
	comp=Z,87nm,18.9s,baz=250,slow=35								
WB0	**Warramunga Arr**	**30.66**	**252**	P		**P**	**21 27 13.6**		**+0.7**
WB0					IAmb	IAmb	21 27 19.9		
	comp=Z,2.2nm,0.8s								
WB2	**Warramunga Arr**	**30.73**	**251**	P		**P**	**21 27 14.2**		**+0.7**
WRA	**Warramunga Arr**	**30.74**	**251**	P		**P**	**21 27 14.0**		**+0.3**
	comp=Z,1.6nm,0.7s,baz=80,slow=9.0,SNR=9.1								
AS31	**Alice Springs**	**31.96**	**245**	P		**P**	**21 27

az=339.0

ISC 04 21:51:15.8±0.9, 41°10N±0°03×117°27W±0°03, h0km, n23, σ1ᵖ33/23, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELK	**Elko**	**1.57**	**102**	Pg	**Pg**	**21 51 46.3**	**+0.3**
	2.9nm,0.3s,baz=294,slow=14,SNR=39						
ELK				Lg	Lg	21 52 07.1	
	5.6nm,0.3s,baz=28,slow=18,SNR=13						
ELK	**Elko**	**1.57**	**102**	Pn	**Pg**	**21 51 46.6**	**+0.6**
WVOR	**Wild Horse Val**	**1.68**	**323**		**Pg**	**21 51 48.2**	**+0.1**
WVOR				IAML		21 52 17.6	
	21nm,0.9s						
PAHR	**Pah Rah Range**	**2.13**	**230**		**Pg**	**21 51 56.2**	**-0.4**
PAHR				IAML		21 52 40.3	
	comp=E,12nm,1.3s						
KVN	**Kaiserville**	**2.14**	**198**		**Pg**	**21 51 56.8**	**0.0**
KVN				IAML		21 52 40.4	
	comp=E,13nm,0.8s						
MOD	**Modoc Plateau**	**2.42**	**290**	Pn	**Pb**	**21 51 58.9**	**-1.4**
MOD				IAML		21 52 40.8	
	comp=E,17nm,0.8s						
MOD				IAML		21 52 51.0	
	comp=N,17nm,0.8s						
J08A	**Circle Bar Ran**	**2.43**	**339**		**Pb**	**21 51 59.2**	**-1.3**
MFID	**Camas Ranch**	**2.55**	**24**	Pn	**Pn**	**21 51 59.5**	**+0.9**
VCNR	**Virginia City**	**2.56**	**226**	Pn	**Pb**	**21 52 02.2**	**-0.6**
RYN	**Ryan**	**2.65**	**202**		**Pb**	**21 52 03.4**	**-0.8**
RYN				IAML		21 52 53.5	
	comp=E,10nm,0.8s						
RYN				IAML		21 52 55.1	
	comp=N,13nm,0.6s						
PNTR	**Pine Nut**	**2.69**	**223**		**Pb**	**21 52 04.1**	**-0.8**
PNTR				IAML		21 52 58.4	
	comp=E,12nm,0.7s						
PNTR				IAML		21 53 02.5	
	comp=N,15nm,0.8s						
NV11	**Mina Array Sit**	**2.75**	**195**		**Pb**	**21 52 05.4**	**-0.5**
NVAR	**Mina Array Bea**	**2.78**	**197**	Pn	**Pb**	**21 52 06.2**	**-0.3**
	comp=N,0.4nm,0.3s,baz=15,slow=13,SNR=10						
NVAR				Lg	Lg	21 52 56.4	
	comp=N,2.7nm,0.3s,baz=21,slow=30,SNR=4.9						
R11A	**Troy Canyon, C**	**3.04**	**154**	Pn	**Pb**	**21 52 08.8**	**-2.0**
WAKR	**Walker**	**3.08**	**214**		**Pb**	**21 52 08.7**	**-2.9**
WAKR				IAML		21 52 45.5	
	comp=E,6.0nm,4.0s						
WAKR				IAML		21 53 27.3	
	comp=N,5.1nm,3.8s						
K05A	**Summer Lake**	**3.16**	**302**	Pn	**Pn**	**21 52 07.8**	**+0.8**
BGU	**Big Grassy Mou**	**3.21**	**92**	Pn	**Pn**	**21 52 09.0**	**+1.4**
HLID	**Hailey**	**3.25**	**40**	Pn	**Pn**	**21 52 08.9**	**+0.7**
HLID				IAML		21 53 06.0	
	comp=N,9.0nm,0.7s						
HLID				IAML		21 53 06.1	
	comp=N,6.7nm,0.6s						
BMO	**Blue Mountains**	**3.75**	**360**		**Pn**	**21 52 17.0**	**+2.0**
BMO				IAML		21 53 15.3	
	comp=N,4.7nm,2.7s						
BMO				IAML		21 54 31.9	
	comp=N,3.4nm,3.7s						
CMB	**Columbia Colle**	**3.90**	**219**		**Pn**	**21 52 18.5**	**+1.6**
CMB				IAML		21 53 19.5	
	comp=E,2.9nm,0.3s						
CMB				IAML		21 53 58.9	
	comp=N,3.0nm,2.0s						
YBH	**Yreka Blue Hor**	**4.14**	**281**	Pn	**Pn**	**21 52 22.3**	**+1.9**
	comp=N,0.1nm,0.3s,baz=90,slow=11,SNR=2.1						
PDAR	**Pinedale Array**	**5.99**	**71**	Pg	**Pb**	**21 52 59.5**	**-1.6**
	comp=N,0.1nm,0.3s,baz=254,slow=19,SNR=3.4						
ILAR	**Eielson Array**	**29.16**	**334**	P	**P**	**21 57 18.3**	**-0.1**
	comp=N,0.3nm,0.4s,baz=144,slow=7.5,SNR=3.0						

*IDC **04** 21:55:30.6±0.6,50°.81S×6°.47W,h0km,mb4.3/14, mb1 4.4/14,mb1mx4.3/22,mbtmp4.3/14,MS3.9/11, Ms1 3.9/11,ms1mx3.8/17,Error ellipse: s-maj=18.6km s-min=16.2km az=84.0*

*NEIC **04** 21:55:32.3±1.1,50°.8S±0°.1×6°.5W±0°.2,h10km±1km, mb4.8/26,Error ellipse: s-maj=20.1km s-min=17.7km az=80.0*

ISC 04 21:55:32.2±0.4, 50°78S±0°08×6°5W±0°1, h10km, n61, σ0ᵖ75/55, mb4.6/22, MS3.8/11, 1C-2D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**19.95**	**182**	P	**Pn**	**22 00 06.3**	**+0.6**
VNA2	**Neumayer--Watz**	**20.22**	**181**	P	Pn	22 00 08.8	0.0
	baz=0.3,slow=11						
VNA3	**Neumayer Olymp**	**20.58**	**183**	P	**P**	**22 00 11.8**	**+0.9**
SNAA	**Sanae**	**21.02**	**177**	P	**P**	**22 00 17.0**	**+1.2**
SNAA	**Sanae**	**21.02**	**177**	P	**P**	**22 00 13.6**	**-2.1**
	3.8nm,0.9s,baz=8.4,slow=10,SNR=7.9						
SNAA				LR	LR	22 06 21.3	
	comp=Z,272nm,21.3s,baz=0.5,slow=31						
SNAA	**Sanae**	**21.02**	**177**	P	**P**	**22 00 14.6**	**-1.1**
SYO	**Syowa Base**	**28.41**	**147**	*eP*	**P**	**22 01 25.0**	**-1.4**
SYO	**Syowa Base**	**28.41**	**147**	⇓*pP*	**P**	**22 01 26.8**	**+0.4**
SYO	**Syowa Base**	**28.41**	**147**	⇓*pP*	pP	22 01 30.0	+1.3
PMSA	**Palmer Station**	**32.44**	**222**	P	**P**	**22 02 01.9**	**-0.2**
BOSA	**Boshof**	**32.55**	**59**	P	**P**	**22 02 02.9**	**-0.6**
	9.2nm,1.1s,baz=206,slow=10,SNR=5.0						
BOSA				LR	LR	22 12 32.7	
	comp=Z,590nm,20.2s,baz=212,slow=31						
BOSA	**Boshof**	**32.55**	**59**	P	**P**	**22 02 02.8**	**-0.7**
BOSA				IAmb	IAmb	22 02 04.6	
	comp=Z,8.8nm,1.1s						
LBTB	**Lobatse**	**35.60**	**56**	P	**P**	**22 02 29.4**	**-0.6**
	comp=Z,10nm,1.2s,baz=213,slow=12,SNR=4.3						
LBTB	**Lobatse**	**35.60**	**56**	P	**P**	**22 02 29.0**	**-1.0**
LBTB				IAmb	IAmb	22 02 31.2	
	comp=Z,26nm,1.3s						
TSUM	**Tsumeb**	**36.82**	**40**	P	**P**	**22 02 40.6**	**+0.1**
MAW	**Mawson**	**36.91**	**143**	P	**P**	**22 02 39.7**	**-0.9**
	comp=Z,7.2nm,1.0s,baz=240,slow=7.7,SNR=7.8						
MAW				LR	LR	22 16 19.2	
	comp=Z,143nm,18.4s,baz=254,slow=34						
MAW	**Mawson**	**36.91**	**143**	P	**P**	**22 02 40.5**	**-0.1**
QSPA	**South Pole Qui**	**39.47**	**180**	P	**P**	**22 03 02.6**	**+0.2**
	comp=Z,9.1nm,1.1s,baz=237,slow=5.2,SNR=6.7						
QSPA	**South Pole Qui**	**39.47**	**180**	P	**P**	**22 03 02.2**	**-0.2**
QSPA				IAmb	IAmb	22 03 12.0	
	comp=Z,18nm,1.2s						
MATP	**Matopo**	**40.88**	**55**	P	**P**	**22 03 14.6**	**0.0**
	comp=Z,4.9nm,1.0s,baz=216,slow=6.9,SNR=7.8						
PLCA	**Paso Flores**	**44.52**	**257**	LR	LR	22 20 03.9	
	comp=Z,201nm,20.0s,baz=132,slow=33						
LSZ	**Lusaka**	**45.06**	**51**	P	**P**	**22 03 49.1**	**+0.7**
CPUP	**Villa Florida**	**45.54**	**283**	P	**P**	**22 03 51.8**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=138,slow=7.7,SNR=7.1						
CPUP				LR	LR	22 22 11.9	
	comp=Z,71nm,18.2s,baz=148,slow=35						
CPUP	**Villa Florida**	**45.54**	**283**	P	**P**	**22 03 52.2**	**+0.2**
BDFB	**Brasilia**	**48.34**	**301**	P	**P**	**22 04 14.0**	**-0.2**
	comp=Z,10nm,1.0s,baz=135,slow=3.5,SNR=9.4						
BDFB				LR	LR	22 20 35.5	
	comp=Z,70nm,18.8s,baz=201,slow=31						
BDFB	**Brasilia**	**48.34**	**301**	P	**P**	**22 04 13.9**	**-0.2**
BDFB				IAmb	IAmb	22 04 16.4	
	comp=Z,20nm,1.1s						
RCBR	**Riachuelo**	**51.10**	**321**	P	**P**	**22 04 34.9**	**-0.1**
RCBR				IAmb	IAmb	22 04 47.8	
	comp=Z,29nm,1.2s						
VNDA	**Vanda**	**51.76**	**177**	P	**P**	**22 04 39.2**	**0.0**
	comp=Z,1.6nm,0.8s,baz=222,slow=8.5,SNR=8.3						
VNDA				LR	LR	22 25 19.0	
	comp=Z,112nm,20.4s,baz=186,slow=35						
VNDA	**Vanda**	**51.76**	**177**	P	**P**	**22 04 39.4**	**+0.3**
AC05	**El Transito**	**51.94**	**270**	P	**P**	**22 04 40.8**	**-0.5**
CASY	**Casey**	**53.84**	**153**	P	**P**	**22 04 55.1**	**+0.4**
CASY				IAmb	IAmb	22 05 08.9	
	comp=Z,8.4nm,1.2s						
GO02	**Mina Guanaco**	**54.08**	**273**	P	**P**	**22 04 57.6**	**+0.3**
GO02				IAmb	IAmb	22 05 11.7	
	comp=Z,20nm,1.2s						
LVC	**Limon Verde**	**55.48**	**276**	P	**P**	**22 05 07.8**	**+0.1**
LVC				IAmb	IAmb	22 05 11.3	
	comp=Z,7.6nm,0.7s						
PB09	**IPOC Station P**	**56.29**	**276**	P	**P**	**22 05 13.8**	**+0.6**
PB07	**IPOC Station P**	**56.74**	**276**	P	**P**	**22 05 17.1**	**+0.6**
PB01	**IPOC Station P**	**56.99**	**277**	P	**P**	**22 05 17.8**	**-0.3**
PB01				IAmb	IAmb	22 05 19.7	
	comp=Z,15nm,1.1s						
DBIC	**Dimbokro**	**57.24**	**2**	P	**P**	**22 05 19.3**	**-0.3**
	comp=Z,3.8nm,0.9s,baz=171,slow=15,SNR=2.4						
DBIC	**Dimbokro**	**57.24**	**2**	P	**P**	**22 05 19.2**	**-0.3**
DBIC				IAmb	IAmb	22 05 26.9	
	comp=Z,8.4nm,1.1s						
PB08	**IPOC Station P**	**57.45**	**278**	P	**P**	**22 05 22.0**	**+0.3**
PB08				IAmb	IAmb	22 05 24.1	
	comp=Z,10nm,0.9s						
GO01	**Chusmiza**	**57.82**	**278**	P	**P**	**22 05 24.4**	**-0.1**
GO01				IAmb	IAmb	22 05 27.9	
	comp=Z,11nm,1.1s						
MNMC	**Minye Minye**	**58.48**	**278**	P	**P**	**22 05 28.6**	**-0.1**
PB16	**IPOC Station P**	**59.01**	**279**	P	**P**	**22 05 32.7**	**-0.1**
LPAZ	**La Paz**	**59.69**	**282**	P	**P**	**22 05 37.7**	**+0.1**
	comp=Z,2.7nm,1.0s,baz=97,slow=11,SNR=5.7						
LPAZ				LR	LR	22 28 31.2	
	comp=Z,72nm,21.9s,baz=126,slow=33						
LPAZ	**La Paz**	**59.69**	**282**	P	**P**	**22 05 37.4**	**-0.2**
KMBO	**Kilima Mbogo**	**61.71**	**52**	LR	LR	22 30 02.2	
	comp=Z,234nm,21.4s,baz=261,slow=34						
SAML	**Samuel**	**62.39**	**291**	P	**P**	**22 05 54.9**	**-0.3**
SAML				IAmb	IAmb	22 05 55.8	
	comp=Z,4.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**64.06**	**9**	P	**P**	**22 06 05.2**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=191,slow=0.8,SNR=4.6						
ROSC	**El Rosal**	**80.00**	**290**	LR	LR	22 41 27.2	
	comp=Z,115nm,18.3s,baz=62,slow=34						
KEST	**Kesra**	**87.26**	**13**	P	**P**	**22 08 20.3**	**+1.7**
	comp=Z,3.4nm,0.9s,baz=292,slow=11,SNR=4.5						
KEST	**Kesra**	**87.26**	**13**	P	**P**	**22 08 20.0**	**+1.4**
KEST				IAmb	IAmb	22 08 29.2	
	comp=Z,10nm,1.1s						
ESDC	**Sonseca Array**	**90.11**	**2**	P	**P**	**22 08 32.6**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=194,slow=4.7,SNR=9.4						
BRTR	**Keskin Array B**	**96.74**	**30**	LR	LR	22 52 15.4	
	comp=Z,25nm,19.9s,baz=160,slow=35						
PDAR	**Pinedale Array**	**128.96**	**293**	PKP	**PKPdf**	**22 14 37.6**	**-2.1**
	comp=Z,1.0nm,1.0s,baz=96,slow=3.0,SNR=4.9						
FXWY	**Fox Creek**	**130.34**	**293**		**PKPdf**	**22 14 42.5**	**+0.1**
G08A	**Pilot Rock**	**135.96**	**290**		**PKPdf**	**22 14 53.3**	**+0.6**
SONM	**Songino Array**	**137.48**	**67**	PKP	**PKiKP**	**22 14 56.8**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=318,slow=1.9,SNR=1.9						
YKA	**Yellowknife Ar**	**140.91**	**316**	PKP	**PKPdf**	**22 15 01.4**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=91,slow=2.7,SNR=3.8						
KSRS	**Korea Array**	**145.21**	**95**	PKPbc	**PKPdf**	**22 15 10.1**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=205,slow=2.9,SNR=2.6						
INK	**Inuvik**	**149.27**	**325**		**PKPbc**	**22 15 19.6**	**0.0**
MJAR	**Matsushiro Arr**	**151.06**	**106**	PKPbc	**PKiKP**	**22 15 25.4**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=224,slow=3.9,SNR=7.6						
ILAR	**Eielson Array**	**155.21**	**319**	PKPbc	PKPbc	22 15 33.3	
	comp=Z,0.5nm,0.7s,baz=35,slow=1.8,SNR=4.3						
ILAR				PKPab	**PKPab**	**22 15 48.6**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=62,slow=3.3,SNR=12						

*IDC **04** 21:56:52.8±1.0,20°.13N×120°.24E,h0km,mb3.7/6, mb1 3.8/7,mb1mx3.5/39,mbtmp3.6/7,ML3.6/1,MS3.4/3, Ms1 3.4/3,ms1mx2.8/39,Error ellipse: s-maj=66.4km s-min=18.9km az=70.0*

*NEIC **04** 21:56:53.5±1.8,20°.12N±0°.07×120°.2E±0°.1,h10km±1km, mb4.3/7,Error ellipse: s-maj=18.7km s-min=12.1km az=285.0*

ISC 04 21:56:56.4±0.7, 20°07N±0°08×120°2E±0°1, h35km, n22, σ1ᵖ61/19, mb3.8/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPUB	**Ta-pu**	**3.24**	**7**	Pn	**Pn**	**21 57 42.3**	**-2.5**
SSLB	**Suanglung**	**3.77**	**11**	Pn	**Pn**	**21 57 49.6**	**-2.5**
YHNB	**Yeheng**	**4.71**	**13**	Pn	**Pn**	**21 58 04.3**	**-0.7**
HKPS	**Hong Kong Po S**	**6.05**	**292**	Pn	**Pn**	**21 58 22.2**	**-1.2**
KKM	**Kota Kinabalu**	**14.47**	**196**	Pn	**Pn**	**22 00 16.6**	**-2.2**
KMI	**Kunming**	**16.87**	**291**	Pn	**Pn**	**22 00 49.9**	**-0.3**
KMI				IAmb	IAmb	22 01 02.8	
	comp=Z,7.1nm,0.5s						
KSRS	**Korea Array**	**18.59**	**20**	P	**P**	**22 01 10.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=194,slow=12,SNR=4.9						
CMAR	**Chiang Mai Arr**	**20.12**	**269**	LR	LR	22 08 53.9	
	comp=Z,42nm,18.7s,baz=105,slow=36						
BJT	**Baijiatuau**	**20.18**	**351**	P	**P**	**22 01 26.0**	**-1.9**
BJT				IAmb	IAmb	22 01 37.9	
	comp=Z,4.2nm,0.7s						
TNTI	**Ternate**	**20.43**	**159**	P	**P**	**22 01 29.8**	**-1.0**
TNTI				IAmb	IAmb	22 01 47.5	
	comp=Z,27nm,1.0s						
SIJI	**Sorong**	**23.48**	**151**	LR	LR	22 12 50.8	
	comp=Z,88nm,20.7s,baz=107,slow=41						
SONM	**Songino Array**	**29.87**	**341**	P	**P**	**22 03 02.0**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=167,slow=9.0,SNR=3.9						
MK31	**Makanchi Array**	**40.75**	**320**	P	**P**	**22 04 34.1**	**+0.1**
MKAR	**Makanchi Array**	**40.75**	**320**	P	**P**	**22 04 35.6**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=118,slow=9.1,SNR=3.6						
WB0	**Warramunga Arr**	**41.97**	**160**	P	**P**	**22 04 45.1**	**+0.9**
WB0				IAmb	IAmb	22 05 04.3	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**42.12**	**160**	P	**P**	**22 04 46.9**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=343,slow=9.0,SNR=7.7						
WB2	**Warramunga Arr**	**42.12**	**160**	P	**P**	**22 04 46.2**	**+0.8**
ZALV	**Zalesovo Beam**	**43.26**	**330**	P	**P**	**22 04 55.8**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=119,slow=7.4,SNR=2.3						
ASAR	**Alice Springs**	**45.48**	**162**	P	**P**	**22 05 14.6**	**+2.1**
	comp=Z,0.8nm,0.5s,baz=345,slow=7.0,SNR=10						
TTA	**Tatalina**	**69.53**	**29**	P	**P**	**22 08 02.7**	**+1.3**
TTA				IAmb	IAmb	22 08 03.1	
	comp=Z,4.6nm,1.5s						
FINES	**FINESS Array B**	**74.52**	**330**	P	**P**	**22 08 32.1**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=94,slow=13,SNR=2.2						
GERES	**GERESS Array B**	**85.41**	**321**	LR	LR	22 52 40.2	
	comp=Z,33nm,18.2s,baz=172,slow=39						

IDC 04 22:09:06.3±6.6, 14°45S×73°43W, h94km±50km, mb3.5/3, mb1 3.8/4,mb1mx3.4/23,mbtmp3.8/4, Error ellipse: s-maj=327.3km s-min=35.5km az=29.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.43**	**110**	P	Pn	22 10 25.4	0.0
	1.2nm,0.3s,baz=281,slow=9.6,SNR=23						
H03N1	**Juan Fernandez**	**19.55**	**194**	T	T	22 32 04.9	
	baz=15,slow=74,SNR=202						
H03N2	**Juan Fernandez**	**19.56**	**194**	T	T	22 32 03.3	
	baz=15,slow=74,SNR=196						
H03N3	**Juan Fernandez**	**19.57**	**194**	T	T	22 31 51.5	
	baz=15,slow=74,SNR=232						
TXAR	**Lajitas Array**	**52.41**	**326**	P	P	22 18 09.4	0.0
	0.8nm,0.6s,baz=154,slow=7.9,SNR=14						
TORD	**Torodi Ar. Bea**	**79.27**	**73**	P	P	22 21 02.1	+0.1
	0.7nm,0.9s,baz=246,slow=4.2,SNR=3.0						
YKA	**Yellowknife Ar**	**83.17**	**342**	P	P	22 21 21.2	-0.4
	1.2nm,0.9s,baz=139,slow=4.6,SNR=4.7						
SONM	**Songino Array**	**146.71**	**0**	PKPbc	PKPbc	22 28 37.1	-0.5
	0.4nm,0.5s,baz=349,slow=3.1,SNR=2.4						

IDC 04 22:20:56.2±1.5, 27°25N×103°78E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/53, mbtmp3.4/4, MS3.0/3, Ms1 3.0/3, ms1mx2.7/26, Error ellipse: s-maj=91.3km s-min=24.6km az=64.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.82**	**208**	LR	LR	22 27 12.4	
	comp=Z,52nm,21.7s,baz=20,slow=38						
SONM	**Songino Array**	**20.66**	**5**	P	P	22 25 38.1	+0.5
	0.3nm,0.4s,baz=178,slow=8.1,SNR=1.9						
KSRS	**Korea Array**	**22.73**	**57**	LR	LR	22 36 44.3	
	comp=Z,54nm,18.2s,baz=232,slow=42						
TLY	**Talaya**	**24.41**	**360**	LR	LR	22 37 08.5	
	comp=Z,35nm,20.9s,baz=164,slow=40						
MKAR	**Makanchi Array**	**25.84**	**325**	P	P	22 26 29.0	-0.3
	0.6nm,0.7s,baz=134,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**55.47**	**145**	P	P	22 30 32.2	-0.7
	0.5nm,0.4s,baz=334,slow=8.2,SNR=8.4						
ASAR	**Alice Springs**	**58.38**	**147**	P	P	22 30 54.5	+0.9
	0.4nm,0.7s,baz=338,slow=7.0,SNR=2.8						

IDC 04 22:32:32.3±7.9, 7°44S×128°26E, h124km±84km, mb3.1/1, mb1 3.6/4, mb1mx3.2/29, mbtmp3.9/4, ML4.0/3, Error ellipse: s-maj=73.4km s-min=27.7km az=32.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.31**	**238**	P	Pn	22 33 50.3	+0.7
	9.0nm,0.3s,baz=264,slow=1.1,SNR=10						
BATI				S	Sn	22 34 49.9	+0.3
	9.9nm,0.3s,baz=300,slow=5.9,SNR=8.5						
WRA	**Warramunga Arr**	**13.76**	**155**	P		22 35 40.4	-2.0
	0.6nm,0.3s,baz=329,slow=13,SNR=18						
WRA				S	Sn	22 38 04.3	-10
	1.9nm,0.3s,baz=333,slow=23,SNR=18						
ASAR	**Alice Springs**	**17.02**	**162**	P	Pn	22 36 24.3	+1.3
	0.6nm,0.3s,baz=340,slow=11,SNR=35						
ASAR				S	Sn	22 39 22.9	-10
	0.4nm,0.3s,baz=348,slow=23,SNR=7.9						
MKAR	**Makanchi Array**	**67.65**	**328**	P	P	22 43 15.9	-0.1
	0.2nm,0.4s,baz=124,slow=7.7,SNR=6.6						

*PRU **04** 22:40:05.7±0.0, 46°81N×13°26E, h0km*
*LJU **04** 22:40:06.1, 46°98N×13°30E, h6km, ML1.3*
*BGR **04** 22:40:07.2±0.3, 47°03N×13°33E, h10km, ML2.3/9, Error ellipse: s-maj=7.8km s-min=5.6km az=3.0*

VIE 04 22:40:06.1±0.1, 46°99N×13°30E, h5km±1km, mb1.9/14, ml2.4/21, 3C-8D, Error ellipse: s-maj=1.2km s-min=0.7km az=10.0 10 km E of Mallnitz, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBA	**Koelnbreinsper**	**0.09**	**19**	*e*Pg	Pg	22 40 08.7	+0.5
KBA				*e*Sg	Sg	22 40 10.2	+0.6
KBA	**Koelnbreinsper**	**0.09**	**19**	*e*Pg	Pg	22 40 08.7	+0.5
	26nm,0.1s,SNR=2972						
KBA				*i* Sg	Sg	22 40 10.1	+0.4
	320nm,0.2s						
MYKA	**Terra Mystica**	**0.43**	**147**	*e*Pg	Pg	22 40 14.9	+0.5
	0.7nm,0.1s,SNR=7.6						
MYKA				*i* Sg	Sg	22 40 20.7	+0.6
	2.4nm,0.1s						
PTCC	**Patocco-Chiusa**	**0.59**	**176**	⇑P	Pb	22 40 18.5	-0.4
PTCC				AML	AML		
	comp=E,35μm,0.7s						
PTCC				AML	AML		
	comp=N,42μm,0.4s						
ABTA	**Abfaltersbach**	**0.59**	**246**	*i* Pg	Pg	22 40 18.0	+0.5
	comp=N,0.3nm,0.1s						
ABTA				*i* Sg	Sg	22 40 26.3	+1.0
	comp=N,4.7nm,0.1s						
GEPF	**Gemona**	**0.73**	**189**	⇓P	Pb	22 40 21.5	+0.3
GEPF				AML	AML		
	comp=E,59μm,0.2s						
GEPF				AML	AML		
	comp=N,66μm,0.3s						
CADS	**Cadrg**	**0.82**	**158**	*i* Pg	Pg	22 40 22.2	+0.4
	comp=Z,8.0nm,0.2s						
GORS	**Gorjuse**	**0.83**	**145**	*i* Pg	Pb	22 40 22.6	-0.4
	comp=Z,8.0nm,0.3s						
RISI	**Rein**	**0.84**	**267**	⇓P	Pg	22 40 22.2	0.0
RISI				AML	AML		
	comp=E,153μm,0.2s						
RISI				AML	AML		
	comp=N,250μm,0.2s						
RISI				AML	AML		
	comp=E,153μm,0.2s						
RISI				AML	AML		
	comp=N,250μm,0.2s						
STAL	**STALIGIAL**	**0.84**	**209**	⇓P	Pb	22 40 23.7	+0.6
STAL				AML	AML		
	comp=E,138μm,1.0s						
STAL				AML	AML		
	comp=N,110μm,0.2s						
OBKA	**Obir**	**0.98**	**119**	*e*Pg	Pb	22 40 25.4	-0.3
OBKA				*e*Sg	Sb	22 40 38.7	-0.2
OBKA	**Obir**	**0.98**	**119**	*e*Pg	Pg	22 40 25.3	+0.3
	comp=N,0.9nm,0.1s,SNR=21						
OBKA				*i* Sg	Sb	22 40 38.6	-0.4
	comp=N,2.6nm,0.1s						
SABO	**M.te Sabotino**	**1.03**	**168**	⇑P	Pn	22 40 27.6	+0.4
SABO				AML	AML		
	comp=E,91μm,0.6s						
SABO				AML	AML		
	comp=N,79μm,0.5s						
VOJS	**Vojsko**	**1.04**	**157**	*e*Pg	Pb	22 40 26.8	+0.2
MOA	**Molln**	**1.08**	**37**	*e*Pg	Pb	22 40 27.2	0.0
	comp=N,0.5nm,0.1s,SNR=17						
MOA				*i* Sn	Sn	22 40 44.2	+1.0
	comp=N,7.2nm,0.2s						
WTTA	**Wattenberg**	**1.17**	**284**	*e*Pg	Pg	22 40 28.4	0.0
	comp=N,4.7nm,0.1s,SNR=31						
WTTA				*i* Sg	Sn	22 40 45.1	-0.5
	comp=N,22nm,0.3s						
WTTA	**Wattenberg**	**1.17**	**284**	⇓P	Pg	22 40 28.5	+0.1
WTTA				AML	AML		
	comp=E,76μm,0.3s						
WTTA				AML	AML		
	comp=N,94μm,1.2s						
WATA	**Walderalm**	**1.23**	**287**	*e*Pg	Pb	22 40 29.8	0.0
	comp=N,5.7nm,0.1s,SNR=35						
WATA				*i* Sg	Sn	22 40 47.8	+0.8
	comp=N,22nm,0.2s						
SOKA	**Soboth**	**1.23**	**104**	*e*Pg	Pg	22 40 29.6	0.0
	comp=N,0.6nm,0.1s,SNR=16						
SOKA				*i* Sg	Sn	22 40 46.9	-0.1
	comp=N,0.9nm,0.1s						
ROSI	**Rosskopf**	**1.30**	**268**	⇓P	Pb	22 40 31.1	+0.1
ROSI				AML	AML		
	comp=E,64μm,0.5s						
ROSI				AML	AML		
	comp=N,90μm,0.4s						
ABSI	**Aberstueckl**	**1.39**	**260**	⇓P

GEN ***04*** *22:41:32.3,44°.50N×6°.67E,h9km±1km,MI1.2*
STR ***04*** *22:41:32.2±0.4,45°.N-3°.×°.°,h13km±5km,MLv1.2/7,*
smi:scs/0.6/LOCSAT earthModelID
smi:scs/0.6/alpes_taup-2.11 preliminary

LDG 04 22:41:32.4±0.1,44°.51N×6°.67E,h2km,Md1.2/1,MI1.5/4,
1C-2D,Error ellipse: s-maj=1.8km s-min=1.0km az=59.0,
France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGAG	**Argentiere**	**0.11**	**237**	Pg	Pg	22 41 38.3	+3.7
OGAG				Sg	Sg	22 41 42.4	+6.4
SURF	**Saint Ours**	**0.11**	**108**	Pg	Pg	22 41 35.1	+0.5
SURF				Sg	Sg	22 41 37.2	+1.2
MBDF	**Montbardon**	**0.23**	**19**	*e*Pg	Pg	22 41 37.8	+1.0
MBDF				*e*Sg	Sg	22 41 39.9	+0.2
	3.8nm,0.2s						
PZZ	**Stroppo**	**0.32**	**91**	P	Pg	22 41 38.7	+0.1
PZZ				S	Sg	22 41 43.1	+0.3
PZZ	**Stroppo**	**0.32**	**91**	⇓P	Pg	22 41 38.8	+0.2
PZZ				AML	AML		
	comp=E,180μm,0.3s						
PZZ				AML	AML		
	comp=N,170μm,0.8s						
DOI	**San Damiano**	**0.41**	**91**	P	Pg	22 41 40.6	+0.3
RRL	**Rocca Remolon**	**0.42**	**12**	P	Pg	22 41 40.8	+0.3
RRL				S	Sg	22 41 46.7	+0.8
RRL	**Rocca Remolon**	**0.42**	**12**	⇓P	Pg	22 41 40.9	+0.5
ISO	**Isola**	**0.43**	**140**	Pg	Pg	22 41 40.3	-0.4
ISO				Sg	Sg	22 41 45.7	-0.5
STV	**Sant Anna di V**	**0.54**	**119**	P	Pg	22 41 42.6	-0.2
STV				S	Sg	22 41 49.3	-0.6
STV	**Sant Anna di V**	**0.54**	**119**	⇑P	Pg	22 41 42.6	-0.2
STV				AML	AML		
	comp=E,33μm,0.2s						
STV				AML	AML		
	comp=N,36μm,0.3s						
ENR	**Entracque**	**0.61**	**118**	P	Pg	22 41 43.8	-0.3
ENR				S	Sg	22 41 51.5	-0.6
ENR	**Entracque**	**0.61**	**118**	P	Pg	22 41 43.7	-0.4
ORIF	**Oris-en-Rattie**	**0.69**	**306**	*e*Pg	Pg	22 41 45.3	-0.4
ORIF				*e*Sg	Sg	22 41 54.3	-0.3
	comp=N,0.8nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.69**	**306**	Pg	Pg	22 41 45.6	-0.1
TURF	**col de Turini**	**0.75**	**136**	Pg	Pg	22 41 46.4	-0.3
TURF				Sg	Sg	22 41 56.4	0.0
RSP	**Reno Superiore**	**0.76**	**34**	P	Pg	22 41 47.2	+0.2
RSP				S	Sg	22 41 57.6	+0.7
CALF	**Calern**	**0.78**	**166**	Pg	Pg	22 41 47.4	0.0
CALF				Sg	Sg	22 41 57.8	+0.3
GDM	**Grand'Maison**	**0.79**	**331**	Pg	Pg	22 41 47.6	-0.1
SAOF	**Saorge**	**0.83**	**129**	Pg	Pg	22 41 47.9	-0.4
SAOF				Sg	Sg	22 41 58.8	-0.2
SBF	**Sospel**	**0.85**	**139**	*e*Pg	Pg	22 41 49.1	+0.4
GBOS	**Grotte di Boss**	**0.88**	**108**	P	Pg	22 41 48.6	-0.7
GBOS				S	Sg	22 41 59.8	-0.9
MGRO	**Montegrosso**	**0.94**	**120**	P	Pg	22 41 50.1	-0.4
MGRO				S	Sg	22 42 01.1	-1.6
SMRF	**Simiane la Rot**	**0.95**	**236**	*e*Pg	Pg	22 41 50.2	-0.4
FRF	**La Foret Royal**	**0.95**	**181**	*e*Pg	Pg	22 41 50.6	-0.1
LPL	**La Plagne**	**1.00**	**3**	*e*Pg	Pg	22 41 51.2	-0.4
LPL				*e*Sg	Sg	22 42 04.2	-0.5
	comp=N,1.3nm,0.2s						
IMI	**Imperia**	**1.07**	**124**	P	Pg	22 41 52.2	-0.7
IMI				S	Sg	22 42 03.2	-3.5
RORO	**Rocca Rossa**	**1.08**	**111**	P	Pg	22 41 52.2	-0.9
RORO				S	Sg	22 42 03.1	-4.0
ARTF	**Artigues**	**1.12**	**214**	Pg	Pb	22 41 54.7	+0.3
ARTF				Sg	Sg	22 42 05.8	-2.4
LMR	**La Mourre**	**1.19**	**186**	*e*Pg	Pg	22 41 54.9	-0.2
LMR				*e*Sg	Sg	22 42 10.1	-0.3
	comp=N,1.0nm,0.2s						
VIVF	**Saint-Julien-l**	**1.46**	**284**	*e*Sg	Sg	22 42 18.9	-0.5
	comp=N,0.4nm,0.2s						

LDG ***04*** *22:41:43.2±0.1,44°.53N×6°.71E,h14km,Md2.1/1,Ml2.0/6,*
Error ellipse: s-maj=2.0km s-min=1.2km az=75.0

STR 04 22:41:42.8±0.4,45°.N±2°.×°.°,h20km±4km,MLv1.3/7,
smi:scs/0.6/LOCSAT earthModelID
smi:scs/0.6/alpes_taup-2.11 preliminary,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGAG	**Argentiere**	**0.14**	**240**	Pg	Pb	22 41 49.4	+0.9
OGAG				Sg	Sb	22 41 53.7	+1.2
MBDF	**Montbardon**	**0.20**	**12**	*e*Pg	Pb	22 41 48.4	-0.2
MBDF				*e*Sg	Sb	22 41 51.2	-1.5
	12nm,0.2s						
ISO	**Isola**	**0.42**	**145**	Pg	Pb	22 41 51.6	+0.1
ISO				Sg	Sb	22 41 56.8	-0.5
OGDI	**Digne**	**0.51**	**216**	Sg	Sn	22 42 01.7	-1.4
OGMO	**Fort Saint-Gob**	**0.68**	**358**	Pg	Pb	22 41 55.4	-0.7
OGMO				Sg	Sb	22 42 06.3	+1.1
ORIF	**Oris-en-Rattie**	**0.71**	**304**	*e*Pg	Pb	22 41 56.6	+0.1
ORIF				*e*Sg	Sb	22 42 06.1	+0.2
	4.2nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.71**	**304**	Pg	Pb	22 41 56.6	+0.1
ORIF				Sg	Sb	22 42 06.2	+0.3
TURF	**col de Turini**	**0.74**	**138**	Pn	Pn	22 41 58.2	0.0
TURF				Sg	Sb	22 42 07.4	+0.8
GDM	**Grand'Maison**	**0.80**	**328**	Pg	Pb	22 41 58.1	+0.1
GDM				Sg	Sb	22 42 09.4	+0.9
SAOF	**Saorge**	**0.81**	**131**	Sg	Sn	22 42 10.0	-0.5
SBF	**Sospel**	**0.84**	**142**	*e*Pg	Pn	22 41 59.6	+0.1
SBF				*e*Sg	Sn	22 42 10.9	-0.4
	8.7nm,0.2s						
SBF	**Sospel**	**0.84**	**142**	*e*Sg	Pn	22 41 59.4	-0.1
	3.6nm,0.2s						
FRF	**La Foret Royal**	**0.97**	**183**	*e*Pg	Pn	22 42 01.7	+0.6
FRF				*e*Sg	Sn	22 42 14.2	-0.1
	8.4nm,0.3s						
LPG	**La Plagne**	**0.97**	**2**	*e*Pg	Pn	22 42 02.1	+0.6
LPG				*e*Sg	Sn	22 42 14.6	-0.2
	3.9nm,0.3s						
SMRF	**Simiane la Rot**	**0.98**	**236**	*e*Pg	Pn	22 42 02.1	+0.7
SMRF	**Simiane la Rot**	**0.98**	**236**	*e*P	Pn	22 42 02.7	+1.3
SMRF				*e*Sg	Sn	22 42 14.9	+0.1
	3.1nm,0.2s						
SMRF	**Simiane la Rot**	**0.98**	**236**	*e*Sg	Pn	22 42 02.6	+1.2
	1.3nm,0.2s						
LPL	**La Plagne**	**0.99**	**1**	*e*Pg	Pn	22 42 02.1	+0.4
LPL	**La Plagne**	**0.99**	**1**	*e*P	Pn	22 42 02.9	+1.2
LPL				*e*Sg	Sn	22 42 15.1	-0.1
	1.8nm,0.2s						
LMR	**La Mourre**	**1.20**	**187**	*e*Pg	Pb	22 42 05.8	+1.0
LMR				*e*Sg	Sn	22 42 21.5	+1.5
	3.7nm,0.2s						
VIVF	**Saint-Julien-l**	**1.49**	**283**	*e*Pg	Pb	22 42 11.1	+1.3
VIVF				*e*Sg	Sb	22 42 30.5	+2.2
	2.5nm,0.3s						

ROM 04 22:42:00.3±0.1,43°.311N±0°.002×12°.536E±0°.004,
h8km,Md1.2/4,Error ellipse: s-maj=0.3km s-min=0.2km
az=246.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MURB	**Monte Urbino**	**0.05**	**190**	P	Pg	22 42 02.2	+0.2
MURB				S	Sg	22 42 03.5	+0.3
MURB				END			
MURB				END			
ATFO	**Monte Foce - G**	**0.06**	**25**	P	Pg	22 42 02.4	+0.1
ATFO				S	Sg	22 42 03.9	+0.3
ATFO				END			
ATFO				END			
ATVO	**AVT- Monte Val**	**0.12**	**307**	P	Pg	22 42 03.3	+0.3
ATVO				S	Sg	22 42 05.5	+0.7
ATVO				END			
ATVO				END			
ATPI	**Pietralunga -**	**0.17**	**325**	P	Pg	22 42 04.3	+0.5
ATPI				S	Sg	22 42 07.5	+1.2
ATPI				END			

IDC ***04*** *22:52:45.9±2.2,18°.41N×147°.39E,h0km,mb3.8/8,*
mb1 3.9/9,mb1mx3.7/36,mbtmp3.8/9,ML3.1/1,Error
ellipse: s-maj=93.7km s-min=20.6km az=83.0
NEIC ***04*** *22:52:52.6±1.4,18°.53N±0°.09×147°.2E±0°.1,h35km±2km,*
mb4.5/12,Error ellipse: s-maj=18.0km s-min=15.9km
az=89.0

ISC 04 22:52:52.1±1.0,18°.51N±0°.09×147°.3E±0°.2,h35km,n28,
σ0s80/23,mb4.1/14,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**2.62**	**215**	Pn	Pn	22 53 33.5	+1.5
H11S3	**WAKE ISLAND Hy**	**18.42**	**87**	T	T	23 15 42.2	
	baz=277,slow=74,SNR=42						
H11S1	**WAKE ISLAND Hy**	**18.43**	**87**	T	T	23 15 44.0	
	baz=277,slow=74,SNR=45						
H11S2	**WAKE ISLAND Hy**	**18.44**	**87**	T	T	23 15 41.5	
	baz=277,slow=74,SNR=39						
H11N1	**WAKE ISLAND Hy**	**18.58**	**83**	T	T	23 15 54.4	
	baz=266,slow=74,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**18.59**	**83**	T	T	23 15 50.1	
	baz=266,slow=74,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**18.60**	**83**	T	T	23 15 56.7	
	baz=266,slow=74,SNR=6.1						
MJAR	**Matsushiro Arr**	**19.66**	**338**	P	**Pn**	**22 57 18.8**	**-0.8**
	0.1nm,0.3s,baz=165,slow=10,SNR=2.7						
MAJO	**Matsushiro**	**19.66**	**338**	P	**Pn**	**22 57 18.6**	**-1.0**
KSRS	**Korea Array**	**25.36**	**322**	P	**P**	**22 58 16.4**	**+0.5**
	1.5nm,0.6s,baz=146,slow=8.6,SNR=6.9						
WB0	**Warramunga Arr**	**40.09**	**199**	P	**P**	**23 00 24.2**	**-0.2**
WB0				IAmb	IAmb	23 00 38.6	
	comp=Z,29nm,1.5s						
WB2	**Warramunga Arr**	**40.26**	**199**	P	**P**	**23 00 25.1**	**-0.7**
WRA	**Warramunga Arr**	**40.27**	**199**	P	**P**	**23 00 23.9**	**-1.9**
	comp=Z,0.9nm,0.7s,baz=23,slow=8.5,SNR=6.4						
FITZ	**Fitzroy Crossi**	**42.14**	**212**	P	**P**	**23 00 40.5**	**-0.7**
FITZ				IAmb	IAmb	23 00 57.0	
	comp=Z,18nm,1.5s						
ASAR	**Alice Springs**	**43.90**	**198**	P	**P**	**23 00 54.5**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=15,slow=8.9,SNR=5.2						
SONM	**Songino Array**	**44.22**	**321**	P	**P**	**23 00 58.5**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=113,slow=9.6,SNR=3.1						
KULM	**Kulim**	**47.32**	**260**	P	**P**	**23 01 22.4**	**-0.4**
BBOO	**Buckleboo**	**52.15**	**192**	P	**P**	**23 01 58.6**	**-0.5**
ZALV	**Zalesovo Beam**	**59.07**	**322**	P	**P**	**23 02 48.3**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=96,slow=9.1,SNR=4.5						
MK31	**Makanchi Array**	**59.66**	**314**	P	**P**	**23 02 53.0**	**0.0**
MKAR	**Makanchi Array**	**59.66**	**314**	P	**P**	**23 02 53.0**	**0.0**
	comp=Z,0.6nm,0.7s,baz=90,slow=9.7,SNR=6.9						
MKAR				PcP	**PcP**	**23 03 39.8**	**0.0**
	comp=Z,0.7nm,0.8s,baz=94,slow=5.1,SNR=4.0						
KURK	**Kurchatov**	**62.40**	**318**	P	**P**	**23 03 11.4**	**0.0**
KURK				IAmb	IAmb	23 03 12.3	
	comp=Z,6.8nm,0.9s						
BRVK	**Borovoye**	**67.63**	**321**		**P**	**23 03 45.5**	**+0.1**
BRVK				IAmb	IAmb	23 03 46.6	
	comp=Z,3.9nm,0.8s						
KK31	**Karatay Array**	**68.03**	**310**	P	**P**	**23 03 47.9**	**-0.2**
KK31				IAmb	IAmb	23 03 49.1	
	comp=Z,1.6nm,0.8s						
BESE	**Bessie Mountai**	**68.09**	**34**	P	**P**	**23 03 49.2**	**+1.1**
ARU	**Arti**	**74.08**	**325**	P	**P**	**23 04 24.6**	**+0.2**
ARU				IAmb	IAmb	23 04 25.6	
	comp=Z,1.8nm,0.6s						
ARCES	**ARCESS Array B**	**83.12**	**342**	P	**P**	**23 05 14.6**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=65,slow=8.7,SNR=5.0						
FINES	**FINESS Array B**	**87.67**	**336**	P	**P**	**23 05 36.0**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=79,slow=9.9,SNR=6.4						

MAN 04 23:09:01.0,9°.63N×127°.14E,h158km,MS3.5,1C,
Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**2.69**	**230**	*e*P	Pn	23 09 45.3	+0.3
BUKP				*e*S	Sn	23 10 19.8	+0.9
KCP	**Kidapawan**	**3.30**	**218**	⇑*e*P	Pn	23 09 53.3	+0.7
KCP				*i* S	Sn	23 10 35.7	+3.1
PAGZ	**Pagadian**	**4.12**	**245**	*e*P	Pn	23 10 03.9	+0.9
PAGZ				*e*S	Sn	23 10 40.6	-11
CNOP	**Candoni, Negro**	**4.44**	**273**	*e*P	Pn	23 10 08.0	+0.8

KRNET ***04*** *23:35:32.7±0.1,42°.77N×76°.40E,h16km,mb2.5*
SOME ***04*** *23:35:32.8,42°.75N×76°.40E,h15km*
NNC ***04*** *23:35:33.4±0.3,42°.81N×76°.38E,h0km,mb2.6,mpv2.7,*
Error ellipse: s-maj=2.6km s-min=1.3km az=177.0
KNET ***04*** *23:35:33.3±0.9,42°.73N×76°.32E,h16km±3km,ml1.4,Error*
ellipse: s-maj=7.1km s-min=2.1km az=58.0

ISC 04 23:35:32.9±0.9,42°.77N±0°.02×76°.39E±0°.01,h12km±9km,
n54,σ0s59/131,23C-12D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTBS	**Maitube**	**0.36**	**4**	*e*P	**Pg**	**23 35 40.0**	**-0.2**
	baz=3.0						
MTBS				*e*S	**Sg**	**23 35 45.0**	**-0.1**
	baz=3.0						
MTBS	**Maitube**	**0.36**	**4**	*e*P	**Pg**	**23 35 40.0**	**-0.2**
	8.6nm,0.1s						
MTBS				*e*S	**Sg**	**23 35 45.0**	**-0.1**
	105nm,0.2s						
MTBS	**Maitube**	**0.36**	**4**	P	**Pg**	**23 35 40.0**	**-0.2**
	8.6nm,0.1s						
MTBS				P	**Pg**	**23 35 40.0**	**-0.2**
	8.6nm,0.1s						
MTBS				S	**Sg**	**23 35 45.0**	**-0.1**
	105nm,0.2s						
MTBS				S	**Sg**	**23 35 45.0**	**-0.1**
	105nm,0.2s						
KST	**Kastek**	**0.41**	**311**	⇑*e*P	**Pg**	**23 35 41.2**	**-0.1**
	baz=11						
KST				⇑*e*S	**Sg**	**23 35 46.9**	**+0.1**
	baz=11						
KST	**Kastek**	**0.41**	**311**	⇑*e*P	**Pg**	**23 35 41.2**	**-0.1**
	15nm,0.1s						
KST				*e*S	**Sg**	**23 35 46.9**	**+0.1**
	39nm,0.2s						
KST	**Kastek**	**0.41**	**311**	P	**Pg**	**23 35 41.2**	**-0.1**
	15nm,0.1s						
KST				P	**Pg**	**23 35 41.2**	**-0.1**
	15nm,0.1s						
KST				S	**Sg**	**23 35 46.9**	**+0.1**
	39nm,0.2s						
KST				S	**Sg**	**23 35 46.9**	**+0.1**
	39nm,0.2s						
TNSS	**Tian-Shan**	**0.49**	**57**	*e*P	**Pg**	**23 35 42.6**	**-0.1**
	baz=56						
TNSS				*e*S	**Sg**	**23 35 49.4**	**+0.2**
	baz=56						
TNSS	**Tian-Shan**	**0.49**	**57**	*e*P	**Pg**	**23 35 42.6**	**-0.1**
	1.6nm,0.1s						
TNSS				*e*S	**Sg**	**23 35 49.4**	**+0.2**
	9.8nm,0.1s						
TNSS	**Tian-Shan**	**0.49**	**57**	P	**Pg**	**23 35 42.6**	**-0.1**
	1.6nm,0.1s						
TNSS				P	**Pg**	**23 35 42.6**	**-0.1**
	1.6nm,0.1s						
TNSS				S	**Sg**	**23 35 49.4**	**+0.2**
	9.8nm,0.1s						
TNSS				S	**Sg**	**23 35 49.4**	**+0.2**
	9.8nm,0.1s						
ULHL	**Ulahol**	**0.54**	**192**	⇑P	**Pg**	**23 35 43.3**	**-0.2**
	4.5nm,0.2s,SNR=16						
ULHL				⇑S	**Sg**	**23 35 50.6**	**0.0**
	11nm,0.1s						
TKM2	**Tokmak 2**	**0.60**	**285**	⇑P	**Pg**	**23 35 44.8**	**0.0**
	2.6nm,0.1s,SNR=5.1						
TKM2				⇑S	**Sg**	**23 35 53.5**	**+0.8**
TKM2	**Tokmak 2**	**0.60**	**285**	⇓P	**Pg**	**23 35 44.6**	**-0.2**
	2.8nm,0.4s						
TKM2				⇓S	**Sg**	**23 35 53.1**	**+0.4**
	19nm,0.3s						
MDOK	**Medeo**	**0.62**	**51**	⇓*i*P	**Pg**	**23 35 44.8**	**-0.3**
	baz=50						
MDOK				⇓*e*S	**Sg**	**23 35 53.2**	**-0.1**
	baz=50						
MDOK	**Medeo**	**0.62**	**51**	⇓*i*P	**Pg**	**23 35 44.8**	**-0.3**
	4.0nm,0.2s						
MDOK				*e*S	**Sg**	**23 35 53.2**	**-0.1**
	7.0nm,0.3s						
MDOK	**Medeo**	**0.62**	**51**	⇑P	**Pg**	**23 35 44.8**	**-0.3**
	0.9nm,0.2s						
MDOK				S	**Sg**	**23 35 53.4**	**+0.1**
	3.2nm,0.4s						
MDOK	**Medeo**	**0.62**	**51**	Pg	**Pg**	**23 35 44.8**	**-0.3**
	4.0nm,0.2s						
MDOK				Pg	**Pg**	**23 35 44.8**	**-0.3**
	4.0nm,0.2s						
MDOK				Lg	Lg	23 35 53.3	
	7.0nm,0.3s						
MDOK				Lg	Lg	23 35 53.3	
	7.0nm,0.3s						
DGS	**Degeres**	**0.65**	**316**	*e*P	**Pg**	**23 35 45.5**	**-0.2**
	baz=16						
DGS				*e*S	**Sg**	**23 35 54.4**	**+0.1**
	baz=16						
DGS	**Degeres**	**0.65**	**316**	*e*P	**Pg**	**23 35 45.5**	**-0.2**
	3.7nm,0.2s						
DGS				*e*S	**Sg**	**23 35 54.4**	**+0.1**
	26nm,0.2s						
DGS	**Degeres**	**0.65**	**316**	P	**Pg**	**23 35 45.5**	**-0.2**
	3.7nm,0.2s						
DGS				P	**Pg**	**23 35 45.5**	**-0.2**
	3.7nm,0.2s						
DGS				S	**Sg**	**23 35 54.4**	**+0.1**
	26nm,0.2s						
DGS				S	**Sg**	**23 35 54.4**	**+0.1**
	26nm,0.2s						
KOTS	**Kotyrbulak**	**0.70**	**49**	*e*P	**Pg**	**23 35 46.7**	**+0.1**
	baz=48						
KOTS				*e*S	**Sg**	**23 35 56.3**	**+0.3**
	baz=48						
KOTS	**Kotyrbulak**	**0.70**	**49**	*e*P	**Pg**	**23 35 46.7**	**+0.1**
	6.3nm,0.4s						
KOTS				*e*S	**Sg**	**23 35 56.2**	**+0.3**
	6.8nm,0.4s						
KOTS	**Kotyrbulak**	**0.70**	**49**	P	**Pg**	**23 35 46.7**	**+0.1**
	6.3nm,0.4s						
KOTS				P	**Pg**	**23 35 46.7**	**+0.1**
	6.3nm,0.4s						
KOTS				S	**Sg**	**23 35 56.3**	**+0.3**
	6.8nm,0.4s						
KOTS				S	**Sg**	**23 35 56.3**	**+0.3**
	6.8nm,0.4s						
KDJ	**Kajisay**	**0.87**	**137**	⇓*i*P	**Pb**	**23 35 48.9**	**-1.1**
	baz=37						
KDJ				⇓*i*S	**Sb**	**23 36 00.2**	**-1.5**
	baz=37						
ANVS	**Anan'yevo**	**0.94**	**89**	⇑*i*P	**Pb**	**23 35 50.4**	**-0.9**
	baz=88						
ANVS				⇑*i*S	**Sb**	**23 36 02.9**	**-0.9**
	baz=88						
KTBS	**Karatobe**	**0.96**	**13**	⇑*e*P	**Pb**	**23 35 51.1**	**-0.5**
	baz=4.0						
KTBS				⇑*e*S	**Sb**	**23 36 03.8**	**-0.5**
	baz=4.0						
KTBS	**Karatobe**	**0.96**	**13**	⇑*e*P	**Pb**	**23 35 51.1**	**-0.5**
	2.1nm,0.1s						
KTBS				*e*S	**Sb**	**23 36 03.9**	**-0.5**
	7.7nm,0.3s						
KTBS	**Karatobe**	**0.96**	**13**	P	**Pb**	**23 35 51.1**	**-0.5**
	2.1nm,0.1s						
KTBS				P	**Pb**	**23 35 51.1**	**-0.5**
	2.1nm,0.1s						
KTBS				S	**Sb**	**23 36 03.9**	**-0.5**
	7.7nm,0.3s						
KTBS				S	**Sb**	**23 36 03.9**	**-0.5**
	7.7nm,0.3s						
KRBS	**Karabastau**	**1.06**	**331**	*e*P	**Pb**	**23 35 52.8**	**-0.5**
	4.2nm,0.1s						
KRBS				*e*S	**Sb**	**23 36 06.9**	**-0.3**
	2.0nm,0.1s						
KRBS	**Karabastau**	**1.06**	**331**	P	**Pb**	**23 35 52.8**	**-0.5**
	4.2nm,0.1s						
KRBS				P	**Pb**	**23 35 52.8**	**-0.5**
	4.2nm,0.1s						
KRBS				S	**Sb**	**23 36 06.9**	**-0.3**
	2.0nm,0.1s						
KRBS				S	**Sb**	**23 36 06.9**	**-0.3**
	2.0nm,0.1s						
KBK	**Karagaybulak**	**1.07**	**264**	⇑P	**Pb**	**23 35 53.6**	**+0.1**
	3.6nm,0.1s,SNR=6.0						
KBK				⇓S	**Sg**	**23 36 08.4**	**+0.9**
	11nm,0.3s						
KUU	**Kurty**	**1.12**	**358**	⇑*e*P	**Pb**	**23 35 53.8**	**-0.5**
	baz=58						
KUU				⇑*e*S	**Sb**	**23 36 08.5**	**-0.4**
	baz=58						
KUU	**Kurty**	**1.12**	**358**	⇑*e*P	**Pb**	**23 35 53.8**	**-0.5**
	2.3nm,0.1s						
KUU				*e*S	**Sb**	**23 36 08.5**	**-0.4**
	8.0nm,0.3s						
KUU	**Kurty**	**1.12**	**358**	P	**Pb**	**23 35 53.8**	**-0.5**
	2.3nm,0.1s						
KUU				P	**Pb**	**23 35 53.8**	**-0.5**
	2.3nm,0.1s						
KUU				S	**Sb**	**23 36 08.5**	**-0.4**
	8.0nm,0.3s						
KUU				S	**Sb**	**23 36 08.5**	**-0.4**
	8.0nm,0.3s						
CHKK	**Chushkaly**	**1.17**	**22**	*e*P	**Pn**	**23 35 54.6**	**-0.5**
	baz=22						
CHKK				*e*S	**Sb**	**23 36 09.9**	**-0.3**
	baz=22						
CHKK	**Chushkaly**	**1.17**	**22**	*e*P	**Pn**	**23 35 54.6**	**-0.5**
	0.8nm,0.1s						
CHKK				*e*S	**Sb**	**23 36 09.9**	**-0.3**
	14nm,0.2s						
CHKK	**Chushkaly**	**1.17**	**22**	P	**Pn**	**23 35 54.6**	**-0.5**
	0.8nm,0.1s						
CHKK				P	**Pn**	**23 35 54.6**	**-0.5**
	0.8nm,0.1s						
CHKK				S	**Sb**	**23 36 09.9**	**-0.3**
	14nm,0.2s						
CHKK				S	**Sb**	**23 36 09.9**	**-0.3**
	14nm,0.2s						
CHMS	**Chumysh**	**1.23**	**281**	⇓P	**Pn**	**23 35 55.6**	**-0.4**
	1.9nm,0.1s						
AAK	**Ala-Archa**	**1.40**	**265**	⇑P	**Pb**	**23 35 59.5**	**+0.3**
	0.8nm,0.3s						
AAK				⇓S	**Sb**	**23 36 17.8**	**+0.7**
	1.5nm,0.3s						
SGDS	**Sogindy**	**1.46**	**298**	P	**Pb**	**23 35 59.8**	**-0.2**
	4.4nm,0.2s						
SGDS				P	**Pb**	**23 35 59.8**	**-0.2**
	4.4nm,0.2s						
SGDS				S	**Sb**	**23 36 19.1**	**+0.5**
	6.3nm,0.1s						
SGDS				S	**Sb**	**23 36 19.1**	**+0.5**
	6.3nm,0.1s						
USP	**Ospenovka**	**1.47**	**290**	P	**Pb**	**23 36 00.1**	**-0.2**
	2.1nm,0.2s,SNR=8.2						
USP				⇓S	**Sb**	**23 36 19.8**	**+0.8**
	12nm,0.3s						
SATY	**Saty**	**1.51**	**78**	*e*P	**Pb**	**23 36 01.4**	**+0.5**
	1.0nm,0.1s						
SATY				*e*S	**Sg**	**23 36 21.6**	**0.0**
	2.8nm,0.1s						
SATY	**Saty**	**1.51**	**78**	P	**Pb**	**23 36 01.4**	**+0.5**
	1.0nm,0.1s						
SATY				P	**Pb**	**23 36 01.4**	**+0.5**
	1.0nm,0.1s						
SATY				S	**Sg**	**23 36 21.5**	**0.0**
	2.8nm,0.1s						
SATY				S	**Sg**	**23 36 21.5**	**0.0**
	2.8nm,0.1s						
PRZ	**Przheval

PDGK	**Podgornoye**	**2.34**	**75**	Pg		**Pb**	**23 36 15.4**	**+0.2**
	0.3nm,0.2s							
PDGK				Pg		**Pb**	**23 36 15.4**	**+0.2**
	0.3nm,0.2s							
PDGK				Lg		Lg	23 36 45.4	
	1.3nm,0.5s							
PDGK				Lg		Lg	23 36 45.4	
	1.3nm,0.5s							
PDGK	**Podgornoye**	**2.34**	**75**	⇑P		**Pg**	**23 36 17.5**	**-0.3**
	0.3nm,0.4s							
PDGK				⇓S		**Sb**	**23 36 45.6**	**+1.6**
	3.3nm,0.7s							
DJR	**Jarkent**	**2.92**	**57**	*e*P		**Pb**	**23 36 25.8**	**+0.7**
	0.8nm,0.3s							
DJR				*e*S		**Sb**	**23 37 03.3**	**+2.5**
	1.5nm,0.3s							
DJR	**Jarkent**	**2.92**	**57**	Pg		**Pb**	**23 36 25.8**	**+0.7**
	0.8nm,0.3s							
DJR				Pg		**Pb**	**23 36 25.8**	**+0.7**
	0.8nm,0.3s							
DJR				Lg		Lg	23 37 03.3	
	1.5nm,0.3s							
DJR				Lg		Lg	23 37 03.3	
	1.5nm,0.3s							
KAPS	**Kapalarasan**	**3.30**	**39**	*e*P		**Pb**	**23 36 32.3**	**+0.8**
	0.4nm,0.3s							
KAPS				*e*S		**Sb**	**23 37 14.4**	**+2.8**
	3.6nm,0.5s							
KAPS	**Kapalarasan**	**3.30**	**39**	Pg		**Pb**	**23 36 32.3**	**+0.8**
	0.4nm,0.3s							
KAPS				Pg		**Pb**	**23 36 32.3**	**+0.8**
	0.4nm,0.3s							
KAPS				Lg		Lg	23 37 14.4	
	3.6nm,0.5s							
KAPS				Lg		Lg	23 37 14.4	
	3.6nm,0.5s							

*IDC **04** 23:42:42.2±3.1, 17°.29N×100°.67W, h0km, mb3.9/4, mb1 3.9/7, mb1mx3.7/36, mbtmp3.6/7, ML2.9/2, MS3.0/5, Ms1 3.0/5, ms1mx2.8/35, Error ellipse: s-maj=58.0km s-min=21.5km az=24.0*

*MEX **04** 23:42:45.8±0.3, 17°.32N×101°.10W, h28km, MD4.2*

*NEIC **04** 23:42:46.3±3.9, 17°.37N±0°.07×101°.05W±0°.08, h9km±7km, Error ellipse: s-maj=14.1km s-min=5.3km az=51.0*

ISC 04 23:42:46.0±1.2, 17°.37N±0°.06×101°.09W±0°.04, h10km±8km, n55, σ1§42/59, mb4.0/9, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.43**	**303**	⇓*i*P		**Pg**	**23 42 53.7**	**-0.8**
	baz=129,slow=16							
ZIIG				*i* S		**Sg**	**23 42 60.0**	**-0.3**
ZIIG	**Zihuatanejo**	**0.43**	**303**			**Pg**	**23 42 53.7**	**-0.8**
ZIIG						**Sg**	**23 42 60.0**	**-0.3**
CAIG	**El Cayaco**	**0.85**	**112**	*e*P		**Pb**	**23 43 02.5**	**-0.4**
CAIG				*i* S		**Sn**	**23 43 14.4**	**-2.1**
CAIG	**El Cayaco**	**0.85**	**112**			**Pb**	**23 43 02.5**	**-0.4**
CAIG						**Sn**	**23 43 14.4**	**-2.1**
ACP2	**Acapulco**	**1.25**	**113**	*e*P		**Pg**	**23 43 09.5**	**-0.5**
ACP2				*i* S		**Sn**	**23 43 27.5**	**+1.1**
ACP2	**Acapulco**	**1.25**	**113**			**Pg**	**23 43 09.5**	**-0.5**
ACP2						**Sn**	**23 43 27.5**	**+1.1**
PLIG	**Platanillo**	**1.82**	**56**	*i* P		**Pb**	**23 43 19.0**	**-0.5**
PLIG				*i* S		**Sg**	**23 43 44.2**	**-0.4**
PLIG	**Platanillo**	**1.82**	**56**			**Pb**	**23 43 19.0**	**-0.5**
PLIG						**Sg**	**23 43 44.2**	**-0.4**
MOIG	**Morelia**	**2.30**	**358**			**Pn**	**23 43 25.8**	**+1.6**
TLIG	**Tlapa**	**2.41**	**85**	*e*P		**Pn**	**23 43 27.1**	**+1.4**
TLIG				*i* S		**Sn**	**23 43 53.8**	**-1.5**
TLIG	**Tlapa**	**2.41**	**85**	Pn		**Pn**	**23 43 26.9**	**+1.2**
UNM	**Universidad Na**	**2.66**	**43**	Pn		**Pb**	**23 43 33.4**	**-0.6**
UNM				Sn		**Sn**	**23 44 01.7**	**+0.1**
ZAIG	**Zacatecas**	**5.55**	**346**	Pn		**Pn**	**23 44 12.2**	**+3.3**
CMIG	**Matias Romero**	**5.93**	**92**	Pn		Pn	23 44 06.7	-7.3
	0.2nm,0.3s,baz=346,slow=8.3,SNR=2.4							
CMIG				Lg		Lg	23 45 38.0	
	2.5nm,0.3s,baz=3.4,slow=8.8,SNR=4.8							
CMIG				LR		LR	23 46 14.3	
	comp=Z,34nm,19.9s,baz=252,slow=38							
CCIG	**Comitan**	**8.64**	**96**	Pn		**Pn**	**23 44 54.0**	**+2.7**
SLBS	**Sierra La Lagu**	**10.41**	**309**	Pn		**Pn**	**23 45 18.5**	**+3.1**
TXAR	**Lajitas Array**	**12.14**	**349**	Pn		**Pn**	**23 45 41.3**	**+2.1**
	baz=157,slow=12,SNR=1.3							
TXAR				Lg		Lg	23 49 11.1	
	0.0nm,0.3s,baz=174,slow=27,SNR=4.4							
TEIG	**Tepich**	**12.46**	**75**	LR		LR	23 51 19.3	
	comp=Z,85nm,19.0s,baz=50,slow=43							
TEIG	**Tepich**	**12.46**	**75**	Pn		**Pn**	**23 45 45.2**	**+1.7**
HKT	**Hockley**	**13.41**	**20**	Pn		**Pn**	**23 45 58.6**	**+2.2**
MNTX	**Cornudas Mount**	**14.79**	**346**			**P**	**23 46 19.7**	**-1.6**
GDL2	**Guadalupe Moun**	**15.06**	**349**			**P**	**23 46 22.9**	**-1.6**
441A	**DeRidder**	**15.14**	**27**	Pn		**P**	**23 46 24.0**	**-1.1**
ABTX	**Abilene, Hawle**	**15.24**	**5**			**Pn**	**23 46 22.9**	**+1.5**
ABTX						IAmb	23 46 26.6	
	comp=Z,7.5nm,0.8s							
237A	**Washetta, Mont**	**15.33**	**17**	Pn		**Pn**	**23 46 24.2**	**+1.6**
NATX	**Nacogdoches**	**15.46**	**21**	Pn		**Pn**	**23 46 26.9**	**+2.6**
MSTX	**Muleshoe**	**16.60**	**355**	Pn		**Pn**	**23 46 39.9**	**+0.9**
ANMO	**Albuquerque**	**18.15**	**346**	P		**Pn**	**23 46 58.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=147,slow=15,SNR=4.1							
ANMO				LR		LR	23 53 18.5	
	comp=Z,72nm,20.4s,baz=164,slow=35							
ANMO	**Albuquerque**	**18.15**	**346**	P		**Pn**	**23 46 58.8**	**+0.4**
TUL1	**Leonard**	**19.06**	**13**	P		**P**	**23 47 07.5**	**-1.0**
TUL1				IAmb		IAmb	23 47 08.1	
	comp=Z,8.8nm,0.8s							
113A	**Mohawk Valley,**	**19.13**	**326**			**P**	**23 47 10.3**	**+1.0**
X16A	**Lo Mia Camp, P**	**19.34**	**333**	P		**Pn**	**23 47 13.5**	**+0.6**
HHAR	**Hobbs**	**19.87**	**17**	P		**P**	**23 47 15.1**	**-2.4**
HHAR				IAmb		IAmb	23 47 24.1	
	comp=Z,4.1nm,0.5s							
T25A	**Trinidad**	**19.91**	**352**	P		**P**	**23 47 17.7**	**-0.4**
T25A				IAmb		IAmb	23 47 20.0	
	comp=Z,3.5nm,0.8s							
LCAR	**Lake Charles**	**20.60**	**23**	P		Pn	23 47 28.2	+0.6
LCAR				IAmb		IAmb	23 47 40.1	
	comp=Z,2.9nm,0.9s							
SDCO	**Great Sand Dun**	**20.67**	**350**	P		**P**	**23 47 26.1**	**-0.3**
SDCO				IAmb		IAmb	23 47 27.6	
	comp=Z,4.0nm,0.9s							
MVCO	**Mesa Verde**	**20.82**	**343**	P		Pn	23 47 30.3	-0.1
MVCO				IAmb		IAmb	23 47 32.0	
	comp=Z,6.6nm,1.0s							
S22A	**4UR Ranch, Cre**	**20.92**	**347**	P		**P**	**23 47 29.5**	**+0.4**
S22A				IAmb		IAmb	23 47 30.8	
	comp=Z,3.8nm,1.0s							
U15A	**North Rim**	**21.42**	**335**	P		**P**	**23 47 35.2**	**+0.7**
U15A				IAmb		IAmb	23 47 36.7	
	comp=Z,5.5nm,1.2s							
SHPR	**Sheep Range**	**22.77**	**330**	P		**P**	**23 47 48.8**	**0.0**
SHPR				IAmb		IAmb	23 47 56.1	
	comp=Z,3.8nm,1.2s							
MTPU	**Mount Pierson**	**22.78**	**337**	P		**P**	**23 47 48.6**	**-0.5**
TPNV	**Topopah Spring**	**23.65**	**329**	P		**P**	**23 47 57.8**	**0.0**
TPNV				IAmb		IAmb	23 48 00.4	
	comp=Z,4.3nm,0.9s							
TKL	**Tuckaleechee C**	**23.84**	**37**	P		**P**	**23 48 00.0**	**+0.6**
R11A	**Troy Canyon, C**	**24.45**	**332**	P		**P**	**23 48 04.6**	**-0.8**
NV11	**Mina Array Sit**	**25.76**	**328**	P		**P**	**23 48 16.9**	**-0.1**
NV11				IAmb		IAmb	23 48 20.6	
	comp=Z,3.5nm,1.1s							
NVAR	**Mina Array Bea**	**25.83**	**328**	P		**P**	**23 48 18.2**	**+0.4**
	comp=Z,4.8nm,0.9s,baz=145,slow=11,SNR=20							
KVN	**Kaiserville**	**26.20**	**329**	P		**P**	**23 48 21.5**	**+0.3**
KVN				IAmb		IAmb	23 48 25.6	
	comp=Z,4.2nm,1.0s							
ELK	**Elko**	**26.30**	**335**	LR		LR	23 58 29.7	
	comp=Z,66nm,18.8s,baz=146,slow=36							
PD31	**Pinedale Array**	**26.32**	**346**	P		**P**	**23 48 21.5**	**-0.8**
PDAR	**Pinedale Array**	**26.32**	**346**	P		**P**	**23 48 21.4**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=163,slow=11,SNR=6.3							
GBN	**Guysborough**	**43.19**	**41**	P		**P**	**23 50 47.2**	**+0.2**
SCHQ	**Schefferville**	**45.68**	**27**	P		**P**	**23 51 03.2**	**-3.7**
	comp=Z,1.2nm,0.5s,baz=225,slow=3.3,SNR=4.7							
SCHQ	**Schefferville**	**45.68**	**27**	P		**P**	**23 51 06.1**	**-0.8**
YKA	**Yellowknife Ar**	**46.06**	**351**	P		**P**	**23 51 08.0**	**-1.7**
	comp=Z,1.8nm,0.8s,baz=165,slow=7.5,SNR=5.8							
MDP	**Montagnes des**	**48.91**	**99**	LR		LR	00 13 28.3	
	comp=Z,26nm,18.2s,baz=252,slow=38							

*IDC **05** 00:29:33.3±1.8, 29°.64N×107°.44E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.4/48, mbtmp3.7/3, ML4.3/1, Error ellipse: s-maj=69.6km s-min=29.7km az=57.0*

*BJI **05** 00:29:36.2±0.0, 27°.11N×103°.36E, h5km, ML3.5/15*

ISC 05 00:29:36.0±0.9, 27°.32N±0°.05×103°.33E±0°.07, h10km, n8, σ2§34/15, 1C-1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.25**	**194**	⇓*e*Pn		**Pn**	**00 30 13.6**	**+0.1**
KMI				Sn		**Sn**	**00 30 41.0**	**-0.4**
KMI				smax	smax			
	comp=N,190nm,1.0s							
KMI				smax	smax			
	comp=E,170nm,0.9s							
GYA	**Guiyang**	**3.10**	**105**	⇑Pn		**Pn**	**00 30 26.1**	**+1.0**
GYA				Sn		**Sn**	**00 30 59.7**	**-2.6**
GYA				Sg		**Sb**	**00 31 10.5**	**+1.2**
GYA				smax	smax			
	comp=N,210nm,0.9s							
GYA				smax	smax			
	comp=E,120nm,0.8s							
CD2	**Chengdu**	**3.60**	**6**	Pn		**Pn**	**00 30 35.9**	**-3.9**
CD2				Pg		**Pg**	**00 30 46.2**	**+1.2**
CD2				Sn		**Sb**	**00 31 21.0**	**-2.5**
CD2				Sg		**Sg**	**00 31 35.0**	**+3.4**
CD2				smax	smax			
	comp=N,390nm,0.5s							
CD2				smax	smax			
	comp=E,660nm,0.8s							
XAN	**Xi'an**	**8.25**	**34**	P		**Pn**	**00 31 36.8**	**+1.0**
XAN				S		**Sn**	**00 33 08.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**9.70**	**206**	Pn		Pg	00 32 47.4	
	0.5nm,0.3s,baz=23,slow=14,SNR=2.7							
WHN	**Wuhan**	**10.18**	**69**	P		**Pn**	**00 32 05.0**	**+2.8**
WHN				S		**Sn**	**00 33 55.5**	**-0.9**
MKAR	**Makanchi Array**	**25.54**	**325**	P		**P**	**00 35 07.7**	**+2.8**
	1.2nm,0.7s,baz=134,slow=10,SNR=8.2							
WRA	**Warramunga Arr**	**55.77**	**144**	P		**P**	**00 39 11.4**	**-1.9**
	0.5nm,0.6s,baz=332,slow=8.4,SNR=5.9							

TAP 05 00:34:56.2, 23°.14N×120°.92E, h2km, ML1.7, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.10**	**59**	⇑*i*P		Pg	00 34 59.3	+1.0
	baz=62							
ELDTW				*i* S		Sg	00 35 00.8	+1.1
	baz=62							
STYT	**Tauyuan**	**0.15**	**280**	*e*P		Pg	00 34 59.4	+0.1
	baz=280							
STYT				*e*S		Sg	00 35 02.9	+1.6
	baz=280							
SLGT	**Liugui**	**0.29**	**241**	*i* P		Pb	00 35 03.1	-1.0
	baz=230							
SLGT				*e*S		Sg	00 35 07.3	+1.7
	baz=230							
LONT	**Longtian**	**0.30**	**140**	P		Pb	00 35 03.2	-1.0
	baz=140							
WTP	**Ta-pu**	**0.30**	**291**	*e*P		Pb	00 35 03.9	-0.5
	baz=291							
TPUB	**Ta-pu**	**0.32**	**301**	P		Pb	00 35 04.1	-0.5
	baz=301							
SGST	**Jiashian**	**0.32**	**260**	*i* P		Pg	00 35 03.3	+1.0
	baz=250							
SGST				S		Sg	00 35 08.2	+1.7
	baz=250							
TWG	**Pinlang**	**0.34**	**156**	*e*P		Pb	00 35 04.0	-1.0
	baz=147							
TWG				*e*S		Sg	00 35 08.5	+1.3
	baz=147							
FULB	**Fuli**	**0.35**	**80**	*e*P		Pg	00 35 03.6	+0.7
	baz=68							
FULB				*e*S		Sg	00 35 08.1	+0.7
	baz=68							
TWGBT	**Beinan**	**0.35**	**155**	*e*P		Pg	00 35 03.8	+0.8
	baz=143							
CHN1	**Nanshi**	**0.37**	**278**	*e*P		Pb	00 35 05.0	-0.4
	baz=277							
CHN1				*e*S		Sb	00 35 10.3	-1.3
	baz=277							
EDH	**Donghe**	**0.39**	**115**	*e*P		Pg	00 35 04.0	+0.3
	baz=128							

*IDC **05** 00:39:58.6±0.9, 17°.82S×176°.13E, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.0/46, mbtmp4.0/8, MS3.8/21, Ms1 3.8/21, ms1mx3.7/35, Error ellipse: s-maj=43.0km s-min=21.0km az=146.0*

*NEIC **05** 00:39:59.5±1.8, 17°.9S±0°.1×176°.27E±0°.08, h10km±1km, mb4.6/16, Error ellipse: s-maj=21.1km s-min=12.9km az=168.0*

*GCMT **05** 00:40:04.5±0.3, 17°.58S±0°.02×176°.08E±0°.02, h24km±2km, MW4.9/95, Moment Tensor Solution. s23,c27; s95,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.49±.17; $M_{\theta\theta}$-3.10±.14; $M_{\phi\phi}$2.61±.14; $M_{r\theta}$0.26±.20; $M_{\theta\phi}$-1.06±.12; $M_{\phi r}$1.03±.20; Best double couple: M_o3.24900×10^{16} NP1:ϕ_s303.00000°, δ71.00000°, λ170.00000°. NP2: ϕ_s37.00000°, δ81.00000°, λ19.00000°. Principal axes: T 3.1550, Plg20.0000°, Azm261.0000°; N 0.1840, Plg69.0000°, Azm61.0000°; P -3.3430, Plg7.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 00:39:59.6±0.6, 17°.9S±0°.1×176°.30E±0°.08, h10km, n47, σ1§21/31, mb4.5/16, MS3.8/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.68**	**85**	Pn		**Pn**	**00 40 28.8**	**-0.3**
MSVF				Sn		**Sn**	**00 40 51.5**	**+0.8**
DZM	**Mont Dzumac**	**10.15**	**244**	*e*LQ		LQ	00 44 29.1	
	1μm,26.4s							
DZM				*e*LR		LR	00 44 58.0	
	comp=Z,1μm,27.2s							
AFI	**Afiamalu**	**12.14**	**73**	LR		LR	00 46 46.4	
	comp=Z,537nm,20.3s,baz=226,slow=33							
URZ	**Urewera**	**20.30**	**178**	P		**P**	**00 44 36.2**	**+0.6**
	14nm,1.1s,baz=7.1,slow=16,SNR=1.8							
URZ				LR		LR	00 50 57.8	
	comp=Z,278nm,20.2s,baz=8.0,slow=32							
URZ	**Urewera**	**20.30**	**178**	P		**P**	**00 44 35.6**	**0.0**
BFZ	**Birch Farm**	**22.71**	**180**	P		**P**	**00 45 02.6**	**+1.1**
RAR	**Rarotonga**	**22.78**	**102**	LR		LR	00 52 38.0	
	comp=Z,249nm,20.9s,baz=271,slow=33							
TUWZ	**Tuamarina**	**23.54**	**184**	P		**P**	**00 45 11.1**	**+1.1**
ARMA	**Armidale**	**25.66**	**236**	P		**P**	**00 45 29.1**	**-0.8**
ARMA						IAmb	IAmb	00 45 39.3
	comp=Z,13nm,1.2s							
RPZ	**Rata Peaks**	**26.12**	**189**	LR		LR	00 55 28.2	
	comp=Z,249nm,19.5s,baz=11,slow=36							
KRVT	**Keravat (AS076**	**27.32**	**297**	LR		LR	00 56 20.5	
	comp=Z,114nm,19.1s,baz=115,slow=36							
KWAJ	**Kwajalein Atol**	**27.88**	**341**	P		**P**	**00 45 50.0**	**+0.3**
PMG	**Port Moresby**	**29.51**	**283**	LR		LR	00 56 44.0	
	comp=Z,241nm,18.4s,baz=96,slow=34							
TBI	**Tubuai**	**32.45**	**105**	*e*LQ		LQ	00 53 58.0	
	comp=Z,693nm,29.2s							
TBI				*e*LR		LR	00 55 18.1	
	comp=Z,319nm,29.2s							
PPT2	**Papeete2**	**32.48**	**95**	*e*S		**S**	**00 51 41.5**	**-4.3**
	comp=Z,100nm,25.2s							
PPT2				*e*LQ		LQ	00 53 53.5	
	comp=Z,632nm,27.0s							
PPT2				*e*LR		LR	00 55 18.5	
	comp=Z,782nm,25.5s,baz=258							
PPT	**Papeete**	**32.48**	**95**	LR		LR	00 56 35.4	
	comp=Z,206nm,21.2s,baz=281,slow=30							
STKA	**Stephens Creek**	**34.26**	**239**	P		**P**	**00 46 46.3**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=54,slow=14,SNR=2.9							
STKA				LR		LR	00 59 34.7	
	comp=Z,275nm,18.4s,baz=64,slow=34							
STKA	**Stephens Creek**	**34.26**	**239**	P		**P**	**00 46 45.9**	**0.0**
BBOO	**Buckleboo**	**39.03**	**240**	P		**P**	**00 47 25.6**	**-1.1**
BBOO						IAmb	IAmb	00 47 41.7
	comp=Z,16nm,1.4s							
WB0	**Warramunga Arr**	**39.63**	**260**	P		**P**	**00 47 30.6**	**-1.2**
WB0						IAmb	IAmb	00 47 48.6
	comp=Z,13nm,1.2s							
WB2	**Warramunga Arr**	**39.66**	**260**	P		**P**	**00 47 31.0**	**-1.0**
WB2						IAmb	IAmb	00 47 38.0
	comp=Z,25nm,1.4s							
WRA	**Warramunga Arr**	**39.67**	**260**	P		**P**	**00 47 31.0**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=93,slow=8.8,SNR=8.8							
WRA				LR		LR	01 02 41.3	
	comp=Z,150nm,20.9s,baz=140,slow=34							
AS31	**Alice Springs**	**39.94**	**254**	P		**P**	**00 47 33.7**	**-0.7**
ASAR	**Alice Springs**	**39.94**	**254**	P		**P**	**00 47 34.2**	**-0.1**
	comp=Z,8.0nm,0.9s,baz=83,slow=8.8,SNR=43							
ASAR				LR		LR	01 03 40.4	
	comp=Z,359nm,18.9s,baz=110,slow=36							
TAOE	**Nuku Hiva Isla**	**43.23**	**84**	*e*LR		LR	01 00 10.0	
	comp=Z,362nm,28.9s							
FITZ	**Fitzroy Crossi**	**48.05**	**262**	LR		LR	01 08 06.9	
	comp=Z,215nm,21.7s,baz=104,slow=35							
JCJ	**Chichijima**	**55.64**	**323**	LR		LR	01 10 50.5	
	comp=Z,26nm,19.4s,baz=265,slow=33							
VNDA	**Vanda**	**60.09**	**184**	LR		LR	01 13 42.5	
	comp=Z,62nm,18.2s,baz=357,slow=34							
MJAR	**Matsushiro Arr**	**65.01**	**327**	LR		LR	01 18 20.6	
	comp=Z,25nm,18.7s,baz=175,slow=36							
KSRS	**Korea Array**	**71.43**	**321**	LR		LR	01 22 28.8	
	comp=Z,32nm,18.1s,baz=188,slow=36							
QSPA	**South Pole Qui**	**72.15**	**180**	P		**P**	**00 51 25.8**	**+1.4**
QSPA				IAmb		IAmb	00 51 43.1	
	comp=Z,11nm,1.1s							
PETK	**Petropavlovsk-**	**72.52**	**348**	LR		LR	01 18 00.1	
	comp=Z,62nm,20.5s,baz=241,slow=32							
MDPB	**Devils Postpil**	**82.05**	**46**	P		**P**	**00 52 20.3**	**-0.3**
NVAR	**Mina Array Bea**	**82.98**	**46**	P		**P**	**00 52 26.5**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=234,slow=7.7,SNR=6.3							
NVAR				LR		LR	01 21 58.7	
	comp=Z,68nm,19.7s,baz=257,slow=30							
NV11	**Mina Array Sit**	**83.08**	**46**	P		**P**	**00 52 25.8**	**0.0**
NV11				IAmb		IAmb	00 52 41.6	
	comp=Z,8.9nm,1.4s							
KVN	**Kaiserville**	**83.42**	**46**	P		**P**	**00 52 27.0**	**-0.6**
KVN				IAmb		IAmb	00 52 32.0	
	comp=Z,6.7nm,1.5s							
TPNV	**Topopah Spring**	**83.70**	**48**	P		**P**	**00 52 29.4**	**+0.4**
TPNV				IAmb		IAmb	00 52 40.2	
	comp=Z,6.2nm,1.2s							
IL31		**87.09**	**15**	P		**P**	**00 52 46.0**	**+0.9**
IL31				IAmb		IAmb	00 52 54.7	
	comp=Z,2.6nm,0.9s							
ILAR	**Eielson Array**	**87.09**	**15**	P		**P**	**00 52 44.0**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=273,slow=6.1,SNR=2.1							
ILAR				LR		LR	01 26 46.1	
	comp=Z,47nm,19.8s,baz=272,slow=32							
TXAR	**Lajitas Array**	**90.29**	**59**	P		**P**	**00 53 03.0**	**+1.8**
	comp=Z,0.1nm,0.7s,baz=237,slow=6.1,SNR=1.4							
SONM	**Songino Array**	**90.30**	**321**	LR		LR	01 32 08.8	
	comp=Z,31nm,18.6s,baz=152,slow=35							
PDAR	**Pinedale Array**	**90.86**	**45**	P		**P**	**00 53 05.3**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=245,slow=3.8,SNR=3.7							
PDAR				LR		LR	01 28 45.5	
	comp=Z,35nm,18.5s,baz=243,slow=32							
YKA	**Yellowknife Ar**	**96.48**	**26**	LR		LR	01 34 07.1	
	comp=Z,27nm,18.6s,baz=0.0,slow=34							
KHC	**Kasperske Hory**	**145.84**	**340**	*e*PKP		**PKPab**	**00 59 39.3**	**-0.3**
KHC				*ex*		x	00 59 48.1	
GERES	**GERESS Array B**	**146.05**	**339**	PKPbc		**PKPbc**	**00 59 39.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=40,slow=3.8,SNR=8.5							
FUORN	**Ofenpass-Fuorn**	**149.12**	**341**			**PKiKP**	**00 59 50.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**172.97**	**229**	PKPab		**PKPab**	**01 01 36.1**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=126,slow=4.2,SNR=2.5							

*NEIC **05** 00:58:35.8±1.2, 5°.39S±0°.09×147°.2E±0°.1, h174km±6km, mb4.5/12, Error ellipse: s-maj=21.6km s-min=13.4km az=89.0*

*IDC **05** 00:58:36.1±3.0, 5°.38S×147°.22E, h174km±27km, mb3.6/8, mb1 3.9/10, mb1mx3.6/33, mbtmp4.1/10, Error ellipse: s-maj=28.5km s-min=19.8km az=106.0*

ISC 05 00:58:38.3±0.7, 5°.60S±0°.08×147°.3E±0°.1, h200km, n26, σ1§77/31, mb3.7/10, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.78**	**181**	P		**Pn**	**00 59 36.9**	**-0.5**
	38nm,0.3s,baz=323,slow=6.4,SNR=22							
PMG				S		**Sn**	**01 00 21.0**	**-3.0**
	68nm,0.3s,baz=185,slow=22,SNR=12							
PMG	**Port Moresby**	**3.78**	**181**			**Pn**	**00 59 36.9**	**-0.5**
PMG						**Sn**	**01 00 21.5**	**-2.4**
COEN	**Coen**	**9.22**	**205**	Pn		**Pn**	**01 00 48.9**	**+1.4**
COEN				Sn		**Sn**	**01 02 30.8**	**-0.2**
MTN	**Manton Dam**	**17.45**	**245**	P		**Pn**	**01 02 28.9**	**-1.1**
WB0	**Warramunga Arr**	**18.84**	**220**	P		**Pn**	**01 02 44.3**	**-1.9**
WB0				IAmb		IAmb	01 02 47.9	
	comp=Z,16nm,0.9s							
WR0	**Warramunga Arr**	**18.88**	**220**	P		**Pn**	**01 02 44.8**	**-2.0**
WR0				IAmb		IAmb	01 02 45.7	
	comp=Z,21nm,0.8s							
WB2	**Warramunga Arr**	**18.99**	**220**	P		**Pn**	**01 02 46.3**	**-1.8**
WRA	**Warramunga Arr**	**19.00**	**220**	P		**Pn**	**01 02 46.2**	**-2.0**
	comp=Z,3.1nm,0.3s,baz=46,slow=12,SNR=64							
WRA				S		**S**	**01 06 09.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=50,slow=18,SNR=6.4							
KNRA	**Kununurra**	**20.72**	**240**	P		**P**	**01 03 03.3**	**-0.2**
KNRA				IAmb		IAmb	01 03 06.0	
	comp=Z,28nm,1.3s							
AS31	**Alice Springs**	**22.09**	**214**	P

2.0nm,0.3s,baz=89,slow=8.2,SNR=1.5
JAY LR LR 01 42 44.6
comp=Z,320nm,21.2s,baz=182,slow=32
KRVT Keravat (AS076 7.89 130 Pn **Pn 01 41 11.8 -0.8**
baz=110,slow=4.1,SNR=7.4
KRVT LR LR 01 43 55.4
comp=Z,1μm,20.0s,baz=305,slow=36
PMG Port Moresby 10.18 173 LR LR 01 45 33.6
comp=Z,1μm,19.6s,baz=326,slow=37
GUMO Guam 12.78 355 LR LR 01 47 10.9
comp=Z,414nm,18.4s,baz=182,slow=37
PATS Pohnpei 13.72 64 Pn Pn 01 42 25.7 -6.9
COEN Coen 14.89 191 Pn **Pn 01 42 49.8 +1.3**
COEN IAmb IAmb 01 43 09.2
comp=Z,23nm,0.9s
HNR Honiara 17.23 126 LR LR 01 49 37.3
comp=Z,740nm,21.9s,baz=314,slow=36
MTN Manton Dam 19.97 227 P **P 01 43 51.4 +1.0**
MTN IAmb IAmb 01 44 10.3
comp=Z,30nm,1.1s
CTA Charters Tower 20.73 179 P **P 01 43 59.8 +1.2**
comp=Z,4.1nm,0.7s,baz=282,slow=16,SNR=2.4
CTAO Charters Tower 20.73 179 P **P 01 43 58.1 -0.4**
DAV Davao City (W) 21.25 288 LR LR 01 52 22.2
comp=Z,434nm,18.1s,baz=112,slow=37
WB0 Warramunga Arr 23.34 208 P **P 01 44 26.5 +0.1**
WB0 IAmb IAmb 01 44 36.7
comp=Z,12nm,0.9s
WR0 Warramunga Arr 23.44 208 P **P 01 44 27.8 +0.4**
WR0 IAmb IAmb 01 44 30.3
comp=Z,15nm,0.8s
WRAB Tennant Creek 23.51 208 P **P 01 44 28.3 +0.3**
WB2 Warramunga Arr 23.52 208 P **P 01 44 28.7 +0.6**
WRA Warramunga Arr 23.52 208 P **P 01 44 28.6 +0.4**
comp=Z,12nm,0.5s,baz=31,slow=11,SNR=113
WRA LR LR 01 54 50.0
comp=Z,341nm,20.2s,baz=40,slow=39
KNRA Kununurra 23.57 225 P **P 01 44 29.5 +0.9**
SOEI Soe 23.98 244 P **P 01 44 33.0 +0.2**
H11S3 WAKE ISLAND Hy 26.92 48 T T
baz=225 02 13 21.0
H11S2 WAKE ISLAND Hy 26.93 48 T T
baz=225 02 13 12.1
H11S1 WAKE ISLAND Hy 26.94 48 T T
baz=225 02 13 33.4
AS31 Alice Springs 26.96 205 P **P 01 45 00.1 +0.4**
ASAR Alice Springs 26.96 205 P **P 01 45 01.0 +1.3**
comp=Z,7.2nm,0.8s,baz=28,slow=13,SNR=42
ASAR LR LR 01 56 12.9
comp=Z,534nm,18.1s,baz=24,slow=38
FITZ Fitzroy Crossi 27.40 226 P **P 01 45 04.5 +0.9**
comp=Z,2.2nm,0.4s,baz=32,slow=6.7,SNR=12
FITZ Fitzroy Crossi 27.40 226 P **P 01 45 04.0 +0.3**
FITZ IAmb IAmb 01 45 16.7
comp=Z,15nm,1.1s
H11N1 WAKE ISLAND Hy 27.84 46 T T
baz=231 02 13 58.6
H11N2 WAKE ISLAND Hy 27.85 46 T T
baz=231 02 14 03.1
H11N3 WAKE ISLAND Hy 27.86 46 T T
baz=231 02 14 38.6
DZM Mont Dzumac 30.25 140 *e*LR LR 01 52 58.6
comp=Z,328nm,24.9s
DZM Mont Dzumac 30.25 140 LR LR 01 55 16.9
comp=Z,255nm,20.3s,baz=330,slow=32
STKA Stephens Creek 32.73 187 P **P 01 45 51.1 +0.4**
comp=Z,1.7nm,0.5s,baz=15,slow=8.3,SNR=3.9
STKA LR LR 01 58 46.7
comp=Z,348nm,21.9s,baz=8.2,slow=36
STKA Stephens Creek 32.73 187 P **P 01 45 50.1 -0.6**
BBOO Buckleboo 34.68 195 P **P 01 46 07.4 -0.2**
BBOO IAmb IAmb 01 46 14.9
comp=Z,7.3nm,1.0s
FORT Forrest 35.69 207 P **P 01 46 15.8 -0.6**
MJAR Matsushiro Arr 36.31 349 LR LR 02 00 06.6
comp=Z,95nm,18.1s,baz=165,slow=34
TOO Toolangi 38.15 181 P **P 01 46 36.4 -0.9**
TOO IAmb IAmb 01 46 43.4
comp=Z,10nm,1.1s
KSRS Korea Array 40.12 338 P **P 01 46 54.4 +0.8**
comp=Z,0.5nm,0.5s,baz=158,slow=10,SNR=1.5
KSRS LR LR 02 03 22.0
comp=Z,50nm,18.6s,baz=140,slow=36
USA0B Ussuriysk Arra 44.99 346 P P 01 47 29.9 -3.3
USA0B IAmb IAmb 01 47 44.4
comp=Z,3.6nm,0.8s
USRK Ussuriysk Ar. 44.99 346 P **P 01 47 33.6 +0.4**
comp=Z,1.0nm,0.6s,baz=166,slow=7.4,SNR=2.8
USRK LR LR 02 05 18.2
comp=Z,59nm,19.3s,baz=153,slow=35
CM31 Chiang Mai Arr 49.35 294 P **P 01 48 06.5 -1.2**
CM31 IAmb IAmb 01 48 18.6
comp=Z,5.6nm,0.6s
CMAR Chiang Mai Arr 49.35 294 P **P 01 48 09.4 +1.6**
comp=Z,2.4nm,0.8s,baz=110,slow=5.7,SNR=6.1
CMAR LR LR 02 07 43.6
comp=Z,96nm,20.6s,baz=181,slow=34
KLR Kul'dur 49.80 348 P **P 01 48 09.1 -1.5**
comp=Z,0.7nm,0.5s,baz=124,slow=11,SNR=2.4
PETK Petropavlovsk- 53.07 9 P P 01 48 32.4 -2.7
comp=Z,2.7nm,0.8s,baz=144,slow=5.3,SNR=5.8
PETK LR LR 02 07 05.9
comp=Z,120nm,21.7s,baz=239,slow=32
SONM Songino Array 58.04 330 P **P 01 49 11.6 +0.5**
comp=Z,0.4nm,0.5s,baz=134,slow=6.2,SNR=2.3
SONM LR LR 02 16 14.9
comp=Z,63nm,18.0s,baz=153,slow=38
PPT Papeete 65.98 110 LR LR 02 14 15.7
comp=Z,96nm,20.2s,baz=314,slow=32
PPT2 Papeete2 65.98 110 *e*LR LR 02 09 30.0
comp=Z,189nm,25.2s
TBI Tubuai 67.10 116 *e*LR LR 02 09 56.8
comp=Z,272nm,26.2s
MK31 Makanchi Array 71.67 320 P **P 01 50 38.6 -1.2**
MKAR Makanchi Array 71.67 320 P **P 01 50 38.6 -1.3**
comp=Z,0.8nm,0.9s,baz=203,slow=39,SNR=3.9
ZAA0 Zalesovo Array 72.78 327 P **P 01 50 44.7 -1.5**
ZALV Zalesovo Beam 72.78 327 P **P 01 50 48.6 +2.4**
comp=Z,2.1nm,0.8s,baz=122,slow=10,SNR=1.8
ZALV LR LR 02 23 34.7
comp=Z,24nm,19.8s,baz=90,slow=36
TAOE Nuku Hiva Isla 74.22 99 *e*LR LR 02 13 14.5
comp=Z,192nm,22.2s
NRIK Noril'sk 78.55 342 LR LR 02 27 33.9
comp=Z,34nm,18.0s,baz=145,slow=37
ILAR Eielson Array 79.73 24 P P 01 51 22.2 -3.4
comp=Z,2.6nm,0.7s,baz=248,slow=5.8,SNR=21
ILAR LR LR 02 23 44.1
comp=Z,76nm,19.5s,baz=257,slow=34
GLB Gilahina Butte 79.97 27 P P 01 51 24.9 -2.1
GLB IAmb IAmb 01 51 40.1
comp=Z,11nm,1.2s
INK Inuvik 85.78 22 P **P 01 51 55.6 -1.3**
comp=Z,2.8nm,0.9s,baz=236,slow=9.8,SNR=3.5
DLBC Dease Lake 86.21 32 P **P 01 51 58.3 -1.1**
comp=Z,2.4nm,0.8s,baz=125,slow=1.2,SNR=3.1
GEYT Alibeck 87.82 308 P **P 01 52 09.4 +1.8**
comp=Z,0.5nm,0.4s,baz=201,slow=2.5,SNR=2.0
GEYT LR LR 02 32 26.0
comp=Z,43nm,21.3s,baz=50,slow=36
MAW Mawson 88.06 202 LR LR 02 27 27.5
comp=Z,45nm,21.5s,baz=58,slow=33
YKA Yellowknife Ar 93.69 27 LR LR 02 32 43.4
comp=Z,64nm,20.4s,baz=0.0,slow=34
NVAR Mina Array Bea 94.04 52 P **P 01 52 36.6 -0.2**
comp=Z,0.5nm,0.7s,baz=291,slow=6.2,SNR=5.1
NVAR LR LR 02 30 29.4
comp=Z,50nm,18.4s,baz=258,slow=33
KBZ Khabaz 98.89 314 LR LR 02 42 14.7
comp=Z,24nm,18.4s,baz=44,slow=38
ARCES ARCESS Array B 99.54 342 LR LR 02 43 03.3
comp=Z,24nm,18.4s,baz=168,slow=38
PDAR Pinedale Array 100.09 46 LR LR 02 34 28.9
comp=Z,44nm,18.4s,baz=275,slow=33
TORD Torodi Ar. Bea 141.96 293 PKhKP PKPpre 01 58 46.9
comp=Z,0.2nm,0.5s,baz=85,slow=3.2,SNR=1.7
DBIC Dimbokro 149.94 285 PKPbc **PKPbc 01 59 10.8 +1.3**
comp=Z,4.5nm,1.0s,baz=45,slow=7.1,SNR=2.4

*DJA **05** 02:08:16.4±2.2,5.7°N±28.1°×12.7°E±1.4,h20km±49km, M4.6/5, mB4.8/1,mb4.8/2,MLv4.6/5,Mw(mB)4.1/1*
*IDC **05** 02:08:20.2±6.7,4.63°N×127.60°E,h163km±66km,mb3.7/13, mb1 3.8/13,mb1mx3.6/38,mbtmp4.2/13,MS3.0/1, Ms1 3.0/1,ms1mx2.4/31,Error ellipse: s-maj=31.9km s-min=12.2km az=83.0*

*NEIC **05** 02:08:22.1±1.0,4.6°N±0.1°×127.7°E±0.1°,h186km±7km, mb4.3/20,Error ellipse: s-maj=17.7km s-min=15.2km az=80.0*
ISC 05 02:08:14.1±0.6,4.66°N±0.07°×127.8°E±0.1°,h104km,n39, σ0°98/38,mb4.2/23,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.23**	**318**	LR	LR	02 10 13.4	
	comp=Z,229nm,18.5s,baz=339,slow=36						
KCP	**Kidapawan**	**3.53**	**312**	⇓*i*P	**Pn**	**02 09 08.0**	**+1.0**
KCP				*i*S	**Sn**	**02 09 49.2**	**+1.2**
GTOI	**Gorontalo**	**6.20**	**230**	P	**Pn**	**02 09 43.6**	**+0.5**
LUWI	**Luwuk**	**7.54**	**221**	Pn	Pn	02 10 06.0	+4.7
BKB	**Balikpapan**	**12.34**	**242**	Pn	**Pn**	**02 11 07.4**	**+1.3**
KNRA	**Kununurra**	**20.23**	**177**	P	**P**	**02 12 42.3**	**+1.3**
FITZ	**Fitzroy Crossi**	**22.71**	**185**	P	**P**	**02 13 08.7**	**+1.4**
	4.4nm,0.9s,baz=13,slow=13,SNR=2.0						
FITZ	**Fitzroy Crossi**	**22.71**	**185**	P	**P**	**02 13 07.6**	**+0.3**
WB0	**Warramunga Arr**	**25.14**	**165**	P	**P**	**02 13 30.4**	**+0.7**
WB0				IAmb	IAmb	02 13 48.4	
	comp=Z,9.7nm,1.1s						
WRA	**Warramunga Arr**	**25.29**	**165**	P	**P**	**02 13 31.5**	**+0.5**
	comp=Z,2.8nm,0.4s,baz=338,slow=10,SNR=30						
WB2	**Warramunga Arr**	**25.30**	**165**	P	**P**	**02 13 31.5**	**+0.5**
WB2				IAmb	IAmb	02 13 38.4	
	comp=Z,4.4nm,0.9s						
WC3	**Warramunga Arr**	**25.32**	**165**	P	**P**	**02 13 31.5**	**+0.2**
WC3				IAmb	IAmb	02 13 34.9	
	comp=Z,4.4nm,0.7s						
WR0	**Warramunga Arr**	**25.36**	**165**	P	**P**	**02 13 32.0**	**+0.4**
PSAB2	**Pilbara Seismi**	**27.18**	**196**	P	**P**	**02 13 47.6**	**-0.4**
PSAB2				IAmb	IAmb	02 13 57.2	
	comp=Z,9.6nm,1.1s						
AS31	**Alice Springs**	**28.79**	**168**	P	**P**	**02 14 01.4**	**-0.9**
AS31				IAmb	IAmb	02 14 03.2	
	comp=Z,1.9nm,0.3s						
ASAR	**Alice Springs**	**28.79**	**168**	P	**P**	**02 14 01.5**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=359,slow=9.3,SNR=4.8						
JHJ2	**Mitsune**	**30.47**	**20**	P	**P**	**02 14 18.5**	**+1.4**
KSRS	**Korea Array**	**32.64**	**0**	P	**P**	**02 14 36.5**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=178,slow=9.9,SNR=13						
FORT	**Forrest**	**35.24**	**180**	P	**P**	**02 14 59.0**	**+0.4**
BBOO	**Buckleboo**	**38.09**	**169**	P	**P**	**02 15 22.4**	**-0.5**
BBOO				IAmb	IAmb	02 15 23.0	
	comp=Z,6.9nm,1.1s						
STKA	**Stephens Creek**	**38.65**	**161**	P	**P**	**02 15 28.7**	**+1.1**
	comp=Z,2.3nm,0.4s,baz=332,slow=8.9,SNR=8.5						
STKA	**Stephens Creek**	**38.65**	**161**	P	**P**	**02 15 28.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**39.56**	**5**	P	**P**	**02 15 35.6**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=175,slow=4.4,SNR=2.4						
ARMA	**Armidale**	**41.70**	**148**	P	**P**	**02 15 53.7**	**+0.8**
ARMA				IAmb	IAmb	02 16 00.8	
	comp=Z,8.7nm,1.1s						
KLR	**Kul'dur**	**44.54**	**4**	P	**P**	**02 16 15.7**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=201,slow=3.7,SNR=8.6						
ULN	**Ulaanbaatar**	**46.57**	**341**	P	**P**	**02 16 31.0**	**-0.5**
SONM	**Songino Array**	**46.76**	**340**	P	**P**	**02 16 33.5**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=162,slow=7.0,SNR=5.8						
PEA0B	**Petropavlovsk-**	**54.19**	**22**	P	**P**	**02 17 29.2**	**+0.5**
PETK	**Petropavlovsk-**	**54.19**	**22**	P	**P**	**02 17 29.5**	**+0.8**
	comp=Z,3.7nm,0.6s,baz=180,slow=5.9,SNR=8.0						
MK31	**Makanchi Array**	**57.39**	**324**	P	**P**	**02 17 50.9**	**-0.8**
MKAR	**Makanchi Array**	**57.39**	**324**	P	**P**	**02 17 51.2**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=114,slow=7.4,SNR=22						
KURK	**Kurchatov**	**61.52**	**327**	P	**P**	**02 18 19.2**	**-0.7**
KURK				IAmb	IAmb	02 18 22.5	
	comp=Z,4.3nm,0.8s						
GAR	**Garm**	**62.05**	**312**	P	**P**	**02 18 22.0**	**-2.0**
KK31	**Karatay Array**	**63.26**	**316**	P	**P**	**02 18 30.0**	**-1.8**
KK31				IAmb	IAmb	02 18 31.8	
	comp=Z,2.9nm,0.8s						
KKAR	**Karatay Array**	**63.26**	**316**	P	**P**	**02 18 30.8**	**-0.9**
KKAR				IAmb	IAmb	02 18 31.8	
	comp=Z,2.9nm,0.8s						
GEYT	**Alibeck**	**71.11**	**308**	P	**P**	**02 19 20.2**	**-1.3**
	comp=Z,2.4nm,0.7s,baz=131,slow=4.4,SNR=5.4						
ILAR	**Eielson Array**	**83.83**	**25**	P	**P**	**02 20 31.6**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=260,slow=5.8,SNR=6.0						
ARCES	**ARCESS Array B**	**89.93**	**340**	P	**P**	**02 20 59.4**	**-1.9**
	comp=Z,2.8nm,1.0s,baz=80,slow=7.4,SNR=7.5						
TORD	**Torodi Ar. Bea**	**123.59**	**289**	PKP	**PKPdf**	**02 26 59.5**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=59,slow=2.2,SNR=2.5						

IDC 05 02:55:08.9±6.5,6.90S×148.43E,h111km±50km,mb3.7/2, mb1 3.6/4,mb1mx3.2/36,mbtmp3.8/4,Error ellipse: s-maj=97.1km s-min=53.7km az=128.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.79**	**207**	P	Pn	02 55 50.6	-1.7
	6.7nm,0.3s,baz=26,slow=11,SNR=3.9						
PMG				S	Sn	02 56 27.0	+1.5
	9.3nm,0.3s,baz=47,slow=21,SNR=6.7						
WRA	**Warramunga Arr**	**18.85**	**225**	P	P	02 59 19.1	-1.3
	0.2nm,0.3s,baz=53,slow=10,SNR=7.0						
ASAR	**Alice Springs**	**21.74**	**218**	P	P	02 59 51.6	0.0
	1.6nm,0.5s,baz=53,slow=9.4,SNR=28						
FITZ	**Fitzroy Crossi**	**24.84**	**241**	P	P	03 00 20.2	-1.0
	3.0nm,0.4s,baz=61,slow=8.2,SNR=23						
TORD	**Torodi Ar. Bea**	**146.69**	**283**	PKPbc	PKPab	03 14 39.8	-0.5
	0.2nm,0.5s,baz=83,slow=3.3,SNR=5.9						

*IDC **05** 03:02:01.4±1.3,6.05°N×127.22E,h0km, mb3.8/5, mb1 4.0/5,mb1mx3.6/38,mbtmp3.8/5,Error ellipse: s-maj=55.0km s-min=18.6km az=59.0*
*MAN **05** 03:02:05.9,5.49°N×126.52E,h27km, MS4.2*
ISC 05 03:02:09.4±2.0,5.6N±0.1°×126.5E±0.1°,h48km±20km,n13, σ2°75/18,mb3.9/5,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.94**	**306**	*e*P	**Pn**	**03 02 23.3**	**-2.9**
DDMP				*e*S	**Sn**	**03 02 37.9**	**-0.7**
MATI	**Mati**	**1.40**	**351**	*e*P	**Pn**	**03 02 29.8**	**-2.7**
MATI				*e*S	**Sn**	**03 02 51.7**	**+1.8**
DAV	**Davao City (W)**	**1.75**	**329**	Pn	**Pn**	**03 02 37.0**	**-0.4**
	99nm,0.3s,baz=108,slow=3.8,SNR=2.9						
DAV				Sn	**Sn**	**03 03 01.0**	**+2.6**
	70nm,0.3s,baz=24,slow=18,SNR=6.2						
KCP	**Kidapawan**	**2.00**	**317**	⇓*e*P	Pn	03 02 28.4	-12
KCP				*i* S	**Sn**	**03 03 11.9**	**+7.4**
SKMP	**Bagumbayan, Su**	**2.15**	**297**	*e*P	**Pn**	**03 02 40.9**	**-1.9**
SKMP				*e*S	**Sn**	**03 03 07.9**	**-0.3**
BUKP	**Musuan**	**2.70**	**329**	*e*P	**Pn**	**03 02 50.0**	**-0.4**
BUKP				*e*S	**Sn**	**03 03 23.3**	**+1.4**
PAGZ	**Pagadian**	**3.82**	**307**	*e*P	**Pn**	**03 03 06.2**	**+0.4**
PAGZ				*e*S	Sn	03 03 35.9	-14
FITZ	**Fitzroy Crossi**	**23.52**	**182**	P	**P**	**03 07 16.9**	**+1.6**
	3.6nm,0.9s,baz=1.4,slow=10.0,SNR=1.8						
WRA	**Warramunga Arr**	**26.49**	**163**	P	**P**	**03 07 44.2**	**+1.8**
	0.7nm,0.7s,baz=343,slow=10,SNR=1.9						
ASAR	**Alice Springs**	**29.93**	**166**	P	**P**	**03 08 15.5**	**+2.4**
	0.3nm,0.7s,baz=341,slow=7.2,SNR=1.8						
MKAR	**Makanchi Array**	**55.92**	**325**	P	**P**	**03 11 41.2**	**-1.4**
	0.7nm,0.4s,baz=115,slow=7.2,SNR=13						
ARCES	**ARCESS Array B**	**88.66**	**340**	P	**P**	**03 14 55.7**	**-1.5**
	2.1nm,1.0s,baz=82,slow=6.7,SNR=5.7						
TORD	**Torodi Ar. Bea**	**122.10**	**289**	PKP	**PKPdf**	**03 20 58.1**	**-1.7**
	0.2nm,0.6s,baz=66,slow=1.8,SNR=1.7						

IDC 05 03:28:39.1±8.6,6.54S×154.52E,h44km±64km,mb3.4/3, mb1 3.8/4,mb1mx3.4/31,mbtmp3.7/4,ML3.8/1,Error ellipse: s-maj=79.6km s-min=31.6km az=89.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.33**	**312**	P	Pn	03 29 28.9	+0.1
	11nm,0.3s,baz=84,slow=5.2,SNR=5.9						
KRVT				S	Sn	03 30 07.7	+0.5
	23nm,0.3s,baz=43,slow=20,SNR=2.7						
PMG	**Port Moresby**	**7.83**	**248**	S	Sn	03 32 06.6	+8.8
	2.2nm,0.3s,baz=2.6,slow=20,SNR=6.3						
WRA	**Warramunga Arr**	**23.69**	**234**	P	P	03 33 47.5	+0.5
	4.4nm,0.9s,baz=57,slow=9.6,SNR=7.8						
ASAR	**Alice Springs**	**26.13**	**227**	P	P	03 34 08.8	-0.5
	0.4nm,0.4s,baz=60,slow=8.9,SNR=6.2						
MKAR	**Makanchi Array**	**82.76**	**319**	P	P	03 40 58.4	-0.1
	0.2nm,0.5s,baz=96,slow=4.3,SNR=2.0						

*SOME **05** 03:39:19.5,42.73N×78.07E,h5km*
*NNC **05** 03:39:20.1±1.3,42.72N×78.17E,h0km,mb2.0,mpv2.6, Error ellipse: s-maj=10.1km s-min=6.9km az=97.0*
KRNET 05 03:39:19.8±0.1,42.80N×78.07E,h22km,mb2.5,8C,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANVS	**Anan'yevo**	**0.30**	**266**	⇑*i*P	Pb	03 39 26.5	-0.3
	baz=67						
ANVS				⇑*i*S	Sb	03 39 32.2	+0.7
	baz=67						
SATY	**Saty**	**0.35**	**44**	*e*P	Pb	03 39 27.4	-0.2
	5.8nm,0.1s						
SATY				*e*S	Sb	03 39 33.0	+0.1
	35nm,0.1s						
SATY	**Saty**	**0.35**	**44**	P	Pb	03 39 27.4	-0.2
	5.8nm,0.1s						
SATY				S	Sb	03 39 33.1	+0.2
	35nm,0.1s						
PRZ	**Przheval'sk**	**0.40**	**143**	⇑*i*P	Pb	03 39 28.3	-0.1
	baz=41						
PRZ				⇑*i*S	Sb	03 39 35.1	+0.9
	baz=41						
UZB	**Uzynbulak**	**0.78**	**64**	*e*P	Pb	03 39 34.7	-0.1
	baz=64						
UZB				*e*S	Sb	03 39 45.4	+0.4
	baz=64						
UZB	**Uzynbulak**	**0.78**	**64**	*e*P	Pb	03 39 34.7	-0.1
	2.3nm,0.1s						
UZB				*e*S	Sb	03 39 45.4	+0.4
	4.8nm,0.1s						
UZB	**Uzynbulak**	**0.78**	**64**	P	Pb	03 39 34.7	-0.1
	2.3nm,0.1s						
UZB				S	Sb	03 39 45.4	+0.4
	4.8nm,0.1s						
MDOK	**Medeo**	**0.83**	**296**	*e*P	Pb	03 39 36.0	+0.3
	baz=96						
MDOK				*e*S	Sb	03 39 47.0	+0.5
	baz=96						
MDOK	**Medeo**	**0.83**	**296**	*e*P	Pb	03 39 36.0	+0.3
	0.5nm,0.1s						
MDOK				*e*S	Sb	03 39 47.0	+0.5
	3.2nm,0.1s						
KDJ	**Kajisay**	**0.94**	**225**	⇑*i*P	Pb	03 39 37.1	-0.5
	baz=24						
KDJ				⇑*i*S	Sn	03 39 50.6	-0.2
	baz=24						
SHLS	**Shalkode**	**1.08**	**70**	*e*P	Pb	03 39 45.2	+5.3
	baz=75						
SHLS				*e*S	Sn	03 40 03.4	+9.2
	baz=75						
SHLS	**Shalkode**	**1.08**	**70**	*e*P	Pb	03 39 45.2	+5.2
	2.5nm,0.2s						
SHLS				*e*S	Sn	03 40 03.4	+9.2
	33nm,0.2s						
SHLS	**Shalkode**	**1.08**	**70**	P	Pb	03 39 45.2	+5.2
	2.5nm,0.2s						
PDGK	**Podgornoye**	**1.17**	**63**	P	Pb	03 39 42.2	+0.8
	0.7nm,0.3s						
ARLS	**Aral**	**2.93**	**253**	⇑*i*P	Pn	03 40 07.2	+1.9
	baz=53						
ARLS				⇑*i*S	Sn	03 40 41.3	+1.4
	baz=53						

SOME 05 03:39:38.7,42.88N×80.80E,h15km,2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**0.65**	**330**	*e*P	Pg	03 39 51.4	-0.1
	5.5nm,0.1s						
KTMS				*e*S	Sg	03 40 00.5	+0.3
	13nm,0.2s						
SHLS	**Shalkode**	**1.02**	**286**	*e*P	Pb	03 39 53.0	-5.1
	14nm,0.1s						
PDGK	**Podgornoye**	**1.06**	**295**	⇓P	Pb	03 39 58.7	-0.1
	1.7nm,0.6s						
PDGK				⇓S	Sb	03 40 12.2	-0.3
	8.8nm,0.4s						
UZB	**Uzynbulak**	**1.33**	**282**	*e*P	Pn	03 40 03.1	+0.3
	2.5nm,0.0s						
UZB				*e*S	Sn	03 40 20.7	+0.2
	10nm,0.1s						
DJR	**Jarkent**	**1.62**	**333**	*e*P	Pb	03 40 08.3	-0.1
	1.5nm,0.1s						
DJR				*e*S	Sb	03 40 29.6	+0.9
	3.7nm,0.1s						
SATY	**Saty**	**1.77**	**277**	*e*P	Pb	03 40 10.9	0.0
	2.4nm,0.1s						
SATY				*e*S	Sb	03 40 33.9	+1.1
	27nm,0.1s						

*IDC **05** 03:50:55.4±1.0,39.70N×82.65E,h0km,mb3.6/8, mb1 3.9/13,mb1mx3.7/43,mbtmp3.8/13,ML3.8/5,MS2.5/2, Ms1 2.5/2,ms1mx2.3/44,Error ellipse: s-maj=24.8km s-min=14.9km az=47.0*
*BJI **05** 03:50:57.0±0.0,39.65N×82.60E,h3km,mB4.5/2,mb4.3/6, ML4.3/11,Ms3.8/3,Ms7 3.6/2*
*NNC **05** 03:50:59.6±2.3,39.95N×82.67E,h0km,mb4.8,mpv4.4, Error ellipse: s-maj=16.6km s-min=16.1km az=124.0*
ISC 05 03:50:57.6±0.7,39.73N±0.06×82.48E±0.05,h10km,n35, σ1°98/42,mb3.6/7,17C-5D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**4.04**	**337**	Pg	**Pb**	**03 52 09.8**	**+1.0**
	7.0nm,0.1s						
KTMS				Lg	Lg	03 53 04.6	
	425nm,0.5s						
SHLS	**Shalkode**	**4.11**	**327**	Pg	**Pb**	**03 52 09.7**	**-0.3**
	174nm,0.3s						
SHLS				Lg	Lg	03 53 04.1	
	1μm,0.5s						
PDGK	**Podgornoye**	**4.24**	**329**	Pg	**Pb**	**03 52 15.1**	**+2.8**
	31nm,0.3s						
PDGK				Lg	Lg	03 53 13.4	
	153nm,0.6s						
PDGK	**Podgornoye**	**4.24**	**329**	⇓Pn	**Pn**	**03 52 04.2**	**+1.9**
	9.7nm,0.2s						
PDGK				⇑Pg	**Pb**	**03 52 15.5**	**+3.2**
	46nm,0.5s						
PDGK				⇑Sn	**Sn**	**03 52 53.7**	**+1.8**
	171nm,0.6s						
PDGK				⇑Lg	Lg	03 53 12.8	
	328nm,0.7s						
UZB	**Uzynbulak**	**4.29**	**324**	Pg	**Pb**	**03 52 15.9**	**+2.7**
	95nm,0.5s						
UZB				Lg	Lg	03 53 14.6	
	243nm,0.5s						
SATY	**Saty**	**4.52**	**319**	Pg	**Pg**	**03 52 22.0**	**-2.2**
	77nm,0.4s						
SATY				Lg	Lg	03 53 25.5	
	181nm,0.4s						
KSH	**Kashi**	**5.03**	**270**	Pn	Pn	03 52 19.4	+6.2
KSH				Sn	**Sb**	**03 53 21.3**	**-5.0**
KSH				smax	smax		
	comp=N,350nm,0.7s						
KSH				smax	smax		
	comp=E,310nm,0.5s						
MDOK	**Medeo**	**5.33**	**312**	⇑Pn	**Pn**	**03 52 19.9**	**+2.5**
	9.8nm,0.5s						
MDOK				⇑Pg	**Pg**	**03 52 37.1**	**-2.6**
	82nm,0.8s						
MDOK				⇑Lg	Lg	03 53 45.6	
	230nm,0.7s						
KNDC	**Almaty**	**5.41**	**312**	⇑Pg	**Pg**	**03 52 39.8**	**-1.3**
	90nm,0.5s						
KNDC				⇓Lg	Lg	03 53 49.9	
	366nm,0.8s						
WMQ	**Urumqi**	**5.64**	**42**	Pn	**Pb**	**03 52 34.4**	**-1.8**
WMQ				Sn	**Sb**	**03 53 44.2**	**+0.3**
WMQ				smax	smax		

comp=E,9.0nm,0.3s
TKM2 ⇑Lg Lg 03 54 10.3
comp=E,67nm,0.6s
AAK Ala-Archa 6.69 298 Pn **Pn 03 52 38.5 +2.6**
comp=E,0.8nm,0.3s,baz=140,slow=7.9,SNR=2.4
AAK Pg Pb 03 52 59.7 +5.7
comp=E,2.7nm,0.3s,baz=223,slow=12,SNR=10.0
AAK Lg Lg 03 54 34.0
comp=E,0.8nm,0.3s,baz=282,slow=19,SNR=1.3
AAK LR LR 03 55 16.2
comp=E,32nm,18.4s,baz=116,slow=38
AAK Ala-Archa 6.69 298 ⇑Pg **Pg 03 53 03.0 -2.5**
comp=E,25nm,0.7s
AAK ⇑Lg Lg 03 54 35.1
comp=E,105nm,1.4s
MK31 Makanchi Array 7.06 359 Pn **Pn 03 52 42.1 +1.1**
comp=E,2.6nm,0.2s,baz=189,slow=12,SNR=292
MK31 ⇓Sn **Sn 03 53 59.9 -1.4**
comp=E,20nm,0.5s
MK31 ⇑Lg Lg 03 54 38.6
comp=E,24nm,0.5s
MKAR Makanchi Array 7.06 359 Pn **Pn 03 52 41.5 +0.5**
comp=E,5.7nm,0.3s,baz=186,slow=12,SNR=100
MKAR Sn **Sn 03 53 60.0 -1.3**
comp=E,6.5nm,0.3s,baz=176,slow=25,SNR=3.2
MKAR Lg Lg 03 54 41.2
comp=E,9.1nm,0.3s,baz=182,slow=30,SNR=7.1
MKAR LR LR 03 55 09.8
comp=E,54nm,21.7s,baz=118,slow=36
MAKZ Makanchi 7.08 357 ⇑Pn **Pn 03 52 43.9 +2.6**
comp=E,11nm,0.4s
MAKZ ⇑Sn **Sn 03 53 59.5 -2.3**
comp=E,12nm,0.3s
CHCP Chirah Chowk 9.56 234 P **Pn 03 53 15.9 +0.5**
KK31 Karatay Array 9.60 294 ⇑Pg Pg 03 53 55.5
comp=E,2.2nm,0.5s,baz=105,slow=17,SNR=8.6
KK31 ⇑Lg Lg 03 55 58.2
comp=E,14nm,0.9s
CEP Cherat 10.32 238 P **Pn 03 53 26.1 +0.2**
THW Thamme Wali 11.09 235 P **Pn 03 53 36.3 +0.1**
OTUK Ortayu 11.21 323 ⇑Pn **Pn 03 53 37.2 -0.5**
comp=E,3.2nm,0.7s
OTUK ⇓Lg Lg 03 56 49.0
comp=E,32nm,1.2s
GTA Gaotai 13.38 86 *e*P **Pn 03 54 11.3 +3.7**
GTA pP P 03 54 14.4 -2.8
GTA sP 03 54 17.3
GTA pmax pmax
comp=E,5.0nm,0.8s
GTA LR LR
comp=E,190nm,9.2s
GTA LR LR
comp=E,190nm,9.8s
GTA LR LR
comp=E,88nm,8.6s
ZALV Zalesovo Beam 14.31 6 Pn **Pn 03 54 17.5 -2.6**
comp=E,0.8nm,0.3s,baz=183,slow=14,SNR=14
BVAR Borovoye Array 15.66 332 Pn **Pn 03 54 37.9 -0.3**
comp=E,0.5nm,0.3s,baz=128,slow=9.3,SNR=2.8
BVAR Lg Lg 03 59 15.3
comp=E,0.5nm,0.3s,baz=111,slow=23,SNR=1.7
SONM Songino Array 19.02 57 P **P 03 55 19.7 +0.1**
comp=E,0.3nm,0.3s,baz=255,slow=12,SNR=8.8
AKTO Aktyubinsk 20.23 310 P **P 03 55 32.8 +0.1**
comp=E,0.7nm,0.4s,baz=103,slow=14,SNR=1.5
CMAR Chiang Mai Arr 25.54 141 P **P 03 56 24.6 -1.9**
comp=E,0.8nm,0.4s,baz=322,slow=9.3,SNR=5.6
BRTR Keskin Array B 37.19 286 P **P 03 58 09.9 +0.9**
comp=E,0.8nm,0.6s,baz=98,slow=8.9,SNR=3.0
FINES FINESS Array B 40.24 322 P **P 03 58 34.5 +0.4**
comp=E,0.8nm,0.6s,baz=79,slow=10,SNR=4.3
ARCES ARCESS Array B 41.94 334 P **P 03 58 48.6 +0.5**
comp=E,0.5nm,0.4s,baz=99,slow=7.5,SNR=5.4
NB2 NORSAR Subarra 47.41 321 P **P 03 59 31.7 -0.1**
comp=Z,6.3nm,1.4s,baz=85,slow=7.9
NOA NORSAR Array B 47.41 321 P **P 03 59 31.3 -0.6**
comp=Z,0.5nm,0.6s,baz=83,slow=7.7,SNR=3.8
GERES GERESS Array B 48.52 305 P **P 03 59 41.1 +0.5**
comp=Z,0.3nm,0.5s,baz=70,slow=9.5,SNR=3.5
ASAR Alice Springs 79.24 133 P **P 04 03 01.8 -1.3**
comp=Z,0.3nm,0.5s,baz=328,slow=6.5,SNR=2.5

*IDC **05** 04:11:05.7±0.4, 11°.38N×85°.46W, h182km±3km, mb3.7/24, mb1 3.9/26, mb1mx3.8/43, mbtmp4.2/26, Error ellipse: s-maj=15.9km s-min=7.1km az=61.0*
*INET **05** 04:11:05.9, 11°.40N×85°.67W, h193km, ML4.3*
*UCR **05** 04:11:06.2±1.3, 11°.36N×85°.69W, h182km±2km, MD4.1, ML4.2, mb4.6(NEIC)*
*NEIC **05** 04:11:06.3±1.2, 11°.37N±0°.04×85°.56W±0°.07, h190km±4km, mb4.8/230, Mwr4.6(UCR), Error ellipse: s-maj=10.7km s-min=5.6km az=71.0*
*SNET **05** 04:11:10.7±0.8, 11°.82N×85°.95W, h208km±13km, ML4.5*
*UPA **05** 04:11:11.8±5.6, 10°.70N×85°.74W, h10km±999km, MW4.7*
ISC 05 04:11:06.2±0.4**, 11°.37N**±0°.04×**85°.63W**±0°.04**, h189**km±3km**, n643**, σ1**s22**/654**, mb4.7**/124**, 8C-9D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GB1A	**Borinquen Arri**	**0.59**	**157**	⇑*e*P	**Pn**	**04 11 32.4**	**-0.2**
GB1A				*i* S	**Sn**	**04 11 52.9**	**0.0**
BUEV	**Buena Vista**	**0.61**	**159**	⇑*e*P	**Pn**	**04 11 32.3**	**-0.4**
BUEV				*e*S	**Sn**	**04 11 52.3**	**-0.8**
LAPC	**Finca la Perla**	**0.63**	**162**	*i* P	**Pn**	**04 11 31.9**	**-0.8**
LAPC				*i* S	**Sn**	**04 11 51.8**	**-1.4**
GPS1	**Guardaparques**	**0.65**	**155**	*i* P	**Pn**	**04 11 32.3**	**-0.5**
GPS1				*i* S	**Sn**	**04 11 52.4**	**-1.1**
GPS3	**Bodega del ICE**	**0.66**	**157**	*i* P	**Pn**	**04 11 32.4**	**-0.4**
GPS2	**Hotel Rincn d**	**0.67**	**156**	*i* P	**Pn**	**04 11 32.2**	**-0.7**
GPS2				*i* S	**Sn**	**04 11 52.7**	**-0.9**
ACON	**Acoyapa**	**0.74**	**37**	⇓*i* P	**Pn**	**04 11 33.3**	**+0.2**
ACON	**Acoyapa**	**0.74**	**37**	P	**Pn**	**04 11 33.0**	**-0.1**
ACON				Sn	**Sn**	**04 11 53.6**	**-0.5**
GUAB	**Guayabo de Bag**	**0.77**	**149**	*i* P	**Pn**	**04 11 33.3**	**-0.1**
GUAB				*i* S	**Sn**	**04 11 54.0**	**-0.5**
HORNC	**Hornillas**	**0.79**	**146**	*i* P	**Pn**	**04 11 33.4**	**-0.1**
HORNC				*i* S	**Sn**	**04 11 54.0**	**-0.7**
MASN	**Masaya**	**0.80**	**320**	⇑*e*P	**Pn**	**04 11 33.2**	**-0.4**
COLC	**Colonia**	**0.81**	**149**	*i* P	**Pn**	**04 11 33.5**	**-0.2**
COLC				*i* S	**Sn**	**04 11 54.5**	**-0.5**
CUI	**Cuipilapa**	**0.84**	**147**	*i* P	**Pn**	**04 11 33.9**	**+0.1**
CUI				*e*S	**Sn**	**04 11 54.5**	**-0.7**
PTEN	**Parque Tenorio**	**0.91**	**136**	*i* P	**Pn**	**04 11 34.6**	**+0.3**
PTEN				*i* S	**Sn**	**04 11 55.9**	**-0.1**
ACAL	**Aguas Claras**	**0.94**	**141**	*i* P	**Pn**	**04 11 34.7**	**+0.2**
ACAL				*i* S	**Sn**	**04 11 57.0**	**+0.6**
PLVR	**Palo Verde**	**1.05**	**165**	⇑*e*P	**Pn**	**04 11 34.9**	**-0.5**
PLVR				*e*S	**Sn**	**04 11 56.8**	**-1.3**
BOAB	**BOACO BROADBAN**	**1.07**	**358**		**Pn**	**04 11 35.3**	**0.0**
BOAB				Sn	**Sn**	**04 11 58.0**	**-0.1**
JTS	**Las Juntas de**	**1.26**	**148**	P	**Pn**	**04 11 36.6**	**-0.3**
	198nm,0.3s,baz=176,slow=19,SNR=1465						
JTS				S	**Sn**	**04 11 57.5**	**-3.2**
	2μm,0.3s,baz=14,slow=24,SNR=40						
JTS	**Las Juntas de**	**1.26**	**148**	⇑*e*P	**Pn**	**04 11 36.9**	**0.0**
JTS	**Las Juntas de**	**1.26**	**148**	Pn	**Pn**	**04 11 36.9**	**0.0**
JTS					**Sn**	**04 11 59.5**	**-1.2**
CEDE	**Laguna Cedeo**	**1.26**	**134**	*i* P	**Pn**	**04 11 37.2**	**+0.3**
CEDE				*i* S	**Sn**	**04 12 01.0**	**+0.3**
ARE1	**Arenal 1**	**1.27**	**135**	⇓*e*P	**Pn**	**04 11 37.6**	**+0.6**
ARE1				*e*S	**Sn**	**04 12 00.7**	**-0.1**
CASO	**Castillo**	**1.28**	**136**	*i* P	**Pn**	**04 11 37.4**	**+0.3**
CASO				*i* S	**Sn**	**04 12 00.5**	**-0.4**
FORC	**Fortuna**	**1.30**	**133**	*i* P	**Pn**	**04 11 37.7**	**+0.5**
FORC				*i* S	**Sn**	**04 12 00.8**	**-0.5**
ESPN	**Las Esperanzas**	**1.54**	**58**	⇓*e*P	**Pn**	**04 11 39.6**	**+0.4**
ESPN	**Las Esperanzas**	**1.54**	**58**		**Pn**	**04 11 39.3**	**0.0**
MATN	**Matagalpa**	**1.58**	**349**	⇓*i* P	**Pn**	**04 11 39.9**	**+0.1**
MATN	**Matagalpa**	**1.58**	**349**		**Pn**	**04 11 39.9**	**+0.1**
SRA1	**San Ramn**	**1.71**	**138**	*e*P	**Pn**	**04 11 41.5**	**+0.5**
ESTN	**Estel**	**1.87**	**337**		**Pn**	**04 11 43.0**	**+0.4**
HDC	**Heredia**	**2.02**	**132**	⇓*e*P	**Pn**	**04 11 44.3**	**+0.1**
HDC	**Heredia**	**2.02**	**132**		**Pn**	**04 11 44.7**	**+0.5**
HDC				Sn	**Sn**	**04 12 12.1**	**-1.7**
CVTR	**Volcan Turrial**	**2.27**	**126**	⇓*e*P	**Pn**	**04 11 47.5**	**+0.2**
EDDO	**Dominical**	**2.73**	**140**	*e*P	**Pn**	**04 11 53.2**	**+1.2**
EDLM	**Las Mercedes**	**2.89**	**136**	*e*P	**Pn**	**04 11 55.4**	**+1.3**
LCND	**La Caada**	**2.93**	**311**	*e*P	**Pn**	**04 11 54.5**	**0.0**
LCND				IAML		04 12 35.6	
	comp=Z,1μm,0.3s						
LCND	**La Caada**	**2.93**	**311**	*e*P	**Pn**	**04 11 54.5**	**0.0**
LCND				*e*S	**Sn**	**04 12 29.8**	**-2.4**
LCND				IAML		04 12 35.6	
	comp=Z,1μm,0.3s						
TGUH	**Tegucigalpa,Un**	**3.12**	**329**	Pn	**Pn**	**04 11 58.0**	**+1.2**
TGUH				Sn	**Sn**	**04 12 36.6**	**+0.2**
JUCU	**Jucuarn**	**3.17**	**306**	*e*P	**Pn**	**04 11 57.5**	**+0.1**
JUCU				IAML		04 12 39.9	
	comp=Z,2μm,0.3s						
JUCU	**Jucuarn**	**3.17**	**306**	*e*P	**Pn**	**04 11 57.5**	**+0.1**
JUCU				*e*S	**Sn**	**04 12 35.0**	**-2.5**
JUCU				IAML		04 12 39.9	
	comp=Z,2μm,0.3s						
EDBA	**Buenos Aires**	**3.19**	**133**	*e*P	**Pn**	**04 11 58.9**	**+1.2**
EDPN	**Palmar Norte**	**3.21**	**138**	*e*P	**Pn**	**04 11 59.3**	**+1.5**
BLLM	**Bellamira**	**3.28**	**309**	*e*P	**Pn**	**04 11 59.8**	**+1.1**
BLLM	**Bellamira**	**3.28**	**309**	*e*P	**Pn**	**04 11 59.8**	**+1.1**
RANC	**El Ranchito**	**3.31**	**309**	*e*P	**Pn**	**04 11 59.5**	**+0.3**
RANC	**El Ranchito**	**3.31**	**309**	*e*P	**Pn**	**04 11 59.5**	**+0.3**
RANC				*e*S	**Sn**	**04 12 38.5**	**-2.1**
FAGO	**Alcalda de S**	**3.35**	**314**	*e*P	**Pn**	**04 11 59.4**	**-0.1**
FAGO	**Alcalda de S**	**3.35**	**314**	*e*P	**Pn**	**04 11 59.4**	**-0.1**
FAGO				*e*S	**Sn**	**04 12 38.1**	**-3.1**
ALJI	**Alcalda de J**	**3.47**	**304**	*e*P	**Pn**	**04 12 01.4**	**+0.4**
ALJI	**Alcalda de J**	**3.47**	**304**	*e*P	**Pn**	**04 12 01.4**	**+0.4**
ALJI				*e*S	**Sn**	**04 12 41.1**	**-2.8**
TECA	**Tecapa**	**3.51**	**307**	*e*P	**Pn**	**04 12 02.3**	**+0.6**
TECA	**Tecapa**	**3.51**	**307**	*e*P	**Pn**	**04 12 02.3**	**+0.6**
COEB	**Comit de Eme**	**3.54**	**307**	*e*P	**Pn**	**04 12 02.7**	**+0.8**
COEB				IAML		04 12 48.2	
	comp=Z,860nm,0.3s						
COEB	**Comit de Eme**	**3.54**	**307**	*e*P	**Pn**	**04 12 02.7**	**+0.8**
COEB				*e*S	**Sn**	**04 12 43.2**	**-2.3**
COEB				IAML		04 12 48.2	
	comp=Z,860nm,0.3s						
PTJ1	**Puerto Jimnez**	**3.63**	**141**	⇓*e*P	**Pn**	**04 12 04.5**	**+1.5**
EDSV	**San Vito**	**3.64**	**134**	*e*P	**Pn**	**04 12 05.1**	**+1.8**
PIRO	**Carate, Puerto**	**3.71**	**142**	⇓*e*P	**Pn**	**04 12 05.4**	**+1.4**
MLIR3	**Monte Lirio, C**	**3.77**	**133**	⇑*i* P	**Pn**	**04 12 06.3**	**+1.5**
MLIR3				*e*S	**Sn**	**04 12 50.6**	**-0.1**
BRU2	**Volcan**	**3.86**	**131**	⇓*i* P	**Pn**	**04 12 06.7**	**+0.6**
BRU2				*e*S	**Sn**	**04 12 52.2**	**-0.7**
BRU2	**Volcan**	**3.86**	**131**	⇓*e*P	**Pn**	**04 12 06.8**	**+0.8**
COEG	**Centro de Oper**	**3.88**	**306**	*e*P	**Pn**	**04 12 07.0**	**+0.8**
COEG				IAML		04 13 00.2	
	comp=Z,619nm,0.3s						
COEG	**Centro de Oper**	**3.88**	**306**	*e*P	**Pn**	**04 12 07.0**	**+0.8**
COEG				*e*S	**Sn**	**04 12 50.8**	**-2.5**
COEG				IAML		04 13 00.2	
	comp=Z,619nm,0.3s						
BC3P	**Paso Ancho**	**3.91**	**130**	⇑*i* P	**Pn**	**04 12 07.9**	**+1.2**
BC3P				*e*S	**Sn**	**04 12 48.4**	**-5.6**
PAVA	**Las Pavas**	**3.98**	**306**	*e*P	**Pn**	**04 12 08.2**	**+0.7**
PAVA	**Las Pavas**	**3.98**	**306**	*e*P	**Pn**	**04 12 08.2**	**+0.7**
LFRS	**El Faro**	**4.03**	**304**	*e*P	**Pn**	**04 12 08.8**	**+0.7**
LFRS	**El Faro**	**4.03**	**304**	*e*P	**Pn**	**04 12 08.8**	**+0.7**
LBRS	**Las Brisas**	**4.08**	**306**	*e*P	**Pn**	**04 12 10.0**	**+1.3**
LBRS	**Las Brisas**	**4.08**	**306**	*e*P	**Pn**	**04 12 10.0**	**+1.3**
CHGR2	**Aguacate**	**4.20**	**125**	*e*P	**Pn**	**04 12 10.7**	**+0.6**
CHGR2				*e*S	**Sn**	**04 12 59.4**	**-0.9**
SNET	**Serv Nac Est T**	**4.20**	**304**	IAML		04 13 03.3	
	comp=Z,601nm,0.3s						
SNET	**Serv Nac Est T**	**4.20**	**304**	IAML		04 13 03.3	
	comp=Z,601nm,0.3s						
SNET	**Serv Nac Est T**	**4.20**	**304**	Pn	**Pn**	**04 12 11.2**	**+0.9**
PSOM3	**Paja de Sombre**	**4.21**	**129**	*e*P	**Pn**	**04 12 11.1**	**+0.8**
PSOM3				*e*S	**Sn**	**04 12 56.9**	**-3.7**
UEES	**Universidad Ev**	**4.23**	**304**	*e*P	**Pn**	**04 12 11.5**	**+1.0**
UEES				IAML		04 13 07.2	
	comp=Z,373nm,0.3s						
UEES	**Universidad Ev**	**4.23**	**304**	*e*P	**Pn**	**04 12 11.5**	**+1.0**
UEES				*e*S	**Sn**	**04 12 58.3**	**-2.8**
UEES				IAML		04 13 07.2	
	comp=Z,373nm,0.3s						
BOQS	**Boqueron**	**4.27**	**304**	*e*P	**Pn**	**04 12 12.3**	**+1.1**
BOQS	**Boqueron**	**4.27**	**304**	*e*P	**Pn**	**04 12 12.3**	**+1.1**
DVD	**David**	**4.28**	**133**	*e*P	**Pn**	**04 12 12.4**	**+1.2**
DVD				*e*S	**Sn**	**04 13 00.5**	**-1.6**
LOCO3	**Loma Colorada,**	**4.32**	**133**	*e*P	**Pn**	**04 12 13.2**	**+1.6**
LOCO3				*e*S	**Sn**	**04 12 55.7**	**-7.4**
JAYA	**Jayaque - finc**	**4.37**	**302**	*e*P	**Pn**	**04 12 12.9**	**+0.5**
JAYA				IAML		04 13 06.7	
	comp=Z,796nm,0.2s						
JAYA	**Jayaque - finc**	**4.37**	**302**	*e*P	**Pn**	**04 12 12.9**	**+0.5**
JAYA				*e*S	**Sn**	**04 13 00.8**	**-3.6**
JAYA				IAML		04 13 06.7	
	comp=Z,796nm,0.2s						
TACO	**Tacachico**	**4.46**	**306**	*e*P	**Pn**	**04 12 13.8**	**+0.3**
TACO	**Tacachico**	**4.46**	**306**	*e*P	**Pn**	**04 12 13.8**	**+0.3**
TACO				*e*S	**Sn**	**04 13 02.3**	**-4.0**
PRVC	**Isla de Provid**	**4.62**	**64**	*e*P	**Pn**	**04 12 16.0**	**+0.5**
RTR	**El Retiro**	**4.66**	**303**	*e*P	**Pn**	**04 12 17.0**	**+0.9**
RTR	**El Retiro**	**4.66**	**303**	*e*P	**Pn**	**04 12 17.0**	**+0.9**
MTO3	**Montecristo**	**4.72**	**310**	*e*P	**Pn**	**04 12 17.7**	**+0.7**
MTO3	**Montecristo**	**4.72**	**310**	*e*P	**Pn**	**04 12 17.7**	**+0.7**
MTO3	**Montecristo**	**4.72**	**310**		**Pn**	**04 12 18.0**	**+1.0**
NUBE	**Las Nubes**	**4.77**	**302**	*e*P	**Pn**	**04 12 18.2**	**+0.7**
NUBE	**Las Nubes**	**4.77**	**302**	*e*P	**Pn**	**04 12 18.2**	**+0.7**
NUBE				*e*S	**Sn**	**04 13 09.9**	**-3.7**
ESQI	**Esquipulas**	**4.81**	**312**		**Pn**	**04 12 19.1**	**+1.0**
REME3	**Remedios, Chir**	**4.87**	**129**	*e*S	**Sn**	**04 13 10.3**	**-5.5**
NANC3	**Nancito, Chiri**	**4.94**	**129**	*e*S	Sn	04 13 08.5	-8.9
IXG	**Ixpaco**	**5.46**	**301**	*e*P	**Pn**	**04 12 27.4**	**+0.9**
IXG	**Ixpaco**	**5.46**	**301**	*e*P	**Pn**	**04 12 27.4**	**+0.9**
BCIP	**Isla Barro Col**	**6.11**	**110**	*e*P	**Pn**	**04 12 35.3**	**+0.6**
BCIP	**Isla Barro Col**	**6.11**	**110**	Pn	**Pn**	**04 12 34.6**	**-0.1**
CCIG	**Comitan**	**7.99**	**308**		**Pn**	**04 13 00.1**	**+0.6**
FSCY	**Frank Sound, G**	**8.99**	**28**	Pn	**Pn**	**04 13 11.2**	**-1.2**
TEIG	**Tepich**	**9.17**	**344**	P	**Pn**	**04 13 16.2**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=320,slow=7.6,SNR=2.9						
TEIG	**Tepich**	**9.17**	**344**	Pn	**Pn**	**04 13 15.1**	**+0.3**
DBBC	**Dabeiba**	**10.26**	**114**	*e*P	**Pn**	**04 13 30.5**	**+1.4**
URCC	**San Jos de Ur**	**10.59**	**109**	*e*P	**P**	**04 13 42.0**	**+1.1**
CMIG	**Matias Romero**	**10.62**	**303**	P	**Pn**	**04 13 33.6**	**-0.1**
CMIG				S	**Sn**	**04 15 26.1**	**-6.0**
CBOC	**Ciudad Bolivar**	**10.97**	**119**	*e*P	**P**	**04 13 44.5**	**-0.8**
HELC	**Santa Helena**	**11.23**	**116**	*e*P	**P**	**04 13 50.1**	**+1.7**
ARGC	**Ariguani, Magd**	**11.29**	**97**	*e*P	**Pn**	**04 13 42.1**	**-0.3**
ZARC	**Zaragoza, Cauc**	**11.30**	**109**	*e*P	**Pn**	**04 13 44.9**	**+2.3**
SMLC	**San Martn de**	**11.66**	**102**	*e*P	**P**	**04 13 55.0**	**+2.2**
GUY2C	**Guyana, Caldas**	**11.85**	**120**	*e*P	**P**	**04 13 57.5**	**+2.1**
PTBC	**PUERTO BERRIO,**	**12.03**	**113**	*e*P	**P**	**04 13 58.9**	**+1.9**
RREF	**El Recreo**	**12.04**	**121**	*e*P	**P**	**04 13 58.4**	**+0.8**
NORC	**Norcasia**	**12.10**	**118**	*e*P	**P**	**04 14 00.2**	**+2.4**
ANIL	**Santa Ana**	**12.21**	**123**	*e*P	**P**	**04 14 01.4**	**+2.1**
TOLC	**Tolima**	**12.23**	**123**	*e*P	**P**	**04 14 00.5**	**+1.0**
BBAC	**Balboa, Cauca**	**12.47**	**138**	*e*P	**P**	**04 14 03.7**	**+1.7**
BRRC	**Barranca, Sant**	**12.50**	**109**	*e*P	**P**	**04 14 01.4**	**-0.8**
OCAC	**Ocana**	**12.52**	**103**	*e*P	**Pn**	**04 14 00.2**	**+1.9**
ORTC	**Ortega, Tolima**	**12.68**	**125**	*e*P	**P**	**04 14 03.8**	**-0.4**
SPBC	**San Pablo de B**	**12.76**	**115**	*e*P	**Pn**	**04 14 03.5**	**+2.3**
MARP	**Paez Belalcaza**	**12.80**	**131**	*e*P	**P**	**04 14 08.9**	**+3.2**
PAYG	**Puerto Ayora**	**12.83**	**201**	Pn	**Pn**	**04 14 02.3**	**+0.3**
PCON	**Cinco Dias**	**12.83**	**134**	*e*P	**P**	**04 14 08.6**	**+2.2**
ROSC	**El Rosal**	**12.94**	**119**	P	**P**	**04 14 12.2**	**+4.7**
	comp=Z,2.1nm,0.3s,baz=272,slow=3.0,SNR=18						
ROSC	**El Rosal**	**12.94**	**119**	*e*P	**P**	**04 14 09.9**	**+2.5**
ROSC	**El Rosal**	**12.94**	**119**	Pn	**Pn**	**04 14 03.6**	**-0.2**
CRUC	**La Cruz**	**13.00**	**138**	*e*P	**P**	**04 14 10.3**	**+2.2**
GCUF	**Volcan Galeras**	**13.01**	**140**	*e*P	**P**	**04 14 08.5**	**+0.2**
PRAC	**Prado**	**13.08**	**125**	*e*P	**P**	**04 14 08.4**	**-0.3**
BARC	**Barichara**	**13.18**	**110**	*e*P	**P**	**04 14 11.1**	**+1.1**
GTBY	**Guantanamo Bay**	**13.22**	**49**		**Pn**	**04 14 05.4**	**-1.5**
URIC	**Uribia, Colomb**	**13.37**	**87**	*e*P	Pn	04 14 02.5	-6.3
PAMC	**Pamplona, Colo**	**13.37**	**106**	*e*P	**Pn**	**04 14 11.5**	**+2.2**
RUSC	**La Rusia**	**13.54**	**113**	*e*P	**Pn**	**04 14 12.9**	**+1.4**
CHIC	**Chingaza**	**13.55**	**119**	*e*P	**P**	**04 14 14.9**	**+0.7**
FLOC	**Florencia**	**13.88**	**134**	*e*P	**P**	**04 14 10.0**	**+0.5**
TLIG	**Tlapa**	**13.96**	**298**	Pn	**Pn**	**04 14 17.0**	**+0.8**
PUAC	**Puerto Asis, P**	**14.02**	**139**	*e*P	**Pn**	**04 14 18.3**	**+1.4**
TAMC	**Tame, Arauca**	**14.52**	**109**	*e*P	**Pn**	**04 14 23.5**	**+0.3**
SOCV	**Socops**	**14.88**	**101**	*e*P	**Pn**	**04 14 29.1**	**+1.5**
PTGC	**Puerto Gaitan,**	**15.14**	**117**	*e*P	**P**	**04 14 32.7**	**+1.1**
PTLC	**Puerto Leguiza**	**15.48**	**135**	*e*P	**P**	**04 14 38.6**	**+3.4**
SC01	**Santiago de lo**	**16.44**	**59**	P	**P**	**04 14 45.8**	**0.0**
DWPF	**Disney Wildern**	**17.11**	**13**	P	**Pn**	**04 14 55.5**	**+1.1**
	baz=194						
GRTK	**Grand Turk**	**17.16**	**52**	P	**P**	**04 14 53.8**	**+0.1**
DR12	**Loma Pena Alta**	**17.33**	**63**	P	**P**	**04 14 54.6**	**-1.0**
PCDR	**Punta Cana, DR**	**18.11**	**65**	P	**P**	**04 15 04.6**	**+0.6**
553A	**Crawfordville**	**18.76**	**3**	P	**P**	**04 15 10.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**19.08**	**68**	P	**P**	**04 15 14.1**	**-0.5**
CRPR					IAmb	IAmb	04 15 16.6
	comp=Z,30nm,0.8s						
MLPR	**Magueyes Islan**	**19.13**	**68**	P	**P**	**04 15 14.7**	**-0.4**
MLPR					IAmb	IAmb	04 15 16.7
	comp=Z,28nm,0.7s						
AGPR	**Aguadilla, PR**	**19.23**	**66**	P	**P**	**04 15 15.5**	**-0.7**
AOPR	**Arecibo Observ**	**19.51**	**67**	P	**P**	**04 15 19.7**	**+0.5**
BRAL	**Brewton**	**19.75**	**356**	P	**P**	**04 15 23.9**	**+2.3**
	baz=176						
352A	**Blakely**	**20.02**	**2**	P	**P**	**04 15 24.8**	**+0.2**
352A					IAmb	IAmb	04 15 30.6
	comp=Z,51nm,1.0s						
TIGA	**Tifton**	**20.06**	**5**	P	**P**	**04 15 26.0**	**+1.0**
	baz=186						
TIGA	**Tifton**	**20.06**	**5**	P	**P**	**04 15 25.3**	**+0.3**
TIGA					IAmb	IAmb	04 15 33.5
	comp=Z,41nm,1.1s						
PDPR	**Patillas Dam,**	**20.08**	**68**	P	**P**	**04 15 24.7**	**-0.6**
PDPR					IAmb	IAmb	04 15 29.7
	comp=Z,36nm,1.1s						
GCPR	**Guaynabo City**	**20.10**	**68**	P	**P**	**04 15 25.5**	**-0.1**
CBYP	**Canovanas**	**20.30**	**68**	P	**P**	**04 15 27.4**	**-0.3**
CBYP					IAmb	IAmb	04 15 31.4
	comp=Z,28nm,0.8s						
250A	**Grady**	**20.52**	**358**	P	**P**	**04 15 29.4**	**-0.5**
250A					IAmb	IAmb	04 15 36.4
	comp=Z,36nm,1.1s						
MTP	**Monte Pirata**	**20.53**	**69**	P	**P**	**04 15 29.3**	**-0.8**
MTP					IAmb	IAmb	04 15 33.6
	comp=Z,37nm,0.9s						
344A	**Westbrook Farm**	**20.54**	**347**	P	**P**	**04 15 30.0**	**0.0**
255A	**Hazlehurst**	**20.66**	**8**	P	**P**	**04 15 31.4**	**0.0**
255A					IAmb	IAmb	04 15 35.6
	comp=Z,28nm,0.8s						
CUPR	**Culebra, Puert**	**20.83**	**68**	P	**P**	**04 15 32.5**	**-0.9**
CUPR					IAmb	IAmb	04 15 48.3
	comp=Z,34nm,1.1s						
342A	**Flagon Creek P**	**20.85**	**344**	P	**P**	**04 15 33.0**	**-0.3**
342A					IAmb	IAmb	04 15 37.3
	comp=Z,22nm,0.8s						
257A	**Skidaway Islan**	**20.94**	**11**	P	**P**	**04 15 34.5**	**+0.1**
STVI	**Saint Thomas**	**21.14**	**68**	P	**P**	**04 15 35.5**	**-1.1**
CDVI	**St. Croix**	**21.16**	**70**	P	**P**	**04 15 37.7**	**+0.9**
CDVI					IAmb	IAmb	04 15 52.0
	comp=Z,50nm,1.1s						
152A	**Waverly Hall**	**21.22**	**2**	P	**P**	**04 15 37.6**	**+0.4**
833A	**Chaparral WMA,**	**21.23**	**325**	P	**P**	**04 15 37.7**	**+0.2**
	baz=140						
833A	**Chaparral WMA,**	**21.23**	**325**	P	**P**	**04 15 37.1**	**-0.3**
154A	**Montrose**	**21.27**	**6**	P	**P**	**04 15 37.7**	**-0.1**
146A	**Union**	**21.40**	**352**	P	**P**	**04 15 39.3**	**+0.1**
LRAL	**Lakeview Retre**	**21.60**	**357**	P	**P**	**04 15 42.8**	**+1.5**
	baz=176,SNR=18						
LRAL	**Lakeview Retre**	**21.60**	**357**	P	**P**	**04 15 42.2**	**+0.9**
LRAL					IAmb	IAmb	04 15 44.5
	comp=Z,24nm,0.8s						
157A	**Early Branch**	**21.63**	**11**	P	**P**	**04 15 42.5**	**+0.9**
	baz=192						
Z47A	**Carrollton**	**21.84**	**354**	P	**P**	**04 15 44.6**	**+0.9**
Z47A					IAmb	IAmb	04 15 48.0
	comp=Z,23nm,1.1s						
158A	**Hollywood**	**21.85**	**12**	P	**P**	**04 15 44.9**	**+1.1**
	baz=194						
Z51A	**Franklin**	**21.85**	**1**	P	**P**	**04 15 44.0**	**+0.2**

X40A **Basin Creek Fa** 23.93 345 P P 04 16 03.6 +0.6
baz=162,SNR=6.3
X40A **Basin Creek Fa** 23.93 345 P P 04 16 02.9 -0.1
X59A **McDuffie Farm,** 23.97 14 P P 04 16 04.5 +1.2
baz=197
CPCT **Cooper Cave** 24.00 2 P P 04 16 04.0 +0.5
FDF **Fort de France** 24.08 79 P P 04 16 03.5 -1.0
W56A **Indian Trail** 24.10 10 P P 04 16 05.4 +1.0
baz=192,SNR=6.4
X60A **Albert Glenn T** 24.13 16 P P 04 16 05.7 +0.9
baz=198
MIAR **Mount Ida** 24.18 344 P P 04 16 05.7 +0.5
baz=161,SNR=22
MIAR **Mount Ida** 24.18 344 P P 04 16 05.4 +0.1
MIAR IAmb IAmb 04 16 08.1
comp=Z,23nm,0.7s
MCLT **Moule a Chique** 24.21 82 P P 04 16 06.8 +1.1
W57A **Gilead** 24.23 11 P P 04 16 06.7 +1.1
baz=193,SNR=5.7
W57A **Gilead** 24.23 11 P P 04 16 05.9 +0.3
W57A IAmb IAmb 04 16 07.3
comp=Z,17nm,0.7s
TKL **Tuckaleechee C** 24.24 4 P P 04 16 07.0 +1.3
comp=Z,40nm,1.0s,baz=178,slow=12,SNR=25
TKL **Tuckaleechee C** 24.24 4 P P 04 16 06.0 +0.2
TKL IAmb IAmb 04 16 10.3
comp=Z,37nm,0.9s
W58A **Raeford** 24.25 13 P P 04 16 07.0 +1.2
baz=195
V48A **Smith Brothers** 24.29 358 P P 04 16 06.7 +0.5
V48A IAmb IAmb 04 16 08.0
comp=Z,31nm,0.8s
V53A **Saluda** 24.33 6 P P 04 16 06.7 +0.1
V51A **Loudon** 24.35 3 P P 04 16 07.1 +0.3
V52A **Sevierville** 24.43 4 P P 04 16 07.9 +0.4
V52A IAmb IAmb 04 16 12.1
comp=Z,24nm,0.8s
W41B **Gary Mavity, V** 24.45 347 P P 04 16 07.8 +0.1
baz=164,SNR=10
W41B **Gary Mavity, V** 24.45 347 P P 04 16 08.0 +0.4
W41B IAmb IAmb 04 16 08.8
comp=Z,12nm,0.9s
V54A **Nebo** 24.53 7 P P 04 16 10.0 +1.6
baz=189,SNR=14
TXAR **Lajitas Array** 24.54 319 P P 04 16 09.6 +0.9
comp=Z,4.0nm,0.8s,baz=137,slow=10,SNR=30
TXAR pP pP 04 16 47.2 +1.4
comp=Z,1.4nm,0.8s,baz=135,slow=9.0,SNR=6.6
TXAR PcP PcP 04 19 43.8 +2.0
comp=Z,0.9nm,0.8s,baz=146,slow=5.5,SNR=5.5
TXAR ScP ScP 04 23 05.0 +2.2
comp=Z,0.4nm,0.8s,baz=111,slow=4.9,SNR=4.7
TX31 **Lajitas Ar. Si** 24.54 319 P P 04 16 09.4 +0.7
TX31 IAmb IAmb 04 16 12.8
comp=Z,12nm,0.7s
TX32 **Lajitas Array** 24.54 319 P P 04 16 09.0 +0.3
WHAR **Wooly Hollow** 24.57 347 P P 04 16 09.2 +0.5
WHAR IAmb IAmb 04 16 09.8
comp=Z,18nm,0.8s
W59A **Clinton** 24.58 14 P P 04 16 10.0 +1.2
baz=197
CLTN **Cedars of Leba** 24.62 359 P P 04 16 09.5 +0.3
CLTN IAmb IAmb 04 16 14.3
comp=Z,17nm,1.0s
W60A **Pink Hill** 24.65 16 P P 04 16 10.6 +1.1
baz=199
V55A **Taylorsville** 24.70 9 P P 04 16 11.3 +1.4
baz=190,SNR=6.9
V55A **Taylorsville** 24.70 9 P P 04 16 10.3 +0.4
V55A IAmb IAmb 04 16 12.7
comp=Z,25nm,1.0s
WVT **Waverly** 24.73 356 P P 04 16 10.9 +0.7
baz=175
WVT **Waverly** 24.73 356 P P 04 16 10.3 +0.1
WVT IAmb IAmb 04 16 11.3
comp=Z,12nm,0.7s
X37A **Clayton** 24.76 341 P P 04 16 10.6 +0.1
X37A IAmb IAmb 04 16 13.8
comp=Z,8.4nm,0.7s
ABTX **Abilene, Hawle** 24.77 331 P P 04 16 12.1 +1.5
baz=146
ABTX **Abilene, Hawle** 24.77 331 P P 04 16 10.9 +0.3
V56A **Mocksville** 24.77 10 P P 04 16 12.0 +1.4
baz=192,SNR=6.9
CNNC **Cliffs of the** 24.78 15 P P 04 16 11.8 +1.2
baz=198
W39A **Magazine** 24.85 344 P P 04 16 11.9 +0.6
baz=161,SNR=11
W39A **Magazine** 24.85 344 P P 04 16 11.5 +0.2
W39A IAmb IAmb 04 16 15.2
comp=Z,12nm,0.8s
LNXT **Lenox** 24.87 353 P P 04 16 11.8 +0.4
LNXT IAmb IAmb 04 16 13.5
comp=Z,29nm,0.7s
V57A **Coltrane Farms** 24.98 11 P P 04 16 13.6 +1.2
baz=194,SNR=8.6
V58A **Windy Hill, Pi** 25.02 13 P P 04 16 14.1 +1.2
baz=195,SNR=12
V58A **Windy Hill, Pi** 25.02 13 P P 04 16 13.0 +0.2
U49A **Red Boiling Sp** 25.04 360 P P 04 16 12.6 -0.3
U49A IAmb IAmb 04 16 14.8
comp=Z,16nm,0.8s
LCAR **Lake Charles** 25.09 349 P P 04 16 13.8 +0.4
LCAR IAmb IAmb 04 16 14.4
comp=Z,16nm,0.6s
TZTN **Tazewell** 25.14 4 P P 04 16 15.1 +1.2
baz=185,SNR=7.6
V59A **Middlesex** 25.20 14 P P 04 16 15.6 +1.2
baz=197,SNR=6.0
HICK **Hickman** 25.27 353 IAmb IAmb 04 16 16.9
comp=Z,20nm,0.8s
U54A **Nelsons Funny** 25.28 7 P P 04 16 16.6 +1.4
baz=189,SNR=6.7
U56A **King** 25.32 10 P P 04 16 17.0 +1.5
baz=192
U55A **TA2, Sparta** 25.36 9 P P 04 16 17.4 +1.4
baz=190,SNR=7.7
V60A **Jim Taylor Roa** 25.45 16 P P 04 16 18.0 +1.4
baz=199,SNR=5.2
V60A **Jim Taylor Roa** 25.45 16 P P 04 16 17.0 +0.4
PARMO **Parma** 25.46 352 P P 04 16 17.2 +0.5
T47A **Sharon Grove** 25.54 357 IAmb IAmb 04 16 18.9
comp=Z,26nm,0.8s
T50A **Nancy** 25.55 1 P P 04 16 17.8 +0.2
T50A IAmb IAmb 04 16 18.8
comp=Z,9.5nm,0.6s
U57A **Blanch** 25.59 12 P P 04 16 19.2 +1.3
baz=194,SNR=8.1
V62A **Hyde County Ai** 25.63 18 P P 04 16 19.3 +1.0
baz=202
T53A **Wise** 25.66 6 P P 04 16 19.7 +1.1
baz=187
V61A **Roper** 25.66 17 P P 04 16 19.8 +1.2
baz=201
T45A **Paducah** 25.68 354 P P 04 16 16.5 -2.3
U40A **Yellville** 25.72 346 P P 04 16 20.2 +1.1
baz=164,SNR=6.6
U58A **Oxford** 25.73 13 P P 04 16 19.9 +0.8
baz=196
T54A **Tazewell** 25.84 7 P P 04 16 21.5 +1.2
baz=189,SNR=5.5
U59A **Littleton** 25.86 15 P P 04 16 21.5 +1.1
baz=198
T55A **Pulaski** 26.01 9 P P 04 16 23.3 +1.6
baz=191,SNR=6.3
T42A **Van Buren** 26.02 350 P P 04 16 21.7 0.0
T42A IAmb IAmb 04 16 22.6
comp=Z,13nm,0.8s
T56A **Rocky Mt** 26.04 10 P P 04 16 23.5 +1.5
baz=192
FNO **Franklin** 26.07 338 P P 04 16 20.5 -1.8
U60A **Pendleton** 26.14 16 P P 04 16 24.0 +1.2
baz=199
BLA **Blacksburg** 26.16 9 P P 04 16 24.7 +1.6
baz=192,SNR=5.4
BLA **Blacksburg** 26.16 9 P P 04 16 22.6 -0.5
BLA IAmb IAmb 04 16 26.4
comp=Z,20nm,0.9s
T57A **Hurt** 26.16 12 P P 04 16 24.3 +1.3
baz=194,SNR=5.6
T57A **Hurt** 26.16 12 P P 04 16 23.2 +0.2
T57A IAmb IAmb 04 16 25.3
comp=Z,17nm,1.1s
WMOK **Wichita Mounta** 26.17 335 P P 04 16 23.8 +0.7
baz=150,SNR=8.2
WMOK **Wichita Mounta** 26.17 335 P P 04 16 23.1 -0.1

U61A **Possum Corner** 26.20 17 P P 04 16 23.8 +0.4
baz=201
S51A **Beattyville** 26.22 4 P P 04 16 22.8 -0.8
S51A IAmb IAmb 04 16 25.5
comp=Z,22nm,0.8s
T58A **Grand View Acr** 26.26 13 P P 04 16 24.7 +0.8
baz=196
MGMO **Mountain Grove** 26.36 348 P P 04 16 24.9 0.0
MGMO IAmb IAmb 04 16 26.7
comp=Z,11nm,1.1s
S53A **Williamson** 26.39 6 P P 04 16 26.1 +0.9
baz=188
S44A **Carbondale** 26.41 354 IAmb IAmb 04 16 26.8
comp=Z,27nm,1.0s
T59A **Double "B" Far** 26.51 15 P P 04 16 27.1 +1.0
baz=198
S54A **Dingess, Beckl** 26.60 8 P P 04 16 27.8 +0.8
baz=189
S55A **Lewisburg** 26.69 9 P P 04 16 29.4 +1.5
baz=191,SNR=7.7
WCI **Wyandotte Cave** 26.75 359 P P 04 16 28.8 +0.4
baz=178
WCI **Wyandotte Cave** 26.75 359 P P 04 16 28.2 -0.1
S56A **Natural Bridge** 26.76 11 P P 04 16 29.7 +1.3
baz=193
R49A **Shelbyville** 26.81 1 P P 04 16 28.4 -0.5
R50A **Paris** 26.82 2 IAmb IAmb 04 16 30.8
comp=Z,16nm,0.8s
T60A **Surry** 26.88 16 P P 04 16 30.6 +1.2
baz=199
S57A **Dark Hollow, R** 26.95 12 P P 04 16 30.8 +0.7
baz=194
S57A **Dark Hollow, R** 26.95 12 P P 04 16 30.8 +0.7
S57A IAmb IAmb 04 16 32.0
comp=Z,8.4nm,0.6s
S58A **Poland Farm, P** 27.00 13 P P 04 16 31.6 +1.1
baz=196,SNR=6.2
S58A **Poland Farm, P** 27.00 13 IAmb IAmb 04 16 32.6
comp=Z,10nm,0.7s
R54A **Victor** 27.02 8 P P 04 16 32.1 +1.3
baz=190,SNR=7.9
CCM **Cathedral Cave** 27.05 350 P P 04 16 30.8 -0.2
baz=168
CCM **Cathedral Cave** 27.05 350 P P 04 16 30.9 0.0
CCM IAmb IAmb 04 16 31.8
comp=Z,17nm,0.8s
R53A **Hurricane** 27.05 6 P P 04 16 32.0 +1.0
baz=188
R53A **Hurricane** 27.05 6 P P 04 16 30.6 -0.4
R53A IAmb IAmb 04 16 32.6
comp=Z,13nm,0.8s
R55A **Marlinton** 27.25 10 P P 04 16 34.4 +1.6
baz=192,SNR=6.0
R55A **Marlinton** 27.25 10 P P 04 16 32.0 -0.9
R55A IAmb IAmb 04 16 35.6
comp=Z,17nm,0.9s
T35A **Sooner Cattle** 27.26 341 P P 04 16 32.3 -0.6
S59A **Mechanicsville** 27.32 14 P P 04 16 34.6 +1.2
baz=198
R58B **Mineral** 27.38 13 P P 04 16 35.1 +1.2
baz=197
S60A **Water View** 27.43 16 P P 04 16 35.9 +1.5
baz=199
R40A **Maddies Statio** 27.46 349 IAmb IAmb 04 16 35.5
comp=Z,4.6nm,0.5s
R56A **Bull Pasture M** 27.50 11 P P 04 16 36.3 +1.2
baz=193
R57A **Stanardsville** 27.56 12 P P 04 16 36.8 +1.3
baz=195,SNR=6.2
Q53A **Leroy** 27.62 7 P P 04 16 37.3 +1.2
baz=189
Q52A **Bidwell** 27.64 6 P P 04 16 37.3 +1.1
baz=187,SNR=8.6
R58A **Rapidan** 27.67 13 P P 04 16 37.6 +1.1
baz=196
CBN **Corbin Frederi** 27.73 14 P P 04 16 38.3 +1.3
baz=198
R59A **King George, V** 27.78 14 P P 04 16 38.5 +1.1
baz=198
Q54A **Coxs Mills** 27.83 8 P P 04 16 38.9 +0.9
baz=190
Q54A **Coxs Mills** 27.83 8 IAmb IAmb 04 16 40.2
comp=Z,29nm,0.9s
Q55A **Buckhannon** 27.95 9 P P 04 16 40.7 +1.6
baz=192,SNR=7.1
R60A **Leardtown, M** 27.98 15 P P 04 16 41.0 +1.7
baz=199
P49A **Miami Univ. Ec** 28.06 2 P P 04 16 39.9 -0.1
baz=182
P49A **Miami Univ. Ec** 28.06 2 IAmb IAmb 04 16 40.9
comp=Z,19nm,0.8s
P51A **Williamsport** 28.09 4 P P 04 16 40.7 +0.5
baz=185
P51A **Williamsport** 28.09 4 IAmb IAmb 04 16 41.9
comp=Z,20nm,0.8s
Q56A **Snyder Ridge,** 28.15 11 P P 04 16 42.7 +1.9
baz=193,SNR=8.1
Q56A **Snyder Ridge,** 28.15 11 P P 04 16 40.9 +0.1
Q56A IAmb IAmb 04 16 44.5
comp=Z,36nm,1.1s
PTGA **Pitinga** 28.20 114 P P 04 16 40.4 -1.1
comp=Z,1.4nm,0.6s,baz=312,slow=14,SNR=2.2
P53A **Whipple** 28.26 7 P P 04 16 43.1 +1.4
baz=189,SNR=14
P53A **Whipple** 28.26 7 P P 04 16 41.5 -0.2
Q57A **Strasburg** 28.29 12 P P 04 16 43.4 +1.3
baz=195
P52A **Corning** 28.32 6 P P 04 16 43.2 +1.0
baz=187,SNR=18
Q58A **Fox Den Farm,** 28.36 13 P P 04 16 44.1 +1.5
baz=196,SNR=5.8
P43A **Skaggs, Pawnee** 28.37 354 P P 04 16 42.9 +0.2
P43A IAmb IAmb 04 16 43.9
comp=Z,12nm,0.6s
R61A **Willards** 28.38 17 P P 04 16 44.6 +1.8
baz=202
R61A **Willards** 28.38 17 P P 04 16 42.5 -0.3
BBSR **BB Station** 28.43 39 P P 04 16 42.4 -0.9
P54A **Burton** 28.49 8 P P 04 16 44.9 +1.1
baz=190
P55A **Reedsville** 28.50 9 P P 04 16 45.1 +1.2
baz=192,SNR=6.7
Q59A **Harwood** 28.53 15 P P 04 16 45.4 +1.3
baz=198
MCWV **Mont Chateau** 28.64 9 P P 04 16 46.3 +1.2
baz=192,SNR=5.4
MCWV **Mont Chateau** 28.64 9 P P 04 16 45.5 +0.4
MCWV IAmb IAmb 04 16 47.5
comp=Z,8.3nm,0.8s
P56A **Dayton Farm, R** 28.66 11 P P 04 16 47.1 +1.8
baz=194,SNR=6.5
O51A **Pataskala** 28.79 5 P P 04 16 47.1 +0.7
baz=186,SNR=9.4
P57A **Homestead Farm** 28.81 12 P P 04 16 48.5 +2.0
baz=196,SNR=7.4
P57A **Homestead Farm** 28.81 12 P P 04 16 47.9 +1.3
P57A IAmb IAmb 04 16 49.7
comp=Z,29nm,1.1s
O52A **Adamsville** 28.83 6 P P 04 16 47.6 +0.9
baz=188,SNR=11
ACSO **Alum Creek Sta** 28.84 4 P P 04 16 47.6 +0.7
baz=185,SNR=6.7
Q60A **Greensboro** 28.87 16 P P 04 16 48.5 +1.5
baz=200
SFIN **Lafayette** 28.92 358 P P 04 16 47.2 -0.4
baz=177,SNR=5.4
P58A **Pank, Wackersv** 28.97 13 P P 04 16 49.5 +1.5
baz=197
P38A **Dawn** 29.00 347 IAmb IAmb 04 16 48.8
comp=Z,13nm,0.5s
O53A **New Philadelph** 29.03 7 P P 04 16 49.4 +0.9
baz=189,SNR=5.8
O53A **New Philadelph** 29.03 7 P P 04 16 49.3 +0.7
O54A **Avella** 29.07 8 P P 04 16 49.8 +0.9
baz=190
O55A **Ligonier** 29.26 10 P P 04 16 51.7 +1.1
baz=193
P59A **Jarrettsville** 29.29 15 P P 04 16 52.1 +1.3
baz=199
121A **Cookes Peak, D** 29.30 319 P P 04 16 52.5 +1.2
baz=131
O56A **Blue Knob Stat** 29.45 11 P P 04 16 54.0 +1.6
baz=194
O56A **Blue Knob Stat** 29.45 11 P P 04 16 52.7 +0.4
O56A IAmb IAmb 04 16 54.6
comp=Z,13nm,1.1s
N49A **Columbus Grove** 29.46 2 IAmb IAmb 04 16 53.6

comp=Z,28nm,0.9s
N52A **McGinn's Farm,** 29.53 6 P P 04 16 53.7 +0.7
baz=188
N51A **Ashland** 29.57 5 P P 04 16 54.1 +0.8
baz=186
O57A **Amberson** 29.58 12 P P 04 16 54.9 +1.5
baz=196,SNR=8.0
N53A **Lisbon** 29.62 7 P P 04 16 54.5 +0.7
baz=189,SNR=7.0
N53A **Lisbon** 29.62 7 IAmb IAmb 04 16 55.5
comp=Z,31nm,1.1s
O58A **Lewisberry** 29.66 14 P P 04 16 55.5 +1.4
baz=197,SNR=5.4
MVL **Millersville** 29.68 14 IAmb IAmb 04 16 57.0
comp=Z,18nm,1.1s
P60A **Greenville** 29.68 16 P P 04 16 55.4 +1.1
baz=200
N55A **Marion Center** 29.88 10 P P 04 16 57.4 +1.4
baz=193,SNR=5.8
N54A **Moraine State** 29.89 9 P P 04 16 57.1 +0.9
baz=191
SSPA **Standing Stone** 29.94 12 P P 04 16 57.8 +1.2
baz=195
SSPA **Standing Stone** 29.94 12 P P 04 16 56.4 -0.2
SSPA IAmb IAmb 04 16 59.0
comp=Z,15nm,0.8s
M50A **Fremont** 30.00 4 IAmb IAmb 04 16 59.5
comp=Z,18nm,0.8s
O59A **Robesonia** 30.01 15 P P 04 16 58.6 +1.4
baz=199,SNR=9.4
SAML **Samuel** 30.10 131 P P 04 16 56.4 -1.8
N57A **Milroy** 30.13 12 P P 04 16 59.6 +1.4
baz=196,SNR=6.1
N56A **West Decatur** 30.13 11 P P 04 16 59.7 +1.4
baz=194,SNR=11
ANMO **Albuquerque** 30.16 324 P P 04 17 00.2 +1.4
comp=Z,0.7nm,0.8s,baz=128,slow=12,SNR=2.4
O60A **Telford** 30.22 16 P P 04 17 00.3 +1.3
baz=200
M53A **WI Miller and** 30.27 7 P P 04 17 00.3 +0.9
baz=190,SNR=8.3
M53A **WI Miller and** 30.27 7 P P 04 16 58.4 -1.0
M52A **Chesterland** 30.29 6 P P 04 17 00.0 +0.4
baz=188
N58A **Sunbury** 30.39 13 P P 04 17 01.8 +1.3
baz=197,SNR=7.8
N58A **Sunbury** 30.39 13 P P 04 16 59.1 -1.4
N58A IAmb IAmb 04 17 03.0
comp=Z,18nm,0.9s
L48A **N Adams** 30.48 2 IAmb IAmb 04 17 01.9
comp=Z,20nm,0.8s
M54A **Oil Creek Stat** 30.48 9 P P 04 17 02.0 +0.7
baz=192
M55A **Ridgway** 30.58 10 P P 04 17 03.1 +0.9
baz=193,SNR=9.1
M55A **Ridgway** 30.58 10 IAmb IAmb 04 17 04.4
comp=Z,25nm,1.1s
N35A **Tabor** 30.67 345 IAmb IAmb 04 17 04.1
comp=Z,17nm,0.6s
N59A **State Game Lan** 30.69 15 P P 04 17 04.8 +1.6
baz=199,SNR=8.5
N59A **State Game Lan** 30.69 15 IAmb IAmb 04 17 05.8
comp=Z,16nm,0.9s
M56A **Emporium** 30.70 11 P P 04 17 04.3 +1.0
baz=194,SNR=12
M57A **Sunshine Farm,** 30.77 13 P P 04 17 05.4 +1.5
baz=196,SNR=8.3
M57A **Sunshine Farm,** 30.77 13 IAmb IAmb 04 17 06.4
comp=Z,23nm,0.9s
N60A **Cedar Hill Far** 30.82 16 P P 04 17 05.4 +1.1
baz=200
L53A **Girard** 30.83 8 P P 04 17 05.1 +0.7
baz=190,SNR=9.8
M58A **Price's Panora** 30.95 13 P P 04 17 07.0 +1.5
baz=198,SNR=8.0
L40A **Anamosa** 30.97 352 IAmb IAmb 04 17 06.7
comp=Z,24nm,1.0s
ERPA **Erie** 31.03 8 P P 04 17 06.7 +0.6
baz=191
ERPA **Erie** 31.03 8 IAmb IAmb 04 17 07.7
comp=Z,21nm,0.8s
L54A **Sinclairville** 31.24 9 P P 04 17 08.5 +0.5
baz=192
PAL **Palisades** 31.27 17 P P 04 17 09.3 +1.0
baz=202
KSPA **Keystone Colle** 31.29 14 IAmb IAmb 04 17 11.0
comp=Z,19nm,1.1s
L55A **Hinsdale** 31.34 10 P P 04 17 09.7 +0.9
baz=194,SNR=5.3
M59A **Waymart** 31.36 15 P P 04 17 10.5 +1.5
baz=199,SNR=10
M60A **Port Jervis** 31.37 16 P P 04 17 10.3 +1.2
baz=201
L56A **Greenwood** 31.45 12 P P 04 17 10.8 +0.9
baz=195,SNR=6.4
L57A **Andrews Acres** 31.47 13 P P 04 17 10.9 +0.9
baz=196,SNR=9.2
WVNY **West Valley, N** 31.52 10 IAmb IAmb 04 17 13.0
comp=Z,13nm,1.0s
M61A **Granite Spring** 31.59 17 P P 04 17 12.1 +1.0
baz=202
JFWS **Jewell Farm** 31.68 354 P P 04 17 11.7 -0.2
baz=171
JFWS **Jewell Farm** 31.68 354 IAmb IAmb 04 17 12.5
comp=Z,21nm,1.1s
K54A **Basiliko Farm,** 31.71 10 P P 04 17 12.6 +0.6
baz=193
L58A **Harry Jones Me** 31.73 14 P P 04 17 13.6 +1.2
baz=198,SNR=6.5
SDCO **Great Sand Dun** 31.74 329 P P 04 17 13.4 +0.6
baz=141
J47A **Sunmer** 31.76 1 IAmb IAmb 04 17 12.7
comp=Z,12nm,0.8s
BINY **Binghamton** 31.85 14 P P 04 17 14.6 +1.3
baz=198,SNR=9.1
BINY **Binghamton** 31.85 14 IAmb IAmb 04 17 15.6
comp=Z,20nm,1.0s
K55A **Perry** 31.93 11 P P 04 17 14.7 +0.7
baz=194,SNR=5.4
MMNY **Mt. Morris Dam** 31.96 11 IAmb IAmb 04 17 16.0
comp=Z,35nm,1.1s
K56A **Middlesex** 32.04 12 P P 04 17 15.6 +0.6
baz=195,SNR=5.0
L59A **Walton** 32.07 15 P P 04 17 16.7 +1.4
baz=200,SNR=8.7
L59A **Walton** 32.07 15 IAmb IAmb 04 17 17.7
comp=Z,29nm,1.1s
L60A **Shokan** 32.10 16 P P 04 17 16.7 +1.2
baz=201
W18A **Petrified Fore** 32.23 321 P P 04 17 19.0 +2.1
baz=131
K57A **Scipio Center** 32.24 13 P P 04 17 17.4 +0.7
baz=197,SNR=5.1
S22A **4UR Ranch, Cre** 32.42 328 P P 04 17 19.6 +0.8
K58A **Earlville** 32.46 14 P P 04 17 19.6 +0.9
baz=198,SNR=7.6
K58A **Earlville** 32.46 14 P P 04 17 18.3 -0.3
L61A **Hillsdale 1, H** 32.47 17 P P 04 17 20.0 +1.3
baz=202
LPAZ **La Paz** 32.48 147 P P 04 17 21.0 +1.2
comp=Z,1.0nm,0.5s,baz=9.9,slow=6.7,SNR=6.6
LPAZ **La Paz** 32.48 147 P P 04 17 18.1 -1.7
J55A **Hilton** 32.49 11 P P 04 17 19.1 +0.2
baz=194
I42A **Draeger Farm,** 32.53 356 P P 04 17 19.2 0.0
I42A IAmb IAmb 04 17 19.8
comp=Z,15nm,0.9s
I49A **Point Hope** 32.54 4 P P 04 17 19.0 -0.3
I49A IAmb IAmb 04 17 31.6
comp=Z,16nm,0.9s
I51A **Listowel** 32.56 6 P P 04 17 19.7 +0.2
baz=188,SNR=7.6
K59A **Cooperstown** 32.67 15 P P 04 17 21.3 +0.9
baz=200,SNR=6.5
J56A **Wolcott** 32.69 12 P P 04 17 21.1 +0.5
baz=196,SNR=9.3
J56A **Wolcott** 32.69 12 IAmb IAmb 04 17 22.9
comp=Z,25nm,1.1s
X16A **Lo Mia Camp, P** 32.86 318 P P 04 17 23.2 +0.8
I52A **Shelburne** 32.92 7 P P 04 17 22.9 +0.3
baz=190,SNR=5.9
TRY **Troy** 32.94 16 IAmb IAmb 04 17 24.8
comp=Z,12nm,0.9s
L61B **Northampton** 32.96 18 P P 04 17 23.8 +0.8
baz=204
K61A **Williamstown** 32.99 17 P P 04 17 24.8 +1.5
baz=203
J57A **Williamstown** 33.00 13 P P 04 17 23.7 +0.4

baz=197,SNR=7.7
J57A Williamstown 33.00 13 IAmb IAmb 04 17 25.5
comp=Z,12nm,0.9s
H43A Windswept, Lux 33.03 357 IAmb IAmb 04 17 24.4
comp=Z,30nm,0.9s
J58A Remsen 33.11 14 P P 04 17 25.0 +0.7
baz=199,SNR=6.9
J58A Remsen 33.11 14 IAmb IAmb 04 17 26.8
comp=Z,11nm,0.9s
K62A Royalston 33.29 18 P P 04 17 26.9 +1.1
baz=204
PECO Prince Edward 33.30 11 IAmb IAmb 04 17 27.0
comp=Z,12nm,1.0s
J59A Piesco 33.40 15 P P 04 17 28.3 +1.5
baz=200
I55A Frankford 33.44 10 P P 04 17 28.9 +1.8
baz=194
J60A Lant Hill Farm 33.48 16 P P 04 17 28.5 +1.1
baz=202
I58A Old Forge 33.50 14 P P 04 17 28.4 +0.7
baz=199,SNR=5.4
K63A Dunstable 33.53 19 P P 04 17 28.6 +0.7
baz=206
G45A Suttons Bay 33.55 360 IAmb IAmb 04 17 28.1
comp=Z,19nm,0.8s
I57A Carthage 33.58 13 P P 04 17 28.7 +0.4
baz=198,SNR=6.0
ECSD EROS Data Cent 33.62 346 P P 04 17 27.9 -0.8
baz=160
H53A Bobcaygeon 33.64 9 P P 04 17 28.9 +0.1
baz=192,SNR=12
SADO Sadowa 33.75 8 P P 04 17 29.8 +0.1
comp=Z,12nm,0.7s,baz=205,slow=7.4,SNR=19
SADO Sadowa 33.75 8 IAmb IAmb 04 17 30.7
comp=Z,15nm,0.8s
J61A Chester 33.82 17 P P 04 17 31.5 +1.1
baz=203,SNR=5.7
H55A Tweed 33.85 11 P P 04 17 30.8 +0.1
baz=195
I59A Olmsteadville 33.87 15 P P 04 17 31.4 +0.6
baz=201,SNR=5.2
PV18 Skein Mesa, Pa 33.90 326 P P 04 17 30.9 -0.6
J62A Henniker 33.93 18 P P 04 17 32.8 +1.4
baz=205
PV17 East Wray Mesa 33.95 326 P P 04 17 29.3 -2.6
PV17 IAmb IAmb 04 17 29.6
comp=Z,11nm,0.6s
I60A Shoreham 34.07 16 P P 04 17 33.4 +0.9
baz=202,SNR=5.2
H56A Elgin 34.07 12 P P 04 17 33.0 +0.4
baz=196,SNR=9.3
H57A Richville 34.13 13 P P 04 17 33.6 +0.5
baz=198,SNR=5.2
G53A Haliburton 34.17 9 P P 04 17 33.2 -0.2
baz=192,SNR=6.8
J63A Strafford 34.21 19 P P 04 17 33.8 +0.1
baz=206
H58A Gabriels 34.38 15 P P 04 17 35.6 +0.4
baz=200
N23A Red Feather La 34.42 332 P P 04 17 36.7 +0.8
baz=143
I61A Oroboro, Fairl 34.46 17 P P 04 17 37.3 +1.4
baz=204
LONY Lake Ozonia 34.47 14 P P 04 17 36.5 +0.5
baz=199,SNR=9.6
LONY Lake Ozonia 34.47 14 IAmb IAmb 04 17 37.6
comp=Z,20nm,1.1s
G54A Lake Saint Pet 34.52 9 P P 04 17 36.4 0.0
baz=193,SNR=7.7
PDMCI Parker Dam,Lak 34.59 316 P P 04 17 38.6 +1.5
baz=124
G55A Calabogie 34.62 11 P P 04 17 37.2 -0.1
baz=195
I62A Tamworth 34.66 18 P P 04 17 39.1 +1.4
baz=205
H59A Cadyville 34.71 15 P P 04 17 38.2 +0.1
baz=201
F52A Sundridge 34.73 8 P P 04 17 38.2 0.0
baz=191
LBNH Lisbon 34.82 17 P P 04 17 40.3 +1.3
baz=204
GO01 Chusmiza 34.83 152 P P 04 17 38.3 -1.6
G57A Newington 34.83 13 P P 04 17 39.9 +0.9
baz=198
H60A Morristown 34.90 16 P P 04 17 40.2 +0.6
baz=202
E43A Lone Tree Farm 34.91 358 P P 04 17 39.1 -0.6
E43A IAmb IAmb 04 17 40.5
comp=Z,9.9nm,0.6s
O20A White River Ci 34.94 329 P P 04 17 41.3 +0.9
baz=139
E47A Iron Bridge 35.02 3 P P 04 17 40.4 -0.3
baz=184,SNR=6.2
F36A Milaca 35.03 350 P P 04 17 39.9 -0.9
F36A IAmb IAmb 04 17 41.2
comp=Z,8.3nm,0.6s
ORIO Orleans, Innes 35.05 12 P P 04 17 41.0 +0.1
baz=197
I63A Otisfield 35.06 19 P P 04 17 42.4 +1.4
baz=206,SNR=6.2
ALGO Algonquin Park 35.07 9 P P 04 17 40.9 -0.2
baz=193,SNR=9.8
H61A Lyndonville 35.09 17 P P 04 17 42.4 +1.1
baz=204
G58A Ormstown 35.09 14 P P 04 17 41.4 +0.2
baz=200
E48A Lockeyer 35.12 4 P P 04 17 41.6 +0.1
baz=186
BC3 Big Chuckawall 35.15 314 P P 04 17 44.3 +2.2
baz=122
G59A Clarenceville 35.25 15 P P 04 17 43.3 +0.7
baz=201
I64A Boothbay 35.26 20 P P 04 17 43.1 +0.4
baz=208
E52A Mattawa 35.30 8 P P 04 17 42.7 -0.3
baz=192,SNR=6.6
H62A Milan 35.35 18 P P 04 17 44.4 +0.8
baz=205
D46A Sault St. Mari 35.43 2 P P 04 17 43.8 -0.4
baz=183
E51A G1948 Merrick 35.43 7 P P 04 17 44.2 0.0
baz=190,SNR=9.3
G60A Masonville 35.49 16 P P 04 17 45.2 +0.5
baz=203
F33A 5 Mile Ranch, 35.54 347 P P 04 17 44.1 -1.0
F33A IAmb IAmb 04 17 45.4
comp=Z,11nm,0.6s
E53A Dumoine, Ponti 35.54 10 P P 04 17 45.0 -0.2
baz=193,SNR=6.0
D47A Chapleau 35.63 3 P P 04 17 45.2 -0.7
baz=184
E54A Lac Daplat, Po 35.68 10 P P 04 17 46.0 -0.3
baz=194,SNR=5.5
BELC Belle Mtn. Jos 35.72 314 P P 04 17 48.3 +1.3
baz=122
H63A New Sharon 35.78 19 P P 04 17 48.7 +1.5
baz=207
D48A Paudash Townsh 35.83 4 P P 04 17 47.0 -0.6
baz=186,SNR=5.2
PFO Pinyon Flats O 35.84 313 P P 04 17 49.7 +1.6
baz=121
G61A St-Isidore-de- 35.89 17 P P 04 17 49.2 +1.1
baz=204
GMRC Granite Mounta 35.90 315 P P 04 17 49.5 +1.0
baz=123
D49A Beulah Townshi 35.97 5 P P 04 17 48.3 -0.4
baz=187,SNR=5.3
D51A Lot 18 Range I 35.99 7 P P 04 17 48.6 -0.4
baz=190
D52A ZEK Kipawa Sen 36.01 8 P P 04 17 49.3 +0.1
baz=192,SNR=7.3
D50A G1974 Best Tow 36.01 7 P P 04 17 48.8 -0.3
baz=190
H64A Troy 36.03 20 P P 04 17 50.8 +1.5
baz=208
G62A West of Eustis 36.13 18 P P 04 17 51.5 +1.4
baz=206,SNR=7.8
G62A West of Eustis 36.13 18 P P 04 17 50.0 -0.1
G62A IAmb IAmb 04 17 52.1
comp=Z,10nm,0.6s
E56A St. Veronique 36.19 12 P P 04 17 51.1 +0.5
baz=198
D53A Lac Vacive, Po 36.22 9 P P 04 17 51.0 +0.1
baz=193,SNR=8.5
D53A Lac Vacive, Po 36.22 9 P P 04 17 50.6 -0.2
D53A IAmb IAmb 04 17 52.0
comp=Z,12nm,0.9s
E57A Chemin Saint G 36.26 13 P P 04 17 51.5 +0.2
baz=199
G63A Kingsbury 36.32 19 P P 04 17 53.0 +1.2
baz=207
MURC Murrieta 36.37 313 P P 04 17 54.2 +1.8
baz=120
F60A Warwick 36.40 16 P P 04 17 52.7 +0.3
baz=203,SNR=5.8
H65A Eastbrook 36.41 21 P P 04 17 53.9 +1.4
baz=209
E58A La Victoria 36.43 14 P P 04 17 53.0 +0.4
baz=201,SNR=5.2
D54A Lac Fusel, La 36.46 10 P P 04 17 52.8 -0.2
baz=195,SNR=12
D55A Sainte-Anne-du 36.56 12 P P 04 17 53.8 +0.1
baz=197,SNR=13
PKME Peaks-Kenny Pk 36.56 19 P P 04 17 55.1 +1.3
baz=208,SNR=6.7
PKME Peaks-Kenny Pk 36.56 19 IAmb IAmb 04 17 55.7
comp=Z,9.4nm,0.8s
F61A St Evariste 36.67 17 P P 04 17 55.5 +0.7
baz=204
G64A Maxfield 36.73 20 P P 04 17 56.2 +1.0
baz=208
D56A ZEC Mazanza, M 36.73 12 P P 04 17 55.3 +0.1
baz=198
H66A Whiting 36.83 22 P P 04 17 57.5 +1.5
baz=211
D57A Chemin Vers le 36.89 13 P P 04 17 56.8 +0.2
baz=199,SNR=5.6
E60A Ste Agathe de 36.91 16 P P 04 17 56.7 +0.1
baz=204
F62A Pittston Farm, 36.91 18 P P 04 17 57.4 +0.7
baz=206
SHOC Shoshone, Teco 36.93 316 P P 04 17 58.9 +1.8
baz=124
F63A Nahmakanta, Br 37.01 19 P P 04 17 58.3 +0.8
baz=208
F63A Nahmakanta, Br 37.01 19 P P 04 17 56.7 -0.9
G65A Princeton 37.09 21 P P 04 17 59.8 +1.5
baz=210
D58A Chemin du LacG 37.20 14 P P 04 17 59.4 +0.3
baz=201,SNR=7.9
E61A Lac Etchemin 37.23 17 P P 04 18 00.3 +0.8
baz=205
F64A Sherman 37.40 20 P P 04 18 01.8 +1.0
baz=208,SNR=6.6
LATQ La Tuque 37.50 14 P P 04 18 02.5 +0.9
baz=201
TPNV Topopah Spring 37.51 318 P P 04 18 04.2 +2.1
baz=125
TPNV Topopah Spring 37.51 318 P P 04 18 01.8 -0.3
PDAR Pinedale Array 37.57 331 P P 04 18 02.1 -0.5
comp=Z,0.2nm,0.3s,baz=118,slow=11,SNR=7.0
PDAR PcP PcP 04 20 16.6 +0.1
comp=Z,0.1nm,0.3s,baz=165,slow=3.7,SNR=2.1
PDAR ScP ScP 04 23 47.2 +1.1
comp=Z,0.2nm,0.6s,baz=150,slow=3.8,SNR=2.3
E62A Clayton Lake 37.70 18 P P 04 18 04.2 +0.8
baz=206,SNR=5.4
E62A Clayton Lake 37.70 18 P P 04 18 02.2 -1.1
MPMC Manual Prospec 37.84 316 P P 04 18 06.1 +1.1
baz=122
E63A Oxbow 37.87 19 P P 04 18 05.7 +1.0
baz=208,SNR=5.8
E63A Oxbow 37.87 19 P P 04 18 04.7 -0.1
R11A Troy Canyon, C 37.90 320 P P 04 18 06.8 +1.4
baz=127
D61A St Aubert, Com 38.02 17 P P 04 18 06.8 +0.8
baz=205,SNR=5.1
E64A Bridgewater 38.06 20 P P 04 18 07.4 +1.0
baz=209
MDND Maddock 38.21 345 P P 04 18 08.2 +0.6
baz=158
MDND Maddock 38.21 345 P P 04 18 07.0 -0.6
MDND IAmb IAmb 04 18 09.0
comp=Z,14nm,0.6s
PQI Presque Isle 38.22 20 P P 04 18 07.4 -0.3
D62A Allapoint, All 38.25 18 P P 04 18 08.8 +0.9
baz=207,SNR=8.3
D62A Allapoint, All 38.25 18 P P 04 18 07.6 -0.4
D62A IAmb IAmb 04 18 09.9
comp=Z,12nm,0.9s
LSQQ Lebel-sur-Quev 38.26 9 P P 04 18 07.6 -0.3
baz=194
ISA Isabella, Lake 38.32 315 P P 04 18 10.5 +1.7
baz=121
SCZ2 Santa Cruz Isl 38.34 311 P P 04 18 09.7 +0.8
baz=118
CWC Cottonwood Cre 38.45 316 P P 04 18 11.5 +1.4
baz=122
D63A Stockholm 38.51 19 P P 04 18 10.8 +0.7
baz=208,SNR=6.9
VES Vestal, Richgr 38.84 314 P P 04 18 14.5 +1.5
baz=120
MATQ Matagami 38.84 8 P P 04 18 12.3 -0.5
baz=192,SNR=9.5
ELK Elko 39.18 324 P P 04 18 15.8 -0.3
comp=Z,0.3nm,0.3s,baz=216,slow=5.5,SNR=4.0
RLMT Red Lodge 39.26 333 P P 04 18 17.7 +1.1
baz=142
BATG Bathurst New B 39.41 21 P P 04 18 17.8 +0.1
BATG IAmb IAmb 04 18 19.8
comp=Z,17nm,1.1s
CHGQ Chibougamau 39.54 11 P P 04 18 18.1 -0.5
baz=197
ULM Lac du Bonnet 39.67 350 P P 04 18 18.8 -1.0
comp=Z,2.4nm,0.3s,baz=169,slow=16,SNR=3.0
NVAR Mina Array Bea 39.69 318 P P 04 18 22.1 +1.8
comp=Z,1.5nm,0.6s,baz=132,slow=7.5,SNR=15
NVAR PcP PcP 04 20 24.7 +1.5
comp=Z,0.9nm,0.8s,baz=130,slow=4.1,SNR=4.2
NVAR ScP ScP 04 23 55.9 +1.7
comp=Z,0.7nm,0.8s,baz=137,slow=4.5,SNR=5.4
DGMT Dagmar 40.11 341 P P 04 18 25.1 +1.7
baz=151
WAKR Walker 40.47 318 P P 04 18 26.8 +0.1
HLID Hailey 40.60 327 P P 04 18 28.0 +0.3
baz=134
BOZ Bozeman (W) 40.69 332 P P 04 18 28.5 +0.2
baz=139
DRLN Deer Lake 44.39 26 P P 04 18 57.2 -0.6
DRLN IAmb IAmb 04 18 59.2
comp=Z,25nm,0.9s
FFC Flin Flon 45.14 347 P P 04 19 03.1 -0.6
SCHQ Schefferville 45.83 15 P P 04 19 08.4 -0.7
comp=Z,13nm,0.6s,baz=218,slow=5.8,SNR=50
SCHQ Schefferville 45.83 15 P P 04 19 07.9 -1.2
SCHQ IAmb IAmb 04 19 09.4
comp=Z,22nm,1.1s
BDFB Brasilia 45.90 125 P P 04 19 09.7 -0.7
comp=Z,4.8nm,0.6s,baz=300,slow=12,SNR=9.0
CPUP Villa Florida 46.49 144 P P 04 19 14.3 -0.3
comp=Z,2.2nm,1.0s,baz=332,slow=7.3,SNR=4.8
CPUP Villa Florida 46.49 144 P P 04 19 13.9 -0.8
FRB Frobisher Bay 53.68 9 P P 04 20 07.0 -1.1
comp=Z,8.4nm,0.5s,baz=219,slow=7.7,SNR=18
PLCA Paso Flores 53.68 166 P P 04 20 07.9 -0.7
comp=Z,1.0nm,0.6s,baz=344,slow=11,SNR=3.7
PLCA Paso Flores 53.68 166 P P 04 20 07.4 -1.2
YKA Yellowknife Ar 55.13 344 P P 04 20 18.0 -0.5
comp=Z,1.4nm,0.6s,baz=145,slow=6.7,SNR=7.4
YKA pP pP 04 21 02.1 +0.7
comp=Z,1.9nm,0.8s,baz=133,slow=7.5,SNR=5.1
RES Resolute Bay 63.51 357 P P 04 21 16.4 +0.5
comp=Z,2.1nm,0.9s,baz=163,slow=8.1,SNR=4.4
ILAR Eielson Array 67.72 336 P P 04 21 42.4 -0.6
comp=Z,1.0nm,0.6s,baz=121,slow=4.2,SNR=11
ILAR pP pP 04 22 27.1 -0.4
comp=Z,0.5nm,0.8s,baz=121,slow=6.4,SNR=3.1
ESDC Sonseca Array 76.45 52 P P 04 22 34.8 -0.5
comp=Z,2.4nm,0.7s,baz=282,slow=5.8,SNR=22
ESDC pP pP 04 23 20.4 -0.6
comp=Z,0.5nm,0.8s,baz=278,slow=7.4,SNR=3.2
ESBB Sonseca Array 76.45 52 P P 04 22 34.5 -0.9
DBIC Dimbokro 79.70 85 P P 04 22 53.6 0.0
comp=Z,3.2nm,0.8s,baz=349,slow=3.8,SNR=3.8
DBIC Dimbokro 79.70 85 P P 04 22 52.4 -1.2
NB2 NORSAR Subarra 83.44 29 P P 04 23 11.3 -1.1
comp=Z,1.6nm,0.8s,baz=282,slow=5.3
NOA NORSAR Array B 83.44 29 P P 04 23 11.2 -1.2
comp=Z,1.7nm,1.0s,baz=284,slow=5.2,SNR=4.7
TORD Torodi Ar. Bea 84.90 78 P P 04 23 19.0 -1.6
comp=Z,0.8nm,0.7s,baz=290,slow=5.4,SNR=9.0
FUORN Ofenpass-Fuorn 85.84 43 P P 04 23 23.9 -1.0
ARCES ARCESS Array B 86.62 19 P P 04 23 28.6 +0.6
comp=Z,0.7nm,0.7s,baz=298,slow=5.1,SNR=6.3
KHC Kasperske Hory 87.44 40 *eP* P 04 23 31.5 -0.9
GERES GERESS Array B 87.59 41 P P 04 23 32.5 -0.7
comp=Z,0.7nm,0.7s,baz=282,slow=4.6,SNR=4.0
LZH Lanzhou 131.96 350 *e*PKP PKiKP 04 30 03.8 +4.9
LZH sPKP 04 31 02.8
STKA Stephens Creek 132.03 237 PKP PKPdf 04 29 58.7 +0.9
comp=Z,0.7nm,0.5s,baz=269,slow=1.9,SNR=5.1
STKA Stephens Creek 132.03 237 PKPdf 04 29 57.1 -0.7
CD2 Chengdu 137.01 348 PKP PKPdf 04 30 06.2 -1.1
ASAR Alice Springs 140.50 247 PKhKP PKPpre 04 30 09.3
comp=Z,0.6nm,0.5s,baz=121,slow=3.6,SNR=3.8
ASAR PKP PKPdf 04 30 14.8 +1.0
comp=Z,2.7nm,0.6s,baz=102,slow=1.8,SNR=14
ASAR SKPbc SKPbc 04 33 31.9 -0.6
comp=Z,1.2nm,0.8s,baz=100,slow=2.6,SNR=4.7
WRA Warramunga Arr 140.66 252 PKhKP PKPpre 04 30 08.9
comp=Z,3.1nm,0.6s,baz=90,slow=2.0,SNR=6.0
WRA PKP PKPdf 04 30 15.4 +1.3
comp=Z,3.9nm,0.7s,baz=92,slow=2.1,SNR=27
WRA SKPbc SKPbc 04 33 33.9 +0.9
comp=Z,1.6nm,0.9s,baz=86,slow=2.1,SNR=5.2

MEX ***05*** *04:33:28.7±0.6, 14°.27N×91°.85W, h117km±40km, MD3.6*
GCG ***05*** *04:33:29.2±0.5, 13°.94N×91°.59W, h26km±5km, MD3.7*
ISC 05 04:33:28.4±3.7, 14°.0N±0°.3×91°.7W±0°.1, h61km, n5, σ0°47/9,
Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FUG	Fuego 3	0.97	63	*e*P	P	Pn	04 33 45.9	-0.4
FUG				*e*S	S	Sn	04 33 59.1	-0.4
THIG		1.04	330	*i* P	P	Pn	04 33 46.9	-0.2
THIG				*e*S	S	Sn	04 34 01.1	+0.3
PCG	Pacaya	1.16	70	*e*P	P	Pn	04 33 49.2	+0.3
PCG				*e*S	S	Sn	04 34 04.7	+0.7
IXG	Ixpaco	1.26	82	*e*P	P	Pn	04 33 50.2	+0.1
IXG				*e*S	S	Sn	04 34 05.9	-0.5
NBG	Las Nubes	1.47	66	*e*P	P	Pn	04 33 53.2	+0.2

NIED ***05*** *04:53:48.1, 28°.06N×128°.16E, h9km, MW3.8, Moment Tension Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-0.41; Mθθ3.90; Mφφ-3.49; Mrθ-2.66; Mθφ-0.20; Mφr2.28; Fault plane solution: M₀5.09000×10¹⁴ NP1: φs134.00000°, δ88.00000°, λ-44.00000°. NP2: φs226.00000°, δ46.00000°, λ-177.00000°.*
JMA 05 04:53:48.0±0.2, 28°.06N×128°.16E, h9km±3km, M3.5,
Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.75	111	P	P	Pg	04 54 02.3	-0.2
JTK				*e*S	S	Sg	04 54 12.5	+0.2
JOKE	Okinoerabujima	0.79	152	P	S	Pg	04 54 03.3	+0.2
JOKE				*e*S	S	Sg	04 54 13.4	0.0
JAMN	Amaminishikomi	0.92	78	P	S	Pg	04 54 05.4	-0.2
JAMN				S	S	Sg	04 54 17.6	+0.1
JIH	Iheya	1.04	190	P	S	Pg	04 54 07.2	-0.7
JIH				*e*S	S	Sg	04 54 20.8	-0.6
JYRO	Yoronjima	1.06	166	P	S	Pg	04 54 08.2	-0.2
JYRO				*e*S	S	Sg	04 54 22.3	+0.1
JOW	Kunigami	1.23	175	P	P	Pn	04 54 11.0	-0.4
JOW				*e*S	S	Sb	04 54 27.0	-0.3
JAM	Amami Oshima	1.32	74	P	P	Pn	04 54 12.5	-0.1
JAM				*e*S	S	Sb	04 54 29.8	-0.2
JTAJ	Takarajima	1.42	40	P	P	Pn	04 54 14.3	+0.3
JTAJ				*e*S	S	Sb	04 54 33.0	0.0
JNTH	Nagotoyohara	1.54	185	P	P	Pn	04 54 15.5	-0.1

NEIC ***05*** *04:57:26.6±1.1, 21°.5S±0°.1×176°.6W±0°.1, h191km±9km, mb4.3/17, Error ellipse: s-maj=19.7km s-min=14.8km az=119.0*
IDC ***05*** *04:57:27.4±3.2, 21°.35S×176°.71W, h191km±36km, mb3.9/4, mb1 4.0/6, mb1mx3.5/30, mbtmp4.4/6, Error ellipse: s-maj=36.0km s-min=22.4km az=117.0*
ISC 05 04:57:25.9±0.6, 21°.41S±0°.08×176°.56W±0°.08, h183km,
n39, σ1°43/37, mb4.2/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NIUE	Niue	6.65	71	Pn	P	Pn	04 59 02.6	+1.1
NIUE						Sn	05 00 17.6	+0.7
RAO	Raoul Island	7.91	189	Pn	P	Pn	04 59 18.2	+0.3
AFI	Afiamalu	8.74	32	P	P	Pn	04 59 31.1	+2.0
	4.0nm,0.3s,baz=164,slow=22,SNR=1.4							
AFI				S		Sn	05 01 01.9	-5.0
	5.6nm,0.3s,baz=92,slow=22,SNR=1.4							
AFI	Afiamalu	8.74	32			Pn	04 59 30.8	+1.7
AFI						Sn	05 01 07.4	+0.5
DZM	Mont Dzumac	15.81	264	P	P	P	05 01 03.1	+4.1
	0.7nm,0.3s,baz=99,slow=11,SNR=6.0							
DZM	Mont Dzumac	15.81	264	P	P	P	05 00 59.8	+0.8
DZM					IAmb	IAmb	05 01 05.4	
	comp=Z,15nm,1.1s							
URZ	Urewera	17.66	197	P	P	P	05 01 18.5	-0.5
	comp=Z,0.6nm,0.3s,baz=4.9,slow=17,SNR=2.5							
URZ				S	S		05 04 18.1	-15
	comp=Z,1.0nm,0.3s,baz=333,slow=23,SNR=1.6							
URZ	Urewera	17.66	197	P	P	P	05 01 18.6	-0.4
URZ					IAmb	IAmb	05 01 27.2	
	comp=Z,8.0nm,1.0s							
MSWZ	Moikau Station	21.11	197	P	P	P	05 01 55.9	-0.3
QRZ	Quartz Range	21.46	203	P	P	P	05 01 59.9	0.0
THZ	Tophouse	22.15	201	P	P	P	05 02 05.7	-1.3
KHZ	Kahutara	22.54	199	P	P	P	05 02 10.8	+0.4
KHZ					IAmb	IAmb	05 02 22.2	
	comp=Z,12nm,1.1s							
RPZ	Rata Peaks	24.52	202	P	P	P	05 02 29.7	+1.3
	comp=Z,11nm,0.6s,baz=33,slow=1.9,SNR=9.1							
RPZ	Rata Peaks	24.52	202	P	P	P	05 02 27.8	-0.6
RPZ					IAmb	IAmb	05 02 30.7	
	comp=Z,8.5nm,0.7s							
WKZ	Wanaka	26.21	204	P	P	P	05 02 43.4	-0.3
EIDS	Eidsvold	29.92	256	P	P	P	05 03 16.7	-0.1
EIDS					IAmb	IAmb	05 03 21.3	
	comp=Z,6.9nm,1.1s							
CTAO	Charters Tower	34.75	265	P	P	P	05 03 59.8	+0.9
CTAO					IAmb	IAmb	05 04 01.5	
	comp=Z,10nm,1.1s							
STKA	Stephens Creek	38.62	245	P	P	P	05 04 32.1	+0.6
	comp=Z,1.3nm,0.4s,baz=100,slow=12,SNR=5.8							
STKA	Stephens Creek	38.62	245	P	P	P	05 04 30.7	-0.9
BBOO	Buckleboo	43.36	244	P	P	P	05 05 08.0	-2.3
WR0	Warramunga Arr	45.62	263	P	P	P	05 05 27.6	-0.7
AS31	Alice Springs	45.63	257	P	P	P	05 05 28.3	0.0
ASAR	Alice Springs	45.63	257	P	P	P	05 05 27.9	-0.4
	comp=Z,3.8nm,0.6s,baz=97,slow=7.7,SNR=28							
ASAR				PcP	PcP	PcP	05 07 03.5	-0.1
	comp=Z,1.3nm,0.6s,baz=109,slow=3.5,SNR=6.7							
WB0	Warramunga Arr	45.80	263	P	P	P	05 05 29.0	-0.7
WB2	Warramunga Arr	45.80	263	P	P	P	05 05 29.0	-0.7
WB2					IAmb	IAmb	05 05 30.4	
	comp=Z,5.2nm,0.8s							
WRA	Warramunga Arr	45.81	263	P	P	P	05 05 29.0	-0.8
	comp=Z,1.8nm,0.5s,baz=98,slow=7.4,SNR=20							
FORT	Forrest	50.18	247	P	P	P	05 06 01.6	-1.5
FORT					IAmb	IAmb	05 06 04.3	
	comp=Z,13nm,0.8s							
KNRA	Kununurra	51.94	266	P	P	P	05 06 16.2	-0.2
FITZ	Fitzroy Crossi	54.24	263	P	P	P	05 06 32.5	-0.7
CASY	Casey	63.72	206	P	P	P	05 07 36.7	-0.9
CASY					IAmb	IAmb	05 07 37.9	
	comp=Z,2.5nm,0.9s							
QSPA	South Pole Qui	68.67	180	P	P	P	05 08 09.0	-0.3
H03S2	Juan Fernandez	84.37	124	T	T		06 42 23.0	
	baz=246,slow=75,SNR=18							
H03S1	Juan Fernandez	84.38	124	T	T		06 42 16.5	
	baz=246,slow=75,SNR=22							
H03S3	Juan Fernandez	84.39	124	T	T		06 42 23.8	
	baz=246,slow=75,SNR=20							
H03N2	Juan Fernandez	84.51	124	T	T		06 42 30.7	
	baz=251,slow=72,SNR=9.0							
H03N3	Juan Fernandez	84.51	124	T	T		06 42 31.4	
	baz=251,slow=72,SNR=9.9							
H03N1	Juan Fernandez	84.53	124	T	T		06 42 31.0	
	baz=251,slow=72,SNR=7.6							
AKASG	Malin Array Be	144.45	332	PKP		PKPab	05 16 38.0	-0.9
	comp=Z,2.1nm,0.6s,baz=38,slow=4.1,SNR=6.0							
BRTR	Keskin Array B	148.44	312	PKPbc		PKPbc	05 16 51.4	+0.2
	comp=Z,1.7nm,0.7s,baz=157,slow=3.7,SNR=4.3							

*IEPN **05** 05:04:16.0, 84°.19N×1°.58E, h15km*
ISC 05 05:04:13.7±2.2, **84°.0N**±0°.1×**3°.09E**±0°.10, **h10**km, **n10**, σ1°71/16, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**3.45**	**236**	*i* P	**Pn**	**05 05 07.0**	**-0.3**
NOR	**Nord**	**3.45**	**236**	*i* P	**Pn**	**05 05 07.0**	**-0.3**
KBS	**Kingsbay**	**5.28**	**161**	*eP*	**Pn**	**05 05 33.7**	**+1.3**
KBS				*eS*	**Sn**	**05 06 31.8**	**-1.3**
KBS	**Kingsbay**	**5.28**	**161**	*eP*	**Pn**	**05 05 33.9**	**+1.6**
KBS				*eS*	**Sn**	**05 06 32.6**	**-0.6**
KBS	comp=Z,5.2nm,0.6s			IAML		05 06 36.8	
SPA0	**Spitsbergen Ar**	**6.19**	**154**	*eP*	**Pn**	**05 05 47.0**	**+2.0**
SPA0				*eS*	**Sn**	**05 06 55.0**	**-0.7**
SPA0	**Spitsbergen Ar**	**6.19**	**154**	*eP*	**Pn**	**05 05 47.1**	**+2.2**
SPA0				*eS*	**Sn**	**05 06 54.8**	**-0.9**
SPA0	comp=Z,3.8nm,0.9s			IAML		05 06 55.6	
ZFI2	**Zemlya Franca-**	**6.50**	**95**	*eP*	**Pn**	**05 05 50.4**	**+1.2**
ZFI2				*eS*	**Sn**	**05 07 00.7**	**-2.6**
	comp=Z,26nm,0.3s						
HSPB	**Hornsund (broa**	**7.32**	**157**	*eP*	**Pn**	**05 06 03.0**	**+2.7**
HSPB				S	**Sn**	**05 07 21.6**	**-1.7**
HOPEN	**Hopen**	**8.30**	**143**	*eP*	**Pn**	**05 06 14.7**	**+1.0**
DBG	**Daneborg**	**10.53**	**216**	*eP*	**Pn**	**05 06 42.9**	**-1.4**

*NEIC **05** 05:10:13.9±1.9, 6°.60S±0°.06×129°.94E±0°.09, h177km±9km, mb4.3/5, Error ellipse: s-maj=13.5km s-min=8.9km az=99.0*
*IDC **05** 05:10:13.0±2.0, 6°.65S×129°.88E, h156km±20km, mb3.6/7, mb1 3.8/12, mb1mx3.6/44, mbtmp4.2/12, Error ellipse: s-maj=27.7km s-min=13.4km az=79.0*
ISC 05 05:10:12.1±0.6, **6.73S**±0°.05×**129°.93E**±0°.07, **h146**km, **n27**, σ2°71/33, **mb3.8/9, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.84**	**133**		Pn	05 10 51.0	+5.8
FAKI	**Fak Fak**	**4.43**	**31**		**Pn**	**05 11 18.9**	**+0.9**
SIJI	**Sorong**	**5.97**	**13**	P	**Pn**	**05 11 38.6**	**+0.3**
SIJI	16nm,0.3s,baz=70,slow=5.4,SNR=92			S	**Sn**	**05 12 41.3**	**-4.5**
	13nm,0.3s,baz=108,slow=22,SNR=5.0						
MTN	**Manton Dam**	**6.19**	**169**		**Pn**	**05 11 44.4**	**+3.1**
SOEI	**Soe**	**6.37**	**241**	Pn	**Pn**	**05 11 47.3**	**+3.5**
SOEI					**Sn**	**05 12 57.8**	**+2.3**
BATI	**Baumata**	**7.10**	**240**	P	**Pn**	**05 11 55.5**	**+2.0**
BATI	16nm,0.3s,baz=65,slow=5.5,SNR=6.8			S	**Sn**	**05 13 12.2**	**-0.9**
	15nm,0.3s,baz=96,slow=21,SNR=7.5						
KNRA	**Kununurra**	**8.97**	**187**		**Pn**	**05 12 20.4**	**+2.0**
FITZ	**Fitzroy Crossi**	**12.05**	**200**	P	**Pn**	**05 12 59.5**	**+0.3**
	1.2nm,0.3s,baz=17,slow=9.5,SNR=44						
FITZ				S	**Sn**	**05 15 05.4**	**-7.0**
	1.2nm,0.3s,baz=111,slow=9.5,SNR=6.7						
FITZ	**Fitzroy Crossi**	**12.05**	**200**	Pn	**Pn**	**05 12 59.9**	**+0.6**
FITZ					**Sn**	**05 15 07.5**	**-4.9**
WB0	**Warramunga Arr**	**13.67**	**162**	Pn	**Pn**	**05 13 20.7**	**+0.7**
WRA	**Warramunga Arr**	**13.82**	**162**	P	**Pn**	**05 13 21.9**	**0.0**
WRA	0.6nm,0.3s,baz=340,slow=8.1,SNR=25			S	**Sn**	**05 15 49.6**	**-5.3**
	2.6nm,0.3s,baz=333,slow=22,SNR=11						
WB2	**Warramunga Arr**	**13.82**	**162**	P	**P**	**05 13 27.4**	**+1.9**
WR0	**Warramunga Arr**	**13.89**	**162**	Pn	**Pn**	**05 13 25.4**	**+2.5**
COEN	**Coen**	**14.87**	**120**		**Pn**	**05 13 37.7**	**+2.5**
AS31	**Alice Springs**	**17.27**	**168**		**Pn**	**05 14 06.5**	**+2.0**
AS31	comp=Z,4.2nm,0.9s			IAmb	IAmb	05 14 09.3	
ASAR	**Alice Springs**	**17.27**	**168**	P	**P**	**05 14 05.2**	**+1.5**
ASAR	comp=Z,1.5nm,0.3s,baz=346,slow=9.6,SNR=44			S	**S**	**05 17 11.3**	**-5.0**
	comp=Z,0.4nm,0.3s,baz=354,slow=26,SNR=6.5						
FORT	**Forrest**	**23.99**	**184**	P	**P**	**05 15 14.1**	**+0.8**
FORT				IAmb	IAmb	05 15 27.9	
	comp=Z,12nm,0.8s						
BBOO	**Buckleboo**	**26.57**	**168**	P	**P**	**05 15 37.2**	**+0.7**
STKA	**Stephens Creek**	**27.29**	**158**	P	**P**	**05 15 44.1**	**+1.1**
	comp=Z,2.3nm,0.3s,baz=331,slow=8.2,SNR=9.8						
STKA	**Stephens Creek**	**27.29**	**158**	P	**P**	**05 15 43.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**39.51**	**310**	P	**P**	**05 17 27.7**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=146,slow=7.4,SNR=1.5						
SONM	**Songino Array**	**58.16**	**342**	P	**P**	**05 19 50.2**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=174,slow=7.3,SNR=3.3						
PETK	**Petropavlovsk-**	**64.09**	**18**	P	**P**	**05 20 30.4**	**0.0**
	comp=Z,0.6nm,0.6s,baz=199,slow=8.3,SNR=1.6						
MK31	**Makanchi Array**	**67.96**	**327**	P	**P**	**05 20 53.1**	**-2.1**
MK31	comp=Z,5.0nm,0.7s			IAmb	IAmb	05 20 55.6	
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**05 20 54.8**	**-0.5**
	comp=Z,9.2nm,0.7s,baz=120,slow=8.2,SNR=37						
ZALV	**Zalesovo Beam**	**71.31**	**334**	P	**P**	**05 21 13.9**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=139,slow=9.0,SNR=4.5						
VNDA	**Vanda**	**72.73**	**173**	P	**P**	**05 21 24.3**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=307,slow=4.9,SNR=4.5						

*KRSC **05** 05:13:53.4±0.9, 53°.60N×160°.81E, h52km±17km, ML4.1*
*IDC **05** 05:13:58.0±2.5, 53°.86N×160°.41E, h72km±26km, mb3.3/8, mb1 3.5/9, mb1mx3.3/49, mbtmp3.6/9, Error ellipse: s-maj=31.4km s-min=20.4km az=169.0*
ISC 05 05:13:55.3±1.0, **53°.61N**±0°.04×**160°.71E**±0°.05, **h51**km±10km, **n57**, σ1°36/69, **mb3.5/8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.66**	**219**	*eP*	**Pn**	**05 14 08.3**	**-0.3**
SPN				*eS*	**Sn**	**05 14 17.7**	**-0.5**
KII	**Karymskiy**	**0.86**	**300**	*i* P	**Pn**	**05 14 11.3**	**+0.1**
KII				*eS*	**Sn**	**05 14 23.1**	**+0.2**
NLC	**Nalytchevo**	**0.93**	**242**	*eP*	**Pn**	**05 14 12.2**	**+0.1**
NLC				*eS*	**Sn**	**05 14 24.8**	**+0.4**
SDLR	**Sedlovina**	**1.14**	**254**	*eP*	**Pn**	**05 14 15.5**	**+0.4**
SMAR	**Somma**	**1.20**	**254**	*eP*	**Pn**	**05 14 16.3**	**+0.4**
UGLR	**Uglovaya**	**1.20**	**251**	*eP*	**Pn**	**05 14 16.6**	**+0.8**
KRER	**Koryakskii**	**1.22**	**256**	*eP*	**Pn**	**05 14 17.1**	**+1.0**
KRER				*eS*	**Sn**	**05 14 32.7**	**+1.1**
AVH	**Avacha**	**1.23**	**254**	*eP*	**Pn**	**05 14 17.2**	**+1.0**
KRX	**Arik**	**1.26**	**259**	*eP*	**Pn**	**05 14 17.3**	**+0.6**
KRX				*eS*	**Sn**	**05 14 32.8**	**+0.2**
KOK	**Koryaka**	**1.28**	**256**	*eP*	**Pn**	**05 14 17.6**	**+0.7**
DALK	**Dalny**	**1.31**	**244**	*eP*	**Pn**	**05 14 17.5**	**+0.3**
DALK				*eS*	**Sn**	**05 14 33.9**	**+0.3**
KZV	**Kizimen**	**1.52**	**351**	*eP*	**Pn**	**05 14 20.8**	**+0.6**
KZV				*eS*	**Sn**	**05 14 39.2**	**+0.2**
TUMD	**Tumrok D**	**1.60**	**354**	*eP*	**Pn**	**05 14 21.5**	**+0.3**
TUMD				*eS*	**Sn**	**05 14 40.5**	**-0.3**
TUMR	**Tumrok**	**1.71**	**349**	*i* P	**Pn**	**05 14 23.8**	**+1.1**
TUMR				*eS*	**Sn**	**05 14 44.0**	**+0.6**
KRMR	**Karymshinskiy**	**1.74**	**244**	*eP*	**Pn**	**05 14 23.8**	**+0.8**
KRMR				*eS*	**Sn**	**05 14 44.7**	**+0.7**
RUS	**Russkaya**	**1.78**	**229**	*eP*	**Pn**	**05 14 23.9**	**+0.3**
RUS				*eS*	**Sn**	**05 14 44.6**	**-0.4**
PETK	**Petropavlovsk-**	**1.88**	**256**	P	**Pn**	**05 14 26.1**	**+1.2**
PETK	20nm,0.3s,baz=80,slow=17,SNR=86			S	**Sn**	**05 14 49.2**	**+1.8**
	27nm,0.3s,baz=46,slow=19,SNR=5.4						
PETK				LR	LR	05 15 19.8	
	comp=Z,123nm,20.1s,baz=62,slow=46						
MTVR	**Mutnovka**	**1.90**	**234**	*eP*	**Pn**	**05 14 27.0**	**+1.6**
MTVR				*eS*	**Sn**	**05 14 49.6**	**+1.4**
GRL	**Gorelyy**	**1.92**	**237**	*eP*	**Pn**	**05 14 26.6**	**+1.0**
ASAK	**Asacha**	**2.10**	**235**	*eP*	**Pn**	**05 14 29.8**	**+1.8**
KMNR	**Kamenistaya**	**2.17**	**353**	*eP*	**Pn**	**05 14 30.5**	**+1.5**
APC	**Apacha**	**2.24**	**254**	*eP*	**Pn**	**05 14 31.2**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**2.33**	**360**	*eP*	**Pn**	**05 14 32.3**	**+1.1**
KIRR	**Kirishev**	**2.35**	**355**	*eP*	**Pn**	**05 14 33.0**	**+1.4**
BZWR	**Bezymyannyi-We**	**2.36**	**357**	*eP*	**Pn**	**05 14 33.3**	**+1.6**
KPT	**Kopyto**	**2.38**	**353**	*eP*	**Pn**	**05 14 32.9**	**+1.1**
ZLN	**Zelenaya**	**2.41**	**1**	*eP*	**Pn**	**05 14 34.3**	**+2.0**
KDTR	**Khodutka, Kamc**	**2.42**	**223**	*eP*	**Pn**	**05 14 34.1**	**+1.8**
KDTR				*eS*	**Sn**	**05 15 01.8**	**+1.2**
LGNR	**Loginova**	**2.48**	**360**	*eP*	**Pn**	**05 14 35.9**	**+2.5**
KOZ	**Kozyrevsk**	**2.50**	**349**	*eP*	**Pn**	**05 14 34.5**	**+1.1**
CIRR	**Tsirk**	**2.51**	**0**	*eP*	**Pn**	**05 14 35.7**	**+2.0**
KLY	**Klyuchi**	**2.71**	**359**	*eP*	**Pn**	**05 14 37.1**	**+0.9**
MIPR	**Malaya Ipel'ka**	**2.74**	**242**	*eP*	**Pn**	**05 14 38.8**	**+2.0**
SRDR	**Sredinnyy**	**2.77**	**348**	*eP*	**Pn**	**05 14 37.9**	**+0.7**
KBTR	**Krutoberegovo**	**2.87**	**24**	*eP*	**Pn**	**05 14 40.6**	**+2.1**
KBTR				*eS*	**Sn**	**05 15 12.9**	**+1.1**
KBG	**Krutoberegovo**	**2.89**	**23**	*eP*	**Pn**	**05 14 41.1**	**+2.4**
KBG				*eS*	**Sn**	**05 15 14.2**	**+2.1**
BDR	**Baidarnaya**	**2.98**	**5**	*eP*	**Pn**	**05 14 41.3**	**+1.3**
BDR				*eS*	**Sn**	**05 15 14.6**	**+0.1**
SMKR	**Semkarok**	**3.01**	**8**	*eP*	**Pn**	**05 14 42.1**	**+1.7**
SRKR	**Sorokina**	**3.06**	**5**	*eP*	**Pn**	**05 14 43.0**	**+1.9**
PAU	**Pauzhetka**	**3.21**	**229**	*eP*	**Pn**	**05 14 45.7**	**+2.6**
BKI	**Bering**	**3.46**	**60**	*eP*	**Pn**	**05 14 46.9**	**+0.3**
BKI				*eS*	**Sn**	**05 15 23.2**	**-3.1**
KLR	**Kul'dur**	**18.52**	**268**	P	**P**	**05 18 04.9**	**-2.3**
	0.1nm,0.3s,baz=86,slow=19,SNR=1.9						
ILAR	**Eielson Array**	**28.18**	**46**	P	**P**	**05 19 42.2**	**-0.3**
	0.6nm,0.7s,baz=262,slow=8.8,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**34.16**	**170**	T	T	05 57 07.0	
	baz=353,slow=76,SNR=157						
H11N3	**WAKE ISLAND Hy**	**34.17**	**170**	T	T	05 57 08.6	
	baz=353,slow=76,SNR=176						
H11N1	**WAKE ISLAND Hy**	**34.17**	**170**	T	T	05 57 05.4	
	baz=353,slow=76,SNR=166						
H11S1	**WAKE ISLAND Hy**	**35.34**	**170**	T	T	05 58 26.2	
	baz=352,slow=76,SNR=8.6						
H11S3	**WAKE ISLAND Hy**	**35.36**	**170**	T	T	05 58 24.3	
	baz=352,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**35.36**	**170**	T	T	05 58 24.5	
	baz=352,slow=76,SNR=6.5						
MKAR	**Makanchi Array**	**48.26**	**296**	P	**P**	**05 22 28.9**	**-2.0**
	0.2nm,0.5s,baz=62,slow=7.7,SNR=1.8						
NVAR	**Mina Array Bea**	**55.22**	**71**	P	**P**	**05 23 25.2**	**+2.2**
	0.2nm,0.5s,baz=302,slow=7.4,SNR=1.9						
FINES	**FINESS Array B**	**59.79**	**337**	P	**P**	**05 23 53.1**	**-1.4**
	1.3nm,0.6s,baz=29,slow=8.8,SNR=7.3						
NB2	**NORSAR Subarra**	**63.15**	**344**	P	**P**	**05 24 16.3**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**63.15**	**344**	P	**P**	**05 24 16.3**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=20,slow=6.4,SNR=5.4						
AKASG	**Malin Array Be**	**68.36**	**329**	P	**P**	**05 24 49.4**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=27,slow=6.8,SNR=3.4						
TXAR	**Lajitas Array**	**70.09**	**68**	P	**P**	**05 25 02.5**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=304,slow=5.3,SNR=6.0						
ASAR	**Alice Springs**	**80.39**	**205**	P	**P**	**05 26 02.2**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=17,slow=7.3,SNR=2.6						

*IDC **05** 05:39:14.5±58.0, 2°.62S×98°.70E, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.5/32, mbtmp3.9/3, Error ellipse: s-maj=1160.0km s-min=175.6km az=173.0*
*DJA **05** 05:39:34.7±0.8, 0°.5±3°×9°.9E±°, h25km±12km, M3.4/6, MLv3.4/6*
ISC 05 05:39:32.3±1.0, **0°.38S**±0°.06×**98°.71E**±0°.07, **h10**km, **n10**, σ0°77/12, **mb3.9/3, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.54**	**307**	P	**Pn**	**05 39 46.5**	**+0.4**
SISI	**Saibi**	**1.01**	**158**	P	**Pn**	**05 39 53.6**	**+1.0**
SISI				S	**Sn**	**05 40 06.1**	**-0.9**
MNSI	**Mandailing Nat**	**1.45**	**37**	P	**Pb**	**05 39 59.3**	**-0.2**
MNSI				S	**Sb**	**05 40 17.9**	**-0.1**
SBSI	**Sibolga**	**1.92**	**5**	P	**Pb**	**05 40 06.9**	**-0.6**
GSI	**Gunungsitoli**	**2.02**	**326**	P	**Pn**	**05 40 07.6**	**+1.1**
SDSI	**Sungai Dareh**	**2.77**	**101**	P	**Pn**	**05 40 17.8**	**+1.0**
KRJI	**Kerinci**	**3.23**	**122**	P	**Pn**	**05 40 23.4**	**+0.1**
SONM	**Songino Array**	**48.48**	**7**	P	**P**	**05 48 15.9**	**+0.5**
	0.8nm,0.7s,baz=185,slow=8.0,SNR=4.0						
MKAR	**Makanchi Array**	**49.14**	**345**	P	**P**	**05 48 20.2**	**-0.1**
	0.7nm,0.5s,baz=152,slow=7.7,SNR=8.7						
ZALV	**Zalesovo Beam**	**55.35**	**350**	P	**P**	**05 49 05.6**	**-0.8**
	1.0nm,0.4s,baz=179,slow=8.0,SNR=4.4						

IDC 05 05:49:40.3±3.1, **31°.95S×177°.99W, h0**km, **mb3.7**/2, **mb1 4.0**/3, **mb1mx3.7**/33, **mbtmp3.8**/3, **ML3.2**/1, **Error ellipse: s-maj=73.0km s-min=36.9km az=116.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.46**	**211**	Pn	Pn	05 51 29.8	-0.6
	0.4nm,0.3s,baz=27,slow=4.5,SNR=1.9						
URZ				Sn	Sn	05 52 55.5	-0.2
	1.5nm,0.3s,baz=201,slow=20,SNR=7.6						
ASAR	**Alice Springs**	**43.06**	**269**	P	P	05 57 42.2	+0.1
	0.4nm,0.5s,baz=111,slow=7.5,SNR=5.0						
WRA	**Warramunga Arr**	**44.19**	**274**	P	P	05 57 51.3	0.0
	0.9nm,0.6s,baz=112,slow=7.9,SNR=8.6						
FINES	**FINESS Array B**	**146.60**	**339**	PKPbc	PKPdf	06 09 22.1	+0.6
	1.1nm,0.6s,baz=68,slow=4.9,SNR=6.5						

*MAN **05** 06:00:42.1, 4°.94N×126°.58E, h59km, MS4.5*
*IDC **05** 06:00:49.7±1.2, 5°.28N×126°.22E, h68km±11km, mb3.9/19, mb1 4.0/21, mb1mx3.8/60, mbtmp4.2/21, MS3.4/12, Ms1 3.5/12, ms1mx3.2/47, Error ellipse: s-maj=28.5km s-min=8.4km az=73.0*
*NEIC **05** 06:00:50.4±1.6, 5°.23N±0°.05×126°.2E±0°.1, h74km±8km, mb4.5/14, Error ellipse: s-maj=21.1km s-min=3.6km az=73.0*
*DJA **05** 06:00:55.2±0.4, 5°.1N±3°×12°.6E±°, h44km±9km, M4.8/9, mB5.4/4, mb4.8/7, MLv4.8/9, Mw(mB)4.9/4*
ISC 05 06:00:49.2±1.1, **5°.27N**±0°.04×**126°.41E**±0°.07, **h58**km±10km, **n69**, σ1°76/65, **mb4.4**/28, **MS3.4**/10, **1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.08**	**320**	*eP*	**Pn**	**06 01 05.8**	**-2.4**
DDMP				*eS*	**Sn**	**06 01 19.6**	**-2.8**
MATI	**Mati**	**1.68**	**355**	*eP*	**Pn**	**06 01 15.1**	**-1.2**
MATI				*eS*	**Sn**	**06 01 39.0**	**+2.4**
DAV	**Davao City (W)**	**1.97**	**335**	P	**Pn**	**06 01 18.8**	**-1.4**
DAV	146nm,0.3s,baz=163,slow=1.1,SNR=4.7			S	**Sn**	**06 01 43.3**	**-0.6**
	276nm,0.3s,baz=243,slow=23,SNR=12						
DAV				LR	LR	06 02 20.9	
	comp=Z,1µm,19.3s,baz=152,slow=48						
DAV	**Davao City (W)**	**1.97**	**335**		**Pn**	**06 01 22.3**	**+2.1**
KCP	**Kidapawan**	**2.17**	**323**	*eP*	**Pn**	**06 01 22.3**	**-0.7**
SKMP	**Bagumbayan, Su**	**2.23**	**304**	*eP*	**Pn**	**06 01 22.2**	**-1.6**
SKMP				*eS*	**Sn**	**06 01 52.5**	**+2.3**
BUKP	**Musuan**	**2.92**	**333**	*eP*	**Pn**	**06 01 32.9**	**-0.3**
BUKP				*eS*	**Sn**	**06 02 08.2**	**+1.1**
BIP	**Bislig**	**2.94**	**357**	*eP*	**Pn**	**06 01 31.1**	**-2.4**
BIP				*eS*	**Sn**	**06 02 05.0**	**-2.7**
PAGZ	**Pagadian**	**3.95**	**311**	*eP*	**Pn**	**06 01 46.0**	**-1.2**
PAGZ				*eS*	**Sn**	**06 02 36.3**	**+3.9**
TNTI	**Ternate**	**4.56**	**168**	P	**Pn**	**06 01 57.9**	**+2.2**
TNTI	**Ternate**	**4.56**	**168**	Pn	**Pn**	**06 01 57.0**	**+1.3**
KMSI	**Cibinong**	**5.25**	**208**	P	**Pn**	**06 02 06.2**	**+1.1**
GTOI	**Gorontalo**	**5.71**	**217**	P	**Pn**	**06 03 13.5**	**-2.2**
GTOI				S	**Sn**	**06 03 12.1**	**-3.6**
LUWI	**Luwuk**	**7.24**	**210**	P	**Pn**	**06 02 33.8**	**+1.4**
	0.9nm256nm,1.0s						
LUWI	**Luwuk**	**7.24**	**210**	Pn	**Pn**	**06 02 31.8**	**-0.6**
SIJI	**Sorong**	**7.79**	**141**	P	**Pn**	**06 02 41.1**	**+1.1**
	3.0nm,0.3s,baz=356,slow=18,SNR=2.6						
MPSI	**Mapaga**	**8.13**	**233**	P	**Pn**	**06 02 46.2**	**+1.5**
	0.1nm2µm24nm,0.9s						
FAKI	**Fak Fak**	**10.01**	**144**	Pn	**Pn**	**06 03 11.4**	**+1.1**
KAPI	**Kappang**	**12.18**	**213**	P	**Pn**	**06 03 38.5**	**-1.5**
	0.3nm,0.3s,baz=27,slow=8.3,SNR=1.6						
JAY	**Jayapura**	**16.24**	**118**	LR	LR	06 09 42.3	
	comp=Z,212nm,19.6s,baz=346,slow=32						
GUMO	**Guam**	**19.99**	**64**	LR	LR	06 11 59.4	
	comp=Z,59nm,21.0s,baz=266,slow=33						
KNRA	**Kununurra**	**20.94**	**174**	P	**P**	**06 05 26.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**23.23**	**182**	P	**P**	**06 05 52.0**	**+0.5**
	8.5nm,0.7s,baz=21,slow=7.4,SNR=28						
FITZ	**Fitzroy Crossi**	**23.23**	**182**	IAmb	IAmb	06 06 07.3	
	comp=Z,3nm,1.0s						
PMG	**Port Moresby**	**25.30**	**125**	LR	LR	06 18 47.6	
	comp=Z,70nm,18.1s,baz=238,slow=42						
COEN	**Coen**	**25.33**	**139**	P	**P**	**06 06 10.8**	**0.0**
COEN				IAmb	IAmb	06 06 24.1	
	comp=Z,26nm,1.2s						
SDSI	**Sungai Dareh**	**25.70**	**257**	P	**P**	**06 06 19.4**	**+5.3**
	comp=Z,4µmcomp=Z,11nm,0.8s						
KRJI	**Kerinci**	**25.97**	**254**	P	**P**	**06 06 20.8**	**+4.1**
WB0	**Warramunga Arr**	**26.09**	**163**	P	**P**	**06 06 17.6**	**0.0**
WB0				IAmb	IAmb	06 06 36.4	
	comp=Z,17nm,0.7s						
WRA	**Warramunga Arr**	**26.24**	**163**	P	**P**	**06 06 18.9**	**0.0**
	comp=Z,5.7nm,0.6s,baz=343,slow=10.0,SNR=33						
WB2	**Warramunga Arr**	**26.24**	**163**	P	**P**	**06 06 19.3**	**+0.3**
WB2				IAmb	IAmb	06 06 30.1	
	comp=Z,21nm,1.1s						
WR0	**Warramunga Arr**	**26.31**	**163**	P	**P**	**06 06 19.7**	**+0.1**
WR0				IAmb	IAmb	06 06 30.8	
	comp=Z,12nm,0.9s						
ASAR	**Alice Springs**	**29.67**	**166**	P	**P**	**06 06 49.9**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=352,slow=7.7,SNR=17						
ASAR				PcP	**PcP**	**06 09 53.4**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=348,slow=2.3,SNR=3.3						
CMAR	**Chiang Mai Arr**	**29.84**	**298**	LR	LR	06 19 47.5	
	comp=Z,50nm,18.4s,baz=110,slow=38						
CTA	**Charters Tower**	**31.87**	**143**	P	**P**	**06 07 08.8**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=306,slow=8.7,SNR=1.8						
KSRS	**Korea Array**	**32.07**	**2**	P	**P**	**06 07 10.5**	**0.0**
	comp=Z,0.4nm,0.3s,baz=189,slow=10,SNR=2.1						
KSRS				LR	LR	06 19 19.3	
	comp=Z,47nm,21.1s,baz=204,slow=35						
XAN	**Xi'an**	**32.91**	**333**	P	**P**	**06 07 20.0**	**+1.9**
XAN				pP	pP	06 07 27.3	-4.6
XAN	comp=Z,5.0nm,0.7s			pmax	pmax		
XAN				pmax	pmax		
	comp=Z,210nm,5.4s						
FORT	**Forrest**	**35.88**	**178**	P	**P**	**06 07 43.5**	**-0.1**
HNR	**Honiara**	**36.48**	**114**	LR	LR	06 22 02.5	
	comp=Z,61nm,20.5s,baz=18,slow=35						
BBOO	**Buckleboo**	**38.96**	**167**	P	**P**	**06 08 09.3**	**-0.5**
USRK	**Ussuriysk Ar.**	**39.09**	**6**	P	**P**	**06 08 11.1**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=201,slow=7.7,SNR=2.1						
STKA	**Stephens Creek**	**39.67**	**160**	P	**P**	**06 08 16.4**	**+0.7**
	comp=Z,6.9nm,0.6s,baz=338,slow=8.1,SNR=15						
STKA	**Stephens Creek**	**39.67**	**160**	P	**P**	**06 08 16.4**	**+0.7**
GTA	**Gaotai**	**41.62**	**329**	*eP*	P	06 08 45.1	+13
GTA				pP	pwP	06 08 48.7	-0.3
GTA				sP	sP	06 08 51.1	-1.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**41.92**	**66**	T	T	06 53 04.7	
	baz=255,slow=75						
H11N2	**WAKE ISLAND Hy**	**41.93**	**66**	T	T	06 53 03.2	
	baz=255,slow=75						
H11N3	**WAKE ISLAND Hy**	**41.94**	**66**	T	T	06 53 06.8	
	baz=255,slow=75						
SONM	**Songino Array**	**45.75**	**341**	P	**P**	**06 09 05.7**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=162,slow=8.7,SNR=2.4						
PEA0B	**Petropavlovsk-**	**54.14**	**23**	P	**P**	**06 10 08.8**	**+0.5**
PETK	**Petropavlovsk-**	**54.14**	**23**	P	**P**	**06 10 08.0**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=270,slow=1.3,SNR=5.2						
PETK				LR	LR	06 34 23.8	
	comp=Z,18nm,19.8s,baz=240,slow=37						
MK31	**Makanchi Array**	**56.12**	**325**	P	**P**	**06 10 21.8**	**-0.9**
MKAR	**Makanchi Array**	**56.12**	**325**	P	**P**	**06 10 21.6**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=118,slow=7.6,SNR=10.0						
MKAR				LR	LR	06 34 32.8	
	comp=Z,60nm,20.8s,baz=129,slow=36						
ZALV	**Zalesovo Beam**	**59.08**	**333**	P	**P**	**06 10 41.9**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=107,slow=6.6,SNR=3.0						
ZALV				LR	LR	06 38 28.9	
	comp=Z,35nm,18.7s,baz=122,slow=38						
KURBB	**Kurchatov Arra**	**60.28**	**327**	P	**P**	**06 10 50.1**	**-1.5**
	comp=Z,2.4nm,0.7s,baz=125,slow=6.3,SNR=14						
KURK	**Kurchatov**	**60.28**	**327**	P	**P**	**06 10 50.2**	**-1.4**
KURK				IAmb	IAmb	06 11 03.7	
	comp=Z,6.4nm,1.1s						
BVAR	**Borovoye Array**

ACAL	**Aguas Claras**	**1.94**	**287**	*i* P	**Pb**	**06 18 05.6**	**-1.0**
ACAL				*i* S	**Sb**	**06 18 32.2**	**+1.6**
CUI	**Cuipilapa**	**2.07**	**287**	*i* P	**Pb**	**06 18 08.3**	**-0.4**
CUI				*i* S	**Sb**	**06 18 35.2**	**+0.9**
COLC	**Colonia**	**2.11**	**287**	*i* S	**Sb**	**06 18 36.5**	**+1.1**
GPS3	**Bodega del ICE**	**2.29**	**288**	*i* P	**Pb**	**06 18 11.7**	**-0.7**
GUAI	**GUAI**	**2.33**	**275**	*i* P	**Pb**	**06 18 12.3**	**-0.9**
LAPC	**Finca la Perla**	**2.36**	**288**	*i* P	**Pb**	**06 18 12.5**	**-1.0**

*IDC **05** 06:20:15.9±1.8, 9°.44N×126°.05E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/42, mbtmp3.8/6, Error ellipse: s-maj=170.3km s-min=28.8km az=70.0*
*MAN **05** 06:20:24.9, 9°.68N×126°.29E, h21km, MS2.9*
ISC 05 06:20:22.7±1.1, 9°.86N±0°.06×126°.61E±0°.09, h35km, n14, σ1℘81/19, mb3.8/6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**1.75**	**279**	*e*P	**Pn**	**06 20 51.6**	**+1.1**
MSLP				*e*S	**Sn**	**06 21 14.8**	**+3.3**
OCLP	**Ormoc**	**2.30**	**301**	*e*P	**Pn**	**06 21 00.2**	**+2.2**
BUKP	**Musuan**	**2.50**	**218**	*e*P	**Pn**	**06 21 00.1**	**-0.7**
BUKP				*e*S	**Sn**	**06 21 31.6**	**+1.5**
TBP	**Tagbilaran**	**2.72**	**267**	*e*P	**Pn**	**06 21 02.4**	**-1.4**
TBP				*i* S	**Sn**	**06 21 38.3**	**+2.8**
KCP	**Kidapawan**	**3.21**	**208**↑	*e*P	**Pn**	**06 21 11.2**	**+0.6**
KCP				*i* S	**Sn**	**06 21 49.6**	**+1.8**
PAGZ	**Pagadian**	**3.77**	**238**	*e*P	**Pn**	**06 21 17.1**	**-1.2**
PAGZ				*e*S	Sn	06 22 04.2	+2.7
DDMP	**Don Marcelino,**	**3.84**	**194**	*e*P	**Pn**	**06 21 22.4**	**+3.1**
DDMP				*e*S	**Sn**	**06 22 02.3**	**-0.9**
CNOP	**Candoni, Negro**	**3.92**	**270**	*e*P	**Pn**	**06 21 19.7**	**-0.6**
CNOP				*e*S	**Sn**	**06 22 03.8**	**-1.3**
ASAR	**Alice Springs**	**34.08**	**168**	P	P	06 26 60.0	-4.0
	0.3nm,0.5s,baz=343,slow=6.9,SNR=2.3						
SONM	**Songino Array**	**41.52**	**339**	P	**P**	**06 28 07.3**	**+0.6**
	0.6nm,0.5s,baz=163,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**52.55**	**323**	P	**P**	**06 29 31.4**	**-1.4**
	0.7nm,0.6s,baz=122,slow=7.8,SNR=9.4						
KURBB	**Kurchatov Arra**	**56.60**	**325**	P	**P**	**06 30 00.8**	**-1.2**
	0.5nm,0.6s,baz=128,slow=6.5,SNR=4.3						
ARCES	**ARCESS Array B**	**84.69**	**340**	P	**P**	**06 32 52.1**	**-0.6**
	1.2nm,0.6s,baz=83,slow=7.4,SNR=6.2						
FINES	**FINESS Array B**	**86.41**	**332**	P	**P**	**06 33 00.0**	**-1.3**
	1.1nm,0.6s,baz=101,slow=7.2,SNR=4.4						

*TIR **05** 06:33:22.9, 40°.84N×21°.33E, h17km, Md3.1/3*
*ATH **05** 06:33:22.8, 40°.87N×21°.32E, h19km±1km, ML2.8/7, Error ellipse: s-maj=2.3km s-min=1.3km az=157.0*
*THE **05** 06:33:23.9, 40°.82N×21°.25E, h11km, ML2.6/7, Error ellipse: s-maj=1.0km s-min=0.6km az=189.0*
*SKO **05** 06:33:23.5, 40°.87N×21°.31E, h15km*
*BEO **05** 06:33:25.1±0.2, 40°.88N±21°.33E, h5km±2km, ML2.3/7*
ISC 05 06:33:24.0±0.8, 40°.84N±0°.02×21°.30E±0°.02, h13km±4km, n59, σ1℘09/87, 1C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.08**	**132**	P	**Pg**	**06 33 26.8**	**+0.1**
FNA				S	**Sg**	**06 33 29.2**	**+0.5**
	28μm,0.3s						
FNA	**Florina**	**0.08**	**132**	*i* PG	**Pg**	**06 33 26.8**	**+0.1**
FNA				*i* SG	**Sg**	**06 33 29.2**	**+0.5**
FNA	**Florina**	**0.08**	**132**	*e*Pg	**Pg**	**06 33 26.9**	**+0.1**
FNA				*e*Sg	**Sg**	**06 33 29.0**	**+0.2**
FNA	**Florina**	**0.08**	**132**	P	**Pg**	**06 33 26.9**	**+0.1**
FNA				S	**Sg**	**06 33 29.0**	**+0.2**
FNA				AML	AML	06 33 29.4	
	comp=E,45215μm,0.3s						
FNA				AML	AML	06 33 29.4	
	comp=N,66383μm,0.4s						
NEST	**Nestorio**	**0.46**	**204**	P	**Pg**	**06 33 32.5**	**-0.6**
NEST				S	**Sg**	**06 33 38.9**	**-0.4**
	comp=N,2μm,0.4s						
NEST	**Nestorio**	**0.46**	**204**	P	**Pg**	**06 33 32.5**	**-0.6**
NEST				S	**Sg**	**06 33 39.5**	**+0.1**
NEST				AML	AML	06 33 40.5	
	comp=E,3854μm,0.2s						
NEST				AML	AML	06 33 40.5	
	comp=N,3055μm,0.6s						
OHR	**Ohrid**	**0.47**	**306**↑	*i* Pg	**Pg**	**06 33 32.9**	**-0.3**
OHR				*i* Sg	**Sb**	**06 33 40.7**	**-0.3**
OHR				*e*Lg	Lg	06 33 41.2	
	comp=N,589nm,0.4s						
KZN	**Kozani**	**0.64**	**146**	P	**Pg**	**06 33 36.1**	**-0.4**
KZN				S	**Sg**	**06 33 45.4**	**+0.5**
	comp=N,968nm,0.3s						
KZN	**Kozani**	**0.64**	**146**	P	**Pg**	**06 33 35.6**	**-0.8**
KZN				S	**Sg**	**06 33 45.2**	**+0.2**
KZN				AML	AML	06 33 47.1	
	comp=N,2047μm,0.3s						
KZN				AML	AML	06 33 47.8	
	comp=E,1804μm,0.3s						
PENT	**Pentalofos**	**0.65**	**191**	P	**Pg**	**06 33 35.9**	**-0.8**
PENT				S	**Sg**	**06 33 45.4**	**+0.1**
	comp=E,535nm,0.4s						
PENT	**Pentalofos**	**0.65**	**191**	P	**Pg**	**06 33 36.0**	**-0.6**
PENT				S	**Sg**	**06 33 46.0**	**+0.7**
PENT				AML	AML	06 33 49.8	
	comp=E,923μm,0.4s						
PENT				AML	AML	06 33 49.9	
	comp=N,1194μm,0.4s						
KTI	**Kastanea**	**0.76**	**125**	P	**Pg**	**06 33 38.6**	**-0.2**
LSK	**Leskovik**	**0.87**	**218**	*i* PG	**Pb**	**06 33 40.4**	**-0.6**
LSK				*i* SG	**Sn**	**06 33 54.4**	**-0.2**
KPRO	**Kipourio**	**0.88**	**177**	P	**Pb**	**06 33 40.7**	**-0.5**
KPRO				S	**Sb**	**06 33 52.5**	**-0.4**
	comp=N,478nm,0.5s						
KPRO	**Kipourio**	**0.88**	**177**	P	**Pb**	**06 33 40.8**	**-0.5**
KPRO				S	**Sg**	**06 33 53.2**	**+0.6**
KPRO				AML	AML	06 33 58.9	
	comp=N,990μm,0.4s						
KPRO				AML	AML	06 34 00.3	
	comp=E,909μm,0.4s						
PHP	**Peshkopia**	**1.07**	**323**	P	**Pb**	**06 33 42.9**	**-1.5**
PHP				S	**Sn**	**06 33 59.0**	**-0.5**
PHP	**Peshkopia**	**1.07**	**323**	*i* PG	**Pg**	**06 33 44.6**	**0.0**
PHP				*i* SG	**Sn**	**06 33 59.6**	**+0.1**
VAY	**Valandovo**	**1.08**	**63**	*e*Pg	**Pg**	**06 33 44.7**	**0.0**
VAY				*e*Sg	**Sg**	**06 33 58.5**	**-0.3**
VAY	**Valandovo**	**1.08**	**63**	*i* Pg	**Pn**	**06 33 44.3**	**-0.5**
VAY				*i* Sg	**Sn**	**06 33 58.7**	**-0.9**
VAY				*e*Lg	Lg	06 34 03.1	
	comp=N,51nm,0.6s						
STIP	**Stip**	**1.09**	**38**↓	*i* Pg	**Pg**	**06 33 47.2**	**+2.3**
STIP				*i* Sg	**Sn**	**06 34 05.6**	**+5.7**
STIP				*e*Lg	Lg	06 34 08.7	
	comp=E,37nm,0.4s						
SKO	**Skopje**	**1.14**	**5**	*e*Pg	**Pn**	**06 33 45.2**	**-0.5**
SKO				*e*Sg	**Sg**	**06 34 00.3**	**-0.5**
LIT	**Litokhoron**	**1.17**	**129**	P	**Pb**	**06 33 46.0**	**-0.1**
LIT				S	**Sg**	**06 34 02.4**	**+0.7**
	comp=E,415nm,0.6s						
LIT	**Litokhoron**	**1.17**	**129**	P	**Pn**	**06 33 45.5**	**-0.6**
LIT				S	**Sg**	**06 34 02.1**	**+0.4**
LIT				AML	AML	06 34 05.6	
	comp=E,934μm,0.3s						
LIT				AML	AML	06 34 05.9	
	comp=N,710μm,1.0s						
SRN	**Sarande**	**1.38**	**226**	P	**Pn**	**06 33 47.6**	**-1.3**
THL	**Klokotos Trika**	**1.38**	**156**	P	**Pn**	**06 33 48.5**	**-0.5**
THL	**Klokotos Trika**	**1.38**	**156**	P	**Pn**	**06 33 48.5**	**-0.5**
THL				S	**Sg**	**06 34 08.8**	**+0.3**
THL				AML	AML	06 34 12.9	
	comp=N,225μm,0.7s						
THL				AML	AML	06 34 15.2	
	comp=E,337μm,0.5s						
HORT	**Hortiatis**	**1.39**	**99**	P	**Pn**	**06 33 48.5**	**-0.7**
IGT	**Igoumenitsa**	**1.50**	**210**	*e*Pg	**Pg**	**06 33 53.8**	**+1.1**
IGT				*e*Sg	**Sg**	**06 34 14.7**	**+2.5**
KEK	**Kerkira**	**1.60**	**226**	P	**Pb**	**06 33 53.3**	**-0.1**
KKB	**Krupnik**	**1.69**	**52**	*e*P	Pn	06 33 48.4	-4.9
PLG	**Polygyros**	**1.70**	**105**	P	**Pn**	**06 33 53.4**	**0.0**
PLG				S	**Sb**	**06 34 15.9**	**-0.5**
	comp=E,65nm,0.8s						
PLG	**Polygyros**	**1.70**	**105**	P	**Pn**	**06 33 53.7**	**+0.3**
SRS	**Serrai**	**1.76**	**80**	P	**Pn**	**06 33 54.1**	**-0.2**
BOSS	**Bosilegrad**	**1.88**	**28**	*e*Pn	**Pb**	**06 33 56.6**	**-1.6**
EVR	**Evrytania**	**1.96**	**168**	P	**Pb**	**06 33 58.3**	**-1.3**
AGG	**Agios Georgios**	**1.98**	**156**	P	**Pn**	**06 33 57.3**	**+0.1**

AGG	**Agios Georgios**	**1.98**	**156**	P	**Pn**	**06 33 57.6**	**+0.3**
MMB	**Musomiste**	**1.98**	**67**	*e*P	**Pn**	**06 33 56.1**	**-1.2**
BARS	**Barje**	**2.02**	**11**	*e*Pn	**Pb**	**06 33 58.8**	**-1.7**
BARS				*e*Sg	**Sg**	**06 34 28.0**	**-0.8**
PAIG	**Paliouri**	**2.03**	**116**	P	**Pn**	**06 33 58.0**	**0.0**
XOR	**Xorichti**	**2.06**	**135**	P	**Pn**	**06 33 58.2**	**-0.2**
PDG	**Podgorica**	**2.21**	**317**	*e*Pn	**Pb**	**06 34 03.1**	**-0.7**
EVGI	**Lefkada island**	**2.27**	**193**	P	**Pn**	**06 34 01.9**	**+0.7**
ANX	**Ano Chora**	**2.29**	**168**	P	**Pn**	**06 34 03.2**	**+1.6**
VTS	**Vitosha**	**2.30**	**39**	*e*Pn	**Pn**	**06 34 02.8**	**+1.1**
VTS	**Vitosha**	**2.30**	**39**	*e*P	**Pn**	**06 34 01.3**	**-0.4**
SKIA	**Skiathos**	**2.36**	**134**	P	**Pn**	**06 34 02.3**	**-0.1**
SELS	**Selova**	**2.38**	**357**	*e*Pn	**Pn**	**06 34 03.4**	**+0.6**
TRIZ	**Trizonia**	**2.54**	**166**	P	**Pn**	**06 34 06.2**	**+1.3**
GRUS	**Gruza**	**3.08**	**352**	*e*Pn	**Pn**	**06 34 13.4**	**+1.0**
RICI	**Ricice**	**4.08**	**312**	*e*Pn	**Pn**	**06 34 27.5**	**+1.4**
RICI				Sn	**Sn**	**06 35 16.1**	**+2.4**
ZIRJ	**Zirje**	**5.05**	**306**	*e*Pn	**Pn**	**06 34 39.7**	**+0.2**
ZIRJ				Sn	**Sn**	**06 35 37.1**	**-0.6**
MORI	**Morici**	**5.13**	**308**	*e*Pn	**Pn**	**06 34 41.3**	**+0.8**
MORI				Sn	**Sn**	**06 35 38.7**	**-0.9**

*IDC **05** 06:45:17.9±1.5, 30°.37S×177°.27W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/21, mbtmp4.0/4, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/25, Error ellipse: s-maj=38.3km s-min=22.9km az=82.0*
ISC 05 06:45:22.5±1.5, 30°.41S±0°.08×177°.3W±0°.2, h33km, n9, σ1℘03/11, mb4.0/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.27**	**335**	Pn	**Pn**	**06 45 43.1**	**-0.9**
	115nm,0.3s,baz=65,slow=14,SNR=2.4						
RAO				LR	LR	06 45 45.9	
	comp=Z,165nm,19.3s,baz=307,slow=22						
RAO				Sn	**Sn**	**06 45 59.6**	**-0.2**
	300nm,0.3s,baz=104,slow=22,SNR=5.7						
URZ	**Urewera**	**9.09**	**209**	Pn	**Pn**	**06 47 29.3**	**-2.0**
	0.8nm,0.3s,baz=30,slow=20,SNR=1.9						
URZ				Sn	**Sn**	**06 49 13.0**	**+0.6**
	1.9nm,0.3s,baz=139,slow=17,SNR=6.8						
DZM	**Mont Dzumac**	**16.77**	**296**	LR	LR	06 54 25.7	
	comp=Z,98nm,20.7s,baz=220,slow=33						
STKA	**Stephens Creek**	**35.06**	**257**	P	**P**	**06 52 13.5**	**+1.0**
	0.5nm,0.3s,baz=108,slow=13,SNR=1.4						
ASAR	**Alice Springs**	**43.71**	**267**	P	**P**	**06 53 24.7**	**0.0**
	1.4nm,0.8s,baz=105,slow=6.8,SNR=9.0						
ASAR				PcP	**PcP**	**06 55 12.3**	**+0.9**
	0.3nm,0.8s,baz=110,slow=4.0,SNR=2.0						
WRA	**Warramunga Arr**	**44.70**	**272**	P	**P**	**06 53 33.7**	**+1.1**
	2.1nm,0.6s,baz=112,slow=7.8,SNR=7.5						
FINES	**FINESS Array B**	**145.36**	**340**	PKPbc	**PKPdf**	**07 04 56.2**	**+0.1**
	4.1nm,0.7s,baz=46,slow=3.4,SNR=16						
AKASG	**Malin Array Be**	**151.67**	**323**	PKPbc	**PKPbc**	**07 05 12.9**	**-0.1**
	0.2nm,0.3s,baz=46,slow=2.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**162.79**	**177**	PKPab	**PKPab**	**07 06 11.1**	**+0.6**
	0.2nm,0.6s,baz=160,slow=5.3,SNR=1.5						

*IDC **05** 07:01:59.2±1.0, 18°.60N×121°.22E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/46, mbtmp3.7/8, ML3.8/1, Error ellipse: s-maj=51.2km s-min=20.4km az=75.0*
*MAN **05** 07:02:02.1, 19°.04N×121°.49E, h24km, MS3.7*
ISC 05 07:02:00.1±1.7, 18°.96N±0°.04×121°.45E±0°.07, h2km±11km, n23, σ2℘06/24, mb3.6/7, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.91**	**142**	*e*P	**Pn**	**07 02 19.7**	**-0.2**
SGCP				*e*S	**Sn**	**07 02 33.2**	**-0.3**
APYP	**Conner**	**1.11**	**190**	*e*P	**Pn**	**07 02 22.0**	**-0.6**
APYP				*e*S	**Sn**	**07 02 37.3**	**-1.2**
CVP	**Callao Caves**	**1.30**	**164**↑	*i* P	**Pn**	**07 02 25.7**	**+0.5**
CVP				*i* S	**Sn**	**07 02 44.6**	**+1.4**
SIPP	**Brgy, Tapao**	**1.40**	**223**↑	*e*P	**Pg**	**07 02 27.9**	**+1.0**
SIPP				*e*S	Sg	07 02 53.6	+8.5
ABRA	**Dolores**	**1.48**	**208**	*e*P	**Pg**	**07 02 28.0**	**-0.5**
ABRA				*e*S	**Sg**	**07 02 48.0**	**+0.3**
BBP	**Basco**	**1.55**	**18**	*e*P	**Pn**	**07 02 26.8**	**-1.9**
BBP				*e*S	**Sn**	**07 02 46.1**	**-3.3**
CAUP	**Cauayan**	**2.04**	**170**	*e*P	**Pg**	**07 02 39.4**	**+0.2**
CAUP				*e*S	**Sg**	**07 03 08.3**	**+2.8**
SMPP	**San Manuel, Pa**	**2.89**	**195**	*e*P	**Pn**	**07 02 47.9**	**+0.7**
SMPP				*e*S	**Sb**	**07 03 24.9**	**-3.4**
LQP	**Lukban**	**4.82**	**179**	*e*P	**Pb**	**07 03 22.8**	**-2.7**
KSRS	**Korea Array**	**19.28**	**16**	P	**Pn**	**07 06 30.1**	**+3.2**
	0.3nm,0.3s,baz=195,slow=11,SNR=4.5						
SONM	**Songino Array**	**31.30**	**340**	P	**P**	**07 08 22.4**	**+0.7**
	0.5nm,0.7s,baz=141,slow=9.3,SNR=2.3						
WRA	**Warramunga Arr**	**40.67**	**161**	P	**P**	**07 09 38.6**	**-3.4**
	0.6nm,0.7s,baz=341,slow=9.2,SNR=4.7						
MKAR	**Makanchi Array**	**42.37**	**320**	P	**P**	**07 09 56.7**	**+0.9**
	0.8nm,0.6s,baz=114,slow=9.0,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**42.75**	**83**	T	T	07 55 50.4	
	baz=275,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**42.76**	**83**	T	T	07 55 37.1	
	baz=275,slow=75,SNR=9.3						
H11S2	**WAKE ISLAND Hy**	**42.77**	**83**	T	T	07 55 38.6	
	baz=275,slow=75						
H11N1	**WAKE ISLAND Hy**	**42.78**	**81**	T	T	07 55 30.9	
	baz=277,slow=75,SNR=68						
H11N2	**WAKE ISLAND Hy**	**42.79**	**81**	T	T	07 55 31.1	
	baz=277,slow=75						
H11N3	**WAKE ISLAND Hy**	**42.80**	**81**	T	T	07 55 32.2	
	baz=277,slow=75,SNR=37						
ASAR	**Alice Springs**	**44.08**	**163**	P	**P**	**07 10 07.2**	**-2.6**
	0.5nm,0.5s,baz=344,slow=7.6,SNR=5.6						
ILAR	**Eielson Array**	**73.74**	**27**	P	**P**	**07 13 37.1**	**+1.7**
	0.3nm,0.5s,baz=271,slow=5.2,SNR=4.9						
FINES	**FINESS Array B**	**76.08**	**330**	P	**P**	**07 13 49.8**	**+0.9**
	1.6nm,0.8s,baz=111,slow=7.6,SNR=4.6						
YKA	**Yellowknife Ar**	**87.67**	**23**	P	**P**	**07 14 52.1**	**+2.1**
	0.6nm,0.5s,baz=308,slow=4.5,SNR=2.3						

*OSPL **05** 07:35:04.4±0.3, 17°.86N×66°.84W, h16km±4km, ML2.3*
*NEIC **05** 07:35:04.2±1.0, 17°.9N±0°.1×67°.04W±0°.08, h33km±14km, Error ellipse: s-maj=20.0km s-min=5.3km az=208.0*
*RSPR **05** 07:35:04.9, 17°.82N×67°.05W, h24km±1km, MD2.6/12*
ISC 05 07:35:03.7±1.3, 17°.85N±0°.07×67°.04W±0°.04, h32km±5km, n45, σ0℘42/53, 9C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLPR	**Magueyes Islan**	**0.12**	**358**↓	*e*P	**Pb**	**07 35 09.0**	**-0.5**
MLPR	**Magueyes Islan**	**0.12**	**358**	*e*S	**Sb**	**07 35 13.1**	**-0.3**
MLPR	**Magueyes Islan**	**0.12**	**358**		**Pb**	**07 35 09.0**	**-0.5**
MLPR	**Magueyes Islan**	**0.12**	**358**		**Sb**	**07 35 13.2**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.17**	**336**↑	*e*P	**Pb**	**07 35 10.2**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.17**	**336**	*e*S	**Sb**	**07 35 13.5**	**-0.6**
CRPR	**Cabo Rojo, PR**	**0.17**	**336**	Pg	**Pb**	**07 35 10.3**	**+0.4**
CRPR				Sg	**Sb**	**07 35 14.1**	**+0.1**
GBPR	**Guanica, Bosqu**	**0.20**	**52**↓	*e*P	**Pb**	**07 35 10.6**	**+0.5**
GBPR	**Guanica, Bosqu**	**0.20**	**52**	*e*S	**Sb**	**07 35 15.1**	**+0.6**
GBPR	**Guanica, Bosqu**	**0.20**	**52**		**Pb**	**07 35 10.6**	**+0.5**
GBPR					**Sb**	**07 35 15.1**	**+0.6**
LSP	**Las Mesas**	**0.32**	**352**↑	*e*P	**Pb**	**07 35 12.3**	**+0.5**
LSP	**Las Mesas**	**0.32**	**352**		**Pb**	**07 35 12.3**	**+0.5**
MPR	**Mayaguez**	**0.37**	**345**	*i* P	**Pn**	**07 35 12.8**	**-0.1**
MPR				*e*S	**Sb**	**07 35 18.9**	**+0.7**
MPR				IAML		07 35 19.9	
	comp=Z,100nm,0.4s						
MPR	**Mayaguez**	**0.37**	**345**	Pg	**Pn**	**07 35 12.6**	**-0.3**
CELP	**Cerrillos**	**0.49**	**63**↑	*e*P	**Pb**	**07 35 14.2**	**0.0**
CELP	**Cerrillos**	**0.49**	**63**	*e*S	**Sb**	**07 35 21.3**	**0.0**
CELP	**Cerrillos**	**0.49**	**63**		**Pb**	**07 35 14.2**	**0.0**
CELP					**Sb**	**07 35 21.3**	**0.0**
AOPR	**Arecibo Observ**	**0.56**	**29**↑	*e*P	**Pn**	**07 35 15.1**	**-0.5**
AOPR	**Arecibo Observ**	**0.56**	**29**	*e*S	**Sn**	**07 35 23.3**	**-0.4**
AOPR	**Arecibo Observ**	**0.56**	**29**		**Pn**	**07 35 15.1**	**-0.5**
AOPR	**Arecibo Observ**	**0.56**	**29**	Sg	**Sn**	**07 35 23.3**	**-0.4**
AGPR	**Aguadilla, PR**	**0.61**	**354**↑	*e*P	**Pn**	**07 35 16.3**	**0.0**
AGPR	**Aguadilla, PR**	**0.61**	**354**	*e*S	**Sn**	**07 35 25.0**	**0.0**
AGPR	**Aguadilla, PR**	**0.61**	**354**	*i* P	**Pn**	**07 35 16.1**	**-0.1**
AGPR				*e*S	**Sn**	**07 35 24.9**	**-0.2**
AGPR				IAML		07 35 25.0	
	comp=Z,144nm,0.5s						
AGPR	**Aguadilla, PR**	**0.61**	**354**		**Pb**	**07 35 15.6**	**-0.5**
AGPR					**Sn**	**07 35 24.5**	**-0.6**
EMPR	**Esperanza - Ma**	**0.79**	**38**↑	*e*P	**Pb**	**07 35 19.0**	**0.0**
EMPR	**Esperanza - Ma**	**0.79**	**38**	*e*S	**Sb**	**07 35 30.4**	**+0.9**
IGPR	**InterUniversit**	**0.90**	**83**↑	*e*P	**Pn**	**07 35 19.9**	**-0.2**
IGPR	**InterUniversit**	**0.90**	**83**	*e*S	**Sn**	**07 35 31.5**	**-0.4**
IGPR	**InterUniversit**	**0.90**	**83**		**Pn**	**07 35 20.0**	**-0.2**
PDPR	**Patillas Dam,**	**0.98**	**80**	Pn	**Pn**	**07 35 20.7**	**-0.6**
GCPR	**Guaynabo City**	**1.02**	**63**↑	*e*P	**Pn**	**07 35 21.8**	**0.0**
GCPR	**Guaynabo City**	**1.02**	**63**	*e*S	**Sn**	**07 35 34.5**	**-0.5**
GCPR	**Guaynabo City**	**1.02**	**63**	Pn	**Pn**	**07 35 21.5**	**-0.3**
GCPR					**Sn**	**07 35 34.5**	**-0.5**
CBYP	**Canovanas**	**1.20**	**70**↓	*i* P	**Pn**	**07 35 24.5**	**+0.1**
CBYP	**Canovanas**	**1.20**	**70**	*e*S	**Sn**	**07 35 39.6**	**0.0**
CBYP	**Canovanas**	**1.20**	**70**		**Sn**	**07 35 39.6**	**0.0**
CBYP	**Canovanas**	**1.20**	**70**	Pn	**Pn**	**07 35 24.4**	**0.0**
PCDR	**Punta Cana, DR**	**1.43**	**297**	*i* P	**Pb**	**07 35 30.4**	**+0.5**
PCDR				IAML		07 35 52.2	
	comp=Z,66nm,1.0s						
MTP	**Monte Pirata**	**1.44**	**80**↓	*e*P	**Pn**	**07 35 27.5**	**-0.1**
MTP	**Monte Pirata**	**1.44**	**80**	*e*S	**Sn**	**07 35 44.6**	**-0.7**
MTP	**Monte Pirata**	**1.44**	**80**	Pn	**Pn**	**07 35 27.1**	**-0.4**
STVI	**Saint Thomas**	**2.04**	**76**↑	*e*P	**Pn**	**07 35 36.2**	**+0.3**
STVI	**Saint Thomas**	**2.04**	**76**	*e*S	**Sn**	**07 36 00.8**	**+0.4**
STVI	**Saint Thomas**	**2.04**	**76**	Pn	**Pn**	**07 35 36.6**	**+0.7**
STVI				Sn	**Sn**	**07 36 00.3**	**0.0**

*NSSP **05** 07:49:09.2, 41°.70N×46°.42E, h15km, Ms3.0*
*TIF **05** 07:49:09.4, 41°.53N×46°.46E, h23km±2km*
ISC 05 07:49:12.9±1.6, 41°.70N±0°.04×46°.32E±0°.09, h27km±10km, n15, σ2℘13/30, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGD	**Lagodekhi**	**0.15**	**338**	P	**Pb**	**07 49 17.5**	**-0.8**
LGD				S	**Sb**	**07 49 23.0**	**+1.0**
DDFL	**Dedoflistskaro**	**0.29**	**210**	P	**Pn**	**07 49 21.6**	**+0.1**
DDFL				S	**Sn**	**07 49 28.1**	**+1.1**
SEAG	**Tbilisi Sea**	**1.13**	**274**	P	**Pn**	**07 49 32.7**	**-1.2**
SEAG				S	**Sn**	**07 49 49.7**	**+2.0**
TBLG	**Delisi**	**1.18**	**272**	P	**Pb**	**07 49 33.9**	**-0.8**
TBLG				S	**Sn**	**07 49 51.7**	**+2.8**
KZRT	**Kazreti**	**1.47**	**258**	P	**Pb**	**07 49 37.5**	**-2.2**
KZRT				S	**Sb**	**07 49 58.3**	**+0.4**
PNSH	**Pansheti**	**1.57**	**307**	P	**Pn**	**07 49 38.5**	**-0.7**
PNSH				S	**Sb**	**07 50 01.6**	**+0.7**
STE	**Stepanavan**	**1.62**	**245**	*e*P	**Pn**	**07 49 39.4**	**-0.5**
STE				*e*S	**Sb**	**07 50 03.4**	**+1.0**
TRLG	**Trialeti**	**1.67**	**265**	P	**Pb**	**07 49 40.5**	**-2.5**
TRLG				S	**Sb**	**07 50 04.6**	**+0.9**
KAPZ	**Kaputan**	**1.84**	**222**↑	*i* P	**Pn**	**07 49 40.4**	**-2.5**
KAPZ				*i* S	**Sb**	**07 50 05.8**	**-2.9**
NRKZ	**NAREK**	**2.11**	**217**	*i* P	**Pb**	**07 49 48.6**	**-2.0**
NRKZ				*i* S	**Sb**	**07 50 18.8**	**+2.4**
AKH	**Akhalkalaki**	**2.14**	**263**	P	**Pb**	**07 49 48.3**	**-2.7**
AKH				S	**Sb**	**07 50 15.2**	**-2.1**
ARUZ	**Aruch**	**2.20**	**231**	*i* P	**Pb**	**07 49 50.9**	**-1.2**
ARUZ				*i* S	**Sb**	**07 50 22.5**	**+3.6**
ONI	**Oni**	**2.31**	**294**	P	**Pn**	**07 49 50.4**	**+1.1**
ONI				S	**Sb**	**07 50 21.4**	**-0.5**
VNNZ	**Vanand**	**2.47**	**231**	*e*P	**Pb**	**07 49 55.9**	**-0.8**
VNNZ				S	**Sb**	**07 50 32.1**	**+5.3**
TKB	**Tkibuli**	**2.56**	**286**	P	**Pn**	**07 49 54.3**	**+1.6**
TKB				S	**Sb**	**07 50 27.6**	**-1.6**

**IDC 05 08:08:

comp=N,66nm,0.3s
GRPR pmax pmax
comp=E,59nm,0.3s
GRPR pmax pmax
comp=Z,204nm,0.3s
GRPR smax smax
comp=E,136nm,0.4s
GRPR smax smax
comp=N,393nm,0.3s
NEM2 Nemuro 2 2.54 265 P **Pn** **08 23 55.7 -0.4**
NEM2 *e*S **Sn** **08 24 24.8 -2.2**
NMR Nemuro--Hokkai 2.55 266 *i* P **Pn** **08 23 55.9 -0.3**
NMR *e*S **Sn** **08 24 27.8 +0.6**
NMR Nemuro--Hokkai 2.55 266 ⇑ *i* PN **Pn** **08 23 55.6 -0.6**
NMR *e*S **Sn** **08 24 28.0 +0.8**
GLVR Golovnino 2.68 274 *i* P **Pn** **08 23 58.1 0.0**
GLVR AMB AMB 08 23 58.6
comp=N,180nm,0.6s
GLVR AMB AMB 08 23 58.6
comp=N,360nm,0.6s
GLVR *e*S **Sn** **08 24 31.8 +1.2**
GLVR A A 08 24 49.0
comp=N,660nm,0.4s
GLVR A A 08 24 49.0
comp=N,210nm,0.4s
GLVR Golovnino 2.68 274 ⇓ *i* PN **Pn** **08 23 58.1 0.0**
GLVR *e*S **Sn** **08 24 32.5 +1.9**
GLVR pmax pmax
comp=Z,465nm,0.6s
GLVR pmax pmax
comp=E,176nm,0.5s
GLVR smax smax
comp=N,663nm,0.4s
GLVR smax smax
comp=E,209nm,0.3s
JRA Rausu 2.98 278 P **Pn** **08 24 02.4 +0.2**
JNK Nakash 3.26 271 P **Pn** **08 24 05.7 -0.4**
JNK *e*S **Sn** **08 24 41.9 -3.1**
JAK Akkeshi 3.35 261 P **Pn** **08 24 07.6 +0.3**
JAK *e*S **Sn** **08 24 44.9 -2.2**
JTKR Abashiri--Toko 3.86 277 P **Pn** **08 24 14.9 +0.7**
JAR Ashorobuto 3.98 267 P **Pn** **08 24 16.6 +0.7**
JAR *e*S **Sn** **08 25 01.1 -1.4**
JOB Onbets 3.99 262 P **Pn** **08 24 16.8 +0.7**
JOB *e*S **Sn** **08 25 00.9 -2.0**
JMP Maruseppu 4.25 277 P **Pn** **08 24 20.7 +1.0**
JCH Churui 4.40 259 P **Pn** **08 24 22.2 +0.5**
JCH *e*S **Sn** **08 25 11.0 -1.9**
ERM Erimo 4.73 252 *ce* PN **Pn** **08 24 28.2 +1.9**
ERM pmax pmax
comp=Z,89nm,1.3s
ERM Erimo 4.73 252 Pn **Pn** **08 24 29.0 +2.7**
JEM Erimo 4.73 252 P **Pn** **08 24 27.7 +1.4**
JKA Kamikawa-asahi 4.81 278 *e*P **Pn** **08 24 29.0 +1.7**
JKA Kamikawa-asahi 4.81 278 Pn **Pn** **08 24 29.0 +1.7**
ASAJ Asahikawa 4.81 278 Pn **Pn** **08 24 28.3 +1.0**
comp=Z,1.2nm,0.3s,baz=79,slow=15,SNR=8.1
ASAJ Asahikawa 4.81 278 PN **Pn** **08 24 29.0 +1.7**
JFR Furan 4.84 267 P **Pn** **08 24 29.5 +1.6**
JNBK Urakawa-nobuka 4.93 256 P **Pn** **08 24 29.9 +1.0**
JBT2 Biratori 2 5.08 263 P **Pn** **08 24 31.8 +0.8**
JAB Ashibetsu 5.08 271 P **Pn** **08 24 34.3 +3.2**
YSS Yuzh-Sakhalins 5.64 308 *e*P **Pn** **08 24 39.5 +0.7**
YSS *e*S **Sn** **08 25 41.8 -1.8**
YSS AMS AMS 08 27 03.5
comp=Z,100nm,14.0s
YSS AMS AMS 08 27 03.5
comp=Z,200nm,14.0s
YSS AMS AMS 08 27 03.5
comp=Z,300nm,14.0s
YSS Yuzh-Sakhalins 5.64 308 *e*PN **Pn** **08 24 39.5 +0.7**
YSS MLR MLR
comp=Z,300nm,10.0s
YSS MLR MLR
comp=N,100nm,15.0s
YSS MLR MLR
comp=E,100nm,13.0s
JEW Eniwo 5.72 265 P **Pn** **08 24 41.8 +1.9**
JRBN Rebuntou 6.10 290 P **Pn** **08 24 46.3 +1.3**
JNB Noboribetsu 6.10 262 P **Pn** **08 24 46.2 +1.1**
JNB *e*S **Sn** **08 25 52.9 -1.9**
JKB Kayabe 6.26 257 P **Pn** **08 24 48.4 +1.1**
JKB *e*S **Sn** **08 25 55.2 -3.7**
JANG Nango 6.59 243 P **Pn** **08 24 51.6 -0.2**
JANG *e*S **Sn** **08 26 01.3 -5.6**
JYM2 Yakumo 2 6.67 260 P **Pn** **08 24 54.0 +1.1**
JTM Tenmabayashi 6.68 248 P **Pn** **08 24 53.7 +0.7**
OFUJ Ofunato 7.26 234 *e*S **Sn** **08 26 17.8 -5.7**
JOSM Okushiri--Mats 7.32 261 P **Pn** **08 25 03.4 +1.6**
JRG Rokugo 7.70 240 P **Pn** **08 25 07.3 +0.3**
SKR Severo-Kuril's 8.49 31 *e*P **Pn** **08 25 16.4 -1.4**
SKR AMB AMB 08 25 19.0
comp=E,20nm,0.7s
SKR *e*S **Sn** **08 26 46.8 -6.7**
SKR A A 08 26 49.0
comp=E,30nm,0.8s
SKR A A 08 26 49.0
comp=E,40nm,0.8s
SKR AMS AMS 08 28 23.7
comp=E,200nm,14.0s
SKR AMS AMS 08 28 23.7
comp=E,200nm,14.0s
SKR AMS AMS 08 28 23.7
comp=E,200nm,14.0s
SKR Severo-Kuril's 8.49 31 *e*PN **Pn** **08 25 18.3 +0.5**
SKR pmax pmax
comp=Z,24nm,0.7s
SKR MLR MLR
comp=Z,100nm,14.0s
TYV Tymovskoe 8.51 331 *e*P **Pn** **08 25 18.4 +0.3**
OKH Okha 10.77 340 *e*P **Pn** **08 25 49.7 +0.7**
OKH AMS AMS 08 30 20.0
comp=Z,300nm,19.0s
OKH AMS AMS 08 30 20.0
comp=Z,200nm,19.0s
OKH AMS AMS 08 30 20.0
comp=Z,100nm,19.0s
MAJO Matsushiro 10.99 234 *i* PN **Pn** **08 25 51.4 -0.8**
PETK Petropavlovsk- 11.04 28 Pn **Pn** **08 25 50.9 -1.9**
comp=Z,0.1nm,0.3s,baz=194,slow=12,SNR=4.2
GRNR Gornyy 11.25 314 AMS AMS 08 28 24.8
comp=Z,100nm,15.0s
GRNR AMS AMS 08 28 24.8
comp=Z,100nm,15.0s
GRNR AMS AMS 08 28 24.8
comp=Z,100nm,15.0s
KLR Kul'dur 13.28 301 LR LR 08 31 57.7
comp=Z,99nm,18.8s,baz=112,slow=40
EKMR Ekimchan 14.33 317 *e*P **Pn** **08 26 36.0 -1.8**
KROS Kirovskiy 18.08 315 *e*P **Pn** **08 27 26.0 0.0**
YAK Yakutsk 21.73 335 P **P** **08 28 02.7 -3.3**
YAK pmax pmax
comp=Z,20nm,0.5s
YAK Yakutsk 21.73 335 P **P** **08 28 02.7 -3.3**
BILL Bilibino 26.09 15 *i* P **P** **08 28 49.7 +1.3**
BILL Bilibino 26.09 15 *i* P **P** **08 28 49.7 +1.3**
BILL pmax pmax
comp=Z,3.0nm,0.9s
TIXI Tiksi 29.81 347 *i* P **P** **08 29 22.5 +1.0**
TIXI Tiksi 29.81 347 *i* P **P** **08 29 22.5 +1.0**
TIXI pmax pmax
comp=Z,16nm,1.0s
RSO Redoubt South 38.04 43 P **P** **08 30 33.8 +0.5**
TOLK Toolik Lake Re 39.85 30 P **P** **08 30 49.1 +1.0**
TOLK IAmb IAmb 08 30 49.7
comp=Z,9.4nm,1.4s
WRH Wood River Hil 40.19 37 P **P** **08 30 51.8 +0.8**
ILAR Eielson Array 40.71 36 P **P** **08 30 55.2 0.0**
comp=Z,0.6nm,0.8s,baz=268,slow=7.2,SNR=6.5
DGZ Jazzator, Alta 41.77 301 *i* P **P** **08 31 03.5 -0.9**
DGZ pmax pmax
comp=Z,2.0nm,1.1s
ZALV Zalesovo Beam 42.27 308 LR LR 08 48 58.7
comp=Z,23nm,18.5s,baz=84,slow=37
EGAK Eagle 43.16 36 P **P** **08 31 16.3 +1.1**
INK Inuvik 45.76 30 P **P** **08 31 36.4 +0.5**
comp=Z,0.7nm,0.4s,baz=308,slow=9.0,SNR=9.1
INK Inuvik 45.76 30 P **P** **08 31 35.6 -0.3**
INK pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 45.76 30 P **P** **08 31 35.6 -0.3**
MK31 Makanchi Array 45.97 298 P **P** **08 31 37.9 -0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.9s
MK31 Makanchi Array 45.97 298 P **P** **08 31 37.9 -0.1**
MK31 IAmb IAmb 08 31 38.8
comp=Z,4.2nm,0.8s
MKAR Makanchi Array 45.97 298 P **P** **08 31 37.9 0.0**
comp=Z,3.1nm,0.7s,baz=74,slow=8.3,SNR=26
MAKZ Makanchi 46.16 299 P **P** **08 31 39.1 -0.4**
MAKZ pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi 46.16 299 P **P** **08 31 39.1 -0.4**
MAKZ IAmb IAmb 08 31 40.4
comp=Z,3.7nm,0.7s
KURK Kurchatov 46.84 305 *i* P **P** **08 31 43.3 -1.4**
KURK Kurchatov 46.84 305 *i* P **P** **08 31 43.3 -1.4**
KURK pmax pmax
comp=Z,2.0nm,1.0s
KURK Kurchatov 46.84 305 P **P** **08 31 45.0 +0.3**
KURK IAmb IAmb 08 31 59.3
comp=Z,3.8nm,0.6s
C36M Paulatuk 48.89 28 P **P** **08 32 01.4 +1.1**
C36M IAmb IAmb 08 32 15.9
comp=Z,6.1nm,0.9s
BRVK Borovoye 50.78 310 *e*P **P** **08 32 15.7 +0.7**
BRVK Borovoye 50.78 310 *ce* P **P** **08 32 15.7 +0.7**
BRVK pmax pmax
comp=Z,3.0nm,1.7s
TARG Taragay, Kyrgy 51.01 294 P **P** **08 32 18.4 +1.0**
RES Resolute Bay 54.66 17 P **P** **08 32 45.2 +1.9**
RES pmax pmax
comp=Z,8.0nm,1.3s
RES Resolute Bay 54.66 17 P **P** **08 32 45.2 +1.9**
RES IAmb IAmb 08 32 45.7
comp=Z,7.5nm,1.2s
KK31 Karatay Array 55.09 299 P **P** **08 32 47.2 +0.2**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KK31 Karatay Array 55.09 299 P **P** **08 32 47.2 +0.2**
KK31 IAmb IAmb 08 32 47.8
comp=Z,2.9nm,0.8s
KKAR Karatay Array 55.09 299 P **P** **08 32 47.0 0.0**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 55.09 299 P **P** **08 32 47.0 0.0**
KKAR IAmb IAmb 08 32 47.8
comp=Z,2.9nm,0.8s
ARU Arti 55.46 318 *i* P **P** **08 32 48.7 -0.6**
ARU Arti 55.46 318 *d i* P **P** **08 32 48.7 -0.6**
ARU 08 34 51.2
ARU S **S** **08 40 35.1 +1.2**
ARU SS **SS** **08 44 16.6 -1.3**
ARU pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 59.36 340 P **P** **08 33 15.3 -1.3**
KEV pmax pmax
comp=Z,23nm,1.5s
KEV Kevo 59.36 340 P **P** **08 33 15.2 -1.3**
ARCES ARCESS Array B 59.88 340 P **P** **08 33 19.9 -0.3**
comp=Z,1.2nm,0.8s,baz=44,slow=9.2,SNR=4.3
ARCES ARCESS Array B 59.88 340 P **P** **08 33 20.0 -0.3**
LRM Limekiln Ridge 65.31 50 P **P** **08 33 54.2 -3.0**
FIA1 FINESS Array S 65.66 334 P **P** **08 33 59.4 +0.6**
FINES FINESS Array B 65.66 334 P **P** **08 33 57.5 -1.4**
comp=Z,4.2nm,0.8s,baz=46,slow=8.2,SNR=11
FINES FINESS Array B 65.66 334 *i* P **P** **08 33 58.2 -0.7**
FINES pmax pmax
comp=Z,4.0nm,0.8s
ASAR Alice Springs 68.42 195 P **P** **08 34 19.8 +3.0**
comp=Z,0.4nm,0.8s,baz=9.8,slow=6.0,SNR=2.7
PDAR Pinedale Array 68.84 51 P **P** **08 34 20.2 +0.5**
comp=Z,0.3nm,0.6s,baz=266,slow=3.6,SNR=2.9
NB201 NORSAR Array S 70.23 340 P **P** **08 34 27.6 -0.1**
NB2 NORSAR Subarra 70.25 340 P **P** **08 34 27.4 -0.4**
comp=Z,0.6nm,0.4s,baz=31,slow=6.5
NOA NORSAR Array B 70.25 340 P **P** **08 34 27.5 -0.4**
comp=Z,0.5nm,0.4s,baz=29,slow=6.5,SNR=8.4
KIV Kislovodsk 70.96 313 *e*P **P** **08 34 33.9 +1.4**
KIV Kislovodsk 70.96 313 *e*P **P** **08 34 33.9 +1.4**
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,125nm,18.0s
KBZ Khabaz 71.00 313 P **P** **08 34 33.2 +0.7**
comp=Z,2.1nm,0.6s,baz=38,slow=5.0,SNR=4.8
NEY Neytrino 71.42 312 *i* P **P** **08 34 35.4 0.0**
NEY pmax pmax
comp=Z,1.0nm,1.0s
AKASG Malin Array Be 72.56 325 P **P** **08 34 41.5 -0.4**
comp=Z,0.8nm,0.4s,baz=38,slow=5.0,SNR=2.0
AKBB Malin Array Si 72.56 325 *ce* P **P** **08 34 42.3 +0.4**
GERES GERESS Array B 79.99 332 P **P** **08 35 24.1 -0.2**
comp=Z,0.5nm,0.4s,baz=48,slow=4.6,SNR=2.0
TXAR Lajitas Array 81.47 58 P **P** **08 35 33.7 +1.2**
comp=Z,0.4nm,0.7s,baz=298,slow=3.9,SNR=6.9

*JMA **05** 08:45:02.5±0.2, 28°.09N×128°.13E, h10km±3km, M3.6*
*NIED **05** 08:45:02.5, 28°.09N×128°.13E, h10km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.45; $M_{\theta\theta}$2.30; $M_{\phi\phi}$-1.85; $M_{r\theta}$-0.96; $M_{\theta\phi}$1.44; $M_{\phi r}$0.64; Fault plane solution: $M_0$2.80000×10^{15} NP1: ϕ_s116.00000°, δ83.00000°, λ-26.00000°. NP2: ϕ_s209.00000°, δ65.00000°, λ-172.00000°.*
*IDC **05** 08:45:05.0±1.2, 27°.89N×127°.99E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.5/40, mbtmp3.7/6, ML3.2/2, MS3.5/17, Ms1 3.5/17, ms1mx3.3/56 Error ellipse: s-maj=48.7km s-min=18.8km az=77.0*
*NEIC **05** 08:45:06.2±3.0, 27°.98N±0°.09×128°.2E±0°.1, h10km±2km, mb4.1/8, Error ellipse: s-maj=22.0km s-min=13.5km az=114.0*
ISC 05 08:45:05.5±1.3, 27°.91N±0°.04×128°.37E±0°.05, h6km±10km, n42, σ1°56/37, mb3.8/7, MS3.5/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.53**	**104**	P	**Pb**	**08 45 17.3**	**+0.1**
JTK				*e*S	**Sn**	**08 45 28.2**	**-0.7**
JOKE	**Okinoerabujima**	**0.58**	**162**	P	**Pb**	**08 45 18.4**	**+0.4**
JOKE				*e*S	**Sn**	**08 45 29.0**	**-1.1**
JAMN	**Amaminishikomi**	**0.79**	**65**	P	**Pg**	**08 45 20.3**	**-0.3**
JAMN				*e*S	**Sb**	**08 45 33.1**	**+0.6**
JYRO	**Yoronjima**	**0.89**	**175**	P	**Pg**	**08 45 23.0**	**+0.5**
JYRO				*e*S	**Sn**	**08 45 37.5**	**-0.2**
JIH	**Iheya**	**0.94**	**202**	P	**Pg**	**08 45 22.2**	**-1.4**
JIH				S	**Sg**	**08 45 36.1**	**+0.2**
JOW	**Kunigami**	**1.08**	**184**	P	**Pg**	**08 45 25.6**	**-0.6**
JOW				*e*S	**Sn**	**08 45 42.4**	**-0.1**
JAM	**Amami Oshima**	**1.20**	**65**	P	**Pb**	**08 45 27.3**	**-1.3**
JAM				*e*S	**Sb**	**08 45 44.3**	**-0.1**
JNTH	**Nagotoyohara**	**1.42**	**193**	P	**Pn**	**08 45 30.3**	**-1.6**
JNTH				*e*S	**Sg**	**08 45 51.0**	**-0.2**
JTAJ	**Takarajima**	**1.44**	**31**	P	**Pn**	**08 45 28.1**	**-4.0**
JAGN	**Aguni-jima**	**1.66**	**217**	P	**Pn**	**08 45 33.1**	**-2.0**
JNU	**Nakatsue**	**5.62**	**22**	Pn	**Pn**	**08 46 31.6**	**+1.9**
	1.2nm,0.3s,baz=49,slow=22,SNR=18						
JNU	**Nakatsue**	**5.62**	**22**	Pn	**Pn**	**08 46 32.1**	**+2.4**
YHNB	**Yeheng**	**7.06**	**244**	Pn	**Pn**	**08 46 50.8**	**+1.3**
SSLB	**Suanglung**	**7.84**	**240**	Pn	**Pn**	**08 47 01.4**	**+1.2**
KSRS	**Korea Array**	**9.52**	**358**	Pn	**Pn**	**08 47 24.2**	**+1.0**
	0.1nm,0.3s,baz=183,slow=13,SNR=2.1						
KSRS				LR	LR	08 50 59.9	
	comp=Z,223nm,20.4s,baz=179,slow=37						
JHJ	**Hachijo jima 2**	**11.12**	**59**	LR	LR	08 51 46.1	
	comp=Z,166nm,18.7s,baz=110,slow=35						
MJAR	**Matsushiro Arr**	**11.97**	**42**	LR	LR	08 53 28.4	
	comp=Z,129nm,18.4s,baz=205,slow=41						
JCJ	**Chichijima**	**12.29**	**91**	LR	LR	08 52 37.1	
	comp=Z,170nm,19.4s,baz=216,slow=36						
BJT	**Baijiatuan**	**15.73**	**323**	P	**Pn**	**08 48 49.3**	**+1.6**
BJT				IAmb	IAmb	08 48 52.1	
	comp=Z,6.0nm,0.8s						
USA0B	**Ussuriysk Arra**	**16.51**	**9**	P	**Pn**	**08 48 59.2**	**+1.6**
USRK	**Ussuriysk Ar.**	**16.51**	**9**	Pn	**P**	**08 49 03.0**	**+2.7**
	baz=201,slow=7.6,SNR=4.0						
ENH	**Enshi**	**16.67**	**283**	P	**P**	**08 49 01.8**	**-0.5**
ENH				IAmb	IAmb	08 49 03.3	
	comp=Z,20nm,1.4s						
ASAJ	**Asahikawa**	**19.80**	**32**	LR	LR	08 57 54.2	
	comp=Z,95nm,19.0s,baz=224,slow=38						
GUMO	**Guam**	**20.97**	**129**	LR	LR	08 56 47.5	
	comp=Z,156nm,18.3s,baz=338,slow=33						
KLR	**Kul'dur**	**21.44**	**6**	LR	LR	08 58 01.7	
	comp=Z,101nm,18.7s,baz=189,slow=36						
ULN	**Ulaanbaatar**	**25.92**	**326**	P	**P**	**08 50 36.5**	**-2.0**
ULN				IAmb	IAmb	08 50 38.2	
	comp=Z,5.4nm,1.1s						
SONM	**Songino Array**	**26.23**	**325**	P	**P**	**08 50 40.4**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=145,slow=14,SNR=4.1						
SONM				LR	LR	09 01 48.8	
	comp=Z,126nm,18.7s,baz=124,slow=38						
CMAR	**Chiang Mai Arr**	**28.58**	**257**	LR	LR	09 03 24.0	
	comp=Z,96nm,19.9s,baz=203,slow=39						
SIJI	**Sorong**	**28.75**	**174**	P	**P**	**08 51 04.8**	**+0.8**
	comp=Z,5.4nm,0.3s,baz=343,slow=19,SNR=1.7						
SIJI				LR	LR	09 01 52.7	
	comp=Z,76nm,20.6s,baz=313,slow=35						
SBUM	**Sibu**	**29.65**	**214**	P	**P**	**08 51 11.7**	**-0.3**
SBUM				IAmb	IAmb	08 51 12.8	
	comp=Z,2.9nm,0.5s						
PETK	**Petropavlovsk-**	**33.21**	**33**	LR	LR	09 07 03.8	
	comp=Z,30nm,18.7s,baz=240,slow=40						
MK31	**Makanchi Array**	**40.52**	**310**	P	**P**	**08 52 42.0**	**-3.4**
MKAR	**Makanchi Array**	**40.52**	**310**	P	**P**	**08 52 43.5**	**-1.8**
	comp=Z,0.8nm,0.8s,baz=98,slow=9.8,SNR=5.7						
PMG	**Port Moresby**	**41.32**	**151**	LR	LR	09 07 11.4	
	comp=Z,97nm,21.3s,baz=288,slow=32						
NRIK	**Noril'sk**	**47.70**	**342**	LR	LR	09 15 14.0	
	comp=Z,90nm,19.4s,baz=176,slow=38						
WRA	**Warramunga Arr**	**47.92**	**172**	P	**P**	**08 53 43.8**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=353,slow=8.2,SNR=4.9						
WB2	**Warramunga Arr**	**47.92**	**172**	P	**P**	**08 53 45.1**	**+0.3**
WR0	**Warramunga Arr**	**47.96**	**172**	P	**P**	**08 53 45.7**	**+0.6**
ASAR	**Alice Springs**	**51.56**	**174**	P	**P**	**08 54 14.3**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=355,slow=8.3,SNR=6.6						
ASAR				LR	LR	09 18 50.2	
	comp=Z,46nm,18.0s,baz=141,slow=39						
KBZ	**Khabaz**	**68.19**	**309**	LR	LR	09 30 45.7	
	comp=Z,27nm,18.8s,baz=66,slow=40						
ARCES	**ARCESS Array B**	**68.49**	**338**	LR	LR	09 30 38.1	
	comp=Z,33nm,18.7s,baz=109,slow=40						
FINES	**FINESS Array B**	**71.47**	**330**	LR	LR	09 30 22.6	
	comp=Z,55nm,18.7s,baz=45,slow=38						

IDC 05 08:57:28.1±5.7, 29°.30S×177°.57W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/29, mbtmp3.4/2, Error ellipse: s-maj=318.1km s-min=81.7km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.55**	**266**	P	P	09 05 33.7	-0.3
	0.4nm,1.1s,baz=96,slow=8.5,SNR=4.2						
WRA	**Warramunga Arr**	**44.45**	**271**	P	P	09 05 41.1	0.0
	0.5nm,0.3s,baz=110,slow=8.1,SNR=9.3						
FINES	**FINESS Array B**	**144.24**	**341**	PKP	PKPdf	09 17 04.7	-0.6
	0.4nm,0.3s,baz=38,slow=4.1,SNR=4.6						

*IDC **05** 09:56:28.7±5.4, 9°.67S×118°.89E, h68km±50km, mb3.1/1, mb1 3.6/5, mb1mx3.3/29, mbtmp3.7/5, ML3.5/4, Error ellipse: s-maj=86.0km s-min=22.3km az=63.0*
*DJA **05** 09:56:31.0±0.8, 9°.S±13°×11°.9E±°, h32km±13km, M4.1/6, mb4.3/1, MLv4.0/6*
ISC 05 09:56:28.9±0.9, 9°.47S±0°.07×119°.16E±0°.05, h46km, n17, σ3°74/19, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.28**	**126**	P	**Pn**	**09 56 41.2**	**+3.7**
WBSI				S	**Sn**	**09 56 49.8**	**+6.2**
WSI	**Waingapu**	**1.14**	**100**	P	**Pn**	**09 56 50.9**	**+2.5**
PLAI	**Plampang**	**1.51**	**295**	P	**Pn**	**09 56 55.9**	**+2.4**
PLAI				S	**Sn**	**09 57 15.0**	**+3.0**
BASI	**Baing, Sumba**	**1.58**	**118**	P	**Pn**	**09 56 58.0**	**+3.6**
TWSI	**Taliwang, Sumb**	**2.37**	**288**	P	**Pn**	**09 57 08.2**	**+3.0**
EDFI	**Ende, Flores**	**2.60**	**74**	P	**Pn**	**09 57 09.5**	**+1.0**
KAPI	**Kappang**	**4.47**	**8**	P	**Pn**	**09 57 37.5**	**+3.4**
	4.6nm,0.3s,baz=190,slow=10,SNR=11						
KAPI				S	**Sn**	**09 58 25.3**	**+0.4**
	9.8nm,0.3s,baz=171,slow=9.8,SNR=15						
BATI	**Baumata**	**4.50**	**100**	P	**Pn**	**09 57 37.3**	**+2.8**
	34nm,0.3s,baz=268,slow=6.3,SNR=11						
BATI				S	**Sn**	**09 58 28.0**	**+2.4**
	7.6nm,0.3s,baz=30,slow=22,SNR=1.6						
BATI	**Baumata**	**4.50**	**100**	P	**Pn**	**09 57 36.5**	**+2.0**
JAGI	**Jajag, Banyuwa**	**5.05**	**281**	P	**Pn**	**09 57 43.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**10.63**	**144**	P	**Pn**	**09 58 57.8**	**-0.8**
	0.5nm,0.3s,baz=329,slow=12,SNR=13						
FITZ				S	Sn	10 00 47.2	-9.1
	1.0nm,0.3s,baz=232,slow=19,SNR=11						
WRA	**Warramunga Arr**	**17.98**	**127**	P	**Pn**	**10 00 34.6**	**-0.9**
	0.1nm,0.3s,baz=302,slow=13,SNR=7.2						
WRA				S	Sn	10 03 40.6	-15
	0.1nm,0.3s,baz=298,slow=24,SNR=1.3						
ASAR	**Alice Springs**	**19.94**	**137**	P	**P**	**10 00 56.9**	**-0.3**
	0.1nm,0.3s,baz=313,slow=9.5,SNR=3.1						
ASAR				S	**S**	**10 04 29.8**	**-9.5**
	0.0nm,0.3s,baz=315,slow=25,SNR=3.8						
H08S2	**Diego Garcia H**	**46.16**	**268**	T	T	10 54 11.0	
	baz=96,slow=76,SNR=11						
H08S3	**Diego Garcia H**	**46.17**	**269**	T	T	10 54 14.8	
	baz=96,slow=76,SNR=13						
H08S1	**Diego Garcia H**	**46.18**	**268**	T	T	10 54 12.7	
	baz=96,slow=76,SNR=8.1						
MKAR	**Makanchi Array**	**64.95**	**333**	P	**P**	**10 07 01.2**	**-2.6**
	0.2nm,0.4s,baz=140,slow=7.6,SNR=2.5						

*LSZ **05** 10:22:31.8±0.3, 26°.87S×25°.27E, h10km, MD5.7*
*PRE **05** 10:22:32.4±1.2, 26°.95S×26°.77E, h2km, ML5.5*
*IDC **05** 10:22:33.9±0.4, 26°.96S×26°.75E, h0km, mb4.9/29, mb1 5.0/30, mb1mx5.0/34, mbtmp4.9/30, ML5.8/3, MS5.1/36, Ms1 5.1/36, ms1mx5.0/37, Error ellipse: s-maj=13.7km s-min=10.2km az=94.0*
*NEIC **05** 10:22:33.8, 26°.97S×26°.71E, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.17; $M_{\theta\theta}$0.97; $M_{\phi\phi}$-0.80; $M_{r\theta}$0.49; $M_{\theta\phi}$-1.42; $M_{\phi r}$-0.10; Fault plane solution: $M_0$1.75000×10^{17} NP1: ϕ_s164.79000°, δ76.15000°, λ4.81000°. NP2: ϕ_s73.63000°, δ85.33000°, λ166.10000°. Principal axes: T 1.8670, Plg13.0000°, Azm28.0000°; N -0.2650, Plg75.0000°, Azm235.0000°; P -1.6021, Plg6.0000°, Azm120.0000°;*
*BJI **05** 10:22:33.6±0.0, 27°.23S×26°.91E, h8km, mB5.4/17, mb5.3/24, Ms5.4/18, Ms7 5.2/18*
*NEIC **05** 10:22:34.0±2.2, 26°.99S±0°.04×26°.71E±0°.08, h5km±1km, mb5.3/113, Ms_20 5.4/681, Mwb5.4/11, Mwc5.5(GCMT), Error ellipse: s-maj=11.6km s-min=6.5km az=103.0*
*BGR **05** 10:22:34.8±0.0, 26°.63S×26°.54E, h10km, mb5.1, Ms5.1*
*MOS **05** 10:22:34.0±1.1, 26°.95S×26°.68E, h10km, mb5.4/68, MS5.3/36, Error ellipse: s-maj=10.9km s-min=5.0km az=80.4*
*BUL **05** 10:22:35.4±1.1, 26°.87S×26°.78E, h0km±27km*
*GCMT **05** 10:22:36.0±0.1, 26°.83S±0°.01×26°.79E±0°.01, h12km, MW5.5/157, Moment Tensor Solution. s116, c203; s157, c308; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}0.00±.02; $M_{\theta\theta}$0.55±.03; $M_{\phi\phi}$-0.55±.02; $M_{r\theta}$0.54±.05; $M_{\theta\phi}$-1.83±.02; $M_{\phi r}$-0.48±.05; Best double couple: $M_0$2.03400×10^{17} NP1: ϕ_s80.00000°, δ76.00000°, λ168.00000°. NP2: ϕ_s173.00000°, δ78.00000°, λ15.00000°. Principal axes: T 2.1530, Plg19.0000°, Azm37.0000°; N -0.2380, Plg71.0000°, Azm210.0000°; P -1.9150, Plg2.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **05** 10:22:37, 26°.82S×26°.80E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.03; $M_{\theta\theta}$0.59; $M_{\phi\phi}$-0.56; $M_{r\theta}$0.28; $M_{\theta\phi}$-1.93; $M_{\phi r}$-0.06; Fault plane solution: $M_0$2.04000×10^{17} NP1: ϕ_s82.00000°, δ87.00000°, λ172.00000°. NP2: ϕ_s172.00000°, δ82.00000°, λ3.00000°. Principal axes: T 2.0630, Plg7.0000°, Azm36.0000°; N -0.0562, Plg82.0000°, Azm243.0000°; P -2.0068, Plg4.0000°, Azm127.0000°;*
*EAF **05** 10:22:38.7±0.7, 26°.90S×26°.87E, h31km±15km, MD3.3*
ISC 05 10:22:34.6±0.5, 26°.90S±0°.03×26°.75E±0°.03, h8km±2km, n1029, σ1°77/775, mb5.2/185, MS5.3/416, 41C-22D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.55**	**93**	*e*P	**Pg**	**10 22 43.0**	**-2.3**
PRYS				*e*S	**Sg**	**10 22 49.7**	**-2.7**
PRYS				AML	AML	10 22 55.4	
	comp=Z,77μm,0.4s						

WDLM Western Deep L 0.77 52 *e*P **Pg** **10 22 47.1 -2.3**
WDLM *e*S **Sg** **10 22 57.9 -1.6**
WDLM AML AML 10 23 02.1
comp=Z,73µm,0.4s
KSR Koster 1.05 7 *e*P **Pg** **10 22 53.8 -1.1**
KSR *e*S **Sg** **10 23 08.4 -0.2**
KSR AML AML 10 23 13.5
comp=Z,30µm,0.7s
SWZ Schweizer 1.29 257 AML AML 10 23 06.7
comp=Z,114µm,0.5s
LBTB Lobatse 2.15 331 Pn **Pn** **10 23 12.0 +1.2**
comp=Z,3µm,0.3s,baz=148,slow=15,SNR=3540
LBTB Pg **Pb** **10 23 13.7 -0.1**
comp=Z,3µm,0.3s,baz=149,slow=18,SNR=468
LBTB Lg Lg 10 23 40.6
comp=Z,8µm,0.3s,baz=51,slow=19,SNR=80
LBTB LR LR 10 24 14.6
comp=Z,33µm,19.5s,baz=161,slow=46
LBTB Lobatse 2.15 331 *i*P **Pn** **10 23 12.1 +1.2**
LBTB Lobatse 2.15 331 *e*P **Pn** **10 23 12.0 +1.2**
LBTB *e*S **Sn** **10 23 38.7 +0.9**
LBTB AML AML 10 23 42.3
comp=Z,35µm,0.6s
LBTB Lobatse 2.15 331 **Pn** **10 23 12.1 +1.2**
LBTB Sn **Sb** **10 23 40.3 -0.4**
LBTB Lobatse 2.15 331 *i*P **Pb** **10 23 13.0 -0.8**
BOSA Boshof 2.16 217 Pn **Pn** **10 23 10.5 -0.5**
comp=Z,1µm,0.3s,baz=41,slow=13,SNR=7416
BOSA Pg **Pb** **10 23 13.1 -1.0**
comp=Z,2µm,0.3s,baz=38,slow=18,SNR=143
BOSA Sn **Sn** **10 23 37.0 -1.0**
comp=Z,5µm,0.3s,baz=312,slow=19,SNR=18
BOSA Lg Lg 10 23 40.1
comp=Z,9µm,0.3s,baz=313,slow=21,SNR=6.8
BOSA LR LR 10 24 12.6
comp=Z,60µm,19.4s,baz=17,slow=47
BOSA Boshof 2.16 217 *i*P **Pb** **10 23 13.2 -0.8**
BOSA Boshof 2.16 217 *e*P **Pn** **10 23 10.8 -0.2**
BOSA *e*S **Sn** **10 23 37.0 -1.0**
BOSA AML AML 10 23 50.6
comp=Z,64µm,0.5s
BOSA Boshof 2.16 217 *i*P **Pb** **10 23 13.7 -0.4**
I47ZA BOSHOF INFRASO 2.17 218 Pn **Pn** **10 23 10.0 -1.3**
baz=46,slow=27,SNR=0.6
I47ZA Lg Lg 10 23 39.6
baz=41,slow=25
I47ZA *i* 10 38 50.0
baz=45,slow=330,SNR=0.5
UPI Upington 5.09 252 *e*P **Pn** **10 23 50.7 -0.6**
UPI *e*S **Sn** **10 24 47.8 -2.4**
UPI AML AML 10 25 20.6
comp=Z,6µm,0.4s
MOPA Mopani 5.39 52 *e*P **Pn** **10 23 54.9 -0.5**
MOPA *e*S **Sn** **10 24 55.4 -2.4**
MOPA AML AML 10 25 22.1
comp=Z,8µm,0.7s
MSNA Messina 5.43 34 *e*P **Pn** **10 23 54.5 -1.4**
MSNA *e*S **Sn** **10 24 53.9 -4.7**
MSNA AML AML 10 25 33.1
comp=Z,9µm,0.6s
SOE Somerset East 5.88 190 *e*P **Pn** **10 24 00.9 -1.2**
SOE *e*S **Sn** **10 25 04.9 -4.9**
SOE AML AML 10 25 38.9
comp=Z,9µm,0.6s
AUGR Augrabies 5.92 252 *e*P **Pn** **10 24 02.4 -0.4**
AUGR *e*S **Sn** **10 25 07.1 -3.8**
AUGR AML AML 10 25 38.1
comp=Z,15µm,0.5s
MATP Matopo 6.64 14 Pn **Pn** **10 24 12.2 -0.5**
comp=Z,275nm,0.3s,baz=193,slow=13,SNR=1548
MATP Sn **Sn** **10 25 20.6 -8.2**
comp=Z,186nm,0.3s,baz=123,slow=16,SNR=3.7
MATP Lg Lg 10 25 57.4
comp=Z,1µm,0.3s,baz=98,slow=23,SNR=9.7
MATP LR LR 10 26 41.9
comp=Z,20µm,18.4s,baz=192,slow=37
MATP Matopo 6.64 14 *i*P **Pn** **10 24 14.3 +1.6**
MATP Matopo 6.64 14 *i*P **Pn** **10 24 13.6 +0.8**
MATP *i*S **Sn** **10 25 21.7 -7.0**
GRAN Grantham 6.70 215 *e*P **Pn** **10 24 12.7 -0.7**
GRAN *e*S **Sn** **10 25 25.0 -4.9**
GRAN AML AML 10 25 44.2
comp=Z,4µm,0.4s
BLWY Bulawayo 6.94 15 *i*P **Pn** **10 24 16.8 -0.1**
BLWY *i*S **Sn** **10 25 34.5 -1.7**
BLWY Bulawayo 6.94 15 *i*P **Pn** **10 24 16.9 0.0**
BLWY *i*S **Sn** **10 25 29.5 -6.7**
ROSN Rosenhof 7.43 194 *e*P **Pn** **10 24 22.6 -0.7**
ROSN *e*S **Sn** **10 25 42.2 -5.5**
ROSN AML AML 10 25 45.1
comp=Z,22µm,0.4s
CVNA Calvinia 7.62 232 *e*P **Pn** **10 24 24.6 -1.5**
CVNA *e*S **Sn** **10 25 47.6 -5.1**
CVNA AML AML 10 26 33.9
comp=Z,16µm,0.7s
KOMG Komaggas 8.66 248 *e*P **Pn** **10 24 39.3 -0.9**
KOMG *e*S **Sn** **10 26 12.6 -5.5**
KOMG AML AML 10 26 47.4
comp=Z,2µm,0.5s
ITZ Itezhi-Tezhi 11.12 356 *e*P **Pn** **10 25 12.6 -1.6**
ITZ *i* 10 25 12.7
baz=190,slow=10
ITZ *e*S **Sn** **10 27 11.0 -7.9**
ITZ Lg Lg 10 28 18.2
TSUM Tsumeb 11.39 310 Pn **Pn** **10 25 16.2 -1.7**
comp=Z,28nm,0.3s,baz=137,slow=12,SNR=116
TSUM Sn **Sn** **10 27 18.9 -6.5**
comp=Z,42nm,0.3s,baz=43,slow=16,SNR=3.5
TSUM Lg Lg 10 28 28.8
comp=Z,67nm,0.3s,baz=59,slow=17,SNR=5.4
TSUM LR LR 10 29 45.4
comp=Z,24µm,18.9s,baz=138,slow=38
TSUM Tsumeb 11.39 310 *i*P **Pn** **10 25 19.1 +1.3**
TSUM Tsumeb 11.39 310 *e*P **Pn** **10 25 18.1 +0.3**
TSUM Tsumeb 11.39 310 Pn **Pn** **10 25 15.6 -2.2**
TSUM Sn **Sn** **10 27 19.0 -6.5**
TSUM Tsumeb 11.39 310 *i*P **Pn** **10 25 17.9 +0.1**
LSZ Lusaka 11.65 7 Pn **Pn** **10 25 18.8 -2.5**
comp=Z,57nm,0.3s,baz=188,slow=13,SNR=506
LSZ Sn **Sn** **10 27 23.7 -8.0**
comp=Z,68nm,0.3s,baz=270,slow=20,SNR=10.0
LSZ Lg Lg 10 28 32.4
comp=Z,110nm,0.3s,baz=247,slow=22,SNR=5.9
LSZ LR LR 10 29 18.8
comp=Z,10µm,20.0s,baz=185,slow=35
LSZ Lusaka 11.65 7 *e*P **Pn** **10 25 21.2 -0.1**
LSZ Lusaka 11.65 7 P **Pn** **10 25 18.8 -2.5**
LSZ S **Sn** **10 27 25.8 -5.9**
LSZ Lusaka 11.65 7⇑ *e*P **Pn** **10 25 19.0 -2.4**
LSZ *i* 10 25 19.0
baz=193,slow=16
LSZ *e*S Sn 10 27 21.0 -11
FOMA Nahampoana Res 18.30 88 P **P** **10 26 49.9 +0.8**
FOMA S Sn 10 29 55.3 -18
FOMA Nahampoana Res 18.30 88 P **P** **10 26 49.8 +0.8**
ABPO Ambohimpanom 20.41 72 P Pn 10 27 14.0 -0.5
ABPO pmax pmax
comp=Z,71nm,1.0s
ABPO MLR MLR
comp=Z,4µm,20.0s
ABPO Ambohimpanom 20.41 72 Pn 10 27 14.0 -0.5
OPO Ambohidratompo 20.57 70 P **P** **10 27 14.6 +0.3**
comp=Z,76nm,1.1s,baz=239,slow=11,SNR=21
OPO S **S** **10 31 06.4 +1.7**
comp=Z,8.1nm,0.8s,baz=133,slow=19,SNR=1.1
OPO LR LR 10 34 26.5
comp=Z,9µm,18.5s,baz=200,slow=35
KIBK Kibwezi 26.72 26 *i*P **P** **10 28 16.1 +1.4**
KIBK ⇑ *e* 10 29 24.8
baz=208,slow=14
KMBO Kilima Mbogo 27.54 23 P **P** **10 28 23.7 +1.4**
comp=Z,20nm,1.0s,baz=192,slow=11,SNR=15
KMBO Lg Lg 10 36 41.1
comp=Z,41nm,1.0s,baz=286,slow=17,SNR=3.9
KMBO LR LR 10 38 13.9
comp=Z,5µm,20.1s,baz=182,slow=34
KMBO Kilima Mbogo 27.54 23 *ce*P **P** **10 28 25.6 +3.2**
KMBO pmax pmax
comp=Z,19nm,1.0s
LODK Lodwar 31.27 17 *i*P **P** **10 28 57.5 +2.2**
ATD Arta Tunnel 41.28 24 P **P** **10 30 22.5 +1.8**
ATD IAmb IAmb 10 30 24.7
comp=Z,76nm,1.2s
SYO Syowa Base 42.82 173⇑ *e*P **P** **10 30 31.2 -1.4**
SYO Syowa Base 42.82 173⇓ *i*pP **P** **10 30 32.0 -0.6**
SYO Syowa Base 42.82 173⇑ *i*sP sP 10 30 34.6 -2.0
NVL N'Iazarevskaya 44.72 187 *e*P **P** **10 30 47.5 -0.4**
NVL *e*S **S** **10 37 25.3 +0.8**
NVL pmax pmax
comp=Z,30nm,0.8s
KIC Kosan Boka 44.98 313 *e*P **P** **10 30 49.6 -1.1**
comp=Z,237nm,1.2s
LIC Lamto 45.07 312 *e*P **P** **10 30 51.2 -0.2**
comp=Z,245nm,1.2s
DBIC Dimbokro 45.29 313 P **P** **10 30 52.9 -0.2**
comp=Z,64nm,1.0s,baz=124,slow=10,SNR=29
DBIC LR LR 10 48 45.9
comp=Z,3µm,19.0s,baz=110,slow=35
DBIC Dimbokro 45.29 313 P **P** **10 30 52.5 -0.6**
DBIC pmax pmax
comp=Z,89nm,1.1s
DBIC Dimbokro 45.29 313 P **P** **10 30 52.5 -0.6**
TIC Toumodi 45.38 313 *e*P **P** **10 30 53.3 -0.5**
MAW Mawson 46.20 162 P **P** **10 30 59.8 +0.1**
comp=Z,5.0nm,0.5s,baz=304,slow=5.6,SNR=14
MAW LR LR 10 46 07.0
comp=Z,1µm,19.4s,baz=320,slow=31
MAW Mawson 46.20 162 P **P** **10 30 57.7 -2.0**
MAW pmax pmax
comp=Z,5.0nm,1.2s
MAW Mawson 46.20 162 P **P** **10 30 57.7 -2.0**
TOA0 Torodi Ar. Sit 46.66 325 P **P** **10 31 03.4 -0.5**
SNR=13
TOA0 S S 10 37 43.2 -10
TOA0 Torodi Ar. Sit 46.66 325 P **P** **10 31 03.6 -0.3**
TORD Torodi Ar. Bea 46.66 325 P **P** **10 31 02.9 -1.0**
comp=Z,73nm,1.0s,baz=145,slow=5.8,SNR=91
TORD LR LR 10 50 45.4
comp=Z,1µm,19.4s,baz=125,slow=36
SOCY Socotra 47.01 38 P **P** **10 31 07.9 +1.2**
DGAR Diego Garcia 47.45 74 *i*P **P** **10 31 11.3 +1.1**
DGAR pmax pmax
comp=Z,241nm,1.1s
SNAA Sanae 47.73 192 P **P** **10 31 11.6 -0.1**
SNAA Sanae 47.73 192 P **P** **10 31 11.6 -0.1**
comp=Z,52nm,0.8s,baz=350,slow=2.3,SNR=210
SNAA Sanae 47.73 192 *ce*P **P** **10 31 11.5 -0.1**
SNAA pmax pmax
comp=Z,61nm,0.9s
SNAA MLR MLR
comp=Z,710nm,16.0s
SNAA Sanae 47.73 192 P **P** **10 31 10.8 -0.9**
VNA1 Neumayer--Stat 48.08 195 P **P** **10 31 14.6 +0.4**
VNA2 Neumayer--Watz 48.09 194 P **P** **10 31 14.1 -0.2**
baz=24,slow=7.0
VNA3 Neumayer Olymp 48.83 195 P **P** **10 31 19.5 -0.6**
HOPE Hope Point 53.10 221 P **P** **10 31 52.2 -0.3**
HOPE pmax pmax
comp=Z,101nm,1.5s
HOPE Hope Point 53.10 221 P **P** **10 31 52.2 -0.3**
HOPE IAmb IAmb 10 33 09.9
comp=Z,101nm,1.4s
TAM Tamanrasset 53.50 335 P **P** **10 31 55.4 -0.5**
TAM pmax pmax
comp=Z,12nm,0.9s
TAM MLR MLR
comp=Z,6µm,18.0s
TAM Tamanrasset 53.50 335 P **P** **10 31 55.4 -0.5**
MHTO MHTO 56.40 36 P **P** **10 32 18.2 +1.4**
SNR=6.3
MHTO P **P** **10 32 18.2 +1.4**
SNR=6.3
BSY Bisya 57.48 34 P **P** **10 32 24.3 -0.1**
SNR=5.6
JMDO Jabal Madar 57.62 35 P **P** **10 32 26.3 +0.9**
SNR=5.1
ARQ Araqi 57.64 33 P **P** **10 32 26.7 +1.1**
SNR=6.3
ARQ P **P** **10 32 26.7 +1.1**
SNR=6.3
ALNE Al Ain 57.89 32 P **P** **10 32 28.8 +1.5**
JLN Jalan Bani Buh 58.11 36 P **P** **10 32 29.7 +0.9**
SNR=8.1
JLN P **P** **10 32 29.7 +0.9**
SNR=8.1
HOQ Hoqain 58.23 33 P **P** **10 32 30.2 +0.5**
SNR=6.6
HOQ P **P** **10 32 30.2 +0.5**
SNR=6.6
WBK Wadi Bani Khal 58.26 35 P **P** **10 32 32.0 +2.1**
SNR=7.1
WBK P **P** **10 32 32.0 +2.1**
SNR=7.1
SOHO SOHO 58.33 32 *i*P **P** **10 32 31.1 +0.8**
SNR=9.0
ASHO Ashiyiah 58.57 31 *i*P **P** **10 32 32.4 +0.4**
SNR=6.7
NAZ Nazwa, Dubai 58.65 31 *i*P **P** **10 32 34.2 +1.6**
SNR=6.4
NAZ Nazwa, Dubai 58.65 31 P **P** **10 32 34.7 +2.2**
SNR=6.0
HATD Hatta, Dubai 58.73 31 *i*P **P** **10 32 33.0 -0.1**
SNR=6.7
UOSS Minazif 58.86 31 *i*P **P** **10 32 34.5 +0.4**
SNR=9.6
UOSS Minazif 58.86 31 P **P** **10 32 34.5 +0.4**
MSFE Esma-Masafi 59.20 31 *i*P **P** **10 32 37.0 +0.6**
SNR=11
BANOM Banah 59.74 31 P **P** **10 32 39.6 -0.6**
SHME Shamm 59.78 31 *i*P **P** **10 32 40.1 -0.3**
SNR=6.3
RIB01 Linhares ES 61.60 262 *e*P **P** **10 32 54.1 +1.0**
CSS Mathiatis 61.84 6 P **P** **10 32 54.8 +0.6**
CAM01 Campos-RJ 61.85 258 *e*P **P** **10 32 55.5 +0.8**
IDI Anoyia 61.88 358 **P** **10 32 56.5 +2.0**
IDI IAmb IAmb 10 33 28.2
comp=Z,32nm,1.2s
KARP Karpathos 62.11 0 P **P** **10 32 56.8 +0.8**
KARP IAMs_20 IAMs_20 11 03 51.4
comp=Z,2µm,19.0s
BSFB Barra de Sao F 62.17 262 *e*P **P** **10 32 58.8 +1.9**
BSFB *ep*P **sP** **10 33 01.1 +0.2**
PALK Pallekele 62.31 65 P **P** **10 32 58.2 +0.3**
PALK pmax pmax
comp=Z,71nm,1.3s
PALK Pallekele 62.31 65 P **P** **10 32 58.2 +0.3**
SJMB Sao Joao De Ma 62.52 262 *e*P **P** **10 33 00.3 +1.0**
SANT Santorini 62.95 359 P **P** **10 33 02.5 +0.8**
GDU01 Guandu, BA 62.96 268 *e*P **P** **10 33 03.6 +1.3**
CASY Casey 63.21 153 P **P** **10 33 02.6 -0.5**
CASY IAmb IAmb 10 33 05.6
comp=Z,41nm,1.2s
QSPA South Pole Qui 63.29 180 P **P** **10 33 03.3 -0.5**
QSPA South Pole Qui 63.29 180 IAMs_20 IAMs_20 10 59 23.6
comp=Z,2µm,18.0s
ELL Elmali 63.38 3 P **P** **10 33 05.1 +0.5**
ELL pmax pmax
comp=Z,254nm,1.5s
ELL MLR MLR
comp=Z,6µm,18.0s
ELL Elmali 63.38 3 P **P** **10 33 05.1 +0.5**
MAN01 Angra dos Reis 63.52 257 *e*P **P** **10 33 06.6 +0.7**
ITM Ithomi 63.90 356 P **P** **10 33 09.5 +1.6**
ITM IAmb IAmb 10 33 11.2
comp=Z,28nm,0.9s
KEST Kesra 64.43 344 P **P** **10 33 13.5 +2.0**
comp=Z,7.9nm,1.0s,baz=88,slow=5.1,SNR=4.3
KEST LR LR 11 01 16.9
comp=Z,2µm,18.2s,baz=134,slow=36
KEST Kesra 64.43 344 P **P** **10 33 14.0 +2.6**
KEST IAmb IAmb 10 35 30.8
comp=Z,18nm,1.1s
ISP Isparta 64.48 3 P **P** **10 33 12.5 +0.7**
ISP pmax pmax
comp=Z,51nm,1.1s
ISP MLR MLR
comp=Z,2µm,19.0s
ISP Isparta 64.48 3 P **P** **10 33 12.5 +0.7**
ISP Isparta 64.48 3 IAMs_20 IAMs_20 11 01 08.6
comp=Z,2µm,19.0s
GAZ Gaziantep 64.49 9 P **P** **10 33 14.1 +2.2**
BSCB Bom Sucesso 64.86 258 *e*P **P** **10 33 15.2 +0.4**
CLTB Caltabellotta 65.39 348 P **P** **10 33 18.4 +0.7**
MC01 Montes Claros 65.69 263 *e*P **P** **10 33 19.9 -0.3**
AGG Agios Georgios 65.71 356 P **P** **10 33 20.7 +1.0**
AGG pmax pmax
comp=Z,39nm,1.2s
AGG Agios Georgios 65.71 356 P **P** **10 33 20.7 +1.0**
AGG IAmb IAmb 10 33 23.8
comp=Z,39nm,1.2s
AGG IAMs_20 IAMs_20 10 59 52.5
comp=Z,2µm,21.0s
VAO Valinhos 66.07 255 *e*P **P** **10 33 24.7 +2.1**
SPB Sao Paulo 66.27 255 *e*P **P** **10 33 25.2 +1.4**
PMSA Palmer Station 66.34 208 *e*P **P** **10 33 24.8 +1.4**
TIP Timpagrande 66.40 352⇑ P **P** **10 33 26.6 +2.4**
TIP Timpagrande 66.40 352 P **P** **10 33 24.8 +0.7**
TIP IAmb IAmb 10 33 28.2
comp=Z,23nm,1.1s
TIP IAMs_20 IAMs_20 11 01 17.7
comp=Z,3µm,22.0s
BR131 Keskin Array S 66.59 6 P **P** **10 33 27.9 +2.3**
SNR=5.8
BR131 Keskin Array S 66.59 6 P **P** **10 33 25.9 +0.4**
BR131 pmax pmax
comp=Z,17nm,0.9s
BR131 Keskin Array S 66.59 6 P **P** **10 33 25.9 +0.4**
BR131 IAmb IAmb 10 33 28.7
comp=Z,17nm,0.9s
BRTR Keskin Array B 66.59 6 P **P** **10 33 26.8 +1.3**
comp=Z,12nm,0.9s,baz=180,slow=8.6,SNR=35
BRTR LR LR 11 03 17.3
comp=Z,1µm,21.0s,baz=177,slow=37
BRTR Keskin Array B 66.59 6 *ce*P **P** **10 33 27.8 +2.3**
BRTR pmax pmax
comp=Z,13nm,0.9s
JANB Januaria 66.66 264 *e*P **P** **10 33 26.2 -0.2**
HYB Hyderabad 66.84 55 *i*P **P** **10 33 27.0 -0.4**
TIJ01 Guaruva-PR 67.02 252 *e*P **P** **10 33 30.6 +1.9**
SCTE Santa Cesarea 67.08 353 IAMs_20 IAMs_20 11 02 25.6
comp=Z,2µm,21.0s
MDUB Mudumu 67.16 4 P **P** **10 33 31.0 +2.0**
CNLB Canela 67.25 248 *e*P **P** **10 33 31.0 +1.0**
ALN Alexandroupoli 67.46 359 P **P** **10 33 32.3 +1.5**
ALN pmax pmax
comp=Z,15nm,0.9s
ALN MLR MLR
comp=Z,900nm,19.0s
ALN Alexandroupoli 67.46 359 P **P** **10 33 32.2 +1.5**
ALN IAmb IAmb 10 33 34.0
comp=Z,15nm,0.9s
FNA Florina 67.53 356 P **P** **10 33 32.1 +0.8**
FNA pmax pmax
comp=Z,30nm,0.9s
FNA MLR MLR
comp=Z,2µm,19.0s
FNA Florina 67.53 356 P **P** **10 33 32.1 +0.8**
FNA IAmb IAmb 10 33 35.1
comp=Z,30nm,0.9s
FNA IAMs_20 IAMs_20 11 04 27.5
comp=Z,2µm,19.0s
VSL Villasalto 68.02 346 P **P** **10 33 35.7 +1.3**
VSL IAmb IAmb 10 35 24.4
comp=Z,12nm,0.8s
BB19B Bebedouro 68.11 257 *e*P **P** **10 33 36.0 +0.4**
TIR Tirane 68.20 354 P **P** **10 33 34.7 -0.7**
TIR pmax pmax
comp=Z,42nm,0.7s
TIR MLR MLR
comp=Z,2µm,20.0s
TIR Tirane 68.20 354 P **P** **10 33 34.7 -0.7**
TIR IAMs_20 IAMs_20 11 04 12.5
comp=Z,2µm,20.0s
SDBA SAO DESIDERIO 68.24 267 *e*P **P** **10 33 36.6 +0.1**
PAOL Paolisi 68.53 350 IAMs_20 IAMs_20 11 03 10.0
comp=Z,2µm,18.0s
PLTB Pedras Altas 68.70 244 *e*P **P** **10 33 40.3 +1.3**
PLTB *ep*P **sP** **10 33 43.7 +0.6**
IPMB Ipameri, GO 68.98 260 *e*P **P** **10 33 41.0 0.0**
ITAB Concordia 69.01 249 *e*P **P** **10 33 42.1 +1.1**
ITAB *ep*P **sP** **10 33 45.3 +0.2**
VTS Vitosha 69.25 357⇑ P **P** **10 33 44.6 +2.5**
VTS Vitosha 69.25 357 P **P** **10 33 42.5 +0.3**
VTS pmax pmax
comp=Z,10.0nm,1.0s
VTS Vitosha 69.25 357 P **P** **10 33 42.5 +0.3**
PDG Podgorica 69.33 354 IAMs_20 IAMs_20 11 05 10.3
comp=Z,2µm,19.0s
BCA Borcka 69.39 12⇑ P **P** **10 33 45.5 +2.7**
BATM Batumi 69.55 12⇑ P **P** **10 33 46.1 +2.3**
INTR Introdacqua 69.59 350 P **P** **10 33 44.0 -0.2**
INTR IAmb IAmb 10 33 48.0
comp=Z,30nm,1.3s
HRA Herat 69.62 31 P **P** **10 33 44.1 -0.6**
HRA IAmb IAmb 10 33 46.9
comp=Z,44nm,1.1s
HRA IAMs_20 IAMs_20 11 05 01.5
comp=Z,2µm,19.0s
BDFB Brasilia 69.71 262 P **P** **10 33 45.5 -0.2**
comp=Z,33nm,0.9s,baz=121,slow=5.4,SNR=24
BDFB LR LR 10 58 50.2
comp=Z,2µm,20.6s,baz=109,slow=31
BDFB Brasilia 69.71 262 P **P** **10 33 45.8 +0.1**
BDFB pmax pmax
comp=Z,27nm,0.8s
BDFB Brasilia 69.71 262 P **P** **10 33 45.8 +0.1**
BDFB IAmb IAmb 10 33 48.8
comp=Z,27nm,0.8s
AKH Akhalkalaki 69.72 13⇑ P **P** **10 33 47.1 +2.0**
AKH Akhalkalaki 69.72 13 P **P** **10 33 45.6 +0.5**
AKH pmax pmax
comp=Z,63nm,1.1s
AKH Akhalkalaki 69.72 13 P **P** **10 33 45.6 +0.5**
PTGB Pitanga 69.84 252 *e*P **P** **10 33 47.3 +1.0**
PTGB *ep*P **sP** **10 33 50.1 -0.2**
AQU L'Aquila 70.00 350 P **P** **10 33 45.9 -0.8**
AQU pmax pmax
comp=Z,26nm,0.8s
AQU L'Aquila 70.00 350 P **P** **10 33 45.9 -0.8**
AQU IAmb IAmb 10 34 12.8
comp=Z,26nm,0.8s
AQU IAMs_20 IAMs_20 11 03 47.0
comp=Z,2µm,19.0s
ITRB Iturama 70.21 257 *e*P **P** **10 33 49.1 +0.6**
PCMB Pacaembu 70.28 255 *e*P **P** **10 33 49.8 +0.8**
TBLG Delisi 70.29 14 P **P** **10 33 49.8 +1.4**
TBLG pmax pmax
comp=Z,15nm,0.7s
TBLG Delisi 70.29 14 P **P** **10 33 49.8 +1.4**
TBLG IAmb IAmb 10 34 01.2
comp=Z,15nm,0.7s
NRCA Norcia 70.52 349 P **P** **10 33 49.4 -0.4**
NRCA IAmb IAmb 10 33 53.6
comp=Z,25nm,1.3s
GEYT Alibeck 70.89 26 P **P** **10 33 52.6 +0.5**
comp=Z,13nm,1.0s,baz=224,slow=6.2,SNR=19
GEYT LR LR 11 06 08.1
comp=Z,3µm,20.2s,baz=215,slow=37
GYA0B ALIBECK ARRAY 70.89 26 P **P** **10 33 52.1 -0.1**
GYA0B IAmb IAmb 10 33 54.8
comp=Z,27nm,1.1s
GYA0B IAMs_20 IAMs_20 11 05 57.0
comp=Z,3µm,20.0s
DIVS Divibare 70.92 355 P **P** **10 33 53.5 +1.2**
DIVS IAmb IAmb 10 33 57.0
comp=Z,39nm,1.2s
TRCB Terra Rica 71.02 254 *e*P **P** **10 33 54.6 +1.1**
TIRR Tirgusor 71.03 1⇑ P **P** **10 33 55.4 +2.6**
MURB Monte Urbino 71.03 349 P **P** **10 33 53.3 +0.3**
MURB IAmb IAmb 10 36 05.9
comp=Z,31nm,1.2s
TLBR Topalu 71.11 1⇓ *e*P **P** **10 33 56.1 +2.8**
ZEI Tsey 71.12 13 *e*P **P** **10 33 55.3 +1.6**
ZEI pmax pmax
comp=Z,34nm,1.0s
HARR Harsova 71.25 1⇓ P **P** **10 33 57.2 +3.0**
NEY Neytrino 71.33 12 *i*P **P** **10 33 56.5 +1.6**
NEY pmax pmax
comp=Z,3.0nm,0.9s
TOPG Topolog 71.45 1⇑ P **P** **10 33 57.8 +2.4**
MDVR Moldovita 71.48 356⇑ P **P** **10 33 58.5 +2.8**
OSSC Osservatorio P 71.51 348 IAMs_20 IAMs_20 11 03 38.0
comp=Z,2µm,18.0s
HERR Herculane 71.55 357⇑ P **P** **10 33 58.6 +2.7**
PBDV Barranco-do-Ve 71.65 331 *e*P **P** **10 34 01.2 +4.4**
comp=Z,41nm,1.5s
ROSB Rosrio 71.65 276 *e*P **P** **10 33 58.2 +0.8**
ROSB *ep*P **sP** **10 34 01.1 -0.3**
PVAQ Vaqueiros 71.69 332 *e*P **P** **10 34 00.9 +3.9**
comp=Z,38nm,1.7s
PVAQ Vaqueiros 71.69 332 *e*LQ LQ 10 58 57.8
PVAQ *e*LR LR 11 00 23.6
comp=Z,3µm,13.4s
CFR Carcaliu 71.74 1⇑ P **P** **10 33 59.6 +2.5**
KBZ Khabaz 71.83 12 P **P** **10 33 59.4 +1.7**

comp=Z,9,8nm,0.8s,baz=212,slow=1.9,SNR=12
KBZ LR LR 11 04 53.9
comp=Z,1µm,19.2s,baz=190,slow=35
KBZ Khabaz 71.83 12 *ce*P **P 10 33 59.5 +1.9**
KBZ pmax pmax
comp=Z,29nm,1.4s
GROC Groznyy 71.93 15 *e*P **P 10 34 00.2 +1.9**
GROC *e* 10 36 41.6
GROC pmax pmax
comp=Z,93nm,1.2s
VOIR 72.01 359 ⇑P **P 10 34 01.2 +2.4**
KIV Kislovodsk 72.01 12 ⇓P **P 10 34 01.4 +2.5**
KIV Kislovodsk 72.01 12 P **P 10 34 01.2 +2.3**
KIV Kislovodsk 72.01 12 *e*P **P 10 34 00.7 +1.8**
KIV *e*S **S 10 43 23.3 +2.7**
KIV pmax pmax
comp=Z,156nm,1.1s
KIV pmax pmax
comp=Z,56nm,4.2s
KIV MLR MLR
comp=Z,2µm,18.0s
KIV Kislovodsk 72.01 12 P **P 10 33 59.8 +0.9**
PCVE Castro Verde 72.02 332 *e*P **P 10 34 02.0 +3.0**
comp=Z,19nm,2.2s
MLR Muntele Rosu 72.05 359 ⇑P **P 10 34 01.9 +2.8**
MLR Muntele Rosu 72.05 359 P **P 10 34 00.2 +1.1**
MLR pmax pmax
comp=Z,32nm,0.9s
MLR Muntele Rosu 72.05 359 P **P 10 34 00.2 +1.1**
MLR IAmb IAmb 10 34 02.5
comp=Z,32nm,0.9s
MLR IAMs_20 IAMs_20 11 04 48.4
comp=Z,2µm,20.0s
LOT Lotru 72.05 358 ⇑P **P 10 34 01.3 +2.1**
MAK Makhachkala 72.10 16 *e*P **P 10 33 56.2 -3.1**
MAK *e*S **S 10 43 15.0 -6.4**
MAK *e*SS **SS 10 47 56.9 -2.4**
MAK pmax pmax
comp=Z,128nm,1.1s
MAK MLR MLR
comp=Z,882nm,14.0s
SMTB Santa Maria do 72.11 269 *e*P **P 10 34 01.1 +0.9**
SMTB *e*pP **sP 10 34 04.0 -0.2**
ESDC Sonseca Array 72.16 336 P **P 10 34 00.2 +0.3**
comp=Z,9.2nm,0.8s,baz=153,slow=5.9,SNR=42
ESDC LR LR 11 07 04.6
comp=Z,3µm,20.8s,baz=150,slow=37
ESBB Sonseca Array 72.16 336 P **P 10 33 59.6 -0.2**
PAB San Pablo 72.19 335 P **P 10 33 59.7 -0.4**
PAB pmax pmax
comp=Z,12nm,1.0s
PAB MLR MLR
comp=Z,3µm,21.0s
PAB San Pablo 72.19 335 P **P 10 33 59.7 -0.4**
PBEJ Beja 72.28 332 *e*P **P 10 34 03.4 +2.9**
comp=Z,17nm,1.1s
BZS Buzias 72.32 356 ⇓P **P 10 34 02.5 +1.9**
PLOR Plostina 72.41 360 ⇑P **P 10 34 02.6 +1.5**
VRI Vrincioaia 72.42 360 ⇑P **P 10 34 02.7 +1.5**
VNDA Vanda 72.44 171 P **P 10 34 00.9 -0.1**
comp=Z,3.6nm,0.8s,baz=262,slow=5.4,SNR=22
VNDA LR LR 11 04 26.5
comp=Z,758nm,18.0s,baz=208,slow=35
VNDA Vanda 72.44 171 P **P 10 34 00.5 -0.5**
VNDA IAmb IAmb 10 34 17.3
comp=Z,35nm,1.6s
MSSA Maissana 72.61 347 IAMs_20 IAMs_20 11 09 06.9
comp=Z,2µm,21.0s
PMOZ Porto Moniz, M 72.63 322 *e*LQ LQ 10 59 17.6
PMOZ *e*LR LR 11 02 58.6
comp=Z,1µm,20.2s
PNCL Nicolau / Gran 72.64 331 *e*P **P 10 34 05.7 +3.1**
comp=Z,22nm,1.3s
OZUR 72.66 359 ⇓P **P 10 34 04.4 +1.8**
C2SB Chapadao do Su 72.73 257 *e*P **P 10 34 04.8 +1.1**
SIRR Siria 72.97 356 ⇓P **P 10 34 06.8 +2.4**
ARAG Araguaiana, MT 73.04 261 *e*P **P 10 34 06.0 +0.4**
KBL Kabul 73.07 36 P **P 10 34 07.1 +1.5**
SNR=6.0
KBL Kabul 73.07 36 P **P 10 34 05.0 -0.6**
KBL pmax pmax
comp=Z,20nm,1.1s
KBL MLR MLR
comp=Z,500nm,18.0s
KBL Kabul 73.07 36 P **P 10 34 05.0 -0.6**
KBL IAmb IAmb 10 34 07.6
comp=Z,20nm,1.1s
GCIS Gornji Cirnik 73.12 352 *i*P **P 10 34 07.9 +2.5**
VASR Vaslui 73.20 1 ⇑P **P 10 34 07.4 +1.6**
GOLS Golise 73.27 352 *i*P **P 10 34 08.9 +2.7**
PMRV Marv??o 73.28 333 *e*P **P 10 34 09.1 +2.7**
comp=Z,17nm,1.4s
PMRV Marv??o 73.28 333 *e*LQ LQ 11 00 30.4
PMRV *e*LR LR 11 01 53.6
comp=Z,1µm,17.6s
BIZ Bicaz 73.50 360 ⇑P **P 10 34 09.6 +2.0**
KIS Kishinev 73.58 1 *e*P **P 10 34 11.0 +3.0**
KIS Kishinev 73.58 1 *e*PcP **PcP 10 34 30.0 +6.1**
KIS Kishinev 73.58 1 *e*PP PP 10 36 50.0 -2.4
KIS Kishinev 73.58 1 *e*P **P 10 34 11.0 +3.0**
KIS *e* 10 34 30.0
KIS *e* 10 36 50.0
KIS *e*PPP PPP 10 38 35.0
KIS *e*PS **PnS 10 44 15.0 +4.5**
KIS *e*SS SS 10 48 23.0 +1.2
KIS *e*SSS SSS 10 51 41.0
PCBR Castelo Branco 73.66 333 *e*P **P 10 34 09.9 +1.2**
comp=Z,14nm,1.4s
PMAFR Mafra 73.66 331 *e*P **P 10 34 04.1 -4.6**
comp=Z,82nm,1.8s
CPUP Villa Florida 73.67 248 P **P 10 34 10.2 +1.0**
comp=Z,3.9nm,0.9s,baz=84,slow=10,SNR=5.0
CPUP LR LR 11 01 22.8
comp=Z,845nm,20.5s,baz=118,slow=32
CPUP Villa Florida 73.67 248 *e*P **P 10 34 10.4 +1.3**
SALO Salr 73.67 348 IAMs_20 IAMs_20 11 04 08.0
comp=Z,2µm,21.0s
ARCR ARCALIA 73.67 358 ⇑P **P 10 34 11.4 +2.8**
CADS Cadrg 73.73 351 *i*P **P 10 34 11.3 +2.3**
CTI Castel Tesino 73.89 349 P **P 10 34 10.4 +0.4**
CTI pmax pmax
comp=Z,17nm,1.3s
CTI Castel Tesino 73.89 349 P **P 10 34 10.4 +0.4**
OBKA Obir 73.90 351 *i*P **P 10 34 12.8 +2.8**
comp=Z,25nm,1.7s
BNI Bardonecchia 73.91 345 P **P 10 34 09.7 -0.5**
BNI pmax pmax
comp=Z,33nm,1.6s
BNI Bardonecchia 73.91 345 P **P 10 34 09.7 -0.5**
BNI IAmb IAmb 10 34 14.7
comp=Z,34nm,1.6s
STAL STALIGIAL 73.92 350 P **P 10 34 11.0 +0.9**
PRED Cave del Predi 73.97 351 P **P 10 34 10.9 +0.5**
SOKA Soboth 74.00 352 *i*P **P 10 34 13.5 +2.9**
comp=Z,30nm,1.5s,SNR=9.1
CIMO Cimolais 74.01 350 P **P 10 34 10.7 +0.1**
MYKA Terra Mystica 74.14 351 *i*pP **P 10 34 14.8 +3.4**
comp=Z,8.8nm,1.2s
MTE Manteigas 74.16 333 *e*P **P 10 34 13.9 +2.2**
MTE Manteigas 74.16 333 *e*LQ LQ 11 01 23.7
MTE *e*LR LR 11 02 57.4
comp=Z,1µm,10.9s
MTE Manteigas 74.16 333 P **P 10 34 13.4 +1.8**
MTE IAmb IAmb 10 35 32.3
comp=Z,37nm,1.6s
MTE IAMs_20 IAMs_20 11 04 27.9
comp=Z,2µm,19.0s
ZOU Zoufplan 74.17 350 P **P 10 34 10.8 -0.9**
ZOU IAmb IAmb 10 34 42.2
comp=Z,35nm,1.6s
BURAR Bucovina Array 74.18 359 ⇑P **P 10 34 14.2 +2.5**
BUR08 Bucovina Ar. S 74.21 359 P **P 10 34 13.7 +1.8**
BUR08 IAmb IAmb 10 34 16.1
comp=Z,29nm,1.1s
PCAS Casmilo, Conde 74.26 333 *e*P **P 10 34 07.9 -4.3**
comp=Z,137nm,1.6s
COI Coimbra 74.35 333 IAMs_20 IAMs_20 11 03 40.8
comp=Z,2µm,19.0s
ABTA Abfaltersbach 74.43 350 *i*P **P 10 34 16.2 +3.1**
comp=Z,11nm,0.9s,SNR=5.2
ARSA Arzberg 74.50 352 *i*P **P 10 34 16.2 +2.7**
comp=Z,12nm,1.2s
PVIS Viseu 74.57 333 *e*P **P 10 34 16.2 +2.1**
MVO Moncorvo 74.61 334 *e*P P 10 34 24.4 +10
MVO Moncorvo 74.61 334 *e*LQ LQ 11 01 55.7
MVO *e*LR LR 11 02 59.8
comp=Z,2µm,47.5s
KBA Koelnbreinsper 74.62 351 *i*P **P 10 34 17.1 +2.7**
comp=Z,25nm,1.2s,SNR=11
SSB Saint Sauveur 74.63 344 P **P 10 34 13.1 -1.2**
SSB pmax pmax
comp=Z,8.0nm,0.9s
SSB Saint Sauveur 74.63 344 P **P 10 34 13.1 -1.2**
NIL Nilore 74.66 39 P **P 10 34 15.4 +0.6**
NIL pmax pmax
comp=Z,34nm,1.0s
NIL Nilore 74.66 39 P **P 10 34 15.3 +0.6**
NIL IAmb IAmb 10 34 17.6
comp=Z,34nm,1.0s
FUORN Ofenpass-Fuorn 74.68 348 P **P 10 34 15.0 +0.2**
SORM Soroca 74.70 1 ⇑P **P 10 34 15.4 +0.9**
TUE Stuetta 74.71 348 P **P 10 34 15.2 +0.3**
PSZ Piszkesteto 74.73 355 ⇑P **P 10 34 17.1 +2.3**
PSZ Piszkesteto 74.73 355 P **P 10 34 14.8 0.0**
PSZ pmax pmax
comp=Z,26nm,1.0s
PSZ MLR MLR
comp=Z,2µm,19.0s
PSZ Piszkesteto 74.73 355 P **P 10 34 14.8 0.0**
PSZ IAmb IAmb 10 34 17.7
comp=Z,26nm,1.0s
PSZ IAMs_20 IAMs_20 11 09 28.2
comp=Z,2µm,19.0s
FETA Feichten 74.99 349 *i*P **P 10 34 18.6 +2.1**
comp=Z,21nm,1.1s,SNR=13
SENIN Lac Senin/Sane 75.02 346 P **P 10 34 17.0 +0.3**
SENIN IAMs_20 IAMs_20 11 04 09.8
comp=Z,2µm,22.0s
PBRG Braganca 75.05 335 *e*P **P 10 34 21.0 +4.2**
WTTA Wattenberg 75.07 349 *i*P **P 10 34 19.0 +2.0**
comp=Z,14nm,0.8s,SNR=6.1
SQTA Sankt Quirin 75.10 349 *i*P **P 10 34 19.2 +2.1**
comp=Z,18nm,0.9s,SNR=7.7
CONA Conrad Observa 75.12 352 *i*P **P 10 34 19.6 +2.5**
comp=Z,42nm,1.2s,SNR=25
WATA Walderalm 75.15 349 *i*P **P 10 34 19.5 +2.2**
comp=Z,19nm,1.2s,SNR=5.9
MOTA Moosalm 75.24 349 *i*P **P 10 34 19.7 +1.9**
comp=Z,20nm,1.1s,SNR=8.8
MOA Molln 75.25 351 *i*P **P 10 34 20.0 +2.2**
comp=Z,27nm,1.3s,SNR=15
PRPB Parauapebas 75.26 271 *e*P **P 10 34 19.6 +1.0**
UZH Uzhgorod 75.29 357 ⇓*i*P **P 10 34 20.1 +2.2**
UZH *e* 10 34 28.1
VYHS Vyhne 75.39 355 *e*P **P 10 34 20.2 +1.7**
VYHS pmax pmax
comp=Z,19nm,1.2s
VYHS Vyhne 75.39 355 *e*P **P 10 34 20.2 +1.7**
DAVA Damuels 75.40 348 *i*P **P 10 34 20.5 +1.7**
comp=Z,4.7nm,0.5s
MODS Modra-Piesok 75.41 353 *e*P **P 10 34 19.5 +0.8**
MODS pmax pmax
comp=Z,24nm,1.3s
MODS Modra-Piesok 75.41 353 *e*P **P 10 34 19.5 +0.8**
RETA Reutte 75.43 349 *i*P **P 10 34 21.1 +2.2**
comp=Z,21nm,1.5s
CRVS Cervenica-Dubn 75.61 356 *e*P **P 10 34 22.0 +2.2**
CRVS pmax pmax
comp=Z,33nm,1.2s
CRVS Cervenica-Dubn 75.61 356 *e*P **P 10 34 22.0 +2.2**
UBR Ueberruh 75.73 348 *e*P **P 10 34 21.9 +1.3**
comp=Z,18nm,1.1s,baz=166,slow=5.6
PGAV Gavieira, Arco 75.78 334 *e*LQ LQ 11 02 32.6
PGAV *e*LR LR 11 04 01.6
JAVC Velka Javorina 75.85 354 ⇓*i*P **P 10 34 23.9 +2.7**
LANS Liptovska Anna 75.99 355 *e*P **P 10 34 24.5 +2.5**
LANS pmax pmax
comp=Z,11nm,1.0s
LANS Liptovska Anna 75.99 355 *e*P **P 10 34 24.5 +2.5**
FUR Furstenfeldbru 76.00 349 *e*P **P 10 34 24.0 +1.9**
comp=Z,52nm,1.0s,baz=166,slow=5.6
KRUC Moravsky 76.18 353 ⇓*i*P **P 10 34 24.6 +1.6**
NWAO Narrogin (SRO) 76.28 120 P **P 10 34 23.9 -0.4**
comp=Z,14nm,0.9s,baz=211,slow=4.5,SNR=6.3
NWAO LR LR 11 00 41.3
comp=Z,3µm,21.7s,baz=261,slow=30
NWAO Narrogin (SRO) 76.28 120 P **P 10 34 24.3 +0.1**
NWAO IAmb IAmb 10 34 26.4
comp=Z,27nm,1.1s
GEC2 GERESS Array S 76.30 351 *e*P **P 10 34 25.9 +2.0**
comp=Z,21nm,1.2s,baz=166,slow=5.6
GEC2 GERESS Array S 76.30 351 P **P 10 34 24.2 +0.4**
GERES GERESS Array B 76.30 351 P **P 10 34 25.6 +1.7**
comp=Z,6.7nm,1.0s,baz=174,slow=4.0,SNR=37
GERES LR LR 11 08 41.6
comp=Z,773nm,21.8s,baz=180,slow=36
CHGR Chuyangaron 76.33 33 IAMs_20 IAMs_20 11 09 56.3
comp=Z,2µm,19.0s
SALV Santo Antonio 76.38 259 *e*P **P 10 34 26.1 +1.1**
VRAC Vranov 76.41 353 ⇓*i*P **P 10 34 25.9 +1.6**
TREC Trest 76.52 352 AMS AMS 11 08 00.0
comp=Z,2µm,17.6s
KHC Kasperske Hory 76.60 351 *ce*P **P 10 34 27.2 +1.8**
KHC pmax pmax
comp=Z,30nm,1.3s
KHC Kasperske Hory 76.60 351 *e*P **P 10 34 27.4 +2.0**
KHC *e*S **S 10 44 09.0 -2.8**
KHC AMS AMS 11 06 50.0
comp=Z,3µm,19.7s
KHC Kasperske Hory 76.60 351 P **P 10 34 25.2 -0.3**
KASI Kota Agung 76.61 89 P **P 10 34 23.4 -2.9**
comp=Z,42nm,0.7s
BFO Black Forest 76.69 347 P **P 10 34 24.7 -1.3**
BFO pmax pmax
comp=Z,6.0nm,0.7s
BFO Black Forest 76.69 347 *e*P **P 10 34 27.5 +1.5**
comp=Z,12nm,1.5s,baz=166,slow=5.6
BFO Black Forest 76.69 347 P **P 10 34 24.6 -1.3**
WET Wettzell 76.71 351 *e*P **P 10 34 27.9 +1.9**
comp=Z,17nm,1.1s,baz=166,slow=5.6
MORC Moravsky Berou 76.77 354 ⇓P **P 10 34 27.4 +1.0**
MORC Moravsky Berou 76.77 354 ⇓*i*P **P 10 34 28.0 +1.5**
MORC Moravsky Berou 76.77 354 P **P 10 34 27.9 +1.5**
MORC pmax pmax
comp=Z,16nm,1.1s
MORC MLR MLR
comp=Z,2µm,18.0s
MORC Moravsky Berou 76.77 354 P **P 10 34 27.9 +1.5**
MORC IAMs_20 IAMs_20 11 08 55.2
comp=Z,2µm,18.0s
OKC Ostrava-Krasne 76.78 354 *e*P **P 10 34 23.5 -2.9**
OKC Ostrava-Krasne 76.78 354 *e*P **P 10 34 23.5 -2.9**
ECH Echery 76.81 347 P **P 10 34 27.6 +0.9**
ECH pmax pmax
comp=Z,7.0nm,1.1s
ECH Echery 76.81 347 P **P 10 34 27.6 +0.9**
ECH IAMs_20 IAMs_20 11 05 18.2
comp=Z,2µm,21.0s
PYUN Piuthan 76.85 49 *e*P **P 10 34 28.2 +0.6**
MORW Morawa 76.87 116 P **P 10 34 27.8 +0.2**
MORW IAmb IAmb 10 34 29.8
comp=Z,40nm,1.2s
OJC Ojcow 77.03 355 *e*P **P 10 34 29.9 +2.1**
OJC Ojcow 77.03 355 P **P 10 34 27.6 -0.2**
OJC pmax pmax
comp=Z,24nm,1.1s
OJC Ojcow 77.03 355 P **P 10 34 27.6 -0.2**
OJC IAmb IAmb 10 34 31.5
comp=Z,24nm,1.1s
KOLN Koldanda 77.05 50 *e*P **P 10 34 29.1 +0.4**
comp=Z,126nm,1.0s
KRLC Kraliky 77.14 353 *e*P **P 10 34 30.8 +2.3**
KRLC MLR MLR
comp=Z,1µm,16.5s
KRLC Kraliky 77.14 353 *e*P **P 10 34 30.8 +2.3**
KRLC AMS AMS 11 11 30.0
comp=Z,1µm,16.5s
GAR Garm 77.17 33 IAMs_20 IAMs_20 11 09 34.4
comp=Z,2µm,19.0s
GOPC GO Pecny, Ondr 77.21 352 *e*S **S 10 44 14.6 -3.8**
GOPC AMS AMS 11 07 50.0
comp=Z,3µm,17.8s
AKASG Malin Array Be 77.29 2 P **P 10 34 29.4 +0.2**
comp=Z,22nm,0.8s,baz=186,slow=5.2,SNR=69
AKASG LR LR 11 12 23.6
comp=Z,1µm,18.7s,baz=195,slow=39
AKBB Malin Array Si 77.29 2 *ce*P **P 10 34 30.4 +1.2**
AKBB Malin Array Si 77.29 2 P **P 10 34 29.4 +0.2**
AKBB IAmb IAmb 10 34 31.7
comp=Z,30nm,0.8s
PRU Pruhonice 77.31 352 *e*P **P 10 34 31.6 +2.2**
PRU *e*S **S 10 44 16.0 -3.5**
PRU MLR MLR
comp=Z,3µm,18.6s
PRU Pruhonice 77.31 352 *e*P **P 10 34 31.6 +2.2**
PRU *e*S **S 10 44 16.0 -3.5**
PRU AMS AMS 11 07 50.0
comp=Z,3µm,18.6s
PRA Prague 77.41 352 *e*S **S 10 44 19.0 -1.5**
PRA AMS AMS 11 07 40.0
comp=Z,1µm,18.0s
ROTZ Rotzenmuhle 77.42 350 *e*P **P 10 34 31.8 +1.8**
comp=Z,21nm,1.0s,baz=166,slow=5.6
DPC Dobruska-Polom 77.46 353 *e*P **P 10 34 32.6 +2.3**
DPC *e*S **S 10 44 12.9 -8.3**
DPC MLR MLR
comp=Z,1µm,14.3s
DPC Dobruska-Polom 77.46 353 *e*P **P 10 34 32.6 +2.3**
DPC *e*S **S 10 44 12.9 -8.3**
DPC AMS AMS 11 12 50.0
comp=Z,1µm,14.3s
GRA1 Grafenberg Arr 77.49 350 P **P 10 34 30.8 +0.3**
GRA1 IAmb IAmb 10 34 34.3
comp=Z,49nm,1.2s
GRF Grafenberg Arr 77.49 350 P **P 10 34 30.8 +0.3**
GRF pmax pmax
comp=Z,49nm,1.2s
GRF MLR MLR
comp=Z,1µm,20.0s
GRF Grafenberg Arr 77.49 350 *e*P **P 10 34 32.3 +1.9**
comp=Z,52nm,1.3s,baz=166,slow=5.6
GRF *e*L L 11 06 39.4
comp=Z,803nm,20.2s
DANN Dangsing 77.53 49 *e*P **P 10 34 31.7 +0.2**
comp=Z,160nm,1.0s
MANZ Manzenberg 77.64 350 *e*P **P 10 34 32.8 +1.5**
comp=Z,19nm,1.2s,baz=166,slow=5.6
UPC Upice 77.65 353 *e*P **P 10 34 33.9 +2.6**
UPC *e*S **S 10 44 21.9 -1.3**
UPC MLR MLR
comp=Z,2µm,16.3s
UPC Upice 77.65 353 *e*P **P 10 34 33.9 +2.6**
UPC *e*S **S 10 44 21.9 -1.3**
UPC AMS AMS 11 08 10.0
comp=Z,2µm,16.3s
OSTC Ostas 77.68 353 *e*P **P 10 34 33.9 +2.4**
OSTC AMS AMS 11 08 20.0
comp=Z,1µm,16.6s
CHVC Chvalec 77.73 353 *e*P **P 10 34 34.1 +2.4**
CHVC AMS AMS 11 08 20.0
comp=Z,2µm,17.6s
CLF Chambon-Foret 77.76 343 P **P 10 34 31.4 -0.5**
CLF IAmb IAmb 10 34 35.3
comp=Z,23nm,0.9s
NKC Novy Kostel 77.83 351 *e*S **S 10 44 27.0 +1.8**
NKC AMS AMS 11 10 00.0
comp=Z,2µm,14.4s
PVCC Panska Ves 77.84 352 AMS AMS 11 08 50.0
comp=Z,2µm,16.7s
WERN Wernitzgruen 77.90 351 *e*P **P 10 34 34.9 +2.1**
comp=Z,7.5nm,0.8s,baz=166,slow=5.6
GKN Gorkha 77.91 50 *e*P **P 10 34 33.8 +0.3**
KSP Ksiaz 77.95 353 *e*P **P 10 34 35.9 +2.9**
GUNZ Gunzen 77.98 351 *e*P **P 10 34 35.4 +2.2**
comp=Z,14nm,0.9s,baz=166,slow=5.6
DMN Daman 77.98 51 *e*P **P 10 34 33.8 -0.2**
TANN Tannenbergstha 78.01 351 *e*P **P 10 34 35.8 +2.4**
comp=Z,43nm,1.3s,baz=166,slow=5.6
IPM Ipoh 78.09 79 P **P 10 34 33.7 -1.0**
IPM IAmb IAmb 10 35 03.5
comp=Z,70nm,1.6s
PLCA Paso Flores 78.09 230 P **P 10 34 33.7 -0.7**
comp=Z,2.5nm,0.9s,baz=72,slow=6.4,SNR=3.1
PLCA LR LR 11 06 02.3
comp=Z,757nm,19.3s,baz=120,slow=33
PLCA Paso Flores 78.09 230 P **P 10 34 32.8 -1.6**
PLCA IAmb IAmb 10 34 58.9
comp=Z,36nm,1.6s
PLCA Paso Flores 78.09 230 *e*P **P 10 34 36.1 +1.8**
PLN Plauen 78.12 351 *e*P **P 10 34 36.3 +2.3**
comp=Z,17nm,1.0s,baz=166,slow=5.6
KULM Kulim 78.15 78 IAMs_20 IAMs_20 11 05 54.0
comp=Z,2µm,19.0s
PKI Pulchoki 78.17 51 *e*P **P 10 34 34.6 -0.5**
BTK Batken 78.23 33 P **P 10 34 33.3 -1.6**
BTK pmax pmax
comp=Z,16nm,1.0s
BTK MLR MLR
comp=Z,1µm,20.0s
BTK Batken 78.23 33 P **P 10 34 33.3 -1.6**
BTK IAmb IAmb 10 34 37.5
comp=Z,16nm,1.0s
BRG Berggiesshubel 78.26 352 *i*P **P 10 34 37.3 +2.7**
comp=Z,12nm,1.1s
comp=Z,2µm,18.3s
comp=N,2µm,16.8s
comp=E,4µm,16.8s
BRG Berggiesshubel 78.26 352 *e*P **P 10 34 36.8 +2.1**
comp=E,12nm,1.1s,baz=166,slow=5.6
VORD Divnogorie 78.31 8 *e*P **P 10 34 36.3 +1.4**
VORD pmax pmax
comp=Z,60nm,0.4s
MOX Moxa 78.36 350 *e*P **P 10 34 37.2 +2.0**
comp=Z,14nm,1.1s,baz=166,slow=5.6
MOX *e*L L 11 07 18.7
comp=Z,1µm,18.7s
FREI Freiberg 78.38 351 *e*P **P 10 34 37.5 +2.2**
comp=Z,23nm,1.7s,baz=166,slow=5.6
WLF Walferdange 78.40 347 x **P 10 34 36.8 +1.3**
WLF Walferdange 78.40 347 P **P 10 34 35.0 -0.5**
WLF pmax pmax
comp=Z,9.0nm,0.8s
WLF Walferdange 78.40 347 *e*P **P 10 34 37.4 +2.0**
comp=Z,11nm,1.0s,baz=166,slow=5.6
WLF Walferdange 78.40 347 P **P 10 34 35.0 -0.5**
TNS Taunus Mts 78.48 348 *e*P **P 10 34 37.9 +2.0**
comp=Z,9.7nm,0.9s,baz=166,slow=5.6
VSR Storozhevoye 78.55 8 *e*P **P 10 34 37.4 +1.2**
VSR pmax pmax
comp=Z,50nm,0.8s
CLDB Colider 78.57 264 *e*P **P 10 34 37.3 -0.1**
RAMN Ramite 78.61 52 *e*P **P 10 34 37.9 +0.4**
GUN Gumba 78.70 51 *e*P **P 10 34 38.2 +0.1**
comp=Z,193nm,1.3s
JIRN Jiri 78.76 51 *e*P **P 10 34 38.2 -0.3**
comp=Z,130nm,1.1s
UBBA Unterbreizbach 78.78 349 *e*P **P 10 34 39.6 +2.2**
comp=Z,18nm,1.5s,baz=166,slow=5.6
CLL Collm 78.81 351 *i*P **P 10 34 40.5 +2.9**
comp=Z,16nm,1.4s
CLL *e*S **S 10 44 38.0 +2.5**
CLL *e*SS **SS 10 49 42.0 +1.1**
CLL *e*SSS SSS 10 53 12.0
CLL LmH 11 07 00.0
comp=N,2µm,20.6s
CLL LmH 11 07 00.0
comp=E,4µm,19.4s
CLL LmV 11 08 00.0
comp=Z,2µm,18.0s
CLL Collm 78.81 351 *i*P **P 10 34 40.5 +2.9**
CLL *e*S **S 10 44 38.0 +2.5**
CLL pmax pmax
comp=Z,16nm,1.4s
CLL MLR MLR
comp=Z,2µm,18.0s
CLL Collm 78.81 351 *e*P **P 10 34 39.6 +2.0**
comp=Z,16nm,1.4s,baz=166,slow=5.6
CLL Collm 78.81 351 P **P 10 34 37.5 -0.1**
CLL IAMs_20 IAMs_20 11 08 31.0
comp=Z,2µm,18.0s
LEM Lembang 78.82 92 LR LR 11 03 16.1
comp=Z,441nm,19.8s,baz=199,slow=31
VRH Novokhopyorsk 78.88 10 *e*P **P 10 34 39.4 +1.4**
VRH pmax pmax
comp=Z,80nm,1.0s
AHRW Bad Neuenahr-A 79.05 347 *e*P **P 10 34 41.4 +2.4**
comp=Z,23nm,1.2s,baz=166,slow=5.6
ODAN Odare 79.11 52 *e*P **P 10 34 40.3 0.0**
comp=Z,119nm,1.1s
DOU Dourbes 79.14 346 x **P 10 34 41.7 +2.2**
BCLA Clavier 79.29 346 x **P 10 34 43.0 +2.7**
BCLA x x 10 34 46.9
BMRD Maredsous 79.30 346 x **P 10 34 42.8 +2.4**
BGES Gesves 79.31 346 x **P 10 34 42.2 +1.8**
MEM Membach 79.33 347 x **P 10 34 43.3 +2.8**
IUG Iuzhnay 79.48 31 ⇓*i*P **P 10 34 43.2 +1.4**

comp=Z,30nm,1.2s,baz=31
IUG LR LR 11 10 35.1
comp=Z,113nm,12.6s,baz=31
IUG Iuzhnay 79.48 31 *d* iP **P 10 34 43.1 +1.4**
IUG pmax pmax
comp=Z,30nm,1.2s
IUG MLR MLR
comp=Z,113nm,13.0s
PTLB Pontes e Lacer 79.58 258 *e*P **P 10 34 43.1 +0.3**
SNF Seneffe 79.60 346 x **P 10 34 44.8 +2.8**
TAPN Taplejung 79.64 52 *e*P **P 10 34 43.1 -0.1**
CLZ Clausthal 79.71 350 *e*P **P 10 34 44.8 +2.2**
comp=Z,7.1nm,1.1s,baz=166,slow=5.6
NPGB Novo Progresso 79.83 267 *e*P **P 10 34 44.8 +0.5**
MCPB Macapa, AP 79.85 275 *e*P **P 10 34 45.4 +1.0**
BUG Bochum--Univer 79.87 348 *e*P **P 10 34 46.0 +2.6**
comp=Z,26nm,1.0s,baz=166,slow=5.6
LPSR Galich'ya Gora 79.88 8 *e*P **P 10 34 44.7 +1.3**
LPSR pmax pmax
comp=Z,50nm,1.0s
ASSE Asse, Remlinge 79.95 350 *e*P **P 10 34 45.9 +2.1**
comp=Z,19nm,1.2s,baz=166,slow=5.6
ARSB Arslanbob 80.26 33 P **P 10 34 46.9 +0.8**
ARSB pmax pmax
comp=Z,39nm,1.0s
ARSB Arslanbob 80.26 33 P **P 10 34 46.9 +0.8**
ARSB IAmb IAmb 10 34 48.6
comp=Z,39nm,0.9s
KK31 Karatay Array 80.45 31 P **P 10 34 46.2 -0.6**
KK31 pmax pmax
comp=Z,83nm,1.0s
KK31 Karatay Array 80.45 31 P **P 10 34 46.2 -0.6**
KKAR Karatay Array 80.45 31 P **P 10 34 46.6 -0.2**
KKAR pmax pmax
comp=Z,83nm,1.0s
KKAR Karatay Array 80.45 31 P **P 10 34 46.6 -0.2**
KSH Kashi 80.45 36 P **P 10 34 46.5 -0.6**
KSH sP sP 10 34 52.0 +0.8
KSH S **S 10 44 48.9 -4.9**
KSH pmax pmax
comp=Z,58nm,1.2s
KSH pmax pmax
comp=Z,66nm,5.4s
KSH LR LR
comp=Z,270nm,13.3s
KSH LR LR
comp=Z,330nm,14.1s
KSH LR LR
comp=Z,840nm,18.0s
SUW Suwalki 80.64 358 P **P 10 34 48.7 +1.2**
SUW pmax pmax
comp=Z,115nm,1.1s
SUW MLR MLR
comp=Z,1μm,22.0s
SUW Suwalki 80.64 358 P **P 10 34 48.7 +1.2**
DZA Taraz 80.67 32 ⇓ *i* P **P 10 34 49.5 +1.4**
comp=Z,32nm,0.9s,baz=31
DZA LR LR 11 11 26.1
comp=Z,144nm,12.2s,baz=31
DZA Taraz 80.67 32 *d i* P **P 10 34 49.4 +1.4**
DZA pmax pmax
comp=Z,32nm,0.9s
DZA MLR MLR
comp=Z,144nm,12.0s
BO02 Sierra Bellavi 80.83 236 P **P 10 34 48.6 -0.8**
CMLA Cha da Macela 80.87 321 IAMs_20 IAMs_20 11 08 51.3
comp=Z,2μm,19.0s
SIV San Ignacio 81.03 257 LR LR 11 06 31.5
comp=Z,665nm,18.8s,baz=132,slow=33
MICGM Minsk 81.07 1⇑ *e*P **P 10 34 51.0 +1.2**
MICGM PM 10 34 52.0
comp=Z,0.2nm,1.0s
MICGM *e*LR LR 11 09 00.0
MICGM LRM MLR 11 13 50.0
comp=Z,0.2nm,14.0s
MICGM LRM MLR 11 14 14.0
comp=N,2.5nm,14.0s
MNK Minsk 81.07 1⇑ *e*P **P 10 34 51.0 +1.2**
MNK pmax pmax
comp=Z,150nm,1.0s
MNK MLR MLR
comp=N,2μm,14.0s
MNK MLR MLR
comp=Z,2μm,14.0s
MALB Monte Alegre 81.15 272 *e*P **P 10 34 52.1 +0.8**
ITTB Itaituba 81.34 269 *e*P **P 10 34 53.1 +0.8**
KLNR Kaliningrad 81.36 356 *i* P **P 10 34 53.5 +2.1**
KLNR pmax pmax
comp=Z,31nm,0.9s
KLNR MLR MLR
comp=Z,1μm,18.0s
NACGM Naroch 81.47 0 *e* **P 10 34 53.0 +1.1**
NACGM *e*LQ LQ 11 06 50.0
NACGM *e*LR LR 11 12 40.0
PEL Peldehue 81.49 237 P **P 10 34 53.2 +0.3**
PEL pmax pmax
comp=Z,18nm,0.8s
PEL Peldehue 81.49 237 P **P 10 34 53.2 +0.3**
PEL IAmb IAmb 10 35 47.0
comp=Z,18nm,0.8s
VILB Vilhena 81.57 260 *e*P **P 10 34 54.3 +0.7**
SHL Shillong 81.61 56 P **P 10 34 55.5 +1.8**
SNR=5.5
SHL Shillong 81.61 56 P **P 10 34 54.1 +0.5**
SHL pmax pmax
comp=Z,29nm,1.0s
SHL MLR MLR
comp=Z,1μm,18.0s
SHL Shillong 81.61 56 P **P 10 34 54.1 +0.5**
SHL IAmb IAmb 10 34 55.8
comp=Z,29nm,1.0s
SHL IAMs_20 IAMs_20 11 15 12.6
comp=Z,1μm,18.0s
EKS2 Erkin-Say 81.66 33 P **P 10 34 55.8 +2.4**
SNR=23
UCH Uchtor 81.69 34 P **P 10 34 56.0 +1.9**
SNR=26
BSEG Bad Segeberg 81.75 350 *e*P **P 10 34 55.2 +1.8**
comp=Z,29nm,1.2s,baz=166,slow=5.6
RGN Rugen 81.94 352 IAMs_20 IAMs_20 11 10 17.8
comp=Z,1μm,19.0s
KZA Kyzart 81.95 34 P **P 10 34 58.0 +2.6**
SNR=18
AAK Ala-Archa 81.99 33 P **P 10 34 57.9 +2.6**
SNR=6.4
AAK Ala-Archa 81.99 33 P **P 10 34 57.9 +2.6**
AAK Ala-Archa 81.99 33 *ce*P **P 10 34 56.2 +1.0**
AAK pmax pmax
comp=Z,37nm,1.7s
AAK Ala-Archa 81.99 33 P **P 10 34 54.9 -0.4**
AAK IAmb IAmb 10 34 58.5
comp=Z,27nm,1.2s
AAK Ala-Archa 81.99 33 IAMs_20 IAMs_20 11 11 16.0
comp=Z,1μm,21.0s
OBN Obninsk 82.11 6 *i* P **P 10 34 56.8 +1.5**
OBN *i* 10 35 03.1
OBN pmax pmax
comp=Z,53nm,1.1s
OBN MLR MLR
comp=Z,562nm,19.0s
FRU1 Bishkek 82.19 33 IAMs_20 IAMs_20 11 11 14.2
comp=Z,1μm,22.0s
KBK Karagaybulak 82.23 34 P **P 10 34 59.1 +2.6**
SNR=7.2
CHMS Chumysh 82.38 33 P **P 10 34 59.3 +2.2**
SNR=8.4
CO01 Juntas del Tor 82.45 240 P **P 10 34 58.9 +0.6**
CO01 IAmb IAmb 10 37 04.9
comp=Z,79nm,2.0s
USP Ospenovka 82.46 33 P **P 10 34 59.6 +2.1**
SNR=17
CO03 El Pedregal 82.52 239 P **P 10 34 56.8 -1.6**
CO03 IAmb IAmb 10 36 49.3
comp=Z,15nm,0.8s
SGDS Sogindy 82.66 33 ⇓ *i* P **P 10 34 59.8 +1.1**
comp=Z,29nm,1.3s,baz=33
SGDS *e*S **S 10 45 18.3 +1.9**
baz=33
SGDS Sogindy 82.66 33 *d i* P **P 10 34 59.7 +1.1**
SGDS *e*S **S 10 45 18.3 +1.9**
SGDS pmax pmax
comp=Z,29nm,1.3s
TKM2 Tokmak 2 82.75 34 P **P 10 35 01.3 +2.0**
SNR=9.6
MOS Moscow 82.83 6 *e*P **P 10 35 01.2 +2.2**
MOS pmax pmax
comp=Z,106nm,1.1s
KDJ Kajisay 82.97 35 P **P 10 35 00.1 -0.3**
KDJ pmax pmax
comp=Z,6.0nm,1.0s
KDJ MLR MLR
comp=Z,600nm,19.0s
KDJ Kajisay 82.97 35 P **P 10 35 00.1 -0.3**
TARG Taragay, Kyrgy 83.01 36 P **P 10 35 00.4 -0.5**
TARG IAmb IAmb 10 35 03.7
comp=Z,28nm,1.1s
AC02 Maricunga 83.09 244 P **P 10 35 02.1 +0.2**
AC05 El Transito 83.10 241 P **P 10 35 00.8 -0.7**
AC05 IAmb IAmb 10 35 56.0
comp=Z,28nm,1.1s
AC05 IAMs_20 IAMs_20 11 02 51.2
comp=Z,1μm,22.0s
CMAR Chiang Mai Arr 83.25 66 P **P 10 35 02.0 -0.1**
comp=Z,1.1nm,0.3s,baz=245,slow=5.2,SNR=12
CMAR LR LR 11 07 36.9
comp=Z,475nm,20.4s,baz=273,slow=32
CMAR Chiang Mai Arr 83.25 66 *ce*P **P 10 35 04.0 +1.9**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
MTBS Maitube 83.31 34 *e*P **P 10 35 03.4 +1.3**
baz=34
MTBS Maitube 83.31 34 *e*P **P 10 35 03.3 +1.3**
CHTO Chiang Mai 83.43 65 P **P 10 35 03.0 -0.1**
CHTO pmax pmax
comp=Z,23nm,1.5s
CHTO Chiang Mai 83.43 65 P **P 10 35 03.0 -0.1**
CHTO IAmb IAmb 10 35 06.1
comp=Z,22nm,1.4s
LSA Lhasa 83.46 52 P **P 10 35 05.5 +1.9**
LSA pmax pmax
comp=Z,130nm,1.0s
LSA Lhasa 83.46 52 P **P 10 35 05.8 +2.2**
LSA Lhasa 83.46 52 P **P 10 35 03.6 0.0**
LSA pmax pmax
comp=Z,38nm,1.1s
LSA MLR MLR
comp=Z,800nm,18.0s
LSA Lhasa 83.46 52 P **P 10 35 03.6 0.0**
LSA IAmb IAmb 10 35 06.6
comp=Z,38nm,1.1s
TNSS Tian-Shan 83.51 35 *e*P **P 10 35 04.6 +1.1**
baz=34
TNSS Tian-Shan 83.51 35 *e*P **P 10 35 04.5 +1.1**
BTLS Baital 83.57 32 ⇓ *i* P **P 10 35 04.7 +1.5**
comp=Z,17nm,1.2s,baz=32
BTLS *e*S **S 10 45 26.2 +0.8**
baz=32
BTLS LR LR 11 12 55.6
comp=Z,148nm,13.7s,baz=32
BTLS Baital 83.57 32 *d i* P **P 10 35 04.7 +1.5**
BTLS *e*S **S 10 45 26.2 +0.8**
BTLS pmax pmax
comp=Z,17nm,1.2s
BTLS MLR MLR
comp=Z,148nm,14.0s
AAA Alma-Ata 83.62 34 *e*P **P 10 35 05.2 +1.6**
baz=34
AAA LR LR 11 11 55.0
comp=Z,291nm,19.0s,baz=34
AAA Alma-Ata 83.62 34 *e*P **P 10 35 05.1 +1.6**
AAA MLR MLR
comp=Z,291nm,19.0s
MDOK Medeo 83.65 35 *i* P **P 10 35 05.2 +1.4**
baz=34
MDOK Medeo 83.65 35 *i* P **P 10 35 05.1 +1.3**
KUU Kurty 83.83 34 *e*P **P 10 35 05.7 +1.1**
comp=Z,33nm,1.4s,baz=34
KUU *e*S **S 10 45 27.7 -0.3**
baz=34
KUU Kurty 83.83 34 *e*P **P 10 35 05.6 +1.1**
KUU *e*S **S 10 45 27.7 -0.3**
KUU pmax pmax
comp=Z,33nm,1.4s
PBKT Sadao Pong 83.96 68 P **P 10 35 05.5 -0.2**
PBKT IAmb IAmb 10 35 08.8
comp=Z,17nm,1.2s
CHKK Chushkaly 84.12 34 *e*P **P 10 35 07.0 +1.0**
baz=34
CHKK Chushkaly 84.12 34 *e*P **P 10 35 07.0 +1.0**
SATY Saty 84.27 35 *e*P **P 10 35 08.2 +1.2**
comp=Z,7.7nm,1.1s,baz=35
SATY LR LR 11 13 37.9
baz=35
SATY Saty 84.27 35 *e*P **P 10 35 08.1 +1.2**
SATY pmax pmax
comp=Z,8.0nm,1.1s
SATY Saty 84.27 35 *e*P **P 10 35 08.1 +1.2**
SATY pmax pmax
comp=Z,8.0nm,1.1s
UZB Uzynbulak 84.65 36 *e*P **P 10 35 10.0 +1.1**
comp=Z,26nm,1.5s,baz=36
UZB LR LR 11 14 16.4
comp=Z,98nm,13.4s,baz=36
UZB Uzynbulak 84.65 36 *e*P **P 10 35 10.0 +1.1**
UZB pmax pmax
comp=Z,26nm,1.5s
LVC Limon Verde 84.80 247 LR LR 11 09 17.7
comp=Z,214nm,21.5s,baz=142,slow=33
LVC Limon Verde 84.80 247 *e*P **P 10 35 11.5 +0.9**
SHLS Shalkode 84.89 36 *e*P **P 10 35 12.4 +2.3**
comp=Z,12nm,1.0s,baz=36
SHLS Shalkode 84.89 36 *e*P **P 10 35 12.4 +2.3**
SHLS pmax pmax
comp=Z,12nm,1.0s
VSU Vasula 85.04 360 *d i* P **P 10 35 12.2 +2.0**
VSU pmax pmax
comp=Z,176nm,1.7s
FORT Forrest 85.50 122 P **P 10 35 13.6 +0.1**
ESK Eskdalemuir 85.81 343 IAMs_20 IAMs_20 11 14 23.2
comp=Z,2μm,20.0s
SAML Samuel 85.95 262 IAMs_20 IAMs_20 11 08 46.1
comp=Z,1μm,20.0s
MACA Manacapuru-AM 86.30 268 *e*P **P 10 35 18.7 +1.0**
BRZS Berezniki 86.72 28 *e*P **P 10 35 20.4 +1.5**
comp=Z,30nm,1.2s,baz=28
BRZS Berezniki 86.72 28 *e*P **P 10 35 20.4 +1.5**
BRZS pmax pmax
comp=Z,30nm,1.2s
LPAZ La Paz 86.99 253 P **P 10 35 20.6 -1.2**
comp=Z,16nm,0.8s,baz=128,slow=4.7,SNR=37
LPAZ LR LR 11 10 06.6
comp=Z,496nm,20.2s,baz=112,slow=33
LPAZ La Paz 86.99 253 P **P 10 35 20.9 -0.9**
LPAZ pmax pmax
comp=Z,18nm,0.9s
LPAZ La Paz 86.99 253 P **P 10 35 20.9 -0.9**
LPAZ IAmb IAmb 10 35 24.3
comp=Z,18nm,0.8s
LPAZ La Paz 86.99 253 *e*P **P 10 35 21.9 +0.1**
SBUM Sibu 87.06 86 P **P 10 35 20.0 -1.4**
SBUM IAmb IAmb 10 35 25.6
comp=Z,9.9nm,0.7s
ARU Arti 87.29 17 *ce*P **P 10 35 22.7 +1.3**
ARU pmax pmax
comp=Z,61nm,1.7s
ARU MLR MLR
comp=Z,1μm,20.0s
ARU Arti 87.29 17 P **P 10 35 21.5 +0.1**
ARU IAMs_20 IAMs_20 11 17 13.7
comp=Z,1μm,20.0s
KONO Kongsberg 87.39 351 *ce*P **P 10 35 23.9 +2.1**
KONO pmax pmax
comp=Z,36nm,2.5s
KONO Kongsberg 87.39 351 P **P 10 35 23.2 +1.4**
KONO IAmb IAmb 10 36 36.8
comp=Z,49nm,1.6s
KONO Kongsberg 87.39 351 IAMs_20 IAMs_20 11 14 39.9
comp=Z,1μm,20.0s
FINES FINESS Array B 88.03 360 P **P 10 35 25.4 +0.6**
comp=Z,18nm,0.8s,baz=145,slow=4.7,SNR=44
FINES LR LR 11 16 04.4
comp=Z,730nm,20.1s,baz=194,slow=36
FINES FINESS Array B 88.03 360 *ce*P **P 10 35 27.3 +2.4**
FINES pmax pmax
comp=Z,18nm,0.8s
FIA1 FINESS Array S 88.03 360 P **P 10 35 25.6 +0.7**
KLMR Klimovskoe 88.06 6 *e*P **P 10 35 24.6 -0.4**
KLMR *i* S **SKSac 10 45 53.4 +0.1**
KLMR pmax pmax
comp=Z,43nm,1.3s
KLMR MLR MLR
comp=Z,528nm,16.0s
KLMR Klimovskoe 88.06 6 *e*P **P 10 35 24.7 -0.3**
KLMR AMP 10 35 29.2
comp=Z,43nm,1.3s
KLMR *i* S **SKSac 10 45 53.4 +0.1**
KLMR *i* S **SKSac 10 45 53.4 +0.1**
KLMR LQ LQ 11 08 52.4
KLMR LQ LQ 11 08 52.4
KLMR LR LR 11 13 22.9
KLMR AMP 11 18 40.1
comp=Z,528nm,16.3s
BRVK Borovoye 88.17 25 *ce*P **P 10 35 27.5 +1.7**
BRVK pmax pmax
comp=Z,21nm,1.7s
BRVK Borovoye 88.17 25 P **P 10 35 25.1 -0.7**
BRVK IAmb IAmb 10 35 28.9
comp=Z,14nm,1.1s
BRVK Borovoye 88.17 25 IAMs_20 IAMs_20 11 19 36.3
comp=Z,1μm,18.0s
NC602 NORSAR Array S 88.20 353 P **P 10 35 26.8 +1.1**
ETMB Extrema 88.24 260 *e*P **P 10 35 26.9 -0.2**
NAO01 NORSAR Array S 88.38 352 P **P 10 35 27.7 +1.1**
NB2 NORSAR Subarra 88.53 353 P **P 10 35 29.5 +2.2**
comp=Z,6.1nm,1.2s,baz=203,slow=6.2
NOA NORSAR Array B 88.53 353 P **P 10 35 29.0 +1.6**
comp=Z,4.7nm,1.1s,baz=175,slow=4.5,SNR=6.5
NOA LR LR 11 19 07.7
comp=Z,488nm,19.0s,baz=165,slow=38
NOA NORSAR Array B 88.53 353 P **P 10 35 29.0 +1.6**
NBO00 NORSAR Array S 88.58 352 P **P 10 35 27.9 +0.4**
MAKZ Makanchi 88.70 34 P **P 10 35 29.0 +0.6**
MAKZ pmax pmax
comp=Z,15nm,1.2s
MAKZ MLR MLR
comp=Z,700nm,19.0s
MAKZ Makanchi 88.70 34 P **P 10 35 29.0 +0.6**
MAKZ IAmb IAmb 10 35 30.8
comp=Z,15nm,1.1s
NC204 NORSAR Array S 88.82 352 P **P 10 35 28.8 +0.1**
MK31 Makanchi Array 88.85 35 P **P 10 35 29.5 +0.3**
MK31 pmax pmax
comp=Z,14nm,1.4s
MK31 Makanchi Array 88.85 35 P **P 10 35 29.5 +0.3**
MKAR Makanchi Array 88.85 35 P **P 10 35 28.6 -0.6**
comp=Z,3.6nm,0.8s,baz=233,slow=5.3,SNR=26
MKAR LR LR 11 16 20.0
comp=Z,478nm,21.8s,baz=254,slow=36
MKAR Makanchi Array 88.85 35 *ce*P **P 10 35 30.6 +1.4**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
PRGR Permogore 89.54 9 *e*P **P 10 35 33.2 +1.3**
PRGR pmax pmax
comp=Z,58nm,1.0s
FITZ Fitzroy Crossi 89.56 110 P **P 10 35 34.3 +1.1**
comp=Z,8.5nm,1.1s,baz=262,slow=7.1,SNR=3.3
FITZ Fitzroy Crossi 89.56 110 P **P 10 35 33.4 +0.1**
KMI Kunming 89.66 62⇑ *e*P P 10 35 40.6 +6.8
KMI pmax pmax
comp=Z,8.0nm,0.5s
KMI pmax pmax
comp=Z,160nm,6.3s
KMI LR LR
comp=N,510nm,20.1s
KMI LR LR
comp=E,630nm,19.3s
KMI LR LR
comp=Z,500nm,18.3s
WMQ Urumqi 89.81 39 *e*P **P 10 35 34.8 +1.0**
WMQ pmax pmax
comp=Z,12nm,1.7s
WMQ pmax pmax
comp=Z,55nm,4.9s
WMQ LR LR
comp=Z,810nm,20.5s
WMQ LR LR
comp=Z,500nm,21.9s
WMQ LR LR
comp=Z,570nm,26.3s
KURK Kurchatov 89.82 30 *i* P **P 10 35 35.2 +1.6**
KURK pmax pmax
comp=Z,9.0nm,1.0s
BBOO Buckleboo 90.34 127 P **P 10 35 36.1 -0.6**
BBOO IAmb IAmb 10 35 39.4
comp=Z,28nm,1.2s
ZSN Zaisan 90.60 35 *e*P **P 10 35 38.8 +1.5**
baz=35
ZSN Zaisan 90.60 35 *e*P **P 10 35 38.8 +1.5**
TMCR Tamitsa 91.19 5 *e*P **P 10 35 41.0 +1.4**
TMCR pmax pmax
comp=Z,5.0nm,0.4s
QIZ Qiongzhong 92.54 70 P **P 10 35 46.1 -0.9**
QIZ S **S 10 46 51.0 -0.9**
QIZ LR LR
comp=Z,890nm,19.1s
QIZ LR LR
comp=Z,870nm,17.5s
QIZ LR LR
comp=Z,370nm,18.6s
CD2 Chengdu 93.30 57 P **P 10 35 50.1 -0.2**
CD2 pmax pmax
comp=Z,30nm,0.8s
DGZ Jazzator, Alta 93.35 35 *i* P **P 10 35 48.6 -1.6**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 93.55 119 P **P 10 35 51.8 0.0**
comp=Z,1.7nm,0.6s,baz=231,slow=4.5,SNR=24
ASAR PKKPbc **PKKPbc 10 52 57.6 +0.9**
comp=Z,0.6nm,0.9s,baz=72,slow=3.1,SNR=4.7
ASAR LR LR 11 13 44.3
comp=Z,846nm,19.1s,baz=243,slow=33
AS31 Alice Springs 93.55 119 P **P 10 35 52.6 +0.9**
MYLDM Lahad Datu 93.87 86 IAMs_20 IAMs_20 11 12 48.2
comp=Z,983nm,19.0s
LVZ Lovozero 94.69 3 IAMs_20 IAMs_20 11 21 33.2
comp=Z,1μm,19.0s
STKA Stephens Creek 94.75 129 P **P 10 35 57.1 +0.1**
comp=Z,6.8nm,0.9s,baz=228,slow=4.4,SNR=9.3
STKA LR LR 11 10 56.4
comp=Z,999nm,21.6s,baz=230,slow=31
STKA Stephens Creek 94.75 129 P **P 10 35 57.2 +0.2**
STKA pmax pmax
comp=Z,3.0nm,1.1s
STKA Stephens Creek 94.75 129 P **P 10 35 57.2 +0.2**
GTA Gaotai 94.77 48 P **P 10 35 59.0 +2.1**
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,150nm,8.6s
GTA LR LR
comp=Z,630nm,21.6s
GTA LR LR
comp=Z,740nm,21.3s
GTA LR LR
comp=Z,1μm,20.9s
ZALV Zalesovo Beam 94.81 30 P **P 10 35 56.3 -0.3**
comp=Z,0.7nm,0.4s,baz=194,slow=5.4,SNR=4.4
ZALV PP **PP 10 39 45.2 -0.5**
comp=Z,4.6nm,0.9s,baz=234,slow=6.6,SNR=6.8
ZALV LR LR 11 22 41.1
comp=Z,723nm,18.3s,baz=245,slow=38
ZALV Zalesovo Beam 94.81 30 *i* P **P 10 35 55.7 -0.9**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
CZSB Cruzeiro do Su 94.89 259 *e*P **P 10 35 59.4 +1.4**
WRA Warramunga Arr 95.81 116 P **P 10 36 03.2 +1.0**
comp=Z,3.7nm,1.3s,baz=232,slow=3.3,SNR=4.3
WRA PKKPbc **PKKPdf 10 52 51.8 +0.9**
comp=Z,1.1nm,0.9s,baz=58,slow=3.2,SNR=8.9
WRA LR LR 11 14 26.3
comp=Z,742nm,19.3s,baz=255,slow=32
WC3 Warramunga Arr 95.83 116 IAMs_20 IAMs_20 11 26 50.6
comp=Z,1μm,20.0s
LZH Lanzhou 95.88 53 *e*P **P 10 36 03.3 +1.2**
LZH pP sP 10 36 07.3 +1.0
LZH sP pP 10 36 09.6 +4.4
LZH pmax pmax
comp=Z,13nm,1.1s
LZH LR LR
comp=Z,690nm,14.0s
LZH LR LR
comp=Z,560nm,15.4s
LZH LR LR
comp=Z,650nm,17.3s
WB7 Warramunga Arr 95.90 116 IAMs_20 IAMs_20 11 05 35.8
comp=Z,1μm,22.0s
WR0 Warramunga Arr 95.97 116 IAMs_20 IAMs_20 11 17 33.1
comp=Z,2μm,21.0s

ARCES **ARCESS Array B 96.16 360** P **P** **10 36 01.9 -0.5**
comp=Z,6.0nm,0.9s,baz=188,slow=4.6,SNR=14
ARCES LR LR 11 20 46.7
comp=Z,848nm,19.0s,baz=204,slow=36
KEV **Kevo 96.38 0** IAMs_20 IAMs_20 11 20 49.4
comp=Z,1µm,18.0s
NNA **Nana 96.46 253** LR LR 11 15 43.5
comp=Z,481nm,21.9s,baz=120,slow=33
WHN **Wuhan 101.27 62** P Pdif 10 36 46.1 +20
SONM **Songino Array 102.97 43** PP **PP** **10 40 48.9 +0.6**
comp=Z,2.4nm,1.2s,baz=232,slow=7.3,SNR=4.0
SCO **Scoresbysund 103.05 345** IAMs_20 IAMs_20 11 20 16.8
comp=Z,1µm,20.0s
KBS **Kingsbay 105.94 357** IAMs_20 IAMs_20 11 27 35.0
comp=Z,890nm,18.0s
DRLN **Deer Lake 106.34 317** IAMs_20 IAMs_20 11 21 44.3
comp=Z,1µm,21.0s
HAL **Halifax 108.60 311** IAMs_20 IAMs_20 11 23 36.1
comp=Z,1µm,21.0s
GGN **Saint George 110.94 311** IAMs_20 IAMs_20 11 24 50.7
comp=Z,932nm,20.0s
BATG **Bathurst New B 111.06 313** IAMs_20 IAMs_20 11 22 35.3
comp=Z,852nm,20.0s
EMMW **East Machias 111.24 310** IAMs_20 IAMs_20 11 23 30.9
comp=Z,909nm,21.0s
G65A **Princeton 111.45 311** IAMs_20 IAMs_20 11 25 07.6
comp=Z,982nm,21.0s
HIA **Hailar 111.75 45** IAMs_20 IAMs_20 11 27 39.9
comp=Z,937nm,21.0s
PMG **Port Moresby 111.90 113** IAMs_20 IAMs_20 11 27 07.6
comp=Z,991nm,18.0s
F64A **Sherman 112.17 311** IAMs_20 IAMs_20 11 26 08.6
comp=Z,1µm,19.0s
E63A **Oxbow 112.37 312** IAMs_20 IAMs_20 11 26 30.0
comp=Z,1µm,20.0s
F63A **Nahmakanta, Br 112.63 311** IAMs_20 IAMs_20 11 26 01.9
comp=Z,850nm,20.0s
PKME **Peaks-Kenny Pk 112.64 310** IAMs_20 IAMs_20 11 24 22.1
comp=Z,996nm,21.0s
WVL **Waterville 112.70 310** IAMs_20 IAMs_20 11 23 48.8
comp=Z,827nm,20.0s
F62A **Pittston Farm, 113.27 311** IAMs_20 IAMs_20 11 21 10.7
comp=Z,1µm,22.0s
G62A **West of Eustis 113.47 310** IAMs_20 IAMs_20 11 24 35.2
comp=Z,1µm,21.0s
HRV **Adam Dziewonsk 113.48 307** IAMs_20 IAMs_20 11 19 46.3
comp=Z,917nm,22.0s
H62A **Milan 113.74 309** IAMs_20 IAMs_20 11 34 38.1
comp=Z,784nm,18.0s
QUA2 **Belchertown 113.98 307** IAMs_20 IAMs_20 11 21 56.7
comp=Z,829nm,21.0s
K62A **Royalston 114.00 307** IAMs_20 IAMs_20 11 24 50.1
comp=Z,692nm,19.0s
CN2 **Changchun 114.09 52** PKP PKiKP 10 41 22.5 +8.1
CN2 **Changchun 114.09 52** SS SS 10 58 10.5 +10
CN2 AMB AMB
comp=Z,140nm,6.0s
CN2 LR LR
comp=N,720nm,18.0s
CN2 LR LR
comp=E,550nm,18.0s
CN2 LR LR
comp=Z,560nm,18.0s
WSPT **Westport, CT 114.40 305** IAMs_20 IAMs_20 11 27 40.7
comp=Z,684nm,19.0s
PAL **Palisades 114.78 305** IAMs_20 IAMs_20 11 27 40.8
comp=Z,770nm,20.0s
VT1 **Waterbury 114.78 309** IAMs_20 IAMs_20 11 35 13.7
comp=Z,729nm,18.0s
TRY **Troy 115.04 307** IAMs_20 IAMs_20 11 23 01.6
comp=Z,751nm,21.0s
P61A **Hammonton 115.09 303** IAMs_20 IAMs_20 11 23 02.1
comp=Z,843nm,20.0s
ACCN **Adirondack Com 115.20 308** IAMs_20 IAMs_20 11 30 31.8
comp=Z,890nm,20.0s
ODNJ **Ogdensburg 115.31 305** IAMs_20 IAMs_20 11 27 30.8
comp=Z,830nm,19.0s
BOAB **BOACO BROADBAN 115.40 272** IAMs_20 IAMs_20 11 26 19.8
comp=Z,966nm,20.0s
V61A **Roper 115.43 299** IAMs_20 IAMs_20 11 25 00.1
comp=Z,1µm,20.0s
PSUB **Penn St. - Bra 115.65 304** IAMs_20 IAMs_20 11 22 38.8
comp=Z,834nm,21.0s
Q60A **Greensboro 115.71 302** IAMs_20 IAMs_20 11 29 12.4
comp=Z,828nm,20.0s
P60A **Greenville 115.75 303** IAMs_20 IAMs_20 11 22 41.6
comp=Z,838nm,20.0s
J59A **Piesco 115.81 308** IAMs_20 IAMs_20 11 26 58.0
comp=Z,828nm,22.0s
L59A **Walton 115.90 306** IAMs_20 IAMs_20 11 20 43.3
comp=Z,765nm,22.0s
T60A **Surry 115.91 300** IAMs_20 IAMs_20 11 26 37.8
comp=Z,874nm,18.0s
V60A **Jim Taylor Roa 115.96 299** IAMs_20 IAMs_20 11 26 11.1
comp=Z,891nm,20.0s
N59A **State Game Lan 116.12 305** IAMs_20 IAMs_20 11 24 27.4
comp=Z,823nm,20.0s
LONY **Lake Ozonia 116.12 309** IAMs_20 IAMs_20 11 29 07.3
comp=Z,756nm,20.0s
Y60A **Bolivia 116.24 297** IAMs_20 IAMs_20 11 30 43.5
comp=Z,669nm,19.0s
KSPA **Keystone Colle 116.27 305** IAMs_20 IAMs_20 11 28 28.3
comp=Z,776nm,18.0s
CNNC **Cliffs of the 116.31 298** IAMs_20 IAMs_20 11 27 24.4
comp=Z,766nm,20.0s
MVL **Millersville 116.33 303** IAMs_20 IAMs_20 11 26 55.0
comp=Z,812nm,20.0s
J58A **Remsen 116.34 307** IAMs_20 IAMs_20 11 24 32.0
comp=Z,780nm,20.0s
T59A **Double "B" Far 116.50 300** IAMs_20 IAMs_20 11 26 56.4
comp=Z,964nm,19.0s
BINY **Binghamton 116.58 306** IAMs_20 IAMs_20 11 31 17.4
comp=Z,696nm,20.0s
PAGS **Pennsylvania G 116.67 304** IAMs_20 IAMs_20 11 23 20.7
comp=Z,833nm,20.0s
Y59A **Loris 116.76 296** IAMs_20 IAMs_20 11 29 49.3
comp=Z,629nm,18.0s
N58A **Sunbury 116.80 304** IAMs_20 IAMs_20 11 23 47.4
comp=Z,835nm,20.0s
J57A **Williamstown 116.86 307** IAMs_20 IAMs_20 11 24 46.7
comp=Z,800nm,20.0s
S58A **Poland Farm, P 117.04 300** IAMs_20 IAMs_20 11 27 22.8
comp=Z,649nm,19.0s
DWPF **Disney Wildern 117.20 289** IAMs_20 IAMs_20 11 28 24.9
comp=Z,734nm,19.0s
M57A **Sunshine Farm, 117.22 305** IAMs_20 IAMs_20 11 31 38.4
comp=Z,753nm,19.0s
X58A **Rowland 117.28 297** IAMs_20 IAMs_20 11 34 37.1
comp=Z,768nm,18.0s
V58A **Windy Hill, Pi 117.42 298** IAMs_20 IAMs_20 11 28 07.8
comp=Z,783nm,20.0s
P57A **Homestead Farm 117.46 303** IAMs_20 IAMs_20 11 27 10.7
comp=Z,741nm,21.0s
DZM **Mont Dzumac 117.62 137** *e*LR LR 11 17 07.0
comp=Z,618nm,21.6s
SSPA **Standing Stone 117.62 304** IAMs_20 IAMs_20 11 24 01.1
comp=Z,839nm,20.0s
PECO **Prince Edward 117.67 308** IAMs_20 IAMs_20 11 24 44.3
comp=Z,836nm,21.0s
L56A **Greenwood 117.71 306** IAMs_20 IAMs_20 11 31 40.3
comp=Z,714nm,19.0s
S57A **Dark Hollow, R 117.77 300** IAMs_20 IAMs_20 11 27 45.1
comp=Z,736nm,20.0s
PLVO **Plevna 117.95 309** IAMs_20 IAMs_20 11 29 22.5
comp=Z,696nm,19.0s
W57A **Gilead 117.95 297** IAMs_20 IAMs_20 11 28 14.9
comp=Z,710nm,20.0s
M56A **Emporium 118.03 305** IAMs_20 IAMs_20 11 25 26.7
comp=Z,777nm,20.0s
O56A **Blue Knob Stat 118.05 303** IAMs_20 IAMs_20 11 23 51.4
comp=Z,709nm,20.0s
J55A **Hilton 118.12 307** IAMs_20 IAMs_20 11 27 04.3
comp=Z,795nm,20.0s
DELO **Deloro Mine 118.23 308** IAMs_20 IAMs_20 11 30 11.0
comp=Z,805nm,21.0s
M55A **Ridgway 118.45 305** IAMs_20 IAMs_20 11 25 18.0
comp=Z,800nm,20.0s
WVNY **West Valley, N 118.52 306** IAMs_20 IAMs_20 11 28 29.8
comp=Z,821nm,21.0s
U56A **King 118.55 299** IAMs_20 IAMs_20 11 26 46.7
comp=Z,888nm,19.0s
J54A **Appleton 118.72 307** IAMs_20 IAMs_20 11 27 31.9
comp=Z,757nm,20.0s
D53A **Lac Vacive, Po 118.74 311** IAMs_20 IAMs_20 11 31 43.4
comp=Z,942nm,20.0s
VLDQ **Val d'Or 118.74 312** IAMs_20 IAMs_20 11 33 09.1
comp=Z,961nm,19.0s
BLA **Blacksburg 118.78 300** IAMs_20 IAMs_20 11 28 05.8
comp=Z,1µm,19.0s
R55A **Marlinton 118.79 301** IAMs_20 IAMs_20 11 28 37.0
comp=Z,707nm,20.0s
V55A **Taylorsville 119.09 298** P **PKPdf** **10 41 23.1 -1.2**
baz=104
V55A **Taylorsville 119.09 298** IAMs_20 IAMs_20 11 28 58.0
comp=Z,699nm,20.0s
TIXI **Tiksi 119.09 21** IAMs_20 IAMs_20 11 41 59.6
comp=Z,853nm,20.0s
U55A **TA2, Sparta 119.11 299** P **PKPdf** **10 41 23.5 -0.9**
baz=103
M54A **Oil Creek Stat 119.12 304** IAMs_20 IAMs_20 11 25 58.7
comp=Z,727nm,20.0s
N54A **Moraine State 119.25 304** IAMs_20 IAMs_20 11 24 51.2
comp=Z,792nm,21.0s
PAULI **Pauline 119.32 297** IAMs_20 IAMs_20 11 36 33.2
comp=Z,649nm,18.0s
SADO **Sadowa 119.34 308** IAMs_20 IAMs_20 11 26 14.5
comp=Z,714nm,21.0s
O54A **Avella 119.39 303** IAMs_20 IAMs_20 11 28 38.8
comp=Z,915nm,20.0s
KLR **Kul'dur 119.43 47** *i* PKIKP **PKiKP** **10 41 25.6 +1.0**
KLR pmax pmax
comp=Z,2.0nm,0.9s
KLR MLR MLR
comp=Z,766nm,20.0s
ERPA **Erie 119.47 305** IAMs_20 IAMs_20 11 26 12.1
comp=Z,734nm,20.0s
Q54A **Coxs Mills 119.49 301** IAMs_20 IAMs_20 11 38 55.4
comp=Z,660nm,18.0s
S54A **Dingess, Beckl 119.60 300** IAMs_20 IAMs_20 11 28 41.5
comp=Z,916nm,20.0s
U54A **Nelsons Funny 119.72 298** IAMs_20 IAMs_20 11 27 32.6
comp=Z,961nm,20.0s
M53A **Wl Miller and 119.85 304** IAMs_20 IAMs_20 11 26 21.1
comp=Z,688nm,20.0s
N53A **Lisbon 119.85 303** IAMs_20 IAMs_20 11 32 15.1
comp=Z,824nm,20.0s
O53A **New Philadelph 120.03 303** IAMs_20 IAMs_20 11 35 57.7
comp=Z,845nm,19.0s
R53A **Hurricane 120.21 300** IAMs_20 IAMs_20 11 28 18.6
comp=Z,762nm,20.0s
V53A **Saluda 120.31 297** IAMs_20 IAMs_20 11 33 17.4
comp=Z,782nm,18.0s
M52A **Chesterland 120.37 304** IAMs_20 IAMs_20 11 25 36.9
comp=Z,707nm,20.0s
V52A **Sevierville 120.97 297** IAMs_20 IAMs_20 11 30 08.8
comp=Z,739nm,21.0s
N51A **Ashland 121.02 303** IAMs_20 IAMs_20 11 29 41.0
comp=Z,1µm,20.0s
TKL **Tuckaleechee C 121.07 297** IAMs_20 IAMs_20 11 30 11.5
comp=Z,706nm,20.0s
W52A **Murphy 121.07 296** IAMs_20 IAMs_20 11 31 39.5
comp=Z,719nm,20.0s
TZTN **Tazewell 121.08 298** IAMs_20 IAMs_20 11 28 15.8
comp=Z,802nm,20.0s
S51A **Beattyville 121.34 299** IAMs_20 IAMs_20 11 28 33.5
comp=Z,983nm,20.0s
ACSO **Alum Creek Sta 121.35 302** IAMs_20 IAMs_20 11 32 54.9
comp=Z,821nm,21.0s
Q51A **Peebles 121.41 301** IAMs_20 IAMs_20 11 30 27.5
comp=Z,647nm,19.0s
K50A **Casco 121.51 305** IAMs_20 IAMs_20 11 27 34.9
comp=Z,843nm,20.0s
V51A **Loudon 121.56 297** IAMs_20 IAMs_20 11 30 26.5
comp=Z,683nm,20.0s
M50A **Fremont 121.60 304** IAMs_20 IAMs_20 11 30 27.3
comp=Z,803nm,21.0s
CPCT **Cooper Cave 121.62 297** IAMs_20 IAMs_20 11 33 59.1
comp=Z,642nm,20.0s
I49A **Point Hope 121.82 307** IAMs_20 IAMs_20 11 33 21.2
comp=Z,750nm,19.0s
HNR **Honiara 122.00 122** PKP **PKiKP** **10 41 31.2 +0.5**
comp=Z,129nm,0.7s,baz=170,slow=9.0,SNR=2.1
HNR **Honiara 122.00 122** **PKPdf** **10 41 30.5 -0.1**
MAT **Matsushiro 122.00 62** *e*PKP **PKiKP** **10 41 32.1 +2.1**
MJAR **Matsushiro Arr 122.00 62** PKP **PKiKP** **10 41 32.5 +2.4**
comp=Z,2.0nm,1.0s,baz=309,slow=3.2,SNR=3.3
R50A **Paris 122.03 300** IAMs_20 IAMs_20 11 30 17.3
comp=Z,877nm,21.0s
AAM **Ann Arbor 122.19 305** IAMs_20 IAMs_20 11 26 44.0
comp=Z,850nm,21.0s
T50A **Nancy 122.19 298** IAMs_20 IAMs_20 11 30 05.1
comp=Z,837nm,21.0s
W50A **Signal Mountai 122.20 296** IAMs_20 IAMs_20 11 39 11.5
comp=Z,698nm,20.0s
O49A **Covington 122.37 302** IAMs_20 IAMs_20 11 33 34.7
comp=Z,653nm,20.0s
N49A **Columbus Grove 122.37 303** IAMs_20 IAMs_20 11 30 30.8
comp=Z,882nm,21.0s
R49A **Shelbyville 122.69 300** IAMs_20 IAMs_20 11 29 35.2
comp=Z,858nm,20.0s
SWET **Sewanee 122.70 296** IAMs_20 IAMs_20 11 28 19.7
comp=Z,707nm,21.0s
L48A **N Adams 122.71 304** IAMs_20 IAMs_20 11 33 31.7
comp=Z,983nm,20.0s
U49A **Red Boiling Sp 122.84 298** IAMs_20 IAMs_20 11 35 55.2
comp=Z,791nm,18.0s
P48A **Milroy 123.08 301** IAMs_20 IAMs_20 11 33 30.6
comp=Z,664nm,20.0s
J47A **Sumer 123.17 306** IAMs_20 IAMs_20 11 28 27.8
comp=Z,714nm,20.0s
CLTN **Cedars of Leba 123.19 297** IAMs_20 IAMs_20 11 39 35.7
comp=Z,651nm,19.0s
GLMI **Grayling 123.21 308** IAMs_20 IAMs_20 11 33 02.8
comp=Z,1µm,21.0s
N47A **Urbana 123.50 303** IAMs_20 IAMs_20 11 34 20.6
comp=Z,770nm,20.0s
WCI **Wyandotte Cave 123.55 300** IAMs_20 IAMs_20 11 31 15.0
comp=Z,831nm,20.0s
BLO **Bloomington 123.87 301** IAMs_20 IAMs_20 11 30 42.6
comp=Z,679nm,20.0s
RES **Resolute Bay 123.94 344** IAMs_20 IAMs_20 11 32 44.9
comp=Z,1µm,21.0s
G45A **Suttons Bay 123.97 308** IAMs_20 IAMs_20 11 33 31.8
comp=Z,955nm,21.0s
T47A **Sharon Grove 123.97 298** IAMs_20 IAMs_20 11 33 39.2
comp=Z,747nm,20.0s
L46A **Eue Claire 124.10 304** IAMs_20 IAMs_20 11 39 59.4
comp=Z,772nm,20.0s
I45A **Fountain 124.28 307** IAMs_20 IAMs_20 11 33 55.2
comp=Z,960nm,21.0s
PLAL **Pickwick Lake 124.38 295** IAMs_20 IAMs_20 11 40 21.2
comp=Z,733nm,20.0s
WVT **Waverly 124.39 297** IAMs_20 IAMs_20 11 36 17.5
comp=Z,682nm,18.0s
P46A **Rosedale 124.46 301** IAMs_20 IAMs_20 11 32 22.2
comp=Z,649nm,21.0s
SFIN **Lafayette 124.48 302** IAMs_20 IAMs_20 11 33 32.8
comp=Z,724nm,21.0s
E43A **Lone Tree Farm 125.01 309** IAMs_20 IAMs_20 11 29 30.3
comp=Z,656nm,20.0s
OLIL **Olney 125.02 300** IAMs_20 IAMs_20 11 35 04.1
comp=Z,855nm,20.0s
T45A **Paducah 125.19 298** IAMs_20 IAMs_20 11 37 26.5
comp=Z,796nm,19.0s
HQIL **Hanson Quary C 125.23 304** IAMs_20 IAMs_20 11 35 14.3
comp=Z,776nm,20.0s
L44A **Lake County Fo 125.31 304** IAMs_20 IAMs_20 11 32 12.5
comp=Z,800nm,20.0s
H43A **Windswept, Lux 125.42 307** IAMs_20 IAMs_20 11 26 38.2
comp=Z,936nm,22.0s
O44A **Mansfield 125.50 302** IAMs_20 IAMs_20 11 32 30.5
comp=Z,840nm,21.0s
K43A **Burlington 125.67 305** IAMs_20 IAMs_20 11 35 30.1
comp=Z,868nm,19.0s
Q44A **Meyer Farm, Va 125.76 300** IAMs_20 IAMs_20 11 32 52.5
comp=Z,909nm,20.0s
F42A **Maple Grove Fa 125.76 308** IAMs_20 IAMs_20 11 32 11.3
comp=Z,666nm,20.0s
344A **Westbrook Farm 125.86 291** IAMs_20 IAMs_20 11 47 42.4
comp=Z,618nm,19.0s
MET **Memphis--Engin 125.91 295** IAMs_20 IAMs_20 11 38 04.5
comp=Z,645nm,20.0s
PVMO **Portageville 125.93 297** IAMs_20 IAMs_20 11 34 32.2
comp=Z,604nm,20.0s
PARMO **Parma 126.01 297** IAMs_20 IAMs_20 11 34 43.3
comp=Z,654nm,21.0s
PEBM **Pemiscott Bayo 126.01 296** IAMs_20 IAMs_20 11 35 43.3
comp=Z,616nm,20.0s
D41A **Chassel 126.12 310** IAMs_20 IAMs_20 11 30 25.7
comp=Z,944nm,20.0s
I42A **Draeger Farm, 126.19 306** IAMs_20 IAMs_20 11 34 50.8
comp=Z,751nm,20.0s
P43A **Skaggs, Pawnee 126.24 301** IAMs_20 IAMs_20 11 33 25.2
comp=Z,792nm,21.0s
LPAR **Lepanto 126.28 296** IAMs_20 IAMs_20 11 38 48.5
comp=Z,621nm,20.0s
COWI **Conover 126.48 309** IAMs_20 IAMs_20 11 34 02.2
comp=Z,683nm,21.0s
PBMO **Poplar Bluff 126.57 297** PKPdf **PKPdf** **10 41 37.9 -0.7**
X43A **Marvell 126.57 294** IAMs_20 IAMs_20 11 42 06.1
comp=Z,601nm,19.0s
ERM **Erimo 126.59 56** IAMs_20 IAMs_20 11 39 06.1
comp=Z,888nm,20.0s
YSS **Yuzh-Sakhalins 126.59 50** *e*PKHKP PKPpre 10 41 21.2
YSS *i* 10 41 36.5
YSS *e*PPP PPP 10 46 28.1
YSS *e* 10 48 44.1
YSS *e*PPS PPS 10 55 17.7
L42A **Oliver, Polo 126.59 304** IAMs_20 IAMs_20 11 29 06.5
comp=Z,718nm,21.0s
SLM **Saint Louis 126.67 300** IAMs_20 IAMs_20 11 31 51.6
comp=Z,837nm,21.0s
JFWS **Jewell Farm 127.09 305** P **PKPdf** **10 41 39.7 +0.2**
baz=94
JFWS **Jewell Farm 127.09 305** IAMs_20 IAMs_20 11 30 33.7
comp=Z,908nm,21.0s
T42A **Van Buren 127.13 297** IAMs_20 IAMs_20 11 35 44.9
comp=Z,775nm,20.0s
G40A **Rib Lake 127.19 308** IAMs_20 IAMs_20 11 29 52.1
comp=Z,861nm,21.0s
CCAR **Cane Creek 127.19 293** IAMs_20 IAMs_20 11 32 47.7
comp=Z,612nm,20.0s
N41A **Harden Midland 127.37 302** IAMs_20 IAMs_20 11 38 28.1
comp=Z,753nm,19.0s
CCM **Cathedral Cave 127.38 299** P **PKPdf** **10 41 40.2 +0.1**
baz=97
CCM **Cathedral Cave 127.38 299** IAMs_20 IAMs_20 11 36 27.5
comp=Z,918nm,20.0s
I40A **Norwalk 127.42 306** IAMs_20 IAMs_20 11 34 36.4
comp=Z,777nm,20.0s
L40A **Anamosa 127.75 304** IAMs_20 IAMs_20 11 36 34.2
comp=Z,834nm,20.0s
W41B **Gary Mavity, V 127.79 295** P **PKPdf** **10 41 40.9 0.0**
baz=99
W41B **Gary Mavity, V 127.79 295** IAMs_20 IAMs_20 11 44 54.3
comp=Z,653nm,20.0s
FCAR **Ozark Folk Cen 127.79 296** IAMs_20 IAMs_20 11 44 35.4
comp=Z,707nm,20.0s
MGMO **Mountain Grove 128.08 297** IAMs_20 IAMs_20 11 32 25.0
comp=Z,803nm,20.0s
EYMN **Ely 128.12 311** IAMs_20 IAMs_20 11 32 40.5
comp=Z,787nm,20.0s
E38A **The Farm, Brul 128.16 309** IAMs_20 IAMs_20 11 35 33.8
comp=Z,1µm,22.0s
P40A **Paris 128.17 300** **PKiKP** **10 41 42.7 +0.5**
R40A **Maddies Statio 128.21 299** PKPdf **PKPdf** **10 41 40.4 -1.3**
R40A IAMs_20 IAMs_20 11 33 50.5
comp=Z,1µm,21.0s
U40A **Yellville 128.44 296** P **PKPdf** **10 41 41.7 -0.5**
baz=98
U40A **Yellville 128.44 296** IAMs_20 IAMs_20 11 45 53.6
comp=Z,630nm,19.0s
MIAR **Mount Ida 128.77 294** IAMs_20 IAMs_20 11 45 40.4
comp=Z,733nm,19.0s
K38A **Parkersburg 128.93 304** IAMs_20 IAMs_20 11 31 09.4
comp=Z,732nm,20.0s
S39A **Bolivar 128.97 298** IAMs_20 IAMs_20 11 38 32.7
comp=Z,891nm,20.0s
SPMN **Marine on St. 129.03 308** P **PKPdf** **10 41 43.3 +0.3**
baz=91
SPMN **Marine on St. 129.03 308** IAMs_20 IAMs_20 11 31 06.7
comp=Z,881nm,21.0s
W39A **Magazine 129.03 295** IAMs_20 IAMs_20 11 45 19.3
comp=Z,790nm,20.0s
NATX **Nacogdoches 129.21 290** IAMs_20 IAMs_20 11 47 31.1
comp=Z,558nm,19.0s
SCIA **State Center 129.23 303** IAMs_20 IAMs_20 11 33 07.2
comp=Z,630nm,20.0s
P38A **Dawn 129.32 300** IAMs_20 IAMs_20 11 35 28.8
comp=Z,729nm,20.0s
I37A **Lemond, Waseca 129.44 306** IAMs_20 IAMs_20 11 33 09.6
comp=Z,664nm,20.0s
TBI **Tubuai 129.91 185** *e*LR LR 11 22 46.2
comp=Z,1µm,32.2s
N35A **Tabor 131.00 302** IAMs_20 IAMs_20 11 36 17.3
comp=Z,721nm,19.0s
AGMN **Agassiz Nation 131.02 312** IAMs_20 IAMs_20 11 37 50.4
comp=Z,863nm,20.0s
T35A **Sooner Cattle 131.43 297** IAMs_20 IAMs_20 11 40 09.7
comp=Z,761nm,20.0s
F33A **5 Mile Ranch, 131.47 309** IAMs_20 IAMs_20 11 32 12.3
comp=Z,972nm,22.0s
435B **Jarrell 131.50 288** IAMs_20 IAMs_20 11 48 59.8
comp=Z,631nm,20.0s
L34A **Svendsen Farm, 131.59 303** IAMs_20 IAMs_20 11 38 17.7
comp=Z,661nm,21.0s
Z35A **Perchaven, San 131.62 292** IAMs_20 IAMs_20 11 48 42.9
comp=Z,553nm,18.0s
KSU1 **Kansas State U 131.66 300** IAMs_20 IAMs_20 11 35 11.8
comp=Z,695nm,20.0s
ECSD **EROS Data Cent 131.76 306** P **PKiKP** **10 41 48.8 -0.5**
baz=89
ECSD **EROS Data Cent 131.76 306** IAMs_20 IAMs_20 11 33 49.1
comp=Z,723nm,20.0s
D32A **Dogwood Acres, 131.89 310** IAMs_20 IAMs_20 11 36 47.4
comp=Z,908nm,20.0s
OK025 **Westminster Rd 131.96 295** IAMs_20 IAMs_20 11 40 25.9
comp=Z,695nm,21.0s
BILL **Bilibino 132.26 19** *i* PKIKP **PKiKP** **10 41 51.3 +1.8**
BILL pmax pmax
comp=Z,5.0nm,1.0s
N33A **J Bar K, Exete 132.37 302** IAMs_20 IAMs_20 11 41 13.6
comp=Z,561nm,20.0s
BGNE **Belgrade 132.91 303** IAMs_20 IAMs_20 11 38 11.7
comp=Z,832nm,21.0s
R32A **Long Quarter, 133.27 299** IAMs_20 IAMs_20 11 35 54.4
comp=Z,761nm,20.0s
JCT **Junction City 133.33 288** P **PKPdf** **10 41 51.6 -0.1**
baz=100
K31A **O'Neill 133.35 304** IAMs_20 IAMs_20 11 33 17.2
comp=Z,693nm,20.0s
U32A **Winter Ranch, 133.38 296** IAMs_20 IAMs_20 11 40 30.3
comp=Z,640nm,20.0s
SUSD **Miller 133.42 307** IAMs_20 IAMs_20 11 37 32.0
comp=Z,880nm,22.0s
MDND **Maddock 133.56 312** IAMs_20 IAMs_20 11 35 55.6
comp=Z,863nm,20.0s
C36M **Paulatuk 134.22 346** IAMs_20 IAMs_20 11 38 16.4
comp=Z,955nm,22.0s
E28A **Huff 134.45 310** IAMs_20 IAMs_20 11 33 47.2
comp=Z,933nm,21.0s
AMTX **Amarillo 135.44 293** IAMs_20 IAMs_20 11 43 06.0
comp=Z,607nm,20.0s
PPT2 **Papeete2 135.63 185** *e*LR LR 11 25 16.4
comp=Z,933nm,24.5s
YKA **Yellowknife Ar 136.25 335** PKP **PKPdf** **10 41 55.7 -0.4**
comp=Z,0.7nm,0.5s,baz=17,slow=1.9,SNR=5.6
MSTX **Muleshoe 136.27 292** IAMs_20 IAMs_20 11 43 54.9
comp=Z,749nm,21.0s
TXAR **Lajitas Array 136.46 285** PKhKP PKPpre 10 41 48.1
comp=Z,0.4nm,0.5s,baz=110,slow=3.8,SNR=8.2
TXAR PKP **PKiKP** **10 41 59.0 -0.4**
comp=Z,1.4nm,0.6s,baz=129,slow=3.4,SNR=14
DGMT **Dagmar 136.50 313** P **PKPdf** **10 41 57.6 +0.5**
baz=79
INK **Inuvik 136.91 349** PKhKP PKPpre 10 41 52.9
comp=Z,1.2nm,0.7s,baz=11,slow=5.2,SNR=1.6
INK **Inuvik 136.91 349** PKIKP **PKPdf** **10 41 53.9 -3.2**
INK MLR MLR
comp=Z,900nm,22.0s
INK **Inuvik 136.91 349** **PKPdf** **10 41 53.9 -3.2**
INK IAMs_20 IAMs_20 11 40 27.5
comp=Z,900nm,22.0s
RSSD **Black Hills 137.08 307** IAMs_20 IAMs_20 11 37 20.0
comp=Z,828nm,21.0s
T25A **Trinidad 137.75 297** IAMs_20 IAMs_20 11 46 08.1
comp=Z,714nm,20.0s
TOLK **Toolik Lake Re 138.18 358** P **PKiKP** **10 42 01.3 -0.3**
baz=5.0
TOLK **Toolik Lake Re 138.18 358** IAMs_20 IAMs_20 11 45 12.0
comp=Z,908nm,22.0s
MNTX **Cornudas Mount 138.24 288** P **PKPdf** **10 42 01.4 +0.6**
baz=96
MNTX **Cornudas Mount 138.24 288** IAMs_20 IAMs_20 11 47 01.2
comp=Z,539nm,20.0s
SDCO **Great Sand Dun 138.62 297** P **PKPdf** **10 42 01.8 +0.1**
baz=89
SDCO **Great Sand Dun 138.62 297** IAMs_20 IAMs_20 11 46 59.0
comp=Z,830nm,20.0s
ISCO **Idaho Springs 138.63 301** P **PKPdf** **10 42 02.1 +0.5**
baz=87
N23A **Red Feather La 138.81 302** P **PKiKP** **10 42 03.3 -0.8**
baz=85
N23A **Red Feather La 138.81 302** PKPdf **PKPdf** **10 41 59.9 -2.0**

K22A	Casper	139.06	305	P	PKPdf	10 42 02.8	+0.7	
	baz=83							
EPT	El Paso	139.20	288	IAMs_20	IAMs_20	11 50 40.7		
	comp=Z,552nm,20.0s							
ANMO	Albuquerque	139.36	293	PKP	PKPdf	10 42 03.3	+0.3	
	comp=Z,0.7nm,0.5s,baz=124,slow=3.6,SNR=2.4							
ANMO	Albuquerque	139.36	293	P	PKPdf	10 42 03.0	0.0	
	baz=92							
ANMO	Albuquerque	139.36	293	IAMs_20	IAMs_20	11 41 11.9		
	comp=Z,789nm,21.0s							
COLD	Coldfoot	139.61	358	P	PKiKP	10 42 04.4	-0.2	
	baz=4.3							
COLD	Coldfoot	139.61	358	IAMs_20	IAMs_20	11 49 20.9		
	comp=Z,661nm,21.0s							
S22A	4UR Ranch, Cre	139.67	297	IAMs_20	IAMs_20	11 42 46.8		
	comp=Z,706nm,20.0s							
Y22D	IRIS PASSCAL I	139.71	292	IAMs_20	IAMs_20	11 45 31.1		
	comp=Z,638nm,20.0s							
121A	Cookes Peak, D	140.34	289	IAMs_20	IAMs_20	11 46 40.9		
	comp=Z,579nm,20.0s							
RLMT	Red Lodge	140.60	309	IAMs_20	IAMs_20	11 40 39.9		
	comp=Z,787nm,20.0s							
O20A	White River Ci	140.62	301	IAMs_20	IAMs_20	11 42 22.9		
	comp=Z,818nm,20.0s							
MVCO	Mesa Verde	141.01	297	IAMs_20	IAMs_20	11 49 16.5		
	comp=Z,597nm,20.0s							
PV07	Paradox Valley	141.07	299		PKPdf	10 42 03.0	-2.9	
PV02	Paradox Valley	141.16	298		PKPdf	10 42 03.5	-2.7	
PV22	Blue Mesa, Par	141.17	299	IAMs_20	IAMs_20	11 46 04.6		
	comp=Z,628nm,22.0s							
GAMB	Gambell	141.22	13	IAMs_20	IAMs_20	11 51 32.8		
	comp=Z,560nm,22.0s							
BW06	Boulder Array	141.26	306	IAMs_20	IAMs_20	11 43 29.5		
	comp=Z,763nm,20.0s							
PDAR	Pinedale Array	141.26	306	PKhKP	PKPpre	10 42 03.0		
	comp=Z,1.0nm,0.7s,baz=91,slow=5.7,SNR=12							
PV04	Paradox Valley	141.28	299		PKPdf	10 42 03.6	-2.8	
PV04				IAMs_20	IAMs_20	11 39 19.3		
	comp=Z,687nm,20.0s							
PV18	Skein Mesa, Pa	141.29	298	PKPdf	PKPdf	10 42 03.6	-2.8	
PV18				IAMs_20	IAMs_20	11 43 24.6		
	comp=Z,649nm,21.0s							
PV16	Nyswonger Mesa	141.29	298	IAMs_20	IAMs_20	11 53 13.7		
	comp=Z,599nm,20.0s							
PV20	West Nyswonger	141.33	299	IAMs_20	IAMs_20	11 44 22.7		
	comp=Z,728nm,20.0s							
PV19	Morning Glory	141.34	298	IAMs_20	IAMs_20	11 44 41.1		
	comp=Z,722nm,19.0s							
PV23	Carpenter Ridg	141.35	299		PKPdf	10 42 04.9	-1.7	
PV14	Lion Creek, Pa	141.37	299		PKPdf	10 42 03.6	-3.0	
PV10	Paradox Valley	141.38	299	IAMs_20	IAMs_20	11 28 53.3		
	comp=Z,779nm,20.0s							
PV05	Paradox Valley	141.45	298		PKPdf	10 42 05.2	-1.5	
319A	Douglas	141.52	287		PKPdf	10 42 05.9	-1.0	
319A				IAMs_20	IAMs_20	11 47 56.2		
	comp=Z,646nm,20.0s							
ANM	Nome	141.53	8	IAMs_20	IAMs_20	11 48 51.9		
	comp=Z,666nm,22.0s							
YHH	Holmes Hill	141.77	309		PKPdf	10 42 05.7	-1.5	
FLWY	Flagg Ranch	141.82	308	IAMs_20	IAMs_20	11 45 26.3		
	comp=Z,643nm,19.0s							
COLA	College	141.86	356	IAMs_20	IAMs_20	11 49 34.4		
	comp=Z,594nm,20.0s							
YMR	Madison River	141.88	309		PKPdf	10 42 05.2	-2.1	
IL31		141.91	356	PKPdf	PKPdf	10 42 02.7	-3.6	
ILAR	Eielson Array	141.91	356	PKhKP	PKPpre	10 42 02.8		
	comp=Z,2.2nm,0.6s,baz=336,slow=3.9,SNR=24							
YHL	Hebgen Lake	141.99	309	PKPdf	PKPdf	10 42 05.1	-2.4	
SNOW	Snow King Moun	141.99	307	IAMs_20	IAMs_20	11 45 28.8		
	comp=Z,684nm,20.0s							
IMW	Indian Meadow	142.03	308	PKPdf	PKPdf	10 42 04.9	-2.7	
IMW				IAMs_20	IAMs_20	11 45 32.8		
	comp=Z,642nm,19.0s							
W18A	Petrified Fore	142.06	293	P	PKPdf	10 42 06.7	-1.2	
	baz=90							
W18A	Petrified Fore	142.06	293	IAMs_20	IAMs_20	11 51 17.1		
	comp=Z,605nm,19.0s							
BOZ	Bozeman (W)	142.11	311	P	PKPdf	10 42 07.3	-0.3	
	baz=75							
TPAW	Teton Pass	142.12	307	IAMs_20	IAMs_20	11 50 31.3		
	comp=Z,712nm,19.0s							
FXWY	Fox Creek	142.15	307		PKPdf	10 42 06.2	-1.6	
FXWY				IAMs_20	IAMs_20	11 43 27.0		
	comp=Z,820nm,21.0s							
TAOE	Nuku Hiva Isla	142.25	201	*e*LR	LR	11 28 25.0		
	comp=Z,600nm,35.4s							
HDA	Harding Lake	142.27	356	P	PKPdf	10 42 07.5	+0.4	
	baz=9.3							
HDA	Harding Lake	142.27	356	IAMs_20	IAMs_20	11 51 26.1		
	comp=Z,540nm,20.0s							
SCRK	Sand Creek	142.44	353	P	PKPdf	10 42 07.4	-0.1	
	baz=14							
WALA	Waterton Lakes	142.49	317	IAMs_20	IAMs_20	11 46 43.5		
	comp=Z,738nm,19.0s							
P17A	Butcher Ranch,	142.60	301	PKPdf	PKPdf	10 42 06.8	-1.9	
BWN	Browne	142.65	357	IAMs_20	IAMs_20	11 50 18.5		
	comp=Z,559nm,20.0s							
RIDG	Independent Ri	142.75	354	IAMs_20	IAMs_20	11 43 45.9		
	comp=Z,505nm,20.0s							
DOT	Dot Lake	142.76	353	PKPdf	PKPdf	10 42 06.8	-1.2	
DOT				IAMs_20	IAMs_20	11 50 26.2		
	comp=Z,591nm,20.0s							
BPAW	Bear Paw Mtn.	142.77	358	IAMs_20	IAMs_20	11 51 27.4		
	comp=Z,635nm,20.0s							
TUC	Tucson	142.86	289	P	PKPdf	10 42 08.6	-0.7	
	baz=93							
TUC	Tucson	142.86	289	PKiKP	PKPdf	10 42 08.2	-1.0	
TUC				MLR	MLR			
	comp=Z,700nm,19.0s							
TUC	Tucson	142.86	289	PKPdf	PKPdf	10 42 08.2	-1.0	
TUC	Tucson	142.86	289	IAMs_20	IAMs_20	11 47 48.6		
	comp=Z,743nm,19.0s							
HWUT	Hardware Ranch	142.92	304	IAMs_20	IAMs_20	11 44 27.7		
	comp=Z,756nm,20.0s							
MCK	McKinley	143.06	357	IAMs_20	IAMs_20	11 51 36.0		
	comp=Z,546nm,20.0s							
JTMT	Jette	143.19	315	PKPdf	PKPbc	10 42 07.8	+1.4	
MSO	Missoula	143.28	313	P	PKPdf	10 42 09.0	-0.5	
	baz=71							
MSO	Missoula	143.28	313	PKPdf	PKPbc	10 42 07.7	+1.1	
RND	Reindeer	143.38	357	IAMs_20	IAMs_20	11 51 34.5		
	comp=Z,599nm,20.0s							
WUAZ	Wupatki	143.39	294	P	PKPdf	10 42 09.9	-0.3	
	baz=88							
WUAZ	Wupatki	143.39	294	PKPdf	PKPdf	10 42 09.0	-1.2	
WUAZ				IAMs_20	IAMs_20	11 47 07.4		
	comp=Z,513nm,21.0s							
X16A	Lo Mia Camp, P	143.46	292	PKPdf	PKPdf	10 42 10.1	-0.2	
X16A				IAMs_20	IAMs_20	11 50 17.4		
	comp=Z,535nm,20.0s							
PAX	Paxson	143.57	354	IAMs_20	IAMs_20	11 54 22.5		
	comp=Z,504nm,19.0s							
TTA	Tatalina	143.93	2	PKiKP	PKPdf	10 42 10.6	+0.5	
TTA	Tatalina	143.93	2	PKPdf	PKPdf	10 42 10.6	+0.5	
PPLA	Purkeypile	144.00	359	PKPdf	PKPdf	10 42 10.3	0.0	
WHY	Whitehorse	144.00	345	PKPdf	PKPbc	10 42 09.1	+0.9	
WHY				IAMs_20	IAMs_20	11 43 55.1		
	comp=Z,621nm,21.0s							
PKCU	Pink Cliffs	144.03	297	PKPdf	PKPdf	10 42 11.3	-0.2	
DUG	Dugway, Tooele	144.09	302	P	PKPdf	10 42 11.1	-0.1	
	baz=81							
DUG	Dugway, Tooele	144.09	302	IAMs_20	IAMs_20	11 40 20.6		
	comp=Z,781nm,21.0s							
U15A	North Rim	144.09	296	PKPdf	PKPdf	10 42 10.5	-1.0	
U15A				IAMs_20	IAMs_20	11 47 28.0		
	comp=Z,497nm,20.0s							
HYT	Haines Junctio	144.44	347	PKPdf	PKPdf	10 42 11.9	+0.8	
DLBC	Dease Lake	144.53	339	PKP	PKPdf	10 42 11.2	-0.1	
	comp=Z,19nm,0.7s,baz=354,slow=3.4,SNR=50							
DLBC	Dease Lake	144.53	339	PKPdf	PKPdf	10 42 11.6	+0.3	
HLID	Hailey	144.56	308	P	PKPdf	10 42 11.3	-0.6	
	baz=75							
HLID	Hailey	144.56	308	PKPdf	PKPbc	10 42 10.8	+0.2	
214A	Organ Pipe Nat	144.56	288	P	PKPdf	10 42 11.6	-0.5	
	baz=93							
214A	Organ Pipe Nat	144.56	288	PKPdf	PKPdf	10 42 12.3	+0.2	
214A				IAMs_20	IAMs_20	11 53 51.7		
	comp=Z,490nm,18.0s							
Y14A	Wickenburg	144.76	291		PKPab	10 42 11.1	-0.2	
Y14A				IAMs_20	IAMs_20	11 47 32.8		
	comp=Z,578nm,19.0s							
NEW	Newport	144.76	317	P	PKPdf	10 42 12.6	+0.6	
	baz=66							
NEW	Newport	144.76	317	PKiKP	PKPbc	10 42 11.0	0.0	
NEW				MLR	MLR			
	comp=Z,1μm,20.0s							

NEW	Newport	144.76	317	PKPdf	PKPbc	10 42 11.0	0.0	
MCARA	McCarthy VSAT	144.84	351		PKPdf	10 42 12.9	+1.3	
MCARA				IAMs_20	IAMs_20	11 45 56.1		
	comp=Z,639nm,20.0s							
CCUT	Cedar City	144.86	298	PKPdf	PKPdf	10 42 13.7	+1.0	
GLB	Gilahina Butte	144.88	352	PKPdf	PKPdf	10 42 11.9	+0.1	
GLB				IAMs_20	IAMs_20	11 46 03.2		
	comp=Z,797nm,21.0s							
SKT	Skwentna	144.91	359		PKPdf	10 42 11.5	-0.3	
SKT				IAMs_20	IAMs_20	11 50 58.9		
	comp=Z,781nm,22.0s							
SML	Sawmill	144.94	356		PKPdf	10 42 12.1	+0.2	
SML				IAMs_20	IAMs_20	11 51 53.8		
	comp=Z,636nm,21.0s							
CTGM	Chitina Glacie	145.00	350	IAMs_20	IAMs_20	11 46 31.2		
	comp=Z,814nm,21.0s							
VRDI	Verde Repeater	145.05	352		PKPbc	10 42 11.1	-0.6	
VRDI				IAMs_20	IAMs_20	11 52 26.5		
	comp=Z,640nm,21.0s							
BALM	Baldy	145.08	351	IAMs_20	IAMs_20	11 45 30.4		
	comp=Z,846nm,22.0s							
SKAG	Skagway	145.17	344	IAMs_20	IAMs_20	11 44 23.9		
	comp=Z,763nm,21.0s							
PMR	Palmer	145.21	357	PKIKP	PKPdf	10 42 13.4	+1.2	
PMR	Palmer	145.21	357		PKPdf	10 42 13.4	+1.2	
PMR				IAMs_20	IAMs_20	11 52 21.7		
	comp=Z,580nm,20.0s							
113A	Mohawk Valley,	145.40	289		PKPab	10 42 14.5	+0.9	
SUA	Susitna One	145.40	358	IAMs_20	IAMs_20	11 51 16.0		
	comp=Z,616nm,21.0s							
TGL	Tana Glacier	145.42	351	IAMs_20	IAMs_20	11 45 42.4		
	comp=Z,777nm,22.0s							
W13A	Hualapai Mount	145.46	293	IAMs_20	IAMs_20	11 43 15.2		
	comp=Z,500nm,20.0s							
CRQM	Cirque	145.46	351	IAMs_20	IAMs_20	11 49 20.4		
	comp=Z,674nm,21.0s							
TABL	Table Mountain	145.46	349	IAMs_20	IAMs_20	11 47 19.6		
	comp=Z,759nm,20.0s							
PDMCI	Parker Dam,Lak	145.70	292	P	PKPab	10 42 14.8	+0.2	
	baz=88							
F10A	Beach Ranch, E	145.71	313		PKPbc	10 42 14.1	0.0	
GLI	Glacier Island	145.77	355	IAMs_20	IAMs_20	11 51 53.8		
	comp=Z,616nm,22.0s							
ELK	Elko	145.81	304	PKPbc	PKPab	10 42 16.0	+0.8	
	comp=Z,30nm,1.0s,baz=29,slow=1.2,SNR=75							
ELK	Elko	145.81	304	PKP2	PKPab	10 42 15.5	+0.3	
ELK				MLR	MLR			
	comp=Z,800nm,20.0s							
ELK	Elko	145.81	304	PKPbc	PKPab	10 42 15.5	+0.3	
BESE	Bessie Mountai	145.82	343	IAMs_20	IAMs_20	11 45 49.1		
	comp=Z,780nm,21.0s							
FID	Port Fidalgo	145.85	354	IAMs_20	IAMs_20	11 49 22.6		
	comp=Z,762nm,20.0s							
B08A	Colville Reser	146.06	318	PKPbc	PKPab	10 42 15.8	+0.2	
GLA	Glamis	146.29	290	IAMs_20	IAMs_20	11 48 13.3		
	comp=Z,618nm,21.0s							
O22K	Cooper Landing	146.34	357	P	PKPab	10 42 16.6	+0.4	
	baz=5.8							
SHPR	Sheep Range	146.39	296	IAMs_20	IAMs_20	11 45 30.8		
	comp=Z,576nm,21.0s							
R11A	Troy Canyon, C	146.50	299	P	PKPab	10 42 17.6	-0.3	
	baz=82							
IRM	Iron Mountain	146.53	292	P	PKPab	10 42 17.8	-0.1	
	baz=88							
BC3	Big Chuckawall	146.81	291	P	PKPbc	10 42 17.9	+0.1	
	baz=89							
UABX	UABC, Campus M	146.81	289	IAMs_20	IAMs_20	11 35 38.1		
	comp=Z,492nm,21.0s							
GMRC	Granite Mounta	146.93	293	P	PKPbc	10 42 18.3	+0.1	
	baz=87							
HAWA	Hanford	147.03	315		PKPab	10 42 18.8	-0.6	
G08A	Pilot Rock	147.09	313		PKPbc	10 42 17.8	-0.5	
TUQ	Turquoise Moun	147.10	294	P	PKPab	10 42 19.6	-0.7	
	baz=86							
SWSC	Sam W. Stewart	147.11	290	P	PKPbc	10 42 19.0	+0.5	
	baz=90							
TPNV	Topopah Spring	147.21	297	P	PKPab	10 42 20.0	-0.7	
	baz=83							
TPNV	Topopah Spring	147.21	297	PKP2	PKPab	10 42 20.6	-0.1	
TPNV	Topopah Spring	147.21	297		PKPab	10 42 20.6	-0.1	
TPNV				IAMs_20	IAMs_20	11 52 28.5		
	comp=Z,692nm,19.0s							
B06A	Marblemount	147.24	320	IAMs_20	IAMs_20	11 48 03.0		
	comp=Z,736nm,20.0s							
BELC	Belle Mtn. Jos	147.25	292	P	PKPbc	10 42 19.0	-0.1	
	baz=88							
SHOC	Shoshone, Teco	147.35	295	P	PKPbc	10 42 20.0	+0.8	
	baz=85							
IKP	In-Ko-Pah, Jac	147.37	289	P	PKPab	10 42 20.6	-0.7	
	baz=90							
SPIA	Saint Paul Isl	147.41	17	IAMs_20	IAMs_20	11 58 39.8		
	comp=Z,518nm,18.0s							
J08A	Circle Bar Ran	147.44	309	PKPbc	PKPbc	10 42 19.2	-0.1	
HEC	Hector,Ludlow	147.48	293	P	PKPbc	10 42 20.2	+0.6	
	baz=86							
MONP2	Monument Peak	147.63	290	P	PKPbc	10 42 20.1	-0.2	
	baz=89							
XPFO	Pion Flat	147.64	291		PKiKP	10 42 22.1	-0.1	
XPFO				IAMs_20	IAMs_20	11 55 11.1		
	comp=Z,531nm,20.0s							
PFO	Pinyon Flats O	147.65	291	PKPbc	PKiKP	10 42 22.0	-0.2	
	comp=Z,26nm,0.9s,baz=134,slow=4.0,SNR=17							
PFO	Pinyon Flats O	147.65	291	P	PKPbc	10 42 20.5	+0.3	
	baz=88							
PFO	Pinyon Flats O	147.65	291		PKiKP	10 42 22.1	-0.2	
PFO				IAMs_20	IAMs_20	11 55 11.1		
	comp=Z,532nm,20.0s							
B05A	Bryant	147.72	320	P	PKiKP	10 42 20.9	-0.8	
	baz=60							
FURC	Furnace Creek,	147.76	296	P	PKPbc	10 42 21.0	+0.8	
	baz=83							
GSC	Goldstone, Bar	147.83	294	P	PKPbc	10 42 20.7	+0.1	
	baz=85							
GSC	Goldstone, Bar	147.83	294	PKP2	PKPab	10 42 22.8	-0.3	
GSC				MLR	MLR			
	comp=Z,500nm,22.0s							
GSC	Goldstone, Bar	147.83	294	PKPab	PKPab	10 42 22.8	-0.3	
GSC				IAMs_20	IAMs_20	11 47 19.0		
	comp=Z,526nm,22.0s							
CBX	Cerro Bola	147.84	289	PKPab	PKiKP	10 42 22.8	+0.1	
BAR	Barrett	147.84	289	PKPab	PKPab	10 42 23.0	-0.1	
BAR				IAMs_20	IAMs_20	11 57 24.5		
	comp=Z,493nm,19.0s							
WVOR	Wild Horse Val	147.85	308	PKP2	PKPab	10 42 23.1	+0.2	
WVOR				MLR	MLR			
	comp=Z,700nm,20.0s							
WVOR	Wild Horse Val	147.85	308		PKPab	10 42 23.1	+0.2	
WVOR				IAMs_20	IAMs_20	11 46 46.8		
	comp=Z,683nm,20.0s							
I07A	Izee	147.90	311	PKPab	PKPab	10 42 22.8	-0.3	
AMKA	Amchitka	147.93	33	PKPab	PKPab	10 42 22.5	-0.2	
BBRC	Big Bear Solar	148.00	292	P	PKPbc	10 42 21.5	+0.2	
	baz=87							
RRX	Edison Barstow	148.02	293	P	PKPbc	10 42 21.5	+0.5	
	baz=86							
D05A	Enumclaw	148.19	318	PKPbc	PKPbc	10 42 20.8	-0.2	
D05A				IAMs_20	IAMs_20	11 45 54.1		
	comp=Z,705nm,20.0s							
109C	Camp Elliot, M	148.21	290	P	PKPbc	10 42 22.1	+0.5	
	baz=89							
109C	Camp Elliot, M	148.21	290	PKPab	PKPab	10 42 24.2	-0.3	
109C				IAMs_20	IAMs_20	11 55 37.1		
	comp=Z,530nm,20.0s							
MURC	Murrieta	148.26	291	P	PKiKP	10 42 22.6	-0.8	
	baz=88							
MPMC	Manual Prospec	148.31	296	P	PKPbc	10 42 22.8	+0.8	
	baz=84							
KVN	Kaiserville	148.31	301	PKP2	PKPab	10 42 24.3	-0.7	
KVN				MLR	MLR			
	comp=Z,900nm,20.0s							
KVN	Kaiserville	148.31	301	PKPab	PKPab	10 42 24.3	-0.7	
F05D	White Salmon	148.46	315	P	PKiKP	10 42 23.4	0.0	
	baz=84							
BBB	Bella Bella	148.47	330	PKPbc	PKiKP	10 42 22.9	-0.2	
	comp=Z,10nm,1.1s,baz=53,slow=5.4,SNR=3.9							
NV11	Mina Array Sit	148.47	300	IAMs_20	IAMs_20	11 46 16.8		
	comp=Z,738nm,20.0s							
LRMC	Laurel Mtn Rad	148.53	295	P	PKiKP	10 42 23.3	-0.8	
	baz=84							
NVAR	Mina Array Bea	148.59	300	PKPbc	PKiKP	10 42 24.5	+0.3	
	comp=Z,23nm,0.8s,baz=95,slow=2.9,SNR=79							
BFSC	Mount Baldy Ra	148.61	292	P	PKiKP	10 42 23.5	-0.7	
	baz=86							
G05D	Wamic, OR	148.64	314	P	PKPbc	10 42 23.0	+0.7	
	baz=65							
D03D	Eldon	148.67	319	P	PKPbc	10 42 22.8	+0.6	
	baz=60							

RYN	Ryan	148.72	301		PKPab	10 42 25.5	-1.1	
CWC	Cottonwood Cre	148.74	296	P	PKPbc	10 42 23.4	+0.3	
	baz=82							
E04D	Cinebar	148.83	317	P	PKiKP	10 42 23.6	-0.4	
	baz=62							
EDW2	Edwards Air Fo	148.84	293	P	PKPbc	10 42 23.2	0.0	
	baz=85							
PINE	Pine Mountain	148.97	311	PKPab	PKPab	10 42 26.5	-1.0	
I05D	Terrebonne, OR	149.03	313	P	PKiKP	10 42 25.1	+0.4	
	baz=67							
KDAK	Kodiak Island	149.13	359	PKPbc	PKiKP	10 42 24.7	+0.4	
	comp=Z,5.3nm,0.5s,baz=45,slow=3.4,SNR=15							
ISA	Isabella, Lake	149.15	295	P	PKiKP	10 42 25.2	-0.1	
	baz=84							
ISA	Isabella, Lake	149.15	295	PKP2	PKiKP	10 42 26.2	+1.0	
ISA	Isabella, Lake	149.15	295	PKPab	PKiKP	10 42 26.2	+1.0	
ISA				IAMs_20	IAMs_20	11 53 57.9		
	comp=Z,564nm,21.0s							
MLAC	Mammoth, Mamm	149.15	299	P	PKiKP	10 42 25.4	0.0	
	baz=80							
MOD	Modoc Plateau	149.19	308	PKPbc	PKPbc	10 42 22.6	-1.4	
NLWA	Neilton Lookou	149.19	319		PKPab	10 42 27.6	-0.5	
CIS	Catalina Islan	149.29	291	P	PKiKP	10 42 25.3	-0.2	
	baz=87							
MDPB	Devils Postpil	149.34	299	IAMs_20	IAMs_20	11 45 51.8		
	comp=Z,737nm,20.0s							
J05D	Fort Rock, OR	149.36	311	P	PKiKP	10 42 25.2	-0.3	
	baz=68							
OSI	Osito Audit: C	149.46	293	IAMs_20	IAMs_20	11 51 24.2		
	comp=Z,545nm,21.0s							
H04D	Lebanon	149.86	314	P	PKiKP	10 42 26.6	+0.4	
	baz=65							
G03D	McMinnville, O	149.89	315	P	PKiKP	10 42 26.6	+0.3	
	baz=63							
I04A	Tendick Farm,	149.95	312	P	PKiKP	10 42 27.0	+0.4	
	baz=66							
K04D	Chiloquin, OR	149.96	310	P	PKiKP	10 42 27.2	+0.5	
	baz=69							
J04D	Umpqua Nationa	149.97	311	P	PKiKP	10 42 26.8	0.0	
	baz=67							
ATKA	Atka Island	150.23	26	IAMs_20	IAMs_20	11 57 30.0		
	comp=Z,586nm,20.0s							
SCZ2	Santa Cruz Isl	150.26	292	P	PKiKP	10 42 27.4	-0.1	
	baz=86							
CMB	Columbia Colle	150.28	300	IAMs_20	IAMs_20	11 44 30.5		
	comp=Z,666nm,20.0s							
M04C	Macdoel	150.31	308	P	PKiKP	10 42 27.1	-0.4	
	baz=70							
PKM	Mcpherson Peak	150.32	294	P	PKiKP	10 42 28.0	+0.2	
	baz=84							
SMMC	Simmler	150.42	295	P	PKiKP	10 42 28.6	+0.8	
	baz=83							
L04D	Klamath Falls	150.48	309	P	PKiKP	10 42 27.9	+0.1	
	baz=69							
AFDM	Forest Hills D	150.51	302		PKPbc	10 42 27.3	+0.1	
I03D	Drain, OR	150.61	313	P	PKiKP	10 42 28.2	+0.4	
	baz=65							
I02D	Swisshome	150.76	314	P	PKiKP	10 42 28.7	+0.6	
	baz=64							
O03E	Paynes Creek	150.76	305	P	PKiKP	10 42 28.8	+0.4	
	baz=73,SNR=11							
YBH	Yreka Blue Hor	150.94	308	PKPbc	PKiKP	10 42 28.9	+0.2	
	comp=Z,5.2nm,1.0s,baz=96,slow=3.4,SNR=10							
YBH				PKPab	PKPab	10 42 36.5	+1.0	
	comp=Z,6.4nm,0.8s,baz=117,slow=7.3,SNR=13							
YBH	Yreka Blue Hor	150.94	308	PKiKP	PKiKP	10 42 28.5	-0.2	
YBH	Yreka Blue Hor	150.94	308		PKiKP	10 42 28.5	-0.2	
YBH				IAMs_20	IAMs_20	11 48 05.6		
	comp=Z,718nm,20.0s							
SDPT	Sand Point	151.09	9	IAMs_20	IAMs_20	11 59 59.7		
	comp=Z,494nm,21.0s							
M02C	Callahan	151.16	308	P	PKiKP	10 42 29.2	0.0	
	baz=70,SNR=5.6							
N02D	Trinity Center	151.20	307	P	PKPbc	10 42 28.6	-0.2	
	baz=70,SNR=5.6							
J01E	Myrtle Point	151.22	312	P	PKPbc	10 42 28.8	+0.3	
	baz=65							
K02D	Willamette Mer	151.23	311	P	PKiKP	10 42 29.4	+0.1	
	baz=66							
UNV	Unalaska Valle	151.35	16	IAMs_20	IAMs_20	12 01 58.0		
	comp=Z,536nm,22.0s							
SAO	San Andreas Ge	151.36	298	IAMs_20	IAMs_20	11 52 37.3		
	comp=Z,671nm,20.0s							
L02E	Cave Junction	151.40	310	P	PKiKP	10 42 29.3	-0.2	
	baz=67							

	baz=1.0							
AAK	**Ala-Archa**	**2.64**	**4**	P		**Pb**	**11 45 01.4**	**+0.8**
	SNR=21							
AAK	**Ala-Archa**	**2.64**	**4**	⇓Pn		**Pb**	**11 44 59.6**	**-1.0**
	17nm,0.4s							
AAK				⇑Sn		**Sg**	**11 45 36.3**	**-1.6**
	15nm,0.5s							
BTK	**Batken**	**2.65**	**272**	⇑*iP*		**Pn**	**11 44 56.3**	**+0.3**
BTK	baz=75			⇑*eS*		**Sb**	**11 45 32.1**	**-1.2**
	baz=75							
EKS2	**Erkin-Say**	**2.68**	**352**	⇑*iP*		**Pn**	**11 44 57.7**	**+1.2**
	baz=50							
EKS2				⇑*iS*		**Sb**	**11 45 33.2**	**-1.2**
	baz=50							
ULHL	**Ulahol**	**2.69**	**33**	⇑*iP*		**Pn**	**11 44 56.4**	**-0.3**
	baz=30							
ULHL				⇑*iS*		**Sn**	**11 45 30.9**	**+1.4**
	baz=30							
ULHL	**Ulahol**	**2.69**	**33**	P		**Pb**	**11 45 01.0**	**-0.5**
	SNR=7.5							
KBK	**Karagaybulak**	**2.70**	**11**	⇓*iP*		**Pn**	**11 44 57.4**	**+0.6**
	baz=8.0							
KBK				⇓*iS*		**Sb**	**11 45 32.5**	**-2.4**
	baz=8.0							
KBK	**Karagaybulak**	**2.70**	**11**	P		**Pb**	**11 45 02.3**	**+0.7**
	SNR=9.0							
FRU1	**Bishkek**	**2.82**	**5**	⇓*iP*		**Pn**	**11 44 59.1**	**+0.8**
	baz=3.0							
FRU1				⇓*iS*		**Sb**	**11 45 35.6**	**-2.6**
	baz=3.0							
MRKS	**Merke**	**2.85**	**344**	*eP*		**Pb**	**11 45 03.0**	**-1.2**
	9.4nm,0.3s							
MRKS				*eS*		**Sg**	**11 45 43.5**	**-1.2**
	19nm,0.6s							
MRKS	**Merke**	**2.85**	**344**	Pg		**Pb**	**11 45 02.8**	**-1.4**
	8.7nm,0.3s							
MRKS				Lg		Lg	11 45 43.5	
	19nm,0.6s							
KDJ	**Kajisay**	**3.06**	**45**	⇓*eP*		**Pn**	**11 45 01.2**	**-0.5**
	baz=42							
KDJ				⇓*iS*		**Sn**	**11 45 38.9**	**+0.4**
	baz=42							
TKM2	**Tokmak 2**	**3.08**	**18**	P		**Pn**	**11 45 04.5**	**+2.5**
	SNR=10							
TKM2	**Tokmak 2**	**3.08**	**18**	⇑Pn		**Pn**	**11 45 04.4**	**+2.4**
	6.0nm,0.3s							
TKM2				⇑Lg		Lg	11 45 47.5	
	20nm,0.6s							
USP	**Ospenovka**	**3.27**	**3**	P		**Pb**	**11 45 12.9**	**+1.7**
	SNR=9.6							
KST	**Kastek**	**3.29**	**22**	*eP*		**Pn**	**11 45 07.6**	**+2.7**
	19nm,0.4s							
KST				*eS*		**Sb**	**11 45 51.3**	**-0.6**
	53nm,0.6s							
DGS	**Degeres**	**3.43**	**19**	*eP*		**Pb**	**11 45 14.6**	**+0.6**
	19nm,0.4s							
DGS				*eS*		**Sg**	**11 46 03.6**	**+0.4**
	26nm,0.6s							
DGS	**Degeres**	**3.43**	**19**	Pg		**Pb**	**11 45 14.6**	**+0.6**
	19nm,0.4s							
DGS				Lg		Lg	11 46 03.6	
	26nm,0.6s							
SGDS	**Sogindy**	**3.46**	**4**	Pg		**Pb**	**11 45 15.6**	**+1.1**
	6.9nm,0.2s							
SGDS				Lg		Lg	11 46 04.4	
	7.8nm,0.4s							
MTBS	**Maitube**	**3.52**	**27**	*eP*		**Pb**	**11 45 15.4**	**-0.1**
	7.2nm,0.3s							
MTBS				*eS*		**Sg**	**11 46 04.6**	**-1.5**
	15nm,0.4s							
MTBS	**Maitube**	**3.52**	**27**	Pg		**Pb**	**11 45 15.4**	**-0.1**
	7.2nm,0.3s							
MTBS				Lg		Lg	11 46 04.6	
	15nm,0.4s							
TNSS	**Tian-Shan**	**3.64**	**33**	*eP*		**Pb**	**11 45 17.8**	**0.0**
	15nm,0.3s							
TNSS				*eS*		**Sg**	**11 46 08.7**	**-1.3**
	12nm,0.6s							
TNSS	**Tian-Shan**	**3.64**	**33**	Pg		**Pb**	**11 45 17.8**	**0.0**
	15nm,0.3s							
TNSS				Lg		Lg	11 46 08.7	
	12nm,0.6s							
MDOK	**Medeo**	**3.79**	**33**	*eP*		**Pb**	**11 45 20.2**	**+0.1**
	6.7nm,0.3s							
MDOK				*eS*		**Sg**	**11 46 13.5**	**-1.1**
	13nm,0.6s							
MDOK	**Medeo**	**3.79**	**33**	Pg		**Pb**	**11 45 20.2**	**+0.1**
	6.7nm,0.3s							
MDOK				Lg		Lg	11 46 13.5	
	13nm,0.6s							
IUG	**Iuzhnay**	**3.85**	**305**	Pg		**Pn**	**11 45 14.1**	**+1.5**
	12nm,0.4s							
IUG				Lg		Lg	11 46 02.0	
	27nm,0.4s							
KOTS	**Kotyrbulak**	**3.87**	**32**	*eP*		**Pb**	**11 45 22.2**	**+0.6**
	19nm,0.4s							
KOTS				*eS*		**Sg**	**11 46 16.2**	**-1.2**
	48nm,0.8s							
KOTS	**Kotyrbulak**	**3.87**	**32**	Pg		**Pb**	**11 45 22.2**	**+0.6**
	19nm,0.4s							
KOTS				Lg		Lg	11 46 16.2	
	48nm,0.8s							
KTBS	**Karatobe**	**4.12**	**25**	*eP*		**Pb**	**11 45 26.7**	**+0.9**
	5.0nm,0.4s							
KTBS				*eS*		**Sg**	**11 46 24.0**	**-1.5**
	18nm,0.7s							
KTBS	**Karatobe**	**4.12**	**25**	Pg		**Pb**	**11 45 26.7**	**+0.9**
	5.0nm,0.4s							
KTBS				Lg		Lg	11 46 24.0	
	18nm,0.7s							
KUU	**Kurty**	**4.18**	**21**	*eP*		**Pb**	**11 45 27.8**	**+1.0**
	4.6nm,0.3s							
KUU				*eS*		**Sg**	**11 46 25.6**	**-1.8**
	17nm,0.5s							
KUU	**Kurty**	**4.18**	**21**	Pg		**Pb**	**11 45 27.8**	**+1.0**
	4.6nm,0.3s							
KUU				Lg		Lg	11 46 25.6	
	17nm,0.5s							
KK31	**Karatay Array**	**4.19**	**319**	⇑Pn		**Pn**	**11 45 17.9**	**+0.8**
	0.2nm,0.2s,baz=141,slow=14,SNR=6.3							
KK31				Pg		**Pb**	**11 45 28.2**	**+1.3**
	0.6nm,0.3s,baz=137,slow=15,SNR=6.5							
KK31				⇑Sn		**Sn**	**11 46 08.5**	**+2.4**
	1.8nm,0.5s							
KK31				⇓Lg		Lg	11 46 29.2	
	3.8nm,0.4s							
BRLS	**Boroldaу**	**4.50**	**314**	*eP*		**Pb**	**11 45 32.5**	**+0.3**
	1.4nm,0.2s							
BRLS				*eS*		**Sg**	**11 46 34.1**	**-3.4**
	6.8nm,0.6s							

*PRE **05** 11:45:59.0±1.0,27.°05S×26.°86E,h2km,ML3.2*
*IDC **05** 11:46:01.8±1.1,26.°90S×26.°75E,h0km,mb3.8/4, mb1 4.0/9,mb1mx3.7/44,mbtmp3.9/9,ML3.8/3,Error ellipse: s-maj=20.9km s-min=10.7km az=94.0*
*NEIC **05** 11:46:02.6±1.9,26.°84S±0.°04×26.°7E±0.°1,h5km±1km, mb4.4/2,Error ellipse: s-maj=16.4km s-min=7.5km az=85.0*
*EAF **05** 11:46:04.8±0.3,26.°96S×26.°80E,h10km,MD3.9*

ISC 05 11:46:00.5±1.1,**26.°96S**±0.°03×**26.°84E**±0.°03,**h9**km±8km, **n41**,σ2°**39**/62,**mb4.0**/5,**South Africa**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.46**	**85**	*eP*		**Pg**	**11 46 08.1**	**-1.5**
PRYS				*eS*		**Sg**	**11 46 13.7**	**-2.0**
PRYS				AML		AML	11 46 22.4	
	comp=Z,1μm,1.0s							
WDLM	**Western Deep L**	**0.75**	**44**	*eP*		**Pg**	**11 46 14.2**	**-0.8**
WDLM				*eS*		**Sg**	**11 46 25.4**	**+0.7**
WDLM				AML		AML	11 46 33.4	
	comp=Z,1μm,0.2s							
KSR	**Koster**	**1.11**	**3**	*eP*		**Pg**	**11 46 21.3**	**-0.5**
KSR				*eS*		**Sn**	**11 46 38.0**	**+0.1**
KSR				AML		AML	11 46 42.0	
	comp=Z,307nm,0.8s							
SWZ	**Schweizer**	**1.36**	**261**	AML		AML	11 46 33.7	
	comp=Z,740nm,0.4s							
BOSA	**Boshof**	**2.16**	**220**	Pn		**Pb**	**11 46 39.3**	**-0.6**
	comp=Z,14nm,0.3s,baz=43,slow=15,SNR=15							
BOSA				Pg		**Pg**	**11 46 41.4**	**-0.5**
	comp=Z,18nm,0.3s,baz=41,slow=17,SNR=10							
BOSA				Lg		Lg	11 47 09.7	
	comp=Z,66nm,0.3s,baz=313,slow=14,SNR=22							
BOSA	**Boshof**	**2.16**	**220**	*iP*		**Pb**	**11 46 40.4**	**+0.5**
BOSA				*eP*		**Pn**	**11 46 35.7**	**-1.2**
BOSA				*eS*		**Sn**	**11 47 02.8**	**-1.1**
BOSA				AML		AML	11 47 12.5	
	comp=Z,150nm,0.7s							
BOSA	**Boshof**	**2.16**	**220**	*iP*		**Pb**	**11 46 40.4**	**+0.5**
BOSA				*iS*		**Sg**	**11 47 10.0**	**0.0**
LBTB	**Lobatse**	**2.24**	**330**	Pn		**Pb**	**11 46 40.0**	**-1.2**
	comp=Z,41nm,0.3s,baz=152,slow=18,SNR=20							
LBTB				Pg		**Pb**	**11 46 41.4**	**+0.1**
	comp=Z,41nm,0.3s,baz=152,slow=18,SNR=20							
LBTB				Lg		Lg	11 47 09.4	
	comp=Z,139nm,0.3s,baz=52,slow=19,SNR=49							
LBTB	**Lobatse**	**2.24**	**330**	*iP*		**Pb**	**11 46 41.3**	**+0.1**
LBTB	**Lobatse**	**2.24**	**330**	*eP*		**Pn**	**11 46 39.0**	**+1.1**
LBTB				*eS*		**Sb**	**11 47 08.2**	**-1.0**
LBTB				AML		AML	11 47 10.3	
	comp=Z,525nm,0.5s							
LBTB	**Lobatse**	**2.24**	**330**			**Pn**	**11 46 38.3**	**+0.4**
LBTB				Sg		**Sb**	**11 47 08.8**	**-0.3**
LBTB	**Lobatse**	**2.24**	**330**	*iP*		**Pb**	**11 46 41.3**	**+0.1**
LBTB				*iS*		**Sb**	**11 47 09.8**	**+0.6**
POGA	**Pongola**	**4.35**	**96**	*eP*		**Pn**	**11 47 06.6**	**-0.2**
POGA				*eS*		**Sn**	**11 47 56.3**	**-1.4**
POGA				AML		AML	11 48 19.6	
	comp=Z,125nm,0.5s							
UPI	**Upington**	**5.15**	**253**	*eP*		**Pn**	**11 47 18.1**	**+0.3**
UPI				*eS*		**Sn**	**11 48 15.6**	**-1.9**
UPI				AML		AML	11 48 48.7	
	comp=Z,24nm,0.4s							
MOPA	**Mopani**	**5.37**	**51**	*eP*		**Pn**	**11 47 21.6**	**+0.8**
MOPA				*eS*		**Sn**	**11 48 22.1**	**-0.7**
MOPA				AML		AML	11 48 52.6	
	comp=Z,49nm,0.5s							
KEIM	**Keimoes**	**5.48**	**250**	*eP*		**Pn**	**11 47 22.1**	**-0.4**
KEIM				*eS*		**Sn**	**11 48 22.8**	**-2.9**
KEIM				AML		AML	11 48 55.1	
	comp=Z,50nm,0.8s							
SOE	**Somerset East**	**5.83**	**191**	*eP*		**Pn**	**11 47 26.5**	**-0.8**
SOE				*eS*		**Sn**	**11 48 29.3**	**-5.0**
SOE				AML		AML	11 48 38.2	
	comp=Z,19nm,0.4s							
MATP	**Matopo**	**6.68**	**13**	Pn		**Pn**	**11 47 40.5**	**+1.5**
	comp=Z,3.6nm,0.3s,baz=192,slow=15,SNR=42							
MATP				Sn		**Sn**	**11 48 49.0**	**-6.4**
	comp=Z,2.7nm,0.3s,baz=254,slow=19,SNR=2.4							
MATP				Lg		Lg	11 49 23.1	
	comp=Z,12nm,0.3s,baz=151,slow=9.9,SNR=8.9							
MATP	**Matopo**	**6.68**	**13**	*iP*		**Pn**	**11 47 42.4**	**+3.4**
MATP	**Matopo**	**6.68**	**13**	*iP*		**Pn**	**11 47 42.4**	**+3.4**
MATP				*iS*		Sn	11 48 41.8	-14
GRAN	**Grantham**	**6.69**	**216**	*eP*		**Pn**	**11 47 38.9**	**-0.2**
GRAN				*eS*		**Sn**	**11 48 50.1**	**-5.4**
GRAN				AML		AML	11 49 12.1	
	comp=Z,16nm,0.7s							
ROSN	**Rosenhof**	**7.39**	**195**	*eP*		**Pn**	**11 47 47.7**	**-0.8**
ROSN				*eS*		**Sn**	**11 49 07.3**	**-5.2**
ROSN				AML		AML	11 49 27.3	
	comp=Z,56nm,0.6s							
CVNA	**Calvinia**	**7.65**	**232**	*eP*		**Pn**	**11 47 52.2**	**-0.1**
CVNA				*eS*		**Sn**	**11 49 14.5**	**-4.6**
CVNA				AML		AML	11 49 31.1	
	comp=Z,12nm,0.5s							
KOMG	**Komaggas**	**8.71**	**249**	*eP*		**Pn**	**11 48 07.3**	**+0.5**
KOMG				*eS*		**Sn**	**11 49 40.0**	**-5.1**
KOMG				AML		AML	11 50 27.0	
	comp=Z,11nm,0.5s							
TSUM	**Tsumeb**	**11.50**	**310**	Pn		**Pn**	**11 48 45.9**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=135,slow=13,SNR=8.4							
TSUM				Sn		Sn	11 50 44.0	-10
	comp=Z,0.2nm,0.3s,baz=90,slow=20,SNR=1.1							
TSUM				Lg		Lg	11 51 53.3	
	comp=Z,0.7nm,0.3s,baz=73,slow=19,SNR=5.1							
TSUM	**Tsumeb**	**11.50**	**310**	*iP*		**Pn**	**11 48 45.9**	**+0.8**
TSUM	**Tsumeb**	**11.50**	**310**			**Pn**	**11 48 45.6**	**+0.6**
TSUM				Sn		**Sn**	**11 50 49.7**	**-4.1**
TSUM	**Tsumeb**	**11.50**	**310**	*iP*		**Pn**	**11 48 45.9**	**+0.8**
LSZ	**Lusaka**	**11.70**	**6**	Pn		**Pn**	**11 48 47.5**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=178,slow=17,SNR=4.5							
LSZ				Sn		**Sn**	**11 50 52.5**	**-6.1**
	comp=Z,1.6nm,0.3s,baz=174,slow=19,SNR=3.6							
LSZ				Lg		Lg	11 52 00.6	
	comp=Z,1.7nm,0.3s,baz=184,slow=19,SNR=2.4							
LSZ	**Lusaka**	**11.70**	**6**	*iP*		**Pn**	**11 48 48.7**	**+0.9**
LSZ	**Lusaka**	**11.70**	**6**			**Pn**	**11 48 47.1**	**-0.7**
LSZ	**Lusaka**	**11.70**	**6**	*iP*		**Pn**	**11 48 48.7**	**+0.9**
TOA0	**Torodi Ar. Sit**	**46.76**	**325**	P		**P**	**11 54 31.9**	**+1.5**
TORD	**Torodi Ar. Bea**	**46.76**	**325**	P		**P**	**11 54 31.6**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=155,slow=8.0,SNR=12							
SNAA	**Sanae**	**47.69**	**192**	P		**P**	**11 54 39.8**	**+2.8**
	comp=Z,1.9nm,0.8s,baz=16,slow=7.4,SNR=12							
SNAA	**Sanae**	**47.69**	**192**	P		**P**	**11 54 40.8**	**+3.7**
SNAA				IAmb		IAmb	11 54 41.2	
	comp=Z,5.3nm,1.2s							
QSPA	**South Pole Qui**	**63.23**	**180**	P		**P**	**11 56 31.7**	**+2.6**
QSPA				IAmb		IAmb	11 56 38.5	
	comp=Z,3.2nm,1.4s							
ESDC	**Sonseca Array**	**72.25**	**335**	P		**P**	**11 57 28.2**	**+2.1**
	comp=Z,0.5nm,0.7s,baz=156,slow=6.7,SNR=2.7							
ASAR	**Alice Springs**	**93.44**	**119**	P		**P**	**11 59 19.8**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=232,slow=4.6,SNR=2.0							
NVAR	**Mina Array Bea**	**148.69**	**300**	PKPbc		**PKPab**	**12 05 52.4**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=71,slow=3.1,SNR=6.0							

*IDC **05** 11:46:40.3±0.7,35.°07N×34.°89W,h0km,mb4.0/17, mb1 4.2/17,mb1mx4.0/47,mbtmp4.0/17,MS3.6/7, Ms1 3.6/7,ms1mx3.3/43,Error ellipse: s-maj=20.7km s-min=16.2km az=169.0*
*NEIC **05** 11:46:42.1±2.3,34.°9N±0.°1×34.°7W±0.°1,h10km±1km, mb4.5/29,Error ellipse: s-maj=21.3km s-min=15.3km az=163.0*

ISC 05 11:46:42.5±0.6,**35.°0N**±0.°1×**34.°70W**±0.°07,**h10**km,**n58**, σ1°**46**/55,**mb4.4**/30,**MS3.5**/7,**Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PICO	**Pico**	**6.13**	**53**	*eP*		**Pn**	**11 48 12.4**	**-0.7**
ROSA	**Rosais**	**6.37**	**52**	Pn		**Pn**	**11 48 16.1**	**-0.3**
PSET	**Sete Cidades**	**7.76**	**66**	*eP*		**Pn**	**11 48 34.8**	**-0.8**
CMLA	**Cha da Macela**	**7.89**	**67**	*eP*		**Pn**	**11 48 36.4**	**-0.9**
CMLA	**Cha da Macela**	**7.89**	**67**			**Pn**	**11 48 36.6**	**-0.7**
PCALD	**Caldeiras da R**	**7.93**	**67**	*eP*		**Pn**	**11 48 37.0**	**-0.8**
PSMA	**Santa Maria**	**8.01**	**73**	*eP*		**Pn**	**11 48 38.1**	**-0.7**
BART	**Pico Bartolome**	**8.17**	**67**	*eP*		**Pn**	**11 48 40.4**	**-0.7**
COI	**Coimbra**	**21.43**	**68**	P		**P**	**11 51 31.3**	**+0.7**
MTE	**Manteigas**	**22.11**	**68**	P		**P**	**11 51 39.4**	**+1.4**
MTE				IAmb		IAmb	11 51 40.2	
	comp=Z,17nm,1.0s							
GBN	**Guysborough**	**22.87**	**305**	P		**P**	**11 51 43.4**	**-2.6**
GBN				IAmb		IAmb	11 51 53.7	
	comp=Z,19nm,1.0s							
ESDC	**Sonseca Array**	**24.81**	**70**	P		**P**	**11 52 05.4**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=274,slow=9.0,SNR=14							
ESDC				LR		LR	11 59 50.5	
	comp=Z,75nm,20.4s,baz=90,slow=32							
ESBB	**Sonseca Array**	**24.81**	**70**	P		**P**	**11 52 04.5**	**-0.3**
E63A	**Oxbow**	**27.79**	**305**	P		**P**	**11 52 32.4**	**+0.9**
E63A				IAmb		IAmb	11 52 36.1	
	comp=Z,12nm,1.3s							
F63A	**Nahmakanta, Br**	**28.12**	**303**	P		**P**	**11 52 36.7**	**+2.2**
F63A				IAmb		IAmb	11 52 41.1	
	comp=Z,11nm,1.1s							
D62A	**Allapoint, All**	**28.36**	**306**	P		**P**	**11 52 39.9**	**+3.3**
E62A	**Clayton Lake**	**28.58**	**305**	P		**P**	**11 52 41.6**	**+3.0**
E62A				IAmb		IAmb	11 52 44.9	
	comp=Z,6.1nm,1.1s							
EKA	**Eskdalemuir Ar**	**29.73**	**37**	P		**P**	**11 52 48.5**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=241,slow=8.8,SNR=11							
SCHQ	**Schefferville**	**29.79**	**322**	LR		LR	12 02 45.4	
	comp=Z,161nm,21.4s,baz=30,slow=33							
BORG	**Borgarnes**	**30.87**	**11**	LR		LR	12 01 49.1	
	comp=Z,147nm,18.0s,baz=196,slow=30							
D53A	**Lac Vacive, Po**	**34.20**	**304**	P		**P**	**11 53 32.1**	**+4.1**
D53A				IAmb		IAmb	11 53 34.3	
	comp=Z,6.6nm,1.0s							
BFO	**Black Forest**	**34.34**	**54**	P		**P**	**11 53 29.6**	**+0.4**
BFO				IAmb		IAmb	11 53 30.6	
	comp=Z,5.0nm,0.8s							
NB2	**NORSAR Subarra**	**39.03**	**34**	P		**P**	**11 54 08.9**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=251,slow=9.3							
NOA	**NORSAR Array B**	**39.03**	**34**	P		**P**	**11 54 09.2**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=251,slow=8.6,SNR=10							
NOA				LR		LR	12 07 08.7	
	comp=Z,50nm,21.5s,baz=290,slow=31							
NB201	**NORSAR Array S**	**39.07**	**34**	P		**P**	**11 54 09.7**	**+0.3**
NC602	**NORSAR Array S**	**39.08**	**34**	P		**P**	**11 54 10.5**	**+1.1**
NC303	**NORSAR Array S**	**39.17**	**33**	P		**P**	**11 54 10.5**	**+0.4**
DBIC	**Dimbokro**	**39.35**	**129**	P		**P**	**11 54 14.2**	**+2.0**
	comp=Z,1.3nm,0.4s,baz=315,slow=10,SNR=4.5							
DBIC				LR		LR	12 08 27.7	
	comp=Z,44nm,21.7s,baz=309,slow=33							
TORD	**Torodi Ar. Bea**	**39.39**	**114**	P		**P**	**11 54 12.4**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=316,slow=7.5,SNR=5.5							
TORD				LR		LR	12 08 43.5	
	comp=Z,84nm,20.9s,baz=65,slow=33							
OJC	**Ojcow**	**41.94**	**51**	P		**P**	**11 54 33.3**	**+0.1**
OJC				IAmb		IAmb	11 54 42.6	
	comp=Z,6.7nm,0.5s							
B35A	**Bob, Littlefor**	**44.99**	**306**	P		**P**	**11 55 01.4**	**+3.5**
B35A				IAmb		IAmb	11 55 03.4	
	comp=Z,4.7nm,0.8s							
FCC	**Fort Churchill**	**45.16**	**321**	P		**P**	**11 54 59.0**	**0.0**
FCC				IAmb		IAmb	11 55 06.3	
	comp=Z,7.3nm,1.0s							
FINES	**FINESS Array B**	**46.10**	**36**	P		**P**	**11 55 05.9**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=270,slow=4.2,SNR=4.8							
AGMN	**Agassiz Nation**	**46.42**	**306**	P		**P**	**11 55 08.0**	**-1.1**
S39A	**Bolivar**	**46.63**	**291**	P		**P**	**11 55 09.9**	**-1.1**
S39A				IAmb		IAmb	11 55 16.3	
	comp=Z,7.9nm,1.2s							
ROSC	**El Rosal**	**47.31**	**240**	LR		LR	12 12 21.4	
	comp=Z,148nm,21.5s,baz=51,slow=33							
ARCES	**ARCESS Array B**	**47.32**	**25**	P		**P**	**11 55 14.3**	**-1.5**
	comp=Z,3.0nm,0.7s,baz=262,slow=6.9,SNR=11							
ECSD	**EROS Data Cent**	**47.67**	**300**	P		**P**	**11 55 19.8**	**+0.8**
ECSD				IAmb		IAmb	11 55 24.3	
	comp=Z,4.2nm,1.1s							
AKASG	**Malin Array Be**	**47.92**	**50**	P		**P**	**11 55 20.4**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=269,slow=7.5,SNR=5.7							
FFC	**Flin Flon**	**49.54**	**315**	P		**P**	**11 55 32.7**	**-0.5**
FFC				IAmb		IAmb	11 55 39.9	
	comp=Z,4.5nm,0.9s							
BRTR	**Keskin Array B**	**53.33**	**63**	P		**P**	**11 56 02.3**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=284,slow=5.8,SNR=4.2							
BW06	**Boulder Array**	**57.03**	**302**	P		**P**	**11 56 30.7**	**+1.9**
PD31	**Pinedale Array**	**57.03**	**302**	P		**P**	**11 56 31.0**	**+2.1**
PDAR	**Pinedale Array**	**57.03**	**302**	P		**P**	**11 56 28.1**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=98,slow=5.5,SNR=4.2							
IMW	**Indian Meadow**	**57.62**	**304**	P		**P**	**11 56 32.5**	**-0.5**
TXAR	**Lajitas Array**	**57.62**	**285**	P		**P**	**11 56 30.6**	**-2.4**
	comp=Z,0.1nm,0.5s,baz=91,slow=7.2,SNR=3.5							
TX31	**Lajitas Ar. Si**	**57.62**	**285**	P		**P**	**11 56 33.3**	**+0.3**
TX32	**Lajitas Array**	**57.62**	**285**	P		**P**	**11 56 33.3**	**+0.3**
KBZ	**Khabaz**	**58.59**	**56**	P		**P**	**11 56 39.7**	**+0.3**
	comp=Z,5.4nm,0.9s,baz=305,slow=4.7,SNR=7.5							
SRU	**San Rafael Swe**	**59.00**	**298**	P		**P**	**11 56 43.7**	**+1.1**
LPAZ	**La Paz**	**60.08**	**218**	P		**P**	**11 56 49.4**	**-1.2**
	comp=Z,6.4nm,1.1s,baz=24,slow=9.3,SNR=10							
LPAZ	**La Paz**	**60.08**	**218**	P		**P**	**11 56 48.9**	**-1.8**
INK	**Inuvik**	**61.11**	**335**	P		**P**	**11 56 55.5**	**-0.8**
	comp=Z,2.7nm,1.0s,baz=72,slow=6.4,SNR=3.7							
INK	**Inuvik**	**61.11**	**335**	P		**P**	**11 56 56.4**	**+0.1**
INK				IAmb		IAmb	11 57 04.1	
	comp=Z,3.7nm,0.9s							
NVAR	**Mina Array Bea**	**64.84**	**300**	P		**P**	**11 57 19.7**	**-2.2**
	comp=Z,0.1nm,0.4s,baz=72,slow=6.9,SNR=2.4							
PB09	**IPOC Station P**	**65.31**	**215**	P		**P**	**11 57 23.9**	**-1.0**
ILAR	**Eielson Array**	**67.48**	**335**	P		**P**	**11 57 36.8**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=51,slow=4.7,SNR=4.3							
MKAR	**Makanchi Array**	**80.86**	**38**	P		**P**	**11 58 56.0**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=307,slow=5.2,SNR=6.1							

*IDC **05** 12:00:49.5±4.8,31.°40N×132.°42E,h0km,mb3.6/3, mb1 3.7/3,mb1mx3.3/34,mbtmp3.6/3,Error ellipse: s-maj=130.4km s-min=82.6km az=55.0*
*JMA **05** 12:00:58.1±0.1,31.°54N×131.°87E,h21km±2km,M3.7*
JMA Felt I J1.
*NIED **05** 12:00:58.1,31.°54N×131.°87E,h21km,MW3.8,Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; Mrr5.07; Mθθ-2.18; Mϕϕ-2.89; Mrθ1.41; Mrϕ-2.44; Mθϕ2.40; Fault plane solution: M05.75000×10^14^ NP1:ϕs36.00000°, δ59.00000°, λ85.00000°. NP2:ϕs226.00000°,δ31.00000°, λ98.00000°.*

ISC 05 12:00:56.4±2.2,**31.°53N**±0.°06×**132.°0E**±0.°1,**h24**km±13km, **n15**,σ0°**66**/18,**mb3.5**/3,**4C-3D**,**Kyushu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JNKG	**Nichinankitago**	**0.51**	**285**	⇓P		**Pb**	**12 01 06.6**	**-0.2**
JNKG			

KACW	**Kaceov**	**0.09**	**149**	⇓P		Pg	12 06 46.7	+0.1
KACW				S		Sg	12 06 48.4	0.0
POCW	**Potky**	**0.10**	**354**	⇓P		Pg	12 06 46.9	+0.1
POCW				S		Sg	12 06 48.7	+0.2
KRCW	**Kraslice**	**0.12**	**27**	⇓P		Pg	12 06 47.1	0.0
KRCW				S		Sg	12 06 49.0	-0.1
ZHC	**Zelena Hora**	**0.18**	**209**	⇑P		Pg	12 06 48.0	0.0
ZHC				S		Sg	12 06 50.4	-0.1

*PRU **05** 12:07:42.4±0.0,50.25N×12.49E,h3km, West Bohemia Swarm*
WBNET 05 12:07:42.1,50.22N×12.45E,h9km,MI1.2,5C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**8**	*e*P	Pg	12 07 43.3	-0.5
NKC				*e*S	Sg	12 07 44.8	-0.1
	comp=Z,60nm,0.4s						
NKC	**Novy Kostel**	**0.01**	**8**	⇑P	Pg	12 07 43.8	+0.1
NKC				S	Sg	12 07 45.0	0.0
VAC	**Vackov**	**0.05**	**285**	⇓P	Pg	12 07 44.0	+0.1
VAC				S	Sg	12 07 45.3	0.0
LBCW	**Luby**	**0.05**	**333**	⇓P	Pg	12 07 44.1	+0.1
LBCW				S	Sg	12 07 45.5	+0.2
KVC	**Kvetna**	**0.05**	**112**	⇑P	Pg	12 07 43.9	-0.1
KVC				S	Sg	12 07 45.1	-0.2
STCW	**Studenec**	**0.06**	**53**	⇑P	Pg	12 07 44.1	0.0
STCW				S	Sg	12 07 45.4	-0.2
SKC	**Skalna**	**0.08**	**225**	⇑P	Pg	12 07 44.3	0.0
SKC				S	Sg	12 07 45.8	0.0
KACW	**Kaceov**	**0.09**	**150**	⇓P	Pg	12 07 44.5	0.0
KACW				S	Sg	12 07 46.2	0.0
POCW	**Potky**	**0.10**	**353**	⇓P	Pg	12 07 44.8	+0.1
POCW				S	Sg	12 07 46.6	+0.2
KRCW	**Kraslice**	**0.12**	**27**	⇓P	Pg	12 07 45.0	+0.1
KRCW				S	Sg	12 07 46.9	0.0
ZHC	**Zelena Hora**	**0.18**	**210**	⇑P	Pg	12 07 45.9	0.0
ZHC				S	Sg	12 07 48.3	-0.1
CLL	**Collm**	**1.14**	**18**	*i* Sg	Sb	12 08 18.9	0.0
BRG	**Berggiesshubel**	**1.16**	**55**	PG	Pb	12 08 03.7	-0.5
BRG				SG	Sg	12 08 19.1	-0.1
	2.7nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**146**	*e*SG	Sg	12 08 24.7	+0.2
	comp=Z,1.1nm,0.3s						
PRU	**Pruhonice**	**1.37**	**99**	*e*SG	Sn	12 08 25.6	-0.1
	comp=Z,2.4nm,0.2s						

*IDC **05** 12:11:48.4±0.8,24.93S×175.76W,h0km,mb4.2/13, mb1 4.4/14,mb1mx4.3/26,mbtmp4.2/14,ML3.8/1, Error ellipse: s-maj=30.0km s-min=19.5km az=143.0*
*NEIC **05** 12:11:49.4±2.1,24.89S±0.06×175.8W±0.1,h10km±1km, mb4.7/31, Error ellipse: s-maj=18.5km s-min=10.6km az=81.0*
ISC 05 12:11:49.8±0.5,25.01S±0.08×175.7W±0.1,h10km,n69, σ1°42/67,mb4.6/28,2C-2D,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.68**	**205**	Sn	**Sn**	**12 13 57.0**	**+2.1**
	216nm,0.3s,baz=60,slow=22,SNR=4.7						
MSVF	**Nonsavu**	**9.31**	**320**		Pn	12 13 58.0	-6.2
AFI	**Afiamalu**	**11.63**	**19**	Pn	Pn	12 14 27.6	-8.4
	2.1nm,0.3s,baz=274,slow=7.7,SNR=2.9						
AFI				Sn	Sn	12 16 28.0	-18
	0.9nm,0.3s,baz=253,slow=19,SNR=1.5						
AFI	**Afiamalu**	**11.63**	**19**	Pn	Pn	12 14 29.6	-6.4
URZ	**Urewera**	**14.57**	**203**	Pn	**Pn**	**12 15 15.5**	**-0.4**
	0.4nm,0.3s,baz=41,slow=11,SNR=1.1						
URZ				Sn	Sn	12 17 48.2	-9.3
	0.4nm,0.3s,baz=325,slow=19,SNR=2.0						
RAR	**Rarotonga**	**15.10**	**79**	Pn	Pn	12 15 15.2	-8.0
	4.6nm,0.3s,baz=245,slow=9.8,SNR=17						
RAR				Sn	Sn	12 17 46.7	-24
	0.7nm,0.3s,baz=218,slow=20,SNR=1.6						
BKZ	**Black Stump Fm**	**15.59**	**203**	Pn	**Pn**	**12 15 29.5**	**-0.2**
DZM	**Mont Dzumac**	**16.67**	**276**	Pn	**P**	**12 15 46.0**	**0.0**
	0.4nm,0.3s,baz=115,slow=22,SNR=4.0						
BFZ	**Birch Farm**	**17.03**	**201**	Pn	**Pn**	**12 15 46.4**	**-1.6**
BFZ				IAmb	IAmb	12 16 01.2	
	comp=Z,65nm,1.1s						
MSWZ	**Moikau Station**	**18.02**	**203**	Pn	**Pn**	**12 15 58.6**	**-1.8**
PLWZ	**Palliser**	**18.16**	**202**	Pn	**Pn**	**12 16 00.2**	**-1.9**
BSWZ	**Blackbirch Sta**	**18.79**	**205**	P	**P**	**12 16 07.1**	**-2.1**
THZ	**Tophouse**	**19.21**	**207**	P	**P**	**12 16 09.8**	**-4.1**
EIDS	**Eidsvold**	**30.06**	**262**	P	**P**	**12 18 01.4**	**+2.1**
EIDS				IAmb	IAmb	12 18 12.4	
	comp=Z,34nm,1.5s						
CTAO	**Charters Tower**	**35.44**	**270**	P	**P**	**12 18 44.9**	**-1.5**
STKA	**Stephens Creek**	**38.02**	**250**	P	**P**	**12 19 08.2**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=90,slow=14,SNR=5.1						
BBOO	**Buckleboo**	**42.68**	**248**	P	**P**	**12 19 45.2**	**-1.6**
BBOO				IAmb	IAmb	12 19 55.0	
	comp=Z,15nm,1.3s						
AS31	**Alice Springs**	**45.76**	**261**	P	**P**	**12 20 10.8**	**-0.9**
ASAR	**Alice Springs**	**45.76**	**261**	P	**P**	**12 20 09.6**	**-2.1**
	comp=Z,3.1nm,0.9s,baz=99,slow=6.7,SNR=18						
ASAR				PcP	**PcP**	**12 21 49.9**	**+0.4**
	comp=Z,1.5nm,1.1s,baz=116,slow=4.2,SNR=2.2						
WR0	**Warramunga Arr**	**46.09**	**266**	P	**P**	**12 20 13.1**	**-1.3**
WR0				IAmb	IAmb	12 20 15.9	
	comp=Z,13nm,1.2s						
WB2	**Warramunga Arr**	**46.26**	**266**		**P**	**12 20 14.7**	**-1.1**
WB2				IAmb	IAmb	12 20 16.3	
	comp=Z,18nm,1.2s						
WRAB	**Tennant Creek**	**46.27**	**266**	P	**P**	**12 20 13.5**	**-2.2**
WB0	**Warramunga Arr**	**46.27**	**266**	P	**P**	**12 20 14.1**	**-1.7**
WB0				IAmb	IAmb	12 20 16.7	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**46.27**	**266**	P	**P**	**12 20 13.3**	**-2.5**
	comp=Z,5.4nm,0.9s,baz=101,slow=8.1,SNR=20						
WRA				PcP	**PcP**	**12 21 52.0**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=98,slow=3.2,SNR=4.5						
FORT	**Forrest**	**49.64**	**250**	P	**P**	**12 20 41.0**	**-0.8**
FORT				IAmb	IAmb	12 20 42.1	
	comp=Z,9.5nm,0.7s						
KNRA	**Kununurra**	**52.63**	**269**	P	**P**	**12 21 03.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**54.68**	**265**	P	**P**	**12 21 19.8**	**+0.4**
QSPA	**South Pole Qui**	**65.08**	**180**	P	**P**	**12 22 32.2**	**+1.9**
MJAR	**Matsushiro Ar**	**75.10**	**323**	P	**P**	**12 23 31.4**	**-0.6**
	comp=Z,3.5nm,1.0s,baz=166,slow=7.6,SNR=4.9						
MAW	**Mawson**	**78.06**	**200**	P	**P**	**12 23 50.3**	**+1.9**
	comp=Z,1.5nm,0.4s,baz=70,slow=9.9,SNR=4.7						
MAW	**Mawson**	**78.06**	**200**	P	**P**	**12 23 49.5**	**+1.2**
ISA	**Isabella, Lake**	**81.00**	**44**	P	**P**	**12 24 04.0**	**-0.9**
ISA				IAmb	IAmb	12 24 07.7	
	comp=Z,6.8nm,1.4s						
PETK	**Petropavlovsk-**	**81.17**	**344**	P	**P**	**12 24 05.4**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=137,slow=7.2,SNR=3.3						
CMB	**Columbia Colle**	**81.36**	**41**	P	**P**	**12 24 05.7**	**-1.0**
KSRS	**Korea Array**	**81.67**	**318**	P	**P**	**12 24 09.3**	**+1.0**
	comp=Z,1.6nm,1.0s,baz=147,slow=5.8,SNR=9.2						
SYO	**Syowa Base**	**82.81**	**192**	⇓*i*P	**P**	**12 24 13.0**	**-0.8**
SYO	**Syowa Base**	**82.81**	**192**	⇓*ep*P	**P**	**12 24 15.2**	**+1.4**
SYO	**Syowa Base**	**82.81**	**192**	⇓*es*P	sP	12 24 19.4	+3.3
NVAR	**Mina Array Bea**	**82.87**	**42**	P	**P**	**12 24 15.2**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=212,slow=8.2,SNR=10						
NV11	**Mina Array Sit**	**82.96**	**42**	P	**P**	**12 24 15.0**	**-0.2**
NV11				IAmb	IAmb	12 24 16.1	
	comp=Z,5.1nm,1.2s						
KVN	**Kaiserville**	**83.39**	**41**	P	**P**	**12 24 17.6**	**+0.1**
KVN				IAmb	IAmb	12 24 18.2	
	comp=Z,6.2nm,1.4s						
SNAA	**Sanae**	**83.45**	**178**	P	**P**	**12 24 17.5**	**+0.2**
SNAA	**Sanae**	**83.45**	**178**	P	**P**	**12 24 17.5**	**+0.2**
VNA3	**Neumayer Olymp**	**83.51**	**175**	P	**P**	**12 24 17.4**	**-0.1**
USRK	**Ussuriysk Ar.**	**83.89**	**325**	P	**P**	**12 24 20.7**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=132,slow=2.8,SNR=4.4						
VNA2	**Neumayer--Watz**	**83.97**	**176**	P	**P**	**12 24 20.4**	**+0.6**
	baz=189,slow=4.3						
VNA1	**Neumayer--Stat**	**84.19**	**176**	P	**P**	**12 24 21.3**	**+0.4**
CCUT	**Cedar City**	**85.41**	**45**	P	**P**	**12 24 28.0**	**+0.2**
KNB	**Kanab**	**85.44**	**46**	P	**P**	**12 24 27.9**	**0.0**
U15A	**North Rim**	**85.44**	**46**	P	**P**	**12 24 28.3**	**+0.2**
MTPU	**Mount Pierson**	**86.45**	**45**	P	**P**	**12 24 33.0**	**-0.1**
MNTX	**Cornudas Mount**	**87.64**	**53**	P	**P**	**12 24 38.8**	**+0.2**
MNTX				IAmb	IAmb	12 24 39.3	
	comp=Z,5.0nm,1.3s						
TXAR	**Lajitas Array**	**87.71**	**56**	P	**P**	**12 24 38.3**	**-0.8**
	comp=Z,1.0nm,1.0s,baz=216,slow=6.2,SNR=7.7						
TIA	**Tai'an**	**87.89**	**312**	P	**P**	**12 24 42.0**	**+2.3**
TIA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MCMT	**McKenzie Canyo**	**90.02**	**39**	P	**P**	**12 24 50.4**	**+0.6**
IMW	**Indian Meadow**	**90.59**	**41**	P	**P**	**12 24 52.1**	**-0.5**
IMW				IAmb	IAmb	12 24 54.8	
	comp=Z,5.1nm,1.4s						
PDAR	**Pinedale Array**	**90.79**	**42**	P	**P**	**12 24 52.8**	**-0.7**
	comp=Z,0.6nm,1.0s,baz=218,slow=3.6,SNR=5.5						
PBKT	**Sadao Pong**	**91.07**	**288**		**P**	**12 24 55.2**	**+0.2**
YHH	**Holmes Hill**	**91.16**	**40**	P	**P**	**12 24 54.2**	**-1.0**
BOZ	**Bozeman (W)**	**91.17**	**39**	P	**P**	**12 24 51.7**	**-3.4**
BOZ				IAmb	IAmb	12 24 56.5	
	comp=Z,7.7nm,1.4s						
YNE	**Yellowstone No**	**91.77**	**40**	P	**P**	**12 24 55.7**	**-2.3**
ILAR	**Eielson Array**	**92.23**	**12**	P	**P**	**12 24 58.8**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=224,slow=6.5,SNR=4.8						
XAN	**Xi'an**	**92.55**	**306**	P	**P**	**12 25 03.1**	**+1.5**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,92nm,6.2s						
KMI	**Kunming**	**93.29**	**296**	⇑*eP*	**P**	**12 25 08.7**	**+3.3**
KMI				pP	pwP	12 25 11.2	-1.8
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
KMI				pmax	pmax		
	comp=Z,310nm,5.7s						
CMAR	**Chiang Mai Arr**	**93.62**	**289**	P	**P**	**12 25 08.2**	**+1.4**
	comp=Z,6.5nm,1.1s,baz=133,slow=3.0,SNR=14						
AKASG	**Malin Array Be**	**147.98**	**330**	PKPbc	**PKPbc**	**12 31 34.2**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=39,slow=3.6,SNR=11						
BRTR	**Keskin Array B**	**151.39**	**308**	PKPbc	**PKPbc**	**12 31 43.1**	**-1.0**
	comp=Z,1.4nm,1.0s,baz=123,slow=3.4,SNR=4.0						
CLL	**Collm**	**152.91**	**348**	*i* PKPbc	**PKiKP**	**12 31 47.3**	**+0.1**
CLL				*i* PKPab	**PKPab**	**12 31 57.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**167.94**	**168**	PKPab	**PKPab**	**12 33 04.7**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=190,slow=2.5,SNR=2.9						

*MEX **05** 12:20:17.3±0.9,14.58N×92.73W,h10km±26km,MD4.1*
*GCG **05** 12:20:17.6±0.9,14.81N×92.57W,h30km±999km,MD4.0*
ISC 05 12:20:16.4±2.3,14.6N±0.1×92.73W±0.08,h32km±13km,n8, σ0°64/16,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.55**	**55**	*e*P	**Pb**	**12 20 27.8**	**+0.1**
THIG				*e*S	**Sb**	**12 20 35.1**	**-0.3**
PCIG		**1.20**	**337**	*e*P	**Pn**	**12 20 36.6**	**-0.4**
PCIG				*e*S	**Sn**	**12 20 51.6**	**-0.6**
CCIG	**Comitan**	**1.77**	**19**	*e*P	**Pn**	**12 20 45.3**	**+0.4**
CCIG				*e*S	**Sn**	**12 21 06.3**	**-0.2**
FUG	**Fuego 3**	**1.83**	**94**	*e*P	**Pn**	**12 20 45.5**	**-0.3**
FUG				*e*S	**Sn**	**12 21 07.5**	**-0.5**
PCG	**Pacaya**	**2.06**	**95**	*e*P	**Pn**	**12 20 49.8**	**+0.7**
PCG				*e*S	**Sn**	**12 21 14.7**	**+0.8**
TGIG		**2.20**	**350**	*i* P	**Pn**	**12 20 50.9**	**+0.1**
TGIG				*e*S	**Sn**	**12 21 17.4**	**+0.3**
IXG	**Ixpaco**	**2.25**	**100**	*e*P	**Pn**	**12 20 52.1**	**+0.4**
IXG				*e*S	**Sn**	**12 21 17.0**	**-1.5**
CMIG	**Matias Romero**	**3.24**	**320**	*e*P	**Pn**	**12 21 05.0**	**+0.1**
CMIG				*e*S	**Sn**	**12 21 42.8**	**+0.4**

*IDC **05** 12:28:48.1±2.0,7.08S×127.77E,h0km,mb3.9/1, mb1 3.8/3,mb1mx3.4/44,mbtmp3.7/3,ML3.8/2,Error ellipse: s-maj=153.4km s-min=31.1km az=65.0*
*NEIC **05** 12:28:59.9±2.2,6.70S±0.06×130.3E±0.1,h176km±8km, mb4.7/3,Error ellipse: s-maj=19.9km s-min=9.3km az=93.0.*
ISC 05 12:28:56.3±1.1,6.63S±0.07×129.9E±0.1,h150km,n19, σ2°96/24,1C,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.94**	**134**	Pn	**Pn**	**12 29 33.0**	**+2.3**
SAUI				Sn	**Sn**	**12 29 58.6**	**+1.3**
FAKI	**Fak Fak**	**4.37**	**33**	Pn	**Pn**	**12 30 03.5**	**+2.0**
MTN	**Manton Dam**	**6.29**	**169**		**Pn**	**12 30 30.4**	**+3.3**
MTN					**Sn**	**12 31 39.8**	**+1.8**
KNRA	**Kununurra**	**9.06**	**187**	Pn	**Pn**	**12 31 08.0**	**+4.1**
KNRA					**Sn**	**12 32 45.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**12.13**	**200**	Pn	**P**	**12 31 47.5**	**-3.2**
WB0	**Warramunga Arr**	**13.77**	**162**		**P**	**12 32 08.1**	**-0.9**
WRAB	**Tennant Creek**	**13.91**	**162**	Pn	**Pn**	**12 32 07.6**	**+0.3**
WRA	**Warramunga Arr**	**13.92**	**162**	Pn	**P**	**12 32 09.8**	**-0.9**
	0.5nm,0.3s,baz=340,slow=8.0,SNR=43						
WRA				Sn	**Sn**	**12 34 36.4**	**-5.3**
	0.9nm,0.3s,baz=321,slow=24,SNR=11						
WRA	**Warramunga Arr**	**13.92**	**162**	P	**P**	**12 32 09.8**	**-0.9**
WRA					**Sn**	**12 34 36.4**	**-5.3**
WB2	**Warramunga Arr**	**13.92**	**162**	Pn	**Pn**	**12 32 08.0**	**+0.6**
WR0	**Warramunga Arr**	**14.00**	**162**	P	**P**	**12 32 10.7**	**-0.8**
AS31	**Alice Springs**	**17.37**	**168**	P	**P**	**12 32 48.2**	**-0.7**
AS31				IAmb	IAmb	12 32 59.1	
	comp=Z,0.8nm,1.1s						
ASAR	**Alice Springs**	**17.37**	**168**	P	**Pn**	**12 32 55.2**	**+5.4**
	comp=Z,0.2nm,0.3s,baz=340,slow=11,SNR=18						
ASAR				S	**S**	**12 36 00.0**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=338,slow=24,SNR=9.5						
ASAR	**Alice Springs**	**17.37**	**168**	P	**Pn**	**12 32 55.2**	**+5.4**
ASAR					**S**	**12 36 00.0**	**-2.3**
ANA2	**Anatahan**	**27.68**	**34**	P	**P**	**12 34 28.9**	**-1.6**
ANA2				IAmb	IAmb	12 34 32.9	
	comp=Z,38nm,0.8s						
MSVF	**Nonsavu**	**48.22**	**108**	P	**P**	**12 37 21.8**	**-0.6**
MSVF				IAmb	IAmb	12 37 22.5	
	comp=Z,33nm,0.8s						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	12 39 43.5	+5.1
	comp=Z,0.7nm,0.5s,baz=117,slow=6.9,SNR=6.5						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	12 39 43.5	+5.1
SYO	**Syowa Base**	**83.97**	**201**	⇑*eP*	**P**	**12 41 09.6**	**+0.3**

*NEIC **05** 12:35:55.9±1.1,17.9S×178.2W±0.3,h556km±16km, mb4.5/8, Error ellipse: s-maj=51.5km s-min=20.1km az=138.0*
*IDC **05** 12:35:55.8±2.5,17.91S×178.08W,h556km±30km,mb3.1/5, mb1 3.3/6,mb1mx2.9/48,mbtmp4.0/6,Error ellipse: s-maj=122.0km s-min=20.8km az=157.0*
ISC 05 12:35:55.4±1.2,17.9S±0.8×178.1W±0.4,h550km,n16, σ0°65/17,mb4.0/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.30**	**58**	P	**P**	**12 37 46.2**	**-0.3**
	2.1nm,0.3s,baz=180,slow=20,SNR=1.3						
AFI	**Afiamalu**	**7.30**	**58**	P	**P**	**12 37 46.9**	**+0.4**
STKA	**Stephens Creek**	**38.86**	**241**	P	**P**	**12 42 34.4**	**+0.6**
	1.2nm,0.5s,baz=84,slow=10,SNR=5.5						
STKA	**Stephens Creek**	**38.86**	**241**	P	**P**	**12 42 34.5**	**+0.7**
BBOO	**Buckleboo**	**43.63**	**241**	P	**P**	**12 43 11.2**	**-0.4**
WR0	**Warramunga Arr**	**44.70**	**260**	P	**P**	**12 43 19.8**	**-0.3**
WR0				IAmb	IAmb	12 44 59.3	
	comp=Z,30nm,1.7s						
WB0	**Warramunga Arr**	**44.86**	**260**	P	**P**	**12 43 21.4**	**+0.1**
WB0				IAmb	IAmb	12 43 25.6	
	comp=Z,31nm,1.8s						
WB2	**Warramunga Arr**	**44.88**	**260**	P	**P**	**12 43 21.6**	**+0.1**
WRAB	**Tennant Creek**	**44.89**	**260**	P	**P**	**12 43 21.2**	**-0.3**
WRAB				IAmb	IAmb	12 43 22.1	
	comp=Z,24nm,1.6s						
WRA	**Warramunga Arr**	**44.90**	**260**	P	**P**	**12 43 21.4**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=95,slow=7.1,SNR=32						
WRA				PcP	**PcP**	**12 44 50.2**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=90,slow=3.3,SNR=1.6						
AS31	**Alice Springs**	**45.05**	**254**	P	**P**	**12 43 22.8**	**+0.1**
ASAR	**Alice Springs**	**45.05**	**254**	P	**P**	**12 43 22.9**	**+0.1**
	comp=Z,1.7nm,0.4s,baz=91,slow=8.0,SNR=67						
ASAR				PcP	**PcP**	**12 44 50.7**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=108,slow=4.0,SNR=4.1						
FORT	**Forrest**	**50.24**	**245**	P	**P**	**12 44 00.8**	**-0.7**
FORT				IAmb	IAmb	12 44 02.3	
	comp=Z,12nm,1.0s						
FITZ	**Fitzroy Crossi**	**53.29**	**261**	P	**P**	**12 44 24.6**	**+1.0**
	comp=Z,4.5nm,1.1s,baz=88,slow=5.1,SNR=1.6						
FITZ	**Fitzroy Crossi**	**53.29**	**261**	P	P	12 44 20.1	-3.4
TXAR	**Lajitas Array**	**85.78**	**58**	P	**P**	**12 47 37.5**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=224,slow=5.0,SNR=4.7						

*NEIC **05** 12:40:01.3±1.0,38.25N±0.01×122.34W±0.01,h18km±1km,*

Error ellipse: s-maj=2.3km s-min=1.1km az=212.0
NCEDC 05 12:40:01.2±1.6,38.256N±0.010×122.32W±0.01, h8km±4km,Mwr3.0/3,Error ellipse: s-maj=1.6km s-min=1.3km az=46.0,Moment Tensor Solution. Moment tensor: Scale 10^13Nm; Mrr=0.59; Mθθ=1.65; Mφφ2.23; Mrθ-1.92; Mθφ3.41; Mφr-0.28; Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGVM		**0.09**	**74**		Pg	12 40 05.0	+1.5
CVS	**Carmenet Viney**	**0.14**	**310**		Pg	12 40 04.6	+0.3
NAPC	**Atlas Peak**	**0.19**	**17**		Pg	12 40 05.3	+0.1
NLHM	**Lake Herman**	**0.19**	**134**		Pg	12 40 05.2	0.0
HERB	**Hercules**	**0.25**	**169**		Pg	12 40 06.6	+0.4
CPIM	**Pinole Ridge**	**0.28**	**162**		Pg	12 40 07.4	+0.6
CSPM	**San Pablo Ridg**	**0.30**	**178**		Pg	12 40 07.9	+0.8
NTYM	**Taylor**	**0.30**	**297**		Pg	12 40 07.6	+0.4
CPMM	**Point Molate**	**0.31**	**192**		Pg	12 40 07.8	+0.4
CTAM	**Taylor**	**0.33**	**133**		Pb	12 40 08.8	-0.6
RFSB	**Richmond Field**	**0.34**	**182**		Pg	12 40 08.3	+0.4
NADM	**Allendale**	**0.34**	**54**		Pb	12 40 09.3	-0.3
BRIB	**Briones**	**0.36**	**158**		Pg	12 40 08.7	+0.3
CVPM	**Vollmer Peak**	**0.38**	**168**		Pg	12 40 09.2	+0.5
BL88	**Building 88, L**	**0.38**	**172**		Pg	12 40 09.2	+0.5
VAK	**Adit at Lawren**	**0.38**	**171**		Pg	12 40 09.2	+0.5
BL67	**Building 67, L**	**0.38**	**172**		Pg	12 40 09.2	+0.5
BKS	**Berkeley--Byer**	**0.39**	**170**		Pg	12 40 09.2	+0.5
BRK	**Berkeley--Havi**	**0.39**	**173**		Pg	12 40 09.1	+0.4
HMR	**Hamilton Ranch**	**0.42**	**104**		Pg	12 40 10.2	+0.7
NBPM	**Berryessa Peak**	**0.42**	**14**		Pb	12 40 10.4	-0.5
NOLM	**Olema**	**0.43**	**240**		Pg	12 40 09.9	+0.4
MAC	**Mark West Spri**	**0.43**	**313**		Pg	12 40 10.2	+0.5
CYBM	**Yerba Buena Is**	**0.45**	**184**		Pg	12 40 10.2	+0.4
SMCB	**Saint Mary's C**	**0.45**	**158**		Pg	12 40 10.2	+0.3
MCCM	**Marconi Confer**	**0.45**	**256**	Pg	Pg	12 40 10.3	+0.3
MCCM	**Marconi Confer**	**0.45**	**256**		Sb	12 40 17.3	-1.0
NHSM	**Mount Saint He**	**0.46**	**330**		Pg	12 40 10.3	+0.1
BDM	**Black Diamond**	**0.47**	**130**		Pg	12 40 10.9	+0.6
CRHM	**Round Hill Res**	**0.47**	**147**		Pg	12 40 11.1	+0.6
JPRM	**Presidio of Sa**	**0.47**	**195**		Pg	12 40 10.9	+0.5
BGC	**Bolinger Road**	**0.48**	**155**		Pg	12 40 11.0	+0.4
CMCM	**Mills College**	**0.49**	**166**		Pg	12 40 10.9	+0.2
J061	**Lakeshore Driv**	**0.54**	**195**		Pb	12 40 12.3	-0.6
CSLM	**San Leandro Hi**	**0.56**	**163**		Pg	12 40 12.2	+0.2
CLCB	**Lake Chabot**	**0.56**	**158**		Pg	12 40 12.2	+0.2
NMTM	**Middletown**	**0.56**	**350**		Pg	12 40 12.2	+0.2
GAXM	**Alexander Vall**	**0.57**	**323**		Pg	12 40 12.2	0.0
NMCNC	**Mill Creek, So**	**0.57**	**306**		Pg	12 40 12.6	+0.4
GCRM	**Castle Rock Sp**	**0.60**	**329**		Pg	12 40 12.9	0.0
NDHM	**Dunnigan Hills**	**0.60**	**32**		Pb	12 40 14.3	+0.4
CMOB	**Morgan Territo**	**0.60**	**137**		Pg	12 40 12.8	-0.1
NPRM	**Point Reyes**	**0.60**	**245**		Pg	12 40 13.1	+0.2
GBGM	**Boggs Mountain**	**0.62**	**334**		Pg	12 40 13.6	+0.3
JMGM	**Milagra Ridge**	**0.63**	**191**		Pg	12 40 13.8	+0.4
MNRC	**McLaughlin Min**	**0.63**	**351**		Pb	12 40 14.0	-0.5
GGPM	**Geyser Peak**	**0.65**	**321**		Pg	12 40 14.2	+0.3
CGPM	**Gavin Park**	**0.66**	**158**		Pg	12 40 14.2	+0.3
GDXM	**Geysers**	**0.66**	**326**		Pg	12 40 14.1	0.0
JCPM	**Coyote Point**	**0.67**	**180**		Pg	12 40 14.3	+0.2
GSGM	**Seigler Mounta**	**0.68**	**334**		Pb	12 40 14.9	-0.4
CSU1	**Sunol Dilatome**	**0.68**	**154**		Pg	12 40 14.7	+0.3
CBSNC	**Byron Hot Spri**	**0.69**	**129**		Pg	12 40 14.8	+0.2
GSSM	**Skaggs Springs**	**0.70**	**310**		Pg	12 40 15.0	+0.3
CNIC	**Niles Canyon**	**0.71**	**156**		Pg	12 40 14.8	0.0
FTR	**Fort Ross**	**0.71**	**292**		Pg	12 40 15.1	+0.2
GRTM	**Round Top Moun**	**0.73**	**338**		Pg	12 40 15.8	+0.4
CVLM	**Vallecito**	**0.74**	**148**

BMSM	**Mercy Hot Spri**	**2.01**	**142**			Pn	12 40 34.7	-0.8
BSGM	**Shirttail Gulc**	**2.03**	**155**			Pn	12 40 34.0	-1.6
BCWM	**Chews Ridge**	**2.04**	**163**			Pn	12 40 34.2	-1.7
GNO	**Genoa**	**2.05**	**70**			Pn	12 40 36.5	+0.4
BPOM	**Post Ranch**	**2.07**	**167**			Pn	12 40 34.7	-1.6
O03E	**Paynes Creek**	**2.08**	**11**			Pn	12 40 34.3	-2.1
LRV	**Little Rabbit**	**2.10**	**150**			Pn	12 40 36.2	-0.5
BAPM	**Anderson Peak**	**2.15**	**165**			Pn	12 40 35.6	-1.8
LOY	**Loyalton**	**2.15**	**49**			Pn	12 40 37.7	+0.3
BABR	**Babbit Peak**	**2.19**	**51**			Pn	12 40 38.6	+0.4
LDBM	**Digger Butte**	**2.21**	**11**			Pn	12 40 36.9	-1.4
BFC	**Buffalo Canyon**	**2.22**	**72**			Pn	12 40 38.8	+0.3
PHRM	**Hernandez Vall**	**2.23**	**147**			Pn	12 40 37.5	-1.0
PBWM	**Bitterwater Cr**	**2.23**	**150**			Pn	12 40 38.2	-0.3
LRC	**Lone Oak Road**	**2.25**	**153**			Pn	12 40 38.2	-0.5
WAKR	**Walker**	**2.28**	**83**			Pn	12 40 40.5	+1.2
PEAR	**Peavine Mounta**	**2.28**	**53**			Pn	12 40 39.7	+0.3
PNTR	**Pine Nut**	**2.29**	**68**			Pn	12 40 39.8	+0.3
WDC	**Whiskeytown Da**	**2.33**	**356**			Pn	12 40 37.4	-2.4
WDC	**Whiskeytown Da**	**2.33**	**356**			Pn	12 40 37.9	-1.9
VCNR	**Virginia City**	**2.33**	**63**			Pn	12 40 40.2	+0.1
PCCM	**Crazy Canyon**	**2.35**	**156**			Pn	12 40 38.9	-1.2
LMEM	**Manzanita Entr**	**2.35**	**14**			Pn	12 40 39.8	-0.5
PMPB	**Monarch Peak**	**2.37**	**149**			Pn	12 40 39.9	-0.5
PAPM	**Alder Peak**	**2.46**	**162**			Pn	12 40 37.1	-4.6
LUL	**Lundy Lake**	**2.48**	**94**			Pn	12 40 43.3	+1.1
PSMM	**Smith Mountain**	**2.58**	**147**			Pn	12 40 42.8	-0.5
MDPB	**Devils Postpil**	**2.64**	**103**			Pn	12 40 45.0	+0.7
MINS	**Minaret Summit**	**2.65**	**102**			Pn	12 40 44.8	+0.3
MDCM	**Deadman Creek**	**2.65**	**101**			Pn	12 40 45.2	+0.7
PHPM	**Hope Ranch**	**2.65**	**148**			Pn	12 40 43.5	-0.8
MRDM	**Red Cones**	**2.66**	**103**			Pn	12 40 45.6	+0.9
OMMB	**Old Mammoth Mi**	**2.70**	**103**			Pn	12 40 45.4	+0.2
PAHR	**Pah Rah Range**	**2.71**	**57**			Pn	12 40 44.5	-0.7
KHMM	**Horse Mountain**	**2.83**	**338**	Pn		Pn	12 40 48.2	+1.3
RYN	**Ryan**	**3.01**	**82**			Pn	12 40 48.6	-0.7
PAGB	**Antelope Grade**	**3.02**	**146**	Pn		Pn	12 40 49.6	+0.3
NV11	**Mina Array Sit**	**3.28**	**86**			Pn	12 40 52.4	-0.7
KVN	**Kaiserville**	**3.40**	**75**			Pn	12 40 54.4	-0.4
YBH	**Yreka Blue Hor**	**3.48**	**355**			Pn	12 40 56.5	+0.7
MOD	**Modoc Plateau**	**3.96**	**22**	Pn		Pn	12 41 01.7	-0.7
ISA	**Isabella, Lake**	**4.03**	**129**	Pn		Pn	12 41 01.9	-1.3
ELK	**Elko**	**6.02**	**63**	Pn		Pn	12 41 31.1	+0.4

*GUC **05** 12:42:56.0±0.6,23°.14S×70°.61W,h33km±1km,ML3.6*
*IDC **05** 12:42:59.3±4.3,23°.12S×70°.61W,h52km±34km,mb3.6/2, mb1 3.6/4,mb1mx3.3/24,mbtmp3.7/4,ML3.5/2,MS2.9/1, Ms1 3.0/1,ms1mx2.6/24,Error ellipse: s-maj=36.7km s-min=28.3km az=176.0*

ISC 05 12:42:55.6±1.4,23°.11S±0°.03×70°.67W±0°.07,h20km±5km, n31,σ0♦95/34,6C-4D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB10	**IPOC Station P**	**0.41**	**165**	⇑*i*P	**Pg**	**12 43 04.3**	**+0.1**
PB10				*i* S	**Sb**	**12 43 10.4**	**+0.1**
PB10				IAML		12 43 13.2	
	comp=E,6μm,0.3s						
PB05	**IPOC Station P**	**0.51**	**59**	⇓*i*P	**Pb**	**12 43 05.9**	**0.0**
PB05				*e*P	**Pb**	**12 43 05.9**	**0.0**
PB05				*i* S	**Sb**	**12 43 12.9**	**0.0**
PB05				IAML		12 43 13.7	
	comp=E,4μm,0.3s						
PB04	**IPOC Station P**	**0.91**	**32**	⇓*i*P	**Pg**	**12 43 12.4**	**-1.1**
PB04				*i* S	**Sb**	**12 43 25.1**	**+0.4**
PB04				IAML		12 43 27.1	
	comp=N,4μm,0.3s						
PB06	**IPOC Station P**	**1.09**	**68**	⇓*i*P	**Pb**	**12 43 15.0**	**-0.9**
PB06				*i* S	**Sb**	**12 43 29.2**	**-0.6**
PB06				IAML		12 43 30.5	
	comp=N,2μm,0.2s						
PB15	**IPOC Station P**	**1.11**	**95**	⇓*i*P	**Pb**	**12 43 15.6**	**-0.7**
PB15				*i* S	**Sb**	**12 43 29.5**	**-0.9**
PB03	**IPOC Station P**	**1.36**	**39**	⇑*i*P	**Pn**	**12 43 19.2**	**-0.4**
PB03				*i* S	**Sb**	**12 43 37.5**	**-0.1**
PB03				IAML		12 43 39.5	
	comp=N,3μm,0.5s						
PB14	**IPOC Station P**	**1.53**	**171**	⇑*i*P	**Pn**	**12 43 21.2**	**-0.9**
PB14				*i* S	**Sn**	**12 43 40.2**	**-1.3**
PB14				IAML		12 43 44.8	
	comp=E,1μm,0.3s						
PB07	**IPOC Station P**	**1.56**	**28**	⇑*i*P	**Pn**	**12 43 21.9**	**-0.5**
PB07				*i* S	**Sn**	**12 43 43.3**	**+1.1**
PB07				IAML		12 43 48.2	
	comp=E,2μm,0.6s						
LVC	**Limon Verde**	**1.70**	**73**	P	**Pn**	**12 43 25.4**	**+0.9**
	comp=E,134nm,0.3s,baz=253,slow=12,SNR=610						
LVC				S	**Sb**	**12 43 46.4**	**-1.2**
	comp=E,302nm,0.3s,baz=60,slow=2.0,SNR=40						
LVC				LR	LR	12 44 14.8	
	comp=E,444nm,18.1s,baz=240,slow=46						
LVC	**Limon Verde**	**1.70**	**73**	*e*P	**Pn**	**12 43 24.8**	**+0.3**
LVC				*i* S	**Sn**	**12 43 46.2**	**+0.3**
PB09	**IPOC Station P**	**1.86**	**46**	⇑*e*P	**Pn**	**12 43 27.5**	**+0.9**
PB09				*i* S	**Sb**	**12 43 51.8**	**-0.3**
PB09				IAML		12 43 55.9	
	comp=N,2μm,0.5s						
GO02	**Mina Guanaco**	**2.27**	**154**	⇑*i*P	**Pn**	**12 43 33.1**	**+0.8**
GO02				*i* S	**Sn**	**12 44 01.0**	**+1.1**
PATCX	**Punta Patache**	**2.33**	**12**	*e*P	**Pn**	**12 43 31.8**	**-1.1**
PATCX				*i* S	**Sb**	**12 44 05.7**	**+0.2**
PB01	**IPOC Station P**	**2.33**	**28**	*e*P	**Pn**	**12 43 32.9**	**-0.1**
LPAZ	**La Paz**	**7.20**	**20**	P	**Pn**	**12 44 42.9**	**+2.5**
	comp=N,0.2nm,0.3s,baz=210,slow=8.6,SNR=3.0						
LPAZ				LR	LR	12 47 51.9	
	comp=N,92nm,20.8s,baz=322,slow=41						
SIV	**San Ignacio**	**11.49**	**54**	P	**Pn**	**12 45 39.7**	**+1.0**
	comp=N,0.7nm,0.3s,baz=252,slow=12,SNR=6.5						
SIV				S	**Sn**	**12 47 46.2**	**-0.3**
	comp=N,0.1nm,0.3s,baz=180,slow=20,SNR=1.5						
H03N1	**Juan Fernandez**	**12.59**	**213**	T	T	12 58 55.2	
	baz=38,slow=72,SNR=491						
H03N2	**Juan Fernandez**	**12.60**	**213**	T	T	12 58 54.8	
	baz=38,slow=72,SNR=486						
H03N3	**Juan Fernandez**	**12.60**	**213**	T	T	12 58 53.9	
	baz=38,slow=72,SNR=501						
H03S3	**Juan Fernandez**	**12.89**	**212**	T	T	12 59 07.6	
	baz=36						
H03S1	**Juan Fernandez**	**12.90**	**212**	T	T	12 59 10.9	
	baz=36,slow=74						
H03S2	**Juan Fernandez**	**12.91**	**212**	T	T	12 59 10.2	
	baz=36,slow=74						
SNAA	**Sanae**	**61.30**	**160**	P	**P**	**12 53 08.9**	**-0.5**
	comp=N,1.2nm,1.0s,baz=271,slow=9.3,SNR=2.3						
TORD	**Torodi Ar. Bea**	**79.43**	**71**	P	**P**	**12 55 00.0**	**-1.0**
	comp=N,0.6nm,0.4s,baz=252,slow=4.8,SNR=11						
H11S2	**WAKE ISLAND Hyl**	**26.45**	**276**	T	T	15 21 15.4	
	baz=106,slow=74,SNR=136						
H11S1	**WAKE ISLAND Hyl**	**26.45**	**276**	T	T	15 21 12.2	
	baz=106,slow=74,SNR=101						
H11S3	**WAKE ISLAND Hyl**	**26.46**	**276**	T	T	15 21 12.8	
	baz=106,slow=74,SNR=118						
H11N3	**WAKE ISLAND Hyl**	**26.58**	**278**	T	T	15 21 20.6	
	baz=106,slow=74,SNR=53						
H11N1	**WAKE ISLAND Hyl**	**26.59**	**278**	T	T	15 21 21.7	
	baz=106,slow=74,SNR=40						
H11N2	**WAKE ISLAND Hyl**	**26.59**	**278**	T	T	15 21 22.4	
	baz=106,slow=74,SNR=48						
MKAR	**Makanchi Array**	**147.89**	**36**	PKPbc	**PKPdf**	**13 02 38.4**	**+2.0**
	comp=N,0.3nm,0.6s,baz=336,slow=3.2,SNR=3.0						

*NEIC **05** 13:03:33.9±2.5,35°.28N×0°.04×69°.70E±0°.09,h96km±8km, mb4.1/4,Error ellipse: s-maj=10.5km s-min=6.2km az=86.0*
*IDC **05** 13:03:33.0±4.0,35°.29N×69°.68E,h80km±36km,mb3.6/8, mb1 3.6/12,mb1mx3.3/47,mbtmp3.9/12,Error ellipse: s-maj=31.3km s-min=20.3km az=163.0*
*NNC **05** 13:03:35.6±5.5,35°.86N×69°.63E,h0km,mb4.2,mpv4.2, Error ellipse: s-maj=54.3km s-min=45.1km az=104.0*

ISC 05 13:03:34.1±0.7,35°.45N±0°.07×69°.61E±0°.07,h90km,n47, σ1♦71/50,mb3.7/9,6C,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**1.02**	**208**	Pn	**Pn**	**13 03 53.4**	**-0.9**
KBL				Sn	**Sn**	**13 04 08.2**	**-1.2**
CHGR	**Chuyangaron**	**3.22**	**354**	Pn	**Pn**	**13 04 25.0**	**+2.3**
NIL	**Nilore**	**3.50**	**120**	Pn	**Pn**	**13 04 24.6**	**-1.7**
GAR	**Garm**	**3.59**	**9**	Pn	**Pn**	**13 04 30.2**	**+2.5**
BTK	**Batken**	**4.70**	**11**		**Pn**	**13 04 45.8**	**+3.1**
THN	**Thein Dam**	**5.90**	**119**	*e*P	**Pn**	13 04 51.5	-7.4
THN				*e*S	Sn	13 05 42.0	-23
ARSB	**Arslanbob**	**6.43**	**23**	Pn	**Pn**	**13 05 07.4**	**+1.0**
AML	**Almayashu**	**7.39**	**24**	P	**Pn**	**13 05 20.4**	**+0.7**
	SNR=46						
KK31	**Karatay Array**	**7.68**	**5**	P	**Pn**	**13 05 24.5**	**+1.3**
	6.2nm,0.5s,baz=201,slow=14,SNR=42						
KK31				⇑S	**Sn**	**13 06 47.7**	**-0.8**
	14nm,0.8s						
KK31	**Karatay Array**	**7.68**	**5**	Pn	**Pn**	**13 05 24.4**	**+1.3**
KKAR	**Karatay Array**	**7.68**	**5**	Pn	**Pn**	**13 05 24.4**	**+1.3**
UCH	**Uchtor**	**7.77**	**28**	P	**Pn**	**13 05 25.6**	**+0.8**
	SNR=16						
EKS2	**Erkin-Say**	**7.90**	**23**	P	**Pn**	**13 05 27.2**	**+1.0**
	SNR=7.0						
KZA	**Kyzart**	**7.95**	**32**	P	**Pn**	**13 05 27.4**	**+0.2**
	SNR=6.3						
AAK	**Ala-Archa**	**8.12**	**26**	P	**Pn**	**13 05 30.1**	**+0.8**
	3.6nm,0.3s,baz=183,slow=6.9,SNR=12						
AAK				S	**Sn**	**13 06 59.5**	**0.0**
	0.3nm,0.3s,baz=298,slow=18,SNR=1.3						
AAK	**Ala-Archa**	**8.12**	**26**	P	**Pn**	**13 05 30.1**	**+0.8**
	SNR=9.5						
AAK	**Ala-Archa**	**8.12**	**26**	⇑P	**Pn**	**13 05 29.9**	**+0.6**
	8.6nm,0.6s						
AAK				⇑S	**Sn**	**13 06 58.8**	**-0.7**
	7.7nm,0.8s						
AAK	**Ala-Archa**	**8.12**	**26**	Pn	**Pn**	**13 05 29.9**	**+0.6**
FRU1	**Bishkek**	**8.32**	**26**	Pn	**Pn**	**13 05 33.6**	**+1.7**
CHMS	**Chumysh**	**8.53**	**26**	P	**Pn**	**13 05 35.4**	**+0.6**
	SNR=5.4						
USP	**Ospenovka**	**8.67**	**24**	P	**Pn**	**13 05 37.8**	**+1.1**
	SNR=9.9						
TKM2	**Tokmak 2**	**8.79**	**30**	P	**Pn**	**13 05 38.6**	**+0.2**
	SNR=12						
TKM2	**Tokmak 2**	**8.79**	**30**	⇑P	**Pn**	**13 05 38.5**	**+0.1**
	5.6nm,0.6s						
KDJ	**Kajisay**	**8.91**	**39**	Pn	**Pn**	**13 05 40.0**	**-0.1**
TARG	**Taragay, Kyrgy**	**8.97**	**43**	Pn	**Pn**	**13 05 40.7**	**-0.4**
GEYT	**Alibeck**	**9.56**	**288**	P	**Pn**	**13 05 49.3**	**+0.4**
	0.6nm,0.3s,baz=119,slow=12,SNR=7.1						
GYA0B	**ALIBECK ARRAY**	**9.56**	**288**	Pn	**Pn**	**13 05 48.9**	**+0.1**
MK31	**Makanchi Array**	**14.80**	**36**	⇑P	**P**	**13 07 01.7**	**-0.5**
	0.9nm,0.7s,baz=200,slow=11,SNR=6.7						
MK31	**Makanchi Array**	**14.80**	**36**	P	**P**	**13 07 01.8**	**-0.5**
MKAR	**Makanchi Array**	**14.80**	**36**	P	**Pn**	**13 06 59.0**	**+0.4**
	0.1nm,0.3s,baz=202,slow=11,SNR=6.3						
AB31	**Akbulak array**	**15.52**	**336**	P	**Pn**	**13 07 08.7**	**+1.0**
	2.5nm,0.4s,baz=158,slow=12,SNR=48						
KURBB	**Kurchatov Arra**	**16.49**	**20**	P	**Pn**	**13 07 17.6**	**-2.1**
	0.0nm,0.3s,baz=212,slow=12,SNR=4.8						
KURK	**Kurchatov**	**16.60**	**20**		**Pn**	**13 07 22.1**	**+1.1**
AKTO	**Aktyubinsk**	**17.18**	**334**	P	**P**	**13 07 32.4**	**+3.9**
	0.3nm,0.3s,baz=144,slow=14,SNR=8.5						
AKTO				S	**Sn**	**13 10 31.0**	**-8.0**
	0.2nm,0.3s,baz=53,slow=20,SNR=1.5						
BVAR	**Borovoye Array**	**17.58**	**2**	P	**P**	**13 07 33.6**	**+0.7**
	0.6nm,0.3s,baz=176,slow=9.2,SNR=6.8						
BRVK	**Borovoye**	**17.61**	**1**	⇑P	**P**	**13 07 32.1**	**-1.2**
	2.6nm,0.6s						
BRVK	**Borovoye**	**17.61**	**1**	P	**P**	**13 07 32.1**	**-1.2**
BRVK				IAmb	IAmb	13 07 36.6	
	comp=Z,2.2nm,0.8s						
ZAA0	**Zalesovo Array**	**21.34**	**25**	P	**P**	**13 08 13.5**	**-0.2**
ZAA0				IAmb	IAmb	13 08 18.7	
	comp=Z,4.7nm,0.5s						
ZALV	**Zalesovo Beam**	**21.34**	**25**	P	**P**	**13 08 13.9**	**+0.3**
	comp=Z,5.6nm,0.4s,baz=220,slow=9.8,SNR=17						
SONM	**Songino Array**	**29.86**	**54**	P	**P**	**13 09 34.2**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=258,slow=6.9,SNR=3.8						
ARCES	**ARCESS Array B**	**41.70**	**338**	P	**P**	**13 11 14.9**	**+1.4**
	comp=Z,1.7nm,0.9s,baz=112,slow=8.8,SNR=2.1						
YAK	**Yakutsk**	**45.47**	**35**	P	**P**	**13 11 44.3**	**+0.5**
	comp=Z,2.3nm,0.3s,baz=268,slow=3.6,SNR=4.0						
YAK	**Yakutsk**	**45.47**	**35**	IAmb	IAmb	13 11 45.5	
	comp=Z,9.1nm,0.7s						
KSRS	**Korea Array**	**46.29**	**70**	P	**P**	**13 11 50.7**	**0.0**
	comp=Z,0.5nm,0.5s,baz=268,slow=7.1,SNR=5.1						
TORD	**Torodi Ar. Bea**	**64.56**	**268**	P	**P**	**13 14 02.6**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=47,slow=6.6,SNR=4.6						
WRA	**Warramunga Arr**	**82.40**	**121**	P	**P**	**13 15 45.5**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=322,slow=4.8,SNR=6.4						
ASAR	**Alice Springs**	**84.59**	**124**	P	**P**	**13 15 57.0**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=318,slow=5.5,SNR=6.4						

*BJI **05** 13:06:18.4±0.0,51°.51N×179°.33W,h43km,mB5.1/35, mb4.9/46,Ms4.7/12,Ms7 4.4/4*
*AEIC **05** 13:06:18±1.9,51°.08N±0°.10×179°.15W±0°.08,h26km±2km, Error ellipse: s-maj=14.6km s-min=6.4km az=166.0*
*NEIC **05** 13:06:19.6±1.2,51°.3N±0°.1×179°.17W±0°.07,h42km±4km, mb4.9/345,ML4.4(AEIC),Error ellipse: s-maj=15.6km s-min=6.4km az=171.0*
*MOS **05** 13:06:19.0±1.0,51°.35N×179°.09W,h47km,mb4.9/72, Error ellipse: s-maj=6.8km s-min=5.6km az=93.3*
*IDC **05** 13:06:20.9±2.4,51°.38N×179°.13W,h49km±21km,mb4.2/28, mb1 4.4/30,mb1mx4.3/37,mbtmp4.4/30,ML4.7/2,MS3.6/20, Ms1 3.6/20,ms1mx3.5/43,Error ellipse: s-maj=16.7km s-min=9.8km az=163.0*

ISC 05 13:06:19.3±0.4,51°.20N±0°.08×179°.12W±0°.04,h39km±3km, n821,σ0♦91/822,mb4.9/239,MS3.7/27,22C-10D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**1.01**	**281**		**Pn**	**13 06 35.7**	**-1.2**
KIWB	**Kanaga Island**	**1.39**	**61**	Pn	**Pn**	**13 06 40.9**	**-1.3**
ADK	**Adak**	**1.67**	**65**	P	**Pn**	**13 06 46.3**	**+0.3**
ADK	**Adak**	**1.67**	**65**	Pn	**Pn**	**13 06 46.3**	**+0.3**
GSTR	**Great Sitkin T**	**2.10**	**64**	Pn	**Pn**	**13 06 53.1**	**+1.1**
ATKA	**Atka Island**	**3.22**	**70**		**Pn**	**13 07 08.4**	**+1.1**
SMY	**Shemya**	**4.46**	**293**	P	**Pn**	**13 07 25.1**	**+0.7**
SMY	**Shemya**	**4.46**	**293**	Pn	**Pn**	**13 07 25.1**	**+0.7**
NIKH	**Nikolski High**	**6.57**	**70**	Pn	**Pn**	**13 07 53.5**	**+0.3**
SPIA	**Saint Paul Isl**	**7.93**	**38**	Pn	**Pn**	**13 08 13.9**	**+2.0**
UNV	**Unalaska Valle**	**8.14**	**66**	Pn	**Pn**	**13 08 17.1**	**+2.3**
AKUT	**Akutan**	**8.63**	**65**		**Pn**	**13 08 20.9**	**-0.5**
FALS	**False Pass**	**10.14**	**63**	Pn	**Pn**	**13 08 44.2**	**+2.1**
SDPT	**Sand Point**	**11.90**	**62**	Pn	**Pn**	**13 09 06.5**	**+0.3**
CNBA	**Chernabura Isl**	**12.30**	**65**	Pn	**Pn**	**13 09 10.7**	**-0.9**
GAMB	**Gambell**	**13.21**	**15**	Pn	**Pn**	**13 09 26.8**	**+2.8**
PET	**Petropavlovsk**	**13.77**	**286**	*e*P	**P**	**13 09 40.7**	**+1.2**
PET				*e*S	Sn	13 12 12.2	+9.0
PET				pmax	pmax		
	comp=Z,18nm,1.2s						
PET				MLR	MLR		
	comp=Z,200nm,16.0s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s						
PEA0B	**Petropavlovsk-**	**14.35**	**287**	*ce*P	**P**	**13 09 42.8**	**-3.2**
PEA0B	**Petropavlovsk-**	**14.35**	**287**	Pn	**Pn**	**13 09 40.8**	**+1.2**
PETK	**Petropavlovsk-**	**14.35**	**287**	P	**Pn**	**13 09 41.9**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=96,slow=15,SNR=8.8						
PETK				S	**Sn**	**13 12 13.0**	**-4.2**
	baz=109,slow=20,SNR=1.0						
PETK				LR	LR	13 14 48.2	
	comp=Z,350nm,21.9s,baz=64,slow=36						
CHIR	**Chirikof Islan**	**14.69**	**63**	Pn	**Pn**	**13 09 42.5**	**-1.7**
ANM	**Nome**	**15.21**	**23**	P	**P**	**13 09 53.7**	**-1.7**
ANM				pmax	pmax		
	comp=Z,18nm,0.9s						
ANM	**Nome**	**15.21**	**23**		**P**	**13 09 53.7**	**-1.7**
SII	**Sitkinak Islan**	**15.60**	**60**	Pn	**Pn**	**13 09 56.1**	**-0.1**
SII				IAmb	IAmb	13 09 57.7	
	comp=Z,285nm,1.9s						
OHAK	**Old Harbor**	**16.20**	**58**	Pn	**Pn**	**13 10 02.2**	**-1.7**
SVW2	**Sparrevohn**	**16.34**	**44**		**P**	**13 10 07.6**	**-0.4**
KDAK	**Kodiak Island**	**16.69**	**56**	P	**Pn**	**13 10 07.9**	**-2.0**
	comp=Z,2.3nm,0.3s,baz=203,slow=2.7,SNR=38						
KDAK	**Kodiak Island**	**16.69**	**56**	P	**Pn**	**13 10 08.5**	**-1.4**
KDAK				pmax	pmax		
	comp=Z,200nm,1.9s						
KDAK	**Kodiak Island**	**16.69**	**56**	Pn	**Pn**	**13 10 08.4**	**-1.4**
KDAK				IAmb	IAmb	13 10 24.8	
	comp=Z,200nm,1.9s						
TTA	**Tatalina**	**17.07**	**38**	P	**P**	**13 10 16.3**	**+0.1**
TTA	**Tatalina**	**17.07**	**38**	P	**P**	**13 10 16.3**	**+0.1**
RSO	**Redoubt South**	**17.35**	**48**	P	**P**	**13 10 19.7**	**+0.2**
CNPM	**China Poot**	**17.79**	**51**		**P**	**13 10 24.1**	**0.0**
CNPM				IAmb	IAmb	13 11 01.2	
	comp=Z,156nm,1.9s						
BRLK	**Bradley Lake**	**18.02**	**51**		**P**	**13 10 26.6**	**-0.1**
BILL	**Bilibino**	**18.34**	**342**	*i* P	**Pn**	**13 10 30.8**	**+0.5**
BILL				pmax	pmax		
	comp=Z,32nm,1.2s						
BILL	**Bilibino**	**18.34**	**342**	P	**Pn**	**13 10 29.5**	**-0.8**
SKT	**Skwentna**	**18.47**	**44**	P	**Pn**	**13 10 33.0**	**+1.1**
SKT				IAmb	IAmb	13 10 37.9	
	comp=Z,106nm,1.2s						
PPLA	**Purkeypile**	**18.58**	**41**		**Pn**	**13 10 34.0**	**+0.7**
SUA	**Susitna One**	**18.62**	**46**	P	**Pn**	**13 10 34.2**	**+0.3**
RDOG	**Red Dog Mine**	**18.67**	**19**		**Pn**	**13 10 34.8**	**+0.5**
SEW	**Seward**	**18.81**	**50**	P	**P**	**13 10 34.8**	**-0.4**
SEW				IAmb	IAmb	13 11 27.9	
	comp=Z,176nm,1.8s						
MA2	**Magadan**	**18.90**	**308**	P	**P**	**13 10 35.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=100,slow=12,SNR=1.9						
CUT	**Chulitna**	**19.18**	**43**	P	**P**	**13 10 39.0**	**-0.3**
	baz=248						
PMR	**Palmer**	**19.40**	**46**	P	**Pn**	**13 10 42.4**	**-0.6**
PMR				pmax	pmax		
	comp=Z,55nm,1.8s						
PMR	**Palmer**	**19.40**	**46**		**Pn**	**13 10 42.4**	**-0.6**
GHO	**Glory Hole Cre**	**19.55**	**46**	P	**P**	**13 10 42.2**	**-1.2**
TRF	**Thorofare Moun**	**19.60**	**40**	Pn	**Pn**	**13 10 44.7**	**-0.8**
BPAW	**Bear Paw Mtn.**	**19.61**	**38**	P	**P**	**13 10 43.7**	**-0.3**
BPAW				IAmb	IAmb	13 10 50.0	
	comp=Z,38nm,0.8s						
KNK	**Knik Glacier**	**19.65**	**47**	P	**Pn**	**13 10 45.0**	**-1.1**
SML	**Sawmill**	**19.83**	**46**	Pn	**Pn**	**13 10 47.8**	**-0.4**
SML				IAmb	IAmb	13 11 28.1	
	comp=Z,80nm,1.6s						
GLI	**Glacier Island**	**20.14**	**49**	Pn	Pn	13 10 50.9	-0.9
RND	**Reindeer**	**20.17**	**41**	P	**P**	**13 10 49.6**	**-0.5**
RND				pmax	pmax		
	comp=Z,22nm,0.6s						
RND	**Reindeer**	**20.17**	**41**	P	**P**	**13 10 49.6**	**-0.5**
MCK	**McKinley**	**20.27**	**40**	P	**P**	**13 10 50.0**	**-1.1**
MCK				pmax	pmax		
	comp=Z,15nm,0.7s						
MCK	**McKinley**	**20.27**	**40**	P	**P**	**13 10 50.0**	**-1.1**
SCM	**Sheep Creek Mo**	**20.29**	**46**	P	**P**	**13 10 50.5**	**-1.0**
SCM				pmax	pmax		
	comp=Z,130nm,1.8s						
SCM	**Sheep Creek Mo**	**20.29**	**46**	P	**P**	**13 10 50.5**	**-1.0**
SCM				IAmb	IAmb	13 11 21.9	
	comp=Z,130nm,1.8s						
HIN	**Hinchinbrook I**	**20.31**	**50**	Pn	Pn	13 10 54.0	+0.2
FID	**Port Fidalgo**	**20.40**	**49**	P	**P**	**13 10 51.6**	**-1.0**
FID				IAmb	IAmb	13 10 54.1	
	comp=Z,89nm,1.6s						
NEA2	**Nenana**	**20.58**	**38**	P	**P**	**13 10 54.2**	**-0.3**
	baz=244,SNR=21						
DHY	**Denali Highway**	**20.67**	**43**	P	**P**	**13 10 55.2**	**-0.4**
DHY				IAmb	IAmb	13 11 05.9	
	comp=Z,76nm,1.4s						
KLU	**Klutina**	**20.84**	**48**	P	**P**	**13 10 57.3**	**-0.1**
WRH	**Wood River Hil**	**20.91**	**39**	P	**P**	**13 10 57.0**	**-1.1**
MDM	**Murphy Dome**	**21.07**	**37**	P	**P**	**13 10 59.1**	**-0.6**
CCB	**Clear Creek Bu**	**21.09**	**38**	P	**P**	**13 10 59.3**	**-0.8**
TCOL	**CIGO, UAF Yank**	**21.17**	**38**	P	**P**	**13 11 01.2**	**+0.4**
	baz=245						
COLA	**College**	**21.17**	**38**	*d i*P	**P**	**13 11 01.8**	**+1.0**
COLA				pmax	pmax		
	comp=Z,22nm,0.9s						
COLA	**College**	**21.17**	**38**	P	**P**	**13 11 01.1**	**+0.2**
HDA	**Harding Lake**	**21.34**	**39**	P	**P**	**13 11 01.8**	**-0.8**
	baz=247,SNR=16						
HDA	**Harding Lake**	**21.34**	**39**	P	**P**	**13 11 02.3**	**-0.4**
HDA				IAmb	IAmb	13 11 05.0	
	comp=

comp=Z,47nm,21.2s,baz=221,slow=31
BBB Bella Bella 31.10 68 P P 13 12 34.4 +0.8
BBB IAmb IAmb 13 13 18.4
comp=Z,54nm,1.9s
C36M Paulatuk 31.28 34 P P 13 12 34.9 -0.1
baz=263
C36M Paulatuk 31.28 34 P P 13 12 35.4 +0.4
C36M IAmb IAmb 13 13 30.3
comp=Z,28nm,1.6s
A36M Sachs Harbour 31.34 29 P P 13 12 35.1 -0.4
baz=258
ZEA Zeya 32.12 296 *eP* **P 13 12 41.6 -1.0**
ZEA pmax pmax
comp=Z,15nm,1.0s
USA0B Ussuriysk Arra 33.12 277 *i* P **P 13 12 52.2 +0.8**
USRK Ussuriysk Ar. 33.12 277 P **P 13 12 51.3 -0.1**
comp=Z,2.3nm,0.6s,baz=47,slow=7.3,SNR=6.5
USRK LR LR 13 27 48.2
comp=Z,63nm,18.1s,baz=33,slow=39
H11N2 WAKE ISLAND Hy 33.29 205 T T 13 48 05.1
baz=17,slow=75,SNR=386
H11N3 WAKE ISLAND Hy 33.30 204 T T 13 48 04.4
baz=17,slow=75,SNR=650
H11N1 WAKE ISLAND Hy 33.30 205 T T 13 48 06.4
baz=17,slow=75,SNR=686
MJAR Matsushiro Arr 33.56 261 P **P 13 12 56.1 +0.8**
comp=Z,1.5nm,0.6s,baz=50,slow=8.9,SNR=5.6
MJAR LR LR 13 24 40.8
comp=Z,76nm,21.1s,baz=80,slow=33
MAT Matsushiro 33.56 261 P **P 13 12 56.3 +1.0**
H11S1 WAKE ISLAND Hy 34.51 204 T T 13 49 42.5
baz=15,slow=76,SNR=373
H11S2 WAKE ISLAND Hy 34.52 204 T T 13 49 52.5
baz=15,slow=76,SNR=139
H11S3 WAKE ISLAND Hy 34.52 204 T T 13 49 41.5
baz=15,slow=76,SNR=186
YKA Yellowknife Ar 35.50 46 P **P 13 13 11.5 -0.3**
comp=Z,7.0nm,0.8s,baz=285,slow=8.5,SNR=17
YKA LR LR 13 27 14.1
comp=Z,128nm,21.9s,baz=0.0,slow=35
NLWA Neilton Lookou 35.51 74 P **P 13 13 12.8 +0.7**
NLWA IAmb IAmb 13 13 38.7
comp=Z,20nm,1.3s
D03D Eldon 35.92 73 P **P 13 13 16.9 +1.4**
baz=297,SNR=9.4
B05A Bryant 36.18 72 P **P 13 13 18.7 +0.9**
baz=297,SNR=5.9
D04E Lakebay 36.27 74 P **P 13 13 19.5 +1.0**
baz=298
E04D Cinebar 36.69 75 P **P 13 13 23.8 +1.6**
baz=299,SNR=11
G03D McMinnville, O 36.92 77 P **P 13 13 25.0 +0.9**
baz=300
F04A Amboy 37.08 75 P **P 13 13 27.0 +1.5**
LTY Liberty 37.50 72 P **P 13 13 29.5 +0.3**
H04D Lebanon 37.59 78 P **P 13 13 31.1 +1.3**
baz=301
B08A Colville Reser 37.78 70 P **P 13 13 32.2 +0.7**
B08A IAmb IAmb 13 13 33.6
comp=Z,18nm,0.9s
H04A Detroit Lake 37.85 77 P **P 13 13 33.2 +1.1**
H04A IAmb IAmb 13 13 34.8
comp=Z,16nm,0.8s
BOD Bodaibo 37.92 307 *eP* **P 13 13 31.3 -1.2**
BOD pmax pmax
comp=Z,6.0nm,1.1s
G05D Wamic, OR 38.10 76 P **P 13 13 35.6 +1.4**
baz=301
HIA Hailar 38.16 292 P **P 13 13 33.8 -0.9**
HIA pmax pmax
comp=Z,9.0nm,0.5s
HIA Hailar 38.16 292 P **P 13 13 33.8 -0.9**
HIA IAmb IAmb 13 13 34.6
comp=Z,9.1nm,0.5s
I04A Tendick Farm, 38.17 78 P **P 13 13 35.7 +0.9**
baz=302,SNR=8.2
L02E Cave Junction 38.31 81 P **P 13 13 36.9 +0.9**
baz=303
I05D Terrebonne, OR 38.55 77 P **P 13 13 38.5 +0.5**
baz=302,SNR=5.4
HAWA Hanford 38.60 73 P **P 13 13 38.8 +0.5**
HAWA IAmb IAmb 13 13 41.6
comp=Z,20nm,1.1s
F07A Phinny Hill Vi 38.61 74 P **P 13 13 39.5 +1.1**
F07A IAmb IAmb 13 13 41.6
comp=Z,17nm,0.6s
D08A Wollman Farm, 38.65 72 P **P 13 13 39.1 +0.4**
J04D Umpqua Nationa 38.65 79 P **P 13 13 40.1 +1.0**
baz=302
C09A Chrisman Ranch 38.67 70 P **P 13 13 38.6 -0.3**
C09A IAmb IAmb 13 13 40.8
comp=Z,16nm,1.0s
PINE Pine Mountain 39.08 77 P **P 13 13 43.5 +1.0**
NEW Newport 39.13 69 P **P 13 13 42.8 0.0**
baz=298,SNR=18
NEW Newport 39.13 69 P **P 13 13 43.3 +0.5**
NEW pmax pmax
comp=Z,15nm,0.8s
NEW Newport 39.13 69 P **P 13 13 43.3 +0.5**
NEW IAmb IAmb 13 13 44.4
comp=Z,14nm,0.8s
J05D Fort Rock, OR 39.17 78 P **P 13 13 44.7 +1.4**
baz=303,SNR=9.2
E09A Wood Farm, Sta 39.38 72 P **P 13 13 45.7 +0.9**
E09A IAmb IAmb 13 13 48.2
comp=Z,14nm,0.9s
KSRS Korea Array 39.44 271 P **P 13 13 46.7 +1.3**
comp=Z,5.1nm,0.9s,baz=59,slow=8.1,SNR=22
KSRS pP **sP 13 13 59.6 0.0**
comp=Z,2.3nm,0.7s,baz=56,slow=8.1,SNR=6.4
KSRS PcP **PcP 13 15 53.1 +0.4**
comp=Z,1.8nm,0.9s,baz=61,slow=2.9,SNR=8.0
KSRS LR LR 13 33 21.8
comp=Z,36nm,18.1s,baz=86,slow=41
G08A Pilot Rock 39.51 74 P **P 13 13 46.6 +0.6**
N02D Trinity Center 39.53 82 P **P 13 13 46.5 +0.2**
baz=305
K05A Summer Lake 39.68 79 P **P 13 13 49.1 +1.5**
I07A Izee 39.81 76 P **P 13 13 49.9 +1.3**
RES Resolute Bay 39.99 24 LR LR 13 32 30.3
comp=Z,96nm,20.2s,baz=296,slow=39
RES Resolute Bay 39.99 24 P **P 13 13 50.2 +0.7**
RES pmax pmax
comp=Z,17nm,1.3s
RES Resolute Bay 39.99 24 P **P 13 13 50.2 +0.7**
F10A Beach Ranch, E 40.20 72 P **P 13 13 52.7 +1.0**
F10A IAmb IAmb 13 15 19.8
comp=Z,15nm,0.6s
JNU Nakatsue 40.35 263 P **P 13 13 53.6 +0.5**
JNU IAmb IAmb 13 13 55.9
comp=Z,21nm,1.0s
TJN Taejon 40.46 270 *ceP* **P 13 13 55.5 +1.7**
O03E Paynes Creek 40.48 83 P **P 13 13 54.3 +0.1**
baz=306
MOD Modoc Plateau 40.50 80 P **P 13 13 54.7 +0.3**
MOD IAmb IAmb 13 13 59.3
comp=Z,22nm,1.4s
WALA Waterton Lakes 40.62 67 P **P 13 13 55.4 +0.1**
BMO Blue Mountains 40.73 74 P **P 13 13 56.9 +0.7**
BMO pmax pmax
comp=Z,5.0nm,0.9s
BMO Blue Mountains 40.73 74 P **P 13 13 56.9 +0.7**
J08A Circle Bar Ran 40.82 77 P **P 13 13 57.3 +0.4**
JTMT Jette 41.05 68 P **P 13 13 58.7 -0.1**
WVOR Wild Horse Val 41.23 78 P **P 13 14 01.2 +0.8**
WVOR pmax pmax
comp=Z,7.0nm,0.8s
WVOR Wild Horse Val 41.23 78 P **P 13 14 01.2 +0.8**
MSO Missoula 41.72 69 P **P 13 14 04.3 +0.1**
baz=301,SNR=11
MSO Missoula 41.72 69 P **P 13 14 04.4 +0.1**
MSO IAmb IAmb 13 14 05.7
comp=Z,17nm,1.1s
MFID Camas Ranch 42.41 75 P **P 13 14 10.2 +0.3**
PNTR Pine Nut 42.57 83 P **P 13 14 11.9 +0.5**
PNTR IAmb IAmb 13 14 33.5
comp=Z,12nm,0.7s
HRY Holter Researc 43.02 69 P **P 13 14 14.9 +0.1**
LRM Limekiln Ridge 43.12 70 P **P 13 14 15.2 -0.7**
HLID Hailey 43.18 74 P **P 13 14 16.8 +0.5**
baz=304,SNR=26
HLID Hailey 43.18 74 P **P 13 14 16.3 0.0**
DLMT Dillon 43.28 71 P **P 13 14 16.6 -0.5**
BCYI Bear Canyon 43.37 72 P **P 13 14 17.9 0.0**
MCMT McKenzie Canyo 43.42 71 P **P 13 14 18.4 +0.1**
KVN Kaiserville 43.52 82 P **P 13 14 19.1 0.0**
KVN pmax pmax
comp=Z,3.0nm,0.9s
KVN Kaiserville 43.52 82 P **P 13 14 19.1 0.0**
EGMT Eagleton 43.53 66 P **P 13 14 18.5 -0.4**
baz=301,SNR=12
EGMT Eagleton 43.53 66 P **P 13 14 18.7 -0.3**
EGMT IAmb IAmb 13 14 21.2
comp=Z,19nm,0.9s
BOZ Bozeman (W) 43.73 70 P **P 13 14 20.6 0.0**
baz=303,SNR=44
BOZ Bozeman (W) 43.73 70 P **P 13 14 20.8 +0.1**
BOZ pmax pmax
comp=Z,22nm,0.9s
BOZ Bozeman (W) 43.73 70 P **P 13 14 20.8 +0.1**
BOZ IAmb IAmb 13 14 22.2
comp=Z,22nm,0.8s
NVAR Mina Array Bea 43.77 82 P **P 13 14 22.7 +1.5**
comp=Z,3.2nm,0.8s,baz=298,slow=6.3,SNR=27
MDPB Devils Postpil 43.77 84 P **P 13 14 21.9 +0.7**
OMMB Old Mammoth Mi 43.84 84 P **P 13 14 22.4 +0.6**
NV11 Mina Array Sit 43.86 82 P **P 13 14 22.4 +0.6**
ELK Elko 44.29 78 P **P 13 14 25.0 -0.3**
ELK pmax pmax
comp=Z,8.0nm,0.7s
ELK Elko 44.29 78 P **P 13 14 25.0 -0.3**
YHL Hebgen Lake 44.40 70 P **P 13 14 26.4 +0.2**
YHB Horse Butte 44.45 71 P **P 13 14 26.1 -0.4**
NRIK Noril'sk 44.46 330 P **P 13 14 27.1 +1.1**
YHH Holmes Hill 44.63 70 P **P 13 14 28.1 0.0**
GCMT Greycliff 44.78 68 P **P 13 14 29.3 +0.3**
YPP Pitchstone Pla 44.95 71 P **P 13 14 31.5 +1.0**
YNE Yellowstone No 45.01 70 P **P 13 14 31.1 +0.1**
H17A Grant Village 45.02 71 P **P 13 14 32.3 +1.3**
baz=304,SNR=19
H17A Grant Village 45.02 71 P **P 13 14 32.7 +1.7**
LKWY Lake 45.02 70 P **P 13 14 32.8 +1.7**
LKWY pmax pmax
comp=Z,18nm,1.1s
LKWY Lake 45.02 70 P **P 13 14 32.8 +1.7**
LKWY IAmb IAmb 13 14 34.1
comp=Z,18nm,1.1s
YMP Mirror Lake Pl 45.07 70 P **P 13 14 31.6 +0.1**
IMW Indian Meadow 45.08 71 P **P 13 14 32.1 +0.5**
FLWY Flagg Ranch 45.12 71 P **P 13 14 32.6 +0.8**
FLWY IAmb IAmb 13 14 34.9
comp=Z,15nm,0.7s
FXWY Fox Creek 45.17 72 P **P 13 14 32.6 +0.3**
HVU Hansel Valley 45.19 75 P **P 13 14 32.2 -0.2**
HVU pmax pmax
comp=Z,16nm,0.8s
HVU Hansel Valley 45.19 75 P **P 13 14 32.1 -0.2**
BJI Beijing 45.22 282 P **P 13 14 32.8 +0.5**
BJI pmax pmax
comp=Z,6.0nm,0.7s
BJI LR LR
comp=Z,220nm,5.9s
BJI LR LR
comp=Z,130nm,8.7s
TPAW Teton Pass 45.30 72 P **P 13 14 33.2 -0.1**
RLMT Red Lodge 45.38 69 P **P 13 14 34.6 +0.7**
baz=304,SNR=44
RLMT Red Lodge 45.38 69 P **P 13 14 34.1 +0.2**
ISA Isabella, Lake 45.39 86 P **P 13 14 34.6 +0.7**
baz=310
R11A Troy Canyon, C 45.51 81 P **P 13 14 35.7 +0.7**
baz=308,SNR=16
R11A Troy Canyon, C 45.51 81 P **P 13 14 35.5 +0.5**
BGU Big Grassy Mou 45.54 76 P **P 13 14 35.4 +0.3**
SPUT South Promonto 45.66 75 P **P 13 14 36.6 +0.5**
MPMC Manual Prospec 45.75 84 P **P 13 14 38.1 +1.2**
baz=310
FURC Furnace Creek, 45.89 84 P **P 13 14 39.0 +1.4**
baz=309
TPNV Topopah Spring 45.97 83 P **P 13 14 39.5 +1.0**
baz=309,SNR=11
TPNV Topopah Spring 45.97 83 P **P 13 14 39.2 +0.6**
TPNV pmax pmax
comp=Z,10.0nm,0.8s
TPNV Topopah Spring 45.97 83 P **P 13 14 39.2 +0.6**
TPNV IAmb IAmb 13 14 43.9
comp=Z,9.5nm,0.8s
TLY Talaya 45.99 302 *eP* **P 13 14 38.9 +0.5**
TLY pmax pmax
comp=Z,8.0nm,0.6s
TLY MLR MLR
comp=Z,327nm,17.0s
TLY Talaya 45.99 302 P **P 13 14 38.6 +0.2**
HWUT Hardware Ranch 46.02 74 P **P 13 14 39.2 +0.3**
HWUT IAmb IAmb 13 14 41.9
comp=Z,8.2nm,0.8s
DUG Dugway, Tooele 46.10 77 P **P 13 14 40.3 +0.8**
baz=307,SNR=21
DUG Dugway, Tooele 46.10 77 P **P 13 14 40.4 +0.8**
DUG pmax pmax
comp=Z,34nm,1.4s
DUG Dugway, Tooele 46.10 77 P **P 13 14 40.4 +0.8**
DUG IAmb IAmb 13 14 43.6
comp=Z,34nm,1.4s
ULN Ulaanbaatar 46.16 296 *ceP* **P 13 14 40.6 +0.7**
ULN pmax pmax
comp=Z,15nm,1.3s
ULN Ulaanbaatar 46.16 296 P **P 13 14 39.9 0.0**
ULN IAmb IAmb 13 14 41.4
comp=Z,16nm,1.2s
LAO LASA Array 46.28 66 P **P 13 14 41.4 +0.7**
baz=304
LAO LASA Array 46.28 66 P **P 13 14 41.2 +0.4**
TCUT Toone Canyon 46.41 75 P **P 13 14 42.4 +0.3**
DGMT Dagmar 46.44 62 P **P 13 14 42.2 +0.2**
baz=303
DGMT Dagmar 46.44 62 P **P 13 14 42.1 +0.1**
DGMT IAmb IAmb 13 14 43.3
comp=Z,14nm,1.1s
PSUT Pine Spring 46.47 79 P **P 13 14 43.2 +0.6**
SONM Songino Array 46.55 297 P **P 13 14 43.6 +0.7**
comp=Z,5.2nm,0.7s,baz=54,slow=9.7,SNR=25
SONM LR LR 13 35 30.0
comp=Z,194nm,18.1s,baz=58,slow=38
BW06 Boulder Array 46.55 72 P **P 13 14 43.6 +0.4**
baz=306,SNR=40
BW06 Boulder Array 46.55 72 P **P 13 14 43.5 +0.4**
BW06 IAmb IAmb 13 14 44.7
comp=Z,15nm,0.6s
PD31 Pinedale Array 46.55 72 P **P 13 14 43.5 +0.3**
PD31 IAmb IAmb 13 14 44.7
comp=Z,13nm,0.6s
PDAR Pinedale Array 46.55 72 P **P 13 14 43.8 +0.6**
comp=Z,15nm,0.5s,baz=304,slow=3.6,SNR=244
PDAR LR LR 13 33 32.8
comp=Z,37nm,18.4s,baz=279,slow=35
SHOC Shoshone, Teco 46.61 84 P **P 13 14 45.2 +1.8**
baz=310
GSC Goldstone, Bar 46.66 85 P **P 13 14 45.2 +1.2**
baz=310
GSC Goldstone, Bar 46.66 85 P **P 13 14 45.3 +1.4**
GSC pmax pmax
comp=Z,5.0nm,0.8s
GSC Goldstone, Bar 46.66 85 P **P 13 14 45.3 +1.4**
JLU Jordanelle 46.69 75 P **P 13 14 45.0 +0.6**
ZAK Zakamensk 46.87 301 *eP* **P 13 14 45.3 -0.1**
ZAK pmax pmax
comp=Z,9.0nm,1.3s
TCRU Three Creeks R 47.29 78 P **P 13 14 49.5 +0.5**
CCUT Cedar City 47.39 80 P **P 13 14 50.6 +0.8**
HHC Hu-ho-hao-te 47.55 286 *eP* **P 13 14 52.2 +1.4**
HHC pmax pmax
comp=Z,30nm,1.0s
HHC pmax pmax
comp=Z,220nm,4.9s
HHC LR LR
comp=Z,300nm,16.1s
HHC LR LR
comp=Z,170nm,14.2s
HHC LR LR
comp=Z,220nm,15.9s
TMUT Trail Mountain 47.63 77 P **P 13 14 52.5 +0.8**
LCMT Little Creek M 47.80 80 P **P 13 14 53.9 +1.1**
MTPU Mount Pierson 47.81 79 P **P 13 14 53.7 +0.5**
P17A Butcher Ranch, 47.81 76 P **P 13 14 53.5 +0.6**
RDMU Red Mountain 47.85 74 P **P 13 14 54.0 +0.7**
BELC Belle Mtn. Jos 48.01 86 P **P 13 14 55.3 +0.7**
baz=311
KNB Kanab 48.06 80 P **P 13 14 56.2 +1.3**
KNB pmax pmax
comp=Z,5.0nm,0.7s
KNB Kanab 48.06 80 P **P 13 14 56.2 +1.3**
SRU San Rafael Swe 48.16 76 P **P 13 14 56.6 +0.9**
SRU pmax pmax
comp=Z,18nm,0.7s
SRU San Rafael Swe 48.16 76 P **P 13 14 56.6 +0.9**
K22A Casper 48.43 70 P **P 13 14 56.9 -0.7**
baz=307,SNR=9.5
K22A Casper 48.43 70 P **P 13 14 57.4 -0.3**
K22A IAmb IAmb 13 14 59.3
comp=Z,8.5nm,0.7s
BC3 Big Chuckawall 48.58 85 P **P 13 14 58.2 -0.7**
baz=311
RWWY Rawlins 48.60 72 P **P 13 14 58.3 -0.7**
RWWY IAmb IAmb 13 15 00.0
comp=Z,8.9nm,0.8s
NJ2 Nanjing 48.62 272 *eP* **P 13 14 59.7 +0.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
U15A North Rim 48.76 80 P **P 13 15 00.7 +0.3**
U15A IAmb IAmb 13 15 05.4
comp=Z,10nm,1.1s
O20A White River Ci 48.92 74 P **P 13 15 01.3 -0.2**
baz=308,SNR=30
O20A White River Ci 48.92 74 P **P 13 15 01.7 +0.2**
RSSD Black Hills 49.01 67 P **P 13 15 01.6 -0.6**
baz=306
RSSD Black Hills 49.01 67 P **P 13 15 01.8 -0.4**
RSSD pmax pmax
comp=Z,8.0nm,0.9s
RSSD Black Hills 49.01 67 P **P 13 15 01.8 -0.4**
RSSD IAmb IAmb 13 15 02.9
comp=Z,8.1nm,0.8s
PV21 Cone Mtn., Par 49.45 76 P **P 13 15 05.6 0.0**
PV21 IAmb IAmb 13 15 09.4
comp=Z,13nm,0.7s
PV23 Carpenter Ridg 49.50 76 P **P 13 15 06.0 0.0**
PV23 IAmb IAmb 13 15 12.8
comp=Z,15nm,0.7s
PV10 Paradox Valley 49.53 76 P **P 13 15 06.9 +0.6**
PV14 Lion Creek, Pa 49.54 76 P **P 13 15 06.0 -0.4**
PV22 Blue Mesa, Par 49.58 76 P **P 13 15 06.5 -0.1**
PV22 IAmb IAmb 13 15 10.3
comp=Z,17nm,0.8s
PV20 West Nyswonger 49.59 76 P **P 13 15 07.1 +0.4**
PV20 IAmb IAmb 13 15 09.4
comp=Z,16nm,0.8s
PV04 Paradox Valley 49.60 76 P **P 13 15 07.2 +0.5**
PV19 Morning Glory 49.61 76 P **P 13 15 07.1 +0.4**
PV17 East Wray Mesa 49.64 76 P **P 13 15 07.2 +0.2**
PV16 Nyswonger Mesa 49.65 76 P **P 13 15 06.8 -0.2**
PV11 David Mesa, Pa 49.68 76 P **P 13 15 07.4 +0.1**
PV05 Paradox Valley 49.68 77 P **P 13 15 08.0 +0.7**
PV05 IAmb IAmb 13 15 11.6
comp=Z,15nm,0.7s
PV18 Skein Mesa, Pa 49.69 76 P **P 13 15 07.4 -0.1**
PV12 Saucer Basin, 49.71 76 P **P 13 15 07.6 0.0**
PV12 IAmb IAmb 13 15 10.6
comp=Z,21nm,0.9s
PV03 Paradox Valley 49.72 76 P **P 13 15 07.8 +0.1**
PV07 Paradox Valley 49.73 76 P **P 13 15 07.8 +0.1**
PV07 IAmb IAmb 13 15 12.8
comp=Z,10nm,0.6s
PV13 Radium Mtn., P 49.80 76 P **P 13 15 08.5 +0.2**
PV02 Paradox Valley 49.82 76 P **P 13 15 08.8 +0.4**
N23A Red Feather La 49.84 72 P **P 13 15 08.7 +0.1**
baz=308
N23A Red Feather La 49.84 72 P **P 13 15 08.4 -0.2**
N23A IAmb IAmb 13 15 24.7
comp=Z,9.9nm,1.1s
PHWY Pilot Hill 49.88 71 P **P 13 15 08.5 -0.4**
PHWY IAmb IAmb 13 15 10.1
comp=Z,5.2nm,0.5s
PV15 Paradox Valley 49.89 76 P **P 13 15 09.1 +0.1**
PV15 IAmb IAmb 13 15 11.7
comp=Z,12nm,0.8s
WUAZ Wupatki 49.91 81 P **P 13 15 09.9 +0.8**
baz=311
WUAZ Wupatki 49.91 81 P **P 13 15 09.3 +0.2**
ULM Lac du Bonnet 49.95 56 LR LR 13 37 10.3
comp=Z,58nm,18.2s,baz=281,slow=37
KBS Kingsbay 49.96 357 *ceP* **P 13 15 09.1 +0.4**
KBS pmax pmax
comp=Z,7.0nm,0.7s
KBS Kingsbay 49.96 357 P **P 13 15 08.7 0.0**
KBS IAmb IAmb 13 15 10.5
comp=Z,8.0nm,0.8s
PV01 Paradox Valley 49.97 76 P **P 13 15 09.4 -0.2**
PV01 IAmb IAmb 13 15 12.8
comp=Z,13nm,0.7s
SPA0 Spitsbergen Ar 50.54 356 P **P 13 15 12.1 -0.9**
SPA0 IAmb IAmb 13 15 16.8
comp=Z,15nm,0.9s
MVCO Mesa Verde 50.60 77 P **P 13 15 15.0 +0.6**
baz=310
MVCO Mesa Verde 50.60 77 P **P 13 15 14.2 -0.1**
MVCO IAmb IAmb 13 15 30.2
comp=Z,15nm,1.4s
ISCO Idaho Springs 50.71 73 P **P 13 15 16.1 +0.9**
baz=309,SNR=5.5
AGMN Agassiz Nation 51.10 58 P **P 13 15 17.9 +0.3**
baz=307
AGMN Agassiz Nation 51.10 58 P **P 13 15 17.2 -0.4**
AGMN IAmb IAmb 13 15 18.3
comp=Z,14nm,1.4s
S22A 4UR Ranch, Cre 51.28 75 P **P 13 15 20.0 +0.5**
baz=310,SNR=10
S22A 4UR Ranch, Cre 51.28 75 P **P 13 15 20.5 +1.0**
214A Organ Pipe Nat 51.37 85 P **P 13 15 20.7 +0.8**
baz=313
Q24A Divide 51.52 73 P **P 13 15 21.5 +0.2**
baz=310
SDCO Great Sand Dun 52.08 75 P **P 13 15 26.0 +0.5**
baz=310,SNR=13
SDCO Great Sand Dun 52.08 75 P **P 13 15 25.7 +0.2**
TUC Tucson 52.40 83 P **P 13 15 28.3 +0.7**
baz=313
TUC Tucson 52.40 83 P **P 13 15 28.1 +0.4**
TUC pmax pmax
comp=Z,17nm,2.0s
TUC Tucson 52.40 83 P **P 13 15 28.1 +0.4**
T25A Trinidad 53.14 74 P **P 13 15 33.8 +0.6**
baz=311,SNR=12
T25A Trinidad 53.14 74 P **P 13 15 34.0 +0.8**
T25A IAmb IAmb 13 15 37.0
comp=Z,15nm,0.9s
ANMO Albuquerque 53.33 78 P **P 13 15 34.9 +0.2**
baz=312
ANMO Albuquerque 53.33 78 *ceP* **P 13 15 36.5 +1.9**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
ANMO Albuquerque 53.33 78 P **P 13 15 34.5 -0.1**
ECSD EROS Data Cent 53.49 63 P **P 13 15 34.9 -0.6**
baz=309
ECSD EROS Data Cent 53.49 63 P **P 13 15 34.2 -1.2**
XAN Xi'an 53.50 281 P **P 13 15 35.5 -0.2**
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN pmax pmax
comp=Z,150nm,6.0s
SUMG Summit 53.52 14 P **P 13 15 34.9 -0.8**
SUMG pmax pmax
comp=Z,13nm,1.0s
SUMG Summit 53.52 14 P **P 13 15 34.9 -0.8**
SUMG IAmb IAmb 13 15 38.0
comp=Z,13nm,1.0s
LENM Lemitar 53.53 79 P **P 13 15 36.1 0.0**
EYMN Ely 53.63 57 P **P 13 15 35.4 -1.1**
baz=309
EYMN Ely 53.63 57 P **P 13 15 36.1 -0.4**
EYMN IAmb IAmb 13 15 36.6
comp=Z,10.0nm,1.2s
BNM Barren Site 53.75 79 P **P 13 15 38.8 +1.0**
319A Douglas 53.97 83 P **P 13 15 37.7 -1.6**
319A IAmb IAmb 13 17 26.2
comp=Z,17nm,1.2s
ZALV Zalesovo Beam 54.01 313 P **P 13 15 38.0 -1.0**
comp=Z,0.6nm,0.4s,baz=50,slow=6.9,SNR=2.6
ZALV PcP **PcP 13 16 44.4 +0.6**
comp=Z,5.9nm,0.7s,baz=41,slow=4.3,SNR=16
ZALV LR LR 13 41 20.7
comp=Z,41nm,18.2s,baz=52,slow=39
CBKS Cedar Bluff 54.84 70 P **P 13 15 45.6 +0.1**
baz=311
CBKS Cedar Bluff 54.84 70 P **P 13 15 45.6 +0.1**
CBKS pmax pmax

comp=Z,70nm,1.5s
CBKS Cedar Bluff 54.84 70 P **P** **13 15 45.6 +0.1**
I37A Lemond, Waseca 55.10 61 P **P** **13 15 46.8 -0.3**
I37A IAmb IAmb 13 15 48.4
comp=Z,11nm,0.7s
LZH Lanzhou 55.24 286 *eP* **P** **13 15 47.6 -0.9**
LZH pP pP 13 15 55.4 -3.7
LZH pmax pmax
comp=Z,25nm,1.0s
GTA Gaotai 55.45 292 ⇑P **P** **13 15 50.5 +0.6**
GTA pP sP 13 16 04.6 -0.8
GTA sP pP 13 16 11.6 +11
GTA pmax pmax
comp=Z,14nm,0.6s
GTA pmax pmax
comp=Z,75nm,4.9s
GTA LR LR
comp=Z,110nm,17.1s
GTA LR LR
comp=Z,180nm,19.0s
DGZ Jazzator, Alta 55.49 308 *i* P **P** **13 15 49.0 -1.1**
DGZ pmax pmax
comp=Z,4.0nm,1.1s
ENH Enshi 55.70 277 P **P** **13 15 51.2 -0.5**
ENH IAmb IAmb 13 15 52.9
comp=Z,9.7nm,1.1s
D41A Chassel 55.73 56 P **P** **13 15 51.4 -0.2**
D41A IAmb IAmb 13 15 52.4
comp=Z,8.9nm,1.1s
N35A Tabor 55.89 66 P **P** **13 15 52.8 0.0**
COWI Conover 56.05 57 P **P** **13 15 53.0 -1.0**
MNTX Cornudas Mount 56.18 80 P **P** **13 15 56.1 +1.0**
baz=314,SNR=8.3
MNTX Cornudas Mount 56.18 80 P **P** **13 15 55.2 +0.2**
MNTX IAmb IAmb 13 15 59.9
comp=Z,8.8nm,1.1s
MSTX Muleshoe 56.24 76 P **P** **13 15 55.8 +0.2**
AMTX Amarillo 56.29 75 P **P** **13 15 56.2 +0.3**
baz=313
AMTX Amarillo 56.29 75 P **P** **13 15 56.2 +0.3**
AMTX IAmb IAmb 13 15 58.7
comp=Z,8.3nm,0.6s
KSU1 Kansas State U 56.49 68 P **P** **13 15 56.6 -0.6**
baz=312
KSU1 Kansas State U 56.49 68 P **P** **13 15 56.5 -0.7**
I40A Norwalk 56.71 60 P **P** **13 15 58.4 -0.3**
I40A IAmb IAmb 13 15 59.6
comp=Z,9.6nm,0.9s
F42A Maple Grove Fa 56.81 57 P **P** **13 15 57.6 -1.7**
E43A Lone Tree Farm 56.99 56 P **P** **13 15 59.9 -0.8**
E43A IAmb IAmb 13 16 02.9
comp=Z,6.8nm,0.6s
N38A Joes South For 57.30 64 P **P** **13 16 02.5 -0.4**
KAN13 South Haven SW 57.38 70 P **P** **13 16 03.3 -0.2**
JFWS Jewell Farm 57.56 60 P **P** **13 16 03.8 -0.8**
baz=312
P38A Dawn 57.92 65 P **P** **13 16 06.4 -0.9**
WMOK Wichita Mounta 58.14 73 P **P** **13 16 08.7 -0.2**
baz=313,SNR=8.8
WMOK Wichita Mounta 58.14 73 P **P** **13 16 09.0 +0.1**
WMOK pmax pmax
comp=Z,6.0nm,0.9s
WMOK Wichita Mounta 58.14 73 P **P** **13 16 09.0 +0.1**
WMOK IAmb IAmb 13 16 10.3
comp=Z,6.1nm,0.8s
D46A Sault St. Mari 58.17 54 P **P** **13 16 08.3 -0.6**
baz=313
OK029 Liberty Lake 58.21 71 P **P** **13 16 09.9 +0.6**
ARCES ARCESS Array B 58.23 350 P **P** **13 16 08.2 -0.8**
comp=Z,2.5nm,0.5s,baz=23,slow=7.8,SNR=25
ARCES pP **pP** **13 16 21.4 +1.1**
comp=Z,0.9nm,0.4s,baz=12,slow=6.2,SNR=2.0
ARCES PcP **PcP** **13 16 59.4 -0.5**
comp=Z,2.9nm,0.7s,baz=358,slow=2.7,SNR=4.0
ARE0 ARCESS Array S 58.23 350 P **P** **13 16 08.5 -0.5**
E46A Sault Ste Mari 58.38 54 P **P** **13 16 09.5 -0.9**
E46A **PcP** **13 17 01.4 +0.5**
L42A Oliver, Polo 58.48 61 P **P** **13 16 10.0 -1.2**
L42A IAmb IAmb 13 16 11.0
comp=Z,9.7nm,0.8s
D47A Chapleau 58.52 53 P **P** **13 16 10.4 -1.0**
baz=313
LVZ Lovozero 58.56 346 *ce*P **P** **13 16 12.0 +0.6**
LVZ pmax pmax
comp=Z,33nm,1.7s
N41A Harden Midland 58.70 63 P **P** **13 16 12.5 -0.2**
CD2 Chengdu 58.81 282 P **P** **13 16 13.3 -0.4**
CD2 pmax pmax
comp=Z,20nm,1.0s
P40A Paris 58.83 65 P **P** **13 16 13.0 -0.6**
E47A Iron Bridge 58.84 53 P **P** **13 16 12.4 -1.2**
baz=313
TX31 Lajitas Ar. Si 58.88 81 P **P** **13 16 14.5 +0.3**
TX31 IAmb IAmb 13 16 18.6
comp=Z,20nm,1.1s
TX32 Lajitas Array 58.88 81 P **P** **13 16 14.6 +0.3**
TXAR Lajitas Array 58.88 81 P **P** **13 16 14.6 +0.4**
comp=Z,3.7nm,0.7s,baz=303,slow=4.9,SNR=29
W35A Tecumseh 59.00 71 P **P** **13 16 15.1 +0.3**
KURK Kurchatov 59.00 314 *ce*P **P** **13 16 13.3 -1.3**
KURK pmax pmax
comp=Z,9.0nm,1.3s
KURK Kurchatov 59.00 314 P **P** **13 16 13.1 -1.5**
KURK IAmb IAmb 13 16 16.1
comp=Z,6.0nm,0.9s
ABTX Abilene, Hawle 59.07 75 P **P** **13 16 16.4 +1.0**
baz=314
ABTX Abilene, Hawle 59.07 75 P **P** **13 16 17.3 +1.9**
ABTX IAmb IAmb 13 16 19.0
comp=Z,21nm,1.1s
D48A Paudash Townsh 59.09 52 P **P** **13 16 14.3 -1.0**
baz=314,SNR=5.5
TUL1 Leonard 59.12 70 P **P** **13 16 15.2 -0.5**
baz=314
TUL1 Leonard 59.12 70 P **P** **13 16 15.4 -0.3**
TUL1 IAmb IAmb 13 16 16.6
comp=Z,14nm,1.0s
D49A Beulah Townshi 59.24 52 P **P** **13 16 15.3 -1.1**
baz=314
WMQ Urumqi 59.27 303 *eP* **P** **13 16 17.3 +0.6**
WMQ pP pP 13 16 28.8 +1.1
WMQ pmax pmax
comp=Z,13nm,1.3s
WMQ pmax pmax
comp=Z,67nm,4.7s
WMQ LR LR
comp=Z,56nm,16.5s
WMQ LR LR
comp=Z,180nm,21.1s
L44A Lake County Fo 59.33 60 P **P** **13 16 16.5 -0.5**
baz=313
S39A Bolivar 59.35 67 P **P** **13 16 15.4 -1.8**
S39A IAmb IAmb 13 16 16.6
comp=Z,6.8nm,0.8s
E48A Lockeyer 59.39 53 P **P** **13 16 16.7 -0.6**
baz=314
R40A Maddies Statio 59.54 66 P **P** **13 16 17.4 -1.2**
U38A Gravette 59.59 69 P **P** **13 16 18.2 -0.7**
U38A IAmb IAmb 13 16 18.7
comp=Z,6.5nm,1.0s
HDIL Hopedale 59.67 62 P **P** **13 16 18.4 -1.0**
baz=313,SNR=6.0
HDIL Hopedale 59.67 62 P **P** **13 16 19.0 -0.4**
F49A Sandfield 59.95 53 P **P** **13 16 19.9 -1.3**
baz=314
MK31 Makanchi Array 59.99 308 P **P** **13 16 20.3 -1.2**
MK31 pmax pmax
comp=Z,6.0nm,1.6s
MK31 Makanchi Array 59.99 308 P **P** **13 16 20.3 -1.2**
MKAR Makanchi Array 59.99 308 P **P** **13 16 20.3 -1.2**
comp=Z,2.4nm,0.4s,baz=50,slow=6.3,SNR=58
MKAR PcP **PcP** **13 17 07.3 -0.1**
comp=Z,1.3nm,0.5s,baz=41,slow=4.0,SNR=5.7
MKAR LR LR 13 42 52.5
comp=Z,77nm,20.9s,baz=44,slow=37
D50A G1974 Best Tow 60.06 51 P **P** **13 16 20.8 -1.2**
baz=314
MAKZ Makanchi 60.13 309 P **P** **13 16 21.9 -0.6**
MAKZ pmax pmax
comp=Z,4.0nm,0.4s
MAKZ Makanchi 60.13 309 P **P** **13 16 21.9 -0.6**
MAKZ IAmb IAmb 13 16 23.0
comp=Z,3.6nm,0.4s
E50A Wahnapitae 60.14 52 P **P** **13 16 21.9 -0.6**
baz=314
P43A Skaggs, Pawnee 60.18 63 P **P** **13 16 22.6 -0.3**

J47A Sumner 60.26 57 P **P** **13 16 23.2 -0.2**
J47A IAmb IAmb 13 16 24.1
comp=Z,14nm,0.8s
SCHQ Schefferville 60.27 38 P **P** **13 16 22.6 -0.7**
comp=Z,11nm,0.8s,baz=324,slow=7.4,SNR=13
SCHQ Schefferville 60.27 38 P **P** **13 16 22.3 -1.0**
SCHQ IAmb IAmb 13 16 23.3
comp=Z,9.5nm,0.8s
X37A Clayton 60.28 71 P **P** **13 16 23.8 +0.1**
X37A IAmb IAmb 13 16 25.8
comp=Z,11nm,1.0s
CCM Cathedral Cave 60.29 65 P **P** **13 16 23.0 -0.7**
baz=314
CCM Cathedral Cave 60.29 65 P **P** **13 16 22.6 -1.1**
CCM pmax pmax
comp=Z,37nm,1.8s
CCM Cathedral Cave 60.29 65 P **P** **13 16 22.6 -1.1**
L46A Eue Claire 60.31 59 P **P** **13 16 23.4 -0.4**
MGMO Mountain Grove 60.33 67 P **P** **13 16 22.7 -1.3**
MGMO IAmb IAmb 13 16 24.2
comp=Z,16nm,1.0s
D51A Lot 18 Range I 60.34 51 P **P** **13 16 22.6 -1.3**
baz=315
O44A Mansfield 60.41 62 P **P** **13 16 24.0 -0.5**
U40A Yellville 60.54 68 P **P** **13 16 24.2 -1.2**
baz=314,SNR=6.2
U40A Yellville 60.54 68 P **P** **13 16 24.5 -1.0**
U40A IAmb IAmb 13 16 25.6
comp=Z,13nm,1.1s
VLDQ Val d'Or 60.55 49 P **P** **13 16 22.7 -2.6**
VLDQ IAmb IAmb 13 16 23.6
comp=Z,7.7nm,1.1s
E51A G1948 Merrick 60.68 51 P **P** **13 16 25.1 -1.1**
baz=315
CHGQ Chibougamau 60.69 46 P **P** **13 16 24.3 -2.0**
baz=316,SNR=5.1
W39A Magazine 60.80 69 P **P** **13 16 27.1 -0.1**
baz=314
W39A Magazine 60.80 69 P **P** **13 16 27.1 -0.1**
W39A IAmb IAmb 13 16 34.8
comp=Z,8.2nm,1.1s
WHTX Lake Whitney, 60.83 74 P **P** **13 16 27.3 -0.2**
baz=315
WHTX Lake Whitney, 60.83 74 P **P** **13 16 27.7 +0.2**
WHTX IAmb IAmb 13 16 30.3
comp=Z,9.4nm,0.7s
D52A ZEK Kipawa Sen 60.89 50 P **P** **13 16 26.7 -1.0**
baz=315
F51A Arnstein 60.89 52 P **P** **13 16 26.4 -1.3**
baz=315
BRVK Borovoye 60.91 320 *ce*P **P** **13 16 29.0 +1.3**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 60.91 320 P **P** **13 16 27.1 -0.6**
BRVK IAmb IAmb 13 16 30.0
comp=Z,5.0nm,0.6s
Q44A Meyer Farm, Va 60.97 63 P **P** **13 16 27.9 -0.4**
SFIN Lafayette 61.01 61 P **P** **13 16 28.1 -0.4**
baz=314,SNR=11
SFIN Lafayette 61.01 61 P **P** **13 16 28.6 0.0**
T42A Van Buren 61.09 66 P **P** **13 16 27.8 -1.4**
T42A IAmb IAmb 13 16 28.7
comp=Z,5.3nm,0.8s
D53A Lac Vacive, Po 61.16 50 P **P** **13 16 28.1 -1.4**
baz=315
D53A Lac Vacive, Po 61.16 50 P **P** **13 16 28.0 -1.5**
D53A IAmb IAmb 13 16 29.7
comp=Z,6.5nm,1.0s
E52A Mattawa 61.26 51 P **P** **13 16 29.0 -1.2**
baz=315
F52A Sundridge 61.28 52 P **P** **13 16 29.0 -1.3**
baz=315
FCAR Ozark Folk Cen 61.28 68 P **P** **13 16 29.5 -0.9**
MIAR Mount Ida 61.37 70 P **P** **13 16 30.0 -1.1**
baz=315,SNR=7.1
MIAR Mount Ida 61.37 70 P **P** **13 16 30.5 -0.6**
MIAR pmax pmax
comp=Z,16nm,1.2s
MIAR Mount Ida 61.37 70 P **P** **13 16 30.5 -0.6**
MIAR IAmb IAmb 13 16 33.5
comp=Z,16nm,1.1s
TMCR Tamitsa 61.38 342 *eP* **P** **13 16 27.2 -3.4**
TMCR pmax pmax
comp=Z,12nm,0.6s
N47A Urbana 61.43 60 P **P** **13 16 30.5 -0.9**
N47A IAmb IAmb 13 16 31.4
comp=Z,15nm,0.8s
Z38A Mt. Pleasant 61.43 72 P **P** **13 16 31.6 +0.1**
P46A Rosedale 61.48 61 P **P** **13 16 31.6 -0.2**
WHAR Wooly Hollow 61.61 68 P **P** **13 16 32.0 -0.6**
WHAR IAmb IAmb 13 16 32.7
comp=Z,17nm,1.3s
D54A Lac Fusel, La 61.61 49 P **P** **13 16 30.6 -2.0**
baz=316
PBMO Poplar Bluff 61.64 66 P **P** **13 16 32.3 -0.6**
S44A Carbondale 61.67 64 P **P** **13 16 32.6 -0.5**
E53A Dumoine, Ponti 61.68 50 P **P** **13 16 31.5 -1.5**
baz=316
W41B Gary Mavity, V 61.71 68 P **P** **13 16 33.0 -0.3**
baz=315
W41B Gary Mavity, V 61.71 68 P **P** **13 16 33.0 -0.3**
W41B IAmb IAmb 13 16 34.1
comp=Z,13nm,1.3s
LCAR Lake Charles 61.72 67 P **P** **13 16 32.4 -1.1**
LCAR IAmb IAmb 13 16 33.4
comp=Z,6.8nm,0.9s
ALGO Algonquin Park 61.79 51 P **P** **13 16 32.4 -1.3**
baz=316
I51A Listowel 61.84 54 P **P** **13 16 34.1 0.0**
baz=315
E54A Lac Daplat, Po 61.87 50 P **P** **13 16 32.6 -1.7**
baz=316,SNR=5.2
PRGR Permogore 61.99 338 *eP* P 13 16 26.4 -8.4
PRGR pmax pmax
comp=Z,8.0nm,0.6s
G53A Haliburton 62.11 52 P **P** **13 16 34.3 -1.6**
baz=316,SNR=8.5
BLO Bloomington 62.17 61 P **P** **13 16 36.5 +0.1**
BLO pmax pmax
comp=Z,20nm,0.8s
BLO Bloomington 62.17 61 P **P** **13 16 36.5 +0.1**
G54A Lake Saint Pet 62.17 51 P **P** **13 16 35.0 -1.4**
baz=316
N49A Columbus Grove 62.21 59 P **P** **13 16 36.2 -0.5**
N49A IAmb IAmb 13 16 38.1
comp=Z,12nm,0.7s
D55A Sainte-Anne-du 62.27 49 P **P** **13 16 34.9 -2.1**
baz=316,SNR=6.1
USIN University of 62.38 63 P **P** **13 16 37.6 -0.2**
H53A Bobcaygeon 62.52 52 P **P** **13 16 37.7 -1.0**
baz=316
P48A Milroy 62.57 61 P **P** **13 16 37.9 -1.2**
D56A ZEC Mazanza, M 62.58 48 P **P** **13 16 37.6 -1.5**
baz=317
ARU Arti 62.65 328 *ci*P **P** **13 16 40.2 +0.9**
ARU *PP **sP** 13 16 53.3 -1.6
ARU 13 17 16.2
ARU 13 18 57.5
ARU S **S** **13 25 06.3 +1.9**
ARU pmax pmax
comp=Z,3.0nm,0.5s
E56A St. Veronique 62.82 49 P **P** **13 16 39.0 -1.6**
baz=317
P49A Miami Univ. Ec 62.91 60 P **P** **13 16 40.5 -0.8**
baz=315
P49A Miami Univ. Ec 62.91 60 P **P** **13 16 40.4 -0.8**
PLVO Plevna 62.93 51 P **P** **13 16 40.6 -0.7**
PLVO IAmb IAmb 13 16 40.9
comp=Z,4.7nm,0.7s
G55A Calabogie 62.95 51 P **P** **13 16 40.4 -1.1**
baz=317
WCI Wyandotte Cave 62.96 62 P **P** **13 16 41.4 -0.3**
baz=315
WCI Wyandotte Cave 62.96 62 P **P** **13 16 40.8 -0.9**
WCI pmax pmax
comp=Z,21nm,0.7s
WCI Wyandotte Cave 62.96 62 P **P** **13 16 40.8 -0.9**
D57A Chemin Vers le 63.01 48 P **P** **13 16 40.1 -1.9**
baz=317
DELO Deloro Mine 63.04 52 P **P** **13 16 41.5 -0.6**
DELO IAmb IAmb 13 16 42.3
comp=Z,16nm,1.4s
N51A Ashland 63.18 57 P **P** **13 16 41.7 -1.4**
baz=316
I55A Frankford 63.23 52 P **P** **13 16 41.9 -1.4**
baz=316

H55A Tweed 63.23 52 P **P** **13 16 42.4 -1.0**
baz=317
M52A Chesterland 63.27 56 P **P** **13 16 43.2 -0.6**
baz=316
E57A Chemin Saint G 63.34 48 P **P** **13 16 42.0 -2.1**
baz=317,SNR=5.6
T47A Sharon Grove 63.39 64 P **P** **13 16 44.4 -0.1**
ORIO Orleans, Innes 63.39 50 P **P** **13 16 42.7 -1.7**
baz=317
D58A Chemin du LacG 63.42 47 P **P** **13 16 43.0 -1.6**
baz=318
J54A Appleton 63.43 53 P **P** **13 16 43.7 -1.0**
baz=316
J54A Appleton 63.43 53 P **P** **13 16 43.5 -1.2**
L53A Girard 63.55 55 P **P** **13 16 44.9 -0.7**
baz=316
KMI Kunming 63.55 278 ⇓*eP* **P** **13 16 46.6 +0.5**
KMI pmax pmax
comp=Z,12nm,0.7s
KMI pmax pmax
comp=Z,110nm,6.3s
ERPA Erie 63.57 55 P **P** **13 16 45.0 -0.7**
baz=316
WVT Waverly 63.59 65 P **P** **13 16 45.9 0.0**
baz=316
WVT Waverly 63.59 65 P **P** **13 16 45.4 -0.5**
WVT pmax pmax
comp=Z,15nm,0.8s
WVT Waverly 63.59 65 P **P** **13 16 45.4 -0.5**
WVT IAmb IAmb 13 16 47.0
comp=Z,15nm,0.8s
MEDO Medina 63.60 53 P **P** **13 16 45.3 -0.5**
O51A Pataskala 63.61 58 P **P** **13 16 45.3 -0.6**
baz=316
H56A Elgin 63.65 51 P **P** **13 16 44.8 -1.3**
baz=317
M53A WI Miller and 63.70 56 P **P** **13 16 46.4 -0.2**
baz=316
M53A WI Miller and 63.70 56 P **P** **13 16 46.0 -0.6**
E58A La Victoria 63.77 48 P **P** **13 16 46.2 -0.7**
baz=318
ALLY Alegheny Colle 63.83 56 P **P** **13 16 47.2 -0.2**
OXF Oxford 63.83 67 P **P** **13 16 47.6 +0.1**
baz=316
OXF Oxford 63.83 67 P **P** **13 16 47.6 +0.1**
OXF pmax pmax
comp=Z,69nm,1.1s
OXF Oxford 63.83 67 P **P** **13 16 47.6 +0.1**
L54A Sinclairville 63.83 55 P **P** **13 16 46.8 -0.6**
baz=316
J55A Hilton 63.85 53 P **P** **13 16 46.6 -0.8**
baz=317
J55A Hilton 63.85 53 P **P** **13 16 46.9 -0.5**
J55A IAmb IAmb 13 16 47.6
comp=Z,11nm,0.6s
K54A Basiliko Farm, 63.88 54 P **P** **13 16 47.3 -0.4**
baz=317
R50A Paris 64.01 61 P **P** **13 16 48.8 +0.2**
R50A IAmb IAmb 13 16 49.8
comp=Z,11nm,0.9s
O52A Adamsville 64.04 58 P **P** **13 16 47.9 -1.0**
baz=316,SNR=5.6
O52A Adamsville 64.04 58 P **P** **13 16 48.2 -0.6**
WVNY West Valley, N 64.07 54 P **P** **13 16 48.4 -0.6**
KLMR Klimovskoe 64.07 340 *eP* **P** **13 16 47.7 -0.9**
KLMR pmax pmax
comp=Z,10.0nm,1.3s
KLMR Klimovskoe 64.07 340 *eP* **P** **13 16 47.7 -0.9**
KLMR AMP 13 16 51.3
comp=Z,10.0nm,1.3s
K55A Perry 64.11 54 P **P** **13 16 48.4 -0.9**
baz=317,SNR=6.3
H57A Richville 64.17 51 P **P** **13 16 48.6 -1.0**
baz=317
M54A Oil Creek Stat 64.18 55 P **P** **13 16 49.1 -0.6**
baz=317
M54A Oil Creek Stat 64.18 55 P **P** **13 16 49.2 -0.6**
M54A IAmb IAmb 13 16 49.8
comp=Z,6.8nm,0.7s
MMNY Mt. Morris Dam 64.19 53 P **P** **13 16 49.2 -0.5**
MMNY IAmb IAmb 13 16 50.2
comp=Z,15nm,0.8s
PLAL Pickwick Lake 64.26 66 P **P** **13 16 49.8 -0.5**
O53A New Philadelph 64.28 57 P **P** **13 16 49.7 -0.6**
baz=316
O53A New Philadelph 64.28 57 P **P** **13 16 49.7 -0.6**
J56A Wolcott 64.32 52 P **P** **13 16 50.0 -0.6**
baz=317
J56A Wolcott 64.32 52 P **P** **13 16 49.9 -0.6**
J56A IAmb IAmb 13 16 50.8
comp=Z,10.0nm,0.9s
L55A Hinsdale 64.32 54 P **P** **13 16 50.1 -0.5**
baz=317
F59A Saint Guilaume 64.39 48 P **P** **13 16 48.9 -2.0**
baz=318
N54A Moraine State 64.40 56 P **P** **13 16 50.7 -0.4**
baz=317
N54A Moraine State 64.40 56 P **P** **13 16 50.8 -0.4**
I57A Carthage 64.42 51 P **P** **13 16 50.5 -0.8**
baz=318
V48A Smith Brothers 64.44 64 P **P** **13 16 50.9 -0.5**
D60A Saint Jean D'O 64.45 46 P **P** **13 16 49.9 -1.5**
baz=319
CLTN Cedars of Leba 64.46 64 P **P** **13 16 51.8 +0.2**
U49A Red Boiling Sp 64.47 63 P **P** **13 16 51.7 0.0**
K56A Middlesex 64.51 53 P **P** **13 16 51.7 -0.2**
baz=317,SNR=12
D61A St Aubert, Com 64.57 46 P **P** **13 16 50.5 -1.6**
baz=319
E60A Ste Agathe de 64.62 47 P **P** **13 16 50.9 -1.6**
baz=319
T50A Nancy 64.63 62 P **P** **13 16 52.6 -0.1**
Q52A Bidwell 64.64 59 P **P** **13 16 49.8 -3.0**
baz=316
J57A Williamstown 64.65 52 P **P** **13 16 51.4 -1.3**
baz=318
M55A Ridgway 64.67 55 P **P** **13 16 52.3 -0.6**
baz=317
F60A Warwick 64.69 47 P **P** **13 16 51.0 -1.9**
baz=318
P53A Whipple 64.73 58 P **P** **13 16 52.1 -1.3**
baz=317
G59A Clarenceville 64.78 49 P **P** **13 16 51.9 -1.5**
baz=318
H58A Gabriels 64.79 50 P **P** **13 16 52.2 -1.5**
baz=318
L56A Greenwood 64.80 54 P **P** **13 16 52.7 -1.1**
baz=317,SNR=18
L56A Greenwood 64.80 54 P **P** **13 16 53.5 -0.3**
H59A Cadyville 64.86 49 P **P** **13 16 53.3 -0.8**
baz=318
K57A Scipio Center 64.89 53 P **P** **13 16 53.5 -0.9**
baz=318
I58A Old Forge 64.94 51 P **P** **13 16 53.7 -1.0**
baz=318
M56A Emporium 64.96 55 P **P** **13 16 54.0 -0.8**
baz=317
M56A Emporium 64.96 55 P **P** **13 16 54.0 -0.8**
M56A IAmb IAmb 13 16 55.3
comp=Z,16nm,1.2s
E61A Lac Etchemin 65.01 46 P **P** **13 16 53.8 -1.3**
baz=319
J58A Remsen 65.03 51 P **P** **13 16 54.3 -1.0**
baz=318
J58A Remsen 65.03 51 P **P** **13 16 54.1 -1.1**
J58A IAmb IAmb 13 16 55.9
comp=Z,6.4nm,0.8s
MOQ Mont Orford 65.04 48 P **P** **13 16 54.1 -1.2**
N55A Marion Center 65.06 56 P **P** **13 16 54.3 -1.2**
baz=317
Q53A Leroy 65.12 59 P **P** **13 16 55.5 -0.4**
baz=317
F61A St Evariste 65.13 47 P **P** **13 16 54.6 -1.2**
baz=319,SNR=5.2
D62A Allapoint, All 65.17 45 P **P** **13 16 55.0 -1.1**
baz=320
D62A Allapoint, All 65.17 45 P **P** **13 16 55.0 -1.1**
D62A IAmb IAmb 13 16 56.6
comp=Z,21nm,1.1s
X48A Hartselle 65.23 65 P **P** **13 16 56.0 -0.6**
L57A Andrews Acres 65.26 53 P **P** **13 16 56.1 -0.6**
baz=318,SNR=9.0
R53A Hurricane 65.27 59 P **P** **13 16 56.7 -0.1**
baz=317
R53A Hurricane 65.27 59 P **P** **13 16 56.7 -0.1**
K58A Earlville 65.30 52 P **P** **13 16 56.0 -0.9**
baz=318

K58A Earlville 65.30 52 P P 13 16 56.1 -0.9
K58A IAmb IAmb 13 17 30.5
comp=Z,11nm,1.2s
E62A Clayton Lake 65.31 46 P P 13 16 55.4 -1.5
baz=319,SNR=5.7
E62A Clayton Lake 65.31 46 P P 13 16 55.8 -1.1
E62A IAmb IAmb 13 16 56.6
comp=Z,6.0nm,0.8s
N56A West Decatur 65.31 55 P P 13 16 56.8 -0.4
baz=317
SWET Sewanee 65.32 64 P P 13 16 56.0 -1.2
J59A Piesco 65.34 51 P P 13 16 56.1 -1.1
baz=318
J59A Piesco 65.34 51 P P 13 16 55.8 -1.4
J59A IAmb IAmb 13 16 56.7
comp=Z,18nm,1.5s
H60A Morristown 65.39 49 P P 13 16 56.2 -1.4
baz=319
I59A Olmsteadville 65.40 50 P P 13 16 56.4 -1.2
baz=318
G61A St-Isidore-de- 65.40 48 P P 13 16 56.2 -1.4
baz=319
BINY Binghamton 65.54 53 P P 13 16 58.1 -0.5
baz=318
BINY Binghamton 65.54 53 P P 13 16 58.2 -0.4
BINY IAmb IAmb 13 16 59.2
comp=Z,26nm,1.2s
Z47A Carrollton 65.55 67 P P 13 16 58.4 -0.3
M57A Sunshine Farm, 65.60 54 P P 13 16 58.0 -0.9
baz=318,SNR=6.5
M57A Sunshine Farm, 65.60 54 P P 13 16 58.7 -0.3
D63A Stockholm 65.62 45 P P 13 16 57.4 -1.5
baz=320,SNR=5.8
I60A Shoreham 65.64 50 P P 13 16 58.0 -1.2
baz=318
F62A Pittston Farm, 65.66 46 P P 13 16 58.0 -1.2
baz=319
F62A Pittston Farm, 65.66 46 P P 13 16 58.0 -1.2
F62A IAmb IAmb 13 16 58.9
comp=Z,13nm,1.1s
W50A Signal Mountai 65.68 64 P P 13 16 59.4 -0.2
K59A Cooperstown 65.68 52 P P 13 16 58.5 -1.0
baz=318
L58A Harry Jones Me 65.73 53 P P 13 16 59.0 -0.7
baz=318,SNR=6.7
SSPA Standing Stone 65.73 55 P P 13 16 59.0 -0.8
baz=318
SSPA Standing Stone 65.73 55 P P 13 16 59.1 -0.7
SSPA IAmb IAmb 13 17 00.3
comp=Z,18nm,1.1s
H61A Lyndonville 65.78 49 P P 13 16 59.2 -0.8
baz=319
V51A Loudon 65.78 63 P P 13 16 60.0 -0.2
N57A Milroy 65.82 55 P P 13 17 00.0 -0.3
baz=318
KDJ Kajisay 65.88 308 P P 13 16 59.8 -1.2
KDJ pmax pmax
comp=Z,5.0nm,0.7s
KDJ Kajisay 65.88 308 P P 13 16 59.8 -1.2
R54A Victor 65.90 59 P P 13 17 00.7 -0.2
baz=317
FIA1 FINESS Array S 65.91 347 P P 13 16 59.7 -0.9
FIA1 IAmb IAmb 13 17 01.1
comp=Z,6.1nm,0.8s
FINES FINESS Array B 65.91 347 P P 13 16 59.5 -1.1
comp=Z,3.0nm,0.4s,baz=13,slow=6.9,SNR=29
G62A West of Eustis 65.91 47 P P 13 16 59.8 -1.1
baz=319,SNR=6.7
G62A West of Eustis 65.91 47 P P 13 16 59.4 -1.5
G62A IAmb IAmb 13 17 00.7
comp=Z,10nm,0.8s
M58A Price's Panora 65.92 54 P P 13 17 00.1 -1.0
baz=318,SNR=6.7
T53A Wise 65.93 61 P P 13 17 01.3 +0.1
baz=317
CPCT Cooper Cave 65.94 63 P P 13 17 00.8 -0.4
PQI Presque Isle 65.94 45 P P 13 16 59.6 -1.4
PQI IAmb IAmb 13 17 00.2
comp=Z,9.1nm,0.7s
E63A Oxbow 65.95 45 P P 13 16 59.4 -1.7
baz=320,SNR=7.7
E63A Oxbow 65.95 45 P P 13 16 59.4 -1.7
E63A IAmb IAmb 13 17 00.4
comp=Z,13nm,0.9s
FPAL Fort Paine 65.99 64 P P 13 17 01.4 -0.2
LBNH Lisbon 66.00 49 P P 13 17 00.1 -1.4
baz=319
L59A Walton 66.02 52 P P 13 17 00.8 -0.9
baz=318,SNR=5.4
L59A Walton 66.02 52 P P 13 17 00.9 -0.8
L59A IAmb IAmb 13 17 02.1
comp=Z,15nm,1.0s
Y49A Blount Mountai 66.03 65 P P 13 17 01.2 -0.6
J60A Lant Hill Farm 66.03 50 P P 13 17 00.6 -1.1
baz=319,SNR=5.5
P56A Dayton Farm, R 66.07 56 P P 13 17 00.8 -1.2
baz=318
TKM2 Tokmak 2 66.07 309 P P 13 17 03.2 +0.9
SNR=5.3
I61A Oroboro, Fairl 66.10 49 P P 13 17 01.4 -0.7
baz=319
H62A Milan 66.11 48 P P 13 17 00.9 -1.3
baz=319,SNR=5.8
H62A Milan 66.11 48 P P 13 17 01.1 -1.1
H62A IAmb IAmb 13 17 01.9
comp=Z,19nm,0.9s
O57A Amberson 66.17 55 P P 13 17 02.1 -0.6
baz=318
N58A Sunbury 66.18 54 P P 13 17 02.2 -0.4
baz=318
N58A Sunbury 66.18 54 P P 13 17 01.7 -0.9
N58A IAmb IAmb 13 17 03.2
comp=Z,10.0nm,0.8s
F63A Nahmakanta, Br 66.20 46 P P 13 17 01.4 -1.3
baz=320
F63A Nahmakanta, Br 66.20 46 P P 13 17 01.3 -1.3
F63A IAmb IAmb 13 17 02.5
comp=Z,8.9nm,0.9s
TKL Tuckaleechee C 66.21 62 P P 13 17 02.3 -0.7
TKL pmax pmax
comp=Z,19nm,1.0s
TKL Tuckaleechee C 66.21 62 P P 13 17 02.3 -0.7
TKL IAmb IAmb 13 17 04.4
comp=Z,19nm,0.9s
E64A Bridgewater 66.22 45 P P 13 17 01.2 -1.6
baz=320,SNR=11
LRAL Lakeview Retre 66.28 66 P P 13 17 03.2 -0.2
baz=317
LRAL Lakeview Retre 66.28 66 P P 13 17 02.4 -1.0
LRAL IAmb IAmb 13 17 04.4
comp=Z,8.7nm,0.9s
R55A Marlinton 66.29 58 P P 13 17 02.9 -0.6
baz=317
M59A Waymart 66.31 53 P P 13 17 02.7 -0.8
baz=318,SNR=6.3
BATG Bathurst New B 66.33 43 P P 13 17 02.4 -1.1
BATG IAmb IAmb 13 17 03.4
comp=Z,36nm,1.6s
USP Ospenovka 66.34 310 P P 13 17 05.3 +1.5
SNR=9.2
J61A Chester 66.37 50 P P 13 17 02.9 -1.0
baz=319
T54A Tazewell 66.40 60 P P 13 17 04.1 -0.1
baz=317
G63A Kingsbury 66.41 47 P P 13 17 02.6 -1.5
baz=320
F64A Sherman 66.41 45 P P 13 17 02.6 -1.5
baz=320,SNR=7.8
F64A Sherman 66.41 45 P P 13 17 02.8 -1.2
F64A IAmb IAmb 13 17 03.7
comp=Z,12nm,0.8s
PKME Peaks-Kenny Pk 66.44 46 P P 13 17 02.9 -1.4
baz=320
PKME Peaks-Kenny Pk 66.44 46 P P 13 17 03.6 -0.6
PKME IAmb IAmb 13 17 38.1
comp=Z,27nm,1.8s
P57A Homestead Farm 66.52 56 P P 13 17 04.0 -0.8
baz=318
W52A Murphy 66.53 63 P P 13 17 05.0 -0.1
W52A IAmb IAmb 13 17 06.1
comp=Z,23nm,1.2s
K61A Williamstown 66.54 51 P P 13 17 03.6 -1.3
baz=319
I62A Tamworth 66.55 49 P P 13 17 03.9 -1.1
baz=319
L60A Shokan 66.58 52 P P 13 17 04.8 -0.4
baz=319

N59A State Game Lan 66.60 53 P P 13 17 04.6 -0.8
baz=318,SNR=9.3
N59A State Game Lan 66.60 53 P P 13 17 04.8 -0.7
N59A IAmb IAmb 13 17 05.7
comp=Z,13nm,0.6s
O58A Lewisberry 66.61 55 P P 13 17 04.8 -0.7
baz=318
Q57A Strasburg 66.64 56 P P 13 17 05.4 -0.3
baz=318
U54A Nelsons Funny 66.66 60 P P 13 17 05.7 -0.2
U54A IAmb IAmb 13 17 06.8
comp=Z,13nm,0.7s
G64A Maxfield 66.70 46 P P 13 17 05.0 -0.9
baz=320
I63A Otisfield 66.77 48 P P 13 17 05.3 -1.1
baz=320
I63A Otisfield 66.77 48 P P 13 17 05.8 -0.6
I63A IAmb IAmb 13 17 06.1
comp=Z,9.5nm,0.8s
T55A Pulaski 66.79 59 P P 13 17 06.0 -0.6
baz=318
J62A Henniker 66.82 49 P P 13 17 05.5 -1.2
baz=319
AAK Ala-Archa 66.82 310 *ce*P P 13 17 08.3 +1.4
AAK pmax pmax
comp=Z,12nm,1.3s
KZA Kyzart 66.87 309 P P 13 17 08.2 +0.5
SNR=6.1
M60A Port Gervis 66.87 52 P P 13 17 06.5 -0.6
baz=319
N60A Cedar Hill Far 66.98 53 P P 13 17 06.5 -1.2
baz=319,SNR=6.5
K62A Royalston 67.04 50 P P 13 17 06.8 -1.3
baz=319
K62A Royalston 67.04 50 P P 13 17 07.0 -1.1
K62A IAmb IAmb 13 17 34.7
comp=Z,32nm,1.8s
LUPA Lehigh Univers 67.04 53 P P 13 17 07.8 -0.4
Q58A Don Farm, 67.09 56 P P 13 17 08.0 -0.5
baz=318
U55A TA2, Sparta 67.09 60 P P 13 17 08.0 -0.6
baz=318
R57A Stanardsville 67.13 57 P P 13 17 08.0 -0.7
baz=318
J63A Strafford 67.13 49 P P 13 17 07.4 -1.2
baz=320
V54A Nebo 67.13 61 P P 13 17 08.4 -0.4
baz=318
EKS2 Erkin-Say 67.15 310 P P 13 17 10.2 +1.2
SNR=8.7
BG3 Lake Jocassee 67.16 62 P P 13 17 09.5 +0.5
BG3 IAmb IAmb 13 17 10.4
comp=Z,21nm,1.2s
O60A Telford 67.24 54 P P 13 17 09.0 -0.4
baz=319
P59A Jarrettsville 67.24 55 P P 13 17 09.0 -0.4
baz=318
G65A Princeton 67.28 45 P P 13 17 08.2 -1.4
baz=321,SNR=5.5
G65A Princeton 67.28 45 P P 13 17 08.4 -1.1
G65A IAmb IAmb 13 17 09.4
comp=Z,9.0nm,0.9s
H65A Eastbrook 67.36 46 P P 13 17 08.7 -1.4
baz=321
Y52A Lilburn 67.36 64 P P 13 17 10.2 -0.1
BRNJ Basking Ridge 67.39 53 P P 13 17 10.0 -0.3
R58A Rapidan 67.40 57 P P 13 17 10.1 -0.4
baz=318
PAL Palisades 67.47 52 P P 13 17 09.7 -1.1
baz=319
250A Grady 67.48 67 P P 13 17 10.2 -0.8
V55A Taylorsville 67.48 61 P P 13 17 10.5 -0.5
baz=318
W54A Cherokee Point 67.51 62 P P 13 17 10.7 -0.5
baz=318
AML Almayashu 67.59 310 P P 13 17 13.3 +1.2
SNR=12
NC204 NORSAR Array S 67.59 355 P P 13 17 10.8 -0.5
GGN Saint George 67.66 45 P P 13 17 10.8 -1.2
GGN IAmb IAmb 13 17 11.8
comp=Z,11nm,0.8s
T57A Hurt 67.70 58 P P 13 17 11.8 -0.6
baz=318
NC405 NORSAR Array S 67.70 354 P P 13 17 11.6 -0.4
EMMW East Machias 67.70 46 P P 13 17 11.0 -1.3
EMMW IAmb IAmb 13 17 12.0
comp=Z,16nm,0.8s
H66A Whiting 67.71 46 P P 13 17 10.9 -1.4
baz=321,SNR=5.2
R58B Mineral 67.71 57 P P 13 17 12.0 -0.5
baz=318
NB201 NORSAR Array S 67.79 355 P P 13 17 12.2 -0.4
NB2 NORSAR Subarra 67.80 355 P P 13 17 11.9 -0.8
comp=Z,6.7nm,1.1s,baz=6.9,slow=6.5
NOA NORSAR Array B 67.80 355 P P 13 17 12.2 -0.5
comp=Z,2.3nm,0.6s,baz=6.8,slow=6.2,SNR=12
X54A Belton 67.80 62 P P 13 17 13.2 +0.1
baz=318,SNR=5.7
152A Waverly Hall 67.86 65 P P 13 17 12.9 -0.6
152A IAmb IAmb 13 17 15.0
comp=Z,7.7nm,0.9s
S58A Poland Farm, P 67.88 57 P P 13 17 13.2 -0.3
baz=318
GOGA Godfrey 68.03 64 P P 13 17 13.4 -1.1
baz=318,SNR=5.6
GOGA Godfrey 68.03 64 P P 13 17 13.3 -1.1
GOGA pmax pmax
comp=Z,14nm,0.9s
GOGA Godfrey 68.03 64 P P 13 17 13.3 -1.2
GOGA IAmb IAmb 13 17 15.2
comp=Z,14nm,0.9s
M63A Gales Ferry 68.09 51 P P 13 17 13.8 -0.9
baz=320
HODGE Hodges 68.10 62 P P 13 17 14.9 0.0
DRLN Deer Lake 68.21 37 P P 13 17 14.4 -1.0
DRLN IAmb IAmb 13 17 15.4
comp=Z,18nm,0.8s
X55A Gracelyn & Ava 68.27 62 P P 13 17 16.1 +0.1
baz=318,SNR=5.2
KK31 Karatay Array 68.36 312 P P 13 17 16.1 -0.3
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KK31 Karatay Array 68.36 312 P P 13 17 16.1 -0.3
KK31 IAmb IAmb 13 17 18.1
comp=Z,6.4nm,0.7s
KKAR Karatay Array 68.36 312 P P 13 17 15.9 -0.6
KKAR pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 68.36 312 P P 13 17 15.9 -0.6
KKAR IAmb IAmb 13 17 18.1
comp=Z,6.4nm,0.7s
W56A Indian Trail 68.36 61 P P 13 17 16.3 -0.3
baz=318
M64A Tiverton 68.38 50 P P 13 17 15.4 -1.1
baz=320
KSH Kashi 68.44 307 *e*P P 13 17 21.5 +4.3
KSH sP sP 13 17 34.4 +1.4
KSH S S **13 26 18.7 +2.7**
KSH pmax pmax
comp=Z,12nm,0.8s
KSH pmax pmax
comp=Z,94nm,4.2s
KSH LR LR
comp=Z,200nm,10.8s
KSH LR LR
comp=Z,150nm,10.0s
Y55A Saluda 68.54 62 P P 13 17 17.8 +0.1
baz=318,SNR=5.4
X56A White Oak 68.59 61 P P 13 17 17.5 -0.5
baz=318
T59A Double "B" Far 68.62 57 P P 13 17 17.7 -0.4
baz=319
T59A Double "B" Far 68.62 57 P P 13 17 17.9 -0.3
T59A IAmb IAmb 13 17 19.1
comp=Z,9.0nm,0.8s
V58A Windy Hill, Pi 68.67 59 P P 13 17 17.7 -0.7
baz=318
S61A Accomac 69.08 56 P P 13 17 19.8 -1.1
baz=319
V59A Middlesex 69.16 59 P P 13 17 20.9 -0.6
baz=319
W58A Raeford 69.18 60 P P 13 17 20.9 -0.7
baz=319
U60A Pendleton 69.21 58 P P 13 17 21.0 -0.8
baz=319
Z57A Bowman 69.66 62 P P 13 17 23.9 -0.8
baz=319

U61A Possum Corner 69.69 57 P P 13 17 24.0 -0.8
baz=319
GBN Guysborough 69.74 42 P P 13 17 23.9 -1.0
GBN IAmb IAmb 13 17 25.8
comp=Z,15nm,1.0s
SHL Shillong 69.91 286 P P 13 17 23.7 -2.8
SHL pmax pmax
comp=Z,20nm,0.9s
SHL Shillong 69.91 286 P P 13 17 23.7 -2.8
SHL IAmb IAmb 13 17 27.2
comp=Z,20nm,0.9s
OBN Obninsk 69.96 339 *i* P P 13 17 24.1 -2.0
OBN pmax pmax
comp=Z,14nm,0.9s
Z58A St. Stephen 70.12 61 P P 13 17 26.5 -1.0
baz=319
BTK Batken 70.57 310 P P 13 17 30.3 0.0
BTK pmax pmax
comp=Z,15nm,1.0s
BTK Batken 70.57 310 P P 13 17 30.3 0.0
BTK IAmb IAmb 13 17 32.7
comp=Z,15nm,1.0s
CMAR Chiang Mai Arr 70.83 276 P P 13 17 32.3 +0.3
comp=Z,2.1nm,0.4s,baz=27,slow=6.9,SNR=10
CMAR LR LR 13 51 30.2
comp=Z,64nm,19.4s,baz=218,slow=38
CMAR Chiang Mai Arr 70.83 276 *i* P P 13 17 32.5 +0.5
CMAR pmax pmax
comp=Z,2.0nm,0.4s
TAPN Taplejung 71.08 290 *e*P P 13 17 34.3 +0.5
ODAN Odarе 71.63 290 *e*P P 13 17 37.7 +0.6
GUN Gumba 71.74 292 *e*P P 13 17 38.4 +0.6
comp=Z,77nm,0.4s
JIRN Jiri 71.74 291 *e*P P 13 17 39.0 +1.1
comp=Z,74nm,0.7s
RAMN Ramite 72.03 291 *e*P P 13 17 40.1 +0.6
KKN Kakani 72.18 292 *e*P P 13 17 40.5 +0.2
PKI Pulchoki 72.27 292 *e*P P 13 17 41.4 +0.4
comp=Z,22nm,0.5s
GKN Gorkha 72.39 293 *e*P P 13 17 42.2 +0.7
comp=Z,31nm,0.4s
DMN Daman 72.41 292 *e*P P 13 17 42.7 +0.9
comp=Z,8.9nm,0.3s
CHGR Chuyangaron 72.47 310 P P 13 17 42.2 +0.4
DANN Dangsing 72.64 294 *e*P P 13 17 43.9 +0.8
NIL Nilore 74.35 304 P P 13 17 53.8 +1.0
NIL pmax pmax
comp=Z,24nm,0.6s
NIL Nilore 74.35 304 P P 13 17 53.8 +1.0
SBUM Sibu 74.83 255 P P 13 17 55.8 +0.1
AKASG Malin Array Be 75.65 342 P P 13 17 58.8 -1.1
comp=Z,2.6nm,0.3s,baz=22,slow=5.9,SNR=21
AKASG LR LR 13 55 12.9
comp=Z,38nm,19.2s,baz=350,slow=39
AKBB Malin Array Si 75.65 342 *ce*P P 13 17 58.4 -1.5
AKBB Malin Array Si 75.65 342 P P 13 17 58.8 -1.1
AKBB IAmb IAmb 13 18 00.2
comp=Z,18nm,1.1s
KBL Kabul 75.79 308 P P 13 18 00.8 -0.5
KBL pmax pmax
comp=Z,12nm,0.7s
KBL Kabul 75.79 308 P P 13 18 00.8 -0.5
KBL IAmb IAmb 13 18 01.9
comp=Z,12nm,0.7s
KWP Kalwaria Pacla 77.83 346 P P 13 18 12.2 -0.1
KWP pmax pmax
comp=Z,69nm,0.5s
KWP Kalwaria Pacla 77.83 346 P P 13 18 12.2 -0.1
GEYT Alibeck 78.08 317 P P 13 18 14.9 +1.0
comp=Z,1.7nm,0.6s,baz=344,slow=9.2,SNR=3.6
GEYT LR LR 13 56 58.4
comp=Z,81nm,18.4s,baz=70,slow=39
MEM Membach 78.47 357 P P 13 18 15.7 -0.1
KIV Kislovodsk 78.52 331 *e*P P 13 18 16.0 -0.3
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,142nm,18.0s
KOLS Kolonicke sedl 78.58 346 *e*P P 13 18 16.2 -0.2
KOLS pmax pmax
comp=Z,8.0nm,1.2s
KOLS Kolonicke sedl 78.58 346 *e*P P 13 18 16.2 -0.2
KBZ Khabaz 78.66 330 P P 13 18 17.4 +0.5
comp=Z,2.7nm,0.8s,baz=62,slow=0.6,SNR=5.0
KBZ LR LR 13 57 18.9
comp=Z,62nm,19.1s,baz=16,slow=39
KBZ Khabaz 78.66 330 *ce*P P 13 18 16.8 -0.1
KBZ pmax pmax
comp=Z,4.0nm,1.0s
BCLA Clavier 78.69 357 P P 13 18 17.2 +0.3
CRVS Cervenica-Dubn 78.73 346 *e*P P 13 18 17.6 +0.3
CRVS pmax pmax
comp=Z,9.0nm,1.0s
CRVS Cervenica-Dubn 78.73 346 *e*P P 13 18 17.6 +0.3
LANS Liptovska Anna 78.77 348 *e*P P 13 18 18.4 +0.9
LANS pmax pmax
comp=Z,6.0nm,1.0s
LANS Liptovska Anna 78.77 348 *e*P P 13 18 18.4 +0.9
BMRD Maredsous 78.82 357 P P 13 18 17.8 +0.1
DOU Dourbes 79.03 358 P P 13 18 18.9 +0.1
TRPA Tarpa 79.32 345 ⇑P P 13 18 20.8 +0.4
BUR08 Bucovina Ar. S 79.34 344 P P 13 18 20.4 -0.4
BUR08 IAmb IAmb 13 18 22.8
comp=Z,13nm,0.8s
BURAR Bucovina Array 79.36 344 ⇑P P 13 18 21.1 +0.2
BURAR Bucovina Array 79.36 344 ⇑P P 13 18 21.1 +0.2
KHC Kasperske Hory 79.46 352 *ce*P P 13 18 21.5 +0.2
KHC pmax pmax
comp=Z,12nm,1.3s
KHC Kasperske Hory 79.46 352 *e*P P 13 18 20.7 -0.5
KHC Kasperske Hory 79.46 352 P P 13 18 20.8 -0.5
VYHS Vyhne 79.50 348 *e*P P 13 18 21.5 0.0
VYHS pmax pmax
comp=Z,7.0nm,1.1s
VYHS Vyhne 79.50 348 *e*P P 13 18 21.5 0.0
GERES GERESS Array B 79.73 351 P P 13 18 22.0 -0.8
comp=Z,1.1nm,0.5s,baz=15,slow=5.5,SNR=12
BIZ Bicaz 79.86 343 ⇑P P 13 18 23.9 +0.4
CONA Conrad Observa 80.42 350 *e*P P 13 18 26.7 +0.2
comp=Z,5.0nm,1.0s
VRI Vrincioaia 80.77 342 ⇓P P 13 18 27.7 -0.7
VRI Vrincioaia 80.77 342 ⇓P P 13 18 27.7 -0.7
ECH Echery 80.81 356 P P 13 18 28.5 -0.1
ECH pmax pmax
comp=Z,7.0nm,1.2s
ECH Echery 80.81 356 P P 13 18 28.5 -0.1
ARSA Arzberg 81.12 350 *e*P P 13 18 30.6 +0.4
comp=Z,2.2nm,0.5s
MLR Muntele Rosu 81.28 342 ⇓P P 13 18 31.5 +0.2
MLR Muntele Rosu 81.28 342 ⇓P P 13 18 31.5 +0.2
MLR Muntele Rosu 81.28 342 P P 13 18 31.9 +0.7
MLR IAmb IAmb 13 18 36.0
comp=Z,27nm,1.5s
RETA Reutte 81.32 353 *e*P P 13 18 31.2 -0.2
comp=Z,4.0nm,0.6s
WATA Walderalm 81.41 353 *e*P P 13 18 31.8 -0.1
comp=Z,3.7nm,0.7s
MOTA Moosalm 81.44 353 *e*P P 13 18 31.9 -0.2
comp=Z,5.1nm,1.2s
WTTA Wattenberg 81.48 353 *e*P P 13 18 32.4 +0.1
comp=Z,7.9nm,0.7s
VOIR 81.50 343 ⇑P P 13 18 33.0 +0.6
VOIR 81.50 343 ⇑P P 13 18 33.0 +0.6
KBA Koelnbreinsper 81.51 351 *i* P P 13 18 32.9 +0.4
comp=Z,8.6nm,0.6s
SQTA Sankt Quirin 81.56 353 *e*P P 13 18 31.8 -0.8
comp=Z,2.6nm,0.5s
SOKA Soboth 81.74 350 *e*P P 13 18 33.5 -0.1
comp=Z,16nm,1.2s
WRA Warramunga Arr 81.75 224 P P 13 18 33.2 -0.6
comp=Z,2.0nm,0.7s,baz=31,slow=5.9,SNR=15
TIRR Tirgusor 81.78 340 ⇓P P 13 18 33.9 +0.2
TIRR Tirgusor 81.78 340 ⇓P P 13 18 33.9 +0.2
FETA Feichten 81.79 353 *i* P P 13 18 33.9 -0.1
comp=Z,8.9nm,1.1s
ABTA Abfaltersbach 81.92 352 *e*P P 13 18 34.1 -0.4
comp=Z,14nm,1.3s
MYKA Terra Mystica 81.93 351 *e*P P 13 18 34.9 +0.3
comp=Z,2.6nm,0.6s
OBKA Obir 81.96 351 *e*P P 13 18 34.6 -0.2
comp=Z,5.4nm,0.6s
PRED Cave del Predi 82.12 351 P P 13 18 34.1 -1.5
PRED IAmb IAmb 13 18 35.7
comp=Z,6.7nm,0.7s
HERR Herculane 82.50 345 ⇑P P 13 18 37.0 -0.4

MDVR	**Moldovita**	**82.71 345**	⇑P	**P**	**13 18 37.7**	**-0.9**
DIVS	**Divibare**	**83.64 346**	P	**P**	**13 18 42.8**	**-0.7**
DIVS			IAmb	IAmb	13 18 44.3	
	comp=Z,21nm,1.3s					
BNI	**Bardonecchia**	**84.00 356**	P	**P**	**13 18 45.8**	**+0.4**
BNI			pmax	pmax		
	comp=Z,10.0nm,1.2s					
BNI	**Bardonecchia**	**84.00 356**	P	**P**	**13 18 45.8**	**+0.4**
BNI			IAmb	IAmb	13 18 47.9	
	comp=Z,9.9nm,1.2s					
LEM	**Lembang**	**84.94 253**	LR	LR	13 57 10.7	
	comp=Z,82nm,18.7s,baz=300,slow=36					
BR131	**Keskin Array S**	**85.02 335**	P	**P**	**13 18 50.3**	**-0.4**
BR131			pmax	pmax		
	comp=Z,12nm,1.3s					
BR131	**Keskin Array S**	**85.02 335**	P	**P**	**13 18 50.2**	**-0.4**
BR131			IAmb	IAmb	13 18 51.7	
	comp=Z,12nm,1.2s					
BRTR	**Keskin Array B**	**85.02 335**	P	**P**	**13 18 50.0**	**-0.7**
	comp=Z,4.0nm,0.7s,baz=37,slow=3.1,SNR=18					
BRTR			LR	LR	14 00 27.6	
	comp=Z,28nm,18.3s,baz=340,slow=38					
BRTR	**Keskin Array B**	**85.02 335**	P	**P**	**13 18 50.0**	**-0.7**
ASAR	**Alice Springs**	**85.22 222**	P	**P**	**13 18 52.0**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=26,slow=5.5,SNR=22					
OSSC	**Osservatorio P**	**85.22 352**	P	**P**	**13 18 49.9**	**-1.6**
MURB	**Monte Urbino**	**85.37 351**	P	**P**	**13 18 51.9**	**-0.4**
ESDC	**Sonseca Array**	**89.40 4**	P	**P**	**13 19 10.5**	**-1.2**
	comp=Z,2.9nm,0.9s,baz=355,slow=4.2,SNR=15					
STKA	**Stephens Creek**	**89.67 213**	P	**P**		
	comp=Z,5.3nm,0.7s,baz=344,slow=7.1,SNR=13					
STKA	**Stephens Creek**	**89.67 213**	P	**P**	**13 19 13.2**	**+0.5**
STKA			pmax	pmax		
	comp=Z,1.0nm,0.8s					
STKA	**Stephens Creek**	**89.67 213**	P	**P**	**13 19 13.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**115.92 359**	PKP	**PKiKP**	**13 24 56.9**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=12,slow=1.9,SNR=7.5					
KMBO	**Kilima Mbogo**	**121.44 316**	*i* PKIKP	**PKiKP**	**13 25 11.8**	**+2.8**
KMBO			pmax	pmax		
	comp=Z,1.0nm,0.3s					
DBIC	**Dimbokro**	**122.15 7**	PKP	**PKPdf**	**13 25 09.2**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=4.5,slow=0.1,SNR=14					
PLCA	**Paso Flores**	**131.11 107**	PKP	**PKPdf**	**13 25 26.6**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=288,slow=13,SNR=3.6					
TSUM	**Tsumeb**	**145.45 331**		**PKPdf**	**13 25 53.0**	**-0.2**
MAW	**Mawson**	**146.22 217**	PKPbc	**PKPbc**	**13 25 54.0**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=95,slow=1.0,SNR=8.1					
LBTB	**Lobatse**	**147.71 315**	PKP2	**PKPbc**	**13 26 00.0**	**+0.3**
LBTB	**Lobatse**	**147.71 315**		**PKPbc**	**13 25 60.0**	**+0.3**
BOSA	**Boshof**	**150.95 312**	PKPbc	**PKPbc**	**13 26 07.6**	**-0.1**
	comp=Z,7.0nm,0.7s,baz=39,slow=2.0,SNR=16					
BOSA			PKPab	**PKPab**	**13 26 15.6**	**+0.4**
	comp=Z,4.3nm,0.6s,baz=44,slow=5.4,SNR=6.4					

*JMA **05** 13:16:41.2±0.4, 45.46N×150.31E, h188km, M3.2*
*IDC **05** 13:16:42.1±3.9, 46.77N×149.66E, h178km±34km, mb2.9/5, mb1 3.1/7, mb1mx2.9/40, mbtmp3.4/7, Error ellipse: s-maj=52.3km s-min=19.9km az=156.0*
ISC 05 13:16:40.4±1.0, 45.8N±0.2×150.0E±0.1, h200km, n22, σ2§15/28, mb2.8/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.87**	**233**	P		**Pn**	**13 17 41.3**	**+0.8**
NEM2				*e*S		**Sn**	**13 18 28.1**	**+0.4**
JRA	**Rausu**	**3.91**	**244**	P		**Pn**	**13 17 43.3**	**+2.2**
JNK	**Nakash**	**4.34**	**242**	P		**Pn**	**13 17 48.5**	**+2.0**
JTKR	**Abashiri--Toko**	**4.68**	**250**	P		**Pn**	**13 17 52.9**	**+2.2**
JAK	**Akkeshi**	**4.70**	**236**	P		**Pn**	**13 17 52.2**	**+1.3**
JAK				*e*S		**Sn**	**13 18 47.5**	**+1.1**
JAR	**Ashorobuto**	**5.08**	**243**	P		**Pn**	**13 17 58.3**	**+2.4**
JOB	**Onbets**	**5.26**	**239**	P		**Pn**	**13 17 59.9**	**+1.8**
JKK2	**Kamakawa 2**	**5.49**	**252**	P		**Pn**	**13 18 03.7**	**+2.7**
ASAJ	**Asahikawa**	**5.50**	**255**	P		**Pn**	**13 18 04.5**	**+3.4**
JCH	**Churui**	**5.71**	**239**	P		**Pn**	**13 18 05.5**	**+1.6**
JCH				*e*S		**Sn**	**13 19 09.2**	**-0.6**
JNBK	**Urakawa-nobuka**	**6.27**	**239**	P		**Pn**	**13 18 12.5**	**+1.3**
JNBK				*e*S		**Sn**	**13 19 23.5**	**+0.5**
JNB	**Noboribetsu**	**7.23**	**246**	P		**Pn**	**13 18 25.0**	**+1.4**
JNB				*e*S		**Sn**	**13 19 45.0**	**-0.6**
JKB	**Kayabe**	**7.55**	**242**	P		**Pn**	**13 18 27.7**	**0.0**
JKB				*e*S		**Sn**	**13 19 49.1**	**-3.9**
JTM	**Tenmabayashi**	**8.19**	**236**	*e*S		**Sn**	**13 20 05.0**	**-3.3**
JANG	**Nango**	**8.22**	**232**	P		**Pn**	**13 18 36.5**	**+0.1**
JANG				*e*S		**Sn**	**13 20 05.7**	**-3.2**
PETK	**Petropavlovsk-**	**8.89**	**32**	P		Pn	13 18 37.0	-8.0
	0.1nm,0.3s,baz=179,slow=12,SNR=8.0							
KSRS	**Korea Array**	**18.43**	**251**	P		**Pn**	**13 20 46.2**	**+2.9**
	0.2nm,0.3s,baz=54,slow=12,SNR=7.5							
INK	**Inuvik**	**43.63**	**32**	P		**P**	**13 24 23.6**	**-0.9**
	1.0nm,0.6s,baz=277,slow=6.0,SNR=7.5							
MKAR	**Makanchi Array**	**45.45**	**297**	P		**P**	**13 24 38.0**	**-1.2**
	0.2nm,0.6s,baz=64,slow=6.7,SNR=2.3							
FINES	**FINESS Array B**	**63.97**	**334**	P		**P**	**13 26 48.4**	**-3.4**
	0.6nm,0.7s,baz=60,slow=8.2,SNR=1.6							
PDAR	**Pinedale Array**	**67.07**	**52**	P		**P**	**13 27 13.0**	**+0.7**
	0.1nm,0.5s,baz=344,slow=3.0,SNR=1.7							
TXAR	**Lajitas Array**	**79.86**	**58**	P		**P**	**13 28 28.8**	**+1.9**
	0.1nm,0.5s,baz=317,slow=3.8,SNR=1.9							

*TIR **05** 13:17:18.1, 41.76N×20.36E, h6km, Md2.4/4*
*BEO **05** 13:17:19.4±0.7, 41.74N×20.42E, h20km±4km, ML2.0/10*
*SKO **05** 13:17:19.3, 41.69N×20.47E, h15km*
ISC 05 13:17:19.3±0.9, 41.76N±0.03×20.40E±0.02, h7km±8km, n20, σ1§38/39, 1D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.08**	**159**	*i* PG		**Pg**	**13 17 20.9**	**-0.5**
PHP				*i* SG		**Sg**	**13 17 22.6**	**-0.2**
PUK	**Puka**	**0.47**	**307**	*i* PG		**Pg**	**13 17 27.8**	**-0.6**
PUK				*i* SG		**Sg**	**13 17 35.3**	**+0.7**
TIR	**Tirane**	**0.58**	**224**	*i* PG		**Pg**	**13 17 30.3**	**-0.1**
TIR				*i* SG		**Sb**	**13 17 39.8**	**-0.4**
TIR	**Tirane**	**0.58**	**224**	*e*Pg		**Pg**	**13 17 30.8**	**+0.4**
TIR				*e*Sg		**Sb**	**13 17 39.9**	**-0.2**
BCI	**Bajram Curri**	**0.65**	**338**	*i* PG		**Pg**	**13 17 31.8**	**-0.1**
BCI				*i* SG		**Sb**	**13 17 42.7**	**+0.3**
OHR	**Ohrid**	**0.71**	**155**	*i* Pg		**Pg**	**13 17 32.3**	**-0.8**
OHR				*i* Sn		**Sb**	**13 17 43.4**	**-0.8**
OHR				*e*Lg		Lg	13 17 44.1	
	comp=N,66nm,0.3s							
SKO	**Skopje**	**0.80**	**74**	*i* Pg		**Pg**	**13 17 34.5**	**-0.3**
SKO				⇓*e*Sg		**Sn**	**13 17 46.9**	**-2.5**
PDG	**Podgorica**	**1.08**	**308**	*e*Pg		**Pb**	**13 17 39.2**	**-1.2**
PDG				*e*Sg		**Sb**	**13 17 54.6**	**-0.1**
STIP	**Stip**	**1.34**	**92**	*i* Pn		**Pg**	**13 17 46.8**	**+1.8**
STIP				*i* Sn		**Sg**	**13 18 08.2**	**+5.9**
STIP				*e*Lg		Lg	13 18 08.8	
	comp=N,2.7nm,0.3s							
BARS	**Barje**	**1.49**	**44**	*e*Pg		**Pn**	**13 17 46.2**	**-0.3**
BARS				*e*Sg		**Sg**	**13 18 06.7**	**-0.4**
SJES	**Sjenica**	**1.53**	**348**	*e*Pg		**Pb**	**13 17 48.1**	**0.0**
SJES				*e*Sg		**Sg**	**13 18 09.3**	**+0.7**
SELS	**Selova**	**1.55**	**20**	*e*Pg		**Pb**	**13 17 47.6**	**-0.8**
SELS				*e*Sg		**Sg**	**13 18 09.7**	**+0.5**
VAY	**Valandovo**	**1.69**	**104**	*i* Pn		**Pb**	**13 17 50.0**	**-0.7**
VAY				*i* Sn		**Sg**	**13 18 14.2**	**+0.7**
VAY				*e*Lg		Lg	13 18 14.4	
	comp=E,13nm,0.7s							
BOSS	**Bosilegrad**	**1.71**	**64**	*e*Pg		**Pb**	**13 17 50.4**	**-0.7**
BOSS				*e*Sg		**Sg**	**13 18 14.1**	**-0.2**
TREB	**Trebinje**	**1.80**	**303**	*e*Pg		**Pb**	**13 17 51.8**	**-0.8**
TREB				*e*Sg		**Sg**	**13 18 18.1**	**+1.0**
DBRK	**Dubrovnik**	**1.90**	**299**	*e*Pn		**Pb**	**13 17 53.8**	**-0.6**
DBRK				Sn		**Sg**	**13 18 23.1**	**+2.6**
BBLS	**Lazići**	**2.23**	**341**	*e*Pg		**Pb**	**13 18 00.2**	**+0.3**
BBLS				*e*Sg		**Sg**	**13 18 30.7**	**-0.2**
STON	**Ston**	**2.29**	**300**	Sn		**Sg**	**13 18 34.0**	**+1.2**
DIVS	**Divibare**	**2.35**	**353**	*e*Pg		**Pb**	**13 18 02.1**	**0.0**
DIVS				*e*Sg		**Sg**	**13 18 34.8**	**-0.2**
RICI	**Ricice**	**2.97**	**307**	*e*Pn		**Pn**	**13 18 08.9**	**+2.0**
RICI				Sn		**Sb**	**13 18 48.1**	**-0.9**

*KRNET **05** 13:25:24.5±0.1, 42.55N×79.62E, h20km, mb2.6*
*NNC **05** 13:25:24.3±0.8, 42.58N×79.60E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=5.2km s-min=3.5km az=136.0*
*SOME **05** 13:25:24.4, 42.58N×79.58E, h10km*
ISC 05 13:25:24.4±1.4, 42.59N±0.04×79.58E±0.04, h2km±11km,

n36, σ0§82/65, 14C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.57**	**352**	*e*P		**Pb**	**13 25 37.0**	**-0.2**
	baz=17							
SHLS				*e*S		**Sb**	**13 25 46.2**	**+0.3**
	baz=17							
SHLS	**Shalkode**	**0.57**	**352**	*e*P		**Pb**	**13 25 37.0**	**-0.2**
	36nm,0.1s							
SHLS				*e*S		**Sb**	**13 25 46.2**	**+0.3**
	172nm,0.2s							
SHLS	**Shalkode**	**0.57**	**352**	P		**Pb**	**13 25 37.0**	**-0.2**
	36nm,0.1s							
SHLS				S		**Sb**	**13 25 46.2**	**+0.3**
	172nm,0.2s							
UZB	**Uzynbulak**	**0.69**	**324**	*e*P		**Pb**	**13 25 38.6**	**-0.6**
	baz=24							
UZB				*e*S		**Sb**	**13 25 48.5**	**-0.8**
	baz=24							
UZB	**Uzynbulak**	**0.69**	**324**	*e*P		**Pb**	**13 25 38.6**	**-0.6**
	4.5nm,0.1s							
UZB				*e*S		**Sb**	**13 25 48.5**	**-0.8**
	31nm,0.2s							
UZB	**Uzynbulak**	**0.69**	**324**	P		**Pb**	**13 25 38.6**	**-0.6**
	4.5nm,0.1s							
UZB				S		**Sb**	**13 25 48.5**	**-0.8**
	31nm,0.2s							
PDGK	**Podgornoye**	**0.74**	**355**	P		**Pg**	**13 25 39.1**	**+0.5**
	2.7nm,0.1s							
PDGK				S		**Sb**	**13 25 49.6**	**-1.1**
	9.5nm,0.2s							
PDGK	**Podgornoye**	**0.74**	**355**	⇑P		**Pg**	**13 25 38.9**	**+0.3**
	1.2nm,0.2s							
PDGK				⇑S		**Sb**	**13 25 49.5**	**-1.2**
	4.4nm,0.2s							
PRZ	**Przheval'sk**	**0.88**	**263**	⇑*i*P		**Pg**	**13 25 41.0**	**-0.2**
	baz=66							
PRZ				⇑*i*S		**Sg**	**13 25 53.3**	**+0.8**
	baz=66							
SATY	**Saty**	**0.98**	**299**	*e*P		**Pb**	**13 25 44.2**	**0.0**
	3.6nm,0.1s							
SATY				*e*S		**Sn**	**13 25 58.1**	**-1.8**
	26nm,0.1s							
KTMS	**Ketmen**	**1.02**	**33**	*e*P		**Pg**	**13 25 43.6**	**-0.4**
	baz=30							
KTMS				*e*S		**Sg**	**13 25 57.5**	**+0.2**
	baz=30							
KTMS	**Ketmen**	**1.02**	**33**	*e*P		**Pg**	**13 25 43.6**	**-0.4**
	3.6nm,0.1s							
KTMS				*e*S		**Sg**	**13 25 57.5**	**+0.2**
	30nm,0.1s							
KTMS	**Ketmen**	**1.02**	**33**	P		**Pg**	**13 25 43.6**	**-0.4**
	3.6nm,0.1s							
KTMS				S		**Sg**	**13 25 57.5**	**+0.2**
	30nm,0.1s							
ANVS	**Anan'yevo**	**1.42**	**278**	⇑*i*P		**Pg**	**13 25 51.2**	**-0.5**
	baz=80							
ANVS				⇑*i*S		**Sg**	**13 26 10.5**	**+0.5**
	baz=80							
TARG	**Taragay, Kyrgy**	**1.57**	**237**	⇑*i*P		**Pn**	**13 25 53.3**	**-0.4**
	baz=40							
TARG				⇑*i*S		**Sb**	**13 26 14.0**	**-1.0**
	baz=40							
DJR	**Jarkent**	**1.75**	**5**	*e*P		**Pb**	**13 25 57.2**	**0.0**
	12nm,0.2s							
DJR				*e*S		**Sg**	**13 26 20.8**	**+0.4**
	6.4nm,0.3s							
DJR	**Jarkent**	**1.75**	**5**	P		**Pb**	**13 25 57.2**	**0.0**
	12nm,0.2s							
DJR				S		**Sg**	**13 26 20.8**	**+0.4**
	6.4nm,0.3s							
KDJ	**Kajisay**	**1.84**	**256**	⇑*i*P		**Pb**	**13 25 58.2**	**-0.6**
	baz=58							
KDJ				⇑*i*S		**Sb**	**13 26 22.5**	**+0.2**
	baz=58							
KOTS	**Kotyrbulak**	**1.92**	**290**	*e*P		**Pg**	**13 26 01.2**	**0.0**
	9.2nm,0.2s							
KOTS				*e*S		**Sg**	**13 26 27.9**	**+1.8**
	14nm,0.3s							
KOTS	**Kotyrbulak**	**1.92**	**290**	Pg		**Pg**	**13 26 01.2**	**0.0**
	9.2nm,0.2s							
MDOK	**Medeo**	**1.94**	**288**	*e*P		**Pb**	**13 26 00.3**	**-0.3**
	baz=89							
MDOK				*e*S		**Sg**	**13 26 26.4**	**-0.4**
	baz=89							
MDOK	**Medeo**	**1.94**	**288**	*e*P		**Pb**	**13 26 00.3**	**-0.3**
	1.2nm,0.1s							
MDOK				*e*S		**Sg**	**13 26 26.4**	**-0.4**
	3.4nm,0.2s							
MDOK	**Medeo**	**1.94**	**288**	Pg		**Pb**	**13 26 00.3**	**-0.3**
	1.2nm,0.1s							
MDOK				Lg		Lg	13 26 26.4	
	3.4nm,0.2s							
TNSS	**Tian-Shan**	**1.99**	**284**	*e*P		**Pb**	**13 26 01.4**	**0.0**
	1.9nm,0.2s							
TNSS				*e*S		**Sg**	**13 26 28.2**	**+0.1**
	6.6nm,0.2s							
TNSS	**Tian-Shan**	**1.99**	**284**	Pg		**Pb**	**13 26 01.4**	**0.0**
	1.9nm,0.2s							
TNSS				Lg		Lg	13 26 28.2	
	6.6nm,0.2s							
ARXS	**Arharly**	**2.06**	**322**	*e*P		**Pb**	**13 26 02.3**	**-0.2**
	3.7nm,0.3s							
ARXS				*e*S		**Sg**	**13 26 30.6**	**0.0**
	24nm,0.4s							
ARXS	**Arharly**	**2.06**	**322**	Pg		**Pb**	**13 26 02.3**	**-0.2**
	3.7nm,0.3s							
ARXS				Lg		Lg	13 26 30.6	
	24nm,0.4s							
KTBS	**Karatobe**	**2.40**	**299**	*e*P		**Pb**	**13 26 07.7**	**-0.6**
	baz=98							
KTBS				*e*S		**Sg**	**13 26 40.3**	**-1.1**
	baz=98							
KTBS	**Karatobe**	**2.40**	**299**	*e*P		**Pb**	**13 26 07.7**	**-0.6**
	0.7nm,0.2s							
KTBS				*e*S		**Sg**	**13 26 40.2**	**-1.1**
	24nm,0.3s							
KTBS	**Karatobe**	**2.40**	**299**	Pg		**Pb**	**13 26 07.7**	**-0.6**
	0.7nm,0.2s							
KTBS				Lg		Lg	13 26 40.2	
	24nm,0.3s							
ULHL	**Ulahol**	**2.49**	**263**	⇑*i*P		**Pn**	**13 26 07.5**	**+1.3**
	baz=64							
ULHL				⇑*i*S		**Sb**	**13 26 38.7**	**-2.6**
	baz=64							
KAPS	**Kapalarasan**	**2.70**	**357**	*e*P		**Pb**	**13 26 13.6**	**+0.2**
	0.5nm,0.1s							
KAPS				*e*S		**Sg**	**13 26 49.4**	**-1.6**
	2.7nm,0.4s							
KAPS	**Kapalarasan**	**2.70**	**357**	Pg		**Pb**	**13 26 13.6**	**+0.2**
	0.5nm,0.1s							
KAPS				Lg		Lg	13 26 49.4	
	2.7nm,0.4s							
DGS	**Degeres**	**2.87**	**284**	*e*P		**Pb**	**13 26 16.0**	**-0.3**
	0.4nm,0.2s							
DGS				*e*S		**Sb**	**13 26 53.9**	**+1.9**
	11nm,0.6s							
DGS	**Degeres**	**2.87**	**284**	Pg		**Pb**	**13 26 16.0**	**-0.3**
	0.4nm,0.2s							
DGS				Lg		Lg	13 26 53.9	
	11nm,0.6s							
ARLS	**Aral**	**3.97**	**261**	⇑*i*P		**Pn**	**13 26 28.5**	**+2.1**
	baz=62							
ARLS				⇑*i*S		**Sn**	**13 27 14.8**	**+1.2**
	baz=62							

MAN 05 13:45:01.3, 6.47N×127.01E, h26km, MS4.0, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.89**	**302**	*e*P		Pb	13 45 17.2	-0.9
MATI				*e*S		Sb	13 45 27.8	-1.7
DDMP	**Don Marcelino,**	**1.34**	**254**	*e*P		Pn	13 45 24.8	+0.4
DDMP				*e*S		Sn	13 45 39.1	-2.3
KCP	**Kidapawan**	**1.98**	**286**	⇓*e*P		Pn	13 45 33.8	+0.6
BUKP	**Musuan**	**2.39**	**306**	*e*P		Pn	13 45 39.3	+0.4
BUKP				*e*S		Sn	13 46 09.0	+1.7
SKMP	**Bagumbayan, Su**	**2.45**	**271**	*e*P		Pn	13 45 39.3	-0.4
SKMP				*e*S		Sn	13 46 03.7	-5.1
PAGZ	**Pagadian**	**3.85**	**291**	*e*P		Pn	13 45 59.8	+0.8

*JMA **05** 13:48:48.6±0.1, 40.67N×142.47E, h44km±3km, M4.0*
JMA Felt II J1.
*NIED **05** 13:48:48.7, 40.67N×142.47E, h44km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr 0.14; Mθθ 2.82; Mφφ -2.96; Mrθ 0.50; Mrφ -2.96; Mθφ -2.98; Fault plane solution: Mo 5.09000×10^14 NP1: φs 338.00000°, δ 88.00000°, λ -35.00000°. NP2: φs 70.00000°, δ 55.00000°, λ -178.00000°.*
*NEIC **05** 13:48:49.7±2.0, 40.63N±0.07×142.4E±0.1, h57km±8km, mb4.3/11 Error ellipse: s-maj=16.9km s-min=8.8km az=109.0*
*IDC **05** 13:48:49.3±2.3, 40.63N×142.38E, h57km±22km, mb3.4/8, mb1 3.6/12, mb1mx3.5/35, mbtmp3.7/12, ML2.8/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/26, Error ellipse: s-maj=25.7km s-min=16.0km az=94.0*
ISC 05 13:48:49.6±1.1, 40.65N±0.03×142.36E±0.07, h53km±10km, n56, σ1§45/60, mb3.8/13, 6C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.67**	**228**	⇑P		**Pn**	**13 49 02.7**	**-0.3**
JKEN				*e*S		**Sn**	**13 49 12.7**	**-0.1**
JANG	**Nango**	**0.70**	**247**	⇑P		**Pn**	**13 49 03.6**	**+0.1**
JANG				S		**Sn**	**13 49 14.0**	**+0.4**
JTH	**Tanohata**	**0.81**	**208**	⇑P		**Pn**	**13 49 04.3**	**-0.6**
JARK	**Aomorirokkasho**	**0.83**	**296**	⇓P		**Pn**	**13 49 04.9**	**-0.2**
JARK				*e*S		**Sn**	**13 49 16.2**	**0.0**
JTM	**Tenmabayashi**	**0.99**	**278**	⇓P		**Pn**	**13 49 07.2**	**0.0**
JTM				S		**Sn**	**13 49 20.2**	**0.0**
JOT	**Ohata**	**1.23**	**307**	⇓P		**Pn**	**13 49 10.0**	**-0.4**
JOT				*e*S		**Sn**	**13 49 25.7**	**-0.3**
JAH	**Hinai**	**1.39**	**251**	⇓P		**Pn**	**13 49 13.3**	**+0.6**
JAH				S		**Sn**	**13 49 31.1**	**+1.1**
JOM	**Ohasama**	**1.43**	**215**	⇑P		**Pn**	**13 49 13.7**	**+0.5**
JOM				S		**Sn**	**13 49 32.1**	**+1.1**
ERM	**Erimo**	**1.49**	**24**	P		**Pn**	**13 49 13.1**	**-0.9**
JEM	**Erimo**	**1.49**	**24**	⇑P		**Pn**	**13 49 13.3**	**-0.7**
JEM				*e*S		**Sn**	**13 49 31.4**	**-0.9**
JKB	**Kayabe**	**1.58**	**321**	⇓P		**Pn**	**13 49 15.0**	**-0.3**
JKB				S		**Sn**	**13 49 34.0**	**-0.7**
JNBK	**Urakawa-nobuka**	**1.65**	**10**	P		**Pn**	**13 49 16.3**	**+0.1**
JSR	**Shiriuchi**	**1.71**	**302**	P		**Pn**	**13 49 17.1**	**+0.2**
JIW	**Iwasaki**	**1.79**	**269**	P		**Pn**	**13 49 18.9**	**+0.8**
JRG	**Rokugo**	**1.82**	**227**	⇓P		**Pn**	**13 49 19.8**	**+1.3**
JRG				*e*S		**Sn**	**13 49 42.5**	**+2.0**
JMK	**Ichinoseki**	**1.91**	**208**	⇑P		**Pn**	**13 49 20.2**	**+0.5**
ASAJ	**Asahikawa**	**3.46**	**3**	P		**Pn**	**13 49 41.1**	**+0.1**
	12nm,0.3s,baz=203,slow=13,SNR=123							
ASAJ				S		**Sn**	**13 50 20.1**	**-0.6**
	5.1nm,0.3s,baz=18,slow=20,SNR=6.3							
ASAJ				LR		LR	13 51 32.5	
	comp=Z,87nm,18.8s,baz=156,slow=47							
JKA	**Kamikawa-asahi**	**3.46**	**3**			**Sn**	**13 50 20.1**	**-0.6**
JKA	**Kamikawa-asahi**	**3.46**	**3**	Pn		**Pn**	**13 49 40.9**	**-0.1**
MJB9	**Matsu-Tunnel**	**5.23**	**220**	Pn		**Pn**	**13 50 07.0**	**+1.7**
MAJO	**Matsushiro**	**5.23**	**220**	Pn		**Pn**	**13 50 07.0**	**+1.7**
MAT	**Matsushiro**	**5.23**	**220**	P		**Pn**	**13 50 07.5**	**+1.7**
MAT				*e*S		**Sn**	**13 51 06.5**	**+2.2**
MJAR	**Matsushiro Arr**	**5.23**	**220**	P		**Pn**	**13 50 05.8**	**+0.5**
	0.4nm,0.3s,baz=31,slow=13,SNR=20							
YSS	**Yuzh-Sakhalins**	**6.30**	**2**	Pn		**Pn**	**13 50 20.6**	**+0.7**
INU	**Inuyama**	**6.77**	**220**	Pn		**Pn**	**13 50 27.1**	**+0.8**
JHJ	**Hachijo jima 2**	**7.80**	**196**	P		**Pn**	**13 50 38.4**	**-2.0**
	8.8nm,0.3s,baz=63,slow=16,SNR=12							
JHJ				S		**Sn**	**13 52 00.1**	**-7.2**
	8.5nm,0.3s,baz=78,slow=20,SNR=1.5							
JHJ2	**Mitsune**	**7.80**	**196**	Pn		**Pn**	**13 50 39.4**	**-1.0**
USRK	**Ussuriysk Ar.**	**8.45**	**298**	P		**Pn**	**13 50 49.8**	**+0.6**
	baz=105,slow=11,SNR=2.0							
KSRS	**Korea Array**	**11.67**	**259**	P		**Pn**	**13 51 37.2**	**+4.0**
	0.2nm,0.3s,baz=67,slow=13,SNR=4.6							
YOJ	**Yonaguni jima**	**22.87**	**231**	P		**P**	**13 53 47.2**	**-1.3**
ANA2	**Anatahan**	**24.40**	**172**	P		**P**	**13 54 00.9**	**-2.1**
SONM	**Songino Array**	**26.56**	**298**	P		**P**	**13 54 22.3**	**-0.2**
	0.3nm,0.5s,baz=96,slow=7.9,SNR=1.5							
H11N2	**WAKE ISLAND Hy**	**29.57**	**128**	T		T	14 25 52.9	
	baz=320,slow=76,SNR=32							
H11N1	**WAKE ISLAND Hy**	**29.58**	**128**	T		T	14 26 00.6	
	baz=320,slow=76,SNR=30							
H11N3	**WAKE ISLAND Hy**	**29.59**	**128**	T		T	14 25 55.4	
	baz=320,slow=76,SNR=32							
H11S1	**WAKE ISLAND Hy**	**30.40**	**129**	T		T	14 26 58.2	
	baz=321,slow=76,SNR=23							
H11S3	**WAKE ISLAND Hy**	**30.40**	**129**	T		T	14 27 15.0	
	baz=321,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy**	**30.42**	**129**	T		T	14 26 56.7	
	baz=321,slow=76,SNR=16							
ZALV	**Zalesovo Beam**	**40.11**	**309**	P		**P**	**13 56 17.9**	**-1.9**
	1.0nm,0.5

JNU				Sn	**Sn**	**13 59 22.9**	**-2.4**
	0.5nm,0.3s,baz=202,slow=16,SNR=1.2						
TGY	**Tagaytay City**	**23.32**	**220**	LR	LR	14 12 13.1	
	comp=Z,108nm,19.4s,baz=115,slow=37						
SONM	**Songino Array**	**26.77**	**312**	P	**P**	**14 03 09.8**	**+0.6**
	0.3nm,0.5s,baz=116,slow=9.8,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**30.53**	**108**	T	T	14 35 58.7	
	baz=302						
H11N1	**WAKE ISLAND Hy**	**30.54**	**108**	T	T	14 36 02.9	
	baz=302						
H11N3	**WAKE ISLAND Hy**	**30.55**	**108**	T	T	14 36 03.1	
	baz=302						
H11S3	**WAKE ISLAND Hy**	**31.03**	**110**	T	T	14 36 30.1	
	baz=304,slow=74						
H11S1	**WAKE ISLAND Hy**	**31.04**	**110**	T	T	14 36 31.4	
	baz=304,slow=74						
H11S2	**WAKE ISLAND Hy**	**31.05**	**110**	T	T	14 36 34.1	
	baz=304						
MKAR	**Makanchi Array**	**42.65**	**305**	P	**P**	**14 05 27.2**	**+1.6**
	0.5nm,0.7s,baz=92,slow=9.9,SNR=3.2						
WRA	**Warramunga Arr**	**52.69**	**182**	P	P	14 06 52.2	+8.4
	0.7nm,1.1s,baz=360,slow=7.9,SNR=5.1						
ILAR	**Eielson Array**	**55.21**	**31**	P	**P**	**14 07 02.5**	**+0.8**
	0.5nm,0.9s,baz=277,slow=7.2,SNR=3.8						
ASAR	**Alice Springs**	**56.41**	**182**	P	P	14 07 19.4	+8.6
	0.3nm,0.5s,baz=8.4,slow=6.3,SNR=7.5						

MDD 05 13:58:16.7±0.5, 37°01N×5°58W, h15km, mbLg1.5/6, Error ellipse: s-maj=5.3km s-min=4.5km az=140.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.26**	**237**	Pg	Pg	13 58 21.3	-1.0
	SNR=7.9						
ESPR				Lg	Lg	13 58 27.3	
	SNR=7.9						
EMIJ	**Mijas**	**0.79**	**124**	Pg	Pg	13 58 30.4	-1.7
	1.6nm,0.3s,SNR=7.9						
EMIJ				Lg	Lg	13 58 42.7	
	6.0nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**1.07**	**7**	Pg	Pb	13 58 35.8	-1.1
	1.1nm,0.2s,SNR=7.9						
ECAB				Lg	Lg	13 58 49.8	
	2.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.15**	**311**	Pg	Pn	13 58 36.4	-1.8
	0.4nm,0.2s,SNR=7.9						
EMIN				Lg	Lg	13 58 53.3	
	2.2nm,0.2s,SNR=8.5						
EADA	**Adamuz**	**1.40**	**34**	Pg	Pb	13 58 42.5	-0.1
	0.3nm,0.1s,SNR=7.9						
EADA				Lg	Lg	13 59 02.1	
	1.5nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**1.60**	**290**	Lg	Lg	13 59 06.7	
	5.1nm,0.3s,SNR=7.9						
PVAQ	**Vaqueiros**	**1.75**	**284**	Pg	Pn	13 58 44.6	-1.9
PVAQ	**Vaqueiros**	**1.75**	**284**	*eP*	Pn	13 58 44.6	-1.9
EBAD	**Badajoz**	**2.08**	**327**	Lg	Lg	13 59 20.5	
	1.1nm,0.1s,SNR=7.9						

MDD 05 14:02:42.8±0.4, 37°00N×5°55W, h17km±6km, mbLg1.5/8, Error ellipse: s-maj=5.6km s-min=3.5km az=176.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.28**	**242**	Pg	Pg	14 02 48.3	-0.5
	3.8nm,0.1s,SNR=7.9						
ESPR				Lg	Lg	14 02 53.1	
	3.8nm,0.0s,SNR=7.9						
EMIJ	**Mijas**	**0.76**	**125**	Pg	Pb	14 02 56.1	-1.5
	0.7nm,0.2s,SNR=7.9						
EMIJ				Lg	Lg	14 03 07.8	
	5.0nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**1.08**	**6**	Pg	Pb	14 03 01.6	-1.4
	0.7nm,0.1s,SNR=7.9						
ECAB				Lg	Lg	14 03 16.2	
	2.0nm,0.2s,SNR=6.9						
EGOR	**Sierra Gorda,**	**1.16**	**84**	Pg	Pn	14 03 03.4	-1.0
	1.6nm,0.4s,SNR=7.9						
EGOR				Lg	Lg	14 03 17.6	
	0.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.18**	**311**	Pg	Pn	14 03 03.5	-1.0
	0.4nm,0.1s,SNR=7.9						
EMIN				Lg	Lg	14 03 19.6	
	2.2nm,0.2s,SNR=6.6						
EADA	**Adamuz**	**1.40**	**33**	Pg	Pb	14 03 08.9	+0.4
	0.2nm,0.1s,SNR=7.9						
EADA				Lg	Lg	14 03 26.8	
	1.9nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.63**	**290**	Pn	Pn	14 03 10.8	0.0
	0.1nm,0.1s,SNR=7.9						
EGRO				Pg	Pb	14 03 12.0	-0.4
	0.8nm,0.2s,SNR=7.9						
EGRO				Lg	Lg	14 03 32.8	
	1.9nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**1.78**	**284**	Pn	Pn	14 03 10.7	-2.0
PVAQ				Sn	Sn	14 03 32.8	-2.1
	2.7nm,0.5s						
PVAQ	**Vaqueiros**	**1.78**	**284**	*e*Pn	Pn	14 03 10.7	-2.0
PVAQ				*e*Sn	Sn	14 03 32.8	-2.1
PVAQ				A	A	14 03 40.4	
	2.7nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.92**	**278**	Sn	Sn	14 03 35.4	-3.1
PBDV	**Barranco-do-Ve**	**1.92**	**278**	*e*Sn	Sn	14 03 35.4	-3.1
EBAD	**Badajoz**	**2.10**	**327**	Sn	Sn	14 03 41.1	-1.8
	0.4nm,0.1s,SNR=7.9						
EBAD				Lg	Lg	14 03 47.5	
	1.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.13**	**67**	Sn	Sn	14 03 43.7	-0.2
	0.7nm,0.3s,SNR=7.9						
EQES				Lg	Lg	14 03 49.6	
	0.5nm,0.1s,SNR=7.9						

MDD 05 14:11:02.3±0.4, 36°97N×5°59W, h13km±4km, mbLg1.7/11, Error ellipse: s-maj=4.1km s-min=2.7km az=161.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.23**	**245**	Pg	Pg	14 11 07.0	-0.3
	3.9nm,0.2s,SNR=15						
ESPR				Lg	Lg	14 11 10.8	
	6.3nm,0.1s,SNR=7.0						
ALJ	**Aljibe**	**0.44**	**186**	Lg	Lg	14 11 16.0	
EMIJ	**Mijas**	**0.77**	**121**	Pg	Pg	14 11 16.1	-1.1
	1.7nm,0.2s,SNR=7.9						
EMIJ				Lg	Lg	14 11 28.2	
	10nm,0.2s,SNR=6.5						
ECAB	**El Cabril**	**1.11**	**7**	Pg	Pb	14 11 21.9	-1.6
	1.1nm,0.2s,SNR=7.9						
ECAB				Lg	Lg	14 11 37.4	
	5.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.17**	**313**	Pg	Pn	14 11 23.2	-1.1
	0.5nm,0.2s,SNR=12						
EMIN				Lg	Lg	14 11 39.7	
	5.5nm,0.1s,SNR=16						
EGOR	**Sierra Gorda,**	**1.20**	**83**	Pg	Pn	14 11 23.9	-0.9
	0.9nm,0.1s,SNR=7.9						
EGOR				Lg	Lg	14 11 40.4	
	4.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.45**	**34**	Pg	Pn	14 11 28.3	+0.1
	0.9nm,0.1s,SNR=7.9						
EADA				Lg	Lg	14 11 47.2	
	3.0nm,0.1s,SNR=7.9						
ELGU	**Los Guajares,**	**1.58**	**93**	Pg	Pn	14 11 30.2	+0.2
	0.6nm,0.2s,SNR=7.9						
ELGU				Lg	Lg	14 11 51.5	
	2.9nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**1.61**	**291**	Pg	Pn	14 11 30.1	-0.3
	0.4nm,0.1s,SNR=7.9						
EGRO				Lg	Lg	14 11 52.8	
	2.7nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**1.75**	**285**	Pn	Pn	14 11 31.1	-1.2
PVAQ				Lg	Lg	14 11 57.4	
PVAQ	**Vaqueiros**	**1.75**	**285**	*e*Pn	Pn	14 11 31.1	-1.2
PVAQ				*e*Sg	Sg	14 11 57.4	-1.2
PBDV	**Barranco-do-Ve**	**1.89**	**279**	Pn	Pn	14 11 33.0	-1.2
PBDV				Lg	Lg	14 11 57.4	
PBDV	**Barranco-do-Ve**	**1.89**	**279**	*e*Pn	Pn	14 11 33.0	-1.2
PBDV				*e*Sg	Sn	14 11 57.4	-0.5
EBAD	**Badajoz**	**2.11**	**328**	Sn	Sn	14 12 01.3	-2.0
	1.7nm,0.2s,SNR=7.9						
EBAD				Lg	Lg	14 12 06.8	
	3.6nm,0.2s,SNR=5.3						
EBER	**Berja**	**2.17**	**91**	Lg	Lg	14 12 11.1	
	0.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.18**	**67**	Pg	Pn	14 11 39.7	+1.5
	0.3nm,0.1s,SNR=7.9						
EQES				Sn	Sn	14 12 02.8	-2.3
	0.2nm,0.1s,SNR=7.9						
EQES				Lg	Lg	14 12 08.9	
	1.7nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**2.60**	**297**	Pn	Pn	14 11 42.9	-1.0
PNCL	**Nicolau / Gran**	**2.60**	**297**	*e*Pn	Pn	14 11 42.9	-1.0
SESP	**Santiago Espad**	**2.68**	**64**	Sn	Sn	14 12 15.3	-2.4
	0.8nm,0.1s,SNR=7.9						
SESP				Lg	Lg	14 12 24.1	
	2.0nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**2.75**	**20**	Lg	Lg	14 12 26.3	
	0.6nm,0.2s,SNR=7.9						

*CNRM **05** 14:11:29.8±0.6, 36°81N×5°52W, h11km, Error ellipse: s-maj=7.4km s-min=4.9km az=92.0*
*SFS **05** 14:11:32.0, 37°00N×5°50W, ML1.9, MONTELLANO (SEVILLA)*
*INMG **05** 14:11:32.3±2.0, 36°89N×5°56W, h17km±7km, ML2.0, Error ellipse: s-maj=4.3km s-min=2.9km az=6.0*
MDD 05 14:11:32.3±0.4, 37°00N×5°57W, h11km, mbLg2.0/19, Error ellipse: s-maj=3.5km s-min=2.6km az=5.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.26**	**241**	Pg	Pg	14 11 37.2	-0.4
	8.2nm,0.1s,SNR=12						
ESPR				Lg	Lg	14 11 41.8	
	133nm,0.3s,SNR=6.1						
ALJ	**Aljibe**	**0.47**	**188**	Lg	Lg	14 11 49.0	
ALJ	**Aljibe**	**0.47**	**188**	*e*S	Sb	14 11 49.0	-0.5
EMIJ	**Mijas**	**0.77**	**124**	Pg	Pg	14 11 46.1	-1.1
	4.0nm,0.2s,SNR=5.4						
EMIJ				Lg	Lg	14 11 57.9	
	26nm,0.3s,SNR=7.1						
HORN	**Hornachuelos**	**0.89**	**16**	P	Pg	14 11 49.1	-0.3
HORN				S	Sn	14 12 03.1	-0.4
EMAL	**Malaga-Limoner**	**0.94**	**104**	Pg	Pg	14 11 48.2	-2.3
EMAL				Lg	Lg	14 12 02.6	
EMAL	**Malaga-Limoner**	**0.94**	**104**	*e*P	Pg	14 11 48.2	-2.3
EMAL				*e*S	Sg	14 12 02.6	-0.2
ECAB	**El Cabril**	**1.08**	**6**	Pg	Pb	14 11 52.1	-0.9
	2.9nm,0.1s,SNR=6.5						
ECAB				Sn	Sb	14 12 06.5	-0.7
	2.8nm,0.2s,SNR=7.9						
ECAB				Lg	Lg	14 12 07.9	
	5.0nm,0.3s						
CEU	**Ceuta**	**1.11**	**172**	Pg	Pb	14 11 52.8	-0.6
CEU				Lg	Lg	14 12 06.4	
CEU	**Ceuta**	**1.11**	**172**	*e*P	Pb	14 11 52.8	-0.6
CEU				*e*S	Sb	14 12 06.4	-1.3
ECEU	**Ceuta**	**1.11**	**172**	Pg	Pb	14 11 51.9	-1.5
	2.2nm,0.1s,SNR=7.9						
ECEU				Lg	Lg	14 12 07.0	
	1.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.17**	**312**	Pg	Pb	14 11 53.8	-0.7
	2.6nm,0.1s,SNR=7.9						
EMIN				Lg	Lg	14 12 09.7	
	7.4nm,0.1s,SNR=9.2						
EGOR	**Sierra Gorda,**	**1.17**	**84**	Pg	Pb	14 11 53.7	-0.9
	2.5nm,0.2s,SNR=7.9						
EGOR				Lg	Lg	14 12 11.2	
	11nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.41**	**34**	Pg	Pn	14 11 57.9	0.0
	2.1nm,0.2s,SNR=4.5						
EADA				Lg	Lg	14 12 16.6	
	6.5nm,0.2s						
ELGU	**Los Guajares,**	**1.56**	**94**	Pg	Pn	14 12 00.5	+0.5
	1.5nm,0.3s,SNR=4.0						
ELGU				Sn	Sn	14 12 17.3	-3.0
	3.5nm,0.4s,SNR=7.9						
ELGU				Lg	Lg	14 12 21.6	
	8.5nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**1.62**	**290**	Pg	Pn	14 12 01.0	+0.3
	0.5nm,0.1s,SNR=4.0						
EGRO				Lg	Lg	14 12 23.0	
	18nm,0.2s						
PBAR	**Barrancos**	**1.66**	**316**	Lg	Lg	14 12 26.1	
	24nm,0.6s						
PBAR	**Barrancos**	**1.66**	**316**	*e*Sg	Sg	14 12 26.1	+0.5
PBAR				A	A	14 12 29.6	
	24nm,0.6s						
EQUE	**Quentar**	**1.72**	**82**	Pg	Pn	14 12 02.4	+0.2
	1.6nm,0.3s,SNR=4.0						
EQUE				Lg	Lg	14 12 27.2	
	5.4nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**1.76**	**284**	Pn	Pn	14 11 59.0	-3.7
PVAQ				Lg	Lg	14 12 27.8	
	12nm,0.7s						
PVAQ	**Vaqueiros**	**1.76**	**284**	P	Pn	14 12 00.7	-2.0
PVAQ				S	Sb	14 12 27.6	+0.9
PVAQ	**Vaqueiros**	**1.76**	**284**	*e*Pn	Pn	14 11 59.0	-3.7
PVAQ				*e*Sg	Sb	14 12 27.8	+1.1
PVAQ				A	A	14 12 31.9	
	12nm,0.7s						
PBDV	**Barranco-do-Ve**	**1.90**	**278**	Pg	Pn	14 12 03.4	-1.3
PBDV				Lg	Lg	14 12 32.7	
	8.3nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.90**	**278**	*e*Pn	Pn	14 12 03.4	-1.3
PBDV				*e*Sg	Sg	14 12 32.7	-0.8
PBDV				A	A	14 12 37.5	
	8.3nm,0.5s						
PCVE	**Castro Verde**	**2.07**	**289**	Pg	Pn	14 12 07.6	+0.7
PCVE				Lg	Lg	14 12 37.3	
	3.8nm,0.4s						
PCVE	**Castro Verde**	**2.07**	**289**	*e*Pn	Pn	14 12 07.6	+0.7
PCVE				*e*Sg	Sg	14 12 37.3	-1.5
PCVE				A	A	14 12 40.8	
	3.8nm,0.4s						
GORA	**Gorafe**	**2.08**	**76**	Pg	Pn	14 12 08.1	+1.0
	3.1nm,0.3s,SNR=7.9						
GORA				Lg	Lg	14 12 39.0	
	14nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.10**	**327**	Sn	Sn	14 12 30.9	-2.4
	0.5nm,0.3s,SNR=7.9						
EBAD				Lg	Lg	14 12 36.0	
	7.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.15**	**67**	Lg	Lg	14 12 39.6	
	3.1nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.58**	**283**	Sn	Sn	14 12 43.9	-1.2
PTEO	**Sao Teotonio**	**2.58**	**283**	*e*Sn	Sn	14 12 43.9	-1.2
PNCL	**Nicolau / Gran**	**2.60**	**296**	Pn	Pn	14 12 12.7	-1.5
PNCL				Lg	Lg	14 12 53.9	
	3.0nm,0.3s						
PNCL	**Nicolau / Gran**	**2.60**	**296**	*e*Pn	Pn	14 12 12.7	-1.5
PNCL				*e*Sg	Sg	14 12 53.9	-2.0
PNCL				A	A	14 12 59.5	
	3.0nm,0.3s						
PFVI	**Vila Bisbo**	**2.61**	**274**	Sn	Sn	14 12 42.9	-3.0
	1.7nm,0.2s,SNR=7.9						
PFVI				Lg	Lg	14 12 53.6	
	8.9nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**2.65**	**64**	Sn	Sn	14 12 45.7	-1.6
	0.7nm,0.1s,SNR=7.9						
SESP				Lg	Lg	14 12 54.2	
	9.2nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**2.65**	**64**	P	Pn	14 12 13.3	-1.8
SESP				S	Sn	14 12 49.7	+2.3
PAB	**San Pablo**	**2.72**	**20**	Sn	Sn	14 12 48.0	-0.9
	0.1nm,0.1s,SNR=7.9						
PAB				Lg	Lg	14 12 58.2	
	1.6nm,0.3s,SNR=7.9						
PMRV	**Marv??o**	**2.82**	**330**	Lg	Lg	14 12 59.9	
	2.1nm,0.3s						
PMRV	**Marv??o**	**2.82**	**330**	*e*Sg	Sb	14 12 59.9	+2.7
PMRV				A	A	14 13 05.8	
	2.1nm,0.3s						
ESDC	**Sonseca Array**	**2.96**	**25**	Lg	Lg	14 13 04.8	
	3.1nm,0.7s,baz=210,slow=28,SNR=6.6						
EPLA	**Plasencia**	**3.09**	**353**	Pn	Pn	14 12 20.3	-0.7
	0.4nm,0.2s,SNR=7.9						
EPLA				Sn	Sn	14 12 54.5	-3.5
	0.5nm,0.1s,SNR=7.9						
EPLA				Lg	Lg	14 13 06.9	
	6.9nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**3.58**	**61**	Pn	Pn	14 12 25.6	-2.3
	0.1nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	14 13 05.4	-4.8
	0.4nm,0.2s,SNR=7.9						
ETOB				Lg	Lg	14 13 24.0	
	2.2nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**3.81**	**16**	Lg	Lg	14 13 29.1	
	1.0nm,0.3s,SNR=7.9						
MD31	**MD31**	**4.17**	**171**	P	Pn	14 12 29.9	-6.0
MD31				S	Sn	14 13 18.4	-6.3
MDT	**Midelt**	**4.25**	**169**	P	Pn	14 12 32.6	-4.4
MDT				S	Sn	14 13 20.5	-6.0

*JMA **05** 14:16:56.6±1.0, 44°67N×149°28E, h30km, M3.6*
*SKHL **05** 14:16:57.6±0.4, 44°44N×149°21E, h28km±2km, mb4.4/4*
ISC 05 14:16:55.2±4.7, 44°5N±0°1×149°2E±0°2, h7km±24km, n18, σ1°50/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.22**	**310**	*i* P	**Pn**	**14 17 18.3**	**-0.4**
KUR				AMB	AMB	14 17 19.0	
	50nm,0.3s						
KUR				AMB	AMB	14 17 19.0	
	70nm,0.3s						
KUR				AMB	AMB	14 17 19.0	
	90nm,0.3s						
KUR				*e*S	**Sg**	**14 17 33.6**	**-0.9**
KUR				A	A	14 17 36.0	
	370nm,0.3s						
KUR				A	A	14 17 36.0	
	570nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.43**	**261**	*e*P	**Pn**	**14 17 35.6**	**+0.3**
YUK				AMB	AMB	14 17 36.0	
	40nm,0.3s						
YUK				*e*S	**Sn**	**14 18 04.5**	**-0.7**
YUK				A	A	14 18 09.0	
	60nm,0.2s						
YUK				A	A	14 18 09.0	
	40nm,0.2s						
GRPR	**Tuman**	**2.50**	**261**	*e*P	**Pn**	**14 17 36.4**	**+0.1**
GRPR				AMB	AMB	14 17 36.9	
	40nm,0.2s						
GRPR				*e*S	**Sn**	**14 18 07.7**	**+0.7**
GRPR				A	A	14 18 08.0	
	40nm,0.1s						
GRPR				A	A	14 18 08.0	
	40nm,0.1s						
NEM2	**Nemuro 2**	**2.72**	**248**	P	**Pn**	**14 17 39.1**	**-0.1**
NEM2				*e*S	**Sn**	**14 18 10.7**	**-1.6**
NMR	**Nemuro--Hokkai**	**2.72**	**248**	*e*P	**Pn**	**14 17 38.9**	**-0.5**
NMR				*e*S	**Sn**	**14 18 12.8**	**+0.2**
GLVR	**Golovnino**	**2.74**	**256**	*e*P	**Pn**	**14 17 40.3**	**+0.8**
GLVR				AMB	AMB	14 17 44.0	
	70nm,0.4s						
GLVR				*e*S	**Sn**	**14 18 12.2**	**-0.7**
GLVR				A	A	14 18 19.0	
	160nm,0.3s						
GLVR				A	A	14 18 19.0	
	90nm,0.3s						
JRA	**Rausu**	**2.97**	**261**	P	**Pn**	**14 17 43.9**	**+1.2**
JNK	**Nakash**	**3.34**	**257**	P	**Pn**	**14 17 48.5**	**+0.7**
JAK	**Akkeshi**	**3.56**	**247**	P	**Pn**	**14 17 51.5**	**+0.6**
JTKR	**Abashiri--Toko**	**3.83**	**265**	P	**Pn**	**14 17 56.7**	**+2.2**
JAR	**Ashorobuto**	**4.08**	**255**	P	**Pn**	**14 17 59.7**	**+1.6**
JAR				*e*S	**Sn**	**14 18 47.5**	**+1.4**
JOB	**Onbets**	**4.18**	**250**	P	**Pn**	**14 18 01.2**	**+1.8**
JMP	**Maruseppu**	**4.21**	**266**	P	**Pn**	**14 18 02.1**	**+2.2**
JCH	**Churui**	**4.62**	**249**	P	**Pn**	**14 18 05.5**	**+0.1**
JFR	**Furan**	**4.94**	**257**	P	**Pn**	**14 18 13.1**	**+3.2**
JNBK	**Urakawa-nobuka**	**5.17**	**247**	P	**Pn**	**14 18 13.2**	**+0.2**
JNB	**Noboribetsu**	**6.25**	**254**	P	**Pn**	**14 18 29.0**	**+1.1**
JNB				*e*S	**Sn**	**14 19 39.3**	**-0.3**
JKB	**Kayabe**	**6.49**	**250**	P	**Pn**	**14 18 31.2**	**+0.1**
JKB				*e*S	**Sn**	**14 19 41.6**	**-3.8**

IDC 05 14:19:24.3±2.5, 6°46S×130°46E, h0km, mb3.7/1, mb1 3.4/3, mb1mx3.3/20, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=146.3km s-min=32.9km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.92**	**165**	Pn	Pn	14 22 42.5	-0.5
	0.1nm,0.3s,baz=348,slow=13,SNR=12						
WRA				Sn	Sn	14 25 02.6	-16
	0.3nm,0.3s,baz=206,slow=8.2,SNR=5.6						
ASAR	**Alice Springs**	**17.43**	**169**	P	Pn	14 23 29.5	+0.5
	0.0nm,0.3s,baz=346,slow=9.3,SNR=1.4						
MKAR	**Makanchi Array**	**68.03**	**326**	P	P	14 30 25.6	0.0
	0.8nm,0.9s,baz=112,slow=6.5,SNR=4.8						

*NEIC **05** 14:58:44.5±1.0, 22°52S±0°09×174°6W±0°1, h10km±1km, mb4.5/21, Error ellipse: s-maj=23.4km s-min=5.5km az=127.0*
*IDC **05** 14:58:47.3±0.8, 22°57S×175°06W, h0km, mb4.2/13, mb1 4.5/14, mb1mx4.2/29, mbtmp4.2/14, ML4.2/1, Error ellipse: s-maj=31.5km s-min=18.4km az=141.0*
ISC 05 14:58:48.8±0.7, 22°6S±0°1×175°1W±0°2, h10km, n41, σ1°10/33, mb4.3/15, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.98**	**55**	Pn	Pn	15 00 07.2	-10
NIUE				Sn	Sn	15 01 02.1	-24
MSVF	**Nonsavu**	**8.01**	**306**		Pn	15 00 54.4	+9.0
AFI	**Afiamalu**	**9.18**	**21**	Pn	Pn	15 00 54.2	-7.2
RAR	**Rarotonga**	**14.32**	**87**	Pn	Pn	15 01 59.6	-12
FUNA	**Funafuti**	**14.99**	**338**	Pn	**Pn**	**15 02 18.7**	**-2.1**
URZ	**Urewera**	**17.00**	**201**	P	**P**	**15 02 48.7**	**+0.2**
	0.8nm,0.3s,baz=213,slow=4.3,SNR=2.0						
URZ				S	Sn	15 05 42.3	-13
	0.6nm,0.3s,baz=267,slow=23,SNR=7.0						
URZ	**Urewera**	**17.00**	**201**	IAmb	IAmb	15 03 44.7	
	comp=Z,55nm,1.5s						
BKZ	**Black Stump Fm**	**18.02**	**201**	P	**P**	**15 02 59.6**	**-0.4**
BKZ				IAmb	IAmb	15 03 47.5	
	comp=Z,92nm,1.8s						
BFZ	**Birch Farm**	**19.48**	**200**	P	**P**	**15 03 13.4**	**-2.4**
TUWZ	**Tuamarina**	**20.93**	**204**	P	**P**	**15 03 28.2**	**-3.4**
KHZ	**Kahutara**	**21.94**	**203**	P	**P**	**15 03 42.4**	**0.0**
LTZ	**Lake Taylor**	**22.73**	**205**	P	**P**	**15 03 51.8**	**+0.9**
STKA	**Stephens Creek**	**39.37**	**247**	P	**P**	**15 06 18.7**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=83,slow=11,SNR=4.6						
BBOO	**Buckleboo**	**44.08**	**246**	P	**P**	**15 06 57.6**	**+0.4**
AS31	**Alice Springs**	**46.68**	**258**	P	**P**	**15 07 17.7**	**-0.3**
AS31				IAmb	IAmb	15 07 18.7	
	comp=Z,1.6nm,0.9s						
ASAR	**Alice Springs**	**46.68**	**258**	P	**P

comp=Z,0.8nm,1.1s,baz=236,slow=4.1,SNR=4.2
AMTX Amarillo 90.04 52 P P 15 11 43.4 -5.7
CMAR Chiang Mai Arr 93.31 288 P P **15 12 06.2 +1.8**
comp=Z,2.4nm,0.8s,baz=129,slow=3.6,SNR=11
AKASG Malin Array Be 146.10 332 PKPbc **PKPdf 15 18 28.1 +0.1**
comp=Z,1.0nm,0.4s,baz=42,slow=3.7,SNR=6.4
BRTR Keskin Array B 150.20 312 PKPbc **PKPbc 15 18 40.1 -0.3**
comp=Z,0.2nm,0.3s,baz=310,slow=44,SNR=3.6

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*NNC **05** 15:04:19.3±12.0, 36°.84N×70°.04E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=106.2km s-min=91.1km az=73.0*
*IDC **05** 15:04:24.1±3.0, 36°.43N×71°.03E, h195km±27km, mb3.1/5, mb1 3.1/11, mb1mx2.9/55, mbtmpg3.6/11, Error ellipse: s-maj=26.3km s-min=20.9km az=156.0*
ISC 05 15:04:25.3±1.1, 36°.58N±0°.10×70°.9E±0°.1, h200km, n17, σ1°68/20, mb3.3/5, 1C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.60**	**353**	Pg	**Pn**	**15 05 49.3**	**+1.9**
	21nm,0.3s						
IUG				Lg	Lg	15 06 50.7	
	35nm,0.5s						
MRKS	**Merke**	**6.41**	**15**	Pg	**Pn**	**15 05 59.0**	**+1.1**
	10nm,0.4s						
MRKS				Lg	Lg	15 07 07.9	
	12nm,0.5s						
KK31	**Karatay Array**	**6.52**	**357**	⇑P	Pn	15 05 49.8	-9.5
	0.6nm,0.5s,baz=181,slow=14,SNR=6.7						
KK31				⇓Pg		15 06 09.3	
	2.0nm,0.5s,baz=179,slow=12,SNR=7.1						
KK31				⇓S	**Sn**	**15 07 09.3**	**-4.5**
	14nm,0.6s,baz=190,slow=23						
AAK	**Ala-Archa**	**6.65**	**23**	P	**Pn**	**15 06 02.4**	**+1.4**
	2.9nm,0.3s,baz=195,slow=6.9,SNR=13						
AAK				S	**Sn**	**15 07 15.4**	**-1.6**
	1.2nm,0.3s,baz=138,slow=23,SNR=14						
AAK	**Ala-Archa**	**6.65**	**23**	⇓P	**Pn**	**15 06 02.4**	**+1.4**
	7.6nm,0.8s						
AAK				⇓S	**Sn**	**15 07 15.9**	**-1.1**
	8.7nm,0.7s						
TKM2	**Tokmak 2**	**7.29**	**28**	⇓P	**Pn**	**15 06 10.6**	**+1.2**
	6.7nm,1.2s						
KST	**Kastek**	**7.53**	**29**	Pg	**Pn**	**15 06 13.8**	**+1.3**
	5.4nm,0.4s						
KST				Lg	Lg	15 07 35.0	
	1.9nm,0.8s						
GEYT	**Alibeck**	**10.29**	**281**	P	**Pn**	**15 06 48.8**	**+0.5**
	0.3nm,0.3s,baz=105,slow=11,SNR=2.2						
MKAR	**Makanchi Array**	**13.27**	**36**	P	**Pn**	**15 07 27.2**	**+1.2**
	0.1nm,0.3s,baz=216,slow=13,SNR=6.5						
BVAR	**Borovoye Array**	**16.45**	**359**	P	**Pn**	**15 08 06.5**	**+1.7**
	0.1nm,0.3s,baz=280,slow=36,SNR=2.5						
BVAR				S	**S**	**15 11 06.5**	**+0.8**
	0.0nm,0.3s,baz=166,slow=19,SNR=3.6						
AKTO	**Aktyubinsk**	**16.68**	**330**	P	**Pn**	**15 08 07.4**	**-0.2**
	0.2nm,0.3s,baz=134,slow=10,SNR=4.3						
ZALV	**Zalesovo Beam**	**19.87**	**25**	P	**P**	**15 08 40.5**	**-0.5**
	0.3nm,0.3s,baz=215,slow=10,SNR=4.2						
FINES	**FINESS Array B**	**37.38**	**326**	P	**P**	**15 11 19.7**	**+1.2**
	3.0nm,1.0s,baz=245,slow=35,SNR=2.0						
ARCES	**ARCESS Array B**	**41.05**	**338**	P	**P**	**15 11 50.0**	**+1.3**
	0.9nm,0.5s,baz=116,slow=5.5,SNR=6.9						
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**15 12 15.1**	**+0.3**
	0.2nm,0.6s,baz=97,slow=7.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**65.65**	**269**	P	**P**	**15 14 47.2**	**-1.2**
	0.2nm,0.4s,baz=53,slow=6.0,SNR=5.5						
WRA	**Warramunga Arr**	**82.09**	**122**	P	**P**	**15 16 22.2**	**-1.4**
	0.2nm,0.8s,baz=327,slow=4.8,SNR=0.9						

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*NEIC **05** 15:15:45.9±1.8, 4°.09N±0°.10×127°.9E±0°.1, h144km±8km, mb4.4/21, Error ellipse: s-maj=15.5km s-min=12.8km az=55.0*
*IDC **05** 15:15:46.9±3.1, 4°.07N×128°.05E, h155km±32km, mb3.5/10, mb1 3.6/11, mb1mx3.4/34, mbtmpg3.9/11, Error ellipse: s-maj=39.3km s-min=12.2km az=84.0*
ISC 05 15:15:46.0±0.5, 4°.09N±0°.07×127°.86E±0°.10, h150km, n41, σ1°26/42, mb4.2/19, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.93**	**313**	*eP*	**Pn**	**15 16 30.3**	**-2.2**
TNTI	**Ternate**	**3.33**	**189**		**Pn**	**15 16 37.6**	**+0.1**
KCP	**Kidapawan**	**4.00**	**311**	⇓*iP*	**Pn**	**15 16 46.0**	**-0.4**
SKMP	**Bagumbayan, Su**	**4.09**	**306**	*eP*	**Pn**	**15 16 45.6**	**-1.9**
BUKP	**Musuan**	**4.68**	**324**	*eP*	**Pn**	**15 16 53.1**	**-2.2**
PAGZ	**Pagadian**	**5.81**	**310**	*eP*	**Pn**	**15 17 06.6**	**-3.6**
SIJI	**Sorong**	**5.98**	**145**	P	**Pn**	**15 17 13.4**	**+0.9**
	8.1nm,0.3s,baz=145,slow=23,SNR=32						
SIJI				S	**Sn**	**15 18 17.6**	**-2.6**
	5.5nm,0.3s,baz=216,slow=23,SNR=20						
FAKI	**Fak Fak**	**8.22**	**148**	Pn	**Pn**	**15 17 43.7**	**+1.2**
SBUM	**Sibu**	**15.70**	**265**		**P**	**15 19 19.6**	**-0.4**
MTN	**Manton Dam**	**17.13**	**169**	P	**P**	**15 19 34.8**	**-1.0**
KSM	**Kuching**	**17.72**	**262**	Pn	**Pn**	**15 19 44.2**	**+0.6**
KSM				IAmb	IAmb	15 19 45.8	
	comp=Z,19nm,1.2s						
KNRA	**Kununurra**	**19.66**	**177**	P	**P**	**15 20 01.8**	**-1.6**
TPUB	**Ta-pu**	**20.34**	**341**	P	**P**	**15 20 09.2**	**-1.4**
TPUB				IAmb	IAmb	15 20 52.6	
	comp=Z,55nm,1.7s						
FITZ	**Fitzroy Crossi**	**22.15**	**186**	P	**P**	**15 20 30.1**	**+0.4**
	comp=Z,2.9nm,1.1s,baz=356,slow=13,SNR=1.2						
WB0	**Warramunga Arr**	**24.56**	**165**	P	**P**	**15 20 52.3**	**+0.3**
WB0				IAmb	IAmb	15 21 23.7	
	comp=Z,29nm,1.6s						
WRA	**Warramunga Arr**	**24.71**	**165**	P	**P**	**15 20 53.3**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=340,slow=10,SNR=14						
WB2	**Warramunga Arr**	**24.72**	**165**	P	**P**	**15 20 53.8**	**+0.3**
WB2				IAmb	IAmb	15 20 56.4	
	comp=Z,7.8nm,1.1s						
WR0	**Warramunga Arr**	**24.78**	**165**	P	**P**	**15 20 54.5**	**+0.4**
WR0				IAmb	IAmb	15 21 05.5	
	comp=Z,37nm,1.9s						
AS31	**Alice Springs**	**28.20**	**168**	P	**P**	**15 21 25.0**	**+0.2**
ASAR	**Alice Springs**	**28.21**	**168**	P	**P**	**15 21 25.3**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=354,slow=8.0,SNR=25						
CM31	**Chiang Mai Arr**	**31.68**	**299**	P	**P**	**15 21 56.5**	**+1.1**
CM31				IAmb	IAmb	15 22 10.2	
	comp=Z,5.9nm,1.0s						
KSRS	**Korea Array**	**33.21**	**0**	P	**P**	**15 22 09.1**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=175,slow=9.3,SNR=11						
MAJO	**Matsushiro**	**33.67**	**15**	P	**P**	**15 22 12.0**	**-0.7**
MAJO				IAmb	IAmb	15 22 31.8	
	comp=Z,25nm,1.6s						
MJAR	**Matsushiro Arr**	**33.67**	**15**	P	**P**	**15 22 11.7**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=352,slow=12,SNR=2.7						
MJB9	**Matsu-Tunnel**	**33.68**	**15**	P	**P**	**15 22 11.7**	**-1.0**
BBOO	**Buckleboo**	**37.51**	**169**	P	**P**	**15 22 46.0**	**+0.6**
STKA	**Stephens Creek**	**38.08**	**161**	P	**P**	**15 22 49.6**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=4.1,slow=7.7,SNR=4.6						
STKA	**Stephens Creek**	**38.08**	**161**	P	**P**	**15 22 51.1**	**+0.9**
USRK	**Ussuriysk Ar.**	**40.12**	**5**	P	**P**	**15 23 06.5**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=198,slow=6.4,SNR=2.3						
ARMA	**Armidale**	**41.16**	**148**	P	**P**	**15 23 17.4**	**+1.6**
ARMA				IAmb	IAmb	15 24 23.9	
	comp=Z,14nm,1.4s						
SONM	**Songino Array**	**47.33**	**340**	P	**P**	**15 24 06.9**	**+2.2**
	comp=Z,0.6nm,0.5s,baz=139,slow=6.9,SNR=4.6						
PEA0B	**Petropavlovsk-**	**54.68**	**22**	P	**P**	**15 25 00.4**	**+1.1**
PETK	**Petropavlovsk-**	**54.68**	**22**	P	**P**	**15 24 59.9**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=163,slow=5.7,SNR=6.5						
MK31	**Makanchi Array**	**57.91**	**325**	P	**P**	**15 25 22.9**	**+0.5**
MKAR	**Makanchi Array**	**57.91**	**325**	P	**P**	**15 25 23.1**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=116,slow=8.0,SNR=26						
MAKZ	**Makanchi**	**58.10**	**324**	P	**P**	**15 25 24.4**	**+0.7**
MAKZ				IAmb	IAmb	15 25 24.6	
	comp=Z,1.3nm,0.6s						
NIL	**Nilore**	**58.60**	**307**	P	**P**	**15 25 28.5**	**+1.1**
KDJ	**Kajisay**	**58.84**	**318**	P	**P**	**15 25 30.3**	**+1.2**
KDJ				IAmb	IAmb	15 25 30.9	
	comp=Z,2.3nm,0.7s						
KURK	**Kurchatov**	**62.05**	**327**	P	**P**	**15 25 50.8**	**+0.3**
KURK				IAmb	IAmb	15 25 51.4	
	comp=Z,2.3nm,0.7s						
CMWZ	**Cape Campbell**	**62.08**	**142**	P	**P**	**15 25 49.6**	**-1.2**
TORD	**Torodi Ar. Bea**	**123.88**	**289**	PKP	**PKiKP**	**15 34 27.3**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=35,slow=4.4,SNR=1.1						

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*ISK **05** 15:30:15.6, 37°.28N×42°.65E, h4km, ML2.9/5*
*DDA **05** 15:30:15.5, 37°.29N×42°.64E, h14km±2km, ML2.6*

ISC 05 15:30:15.8±1.3, 37°.28N±0°.06×42°.66E±0°.03, h6km±11km, n18, σ0°86/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.28**	**321**	PG	**Pg**	**15 30 21.4**	**+0.1**
SIRT				SG	**Sb**	**15 30 26.6**	**-1.6**
SIRN	**Sırnak**	**0.29**	**317**	*i* P	**Pg**	**15 30 21.4**	**0.0**
SIRN				*i* S	**Sg**	**15 30 25.9**	**+0.6**
SIRN				IAML		15 30 27.0	
	comp=E,538nm,0.4s						
SIRN				IAML		15 30 29.0	
	comp=N,678nm,0.3s						
CUKT	**Cukurca**	**0.76**	**93**	PG	**Pb**	**15 30 30.8**	**-0.6**
CUKT				SG	**Sb**	**15 30 42.3**	**+0.3**
CUKT	**Cukurca**	**0.76**	**93**	*i* P	**Pg**	**15 30 29.9**	**-0.5**
HAKT	**HAKKARI**	**0.88**	**72**	*i* P	**Pb**	**15 30 33.2**	**-0.3**
AKDM	**Akdamar-Van**	**1.07**	**14**	PG	**Pn**	**15 30 37.0**	**-0.5**
GEVA	**Gevas**	**1.07**	**17**	*i* P	**Pn**	**15 30 36.8**	**-0.6**
GEVA				*i* S	**Sb**	**15 30 50.5**	**-0.6**
BLIS	**Bitlis-Merkez**	**1.21**	**339**	*i* P	**Pb**	**15 30 38.6**	**-0.5**
BTMN	**Batman**	**1.26**	**299**	*i* P	**Pb**	**15 30 39.4**	**-0.5**
BTMN				*i* S	**Sn**	**15 30 58.7**	**+1.6**
BTMN				IAML		15 31 01.0	
	comp=N,109nm,0.4s						
YOVA	**Hakkari_Yksek**	**1.33**	**76**	*i* P	**Pb**	**15 30 41.1**	**-0.1**
YOVA				IAML		15 31 07.0	
	comp=E,102nm,0.5s						
GURO	**Guroymak-BITLI**	**1.36**	**339**	PN	**Pg**	**15 30 42.1**	**+0.3**
TVAN	**Van**	**1.38**	**25**	*i* P	**Pg**	**15 30 43.1**	**+1.0**
MARD	**Mardin**	**1.50**	**272**	*i* P	**Pb**	**15 30 43.5**	**-0.6**
MARD				*i* S	**Sg**	**15 31 04.7**	**+0.7**
MARD				IAML		15 31 08.0	
	comp=E,184nm,0.7s						
MARD				IAML		15 31 09.0	
	comp=N,260nm,0.5s						
MUSM	**Mu-Merkez**	**1.70**	**328**	*i* P	**Pb**	**15 30 47.0**	**-0.5**
MAZI	**Mazidag**	**1.77**	**276**	PN	**Pb**	**15 30 48.1**	**-0.6**
DIYA	**Diyarbakir**	**2.11**	**288**	*i* P	**Pb**	**15 30 52.7**	**-1.8**
HANI	**Diyarbakir_Han**	**2.11**	**303**	*i* P	**Pb**	**15 30 53.7**	**-0.8**
SVRC	**Sivrice-ELAZID**	**2.87**	**293**	PN	**Pn**	**15 31 03.2**	**+1.0**

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*IDC **05** 15:34:05.6±1.0, 15°.83N×96°.13E, h0km, mb3.8/15, mb1 4.0/16, mb1mx3.8/55, mbtmpg3.8/16, ML4.3/1, MS3.9/26, Ms1 3.9/26, ms1mx3.8/42, Error ellipse: s-maj=21.3km s-min=18.5km az=28.0*
*NEIC **05** 15:34:09.1±1.2, 15°.85N±0°.09×96°.22E±0°.09, h23km±5km, mb4.2/5, Error ellipse: s-maj=14.5km s-min=10.9km az=129.0*
ISC 05 15:34:06.6±0.7, 15°.84N±0°.06×96°.21E±0°.06, h10km, n52, σ1°52/41, mb3.8/18, MS4.0/24, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHMT	**Maesarieng**	**2.85**	**35**	P	**Pn**	**15 34 53.5**	**+1.3**
CM13	**Chiang Mai Arr**	**3.64**	**45**	P	**Pn**	**15 35 04.5**	**+1.4**
CM05	**Chiang Mai Arr**	**3.65**	**45**	P	**Pn**	**15 35 04.6**	**+1.3**
CM15	**Chiang Mai Arr**	**3.67**	**45**	P	**Pn**	**15 35 05.1**	**+1.5**
CM04	**Chiang Mai Arr**	**3.67**	**46**	P	**Pn**	**15 35 05.4**	**+1.8**
CM01	**Chiang Mai Arr**	**3.67**	**45**	P	**Pn**	**15 35 05.1**	**+1.5**
CM02	**Chiang Mai Arr**	**3.68**	**45**	P	**Pn**	**15 35 05.0**	**+1.4**
CM31	**Chiang Mai Arr**	**3.69**	**45**		**Pn**	**15 35 04.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**3.69**	**45**	Pn	**Pn**	**15 35 04.7**	**+0.9**
	5.5nm,0.3s,baz=235,slow=15,SNR=115						
CMAR				Pg	**Pg**	**15 35 18.0**	**+0.7**
	9.1nm,0.3s,baz=226,slow=20,SNR=11						
CMAR				Lg	Lg	15 36 06.6	
	7.5nm,0.3s,baz=230,slow=30,SNR=2.1						
CMAR				LR	LR	15 36 50.4	
	comp=Z,2μm,20.0s,baz=224,slow=44						
CM09	**Chiang Mai Arr**	**3.71**	**45**	P	**Pn**	**15 35 05.7**	**+1.6**
CHTO	**Chiang Mai**	**3.95**	**41**		**Pn**	**15 35 07.9**	**+0.6**
CMMT	**Chiang Mai**	**3.95**	**41**	P	**Pn**	**15 35 08.4**	**+1.0**
PHIT	**Phitsanulok**	**4.25**	**71**	P	**Pn**	**15 35 12.8**	**+1.3**
PHIT				S	**Sg**	**15 36 20.6**	**-2.7**
PHET	**Kaeng Krachan**	**4.41**	**131**	P	**Pn**	**15 35 13.3**	**-0.4**
PHET				S	**Sg**	**15 36 25.9**	**-2.4**
PBKT	**Sadao Pong**	**4.63**	**80**		**Pn**	**15 35 17.3**	**+0.7**
PAYA	**Payao**	**4.94**	**44**	P	**Pn**	**15 35 22.8**	**+1.7**
PBA	**Port Blair**	**5.35**	**219**	Pn	**Pn**	15 35 27.4	+0.8
SHL	**Shillong**	**10.49**	**338**	*e*P	**Pn**	**15 36 35.0**	**-2.4**
SHL				*e*S	**Sn**	**15 38 30.0**	**-5.1**
PALK	**Pallekele**	**17.41**	**242**	LR	LR	15 43 59.7	
	comp=Z,291nm,20.6s,baz=162,slow=34						
TGY	**Tagaytay City**	**23.95**	**91**	LR	LR	15 48 13.9	
	comp=Z,210nm,20.4s,baz=277,slow=35						
LEM	**Lembang**	**25.19**	**153**	LR	LR	15 49 43.4	
	comp=Z,402nm,18.3s,baz=311,slow=37						
MK31	**Makanchi Array**	**32.97**	**342**	P	**P**	**15 40 42.6**	**+1.0**
MK31				IAmb	IAmb	15 41 01.2	
	comp=Z,2.7nm,1.2s						
MKAR	**Makanchi Array**	**32.97**	**342**	P	**P**	**15 40 42.1**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=148,slow=9.3,SNR=7.7						
MKAR				LR	LR	15 57 58.2	
	comp=Z,95nm,19.7s,baz=158,slow=44						
SONM	**Songino Array**	**33.00**	**13**	P	**P**	**15 40 43.2**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=133,slow=55,SNR=1.7						
SONM				LR	LR	15 55 31.1	
	comp=Z,314nm,20.4s,baz=192,slow=39						
MAKZ	**Makanchi**	**33.08**	**342**	P	**P**	**15 40 43.4**	**+0.9**
MAKZ				IAmb	IAmb	15 41 51.4	
	comp=Z,6.8nm,1.6s						
KSRS	**Korea Array**	**35.33**	**46**	P	**P**	**15 41 01.7**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=182,slow=28,SNR=1.7						
KSRS				LR	LR	15 56 15.1	
	comp=Z,253nm,19.9s,baz=242,slow=38						
TLY	**Talaya**	**36.25**		LR	LR	15 57 52.2	
	comp=Z,84nm,21.3s,baz=186,slow=39						
KURBB	**Kurchatov Arra**	**37.51**	**341**	P	**P**	**15 41 19.1**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=153,slow=7.8,SNR=4.9						
KURK	**Kurchatov**	**37.57**	**342**	P	**P**	**15 41 21.1**	**0.0**
ZAA0	**Zalesovo Array**	**39.06**	**349**	P	**P**	**15 41 34.7**	**+1.1**
ZAA0				IAmb	IAmb	15 41 38.7	
	comp=Z,4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**39.06**	**349**	P	**P**	**15 41 33.6**	**0.0**
	comp=Z,6.5nm,0.9s,baz=175,slow=8.5,SNR=12						
ZALV				LR	LR	15 58 48.1	
	comp=Z,97nm,18.2s,baz=190,slow=38						
GEYT	**Alibeck**	**40.09**	**311**	P	**P**	**15 41 41.8**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=133,slow=10,SNR=3.7						
GEYT				LR	LR	16 01 30.3	
	comp=Z,60nm,19.2s,baz=220,slow=41						
BVAR	**Borovoye Array**	**42.31**	**337**	P	**P**	**15 42 01.3**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=103,slow=13,SNR=3.6						
MJAR	**Matsushiro Arr**	**42.54**	**53**	LR	LR	16 00 45.5	
	comp=Z,197nm,18.7s,baz=245,slow=38						
FITZ	**Fitzroy Crossi**	**44.47**	**138**	LR	LR	16 03 43.6	
	comp=Z,172nm,18.1s,baz=300,slow=40						
AKTO	**Aktyubinsk**	**46.19**	**327**	P	**P**	**15 42 31.1**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=35,slow=12,SNR=1.6						
WRA	**Warramunga Arr**	**51.66**	**132**	P	**P**	**15 43 14.6**	**+0.6**
	comp=Z,1.3nm,1.0s,baz=217,slow=8.6,SNR=3.5						
NWAO	**Narrogin (SRO)**	**52.49**	**158**	LR	LR	16 09 19.1	
	comp=Z,128nm,18.0s,baz=2.5,slow=40						
KBZ	**Khabaz**	**52.87**	**313**	P	**P**	**15 43 23.0**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=231,slow=20,SNR=2.4						
KBZ				LR	LR	16 10 15.1	
	comp=Z,33nm,18.6s,baz=122,slow=41						
ASAR	**Alice Springs**	**53.84**	**136**	P	**P**	**15 43 31.1**	**+1.0**
	comp=Z,0.8nm,1.0s,baz=322,slow=7.1,SNR=4.3						
ASAR				LR	LR	16 08 58.4	
	comp=Z,125nm,20.7s,baz=251,slow=39						
BRTR	**Keskin Array B**	**59.03**	**307**	P	**P**	**15 44 07.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=272,slow=20,SNR=2.8						
BRTR				LR	LR	16 12 28.4	
	comp=Z,50nm,21.6s,baz=124,slow=39						
PETK	**Petropavlovsk-**	**60.44**	**38**	LR	LR	16 13 12.4	
	comp=Z,200nm,18.4s,baz=241,slow=39						
KMBO	**Kilima Mbogo**	**60.60**	**260**	LR	LR	16 10 18.9	
	comp=Z,80nm,18.7s,baz=88,slow=36						
AKASG	**Malin Array Be**	**63.35**	**319**	LR	LR	16 19 05.2	
	comp=Z,77nm,18.2s,baz=75,slow=43						
STKA	**Stephens Creek**	**64.37**	**138**	LR	LR	16 15 45.7	
	comp=Z,162nm,19.3s,baz=227,slow=39						
FINES	**FINESS Array B**	**66.73**	**331**	P	**P**	**15 44 59.1**	**+1.2**
	comp=Z,3.0nm,1.1s,baz=203,slow=33,SNR=4.3						
FINES				LR	LR	16 18 41.4	
	comp=Z,108nm,18.4s,baz=82,slow=40						
ARCES	**ARCESS Array B**	**68.55**	**339**	P	**P**	**15 45 09.5**	**+0.3**
	comp=Z,3.1nm,0.8s,baz=43,slow=22,SNR=2.9						
ARCES				LR	LR	16 20 02.2	
	comp=Z,100nm,18.3s,baz=92,slow=40						
ARE0	**ARCESS Array S**	**68.55**	**339**	P	**P**	**15 45 10.9**	**+1.7**
GERES	**GERESS Array B**	**73.35**	**317**	P	**P**	**15 45 40.2**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=90,slow=6.7,SNR=5.2						
GERES				LR	LR	16 22 30.4	
	comp=Z,56nm,20.6s,baz=74,slow=40						
NOA	**NORSAR Array B**	**73.87**	**330**	LR	LR	16 20 52.7	
	comp=Z,49nm,21.8s,baz=85,slow=38						
BOSA	**Boshof**	**81.55**	**237**	LR	LR	16 17 21.9	
	comp=Z,96nm,18.0s,baz=84,slow=32						
ILAR	**Eielson Array**	**86.65**	**23**	LR	LR	16 30 16.0	
	comp=Z,66nm,18.8s,baz=302,slow=39						

IDC 05 15:37:51.8±3.4, 20°.05S×178°.45E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/24, mbtmpg3.8/3, Error ellipse: s-maj=165.1km s-min=50.5km az=151.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.00**	**243**	P	P	15 44 45.7	-0.4
	1.3nm,0.9s,baz=96,slow=18,SNR=1.9						
WRA	**Warramunga Arr**	**41.36**	**262**	P	P	15 45 39.5	-0.3
	0.9nm,0.8s,baz=96,slow=7.2,SNR=7.9						
ASAR	**Alice Springs**	**41.38**	**257**	P	P	15 45 40.2	+0.2
	1.1nm,0.7s,baz=92,slow=7.7,SNR=14						
ARCES	**ARCESS Array B**	**127.84**	**348**	PKP	PKPdf	15 56 58.6	-0.2
	1.7nm,0.8s,baz=63,slow=2.2,SNR=3.7						

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*IDC **05** 16:01:32.2±1.6, 1°.19N×126°.12E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/37, mbtmpg3.9/4, Error ellipse: s-maj=178.1km s-min=20.6km az=67.0*
*DJA **05** 16:01:39.5±1.0, 1°.1N±4°×12°.7E±°, h20km±9km, M4.1/7, mb4.1/1, MLv4.1/7*
*NEIC **05** 16:01:41.0±1.2, 1°.3N±0°.1×126°.8E±0°.1, h78km±10km, mb4.4/15, Error ellipse: s-maj=25.0km s-min=10.7km az=48.0*
ISC 05 16:01:41.5±0.8, 1°.30N±0°.09×126°.74E±0°.06, h78km, n31, σ0°92/33, mb4.3/10, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.81**	**130**	P	**Pn**	**16 01 57.6**	**-0.7**
TNTI				S	**Sn**	**16 02 10.1**	**-0.6**
TNTI	**Ternate**	**0.81**	**130**		**Pn**	**16 01 57.5**	**-0.7**
TNTI				Sn	**Sn**	**16 02 10.6**	**-0.1**
KMSI	**Cibinong**	**2.85**	**255**	P	**Pn**	**16 02 24.6**	**-0.2**
KMSI				S	**Sn**	**16 02 57.9**	**-0.2**
SANI	**Sanana**	**3.41**	**193**	P	**Pn**	**16 02 31.3**	**-1.1**
GTOI	**Gorontalo**	**3.79**	**260**	P	**Pn**	**16 02 35.9**	**-1.6**
NLAI	**Namlea**	**4.52**	**175**	P	**Pn**	**16 02 49.0**	**+1.5**
LUWI	**Luwuk**	**4.60**	**240**	P	Pn	16 02 36.4	-12
KCP	**Kidapawan**	**5.91**	**344**	⇓*eP*	**Pn**	**16 03 06.8**	**+0.3**
MYLDM	**Lahad Datu**	**9.09**	**295**	Pn	**Pn**	**16 03 50.9**	**+1.1**
KAPI	**Kappang**	**9.38**	**228**	Pn	**Pn**	**16 03 54.5**	**+0.6**
KKM	**Kota Kinabalu**	**11.51**	**294**	Pn	**Pn**	**16 04 24.2**	**+1.1**
SBUM	**Sibu**	**14.56**	**275**	P	**P**	**16 05 08.4**	**+0.4**
KNRA	**Kununurra**	**16.98**	**173**	Pn	**Pn**	**16 05 33.0**	**-1.2**
KNRA				IAmb	IAmb	16 06 23.4	
	comp=Z,38nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.30**	**183**		**P**	**16 06 00.0**	**-0.3**
WB0	**Warramunga Arr**	**22.24**	**161**	P	**P**	**16 06 31.7**	**-0.3**
WB0				IAmb	IAmb	16 07 29.8	
	comp=Z,38nm,1.9s						
WRA	**Warramunga Arr**	**22.38**	**161**	P	**P**	**16 06 33.5**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=338,slow=11,SNR=31						
WB2	**Warramunga Arr**	**22.39**	**161**	P	**P**	**16 06 33.1**	**-0.5**
WB2				IAmb	IAmb	16 07 12.7	
	comp=Z,31nm,1.7s						
WR0	**Warramunga Arr**	**22.47**	**160**	P	**P**	**16 06 33.7**	**-0.7**
WR0				IAmb	IAmb	16 07 14.4	
	comp=Z,39nm,2.0s						
AS31	**Alice Springs**	**25.77**	**165**	P	**P**	**16 07 05.5**	**+0.3**
ASAR	**Alice Springs**	**25.77**	**165**	P	**P**	**16 07 05.5**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=345,slow=12,SNR=16						
CTAO	**Charters Tower**	**28.59**	**139

STKA	**Stephens Creek**	**64.42**	**138**	LR	LR	16 56 30.5	
	comp=Z,102nm,19.4s,baz=205,slow=42						
FINES	**FINESS Array B**	**66.66**	**331**	P	**P**	**16 22 43.1**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=19,slow=8.8,SNR=2.4						
NOA	**NORSAR Array B**	**73.80**	**330**	LR	LR	16 59 56.0	
	comp=Z,22nm,18.3s,baz=50,slow=39						

BJI ***05*** *16:17:18.1±0.0,34.°67N×136.°01E,h10km,mB4.7/16, mb4.5/23,Ms4.0/7,Ms7 3.8/5*

IDC ***05*** *16:17:20.4±0.6,35.°01N×135.°53E,h0km,mb3.8/17, mb1 4.0/22,mb1mx3.9/49,mbtmp3.8/22,ML3.5/4,MS3.2/7, Ms1 3.2/7,ms1mx2.9/53,Error ellipse: s-maj=14.8km s-min=11.7km az=145.0*

JMA ***05*** *16:17:23.3,35.°07N×135.°50E,h14km,M4.3 Broadband fault plane solution: P waves. NP1:*ϕ_S*34.00000°, δ52.00000°,λ144.00000°. NP2:*ϕ_S*149.00000°,δ62.00000°, λ44.00000°. Principal axes: T Plg50.0000°, Azm7.0000°; N Plg39.0000°, Azm174.0000°; P Plg6.0000°, Azm269.0000°;*

JMA Felt IV J1.

NIED ***05*** *16:17:23.4,35.°07N×135.°50E,h14km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10*^{15}*Nm; Mrr0.71; Mθθ0.62; Mφφ-1.33; Mrθ0.45; Mrφ-0.11; Mθφ-0.13; Fault plane solution: M*$_0$*1.23000×10*^{15} *NP1:*ϕ_S*150.00000°,δ61.00000°,λ40.00000°. NP2:*ϕ_S*37.00000°, δ56.00000°,λ144.00000°.*

NEIC ***05*** *16:17:25.1±1.4,35.°00N±0.°07×135.°54E±0.°06,h27km±5km, mb4.4/24 Error ellipse: s-maj=10.0km s-min=7.3km az=164.0*

ISC 05 16:17:23.2±0.4,35.°00N±0.°04×135.°51E±0.°04,h13km,n71, σ1^{9}09/70,mb4.0/26,1C-1D,Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWT	**Wachi**	**0.29**	**342**	⇓P	**Pg**	**16 17 28.4**	**-0.9**
JWT				*e*S	**Sg**	**16 17 31.5**	**-1.9**
JHE	**Heguri**	**0.38**	**158**	⇑P	**Pb**	**16 17 31.9**	**+0.1**
JHE				S	**Sb**	**16 17 38.0**	**+0.5**
INU	**Inuyama**	**1.28**	**74**		**Pb**	**16 17 47.0**	**-0.1**
MJB9	**Matsu-Tunnel**	**2.67**	**54**		**Pn**	**16 18 06.5**	**+0.5**
MAJO	**Matsushiro**	**2.67**	**54**		**Pn**	**16 18 06.4**	**+0.4**
MAT	**Matsushiro**	**2.67**	**54**	P	**Pn**	**16 18 06.5**	**+0.5**
MAT				*e*S	**Sn**	**16 18 39.9**	**+1.6**
MJAR	**Matsushiro Arr**	**2.67**	**54**	Pn	**Pn**	**16 18 05.0**	**-1.0**
	1.8nm,0.3s,baz=243,slow=14,SNR=90						
MJAR				Pg	**Pb**	**16 18 12.1**	**+1.1**
	10nm,0.3s,baz=235,slow=18,SNR=54						
MJAR				Lg	Lg	16 18 45.7	
	16nm,0.3s,baz=233,slow=36,SNR=4.1						
MJAR				LR	LR	16 19 24.5	
	comp=Z,266nm,19.3s,baz=230,slow=46						
JHJ	**Hachijo jima 2**	**4.01**	**117**	Pn	**Pn**	**16 18 25.0**	**+0.6**
	14nm,0.3s,baz=71,slow=23,SNR=8.0						
JHJ2	**Mitsune**	**4.04**	**117**	Pn	**Pn**	**16 18 24.8**	**+0.1**
JNU	**Nakatsue**	**4.28**	**245**	Pn	**Pn**	**16 18 28.9**	**+0.8**
	7.4nm,0.3s,baz=94,slow=1.4,SNR=32						
JNU				Lg	Lg	16 19 35.6	
	4.5nm,0.3s,baz=138,slow=22,SNR=4.1						
JNU	**Nakatsue**	**4.28**	**245**		**Pn**	**16 18 29.2**	**+1.1**
KSRS	**Korea Array**	**6.60**	**294**	Pn	**Pn**	**16 19 00.6**	**+0.6**
	0.7nm,0.3s,baz=107,slow=14,SNR=10						
KSRS				Sn	**Sn**	**16 20 13.6**	**-1.5**
	0.8nm,0.3s,baz=112,slow=23,SNR=5.4						
KSRS				LR	LR	16 21 21.2	
	comp=Z,59nm,21.6s,baz=190,slow=36						
KS19	**Wonju Array Si**	**6.66**	**294**	Pn	**Pn**	**16 19 02.0**	**+1.2**
INCN	**Inchon**	**7.59**	**292**	Pn	**Pn**	**16 19 14.8**	**+1.2**
USRK	**Ussuriysk Ar.**	**9.58**	**345**	Pn	**Pn**	**16 19 40.8**	**+0.1**
	baz=234,slow=49,SNR=3.0						
USRK				LR	LR	16 23 05.3	
	comp=Z,104nm,18.9s,baz=131,slow=36						
ASAJ	**Asahikawa**	**10.61**	**29**	Pn	**Pn**	**16 19 56.9**	**+2.0**
	0.4nm,0.3s,baz=171,slow=14,SNR=4.6						
ASAJ				LR	LR	16 23 58.5	
	comp=Z,111nm,19.1s,baz=262,slow=38						
JKA	**Kamikawa-asahi**	**10.61**	**29**		**Pn**	**16 19 56.9**	**+2.0**
NJ2	**Nanjing**	**14.21**	**263**	*e*P	**Pn**	**16 20 44.5**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KLR	**Kul'dur**	**14.48**	**350**	Pn	**Pn**	**16 20 49.8**	**+1.9**
	1.0nm,0.3s,baz=146,slow=10,SNR=53						
KLR				LR	LR	16 26 11.1	
	comp=Z,120nm,19.2s,baz=173,slow=37						
YOJ	**Yonaguni jima**	**15.10**	**229**	P	**P**	**16 21 02.1**	**+0.7**
HIA	**Hailar**	**18.38**	**326**	P	**Pn**	**16 21 40.0**	**+2.2**
HHC	**Hu-ho-hao-te**	**19.75**	**294**	*e*P	**Pn**	**16 21 55.7**	**+1.4**
HHC				pmax	pmax		
	comp=Z,25nm,0.9s						
HHC				pmax	pmax		
	comp=Z,160nm,4.2s						
HHC				LR	LR		
	comp=N,360nm,10.2s						
HHC				LR	LR		
	comp=E,320nm,9.6s						
HHC				LR	LR		
	comp=Z,250nm,10.3s						
XAN	**Xi'an**	**21.91**	**275**	P	P	16 22 28.4	+12
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,450nm,8.7s						
PETK	**Petropavlovsk-**	**23.95**	**34**	P	**P**	**16 22 36.7**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=252,slow=12,SNR=2.7						
PETK				LR	LR	16 31 52.1	
	comp=Z,72nm,18.6s,baz=240,slow=36						
ULN	**Ulaanbaatar**	**24.75**	**310**	P	**P**	**16 22 45.2**	**+0.6**
SONM	**Songino Array**	**25.15**	**310**	P	**P**	**16 22 48.3**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=118,slow=8.7,SNR=15						
LZH	**Lanzhou**	**25.74**	**282**	*e*P	**P**	**16 22 56.4**	**+2.8**
LZH				pP	sP	16 23 01.4	+2.1
LZH				sP	pP	16 23 03.9	+6.3
LZH				pmax	pmax		
	comp=Z,12nm,0.9s						
CD2	**Chengdu**	**26.89**	**270**	P	**P**	**16 23 03.6**	**-0.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
YAK	**Yakutsk**	**27.30**	**354**	P	**P**	**16 23 07.0**	**-0.2**
YAK				IAmb	IAmb	16 23 08.2	
	comp=Z,5.3nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**32.16**	**113**	T	T	16 57 05.0	
	baz=304,slow=74,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**32.16**	**113**	T	T	16 57 05.0	
	baz=142,slow=74,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**32.17**	**113**	T	T	16 57 08.4	
CMAR	**Chiang Mai Arr**	**36.34**	**253**	P	**P**	**16 24 26.7**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=47,slow=17,SNR=3.1						
WMQ	**Urumqi**	**37.53**	**298**	*e*P	**P**	**16 24 39.2**	**+2.2**
ZALV	**Zalesovo Beam**	**39.83**	**314**	P	**P**	**16 24 55.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=217,slow=29,SNR=1.7						
MK31	**Makanchi Array**	**41.18**	**303**	P	**P**	**16 25 07.0**	**-0.4**
MKAR	**Makanchi Array**	**41.18**	**303**	P	**P**	**16 25 06.8**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=93,slow=9.2,SNR=8.6						
MAKZ	**Makanchi**	**41.40**	**303**	P	**P**	**16 25 09.0**	**-0.1**
MTN	**Manton Dam**	**47.77**	**186**	P	**P**	**16 26 00.0**	**-0.1**
BRVK	**Borovoye**	**48.48**	**313**	P	**P**	**16 26 05.3**	**-0.1**
BRVK				IAmb	IAmb	16 27 36.7	
	comp=Z,7.9nm,1.9s						
ARSB	**Arslanbob**	**48.64**	**297**	P	**P**	**16 26 07.9**	**+0.9**
ARSB				IAmb	IAmb	16 26 12.0	
	comp=Z,8.4nm,1.3s						
KNRA	**Kununurra**	**50.81**	**188**	P	**P**	**16 26 23.7**	**+0.3**
RSO	**Redoubt South**	**51.43**	**37**	P	**P**	**16 26 28.1**	**+0.2**
CHGR	**Chuyangaron**	**52.19**	**295**	P	**P**	**16 26 34.1**	**+0.3**
MDM	**Murphy Dome**	**53.15**	**31**	P	**P**	**16 26 40.0**	**-0.4**
MDM				IAmb	IAmb	16 26 53.3	
	comp=Z,11nm,1.8s						
CCB	**Clear Creek Bu**	**53.36**	**31**	P	**P**	**16 26 43.1**	**+1.2**
FITZ	**Fitzroy Crossi**	**53.63**	**192**	P	**P**	**16 26 44.0**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=29,slow=10,SNR=1.2						
DHY	**Denali Highway**	**53.72**	**33**	P	**P**	**16 26 44.9**	**+0.1**
ILAR	**Eielson Array**	**53.74**	**31**	P	**P**	**16 26 42.0**	**-2.7**
	comp=Z,0.7nm,0.7s,baz=279,slow=4.7,SNR=5.4						
WB0	**Warramunga Arr**	**54.48**	**181**	P	**P**	**16 26 50.2**	**-0.3**
WB2	**Warramunga Arr**	**54.65**	**181**	P	**P**	**16 26 51.5**	**-0.3**
WRA	**Warramunga Arr**	**54.65**	**181**	P	**P**	**16 26 49.5**	**-2.3**
	comp=Z,0.4nm,0.4s,baz=358,slow=7.6,SNR=7.9						
WR0	**Warramunga Arr**	**54.67**	**181**	P	**P**	**16 26 51.6**	**-0.3**
INK	**Inuvik**	**58.33**	**26**	P	**P**	**16 27 17.3**	**-0.1**
ASAR	**Alice Springs**	**58.37**	**182**	P	**P**	**16 27 18.0**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=12,slow=11,SNR=9.9						
STKA	**Stephens Creek**	**66.77**	**174**	P	**P**	**16 28 13.5**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=79,slow=23,SNR=3.0						
STKA	**Stephens Creek**	**66.77**	**174**	IAmb	IAmb	16 29 30.6	
	comp=Z,5.1nm,1.9s						
FINES	**FINESS Array B**	**68.31**	**331**	P	**P**	**16 28 22.5**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=72,slow=6.2,SNR=5.9						
AKASG	**Malin Array Be**	**72.89**	**320**	P	**P**	**16 28 50.1**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=53,slow=6.3,SNR=4.7						
NB2	**NORSAR Subarra**	**74.11**	**335**	P	**P**	**16 28 57.2**	**-1.7**
	comp=Z,2.8nm,1.2s,baz=45,slow=5.9						
NOA	**NORSAR Array B**	**74.11**	**335**	P	**P**	**16 28 57.5**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=47,slow=5.9,SNR=4.0						
LRM	**Limekiln Ridge**	**78.88**	**41**	P	**P**	**16 29 26.8**	**+0.3**
DLMT	**Dillon**	**79.09**	**42**	P	**P**	**16 29 28.1**	**+0.5**
DLMT				IAmb	IAmb	16 29 28.8	
	comp=Z,4.2nm,0.8s						
BOZ	**Bozeman (W)**	**79.47**	**41**	P	**P**	**16 29 29.9**	**+0.3**
BOZ				IAmb	IAmb	16 29 30.9	
	comp=Z,2.4nm,0.9s						
NVAR	**Mina Array Bea**	**79.99**	**50**	P	**P**	**16 29 32.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=284,slow=6.6,SNR=4.8						
GERES	**GERESS Array B**	**81.79**	**325**	P	**P**	**16 29 40.7**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=29,slow=3.0,SNR=3.9						
PDAR	**Pinedale Array**	**82.44**	**42**	P	**P**	**16 29 45.2**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=318,slow=2.0,SNR=6.3						
I42A	**Draeger Farm,**	**91.68**	**30**	P	**P**	**16 30 30.4**	**+0.1**
TXAR	**Lajitas Array**	**95.10**	**49**	P	**P**	**16 30 46.3**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=333,slow=7.0,SNR=4.9						
OPO	**Ambohidratompo**	**99.09**	**254**	LR	LR	17 12 30.4	
	comp=Z,58nm,20.1s,baz=99,slow=33						
LPAZ	**La Paz**	**151.81**	**55**	PKPbc	**PKPbc**	**16 37 18.0**	**-1.0**
	comp=Z,1.5nm,0.9s,baz=26,slow=10,SNR=4.7						

JMA 05 16:26:17.0,35.°07N×135.°50E,h13km,M3.3,3C-5D Broadband fault plane solution: P waves. NP1: ϕ_S**41.00000°,δ62.00000°,λ148.00000°. NP2:** ϕ_S**147.00000°,δ62.00000°,λ32.00000°. Principal axes: T Plg180.0000°, Azm4.0000°; N Plg49.0000°, Azm184.0000°; P Plg0.0000°, Azm274.0000°; Western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWT	**Wachi**	**0.23**	**339**	⇑P	Pg	16 26 22.1	+0.2
JWT				S	Sg	16 26 25.4	+0.1
JHE	**Heguri**	**0.44**	**160**	⇑P	Pg	16 26 25.6	-0.2
JHE				S	Sg	16 26 31.6	-0.1
JKS	**Kasai**	**0.55**	**261**	⇓P	Pg	16 26 27.4	-0.3
JKS				S	Sg	16 26 34.5	-0.4
JKY	**Yasaka**	**0.64**	**330**	⇑P	Pg	16 26 29.4	-0.2
JKY				S	Sg	16 26 37.8	-0.3
JAWN	**Awajishima-nag**	**0.76**	**220**	⇓P	Pg	16 26 31.4	-0.4
JAWN				S	Sg	16 26 41.6	-0.2
TSUJ	**Tsu 2**	**0.84**	**115**	⇓P	Pg	16 26 32.6	-0.6
TSUJ				S	Sg	16 26 43.5	-0.7
JWY	**Kouya**	**0.85**	**175**	P	Pg	16 26 32.8	-0.7
JWY				S	Sg	16 26 44.3	-0.4
JKSM	**Kasumi**	**0.86**	**307**	⇓P	Pg	16 26 33.0	-0.6
JKSM				S	Sg	16 26 44.1	-0.7
JKN2	**Miekihoku**	**1.05**	**142**	⇓P	Pb	16 26 36.3	-0.7
JKN2				S	Sb	16 26 49.8	-0.8
MAT	**Matsushiro**	**2.65**	**55**	P	Pn	16 27 00.5	+1.1
MAT				*e*S	Sn	16 27 33.4	+2.0

IDC 05 16:26:36.6±3.3,0.°71S×134.°05E,h0km,mb3.1/2, mb1 3.4/3,mb1mx3.2/29,mbtmp3.2/3,ML3.2/1 Error ellipse: s-maj=160.0km s-min=29.5km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.12**	**179**	P	P	16 31 00.3	-1.1
	0.1nm,0.3s,baz=358,slow=12,SNR=8.1						
ASAR	**Alice Springs**	**22.82**	**180**	P	P	16 31 42.3	+0.9
	0.3nm,0.6s,baz=6.3,slow=10,SNR=7.7						
MKAR	**Makanchi Array**	**65.40**	**324**	P	P	16 37 21.0	-0.1
	0.3nm,0.8s,baz=136,slow=7.4,SNR=3.0						

PRE ***05*** *16:58:38.8±1.0,26.°94S×26.°67E,h2km,ML3.5*

IDC ***05*** *16:58:41.8±0.8,26.°89S×26.°73E,h0km,mb4.1/7, mb1 4.2/12,mb1mx3.8/48,mbtmp4.1/12,ML4.1/3,Error ellipse: s-maj=19.5km s-min=10.4km az=93.0*

NEIC ***05*** *16:58:42.1±1.1,26.°91S±0.°06×26.°8E±0.°1,h5km±1km, mb4.3/4,Error ellipse: s-maj=19.9km s-min=5.8km az=112.0*

ISC 05 16:58:40.7±1.2,26.°92S±0.°03×26.°70E±0.°03,h8km±8km, n49,σ2^{9}38/68,mb4.2/7,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.59**	**91**	*e*P	**Pg**	**16 58 50.9**	**-1.2**
PRYS				*e*S	**Sg**	**16 58 58.7**	**-1.2**
PRYS				AML	AML	16 59 02.4	
	comp=Z,5μm,0.6s						
WDLM	**Western Deep L**	**0.81**	**53**	*e*P	**Pg**	**16 58 55.7**	**-0.7**
WDLM				*e*S	**Sb**	**16 59 06.6**	**-1.8**
WDLM				AML	AML	16 59 13.0	
	comp=Z,2μm,0.5s						
KSR	**Koster**	**1.08**	**10**	*e*P	**Pg**	**16 59 00.2**	**-1.2**
KSR				*e*S	**Sg**	**16 59 15.7**	**+0.3**
KSR				AML	AML	16 59 23.8	
	comp=Z,549nm,0.7s						
BOSA	**Boshof**	**2.12**	**217**	Pn	**Pg**	**16 59 19.4**	**-1.8**
	comp=Z,30nm,0.3s,baz=39,slow=13,SNR=649						
BOSA				Pg	**Pb**	**16 59 21.7**	**+2.3**
	comp=Z,39nm,0.3s,baz=42,slow=17,SNR=38						
BOSA				Lg	Lg	16 59 49.7	
	comp=Z,120nm,0.3s,baz=319,slow=20,SNR=20						
BOSA	**Boshof**	**2.12**	**217**	*i* P	**Pg**	**16 59 19.8**	**-1.5**
BOSA	**Boshof**	**2.12**	**217**	*e*P	**Pn**	**16 59 15.4**	**-1.1**
BOSA				*e*S	**Sn**	**16 59 42.5**	**-0.7**
BOSA				AML	AML	16 59 50.9	
	comp=Z,365nm,0.2s						
BOSA	**Boshof**	**2.12**	**217**		**Pb**	**16 59 19.2**	**-0.2**
LBTB	**Lobatse**	**2.14**	**332**	Pn	**Pb**	**16 59 19.9**	**+0.2**
	comp=Z,85nm,0.3s,baz=153,slow=14,SNR=487						
LBTB				Pg	**Pg**	**16 59 21.8**	**+0.1**
	comp=Z,85nm,0.3s,baz=148,slow=17,SNR=173						
LBTB				Lg	Lg	16 59 49.1	
	comp=Z,242nm,0.3s,baz=49,slow=21,SNR=53						
LBTB	**Lobatse**	**2.14**	**332**	*i* P	**Pg**	**16 59 21.9**	**+0.2**
LBTB	**Lobatse**	**2.14**	**332**	*e*P	**Pn**	**16 59 15.2**	**-1.6**
LBTB				*e*S	**Sn**	**16 59 43.7**	**0.0**
LBTB				AML	AML	16 59 50.4	
	comp=Z,732nm,0.4s						
LBTB	**Lobatse**	**2.14**	**332**		**Pb**	**16 59 19.7**	**-0.1**
LBTB	**Lobatse**	**2.14**	**332**	*i* P	**Pg**	**16 59 21.9**	**+0.2**
UPI	**Upington**	**5.04**	**252**	*e*P	**Pn**	**16 59 55.7**	**-1.0**
UPI				*e*S	**Sn**	**17 00 51.6**	**-3.5**
UPI				AML	AML	17 01 27.2	
	comp=Z,117nm,0.4s						
KEIM	**Keimoes**	**5.38**	**249**	*e*P	**Pn**	**17 00 00.5**	**-0.8**
KEIM				*e*S	**Sn**	**17 01 00.3**	**-3.2**
KEIM				AML	AML	17 01 34.5	
	comp=Z,130nm,1.0s						
MOPA	**Mopani**	**5.44**	**53**	*e*P	**Pn**	**17 00 02.3**	**+0.2**
MOPA				*e*S	**Sn**	**17 01 02.6**	**-2.3**
MOPA				AML	AML	17 01 31.9	
	comp=Z,73nm,0.4s						
MSNA	**Messina**	**5.47**	**34**	*e*P	**Pn**	**17 00 01.9**	**-0.6**
MSNA				*e*S	**Sn**	**17 01 00.8**	**-4.9**
MSNA				AML	AML	17 01 37.4	
	comp=Z,62nm,0.8s						
SOE	**Somerset East**	**5.86**	**189**	*e*P	**Pn**	**17 00 07.1**	**-0.8**
SOE				*e*S	**Sn**	**17 01 11.8**	**-3.5**
SOE				AML	AML	17 01 47.8	
	comp=Z,45nm,0.6s						
GRAN	**Grantham**	**6.66**	**215**	*e*P	**Pn**	**17 00 18.4**	**-0.5**
GRAN				*e*S	**Sn**	**17 01 31.1**	**-3.9**
GRAN				AML	AML	17 01 44.9	
	comp=Z,30nm,0.3s						
MATP	**Matopo**	**6.67**	**15**	Pn	**Pn**	**17 00 20.5**	**+1.3**
	comp=Z,4.2nm,0.3s,baz=194,slow=13,SNR=81						
MATP				Sn	**Sn**	**17 01 30.4**	**-5.2**
	comp=Z,2.8nm,0.3s,baz=170,slow=6.1,SNR=2.4						
MATP				Lg	Lg	17 02 04.4	
	comp=Z,8.5nm,0.3s,baz=290,slow=13,SNR=8.3						
MATP	**Matopo**	**6.67**	**15**	*i* P	**Pn**	**17 00 21.2**	**+2.0**
MATP	**Matopo**	**6.67**	**15**	*i* P	**Pn**	**17 00 21.2**	**+2.0**
ROSN	**Rosenhof**	**7.40**	**194**	*e*P	**Pn**	**17 00 28.3**	**-0.7**
ROSN				*e*S	**Sn**	**17 01 49.0**	**-4.1**
ROSN				AML	AML	17 01 53.2	
	comp=Z,111nm,0.6s						
BUFB	**Buffelsbos**	**7.40**	**193**	*e*P	**Pn**	**17 00 28.7**	**-0.3**
BUFB				*e*S	**Sn**	**17 01 48.2**	**-5.1**
BUFB				AML	AML	17 02 38.6	
	comp=Z,35nm,0.4s						
CVNA	**Calvinia**	**7.58**	**231**	*e*P	**Pn**	**17 00 30.6**	**-1.0**
CVNA				*e*S	**Sn**	**17 01 52.1**	**-5.6**
CVNA				AML	AML	17 02 52.5	
	comp=Z,90nm,0.5s						
KOMG	**Komaggas**	**8.61**	**248**	*e*P	**Pn**	**17 00 45.2**	**-0.5**
KOMG				*e*S	**Sn**	**17 02 17.9**	**-5.1**
KOMG				AML	AML	17 03 21.5	
	comp=Z,36nm,0.5s						
TSUM	**Tsumeb**	**11.37**	**311**	Pn	**Pn**	**17 01 24.1**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=167,slow=8.9,SNR=14						
TSUM				Sn	**Sn**	**17 03 25.8**	**-5.3**
	comp=Z,0.5nm,0.3s,baz=213,slow=21,SNR=2.0						
TSUM				Lg	Lg	17 04 35.3	
	comp=Z,1.5nm,0.3s,baz=252,slow=14,SNR=6.6						
TSUM	**Tsumeb**	**11.37**	**311**	*i* P	**Pn**	**17 01 24.7**	**+1.1**
TSUM	**Tsumeb**	**11.37**	**311**	*e*P	**Pn**	**17 01 23.7**	**0.0**
TSUM	**Tsumeb**	**11.37**	**311**		**Pn**	**17 01 26.1**	**+2.5**
TSUM	**Tsumeb**	**11.37**	**311**	*i* P	**Pn**	**17 01 24.7**	**+1.1**
LSZ	**Lusaka**	**11.67**	**7**	Pn	**Pn**	**17 01 27.3**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=188,slow=12,SNR=24						
LSZ				Sn	**Sn**	**17 03 32.1**	**-6.2**
	comp=Z,1.0nm,0.3s,baz=71,slow=22,SNR=4.3						
LSZ				Lg	Lg	17 04 42.4	
	comp=Z,1.4nm,0.3s,baz=263,slow=23,SNR=4.9						
LSZ	**Lusaka**	**11.67**	**7**	*i* P	**Pn**	**17 01 27.3**	**-0.5**
LSZ	**Lusaka**	**11.67**	**7**	*e*P	**Pn**	**17 01 27.8**	**+0.1**
LSZ	**Lusaka**	**11.67**	**7**		**Pn**	**17 01 27.9**	**+0.2**
LSZ	**Lusaka**	**11.67**	**7**	*i* P	**Pn**	**17 01 27.3**	**-0.5**
TOA0	**Torodi Ar. Sit**	**46.65**	**326**	P	**P**	**17 07 11.7**	**+1.8**
TORD	**Torodi Ar. Bea**	**46.65**	**326**	P	**P**	**17 07 11.2**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=141,slow=6.7,SNR=8.9						
QSPA	**South Pole Qui**	**63.27**	**180**	P	**P**	**17 09 11.8**	**+2.1**
	comp=Z,1.5nm,0.8s,baz=68,slow=1.7,SNR=16						
QSPA	**South Pole Qui**	**63.27**	**180**	IAmb	IAmb	17 09 12.8	
	comp=Z,0.8nm,0.5s						
ITM	**Ithomi**	**63.92**	**356**	P	**P**	**17 09 14.7**	**+0.6**
ESDC	**Sonseca Array**	**72.16**	**336**	P	**P**	**17 10 08.0**	**+2.0**
	comp=Z,1.9nm,1.1s,baz=150,slow=6.0,SNR=7.3						
AKASG	**Malin Array Be**	**77.31**	**2**	P	**P**	**17 10 36.8**	**+1.4**
	comp=Z,0.7nm,0.4s,baz=181,slow=5.6,SNR=4.0						
LPAZ	**La Paz**	**86.94**	**253**	P	**P**	**17 11 30.2**	**+2.6**
	comp=Z,0.7nm,0.4s,baz=141,slow=4.3,SNR=5.8						
LPAZ	**La Paz**	**86.94**	**253**	P	**P**	**17 11 29.8**	**+2.1**
LPAZ				IAmb	IAmb	17 11 31.0	
	comp=Z,3.4nm,1.1s						
FINES	**FINESS Array B**	**88.05**	**360**	P	**P**	**17 11 33.2**	**+2.2**
	comp=Z,1.9nm,0.8s,baz=340,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**93.58**	**119**	P	**P**	**17 12 00.7**	**+2.7**
	comp=Z,0.2nm,0.7s,baz=232,slow=4.6,SNR=7.0						
ELK	**Elko**	**145.78**	**304**	PKPbc	**PKiKP**	**17 18 23.7**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=324,slow=3.8,SNR=8.7						
ELK	**Elko**	**145.78**	**304**		**PKPab**	**17 18 22.6**	**+1.4**
NVAR	**Mina Array Bea**	**148.56**	**300**	PKPbc	**PKPab**	**17 18 31.7**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=80,slow=3.5,SNR=9.3						

IDC ***05*** *17:14:07.0±1.6,7.°44S×131.°26E,h0km,mb4.0/3, mb1 4.2/8,mb1mx3.8/32,mbtmp4.0/8,ML4.1/5,Error ellipse: s-maj=43.3km s-min=21.0km az=87.0*

NEIC ***05*** *17:14:14.6±2.4,7.°54S±0.°07×131.°2E±0.°1,h93km±9km, mb4.0/6,Error ellipse: s-maj=16.9km s-min=10.3km az=89.0*

ISC 05 17:14:13.2±0.8,7.°46S±0.°05×131.°21E±0.°08,h100km,n27, σ2^{8}48/29,mb3.8/5,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**0.53**	**170**		**Pn**	**17 14 30.1**	**+0.9**
FAKI	**Fak Fak**	**4.62**	**13**		**Pn**	**17 15 21.8**	**+0.9**
MTN	**Manton Dam**	**5.35**	**181**		**Pn**	**17 15 33.4**	**+2.7**
SIJI	**Sorong**	**6.54**	**0**	Pn	**Pn**	**17 15 45.9**	**-1.1**
	3.6nm,0.3s,baz=190,slow=10,SNR=19						
SIJI				Sn	**Sn**	**17 16 55.3**	**-4.8**
	3.5nm,0.3s,baz=17,slow=23,SNR=7.8						
SOEI	**Soe**	**7.24**	**251**	Pn	**Pn**	**17 15 57.2**	**+0.8**
BATI	**Baumata**	**7.94**	**249**	Pn	**Pn**	**17 16 06.0**	**0.0**
	5.3nm,0.3s,baz=282,slow=4

JOW Kunigami 1.18 174 Pn **Pn** 17 42 17.4 +0.6
JOW Sn **Sn** 17 42 33.6 +0.4
JAM Amami Oshima 1.35 72 P **Pn** 17 42 17.8 -1.4
JAM S **Sb** 17 42 35.3 -1.7
JTAJ Takarajima 1.47 39 P **Pn** 17 42 18.8 -2.0
JTAJ eS **Sn** 17 42 37.1 -3.3
JNTH Nagotoyohara 1.49 184 P **Pb** 17 42 20.8 -1.1
JNTH eS **Sg** 17 42 40.7 -1.1
JAGN Aguni-jima 1.63 210 P **Pn** 17 42 22.2 -0.8
JZK Kikaishima 1.64 79 P **Pn** 17 42 22.8 -0.4
JZK eS **Sn** 17 42 45.3 +0.7
JKE Kume jima 2 2.07 216 P **Pn** 17 42 28.4 -0.7
JKE eS **Sb** 17 42 55.4 -2.3
JNN Nakanoshima 2.37 39 P **Pn** 17 42 32.8 -0.5
JYAK Yakushimahirau 3.03 42 eS **Sn** 17 43 16.7 -2.3
JMTN Minamitane 3.38 45 P **Pn** 17 42 48.9 +1.7
JTN Tanegashima 3 3.62 43 P **Pn** 17 42 51.0 +0.7
JNU Nakatsue 5.61 24 Pn **Pn** 17 43 21.7 +3.9
6.0nm,0.3s,baz=210,slow=5.0,SNR=33
JNU LR LR 17 45 35.9
comp=Z,1μm,20.1s,baz=203,slow=38
JNU Nakatsue 5.61 24 **Pn** 17 43 20.9 +3.0
YOJ Yonaguni jima 5.81 234 Pn **Pn** 17 43 21.7 +1.3
TATO Taipei 6.69 245 **Pn** 17 43 34.2 +1.6
YHNB Yeheng 6.92 243 **Pn** 17 43 37.6 +1.7
SSLB Suanglung 7.72 239 **Pn** 17 43 47.8 +1.0
TWG Pinlang 8.22 233 Pn **Pn** 17 43 55.4 +1.8
TPUB Ta-pu 8.24 237 Pn **Pn** 17 43 55.8 +1.8
KSRS Korea Array 9.42 359 Pn **Pn** 17 44 10.4 +0.4
0.3nm,0.3s,baz=185,slow=13,SNR=17
KSRS LR LR 17 47 59.9
comp=Z,946nm,18.3s,baz=171,slow=38
KS19 Wonju Array Si 9.47 359 Pn **Pn** 17 44 11.5 +0.8
INU Inuyama 10.51 44 **Pn** 17 44 27.3 +2.2
JHJ Hachijo jima 2 11.25 60 LR LR 17 48 24.3
comp=Z,225nm,18.9s,baz=150,slow=34
MAJO Matsushiro 12.03 42 Pn **Pn** 17 44 48.7 +2.9
MJAR Matsushiro Arr 12.03 42 Pn **Pn** 17 44 49.8 +4.0
0.0nm,0.3s,baz=239,slow=15,SNR=6.6
MJAR LR LR 17 50 17.1
comp=Z,372nm,20.0s,baz=230,slow=41
JCJ Chichijima 12.49 91 LR LR 17 49 28.7
comp=Z,344nm,18.5s,baz=284,slow=35
TGY Tagaytay City 15.38 207 LR LR 17 51 33.0
comp=Z,477nm,18.6s,baz=58,slow=38
BJT Baijiatuan 15.54 323 P **P** 17 45 37.9 0.0
BJT IAmb IAmb 17 45 50.3
comp=Z,30nm,1.1s
BJI Beijing 15.55 324 P **P** 17 45 39.4 +1.4
BJI S **Sn** 17 48 32.4 +6.3
BJI pmax pmax
comp=Z,24nm,0.9s
BJI pmax pmax
comp=Z,79nm,3.4s
BJI LR LR
comp=Z,1μm,16.2s
BJI LR LR
comp=Z,910nm,17.0s
CN2 Changchun 15.91 353 eP **P** 17 45 43.2 +1.3
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,190nm,6.0s
CN2 LR LR
comp=Z,670nm,10.0s
CN2 LR LR
comp=Z,950nm,10.0s
CN2 LR LR
comp=Z,650nm,10.0s
USA0B Ussuriysk Arra 16.45 10 **P** 17 45 47.7 -0.2
USRK Ussuriysk Ar. 16.45 10 Pn **P** 17 45 48.4 +0.4
baz=201,slow=10,SNR=8.0
USRK LR LR 17 51 58.7
comp=Z,318nm,19.2s,baz=180,slow=36
ENH Enshi 16.46 282 P **P** 17 45 48.5 +0.4
ENH IAmb IAmb 17 45 53.0
comp=Z,28nm,1.3s
MDJ Mudanjiang 16.61 4 **P** 17 45 49.3 -0.5
MDJ IAmb IAmb 17 46 01.9
comp=Z,42nm,1.5s
XAN Xi'an 17.53 295 P **P** 17 46 01.2 +1.2
XAN S **S** 17 49 21.3 -1.2
XAN pmax pmax
comp=Z,12nm,1.4s
XAN pmax pmax
comp=Z,230nm,5.5s
XAN LR LR
comp=Z,1μm,13.3s
XAN LR LR
comp=Z,900nm,11.1s
XAN LR LR
comp=Z,880nm,16.3s
XAN Xi'an 17.53 295 **P** 17 46 00.3 +0.3
XAN IAmb IAmb 17 46 07.3
comp=Z,28nm,1.5s
HHC Hu-ho-hao-te 18.70 318 eP **P** 17 46 12.9 0.0
HHC S **S** 17 49 44.5 -1.7
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,150nm,4.2s
HHC LR LR
comp=Z,2μm,12.1s
HHC LR LR
comp=Z,2μm,10.1s
HHC LR LR
comp=Z,610nm,11.6s
QIZ Qiongzhong 19.00 246 P **P** 17 46 15.6 -0.6
QIZ S **Sn** 17 49 48.2 -1.7
QIZ LR LR
comp=Z,810nm,16.5s
QIZ LR LR
comp=Z,810nm,13.9s
QIZ LR LR
comp=Z,810nm,14.2s
GYA Guiyang 19.16 270 ⇓P **Pn** 17 46 21.1 +2.1
GYA pmax pmax
comp=Z,8.0nm,1.3s
ASAJ Asahikawa 19.82 32 LR LR 17 55 16.4
comp=Z,292nm,18.5s,baz=242,slow=40
DAV Davao City (W) 20.97 187 LR LR 17 54 30.6
comp=Z,235nm,21.9s,baz=354,slow=36
GUMO Guam 21.18 129 LR LR 17 53 36.4
comp=Z,168nm,20.3s,baz=316,slow=33
KLR Kul'dur 21.37 6 P **P** 17 46 42.7 +0.9
comp=Z,2.0nm,0.5s,baz=179,slow=7.1,SNR=8.7
KLR LR LR 17 54 45.8
comp=Z,231nm,20.5s,baz=179,slow=36
LZH Lanzhou 22.07 298 eP **P** 17 46 47.2 -2.5
LZH sP sP 17 47 02.8 +11
LZH pmax pmax
comp=Z,15nm,0.9s
LZH LR LR
comp=Z,2μm,12.4s
LZH LR LR
comp=Z,500nm,13.2s
LZH LR LR
comp=Z,690nm,13.8s
HIA Hailar 22.19 345 P **P** 17 46 50.0 -0.7
HIA IAmb IAmb 17 47 01.4
comp=Z,10nm,1.1s
SLVN Son La 22.98 259 P **P** 17 46 58.7 -0.7
MYLDM Lahad Datu 24.49 204 P **P** 17 47 14.9 +1.0
KKM Kota Kinabalu 24.61 210 P **P** 17 47 14.4 -0.6
KKM IAmb IAmb 17 47 53.3
comp=Z,19nm,1.3s
ULN Ulaanbaatar 25.73 326 P **P** 17 47 24.7 -0.3
ULN IAmb IAmb 17 47 37.0
comp=Z,27nm,1.4s
SONM Songino Array 26.04 325 P **P** 17 47 27.3 -0.5
comp=Z,11nm,1.1s,baz=140,slow=9.0,SNR=37
SONM LR LR 17 58 17.9
comp=Z,226nm,18.1s,baz=134,slow=38
GTA Gaotai 26.06 303 P **P** 17 47 28.8 +0.7
GTA pP sP 17 47 35.9 +5.2
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,60nm,5.4s
GTA LR LR
comp=Z,1μm,16.2s
GTA LR LR
comp=Z,680nm,13.0s
GTA LR LR
comp=Z,720nm,11.4s
CMAR Chiang Mai Arr 28.41 257 LR LR 17 58 49.0
comp=Z,134nm,19.4s,baz=116,slow=36
SIJI Sorong 28.87 174 LR LR 17 59 21.2
comp=Z,151nm,18.2s,baz=292,slow=36
TLY Talaya 29.95 329 LR LR 18 00 30.6
comp=Z,258nm,20.3s,baz=129,slow=37
PETK Petropavlovsk- 33.24 33 LR LR 18 01 09.2
comp=Z,118nm,20.2s,baz=234,slow=34
KAPI Kappang 33.82 195 LR LR 18 02 53.5
comp=Z,72nm,20.0s,baz=1.5,slow=38
YAK Yakutsk 34.03 1 LR LR 18 02 37.6
comp=Z,213nm,19.4s,baz=192,slow=36
WMQ Urumqi 35.97 307 eP **P** **17 48 57.1 +1.8**
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ pmax pmax
comp=Z,28nm,7.1s
WMQ LR LR
comp=Z,330nm,22.3s
WMQ LR LR
comp=Z,270nm,18.1s
WMQ LR LR
comp=Z,200nm,23.5s
MK31 Makanchi Array 40.31 310 P **P** **17 49 30.7 -1.2**
MKAR Makanchi Array 40.31 310 P **P** **17 49 30.1 -1.8**
comp=Z,1.6nm,0.7s,baz=102,slow=10,SNR=17
MAKZ Makanchi 40.52 310 P **P** **17 49 32.7 -0.9**
ZAA0 Zalesovo Array 40.80 322 P **P** **17 49 33.5 -2.2**
ZALV Zalesovo Beam 40.80 322 P **P** **17 49 34.4 -1.4**
comp=Z,0.8nm,0.6s,baz=110,slow=7.8,SNR=3.0
TARG Taragay, Kyrgy 42.93 302 P **P** **17 49 54.0 +0.1**
TARG IAmb IAmb 17 50 02.0
comp=Z,5.5nm,0.9s
KDJ Kajisay 43.41 303 P **P** **17 49 57.1 -0.4**
KDJ IAmb IAmb 17 50 09.2
comp=Z,7.7nm,1.3s
KURK Kurchatov 43.49 315 P **P** **17 49 57.0 -0.8**
KURK IAmb IAmb 17 50 01.2
comp=Z,5.6nm,0.9s
KSH Kashi 44.31 299 eP **P** **17 50 04.9 +0.2**
KSH S **S** **17 56 36.2 -3.1**
KSH pmax pmax
comp=Z,78nm,5.2s
KSH LR LR
comp=Z,170nm,13.1s
KSH LR LR
comp=Z,190nm,13.3s
NRIK Noril'sk 47.54 342 LR LR 18 12 05.0
comp=Z,223nm,21.8s,baz=121,slow=38
WB0 Warramunga Arr 47.88 172 P **P** **17 50 32.8 0.0**
WRA Warramunga Arr 48.05 172 P **P** **17 50 33.7 -0.3**
comp=Z,2.2nm,0.8s,baz=349,slow=8.1,SNR=5.8
WB2 Warramunga Arr 48.05 172 P **P** **17 50 34.3 +0.3**
WB2 IAmb IAmb 17 50 35.7
comp=Z,8.8nm,1.1s
KK31 Karatay Array 48.34 304 P **P** **17 50 35.4 -0.8**
KK31 IAmb IAmb 17 50 37.2
comp=Z,4.3nm,1.2s
KKAR Karatay Array 48.34 304 P **P** **17 50 35.7 -0.5**
KKAR IAmb IAmb 17 50 37.2
comp=Z,4.3nm,1.2s
BVAR Borovoye Array 48.91 317 P **P** **17 50 39.8 -0.6**
comp=Z,2.6nm,0.9s,baz=97,slow=12,SNR=6.6
AS31 Alice Springs 51.68 173 P **P** **17 51 02.5 +0.9**
ASAR Alice Springs 51.68 173 P **P** **17 51 01.7 +0.1**
comp=Z,1.1nm,0.8s,baz=356,slow=8.3,SNR=9.6
ASAR LR LR 18 11 25.0
comp=Z,74nm,21.8s,baz=1.5,slow=34
ARU Arti 55.96 321 P **P** **17 51 31.5 -1.1**
comp=Z,0.3nm,0.4s,baz=126,slow=5.0,SNR=4.6
ARU Arti 55.96 321 P **P** **17 51 31.9 -0.8**
ARU IAmb IAmb 17 51 39.5
comp=Z,5.8nm,1.0s
AKTO Aktyubinsk 56.54 314 P **P** **17 51 37.5 +0.6**
comp=Z,1.3nm,0.9s,baz=80,slow=13,SNR=3.7
MORW Morawa 57.93 193 P **P** **17 51 47.4 +0.5**
STKA Stephens Creek 60.92 167 P **P** **17 52 07.8 +0.4**
comp=Z,1.6nm,0.7s,baz=335,slow=9.2,SNR=4.3
STKA Stephens Creek 60.92 167 P **P** **17 52 10.0 +2.5**
SUA Susitna One 61.61 33 P **P** **17 52 12.4 +0.3**
WSAR Wadi Sarin 62.10 283 LR LR 18 23 44.2
comp=Z,118nm,19.1s,baz=102,slow=41
MDM Murphy Dome 62.32 29 P **P** **17 52 16.8 +0.1**
ILAR Eielson Array 62.91 29 P **P** **17 52 24.5 +3.9**
comp=Z,0.8nm,0.8s,baz=290,slow=8.6,SNR=7.2
ILAR LR LR 18 22 17.4
comp=Z,57nm,18.3s,baz=306,slow=38
GLB Gilahina Butte 64.90 32 P **P** **17 52 34.5 +0.7**
VRDI Verde Repeater 65.12 32 P **P** **17 52 35.2 -0.2**
KLMR Klimovskoe 65.31 327 P **P** **17 52 34.4 -1.9**
KLMR AMP 17 52 39.8
comp=Z,6.0nm,1.4s
KLMR LQ LQ 18 16 32.8
KLMR LQ LQ 18 16 32.8
KLMR LR LR 18 22 29.6
KBZ Khabaz 67.98 309 LR LR 18 24 29.4
comp=Z,94nm,18.9s,baz=264,slow=38
ARCES ARCESS Array B 68.33 338 LR LR 18 27 39.9
comp=Z,127nm,19.0s,baz=82,slow=40
FINES FINESS Array B 71.28 330 LR LR 18 26 50.8
comp=Z,116nm,19.0s,baz=70,slow=38
AKASG Malin Array Be 74.13 319 LR LR 18 28 05.4
comp=Z,276nm,18.9s,baz=85,slow=38
BRTR Keskin Array B 75.89 308 LR LR 18 34 00.7
comp=Z,47nm,19.0s,baz=18,slow=41
YKA Yellowknife Ar 76.95 25 LR LR 18 31 34.9
comp=Z,47nm,18.3s,baz=0.0,slow=39
NOA NORSAR Array B 77.69 334 LR LR 18 31 20.2
comp=Z,91nm,18.5s,baz=75,slow=38
KRLC Kraliky 81.39 323 AMS AMS 18 31 00.0
comp=Z,200nm,14.8s
OSTC Ostas 81.42 323 AMS AMS 18 33 10.0
comp=Z,200nm,14.4s
DPC Dobruska-Polom 81.48 323 AMS AMS 18 33 00.0
comp=Z,200nm,10.6s
CHVC Chvalec 81.49 323 AMS AMS 18 33 20.0
comp=Z,200nm,14.9s
UPC Upice 81.56 323 AMS AMS 18 33 30.0
comp=Z,200nm,14.9s
PVCC Panska Ves 82.30 324 AMS AMS 18 34 10.0
comp=Z,200nm,13.7s
TREC Trest 82.52 322 AMS AMS 18 33 00.0
comp=Z,200nm,18.0s
GOPC GO Pecny, Ondr 82.54 323 AMS AMS 18 33 10.0
comp=Z,200nm,15.9s
PRU Pruhonice 82.63 323 AMS AMS 18 33 10.0
comp=Z,100nm,13.5s
PRA Prague 82.64 323 AMS AMS 18 36 00.0
comp=Z,100nm,10.9s
NKC Novy Kostel 83.57 324 AMS AMS 18 35 00.0
comp=Z,200nm,14.4s
KHC Kasperske Hory 83.64 323 AMS AMS 18 34 50.0
comp=Z,200nm,14.1s
GERES GERESS Array B 83.74 323 LR LR 18 34 16.4
comp=Z,172nm,19.3s,baz=76,slow=38
SFJD Kangerlussuaq 85.29 360 LR LR 18 31 41.5
comp=Z,75nm,21.6s,baz=6.5,slow=35
NVAR Mina Array Bea 89.33 46 LR LR 18 31 11.0
comp=Z,17nm,20.1s,baz=276,slow=33
PPT Papeete 91.54 109 LR LR 18 28 53.3
comp=Z,63nm,19.7s,baz=206,slow=31
ULM Lac du Bonnet 92.86 27 LR LR 18 42 50.6
comp=Z,46nm,18.4s,baz=292,slow=39
SCHQ Schefferville 96.49 9 LR LR 18 43 22.9
comp=Z,29nm,18.8s,baz=339,slow=38
ESDC Sonseca Array 99.23 325 LR LR 18 47 36.5
comp=Z,41nm,18.5s,baz=80,slow=40

*IDC **05** 17:43:43.6±1.3, 6°.63S×152°.70E, h0km, mb4.0/8, mb1 4.2/10, mb1mx3.8/50, mbtmp4.0/10, ML2.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/36, Error ellipse: s-maj=45.3km s-min=16.9km az=113.0*
*NEIC **05** 17:43:46.2±1.6, 6°.61S±0°.08×152°.8E±0°.1, h21km±6km, mb4.8/16, Error ellipse: s-maj=19.6km s-min=9.3km az=109.0*
ISC 05 17:43:46.9±0.8, 6°.54S±0°.07×152°.7E±0°.1, h23km, n29, σ0s89/32, mb4.2/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.31**	**344**	Pn	**Pn**	**17 44 23.1**	**-0.5**
	192nm,0.3s,baz=173,slow=1.4,SNR=409						
KRVT				Sn	**Sn**	**17 44 50.0**	**-1.4**
	211nm,0.3s,baz=300,slow=21,SNR=20						
KRVT				LR	LR	17 45 35.2	
	comp=Z,212nm,18.4s,baz=108,slow=46						
RABL	**Rabaul**	**2.39**	**348**		**Pn**	**17 44 24.0**	**-0.7**
PMG	**Port Moresby**	**6.17**	**242**	Pn	**Pn**	**17 45 16.6**	**0.0**
	3.6nm,0.3s,baz=75,slow=5.0,SNR=12						
PMG				Sn	**Sn**	**17 46 25.9**	**-0.5**
	3.4nm,0.3s,baz=85,slow=22,SNR=4.2						
PMG	**Port Moresby**	**6.17**	**242**		**Pn**	**17 45 17.9**	**+1.3**
PMG					**Sn**	**17 46 25.6**	**-0.8**
WR0	**Warramunga Arr**	**22.09**	**231**	P	**P**	**17 48 41.4**	**+0.8**
WB0	**Warramunga Arr**	**22.10**	**232**	P	**P**	**17 48 40.3**	**-0.5**
MTN	**Manton Dam**	**22.13**	**252**	P	**P**	**17 48 41.4**	**+0.3**
MTN				IAmb	IAmb	17 49 02.1	
	comp=Z,100nm,1.6s						
WC3	**Warramunga Arr**	**22.22**	**231**	P	**P**	**17 48 42.4**	**+0.4**
WC3				IAmb	IAmb	17 48 58.4	
	comp=Z,9.4nm,1.2s						
WRAB	**Tennant Creek**	**22.23**	**231**	P	**P**	**17 48 41.3**	**-0.8**
WRAB				IAmb	IAmb	17 49 11.3	
	comp=Z,41nm,1.8s						
WB2	**Warramunga Arr**	**22.23**	**231**	P	**P**	**17 48 42.2**	**0.0**
WB2				IAmb	IAmb	17 49 08.5	
	comp=Z,47nm,1.8s						
WRA	**Warramunga Arr**	**22.24**	**231**	P	**P**	**17 48 42.1**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=48,slow=12,SNR=7.3						
AS31	**Alice Springs**	**24.81**	**225**	P	**P**	**17 49 08.2**	**+0.7**
ASAR	**Alice Springs**	**24.81**	**225**	P	**P**	**17 49 07.7**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=59,slow=9.3,SNR=48						
KNRA	**Kununurra**	**25.14**	**247**	P	**P**	**17 49 11.4**	**+0.9**
KNRA				IAmb	IAmb	17 49 49.1	
	comp=Z,64nm,1.6s						
LHI	**Lord Howe Isla**	**25.56**	**167**	P	**P**	**17 49 12.8**	**-1.3**
TNTI	**Ternate**	**26.29**	**285**	P	**P**	**17 49 20.9**	**-0.1**
TNTI				IAmb	IAmb	17 49 55.3	
	comp=Z,32nm,1.3s						
STKA	**Stephens Creek**	**27.25**	**201**	P	**P**	**17 49 28.3**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=18,slow=13,SNR=6.9						
STKA	**Stephens Creek**	**27.25**	**201**	P	**P**	**17 49 28.6**	**-0.8**
SOEI	**Soe**	**28.30**	**262**	P	**P**	**17 49 38.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**28.76**	**244**	P	**P**	**17 49 42.9**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=50,slow=11,SNR=5.6						
FITZ	**Fitzroy Crossi**	**28.76**	**244**	P	**P**	**17 49 42.8**	**-0.3**
FITZ				IAmb	IAmb	17 50 33.3	
	comp=Z,58nm,1.8s						
PSAA3	**Pilbara Seismi**	**35.07**	**241**	P	**P**	**17 50 38.5**	**+0.1**
PSAB3	**Pilbara Seismi**	**35.07**	**241**	P	**P**	**17 50 37.9**	**-0.6**
PETK	**Petropavlovsk-**	**59.58**	**4**	P	**P**	**17 53 50.0**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=157,slow=6.1,SNR=7.3						
SONM	**Songino Array**	**67.73**	**328**	P	**P**	**17 54 44.5**	**+1.8**
	comp=Z,1.7nm,1.0s,baz=137,slow=5.7,SNR=7.2						
VNDA	**Vanda**	**71.10**	**178**	P	**P**	**17 55 02.0**	**-0.9**
VNDA				IAmb	IAmb	17 56 49.8	
	comp=Z,14nm,1.8s						
ZALV	**Zalesovo Beam**	**82.53**	**326**	P	**P**	**17 56 07.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=125,slow=12,SNR=2.5						
ILAR	**Eielson Array**	**83.81**	**22**	P	**P**	**17 56 15.7**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=241,slow=5.0,SNR=5.8						
TORD	**Torodi Ar. Bea**	**150.69**	**285**	PKPbc	**PKPbc**	**18 03 37.5**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=20,slow=2.1,SNR=4.5						

*IDC **05** 17:49:34.9±0.9, 0°.88N×146°.22E, h0km, mb4.1/12, mb1 4.3/14, mb1mx4.0/53, mbtmp4.1/14, ML3.6/2, MS3.6/5, Ms1 3.6/5, ms1mx3.1/36, Error ellipse: s-maj=28.9km s-min=17.2km az=99.0*
*NEIC **05** 17:49:37.4±1.2, 0°.81N±0°.07×146°.09E±0°.08, h15km±4km, mb4.6/31, Error ellipse: s-maj=12.6km s-min=8.4km az=50.0*
ISC 05 17:49:40.2±0.6, 0°.75N±0°.08×146°.04E±0°.09, h35km, n51, σ0s99/49, mb4.4/27, MS3.4/3, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**6.24**	**239**	Pn	**Pn**	**17 51 09.3**	**-0.6**
	0.2nm,0.3s,baz=71,slow=15,SNR=1.5						
JAY				Sn	**Sn**	**17 52 18.0**	**-2.2**
	1.1nm,0.3s,baz=336,slow=14,SNR=1.8						
JAY				LR	LR	17 53 17.5	
	comp=Z,553nm,20.6s,baz=331,slow=34						
KRVT	**Keravat (AS076**	**7.81**	**130**	Pn	**Pn**	**17 51 30.3**	**-1.2**
	5.5nm,0.3s,baz=88,slow=2.6,SNR=5.2						
RABL	**Rabaul**	**7.84**	**129**	Pn	**Pn**	**17 51 31.4**	**-0.6**
PMG	**Port Moresby**	**10.15**	**174**	Pn	**Pn**	**17 52 01.3**	**-2.3**
HNR	**Honiara**	**17.15**	**126**	LR	LR	17 59 34.2	
	comp=Z,347nm,18.7s,baz=256,slow=35						
MTN	**Manton Dam**	**20.03**	**227**	P	**P**	**17 54 11.4**	**+1.1**
MTN				IAmb	IAmb	17 54 39.7	
	comp=Z,46nm,1.4s						
CTAO	**Charters Tower**	**20.71**	**179**	P	**P**	**17 54 19.5**	**+1.8**
CTAO				IAmb	IAmb	17 54 21.5	
	comp=Z,33nm,1.2s						
LUWI	**Luwuk**	**23.34**	**266**	P	**P**	**17 54 45.5**	**-0.2**
LUWI				IAmb	IAmb	17 55 06.8	
	comp=Z,30nm,0.9s						
WB0	**Warramunga Arr**	**23.37**	**209**	P	**P**	**17 54 46.5**	**+0.6**
WR0	**Warramunga Arr**	**23.47**	**208**	P	**P**	**17 54 47.1**	**+0.3**
WRAB	**Tennant Creek**	**23.54**	**209**	P	**P**	**17 54 48.1**	**+0.6**
WRAB				IAmb	IAmb	17 54 49.4	
	comp=Z,13nm,0.9s						
WB2	**Warramunga Arr**	**23.54**	**209**	P	**P**	**17 54 48.2**	**+0.6**
WB2				IAmb	IAmb	17 54 52.1	
	comp=Z,14nm,1.0s						
WRA	**Warramunga Arr**	**23.55**	**209**	P	**P**	**17 54 48.3**	**+0.7**
	comp=Z,8.0nm,0.8s,baz=31,slow=11,SNR=46						
KNRA	**Kununurra**	**23.62**	**226**	P	**P**	**17 54 49.0**	**+0.7**
KNRA				IAmb	IAmb	17 55 09.5	
	comp=Z,31nm,1.2s						
AS31	**Alice Springs**	**26.98**	**205**	P	**P**	**17 55 20.6**	**+1.7**
ASAR	**Alice Springs**	**26.99**	**205**	P	**P**	**17 55 21.0**	**+2.0**
	comp=Z,5.8nm,0.9s,baz=35,slow=9.1,SNR=31						
FITZ	**Fitzroy Crossi**	**27.45**	**226**	LR	LR	18 06 22.8	
	comp=Z,107nm,20.2s,baz=70,slow=36						
FITZ	**Fitzroy Crossi**	**27.45**	**226**	P	**P**	**17 55 24.1**	**+0.9**
FORT	**Forrest**	**35.72**	**207**	P	**P**	**17 56 37.2**	**+1.6**
FORT				IAmb	IAmb	17 56 55.0	
	comp=Z,11nm,1.0s						
KSRS	**Korea Array**	**40.17**	**337**	P	**P**	**17 57 12.1**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=157,slow=9.7,SNR=4.6						
CMAR	**Chiang Mai Arr**	**49.44**	**294**	P	**P**	**17 58 29.1**	**+1.8**
	comp=Z,1.7nm,0.9s,baz=117,slow=5.9,SNR=9.6						
KLR	**Kul'dur**	**49.83**	**348**	P	**P**	**17 58 28.9**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=151,slow=9.6,SNR=4.3						
PETK	**Petropavlovsk-**	**53.07**	**9**	P	**P**	**17 58 53.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=186,slow=12,SNR=5.4						
PETK				LR	LR	18 17 44.3	
	comp=Z,27nm,20.7s,baz=245,slow=32						
SONM	**Songino Array**	**58.10**	**330**	P	**P**	**17 59 30.9**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=146,slow=7.4,SNR=8.3						
MK31	**Makanchi Array**	**71.74**	**320**	P	**P**	**18 00 59.0**	**0.0**
MKAR	**Makanchi Array**	**71.74**	**320**	P	**P**	**18 00 59.6**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=108,slow=6.5,SNR=11						
MAKZ	**Makanchi**	**71.95**	**319**	P	**P**	**18 01 00.5**	**+0.3**
ZALV	**Zalesovo Beam**	**72.84**	**327**	P	**P**	**18 01 05.0**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=107,slow=4.8,SNR=2.8						
SVW2	**Sparrevohn**	**74.57**	**25**	P	**P**	**18 01 15.9**	**+0.5**
SVW2				IAmb	IAmb	18 01 35.1	
	comp=Z,9.0nm,1.3s						
TTA	**Tatalina**	**75.27**	**24**	P	**P**	**18 01 19.8**	**+0.3**
TTA				IAmb	IAmb	18 01 36.8	
	comp=Z,7.6nm,1.6s						
KURK	**Kurchatov**	**75.28**	**323**	P	**P**	**18 01 19.4**	**-0.3**
KURK				IAmb	IAmb	18 01 20.5	
	comp=Z,4.5nm,1.0s						
NIL	**Nilore**	**75.29**	**305**	P	**P**	**18 01 20.9**	**+0.7**
KURBB	**Kurchatov Arra**	**75.31**	**323**	P	**P**	**18 01 19.3**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=111,slow=4.8,SNR=9.4						
CNPM	**China Poot**	**75.83**	**28**	P	**P**	**18 01 21.6**	**-1.1**
PPLA	**Purkeypile**	**76.81**	**24**	P	**P**	**18 01 28.1**	**-0.2**
SEW	**Seward**	**76.89**	**28**	P	**P**	**18 01 27.4**	**-1.2**
SML	**Sawmill**	**78.03**	**26**	P	**P**	**18 01 35.0**	**0.0**
GLI	**Glacier Island**	**78.26**	**27**	P	**P**	**18 01 36.2**	**-0.1**
RND	**Reindeer**	**78.40**	**25**	P	**P**	**18 01 36.8**	**-0.3**
RND				IAmb	IAmb	18 01 36.9	
	comp=Z,4.0nm,0.9s						
DHY	**Denali Highway**	**78.90**	**25**	P	**P**	**18 01 39.7**	**-0.3**
DHY				IAmb	IAmb	18 02 01.4	
	comp=Z,18nm,1.7s						
WRH	**Wood River Hil**	**79.11**	**24**	P	**P**	**18 01 39.6**	**-1.3**
WRH				IAmb	IAmb	18 02 00.5	
	comp=Z,14nm,1.5s						
CHGR	**Chuyangaron**	**79.29**	**309**	P	**P**	**18 01 43.1**	**+0.5**
CHGR				IAmb	IAmb	18 01 44.4	
	comp=Z,12nm,0.9s						
COLD	**Coldfoot**	**79.39**	**21**	P	**P**	**18 01 41.8**	**-0.7**

PAX	**Paxson**	**79.68**	**26**	P	**P**	**18 01 43.4**	**-0.8**
PAX				IAmb	IAmb	18 02 01.1	
	comp=Z,15nm,1.7s						
ILAR	**Eielson Array**	**79.70**	**24**	P	**P**	**18 01 42.6**	**-1.5**
	comp=Z,1.7nm,0.5s,baz=248,slow=5.7,SNR=13						
RIDG	**Independent Ri**	**80.20**	**25**	P	**P**	**18 01 46.4**	**-0.5**
RIDG				IAmb	IAmb	18 01 47.3	
	comp=Z,6.8nm,1.2s						
DOT	**Dot Lake**	**80.50**	**25**	P	**P**	**18 01 48.1**	**-0.4**
DOT				IAmb	IAmb	18 02 16.4	
	comp=Z,9.6nm,1.5s						
BALM	**Baldy**	**80.51**	**28**	P	**P**	**18 01 48.4**	**-0.3**
BVAR	**Borovoye Array**	**80.79**	**324**	P	**P**	**18 01 50.6**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=101,slow=7.7,SNR=10						
BRVK	**Borovoye**	**80.86**	**324**	P	**P**	**18 01 50.8**	**+0.2**
YBH	**Yreka Blue Hor**	**90.44**	**48**	LR	LR	18 35 37.5	
	comp=Z,34nm,19.9s,baz=296,slow=31						

*IDC **05** 17:53:30.1±1.3,55.˚15N×163.˚43E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.4/63, mbtmp3.6/7, ML2.4/1, MS3.6/2, Ms1 3.6/2, ms1mx2.7/51, Error ellipse: s-maj=115.9km s-min=18.5km az=146.0*

*KRSC **05** 17:53:31.1±0.7, 55.˚14N×163.˚30E, h25km±26km, ML4.0*

*NEIC **05** 17:53:32.2±2.5, 54.˚8N±0.˚2×163.˚88E±0.˚05, h10km±1km, mb4.3/10, Error ellipse: s-maj=34.4km s-min=3.7km az=355.0*

*MOS **05** 17:53:32.4±0.4, 55.˚21N×163.˚33E, h25km, mb4.7/2, Error ellipse: s-maj=6.9km s-min=5.3km az=69.5*

ISC 05 17:53:32.1±1.9, **55.˚22N**±0.˚03×**163.˚31E**±0.˚03, **h12**km±13km, **n103**, σ0**98**/130, **mb4.2**/12, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.02**	**344**	*eP*	**Pb**	**17 53 51.1**	**-0.6**
KBTR				*eS*	**Sg**	**17 54 05.3**	**+0.1**
KBTR	**Krutoberegovo**	**1.02**	**344**	PN	**Pb**	**17 53 51.1**	**-0.6**
KBTR				S	**Sg**	**17 54 05.3**	**+0.1**
KBG	**Krutoberegovo**	**1.09**	**342**	*eP*	**Pb**	**17 53 52.1**	**-0.7**
KBG				*eS*	**Sb**	**17 54 07.0**	**+0.1**
KBG	**Krutoberegovo**	**1.09**	**342**	PN	**Pb**	**17 53 52.1**	**-0.7**
KBG				S	**Sb**	**17 54 07.0**	**+0.1**
BKI	**Bering**	**1.53**	**90**	*eP*	**Pn**	**17 53 58.6**	**-0.5**
BKI				*eS*	**Sn**	**17 54 18.1**	**-0.7**
BKI	**Bering**	**1.53**	**90**	PN	**Pn**	**17 53 58.6**	**-0.5**
BKI				S	**Sn**	**17 54 18.1**	**-0.7**
ZLN	**Zelenaya**	**1.63**	**300**	*eP*	**Pn**	**17 54 00.4**	**-0.2**
ZLN	**Zelenaya**	**1.63**	**300**	PN	**Pn**	**17 54 00.4**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**1.65**	**297**	*eP*	**Pn**	**17 54 00.4**	**-0.5**
BZGR				*eS*	**Sn**	**17 54 21.7**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**1.65**	**297**	PN	**Pn**	**17 54 00.4**	**-0.5**
BZGR				S	**Sn**	**17 54 21.7**	**-0.3**
CIRR	**Tsirk**	**1.70**	**303**	*eP*	**Pn**	**17 54 01.2**	**-0.5**
CIRR	**Tsirk**	**1.70**	**303**	PN	**Pn**	**17 54 01.2**	**-0.5**
SMKR	**Semkarok**	**1.71**	**323**	*eP*	**Pn**	**17 54 01.7**	**0.0**
SMKR	**Semkarok**	**1.71**	**323**	PN	**Pn**	**17 54 01.7**	**0.0**
LGNR	**Loginova**	**1.72**	**301**	*eP*	**Pn**	**17 54 02.1**	**+0.1**
LGNR	**Loginova**	**1.72**	**301**	PN	**Pn**	**17 54 02.1**	**+0.1**
KZV	**Kizimen**	**1.73**	**268**	*eP*	**Pn**	**17 54 00.4**	**-1.7**
KZV	**Kizimen**	**1.73**	**268**	PN	**Pn**	**17 54 00.4**	**-1.7**
BZWR	**Bezymyannyi-We**	**1.76**	**296**	*eP*	**Pn**	**17 54 02.0**	**-0.5**
BZWR	**Bezymyannyi-We**	**1.76**	**296**	PN	**Pn**	**17 54 02.0**	**-0.5**
BDR	**Baidarnaya**	**1.79**	**320**	*eP*	**Pn**	**17 54 02.8**	**-0.1**
BDR				*eS*	**Sn**	**17 54 26.2**	**+0.6**
BDR	**Baidarnaya**	**1.79**	**320**	PN	**Pn**	**17 54 02.8**	**-0.1**
BDR				S	**Sn**	**17 54 26.2**	**+0.6**
TUMR	**Tumrok**	**1.81**	**273**	*eP*	**Pn**	**17 54 02.5**	**-0.6**
TUMR				*eS*	**Sn**	**17 54 24.9**	**-1.2**
TUMR	**Tumrok**	**1.81**	**273**	PN	**Pn**	**17 54 02.5**	**-0.6**
TUMR				S	**Sn**	**17 54 24.9**	**-1.2**
KMNR	**Kamenistaya**	**1.83**	**288**	*eP*	**Pn**	**17 54 03.5**	**+0.2**
KMNR				*eS*	**Sn**	**17 54 26.7**	**+0.3**
KMNR	**Kamenistaya**	**1.83**	**288**	PN	**Pn**	**17 54 03.5**	**+0.2**
KMNR				S	**Sn**	**17 54 26.7**	**+0.3**
KIRR	**Kirishev**	**1.84**	**295**	*eP*	**Pn**	**17 54 02.9**	**-0.6**
KIRR				*eS*	**Sn**	**17 54 26.2**	**-0.5**
KIRR	**Kirishev**	**1.84**	**295**	PN	**Pn**	**17 54 02.9**	**-0.6**
KIRR				S	**Sn**	**17 54 26.2**	**-0.5**
KLY	**Klyuchi**	**1.86**	**307**	*eP*	**Pn**	**17 54 02.0**	**-1.6**
KLY				*eS*	**Sn**	**17 54 24.4**	**-2.6**
KLY	**Klyuchi**	**1.86**	**307**	PN	**Pn**	**17 54 02.0**	**-1.6**
KLY				S	**Sn**	**17 54 24.4**	**-2.6**
SRKR	**Sorokina**	**1.87**	**321**	*eP*	**Pn**	**17 54 04.1**	**+0.2**
SRKR	**Sorokina**	**1.87**	**321**	PN	**Pn**	**17 54 04.1**	**+0.2**
KPT	**Kopyto**	**1.90**	**294**	*eP*	**Pn**	**17 54 04.6**	**+0.2**
KPT	**Kopyto**	**1.90**	**294**	PN	**Pn**	**17 54 04.6**	**+0.2**
KOZ	**Kozyrevsk**	**2.12**	**295**	*eP*	**Pn**	**17 54 08.4**	**+1.1**
KOZ	**Kozyrevsk**	**2.12**	**295**	PN	**Pn**	**17 54 08.4**	**+1.1**
SRDR	**Sredinnyy**	**2.31**	**300**	*eP*	**Pn**	**17 54 10.0**	**+0.1**
SRDR	**Sredinnyy**	**2.31**	**300**	PN	**Pn**	**17 54 10.0**	**+0.1**
KII	**Karymskiy**	**2.54**	**244**	*eP*	**Pn**	**17 54 12.8**	**-0.3**
KII	**Karymskiy**	**2.54**	**244**	PN	**Pn**	**17 54 12.8**	**-0.3**
ESO	**Esso**	**2.71**	**287**	*eP*	**Pn**	**17 54 15.5**	**+0.1**
ESO	**Esso**	**2.71**	**287**	PN	**Pn**	**17 54 15.5**	**+0.1**
SPN	**Mys Shipunski**	**2.88**	**224**	*eP*	**Pn**	**17 54 15.5**	**-2.1**
SPN				*eS*	**Sn**	**17 54 49.2**	**-2.9**
SPN	**Mys Shipunski**	**2.88**	**224**	PN	**Pn**	**17 54 15.5**	**-2.1**
NLC	**Nalytchevo**	**3.11**	**230**	*eP*	**Pn**	**17 54 20.7**	**-0.1**
NLC				*eS*	**Sn**	**17 54 57.7**	**-0.1**
NLC	**Nalytchevo**	**3.11**	**230**	PN	**Pn**	**17 54 20.7**	**-0.1**
NLC				S	**Sn**	**17 54 57.7**	**-0.1**
SDLR	**Sedlovina**	**3.25**	**235**	*eP*	**Pn**	**17 54 22.8**	**-0.1**
SDLR	**Sedlovina**	**3.25**	**235**	PN	**Pn**	**17 54 22.8**	**-0.1**
KRER	**Koryakskii**	**3.29**	**236**	*eP*	**Pn**	**17 54 23.9**	**+0.3**
KRER	**Koryakskii**	**3.29**	**236**	PN	**Pn**	**17 54 23.9**	**+0.3**
SMAR	**Somma**	**3.29**	**235**	*eP*	**Pn**	**17 54 24.1**	**+0.5**
SMAR	**Somma**	**3.29**	**235**	PN	**Pn**	**17 54 24.1**	**+0.5**
KRX	**Arik**	**3.31**	**238**	*eP*	**Pn**	**17 54 24.1**	**+0.4**
KRX	**Arik**	**3.31**	**238**	PN	**Pn**	**17 54 24.1**	**+0.4**
UGLR	**Uglovaya**	**3.32**	**234**	*eP*	**Pn**	**17 54 23.5**	**-0.3**
UGLR	**Uglovaya**	**3.32**	**234**	PN	**Pn**	**17 54 23.5**	**-0.3**
AVH	**Avacha**	**3.32**	**236**	*eP*	**Pn**	**17 54 25.4**	**+1.5**
AVH	**Avacha**	**3.32**	**236**	PN	**Pn**	**17 54 25.4**	**+1.5**
KOK	**Koryaka**	**3.35**	**237**	*eP*	**Pn**	**17 54 24.9**	**+0.6**
KOK	**Koryaka**	**3.35**	**237**	PN	**Pn**	**17 54 24.9**	**+0.6**
DALK	**Dalny**	**3.47**	**233**	*eP*	**Pn**	**17 54 25.4**	**-0.3**
DALK				*eS*	**Sn**	**17 55 05.5**	**-1.1**
DALK	**Dalny**	**3.47**	**233**	PN	**Pn**	**17 54 25.4**	**-0.3**
DALK				S	**Sn**	**17 55 05.5**	**-1.1**
PET	**Petropavlovsk**	**3.52**	**233**	*e*PN	**Pn**	**17 54 27.4**	**+1.0**
PET				*eS*	**Sn**	**17 55 08.8**	**+0.9**
PET				pmax	pmax		
	comp=Z,71nm,0.6s						
PET				smax	smax		
	comp=N,138nm,0.5s						
PET				smax	smax		
	comp=E,131nm,0.6s						
KRMR	**Karymshinskiy**	**3.88**	**234**	*eP*	**Pn**	**17 54 32.3**	**+0.8**
KRMR				*eS*	**Sn**	**17 55 16.7**	**-0.2**
KRMR	**Karymshinskiy**	**3.88**	**234**	PN	**Pn**	**17 54 32.3**	**+0.8**
KRMR				S	**Sn**	**17 55 16.7**	**-0.2**
PEA0B	**Petropavlovsk-**	**3.92**	**240**	PN	**Pn**	**17 54 33.2**	**+1.2**
PEA0B	**Petropavlovsk-**	**3.92**	**240**		**Pn**	**17 54 33.2**	**+1.2**
PETK	**Petropavlovsk-**	**3.92**	**240**	Pn	**Pn**	**17 54 32.5**	**+0.5**
	comp=E,1.2nm,0.3s,baz=69,slow=18,SNR=36						
PETK				Sn	**Sb**	**17 55 27.2**	**-1.2**
	comp=E,2.2nm,0.3s,baz=56,slow=5.6,SNR=3.9						
RUS	**Russkaya**	**3.99**	**227**	*eP*	**Pn**	**17 54 33.2**	**+0.3**
RUS				*eS*	**Sn**	**17 55 18.9**	**-0.6**
RUS	**Russkaya**	**3.99**	**227**	PN	**Pn**	**17 54 33.2**	**+0.3**
MTVR	**Mutnovka**	**4.09**	**230**	*eP*	**Pn**	**17 54 35.9**	**+1.4**
MTVR				*eS*	**Sn**	**17 55 22.7**	**+0.4**
MTVR	**Mutnovka**	**4.09**	**230**	PN	**Pn**	**17 54 35.9**	**+1.4**
MTVR				S	**Sn**	**17 55 22.7**	**+0.4**
GRL	**Gorelyy**	**4.09**	**231**	*eP*	**Pn**	**17 54 36.0**	**+1.5**
GRL	**Gorelyy**	**4.09**	**231**	PN	**Pn**	**17 54 36.0**	**+1.5**
ASAK	**Asacha**	**4.29**	**231**	*eP*	**Pn**	**17 54 39.0**	**+1.9**
ASAK	**Asacha**	**4.29**	**231**	PN	**Pn**	**17 54 39.0**	**+1.9**
APC	**Apacha**	**4.29**	**240**	*eP*	**Pn**	**17 54 38.8**	**+1.7**
APC	**Apacha**	**4.29**	**240**	PN	**Pn**	**17 54 38.8**	**+1.7**
KDTR	**Khodutka, Kamc**	**4.63**	**225**	*eP*	**Pn**	**17 54 42.8**	**+1.1**
KDTR	**Khodutka, Kamc**	**4.63**	**225**	PN	**Pn**	**17 54 42.8**	**+1.1**
MIPR	**Malaya Ipel'ka**	**4.88**	**235**	*eP*	**Pn**	**17 54 46.8**	**+1.6**
MIPR	**Malaya Ipel'ka**	**4.88**	**235**	PN	**Pn**	**17 54 46.8**	**+1.6**
SMY	**Shemya**	**6.84**	**107**	PN	Pn	17 55 05.8	-6.2
SMY	**Shemya**	**6.84**	**107**	Pn	Pn	17 55 05.8	-6.2
SVW2	**Sparrevohn**	**22.17**	**58**	P	**P**	**17 58 29.6**	**+2.1**
SVW2				IAmb	IAmb	17 58 46.0	
	comp=Z,16nm,1.7s						

OHAK	**Old Harbor**	**23.91**	**67**	P	**P**	**17 58 44.0**	**-1.4**
OHAK				IAmb	IAmb	17 59 09.1	
	comp=Z,54nm,1.5s						
SKT	**Skwentna**	**24.04**	**55**	P	**P**	**17 58 48.5**	**+1.9**
KDAK	**Kodiak Island**	**24.15**	**66**	P	**P**	**17 58 46.3**	**-1.3**
	comp=Z,4.5nm,0.6s,baz=258,slow=1.2,SNR=11						
KDAK	**Kodiak Island**	**24.15**	**66**	P	**P**	**17 58 47.1**	**-0.5**
KDAK				pmax	pmax		
	comp=Z,80nm,1.7s						
KDAK	**Kodiak Island**	**24.15**	**66**	P	**P**	**17 58 47.1**	**-0.5**
CNPM	**China Poot**	**24.50**	**61**	P	**P**	**17 58 50.2**	**-0.6**
TRF	**Thorofare Moun**	**24.53**	**52**	P	**P**	**17 58 50.9**	**-0.4**
TRF				IAmb	IAmb	17 59 08.5	
	comp=Z,18nm,1.4s						
COLD	**Coldfoot**	**24.70**	**43**	P	**P**	**17 58 52.6**	**0.0**
MJB9	**Matsu-Tunnel**	**25.35**	**233**	P	**P**	**17 58 59.5**	**+0.9**
MJB9				IAmb	IAmb	17 59 26.7	
	comp=Z,5.3nm,1.0s						
MAJO	**Matsushiro**	**25.35**	**233**	P	**P**	**17 58 59.6**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MAJO	**Matsushiro**	**25.35**	**233**	P	**P**	**17 58 59.6**	**+0.9**
MAJO				IAmb	IAmb	17 59 26.8	
	comp=Z,5.0nm,1.0s						
MJAR	**Matsushiro Arr**	**25.35**	**233**	P	**P**	**17 58 58.1**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=22,slow=8.3,SNR=4.5						
MJAR				LR	LR	18 08 16.8	
	comp=Z,45nm,20.2s,baz=145,slow=35						
CCB	**Clear Creek Bu**	**25.59**	**49**	P	**P**	**17 59 02.5**	**+2.0**
CCB				IAmb	IAmb	17 59 02.9	
	comp=Z,8.8nm,1.7s						
ILAR	**Eielson Array**	**25.98**	**48**	P	**P**	**17 59 03.7**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=278,slow=6.3,SNR=5.6						
PDAR	**Pinedale Array**	**54.86**	**64**	P	**P**	**18 03 02.6**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=340,slow=3.9,SNR=5.0						
TXAR	**Lajitas Array**	**68.09**	**70**	P	**P**	**18 04 32.0**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=316,slow=7.0,SNR=3.9						
RAR	**Rarotonga**	**82.38**	**146**	LR	LR	18 32 15.1	
	comp=Z,95nm,21.3s,baz=262,slow=28						
ASAR	**Alice Springs**	**82.50**	**207**	P	**P**	**18 05 54.0**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=19,slow=5.0,SNR=5.4						

*NEIC **05** 17:54:52.7±1.3, 46.˚50N±0.˚02×81.˚17W±0.˚08, h1km±7km, Error ellipse: s-maj=7.7km s-min=3.4km az=82.0*

*OTT **05** 17:54:53.7±0.2, 46.˚46N×81.˚17W, h1km, MN3.3/12*

OTT Mining related event, Sudbury, Ontario Felt 6km northwest from Lively, On Eastern Background Seismic Zone. Mining induced.

ISC 05 17:54:52.6±0.9, **46.˚46N**±0.˚04×**81.˚17W**±0.˚04, **h0**km, **n70**, σ0**80**/67, **1C, Ontario**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUNO	**Sudbury Onapin**	**0.22**	**327**	⇑PG	**Pg**	**17 54 57.5**	**+0.7**
SUNO				SG	**Sg**	**17 54 60.0**	**+0.4**
SUNO				Trac		17 55 00.4	
	comp=Z,340nm,0.1s						
TOBO	**Tobermory, Bru**	**1.26**	**191**	PN	**Pg**	**17 55 16.8**	**+0.1**
TOBO				SG	**Sg**	**17 55 32.4**	**-0.6**
TOBO				Trac		17 55 35.0	
	comp=Z,80nm,0.2s						
KLBO	**Killbear Provi**	**1.29**	**149**	PN	**Pg**	**17 55 17.3**	**0.0**
KLBO				SG	**Sg**	**17 55 34.1**	**+0.2**
KLBO				Trac		17 55 39.2	
	comp=Z,40nm,0.1s						
EEO	**Eldee**	**1.46**	**82**	PN	**Pn**	**17 55 19.9**	**-0.2**
EEO				SG	**Sn**	**17 55 39.9**	**-0.1**
EEO				Trac		17 55 42.0	
	comp=Z,173nm,0.2s						
BUKO	**Buck Lake**	**1.60**	**129**	PN	**Pn**	**17 55 22.5**	**+0.4**
BUKO				SG	**Sn**	**17 55 43.9**	**+0.4**
E46A	**Sault Ste Mari**	**2.17**	**269**		**Pn**	**17 55 30.1**	**+0.2**
SADO	**Sadowa**	**2.21**	**139**	PN	**Pn**	**17 55 31.8**	**+1.3**
SADO				Trac		17 56 03.4	
	comp=Z,43nm,0.1s						
SADO	**Sadowa**	**2.21**	**139**		**Pn**	**17 55 31.6**	**+1.1**
KILO	**Kirkland Lake**	**2.26**	**25**	Trac		17 56 02.7	
	comp=Z,51nm,0.2s						
D53A	**Lac Vacive, Po**	**2.46**	**74**		**Pn**	**17 55 33.9**	**-0.1**
CRLO	**Chalk River**	**2.66**	**98**	Trac		17 56 17.2	
	comp=Z,56nm,0.2s						
I49A	**Point Hope**	**2.78**	**205**		**Pn**	**17 55 38.5**	**+0.2**
VLDQ	**Val d'Or**	**3.02**	**55**	Trac		17 56 23.3	
	comp=Z,42nm,0.2s						
VLDQ	**Val d'Or**	**3.02**	**55**		**Pn**	**17 55 40.5**	**-1.1**
KAPO	**Kapuskasing**	**3.12**	**344**	Trac		17 56 31.2	
	comp=Z,28nm,0.2s						
DELO	**Deloro Mine**	**3.16**	**127**		**Pn**	**17 55 43.4**	**-0.2**
PLVO	**Plevna**	**3.20**	**115**		**Pn**	**17 55 44.7**	**+0.7**
ELFO	**Elginfield**	**3.27**	**182**	Trac		17 56 38.7	
	comp=Z,50nm,0.2s						
G45A	**Suttons Bay**	**3.45**	**247**	Pn	**Pn**	**17 55 48.5**	**+1.0**
EFO	**Effingham**	**3.62**	**158**	Trac		17 56 50.5	
	comp=Z,30nm,0.3s						
J54A	**Appleton**	**3.66**	**150**	Pn	**Pn**	**17 55 52.1**	**+1.7**
MEDO	**Medina**	**3.82**	**149**	Pn	**Pn**	**17 55 53.5**	**+0.9**
PECO	**Prince Edward**	**3.88**	**129**	Pn	**Pn**	**17 55 54.6**	**+1.1**
KGNO	**Kingston**	**3.98**	**122**	Trac		17 56 58.0	
	comp=Z,7.6nm,0.1s						
J55A	**Hilton**	**3.99**	**142**	Pn	**Pn**	**17 55 54.9**	**0.0**
E43A	**Lone Tree Farm**	**4.03**	**271**		**Pn**	**17 55 55.4**	**-0.1**
GAC	**Glen Almond**	**4.03**	**99**	Trac		17 57 01.2	
	comp=Z,11nm,0.2s						
J47A	**Sunmer**	**4.14**	**220**	Pn	**Pn**	**17 55 57.7**	**+0.7**
MMNY	**Mt. Morris Dam**	**4.40**	**147**	Pn	**Pn**	**17 56 01.0**	**+0.5**
J56A	**Holcott**	**4.42**	**135**	Pn	**Pn**	**17 56 01.5**	**+0.7**
ERPA	**Erie**	**4.42**	**169**	Pn	**Pn**	**17 56 01.8**	**+0.8**
WVNY	**West Valley, N**	**4.45**	**155**	Pn	**Pn**	**17 56 00.1**	**-1.2**
J57A	**Williamstown**	**4.77**	**128**	Pn	**Pn**	**17 56 06.3**	**+0.6**
M52A	**Chesterland**	**4.92**	**182**	Pn	**Pn**	**17 56 05.8**	**-1.9**
LONY	**Lake Ozonia**	**4.98**	**109**	Pn	**Pn**	**17 56 07.5**	**-1.1**
M53A	**WI Miller and**	**5.03**	**176**	Pn	**Pn**	**17 56 09.8**	**+0.6**
L56A	**Greenwood**	**5.04**	**148**	Pn	**Pn**	**17 56 10.2**	**+0.8**
H43A	**Windswept, Lux**	**5.05**	**249**	Pn	**Pn**	**17 56 10.2**	**+0.7**
M54A	**Oil Creek Stat**	**5.07**	**167**	Pn	**Pn**	**17 56 11.5**	**+1.7**
L48A	**N Adams**	**5.09**	**209**	Pn	**Pn**	**17 56 10.3**	**+0.3**
D41A	**Chassel**	**5.12**	**279**	Pn	**Pn**	**17 56 10.2**	**-0.2**
J58A	**Remsen**	**5.20**	**124**	Pn	**Pn**	**17 56 11.4**	**-0.2**
M55A	**Ridgway**	**5.28**	**160**	Pn	**Pn**	**17 56 14.2**	**+1.4**
K58A	**Earlville**	**5.40**	**131**	Pn	**Pn**	**17 56 14.9**	**+0.5**
M56A	**Emporium**	**5.42**	**156**	Pn	**Pn**	**17 56 16.2**	**+1.6**
NCB	**Newcomb**	**5.50**	**114**	Pn	**Pn**	**17 56 15.0**	**+0.2**
FRNY	**Point Rock**	**5.56**	**104**	Pn	**Pn**	**17 56 17.1**	**+0.6**
J59A	**Piesco**	**5.60**	**120**	Pn	**Pn**	**17 56 16.9**	**-0.2**
BINY	**Binghamton**	**5.65**	**137**	Pn	**Pn**	**17 56 18.2**	**+0.4**
N53A	**Lisbon**	**5.66**	**177**	Pn	**Pn**	**17 56 17.0**	**-0.9**
M57A	**Sunshine Farm,**	**5.89**	**149**	Pn	**Pn**	**17 56 21.1**	**0.0**
L59A	**Walton**	**6.13**	**132**	Pn	**Pn**	**17 56 24.0**	**-0.3**
ACCN	**Adirondack Com**	**6.15**	**117**	Pn	**Pn**	**17 56 24.5**	**-0.1**
O53A	**New Philadelph**	**6.21**	**180**	Pn	**Pn**	**17 56 26.2**	**+0.8**
KSPA	**Keystone Colle**	**6.26**	**140**	Pn	**Pn**	**17 56 26.0**	**-0.1**
SSPA	**Standing Stone**	**6.29**	**157**	Pn	**Pn**	**17 56 27.0**	**+0.5**
MOQ	**Mont Orford**	**6.33**	**97**	Pn	**Pn**	**17 56 28.1**	**+1.0**
O52A	**Adamsville**	**6.36**	**185**	Pn	**Pn**	**17 56 27.6**	**+0.1**
G40A	**Rib Lake**	**6.42**	**263**		**Pn**	**17 56 28.1**	**-0.2**
O56A	**Blue Knob Stat**	**6.47**	**162**	Pn	**Pn**	**17 56 29.7**	**+0.6**
N58A	**Sunbury**	**6.48**	**149**	Pn	**Pn**	**17 56 28.6**	**-0.5**
N59A	**State Game Lan**	**6.78**	**143**	Pn	**Pn**	**17 56 34.4**	**+0.2**
P52A	**Corning**	**6.86**	**186**	Pn	**Pn**	**17 56 34.5**	**+0.2**
HNH	**Hanover**	**6.87**	**110**	Pn	**Pn**	**17 56 33.6**	**-0.9**
LBNH	**Lisbon**	**6.88**	**105**	Pn	**Pn**	**17 56 34.4**	**-0.2**
P53A	**Whipple**	**6.97**	**181**	Pn	**Pn**	**17 56 35.6**	**-0.3**
I40A	**Norwalk**	**7.15**	**252**	Pn	**Pn**	**17 56 38.6**	**+0.2**
EYMN	**Ely**	**7.19**	**286**	Pn	**Pn**	**17 56 37.3**	**-1.6**
JFWS	**Jewell Farm**	**7.38**	**245**	Pn	**Pn**	**17 56 42.7**	**+1.2**
G62A	**West of Eustis**	**7.53**	**96**	Pn	**Pn**	**17 56 42.7**	**-0.9**

*ISK **05** 17:59:47.8, 41.˚11N×24.˚31E, h9km, ML2.6/12*

*ATH **05** 17:59:48.1, 41.˚11N×24.˚35E, h10km±4km, ML2.3/9, Error ellipse: s-maj=4.2km s-min=0.8km az=161.0*

*THE **05** 17:59:48.1, 41.˚10N×24.˚35E, h9km±1km, ML2.2/12, Error ellipse: s-maj=1.5km s-min=0.7km az=351.0*

*DDA **05** 17:59:49.0, 41.˚04N×24.˚62E, h7km±4km, ML2.2*

*BEO **05** 17:59:49.0±0.7, 41.˚06N×24.˚35E, h5km, ML2.3/7*

*SKO **05** 17:59:50.2, 41.˚15N×24.˚30E, h6km*

ISC 05 17:59:48.0±0.8, **41.˚10N**±0.˚02×**24.˚39E**±0.˚02, **h14**km±5km, **n59**, σ0**68**/96, **1D, Greece-Bulgaria border region**

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

KAVA	**Kavala**	**0.14**	**137**	P	**Pg**	**17 59 52.0**	**+0.2**
KAVA				S	**Sg**	**17 59 54.1**	**-0.1**
	2μm,0.1s						
KAVA	**Kavala**	**0.14**	**137**	P	**Pg**	**17 59 52.0**	**+0.2**
KAVA				S	**Sg**	**17 59 54.2**	**0.0**
KAVA				AML	AML	17 59 57.3	
	comp=E,5255μm,0.1s						
KAVA				AML	AML	17 59 57.5	
	comp=N,3682μm,0.2s						
KVLA	**Kavala**	**0.16**	**180**	P	**Pg**	**17 59 52.2**	**+0.2**
KVLA				S	**Sg**	**17 59 54.6**	**-0.1**
KVLA				AML	AML	17 59 56.2	
	comp=N,1398μm,0.1s						
KVLA				AML	AML	17 59 56.5	
	comp=E,2312μm,0.2s						
NVR	**Nevrokopi**	**0.47**	**302**	P	**Pg**	**17 59 56.5**	**-0.8**
NVR				S	**Sg**	**18 00 02.5**	**-1.1**
	comp=E,282nm,0.1s						
NVR	**Nevrokopi**	**0.47**	**302**	P	**Pg**	**17 59 56.6**	**-0.8**
NVR				S	**Sg**	**18 00 02.7**	**-0.9**
NVR				AML	AML	18 00 07.8	
	comp=N,712μm,0.2s						
NVR				AML	AML	18 00 07.9	
	comp=E,548μm,0.1s						
THAS	**Thassos island**	**0.56**	**153**	P	**Pg**	**17 59 58.6**	**-0.3**
THAS	**Thassos island**	**0.56**	**153**	P	**Pg**	**17 59 58.6**	**-0.3**
THAS				AML	AML	18 00 10.8	
	comp=N,866μm,0.2s						
THAS				AML	AML	18 00 11.0	
	comp=E,786μm,0.2s						
SRS	**Serrai**	**0.60**	**272**	P	**Pg**	**17 59 59.3**	**-0.5**
SRS				S	**Sg**	**18 00 07.7**	**-0.1**
	comp=E,165nm,0.2s						
SRS	**Serrai**	**0.60**	**272**	*e*Pg	**Pg**	**17 59 59.3**	**-0.5**
SRS				*e*Sg	**Sg**	**18 00 07.1**	**-0.7**
SRS	**Serrai**	**0.60**	**272**	P	**Pg**	**17 59 59.3**	**-0.5**
SRS				S	**Sg**	**18 00 07.0**	**-0.7**
SRS				AML	AML	18 00 08.2	
	comp=N,275μm,0.1s						
SRS				AML	AML	18 00 12.3	
	comp=E,314μm,0.2s						
OUR	**Ouranopolis**	**0.83**	**202**	P	**Pb**	**18 00 04.4**	**+0.3**
OUR				S	**Sb**	**18 00 15.8**	**+0.7**
	comp=E,582nm,0.4s						
OUR	**Ouranopolis**	**0.83**	**202**	P	**Pb**	**18 00 04.4**	**+0.3**
OUR				S	**Sb**	**18 00 15.5**	**+0.5**
OUR				AML	AML	18 00 17.6	
	comp=E,1528μm,0.3s						
OUR				AML	AML	18 00 19.1	
	comp=N,781μm,0.5s						
OUR	**Ouranopolis**	**0.83**	**202**	PG	**Pg**	**18 00 04.1**	**+0.1**
OUR				SG	**Sb**	**18 00 15.9**	**+0.8**
SOH	**Sokhos**	**0.83**	**251**	P	**Pg**	**18 00 03.9**	**-0.3**
SOH				S	**Sg**	**18 00 14.5**	**-0.6**
	comp=N,140nm,0.3s						
SOH	**Sokhos**	**0.83**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.02**	**105**	P	Pn	18 00 45.1	+0.4
	59nm,0.3s,baz=256,slow=2.6,SNR=19						
GUMO				S	Sn	18 01 04.6	+0.2
	92nm,0.3s,baz=172,slow=23,SNR=20						
WRA	**Warramunga Arr**	**34.87**	**196**	P	P	18 06 54.7	-0.4
	0.4nm,0.7s,baz=12,slow=8.7,SNR=2.2						
FITZ	**Fitzroy Crossi**	**36.48**	**210**	P	P	18 07 09.3	+0.5
	2.3nm,0.7s,baz=21,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**38.54**	**195**	P	P	18 07 25.3	-0.8
	0.5nm,1.1s,baz=14,slow=8.0,SNR=1.3						
MKAR	**Makanchi Array**	**60.62**	**316**	P	P	18 10 13.4	+0.5
	0.3nm,0.4s,baz=92,slow=7.9,SNR=6.8						
BVAR	**Borovoye Array**	**69.11**	**322**	P	P	18 11 06.9	-0.7
	0.6nm,0.5s,baz=76,slow=6.4,SNR=4.6						

IDC 05 18:09:03.3±1.8, 5.08N×61.45E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.3/43, mbtmp3.6/4, MS3.3/2, Ms1 3.4/2, ms1mx2.8/36, Error ellipse: s-maj=73.9km s-min=28.5km az=28.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**19.26**	**83**	LR	LR	18 19 07.9	
	comp=Z,61nm,20.4s,baz=91,slow=31						
CMAR	**Chiang Mai Arr**	**38.93**	**67**	P	P	18 16 31.1	-0.2
	0.2nm,0.3s,baz=249,slow=12,SNR=1.8						
CMAR				LR	LR	18 32 22.1	
	comp=Z,51nm,18.1s,baz=230,slow=36						
BRTR	**Keskin Array B**	**42.65**	**328**	P	P	18 17 02.0	+0.1
	0.9nm,0.9s,baz=129,slow=11,SNR=3.7						
ESDC	**Sonseca Array**	**67.93**	**311**	P	P	18 20 04.1	-0.2
	1.0nm,0.9s,baz=87,slow=5.2,SNR=6.9						
ASAR	**Alice Springs**	**76.10**	**116**	P	P	18 20 53.7	+0.2
	0.4nm,0.8s,baz=290,slow=5.6,SNR=5.6						

*NEIC **05** 18:15:30.1±2.1, 46.60N±0.05×81.23W±0.06, h5km±2km, Error ellipse: s-maj=8.5km s-min=6.5km az=346.0*
*ANF **05** 18:15:30.1±0.1, 46.48N×81.20W, ML4.2/59, Error ellipse: s-maj=1.1km s-min=0.8km az=169.0*
*IDC **05** 18:15:30.0±0.8, 46.52N×81.14W, h0km, mb3.0/2, mb1 3.9/6, mb1mx3.4/43, mbtmp3.7/6, ML3.1/4, MS3.3/1, Ms1 3.3/1, ms1mx2.6/14, Error ellipse: s-maj=11.7km s-min=6.7km az=46.0*
*OTT **05** 18:15:31.7±0.1, 46.46N×81.17W, h1km, MN3.8/15*
OTT Mining related event, Sudbury, Ontario Felt 3km northwest from Lively, On Eastern Background Seismic Zone. Mining induced.

ISC 05 18:15:29.4±0.6, 46.50N±0.02×81.17W±0.02, h0km, n293, σ1s11/307, 2C-1D, Ontario

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUNO	**Sudbury Onapin**	**0.19**	**319**	⇑PG	**Pg**	**18 15 35.2**	**+2.2**
SUNO				SG	**Sg**	**18 15 37.7**	**+2.3**
SUNO				Trac		18 15 38.6	
	comp=Z,2μm,0.1s						
SUNO	**Sudbury Onapin**	**0.19**	**319**	Pg	**Pg**	**18 15 35.2**	**+2.2**
E50A	**Wahnapitae**	**0.31**	**105**	P	**Pb**	**18 15 37.3**	**-0.4**
	baz=281,SNR=680						
E50A				S	**Sg**	**18 15 41.4**	**+2.2**
	baz=281						
E50A	**Wahnapitae**	**0.31**	**105**	Pg	**Pb**	**18 15 37.4**	**-0.4**
E48A	**Lockeyer**	**0.69**	**269**	P	**Pg**	**18 15 43.6**	**+1.0**
	baz=89,SNR=568						
E48A				S	**Sg**	**18 15 52.3**	**+0.7**
	baz=89						
E48A	**Lockeyer**	**0.69**	**269**	Pg	**Pg**	**18 15 43.6**	**+1.0**
D49A	**Beulah Townshi**	**0.78**	**350**	P	**Pb**	**18 15 46.1**	**+0.2**
	baz=172,SNR=437						
D49A				S	**Sb**	**18 15 56.6**	**-0.5**
	baz=172						
D48A	**Paudash Townsh**	**0.81**	**327**	P	**Pb**	**18 15 46.3**	**0.0**
	baz=148,SNR=555						
D48A				S	**Sb**	**18 15 56.7**	**-1.0**
	baz=148						
F49A	**Sandfield**	**0.96**	**220**	P	**Pg**	**18 15 48.4**	**+0.7**
	baz=39,SNR=798						
F49A				S	**Sg**	**18 15 60.0**	**-0.2**
	baz=39						
F49A	**Sandfield**	**0.96**	**220**	Pg	**Pg**	**18 15 48.4**	**+0.7**
F51A	**Arnstein**	**1.04**	**123**	P	**Pg**	**18 15 50.2**	**+0.9**
	baz=303,SNR=385						
F51A				S	**Sg**	**18 16 03.8**	**+1.0**
	baz=303						
F51A	**Arnstein**	**1.04**	**123**	Pg	**Pg**	**18 15 50.3**	**+0.9**
D50A	**G1974 Best Tow**	**1.13**	**53**	P	**Pb**	**18 15 52.3**	**+0.6**
	baz=234,SNR=320						
D50A				S	**Sb**	**18 16 07.2**	**+0.2**
	baz=234						
D50A	**G1974 Best Tow**	**1.13**	**53**	Pg	**Pb**	**18 15 52.4**	**+0.6**
E51A	**G1948 Merrick**	**1.16**	**88**	P	**Pg**	**18 15 52.2**	**+0.6**
	baz=268,SNR=130						
E51A	**G1948 Merrick**	**1.16**	**88**	Pg	**Pg**	**18 15 52.2**	**+0.6**
F48A	**Evansville**	**1.21**	**237**	P	**Pg**	**18 15 52.8**	**+0.2**
	baz=56,SNR=402						
F48A				S	**Sg**	**18 16 08.8**	**+0.5**
	baz=56						
TOBO	**Tobermory, Bru**	**1.30**	**191**	⇑PG	**Pg**	**18 15 54.6**	**+0.3**
TOBO				SG	**Sn**	**18 16 13.6**	**+0.8**
TOBO				Trac		18 16 16.2	
	comp=Z,241nm,0.2s						
KLBO	**Killbear Provi**	**1.32**	**150**	⇓PG	**Pg**	**18 15 55.0**	**+0.3**
KLBO				SG	**Sg**	**18 16 11.5**	**-0.3**
KLBO				Trac		18 16 16.5	
	comp=Z,450nm,0.2s						
D51A	**Lot 18 Range I**	**1.36**	**64**	P	**Pb**	**18 15 56.4**	**+0.6**
	baz=245,SNR=546						
D47A	**Chapleau**	**1.44**	**293**	P	**Pn**	**18 15 57.2**	**+0.4**
	baz=113,SNR=626						
D47A				S	**Sg**	**18 16 15.6**	**-0.1**
	baz=113						
EEO	**Eldee**	**1.45**	**84**	PN	**Pn**	**18 15 57.5**	**+0.7**
EEO				SN	**Sn**	**18 16 17.2**	**+0.6**
EEO				Trac		18 16 20.2	
	comp=Z,828nm,0.2s						
E47A	**Iron Bridge**	**1.46**	**269**	P	**Pn**	**18 15 57.0**	**0.0**
	baz=88,SNR=314						
E47A				S	**Sn**	**18 16 17.4**	**+0.6**
	baz=88						
F52A	**Sundridge**	**1.46**	**118**	P	**Pn**	**18 15 57.8**	**+0.7**
	baz=299,SNR=336						
BUKO	**Buck Lake**	**1.62**	**130**	PN	**Pn**	**18 15 59.9**	**+0.7**
BUKO				SG	**Sn**	**18 16 22.0**	**+1.1**
E52A	**Mattawa**	**1.75**	**96**	P	**Pn**	**18 16 02.3**	**+1.3**
	baz=277,SNR=489						
E52A	**Mattawa**	**1.75**	**96**	PN	**Pb**	**18 16 02.4**	**+0.1**
E52A				Trac		18 16 28.9	
	comp=Z,432nm,0.2s						
BMRO	**Meriville Lake**	**1.91**	**181**	SG	**Sb**	**18 16 29.9**	**+0.6**
D52A	**ZEK Kipawa Sen**	**1.95**	**75**	P	**Pn**	**18 16 05.0**	**+1.2**
	baz=257,SNR=461						
D46A	**Sault St. Mari**	**2.01**	**282**	P	**Pn**	**18 16 05.7**	**+1.0**
	baz=101,SNR=351						
CLWO	**Collingwood**	**2.14**	**163**	PN	**Pb**	**18 16 08.9**	**-0.1**
E46A	**Sault Ste Mari**	**2.18**	**268**		**Pn**	**18 16 08.0**	**+1.1**
E46A					**Pb**	**18 16 08.3**	**-1.3**
E46A				Sn	**Sb**	**18 16 37.7**	**+0.5**
KILO	**Kirkland Lake**	**2.22**	**26**	PN	**Pn**	**18 16 08.9**	**+1.4**
KILO				SG	**Sg**	**18 16 40.0**	**-0.8**
ALGO	**Algonquin Park**	**2.23**	**103**	P	**Pn**	**18 16 09.3**	**+1.8**
	baz=285,SNR=262						
SADO	**Sadowa**	**2.24**	**140**	Pn	**Pn**	**18 16 09.5**	**+1.8**
	32nm,0.3s,baz=333,slow=14,SNR=119						
SADO				Lg	Lg	18 16 38.9	
	154nm,0.3s,baz=73,slow=21,SNR=83						
SADO	**Sadowa**	**2.24**	**140**	PN	**Pn**	**18 16 09.2**	**+1.5**
SADO				SG	**Sb**	**18 16 39.1**	**+0.2**
SADO				Trac		18 16 41.0	
	comp=Z,215nm,0.1s						
SADO	**Sadowa**	**2.24**	**140**	Pn	**Pn**	**18 16 09.2**	**+1.5**
SADO				Sn	**Sb**	**18 16 38.6**	**-0.4**
G54A	**Lake Saint Pet**	**2.41**	**116**	P	**Pn**	**18 16 11.5**	**+1.4**
	baz=298,SNR=125						
E53A	**Dumoine, Ponti**	**2.42**	**92**	P	**Pn**	**18 16 12.2**	**+1.9**
	baz=274,SNR=118						
D53A	**Lac Vacive, Po**	**2.45**	**75**	P	**Pn**	**18 16 11.7**	**+1.1**
	baz=257,SNR=406						
D53A	**Lac Vacive, Po**	**2.45**	**75**		**Pn**	**18 16 11.6**	**+0.9**
D53A				Sn	**Sn**	**18 16 41.1**	**-0.2**
H53A	**Bobcaygeon**	**2.65**	**136**	P	**Pn**	**18 16 14.7**	**+1.3**
	baz=317,SNR=140						
CRLO	**Chalk River**	**2.67**	**99**	Trac		18 16 54.8	
	comp=Z,173nm,0.2s						
I51A	**Listowel**	**2.70**	**178**	P	**Pn**	**18 16 15.4**	**+1.3**
	baz=358,SNR=48						
E54A	**Lac Daplat, Po**	**2.75**	**90**	P	**Pn**	**18 16 16.7**	**+1.9**
	baz=272,SNR=208						
I49A	**Point Hope**	**2.82**	**205**		**Pn**	**18 16 16.3**	**+0.7**
GLMI	**Grayling**	**2.94**	**237**	Pn	**Pn**	**18 16 18.0**	**+0.6**
GLMI				Sn	**Sn**	**18 16 53.5**	**0.0**
VLDQ	**Val d'Or**	**3.00**	**56**	PN	**Pn**	**18 16 17.6**	**-0.5**
VLDQ				Trac		18 17 00.4	
	comp=Z,123nm,0.2s						
VLDQ	**Val d'Or**	**3.00**	**56**		**Pn**	**18 16 17.6**	**-0.5**
VLDQ				Sn	**Sn**	**18 16 51.4**	**-3.3**
KAPO	**Kapuskasing**	**3.09**	**343**	Trac		18 17 07.5	
	comp=Z,70nm,0.1s						
D54A	**Lac Fusel, La**	**3.16**	**76**	P	**Pn**	**18 16 21.4**	**+1.0**
	baz=260,SNR=46						
D54A				S	**Sn**	**18 16 59.6**	**+0.7**
	baz=260						
DELO	**Deloro Mine**	**3.19**	**127**	Pn	**Pn**	**18 16 22.5**	**+1.8**
PLVO	**Plevna**	**3.21**	**116**	Pn	**Pn**	**18 16 22.5**	**+1.4**
ELFO	**Elginfield**	**3.31**	**182**	Trac		18 17 18.0	
	comp=Z,138nm,0.2s						
G55A	**Calabogie**	**3.35**	**110**	P	**Pn**	**18 16 24.1**	**+1.2**
	baz=293,SNR=21						
I55A	**Frankford**	**3.35**	**132**	P	**Pn**	**18 16 23.8**	**+0.8**
	baz=314,SNR=16						
F55A	**Ottake**	**3.41**	**100**	P	**Pn**	**18 16 25.2**	**+1.4**
	baz=283,SNR=22						
H55A	**Tweed**	**3.41**	**123**	P	**Pn**	**18 16 24.7**	**+0.9**
	baz=306,SNR=21						
G45A	**Suttons Bay**	**3.47**	**247**	Pn	**Pn**	**18 16 25.4**	**+0.8**
E55A	**Montcerf-Lytto**	**3.53**	**89**	P	**Pn**	**18 16 26.9**	**+1.4**
	baz=272,SNR=8.6						
EFO	**Effingham**	**3.66**	**158**	Trac		18 17 23.9	
	comp=Z,138nm,0.3s						
GRQ	**Grand Remous**	**3.66**	**86**	Trac		18 17 27.6	
	comp=Z,112nm,0.3s						
J54A	**Appleton**	**3.69**	**150**	P	**Pn**	**18 16 29.4**	**+1.7**
	baz=332,SNR=15						
J54A				S	**Sn**	**18 17 13.6**	**+1.7**
	baz=332						
J54A	**Appleton**	**3.69**	**150**	Pn	**Pn**	**18 16 29.9**	**+2.2**
MEDO	**Medina**	**3.85**	**149**		**Pn**	**18 16 32.4**	**+2.5**
PECO	**Prince Edward**	**3.91**	**130**	Pn	**Pn**	**18 16 32.2**	**+1.5**
H56A	**Elgin**	**3.94**	**117**	P	**Pn**	**18 16 31.9**	**+0.8**
	baz=300,SNR=8.1						
D55A	**Sainte-Anne-du**	**3.95**	**80**	P	**Pn**	**18 16 31.6**	**+0.4**
	baz=264,SNR=35						
KGNO	**Kingston**	**4.00**	**123**	Trac		18 17 35.9	
	comp=Z,99nm,0.3s						
J55A	**Hilton**	**4.02**	**142**	P	**Pn**	**18 16 33.6**	**+1.5**
	baz=325,SNR=9.7						
J55A	**Hilton**	**4.02**	**142**		**Pn**	**18 16 33.8**	**+1.6**
MATQ	**Matagami**	**4.03**	**35**	P	**Pn**	**18 16 33.3**	**+1.1**
	baz=217						
E43A	**Lone Tree Farm**	**4.03**	**270**		**Pn**	**18 16 33.0**	**+0.6**
GAC	**Glen Almond**	**4.04**	**99**	Trac		18 17 37.8	
	comp=Z,36nm,0.2s						
ORIO	**Orleans, Innes**	**4.08**	**103**	Pn	**Pn**	**18 16 33.8**	**+0.8**
J47A	**Sunmer**	**4.17**	**220**	Pn	**Pn**	**18 16 35.9**	**+1.7**
E56A	**St. Veronique**	**4.23**	**87**	P	**Pn**	**18 16 36.1**	**+1.0**
	baz=271,SNR=37						
K54A	**Basiliko Farm,**	**4.27**	**155**	P	**Pn**	**18 16 37.5**	**+1.8**
	baz=336,SNR=23						
K55A	**Perry**	**4.37**	**149**	P	**Pn**	**18 16 37.8**	**+0.7**
	baz=330,SNR=15						
MMNY	**Mt. Morris Dam**	**4.43**	**147**	Pn	**Pn**	**18 16 39.8**	**+1.9**
D56A	**ZEC Mazanza, M**	**4.44**	**81**	P	**Pn**	**18 16 38.2**	**+0.3**
	baz=265,SNR=25						
J56A	**Wolcott**	**4.45**	**135**	P	**Pn**	**18 16 39.0**	**+1.0**
	baz=318						
J56A	**Wolcott**	**4.45**	**135**		**Pn**	**18 16 39.2**	**+1.2**
ERPA	**Erie**	**4.46**	**169**	Pn	**Pn**	**18 16 40.4**	**+2.1**
L54A	**Sinclairville**	**4.47**	**162**	P	**Pn**	**18 16 39.1**	**+0.8**
	baz=343,SNR=7.1						
WVNY	**West Valley, N**	**4.49**	**155**	Pn	**Pn**	**18 16 40.9**	**+2.2**
G57A	**Newington**	**4.54**	**106**	P	**Pn**	**18 16 40.3**	**+0.9**
	baz=290,SNR=5.7						
H57A	**Richville**	**4.54**	**115**	P	**Pn**	**18 16 40.0**	**+0.7**
	baz=298,SNR=12						
F57A	**Harrington**	**4.55**	**96**	P	**Pn**	**18 16 40.5**	**+1.0**
	baz=281,SNR=25						
AAM	**Ann Arbor**	**4.56**	**204**	Pn	**Pn**	**18 16 41.6**	**+2.0**
L53A	**Girard**	**4.59**	**172**	P	**Pn**	**18 16 40.8**	**+0.8**
	baz=352						
I57A	**Carthage**	**4.66**	**121**	P	**Pn**	**18 16 41.8**	**+0.8**
	baz=305						
K56A	**Middlesex**	**4.69**	**143**	P	**Pn**	**18 16 42.2**	**+0.8**
	baz=325,SNR=25						
L55A	**Hinsdale**	**4.74**	**155**	P	**Pn**	**18 16 43.0**	**+0.8**
	baz=336,SNR=17						
J57A	**Williamstown**	**4.80**	**128**	P	**Pn**	**18 16 43.9**	**+1.0**
	baz=312,SNR=24						
J57A	**Williamstown**	**4.80**	**128**		**Pn**	**18 16 44.1**	**+1.3**
E57A	**Chemin Saint G**	**4.85**	**89**	P	**Pn**	**18 16 44.1**	**+0.5**
	baz=273,SNR=19						
ALLY	**Alegheny Colle**	**4.91**	**171**		**Pn**	**18 16 46.6**	**+2.2**
M52A	**Chesterland**	**4.96**	**182**	P	**Pn**	**18 16 45.4**	**+0.2**
	baz=13						
M52A	**Chesterland**	**4.96**	**182**	Pn	**Pn**	**18 16 45.9**	**+0.8**
LONY	**Lake Ozonia**	**4.99**	**110**	P	**Pn**	**18 16 45.8**	**+0.3**
	baz=294,SNR=7.1						
LONY	**Lake Ozonia**	**4.99**	**110**	Pn	**Pn**	**18 16 46.1**	**+0.6**
K57A	**Scipio Center**	**5.02**	**137**	P	**Pn**	**18 16 46.7**	**+0.8**
	baz=320,SNR=20						
D57A	**Chemin Vers le**	**5.03**	**81**	P	**Pn**	**18 16 45.9**	**-0.2**
	baz=267						
H43A	**Windswept, Lux**	**5.07**	**249**		**Pn**	**18 16 47.8**	**+1.2**
L56A	**Greenwood**	**5.07**	**148**	P	**Pn**	**18 16 47.8**	**+1.1**
	baz=330,SNR=8.6						
L56A	**Greenwood**	**5.07**	**148**	Pn	**Pn**	**18 16 48.2**	**+1.5**
M53A	**WI Miller and**	**5.07**	**176**		**Pn**	**18 16 49.0**	**+2.4**
M54A	**Oil Creek Stat**	**5.11**	**167**	P	**Pn**	**18 16 48.2**	**+1.0**
	baz=348						
M54A	**Oil Creek Stat**	**5.11**	**167**		**Pn**	**18 16 48.6**	**+1.4**
D41A	**Chassel**	**5.12**	**279**		**Pn**	**18 16 47.7**	**+0.5**
L48A	**N Adams**	**5.12**	**208**		**Pn**	**18 16 48.5**	**+1.1**
G58A	**Ormstown**	**5.15**	**103**	P	**Pn**	**18 16 48.5**	**+0.8**
	baz=288						
I58A	**Old Forge**	**5.21**	**120**	P	**Pn**	**18 16 49.0**	**+0.4**
	baz=305,SNR=10						
M51A	**Elyria**	**5.22**	**188**	P	**Pn**	**18 16 48.9**	**+0.2**
	baz=7.5						
J58A	**Remsen**	**5.22**	**125**	P	**Pn**	**18 16 49.7**	**+1.0**
	baz=309,SNR=10						
J58A	**Remsen**	**5.22**	**125**	Pn	**Pn**	**18 16 49.4**	**+0.6**
M50A	**Fremont**	**5.27**	**196**	Pn	**Pn**	**18 16 50.1**	**+0.7**
M55A	**Ridgway**	**5.32**	**160**	P	**Pn**	**18 16 51.1**	**+1.0**
	baz=342,SNR=14						
M55A	**Ridgway**	**5.32**	**160**	Pn	**Pn**	**18 16 52.1**	**+2.0**
H58A	**Gabriels**	**5.34**	**110**	P	**Pn**	**18 16 50.9**	**+0.6**
	baz=295						
K58A	**Earlville**	**5.43**	**132**	P	**Pn**	**18 16 52.4**	**+0.8**
	baz=315,SNR=20						
K58A	**Earlville**	**5.43**	**132**		**Pn**	**18 16 53.0**	**+1.4**
E58A	**La Victoria**	**5.46**	**89**	P	**Pn**	**18 16 52.3**	**+0.4**
	baz=274						
M56A	**Emporium**	**5.46**	**156**	P	**Pn**	**18 16 53.1**	**+1.1**
	baz=338						
M56A	**Emporium**	**5.46**	**156**		**Pn**	**18 16 53.5**	**+1.5**
L57A	**Andrews Acres**	**5.46**	**144**	P	**Pn**	**18 16 53.0**	**+1.0**
	baz=327						
NCB	**Newcomb**	**5.52**	**115**		**Pn**	**18 16 52.9**	**+0.1**
COWI	**Conover**	**5.54**	**269**		**Pn**	**18 16 54.2**	**+1.1**
FRNY	**Flat Rock**	**5.57**	**105**	Pn	**Pn**	**18 16 54.7**	**+1.3**
H59A	**Cadyville**	**5.57**	**107**	P	**Pn**	**18 16 53.5**	**+0.1**
	baz=292,SNR=10						
N54A	**Moraine State**	**5.60**	**171**	P	**Pn**	**18 16 54.2**	**+0.2**
	baz=352						
N54A	**Moraine State**	**5.60**	**171**	Pn	**Pn**	**18 16 55.5**	**+1.5**
J59A	**Piesco**	**5.62**	**120**	P	**Pn**	**18 16 54.5**	**+0.3**
	baz=305						
J59A	**Piesco**	**5.62**	**120**		**Pn**	**18 16 54.3**	**+0.1**
N51A	**Ashland**	**5.65**	**189**	P	**Pn**	**18 16 54.9**	**+0.3**
	baz=8.3,SNR=7.8						
N51A	**Ashland**	**5.65**	**189**	Pn	**Pn**	**18 16 55.3**	**+0.8**
BINY	**Binghamton**	**5.68**	**137**	Pn	**Pn**	**18 16 56.0**	**+0.9**
N53A	**Lisbon**	**5.70**	**177**	P	**Pn**	**18 16 56.0**	**+0.8**
	baz=358						
N53A	**Lisbon**	**5.70**	**177**		**Pn**	**18 16 56.6**	**+1.3**
L46A	**Eue Claire**	**5.80**	**221**	Pn	**Pn**	**18 16 57.4**	**+0.7**
I59A	**Olmsteadville**	**5.82**	**115**	P	**Pn**	**18 16 57.6**	**+0.7**
	baz=300						
K59A	**Cooperstown**	**5.84**	**127**	P	**Pn**	**18 16 58.0**	**+0.7**
	baz=312,SNR=25						
F59A	**Saint Guilaume**	**5.86**	**93**	P	**Pn**	**18 16 58.7**	**+1.3**
	baz=279						
L58A	**Harry Jones Me**	**5.87**	**138**	P	**Pn**	**18 16 58.5**	**+0.9**
	baz=321						
M57A	**Sunshine Farm,**	**5.93**	**149**	P	**Pn**	**18 16 59.2**	**+0.8**
	baz=332						
M57A	**Sunshine Farm,**	**5.93**	**149**	Pn	**Pn**	**18 16 59.8**	**+1.4**
N55A	**Marion Center**	**5.93**	**164**	P	**Pn**	**18 16 59.4**	**+0.9**
	baz=345						
TBO	**Thunder Bay**	**5.98**	**294**	Trac		18 18 35.0	
	comp=Z,17nm,0.2s						
N49A	**Columbus Grove**	**5.99**	**202**		**Pn**	**18 16 59.6**	**+0.4**
I42A	**Draeger Farm,**	**6.07**	**247**	Pn	**Pn**	**18 17 01.5**	**+1.2**
M58A	**Price's Panora**	**6.15**	**145**	P	**Pn**	**18 17 02.5**	**+1.0**
	baz=328,SNR=6.2						
L59A	**Walton**	**6.15**	**132**	P	**Pn**	**18 17 02.5**	**+1.0**
	baz=316						
L59A	**Walton**	**6.15**	**132**	Pn	**Pn**	**18 17 02.9**	**+1.4**
ACCN	**Adirondack Com**	**6.17**	**118**	Pn	**Pn**	**18 17 01.5**	**-0.2**
O53A	**New Philadelph**	**6.25**	**180**	P	**Pn**	**18 17 03.7**	**+0.9**
	baz=0.1,SNR=12						
O53A	**New Philadelph**	**6.25**	**180**	Pn	**Pn**	**18 17 04.1**	**+1.3**
H60A	**Morristown**	**6.26**	**105**	P	**Pn**	**18 17 04.1**	**+1.1**
	baz=291						
KSPA	**Keystone Colle**	**6.29**	**140**		**Pn**	**18 17 04.5**	**+1.1**
N57A	**Milroy**	**6.31**	**154**	P	**Pn**	**18 17 05.0**	**+1.3**
	baz=336,SNR=17						
SSPA	**Standing Stone**	**6.33**	**157**	P	**Pn**	**18 17 05.5**	**+1.6**
	baz=339						
SSPA	**Standing Stone**	**6.33**	**157**		**Pn**	**18 17 05.6**	**+1.6**
MOQ	**Mont Orford**	**6.33**	**98**	Trac		18 18 53.3	
	comp=Z,27nm,0.4s						
MOQ	**Mont Orford**	**6.33**	**98**		**Pn**	**18 17 05.7**	**+1.7**
G60A	**Masonville**	**6.33**	**100**	P	**Pn**	**18 17 04.6**	**+0.7**
	baz=286,SNR=11						
O54A	**Avella**	**6.34**	**175**	P	**Pn**	**18 17 04.7**	**+0.6**
	baz=355						
O54A	**Avella**	**6.34**	**175**		**Pn**	**18 17 04.7**	**+0.6**
K43A	**Burlington**	**6.37**	**236**	Pn	**Pn**	**18 17 05.1**	**+0.6**
J60A	**Lant Hill Farm**	**6.39**	**118**	P	**Pn**	**18 17 04.9**	**+0.1**
	baz=303						
O52A	**Adamsville**	**6.40**	**185**	P	**Pn**	**18 17 05.2**	**+0.3**
	baz=4.0,SNR=8.7						
O52A	**Adamsville**	**6.40**	**185**		**Pn**	**18 17 05.2**	**+0.3**
ACSO	**Alum Creek Sta**	**6.41**	**193**	Pn	**Pn**	**18 17 06.1**	**+1.1**
F60A	**Warwick**	**6.41**	**91**	P	**Pn**	**18 17 05.7**	**+0.6**
	baz=278						
G40A	**Rib Lake**	**6.43**	**262**		**Pn**	**18 17 06.0**	**+0.8**
O55A	**Ligonier**	**6.43**	**167**	P	**Pn**	**18 17 06.4**	**+1.0**
	baz=348						
O51A	**Pataskala**	**6.44**	**190**	P	**Pn**	**18 17 06.3**	**+0.8**
	baz=8.7						
M59A	**Waymart**	**6.45**	**138**	P	**Pn**	**18 17 06.7**	**+1.1**
	baz=322						
N47A	**Urbana**	**6.51**	**212**	Pn	**Pn**	**18 17 06.8**	**+0.4**
O56A	**Blue Knob Stat**	**6.51**	**162**	P	**Pn**	**18 17 07.4**	**+1.0**
	baz=344						
O56A	**Blue Knob Stat**	**6.51**	**162**		**Pn**	**18 17 06.7**	**+0.2**
N58A	**Sunbury**	**6.51**	**149**	P	**Pn**	**18 17 07.2**	**+0.8**
	baz=332						
N58A	**Sunbury**	**6.51**	**149**	Pn	**Pn**	**18 17 07.4**	**+1.0**
TRY	**Troy**	**6.54**	**122**	Pn	**Pn**	**18 17 08.2**	**+1.3**
O49A	**Covington**	**6.72**	**201**	Pn	**Pn**	**18 17 10.4**	**+1.1**
L60A	**Shokan**	**6.72**	**130**	P	**Pn**	**18 17 10.1**	**+0.8**
	baz=314,SNR=14						
HQIL	**Hanson Quary C**	**6.72**	**228**	Pn	**Pn**	**18 17 10.0**	**+0.7**
H61A	**Lyndonville**	**6.78**	**104**	P	**Pn**	**18 17 11.3**	**+1.1**
	baz=290						
O57A	**Amberson**	**6.79**	**157**	P	**Pn**	**18 17 11.6**	**+1.3**
	baz=339,SNR=11						
N59A	**State Game Lan**	**6.81**	**143**	P	**Pn**	**18 17 11.5**	**+1.0**
	baz=327						
N59A	**State Game Lan**	**6.81**	**143**	Pn	**Pn**	**18 17 11.3**	**+0.7**
K61A	**Williamstown**	**6.82**	**121**	P	**Pn**	**18 17 12.0**	**+1.4**
	baz=307,SNR=8.0						
I61A	**Oroboro, Fairl**	**6.83**	**109**	P	**Pn**	**18 17 11.8**	**+1.0**
	baz=295						
LBNH	**Lisbon**	**6.89**	**106**	P	**Pn**	**18 17 12.2**	**+0.6**
	baz=292						
LBNH	**Lisbon**	**6.89**	**106**	Pn	**Pn**	**18 17 13.7**	**+2.1**
P52A	**Corning**	**6.90**	**186**	P	**Pn**	**18 17 12.3**	**+0.5**
	baz=5.4						
P52A	**Corning**	**6.90**	**186**	Pn	**Pn**	**18 17 11.8**	**0.0**
MCWV	**Mont Chateau**	**6.91**	**171**	Pn	**Pn**	**18 17 13.4**	**+1.6**
P54A	**Burton**	**6.91**	**176**	P	**Pn**	**18 17 12.5**	**+0.6**
	baz=356						
M60A	**Port Jervis**	**7.00**	**135**	P	**Pn**	**18 17 13.8**	**+0.6**
	baz=320						
P53A	**Whipple**	**7.01**	**181**	P

WES	**Weston**	**8.15**	**117**	Pn		**Pn**		**18 17 32.1**	**+3.2**
R53A	**Hurricane**	**8.19**	**184**	P		**Pn**		**18 17 29.3**	**-0.1**
	baz=3.7,SNR=7.8								
R53A	**Hurricane**	**8.19**	**184**	Pn		**Pn**		**18 17 29.6**	**+0.2**
G63A	**Kingsbury**	**8.19**	**96**	P		**Pn**		**18 17 30.2**	**+0.8**
	baz=284,SNR=5.9								
R56A	**Bull Pasture M**	**8.19**	**170**	P		**Pn**		**18 17 30.0**	**+0.4**
	baz=351,SNR=7.7								
SPMN	**Marine on St.**	**8.22**	**265**	P		**Pn**		**18 17 30.3**	**+0.4**
	baz=77								
SPMN	**Marine on St.**	**8.22**	**265**	Pn		**Pn**		**18 17 31.0**	**+1.1**
R55A	**Marlinton**	**8.25**	**174**	P		**Pn**		**18 17 30.2**	**-0.2**
	baz=355								
R55A	**Marlinton**	**8.25**	**174**	Pn		**Pn**		**18 17 30.1**	**-0.2**
R54A	**Victor**	**8.32**	**179**	P		**Pn**		**18 17 31.0**	**-0.2**
	baz=359								
D62A	**Allapoint, All**	**8.34**	**82**	P		**Pn**		**18 17 31.8**	**+0.3**
	baz=270								
D62A	**Allapoint, All**	**8.34**	**82**	Pn		**Pn**		**18 17 31.6**	**+0.2**
PKME	**Peaks-Kenny Pk**	**8.38**	**94**	P		**Pn**		**18 17 32.6**	**+0.6**
	baz=283								
F36A	**Milaca**	**8.60**	**270**	Pn		**Pn**		**18 17 36.3**	**+1.2**
B35A	**Bob, Littlefor**	**8.72**	**287**			**Pn**		**18 17 35.8**	**-0.9**
G64A	**Maxfield**	**8.75**	**94**	P		**Pn**		**18 17 38.2**	**+1.1**
	baz=282								
F64A	**Sherman**	**8.92**	**89**	P		**Pn**		**18 17 39.8**	**+0.4**
	baz=279								
D63A	**Stockholm**	**8.98**	**82**	P		**Pn**		**18 17 39.2**	**-1.1**
	baz=271								
I37A	**Lemond, Waseca**	**8.98**	**258**	Pn		**Pn**		**18 17 41.1**	**+0.8**
T55A	**Pulaski**	**9.38**	**178**	P		**Pn**		**18 17 46.1**	**+0.2**
	baz=358								
AGMN	**Agassiz Nation**	**10.13**	**286**			**Pn**		**18 17 54.5**	**-1.4**
U56A	**King**	**10.16**	**176**	P		**Pn**		**18 17 56.6**	**+0.1**
	baz=357								
ULM	**Lac du Bonnet**	**10.48**	**296**	Pn		**Pn**		**18 17 57.8**	**-2.9**
	1.5nm,0.3s,baz=109,slow=12,SNR=5.2								
ULM				Sn		Sn		18 19 47.9	-11
	1.3nm,0.3s,baz=14,slow=17,SNR=3.8								
ULM				Lg		Lg		18 20 52.8	
	2.6nm,0.3s,baz=182,slow=22,SNR=7.0								
ULM	**Lac du Bonnet**	**10.48**	**296**			**Pn**		**18 17 58.5**	**-2.3**
T47A	**Sharon Grove**	**10.49**	**207**	Pn		**Pn**		**18 18 00.3**	**-0.6**
F33A	**5 Mile Ranch,**	**10.52**	**272**			**Pn**		**18 18 00.8**	**-0.6**
U49A	**Red Boiling Sp**	**10.56**	**201**	Pn		**Pn**		**18 18 00.5**	**-1.4**
P40A	**Paris**	**10.58**	**233**	Pn		**Pn**		**18 18 01.4**	**-0.8**
V52A	**Sevierville**	**10.80**	**191**	Pn		**Pn**		**18 18 04.1**	**-1.2**
TKL	**Tuckaleechee C**	**11.01**	**191**	Pn		**Pn**		**18 18 07.1**	**-1.0**
	0.6nm,0.3s,baz=5.7,slow=8.0,SNR=6.4								
TKL				Lg		Lg		18 21 07.4	
	0.9nm,0.3s,baz=106,slow=12,SNR=5.3								
TKL	**Tuckaleechee C**	**11.01**	**191**	Pn		**Pn**		**18 18 06.7**	**-1.4**
CCM	**Cathedral Cave**	**11.26**	**225**	P		**Pn**		**18 18 11.5**	**0.0**
	baz=38								
CCM	**Cathedral Cave**	**11.26**	**225**	Pn		**Pn**		**18 18 10.0**	**-1.5**
ECSD	**EROS Data Cent**	**11.26**	**261**	P		**Pn**		**18 18 11.7**	**+0.2**
	baz=70								
ECSD	**EROS Data Cent**	**11.26**	**261**	Pn		**Pn**		**18 18 11.0**	**-0.5**
BG3	**Lake Jocassee**	**11.57**	**187**	Pn		**Pn**		**18 18 15.0**	**-0.8**
L34A	**Svendsen Farm,**	**11.81**	**253**	Pn		**Pn**		**18 18 18.3**	**-0.8**
T42A	**Van Buren**	**12.01**	**222**	Pn		**Pn**		**18 18 21.6**	**-0.1**
SCHQ	**Schefferville**	**12.32**	**42**	Pn		**Pn**		**18 18 22.6**	**-3.3**
	0.5nm,0.3s,baz=228,slow=13,SNR=5.6								
SCHQ				Sn		Sn		18 20 31.4	-12
	1.1nm,0.3s,baz=160,slow=7.3,SNR=6.5								
SCHQ				Lg		Lg		18 21 48.4	
	1.2nm,0.3s,baz=169,slow=9.7,SNR=4.9								
SCHQ	**Schefferville**	**12.32**	**42**	Pn		**Pn**		**18 18 24.3**	**-1.6**
PDAR	**Pinedale Array**	**20.50**	**270**	P		**P**		**18 20 09.6**	**+0.5**
	0.6nm,0.4s,baz=66,slow=12,SNR=7.7								
AHID	**Auburn Hatcher**	**21.56**	**271**	P		**P**		**18 20 20.9**	**+0.3**
ANMO	**Albuquerque**	**22.27**	**248**	LR		LR		18 29 31.6	
	comp=Z,75nm,20.4s,baz=320,slow=38								
DUG	**Dugway, Tooele**	**23.76**	**266**	P		**P**		**18 20 44.3**	**+0.9**
TXAR	**Lajitas Array**	**24.54**	**234**	P		**P**		**18 20 52.2**	**+1.4**
	0.1nm,0.6s,baz=57,slow=6.6,SNR=2.2								

*IDC **05** 18:18:33.7±1.1,8.83S×160.46E,h58km±9km, mb4.1/18, mb1 4.3/20,mb1mx4.2/31,mbtmp4.4/20,MS3.8/10, Ms1 3.8/10,ms1mx3.4/34,Error ellipse: s-maj=20.2km s-min=14.3km az=109.0*

*NEIC **05** 18:18:34.1±2.2,8.87S±0.08×160.52E±0.08,h65km±5km, mb5.0/63,Error ellipse: s-maj=12.5km s-min=9.5km az=132.0*

ISC 05 18:18:34.3±0.4,8.83S±0.06×160.46E±0.07,h69km,n106, σ1s18/97,mb4.8/45,2D,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
HNR	**Honiara**	**0.78**	**220**	P		**Pn**	**18 18 48.7**	**-1.4**
	1µm,0.3s,baz=124,slow=3.3,SNR=72							
HNR				S		**Sn**	**18 19 01.2**	**-0.5**
	5µm,0.3s,baz=67,slow=20,SNR=21							
HNR	**Honiara**	**0.78**	**220**			**Pn**	**18 18 48.4**	**-1.7**
HNR						**Sn**	**18 19 01.9**	**+0.2**
RABL	**Rabaul**	**9.44**	**299**			**Pn**	**18 20 48.8**	**+1.2**
KRVT	**Keravat (AS076**	**9.50**	**298**	P		**Pn**	**18 20 47.1**	**-1.3**
	2.4nm,0.3s,baz=114,slow=12,SNR=2.5							
PMG	**Port Moresby**	**13.14**	**266**	LR		LR	18 26 24.8	
	comp=Z,324nm,21.4s,baz=104,slow=36							
PMG	**Port Moresby**	**13.14**	**266**	Pn		Pn	18 21 32.9	-5.1
DZM	**Mont Dzumac**	**14.37**	**157**	LR		LR	18 26 18.0	
	comp=Z,156nm,19.2s,baz=16,slow=32							
PATS	**Pohnpei**	**15.71**	**352**	Pn		**Pn**	**18 22 06.5**	**-5.1**
PATS				IAmb		IAmb	18 22 31.6	
	comp=Z,197nm,1.8s							
COEN	**Coen**	**17.68**	**252**	Pn		**Pn**	**18 22 38.8**	**+2.7**
CTA	**Charters Tower**	**17.71**	**229**	P		**Pn**	**18 22 38.0**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=40,slow=12,SNR=2.4							
CTAO	**Charters Tower**	**17.71**	**229**	Pn		**Pn**	**18 22 39.1**	**+2.7**
EIDS	**Eidsvold**	**18.71**	**207**	Pn		**Pn**	**18 22 50.1**	**+1.6**
JAY	**Jayapura**	**20.62**	**287**	P		**P**	**18 23 09.3**	**+1.1**
	comp=Z,20nm,0.7s,baz=150,slow=6.7,SNR=8.6							
ARMA	**Armidale**	**23.01**	**200**	P		**P**	**18 23 35.0**	**+1.4**
WR0	**Warramunga Arr**	**27.39**	**243**	P		**P**	**18 24 13.2**	**-0.2**
WB0	**Warramunga Arr**	**27.45**	**244**	P		**P**	**18 24 13.8**	**-0.2**
WC3	**Warramunga Arr**	**27.53**	**243**	P		**P**	**18 24 14.4**	**-0.4**
WRAB	**Tennant Creek**	**27.55**	**244**	P		**P**	**18 24 15.1**	**+0.2**
WRAB				IAmb		IAmb	18 24 30.2	
	comp=Z,52nm,1.9s							
WB2	**Warramunga Arr**	**27.55**	**244**	P		**P**	**18 24 14.6**	**-0.3**
WB2				IAmb		IAmb	18 24 33.0	
	comp=Z,79nm,1.9s							
WRA	**Warramunga Arr**	**27.56**	**244**	P		**P**	**18 24 15.0**	**0.0**
	comp=Z,3.7nm,0.5s,baz=67,slow=9.3,SNR=40							
H11S2	**WAKE ISLAND Hy**	**27.84**	**13**	T		T	18 53 06.5	
	baz=194,slow=76,SNR=448							
H11S3	**WAKE ISLAND Hy**	**27.84**	**13**	T		T	18 53 06.5	
	baz=194,slow=76,SNR=483							
H11S1	**WAKE ISLAND Hy**	**27.86**	**13**	T		T	18 53 03.8	
	baz=194,slow=76,SNR=375							
KNTN	**Kanton**	**28.32**	**79**	P		**P**	**18 24 20.6**	**-1.2**
KNTN				IAmb		IAmb	18 24 37.9	
	comp=Z,110nm,1.6s							
CAN	**Canberra**	**28.37**	**200**	P		**P**	**18 24 20.6**	**-1.5**
CAN				IAmb		IAmb	18 25 17.2	
	comp=Z,32nm,1.6s							
STKA	**Stephens Creek**	**28.86**	**215**	P		**P**	**18 24 28.0**	**+1.6**
	comp=Z,1.1nm,0.5s,baz=58,slow=15,SNR=5.0							
STKA				LR		LR	18 36 05.1	
	comp=Z,178nm,18.2s,baz=71,slow=36							
STKA	**Stephens Creek**	**28.86**	**215**	P		**P**	**18 24 27.2**	**+0.8**
OUZ	**Omahuta**	**28.89**	**157**	P		**P**	**18 24 26.4**	**-0.2**
OUZ				IAmb		IAmb	18 24 37.4	
	comp=Z,36nm,1.2s							
H11N1	**WAKE ISLAND Hy**	**29.06**	**13**	T		T	18 54 31.9	
	baz=193,slow=76,SNR=1285							
H11N3	**WAKE ISLAND Hy**	**29.07**	**13**	T		T	18 54 35.3	
	baz=193,slow=76,SNR=506							
H11N2	**WAKE ISLAND Hy**	**29.08**	**13**	T		T	18 54 33.3	
	baz=193,slow=76,SNR=1392							
AS31	**Alice Springs**	**29.37**	**237**	P		**P**	**18 24 30.4**	**-0.7**
ASAR	**Alice Springs**	**29.37**	**237**	P		**P**	**18 24 30.1**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=62,slow=9.9,SNR=38							
ASAR				PcP		**PcP**	**18 27 35.0**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=79,slow=2.7,SNR=4.5							
ASAR				ScP		**ScP**	**18 31 14.8**	**+2.9**
	comp=Z,0.3nm,0.6s,baz=66,slow=3.0,SNR=6.1							
ASAR				LR		LR	18 35 22.4	
	comp=Z,166nm,19.4s,baz=117,slow=34							
NIUE	**Niue**	**30.45**	**113**	P		**P**	**18 24 41.5**	**+0.9**
TOO	**Toolangi**	**31.65**	**203**	P		**P**	**18 24 50.3**	**-0.8**
TOO				IAmb		IAmb	18 25 18.6	
	comp=Z,71nm,1.9s							
KNRA	**Kununurra**	**31.68**	**254**	P		**P**	**18 24 50.7**	**-0.8**
BBOO	**Buckleboo**	**32.84**	**220**	P		**P**	**18 25 00.1**	**-1.4**
BBOO				IAmb		IAmb	18 25 59.4	
	comp=Z,37nm,1.6s							
BKZ	**Black Stump Fm**	**33.45**	**157**	P		**P**	**18 25 05.8**	**-1.0**
BKZ				IAmb		IAmb	18 25 47.7	
	comp=Z,62nm,1.5s							
QRZ	**Quartz Range**	**33.62**	**163**	P		**P**	**18 25 08.1**	**-0.1**
NNZ	**Nelson**	**34.23**	**163**	P		**P**	**18 25 13.1**	**-0.3**
THZ	**Tophouse**	**34.60**	**163**	P		**P**	**18 25 16.1**	**-0.6**
MSWZ	**Moikau Station**	**35.00**	**160**	P		**P**	**18 25 21.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**35.03**	**251**	LR		LR	18 40 30.7	
	comp=Z,118nm,18.5s,baz=132,slow=38							
FITZ	**Fitzroy Crossi**	**35.03**	**251**	P		**P**	**18 25 19.5**	**-1.2**
FITZ				IAmb		IAmb	18 25 27.7	
	comp=Z,56nm,1.9s							
LTZ	**Lake Taylor**	**35.37**	**165**	P		**P**	**18 25 23.1**	**-0.3**
KHZ	**Kahutara**	**35.38**	**163**	P		**P**	**18 25 22.5**	**-0.8**
BATI	**Baumata**	**36.30**	**265**	LR		LR	18 41 04.2	
	comp=Z,382nm,18.3s,baz=230,slow=37							
ODZ	**Otahua Downs**	**37.14**	**168**	P		**P**	**18 25 38.2**	**-0.1**
FORT	**Forrest**	**37.26**	**230**	P		**P**	**18 25 39.0**	**-0.6**
FORT				IAmb		IAmb	18 26 55.5	
	comp=Z,11nm,0.8s							
DAV	**Davao City (W)**	**38.18**	**293**	LR		LR	18 41 24.3	
	comp=Z,90nm,18.2s,baz=94,slow=36							
KAPI	**Kappang**	**40.57**	**273**	P		**P**	**18 26 07.7**	**+0.2**
JAGI	**Jajag, Banyuwa**	**45.75**	**267**	P		**P**	**18 26 47.3**	**-2.0**
MORW	**Morawa**	**46.23**	**238**	P		**P**	**18 26 52.4**	**-0.5**
MORW				IAmb		IAmb	18 27 04.6	
	comp=Z,63nm,2.0s							
NWAO	**Narrogin (SRO)**	**46.51**	**233**	LR		LR	18 46 13.1	
	comp=Z,192nm,18.1s,baz=192,slow=36							
NWAO	**Narrogin (SRO)**	**46.51**	**233**	P		**P**	**18 26 54.6**	**-0.5**
NWAO	**Narrogin (SRO)**	**46.51**	**233**	P		**P**	**18 26 54.5**	**-0.5**
NWAO				IAmb		IAmb	18 27 38.7	
	comp=Z,67nm,1.9s							
MJAR	**Matsushiro Arr**	**49.74**	**336**	P		**P**	**18 27 18.5**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=164,slow=7.8,SNR=5.4							
JNU	**Nakatsue**	**50.33**	**327**	P		**P**	**18 27 23.8**	**-0.5**
LEM	**Lembang**	**52.35**	**268**	LR		LR	18 51 27.7	
	comp=Z,116nm,19.1s,baz=176,slow=38							
KSRS	**Korea Array**	**55.20**	**329**	P		**P**	**18 28 01.0**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=144,slow=7.5,SNR=14							
USA0B	**Ussuriysk Arra**	**58.74**	**336**	P		**P**	**18 28 26.4**	**+1.4**
USA0B				IAmb		IAmb	18 28 27.0	
	comp=Z,16nm,0.8s							
USRK	**Ussuriysk Ar.**	**58.74**	**336**	P		**P**	**18 28 26.2**	**+1.3**
	comp=Z,15nm,0.7s,baz=144,slow=5.5,SNR=23							
MDJ	**Mudanjiang**	**60.06**	**335**	P		**P**	**18 28 34.6**	**+0.5**
MDJ				IAmb		IAmb	18 28 36.0	
	comp=Z,7.4nm,0.7s							
PETK	**Petropavlovsk-**	**61.74**	**358**	P		**P**	**18 28 45.8**	**+0.4**
	comp=Z,4.3nm,0.9s,baz=162,slow=6.3,SNR=9.9							
PETK				LR		LR	18 55 16.7	
	comp=Z,33nm,18.6s,baz=239,slow=36							
CMAR	**Chiang Mai Arr**	**66.46**	**294**	P		**P**	**18 29 17.8**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=116,slow=5.2,SNR=9.3							
VNDA	**Vanda**	**68.67**	**180**	P		**P**	**18 29 29.9**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=358,slow=3.8,SNR=4.9							
ULN	**Ulaanbaatar**	**73.50**	**326**	P		**P**	**18 30 01.2**	**+1.4**
ULN				IAmb		IAmb	18 30 02.4	
	comp=Z,18nm,1.2s							
SONM	**Songino Array**	**73.85**	**325**	P		**P**	**18 30 03.1**	**+1.3**
	comp=Z,7.3nm,0.7s,baz=138,slow=5.6,SNR=38							
YAK	**Yakutsk**	**74.58**	**346**	P		**P**	**18 30 06.0**	**+0.5**
YAK				IAmb		IAmb	18 30 06.9	
	comp=Z,20nm,0.6s							
SVW2	**Sparrevohn**	**77.74**	**20**	P		**P**	**18 30 25.3**	**+1.8**
SVW2				IAmb		IAmb	18 30 26.1	
	comp=Z,16nm,1.2s							
SUA	**Susitna One**	**79.70**	**22**	P		**P**	**18 30 35.0**	**+0.6**
SUA				IAmb		IAmb	18 32 19.5	
	comp=Z,53nm,1.8s							
GLI	**Glacier Island**	**80.70**	**23**	P		**P**	**18 30 40.1**	**+0.5**
FID	**Port Fidalgo**	**80.86**	**23**	P		**P**	**18 30 41.5**	**+1.0**
QSPA	**South Pole Qui**	**81.16**	**180**	P		**P**	**18 30 41.4**	**-0.9**
TRF	**Thorofare Moun**	**81.16**	**20**	P		**P**	**18 30 41.8**	**-0.5**
TRF				IAmb		IAmb	18 30 44.3	
	comp=Z,12nm,1.1s							
SCM	**Sheep Creek Mo**	**81.19**	**22**	P		**P**	**18 30 40.6**	**-1.7**
KLU	**Klutina**	**81.52**	**23**	P		**P**	**18 30 44.1**	**0.0**
KLU				IAmb		IAmb	18 31 04.4	
	comp=Z,19nm,0.8s							
DHY	**Denali Highway**	**81.94**	**21**	P		**P**	**18 30 46.1**	**-0.3**
DHY				IAmb		IAmb	18 30 46.9	
	comp=Z,23nm,1.7s							
WRH	**Wood River Hil**	**82.56**	**20**	P		**P**	**18 30 49.6**	**+0.2**
ILAR	**Eielson Array**	**83.16**	**20**	P		**P**	**18 30 52.2**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=257,slow=4.8,SNR=13							
ILAR				pP		**pP**	**18 31 09.8**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=240,slow=4.9,SNR=5.8							
EGAK	**Eagle**	**85.17**	**21**	P		**P**	**18 31 04.4**	**+1.8**
EGAK				IAmb		IAmb	18 32 50.7	
	comp=Z,26nm,1.9s							
MK31	**Makanchi Array**	**88.37**	**318**	P		**P**	**18 31 19.1**	**+0.4**
MKAR	**Makanchi Array**	**88.37**	**318**	P		**P**	**18 31 19.4**	**+0.7**
	comp=Z,3.5nm,0.6s,baz=97,slow=6.1,SNR=42							
MAKZ	**Makanchi**	**88.58**	**318**	P		**P**	**18 31 19.6**	**-0.1**
NVAR	**Mina Array Bea**	**88.64**	**51**	P		**P**	**18 31 21.6**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=241,slow=7.8,SNR=10							
ZALV	**Zalesovo Beam**	**88.74**	**325**	P		**P**	**18 31 19.9**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=110,slow=2.2,SNR=5.0							
BMO	**Blue Mountains**	**90.70**	**45**	P		**P**	**18 31 30.5**	**+0.7**
SHPR	**Sheep Range**	**90.71**	**53**	P		**P**	**18 31 30.9**	**+0.8**
SHPR				IAmb		IAmb	18 31 33.4	
	comp=Z,3.9nm,1.0s							
R11A	**Troy Canyon, C**	**90.71**	**51**	P		**P**	**18 31 31.2**	**+1.1**
F10A	**Beach Ranch, E**	**90.98**	**44**	P		**P**	**18 31 31.8**	**+0.8**
F10A				IAmb		IAmb	18 31 33.2	
	comp=Z,6.9nm,0.7s							
ELK	**Elko**	**91.41**	**49**	P		**P**	**18 31 34.7**	**+1.4**
	comp=Z,1.7nm,0.9s,baz=285,slow=4.7,SNR=7.5							
ELK	**Elko**	**91.41**	**49**	P		**P**	**18 31 35.0**	**+1.7**
ELK				IAmb		IAmb	18 31 36.3	
	comp=Z,3.8nm,1.1s							
W13A	**Hualapai Mount**	**91.49**	**55**	P		**P**	**18 31 34.5**	**+0.7**
W13A				IAmb		IAmb	18 31 36.8	
	comp=Z,4.2nm,0.9s							
NEW	**Newport**	**91.51**	**41**	P		**P**	**18 31 33.7**	**+0.3**
NEW				IAmb		IAmb	18 31 35.0	
	comp=Z,3.2nm,0.8s							
SYO	**Syowa Base**	**92.32**	**198**	*es*		sP	18 32 05.0	+1.8
SYO	**Syowa Base**	**92.32**	**198**	*e*	PKiKP	**PKiKP**	**18 36 24.9**	**-0.6**
HLID	**Hailey**	**92.51**	**46**	P		**P**	**18 31 39.8**	**+1.5**
HLID				IAmb		IAmb	18 31 41.6	
	comp=Z,7.0nm,1.5s							
BGU	**Big Grassy Mou**	**93.09**	**49**	P		**P**	**18 31 42.2**	**+1.2**
YKA	**Yellowknife Ar**	**95.43**	**28**	P		**P**	**18 31 51.3**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=269,slow=8.2,SNR=2.4							
BW06	**Boulder Array**	**95.91**	**48**	P		**P**	**18 31 54.9**	**+0.9**
BW06				IAmb		IAmb	18 32 11.6	
	comp=Z,3.0nm,0.7s							
PDAR	**Pinedale Array**	**95.91**	**48**	P		**P**	**18 31 55.1**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=212,slow=2.8,SNR=10							
NB2	**NORSAR Subarra**	**123.13**	**343**	PKPdf		**PKPdf**	**18 37 22.7**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=39,slow=1.9							
NOA	**NORSAR Array B**	**123.13**	**343**	PKP		**PKPdf**	**18 37 23.0**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=37,slow=2.0,SNR=5.1							
GERES	**GERESS Array B**	**131.34**	**331**	PKP		**PKPdf**	**18 37 39.4**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=75,slow=1.5,SNR=5.8							
ESDC	**Sonseca Array**	**146.27**	**338**	PKPbc		**PKPbc**	**18 38 08.3**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=1.9,slow=4.2,SNR=5.2							
TORD	**Torodi Ar. Bea**	**158.72**	**284**	PKP		**PKPdf**	**18 38 24.9**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=11,slow=1.5,SNR=4.2							
TORD				PKPab		**PKPab**	**18 39 00.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=55,slow=2.6,SNR=3.9							

*IDC **05** 18:35:11.7±1.2,34.51S×72.63W,h0km,mb4.2/6, mb1 4.2/8,mb1mx4.0/27,mbtmp4.1/8,ML3.7/2,MS3.0/3, Ms1 3.0/3,ms1mx2.8/29,Error ellipse: s-maj=38.9km s-min=17.6km az=83.0*

*GUC **05** 18:35:11.9±0.7,34.52S×72.77W,h10km±5km,ML4.1*

*NEIC **05** 18:35:12.2±2.0,34.55S±0.04×72.84W±0.02,h13km±4km, mb4.3/4,ML4.1(GUC),Error ellipse: s-maj=6.8km s-min=1.8km az=197.0*

ISC 05 18:35:11.4±2.0,34.54S±0.04×72.85W±0.06,h4km±13km, n61,σ0s96/60,mb4.1/6,6C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GO05	**Huala**	**0.89**	**122**	⇑*i*	P	**Pg**	**18 35 29.0**	**+0.5**
GO05					*e*S	**Sb**	**18 35 41.6**	**0.0**
GO05	**Huala**	**0.89**	**122**			**Pb**	**18 35 29.6**	**+0.2**
GO05					Sg	**Sb**	**18 35 40.9**	**-0.7**
BO01	**Tunca**	**1.47**	**85**	*i*	P	**Pn**	**18 35 37.8**	**-0.9**
BO01					*e*S	**Sb**	**18 35 58.2**	**-0.1**
BO01	**Tunca**	**1.47**	**85**			**Pn**	**18 35 37.7**	**-0.9**
BO01					Sg	**Sb**	**18 35 57.9**	**-0.3**
BO02	**Sierra Bellavi**	**1.73**	**99**	⇑*i*	P	**Pn**	**18 35 42.3**	**+0.1**
BO02					*e*S	**Sb**	**18 36 05.9**	**+0.1**
BO02					IAML		18 36 12.3	
	comp=E,8µm,0.3s							
BO02	**Sierra Bellavi**	**1.73**	**99**			**Pn**	**18 35 42.3**	**+0.1**
BO02					Sn	**Sn**	**18 36 03.7**	**-1.0**
VA01	**Torpederas**	**1.82**	**34**	⇑*i*	P	**Pn**	**18 35 43.8**	**+0.4**
VA01					*e*S	**Sb**	**18 36 09.2**	**+0.9**
VA01					IAML		18 36 21.8	
	comp=E,648nm,0.5s							
VA01	**Torpederas**	**1.82**	**34**			**Pn**	**18 35 42.0**	**-1.4**
MT02	**Curacav**	**1.92**	**49**	*e*	P	**Pn**	**18 35 43.3**	**-1.5**
MT02	**Curacav**	**1.92**	**49**			**Pn**	**18 35 43.6**	**-1.2**
MT05	**Renca**	**2.10**	**57**	*e*	P	**Pn**	**18 35 46.9**	**-0.4**
MT05	**Renca**	**2.10**	**57**			**Pn**	**18 35 46.4**	**-1.0**
ROC1	**El Roble**	**2.19**	**45**			**Pn**	**18 35 45.9**	**-2.9**
CLCH	**Cerro Calan**	**2.24**	**60**	IAML			18 36 30.4	
	comp=N,2µm,0.5s							
PEL	**Peldehue**	**2.28**	**53**	⇑*i*	P	**Pb**	**18 35 53.1**	**0.0**
PEL					*e*S	**Sb**	**18 36 21.0**	**-0.7**
PEL	**Peldehue**	**2.28**	**53**			**Pn**	**18 35 48.8**	**-1.0**
BI03	**Tigo**	**2.30**	**183**	IAML			18 36 46.2	
	comp=N,1µm,0.4s							
BI03	**Tigo**	**2.30**	**183**			**Pn**	**18 35 49.1**	**-0.9**
LMEL	**Las Melosas**	**2.30**	**73**	⇑*i*	P	**Pn**	**18 35 51.5**	**+1.3**
LMEL					*e*S	**Sb**	**18 36 22.8**	**+0.3**
LMEL					IAML		18 36 28.5	
	comp=N,2µm,0.3s							
BI02	**San Fabin de**	**2.48**	**149**	⇑*i*	P	**Pb**	**18 35 55.2**	**-1.3**
BI02					*e*S	**Sb**	**18 36 27.7**	**+0.3**
BI02					IAML		18 36 33.1	
	comp=N,2µm,0.9s							
BI02	**San Fabin de**	**2.48**	**149**			**Pn**	**18 35 52.8**	**+0.2**
VA03	**San Esteban**	**2.62**	**48**			**Pn**	**18 35 54.2**	**-0.3**
CO02	**Combarbal**	**3.68**	**26**			**Pn**	**18 36 08.2**	**-0.9**
CO03	**El Pedregal**	**4.12**	**27**			**Pn**	**18 36 14.6**	**-0.6**
LC01	**Cunco**	**4.42**	**170**			**Pn**	**18 36 20.2**	**+1.0**
ZON	**Zonda**	**4.61**	**51**			**Pn**	**18 36 22.2**	**+0.3**
GO04	**Tololo Observa**	**4.69**	**22**	Pn		**Pn**	**18 36 21.9**	**-1.3**
H03S1	**Juan Fernandez**	**5.07**	**276**	T		T	18 41 48.3	
	baz=97,slow=75,SNR=932							
H03S3	**Juan Fernandez**	**5.07**	**276**	T		T	18 41 50.3	
	baz=97,slow=75,SNR=659							

JAGI	**Jajag, Banyuwa**	**15.44**	**263**	Pn		**Pn**	**18 41 08.6**	**-0.3**
AS31	**Alice Springs**	**17.16**	**167**			**Pn**	**18 41 30.1**	**+0.4**
ASAR	**Alice Springs**	**17.16**	**167**	P		**Pn**	**18 41 29.8**	**0.0**
	1.9nm,0.3s,baz=342,slow=10,SNR=258							
ASAR				S		**S**	**18 44 32.9**	**-7.5**
	0.6nm,0.3s,baz=349,slow=27,SNR=7.7							
PSA00	**Pilbara Seismi**	**17.39**	**212**	P		**Pn**	**18 41 32.9**	**+0.4**
SBUM	**Sibu**	**19.73**	**298**	P		**P**	**18 41 58.3**	**+1.2**
SBUM				IAmb	IAmb		18 42 00.9	
	comp=Z,17nm,0.7s							
KSM	**Kuching**	**21.03**	**293**	P		**P**	**18 42 12.8**	**+1.9**
KSM				IAmb	IAmb		18 42 41.4	
	comp=Z,34nm,1.6s							
CISI	**Cisompet, Garu**	**21.68**	**267**	P		**P**	**18 42 18.8**	**+0.8**
FORT	**Forrest**	**23.80**	**183**	P		**P**	**18 42 40.5**	**+2.6**
FORT				IAmb	IAmb		18 42 50.9	
	comp=Z,13nm,0.8s							
MORW	**Morawa**	**25.52**	**209**	P		**P**	**18 42 54.1**	**+0.6**
MORW				IAmb	IAmb		18 43 21.6	
	comp=Z,11nm,1.3s							
BBOO	**Buckleboo**	**26.45**	**168**	P		**P**	**18 43 02.4**	**+0.4**
BBOO				IAmb	IAmb		18 43 25.7	
	comp=Z,20nm,1.4s							
CMAR	**Chiang Mai Arr**	**39.41**	**310**	P		**P**	**18 44 55.0**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=137,slow=7.3,SNR=15							
CHTO	**Chiang Mai**	**39.62**	**311**	P		**P**	**18 44 56.3**	**+0.2**
CHTO				IAmb	IAmb		18 44 57.3	
	comp=Z,4.7nm,0.8s							
XAN	**Xi'an**	**45.21**	**336**	P		**P**	**18 45 39.9**	**-1.2**
XAN				IAmb	IAmb		18 45 41.6	
	comp=Z,5.2nm,0.7s							
HHC	**Hu-ho-hao-te**	**50.35**	**342**	*e*P		**P**	**18 46 21.6**	**+1.0**
HHC				pmax	pmax			
	comp=Z,14nm,0.9s							
HHC				pmax	pmax			
	comp=Z,140nm,5.2s							
GTA	**Gaotai**	**53.73**	**331**	*e*P		**P**	**18 46 46.2**	**+0.6**
GTA				pP	pP		18 47 17.5	-1.6
GTA				sP	sP		18 47 32.5	-2.7
GTA				pmax	pmax			
	comp=Z,2.0nm,1.1s							
GTA				pmax	pmax			
	comp=Z,62nm,5.0s							
GTA				LR	LR			
	comp=N,93nm,16.5s							
GTA				LR	LR			
	comp=E,90nm,15.5s							
GTA				LR	LR			
	comp=Z,130nm,16.5s							
SONM	**Songino Array**	**58.24**	**342**	P		**P**	**18 47 18.2**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=168,slow=7.8,SNR=3.6							
WMQ	**Urumqi**	**63.13**	**327**	*e*P		**P**	**18 47 52.5**	**+1.8**
MK31	**Makanchi Array**	**67.96**	**327**	P		**P**	**18 48 22.9**	**+1.3**
MKAR	**Makanchi Array**	**67.96**	**327**	P		**P**	**18 48 22.1**	**+0.4**
	comp=Z,2.7nm,0.5s,baz=118,slow=7.8,SNR=40							
MAKZ	**Makanchi**	**68.14**	**327**	P		**P**	**18 48 23.6**	**+0.9**
ARSB	**Arslanbob**	**70.59**	**318**	P		**P**	**18 48 39.1**	**+1.1**
ARSB				IAmb	IAmb		18 48 40.4	
	comp=Z,3.5nm,0.6s							
ZALV	**Zalesovo Beam**	**71.35**	**334**	P		**P**	**18 48 40.5**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=126,slow=7.5,SNR=5.1							
CHGR	**Chuyangaron**	**72.03**	**314**	P		**P**	**18 48 46.8**	**+0.1**
CHGR				IAmb	IAmb		18 48 49.7	
	comp=Z,4.6nm,0.8s							
KURK	**Kurchatov**	**72.26**	**329**	P		**P**	**18 48 48.2**	**+0.6**
KURK				IAmb	IAmb		18 48 50.6	
	comp=Z,4.2nm,0.9s							
BRVK	**Borovoye**	**77.87**	**328**	P		**P**	**18 49 19.6**	**-0.2**
QSPA	**South Pole Qui**	**83.07**	**180**	P		**P**	**18 49 48.5**	**+1.0**
OHAK	**Old Harbor**	**88.81**	**32**	P		**P**	**18 50 16.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**128.46**	**281**	PKP		**PKPdf**	**18 56 29.2**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=46,slow=4.2,SNR=2.9							

*GCG **05** 18:50:09.3±0.7, 13°.62N×90°.90W, h48km±36km, MD3.4*
*SNET **05** 18:50:09.9±0.9, 13°.73N×90°.79W, h66km±22km, ML3.1*
ISC 05 18:50:08.8±3.7, 13°.6N±0°.2×90°.9W±0°.2, h68km±32km, n13, σ0§57/24, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.70**	**36**	*e*P	**Pn**	**18 50 24.0**	**+0.1**
PCG	**Pacaya**	**0.83**	**18**	*e*P	**Pn**	**18 50 25.1**	**-0.3**
PCG				*e*S	**Sn**	**18 50 37.4**	**-0.2**
FUG	**Fuego 3**	**0.84**	**2**	*e*P	**Pn**	**18 50 25.2**	**-0.3**
FUG				*e*S	**Sn**	**18 50 37.8**	**+0.1**
NUBE	**Las Nubes**	**1.10**	**74↓**	*e*P	**Pn**	**18 50 28.2**	**-0.5**
NUBE				*e*S	**Sn**	**18 50 42.6**	**-0.8**
NUBE				IAML		18 50 44.2	
	comp=Z,166nm,0.2s						
NBG	**Las Nubes**	**1.10**	**27**	*e*P	**Pn**	**18 50 29.3**	**+0.5**
NBG				*e*S	**Sn**	**18 50 45.0**	**+1.4**
RTR	**El Retiro**	**1.23**	**76**	*e*P	**Pn**	**18 50 30.5**	**+0.2**
RTR				*e*S	**Sn**	**18 50 46.7**	**+0.4**
CEVE	**Cerro Verde**	**1.23**	**79**	*e*P	**Pn**	**18 50 30.2**	**-0.2**
CEVE				*e*S	**Sn**	**18 50 47.4**	**+0.8**
CEVE				IAML		18 50 48.4	
	comp=Z,776nm,0.3s						
SBLS	**San Blas**	**1.23**	**79**	*e*P	**Pn**	**18 50 30.4**	**-0.1**
SBLS				*e*S	**Sn**	**18 50 46.5**	**-0.1**
SNJE	**San Jose**	**1.26**	**78**	*e*P	**Pn**	**18 50 30.7**	**0.0**
SNJE				*e*S	**Sn**	**18 50 47.1**	**0.0**
JAYA	**Jayaque - finc**	**1.38**	**88**	*e*P	**Pn**	**18 50 32.0**	**-0.3**
JAYA				*e*S	**Sn**	**18 50 49.5**	**-0.4**
TACO	**Tacachico**	**1.52**	**76**	*e*P	**Pn**	**18 50 34.1**	**+0.1**
TACO				*e*S	**Sn**	**18 50 52.2**	**-0.8**
LFRS	**El Faro**	**1.76**	**89**	*e*P	**Pn**	**18 50 38.2**	**+0.9**
LFRS				*e*S	**Sn**	**18 50 59.1**	**+0.3**
MRL	**Marmol**	**1.87**	**38**	*e*P	**Pn**	**18 50 38.1**	**-0.8**

*IDC **05** 19:02:50.9±3.1, 28°.54S×67°.04W, h116km±27km, mb3.6/3, mb1 3.5/7, mb1mx3.3/35, mbtmp3.8/7, MS3.7/3, Ms1 3.7/3, ms1mx3.0/23, Error ellipse: s-maj=37.7km s-min=24.4km az=69.0*
*NEIC **05** 19:02:51.7±2.7, 28°.47S±0°.07×67°.29W±0°.08, h128km±8km, mb4.3/4, Md4.3(SJA), Error ellipse: s-maj=10.4km s-min=7.4km az=160.0*
ISC 05 19:02:51.0±0.7, 28°.47S±0°.07×67°.29W±0°.08, h130km, n47, σ1§49/47, mb4.0/4, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC02	**Maricunga**	**2.31**	**315**		**Pn**	**19 03 32.4**	**+3.1**
AC05	**El Transito**	**2.65**	**261**		**Pn**	**19 03 35.9**	**+2.7**
GO03	**Copiap**	**2.74**	**288**		**Pn**	**19 03 36.3**	**+1.9**
CO01	**Juntas del Tor**	**2.87**	**238**		**Pn**	**19 03 39.3**	**+3.2**
ZON	**Zonda**	**3.29**	**201**		**Pn**	**19 03 43.1**	**+1.6**
AC04	**Llanos de Chal**	**3.34**	**274**		**Pn**	**19 03 42.9**	**+0.8**
GO04	**Tololo Observa**	**3.50**	**240**		**Pn**	**19 03 45.8**	**+1.4**
AC01	**Pan de Azucar**	**3.74**	**307**	Pn	**Pn**	**19 03 48.5**	**+1.0**
AC01					**Sn**	**19 04 29.2**	**-1.9**
CO03	**El Pedregal**	**3.78**	**231**		**Pn**	**19 03 49.2**	**+1.3**
GO02	**Mina Guanaco**	**3.88**	**328**		**Pn**	**19 03 51.7**	**+2.1**
CO02	**Combarbal**	**4.22**	**229**		**Pn**	**19 03 54.3**	**+0.6**
PB14	**IPOC Station P**	**4.74**	**323**		**Pn**	**19 04 01.4**	**+0.5**
VA03	**San Esteban**	**5.12**	**212**		**Pn**	**19 04 06.7**	**+1.0**
PEL	**Peldehue**	**5.49**	**211**		**Pn**	**19 04 11.4**	**+0.7**
ROC1	**El Roble**	**5.51**	**215**		**Pn**	**19 04 10.8**	**-0.4**
PB15	**IPOC Station P**	**5.60**	**339**	Pn	**Pn**	**19 04 13.6**	**+1.2**
MT05	**Renca**	**5.73**	**210**	Pn	**Pn**	**19 04 14.6**	**+0.7**
MT02	**Curacav**	**5.80**	**214**		**Pn**	**19 04 13.6**	**-1.3**
LVC	**Limon Verde**	**6.02**	**346**	P	**Pn**	**19 04 20.4**	**+2.2**
	1.5nm,0.3s,baz=163,slow=10.0,SNR=8.7						
LVC				LR	LR	19 06 51.2	
	comp=Z,67nm,20.0s,baz=238,slow=39						
LVC	**Limon Verde**	**6.02**	**346**		**Pn**	**19 04 20.3**	**+2.1**
PB06	**IPOC Station P**	**6.10**	**340**	Pn	**Pn**	**19 04 18.5**	**-0.6**
BO01	**Tunca**	**6.73**	**208**		**Pn**	**19 04 26.2**	**-1.1**
PB09	**IPOC Station P**	**6.88**	**345**	Pn	**Pn**	**19 04 30.3**	**+0.7**
BO02	**Sierra Bellavi**	**6.97**	**204**		**Pn**	**19 04 30.1**	**-0.5**
PB07	**IPOC Station P**	**7.12**	**340**	Pn	**Pn**	**19 04 33.7**	**+0.9**
GO05	**Huala**	**7.62**	**210**	Pn	**Pn**	**19 04 37.0**	**-2.3**
PB01	**IPOC Station P**	**7.66**	**344**	Pn	**Pn**	**19 04 39.3**	**-0.7**
PB08	**IPOC Station P**	**8.47**	**348**	Pn	**Pn**	**19 04 51.2**	**0.0**
BI02	**San Fabin de**	**8.83**	**201**	Pn	**Pn**	**19 04 53.1**	**-2.5**
GO01	**Chusmiza**	**8.94**	**348**	Pn	**Pn**	**19 04 57.1**	**-0.4**
CPUP	**Villa Florida**	**9.11**	**79**	P	**Pn**	**19 04 55.8**	**-3.6**
	0.4nm,0.3s,baz=253,slow=12,SNR=4.9						
CPUP	**Villa Florida**	**9.11**	**79**		**Pn**	**19 04 59.1**	**-0.3**
MNMC	**Minye Minye**	**9.54**	**347**	Pn	**Pn**	**19 05 05.8**	**+0.4**
LPAZ	**La Paz**	**12.15**	**356**	P	**Pn**	**19 05 41.2**	**+0.7**
	0.2nm,0.3s,baz=162,slow=9.6,SNR=2.1						
LPAZ	**La Paz**	**12.15**	**356**		**Pn**	**19 05 39.8**	**-0.8**
SIV	**San Ignacio**	**13.69**	**26**	P	**Pn**	**19 05 59.1**	**-0.8**
	0.2nm,0.3s,baz=225,slow=15,SNR=4.0						
SAML	**Samuel**	**19.80**	**12**	P	**P**	**19 07 11.8**	**+0.4**
SNAA	**Sanae**	**55.25**	**160**	P	**P**	**19 12 11.0**	**+0.8**
	0.9nm,0.6s,baz=274,slow=9.5,SNR=13						
SNAA	**Sanae**	**55.25**	**160**	P	**P**	**19 12 11.2**	**+1.0**
SNAA				IAmb	IAmb	19 12 11.3	
	comp=Z,5.5nm,1.6s						
QSPA	**South Pole Qui**	**61.75**	**180**	P	**P**	**19 12 57.3**	**+1.8**
QSPA				IAmb	IAmb	19 13 23.2	
	comp=Z,4.6nm,1.2s						
TORD	**Torodi Ar. Bea**	**78.44**	**68**	P	**P**	**19 14 38.8**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=262,slow=6.1,SNR=4.4						
TORD				LR	LR	19 49 33.8	
	comp=Z,48nm,18.4s,baz=135,slow=36						
BOSA	**Boshof**	**78.96**	**117**	P	**P**	**19 14 40.5**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=261,slow=2.7,SNR=3.9						
BOSA	**Boshof**	**78.96**	**117**	P	**P**	**19 14 41.5**	**+0.8**
RPZ	**Rata Peaks**	**90.48**	**218**	LR	LR	19 48 18.5	
	comp=Z,283nm,18.6s,baz=220,slow=30						
WRA	**Warramunga Arr**	**127.52**	**206**	PKP	**PKPdf**	**19 21 41.2**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=164,slow=1.7,SNR=8.7						
ZALV	**Zalesovo Beam**	**147.41**	**31**	PKPbc	**PKiKP**	**19 22 20.4**	**-0.8**
	comp=Z,1.8nm,0.4s,baz=310,slow=3.4,SNR=8.7						
MKAR	**Makanchi Array**	**150.02**	**44**	PKPbc	**PKiKP**	**19 22 27.1**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=296,slow=2.9,SNR=11						

*IDC **05** 19:04:43.8±1.5, 14°.06N×92°.60W, h0km, mb3.8/6, mb1 4.1/9, mb1mx3.8/38, mbtmp3.8/9, ML4.0/3, MS3.4/6, Ms1 3.5/6, ms1mx3.0/35, Error ellipse: s-maj=49.0km s-min=21.9km az=46.0*
*GCG **05** 19:04:47.5±0.7, 13°.98N×92°.86W, h78km±103km, MD4.2*
*NEIC **05** 19:04:50.6±2.2, 14°.15N±0°.07×92°.71W±0°.06, h45km±8km, mb4.3/20, Md4.2/16(MEX), Error ellipse: s-maj=10.1km s-min=8.3km az=198.0*
*MEX **05** 19:04:51.1±0.6, 14°.27N×92°.87W, h56km±33km, MD4.2*
ISC 05 19:04:46.2±2.0, 14°.15N±0°.07×92°.79W±0°.06, h15km±11km, n60, σ1§99/63, mb4.1/14, MS3.5/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.91**	**34**	*i* P	**Pn**	**19 05 05.6**	**+1.0**
THIG				*i* S	**Sn**	**19 05 17.0**	**-0.3**
THIG		**0.91**	**34**		**Pn**	**19 05 05.5**	**+1.0**
THIG					**Sn**	**19 05 17.1**	**-0.3**
RTAL	**Retalhuleu**	**1.12**	**71**		**Pn**	**19 05 08.4**	**+0.9**
ERG	**Entre ros, C**	**1.22**	**76**	*e*P	**Pg**	**19 05 10.8**	**+1.0**
PCIG		**1.60**	**345**	*e*P	**Pn**	**19 05 14.1**	**+0.1**
PCIG				*i* S	**Sn**	**19 05 31.2**	**-3.3**
PCIG		**1.60**	**345**		**Pn**	**19 05 14.1**	**+0.1**
PCIG					**Sn**	**19 05 28.9**	**-5.5**
HUEH	**Huehuetenango**	**1.70**	**47**		**Pg**	**19 05 11.2**	**-0.7**
FUG	**Fuego 3**	**1.91**	**81**	*e*P	**Pb**	**19 05 19.8**	**-1.2**
FUG				*e*S	**Sg**	**19 05 45.9**	**-1.9**
PCG	**Pacaya**	**2.13**	**83**	*e*P	**Pb**	**19 05 23.9**	**-0.8**
CCIG	**Comitan**	**2.21**	**16**		**Pb**	**19 05 26.2**	**+0.1**
IXG	**Ixpaco**	**2.28**	**89**	*e*P	**Pb**	**19 05 25.0**	**-2.3**
NBG	**Las Nubes**	**2.41**	**79**	*e*P	**Pb**	**19 05 29.1**	**-0.4**
TGIG		**2.63**	**353**	*e*P	**Pn**	**19 05 28.2**	**-0.2**
TGIG				*i* S	**Sn**	**19 05 56.7**	**-3.4**
TGIG		**2.63**	**353**		**Pn**	**19 05 31.2**	**+2.8**
TGIG					**Sn**	**19 05 59.3**	**-0.8**
MTO3	**Montecristo**	**3.33**	**85**		**Pn**	**19 05 38.7**	**+0.6**
ESQI	**Esquipulas**	**3.37**	**83**		**Pn**	**19 05 39.6**	**+1.2**
CMIG	**Matias Romero**	**3.55**	**326**	Pn	**Pn**	**19 05 41.4**	**+0.4**
	4.1nm,0.3s,baz=134,slow=13,SNR=28						
CMIG				Sn	**Sn**	**19 06 26.8**	**+4.1**
	7.5nm,0.3s,baz=244,slow=21,SNR=5.2						
CMIG	**Matias Romero**	**3.55**	**326**	*e*P	**Pn**	**19 05 41.0**	**+0.1**
CMIG				*i* S	**Sn**	**19 06 18.6**	**-4.2**
CMIG	**Matias Romero**	**3.55**	**326**		**Pn**	**19 05 41.8**	**+0.8**
CMIG					**Sn**	**19 06 15.8**	**-6.9**
PETF	**Flores**	**3.94**	**45**		**Pn**	**19 05 48.9**	**+2.7**
TGUH	**Tegucigalpa,Un**	**5.35**	**90**	Pn	**Pn**	**19 06 07.1**	**+1.2**
ESTN	**Estel**	**6.33**	**99**	Pn	**Pn**	**19 06 21.0**	**+1.8**
MATN	**Matagalpa**	**6.78**	**99**	Pn	**Pn**	**19 06 24.5**	**-0.9**
TEIG	**Tepich**	**7.42**	**35**	Pn	**Pn**	**19 06 34.8**	**+0.7**
	9.5nm,0.3s,baz=320,slow=1.0,SNR=30						
TEIG				LR	LR	19 09 55.1	
	comp=Z,270nm,18.6s,baz=235,slow=42						
TEIG	**Tepich**	**7.42**	**35**	Pn	**Pn**	**19 06 35.5**	**+1.3**
H06E1	**SOCORRO T-PHASI**	**7.99**	**287**	T	T	19 27 20.2	
	SNR=9.2						
TX31	**Lajitas Ar. Si**	**18.16**	**328**		**P**	**19 09 00.5**	**+2.1**
TX31				IAmb	IAmb	19 09 24.6	
	comp=Z,14nm,1.1s						
TX32	**Lajitas Array**	**18.16**	**328**		**P**	**19 09 00.8**	**+2.4**
TXAR	**Lajitas Array**	**18.16**	**328**	P	**P**	**19 09 01.2**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=143,slow=11,SNR=8.8						
MIAR	**Mount Ida**	**20.32**	**358**	P	**P**	**19 09 23.0**	**+1.1**
GDL2	**Guadalupe Moun**	**20.85**	**331**	P	**P**	**19 09 29.1**	**+1.2**
MNTX	**Cornudas Mount**	**20.93**	**329**	P	**P**	**19 09 30.4**	**+1.8**
W39A	**Magazine**	**20.97**	**358**	P	Pn	19 09 31.6	0.0
W39A				IAmb	IAmb	19 09 49.0	
	comp=Z,25nm,1.9s						
WMOK	**Wichita Mounta**	**21.20**	**346**	P	**P**	**19 09 33.0**	**+1.5**
121A	**Cookes Peak, D**	**22.85**	**326**	P	**P**	**19 09 50.0**	**+0.7**
121A				IAmb	IAmb	19 10 16.8	
	comp=Z,5.9nm,0.8s						
319A	**Douglas**	**22.86**	**321**	P	**P**	**19 09 49.8**	**+0.4**
319A				IAmb	IAmb	19 10 21.4	
	comp=Z,7.0nm,1.0s						
TKL	**Tuckaleechee C**	**22.90**	**19**	LR	LR	19 18 46.7	
	comp=Z,51nm,18.9s,baz=230,slow=37						
S39A	**Bolivar**	**23.45**	**359**	P	**P**	**19 09 54.6**	**-0.6**
S39A				IAmb	IAmb	19 09 56.1	
	comp=Z,6.7nm,0.8s						
BNM	**Barren Site**	**23.53**	**330**	P	**P**	**19 09 57.6**	**+1.4**
SDCO	**Great Sand Dun**	**26.08**	**337**	P	**P**	**19 10 20.6**	**+0.9**
SDCO				IAmb	IAmb	19 10 22.9	
	comp=Z,6.5nm,1.4s						
ACSO	**Alum Creek Sta**	**27.37**	**16**	P	**P**	**19 10 30.0**	**-1.0**
Q56A	**Snyder Ridge,**	**27.55**	**23**	P	**P**	**19 10 34.9**	**+2.3**
Q56A				IAmb	IAmb	19 10 38.4	
	comp=Z,14nm,0.6s						
SDMD	**Soldier's Deli**	**28.81**	**26**	P	**P**	**19 10 44.5**	**+0.6**
SDMD				IAmb	IAmb	19 10 49.9	
	comp=Z,17nm,0.7s						
N54A	**Moraine State**	**28.95**	**20**	P	**P**	**19 10 44.1**	**-1.1**
MVL	**Millersville**	**29.51**	**26**	P	**P**	**19 10 49.3**	**-0.8**
MVL				IAmb	IAmb	19 10 59.9	
	comp=Z,24nm,0.7s						
P60A	**Greenville**	**29.67**	**27**	P	**P**	**19 10 52.6**	**+1.1**
M56A	**Emporium**	**30.05**	**22**	P	**P**	**19 10 55.7**	**+0.8**
PDAR	**Pinedale Array**	**31.97**	**336**	P	**P**	**19 11 13.2**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=150,slow=7.3,SNR=1.5						
NVAR	**Mina Array Bea**	**33.08**	**322**	P	**P**	**19 11 23.9**	**+2.0**
	comp=Z,1.1nm,0.6s,baz=136,slow=8.4,SNR=6.0						
MCMT	**McKenzie Canyo**	**35.01**	**335**	P	**P**	**19 11 40.5**	**+2.0**
SIV	**San Ignacio**	**43.35**	**133**	P	**P**	**19 12 46.8**	**-1.5**
	comp=Z,1.4nm,0.9s,baz=299,slow=18,SNR=2.8						
RPN	**Rapa Nui**	**44.06**	**201**	LR	LR	19 27 07.0	
	comp=Z,66nm,20.9s,baz=326,slow=30						
SCHQ	**Schefferville**	**45.35**	**21**	LR	LR	19 33 57.8	
	comp=Z,74nm,18.2s,baz=236,slow=39						
YKA	**Yellowknife Ar**	**50.71**	**347**	P	**P**	**19 13 45.9**	**+0.8**
	comp=Z,4.3nm,0.7s,baz=148,slow=7.7,SNR=10						
INK	**Inuvik**	**60.08**	**344**	P	**P**	**19 14 52.3**	**-0.2**
INK				IAmb	IAmb	19 14 58.0	
	comp=Z,3.6nm,1.0s						
ILAR	**Eielson Array**	**62.40**	**337**	P	**P**	**19 15 08.8**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=128,slow=6.7,SNR=7.4						
ESDC	**Sonseca Array**	**80.22**	**52**	P	**P**	**19 16 54.7**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=289,slow=3.9,SNR=3.0						
AFI	**Afiamalu**	**83.00**	**254**	LR	LR	19 46 54.5	
	comp=Z,34nm,20.3s,baz=88,slow=30						
NOA	**NORSAR Array B**	**84.38**	**28**	LR	LR	19 52 39.9	
	comp=Z,17nm,21.8s,baz=85,slow=34						
CMAR	**Chiang Mai Arr**	**145.60**	**340**	PKPbc	**PKPdf**	**19 24 25.2**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=331,slow=3.8,SNR=8.2						

*OSPL **05** 19:46:06.2±0.3, 18°.07N×68°.05W, h72km±7km, ML2.3*
*RSPR **05** 19:46:07.9, 18°.04N×68°.02W, h9km±3km, MD3.0/9*
*NEIC **05** 19:46:08.6±2.9, 18°.28N±0°.10×67°.96W±0°.01, h36km±21km, Error ellipse: s-maj=14.5km s-min=1.5km az=185.0*
ISC 05 19:46:08.8±1.3, 18°.15N±0°.08×67°.98W±0°.03, h35km, n41, σ1§03/52, 10C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.53**	**313↑**	*e*P	**Pn**	**19 46 18.9**	**-1.0**
PCDR	**Punta Cana, DR**	**0.53**	**313**	*e*S	**Sn**	**19 46 27.4**	**-0.2**
PCDR	**Punta Cana, DR**	**0.53**	**313**	*i* P	**Pn**	**19 46 18.8**	**-1.0**
PCDR				*e*S	**Sn**	**19 46 28.4**	**+0.8**
PCDR				IAML		19 46 31.7	
	comp=Z,105nm,0.5s						
PCDR	**Punta Cana, DR**	**0.53**	**313**		**Pn**	**19 46 18.9**	**-1.0**
PCDR					**Sn**	**19 46 27.4**	**-0.2**
IDE	**Isla Desecheo**	**0.53**	**64↑**	*e*P	**Pn**	**19 46 19.1**	**-0.9**
IDE	**Isla Desecheo**	**0.53**	**64**	*e*S	**Sn**	**19 46 28.4**	**+0.6**
IDE	**Isla Desecheo**	**0.53**	**64**		**Pn**	**19 46 19.1**	**-0.9**
IDE					**Sn**	**19 46 28.4**	**+0.6**
MPR	**Mayaguez**	**0.80**	**85**	*i* P	**Pn**	**19 46 22.6**	**-1.0**
MPR				*e*S	**Sn**	**19 46 34.6**	**+0.3**
MPR				IAML		19 46 35.5	
	comp=Z,54nm,0.1s						
MPR	**Mayaguez**	**0.80**	**85**		**Pn**	**19 46 22.3**	**-1.2**
AGPR	**Aguadilla, PR**	**0.88**	**69↑**	*e*P	**Pn**	**19 46 23.8**	**-1.0**
AGPR	**Aguadilla, PR**	**0.88**	**69**	*e*S	**Sn**	**19 46 37.7**	**+1.3**
AGPR	**Aguadilla, PR**	**0.88**	**69**	*i* P	**Pn**	**19 46 23.7**	**-1.0**
AGPR				*e*S	**Sn**	**19 46 36.6**	**+0.3**
AGPR				IAML		19 46 38.0	
	comp=Z,88nm,0.8s						
AGPR	**Aguadilla, PR**	**0.88**	**69**		**Pn**	**19 46 23.8**	**-1.0**
AGPR					**Sn**	**19 46 37.7**	**+1.3**
MLPR	**Magueyes Islan**	**0.91**	**101↑**	*e*P	**Pn**	**19 46 23.9**	**-1.2**
MLPR	**Magueyes Islan**	**0.91**	**101**	*e*S	**Sn**	**19 46 35.8**	**-1.1**
MLPR	**Magueyes Islan**	**0.91**	**101**		**Pn**	**19 46 23.9**	**-1.2**
MLPR					**Sn**	**19 46 35.8**	**-1.1**
AOPR	**Arecibo Observ**	**1.18**	**80↑**	*e*P	**Pn**	**19 46 28.0**	**-0.9**
AOPR	**Arecibo Observ**	**1.18**	**80**	*e*S	**Sn**	**19 46 43.9**	**+0.2**
AOPR	**Arecibo Observ**	**1.18**	**80**		**Pn**	**19 46 28.0**	**-0.9**
AOPR					**Sn**	**19 46 43.9**	**+0.2**
CELP	**Cerrillos**	**1.33**	**93↑**	*e*P	**Pn**	**19 46 30.9**	**-0.1**
CELP	**Cerrillos**	**1.33**	**93**	*e*S	**Sn**	**19 46 48.1**	**+0.7**
CELP	**Cerrillos**	**1.33**	**93**		**Pn**	**19 46 30.9**	**-0.1**
CELP					**Sn**	**19 46 48.1**	**+0.7**
EMPR	**Esperanza - Ma**	**1.41**	**76↑**	*e*P	**Pn**	**19 46 31.8**	**-0.3**
EMPR	**Esperanza - Ma**	**1.41**	**76**	*e*S	**Sn**	**19 46 50.2**	**+0.8**
EMPR	**Esperanza - Ma**	**1.41**	**76**		**Pn**	**19 46 31.8**	**-0.3**
EMPR					**Sn**	**19 46 50.2**	**+0.8**
DR12	**Loma Pena Alta**	**1.48**	**296**	Pn	**Pn**	**19 46 31.8**	**-1.2**
IGPR	**InterUniversit**	**1.79**	**96**	Pn	**Pn**	**19 46 39.6**	**+2.4**
GCPR	**Guaynabo City**	**1.81**	**85**	Pn	**Pn**	**19 46 36.6**	**-0.8**
PDPR	**Patillas Dam,**	**1.86**	**94**	Pn	**Pn**	**19 46 36.5**	**-1.8**
SDD	**Santo Domingo**	**1.87**	**280**	Pn	**Pn**	**19 46 37.2**	**-1.1**
CBYP	**Canovanas**	**2.02**	**86**	Pn	**Pn**	**19 46 38.9**	**-1.6**
HUMP	**Col San Antoni**	**2.02**	**90↑**	*e*P	**Pn**	**19 46 40.0**	**-0.5**
HUMP	**Col San Antoni**	**2.02**	**90**		**Pn**	**19 46 40.0**	**-0.5**
BANI	**BANI**	**2.28**	**276**	Pn	**Pn**	**19 46 43.7**	**-0.3**
MTP	**Monte Pirata**	**2.31**	**91↑**	*e*P	**Pn**	**19 46 44.2**	**-0.1**
MTP	**Monte Pirata**	**2.31**	**91**	*e*S	**Sn**	**19 47 11.2**	**-0.3**
MTP	**Monte Pir

SLDE	**Delcer**	**1.80 189**	*eP*	**Pn**	**20 11 08.7**	**-0.7**
SLDE			*eS*	**Sn**	**20 11 32.2**	**0.0**
MCLT	**Moule a Chique**	**1.88 185**	*eP*	**Pb**	**20 11 12.2**	**-0.5**
MCLT			*eS*	**Sn**	**20 11 34.5**	**+0.4**
ANWB	**Willy Bob**	**2.29 335**	*eP*	**Pb**	**20 11 18.1**	**-1.5**
ANWB			*eS*	**Sb**	**20 11 45.8**	**-2.2**
SVV	**Soufriere Volc**	**2.30 191**	*eP*	**Pn**	**20 11 16.9**	**+0.6**
SVV			*eS*	**Sn**	**20 11 45.8**	**+1.2**
SVCV	**St. Vincent, C**	**2.33 189**	*eP*	**Pn**	**20 11 18.2**	**+1.4**
SVCV			*eS*	**Sn**	**20 11 44.9**	**-0.5**
SVB	**Belmont**	**2.35 192**	*eP*	**Pn**	**20 11 18.0**	**+1.0**
SVB			*eS*	**Sn**	**20 11 45.7**	**-0.2**
SKI	**Saint Kitts**	**2.57 313**	*eP*	**Pn**	**20 11 21.5**	**+1.5**
SKI			*eS*	**Sn**	**20 11 51.8**	**+0.5**
BBGH	**Gun Hill**	**2.70 154**	*eP*	**Pb**	**20 11 24.8**	**-1.9**
BBGH			*eS*	**Sn**	**20 11 56.0**	**+1.7**
GCMP	**Grenada, Carri**	**3.15 192**	*eP*	**Pn**	**20 11 29.2**	**+1.3**
GCMP			*eS*	**Sn**	**20 12 06.1**	**+0.5**
GRGR	**Grenville**	**3.55 194**	*eP*	**Pn**	**20 11 34.6**	**+1.3**
GRGR			*eS*	**Sn**	**20 12 15.1**	**-0.2**
TOSP	**Speyside**	**4.27 177**	*eP*	**Pn**	**20 11 46.2**	**+2.8**
TOSP	**Speyside**	**4.27 177**	*eS*	**Sn**	**20 12 33.1**	**-0.1**
AOPR	**Arecibo Observ**	**6.36 296**	*eP*	**Pn**	**20 12 13.9**	**+1.9**
AOPR	**Arecibo Observ**	**6.36 296**	*eS*	**Sn**	**20 13 22.1**	**-2.6**
LPAZ	**La Paz**	**32.50 193**	LR	LR	20 31 11.4	
	comp=Z,33nm,18.4s,baz=50,slow=38					
TXAR	**Lajitas Array**	**41.71 297**	P	**P**	**20 18 28.5**	**+0.9**
	0.1nm,0.5s,baz=119,slow=11,SNR=4.0					
PDAR	**Pinedale Array**	**49.60 313**	P	**P**	**20 19 30.4**	**+0.3**
	0.6nm,0.7s,baz=114,slow=10.0,SNR=4.1					
H10N3	**ASCENSION HYDR**	**51.40 114**	T	T	21 15 30.0	
	baz=297,slow=75,SNR=40					
H10N2	**ASCENSION HYDR**	**51.40 114**	T	T	21 15 18.4	
	baz=297,slow=75,SNR=35					
H10N1	**ASCENSION HYDR**	**51.42 114**	T	T	21 15 21.4	
	baz=297,slow=75,SNR=43					
NVAR	**Mina Array Bea**	**55.14 306**	P	**P**	**20 20 09.8**	**-1.5**
	0.1nm,0.3s,baz=134,slow=3.9,SNR=1.4					

*NEIC **05** 20:50:23.2±0.8, 29.6°S×0.2°×178.9°W±0.4, h350km±22km, mb4.0/4, Error ellipse: s-maj=50.4km s-min=25.7km az=99.0*
*IDC **05** 20:50:26.0±9.7, 29.79°S×178.95°W, h370km±98km, mb2.8/2, mb1 3.2/3, mb1mx2.2/7, mbtmp3.9/3, Error ellipse: s-maj=97.0km s-min=48.1km az=15.0*

ISC 05 20:50:23.1±0.9, 29.67°S±0.07°×179.0°W±0.2, h350km, n51, σ1°86/72, mb3.9/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.00**	**66**	P	**Pn**	**20 51 10.8**	**+2.0**
GLKZ				S	**S**	**20 51 41.1**	**-4.4**
RIZ	**Raoul Island**	**1.00**	**65**	P	**Pn**	**20 51 10.7**	**+1.8**
RIZ				S	**S**	**20 51 40.0**	**-5.5**
MXZ	**Matakaoa Point**	**8.19**	**195**	P	**P**	**20 52 22.1**	**-0.2**
MXZ				S	**S**	**20 53 52.8**	**-1.4**
HAZ	**Te Kaha**	**8.51**	**198**	P	**P**	**20 52 27.3**	**+1.5**
HAZ				S	**S**	**20 54 02.4**	**+1.4**
PUZ	**Puketiti**	**8.69**	**195**	P	**Pn**	**20 52 27.7**	**+2.4**
PUZ				S	**S**	**20 54 04.1**	**-1.0**
RUGZ	**Raukumara Rang**	**8.73**	**198**	P	**P**	**20 52 29.1**	**+0.7**
RUGZ				S	**S**	**20 54 06.2**	**0.0**
CNGZ	**Carnagh Statio**	**9.10**	**194**	P	**P**	**20 52 35.3**	**+3.0**
MWZ	**Matawai**	**9.12**	**198**	P	**P**	**20 52 32.9**	**+0.4**
MWZ				S	**S**	**20 54 14.1**	**-0.4**
TKGZ	**Te Karaka**	**9.13**	**196**	P	**P**	**20 52 35.3**	**+2.5**
TKGZ				S	**S**	**20 54 13.5**	**-1.3**
URZ	**Urewera**	**9.16**	**200**	P	**P**	**20 52 33.0**	**-0.1**
	5.1nm,0.3s,baz=265,slow=3.8,SNR=25						
URZ				S	**S**	**20 54 16.4**	**+0.9**
	2.5nm,0.3s,baz=100,slow=22,SNR=12						
URZ	**Urewera**	**9.16**	**200**	P	**P**	**20 52 33.6**	**+0.5**
URZ				S	**S**	**20 54 16.3**	**+0.9**
URZ	**Urewera**	**9.16**	**200**	P	**Pn**	**20 52 32.4**	**+1.5**
URZ				S	**S**	**20 54 10.0**	**-5.4**
RAGZ	**Rawiri**	**9.30**	**198**	P	**P**	**20 52 35.8**	**+1.1**
RAGZ				S	**S**	**20 54 18.5**	**-0.1**
RIGZ	**Rimuhau**	**9.41**	**196**	P	**P**	**20 52 38.4**	**+2.5**
SNGZ	**Shannon Statio**	**9.59**	**198**	P	**Pn**	**20 52 37.5**	**+1.6**
KNZ	**Kokohu**	**9.73**	**196**	P	**P**	**20 52 41.2**	**+1.9**
KNZ				S	**S**	**20 54 24.8**	**-3.1**
TLZ	**Tolley Road**	**9.76**	**206**	P	P	20 52 45.0	+5.2
RAHZ	**Arahi**	**9.78**	**198**	P	**P**	**20 52 41.7**	**+1.8**
RAHZ				S	**S**	**20 54 29.2**	**+0.1**
NMHZ	**Naumai**	**10.03**	**199**	P	**P**	**20 52 44.9**	**+2.2**
BKZ	**Black Stump Fm**	**10.18**	**200**	P	**P**	**20 52 45.3**	**+0.9**
BKZ				S	**S**	**20 54 38.1**	**-1.7**
BKZ	**Black Stump Fm**	**10.18**	**200**	P	**Pn**	**20 52 43.3**	**+0.1**
BHHZ	**Black Hill Sta**	**10.61**	**201**	P	**P**	**20 52 49.9**	**+0.7**
BHHZ				S	**S**	**20 54 46.5**	**-1.1**
KRHZ	**Kereru**	**10.66**	**200**	P	**Pn**	**20 52 48.9**	**+0.1**
PNHZ	**Pukenui**	**10.96**	**200**	P	**Pn**	**20 52 53.1**	**+0.7**
BFZ	**Birch Farm**	**11.66**	**198**	P	**Pn**	**20 53 01.1**	**+0.5**
BFZ				S	**S**	**20 55 07.1**	**-3.5**
BFZ	**Birch Farm**	**11.66**	**198**	P	**Pn**	**20 53 00.8**	**+0.2**
MRZ	**Mangatainoka R**	**11.83**	**201**	P	**Pn**	**20 53 03.2**	**+0.5**
OGWZ	**Otaki Gorge**	**12.10**	**202**	P	**P**	**20 53 05.2**	**-0.5**
TMWZ	**Te Maipa**	**12.15**	**199**	P	**Pn**	**20 53 08.0**	**+1.5**
MSVF	**Nonsavu**	**12.19**	**346**	P	**Pn**	**20 53 06.6**	**-0.7**
KIW	**Kapiti Island**	**12.23**	**202**	P	**P**	**20 53 07.6**	**+0.5**
KIW				S	**S**	**20 55 18.6**	**-4.2**
CAW	**Cannon Point**	**12.40**	**201**	P	**P**	**20 53 09.2**	**+0.2**
CAW				S	**S**	**20 55 23.0**	**-3.4**
TRWZ	**Traveller**	**12.48**	**199**	P	**Pn**	**20 53 11.8**	**+1.5**
TRWZ				S	**S**	**20 55 24.7**	**-3.2**
DUWZ	**D'Urville Isla**	**12.53**	**206**	P	**P**	**20 53 10.2**	**-0.2**
DUWZ				S	**S**	**20 55 28.3**	**-0.7**
MSWZ	**Moikau Station**	**12.62**	**200**	P	**P**	**20 53 11.6**	**+0.1**
MSWZ				S	**S**	**20 55 27.5**	**-3.4**
MSWZ	**Moikau Station**	**12.62**	**200**	P	**Pn**	**20 53 12.6**	**+0.5**
BHW	**Baring Head**	**12.73**	**201**	P	**Pn**	**20 53 13.9**	**+0.6**
TUWZ	**Tuamarina**	**13.07**	**204**	P	**Pn**	**20 53 17.4**	**+0.2**
NNZ	**Nelson**	**13.09**	**206**	P	**Pn**	**20 53 18.3**	**+0.7**
QRZ	**Quartz Range**	**13.11**	**210**	P	**Pn**	**20 53 19.5**	**+1.7**
THZ	**Tophouse**	**13.74**	**206**	P	**Pn**	**20 53 26.0**	**+0.7**
KHZ	**Kahutara**	**14.08**	**203**	P	**Pn**	**20 53 28.8**	**-0.3**
LTZ	**Lake Taylor**	**14.86**	**206**	P	**Pn**	**20 53 38.8**	**+0.6**
ASAR	**Alice Springs**	**42.31**	**267**	P	**P**	**20 57 45.4**	**+1.4**
	0.5nm,0.5s,baz=101,slow=6.7,SNR=8.4						
ASAR	**Alice Springs**	**42.31**	**267**	P	**P**	**20 57 43.6**	**-0.4**
WR0	**Warramunga Arr**	**43.05**	**272**	P	**P**	**20 57 50.8**	**+0.9**
WR0				IAmb	IAmb	20 58 15.5	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**43.22**	**272**	P	**P**	**20 57 52.2**	**+1.0**
WB2				IAmb	IAmb	20 58 13.1	
	comp=Z,24nm,1.6s						
WRA	**Warramunga Arr**	**43.23**	**272**	P	**P**	**20 57 52.1**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=111,slow=7.2,SNR=10						
WRA	**Warramunga Arr**	**43.23**	**272**	P	**P**	**20 57 51.9**	**+0.6**
WB0	**Warramunga Arr**	**43.25**	**272**	P	**P**	**20 57 52.1**	**+0.6**
WB0				IAmb	IAmb	20 58 01.4	
	comp=Z,9.8nm,1.2s						
FINES	**FINESS Array B**	**144.17**	**340**	PKP	**PKPdf**	**21 09 17.0**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=42,slow=3.6,SNR=17						

IDC 05 21:11:49.1±4.0, 28.54°S×177.58°W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/26, mbtmp3.5/2, Error ellipse: s-maj=80.6km s-min=23.1km az=90.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.77**	**203**	Pn	Pn	21 12 07.3	+0.1
	366nm,0.3s,baz=83,slow=24,SNR=17						
RAO				Sn	Sn	21 12 20.1	+0.7
	358nm,0.3s,baz=107,slow=21,SNR=5.1						
ASAR	**Alice Springs**	**43.61**	**265**	P	P	21 19 55.0	-0.5
	0.3nm,0.6s,baz=103,slow=7.4,SNR=4.2						
WRA	**Warramunga Arr**	**44.43**	**270**	P	P	21 20 02.1	+0.1
	0.6nm,0.6s,baz=111,slow=7.9,SNR=11						
FINES	**FINESS Array B**	**143.52**	**341**	PKP	PKPdf	21 31 24.0	-1.1
	0.8nm,0.5s,baz=60,slow=3.7,SNR=5.8						

*IDC **05** 21:31:46.3±1.3, 56.48°S×26.73°W, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.9/26, mbtmp4.1/4, ML3.9/1, Error ellipse: s-maj=42.8km s-min=29.3km az=97.0*

ISC 05 21:31:58.7±1.0, 56.6°S±0.1×27.1°W±0.2, h101km, n9, σ1°61/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.30**	**158**	P	**P**	**21 35 44.5**	**+2.2**
VNA3	**Neumayer Olymp**	**16.50**	**160**	P	**Pn**	**21 35 43.4**	**-0.2**
VNA2	**Neumayer--Watz**	**16.70**	**157**	P	**Pn**	**21 35 46.0**	**-0.2**
	baz=315,slow=13						
SNAA	**Sanae**	**18.26**	**156**	P	**P**	**21 36 02.6**	**-1.3**
PMSA	**Palmer Station**	**19.64**	**230**	P	**P**	**21 36 18.6**	**-0.2**
	0.4nm,0.3s,baz=77,slow=5.5,SNR=3.7						
VNDA	**Vanda**	**46.08**	**183**	P	**P**	**21 40 11.0**	**-0.7**
	1.2nm,0.7s,baz=181,slow=7.1,SNR=7.3						
LPAZ	**La Paz**	**50.73**	**305**	P	**P**	**21 40 48.3**	**-0.4**
	4.3nm,0.4s,baz=127,slow=4.8,SNR=22						
TORD	**Torodi Ar. Bea**	**73.45**	**29**	P	**P**	**21 43 19.1**	**-0.7**
	0.3nm,0.5s,baz=209,slow=7.3,SNR=4.2						
ILAR	**Eielson Array**	**150.50**	**311**	PKPbc	**PKiKP**	**21 51 40.3**	**+2.7**
	0.4nm,0.5s,baz=139,slow=4.3,SNR=4.3						

IDC 05 21:32:30.1±4.9, 29.93°S×178.55W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/22, mbtmp3.5/2, Error ellipse: s-maj=239.9km s-min=75.8km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.66**	**267**	P	P	21 40 28.1	-0.7
	0.2nm,0.4s,baz=106,slow=7.5,SNR=4.6						
WRA	**Warramunga Arr**	**43.61**	**272**	P	P	21 40 36.8	+0.3
	0.5nm,0.4s,baz=112,slow=7.9,SNR=12						
FINES	**FINESS Array B**	**144.54**	**340**	PKP	PKPbc	21 52 07.1	+0.6
	1.2nm,0.7s,baz=54,slow=2.6,SNR=5.0						

*SJA **05** 21:33:00.7±0.7, 20.27°S×68.84W, h126km±3km, ML4.1, MW4.0*
*VAO **05** 21:33:00.0±0.7, 20.07°S×68.75W, h115km±7km, mb4.1*
*NEIC **05** 21:33:00.3±1.9, 20.27°S±0.04°×68.70W±0.09, h122km±6km, Error ellipse: s-maj=12.1km s-min=6.5km az=89.0*
*GUC **05** 21:33:01.1±0.7, 20.26°S×68.78W, h116km±3km, ML4.1*
*IDC **05** 21:33:02.0±0.9, 20.29°S×68.43W, h127km±9km, mb3.7/5, mb1 3.8/10, mb1mx3.6/33, mbtmp4.2/10, Error ellipse: s-maj=21.2km s-min=9.0km az=100.0*

ISC 05 21:33:00.3±0.6, 20.26°S±0.03°×68.78W±0.04, h123km±5km, n112, σ1°62/149, mb4.2/5, 9C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.37**	**288**	*eP*	**Pn**	**21 33 19.1**	**+0.7**
PB08				*eS*	**Sn**	**21 33 32.4**	**+0.5**
PB08	**IPOC Station P**	**0.37**	**288**		**Pn**	**21 33 19.1**	**+0.7**
PB08	**IPOC Station P**	**0.37**	**288**	*eS*	**Sn**	**21 33 33.0**	**+1.1**
PB08				IAML		21 33 35.8	
	comp=Z,4μm,0.7s						
GO01	**Chusmiza**	**0.71**	**326**	*eP*	**Pn**	**21 33 21.1**	**+0.6**
GO01				*eS*	**Sn**	**21 33 36.2**	**+0.3**
GO01				IAML		21 33 36.9	
	comp=E,6μm,0.4s						
GO01	**Chusmiza**	**0.71**	**326**		**Pn**	**21 33 21.0**	**+0.4**
PB11	**IPOC Station P**	**0.96**	**301**	*iP*	**Pn**	**21 33 23.2**	**+0.8**
PB11				*eS*	**Sn**	**21 33 39.6**	**+0.6**
PB11				IAML		21 33 40.9	
	comp=E,9μm,0.2s						
PB11	**IPOC Station P**	**0.96**	**301**	Pn	**Pn**	**21 33 23.2**	**+0.8**
PB11	**IPOC Station P**	**0.96**	**301**	*eP*	**Pn**	**21 33 23.2**	**+0.8**
PB11				*eS*	**Sn**	**21 33 40.4**	**+1.4**
PB11				IAML		21 33 41.1	
	comp=Z,3μm,0.3s						
PB01	**IPOC Station P**	**1.02**	**220**	*iP*	**Pn**	**21 33 23.9**	**+0.9**
PB01				*eS*	**Sn**	**21 33 40.9**	**+0.8**
PB01				IAML		21 33 41.8	
	comp=N,9μm,0.4s						
PB01	**IPOC Station P**	**1.02**	**220**		**Pn**	**21 33 23.2**	**+0.3**
PB01	**IPOC Station P**	**1.02**	**220**	*eP*	**Pn**	**21 33 23.8**	**+0.9**
PB01				*eS*	**Sn**	**21 33 41.2**	**+1.2**
PB01				IAML		21 33 41.7	
	comp=Z,3μm,0.2s						
TA02	**Huaiquique**	**1.27**	**269**	*iP*	**Pn**	**21 33 26.2**	**+0.9**
TA02				*eS*	**Sn**	**21 33 45.6**	**+1.3**
TA02				IAML		21 33 48.6	
	comp=N,7μm,0.1s						
TA01	**Diego Aracena**	**1.35**	**257**	*iP*	**Pn**	**21 33 26.8**	**+0.6**
TA01				*eS*	**Sn**	**21 33 46.6**	**+0.7**
TA01	**Diego Aracena**	**1.35**	**257**		**Pn**	**21 33 26.8**	**+0.6**
MNMC	**Minye Minye**	**1.36**	**325**	*eP*	**Pn**	**21 33 28.0**	**+1.3**
MNMC				*eS*	**Sn**	**21 33 48.3**	**+1.6**
MNMC	**Minye Minye**	**1.36**	**325**		**Pn**	**21 33 28.0**	**+1.3**
MNMCX	**Minye Minye**	**1.36**	**325**	*eP*	**Pn**	**21 33 28.0**	**+1.3**
MNMCX				*eP*	**Pn**	**21 33 28.0**	**+1.3**
MNMCX				*eP*	**Pn**	**21 33 28.1**	**+1.4**
MNMCX				*eP*	**Pn**	**21 33 28.2**	**+1.5**
MNMCX				*eS*	**Sn**	**21 33 48.5**	**+1.9**
PATCX	**Punta Patache**	**1.40**	**246**	*iP*	**Pn**	**21 33 27.8**	**+0.9**
PATCX				*eS*	**Sn**	**21 33 48.5**	**+1.4**
PATCX				IAML		21 33 57.3	
	comp=E,2μm,0.4s						
PATCX	**Punta Patache**	**1.40**	**246**		**Pn**	**21 33 27.8**	**+0.9**
PATCX	**Punta Patache**	**1.40**	**246**	*eP*	**Pn**	**21 33 27.8**	**+0.9**
PATCX				*eP*	**Pn**	**21 33 27.9**	**+1.0**
PATCX				*eP*	**Pn**	**21 33 28.0**	**+1.0**
PSGC	**Pisagua**	**1.43**	**297**	*iP*	**Pn**	**21 33 27.9**	**+0.8**
PSGC				*eS*	**Sn**	**21 33 47.9**	**+0.3**
PSGC				IAML		21 33 49.7	
	comp=E,2μm,0.4s						
PSGCX	**Pisagua**	**1.43**	**297**		**Pn**	**21 33 27.8**	**+0.7**
PSGCX	**Pisagua**	**1.43**	**297**	*eP*	**Pn**	**21 33 27.8**	**+0.7**
PSGCX				*eP*	**Pn**	**21 33 27.9**	**+0.7**
PSGCX				*eP*	**Pn**	**21 33 28.0**	**+0.8**
PSGCX				*eS*	**Sn**	**21 33 48.3**	**+0.7**
PB09	**IPOC Station P**	**1.59**	**196**	*iP*	**Pn**	**21 33 30.7**	**+1.5**
PB09				*eS*	**Sn**	**21 33 52.7**	**+1.6**
PB09				IAML		21 33 55.1	
	comp=N,2μm,0.4s						
PB09				IAML		21 33 55.4	
	comp=E,2μm,0.6s						
PB09	**IPOC Station P**	**1.59**	**196**	Pn	**Pn**	**21 33 30.5**	**+1.4**
PB09	**IPOC Station P**	**1.59**	**196**	*eP*	**Pn**	**21 33 30.6**	**+1.4**
PB09				*eS*	**Sn**	**21 33 53.3**	**+2.2**
PB09				IAML		21 33 56.2	
	comp=Z,1μm,0.5s						
PB07	**IPOC Station P**	**1.79**	**215**	*iP*	**Pn**	**21 33 32.3**	**+0.7**
PB07				*i S*	**Sn**	**21 33 55.5**	**+0.2**
PB07				IAML		21 34 00.4	
	comp=N,2μm,0.5s						
PB07	**IPOC Station P**	**1.79**	**215**		**Pn**	**21 33 32.0**	**+0.5**
PB07	**IPOC Station P**	**1.79**	**215**	*eP*	**Pn**	**21 33 32.2**	**+0.7**
PB07				*eS*	**Sn**	**21 33 56.1**	**+0.8**
PB07				IAML		21 33 59.4	
	comp=Z,2μm,0.4s						
PB03	**IPOC Station P**	**2.00**	**207**	IAML		21 34 10.2	
	comp=E,2μm,0.4s						
PB03	**IPOC Station P**	**2.00**	**207**	*eP*	**Pn**	**21 33 34.9**	**+0.8**
PB03				*eS*	**Sn**	**21 34 00.4**	**+0.6**
PB03				IAML		21 34 06.4	
	comp=Z,1μm,0.5s						
PB16	**IPOC Station P**	**2.03**	**340**	*iP*	**Pn**	**21 33 36.8**	**+1.9**
PB16				*i S*	**Sn**	**21 34 04.1**	**+2.8**
PB16	**IPOC Station P**	**2.03**	**340**		**Pn**	**21 33 36.7**	**+1.9**
PB16	**IPOC Station P**	**2.03**	**340**	*eP*	**Pn**	**21 33 36.8**	**+1.9**
PB16				*eS*	**Sn**	**21 34 04.4**	**+3.1**
PB12	**IPOC Station P**	**2.19**	**318**	*iP*	**Pn**	**21 33 37.1**	**+0.7**
PB12				*i S*	**Sn**	**21 34 04.1**	**0.0**
PB12				IAML		21 34 15.8	
	comp=E,1μm,0.4s						
PB12	**IPOC Station P**	**2.19**	**318**		**Pn**	**21 33 37.1**	**+0.7**
PB12	**IPOC Station P**	**2.19**	**318**	*eP*	**Pn**	**21 33 37.2**	**+0.7**
PB12				*eS*	**Sn**	**21 34 05.0**	**+0.9**
PB12				IAML		21 34 09.9	
	comp=Z,551nm,0.8s						
LVC	**Limon Verde**	**2.34**	**183**	P	**Pn**	**21 33 40.2**	**+1.7**
	comp=Z,24nm,0.3s,baz=22,slow=12,SNR=46						
LVC				S	**Sn**	**21 34 10.6**	**+2.7**
	comp=Z,28nm,0.3s,baz=347,slow=18,SNR=12						
LVC	**Limon Verde**	**2.34**	**183**	*eP*	**Pn**	**21 33 40.2**	**+1.7**
LVC				*i S*	**Sn**	**21 34 09.8**	**+2.0**
LVC	**Limon Verde**	**2.34**	**183**	*eP*	**Pn**	**21 33 40.3**	**+1.7**
LVC	**Limon Verde**	**2.34**	**183**	*eP*	**Pn**	**21 33 40.2**	**+1.7**
LVC				*eS*	**Sn**	**21 34 09.9**	**+2.0**
AP01	**Chacalluta**	**2.39**	**322**	Pn	**Pn**	**21 33 38.7**	**-0.1**
PB04	**IPOC Station P**	**2.43**	**212**	*eP*	**Pn**	**21 33 40.7**	**+1.3**
PB04				*i S*	**Sn**	**21 34 08.8**	**-0.7**
PB04				IAML		21 34 18.9	
	comp=E,1μm,0.2s						
PB04	**IPOC Station P**	**2.43**	**212**		**Pn**	**21 33 40.7**	**+1.3**
PB04	**IPOC Station P**	**2.43**	**212**	*eP*	**Pn**	**21 33 40.8**	**+1.4**
PB04				*eS*	**Sn**	**21 34 09.7**	**+0.2**
PB04				IAML		21 34 19.1	
	comp=Z,1μm,0.3s						
PB06	**IPOC Station P**	**2.54**	**197**	*eP*	**Pn**	**21 33 42.2**	**+1.3**
PB06				*i S*	**Sn**	**21 34 10.2**	**-2.0**
PB06				IAML		21 34 20.9	
	comp=N,971nm,0.7s						
PB06	**IPOC Station P**	**2.54**	**197**		**Pn**	**21 33 42.1**	**+1.1**
PB06	**IPOC Station P**	**2.54**	**197**	*eP*	**Pn**	**21 33 42.4**	**+1.5**
PB06				*eS*	**Sn**	**21 34 12.7**	**+0.5**
PB06				IAML		21 34 21.1	
	comp=Z,696nm,0.2s						
PB05	**IPOC Station P**	**2.90**	**207**	*eP*	**Pn**	**21 33 46.4**	**+0.8**
PB05	**IPOC Station P**	**2.90**	**207**	*eP*	**Pn**	**21 33 46.4**	**+0.8**
PB05				*eS*	**Sn**	**21 34 27.7**	**+7.4**
PB05				IAML		21 34 30.5	
	comp=Z,487nm,0.7s						
PB15	**IPOC Station P**	**3.00**	**192**	*eP*	**Pn**	**21 33 49.1**	**+2.2**
YJA	**Yavi**	**3.59**	**123**	*eP*	**Pn**	**21 33 57.3**	**+2.4**
YJA				*eS*	**Sn**	**21 34 40.1**	**+3.0**
PB10	**IPOC Station P**	**3.63**	**207**		**Pn**	**21 33 54.9**	**-0.2**
PB10	**IPOC Station P**	**3.63**	**207**	*eP*	**Pn**	**21 33 55.2**	**+0.2**
PB10				*eS*	Sn	21 34 49.8	+12
PB10				IAML		21 34 52.7	
	comp=Z,256nm,0.3s						
LPAZ	**La Paz**	**4.00**	**9**	P	**Pn**	**21 34 03.4**	**+2.8**
	comp=Z,7.3nm,0.3s,baz=187,slow=5.0,SNR=118						
LPAZ				S	**Sn**	**21 34 49.5**	**+2.5**
	baz=36,slow=18,SNR=1.2						
LPAZ	**La Paz**	**4.00**	**9**		**Pn**	**21 34 02.8**	**+2.3**
PB14	**IPOC Station P**	**4.60**	**199**	Pn	**Pn**	**21 34 08.2**	**0.0**
PB14	**IPOC Station P**	**4.60**	**199**	*eP*	**Pn**	**21 34 11.2**	**+3.0**
PB14				*eS*	**Sn**	**21 35 00.4**	**-0.5**
PB14				IAML		21 35 13.6	
	comp=Z,214nm,0.8s						
GO02	**Mina Guanaco**	**4.94**	**189**	Pn	**Pn**	**21 34 12.5**	**-0.2**
AZAP	**Zapla**	**5.23**	**140**	*eP*	**Pn**	**21 34 16.9**	**+0.3**
AZAP				*eS*	**Sn**	**21 35 18.4**	**+2.3**
AC01	**Pan de Azucar**	**6.09**	**196**	Pn	**Pn**	**21 34 26.1**	**-2.0**
AC02	**Maricunga**	**6.55**	**183**		**Pn**	**21 34 33.2**	**-1.5**
AHML	**Horco Molle**	**7.22**	**155**	*eP*	**Pn**	**21 34 44.4**	**+1.1**
GO03	**Copiap**	**7.42**	**190**	Pn	**Pn**	**21 34 43.1**	**-2.9**
GO03	**Copiap**	**7.42**	**190**	*eP*	**Pn**	**21 34 47.1**	**+1.1**
GO03				*eS*	**Sn**	**21 36 04.0**	**-4.7**
AC04	**Llanos de Chal**	**8.18**	**194**	Pn	**Pn**	**21 34 52.1**	**-4.1**
SIV	**San Ignacio**	**8.47**	**61**	P	**Pn**	**21 34 57.5**	**-2.7**
	comp=Z,4.1nm,0.3s,baz=258,slow=11,SNR=102						
AGUA	**GUANDACOL**	**9.19**	**178**	*eP*	**Pn**	**21 35 08.6**	**-1.3**
AGUA				IAML		21 36 58.5	
	comp=Z,16nm,3.6s						
ACLC	**CERRO LA CRUZ**	**9.28**	**170**	*eP*	**Pn**	**21 35 11.3**	**+0.2**
ACLC				IAML		21 37 29.0	
	comp=Z,9.3nm,4.2s						
GO04	**Tololo Observa**	**10.04**	**190**	Pn	**Pn**	**21 35 18.3**	**-3.2**
PTLB	**Pontes e Lacer**	**10.35**	**64**	*eP*	**Pn**	**21 35 23.1**	**-2.4**
VILB	**Vilhena**	**10.97**	**50**	*eP*	**Pn**	**21 35 31.7**	**-2.2**
CPUP	**Villa Florida**	**12.13**	**122**	P	**Pn**	**21 35 46.4**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=306,slow=13,SNR=8.2						
CPUP	**Villa Florida**	**12.13**	**122**		**Pn**	**21 35 47.7**	**-1.5**
SAML	**Samuel**	**12.48**	**26**	Pn	**Pn**	**21 35 52.2**	**-1.5**
SAML	**Samuel**	**12.48**	**26**	*eP*	**Pn**	**21 35 50.4**	**-3.4**
SALV	**Santo Antonio**	**13.18**	**73**	*eP*	**Pn**	**21 36 01.8**	**-1.0**
BO01	**Tunca**	**14.22**	**188**	P	**P**	**21 36 22.2**	**+2.4**
TRCB	**Terra Rica**	**15.23**	**102**	*eP*	**P**	**21 36 31.0**	**-0.1**
CLDB	**Colider**	**15.60**	**55**	*eP*	**Pn**	**21 36 32.8**	**-0.8**
ITAB	**Concordia**	**16.74**	**118**	*eP*	**Pn**	**21 36 46.9**	**-0.6**
ARAG

JWY				S	Sg	21 38 02.5	-0.7
MAT	**Matsushiro**	**2.65**	**56**	S	Pb	21 38 20.4	-2.5
MAT	**Matsushiro**	**2.65**	**56**	P	Pn	21 38 15.1	-2.9

*MDD **05** 22:13:20.8±0.9, 36°.98N×3°.22E, h0km, mb3.6/7, Error ellipse: s-maj=16.6km s-min=7.6km az=68.0, PRXIMO*
*CRAAG **05** 22:13:20.6, 36°.85N×3°.05E, Ml2.9*
ISC 05 22:13:20.1±1.2, 37°.01N±0°.06×3°.23E±0°.07, h12km, n11, σ1s63/18, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADJB	**Djebel Djouab**	**0.86**	**169**	P	**Pg**	**22 13 36.1**	**-0.7**
ADJB	**Djebel Djouab**	**0.86**	**169**	P	**Pg**	**22 13 36.1**	**-0.7**
EIBI	**Ibiza**	**2.51**	**324**	P	**Pn**	**22 14 01.7**	**+1.0**
	1.8nm,0.1s,SNR=6.2						
EIBI				S	**Sn**	**22 14 29.7**	**-1.5**
	2.4nm,0.2s,SNR=6.7						
ETOS	**Mallorca**	**2.78**	**353**	P	**Pn**	**22 14 05.6**	**+1.1**
	1.8nm,0.1s,SNR=16						
ETOS				S	**Sn**	**22 14 35.8**	**-2.1**
	0.9nm,0.2s,SNR=7.9						
EBEN2	**Beniarda presa**	**3.18**	**303**	S	**Sn**	**22 14 46.4**	**-1.4**
	1.2nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.12**	**295**	P	**Pn**	**22 14 24.3**	**+1.3**
	0.7nm,0.2s,SNR=8.6						
ETOB				S	**Sn**	**22 15 09.4**	**-1.7**
	0.4nm,0.3s,SNR=7.9						
ECHE	**Chera**	**4.19**	**309**	P	**Pn**	**22 14 25.7**	**+1.8**
	0.8nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.43**	**320**	P	**Pn**	**22 14 28.8**	**+1.5**
	0.2nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**22 15 17.2**	**-1.7**
	0.5nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**4.79**	**353**	P	**Pn**	**22 14 33.3**	**+1.1**
	1.1nm,0.1s,SNR=8.4						
CFON				S	**Sn**	**22 15 25.3**	**-2.3**
	1.5nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.08**	**281**	P	**Pn**	**22 14 37.6**	**+1.5**
	0.4nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**22 15 35.0**	**+0.3**
	0.3nm,0.3s,SNR=7.9						
SJAF	**Saint Jean de**	**5.48**	**357**	P	**Pn**	**22 14 43.8**	**+2.2**
	0.5nm,0.1s,SNR=7.9						
SJAF				S	**Sn**	**22 15 45.3**	**+0.8**
	0.5nm,0.3s,SNR=7.9						

*IDC **05** 22:14:15.2±2.4, 15°.56N×60°.85W, h0km, mb3.1/3, mb1 3.6/3, mb1mx3.3/39, mbtmp3.1/3, Error ellipse: s-maj=82.9km s-min=13.6km az=81.0*
*TRN **05** 22:14:17.9, 15°.56N×60°.88W, h28km, MD3.9*
ISC 05 22:14:18.9±1.3, 15°.55N±0°.02×60°.89W±0°.05, h20km±7km, n44, σ0s86/74, mb3.2/3, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLPL	**La Plaine**	**0.41**	**237**	*e*P	**Pn**	**22 14 29.3**	**-0.4**
DLPL				*e*S	**Sn**	**22 14 36.7**	**-0.1**
DSLB	**Salisbury**	**0.52**	**257**	*e*P	**Pn**	**22 14 31.1**	**-0.1**
DSLB				*e*S	**Sn**	**22 14 39.5**	**-0.1**
MDN	**Morne-Daniel**	**0.54**	**244**	*e*P	**Pn**	**22 14 31.1**	**-0.3**
MDN				*e*S	**Sn**	**22 14 39.9**	**0.0**
MAGL	**Barre de l'ile**	**0.54**	**316**	*i* P	**Pn**	**22 14 31.1**	**-0.5**
MAGL				*e*S	**Sn**	**22 14 39.7**	**-0.4**
SVN	**Savane Anatole**	**0.76**	**201**	*e*P	**Pg**	**22 14 33.8**	**-0.1**
DEG	**La Desirade**	**0.77**	**348**	*e*P	**Pg**	**22 14 34.0**	**-0.1**
DEG				*e*S	**Sn**	**22 14 45.2**	**-0.6**
TDBA	**Terre de Bas,**	**0.77**	**292**	*e*P	**Pn**	**22 14 34.9**	**+0.2**
TDBA				*e*S	**Sn**	**22 14 45.7**	**-0.1**
BAMF	**Morne Balai**	**0.77**	**199**	*e*P	**Pg**	**22 14 34.0**	**-0.2**
H05N1	**Guadeloupe/Mar**	**0.77**	**348**	Pn	**Pb**	**22 14 33.8**	**0.0**
H05N1				Sn	**Sg**	**22 14 45.0**	**+0.5**
ILAM	**Ilet Lapin Mar**	**0.78**	**179**	*e*P	**Pb**	**22 14 33.4**	**-0.3**
ILAM				*e*S	**Sb**	**22 14 43.6**	**-0.2**
TBG	**Guadaloupe-3**	**0.78**	**292**	*e*P	**Pn**	**22 14 34.9**	**+0.1**
TBG				*e*S	**Sn**	**22 14 46.2**	**+0.2**
CXM	**Morne La Croix**	**0.79**	**200**	*e*P	**Pg**	**22 14 34.2**	**-0.1**
PCM	**Pelee Case Pet**	**0.80**	**203**	*e*P	**Pb**	**22 14 34.1**	**+0.1**
PCM	**Pelee Case Pet**	**0.80**	**203**	*e*P	**Pb**	**22 14 34.2**	**+0.1**
GBMF	**Grand Be**	**0.80**	**199**	*e*P	**Pb**	**22 14 34.2**	**+0.1**
PML	**Morne Lenard**	**0.82**	**200**	*e*P	**Pb**	**22 14 34.5**	**0.0**
FDF	**Fort de France**	**0.85**	**197**	*i* P	**Pb**	**22 14 35.0**	**-0.2**
FDF				*e*S	**Sn**	**22 14 52.1**	**+4.2**
CBE	**Ff, Capester**	**0.86**	**307**	*e*P	**Pn**	**22 14 36.1**	**+0.2**
CBE				*e*S	**Sn**	**22 14 48.7**	**+0.8**
LPMF	**Morne Lapointe**	**0.98**	**184**	*e*P	**Pb**	**22 14 36.2**	**-1.0**
ZAM	**Aeronautique**	**0.98**	**188**	*e*P	**Pb**	**22 14 36.5**	**-0.9**
MVM	**Montagne Vaucl**	**0.99**	**180**	*e*P	**Pb**	**22 14 37.0**	**-0.5**
TRMF	**Trois Ilets**	**1.02**	**189**	*e*P	**Pb**	**22 14 37.2**	**-0.8**
BIM	**Bigot**	**1.04**	**189**	*e*P	**Pb**	**22 14 37.9**	**-0.5**
BIM				*e*S	**Sb**	**22 14 52.0**	**+0.3**
ABD	**La Joyeuse, An**	**1.08**	**328**	*e*P	**Pb**	**22 14 38.9**	**-0.1**
ABD				*e*S	**Sn**	**22 14 53.5**	**+0.1**
MPOM	**Morne Pois Mar**	**1.10**	**178**	*i* P	**Pn**	**22 14 38.6**	**-0.7**
MPOM				*e*S	**Sb**	**22 14 52.7**	**-0.6**
H05S1	**Guadeloupe/Mar**	**1.12**	**177**	Pn	**Pn**	**22 14 38.6**	**-0.9**
H05S1				Sn	**Sb**	**22 14 53.6**	**-0.3**
SLBI	**Saint Lucia, B**	**1.52**	**183**	*e*P	**Pn**	**22 14 44.8**	**-0.3**
SLBI				*e*S	**Sn**	**22 15 04.1**	**-0.3**
SLW	**Petit Monier**	**1.53**	**182**	*e*P	**Pn**	**22 14 46.5**	**-0.1**
SLW				*e*S	**Sb**	**22 15 05.1**	**-0.4**
SLAC	**Saint Lucia, A**	**1.65**	**180**	*e*P	**Pn**	**22 14 46.5**	**-0.3**
SLAC				*e*S	**Sn**	**22 15 08.2**	**+0.7**
SLPA	**Patience**	**1.69**	**181**	*e*P	**Pn**	**22 14 47.9**	**+0.5**
SLPA				*e*S	**Sn**	**22 15 09.4**	**+0.9**
MLYT	**Lee's Yard**	**1.70**	**313**	*e*P	**Pb**	**22 14 49.2**	**-0.4**
MLYT				*e*S	**Sn**	**22 15 08.0**	**-0.8**
SLB	**Belfond**	**1.72**	**185**	*e*P	**Pb**	**22 14 48.9**	**-1.0**
SLB				*e*S	**Sn**	**22 15 09.0**	**-0.3**
SLDE	**Delcer**	**1.75**	**185**	*e*P	**Pn**	**22 14 48.8**	**+0.6**
SLDE				*e*S	**Sn**	**22 15 09.3**	**-0.6**
MCLT	**Moule a Chique**	**1.83**	**181**	*e*P	**Pn**	**22 14 50.0**	**+0.7**
MCLT				*e*S	**Sn**	**22 15 12.4**	**+0.4**
SVV	**Soufriere Volc**	**2.25**	**188**	*e*P	**Pn**	**22 14 56.5**	**+1.5**
SVV				*e*S	**Sn**	**22 15 23.0**	**+0.9**
ANWB	**Willy Bob**	**2.27**	**338**	*e*P	**Pn**	**22 14 55.8**	**+0.5**
ANWB				*e*S	**Sn**	**22 15 24.0**	**+1.3**
SVCV	**St. Vincent, C**	**2.28**	**186**	*e*P	**Pn**	**22 14 55.9**	**+0.4**
SVCV				*e*S	**Sn**	**22 15 24.2**	**+1.1**
SVB	**Belmont**	**2.29**	**189**	*e*P	**Pn**	**22 14 55.9**	**+0.1**
SVB				*e*S	**Sn**	**22 15 23.8**	**+0.4**
SKI	**Saint Kitts**	**2.50**	**315**	*e*P	**Pn**	**22 15 00.2**	**+1.6**
SKI				*e*S	**Sn**	**22 15 30.3**	**+1.7**
GCMP	**Grenada, Carri**	**3.09**	**190**	*e*P	**Pn**	**22 15 07.6**	**+0.9**
GCMP				*e*S	**Sn**	**22 15 45.3**	**+2.2**
GRGR	**Grenville**	**3.48**	**192**	*e*P	**Pn**	**22 15 13.6**	**+1.6**
GRGR				*e*S	**Sn**	**22 15 52.2**	**-0.5**
TXAR	**Lajitas Array**	**41.61**	**297**	P	**P**	**22 22 05.7**	**-0.4**
	0.1nm,0.6s,baz=106,slow=9.5,SNR=1.6						
PDAR	**Pinedale Array**	**49.53**	**313**	P	**P**	**22 23 08.8**	**+0.1**
	0.2nm,0.5s,baz=96,slow=9.2,SNR=1.8						
NVAR	**Mina Array Bea**	**55.06**	**306**	P	**P**	**22 23 49.0**	**-0.8**
	0.1nm,0.4s,baz=107,slow=5.8,SNR=1.2						

*JMA **05** 22:26:00.4±0.1, 37°.37N×139°.66E, h126km±1km, M2.7*
*IDC **05** 22:26:01.8±3.9, 37°.30N×139°.50E, h141km±24km, mb3.1/3, mb1 3.3/3, mb1mx2.9/30, mbtmp3.5/3, Error ellipse: s-maj=62.5km s-min=21.9km az=58.0*
ISC 05 22:26:00.1±0.9, 37°.38N±0°.05×139°.66E±0°.07, h128km±6km, n21, σ0s48/28, mb3.5/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFY	**Yanaizu**	**0.05**	**51**	P	**Pn**	**22 26 17.6**	**+0.1**
JFY				*e*S	**Sn**	**22 26 30.7**	**0.0**
JNS	**Sasagawa**	**0.52**	**329**	P	**Pn**	**22 26 19.1**	**0.0**
JNS				*e*S	**Sn**	**22 26 32.9**	**-0.5**
JHK	**Hiroka**	**0.52**	**256**	P	**Pn**	**22 26 19.2**	**+0.1**
JHK				S	**Sn**	**22 26 33.3**	**-0.1**
JFT	**Otama**	**0.56**	**75**	P	**Pn**	**22 26 19.5**	**+0.1**
JKT	**Katashina**	**0.69**	**208**	P	**Pn**	**22 26 20.5**	**+0.1**
JIZZ	**Izumozaki**	**0.77**	**282**	P	**Pn**	**22 26 21.6**	**+0.8**
JAG	**Ashikaga**	**0.96**	**190**	P	**Pn**	**22 26 22.7**	**+0.2**
JAW	**Awa shima**	**1.13**	**344**	P	**Pn**	**22 26 24.5**	**+0.4**
JSD	**Sado**	**1.29**	**301**	P	**Pn**	**22 26 25.7**	**0.0**
JSD				S	**Sn**	**22 26 44.8**	**-0.4**
MJAR	**Matsushiro Arr**	**1.43**	**235**	P	**Pn**	**22 26 27.5**	**+0.2**
	2.0nm,0.3s,baz=45,slow=8.6,SNR=57						
MJAR				S	**Sn**	**22 26 48.6**	**+0.7**
	0.4nm,0.3s,baz=51,slow=28,SNR=7.7						
MAT	**Matsushiro**	**1.43**	**235**	P	**Pn**	**22 26 27.6**	**+0.3**
MAT				S	**Sn**	**22 26 48.9**	**+0.9**
MAT	**Matsushiro**	**1.43**	**235**	P	**Pn**	**22 26 27.6**	**+0.3**
JRY	**Ryogami san**	**1.48**	**204**	P	**Pn**	**22 26 28.3**	**+0.3**
JRY				S	**Sn**	**22 26 49.0**	**-0.1**
JYK	**Kaneyama**	**1.64**	**20**	P	**Pn**	**22 26 30.5**	**+0.9**
JSZ	**Suzu**	**1.83**	**273**	P	**Pn**	**22 26 31.9**	**+0.1**
JMK	**Ichinoseki**	**2.00**	**38**	P	**Pn**	**22 26 34.5**	**+0.6**
JYN	**Shimob**	**2.08**	**206**	P	**Pn**	**22 26 35.5**	**+0.5**
SONM	**Songino Array**	**26.43**	**304**	P	**P**	**22 31 24.5**	**-0.4**
	1.4nm,0.7s,baz=100,slow=9.0,SNR=7.9						
MKAR	**Makanchi Array**	**42.75**	**302**	P	**P**	**22 33 45.3**	**+0.7**
	0.2nm,0.6s,baz=89,slow=9.1,SNR=2.7						
WRA	**Warramunga Arr**	**57.23**	**186**	P	**P**	**22 35 33.4**	**-0.6**
	0.4nm,0.7s,baz=4.5,slow=7.7,SNR=1.5						
NB2	**NORSAR Subarra**	**73.32**	**337**	P	**P**	**22 37 17.0**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=40,slow=5.9						

*IDC **05** 22:33:52.6±1.0, 27°.09N×103°.58E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/37, mbtmp3.6/8, Error ellipse: s-maj=42.1km s-min=18.8km az=59.0*
ISC 05 22:33:54.6±0.6, 27°.25N±0°.03×103°.36E±0°.05, h10km, n14, σ1s45/26, mb3.8/7, 1C-1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.19**	**195**	*i* Pn	**Pn**	**22 34 31.3**	**0.0**
KMI				Pg	**Pg**	**22 34 36.1**	**-0.5**
KMI				Sn	**Sn**	**22 34 59.2**	**+0.6**
KMI				Sg	**Sb**	**22 35 02.5**	**+0.8**
KMI				smax	smax		
	comp=N,210nm,0.8s						
KMI				smax	smax		
	comp=E,370nm,0.9s						
GYA	**Guiyang**	**3.05**	**104**	⇓Pn	**Pn**	**22 34 44.5**	**+1.4**
GYA				Pg	**Pg**	**22 34 55.1**	**+2.0**
GYA				Sn	**Sn**	**22 35 18.6**	**-1.1**
GYA				Sg	**Sg**	**22 35 30.4**	**-2.3**
GYA				smax	smax		
	comp=N,270nm,0.8s						
GYA				smax	smax		
	comp=E,130nm,0.8s						
GYA				LR	LR		
	comp=N,940nm,3.9s						
GYA				LR	LR		
	comp=E,520nm,4.8s						
GYA				LR	LR		
	comp=Z,160nm,3.5s						
CD2	**Chengdu**	**3.67**	**5**	*e*Pn	**Pn**	**22 34 52.7**	**+1.3**
CD2				Pg	**Pg**	**22 35 03.7**	**-1.1**
CD2				Sn	**Sn**	**22 35 33.2**	**-1.5**
CD2				Sg	**Sg**	**22 35 53.9**	**+1.6**
CD2				smax	smax		
	comp=N,560nm,0.8s						
CD2				smax	smax		
	comp=E,890nm,0.7s						
XAN	**Xi'an**	**8.29**	**34**	Pn	**Pn**	**22 35 55.0**	**+0.1**
XAN				Pg	Pg	22 36 26.9	-6.4
XAN				Sn	**Sn**	**22 37 28.5**	**-0.2**
XAN				Sg	**Sg**	**22 38 19.7**	**-0.9**
XAN				smax	smax		
	comp=N,59nm,1.1s						
XAN				smax	smax		
	comp=E,89nm,1.1s						
WHN	**Wuhan**	**10.17**	**69**	P	**Pn**	**22 36 21.2**	**+0.5**
WHN				S	**Sn**	**22 38 16.1**	**+1.2**
SONM	**Songino Array**	**20.69**	**6**	P	**P**	**22 38 35.4**	**+0.5**
	comp=E,0.4nm,0.4s,baz=194,slow=12,SNR=2.2						
KSRS	**Korea Array**	**23.05**	**58**	P	**P**	**22 38 58.6**	**-1.5**
	comp=E,0.7nm,0.4s,baz=234,slow=9.4,SNR=2.0						
MKAR	**Makanchi Array**	**25.62**	**325**	P	**P**	**22 39 25.4**	**+1.2**
	comp=E,0.4nm,0.5s,baz=130,slow=11,SNR=8.0						
WRA	**Warramunga Arr**	**55.69**	**144**	P	**P**	**22 43 28.0**	**-3.3**
	comp=E,0.4nm,0.5s,baz=328,slow=8.7,SNR=9.6						
ASAR	**Alice Springs**	**58.58**	**147**	P	**P**	**22 43 50.7**	**-1.1**
	comp=E,0.6nm,0.6s,baz=330,slow=7.0,SNR=6.8						
FINES	**FINESS Array B**	**60.43**	**327**	P	**P**	**22 44 05.5**	**+1.5**
	comp=E,0.5nm,0.5s,baz=116,slow=8.7,SNR=5.1						
ARCES	**ARCESS Array B**	**60.52**	**337**	P	**P**	**22 44 06.2**	**+1.6**
	comp=E,2.0nm,0.9s,baz=94,slow=9.1,SNR=1.6						
NB2	**NORSAR Subarra**	**67.57**	**328**	P	**P**	**22 44 49.9**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=76,slow=6.5						
NOA	**NORSAR Array B**	**67.57**	**328**	P	**P**	**22 44 52.2**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=74,slow=6.3,SNR=3.7						

*IDC **05** 22:35:13.7±1.8, 5°.34S×68°.85E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/32, mbtmp3.7/6, MS3.5/2, Ms1 3.6/2, ms1mx3.0/34, Error ellipse: s-maj=62.0km s-min=28.0km az=53.0*
*NEIC **05** 22:35:14.5±1.7, 5°.5S±0°.1×68°.74E±0°.06, h10km±1km, mb4.1/11, Error ellipse: s-maj=24.7km s-min=4.5km az=201.0*
ISC 05 22:35:14.0±0.7, 5°.5S±0°.1×68°.8E±0°.1, h10km, n23, σ1s37/19, mb4.0/9, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGAR	**Diego Garcia**	**4.16**	**118**	Pn	**Pn**	**22 36 18.1**	**+0.5**
H08S3	**Diego Garcia H**	**4.29**	**120**	Pn	**Pn**	**22 36 19.5**	**+0.3**
	baz=320,slow=20,SNR=181						
H08S3				T	T	22 41 00.8	
	baz=311,slow=75,SNR=12						
H08S1	**Diego Carcia H**	**4.29**	**121**	Pn	**Pn**	**22 36 19.6**	**+0.4**
	baz=320,slow=20,SNR=161						
H08S1				T	T	22 41 01.2	
	baz=311,slow=75,SNR=11						
H08S2	**Diego Garcia H**	**4.31**	**121**	Pn	**Pn**	**22 36 19.9**	**+0.5**
	baz=320,slow=20,SNR=185						
H08S2				T	T	22 41 02.2	
	baz=311,slow=75,SNR=9.1						
RER	**Riviere de l'E**	**20.07**	**218**	P	**P**	**22 39 45.3**	**-2.5**
ATD	**Arta Tunnel**	**30.80**	**303**	P	**P**	**22 41 31.6**	**+1.2**
KMBO	**Kilima Mbogo**	**31.73**	**277**	P	**P**	**22 41 41.2**	**+2.5**
MBAR	**Mbarara**	**38.25**	**276**	P	**P**	**22 42 34.4**	**-0.6**
MBAR				IAmb	IAmb	22 43 42.9	
	comp=Z,3.2nm,1.1s						
KBL	**Kabul**	**39.78**	**0**	P	**P**	**22 42 44.3**	**-3.2**
KAPI	**Kappang**	**50.78**	**92**	LR	LR	23 04 03.2	
	comp=Z,84nm,18.5s,baz=68,slow=34						
MAKZ	**Makanchi**	**53.34**	**11**	P	**P**	**22 44 35.0**	**+1.5**
MAKZ				IAmb	IAmb	22 44 57.9	
	comp=Z,4.0nm,1.4s						
MK31	**Makanchi Array**	**53.39**	**12**	P	**P**	**22 44 34.6**	**+0.7**
MKAR	**Makanchi Array**	**53.39**	**12**	P	**P**	**22 44 33.6**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=189,slow=7.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**60.71**	**11**	P	**P**	**22 45 25.4**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=166,slow=8.5,SNR=2.6						
SONM	**Songino Array**	**62.53**	**28**	P	**P**	**22 45 38.6**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=223,slow=7.9,SNR=2.7						
SONM	**Songino Array**	**62.53**	**28**	IAmb	IAmb	22 45 45.2	
	comp=Z,0.9nm,1.1s						
ASAR	**Alice Springs**	**65.09**	**113**	P	**P**	**22 45 56.0**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=280,slow=6.1,SNR=5.9						
AS31	**Alice Springs**	**65.09**	**113**	P	**P**	**22 45 54.8**	**-0.6**
AS31				IAmb	IAmb	22 45 55.7	
	comp=Z,1.9nm,1.2s						
WRA	**Warramunga Arr**	**65.22**	**109**	P	**P**	**22 45 57.1**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=283,slow=6.0,SNR=6.9						
WRA	**Warramunga Arr**	**65.22**	**109**	IAmb	IAmb	22 45 58.1	
	comp=Z,0.2nm,1.0s						
NOA	**NORSAR Array B**	**79.77**	**335**	LR	LR	23 22 44.9	
	comp=Z,16nm,18.2s,baz=130,slow=36						
ESDC	**Sonseca Array**	**80.31**	**312**	P	**P**	**22 47 26.2**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=128,slow=5.7,SNR=2.0						
NVAR	**Mina Array Bea**	**146.56**	**10**	PKPbc	**PKiKP**	**22 54 59.0**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=321,slow=1.3,SNR=3.8						

*SOME **05** 22:41:17.1, 39°.20N×69°.95E, h15km*
*NNC **05** 22:41:18.7±6.5, 39°.47N×68°.14E, h0km±32km, mb2.9, mpv3.3, Error ellipse: s-maj=43.1km s-min=30.1km az=26.0*
*ISU **05** 22:41:22.0, 39°.40N×68°.10E, h5km*
ISC 05 22:41:18.2±1.5, 39°.48N±0°.06×68°.29E±0°.05, h0km±13km, n11, σ1s86/19, 2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZI	**Dzhizak**	**0.74**	**331**	*e*P	**Pn**	**22 41 35.9**	**+0.1**
DZI				*e*S	**Sn**	**22 41 46.5**	**-1.3**
KTAB	**Kitab**	**1.14**	**253**	*e*P	**Pn**	**22 41 40.7**	**-0.7**
KTAB				*e*S	**Sg**	**22 41 56.0**	**+1.1**
PKMR	**Pachkamar**	**1.75**	**238**	*e*P	**Pb**	**22 41 50.1**	**-1.1**
PKMR				*e*S	**Sg**	**22 42 15.7**	**+1.3**
NUT	**Nurota**	**2.28**	**299**	*e*P	**Pg**	**22 42 02.2**	**+0.4**
NUT				*e*S	**Sg**	**22 42 34.7**	**+3.4**
IUG	**Iuzhnay**	**2.98**	**26**	*e*P	**Pg**	**22 42 14.3**	**-0.9**
	9.4nm,0.3s						
IUG				*e*S	**Sg**	**22 42 55.7**	**+1.9**
	37nm,0.4s						
IUG	**Iuzhnay**	**2.98**	**26**	Pg	**Pg**	**22 42 14.0**	**-1.2**
	9.2nm,0.2s						
IUG				Lg	Lg	22 42 55.6	
	41nm,0.5s						
BRLS	**Borolday**	**3.74**	**18**	*e*P	**Pb**	**22 42 22.9**	**-2.1**
	3.1nm,0.3s						
BRLS				*e*S	**Sb**	**22 43 10.9**	**+0.1**
	23nm,0.3s						
BRLS	**Borolday**	**3.74**	**18**	Pg	**Pb**	**22 42 22.9**	**-2.1**
	3.1nm,0.3s						
BRLS				Lg	Lg	22 43 10.9	
	23nm,0.3s						
KK31	**Karatay Array**	**3.99**	**24**	⇓Pn	**Pn**	**22 42 22.0**	**+1.4**
	0.1nm,0.2s,baz=210,slow=14,SNR=15						
KK31				Pg	**Pg**	**22 42 32.5**	**-2.1**
	0.9nm,0.3s,baz=201,slow=16,SNR=15						
KK31				⇓Lg	Lg	22 43 26.2	
	14nm,0.7s,baz=208,slow=29						
MRKS	**Merke**	**4.96**	**47**	*e*P	**Pn**	**22 42 36.3**	**+2.4**
	4.2nm,0.2s						
MRKS				*e*S	**Sn**	**22 43 33.2**	**+1.2**
	4.5nm,0.3s						
MRKS	**Merke**	**4.96**	**47**	Pg	**Pn**	**22 42 36.3**	**+2.4**
	4.2nm,0.2s						
MRKS				Lg	Lg	22 43 33.2	
	4.5nm,0.3s						

*NNC **05** 22:48:03.0±0.8, 42°.59N×79°.63E, h0km, mb3.4, mpv2.8, Error ellipse: s-maj=5.1km s-min=3.4km az=142.0*
*SOME **05** 22:48:03.0, 42°.55N×79°.58E, h10km*
*KRNET **05** 22:48:05.7±0.1, 42°.27N×79°.54E, h20km, mb2.1*
ISC 05 22:48:02.5±1.5, 42°.55N±0°.05×79°.65E±0°.04, h11km±11km, n23, σ0s92/43, 7C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.62**	**348**	*e*P	**Pb**	**22 48 15.5**	**0.0**
	8.4nm,0.1s						
SHLS				*e*S	**Sb**	**22 48 24.5**	**+0.2**
	78nm,0.2s						
SHLS	**Shalkode**	**0.62**	**348**	P	**Pb**	**22 48 15.5**	**0.0**
	8.4nm,0.1s						
SHLS				S	**Sb**	**22 48 24.4**	**+0.2**
	78nm,0.2s						
UZB	**Uzynbulak**	**0.75**	**323**	*e*P	**Pg**	**22 48 17.2**	**+0.1**
	6.8nm,0.1s						
UZB				*e*S	**Sb**	**22 48 27.4**	**-0.7**
	4.2nm,0.2s						
UZB	**Uzynbulak**	**0.75**	**323**	P	**Pg**	**22 48 17.2**	**+0.1**
	6.8nm,0.1s						
UZB				S	**Sb**	**22 48 27.4**	**-0.7**
	4.2nm,0.2s						
PDGK	**Podgornoye**	**0.79**	**352**	P	**Pg**	**22 48 17.6**	**-0.2**
	1.0nm,0.1s						
PDGK				S	**Sg**	**22 48 28.1**	**0.0**
	2.5nm,0.2s						
PDGK	**Podgornoye**	**0.79**	**352**	⇓P	**Pg**	**22 48 17.4**	**-0.4**
	1.3nm,0.4s						
PDGK				⇑S	**Sg**	**22 48 28.0**	**-0.1**
	1.3nm,0.2s						
PRZ	**Przheval'sk**	**0.92**	**266**	⇓*e*P	**Pn**	**22 48 22.3**	**+0.7**
	baz=85						
PRZ				⇓*i*S	**Sn**	**22 48 33.9**	**-1.1**
	baz=85						
KTMS	**Ketmen**	**1.03**	**30**	*e*P	**Pg**	**22 48 22.1**	**-0.4**
	1.3nm,0.1s						
KTMS				*e*S	**Sg**	**22 48 35.6**	**-0.4**
	3.3nm,0.2s						
KTMS	**Ketmen**	**1.03**	**30**	P	**Pg**	**22 48 22.1**	**-0.4**
	1.3nm,0.1s						
KTMS				S	**Sg**	**22 48 35.6**	**-0.4**
	3.3nm,0.2s						
SATY	**Saty**	**1.04**	**300**	*e*P	**Pg**	**22 48 22.2**	**-0.5**
	1.0nm,0.1s						
SATY				*e*S	**Sb**	**22 48 36.5**	**0.0**
	12nm,0.1s						
SATY	**Saty**	**1.04**	**300**	P	**Pg**	**22 48 22.2**	**-0.5**
	1.0nm,0.1s						
SATY				S	**Sb**	**22 48 36.5**	**0.0**
	12nm,0.1s						
ANVS	**Anan'yevo**	**1.48**	**280**	⇑*i*P	**Pg**	**22 48 33.0**	**+2.1**
	baz=91						
ANVS				⇑*i*S	**Sg**	**22 48 52.9**	**+2.8**
	baz=91						
TARG	**Taragay, Kyrgy**	**1.60**	**240**	⇓*i*P	**

JAGI	**Jajag, Banyuwa**	**5.24**	**94**	P		**Pn**	**23 02 07.6**	**+1.9**
	0.4nm47nm,1.5s								
MDSI	**Maura Dua**	**5.89**	**307**	P		**Pn**	**23 02 16.8**	**+2.2**
	0.1nm28nm,0.7s								
KSI	**Kapahiang**	**7.66**	**305**	P		**Pn**	**23 02 40.0**	**+1.3**
TWSI	**Taliwang, Sumb**	**7.95**	**95**	P		**Pn**	**23 02 43.6**	**+1.0**
GSI	**Gunungsitoli**	**14.64**	**309**			Pn	23 04 06.9	-5.1
FITZ	**Fitzroy Crossi**	**19.09**	**123**	P		**P**	**23 05 04.9**	**+0.2**
	0.2nm,0.3s,baz=293,slow=4.6,SNR=5.6								
FITZ				S		S	23 08 25.2	-11	
	0.1nm,0.3s,baz=147,slow=9.3,SNR=2.0								
WRA	**Warramunga Arr**	**27.32**	**118**	P		**P**	**23 06 24.4**	**-1.0**
	1.0nm,0.7s,baz=293,slow=12,SNR=5.4								
WRA	**Warramunga Arr**	**27.32**	**118**	IAmb		IAmb	23 06 25.2		
	comp=Z,0.3nm,1.1s								
ASAR	**Alice Springs**	**28.54**	**126**	P		**P**	**23 06 36.6**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=301,slow=8.6,SNR=12								
STKA	**Stephens Creek**	**38.52**	**132**	P		**P**	**23 08 03.0**	**+0.4**
	comp=Z,6.9nm,0.4s,baz=313,slow=7.0,SNR=26								
STKA	**Stephens Creek**	**38.52**	**132**	IAmb		IAmb	23 08 03.4		
	comp=Z,1.6nm,0.5s								
MKAR	**Makanchi Array**	**59.57**	**339**	P		**P**	**23 10 38.8**	**-4.1**
	comp=Z,0.5nm,0.4s,baz=157,slow=7.7,SNR=9.9								
ZALV	**Zalesovo Beam**	**65.08**	**345**	P		**P**	**23 11 15.1**	**-4.3**
	comp=Z,0.5nm,0.3s,baz=145,slow=5.3,SNR=2.5								

*IDC **05** 23:12:39.6±2.4, 28°.61N×52°.79E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/27, mbtmp3.7/5, MS2.8/1, Ms1 2.9/1, ms1mx2.5/30, Error ellipse: s-maj=75.2km s-min=27.0km az=155.0*
*TEH **05** 23:12:40.8, 28°.49N×53°.13E, h12km, ML3.5*
*THR **05** 23:12:45.6±0.4, 28°.32N×52°.84E, h14km±18km, ML3.1*
ISC 05 23:12:41.0±0.8, 28°.51N±0°.04×53°.05E±0°.04, h10km, n32, σ1§45/31, mb3.8/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHRM	**Jahrom**	**0.46**	**91**	*e*Pg	**Pg**	**23 12 47.8**	**-2.3**
JHRM				*e*		23 13 00.5	
LMD1	**Lamerd**	**1.17**	**175**	*e*Pg	**Pb**	**23 13 02.7**	**-0.7**
SHI	**Shiraz**	**1.22**	**337**	*e*		23 13 32.2	
SHI				*e*Pg	**Pb**	**23 13 04.1**	**-0.2**
LAR1	**LAR**	**1.44**	**125**	*e*Pg	**Pn**	**23 13 07.4**	**+0.1**
AHBU	**AHRAM**	**1.58**	**283**	*e*Pg	**Pg**	**23 13 12.2**	**+0.8**
KAZ1	**Kazerun**	**1.66**	**312**	*e*Pn	**Pb**	**23 13 11.6**	**-0.2**
KAZ1				*e*		23 13 45.6	
KLNJ	**Kolanjah**	**2.79**	**333**	*e*Pn	**Pn**	**23 13 26.7**	**+0.6**
BNDS	**Bandar-Abbas**	**2.97**	**111**	*e*Pn	**Pb**	**23 13 36.2**	**+1.9**
BNDS				IAML		23 14 33.7	
	comp=N,84nm,0.5s						
IMEH	**Mehriz**	**3.17**	**25**	*e*Pn	**Pn**	**23 13 32.4**	**+1.1**
IRAM	**Ramesheh**	**3.34**	**350**	*e*Pn	**Pn**	**23 13 34.6**	**+1.1**
NGRK	**Negar Kerman**	**3.41**	**70**	*e*Pn	**Pn**	**23 13 34.9**	**+0.2**
ISAD	**Sadrabad**	**3.43**	**9**	*e*Pn	**Pn**	**23 13 36.3**	**+1.4**
KHGB	**Koh Gabri**	**3.52**	**57**	*e*Pn	**Pn**	**23 13 37.0**	**+1.0**
KHGB				*e*		23 14 43.1	
TVBK	**TV Kerman**	**3.56**	**65**	*e*Pn	**Pn**	**23 13 37.7**	**+1.0**
TVBK				*e*		23 14 44.0	
SHME	**Shamm**	**3.69**	**131**	*e*Pn	**Pn**	**23 13 40.6**	**+2.5**
IBAF	**Bafgh**	**3.76**	**35**	*e*Pn	**Pn**	**23 13 40.8**	**+1.5**
BANOM	**Banah**	**3.88**	**131**	*e*Pn	**Pn**	**23 13 44.5**	**+3.8**
ICHK	**Chekchek**	**3.90**	**17**	*e*Pn	**Pn**	**23 13 42.9**	**+1.6**
YZKH	**Yazd**	**4.09**	**79**	*e*Pn	**Pb**	**23 13 53.3**	**+0.1**
NAZ	**Nazwa, Dubai**	**4.21**	**146**	*e*Pn	**Pn**	**23 13 46.5**	**+1.1**
MDH	**Madha**	**4.32**	**137**	*e*Pn	**Pn**	**23 13 48.5**	**+1.7**
UOSS	**Minazif**	**4.54**	**141**	*e*Pn	**Pn**	**23 13 51.8**	**+2.0**
HATD	**Hatta, Dubai**	**4.59**	**142**	*e*Pn	**Pn**	**23 13 51.3**	**+0.7**
ASHO	**Ashiyiah**	**4.67**	**144**	*e*Pn	**Pn**	**23 13 52.0**	**+0.4**
SOHO	**SOHO**	**5.36**	**144**	*e*Pn	**Pn**	**23 14 01.7**	**+0.5**
UMZA	**Um Al Zommool**	**6.08**	**161**	*e*Pn	**Pn**	**23 14 10.2**	**-0.8**
MKAR	**Makanchi Array**	**29.23**	**43**	P	**P**	**23 18 44.2**	**+1.1**
	comp=N,0.2nm,0.5s,baz=226,slow=10,SNR=2.2						
ZALV	**Zalesovo Beam**	**34.38**	**33**	P	**P**	**23 19 28.6**	**+0.5**
	comp=N,1.2nm,0.5s,baz=232,slow=9.1,SNR=5.8						
FINES	**FINESS Array B**	**37.50**	**339**	P	**P**	**23 19 53.2**	**-1.5**
	comp=N,2.0nm,1.0s,baz=139,slow=9.3,SNR=2.9						
NOA	**NORSAR Array B**	**42.78**	**331**	LR	LR	23 39 07.1	
	comp=N,13nm,19.4s,baz=20,slow=37						
SONM	**Songino Array**	**45.18**	**50**	P	**P**	**23 20 58.9**	**+0.8**
	comp=N,0.2nm,0.3s,baz=282,slow=7.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**50.01**	**263**	P	**P**	**23 21 34.3**	**-1.6**
	comp=N,0.7nm,0.7s,baz=59,slow=6.1,SNR=6.6						

*IDC **05** 23:16:14.1±23.0, 33°.31N×77°.13E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.2/29, mbtmp3.5/3, ML2.5/1, Error ellipse: s-maj=682.6km s-min=35.2km az=129.0*
*SOME **05** 23:17:02.0, 38°.68N×72°.45E, h10km*
ISC 05 23:17:05.1±2.4, 38°.6N±0°.1×73°.9E±0°.1, h10km, n9, σ2§96/16, 3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**4.11**	**7**	⇓P	**Pg**	**23 18 22.0**	**-1.7**
	3.3nm,0.5s,baz=153,slow=23						
AAK				⇓S	**Sg**	**23 19 17.8**	**+0.9**
	7.5nm,0.5s						
MRKS	**Merke**	**4.21**	**354**	*e*P	**Pb**	**23 18 20.7**	**+1.4**
	18nm,0.2s						
MRKS				*e*S	**Sg**	**23 19 17.6**	**-2.7**
	21nm,0.3s						
IUG	**Iuzhnay**	**4.63**	**322**	*e*P	**Pn**	**23 18 16.6**	**+1.5**
	45nm,0.1s						
IUG				*e*S	**Sn**	**23 19 10.3**	**+1.3**
	38nm,0.3s						
KST	**Kastek**	**4.76**	**19**	*e*P	**Pg**	**23 18 35.1**	**-1.1**
	1.8nm,0.2s						
KST				*e*S	**Sg**	**23 19 42.3**	**+4.5**
	4.2nm,0.6s						
DGS	**Degeres**	**4.90**	**17**	*e*P	**Pg**	**23 18 34.6**	**-4.3**
	0.8nm,0.4s						
DGS				*e*S	**Sg**	**23 19 41.4**	**-1.0**
	2.0nm,0.6s						
KK31	**Karatay Array**	**5.20**	**332**	P	**Pn**	**23 18 26.1**	**+3.2**
	3.0nm,0.5s,baz=150,slow=12,SNR=68						
KK31				⇓S	**Sn**	**23 19 27.9**	**+4.8**
	4.4nm,0.3s,baz=153,slow=23						
BRLS	**Boroldaу**	**5.41**	**327**	*e*P	**Pn**	**23 18 24.4**	**-1.5**
	10nm,0.1s						
BRLS				*e*S	**Sn**	**23 19 23.7**	**-4.5**
	7.4nm,0.3s						
MKAR	**Makanchi Array**	**10.30**	**34**	Pn	**Pn**	**23 19 32.6**	**-0.3**
	0.0nm,0.3s,baz=192,slow=13,SNR=3.6						
ZALV	**Zalesovo Beam**	**17.13**	**22**	P	**Pn**	**23 21 03.6**	**-0.7**
	0.8nm,0.3s,baz=209,slow=11,SNR=4.3						

*BUC **05** 23:24:59.4±0.2, 45°.58N×26°.54E, h134km±1km, ml4.0/52, Error ellipse: s-maj=1.3km s-min=1.2km az=6.0*
*SOF **05** 23:25:00.4, 45°.62N×26°.47E, h78km, MD3.0*
*BEO **05** 23:25:05.4±2.8, 45°.57N×25°.92E, h50km, ML2.7/6*
ISC 05 23:24:57.6±1.3, 45°.59N±0°.03×26°.50E±0°.02, h149km±6km, n140, σ1§14/224, 138C-70D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BISRR	**Bisoca**	**0.15**	**107**	⇑P	**Pn**	**23 25 18.3**	**+0.6**
BISRR				⇓S	**Sn**	**23 25 32.4**	**-0.6**
BISRR	**Bisoca**	**0.15**	**107**	⇑P	**Pn**	**23 25 18.3**	**+0.6**
BISRR				⇓S	**Sn**	**23 25 32.4**	**-0.6**
NEHR	**Nehoiu**	**0.22**	**221**	⇓P	**Pn**	**23 25 18.4**	**+0.6**
NEHR				⇓S	**Sn**	**23 25 32.5**	**-0.7**
NEHR	**Nehoiu**	**0.22**	**221**	⇓P	**Pn**	**23 25 18.4**	**+0.6**
NEHR				⇓S	**Sn**	**23 25 32.5**	**-0.7**
PLOR	**Plostina**	**0.28**	**22**	⇑P	**Pn**	**23 25 18.0**	**0.0**
PLOR				⇑S	**Sn**	**23 25 31.8**	**-1.9**
PLOR	**Plostina**	**0.28**	**22**	⇑P	**Pn**	**23 25 18.0**	**0.0**
PLOR				⇑S	**Sn**	**23 25 31.8**	**-1.9**
VRI	**Vrincioaia**	**0.32**	**30**	⇑P	**Pn**	**23 25 18.3**	**+0.2**
VRI				⇑S	**Sn**	**23 25 32.8**	**-1.0**
VRI	**Vrincioaia**	**0.32**	**30**	⇑P	**Pn**	**23 25 18.3**	**+0.2**
VRI				⇑S	**Sn**	**23 25 32.8**	**-1.0**
MLR	**Muntele Rosu**	**0.40**	**256**	⇑P	**Pn**	**23 25 19.0**	**+0.4**
MLR				⇓S	**Sn**	**23 25 33.8**	**-0.6**
MLR	**Muntele Rosu**	**0.40**	**256**	⇑P	**Pn**	**23 25 19.0**	**+0.4**
MLR				⇓S	**Sn**	**23 25 33.8**	**-0.6**
ISR	**Istrita**	**0.47**	**176**	⇓P	**Pn**	**23 25 19.6**	**+0.8**
ISR				⇑S	**Sn**	**23 25 34.0**	**-0.9**
ISR	**Istrita**	**0.47**	**176**	⇓P	**Pn**	**23 25 19.6**	**+0.8**
ISR				⇑S	**Sn**	**23 25 34.0**	**-0.9**
PETR	**Petresti**	**0.53**	**76**	⇑P	**Pn**	**23 25 19.7**	**+0.8**
PETR				⇑S	**Sn**	**23 25 34.7**	**-0.5**
PETR	**Petresti**	**0.53**	**76**	⇑P	**Pn**	**23 25 19.7**	**+0.8**
PETR				⇑S	**Sn**	**23 25 34.7**	**-0.5**
SECR		**0.64**	**209**	⇑P	**Pn**	**23 25 20.6**	**+1.0**
SECR		**0.64**	**209**	⇑P	**Pn**	**23 25 20.6**	**+1.0**
OZUR		**0.71**	**316**	⇑P	**Pn**	**23 25 20.0**	**0.0**
OZUR		**0.71**	**316**	⇑P	**Pn**	**23 25 20.0**	**0.0**
GHRR		**0.79**	**53**	⇑P	**Pn**	**23 25 21.4**	**+0.8**
GHRR				⇓S	**Sn**	**23 25 37.8**	**-0.4**
GHRR		**0.79**	**53**	⇑P	**Pn**	**23 25 21.4**	**+0.8**
GHRR				⇓S	**Sn**	**23 25 37.8**	**-0.4**
TUDR		**0.82**	**90**	⇑P	**Pn**	**23 25 21.3**	**+0.5**
TUDR				⇑S	**Sn**	**23 25 37.4**	**-1.1**
TUDR		**0.82**	**90**	⇑P	**Pn**	**23 25 21.3**	**+0.5**
TUDR				⇑S	**Sn**	**23 25 37.4**	**-1.1**
DOPR	**Dopca**	**0.86**	**296**	⇑P	**Pn**	**23 25 21.2**	**+0.1**
DOPR				⇓S	**Sn**	**23 25 39.0**	**-0.2**
DOPR	**Dopca**	**0.86**	**296**	⇑P	**Pn**	**23 25 21.2**	**+0.1**
DOPR				⇓S	**Sn**	**23 25 39.0**	**-0.2**
TESR	**Tescani**	**0.93**	**6**	⇑P	**Pn**	**23 25 21.5**	**-0.1**
TESR	**Tescani**	**0.93**	**6**	⇑P	**Pn**	**23 25 21.5**	**-0.1**
SULR		**0.93**	**191**	⇑P	**Pn**	**23 25 22.7**	**+1.1**
SULR				⇓S	**Sn**	**23 25 39.8**	**-0.2**
SULR		**0.93**	**191**	⇑P	**Pn**	**23 25 22.7**	**+1.1**
SULR				⇓S	**Sn**	**23 25 39.8**	**-0.2**
SCHL	**Schela**	**0.94**	**95**	⇑P	**Pn**	**23 25 21.9**	**+0.2**
SCHL				⇑S	**Sn**	**23 25 38.8**	**-1.3**
SCHL	**Schela**	**0.94**	**95**	⇑P	**Pn**	**23 25 21.9**	**+0.2**
SCHL				⇑S	**Sn**	**23 25 38.8**	**-1.3**
VARL	**Varlezi**	**0.99**	**72**	⇑P	**Pn**	**23 25 22.5**	**+0.4**
VARL				⇓S	**Sn**	**23 25 39.7**	**-1.2**
VARL	**Varlezi**	**0.99**	**72**	⇑P	**Pn**	**23 25 22.5**	**+0.4**
VARL				⇓S	**Sn**	**23 25 39.7**	**-1.2**
VOIR		**1.03**	**262**	⇑P	**Pn**	**23 25 23.0**	**+0.4**
VOIR				⇓S	**Sn**	**23 25 41.3**	**-0.4**
VOIR		**1.03**	**262**	⇑P	**Pn**	**23 25 23.0**	**+0.4**
VOIR				⇓S	**Sn**	**23 25 41.3**	**-0.4**
BIR	**Birlad**	**1.04**	**49**	⇓P	**Pn**	**23 25 23.0**	**+0.5**
BIR				⇓S	**Sn**	**23 25 40.3**	**-1.4**
BIR	**Birlad**	**1.04**	**49**	⇓P	**Pn**	**23 25 23.0**	**+0.5**
BIR				⇓S	**Sn**	**23 25 40.3**	**-1.4**
MTUR	**Matau**	**1.08**	**251**	⇑P	**Pn**	**23 25 23.9**	**+0.8**
MTUR	**Matau**	**1.08**	**251**	⇑P	**Pn**	**23 25 23.9**	**+0.8**
GISR	**Galati**	**1.10**	**97**	⇑P	**Pn**	**23 25 23.8**	**+0.7**
GISR				⇑S	**Sn**	**23 25 41.6**	**-1.0**
GISR	**Galati**	**1.10**	**97**	⇑P	**Pn**	**23 25 23.8**	**+0.7**
GISR				⇑S	**Sn**	**23 25 41.6**	**-1.0**
LEHL	**Lehliu**	**1.14**	**168**	⇓P	**Pn**	**23 25 24.5**	**+1.0**
LEHL				⇓S	**Sn**	**23 25 43.5**	**+0.3**
LEHL	**Lehliu**	**1.14**	**168**	⇓P	**Pn**	**23 25 24.5**	**+1.0**
LEHL				⇓S	**Sn**	**23 25 43.5**	**+0.3**
AMRR	**Amara**	**1.15**	**149**	⇑P	**Pn**	**23 25 24.4**	**+0.8**
AMRR				⇓S	**Sn**	**23 25 43.1**	**-0.2**
AMRR	**Amara**	**1.15**	**149**	⇑P	**Pn**	**23 25 24.4**	**+0.8**
AMRR				⇓S	**Sn**	**23 25 43.1**	**-0.2**
INCR	**INCERC-Sediu C**	**1.18**	**192**	⇑P	**Pn**	**23 25 24.7**	**+0.8**
INCR				⇓S	**Sn**	**23 25 43.9**	**+0.1**
INCR	**INCERC-Sediu C**	**1.18**	**192**	⇑P	**Pn**	**23 25 24.7**	**+0.8**
INCR				⇓S	**Sn**	**23 25 43.9**	**+0.1**
GIUM	**Giurgiulesti**	**1.21**	**95**	⇓P	**Pn**	**23 25 24.8**	**+0.7**
GIUM				⇓S	**Sn**	**23 25 43.7**	**-0.7**
GIUM	**Giurgiulesti**	**1.21**	**95**	⇓P	**Pn**	**23 25 24.8**	**+0.7**
GIUM				⇓S	**Sn**	**23 25 43.7**	**-0.7**
CFR	**Carcaliu**	**1.23**	**109**	⇑P	**Pn**	**23 25 24.5**	**+0.2**
CFR				⇑S	**Sn**	**23 25 43.7**	**-0.9**
CFR	**Carcaliu**	**1.23**	**109**	⇑P	**Pn**	**23 25 24.5**	**+0.2**
CFR				⇑S	**Sn**	**23 25 43.7**	**-0.9**
BUC1	**Bucharest**	**1.29**	**195**	⇑P	**Pn**	**23 25 25.9**	**+1.0**
BUC1				⇑S	**Sn**	**23 25 45.8**	**+0.1**
BUC1	**Bucharest**	**1.29**	**195**	⇑P	**Pn**	**23 25 25.9**	**+1.0**
BUC1				⇑S	**Sn**	**23 25 45.8**	**+0.1**
JOSR	**Joseni**	**1.31**	**329**	⇑P	**Pn**	**23 25 25.4**	**+0.3**
JOSR	**Joseni**	**1.31**	**329**	⇑P	**Pn**	**23 25 25.4**	**+0.3**
STFAR	**Stefanesti-Arg**	**1.31**	**237**	⇑P	**Pn**	**23 25 26.2**	**+1.0**
STFAR				⇑S	**Sn**	**23 25 46.3**	**+0.1**
STFAR	**Stefanesti-Arg**	**1.31**	**237**	⇑P	**Pn**	**23 25 26.2**	**+1.0**
STFAR				⇑S	**Sn**	**23 25 46.3**	**+0.1**
ARR	**Arges**	**1.33**	**261**	⇓P	**Pn**	**23 25 26.8**	**+1.4**
ARR				⇓S	**Sn**	**23 25 46.7**	**0.0**
ARR	**Arges**	**1.33**	**261**	⇓P	**Pn**	**23 25 26.8**	**+1.4**
ARR				⇓S	**Sn**	**23 25 46.7**	**0.0**
HARR	**Harsova**	**1.36**	**131**	⇓P	**Pn**	**23 25 26.2**	**+0.6**
HARR	**Harsova**	**1.36**	**131**	⇓P	**Pn**	**23 25 26.2**	**+0.6**
GIRR	**Girov**	**1.36**	**0**	⇓P	**Pn**	**23 25 26.2**	**+0.6**
GIRR	**Girov**	**1.36**	**0**	⇓P	**Pn**	**23 25 26.2**	**+0.6**
BIZ	**Bicaz**	**1.37**	**349**	⇑P	**Pn**	**23 25 27.1**	**+1.3**
BIZ				⇑S	**Sn**	**23 25 47.5**	**+0.1**
BIZ	**Bicaz**	**1.37**	**349**	⇑P	**Pn**	**23 25 27.1**	**+1.3**
BIZ				⇑S	**Sn**	**23 25 47.5**	**+0.1**
VASR	**Vaslui**	**1.38**	**40**	⇑P	**Pn**	**23 25 26.3**	**+0.5**
VASR	**Vaslui**	**1.38**	**40**	⇑P	**Pn**	**23 25 26.3**	**+0.5**
SGRR	**Singureni**	**1.42**	**195**	⇑P	**Pn**	**23 25 27.0**	**+0.8**
SGRR				⇑S	**Sn**	**23 25 47.6**	**-0.5**
SGRR	**Singureni**	**1.42**	**195**	⇑P	**Pn**	**23 25 27.0**	**+0.8**
SGRR				⇑S	**Sn**	**23 25 47.6**	**-0.5**
RASA	**Rasa**	**1.45**	**161**	⇓P	**Pn**	**23 25 27.4**	**+0.8**
RASA				⇓S	**Sn**	**23 25 47.8**	**-0.9**
RASA	**Rasa**	**1.45**	**161**	⇓P	**Pn**	**23 25 27.4**	**+0.8**
RASA				⇓S	**Sn**	**23 25 47.8**	**-0.9**
LEOM	**Leova**	**1.50**	**54**	⇓P	**Pn**	**23 25 27.6**	**+0.6**
LEOM				⇓S	**Sn**	**23 25 48.9**	**-0.7**
LEOM	**Leova**	**1.50**	**54**	⇓P	**Pn**	**23 25 27.6**	**+0.6**
LEOM				⇓S	**Sn**	**23 25 48.9**	**-0.7**
TOPG	**Topolog**	**1.51**	**118**	⇑P	**Pn**	**23 25 27.5**	**+0.3**
TOPG				⇑S	**Sn**	**23 25 48.7**	**-1.1**
TOPG	**Topolog**	**1.51**	**118**	⇑P	**Pn**	**23 25 27.5**	**+0.3**
TOPG				⇑S	**Sn**	**23 25 48.7**	**-1.1**
HUMR	**Humele**	**1.51**	**226**	⇑P	**Pn**	**23 25 27.9**	**+0.7**
HUMR				⇓S	**Sn**	**23 25 49.5**	**-0.3**
HUMR	**Humele**	**1.51**	**226**	⇑P	**Pn**	**23 25 27.9**	**+0.7**
HUMR				⇓S	**Sn**	**23 25 49.5**	**-0.3**
TLBR	**Topalu**	**1.52**	**133**	⇓P	**Pn**	**23 25 28.0**	**+0.8**
TLBR				⇑S	**Sn**	**23 25 48.9**	**-1.0**
TLBR	**Topalu**	**1.52**	**133**	⇓P	**Pn**	**23 25 28.0**	**+0.8**
TLBR				⇑S	**Sn**	**23 25 48.9**	**-1.0**
CVDA	**Cernavoda**	**1.67**	**139**	⇑S	**Sn**	**23 25 51.8**	**-1.0**
CVDA	**Cernavoda**	**1.67**	**139**	⇑S	**Sn**	**23 25 51.8**	**-1.0**
TLCR		**1.68**	**103**	⇑P	**Pn**	**23 25 29.5**	**+0.5**
TLCR				⇑S	**Sn**	**23 25 52.7**	**-0.4**
TLCR		**1.68**	**103**	⇑P	**Pn**	**23 25 29.5**	**+0.5**
TLCR				⇑S	**Sn**	**23 25 52.7**	**-0.4**
COPA	**Copaceanca**	**1.72**	**212**	⇑P	**Pn**	**23 25 30.3**	**+0.8**
COPA				⇑S	**Sn**	**23 25 53.5**	**-0.4**
COPA	**Copaceanca**	**1.72**	**212**	⇑P	**Pn**	**23 25 30.3**	**+0.8**
COPA				⇑S	**Sn**	**23 25 53.5**	**-0.4**
ICOR	**Ion Corvin**	**1.74**	**147**	⇑S	**Sn**	**23 25 53.2**	**-1.1**
ICOR	**Ion Corvin**	**1.74**	**147**	⇑S	**Sn**	**23 25 53.2**	**-1.1**
TIRR	**Tirgusor**	**1.77**	**129**	⇓P	**Pn**	**23 25 30.7**	**+0.7**
TIRR				⇓S	**Sn**	**23 25 54.0**	**-0.8**
TIRR	**Tirgusor**	**1.77**	**129**	⇓P	**Pn**	**23 25 30.7**	**+0.7**
TIRR				⇓S	**Sn**	**23 25 54.0**	**-0.8**
JURR	**Jurilovca**	**1.87**	**115**	⇑P	**Pn**	**23 25 32.2**	**+1.0**
JURR	**Jurilovca**	**1.87**	**115**	⇑P	**Pn**	**23 25 32.2**	**+1.0**
LOT	**Lotru**	**1.92**	**267**	⇑P	**Pn**	**23 25 33.2**	**+1.4**
LOT				⇓S	**Sn**	**23 25 58.5**	**+0.3**
LOT	**Lotru**	**1.92**	**267**	⇑P	**Pn**	**23 25 33.2**	**+1.4**
LOT				⇓S	**Sn**	**23 25 58.5**	**+0.3**
MFTR	**Murfatlar**	**1.97**	**135**	⇓P	**Pn**	**23 25 33.1**	**+0.9**
MFTR				⇓S	**Sn**	**23 25 58.0**	**-0.8**
MFTR	**Murfatlar**	**1.97**	**135**	⇓P	**Pn**	**23 25 33.1**	**+0.9**
MFTR				⇓S	**Sn**	**23 25 58.0**	**-0.8**
RAZG	**Razgrad**	**2.03**	**180**	⇑P	**Pn**	**23 25 34.1**	**+1.1**
RAZG				⇑S	**Sn**	**23 26 00.1**	**0.0**
RAZG	**Razgrad**	**2.03**	**180**	⇑P	**Pn**	**23 25 34.1**	**+1.1**
RAZG				⇑S	**Sn**	**23 26 00.1**	**0.0**
MILM	**Milestii Mici**	**2.08**	**50**	⇓P	**Pn**	**23 25 34.1**	**+0.5**
MILM	**Milestii Mici**	**2.08**	**50**	⇓P	**Pn**	**23 25 34.1**	**+0.5**
ZIMR		**2.10**	**203**	⇑P	**Pn**	**23 25 34.8**	**+1.1**
ZIMR				⇑S	**Sn**	**23 26 00.9**	**-0.7**
ZIMR		**2.10**	**203**	⇑P	**Pn**	**23 25 34.8**	**+1.1**
ZIMR				⇑S	**Sn**	**23 26 00.9**	**-0.7**
TSCT	**Constanta Port**	**2.10**	**132**	⇓P	**Pn**	**23 25 34.7**	**+1.0**
TSCT				⇓S	**Sn**	**23 26 00.6**	**-1.0**
TSCT	**Constanta Port**	**2.10**	**132**	⇓P	**Pn**	**23 25 34.7**	**+1.0**
TSCT				⇓S	**Sn**	**23 26 00.6**	**-1.0**
ARCR	**ARCALIA**	**2.11**	**316**	⇓P	**Pn**	**23 25 35.0**	**+1.1**
ARCR	**ARCALIA**	**2.11**	**316**	⇓P	**Pn**	**23 25 35.0**	**+1.1**
KIS	**Kishinev**	**2.14**	**48**	⇑P	**Pn**	**23 25 34.8**	**+0.6**
KIS	**Kishinev**	**2.14**	**48**	⇑P	**Pn**	**23 25 34.8**	**+0.6**
EFOR	**EFORIE**	**2.14**	**134**	⇑S	**Sn**	**23 26 02.2**	**-0.3**
EFOR	**EFORIE**	**2.14**	**134**	⇑S	**Sn**	**23 26 02.2**	**-0.3**
VLAD	**Vladila**	**2.18**	**224**	⇑P	**Pn**	**23 25 35.5**	**+0.7**
VLAD	**Vladila**	**2.18**	**224**	⇑P	**Pn**	**23 25 35.5**	**+0.7**
BURAR	**Bucovina Array**	**2.21**	**337**	⇑P	**Pn**	**23 25 37.3**	**+2.1**
BURAR	**Bucovina Array**	**2.21**	**337**	⇑P	**Pn**	**23 25 37.3**	**+2.1**
PSN	**Preselentsi**	**2.26**	**147**	*i* P	**Pn**	**23 25 37.2**	**+1.5**
CJR	**Cluj-Napoca**	**2.31**	**300**	⇑P	**Pn**	**23 25 37.8**	**+1.5**
CJR	**Cluj-Napoca**	**2.31**	**300**	⇑P	**Pn**	**23 25 37.8**	**+1.5**
MANR	**Mangalia**	**2.32**	**139**	⇓P	**Pn**	**23 25 37.6**	**+1.2**
MANR				⇑S	**Sn**	**23 26 06.1**	**-0.1**
MANR	**Mangalia**	**2.32**	**139**	⇓P	**Pn**	**23 25 37.6**	**+1.2**
MANR				⇑S	**Sn**	**23 26 06.1**	**-0.1**
SZH	**Strazhica**	**2.36**	**190**	*i* P	**Pn**	**23 25 37.9**	**+0.9**
PRD	**Provadia**	**2.48**	**165**	*i* P	**Pn**	**23 25 40.1**	**+1.7**
SRE	**Strehaia**	**2.51**	**249**	⇑P	**Pn**	**23 25 39.6**	**+0.9**
SRE	**Strehaia**	**2.51**	**249**	⇑P	**Pn**	**23 25 39.6**	**+0.9**
ROIA	**ROIAK**	**2.58**	**166**	*i* P	**Pn**	**23 25 40.6**	**+1.0**
ELND	**Elena**	**2.70**	**190**	⇑P	**Pn**	**23 25 42.3**	**+1.1**
ELND	**Elena**	**2.70**	**190**	⇑P	**Pn**	**23 25 42.3**	**+1.1**
SORM	**Soroca**	**2.84**	**26**	⇓P	**Pn**	**23 25 43.0**	**+0.2**
SORM	**Soroca**	**2.84**	**26**	⇓P	**Pn**	**23 25 43.0**	**+0.2**
HERR	**Herculane**	**2.97**	**258**	⇓P	**Pn**	**23 25 45.2**	**+0.7**
HERR	**Herculane**	**2.97**	**258**	⇓P	**Pn**	**23 25 45.2**	**+0.7**
BZS	**Buzias**	**3.43**	**272**	*e*Pn	**Pn**	**23 25 50.7**	**+0.4**
BZS	**Buzias**	**3.43**	**272**	⇑P	**Pn**	**23 25 51.6**	**+1.3**
BZS	**Buzias**	**3.43**	**272**	⇑P	**Pn**	**23 25 51.6**	**+1.3**
MDVR	**Moldovita**	**3.48**	**258**	⇑P	**Pn**	**23 25 53.0**	**+2.0**
MDVR	**Moldovita**	**3.48**	**258**	⇑P	**Pn**	**23 25 53.0**	**+2.0**
ZAGS	**Zaj

KURK	**Kurchatov**	**37.42**	**342**	P	**P**		**23 35 50.1**	**+1.9**
KURK				IAmb	IAmb		23 36 04.7	
	comp=Z,3.9nm,1.1s							
ZAA0	**Zalesovo Array**	**38.91**	**349**	P	**P**		**23 36 01.1**	**+0.4**
ZAA0				IAmb	IAmb		23 36 04.3	
	comp=Z,3.3nm,0.7s							
ZALV	**Zalesovo Beam**	**38.91**	**349**	P	**P**		**23 36 00.3**	**-0.4**
	comp=Z,3.3nm,0.6s,baz=175,slow=8.0,SNR=12							
ZALV	**Zalesovo Beam**	**38.91**	**349**	P	**P**		**23 36 01.2**	**+0.5**
GEYT	**Alibeck**	**39.96**	**311**	P	**P**		**23 36 10.5**	**+0.7**
MJAR	**Matsushiro Arr**	**42.49**	**53**	LR	LR		23 56 02.8	
	comp=Z,74nm,19.1s,baz=280,slow=39							
ABKAR	**Akbulak array**	**44.35**	**326**	P	**P**		**23 36 45.8**	**+0.5**
AKH	**Akhalkalaki**	**51.76**	**310**	P	**P**		**23 37 42.5**	**-0.5**
WRA	**Warramunga Arr**	**51.79**	**132**	P	**P**		**23 37 43.7**	**+0.4**
	comp=Z,1.2nm,1.0s,baz=317,slow=7.4,SNR=3.3							
WRA	**Warramunga Arr**	**51.79**	**132**	IAmb	IAmb		23 37 49.5	
	comp=Z,0.5nm,1.4s							
WB2	**Warramunga Arr**	**51.80**	**132**	P	**P**		**23 37 41.0**	**-2.4**
AS31	**Alice Springs**	**53.97**	**136**	P	**P**		**23 37 59.8**	**+0.4**
ASAR	**Alice Springs**	**53.97**	**136**	P	**P**		**23 37 59.6**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=350,slow=11,SNR=4.1							
ASAR				LR	LR		00 04 51.6	
	comp=Z,83nm,19.7s,baz=168,slow=40							
PETK	**Petropavlovsk-**	**60.36**	**38**	LR	LR		00 07 39.0	
	comp=Z,65nm,19.8s,baz=240,slow=39							
FINES	**FINESS Array B**	**66.59**	**331**	P	**P**		**23 39 24.9**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=116,slow=4.4,SNR=7.2							
FINES				LR	LR		00 10 30.3	
	comp=Z,51nm,19.6s,baz=79,slow=38							
CLL	**Collm**	**73.45**	**319**	*eP*	**P**		**23 40 10.0**	**+2.4**
NOA	**NORSAR Array B**	**73.73**	**330**	LR	LR		00 14 39.3	
	comp=Z,31nm,20.1s,baz=90,slow=38							
JMIC	**Jan Mayen**	**79.71**	**341**	LR	LR		00 20 33.9	
	comp=Z,24nm,18.4s,baz=72,slow=39							
BOSA	**Boshof**	**81.58**	**237**	LR	LR		00 15 37.7	
	comp=Z,74nm,18.8s,baz=124,slow=35							
ILAR	**Eielson Array**	**86.54**	**23**	P	**P**		**23 41 17.8**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=309,slow=4.5,SNR=2.3							
BORG	**Borgarnes**	**86.75**	**338**	LR	LR		00 22 22.5	
	comp=Z,31nm,18.1s,baz=15,slow=37							
SFJD	**Kangerlussuaq**	**93.71**	**348**	LR	LR		00 32 11.0	
	comp=Z,32nm,18.5s,baz=5.0,slow=41							

*IDC **06** 00:05:17.2±1.1,43˚.01N×87˚.32E, h0km, mb3.7/3, mb1 3.7/6, mb1mx3.4/53, mbtmp3.6/6, ML3.0/3, MS3.2/1, Ms1 3.2/1, ms1mx2.2/42, Error ellipse: s-maj=57.8km s-min=16.1km az=51.0*

*NNC **06** 00:05:18.5±2.9, 43˚.07N×87˚.40E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=20.6km s-min=15.3km az=116.0*

ISC 06 00:05:19.0±1.2, 43˚.11N±0˚.09×87˚.60E±0˚.09, h10km, n20, σ1s11/22, mb3.4/3, 7C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**4.75**	**337**	Pg	**Pn**	**00 06 32.7**	**+2.2**
	6.2nm,0.1s						
ZSN				Lg	Lg	00 07 30.3	
	21nm,0.4s						
MK31	**Makanchi Array**	**5.27**	**316**	⇑Pn	**Pn**	**00 06 37.8**	**+0.1**
	0.8nm,0.2s,baz=135,slow=14,SNR=83						
MK31				⇑Sn	**Sn**	**00 07 39.4**	**+1.0**
	4.6nm,0.6s,baz=138,slow=23,SNR=4.6						
MK31				⇓Lg	Lg	00 08 04.3	
	12nm,0.7s,baz=142,slow=30,SNR=5.3						
MKAR	**Makanchi Array**	**5.27**	**316**	Pn	**Pn**	**00 06 38.1**	**+0.4**
	1.9nm,0.3s,baz=130,slow=14,SNR=79						
MKAR				Sn	**Sn**	**00 07 37.9**	**-0.5**
	1.5nm,0.3s,baz=140,slow=25,SNR=4.8						
MKAR				Lg	Lg	00 08 01.3	
	2.2nm,0.3s,baz=121,slow=30,SNR=7.3						
MAKZ	**Makanchi**	**5.44**	**315**	⇑Pn	**Pn**	**00 06 40.0**	**0.0**
	2.6nm,0.4s						
MAKZ				⇓Sn	**Sn**	**00 07 43.3**	**+0.6**
	5.0nm,0.7s						
MAKZ				⇑Lg	Lg	00 08 11.0	
	11nm,0.7s						
PDGK	**Podgornoye**	**5.93**	**275**	Pg	**Pb**	**00 07 00.3**	**-2.1**
	2.1nm,0.7s						
PDGK				Lg	Lg	00 08 18.1	
	16nm,0.7s						
PDGK	**Podgornoye**	**5.93**	**275**	⇑Pn	**Pn**	**00 06 46.9**	**-0.1**
	2.6nm,0.5s						
PDGK				⇑Sn	**Sn**	**00 07 56.5**	**+1.5**
	12nm,1.0s						
PDGK				⇑Lg	Lg	00 08 27.2	
	22nm,0.7s						
SHLS	**Shalkode**	**5.96**	**273**	Pg	Pb	00 06 56.1	-6.8
	7.9nm,0.6s						
SHLS				Lg	Lg	00 08 10.2	
	52nm,0.7s						
UZB	**Uzymbulak**	**6.28**	**273**	Pg	**Pb**	**00 07 08.1**	**-0.3**
	5.1nm,0.7s						
UZB				Lg	Lg	00 08 30.6	
	12nm,0.4s						
KAPS	**Kapalarasan**	**6.31**	**293**	Pg	**Pb**	**00 07 07.5**	**-1.4**
	1.7nm,0.3s						
KAPS				Lg	Lg	00 08 31.5	
	7.8nm,0.6s						
SATY	**Saty**	**6.73**	**273**	Pg	**Pb**	**00 07 15.7**	**-0.5**
	3.9nm,0.7s						
SATY				Lg	Lg	00 08 43.8	
	13nm,0.8s						
ARXS	**Arharly**	**7.17**	**282**	Pg	**Pb**	**00 07 24.8**	**+1.2**
	6.8nm,0.5s						
ARXS				Lg	Lg	00 09 00.8	
	14nm,0.8s						
MDOK	**Medeo**	**7.72**	**274**	Pn	**Pn**	**00 07 11.0**	**-0.5**
	2.7nm,0.7s						
MDOK				⇓Sn	**Sn**	**00 08 39.5**	**+0.5**
	7.4nm,1.0s						
MDOK				Lg	Lg	00 09 19.2	
	11nm,0.9s						
AAK	**Ala-Archa**	**9.64**	**272**	Lg	Lg	00 10 14.9	
	0.1nm,0.3s,baz=243,slow=16,SNR=1.0						
KURBB	**Kurchatov Arra**	**9.74**	**324**	Pn	**Pn**	**00 07 37.5**	**-1.5**
	0.1nm,0.3s,baz=133,slow=13,SNR=9.8						
ZALV	**Zalesovo Beam**	**11.00**	**351**	Pn	**Pn**	**00 07 55.3**	**-1.0**
	0.1nm,0.3s,baz=164,slow=16,SNR=2.7						
BVAR	**Borovoye Array**	**15.15**	**317**	Pn	**Pn**	**00 08 53.0**	**+0.2**
	0.3nm,0.3s,baz=133,slow=13,SNR=3.5						
USRK	**Ussuriysk Ar.**	**31.84**	**72**	LR	LR	00 24 44.5	
	comp=Z,44nm,21.7s,baz=161,slow=36						
WRA	**Warramunga Arr**	**76.04**	**135**	P	**P**	**00 17 07.3**	**+0.8**
	0.7nm,0.7s,baz=334,slow=5.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**78.18**	**277**	P	**P**	**00 17 17.3**	**-1.5**
	0.2nm,0.5s,baz=40,slow=6.0,SNR=4.9						
ASAR	**Alice Springs**	**78.93**	**138**	P	**P**	**00 17 22.6**	**0.0**
	0.3nm,0.8s,baz=308,slow=4.5,SNR=4.1						

*KRSC **06** 00:09:35.7±0.6, 54˚.10N×160˚.42E, h108km±7km, ML4.7*

*MOS **06** 00:09:36.6±0.9, 54˚.22N×160˚.01E, h125km, mb4.2/11, Error ellipse: s-maj=10.0km s-min=3.7km az=76.6*

*NEIC **06** 00:09:37.0±2.5, 54˚.26N±0˚.08×160˚.0E±0˚.1, h109km±2km, mb4.3/32, Error ellipse: s-maj=12.6km s-min=11.2km az=147.0*

*IDC **06** 00:09:37.5±0.5, 54˚.40N×159˚.71E, h105km±5km, mb3.8/34, mb1 3.9/34, mb1mx3.8/51, mbtmp4.1/34, Error ellipse: s-maj=13.8km s-min=9.2km az=147.0*

ISC 06 00:09:37.1±0.4, 54˚.16N±0˚.03×160˚.22E±0˚.04, h115km±3km, h115km:pP-P, n199, σ1s136/248, mb4.2/48, 5C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**0.47**	**256**	*eP*	**Pn**	**00 09 53.7**	**-0.6**
KII	**Karymskiy**	**0.47**	**256**	PN	**Pn**	**00 09 53.7**	**-0.6**
KZV	**Kizimen**	**0.96**	**3**	*i* P	**Pn**	**00 09 58.6**	**+0.2**
KZV	**Kizimen**	**0.96**	**3**	PN	**Pn**	**00 09 58.6**	**+0.2**
TUMD	**Tumrok D**	**1.06**	**6**	*i* P	**Pn**	**00 09 59.0**	**-0.2**
TUMD				*eS*	**Sn**	**00 10 15.4**	**-0.5**
SPN	**Mys Shipunski**	**1.07**	**186**	*i* P	**Pn**	**00 09 58.7**	**-0.6**
SPN				eS	**Sn**	**00 10 14.4**	**-1.6**
SPN	**Mys Shipunski**	**1.07**	**186**	PN	**Pn**	**00 09 58.7**	**-0.6**
SPN				S	**Sn**	**00 10 14.4**	**-1.6**
NLC	**Nalytchevo**	**1.11**	**208**	*eP*	**Pn**	**00 09 59.9**	**+0.1**
NLC				*eS*	**Sn**	**00 10 16.8**	**-0.1**
NLC	**Nalytchevo**	**1.11**	**208**	PN	**Pn**	**00 09 59.9**	**+0.1**
NLC				S	**Sn**	**00 10 16.8**	**-0.1**
TUMR	**Tumrok**	**1.13**	**358**	*i* P	**Pn**	**00 10 00.6**	**+0.5**
TUMR				*eS*	**Sn**	**00 10 17.7**	**+0.2**
TUMR	**Tumrok**	**1.13**	**358**	PN	**Pn**	**00 09 59.0**	**-1.1**
TUMR				S	**Sn**	**00 10 15.4**	**-2.1**
SDLR	**Sedlovina**	**1.18**	**223**	*i* P	**Pn**	**00 10 00.9**	**+0.2**
SDLR				*eS*	**Sn**	**00 10 18.7**	**+0.2**
SDLR	**Sedlovina**	**1.18**	**223**	PN	**Pn**	**00 10 00.9**	**+0.2**
SDLR				S	**Sn**	**00 10 18.7**	**+0.2**
KRER	**Koryakskii**	**1.22**	**226**	*eP*	**Pn**	**00 10 01.7**	**+0.5**
KRER	**Koryakskii**	**1.22**	**226**	PN	**Pn**	**00 10 01.7**	**+0.5**
KRX	**Arik**	**1.23**	**230**	*eP*	**Pn**	**00 10 01.6**	**+0.4**
KRX	**Arik**	**1.23**	**230**	PN	**Pn**	**00 10 01.6**	**+0.4**
AVH	**Avacha**	**1.25**	**225**	*eP*	**Pn**	**00 10 02.1**	**+0.7**
AVH				*eS*	**Sn**	**00 10 20.7**	**+0.9**
AVH	**Avacha**	**1.25**	**225**	PN	**Pn**	**00 10 02.1**	**+0.7**
AVH				S	**Sn**	**00 10 20.7**	**+0.9**
UGLR	**Uglovaya**	**1.26**	**222**	*eP*	**Pn**	**00 10 01.7**	**+0.2**
UGLR				*eS*	**Sn**	**00 10 20.5**	**+0.5**
UGLR	**Uglovaya**	**1.26**	**222**	PN	**Pn**	**00 10 01.7**	**+0.2**
UGLR				S	**Sn**	**00 10 20.5**	**+0.5**
KOK	**Koryaka**	**1.28**	**228**	*eP*	**Pn**	**00 10 01.7**	**0.0**
KOK	**Koryaka**	**1.28**	**228**	PN	**Pn**	**00 10 01.7**	**0.0**
DALK	**Dalny**	**1.43**	**218**	*eP*	**Pn**	**00 10 03.6**	**+0.4**
DALK				*eS*	**Sn**	**00 10 22.8**	**-0.3**
DALK	**Dalny**	**1.43**	**218**	PN	**Pn**	**00 10 03.6**	**+0.4**
DALK				S	**Sn**	**00 10 22.8**	**-0.3**
PET	**Petropavlovsk**	**1.47**	**220**	*eP*	**Pn**	**00 10 04.1**	**+0.4**
PET				*eS*	**Sn**	**00 10 23.9**	**-0.1**
PET	**Petropavlovsk**	**1.47**	**220**	PN	**Pn**	**00 10 04.1**	**+0.4**
PET				S	**Sn**	**00 10 23.9**	**-0.1**
PET	**Petropavlovsk**	**1.47**	**220**		**Pn**	**00 10 04.1**	**+0.4**
KMNR	**Kamenistaya**	**1.60**	**0**	*i* P	**Pn**	**00 10 06.3**	**+0.9**
KMNR	**Kamenistaya**	**1.60**	**0**	PN	**Pn**	**00 10 06.3**	**+0.9**
KIRR	**Kirishev**	**1.80**	**2**	*i* P	**Pn**	**00 10 08.5**	**+0.6**
KIRR				*eS*	**Sn**	**00 10 31.2**	**-0.2**
KIRR	**Kirishev**	**1.80**	**2**	PN	**Pn**	**00 10 08.5**	**+0.6**
KIRR				S	**Sn**	**00 10 31.2**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**1.81**	**9**	*eP*	**Pn**	**00 10 08.6**	**+0.7**
BZGR				*eS*	**Sn**	**00 10 31.5**	**0.0**
BZGR	**Bezymyannyi-Gr**	**1.81**	**9**	PN	**Pn**	**00 10 08.6**	**+0.7**
BZGR				S	**Sn**	**00 10 31.5**	**0.0**
KPT	**Kopyto**	**1.81**	**0**	*i* P	**Pn**	**00 10 08.5**	**+0.5**
KPT	**Kopyto**	**1.81**	**0**	PN	**Pn**	**00 10 08.5**	**+0.5**
BZWR	**Bezymyannyi-We**	**1.82**	**5**	*eP*	**Pn**	**00 10 09.0**	**+0.9**
BZWR				*eS*	**Sn**	**00 10 32.6**	**+0.8**
BZWR	**Bezymyannyi-We**	**1.82**	**5**	PN	**Pn**	**00 10 09.0**	**+0.9**
BZWR				S	**Sn**	**00 10 32.6**	**+0.8**
KRMR	**Karymshinskiy**	**1.82**	**224**	*eP*	**Pn**	**00 10 09.2**	**+1.2**
KRMR				*eS*	**Sn**	**00 10 32.3**	**+0.7**
KRMR	**Karymshinskiy**	**1.82**	**224**	PN	**Pn**	**00 10 09.2**	**+1.2**
KRMR				S	**Sn**	**00 10 32.3**	**+0.7**
PEA0B	**Petropavlovsk-**	**1.83**	**236**	*o iP*	**Pn**	**00 10 08.7**	**+0.6**
PEA0B	**Petropavlovsk-**	**1.83**	**236**		**Pn**	**00 10 08.4**	**+0.2**
PETK	**Petropavlovsk-**	**1.83**	**236**	P	**Pn**	**00 10 08.7**	**+0.6**
	16nm,0.3s,baz=77,slow=18,SNR=359						
PETK				S	**Sn**	**00 10 33.1**	**+1.3**
	29nm,0.3s,baz=44,slow=19,SNR=5.6						
PETK	**Petropavlovsk-**	**1.83**	**236**	PN	**Pn**	**00 10 08.1**	**0.0**
PETK						00 10 33.1	
PETK	**Petropavlovsk-**	**1.83**	**236**		**Pn**	**00 10 08.1**	**0.0**
ZLN	**Zelenaya**	**1.90**	**10**	*eP*	**Pn**	**00 10 09.9**	**+0.9**
ZLN	**Zelenaya**	**1.90**	**10**	PN	**Pn**	**00 10 09.9**	**+0.9**
KOZ	**Kozyrevsk**	**1.92**	**354**	*i* P	**Pn**	**00 10 09.9**	**+0.7**
KOZ	**Kozyrevsk**	**1.92**	**354**	PN	**Pn**	**00 10 09.9**	**+0.7**
LGNR	**Loginova**	**1.95**	**8**	*eP*	**Pn**	**00 10 11.0**	**+1.1**
LGNR	**Loginova**	**1.95**	**8**	PN	**Pn**	**00 10 11.0**	**+1.1**
CIRR	**Tsirk**	**1.99**	**9**	*eP*	**Pn**	**00 10 11.1**	**+0.9**
CIRR	**Tsirk**	**1.99**	**9**	PN	**Pn**	**00 10 11.1**	**+0.9**
RUS	**Russkaya**	**2.01**	**211**	*eP*	**Pn**	**00 10 10.3**	**0.0**
RUS				*eS*	**Sn**	**00 10 35.0**	**-0.6**
RUS	**Russkaya**	**2.01**	**211**	PN	**Pn**	**00 10 10.3**	**0.0**
RUS				S	**Sn**	**00 10 35.0**	**-0.6**
GRL	**Gorelyy**	**2.06**	**220**	*eP*	**Pn**	**00 10 12.1**	**+1.0**
GRL	**Gorelyy**	**2.06**	**220**	PN	**Pn**	**00 10 12.1**	**+1.0**
MTVR	**Mutnovka**	**2.07**	**217**	*eP*	**Pn**	**00 10 12.2**	**+0.9**
MTVR				*eS*	**Sn**	**00 10 38.9**	**+1.5**
MTVR	**Mutnovka**	**2.07**	**217**	PN	**Pn**	**00 10 12.2**	**+0.9**
MTVR				S	**Sn**	**00 10 38.9**	**+1.5**
KRSR	**Krestovskiy**	**2.08**	**5**	*eP*	**Pn**	**00 10 11.6**	**+0.3**
KRSR	**Krestovskiy**	**2.08**	**5**	PN	**Pn**	**00 10 11.6**	**+0.3**
KLY	**Klyuchi**	**2.18**	**6**	*i* P	**Pn**	**00 10 13.3**	**+0.9**
KLY				*eS*	**Sn**	**00 10 39.8**	**+0.3**
KLY	**Klyuchi**	**2.18**	**6**	PN	**Pn**	**00 10 13.3**	**+0.9**
KLY				S	**Sn**	**00 10 39.8**	**+0.3**
SRDR	**Sredinnyy**	**2.19**	**353**	*i* P	**Pn**	**00 10 12.7**	**+0.1**
SRDR	**Sredinnyy**	**2.19**	**353**	PN	**Pn**	**00 10 12.7**	**+0.1**
APC	**Apacha**	**2.20**	**237**	*eP*	**Pn**	**00 10 13.9**	**+1.1**
APC	**Apacha**	**2.20**	**237**	PN	**Pn**	**00 10 13.9**	**+1.1**
ASAK	**Asacha**	**2.26**	**219**	*eP*	**Pn**	**00 10 14.2**	**+0.6**
ASAK	**Asacha**	**2.26**	**219**	PN	**Pn**	**00 10 14.2**	**+0.6**
BDR	**Baidarnaya**	**2.48**	**13**	*eP*	**Pn**	**00 10 17.7**	**+1.3**
BDR	**Baidarnaya**	**2.48**	**13**	PN	**Pn**	**00 10 17.7**	**+1.3**
KBG	**Krutoberegovo**	**2.54**	**33**	*eP*	**Pn**	**00 10 18.1**	**+1.0**
KBG				*eS*	**Sn**	**00 10 47.3**	**-0.5**
KBG	**Krutoberegovo**	**2.54**	**33**	PN	**Pn**	**00 10 18.1**	**+1.0**
KBG				S	**Sn**	**00 10 47.3**	**-0.5**
KBTR	**Krutoberegovo**	**2.54**	**35**	*eP*	**Pn**	**00 10 17.9**	**+0.8**
KBTR				*eS*	**Sn**	**00 10 47.1**	**-0.8**
KBTR	**Krutoberegovo**	**2.54**	**35**	PN	**Pn**	**00 10 17.9**	**+0.8**
KBTR				S	**Sn**	**00 10 47.1**	**-0.8**
SRKR	**Sorokina**	**2.56**	**12**	*i* P	**Pn**	**00 10 18.7**	**+1.2**
SRKR	**Sorokina**	**2.56**	**12**	PN	**Pn**	**00 10 18.7**	**+1.2**
KDTR	**Khodutka, Kamc**	**2.68**	**210**	*eP*	**Pn**	**00 10 18.9**	**-0.1**
KDTR				*eS*	**Sn**	**00 10 49.1**	**-2.1**
KDTR	**Khodutka, Kamc**	**2.68**	**210**	PN	**Pn**	**00 10 18.9**	**-0.1**
KDTR				S	**Sn**	**00 10 49.1**	**-2.1**
MIPR	**Malaya Ipel'ka**	**2.81**	**229**	*eP*	**Pn**	**00 10 21.7**	**+1.1**
MIPR	**Malaya Ipel'ka**	**2.81**	**229**	PN	**Pn**	**00 10 21.7**	**+1.1**
PAU	**Pauzhetka**	**3.40**	**219**	*eP*	**Pn**	**00 10 29.4**	**+1.0**
PAU	**Pauzhetka**	**3.40**	**219**	PN	**Pn**	**00 10 29.4**	**+1.0**
BKI	**Bering**	**3.50**	**70**	*eP*	**Pn**	**00 10 29.5**	**-0.2**
BKI				*eS*	**Sn**	**00 11 07.1**	**-3.3**
BKI	**Bering**	**3.50**	**70**	PN	**Pn**	**00 10 29.5**	**-0.2**
BKI				S	**Sn**	**00 11 07.1**	**-3.3**
SKR	**Severo-Kuril's**	**4.29**	**217**	*eP*	**Pn**	**00 10 41.5**	**+1.2**
SKR	**Severo-Kuril's**	**4.29**	**217**	*ePN*	**Pn**	**00 10 41.0**	**+0.7**
SKR				*eS*	**Sn**	**00 11 29.5**	**+0.2**
SKR				pmax	pmax		
	comp=Z,130nm,0.4s						
SKR				smax	smax		
	comp=N,159nm,0.7s						
SKR				smax	smax		
	comp=E,69nm,0.5s						
SKR				MLR	MLR		
	comp=Z,100nm,11.0s						
ALID	**Alaid**	**4.36**	**223**	*eP*	**Pn**	**00 10 42.3**	**+1.0**
ALID	**Alaid**	**4.36**	**223**	PN	**Pn**	**00 10 42.3**	**+1.0**
OSSR	**Ossora**	**5.34**	**16**	*eP*	**Pn**	**00 10 54.6**	**+0.2**
OSSR	**Ossora**	**5.34**	**16**	PN	**Pn**	**00 10 54.6**	**+0.2**
MA2	**Magadan**	**7.50**	**320**	P	**Pn**	**00 11 25.1**	**+1.5**
	comp=Z,24nm,0.3s,baz=134,slow=8.9,SNR=12						
MA2	**Magadan**	**7.50**	**320**	*ce*PN	**Pn**	**00 11 24.8**	**+1.2**
MA2				pmax	pmax		
	comp=Z,20nm,0.6s						
MA2	**Magadan**	**7.50**	**320**		**Pn**	**00 11 23.9**	**+0.3**
BILL	**Bilibino**	**14.22**	**9**	*eP*	**P**	**00 12 56.3**	**-0.5**
BILL				pmax	pmax		
	comp=Z,22nm,2.5s						
GRNR	**Gornyy**	**14.87**	**267**	*⇓ iP*	**P**	**00 13 06.0**	**+1.9**
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GRNR				MLR	MLR		
	comp=E,60nm,10.0s						
GRNR				MLR	MLR		
	comp=N,90nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,70nm,16.0s						
JKA	**Kamikawa-asahi**	**15.25**	**236**		**Pn**	**00 13 06.7**	**+0.7**
ASAJ	**Asahikawa**	**15.25**	**236**	P	**P**	**00 13 08.8**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=40,slow=9.0,SNR=5.0						
ASAJ	**Asahikawa**	**15.25**	**236**	P	**Pn**	**00 13 06.7**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ERM	**Erimo**	**16.60**	**230**	*i* P	**Pn**	**00 13 20.9**	**-1.9**
YAK	**Yakutsk**	**17.82**	**308**	P	**Pn**	**00 13 36.3**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=271,slow=3.8,SNR=4.2						
YAK	**Yakutsk**	**17.82**	**308**	P	**Pn**	**00 13 35.8**	**-1.5**
YAK				pmax	pmax		
	comp=Z,58nm,0.6s						
YAK	**Yakutsk**	**17.82**	**308**	P	**Pn**	**00 13 35.8**	**-1.5**
KLR	**Kul'dur**	**18.25**	**266**	P	**Pn**	**00 13 42.1**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=67,slow=11,SNR=11						
USRK	**Ussuriysk Ar.**	**20.84**	**253**	P	**P**	**00 14 09.8**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=45,slow=13,SNR=2.8						
RDOG	**Red Dog Mine**	**22.14**	**37**	P	**P**	**00 14 25.4**	**+2.4**
MJB9	**Matsu-Tunnel**	**23.28**	**230**	P	**P**	**00 14 34.3**	**-0.2**
MJB9				IAmb	IAmb	00 14 36.7	
	comp=Z,8.0nm,0.7s						
MAJO	**Matsushiro**	**23.28**	**230**	P	**P**	**00 14 35.1**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MAJO	**Matsushiro**	**23.28**	**230**	P	**P**	**00 14 35.1**	**+0.6**
MAJO				IAmb	IAmb	00 14 36.8	
	comp=Z,7.9nm,0.8s						
MJAR	**Matsushiro Arr**	**23.28**	**230**	P	**P**	**00 14 35.0**	**+0.6**
	comp=Z,2.9nm,0.6s,baz=19,slow=8.9,SNR=6.9						
MJAR				PcP	**PcP**	**00 18 18.2**	**0.0**
	comp=Z,2.5nm,0.4s,baz=328,slow=9.3,SNR=5.7						
MJAR	**Matsushiro Arr**	**23.28**	**230**	IAmb	IAmb	00 14 40.3	
	comp=Z,2.3nm,0.9s						
IMAR	**Indian Mountai**	**25.17**	**44**	P	**P**	**00 14 52.6**	**+1.3**
BOD	**Bodaibo**	**25.71**	**297**	*eP*	**P**	**00 14 54.6**	**-1.6**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSRS	**Korea Array**	**27.70**	**246**	P	**P**	**00 15 15.7**	**+1.5**
	comp=Z,1.1nm,0.5s,baz=44,slow=9.9,SNR=2.6						
ILAR	**Eielson Array**	**28.02**	**47**	P	**P**	**00 15 17.9**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=270,slow=9.2,SNR=10						
ILAR				pP	**pP**	**00 15 42.8**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=256,slow=7.9,SNR=4.0						
PAX	**Paxson**	**28.82**	**50**		pP	00 15 48.3	-0.8
INK	**Inuvik**	**32.98**	**39**	P	**P**	**00 16 02.1**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=296,slow=8.8,SNR=5.2						
INK	**Inuvik**	**32.98**	**39**	IAmb	IAmb	00 17 05.6	
	comp=Z,4.0nm,1.3s						
SONM	**Songino Array**	**33.74**	**282**	P	**P**	**00 16 06.5**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=68,slow=8.4,SNR=5.2						
SONM				PcP	**PcP**	**00 18 45.0**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=45,slow=1.8,SNR=4.9						
SONM				ScP	**ScP**	**00 22 21.4**	**+3.4**
	comp=Z,0.7nm,0.8s,baz=26,slow=5.0,SNR=4.5						
SONM	**Songino Array**	**33.74**	**282**	P	**P**	**00 16 04.6**	**-2.9**
SKAG	**Skagway**	**34.42**	**55**	P	**P**	**00 16 14.3**	**+1.3**
H11N2	**WAKE ISLAND Hy**	**34.74**	**169**	T	T	00 53 54.1	
	baz=354,slow=76,SNR=185						
HHC	**Hu-ho-hao-te**	**34.75**	**268**	*eP*	**P**	**00 16 13.9**	**-2.3**
HHC				pmax	pmax		
	comp=Z,32nm,1.0s						
HHC				pmax	pmax		
	comp=Z,210nm,4.8s						
H11N3	**WAKE ISLAND Hy**	**34.76**	**169**	T	T	00 54 02.7	
	baz=354,slow=76,SNR=144						
H11N1	**WAKE ISLAND Hy**	**34.76**	**169**	T	T	00 53 41.0	
	baz=354,slow=76,SNR=223						
H11S1	**WAKE ISLAND Hy**	**35.93**	**169**	T	T	00 54 34.2	
	baz=350,slow=74						
H11S3	**WAKE ISLAND Hy**	**35.94**	**170**	T	T	00 54 25.1	
	baz=350,slow=74						
H11S2	**WAKE ISLAND Hy**	**35.95**	**169**	T	T	00 55 16.7	
	baz=350						
WHN	**Wuhan**	**40.34**	**253**	P	**P**	**00 17 04.6**	**+1.5**
EUNU	**Eureka**	**40.90**	**14**	P	**P**	**00 17 07.2**	**-0.1**
ZAA0	**Zalesovo Array**	**42.27**	**302**	P	**P**	**00 17 16.0**	**-2.7**
ZAA0				IAmb	IAmb	00 17 17.3	
	comp=Z,2.6nm,0.5s						
ZALV	**Zalesovo Beam**	**42

OBN *e* 00 22 01.6
OBN pmax pmax
comp=Z,3.0nm,0.9s
NB2 NORSAR Subarra 62.54 344 P **P** **00 19 47.5 -0.6**
comp=Z,0.3nm,0.4s,baz=20,slow=6.9
NOA NORSAR Array B 62.54 344 P **P** **00 19 47.3 -0.8**
comp=Z,0.3nm,0.4s,baz=21,slow=6.4,SNR=10
NOA pP **pP** **00 20 16.0 -0.1**
comp=Z,0.5nm,0.8s,baz=358,slow=7.6,SNR=2.9
ANMO Albuquerque 64.33 65 *i* P **P** **00 20 01.1 +0.6**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
SCHQ Schefferville 64.67 28 P **P** **00 20 02.6 +0.4**
comp=Z,1.3nm,0.5s,baz=307,slow=7.1,SNR=4.1
GEYT Alibeck 66.58 303 P **P** **00 20 13.4 -1.2**
comp=Z,2.8nm,0.7s,baz=0.0,slow=4.7,SNR=7.0
GEYT Alibeck 66.58 303 P **P** **00 20 13.5 -1.2**
HRA Herat 67.22 297 P **P** **00 20 16.1 -3.0**
HRA IAmb IAmb 00 20 18.0
comp=Z,12nm,1.9s
AKASG Malin Array Be 67.74 329 P **P** **00 20 20.5 -1.2**
comp=Z,0.7nm,0.3s,baz=29,slow=6.2,SNR=5.4
AKASG Malin Array Be 67.74 329 IAmb IAmb 00 20 21.8
comp=Z,0.9nm,0.9s
KBZ Khabaz 68.82 316 P **P** **00 20 28.2 -0.4**
comp=Z,3.5nm,0.8s,baz=34,slow=5.2,SNR=6.5
EKA Eskdalemuir Ar 70.02 350 P **P** **00 20 35.7 -0.1**
comp=Z,1.4nm,0.6s,baz=24,slow=5.1,SNR=7.3
TX31 Lajitas Ar. Si 70.15 67 P **P** **00 20 39.3 +2.1**
TX31 IAmb IAmb 00 21 10.7
comp=Z,8.4nm,1.3s
TX32 Lajitas Array 70.15 67 P **P** **00 20 39.6 +2.4**
TXAR Lajitas Array 70.16 67 P **P** **00 20 39.7 +2.5**
comp=Z,0.7nm,0.5s,baz=295,slow=4.3,SNR=14
TXAR pP **pP** **00 21 05.6 -0.1**
comp=Z,0.6nm,0.6s,baz=305,slow=4.6,SNR=4.8
TXAR Lajitas Array 70.16 67 P **P** **00 20 38.8 +1.6**
BUR08 Bucovina Ar. S 71.67 330 P **P** **00 20 44.6 -1.5**
BUR08 IAmb IAmb 00 20 59.9
comp=Z,12nm,1.9s
BURAR Bucovina Array 71.69 330 P **P** **00 20 45.3 -0.9**
KHC Kasperske Hory 73.31 338 *e*pP pP 00 21 26.0 +1.4
MLR Muntele Rosu 73.38 328 P **P** **00 20 55.8 -0.5**
comp=Z,1.6nm,0.6s,baz=147,slow=24,SNR=6.3
MLR Muntele Rosu 73.38 328 IAmb IAmb 00 23 27.2
comp=Z,7.5nm,1.4s
GERES GERESS Array B 73.56 338 P **P** **00 20 57.0 -0.2**
comp=Z,0.5nm,0.7s,baz=52,slow=8.6,SNR=3.4
GERES GERESS Array B 73.56 338 P **P** **00 20 57.0 -0.2**
WRA Warramunga Arr 77.08 205 P **P** **00 21 18.8 +1.3**
comp=Z,1.1nm,0.5s,baz=19,slow=6.0,SNR=8.3
WRA pP **pP** **00 21 45.5 -0.9**
comp=Z,2.6nm,1.0s,baz=18,slow=5.4,SNR=6.0
ASAR Alice Springs 80.76 204 P **P** **00 21 39.5 +2.0**
comp=Z,1.0nm,0.5s,baz=15,slow=4.9,SNR=11
ASAR pP **pP** **00 22 05.7 -0.9**
comp=Z,0.8nm,0.8s,baz=12,slow=5.3,SNR=4.4
ESDC Sonseca Array 85.56 348 P **P** **00 22 03.0 +0.8**
comp=Z,2.4nm,0.8s,baz=3.6,slow=4.8,SNR=19
ESDC Sonseca Array 85.56 348 P **P** **00 22 03.1 +0.9**
KEST Kesra 87.01 337 P **P** **00 22 09.9 +0.5**
comp=Z,4.9nm,1.0s,baz=1.4,slow=5.2,SNR=5.3
TORD Torodi Ar. Bea 110.51 338 PKiKP **PKiKP** **00 27 56.5 +0.5**
comp=Z,0.1nm,0.4s,baz=17,slow=1.8,SNR=4.3

*IDC **06** 00:22:18.8±2.8, 36.35N×71.26E, h199km±25km, mb3.3/7, mb1 3.5/14, mb1mx3.2/44, mbtmp4.0/14, Error ellipse: s-maj=22.3km s-min=14.0km az=176.0*
*NNC **06** 00:22:18.5±2.8, 36.82N×70.93E, h0km, mb4.4, mpv4.4, Error ellipse: s-maj=26.3km s-min=13.8km az=157.0*
*NEIC **06** 00:22:21.7±0.7, 36.56N±0.03×71.2E±0.1, h237km±12km, mb4.2/3, Error ellipse: s-maj=15.1km s-min=4.6km az=96.0.*
*BJI **06** 00:22:21.2±0.0, 36.60N×71.29E, h245km, mB4.7/4, mb4.6/7*
ISC 06 00:22:22.4±0.5, 36.49N±0.05×71.22E±0.05, h250km, n71, σ2.549/83, mb3.5/8, 8C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.61**	**344**			**Pn**	**00 23 08.4**	**-2.3**
KBL	**Kabul**	**2.63**	**223**			**Pn**	**00 23 09.8**	**-1.5**
KBL				S		**S**	**00 23 47.6**	**-2.3**
CHGR	**Chuyangaron**	**2.71**	**323**			**Pn**	**00 23 09.9**	**-1.9**
CEP	**Cherat**	**2.72**	**168**	P		**Pn**	**00 23 11.5**	**-0.6**
CEP				S		**S**	**00 23 48.0**	**-3.4**
CHCP	**Chirah Chowk**	**3.28**	**149**	P		**Pn**	**00 23 17.9**	**-0.2**
NIL	**Nilore**	**3.29**	**149**	Pn		**Pn**	**00 23 17.8**	**-0.2**
BTK	**Batken**	**3.58**	**355**			**Pn**	**00 23 19.9**	**-1.4**
THW	**Thamme Wali**	**3.71**	**173**	P		**Pn**	**00 23 22.5**	**-0.4**
KSH	**Kashi**	**4.82**	**50**	P		Pn	00 23 28.1	-7.9
KSH				S		S	00 24 17.5	-17
KSH				smax		smax		
	comp=N,450nm,0.4s							
KSH				smax		smax		
	comp=E,280nm,0.2s							
TAS	**Tashkent**	**5.06**	**343**	Pn		**Pn**	**00 23 37.0**	**-1.7**
AML	**Almayashu**	**5.95**	**18**	P		**Pn**	**00 23 48.3**	**-1.8**
	SNR=710							
UCH	**Uchtor**	**6.27**	**23**	P		**Pn**	**00 23 52.6**	**-1.7**
	SNR=142							
KZA	**Kyzart**	**6.39**	**28**	P		**Pn**	**00 23 53.4**	**-2.3**
	SNR=30							
EKS2	**Erkin-Say**	**6.47**	**17**	P		**Pn**	**00 23 54.9**	**-1.5**
	SNR=43							
KK31	**Karatay Array**	**6.63**	**355**	⇓P		**Pn**	**00 23 55.3**	**-3.0**
	8.2nm,0.3s,baz=172,slow=12,SNR=120							
KK31				⇑S		**S**	**00 25 07.1**	**-8.1**
	11nm,0.3s,baz=172,slow=22,SNR=12							
KK31	**Karatay Array**	**6.63**	**355**	Pn		**Pn**	**00 23 56.7**	**-1.6**
KKAR	**Karatay Array**	**6.63**	**355**			**Pn**	**00 23 56.4**	**-1.9**
KKAR	**Karatay Array**	**6.63**	**355**	Pn		**Pn**	**00 23 56.7**	**-1.6**
AAK	**Ala-Archa**	**6.64**	**21**	P		**Pn**	**00 23 57.3**	**-1.3**
	13nm,0.3s,baz=185,slow=5.8,SNR=84							
AAK				S		**S**	**00 25 09.8**	**-5.8**
	3.0nm,0.3s,baz=304,slow=21,SNR=15							
AAK	**Ala-Archa**	**6.64**	**21**	P		**Pn**	**00 23 56.8**	**-1.6**
	SNR=39							
AAK	**Ala-Archa**	**6.64**	**21**	⇑P		**Pn**	**00 23 57.0**	**-1.6**
	28nm,0.5s							
AAK				S		**S**	**00 25 09.5**	**-6.2**
	54nm,0.8s							
AAK	**Ala-Archa**	**6.64**	**21**	Pn		**Pn**	**00 23 56.9**	**-1.6**
KBK	**Karagaybulak**	**6.80**	**24**	P		**Pn**	**00 23 59.8**	**-0.8**
	SNR=9.9							
FRU1	**Bishkek**	**6.84**	**22**			**Pn**	**00 23 59.5**	**-1.5**
ULHL	**Ulahoi**	**6.94**	**33**	P		**Pn**	**00 24 00.6**	**-1.8**
	SNR=22							
CHMS	**Chumysh**	**7.05**	**22**	P		**Pn**	**00 24 02.1**	**-1.4**
	SNR=16							
USP	**Ospenovka**	**7.22**	**19**	P		**Pn**	**00 24 04.2**	**-1.5**
	SNR=27							
TKM2	**Tokmak 2**	**7.25**	**26**	P		**Pn**	**00 24 04.9**	**-1.4**
	SNR=43							
TKM2	**Tokmak 2**	**7.25**	**26**	⇑P		**Pn**	**00 24 04.7**	**-1.6**
	20nm,0.6s							
TKM2				⇑S		**S**	**00 25 23.2**	**-6.6**
	28nm,0.9s							
KDJ	**Kajisay**	**7.28**	**38**			**Pn**	**00 24 05.0**	**-1.7**
HRA	**Herat**	**7.62**	**257**	Pn		**Pn**	**00 24 11.2**	**+0.1**
MDOK	**Medeo**	**8.03**	**32**	⇑P		**Pn**	**00 24 14.6**	**-1.4**
	4.2nm,0.6s							
MDOK				S		**S**	**00 25 45.8**	**-1.9**
	7.5nm,0.7s							
PRZ	**Przheval'sk**	**8.16**	**41**	Pn		**Pn**	**00 24 16.7**	**-1.0**
PDGK	**Podgornoye**	**9.32**	**40**	⇑P		**Pn**	**00 24 32.1**	**-0.3**
	2.0nm,0.6s							
PDGK				⇓S		**S**	**00 26 19.1**	**+1.4**
	10nm,1.1s							
GEYT	**Alibeck**	**10.55**	**282**	P		**Pn**	**00 24 47.2**	**-0.7**
	1.0nm,0.3s,baz=106,slow=11,SNR=8.9							
GEYT				S		**S**	**00 26 45.6**	**-0.6**
	0.8nm,0.3s,baz=148,slow=11,SNR=1.7							
GEYT	**Alibeck**	**10.55**	**282**			**Pn**	**00 24 46.3**	**-1.6**
GYA0B	**ALIBECK ARRAY**	**10.55**	**282**	⇓P		**Pn**	**00 24 47.0**	**-0.8**
GYA0B				⇑S		**S**	**00 26 41.2**	**-5.0**
GYA0B	**ALIBECK ARRAY**	**10.55**	**282**	Pn		**Pn**	**00 24 46.5**	**-1.3**
OTUK	**Ortayu**	**11.78**	**4**	⇓P		**Pn**	**00 25 02.0**	**-1.0**
	5.6nm,0.8s							
OTUK				⇓S		**S**	**00 27 16.2**	**+1.9**
	4.0nm,0.6s							
PYUN	**Piuthan**	**12.99**	**127**	*e*P		**Pn**	**00 25 17.2**	**-1.3**
	36nm,0.3s							
MAKZ	**Makanchi**	**13.06**	**35**	Pn		**Pn**	**00 25 17.5**	**-1.4**
MK31	**Makanchi Array**	**13.20**	**35**	Pn		**P**	**00 25 20.1**	**-2.0**
MKAR	**Makanchi Array**	**13.20**	**35**	P		**Pn**	**00 25 19.7**	**-0.9**
	1.2nm,0.3s,baz=209,slow=11,SNR=29							
MKAR	**Makanchi Array**	**13.20**	**35**			**Pn**	**00 25 20.0**	**-0.6**
DANN	**Dangsing**	**13.33**	**124**	*e*P		**Pn**	**00 25 22.3**	**-0.4**
	32nm,0.4s							
GKN	**Gorkha**	**14.15**	**123**	*e*P		**P**	**00 25 32.3**	**-0.7**
	36nm,0.3s							
WMQ	**Urumqi**	**14.56**	**55**	*e*P		**P**	**00 25 37.8**	**+0.6**
DMN	**Daman**	**14.72**	**123**	*e*P		**Pn**	**00 25 39.2**	**-0.3**
	27nm,0.4s							
PKI	**Pulchoki**	**14.95**	**122**	*e*P		**Pn**	**00 25 42.3**	**0.0**
KURBB	**Kurchatov Arra**	**15.08**	**18**	P		**P**	**00 25 41.6**	**-1.1**
	0.1nm,0.3s,baz=210,slow=11,SNR=2.0							
AB31	**Akbulak array**	**15.18**	**331**	⇓P		**Pn**	**00 25 46.8**	**+2.3**
	0.8nm,0.3s,baz=145,slow=14,SNR=40							
AB31				⇑S		**S**	**00 28 31.5**	**0.0**
	2.1nm,0.3s,baz=157,slow=23,SNR=6.9							
JIRN	**Jiri**	**15.43**	**121**	*e*P		**Pn**	**00 25 48.4**	**+0.3**
	90nm,0.5s							
BVAR	**Borovoye Array**	**16.55**	**358**	P		**Pn**	**00 26 01.3**	**+0.7**
	0.5nm,0.3s,baz=156,slow=11,SNR=9.9							
BRVK	**Borovoye**	**16.58**	**358**	P		**P**	**00 25 57.3**	**-2.0**
BRVK				IAmb		IAmb	00 26 35.6	
	comp=Z,2.2nm,0.8s							
TAPN	**Taplejung**	**16.68**	**118**	*e*P		**Pn**	**00 26 03.9**	**+1.0**
	comp=Z,19nm,0.3s							
ODAN	**Odare**	**16.76**	**120**	*e*P		**Pn**	**00 26 04.8**	**+1.1**
	comp=Z,24nm,0.6s							
AKTO	**Aktyubinsk**	**16.88**	**330**	P		**Pn**	**00 26 05.1**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=137,slow=9.0,SNR=17							
AKTO	**Aktyubinsk**	**16.88**	**330**	⇓P		**Pn**	**00 26 09.0**	**+4.4**
	comp=Z,3.0nm,0.5s							
AKTO				⇓S		**S**	**00 29 15.1**	**+10**
	comp=Z,4.6nm,1.2s							
ZAA0	**Zalesovo Array**	**19.85**	**24**	P		**P**	**00 26 35.1**	**+0.6**
ZAA0				IAmb		IAmb	00 26 38.4	
	comp=Z,3.7nm,0.3s							
ZALV	**Zalesovo Beam**	**19.85**	**24**	P		**P**	**00 26 35.2**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=219,slow=9.6,SNR=14							
ZALV	**Zalesovo Beam**	**19.85**	**24**	P		**P**	**00 26 34.3**	**-0.2**
SHL	**Shillong**	**20.74**	**116**	P		**P**	**00 26 45.0**	**+0.4**
SHL				IAmb		IAmb	00 26 53.1	
	comp=Z,7.1nm,0.8s							
SONM	**Songino Array**	**28.19**	**55**	P		**P**	**00 27 54.8**	**+2.8**
	comp=Z,0.4nm,0.4s,baz=247,slow=7.4,SNR=2.1							
HHC	**Hu-ho-hao-te**	**31.60**	**70**	*e*P		**P**	**00 28 22.0**	**0.0**
HHC				pmax		pmax		
	comp=Z,28nm,0.8s							
HHC				pmax		pmax		
	comp=Z,140nm,4.4s							
FINES	**FINESS Array B**	**37.59**	**326**	P		**P**	**00 29 14.6**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=128,slow=12,SNR=5.5							
ARCES	**ARCESS Array B**	**41.22**	**338**	P		**P**	**00 29 45.6**	**+3.1**
	comp=Z,12nm,1.2s,baz=96,slow=9.2,SNR=4.3							
NB2	**NORSAR Subarra**	**44.50**	**323**	P		**P**	**00 30 12.0**	**+3.1**
	comp=Z,0.2nm,0.5s,baz=82,slow=7.9							
NOA	**NORSAR Array B**	**44.50**	**323**	P		**P**	**00 30 11.4**	**+2.5**
	comp=Z,0.3nm,0.6s,baz=98,slow=7.8,SNR=3.6							
TORD	**Torodi Ar. Bea**	**65.90**	**269**	P		**P**	**00 32 42.8**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=50,slow=6.0,SNR=16							
WRA	**Warramunga Arr**	**81.83**	**122**	P		**P**	**00 34 15.5**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=324,slow=4.9,SNR=7.9							
ASAR	**Alice Springs**	**84.10**	**125**	P		**P**	**00 34 26.9**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=311,slow=5.0,SNR=7.8							

*BJI **06** 01:34:08.0±0.0, 1.40N×126.53E, h43km, mB5.0/11, mb4.7/15, Ms4.6/2, Ms7 4.4/1*
*NEIC **06** 01:34:10.6±0.8, 1.58N±0.08×126.62E±0.09, h51km±9km, mb4.5/11, Error ellipse: s-maj=15.9km s-min=7.6km az=50.0*
*DJA **06** 01:34:10.5±0.4, 2°N±4′×12°7E±′, h45km±7km, M4.5/10, mB5.5/1, mb4.8/7, MLv4.4/10, Mw(mB)5.0/1*
*IDC **06** 01:34:14.9±2.4, 1.52N×126.52E, h84km±23km, mb3.9/15, mb1 4.1/19, mb1mx3.9/40, mbtmp4.3/19, MS3.0/3, Ms1 3.0/3, ms1mx2.8/31, Error ellipse: s-maj=25.5km s-min=11.8km az=82.0*
ISC 06 01:34:10.9±0.5, 1.59N±0.06×126.61E±0.08, h47km, n53, σ1.908/54, mb4.3/19, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.11**	**137**	P		**Pn**	**01 34 30.0**	**-0.1**
TNTI				S		**Sn**	**01 34 44.9**	**+0.7**
TNTI	**Ternate**	**1.11**	**137**	Pn		**Pn**	**01 34 29.9**	**-0.1**
KMSI	**Cibinong**	**2.81**	**249**	P		**Pn**	**01 34 53.9**	**+0.5**
SANI	**Sanana**	**3.67**	**190**	P		**Pn**	**01 35 06.2**	**+1.1**
LUWI	**Luwuk**	**4.64**	**236**	P		**Pn**	**01 35 19.3**	**+0.8**
LUWI	**Luwuk**	**4.64**	**236**	Pn		**Pn**	**01 35 18.1**	**-0.4**
NLAI	**Namlea**	**4.82**	**174**	P		**Pn**	**01 35 21.5**	**+0.5**
SIJI	**Sorong**	**5.26**	**118**	P		Pn	01 35 32.6	+5.6
	3.1nm,0.3s,baz=283,slow=24,SNR=3.6							
DAV	**Davao City (W)**	**5.54**	**349**	LR		LR	01 37 13.9	
	comp=Z,63nm,19.9s,baz=116,slow=32							
MPSI	**Mapaga**	**6.82**	**260**	P		**Pn**	**01 35 50.1**	**+1.6**
	0.2nm14nm,0.5s							
BNSI	**Bone**	**8.81**	**227**	P		**Pn**	**01 36 16.9**	**+1.2**
	40nm,0.9s							
MYLDM	**Lahad Datu**	**8.85**	**294**	Pn		**Pn**	**01 36 16.9**	**+0.7**
KAPI	**Kappang**	**9.48**	**226**	P		**Pn**	**01 36 27.6**	**+2.6**
	3.0nm,0.3s,baz=233,slow=1.3,SNR=5.4							
KAPI				LR		LR	01 40 31.1	
	comp=Z,157nm,19.4s,baz=114,slow=40							
MTKI	**Muara Teweh, K**	**11.98**	**258**	P		**Pn**	**01 36 56.1**	**-3.0**
BATI	**Baumata**	**12.08**	**194**	P		**Pn**	**01 37 03.0**	**+2.5**
	7.1nm,0.3s,baz=317,slow=9.4,SNR=2.2							
SBUM	**Sibu**	**14.41**	**274**			**P**	**01 37 36.7**	**-1.3**
KNRA	**Kununurra**	**17.29**	**173**			**Pn**	**01 38 08.4**	**-0.6**
KNRA				IAmb		IAmb	01 38 13.1	
	comp=Z,51nm,1.2s							
FITZ	**Fitzroy Crossi**	**19.59**	**183**	P		**P**	**01 38 35.0**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=3.8,slow=13,SNR=3.1							
WB0	**Warramunga Arr**	**22.56**	**161**	P		**P**	**01 39 06.5**	**-0.8**
WRAB	**Tennant Creek**	**22.70**	**161**	P		**P**	**01 39 07.8**	**-1.0**
WRA	**Warramunga Arr**	**22.70**	**161**	P		**P**	**01 39 08.4**	**-0.4**
	comp=Z,29nm,0.7s,baz=338,slow=11,SNR=122							
WRA				S		**S**	**01 43 13.8**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=335,slow=20,SNR=3.1							
WRA	**Warramunga Arr**	**22.70**	**161**	P		**P**	**01 39 07.7**	**-1.1**
WB2	**Warramunga Arr**	**22.71**	**161**	P		**P**	**01 39 08.3**	**-0.5**
WR0	**Warramunga Arr**	**22.79**	**160**	P		**P**	**01 39 09.2**	**-0.5**
AS31	**Alice Springs**	**26.09**	**165**	P		**P**	**01 39 39.6**	**-0.7**
ASAR	**Alice Springs**	**26.09**	**165**	P		**P**	**01 39 40.9**	**+0.5**
	comp=Z,4.9nm,0.3s,baz=348,slow=13,SNR=61							
ASAR				PcP		**PcP**	**01 43 07.6**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=319,slow=1.6,SNR=4.5							
ASAR				S		S	01 44 19.1	+10
	comp=Z,1.6nm,0.7s,baz=349,slow=21,SNR=6.1							
ASAR	**Alice Springs**	**26.09**	**165**	P		**P**	**01 39 39.9**	**-0.5**
NJ2	**Nanjing**	**31.17**	**347**	*e*P		**P**	**01 40 26.0**	**+0.5**
NJ2				pmax		pmax		
	comp=Z,20nm,0.5s							
FORT	**Forrest**	**32.22**	**178**	P		**P**	**01 40 35.3**	**+0.6**
KSRS	**Korea Array**	**35.71**	**2**	P		**P**	**01 41 05.8**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=179,slow=9.5,SNR=2.5							
KSRS				LR		LR	01 59 16.1	
	comp=Z,31nm,18.1s,baz=156,slow=42							
STKA	**Stephens Creek**	**36.19**	**158**	P		**P**	**01 41 09.0**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=326,slow=7.6,SNR=6.8							
MJAR	**Matsushiro Arr**	**36.40**	**16**	P		**P**	**01 41 11.6**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=195,slow=11,SNR=4.4							
HHC	**Hu-ho-hao-te**	**41.39**	**343**	*e*P		**P**	**01 41 51.8**	**-0.9**
HHC				pmax		pmax		
	comp=Z,18nm,0.9s							
HHC				pmax		pmax		
	comp=Z,130nm,5.1s							
USRK	**Ussuriysk Ar.**	**42.70**	**6**	P		**P**	**01 42 03.9**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=172,slow=4.4,SNR=2.1							
KLR	**Kul'dur**	**47.67**	**5**	P		**P**	**01 42 43.8**	**+1.3**
	comp=Z,1.2nm,0.4s,baz=218,slow=5.4,SNR=4.6							
SONM	**Songino Array**	**49.28**	**342**	P		**P**	**01 42 56.3**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=174,slow=5.8,SNR=2.6							
WMQ	**Urumqi**	**54.41**	**326**	*e*P		**P**	**01 43 35.0**	**+1.6**
WMQ				pmax		pmax		
	comp=Z,13nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,69nm,4.3s							
WMQ				LR		LR		
	comp=Z,87nm,4.9s							
WMQ				LR		LR		
	comp=Z,140nm,8.7s							
PETK	**Petropavlovsk-**	**57.45**	**22**	P		**P**	**01 43 55.6**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=181,slow=5.4,SNR=3.0							
MK31	**Makanchi Array**	**59.24**	**326**	P		**P**	**01 44 06.8**	**-0.7**
MKAR	**Makanchi Array**	**59.24**	**326**	P		**P**	**01 44 06.5**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=119,slow=7.6,SNR=37							
MKAR	**Makanchi Array**	**59.24**	**326**	P		**P**	**01 44 06.4**	**-1.1**
MAKZ	**Makanchi**	**59.43**	**326**	P		**P**	**01 44 07.6**	**-1.2**
MAKZ				IAmb		IAmb	01 44 12.8	
	comp=Z,3.7nm,1.1s							
ZALV	**Zalesovo Beam**	**62.43**	**334**	P		**P**	**01 44 30.6**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=123,slow=8.5,SNR=2.4							
KURK	**Kurchatov**	**63.48**	**328**	P		**P**	**01 44 35.2**	**-0.8**
KKAR	**Karatay Array**	**64.72**	**318**	P		**P**	**01 44 44.2**	**-0.1**
ABKAR	**Akbulak array**	**73.73**	**321**	P		**P**	**01 45 39.0**	**-0.9**
VNDA	**Vanda**	**81.33**	**173**	P		**P**	**01 46 21.1**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=315,slow=7.0,SNR=8.9							
VNDA	**Vanda**	**81.33**	**173**	P		**P**	**01 46 22.5**	**+0.6**
MAW	**Mawson**	**81.72**	**200**	P		**P**	**01 46 24.7**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=60,slow=8.1,SNR=2.5							
KBZ	**Khabaz**	**84.36**	**314**	P		**P**	**01 46 38.2**	**0.0**
	comp=Z,0.8nm,0.5s,baz=76,slow=4.2,SNR=2.0							
FINES	**FINESS Array B**	**93.65**	**332**	P		**P**	**01 47 20.6**	**-1.5**
	comp=Z,1.5nm,0.9s,baz=76,slow=12,SNR=2.6							
TXAR	**Lajitas Array**	**122.98**	**53**	PKP		**PKPdf**	**01 53 02.2**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=163,slow=37,SNR=1.9							
TORD	**Torodi Ar. Bea**	**123.44**	**287**	PKP		**PKPdf**	**01 53 02.8**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=102,slow=2.9,SNR=2.7							

*JMA **06** 01:46:52.9±0.1, 38.91N×142.43E, h43km±1km, M3.7*
JMA Felt I J1.
*NIED **06** 01:46:52.9, 38.91N×142.43E, h43km, MW3.7, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr3.25; Mθθ-1.76; Mφφ-1.49; Mrθ0.81; Mθφ-2.01; Mφr-1.03; Fault plane solution: M₀3.70000×10¹⁴ NP1: φs207.00000°, δ50.00000°, λ62.00000°. NP2:φs67.00000°, δ48.00000°, λ119.00000°.*
*IDC **06** 01:46:56.0±3.3, 38.88N×142.37E, h68km±31km, mb3.3/4, mb1 3.6/7, mb1mx3.3/35, mbtmp3.6/7, ML2.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.3/24 Error ellipse: s-maj=37.7km s-min=23.1km az=118.0*
ISC 06 01:46:53.2±1.3, 38.94N±0.06×142.5E±0.1, h38km±4km, n27, σ1.952/30, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.63**	**283**	P		**Pn**	**01 47 05.4**	**-0.3**
OFUJ				S		**Sn**	**01 47 14.0**	**-0.5**
JKMT	**Kesennumamotoy**	**0.78**	**261**	P		**Pn**	**01 47 07.1**	**-0.5**
JKMT				S		**Sn**	**01 47 17.1**	**-1.0**
MIYJ	**Miyakonagasawa**	**0.80**	**322**	P		**Pn**	**01 47 07.9**	**-0.1**
MIYJ				S		**Sn**	**01 47 18.7**	**-0.1**
JMK	**Ichinoseki**	**0.96**	**271**	P		**Pn**	**01 47 10.0**	**-0.1**
JMK				S		**Sn**	**01 47 22.1**	**-0.5**
JIO	**Ouri**	**0.99**	**241**	P		**Pn**	**01 47 09.8**	**-0.7**
JIO				S		**Sn**	**01 47 21.4**	**-1.9**
JOM	**Ohasama**	**1.05**	**301**	P		**Pn**	**01 47 11.6**	**+0.3**
JOM				S		**Sn**	**01 47 25.1**	**+0.4**
JTH	**Tanohata**	**1.10**	**335**	P		**Pn**	**01 47 12.3**	**+0.3**
JRG	**Rokugo**	**1.49**	**288**	P		**Pn**	**01 47 17.8**	**+0.5**
JRG				S		**Sn**	**01 47 36.3**	**+0.8**
JOU	**Okura**	**1.52**	**248**	P		**Pn**	**01 47 17.7**	**-0.1**
JOU				S		**Sn**	**01 47 36.5**	**+0.2**
JANG	**Nango**	**1.60**	**333**	P		**Pn**	**01 47 19.1**	**+0.1**
JYK	**Kaneyama**	**1.64**	**270**	P		**Pn**	**01 47 19.6**	**+0.2**
JMM	**Marumori**	**1.69**	**231**	P		**Pn**	**01 47 19.5**	**-0.6**
MJAR	**Matsushiro Arr**	**4.13**	**236**	P		**Pn**	**01 47 56.1**	**+2.4**
	0.2nm,0.3s,baz=35,slow=12,SNR=5.9							
MAT	**Matsushiro**	**4.13**	**236**	P		**Pn**	**01 47 57.0**	**+3.3**
MAT				*e*S		**Sn**	**01 48 43.5**	**+2.7**
ASAJ	**Asahikawa**	**5.17**	**1**	P		**Pn**	**01 48 10.4**	**+2.5**
	1.0nm,0.3s,baz=238,slow=19,SNR=2.2							
ASAJ				S		**Sn**	**01 49 03.0**	**-3.4**
	1.3nm,0.3s,baz=252,slow=20,SNR=1.6							
USRK	**Ussuriysk Ar.**	**9.44**	**307**	P		**Pn**	**01 49 09.4**	**+3.0**
	baz=135,slow=13,SNR=5.8							
H11N2	**WAKE ISLAND Hy**	**28.49**	**125**	T		T	02 23 13.0	
	baz=318,slow=75,SNR=113							
H11N1	**WAK

PET	**Petropavlovsk**	**2.91**	**229**	Pn		**Pn**	**01 52 31.6**	**+0.6**
PET				Sn		**Sn**	**01 53 06.0**	**+1.3**
KRMR	**Karymshinskiy**	**3.28**	**231**	*e*P		**Pn**	**01 52 36.4**	**+0.4**
KRMR				*e*S		**Sn**	**01 53 12.8**	**-0.9**
PEA0B	**Petropavlovsk-**	**3.30**	**237**			**Pn**	**01 52 36.9**	**+0.5**
PEA0B				Sn		**Sn**	**01 53 14.1**	**-0.2**
PETK	**Petropavlovsk-**	**3.30**	**237**	Pn		**Pn**	**01 52 36.8**	**+0.4**
	4.1nm,0.3s,baz=86,slow=20,SNR=31							
PETK				Sn		**Sn**	**01 53 17.9**	**+3.5**
	5.2nm,0.3s,baz=90,slow=18,SNR=3.5							
PETK	**Petropavlovsk-**	**3.30**	**237**			**Pn**	**01 52 36.8**	**+0.4**
PETK						**Sn**	**01 53 14.3**	**0.0**
RUS	**Russkaya**	**3.40**	**223**	*e*P		**Pn**	**01 52 37.5**	**-0.2**
RUS				*e*S		**Sn**	**01 53 15.3**	**-1.5**
GRL	**Gorelyy**	**3.50**	**228**	*e*P		**Pn**	**01 52 40.0**	**+0.9**
GRL				*e*S		**Sn**	**01 53 19.6**	**+0.3**
MTVR	**Mutnovka**	**3.50**	**226**	*e*P		**Pn**	**01 52 38.9**	**-0.3**
MTVR				*e*S		**Sn**	**01 53 17.9**	**-1.5**
APC	**Apacha**	**3.67**	**238**	*e*P		**Pn**	**01 52 42.3**	**+0.9**
ASAK	**Asacha**	**3.69**	**227**	*e*P		**Pn**	**01 52 42.8**	**+1.0**
ASAK				*e*S		**Sn**	**01 53 24.7**	**+0.7**
KDTR	**Khodutka, Kamc**	**4.06**	**220**	*e*P		**Pn**	**01 52 46.3**	**-0.4**
KDTR				*e*S		**Sn**	**01 53 31.9**	**-1.0**
OSSR	**Ossora**	**4.31**	**5**	*e*P		**Pn**	**01 52 50.3**	**+0.2**
PALN	**Palana**	**4.32**	**344**	*e*P		**Pn**	**01 52 50.4**	**+0.1**
MA2	**Magadan**	**7.77**	**311**	LR		LR	01 56 38.0	
	comp=Z,53nm,21.0s,baz=148,slow=40							
ERM	**Erimo**	**18.07**	**232**	P		**Pn**	**01 55 54.7**	**0.0**
CNBA	**Chernabura Isl**	**21.73**	**75**	P		**P**	**01 56 37.7**	**+3.3**
TIXI	**Tiksi**	**21.97**	**332**	LR		LR	02 05 06.5	
	comp=Z,38nm,19.8s,baz=86,slow=37							
KLU	**Klutina**	**27.37**	**55**	P		**P**	**01 57 28.6**	**+0.7**
KLU				IAmb		IAmb	01 57 37.1	
	comp=Z,7.8nm,1.2s							
C36M	**Paulatuk**	**34.75**	**37**	P		**P**	**01 58 33.1**	**+0.4**
C36M				IAmb		IAmb	01 58 33.5	
	comp=Z,1.9nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**35.35**	**173**	T		T	02 36 01.3	
	baz=355,slow=76,SNR=66							
H11N3	**WAKE ISLAND Hy**	**35.37**	**173**	T		T	02 36 02.4	
	baz=355,slow=76,SNR=84							
H11N1	**WAKE ISLAND Hy**	**35.37**	**173**	T		T	02 35 59.8	
	baz=355,slow=76,SNR=88							
YKA	**Yellowknife Ar**	**40.90**	**45**	P		**P**	**01 59 25.5**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=302,slow=7.9,SNR=3.0							
KKH	**Kailua Kona**	**47.23**	**121**	P		P	02 00 21.4	+5.7
MKAR	**Makanchi Array**	**48.52**	**295**	P		**P**	**02 00 22.8**	**-2.7**
	comp=Z,0.3nm,0.5s,baz=57,slow=8.0,SNR=2.7							
FINES	**FINESS Array B**	**58.90**	**337**	P		**P**	**02 01 40.5**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=54,slow=7.1,SNR=1.7							
FINES	**FINESS Array B**	**58.90**	**337**	P		**P**	**02 01 38.8**	**-2.3**
TXAR	**Lajitas Array**	**68.72**	**69**	P		**P**	**02 02 47.9**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=297,slow=4.4,SNR=5.4							
TXAR	**Lajitas Array**	**68.72**	**69**	P		**P**	**02 02 48.0**	**+1.6**
ESDC	**Sonseca Array**	**84.99**	**349**	P		**P**	**02 04 18.3**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=347,slow=5.6,SNR=6.3							
ESDC	**Sonseca Array**	**84.99**	**349**	P		**P**	**02 04 16.0**	**-1.7**

*PRE **06** 02:01:35.3±1.0,27.°05S×26.°91E,h2km,ML2.4*
*EAF **06** 02:01:41.7±1.0,26.°61S×25.°92E,h10km±335km,MD3.7*
*BUL **06** 02:01:41.2±1.2,26.°61S×25.°92E,h15km,MD3.7*

ISC 06 02:01:35.7±0.8,27.°05S±0.°04×26.°90E±0.°05,h6km,n24,
σ2§21/38,South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.78**	**37**	*e*P		**Pg**		**02 01 50.2**	**-0.5**
WDLM				*e*S		**Sg**		**02 02 00.9**	**0.0**
WDLM				AML		AML		02 02 06.3	
	comp=Z,207nm,0.2s								
KSR	**Koster**	**1.20**	**360**	*e*P		**Pg**		**02 01 58.7**	**+0.1**
KSR				*e*S		**Sg**		**02 02 14.4**	**+0.2**
KSR				AML		AML		02 02 18.4	
	comp=Z,68nm,0.2s								
BOSA	**Boshof**	**2.13**	**223**	*i* P		**Pb**		**02 02 15.2**	**+0.4**
BOSA	**Boshof**	**2.13**	**223**	*i* P		**Pg**		**02 02 16.2**	**-0.3**
BOSA	**Boshof**	**2.13**	**223**	*e*P		**Pn**		**02 02 13.1**	**+1.2**
BOSA				*e*S		**Sn**		**02 02 39.3**	**+0.6**
BOSA				AML		AML		02 02 44.6	
	comp=Z,35nm,0.3s								
BOSA	**Boshof**	**2.13**	**223**	*i* P		**Pb**		**02 02 15.2**	**+0.4**
BOSA	**Boshof**	**2.13**	**223**	*i* P		**Pg**		**02 02 16.2**	**-0.3**
LBTB	**Lobatse**	**2.34**	**330**	*e*P		**Pn**		**02 02 16.1**	**+1.2**
LBTB				*e*S		**Sn**		**02 02 44.9**	**+0.8**
LBTB				AML		AML		02 02 48.6	
	comp=Z,54nm,0.3s								
POGA	**Pongola**	**4.29**	**95**	*e*P		**Pn**		**02 02 41.4**	**-0.1**
POGA				*e*S		**Sn**		**02 03 31.2**	**-0.7**
POGA				AML		AML		02 03 34.7	
	comp=Z,4.6nm,0.3s								
UPI	**Upington**	**5.17**	**254**	*e*P		**Pn**		**02 02 55.2**	**+1.5**
UPI				*e*S		**Sn**		**02 03 52.0**	**-1.8**
UPI				AML		AML		02 04 18.2	
	comp=Z,12nm,0.8s								
MOPA	**Mopani**	**5.38**	**50**	*e*P		**Pn**		**02 02 57.5**	**+0.9**
MOPA				*e*S		**Sn**		**02 03 56.7**	**-2.2**
MOPA				AML		AML		02 04 28.7	
	comp=Z,7.5nm,0.6s								
KEIM	**Keimoes**	**5.50**	**251**	*e*P		**Pn**		**02 02 59.3**	**+1.1**
KEIM				*e*S		**Sn**		**02 04 00.7**	**-1.2**
KEIM				AML		AML		02 04 28.5	
	comp=Z,16nm,0.4s								
SOE	**Somerset East**	**5.76**	**191**	*e*P		**Pn**		**02 03 03.1**	**+1.4**
SOE				*e*S		**Sn**		**02 04 06.2**	**-2.0**
SOE				AML		AML		02 04 11.3	
	comp=Z,3.0nm,0.4s								
GRAN	**Grantham**	**6.65**	**217**	*e*P		**Pn**		**02 03 15.5**	**+1.4**
GRAN				*e*S		**Sn**		**02 04 27.7**	**-2.5**
GRAN				AML		AML		02 04 40.6	
	comp=Z,2.0nm,0.2s								
MATP	**Matopo**	**6.76**	**13**	*i* P		**Pn**		**02 03 19.1**	**+3.5**
MATP	**Matopo**	**6.76**	**13**	*i* P		**Pn**		**02 03 17.6**	**+2.0**
MATP	**Matopo**	**6.76**	**13**	*i* P		**Pn**		**02 03 19.1**	**+3.5**
MATP	**Matopo**	**6.76**	**13**	*i* P		**Pn**		**02 03 17.6**	**+2.0**
BLWY	**Bulawayo**	**7.06**	**13**	*i* P		**Pn**		**02 03 21.2**	**+1.5**
BLWY	**Bulawayo**	**7.06**	**13**	*i* P		**Pn**		**02 03 22.8**	**+3.1**
BLWY				*i* S		**Sn**		**02 04 35.2**	**-5.2**
BLWY	**Bulawayo**	**7.06**	**13**	*i* P		**Pn**		**02 03 21.2**	**+1.5**
BLWY	**Bulawayo**	**7.06**	**13**	*i* P		**Pn**		**02 03 22.8**	**+3.1**
BLWY				*i* S		**Sn**		**02 04 35.2**	**-5.2**
CVNA	**Calvinia**	**7.64**	**233**	*e*P		**Pn**		**02 03 28.5**	**+0.9**
CVNA				*e*S		**Sn**		**02 04 51.7**	**-2.8**
CVNA				AML		AML		02 05 36.1	
	comp=Z,9.7nm,0.7s								
KOMG	**Komaggas**	**8.73**	**250**	*e*P		**Pn**		**02 03 44.0**	**+1.6**
KOMG				*e*S		**Sn**		**02 05 17.2**	**-4.1**
KOMG				AML		AML		02 06 18.6	
	comp=Z,4.7nm,0.5s								

*SFS **06** 02:19:18.0,36.°58N×9.°86W,h15km,ML2.5,SW. CABO DE SAN VICENTE*
*MDD **06** 02:19:19.4±1.4,36.°60N×9.°85W,h16km±8km,mbLg2.4/5, Error ellipse: s-maj=12.4km s-min=8.8km az=35.0, PRXIMO*
*CNRM **06** 02:19:19.9±2.4,36.°04N×9.°76W,h15km, Error ellipse: s-maj=18.3km s-min=14.9km az=139.0*
*INMG **06** 02:19:21.0±1.3,36.°65N×9.°79W,h12km±5km,ML1.8, Error ellipse: s-maj=5.8km s-min=4.4km az=46.0*

ISC 06 02:19:17.7±2.1,36.°63N±0.°07×9.°71W±0.°08,h10km,n48,
σ1§41/78,1D,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.87**	**55**	P		**Pn**		**02 19 37.0**	**+1.1**
	2.4nm,0.1s,SNR=7.5								
PFVI				S		**Sn**		**02 19 49.8**	**+1.1**
	11nm,0.1s,SNR=7.9								
PFVI	**Vila Bisbo**	**0.87**	**55**	*e*P		**Pn**		**02 19 37.1**	**+1.1**
PFVI				*e*S		**Sn**		**02 19 49.8**	**+1.1**
PFVI				A		A		02 19 51.1	
	8.6nm,0.1s								
PTEO	**Sao Teotonio**	**1.21**	**41**	P		**Pn**		**02 19 41.7**	**+1.1**
PTEO				S		**Sn**		**02 19 58.3**	**+1.2**
	4.1nm,0.4s								
PTEO	**Sao Teotonio**	**1.21**	**41**	*e*P		**Pn**		**02 19 41.7**	**+1.1**
PTEO				*e*S		**Sn**		**02 19 58.3**	**+1.2**
PTEO				A		A		02 19 59.9	
	8.2nm,0.4s								
PBDV	**Barranco-do-Ve**	**1.55**	**66**	P		**Pg**		**02 19 48.3**	**+0.8**
PBDV				S		**Sg**		**02 20 07.8**	**+0.2**
PBDV	**Barranco-do-Ve**	**1.55**	**66**	*e*Pn		**Pg**		**02 19 48.3**	**+0.8**
PBDV				*e*Sn		**Sg**		**02 20 07.8**	**+0.2**
PNCL	**Nicolau / Gran**	**1.75**	**32**	P		**Pn**		**02 19 49.5**	**+1.3**
PNCL				S		**Sb**		**02 20 11.3**	**-0.7**
	5.0nm,0.2s								
PNCL	**Nicolau / Gran**	**1.75**	**32**	*e*Pn		**Pn**		**02 19 49.5**	**+1.3**
PNCL				*e*Sn		**Sb**		**02 20 11.3**	**-0.7**
PNCL				A		A		02 20 14.3	
	5.0nm,0.2s								
PVAQ	**Vaqueiros**	**1.77**	**64**	P		**Pb**		**02 19 50.9**	**+0.6**
PVAQ				S		**Sb**		**02 20 12.1**	**-0.5**
	2.8nm,0.2s								
PVAQ	**Vaqueiros**	**1.77**	**64**	*e*Pn		**Pb**		**02 19 50.9**	**+0.6**
PVAQ				*e*Sn		**Sb**		**02 20 12.1**	**-0.5**
PVAQ				A		A		02 20 14.9	
	2.8nm,0.2s								
EGRO	**El Granado**	**2.00**	**63**	S		**Sb**		**02 20 17.5**	**-1.6**
	2.3nm,0.1s,SNR=7.9								
PBEJ	**Beja**	**2.02**	**46**	S		**Sb**		**02 20 17.7**	**-2.2**
	0.8nm,0.1s								
PBEJ	**Beja**	**2.02**	**46**	*e*Sn		**Sb**		**02 20 17.7**	**-2.2**
PBEJ				A		A		02 20 20.9	
	1.5nm,0.1s								
EVO	**Evora**	**2.33**	**35**	P		Pn		02 19 41.2	-15
EVO				S		**Sn**		**02 20 25.1**	**+0.3**
EVO	**Evora**	**2.33**	**35**	*e*P		Pn		02 19 41.2	-15
EVO				*e*S		**Sn**		**02 20 24.1**	**-0.7**
EVO	**Evora**	**2.33**	**35**	*e*Sn		**Sn**		**02 20 25.1**	**+0.3**
PMAFR	**Mafra**	**2.34**	**8**	P		**Pn**		**02 19 56.7**	**+0.4**
	10nm,0.2s,SNR=7.3								
PMAFR				S		**Sn**		**02 20 24.7**	**-0.5**
	28nm,0.2s,SNR=6.7								
PMAFR	**Mafra**	**2.34**	**8**	*e*Sn		**Sn**		**02 20 24.7**	**-0.5**
PMAFR				A		A		02 20 27.5	
	12nm,0.2s								
EMIN	**Mina Concepcio**	**2.68**	**64**	P		**Pn**		**02 20 03.0**	**+2.1**
	0.4nm,0.2s,SNR=7.9								
EMIN				S		**Sn**		**02 20 33.8**	**+0.4**
	0.6nm,0.1s,SNR=7.9								
PMTG	**Montargil**	**2.70**	**25**	P		**Pn**		**02 20 02.5**	**+1.3**
PMTG				S		**Sn**		**02 20 34.0**	**0.0**
PMTG	**Montargil**	**2.70**	**25**	*e*Pn		**Pn**		**02 20 02.5**	**+1.3**
PMTG				*e*Sn		**Sn**		**02 20 34.0**	**0.0**
PSBE	**So Bento**	**2.97**	**14**	*e*Pn		**Pn**		**02 20 05.7**	**+0.8**
PSBE				*e*Sn		**Sn**		**02 20 40.9**	**+0.3**
EBAD	**Badajoz**	**3.01**	**44**	P		**Pn**		**02 20 05.7**	**+0.2**
	0.6nm,0.1s,SNR=6.3								
EBAD				S		**Sn**		**02 20 41.3**	**-0.3**
	2.7nm,0.1s								
ESPR	**Espera**	**3.11**	**84**	P		**Pn**		**02 20 08.3**	**+1.6**
	0.6nm,0.1s,SNR=7.9								
ESPR				S		**Sn**		**02 20 43.3**	**-0.6**
	9.6nm,0.3s,SNR=7.9								
PMRV	**Marv??o**	**3.34**	**33**	P		**Pn**		**02 20 11.3**	**+1.3**
PMRV				S		**Sn**		**02 20 49.2**	**-0.5**
	2.2nm,0.3s								
PMRV	**Marv??o**	**3.34**	**33**	*e*Pn		**Pn**		**02 20 11.3**	**+1.3**
PMRV				*e*Sn		**Sn**		**02 20 49.2**	**-0.5**
PMRV				A		A		02 20 51.0	
	2.2nm,0.3s								
ECAB	**El Cabril**	**3.71**	**66**	P		**Pn**		**02 20 16.4**	**+1.3**
	0.0nm,0.0s,SNR=6.0								
ECAB				S		**Sn**		**02 20 58.5**	**-0.5**
	0.7nm,0.2s								
EMIJ	**Mijas**	**3.98**	**90**	P		**Pn**		**02 20 19.5**	**+0.7**
	0.2nm,0.1s,SNR=4.0								
EMIJ				S		**Sn**		**02 21 03.4**	**-2.0**
	0.8nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**4.37**	**68**	P		**Pn**		**02 20 25.2**	**+1.1**
	0.3nm,0.1s,SNR=7.9								
EADA				S		**Sn**		**02 21 15.3**	**+0.2**
	0.6nm,0.1s,SNR=7.9								
ELGU	**Los Guajares,**	**4.89**	**85**	S		**Sn**		**02 21 27.4**	**-0.7**
	0.5nm,0.1s,SNR=7.9								
MVO	**Moncorvo**	**4.99**	**24**	P		**Pn**		**02 20 33.4**	**+0.7**
	0.8nm,0.1s,SNR=7.9								
MVO				S		**Sn**		**02 21 30.0**	**-0.4**
	0.7nm,0.1s,SNR=7.9								
PAB	**San Pablo**	**5.13**	**54**	P		**Pn**		**02 20 35.6**	**+0.9**
	0.0nm,0.2s,SNR=7.9								
PAB				S		**Sn**		**02 21 31.4**	**-2.7**
	0.2nm,0.2s,SNR=7.9								
AKLM	**AKL**	**5.22**	**112**	P		**Pn**		**02 20 34.9**	**-0.9**
AKLM				S		**Sn**		**02 21 33.8**	**-2.3**
CZD	**Col de Zad**	**5.26**	**132**	P		**Pn**		02 20 33.5	-3.2
CZD				S		**Sn**		**02 21 32.5**	**-5.0**
ELOB	**Lobios**	**5.38**	**13**	P		**Pn**		**02 20 38.2**	**+0.1**
	0.5nm,0.2s,SNR=7.9								
ELOB				S		**Sn**		**02 21 37.6**	**-2.6**
	0.5nm,0.1s,SNR=6.4								
EQES	**Quesada**	**5.43**	**76**	P		**Pn**		**02 20 40.1**	**+1.3**
	0.3nm,0.1s,SNR=7.9								
EQES				S		**Sn**		**02 21 41.1**	**-0.3**
	0.2nm,0.1s,SNR=7.9								
ESDC	**Sonseca Array**	**5.45**	**54**	P		**Pn**		**02 20 40.5**	**+1.4**
	0.1nm,0.2s,baz=240,slow=13,SNR=3.6								
ESDC				S		**Sn**		**02 21 41.3**	**-0.7**
	0.3nm,0.2s,baz=241,slow=24,SNR=5.6								
MD31	**MD31**	**5.54**	**131**	P		Pn		02 20 36.2	-4.2
MD31				S		Sn		02 21 35.8	-8.4
EZAM	**Zamans**	**5.57**	**8**	P		**Pn**		**02 20 40.7**	**+0.1**
	0.3nm,0.1s,SNR=7.9								
EZAM				S		**Sn**		**02 21 43.1**	**-1.5**
	0.5nm,0.1s,SNR=7.9								
OUK	**Oukaimeden**	**5.62**	**164**	P		Pn		02 20 35.4	-6.3
OUK				S		Sn		02 21 36.4	-10
MDT	**Midelt**	**5.67**	**131**	P		Pn		02 20 37.7	-4.5
MDT				S		Sn		02 21 38.5	-8.8
ECAL	**Calabor**	**5.78**	**23**	P		**Pn**		**02 20 44.3**	**+0.7**
	0.6nm,0.1s,SNR=7.9								
ECAL				S		**Sn**		**02 21 48.8**	**-1.2**
	0.8nm,0.2s,SNR=7.9								
GUD	**Guadarrama**	**5.91**	**46**	P		**Pn**		**02 20 46.1**	**+0.6**
	0.2nm,0.2s,SNR=7.9								
GUD				S		**Sn**		**02 21 51.5**	**-1.9**
	0.2nm,0.1s,SNR=7.9								
OUZM	**OUZ**	**6.21**	**156**	P		Pn		02 20 44.8	-4.8
OUZM				S		Sn		02 21 52.9	-7.9
EMAZ	**Mazaricos**	**6.33**	**5**	||P	**Pn**		**02 20 50.4**	**-0.7**
	0.4nm,0.1s,SNR=18								
EMAZ				S		**Sn**		**02 21 59.4**	**-4.1**
	0.9nm,0.2s,SNR=7.9								
TLOR	**Lorca, Murcia**	**6.49**	**79**	P		**Pn**		**02 20 53.9**	**+0.7**
	4.0nm,0.1s,SNR=4.0								
ETOB	**Tobarra**	**6.78**	**70**	P		**Pn**		**02 20 58.6**	**+1.3**
	0.1nm,0.1s,SNR=7.9								
ETOB				S		**Sn**		**02 22 12.4**	**-2.3**
	0.1nm,0.1s,SNR=7.9								
ETOR	**Torete**	**7.30**	**53**	P		**Pn**		**02 21 05.7**	**+1.2**
	0.6nm,0.1s,SNR=4.0								
ETOR				S		**Sn**		**02 22 24.3**	**-3.1**
	0.6nm,0.2s,SNR=7.9								

*NEIC **06** 03:23:38.7±1.8,13.°6N±0.°1×57.°05E±0.°09,h10km±1km, mb4.4/8,Error ellipse: s-maj=20.7km s-min=11.7km az=151.0*
*IDC **06** 03:23:39.5±0.8,13.°69N×57.°24E,h0km,mb3.8/9, mb1 3.9/10,mb1mx3.6/42,mbtmp3.8/10,ML3.5/1,MS3.2/5, Ms1 3.2/5,ms1mx2.9/40,Error ellipse: s-maj=25.8km s-min=21.1km az=147.0*

ISC 06 03:23:38.8±0.6,13.°5N±0.°1×56.°99E±0.°08,h10km,n35,
σ1§55/30,mb3.9/12,MS3.1/4,Socotra region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**3.20**	**247**	Pn		**Pn**		**03 24 26.6**	**-2.7**
SOCY				Sn		**Sn**		**03 25 07.2**	**-0.3**
WSAR	**Wadi Sarin**	**9.82**	**9**	Pn		**Pn**		**03 26 00.9**	**+0.7**
	0.4nm,0.3s,baz=245,slow=12,SNR=2.2								
WSAR				LR		LR		03 29 22.9	
	comp=Z,252nm,18.8s,baz=176,slow=36								
UOSS	**Minazif**	**11.42**	**356**	Pn		**Pn**		**03 26 21.2**	**-0.9**
HRA	**Herat**	**21.35**	**12**	P		**P**		**03 28 25.1**	**-1.3**
GEYT	**Alibeck**	**24.36**	**2**	P		**P**		**03 28 58.0**	**+0.8**
	1.1nm,0.4s,baz=160,slow=18,SNR=2.0								
GEYT				LR		LR		03 40 06.2	
	comp=Z,51nm,18.3s,baz=335,slow=41								
GEYT	**Alibeck**	**24.36**	**2**	P		**P**		**03 28 54.4**	**-2.7**
EIL	**Elat**	**25.99**	**312**	LR		LR		03 40 06.1	
	comp=Z,21nm,20.0s,baz=156,slow=38								
MMAI	**Mount Meron Ar**	**27.67**	**318**	LR		LR		03 40 58.0	
	comp=Z,45nm,18.5s,baz=140,slow=38								
AKH	**Akhalkalaki**	**30.21**	**340**	P		**P**		**03 29 48.0**	**-1.7**
AKH						IAmb	IAmb	03 29 50.2	

*NEIC **06** 03:28:28.4±1.4,10.°01N±0.°09×103.°7W±0.°1,h10km±1km, mb4.7/153,Error ellipse: s-maj=17.2km s-min=15.2km az=267.0*
*IDC **06** 03:28:30.3±1.0,10.°21N×103.°77W,h0km,mb4.3/8, mb1 4.4/12,mb1mx4.2/28,mbtmp4.3/12,ML3.6/4,MS4.2/24, Ms1 4.2/24,ms1mx4.2/26,Error ellipse: s-maj=28.4km s-min=18.6km az=56.0*
*GCMT **06** 03:28:33.4±0.2,10.°35N±0.°01×103.°66W±0.°01,h12km, MW5.1/115,Moment Tensor Solution. s48,c60; s115,c198; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.19±.10; Mθθ-1.55±.09; Mϕϕ1.36±.10; Mrθ-0.14±.26; Mθϕ4.21±.08; Mϕr-2.08±.28; Best double couple: Mo4.91700×10¹⁶ NP1:ϕs262.00000°,δ66.00000°, λ6.00000°. NP2:ϕs170.00000°,δ85.00000°,λ156.00000°. Principal axes: T 5.0290, Plg21.0000°, Azm123.0000°; N -0.2280, Plg65.0000°, Azm338.0000°; P -4.8040, Plg13.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 03:28:29.3±0.5,10.°01N±0.°07×103.°68W±0.°08,h10km,
n298,σ1§16/230,mb4.7/70,MS4.2/23,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**9.00**	**33**	Pn		**Pn**		**03 30 38.3**	**-1.2**
MOIG	**Morelia**	**9.91**	**14**	Pn		**Pn**		**03 30 51.0**	**-1.1**
CMIG	**Matias Romero**	**11.07**	**50**	Pn		**Pn**		**03 31 07.8**	**0.0**
	0.1nm,0.3s,baz=236,slow=12,SNR=8.4								
CMIG				LR		LR		03 34 23.1	
	comp=Z,2μm,21.2s,baz=228,slow=32								
H06E1	**SOCORRO T-PHASE**	**11.29**	**322**	T		T		03 42 21.2	
	SNR=18								
H06N1	**SOCORRO T-PHASE**	**11.29**	**322**	T		T		03 42 25.5	
ZAIG	**Zacatecas**	**12.73**	**5**			**Pn**		**03 31 29.7**	**-1.1**
CCIG	**Comitan**	**12.85**	**60**			**Pn**		**03 31 30.9**	**-1.5**
HUEH	**Huehuetenango**	**13.00**	**65**	Pn		**Pn**		**03 31 32.8**	**-1.6**
MTO3	**Montecristo**	**14.66**	**71**			**Pn**		**03 31 55.5**	**-1.6**
ESQI	**Esquipulas**	**14.72**	**71**	Pn		**Pn**		**03 31 56.9**	**-0.9**
LPIG	**La Paz**	**15.38**	**337**	LR		LR		03 36 31.3	
	comp=Z,2μm,18.5s,baz=158,slow=32								
TGUH	**Tegucigalpa,Un**	**16.54**	**74**	Pn		**Pn**		**03 32 20.6**	**-1.1**
TGUH				IAmb		IAmb		03 32 29.0	
	comp=Z,82nm,1.3s								
HPIG		**16.94**	**354**	Pn		**Pn**		**03 32 25.0**	**-1.8**
ESTN	**Estel**	**17.23**	**78**	P		**P**		**03 32 32.0**	**0.0**
ESTN				IAmb		IAmb		03 32 36.8	
	comp=Z,68nm,1.3s								
MATN	**Matagalpa**	**17.64**	**79**			**Pn**		**03 32 34.4**	**-1.0**
BOAB	**BOACO BROADBAN**	**17.83**	**80**	Pn		**Pn**		**03 32 35.8**	**-2.0**
BOAB				IAmb		IAmb		03 32 50.1	
	comp=Z,81nm,1.3s								
TEIG	**Tepich**	**17.99**	**54**	P		**P**		**03 32 42.0**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=319,slow=2.7,SNR=6.6								
TEIG				LR		LR		03 39 26.7	
	comp=Z,406nm,18.1s,baz=48,slow=37								
TEIG	**Tepich**	**17.99**	**54**	P		**Pn**		**03 32 39.1**	**-0.6**
TEIG				IAmb		IAmb		03 32 47.3	
	comp=Z,135nm,1.8s								
KVTX	**Kingsville**	**18.28**	**17**			**Pn**		**03 32 41.8**	**-1.3**
JTS	**Las Juntas de**	**18.44**	**87**	P		**Pn**		**03 32 48.5**	**+3.3**
	comp=Z,0.3nm,0.3s,baz=355,slow=9.6,SNR=5.3								
JTS				LR		LR		03 38 03.7	
	comp=Z,1μm,19.5s,baz=332,slow=31								
JTS	**Las Juntas de**	**18.44**	**87**			**P**		**03 32 43.6**	**-1.6**
833A	**Chaparral WMA,**	**18.66**	**12**	P		**Pn**		**03 32 48.9**	**+1.0**
	baz=193								
833A	**Chaparral WMA,**	**18.66**	**12**			**P**		**03 32 46.3**	**-1.2**
833A				IAmb		IAmb		03 32 56.8	
	comp=Z,47nm,1.2s								
SRIG	**Santa Rosalia**	**19.02**	**336**	P		**P**		**03 32 50.7**	**-0.7**
ESPN	**Las Esperanzas**	**19.14**	**82**	P		**P**		**03 32 52.6**	**-0.3**
ESPN				IAmb		IAmb		03 33 05.1	
	comp=Z,76nm,1.

ABTX **Abilene, Hawle** 22.81 9 IAmb IAmb 03 33 36.4
comp=Z,34nm,1.2s
TUC **Tucson** 23.15 345 P **P** **03 33 37.6 +1.6**
baz=162
TUC **Tucson** 23.15 345 P **P** **03 33 34.6 -1.4**
NATX **Nacogdoches** 23.20 20 P **P** **03 33 37.0 +0.5**
baz=203,SNR=7.6
NATX **Nacogdoches** 23.20 20 P **P** **03 33 34.8 -1.6**
214A **Organ Pipe Nat** 23.42 340 P **P** **03 33 40.0 +1.3**
baz=157
MSTX **Muleshoe** 23.86 2 P **P** **03 33 44.3 +1.2**
baz=182
MSTX **Muleshoe** 23.86 2 IAmb IAmb 03 33 51.0
comp=Z,41nm,1.4s
Y22D **IRIS PASSCAL I** 24.14 353 P **P** **03 33 44.6 -1.1**
Y22D IAmb IAmb 03 34 02.9
comp=Z,14nm,0.5s
BNM **Barren Site** 24.18 354 P **P** **03 33 45.8 -0.5**
LENM **Lemitar** 24.23 353 P **P** **03 33 45.5 -1.2**
Z38A **Mt. Pleasant** 24.49 18 P **P** **03 33 47.0 -1.7**
344A **Westbrook Farm** 24.49 28 P **P** **03 33 47.1 -1.7**
AMTX **Amarillo** 24.83 4 P **P** **03 33 53.3 +1.4**
baz=185
AMTX **Amarillo** 24.83 4 IAmb IAmb 03 33 56.7
comp=Z,16nm,0.8s
ANMO **Albuquerque** 24.95 355 P **P** **03 33 55.6 +2.4**
comp=Z,2.1nm,0.8s,baz=155,slow=9.8,SNR=11
ANMO LR LR 03 42 33.5
comp=Z,376nm,19.5s,baz=176,slow=34
ANMO **Albuquerque** 24.95 355 P **P** **03 33 54.5 +1.4**
baz=173
ANMO **Albuquerque** 24.95 355 P **P** **03 33 51.5 -1.7**
WMOK **Wichita Mounta** 25.02 10 P **P** **03 33 54.7 +1.1**
baz=191
Z41A **Richland Creek** 25.21 22 P **P** **03 33 57.5 +2.2**
baz=206,SNR=10
Y14A **Wickenburg** 25.31 342 P **P** **03 33 55.0 -1.2**
W18A **Petrified Fore** 25.60 348 P **P** **03 34 01.0 +2.0**
baz=166
X37A **Clayton** 25.62 16 IAmb IAmb 03 34 12.8
comp=Z,25nm,1.2s
MONP2 **Monument Peak** 25.63 335 P **P** **03 34 01.2 +1.8**
baz=150
BC3 **Big Chuckawall** 25.91 337 P **P** **03 34 04.1 +2.4**
baz=153
PDMCI **Parker Dam,Lak** 26.01 340 P **P** **03 34 04.8 +2.2**
baz=156
MIAR **Mount Ida** 26.12 19 P **P** **03 34 04.9 +1.4**
baz=203,SNR=8.9
MIAR **Mount Ida** 26.12 19 IAmb IAmb 03 34 12.4
comp=Z,18nm,1.1s
IRM **Iron Mountain** 26.24 338 P **P** **03 34 06.2 +1.6**
baz=154
PFO **Pinyon Flats O** 26.27 335 LR LR 03 42 23.5
comp=Z,616nm,20.6s,baz=146,slow=32
PFO **Pinyon Flats O** 26.27 335 P **P** **03 34 06.3 +1.2**
baz=151
X40A **Basin Creek Fa** 26.31 21 P **P** **03 34 06.8 +1.5**
baz=204
WUAZ **Wupatki** 26.34 346 P **P** **03 34 07.6 +1.9**
baz=163
WUAZ **Wupatki** 26.34 346 IAmb IAmb 03 34 22.5
comp=Z,15nm,1.4s
W39A **Magazine** 26.65 18 P **P** **03 34 09.0 +0.6**
baz=202,SNR=7.4
W39A **Magazine** 26.65 18 IAmb IAmb 03 34 19.0
comp=Z,24nm,1.1s
TUL1 **Leonard** 26.77 14 P **P** **03 34 11.2 +1.9**
baz=197
TUL1 **Leonard** 26.77 14 IAmb IAmb 03 34 21.8
comp=Z,37nm,1.4s
GMRC **Granite Mounta** 26.99 338 P **P** **03 34 13.2 +1.7**
baz=153
T25A **Trinidad** 27.02 359 P **P** **03 34 13.3 +1.3**
baz=178
T25A **Trinidad** 27.02 359 IAmb IAmb 03 34 19.8
comp=Z,21nm,1.3s
W41B **Gary Mavity, V** 27.14 21 P **P** **03 34 14.0 +1.3**
baz=205,SNR=12
W41B **Gary Mavity, V** 27.14 21 IAmb IAmb 03 34 20.1
comp=Z,23nm,1.1s
Z47A **Carrollton** 27.19 30 IAmb IAmb 03 34 21.2
comp=Z,22nm,1.1s
MVCO **Mesa Verde** 27.43 352 P **P** **03 34 16.5 +0.9**
baz=170
MVCO **Mesa Verde** 27.43 352 IAmb IAmb 03 34 23.8
comp=Z,19nm,1.6s
T35A **Sooner Cattle** 27.56 12 IAmb IAmb 03 34 23.8
comp=Z,20nm,1.2s
LRAL **Lakeview Retre** 27.59 31 P **P** **03 34 17.8 +1.0**
baz=217
HHAR **Hobbs** 27.61 17 IAmb IAmb 03 34 23.2
comp=Z,16nm,1.1s
U38A **Gravette** 27.63 16 IAmb IAmb 03 34 27.7
comp=Z,20nm,1.1s
TUQ **Turquoise Moun** 27.66 338 P **P** **03 34 18.8 +1.1**
baz=153
SDCO **Great Sand Dun** 27.67 357 P **P** **03 34 18.6 +0.8**
baz=176
SDCO **Great Sand Dun** 27.67 357 IAmb IAmb 03 34 38.9
comp=Z,13nm,1.6s
S22A **4UR Ranch, Cre** 27.76 355 P **P** **03 34 19.5 +0.8**
baz=173
FCAR **Ozark Folk Cen** 27.83 20 IAmb IAmb 03 34 31.8
comp=Z,10nm,1.1s
U40A **Yellville** 28.01 19 P **P** **03 34 21.2 +0.6**
baz=203,SNR=5.3
U40A **Yellville** 28.01 19 IAmb IAmb 03 34 27.3
comp=Z,12nm,1.1s
SHPR **Sheep Range** 28.36 340 P **P** **03 34 23.5 -0.4**
PV18 **Skein Mesa, Pa** 28.51 351 IAmb IAmb 03 34 33.5
comp=Z,13nm,1.4s
PV04 **Paradox Valley** 28.65 351 IAmb IAmb 03 34 33.6
comp=Z,10nm,1.2s
PLAL **Pickwick Lake** 28.65 27 IAmb IAmb 03 34 33.2
comp=Z,17nm,0.9s
MPMC **Manual Prospec** 28.81 336 P **P** **03 34 28.6 +0.7**
baz=151
KSCO **Kaye Shedlock'** 28.90 2 P **P** **03 34 29.8 +1.2**
baz=182
KSCO **Kaye Shedlock'** 28.90 2 IAmb IAmb 03 34 35.9
comp=Z,16nm,1.0s
T42A **Van Buren** 29.21 21 IAmb IAmb 03 34 38.6
comp=Z,24nm,1.8s
CWC **Cottonwood Cre** 29.38 336 P **P** **03 34 34.1 +1.2**
baz=150
ROSC **El Rosal** 29.55 98 P P 03 34 40.4 +5.5
comp=Z,4.1nm,0.5s,baz=307,slow=20,SNR=1.5
ROSC LR LR 03 43 47.9
comp=Z,658nm,19.8s,baz=274,slow=31
ROSC **El Rosal** 29.55 98 P **P** **03 34 34.8 -0.1**
ROSC IAmb IAmb 03 34 40.8
comp=Z,7.2nm,0.7s
ISCO **Idaho Springs** 29.72 357 P **P** **03 34 36.8 +0.7**
baz=176
WVT **Waverly** 29.72 26 P **P** **03 34 36.4 +0.7**
baz=213
WVT **Waverly** 29.72 26 P **P** **03 34 35.7 -0.1**
WVT IAmb IAmb 03 34 42.5
comp=Z,7.9nm,0.9s
P17A **Butcher Ranch,** 30.01 349 P **P** **03 34 36.9 -1.6**
O20A **White River Ci** 30.28 353 P **P** **03 34 41.7 +0.8**
baz=171,SNR=6.4
O20A **White River Ci** 30.28 353 IAmb IAmb 03 34 49.6
comp=Z,9.1nm,1.0s
ATAH **Atahualpa** 30.40 123 P P 03 34 49.3 +6.8
comp=Z,3.3nm,0.6s,baz=54,slow=9.6,SNR=4.1
T47A **Sharon Grove** 30.76 27 IAmb IAmb 03 34 51.4
comp=Z,9.0nm,0.9s
OMMB **Old Mammoth Mi** 30.76 336 IAmb IAmb 03 34 52.0
comp=Z,9.7nm,1.4s
N23A **Red Feather La** 30.83 357 P **P** **03 34 46.1 +0.3**
baz=176
DUG **Dugway, Tooele** 31.14 346 P **P** **03 34 47.2 -1.2**
NVAR **Mina Array Bea** 31.20 337 P **P** **03 34 52.1 +3.0**
comp=Z,0.3nm,0.6s,baz=152,slow=10,SNR=2.7
NVAR LR LR 03 45 20.7
comp=Z,531nm,21.0s,baz=144,slow=33
NVAR **Mina Array Bea** 31.20 337 P **P** **03 34 49.3 +0.3**
Q44A **Meyer Farm, Va** 31.62 22 P **P** **03 34 51.2 -1.3**
KVN **Kaiserville** 31.67 338 P **P** **03 34 51.5 -1.6**
T50A **Nancy** 31.83 29 IAmb IAmb 03 35 01.6
comp=Z,21nm,1.4s
HWUT **Hardware Ranch** 32.23 349 IAmb IAmb 03 35 06.3
comp=Z,18nm,1.5s
T53A **Wise** 32.96 32 P **P** **03 35 05.3 +0.9**
baz=220

HDIL **Hopedale** 32.99 20 P **P** **03 35 05.0 +0.5**
baz=206,SNR=9.3
U54A **Nelsons Funny** 33.00 33 P **P** **03 35 05.6 +0.9**
baz=222
BW06 **Boulder Array** 33.04 352 P **P** **03 35 05.5 +0.3**
baz=169,SNR=9.2
BW06 **Boulder Array** 33.04 352 P **P** **03 35 03.5 -1.7**
BW06 IAmb IAmb 03 35 12.9
comp=Z,11nm,1.2s
PD31 **Pinedale Array** 33.04 352 IAmb IAmb 03 35 12.9
comp=Z,8.9nm,1.1s
PDAR **Pinedale Array** 33.04 352 P **P** **03 35 06.3 +1.1**
comp=Z,3.5nm,1.0s,baz=153,slow=10.0,SNR=17
PDAR LR LR 03 49 10.2
comp=Z,264nm,18.5s,baz=184,slow=38
PDAR **Pinedale Array** 33.04 352 P **P** **03 35 05.5 +0.3**
AHID **Auburn Hatcher** 33.27 350 P **P** **03 35 06.7 -0.5**
AHID IAmb IAmb 03 35 15.3
comp=Z,14nm,1.4s
U55A **TA2, Sparta** 33.41 34 P **P** **03 35 08.9 +0.6**
baz=223
ORV **Oroville** 33.44 335 P **P** **03 35 07.9 -0.6**
ORV IAmb IAmb 03 35 15.7
comp=Z,14nm,1.6s
T54A **Tazewell** 33.53 33 P **P** **03 35 10.4 +1.1**
baz=222
ECR **Eagle Creek** 33.60 350 P **P** **03 35 08.5 -1.6**
SFIN **Lafayette** 33.64 23 P **P** **03 35 11.0 +0.9**
baz=210,SNR=8.5
L40A **Anamosa** 33.75 17 IAmb IAmb 03 35 17.2
comp=Z,7.4nm,0.8s
P49A **Miami Univ. Ec** 33.92 27 P **P** **03 35 12.3 -0.3**
baz=215,SNR=7.1
RSSD **Black Hills** 33.99 360 P **P** **03 35 14.9 +1.5**
baz=179
RSSD **Black Hills** 33.99 360 P **P** **03 35 13.6 +0.2**
RSSD IAmb IAmb 03 35 20.6
comp=Z,6.8nm,1.1s
T55A **Pulaski** 34.00 34 P **P** **03 35 14.7 +1.3**
baz=223
Q51A **Peebles** 34.14 29 P **P** **03 35 14.5 0.0**
Q51A IAmb IAmb 03 35 22.3
comp=Z,9.8nm,0.8s
ECSD **EROS Data Cent** 34.16 9 P **P** **03 35 15.5 +0.9**
baz=192,SNR=9.9
ECSD **EROS Data Cent** 34.16 9 IAmb IAmb 03 35 22.6
comp=Z,13nm,1.2s
V59A **Middlesex** 34.53 38 P **P** **03 35 19.0 +1.0**
baz=223
O49A **Covington** 34.62 27 IAmb IAmb 03 35 25.7
comp=Z,14nm,1.1s
P51A **Williamsport** 34.63 29 P **P** **03 35 19.7 +0.9**
baz=217
P51A **Williamsport** 34.63 29 IAmb IAmb 03 35 29.6
comp=Z,16nm,1.1s
HLID **Hailey** 34.71 346 P **P** **03 35 21.6 +1.9**
baz=161
U58A **Oxford** 34.77 37 P **P** **03 35 21.9 +2.0**
baz=227
T58A **Grand View Acr** 35.15 36 P **P** **03 35 24.1 +0.8**
baz=226
P52A **Corning** 35.20 29 P **P** **03 35 24.5 +0.8**
baz=219
ACSO **Alum Creek Sta** 35.27 28 P **P** **03 35 25.2 +0.9**
baz=217
RLMT **Red Lodge** 35.32 353 P **P** **03 35 26.1 +1.2**
baz=170
O51A **Pataskala** 35.37 28 P **P** **03 35 25.6 +0.4**
baz=218
M04C **Macdoel** 35.45 336 P **P** **03 35 27.4 +1.4**
baz=148
M02C **Callahan** 35.54 335 P **P** **03 35 28.0 +1.3**
baz=146
I40A **Norwalk** 35.61 16 IAmb IAmb 03 35 33.5
comp=Z,14nm,0.9s
O52A **Adamsville** 35.72 29 P **P** **03 35 29.1 +0.9**
baz=219
T59A **Double "B" Far** 35.74 37 P **P** **03 35 29.0 +0.6**
baz=228
Q55A **Buckhannon** 35.75 32 P **P** **03 35 28.6 +0.1**
baz=222
DLMT **Dillon** 36.05 349 IAmb IAmb 03 35 48.9
comp=Z,21nm,1.5s
BOZ **Bozeman (W)** 36.12 351 P **P** **03 35 32.4 +0.7**
baz=167
BOZ **Bozeman (W)** 36.12 351 IAmb IAmb 03 35 40.0
comp=Z,11nm,1.4s
SPMN **Marine on St.** 36.32 13 P **P** **03 35 33.6 +0.4**
baz=198
SPMN **Marine on St.** 36.32 13 IAmb IAmb 03 35 40.0
comp=Z,19nm,1.4s
M51A **Elyria** 36.51 28 P **P** **03 35 35.2 +0.3**
baz=217
J05D **Fort Rock, OR** 36.51 338 P **P** **03 35 35.9 +0.8**
baz=150
E28A **Huff** 36.53 3 IAmb IAmb 03 35 41.6
comp=Z,14nm,0.9s
N53A **Lisbon** 36.73 30 P **P** **03 35 37.5 +0.7**
baz=220
F36A **Milaca** 36.77 12 IAmb IAmb 03 35 43.8
comp=Z,11nm,1.0s
O55A **Ligonier** 37.05 32 P **P** **03 35 40.0 +0.5**
baz=222
M52A **Chesterland** 37.05 28 P **P** **03 35 39.8 +0.3**
baz=218
N54A **Moraine State** 37.27 30 P **P** **03 35 42.3 +0.9**
baz=221
RPN **Rapa Nui** 37.32 188 P **P** **03 35 41.0 -0.9**
N55A **Marion Center** 37.64 31 P **P** **03 35 45.7 +1.2**
baz=222
COWI **Conover** 38.06 16 IAmb IAmb 03 35 55.1
comp=Z,25nm,1.2s
SSPA **Standing Stone** 38.10 32 P **P** **03 35 49.0 +0.6**
baz=224
SSPA **Standing Stone** 38.10 32 P **P** **03 35 47.6 -0.8**
EGMT **Eagleton** 38.24 353 P **P** **03 35 50.8 +1.2**
baz=170
EGMT **Eagleton** 38.24 353 IAmb IAmb 03 35 57.2
comp=Z,14nm,1.1s
M55A **Ridgway** 38.26 31 P **P** **03 35 50.2 +0.4**
baz=222
DGMT **Dagmar** 38.34 359 P **P** **03 35 51.7 +1.3**
baz=179
DGMT **Dagmar** 38.34 359 IAmb IAmb 03 35 57.9
comp=Z,20nm,0.8s
M56A **Emporium** 38.56 31 P **P** **03 35 52.3 -0.1**
baz=223
AGMN **Agassiz Nation** 38.73 8 P **P** **03 35 53.1 -0.5**
baz=192,SNR=17
AGMN **Agassiz Nation** 38.73 8 IAmb IAmb 03 36 00.7
comp=Z,20nm,0.9s
L55A **Hinsdale** 38.95 30 P **P** **03 35 55.8 +0.1**
baz=222
B35A **Bob, Littlefor** 39.13 11 IAmb IAmb 03 36 03.6
comp=Z,17nm,1.4s
EYMN **Ely** 39.19 13 P **P** **03 35 56.9 -0.6**
baz=199,SNR=9.4
EYMN **Ely** 39.19 13 IAmb IAmb 03 36 08.4
comp=Z,18nm,1.1s
NEW **Newport** 39.77 346 P **P** **03 36 03.0 +0.6**
baz=159
K56A **Middlesex** 39.89 31 P **P** **03 36 04.1 +0.7**
baz=223
F49A **Sandfield** 40.16 24 P **P** **03 36 06.1 +0.5**
baz=214
L58A **Harry Jones Me** 40.18 33 P **P** **03 36 05.7 -0.1**
baz=225
BINY **Binghamton** 40.22 32 P **P** **03 36 07.1 +0.9**
baz=225
E47A **Iron Bridge** 40.27 22 P **P** **03 36 07.0 +0.5**
baz=212
D46A **Sault St. Mari** 40.37 21 P **P** **03 36 07.3 0.0**
baz=211
ULM **Lac du Bonnet** 40.64 8 P **P** **03 36 10.0 +0.6**
comp=Z,6.2nm,0.8s,baz=193,slow=8.3,SNR=6.2
ULM LR LR 03 52 04.2
comp=Z,286nm,18.7s,baz=188,slow=35
ULM **Lac du Bonnet** 40.64 8 P **P** **03 36 08.5 -1.0**
ULM IAmb IAmb 03 36 15.9
comp=Z,12nm,1.0s
H53A **Bobcaygeon** 40.69 28 P **P** **03 36 09.1 -0.9**
baz=220
K58A **Earlville** 40.79 32 P **P** **03 36 10.5 -0.4**
baz=225
K58A **Earlville** 40.79 32 P **P** **03 36 11.1 +0.2**
K58A IAmb IAmb 03 36 17.6
comp=Z,10nm,0.9s
I55A **Frankford** 40.84 29 P **P** **03 36 10.5 -0.7**
baz=221
D47A **Chapleau** 40.84 22 P **P** **03 36 11.2 0.0**
baz=212
TAOE **Nuku Hiva Isla** 40.85 244 *e*T T 04 19 30.8
comp=Z,40nm,0.2s
G53A **Haliburton** 41.09 27 P **P** **03 36 13.1 -0.2**
baz=219
F51A **Arnstein** 41.16 25 P **P** **03 36 13.5 -0.4**
baz=217
E50A **Wahnapitae** 41.22 24 P **P** **03 36 15.3 +1.0**
baz=216
H55A **Tweed** 41.33 29 P **P** **03 36 15.1 -0.1**
baz=222
D48A **Paudash Townsh** 41.42 23 P **P** **03 36 15.5 -0.5**
baz=214,SNR=5.8
G54A **Lake Saint Pet** 41.55 27 P **P** **03 36 16.6 -0.4**
baz=220
I57A **Carthage** 41.62 31 P **P** **03 36 17.9 +0.2**
baz=224
D49A **Beulah Townshi** 41.68 23 P **P** **03 36 17.7 -0.3**
baz=214
I58A **Old Forge** 41.80 32 P **P** **03 36 19.0 -0.1**
baz=225
H56A **Elgin** 41.80 30 P **P** **03 36 19.4 +0.3**
baz=223
E51A **G1948 Merrick** 41.82 25 P **P** **03 36 19.4 +0.1**
baz=217
E52A **Mattawa** 41.98 26 P **P** **03 36 20.7 +0.1**
baz=218
ALGO **Algonquin Park** 41.99 27 P **P** **03 36 20.5 -0.2**
baz=219
G55A **Calabogie** 42.07 29 P **P** **03 36 21.1 -0.2**
baz=222
H57A **Richville** 42.13 30 P **P** **03 36 22.1 +0.2**
baz=224
D50A **G1974 Best Tow** 42.19 24 P **P** **03 36 22.8 +0.6**
baz=216
D51A **Lot 18 Range I** 42.32 25 P **P** **03 36 23.7 +0.4**
baz=217
I59A **Olmsteadville** 42.44 32 P **P** **03 36 24.7 +0.3**
baz=226
M64A **Tiverton** 42.45 37 P **P** **03 36 25.0 +0.5**
baz=231
E53A **Dumoine, Ponti** 42.49 27 P **P** **03 36 25.3 +0.6**
baz=220
LONY **Lake Ozonia** 42.65 31 P **P** **03 36 26.8 +0.7**
baz=225
H58A **Gabriels** 42.71 31 P **P** **03 36 27.0 +0.4**
baz=226
E54A **Lac Daplat, Po** 42.74 27 P **P** **03 36 27.4 +0.6**
baz=220
G57A **Newington** 42.80 30 P **P** **03 36 26.9 -0.3**
baz=224
D53A **Lac Vacive, Po** 43.02 26 P **P** **03 36 28.7 -0.3**
baz=219
H59A **Cadyville** 43.12 31 P **P** **03 36 29.1 -0.8**
baz=226
PTCN **Pitcairn Islan** 43.34 216 P **P** **03 36 31.4 -0.5**
I61A **Oroboro, Fairl** 43.42 33 P **P** **03 36 31.7 -0.7**
baz=228
D54A **Lac Fusel, La** 43.53 27 P **P** **03 36 33.3 +0.1**
baz=220
E56A **St. Veronique** 43.81 29 P **P** **03 36 35.5 +0.1**
baz=223
LPAZ **La Paz** 43.82 126 P **P** **03 36 40.0 +3.4**
comp=Z,6.1nm,0.9s,baz=329,slow=6.6,SNR=16
LPAZ **La Paz** 43.82 126 P **P** **03 36 35.6 -1.0**
LPAZ IAmb IAmb 03 36 46.8
comp=Z,7.3nm,0.8s
I62A **Tamworth** 43.86 34 P **P** **03 36 34.6 -1.2**
baz=229
D55A **Sainte-Anne-du** 43.96 28 P **P** **03 36 36.1 -0.5**
baz=222
G60A **Masonville** 44.14 32 P **P** **03 36 37.7 -0.4**
baz=227
E57A **Chemin Saint G** 44.14 29 P **P** **03 36 37.5 -0.6**
baz=224
D56A **ZEC Mazanza, M** 44.31 28 P **P** **03 36 38.5 -1.0**
baz=223
SAML **Samuel** 44.49 114 P **P** **03 36 40.5 -0.9**
SAML IAmb IAmb 03 36 49.1
comp=Z,10nm,1.1s
E58A **La Victoria** 44.54 30 P **P** **03 36 40.7 -0.6**
baz=225
FFC **Flin Flon** 44.62 1 P **P** **03 36 41.2 -0.5**
FFC IAmb IAmb 03 36 48.5
comp=Z,9.8nm,1.2s
D57A **Chemin Vers le** 44.70 29 P **P** **03 36 42.4 -0.2**
baz=224
LSQQ **Lebel-sur-Quev** 44.86 25 P **P** **03 36 43.8 +0.1**
baz=219
MATQ **Matagami** 45.14 24 P **P** **03 36 45.6 -0.4**
baz=217
D58A **Chemin du LacG** 45.24 30 P **P** **03 36 47.3 +0.4**
baz=225
CHGQ **Chibougamau** 46.60 26 P **P** **03 36 57.3 -0.2**
baz=221
F64A **Sherman** 46.76 34 P **P** **03 36 58.6 -0.2**
baz=231
D63A **Stockholm** 47.63 33 P **P** **03 37 06.9 +1.3**
baz=231
FCC **Fort Churchill** 49.20 7 P **P** **03 37 17.3 -0.1**
FCC IAmb IAmb 03 37 23.7
comp=Z,5.7nm,0.8s
H03N2 **Juan Fernandez** 49.21 152 T T 04 30 25.0
baz=329,slow=77,SNR=16
H03N1 **Juan Fernandez** 49.22 152 T T 04 30 31.5
baz=329,slow=77,SNR=29
H03N3 **Juan Fernandez** 49.23 152 T T 04 30 24.3
baz=329,slow=77,SNR=26
PMOR **Pomariorio Ree** 50.37 241 *e*T T 04 31 28.3
comp=Z,3.8nm,0.3s
PPT **Papeete** 52.98 239 LR LR 03 54 37.6
comp=Z,170nm,18.0s,baz=84,slow=30
PPT2 **Papeete2** 52.99 239 *e*S **S** **03 45 14.7 -2.0**
comp=Z,98nm,25.5s
PPT2 *e*LQ LQ 03 50 51.2
comp=Z,458nm,24.5s
PPT2 *e*LR LR 03 52 57.7
comp=Z,579nm,25.5s,baz=62
YKA **Yellowknife Ar** 52.99 354 P **P** **03 37 45.9 0.0**
comp=Z,1.0nm,0.9s,baz=166,slow=7.5,SNR=6.4
YKA LR LR 04 01 05.0
comp=Z,325nm,18.1s,baz=0.0,slow=37
SCHQ **Schefferville** 53.35 26 P **P** **03 37 48.5 -0.2**
comp=Z,8.4nm,1.0s,baz=239,slow=5.4,SNR=8.5
SCHQ LR LR 04 04 02.8
comp=Z,198nm,18.1s,baz=245,slow=40
SCHQ **Schefferville** 53.35 26 IAmb IAmb 03 37 55.8
comp=Z,11nm,1.0s
TBI **Tubuai** 55.72 233 *e*S **S** **03 45 52.4 -0.8**
comp=Z,312nm,28.0s
TBI *e*LR LR 03 54 17.0
comp=Z,649nm,26.8s,baz=56
PLCA **Paso Flores** 59.03 151 LR LR 03 58 33.1
comp=Z,509nm,19.2s,baz=315,slow=30
BCAR **Beaver Creek A** 59.56 341 P **P** **03 38 33.2 +0.3**
K27K **Chicken** 60.34 342 P **P** **03 38 40.0 +1.8**
baz=135
BDFB **Brasilia** 60.73 114 LR LR 04 03 37.1
comp=Z,688nm,20.4s,baz=298,slow=35
SCRK **Sand Creek** 60.90 341 P **P** **03 38 43.6 +1.4**
baz=133
RIDG **Independent Ri** 61.02 340 P **P** **03 38 42.8 -0.1**
RIDG IAmb IAmb 03 38 50.5
comp=Z,11nm,1.3s
IL31 **62.38 341** P **P** **03 38 52.3 +0.4**
IL31 IAmb IAmb 03 39 01.7
comp=Z,4.2nm,0.8s
ILAR **Eielson Array** 62.38 341 P **P** **03 38 52.6 +0.6**
comp=Z,2.0nm,0.9s,baz=151,slow=4.4,SNR=18
ILAR LR LR 04 06 19.2
comp=Z,100nm,18.2s,baz=136,slow=36
ILAR **Eielson Array** 62.38 341 P **P** **03 38 51.9 -0.1**
NEA2 **Nenana** 62.99 340 P **P** **03 38 57.0 +0.9**
baz=128
PPLA **Purkeypile** 63.11 337 P **P** **03 38 56.6 -0.4**
TOLK **Toolik Lake Re** 65.68 343 P **P** **03 39 14.7 +1.0**
baz=129
MA2 **Magadan** 89.19 331 LR LR 04 14 11.6
comp=Z,57nm,21.6s,baz=75,slow=31
ESDC **Sonseca Array** 91.06 50 LR LR 04 17 11.6
comp=Z,85nm,22.0s,baz=205,slow=32
NOA **NORSAR Array B** 92.92 26 LR LR 04 24 20.2
comp=Z,73nm,19.2s,baz=300,slow=36
ARCES **ARCESS Array B** 93.28 16 LR LR 04 24 50.6
comp=Z,109nm,18.6s,baz=338,slow=36
DZM **Mont Dzumac** 93.59 248 *e*LR LR 04 11 54.5

comp=Z,172nm,22.6s
DBIC Dimbokro 97.48 82 LR LR 04 26 28.8
comp=Z,66nm,18.1s,baz=252,slow=36
CLL Collm 98.23 35 *e*PS PS 03 54 52.0 -7.6
CLL *e*SS SS 04 00 16.0 -1.0
CLL LmV 04 26 00.0
comp=Z,100nm,21.0s
FINES FINESS Array B 98.70 22 LR LR 04 25 54.8
comp=Z,142nm,21.9s,baz=312,slow=35
GERES GERESS Array B 99.77 37 LR LR 04 29 50.4
comp=Z,71nm,18.8s,baz=298,slow=37
HHC Hu-ho-hao-te 119.85 330 *e*PKP **PKPdf 03 47 19.7 -0.8**
HHC PP **PP 03 48 39.7 -3.4**
HHC SKKS 03 55 40.0
HHC Hu-ho-hao-te 119.85 330 SS SS 04 04 59.6 -8.5
HHC AMB AMB
comp=Z,110nm,7.6s
HHC LR LR
comp=N,300nm,19.2s
HHC LR LR
comp=E,260nm,20.0s
HHC LR LR
comp=Z,330nm,19.4s
WRA Warramunga Arr 123.32 253 PKP **PKiKP 03 47 30.6 +2.8**
comp=Z,0.9nm,0.8s,baz=83,slow=2.1,SNR=5.2
WRA Warramunga Arr 123.32 253 **PKPdf 03 47 27.7 +0.1**
ASAR Alice Springs 123.58 248 PKP **PKiKP 03 47 29.5 +1.3**
comp=Z,0.3nm,0.3s,baz=64,slow=2.2,SNR=4.8

MAN 06 03:29:52.9, 5.56N×126.70E, h1km, MS3.9, Mindanao

*GCG **06** 03:38:21.0±0.7, 13.40N×89.41W, h53km±103km, MD3.7*
*SNET **06** 03:38:23.1±1.1, 13.49N×89.65W, h71km±4km, ML3.3*
ISC 06 03:38:25.4±1.5, **13.51N**±0.08×**89.59W**±0.05, **h61**km±8km, **n29**,σ1°**18**/47, **6D**, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
JAYA	**Jayaque - finc**	**0.20**	**43**	⇓*i*P		**Pn**	**03 38 34.4**	**-0.9**
JAYA				*e*S		**Sn**	**03 38 42.7**	**+0.3**
JAYA				IAML			03 38 46.2	
	comp=Z,3μm,0.1s							
CEVE	**Cerro Verde**	**0.32**	**354**	*e*P		**Pn**	**03 38 35.2**	**-1.0**
CEVE				IAML			03 38 50.4	
	comp=Z,2μm,0.4s							
CEDA	**San Andres**	**0.35**	**33**	*e*P		**Pn**	**03 38 35.0**	**-1.1**
CEDA				*e*S		**Sn**	**03 38 45.5**	**+1.6**
CEDA				IAML			03 38 52.0	
	comp=Z,904nm,0.3s							
SNJE	**San Jose**	**0.36**	**358**	*e*P		**Pn**	**03 38 35.4**	**-1.0**
BOQS	**Boqueron**	**0.38**	**53**	*e*P		**Pn**	**03 38 35.8**	**-0.8**
RTR	**El Retiro**	**0.39**	**352**	*e*P		**Pn**	**03 38 35.8**	**-0.9**
SNET	**Serv Nac Est T**	**0.39**	**63**	*e*P		**Pn**	**03 38 35.6**	**-0.9**
SNET				*e*S		**Sn**	**03 38 45.8**	**+1.1**
SNET				IAML			03 38 52.6	
	comp=Z,1μm,0.2s							
UEES	**Universidad Ev**	**0.40**	**59**	*e*P		**Pn**	**03 38 35.5**	**-1.1**
UEES				*e*S		**Sn**	**03 38 46.4**	**+1.6**
OPAM	**Oficina de Pla**	**0.43**	**62**	*e*P		**Pn**	**03 38 36.0**	**-0.9**
OPAM				*e*S		**Sn**	**03 38 46.2**	**+1.0**
NUBE	**Las Nubes**	**0.43**	**335**	⇓*i*P		**Pn**	**03 38 35.6**	**-1.5**
NUBE				*e*S		**Sn**	**03 38 45.8**	**+0.3**
TACO	**Tacachico**	**0.51**	**26**	⇓*i*P		**Pn**	**03 38 36.6**	**-1.1**
TACO				*e*S		**Sn**	**03 38 46.9**	**+0.3**
LFRS	**El Faro**	**0.53**	**77**	*e*P		**Pn**	**03 38 37.1**	**-0.8**
LFRS				*e*S		**Sn**	**03 38 48.2**	**+1.2**
LBRS	**Las Brisas**	**0.58**	**67**	*e*P		**Pn**	**03 38 37.7**	**-0.8**
PAVA	**Las Pavas**	**0.67**	**72**	*e*P		**Pn**	**03 38 38.8**	**-0.7**
PAVA				*e*S		**Sn**	**03 38 51.4**	**+1.6**
PAVA				IAML			03 38 55.5	
	comp=Z,451nm,0.4s							
COEG	**Centro de Oper**	**0.70**	**81**	⇓*i*P		**Pn**	**03 38 39.0**	**-0.8**
COEG				*e*S		**Sn**	**03 38 51.0**	**+0.6**
COEG				IAML			03 38 54.1	
	comp=Z,662nm,0.2s							
MTO3	**Montecristo**	**0.91**	**14**	⇓*i*P		**Pn**	**03 38 41.5**	**-1.2**
MTO3				*e*S		**Sn**	**03 38 56.1**	**+0.8**
ALJI	**Alcalda de J**	**1.01**	**100**	*e*P		**Pn**	**03 38 42.6**	**-1.0**
ALJI				*e*S		**Sn**	**03 38 58.2**	**+1.1**
COEB	**Comit de Eme**	**1.03**	**90**	*e*P		**Pn**	**03 38 42.8**	**-1.2**
COEB				*e*S		**Sn**	**03 38 58.6**	**+0.8**
COEB				IAML			03 39 02.3	
	comp=Z,584nm,0.2s							
TECA	**Tecapa**	**1.06**	**91**	*e*P		**Pn**	**03 38 43.2**	**-1.3**
IXG	**Ixpaco**	**1.06**	**309**	*e*P		**Pn**	**03 38 42.9**	**-1.5**
ESQI	**Esquipulas**	**1.07**	**13**	⇓*i*P		**Pn**	**03 38 43.7**	**-0.9**
ESQI				*e*S		**Sn**	**03 38 59.8**	**+1.0**
NBG	**Las Nubes**	**1.30**	**326**	*e*P		**Pn**	**03 38 47.2**	**-0.5**
NBG				*e*S		**Sn**	**03 39 06.1**	**+1.7**
BLLM	**Bellamira**	**1.32**	**93**	*e*P		**Pn**	**03 38 47.7**	**-0.1**
PCG	**Pacaya**	**1.32**	**312**	*e*P		**Pn**	**03 38 46.6**	**-1.4**
PCG				*e*S		**Sn**	**03 39 07.4**	**+2.5**
JUCU	**Jucuar¡n**	**1.33**	**101**	*e*P		**Pn**	**03 38 47.4**	**-0.5**
JUCU				IAML			03 39 11.6	
	comp=Z,382nm,0.3s							
FAGO	**Alcalda de S**	**1.45**	**82**	*e*P		**Pn**	**03 38 47.9**	**-1.6**
FUG	**Fuego 3**	**1.53**	**308**	*e*P		**Pn**	**03 38 49.5**	**-1.2**
FUG				*e*S		**Sn**	**03 39 11.6**	**+1.8**
MRL	**Marmol**	**1.57**	**357**	*e*P		**Pn**	**03 38 50.1**	**-1.2**
LCND	**La Caada**	**1.67**	**97**	*e*P		**Pn**	**03 38 51.8**	**-0.6**
LCND				*e*S		**Sn**	**03 39 13.2**	**+0.4**
LCND				IAML			03 39 20.6	
	comp=Z,257nm,0.3s							

*BJI **06** 03:46:05.6±0.0, 22.25N×121.44E, h57km, mB4.6/37, mb4.4/49, ML4.3/7, Ms4.2/17, Ms7 4.0/9*
*NEIC **06** 03:46:07.1±0.8, 22.21N±0.07×121.48E±0.08, h86km±4km, Error ellipse: s-maj=10.7km s-min=9.9km az=73.0*
*ASIES **06** 03:46:07.4, 22.23N×121.46E, h77km, MW4.6*
*NIED **06** 03:46:07.3, 22.11N×121.54E, h69km, MW4.5, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}1.43; $M_{\theta\theta}$-1.38; $M_{\phi\phi}$-0.06; $M_{r\theta}$5.36; $M_{r\phi}$-3.20; $M_{\theta\phi}$0.24; Fault plane solution: $M_0$6.39000×10^{15} NP1:ϕ_s86.00000°, δ82.00000°, λ119.00000°. NP2:ϕ_s190.00000°, δ30.00000°, λ16.00000°.*
*JMA **06** 03:46:07.3±0.2, 22.11N×121.54E, h69km±5km, M4.4*
*TAP **06** 03:46:07.5, 22.20N×121.43E, h84km, ML5.0, C*
*KLM **06** 03:46:08.0, 22.18N×121.42E, h86km, mb5.0*
*MAN **06** 03:46:09.8, 21.89N×121.55E, h30km, MS3.2*
*IDC **06** 03:46:10.4±1.9, 22.09N×121.56E, h124km±17km, mb4.1/23, mb1 4.2/25, mb1mx4.1/34, mbtmp4.5/25, MS3.5/8, Ms1 3.6/8, ms1mx3.3/35, Error ellipse: s-maj=14.8km s-min=10.8km az=75.0*
ISC 06 03:46:07.4±0.6, **22.15N**±0.03×**121.43E**±0.03, **h92**km±4km, **n296**,σ1°**17**/398, **mb4.6**/49, **16C-53D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
LAY	**Lan-yu**	**0.15**	**134**	⇑*i*P		**Pn**	**03 46 19.6**	**-1.0**
	baz=143							
LAY				*e*S		**Sn**	**03 46 28.6**	**-1.8**
	baz=143							
LDUT	**Ludao**	**0.53**	**4**	*i* P		**Pn**	**03 46 21.8**	**-0.8**
	baz=12							
LDUT				*e*S		**Sn**	**03 46 32.8**	**-1.1**
	baz=12							
TAW	**Tawu**	**0.54**	**293**	P		**Pn**	**03 46 21.7**	**-0.9**
	baz=289							
TAW				*e*S		**Sn**	**03 46 32.4**	**-1.7**
	baz=289							
TSEB	**Hengchuen, Pin**	**0.55**	**244**	⇑*i*P		**Pn**	**03 46 23.3**	**+0.6**
	baz=242							
TSEB				S		**Sn**	**03 46 35.0**	**+0.8**
	baz=242							
EAST	**Anshuo**	**0.59**	**294**	*i* P		**Pn**	**03 46 22.4**	**-0.7**
	baz=287							
EAST				*e*S		**Sn**	**03 46 33.3**	**-1.6**
	baz=287							
SLIU	**Shizi**	**0.59**	**277**	P		**Pn**	**03 46 22.8**	**-0.3**
	baz=277							
SLIU				*e*S		**Sn**	**03 46 33.6**	**-1.3**
	baz=277							
TWKBT	**Hengchun**	**0.61**	**250**	⇑*i*P		**Pn**	**03 46 23.5**	**+0.2**
	baz=247							
TWKBT				*i* S		**Sn**	**03 46 34.8**	**-0.3**
	baz=247							
TWK1	**Hengchun**	**0.61**	**251**	⇑*i*P		**Pn**	**03 46 23.4**	**+0.1**
	baz=246							
TWK1				*i* S		**Sn**	**03 46 34.9**	**-0.3**
	baz=246							
ECL	**Taimali**	**0.63**	**315**	*i* P		**Pn**	**03 46 22.4**	**-1.1**
	baz=318							
ECL				*e*S		**Sn**	**03 46 32.4**	**-3.0**
	baz=318							
HEN	**Hengchun**	**0.66**	**258**	⇑P		**Pn**	**03 46 24.2**	**+0.5**
	baz=264							
HEN				S		**Sn**	**03 46 36.1**	**+0.2**
	baz=264							
TTN	**Taitung**	**0.66**	**337**	⇓*i*P		**Pn**	**03 46 24.1**	**+0.4**
	baz=328							
TTN				*e*S		**Sn**	**03 46 35.4**	**-0.5**
	baz=328							
TWGBT	**Beinan**	**0.74**	**334**	⇓*i*P		**Pn**	**03 46 23.6**	**-0.9**
	baz=327							
TWGBT				*e*S		**Sn**	**03 46 35.0**	**-2.3**
	baz=327							
TWG	**Pinlang**	**0.75**	**334**	⇓*i*P		**Pn**	**03 46 23.7**	**-0.9**
	baz=327							
TWG				*e*S		**Sn**	**03 46 35.1**	**-2.3**
	baz=327							
TWG	**Pinlang**	**0.75**	**334**			**Pn**	**03 46 23.2**	**-1.3**
TWG						Sn	**03 46 35.5**	**-1.9**
SCZT	**Fangliau**	**0.78**	**287**	⇓*i*P		**Pn**	**03 46 24.5**	**-0.4**
	baz=284							
SCZT				S		**Sn**	**03 46 36.5**	**-1.6**
	baz=284							
LONT	**Longtian**	**0.81**	**340**	⇓*i*P		**Pn**	**03 46 24.6**	**-0.5**
	baz=332							
LONT				S		**Sn**	**03 46 37.2**	**-1.3**
	baz=332							
EDH	**Donghe**	**0.83**	**352**	⇓*i*P		**Pn**	**03 46 24.9**	**-0.5**
	baz=345							
EDH				S		**Sn**	**03 46 37.6**	**-1.3**
	baz=345							
SSPT	**Xinbi**	**0.87**	**293**	⇓*i*P		**Pn**	**03 46 25.9**	**+0.2**
	baz=288							
SSPT				*e*S		**Sn**	**03 46 39.5**	**-0.1**
	baz=288							
MASBT	**Mashibuluo**	**0.87**	**302**	⇓*i*P		**Pn**	**03 46 25.5**	**-0.3**
	baz=295							
MASBT				*e*S		**Sn**	**03 46 38.0**	**-1.7**
	baz=295							
TSMG	**Majia**	**0.92**	**307**	⇓P		**Pn**	**03 46 26.0**	**-0.3**
	baz=296							
TSMG				S		**Sn**	**03 46 38.6**	**-1.9**
	baz=296							
CHKT	**Chengkung**	**0.95**	**356**	*e*P		**Pn**	**03 46 26.0**	**-0.7**
	baz=352							
CHKT				S		**Sn**	**03 46 40.6**	**-0.6**
	baz=352							
SSD	**Sandimen**	**0.95**	**309**	⇓*i*P		**Pn**	**03 46 26.4**	**-0.3**
	baz=298							
SSD				*e*S		**Sn**	**03 46 39.5**	**-1.6**
	baz=298							
WLCH	**Liuqiu**	**1.00**	**282**	⇓*i*P		**Pn**	**03 46 28.5**	**+1.3**
	baz=279							
WLCH				S		**Sn**	**03 46 44.2**	**+2.2**
	baz=279							
TWP	**Hsiaoliuchiu**	**1.01**	**281**	⇓*i*P		**Pn**	**03 46 28.5**	**+1.2**
	baz=279							
TWP				S		**Sn**	**03 46 44.3**	**+1.9**
	baz=279							
SGLT	**Jiouru**	**1.04**	**304**	P		**Pn**	**03 46 28.3**	**+0.6**
	baz=296							
SGLT				*e*S		**Sn**	**03 46 44.9**	**+1.9**
	baz=296							
ELDTW	**Lidau**	**1.10**	**340**	P		**Pn**	**03 46 27.9**	**-0.7**
	baz=339							
ELDTW				*e*S		**Sn**	**03 46 44.6**	**+0.1**
	baz=339							
SLGT	**Liugui**	**1.11**	**319**	⇓P		**Pn**	**03 46 28.6**	**0.0**
	baz=307							
SLGT				S		**Sn**	**03 46 43.6**	**-0.9**
	baz=307							
KAU	**Kaohsiung**	**1.12**	**292**	⇓P		**Pn**	**03 46 29.4**	**+0.8**
	baz=290							
KAU				S		**Sn**	**03 46 45.7**	**+1.1**
	baz=290							
SCST	**Cishan**	**1.14**	**310**	⇓P		**Pn**	**03 46 28.7**	**-0.1**
	baz=309							
SCST				*e*S		**Sn**	**03 46 45.2**	**+0.3**
	baz=309							
TWM1	**Shoushan**	**1.15**	**306**	⇓*i*P		**Pn**	**03 46 29.6**	**+0.6**
	baz=304							
TWM1				*e*S		**Sn**	**03 46 47.2**	**+2.0**
	baz=304							
SNJT	**Kaohsiung City**	**1.18**	**301**	⇓P		**Pn**	**03 46 29.8**	**+0.4**
	baz=299							
SNJT				*e*S		**Sn**	**03 46 45.8**	**0.0**
	baz=299							
STYT	**Tauyuan**	**1.19**	**328**	⇓*i*P		**Pn**	**03 46 29.4**	**-0.1**
	baz=328							
STYT				*e*S		**Sn**	**03 46 45.5**	**-0.6**
	baz=328							
TWF1	**Yuli**	**1.21**	**354**	⇓P		**Pn**	**03 46 28.5**	**-1.2**
	baz=347							
TWF1				*e*S		**Sn**	**03 46 45.1**	**-1.4**
	baz=347							
SGST	**Jiashian**	**1.22**	**320**	⇓*i*P		**Pn**	**03 46 28.8**	**-1.0**
	baz=319							
SGST				*e*S		**Sn**	**03 46 46.0**	**-0.7**
	baz=319							
CHN1	**Nanshi**	**1.33**	**321**	⇓*i*P		**Pn**	**03 46 30.9**	**-0.2**
	baz=320							
CHN1				*e*S		**Sn**	**03 46 47.0**	**-2.0**
	baz=320							
WTP	**Ta-pu**	**1.33**	**326**	⇓*i*P		**Pn**	**03 46 30.9**	**-0.3**
	baz=315							
WTP				*e*S		**Sn**	**03 46 48.8**	**-0.4**
	baz=315							
HGSD	**Ruisui**	**1.34**	**360**	P		**Pn**	**03 46 30.7**	**-0.5**
	baz=4.0							
HGSD				*e*S		**Sn**	**03 46 49.4**	**+0.2**
	baz=4.0							
CHN3	**Shinhua**	**1.35**	**313**	⇓*i*P		**Pn**	**03 46 32.1**	**+0.7**
	baz=312							
CHN3				*e*S		**Sn**	**03 46 49.6**	**+0.1**
	baz=312							
EHY	**Hungye**	**1.36**	**356**	P		**Pn**	**03 46 30.4**	**-1.0**
	baz=349							
EHY				*e*S		**Sn**	**03 46 47.9**	**-1.8**
	baz=349							
TPUB	**Ta-pu**	**1.37**	**327**	⇓*i*P		**Pn**	**03 46 31.3**	**-0.3**
	baz=317							
TPUB				S		**Sn**	**03 46 48.4**	**-1.5**
	baz=317							
TPUB	**Ta-pu**	**1.37**	**327**	Pn		**Pn**	**03 46 30.9**	**-0.7**
TPUB						Sn	**03 46 48.4**	**-1.5**
SNST	**Tainan City**	**1.37**	**321**	⇓P		**Pn**	**03 46 31.3**	**-0.3**
	baz=320							
SNST				*e*S		**Sn**	**03 46 49.3**	**-0.7**
	baz=320							
TWK	**Hsinying**	**1.41**	**322**	⇓*i*P		**Pn**	**03 46 31.8**	**-0.4**
	baz=321							
TWK				*e*S		**Sn**	**03 46 49.8**	**-1.3**
	baz=321							
TAI1	**Yung-k'ang**	**1.42**	**309**	*e*P		**Pn**	**03 46 32.3**	**+0.1**
	baz=308							
TAI1				*e*S		**Sn**	**03 46 51.0**	**0.0**
	baz=308							
ALS	**Alishan**	**1.48**	**337**	⇓*i*P		**Pn**	**03 46 33.1**	**-0.1**
	baz=326							
ALS				*e*S		**Sn**	**03 46 52.6**	**-0.2**
	baz=326							
EGFH	**Guangfu**	**1.51**	**360**	*e*P		**Pn**	**03 46 33.0**	**-0.5**
	baz=352							
EGFH				*e*S		**Sn**	**03 46 51.1**	**-2.0**
	baz=352							
SCLT	**Jiali**	**1.53**	**312**	*e*P		**Pn**	**03 46 33.2**	**-0.5**
	baz=321							
SCLT				*e*S		**Sn**	**03 46 53.1**	**-0.4**
	baz=321							
CHN5	**Tsauling**	**1.60**	**334**	P		**Pn**	**03 46 34.0**	**-0.7**
	baz=324							
CHN5				*e*S		**Sn**	**03 46 54.6**	**-0.7**
	baz=324							
ICHU	**Yijhu**	**1.61**	**319**	⇓P		**Pn**	**03 46 34.2**	**-0.4**
	baz=318							
ICHU				*e*S		**Sn**	**03 46 54.4**	**-0.9**
	baz=318							
VWDT	**VWDT**	**1.62**	**351**	⇓*i*P		**Pn**	**03 46 35.2**	**+0.4**
	baz=350							
VWDT				*e*S		**Sn**	**03 46 55.4**	**-0.1**
	baz=350							
WHYT	**Xinyi Township**	**1.63**	**341**	P		**Pn**	**03 46 34.8**	**-0.1**
	baz=330							
WHYT				*e*S		**Sn**	**03 46 56.0**	**+0.1**
	baz=330							
CHY	**Chiayi**	**1.63**	**326**	⇓*e*P		**Pn**	**03 46 34.6**	**-0.4**
	baz=325							
CHY				*e*S		**Sn**	**03 46 55.3**	**-0.6**
	baz=325							
CHN2	**Minshiung**	**1.64**	**328**	⇓P		**Pn**	**03 46 34.7**	**-0.3**
	baz=327							
CHN2				*e*S		**Sn**	**03 46 55.1**	**-0.7**
	baz=327							
CHN8	**Yiju**	**1.64**	**317**	*e*P		**Pn**	**03 46 34.6**	**-0.5**
	baz=316							
CHN8				*e*S		**Sn**	**03 46 54.5**	**-1.5**
	baz=316							
ESL	**Shilin**	**1.66**	**0**	*e*P		**Pn**	**03 46 34.4**	**-0.9**
	baz=355							
ESL				*e*S		**Sn**	**03 46 54.3**	**-2.1**
	baz=355							
WLGB	**Puzi**	**1.69**	**322**	*e*P		**Pn**	**03 46 35.1**	**-0.5**
	baz=313							
WLGB				*e*S		**Sn**	**03 46 56.1**	**-0.9**
	baz=313							
SSLB	**Suanglung**	**1.69**	**345**	⇓*i*P		**Pn**	**03 46 35.4**	**-0.3**
	baz=334							
SSLB				*e*S		**Sn**	**03 46 56.7**	**-0.5**
	baz=334							
SSLB	**Suanglung**	**1.69**	**345**	Pn		**Pn**	**03 46 35.2**	**-0.6**
SSLB						Sn	**03 46 54.8**	**-2.4**
WGK	**Gukeng**	**1.73**	**333**	P		**Pn**	**03 46 35.6**	**-0.5**
	baz=332							
WGK				*e*S		**Sn**	**03 46 57.5**	**-0.6**
	baz=332							
WDLH	**Douliu**	**1.74**	**332**	⇓P		**Pn**	**03 46 35.6**	**-0.7**
	baz=331							
WDLH				*e*S		**Sn**	**03 46 57.5**	**-0.8**
	baz=331							
WJS	**Zhushan**	**1.79**	**339**	⇓*e*P		**Pn**	**03 46 36.8**	**-0.2**
	baz=328							
WJS				*e*S		**Sn**	**03 46 58.5**	**-0.9**
	baz=328							
SMLT	**Sun Moon Lake**	**1.80**	**344**	⇓P		**Pn**	**03 46 37.0**	**-0.2**
	baz=334							
SMLT				*e*S		**Sn**	**03 46 59.4**	**-0.4**
	baz=334							
WTK	**Tuku**	**1.81**	**328**	⇓P		**Pn**	**03 46 36.5**	**-0.7**
	baz=327							
WTK				*e*S		**Sn**	**03 46 57.6**	**-2.3**
	baz=327							
OWD	**Renai**	**1.81**	**353**	*e*P		**Pn**	**03 46 38.1**	**+0.7**
	baz=342							
OWD				*e*S		**Sn**	**03 46 59.4**	**-0.8**
	baz=342							
TYC	**Yuchr**	**1.83**	**343**	⇓*i*P		**Pn**	**03 46 37.1**	**-0.3**
	baz=343							
TYC				S		**Sn**	**03 46 59.8**	**-0.4**
	baz=343							
HWA	**Hwalien**	**1.83**	**5**	*e*P		**Pn**	**03 46 37.7**	**+0.2**
	baz=12							
HWA				*e*S		**Sn**	**03 47 01.0**	**+0.8**
	baz=12							
WNT	**Mingjian**	**1.85**	**338**	⇓P		**Pn**	**03 46 37.7**	**-0.1**
	baz=328							
WNT				*e*S		**Sn**	**03 47 00.5**	**-0.4**
	baz=328							
WSF	**Szhu**	**1.86**	**323**	*e*P		**Pn**	**03 46 36.9**	**-0.9**
	baz=314							
WSF				*e*S		**Sn**	**03 46 58.9**	**-2.0**
	baz=314							
CHGB	**Renai**	**1.92**	**353**	⇓P		**Pn**	**03 46 39.3**	**+0.4**
	baz=343							
CHGB				*e*S		**Sn**	**03 47 02.5**	**-0.3**
	baz=343							
TWD	**Chiawan**	**1.93**	**4**	*e*P		**Pn**	**03 46 38.6**	**-0.1**
	baz=356							
TWD				*e*S		**Sn**	**03 47 01.6**	**-1.0**
	baz=356							
WDGT	**Dungji**	**1.98**	**304**	⇓*i*P		**Pn**	**03 46 38.2**	**-1.1**
	baz=303							
WDGT				S		**Sn**	**03 47 00.6**	**-3.1**
	baz=303							
WHF	**Hehuan Shan**	**1.99**	**356**	⇓P		**Pn**	**03 46 40.0**	**0.0**
	baz=347							
WHF				*e*S		**Sn**	**03 47 04.3**	**-0.6**
	baz=347							
ETLH	**Xiulin Townshi**	**2.05**	**1**	*e*P		**Pn**	**03 46 40.5**	**+0.1**
	baz=1.0							
ETLH				*e*S		**Sn**	**03 47 04.2**	**-1.4**
	baz=1.0							
WCHH	**Zhanghua**	**2.08**	**337**	*e*P		**Pn**	**03 46 40.7**	**-0.1**
	baz=329							
WCHH				*e*S		**Sn**	**03 47 05.7**	**-0.5**
	baz=329							
FUSS	**Fushou**	**2.10**	**355**	⇓P		**Pn**	**03 46 42.2**	**+1.0**
	baz=346							
FUSS				*e*S		**Sn**	**03 47 06.2**	**-0.7**
	baz=346							
TCU	**Taichung**	**2.11**	**341**	*e*P		**Pn**	**03 46 40.8**	**-0.3**
	baz=331							
TCU				*e*S		**Sn**	**03 47 05.9**	**-0.9**
	baz=331							
TWT	**Tachien**	**2.11**	**354**	*e*P		**Pn**	**03 46 41.9**	**+0.6**
	baz=347							
TWT				*e*S		**Sn**	**03 47 08.1**	**+0.9**
	baz=347							
TDCB	**Techi**	**2.11**	**353**	*e*P		**Pn**	**03 46 41.5**	**+0.3**
	baz=347							
TDCB				*e*S		**Sn**	**03 47 06.9**	**-0.2**
	baz=347							
VCHM	**Qimei**	**2.13**	**300**	⇓*i*P		**Pn**	**03 46 40.2**	**-1.1**
	baz=299							
VCHM				S		**Sn**	**03 47 04.6**	**-2.8**
	baz=299							
WHP	**Taichung City**	**2.17**	**348**	*e*P		**Pn**	**03 46 42.0**	**0.0**
	baz=339							
WHP				*e*S		**Sn**	**03 47 08.4**	**0.0**
	baz=339							
PHUB	**P'eng-hu**	**2.19**	**309**	⇓*i*P		**Pn**	**03 46 40.9**	**-1.2**
	baz=308							
PHUB				S		**Sn**	**03 47 05.1**	**-3.6**
	baz=308							
PNG	**Penghu**	**2.23**	**310**	⇓*i*P		**Pn**	**03 46 41.6**	**-1.1**
	baz=309							
PNG				*e*S		**Sn**	**03 47 06.5**	**-3.3**
	baz=309							
NNSB	**Datong**	**2.27**	**359**	P		**Pn**	**03 46 43.8**	**+0.4**
	baz=5.0							
NNSB				*e*S		**Sn**	**03 47 10.3**	**-0.5**
	baz=5.0							
NNSH	**Datong**	**2.27**	**359**	*e*P		**Pn**	**03 46 43.8**	**+0.4**
	baz=5.0							
NNSH				*e*S		**Sn**	**03 47 09.5**	**-1.3**
	baz=5.0							
NNS	**Nan Shan**	**2.28**	**359**	P		**Pn**	**03 46 44.4**	**+0.9**
	baz=5.0							
NNS				*e*S		**Sn**	**03 47 11.0**	**-0.2**
	baz=5.0							
ENA	**Nanau**	**2.29**	**7**	*e*P		**Pn**	**03 46 43.7**	**+0.2**
	baz=354							
ENA				*e*S		**Sn**	**03 47 10.7**	**-0.4**
	baz=354							
WDJ	**Dajia District**	**2.31**	**342**	*e*P		**Pn**	**03 46 44.5**	**+0.7**
	baz=333							
WDJ				*e*S		**Sn**	**03 47 09.4**	**-2.1**
	baz=333							
ENAH	**Nanao**	**2.32**	**9**	*e*P		**Pn**	**03 46 44.2**	**+0.4**
	baz=14							
ENAH				*e*S		**Sn**	**03 47 11.7**	**-0.1**
	baz=14							
NSY	**Sanyi**	**2.34**	**345**	*e*P		**Pn**	**03 46 44.5**	**+0.4**
	baz=345							
NSY				*e*S		**Sn**	**03 47 13.3**	**+1.0**
	baz=345							
PTSB	**Yuanli**	**2.38**	**344**	*e*P		**Pn**	**03 46 44.6**	**-0.1**
	ba

ENTT	**Nioudou**	**2.48**	**3**	*e*P		**Pn**	**03 46 46.6**	**+0.6**
	baz=3.0							
ENTT				*e*S		**Sn**	**03 47 14.6**	**-1.2**
	baz=3.0							
NSTT	**Nanjuang**	**2.50**	**351**	*e*P		**Pn**	**03 46 45.9**	**-0.4**
	baz=342							
YHNB	**Yeheng**	**2.51**	**359**	P		**Pn**	**03 46 47.7**	**+1.2**
	baz=5.0							
YHNB				*e*S		**Sn**	**03 47 16.9**	**+0.4**
	baz=5.0							
YHNB	**Yeheng**	**2.51**	**359**	Pn		**Pn**	**03 46 45.0**	**-1.5**
YHNB				Sn		**Sn**	**03 47 14.0**	**-2.5**
LIOB	**Emei**	**2.52**	**351**	*e*P		**Pn**	**03 46 46.0**	**-0.5**
	baz=341							
NSK	**Sanguang**	**2.52**	**358**	*e*P		**Pn**	**03 46 47.5**	**+0.9**
	baz=5.0							
NSK				*e*S		**Sn**	**03 47 16.8**	**+0.1**
	baz=5.0							
TWE	**Neicheng**	**2.57**	**5**	*e*P		**Pn**	**03 46 47.9**	**+0.7**
	baz=5.0							
TWE				*e*S		**Sn**	**03 47 17.9**	**+0.2**
	baz=5.0							
NWLT	**Wulai**	**2.62**	**1**	*e*P		**Pn**	**03 46 48.7**	**+0.8**
	baz=6.0							
NWLT				*e*S		**Sn**	**03 47 19.1**	**+0.1**
	baz=6.0							
JYNG	**Yonaguanjimaku**	**2.68**	**31**	P		**Pn**	**03 46 49.5**	**+0.8**
JYNG				S		**Sn**	**03 47 20.6**	**+0.2**
NTC	**Toucheng**	**2.72**	**8**	P		**Pn**	**03 46 50.4**	**+1.2**
	baz=355							
NTC				*e*S		**Sn**	**03 47 23.4**	**+2.1**
	baz=355							
YOJ	**Yonaguni jima**	**2.72**	**32**	P		**Pn**	**03 46 50.1**	**+0.9**
YOJ				S		**Sn**	**03 47 21.6**	**+0.2**
YOJ	**Yonaguni jima**	**2.72**	**32**			**Pn**	**03 46 48.1**	**-1.1**
EGS		**2.72**	**10**	*e*P		**Pn**	**03 46 50.0**	**+0.8**
	baz=357							
NHDH	**Xindian Distri**	**2.80**	**2**	*e*P		**Pn**	**03 46 51.5**	**+1.2**
	baz=2.0							
TATO	**Taipei**	**2.82**	**1**	Pn		**Pn**	**03 46 49.1**	**-1.4**
TIPB	**Shuangxi**	**2.83**	**7**	*e*P		**Pn**	**03 46 52.0**	**+1.2**
	baz=358							
TIPB				*e*S		**Sn**	**03 47 25.1**	**+0.9**
	baz=358							
TWB1	**Santiao Chiao**	**2.89**	**10**	*e*P		**Pn**	**03 46 52.5**	**+1.0**
	baz=21							
HATJ	**Hateruma jima**	**2.90**	**49**	P		**Pn**	**03 46 51.3**	**-0.2**
HATJ				S		**Sn**	**03 47 25.4**	**-0.2**
NWF	**Wu-fen Shan**	**2.93**	**6**	*e*P		**Pn**	**03 46 53.3**	**+1.2**
	baz=354							
WFSB	**Wu-fen Shan**	**2.93**	**6**	*e*P		**Pn**	**03 46 53.0**	**+1.0**
	baz=354							
TWS1	**Kuangyinshan**	**2.94**	**360**	*e*P		**Pn**	**03 46 53.4**	**+1.2**
	baz=360							
YM01	**YM01**	**2.99**	**2**	*e*P		**Pn**	**03 46 53.5**	**+0.7**
	baz=2.0							
YM04	**YM04**	**2.99**	**2**	*e*P		**Pn**	**03 46 52.8**	**-0.1**
	baz=2.0							
YM10	**YM10**	**3.00**	**2**	*e*P		**Pn**	**03 46 53.2**	**+0.3**
	baz=2.0							
YM10				*e*S		**Sn**	**03 47 26.5**	**-1.5**
	baz=2.0							
NTST	**Danshui**	**3.00**	**0**	*e*P		**Pn**	**03 46 53.9**	**+0.9**
	baz=360							
YM05	**YM05**	**3.01**	**2**	*e*P		**Pn**	**03 46 53.3**	**+0.2**
	baz=2.0							
YM11	**YM11**	**3.01**	**2**	*e*P		**Pn**	**03 46 54.3**	**+1.2**
	baz=2.0							
YM03	**YM03**	**3.02**	**2**	*e*P		**Pn**	**03 46 53.6**	**+0.3**
	baz=2.0							
IRIF	**Iriomote-Funau**	**3.04**	**44**	P		**Pn**	**03 46 53.6**	**+0.2**
IRIF				S		**Sn**	**03 47 29.8**	**+0.9**
JKRS	**Kuro-shima**	**3.15**	**48**	P		**Pn**	**03 46 55.3**	**+0.3**
JKRS				S		**Sn**	**03 47 32.1**	**+0.3**
JIJ	**Ishigaki jima**	**3.33**	**48**	P		**Pn**	**03 46 56.9**	**-0.5**
JIJ				S		**Sn**	**03 47 34.6**	**-1.4**
VWUC	**VWUC**	**3.37**	**328**	*e*P		**Pn**	**03 46 56.4**	**-1.4**
	baz=328							
PCYT	**Pengchaiyu**	**3.52**	**9**	*e*P		**Pn**	**03 47 00.6**	**+0.7**
	baz=9.0							
PTMZ	**Houxiangcun**	**3.58**	**324**	*e*P		**Pn**	**03 46 59.5**	**-1.2**
	baz=324							
JISG	**Ishigakijimahi**	**3.59**	**47**	P		**Pn**	**03 47 00.1**	**-0.8**
JISG				S		**Sn**	**03 47 41.0**	**-1.3**
KNMB	**Chin-men Tao**	**3.62**	**310**	*e*P		**Pn**	**03 47 00.0**	**-1.4**
	baz=311							
KNMB	**Chin-men Tao**	**3.62**	**310**	Pn		**Pn**	**03 47 00.3**	**-1.0**
PTTC	**Pingtan**	**3.67**	**336**	*e*P		**Pn**	**03 47 00.5**	**-1.5**
	baz=343							
QZH	**Quanzhou**	**3.81**	**317**	*i* P		**Pn**	**03 47 02.6**	**-1.3**
QZH				S		**Sn**	**03 47 43.2**	**-4.5**
QZH				smax		smax		
	comp=N,740nm,0.3s							
QZH				smax		smax		
	comp=E,480nm,0.3s							
ZPLA	**Ao Xicun**	**3.83**	**298**	*e*P		**Pn**	**03 47 03.3**	**-0.8**
	baz=299							
JTJ	**Tarama**	**3.90**	**50**	P		**Pn**	**03 47 04.8**	**-0.2**
JTJ				S		**Sn**	**03 47 47.4**	**-2.3**
ZZJH	**Jiuhuzhen**	**4.19**	**304**	*e*P		**Pn**	**03 47 08.2**	**-0.8**
	baz=305							
AXDP	**Jialang**	**4.20**	**311**	*e*P		**Pn**	**03 47 07.9**	**-1.1**
	baz=312							
MATB	**Ma-tsu**	**4.21**	**341**	*e*P		**Pn**	**03 47 07.5**	**-1.8**
	baz=341							
JIRB	**Irabujima**	**4.35**	**51**	P		**Pn**	**03 47 10.8**	**-0.4**
JIRB				S		**Sn**	**03 48 00.0**	**-0.7**
JMJ2	**Miyako jima3**	**4.41**	**53**	S		**Sn**	**03 48 00.0**	**-2.2**
MHZQ	**Yeshan**	**4.50**	**331**	*e*P		**Pn**	**03 47 12.2**	**-1.1**
	baz=331							
LYJJ	**Jianjiangzhen**	**4.64**	**341**	*e*P		**Pn**	**03 47 13.6**	**-1.5**
	baz=341							
XPSS	**Dashiqiu**	**4.89**	**347**	*e*P		**Pn**	**03 47 17.2**	**-1.3**
	baz=345							
HKPS	**Hong Kong Po S**	**6.76**	**272**	Pn		**Pn**	**03 47 44.6**	**+0.6**
NJ2	**Nanjing**	**10.13**	**347**	*e*P		**Pn**	**03 48 28.7**	**-1.1**
NJ2				S		**Sn**	**03 50 15.3**	**-6.2**
NJ2				pmax		pmax		
	comp=Z,14nm,0.5s							
WHN	**Wuhan**	**10.50**	**324**	P		**Pn**	**03 48 34.5**	**-0.3**
WHN				S		**Sn**	**03 50 27.7**	**-2.8**
WHN				LR		LR		
	comp=Z,860nm,11.0s							
QIZ	**Qiongzhong**	**11.29**	**256**	P		**Pn**	**03 48 44.4**	**-1.3**
QIZ				S		**Sn**	**03 50 50.6**	**+0.7**
QIZ				LR		LR		
	comp=Z,6µm,15.3s							
JNU	**Nakatsue**	**13.76**	**35**	P		**Pn**	**03 49 19.9**	**+1.4**
	0.2nm,0.3s,baz=198,slow=16,SNR=2.2							
JNU	**Nakatsue**	**13.76**	**35**	P		**P**	**03 49 22.3**	**-1.6**
TIA	**Tai'an**	**14.51**	**346**	P		**P**	**03 49 33.2**	**+1.1**
TIA				pmax		pmax		
	comp=Z,13nm,0.9s							
XAN	**Xi'an**	**16.18**	**320**	P		**P**	**03 49 52.1**	**+1.4**
XAN				pP		pP	03 50 01.1	-7.6
XAN				pmax		pmax		
	comp=Z,28nm,1.3s							
XAN	**Xi'an**	**16.18**	**320**	Pn		**Pn**	**03 49 48.7**	**-0.6**
XAN				IAmb		IAmb	03 49 53.9	
	comp=Z,36nm,1.1s							
KSAR	**Wonju Array Be**	**16.23**	**19**	Pn		**Pn**	**03 49 49.0**	**-0.8**
KSRS	**Korea Array**	**16.25**	**19**	P		**Pn**	**03 49 50.5**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=201,slow=13,SNR=30							
KSRS				LR		LR	03 57 09.5	
	comp=Z,47nm,18.9s,baz=176,slow=41							
KKM	**Kota Kinabalu**	**16.78**	**198**			**P**	**03 49 58.0**	**+0.4**
KKM				IAmb		IAmb	03 50 02.2	
	comp=Z,37nm,1.0s							
MYLDM	**Lahad Datu**	**17.11**	**190**	P		**P**	**03 50 02.9**	**+1.8**
MYLDM				IAmb		IAmb	03 50 16.8	
	comp=Z,37nm,1.1s							
CD2	**Chengdu**	**18.05**	**303**	*e*P		**P**	**03 50 11.1**	**-0.3**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
BJI	**Beijing**	**18.39**	**347**	P		**Pn**	**03 50 16.1**	**0.0**
BJI				pmax		pmax		
	comp=Z,9.0nm,0.7s							
BJI				LR		LR		
	comp=Z,220nm,7.1s							
BJI				LR		LR		
	comp=Z,110nm,5.1s							
INU	**Inuyama**	**18.93**	**43**			**P**	**03 50 20.6**	**-0.4**
INU				IAmb		IAmb	03 50 24.6	
	comp=Z,30nm,1.0s							
HHC	**Hu-ho-hao-te**	**20.43**	**338**	*e*P		**P**	**03 50 38.6**	**+1.3**
HHC				S		**S**	**03 54 23.6**	**+2.6**
HHC				pmax		pmax		
	comp=Z,32nm,0.8s							
HHC				pmax		pmax		
	comp=Z,140nm,4.0s							
HHC				LR		LR		
	comp=Z,250nm,9.2s							
HHC				LR		LR		
	comp=Z,210nm,12.3s							
MAJO	**Matsushiro**	**20.44**	**42**			**P**	**03 50 36.9**	**-0.5**
MAT	**Matsushiro**	**20.44**	**42**	P		Pn	03 50 39.5	-0.8
MJAR	**Matsushiro Arr**	**20.44**	**42**	P		Pn	03 50 39.8	-0.5
	comp=Z,6.8nm,0.8s,baz=225,slow=10.0,SNR=18							
MJAR	**Matsushiro Arr**	**20.44**	**42**	P		**P**	**03 50 36.8**	**-0.5**
MJB9	**Matsu-Tunnel**	**20.44**	**42**			**P**	**03 50 38.0**	**+0.6**
LZH	**Lanzhou**	**20.67**	**316**	*e*P		Pn	03 50 42.5	-0.6
LZH				pP		pP	03 50 58.2	+0.1
LZH				sP		sP	03 51 06.7	-3.1
LZH				pmax		pmax		
	comp=Z,13nm,1.1s							
LZH				pmax		pmax		
	comp=Z,68nm,4.8s							
BTO	**Baotou**	**20.79**	**335**	*e*P		**P**	**03 50 42.3**	**+1.2**
CMAR	**Chiang Mai Arr**	**21.40**	**264**	P		**P**	**03 50 51.2**	**+3.4**
	comp=Z,0.8nm,0.3s,baz=64,slow=8.1,SNR=5.3							
CMAR				LR		LR	04 00 08.1	
	comp=Z,50nm,18.2s,baz=280,slow=39							
GTOI	**Gorontalo**	**21.44**	**176**	P		**P**	**03 50 48.4**	**+0.2**
	comp=Z,575nmcomp=Z,66nm,0.9s							
SBUM	**Sibu**	**21.53**	**206**	P		**P**	**03 50 50.4**	**+1.2**
SBUM	**Sibu**	**21.53**	**206**	P		**P**	**03 50 50.0**	**+0.8**
MPSI	**Mapaga**	**21.73**	**184**	P		**P**	**03 50 52.5**	**+1.2**
	comp=Z,6µmcomp=Z,24nm,0.8s							
TNTI	**Ternate**	**22.02**	**164**	P		**P**	**03 50 54.9**	**+0.5**
	comp=Z,40nm,0.8s							
MDJ	**Mudanjiang**	**23.40**	**15**	P		**P**	**03 51 08.7**	**+0.7**
MDJ				pmax		pmax		
	comp=Z,13nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,230nm,6.9s							
USA0B	**Ussuriysk Arra**	**23.66**	**19**	P		**P**	**03 51 10.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**23.66**	**19**	P		**P**	**03 51 11.0**	**+0.6**
	comp=Z,8.2nm,0.7s,baz=207,slow=10,SNR=15							
MTKI	**Muara Teweh, K**	**23.82**	**196**	P		**P**	**03 51 12.5**	**+0.5**
GTA	**Gaotai**	**25.21**	**318**	*e*P		**P**	**03 51 25.7**	**+1.0**
GTA				pP		pP	03 51 44.3	-1.2
GTA				pmax		pmax		
	comp=Z,8.0nm,1.2s							
GTA				pmax		pmax		
	comp=Z,78nm,5.4s							
ERM	**Erimo**	**26.91**	**38**	P		**P**	**03 51 39.6**	**-0.1**
ERM				IAmb		IAmb	03 51 50.4	
	comp=Z,24nm,0.8s							
FAKI	**Fak Fak**	**27.06**	**156**	P		**P**	**03 51 42.0**	**+0.7**
FAKI				IAmb		IAmb	03 51 42.8	
	comp=Z,42nm,1.1s							
ASAJ	**Asahikawa**	**28.03**	**34**	P		**P**	**03 51 50.9**	**+1.2**
	comp=Z,23nm,0.6s,baz=224,slow=12,SNR=25							
ULN	**Ulaanbaatar**	**28.14**	**339**	P		**P**	**03 51 50.6**	**-0.2**
ULN				IAmb		IAmb	03 51 52.0	
	comp=Z,20nm,1.0s							
KLR	**Kul'dur**	**28.24**	**14**	P		**P**	**03 51 52.1**	**+0.6**
	comp=Z,3.5nm,1.0s,baz=231,slow=8.4,SNR=6.0							
KLR				PcP		**PcP**	**03 55 01.8**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=260,slow=4.7,SNR=6.0							
SONM	**Songino Array**	**28.33**	**338**	P		**P**	**03 51 52.4**	**-0.1**
	comp=Z,9.3nm,0.9s,baz=155,slow=9.2,SNR=34							
SONM				ScP		**ScP**	**03 58 32.2**	**-3.8**
	comp=Z,0.8nm,0.7s,baz=174,slow=1.4,SNR=4.6							
SONM				LR		LR	04 04 23.1	
	comp=Z,133nm,19.6s,baz=164,slow=38							
SONM	**Songino Array**	**28.33**	**338**	P		**P**	**03 51 52.5**	**-0.1**
YSS	**Yuzh-Sakhalins**	**30.15**	**30**	P		**P**	**03 52 08.6**	**+0.1**
WMQ	**Urumqi**	**35.25**	**316**	*e*P		**P**	**03 52 55.9**	**+2.8**
WMQ				LR		LR		
	comp=Z,670nm,28.8s							
WMQ				LR		LR		
	comp=Z,640nm,29.0s							
KNRA	**Kununurra**	**38.27**	**169**	P		**P**	**03 53 16.9**	**-1.9**
MK31	**Makanchi Array**	**39.97**	**318**	P		**P**	**03 53 33.1**	**+0.3**
MK31				IAmb		IAmb	03 53 35.1	
	comp=Z,15nm,0.8s							
MKAR	**Makanchi Array**	**39.97**	**318**	P		**P**	**03 53 34.1**	**+1.3**
	comp=Z,12nm,0.6s,baz=110,slow=10,SNR=92							
MKAR				PcP		**PcP**	**03 55 36.0**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=88,slow=3.9,SNR=4.1							
MKAR	**Makanchi Array**	**39.97**	**318**	P		**P**	**03 53 33.0**	**+0.2**
MAKZ	**Makanchi**	**40.17**	**317**	P		**P**	**03 53 34.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**40.21**	**174**	P		**P**	**03 53 33.5**	**-1.4**
TARG	**Taragay, Kyrgy**	**41.34**	**309**	P		**P**	**03 53 46.7**	**+2.1**
COEN	**Coen**	**41.74**	**147**	P		**P**	**03 53 46.5**	**-1.1**
COEN				IAmb		IAmb	03 53 53.3	
	comp=Z,26nm,1.2s							
ZAA0	**Zalesovo Array**	**42.08**	**328**	P		**P**	**03 53 49.8**	**-0.2**
ZALV	**Zalesovo Beam**	**42.08**	**328**	P		**P**	**03 53 50.1**	**+0.2**
	comp=Z,23nm,0.8s,baz=113,slow=7.7,SNR=62							
ZALV				ScP		**ScP**	**03 59 21.3**	**-4.0**
	comp=Z,0.5nm,0.3s,baz=147,slow=8.5,SNR=3.6							
ZALV				LR		LR	04 13 20.6	
	comp=Z,40nm,18.7s,baz=120,slow=39							
ZALV	**Zalesovo Beam**	**42.08**	**328**	P		**P**	**03 53 49.9**	**-0.1**
KSH	**Kashi**	**42.22**	**305**	*e*P		P	03 53 56.3	+4.8
H11N1	**WAKE ISLAND Hy**	**42.41**	**85**	T		T	04 39 27.1	
	baz=281							
H11N2	**WAKE ISLAND Hy**	**42.41**	**85**	T		T	04 39 43.1	
	baz=281							
H11N3	**WAKE ISLAND Hy**	**42.43**	**85**	T		T	04 39 48.8	
	baz=281							
H11S3	**WAKE ISLAND Hy**	**42.48**	**86**	T		T	04 39 29.2	
	baz=283,slow=74,SNR=53							
H11S1	**WAKE ISLAND Hy**	**42.49**	**86**	T		T	04 39 35.4	
	baz=283,slow=74,SNR=54							
H11S2	**WAKE ISLAND Hy**	**42.50**	**86**	T		T	04 39 27.2	
	baz=283,slow=74,SNR=54							
WRA	**Warramunga Arr**	**43.69**	**162**	P		**P**	**03 54 01.2**	**-2.2**
	comp=Z,8.0nm,0.8s,baz=344,slow=8.7,SNR=30							
WRA	**Warramunga Arr**	**43.69**	**162**	P		**P**	**03 54 01.6**	**-1.7**
WB2	**Warramunga Arr**	**43.70**	**162**	P		**P**	**03 54 01.6**	**-1.8**
WB2				IAmb		IAmb	03 54 02.5	
	comp=Z,10nm,0.8s							
KURK	**Kurchatov**	**43.81**	**321**	P		**P**	**03 54 04.2**	**+0.3**
KURK				IAmb		IAmb	03 54 05.8	
	comp=Z,16nm,0.8s							
GIRL	**Giralia**	**45.07**	**189**	P		**P**	**03 54 14.3**	**+0.1**
GAR	**Garm**	**46.49**	**303**	P		**P**	**03 54 26.9**	**+1.3**
GAR				IAmb		IAmb	03 54 28.1	
	comp=Z,14nm,1.0s							
KK31	**Karatay Array**	**46.90**	**309**	P		**P**	**03 54 29.7**	**+1.1**
KK31				IAmb		IAmb	03 54 31.5	
	comp=Z,7.9nm,1.1s							
KKAR	**Karatay Array**	**46.90**	**309**	P		**P**	**03 54 28.8**	**+0.2**
KKAR	**Karatay Array**	**46.90**	**309**	P		**P**	**03 54 29.9**	**+1.3**
KKAR				IAmb		IAmb	03 54 31.5	
	comp=Z,7.9nm,1.1s							
ASAR	**Alice Springs**	**47.13**	**164**	P		**P**	**03 54 29.3**	**-1.2**
	comp=Z,1.6nm,0.3s,baz=344,slow=6.8,SNR=19							
ASAR				ScP		**ScP**	**03 59 42.8**	**-3.7**
	comp=Z,0.3nm,0.4s,baz=350,slow=4.2,SNR=4.4							
KBL	**Kabul**	**47.26**	**297**	P		**P**	**03 54 33.0**	**+1.2**
KBL				IAmb		IAmb	03 54 36.7	
	comp=Z,11nm,1.4s							
CTAO	**Charters Tower**	**48.48**	**148**	P		**P**	**03 54 40.8**	**-0.2**
CTAO				IAmb		IAmb	03 54 42.1	
	comp=Z,16nm,1.1s							
BRVK	**Borovoye**	**49.47**	**322**	P		**P**	**03 54 48.4**	**+0.3**
NRIK	**Noril'sk**	**51.42**	**345**	P		**P**	**03 55 02.2**	**-0.4**
	comp=Z,25nm,0.9s,baz=129,slow=7.2,SNR=20							
ABKAR	**Akbulak array**	**55.03**	**315**	P		**P**	**03 55 29.7**	**+0.4**
GEYT	**Alibeck**	**56.04**	**302**	P		**P**	**03 55 38.6**	**+1.8**
	comp=Z,2.2nm,0.7s,baz=20,slow=4.7,SNR=3.6							
GEYT	**Alibeck**	**56.04**	**302**	P		**P**	**03 55 37.0**	**+0.2**
ARU	**Arti**	**56.87**	**324**	P		**P**	**03 55 42.8**	**+0.4**
STKA	**Stephens Creek**	**57.08**	**160**	P		**P**	**03 55 43.2**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=339,slow=6.7,SNR=10							
STKA	**Stephens Creek**	**57.08**	**160**	P		**P**	**03 55 43.7**	**-0.3**
AKH	**Akhalkalaki**	**66.88**	**307**	⇑P		**P**	**03 56 52.2**	**+2.3**
AKH	**Akhalkalaki**	**66.88**	**307**	P		**P**	**03 56 50.1**	**+0.1**
AKH				IAmb		IAmb	03 56 53.1	
	comp=Z,14nm,0.8s							
KBZ	**Khabaz**	**66.93**	**309**	P		**P**	**03 56 50.8**	**+0.8**
	comp=Z,12nm,0.9s,baz=120,slow=3.4,SNR=18							
KLMR	**Klimovskoe**	**67.00**	**328**	*e*P		**P**	**03 56 48.8**	**-1.3**
KLMR				AMP			03 56 50.9	
	comp=Z,26nm,1.1s							
KIV	**Kislovodsk**	**67.05**	**310**	P		**P**	**03 56 51.1**	**+0.2**
IMAR	**Indian Mountai**	**67.90**	**26**	P		**P**	**03 56 56.1**	**+0.4**
MDM	**Murphy Dome**	**70.31**	**27**	P		**P**	**03 57 11.1**	**+0.4**
ILAR	**Eielson Array**	**70.91**	**27**	P		**P**	**03 57 13.3**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=300,slow=7.7,SNR=8.0							
ILAR	**Eielson Array**	**70.91**	**27**	P		**P**	**03 57 14.2**	**-0.1**
ARCES	**ARCESS Array B**	**71.51**	**338**	P		**P**	**03 57 17.6**	**-0.2**
	comp=Z,7.0nm,0.8s,baz=62,slow=5.9,SNR=10							
ARCES	**ARCESS Array B**	**71.51**	**338**	P		**P**	**03 57 18.1**	**+0.2**
FINES	**FINESS Array B**	**73.31**	**330**	P		**P**	**03 57 28.8**	**+0.2**
	comp=Z,6.2nm,0.7s,baz=76,slow=8.0,SNR=21							
FINES	**FINESS Array B**	**73.31**	**330**	P		**P**	**03 57 29.0**	**+0.3**
BCAR	**Beaver Creek A**	**73.51**	**28**	P		**P**	**03 57 30.2**	**+0.3**
AKASG	**Malin Array Be**	**74.54**	**319**	P		**P**	**03 57 35.7**	**-0.3**
	comp=Z,5.7nm,0.6s,baz=59,slow=5.8,SNR=16							
AKASG	**Malin Array Be**	**74.54**	**319**	P		**P**	**03 57 36.2**	**+0.1**
AKBB	**Malin Array Si**	**74.54**	**319**	IAmb		IAmb	03 57 36.6	
	comp=Z,8.0nm,0.9s							
BRTR	**Keskin Array B**	**74.56**	**307**	P		**P**	**03 57 36.8**	**+0.1**
	comp=Z,3.9nm,1.0s,baz=100,slow=6.4,SNR=8.5							
BRTR				LR		LR	04 35 27.7	
	comp=Z,50nm,20.4s,baz=303,slow=40							
BRTR	**Keskin Array B**	**74.56**	**307**	P		**P**	**03 57 36.6**	**0.0**
SORM	**Soroca**	**75.82**	**316**	⇑P		**P**	**03 57 43.3**	**-0.2**
TLCR		**76.40**	**313**	⇓P		**P**	**03 57 47.5**	**+0.7**
TOPG	**Topolog**	**76.79**	**313**	⇓P		**P**	**03 57 49.9**	**+0.8**
CFR	**Carcaliu**	**76.86**	**314**	⇓P		**P**	**03 57 50.1**	**+0.7**
SUW	**Suwalki**	**77.05**	**323**	*e*P		**P**	**03 57 50.6**	**+0.4**
HARR	**Harsova**	**77.15**	**313**	⇓P		**P**	**03 57 52.1**	**+1.1**
TESR	**Tescani**	**77.43**	**315**	⇑P		**P**	**03 57 52.9**	**+0.4**
VRI	**Vrincioaia**	**77.58**	**315**	⇑P		**P**	**03 57 54.0**	**+0.6**
RAO	**Raoul Island**	**77.59**	**129**	LR		LR	04 28 23.4	
	comp=Z,1µm,21.4s,baz=116,slow=33							
PLOR	**Plostina**	**77.64**	**315**	⇑P		**P**	**03 57 54.8**	**+1.0**
BIZ	**Bicaz**	**77.64**	**316**	⇑P		**P**	**03 57 54.3**	**+0.5**
BURAR	**Bucovina Array**	**77.99**	**317**	⇓P		**P**	**03 57 56.4**	**+0.6**
BURAR	**Bucovina Array**	**77.99**	**317**	P		**P**	**03 57 56.0**	**+0.2**
BUR08	**Bucovina Ar. S**	**77.99**	**317**	IAmb		IAmb	03 57 57.8	
	comp=Z,11nm,1.2s							
MLR	**Muntele Rosu**	**78.22**	**314**	⇑P		**P**	**03 57 57.6**	**+0.4**
MLR	**Muntele Rosu**	**78.22**	**314**	IAmb		IAmb	03 57 58.8	
	comp=Z,8.9nm,0.9s							
DOPR	**Dopca**	**78.43**	**315**	⇑P		**P**	**03 57 58.5**	**+0.3**
KWP	**Kalwaria Pacla**	**78.85**	**319**	*e*P		**P**	**03 58 01.1**	**+0.7**
KOLS	**Kolonicke sedl**	**79.37**	**319**	*e*P		**P**	**03 58 03.6**	**+0.4**
TRPA	**Tarpa**	**79.50**	**318**	⇓P		**P**	**03 58 04.0**	**+0.1**
NC303	**NORSAR Array S**	**79.97**	**333**	IAmb		IAmb	03 58 06.7	
	comp=Z,16nm,0.9s							
NB201	**NORSAR Array S**	**80.09**	**332**	IAmb		IAmb	03 58 07.3	
	comp=Z,15nm,0.8s							
NB2	**NORSAR Subarra**	**80.12**	**332**	P		**P**	**03 58 05.9**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=61,slow=5.3							
NOA	**NORSAR Array B**	**80.12**	**332**	P		**P**	**03 58 06.3**	**-0.7**
	comp=Z,4.9nm,0.7s,baz=60,slow=5.4,SNR=28							
NOA				LR		LR	04 37 09.8	
	comp=Z,40nm,18.5s,baz=300,slow=38							
OJC	**Ojcow**	**80.38**	**320**	*e*P		**P**	**03 58 09.2**	**+0.6**
NIE	**Niedzica**	**80.39**	**319**	*e*P		**P**	**03 58 09.8**	**+1.1**
SIRR	**Siria**	**80.75**	**316**	⇑P		**P**	**03 58 11.4**	**+0.7**
HERR	**Herculane**	**80.78**	**315**	⇓P		**P**	**03 58 11.5**	**+0.7**
LANS	**Liptovska Anna**	**81.00**	**319**	*e*P		**P**	**03 58 13.3**	**+1.3**
VTS	**Vitosha**	**81.07**	**312**	⇑P		**P**	**03 58 13.7**	**+1.1**
VTS	**Vitosha**	**81.07**	**312**	IAmb		IAmb	03 58 14.6	
	comp=Z,12nm,0.9s							
MDVR	**Moldovita**	**81.28**	**315**	⇑P		**P**	**03 58 14.0**	**+0.4**
VYHS	**Vyhne**	**81.64**	**319**	*e*P		**P**	**03 58 16.1**	**+0.7**
KSP	**Ksiaz**	**82.16**	**322**	*e*P		**P**	**03 58 18.7**	**+0.7**
JAVC	**Velka Javorina**	**82.19**	**320**	*e*P		**P**	**03 58 19.9**	**+1.6**
KRLC	**Kraliky**	**82.21**	**

NDT			*i*	S	**Sn**	**03 58 22.4**	**+0.2**
	baz=274							
NWLT	**Wulai**	**0.51**	**295**	⇑*i*	P	**Pn**	**03 58 14.0**	**+0.3**
	baz=290							
NWLT				*i*	S	**Sn**	**03 58 22.9**	**-0.2**
	baz=290							
NWF	**Wu-fen Shan**	**0.55**	**338**	*i*	P	**Pn**	**03 58 14.3**	**+0.1**
	baz=342							
NWF					S	**Sn**	**03 58 22.9**	**-1.0**
	baz=342							
WFSB	**Wu-fen Shan**	**0.55**	**338**		P	**Pn**	**03 58 14.4**	**+0.3**
	baz=350							
WFSB					S	**Sn**	**03 58 23.0**	**-0.8**
	baz=350							
NNSB	**Datong**	**0.58**	**257**		P	**Pn**	**03 58 14.6**	**0.0**
	baz=252							
NNSB					S	**Sn**	**03 58 24.7**	**+0.1**
	baz=252							
NNSH	**Datong**	**0.58**	**257**	*i*	P	**Pn**	**03 58 14.4**	**-0.1**
	baz=253							
NNSH				*i*	S	**Sn**	**03 58 24.1**	**-0.5**
	baz=253							
YHNB	**Yeheng**	**0.59**	**281**		P	**Pn**	**03 58 14.7**	**+0.2**
	baz=276							
YHNB					S	**Sn**	**03 58 24.2**	**-0.3**
	baz=276							
NNS	**Nan Shan**	**0.59**	**259**	*i*	P	**Pn**	**03 58 14.5**	**-0.1**
	baz=253							
NNS					S	**Sn**	**03 58 24.7**	**0.0**
	baz=253							
ETLH	**Xiulin Townshi**	**0.59**	**234**		P	**Pn**	**03 58 14.3**	**-0.3**
	baz=242							
ETLH					S	**Sn**	**03 58 23.9**	**-0.8**
	baz=242							
NHDH	**Xindian Distri**	**0.60**	**313**	*i*	P	**Pn**	**03 58 14.9**	**+0.4**
	baz=326							
NHDH				*i*	S	**Sn**	**03 58 24.7**	**+0.1**
	baz=326							
NSK	**Sanguang**	**0.60**	**281**	*i*	P	**Pn**	**03 58 14.8**	**+0.1**
	baz=283							
NSK				*i*	S	**Sn**	**03 58 24.6**	**-0.3**
	baz=283							
TWD	**Chiawan**	**0.61**	**218**	*i*	P	**Pn**	**03 58 14.4**	**-0.3**
	baz=211							
TWD				*i*	S	**Sn**	**03 58 24.3**	**-0.4**
	baz=211							
TAP1	**Taipei**	**0.65**	**317**	*e*S		**Sn**	**03 58 26.8**	**+1.2**
	baz=320							
HWA	**Hwalien**	**0.69**	**213**		P	**Pn**	**03 58 15.8**	**+0.2**
	baz=201							
YM01	**YM01**	**0.71**	**326**	*e*P		**Pn**	**03 58 15.5**	**-0.3**
	baz=337							
YM01					S	**Sn**	**03 58 26.5**	**-0.3**
	baz=337							
YM10	**YM10**	**0.72**	**326**		P	**Pn**	**03 58 16.2**	**+0.2**
	baz=336							
YM10					S	**Sn**	**03 58 27.0**	**-0.1**
	baz=336							
YM11	**YM11**	**0.72**	**327**		P	**Pn**	**03 58 15.7**	**-0.4**
	baz=337							
YM11					*e*S	**Sn**	**03 58 27.1**	**-0.1**
	baz=337							
YM08	**YM08**	**0.73**	**329**		P	**Pn**	**03 58 16.8**	**+0.7**
	baz=339							
YM08					S	**Sn**	**03 58 27.7**	**+0.4**
	baz=339							
YM03	**YM03**	**0.75**	**325**	*e*P		**Pn**	**03 58 16.7**	**+0.3**
	baz=335							
YM03					*e*S	**Sn**	**03 58 27.4**	**-0.3**
	baz=335							
TWS1	**Kuangyinshan**	**0.76**	**315**	*i*	P	**Pn**	**03 58 17.0**	**+0.6**
	baz=324							
TWS1				*i*	S	**Sn**	**03 58 29.2**	**+1.3**
	baz=324							
NTST	**Danshui**	**0.79**	**320**		S	**Sn**	**03 58 29.3**	**+0.9**
	baz=329							
WHF	**Hehuan Shan**	**0.79**	**239**	*i*	P	**Pn**	**03 58 17.0**	**-0.2**
	baz=238							
WHF				*i*	S	**Sn**	**03 58 29.0**	**-0.2**
	baz=238							
TWY	**Chenhua**	**0.81**	**333**	*e*P		**Pn**	**03 58 15.6**	**-1.3**
	baz=345							
TWY					*e*S	**Sn**	**03 58 30.3**	**+1.6**
	baz=345							
TWT	**Tachien**	**0.82**	**248**	*i*	P	**Pn**	**03 58 17.8**	**+0.5**
	baz=242							
TWT				*i*	S	**Sn**	**03 58 29.5**	**+0.2**
	baz=242							
TDCB	**Techi**	**0.83**	**249**		P	**Pn**	**03 58 17.8**	**+0.4**
	baz=242							
TDCB					S	**Sn**	**03 58 29.4**	**-0.2**
	baz=242							
NCU	**National Centr**	**0.85**	**299**		S	**Sn**	**03 58 30.8**	**+1.1**
	baz=301							
NCUH	**Zhongli**	**0.85**	**299**		P	**Pn**	**03 58 17.5**	**0.0**
	baz=301							
NCUH				*i*	S	**Sn**	**03 58 29.9**	**+0.1**
	baz=301							
JYNG	**Yonagunijimaku**	**0.86**	**97**		P	**Pn**	**03 58 17.9**	**+0.4**
CHGB	**Renai**	**0.91**	**237**		P	**Pn**	**03 58 18.6**	**+0.2**
	baz=229							
CHGB					S	**Sn**	**03 58 30.9**	**-0.5**
	baz=229							
ESL	**Shilin**	**0.91**	**215**	*i*	P	**Pn**	**03 58 17.2**	**-1.0**
	baz=223							
ESL					*e*S	**Sn**	**03 58 29.7**	**-1.3**
	baz=223							
LIOB	**Emei**	**0.91**	**276**	*i*	P	**Pn**	**03 58 18.8**	**+0.6**
	baz=277							
LIOB				*i*	S	**Sn**	**03 58 31.6**	**+0.6**
	baz=277							
YOJ	**Yonaguni jima**	**0.92**	**96**		P	**Pn**	**03 58 18.5**	**+0.2**
YOJ					S	**Sn**	**03 58 31.0**	**-0.1**
NSTT	**Nanjuang**	**0.92**	**275**	*i*	P	**Pn**	**03 58 18.7**	**+0.4**
	baz=276							
NSTT				*i*	S	**Sn**	**03 58 31.4**	**+0.1**
	baz=276							
WHP	**Taichung City**	**1.01**	**254**	*i*	P	**Pn**	**03 58 20.8**	**+1.3**
	baz=253							
WHP				*i*	S	**Sn**	**03 58 34.2**	**+0.8**
	baz=253							
EGFH	**Guangfu**	**1.03**	**211**	*i*	P	**Pn**	**03 58 19.5**	**-0.3**
	baz=219							
EGFH					S	**Sn**	**03 58 32.8**	**-0.9**
	baz=219							
NMLH	**Miaoli**	**1.11**	**269**		P	**Pn**	**03 58 21.8**	**+1.1**
	baz=270							
NMLH					S	**Sn**	**03 58 36.0**	**+0.5**
	baz=270							
VWDT	**VWDT**	**1.13**	**225**		P	**Pn**	**03 58 21.4**	**+0.5**
	baz=217							
VWDT					S	**Sn**	**03 58 35.3**	**-0.5**
	baz=217							
NSY	**Sanyi**	**1.15**	**263**	*e*P		**Pn**	**03 58 22.1**	**+0.9**
	baz=264							
NSY					S	**Sn**	**03 58 36.4**	**+0.1**
	baz=264							
HGSD	**Ruisui**	**1.19**	**207**		P	**Pn**	**03 58 21.5**	**-0.2**
	baz=215							
HGSD					*e*S	**Sn**	**03 58 37.8**	**+0.5**
	baz=215							
SMLT	**Sun Moon Lake**	**1.22**	**237**	*i*	P	**Pn**	**03 58 23.6**	**+1.4**
	baz=236							
SMLT					S	**Sn**	**03 58 39.4**	**+1.3**
	baz=236							
EHY	**Hungye**	**1.22**	**211**	*i*	P	**Pn**	**03 58 21.0**	**-1.2**
	baz=210							
EHY					*e*S	**Sn**	**03 58 37.1**	**-0.9**
	baz=210							
SSLB	**Suanglung**	**1.23**	**232**		P	**Pn**	**03 58 22.9**	**+0.6**
	baz=225							
SSLB					S	**Sn**	**03 58 38.7**	**+0.3**
	baz=225							
TYC	**Yuchr**	**1.24**	**238**	*i*	P	**Pn**	**03 58 23.2**	**+0.9**
	baz=238							
TYC				*i*	S	**Sn**	**03 58 39.9**	**+1.5**
	baz=238							
WDJ	**Dajia District**	**1.27**	**261**		S	**Sn**	**03 58 39.6**	**+0.5**
	baz=261							
TCU	**Taichung**	**1.28**	**252**	*e*S		**Sn**	**03 58 40.0**	**+0.6**
	baz=263							
WHYT	**Xinyi Township**	**1.36**	**231**	*i*	P	**Pn**	**03 58 25.8**	**+1.8**
	baz=223							
WHYT				*i*	S	**Sn**	**03 58 43.4**	**+2.0**
	baz=223							
TWF1	**Yuli**	**1.37**	**209**	*i*	P	**Pn**	**03 58 22.9**	**-1.2**
	baz=208							
WJS	**Zhushan**	**1.38**	**238**		P	**Pn**	**03 58 26.5**	**+2.3**
	baz=250							
WJS				*i*	S	**Sn**	**03 58 43.3**	**+1.5**
	baz=250							
WNT	**Mingjian**	**1.39**	**241**	*e*P		**Pn**	**03 58 24.5**	**+0.2**
	baz=253							
WNT					S	**Sn**	**03 58 43.5**	**+1.6**
	baz=253							
WCHH	**Zhanghua**	**1.41**	**250**	*e*S		**Sn**	**03 58 42.9**	**+0.5**
	baz=250							
ALS	**Alishan**	**1.52**	**227**	*i*	P	**Pn**	**03 58 27.6**	**+1.3**
	baz=218							
ALS				*i*	S	**Sn**	**03 58 47.6**	**+2.2**
	baz=218							
CHN5	**Tsauling**	**1.55**	**232**	*i*	P	**Pn**	**03 58 27.8**	**+1.3**
	baz=242							
CHN5				*i*	S	**Sn**	**03 58 48.3**	**+2.5**
	baz=242							
WGK	**Gukeng**	**1.58**	**237**	*e*S		**Sn**	**03 58 49.2**	**+2.7**
	baz=247							
IRIF	**Iriomote-Funau**	**1.58**	**98**		P	**Pn**	**03 58 27.2**	**+0.3**
IRIF					S	**Sn**	**03 58 46.5**	**-0.1**
WDLH	**Douliu**	**1.60**	**238**		P	**Pn**	**03 58 28.7**	**+1.6**
	baz=249							
WDLH				*i*	S	**Sn**	**03 58 49.3**	**+2.4**
	baz=249							
ELDTW	**Lidau**	**1.64**	**214**	*i*	P	**Pn**	**03 58 27.4**	**-0.4**
	baz=207							
ELDTW					*e*S	**Sn**	**03 58 47.0**	**-1.1**
	baz=207							
EDH	**Donghe**	**1.71**	**202**	*e*P		**Pn**	**03 58 25.3**	**-3.3**
	baz=196							
EDH					*e*S	**Sn**	**03 58 46.9**	**-2.6**
	baz=196							
TPUB	**Ta-pu**	**1.78**	**226**		P	**Pn**	**03 58 30.8**	**+1.2**
	baz=217							
TPUB					S	**Sn**	**03 58 53.4**	**+2.1**
	baz=217							
CHY	**Chiayi**	**1.79**	**234**	*e*S		**Sn**	**03 58 52.7**	**+1.2**
	baz=245							
WTP	**Ta-pu**	**1.83**	**225**	*i*	P	**Pn**	**03 58 31.8**	**+1.5**
	baz=236							
WTP				*i*	S	**Sn**	**03 58 55.2**	**+2.8**
	baz=236							
JKRS	**Kuro-shima**	**1.85**	**100**		P	**Pn**	**03 58 31.3**	**+0.8**
JKRS					S	**Sn**	**03 58 53.7**	**+0.7**
TWK	**Hsinying**	**1.90**	**228**	*i*	P	**Pn**	**03 58 32.7**	**+1.6**
	baz=216							
TWK					S	**Sn**	**03 58 56.2**	**+2.0**
	baz=216							
SNST	**Tainan City**	**1.92**	**226**	*i*	P	**Pn**	**03 58 33.5**	**+2.0**
	baz=215							
SNST				*i*	S	**Sn**	**03 58 57.2**	**+2.6**
	baz=215							
CHN1	**Nanshi**	**1.93**	**225**	*i*	P	**Pn**	**03 58 33.3**	**+1.7**
	baz=215							
CHN1				*i*	S	**Sn**	**03 58 57.2**	**+2.4**
	baz=215							
TWGBT	**Beinan**	**1.93**	**206**	*e*S		**Sn**	**03 58 53.7**	**-1.2**
	baz=199							
TWG	**Pinlang**	**1.93**	**207**		P	**Pn**	**03 58 31.6**	**0.0**
	baz=199							
TWG					S	**Sn**	**03 58 53.9**	**-1.1**
	baz=199							
LDUT	**Ludao**	**1.94**	**195**	*e*P		**Pn**	**03 58 30.4**	**-1.3**
	baz=189							
LDUT				*i*	S	**Sn**	**03 58 51.9**	**-3.2**
	baz=189							
JIJ	**Ishigaki jima**	**1.95**	**95**		P	**Pn**	**03 58 32.1**	**+0.2**
JIJ					S	**Sn**	**03 58 55.2**	**-0.3**
SLGT	**Liugui**	**2.00**	**219**	*i*	P	**Pn**	**03 58 33.9**	**+1.4**
	baz=211							
SLGT					S	**Sn**	**03 58 58.9**	**+2.3**
	baz=211							
JISG	**Ishigakijimahi**	**2.10**	**89**		P	**Pn**	**03 58 34.3**	**+0.5**
JISG					S	**Sn**	**03 58 59.3**	**+0.4**
ECL	**Taimali**	**2.18**	**207**	*e*P		**Pn**	**03 58 34.8**	**-0.2**
	baz=200							
ECL					S	**Sn**	**03 58 58.7**	**-2.2**
	baz=200							
VWUC	**VWUC**	**2.37**	**281**	*e*P		**Pn**	**03 58 37.2**	**-0.2**
	baz=281							
VWUC					*e*S	**Sn**	**03 59 02.8**	**-2.7**
	baz=281							
EAST	**Anshuo**	**2.41**	**206**		P	**Pn**	**03 58 38.6**	**+0.5**
	baz=202							
MATB	**Ma-tsu**	**2.45**	**311**	*e*P		**Pn**	**03 58 38.9**	**+0.3**
	baz=312							
MATB					*e*S	**Sn**	**03 59 06.3**	**-1.2**
	baz=312							
JTJ	**Tarama**	**2.45**	**88**		P	**Pn**	**03 58 40.0**	**+1.4**
JTJ					S	**Sn**	**03 59 08.8**	**+1.3**
PHUB	**P'eng-hu**	**2.46**	**245**	*e*P		**Pn**	**03 58 39.2**	**+0.5**
	baz=244							
PHUB					S	**Sn**	**03 59 06.0**	**-1.7**
	baz=244							
WDGT	**Dungji**	**2.51**	**239**		P	**Pn**	**03 58 39.3**	**-0.1**
	baz=237							
WDGT					S	**Sn**	**03 59 08.2**	**-0.7**
	baz=237							
PTMZ	**Houxiangcun**	**2.67**	**281**	*e*P		**Pn**	**03 58 41.6**	**+0.1**
	baz=281							
PTMZ					*e*S	**Sn**	**03 59 10.4**	**-2.4**
	baz=281							
VCHM	**Qimei**	**2.72**	**241**	*e*P		**Pn**	**03 58 42.6**	**+0.4**
	baz=239							
VCHM					S	**Sn**	**03 59 12.6**	**-1.4**
	baz=239							
LYJJ	**Jianjiangzhen**	**2.84**	**315**	*e*P		**Pn**	**03 58 43.9**	**0.0**
	baz=317							
LYJJ					*e*S	**Sn**	**03 59 16.3**	**-0.7**
	baz=317							
XPSS	**Dashiqiu**	**2.88**	**326**	*e*P		**Pn**	**03 58 44.5**	**+0.1**
	baz=319							
XPSS					*e*S	**Sn**	**03 59 16.9**	**-0.9**
	baz=319							
KNMB	**Chin-men Tao**	**3.30**	**269**	*e*P		**Pn**	**03 58 50.0**	**-0.1**
	baz=268							
KNMB					*e*S	**Sn**	**03 59 25.2**	**-3.0**
	baz=268							
AXDP	**Jialang**	**3.69**	**276**	*e*P		**Pn**	**03 58 55.5**	**0.0**
	baz=276							
AXDP					*e*S	**Sn**	**03 59 34.9**	**-2.8**
	baz=276							

IDC ***06*** *04:12:29.9±0.6, 12˚.29N×143˚.88E, h0km, mb4.1/15, mb1 4.4/15, mb1mx4.1/49, mbtmp4.1/15, MS3.6/6, Ms1 3.6/6, ms1mx3.2/45, Error ellipse: s-maj=27.7km s-min=16.4km az=98.0*

NEIC ***06*** *04:12:31.1±1.6, 12˚.25N±0˚.09×144˚.0E±0˚.1, h10km±1km, mb4.6/17, Error ellipse: s-maj=20.9km s-min=7.9km az=131.0*

ISC 06 04:12:33.6±0.5, 12˚.24N±0˚.08×143˚.97E±0˚.10, h26km, n47, σ1$01/42, mb4.5/22, MS3.7/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
GUMO	**Guam**	**1.60**	**33**	Pn	**Pn**	**04 12 59.6**		**-0.7**
GUMO				Sn	**Sn**	**04 13 20.6**		**+0.4**
ANA2	**Anatahan**	**4.41**	**22**	Pn	**Pn**	**04 13 38.0**		**-0.9**
ANA2				Sn	**Sn**	**04 14 30.3**		**+0.8**
PATS	**Pohnpei**	**15.13**	**109**	Pn	**Pn**	**04 16 05.5**		**-0.2**
PATS				IAmb	IAmb	04 16 08.7		
	comp=Z,22nm,0.9s							
DAV	**Davao City (W)**	**18.84**	**256**	LR	LR	04 23 03.5		
	comp=Z,124nm,20.7s,baz=162,slow=34							
H11N1	**WAKE ISLAND Hy**	**23.24**	**68**	T	T	04 42 03.9		
	baz=255,slow=75,SNR=12							
H11N2	**WAKE ISLAND Hy**	**23.25**	**68**	T	T	04 42 03.7		
	baz=255,slow=75,SNR=76							
H11N3	**WAKE ISLAND Hy**	**23.26**	**68**	T	T	04 42 04.2		
	baz=255,slow=75,SNR=48							
WB0	**Warramunga Arr**	**33.17**	**197**	P	**P**	**04 19 08.2**		**-0.1**
WRA	**Warramunga Arr**	**33.35**	**197**	P	**P**	**04 19 09.8**		**0.0**
	comp=Z,1.9nm,0.7s,baz=19,slow=9.8,SNR=12							
WRA	**Warramunga Arr**	**33.35**	**197**	P	**P**	**04 19 09.6**		**-0.2**
KSM	**Kuching**	**35.04**	**255**	P	**P**	**04 19 23.9**		**-0.7**
KSM				IAmb	IAmb	04 19 34.1		
	comp=Z,10.0nm,1.0s							
ASAR	**Alice Springs**	**37.02**	**195**	P	**P**	**04 19 42.1**		**+0.7**
	comp=Z,1.1nm,0.7s,baz=19,slow=11,SNR=8.8							
ASAR				PcP	**PcP**	**04 22 04.1**		**+2.0**
	comp=Z,0.3nm,0.4s,baz=20,slow=3.0,SNR=2.0							
ASAR	**Alice Springs**	**37.02**	**195**	P	**P**	**04 19 41.2**		**-0.2**
KLR	**Kul'dur**	**38.24**	**347**	P	**P**	**04 19 51.5**		**+0.1**
	comp=Z,0.7nm,0.4s,baz=106,slow=7.4,SNR=1.8							
PETK	**Petropavlovsk-**	**42.22**	**12**	LR	LR	04 35 10.7		
	comp=Z,36nm,20.0s,baz=186,slow=32							
CMAR	**Chiang Mai Arr**	**43.77**	**284**	P	**P**	**04 20 38.0**		**+0.6**
	comp=Z,0.6nm,0.3s,baz=189,slow=17,SNR=1.7							
CMAR	**Chiang Mai Arr**	**43.77**	**284**	P	**P**	**04 20 38.0**		**+0.6**
STKA	**Stephens Creek**	**43.92**	**183**	P	**P**	**04 20 38.1**		**-0.2**
	comp=Z,2.5nm,0.9s,baz=342,slow=13,SNR=3.4							
SONM	**Songino Array**	**47.34**	**326**	P	**P**	**04 21 05.3**		**0.0**
	comp=Z,0.4nm,0.5s,baz=110,slow=7.8,SNR=2.5							
SONM				PcP	**PcP**	**04 22 37.1**		**+1.1**
	comp=Z,0.5nm,0.3s,baz=116,slow=3.4,SNR=3.4							
SONM	**Songino Array**	**47.34**	**326**	P	**P**	**04 21 05.5**		**+0.2**
MKAR	**Makanchi Array**	**61.85**	**317**	P	**P**	**04 22 49.9**		**-0.7**
	comp=Z,0.4nm,0.5s,baz=93,slow=7.3,SNR=4.4							
MKAR	**Makanchi Array**	**61.85**	**317**	P	**P**	**04 22 51.5**		**+0.9**
KURK	**Kurchatov**	**65.05**	**320**	P	**P**	**04 23 12.0**		**+0.3**
KURK				IAmb	IAmb	04 23 23.3		
	comp=Z,3.3nm,0.8s							
NIL	**Nilore**	**67.33**	**301**	P	**P**	**04 23 27.6**		**+0.9**
ILAR	**Eielson Array**	**70.16**	**25**	P	**P**	**04 23 43.2**		**-0.5**
	comp=Z,0.8nm,0.6s,baz=254,slow=5.7,SNR=9.7							
BRVK	**Borovoye**	**70.51**	**322**	P	**P**	**04 23 45.5**		**-0.6**
BRVK				IAmb	IAmb	04 23 57.7		
	comp=Z,2.4nm,0.6s							
BCAR	**Beaver Creek A**	**72.04**	**27**	P	**P**	**04 23 54.7**		**-0.5**
INK	**Inuvik**	**75.94**	**22**	P	**P**	**04 24 18.0**		**+0.3**
	comp=Z,3.2nm,0.7s,baz=278,slow=5.6,SNR=7.6							
INK	**Inuvik**	**75.94**	**22**	P	**P**	**04 24 17.6**		**-0.1**
INK				IAmb	IAmb	04 24 19.4		
	comp=Z,3.6nm,0.8s							
ABKAR	**Akbulak array**	**76.95**	**318**	P	**P**	**04 24 23.2**		**-0.7**
YKA	**Yellowknife Ar**	**84.45**	**27**	P	**P**	**04 25 05.0**		**+1.3**
	comp=Z,2.3nm,0.6s,baz=288,slow=5.2,SNR=17							
YKA				LR	LR	05 01 43.0		
	comp=Z,34nm,20.1s,baz=0.0,slow=35							
PINE	**Pine Mountain**	**85.27**	**46**	P	**P**	**04 25 07.5**		**-1.1**
PINE				IAmb	IAmb	04 25 15.0		
	comp=Z,5.1nm,0.8s							
B08A	**Colville Reser**	**85.36**	**42**	P	**P**	**04 25 08.1**		**-0.6**
NEW	**Newport**	**86.82**	**41**	P	**P**	**04 25 15.1**		**-0.8**
ARCES	**ARCESS Array B**	**88.09**	**342**	P	**P**	**04 25 21.4**		**-0.2**
	comp=Z,6.6nm,1.0s,baz=60,slow=7.2,SNR=9.7							
NVAR	**Mina Array Bea**	**88.44**	**51**	P	**P**	**04 25 26.8**		**+2.6**
	comp=Z,1.7nm,0.7s,baz=262,slow=5.9,SNR=12							
NVAR	**Mina Array Bea**	**88.44**	**51**	P	**P**	**04 25 25.1**		**+0.9**
NV11	**Mina Array Sit**	**88.56**	**51**	IAmb	IAmb	04 25 36.8		
	comp=Z,4.0nm,1.1s							
MFID	**Camas Ranch**	**88.97**	**46**	IAmb	IAmb	04 25 40.0		
	comp=Z,3.7nm,0.7s							
VNDA	**Vanda**	**90.18**	**176**	LR	LR	05 04 05.4		
	comp=Z,98nm,19.5s,baz=256,slow=34							
TPNV	**Topopah Spring**	**90.40**	**52**	IAmb	IAmb	04 25 47.3		
	comp=Z,3.1nm,0.8s							
FINES	**FINESS Array B**	**92.01**	**335**	P	**P**	**04 25 38.8**		**-1.1**
	comp=Z,2.4nm,0.5s,baz=70,slow=5.0,SNR=18							
FINES	**FINESS Array B**	**92.01**	**335**	P	**P**	**04 25 36.9**		**-3.1**
PDAR	**Pinedale Array**	**93.53**	**45**	P	**P**	**04 25 48.8**		**+1.0**
	comp=Z,0.4nm,0.8s,baz=345,slow=1.0,SNR=3.6							
PDAR				LR	LR	05 03 32.1		
	comp=Z,32nm,18.8s,baz=278,slow=33							
NOA	**NORSAR Array B**	**97.99**	**339**	P	**P**	**04 26 06.2**		**-1.2**
	comp=Z,0.2nm,0.6s,baz=43,slow=4.3,SNR=2.5							
NOA				LR	LR	05 13 22.7		
	comp=Z,18nm,19.3s,baz=55,slow=37							
TORD	**Torodi Ar. Bea**	**134.88**	**303**	PKP	**PKPdf**	**04 31 50.0**		**-1.2**
	comp=Z,1.2nm,1.2s,baz=46,slow=1.8,SNR=2.6							
LPAZ	**La Paz**	**148.65**	**101**	PKPbc	**PKPbc**	**04 32 19.1**		**-1.0**
	comp=Z,2.8nm,0.8s,baz=298,slow=1.6,SNR=11							

NEIC ***06*** *04:19:00.0±1.1, 29˚.93S×0˚.08×179˚.2W±0˚.1, h356km±5km, mb4.9/151, Error ellipse: s-maj=14.4km s-min=10.6km az=115.0*

BJI ***06*** *04:19:00.4±0.0, 29˚.49S×178˚.78W, h365km, mB5.2/25, mb5.0/40*

IDC ***06*** *04:19:02.6±0.5, 29˚.63S×179˚.28W, h366km±5km, mb4.4/22, mb1 4.5/24, mb1mx4.4/31, mbtmp5.1/24, Error ellipse: s-maj=10.6km s-min=9.7km az=167.0*

GCMT ***06*** *04:19:04.0±0.3, 29˚.76S±0˚.04×179˚.22W±0˚.03, h357km±1km, MW5.3/86, Moment Tensor Solution. s86,c111; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr-0.47±.03; Mθθ-0.42±.06; Mϕϕ0.88±.05; Mrθ-0.62±.05; Mθϕ-0.65±.04; Mϕr-0.41±.04; Best double couple: M₀1.24600×10^17 NP1:ϕ±121.00000°, δ58.00000°, λ-152.00000°. NP2:ϕ±15.00000°, δ67.00000°, λ-36.00000°. Principal axes: T 1.1700, Plg6.0000°, Azm70.0000°; N 0.1520, Plg48.0000°, Azm167.0000°; P -1.3220, Plg41.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 06 04:19:00.3±0.2, 29.89S±0˚.04×179.26W±0˚.05, h350km, n659, σ1$41/642, mb4.9/100, 31C-8D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
GLKZ	**Green Lake**	**1.32**	**62**	P	**Pn**	**04 19 51.0**		**+3.6**
GLKZ				S	**S**	**04 20 17.9**		**-7.4**
RIZ	**Raoul Island**	**1.32**	**61**	P	**Pn**	**04 19 51.4**		**+3.9**
RIZ				S	S	04 20 14.3		-11
RAO	**Raoul Island**	**1.33**	**62**	P	**Pn**	**04 19 51.0**		**+3.5**
	4μm,0.3s,baz=79,slow=0.8,SNR=115							
RAO				S	**S**	**04 20 25.2**		**-0.1**
	3μm,0.3s,baz=109,slow=23,SNR=4.8							
RAO	**Raoul Island**	**1.33**	**62**	P	**Pn**	**04 19 51.2**		**+3.7**
RAO				S	S	04 20 14.7		-11
RAO	**Raoul Island**	**1.33**	**62**	Pn	**Pn**	**04 19 49.8**		**+2.2**
RAO					**S**	**04 20 28.5**		**+3.2**
MXZ	**Matakaoa Point**	**7.92**	**194**		**Pn**	**04 20 53.5**		**+0.2**
OUZ	**Omahuta**	**8.04**	**227**	P	**P**	**04 21 00.5**		**+2.8**
OUZ	**Omahuta**	**8.04**	**227**		**Pn**	**04 20 56.4**		**+1.6**
WMGZ	**Waiomatatini S**	**8.14**	**193**	P	**Pn**	**04 20 57.0**		**+1.0**
WMGZ				S	**S**	**04 22 29.6**		**-0.8**
HAZ	**Te Kaha**	**8.22**	**197**	P	**Pn**	**04 20 57.3**		**+0.4**
HAZ				S	**S**	**04 22 30.5**		**-1.6**
PKGZ	**Pakihiroa**	**8.28**	**195**	P	**P**	**04 21 00.2**		**-0.4**
PKGZ				S	**S**	**04 22 31.4**		**-2.1**
PUZ	**Puketiti**	**8.42**	**194**	P	**Pn**	**04 20 60.0**		**+0.7**
PUZ				S	**S**	**04 22 33.5**		**-2.9**
RUGZ	**Raukumara Rang**	**8.45**	**197**	P	**Pn**	**04 20 59.4**		**-0.3**

KAHZ Kahuranaki 10.38 197 P Pn 04 21 21.1 -1.5
MTVZ Mangateitei 10.42 203 P P 04 21 24.7 +0.4
VRZ Vera Road 10.45 207 P P 04 21 25.7 +1.1
MHEZ Mangahewa 10.58 208 P P 04 21 30.6 +4.6
PXZ Pawanui 10.61 196 P Pn 04 21 23.3 -1.9
PNHZ Pukenui 10.67 199 P Pn 04 21 23.7 -2.5
DREZ Durham Road 10.73 208 P P 04 21 31.6 +4.0
PKE Pukeiti 10.82 209 P P 04 21 33.4 +4.6
TSZ Takapari Road 10.88 200 P Pn 04 21 27.3 -1.2
LREZ Lake Rotokare 10.88 207 P P 04 21 32.0 +2.7
PRHZ Porangahau 10.88 197 P Pn 04 21 26.8 -1.8
KHEZ Kahui Hut 10.89 209 P P 04 21 33.5 +3.9
WAZ Wanganui 10.92 204 P Pn 04 21 29.4 +0.4
NBEZ Newall Road No 10.93 209 P P 04 21 35.1 +5.2
DVHZ Dannevirke 11.04 199 P Pn 04 21 28.3 -2.1
ANWZ Angora Road 11.11 197 P Pn 04 21 30.2 -1.0
POWZ Post Office Ro 11.24 200 P Pn 04 21 33.2 +0.4
PRWZ Pori Road 11.33 199 P P 04 21 35.1 +0.7
BFZ Birch Farm 11.38 198 P Pn 04 21 32.2 -2.3
BFZ Birch Farm 11.38 198 Pn 04 21 32.2 -2.3
MRZ Mangatainoka R 11.54 200 P Pn 04 21 33.8 -2.6
TIWZ Tintock 11.56 199 P Pn 04 21 35.0 -1.6
CPWZ Castlepoint 11.60 197 P Pn 04 21 36.8 -0.3
HOWZ Holdsworth Sta 11.78 200 P Pn 04 21 36.4 -2.9
TMWZ Te Maipa 11.87 198 P P 04 21 38.9 -1.4
KIW Kapiti Island 11.93 202 P P 04 21 39.6 -1.4
CAW Cannon Point 12.11 201 P P 04 21 41.9 -1.0
TRWZ Traveller 12.19 198 P P 04 21 42.6 -1.3
PAWZ Paruwai Farm 12.25 199 P P 04 21 43.4 -1.1
MSWZ Moikau Station 12.34 200 P P 04 21 43.7 -1.8
MSWZ Moikau Station 12.34 200 P P 04 21 44.9 -0.5
MSVF Nonsavu 12.35 348 P P 04 21 46.1 +0.2
WEL Wellington 12.36 201 P P 04 21 45.7 0.0
SNZO South Karori 12.40 202 P 04 21 45.2 -0.9
BHW Baring Head 12.44 201 P P 04 21 46.7 +0.1
BHW Baring Head 12.44 201 P 04 21 45.8 -0.7
PLWZ Palliser 12.47 199 P P 04 21 45.8 -1.2
PLWZ Palliser 12.47 199 P P 04 21 47.2 +0.2
TUWZ Tuamarina 12.77 204 P P 04 21 48.7 -1.5
NNZ Nelson 12.79 206 P 04 21 49.6 -0.8
QRZ Quartz Range 12.80 209 P P 04 21 50.7 +0.2
QRZ S 04 24 09.8 -1.8
CMWZ Cape Campbell 12.96 202 P Pn 04 21 53.5 +0.3
CMWZ Cape Campbell 12.96 202 P P 04 21 53.0 +0.7
BSWZ Blackbirch Sta 13.04 203 P P 04 21 52.6 -0.6
THZ Tophouse 13.44 206 P P 04 21 56.1 -1.5
NIUE Niue 13.70 40 P 04 22 00.2 -0.6
KHZ Kahutara 13.78 203 P P 04 21 59.5 -1.8
LTZ Lake Taylor 14.55 206 P P 04 22 09.2 -0.7
DZM Mont Dzumac 15.02 298 P Pn 04 22 18.0 +0.4
7.8nm,0.3s,baz=112,slow=15,SNR=46
DZM Mont Dzumac 15.02 298 eP Pn Pn 04 22 20.6 +3.0
686nm,1.1s
DZM eSn S 04 25 06.4 +9.4
303nm,1.5s
DZM Mont Dzumac 15.02 298 P P 04 22 15.6 +0.3
OXZ Oxford 15.11 205 P P 04 22 14.7 -1.2
RPZ Rata Peaks 15.81 207 P P 04 22 22.1 -1.5
2.3nm,0.3s,baz=289,slow=0.1,SNR=15
RPZ S S 04 25 09.0 -3.2
6.2nm,0.3s,baz=105,slow=18,SNR=7.7
RPZ Rata Peaks 15.81 207 P 04 22 22.6 -1.0
RPZ IAmb IAmb 04 22 28.5
comp=Z,59nm,0.7s
AFI Afiamalu 17.34 25 P P 04 22 39.6 -0.7
comp=Z,24nm,0.3s,baz=67,slow=1.6,SNR=19
AFI S S 04 25 36.5 -6.3
comp=Z,17nm,0.3s,baz=39,slow=23,SNR=13
AFI Afiamalu 17.34 25 P P 04 22 39.8 -0.6
LHI Lord Howe Isla 18.71 260 P P 04 22 55.3 +0.5
WHZ Wether Hill Ro 18.86 209 P P 04 22 55.3 -0.9
WHZ IAmb IAmb 04 23 03.5
comp=Z,42nm,0.8s
RAR Rarotonga 19.57 68 P P 04 23 04.1 +0.2
comp=Z,1.6nm,0.3s,baz=214,slow=6.3,SNR=4.7
RAR Rarotonga 19.57 68 P P 04 23 03.0 -0.9
RAR IAmb IAmb 04 23 04.7
comp=Z,101nm,1.1s
ARMA Armidale 25.15 261 P P 04 23 55.2 +0.1
CAN Canberra 27.21 250 P P 04 24 13.9 +0.7
CAN IAmb IAmb 04 24 17.9
comp=Z,43nm,0.9s
PAE Paea 29.67 72 eP P 04 24 35.2 +0.2
comp=Z,20nm,1.1s
PAE Paea 29.67 72 eT T 04 54 09.0
comp=Z,7.0nm,0.3s
PPT2 Papeete2 29.71 72 eT T 04 54 17.4
comp=Z,6.0nm,0.3s
PPT Papeete 29.72 72 P P 04 24 34.9 -0.6
comp=Z,75nm,1.0s,baz=70,slow=7.0,SNR=5.5
TIAR Tiarei 29.91 73 eP P 04 24 37.6 +0.4
comp=Z,49nm,0.9s
TOO Toolangi 30.17 246 P P 04 24 39.2 0.0
TOO IAmb IAmb 04 24 43.4
comp=Z,49nm,1.1s
TARA Tarawa 31.95 345 P P 04 24 54.5 -0.4
VAH Vaihoa 32.51 70 eP P 04 25 00.4 +0.7
comp=Z,119nm,1.1s
CTA Charters Tower 32.64 279 P P 04 25 02.3 +1.4
comp=Z,63nm,0.8s,baz=103,slow=12,SNR=33
CTAO Charters Tower 32.64 279 P P 04 25 00.7 -0.2
CTAO IAmb IAmb 04 25 03.9
comp=Z,100nm,0.9s
STKA Stephens Creek 33.54 256 P P 04 25 10.2 +1.8
comp=Z,14nm,0.6s,baz=108,slow=14,SNR=46
STKA Stephens Creek 33.54 256 P P 04 25 09.9 +1.5
KRVT Keravat (AS076 37.20 308 P P 04 25 38.8 -0.8
comp=Z,112nm,0.4s,baz=236,slow=4.9,SNR=6.6
PMG Port Moresby 37.40 296 P P 04 25 40.6 -0.6
comp=Z,23nm,0.8s,baz=140,slow=7.7,SNR=4.4
PMG Port Moresby 37.40 296 P P 04 25 40.5 -0.6
PMG IAmb IAmb 04 25 42.7
comp=Z,55nm,1.0s
BBOO Buckleboo 38.06 254 P P 04 25 47.1 +0.7
baz=26,SNR=31
BBOO Buckleboo 38.06 254 P P 04 25 46.3 -0.1
BBOO IAmb IAmb 04 25 47.9
comp=Z,38nm,0.9s
COEN Coen 38.08 286 P P 04 25 46.5 -0.3
COEN IAmb IAmb 04 25 49.2
comp=Z,66nm,1.1s
KWAJ Kwajalein Atol 40.49 340 P P 04 26 06.1 -0.3
AS31 Alice Springs 42.05 267 P P 04 26 18.6 -0.5
ASAR Alice Springs 42.05 267 P P 04 26 19.6 +0.6
comp=Z,14nm,0.6s,baz=116,slow=7.3,SNR=7.6
ASAR ScP ScP 04 31 22.8 -0.3
comp=Z,4.0nm,0.8s,baz=150,slow=40,SNR=1.8
ASAR S S 04 32 04.6 -7.0
comp=Z,4.1nm,0.7s,baz=107,slow=15,SNR=3.0
ASAR Alice Springs 42.05 267 P P 04 26 18.5 -0.6
ASAR ScP 04 31 20.5 -2.6
PATS Pohnpei 42.40 326 P P 04 26 20.8 -1.0
PATS IAmb IAmb 04 26 30.0
comp=Z,66nm,1.0s
WRA Warramunga Arr 42.99 272 ScP ScP 04 31 24.8 -2.1
comp=Z,5.7nm,0.8s,baz=111,slow=4.6,SNR=3.0
WRA S S 04 32 17.6 -7.7
comp=Z,10nm,0.9s,baz=112,slow=13,SNR=6.1
JAY Jayapura 46.70 298 P P 04 26 55.3 -0.3
comp=Z,47nm,1.0s,baz=120,slow=2.8,SNR=8.8
JAY Jayapura 46.70 298 P P 04 26 55.3 -0.3
comp=Z,41nm,1.3s
GENI Genyem 47.06 297 P P 04 26 58.5 +0.2
comp=Z,5µmcomp=Z,152nm,1.8s
VNDA Vanda 48.50 185 P P 04 27 11.5 +3.2
comp=Z,6.6nm,0.8s,baz=0.5,slow=7.6,SNR=23
VNDA ScP ScP 04 31 49.1 +0.4
comp=Z,6.5nm,0.9s,baz=348,slow=3.9,SNR=8.6
VNDA Vanda 48.50 185 P P 04 27 08.6 +0.3
WAKE Wake Island 50.74 343 P P 04 27 25.0 -0.8
FAKI Fak Fak 53.14 291 P P 04 27 43.0 -0.5
comp=Z,51nm,1.2s
FAKI Fak Fak 53.14 291 P P 04 27 42.6 -0.9
FAKI IAmb IAmb 04 27 43.4
comp=Z,33nm,0.9s
CASY Casey 55.08 208 P P 04 27 56.8 +0.2
CASY IAmb IAmb 04 27 58.3
comp=Z,88nm,1.1s
SIJI Sorong 55.13 292 P P 04 27 57.2 -0.6
comp=Z,36nm,0.7s,baz=59,slow=4.2,SNR=14
SANI Sanana 58.77 287 P P 04 28 22.6 -0.5
QSPA South Pole Qui 60.22 180 P P 04 28 35.2 +3.0
comp=Z,44nm,1.0s,baz=18,slow=0.7,SNR=159
QSPA pP pwP 04 29 51.8 +2.2
comp=Z,51nm,0.9s,baz=49,slow=3.5,SNR=4.4
QSPA South Pole Qui 60.22 180 P P 04 28 32.1 -0.1
QSPA IAmb IAmb 04 28 39.3
comp=Z,46nm,0.9s
LEM Lembang 72.01 272 P P 04 29 47.3 -0.1
comp=Z,57nm,0.8s,baz=332,slow=23,SNR=2.9
MAW Mawson 72.40 201 P P 04 29 50.1 +1.6
comp=Z,22nm,0.8s,baz=129,slow=7.1,SNR=42
MAW Mawson 72.40 201 P P 04 29 48.6 +0.1
SBUM Sibu 72.75 283 P P 04 29 50.7 -0.8
SBUM Sibu 72.75 283 P P 04 29 52.0 +0.5
KSM Kuching 73.86 281 P P 04 29 57.0 -1.0
KSM IAmb IAmb 04 29 58.9
comp=Z,32nm,0.8s
KSM Kuching 73.86 281 P P 04 29 58.0 +0.1
INU Inuyama 76.85 325 P P 04 30 13.7 -0.6
MJAR Matsushiro Arr 77.21 326 P P 04 30 14.1 -2.2
comp=Z,18nm,1.0s,baz=169,slow=4.8,SNR=25
MJAR Matsushiro Arr 77.21 326 P P 04 30 13.9 -2.4
MAJO Matsushiro 77.21 326 P P 04 30 15.4 -0.9
MAT Matsushiro 77.21 326 P P 04 30 15.1 -1.2
MAT eS S 04 39 30.8 -5.3
JNU Nakatsue 78.46 319 P P 04 30 22.5 -0.7
YHNB Yeheng 78.65 307 IAmb IAmb 04 30 25.6
comp=Z,25nm,1.0s
SNAA Sanae 78.69 179 P P 04 30 25.4 +1.4
SNAA Sanae 78.69 179 P P 04 30 23.9 -0.1
VNA3 Neumayer Olymp 78.88 177 P P 04 30 26.5 +1.5
VNA2 Neumayer--Watz 79.30 177 P P 04 30 29.0 +1.7
baz=180,slow=4.4
ERM Erimo 79.50 332 P P 04 30 28.1 -0.4
ERM IAmb IAmb 04 30 31.8
comp=Z,29nm,0.8s
VNA1 Neumayer--Stat 79.54 177 P P 04 30 32.2 +1.8
MYKOM Kota Tinggi 79.55 278 P P 04 30 30.0 +0.5
ADK Adak 81.45 2 P P 04 30 38.2 -0.4
H03N3 Juan Fernandez 81.85 124 T T 06 01 18.7
baz=240,slow=72,SNR=18
H03N2 Juan Fernandez 81.85 124 T T 06 01 33.6
baz=240,slow=72,SNR=2.4
ATKA Atka Island 81.86 3 P P 04 30 40.1 -0.6
H03N1 Juan Fernandez 81.86 124 T T 06 01 09.7
baz=240,slow=72,SNR=18
NIKH Nikolski High 83.01 6 P P 04 30 46.5 0.0
KSRS Korea Array 83.26 320 P P 04 30 48.6 +0.5
comp=Z,11nm,1.0s,baz=140,slow=5.5,SNR=37
KSAR Wonju Array Be 83.27 320 P P 04 30 47.8 -0.5
KS19 Wonju Array Si 83.32 320 IAmb IAmb 04 30 50.0
comp=Z,24nm,1.1s
IPM Ipoh 83.33 279 P P 04 30 48.2 -1.0
IPM Ipoh 83.33 279 P P 04 30 49.0 -0.2
PLCA Paso Flores 83.65 134 P P 04 30 51.6 +1.2
comp=Z,2.2nm,0.8s,baz=217,slow=4.4,SNR=3.9
PLCA Paso Flores 83.65 134 P P 04 30 49.6 -0.8
YSS Yuzh-Sakhalins 83.82 335 P P 04 30 50.5 -0.3
KULM Kulim 84.07 280 P P 04 30 51.8 -1.1
KULM IAmb IAmb 04 30 53.3
comp=Z,31nm,1.0s
RPSI Rantau Prapat 84.25 276 P P 04 30 52.6 -1.1
PETK Petropavlovsk- 85.05 346 P P 04 30 56.7 -0.1
comp=Z,27nm,0.8s,baz=131,slow=7.0,SNR=39
NJ2 Nanjing 85.09 311 eP P 04 30 57.9 +0.4
NJ2 pmax pmax
comp=Z,30nm,0.5s
PKM Mcpherson Peak 85.38 45 P P 04 31 00.5 +1.5
baz=228
SAO San Antreas Ge 85.64 43 IAmb IAmb 04 31 02.6
comp=Z,17nm,1.1s
PMPB Monarch Peak 85.66 44 IAmb IAmb 04 31 03.1
comp=Z,23nm,1.1s
PAGB Antelope Grade 85.67 44 IAmb IAmb 04 31 05.0
comp=Z,13nm,1.2s
109C Camp Elliot, M 85.79 48 P P 04 31 02.2 +1.3
baz=230
ARVC Arvin 86.14 46 P P 04 31 04.0 +1.4
baz=229
USRK Ussuriysk Ar. 86.14 327 P P 04 31 03.2 +0.9
comp=Z,19nm,0.9s,baz=148,slow=4.3,SNR=26
MURC Murrieta 86.19 48 P P 04 31 04.0 +1.1
baz=230,SNR=5.2
MONP2 Monument Peak 86.24 49 P P 04 31 05.1 +1.8
baz=231,SNR=7.2
IKP In-Ko-Pah, Jac 86.29 49 P P 04 31 05.3 +1.8
baz=231
BFSC Mount Baldy Ra 86.30 47 P P 04 31 04.7 +1.2
baz=230,SNR=8.0
VES Vestal, Richgr 86.45 45 P P 04 31 04.8 +0.8
baz=229,SNR=9.7
EDW2 Edwards Air Fo 86.50 46 P P 04 31 05.8 +1.4
baz=230,SNR=13
PFO Pinyon Flats O 86.67 48 P P 04 31 06.8 +1.6
baz=230,SNR=5.6
PFO Pinyon Flats O 86.67 48 P P 04 31 04.3 -1.0
PFO IAmb IAmb 04 31 08.1
comp=Z,13nm,1.0s
XPFO Pion Flat 86.67 48 P P 04 31 04.4 -0.9
XPFO IAmb IAmb 04 31 08.1
comp=Z,13nm,1.0s
SWSC Sam W. Stewart 86.68 49 P P 04 31 06.9 +1.8
baz=231
ISA Isabella, Lake 86.71 45 P P 04 31 06.8 +1.5
baz=229,SNR=19
ISA Isabella, Lake 86.71 45 IAmb IAmb 04 31 08.0
comp=Z,26nm,1.0s
BBRC Big Bear Solar 86.78 47 P P 04 31 07.3 +1.4
baz=230
LRMC Laurel Mtn Rad 87.08 46 P P 04 31 08.6 +1.4
baz=230,SNR=14
CMB Columbia Colle 87.12 43 IAmb IAmb 04 31 09.2
comp=Z,11nm,0.9s
KHMM Horse Mountain 87.16 39 IAmb IAmb 04 31 10.2
comp=Z,12nm,0.9s
WHN Wuhan 87.17 308 iP P 04 31 08.2 +0.6
WHN pmax pmax
comp=Z,110nm,1.5s
O02D Mt. Diablo Mer 87.19 40 P P 04 31 09.5 +1.9
baz=226,SNR=16
BELC Belle Mtn. Jos 87.21 48 P P 04 31 09.6 +1.7
baz=231,SNR=11
BC3 Big Chuckawall 87.35 49 P P 04 31 10.5 +2.0
baz=231,SNR=7.2
GLA Glamis 87.38 49 P P 04 31 10.7 +2.1
baz=232,SNR=7.8
CWC Cottonwood Cre 87.45 45 P P 04 31 10.2 +1.2
baz=230
HEC Hector,Ludlow 87.52 47 P P 04 31 10.8 +1.6
baz=231,SNR=12
GSC Goldstone, Bar 87.52 47 P P 04 31 10.8 +1.6
baz=230,SNR=12
GSC Goldstone, Bar 87.52 47 IAmb IAmb 04 31 11.8
comp=Z,17nm,1.0s
MPMC Manual Prospec 87.57 46 P P 04 31 10.8 +1.2
baz=230,SNR=9.3
MDJ Mudanjiang 87.59 326 P P 04 31 10.0 +0.8
MDJ pmax pmax
comp=Z,31nm,1.0s
MDJ pmax pmax
comp=Z,150nm,4.7s
WDC Whiskeytown Da 87.61 40 IAmb IAmb 04 31 11.8
comp=Z,14nm,1.1s
MLAC Mammoth, Mammo 87.77 44 P P 04 31 12.0 +1.4
baz=229
N02D Trinity Center 87.79 39 P P 04 31 12.0 +1.7
baz=226,SNR=8.6
O03E Paynes Creek 87.83 40 P P 04 31 11.2 +0.7
baz=227,SNR=12
DL2 Dalian 87.84 318 P P 04 31 11.2 +0.7
DL2 pmax pmax
comp=Z,29nm,1.1s
IRM Iron Mountain 87.86 48 P P 04 31 12.8 +2.0
baz=231,SNR=11
113A Mohawk Valley, 87.91 50 IAmb IAmb 04 31 13.6
comp=Z,9.7nm,1.0s
GMRC Granite Mounta 87.92 48 P P 04 31 12.7 +1.6
baz=231,SNR=6.8
WAKR Walker 87.99 43 IAmb IAmb 04 31 13.4
comp=Z,11nm,1.1s
M02C Callahan 88.00 39 P P 04 31 13.1 +1.8
baz=226,SNR=9.6
214A Organ Pipe Nat 88.06 51 P P 04 31 14.0 +2.2
baz=233
214A Organ Pipe Nat 88.06 51 IAmb IAmb 04 31 14.5
comp=Z,10.0nm,1.1s
L02E Cave Junction 88.12 38 P P 04 31 13.0 +1.2
baz=226
TUQ Turquoise Moun 88.16 47 P P 04 31 13.8 +1.5
baz=231,SNR=5.4
FURC Furnace Creek, 88.22 46 P P 04 31 13.8 +1.4
baz=230,SNR=5.9
SHOC Shoshone, Teco 88.23 46 P P 04 31 13.6 +1.2
baz=231,SNR=7.8
PNTR Pine Nut 88.28 42 IAmb IAmb 04 31 15.7
comp=Z,22nm,1.1s
VCNR Virginia City 88.38 42 IAmb IAmb 04 31 16.2
comp=Z,11nm,1.1s
K02D Willamette Mer 88.46 37 P P 04 31 14.8 +1.4
baz=226,SNR=6.1
PDMCI Parker Dam,Lak 88.60 49 P P 04 31 16.0 +1.8
baz=232,SNR=9.7
NVAR Mina Array Bea 88.61 43 P P 04 31 15.8 +1.3
comp=Z,9.1nm,1.0s,baz=220,slow=7.7,SNR=41
NVAR Mina Array Bea 88.61 43 P P 04 31 13.5 -1.0
J01E Myrtle Point 88.65 37 P P 04 31 15.7 +1.5
baz=226
NV11 Mina Array Sit 88.70 43 IAmb IAmb 04 31 17.0
comp=Z,15nm,1.1s
PAHR Pah Rah Range 88.81 42 IAmb IAmb 04 31 18.0
comp=Z,11nm,1.1s
M04C Macdoel 88.82 39 P P 04 31 16.4 +1.2
baz=227,SNR=10.0
TIA Tai'an 88.83 314 P P 04 31 16.0 +0.8
TIA pmax pmax
comp=Z,49nm,1.1s
L04D Klamath Falls 88.86 39 P P 04 31 16.6 +1.2
baz=227,SNR=15
TPNV Topopah Spring 88.91 46 P P 04 31 17.0 +1.1
baz=231,SNR=16
TPNV Topopah Spring 88.91 46 IAmb IAmb 04 31 18.3
comp=Z,13nm,1.0s
CN2 Changchun 89.08 323 eP P 04 31 16.4 +0.2
CN2 pmax pmax
comp=Z,70nm,1.0s
Y14A Wickenburg 89.13 50 IAmb IAmb 04 31 19.6
comp=Z,15nm,1.0s
KVN Kaiserville 89.13 43 IAmb IAmb 04 31 19.5
comp=Z,14nm,1.2s
I03D Drain, OR 89.33 37 P P 04 31 18.8 +1.4
baz=226
I02D Swisshome 89.35 36 P P 04 31 19.1 +1.6
baz=226
K04D Chiloquin, OR 89.44 39 P P 04 31 19.2 +1.1
baz=227
PBKT Sadao Pong 89.58 289 IAmb IAmb 04 31 21.2
comp=Z,17nm,1.0s
TUC Tucson 89.65 52 P P 04 31 21.6 +2.3
baz=234
TUC Tucson 89.65 52 P P 04 31 18.3 -1.0
TUC IAmb IAmb 04 31 22.8
comp=Z,16nm,0.9s
J04D Umpqua Nationa 89.67 38 P P 04 31 20.5 +1.3
baz=227,SNR=14
SLVN Son La 89.71 295 IAmb IAmb 04 31 22.4
comp=Z,19nm,1.1s
MOD Modoc Plateau 89.75 40 IAmb IAmb 04 31 21.6
comp=Z,17nm,0.9s
I04A Tendick Farm, 89.89 37 P P 04 31 20.8 +0.7
baz=226
319A Douglas 90.14 53 IAmb IAmb 04 31 24.9
comp=Z,16nm,1.1s
J05D Fort Rock, OR 90.16 38 P P 04 31 22.7 +1.2
baz=227,SNR=12
R11A Troy Canyon, C 90.20 45 P P 04 31 22.8 +0.9
baz=231,SNR=5.1
H04D Lebanon 90.22 37 P P 04 31 22.8 +1.3
baz=226
G03D McMinnville, O 90.42 36 P P 04 31 24.1 +1.7
baz=226
X16A Lo Mia Camp, P 90.45 50 IAmb IAmb 04 31 26.3
comp=Z,10.0nm,1.0s
H04A Detroit Lake 90.61 37 IAmb IAmb 04 31 25.2
comp=Z,20nm,1.1s
I05D Terrebonne, OR 90.82 37 P P 04 31 25.4 +1.1
baz=227
WVOR Wild Horse Val 91.03 40 IAmb IAmb 04 31 27.6
comp=Z,13nm,1.1s
U15A North Rim 91.09 48 IAmb IAmb 04 31 29.0
comp=Z,13nm,0.9s
WUAZ Wupatki 91.15 49 P P 04 31 27.9 +1.7
baz=233
WUAZ Wupatki 91.15 49 IAmb IAmb 04 31 29.0
comp=Z,8.9nm,0.9s
F04D Rainier, OR 91.15 35 P P 04 31 27.4 +1.6
baz=226
E03A Lebam 91.20 35 IAmb IAmb 04 31 29.0
comp=Z,24nm,1.0s
F04A Amboy 91.35 36 IAmb IAmb 04 31 28.7
comp=Z,19nm,1.2s
G05D Wamic, OR 91.44 37 P P 04 31 28.0 +0.8
baz=227
I07A Izee 91.63 39 IAmb IAmb 04 31 30.5
comp=Z,18nm,1.0s
E04D Cinebar 91.70 35 P P 04 31 29.2 +0.9
baz=226
J08A Circle Bar Ran 91.72 40 IAmb IAmb 04 31 30.7
comp=Z,19nm,1.1s
BJI Beijing 91.80 316 P P 04 31 29.3 +0.4
BJI S S 04 41 59.9 +1.1
BJI pmax pmax
comp=Z,18nm,1.0s
D04E Lakebay 92.03 35 P P 04 31 31.4 +1.7
baz=226
D03D Eldon 92.12 34 P P 04 31 31.3 +1.2
baz=226
CMAR Chiang Mai Arr 92.20 290 P P 04 31 32.9 +1.6
comp=Z,7.8nm,0.9s,baz=144,slow=3.4,SNR=20
CMAR PP PP 04 35 20.1 +2.7
comp=Z,1.3nm,0.3s,baz=132,slow=6.1,SNR=5.2
CMAR Chiang Mai Arr 92.20 290 P P 04 31 30.3 -1.0
CHTO Chiang Mai 92.38 290 P P 04 31 30.3 -1.2
CHTO IAmb IAmb 04 31 34.3
comp=Z,11nm,0.9s
D05A Enumclaw 92.42 35 IAmb IAmb 04 31 34.1
comp=Z,21nm,1.1s
KMI Kunming 92.62 297 P P 04 31 35.0 +1.6
KMI pmax pmax
comp=Z,15nm,1.0s
G08A Pilot Rock 92.72 38 IAmb IAmb 04 31 35.3
comp=Z,14nm,1.1s
XAN Xi'an 92.94 308 P P 04 31 35.5 +1.1
XAN pmax pmax
comp=Z,11nm,1.2s
DUG Dugway, Tooele 93.03 45 P P 04 31 35.6 +0.8
baz=233
TXAR Lajitas Array 93.03 58 P P 04 31 36.4 +1.4
comp=Z,0.7nm,0.8s,baz=209,slow=7.5,SNR=11
TXAR pP pP 04 33 01.1 +4.3
comp=Z,0.3nm,0.9s,baz=52,slow=16,SNR=2.7
TXAR Lajitas Array 93.03 58 P P 04 31 33.9 -1.1
MNTX Cornudas Mount 93.08 55 P P 04 31 35.6 +0.6
baz=236
HAWA Hanford 93.14 37 IAmb IAmb 04 31 36.9
comp=Z,7.5nm,0.9s
MFID Camas Ranch 93.24 41 IAmb IAmb 04 31 37.5
comp=Z,10nm,0.9s
D08A Wollman Farm, 93.90 37 IAmb IAmb 04 31 40.7
comp=Z,10nm,0.8s
E09A Wood Farm, Sta 93.95 37 IAmb IAmb 04 31 40.1
comp=Z,7.6nm,0.9s
F10A Beach Ranch, E 94.09 38 IAmb IAmb 04 31 40.5
comp=Z,6.0nm,0.8s
ANMO Albuquerque 94.11 52 P P 04 31 40.8 +0.8
baz=236
ANMO Albuquerque 94.11 52 P P 04 31 38.9 -1.1
HLID Hailey 94.14 41 P P 04 31 40.9 +1.1
baz=232
CD2 Chengdu 94.90 303 eP P 04 31 43.5 +0.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 95.10 315 eP P 04 31 43.5 -0.7
HHC sP sP 04 33 52.0 +10
HHC pmax pmax
comp=Z,16nm,1.2s
HHC pmax pmax
comp=Z,200nm,6.0s
S22A 4UR Ranch, Cre 95.42 49 P P 04 31 47.2 +1.2
baz=236
TRF Thorofare Moun 95.83 13 IAmb IAmb 04 31 49.6
comp=Z,9.3nm,0.9s
O20A White River Ci 95.84 47 P P 04 31 48.5 +0.9
baz=236
RND Reindeer 96.06 13 IAmb IAmb 04 31 50.7
comp=Z,8.4nm,1.0s
SNOW Snow King Moun 96.21 43 IAmb IAmb 04 31 51.3
comp=Z,5.0nm,0.9s
SDCO Great Sand Dun 96.30 50 P P 04 31 51.2 +1.3

baz=237
MSO Missoula 96.40 39 P P 04 31 50.1 +0.2
baz=232
BW06 Boulder Array 96.52 44 P P 04 31 51.0 +0.3
baz=235
PDAR Pinedale Array 96.52 44 P P 04 31 50.5 -0.2
comp=Z,1.0nm,0.8s,baz=209,slow=3.0,SNR=12
PDAR pP pwP 04 33 16.9 +2.3
comp=Z,0.1nm,0.4s,baz=222,slow=3.6,SNR=2.2
PDAR Pinedale Array 96.52 44 P P 04 31 49.8 -1.0
BOZ Bozeman (W) 96.95 41 P P 04 31 53.4 +0.9
baz=234
WRH Wood River Hil 97.17 13 IAmb IAmb 04 31 56.5
comp=Z,5.6nm,0.8s
DOT Dot Lake 97.30 15 IAmb IAmb 04 31 54.3
comp=Z,4.4nm,0.8s
BCAR Beaver Creek A 97.33 16 P P 04 31 53.3 -0.3
HDA Harding Lake 97.34 14 P Pdif 04 31 55.4 +1.8
baz=206
HDA Harding Lake 97.34 14 IAmb IAmb 04 31 57.5
comp=Z,4.1nm,0.8s
CCB Clear Creek Bu 97.38 13 IAmb IAmb 04 31 57.2
comp=Z,5.6nm,0.9s
LZH Lanzhou 97.55 307 eP Pdif 04 32 02.4 +7.0
LZH pP pwP 04 33 23.4 +3.2
LZH sP sP 04 33 59.4 +6.6
LZH pmax pmax
comp=Z,16nm,1.3s
LZH pmax pmax
comp=Z,67nm,4.7s
IMAR Indian Mountai 97.56 10 P P 04 31 54.6 0.0
MDM Murphy Dome 97.58 13 IAmb IAmb 04 31 55.7
comp=Z,5.1nm,1.0s
SCRK Sand Creek 97.60 15 P P 04 31 55.5 +0.6
baz=210
ILAR Eielson Array 97.68 13 P P 04 31 53.9 -1.2
comp=Z,1.8nm,1.0s,baz=225,slow=6.1,SNR=8.7
ILAR PP PP 04 35 56.0 -2.6
comp=Z,2.1nm,1.1s,baz=230,slow=6.8,SNR=5.7
ILAR Eielson Array 97.68 13 P P 04 31 54.4 -0.7
K27K Chicken 98.08 16 P P 04 31 58.1 +1.3
baz=212
K22A Casper 98.31 45 P Pdif 04 31 58.9 +0.2
baz=237
COLD Coldfoot 99.28 11 P Pdif 04 32 03.3 +1.1
baz=205
RSSD Black Hills 100.63 45 P Pdif 04 32 09.6 +0.6
baz=239
SONM Songino Array 102.04 318 PP PKiKP 04 36 27.3 -8.2
comp=Z,0.7nm,0.6s,baz=116,slow=6.6,SNR=2.5
WMQ Urumqi 112.06 309 ePKP PKiKP 04 36 53.7 -0.5
P53A Whipple 113.95 57 P PKiKP 04 36 58.0 +0.1
baz=250
P54A Burton 114.66 57 P PKPdf 04 36 58.8 -0.5
baz=251
U58A Oxford 115.03 61 P PKPdf 04 36 59.6 -0.5
baz=250
R56A Bull Pasture M 115.06 59 P PKPdf 04 36 60.0 -0.2
baz=251
D47A Chapleau 115.18 49 P PKPdf 04 36 59.7 -0.4
baz=252
T58A Grand View Acr 115.22 60 P PKPdf 04 36 59.8 -0.6
baz=250
N54A Moraine State 115.45 56 P PKPdf 04 37 00.0 -0.8
baz=252
F49A Sandfield 115.49 50 P PKPdf 04 37 00.0 -0.6
baz=253
L53A Girard 115.56 55 P PKPdf 04 37 00.8 -0.1
baz=252
M54A Oil Creek Stat 115.85 55 P PKPdf 04 37 01.0 -0.5
baz=252
D48A Paudash Townsh 116.06 49 P PKPdf 04 37 01.0 -0.7
baz=253
E50A Wahnapitae 116.55 50 P PKPdf 04 37 02.4 -0.3
baz=254
MKAR Makanchi Array 116.61 311 PKP PKPdf 04 37 01.8 -1.0
comp=Z,2.9nm,0.8s,baz=85,slow=1.3,SNR=14
MKAR PP PP 04 38 18.6 +2.0
comp=Z,3.3nm,1.2s,baz=120,slow=7.2,SNR=4.2
N56A West Decatur 116.66 56 P PKPdf 04 37 03.0 -0.1
baz=252
MAKZ Makanchi 116.82 310 PKPdf PKPdf 04 37 02.5 -0.8
SSPA Standing Stone 116.87 57 P PKPdf 04 37 03.1 -0.4
baz=253
K54A Basiliko Farm, 116.87 54 P PKPdf 04 37 03.2 -0.2
baz=253
M56A Emporium 116.91 56 P PKPdf 04 37 04.0 +0.5
baz=253
O57A Amberson 116.92 57 P PKPdf 04 37 03.1 -0.5
baz=252
ZALV Zalesovo Beam 116.93 319 PKP PKPdf 04 37 01.9 -1.2
comp=Z,1.7nm,0.7s,baz=56,slow=1.5,SNR=6.2
N57A Milroy 117.15 57 P PKPdf 04 37 03.8 -0.2
baz=253
D50A G1974 Best Tow 117.35 49 P PKPdf 04 37 03.7 -0.5
baz=255
E51A G1948 Merrick 117.41 50 P PKPdf 04 37 03.9 -0.4
baz=254
O58A Lewisberry 117.42 58 P PKPdf 04 37 04.2 -0.4
baz=253
L56A Greenwood 117.54 55 P PKPdf 04 37 04.5 -0.3
baz=254
G53A Haliburton 117.62 52 P PKPdf 04 37 04.4 -0.4
baz=254
M57A Sunshine Farm, 117.62 56 P PKPdf 04 37 04.6 -0.4
baz=253
D51A Lot 18 Range I 117.64 49 P PKPdf 04 37 04.3 -0.5
baz=255
N58A Sunbury 117.78 57 P PKPdf 04 37 05.2 0.0
baz=253
E52A Mattawa 117.90 50 P PKPdf 04 37 05.0 -0.2
baz=255
L57A Andrews Acres 118.01 56 P PKPdf 04 37 05.4 -0.3
baz=254
O59A Robesonia 118.01 58 P PKPdf 04 37 05.3 -0.4
baz=253
G54A Lake Saint Pet 118.06 52 P PKPdf 04 37 05.2 -0.5
baz=255
M58A Price's Panora 118.11 56 P PKPdf 04 37 05.5 -0.4
baz=254
ALGO Algonquin Park 118.23 51 P PKPdf 04 37 05.2 -0.7
baz=255
D52A ZEK Kipawa Sen 118.24 50 P PKPdf 04 37 05.4 -0.5
baz=255
P60A Greenville 118.28 58 P PKPdf 04 37 05.8 -0.4
baz=253
K57A Scipio Center 118.45 55 P PKPdf 04 37 06.2 -0.2
baz=254
H55A Tweed 118.46 53 P PKPdf 04 37 05.9 -0.5
baz=255
N59A State Game Lan 118.49 57 P PKPdf 04 37 06.4 -0.3
baz=254
E53A Dumoine, Ponti 118.59 51 P PKPdf 04 37 06.1 -0.5
baz=256
BINY Binghamton 118.68 56 P PKPdf 04 37 06.8 -0.1
baz=254
NRIK Noril'sk 118.73 336 PKP PKPdf 04 37 05.7 -0.5
comp=Z,4.2nm,0.9s,baz=60,slow=2.3,SNR=5.8
L58A Harry Jones Me 118.74 56 P PKPdf 04 37 06.8 -0.3
baz=254
D53A Lac Vacive, Po 118.74 50 P PKPdf 04 37 06.4 -0.5
baz=256
D53A Lac Vacive, Po 118.74 50 PKPdf PKPdf 04 37 06.2 -0.7
M59A Waymart 118.90 56 P PKPdf 04 37 06.9 -0.5
baz=254
E54A Lac Daplat, Po 118.93 51 P PKPdf 04 37 06.4 -0.8
baz=256
N60A Cedar Hill Far 118.96 57 P PKPdf 04 37 07.2 -0.3
baz=254
J57A Williamstown 118.99 54 P PKPdf 04 37 07.0 -0.4
baz=255
KSH Kashi 119.04 301 ePKP PKPdf 04 37 08.5 +0.6
K58A Earlville 119.07 55 P PKPdf 04 37 07.4 -0.3
baz=255
H56A Elgin 119.11 53 P PKPdf 04 37 07.2 -0.4
baz=256
L59A Walton 119.36 56 P PKPdf 04 37 08.1 -0.2
baz=255
I57A Carthage 119.36 54 P PKPdf 04 37 07.8 -0.4
baz=256
M60A Port Jervis 119.43 57 P PKPdf 04 37 08.1 -0.3
baz=255
D54A Lac Fusel, La 119.45 50 P PKPdf 04 37 07.3 -1.0
baz=257
J58A Remsen 119.48 54 P PKPdf 04 37 08.1 -0.3
baz=255
N61A South Mountain 119.52 58 P PKPdf 04 37 08.8 +0.3
baz=254

ULHL Ulahol 119.58 304 P PKPdf 04 37 09.0 +0.1
SNR=9.2
K59A Cooperstown 119.64 55 P PKPdf 04 37 08.7 -0.1
baz=255
LSQQ Lebel-sur-Quev 119.66 48 P PKPdf 04 37 07.9 -0.7
baz=258
H57A Richville 119.68 53 P PKPdf 04 37 08.5 -0.2
baz=256
E55A Montcerf-Lytto 119.69 51 P PKPdf 04 37 08.4 -0.3
baz=257
I58A Old Forge 119.78 54 P PKPdf 04 37 08.6 -0.4
baz=256
ORIO Orleans, Innes 119.83 52 P PKPdf 04 37 08.5 -0.4
baz=256
PAL Palisades 119.87 57 P PKPdf 04 37 08.9 -0.3
baz=255
KURK Kurchatov 119.91 314 PKPdf PKPdf 04 37 08.3 -0.7
M61A Granite Spring 120.05 57 P PKPdf 04 37 09.1 -0.5
baz=255
TKM2 Tokmak 2 120.21 305 P PKPdf 04 37 09.3 -0.8
SNR=11
D55A Sainte-Anne-du 120.21 50 P PKPdf 04 37 09.3 -0.4
baz=257
KZA Kyzart 120.25 304 P PKPdf 04 37 10.5 0.0
SNR=15
E56A St. Veronique 120.40 51 P PKPdf 04 37 09.4 -0.7
baz=257
L61A Hillsdale 1, H 120.43 56 P PKPdf 04 37 10.1 -0.2
baz=256
I59A Olmsteadville 120.58 54 P PKPdf 04 37 10.2 -0.3
baz=256
D56A ZEC Mazanza, M 120.69 50 P PKPdf 04 37 10.3 -0.4
baz=258
M62A Hamden 120.72 57 P PKPdf 04 37 10.5 -0.4
baz=256
G58A Ormstown 120.76 53 P PKPdf 04 37 10.6 -0.2
baz=257
UCH Uchtor 120.81 304 P PKPdf 04 37 11.8 +0.2
SNR=21
CHMS Chumysh 120.83 305 P PKPdf 04 37 10.7 -0.4
SNR=5.5
AAK Ala-Archa 120.93 304 PKPdf PKPdf 04 37 10.5 -0.9
E57A Chemin Saint G 120.97 51 P PKPdf 04 37 10.9 -0.3
baz=258
I60A Shoreham 121.00 54 P PKPdf 04 37 11.0 -0.3
baz=257
USP Ospenovka 121.07 305 P PKPdf 04 37 11.4 -0.2
SNR=6.6
L61B Northampton 121.12 56 P PKPdf 04 37 11.2 -0.4
baz=256
D57A Chemin Vers le 121.27 51 P PKPdf 04 37 11.4 -0.4
baz=258
G59A Clarenceville 121.35 53 P PKPdf 04 37 11.7 -0.2
baz=258
AML Almayashu 121.38 304 P PKPdf 04 37 12.6 0.0
SNR=23
J61A Chester 121.41 55 P PKPdf 04 37 11.8 -0.3
baz=257
EKS2 Erkin-Say 121.45 304 P PKPdf 04 37 12.6 +0.2
SNR=8.0
K62A Royalston 121.49 56 P PKPdf 04 37 12.0 -0.3
baz=257
E58A La Victoria 121.55 51 P PKPdf 04 37 12.0 -0.3
baz=258
H60A Morristown 121.58 54 P PKPdf 04 37 12.3 -0.2
baz=258
I61A Oroboro, Fairl 121.78 54 P PKPdf 04 37 12.6 -0.2
baz=258
J62A Henniker 121.91 55 P PKPdf 04 37 13.1 0.0
baz=257
HRV Adam Dziewonsk 121.94 56 P PKPdf 04 37 13.0 -0.2
baz=257
G60A Masonville 121.94 53 P PKPdf 04 37 12.4 -0.7
baz=258
D58A Chemin du LacG 121.96 51 P PKPdf 04 37 12.4 -0.6
baz=259
M64A Tiverton 121.97 57 P PKPdf 04 37 13.3 0.0
baz=257
K63A Dunstable 122.00 56 P PKPdf 04 37 13.2 -0.1
baz=257
LBNH Lisbon 122.05 54 P PKPdf 04 37 13.4 +0.1
baz=258
H61A Lyndonville 122.11 54 P PKPdf 04 37 13.3 -0.2
baz=258
F60A Warwick 122.38 52 P PKPdf 04 37 13.6 -0.3
baz=259
I62A Tamworth 122.39 55 P PKPdf 04 37 13.8 -0.2
baz=258
G61A St-Isidore-de- 122.54 53 P PKPdf 04 37 13.9 -0.4
baz=259
H62A Milan 122.66 54 P PKPdf 04 37 14.6 0.0
baz=259
E60A Ste Agathe de 122.80 52 P PKPdf 04 37 14.5 -0.2
baz=260
I63A Otisfield 122.96 54 P PKPdf 04 37 15.2 +0.1
baz=259
KBL Kabul 123.02 294 PKPdf PKPdf 04 37 14.6 -1.2
F61A St Evariste 123.03 52 P PKPdf 04 37 15.0 -0.2
baz=260
G62A West of Eustis 123.22 53 P PKPdf 04 37 15.5 -0.1
baz=259
E61A Lac Etchemin 123.46 52 P PKPdf 04 37 15.9 -0.1
baz=260
I64A Boothbay 123.60 55 P PKPdf 04 37 16.1 -0.2
baz=259
D61A St Aubert, Com 123.79 51 P PKPdf 04 37 16.4 -0.1
baz=261
G63A Kingsbury 123.83 53 P PKPdf 04 37 16.6 -0.2
baz=260
KKAR Karatay Array 123.89 304 PKPdf 04 37 16.4 -0.6
H64A Troy 124.03 54 P PKPdf 04 37 16.6 -0.5
baz=260
PKME Peaks-Kenny Pk 124.09 53 P PKPdf 04 37 17.0 -0.1
baz=260
E62A Clayton Lake 124.15 52 P PKPdf 04 37 16.9 -0.5
baz=261
E62A Clayton Lake 124.15 52 PKPdf PKPdf 04 37 16.8 -0.5
F63A Nahmakanta, Br 124.29 53 P PKPdf 04 37 17.4 -0.2
baz=261
G64A Maxfield 124.46 53 P PKPdf 04 37 17.6 -0.3
baz=260
D62A Allapoint, All 124.54 51 P PKPdf 04 37 17.4 -0.6
baz=262
H65A Eastbrook 124.72 54 P PKPdf 04 37 18.4 0.0
baz=260
F64A Sherman 124.83 53 P PKPdf 04 37 18.1 -0.5
baz=261
E63A Oxbow 124.87 52 P PKPdf 04 37 18.4 -0.2
baz=262
D63A Stockholm 125.17 51 P PKPdf 04 37 18.6 -0.6
baz=262
E64A Bridgewater 125.28 52 P PKPdf 04 37 19.1 -0.3
baz=262
G65A Princeton 125.28 54 P PKPdf 04 37 19.4 -0.1
baz=261
BRVK Borovoye 125.35 316 PKPdf PKPdf 04 37 19.2 -0.2
FRB Frobisher Bay 125.50 31 PKP PKPdf 04 37 18.2 -1.1
comp=Z,11nm,1.1s,baz=132,slow=3.8,SNR=3.8
SCHQ Schefferville 126.59 42 PKP PKPdf 04 37 20.6 -1.1
comp=Z,7.7nm,1.0s,baz=323,slow=2.3,SNR=8.7
SCHQ Schefferville 126.59 42 PKPdf PKPdf 04 37 21.3 -0.4
SPA0 Spitsbergen Ar 131.12 356 ePKPdf PKPdf 04 37 30.1 +0.4
SPITS Spitsbergen Ar 131.12 356 PKP PKPdf 04 37 29.9 +0.1
comp=Z,9.0nm,0.7s,baz=143,slow=8.4,SNR=8.4
ABKAR Akbulak array 131.75 311 PKPdf PKPdf 04 37 31.1 -0.5
ARU Arti 132.01 321 SKPbc SKPbc 04 40 22.2 -2.4
comp=Z,1.6nm,0.2s,baz=49,slow=2.4,SNR=8.4
ARU Arti 132.01 321 PKPdf PKPdf 04 37 31.5 -0.4
GEYT Alibeck 132.36 296 PKP PKPdf 04 37 33.1 -0.1
comp=Z,6.7nm,0.7s,baz=297,slow=1.0,SNR=10
GEYT SKPbc SKPbc 04 40 24.4 -2.1
comp=Z,1.6nm,0.5s,baz=18,slow=5.2,SNR=3.8
GEYT Alibeck 132.36 296 PKPdf PKPdf 04 37 32.3 -1.0
SUMG Summit 132.50 15 PKPdf PKPdf 04 37 32.7 -0.2
KMBO Kilima Mbogo 133.49 235 SKPbc SKPbc 04 40 29.9 -1.6
comp=Z,5.5nm,0.9s,baz=61,slow=5.6,SNR=8.6
HAMF Hammerfest 137.23 349 ePKPdf PKPdf 04 37 40.6 -0.7
ARCES ARCESS Array B 137.86 347 PKhKP PKPpre 04 37 33.7
comp=Z,4.2nm,0.8s,baz=26,slow=1.5,SNR=16
ARCES PKP PKPdf 04 37 43.9 +1.3
comp=Z,8.5nm,0.7s,baz=72,slow=4.0,SNR=13
ARCES ARCESS Array B 137.86 347 PKPdf 04 37 42.7 +0.2
ARE0 ARCESS Array S 137.86 347 ePKPdf PKPdf 04 37 42.3 -0.2
KLMR Klimovskoe 139.80 332 ePKPdf PKPdf 04 37 45.0 -1.2
KLMR AMP 04 37 47.2
comp=Z,34nm,1.1s
KLMR ePP PP 04 40 44.4 -2.2

STEI Steigen 140.97 351 ePKPdf PKPdf 04 37 49.7 +1.6
AKH Akhalkalaki 143.75 300 ⇓P PKPab 04 37 53.3 +1.1
KBZ Khabaz 143.92 304 PKP PKPab 04 37 52.8 +0.3
comp=Z,27nm,0.9s,baz=128,slow=1.3,SNR=28
KIV Kislovodsk 144.04 305 ⇓P PKPab 04 37 53.0 -0.1
KIV Kislovodsk 144.04 305 PKPdf PKPab 04 37 53.8 +0.7
OBN Obninsk 144.13 325 PKPab 04 37 52.7 -0.2
FINES FINESS Array B 144.29 339 PKP PKPab 04 37 52.5 -0.8
comp=Z,102nm,0.8s,baz=64,slow=4.4,SNR=216
FINES FINESS Array B 144.29 339 PKPab 04 37 52.7 -0.6
NSS Namsos 144.62 352 ePKPbc PKPbc 04 37 53.2 -1.2
BCA Borcka 145.14 301 ⇑P PKPdf 04 37 57.3 +1.0
TBLU Trondheim 146.07 352 ePKPbc PKPdf 04 37 57.9 +0.7
VSU Vasula 146.31 335 eP PKPdf 04 37 59.3 +1.6
MOL Molde 147.01 354 ePKPbc PKPbc 04 38 01.1 -0.3
DOMB Dombas 147.38 353 ePKPbc PKPbc 04 38 02.0 -0.5
AKN Aaknes 147.44 355 ePKPab PKiKP 04 38 05.2 +0.7
NB2 NORSAR Subarra1 148.07 350 PKP PKPdf 04 38 03.4 +2.7
comp=Z,55nm,0.9s,baz=14,slow=2.8
NB2 NORSAR Subarra1 148.07 350 PKPab PKPdf 04 38 03.4 +2.7
baz=14,slow=2.8
NOA NORSAR Array B 148.07 350 PKPbc PKPbc 04 38 03.6 -0.7
comp=Z,28nm,0.9s,baz=15,slow=4.3,SNR=91
NOA pPKPbc pPKPab 04 39 32.8 +1.5
comp=Z,0.8nm,0.7s,baz=62,slow=1.9,SNR=1.9
FOO Floro 148.16 356 ePKPbc PKPbc 04 38 04.2 -0.2
NC602 NORSAR Array S 148.32 350 ePKPbc PKPbc 04 38 04.1 -0.8
IZAR Zarasai 148.44 332 eP PKPbc 04 38 06.3 +0.9
HYA Hoyanger 148.51 355 ePKPbc PKPbc 04 38 05.1 -0.2
IDID Didziasalis 148.54 331 eP PKPbc 04 38 06.1 +0.5
ISAL Salakas 148.62 332 eP PKPbc 04 38 05.9 +0.1
SUE Sulen 148.71 356 ePKPbc PKPbc 04 38 05.6 -0.2
SKAR Skarslia 148.79 353 ePKPbc PKPbc 04 38 06.3 +0.2
NACGM Naroch 148.80 331 e PKPdf 04 38 05.0 +3.0
OSL Oslo 149.20 350 ePKPbc PKPbc 04 38 07.0 -0.1
ASK Askoy 149.26 356 ePKPbc PKPbc 04 38 06.8 -0.4
BER Bergen 149.35 356 ePKPbc PKPbc 04 38 07.3 -0.1
PABE Paberze 149.52 334 eP PKPbc 04 38 08.0 0.0
WAL1 Walls 149.59 2 eP PKPbc 04 38 07.3 -0.7
KONO Kongsberg 149.64 351 PKPdf PKPdf 04 38 03.0 -0.2
KONO Kongsberg 149.64 351 ePKPbc PKPbc 04 38 07.9 -0.3
ODD1 Odda 149.72 354 ePKP PKiKP 04 38 12.6 +3.3
LRW Lerwick 149.72 2 eP PKPbc 04 38 07.6 -0.8
PBUR Paburge 149.87 336 eP PKPbc 04 38 08.7 -0.1
BLS5 Blasjo 150.21 354 ePKPbc PKPbc 04 38 09.7 +0.1
AKASG Malin Array Be 150.23 322 PKPbc PKPbc 04 38 09.5 -0.4
comp=Z,44nm,0.8s,baz=47,slow=2.8,SNR=58
AKASG pPKPbc pPKPab 04 39 38.9 -1.6
comp=Z,6.7nm,0.7s,baz=60,slow=2.5,SNR=2.6
AKASG PP PP 04 41 48.5 +0.1
comp=Z,0.6nm,0.4s,baz=51,slow=3.2,SNR=2.0
AKASG Malin Array Be 150.23 322 PKPdf 04 38 03.9 -0.5
AKASG PKPbc 04 38 09.5 -0.4
KMY Karmoy 150.52 355 ePKPbc PKPbc 04 38 10.3 +0.1
SUW Suwalki 150.93 332 ePKP PKPbc 04 38 11.1 -0.3
HOMB Homborsund 151.12 352 ePKPbc PKPbc 04 38 11.8 +0.2
SNART Snartemo 151.21 353 ePKPbc PKPbc 04 38 11.7 -0.2
BIGH Upper Bighouse 151.22 5 eP PKPbc 04 38 11.5 -0.4
LEWI Lewis, Hebride 151.26 8 eP PKPbc 04 38 11.8 -0.2
BRTR Keskin Array B 151.40 299 PKPbc PKPbc 04 38 12.8 -0.4
comp=Z,16nm,0.9s,baz=127,slow=3.3,SNR=31
BRTR PKPab PKPab 04 38 22.6 -0.3
comp=Z,7.6nm,0.8s,baz=92,slow=4.2,SNR=10
BRTR Keskin Array B 151.40 299 PKPbc 04 38 12.6 -0.6
BRTR PKPab 04 38 22.1 -0.8
MLA1 Latheron 151.45 5 eP PKPbc 04 38 12.2 -0.3
ANTO Ankara 152.01 300 ⇑P PKPbc 04 38 14.3 -0.1
ANTO Ankara 152.01 300 PKPbc 04 38 13.6 -0.8
KAC Achnashellach 152.08 7 eP PKPbc 04 38 13.2 -0.7
SORM Soroca 152.08 318 ⇓P PKPbc 04 38 13.8 -0.4
MCD Coleburn Disti 152.17 5 eP PKPbc 04 38 13.7 -0.4
KPL Plockton 152.20 7 eP PKPbc 04 38 13.3 -0.8
LEF Lefka 152.46 289 ⇓P PKPbc 04 38 15.6 +0.1
TLCR 153.18 312 ⇓P PKPbc 04 38 16.8 +0.2
BEL Belsk 153.51 332 ePKP PKPbc 04 38 17.8 +0.6
TOPG Topolog 153.59 312 ⇑P PKPab 04 38 31.7 -0.2
CFR Carcaliu 153.62 313 ⇑P PKPbc 04 38 17.5 -0.2
TIRR Tirgusor 153.75 311 ⇓P PKPab 04 38 32.4 -0.1
ESY Stoneypath 153.87 4 eP PKPbc 04 38 17.7 -0.2
TESR Tescani 153.91 317 ⇑P PKPab 04 38 31.6 -1.5
TLBR Topalu 153.95 312 ⇑P PKiKP 04 38 19.5 +1.1
HARR Harsova 153.96 312 ⇑P PKPbc 04 38 19.1 +0.7
BIZ Bicaz 154.00 318 ⇑P PKPbc 04 38 19.3 +0.8
BURAR Bucovina Array 154.14 320 ⇑P PKiKP 04 38 20.2 +1.3
BURAR Bucovina Array 154.14 320 PKPdf PKPdf 04 38 09.9 -0.5
BURAR PKPbc 04 38 18.6 -0.2
VRI Vrincioaia 154.18 315 ⇑P PKPab 04 38 32.8 -1.5
PLOR Plostina 154.23 315 ⇓P PKPab 04 38 34.4 -0.2
MLR Muntele Rosu 154.84 315 ⇑P PKPab 04 38 36.7 -0.6
ARCR ARCALIA 154.93 320 ⇑P PKPab 04 38 37.7 +0.3
DOPR Dopca 154.94 317 ⇑P PKiKP 04 38 20.9 +0.4
BSEG Bad Segeberg 154.98 347 ePKPab PKPab 04 38 36.9 -0.5
baz=25,slow=4.3
SECR 154.99 314 ⇑P PKPab 04 38 38.8 +1.0
SULR 155.04 313 ⇑P PKPab 04 38 38.9 +0.9
TRPA Tarpa 155.27 324 ⇓P PKPab 04 38 36.8 -2.1
VOIR 155.41 316 ⇑P PKPab 04 38 29.1 -11
ARBE Arges 155.70 316 ⇑P PKPab 04 38 42.2 +1.3
HUMR Humele 155.91 314 ⇑P PKPab 04 38 41.9 +0.1
OSTC Ostas 156.31 335 ePKPAB PKPab 04 38 43.4 +0.1
CHVC Chvalec 156.34 335 ePKPAB PKPab 04 38 43.4 0.0
NRDL Niedersach Rie 156.38 346 ePKPab PKPab 04 38 42.6 -0.7
baz=25,slow=4.3
MORC Moravsky Berou 156.42 332 ⇑P PKPab 04 38 42.5 -1.3
MORC Moravsky Berou 156.42 332 ePKP PKPdf 04 38 12.8 -0.5
MORC e 04 38 43.4
UPC Upice 156.42 335 ePKPAB PKPab 04 38 43.7 0.0
DPC Dobruska-Polom 156.44 335 ePKPAB PKPab 04 38 43.9 0.0
KRLC Kraliky 156.48 334 ePKPAB PKPab 04 38 43.7 -0.4
VLAD Vladila 156.53 313 ⇑P PKPab 04 38 44.4 0.0
CLL Collm 156.73 340 i PKPdiff PKPdf 04 38 24.0 +10
comp=Z,10.0nm,1.1s
CLL ⇑i PKPab PKPab 04 38 44.6 -0.4
comp=Z,31nm,1.0s
PSZ Piszkesteto 156.74 326 ⇑P PKPab 04 38 45.3 0.0
BRG Berggiesshubel 156.82 338 ePKP PKPdf 04 38 12.8 -0.9
comp=Z,11nm,1.4s
BRG i 04 38 24.7
comp=Z,26nm,2.1s
SIRR Siria 156.90 321 ⇑P PKPab 04 38 46.1 +0.1
PVCC Panska Ves 156.91 337 ePKPAB PKPab 04 38 45.9 +0.1
CLZ Clausthal 156.93 345 ePKPab PKPab 04 38 45.4 -0.5
baz=25,slow=4.3
SRE Strehla 156.93 316 ⇑P PKPab 04 38 46.6 +0.4
FBE Freiberg 156.96 339 ePKPab PKPab 04 38 46.0 0.0
baz=25,slow=4.3
IBBN Ibbenburen 157.01 349 ePKPab PKPab 04 38 45.7 -0.4
baz=25,slow=4.3
JAVC Velka Javorina 157.07 330 ePKP PKPdf 04 38 14.3 +0.1
JAVC e 04 38 47.2
VRAC Vranov 157.17 333 ⇑P PKPab 04 38 47.5 +0.4
VRAC Vranov 157.17 333 ePKP PKPdf 04 38 13.7 -0.5
VRAC e 04 38 47.0
HERR Herculane 157.28 317 ⇑P PKPab 04 38 47.6 -0.1
GTTG Gottingen 157.30 345 ePKPab PKPab 04 38 46.8 -0.6
baz=25,slow=4.3
GOPC GO Pecny, Ondr 157.35 336 ePKPAB PKPab 04 38 47.4 -0.4
PGB Panagyurishte 157.35 310 eP PKPab 04 38 49.1 +0.9
PRU Pruhonice 157.38 336 ePKPAB PKPab 04 38 47.7 -0.2
KRUC Moravsky 157.44 332 ePKP PKPdf 04 38 14.5 -0.1
KRUC e 04 38 47.6
TANN Tannenbergstha 157.68 340 ePKPab PKPab 04 38 49.0 -0.3
baz=25,slow=4.3
WERD Werda 157.70 340 ePKPab PKPab 04 38 48.8 -0.5
baz=25,slow=4.3
PLN Plauen 157.71 341 ePKPab PKPab 04 38 48.9 -0.4
baz=25,slow=4.3
MDVR Moldovita 157.75 318 ⇑P PKPab 04 38 49.9 +0.1
GUNZ Gunzen 157.76 340 ePKPab PKPab 04 38 49.2 -0.4
baz=25,slow=4.3
WERN Wernitzgruen 157.82 340 ePKPab PKPab 04 38 49.6 -0.2
baz=25,slow=4.3
NKC Novy Kostel 157.84 340 ePKPAB PKPab 04 38 49.5 -0.4
VTS Vitosha 157.94 311 ⇑P PKPab 04 38 50.6 -0.3
VTS Vitosha 157.94 311 eP PKPab 04 38 49.8 -1.0
UBBA Unterbreizbach 157.97 344 ePKPab PKPab 04 38 49.4 -0.9
baz=25,slow=4.3
KKB Krupnik 158.38 310 eP PKPab 04 38 52.4 -0.2
KHC Kasperske Hory 158.44 337 ePKPAB PKPab 04 38 52.0 -0.6
CONA Conrad Observa 158.56 331 ePKPab PKPab 04 38 53.2 0.0
comp=Z,14nm,0.9s,SNR=8.4
GERES GERESS Array B 158.64 336 PKP PKPdf 04 38 15.8 -0.4

comp=Z,0.9nm,1.0s,baz=107,slow=1.4,SNR=5.5
GERES PKPab **PKPab** **04 38 53.1 -0.4**
comp=Z,3.6nm,0.8s,baz=35,slow=4.9,SNR=15
GERES GERESS Array B 158.64 336 **PKPdf**
GERES **PKPab** 04 38 53.3 -0.2
WET Wettzell 158.66 338 *e*PKPab **PKPab** **04 38 53.5 -0.1**
baz=25,slow=4.3
TNS Taunus Mts 158.87 346 *e*PKPab **PKPab** **04 38 53.6 -0.8**
baz=25,slow=4.3
MEM Membach 158.93 351 PKPab **PKPab** **04 38 53.9 -0.6**
VAY Valandovo 158.96 309 *i* P **PKPab** **04 38 54.7 -0.4**
IDI Anoyia 158.97 291 ⇑P **PKPab** **04 38 52.5 -3.0**
BHOU Houvegnez 159.18 350 PKPab **PKPab** **04 38 55.4 -0.3**
BCLA Clavier 159.21 352 PKPab **PKPab** **04 38 55.0 -0.7**
ARSA Arzberg 159.23 331 *i* PKPab **PKPab** **04 38 55.7 -0.3**
comp=Z,4.7nm,0.7s
MOA Molln 159.26 334 *e*PKPab **PKPab** **04 38 56.1 -0.1**
comp=Z,19nm,1.4s,SNR=6.8
BGES Gesves 159.27 352 PKPab **PKPab** **04 38 55.0 -1.0**
BMRD Maredsous 159.38 353 PKPab **PKPab** **04 38 56.0 -0.5**
SKO Skopje 159.41 311 *i* P **PKPab** **04 38 57.9 +0.8**
DOU Dourbes 159.61 353 PKPab **PKPab** **04 38 56.5 -1.0**
WLF Walferdange 159.83 350 PKPab **PKPab** **04 38 58.1 -0.4**
SOKA Soboth 159.88 330 *e*PKPab **PKPab** **04 38 58.3 -0.7**
comp=Z,10nm,1.0s,SNR=6.6
FUR Furstenfeldbru 160.03 339 *e*PKPab **PKPab** **04 38 59.4 -0.1**
baz=25,slow=4.3
OHR Ohrid 160.25 310 *i* P **PKPab** **04 39 00.9 +0.1**
MYKA Terra Mystica 160.50 333 *e*PKPab **PKPab** **04 39 00.3 -1.3**
comp=Z,6.4nm,0.7s
PDG Podgorica 160.56 315 ⇑P **PKPab** **04 39 02.3 +0.3**
WATA Walderalm 160.67 337 *e*PKPab **PKPab** **04 39 02.1 -0.4**
comp=Z,8.7nm,0.8s
BFO Black Forest 160.69 345 *e*PKPab **PKPab** **04 39 01.6 -0.8**
baz=25,slow=4.3
WTTA Wattenberg 160.71 337 *e*PKPab **PKPab** **04 39 02.4 -0.3**
comp=Z,13nm,1.0s
RETA Reutte 160.80 339 *i* PKPab **PKPab** **04 39 02.8 -0.1**
comp=Z,16nm,0.9s,SNR=9.5
MOTA Moosalm 160.81 338 *e*PKPab **PKPab** **04 39 02.7 -0.4**
comp=Z,28nm,1.1s,SNR=9.8
UBR Ueberruh 160.82 340 *e*PKPab **PKPab** **04 39 02.3 -0.7**
baz=25,slow=4.3
ABTA Abfaltersbach 160.84 335 *e*PKPab **PKPab** **04 39 02.0 -1.2**
comp=Z,20nm,1.1s,SNR=5.3
SQTA Sankt Quirin 160.89 338 *e*PKPab **PKPab** **04 39 03.0 -0.4**
comp=Z,13nm,0.8s,SNR=7.7
FETA Feichten 161.22 338 *e*PKPab **PKPab** **04 39 04.5 -0.4**
comp=Z,22nm,1.1s,SNR=8.8
DAVA Damuels 161.24 340 *i* PKPab **PKPab** **04 39 05.0 0.0**
comp=Z,17nm,0.8s,SNR=6.4
TOA0 Torodi Ar. Sit 163.32 183 PKPab **PKPab** **04 39 12.4 -2.1**
TORD Torodi Ar. Bea 163.32 183 PKP **PKPdf** **04 38 21.7 -0.2**
comp=Z,4.8nm,1.1s,baz=270,slow=1.6,SNR=13
TORD pPKP **pPKPdf** **04 39 53.8 +5.4**
comp=Z,2.7nm,0.9s,baz=208,slow=2.2,SNR=3.2
TORD pPKPab **pPKPab** **04 40 40.1 +3.6**
comp=Z,5.7nm,0.9s,baz=186,slow=2.6,SNR=6.2
TORD Torodi Ar. Bea 163.32 183 **PKPdf** **04 38 20.4 -1.5**
PMOZ Porto Moniz, M 164.40 75 *e*PKPdf **PKPdf** **04 38 25.4 +2.8**
PGAV Gavieira, Arco 165.92 29 *e*PKPdf **PKPdf** **04 38 25.2 +1.6**
PGAV Gavieira, Arco 165.92 29 *e*PKPdf **PKPab** **04 39 25.1 -1.6**
PBRG Bragança 166.66 25 *e*PKPdf **PKPab** **04 39 28.8 -0.1**
PVRL Vila Real 166.72 29 *e*PKPdf **PKPab** **04 39 28.0 -1.2**
MVO Moncorvo 167.10 27 *e*PKPdf **PKPdf** **04 38 24.8 +0.3**
MVO Moncorvo 167.10 27 *e*PKPdf **PKPab** **04 39 29.9 -1.0**
PVIS Viseu 167.11 31 *e*PKPdf **PKPdf** **04 38 25.2 +0.7**
PVIS Viseu 167.11 31 *e*PKPdf **PKPab** **04 39 30.9 0.0**
COI Coimbra 167.27 34 *e*PKPdf **PKPab** **04 39 29.9 -1.7**
MTE Manteigas 167.52 31 *e*PKPdf **PKPdf** **04 38 25.4 +0.6**
MTE Manteigas 167.52 31 *e*PKPdf **PKPab** **04 39 31.5 -1.3**
PSBE So Bento 167.61 37 *e*PKPdf **PKPab** **04 39 33.9 +0.7**
PMAFR Mafra 167.75 40 *e*PKPdf **PKPdf** **04 38 26.4 +1.5**
PCBR Castelo Branco 168.00 32 *e*PKPdf **PKPdf** **04 38 26.0 +1.0**
PMRV Marv??o 168.37 33 *e*PKPdf **PKPab** **04 39 35.9 -0.6**
EVO Evora 168.74 38 *e*PKPdf **PKPdf** **04 38 24.2 -1.4**
PAB San Pablo 169.50 22 **PKPdf** **04 38 25.1 -1.0**
ESBB Sonseca Array 169.50 20 PKPab **PKPab** **04 39 40.5 -1.0**
ESDC Sonseca Array 169.50 20 PKP **PKPdf** **04 38 26.6 +0.5**
comp=Z,4.0nm,1.1s,baz=344,slow=2.9,SNR=19
ESDC PKPab **PKPab** **04 39 41.6 +0.1**
comp=Z,5.7nm,1.0s,baz=328,slow=4.4,SNR=19
ESDC PP **PP** **04 43 30.2 -1.1**
comp=Z,0.7nm,0.9s,baz=336,slow=2.8,SNR=2.6
ESDC Sonseca Array 169.50 20 **PKPdf** **04 38 24.8 -1.3**
ESDC **PKPab** **04 39 40.7 -0.8**
PVAQ Vaqueiros 169.71 41 *e*PKPdf **PKPab** **04 39 41.0 -1.5**
KEST Kesra 170.71 311 PKPab **PKPab** **04 39 47.8 +0.7**
comp=Z,9.1nm,0.9s,baz=257,slow=9.9,SNR=7.1
TAM Tamanrasset 171.74 212 **PKPdf** **04 38 26.4 -1.5**

*BJI **06** 04:20:27.8±0.0, 7°.68S×128°.54E, h205km, mB4.8/21, mb4.6/36*
*NEIC **06** 04:20:28.0±1.5, 7°.55S±0°.07×128°.25E±0°.06, h183km±5km, mb4.7/48, Error ellipse: s-maj=9.9km s-min=8.6km az=145.0*
*DJA **06** 04:20:29.1±0.2, 8°S±2°×12°8E±°, h191km±4km, M4.7/23, mb4.8/23, mB5.1/13, MLv5.1/17, Mw(mB)4.5/13*
*IDC **06** 04:20:29.4±1.9, 7°.43S×128°.15E, h181km±16km, mb4.3/12, mb1 4.4/15, mb1mx4.1/37, mbtmp4.9/15, MS3.4/1, Ms1 3.4/1, ms1mx2.7/33, Error ellipse: s-maj=17.1km s-min=13.3km az=92.0*

ISC 06 04:20:29.7±0.3, 7°.67S±0°.04×128°.26E±0°.04, h200km, n172, σ1§78/179, mb4.6/36, 2C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.03**	**96**	P	**Pn**	**04 21 19.0**	**-0.7**
SAUI				S	**Sn**	**04 21 57.9**	**-0.9**
SAUI	**Saumlaki**	**3.03**	**96**	Pn	**Pn**	**04 21 18.5**	**-1.3**
SAUI				Sn	**Sn**	**04 21 56.9**	**-1.9**
BNDI	**Bandanaira**	**3.53**	**28**	P	**Pn**	**04 21 24.6**	**-1.1**
AAI	**Ambon**	**3.95**	**359**	P	**Pn**	**04 21 29.7**	**-1.2**
AAI				S	**Sn**	**04 22 18.3**	**-0.8**
MSAI	**Masohi**	**4.34**	**9**	P	**Pn**	**04 21 34.2**	**-1.6**
SOEI	**Soe**	**4.46**	**242**	P	**Pn**	**04 21 36.7**	**-0.6**
SOEI	**Soe**	**4.46**	**242**	Pn	**Pn**	**04 21 36.1**	**-1.2**
NLAI	**Namlea**	**4.54**	**345**	P	**Pn**	**04 21 38.6**	**+0.2**
BATI	**Baumata**	**5.19**	**241**	P	**Pn**	**04 21 45.8**	**-0.8**
	220nm,0.3s,baz=100,slow=3.5,SNR=47						
BATI				S	**Sn**	**04 22 42.2**	**-5.0**
	184nm,0.3s,baz=98,slow=8.3,SNR=19						
BATI	**Baumata**	**5.19**	**241**	P	**Pn**	**04 21 46.0**	**-0.6**
	2.6nm6µm456nm,0.5s						
MTN	**Manton Dam**	**5.87**	**151**	P	**Pn**	**04 21 55.1**	**-0.3**
	baz=6.0,SNR=65						
MTN	**Manton Dam**	**5.87**	**151**	Pn	**Pn**	**04 21 55.0**	**-0.3**
SANI	**Sanana**	**6.02**	**338**	P	**Pn**	**04 21 56.9**	**-0.3**
	0.4nm1µm97nm,0.9s						
MMRI	**Maumere**	**6.04**	**260**	P	**Pn**	**04 21 57.1**	**-0.3**
	0.8nm6µm73nm,0.5s						
FAKI	**Fak Fak**	**6.17**	**40**	P	**Pn**	**04 21 56.7**	**-2.5**
	2.1nm3µm57nm,0.5s						
FAKI	**Fak Fak**	**6.17**	**40**		**Pn**	**04 21 55.5**	**-3.7**
KDU	**Kakadu**	**6.49**	**141**	P	**Pn**	**04 22 02.8**	**-0.5**
	baz=6.6,SNR=618						
LBMI	**Labuha**	**7.02**	**354**	P	**Pn**	**04 22 10.1**	**-0.2**
	1.1nm7µm101nm,0.5s						
SIJI	**Sorong**	**7.39**	**24**	P	**Pn**	**04 22 12.4**	**-2.6**
	22nm,0.3s,baz=230,slow=23,SNR=49						
SIJI				S	**Sn**	**04 23 30.4**	**-8.4**
	23nm,0.3s,baz=228,slow=23,SNR=13						
KNRA	**Kununurra**	**7.98**	**176**	P	**Pn**	**04 22 21.8**	**-0.8**
	baz=8.1,SNR=275						
KNRA	**Kununurra**	**7.98**	**176**	Pn	**Pn**	**04 22 21.8**	**-0.8**
RKPI	**Ransiki, Papua**	**8.50**	**44**	P	**Pn**	**04 22 27.3**	**-2.2**
	26µm284nm,0.4s						
WBSI	**Waikabubak, Su**	**8.98**	**257**	P	**Pn**	**04 22 35.7**	**-0.1**
	67nm,0.5s						
GTOI	**Gorontalo**	**9.77**	**327**	P	**Pn**	**04 22 47.7**	**+1.7**
	434nm18nm,0.7s						
FITZ	**Fitzroy Crossi**	**10.68**	**194**	P	**Pn**	**04 22 55.3**	**-2.4**
	0.2nm,0.3s,baz=57,slow=7.6,SNR=3.7						
FITZ				S	**Sn**	**04 24 48.2**	**-8.7**
	15nm,0.3s,baz=81,slow=20,SNR=5.2						
FITZ				LR	LR	04 27 30.8	
	comp=Z,202nm,18.8s,baz=350,slow=39						
FITZ	**Fitzroy Crossi**	**10.68**	**194**	P	**Pn**	**04 22 55.6**	**-2.1**
	baz=11,SNR=232						
FITZ	**Fitzroy Crossi**	**10.68**	**194**	Pn	**Pn**	**04 22 55.9**	**-1.9**
JAY	**Jayapura**	**13.41**	**68**	P	**P**	**04 23 36.2**	**+1.1**
	1.8nm,0.3s,baz=185,slow=7.2,SNR=6.4						
WB0	**Warramunga Arr**	**13.42**	**154**	Pn	**Pn**	**04 23 32.2**	**-0.3**
WRAB	**Tennant Creek**	**13.55**	**155**	P	**Pn**	**04 23 34.0**	**-0.1**
WRA	**Warramunga Arr**	**13.55**	**155**	P	**Pn**	**04 23 30.9**	**-3.3**
	6.3nm,0.3s,baz=315,slow=14,SNR=138						
WRA				S	**S**	**04 25 56.5**	**-8.9**
	26nm,0.3s,baz=328,slow=21,SNR=10.0						
WRA	**Warramunga Arr**	**13.55**	**155**	Pn	**Pn**	**04 23 34.0**	**-0.2**
WB2	**Warramunga Arr**	**13.56**	**155**	Pn	**Pn**	**04 23 32.5**	**-1.8**
WR0	**Warramunga Arr**	**13.66**	**154**	Pn	**Pn**	**04 23 33.4**	**-2.0**
COEN	**Coen**	**15.93**	**114**	P	**Pn**	**04 24 04.6**	**+1.4**
	baz=16,SNR=17						
COEN	**Coen**	**15.93**	**114**		**Pn**	**04 24 02.9**	**-0.4**
COEN				IAmb	IAmb	04 24 08.6	
	comp=Z,23nm,1.0s						
PSA00	**Pilbara Seismi**	**16.03**	**210**		**Pn**	**04 24 04.3**	**-0.2**
PSA00				IAmb	IAmb	04 24 08.8	
	comp=Z,28nm,0.6s						
MYLDM	**Lahad Datu**	**16.05**	**322**	P	**P**	**04 24 01.6**	**-2.7**
MYLDM				IAmb	IAmb	04 24 20.6	
	comp=Z,30nm,0.8s						
AS31	**Alice Springs**	**16.81**	**162**		**Pn**	**04 24 14.1**	**+0.3**
ASAR	**Alice Springs**	**16.81**	**162**	P	**Pn**	**04 24 12.8**	**-1.0**
	comp=Z,23nm,0.3s,baz=338,slow=10,SNR=1239						
ASAR				S	**S**	**04 27 14.2**	**-3.7**
	comp=Z,3.3nm,0.3s,baz=174,slow=27,SNR=3.1						
ASAR	**Alice Springs**	**16.81**	**162**		**Pn**	**04 24 14.0**	**+0.3**
QIS	**Mount Isa**	**16.88**	**141**	P	**Pn**	**04 24 16.2**	**+1.6**
	baz=17,SNR=74						
WRKA	**Warakurna**	**17.27**	**180**	P	**Pn**	**04 24 20.0**	**+0.7**
	baz=17,SNR=182						
KKM	**Kota Kinabalu**	**18.16**	**318**	P	**P**	**04 24 26.0**	**-1.4**
KKM				IAmb	IAmb	04 24 30.1	
	comp=Z,19nm,0.7s						
PMG	**Port Moresby**	**18.77**	**97**	P	**Pn**	**04 24 38.0**	**+1.0**
	comp=Z,3.5nm,0.3s,baz=148,slow=11,SNR=5.3						
PMG	**Port Moresby**	**18.77**	**97**	P	**P**	**04 24 32.9**	**-1.1**
PMG				IAmb	IAmb	04 24 41.7	
	comp=Z,30nm,0.7s						
MTSU	**Mount Surprise**	**18.78**	**125**	P	**Pn**	**04 24 37.4**	**+0.4**
	baz=19,SNR=20						
SBUM	**Sibu**	**18.89**	**302**	P	**P**	**04 24 35.0**	**-0.4**
SBUM				IAmb	IAmb	04 24 38.3	
	comp=Z,32nm,0.9s						
KSM	**Kuching**	**20.07**	**296**	P	**P**	**04 24 47.2**	**-0.8**
MEEK	**Meekatharra**	**20.98**	**205**	P	**P**	**04 24 59.1**	**+1.5**
	baz=21,SNR=28						
FORT	**Forrest**	**23.00**	**180**	P	**P**	**04 25 19.8**	**+2.8**
	baz=23,SNR=7.3						
FORT	**Forrest**	**23.00**	**180**	P	**P**	**04 25 18.5**	**+1.5**
QLP	**Quilpie**	**24.18**	**143**	P	**P**	**04 25 31.4**	**+3.6**
	baz=24,SNR=4.5						
MORW	**Morawa**	**24.20**	**207**	P	**P**	**04 25 31.4**	**+3.4**
	baz=24,SNR=7.5						
MORW	**Morawa**	**24.20**	**207**	P	**P**	**04 25 29.4**	**+1.4**
MORW				IAmb	IAmb	04 25 32.1	
	comp=Z,17nm,0.8s						
KMBL	**Kambalda**	**24.32**	**193**	P	**P**	**04 25 31.7**	**+2.6**
	baz=24,SNR=6.4						
BLDU	**Ballidu**	**25.26**	**204**	P	**P**	**04 25 40.8**	**+3.2**
	baz=25,SNR=12						
STKA	**Stephens Creek**	**27.11**	**154**	P	**P**	**04 25 54.9**	**+0.8**
NWAO	**Narrogin (SRO)**	**27.14**	**201**	P	**P**	**04 25 55.0**	**+0.7**
NWAO				IAmb	IAmb	04 26 08.3	
	comp=Z,9.8nm,0.8s						
CMSA	**Cobar Meteorol**	**28.79**	**148**	P	**P**	**04 26 12.3**	**+3.3**
	baz=29						
RPSI	**Rantau Prapat**	**31.02**	**288**	P	**P**	**04 26 27.8**	**-1.2**
RPSI				IAmb	IAmb	04 26 30.1	
	comp=Z,19nm,0.7s						
ARPS	**Mount Arapiles**	**31.50**	**159**	P	**P**	**04 26 36.8**	**+4.0**
	baz=32,SNR=8.7						
CAN	**Canberra**	**33.46**	**148**	P	P	04 26 54.4	+4.4
	baz=34						
CAN	**Canberra**	**33.46**	**148**	P	**P**	**04 26 50.7**	**+0.7**
CAN				IAmb	IAmb	04 26 55.0	
	comp=Z,13nm,0.7s						
TOO	**Toolangi**	**33.63**	**155**	P	**P**	**04 26 52.3**	**+0.9**
TOO				IAmb	IAmb	04 26 59.9	
	comp=Z,34nm,1.2s						
CMAR	**Chiang Mai Arr**	**38.86**	**312**	P	**P**	**04 27 35.9**	**0.0**
	comp=Z,4.6nm,0.5s,baz=140,slow=7.1,SNR=23						
CMAR				PcP	**PcP**	**04 29 44.5**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=197,slow=3.4,SNR=4.7						
CMAR	**Chiang Mai Arr**	**38.86**	**312**	P	**P**	**04 27 34.6**	**-1.3**
CHTO	**Chiang Mai**	**39.09**	**313**	P	**P**	**04 27 36.4**	**-1.3**
WHN	**Wuhan**	**40.27**	**341**	⇓*i*P	**P**	**04 27 47.8**	**+0.6**
WHN				pmax	pmax		
	comp=Z,44nm,0.8s						
NJ2	**Nanjing**	**40.50**	**348**	*e*P	**P**	**04 27 50.7**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
JNU	**Nakatsue**	**40.64**	**3**	P	**P**	**04 27 52.6**	**+2.3**
	comp=Z,2.2nm,0.5s,baz=259,slow=4.4,SNR=4.2						
JNU	**Nakatsue**	**40.64**	**3**	P	**P**	**04 27 49.0**	**-1.3**
KMI	**Kunming**	**40.98**	**323**	⇑*e*P	**P**	**04 27 53.8**	**+0.3**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
JHJ	**Hachijo jima 2**	**42.02**	**15**	P	**P**	**04 28 01.8**	**+0.3**
	comp=Z,58nm,0.4s,baz=83,slow=22,SNR=9.7						
JHJ2	**Mitsune**	**42.02**	**15**	P	**P**	**04 28 00.3**	**-1.1**
KSAR	**Wonju Array Be**	**44.87**	**360**	P	**P**	**04 28 23.1**	**-1.1**
KSRS	**Korea Array**	**44.88**	**360**	P	**P**	**04 28 24.5**	**+0.2**
	comp=Z,3.5nm,0.4s,baz=180,slow=9.6,SNR=23						
KSRS				PcP	**PcP**	**04 30 03.5**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=180,slow=3.0,SNR=5.3						
MJAR	**Matsushiro Arr**	**44.95**	**11**	P	**P**	**04 28 23.2**	**-1.7**
	comp=Z,4.0nm,0.7s,baz=192,slow=9.9,SNR=10						
MJAR	**Matsushiro Arr**	**44.95**	**11**	P	**P**	**04 28 22.5**	**-2.4**
MAT	**Matsushiro**	**44.96**	**11**	P	**P**	**04 28 23.9**	**-1.0**
XAN	**Xi'an**	**45.35**	**337**	P	**P**	**04 28 26.8**	**-1.3**
XAN				pmax	pmax		
	comp=Z,15nm,0.8s						
XAN	**Xi'an**	**45.35**	**337**	P	**P**	**04 28 26.7**	**-1.3**
SHL	**Shillong**	**48.40**	**314**	P	**P**	**04 28 50.8**	**-1.2**
SHL				IAmb	IAmb	04 28 52.0	
	comp=Z,13nm,0.6s						
BJI	**Beijing**	**48.76**	**348**	P	**P**	**04 28 53.3**	**-1.0**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**50.66**	**344**	*e*P	**P**	**04 29 08.2**	**-0.6**
HHC				pmax	pmax		
	comp=Z,23nm,1.0s						
HHC				pmax	pmax		
	comp=Z,59nm,5.6s						
LSA	**Lhasa**	**51.50**	**318**	P	**P**	**04 29 14.1**	**-1.6**
USRK	**Ussuriysk Ar.**	**51.73**	**3**	P	**P**	**04 29 16.3**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=192,slow=7.0,SNR=9.7						
ODAN	**Odaejin**	**52.41**	**312**	*e*P	**P**	**04 29 21.8**	**-0.3**
	comp=Z,35nm,0.6s						
TAPN	**Taplejung**	**52.45**	**313**	*e*P	**P**	**04 29 22.3**	**-0.2**
	comp=Z,24nm,0.4s						
RAMN	**Ramite**	**53.04**	**312**	*e*P	**P**	**04 29 26.9**	**+0.2**
	comp=Z,73nm,0.7s						
JIRN	**Jiri**	**53.74**	**313**	*e*P	**P**	**04 29 31.7**	**-0.3**
	comp=Z,41nm,0.6s						
GUN	**Gumba**	**54.10**	**313**	*e*P	**P**	**04 29 34.3**	**-0.3**
	comp=Z,51nm,0.6s						
PKI	**Pulchoki**	**54.26**	**312**	*e*P	**P**	**04 29 35.1**	**-0.6**
	comp=Z,22nm,0.5s						
DMN	**Daman**	**54.51**	**312**	*e*P	**P**	**04 29 37.0**	**-0.4**
	comp=Z,22nm,0.6s						
GKN	**Gorkha**	**55.07**	**312**	*e*P	**P**	**04 29 41.1**	**-0.2**
	comp=Z,57nm,0.6s						
DANN	**Dangsing**	**55.91**	**312**	*e*P	**P**	**04 29 47.2**	**-0.2**
	comp=Z,22nm,0.5s						
PYUN	**Piuthan**	**56.34**	**311**	*e*P	**P**	**04 29 49.8**	**-0.6**
	comp=Z,68nm,0.7s						
SONM	**Songino Array**	**58.54**	**343**	P	**P**	**04 30 05.8**	**+0.5**
	comp=Z,4.3nm,0.7s,baz=161,slow=7.8,SNR=23						
SONM	**Songino Array**	**58.54**	**343**	P	**P**	**04 30 04.4**	**-1.0**
WMQ	**Urumqi**	**63.02**	**328**	*e*P	**P**	**04 30 37.3**	**+1.8**
WMQ				LR	LR		
	comp=Z,200nm,29.2s						
WMQ				LR	LR		
	comp=Z,160nm,28.9s						
WMQ				LR	LR		
	comp=Z,180nm,19.3s						
PEA0B	**Petropavlovsk-**	**65.50**	**19**	P	**P**	**04 30 51.0**	**-0.3**
PETK	**Petropavlovsk-**	**65.50**	**19**	P	**P**	**04 30 51.9**	**+0.6**
	comp=Z,8.0nm,0.6s,baz=177,slow=3.2,SNR=37						
PETK	**Petropavlovsk-**	**65.50**	**19**	P	**P**	**04 30 51.1**	**-0.3**
NIL	**Nilore**	**66.35**	**312**	P	**P**	**04 30 56.6**	**-0.6**
NIL				IAmb	IAmb	04 30 57.7	
	comp=Z,14nm,0.6s						
KSH	**Kashi**	**67.35**	**318**	*e*P	**P**	**04 31 04.5**	**+1.0**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MKAR	**Makanchi Array**	**67.85**	**328**	P	**P**	**04 31 06.6**	**+0.2**
	comp=Z,7.0nm,0.5s,baz=124,slow=7.5,SNR=83						
KDJ	**Kajisay**	**68.00**	**321**	IAmb	IAmb	04 31 10.7	
	comp=Z,7.0nm,0.7s						
MAKZ	**Makanchi**	**68.02**	**328**	P	**P**	**04 31 07.1**	**-0.3**
MAKZ				IAmb	IAmb	04 31 09.6	
	comp=Z,6.0nm,0.5s						
KZA	**Kyzart**	**69.17**	**320**	P	**P**	**04 31 16.2**	**+1.1**
	SNR=7.4						
TKM2	**Tokmak 2**	**69.41**	**321**	P	**P**	**04 31 16.9**	**+0.6**
	SNR=9.8						
UCH	**Uchtor**	**69.72**	**320**	P	**P**	**04 31 19.4**	**+0.9**
	SNR=7.6						
KBL	**Kabul**	**69.88**	**311**	P	**P**	**04 31 19.7**	**+0.4**
AAK	**Ala-Archa**	**69.94**	**321**	P	**P**	**04 31 20.1**	**+0.5**
	SNR=5.2						
AAK	**Ala-Archa**	**69.94**	**321**	P	**P**	**04 31 19.2**	**-0.4**
AAK				IAmb	IAmb	04 31 21.3	
	comp=Z,6.2nm,0.6s						
AML	**Almayashu**	**70.19**	**320**	P	**P**	**04 31 22.2**	**+0.8**
	SNR=19						
ARSB	**Arslanbob**	**70.24**	**319**	P	**P**	**04 31 21.0**	**-0.3**
USP	**Ospenovka**	**70.27**	**321**	P	**P**	**04 31 22.0**	**+0.6**
	SNR=6.5						
EKS2	**Erkin-Say**	**70.41**	**320**	P	**P**	**04 31 23.3**	**+1.0**
	SNR=6.8						
GAR	**Garm**	**70.92**	**316**	P	**P**	**04 31 25.1**	**-0.4**
GAR				IAmb	IAmb	04 31 27.2	
	comp=Z,9.5nm,0.6s						
ZAA0	**Zalesovo Array**	**71.42**	**335**	P	**P**	**04 31 27.5**	**-0.5**
ZALV	**Zalesovo Beam**	**71.42**	**335**	P	**P**	**04 31 27.6**	**-0.4**
	comp=Z,22nm,0.6s,baz=128,slow=5.2,SNR=66						
ZALV	**Zalesovo Beam**	**71.42**	**335**	P	**P**	**04 31 27.8**	**-0.2**
CHGR	**Chuyangaron**	**71.57**	**315**	P	**P**	**04 31 28.7**	**-0.7**
CHGR				IAmb	IAmb	04 31 30.4	
	comp=Z,32nm,1.2s						
VNDA	**Vanda**	**72.00**	**173**	P	**P**	**04 31 33.5**	**+2.3**
KURK	**Kurchatov**	**72.19**	**329**	P	**P**	**04 31 32.8**	**+0.2**
KK31	**Karatay Array**	**72.71**	**320**	P	**P**	**04 31 36.2**	**+0.3**
KKAR	**Karatay Array**	**72.71**	**320**	P	**P**	**04 31 36.4**	**+0.4**
KKAR	**Karatay Array**	**72.71**	**320**	P	**P**	**04 31 36.8**	**+0.9**
KKAR				IAmb	IAmb	04 31 37.3	
	comp=Z,2.8nm,0.7s						
HRA	**Herat**	**75.00**	**309**	P	**P**	**04 31 49.3**	**-0.4**
GSTR	**Great Sitkin T**	**76.09**	**32**	P	**P**	**04 31 56.0**	**+0.8**
BRVK	**Borovoye**	**77.78**	**328**	P	**P**	**04 32 04.4**	**-0.2**
BRVK				IAmb	IAmb	04 32 05.9	
	comp=Z,15nm,1.0s						
TIXI	**Tiksi**	**79.15**	**0**	P	**P**	**04 32 12.1**	**+0.4**
GEYT	**Alibeck**	**79.33**	**311**	P	**P**	**04 32 13.4**	**0.0**
SPIA	**Saint Paul Isl**	**81.58**	**29**	P	**P**	**04 32 24.6**	**-0.3**
NRIK	**Noril'sk**	**81.79**	**346**	P	**P**	**04 32 26.5**	**+0.7**
	comp=Z,15nm,0.5s,baz=128,slow=3.0,SNR=24						
ABKAR	**Akbulak array**	**81.96**	**322**	P	**P**	**04 32 27.2**	**+0.1**
UNV	**Unalaska Valle**	**82.00**	**33**	P	**P**	**04 32 27.6**	**+0.5**
UNV				IAmb	IAmb	04 32 37.7	
	comp=Z,40nm,1.5s						
QSPA	**South Pole Qui**	**82.32**	**180**	P	**P**	**04 32 30.9**	**+2.1**
	comp=Z,3.4nm,0.6s,baz=81,slow=4.5,SNR=2.7						
QSPA	**South Pole Qui**	**82.32**	**180**	P	**P**	**04 32 30.4**	**+1.6**
QSPA				IAmb	IAmb	04 32 39.0	
	comp=Z,15nm,1.5s						
SYO	**Syowa Base**	**82.42**	**201**	⇑*e*P	**P**	**04 32 30.0**	**+0.9**
ARU	**Arti**	**85.36**	**328**	P	**P**	**04 32 44.2**	**0.0**
ARU				IAmb	IAmb	04 32 45.2	
	comp=Z,14nm,0.7s						
RND	**Reindeer**	**93.62**	**27**	P	**P**	**04 33 22.9**	**-0.1**
DHY	**Denali Highway**	**94.23**	**27**	IAmb	IAmb	04 33 27.0	
	comp=Z,5.1nm,0.8s						
ILAR	**Eielson Array**	**94.68**	**25**	P	**P**	**04 33 26.9**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=266,slow=4.2,SNR=4.2						
ILAR	**Eielson Array**	**94.68**	**25**	P	**P**	**04 33 26.3**	**-1.5**
BCAR	**Beaver Creek A**	**96.76**	**27**	P	**P**	**04 33 37.2**	**0.0**
ARCES	**ARCESS Array B**	**101.59**	**340**	P	**Pdif**	**04 33 57.9**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=85,slow=5.1,SNR=11						
ARCES	**ARCESS Array B**	**101.59**	**340**		**Pdif**	**04 33 58.6**	**-0.1**
SPITS	**Spitsbergen Ar**	**101.88**	**349**	P	**Pdif**	**04 33 59.9**	**+0.1**
	comp=Z,2.5nm,0.5s,baz=93,slow=6.1,SNR=3.7						
FINES	**FINESS Array B**	**102.51**	**331**	P	**Pdif**	**04 34 02.1**	**-0.8**
	comp=Z,1.1nm,

IDC 06 06:02:34.1±3.1, 31°.36S×178°.40W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/21, mbtmp3.7/3, ML3.1/1, Error ellipse: s-maj=71.6km s-min=47.8km az=118.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.80**	**207**	Pn	Pn	06 04 28.6	-0.3
	0.3nm,0.3s,baz=210,slow=20,SNR=1.3						
URZ				Sn	Sn	06 05 53.6	-4.3
	1.0nm,0.3s,baz=125,slow=17,SNR=1.4						
ASAR	**Alice Springs**	**42.72**	**268**	P	P	06 10 32.9	-0.3
	0.4nm,0.6s,baz=105,slow=7.2,SNR=6.2						
WRA	**Warramunga Arr**	**43.80**	**273**	P	P	06 10 41.9	0.0
	1.2nm,0.5s,baz=111,slow=8.0,SNR=21						
FINES	**FINESS Array B**	**145.93**	**339**	PKPbc	PKPdf	06 22 14.1	-0.1
	0.6nm,0.4s,baz=45,slow=4.1,SNR=5.1						

IDC 06 06:18:08.1±3.0, 54°.23N×87°.30E, h0km, mb1 3.0/2, mb1mx2.9/35, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=25.8km s-min=17.7km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**260**	*i*		06 26 49.0	
	baz=77,slow=306,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.48**	**260**	Pg	Pn	06 18 35.2	-0.9
	0.9nm,0.3s,baz=80,slow=13,SNR=14						
ZALV				Lg	Lg	06 18 56.2	
	1.0nm,0.3s,baz=72,slow=29,SNR=7.6						
KURBB	**Kurchatov Arra**	**6.46**	**240**	Pn	Pn	06 19 43.9	-0.5
	0.1nm,0.3s,baz=56,slow=14,SNR=7.5						
KURBB				Lg	Lg	06 21 33.5	
	0.0nm,0.3s,baz=57,slow=32,SNR=4.7						
MKAR	**Makanchi Array**	**8.10**	**205**	Pn	Pn	06 20 09.0	+2.1
	0.2nm,0.3s,baz=19,slow=11,SNR=7.5						
MKAR				Sn	Sn	06 21 38.2	-0.8
	0.1nm,0.3s,baz=27,slow=27,SNR=8.8						
MKAR				Lg	Lg	06 22 23.6	
	0.1nm,0.3s,baz=13,slow=28,SNR=2.6						

*SKHL **06** 06:18:48.6±0.6, 43°.33N×148°.00E, h48km±2km, mb4.1/3*
*JMA **06** 06:18:51.7±0.4, 43°.39N×147°.46E, h14km±4km, M2.9*
ISC 06 06:18:48.3±3.5, 43°.40N±0°.08×147°.7E±0°.1, h13km±15km, n18, σ1°66/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.42**	**269**	P	**Pn**	**06 19 14.5**	**+0.8**
NEM2				*e*S	**Sn**	**06 19 31.3**	**-0.8**
NMR	**Nemuro--Hokkai**	**1.43**	**269**	*i* P	**Pn**	**06 19 14.8**	**+1.0**
NMR				*i* S	**Sg**	**06 19 34.0**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**1.47**	**296**	*e*P	**Pn**	**06 19 15.1**	**+0.7**
YUK				AMB	AMB	06 19 16.0	
	40nm,0.2s						
YUK				*e*S	**Sg**	**06 19 35.1**	**-0.5**
YUK				A	A	06 19 36.0	
	310nm,0.2s						
YUK				A	A	06 19 36.0	
	100nm,0.2s						
GRPR	**Tuman**	**1.51**	**294**	*e*P	**Pn**	**06 19 15.8**	**+0.8**
GRPR				AMB	AMB	06 19 16.0	
	50nm,0.3s						
GRPR				*e*S	**Sg**	**06 19 35.7**	**-1.2**
GRPR				A	A	06 19 36.0	
	320nm,0.3s						
GRPR				A	A	06 19 36.0	
	220nm,0.3s						
GLVR	**Golovnino**	**1.61**	**283**	*e*P	**Pn**	**06 19 17.9**	**+1.5**
GLVR				AMB	AMB	06 19 19.0	
	50nm,0.2s						
GLVR				*e*S	**Sg**	**06 19 39.4**	**-0.7**
GLVR				A	A	06 19 41.0	
	200nm,0.2s						
GLVR				A	A	06 19 41.0	
	200nm,0.2s						
KUR	**Kuril'sk**	**1.84**	**4**	*e*P	Pn	06 19 18.2	-1.3
KUR				*e*S	**Sn**	**06 19 40.8**	**-1.8**
KUR				A	A	06 19 41.0	
	70nm,0.2s						
KUR				A	A	06 19 41.0	
	130nm,0.2s						
JKHN	**Kushirohamanak**	**1.87**	**261**	P	**Pb**	**06 19 22.1**	**-0.2**
JRA	**Rausu**	**1.94**	**287**	P	**Pn**	**06 19 22.7**	**+1.9**
JRA				*e*S	**Sn**	**06 19 44.6**	**-0.4**
JNSB	**Nemuroshibetsu**	**1.98**	**282**	P	**Pn**	**06 19 23.3**	**+1.8**
JNK	**Nakash**	**2.17**	**276**	P	**Pn**	**06 19 25.6**	**+1.6**
JAK	**Akkeshi**	**2.22**	**261**	P	**Pn**	**06 19 26.6**	**+1.8**
JAK				*e*S	**Sn**	**06 19 52.3**	**+0.3**
JTKR	**Abashiri--Toko**	**2.80**	**283**	P	**Pn**	**06 19 35.1**	**+2.4**
JAR	**Ashorobuto**	**2.86**	**269**	P	**Pn**	**06 19 35.7**	**+2.2**
JCH	**Churui**	**3.27**	**258**	P	**Pn**	**06 19 41.3**	**+2.2**
JNBK	**Urakawa-nobuka**	**3.80**	**255**	P	**Pn**	**06 19 48.7**	**+2.3**
JKB	**Kayabe**	**5.13**	**255**	P	**Pn**	**06 20 06.9**	**+2.1**
JKB				*e*S	**Sn**	**06 21 03.0**	**-0.8**
JOT	**Ohata**	**5.31**	**250**	*e*S	**Sn**	**06 21 07.1**	**-1.1**
JANG	**Nango**	**5.51**	**239**	P	**Pn**	**06 20 10.0**	**0.0**
JANG				*e*S	**Sn**	**06 21 09.6**	**-3.5**

NNC 06 06:37:16.7±0.9, 49°.22N×69°.14E, h0km, mb3.5, mpv3.1, 5C-3D, Error ellipse: s-maj=7.7km s-min=3.4km az=67.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTUK	**Ortayu**	**2.33**	**114**	Pg	Pb	06 37 59.0	-0.6
	1.3nm,0.4s						
OTUK				Lg	Lg	06 38 32.3	
	7.1nm,0.8s						
OTUK	**Ortayu**	**2.33**	**114**	⇑Pg	Pb	06 37 59.1	-0.4
	3.6nm,0.9s						
OTUK				⇓Lg	Lg	06 38 31.1	
	18nm,0.8s						
BRZS	**Berezniki**	**2.42**	**70**	Pg	Pb	06 37 59.7	-1.4
	6.7nm,0.4s						
BRZS				Lg	Lg	06 38 33.5	
	8.9nm,0.9s						
BVA0	**Borovoye Array**	**3.89**	**11**	⇑Pg	Pb	06 38 28.2	+2.1
	1.1nm,0.5s,baz=203,slow=28,SNR=5.9						
BVA0				⇓Lg	Lg	06 39 21.8	
	3.9nm,0.9s,baz=190,slow=32,SNR=5.5						
BRVK	**Borovoye**	**3.91**	**10**	⇑Pg	Pb	06 38 27.6	+1.2
	2.9nm,1.3s						
BRVK				⇓Lg	Lg	06 39 21.4	
	5.2nm,1.2s						
BTLS	**Baital**	**5.36**	**140**	Pg	Pb	06 38 54.2	+3.2
	1.0nm,0.4s						
BTLS				Lg	Lg	06 40 06.8	
	1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**6.22**	**73**	⇑Lg	Lg	06 40 35.9	
	4.9nm,0.7s						
KURK	**Kurchatov**	**6.29**	**73**	⇑Lg	Lg	06 40 35.3	
	4.9nm,1.0s						
DGS	**Degeres**	**7.54**	**140**	Pg	Pb	06 39 34.2	+5.9
	0.7nm,0.5s						
DGS				Lg	Lg	06 41 15.1	
	2.9nm,0.5s						
KTBS	**Karatobe**	**7.58**	**134**	Pg	Pg	06 39 36.0	-5.8
	1.2nm,0.6s						
KTBS				Lg	Lg	06 41 18.1	
	4.8nm,0.9s						
KST	**Kastek**	**7.78**	**140**	Pg	Pb	06 39 38.1	+5.6
	1.6nm,0.4s						
KST				Lg	Lg	06 41 21.8	
	2.1nm,0.9s						
ARXS	**Arharly**	**7.79**	**127**	Pg	Pb	06 39 39.1	+6.5
	2.6nm,0.4s						
ARXS				Lg	Lg	06 41 23.4	
	2.9nm,0.7s						

*MAN **06** 06:45:37.3,5°.38N×126°.90E, h2km, MS4.1*
*IDC **06** 06:45:44.9±2.5,5°.48N×126°.64E, h61km±22km, mb3.9/19, mb1 4.0/19, mb1mx3.8/41, mbtmp4.2/19, ML5.8/1, MS3.5/5, Ms1 3.5/5, ms1mx3.0/40, Error ellipse: s-maj=26.2km s-min=11.2km az=69.0*
*NEIC **06** 06:45:46.3±1.5,5°.54N±0°.09×126°.8E±0°.1, h75km±8km, mb4.6/23, Error ellipse: s-maj=21.3km s-min=11.4km az=72.0*
ISC 06 06:45:47.4±0.5, 5°.51N±0°.06×126°.8E±0°.1, h84km, n62, σ1°11/56, mb4.5/33, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.95**	**323**	P	**Pn**	**06 46 15.4**	**-3.3**
	114nm,0.3s,baz=72,slow=1.6,SNR=8.6						
DAV				S	**Sn**	**06 46 46.3**	**+3.7**
	65nm,0.3s,baz=286,slow=19,SNR=3.9						
DAV				LR	LR	06 46 52.9	
	comp=Z,403nm,19.4s,baz=172,slow=36						
DAV	**Davao City (W)**	**1.95**	**323**		**Pn**	**06 46 16.9**	**-1.8**
LUWI	**Luwuk**	**7.63**	**212**	Pn	**Pn**	**06 47 36.3**	**+0.4**
MTN	**Manton Dam**	**18.74**	**167**	P	**P**	**06 49 58.8**	**-0.9**
MTN				IAmb	IAmb	06 50 05.4	
	comp=Z,35nm,1.4s						
GUMO	**Guam**	**19.56**	**64**	P	**P**	**06 50 07.9**	**-0.8**
	comp=Z,29nm,0.3s,baz=156,slow=23,SNR=5.0						
KNRA	**Kununurra**	**21.14**	**175**	P	**P**	**06 50 24.9**	**-0.7**
KNRA				IAmb	IAmb	06 50 41.5	
	comp=Z,16nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.48**	**183**	P	**P**	**06 50 48.4**	**-1.3**
	comp=Z,3.2nm,0.7s,baz=17,slow=8.8,SNR=9.6						
FITZ	**Fitzroy Crossi**	**23.48**	**183**	P	**P**	**06 50 49.0**	**-0.7**
WB0	**Warramunga Arr**	**26.21**	**164**	P	**P**	**06 51 13.6**	**-0.9**
WB0				IAmb	IAmb	06 51 17.6	
	comp=Z,11nm,0.6s						
WRAB	**Tennant Creek**	**26.36**	**164**	P	**P**	**06 51 15.8**	**0.0**
WRAB				IAmb	IAmb	06 51 25.7	
	comp=Z,28nm,1.4s						
WRA	**Warramunga Arr**	**26.36**	**164**	P	**P**	**06 51 15.6**	**-0.3**
	comp=Z,4.2nm,0.6s,baz=343,slow=10,SNR=37						
WRA				PcP	**PcP**	**06 54 40.8**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=314,slow=2.6,SNR=1.7						
WRA	**Warramunga Arr**	**26.36**	**164**	P	**P**	**06 51 15.9**	**0.0**
WB2	**Warramunga Arr**	**26.37**	**164**	P	**P**	**06 51 16.2**	**+0.2**
WB2				IAmb	IAmb	06 51 25.8	
	comp=Z,26nm,1.5s						
WR0	**Warramunga Arr**	**26.44**	**163**	P	**P**	**06 51 16.6**	**+0.1**
NJ2	**Nanjing**	**27.43**	**345**	*e*P	**P**	**06 51 26.1**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PSA00	**Pilbara Seismi**	**27.75**	**194**	P	**P**	**06 51 27.1**	**-1.2**
PSA00				IAmb	IAmb	06 51 28.6	
	comp=Z,39nm,1.5s						
ASAR	**Alice Springs**	**29.82**	**167**	P	**P**	**06 51 47.0**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=350,slow=7.4,SNR=9.8						
ASAR				PcP	**PcP**	**06 54 49.1**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=347,slow=2.7,SNR=7.3						
ASAR	**Alice Springs**	**29.82**	**167**	P	**P**	**06 51 46.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**30.04**	**298**	P	**P**	**06 51 47.4**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=108,slow=7.7,SNR=1.8						
CMAR				LR	LR	07 03 52.5	
	comp=Z,29nm,20.8s,baz=115,slow=36						
MJAR	**Matsushiro Arr**	**32.62**	**17**	LR	LR	07 09 55.7	
	comp=Z,78nm,18.1s,baz=190,slow=44						
XAN	**Xi'an**	**32.86**	**332**	P	**P**	**06 52 15.0**	**+1.6**
XAN				pP	pP	06 52 21.4	-11
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MORW	**Morawa**	**35.89**	**196**	P	**P**	**06 52 38.9**	**-0.6**
MORW				IAmb	IAmb	06 52 42.5	
	comp=Z,12nm,1.2s						
FORT	**Forrest**	**36.10**	**178**	P	**P**	**06 52 42.0**	**+0.7**
LZH	**Lanzhou**	**37.01**	**328**	*e*P	**P**	**06 52 50.7**	**+1.6**
LZH				pP	pP	06 53 08.0	-0.7
LZH				sP	sP	06 53 16.6	-1.7
LZH				pmax	pmax		
	comp=Z,16nm,1.5s						
HHC	**Hu-ho-hao-te**	**37.74**	**341**	*e*P	**P**	**06 52 56.5**	**+1.3**
HHC				pmax	pmax		
	comp=Z,28nm,1.0s						
HHC				pmax	pmax		
	comp=Z,170nm,5.9s						
HHC				LR	LR		
	comp=N,250nm,15.0s						
HHC				LR	LR		
	comp=E,210nm,13.3s						
HHC				LR	LR		
	comp=Z,170nm,13.0s						
BBOO	**Buckleboo**	**39.12**	**168**	P	**P**	**06 53 06.6**	**-0.1**
BBOO				IAmb	IAmb	06 53 18.9	
	comp=Z,22nm,1.5s						
NWAO	**Narrogin (SRO)**	**39.28**	**193**	P	**P**	**06 53 07.3**	**-0.7**
NWAO	**Narrogin (SRO)**	**39.28**	**193**	P	**P**	**06 53 07.4**	**-0.6**
NWAO				IAmb	IAmb	06 53 08.6	
	comp=Z,26nm,1.4s						
STKA	**Stephens Creek**	**39.77**	**160**	P	**P**	**06 53 11.8**	**-0.4**
	comp=Z,4.8nm,0.9s,baz=329,slow=11,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**41.02**	**68**	T	T	07 37 18.1	
	baz=244,slow=74						
H11S1	**WAKE ISLAND Hy**	**41.03**	**68**	T	T	07 37 18.0	
	baz=244						
H11S2	**WAKE ISLAND Hy**	**41.03**	**68**	T	T	07 37 16.3	
	baz=244,slow=74						
H11N1	**WAKE ISLAND Hy**	**41.49**	**66**	T	T	07 37 52.3	
	baz=255,slow=74,SNR=8.0						
H11N2	**WAKE ISLAND Hy**	**41.50**	**66**	T	T	07 37 55.4	
	baz=255,slow=74,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**41.51**	**66**	T	T	07 37 55.4	
	baz=255,slow=74,SNR=9.5						
SONM	**Songino Array**	**45.64**	**341**	P	**P**	**06 54 00.3**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=148,slow=8.6,SNR=3.9						
WMQ	**Urumqi**	**51.30**	**324**	*e*P	**P**	**06 54 45.2**	**+2.1**
WMQ				LR	LR		
	comp=N,220nm,29.1s						
WMQ				LR	LR		
	comp=E,240nm,29.3s						
WMQ				LR	LR		
	comp=Z,95nm,23.9s						
PETK	**Petropavlovsk-**	**53.78**	**23**	P	**P**	**06 55 02.9**	**+1.7**
	comp=Z,1.6nm,0.6s,baz=198,slow=4.4,SNR=4.5						
MKAR	**Makanchi Array**	**56.13**	**325**	P	**P**	**06 55 18.1**	**-0.2**
	comp=Z,4.8nm,0.6s,baz=127,slow=8.8,SNR=33						
MKAR				PcP	**PcP**	**06 56 16.2**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=122,slow=5.5,SNR=3.9						
MKAR				LR	LR	07 20 05.7	
	comp=Z,41nm,20.0s,baz=132,slow=37						
MKAR	**Makanchi Array**	**56.13**	**325**	P	**P**	**06 55 18.0**	**-0.3**
MAKZ	**Makanchi**	**56.32**	**324**	P	**P**	**06 55 19.5**	**-0.1**
MAKZ				IAmb	IAmb	06 55 22.8	
	comp=Z,3.8nm,0.7s						
NIL	**Nilore**	**56.88**	**307**	P	**P**	**06 55 23.6**	**-0.3**
ZALV	**Zalesovo Beam**	**59.03**	**333**	P	**P**	**06 55 38.6**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=124,slow=7.9,SNR=4.9						
KURK	**Kurchatov**	**60.27**	**327**	P	**P**	**06 55 46.8**	**-0.2**
KURBB	**Kurchatov Arra**	**60.27**	**327**	P	**P**	**06 55 46.8**	**-0.3**
	comp=Z,7.6nm,0.7s,baz=125,slow=6.4,SNR=42						
KK31	**Karatay Array**	**61.97**	**316**	P	**P**	**06 55 58.4**	**-0.3**
KKAR	**Karatay Array**	**61.97**	**316**	P	**P**	**06 55 58.1**	**-0.5**
KKAR	**Karatay Array**	**61.97**	**316**	P	**P**	**06 55 58.8**	**+0.1**
KKAR				IAmb	IAmb	06 56 10.9	
	comp=Z,2.9nm,1.1s						
BVAR	**Borovoye Array**	**65.86**	**327**	P	**P**	**06 56 24.2**	**+0.2**
	comp=Z,5.7nm,0.8s,baz=119,slow=8.6,SNR=30						
BRVK	**Borovoye**	**65.93**	**327**	P	**P**	**06 56 25.2**	**+0.8**
BRVK				IAmb	IAmb	06 56 27.7	
	comp=Z,7.9nm,0.8s						
NRIK	**Noril'sk**	**68.72**	**346**	P	**P**	**06 56 41.2**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=125,slow=8.7,SNR=3.6						
ABKAR	**Akbulak array**	**70.81**	**320**	P	**P**	**06 56 54.4**	**-0.6**
AKTO	**Aktyubinsk**	**72.30**	**321**	P	**P**	**06 57 04.0**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=102,slow=6.8,SNR=6.3						
ARU	**Arti**	**73.46**	**327**	P	**P**	**06 57 10.5**	**-0.2**
	comp=Z,2.2nm,0.2s,baz=173,slow=6.2,SNR=6.4						
ARU	**Arti**	**73.46**	**327**	IAmb	IAmb	06 57 12.9	
	comp=Z,6.7nm,0.9s						
KBZ	**Ibabaz**	**81.79**	**313**	LR	LR	07 37 46.5	
	comp=Z,37nm,20.4s,baz=166,slow=38						
ILAR	**Eielson Array**	**83.50**	**25**	P	**P**	**06 58 06.2**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=258,slow=5.9,SNR=4.8						
VNDA	**Vanda**	**85.17**	**173**	P	**P**	**06 58 14.6**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=0.2,slow=8.2,SNR=2.2						
ARCES	**ARCESS Array B**	**88.80**	**340**	P	**P**	**06 58 30.2**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=64,slow=8.2,SNR=7.6						
BRTR	**Keskin Array B**	**88.92**	**310**	P	**P**	**06 58 31.0**	**-2.1**
	comp=Z,0.9nm,0.7s,baz=145,slow=3.1,SNR=2.6						
FINES	**FINESS Array B**	**90.29**	**332**	P	**P**	**06 58 38.6**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=82,slow=4.0,SNR=7.2						
NOA	**NORSAR Array B**	**97.22**	**334**	LR	LR	07 48 35.3	
	comp=Z,26nm,18.4s,baz=85,slow=39						

IDC 06 07:00:04.7±11.0, 3°.99N×96°.39E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.4/43, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=322.6km s-min=48.3km az=78.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.60**	**10**	Pn	Pn	07 03 32.5	-0.2
	0.2nm,0.3s,baz=200,slow=10,SNR=3.0						
H08S2	**Diego Garcia H**	**26.50**	**244**	T	T	07 32 53.2	
	baz=62						
H08S3	**Diego Garcia H**	**26.50**	**244**	T	T	07 32 55.9	
	baz=62						
H08S1	**Diego Garcia H**	**26.51**	**244**	T	T	07 32 54.7	
	baz=62						
WRA	**Warramunga Arr**	**44.22**	**124**	P	P	07 08 15.7	-0.4
	1.6nm,0.7s,baz=301,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**45.73**	**129**	P	P	07 08 28.3	+0.2
	0.5nm,0.7s,baz=303,slow=7.9,SNR=5.8						

IDC 06 07:08:47.7±2.1, 1°.21N×125°.66E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/31, mbtmp3.4/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/19, Error ellipse: s-maj=192.3km s-min=27.3km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.68**	**158**	P	P	07 13 51.0	+0.1
	1.0nm,0.5s,baz=337,slow=10,SNR=10.0						
ASAR	**Alice Springs**	**26.00**	**163**	P	P	07 14 22.2	-0.3
	0.4nm,0.8s,baz=345,slow=11,SNR=2.7						
SONM	**Songino Array**	**49.35**	**343**	LR	LR	07 39 59.6	
	comp=Z,45nm,18.8s,baz=134,slow=38						
MKAR	**Makanchi Array**	**59.03**	**327**	P	P	07 18 49.6	+0.1
	0.2nm,0.4s,baz=124,slow=7.3,SNR=4.2						

*MDD **06** 07:21:59.0±3.3, 36°.69N×13°.22W, h0km, mb3.7/3, Error ellipse: s-maj=37.1km s-min=24.8km az=172.0, PRXIMO*
*INMG **06** 07:22:06.4±1.4, 36°.94N×13°.46W, h10km, ML2.1, Error ellipse: s-maj=17.5km s-min=12.1km az=79.0*
ISC 06 07:22:05.9±4.5, 37°.1N±0°.1×12°.9W±0°.2, h10km, n22, σ0°81/30, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.25**	**88**	P	Pn	07 22 50.9	-6.1
	0.9nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**07 23 35.9**	**+0.1**
	4.0nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.25**	**88**	*e*Sn	**Sn**	**07 23 36.5**	**+0.7**
PFVI				A	A	07 23 39.9	
	7.7nm,0.8s						
PTEO	**Sao Teotonio**	**3.36**	**81**	S	**Sn**	**07 23 38.5**	**+0.1**
PTEO	**Sao Teotonio**	**3.36**	**81**	*e*Sn	**Sn**	**07 23 38.5**	**+0.1**
PMAFR	**Mafra**	**3.41**	**56**	P	**Pn**	**07 22 58.8**	**-0.3**
	0.7nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**07 23 40.1**	**+0.3**
	18nm,0.3s,SNR=7.9						
PNCL	**Nicolau / Gran**	**3.62**	**72**	P	**Pn**	**07 23 02.8**	**+0.8**
PNCL				S	**Sn**	**07 23 44.8**	**0.0**
	2.7nm,0.9s						
PNCL	**Nicolau / Gran**	**3.62**	**72**	*e*Pn	**Pn**	**07 23 02.8**	**+0.8**
PNCL				*e*Sn	**Sn**	**07 23 44.8**	**0.0**
PNCL				A	A	07 23 51.7	
	2.7nm,0.9s						
PCVE	**Castro Verde**	**3.91**	**80**	S	**Sn**	**07 23 51.8**	**-0.2**
PCVE	**Castro Verde**	**3.91**	**80**	*e*Sn	**Sn**	**07 23 51.8**	**-0.2**
PBDV	**Barranco-do-Ve**	**3.97**	**86**	S	**Sn**	**07 23 53.8**	**+0.3**
PBDV	**Barranco-do-Ve**	**3.97**	**86**	*e*Sn	**Sn**	**07 23 53.8**	**+0.3**
EVO	**Evora**	**4.13**	**68**	S	**Sn**	**07 23 57.2**	**-0.2**
	3.1nm,0.9s						
EVO	**Evora**	**4.13**	**68**	*e*Sn	**Sn**	**07 23 57.2**	**-0.2**
EVO				A	A	07 24 05.8	
	3.1nm,0.9s						
PVAQ	**Vaqueiros**	**4.14**	**84**	S	**Sn**	**07 23 57.5**	**-0.3**
	2.6nm,0.5s						
PVAQ	**Vaqueiros**	**4.14**	**84**	*e*Sn	**Sn**	**07 23 57.5**	**-0.3**
PVAQ				A	A	07 24 01.6	
	2.6nm,0.5s						
PMTG	**Montargil**	**4.19**	**60**	P	**Pn**	**07 23 10.7**	**+0.9**
PMTG				S	**Sn**	**07 23 59.6**	**+0.8**
	1.7nm,0.6s						
PMTG	**Montargil**	**4.19**	**60**	*e*Pn	**Pn**	**07 23 10.7**	**+0.9**
PMTG				*e*Sn	**Sn**	**07 23 59.6**	**+0.8**
PMTG				A	A	07 23 59.8	
	1.7nm,0.6s						
EGRO	**El Granado**	**4.34**	**82**	S	**Sn**	**07 24 04.7**	**+2.1**
	1.4nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**4.92**	**60**	P	**Pn**	**07 23 19.4**	**-0.6**
PMRV				S	**Sn**	**07 24 16.7**	**-0.3**
	1.2nm,0.6s						
PMRV	**Marv??o**	**4.92**	**60**	*e*Pn	**Pn**	**07 23 19.4**	**-0.6**
PMRV				*e*Sn	**Sn**	**07 24 16.7**	**-0.3**
PMRV				A	A	07 24 18.3	
	1.2nm,0.6s						
EBAD	**Badajoz**	**4.94**	**68**	S	**Sn**	**07 24 15.5**	**-2.0**
	1.8nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.00**	**80**	P	**Pn**	**07 23 19.7**	**-1.3**
	0.3nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**07 24 17.9**	**-1.0**
	0.7nm,0.3s,SNR=7.9						

*IDC **06** 07:22:07.6±1.0, 1°.34S×124°.66E, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.7/35, mbtmp4.0/6, ML3.8/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/38, Error ellipse: s-maj=45.7km s-min=21.8km az=66.0*
*DJA **06** 07:22:12.4±0.9, 1°.S±3°×12°.5E±°, h11km±7km, M4.6/7, mB5.4/1, mb5.4/1, MLv4.2/7, Mw(mB)4.9/1*
*NEIC **06** 07:22:13.4±1.1, 1°.4S±0°.1×124°.83E±0°.07, h40km±9km, mb4.3/7, Error ellipse: s-maj=17.6km s-min=9.8km az=181.0*
ISC 06 07:22:14.6±0.8, 1°.51S±0°.06×124°.92E±0°.04, h35km, n25, σ1°38/32, mb3.8/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**1.20**	**117**	P	**Pn**	**07 22 34.2**	**-0.7**
LUWI	**Luwuk**	**2.19**	**282**	P	**Pn**	**07 22 48.9**	**+0.3**

comp=Z,0.8nm,0.5s,baz=140,slow=7.9,SNR=4.3
LPAZ La Paz 158.12 144 PKPab **PKPab 07 42 44.5 +1.2**
comp=Z,0.9nm,0.8s,baz=236,slow=3.6,SNR=5.1

TIF ***06*** *07:33:47.8, 42°.49N×43°.58E, h13km±2km*
NORS ***06*** *07:33:48.4±0.0, 42°.57N×43°.60E, h17km, MPVA3.5*
MOS ***06*** *07:33:48.8±0.0, 42°.53N×43°.51E, h10km, MPVA3.4*
DDA ***06*** *07:33:49.2, 42°.86N×42°.78E, h22km±4km, ML2.5*
ISC 06 07:33:48.5±0.9,**42°.55N**±0°.02×**43°.58E**±0°.02,**h14**km±6km,
n23,σ0**°77/46,Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.10**	**295**	P		**Pg**	**07 33 51.7**	**0.0**
ONI				S		**Sg**	**07 33 54.3**	**+0.3**
ZEI	**Tsey**	**0.34**	**45**	*e*Pg		**Pb**	**07 33 56.2**	**-0.2**
ZEI				*e*Sg		**Sb**	**07 34 01.7**	**-0.1**
DIGR	**Digorskoe uzhe**	**0.35**	**1**	*i* Pg		**Pb**	**07 33 56.2**	**-0.4**
DIGR				*i* Sg		**Sb**	**07 34 01.9**	**-0.2**
TKB	**Tkibuli**	**0.47**	**246**	P		**Pg**	**07 33 57.5**	**-0.3**
TKB				S		**Sg**	**07 34 03.8**	**-0.5**
LACR	**Lac**	**0.60**	**62**	*e*Pg		**Pb**	**07 34 00.7**	**-0.1**
LACR				*e*Sg		**Sb**	**07 34 10.1**	**+0.8**
KORR	**Kora**	**0.65**	**34**	*e*Pg		**Pn**	**07 34 02.2**	**-1.1**
KORR				*i* Sg		**Sn**	**07 34 12.2**	**-1.1**
LSNR	**Lesken**	**0.75**	**14**	*e*Pg		**Pn**	**07 34 04.1**	**-0.7**
LSNR				*e*Sg		**Sn**	**07 34 14.6**	**-1.4**
PNSH	**Pansheti**	**0.77**	**83**	P		**Pb**	**07 34 03.5**	**-0.3**
PNSH				S		**Sb**	**07 34 14.1**	**-0.2**
STDR	**Stavd-Durt**	**0.90**	**23**	*e*Pg		**Pn**	**07 34 08.1**	**+1.5**
STDR				*e*Sg		**Sn**	**07 34 22.0**	**+2.6**
NEY	**Neytrino**	**0.94**	**318**	*e*Pg		**Pb**	**07 34 06.7**	**0.0**
NEY				*e*Sg		**Sb**	**07 34 18.7**	**-0.4**
TRLG	**Trialeti**	**1.08**	**159**	P		**Pb**	**07 34 08.9**	**-0.1**
TRLG				S		**Sb**	**07 34 23.9**	**+0.9**
KBZ	**Khabaz**	**1.28**	**337**	*e*Pg		**Pg**	**07 34 13.1**	**-0.1**
KBZ				*e*Sg		**Sg**	**07 34 30.6**	**+0.8**
DMNI	**Dmanisi**	**1.30**	**159**	P		**Pn**	**07 34 11.9**	**-0.4**
DMNI				S		**Sn**	**07 34 29.2**	**-0.4**
KIV	**Kislovodsk**	**1.55**	**335**	*e*Pg		**Pg**	**07 34 17.9**	**-0.4**
KIV				*e*Sg		**Sg**	**07 34 38.4**	**0.0**
BATM	**Batumi**	**1.69**	**237**	*i* P		**Pn**	**07 34 18.0**	**+0.4**
BATM				*i* S		**Sn**	**07 34 39.4**	**+0.5**
DGRG	**David-gareji**	**1.73**	**129**	*e*Pg		**Pg**	**07 34 21.5**	**-0.2**
DGRG				*e*Sg		**Sg**	**07 34 44.0**	**-0.2**
DGRG	**David-gareji**	**1.73**	**129**	P		**Pg**	**07 34 21.5**	**-0.2**
DGRG				S		**Sg**	**07 34 44.0**	**-0.2**
ARTV	**Artvin**	**1.84**	**223**	*i* P		**Pn**	**07 34 21.0**	**+1.2**
ARTV				*i* S		**Sb**	**07 34 44.9**	**+0.1**
ARTV				IAML			07 34 45.0	
	comp=N,40nm,0.3s							
DBOC	**Borcka**	**1.86**	**230**	*i* P		**Pn**	**07 34 20.8**	**+0.8**
DBOC				*i* S		**Sb**	**07 34 45.6**	**+0.2**
DBOC				IAML			07 34 47.0	
	comp=E,69nm,0.3s							
DAGI	**Agillar**	**1.92**	**221**	*i* P		**Pb**	**07 34 22.5**	**-0.9**
DAGI				*i* S		**Sb**	**07 34 47.2**	**0.0**
DAGI				IAML			07 34 50.0	
	comp=E,23nm,0.4s							
BTLR	**Botlikh**	**1.96**	**86**	*e*Pg		**Pb**	**07 34 23.6**	**-0.3**
BTLR				*e*Sg		**Sb**	**07 34 49.7**	**+1.5**
DBAD	**Bademkaya**	**2.08**	**223**	*i* P		**Pb**	**07 34 25.0**	**-1.0**
DBAD				*i* S		**Sb**	**07 34 52.2**	**+0.5**
DBAD				IAML			07 34 53.0	
	comp=N,44nm,0.7s							
DBAD				IAML			07 34 54.0	
	comp=E,47nm,0.6s							
DDEM	**Demirkent**	**2.15**	**220**	*i* P		**Pb**	**07 34 27.1**	**-0.1**
DDEM				*i* S		**Sb**	**07 34 53.9**	**+0.2**
DDEM				IAML			07 34 57.0	
	comp=N,72nm,0.3s							
DDEM				IAML			07 34 58.0	
	comp=E,58nm,0.4s							

IDC 06 08:03:50.2±3.1,**53°.56N**×**87°.67E,h0**km,**mb1 3.0**/2,
mb1mx2.9/34,**mbtmp3.0**/2,**ML2.6**/2,**Error ellipse:**
s-maj=27.6km s-min=15.9km az=56.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**284**	*i*			08 14 50.0	
	baz=98,slow=307,SNR=3.3							
ZALV	**Zalesovo Beam**	**1.74**	**284**	Pg		Pn	08 04 21.7	+0.1
	3.6nm,0.3s,baz=102,slow=13,SNR=28							
ZALV				Lg		Lg	08 04 45.2	
	3.7nm,0.3s,baz=100,slow=26,SNR=12							
KURBB	**Kurchatov Arra**	**6.35**	**246**	Pn		Pn	08 05 26.3	+1.3
	0.1nm,0.3s,baz=62,slow=14,SNR=4.4							
KURBB				Lg		Lg	08 07 09.4	
	0.0nm,0.3s,baz=64,slow=32,SNR=7.9							
MKAR	**Makanchi Array**	**7.60**	**209**	Pn		Pn	08 05 43.1	+1.0
	0.2nm,0.3s,baz=25,slow=12,SNR=6.0							
MKAR				Lg		Lg	08 07 48.6	
	baz=26,slow=34,SNR=2.5							

ISK ***06*** *08:20:11.6, 41°.40N×44°.09E, h5km, ML3.6/10*
NORS ***06*** *08:20:11.6±0.0, 41°.44N×44°.00E, h10km, MPVA4.3*
NSSP ***06*** *08:20:11.5, 41°.40N×44°.05E, h10km, Ms3.6*
DDA ***06*** *08:20:11.6, 41°.42N×44°.07E, h9km±2km, MW3.8*
TIF ***06*** *08:20:11.2, 41°.41N×44°.09E, h14km*
MOS ***06*** *08:20:12.4±1.0, 41°.37N×44°.07E, h9km, mb3.5/4, Error ellipse: s-maj=5.5km s-min=4.0km az=82.7*
ISC 06 08:20:12.6±0.8,**41°.40N**±0°.01×**44°.09E**±0°.01,**h9**km±5km,
n116,σ1**°20/197,mb3.3/4,12C-11D,Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DMNI	**Dmanisi**	**0.10**	**134**	PG		**Pg**	**08 20 15.1**	**-0.1**
DMNI	**Dmanisi**	**0.10**	**134**	P		**Pg**	**08 20 15.1**	**-0.1**
DMNI				S		**Sg**	**08 20 17.2**	**+0.1**
TRLG	**Trialeti**	**0.14**	**3**	PG		**Pg**	**08 20 15.2**	**-0.7**
TRLG	**Trialeti**	**0.14**	**3**	P		**Pg**	**08 20 15.2**	**-0.7**
TRLG				S		**Sg**	**08 20 17.7**	**-0.5**
KZRT	**Kazreti**	**0.23**	**93**	*i* P		**Pg**	**08 20 17.1**	**-0.3**
KZRT				*i* S		**Sg**	**08 20 20.0**	**-0.4**
KZRT	**Kazreti**	**0.23**	**93**	PG		**Pg**	**08 20 17.0**	**-0.3**
KZRT	**Kazreti**	**0.23**	**93**	P		**Pg**	**08 20 17.1**	**-0.3**
KZRT				S		**Sg**	**08 20 20.6**	**+0.1**
STE	**Stepanavan**	**0.45**	**152**	↑*i* P		**Pg**	**08 20 21.7**	**+0.3**
STE				↓*i* S		**Sb**	**08 20 28.3**	**-1.3**
AKH	**Akhalkalaki**	**0.45**	**272**	PG		**Pg**	**08 20 20.8**	**-0.7**
AKH				SG		**Sg**	**08 20 27.1**	**-0.3**
AKH	**Akhalkalaki**	**0.45**	**272**	PG		**Pg**	**08 20 20.8**	**-0.7**
AKH				S		**Sg**	**08 20 27.1**	**-0.3**
AKH	**Akhalkalaki**	**0.45**	**272**	P		**Pg**	**08 20 20.8**	**-0.7**
AKH				S		**Sg**	**08 20 27.1**	**-0.3**
KAMZ	**Kamo**	**0.58**	**191**	↓*i* P		**Pb**	**08 20 25.1**	**+0.1**
KAMZ				↓S		**Sb**	**08 20 35.3**	**+1.9**
TBLG	**Delisi**	**0.59**	**55**	PG		**Pg**	**08 20 23.4**	**-0.6**
TBLG				SG		**Sg**	**08 20 31.8**	**+0.1**
TBLG	**Delisi**	**0.59**	**55**	*e*PG		**Pg**	**08 20 23.2**	**-0.7**
TBLG	**Delisi**	**0.59**	**55**	P		**Pg**	**08 20 23.3**	**-0.7**
TBLG				S		**Sg**	**08 20 31.8**	**+0.1**
BTNK	**Botanikuri**	**0.60**	**62**	*i* P		**Pg**	**08 20 23.4**	**-0.8**
BTNK				*i* S		**Sg**	**08 20 32.0**	**-0.1**
BTNK				IAML			08 20 32.0	
	comp=E,2μm,0.1s							
BTNK				IAML			08 20 33.0	
	comp=N,3μm,0.1s							
BTNK	**Botanikuri**	**0.60**	**62**	PG		**Pg**	**08 20 23.4**	**-0.8**
BTNK				S		**Sg**	**08 20 32.0**	**-0.1**
BTNK	**Botanikuri**	**0.60**	**62**	P		**Pg**	**08 20 23.4**	**-0.8**
BTNK				S		**Sg**	**08 20 32.0**	**-0.1**
EAK	**Akyaka**	**0.80**	**208**	*i* P		**Pg**	**08 20 27.2**	**-0.9**
EAK				*i* S		**Sg**	**08 20 37.6**	**-0.8**
EAK				IAML			08 20 42.0	
	comp=N,753nm,0.3s							
EAK				IAML			08 20 48.0	
	comp=E,707nm,0.6s							
LERZ	**Lernakert**	**0.84**	**187**	↓*i* P		**Pn**	**08 20 30.2**	**-0.5**
LERZ				↓S		**Sn**	**08 20 43.8**	**+0.6**
DGRG	**David-gareji**	**0.96**	**86**	PG		**Pg**	**08 20 30.5**	**-0.6**
DGRG	**David-gareji**	**0.96**	**86**	P		**Pg**	**08 20 30.5**	**-0.6**
EPOS	**Posof**	**1.03**	**276**	*i* P		**Pg**	**08 20 31.2**	**-1.2**
EPOS				*i* S		**Sg**	**08 20 46.1**	**+0.2**
EPOS				IAML			08 20 51.0	
	comp=N,307nm,0.4s							
KARS	**Kars**	**1.09**	**225**	PN		**Pg**	**08 20 32.8**	**-0.7**
KARS				SN		**Sg**	**08 20 47.9**	**+0.3**
KARS	**Kars**	**1.09**	**225**	PG		**Pg**	**08 20 32.6**	**-0.9**
ARUZ	**Aruch**	**1.11**	**180**	↑*i* P		**Pg**	**08 20 33.1**	**-0.9**
ARUZ				↑*i* S		**Sb**	**08 20 49.0**	**+0.3**
DIGO	**Kars**	**1.12**	**209**	*i* P		**Pg**	**08 20 33.1**	**-1.1**
DIGO				*i* S		**Sg**	**08 20 48.0**	**-0.8**
DIGO				IAML			08 20 50.0	
	comp=E,889nm,0.3s							
DIGO				IAML			08 20 52.0	
	comp=N,672nm,0.4s							
KAPZ	**Kaputan**	**1.17**	**157**	↑*i* P		Pg	08 20 29.8	-5.2
KAPZ				↑*i* S		**Sg**	**08 20 45.1**	**-5.1**
METS	**Metsamor**	**1.25**	**180**	*e*P		**Pg**	**08 20 35.3**	**-1.3**
METS				*e*S		**Sb**	**08 20 52.9**	**+0.4**
TKB	**Tkibuli**	**1.26**	**320**	PG		**Pg**	**08 20 35.0**	**-1.7**
TKB				S		**Sg**	**08 20 52.1**	**-0.9**
TKB	**Tkibuli**	**1.26**	**320**	P		**Pg**	**08 20 35.0**	**-1.7**
TKB				S		**Sg**	**08 20 52.1**	**-0.9**
ONI	**Oni**	**1.28**	**338**	PG		**Pg**	**08 20 35.3**	**-1.9**
ONI				S		**Sg**	**08 20 52.7**	**-1.2**
ONI	**Oni**	**1.28**	**338**	P		**Pg**	**08 20 35.4**	**-1.9**
ONI				S		**Sg**	**08 20 52.8**	**-1.2**
PNSH	**Pansheti**	**1.30**	**17**	PG		**Pg**	**08 20 36.0**	**-1.5**
PNSH				S		**Sn**	**08 20 54.3**	**-0.2**
PNSH	**Pansheti**	**1.30**	**17**	P		**Pg**	**08 20 36.0**	**-1.5**
PNSH				S		**Sn**	**08 20 54.3**	**-0.2**
VNNZ	**Vanand**	**1.31**	**189**	↓*i* P		**Pn**	**08 20 36.3**	**-0.8**
VNNZ				↓S		**Sg**	**08 20 54.6**	**-0.2**
ZEI	**Tsey**	**1.40**	**354**	*e*Pg		**Pn**	**08 20 37.9**	**-0.5**
ZEI				*e*Sg		**Sb**	**08 20 56.5**	**-0.4**
ZEI	**Tsey**	**1.40**	**354**	*e*PG		**Pn**	**08 20 37.9**	**-0.5**
ZEI				*e*S		**Sb**	**08 20 56.5**	**-0.4**
ZEI				pmax		pmax		
	comp=Z,151nm,0.6s							
ZEI				smax		smax		
	comp=N,491nm,0.3s							
TASB	**TASBURUN-IGDIR**	**1.42**	**175**	PN		**Pn**	**08 20 38.4**	**-0.2**
TASB				SN		**Sg**	**08 20 58.4**	**+0.2**
LACR	**Lac**	**1.44**	**6**	*i* Pg		**Pn**	**08 20 38.2**	**-0.6**
LACR				*e*Sg		**Sb**	**08 20 57.6**	**-0.4**
LACR	**Lac**	**1.44**	**6**	*i* PG		**Pn**	**08 20 38.2**	**-0.6**
LACR				*e*S		**Sb**	**08 20 57.4**	**-0.6**
NRKZ	**NAREK**	**1.46**	**163**	*i* P		**Pn**	**08 20 39.1**	**-0.6**
NRKZ				*i* S		**Sg**	**08 20 59.3**	**-0.3**
DDFL	**Dedoflistskaro**	**1.52**	**88**	*i* P		**Pg**	**08 20 41.4**	**-0.4**
DDFL				*i* S		**Sg**	**08 21 05.2**	**+3.7**
DDFL	**Dedoflistskaro**	**1.52**	**88**	PG		**Pg**	**08 20 41.2**	**-0.6**
DDFL				S		**Sg**	**08 21 06.0**	**+4.4**
DDFL	**Dedoflistskaro**	**1.52**	**88**	P		**Pg**	**08 20 41.2**	**-0.6**
DDFL				S		**Sg**	**08 21 06.0**	**+4.4**
IGDI	**IGDIR**	**1.53**	**180**	*i* P		**Pn**	**08 20 39.3**	**-0.8**
IGDI				*i* S		**Sn**	**08 21 00.2**	**+0.1**
IGDI				IAML			08 21 01.0	
	comp=N,433nm,0.3s							
IGDI				IAML			08 21 01.0	
	comp=E,345nm,0.6s							
DIGR	**Digorskoe uzhe**	**1.55**	**346**	*e*Pg		**Pn**	**08 20 40.5**	**0.0**
DIGR				*e*Sg		**Sb**	**08 21 01.4**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.55**	**346**	*e*PG		**Pn**	**08 20 40.5**	**0.0**
DIGR				*e*S		**Sb**	**08 21 01.4**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.56**	**238**	PN		**Pn**	**08 20 40.6**	**-0.1**
SENK				SN		**Sn**	**08 21 01.9**	**+0.8**
ARTV	**Artvin**	**1.65**	**263**	*i* P		**Pn**	**08 20 42.2**	**+0.4**
ARTV				*i* S		**Sn**	**08 21 03.0**	**-0.2**
ARTV				IAML			08 21 05.0	
	comp=E,304nm,0.4s							
ARTV				IAML			08 21 06.0	
	comp=N,311nm,0.3s							
LGD	**Lagodekhi**	**1.67**	**74**	*e*PN		**Pn**	**08 20 42.3**	**+0.3**
LGD				*e*S		**Sg**	**08 21 05.4**	**-0.8**
LGD	**Lagodekhi**	**1.67**	**74**	P		**Pn**	**08 20 42.1**	**+0.1**
LGD				S		**Sg**	**08 21 05.4**	**-0.8**
DAGI	**Agillar**	**1.67**	**260**	*i* P		**Pn**	**08 20 42.8**	**+0.7**
DAGI				*i* S		**Sb**	**08 21 05.3**	**+0.5**
DAGI				IAML			08 21 06.0	
	comp=N,494nm,0.9s							
DAGI				IAML			08 21 08.0	
	comp=E,314nm,0.5s							
KORR	**Kora**	**1.69**	**359**	*e*Pg		**Pb**	**08 20 43.8**	**0.0**
KORR				*e*Sg		**Sg**	**08 21 08.1**	**+1.3**
KORR	**Kora**	**1.69**	**359**	*e*PN		**Pb**	**08 20 43.8**	**0.0**
KORR				*e*S		**Sg**	**08 21 08.1**	**+1.3**
VLKR	**Vladikavkaz**	**1.70**	**15**	*i* Pg		**Pg**	**08 20 44.5**	**-0.8**
VLKR				*e*Sg		**Sg**	**08 21 09.1**	**+1.7**
VLKR	**Vladikavkaz**	**1.70**	**15**	*i* PN		**Pg**	**08 20 44.5**	**-0.8**
KMGR	**Komgaron**	**1.75**	**19**	*i* Pg		**Pg**	**08 20 45.2**	**-1.0**
KMGR				*e*Sg		**Sg**	**08 21 09.9**	**+0.9**
KMGR	**Komgaron**	**1.75**	**19**	*i* PN		**Pg**	**08 20 45.2**	**-1.0**
KMGR				*e*S		**Sg**	**08 21 09.8**	**+0.8**
BATM	**Batumi**	**1.81**	**277**	PN		**Pn**	**08 20 44.4**	**+0.4**
BATM				SN		**Sn**	**08 21 08.0**	**+0.9**
BATM	**Batumi**	**1.81**	**277**	*i* P		**Pn**	**08 20 44.4**	**+0.4**
BATM				*i* S		**Sn**	**08 21 08.2**	**+1.2**
BATM	**Batumi**	**1.81**	**277**	PN		**Pn**	**08 20 44.3**	**+0.4**
BATM				S		**Sn**	**08 21 08.2**	**+1.2**
BATM	**Batumi**	**1.81**	**277**	P		**Pn**	**08 20 44.3**	**+0.4**
BATM				S		**Sn**	**08 21 08.2**	**+1.2**
DBOC	**Borcka**	**1.83**	**269**	*i* P		**Pn**	**08 20 44.8**	**+0.6**
DBOC				*i* S		**Sn**	**08 21 08.2**	**+0.8**
DBOC				IAML			08 21 11.0	
	comp=E,415nm,0.3s							
DDEM	**Demirkent**	**1.84**	**255**	*i* P		**Pn**	**08 20 45.4**	**+1.0**
DDEM				*i* S		**Sn**	**08 21 09.2**	**+1.4**
DDEM				IAML			08 21 11.0	
	comp=N,1μm,0.3s							
DDEM				IAML			08 21 13.0	
	comp=E,648nm,0.4s							
GANJ	**Ganja**	**1.85**	**113**	PN		**Pn**	**08 20 44.1**	**-0.3**
DBAD	**Bademkaya**	**1.85**	**259**	*i* P		**Pn**	**08 20 45.7**	**+1.2**
DBAD				*i* S		**Sb**	**08 21 09.7**	**-0.2**
DBAD				IAML			08 21 12.0	
	comp=N,780nm,0.5s							
DBAD				IAML			08 21 12.0	
	comp=E,662nm,0.4s							
BCA	**Borcka**	**1.86**	**272**	PN		**Pn**	**08 20 45.4**	**+0.8**
LSNR	**Lesken**	**1.89**	**354**	*e*Pg		**Pb**	**08 20 47.2**	**0.0**
LSNR				*e*Sg		**Sg**	**08 21 13.5**	**+0.2**
LSNR	**Lesken**	**1.89**	**354**	*e*PN		**Pb**	**08 20 47.2**	**0.0**
LSNR				*e*S		**Sg**	**08 21 13.3**	**0.0**
ZKTA	**Zakatala**	**1.91**	**82**	PN		**Pn**	**08 20 45.7**	**+0.4**
EATA	**Eleskirt**	**1.96**	**219**	*i* P		**Pn**	**08 20 47.6**	**+1.4**
EATA				*i* S		**Sb**	**08 21 14.3**	**+1.1**
EATA				IAML			08 21 18.0	
	comp=E,97nm,0.4s							
EATA				IAML			08 21 24.0	
	comp=N,82nm,0.4s							
STDR	**Stavd-Durt**	**1.97**	**359**	*e*Pg		**Pg**	**08 20 49.3**	**-1.0**
STDR				*e*Sg		**Sg**	**08 21 17.8**	**+1.9**
STDR	**Stavd-Durt**	**1.97**	**359**	*e*PN		**Pb**	**08 20 49.0**	**+0.4**
STDR				*e*S		**Sg**	**08 21 15.8**	**-0.1**
BTKR	**Batakoyurt**	**2.00**	**9**	*e*Pg		**Pb**	**08 20 49.1**	**0.0**
BTKR				*e*Sg		**Sg**	**08 21 17.6**	**+0.7**
BTKR	**Batakoyurt**	**2.00**	**9**	*e*PN		**Pb**	**08 20 49.1**	**0.0**
BTKR				*e*S		**Sg**	**08 21 17.5**	**+0.7**
AGRB	**Hanur-Agry**	**2.01**	**205**	PN		**Pn**	**08 20 47.1**	**+0.3**
BTLR	**Botlikh**	**2.03**	**51**	*e*Pg		**Pb**	**08 20 48.6**	**-1.1**
BTLR				*e*Sg		**Sb**	**08 21 15.6**	**+0.7**
BTLR	**Botlikh**	**2.03**	**51**	*e*PN		**Pb**	**08 20 48.5**	**-1.1**
NEY	**Neytrino**	**2.11**	**332**	*e*Pg		**Pb**	**08 20 50.4**	**-0.7**
NEY				*e*Sg		**Sn**	**08 21 16.3**	**+1.6**
NEY	**Neytrino**	**2.11**	**332**	*d i*PN		**Pb**	**08 20 50.5**	**-0.6**
GROC	**Groznyy**	**2.20**	**34**	*e*Pg		**Pb**	**08 20 53.0**	**+0.4**
GROC				*e*Sg		**Sg**	**08 21 23.9**	**+0.6**
GROC	**Groznyy**	**2.20**	**34**	*c i*PN		**Pb**	**08 20 52.9**	**+0.4**
GROC				*e*S		**Sg**	**08 21 23.9**	**+0.6**
GROC				pmax		pmax		
	comp=Z,79nm,0.6s							
GROC				smax		smax		
	comp=E,431nm,0.4s							
KOPR	**Koprukoy-ERZUR**	**2.21**	**231**	PN		**Pn**	**08 20 49.9**	**+0.4**
TUTA	**Tutak**	**2.22**	**207**	*i* P		**Pn**	**08 20 51.2**	**+1.4**
TUTA				IAML			08 21 30.0	
	comp=N,55nm,0.6s							
CLDR	**Caldiran**	**2.26**	**183**	PN		**Pn**	**08 20 50.6**	**+0.3**
XNZR	**Khunzakh**	**2.26**	**59**	*e*Pn		**Pb**	**08 20 52.7**	**-0.9**
XNZR				*e*Sn		**Sg**	**08 21 23.6**	**-1.5**
XNZR	**Khunzakh**	**2.26**	**59**	*e*PN		**Pb**	**08 20 53.4**	**-0.2**
XNZR				*e*S		**Sg**	**08 21 23.1**	**-2.0**
MNGR	**Mingechevir, A**	**2.35**	**104**	PN		**Pb**	**08 20 53.9**	**-1.1**
SEKA	**Sheki**	**2.35**	**94**	PN		**Pn**	**08 20 52.6**	**+1.3**
GNBR	**Gunib**	**2.36**	**64**	*i* PN		**Pb**	**08 20 54.1**	**-1.2**
GNBR				*e*S		**Sb**	**08 21 25.5**	**+1.0**
NAX	**Nakhchivan**	**2.47**	**154**	PN		**Pb**	**08 20 57.3**	**+0.2**
KBZ	**Khabaz**	**2.49**	**340**	*d i*PN		**Pn**	**08 20 54.4**	**+1.2**
CHOM	**Cayeli-Rize**	**2.53**	**264**	PN		**Pn**	**08 20 54.6**	**+0.8**
GRS	**Goris**	**2.55**	**137**	↑*i* P		**Pn**	**08 20 54.0**	**-0.2**
GRS				↓*i* S		**Sn**	**08 21 27.0**	**+1.5**
DBC	**Dubki**	**2.60**	**51**	*e*Pn		**Pb**	**08 20 58.8**	**-0.6**
DBC				*e*Sn		**Sg**	**08 21 34.3**	**-1.8**
DBC	**Dubki**	**2.60**	**51**	*e*PN		**Pb**	**08 20 58.8**	**-0.6**
DBC				*e*S		**Sb**	**08 21 31.3**	**-0.1**
KRIK	**Erzurum-spir**	**2.62**	**247**	*i* P		**Pn**	**08 20 57.7**	**+2.4**
KRIK				*i* S		**Sb**	**08 21 34.5**	**+2.2**
DOMR	**Dombai**	**2.63**	**317**	↑*e*PN		**Pb**	**08 20 58.3**	**-1.7**
BUJR	**Buynaksk**	**2.66**	**57**	*e*PN		**Pb**	**08 20 59.2**	**-1.1**
BUJR				*e*S		**Sb**	**08 21 33.8**	**+0.8**
AKT	**Akhty**	**2.73**	**87**	*e*Pn		**Pn**	**08 20 58.2**	**+1.5**
AKT				*e*Sn		**Sb**	**08 21 35.7**	**+0.3**
AKT	**Akhty**	**2.73**	**87**	*e*PN		**Pn**	**08 20 58.0**	**+1.3**
AKT				*e*S		**Sb**	**08 21 33.4**	**-2.0**
AKT				pmax		pmax		
	comp=Z,69nm,0.2s							
AKT				smax		smax		
	comp=E,270nm,0.4s							
AKT				smax		smax		
	comp=E,214nm,0.4s							
AKT				smax		smax		
	comp=N,254nm,0.4s							
AKT				MLR		MLR		
	comp=Z,27nm,1.0s							
KIV	**Kislovodsk**	**2.76**	**338**	PN		**Pn**	**08 20 57.6**	**+0.6**
KIV	**Kislovodsk**	**2.76**	**338**	PN		**Pn**	**08 20 58.1**	**+1.1**
BEYR	**Belyy Ugol+**	**2.78**	**341**	*e*PN		**Pn**	**08 20 58.5**	**+1.3**
BEYR				*e*S		**Sn**	**08 21 32.1**	**+1.2**
MAK	**Makhachkala**	**2.98**	**57**	*e*PN		**Pn**	**08 21 02.4**	**+2.5**
MAK				*e*			08 21 08.3	
MAK				*e*			08 21 10.2	
MAK				*e*			08 21 41.1	
MAK				*e*			08 21 49.5	
MAK				*e*			08 21 56.1	
MAK				pmax		pmax		
	comp=Z,214nm,0.2s							
MAK				smax		smax		
	comp=E,275nm,0.6s							
MAK				smax		smax		
	comp=E,282nm,0.6s							
MAK				MLR		MLR		
	comp=Z,276nm,2.0s							
ARXR	**Arkhyz**	**3.00**	**317**	↑*e*PN		**Pn**	**08 21 01.0**	**+0.6**
DRN	**Derbent**	**3.23**	**77**	*e*Pn		**Pn**	**08 21 06.5**	**+3.1**
DRN				*e*Sn		**Sb**	**08 21 47.2**	**-2.3**
DRN	**Derbent**	**3.23**	**77**	*e*PN		**Pb**	**08 21 07.7**	**-2.4**
DRN				*e*S		**Sb**	**08 21 46.0**	**-3.5**
OBN	**Obninsk**	**14.60**	**343**	*e*P		**Pn**	**08 23 41.6**	**+2.5**
OBN				pmax		pmax		
	comp=Z,4.0nm,0.7s							
OBN				MLR		MLR		
	comp=Z,24nm,5.0s							
KIRV	**Kirov**	**17.53**	**9**	P		**P**	**08 24 18.5**	**+0.5**
BRVK	**Borovoye**	**21.14**	**48**	↓*e*P		**P**	**08 24 57.9**	**+0.4**
BRVK				pmax		pmax		
	comp=Z,1.0nm,1.1s							
AAK	**Ala-Archa**	**22.57**	**77**	↓*e*P		**P**	**08 25 12.3**	**-0.9**
AAK				pmax		pmax		
	comp=Z,1.0nm,1.0s							
KHC	**Kasperske Hory**	**22.71**	**300**	↑*e*P		**P**	**08 25 15.8**	**+1.3**
KHC				pmax		pmax		
	comp=Z,3.0nm,1.1s							
KURK	**Kurchatov**	**25.50**	**57**	↑*e*P		**P**	**08 25 40.5**	**-0.5**
KURK				pmax		pmax		
	comp=Z,1.0nm,1.2s							
CMAR	**Chiang Mai Arr**	**51.80**	**99**	*i* P		**P**	**08 29 17.6**	**-3.2**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							

MAN ***06*** *08:20:29.7, 5°.32N×126°.92E, h3

MLv2.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=134.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.25**	**120**	P	Pn	08 37 44.7	+0.5
NNZ				S	Sn	08 37 57.2	-0.4
QRZ	**Quartz Range**	**0.50**	**302**	P	Pn	08 37 45.5	+0.1
QRZ				S	Sn	08 37 59.1	-0.5
THZ	**Tophouse**	**0.69**	**192**	P	Pn	08 37 47.0	+0.4
THZ				S	Sn	08 38 01.8	-0.1
DUWZ	**D'Urville Isla**	**0.69**	**66**	P	Pn	08 37 47.4	+0.7
DUWZ				S	Sn	08 38 02.0	+0.2
TUWZ	**Tuamarina**	**0.72**	**118**	P	Pn	08 37 47.5	+0.6
TUWZ				S	Sn	08 38 01.8	-0.4
BSWZ	**Blackbirch Sta**	**0.86**	**137**	P	Pn	08 37 48.6	+0.6
BSWZ				S	Sn	08 38 03.4	-0.7
TCW	**Tory Channel**	**0.90**	**98**	P	Pn	08 37 49.0	+0.7
TCW				S	Sn	08 38 03.8	-1.0
DSZ	**Denniston Nort**	**1.17**	**236**	P	Pn	08 37 51.0	0.0
DSZ				S	Sn	08 38 08.3	-1.1
BHW	**Baring Head**	**1.38**	**104**	P	Pn	08 37 52.8	-0.3
BHW				S	Sn	08 38 11.6	-1.6
MSWZ	**Moikau Station**	**1.66**	**102**	P	Pn	08 37 55.6	-0.7
MSWZ				S	Sn	08 38 16.3	-2.7
PAWZ	**Paruwai Farm**	**1.78**	**100**	P	Pn	08 37 57.4	-0.4
PAWZ				S	Sn	08 38 18.9	-2.8
HOWZ	**Holdsworth Sta**	**1.84**	**85**	P	Pn	08 37 58.5	0.0
HOWZ				S	Sn	08 38 20.8	-2.1
TRWZ	**Traveller**	**1.98**	**100**	S	Sn	08 38 21.6	-4.3
TMWZ	**Te Maipa**	**2.12**	**91**	P	Pn	08 38 01.4	-0.4
TIWZ	**Tintock**	**2.14**	**82**	P	Pn	08 38 01.7	-0.4
TIWZ				S	Sn	08 38 27.2	-2.2
PRWZ	**Pori Road**	**2.25**	**77**	S	Sn	08 38 29.6	-2.2
PRWZ				P	Pn	08 38 30.4	+27
BFZ	**Birch Farm**	**2.43**	**81**	P	Pn	08 38 05.3	-0.4
BFZ				S	Sn	08 38 33.0	-2.7

*YARS **06** 08:45:22.0±0.0, 56°.51N×121°.14E, h19km, ML3.1/10*
*BYKL **06** 08:45:22.5±0.3, 56°.55N×121°.10E, h18km±5km*
ISC 06 08:45:20.0±0.7, 56°.54N±0°.02×120°.98E±0°.02, h10km, n38, σ2°.55/82, 1C-3D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKLR	**Yuktali**	**0.38**	**82**	⇓*iPg*	**Pb**	**08 45 28.8**	**+0.1**
YKLR				*eSg*	**Sb**	**08 45 33.3**	**-1.3**
YKLR	**Yuktali**	**0.38**	**82**	*iPg*	**Pb**	**08 45 28.8**	**+0.1**
	987nm,0.1s,baz=74						
YKLR				*eSg*	**Sb**	**08 45 33.3**	**-1.3**
	2µm,0.2s,baz=74						
YKLR				*eSg*	**Sb**	**08 45 33.3**	**-1.3**
	2µm,0.1s,baz=74						
KHNR	**Khani**	**0.67**	**305**	*ePg*	**Pn**	**08 45 35.7**	**+0.1**
KHNR				*eSg*	**Sn**	**08 45 45.6**	**-0.6**
KHN	**Khani**	**0.76**	**301**	*ePg*	**Pn**	**08 45 35.7**	**-1.1**
	346nm,0.1s,baz=304						
KHN				*eSg*	**Sb**	**08 45 45.2**	**-0.5**
	6µm,0.2s,baz=304						
CRS	**Chara**	**1.54**	**285**	⇓*iPg*	**Pg**	**08 45 51.7**	**+2.2**
CRS				*ePb*	**Pb**	**08 45 52.4**	**+3.8**
CRS				*eSg*	**Sg**	**08 46 13.3**	**+3.9**
CRS				max			
	200nm,0.2s						
CRS				Smax			
	812nm,0.2s						
CRS	**Chara**	**1.54**	**285**	*ePg*	**Pg**	**08 45 51.6**	**+2.1**
	203nm,0.2s,baz=285						
CRS				*eSg*	**Sg**	**08 46 12.4**	**+3.0**
	811nm,0.2s,baz=285						
CLNS	**Chul'man**	**2.18**	**80**	*ePn*	**Pb**	**08 45 59.2**	**-0.2**
CLNS				*ePg*	**Pg**	**08 46 00.9**	**-0.8**
CLNS				*eSg*	**Sg**	**08 46 28.2**	**-1.7**
CLNS	**Chul'man**	**2.18**	**80**	*ePg*	**Pg**	**08 46 00.2**	**-1.4**
	88nm,0.2s,baz=79						
CLNS				*eSg*	**Sg**	**08 46 28.0**	**-1.9**
	277nm,0.3s,baz=79						
CLNS				*eSg*	**Sg**	**08 46 28.0**	**-1.9**
	204nm,0.2s,baz=79						
IENR	**Iengra**	**2.18**	**97**	*eSg*	**Pg**	**08 46 00.9**	**-0.8**
IENR				*e*		08 46 19.9	
IENR				*eSg*	**Sg**	**08 46 28.0**	**-1.9**
IENR	**Iengra**	**2.18**	**97**	*ePg*	**Pg**	**08 46 00.5**	**-1.2**
	25nm,0.1s,baz=96						
IENR				*iSg*	**Sg**	**08 46 27.4**	**-2.4**
	495nm,0.5s,baz=96						
IENR				*eSg*	**Sg**	**08 46 27.9**	**-1.9**
	229nm,0.2s,baz=96						
TUP	**Tupik**	**2.20**	**196**	⇓*iPn*	**Pb**	**08 45 58.8**	**-1.0**
TUP				*ePg*	**Pg**	**08 46 01.8**	**-0.3**
TUP				*e*		08 46 06.1	
TUP				*eSn*	**Sb**	**08 46 26.3**	**-0.8**
TUP				*eSg*	**Sg**	**08 46 30.9**	**+0.4**
TUP				max			
	66nm,0.3s						
TUP				Smax			
	649nm,0.3s						
TUP	**Tupik**	**2.20**	**196**	*ePn*	**Pb**	**08 45 58.8**	**-1.0**
	baz=198						
TUP				*ePg*	**Pg**	**08 46 01.6**	**-0.5**
	66nm,0.3s,baz=198						
TUP				*eSn*	**Sb**	**08 46 26.5**	**-0.6**
	baz=198						
TUP				*eSg*	**Sg**	**08 46 30.5**	**-0.1**
	893nm,0.6s,baz=198						
TNDR	**Tynda**	**2.53**	**122**	*i* Pn	**Pn**	**08 46 01.8**	**+0.7**
	baz=122						
TNDR				*ePg*	**Pb**	**08 46 05.8**	**+0.4**
	72nm,0.3s,baz=122						
TNDR				*eSg*	**Sg**	**08 46 38.2**	**-2.8**
	507nm,0.2s,baz=122						
TNDR				*eSg*	**Sg**	**08 46 38.2**	**-2.8**
	330nm,0.2s,baz=122						
NLYR	**Nelyaty**	**2.93**	**271**	*ePn*	**Pb**	**08 46 10.1**	**-2.1**
NLYR				*ePg*	**Pg**	**08 46 15.0**	**-1.0**
NLYR				*e*		08 46 52.5	
NLYR				*eSg*	**Sg**	**08 46 54.7**	**+0.8**
NLYR				Pmax			
	45nm,0.3s						
NLYR				Smax			
	330nm,0.7s						
ALDR	**Aldan**	**3.16**	**47**	*i* Pg	**Pg**	**08 46 18.4**	**-2.1**
	11nm,0.1s,baz=46						
ALDR				*i* Sn	**Sn**	**08 46 49.1**	**+1.6**
	baz=46						
ALDR				*i* Sg	**Sg**	**08 46 59.6**	**-1.8**
	201nm,0.2s,baz=46						
ALDR				*i* Sg	**Sg**	**08 46 59.6**	**-1.8**
	251nm,0.2s,baz=46						
OLMR	**Olekminsk**	**3.86**	**356**	*ePg*	**Pg**	**08 46 32.4**	**-1.4**
	29nm,0.3s,baz=355						
OLMR				*eSg*	**Sg**	**08 47 23.9**	**+0.2**
	111nm,0.2s,baz=355						
OLMR				*eSg*	**Sg**	**08 47 23.9**	**+0.2**
	115nm,0.3s,baz=355						
KROS	**Kirovskiy**	**4.01**	**119**	*ePn*	**Pn**	**08 46 22.1**	**+0.8**
	6.0nm,0.3s,baz=120						
KROS				*eSg*	**Sb**	**08 47 19.6**	**+0.6**
	440nm,0.2s,baz=120						
BOD	**Bodaibo**	**4.01**	**292**	*e*	**Pb**	**08 46 30.3**	**-0.3**
BOD				*ePg*	**Pg**	**08 46 35.1**	**-1.6**
BOD				*eSn*	**Sb**	**08 47 13.4**	**-5.7**
BOD				*eSg*	**Sg**	**08 47 27.4**	**-1.2**
BOD				Pmax			
	7.0nm,0.2s						
BOD				Smax			
	281nm,1.3s						
SVKR	**Severomuysk**	**4.16**	**267**	*e*	**Sg**	**08 47 27.0**	**-6.3**
SVKR				*eSg*	Sb	08 47 34.4	+11
SVKR				Smax			
	320nm,0.6s						
UKT	**Uakit**	**4.26**	**259**	*ePn*	**Pn**	**08 46 28.8**	**+3.9**
UKT				⇑*rPg*	**Pg**	**08 46 39.1**	**-2.4**
UKT				*e*		08 47 27.8	
UKT				*eSg*	**Sg**	**08 47 36.0**	**-0.7**
UKT				Pmax			
	25nm,0.8s						
UKT				Smax			
	112nm,0.7s						
YOA	**Uoyan**	**5.17**	**269**	*eSg*	**Sg**	**08 48 05.1**	**-0.6**
YOA				*e*		08 48 13.6	
YOA				max			
	707nm,1.9s						
VTMR	**Vitim**	**5.35**	**306**	*e*	**Sb**	**08 48 00.9**	**+3.4**
VTMR					**Sg**	**08 48 07.5**	**-3.9**
KMO	**Kumora**	**5.50**	**267**	*e*Pn	**Pn**	**08 46 44.5**	**+2.6**
KMO				*e*		08 46 51.9	
KMO				Pg	**Pg**	**08 47 02.1**	**-3.1**
KMO				*e*Sg	**Sg**	**08 48 14.7**	**-1.7**
KMO				Pmax			
	10.0nm,0.5s						
KMO				Smax			
	127nm,1.1s						
CGD	**Chagda**	**5.63**	**63**	*i* Pn	**Pn**	**08 46 46.7**	**+3.1**
	6.7nm,0.6s,baz=62						
CGD				*i* Pg	**Pg**	**08 47 02.9**	**-4.7**
	6.5nm,0.6s,baz=62						
CGD				*i* Sn	**Sn**	**08 47 48.9**	**+0.7**
	baz=62						
CGD				*i* Sg	**Sg**	**08 48 16.8**	**-3.7**
	61nm,0.5s,baz=62						
CGD				*i* Sg	**Sg**	**08 48 16.8**	**-3.7**
	68nm,0.6s,baz=62						
YLYR	**Ulyunkhan**	**5.80**	**257**	*e*Pn	**Pn**	**08 46 49.9**	**+3.9**
YLYR				*e*		08 47 06.1	
YLYR				*e*		08 47 15.6	
YLYR				*e*		08 48 14.9	
YLYR				*e*Sg	**Sg**	**08 48 24.5**	**-1.4**
YLYR				max			
	5.0nm,0.5s						
YLYR				Smax			
	70nm,0.9s						
BLSR	**Buluus**	**6.38**	**37**	*i* Pn	**Pn**	**08 46 56.5**	**+2.7**
	baz=37						
BLSR				*i* Pg	Pg	08 47 16.6	-5.3
	65nm,0.3s,baz=37						
BLSR				*e*Sn	**Sn**	**08 48 04.5**	**-2.1**
	baz=37						
BLSR				*e*Sg	**Sg**	**08 48 39.4**	**-5.0**
	593nm,0.3s,baz=37						
BLSR				*e*Sg	**Sg**	**08 48 39.4**	**-5.0**
	197nm,0.4s,baz=37						
NIZ	**Nizh Angarsk**	**6.44**	**268**	*e*	Pb	08 47 04.5	-7.5
NIZ				*e*Pg	**Pg**	**08 47 19.4**	**-3.8**
NIZ				*e*Sg	**Sg**	**08 48 44.1**	**-2.4**
NIZ				Pmax			
	2.0nm,0.1s						
NIZ				Smax			
	39nm,1.2s						
SYVR	**Suvo**	**6.93**	**250**	*e*	Pb	08 47 13.6	-6.8
SYVR				*e*		08 47 39.5	
SYVR				*e*Sg	**Sg**	**08 48 59.2**	**-3.1**
SYVR				*e*		08 49 10.7	
SYVR				max			
	3.0nm,0.1s						
SYVR				max			
	51nm,0.7s						
MXMB	**Maximikha**	**7.78**	**250**	*e*Sg	**Sg**	**08 49 26.6**	**-2.8**
MXMB				*e*		08 49 32.4	
OGRR	**Ongureny**	**8.21**	**255**	*e*	Pg	08 48 13.3	+16
OGRR				*e*Sg	**Sg**	**08 49 40.0**	**-3.1**
OGRR				max			
	1.0nm,0.2s						
OGRR				Smax			
	27nm,1.2s						
KELR	**Kotokel**	**8.38**	**249**	*e*		08 49 30.1	
KELR				*e*Sg	**Sg**	**08 49 43.9**	**-4.8**
KPC	**Khapcheranga**	**8.58**	**221**	*e*Pn	**Pn**	**08 47 26.4**	**+2.3**
KPC				*e*		08 47 32.4	
KPC				*e*		08 47 46.6	
KPC				*e*Sg	**Sg**	**08 49 49.4**	**-5.5**
KPC				max			
	1.0nm,0.3s						
KPC				Smax			
	53nm,1.0s						
UUDB	**Ulan-Yde**	**9.10**	**245**	*e*Sg	Sn	08 50 06.7	+53
UUDB				Smax			
	53nm,1.3s						
TRG	**Tyrgan**	**9.29**	**252**	Sg	Sn	08 50 12.5	+54
TRG				*e*		08 50 24.6	
TRG				max			
	38nm,0.7s						
HRMR	**Khuramsha**	**9.59**	**245**	*e*		08 49 23.2	
HRMR				*e*Sg	Sn	08 50 21.1	+55
HRMR				*e*		08 50 32.1	
HRMR				max			
	112nm,0.8s						
LSTR	**Listvyanka**	**10.55**	**250**	Sg	Sn	08 50 48.7	+60
LSTR				*e*		08 50 55.1	
LSTR				*e*		08 50 59.0	
LSTR				max			
	22nm,1.3s						
IVK	**Ivanovka**	**10.80**	**251**	*e*		08 50 33.5	
IVK				*e*		08 50 39.2	
IVK				*e*Sg		08 50 58.5	
IVK				Smax			
	18nm,1.1s						
ORL	**Orlik**	**12.91**	**261**	Sg		08 52 06.0	
ORL				*e*		08 52 10.1	
ORL				max			
	17nm,2.0s						

*SJA **06** 08:56:49.7±0.8, 32°.36S×71°.41W, h7km±7km, ML3.2, MW4.2*
*GUC **06** 08:56:51.7±0.6, 32°.51S×71°.37W, h43km±2km, ML3.3*
ISC 06 08:56:49.1±1.7, 32°.42S±0°.03×71°.50W±0°.08, h15km±10km, n23, σ1°.10/36, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.69**	**144**	⇑*iP*	**Pn**	**08 57 04.3**	**-0.4**
ROCH				*iS*	**Sn**	**08 57 14.0**	**-1.2**
ROCH				IAML		08 57 18.5	
	comp=N,2µm,0.5s						
ROC1	**El Roble**	**0.69**	**144**	*iP*	**Pn**	**08 57 04.3**	**-0.3**
ROC1				*iS*	**Sn**	**08 57 13.9**	**-1.4**
VA03	**San Esteban**	**0.87**	**114**	⇓*iP*	**Pn**	**08 57 06.7**	**-0.3**
VA03				*iS*	**Sg**	**08 57 18.1**	**+0.5**
VA03				IAML		08 57 20.9	
	comp=N,5µm,0.4s						
MT02	**Curacav**	**0.89**	**160**	⇑*iP*	**Pg**	**08 57 06.8**	**+0.3**
PEL	**Peldehue**	**1.00**	**137**	*eP*	**Pb**	**08 57 08.3**	**+0.2**
PEL				*iS*	**Sg**	**08 57 21.6**	**+0.1**
PEL				IAML		08 57 24.2	
	comp=E,2µm,0.4s						
PEL	**Peldehue**	**1.00**	**137**	*iP*	**Pn**	**08 57 08.7**	**0.0**
PEL				*iS*	**Sn**	**08 57 23.9**	**+1.4**
MT05	**Renca**	**1.16**	**147**	⇓*iP*	**Pb**	**08 57 11.1**	**+0.1**
MT05				*iS*	**Sb**	**08 57 26.0**	**0.0**
CLCH	**Cerro Calan**	**1.27**	**141**	⇓*iP*	**Pb**	**08 57 12.8**	**-0.1**
CLCH				*iS*	**Sb**	**08 57 28.6**	**-0.4**
CLCH				IAML		08 57 31.0	
	comp=E,1µm,0.6s						
CO02	**Combarbal**	**1.28**	**19**	*iP*	**Pb**	**08 57 13.2**	**+0.2**
CO02				*iS*	**Sn**	**08 57 29.9**	**+0.3**
MT03	**Universidad Ad**	**1.36**	**143**	⇓*iP*	**Pn**	**08 57 14.0**	**+0.3**
MT03				*iS*	**Sn**	**08 57 31.3**	**-0.2**
MT03				IAML		08 57 33.1	
	comp=N,2µm,0.2s						
CO03	**El Pedregal**	**1.72**	**24**	⇑*iP*	**Pn**	**08 57 19.3**	**+0.7**
CO03				*iS*	**Sn**	**08 57 40.5**	**+0.2**
CO03				IAML		08 57 43.0	
	comp=E,880nm,0.2s						
LMEL	**Las Melosas**	**1.79**	**143**	⇓*iP*	**Pn**	**08 57 20.4**	**+0.7**
LMEL				*iS*	**Sn**	**08 57 42.6**	**+0.3**
LMEL				IAML		08 57 46.6	
	comp=N,902nm,0.3s						
AUSP	**Uspallata**	**1.80**	**84**	*iP*	**Pb**	**08 57 22.4**	**+0.4**
RTLS	**Leoncito**	**1.97**	**72**	*iP*	**Pb**	**08 57 24.9**	**+0.1**
RTLS				*iS*	**Sg**	**08 57 51.2**	**-1.3**
RTLS				IAML		08 57 58.0	
	comp=Z,175nm,0.4s						
ARCO	**CERRO ARCO**	**2.21**	**102**	*iP*	**Pb**	**08 57 28.6**	**-0.3**
ARCO				IAML		08 57 42.1	
	comp=Z,188nm,0.7s						
ASAL	**Salagasta**	**2.26**	**95**	*iP*	**Pb**	**08 57 29.2**	**-0.5**
GO04	**Tololo Observa**	**2.32**	**15**	*eP*	**Pn**	**08 57 27.4**	**+0.4**
GO04				*iS*	**Sb**	**08 57 58.3**	**-0.9**
AAGR	**Agrelo**	**2.35**	**107**	*iP*	**Pb**	**08 57 30.7**	**-0.5**
RTCV	**Cerro Valdivia**	**2.57**	**78**	*iP*	**Pb**	**08 57 33.2**	**-1.8**
ACCO	**Cerro Coronel**	**2.77**	**49**	*iP*	**Pb**	**08 57 36.5**	**-1.9**
RTLL	**Cerro Villicun**	**2.79**	**68**	*iP*	**Pn**	**08 57 35.9**	**+2.6**
AROD	**Rodeo**	**2.83**	**38**	*iP*	**Pb**	**08 57 37.4**	**-2.3**
ACDV	**Cuesta del Vie**	**3.03**	**43**	*iP*	**Pn**	**08 57 39.8**	**+3.1**

IDC 06 09:00:00.1±2.2, 19°.98S×178°.28W, h570km±29km, mb2.8/7, mb1 3.3/9, mb1mx3.0/37, mbtmp3.9/9, Error ellipse: s-maj=33.7km s-min=15.5km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.67**	**47**	P	P	09 02 04.8	-0.3
	2.5nm,0.3s,baz=55,slow=23,SNR=1.5						
AFI				S	S	09 03 46.5	-1.2
	1.1nm,0.3s,baz=21,slow=19,SNR=1.5						
URZ	**Urewera**	**18.65**	**191**	P	P	09 03 42.4	-0.3
	4.1nm,0.3s,baz=274,slow=3.0,SNR=23						
CTA	**Charters Tower**	**33.28**	**264**	P	P	09 05 52.0	+0.4
	6.5nm,1.0s,baz=94,slow=14						
ASAR	**Alice Springs**	**44.38**	**256**	P	P	09 07 21.0	0.0
	0.5nm,0.7s,baz=88,slow=7.6,SNR=6.6						
ASAR				PcP	PcP	09 08 51.5	-0.9
	0.2nm,0.5s,baz=91,slow=4.8,SNR=1.5						
WRA	**Warramunga Arr**	**44.41**	**262**	P	P	09 07 20.8	-0.5
	0.1nm,0.3s,baz=97,slow=7.5,SNR=5.8						
NVAR	**Mina Array Bea**	**80.83**	**44**	P	P	09 11 15.8	+0.3
	0.4nm,0.6s,baz=227,slow=7.7,SNR=5.1						
TXAR	**Lajitas Array**	**87.00**	**57**	P	P	09 11 46.8	+0.9
	0.8nm,0.9s,baz=219,slow=7.0,SNR=9.4						
ILAR	**Eielson Array**	**87.87**	**13**	P	P	09 11 47.5	-1.5
	0.2nm,0.4s,baz=232,slow=5.6,SNR=2.2						
PDAR	**Pinedale Array**	**88.77**	**43**	P	P	09 11 53.8	-0.3
	0.4nm,0.6s,baz=190,slow=3.2,SNR=5.7						

*DJA **06** 09:11:18.6±0.4, 1°.5S±4°×12°.4E±°, h10km, M4.2/7, MLv4.2/7*
*IDC **06** 09:11:25.4±8.6, 1°.10S×124°.66E, h75km±85km, mb3.2/4, mb1 3.5/5, mb1mx3.2/48, mbtmp3.6/5, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/22, Error ellipse: s-maj=57.9km s-min=24.4km az=87.0*
ISC 06 09:11:17.9±0.8, 1°.08S±0°.08×124°.42E±0°.05, h10km, n11, σ0°.93/13, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.64**	**271**	P	**Pb**	**09 11 48.2**	**-0.1**
LUWI				S	**Sg**	**09 12 11.4**	**+0.6**
KMSI	**Cibinong**	**1.69**	**345**	P	**Pn**	**09 11 47.4**	**-0.2**
SANI	**Sanana**	**1.85**	**122**	P	**Pn**	**09 11 49.5**	**-0.2**
SANI				S	**Sg**	**09 12 18.9**	**+1.5**
MPSI	**Mapaga**	**4.73**	**287**	P	**Pb**	**09 12 42.1**	**+1.1**
SPSI	**Sidrap Palu**	**5.46**	**238**	P	**Pb**	**09 12 53.3**	**-0.1**
SIJI	**Sorong**	**6.85**	**88**	P	**Pn**	**09 12 59.4**	**+0.8**
	2.1nm,0.3s,baz=186,slow=21,SNR=2.5						
SIJI				S	**Sn**	**09 14 15.6**	**-1.2**
	0.5nm,0.3s,baz=210,slow=23,SNR=1.4						
DBJI	**Dramaga**	**18.44**	**252**	P	Pn	09 15 57.5	+24
WRA	**Warramunga Arr**	**21.12**	**153**	P	**P**	**09 16 02.5**	**-0.5**
	0.8nm,1.1s,baz=334,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**24.27**	**158**	P	**P**	**09 16 34.8**	**-0.8**
	0.6nm,1.0s,baz=349,slow=9.4,SNR=2.0						
MJAR	**Matsushiro Arr**	**39.56**	**18**	P	**P**	**09 18 48.3**	**-1.1**
	2.1nm,0.7s,baz=198,slow=10,SNR=5.6						
MJAR				LR	LR	09 40 10.9	
	comp=Z,39nm,18.0s,baz=190,slow=44						
MKAR	**Makanchi Array**	**60.27**	**328**	P	**P**	**09 21 27.6**	**+0.9**
	0.4nm,0.5s,baz=126,slow=8.2,SNR=4.4						

*IDC **06** 09:12:04.6±1.3, 19°.30S×177°.45W, h537km±14km, mb3.9/23, mb1 4.0/27, mb1mx4.0/40, mbtmp4.8/27, Error ellipse: s-maj=10.4km s-min=9.0km az=120.0*
*BGR **06** 09:12:07.1±0.0, 19°.99S×176°.90W, h33km*
*NEIC **06** 09:12:07.0±2.0, 19°.3S±0°.1×177°.46W±0°.10, h568km±3km, mb4.4/137, Error ellipse: s-maj=15.4km s-min=13.4km az=160.0*
ISC 06 09:12:05.1±0.3, 19°.31S±0°.05×177°.45W±0°.05, h550km, n319, σ1°.54/347, mb4.4/80, 20C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.55**	**289**	P	**P**	**09 13 34.8**	**+3.5**
MSVF				S	**S**	**09 14 47.2**	**+5.6**
NIUE	**Niue**	**7.12**	**89**	P	**P**	**09 13 56.8**	**+2.6**
NIUE				S	**S**	**09 15 27.9**	**+4.4**
AFI	**Afiamalu**	**7.64**	**46**	P	**P**	**09 13 59.0**	**-0.5**
	20nm,0.3s,baz=206,slow=1.7,SNR=26						
AFI				S	**S**	**09 15 30.1**	**-3.0**
	12nm,0.3s,baz=60,slow=19,SNR=6.0						
AFI	**Afiamalu**	**7.64**	**46**	P	**P**	**09 13 58.6**	**-0.8**
AFI				S	**S**	**09 15 31.5**	**-1.6**
RAO	**Raoul Island**	**9.91**	**182**	S	**S**	**09 16 12.7**	**-1.7**
	235nm,0.3s,baz=84,slow=21,SNR=10						
GLKZ	**Green Lake**	**9.92**	**182**	P	**P**	**09 14 22.5**	**+0.4**
GLKZ				S	**S**	**09 16 14.9**	**+0.3**
DZM	**Mont Dzumac**	**15.32**	**257**	P	**P**	**09 15 18.9**	**+0.9**
	1.3nm,0.3s,baz=93,slow=10,SNR=3.4						
DZM	**Mont Dzumac**	**15.32**	**257**	P	**P**	**09 15 19.5**	**+1.6**
RAR	**Rarotonga**	**16.70**	**100**	P	**P**	**09 15 30.6**	**-0.5**
	1.8nm,0.3s,baz=105,slow=20,SNR=3.1						
RAR	**Rarotonga**	**16.70**	**100**	P	**P**	**09 15 33.1**	**+2.0**
OUZ	**Omahuta**	**17.72**	**205**	P	**P**	**09 15 43.9**	**+3.7**
OUZ	**Omahuta**	**17.72**	**205**	P	**P**	**09 15 43.9**	**+3.7**
GRZ	**Great Barrier**	**18.00**	**199**	P	**P**	**09 15 46.3**	**+3.5**
WCZ	**Waipu Caves**	**18.08**	**202**	P	**P**	**09 15 46.0**	**+2.5**
KUZ	**Kuaotunu**	**18.38**	**198**	P	**P**	**09 15 48.6**	**+2.4**
MXZ	**Matakaoa Point**	**18.56**	**191**	P	**P**	**09 15 45.8**	**-2.1**
MXZ				S	**S**	**09 18 45.5**	**-3.6**
MXZ	**Matakaoa Point**	**18.56**	**191**	P	**P**	**09 15 49.1**	**+1.2**
WIAZ	**Waiheke Island**	**18.60**	**199**	P	**P**	**09 15 50.9**	**+2.7**
ETAZ	**East Tamaki Re**	**18.81**	**199**	P	**P**	**09 15 52.8**	**+2.7**
HAZ	**Te Kaha**	**18.85**	**192**	S	**S**	**09 16 46.5**	**-7.1**
MKAZ	**Moumakai**	**18.88**	**199**	P	**P**	**09 15 53.2**	**+2.5**
PKGZ	**Pakihiroa**	**18.92**	**191**	P	**P**	**09 15 51.3**	**0.0**
PKGZ				S	**S**	**09 18 51.3**	**-3.7**
KBAZ	**Karaka Road Bo**	**18.95**	**199**	P	**P**	**09 15 54.6**	**+3.2**
PUZ	**Puketiti**	**19.07**	**190**	P	**P**	**09 15 54.1**	**+1.5**
PUZ				S	**S**	**09 18 53.7**	**-3.6**
RUGZ	**Raukumara Rang**	**19.07**	**192**	P	**P**	**09 15 52.6**	**-0.1**
RUGZ				S	**S**	**09 18 51.8**	**-5.7**
WHRZ	**Whale Island**	**19.11**	**194**	P	**P**	**09 15 48.0**	**-5.0**
OPRZ	**Ohinepanea**	**19.20**	**195**	P	**P**	**09 15 55.4**	**+1.7**
TWGZ	**Tauwhareparae**	**19.22**	**191**	P	**P**	**09 15 55.4**	**+1.5**
TWGZ				S	**S**	**09 18 56.4**	**-3.4**
MARZ	**Manawahe**	**19.30**	**194**	P	**P**	**09 15 56.0**	**+1.4**
MWZ	**Matawai**	**19.45**	**192**	P	**P**	**09 15 55.4**	**-0.7**
MWZ				S	**S**	**09 18 57.6**	**-6.0**
URZ	**Urewera**	**19.47**	**193**	P	**P**	**09 15 54.8**	**-1.3**
	8.7nm,0.3s,baz=358,slow=1.8,SNR=44						
URZ				S	**S

PMG Port Moresby 35.60 281 P P 09 18 18.3 +1.2
TOO Toolangi 37.02 233 P P 09 18 29.4 +0.9
COEN Coen 38.04 272 P P 09 18 37.6 +0.5
COEN IAmb IAmb 09 18 41.2
comp=Z,32nm,1.4s
STKA Stephens Creek 38.78 243 P P 09 18 43.6 +0.7
comp=Z,35nm,0.9s,baz=82,slow=8.8,SNR=40
STKA Stephens Creek 38.78 243 P P 09 18 43.9 +1.0
STKA IAmb IAmb 09 18 45.5
comp=Z,12nm,1.0s
BBOO Buckleboo 43.55 242 P P 09 19 21.0 +0.3
JAY Jayapura 44.17 287 P P 09 19 26.6 +0.8
comp=Z,25nm,0.8s,baz=131,slow=4.1,SNR=6.2
JAY Jayapura 44.17 287 P P 09 19 26.1 +0.3
comp=Z,25nm,1.1s
WR0 Warramunga Arr 45.10 261 P P 09 19 32.8 0.0
WR0 IAmb IAmb 09 19 34.7
comp=Z,25nm,1.1s
WB0 Warramunga Arr 45.26 261 P P 09 19 34.1 0.0
WB0 IAmb IAmb 09 19 35.2
comp=Z,14nm,0.7s
WB2 Warramunga Arr 45.28 261 P P 09 19 34.4 +0.2
WB2 IAmb IAmb 09 19 35.4
comp=Z,31nm,1.1s
WRAB Tennant Creek 45.28 261 P P 09 19 34.3 +0.1
WRAB IAmb IAmb 09 19 35.4
comp=Z,29nm,1.1s
WRA Warramunga Arr 45.29 261 P P 09 19 33.8 -0.5
comp=Z,5.3nm,0.4s,baz=98,slow=5.1,SNR=101
WRA PcP PcP 09 21 02.6 +0.2
comp=Z,6.2nm,1.1s,baz=90,slow=3.6,SNR=6.5
WRA S S 09 25 32.2 -2.9
comp=Z,7.0nm,1.1s,baz=96,slow=14,SNR=12
WRA Warramunga Arr 45.29 261 P P 09 19 34.0 -0.3
AS31 Alice Springs 45.30 256 P P 09 19 34.7 +0.3
AS31 IAmb IAmb 09 19 36.5
comp=Z,24nm,1.4s
ASAR Alice Springs 45.30 256 P P 09 19 34.4 0.0
comp=Z,24nm,0.8s,baz=85,slow=8.6,SNR=101
ASAR PcP PcP 09 21 02.5 0.0
comp=Z,6.7nm,0.8s,baz=98,slow=4.3,SNR=10
ASAR S S 09 25 32.6 -2.6
comp=Z,7.4nm,0.8s,baz=92,slow=16,SNR=28
ASAR Alice Springs 45.30 256 P P 09 19 33.9 -0.5
ASAR PcP PcP 09 21 01.6 -0.8
MTN Manton Dam 49.68 269 P P 09 20 07.2 0.0
MTN IAmb IAmb 09 20 09.3
comp=Z,18nm,0.8s
FORT Forrest 50.24 246 P P 09 20 10.4 -0.7
KNRA Kununurra 51.26 265 P P 09 20 18.8 +0.1
SIJI Sorong 53.44 284 P P 09 20 35.0 +0.5
comp=Z,59nm,0.9s,baz=53,slow=5.8,SNR=12
FITZ Fitzroy Crossi 53.70 261 P P 09 20 36.0 -0.2
comp=Z,3.6nm,0.4s,baz=57,slow=8.4,SNR=19
FITZ Fitzroy Crossi 53.70 261 P P 09 20 36.0 -0.2
FITZ IAmb IAmb 09 20 37.9
comp=Z,12nm,1.0s
TNTI Ternate 57.67 284 P P 09 21 03.3 -0.4
TNTI IAmb IAmb 09 21 06.0
comp=Z,27nm,1.0s
PSA00 Pilbara Seismi 58.45 256 P P 09 21 08.4 -0.5
PSA00 Pilbara Seismi 58.45 256 P P 09 21 07.8 -1.0
PSA00 IAmb IAmb 09 21 09.1
comp=Z,36nm,1.2s
VNDA Vanda 59.14 185 P P 09 21 14.0 +1.4
comp=Z,11nm,1.0s,baz=352,slow=7.2,SNR=18
VNDA Vanda 59.14 185 P P 09 21 14.5 +2.0
VNDA IAmb IAmb 09 21 16.3
comp=Z,27nm,1.3s
MORW Morawa 60.76 247 P P 09 21 23.5 -0.7
MORW IAmb IAmb 09 21 25.4
comp=Z,25nm,1.0s
CASY Casey 65.26 205 P P 09 21 53.6 +1.2
KBKI Kotabaru 66.64 275 P P 09 22 01.4 -0.5
MJAR Matsushiro Arr 69.56 323 P P 09 22 19.2 +0.1
comp=Z,4.1nm,0.6s,baz=162,slow=5.9,SNR=12
MJAR Matsushiro Arr 69.56 323 P P 09 22 18.6 -0.6
MAJO Matsushiro 69.57 323 P P 09 22 19.3 +0.1
MAJO IAmb IAmb 09 22 20.1
comp=Z,5.5nm,0.6s
MAT Matsushiro 69.57 323 P P 09 22 19.3 +0.1
MAT eS S 09 30 39.8 -4.1
MJB9 Matsu-Tunnel 69.57 323 P P 09 22 19.0 -0.2
MJB9 IAmb IAmb 09 22 20.0
comp=Z,5.6nm,0.6s
KKM Kota Kinabalu 69.96 284 P P 09 22 22.2 +0.1
QSPA South Pole Qui 70.75 180 P P 09 22 27.2 +1.3
comp=Z,52nm,1.0s,baz=9.0,slow=1.1,SNR=138
QSPA South Pole Qui 70.75 180 P P 09 22 27.3 +1.3
ATKA Atka Island 71.26 2 P P 09 22 28.2 -0.6
ATKA IAmb IAmb 09 22 29.0
comp=Z,26nm,1.0s
UNV Unalaska Valle 73.46 7 P P 09 22 40.2 -1.2
UNV IAmb IAmb 09 22 48.7
comp=Z,13nm,1.0s
SSLB Suanglung 73.75 303 P P 09 22 43.6 -0.2
SSLB IAmb IAmb 09 22 44.6
comp=Z,7.4nm,0.7s
TPUB Ta-pu 73.77 302 P P 09 22 43.1 -0.9
TPUB IAmb IAmb 09 22 44.6
comp=Z,15nm,0.8s
PEA0B Petropavlovsk- 75.26 345 P P 09 22 52.0 +0.4
PEA0B IAmb IAmb 09 23 03.2
comp=Z,31nm,1.4s
PETK Petropavlovsk- 75.26 345 P P 09 22 51.8 +0.1
comp=Z,4.7nm,0.6s,baz=134,slow=8.6,SNR=11
PETK Petropavlovsk- 75.26 345 P P 09 22 52.2 +0.6
KSRS Korea Array 75.34 318 P P 09 22 59.3 +1.4
comp=Z,24nm,1.0s,baz=137,slow=6.2,SNR=12
KSAR Wonju Array Be 76.36 318 P P 09 22 57.6 -0.5
PASC Pasadena Art C 77.50 47 P P 09 23 06.2 +1.8
SII Sitkinak Islan 78.07 13 P P 09 23 07.8 +0.8
USRK Ussuriysk Ar. 78.28 325 P P 09 23 10.1 +1.8
comp=Z,4.7nm,0.8s,baz=163,slow=3.8,SNR=12
SRIG Santa Rosalia 78.33 56 P P 09 23 08.4 -0.6
AFDM Forest Hills D 78.41 42 P P 09 23 10.3 +1.1
MDPB Devils Postpil 78.85 44 P P 09 23 13.6 +1.7
OHAK Old Harbor 78.88 13 P P 09 23 11.6 +0.5
OHAK IAmb IAmb 09 23 28.8
comp=Z,28nm,1.4s
OMMB Old Mammoth Mi 78.89 44 P P 09 23 13.5 +1.3
YBH Yreka Blue Hor 79.04 39 P P 09 23 14.5 +1.9
WAKR Walker 79.12 43 P P 09 23 15.0 +1.8
PNTR Pine Nut 79.36 42 P P 09 23 16.2 +1.7
KDAK Kodiak Island 79.54 13 P P 09 23 15.7 +1.1
KDAK IAmb IAmb 09 23 34.2
comp=Z,12nm,1.2s
NVAR Mina Array Bea 79.81 43 P P 09 23 17.9 +1.0
comp=Z,1.2nm,0.7s,baz=220,slow=8.5,SNR=12
NVAR Mina Array Bea 79.81 43 P P 09 23 18.0 +1.2
PAHR Pah Rah Range 79.85 42 P P 09 23 18.1 +1.1
NV11 Mina Array Sit 79.91 43 P P 09 23 16.4 -0.8
KVN Kaiserville 80.29 43 P P 09 23 20.2 +0.9
K05A Summer Lake 80.72 39 P P 09 23 22.1 +0.6
K05A IAmb IAmb 09 23 24.4
comp=Z,9.7nm,1.1s
W13A Hualapai Mount 80.99 48 P P 09 23 23.6 +0.5
Y14A Wickenburg 81.02 49 P P 09 23 22.5 -0.6
H04A Detroit Lake 81.17 36 P P 09 23 23.6 0.0
H04A IAmb IAmb 09 23 26.5
comp=Z,11nm,1.3s
PINE Pine Mountain 81.33 38 P P 09 23 25.1 +0.5
PINE IAmb IAmb 09 23 27.6
comp=Z,9.1nm,1.0s
KLR Kul'dur 81.77 329 P P 09 23 27.1 +0.6
comp=Z,1.1nm,0.7s,baz=122,slow=5.2,SNR=4.0
TUC Tucson 81.84 52 P P 09 23 28.1 +0.8
TUC IAmb IAmb 09 23 31.0
comp=Z,9.3nm,1.1s
WVOR Wild Horse Val 81.89 40 P P 09 23 28.5 +1.1
NLWA Neilton Lookou 81.96 34 P P 09 23 29.2 +1.7
NLWA IAmb IAmb 09 23 34.4
comp=Z,9.8nm,1.2s
PMSA Palmer Station 82.17 157 P P 09 23 29.5 +1.2
comp=Z,16nm,0.8s,baz=258,slow=3.7,SNR=7.6
PMSA Palmer Station 82.17 157 P P 09 23 29.8 +1.4
PMSA IAmb IAmb 09 23 31.0
comp=Z,27nm,1.0s
I07A Izee 82.34 38 P P 09 23 30.5 +0.8
X16A Lo Mia Camp, P 82.39 50 P P 09 23 30.7 +0.5
J08A Circle Bar Ran 82.52 39 P P 09 23 31.8 +1.3
J08A IAmb IAmb 09 23 33.1
comp=Z,9.7nm,1.3s
CCUT Cedar City 82.61 46 P P 09 23 32.1 +0.8
KNB Kanab 82.71 47 P P 09 23 34.1 +2.3

U15A North Rim 82.78 48 P P 09 23 34.2 +1.9
U15A IAmb IAmb 09 23 35.4
comp=Z,6.6nm,0.8s
SZCU Shurtz Canyon 82.83 46 P P 09 23 31.3 -1.0
D05A Enumclaw 82.83 34 P P 09 23 32.6 +0.8
D05A IAmb IAmb 09 23 34.9
comp=Z,32nm,1.5s
MAW Mawson 82.86 200 P P 09 23 32.3 +0.6
comp=Z,11nm,1.0s,baz=122,slow=6.9,SNR=15
MAW Mawson 82.86 200 P P 09 23 32.8 +1.1
WUAZ Wupatki 82.97 49 P P 09 23 34.3 +1.2
WUAZ IAmb IAmb 09 23 36.1
comp=Z,9.5nm,1.2s
ELK Elko 83.06 43 P P 09 23 34.6 +1.1
G08A Pilot Rock 83.36 37 P P 09 23 35.6 +0.9
MTPU Mount Pierson 83.67 46 P P 09 23 37.8 +1.1
TTA Tatalina 83.69 10 P P 09 23 36.6 +0.7
PMR Palmer 83.75 13 P P 09 23 36.4 +0.4
PMR IAmb IAmb 09 23 37.2
comp=Z,15nm,1.3s
E08A Dider Farm, El 84.01 36 P P 09 23 38.4 +0.7
BMO Blue Mountains 84.07 38 P P 09 23 38.4 +0.2
MFID Camas Ranch 84.15 40 P P 09 23 39.8 +1.1
121A Cookes Peak, D 84.19 53 P P 09 23 39.1 -0.1
121A IAmb IAmb 09 23 42.6
comp=Z,7.9nm,1.1s
F10A Beach Ranch, E 84.75 37 P P 09 23 41.9 +0.3
F10A IAmb IAmb 09 23 43.5
comp=Z,7.8nm,1.1s
TMUT Trail Mountain 84.96 45 P P 09 23 44.2 +1.2
HLID Hailey 85.09 41 P P 09 23 44.2 +0.9
SRU San Rafael Swe 85.33 46 P P 09 23 43.5 -1.1
RND Reindeer 85.43 12 P P 09 23 44.5 +0.1
RND IAmb IAmb 09 23 45.6
comp=Z,14nm,1.2s
MNTX Cornudas Mount 85.64 54 P P 09 23 47.8 +1.7
MNTX IAmb IAmb 09 23 49.1
comp=Z,8.0nm,1.1s
TX31 Lajitas Ar. Si 85.98 57 P P 09 23 49.3 +1.4
TX32 Lajitas Array 85.98 57 P P 09 23 48.0 +0.2
TX32 IAmb IAmb 09 23 51.3
comp=Z,11nm,1.2s
TXAR Lajitas Array 85.98 57 P P 09 23 49.8 +2.0
comp=Z,2.9nm,0.8s,baz=218,slow=6.4,SNR=38
TXAR Lajitas Array 85.98 57 P P 09 23 47.1 -0.8
PV14 Lion Creek, Pa 86.00 47 P P 09 23 48.2 +0.3
PV14 IAmb IAmb 09 23 50.1
comp=Z,5.3nm,1.1s
PV17 East Wray Mesa 86.00 47 P P 09 23 48.0 +0.1
PV17 IAmb IAmb 09 23 50.1
comp=Z,7.4nm,1.3s
PV20 West Nyswonger 86.03 47 P P 09 23 48.3 +0.3
PV20 IAmb IAmb 09 23 50.1
comp=Z,7.7nm,1.3s
PV01 Paradox Valley 86.20 47 P P 09 23 49.0 +0.2
PV01 IAmb IAmb 09 23 50.9
comp=Z,7.2nm,1.3s
ANMO Albuquerque 86.26 51 P P 09 23 49.6 +0.4
HDA Harding Lake 86.71 13 P P 09 23 50.5 +0.1
HDA IAmb IAmb 09 23 50.9
comp=Z,3.9nm,0.6s
MCMT McKenzie Canyo 86.71 40 P P 09 23 51.3 +0.1
CCB Clear Creek Bu 86.75 12 P P 09 23 49.7 -0.8
CCB IAmb IAmb 09 23 51.4
comp=Z,12nm,1.3s
IMAR Indian Mountai 86.90 9 P P 09 23 51.3 +0.1
COLA College 86.94 12 P P 09 23 51.6 +0.3
COLA IAmb IAmb 09 23 52.1
comp=Z,6.7nm,0.8s
MDM Murphy Dome 86.94 12 P P 09 23 51.1 -0.3
IL31 87.04 13 P P 09 23 52.0 +0.2
ILAR Eielson Array 87.04 13 P P 09 23 51.1 -0.8
comp=Z,0.9nm,0.4s,baz=229,slow=5.4,SNR=22
ILAR Eielson Array 87.04 13 P P 09 23 52.0 +0.1
DLMT Dillon 87.14 40 P P 09 23 54.3 +1.3
DLMT IAmb IAmb 09 23 55.7
comp=Z,7.0nm,1.1s
TPAW Teton Pass 87.21 42 P P 09 23 54.7 +1.1
TPAW IAmb IAmb 09 23 56.2
comp=Z,5.4nm,1.2s
FXWY Fox Creek 87.24 42 P P 09 23 54.2 +0.6
S22A 4UR Ranch, Cre 87.25 48 P P 09 23 54.9 +1.0
S22A IAmb IAmb 09 23 56.5
comp=Z,5.0nm,1.1s
SNOW Snow King Moun 87.32 42 P P 09 23 55.6 +1.6
IMW Indian Meadow 87.42 42 P P 09 23 55.6 +1.0
IMW IAmb IAmb 09 23 57.3
comp=Z,5.9nm,1.1s
PBKT Sadao Pong 87.74 288 P P 09 23 57.3 +1.1
PBKT IAmb IAmb 09 23 59.9
comp=Z,15nm,1.3s
PD31 Pinedale Array 87.74 43 P P 09 23 56.1 +0.1
PDAR Pinedale Array 87.74 43 P P 09 23 56.9 +0.8
comp=Z,1.4nm,0.9s,baz=209,slow=2.7,SNR=11
PDAR Pinedale Array 87.74 43 P P 09 23 55.7 -0.3
YHL Hebgen Lake 87.75 41 P P 09 23 56.9 +0.9
XAN Xi'an 87.83 307 P P 09 23 58.3 +2.0
XAN pP PcP 09 24 04.2 +6.6
XAN pmax pmax
comp=Z,13nm,1.0s
BOZ Bozeman (W) 87.85 40 P P 09 23 57.6 +1.2
BOZ IAmb IAmb 09 23 59.0
comp=Z,9.5nm,1.2s
H17A Grant Village 87.89 41 P P 09 23 56.5 -0.2
H17A IAmb IAmb 09 24 00.4
comp=Z,5.5nm,1.1s
YHH Holmes Hill 87.92 41 P P 09 23 58.2 +1.3
SYO Syowa Base 88.00 193 ‖ eP P 09 23 54.6 -1.8
SYO Syowa Base 88.00 193 ‖ iP P 09 23 57.2 +0.8
SDCO Great Sand Dun 88.19 49 P P 09 23 59.0 +0.8
HRY Holter Researc 88.29 39 P P 09 23 58.0 -0.4
EGAK Eagle 88.33 15 P P 09 23 58.1 +0.3
EGAK IAmb IAmb 09 23 59.5
comp=Z,4.2nm,0.9s
YNE Yellowstone No 88.55 41 P P 09 24 01.5 +1.8
RWWY Rawlins 88.78 45 P P 09 24 00.8 -0.1
RWWY IAmb IAmb 09 24 01.9
comp=Z,9.1nm,1.2s
HHC Hu-ho-hao-te 88.89 314 eP P 09 24 00.3 -0.9
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,220nm,6.0s
RLMT Red Lodge 89.06 41 P P 09 24 02.9 +0.8
RLMT IAmb IAmb 09 24 05.4
comp=Z,6.7nm,1.2s
GCMT Greycliff 89.14 40 P P 09 24 04.3 +1.9
SNAA Sanae 89.18 178 P P 09 24 02.1 +0.1
SNAA Sanae 89.18 178 P P 09 24 02.5 +0.4
N23A Red Feather La 89.27 46 P P 09 24 03.5 +0.3
N23A IAmb IAmb 09 24 05.8
comp=Z,5.4nm,1.1s
VNA3 Neumayer Olymp 89.29 176 P P 09 24 02.5 0.0
K22A Casper 89.67 44 P P 09 24 04.8 -0.1
K22A IAmb IAmb 09 24 07.0
comp=Z,10nm,1.4s
VNA2 Neumayer--Watz 89.74 177 P P 09 24 05.0 +0.4
baz=166,slow=3.1
VNA1 Neumayer--Stat 89.96 176 P P 09 24 06.6 +1.1
CMAR Chiang Mai Arr 90.20 289 P P 09 24 09.8 +2.1
comp=Z,3.0nm,0.9s,baz=101,slow=2.7,SNR=14
CMAR Chiang Mai Arr 90.20 289 P P 09 24 08.3 +0.7
ABTX Abilene, Hawle 90.46 56 P P 09 24 08.1 -0.5
KSCO Kaye Shedlock' 90.77 49 P P 09 24 10.4 +0.4
R32A Long Quarter, 93.36 51 P P 09 24 22.1 +0.3
MKAR Makanchi Array 110.75 314 PKiKP PKiKP 09 29 34.4 -1.3
comp=Z,0.9nm,0.4s,baz=129,slow=1.0,SNR=18
BVAR Borovoye Array 118.50 320 PKP PKiKP 09 29 49.6 -0.8
comp=Z,2.0nm,0.4s,baz=116,slow=3.4,SNR=10
KKAR Karatay Array 118.90 309 PKPdf 09 29 50.4 -1.0
ARU Arti 124.51 326 PKPdf PKiKP 09 30 00.8 -0.9
ABKAR Akbulak array 125.57 317 PKPdf PKiKP 09 30 03.7 -0.7
AKTO Aktyubinsk 126.52 319 PKP PKiKP 09 30 05.2 -1.0
comp=Z,2.1nm,0.8s,baz=27,slow=4.8,SNR=3.8
BOSA Boshof 127.55 205 PKP PKiKP 09 30 09.7 +0.4
comp=Z,5.9nm,1.1s,baz=108,slow=7.3,SNR=3.1
ARCES ARCESS Array B 127.84 350 PKP PKPdf 09 30 07.2 -0.5
comp=Z,1.5nm,0.4s,baz=38,slow=1.4,SNR=28
GEYT Alibeck 128.57 303 PKPdf PKiKP 09 30 10.2 -0.7
GYA0B ALIBECK ARRAY 128.57 303 PKPdf PKiKP 09 30 10.9 0.0
KLMR Klimovskoe 130.99 337 ePP PP 09 32 44.8 +5.9
KLMR AMP 09 32 47.4
comp=Z,17nm,1.3s
FINES FINESS Array B 134.77 344 PKhKP PKPpre 09 30 18.0
comp=Z,0.9nm,0.5s,baz=102,slow=3.4,SNR=5.7
NOA NORSAR Array B 137.86 354 PKP PKiKP 09 30 27.8 -1.1
comp=Z,0.2nm,0.5s,baz=12,slow=4.0,SNR=3.1
AKASG Malin Array Be 142.21 332 PKhKP PKPpre 09 30 30.6
comp=Z,1.3nm,0.4s,baz=36,slow=3.7,SNR=11
AKASG Malin Array Be 142.21 332 PKPdf PKPdf 09 30 31.4 -3.5
EKA Eskdalemuir Ar 143.78 6 PKP PKPab 09 30 36.1 -0.5
comp=Z,1.7nm,0.4s,baz=332,slow=3.3,SNR=8.0
SORM Soroca 144.45 330 ⇑P PKPab 09 30 38.7 -0.7
GAZ Gaziantep 144.91 308 PKPbc 09 30 40.0 -0.8
BSEG Bad Segeberg 144.92 352 ePKPbc PKPab 09 30 40.3 -0.7
baz=13,slow=2.5
KWP Kalwaria Pacla 145.71 337 PKPab 09 30 43.6 -0.7
ILGA Ilgaz 145.71 316 PKPdf 09 30 41.5 -0.1
BUR08 Bucovina Ar. S 146.25 332 PKPab 09 30 44.9 -1.7
BURAR Bucovina Array 146.27 332 ⇑P PKPab 09 30 45.3 -1.4
BURAR Bucovina Array 146.27 332 PKPdf 09 30 40.9 -1.2
NRDL Niedersach Rie 146.36 352 ePKPbc PKPbc 09 30 44.3 +0.1
baz=13,slow=2.5
BIZ Bicaz 146.37 330 ⇑P PKiKP 09 30 45.5 -1.3
BR131 Keskin Array S 146.40 314 PKPbc 09 30 44.9 -0.2
BRTR Keskin Array B 146.40 314 PKPbc PKPbc 09 30 44.6 -0.5
comp=Z,7.3nm,1.0s,baz=145,slow=2.6,SNR=13
BRTR Keskin Array B 146.40 314 PKPdf 09 30 41.8 -0.9
BRTR PKPbc PKiKP 09 30 45.5 -1.9
TESR Tescani 146.42 329 ⇑P PKiKP 09 30 45.1 -1.8
ASSE Asse, Remlinge 146.63 351 ePKPbc PKPbc 09 30 45.2 +0.2
baz=13,slow=2.5
TOPG Topolog 146.67 326 ⇑P PKiKP 09 30 46.0 -1.5
VRI Vrincioaia 146.84 328 ⇓P PKiKP 09 30 46.2 -1.7
ANTO Ankara 146.91 315 PKPdf PKPdf 09 30 42.7 -0.8
ANTO PKPbc PKiKP 09 30 47.0 -1.3
BR231 Keskin MP Arra 146.93 315 PKPdf PKPbc 09 30 44.8 -1.7
BR231 PKPbc PKiKP 09 30 47.6 -0.8
OSTC Ostas 146.98 344 ⇑ePKP PKiKP 09 30 46.6 -1.4
TRPA Tarpa 146.99 335 ⇑P PKiKP 09 30 47.7 -0.3
CHVC Chvalec 146.99 344 ⇑ePKP PKPbc 09 30 45.7 -0.5
CLL Collm 147.02 348 ePKPdf PKPdf 09 30 43.0 -0.1
CLL i PKPbc PKiKP 09 30 46.8 -1.2
comp=Z,27nm,1.2s
CLL i PKPab PKPab 09 30 49.9 +0.5
comp=Z,10.0nm,1.1s
CLL Collm 147.02 348 ePKPbc PKPbc 09 30 46.0 -0.2
baz=13,slow=2.5
CLL Collm 147.02 348 PKiKP 09 30 46.4 -1.6
DPC Dobruska-Polom 147.14 344 ⇑ePKP PKiKP 09 30 46.9 -1.5
BRG Berggiesshubel 147.23 347 ePKP PKPdf 09 30 44.2 +0.7
comp=Z,13nm,1.3s
BRG Berggiesshubel 147.23 347 ePKPbc PKiKP 09 30 47.0 -1.5
baz=13,slow=2.5
KRLC Kraliky 147.27 343 ⇑ePKP PKiKP 09 30 47.2 -1.4
FBE Freiberg 147.31 347 ePKPbc PKiKP 09 30 47.4 -1.2
baz=13,slow=2.5
MORC Moravsky Berou 147.32 342 ePKP PKiKP 09 30 47.2 -1.5
MORC Moravsky Berou 147.32 342 PKPdf PKPdf 09 30 42.6 -1.2
MORC PKPbc PKiKP 09 30 47.3 -1.5
DOPR Dopca 147.42 330 ⇑P PKiKP 09 30 47.5 -1.5
MLR Muntele Rosu 147.49 329 PKPbc PKPbc 09 30 47.7 -0.1
comp=Z,3.5nm,0.4s,baz=23,slow=4.9,SNR=8.4
MLR Muntele Rosu 147.49 329 ⇑P PKPbc 09 30 47.7 -0.1
MLR Muntele Rosu 147.49 329 PKPdf 09 30 43.7 -0.6
MLR PKPbc PKPbc 09 30 47.1 -0.6
MDUB Mudurnu 147.65 317 PKPbc 09 30 48.0 -0.3
MOX Moxa 147.91 349 ePKPbc PKiKP 09 30 48.7 -1.2
baz=13,slow=2.5
PRU Pruhonice 147.92 345 ⇑ePKP PKiKP 09 30 48.9 -1.0
PLN Plauen 147.97 348 ePKPbc PKiKP 09 30 48.8 -1.2
baz=13,slow=2.5
VOIR 147.97 329 ⇑P PKPbc 09 30 47.5 -1.4
WERD Werda 147.97 348 ePKPbc PKiKP 09 30 48.7 -1.4
baz=13,slow=2.5
TANN Tannenbergstha 147.97 348 ePKPbc PKiKP 09 30 48.8 -1.3
baz=13,slow=2.5
VRAC Vranov 148.01 343 ePKP PKiKP 09 30 49.5 -0.6
VYHS Vyhne 148.04 339 ePKP PKiKP 09 30 49.3 -0.9
GUNZ Gunzen 148.05 348 ePKPbc PKiKP 09 30 49.2 -1.0
baz=13,slow=2.5
JAVC Velka Javorina 148.09 341 ePKP PKiKP 09 30 50.3 -0.1
WERN Wernitzgruen 148.11 348 ePKPbc PKiKP 09 30 49.7 -0.7
baz=13,slow=2.5
PSZ Piszkesteto 148.17 338 PKPdf 09 30 46.0 +0.7
PSZ PKPbc PKiKP 09 30 50.0 -0.6
ARR Arges 148.22 330 ⇑P PKiKP 09 30 49.9 -0.8
KRUC Moravsky 148.29 343 ePKP PKiKP 09 30 49.7 -1.0
MANZ Manzenberg 148.45 348 ePKPbc PKiKP 09 30 50.1 -0.9
baz=13,slow=2.5
UCC Uccle 148.54 358 PKPbc PKiKP 09 30 51.0 -0.1
ROTZ Rotzenmuhle 148.64 348 ePKPbc PKiKP 09 30 50.6 -0.9
baz=13,slow=2.5
MODS Modra-Piesok 148.65 341 ePKP PKiKP 09 30 50.6 -0.9
SIRR Siria 148.85 334 ⇑P PKiKP 09 30 50.7 -1.2
KHC Kasperske Hory 148.95 346 ⇑ePKP PKiKP 09 30 51.4 -0.7
KHC Kasperske Hory 148.95 346 PKiKP 09 30 51.5 -0.6
WET Wettzell 149.09 347 ePKPbc PKiKP 09 30 51.6 -0.8
baz=13,slow=2.5
GERES GERESS Array B 149.19 346 PKPbc PKiKP 09 30 51.8 -0.9
comp=Z,6.1nm,0.9s,baz=48,slow=2.0,SNR=5.0
GERES GERESS Array B 149.19 346 PKPdf PKPdf 09 30 47.0 +0.2
GERES PKiKP 09 30 51.8 -0.9
BZS Buzias 149.38 333 ⇑P PKPbc 09 30 51.8 -0.5
CONA Conrad Observa 149.47 342 ePKiKP PKiKP 09 30 52.8 -0.5
comp=Z,24nm,1.2s
WLF Walferdange 149.57 355 ePKPbc PKiKP 09 30 53.2 -0.1
baz=13,slow=2.5
WLF Walferdange 149.57 355 PKPdf PKPdf 09 30 47.1 -0.2
WLF PKiKP 09 30 53.3 0.0
HERR Herculane 149.61 331 ⇑P PKPbc 09 30 52.1 -0.7
MOA Molln 149.97 344 ePKPbc PKiKP 09 30 53.4 -0.9
comp=Z,5.5nm,0.8s
MDVR Moldovita 150.00 332 ⇑P PKiKP 09 30 53.4 -1.0
STU Stuttgart 150.12 351 PKPbc PKiKP 09 30 54.6 +0.1
ARSA Arzberg 150.18 342 ePKPbc PKPbc 09 30 53.2 -0.9
comp=Z,3.3nm,0.8s
BFO Black Forest 150.67 352 ePKPbc PKiKP 09 30 55.1 -0.6
baz=13,slow=2.5
BFO Black Forest 150.67 352 PKiKP 09 30 55.3 -0.4
SOKA Soboth 150.84 342 ePKPbc PKPbc 09 30 54.8 -0.9
comp=Z,14nm,1.3s
KBA Koelnbreinsper 150.92 345 ePKPbc PKPbc 09 30 54.2 -1.9
comp=Z,4.2nm,0.5s
UBR Ueberruh 151.03 349 ePKPbc PKiKP 09 30 55.8 -0.7
baz=13,slow=2.5
WATA Walderalm 151.09 347 ePKPbc PKiKP 09 30 56.0 -0.7
comp=Z,4.7nm,0.4s,SNR=4.5
RETA Reutte 151.10 348 i PKPbc PKiKP 09 30 56.2 -0.5
comp=Z,3.1nm,0.6s
OBKA Obir 151.13 343 ePKPbc PKPbc 09 30 55.0 -1.5
comp=Z,1.9nm,0.5s
WTTA Wattenberg 151.14 347 ePKiKP PKiKP 09 30 56.4 -0.5
comp=Z,11nm,0.5s,SNR=7.7
MOTA Moosalm 151.17 348 ePKPbc PKiKP 09 30 56.2 -0.7
comp=Z,11nm,0.9s
MYKA Terra Mystica 151.26 344 ePKPbc PKPbc 09 30 55.3 -1.4
comp=Z,4.2nm,0.5s
SQTA Sankt Quirin 151.27 348 ePKPbc PKiKP 09 30 56.5 -0.6
comp=Z,15nm,1.2s
DIVS Divibare 151.29 333 PKPdf PKPdf 09 30 50.1 -0.2
DIVS PKiKP 09 30 57.3 +0.1
ABTA Abfaltersbach 151.44 346 ePKPbc PKPbc 09 30 55.9 -1.2
comp=Z,12nm,0.7s,SNR=5.7
DAVA Damuels 151.46 350 ePKiKP PKiKP 09 30 57.4 -0.1
comp=Z,3.6nm,0.6s
FETA Feichten 151.56 348 ePKPbc PKiKP 09 30 57.1 -0.6
comp=Z,14nm,1.2s
STAL STALIGIAL 151.84 345 PKiKP 09 30 58.2 0.0
CIMO Cimolais 151.86 345 PKiKP 09 30 58.1 -0.1
TUE Stuetta 152.34 350 PKPdf PKPdf 09 30 51.1 -0.8
TUE PKiKP 09 30 59.7 +0.3
PDG Podgorica 152.95 332 PKPdf PKPdf 09 30 51.2 -1.4
PDG PKPbc 09 30 58.8 -1.6
ESDC Sonseca Array 158.94 14 PKP PKPdf 09 31 00.4 -0.2
comp=Z,0.6nm,1.0s,baz=328,slow=4.6,SNR=4.2
ESDC Sonseca Array 158.94 14 PKPdf 09 31 00.1 -0.5

*SNET **06** 09:12:34.5±1.2, 13°.26N×90°.85W, h13km±5km, ML3.0*
*GCG **06** 09:12:42.6±0.4, 13°.67N×90°.75W, h7km, MD3.6*
ISC 06 09:12:29.7±3.9, 12°.9N±0°.1×90°.9W±0°.1, h24km±21km, n24, s0°976/31, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	1.35	19	eP		Pb	09 12 54.6	+0.2
NUBE	Las Nubes	1.48	47	‖ eP		Pb	09 12 56.1	-0.5

NUBE				*e*S	**Sn**	**09 13 12.5**	**-1.1**
NUBE				IAML		09 13 18.0	
	comp=Z,108nm,0.5s						
PCG	**Pacaya**	**1.52**	**10**	*e*P	**Pb**	**09 12 57.3**	**-0.1**
CEVE	**Cerro Verde**	**1.55**	**53**	*e*P	**Pb**	**09 12 57.8**	**0.0**
CEVE				*e*S	**Sb**	**09 13 17.5**	**+0.4**
CEVE				IAML		09 13 21.4	
	comp=Z,689nm,0.3s						
FUG	**Fuego 3**	**1.55**	**2**	*e*P	**Pb**	**09 12 57.9**	**+0.1**
RTR	**El Retiro**	**1.57**	**50**	*e*P	**Pb**	**09 12 58.4**	**+0.3**
SNJE	**San Jose**	**1.58**	**52**	*e*P	**Pb**	**09 12 58.5**	**+0.1**
JAYA	**Jayaque - finc**	**1.60**	**61**	*e*P	**Pb**	**09 12 58.8**	**+0.2**
JAYA				*e*S	**Sb**	**09 13 18.8**	**+0.3**
JAYA				IAML		09 13 23.0	
	comp=Z,274nm,0.2s						
UNIC	**Universidad Ca**	**1.70**	**50**	*e*P	**Pb**	**09 12 59.9**	**-0.3**
CEDA	**San Andres**	**1.72**	**58**	*e*P	**Pb**	**09 13 00.5**	**-0.1**
CEDA				*e*S	**Sb**	**09 13 21.8**	**+0.1**
NBG	**Las Nubes**	**1.77**	**17**	*e*P	**Pb**	**09 13 02.0**	**+0.4**
BOQS	**Boqueron**	**1.78**	**62**	*e*P	**Pb**	**09 13 02.3**	**+0.5**
SNET	**Serv Nac Est T**	**1.80**	**64**	*e*P	**Pb**	**09 13 02.1**	**+0.1**
SNET				IAML		09 13 05.7	
	comp=Z,197nm,0.3s						
UEES	**Universidad Ev**	**1.81**	**63**	*e*P	**Pb**	**09 13 02.1**	**0.0**
UEES				*e*S	**Sb**	**09 13 24.4**	**0.0**
OPAM	**Oficina de Pla**	**1.84**	**63**	*e*P	**Pb**	**09 13 04.1**	**+1.4**
OPAM				IAML		09 13 33.6	
	comp=Z,157nm,0.3s						
TACO	**Tacachico**	**1.84**	**54**	*e*P	**Pb**	**09 13 02.3**	**-0.4**
TACO				*e*S	**Sn**	**09 13 23.8**	**+1.4**
TACO				IAML		09 13 30.2	
	comp=Z,56nm,0.4s						
LFRS	**El Faro**	**1.93**	**68**	*e*P	**Pb**	**09 13 05.5**	**+1.4**
LBRS	**Las Brisas**	**1.99**	**65**	*e*P	**Pb**	**09 13 06.1**	**+0.9**
PAVA	**Las Pavas**	**2.07**	**66**	*e*P	**Pb**	**09 13 07.0**	**+0.3**
COEG	**Centro de Oper**	**2.09**	**69**	*e*P	**Pb**	**09 13 06.6**	**-0.3**
COEG				*e*S	**Sb**	**09 13 32.2**	**-0.3**
COEG				IAML		09 13 36.0	
	comp=Z,136nm,0.5s						
MTO3	**Montecristo**	**2.11**	**45**	*e*P	**Pb**	**09 13 06.1**	**-1.3**
ESQI	**Esquipulas**	**2.24**	**42**	*e*P	**Pb**	**09 13 08.0**	**-1.6**
COEB	**Comit de Eme**	**2.38**	**75**	*e*P	**Pb**	**09 13 11.9**	**0.0**
LCND	**La Caada**	**2.95**	**82**	*e*P	**Pb**	**09 13 20.2**	**-1.4**

*HLW **06** 10:03:57.2,28˚.41N×32˚.90E,h23km,Md3.1,Ml3.8*
*GII **06** 10:03:58.8±0.0,28˚.38N×33˚.29E,h6km,MD2.9/3*
ISC 06 10:03:57.6±1.1**,28˚.40N**±0˚.05×**32˚.84E**±0˚.03**,h27**km±10km**,**n31**,σ1°**34**/40**,Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRB	**Gharib**	**0.14**	**199**	P	**Pb**	**10 04 02.3**	**-0.6**
	baz=217						
HRDS	**Abu Rudays**	**0.51**	**53**	P	**Pb**	**10 04 06.6**	**-1.5**
	baz=49						
ZAF	**Zafarana**	**0.91**	**344**	P	**Pn**	**10 04 13.5**	**-1.2**
	baz=341						
ZAF				S	**Sb**	**10 04 25.5**	**-1.1**
	baz=341						
ZNM	**Zenema**	**0.97**	**2**	P	**Pn**	**10 04 14.6**	**-0.9**
	baz=359						
TR1	**Tor 1**	**1.06**	**111**	P	**Pn**	**10 04 15.3**	**-1.4**
	baz=113						
NBNS	**Bani Suef**	**1.37**	**280**	P	**Pn**	**10 04 21.3**	**+0.3**
	baz=279						
NBNS				S	**Sb**	**10 04 40.5**	**+0.7**
	baz=279						
SUZ	**Suez**	**1.44**	**360**	P	**Pn**	**10 04 21.4**	**-0.4**
	baz=358						
GLL	**Jalalah**	**1.53**	**320**	P	**Pn**	**10 04 23.5**	**+0.3**
	baz=319						
HDHB	**Dhahab**	**1.60**	**78**	P	**Pn**	**10 04 23.0**	**-1.0**
	baz=78						
HSAF	**As Saff**	**1.65**	**318**	P	**Pn**	**10 04 24.7**	**-0.2**
	baz=316						
KOT	**Kottamia**	**1.76**	**330**	P	**Pn**	**10 04 26.4**	**+0.1**
	baz=329						
TAMRE	**El Minia**	**1.84**	**248**	P	**Pn**	**10 04 27.6**	**+0.3**
	baz=248						
HBST	**Basata**	**1.85**	**64**	P	**Pn**	**10 04 26.8**	**-0.8**
	baz=63						
EIL	**Elat**	**2.24**	**55**	P	**Pb**	**10 04 36.3**	**-1.1**
EIL				S	**Sb**	**10 05 07.6**	**+2.8**
EIL	**Elat**	**2.24**	**55**	Pn	**Pn**	**10 04 31.8**	**-1.1**
EIL				Sn	**Sn**	**10 04 57.8**	**-1.9**
MBRI	**Mt Berech**	**2.29**	**52**	P	**Pb**	**10 04 39.3**	**+1.0**
MBRI	**Mt Berech**	**2.29**	**52**	Pn	**Pn**	**10 04 32.6**	**-1.0**
HNAT	**Natroun**	**2.30**	**303**	P	**Pn**	**10 04 34.1**	**+0.4**
	baz=302						
AQBJ	**Aqaba**	**2.35**	**55**	P	**Pb**	**10 04 40.2**	**+1.0**
AQBJ				S	**Sb**	**10 05 12.9**	**+5.1**
AQBJ	**Aqaba**	**2.35**	**55**	Pn	**Pn**	**10 04 32.8**	**-1.5**
KRMI	**Paran Flat**	**2.38**	**44**	P	**Pb**	**10 04 40.2**	**+0.5**
KRMI				S	**Sb**	**10 05 09.9**	**+1.2**
KRMI	**Paran Flat**	**2.38**	**44**	Pn	**Pn**	**10 04 34.6**	**-0.2**
HRFI	**Mount Harif**	**2.52**	**49**	P	**Pb**	**10 04 42.0**	**-0.2**
HRFI	**Mount Harif**	**2.52**	**49**	Pn	**Pn**	**10 04 36.5**	**-0.3**
HRFI				Sn	**Sn**	**10 05 05.5**	**-1.1**
PRNI	**Paran**	**2.71**	**44**	P	**Pb**	**10 04 45.1**	**-0.4**
PRNI	**Paran**	**2.71**	**44**	Pn	**Pn**	**10 04 38.6**	**-0.8**
PRNI				Sn	**Sn**	**10 05 10.4**	**-1.0**
KZIT	**Kziot**	**2.84**	**28**	P	**Pb**	**10 04 47.2**	**-0.5**
ZFRI	**Zfri**	**2.96**	**43**	P	**Pb**	**10 04 50.8**	**+1.1**
ZFRI	**Zfri**	**2.96**	**43**	Pn	**Pn**	**10 04 43.3**	**+0.5**
ZFRI				Sn	**Sn**	**10 05 16.5**	**-0.9**
NADB	**Abo Dabab**	**3.39**	**154**	P	**Pn**	**10 04 48.9**	**+0.1**
	baz=154						
GHAJ	**Ghor Haditha**	**3.74**	**39**	Pn	**Pn**	**10 04 54.3**	**+0.8**

*SOME **06** 10:04:42.0,43˚.68N×69˚.68E*
NNC 06 10:04:44.0±0.7**,43˚.70N×69˚.80E,h0km,mb3.6,mpv3.1, 3C-3D,Error ellipse: s-maj=4.0km s-min=2.9km az=116.0,Suspected Mining explosion.,Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.79**	**139**	⇓P	Pg	10 04 59.1	0.0
	1.6nm,0.3s,baz=315,slow=16,SNR=82						
KK31				⇓S	Sg	10 05 10.5	+1.1
	10nm,0.3s,baz=320,slow=29,SNR=118						
AAK	**Ala-Archa**	**3.60**	**106**	⇑Pg	Pb	10 05 49.4	+0.8
	1.9nm,0.5s						
AAK				⇓Lg	Lg	10 06 40.1	
	6.7nm,0.5s						
TKM2	**Tokmak 2**	**4.30**	**98**	⇑Pg	Pb	10 06 03.2	+2.5
	4.3nm,1.4s						
TKM2				⇑Lg	Lg	10 07 00.6	
	7.0nm,0.7s						
DGS	**Degeres**	**4.37**	**94**	Pg	Pg	10 06 05.1	-2.7
	2.3nm,0.4s						
DGS				Lg	Lg	10 07 04.2	
	5.3nm,0.6s						
KST	**Kastek**	**4.54**	**96**	Pg	Pg	10 06 08.1	-3.0
	2.6nm,0.3s						
KST				Lg	Lg	10 07 09.3	
	5.1nm,0.5s						
KUU	**Kurty**	**4.74**	**85**	Pg	Pg	10 06 11.8	-3.1
	1.4nm,0.1s						
KUU				Lg	Lg	10 07 15.6	
	9.2nm,0.5s						
KTBS	**Karatobe**	**4.99**	**87**	Pg	Pb	10 06 15.7	+3.5
	0.9nm,0.4s						
KTBS				Lg	Lg	10 07 22.4	
	9.5nm,0.8s						
CHKK	**Chushkaly**	**5.21**	**86**	Pg	Pb	10 06 19.8	+3.9
	1.9nm,0.4s						
CHKK				Lg	Lg	10 07 29.5	
	6.9nm,0.3s						

*IDC **06** 10:10:37.1±1.0,26˚.90N×143˚.88E,h0km,mb3.5/7, mb1 3.9/9,mb1mx3.7/40,mbtmp3.6/9,ML3.5/2,Error ellipse: s-maj=25.5km s-min=21.3km az=84.0*
*NEIC **06** 10:10:39.1±0.8,27˚.09N±0˚.07×143˚.76E±0˚.09,h10km±1km, mb4.2/5,Error ellipse: s-maj=14.6km s-min=9.5km az=55.0.*
ISC 06 10:10:42.6±0.9**,27˚.0N**±0˚.1×**143˚.74E**±0˚.09**,h35**km**,n26,** σ1°**00**/25**,mb3.7**/8**,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**			**1.39 273**	Pn	**Pn**	**10 11 05.4**	**-0.1**
	61nm,0.3s,baz=280,slow=21,SNR=2.1							
JCJ					Sn	**Sn**	**10 11 22.2**	**-0.5**
	130nm,0.3s,baz=266,slow=22,SNR=8.6							
JCJ	**Chichijima**			**1.39 273**		**Pn**	**10 11 05.2**	**-0.3**
JCJ						**Sn**	**10 11 23.3**	**+0.7**
JHJ2	**Mitsune**			**6.95 332**	Pn	**Pn**	**10 12 20.5**	**-1.4**
MJAR	**Matsushiro Arr**			**10.58 335**	Pn	**Pn**	**10 13 10.8**	**-1.0**
	0.2nm,0.3s,baz=158,slow=8.6,SNR=15							
MJAR	**Matsushiro Arr**			**10.58 335**		**Pn**	**10 13 09.9**	**-1.9**
MAJO	**Matsushiro**			**10.58 335**	Pn	**Pn**	**10 13 10.6**	**-1.2**
MJB9	**Matsu-Tunnel**			**10.59 335**	Pn	**Pn**	**10 13 10.5**	**-1.4**
KSRS	**Korea Array**			**16.92 312**	P	**P**	**10 14 38.9**	**+0.5**
	0.2nm,0.3s,baz=124,slow=11,SNR=11							
JKA	**Kamikawa-asahi**			**17.07 357**	P	**Pn**	**10 14 38.9**	**+0.4**
JKA					IAmb	IAmb	10 14 57.8	
	comp=Z,13nm,1.3s							
H11N2	**WAKE ISLAND Hy**			**22.44 104**	T	T	10 38 38.3	
	baz=299							
H11N1	**WAKE ISLAND Hy**			**22.44 104**	T	T	10 38 40.2	
	baz=299							
H11N3	**WAKE ISLAND Hy**			**22.46 104**	T	T	10 38 40.6	
	baz=299							
KLR	**Kul'dur**			**24.03 340**	P	**P**	**10 15 55.8**	**+1.6**
	comp=Z,2.3nm,0.6s,baz=146,slow=6.3,SNR=9.2							
WRA	**Warramunga Arr**			**47.58 192**	P	**P**	**10 19 13.8**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=8.7,slow=8.5,SNR=6.5							
WRA	**Warramunga Ar**			**47.58 192**	P	**P**	**10 19 15.5**	**+0.5**
ASAR	**Alice Springs**			**51.29 192**	P	**P**	**10 19 42.1**	**-1.2**
	comp=Z,0.2nm,0.8s,baz=7.8,slow=7.5,SNR=1.4							
ASAR	**Alice Springs**			**51.29 192**	P	**P**	**10 19 43.4**	**0.0**
MK31	**Makanchi Array**			**51.58 310**	P	**P**	**10 19 46.4**	**+0.9**
MKAR	**Makanchi Array**			**51.58 310**	P	**P**	**10 19 46.5**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=91,slow=8.2,SNR=6.2							
MKAR	**Makanchi Array**			**51.58 310**	P	**P**	**10 19 46.1**	**+0.7**
ILAR	**Eielson Array**			**57.10 29**	P	**P**	**10 20 25.1**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=248,slow=5.9,SNR=4.9							
KK31	**Karatay Array**			**60.24 306**	P	**P**	**10 20 47.0**	**-0.5**
KKAR	**Karatay Array**			**60.24 306**	P	**P**	**10 20 47.7**	**+0.2**
KKAR	**Karatay Array**			**60.24 306**	P	**P**	**10 20 47.3**	**-0.2**
KKAR					IAmb	IAmb	10 20 49.3	
	comp=Z,3.2nm,0.8s							
NVAR	**Mina Array Bea**			**79.47 52**	P	**P**	**10 22 47.0**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=292,slow=4.8,SNR=2.1							
PDAR	**Pinedale Array**			**83.28 45**	P	**P**	**10 23 04.9**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=300,slow=3.8,SNR=1.7							

*DRS **06** 10:14:03.9±0.0,42˚.39N×48˚.12E,h18km*
*NORS **06** 10:14:03.1±0.0,42˚.32N×47˚.85E,h20km,MPVA4.0*
*MOS **06** 10:14:03.2±1.1,42˚.43N×48˚.05E,h21km,mb3.8/1,Error ellipse: s-maj=8.7km s-min=7.1km az=28.5*
ISC 06 10:14:03.3±1.2**,42˚.42N**±0˚.03×**48˚.08E**±0˚.04**,h17**km±9km**, n40**,σ1°**43**/62**,6C-8D,Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URKR	**Urkarakh**	**0.42**	**233**	*i* Pg	**Pg**	**10 14 11.2**	**-0.7**
	822nm,0.5s						
URKR				*e*Sg	**Sg**	**10 14 16.2**	**-1.5**
	4µm,0.2s						
URKR	**Urkarakh**	**0.42**	**233**	⇓*i*PG	**Pg**	**10 14 11.1**	**-0.8**
URKR				*e*		10 14 16.1	
URKR				pmax	pmax		
	comp=Z,822nm,0.5s						
URKR				smax	smax		
	comp=N,4µm,0.2s						
DRN	**Derbent**	**0.43**	**154**	*i* Pg	**Pn**	**10 14 14.5**	**-0.1**
	comp=N,679nm,0.7s						
DRN				*e*Sg	**Sn**	**10 14 22.3**	**+0.2**
	comp=N,2µm,0.4s						
DRN	**Derbent**	**0.43**	**154**	⇑*i*PG	**Pn**	**10 14 14.5**	**-0.1**
DRN				*e*		10 14 22.3	
DRN				pmax	pmax		
	comp=Z,679nm,0.6s						
DRN				smax	smax		
	comp=N,2µm,0.4s						
MAK	**Makhachkala**	**0.69**	**322**	*e*PG	**Pn**	**10 14 18.5**	**+0.3**
MAK				*e*		10 14 28.2	
MAK				pmax	pmax		
	comp=Z,304nm,0.2s						
MAK				smax	smax		
	comp=N,1µm,0.3s						
MAK				smax	smax		
	comp=N,2µm,0.6s						
BUJR	**Buynaksk**	**0.82**	**300**	*i* Pg	**Pb**	**10 14 18.8**	**-0.4**
	comp=N,220nm,0.4s						
BUJR				*e*Sg	**Sb**	**10 14 30.3**	**+0.3**
	comp=N,926nm,0.6s						
BUJR	**Buynaksk**	**0.82**	**300**	⇓*e*PG	**Pb**	**10 14 18.7**	**-0.4**
BUJR				*e*		10 14 30.3	
BUJR				pmax	pmax		
	comp=Z,220nm,0.4s						
BUJR				smax	smax		
	comp=N,926nm,0.6s						
GNBR	**Gunib**	**0.83**	**268**	*i* Pg	**Pb**	**10 14 18.1**	**-1.2**
	comp=N,255nm,0.6s						
GNBR				*e*Sg	**Sb**	**10 14 28.7**	**-1.4**
	comp=N,1µm,0.6s						
GNBR	**Gunib**	**0.83**	**268**	⇑*i*PG	**Pb**	**10 14 18.0**	**-1.2**
GNBR				*e*		10 14 28.7	
GNBR				pmax	pmax		
	comp=Z,255nm,0.6s						
GNBR				smax	smax		
	comp=N,1µm,0.6s						
AKT	**Akhty**	**0.97**	**196**	*i* Pg	**Pb**	**10 14 21.2**	**-0.6**
	comp=N,297nm,0.6s						
AKT				*e*Sg	**Sb**	**10 14 33.3**	**-1.0**
	comp=N,1µm,0.3s						
AKT	**Akhty**	**0.97**	**196**	⇓*i*PG	**Pb**	**10 14 21.1**	**-0.6**
AKT				*e*		10 14 33.3	
AKT				pmax	pmax		
	comp=Z,297nm,0.5s						
AKT				smax	smax		
	comp=N,1µm,0.3s						
UNCR	**Uncukul**	**0.99**	**288**	*e*Pg	**Pb**	**10 14 21.5**	**-0.6**
	comp=N,55nm,0.3s						
UNCR				*e*Sg	**Sb**	**10 14 34.0**	**-0.9**
	comp=N,301nm,0.0s						
UNCR	**Uncukul**	**0.99**	**288**	*e*PG	**Pb**	**10 14 21.5**	**-0.6**
UNCR				*e*S	**Sb**	**10 14 34.0**	**-0.9**
UNCR				pmax	pmax		
	comp=Z,55nm,0.3s						
XNZR	**Khunzakh**	**1.02**	**277**	*e*Pg	**Pb**	**10 14 21.7**	**-1.0**
XNZR				*e*Sg	**Sb**	**10 14 34.8**	**-1.1**
XNZR	**Khunzakh**	**1.02**	**277**	*e*PG	**Pb**	**10 14 21.7**	**-1.0**
XNZR				*e*S	**Sb**	**10 14 34.8**	**-1.1**
DBC	**Dubki**	**1.10**	**304**	*i* Pg	**Pb**	**10 14 23.4**	**-0.6**
	comp=Z,59nm,0.6s						
DBC				*e*Sg	**Sb**	**10 14 37.8**	**-0.2**
	comp=Z,333nm,0.4s						
DBC	**Dubki**	**1.10**	**304**	⇓*i*PG	**Pb**	**10 14 23.3**	**-0.6**
DBC				*e*		10 14 37.7	
DBC				pmax	pmax		
	comp=Z,59nm,0.6s						
DBC				smax	smax		
	comp=N,333nm,0.4s						
SEKA	**Sheki**	**1.38**	**209**	PG	**Pn**	**10 14 27.5**	**-0.3**
BTLR	**Botlikh**	**1.40**	**281**	*i* Pg	**Pn**	**10 14 28.0**	**-0.1**
	comp=N,63nm,0.6s						
BTLR				*e*Sg	**Sn**	**10 14 45.3**	**-0.8**
	comp=N,159nm,0.4s						
BTLR	**Botlikh**	**1.40**	**281**	⇓*e*PG	**Pn**	**10 14 27.9**	**-0.1**
BTLR				*e*		10 14 45.3	
BTLR				pmax	pmax		
	comp=Z,63nm,0.6s						
BTLR				smax	smax		
	comp=N,159nm,0.4s						
LGD	**Lagodekhi**	**1.49**	**248**	*e*PG	**Pn**	**10 14 28.6**	**-0.6**
LGD				*e*S	**Sn**	**10 14 47.6**	**-0.7**
LGD	**Lagodekhi**	**1.49**	**248**	P	**Pn**	**10 14 28.6**	**-0.6**
LGD				S	**Sn**	**10 14 46.8**	**-1.5**
DDFL	**Dedoflistskaro**	**1.76**	**237**	P	**Pb**	**10 14 36.3**	**+1.2**
DDFL				S	**Sg**	**10 15 02.8**	**+2.8**
GROC	**Groznyy**	**1.85**	**296**	*e*Pg	**Pn**	**10 14 34.9**	**+0.7**
GROC				*e*Sg	**Sb**	**10 14 59.2**	**-0.4**
GROC	**Groznyy**	**1.85**	**296**	*e*PN	**Pn**	**10 14 34.6**	**+0.3**
GROC				*e*		10 15 00.3	
GROC				pmax	pmax		
	comp=Z,63nm,0.3s						
GROC				smax	smax		
	comp=N,E,74nm,0.2s						
GROC				smax	smax		
	comp=N,121nm,0.6s						
GROC				smax	smax		

	comp=N,129nm,0.5s							
GANJ	**Ganja**			**2.21 217**	PN	**Pn**	**10 14 40.0**	**+0.8**
DGRG	**David-gareji**			**2.24 245**	*e*PN	**Pn**	**10 14 41.6**	**+1.9**
DGRG					*e*S	**Sn**	**10 15 06.4**	**-0.5**
DGRG	**David-gareji**			**2.24 245**	P	**Pn**	**10 14 41.5**	**+1.9**
DGRG					S	**Sb**	**10 15 11.0**	**+0.2**
PNSH	**Pansheti**			**2.57 276**	P	**Pb**	**10 14 47.9**	**-1.1**
LACR	**Lac**			**2.82 280**	*e*Pn	**Pn**	**10 14 50.3**	**+2.6**
LACR					*e*Sn	**Sn**	**10 15 23.8**	**+2.4**
LACR	**Lac**			**2.82 280**	*e*PN	**Pn**	**10 14 50.3**	**+2.6**
KBZ	**Khabaz**			**4.02 291**	*e*PN	**Pn**	**10 15 04.1**	**+0.1**
KBZ					*e*S	**Sn**	**10 15 50.8**	**+0.2**
NEY	**Neytrino**			**4.03 284**	*e*PN	**Pn**	**10 15 05.5**	**+1.2**
KIV	**Kislovodsk**			**4.23 293**	*e*PN	**Pn**	**10 15 06.8**	**-0.3**
KIV					*e*S	**Sn**	**10 15 56.0**	**-0.1**
KIV					pmax	pmax		
	comp=Z,14nm,0.9s							
DOMR	**Dombai**			**4.83 283**	⇑*e*PN	**Pn**	**10 15 14.4**	**-0.9**
AKTO	**Aktyubinsk**			**10.54 37**	⇓P	**Pn**	**10 16 35.7**	**+2.3**
	comp=Z,2.0nm,0.9s							
AKTO					⇑S	**Sn**	**10 18 26.2**	**-4.9**
	comp=Z,1.5nm,0.5s							
AB31	**Akbulak array**			**10.73 46**	⇓P	**Pn**	**10 16 39.5**	**+3.5**
	comp=Z,0.6nm,0.3s,baz=239,slow=12,SNR=6.9							
AB31					⇑S	**Sn**	**10 18 32.3**	**-3.3**
	comp=Z,2.2nm,0.3s,baz=239,slow=25,SNR=4.3							
OBN	**Obninsk**			**14.77 333**	*e*P	**Pn**	**10 17 30.8**	**-0.4**
OBN					pmax	pmax		
	comp=Z,10.0nm,0.4s							
BRVK	**Borovoye**			**18.26 47**	⇓*e*P	**P**	**10 18 17.7**	**+2.0**
BRVK					pmax	pmax		
	comp=Z,2.0nm,1.4s							
AAK	**Ala-Archa**			**19.45 80**	⇑*e*P	**Pn**	**10 18 30.5**	**+0.2**
AAK					pmax	pmax		
	comp=Z,5.0nm,2.5s							

*KRSC **06** 10:56:32.0±1.9,50˚.15N×156˚.38E,h99km±18km,ML3.6*
*IDC **06** 10:56:34.7±10.0,50˚.51N×155˚.96E,h150km±51km, mb2.9/2,mb1 3.3/2,mb1mx2.8/41,mbtmp3.3/2,Error ellipse: s-maj=135.4km s-min=106.5km az=34.0*
ISC 06 10:56:29.6±1.8**,50˚.0N**±0˚.2×**156˚.1E**±0˚.2**,h115**km±12km**, n21**,σ2°**15**/29**,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.65**	**1**	*e*P	**Pn**	**10 56 49.4**	**+1.5**
SKR				*e*S	**Sn**	**10 57 01.3**	**-0.5**
ALID	**Alaid**	**0.90**	**337**	*i* P	**Pn**	**10 56 49.9**	**-0.5**
PAU	**Pauzhetka**	**1.50**	**17**	*e*P	**Pn**	**10 56 57.7**	**+1.1**
PAU				*e*S	**Sn**	**10 57 15.6**	**-1.6**
KDTR	**Khodutka, Kamc**	**2.17**	**34**	*e*P	**Pn**	**10 57 06.5**	**+1.7**
KDTR				*e*S	**Sn**	**10 57 31.0**	**-0.9**
ASAK	**Asacha**	**2.61**	**25**	*e*P	**Pn**	**10 57 12.4**	**+1.8**
MTVR	**Mutnovka**	**2.77**	**27**	*e*P	**Pn**	**10 57 15.1**	**+2.3**
MTVR				*e*S	**Sn**	**10 57 46.3**	**+0.2**
GRL	**Gorelyy**	**2.81**	**25**	*e*P	**Pn**	**10 57 16.2**	**+3.0**
GRL				*e*S	**Sn**	**10 57 47.7**	**+0.9**
RUS	**Russkaya**	**2.84**	**31**	*e*P	**Pn**	**10 57 14.9**	**+1.4**
RUS				*e*S	**Sn**	**10 57 45.8**	**-1.5**
KRMR	**Karymshinskiy**	**3.07**	**24**	*e*S	**Sn**	**10 57 52.1**	**-0.7**
PETK	**Petropavlovsk-**	**3.23**	**17**	P	**Pn**	**10 57 19.9**	**+1.2**
	0.5nm,0.3s,baz=179,slow=12,SNR=27							
UGLR	**Uglovaya**	**3.60**	**27**	*e*P	**Pn**	**10 57 25.8**	**+2.1**
AVH	**Avacha**	**3.62**	**26**	*e*P	**Pn**	**10 57 26.7**	**+2.7**
SMAR	**Somma**	**3.64**	**26**	*e*P	**Pn**	**10 57 26.3**	**+2.0**
KRER	**Koryakskii**	**3.66**	**26**	*e*P	**Pn**	**10 57 26.5**	**+1.9**
KRER				*e*S	**Sn**	**10 58 05.6**	**-1.6**
SDLR	**Sedlovina**	**3.68**	**27**	*e*P	**Pn**	**10 57 26.9**	**+2.2**
KRX	**Arik**	**3.68**	**24**	*e*P	**Pn**	**10 57 26.4**	**+1.6**
SPN	**Mys Shipunski**	**3.92**	**37**	*e*P	**Pn**	**10 57 30.0**	**+2.2**
SPN				*e*S	**Sn**	**10 58 12.5**	**-0.5**
TUMR	**Tumrok**	**5.80**	**24**	*e*P	**Pn**	**10 57 55.2**	**+2.0**
BKI	**Bering**	**7.92**	**45**	*e*S	**Sn**	**10 59 43.3**	**-6.4**
ILAR	**Eielson Array**	**32.75**	**42**	P	**P**	**11 02 49.5**	**-1.5**
	0.2nm,0.6s,baz=261,slow=7.1,SNR=5.1							
TXAR	**Lajitas Array**	**74.18**	**63**	P	**P**	**11 07 54.7**	**+0.9**
	0.2nm,0.6s,baz=289,slow=5.6,SNR=4.5							

*TAP **06** 11:03:13.3,23˚.80N×122˚.50E,h26km±1km,ML3.8,D*
*JMA **06** 11:03:14.1±0.2,23˚.89N×122˚.52E,h32km±3km,M3.3*
*IDC **06** 11:03:23.6±7.0,23˚.90N×122˚.56E,h123km±68km,mb3.2/6, mb1 3.4/7,mb1mx3.2/41,mbtmp3.6/7,MS3.2/2,Ms1 3.2/2, ms1mx2.7/21,Error ellipse: s-maj=39.5km s-min=19.3km az=74.0*
ISC 06 11:03:10.1±1.0**,23˚.70N**±0˚.02×**122˚.50E**±0˚.02**,h11**km±7km**, n127**,σ0°**77**/227**,mb3.6**/6**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.85**	**29**	P	**Pb**	**11 03 27.1**	**+0.2**
JYNG				S	**Sg**	**11 03 36.6**	**-1.1**
HWA	**Hwalien**	**0.86**	**289**	*e*S	**Sn**	**11 03 40.7**	**-0.1**
	baz=269						
YOJ	**Yonaguni jima**	**0.89**	**32**	P	**Pb**	**11 03 27.9**	**+0.3**
YOJ				S	**Sg**	**11 03 37.8**	**-1.1**
TWD	**Chiawan**	**0.91**	**295**	P	**Pn**	**11 03 28.7**	**-0.2**
	baz=274						
TWD				*e*S	**Sb**	**11 03 40.3**	**+0.3**
	baz=274						
ENAH	**Nanao**	**0.97**	**320**	P	**Pn**	**11 03 30

baz=299
NNSH eS Sn 11 03 50.9 +0.4
baz=299
ILA Ilan 1.26 327 eP Pg 11 03 35.4 +1.1
baz=322
ILA eS Sg 11 03 51.6 +0.9
baz=322
ENTT Nioudou 1.26 318 *i* P Pg 11 03 34.8 +0.3
baz=297
ENTT eS Sg 11 03 51.1 +0.3
baz=297
CHGB Renai 1.26 287 P Pg 11 03 35.1 +0.7
baz=270
CHGB eS Sb 11 03 50.2 -0.2
baz=270
NNS Nan Shan 1.26 306 P Pg 11 03 34.5 +0.1
baz=299
NNS eS Sn 11 03 51.1 +0.2
baz=299
TWE Neicheng 1.27 323 P Pg 11 03 35.0 +0.5
baz=318
TWE eS Sg 11 03 51.4 +0.5
baz=318
FUSS Fushou 1.27 296 P Pg 11 03 34.9 +0.3
baz=288
FUSS eS Sn 11 03 51.5 +0.2
baz=288
NDT Datong Townshi 1.27 315 P Pg 11 03 34.7 +0.2
baz=309
NDT eS Sg 11 03 51.7 +0.6
baz=309
IRIF Iriomote-Funau 1.29 61 P Pb 11 03 34.9 +0.4
IRIF eS Sb 11 03 50.3 -0.8
NTC Toucheng 1.30 332 eP Pb 11 03 34.9 +0.3
baz=327
NTC eS Sn 11 03 51.6 +0.1
baz=327
EDH Donghe 1.32 237 eP Pg 11 03 35.2 -0.2
baz=223
EDH eS Sg 11 03 52.1 -0.4
baz=223
TWT Tachien 1.33 295 eP Pg 11 03 36.8 +1.2
baz=287
TWT eS Sg 11 03 53.6 +0.7
baz=287
TDCB Techi 1.34 294 P Pg 11 03 36.0 +0.1
baz=277
TDCB eS Sg 11 03 53.6 +0.2
baz=277
TWB1 Santiao Chiao 1.38 340 P Pb 11 03 36.1 +0.2
baz=335
TWB1 eS Sn 11 03 51.9 -1.7
baz=335
LDUT Ludao 1.40 223 eP Pb 11 03 36.0 -0.3
baz=219
LDUT eS Sn 11 03 53.0 -1.0
baz=219
NWLT Wulai 1.40 320 *i* P Pg 11 03 37.0 -0.1
baz=302
NWLT eS Sb 11 03 54.4 +0.1
baz=302
TIPB Shuangxi 1.40 334 P Pg 11 03 37.1 0.0
baz=329
TIPB eS Sn 11 03 53.6 -0.7
baz=329
YHNB Yeheng 1.40 313 *i* P Pg 11 03 36.9 -0.3
baz=295
YHNB eS Sg 11 03 55.3 -0.1
baz=295
SSLB Suanglung 1.42 274 eP Pb 11 03 36.5 -0.1
baz=267
SSLB eS Sb 11 03 54.7 0.0
baz=267
NSK Sanguang 1.42 313 P Pb 11 03 37.0 +0.3
baz=295
NSK eS Sg 11 03 55.5 -0.4
baz=295
YUS Yu-Shan 1.43 262 P Pg 11 03 37.7 0.0
baz=254
YUS S Sg 11 03 56.7 +0.3
baz=254
ELDTW Lidau 1.45 250 P Pg 11 03 37.6 -0.4
baz=243
ELDTW eS Sg 11 03 57.0 +0.1
baz=243
SMLT Sun Moon Lake 1.47 277 P Pg 11 03 38.3 -0.2
baz=270
SMLT eS Sb 11 03 56.8 +0.4
baz=270
JKRS Kuro-shima 1.48 69 P Pg 11 03 38.6 0.0
JKRS eS Sn 11 03 56.2 +0.1
LONT Longtian 1.49 238 eP Pb 11 03 37.4 -0.4
baz=224
LONT eS Sb 11 03 56.7 0.0
baz=224
WHYT Xinyi Township 1.51 270 eP Pg 11 03 39.3 +0.2
baz=263
WHYT eS Sg 11 03 57.8 -0.9
baz=263
NWF Wu-fen Shan 1.51 335 eP Pn 11 03 37.1 -0.1
baz=328
NWF eS Sb 11 03 57.8 +0.3
baz=328
WFSB Wu-fen Shan 1.51 335 eP Pg 11 03 38.8 -0.3
baz=328
WFSB eS Sn 11 03 56.7 -0.2
baz=328
TYC Yuchr 1.52 278 eP Pg 11 03 39.0 -0.2
baz=271
TYC eS Sb 11 03 57.7 +0.2
baz=271
TWA Mucha 1.52 327 P Pg 11 03 39.2 -0.1
baz=321
TWA eS Sb 11 03 58.2 +0.5
baz=321
WHP Taichung City 1.53 292 eP Pb 11 03 38.8 +0.2
baz=285
WHP eS Sg 11 03 58.6 -0.8
baz=285
TTN Taitung 1.56 233 eS Sb 11 03 58.3 -0.5
baz=228
ALS Alishan 1.56 263 eP Pg 11 03 40.4 +0.2
baz=256
ALS eS Sb 11 03 59.4 +0.1
baz=256
TWGBT Beinan 1.57 236 *i* P Pb 11 03 39.4 +0.1
baz=221
TWGBT eS Sg 11 03 59.7 -1.1
baz=221
TWG Pinlang 1.58 236 P Pg 11 03 40.0 -0.5
baz=221
TWG eS Sn 11 03 58.6 +0.1
baz=221
WJS Zhushan 1.62 274 eP Pb 11 03 40.2 +0.1
baz=256
WJS eS Sb 11 04 00.8 +0.1
baz=256
JIJ Ishigaki jima 1.64 66 P Pb 11 03 40.1 -0.3
JIJ eS Sn 11 04 00.0 -0.1
LIOB Emei 1.65 305 P Pg 11 03 41.5 -0.3
baz=286
LIOB eS Sg 11 04 02.2 -0.9
baz=286
NSTT Nanjuang 1.65 304 eP Pb 11 03 40.4 -0.2
baz=285
NSTT eS Sb 11 04 01.1 -0.2
baz=285
YM01 YM01 1.67 330 P Pb 11 03 41.0 +0.1
baz=340
YM01 eS Sn 11 03 59.7 -1.0
baz=340
WNT Mingjian 1.67 276 eP Pg 11 03 42.5 +0.4
baz=268
WNT eS Sg 11 04 04.2 +0.3
baz=268
CHN5 Tsauling 1.67 267 eP Pb 11 03 41.0 0.0
baz=260
CHN5 eS Sb 11 04 02.1 0.0
baz=260
YM10 YM10 1.68 330 P Pb 11 03 41.0 -0.1
baz=343
YM11 YM11 1.68 330 P Pb 11 03 41.6 +0.4
baz=327
YM05 YM05 1.68 330 P Pb 11 03 41.4 +0.2
baz=343
STYT Tauyuan 1.69 252 eP Pb 11 03 41.4 +0.1
baz=245
STYT S Sb 11 04 03.2 +0.7

baz=245
YM04 YM04 1.69 329 eP Pb 11 03 41.3 0.0
baz=340
YM04 eS Sn 11 04 00.3 -1.0
baz=340
YM08 YM08 1.69 331 P Pb 11 03 41.1 -0.2
baz=324
YM08 eS Sn 11 04 00.8 -0.6
baz=324
TWQ1 Liyutan 1.70 292 eP Pb 11 03 41.2 -0.3
baz=284
TWQ1 eS Sb 11 04 02.5 -0.4
baz=284
TWS1 Kuangyinshan 1.70 325 P Pb 11 03 41.6 +0.1
baz=319
TWS1 eS Sb 11 04 02.8 -0.1
baz=319
YM03 YM03 1.71 329 eP Pb 11 03 41.6 -0.1
baz=326
TCU Taichung 1.72 285 eP Pg 11 03 43.0 -0.2
baz=277
TCU eS Sg 11 04 05.8 +0.2
baz=277
NSY Sanyi 1.74 294 eP Pb 11 03 41.6 -0.5
baz=286
NSY eS Sb 11 04 03.2 -0.8
baz=286
NTST Danshui 1.74 327 eP Pb 11 03 42.0 -0.1
baz=337
NTST eS Sb 11 04 04.2 +0.2
baz=337
TPUB Ta-pu 1.76 257 eP Pg 11 03 43.6 -0.3
baz=251
TPUB eS Sg 11 04 06.3 -0.5
baz=251
NMLH Miaoli 1.77 298 eP Pg 11 03 43.5 -0.5
baz=290
NMLH eS Sg 11 04 06.4 -0.5
baz=290
TWY Chenhua 1.77 333 eP Pb 11 03 42.4 -0.2
baz=326
TWY eS Sn 11 04 02.2 -0.9
baz=326
WGK Gukeng 1.77 270 eP Pg 11 03 43.8 -0.4
baz=262
WGK eS Sg 11 04 05.9 -1.3
baz=262
WTP Ta-pu 1.79 256 eP Pb 11 03 42.7 -0.2
baz=249
WTP eS Sb 11 04 05.1 -0.3
baz=249
WDLH Douliu 1.79 270 eP Pb 11 03 43.2 +0.2
baz=262
WDLH eS Sg 11 04 07.8 -0.1
baz=262
ECL Taimali 1.80 232 eP Pb 11 03 43.4 +0.3
baz=239
ECL eS Sn 11 04 03.9 0.0
baz=239
PTSB Yuanli 1.80 295 eP Pb 11 03 43.0 -0.1
baz=287
PTSB eS Sg 11 04 07.6 -0.4
baz=287
WCHH Zhanghua 1.81 282 eP Pb 11 03 43.0 -0.4
baz=274
WCHH eS Sg 11 04 08.1 -0.4
baz=274
WDJ Dajia District 1.81 291 eS Sg 11 04 07.8 -0.7
baz=283
SLGT Liugui 1.84 248 eP Pb 11 03 43.8 -0.1
baz=235
SLGT S Sb 11 04 07.7 +0.7
baz=235
CHN2 Minshiung 1.86 265 eS Sg 11 04 09.0 -1.1
baz=258
SGST Jiashian 1.86 251 eP Pb 11 03 43.9 -0.3
baz=244
SGST eS Sb 11 04 07.2 -0.4
baz=244
LAY Lan-yu 1.87 208 eP Pn 11 03 42.7 +0.5
baz=206
LAY eS Sn 11 04 05.6 -0.2
baz=206
JISG Ishigakijimahi 1.88 62 P Pn 11 03 43.1 +0.9
JISG eS Sn 11 04 05.5 -0.4
CHN1 Nanshi 1.88 254 eP Pb 11 03 45.2 +0.7
baz=248
CHN1 eS Sb 11 04 08.4 +0.3
baz=248
TWK Hsinying 1.90 257 eP Pg 11 03 45.9 -0.7
baz=250
TWK eS Sb 11 04 09.0 +0.4
baz=250
SNST Tainan City 1.90 256 eP Pb 11 03 44.7 -0.1
baz=249
SNST eS Sg 11 04 10.6 -0.6
baz=249
CHY Chiayi 1.91 264 eS Sb 11 04 09.5 +0.6
baz=257
WTK Tuku 1.93 270 eS Sg 11 04 11.5 -0.8
baz=262
PCYT Pengchaiyu 1.96 349 eP Pb 11 03 44.9 -0.9
baz=347
SSD Sandimen 1.96 241 eP Pb 11 03 45.5 -0.4
baz=231
SSD S Sn 11 04 07.6 -0.5
baz=231
TSMG Majia 1.97 240 eP Pb 11 03 45.8 -0.3
baz=229
TSMG S Sn 11 04 08.1 -0.1
baz=229
EAST Anshuo 2.01 229 eP Pb 11 03 45.8 -1.0
baz=234
EAST eS Sn 11 04 09.2 0.0
baz=234
WLGB Puzi 2.03 264 eP Pb 11 03 47.2 +0.1
baz=256
WLGB eS Sb 11 04 12.6 +0.3
baz=256
MASBT Mashibuluo 2.03 238 P Pb 11 03 47.0 -0.1
baz=226
MASBT eS Sb 11 04 11.8 -0.6
baz=226
WTCT Ta-ch'eng 2.04 275 eS Sg 11 04 14.0 -1.6
baz=267
CHN3 Shinhua 2.06 253 eP Pg 11 03 49.4 -0.2
baz=245
CHN3 eS Sg 11 04 15.7 -0.6
baz=245
ICHU Yijhu 2.06 261 eP Pb 11 03 46.7 -0.9
baz=253
ICHU eS Sb 11 04 12.0 -1.3
baz=253
SGLT Jiouru 2.09 243 eS Sg 11 04 15.4 -1.8
baz=234
TWM1 Shoushan 2.10 246 eP Pb 11 03 49.1 +0.8
baz=242
TWM1 eS Sg 11 04 17.1 -0.6
baz=242
CHN8 Yiju 2.13 261 eS Sb 11 04 15.4 +0.2
baz=253
SSPT Xinbi 2.15 236 eP Pb 11 03 48.0 -1.1
baz=226
SCZT Fangliau 2.18 233 eP Pb 11 03 48.8 -0.8
baz=222
SCZT eS Sn 11 04 13.7 +0.4
baz=222
SCLT Jiali 2.18 256 eS Sb 11 04 17.9 +1.3
baz=249
SNJT Kaohsiung City 2.20 245 eP Pg 11 03 51.9 -0.5
baz=238
SNJT eS Sg 11 04 20.4 -0.5
baz=238
JTJ Tarama 2.22 65 P Pb 11 03 48.9 -1.4
JTJ eS Sn 11 04 14.5 +0.1
TSEB Hengchuen, Pin 2.32 220 eS Sb 11 04 21.6 +0.8
baz=226
WDGT Dungji 2.64 261 P Pn 11 03 54.7 +2.0
baz=253
WDGT eS Sn 11 04 26.2 +1.4
baz=253
PHUB P'eng-hu 2.69 267 eP Pb 11 03 56.1 -2.2
baz=248
PHUB eS Sb 11 04 28.5 -2.8
baz=248
PNG Penghu 2.70 268 eP Pb 11 03 56.1 -2.4
baz=249
PNG eS Sb 11 04 29.6 -2.0

baz=249
VCHM Qimei 2.86 261 eP Pn 11 03 58.3 +2.6
baz=252
VCHM eS Sn 11 04 31.9 +1.7
baz=252
PTTC Pingtan 3.06 306 eP Pn 11 04 00.0 +1.6
baz=297
PTTC eS Sn 11 04 34.1 -0.9
baz=297
VWUC VWUC 3.06 295 eP Pn 11 03 59.5 +1.0
baz=290
PTMZ Houxiangcun 3.35 294 eP Pn 11 04 03.9 +1.4
baz=288
MATB Ma-tsu 3.36 317 eP Pn 11 04 04.8 +2.1
baz=312
KSRS Korea Array 14.47 18 P P 11 06 40.6 -1.1
0.2nm,0.3s,baz=195,slow=12,SNR=9.5
KSRS LR LR 11 13 18.4
comp=Z,61nm,20.0s,baz=205,slow=42
SONM Songino Array 27.28 336 P P 11 08 54.1 -0.6
0.4nm,0.4s,baz=143,slow=11,SNR=2.3
MKAR Makanchi Array 39.52 316 P P 11 10 41.6 +0.7
0.7nm,0.4s,baz=101,slow=10,SNR=10
MKAR LR LR 11 27 32.3
comp=Z,54nm,18.4s,baz=178,slow=37
WRA Warramunga Arr 44.89 164 P P 11 11 26.6 +1.7
1.0nm,1.0s,baz=347,slow=8.2,SNR=3.4
ASAR Alice Springs 48.37 166 P P 11 11 54.9 +2.6
0.2nm,0.5s,baz=345,slow=7.1,SNR=4.8
ILAR Eielson Array 69.09 27 P P 11 14 14.0 -2.0
0.1nm,0.5s,baz=267,slow=6.0,SNR=4.2
YKA Yellowknife Ar 82.94 23 P P 11 15 34.5 -0.4
0.7nm,0.7s,baz=309,slow=5.2,SNR=4.2

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*IDC **06** 11:10:15.2±2.3,24°.68S×176°.54W,h0km,mb4.0/5, mb1 4.3/5,mb1mx4.0/24,mbtmp4.0/5,MS3.6/1,Ms1 3.5/1, ms1mx2.9/40,Error ellipse: s-maj=172.3km s-min=24.9km az=157.0*
*NEIC **06** 11:10:22.0±1.7,24°.4S±0°.1×176°.9W±0°.1,h37km±6km, mb4.5/20,Error ellipse: s-maj=22.8km s-min=12.5km az=132.0*

ISC 06 11:10:21.6±0.7,24°.5S±0°.1×176°.8W±0°.1,h35km,n31, σ1§19/29,mb4.3/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**8.35**	**51**		Pn	11 11 58.1	-22
NIUE						11 13 18.1	
SNZO	**South Karori**	**18.23**	**201**	P	**P**	**11 14 31.9**	**+0.1**
SNZO				IAmb	IAmb	11 14 42.2	
	comp=Z,62nm,1.0s						
EIDS	**Eidsvold**	**29.09**	**261**	P	**P**	**11 16 19.2**	**+0.1**
EIDS				IAmb	IAmb	11 16 34.8	
	comp=Z,12nm,1.0s						
CAN	**Canberra**	**31.41**	**242**	P	**P**	**11 16 39.5**	**0.0**
XMAS	**Kiritimati**	**32.38**	**38**	P	**P**	**11 16 48.1**	**0.0**
TOO	**Toolangi**	**34.61**	**239**	P	**P**	**11 17 06.3**	**-1.2**
TAU	**Tasmania Unive**	**34.72**	**229**	P	**P**	**11 17 07.5**	**-0.7**
KWAJ	**Kwajalein Atol**	**36.38**	**333**	P	**P**	**11 17 23.1**	**+0.4**
STKA	**Stephens Creek**	**37.22**	**249**	P	**P**	**11 17 28.9**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=90,slow=13,SNR=3.3						
STKA				LR	LR	11 30 24.4	
	comp=Z,88nm,19.7s,baz=60,slow=32						
STKA	**Stephens Creek**	**37.22**	**249**	P	**P**	**11 17 29.8**	**0.0**
PMG	**Port Moresby**	**37.42**	**287**	P	**P**	**11 17 33.0**	**+1.3**
COEN	**Coen**	**39.06**	**278**	P	**P**	**11 17 46.5**	**+0.9**
BBOO	**Buckleboo**	**41.90**	**248**	P	**P**	**11 18 07.0**	**-1.8**
BBOO				IAmb	IAmb	11 18 22.9	
	comp=Z,13nm,1.2s						
AS31	**Alice Springs**	**44.80**	**260**	P	**P**	**11 18 32.1**	**-0.4**
ASAR	**Alice Springs**	**44.80**	**260**	P	**P**	**11 18 33.0**	**+0.6**
	comp=Z,4.7nm,0.9s,baz=110,slow=7.9,SNR=22						
ASAR	**Alice Springs**	**44.80**	**260**	P	**P**	**11 18 28.9**	**-3.5**
WR0	**Warramunga Arr**	**45.07**	**266**	P	**P**	**11 18 33.1**	**-1.5**
WB2	**Warramunga Arr**	**45.25**	**266**	P	**P**	**11 18 35.3**	**-0.7**
WB2				IAmb	IAmb	11 18 46.1	
	comp=Z,9.8nm,1.3s						
WB0	**Warramunga Arr**	**45.26**	**266**	P	**P**	**11 18 36.2**	**+0.1**
WB0				IAmb	IAmb	11 18 39.7	
	comp=Z,6.5nm,1.1s						
WRA	**Warramunga Arr**	**45.26**	**266**	P	**P**	**11 18 36.8**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=99,slow=7.7,SNR=7.5						
WRA	**Warramunga Arr**	**45.26**	**266**	P	**P**	**11 18 34.7**	**-1.4**
FORT	**Forrest**	**48.84**	**250**	P	**P**	**11 19 03.6**	**-0.2**
KNRA	**Kununurra**	**51.58**	**269**	P	**P**	**11 19 25.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**53.67**	**265**	P	**P**	**11 19 41.4**	**+1.1**
FITZ				IAmb	IAmb	11 19 42.9	
	comp=Z,9.5nm,1.1s						
PMSA	**Palmer Station**	**77.24**	**156**	P	**P**	**11 22 13.9**	**+2.0**
NVAR	**Mina Array Bea**	**83.17**	**42**	P	**P**	**11 22 43.3**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=218,slow=5.3,SNR=6.2						
NVAR	**Mina Array Bea**	**83.17**	**42**	P	**P**	**11 22 44.7**	**+0.3**
NV11	**Mina Array Sit**	**83.26**	**42**	P	**P**	**11 22 44.9**	**0.0**
NV11				IAmb	IAmb	11 22 46.3	
	comp=Z,3.7nm,1.3s						
TXAR	**Lajitas Array**	**88.29**	**57**	P	**P**	**11 23 08.6**	**-1.3**
	comp=Z,0.7nm,1.0s,baz=210,slow=4.3,SNR=5.2						
TXAR	**Lajitas Array**	**88.29**	**57**	P	**P**	**11 23 08.8**	**-1.0**
TRF	**Thorofare Moun**	**90.08**	**12**		pP	11 23 28.2	0.0

IDC 06 11:29:39.9±18.0,23°.73S×69°.40E,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.5/64,mbtmp3.9/3,Error ellipse: s-maj=601.2km s-min=39.2km az=52.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**16.26**	**11**	T	T	11 50 04.8	
	baz=190,slow=76,SNR=38						
H08S2	**Diego Garcia H**	**16.27**	**11**	T	T	11 50 16.6	
	baz=190,slow=76,SNR=36						
H08S3	**Diego Garcia H**	**16.28**	**11**	T	T	11 50 06.2	
	baz=190,slow=76,SNR=79						
ASAR	**Alice Springs**	**58.57**	**104**	P	P	11 39 38.7	-0.2
	0.9nm,0.7s,baz=258,slow=6.3,SNR=17						
WRA	**Warramunga Arr**	**59.94**	**100**	P	P	11 39 48.5	+0.1
	1.1nm,0.7s,baz=255,slow=6.9,SNR=9.2						
MKAR	**Makanchi Array**	**71.15**	**9**	P	P	11 41 00.3	0.0
	0.6nm,0.6s,baz=187,slow=4.1,SNR=6.2						

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*KRNET **06** 11:30:03.7±0.1,40°.94N×69°.17E,mb2.8*
*SOME **06** 11:30:04.8,40°.82N×69°.62E,h25km*
*NNC **06** 11:30:06.7±2.9,40°.91N×69°.71E,h0km,mb3.3,mpv3.2, Error ellipse: s-maj=24.0km s-min=18.2km az=77.0*

ISC 06 11:30:04.6±2.3,40°.92N±0°.06×69°.17E±0°.10,h24km±16km, n14,σ1§28/26,10C-2D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**luzhnay**	**1.39**	**27**	*eP*	**Pb**	**11 30 30.4**	**+0.5**
	39nm,0.2s						
IUG				*eS*	**Sb**	**11 30 49.2**	**+1.9**
	84nm,0.6s						
IUG	**luzhnay**	**1.39**	**27**	P	**Pb**	**11 30 30.5**	**+0.5**
	39nm,0.2s						
IUG				S	**Sb**	**11 30 49.2**	**+1.9**
	84nm,0.6s						
BTK	**Batken**	**1.52**	**124**	⇑*iP*	**Pn**	**11 30 31.1**	**+0.7**
	baz=25						
BTK				⇑*iS*	**Sb**	**11 30 51.1**	**0.0**
	baz=25						
BRLS	**Borolday**	**2.17**	**13**	*eP*	**Pn**	**11 30 39.2**	**-0.1**
	7.7nm,0.4s						
BRLS				*eS*	**Sn**	**11 31 04.3**	**-1.2**
	42nm,0.7s						
BRLS	**Borolday**	**2.17**	**13**	P	**Pn**	**11 30 39.4**	**+0.1**
	7.7nm,0.4s						
BRLS				S	**Sn**	**11 31 04.3**	**-1.2**
	42nm,0.7s						
ARK	**Arkit**	**2.28**	**66**	⇑*iP*	**Pn**	**11 30 41.2**	**+0.3**
	baz=67						
ARK				⇑*iS*	**Sn**	**11 31 09.0**	**+0.7**
	baz=67						
KK31	**Karatay Array**	**2.40**	**24**	⇑Pn	**Pb**	**11 30 46.3**	**-0.9**
	1.0nm,0.3s,baz=197,slow=15,SNR=29						
KK31				⇑Lg	Lg	11 31 16.4	
	17nm,0.6s,baz=191,slow=30,SNR=24						
OHH	**Osh**	**2.77**	**97**	⇑*iP*	**Pn**	**11 30 48.5**	**+0.8**
	baz=97						
OHH				⇑*iS*	**Sn**	**11 31 20.9**	**+0.4**
	baz=97						
ARSB	**Arslanbob**	**2.91**	**81**	⇓*iP*	**Pn**	**11 30 50.3**	**+0.7**

baz=81
ARSB ⇓*i*S **Sn** 11 31 23.9 **0.0**
baz=81
MRKS Merke 3.54 58 *e*P **Pb** 11 31 04.2 **-2.3**
2.8nm,0.4s
MRKS *e*S **Sb** 11 31 46.7 **-2.4**
7.5nm,0.7s
MRKS Merke 3.54 58 Pg **Pb** 11 31 04.4 **-2.2**
2.8nm,0.5s
MRKS Lg Lg 11 31 47.1
7.5nm,0.7s
ARLS Aral 3.99 75⇑*i*P **Pn** 11 31 05.0 **+0.6**
baz=75
ARLS ⇑*i*S **Sn** 11 31 50.5 **0.0**
baz=75
DGS Degeres 5.43 63 *e*P **Pb** 11 31 38.5 **-0.4**
2.1nm,0.7s
DGS *e*S **Sb** 11 32 45.7 **+2.1**
5.2nm,0.6s
KST Kastek 5.49 65 *e*P **Pb** 11 31 38.6 **-1.2**
2.7nm,0.8s
KST *e*S **Sb** 11 32 45.9 **+0.6**
5.9nm,0.8s

IDC 06 11:32:05.2±2.0, 11°28S×162°68E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/38, mbtmp3.6/4, ML4.4/1, MS3.3/3, Ms1 3.3/3, ms1mx3.1/38, Error ellipse: s-maj=41.1km s-min=33.7km az=148.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.26**	**304**	Pn	Pn	11 32 58.0	+0.4
	43nm,0.3s,baz=16,slow=1.6,SNR=12						
HNR				Sn	Sn	11 33 38.1	+1.1
	99nm,0.3s,baz=171,slow=20,SNR=7.7						
DZM	**Mont Dzumac**	**11.32**	**162**	LR	LR	11 38 22.9	
	comp=Z,124nm,18.2s,baz=176,slow=33						
PMG	**Port Moresby**	**15.38**	**276**	LR	LR	11 41 02.3	
	comp=Z,124nm,18.8s,baz=76,slow=35						
AFI	**Afiamalu**	**25.06**	**99**	LR	LR	11 44 53.4	
	comp=Z,58nm,21.7s,baz=175,slow=31						
WRA	**Warramunga Arr**	**28.58**	**249**	P	P	11 38 03.2	0.0
	0.2nm,0.4s,baz=80,slow=8.8,SNR=1.6						
ASAR	**Alice Springs**	**30.01**	**242**	P	P	11 38 15.8	-0.2
	0.3nm,0.6s,baz=65,slow=9.9,SNR=5.5						
ILAR	**Eielson Array**	**84.72**	**19**	P	P	11 44 40.7	0.0
	0.2nm,0.4s,baz=243,slow=5.8,SNR=5.9						

BJI **06** *11:45:22.7±0.0, 7.2°S×128.0°E, h20km, mB6.0/70, mb5.7/93, Ms6.0/97, Ms7 5.7/90*

NEIC **06** *11:45:22.8, 7.30°S×128.06°E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.11; $M_{\theta\theta}$-1.58; $M_{\phi\phi}$ 1.47; $M_{r\theta}$-0.44; $M_{r\phi}$0.24; $M_{\theta\phi}$0.26; Fault plane solution: M_o1.63000×10^{18} NP1:ϕ_s139.82000°, δ86.74000°, λ-162.97000°. NP2:ϕ_s48.83000°, δ73.00000°, λ-3.41000°. Principal axes: T 1.5250, Plg10.0000°, Azm273.0000°; N 0.1907, Plg73.0000°, Azm150.0000°; P -1.7157, Plg14.0000°, Azm6.0000°;*

NEIC **06** *11:45:22.7±1.8, 7.27S±0.05×128.04E±0.05, h10km±1km, mb6.0/205, Ms_20 5.9/740, Mwb6.1/46, Mwc6.2/123, Mww6.2, Mwc6.2(GCMT) Error ellipse: s-maj=8.7km s-min=8.0km az=203.0*

DJA **06** *11:45:25.7±0.6, 7°S±1°×12°8E±°, h20km±5km, M6.1/79, mB6.5/77, mb6.1/79, MLv6.4/23, Mw(mB)6.2/77, Mwp6.0/67*

MOS **06** *11:45:25.1±0.9, 7.23S×128.00E, h33km, mb6.2/87, MS5.8/52, Error ellipse: s-maj=6.6km s-min=4.0km az=115.9*

IDC **06** *11:45:27.3±1.5, 7.30S×128.00E, h38km±12km, mb5.4/42, mb1 5.4/47, mb1mx5.4/50, mbtmp5.6/47, ML4.7/4, MS5.7/36, Ms1 5.7/36, ms1mx5.6/44, Error ellipse: s-maj=10.9km s-min=8.1km az=73.0*

GCMT **06** *11:45:28.7±0.1, 7.13S×127.92E, h20km, MW6.2/175, Moment Tensor Solution. s171,c377; s175,c618; Duration: 3?0 Moment tensor: Scale 10^{18}Nm; M_{rr}0.37±.01; $M_{\theta\theta}$-2.44±.01; $M_{\phi\phi}$2.07±.01; $M_{r\theta}$-0.68±.03; $M_{\theta\phi}$0.54±.01; $M_{r\phi}$0.16±.02; Best double couple: M_o2.40100×10^{18} NP1:ϕ_s51.00000°, δ79.00000°, λ-7.00000°. NP2:ϕ_s142.00000°, δ83.00000°, λ-169.00000°. Principal axes: T 2.1380, Plg3.0000°, Azm276.0000°; N 0.5230, Plg77.0000°, Azm174.0000°; P -2.6640, Plg13.0000°, Azm7.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC **06** *11:45:29, 7.07S×127.94E, h26km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.33; $M_{\theta\theta}$-2.60; $M_{\phi\phi}$2.28; $M_{r\theta}$-0.48; $M_{r\phi}$0.57; $M_{\theta\phi}$-0.31; Fault plane solution: M_o2.58000×10^{18} NP1:ϕ_s141.00000°, δ77.00000°, λ179.00000°. NP2:ϕ_s232.00000°, δ89.00000°, λ13.00000°. Principal axes: T 2.4066, Plg10.0000°, Azm97.0000°; N 0.3254, Plg77.0000°, Azm237.0000°; P -2.7320, Plg8.0000°, Azm6.0000°;*

NEIC **06** *11:45:29, 7.13S×127.94E, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.27; $M_{\theta\theta}$-2.47; $M_{\phi\phi}$2.20; $M_{r\theta}$-0.67; $M_{r\phi}$0.50; $M_{\theta\phi}$0.18; Fault plane solution: M_o2.50000×10^{18} NP1:ϕ_s50.00000°, δ78.00000°, λ-7.00000°. NP2:ϕ_s142.00000°, δ83.00000°, λ-168.00000°. Principal axes: T 2.2577, Plg3.0000°, Azm276.0000°; N 0.4248, Plg77.0000°, Azm172.0000°; P -2.6825, Plg13.0000°, Azm6.0000°;*

KLM **06** *11:45:30.0, 7.31S×128.17E, h56km, mb6.2*

NEIC **06** *11:45:39.6, 7.07S×127.85E, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.29; $M_{\theta\theta}$-2.40; $M_{\phi\phi}$2.11; $M_{r\theta}$1.15; $M_{r\phi}$0.53; $M_{\theta\phi}$-1.13; Fault plane solution: M_o2.82000×10^{18} NP1:ϕ_s139.90000°, δ87.95000°, λ144.87000°. NP2:ϕ_s231.34000°, δ54.89000°, λ2.51000°. Principal axes: T 2.6524, Plg26.0000°, Azm90.0000°; N 0.3375, Plg55.0000°, Azm317.0000°; P -2.9899, Plg22.0000°, Azm191.0000°;*

ISC 06 11:45:23.8±0.4, 7.32S±0.03×128.04E±0.03, h18km±2km, h18km:pP-P, n1780, σ1?86/1675, mb6.0/247, MS5.9/469, 48C-25D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.29**	**102**	P	**Pn**	**11 46 17.8**	**+3.2**
SAUI				S	**Sn**	**11 46 53.2**	**-0.1**
SAUI	**Saumlaki**	**3.29**	**102**	Pn	**Pn**	**11 46 15.7**	**+1.1**
BNDI	**Bandanaira**	**3.34**	**34**	P	**Pn**	**11 46 13.8**	**-1.4**
BNDI				S	**Sn**	**11 46 55.8**	**+1.3**
AAI	**Ambon**	**3.62**	**2**	P	**Pn**	**11 46 17.8**	**-1.2**
MSAI	**Masohi**	**4.05**	**13**	P	**Pn**	**11 46 22.8**	**-2.1**
NLAI	**Namlea**	**4.16**	**347**	P	**Pn**	**11 46 26.6**	**+0.1**
SOEI	**Soe**	**4.45**	**237**	P	**Pn**	**11 46 33.6**	**+3.0**
SOEI				S	**Sn**	**11 47 27.4**	**+5.4**
SOEI	**Soe**	**4.45**	**237**	Pn	**Pn**	**11 46 32.5**	**+1.9**
SOEI				Sn	**Sn**	**11 47 26.3**	**+4.3**
BATI	**Baumata**	**5.19**	**236**	Pn	**Pn**	**11 46 43.1**	**+2.4**
	959nm,0.3s,baz=131,slow=2.1,SNR=436						
BATI				Sn	**Sn**	**11 47 44.6**	**+4.3**
	568nm,0.3s,baz=324,slow=3.9,SNR=8.7						
BATI	**Baumata**	**5.19**	**236**	P	**Pn**	**11 46 42.9**	**+2.2**
	23nm85µm56µm7µm,0.8s						
BATI				S	**Sn**	**11 47 44.8**	**+4.6**
	23nm85µm56µm7µm,0.8s						
SANI	**Sanana**	**5.62**	**339**	P	**Pn**	**11 46 46.8**	**+0.2**
	15nm122µm30µm3µm,0.7s						
MMRI	**Maumere**	**5.90**	**257**	P	**Pn**	**11 46 53.4**	**+3.0**
	23nm186µm91µm5µm,1.0s						
MMRI	**Maumere**	**5.90**	**257**	Pn	**Pn**	**11 46 52.1**	**+1.7**
FAKI	**Fak Fak**	**6.06**	**44**	P	**Pn**	**11 46 53.1**	**+0.5**
	7.6nm124µm26µm2µm,1.1s						
FAKI	**Fak Fak**	**6.06**	**44**	Pn	**Pn**	**11 46 53.1**	**+0.5**
FAKI				Sn	**Sn**	**11 48 00.2**	**-1.3**
MTN	**Manton Dam**	**6.27**	**151**	P	**Pn**	**11 46 56.8**	**+1.3**
	baz=6.3,SNR=1000						
MTN	**Manton Dam**	**6.27**	**151**	Pn	**Pn**	**11 46 57.9**	**+2.3**
MTN				Sn	**Sn**	**11 48 09.8**	**+3.0**
KDU	**Kakadu**	**6.89**	**141**	P	**Pn**	**11 47 04.8**	**+0.8**
	baz=7.0,SNR=1000						
SIJI	**Sorong**	**7.17**	**27**	Pn	**Pn**	**11 47 07.9**	**0.0**
	54nm,0.3s,baz=206,slow=9.9,SNR=96						
SIJI				Sn	**Sn**	**11 48 23.7**	**-5.3**
	13nm,0.3s,baz=260,slow=23,SNR=1.1						
SIJI				LR	LR	11 49 29.2	
	comp=Z,50µm,21.4s,baz=184,slow=34						
BASI	**Baing, Sumba**	**7.92**	**248**	P	**Pn**	11 47 23.3	+5.1
	5.7nm66µm16µm1µm,0.8s						
WSI	**Waingapu**	**8.01**	**253**	P	**Pn**	**11 47 22.4**	**+3.0**
	24nm67µm3µm,0.7s						
TNTI	**Ternate**	**8.07**	**355**	P	**Pn**	**11 47 22.0**	**+1.8**
	8.5nm75µm27µm2µm,1.3s						
TNTI	**Ternate**	**8.07**	**355**	Pn	**Pn**	**11 47 21.6**	**+1.4**
LUWI	**Luwuk**	**8.16**	**320**	P	**Pn**	**11 47 22.7**	**+1.3**
	5.9nm44µm16µm2µm,0.9s						
LUWI	**Luwuk**	**8.16**	**320**	Pn	**Pn**	**11 47 22.0**	**+0.6**
KNRA	**Kununurra**	**8.33**	**175**	P	**Pn**	**11 47 23.9**	**+0.1**
	baz=8.4,SNR=837						
KNRA	**Kununurra**	**8.33**	**175**	Pn	**Pn**	**11 47 24.6**	**+0.8**
KNRA				Sn	**Sn**	**11 48 55.2**	**-2.4**
RKPI	**Ransiki, Papua**	**8.41**	**47**	P	**Pn**	**11 47 26.3**	**+1.4**
	8.5nm22µm2µm,0.7s						
BNSI	**Bone**	**8.41**	**290**	P	**Pn**	**11 47 26.2**	**+1.3**
	14nm148µm33µm4µm,0.8s						
KAPI	**Kappang**	**8.56**	**285**	Pn	**Pn**	**11 47 27.5**	**+0.5**
	26nm,0.3s,baz=126,slow=7.1,SNR=128						
KAPI				Sn	**Sn**	**11 49 02.3**	**-0.8**
	8.1nm,0.3s,baz=67,slow=9.6,SNR=1.6						
KAPI	**Kappang**	**8.56**	**285**	Pn	**Pn**	**11 47 27.9**	**+0.9**
KAPI					**Sn**	**11 49 00.2**	**-2.9**
KMSI	**Cibinong**	**8.83**	**333**	P	**Pn**	**11 47 33.2**	**+2.5**
	7.9nm1µm21µm2µm,1.3s						
WBSI	**Waikabubak, Su**	**8.86**	**254**	P	**Pn**	**11 47 34.0**	**+2.8**
	4.7nm84µm13µm1µm,0.9s						
SPSI	**Sidrap Palu**	**8.88**	**292**	P	**Pn**	**11 47 32.6**	**+1.2**
	12nm123µm39µm4µm,1.1s						
GTOI	**Gorontalo**	**9.37**	**327**	P	**Pn**	**11 47 42.6**	**+4.6**
	37µm8µm692nm,1.3s						
PLAI	**Plampang**	**10.28**	**261**	P	**Pn**	**11 47 53.8**	**+3.3**
	87µm23µm1µm,0.8s						
FITZ	**Fitzroy Crossi**	**10.96**	**192**	Pn	**Pn**	**11 47 58.4**	**-1.5**
	13nm,0.3s,baz=24,slow=11,SNR=178						
FITZ				Sn	**Sn**	**11 49 57.3**	**-4.9**
	92nm,0.3s,baz=58,slow=21,SNR=5.4						
FITZ				LR	LR	11 52 50.6	
	comp=Z,83µm,21.6s,baz=150,slow=40						
FITZ	**Fitzroy Crossi**	**10.96**	**192**	P	**Pn**	**11 47 59.6**	**-0.4**
	baz=11,SNR=664						
FITZ	**Fitzroy Crossi**	**10.96**	**192**	Pn	**Pn**	**11 47 59.5**	**-0.5**
MPSI	**Mapaga**	**11.13**	**313**	P	**Pn**	**11 48 03.9**	**+1.7**
	36µm6µm316nm,1.1s						
TWSI	**Taliwang, Sumb**	**11.14**	**262**	P	**Pn**	**11 48 05.3**	**+2.9**
	45µm8µm316nm,0.8s						
WAMI	**Wamena**	**11.15**	**73**	P	**Pn**	**11 48 06.9**	**+4.4**
	69µm19µm2µm,0.8s						
SMPI	**Sarmi**	**11.88**	**64**	P	**Pn**	**11 48 16.0**	**+3.6**
	25µm10µm622nm,1.1s						
MMPI	**Merauke**	**12.28**	**96**	P	Pn	11 48 22.8	+4.9
	63µm31µm2µm,1.0s						
KBKI	**Kotabaru**	**12.48**	**288**	P	Pn	11 48 25.7	+5.0
	837nm156nm,1.0s						
BKB	**Balikpapan**	**12.64**	**298**	P	Pn	11 48 28.3	+5.4
	70µm19µm746nm,0.9s						
BKB	**Balikpapan**	**12.64**	**298**		**Pn**	**11 48 23.9**	**+1.0**
SMKI	**Samarinda**	**12.78**	**302**	P	**P**	**11 48 31.3**	**-4.5**
	51µm16µm490nm,0.9s						
GENI	**Genyem**	**12.96**	**69**	P	**Pn**	**11 48 28.8**	**+1.6**
	52µm21µm979nm,1.3s						
JAY	**Jayapura**	**13.49**	**70**	Pn	**Pn**	**11 48 34.6**	**+0.1**
	3.2nm,0.3s,baz=220,slow=7.6,SNR=13						
JAY	**Jayapura**	**13.49**	**70**	P	**Pn**	**11 48 35.0**	**+0.5**
	22µm4µm255nm,1.0s						
BBKI	**Banjar Baru**	**13.69**	**286**	P	**Pn**	**11 48 40.4**	**+3.2**
	36µm18µm1µm,1.6s						
JAGI	**Jajag, Banyuwa**	**13.81**	**264**	P	**P**	**11 48 43.5**	**-3.7**
	58µm24µm864nm,2.2s						
JAGI	**Jajag, Banyuwa**	**13.81**	**264**		**Pn**	**11 48 38.8**	**-0.1**
WB0	**Warramunga Arr**	**13.82**	**154**	Pn	**Pn**	**11 48 35.9**	**-3.1**
WRAB	**Tennant Creek**	**13.95**	**155**	*c*P	**Pn**	**11 48 37.8**	**-2.9**
WRAB				pmax	pmax		
	comp=Z,922nm,1.0s						
WRAB	**Tennant Creek**	**13.95**	**155**		**Pn**	**11 48 37.9**	**-2.9**
WRA	**Warramunga Arr**	**13.95**	**155**	Pn	**Pn**	**11 48 37.8**	**-3.1**
	comp=Z,3.8nm,0.3s,baz=326,slow=13,SNR=277						
WRA				Sn	**Sn**	**11 51 08.9**	**-6.5**
	comp=Z,47nm,0.3s,baz=335,slow=22,SNR=11						
WRA				LR	LR	11 54 31.6	
	comp=Z,50µm,18.6s,baz=330,slow=39						
WRA	**Warramunga Arr**	**13.95**	**155**	P	**Pn**	**11 48 37.1**	**-3.7**
WRA	**Warramunga Arr**	**13.95**	**155**		**Pn**	**11 48 37.0**	**-3.7**
KMMI	**Kalianget**	**13.97**	**270**	P	**P**	**11 48 49.7**	**+0.7**
	22µm4µm2nm,0.9s						
GMJI	**Gumukmas**	**14.50**	**265**	P	**P**	**11 48 55.2**	**+0.4**
	comp=Z,57µmcomp=Z,14µmcomp=Z,393nm,1.7s						
DAV	**Davao City (W)**	**14.51**	**350**	Pn	**Pn**	**11 48 48.9**	**+0.5**
	comp=Z,58nm,0.3s,baz=134,slow=2.3,SNR=37						
DAV				LR	LR	11 55 10.6	
	comp=Z,33µm,21.9s,baz=171,slow=40						
DAV	**Davao City (W)**	**14.51**	**350**		**Pn**	**11 48 48.0**	**-0.4**
DAV	**Davao City (W)**	**14.51**	**350**	⇓*i*P	**Pn**	**11 48 47.4**	**-1.0**
MTKI	**Muara Teweh, K**	**14.56**	**295**	P	**P**	**11 48 52.6**	**-3.0**
	comp=Z,33µmcomp=Z,11µmcomp=Z,268nm,0.8s						
GRJI	**Gresik**	**15.45**	**271**	P	**P**	**11 49 10.3**	**+4.8**
MYLDM	**Lahad Datu**	**15.65**	**322**	P	**P**	**11 49 06.7**	**-1.0**
MBWA	**Marble Bar**	**15.93**	**209**	P	**Pn**	**11 49 06.7**	**-0.5**
PSA00	**Pilbara Seismi**	**16.23**	**208**		**Pn**	**11 49 08.4**	**-2.6**
PSA00				IAmb	IAmb	11 49 28.2	
	comp=Z,943nm,0.8s						
PSA00	**Pilbara Seismi**	**16.23**	**208**		**Pn**	**11 49 08.0**	**-3.1**
PSA00				IAmb	IAmb	11 49 28.0	
	comp=Z,500nm,0.9s						
COEN	**Coen**	**16.26**	**115**	P	**Pn**	**11 49 09.8**	**-1.7**
COEN				IAmb	IAmb	11 49 18.4	
	comp=Z,1µm,0.9s						
NGJI	**Ngawi**	**16.45**	**269**	P	**P**	**11 49 19.6**	**+3.1**
	comp=Z,124µmcomp=Z,32µmcomp=Z,797nm,1.5s						
PBKI	**Pangkalan Bun**	**16.94**	**285**	P	**P**	**11 49 23.6**	**+1.6**
	comp=Z,23µmcomp=Z,2µm,1.1s						
WOJI	**Wonogiri, Jawa**	**16.98**	**267**	P	**P**	**11 49 21.5**	**-0.9**
	comp=Z,27µmcomp=Z,8µmcomp=Z,727nm,1.2s						
AS31	**Alice Springs**	**17.20**	**162**	P	**Pn**	**11 49 20.7**	**-2.7**
ASAR	**Alice Springs**	**17.20**	**162**	P	**Pn**	**11 49 20.2**	**-3.2**
	comp=Z,10nm,0.3s,baz=340,slow=12,SNR=315						
ASAR				S	**Sn**	**11 52 29.3**	**-5.1**
	comp=Z,15nm,0.3s,baz=313,slow=16,SNR=8.5						
ASAR				LR	LR	11 56 12.2	
	comp=Z,41µm,18.6s,baz=334,slow=37						
ASAR	**Alice Springs**	**17.20**	**162**	P	**Pn**	**11 49 22.5**	**-0.9**
ASAR	**Alice Springs**	**17.20**	**162**	P	**Pn**	**11 49 22.5**	**-0.9**
UGM	**Wanagama**	**17.38**	**267**	P	**P**	**11 49 30.5**	**+3.6**
	comp=Z,46µmcomp=Z,15µmcomp=Z,736nm,1.2s						
UGM	**Wanagama**	**17.38**	**267**	P	**Pn**	**11 49 25.1**	**-0.6**
SMRI	**Semarang**	**17.47**	**270**	P	P	11 49 39.3	+11
YOGI	**Yogyakarta**	**17.60**	**267**	P	P	11 49 46.7	+17
KKM	**Kota Kinabalu**	**17.77**	**318**	P	**P**	**11 49 32.0**	**+0.7**
SBUM	**Sibu**	**18.54**	**301**		**Pn**	**11 49 41.4**	**+1.5**
SBUM				IAmb	IAmb	11 50 01.6	
	comp=Z,1µm,1.4s						
SBUM	**Sibu**	**18.54**	**301**	P	**Pn**	**11 49 43.0**	**+3.1**
PMG	**Port Moresby**	**19.02**	**98**	P	**Pn**	**11 49 46.6**	**+0.8**
	comp=Z,12nm,0.3s,baz=286,slow=5.9,SNR=61						
PMG				LR	LR	11 58 28.9	
	comp=Z,67µm,21.1s,baz=266,slow=41						
PMG	**Port Moresby**	**19.02**	**98**	*ce*P	**Pn**	**11 49 46.5**	**+0.7**
PMG				pmax	pmax		
	comp=Z,2µm,1.0s						
PMG				MLR	MLR		
	comp=Z,61µm,20.0s						
PMG	**Port Moresby**	**19.02**	**98**	P	**P**	**11 49 44.8**	**-0.2**
MTSU	**Mount Surprise**	**19.15**	**126**	P	**Pn**	**11 49 47.2**	**-0.1**
	baz=19,SNR=458						
CMJI	**Cimerak**	**19.43**	**267**	P	**Pn**	**11 49 52.4**	**+1.7**
	comp=Z,20µmcomp=Z,7µmcomp=Z,284nm,0.9s						
JCJI	**Jatiwangi**	**19.65**	**271**	P	Pn	11 50 06.7	+13
KSM	**Kuching**	**19.73**	**296**		**Pn**	**11 49 54.3**	**-0.1**
KSM				IAmb	IAmb	11 50 11.3	
	comp=Z,822nm,1.0s						
KSM	**Kuching**	**19.73**	**296**	P	**Pn**	**11 49 56.0**	**+1.7**
CISI	**Cisompet, Garu**	**20.06**	**268**	P	Pn	11 49 59.9	+1.6
	comp=Z,33µmcomp=Z,11µmcomp=Z,450nm,1.2s						
CISI	**Cisompet, Garu**	**20.06**	**268**	P	**P**	**11 49 55.5**	**-0.9**
CISI				IAmb	IAmb	11 50 23.4	
	comp=Z,2µm,1.6s						
GIRL	**Giralia**	**20.22**	**220**	P	Pn	11 50 00.0	+0.1
	baz=20,SNR=44						
GIRL	**Giralia**	**20.22**	**220**	P	**P**	**11 49 58.4**	**+0.4**
GIRL				IAMs_20	IAMs_20	11 58 29.7	
	comp=Z,50µm,22.0s						
LEM	**Lembang**	**20.28**	**270**	P	Pn	11 50 01.0	+0.1
	comp=Z,82nm,0.7s,baz=28,slow=5.5,SNR=9.0						
LEM				LR	LR	11 59 16.5	
	comp=Z,84µm,19.3s,baz=86,slow=41						
CNJI	**Cibinong**	**20.74**	**269**	P	Pn	11 50 06.6	+0.4
	comp=Z,29µmcomp=Z,16µmcomp=Z,1µm,1.4s						
TPI	**Tanjungpandan**	**20.81**	**282**	P	Pn	11 50 09.4	+2.4
CBJI	**Citeko**	**21.06**	**271**	P	**P**	**11 50 09.7**	**+2.5**
	comp=Z,43µmcomp=Z,32µmcomp=Z,1µm,1.2s						
DBJI	**Dramaga**	**21.15**	**271**	P	**P**	**11 50 14.1**	**+5.9**
	comp=Z,407nm,2.3s						
MEEK	**Meekatharra**	**21.20**	**204**	P	**P**	**11 50 08.9**	**+0.2**
	baz=21,SNR=193						
SKJI	**Sukabumi**	**21.32**	**269**	P	P	11 50 26.9	+17
CTA	**Charters Tower**	**21.74**	**128**	P	**P**	**11 50 16.2**	**+1.7**
	comp=Z,258nm,1.0s,baz=296,slow=13,SNR=62						
CTA				LR	LR	11 59 30.4	
	comp=Z,43µm,18.1s,baz=306,slow=39						
CTAO	**Charters Tower**	**21.74**	**128**	P	**P**	**11 50 16.4**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,720nm,1.2s						
CTAO				MLR	MLR		
	comp=Z,47µm,18.0s						
CTAO	**Charters Tower**	**21.74**	**128**	P	**P**	**11 50 16.4**	**+1.9**
CTAO				IAmb	IAmb	11 50 41.0	
	comp=Z,720nm,1.1s						
CTAO	**Charters Tower**	**21.74**	**128**	IAMs_20	IAMs_20	11 59 27.2	
	comp=Z,47µm,18.0s						
XMIS	**Christmas Isla**	**22.34**	**260**	P	**P**	**11 50 19.9**	**-1.1**
XMIS				IAmb	IAmb	11 50 37.0	
	comp=Z,668nm,1.1s						
PPBI	**Pangkal Pinang**	**22.42**	**282**	P	**P**	**11 50 24.9**	**+3.1**
	comp=Z,38µmcomp=Z,25µmcomp=Z,826nm,1.3s						
TGY	**Tagaytay City**	**22.42**	**342**	P	**P**	**11 50 23.8**	**+1.9**
	comp=Z,2µm,0.9s,baz=183,slow=4.7,SNR=23						
TGY				LR	LR	12 00 41.5	
	comp=Z,16µm,21.0s,baz=140,slow=41						
BLSI	**Bandar Lampung**	**22.74**	**274**	P	P	11 50 34.4	+9.1
FORT	**Forrest**	**23.34**	**180**	P	**P**	**11 50 31.8**	**+0.7**
	baz=24,SNR=134						
FORT	**Forrest**	**23.34**	**180**	P	**P**	**11 50 32.2**	**+1.0**
KASI	**Kota Agung**	**23.47**	**273**	P	**P**	**11 50 35.2**	**+2.5**
	comp=Z,23µmcomp=Z,10µmcomp=Z,321nm,0.9s						
PMBI	**Palembang**	**23.58**	**279**	P	**P**	**11 50 38.3**	**+4.5**
	comp=Z,34µmcomp=Z,45µmcomp=Z,4µm,1.1s						
PMBI	**Palembang**	**23.58**	**279**	P	**P**	**11 50 35.8**	**+2.0**
MDSI	**Maura Dua**	**23.90**	**275**	P	**P**	**11 50 37.6**	**+0.7**
	comp=Z,17µmcomp=Z,6µmcomp=Z,167nm,1.5s						
LWLI	**Liwa**	**23.95**	**274**	P	P	11 50 45.5	+8.0
KRVT	**Keravat (AS076**	**24.04**	**84**	P	**P**	**11 50 39.6**	**+1.4**
	comp=Z,233nm,0.8s,baz=97,slow=4.3,SNR=8.6						
KRVT				LR	LR	12 01 39.2	
	comp=Z,24µm,20.4s,baz=265,slow=40						
RABL	**Rabaul**	**24.20**	**84**	P	**P**	**11 50 38.7**	**-0.9**
RABL				IAmb	IAmb	11 51 10.5	
	comp=Z,594nm,1.1s						
DSRI	**Dabo**	**24.36**	**285**	P	**P**	**11 50 43.6**	**+2.4**
	comp=Z,16µmcomp=Z,7µmcomp=Z,246nm,1.6s						
MORW	**Morawa**	**24.41**	**206**	P	**P**	**11 50 41.7**	**+0.3**
	baz=24,SNR=157						
MORW	**Morawa**	**24.41**	**206**	P	**P**	**11 50 41.8**	**+0.3**
QLP	**Quilpie**	**24.58**	**143**	P	**P**	**11 50 43.6**	**+0.7**
	baz=25,SNR=726						
KMBL	**Kambalda**	**24.61**	**193**	P	**P**	**11 50 44.5**	**+1.3**
	baz=25,SNR=38						
LHSI	**Lahat**	**24.65**	**277**	P	**P**	**11 50 44.5**	**+0.8**
	comp=Z,24µmcomp=Z,10µmcomp=Z,637nm,1.2s						
TPRI	**Tanjung Pinang**	**24.85**	**288**	P	**P**	**11 50 49.6**	**+4.0**
	comp=Z,12µmcomp=Z,466nm,1.2s						
MNAI	**Manna**	**25.13**	**275**	P	**P**	**11 50 46.7**	**-1.4**
BLDU	**Baliidu**	**25.49**	**203**	P	**P**	**11 50 52.2**	**+1.0**
	baz=26,SNR=122						
KSI	**Kapahiang**	**25.59**	**277**	P	**P**	**11 50 54.3**	**+1.9**
	comp=Z,22µmcomp=Z,10µmcomp=Z,279nm,1.4s						
MYKOM	**Kota Tinggi**	**25.78**	**290**	IAMs_20	IAMs_20	12 01 06.0	
	comp=Z,30µm,18.0s						
MYKOM	**Kota Tinggi**	**25.78**	**290**	P	**P**	**11 50 56.0**	**+2.0**
MASI	**Maura Aman, Be**	**26.02**	**278**	P	**P**	**11 51 00.6**	**+4.3**
	comp=Z,15µmcomp=Z,886nm,1.1s						
BBOO	**Buckleboo**	**26.43**	**165**	P	**P**	**11 51 00.4**	**+0.7**
	baz=27,SNR=278						
BBOO	**Buckleboo**	**26.43**	**165**	P	**P**	**11 51 00.5**	**+0.7**
BBOO				IAmb	IAmb	11 51 46.1	
	comp=Z,406nm,1.0s						
BBOO				IAMs_20	IAMs_20	12 02 10.6	
	comp=Z,44µm,20.0s						
GUMO	**Guam**	**26.66**	**39**	P	**P**	**11 51 02.5**	**+0.6**
	comp=Z,794nm,1.0s,baz=180,slow=5.7,SNR=9.6						
GUMO	**Guam**	**26.66**	**39**	P	**P**	**11 51 01.3**	**-0.6**
MUN	**Mundaring**	**26.90**	**203**	P	**P**	**11 51 04.9**	**+0.9**
	baz=27,SNR=33						
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SSLB **Suanglung** 31.69 348 P **P** **11 51 45.2 -1.4**
QIZ **Qiongzhong** 31.74 326 P **P** **11 51 45.5 -1.6**
QIZ pP **pP** **11 51 50.8 -0.6**
QIZ S **S** **11 56 53.6 -2.8**
QIZ PcS **PcS** **11 58 26.4 +3.1**
QIZ pmax pmax
comp=Z,16nm,1.7s
QIZ LR LR
comp=Z,5μm,16.2s
QIZ LR LR
comp=Z,11μm,14.7s
QIZ LR LR
comp=Z,9μm,14.7s
QIZ Qiongzhong 31.74 326 P P 11 51 46.1 -1.0
ARMA Armidale 31.89 139 P P 11 51 50.2 +1.8
baz=32,SNR=18
ARMA Armidale 31.89 139 P P 11 51 49.0 +0.6
ARPS Mount Arapiles 31.90 159 P P 11 51 50.1 +1.9
baz=32,SNR=407
YOJ Yonaguni jima 31.97 351 P P 11 51 47.1 -1.9
YOJ pmax pmax
comp=Z,244nm,1.0s
YOJ MLR MLR
comp=Z,11μm,20.0s
YOJ Yonaguni jima 31.97 351 P P 11 51 47.0 -1.9
YOJ IAmb IAmb 11 52 04.8
comp=Z,244nm,1.0s
HKPS Hong Kong Po S 32.42 335 P P 11 51 53.3 +0.3
HKPS IAmb IAmb 11 52 05.4
comp=Z,274nm,1.5s
YHNB Yeheng 32.46 349 P P 11 51 52.2 -1.2
YHNB IAmb IAmb 11 52 14.6
comp=Z,142nm,1.1s
TPTI 32.55 288 P P 11 51 55.1 +0.9
TATO Taipei 32.73 349 P P 11 51 55.6 -0.1
TATO IAmb IAmb 11 52 42.9
comp=Z,389nm,1.9s
YNG Young 32.76 148 P P 11 51 57.6 +1.7
baz=33,SNR=367
KNMB Chin-men Tao 32.97 344 P P 11 51 57.4 -0.3
KNMB IAmb IAmb 11 52 10.2
comp=Z,617nm,1.8s
PATS Pohnpei 33.31 66 P P 11 52 02.1 +1.2
baz=33,SNR=7.3
PATS Pohnpei 33.31 66 P P 11 52 00.2 -0.7
PATS IAmb IAmb 11 52 03.6
comp=Z,220nm,1.2s
QZH Quanzhou 33.37 344 ⇓*i* P **P** **11 52 01.4 +0.2**
QZH PP **PP** **11 53 15.2 -1.7**
QZH S **S** **11 57 23.7 +2.2**
QZH SS **SnSn** **11 59 24.5 +1.3**
QZH pmax pmax
comp=Z,79nm,1.7s
QZH pmax pmax
comp=Z,1μm,5.2s
QZH LR LR
comp=Z,5μm,14.7s
QZH LR LR
comp=Z,9μm,14.7s
QZH LR LR
comp=Z,7μm,17.1s
LHMI Lhok Sumawe 33.44 291 P P 11 52 01.7 -0.4
GZH Guangzhou 33.47 335 P P 11 52 05.0 +2.9
GZH S **S** **11 57 29.9 +6.8**
GZH LR LR
comp=Z,8μm,25.8s
GZH LR LR
comp=Z,12μm,19.2s
CAN Canberra 33.86 148 P P 11 52 05.8 +0.2
CAN pmax pmax
comp=Z,798nm,0.9s
CAN MLR MLR
comp=Z,23μm,18.0s
CAN Canberra 33.86 148 P P 11 52 05.8 +0.2
CAN IAMs_20 IAMs_20 12 05 07.5
comp=Z,23μm,18.0s
TOO Toolangi 34.02 155 P P 11 52 09.9 +3.0
baz=34,SNR=106
TOO Toolangi 34.02 155 P P 11 52 09.4 +2.5
TOO pmax pmax
comp=Z,656nm,1.0s
TOO MLR MLR
comp=Z,30μm,18.0s
TOO Toolangi 34.02 155 P P 11 52 09.4 +2.5
CNB Canberra Magne 34.05 148 P P 11 52 09.0 +1.8
baz=34,SNR=56
JCJ Chichijima 36.86 21 P P 11 52 32.3 +1.0
comp=Z,130nm,0.4s,baz=150,slow=5.4,SNR=7.9
JCJ LR LR 12 06 29.5
comp=Z,6μm,21.0s,baz=204,slow=34
JCJ Chichijima 36.86 21 P P 11 52 31.1 -0.2
SLVN Son La 37.05 321 P P 11 52 33.8 +0.7
SLVN IAmb IAmb 11 52 39.6
comp=Z,437nm,1.6s
LHI Lord Howe Isla 37.64 134 IAMs_20 IAMs_20 12 07 12.4
comp=Z,18μm,19.0s
CMAR Chiang Mai Arr 38.48 312 P P 11 52 46.1 +1.0
comp=Z,64nm,0.9s,baz=140,slow=6.4,SNR=55
CMAR PcP **PcP** **11 54 59.1 +0.9**
comp=Z,14nm,0.7s,baz=163,slow=2.8,SNR=6.3
CMAR LR LR 12 10 05.8
comp=Z,15μm,21.3s,baz=170,slow=38
CMAR Chiang Mai Arr 38.48 312*ce* P **11 52 45.5 +0.3**
CMAR pmax pmax
comp=Z,64nm,0.9s
CMAR Chiang Mai Arr 38.48 312 P P 11 52 45.2 0.0
CM31 Chiang Mai Arr 38.48 312 P P 11 52 46.6 +1.4
SNR=34
CM31 P **P** **11 52 46.6 +1.4**
SNR=34
CM31 Chiang Mai Arr 38.48 312 P P 11 52 45.5 +0.3
CHTO Chiang Mai 38.70 313 P P 11 52 48.2 +1.2
CHTO P **P** **11 52 48.2 +1.2**
CHTO Chiang Mai 38.70 313 P P 11 52 47.2 +0.1
CHTO pmax pmax
comp=Z,180nm,1.1s
CHTO Chiang Mai 38.70 313 P P 11 52 47.2 +0.1
CHTO Chiang Mai 38.70 313 IAMs_20 IAMs_20 12 06 51.0
comp=Z,19μm,21.0s
SSE Sheshan 38.76 351 P P 11 52 48.5 +1.2
SSE S **S** **11 58 44.9 +1.0**
SSE pmax pmax
comp=Z,37nm,0.9s
SSE LR LR
comp=Z,3μm,18.4s
SSE LR LR
comp=Z,3μm,15.2s
SSE LR LR
comp=Z,4μm,18.8s
TAU Tasmania Unive 39.30 157 P P 11 52 52.7 +0.9
TAU pmax pmax
comp=Z,351nm,1.1s
TAU MLR MLR
comp=Z,28μm,18.0s
TAU Tasmania Unive 39.30 157 P P 11 52 52.7 +0.9
TAU IAmb IAmb 11 52 56.4
comp=Z,351nm,1.1s
DZM Mont Dzumac 39.79 116 LR LR 12 09 11.8
comp=Z,19μm,21.5s,baz=296,slow=36
DZM Mont Dzumac 39.79 116 *eP* **P** **11 52 58.6 +2.3**
comp=Z,632nm,1.8s
DZM *eS* **S** **11 59 03.4 +3.4**
comp=Z,10μm,27.2s
DZM *e*LR LR 12 03 48.0
comp=Z,44μm,23.1s
DZM Mont Dzumac 39.79 116 P P 11 52 56.1 -0.2
DZM IAmb IAmb 11 53 03.8
comp=Z,450nm,1.5s
DZM IAMs_20 IAMs_20 12 09 40.4
comp=Z,20μm,20.0s
PBA Port Blair 39.85 298 *eP* P 11 52 54.5 -2.2
PBA Port Blair 39.85 298 IAMs_20 IAMs_20 12 11 56.7
comp=Z,19μm,21.0s
WHN Wuhan 39.88 341 ⇑*i* P **P** **11 52 58.3 +1.6**
WHN S **S** **11 58 59.9 -0.8**
WHN pmax pmax
comp=Z,310nm,1.0s
WHN LR LR
comp=Z,14μm,17.6s
WHN LR LR
comp=Z,5μm,16.2s
WHN LR LR
comp=Z,16μm,15.7s
NJ2 Nanjing 40.12 348 ⇓*i* P **P** **11 52 59.1 +0.4**
NJ2 pP **pP** **11 53 03.4 +0.5**
NJ2 PcS **PcS** **11 58 47.3 -6.2**
NJ2 S **S** **11 59 08.8 +4.4**
NJ2 pmax pmax
comp=Z,85nm,0.7s
NJ2 pmax pmax
comp=Z,1μm,3.9s
NJ2 LR LR
comp=Z,6μm,16.4s
NJ2 LR LR
comp=Z,2μm,18.4s
NJ2 LR LR
comp=Z,6μm,22.4s
JNU Nakatsue 40.31 4 P P 11 53 01.3 +1.0
comp=Z,86nm,0.8s,baz=220,slow=4.8,SNR=9.5
JNU LR LR 12 08 31.3
comp=Z,12μm,20.9s,baz=164,slow=34
JNU Nakatsue 40.31 4 P P 11 52 59.9 -0.4
DGPR DIGLIPUR 40.39 300 *eP* **P** **11 53 00.3 -0.9**
DGPR IAmb IAmb 11 53 06.3
comp=Z,723nm,2.1s
KMI Kunming 40.58 323 ⇓P **P** **11 53 04.8 +1.9**
KMI pP sP 11 53 08.4 -0.8
KMI PP **PnPn** **11 54 38.7 -1.9**
KMI S **S** **11 59 11.8 -0.2**
KMI sS sS 11 59 20.3 +1.0
KMI pmax pmax
comp=Z,190nm,1.3s
KMI pmax pmax
comp=Z,2μm,3.5s
KMI LR LR
comp=Z,2μm,16.2s
KMI LR LR
comp=Z,9μm,18.1s
KMI LR LR
comp=Z,8μm,21.1s
KMI Kunming 40.58 323 P **P** **11 53 05.1 +2.2**
KMI pmax pmax
comp=Z,467nm,1.3s
KMI MLR MLR
comp=Z,9μm,20.0s
KMI Kunming 40.58 323 P **P** **11 53 05.1 +2.2**
KMI IAmb IAmb 11 53 17.5
comp=Z,467nm,1.3s
ENH Enshi 41.41 335 P **P** **11 53 09.2 -0.2**
ENH IAmb IAmb 11 53 23.5
comp=Z,865nm,1.9s
JHJ Hachijo jima 2 41.74 15 LR LR 12 08 10.9
comp=Z,15μm,21.1s,baz=182,slow=33
JHJ2 Mitsune 41.74 15 IAMs_20 IAMs_20 12 08 11.0
comp=Z,15μm,19.0s
KWAJ Kwajalein Atol 42.56 69 P **P** **11 53 20.1 +1.1**
KWAJ pmax pmax
comp=Z,512nm,1.2s
KWAJ Kwajalein Atol 42.56 69 P **P** **11 53 20.1 +1.1**
KWAJ IAmb IAmb 11 53 25.9
comp=Z,512nm,1.1s
INU Inuyama 43.28 11 P **P** **11 53 25.9 +1.4**
INU IAmb IAmb 11 53 40.1
comp=Z,241nm,1.2s
INU IAMs_20 IAMs_20 12 10 32.7
comp=Z,16μm,19.0s
TJN Taejon 43.47 359*d i*P **P** **11 53 26.5 +0.5**
TIA Tai'an 44.50 347 P **P** **11 53 33.6 -0.8**
TIA S **S** **12 00 08.7 -0.3**
TIA pmax pmax
comp=Z,58nm,1.0s
TIA pmax pmax
comp=Z,530nm,3.0s
TIA LR LR
comp=Z,4μm,14.5s
TIA LR LR
comp=Z,7μm,15.7s
TIA LR LR
comp=Z,8μm,50.6s
KSAR Wonju Array Be 44.53 360 P **P** **11 53 35.4 +0.9**
KSAR Wonju Array Be 44.53 360 P **P** **11 53 35.4 +0.9**
KSRS Korea Array 44.54 360 P **P** **11 53 36.4 +1.8**
comp=Z,63nm,1.0s,baz=179,slow=9.8,SNR=170
KSRS LR LR 12 10 35.8
comp=Z,6μm,22.0s,baz=164,slow=34
CD2 Chengdu 44.57 330 P **P** **11 53 35.0 0.0**
CD2 pP pP 11 53 38.7 -1.2
CD2 S **S** **12 00 12.5 +2.3**
CD2 sS sS 12 00 17.1 -0.5
CD2 pmax pmax
comp=Z,240nm,1.1s
CD2 pmax pmax
comp=Z,2μm,4.9s
CD2 LR LR
comp=Z,7μm,22.3s
CD2 LR LR
comp=Z,14μm,17.7s
CD2 LR LR
comp=Z,11μm,15.5s
INCN Inchon 44.59 358 P **P** **11 53 36.2 +1.1**
INCN P **P** **11 53 36.2 +1.1**
INCN Inchon 44.59 358 P **P** **11 53 35.9 +0.9**
INCN pmax pmax
comp=Z,222nm,1.1s
INCN Inchon 44.59 358 P **P** **11 53 35.9 +0.9**
INCN IAmb IAmb 11 53 48.6
comp=Z,222nm,1.1s
INCN Inchon 44.59 358 IAMs_20 IAMs_20 12 10 47.4
comp=Z,12μm,20.0s
KS19 Wonju Array Si 44.59 360 P **P** **11 53 35.7 +0.7**
MAJO Matsushiro 44.66 12*d i*P **P** **11 53 35.4 -0.3**
MAJO pmax pmax
comp=Z,205nm,1.0s
MAJO MLR MLR
comp=Z,8μm,18.0s
MAJO Matsushiro 44.66 12 P **P** **11 53 35.1 -0.6**
MAJO IAmb IAmb 11 53 47.8
comp=Z,213nm,0.9s
MAT Matsushiro 44.66 12 P **P** **11 53 35.5 -0.2**
MAT S **S** **12 00 09.4 -1.9**
MJAR Matsushiro Arr 44.66 12 P **P** **11 53 35.9 +0.3**
comp=Z,144nm,0.9s,baz=194,slow=10,SNR=108
MJAR LR LR 12 12 28.8
comp=Z,7μm,19.5s,baz=210,slow=36
MJAR Matsushiro Arr 44.66 12 P **P** **11 53 32.6 -3.1**
MJB9 Matsu-Tunnel 44.67 12 P **P** **11 53 35.2 -0.5**
MJB9 IAmb IAmb 11 53 47.7
comp=Z,223nm,1.0s
XAN Xi'an 44.95 337 P **P** **11 53 37.2 -0.8**
XAN S **S** **12 00 16.0 +0.4**
XAN pmax pmax
comp=Z,110nm,1.2s
XAN pmax pmax
comp=Z,940nm,3.5s
XAN LR LR
comp=Z,8μm,20.8s
XAN LR LR
comp=Z,13μm,18.9s
XAN LR LR
comp=Z,12μm,21.1s
XAN Xi'an 44.95 337 P **P** **11 53 37.3 -0.8**
XAN pmax pmax
comp=Z,182nm,0.9s
XAN Xi'an 44.95 337 P **P** **11 53 37.3 -0.8**
XAN IAmb IAmb 11 53 42.4
comp=Z,182nm,0.9s
HJU Haeju 45.18 357 P **P** **11 53 41.1 +1.4**
TARA Tarawa 45.59 81 P **P** **11 53 42.8 -0.7**
TARA IAmb IAmb 11 53 46.5
comp=Z,260nm,1.0s
PYAG Pyongyang 46.19 358 P **P** **11 53 50.0 +2.4**
PYAG S **S** **12 00 37.0 +3.9**
WOSN Wonsan 46.25 359 P **P** **11 53 50.0 +1.9**
WAKE Wake Island 46.32 55 P **P** **11 53 50.2 +1.2**
DL2 Dalian 46.38 353 ⇑*i*P **P** **11 53 49.9 +0.8**
DL2 S **S** **12 00 36.2 +0.3**
DL2 pmax pmax
comp=Z,72nm,1.0s
DL2 pmax pmax
comp=Z,2μm,10.7s
DL2 LR LR
comp=Z,6μm,16.7s
DL2 LR LR
comp=Z,5μm,10.6s
DL2 LR LR
comp=Z,8μm,15.9s
PYS Pyongsong 46.38 358 P **P** **11 53 50.9 +1.7**
LKP Lekhapani 46.46 319 *eP* **P** **11 53 50.0 +0.1**
HHU Hamhung 47.02 359 P **P** **11 53 55.1 +1.0**
HHU S **S** **12 00 45.7 +0.7**
TIY Taiyuan 47.11 343 *eP* **P** **11 53 55.4 +0.3**
TIY S **S** **12 00 36.9 -10**
TIY pmax pmax
comp=Z,66nm,0.9s
TIY pmax pmax
comp=Z,770nm,4.8s
TIY LR LR
comp=Z,3μm,12.3s
TIY LR LR
comp=Z,3μm,11.9s
TIY LR LR
comp=Z,6μm,19.5s
JORH JORHAT 47.12 317 *eP* **P** **11 53 57.2 +2.0**
ZIRO ZIRO 47.90 318 *eP* **P** **11 54 00.9 -0.5**
ZIRO IAmb IAmb 11 54 05.4
comp=Z,154nm,1.1s
SHL Shillong 48.01 314 *eP* **P** **11 54 01.7 -0.6**
SHL *eP* **pP** **11 54 03.0 -3.7**
SHL *e*S **S** **12 01 04.0 +4.0**
SHL Shillong 48.01 314 P **P** **11 54 04.7 +2.4**
SNR=14
SHL Shillong 48.01 314 P **P** **11 54 02.1 -0.3**
SHL pmax pmax
comp=Z,53nm,0.7s
SHL Shillong 48.01 314 P **P** **11 54 02.1 -0.3**
TEZP TEZPUR 48.02 316 *eP* **P** **11 54 01.3 -0.9**
TEZP IAmb IAmb 11 54 05.7
comp=Z,60nm,0.5s
BJT Baijiatuau 48.37 348 P **P** **11 54 05.1 +0.5**
BJT pmax pmax
comp=Z,74nm,0.9s
BJT MLR MLR
comp=Z,6μm,19.0s
BJT Baijiatuau 48.37 348 P **P** **11 54 05.1 +0.5**
BJI Beijing 48.38 348 P **P** **11 54 05.0 +0.3**
BJI S **S** **12 01 04.2 -0.2**
BJI pmax pmax
comp=Z,79nm,1.0s
BJI pmax pmax
comp=Z,900nm,3.4s
BJI LR LR
comp=Z,5μm,17.1s
BJI LR LR
comp=Z,5μm,18.8s
BJI LR LR
comp=Z,5μm,22.1s
GUWA GUWAHATI 48.53 315 *eP* **P** **11 54 05.8 -0.4**
GUWA IAmb IAmb 11 54 18.5
LZH Lanzhou 48.80 334 *eP* **P** **11 54 09.1 +0.8**
LZH pP pP 11 54 13.0 -0.1
LZH S **S** **12 01 04.2 -6.7**
LZH pmax pmax
comp=Z,220nm,1.0s
LZH pmax pmax
comp=Z,2μm,4.5s
LZH LR LR
comp=Z,8μm,18.6s
LZH LR LR
comp=Z,8μm,17.9s
LZH LR LR
comp=Z,8μm,17.8s
CHJN Chongjin 48.91 2 P **P** **11 54 09.9 +1.1**
SNY Shenyang 49.08 356 ⇓P **P** **11 54 10.2 +0.1**
SNY S **S** **12 01 21.0 +6.8**
SNY pmax pmax
comp=Z,70nm,0.9s
SNY pmax pmax
comp=Z,1μm,3.8s
SNY LR LR
comp=Z,9μm,19.7s
SNY LR LR
comp=Z,4μm,16.9s
SNY LR LR
comp=Z,13μm,20.4s
PALK Pallekele 49.39 286 P **P** **11 54 14.0 +0.9**
PALK P **P** **11 54 14.0 +0.9**
PALK Pallekele 49.39 286*de* P **P** **11 54 13.4 +0.4**
PALK pmax pmax
comp=Z,53nm,0.8s
PALK MLR MLR
comp=Z,26μm,20.0s
PALK Pallekele 49.39 286 P **P** **11 54 13.2 +0.1**
MSVF Nonsavu 49.76 107*ce* P **P** **11 54 17.4 +1.6**
MSVF pmax pmax
comp=Z,136nm,0.9s
MSVF Nonsavu 49.76 107 P **P** **11 54 17.5 +1.6**
MSVF IAmb IAmb 11 54 19.2
comp=Z,144nm,0.9s
MSVF Nonsavu 49.76 107 IAMs_20 IAMs_20 12 14 17.7
comp=Z,13μm,21.0s
OUZ Omahuta 50.10 130 P **P** **11 54 20.8 +2.7**
HHC Hu-ho-hao-te 50.28 344 *eP* **P** **11 54 19.8 +0.4**
HHC PP **PP** **11 56 19.7 +4.7**
HHC S **S** **12 01 26.6 -4.7**
HHC SS **SS** **12 05 02.4 -2.8**
HHC pmax pmax
comp=Z,72nm,1.0s
HHC pmax pmax
comp=Z,1μm,5.3s
HHC LR LR
comp=Z,5μm,15.0s
HHC LR LR
comp=Z,6μm,16.8s
HHC LR LR
comp=Z,7μm,14.3s
VLA Vladivostok 50.32 4*d i*P **P** **11 54 20.5 +1.0**
VLA pmax pmax
comp=Z,183nm,1.1s
VLA MLR MLR
comp=Z,6μm,19.0s
CHLP Challavanipeta 50.41 301 *eP* **P** **11 54 20.9 +0.3**
CHLP IVmBBB 11 54 25.2
comp=Z,1μm,3.1s
CHLP *eS* **S** **12 01 31.6 -1.9**
CHLP IVMsBB 12 11 51.4
comp=Z,2μm,23.4s
BTO Baotou 50.50 342 *eP* **P** **11 54 19.3 -1.8**
BTO S **S** **12 01 26.7 -7.7**
CN2 Changchun 50.94 358 *eP* **P** **11 54 24.3 +0.1**
CN2 S **S** **12 01 41.7 +1.6**
CN2 pmax pmax
comp=Z,30nm,0.7s
PYZ Puysegur Point 50.98 146 P **P** **11 54 25.4 +0.9**
ERM Erimo 51.01 14*de* P **P** **11 54 25.9 +1.2**
ERM pmax pmax
comp=Z,230nm,0.9s
ERM Erimo 51.01 14 P **P** **11 54 26.1 +1.4**
ERM IAmb IAmb 11 54 40.9
comp=Z,200nm,0.9s
LSA Lhasa 51.11 318 P **P** **11 54 27.1 +0.8**
LSA S **S** **12 01 43.2 -0.7**
LSA pmax pmax
comp=Z,230nm,0.8s
LSA pmax pmax
comp=Z,5μm,5.3s
LSA LR LR
comp=Z,13μm,18.5s
LSA LR LR
comp=Z,19μm,20.6s
LSA LR LR
comp=Z,10μm,16.4s
LSA Lhasa 51.11 318 P **P** **11 54 27.4 +1.1**
LSA Lhasa 51.11 318 P **P** **11 54 27.4 +1.1**
LSA Lhasa 51.11 318 P **P** **11 54 27.4 +1.1**
LSA pmax pmax
comp=Z,183nm,1.0s
LSA MLR MLR
comp=Z,4μm,20.0s
LSA Lhasa 51.11 318 P **P** **11 54 27.4 +1.1**
LSA IAmb IAmb 11 54 39.6
comp=Z,183nm,1.0s
FOZ Fox Glacier 51.32 142 P **P** **11 54 28.1 +1.0**
FOZ IAmb IAmb 11 54 30.4
comp=Z,313nm,1.0s
MLZ Mavora Lakes 51.33 144 P **P** **11 54 28.1 +0.9**
MLZ IAmb IAmb 11 54 30.5
comp=Z,277nm,0.9s
USA0B Ussuriysk Arra 51.41 4*d i*P **P** **11 54 28.4 +0.8**
USA0B Ussuriysk Arra 51.41 4 P **P** **11 54 28.4 +0.8**
USA0B IAmb IAmb 11 54 40.7
comp=Z,140nm,0.8s
USRK Ussuriysk Ar. 51.41 4 P **P** **11 54 28.1 +0.5**
comp=Z,38nm,0.6s,baz=188,slow=6.9,SNR=84
USRK LR LR 12 16 59.9
comp=Z,7μm,19.2s,baz=174,slow=37
USRK Ussuriysk Ar. 51.41 4 P **P** **11 54 28.3 +0.7**

USRK **Ussuriysk Ar.** 51.41 4 P P 11 54 28.3 +0.7
GTK **Tadong** 51.41 314 eP P 11 54 28.5 +0.3
BOK **Bokaro** 51.48 308 eP P 11 54 25.9 -2.8
WHZ **Wether Hill Ro** 51.53 145 P P 11 54 29.1 +0.4
WKZ **Wanaka** 51.55 143 P P 11 54 30.5 +1.6
WKZ IAmb IAmb 11 54 34.6
comp=Z,451nm,1.3s
MDRS **Chennai** 51.62 293 eP P 11 54 26.3 -3.4
MDRS IAmb IAmb 11 54 38.9
comp=Z,499nm,1.6s
MDJ **Mudanjiang** 51.72 1 P P 11 54 31.6 +1.6
MDJ pP pP 11 54 34.7 0.0
MDJ PP PP 11 56 28.3 +0.4
MDJ S S 12 01 56.7 +5.9
MDJ pmax pmax
comp=Z,220nm,1.4s
MDJ pmax pmax
comp=Z,2µm,3.9s
MDJ LR LR
comp=Z,7µm,22.8s
MDJ LR LR
comp=Z,4µm,22.8s
MDJ LR LR
comp=Z,18µm,38.4s
MDJ **Mudanjiang** 51.72 1 P P 11 54 31.2 +1.2
MDJ IAmb IAmb 11 54 44.0
comp=Z,365nm,1.2s
QRZ **Quartz Range** 51.72 137 P P 11 54 33.1 +2.9
QRZ IAmb IAmb 11 54 36.6
comp=Z,231nm,0.9s
PVM **Polavaram** 51.97 298 eP P 11 54 31.6 -0.7
PVM IVmB_BB 11 54 36.3
comp=Z,2µm,4.0s
PVM eS S 12 01 54.0 -1.1
PVM IVMs_BB IVMs_BB 12 15 38.9
comp=Z,2µm,25.1s
LBZ **Lake Benmore** 52.00 142 P P 11 54 33.8 +1.5
LBZ IAmb IAmb 11 54 35.2
comp=Z,275nm,1.0s
ODAN **Odare** 52.02 312 eP P 11 54 33.3 +0.4
comp=Z,128nm,0.7s
TAPN **Taplejung** 52.07 313 eP P 11 54 33.7 +0.4
comp=Z,186nm,1.0s
RPZ **Rata Peaks** 52.18 141 P P 11 54 35.2 +1.5
comp=Z,953nm,0.8s,baz=282,slow=2.9,SNR=52
RPZ **Rata Peaks** 52.18 141 P P 11 54 35.5 +1.9
HIZ **Hauiti** 52.33 134 IAMs_20 IAMs_20 12 14 44.5
comp=Z,14µm,21.0s
SKHT **Srikalahasti** 52.34 294 eP P 11 54 35.9 +0.8
SKHT IVmB_BB 11 54 39.1
comp=Z,1µm,2.2s
SKHT eS S 12 01 57.5 -2.9
SKHT IVMs_BB IVMs_BB 12 14 26.0
comp=Z,2µm,27.0s
THZ **Tophouse** 52.41 138 P P 11 54 37.4 +2.1
THZ IAmb IAmb 11 54 39.2
comp=Z,181nm,0.9s
LTZ **Lake Taylor** 52.48 140 P P 11 54 37.8 +1.9
LTZ IAmb IAmb 11 54 43.5
comp=Z,180nm,1.1s
OXZ **Oxford** 52.60 140 P P 11 54 38.1 +1.4
OXZ IAmb IAmb 11 54 43.8
comp=Z,156nm,0.7s
ODZ **Otahua Downs** 52.63 143 P P 11 54 38.1 +1.2
ODZ IAmb IAmb 11 54 39.7
comp=Z,151nm,1.0s
MYLAV **Mylavaram** 52.63 297 eP P 11 54 36.7 -0.6
MYLAV IVmBBB 11 54 41.5
comp=Z,2µm,1.9s
MYLAV eS S 12 02 02.4 -1.8
MYLAV IVMs_BB IVMs_BB 12 18 25.3
comp=Z,1µm,15.7s
RAMN **Ramite** 52.65 312 eP P 11 54 38.2 +0.6
comp=Z,260nm,0.6s
TEY **Ternei** 52.69 8 ⇓i P P 11 54 38.2 +1.1
TEY e 11 54 48.7
TEY eS S 12 02 10.8 +6.8
TEY pmax pmax
comp=Z,140nm,1.1s
TEY pmax pmax
comp=N,70nm,1.1s
TEY pmax pmax
comp=Z,1µm,4.4s
TEY smax smax
comp=N,10µm,19.9s
MLR MLR
TEY comp=E,4µm,19.0s
MLR MLR
TEY comp=N,3µm,14.0s
MLR MLR
TEY comp=Z,5µm,19.0s
ASAJ **Asahikawa** 52.87 13 P P 11 54 39.3 +0.8
comp=Z,41nm,0.9s,baz=236,slow=14,SNR=26
JKA **Kamikawa-asahi** 52.87 13 P P 11 54 39.3 +0.8
JKA IAmb IAmb 11 54 51.8
comp=Z,236nm,0.9s
ADKI **Addanki** 52.88 296 eP P 11 54 38.4 -0.7
ADKI IVmBBB 11 54 43.2
comp=Z,2µm,3.5s
ADKI eS S 12 02 05.7 -1.9
ADKI IVMs_BB IVMs_BB 12 15 27.3
comp=Z,2µm,26.3s
TUWZ **Tuamarina** 52.95 137 P P 11 54 39.9 +0.6
BSWZ **Blackbirch Sta** 53.03 138 P P 11 54 41.3 +1.4
KHZ **Kahutara** 53.13 139 P P 11 54 41.8 +1.2
MQZ **McQueen's Vall** 53.18 140 P P 11 54 43.1 +2.2
MQZ IAmb IAmb 11 54 45.0
comp=Z,225nm,1.1s
MCQ **Macquarie Isla** 53.18 158 P P 11 54 42.0 +1.3
baz=53,SNR=14
MCQ **Macquarie Isla** 53.18 158 P P 11 54 41.8 +1.1
MCQ pmax pmax
comp=Z,744nm,1.0s
MCQ MLR MLR
comp=Z,16µm,20.0s
MCQ **Macquarie Isla** 53.18 158 P P 11 54 41.8 +1.1
CMWZ **Cape Campbell** 53.27 138 P P 11 54 42.6 +0.9
TRD **Trivandrum** 53.29 286 eP P 11 54 46.5 +4.2
GTA **Gaotai** 53.34 333 ⇓P P 11 54 42.8 +0.5
GTA pP pwP 11 54 50.0 -0.5
GTA sP sP 11 54 53.0 +4.3
GTA S S 12 02 16.0 +2.4
GTA pmax pmax
comp=Z,110nm,1.1s
GTA pmax pmax
comp=Z,1µm,5.2s
GTA LR LR
comp=Z,3µm,20.0s
GTA LR LR
comp=Z,7µm,20.6s
GTA LR LR
comp=Z,8µm,21.4s
JIRN **Jiri** 53.35 312 eP P 11 54 43.3 +0.4
comp=Z,153nm,0.7s
SNZO **South Karori** 53.41 137 P P 11 54 42.5 -0.2
SNZO IAmb IAmb 11 54 44.5
comp=Z,133nm,0.8s
BHW **Baring Head** 53.56 137 P P 11 54 43.9 +0.1
YUK **Yuzh-Kuril'sk** 53.60 16 d iP P 11 54 44.5 +0.6
YUK e 11 55 49.3
YUK e 11 56 43.5
YUK ePPP PPP 11 57 50.2
YUK i S S 12 02 16.3 -0.2
YUK e 12 04 33.8
YUK eSS SKiKP 12 05 58.5 -0.3
YUK eSSS SSS 12 07 51.2
YUK pmax pmax
comp=Z,1µm,1.0s
YUK pmax pmax
comp=N,137nm,1.1s
YUK pmax pmax
comp=E,167nm,1.1s
YUK pmax pmax
comp=Z,1µm,1.1s
YUK MLR MLR
comp=Z,2µm,19.0s
YUK MLR MLR
comp=E,1µm,16.0s
YUK MLR MLR
comp=N,2µm,18.0s
GUN **Gumba** 53.72 313 eP P 11 54 45.9 +0.3
comp=N,245nm,0.7s
NJS **Nagarjunasagar** 53.73 297 eP P 11 54 44.0 -1.4
NJS IVmB_BB 11 54 48.8
comp=Z,2µm,3.2s
NJS eS S 12 02 12.7 -6.5
NJS IVMs_BB IVMs_BB 12 16 05.6
comp=Z,2µm,27.9s
BKZ **Black Stump Fm** 53.76 134 P P 11 54 46.5 +1.1
BKZ IAmb IAmb 11 54 48.0
comp=Z,137nm,0.7s
MSWZ **Moikau Station** 53.82 137 P P 11 54 45.8 0.0
URZ **Urewera** 53.86 133 P P 11 54 46.1 0.0
PKI **Pulchoki** 53.88 312 eP P 11 54 46.7 0.0
comp=Z,81nm,0.7s
PLWZ **Palliser** 53.89 137 P P 11 54 46.6 +0.3
SRLM **Srisailam** 53.93 296 eP P 11 54 46.1 -0.8
SRLM IVmB_BB 11 54 50.3
comp=Z,2µm,2.1s
SRLM eS S 12 02 22.9 +0.9
SRLM IVMs_BB IVMs_BB 12 15 55.0
comp=Z,2µm,24.7s
KKN **Kakani** 54.09 312 eP P 11 54 48.5 +0.3
comp=Z,58nm,0.8s
DMN **Daman** 54.12 312 eP P 11 54 48.7 +0.3
comp=Z,386nm,1.2s
BFZ **Birch Farm** 54.20 136 P P 11 54 49.6 +1.2
MXZ **Matakaoa Point** 54.49 131 P P 11 54 51.4 +0.7
MXZ IAmb IAmb 11 54 53.0
comp=Z,162nm,0.6s
RPR **Rampur** 54.64 299 eP P 11 54 51.4 -0.6
RPR IVmB_BB 11 54 55.6
comp=Z,2µm,2.9s
RPR eS S 12 02 30.4 -1.1
RPR IVMs_BB IVMs_BB 12 17 10.0
comp=Z,2µm,27.0s
GKN **Gorkha** 54.69 312 eP P 11 54 52.6 +0.2
comp=Z,160nm,0.7s
HYB **Hyderabad** 54.73 297 i P P 11 54 51.0 -1.6
comp=Z,360nm,1.0s
HYB ePcP PcP 11 55 55.0 -0.3
HYB ePP PP 11 57 03.0 +7.5
HYB eS S 12 02 32.0 -0.7
HYB eSS SS 12 06 24.0 +7.9
HYB **Hyderabad** 54.73 297 eP P 11 54 51.1 -1.6
HYB IAmb IAmb 11 55 02.2
HYBB **Hyderabad (bro** 54.73 297 eP P 11 54 51.2 -1.5
HYBB IVmB_BB 11 54 56.0
comp=Z,2µm,2.1s
HYBB eS S 12 02 30.1 -2.6
HYBB IVMs_BB IVMs_BB 12 16 23.1
comp=Z,2µm,26.0s
URV **Uravakonda** 54.99 294 eP P 11 54 52.9 -1.7
URV IVmBBB 11 54 57.8
comp=Z,972nm,3.2s
URV eS S 12 02 31.8 -4.6
URV IVMs_BB IVMs_BB 12 15 41.2
comp=Z,2µm,31.1s
KUR **Kuril'sk** 55.27 17 eP P 11 54 57.8 +1.8
KUR i S S 12 02 44.4 +5.5
KUR eSS SS 12 06 17.3 -6.4
KUR pmax pmax
comp=N,148nm,1.2s
KUR pmax pmax
comp=Z,575nm,1.2s
KUR pmax pmax
comp=E,117nm,1.4s
KUR pmax pmax
comp=Z,2µm,8.3s
KUR MLR MLR
comp=Z,2µm,18.0s
KUR MLR MLR
comp=N,1µm,16.0s
KUR MLR MLR
comp=E,1µm,16.0s
KOLN **Koldanda** 55.33 311 eP P 11 54 57.5 +0.4
comp=E,378nm,0.9s
SRSP **Sriramsagar** 55.49 299 eP P 11 54 56.5 -1.7
SRSP IVmB_BB 11 55 01.5
comp=Z,2µm,2.6s
SRSP eS S 12 02 39.6 -3.4
SRSP IVMs_BB IVMs_BB 12 17 42.1
comp=Z,2µm,23.7s
DANN **Dangsing** 55.52 312 eP P 11 54 58.9 +0.3
comp=Z,308nm,0.8s
YSS **Yuzh-Sakhalins** 55.60 12 eP P 11 54 58.7 +0.3
YSS e 11 55 10.4
YSS e 11 57 05.1
YSS eS S 12 02 44.2 +0.9
YSS e 12 02 57.0
YSS eSS SS 12 06 21.3 -7.6
YSS pmax pmax
comp=Z,50nm,0.8s
YSS pmax pmax
comp=Z,1µm,3.2s
YSS MLR MLR
comp=N,4µm,18.0s
YSS MLR MLR
comp=Z,6µm,18.0s
YSS MLR MLR
comp=E,3µm,17.0s
YSS **Yuzh-Sakhalins** 55.60 12 P P 11 54 58.3 0.0
YSS IAmb IAmb 11 55 11.3
comp=Z,146nm,0.8s
NGP **Nagpur** 55.80 302 eP P 11 54 58.9 -1.4
NGP eS S 12 02 46.1 -0.9
NGP ex x 12 19 59.8
comp=Z,8µm,21.5s
JBP **Jabalpur** 55.90 304 eP P 11 55 01.3 +0.3
JBP eS S 12 02 48.0 -0.2
PYUN **Piuthan** 55.96 311 eP P 11 55 02.1 +0.4
comp=Z,465nm,0.8s
KLR **Kul'dur** 56.41 3 P P 11 55 05.1 +0.9
comp=Z,79nm,1.2s,baz=192,slow=6.1,SNR=68
KLRI **Killari** 56.70 297 eP P 11 55 05.1 -1.7
KLRI IVmBBB 11 55 09.9
comp=Z,2µm,2.3s
KLRI eS S 12 02 56.5 -2.5
KLRI IVMs_BB IVMs_BB 12 17 29.4
comp=Z,2µm,25.7s
HIA **Hailar** 56.82 354 d iP P 11 55 08.1 +1.0
HIA pmax pmax
comp=Z,93nm,1.6s
HIA MLR MLR
comp=Z,10µm,19.0s
HIA **Hailar** 56.82 354 P P 11 55 08.3 +1.2
HIA **Hailar** 56.82 354 IAMs_20 IAMs_20 12 20 38.2
comp=Z,10µm,20.0s
ULN **Ulaanbaatar** 57.99 343 P P 11 55 17.0 +1.4
ULN **Ulaanbaatar** 57.99 343 d iP P 11 55 16.5 +0.9
ULN pmax pmax
comp=Z,320nm,1.7s
ULN MLR MLR
comp=Z,3µm,18.0s
ULN **Ulaanbaatar** 57.99 343 P P 11 55 16.6 +0.9
ULN IAmb IAmb 11 55 21.2
comp=Z,258nm,1.3s
SONM **Songino Array** 58.16 343 P P 11 55 17.5 +0.8
comp=Z,66nm,1.0s,baz=164,slow=7.1,SNR=241
SONM PKP2bc 12 25 04.6
comp=Z,4.8nm,0.9s,baz=276,slow=1.6,SNR=6.3
SONM LR LR 12 25 54.6
comp=Z,3µm,18.2s,baz=154,slow=42
SONM **Songino Array** 58.16 343 P P 11 55 16.9 +0.2
SONM pmax pmax
comp=Z,104nm,1.1s
SONM **Songino Array** 58.16 343 P P 11 55 16.9 +0.2
GOA **Goa** 58.29 293 eP P 11 55 20.2 +2.1
GRNR **Gornyy** 58.31 6 ⇑iP P 11 55 18.6 +1.0
GRNR e 11 55 29.8
GRNR eS S 12 03 25.6 +6.5
GRNR eSS SS 12 07 10.6 -0.9
GRNR pmax pmax
comp=Z,20nm,1.2s
GRNR smax smax
comp=N,2.0nm,0.9s
GRNR MLR MLR
comp=E,1µm,14.0s
GRNR MLR MLR
comp=N,3µm,20.0s
GRNR MLR MLR
comp=Z,4µm,18.0s
POO **Poona** 59.30 296 eP P 11 55 23.5 -1.6
POO ⇓i P pP 11 55 24.0 -5.5
comp=Z,300nm,1.0s
TYV **Tymovskoe** 59.31 11 eP P 11 55 26.0 +1.5
TYV eS S 12 03 35.8 +3.7
TYV pmax pmax
comp=Z,29nm,1.6s
TYV pmax pmax
comp=Z,2µm,3.2s
TYV smax smax
comp=E,13nm,2.4s
TYV smax smax
comp=E,2µm,8.7s
TYV MLR MLR
comp=Z,6µm,18.0s
TYV MLR MLR
comp=E,5µm,18.0s
AFI **Afiamalu** 59.39 102 P P 11 55 27.6 +1.8
AFI pmax pmax
comp=Z,351nm,1.1s
AFI **Afiamalu** 59.39 102 P P 11 55 27.6 +1.8
CASY **Casey** 60.10 188 P P 11 55 30.8 +1.1
CASY IAmb IAmb 11 55 45.0
comp=Z,146nm,1.1s
CASY **Casey** 60.10 188 IAMs_20 IAMs_20 12 19 58.4
comp=Z,11µm,19.0s
KNTN **Kanton** 60.14 89 P P 11 55 31.1 +0.1
KNTN IAmb IAmb 11 55 35.3
comp=Z,202nm,1.1s
CIT **Chita** 60.40 350 eP P 11 55 33.6 +1.5
CIT e 11 57 55.1
CIT e 12 03 51.0
CIT pmax pmax
comp=Z,353nm,2.0s
NDI **New Delhi** 60.65 309 eP P 11 55 31.0 -3.2
DDI **Dehra Dun** 60.80 311 eP P 11 55 35.6 +0.3
DDI IAmb IAmb 11 55 44.8
comp=Z,79nm,0.5s
ZEA **Zeya** 60.83 359 eP P 11 55 36.0 +1.1
ZEA e 11 56 13.0
ZEA eS S 12 03 51.0 -0.5
ZEA eSS SS 12 07 50.0 -1.0
ZEA pmax pmax
comp=Z,2µm,11.0s
ZEA pmax pmax
comp=N,600nm,9.0s
ZEA pmax pmax
comp=N,86nm,1.2s
ZEA pmax pmax
comp=E,52nm,0.8s
ZEA pmax pmax
comp=Z,460nm,1.8s
ZEA pmax pmax
comp=Z,1µm,9.0s
ZEA smax smax
comp=Z,2µm,15.0s
ZEA smax smax
comp=E,2µm,14.0s
ZEA smax smax
comp=N,3µm,12.0s
NKL **Nikolayevsk** 61.19 9 eP P 11 55 38.4 +1.1
NKL e 11 56 17.4
NKL e 11 57 54.9
NKL eS S 12 04 03.6 +7.6
NKL pmax pmax
comp=N,3.0nm,1.0s
NKL pmax pmax
comp=Z,223nm,1.0s
NKL pmax pmax
comp=Z,279nm,2.0s
NKL smax smax
comp=N,6.0nm,0.8s
NIUE **Niue** 61.24 108 P P 11 55 38.3 -0.1
baz=61,SNR=5.8
NIUE **Niue** 61.24 108 P P 11 55 39.5 +1.1
ZAK **Zakamensk** 61.35 342 eP P 11 55 38.8 +0.1
ZAK pmax pmax
comp=Z,83nm,1.5s
SMLA **Simla** 61.86 311 eP P 11 55 41.5 -0.8
TLY **Talaya** 62.40 343 P P 11 55 47.3 +1.7
comp=Z,41nm,0.9s,baz=172,slow=5.4,SNR=69
TLY **Talaya** 62.40 343 d iP P 11 55 46.8 +1.3
TLY eS S 12 04 11.9 +0.4
TLY pmax pmax
comp=Z,262nm,1.0s
TLY **Talaya** 62.40 343 P P 11 55 46.9 +1.3
TLY IAmb IAmb 11 55 51.5
comp=Z,194nm,1.3s
WMQ **Urumqi** 62.62 328 P P 11 55 49.4 +2.1
WMQ pP pP 11 55 52.0 -0.2
WMQ sP pwP 11 55 58.6 +3.0
WMQ PcP PcP 11 56 30.4 +4.3
WMQ PP PP 11 58 06.3 +1.0
WMQ S S 12 04 17.1 +2.3
WMQ ScS SKSac 12 05 37.6 -1.5
WMQ pmax pmax
comp=Z,100nm,1.7s
WMQ pmax pmax
comp=Z,2µm,3.8s
WMQ LR LR
comp=Z,5µm,21.1s
WMQ LR LR
comp=Z,3µm,22.7s
WMQ LR LR
comp=Z,7µm,29.0s
SKR **Severo-Kuril's** 62.67 20 eP P 11 55 44.2 -3.1
SKR eS S 12 04 14.4 -0.5
SKR pmax pmax
comp=Z,900nm,3.6s
SKR MLR MLR
comp=Z,1µm,17.0s
IRK **Irkutsk** 62.72 344 eP P 11 55 48.7 +1.0
IRK pmax pmax
comp=Z,482nm,2.5s
DHRM **DHARAMSHALA** 63.05 312 eP P 11 55 50.2 -0.3
MOY **Mondy** 63.18 341 eP P 11 55 52.4 +1.5
MOY pmax pmax
comp=Z,789nm,3.0s
THN **Thein Dam** 63.57 312 eP P 11 55 54.7 +1.0
RODM **Citronelle, R** 63.69 252 IAMs_20 IAMs_20 12 25 04.1
comp=Z,7µm,20.0s
PEA0B **Petropavlovsk-** 65.25 19 c iP P 11 56 04.9 +0.6
PEA0B **Petropavlovsk-** 65.25 19 P P 11 56 05.1 +0.8
PEA0B IAMs_20 IAMs_20 12 18 54.1
comp=Z,7µm,22.0s
PETK **Petropavlovsk-** 65.25 19 P P 11 56 04.6 +0.3
comp=Z,54nm,0.8s,baz=191,slow=5.3,SNR=54
PETK LR LR 12 20 15.8
comp=Z,4µm,21.6s,baz=208,slow=32
PETK **Petropavlovsk-** 65.25 19 P P 11 56 04.7 +0.4
BOD **Bodaibo** 65.92 352 eP P 11 56 08.5 0.0
BOD pmax pmax
comp=Z,343nm,1.4s
NIL **Nilore** 65.97 312 P P 11 56 09.2 -0.2
NIL pmax pmax
comp=Z,668nm,1.8s
NIL **Nilore** 65.97 312 P P 11 56 09.2 -0.2
JOHN **Johnston Islan** 66.19 68 P P 11 56 10.9 -0.1
ZSN **Zaisan** 66.55 330 i P P 11 56 13.7 +0.9
comp=Z,245nm,2.4s,baz=330
ZSN i S S 12 05 05.9 +2.9
comp=Z,262nm,4.9s,baz=330
ZSN **Zaisan** 66.55 330 i P P 11 56 13.6 +0.8
ZSN i S S 12 05 05.9 +2.9
ZSN pmax pmax
comp=Z,245nm,2.4s
ZSN smax smax
comp=N,262nm,4.9s
SHLS **Shalkode** 66.80 323 ⇑iP P 11 56 14.3 -0.3
comp=N,309nm,1.4s,baz=324
SHLS eS S 12 05 06.4 0.0
comp=N,264nm,3.6s,baz=324
SHLS **Shalkode** 66.80 323 c iP P 11 56 14.3 -0.3
SHLS eS S 12 05 06.4 0.0
SHLS pmax pmax
comp=Z,309nm,1.4s
SHLS smax smax
comp=N,264nm,3.6s
DGZ **Jazzator, Alta** 66.88 333 c iP P 11 56 15.8 +0.8
DGZ pmax pmax
comp=Z,101nm,1.1s
PDGK **Podgornoye** 66.89 324 P P 11 56 15.6 +0.4
KSH **Kashi** 66.96 318 P P 11 56 16.8 +1.1
KSH sP pwP 11 56 24.7 +0.5
KSH PcP PcP 11 56 44.1 -0.1
KSH S S 12 05 07.9 -0.6
KSH pmax pmax
comp=Z,210nm,1.2s
KSH pmax pmax
comp=Z,1µm,2.6s
KSH LR LR
comp=Z,3µm,15.5s
KSH LR LR

comp=Z,3µm,16.4s
KSH LR LR
comp=Z,12µm,24.3s
TARG Taragay, Kyrgy 66.99 321 P **P** **11 56 17.4 +1.2**
PRZ Przheval'sk 67.05 322 P **P** **11 56 18.3 +2.0**
PRZ pmax pmax
comp=Z,1µm,2.0s
PRZ MLR MLR
comp=Z,4µm,19.0s
PRZ Przheval'sk 67.05 322 P **P** **11 56 18.3 +2.0**
UZB Uzynbulak 67.06 323⇑ *i*P **P** **11 56 17.1 +0.7**
comp=Z,346nm,2.0s,baz=323
UZB *e*S **S** **12 05 10.4 +0.7**
comp=Z,112nm,3.7s,baz=323
UZB Uzynbulak 67.06 323 *c i*P **P** **11 56 17.0 +0.7**
UZB *e*S **S** **12 05 10.3 +0.7**
UZB pmax pmax
comp=Z,346nm,2.0s
UZB smax smax
comp=N,112nm,3.7s
SATY Saty 67.38 323⇑ *i*P **P** **11 56 19.3 +0.9**
comp=N,128nm,0.9s,baz=323
SATY *e*S **S** **12 05 14.8 +1.4**
comp=N,72nm,2.4s,baz=323
SATY LR LR 12 26 23.5
comp=N,730nm,18.2s,baz=323
SATY Saty 67.38 323 *c i*P **P** **11 56 19.2 +0.9**
SATY *e*S **S** **12 05 14.8 +1.4**
SATY pmax pmax
comp=Z,128nm,0.9s
SATY smax smax
comp=N,72nm,2.4s
SATY MLR MLR
comp=Z,730nm,18.0s
SATY Saty 67.38 323 *c i*P **P** **11 56 19.2 +0.9**
SATY *e*S **S** **12 05 14.8 +1.4**
SATY pmax pmax
comp=Z,128nm,0.9s
SATY smax smax
comp=N,72nm,2.4s
SATY MLR MLR
comp=Z,730nm,18.0s
KPKS Kokpek 67.44 323⇑ *i*P **P** **11 56 19.4 +0.7**
comp=Z,515nm,1.8s,baz=323
KPKS *e*S **S** **12 05 15.3 +1.2**
comp=Z,157nm,3.6s,baz=323
KPKS Kokpek 67.44 323 *c i*P **P** **11 56 19.4 +0.7**
KPKS *e*S **S** **12 05 15.3 +1.2**
KPKS pmax pmax
comp=Z,515nm,1.8s
KPKS smax smax
comp=N,157nm,3.6s
MK31 Makanchi Array 67.45 328 *i*P **P** **11 56 18.7 +0.2**
MK31 Makanchi Array 67.45 328 P **P** **11 56 18.6 0.0**
MK31 IAmb IAmb 11 56 35.9
comp=Z,139nm,0.9s
MKAR Makanchi Array 67.45 328 P **P** **11 56 18.7 +0.2**
comp=Z,74nm,0.6s,baz=127,slow=7.7,SNR=527
MKAR PKP2bc 12 24 37.1
comp=Z,1.4nm,0.9s,baz=286,slow=2.9,SNR=6.2
MKAR LR LR 12 29 28.5
comp=Z,2µm,18.2s,baz=124,slow=39
MKAR Makanchi Array 67.45 328 *ce*P **P** **11 56 18.3 -0.2**
MKAR pmax pmax
comp=Z,75nm,0.6s
MKAR Makanchi Array 67.45 328 P **P** **11 56 18.1 -0.4**
MKAR P'P'df 12 24 37.7 -3.9
KDJ Kajisay 67.60 321 P **P** **11 56 20.9 +1.1**
KDJ pmax pmax
comp=Z,425nm,1.6s
KDJ MLR MLR
comp=Z,10µm,22.0s
KDJ Kajisay 67.60 321 P **P** **11 56 20.9 +1.1**
KDJ IAMs_20 IAMs_20 12 30 43.9
comp=Z,10µm,22.0s
MAKZ Makanchi 67.62 328 P **P** **11 56 19.6 0.0**
MAKZ Makanchi 67.62 328 P **P** **11 56 19.5 -0.2**
MAKZ IAmb IAmb 11 56 36.3
comp=Z,218nm,1.1s
ULHL Ulahol 68.24 321 P **P** **11 56 24.6 +0.7**
SNR=18
TNSS Tian-Shan 68.25 322⇑ *i*P **P** **11 56 25.3 +1.2**
baz=322
TNSS Tian-Shan 68.25 322 *c i*P **P** **11 56 25.3 +1.2**
MDOK Medeo 68.25 322 *i*P **P** **11 56 24.7 +0.8**
baz=322
MDOK *e*S **S** **12 05 26.8 +2.8**
comp=Z,505nm,2.6s,baz=322
MDOK LR LR 12 27 56.8
comp=Z,3µm,19.5s,baz=322
MDOK Medeo 68.25 322 *i*P **P** **11 56 24.7 +0.8**
MDOK *e*S **S** **12 05 26.7 +2.8**
MDOK smax smax
comp=E,505nm,2.6s
MDOK MLR MLR
comp=Z,3µm,20.0s
KNDC Almaty 68.33 322 P **P** **11 56 24.7 +0.4**
AAA Alma-Ata 68.36 322⇑ *i*P **P** **11 56 25.2 +0.8**
baz=322
AAA *e*S **S** **12 05 27.1 +2.0**
baz=322
AAA LR LR 12 28 03.8
comp=Z,3µm,20.9s,baz=322
AAA Alma-Ata 68.36 322 *c i*P **P** **11 56 25.2 +0.8**
AAA MLR MLR
comp=Z,3µm,21.0s
TDK Taldyqorghan 68.50 324 *e*P **P** **11 56 26.1 +0.9**
comp=Z,737nm,1.7s,baz=325
TDK *e*S **S** **12 05 29.2 +2.7**
comp=Z,551nm,3.6s,baz=325
TDK LR LR 12 28 10.8
comp=Z,4µm,21.6s,baz=325
TDK Taldyqorghan 68.50 324 *e*P **P** **11 56 26.1 +0.9**
TDK *e*S **S** **12 05 29.2 +2.7**
TDK pmax pmax
comp=Z,737nm,1.7s
TDK smax smax
comp=N,551nm,3.6s
TDK MLR MLR
comp=Z,4µm,22.0s
MTBS Maitube 68.61 322 *i*P **P** **11 56 27.0 +0.9**
baz=322
MTBS Maitube 68.61 322 *i*P **P** **11 56 26.9 +0.9**
CHKK Chushkaly 68.68 323 *i*P **P** **11 56 26.8 +0.4**
baz=323
CHKK Chushkaly 68.68 323 *i*P **P** **11 56 26.7 +0.4**
KZA Kyzart 68.78 320 P **P** **11 56 28.7 +1.2**
SNR=103
TKM2 Tokmak 2 69.01 321 P **P** **11 56 29.6 +0.9**
SNR=71
TKM2 Tokmak 2 69.01 321 P **P** **11 56 28.7 0.0**
KUU Kurty 69.09 323⇑ *i*P **P** **11 56 29.6 +0.7**
comp=Z,501nm,1.0s,baz=323
KUU *e*S **S** **12 05 34.4 +0.8**
comp=Z,501nm,4.1s,baz=323
KUU Kurty 69.09 323 *c i*P **P** **11 56 29.6 +0.7**
KUU *e*S **S** **12 05 34.4 +0.8**
KUU pmax pmax
comp=Z,501nm,1.0s
KUU smax smax
comp=N,501nm,4.1s
MA2 Magadan 69.11 12 P **P** **11 56 29.0 +0.4**
comp=N,45nm,0.8s,baz=175,slow=6.8,SNR=18
MA2 Magadan 69.11 12 *c i*P **P** **11 56 29.4 +0.8**
MA2 pmax pmax
comp=Z,210nm,2.5s
MA2 Magadan 69.11 12 IAmb IAmb 11 56 43.1
comp=Z,163nm,1.1s
YAK Yakutsk 69.16 1 *e*P **P** **11 56 29.1 +0.2**
YAK *e**PP **pwP** **11 56 39.6 +2.1**
YAK *e*S **S** **12 05 32.0 -1.5**
YAK *e* 12 06 18.6
YAK *e*SS **SS** **12 10 00.2 0.0**
YAK pmax pmax
comp=Z,277nm,0.8s
YAK pmax pmax
comp=N,70nm,0.9s
YAK pmax pmax
comp=E,7.0nm,0.7s
YAK smax smax
comp=N,1µm,3.8s
YAK smax smax
comp=E,2µm,6.6s
YAK Yakutsk 69.16 1 P **P** **11 56 28.9 0.0**
YAK IAMs_20 IAMs_20 12 25 54.4
comp=Z,6µm,22.0s

KBK Karagaybulak 69.27 321 P **P** **11 56 31.3 +1.0**
SNR=25
UCH Uchtor 69.32 320 P **P** **11 56 30.0 -0.9**
SNR=87
KRAR Krasnoyarsk 69.47 340⇓ *e*P **P** **11 56 29.7 -1.2**
KBL Kabul 69.50 311 P **P** **11 56 32.0 +0.2**
SNR=63
KBL P **P** **11 56 32.0 +0.2**
SNR=63
KBL Kabul 69.50 311 P **P** **11 56 32.1 +0.2**
KBL pmax pmax
comp=Z,210nm,1.3s
KBL MLR MLR
comp=Z,4µm,22.0s
KBL Kabul 69.50 311 P **P** **11 56 32.1 +0.2**
KBL IAmb IAmb 11 56 37.3
comp=Z,210nm,1.3s
AAK Ala-Archa 69.55 321 P **P** **11 56 32.7 +0.8**
comp=Z,134nm,1.1s,baz=117,slow=5.3,SNR=80
AAK Ala-Archa 69.55 321 P **P** **11 56 33.0 +1.0**
SNR=43
AAK Ala-Archa 69.55 321 P **P** **11 56 33.0 +1.0**
AAK Ala-Archa 69.55 321 P **P** **11 56 33.0 +1.0**
AAK Ala-Archa 69.55 321 P **P** **11 56 33.0 +1.0**
AAK P **P** **11 56 33.0 +1.0**
AAK Ala-Archa 69.55 321 P **P** **11 56 33.0 +1.0**
AAK pmax pmax
comp=Z,331nm,1.2s
AAK MLR MLR
comp=Z,4µm,21.0s
AAK Ala-Archa 69.55 321 P **P** **11 56 33.0 +1.0**
FRU1 Bishkek 69.55 321 P **P** **11 56 32.1 +0.3**
FRU1 pmax pmax
comp=Z,431nm,1.5s
FRU1 MLR MLR
comp=Z,5µm,21.0s
FRU1 Bishkek 69.55 321 P **P** **11 56 32.1 +0.3**
CHMS Chumysh 69.58 321 P **P** **11 56 32.8 +0.8**
SNR=18
AML Almayashu 69.79 320 P **P** **11 56 30.0 -3.8**
SNR=45
ARSB Arslanbob 69.84 319 P **P** **11 56 34.4 +0.6**
ARSB pmax pmax
comp=Z,460nm,1.2s
ARSB Arslanbob 69.84 319 P **P** **11 56 34.4 +0.6**
USP Ospenovka 69.88 321 P **P** **11 56 34.6 +0.8**
SNR=92
EKS2 Erkin-Say 70.01 320 P **P** **11 56 36.0 +1.2**
SNR=77
GAR Garm 70.53 316 P **P** **11 56 38.3 +0.3**
GAR IAMs_20 IAMs_20 12 31 53.8
comp=Z,6µm,20.0s
BTK Batken 70.67 317 P **P** **11 56 39.6 +0.8**
BTK pmax pmax
comp=Z,395nm,1.6s
BTK Batken 70.67 317 P **P** **11 56 39.6 +0.8**
RAR Rarotonga 70.81 110 P **P** **11 56 41.5 +1.6**
RAR pmax pmax
comp=Z,266nm,1.4s
RAR Rarotonga 70.81 110 P **P** **11 56 41.5 +1.6**
RAR IAmb IAmb 11 56 55.1
comp=Z,266nm,1.4s
RER Riviere de l'E 70.92 250 P **P** **11 56 42.9 +2.2**
RER IAmb IAmb 11 56 52.7
comp=Z,175nm,1.0s
ZAA0 Zalesovo Array 71.03 335 P **P** **11 56 40.1 -0.5**
ZALV Zalesovo Beam 71.03 335 P **P** **11 56 40.3 -0.2**
comp=Z,126nm,0.7s,baz=123,slow=4.7,SNR=363
ZALV PKPPKP **P'P'df** **12 24 31.6 -3.3**
comp=Z,2.4nm,0.8s,baz=321,slow=4.2,SNR=5.4
ZALV LR LR 12 29 53.1
comp=Z,2µm,21.8s,baz=151,slow=38
ZALV Zalesovo Beam 71.03 335 *i*P **P** **11 56 40.0 -0.5**
ZALV pmax pmax
comp=Z,126nm,0.7s
ZALV Zalesovo Beam 71.03 335 P **P** **11 56 39.7 -0.8**
ZALV **P'P'df** **12 24 32.9 -2.0**
BTLS Baital 71.09 323⇑ *i*P **P** **11 56 41.5 +0.3**
comp=Z,247nm,2.2s,baz=323
BTLS *e*S **S** **12 05 58.5 +1.5**
comp=Z,49nm,2.4s,baz=323
BTLS Baital 71.09 323 *c i*P **P** **11 56 41.4 +0.3**
BTLS *e*S **S** **12 05 58.4 +1.5**
BTLS pmax pmax
comp=Z,247nm,2.2s
BTLS smax smax
comp=N,49nm,2.4s
CHGR Chuyangaron 71.18 315 P **P** **11 56 41.9 -0.1**
CHGR IAMs_20 IAMs_20 12 23 21.5
comp=Z,7µm,21.0s
DZA Taraz 71.69 320 *i*P **P** **11 56 44.7 -0.1**
baz=320
DZA Taraz 71.69 320 *i*P **P** **11 56 44.7 -0.1**
KURBB Kurchatov Arra 71.78 329 P **P** **11 56 45.8 +0.6**
comp=Z,130nm,1.0s,baz=133,slow=5.0,SNR=383
KURK Kurchatov 71.79 329 P **P** **11 56 46.1 +0.9**
KURK P **P** **11 56 46.1 +0.9**
KURK Kurchatov 71.79 329 *c i*P **P** **11 56 45.7 +0.5**
KURK pmax pmax
comp=Z,596nm,1.5s
KURK Kurchatov 71.79 329 P **P** **11 56 45.4 +0.2**
KURK IAMs_20 IAMs_20 12 34 29.6
comp=Z,5µm,20.0s
MSEY Mahe Island 72.15 267 IAMs_20 IAMs_20 12 26 56.3
comp=Z,6µm,22.0s
IUG Iuzhnay 72.17 319⇑ *i*P **P** **11 56 48.4 +0.5**
comp=Z,260nm,1.7s,baz=319
IUG *i*S **S** **12 06 11.1 +1.3**
comp=Z,390nm,4.5s,baz=319
IUG LR LR 12 29 17.2
comp=Z,2µm,20.8s,baz=319
IUG Iuzhnay 72.17 319 *c i*P **P** **11 56 48.4 +0.5**
IUG *i*S **S** **12 06 11.0 +1.3**
IUG pmax pmax
comp=Z,260nm,1.7s
IUG smax smax
comp=N,390nm,4.5s
IUG MLR MLR
comp=Z,2µm,21.0s
KK31 Karatay Array 72.31 320 *i*P **P** **11 56 49.0 +0.4**
KK31 Karatay Array 72.31 320 P **P** **11 56 48.9 +0.4**
KK31 IAmb IAmb 11 57 01.6
comp=Z,222nm,1.4s
KKAR Karatay Array 72.31 320 P **P** **11 56 48.9 +0.3**
KKAR pmax pmax
comp=Z,222nm,1.4s
KKAR Karatay Array 72.31 320 P **P** **11 56 47.8 -0.8**
KKAR Karatay Array 72.31 320 P **P** **11 56 48.9 +0.3**
KKAR IAmb IAmb 11 57 01.6
comp=Z,222nm,1.4s
VNDA Vanda 72.37 173 P **P** **11 56 49.1 +0.8**
comp=Z,16nm,0.7s,baz=309,slow=7.0,SNR=59
VNDA LR LR 12 26 29.7
comp=Z,14µm,21.7s,baz=342,slow=34
VNDA Vanda 72.37 173 P **P** **11 56 49.3 +1.0**
VNDA pmax pmax
comp=Z,65nm,1.0s
VNDA Vanda 72.37 173 P **P** **11 56 49.2 +1.0**
JLN Jalan Bani Buh 73.29 296 P **P** **11 56 55.9 +1.2**
JLN P **P** **11 56 55.9 +1.2**
OTUK Ortayu 73.77 325 P **P** **11 56 58.0 +0.9**
WBK Wadi Bani Khal 73.80 296 P **P** **11 56 59.2 +1.4**
SNR=5.9
WBK P **P** **11 56 59.2 +1.4**
SNR=5.9
MAW Mawson 73.94 201 P **P** **11 56 58.8 +1.1**
comp=Z,26nm,0.8s,baz=79,slow=5.3,SNR=45
MAW LR LR 12 29 03.5
comp=Z,7µm,18.2s,baz=64,slow=35
MAW Mawson 73.94 201 P **P** **11 56 58.7 +0.9**
baz=74,SNR=28
MAW Mawson 73.94 201 P **P** **11 56 58.8 +1.1**
WSAR Wadi Sarin 74.27 297 P **P** **11 57 01.9 +1.4**
SNR=9.8
BRZS Berezniki 74.50 327⇑ *i*P **P** **11 57 01.9 +0.6**
comp=Z,846nm,1.9s,baz=327
BRZS Berezniki 74.50 327 *c i*P **P** **11 57 01.9 +0.6**
BRZS pmax pmax
comp=Z,846nm,1.9s
JMDO Jabal Madar 74.51 296 P **P** **11 57 02.9 +0.9**
SNR=9.6
JMDO P **P** **11 57 02.9 +0.9**
SNR=9.6
HRA Herat 74.63 309 P **P** **11 57 02.9 +0.2**
HRA IAmb IAmb 11 57 12.8
comp=Z,120nm,1.1s

HRA IAMs_20 IAMs_20 12 34 54.6
comp=Z,5µm,21.0s
SMDO Samad 74.74 296 P **P** **11 57 05.1 +1.7**
SNR=11
SMDO P **P** **11 57 05.1 +1.7**
SNR=11
BIDO Bidbid 74.79 297 P **P** **11 57 03.3 -0.2**
SNR=22
XMAS Kiritimati 74.92 86 P **P** **11 57 04.0 -0.4**
XMAS IAmb IAmb 11 57 22.0
comp=Z,253nm,1.4s
BSY Bisya 75.42 296 P **P** **11 57 08.0 +0.8**
SNR=9.5
BSY P **P** **11 57 08.0 +0.8**
SNR=9.5
ADK Adak 75.47 32 P **P** **11 57 07.3 +0.5**
ADK pmax pmax
comp=Z,299nm,1.5s
ADK Adak 75.47 32 P **P** **11 57 07.3 +0.5**
ADK IAmb IAmb 11 57 21.3
comp=Z,299nm,1.5s
HOQ Hoqain 75.53 297 P **P** **11 57 07.5 -0.3**
SNR=40
HOQ P **P** **11 57 07.5 -0.3**
SNR=40
SOCY Socotra 76.12 284 IAMs_20 IAMs_20 12 27 53.8
comp=Z,8µm,22.0s
ARQ Araqi 76.17 296 P **P** **11 57 13.5 +2.1**
SNR=15
ARQ P **P** **11 57 13.5 +2.1**
SNR=15
SOHO SOHO 76.35 297 *i*P **P** **11 57 11.6 -0.9**
SNR=20
SOHO SOHO 76.35 297 *i*P **P** **11 57 11.6 -0.9**
SNR=20
UOSS Minazif 76.85 298 P **P** **11 57 14.5 -0.8**
UOSS Minazif 76.85 298 P **P** **11 57 14.5 -0.8**
UOSS Minazif 76.85 298 P **P** **11 57 14.2 -1.1**
HATD Hatta, Dubai 76.88 298 *i*P **P** **11 57 14.9 -0.5**
SNR=11
HATD Hatta, Dubai 76.88 298 *i*P **P** **11 57 14.9 -0.5**
SNR=11
HATD Hatta, Dubai 76.88 298 P **P** **11 57 16.6 +1.2**
SNR=15
ASHO Ashiyiah 76.91 297 *i*P **P** **11 57 15.0 -0.7**
SNR=19
ASHO Ashiyiah 76.91 297 *i*P **P** **11 57 15.0 -0.7**
SNR=19
ASHO Ashiyiah 76.91 297 P **P** **11 57 16.6 +0.9**
SNR=8.6
ASHO P **P** **11 57 16.6 +0.9**
SNR=8.6
ATKA Atka Island 76.95 32 P **P** **11 57 14.5 -0.7**
MSFE Esma-Masafi 76.99 298 *i*P **P** **11 57 16.0 -0.1**
SNR=16
MSFE Esma-Masafi 76.99 298 *i*P **P** **11 57 16.0 -0.1**
SNR=16
BANOM Banah 77.01 299 P **P** **11 57 16.1 -0.1**
BANOM Banah 77.01 299 P **P** **11 57 16.1 -0.1**
ALNE Al Ain 77.03 297 *i*P **P** **11 57 15.9 -0.4**
SNR=6.7
ALNE Al Ain 77.03 297 *i*P **P** **11 57 15.9 -0.4**
SNR=6.7
SHME Shamm 77.18 299 *i*P **P** **11 57 16.0 -1.2**
SNR=18
SHME Shamm 77.18 299 *i*P **P** **11 57 16.0 -1.2**
SNR=18
BVA0 Borovoye Array 77.31 328 *i*P **P** **11 57 17.1 -0.2**
BVAR Borovoye Array 77.31 328 P **P** **11 57 17.5 +0.2**
comp=Z,73nm,0.9s,baz=123,slow=5.5,SNR=122
NAZ Nazwa, Dubai 77.33 298 *i*P **P** **11 57 17.5 -0.5**
SNR=10
NAZ Nazwa, Dubai 77.33 298 *i*P **P** **11 57 17.5 -0.5**
SNR=10
NAZ Nazwa, Dubai 77.33 298 P **P** **11 57 20.1 +2.2**
SNR=18
NAZ P **P** **11 57 20.1 +2.2**
SNR=18
FAQ Al Faqa, Dubai 77.34 297 *i*P **P** **11 57 17.2 -0.8**
SNR=6.0
FAQ Al Faqa, Dubai 77.34 297 *i*P **P** **11 57 17.2 -0.8**
SNR=6.0
FAQ Al Faqa, Dubai 77.34 297 P **P** **11 57 21.7 +3.7**
SNR=8.1
FAQ P **P** **11 57 21.7 +3.7**
SNR=8.1
BRVK Borovoye 77.38 328 *c i*P **P** **11 57 17.5 -0.1**
BRVK pmax pmax
comp=Z,475nm,1.4s
BRVK MLR MLR
comp=Z,3µm,20.0s
BRVK Borovoye 77.38 328 P **P** **11 57 18.0 +0.3**
UMQ Umm Al-Quwin 77.47 298 P **P** **11 57 16.5 -2.2**
UMQ Umm Al-Quwin 77.47 298 P **P** **11 57 16.5 -2.2**
HON Honolulu 77.89 66 P **P** **11 57 23.2 +2.1**
HON pmax pmax
comp=Z,331nm,0.8s
HON Honolulu 77.89 66 P **P** **11 57 23.2 +2.1**
KIP Kipapa 77.90 66⇓ *e*P **P** **11 57 21.0 -0.2**
KIP pmax pmax
comp=Z,112nm,1.1s
KIP MLR MLR
comp=Z,3µm,18.0s
KIP Kipapa 77.90 66 P **P** **11 57 23.0 +1.8**
OPA Opana 77.96 66 IAMs_20 IAMs_20 12 31 24.0
comp=Z,5µm,19.0s
TIXI Tiksi 78.81 0 P **P** **11 57 25.4 +0.3**
comp=Z,57nm,0.6s,baz=183,slow=3.7,SNR=38
TIXI Tiksi 78.81 0 *ce*P **P** **11 57 24.7 -0.5**
TIXI pmax pmax
comp=Z,163nm,1.7s
TIXI MLR MLR
comp=Z,10µm,21.0s
TIXI Tiksi 78.81 0 P **P** **11 57 25.0 -0.2**
TIXI IAmb IAmb 11 57 41.1
comp=Z,174nm,1.1s
FOMA Nahampoana Res 78.87 246 P **P** **11 57 26.0 -0.5**
FOMA IAmb IAmb 11 57 42.1
comp=Z,208nm,1.8s
GEYT Alibeck 78.95 311 P **P** **11 57 27.0 +0.3**
comp=Z,21nm,0.8s,baz=160,slow=4.7,SNR=16
GEYT LR LR 12 38 07.8
comp=Z,2µm,20.0s,baz=125,slow=40
GEYT Alibeck 78.95 311 P **P** **11 57 27.0 +0.3**
GYA0 ALIBECK ARRAY 78.95 311 P **P** **11 57 26.9 +0.2**
GYA0B ALIBECK ARRAY 78.95 311 P **P** **11 57 26.9 +0.1**
GYA0B IAmb IAmb 11 57 42.9
comp=Z,257nm,1.4s
ABPO Ambohimpanom 79.00 252 P **P** **11 57 27.4 -0.2**
ABPO pmax pmax
comp=Z,96nm,1.4s
ABPO MLR MLR
comp=Z,4µm,20.0s
ABPO Ambohimpanom 79.00 252 P **P** **11 57 27.4 -0.2**
KHLH Kahului Airpor 79.23 67 P **P** **11 57 30.6 +2.1**
KHLH IAmb IAmb 11 57 31.6
comp=Z,123nm,0.7s
KHLH IAMs_20 IAMs_20 12 34 57.7
comp=Z,6µm,20.0s
HLK Haleakala 79.36 67 IAMs_20 IAMs_20 12 34 25.3
comp=Z,6µm,20.0s
KHLU Kahalu`u 79.45 69 P **P** **11 57 29.6 -0.3**
KHLU IAmb IAmb 11 57 32.0
comp=Z,122nm,0.9s
KHLU IAMs_20 IAMs_20 12 34 06.7
comp=Z,5µm,19.0s
HPAH Hawaii Prepara 79.72 68 IAMs_20 IAMs_20 12 34 06.8
comp=Z,5µm,20.0s
MLOA Mauna Loa Obse 79.73 69 IAMs_20 IAMs_20 12 30 09.1
comp=Z,6µm,20.0s
POHA Pohakuloa 79.82 68 P **P** **11 57 33.2 +1.1**
POHA IAmb IAmb 11 57 44.1
comp=Z,174nm,1.1s
POHA Pohakuloa 79.82 68 IAMs_20 IAMs_20 12 34 27.4
comp=Z,5µm,20.0s
HMH Humu'ula Sheep 79.83 69 P **P** **11 57 32.9 +0.7**
HMH IAmb IAmb 11 57 41.2
comp=Z,182nm,0.9s
BILL Bilibino 79.88 14 *e*P **P** **11 57 32.7 +1.6**
BILL *e* 11 57 37.8
BILL *e* 12 00 36.1
BILL *e*PPP PPP 12 02 23.3
BILL *e*S **S** **12 07 37.2 +3.8**
BILL *e*SS **SS** **12 12 48.1 +5.0**
BILL pmax pmax
comp=Z,5.0nm,1.0s

BILL	**Bilibino**	**79.88**	**14**	P	**P**	**11 57 31.9**	**+0.8**			
BILL				IAMs_20	IAMs_20	12 31 27.4				
	comp=Z,6µm,22.0s									
MLH	**Mauna Loa**	**79.90**	**69**	P	**P**	**11 57 30.8**	**-1.7**			
MLH				IAmb	IAmb	11 57 35.2				
	comp=Z,213nm,0.8s									
PUH	**Pauahi**	**80.04**	**69**	P	**P**	**11 57 32.7**	**-0.4**			
PUH				IAmb	IAmb	11 57 35.2				
	comp=Z,97nm,0.8s									
NIKH	**Nikolski High**	**80.18**	**33**	P	**P**	**11 57 33.2**	**+0.2**			
TBI	**Tubuai**	**80.27**	**112**	*e*P	**P**	**11 57 36.6**	**+2.4**			
	comp=Z,257nm,0.9s									
TBI	**Tubuai**	**80.27**	**112**	*e*S	**S**	**12 07 40.0**	**+0.7**			
	comp=Z,2µm,26.2s									
TBI	**Tubuai**	**80.27**	**112**	*e*LQ	LQ	12 19 10.5				
	comp=Z,8µm,33.0s									
TBI				*e*LR	LR	12 22 35.6				
	comp=Z,22µm,31.5s,baz=269									
PAE	**Paea**	**80.58**	**107**	*e*P	**P**	**11 57 38.2**	**+2.3**			
	comp=Z,24nm,1.0s									
PPT2	**Papeete2**	**80.59**	**107**	*e*P	**P**	**11 57 38.5**	**+2.4**			
	comp=Z,182nm,1.0s									
PPT2	**Papeete2**	**80.59**	**107**	*e*S	**S**	**12 07 44.1**	**+1.1**			
	comp=Z,2µm,23.5s									
PPT2	**Papeete2**	**80.59**	**107**	*e*LQ	LQ	12 19 20.1				
	comp=Z,16µm,39.5s									
PPT2				*e*LR	LR	12 22 42.4				
	comp=Z,22µm,31.2s,baz=261									
PPT	**Papeete**	**80.59**	**107**	P	**P**	**11 57 38.1**	**+2.0**			
	comp=Z,194nm,0.9s,baz=297,slow=7.5,SNR=11									
PPT				LR	LR	12 30 02.7				
	comp=Z,3µm,21.7s,baz=264,slow=33									
PPTF	**Pamatai, Papee**	**80.60**	**107**	P	**P**	**11 57 38.8**	**+2.7**			
PPTF				IAmb	IAmb	11 57 42.4				
	comp=Z,250nm,1.0s									
TIAR	**Tiarei**	**80.81**	**107**	*e*P	**P**	**11 57 39.5**	**+2.3**			
	comp=Z,44nm,1.1s									
TVO	**Taravao**	**80.88**	**107**	*e*P	**P**	**11 57 39.8**	**+2.1**			
	comp=Z,27nm,0.9s									
SPIA	**Saint Paul Isl**	**81.38**	**29**	P	**P**	**11 57 38.9**	**-0.4**			
NRIK	**Noril'sk**	**81.41**	**347**	P	**P**	**11 57 39.9**	**+0.6**			
	comp=Z,36nm,0.9s,baz=138,slow=5.7,SNR=38									
NRIK				LR	LR	12 36 23.8				
	comp=Z,6µm,20.2s,baz=142,slow=38									
ABKAR	**Akbulak array**	**81.56**	**322**	P	**P**	**11 57 40.3**	**-0.2**			
ABKAR	**Akbulak array**	**81.56**	**322**	P	**P**	**11 57 40.1**	**-0.4**			
ABKAR				IAmb	IAmb	11 57 53.6				
	comp=Z,193nm,1.1s									
UNV	**Unalaska Valle**	**81.83**	**33**	P	**P**	**11 57 41.4**	**-0.4**			
AKUT	**Akutan**	**82.34**	**33**	P	**P**	**11 57 44.3**	**-0.1**			
PMOR	**Pomariorio Ree**	**82.43**	**104**	*e*P	**P**	**11 57 47.8**	**+2.0**			
	comp=Z,200nm,1.0s									
QSPA	**South Pole Qui**	**82.66**	**180**	P	**P**	**11 57 46.4**	**+0.3**			
	comp=Z,88nm,0.8s,baz=322,slow=1.7,SNR=242									
QSPA	**South Pole Qui**	**82.66**	**180**	P	**P**	**11 57 46.5**	**+0.3**			
QSPA				IAmb	IAmb	11 57 48.0				
	comp=Z,99nm,0.8s									
SYO	**Syowa Base**	**82.66**	**201**	⇓*i*P	**P**	**11 57 45.0**	**-0.9**			
SYO	**Syowa Base**	**82.66**	**201**	⇓*i*pP	**P**	**11 57 47.4**	**+1.5**			
SYO	**Syowa Base**	**82.66**	**201**	⇓*i*PcP	**PcP**	**11 57 50.1**	**-0.7**			
SYO	**Syowa Base**	**82.66**	**201**	⇑*e*PKiKP	**PKiKP**	**12 03 05.0**	**-1.0**			
SYO	**Syowa Base**	**82.66**	**201**	⇑*ep*PKiKP	**PKiKP**	**12 03 07.4**	**+1.4**			
VAH	**Vaihoa**	**82.66**	**104**	*e*P	**P**	**11 57 48.8**	**+1.8**			
	comp=Z,83nm,0.9s									
AKTO	**Aktyubinsk**	**83.15**	**323**	P	**P**	**11 57 48.8**	**0.0**			
	comp=Z,44nm,0.7s,baz=108,slow=8.0,SNR=45									
FALS	**False Pass**	**83.88**	**33**	P	**P**	**11 57 51.6**	**-0.8**			
GAMB	**Gambell**	**83.96**	**23**	P	**P**	**11 57 52.8**	**+0.2**			
SVE	**Sverdlovsk**	**84.05**	**329**	*e*P	**P**	**11 57 53.2**	**0.0**			
SVE				*e*S	**S**	**12 08 13.2**	**-3.5**			
SVE				pmax	pmax					
	comp=Z,675nm,2.0s									
SVE				pmax	pmax					
	comp=Z,762nm,9.7s									
SVE				MLR	MLR					
	comp=Z,5µm,24.0s									
ARU	**Arti**	**84.96**	**329**	P	**P**	**11 57 57.7**	**-0.1**			
	comp=Z,7.5nm,0.5s,baz=134,slow=2.4,SNR=34									
ARU	**Arti**	**84.96**	**329**	*e i*P	**P**	**11 57 57.4**	**-0.5**			
ARU						12 01 09.2				
ARU				S	**S**	**12 08 22.0**	**-3.9**			
ARU				SS	**SS**	**12 13 56.4**	**-2.6**			
ARU				SSS	SSS	12 17 30.9				
ARU				pmax	pmax					
	comp=Z,83nm,2.0s									
ARU	**Arti**	**84.96**	**329**	P	**P**	**11 57 57.6**	**-0.3**			
ARU				IAMs_20	IAMs_20	12 41 13.8				
	comp=Z,4µm,21.0s									
SDPT	**Sand Point**	**85.64**	**33**	P	**P**	**11 57 60.0**	**-1.3**			
SDPT				IAMs_20	IAMs_20	12 35 42.7				
	comp=Z,4µm,20.0s									
CNBA	**Chernabura Isl**	**85.95**	**34**	P	**P**	**11 58 01.9**	**-0.9**			
CNBA				IAmb	IAmb	11 58 35.8				
	comp=Z,247nm,1.8s									
ANM	**Nome**	**86.79**	**23**	P	**P**	**11 58 06.3**	**-0.5**			
ANM				pmax	pmax					
	comp=Z,109nm,1.9s									
ANM				MLR	MLR					
	comp=Z,2µm,20.0s									
ANM	**Nome**	**86.79**	**23**	P	**P**	**11 58 06.3**	**-0.5**			
AKT	**Akhty**	**87.60**	**312**	*e*P	**P**	**11 58 11.0**	**-0.4**			
AKT				*e*		12 01 34.9				
AKT				pmax	pmax					
	comp=Z,192nm,1.3s									
MAK	**Makhachkala**	**88.07**	**314**	*e*P	P	11 58 07.5	-5.9			
MAK				*e*		12 08 31.3				
MAK				*e*SS	SS	12 14 42.4	-2.8			
MAK				*e*SSS	SSS	12 18 13.7				
MAK				pmax	pmax					
	comp=Z,296nm,1.4s									
RDOG	**Red Dog Mine**	**89.08**	**21**	P	**P**	**11 58 17.3**	**-0.4**			
GROC	**Groznyy**	**89.34**	**314**	*e*P	**P**	**11 58 17.8**	**-1.6**			
GROC				*e*		12 01 47.4				
GROC				*e*PPP	PPP	12 03 44.2				
GROC				*e*S	**SKSac**	**12 08 47.5**	**-1.4**			
GROC				*e*PS	**PnS**	**12 10 13.5**	**-1.6**			
GROC				pmax	pmax					
	comp=Z,311nm,1.5s									
SII	**Sitkinak Islan**	**89.38**	**33**	P	**P**	**11 58 19.2**	**-0.1**			
SVW2	**Sparrevohn**	**89.84**	**28**	P	**P**	**11 58 21.0**	**-0.4**			
TBLG	**Delisi**	**89.85**	**312**	P	**P**	**11 58 22.5**	**+0.6**			
TBLG				pmax	pmax					
	comp=Z,231nm,1.4s									
TBLG	**Delisi**	**89.85**	**312**	P	**P**	**11 58 22.5**	**+0.6**			
TBLG				IAmb	IAmb	11 58 36.0				
	comp=Z,231nm,1.4s									
OHAK	**Old Harbor**	**90.01**	**32**	P	**P**	**11 58 21.8**	**-0.4**			
OHAK				IAmb	IAmb	11 58 40.1				
	comp=Z,149nm,1.6s									
OHAK				IAMs_20	IAMs_20	12 38 33.3				
	comp=Z,4µm,20.0s									
TTA	**Tatalina**	**90.14**	**26**	P	**P**	**11 58 22.3**	**-0.5**			
TTA				pmax	pmax					
	comp=Z,65nm,1.3s									
TTA	**Tatalina**	**90.14**	**26**	P	**P**	**11 58 22.3**	**-0.5**			
KIRV	**Kirov**	**90.31**	**329**	P	**P**	**11 58 22.9**	**-0.7**			
	comp=Z,13nm,0.5s,baz=78,slow=3.7,SNR=6.5									
KDAK	**Kodiak Island**	**90.51**	**32**	P	**P**	**11 58 23.8**	**-0.7**			
KDAK				pmax	pmax					
	comp=Z,51nm,1.2s									
KDAK				MLR	MLR					
	comp=Z,5µm,21.0s									
KDAK	**Kodiak Island**	**90.51**	**32**	P	**P**	**11 58 23.8**	**-0.7**			
KDAK	**Kodiak Island**	**90.51**	**32**	IAMs_20	IAMs_20	12 37 41.5				
	comp=Z,5µm,21.0s									
ZEI	**Tsey**	**90.64**	**313**	*e*P	**P**	**11 58 25.1**	**-0.7**			
ZEI				pmax	pmax					
	comp=Z,109nm,1.3s									
KMBO	**Kilima Mbogo**	**90.64**	**269**	P	**P**	**11 58 26.9**	**+0.4**			
	comp=Z,4.8nm,0.8s,baz=89,slow=5.9,SNR=5.3									
KMBO				LR	LR	12 40 04.4				
	comp=Z,2µm,18.2s,baz=94,slow=36									
KMBO	**Kilima Mbogo**	**90.64**	**269**	P	**P**	**11 58 24.9**	**-1.6**			
KMBO	**Kilima Mbogo**	**90.64**	**269**	P	**P**	**11 58 24.9**	**-1.6**			
KMBO	**Kilima Mbogo**	**90.64**	**269**	*i* P	**P**	**11 58 29.6**	**+3.1**			
KMBO				pmax	pmax					
	comp=Z,5.0nm,0.8s									
KMBO	**Kilima Mbogo**	**90.64**	**269**	P	**P**	**11 58 26.2**	**-0.3**			
TAOE	**Nuku Hiva Isla**	**90.66**	**99**	*e*P	**P**	**11 58 28.0**	**+1.6**			
	comp=Z,304nm,1.1s									
TAOE	**Nuku Hiva Isla**	**90.66**	**99**	*e*S	**S**	**12 09 21.8**	**-0.5**			
	comp=Z,1µm,25.3s									
TAOE	**Nuku Hiva Isla**	**90.66**	**99**	*e*LR	LR	12 27 23.4				
	comp=Z,7µm,30.2s									
TAOE	**Nuku Hiva Isla**	**90.66**	**99**	P	**P**	**11 58 25.6**	**-0.8**			
TAOE				IAmb	IAmb	11 58 30.6				
	comp=Z,124nm,1.0s									
AKH	**Akhalkalaki**	**90.72**	**312**	P	**P**	**11 58 26.4**	**+0.2**			
AKH				pmax	pmax					
	comp=Z,202nm,1.3s									
AKH	**Akhalkalaki**	**90.72**	**312**	P	**P**	**11 58 26.4**	**+0.2**			
RSO	**Redoubt South**	**91.03**	**29**	P	**P**	**11 58 25.2**	**-1.9**			
HOM	**Homer**	**91.40**	**30**	P	**P**	**11 58 27.9**	**-0.7**			
HOM				IAmb	IAmb	11 58 47.1				
	comp=Z,98nm,1.0s									
NVL	**N'lazarevskaya**	**91.47**	**197**	*e*P	**P**	**11 58 29.5**	**+0.7**			
NVL				*e*S	**SKSac**	**12 09 03.5**	**+3.2**			
NVL				pmax	pmax					
	comp=Z,21nm,0.7s									
NVL				MLR	MLR					
	comp=Z,7µm,18.0s									
KBZ	**Khabaz**	**91.51**	**314**	P	**P**	**11 58 28.4**	**-1.0**			
	comp=Z,6.3nm,0.8s,baz=147,slow=2.9,SNR=10									
KBZ				LR	LR	12 46 14.3				
	comp=Z,2µm,21.8s,baz=84,slow=40									
KBZ	**Khabaz**	**91.51**	**314**	*ce*P	**P**	**11 58 28.7**	**-0.8**			
KBZ				pmax	pmax					
	comp=Z,29nm,1.1s									
NEY	**Neytrino**	**91.57**	**313**	⇓*e*P	**P**	**11 58 30.6**	**+0.6**			
NEY				pmax	pmax					
	comp=Z,26nm,1.5s									
CNPM	**China Poot**	**91.57**	**30**	P	**P**	**11 58 29.3**	**-0.2**			
GOF	**Gofitskoye**	**91.61**	**315**	⇑*e*P	**P**	**11 58 28.9**	**-1.0**			
GOF				pmax	pmax					
	comp=Z,118nm,1.5s									
KVAR	**Kislovodsk Arr**	**91.69**	**314**	LR	LR	12 46 45.1				
	comp=Z,2µm,20.8s,baz=262,slow=40									
KIV	**Kislovodsk**	**91.70**	**314**	P	**P**	**11 58 26.3**	**-4.2**			
KIV	**Kislovodsk**	**91.70**	**314**	P	**P**	**11 58 26.3**	**-4.2**			
KIV	**Kislovodsk**	**91.70**	**314**	*e*P	**P**	**11 58 31.2**	**+0.7**			
KIV				*e*		12 02 10.0				
KIV				*e*		12 09 03.6				
KIV				*e*SS	SS	12 15 40.6	+2.6			
KIV				pmax	pmax					
	comp=Z,31nm,1.0s									
KIV				pmax	pmax					
	comp=Z,306nm,4.3s									
BRLK	**Bradley Lake**	**91.79**	**30**	P	**P**	**11 58 29.8**	**-0.7**			
IMAR	**Irdian Mountai**	**91.87**	**24**	P	**P**	**11 58 29.3**	**-1.4**			
SKT	**Skwentna**	**91.93**	**28**	P	**P**	**11 58 29.0**	**-2.0**			
SKT				IAMs_20	IAMs_20	12 40 23.8				
	comp=Z,4µm,20.0s									
CUT	**Chulitna**	**92.59**	**27**	P	**P**	**11 58 32.6**	**-1.4**			
	baz=259									
A21K	**Barrow**	**92.23**	**18**	P	**P**	**11 58 32.4**	**+0.2**			
	baz=254									
O22K	**Cooper Landing**	**92.50**	**29**	P	**P**	**11 58 32.9**	**-0.8**			
	baz=260									
SEW	**Seward**	**92.57**	**30**	P	**P**	**11 58 33.1**	**-0.9**			
SEW				IAMs_20	IAMs_20	12 41 45.7				
	comp=Z,4µm,19.0s									
BPAW	**Bear Paw Mtn.**	**92.60**	**26**	P	**P**	**11 58 33.7**	**-0.4**			
TRF	**Thorofare Moun**	**92.78**	**26**	P	**P**	**11 58 33.9**	**-1.3**			
PRGR	**Permogore**	**92.79**	**332**	*e*P	**P**	**11 58 32.7**	**-2.3**			
PRGR				pmax	pmax					
	comp=Z,39nm,1.1s									
PMR	**Palmer**	**92.98**	**28**	P	**P**	**11 58 34.8**	**-1.0**			
PMR				pmax	pmax					
	comp=Z,28nm,1.0s									
PMR	**Palmer**	**92.98**	**28**	P	**P**	**11 58 34.8**	**-1.0**			
GHO	**Glory Hole Cre**	**93.11**	**28**	P	**P**	**11 58 35.7**	**-0.9**			
GHO				IAMs_20	IAMs_20	12 41 20.8				
	comp=Z,6µm,20.0s									
KNK	**Knik Glacier**	**93.27**	**29**	P	**P**	**11 58 36.9**	**-0.3**			
KNK				IAmb	IAmb	11 58 47.5				
	comp=Z,115nm,1.3s									
KNK				IAMs_20	IAMs_20	12 35 31.1				
	comp=Z,5µm,22.0s									
VRH	**Novokhopyorsk**	**93.35**	**321**	*e*P	**P**	**11 58 36.4**	**-1.4**			
VRH				*e*SP	**pwP**	**11 58 48.9**	**+2.2**			
VRH				*e*		12 09 10.2				
VRH				*e*S	**S**	**12 09 39.7**	**-5.0**			
VRH				pmax	pmax					
	comp=Z,30nm,0.8s									
VRH				smax	smax					
	comp=N,2µm,7.6s									
SML	**Sawmill**	**93.39**	**28**	P	**P**	**11 58 36.9**	**-1.0**			
SML				IAmb	IAmb	11 58 56.6				
	comp=Z,106nm,1.3s									
SML				IAMs_20	IAMs_20	12 41 28.4				
	comp=Z,6µm,20.0s									
RND	**Reindeer**	**93.41**	**27**	P	**P**	**11 58 36.2**	**-1.8**			
RND				pmax	pmax					
	comp=Z,53nm,1.0s									
RND	**Reindeer**	**93.41**	**27**	P	**P**	**11 58 36.2**	**-1.8**			
RND				IAmb	IAmb	11 58 55.4				
	comp=Z,54nm,1.0s									
RND				IAMs_20	IAMs_20	12 35 51.7				
	comp=Z,4µm,22.0s									
MCK	**McKinley**	**93.43**	**26**	P	**P**	**11 58 36.4**	**-1.6**			
MCK				pmax	pmax					
	comp=Z,53nm,1.2s									
MCK	**McKinley**	**93.43**	**26**	P	**P**	**11 58 36.4**	**-1.6**			
MCK				IAmb	IAmb	11 58 55.3				
	comp=Z,53nm,1.2s									
MCK				IAMs_20	IAMs_20	12 33 55.2				
	comp=Z,4µm,22.0s									
NEA2	**Nenana**	**93.51**	**25**	P	**P**	**11 58 37.5**	**-0.8**			
	baz=260,SNR=13									
COLD	**Coldfoot**	**93.51**	**23**	P	**P**	**11 58 37.5**	**-0.8**			
	baz=260									
COLD	**Coldfoot**	**93.51**	**23**	P	**P**	**11 58 37.7**	**-0.6**			
GLI	**Glacier Island**	**93.84**	**29**	IAMs_20	IAMs_20	12 35 47.3				
	comp=Z,4µm,22.0s									
SCM	**Sheep Creek Mo**	**93.86**	**28**	P	**P**	**11 58 39.7**	**-0.4**			
SCM				pmax	pmax					
	comp=Z,67nm,1.1s									
SCM				MLR	MLR					
	comp=Z,3µm,20.0s									
SCM	**Sheep Creek Mo**	**93.86**	**28**	P	**P**	**11 58 39.7**	**-0.4**			
SCM				IAmb	IAmb	11 58 50.3				
	comp=Z,67nm,1.1s									
SCM				IAMs_20	IAMs_20	12 42 22.9				
	comp=Z,3µm,20.0s									
WRH	**Wood River Hil**	**93.91**	**26**	P	**P**	**11 58 38.3**	**-1.8**			
MDM	**Murphy Dome**	**93.92**	**25**	P	**P**	**11 58 38.6**	**-1.6**			
TOLK	**Toolik Lake Re**	**93.99**	**21**	P	**P**	**11 58 39.9**	**-0.6**			
	baz=260									
TOLK	**Toolik Lake Re**	**93.99**	**21**	P	**P**	**11 58 39.8**	**-0.7**			
TOLK				IAmb	IAmb	11 59 24.5				
	comp=Z,74nm,1.6s									
DHY	**Denali Highway**	**94.02**	**27**	P	**P**	**11 58 39.9**	**-0.9**			
DHY				IAMs_20	IAMs_20	12 36 21.9				
	comp=Z,4µm,22.0s									
CCB	**Clear Creek Bu**	**94.06**	**25**	P	**P**	**11 58 38.8**	**-2.0**			
HIN	**Hinchinbrook I**	**94.06**	**30**	IAMs_20	IAMs_20	12 42 14.3				
	comp=Z,5µm,20.0s									
TCOL	**CIGO, UAF Yank**	**94.07**	**25**	P	**P**	**11 58 40.4**	**-0.5**			
	baz=262									
COLA	**College**	**94.07**	**25**	P	**P**	**11 58 40.8**	**0.0**			
COLA				pmax	pmax					
	comp=Z,20nm,1.1s									
COLA	**College**	**94.07**	**25**	P	**P**	**11 58 40.8**	**0.0**			
FID	**Port Fidalgo**	**94.12**	**29**	P	**P**	**11 58 39.7**	**-1.5**			
FID				IAMs_20	IAMs_20	12 36 13.2				
	comp=Z,5µm,22.0s									
POKR	**Poker Plat Res**	**94.28**	**25**	P	**P**	**11 58 40.7**	**-1.2**			
	baz=262									
HDA	**Harding Lake**	**94.39**	**26**	P	**P**	**11 58 40.2**	**-2.1**			
	baz=262,SNR=20									
HDA	**Harding Lake**	**94.39**	**26**	P	**P**	**11 58 40.6**	**-1.8**			
IL31		**94.47**	**25**	P	**P**	**11 58 40.4**	**-2.2**			
ILAR	**Eielson Array**	**94.47**	**25**	P	**P**	**11 58 41.0**	**-1.6**			
	comp=Z,4.1nm,0.7s,baz=274,slow=4.2,SNR=36									
ILAR				PP	**PP**	**12 02 25.8**	**-4.5**			
	comp=Z,4.9nm,1.0s,baz=254,slow=6.4,SNR=5.9									
ILAR				PKKPbc	**PKKPdf**	**12 15 41.9**	**-2.2**			
	comp=Z,3.6nm,0.8s,baz=44,slow=1.6,SNR=28									
ILAR				LR	LR	12 37 23.6				
	comp=Z,2µm,21.1s,baz=271,slow=33									
ILAR	**Eielson Array**	**94.47**	**25**	P	**P**	**11 58 40.1**	**-2.6**			
ILAR						12 02 25.8				
ILAR	**Eielson Array**	**94.47**	**25**	P	**P**	**11 58 40.1**	**-2.6**			
ILAR	**Eielson Array**	**94.47**	**25**		PKKPdf	12 15 41.6	-2.5			
KLU	**Klutina**	**94.48**	**29**	P	**P**	**11 58 42.6**	**-0.3**			
VORD	**Divnogorie**	**94.84**	**321**	*e*P	**P**	**11 58 42.3**	**-2.4**			
VORD				*e*SP	**pwP**	**11 58 55.7**	**+2.1**			
VORD				*e*		12 09 21.6				
VORD				*e*S	**S**	**12 09 56.8**	**-1.0**			
VORD				pmax	pmax					
	comp=Z,10.0nm,0.6s									
VORD				smax	smax					
	comp=N,540nm,7.4s									
SNAA	**Sanae**	**94.89**	**194**	P	**P**	**11 58 45.7**	**+1.0**			
SNAA	**Sanae**	**94.89**	**194**	P	**P**	**11 58 45.1**	**+0.4**			
	comp=N,29nm,0.8s,baz=148,slow=4.2,SNR=148									
SNAA	**Sanae**	**94.89**	**194**	P	**P**	**11 58 45.4**	**+0.7**			
SNAA				pmax	pmax					
	comp=Z,46nm,1.0s									
SNAA	**Sanae**	**94.89**	**194**	P	**P**	**11 58 45.4**	**+0.7**			
SNAA				IAmb	IAmb	11 59 07.8				
	comp=Z,46nm,1.0s									
VSR	**Storozhevoye**	**94.95**	**321**	*e*P	**P**	**11 58 44.0**	**-1.2**			
VSR				*e*SP	**pwP**	**11 58 55.7**	**+1.6**			
VSR				*e*		12 09 20.7				
VSR				*e*S	**S**	**12 09 55.9**	**-2.8**			
VSR				pmax	pmax					
	comp=Z,20nm,0.9s									
VSR				smax	smax					
	comp=N,330nm,5.8s									
VORR	**Voronezh**	**94.96**	**321**	P	**P**	**11 58 45.0**	**-0.2**			
VORR				pmax	pmax					
	comp=Z,250nm,1.6s									
RAGM	**Ragged Mountai**	**94.96**	**30**	IAMs_20	IAMs_20	12 43 12.1				
	comp=Z,4µm,20.0s									
KAIM	**Kayak Island**	**95.05**	**30**	IAMs_20	IAMs_20	12 34 17.2				
	comp=Z,4µm,22.0s									
LPSR	**Galich'ya Gora**	**95.22**	**322**	*e*P	**P**	**11 58 45.0**	**-1.4**			
LPSR				*e*SP	**pwP**	**11 58 57.7**	**+2.4**			
LPSR				*e*		12 09 20.7				
LPSR				*e*S	**S**	**12 09 59.7**	**-1.3**			
LPSR				pmax	pmax					
	comp=Z,30nm,0.9s									
LPSR				smax	smax					
	comp=N,860nm,6.9s									
LPSR				MLR	MLR					
	comp=Z,4µm,20.0s									
RIDG	**Independent Ri**	**95.23**	**26**	P	**P**	**11 58 45.0**	**-1.3**			
RIDG				IAmb	IAmb	11 59 04.9				
	comp=Z,123nm,1.7s									
SUCK	**Suckling Hills**	**95.38**	**30**	IAMs_20	IAMs_20	12 43 10.1				
	comp=Z,3µm,19.0s									
GLB	**Gilahina Butte**	**95.49**	**29**	P	**P**	**11 58 46.7**	**-0.8**			
GLB				IAMs_20	IAMs_20	12 36 37.8				
	comp=Z,5µm,22.0s									
ANN	**Anapa**	**95.53**	**314**	*e*P	**P**	**11 58 44.2**	**-3.8**			
ANN				*e*		12 02 37.2				
ANN				*e*		12 09 20.1				
ANN				*e*		12 10 07.5				
ANN				*e*SP	SP	12 11 23.3	+1.8			
ANN				*e*SS	**SS**	**12 16 33.2**	**+0.7**			
ANN				pmax	pmax					
	comp=Z,54nm,0.9s									
ANN				MLR	MLR					
	comp=N,4µm,23.0s									
ANN				MLR	MLR					
	comp=Z,5µm,26.0s									
DOT	**Dot Lake**	**95.57**	**27**	P	**P**	**11 58 46.7**	**-1.1**			
KLMR	**Klimovskoe**	**95.62**	**331**	*e*P	**P**	**11 58 45.6**	**-2.4**			
KLMR				*e*		12 02 36.6				
KLMR				*e*S	**SKSac**	**12 09 21.8**	**-1.4**			
KLMR				pmax	pmax					
	comp=Z,52nm,1.4s									
KLMR	**Klimovskoe**	**95.62**	**331**	*e*P	**P**	**11 58 45.6**	**-2.4**			
KLMR				AMP		11 58 56.1				
	comp=Z,52nm,1.4s									
KLMR				*e*PP	**PP**	**12 02 36.6**	**-2.7**			
KLMR				*e*PPP	PPP	12 04 38.4				
KLMR				*e*S	**SKSac**	**12 09 21.9**	**-1.3**			
KLMR				*e*S	**SKSac**	**12 09 21.9**	**-1.3**			
KLMR				LQ	LQ	12 33 11.4				
KLMR				LQ	LQ	12 33 11.4				
KLMR				LR	LR	12 40 00.0				
KLMR				AMP		12 47 57.6				
	comp=Z,2µm,17.2s									
SCRK	**Sand Creek**	**95.63**	**26**	P	**P**	**11 58 46.9**	**-1.3**			
	baz=265,SNR=12									
VRDI	**Verde Repeater**	**95.64**	**29**	P	**P**	**11 58 47.3**	**-1.1**			
MENT	**Mentasta**	**95.66**	**27**	P	**P**	**11 58 47.3**	**-1.0**			
CRQM	**Cirque**	**95.75**	**30**	P	**P**	**11 58 48.8**	**-0.1**			
CRQM				IAmb	IAmb	12 02 22.2				
	comp=Z,95nm,1.0s				

APA *i* PS **SP** **12 11 45.0 -7.6**
APA pmax pmax
comp=Z,16nm,1.0s
WHY **Whitehorse** **99.81 30** IAMs_20 IAMs_20 12 47 07.2
comp=Z,4µm,20.0s
INK **Inuvik** **99.88 22** P **Pdif** **11 59 07.7 +0.6**
comp=Z,3.7nm,0.8s,baz=299,slow=7.8,SNR=6.1
INK PP **PP** **12 03 12.9 +1.1**
comp=Z,3.3nm,1.0s,baz=272,slow=9.0,SNR=3.6
INK **Inuvik** **99.88 22** Pdif **Pdif** **11 59 06.1 -1.0**
PUL **Pulkovo** **100.17 329** *e*PP **PP** **12 03 11.8 -2.4**
SUR **Sutherland** **100.44 235** IAMs_20 IAMs_20 12 42 07.7
comp=Z,5µm,18.0s
ARCES **ARCESS Array B** **101.20 340** P **Pdif** **11 59 12.2 -0.7**
comp=Z,5.7nm,0.8s,baz=89,slow=5.6,SNR=11
ARCES PKKPbc **PKKPbc** **12 15 21.3 -4.6**
comp=Z,1.6nm,0.6s,baz=245,slow=2.6,SNR=14
AKASG **Malin Array Be** **101.21 320** P **Pdif** **11 59 12.5 -0.8**
comp=Z,1.0nm,0.5s,baz=73,slow=4.0,SNR=5.8
AKASG PP **PP** **12 03 23.8 +1.4**
comp=Z,2.0nm,0.8s,baz=95,slow=6.6,SNR=2.2
AKASG **Malin Array Be** **101.21 320** **Pdif** **11 59 11.9 -1.4**
AKBB **Malin Array Si** **101.21 320**⇑ *e*P **Pdif** **11 59 12.1 -1.3**
SPITS **Spitsbergen Ar** **101.50 349** P **Pdif** **11 59 13.7 -0.4**
comp=Z,9.9nm,0.7s,baz=95,slow=10,SNR=8.3
KIS **Kishinev** **101.61 316** *e*P **Pdif** **11 59 13.0 -2.2**
comp=Z,100nm,7.0s
KIS **Kishinev** **101.61 316** *e*PP **PP** **12 03 23.0 -2.5**
KIS **Kishinev** **101.61 316** *e*PsP 12 03 37.0
KIS *e*SKS **SKSac** **12 09 47.0 -6.9**
KIS *e*SKKS pSKSac 12 10 01.0 +0.4
KIS *e*S **Sdif** **12 10 54.0 -1.5**
KIS **Kishinev** **101.61 316** *e*P **Pdif** **11 59 13.6 -1.6**
KIS *e* 12 03 27.0
KIS *e* 12 09 47.0
KIS *e*S **Sdif** **12 10 54.0 -1.5**
KIS *e* 12 13 14.0
KIS pmax pmax
comp=Z,100nm,7.0s
MOBC **Moresby Island** **101.81 37** IAMs_20 IAMs_20 12 36 33.7
comp=Z,5µm,22.0s
MICGM **Minsk** **101.82 324** *e*P **Pdif** **11 59 22.0 +6.0**
MICGM *e*PP PKiKP 12 04 00.0 +21
MICGM *e*PPP PPP 12 06 14.0
MICGM *e*SKS 12 09 56.0
MICGM *e*S **Sdif** **12 11 10.0 +13**
MICGM *e*PS PS 12 12 30.0 -1.8
MICGM *e*SS SS 12 17 26.0 -34
MICGM *e*SSS SSS 12 21 00.0
MICGM *e*LR LR 12 45 50.0
MNK **Minsk** **101.82 324** *e*P **Pdif** **11 59 22.0 +6.0**
MNK *e* 12 09 56.0
MNK *e*PS PS 12 12 30.0 -1.8
TIRR **Tirgusor** **101.96 314** IAMs_20 IAMs_20 12 52 51.7
comp=Z,5µm,22.0s
KBS **Kingsbay** **102.04 350** IAMs_20 IAMs_20 12 45 42.6
comp=Z,4µm,20.0s
A36M **Sachs Harbour** **102.07 18** P **Pdif** **11 59 15.1 -1.6**
baz=284
FINES **FINESS Array B** **102.11 331** P **Pdif** **11 59 16.0 -1.1**
comp=Z,3.8nm,0.7s,baz=101,slow=8.1,SNR=14
FINES PKiKP **PKiKP** **12 03 37.7 -1.7**
comp=Z,9.1nm,1.0s,baz=58,slow=3.6,SNR=3.1
FINES PKKPbc **PKKPbc** **12 15 21.6 -1.4**
comp=Z,1.6nm,0.7s,baz=48,slow=2.8,SNR=4.3
FINES **FINESS Array B** **102.11 331** **Pdif** **11 59 15.7 -1.5**
VSU **Vasula** **102.12 328** *e*PP PKiKP 12 03 29.2 -10
IDID **Didziasalis** **102.42 325** *e*PP **PP** **12 03 32.4 +1.1**
NACGM **Naroch** **102.43 325** *e*P **Pdif** **11 59 29.0 +10**
NACGM *e*PP PKiKP 12 04 08.0 +28
NACGM *e*SKS 12 10 02.0
NACGM *e*SKKS **SKKSac** **12 10 30.0 -6.4**
NACGM *e*SKKKS 12 11 07.0
NACGM *e*PS **PS** **12 12 40.0 +1.8**
NACGM *e*SS SS 12 18 27.0 +18
NACGM *e*SSS SSS 12 22 32.0
NACGM *e*LQ LQ 12 36 15.0
NACGM *e*LR LR 12 40 35.0
NACGM LRM MLR 12 50 04.0
comp=Z,4.4nm,25.0s
IZAR **Zarasai** **102.66 325** *e*PP **PP** **12 03 33.4 +0.4**
ISAL **Salakas** **102.74 325** *e*PP **PP** **12 03 33.0 -0.7**
KARP **Karpathos** **103.06 305** IAMs_20 IAMs_20 12 54 43.6
comp=Z,4µm,20.0s
C36M **Paulatuk** **103.09 20** P **Pdif** **11 59 20.0 -1.3**
baz=284
PABE **Paberze** **103.97 325** *e*PP **PKiKP** **12 03 42.5 -0.4**
NOR **Nord** **104.14 355** *i* P **PKiKP** **12 03 46.3 +3.6**
BBB **Bella Bella** **104.24 38** IAMs_20 IAMs_20 12 37 14.8
comp=Z,3µm,22.0s
PBUR **Paburge** **105.03 326** *e*PP **PKiKP** **12 03 46.0 +1.1**
UZH **Uzhgorod** **105.86 318** *e*P **Pdif** **11 59 40.4 +6.3**
UZH *e* 12 10 05.0
UZH *i* 12 13 16.4
UZH *e*SS SS 12 18 51.0 -5.0
I02D **Swisshome** **108.06 46** P **PKiKP** **12 03 50.2 -0.6**
baz=278
D03D **Eldon** **108.09 42** P **PKiKP** **12 03 50.1 -0.7**
baz=279
J01E **Myrtle Point** **108.11 47** P **PKiKP** **12 03 50.2 -0.8**
baz=277
JCC **Jacoby Creek,** **108.31 50** IAMs_20 IAMs_20 12 49 05.7
comp=Z,3µm,20.0s
G03D **McMinnville, O** **108.32 45** P **PKiKP** **12 03 49.9 -1.4**
baz=278
D04E **Lakebay** **108.36 43** P **PKiKP** **12 03 50.0 -1.3**
baz=279
K02D **Willamette Mer** **108.36 48** P **PKiKP** **12 03 50.2 -1.4**
baz=277
F04D **Rainier, OR** **108.37 44** P **PKiKP** **12 03 51.0 -0.4**
baz=279
I03D **Drain, OR** **108.47 46** P **PKiKP** **12 03 50.2 -1.5**
baz=278
KHMM **Horse Mountain** **108.53 49** IAMs_20 IAMs_20 12 49 22.4
comp=Z,3µm,19.0s
KMRM **Mail Ridge** **108.62 50** IAMs_20 IAMs_20 12 45 41.9
comp=Z,4µm,20.0s
B05A **Bryant** **108.63 42** P **PKiKP** **12 03 50.9 -0.9**
baz=280
MORC **Moravsky Berou** **108.76 320** *e*PP **PP** **12 04 23.6 +5.2**
MORC *e*SKS **SKSac** **12 10 31.8 +5.5**
MORC *e* 12 13 45.8
MORC *e* 12 30 15.6
PDG **Podgorica** **108.76 312** IAMs_20 IAMs_20 12 56 19.7
comp=Z,3µm,21.0s
JAVC **Velka Javorina** **108.85 319** *e*PP **PP** **12 04 24.5 +5.4**
JAVC *e*SKS **SKSac** **12 10 32.9 +6.2**
JAVC *e* 12 13 46.4
JAVC *e* 12 30 21.9
YKA **Yellowknife Ar** **108.89 26** Pdiff **Pdif** **11 59 47.5 +0.3**
comp=Z,0.8nm,0.7s,baz=300,slow=4.7,SNR=2.7
YKA PKiKP **PKiKP** **12 03 50.7 -1.2**
comp=Z,4.9nm,0.7s,baz=304,slow=1.7,SNR=19
YKA PKKPbc **PKKPbc** **12 14 59.4 -2.9**
comp=Z,3.7nm,0.7s,baz=109,slow=3.1,SNR=19
I04A **Tendick Farm,** **109.13 46** P **PKiKP** **12 03 52.1 -0.9**
baz=278
M02C **Callahan** **109.13 49** P **PKiKP** **12 03 52.2 -0.9**
baz=277
NB2 **NORSAR Subarra** **109.18 333** P **Pdif** **11 59 47.1 -1.5**
comp=Z,10nm,1.2s,baz=72,slow=4.6
NB2 **NORSAR Subarra** **109.18 333** P **Pdif** **11 59 47.1 -1.5**
baz=72,slow=4.6
NOA **NORSAR Array B** **109.18 333** Pdiff **Pdif** **11 59 47.2 -1.4**
comp=Z,1.0nm,0.7s,baz=71,slow=4.6,SNR=6.0
NOA PKiKP **PKiKP** **12 03 53.0 +0.5**
comp=Z,0.8nm,0.7s,baz=270,slow=0.9,SNR=3.0
NOA PKKPbc **PKKPbc** **12 14 58.7 -2.7**
comp=Z,1.1nm,0.8s,baz=254,slow=3.2,SNR=5.9
KRLC **Kraliky** **109.18 321** *e*PP **PP** **12 04 21.4 -0.1**
KRLC *e*SP SP 12 13 47.9 +2.3
KRLC *e*PKKP **PKKPbc** **12 15 00.0 -1.1**
KRLC *ex* x 12 15 10.8
KRLC AMS AMS 12 59 20.0
comp=Z,2µm,21.1s
MODS **Modra-Piesok** **109.20 319** *e*PP **PP** **12 04 23.3 +1.7**
MODS *e*SS SS 12 19 50.7 +9.5
N02D **Trinity Center** **109.29 49** P **PKiKP** **12 03 53.0 -0.4**
baz=277
DPC **Dobruska-Polom** **109.42 321** *e*PP **PP** **12 04 17.0 -6.1**
DPC *e*SP SP 12 13 49.1 +1.1
DPC AMS AMS 12 54 10.0
comp=Z,3µm,23.2s
J04D **Umpqua Nationa** **109.42 47** P **PKiKP** **12 03 52.9 -0.9**
baz=278
L04D **Klamath Falls** **109.42 48** P **PKiKP** **12 03 53.5 -0.3**
baz=278
OSTC **Ostas** **109.44 321** *e*PP **PP** **12 04 18.5 -4.8**
OSTC *e*SP SP 12 13 47.3 -0.8
OSTC AMS AMS 12 54 10.0
comp=Z,4µm,23.1s
VRAC **Vranov** **109.46 320** *e*PP **PP** **12 04 25.7 +2.2**
VRAC *e*SKS **SKSac** **12 10 29.6 +0.4**
VRAC *e* 12 13 51.3
VRAC *e* 12 30 29.6
WDC **Whiskeytown Da** **109.46 50** IAMs_20 IAMs_20 12 40 43.2
comp=Z,4µm,22.0s
MCCM **Marconi Confer** **109.48 52** IAMs_20 IAMs_20 12 46 22.9
comp=Z,4µm,20.0s
CHVC **Chvalec** **109.53 321** *e*PP **PP** **12 04 24.3 +0.4**
CHVC AMS AMS 12 54 10.0
comp=Z,3µm,20.9s
UPC **Upice** **109.58 321** *e*PP **PP** **12 04 24.3 +0.1**
UPC *e*SP SP 12 13 51.3 +1.8
UPC AMS AMS 12 54 20.0
comp=Z,3µm,21.2s
KRUC **Moravsky** **109.64 320** *e*PP **PP** **12 04 27.1 +2.4**
KRUC *e*SKS SKSdf 12 10 31.6 -33
KRUC *e* 12 13 52.2
KRUC *e* 12 30 32.5
LTY **Liberty** **109.75 42** IAMs_20 IAMs_20 12 40 02.3
comp=Z,4µm,21.0s
J05D **Fort Rock, OR** **110.05 47** P **PKiKP** **12 03 54.0 -0.8**
baz=279
Q03E **Paynes Creek** **110.06 50** P **PKiKP** **12 03 54.4 -0.5**
baz=278
RGN **Rugen** **110.16 326** *e*PP **PP** **12 04 21.2 -7.0**
RGN **Rugen** **110.16 326** IAMs_20 IAMs_20 12 59 44.3
comp=Z,4µm,20.0s
TREC **Trest** **110.17 320** *e*PP **PP** **12 04 25.8 -2.8**
TREC *e*SP SP 12 13 59.7 +4.2
TREC AMS AMS 12 53 00.0
comp=Z,3µm,25.1s
TULEG **Thule** **110.21 4** IAMs_20 IAMs_20 12 50 41.1
comp=Z,3µm,20.0s
CONA **Conrad Observa** **110.22 318** *e*pPKiKP **PKiKP** **12 03 58.1 +3.1**
comp=Z,9.8nm,1.3s
CONA *e*PKKPbc **PKKPbc** **12 14 56.4 -1.3**
comp=Z,3.6nm,0.8s
K05A **Summer Lake** **110.38 47** IAMs_20 IAMs_20 12 49 51.3
comp=Z,3µm,19.0s
KONO **Kongsberg** **110.43 332** IAMs_20 IAMs_20 12 57 32.9
comp=Z,3µm,22.0s
RUE **Ruedersdorf** **110.46 323** *e*PP **PP** **12 04 29.7 -0.8**
PVCC **Panska Ves** **110.47 321** *e*PP **PP** **12 04 28.7 -2.0**
PVCC *e*SP SP 12 14 02.4 +4.3
PVCC AMS AMS 12 54 50.0
comp=Z,4µm,20.5s
GOPC **GO Pecny, Ondr** **110.47 321** *e*SP SP 12 14 00.1 +1.8
GOPC AMS AMS 12 55 00.0
comp=Z,3µm,22.0s
PRU **Pruhonice** **110.61 321** *e*SP SP 12 13 55.9 -3.6
PRU AMS AMS 12 55 00.0
comp=Z,3µm,23.2s
PRA **Prague** **110.66 321** *e*PP PP 12 04 14.0 -18
PRA *e*SP SP 12 14 02.6 +2.7
PRA AMS AMS 12 55 00.0
comp=Z,2µm,24.3s
HAWA **Hanford** **110.69 43** IAMs_20 IAMs_20 12 46 19.0
comp=Z,3µm,20.0s
GROS **Grobnik** **110.75 317** *e*PP **PP** **12 04 35.7 +2.7**
GROS *e* 12 05 01.8
BRG **Berggiesshubel** **110.77 322** *e*PDIF **Pdif** **12 00 11.4 +15**
comp=Z,6.1nm,1.2s
BRG **Berggiesshubel** **110.77 322** *i* PKP **PKiKP** **12 03 56.3 +0.6**
comp=Z,9.8nm,1.1s
BRG PP **PP** **12 04 38.6 +5.8**
comp=Z,81nm,2.0s
BRG SDIF 12 12 18.0
BRG SP **SP** **12 14 08.0 +7.1**
BRG PKKP **PKKPdf** **12 15 18.4 +4.9**
comp=Z,14nm,1.4s
BRG SS **SS** **12 20 07.0 +5.0**
comp=Z,3µm,22.6s
comp=N,2µm,21.4s
comp=E,4µm,21.4s
AFDM **Forest Hills D** **110.87 51** IAMs_20 IAMs_20 12 48 29.7
comp=Z,3µm,20.0s
D08A **Wollman Farm,** **110.96 42** IAMs_20 IAMs_20 12 40 27.2
comp=Z,3µm,22.0s
CLL **Collm** **111.23 322** *e* **Pdif** **12 00 10.0 +12**
CLL *e*PKiKP **PKiKP** **12 03 55.0 -1.6**
comp=Z,10.0nm,1.2s
CLL *e*PP **PP** **12 04 31.0 -5.1**
CLL *es*PP 12 04 38.0
CLL *e* 12 05 12.0
CLL *e*PPP PPP 12 07 00.0
CLL *e*SKSac **SKSac** **12 10 36.0 -0.3**
CLL *e* 12 11 12.0
CLL *e* 12 12 00.0
CLL *e*Sdif SKKSac 12 12 17.0 +39
CLL *e* 12 13 44.0
CLL *e*SP SP 12 14 03.0 -2.0
CLL *e*PKKPab **PKKPab** **12 15 04.0 +1.7**
CLL *e*PPS PPS 12 15 12.0
CLL *e* 12 16 12.0
CLL *e*SKKPdf **SKKPdf** **12 18 44.0 -3.2**
CLL *e*PcPPKPre 12 19 01.0
CLL *e* 12 19 18.0
CLL *e*SS **SS** **12 20 12.0 +3.9**
CLL *e* 12 21 12.0
CLL *e*SSS SSS 12 24 06.0
CLL *e*SSSS 12 27 42.0
CLL *e* 12 29 12.0
CLL LmV 13 02 00.0
comp=Z,2µm,21.0s
CLL **Collm** **111.23 322** *e*PKIKP **PKiKP** **12 03 55.0 -1.6**
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL MLR MLR
comp=Z,2µm,21.0s
MOA **Molln** **111.28 319** *e*PKKPbc PKKPbc 12 14 52.7 -1.5
comp=Z,3.4nm,0.6s
VISS **Visnje** **111.34 316** *e*PP **PP** **12 04 40.2 +3.1**
VISS *e* 12 06 39.7
VISS *e* 12 10 37.4
VISS *e*SKSac **SKSac** **12 10 42.7 +5.6**
VISS *e*SKKSac **SKKSac** **12 11 43.4 +4.1**
VISS *e*Sdiff 12 12 18.2
VISS *e*SP SP 12 14 04.4 -2.0
VISS *e* 12 19 08.1
VISS *e*SS **SS** **12 20 05.6 -4.4**
VISS *e* 12 27 44.7
PMPB **Monarch Peak** **111.34 54** IAMs_20 IAMs_20 12 46 16.4
comp=Z,4µm,20.0s
OBKA **Obir** **111.39 317** *e*PKiKP **PKiKP** **12 03 53.9 -3.3**
comp=Z,10nm,1.4s
OBKA *e*PKKPbc **PKKPbc** **12 14 50.9 -3.0**
comp=Z,7.1nm,1.1s
GERES **GERESS Array B** **111.42 320** PKiKP **PKiKP** **12 03 55.5 -1.7**
comp=Z,2.2nm,0.5s,baz=153,slow=1.1,SNR=9.2
GERES PKKPbc **PKKPbc** **12 14 53.0 -0.8**
comp=Z,1.5nm,0.7s,baz=249,slow=2.7,SNR=8.5
KHC **Kasperske Hory** **111.43 320**⇑ *i*PKIKP **PKiKP** **12 03 58.1 +1.0**
KHC pmax pmax
comp=Z,25nm,1.7s
KHC **Kasperske Hory** **111.43 320** *e*PKP **PKiKP** **12 03 57.5 +0.4**
KHC *e*PP **PP** **12 04 42.5 +4.8**
KHC *e*SP SP 12 13 58.8 -8.3
KHC *e*PKKP **PKKPbc** **12 14 52.9 -0.8**
KHC *ex* x 12 15 19.0
KHC AMS AMS 12 51 00.0
comp=Z,2µm,21.4s
RUBR **Rubicon Trail** **111.49 51** IAMs_20 IAMs_20 12 48 30.9
comp=Z,4µm,20.0s
LJU **Ljubljana** **111.50 317** *e*PKiKP **PKiKP** **12 03 55.4 -2.0**
LJU *e*PP **PP** **12 04 41.6 +3.3**
LJU *e* 12 05 08.0
LJU *e* 12 05 26.3
LJU *e* 12 06 41.5
PAGB **Antelope Grade** **111.85 55** IAMs_20 IAMs_20 12 46 49.7
comp=Z,4µm,21.0s
NKC **Novy Kostel** **111.86 321** *e*PP PP 12 04 30.2 -10
NKC *e*SP SP 12 14 16.0 +5.1
NKC AMS AMS 12 55 40.0
comp=Z,3µm,19.8s
MYKA **Terra Mystica** **111.97 317** *e*PKiKP **PKiKP** **12 03 58.0 -0.3**
comp=Z,5.8nm,0.9s
PKM **Mcpherson Peak** **112.30 55** P **PKiKP** **12 03 58.1 -1.3**
baz=277
F10A **Beach Ranch, E** **112.34 43** IAMs_20 IAMs_20 12 47 19.7
comp=Z,3µm,21.0s
ABTA **Abfaltersbach** **112.70 318** *e*PKiKP **PKiKP** **12 03 58.7 -1.0**
comp=Z,5.8nm,0.9s
SNCC **San Nicolas Is** **112.72 57** IAMs_20 IAMs_20 12 50 26.2
comp=Z,4µm,19.0s
GRA1 **Grafenberg Arr** **112.77 321** IAMs_20 IAMs_20 12 56 32.8
comp=Z,3µm,21.0s
NVAR **Mina Array Bea** **113.01 51** Pdiff **Pdif** **12 00 08.4 +1.9**
comp=Z,0.3nm,0.6s,baz=330,slow=41,SNR=5.5
NVAR PKiKP **PKiKP** **12 04 01.3 +0.5**
comp=Z,2.3nm,0.7s,baz=277,slow=1.6,SNR=11
NVAR PKKPbc **PKKPbc** **12 14 47.4 -1.0**
comp=Z,1.2nm,0.8s,baz=125,slow=3.5,SNR=7.5
NVAR PKKP **PKKPdf** **12 15 09.8 +0.4**
comp=Z,2.6nm,0.8s,baz=120,slow=5.2,SNR=6.4
NVAR **Mina Array Bea** **113.01 51** **PKiKP** **12 04 00.9 +0.1**
NVAR **PKKPbc** **12 14 47.9 -0.4**
WTTA **Wattenberg** **113.15 318** *e*PKiKP **PKiKP** **12 03 59.8 -0.8**
comp=Z,19nm,0.6s
WTTA *e*PKKPbc **PKKPbc** **12 14 48.6 +0.6**
comp=Z,6.2nm,0.8s
WATA **Walderalm** **113.17 319** *e*PKiKP **PKiKP** **12 03 58.7 -2.0**
comp=Z,4.7nm,0.6s
OSI **Osito Audit: C** **113.22 56** IAMs_20 IAMs_20 12 50 41.3
comp=Z,4µm,20.0s
ISA **Isabella, Lake** **113.29 54** IAMs_20 IAMs_20 12 47 54.9
comp=Z,4µm,20.0s
WDD **Wied Dalam** **113.29 306** IAMs_20 IAMs_20 12 53 09.4
comp=Z,3µm,22.0s
SQTA **Sankt Quirin** **113.44 318** *i* PKiKP **PKiKP** **12 04 01.5 +0.3**
SQTA *e*PKKPab **PKKPab** **12 14 53.1 +0.4**
comp=Z,8.0nm,0.8s
MOTA **Moosalm** **113.48 319** *e*PKiKP **PKiKP** **12 04 00.0 -1.2**
comp=Z,3.5nm,0.5s
MOTA *e*PKKPbc **PKKPbc** **12 14 47.1 +0.1**
comp=Z,9.7nm,0.9s
CWC **Cottonwood Cre** **113.49 54** P **PKiKP** **12 04 00.6 -1.1**
baz=279
RETA **Reutte** **113.67 319** *e*PKKPab PKKPab 12 14 51.4 -0.4
comp=Z,2.0nm,0.5s
WALA **Waterton Lakes** **113.71 39** IAMs_20 IAMs_20 12 42 32.6
comp=Z,3µm,22.0s
EDW2 **Edwards Air Fo** **113.78 55** P **PKiKP** **12 04 01.7 -0.4**
baz=278,SNR=5.4
FETA **Feichten** **113.81 318** *e*PKPdf **PKiKP** **12 04 00.3 -1.6**
comp=Z,3.3nm,0.7s
FETA *e*PKKPab **PKKPab** **12 14 50.1 -1.2**
comp=Z,9.3nm,1.6s
LRMC **Laurel Mtn Rad** **113.95 54** P **PKiKP** **12 04 01.5 -1.0**
baz=278
MPMC **Manual Prospec** **114.02 54** P PKPdf 12 04 02.0 -0.7
baz=279
SCO **Scoresbysund** **114.08 349** IAMs_20 IAMs_20 13 01 01.5
comp=Z,3µm,21.0s
BFSC **Mount Baldy Ra** **114.15 56** P PKPdf 12 04 01.7 -1.2
baz=278
FUORN **Ofenpass-Fuorn** **114.23 318** IAMs_20 IAMs_20 13 02 03.7
comp=Z,3µm,22.0s
SUMG **Summit** **114.29 356** IAMs_20 IAMs_20 12 53 31.9
comp=Z,3µm,20.0s
DAVA **Damuels** **114.30 319** *e*PKPdf PKPdf 12 04 01.8 -1.0
comp=Z,6.5nm,0.8s
MSO **Missoula** **114.33 42** P PKPdf 12 04 01.8 -1.0
baz=286
FURC **Furnace Creek,** **114.46 53** P PKPdf 12 04 02.2 -1.0
baz=279
GSC **Goldstone, Bar** **114.69 55** P PKPdf 12 04 02.5 -1.3
baz=279
GSC **Goldstone, Bar** **114.69 55** IAMs_20 IAMs_20 12 45 58.9
comp=Z,3µm,21.0s
109C **Camp Elliot, M** **114.78 57** IAMs_20 IAMs_20 12 51 24.7
comp=Z,3µm,19.0s
HLID **Hailey** **114.86 45** P **PKiKP** **12 04 03.9 -0.2**
baz=284
TPNV **Topopah Spring** **114.86 53** P PKPdf 12 04 03.3 -0.9
baz=280
TJX **Tijuana** **114.88 58** IAMs_20 IAMs_20 12 49 10.2
comp=Z,3µm,20.0s
TUE **Stuetta** **114.88 318** IAMs_20 IAMs_20 13 03 54.1
comp=Z,3µm,20.0s
BFO **Black Forest** **114.99 320** IAMs_20 IAMs_20 13 02 23.6
comp=Z,3µm,20.0s
R11A **Troy Canyon, C** **115.13 51** P **PKiKP** **12 04 03.7 -1.0**
baz=281
R11A **Troy Canyon, C** **115.13 51** IAMs_20 IAMs_20 12 50 26.3
comp=Z,3µm,20.0s
BAR **Barrett** **115.17 57** IAMs_20 IAMs_20 12 52 22.0
comp=Z,3µm,19.0s
PFO **Pinyon Flats O** **115.22 56** P **PKiKP** **12 04 04.4 -0.6**
baz=278,SNR=5.5
PFO **Pinyon Flats O** **115.22 56**⇓ *i*PKIKP **PKPdf** **12 04 05.6 +0.6**
PFO MLR MLR
comp=Z,6µm,17.0s
CCX **Cicese** **115.28 58** IAMs_20 IAMs_20 12 50 37.1
comp=Z,4µm,20.0s
MONP2 **Monument Peak** **115.35 57** P **PKPdf** **12 04 04.5 -0.9**
baz=278
BCYI **Bear Canyon** **115.37 44** **PKPdf** **12 04 05.5 +0.4**
TUQ **Turquoise Moun** **115.38 54** P **PKiKP** **12 04 04.0 -1.2**
baz=280
BELC **Belle Mtn. Jos** **115.54 56** P **PKPdf** **12 04 05.3 -0.3**
baz=279,SNR=10
LRM **Limekiln Ridge** **115.60 42** **PKiKP** **12 04 04.4 -1.1**
MCMT **McKenzie Canyo** **115.62 44** **PKiKP** **12 04 05.4 -0.1**
DLMT **Dillon** **115.64 43** **PKPdf** **12 04 05.9 +0.5**
IKP **In-Ko-Pah, Jac** **115.65 57** P **PKPdf** **12 04 04.6 -1.2**
baz=278
GMRC **Granite Mounta** **115.70 55** P **PKiKP** **12 04 06.0 +0.1**
baz=279,SNR=8.4
HRY **Holter Researc** **115.75 41** **PKPdf** **12 04 05.7 +0.1**
SHPR **Sheep Range** **115.81 53** **PKiKP** **12 04 07.2 +1.1**
SHPR IAMs_20 IAMs_20 12 49 12.4
comp=Z,3µm,20.0s
SWSC **Sam W. Stewart** **115.86 57** P **PKiKP** **12 04 06.3 +0.2**
baz=278
ESJX **Sierra Juarez** **115.87 58** **PKiKP** **12 04 07.5 +1.2**
WLF **Walferdange** **115.90 322** IAMs_20 IAMs_20 13 02 55.5
comp=Z,2µm,19.0s
BC3 **Big Chuckawall** **116.04 56** P **PKPdf** **12 04 06.4 -0.1**
baz=279,SNR=6.9
UABX **UABC, Campus M** **116.21 57** IAMs_20 IAMs_20 12 50 58.4
comp=Z,3µm,20.0s
IRM **Iron Mountain** **116.22 56** P **PKPdf** **12 04 06.6 -0.2**
baz=279,SNR=5.7
BOZ **Bozeman (W)** **116.22 42** P **PKiKP** **12 04 06.7 +0.1**
baz=288
BOZ **Bozeman (W)** **116.22 42** PKIKP **PKiKP** **12 04 06.8 +0.2**
BOZ **Bozeman (W)** **116.22 42** **PKiKP** **12 04 06.8 +0.2**
SENIN **Lac Senin/Sane** **116.26 318** **PKPdf** **12 04 06.2 -0.5**
SPX **San Pedro Mart** **116.41 59** **PKiKP** **12 04 08.8 +1.2**
SPX IAMs_20 IAMs_20 12 54 05.9
comp=Z,3µm,19.0s
PSUT **Pine Spring** **116.42 51** **PKiKP** **12 04 07.6 +0.3**
HVU **Hansel Valley** **116.47 47** PKIKP **PKiKP** **12 04 08.1 +0.9**
HVU **Hansel Valley** **116.47 47** **PKiKP** **12 04 08.1 +0.9**
BGU **Big Grassy Mou** **116.50 48** **PKiKP** **12 04 07.9 +0.6**
UCC **Uccle** **116.55 324** IAMs_20 IAMs_20 12 55 34.6
comp=Z,3µm,22.0s
GUVIX **Guadalupe Vict** **116.56 58** IAMs_20 IAMs_20 12 51 28.8
comp=Z,3µm,19.0s
GLA **Glamis** **116.66 57** IAMs_20 IAMs_20 12 52 43.2
comp=Z,3µm,19.0s
EGMT **Eagleton** **116.66 39** P **PKPdf** **12 04 06.9 -0.3**
baz=290
EGMT **Eagleton** **116.66 39** PKPdf **PKPdf** **12 04 07.0 -0.3**
YHL **Hebgen Lake** **116.74 43** PKPdf **PKiKP** **12 04 08.7 +0.9**
YHB **Horse Butte** **116.77 43** **PKiKP** **12 04 08.0 +0.3**
DUG **Dugway, Tooele** **116.83 49** P **PKiKP** **12 04 08.1 +0.2**
baz=284
DUG **Dugway, Tooele** **116.83 49** PKIKP **PKiKP** **12 04 08.1 +0.2**
DUG **Dugway, Tooele** **116.83 49** **PKiKP** **12 04 08.1 +0.2**
SFX **San Felipe** **116.93 59** IAMs_20 IAMs_20 12 54 12.7
comp=Z,3µm,21.0s
YHH **Holmes Hill** **116.99 43** PKPdf **PKiKP** **12 04 09.2 +0.9**
CCUT **Cedar City** **117.01 52** PKPdf **PKiKP** **12 04 10.0 +1.5**
W13A **Hualapai Mount** **117.08 54** PKPdf **PKiKP** **12 04 09.1 +0.5**
W13A IAMs_20 IAMs_20 12 56 29.2
comp=Z,3µm,19.0s
BNI **Bardonecchia** **117.08 317** PKIKP **PKPdf** **12 04 07.5 -0.7**
BNI **Bardonecchia** **117.08 317** PKPdf **PKPdf** **12 04 07.5 -0.7**
BNI IAMs_20 IAMs_20 13 05 07.6
comp=Z,3µm,21.0s
YPP **Pitchstone Pla** **117.18 44** **PKiKP** **12 04 09.7 +1.0**
IMW **Indian Meadow** **117.19 44** PKPdf **PKiKP** **12 04 09.2 +0.5**
FXWY **Fox Creek** **117.21 44** **PKiKP** **12 04 08.8 +0.1**

LCMT Little Creek M 117.22 52 PKiKP 12 04 09.4 +0.7
H17A Grant Village 117.30 44 PKiKP 12 04 10.8 +2.0
FLWY Flagg Ranch 117.30 44 PKiKP 12 04 10.2 +1.4
TPAW Teton Pass 117.31 45 PKiKP 12 04 09.1 +0.2
HWUT Hardware Ranch 117.39 47 PKPdf PKiKP 12 04 09.0 0.0
HWUT IAMs_20 IAMs_20 12 54 35.8
comp=Z,2µm,19.0s
AHID Auburn Hatcher 117.41 45 PKiKP 12 04 09.1 0.0
AHID IAMs_20 IAMs_20 12 52 39.0
comp=Z,3µm,20.0s
SNOW Snow King Moun 117.45 45 PKiKP 12 04 09.5 +0.3
SNOW IAMs_20 IAMs_20 12 55 09.0
comp=Z,2µm,20.0s
KEST Kesra 117.46 306 PKP PKPdf 12 04 09.1 -0.1
comp=Z,5.0nm,0.6s,baz=278,slow=3.5,SNR=6.4
KEST PP PP 12 05 18.2 -2.6
comp=Z,23nm,1.0s,baz=324,slow=4.2,SNR=5.8
KEST PKKPbc PKKPab 12 14 34.0 -1.3
comp=Z,6.1nm,0.9s,baz=360,slow=5.9,SNR=3.8
YMP Mirror Lake Pi 117.47 43 PKiKP 12 04 10.4 +1.2
KNB Kanab 117.55 52 PKiKP PKiKP 12 04 10.5 +1.1
KNB Kanab 117.55 52 PKPdf PKiKP 12 04 10.5 +1.1
113A Mohawk Valley, 117.58 57 IAMs_20 IAMs_20 12 51 33.7
comp=Z,3µm,19.0s
TCUT Toone Canyon 117.64 47 PKiKP 12 04 09.8 +0.2
JLU Jordanelle 117.74 48 PKiKP 12 04 10.1 +0.3
MTPU Mount Pierson 117.81 51 PKPdf PKiKP 12 04 11.4 +1.3
PKCU Pink Cliffs 117.85 51 PKPdf PKiKP 12 04 11.6 +1.3
RLMT Red Lodge 117.95 42 P PKPdf 12 04 09.3 -0.7
baz=289
RLMT Red Lodge 117.95 42 PKPdf PKiKP 12 04 10.5 +0.5
Y14A Wickenburg 118.01 55 PKiKP 12 04 10.6 +0.3
U15A North Rim 118.09 53 PKiKP 12 04 10.9 +0.3
FFC Flin Flon 118.22 30 PKiKP PKPdf 12 04 08.9 -1.0
FFC MLR MLR
comp=Z,3µm,21.0s
FFC Flin Flon 118.22 30 PKPdf PKPdf 12 04 08.9 -1.0
FFC Flin Flon 118.22 30 IAMs_20 IAMs_20 12 52 22.0
comp=Z,3µm,21.0s
TMUT Trail Mountain 118.25 49 PKPdf 12 04 10.5 -0.4
BW06 Boulder Array 118.49 45 P PKPdf 12 04 10.5 -0.7
baz=288
BW06 Boulder Array 118.49 45 PKPdf 12 04 10.6 -0.6
PD31 Pinedale Array 118.49 45 PKPdf 12 04 09.9 -1.3
PDAR Pinedale Array 118.49 45 PKP PKPdf 12 04 10.8 -0.4
comp=Z,3.7nm,0.7s,baz=253,slow=0.9,SNR=32
PDAR PKKPbc PKKPbc 12 14 28.0 -1.4
comp=Z,3.0nm,0.8s,baz=119,slow=5.8,SNR=16
PDAR Pinedale Array 118.49 45 PKPdf PKPdf 12 04 10.3 -0.9
214A Organ Pipe Nat 118.51 58 P PKPdf 12 04 11.1 -0.1
baz=280
214A Organ Pipe Nat 118.51 58 PKPdf PKPdf 12 04 11.2 -0.1
214A IAMs_20 IAMs_20 12 52 17.5
comp=Z,4µm,20.0s
ESK Eskdalemuir 118.54 331 IAMs_20 IAMs_20 12 59 12.5
comp=Z,3µm,21.0s
P17A Butcher Ranch, 118.56 49 PKPdf 12 04 11.1 -0.2
BORG Borgarnes 118.72 346 IAMs_20 IAMs_20 12 59 32.4
comp=Z,2µm,21.0s
SRU San Rafael Swe 118.82 49 PKiKP PKPdf 12 04 11.6 -0.2
SRU San Rafael Swe 118.82 49 PKPdf 12 04 11.6 -0.2
CLF Chambon-Foret 118.89 322 PKiKP 12 04 11.5 +0.1
WUAZ Wupatki 119.01 53 P PKPdf 12 04 12.3 0.0
baz=283
WUAZ Wupatki 119.01 53 PKPdf PKiKP 12 04 12.7 +0.4
RDMU Red Mountain 119.13 47 PKPdf 12 04 12.4 0.0
X16A Lo Mia Camp, P 119.19 55 PKPdf PKiKP 12 04 13.2 +0.5
LAO LASA Array 119.38 40 P PKiKP 12 04 12.9 +0.3
baz=293
LAO LASA Array 119.38 40 PKPdf PKiKP 12 04 12.7 +0.1
FCC Fort Churchill 119.44 24 PKiKP PKPdf 12 04 10.9 -1.2
FCC Fort Churchill 119.44 24 PKPdf PKPdf 12 04 10.9 -1.2
FCC IAMs_20 IAMs_20 13 02 43.6
comp=Z,2µm,20.0s
SRIG Santa Rosalia 119.69 63 IAMs_20 IAMs_20 12 52 24.1
comp=Z,3µm,20.0s
DGMT Dagmar 119.92 37 P PKiKP 12 04 13.7 +0.2
baz=295
DGMT Dagmar 119.92 37 IAMs_20 IAMs_20 12 51 01.6
comp=Z,3µm,21.0s
LDF La Druitiere 120.11 323 PKiKP PKPdf 12 04 07.4 -6.3
LDF MLR MLR
comp=Z,3µm,19.0s
PV21 Cone Mtn., Par 120.13 49 PKiKP 12 04 14.9 +0.4
PV23 Carpenter Ridg 120.13 50 PKiKP 12 04 15.2 +0.6
TUC Tucson 120.14 57 P PKPdf 12 04 14.1 -0.3
baz=281
TUC Tucson 120.14 57 PKiKP PKiKP 12 04 15.2 +0.7
TUC MLR MLR
comp=Z,3µm,20.0s
TUC Tucson 120.14 57 PKPdf PKiKP 12 04 15.2 +0.7
TUC Tucson 120.14 57 IAMs_20 IAMs_20 12 53 10.5
comp=Z,3µm,20.0s
PV14 Lion Creek, Pa 120.14 50 PKiKP 12 04 14.7 +0.1
PV14 IAMs_20 IAMs_20 12 53 56.9
comp=Z,4µm,20.0s
PV19 Morning Glory 120.19 50 PKPdf 12 04 14.4 -0.2
PV19 IAMs_20 IAMs_20 12 53 58.1
comp=Z,3µm,20.0s
PV20 West Nyswonger 120.19 50 PKiKP 12 04 15.1 +0.5
PV20 IAMs_20 IAMs_20 12 53 58.2
comp=Z,3µm,21.0s
PV17 East Wray Mesa 120.22 50 PKiKP 12 04 14.7 +0.1
O20A White River Ci 120.23 48 P PKPdf 12 04 14.3 -0.2
baz=287
O20A White River Ci 120.23 48 PKPdf PKPdf 12 04 14.3 -0.2
O20A IAMs_20 IAMs_20 12 54 38.9
comp=Z,3µm,20.0s
PV04 Paradox Valley 120.23 50 PKiKP 12 04 15.2 +0.6
PV04 IAMs_20 IAMs_20 12 54 19.1
comp=Z,3µm,21.0s
PV16 Nyswonger Mesa 120.24 50 PKiKP 12 04 14.9 +0.1
PV16 IAMs_20 IAMs_20 12 53 57.5
comp=Z,4µm,21.0s
PV18 Skein Mesa, Pa 120.26 50 PKPdf PKiKP 12 04 15.1 +0.4
PV18 IAMs_20 IAMs_20 12 53 59.1
comp=Z,4µm,21.0s
PV11 David Mesa, Pa 120.28 50 PKiKP 12 04 15.0 +0.2
PV22 Blue Mesa, Par 120.28 49 PKiKP 12 04 15.2 +0.4
PV22 IAMs_20 IAMs_20 12 47 02.4
comp=Z,3µm,22.0s
PV03 Paradox Valley 120.31 50 PKiKP 12 04 14.8 0.0
PV12 Saucer Basin, 120.33 50 PKiKP 12 04 15.1 +0.2
MAHO Mahon 120.34 312 *i* PP PP 12 05 38.9 -1.6
PV13 Radium Mtn., P 120.36 50 PKiKP 12 04 15.4 +0.4
W18A Petrified Fore 120.40 54 P PKPdf 12 04 14.5 -0.5
baz=283,SNR=5.9
W18A Petrified Fore 120.40 54 PKiKP 12 04 15.5 +0.4
PV02 Paradox Valley 120.41 50 PKiKP 12 04 15.6 +0.5
PV07 Paradox Valley 120.41 50 PKPdf PKiKP 12 04 15.6 +0.5
SFJD Kangerlussuaq 120.41 359 PKiKP PKPdf 12 04 12.8 -0.9
SFJD Kangerlussuaq 120.41 359 PKPdf 12 04 12.8 -0.9
RWWY Rawlins 120.49 46 PKPdf 12 04 14.0 -1.1
RWWY IAMs_20 IAMs_20 12 55 26.5
comp=Z,3µm,20.0s
PV01 Paradox Valley 120.55 50 PKiKP 12 04 15.4 0.0
PV01 IAMs_20 IAMs_20 12 54 16.7
comp=Z,4µm,20.0s
PV15 Paradox Valley 120.56 50 PKiKP 12 04 15.6 +0.2
PV15 IAMs_20 IAMs_20 12 54 30.0
comp=Z,3µm,21.0s
HSIG 120.58 61 IAMs_20 IAMs_20 12 52 08.3
comp=Z,3µm,20.0s
K22A Casper 120.65 44 P PKPdf 12 04 14.3 -0.9
baz=290
K22A Casper 120.65 44 PKPdf 12 04 14.8 -0.5
MVCO Mesa Verde 120.86 51 P PKPdf 12 04 15.9 0.0
baz=286
MVCO Mesa Verde 120.86 51 PKPdf PKiKP 12 04 16.2 +0.2
MVCO IAMs_20 IAMs_20 12 53 10.8
comp=Z,3µm,21.0s
ANGG Ammassalik, Gr 120.94 353 IAMs_20 IAMs_20 12 58 07.9
comp=Z,4µm,22.0s
319A Douglas 121.58 58 PKPdf PKiKP 12 04 17.9 +0.5
N23A Red Feather La 121.65 46 P PKPdf 12 04 17.0 -0.3
baz=290
N23A Red Feather La 121.65 46 PKPdf PKPdf 12 04 17.2 -0.1
RSSD Black Hills 121.80 42 P PKPdf 12 04 16.4 -1.1
baz=293
PHWY Pilot Hill 121.86 45 PKPdf 12 04 17.3 -0.5
S22A 4UR Ranch, Cre 121.98 50 P PKPdf 12 04 17.9 -0.2
baz=287
S22A 4UR Ranch, Cre 121.98 50 PKPdf PKiKP 12 04 18.4 +0.2
S22A IAMs_20 IAMs_20 12 48 06.5
comp=Z,3µm,22.0s

SLBS Sierra La Lagu 122.18 67 PKiKP 12 04 19.7 +0.9
ISCO Idaho Springs 122.25 47 P PKPdf 12 04 18.1 -0.5
baz=289
ISCO Idaho Springs 122.25 47 PKIKP PKPdf 12 04 18.2 -0.4
ISCO Idaho Springs 122.25 47 PKPdf PKPdf 12 04 18.1 -0.4
121A Cookes Peak, D 122.58 56 P PKPdf 12 04 19.3 +0.1
baz=283,SNR=13
121A Cookes Peak, D 122.58 56 PKPdf PKiKP 12 04 19.8 +0.4
121A IAMs_20 IAMs_20 12 54 58.9
comp=Z,3µm,20.0s
TAM Tamanrasset 122.75 292 PKIKP PKiKP 12 04 20.3 +0.3
TAM MLR MLR
comp=Z,4µm,22.0s
TAM Tamanrasset 122.75 292 PKPdf PKiKP 12 04 20.3 +0.3
TAM IAMs_20 IAMs_20 12 55 52.2
comp=Z,4µm,22.0s
Q24A Divide 122.86 48 P PKPdf 12 04 19.1 -0.6
baz=289
E28A Huff 122.89 38 PKPdf 12 04 18.9 -0.3
E28A IAMs_20 IAMs_20 12 54 52.2
comp=Z,2µm,21.0s
MDND Maddock 122.94 36 P PKPdf 12 04 18.4 -0.8
baz=299
MDND Maddock 122.94 36 IAMs_20 IAMs_20 12 49 14.4
comp=Z,3µm,21.0s
SDCO Great Sand Dun 122.99 49 P PKPdf 12 04 19.5 -0.5
baz=288
SDCO Great Sand Dun 122.99 49 PKPdf PKPdf 12 04 20.1 +0.1
SDCO IAMs_20 IAMs_20 12 55 22.0
comp=Z,3µm,21.0s
ANMO Albuquerque 123.05 53 P PKPdf 12 04 20.0 -0.1
baz=286
ANMO Albuquerque 123.05 53 *c i* PKIKP PKPdf 12 04 20.1 0.0
ANMO pmax pmax
comp=Z,25nm,1.7s
ANMO MLR MLR
comp=Z,3µm,19.0s
ANMO Albuquerque 123.05 53 PKPdf PKiKP 12 04 20.8 +0.5
ANMO Albuquerque 123.05 53 IAMs_20 IAMs_20 12 56 52.2
comp=Z,3µm,20.0s
BNM Barren Site 123.12 54 PKPdf PKiKP 12 04 20.7 +0.1
ULM Lac du Bonnet 123.77 32 PKP PKPdf 12 04 19.4 -1.3
comp=Z,9.2nm,0.7s,baz=284,slow=2.8,SNR=8.6
ULM Lac du Bonnet 123.77 32 *i* PKIKP PKPdf 12 04 19.0 -1.7
ULM Lac du Bonnet 123.77 32 PKPdf PKPdf 12 04 19.5 -1.2
EPT El Paso 123.81 57 IAMs_20 IAMs_20 12 55 36.6
comp=Z,4µm,20.0s
T25A Trinidad 124.00 50 P PKPdf 12 04 22.0 +0.1
baz=289
T25A Trinidad 124.00 50 PKPdf PKiKP 12 04 22.2 +0.1
KSCO Kaye Shedlock' 124.69 47 P PKPdf 12 04 23.0 -0.1
baz=291
MNTX Cornudas Mount 124.75 56 P PKiKP 12 04 23.5 -0.1
baz=284,SNR=20
MNTX Cornudas Mount 124.75 56 PKPdf PKiKP 12 04 23.4 -0.1
MNTX IAMs_20 IAMs_20 12 56 35.6
comp=Z,3µm,19.0s
AGMN Agassiz Nation 124.85 34 P PKPdf 12 04 22.1 -0.8
baz=303
AGMN Agassiz Nation 124.85 34 PKPdf PKPdf 12 04 22.0 -0.8
AGMN IAMs_20 IAMs_20 12 56 28.9
comp=Z,3µm,21.0s
SUSD Miller 124.96 40 IAMs_20 IAMs_20 12 53 33.1
comp=Z,3µm,22.0s
CART Cartagena 124.98 311 *i* PP PP 12 06 09.9 -1.9
CART Cartagena 124.98 311 IAMs_20 IAMs_20 13 03 36.2
comp=Z,3µm,20.0s
HPIG 125.53 62 PKPdf PKPdf 12 04 24.5 -0.6
UCM Universidad Co 125.60 315 *e* PKP PKiKP 12 04 26.8 +1.8
F33A 5 Mile Ranch, 125.91 37 PKPdf PKPdf 12 04 24.5 -0.5
F33A IAMs_20 IAMs_20 12 54 07.1
comp=Z,3µm,20.0s
K31A O'Neill 125.92 42 PKPdf 12 04 25.0 -0.2
B35A Bob, Littlefor 126.00 33 PKPdf 12 04 23.6 -1.4
B35A IAMs_20 IAMs_20 13 02 40.0
comp=Z,2µm,20.0s
NRS Narsarsuaq 126.06 356 IAMs_20 IAMs_20 12 56 43.9
comp=Z,3µm,22.0s
IVI Ivigtut 126.16 358 PKPdf PKPdf 12 04 24.1 -0.8
IVI IAMs_20 IAMs_20 13 04 01.5
comp=Z,3µm,22.0s
MSTX Muleshoe 126.25 53 P PKPdf 12 04 25.3 -0.9
baz=288,SNR=7.6
MSTX Muleshoe 126.25 53 PKPdf PKPdf 12 04 26.2 +0.1
ESBB Sonseca Array 126.36 315 PKPdf PKiKP 12 04 27.5 +1.0
ESDC Sonseca Array 126.36 315 PKP PKPdf 12 04 25.6 -0.6
comp=Z,2.3nm,0.8s,baz=34,slow=2.9,SNR=12
ESDC PP PP 12 06 21.3 +0.3
comp=Z,3.2nm,0.9s,baz=67,slow=5.6,SNR=4.2
PAB San Pablo 126.68 315 PKIKP PKiKP 12 04 27.2 0.0
PAB San Pablo 126.68 315 PKPdf PKiKP 12 04 27.2 0.0
PAB San Pablo 126.68 315 IAMs_20 IAMs_20 13 06 23.9
comp=Z,2µm,20.0s
TX31 Lajitas Ar. Si 126.76 59 PKPdf PKPdf 12 04 27.5 +0.2
TX32 Lajitas Array 126.76 59 PKPdf PKiKP 12 04 27.5 -0.2
TXAR Lajitas Array 126.76 59 PKP PKiKP 12 04 27.5 -0.2
comp=Z,4.5nm,0.8s,baz=254,slow=1.4,SNR=29
TXAR PKKPbc PKKPbc 12 14 00.6 +3.1
comp=Z,0.6nm,0.8s,baz=111,slow=6.7,SNR=4.7
TXAR Lajitas Array 126.76 59 PKPdf 12 04 27.0 -0.3
ECSD EROS Data Cent 126.78 40 P PKPdf 12 04 26.1 -0.7
baz=300
AMTX Amarillo 126.82 52 P PKPdf 12 04 26.8 -0.4
baz=289
AMTX Amarillo 126.82 52 PKPdf PKiKP 12 04 27.5 -0.1
CBKS Cedar Bluff 126.85 46 P PKPdf 12 04 26.6 -0.5
baz=294
CBKS Cedar Bluff 126.85 46 PKIKP PKiKP 12 04 27.5 -0.1
CBKS Cedar Bluff 126.85 46 PKPdf PKiKP 12 04 27.5 -0.1
CBKS IAMs_20 IAMs_20 13 06 08.1
comp=Z,2µm,20.0s
BGNE Belgrade 126.87 43 IAMs_20 IAMs_20 12 55 25.0
comp=Z,2µm,22.0s
TORD Torodi Ar. Bea 126.97 281 PKP PKPdf 12 04 27.3 -0.5
comp=Z,18nm,0.7s,baz=53,slow=2.0,SNR=86
MELI Melilla 127.22 309 *e* PKP PKPdf 12 04 13.8 -14
EYMN Ely 127.45 33 P PKPdf 12 04 27.4 -0.5
baz=307,SNR=6.4
EYMN Ely 127.45 33 PKPdf PKPdf 12 04 27.1 -0.8
EYMN Ely 127.45 33 IAMs_20 IAMs_20 12 58 34.3
comp=Z,3µm,21.0s
F36A Milaca 127.53 36 PKPdf PKPdf 12 04 27.4 -0.7
R32A Long Quarter, 127.75 46 PKPdf PKPdf 12 04 28.8 0.0
R32A IAMs_20 IAMs_20 12 59 24.8
comp=Z,2µm,20.0s
MVO Moncorvo 127.83 318 *e* PKPdf PKPdf 12 04 29.1 +0.2
MVO Moncorvo 127.83 318 *e* PP PP 12 06 29.0 -1.6
MVO Moncorvo 127.83 318 *e* SS SS 12 24 01.3 +19
MVO Moncorvo 127.83 318 *e* LQ LQ 12 38 22.0
MVO Moncorvo 127.83 318 *e* LR LR 12 53 00.0
comp=Z,2µm,21.1s
EMAL Malaga-Limoner 127.83 311 *e* PKP PKPdf 12 04 24.0 -4.9
E38A The Farm, Brul 128.22 34 PKPdf 12 04 28.6 -0.8
E38A IAMs_20 IAMs_20 13 02 54.9
comp=Z,3µm,20.0s
PCAB Cabril 128.23 319 *e* PP PP 12 06 36.5 +3.3
PGAV Gavieira, Arco 128.26 319 *e* PKPdf PKiKP 12 04 30.2 -0.2
PGAV Gavieira, Arco 128.26 319 *e* PP PP 12 06 32.2 -1.3
PGAV Gavieira, Arco 128.26 319 *e* SS SS 12 23 54.7 +6.9
PGAV Gavieira, Arco 128.26 319 *e* LQ LQ 12 38 22.4
PGAV Gavieira, Arco 128.26 319 *e* LR LR 12 49 32.9
comp=Z,2µm,20.0s
SPMN Marine on St. 128.31 36 P PKPdf 12 04 29.1 -0.5
baz=304
SPMN Marine on St. 128.31 36 PKPdf 12 04 28.9 -0.6
SPMN IAMs_20 IAMs_20 12 52 29.4
comp=Z,4µm,22.0s
PVLZ Peæn de 128.32 309 *e* PP PP 12 06 36.8 +2.7
U32A Winter Ranch, 128.34 49 PKPdf PKPdf 12 04 30.0 0.0
MTE Manteigas 128.53 317 *e* PKPdf PKPdf 12 04 30.4 +0.2
MTE Manteigas 128.53 317 *e* PP PP 12 06 33.2 -2.0
MTE Manteigas 128.53 317 *e* SS SS 12 24 08.1 +17
MTE Manteigas 128.53 317 *e* LQ LQ 12 41 10.7
MTE *e* LR LR 12 46 12.6
comp=Z,2µm,22.0s
MTE Manteigas 128.53 317 PKPdf PKPdf 12 04 30.3 0.0
MTE IAMs_20 IAMs_20 13 06 42.4
comp=Z,3µm,22.0s
PVIS Viseu 128.62 317 *e* PP PP 12 06 38.2 +2.4
I37A Lemond, Waseca 128.62 38 PKPdf PKPdf 12 04 30.4 +0.2
I37A IAMs_20 IAMs_20 13 04 20.9
comp=Z,3µm,20.0s
PCBR Castelo Branco 128.74 316 *e* PKPdf PKiKP 12 04 30.9 -0.3
N35A Tabor 128.80 42 IAMs_20 IAMs_20 13 01 02.1
comp=Z,2µm,20.0s

PMRV Marv??o 128.86 316 *e* PKPdf PKiKP 12 04 31.2 -0.3
PMRV Marv??o 128.86 316 *e* PP PP 12 06 35.9 -1.5
PMRV Marv??o 128.86 316 *e* SS SS 12 24 18.2 +23
PMRV Marv??o 128.86 316 *e* LQ LQ 12 39 13.8
PMRV *e* LQ LQ 12 46 14.5
PMRV *e* LR LR 12 46 14.5
comp=Z,1µm,20.0s
KSU1 Kansas State U 128.95 45 P PKPdf 12 04 30.9 -0.1
baz=296
KSU1 Kansas State U 128.95 45 PKPdf PKPdf 12 04 30.6 -0.4
KSU1 Kansas State U 128.95 45 IAMs_20 IAMs_20 12 57 52.3
comp=Z,3µm,21.0s
ZAIG Zacatecas 129.03 67 PKPdf PKiKP 12 04 33.2 +0.6
WMOK Wichita Mounta 129.11 51 P PKPdf 12 04 31.0 -0.5
baz=291,SNR=7.4
WMOK Wichita Mounta 129.11 51 PKIKP PKPdf 12 04 31.7 +0.2
WMOK Wichita Mounta 129.11 51 PKPdf 12 04 31.7 +0.2
WMOK Wichita Mounta 129.11 51 IAMs_20 IAMs_20 12 56 45.4
comp=Z,3µm,22.0s
ABTX Abilene, Hawle 129.16 54 P PKPdf 12 04 30.2 -1.4
baz=289
ABTX Abilene, Hawle 129.16 54 PKPdf PKiKP 12 04 32.7 +0.3
ABTX IAMs_20 IAMs_20 12 59 50.9
comp=Z,3µm,20.0s
COI Coimbra 129.20 317 IAMs_20 IAMs_20 13 06 35.3
comp=Z,3µm,22.0s
PLCA Paso Flores 129.21 162 PKP PKiKP 12 04 32.1 -0.2
comp=Z,14nm,0.8s,baz=196,slow=4.2,SNR=21
PLCA Paso Flores 129.21 162 PKPdf PKiKP 12 04 32.6 +0.3
PLCA Paso Flores 129.21 162 *e* P PKiKP 12 04 32.7 +0.4
SFS San Fernando 129.26 312 *e* PP PP 12 06 38.4 -1.8
IFR Ifrane 129.54 308 *e* PKP PKiKP 12 04 44.9 +12
D41A Chassel 129.55 32 PKPdf PKiKP 12 04 32.4 -0.2
D41A IAMs_20 IAMs_20 13 03 51.9
comp=Z,3µm,21.0s
PMTG Montargil 129.60 316 *i* LQ LQ 12 04 44.5
JCT Junction City 129.69 56 P PKPdf 12 04 32.3 -0.4
baz=287,SNR=14
JCT Junction City 129.69 56 PKIKP PKiKP 12 04 33.4 -0.1
JCT MLR MLR
comp=Z,4µm,20.0s
JCT Junction City 129.69 56 PKPdf PKiKP 12 04 33.4 -0.1
EVO Evora 129.70 315 *e* PKP PKPdf 12 04 27.1 -5.4
EVO Evora 129.70 315 *e* PP PP 12 06 41.7 -1.2
OK029 Liberty Lake 129.72 49 IAMs_20 IAMs_20 13 01 48.1
comp=Z,3µm,20.0s
K38A Parkersburg 129.75 39 IAMs_20 IAMs_20 12 54 10.8
comp=Z,3µm,22.0s
G40A Rib Lake 129.78 35 PKPdf 12 04 31.6 -0.8
PSBE So Bento 129.79 316 *e* PP PP 12 06 41.4 -2.1
PBEJ Beja 129.82 314 *e* PP PP 12 06 46.4 +2.7
COWI Conover 129.86 33 PKPdf 12 04 32.0 -0.5
COWI IAMs_20 IAMs_20 13 04 26.1
comp=Z,2µm,20.0s
SCIA State Center 129.86 40 P PKPdf 12 04 32.6 -0.1
baz=302
SCIA State Center 129.86 40 PKPdf 12 04 32.4 -0.3
SCIA IAMs_20 IAMs_20 13 04 06.9
comp=Z,3µm,20.0s
X34A Smith Ranch, M 129.89 51 PKPdf PKiKP 12 04 34.1 +0.4
X34A IAMs_20 IAMs_20 12 55 29.9
comp=Z,3µm,22.0s
OK025 Westminster Rd 129.89 49 IAMs_20 IAMs_20 12 58 48.7
comp=Z,3µm,20.0s
T35A Sooner Cattle 129.96 47 PKPdf PKPdf 12 04 32.5 -0.6
PVAQ Vaqueiros 129.98 314 *e* PKPdf PKPdf 12 04 30.9 -2.1
PVAQ Vaqueiros 129.98 314 *e* PP PP 12 06 43.5 -1.3
PVAQ Vaqueiros 129.98 314 *e* LQ LQ 12 39 14.0
PVAQ Vaqueiros 129.98 314 *e* LR LR 12 50 22.8
comp=Z,2µm,20.0s
PVAQ Vaqueiros 129.98 314 IAMs_20 IAMs_20 13 09 08.3
comp=Z,2µm,20.0s
PCVE Castro Verde 130.11 314 *e* PKPdf PKPdf 12 04 33.2 0.0
PCVE Castro Verde 130.11 314 *e* PP PP 12 06 44.0 -1.6
QUOK Quay 130.12 48 PKPdf 12 04 33.5 +0.2
PBDV Barranco-do-Ve 130.20 313 *e* PKPdf PKPdf 12 04 29.6 -3.9
PBDV Barranco-do-Ve 130.20 313 *e* PP PP 12 06 47.3 +1.0
PNCL Nicolau / Gran 130.25 315 *e* PKPdf PKiKP 12 04 34.0 -0.3
PNCL Nicolau / Gran 130.25 315 *e* PP PP 12 06 45.5 -0.9
W35A Tecumseh 130.40 49 PKiKP 12 04 34.5 -0.2
LIS Lisbon 130.40 316 *e* PP PP 12 06 47.4 0.0
LIS AMS AMS 13 11 58.0
comp=E,3µm,19.8s
LC01 Cunco 130.43 160 PKPdf 12 04 35.1 +0.3
F42A Maple Grove Fa 130.61 33 IAMs_20 IAMs_20 13 07 20.1
comp=Z,3µm,20.0s
833A Chaparral WMA, 130.64 59 P PKiKP 12 04 35.1 -0.3
baz=286
833A Chaparral WMA, 130.64 59 PKPdf PKiKP 12 04 36.2 +0.8
833A IAMs_20 IAMs_20 13 02 42.7
comp=Z,2µm,19.0s
PTEO Sao Teotonio 130.64 314 *e* PKPdf PKPdf 12 04 30.7 -3.5
PTEO Sao Teotonio 130.64 314 *e* PP PP 12 06 52.3 +3.3
MORF Marmelete 130.69 314 *e* PKPdf PKPdf 12 04 33.9 -0.5
MORF *e* PP PP 12 06 49.3 -0.1
MORF AMS AMS 13 07 59.7
comp=Z,3µm,19.5s
MORF Marmelete 130.69 314 *e* PKIKP PKPdf 12 04 33.9 -0.5
MORF *e* 12 06 49.3
MORF Marmelete 130.69 314 *e* PKPdf PKPdf 12 04 34.0 -0.4
MORF Marmelete 130.69 314 *e* PP PP 12 06 48.6 -0.9
Z35A Perchaven, San 130.80 52 IAMs_20 IAMs_20 12 56 00.3
comp=Z,2µm,22.0s
E43A Lone Tree Farm 130.82 32 PKPdf PKPdf 12 04 34.4 +0.1
E43A IAMs_20 IAMs_20 13 04 04.4
comp=Z,2µm,20.0s
PFVI Vila Bisbo 130.89 314 *e* pPKPdf PKiKP 12 04 35.7 +0.1
PFVI Vila Bisbo 130.89 314 IAMs_20 IAMs_20 13 07 20.5
comp=Z,3µm,22.0s
TUL1 Leonard 130.91 48 P PKiKP 12 04 35.3 -0.4
baz=295
TUL1 Leonard 130.91 48 PKiKP 12 04 35.8 +0.1
L40A Anamosa 131.03 39 PKPdf 12 04 34.5 -0.3
L40A IAMs_20 IAMs_20 12 57 52.6
comp=Z,2µm,21.0s
WHTX Lake Whitney, 131.11 54 P PKPdf 12 04 34.8 -0.5
baz=290
WHTX Lake Whitney, 131.11 54 IAMs_20 IAMs_20 13 08 48.8
comp=Z,3µm,19.0s
JFWS Jewell Farm 131.14 37 P PKPdf 12 04 33.0 -2.0
baz=305
JFWS Jewell Farm 131.14 37 PKIKP PKPdf 12 04 35.0 -0.1
JFWS MLR MLR
comp=Z,3µm,20.0s
JFWS Jewell Farm 131.14 37 PKPdf 12 04 35.0 -0.1
JFWS Jewell Farm 131.14 37 IAMs_20 IAMs_20 13 02 01.4
comp=Z,3µm,20.0s
SCHQ Schefferville 131.14 11 PKP PKPdf 12 04 35.0 +0.3
comp=Z,13nm,0.7s,baz=7.8,slow=2.4,SNR=19
SCHQ SKPbc SKPbc 12 07 56.0 -2.6
comp=Z,6.8nm,0.9s,baz=344,slow=3.2,SNR=4.0
SCHQ Schefferville 131.14 11 PKPdf PKPdf 12 04 34.8 +0.1
SCHQ IAMs_20 IAMs_20 13 02 09.4
comp=Z,3µm,21.0s
I42A Draeger Farm, 131.34 35 PKPdf 12 04 35.0 -0.4
AVE Averroes 131.40 308 *e* PKP PKiKP 12 04 54.8 +18
435B Jarrell 131.41 55 P PKPdf 12 04 34.9 -1.0
baz=289
H43A Windswept, Lux 131.63 34 IAMs_20 IAMs_20 13 06 34.8
comp=Z,2µm,21.0s
U38A Gravette 131.71 47 PKPdf 12 04 35.9 -0.4
X37A Clayton 131.76 49 PKPdf 12 04 36.4 0.0
735A Kenedy 131.83 58 IAMs_20 IAMs_20 13 00 21.0
comp=Z,3µm,21.0s
P40A Paris 131.85 42 PKPdf 12 04 36.1 -0.3
P40A IAMs_20 IAMs_20 13 04 07.8
comp=Z,3µm,19.0s
S39A Bolivar 131.89 45 PKPdf 12 04 35.1 -1.5
S39A IAMs_20 IAMs_20 13 03 55.2
comp=Z,3µm,20.0s
D46A Sault St. Mari 131.96 29 P PKPdf 12 04 35.8 -0.7
baz=315,SNR=5.9
L42A Oliver, Polo 132.01 38 PKPdf PKPdf 12 04 36.3 -0.4
L42A IAMs_20 IAMs_20 13 00 32.7
comp=Z,3µm,21.0s
HHAR Hobbs 132.10 47 PKPdf 12 04 36.0 -1.1
E46A Sault Ste Mari 132.19 30 PKPdf PKPdf 12 04 36.7 -0.2
D47A Chapleau 132.29 29 P PKPdf 12 04 35.7 -1.4
baz=316,SNR=11
R40A Maddies Statio 132.32 44 IAMs_20 IAMs_20 13 05 28.6
comp=Z,2µm,20.0s
G45A Suttons Bay 132.41 32 IAMs_20 IAMs_20 13 04 52.5
comp=Z,3µm,20.0s
237A Washetta, Mont 132.42 53 PKPdf PKiKP 12 04 39.6 +0.8
MATQ Matagami 132.54 22 P PKPdf 12 04 36.3 -1.2

	baz=324							
Z38A	**Mt. Pleasant**	**132.59**	**51**	IAMs_20	IAMs_20	13 03 01.4		
	comp=Z,3µm,20.0s							
E47A	**Iron Bridge**	**132.64**	**29**	P	**PKPdf**	**12 04 36.6**	**-1.2**	
	baz=316,SNR=7.0							
BI02	**San Fabin de**	**132.64**	**159**		**PKPdf**	**12 04 38.1**	**-0.2**	
UNM	**Universidad Na**	**132.68**	**71**	IAMs_20	IAMs_20	13 02 18.0		
	comp=Z,2µm,20.0s							
W39A	**Magazine**	**132.69**	**48**	P	**PKPdf**	**12 04 37.0**	**-1.2**	
	baz=296,SNR=7.8							
W39A	**Magazine**	**132.69**	**48**		**PKPdf**	**12 04 37.8**	**-0.4**	
W39A				IAMs_20	IAMs_20	13 00 18.9		
	comp=Z,3µm,22.0s							
D48A	**Paudash Townsh**	**132.81**	**28**	P	**PKPdf**	**12 04 37.0**	**-1.1**	
	baz=318,SNR=6.0							
U40A	**Yellville**	**132.84**	**46**	P	**PKPdf**	**12 04 37.3**	**-1.2**	
	baz=298							
U40A	**Yellville**	**132.84**	**46**	PKPdf	**PKPdf**	**12 04 37.9**	**-0.6**	
U40A				IAMs_20	IAMs_20	13 03 17.6		
	comp=Z,3µm,19.0s							
MGMO	**Mountain Grove**	**132.88**	**45**	IAMs_20	IAMs_20	13 02 28.5		
	comp=Z,3µm,20.0s							
D49A	**Beulah Townshi**	**132.94**	**27**	P	**PKPdf**	**12 04 37.3**	**-1.0**	
	baz=318							
L44A	**Lake County Fo**	**132.96**	**37**	IAMs_20	IAMs_20	13 04 25.7		
	comp=Z,3µm,21.0s							
HDIL	**Hopedale**	**133.07**	**39**	P	**PKPdf**	**12 04 37.7**	**-1.1**	
	baz=305							
HDIL	**Hopedale**	**133.07**	**39**		**PKPdf**	**12 04 39.2**	**+0.5**	
HDIL				IAMs_20	IAMs_20	12 58 42.9		
	comp=Z,3µm,22.0s							
MIAR	**Mount Ida**	**133.12**	**49**	P	**PKPdf**	**12 04 38.4**	**-0.6**	
	baz=296,SNR=8.3							
MIAR	**Mount Ida**	**133.12**	**49**	PKIKP	**PKPdf**	**12 04 38.4**	**-0.6**	
MIAR				MLR	MLR			
	comp=Z,4µm,21.0s							
MIAR	**Mount Ida**	**133.12**	**49**	PKPdf	**PKPdf**	**12 04 38.4**	**-0.6**	
KIC	**Kosan Boka**	**133.13**	**272**	*e*PKIKP	**PKPdf**	**12 04 38.4**	**-1.2**	
	comp=Z,26nm,1.0s							
CCM	**Cathedral Cave**	**133.14**	**43**	P	**PKPdf**	**12 04 38.8**	**-0.2**	
	baz=301							
CCM	**Cathedral Cave**	**133.14**	**43**	IAMs_20	IAMs_20	13 00 40.4		
	comp=Z,3µm,22.0s							
E48A	**Lockeyer**	**133.15**	**28**	P	**PKPdf**	**12 04 38.3**	**-0.4**	
	baz=317,SNR=8.3							
HQIL	**Hanson Quary C**	**133.23**	**37**	IAMs_20	IAMs_20	13 03 12.7		
	comp=Z,2µm,21.0s							
DBIC	**Dimbokro**	**133.26**	**272**	PKP	**PKPdf**	**12 04 38.9**	**-1.0**	
	comp=Z,8.1nm,0.7s,baz=112,slow=3.0,SNR=9.2							
DBIC				SKPbc	**SKPbc**	**12 08 05.2**	**-2.2**	
	comp=Z,12nm,0.9s,baz=155,slow=5.8,SNR=4.8							
DBIC	**Dimbokro**	**133.26**	**272**		**PKPdf**	**12 04 39.5**	**-0.3**	
LIC	**Lamto**	**133.40**	**272**	*e*PKIKP	**PKPdf**	**12 04 38.6**	**-1.5**	
	comp=Z,64nm,1.1s							
F48A	**Evansville**	**133.41**	**29**	P	**PKPdf**	**12 04 38.8**	**-0.4**	
	baz=316							
TIC	**Toumodi**	**133.42**	**272**	*e*PKIKP	**PKPdf**	**12 04 39.0**	**-1.2**	
P43A	**Skaggs, Pawnee**	**133.44**	**40**	IAMs_20	IAMs_20	13 05 18.7		
	comp=Z,2µm,21.0s							
TLIG	**Tlapa**	**133.47**	**73**	PKPdf	**PKiKP**	**12 04 41.8**	**+0.2**	
TLIG				IAMs_20	IAMs_20	12 58 18.3		
	comp=Z,2µm,20.0s							
CHGQ	**Chibougamau**	**133.59**	**20**	P	**PKPdf**	**12 04 38.6**	**-0.8**	
	baz=329							
D50A	**G1974 Best Tow**	**133.69**	**26**	P	**PKPdf**	**12 04 39.1**	**-0.6**	
	baz=320,SNR=12							
X40A	**Basin Creek Fa**	**133.70**	**48**	P	**PKPdf**	**12 04 40.4**	**+0.3**	
	baz=296							
F49A	**Sandfield**	**133.73**	**29**	P	**PKPdf**	**12 04 39.6**	**-0.2**	
	baz=317							
FVM	**French Village**	**133.73**	**43**	PKIKP	**PKiKP**	**12 04 40.9**	**-0.5**	
FVM	**French Village**	**133.73**	**43**		**PKiKP**	**12 04 40.9**	**-0.5**	
FVM				IAMs_20	IAMs_20	13 07 15.8		
	comp=Z,2µm,20.0s							
T42A	**Van Buren**	**133.76**	**44**	IAMs_20	IAMs_20	13 02 10.8		
	comp=Z,3µm,21.0s							
O44A	**Mansfield**	**133.82**	**39**	IAMs_20	IAMs_20	12 58 53.7		
	comp=Z,3µm,22.0s							
E50A	**Wahnapitae**	**133.86**	**28**	P	**PKPdf**	**12 04 39.6**	**-0.4**	
	baz=319,SNR=9.6							
VLDQ	**Val d'Or**	**133.95**	**24**	PKPdf	**PKPdf**	**12 04 38.6**	**-1.6**	
VLDQ				IAMs_20	IAMs_20	13 03 02.5		
	comp=Z,2µm,20.0s							
D51A	**Lot 18 Range I**	**133.96**	**26**	P	**PKPdf**	**12 04 39.7**	**-0.5**	
	baz=321							
J47A	**Sunmer**	**134.05**	**33**		**PKPdf**	**12 04 40.4**	**-0.1**	
J47A				IAMs_20	IAMs_20	13 07 34.2		
	comp=Z,3µm,20.0s							
Z41A	**Richland Creek**	**134.25**	**50**	P	**PKPdf**	**12 04 40.3**	**-0.9**	
	baz=295							
Z41A	**Richland Creek**	**134.25**	**50**	IAMs_20	IAMs_20	12 58 16.5		
	comp=Z,3µm,21.0s							
E51A	**G1948 Merrick**	**134.33**	**26**	P	**PKPdf**	**12 04 39.8**	**-1.1**	
	baz=320,SNR=8.6							
PBMO	**Poplar Bluff**	**134.35**	**44**	IAMs_20	IAMs_20	13 02 37.2		
	comp=Z,3µm,21.0s							
D52A	**ZEK Kipawa Sen**	**134.46**	**25**	P	**PKPdf**	**12 04 40.5**	**-0.7**	
	baz=322,SNR=8.9							
BO02	**Sierra Bellavi**	**134.49**	**158**	PKPdf	**PKPdf**	**12 04 40.5**	**-1.3**	
F51A	**Arnstein**	**134.60**	**27**	P	**PKPdf**	**12 04 40.4**	**-1.0**	
	baz=319							
I49A	**Point Hope**	**134.64**	**31**		**PKPdf**	**12 04 40.8**	**-0.8**	
I49A				IAMs_20	IAMs_20	13 06 19.5		
	comp=Z,2µm,20.0s							
S44A	**Carbondale**	**134.67**	**43**		**PKiKP**	**12 04 42.9**	**-0.4**	
S44A				IAMs_20	IAMs_20	13 08 27.6		
	comp=Z,2µm,19.0s							
D53A	**Lac Vacive, Po**	**134.68**	**25**	P	**PKPdf**	**12 04 40.6**	**-1.0**	
	baz=323,SNR=5.8							
D53A	**Lac Vacive, Po**	**134.68**	**25**	PKPdf	**PKPdf**	**12 04 40.6**	**-1.0**	
D53A				IAMs_20	IAMs_20	13 05 38.8		
	comp=Z,3µm,21.0s							
E52A	**Mattawa**	**134.89**	**26**	P	**PKPdf**	**12 04 40.6**	**-1.3**	
	baz=321							
P46A	**Rosedale**	**134.92**	**39**	IAMs_20	IAMs_20	13 00 21.8		
	comp=Z,2µm,21.0s							
441A	**DeRidder**	**134.96**	**53**	IAMs_20	IAMs_20	13 03 11.6		
	comp=Z,3µm,21.0s							
F52A	**Sundridge**	**134.97**	**27**	P	**PKPdf**	**12 04 41.6**	**-0.6**	
	baz=320,SNR=6.1							
PVMO	**Portageville**	**135.04**	**44**	IAMs_20	IAMs_20	13 05 41.5		
	comp=Z,3µm,20.0s							
D54A	**Lac Fusel, La**	**135.04**	**24**	P	**PKPdf**	**12 04 41.1**	**-1.1**	
	baz=324,SNR=5.2							
N47A	**Urbana**	**135.07**	**37**	IAMs_20	IAMs_20	13 06 40.6		
	comp=Z,3µm,21.0s							
L48A	**N Adams**	**135.12**	**35**		**PKPdf**	**12 04 42.3**	**-0.3**	
X43A	**Marvell**	**135.12**	**47**	P	**PKPdf**	**12 04 42.0**	**-0.8**	
	baz=298							
X43A	**Marvell**	**135.12**	**47**	IAMs_20	IAMs_20	13 02 27.2		
	comp=Z,3µm,20.0s							
E53A	**Dumoine, Ponti**	**135.25**	**25**	P	**PKPdf**	**12 04 41.9**	**-0.8**	
	baz=322,SNR=7.6							
AAM	**Ann Arbor**	**135.32**	**34**	IAMs_20	IAMs_20	13 03 26.7		
	comp=Z,2µm,21.0s							
E54A	**Lac Daplat, Po**	**135.40**	**25**	P	**PKPdf**	**12 04 42.0**	**-0.9**	
	baz=323							
ALGO	**Algonquin Park**	**135.41**	**26**	P	**PKPdf**	**12 04 42.3**	**-0.7**	
	baz=322							
T45A	**Paducah**	**135.44**	**43**	IAMs_20	IAMs_20	13 05 59.2		
	comp=Z,3µm,20.0s							
MET	**Memphis--Engin**	**135.52**	**46**	IAMs_20	IAMs_20	13 08 26.5		
	comp=Z,3µm,19.0s							
K50A	**Casco**	**135.55**	**32**	IAMs_20	IAMs_20	13 06 46.8		
	comp=Z,3µm,20.0s							
BLO	**Bloomington**	**135.61**	**39**	IAMs_20	IAMs_20	13 08 36.1		
	comp=Z,3µm,20.0s							
D55A	**Sainte-Anne-du**	**135.62**	**23**	P	**PKPdf**	**12 04 42.6**	**-0.7**	
	baz=326,SNR=7.0							
I51A	**Listowel**	**135.65**	**30**	P	**PKPdf**	**12 04 43.3**	**-0.2**	
	baz=317							
G53A	**Haliburton**	**135.81**	**27**	P	**PKPdf**	**12 04 43.4**	**-0.4**	
	baz=320							
G54A	**Lake Saint Pet**	**135.83**	**26**	P	**PKPdf**	**12 04 43.1**	**-0.7**	
	baz=321							
SADO	**Sadowa**	**135.84**	**28**	PKPdf	**PKPdf**	**12 04 42.6**	**-1.2**	
SADO				IAMs_20	IAMs_20	13 05 54.9		
	comp=Z,3µm,20.0s							
E55A	**Montcerf-Lytto**	**135.85**	**24**	P	**PKPdf**	**12 04 43.2**	**-0.6**	
	baz=325							
D56A	**ZEC Mazanza, M**	**135.87**	**22**	P	**PKPdf**	**12 04 42.8**	**-1.0**	
	baz=327,SNR=9.9							
N49A	**Columbus Grove**	**135.93**	**36**	PKPdf	**PKiKP**	**12 04 45.1**	**-0.6**	
PEL	**Peldehue**	**135.99**	**157**	PKIKP	**PKPdf**	**12 04 45.1**	**+0.5**	
PEL				MLR	MLR			
	comp=Z,4µm,21.0s							
PEL	**Peldehue**	**135.99**	**157**		**PKPdf**	**12 04 45.1**	**+0.5**	
P48A	**Milroy**	**136.12**	**38**	IAMs_20	IAMs_20	13 09 33.3		
	comp=Z,2µm,20.0s							
E56A	**St. Veronique**	**136.18**	**23**	P	**PKPdf**	**12 04 43.5**	**-0.9**	
	baz=326,SNR=5.3							
OXF	**Oxford**	**136.19**	**47**	IAMs_20	IAMs_20	13 03 03.4		
	comp=Z,3µm,22.0s							
D57A	**Chemin Vers le**	**136.22**	**22**	P	**PKPdf**	**12 04 43.9**	**-0.6**	
	baz=328							
H53A	**Bobcaygeon**	**136.25**	**28**	P	**PKPdf**	**12 04 43.6**	**-1.0**	
	baz=320							
M50A	**Fremont**	**136.26**	**34**	IAMs_20	IAMs_20	13 10 17.6		
	comp=Z,2µm,21.0s							
O49A	**Covington**	**136.31**	**36**		**PKPdf**	**12 04 45.4**	**+0.6**	
Y45A	**Yeager Farm, C**	**136.41**	**47**	IAMs_20	IAMs_20	13 09 19.3		
	comp=Z,3µm,19.0s							
VBMS	**Vicksburg**	**136.44**	**50**	P	**PKPdf**	**12 04 44.3**	**-1.0**	
	baz=296							
WVT	**Waverly**	**136.47**	**44**	P	**PKPdf**	**12 04 43.7**	**-1.6**	
	baz=303							
WVT	**Waverly**	**136.47**	**44**	IAMs_20	IAMs_20	13 04 31.5		
	comp=Z,2µm,20.0s							
P49A	**Miami Univ. Ec**	**136.50**	**37**	P	**PKPdf**	**12 04 44.0**	**-1.2**	
	baz=309							
P49A	**Miami Univ. Ec**	**136.50**	**37**	IAMs_20	IAMs_20	13 07 34.4		
	comp=Z,3µm,21.0s							
D58A	**Chemin du LacG**	**136.51**	**21**	P	**PKPdf**	**12 04 43.9**	**-1.1**	
	baz=329,SNR=6.5							
G55A	**Oailabogie**	**136.54**	**25**	P	**PKPdf**	**12 04 44.0**	**-1.1**	
	baz=323							
PLVO	**Plevna**	**136.56**	**26**	IAMs_20	IAMs_20	13 10 48.7		
	comp=Z,2µm,21.0s							
344A	**Westbrook Farm**	**136.61**	**51**	IAMs_20	IAMs_20	13 03 23.9		
	comp=Z,3µm,22.0s							
E57A	**Chemin Saint G**	**136.63**	**22**	P	**PKPdf**	**12 04 44.1**	**-1.2**	
	baz=327							
DELO	**Deloro Mine**	**136.73**	**27**	IAMs_20	IAMs_20	13 11 51.3		
	comp=Z,3µm,19.0s							
M51A	**Elyria**	**136.78**	**34**	P	**PKPdf**	**12 04 44.2**	**-1.5**	
	baz=313							
ORIO	**Orleans, Innes**	**136.89**	**24**	P	**PKPdf**	**12 04 44.6**	**-1.1**	
	baz=325							
H55A	**Tweed**	**136.90**	**26**	P	**PKPdf**	**12 04 44.6**	**-1.2**	
	baz=322							
I55A	**Frankford**	**136.93**	**27**	P	**PKPdf**	**12 04 45.0**	**-0.9**	
	baz=321							
N51A	**Ashland**	**136.96**	**34**	IAMs_20	IAMs_20	12 57 48.2		
	comp=Z,3µm,22.0s							
R49A	**Shelbyville**	**136.98**	**39**	IAMs_20	IAMs_20	12 58 56.4		
	comp=Z,2µm,21.0s							
E58A	**La Victoria**	**136.99**	**22**	P	**PKPdf**	**12 04 45.3**	**-0.6**	
	baz=328							
M52A	**Chesterland**	**137.09**	**33**	IAMs_20	IAMs_20	13 06 03.4		
	comp=Z,3µm,21.0s							
ASAL	**Salagasta**	**137.18**	**159**	*i* P	PKPdf	12 04 35.5	-11	
J54A	**Appleton**	**137.21**	**29**	P	**PKPdf**	**12 04 45.7**	**-0.7**	
	baz=319							
D61A	**St Aubert, Com**	**137.31**	**18**	P	**PKPdf**	**12 04 45.5**	**-0.9**	
	baz=333							
D60A	**Saint Jean D'O**	**137.33**	**19**	P	**PKPdf**	**12 04 46.4**	**-0.1**	
	baz=332							
O51A	**Pataskala**	**137.35**	**35**	P	**PKPdf**	**12 04 45.8**	**-1.0**	
	baz=312							
146A	**Union**	**137.35**	**49**	IAMs_20	IAMs_20	13 06 19.2		
	comp=Z,3µm,20.0s							
V48A	**Smith Brothers**	**137.37**	**43**	IAMs_20	IAMs_20	13 06 22.2		
	comp=Z,2µm,21.0s							
MEDO	**Medina**	**137.38**	**29**	IAMs_20	IAMs_20	13 04 02.7		
	comp=Z,3µm,21.0s							
G57A	**Newington**	**137.38**	**24**	P	**PKPdf**	**12 04 46.4**	**-0.3**	
	baz=325							
ERPA	**Erie**	**137.40**	**31**	IAMs_20	IAMs_20	13 08 24.4		
	comp=Z,2µm,20.0s							
N52A	**McGinn's Farm,**	**137.41**	**34**	P	**PKPdf**	**12 04 45.6**	**-1.2**	
	baz=314							
PECO	**Prince Edward**	**137.46**	**27**	IAMs_20	IAMs_20	13 07 13.8		
	comp=Z,3µm,21.0s							
CLTN	**Cedars of Leba**	**137.51**	**43**	IAMs_20	IAMs_20	13 01 38.7		
	comp=Z,2µm,22.0s							
R50A	**Paris**	**137.52**	**39**	IAMs_20	IAMs_20	13 09 22.4		
	comp=Z,3µm,20.0s							
P51A	**Williamsport**	**137.52**	**36**	P	**PKPdf**	**12 04 45.8**	**-1.3**	
	baz=311							
M53A	**Wi Miller and**	**137.52**	**32**	P	**PKPdf**	**12 04 46.0**	**-1.1**	
	baz=315							
J55A	**Hilton**	**137.60**	**28**	IAMs_20	IAMs_20	13 06 25.6		
	comp=Z,3µm,20.0s							
346A	**Big Creek Wild**	**137.61**	**51**	IAMs_20	IAMs_20	13 10 14.4		
	comp=Z,3µm,20.0s							
U49A	**Red Boiling Sp**	**137.64**	**42**	IAMs_20	IAMs_20	13 06 50.1		
	comp=Z,3µm,20.0s							
Q51A	**Peebles**	**137.65**	**37**	IAMs_20	IAMs_20	12 57 56.6		
	comp=Z,3µm,22.0s							
L54A	**Sinclairville**	**137.65**	**30**	P	**PKPdf**	**12 04 46.1**	**-1.2**	
	baz=318							
ALLY	**Alegheny Colle**	**137.65**	**32**	IAMs_20	IAMs_20	13 09 25.2		
	comp=Z,3µm,20.0s							
K54A	**Basiliko Farm,**	**137.68**	**30**	P	**PKPdf**	**12 04 45.9**	**-1.4**	
	baz=319							
G58A	**Ormstown**	**137.72**	**23**	P	**PKPdf**	**12 04 46.4**	**-0.9**	
	baz=326							
H57A	**Richville**	**137.74**	**25**	P	**PKPdf**	**12 04 46.4**	**-0.9**	
	baz=324							
D62A	**Allapoint, All**	**137.76**	**17**	P	**PKPdf**	**12 04 46.2**	**-1.1**	
	baz=334							
D62A	**Allapoint, All**	**137.76**	**17**	IAMs_20	IAMs_20	13 09 26.0		
	comp=Z,3µm,21.0s							
O52A	**Adamsville**	**137.80**	**35**	IAMs_20	IAMs_20	12 58 11.6		
	comp=Z,3µm,22.0s							
F60A	**Warwick**	**137.81**	**21**	P	**PKPdf**	**12 04 46.9**	**-0.5**	
	baz=330							
Z47A	**Carrollton**	**137.81**	**47**	IAMs_20	IAMs_20	13 03 40.3		
	comp=Z,3µm,21.0s							
WVNY	**West Valley, N**	**137.88**	**30**		**PKPdf**	**12 04 46.5**	**-1.2**	
WVNY				IAMs_20	IAMs_20	13 01 21.0		
	comp=Z,3µm,21.0s							
N53A	**Lisbon**	**137.88**	**33**	P	**PKPdf**	**12 04 47.2**	**-0.5**	
	baz=315							
N53A	**Lisbon**	**137.88**	**33**		**PKPdf**	**12 04 46.4**	**-1.4**	
N53A				IAMs_20	IAMs_20	13 05 03.5		
	comp=Z,3µm,21.0s							
K55A	**Perry**	**137.90**	**29**	P	**PKPdf**	**12 04 46.9**	**-0.9**	
	baz=320							
E61A	**Lac Etchemin**	**137.90**	**19**	P	**PKPdf**	**12 04 46.9**	**-0.7**	
	baz=332							
X48A	**Hartselle**	**137.91**	**45**	IAMs_20	IAMs_20	13 04 10.6		
	comp=Z,3µm,20.0s							
RTCV	**Cerro Valdivia**	**137.94**	**159**	*i* P	PKPdf	12 04 37.8	-10	
LONY	**Lake Ozonia**	**137.94**	**24**	P	**PKPdf**	**12 04 47.0**	**-0.8**	
	baz=325							
LONY	**Lake Ozonia**	**137.94**	**24**		**PKPdf**	**12 04 47.0**	**-0.8**	
LONY				IAMs_20	IAMs_20	13 12 09.3		
	comp=Z,2µm,20.0s							
P52A	**Corning**	**137.96**	**35**	P	**PKPdf**	**12 04 46.4**	**-1.5**	
	baz=312							
P52A	**Corning**	**137.96**	**35**		**PKiKP**	**12 04 49.5**	**-0.5**	
MMNY	**Mt. Morris Dam**	**137.97**	**29**	IAMs_20	IAMs_20	13 04 28.3		
	comp=Z,3µm,22.0s							
M54A	**Oil Creek Stat**	**138.00**	**31**	P	**PKPdf**	**12 04 47.1**	**-0.9**	
	baz=317							
M54A	**Oil Creek Stat**	**138.00**	**31**	IAMs_20	IAMs_20	13 09 55.5		
	comp=Z,3µm,20.0s							
CO03	**El Pedregal**	**138.02**	**156**	IAMs_20	IAMs_20	13 04 25.4		
	comp=Z,3µm,20.0s							
E62A	**Clayton Lake**	**138.04**	**18**	P	**PKPdf**	**12 04 47.1**	**-0.8**	
	baz=334							
E62A	**Clayton Lake**	**138.04**	**18**	PKPdf	**PKPdf**	**12 04 46.8**	**-1.1**	
E62A				IAMs_20	IAMs_20	13 13 31.1		
	comp=Z,3µm,21.0s							
J56A	**Wolcott**	**138.04**	**27**	IAMs_20	IAMs_20	13 06 51.1		
	comp=Z,3µm,21.0s							
O53A	**New Philadelph**	**138.06**	**34**	P	**PKPdf**	**12 04 47.0**	**-1.1**	
	baz=314							
D63A	**Stockholm**	**138.08**	**17**	P	**PKPdf**	**12 04 46.7**	**-1.2**	
	baz=336							
L55A	**Hinsdale**	**138.13**	**30**	P	**PKPdf**	**12 04 47.5**	**-0.7**	
	baz=319							
F61A	**St Evariste**	**138.13**	**20**	P	**PKPdf**	**12 04 47.1**	**-0.9**	
	baz=331							
FRNY	**Flat Rock**	**138.16**	**23**	PKPdf	**PKPdf**	**12 04 47.5**	**-0.6**	
FRNY				IAMs_20	IAMs_20	13 07 07.9		
	comp=Z,3µm,21.0s							
N54A	**Moraine State**	**138.23**	**32**	P	**PKPdf**	**12 04 47.5**	**-0.9**	
	baz=316							
N54A	**Moraine State**	**138.23**	**32**		**PKPdf**	**12 04 48.2**	**-0.2**	
N54A				IAMs_20	IAMs_20	13 08 10.5		
	comp=Z,3µm,21.0s							
K56A	**Middlesex**	**138.27**	**28**	P	**PKPdf**	**12 04 48.7**	**+0.2**	
	baz=320							
H58A	**Gabriels**	**138.28**	**24**	P	**PKPdf**	**12 04 47.4**	**-1.0**	
	baz=326							
H59A	**Cadyville**	**138.28**	**23**	P	**PKPdf**	**12 04 47.4**	**-0.9**	
	baz=327							
J57A	**Williamstown**	**138.32**	**27**	P	**PKPdf**	**12 04 48.4**	**0.0**	
	baz=323							
J57A	**Williamstown**	**138.32**	**27**	IAMs_20	IAMs_20	13 09 23.4		
	comp=Z,3µm,20.0s							
Q52A	**Bidwell**	**138.32**	**36**	P	**PKPdf**	**12 04 47.7**	**-0.9**	
	baz=311							
S51A	**Beattyville**	**138.37**	**39**	IAMs_20	IAMs_20	13 08 07.0		
	comp=Z,3µm,20.0s							
BATG	**Bathurst New B**	**138.40**	**14**	PKPdf	**PKPdf**	**12 04 48.6**	**+0.1**	
G60A	**Masonville**	**138.42**	**22**	P	**PKPdf**	**12 04 46.1**	**-2.5**	
	baz=329							
PQI	**Presque Isle**	**138.44**	**17**		**PKPdf**	**12 04 47.9**	**-0.6**	
PQI				IAMs_20	IAMs_20	13 12 10.7		
	comp=Z,3µm,22.0s							
P53A	**Whipple**	**138.48**	**35**	P	**PKPdf**	**12 04 48.4**	**-0.5**	
	baz=313							
P53A	**Whipple**	**138.48**	**35**	IAMs_20	IAMs_20	12 58 43.6		
	comp=Z,3µm,21.0s							
M55A	**Ridgway**	**138.49**	**31**	P	**PKPdf**	**12 04 48.4**	**-0.5**	
	baz=318							
I58A	**Old Forge**	**138.54**	**25**	P	**PKPdf**	**12 04 48.4**	**-0.5**	
	baz=324							
E63A	**Oxbow**	**138.55**	**17**	P	**PKPdf**	**12 04 48.4**	**-0.3**	
	baz=335							
E63A	**Oxbow**	**138.55**	**17**	PKPdf	**PKPdf**	**12 04 47.1**	**-1.6**	
E63A				IAMs_20	IAMs_20	13 13 15.6		
	comp=Z,3µm,21.0s							
G61A	**St-Isidore-de-**	**138.55**	**21**	P	**PKPdf**	**12 04 48.2**	**-0.6**	
	baz=330							
O54A	**Avella**	**138.57**	**33**	P	**PKPdf**	**12 04 48.8**	**-0.2**	
	baz=315							
O54A	**Avella**	**138.57**	**33**	IAMs_20	IAMs_20	13 06 04.7		
	comp=Z,3µm,21.0s							
L56A	**Greenwood**	**138.59**	**29**	P	**PKPdf**	**12 04 49.3**	**+0.3**	
	baz=320							
L56A	**Greenwood**	**138.59**	**29**	IAMs_20	IAMs_20	13 02 28.8		
	comp=Z,3µm,21.0s							
K57A	**Scipio Center**	**138.62**	**28**	P	**PKPdf**	**12 04 47.8**	**-1.2**	
	baz=322							
NCB	**Newcomb**	**138.62**	**24**	IAMs_20	IAMs_20	13 12 37.2		
	comp=Z,2µm,20.0s							
Y49A	**Blount Mountai**	**138.66**	**45**	IAMs_20	IAMs_20	13 05 57.7		
	comp=Z,3µm,21.0s							
LRAL	**Lakeview Retre**	**138.67**	**47**	P	**PKPdf**	**12 04 44.1**	**-5.3**	
	baz=301							
J58A	**Remsen**	**138.67**	**26**	P	**PKPdf**	**12 04 47.6**	**-1.5**	
	baz=324							
J58A	**Remsen**	**138.67**	**26**		**PKPdf**	**12 04 49.1**	**0.0**	
J58A				IAMs_20	IAMs_20	13 12 28.7		
	comp=Z,2µm,20.0s							
W50A	**Signal Mountai**	**138.70**	**43**	IAMs_20	IAMs_20	13 03 53.2		
	comp=Z,3µm,22.0s							
E64A	**Bridgewater**	**138.72**	**17**	P	**PKPdf**	**12 04 48.2**	**-0.9**	
	baz=336							
M56A	**Emporium**	**138.78**	**30**	P	**PKPdf**	**12 04 46.4**	**-3.3**	
	baz=318							
M56A	**Emporium**	**138.78**	**30**	IAMs_20	IAMs_20	13 09 56.8		
	comp=Z,3µm,20.0s							
Q53A	**Leroy**	**138.83**	**36**	P	**PKPdf**	**12 04 48.3**	**-1.2**	
	baz=312							
ACCO	**Cerro Coronel**	**138.89**	**157**	*i* P	PKPdf	12 04 40.8	-10	
VT1	**Waterbury**	**138.91**	**23**	IAMs_20	IAMs_20	13 06 09.9		
	comp=Z,3µm,22.0s							
I59A	**Olmsteadville**	**138.91**	**24**	P	**PKPdf**	**12 04 49.1**	**-0.4**	
	baz=326							
P54A	**Burton**	**138.92**	**34**	P	**PKPdf**	**12 04 48.4**	**-1.3**	
	baz=314							
J59A	**Piesco**	**138.92**	**25**	P	**PKPdf**	**12 04 48.4**	**-1.2**	
	baz=325							
J59A	**Piesco**	**138.92**	**25**	IAMs_20	IAMs_20	13 13 03.2		
	comp=Z,3µm,21.0s							
G62A	**West of Eustis**	**138.95**	**20**	P

S54A	Dingess, Beckl	139.66	37	P		PKPdf	12 04 48.4	-2.8	
	baz=312								
W52A	Murphy	139.69	42	IAMs_20	IAMs_20		13 03 12.3		
	comp=Z,3µm,22.0s								
M58A	Price's Panora	139.70	29	P		PKPdf	12 04 48.4	-2.7	
	baz=321								
L59A	Walton	139.72	27	P		PKPdf	12 04 47.7	-3.4	
	baz=323								
250A	Grady	139.73	48	IAMs_20	IAMs_20		13 08 54.3		
	comp=Z,3µm,19.0s								
CCIG	Comitan	139.74	74	IAMs_20	IAMs_20		13 01 41.2		
	comp=Z,2µm,18.0s								
WVL	Waterville	139.82	20			PKPdf	12 04 49.9	-1.2	
WVL				IAMs_20	IAMs_20		13 06 38.4		
	comp=Z,2µm,21.0s								
Z51A	Franklin	139.83	45			PKPdf	12 04 51.9	+0.4	
Z51A				IAMs_20	IAMs_20		13 07 01.5		
	comp=Z,3µm,22.0s								
I62A	Tamworth	139.83	22	P		PKPdf	12 04 49.5	-1.7	
	baz=329								
I62A	Tamworth	139.83	22	IAMs_20	IAMs_20		13 06 51.0		
	comp=Z,3µm,22.0s								
TRY	Troy	139.88	25			PKPdf	12 04 52.4	+1.1	
TRY				IAMs_20	IAMs_20		13 11 12.4		
	comp=Z,2µm,20.0s								
P56A	Dayton Farm, R	139.88	33	P		PKPdf	12 04 46.2	-5.2	
	baz=316								
H64A	Troy	139.90	19	P		PKPdf	12 04 49.8	-1.4	
	baz=333								
G65A	Princeton	139.91	17	P		PKPdf	12 04 50.4	-0.9	
	baz=336								
I63A	Otisfield	139.95	21	P		PKPdf	12 04 50.7	-0.7	
	baz=331								
I63A	Otisfield	139.95	21	IAMs_20	IAMs_20		13 16 40.2		
	comp=Z,2µm,20.0s								
APLL	PUNTA DE LOS L	139.97	160	*i* P		PKPdf	12 04 43.7	-8.3	
T54A	Tazewell	139.98	38	P		PKPdf	12 04 51.1	-0.7	
	baz=310								
N58A	Sunbury	139.99	30	P		PKPdf	12 04 50.0	-1.5	
	baz=320								
N58A	Sunbury	139.99	30			PKPdf	12 04 51.3	-0.3	
O57A	Amberson	140.00	31	P		PKPdf	12 04 51.6	0.0	
	baz=318								
Q56A	Snyder Ridge,	140.02	34	P		PKPdf	12 04 50.6	-1.1	
	baz=315								
Q56A	Snyder Ridge,	140.02	34	IAMs_20	IAMs_20		12 58 58.2		
	comp=Z,3µm,22.0s								
R55A	Marlinton	140.03	35	P		PKPdf	12 04 51.7	-0.1	
	baz=313								
M59A	Waymart	140.06	28	P		PKPdf	12 04 51.4	-0.3	
	baz=322								
AGUA	GUANDACOL	140.09	157	*i* P		PKPdf	12 04 45.1	-7.2	
H65A	Eastbrook	140.16	18	P		PKPdf	12 04 51.3	-0.4	
	baz=334								
U54A	Nelsons Funny	140.17	39	IAMs_20	IAMs_20		13 07 57.8		
	comp=Z,2µm,22.0s								
GGN	Saint George	140.19	17	PKPdf		PKPdf	12 04 50.7	-1.0	
GGN				IAMs_20	IAMs_20		13 13 56.3		
	comp=Z,3µm,21.0s								
L60A	Shokan	140.24	26	P		PKPdf	12 04 51.5	-0.5	
	baz=324								
Y52A	Lilburn	140.30	44			PKiKP	12 04 54.1	-0.7	
P57A	Homestead Farm	140.34	32	P		PKPdf	12 04 50.7	-1.6	
	baz=317								
P57A	Homestead Farm	140.34	32	IAMs_20	IAMs_20		13 10 04.4		
	comp=Z,2µm,20.0s								
R56A	Bull Pasture M	140.35	35	P		PKPdf	12 04 50.4	-2.0	
	baz=314								
H66A	Whiting	140.36	17	P		PKPdf	12 04 50.6	-1.4	
	baz=336								
L61A	Hillsdale 1, H	140.36	25	P		PKPdf	12 04 50.4	-1.8	
	baz=325								
EMMW	East Machias	140.38	17	IAMs_20	IAMs_20		13 11 50.4		
	comp=Z,2µm,21.0s								
N59A	State Game Lan	140.38	29	P		PKPdf	12 04 51.5	-0.8	
	baz=321								
N59A	State Game Lan	140.38	29	IAMs_20	IAMs_20		13 03 31.3		
	comp=Z,2µm,22.0s								
I64A	Boothbay	140.40	20	P		PKPdf	12 04 50.7	-1.4	
	baz=332								
T55A	Pulaski	140.42	37	P		PKPdf	12 04 51.2	-1.4	
	baz=312								
O58A	Lewisberry	140.43	31	P		PKPdf	12 04 51.6	-0.8	
	baz=319								
J63A	Strafford	140.44	22	P		PKPdf	12 04 50.8	-1.5	
	baz=329								
PAGS	Pennsylvania G	140.45	30	IAMs_20	IAMs_20		13 21 29.1		
	comp=Z,2µm,21.0s								
Q57A	Strasburg	140.45	33	P		PKPdf	12 04 51.9	-0.6	
	baz=316								
HUEH	Huehuetenango	140.47	75	IAMs_20	IAMs_20		13 12 45.7		
	comp=Z,2µm,19.0s								
K62A	Royalston	140.52	24	P		PKPdf	12 04 53.3	+0.8	
	baz=327								
K62A	Royalston	140.52	24	IAMs_20	IAMs_20		13 10 49.3		
	comp=Z,3µm,22.0s								
L61B	Northampton	140.52	24	P		PKPdf	12 04 52.8	+0.3	
	baz=327								
V54A	Nebo	140.56	40	P		PKPdf	12 04 50.7	-2.1	
	baz=309								
BLA	Blacksburg	140.57	37	P		PKPdf	12 04 50.7	-2.1	
	baz=312								
BLA	Blacksburg	140.57	37	IAMs_20	IAMs_20		12 59 16.2		
	comp=Z,3µm,22.0s								
M60A	Port Jervis	140.59	27	P		PKPdf	12 04 52.1	-0.5	
	baz=323								
O59A	Robesonia	140.65	30	P		PKPdf	12 04 50.1	-2.7	
	baz=320								
U55A	TA2, Sparta	140.66	38	P		PKPdf	12 04 53.1	+0.1	
	baz=311								
P58A	Pank, Wackersv	140.71	32	P		PKPdf	12 04 52.6	-0.3	
	baz=318								
ACLC	CERRO LA CRUZ	140.72	159	*i* P		PKPdf	12 04 45.9	-7.6	
N60A	Cedar Hill Far	140.74	28	P		PKPdf	12 04 51.0	-1.9	
	baz=322								
K63A	Dunstable	140.77	23	P		PKPdf	12 04 53.5	+0.6	
	baz=328								
KSCT	Kent School, K	140.78	26			PKiKP	12 04 54.9	-0.7	
451A	Vernon	140.79	49	IAMs_20	IAMs_20		13 03 10.5		
	comp=Z,2µm,21.0s								
QUA2	Belchertown	140.79	24	IAMs_20	IAMs_20		13 16 48.6		
	comp=Z,2µm,20.0s								
ODNJ	Ogdensburg	140.80	27	IAMs_20	IAMs_20		13 06 08.0		
	comp=Z,3µm,21.0s								
MVL	Millersville	140.81	30	PKPdf		PKPdf	12 04 53.3	+0.3	
MVL				IAMs_20	IAMs_20		13 21 47.6		
	comp=Z,3µm,21.0s								
W54A	Cherokee Point	140.84	41	P		PKPdf	12 04 51.2	-2.1	
	baz=308								
Q58A	Fox Den Farm,	140.91	32	P		PKPdf	12 04 52.0	-1.3	
	baz=317								
R57A	Stanardsville	140.92	34	P		PKPdf	12 04 52.0	-1.3	
	baz=315								
HRV	Adam Dziewonsk	140.92	23	IAMs_20	IAMs_20		13 09 39.8		
	comp=Z,2µm,21.0s								
GOGA	Godfrey	140.97	44	P		PKPdf	12 04 52.4	-1.2	
	baz=305								
GOGA	Godfrey	140.97	44	IAMs_20	IAMs_20		13 12 08.4		
	comp=Z,2µm,20.0s								
352A	Blakely	140.97	48	IAMs_20	IAMs_20		13 09 13.0		
	comp=Z,2µm,20.0s								
SDMD	Soldier's Deli	141.00	31			PKPdf	12 04 54.0	+0.5	
O60A	Telford	141.03	29	P		PKPdf	12 04 52.4	-1.0	
	baz=321								
X54A	Belton	141.04	42	P		PKPdf	12 04 53.8	+0.1	
	baz=307								
S57A	Dark Hollow, R	141.05	35	P		PKPdf	12 04 52.7	-0.9	
	baz=314								
P59A	Jarrettsville	141.06	31	P		PKPdf	12 04 53.3	-0.3	
	baz=319								
PLTB	Pedras Altas	141.10	178	*eP*		PKPdf	12 04 50.9	-3.1	
WES	Weston	141.11	23	IAMs_20	IAMs_20		13 13 26.9		
	comp=Z,2µm,20.0s								
BRNJ	Basking Ridge	141.13	28	IAMs_20	IAMs_20		13 05 57.0		
	comp=Z,2µm,20.0s								
GBN	Guysborough	141.16	11	IAMs_20	IAMs_20		13 12 11.6		
	comp=Z,3µm,22.0s								
U56A	King	141.17	38	P		PKPdf	12 04 52.5	-1.4	
	baz=311								
U56A	King	141.17	38			PKPdf	12 04 53.9	0.0	
R58A	Rapidan	141.20	33	P		PKPdf	12 04 53.3	-0.6	
	baz=316								
P60A	Greenville	141.31	30	IAMs_20	IAMs_20		13 09 38.7		
	comp=Z,3µm,22.0s								
PSUB	Penn St. - Bra	141.31	29			PKPdf	12 04 53.9	-0.1	
YLE	Yale	141.35	26	IAMs_20	IAMs_20		13 09 53.4		
	comp=Z,3µm,21.0s								
T57A	Hurt	141.41	36	P		PKPdf	12 04 53.6	-0.6	
	baz=313								
BRYW	Bryant College	141.42	24	IAMs_20	IAMs_20		13 06 44.3		
	comp=Z,3µm,21.0s								
L63A	North Scituate	141.44	24	P		PKPdf	12 04 54.4	+0.3	
	baz=328								
V56A	Mocksville	141.45	39	P		PKPdf	12 04 54.2	-0.1	
	baz=311								
R58B	Mineral	141.51	34			PKiKP	12 04 56.0	-1.2	
R58B				IAMs_20	IAMs_20		13 10 24.6		
	comp=Z,3µm,21.0s								
X55A	Gracelyn & Ava	141.57	41	P		PKPdf	12 04 54.2	-0.4	
	baz=308,SNR=5.7								
CBN	Corbin Frederi	141.61	33	IAMs_20	IAMs_20		13 12 31.2		
	comp=Z,2µm,20.0s								
M63A	Gales Ferry	141.65	25	P		PKPdf	12 04 54.3	-0.2	
	baz=327								
154A	Montrose	141.66	45	IAMs_20	IAMs_20		13 12 35.0		
	comp=Z,3µm,22.0s								
S58A	Poland Farm, P	141.66	34	P		PKPdf	12 04 52.7	-2.0	
	baz=316								
S58A	Poland Farm, P	141.66	34	IAMs_20	IAMs_20		13 06 28.7		
	comp=Z,2µm,22.0s								
L64A	Middleborough	141.68	23	P		PKPdf	12 04 54.1	-0.5	
	baz=329								
Y55A	Saluda	141.75	42	P		PKPdf	12 04 54.8	-0.2	
	baz=307,SNR=6.3								
PETF	Flores	141.79	72	IAMs_20	IAMs_20		13 02 43.8		
	comp=Z,2µm,20.0s								
P61A	Hammonton	141.82	29	IAMs_20	IAMs_20		13 06 18.3		
	comp=Z,3µm,22.0s								
W56A	Indian Trail	141.83	39	P		PKPdf	12 04 54.1	-0.9	
	baz=310,SNR=11								
V57A	Coltrane Farms	141.84	38	P		PKPdf	12 04 54.4	-0.6	
	baz=312,SNR=7.1								
T58A	Grand View Acr	141.86	35	P		PKPdf	12 04 54.7	-0.4	
	baz=314								
X56A	White Oak	141.95	41	P		PKPdf	12 04 54.9	-0.4	
	baz=309								
TIGA	Tifton	141.96	47	P		PKPdf	12 04 53.3	-2.1	
	baz=303								
TIGA	Tifton	141.96	47	IAMs_20	IAMs_20		13 06 19.2		
	comp=Z,3µm,22.0s								
553A	Crawfordville	141.99	49	IAMs_20	IAMs_20		13 09 12.2		
	comp=Z,3µm,22.0s								
CYA	Choya	142.01	160	*i* P		PKPdf	12 04 50.4	-5.3	
M65A	Busby, Falmout	142.08	23	IAMs_20	IAMs_20		13 07 12.5		
	comp=Z,3µm,22.0s								
ROSA	Rosais	142.12	329	IAMs_20	IAMs_20		13 13 25.6		
	comp=Z,2µm,21.0s								
Q61A	Milford	142.17	30	P		PKPdf	12 04 55.0	-0.6	
	baz=320								
W57A	Gilead	142.19	39	P		PKPdf	12 04 56.6	+0.9	
	baz=311,SNR=10								
Y56A	Pelion	142.20	42	P		PKPdf	12 04 56.2	+0.5	
	baz=308								
BIRD	Birdtown, Kers	142.22	40	IAMs_20	IAMs_20		13 20 59.1		
	comp=Z,2µm,20.0s								
U58A	Oxford	142.23	36	P		PKPdf	12 04 53.5	-2.2	
	baz=314,SNR=5.3								
V58A	Windy Hill, Pi	142.30	37	IAMs_20	IAMs_20		13 14 06.0		
	comp=Z,3µm,21.0s								
T59A	Double "B" Far	142.40	35	P		PKPdf	12 04 54.0	-2.0	
	baz=316								
CPSB	Campina Do Su	142.46	178	*eP*		PKPdf	12 04 55.6	-0.8	
R61A	Willards	142.59	31	IAMs_20	IAMs_20		13 11 26.8		
	comp=Z,3µm,20.0s								
ESQI	Esquipulas	142.64	76	IAMs_20	IAMs_20		12 59 35.1		
	comp=Z,3µm,22.0s								
MTO3	Montecristo	142.64	76	IAMs_20	IAMs_20		12 59 45.2		
	comp=Z,2µm,22.0s								
Y57A	Sumter	142.66	41	IAMs_20	IAMs_20		13 14 21.9		
	comp=Z,2µm,20.0s								
T60A	Surry	142.73	34	P		PKPdf	12 04 53.1	-3.5	
	baz=317								
T60A	Surry	142.73	34	IAMs_20	IAMs_20		13 11 24.9		
	comp=Z,3µm,19.0s								
SNET	Serv Nac Est T	142.84	77	IAMs_20	IAMs_20		12 58 09.6		
	comp=Z,3µm,22.0s								
V59A	Middlesex	142.84	37	P		PKPdf	12 04 52.5	-4.4	
	baz=314								
Z57A	Bowman	142.90	42	P		PKPdf	12 04 52.6	-4.4	
	baz=308								
S61A	Accomac	142.91	32	IAMs_20	IAMs_20		13 15 39.3		
	comp=Z,3µm,20.0s								
U60A	Pendleton	142.98	35	P		PKPdf	12 04 52.7	-4.4	
	baz=316								
X58A	Rowland	142.99	39	IAMs_20	IAMs_20		13 12 09.3		
	comp=Z,3µm,20.0s								
157A	Early Branch	143.08	43	P		PKPbc	12 04 53.9	-0.3	
	baz=307								
NHSC	New Hope	143.36	42	P		PKPbc	12 04 55.3	+0.5	
	baz=308								
CNNC	Cliffs of the	143.41	37	IAMs_20	IAMs_20		13 14 02.3		
	comp=Z,3µm,20.0s								
V60A	Jim Taylor Roa	143.42	36	P		PKPbc	12 04 54.6	-0.4	
	baz=315								
V60A	Jim Taylor Roa	143.42	36	IAMs_20	IAMs_20		13 10 00.3		
	comp=Z,3µm,20.0s								
Z58A	St. Stephen	143.46	41	P		PKPab	12 04 53.1	-1.0	
	baz=309								
U61A	Possum Corner	143.48	34	P		PKPab	12 04 54.5	+0.4	
	baz=316								
PB14	IPOC Station P	143.51	151	PKPdf		PKPbc	12 04 56.6	+0.7	
CNLB	Canela	143.56	182	*eP*		PKPbc	12 04 56.4	+0.8	
W60A	Pink Hill	143.65	37	P		PKPab	12 04 54.2	-0.6	
	baz=314								
AHML	Horco Molle	143.70	160	*i* P		PKPbc	12 04 56.0	-0.1	
V61A	Roper	143.79	35	P		PKPab	12 04 55.1	-0.3	
	baz=316								
X60A	Albert Glenn T	143.81	38	P		PKPbc	12 04 56.6	+0.4	
	baz=313								
656A	Willston	143.83	49	IAMs_20	IAMs_20		13 09 45.8		
	comp=Z,3µm,22.0s								
Y60A	Bolivia	144.05	39	P		PKPbc	12 04 57.8	+0.9	
	baz=312								
Y60A	Bolivia	144.05	39	IAMs_20	IAMs_20		13 09 18.3		
	comp=Z,2µm,20.0s								
V62A	Hyde County Ai	144.31	35	P		PKPdf	12 04 59.2	-0.2	
	baz=316								
PB10	IPOC Station P	144.37	150	PKPdf		PKPdf	12 04 59.4	-0.6	
TGUH	Tegucigalpa,Un	144.69	76	PKPdf		PKPbc	12 04 59.9	+0.3	
PB15	IPOC Station P	145.16	151			PKPab	12 05 01.2	+0.1	
DWPF	Disney Wildern	145.30	50	P		PKPbc	12 05 01.1	0.0	
	baz=301								
DWPF	Disney Wildern	145.30	50			PKPbc	12 05 00.8	-0.2	
DWPF	Disney Wildern	145.30	50	IAMs_20	IAMs_20		13 11 46.0		
	comp=Z,2µm,21.0s								
PB06	IPOC Station P	145.53	150			PKPab	12 05 03.5	+1.2	
PB04	IPOC Station P	145.56	149			PKPab	12 05 03.6	+1.1	
ITAB	Concordia	145.65	180	*eP*		PKPdf	12 04 58.8	-3.3	
ESTN	Estel	145.67	78			PKPbc	12 05 02.8	0.0	
LVC	Limon Verde	145.93	151	PKP2		PKPab	12 05 04.6	+0.5	
LVC	Limon Verde	145.93	151			PKPab	12 05 04.6	+0.5	
LVC	Limon Verde	145.93	151	*eP*		PKPdf	12 04 59.0	-4.1	
MATN	Matagalpa	146.12	78			PKPab	12 05 04.6	-0.1	
CPUP	Villa Florida	146.14	171	PKPbc		PKPbc	12 05 03.5	-0.3	
	comp=Z,129nm,0.9s,baz=185,slow=2.3,SNR=139								
CPUP	Villa Florida	146.14	171	PKP2		PKPdf	12 05 03.3	+0.4	
CPUP	Villa Florida	146.14	171			PKPdf	12 05 03.3	+0.4	
CPUP	Villa Florida	146.14	171	*eP*		PKPdf	12 04 60.0	-2.9	
PB07	IPOC Station P	146.19	149			PKPab	12 05 05.5	+0.6	
BOAB	BOACO BROADBAN	146.42	79			PKPab	12 05 05.4	-0.4	
PB09	IPOC Station P	146.46	150			PKPab	12 05 06.2	+0.3	
060A	Indiantown	146.67	51			PKPbc	12 05 05.8	+0.5	
060A				IAMs_20	IAMs_20		13 13 02.3		
	comp=Z,2µm,20.0s								
PATCX	Punta Patache	146.81	148			PKPdf	12 05 03.8	-0.5	
061Z	Oshoppi	146.82	53	IAMs_20	IAMs_20		13 24 34.6		
	comp=Z,2µm,22.0s								
ACON	Acoyapa	146.94	79			PKPbc	12 05 07.0	+0.6	
PB01	IPOC Station P	146.97	149			PKPbc	12 05 06.9	+0.5	
PB01				IAMs_20	IAMs_20		13 01 47.0		
	comp=Z,3µm,21.0s								
TA01	Diego Aracena	147.00	147			PKPab	12 05 07.4	-0.4	
JTS	Las Juntas de	147.27	82	PKP2		PKPbc	12 05 08.1	+0.7	
JTS	Las Juntas de	147.27	82	PKPdf		PKPdf	12 05 05.1	+0.1	
JTS				PKPbc		PKPbc	12 05 08.1	+0.7	
TIJ01	Guaruva-PR	147.42	185	*eP*		PKPdf	12 05 03.3	-1.9	
PSGCX	Pisagua	147.82	147			PKPbc	12 05 09.0	+0.1	
PSGCX				IAMs_20	IAMs_20		13 19 42.6		
	comp=Z,3µm,19.0s								
PB08	IPOC Station P	147.89	148			PKPdf	12 05 07.2	+0.7	
PB08				PKPbc		pPKPdf	12 05 10.5	-0.7	
PB11	IPOC Station P	147.94	147	PKPdf		PKPdf	12 05 06.4	+0.2	
HDC	Heredia	148.11	83			PKiKP	12 05 11.3	-0.3	
HDC				IAMs_20	IAMs_20		13 02 57.8		
	comp=Z,2µm,19.0s								
PTGB	Pitanga	148.16	180	*eP*		PKPdf	12 05 04.3	-2.1	
PET01	Itanhaem-SP	148.25	188	*eP*		PKPdf	12 05 05.0	-1.4	
GO01	Chusmiza	148.26	148			PKPdf	12 05 07.6	+0.4	
MNMC	Minye Minye	148.48	147			PKPdf	12 05 07.0	-0.3	
PB12	IPOC Station P	148.49	145	PKPdf		PKPdf	12 05 07.8	+0.7	
PB12				IAMs_20	IAMs_20		13 05 57.7		
	comp=Z,2µm,20.0s								
NNA	Nana	148.69	128	PKiKP		PKPdf	12 05 08.1	+0.7	
NNA	Nana	148.69	128			PKPdf	12 05 08.1	+0.7	
PARB	Paraibuna	148.90	191	*eP*		PKPdf	12 05 06.2	-1.4	
SPB	Sao Paulo	148.96	188			PKiKP	12 05 12.3	-0.7	
SPB	Sao Paulo	148.96	188	*eP*		PKPdf	12 05 05.9	-1.7	
SPB	Sao Paulo	148.96	188	*eP*		PKPbc	12 05 10.4	-1.1	
MAN01	Angra dos Reis	149.00	194	*eP*		PKPdf	12 05 07.1	-0.7	
PB16	IPOC Station P	149.18	146			PKPdf	12 05 09.7	+0.9	
PB16				PKPbc		PKiKP	12 05 14.4	+0.1	
FSCY	Frank Sound, G	149.22	64			PKPbc	12 05 12.7	+0.4	
CAM01	Campos-RJ	149.32	199	*eP*		PKPdf	12 05 06.9	-1.3	
FRTB	Fartura	149.43	184	*eP*		PKPdf	12 05 08.5	0.0	
VAO	Valinhos	149.47	189	*eP*		PKPdf	12 05 08.8	+0.2	
TRCB	Terra Rica	150.06	179	*eP*		PKPdf	12 05 07.2	-2.3	
LCCY	Blossom Villag	150.09	63			PKPbc	12 05 14.5	0.0	
LCCY				PKPab		sPKPbc	12 05 21.5	+0.6	
CBCY	The Bluff, Cay	150.35	63	PKPdf		PKPdf	12 05 09.1	-0.8	
CBCY				PKPbc		PKPbc	12 05 14.9	-0.1	
PRVC	Isla de Provid	150.47	76	*eP*		PKPbc	12 05 14.5	-1.0	
BSCB	Bom Sucesso	150.99	194	*eP*		PKPdf	12 05 11.7	+0.7	
RIB01	Linhares ES	151.18	203	*eP*		PKPdf	12 05 11.0	-0.3	
PCMB	Pacaembu	151.24	181	*eP*		PKPdf	12 05 12.4	+1.1	
LPAZ	La Paz	151.60	146	PKP		PKPdf	12 05 13.0	+0.3	
	comp=Z,13nm,1.0s,baz=79,slow=1.3,SNR=28								
LPAZ				PKPbc		sPKPdf	12 05 19.1	0.0	
	comp=Z,87nm,0.9s,baz=132,slow=1.5,SNR=86								
LPAZ	La Paz	151.60	146	PKPdf		PKPdf	12 05 13.4	+0.7	
LPAZ	La Paz	151.60	146	*eP*		PKPdf	12 05 08.6	-4.1	
BSFB	Barra de Sao F	151.80	203	*eP*		PKPdf	12 05 12.1	0.0	
BSFB	Barra de Sao F	151.80	203	*eP*		PKPdf	12 05 15.2	+3.0	
SJMB	Sao Joao De Ma	152.04	202	*eP*		PKPdf	12 05 12.7	+0.2	
BCIP	Isla Barro Col	152.35	84	*eP*		PKPbc	12 05 18.7	-1.2	
BCIP	Isla Barro Col	152.35	84	PKiKP		PKPbc	12 05 19.5	-0.4	
BCIP	Isla Barro Col	152.35	84	PKPdf		PKPdf	12 05 11.1	-1.8	
BCIP				PKPbc		PKPbc	12 05 19.5	-0.4	
BCIP				IAMs_20	IAMs_20		13 09 28.2		
	comp=Z,3µm,20.0s								
BBSR	BB Station	152.40	24			PKiKP	12 05 20.2	+0.4	
BBSR	BB Station	152.40	24	IAMs_20	IAMs_20		13 15 37.9		
	comp=Z,3µm,22.0s								
MTDJ	Mount Denham	152.84	64			PKPbc	12 05 20.4	-0.6	
MTDJ				PKPab		PKPab	12 05 32.4	+0.5	
GCUF	Volcan Galeras	153.98	102	*eP*		PKPbc	12 05 21.3	-2.9	
C2SB	Chapadao do Su	154.06	178	*eP*		PKPdf	12 05 13.9	-1.5	
BBAC	Balboa, Cauca	154.26	101	*eP*		PKPdf	12 05 15.2	-1.0	
GTBY	Guantanamo Bay	154.29	59	PKPab		PKPab	12 05 37.1	-0.8	
GTBY				IAMs_20	IAMs_20		13 13 24.2		
	comp=Z,2µm,20.0s								
CRUC	La Cruz	154.44	102	*eP*		PKiKP	12 05 25.5	+0.5	
CZSB	Cruzeiro do Su	154.47	125	*eP*		PKPdf	12 05 18.7	+2.5	
PUAC	Puerto Asis, P	154.55	104	*eP*		PKPdf	12 05 16.7	+0.3	
IPMB	Ipameri, GO	154.59	188	*eP*		PKPdf	12 05 16.0	-0.3	
MC01	Montes Claros	154.84	198	*eP*		PKPdf	12 05 15.5	-1.2	
PCON	Cinco Dias	155.15	100	*eP*		PKPdf	12 05 18.8	+0.9	
YOTC	Yotoco, Valle	155.51	96	*eP*		PKPdf	12 05 17.9	+0.2	
MARP	Paez Belalcaza	155.69	99	*eP*		PKPdf	12 05 18.5	+0.3	
FLOC	Florencia	155.71	102	*eP*		PKPdf	12 05 16.4	-1.6	
GDU01	Guandu, BA	155.75	210	*eP*		PKPdf	12 05 17.1	-0.7	
DBBC	Dabeiba	155.94	89	*eP*		PKPdf	12 05 26.6	+8.4	
GARC	Garzon, Huila	156.00	101	*eP*		PKP

JNN	**Nakanoshima**	**1.27 263**	P	**Pn**	**11 51 36.8**	**+0.2**
JNN			*e*S	**Sb**	**11 51 54.0**	**+0.2**
JNAR	**Kushima--Naru**	**1.52 358**	P	**Pn**	**11 51 40.2**	**+0.2**
JNAR			*e*S	**Sn**	**11 51 59.4**	**+0.4**
JNKG	**Nichinankitago**	**1.65 1**	P	**Pn**	**11 51 42.1**	**+0.2**
JNKG			*e*S	**Sn**	**11 52 02.9**	**+0.6**
JSU	**Suzuyama**	**1.68 334**	P	**Pn**	**11 51 42.0**	**-0.2**
JSU			*e*S	**Sn**	**11 52 03.1**	**+0.2**
JTAJ	**Takarajima**	**2.04 246**	P	**Pn**	**11 51 47.7**	**+0.6**
JTAJ			*e*S	**Sn**	**11 52 12.8**	**+1.1**
JAM	**Amami Oshima**	**2.19 224**	P	**Pn**	**11 51 49.3**	**+0.1**
JAM			*e*S	**Sn**	**11 52 14.8**	**-0.7**
JAMN	**Amaminishikomi**	**2.58 228**	P	**Pn**	**11 51 54.4**	**-0.1**
JAMN			*e*S	**Sn**	**11 52 24.6**	**-0.4**
JNU	**Nakatsue**	**3.13 353**	Pn	**Pn**	**11 52 02.8**	**+0.5**
	5.4nm,0.3s,baz=63,slow=1.4,SNR=38					
JNU			Sn	**Sn**	**11 52 38.6**	**-0.2**
	2.4nm,0.3s,baz=187,slow=9.4,SNR=1.7					
KSRS	**Korea Array**	**7.95 340**	Pn	**Pn**	**11 53 08.9**	**+0.5**
	0.2nm,0.3s,baz=154,slow=14,SNR=5.5					
SUJ	**Sinuiju**	**11.52 333**	P	**Pn**	**11 53 56.8**	**-0.5**
SUJ			S	S	12 00 45.7	
KGE	**Kanggye**	**11.57 342**	P	**Pn**	**11 53 57.2**	**-0.8**
ARCES	**ARCESS Array B**	**67.51 339**	P	**P**	**12 02 07.2**	**-0.8**
	3.3nm,0.9s,baz=53,slow=9.4,SNR=1.9					
FINES	**FINESS Array B**	**70.93 331**	P	**P**	**12 02 29.3**	**0.0**
	1.4nm,0.7s,baz=55,slow=5.3,SNR=6.2					
AKASG	**Malin Array Be**	**74.44 320**	P	**P**	**12 02 50.9**	**+0.6**
	1.8nm,0.7s,baz=70,slow=7.6,SNR=4.1					

WBNET 06 12:10:09.3,50˚24N×12˚44E,h9km,MI0.4,5C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**139**	⇓P	Pg	12 10 11.0	+0.1
NKC				S	Sg	12 10 12.2	+0.1
LBCW	**Luby**	**0.04**	**325**	⇑P	Pg	12 10 11.2	+0.1
LBCW				S	Sg	12 10 12.6	+0.2
VAC	**Vackov**	**0.04**	**269**	⇓P	Pg	12 10 11.2	+0.1
VAC				S	Sg	12 10 12.5	0.0
STCW	**Studenec**	**0.05**	**65**	⇑P	Sg	12 10 11.3	0.0
STCW				S	Sg	12 10 12.5	-0.2
KVC	**Kvetna**	**0.06**	**123**	⇓P	Pg	12 10 11.2	0.0
KVC				S	Sg	12 10 12.4	-0.2
POCW	**Potky**	**0.09**	**353**	⇑P	Pg	12 10 11.6	+0.1
POCW				S	Sg	12 10 13.5	+0.1
SKC	**Skalna**	**0.09**	**219**	S	Sg	12 10 13.2	0.0
KACW	**Kaceov**	**0.10**	**153**	S	Sg	12 10 13.7	0.0
KRCW	**Kraslice**	**0.11**	**30**	⇑P	Pg	12 10 12.0	0.0
KRCW				S	Sg	12 10 13.9	-0.1
ZHC	**Zelena Hora**	**0.19**	**208**	⇑P	Pg	12 10 13.2	0.0
ZHC				S	Sg	12 10 15.8	0.0

IDC 06 12:10:28.2±1.7,7˚26S×128˚17E,h0km,mb3.6/2, mb1 3.8/6,mb1mx3.6/29,mbtmp3.7/6,ML3.6/4,Error ellipse: s-maj=42.4km s-min=25.8km az=89.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.34**	**236**	Pn	Pn	12 11 49.9	+0.6
	6.7nm,0.3s,baz=85,slow=3.8,SNR=2.2						
BATI				Sn	Sn	12 12 51.8	+0.3
	2.7nm,0.3s,baz=141,slow=23,SNR=1.6						
FITZ	**Fitzroy Crossi**	**11.06**	**193**	Pn	Pn	12 13 08.7	+0.9
	0.3nm,0.3s,baz=14,slow=16,SNR=1.5						
FITZ				Sn	Sn	12 15 05.4	-6.8
	0.2nm,0.3s,baz=322,slow=19,SNR=1.6						
WRA	**Warramunga Arr**	**13.96**	**155**	Pn	Pn	12 13 46.5	-0.9
	0.4nm,0.3s,baz=323,slow=13,SNR=2.7						
WRA				Sn	Sn	12 16 18.3	-5.0
	0.4nm,0.3s,baz=322,slow=22,SNR=4.7						
ASAR	**Alice Springs**	**17.22**	**162**	P	Pn	12 14 30.1	-0.3
	0.1nm,0.3s,baz=338,slow=11,SNR=2.6						
ASAR				S	Sn	12 17 35.6	-7.1
	0.1nm,0.3s,baz=340,slow=25,SNR=2.0						
MKAR	**Makanchi Array**	**67.46**	**328**	P	P	12 21 26.9	+1.0
	0.2nm,0.5s,baz=118,slow=7.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**71.02**	**335**	P	P	12 21 46.8	-1.0
	0.4nm,0.5s,baz=125,slow=7.6,SNR=1.6						

*PRU **06** 12:10:52.0±0.0,50˚26N×12˚49E,h2km, West Bohemia Swarm*

WBNET 06 12:10:51.6,50˚24N×12˚44E,h9km,MI0.8,5C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**139**	*e*PG	Pg	12 10 52.8	-0.5
NKC				*e*SG	Sg	12 10 54.1	-0.3
	comp=Z,26nm,0.2s						
NKC	**Novy Kostel**	**0.00**	**139**	⇓P	Pg	12 10 53.4	+0.1
NKC				S	Sg	12 10 54.5	+0.1
LBCW	**Luby**	**0.04**	**325**	⇓P	Pg	12 10 53.5	+0.1
LBCW				S	Sg	12 10 54.9	+0.2
VAC	**Vackov**	**0.04**	**269**	⇓P	Pg	12 10 53.5	+0.1
VAC				S	Sg	12 10 54.8	0.0
STCW	**Studenec**	**0.05**	**65**	⇑P	Pg	12 10 53.6	0.0
STCW				S	Sg	12 10 54.8	-0.2
KVC	**Kvetna**	**0.06**	**123**	⇓P	Pg	12 10 53.5	-0.1
KVC				S	Sg	12 10 54.7	-0.2
POCW	**Potky**	**0.09**	**353**	⇑P	Pg	12 10 54.1	+0.1
POCW				S	Sg	12 10 55.8	+0.1
SKC	**Skalna**	**0.09**	**219**	S	Sg	12 10 55.5	0.0
KACW	**Kaceov**	**0.10**	**153**	⇑P	Pg	12 10 54.2	0.0
KACW				S	Sg	12 10 56.0	0.0
KRCW	**Kraslice**	**0.11**	**30**	⇑P	Pg	12 10 54.3	0.0
KRCW				S	Sg	12 10 56.2	-0.1
ZHC	**Zelena Hora**	**0.19**	**208**	⇑P	Pg	12 10 55.5	0.0
ZHC				S	Sg	12 10 58.2	0.0

JMA 06 12:18:25.1±0.2,38˚41N×144˚58E,h48km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.37**	**287**	P	Pn	12 19 02.8	+1.3
MIYJ	**Miyakonagasawa**	**2.45**	**299**	P	Pn	12 19 03.5	+1.0
MIYJ				*e*S	Sn	12 19 32.4	+1.2
JIKH	**Ishinomakikobu**	**2.45**	**269**	P	Pn	12 19 03.7	+1.1
JIKH				S	Sn	12 19 32.5	+1.2
JKMT	**Kesennumamotoy**	**2.47**	**280**	P	Pn	12 19 04.0	+1.2
JIO	**Ouri**	**2.54**	**272**	P	Pn	12 19 05.0	+1.2
JIO				*e*S	Sn	12 19 34.6	+1.2
JMK	**Ichinoseki**	**2.69**	**283**	P	Pn	12 19 07.5	+1.7
JOM	**Ohasama**	**2.77**	**294**	P	Pn	12 19 08.7	+1.7
JANG	**Nango**	**3.08**	**311**	P	Pn	12 19 12.0	+0.8
JYK	**Kaneyama**	**3.34**	**280**	P	Pn	12 19 17.2	+2.4
JFT	**Otama**	**3.47**	**256**	P	Pn	12 19 18.8	+2.2
JFT				S	Sn	12 19 58.8	+2.4
JCH	**Churui**	**4.30**	**348**	P	Pn	12 19 26.9	-1.1
JCH				*e*S	Sn	12 20 14.6	-2.2
JKB	**Kayabe**	**4.41**	**323**	P	Pn	12 19 31.6	+2.2
NEM2	**Nemuro 2**	**5.03**	**10**	P	Pn	12 19 34.7	-3.2
NEM2				*e*S	Sn	12 20 28.4	-6.3
JRY	**Ryogami san**	**5.12**	**244**	P	Pn	12 19 40.6	+1.3
JRY				S	Sn	12 20 37.0	-0.1

WBNET 06 12:26:16.6,50˚24N×12˚44E,h9km,MI1.3,2C-1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**139**	⇓P	Pg	12 26 18.4	+0.1
NKC				S	Sg	12 26 19.5	+0.1
LBCW	**Luby**	**0.04**	**325**	⇑P	Pg	12 26 18.6	+0.2
LBCW				S	Sg	12 26 19.9	+0.2
VAC	**Vackov**	**0.04**	**269**	S	Sg	12 26 19.8	0.0
STCW	**Studenec**	**0.05**	**65**	⇑P	Pg	12 26 18.6	0.0
STCW				S	Sg	12 26 19.9	-0.2
KVC	**Kvetna**	**0.06**	**123**	S	Sg	12 26 19.8	-0.2
POCW	**Potky**	**0.09**	**353**	S	Sg	12 26 20.8	+0.1
SKC	**Skalna**	**0.09**	**219**	S	Sg	12 26 20.6	0.0
KACW	**Kaceov**	**0.10**	**153**	S	Sg	12 26 21.0	0.0
KRCW	**Kraslice**	**0.11**	**30**	S	Sg	12 26 21.2	0.0
ZHC	**Zelena Hora**	**0.19**	**208**	S	Sg	12 26 23.2	0.0

*PRU **06** 12:26:34.3±0.0,50˚25N×12˚47E,h4km, West Bohemia Swarm*

WBNET 06 12:26:34.0,50˚23N×12˚45E,h9km,MI1.8,6C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**272**	*e*PG	Pg	12 26 35.1	-0.5
NKC				*e*SG	Sg	12 26 36.5	-0.3
	comp=Z,276nm,0.3s						
NKC	**Novy Kostel**	**0.00**	**272**	⇑P	Pg	12 26 35.7	+0.1
NKC				S	Sg	12 26 36.9	+0.1
LBCW	**Luby**	**0.04**	**321**	⇓P	Pg	12 26 35.9	+0.1
LBCW				S	Sg	12 26 37.3	+0.1
KVC	**Kvetna**	**0.05**	**125**	⇑P	Pg	12 26 35.9	0.0
KVC				S	Sg	12 26 37.1	-0.1
VAC	**Vackov**	**0.05**	**273**	⇓P	Sg	12 26 35.9	0.0
VAC				S	Sg	12 26 37.2	-0.1
STCW	**Studenec**	**0.05**	**58**	⇑P	Pg	12 26 36.0	0.0
STCW				S	Sg	12 26 37.2	-0.1
SKC	**Skalna**	**0.09**	**223**	⇑P	Pg	12 26 36.3	0.0
SKC				S	Sg	12 26 37.9	0.0
POCW	**Potky**	**0.09**	**349**	⇓P	Pg	12 26 36.5	+0.1
POCW				S	Sg	12 26 38.1	0.0
KACW	**Kaceov**	**0.10**	**156**	⇓P	Pg	12 26 36.6	+0.1
KACW				S	Sg	12 26 38.4	+0.2
KRCW	**Kraslice**	**0.11**	**26**	⇑P	Pg	12 26 36.7	0.0
KRCW				S	Sg	12 26 38.5	-0.1
ZHC	**Zelena Hora**	**0.19**	**210**	⇑P	Pg	12 26 37.9	0.0
ZHC				S	Sg	12 26 40.6	0.0
CLL	**Collm**	**1.13**	**18**	*i* Sg	Sg	12 27 10.4	0.0
	comp=Z,10.0nm,0.3s						
CLL				*e*		12 27 14.0	
KHC	**Kasperske Hory**	**1.32**	**146**	*e*SG	Sg	12 27 16.7	+0.2
	comp=Z,4.0nm,0.5s						
PRU	**Pruhonice**	**1.37**	**100**	*e*SG	Sg	12 27 17.7	-0.2
	comp=Z,6.7nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**77**	*e*SG	Sn	12 27 18.1	+0.2
	comp=Z,12nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	Sb	12 27 22.1	-0.1
	comp=Z,5.4nm,0.4s						
UPC	**Upice**	**2.29**	**82**	*e*SG	Sg	12 27 46.2	-1.5
	comp=Z,3.3nm,0.4s						
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*SG	Sg	12 27 53.1	-0.6
	comp=Z,2.3nm,0.5s						
KRLC	**Kraliky**	**2.79**	**92**	*e*SG	Sg	12 28 03.5	0.0
	comp=Z,1.3nm,0.5s						

WBNET 06 12:26:47.8,50˚24N×12˚45E,h9km,MI0.9,3C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**193**	⇓P	Pg	12 26 49.6	+0.1
LBCW	**Luby**	**0.04**	**318**	⇑P	Pg	12 26 49.8	+0.1
LBCW				S	Sg	12 26 51.1	+0.2
VAC	**Vackov**	**0.05**	**266**	⇓P	Pg	12 26 49.8	+0.1
VAC				S	Sg	12 26 51.0	0.0
STCW	**Studenec**	**0.05**	**66**	⇑P	Pg	12 26 49.8	0.0
STCW				S	Sg	12 26 51.1	-0.1
KVC	**Kvetna**	**0.05**	**128**	⇑P	Pg	12 26 49.7	-0.1
POCW	**Potky**	**0.08**	**350**	S	Sg	12 26 52.0	+0.1
KACW	**Kaceov**	**0.10**	**156**	⇓P	Pg	12 26 50.4	0.0

WBNET 06 12:27:20.6,50˚24N×12˚44E,h9km,MI1.0,7C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**142**	⇓P	Pg	12 27 22.4	+0.1
NKC				S	Sg	12 27 23.5	+0.1
LBCW	**Luby**	**0.03**	**325**	⇑P	Pg	12 27 22.6	+0.1
LBCW				S	Sg	12 27 23.9	+0.2
VAC	**Vackov**	**0.04**	**266**	⇑P	Pg	12 27 22.6	+0.1
VAC				S	Sg	12 27 23.8	0.0
STCW	**Studenec**	**0.05**	**67**	⇑P	Pg	12 27 22.6	0.0
STCW				S	Sg	12 27 23.9	-0.1
KVC	**Kvetna**	**0.06**	**124**	P	Pg	12 27 22.5	-0.1
KVC				S	Sg	12 27 23.8	-0.2
POCW	**Potky**	**0.08**	**353**	⇑P	Pg	12 27 23.1	+0.2
POCW				S	Sg	12 27 24.8	+0.2
SKC	**Skalna**	**0.09**	**217**	⇑P	Pg	12 27 23.0	+0.1
SKC				S	Sg	12 27 24.5	-0.1
KACW	**Kaceov**	**0.11**	**153**	⇓P	Pg	12 27 23.3	0.0
KACW				S	Sg	12 27 25.1	0.0
KRCW	**Kraslice**	**0.11**	**31**	⇑P	Pg	12 27 23.4	0.0
KRCW				S	Sg	12 27 25.2	-0.1
ZHC	**Zelena Hora**	**0.19**	**207**	⇑P	Pg	12 27 24.6	0.0
ZHC				S	Sg	12 27 27.2	0.0

*PRU **06** 12:28:12.8±0.0,50˚25N×12˚49E,h3km, West Bohemia Swarm*

WBNET 06 12:28:12.5,50˚24N×12˚44E,h9km,MI1.8,7C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**153**	*e*PG	Pg	12 28 14.0	-0.1
NKC				*e*SG	Sg	12 28 15.0	-0.3
	comp=Z,226nm,0.3s						
NKC	**Novy Kostel**	**0.01**	**153**	⇓P	Pg	12 28 14.2	+0.1
NKC				S	Sg	12 28 15.4	+0.1
LBCW	**Luby**	**0.03**	**324**	⇑P	Pg	12 28 14.4	+0.1
LBCW				S	Sg	12 28 15.8	+0.2
VAC	**Vackov**	**0.04**	**267**	⇑P	Pg	12 28 14.4	+0.1
VAC				S	Sg	12 28 15.7	0.0
STCW	**Studenec**	**0.05**	**66**	⇑P	Pg	12 28 14.5	0.0
STCW				S	Sg	12 28 15.7	-0.1
KVC	**Kvetna**	**0.06**	**125**	⇑P	Pg	12 28 14.4	-0.1
KVC				S	Sg	12 28 15.6	-0.2
POCW	**Potky**	**0.08**	**352**	⇑P	Pg	12 28 15.0	+0.2
POCW				S	Sg	12 28 16.7	+0.2
SKC	**Skalna**	**0.09**	**218**	⇑P	Pg	12 28 14.8	0.0
SKC				S	Sg	12 28 16.4	0.0
KACW	**Kaceov**	**0.11**	**154**	⇓P	Pg	12 28 15.1	0.0
KACW				S	Sg	12 28 16.9	0.0
KRCW	**Kraslice**	**0.11**	**31**	⇑P	Pg	12 28 15.2	0.0
KRCW				S	Sg	12 28 17.0	0.0
ZHC	**Zelena Hora**	**0.19**	**207**	⇓P	Pg	12 28 16.4	0.0
ZHC				S	Sg	12 28 19.1	-0.1
CLL	**Collm**	**1.13**	**18**	*i* Pg	Pb	12 28 33.5	-0.6
CLL				*e*Sg	Sb	12 28 49.0	+0.1
	comp=Z,6.0nm,0.4s						
BRG	**Berggiesshubel**	**1.15**	**56**	PG	Pb	12 28 33.8	-0.7
BRG				SG	Sg	12 28 48.2	-1.2
	comp=Z,4.6nm,0.3s						
KHC	**Kasperske Hory**	**1.33**	**146**	*e*PG	Pn	12 28 36.6	-0.6
KHC				*e*SG	Sb	12 28 54.7	0.0
	comp=Z,2.6nm,0.5s						
PRU	**Pruhonice**	**1.37**	**100**	*e*SG	Sn	12 28 56.2	+0.1
	comp=Z,3.5nm,0.3s						
PVCC	**Panska Ves**	**1.39**	**77**	*e*SG	Sb	12 28 56.2	-0.2
	comp=Z,9.5nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	Sb	12 29 00.7	-0.2
	comp=Z,3.5nm,0.5s						
DPC	**Dobruska-Polom**	**2.49**	**86**	*e*SG	Sb	12 29 30.2	+2.1

WBNET 06 12:31:59.8,50˚23N×12˚45E,h9km,MI0.9,5C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**303**	⇓P	Pg	12 32 01.5	+0.1
NKC				S	Sg	12 32 02.7	+0.1
LBCW	**Luby**	**0.04**	**323**	⇓P	Pg	12 32 01.7	0.0
LBCW				S	Sg	12 32 03.1	+0.1
KVC	**Kvetna**	**0.05**	**122**	⇑P	Pg	12 32 01.7	0.0
KVC				S	Sg	12 32 02.9	-0.1
VAC	**Vackov**	**0.05**	**275**	⇓P	Pg	12 32 01.7	0.0
VAC				S	Sg	12 32 03.0	-0.1
STCW	**Studenec**	**0.05**	**57**	⇑P	Pg	12 32 01.8	0.1
STCW				S	Sg	12 32 03.1	-0.1
SKC	**Skalna**	**0.09**	**224**	⇑P	Pg	12 32 02.1	0.0
SKC				S	Sg	12 32 03.7	0.0
POCW	**Potky**	**0.09**	**349**	⇓P	Pg	12 32 02.3	0.0
POCW				S	Sg	12 32 04.0	0.0
KACW	**Kaceov**	**0.10**	**155**	⇓P	Pg	12 32 02.4	+0.2
KACW				S	Sg	12 32 04.2	+0.2
KRCW	**Kraslice**	**0.11**	**26**	⇑P	Pg	12 32 02.5	0.0
KRCW				S	Sg	12 32 04.3	-0.1
ZHC	**Zelena Hora**	**0.18**	**210**	⇑P	Pg	12 32 03.7	+0.1
ZHC				S	Sg	12 32 06.4	0.0

*PRU **06** 12:32:09.1±0.0,50˚26N×12˚50E,h2km, West Bohemia Swarm*

WBNET 06 12:32:08.8,50˚24N×12˚45E,h9km,MI1.5,6C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**195**	*e*PG	Pg	12 32 10.1	-0.3
NKC				*e*SG	Sg	12 32 11.3	-0.1
	comp=Z,313nm,0.2s						
NKC	**Novy Kostel**	**0.01**	**195**	⇑P	Pg	12 32 10.5	+0.1
NKC				S	Sg	12 32 11.6	+0.2
LBCW	**Luby**	**0.04**	**319**	⇓P	Pg	12 32 10.7	+0.1
LBCW				S	Sg	12 32 12.0	+0.2
VAC	**Vackov**	**0.05**	**267**	⇓P	Pg	12 32 10.7	+0.1
VAC				S	Sg	12 32 11.9	0.0
STCW	**Studenec**	**0.05**	**65**	⇑P	Pg	12 32 10.7	0.0
STCW				S	Sg	12 32 11.9	-0.1
KVC	**Kvetna**	**0.05**	**127**	⇑P	Pg	12 32 10.6	0.0
KVC				S	Sg	12 32 11.9	-0.1
POCW	**Potky**	**0.08**	**350**	⇓P	Pg	12 32 11.2	+0.2
POCW				S	Sg	12 32 12.9	+0.2
SKC	**Skalna**	**0.09**	**220**	⇑P	Pg	12 32 11.1	0.0
SKC				S	Sg	12 32 12.7	0.0
KACW	**Kaceov**	**0.10**	**155**	⇓P	Pg	12 32 11.4	+0.1
KACW				S	Sg	12 32 13.2	+0.1
KRCW	**Kraslice**	**0.11**	**29**	⇑P	Pg	12 32 11.5	+0.1
KRCW				S	Sg	12 32 13.3	0.0
KOCW	**Kopaniny**	**0.14**	**281**	⇓P	Pg	12 32 11.9	0.0
KOCW				S	Sg	12 32 14.0	0.0
ZHC	**Zelena Hora**	**0.19**	**209**	⇑P	Pg	12 32 12.7	0.0
ZHC				S	Sg	12 32 15.3	-0.1
CLL	**Collm**	**1.13**	**18**	*i* Pg	Pg	12 32 30.0	-0.4
CLL				*i*		12 32 33.3	
CLL				*i* Sg	Sg	12 32 44.9	-0.1
	comp=Z,16nm,0.3s						
PBCC	**Pribram**	**1.14**	**118**	*e*SG	Sg	12 32 44.3	-1.2
BRG	**Berggiesshubel**	**1.15**	**56**	PG	Pg	12 32 30.2	-0.6
BRG				SG	Sg	12 32 45.2	-0.4
	comp=Z,8.8nm,0.3s						
PRA	**Prague**	**1.29**	**97**	*e*SG	Sb	12 32 49.9	+0.1
	comp=Z,2.8nm,0.4s						
KHC	**Kasperske Hory**	**1.33**	**146**	*e*PG	Pn	12 32 33.2	-0.4
KHC				*e*SG	Sg	12 32 52.3	+0.8
	comp=Z,5.0nm,0.2s						
PRU	**Pruhonice**	**1.37**	**100**	*e*SG	Sn	12 32 52.3	-0.1
	comp=Z,8.6nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**77**	*e*SG	Sb	12 32 52.7	0.0
	comp=Z,13nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	Sb	12 32 57.0	-0.1
	comp=Z,4.7nm,0.3s						
UPC	**Upice**	**2.30**	**82**	*e*SG	Sg	12 33 21.5	-1.0
CHVC	**Chvalec**	**2.33**	**80**	*e*SG	Sg	12 33 22.2	-1.5
OSTC	**Ostas**	**2.43**	**81**	*e*SG	Sb	12 33 24.5	+1.7
DPC	**Dobruska-Polom**	**2.49**	**86**	*e*SG	Sb	12 33 25.9	+1.5
	comp=Z,2.0nm,0.3s						
KRLC	**Kraliky**	**2.79**	**92**	*e*SG	Sg	12 33 37.1	-1.3
KRUC	**Moravsky**	**2.82**	**113**	*e*SG	Sb	12 33 36.3	+2.3

BER 06 12:32:17.2±0.5,60˚23N×12˚20E,h0km,ML0.9, Suspected explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NC602	**NORSAR Array S**	**0.61**	**328**	*e*P	Pg	12 32 28.0	-0.8
NC602				*e*S	Sg	12 32 36.0	-0.7
NC602				IAML		12 32 41.5	
	comp=Z,11nm,0.7s						
NAO01	**NORSAR Array S**	**0.90**	**314**	*e*P	Pg	12 32 33.2	-1.3
NAO01				*e*S	Sg	12 32 44.7	-1.3
NAO01				IAML		12 32 45.7	
	comp=Z,3.2nm,0.6s						
NB201	**NORSAR Array S**	**0.94**	**332**	*e*P	Pg	12 32 34.1	-1.1
NB201				*e*S	Sg	12 32 46.9	-0.5
NB201				IAML		12 32 54.9	
	comp=Z,8.9nm,0.9s						
NBO00	**NORSAR Array S**	**1.07**	**320**	*e*P	Pg	12 32 36.3	-1.4
NBO00				*e*S	Sg	12 32 50.9	-0.7
NBO00				IAML		12 33 03.0	
	comp=Z,4.0nm,0.8s						
NC303	**NORSAR Array S**	**1.08**	**338**	*e*P	Pg	12 32 36.4	-1.6
NC303				*e*S	Sg	12 32 50.9	-1.1
NC303				IAML		12 33 02.0	
	comp=Z,6.4nm,1.0s						
NC204	**NORSAR Array S**	**1.27**	**327**	*e*P	Pg	12 32 39.8	-1.7
NC204				*e*S	Sg	12 32 56.9	-1.1
NC204				IAML		12 33 00.2	
	comp=Z,1.4nm,0.1s						
STRU	**Stroemstad**	**1.30**	**204**	*e*P	Pg	12 32 40.5	-1.6
STRU				*e*S	Sg	12 32 57.6	-1.3
KONO	**Kongsberg**	**1.43**	**247**	*e*P	Pn	12 32 42.4	-2.0
KONO				IAML		12 33 04.0	
	comp=Z,1.3nm,0.3s						

WBNET 06 12:32:33.0,50˚24N×12˚44E,h9km,MI0.4,3C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**142**	⇓P	Pg	12 32 34.7	+0.1
LBCW	**Luby**	**0.03**	**325**	⇓P	Pg	12 32 35.0	+0.2
LBCW				S	Sg	12 32 36.3	+0.2
VAC	**Vackov**	**0.04**	**266**	S	Sg	12 32 36.2	0.0
STCW	**Studenec**	**0.05**	**67**	⇑P	Pg	12 32 35.0	0.0
STCW				S	Sg	12 32 36.2	-0.2
KVC	**Kvetna**	**0.06**	**124**	⇑P	Pg	12 32 34.9	-0.1
KVC				S	Sg	12 32 36.2	-0.2
POCW	**Potky**	**0.08**	**353**	S	Sg	12 32 37.2	+0.1
SKC	**Skalna**	**0.09**	**217**	S	Sg	12 32 36.9	0.0
KACW	**Kaceov**

mb4.5/29,Ms4.7/7,Ms7 4.4/7
*IDC **06** 13:05:36.1±0.5,7.2°S×128.1°E,h0km,mb4.3/18, mb1 4.4/26,mb1mx4.4/43,mbtmp4.4/26,ML4.4/7,MS4.0/14, Ms1 4.0/14,ms1mx3.8/40,Error ellipse: s-maj=17.4km s-min=11.4km az=77.0*
*NEIC **06** 13:05:37.9±1.8,7.23S±0.06×128.11E±0.06,h10km±1km, mb4.8/39,Error ellipse: s-maj=11.1km s-min=8.9km az=61.0*
*DJA **06** 13:05:39.7±0.9,7°S±2°×12°8E±°,h18km±7km,M4.8/36, mb4.9/36,mB5.4/10,MLv4.6/12,Mw(mB)4.8/10*
ISC 06 13:05:37.9±0.3,7.31S±0.04×128.11E±0.05,h10km,n144, σ1§61/142,mb4.6/35,MS4.2/9,2C-1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.30**	**33**	P	**Pn**	**13 06 28.2**	**-1.5**
AAI	**Ambon**	**3.60**	**1**	P	**Pn**	**13 06 31.7**	**-2.2**
AAI				S	**Sn**	**13 07 15.6**	**-1.0**
MSAI	**Masohi**	**4.03**	**12**	P	**Pg**	**13 06 59.5**	**+4.4**
NLAI	**Namlea**	**4.17**	**346**	P	**Pn**	**13 06 40.8**	**-0.9**
SOEI	**Soe**	**4.51**	**237**	P	**Pn**	**13 06 47.6**	**+1.1**
SOEI	**Soe**	**4.51**	**237**	Pn	**Pn**	**13 06 48.0**	**+1.5**
BATI	**Baumata**	**5.25**	**237**	Pn	**Pn**	**13 06 58.0**	**+1.3**
	64nm,0.3s,baz=110,slow=3.2,SNR=24						
BATI				Sn	**Sn**	**13 07 57.4**	**+0.1**
	baz=325,slow=14,SNR=2.0						
BATI				LR	LR	13 08 38.7	
	comp=Z,725nm,19.8s,baz=92,slow=34						
BATI	**Baumata**	**5.25**	**237**	P	**Pn**	**13 06 58.3**	**+1.7**
	1.1nm3μm360nm,0.9s						
SANI	**Sanana**	**5.64**	**338**	P	**Pn**	**13 07 00.8**	**-1.1**
	0.3nm1μm73nm,0.8s						
MMRI	**Maumere**	**5.96**	**257**	P	**Pn**	**13 07 07.8**	**+1.4**
	1.1nm3μm250nm,1.0s						
MMRI	**Maumere**	**5.96**	**257**	Pn	**Pn**	**13 07 08.0**	**+1.6**
FAKI	**Fak Fak**	**6.00**	**44**	P	**Pn**	**13 07 07.8**	**+0.9**
	0.4nm1μm70nm,0.9s						
FAKI	**Fak Fak**	**6.00**	**44**		**Pn**	**13 07 07.0**	**+0.1**
MTN	**Manton Dam**	**6.25**	**152**	P	**Pn**	**13 07 10.9**	**+0.7**
	baz=6.3,SNR=30						
MTN	**Manton Dam**	**6.25**	**152**	Pn	**Pn**	**13 07 12.7**	**+2.4**
SIJI	**Sorong**	**7.13**	**26**	Pn	**Pn**	**13 07 22.0**	**-0.5**
	4.3nm,0.3s,baz=197,slow=22,SNR=13						
SIJI				Sn	**Sn**	**13 08 38.5**	**-5.2**
	1.6nm,0.3s,baz=234,slow=22,SNR=1.1						
SIJI				LR	LR	13 09 43.6	
	comp=Z,294nm,20.1s,baz=147,slow=35						
TNTI	**Ternate**	**8.07**	**355**	P	**Pn**	**13 07 34.7**	**-0.6**
	0.1nm35nm,1.3s						
TNTI	**Ternate**	**8.07**	**355**	Pn	**Pn**	**13 07 36.3**	**+1.0**
LUWI	**Luwuk**	**8.20**	**319**	Pn	**Pn**	**13 07 36.5**	**-0.5**
KNRA	**Kununurra**	**8.34**	**176**	P	**Pn**	**13 07 40.1**	**+1.1**
	baz=8.4,SNR=108						
KNRA	**Kununurra**	**8.34**	**176**	Pn	**Pn**	**13 07 40.1**	**+1.1**
BNSI	**Bone**	**8.47**	**290**	P	**Pn**	**13 07 40.2**	**-0.7**
	66nm,0.7s						
KAPI	**Kappang**	**8.62**	**285**	Pn	**Pn**	**13 07 43.5**	**+0.6**
	4.4nm,0.3s,baz=67,slow=11,SNR=5.2						
KAPI				Sn	**Sn**	**13 09 15.7**	**-4.5**
	1.2nm,0.3s,baz=292,slow=19,SNR=1.3						
KAPI				LR	LR	13 10 49.2	
	comp=Z,721nm,20.9s,baz=87,slow=36						
KAPI	**Kappang**	**8.62**	**285**	Pn	**Pn**	**13 07 43.0**	**+0.1**
SPSI	**Sidrap Palu**	**8.95**	**291**	P	**Pn**	**13 07 47.7**	**+0.4**
	1μm64nm,0.8s						
FITZ	**Fitzroy Crossi**	**10.99**	**192**	Pn	**Pn**	**13 08 16.7**	**+1.4**
	1.8nm,0.3s,baz=16,slow=9.5,SNR=38						
FITZ				Sn	**Sn**	**13 10 13.7**	**-4.6**
	2.4nm,0.3s,baz=268,slow=11,SNR=3.5						
FITZ				LR	LR	13 13 44.1	
	comp=Z,1μm,18.1s,baz=26,slow=44						
FITZ	**Fitzroy Crossi**	**10.99**	**192**	P	**Pn**	**13 08 14.7**	**-0.6**
	baz=11,SNR=52						
FITZ	**Fitzroy Crossi**	**10.99**	**192**		**Pn**	**13 08 15.1**	**-0.2**
SMPI	**Sarmi**	**11.81**	**64**	P	**Pn**	**13 08 28.4**	**+1.8**
	23nm,1.4s						
JAY	**Jayapura**	**13.42**	**70**	Pn	**Pn**	**13 08 47.6**	**-1.0**
	0.3nm,0.3s,baz=245,slow=10,SNR=3.5						
JAY				LR	LR	13 14 47.8	
	comp=Z,724nm,21.2s,baz=242,slow=41						
WB0	**Warramunga Arr**	**13.80**	**154**	Pn	**Pn**	**13 08 51.8**	**-2.0**
WRAB	**Tennant Creek**	**13.93**	**155**		**Pn**	**13 08 54.4**	**-1.1**
WRA	**Warramunga Arr**	**13.93**	**155**	Pn	**Pn**	**13 08 55.6**	**0.0**
	3.2nm,0.3s,baz=349,slow=31,SNR=14						
WRA				Sn	Sn	13 11 22.0	-8.5
	3.2nm,0.3s,baz=326,slow=23,SNR=6.0						
WRA				LR	LR	13 14 43.9	
	comp=Z,1μm,19.3s,baz=315,slow=39						
WRA	**Warramunga Arr**	**13.93**	**155**		**Pn**	**13 08 54.0**	**-1.6**
WB2	**Warramunga Arr**	**13.94**	**155**		**Pn**	**13 08 54.2**	**-1.4**
WR0	**Warramunga Arr**	**14.03**	**154**	Pn	**Pn**	**13 08 55.3**	**-1.7**
DAV	**Davao City (W)**	**14.51**	**350**	LR	LR	13 15 59.6	
	comp=Z,470nm,18.2s,baz=170,slow=43						
MYLDM	**Lahad Datu**	**15.69**	**322**		**Pn**	**13 09 20.6**	**+1.4**
MYLDM				IAmb	IAmb	13 09 59.9	
	comp=Z,86nm,1.2s						
COEN	**Coen**	**16.20**	**115**	Pn	**Pn**	**13 09 25.1**	**-0.8**
PSA00	**Pilbara Seismi**	**16.27**	**209**	Pn	**Pn**	**13 09 23.8**	**-2.9**
PSA00	**Pilbara Seismi**	**16.27**	**209**	Pn	**Pn**	**13 09 27.1**	**+0.4**
PSA00				IAmb	IAmb	13 09 57.6	
	comp=Z,19nm,0.7s						
AS31	**Alice Springs**	**17.18**	**162**	Pn	**Pn**	**13 09 39.5**	**+1.2**
ASAR	**Alice Springs**	**17.18**	**162**	P	**Pn**	**13 09 38.0**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=334,slow=9.8,SNR=24						
ASAR				S	**Sn**	**13 12 42.3**	**-7.3**
	comp=Z,0.6nm,0.3s,baz=350,slow=28,SNR=2.7						
ASAR				LR	LR	13 16 46.3	
	comp=Z,819nm,21.0s,baz=325,slow=39						
ASAR	**Alice Springs**	**17.18**	**162**	Pn	**Pn**	**13 09 39.0**	**+0.7**
QIS	**Mount Isa**	**17.24**	**141**	P	**Pn**	**13 09 38.1**	**-0.9**
	baz=17,SNR=8.8						
WRKA	**Warakurna**	**17.62**	**179**	P	**Pn**	**13 09 44.3**	**+0.5**
	baz=18,SNR=4.4						
SBUM	**Sibu**	**18.59**	**301**		**Pn**	**13 09 56.1**	**+0.4**
PMG	**Port Moresby**	**18.96**	**98**	P	**P**	**13 09 58.6**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=279,slow=15,SNR=5.7						
PMG				LR	LR	13 17 27.4	
	comp=Z,742nm,20.0s,baz=280,slow=38						
PMG	**Port Moresby**	**18.96**	**98**	IAmb	IAmb	13 10 04.9	
	comp=Z,113nm,1.4s						
KSM	**Kuching**	**19.79**	**295**	P	**P**	**13 10 09.2**	**+0.5**
KSM				IAmb	IAmb	13 10 19.2	
	comp=Z,53nm,1.3s						
GIRL	**Giralia**	**20.27**	**220**	P	**P**	**13 10 15.6**	**+1.8**
	baz=20,SNR=3.3						
GIRL	**Giralia**	**20.27**	**220**	P	**P**	**13 10 15.1**	**+1.3**
LEM	**Lembang**	**20.35**	**270**	LR	LR	13 19 37.7	
	comp=Z,775nm,18.6s,baz=105,slow=41						
CTA	**Charters Tower**	**21.69**	**128**	P	**P**	**13 10 31.2**	**+2.0**
	comp=Z,2.8nm,0.7s,baz=315,slow=15,SNR=1.3						
PPBI	**Pangkal Pinang**	**22.48**	**282**	P	**P**	**13 10 39.1**	**+1.3**
	comp=Z,36nm,1.2s						
FORT	**Forrest**	**23.34**	**180**	P	**P**	**13 10 47.5**	**+1.0**
MDSI	**Maura Dua**	**23.97**	**275**	P	**P**	**13 10 52.0**	**-0.8**
	comp=Z,987nmcomp=Z,12nm,1.2s						
KRVT	**Keravat (AS076**	**23.97**	**84**	LR	LR	13 20 51.8	
	comp=Z,392nm,19.5s,baz=257,slow=38						
MORW	**Morawa**	**24.45**	**206**	P	**P**	**13 10 57.6**	**+0.5**
	baz=25,SNR=16						
MORW	**Morawa**	**24.45**	**206**	P	**P**	**13 10 57.8**	**+0.6**
MORW				IAmb	IAmb	13 11 07.2	
	comp=Z,27nm,1.1s						
QLP	**Quilpie**	**24.54**	**143**	P	**P**	**13 10 58.8**	**+0.8**
	baz=25,SNR=12						
LHSI	**Lahat**	**24.71**	**277**	P	**P**	**13 11 00.5**	**+0.8**
	comp=Z,2μmcomp=Z,34nm,0.9s						
BLDU	**Ballidu**	**25.53**	**203**	P	**P**	**13 11 06.2**	**-0.6**
	baz=26,SNR=7.7						
KLBR	**Kellerberrin**	**26.02**	**200**	P	**P**	**13 11 11.8**	**+0.4**
	baz=26,SNR=5.3						
BBOO	**Buckleboo**	**26.42**	**165**	P	**P**	**13 11 16.3**	**+1.3**
	baz=27,SNR=11						
BBOO	**Buckleboo**	**26.42**	**165**	P	**P**	**13 11 16.1**	**+1.1**
MUN	**Mundaring**	**26.93**	**203**	P	**P**	**13 11 21.1**	**+1.5**
	baz=27,SNR=3.4						
SDSI	**Sungai Dareh**	**27.35**	**282**	P	**P**	**13 11 24.1**	**+0.6**
RMQ	**Roma**	**27.37**	**137**	P	**P**	**13 11 24.7**	**+1.0**
	baz=27,SNR=4.7						
NWAO	**Narrogin (SRO)**	**27.41**	**200**	P	**P**	**13 11 24.3**	**+0.4**
	comp=Z,16nm,0.7s,baz=48,slow=8.0,SNR=6.6						
NWAO	**Narrogin (SRO)**	**27.41**	**200**	P	**P**	**13 11 23.1**	**-0.8**
	baz=28,SNR=5.2						
NWAO	**Narrogin (SRO)**	**27.41**	**200**	P	**P**	**13 11 23.9**	**0.0**
NWAO	**Narrogin (SRO)**	**27.41**	**200**	IAmb	IAmb	13 11 50.4	
	comp=Z,26nm,1.2s						
STKA	**Stephens Creek**	**27.48**	**155**	P	**P**	**13 11 25.1**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=334,slow=8.6,SNR=11						
STKA	**Stephens Creek**	**27.48**	**155**	P	**P**	**13 11 26.0**	**+1.5**
	baz=28,SNR=11						
STKA	**Stephens Creek**	**27.48**	**155**	P	**P**	**13 11 25.0**	**+0.5**
CMSA	**Cobar Meteorol**	**29.16**	**148**	P	**P**	**13 11 41.3**	**+1.8**
	baz=29,SNR=7.5						
MNSI	**Mandailing Nat**	**29.58**	**285**	P	**P**	**13 11 42.5**	**-0.9**
	comp=Z,32nm,0.8s						
KULM	**Kulim**	**30.13**	**294**	P	**P**	**13 11 48.5**	**+0.2**
KULM				IAmb	IAmb	13 12 30.0	
	comp=Z,24nm,1.3s						
HNR	**Honiara**	**31.56**	**96**	LR	LR	13 24 18.8	
	comp=Z,376nm,19.1s,baz=264,slow=36						
ARPS	**Mount Arapiles**	**31.88**	**159**	P	**P**	**13 12 05.8**	**+2.3**
	baz=32,SNR=9.6						
YNG	**Young**	**32.73**	**148**	P	**P**	**13 12 11.8**	**+0.8**
	baz=33,SNR=5.9						
CAN	**Canberra**	**33.83**	**148**	P	**P**	**13 12 22.9**	**+2.3**
TOO	**Toolangi**	**34.00**	**155**	P	**P**	**13 12 25.1**	**+3.0**
CMAR	**Chiang Mai Arr**	**38.52**	**312**	P	**P**	**13 13 00.2**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=144,slow=7.3,SNR=8.3						
CMAR	**Chiang Mai Arr**	**38.52**	**312**	P	**P**	**13 12 59.8**	**-1.1**
NJ2	**Nanjing**	**40.13**	**348**	*e*P	**P**	**13 13 16.2**	**+2.1**
JNU	**Nakatsue**	**40.30**	**4**	P	**P**	**13 13 13.6**	**-1.9**
	comp=Z,3.1nm,0.8s,baz=153,slow=5.3,SNR=1.7						
KSAR	**Wonju Array Be**	**44.52**	**360**	P	**P**	**13 13 50.7**	**+0.9**
KSRS	**Korea Array**	**44.53**	**360**	P	**P**	**13 13 47.2**	**-2.7**
	comp=Z,0.9nm,0.6s,baz=174,slow=8.5,SNR=3.4						
MJAR	**Matsushiro Arr**	**44.64**	**12**	P	**P**	**13 13 49.5**	**-1.4**
	comp=Z,3.7nm,0.8s,baz=198,slow=10,SNR=8.8						
MAJO	**Matsushiro**	**44.64**	**12**	P	**P**	**13 13 50.2**	**-0.7**
MAJO				IAmb	IAmb	13 14 00.6	
	comp=Z,17nm,1.0s						
MAT	**Matsushiro**	**44.64**	**12**	P	**P**	**13 13 51.1**	**+0.3**
MJB9	**Matsu-Tunnel**	**44.64**	**12**	P	**P**	**13 13 50.0**	**-0.8**
MJB9				IAmb	IAmb	13 14 00.5	
	comp=Z,16nm,1.0s						
XAN	**Xi'an**	**44.97**	**337**	P	**P**	**13 13 51.9**	**-1.6**
XAN				pP	pwP	13 13 59.2	+0.2
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XAN	**Xi'an**	**44.97**	**337**	P	**P**	**13 13 51.7**	**-1.8**
XAN				IAmb	IAmb	13 14 07.6	
	comp=Z,8.1nm,1.0s						
LZH	**Lanzhou**	**48.83**	**334**	*e*P	P	13 14 30.8	+7.0
LZH				pP	pwP	13 14 37.0	+7.7
LZH				sP	sP	13 14 41.8	+15
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				LR	LR		
	comp=N,350nm,13.6s						
LZH				LR	LR		
	comp=E,310nm,14.1s						
LZH				LR	LR		
	comp=Z,320nm,13.6s						
HHC	**Hu-ho-hao-te**	**50.29**	**344**	*e*P	**P**	**13 14 35.4**	**+0.6**
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				LR	LR		
	comp=Z,360nm,15.9s						
HHC				LR	LR		
	comp=Z,370nm,14.4s						
HHC				LR	LR		
	comp=Z,330nm,15.4s						
USRK	**Ussuriysk Ar.**	**51.39**	**4**	P	**P**	**13 14 41.9**	**-1.0**
	comp=Z,2.3nm,0.6s,baz=191,slow=5.1,SNR=3.1						
USRK				LR	LR	13 36 38.0	
	comp=Z,102nm,20.0s,baz=87,slow=36						
USRK	**Ussuriysk Ar.**	**51.39**	**4**	P	**P**	**13 14 42.8**	**-0.1**
MDJ	**Mudanjiang**	**51.71**	**1**	P	P	13 14 52.6	+7.3
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,450nm,15.0s						
RPZ	**Rata Peaks**	**52.15**	**141**	LR	LR	13 37 07.5	
	comp=Z,471nm,19.7s,baz=264,slow=36						
TUWZ	**Tuamarina**	**52.91**	**137**	P	**P**	**13 14 54.9**	**+0.6**
GTA	**Gaotai**	**53.37**	**333**	*e*P	**P**	**13 14 57.6**	**-0.3**
GTA				pP	pwP	13 15 04.2	+0.8
GTA				sP	sP	13 15 07.3	+6.0
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,110nm,4.9s						
GTA				LR	LR		
	comp=Z,300nm,21.9s						
GTA				LR	LR		
	comp=Z,270nm,19.7s						
GTA				LR	LR		
	comp=Z,220nm,21.3s						
URZ	**Urewera**	**53.82**	**133**	P	**P**	**13 15 01.4**	**+0.3**
	comp=Z,12nm,1.0s,baz=346,slow=17,SNR=1.9						
ULN	**Ulaanbaatar**	**58.01**	**343**	P	**P**	**13 15 30.5**	**-0.5**
ULN				IAmb	IAmb	13 15 41.2	
	comp=Z,6.7nm,0.8s						
SONM	**Songino Array**	**58.17**	**343**	P	**P**	**13 15 31.9**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=157,slow=6.9,SNR=9.8						
SONM	**Songino Array**	**58.17**	**343**	P	**P**	**13 15 31.7**	**-0.5**
WMQ	**Urumqi**	**62.65**	**328**	*e*P	**P**	**13 16 04.2**	**+1.3**
WMQ				LR	LR		
	comp=Z,170nm,16.7s						
WMQ				LR	LR		
	comp=Z,230nm,14.1s						
WMQ				LR	LR		
	comp=Z,210nm,26.9s						
PETK	**Petropavlovsk-**	**65.22**	**19**	P	**P**	**13 16 19.6**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=169,slow=8.5,SNR=3.6						
KSH	**Kashi**	**67.00**	**318**	*e*P	**P**	**13 16 33.7**	**+2.3**
MK31	**Makanchi Array**	**67.48**	**328**	P	**P**	**13 16 33.2**	**-0.9**
MKAR	**Makanchi Array**	**67.48**	**328**	P	**P**	**13 16 33.5**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=127,slow=7.3,SNR=20						
MKAR	**Makanchi Array**	**67.48**	**328**	P	**P**	**13 16 33.2**	**-1.0**
KDJ	**Kajisay**	**67.63**	**321**	P	**P**	**13 16 34.4**	**-1.1**
KDJ				IAmb	IAmb	13 16 44.0	
	comp=Z,10.0nm,1.1s						
MAKZ	**Makanchi**	**67.65**	**328**	P	**P**	**13 16 34.5**	**-0.7**
AAK	**Ala-Archa**	**69.58**	**321**	P	**P**	**13 16 47.3**	**-0.3**
ARSB	**Arslanbob**	**69.88**	**319**	P	**P**	**13 16 48.8**	**-0.6**
GAR	**Garm**	**70.57**	**316**	P	**P**	**13 16 53.5**	**-0.2**
ZAA0	**Zalesovo Array**	**71.05**	**335**	P	**P**	**13 16 54.8**	**-1.3**
ZALV	**Zalesovo Beam**	**71.05**	**335**	P	**P**	**13 16 55.1**	**-0.9**
	comp=Z,4.4nm,0.6s,baz=130,slow=4.9,SNR=15						
ZALV	**Zalesovo Beam**	**71.05**	**335**	P	**P**	**13 16 54.6**	**-1.4**
KURK	**Kurchatov**	**71.82**	**329**	P	**P**	**13 16 59.6**	**-1.2**
KK31	**Karatay Array**	**72.35**	**320**	P	**P**	**13 17 04.3**	**+0.1**
KK31				IAmb	IAmb	13 17 14.1	
	comp=Z,11nm,1.2s						
KKAR	**Karatay Array**	**72.35**	**320**	P	**P**	**13 17 03.6**	**-0.6**
KKAR	**Karatay Array**	**72.35**	**320**	P	**P**	**13 17 04.0**	**-0.3**
KKAR				IAmb	IAmb	13 17 14.1	
	comp=Z,11nm,1.2s						
VNDA	**Vanda**	**72.37**	**173**	P	**P**	**13 17 04.7**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=330,slow=5.7,SNR=2.1						
BRVK	**Borovoye**	**77.41**	**328**	P	**P**	**13 17 33.9**	**+0.7**
GEYT	**Alibeck**	**78.99**	**311**	P	**P**	**13 17 40.0**	**-2.4**
	comp=Z,1.1nm,0.4s,baz=114,slow=1.8,SNR=6.2						
GEYT	**Alibeck**	**78.99**	**311**	P	**P**	**13 17 42.6**	**+0.2**
NRIK	**Noril'sk**	**81.42**	**347**	P	**P**	**13 17 56.0**	**+1.3**
	comp=Z,5.6nm,0.9s,baz=123,slow=5.2,SNR=6.6						
ABKAR	**Akbulak array**	**81.60**	**322**	P	**P**	**13 17 55.1**	**-1.0**
QSPA	**South Pole Qui**	**82.67**	**180**	P	**P**	**13 18 01.7**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=355,slow=8.5,SNR=1.3						
QSPA	**South Pole Qui**	**82.67**	**180**	P	**P**	**13 18 01.1**	**-0.5**
QSPA				IAmb	IAmb	13 18 25.1	
	comp=Z,10nm,1.2s						
SYO	**Syowa Base**	**82.69**	**201⇑**	*e*P	**P**	**13 18 02.0**	**+0.5**
SYO	**Syowa Base**	**82.69**	**201⇑**	*e*pP	**P**	**13 18 04.2**	**+2.7**
SYO	**Syowa Base**	**82.69**	**201⇓**	*e*PcP	**P**	**13 18 06.2**	**+4.7**
ILAR	**Eielson Array**	**94.43**	**25**	P	**P**	**13 18 55.9**	**-2.1**
	comp=Z,0.5nm,1.1s,baz=247,slow=4.7,SNR=2.6						
BCAR	**Beaver Creek A**	**96.51**	**27**	P	**P**	**13 19 08.0**	**+0.5**
PDAR	**Pinedale Array**	**118.44**	**45**	PKP	**PKiKP**	**13 24 27.5**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=90,slow=2.7,SNR=1.7						
TORD	**Torodi Ar. Bea**	**127.03**	**281**	PKP	**PKPdf**	**13 24 41.8**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=58,slow=2.1,SNR=1.9						
CPUP	**Villa Florida**	**146.14**	**171**	PKPbc	**PKPdf**	**13 25 17.5**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=188,slow=2.2,SNR=3.2						
LPAZ	**La Paz**	**151.57**	**146**	PKPbc	**PKPbc**	**13 25 33.2**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=196,slow=2.5,SNR=3.8						
LPAZ				PKPab	**PKPab**	**13 25 42.8**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=218,slow=7.8,SNR=3.5						
LPAZ	**La Paz**	**151.57**	**146**		**PKPbc**	**13 25 33.8**	**-0.5**

*TAP **06** 13:06:25.1,23.84N×121.98E,h42km,ML3.0,D*
*JMA **06** 13:06:25.4±0.4,23.82N×121.92E,h51km,M2.5*
ISC 06 13:06:24.7±1.0,23.81N±0.02×122.00E±0.02,h25km±10km, n95,σ0§69/164,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.40**	**295**	*i* P	**Pb**	**13 06 33.9**	**+0.7**
	baz=288						
HWA				*i* S	**Sn**	**13 06 41.2**	**-0.2**
	baz=288						
TWD	**Chiawan**	**0.46**	**307**	P	**Pb**	**13 06 34.3**	**+0.1**
	baz=301						
TWD				S	**Sb**	**13 06 40.5**	**-0.1**
	baz=301						
ESL	**Shilin**	**0.52**	**271**	P	**Pb**	**13 06 35.0**	**-0.2**
	baz=263						
ESL				S	**Sb**	**13 06 42.2**	**-0.1**
	baz=263						
EGFH	**Guangfu**	**0.54**	**255**	P	**Pb**	**13 06 35.7**	**+0.2**
	baz=246						
EGFH				S	**Sn**	**13 06 44.2**	**-0.7**
	baz=246						
HGSD	**Ruisui**	**0.61**	**239**	*i* P	**Pb**	**13 06 37.3**	**+0.5**
	baz=230						
HGSD				*e*S	**Sn**	**13 06 46.0**	**-0.7**
	baz=230						
ETLH	**Xiulin Townshi**	**0.62**	**310**	*i* P	**Pb**	**13 06 36.5**	**-0.4**
	baz=309						
ETLH				S	**Sb**	**13 06 45.2**	**0.0**
	baz=309						
ENA	**Nanau**	**0.66**	**339**	P	**Pb**	**13 06 37.7**	**0.0**
	baz=332						
ENA				S	**Sb**	**13 06 46.7**	**+0.2**
	baz=332						
ENAH	**Nanao**	**0.66**	**345**	P	**Pb**	**13 06 37.9**	**+0.3**
	baz=335						
ENAH				*e*S	**Sb**	**13 06 47.1**	**+0.7**
	baz=335						
EHY	**Hungye**	**0.69**	**244**	P	**Pb**	**13 06 37.9**	**-0.1**
	baz=253						
EHY				S	**Sb**	**13 06 46.8**	**-0.4**
	baz=253						
OWD	**Renai**	**0.76**	**281**	*e*P	**Pb**	**13 06 39.2**	**-0.2**
	baz=278						
OWD				*e*S	**Sb**	**13 06 48.8**	**-0.7**
	baz=278						
VWDT	**VWDT**	**0.78**	**266**	P	**Pb**	**13 06 39.7**	**0.0**
	baz=263						
VWDT				*e*S	**Sb**	**13 06 50.0**	**+0.1**
	baz=263						
TWF1	**Yuli**	**0.79**	**235**	P	**Pb**	**13 06 39.7**	**0.0**
	baz=226						
TWF1				*e*S	**Sb**	**13 06 50.4**	**+0.4**
	baz=226						
CHGB	**Renai**	**0.79**	**289**	*i* P	**Pb**	**13 06 39.6**	**-0.4**
	baz=286						
CHGB				S	**Sb**	**13 06 49.6**	**-0.8**
	baz=286						
FUSS	**Fushou**	**0.81**	**303**	P	**Pb**	**13 06 40.0**	**-0.4**
	baz=301						
FUSS				S	**Sb**	**13 06 50.2**	**-0.8**
	baz=301						
NNSB	**Datong**	**0.83**	**318**	*i* P	**Pb**	**13 06 40.4**	**-0.3**
	baz=317						
NNSB				S	**Sb**	**13 06 50.9**	**-0.7**
	baz=317						
NNSH	**Datong**	**0.83**	**318**	P	**Pb**	**13 06 40.2**	**-0.4**
	baz=317						
NNSH				S	**Sb**	**13 06 50.9**	**-0.7**
	baz=317						
NNS	**Nan Shan**	**0.85**	**318**	P	**Pb**	**13 06 40.3**	**-0.5**
	baz=317						
NNS				*e*S	**Sb**	**13 06 51.4**	**-0.5**
	baz=317						
FULB	**Fuli**	**0.88**	**227**	*e*P	**Pn**	**13 06 41.6**	**+0.1**
	baz=215						
FULB				*e*S	**Sb**	**13 06 53.0**	**+0.2**
	baz=215						
TDCB	**Techi**	**0.89**	**300**	P	**Pb**	**13 06 41.4**	**0.0**
	baz=298						
TDCB				*e*S	**Sb**	**13 06 52.3**	**-0.7**
	baz=298						
NDT	**Datong Townshi**	**0.91**	**331**	P	**Pb**	**13 06 41.3**	**-0.5**
	baz=331						
NDT				*e*S	**Sb**	**13 06 52.4**	**-1.0**
	baz=331						
CHKT	**Chengkung**	**0.91**	**220**	*e*S	**Sb**	**13 06 51.8**	**-1.7**
	baz=209						
ENTT	**Nioudou**	**0.92**	**335**	P	**Pb**	**13 06 41.9**	**-0.1**
	baz=327						
ENTT				S	**Sb**	**13 06 53.7**	**-0.1**
	baz=327						
SSLB	**Suanglung**	**0.95**	**269**	*e*P	**Pb**	**13 06 41.7**	**-0.9**
	baz=266						
SSLB				*e*S	**Sb**	**13 06 54.8**	**0.0**
	baz=266						
TWE	**Neicheng**	**0.96**	**342**	P	**Pn**	**13 06 42.5**

	baz=312							
LIOB				*e*S	**Sn**	13 07 01.2	**-0.7**	
	baz=312							
NSTT	**Nanjuang**	**1.22 312**	P		**Pn**	**13 06 46.7**	**+0.5**	
	baz=311							
NSTT			S		**Sn**	**13 07 01.5**	**-0.4**	
	baz=311							
CHN5	**Tsauling**	**1.23 260**	*e*P		**Pn**	**13 06 46.3**	**+0.1**	
	baz=252							
CHN5				*e*S	**Sb**	**13 07 03.0**	**+0.3**	
	baz=252							
LDUT	**Ludao**	**1.23 203**	*e*S		**Sn**	**13 06 59.9**	**-2.1**	
	baz=201							
NHDH	**Xindian Distri**	**1.23 340**	*e*P		**Pn**	**13 06 46.6**	**+0.3**	
	baz=328							
NHDH				*e*S	**Sn**	**13 07 01.6**	**-0.4**	
	baz=328							
TCU	**Taichung**	**1.25 286**	*e*P		**Pb**	**13 06 48.8**	**+1.2**	
	baz=284							
TCU				*e*S	**Sb**	**13 07 03.8**	**+0.4**	
	baz=284							
NWF	**Wu-fen Shan**	**1.27 351**	*e*P		**Pb**	**13 06 48.1**	**0.0**	
	baz=352							
NWF				*e*S	**Sn**	**13 07 03.4**	**+0.2**	
	baz=352							
WFSB	**Wu-fen Shan**	**1.27 351**	*e*P		**Pb**	**13 06 48.2**	**+0.2**	
	baz=352							
WFSB				*e*S	**Sb**	**13 07 04.8**	**+0.9**	
	baz=352							
NSY	**Sanyi**	**1.28 298**	*e*P		**Pn**	**13 06 47.5**	**+0.6**	
	baz=297							
NSY				*e*S	**Sb**	**13 07 04.2**	**0.0**	
	baz=297							
TWGBT	**Beinan**	**1.30 221**	*e*S		**Sn**	**13 07 03.5**	**-0.1**	
	baz=227							
TWG	**Pinlang**	**1.30 221**	*e*P		**Pb**	**13 06 48.2**	**-0.2**	
	baz=227							
TWG				*e*S	**Sn**	**13 07 03.9**	**+0.1**	
	baz=227							
STYT	**Tauyuan**	**1.30 241**	P		**Pn**	**13 06 47.9**	**+0.5**	
	baz=232							
STYT			S		**Sn**	**13 07 04.5**	**+0.5**	
	baz=232							
NMLH	**Miaoli**	**1.32 304**	*e*P		**Pn**	**13 06 48.2**	**+0.7**	
	baz=290							
NMLH				*e*S	**Sb**	**13 07 05.3**	**0.0**	
	baz=290							
WGK	**Gukeng**	**1.32 265**	*e*S		**Sb**	**13 07 05.4**	**+0.1**	
	baz=262							
PTSB	**Yuanli**	**1.34 299**	*e*S		**Sb**	**13 07 07.2**	**+1.3**	
	baz=297							
WDLH	**Douliu**	**1.34 265**	*e*P		**Pb**	**13 06 49.8**	**+0.7**	
	baz=263							
WDLH				*e*S	**Sb**	**13 07 07.2**	**+1.3**	
	baz=263							
WCHH	**Zhanghua**	**1.34 282**	*e*P		**Pb**	**13 06 49.0**	**-0.1**	
	baz=279							
WCHH			S		**Sb**	**13 07 06.6**	**+0.6**	
	baz=279							
TPUB	**Ta-pu**	**1.35 248**	*e*P		**Pb**	**13 06 49.4**	**+0.1**	
	baz=246							
TPUB			S		**Sb**	**13 07 06.8**	**+0.6**	
	baz=246							
WTP	**Ta-pu**	**1.39 246**	P		**Pn**	**13 06 48.8**	**+0.4**	
	baz=244							
WTP				*e*S	**Sb**	**13 07 07.0**	**-0.3**	
	baz=244							
YM01	**YM01**	**1.39 344**	*e*P		**Pn**	**13 06 48.9**	**+0.4**	
	baz=330							
YM01				*e*S	**Sn**	**13 07 05.9**	**-0.1**	
	baz=330							
TWS1	**Kuangyinshan**	**1.39 338**	*e*S		**Sn**	**13 07 06.1**	**+0.1**	
	baz=336							
YM10	**YM10**	**1.40 344**	*e*S		**Sn**	**13 07 06.1**	**-0.2**	
	baz=330							
YM04	**YM04**	**1.40 343**	*e*P		**Pn**	**13 06 48.5**	**-0.2**	
	baz=329							
YM04				*e*S	**Sn**	**13 07 05.5**	**-0.9**	
	baz=329							
YM05	**YM05**	**1.41 344**	*e*P		Pn	13 06 46.8	-2.0	
	baz=330							
YM05				*e*S	**Sn**	**13 07 06.7**	**+0.1**	
	baz=330							
YM08	**YM08**	**1.42 345**	*e*S		**Sn**	**13 07 06.0**	**-0.8**	
	baz=330							
YM03	**YM03**	**1.43 343**	*e*S		**Sn**	**13 07 06.8**	**-0.3**	
	baz=329							
CHY	**Chiayi**	**1.47 258**	*e*S		**Sb**	**13 07 09.9**	**+0.2**	
	baz=256							
WTK	**Tuku**	**1.48 266**	*e*P		**Pb**	**13 06 51.1**	**-0.4**	
	baz=263							
WTK				*e*S	**Sb**	**13 07 11.1**	**+1.3**	
	baz=263							
SLGT	**Liugui**	**1.48 237**	P		**Pb**	**13 06 50.9**	**-0.7**	
	baz=227							
SLGT				*e*S	**Sb**	**13 07 10.2**	**+0.3**	
	baz=227							
CHN1	**Nanshi**	**1.48 246**	*e*P		**Pb**	**13 06 51.8**	**+0.2**	
	baz=243							
CHN1				*e*S	**Sb**	**13 07 11.0**	**+1.0**	
	baz=243							
SGST	**Jiashian**	**1.48 241**	P		**Pn**	**13 06 50.8**	**+1.0**	
	baz=239							
SGST			S		**Sb**	**13 07 10.1**	**+0.1**	
	baz=239							
SNST	**Tainan City**	**1.49 247**	*e*S		**Sb**	**13 07 10.8**	**+0.5**	
	baz=245							
ECL	**Taimali**	**1.54 219**	*e*S		**Sn**	**13 07 07.7**	**-1.9**	
	baz=224							
WTCT	**Ta-ch'eng**	**1.57 272**	*e*P		**Pn**	**13 06 51.2**	**+0.3**	
	baz=270							
WTCT				*e*S	**Sb**	**13 07 12.2**	**-0.2**	
	baz=270							
WSF	**Szhu**	**1.63 264**	S		**Sb**	**13 07 14.9**	**+0.6**	
	baz=262							
ICHU	**Yijhu**	**1.64 255**	*e*P		**Pn**	**13 06 53.0**	**+1.2**	
	baz=252							
ICHU				*e*S	**Sn**	**13 07 13.3**	**+1.3**	
	baz=252							
SSD	**Sandimen**	**1.64 230**	*e*P		**Pn**	**13 06 53.1**	**+1.2**	
	baz=225							
SSD				*e*S	**Sb**	**13 07 14.7**	**+0.2**	
	baz=225							
TSMG	**Majia**	**1.66 229**	*e*P		**Pn**	**13 06 52.6**	**+0.5**	
	baz=224							
TSMG				*e*S	**Sn**	**13 07 13.2**	**+0.6**	
	baz=224							
IRIF	**Iriomote-Funau**	**1.67 71**	P		**Pb**	**13 06 53.7**	**-1.0**	
IRIF			S		**Sb**	**13 07 14.6**	**-0.8**	
CHN8	**Yiju**	**1.70 255**	*e*S		**Sn**	**13 07 14.9**	**+1.3**	
	baz=252							
MASBT	**Mashibuluo**	**1.73 227**	*e*P		**Pn**	**13 06 53.9**	**+0.8**	
	baz=224							
MASBT				*e*S	**Sn**	**13 07 15.4**	**+1.0**	
	baz=224							
EAST	**Anshuo**	**1.77 217**	*e*P		**Pn**	**13 06 53.0**	**-0.7**	
	baz=215							
JKRS	**Kuro-shima**	**1.89 76**	*e*S		**Sb**	**13 07 20.2**	**-1.5**	
JIJ	**Ishigaki jima**	**2.04 74**	P		**Pn**	**13 06 58.4**	**+1.0**	
JIJ			S		**Sn**	**13 07 22.0**	**0.0**	
PHUB	**P'eng-hu**	**2.24 263**	*e*S		**Sn**	**13 07 26.2**	**-0.8**	
	baz=249							
PNG	**Penghu**	**2.25 264**	*e*P		**Pn**	**13 07 01.0**	**+0.7**	
	baz=262							
PNG				*e*S	**Sn**	**13 07 26.2**	**-1.0**	
	baz=262							
JISG	**Ishigakijimahi**	**2.25 69**	P		**Pn**	**13 07 01.2**	**+0.9**	
JISG			S		**Sn**	**13 07 27.1**	**-0.2**	
VCHM	**Qimei**	**2.43 256**	*e*S		**Sn**	**13 07 32.0**	**+0.4**	
	baz=254							
VWUC	**VWUC**	**2.60 297**	*e*P		**Pn**	**13 07 05.3**	**+0.1**	
	baz=297							
JTJ	**Tarama**	**2.61 71**	*e*S		**Sn**	**13 07 35.5**	**-0.5**	
PTTC	**Pingtan**	**2.63 310**	*e*P		**Pn**	**13 07 05.2**	**-0.4**	
	baz=310							
PTMZ	**Houxiangcun**	**2.89 296**	*e*P		**Pn**	**13 07 08.8**	**-0.3**	
	baz=295							

IDC 06 13:18:34.2±5.8, 8°.06S×127°.90E, h153km±62km, mb3.1/1, mb1 3.2/5, mb1mx3.1/30, mbtmp3.6/5, Error ellipse: s-maj=57.5km s-min=19.6km az=42.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.70 243**		P	Pn	13 19 42.6	-1.1
	1.9nm,0.3s,baz=93,slow=17,SNR=2.2						
BATI				S	Sn	13 20 39.5	+1.6
	baz=332,slow=23,SNR=1.0						
FITZ	**Fitzroy Crossi**	**10.22 192**		P	Pn	13 20 57.3	+0.2
	0.1nm,0.3s,baz=21,slow=17,SNR=2.4						
FITZ				S	Sn	13 22 50.0	-0.4
	0.2nm,0.3s,baz=280,slow=16,SNR=1.8						
WRA	**Warramunga Arr**	**13.36 153**		P	Pn	13 21 36.1	-1.9
	0.3nm,0.3s,baz=322,slow=14,SNR=1.3						
WRA				S	Sn	13 24 06.3	+0.2
	0.2nm,0.3s,baz=326,slow=23,SNR=5.6						
ASAR	**Alice Springs**	**16.56 160**		P	Pn	13 22 19.1	+1.4
	0.2nm,0.3s,baz=339,slow=10,SNR=19						
ASAR				S	Sn	13 25 24.2	+1.5
	0.0nm,0.3s,baz=324,slow=17,SNR=2.0						
MKAR	**Makanchi Array**	**67.99 328**		P	P	13 29 16.8	-0.1
	0.3nm,0.6s,baz=138,slow=5.8,SNR=2.8						

*NNC **06** 13:19:31.7±3.7, 37°.87N×71°.57E, h0km, mb4.2, mpv3.7, Error ellipse: s-maj=29.0km s-min=19.9km az=171.0*
*IDC **06** 13:19:27.7±3.1, 37°.4N±0°.2×71°.5E±0°.1, h35km, n10, σ1ᵖ97/15, 5C-5D, Afghanistan-Tajikistan border region*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.05**	**19**	P	**Pn**	**13 20 43.4**	**+2.1**
	SNR=48						
UCH	**Uchtor**	**5.38**	**25**	P	**Pn**	**13 20 47.6**	**+1.7**
	SNR=14						
EKS2	**Erkin-Say**	**5.57**	**18**	P	**Pn**	**13 20 50.7**	**+2.5**
	SNR=8.6						
AAK	**Ala-Archa**	**5.74**	**23**	P	**Pn**	**13 20 52.7**	**+2.1**
	SNR=5.3						
AAK	**Ala-Archa**	**5.74**	**23**	⇑P	**Pn**	**13 20 52.5**	**+1.9**
	2.1nm,0.3s						
AAK				⇑S	**Sn**	**13 21 54.4**	**-0.9**
	16nm,0.5s						
KK31	**Karatay Array**	**5.78 353**		⇓P	**Pn**	**13 20 54.1**	**+3.1**
	11nm,0.4s,baz=176,slow=12,SNR=132						
KK31				⇓S	**Sn**	**13 21 55.7**	**-0.3**
	3.6nm,0.3s,baz=174,slow=21,SNR=14						
CHMS	**Chumysh**	**6.15**	**23**	P	**Pn**	**13 20 58.0**	**+1.9**
	SNR=8.0						
TKM2	**Tokmak 2**	**6.37**	**28**	⇓P	**Pn**	**13 21 00.5**	**+1.2**
	1.6nm,0.4s						
TKM2				⇑S	**Sn**	**13 22 09.1**	**-1.8**
	4.2nm,0.6s						
AB31	**Akbulak array**	**14.54 328**		⇑P	**Pn**	**13 22 50.0**	**-0.8**
	1.9nm,0.2s,baz=133,slow=14,SNR=25						
AB31				⇓S	**Sn**	**13 25 30.1**	**-0.5**
	9.3nm,0.6s,baz=160,slow=22,SNR=4.8						
AKTO	**Aktyubinsk**	**16.25 328**		⇑P	**P**	**13 23 13.5**	**-2.3**
	3.1nm,0.9s						
AKTO				⇓S	**Sn**	**13 26 12.5**	**+0.3**
	0.6nm,0.5s						

IDC 06 13:24:32.8±13.0, 8°.02S×127°.75E, h138km±148km, mb3.0/1, mb1 3.1/4, mb1mx2.9/38, mbtmp3.4/4, ML3.2/3, MS3.3/1, Ms1 3.3/1, ms1mx3.0/13, Error ellipse: s-maj=90.9km s-min=51.5km az=20.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.58 241**		LR	LR	13 27 26.0	
	comp=Z,355nm,20.1s,baz=286,slow=38						
FITZ	**Fitzroy Crossi**	**10.22 191**		P	Pn	13 26 55.7	-0.4
	0.1nm,0.3s,baz=14,slow=8.3,SNR=1.6						
FITZ				S	Sn	13 28 50.8	+1.7
	0.1nm,0.3s,baz=268,slow=21,SNR=1.7						
WRA	**Warramunga Arr**	**13.46 152**		P	Pn	13 27 36.5	-2.0
	0.2nm,0.3s,baz=320,slow=14,SNR=2.2						
WRA				S	Sn	13 30 07.1	-0.2
	0.2nm,0.3s,baz=332,slow=23,SNR=2.7						
ASAR	**Alice Springs**	**16.64 160**		P	P	13 28 19.9	+1.8
	0.1nm,0.3s,baz=338,slow=10,SNR=2.2						
MKAR	**Makanchi Array**	**67.88 328**		P	P	13 35 16.3	0.0
	0.2nm,0.5s,baz=139,slow=4.9,SNR=2.2						

IDC 06 13:30:57.5±2.2, 7°.53S×128°.21E, h0km, mb3.5/1, mb1 3.6/5, mb1mx3.4/38, mbtmp3.5/5, ML3.3/4, MS3.6/1, Ms1 3.6/1, ms1mx3.0/28, Error ellipse: s-maj=54.7km s-min=30.6km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.22 239**		Pn	Pn	13 32 16.6	-0.3
	3.0nm,0.3s,baz=114,slow=10.0,SNR=3.0						
FITZ	**Fitzroy Crossi**	**10.80 193**		Pn	Pn	13 33 35.3	+1.9
	0.1nm,0.3s,baz=14,slow=15,SNR=1.7						
FITZ				Sn	Sn	13 35 31.2	-3.9
	0.2nm,0.3s,baz=6.8,slow=15,SNR=1.5						
WRA	**Warramunga Arr**	**13.70 155**		Pn	Pn	13 34 12.6	-0.5
	0.1nm,0.3s,baz=327,slow=14,SNR=1.8						
WRA				Sn	Sn	13 36 42.1	-4.0
	0.2nm,0.3s,baz=321,slow=24,SNR=6.5						
ASAR	**Alice Springs**	**16.95 162**		Pn	Pn	13 34 55.0	-1.2
	0.1nm,0.3s,baz=335,slow=9.8,SNR=1.7						
JNU	**Nakatsue**	**40.51**	**3**	LR	LR	13 55 40.0	
	comp=Z,76nm,18.2s,baz=352,slow=37						
MKAR	**Makanchi Array**	**67.71 328**		P	P	13 41 56.8	0.0
	0.2nm,0.5s,baz=134,slow=8.0,SNR=2.8						

IDC 06 13:32:24.7±1.1, 45°.02N±0°.03×14°.85E±0°.08, h9km±10km, n9, σ0ᵖ77/16, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NVLJ	**Novalja**	**0.46 178**		*e*Pg	**Pg**	**13 32 33.1**	**-0.5**
NVLJ				Sg	**Sg**	**13 32 40.9**	**+1.2**
GBRS	**Gornja Briga**	**0.51 357**		*i* Pg	**Pg**	**13 32 34.1**	**-0.6**
GBRS				*e*Sg	**Sg**	**13 32 42.0**	**+0.6**
BOJS	**Bojanci**	**0.56**	**30**	*i* Pg	**Pg**	**13 32 34.9**	**-0.7**
BOJS				*e*Sg	**Sg**	**13 32 43.2**	**+0.3**
KNDS	**Knezji Dol**	**0.61 327**		*i* Pg	**Pg**	**13 32 35.9**	**-0.6**
KNDS				*e*Sg	**Sb**	**13 32 46.2**	**-0.1**
VISS	**Visnje**	**0.78 359**		*i* Pg	**Pg**	**13 32 39.6**	**-0.2**
VISS				*e*Sg	**Sg**	**13 32 50.3**	**+0.4**
GBAS	**Gorenja Brezov**	**0.96 343**		*i* Sg	**Sb**	**13 32 56.7**	**+0.4**
DUGI	**Dugi Otok**	**1.04 172**		*e*Pg	**Pg**	**13 32 43.4**	**-1.3**
DUGI				Sg	**Sn**	**13 32 59.8**	**-0.3**
MORI	**Morici**	**1.31 152**		*e*Pg	**Pn**	**13 32 49.0**	**-0.1**
MORI				Sg	**Sn**	**13 33 07.0**	**+0.3**
ZIRJ	**Zirje**	**1.48 157**		Sg	**Sg**	**13 33 13.6**	**+1.3**

IDC 06 13:34:48.4±6.5, 7°.79S×128°.10E, h130km±69km, mb3.1/1, mb1 3.2/5, mb1mx3.0/32, mbtmp3.6/5, Error ellipse: s-maj=58.7km s-min=20.4km az=40.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.99 241**		P	Pn	13 36 01.2	-0.2
	3.8nm,0.3s,baz=323,slow=24,SNR=2.0						
BATI				S	Sn	13 36 59.1	+0.8
	1.5nm,0.3s,baz=82,slow=22,SNR=1.5						
FITZ	**Fitzroy Crossi**	**10.52 193**		P	Pn	13 37 15.7	-0.1
	0.1nm,0.3s,baz=229,slow=23,SNR=1.6						
FITZ				S	Sn	13 39 12.7	+0.9
	0.2nm,0.3s,baz=139,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**13.51 154**		P	Pn	13 37 53.8	-1.1
	0.2nm,0.3s,baz=327,slow=14,SNR=5.0						
WRA				S	Sn	13 40 24.4	+0.2
	0.4nm,0.3s,baz=329,slow=23,SNR=7.5						
ASAR	**Alice Springs**	**16.74 161**		P	P	13 38 35.5	+0.2
	0.1nm,0.3s,baz=336,slow=11,SNR=3.4						
ASAR				S	S	13 41 43.4	+0.4
	0.1nm,0.3s,baz=344,slow=26,SNR=5.0						
MKAR	**Makanchi Array**	**67.87 328**		P	P	13 45 32.7	0.0
	0.3nm,0.6s,baz=142,slow=7.3,SNR=2.5						

*NEIC **06** 13:50:16.8±2.3, 7°.6S±0°.1×128°.25E±0°.04, h10km±2km, mb4.2/5, Error ellipse: s-maj=23.3km s-min=6.7km az=354.0*
*IDC **06** 13:50:19.1±4.4, 7°.96S×128°.19E, h0km, mb4.0/1, mb1 4.1/5, mb1mx3.6/34, mbtmp3.9/5, ML3.7/4, Error ellipse: s-maj=55.6km s-min=31.7km az=7.0*
*ISC **06** 13:50:20.9±1.6, 7°.7S±0°.1×128°.30E±0°.08, h35km, n20, σ1ᵖ63/23, Banda Sea*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.98**	**95**	Pn	**Pn**	**13 51 04.0**	**-1.8**
SOEI	**Soe**	**4.47 243**		Pn	**Pn**	**13 51 23.2**	**-3.1**
BATI	**Baumata**	**5.20 241**		Pn	**Pn**	**13 51 35.6**	**-0.7**
	3.0nm,0.3s,baz=270,slow=20,SNR=1.7						
BATI				Sn	**Sn**	**13 52 35.7**	**+0.5**
	2.4nm,0.3s,baz=60,slow=20,SNR=1.7						
MTN	**Manton Dam**	**5.80 152**		Pn	**Pn**	**13 51 41.5**	**-3.0**
KNRA	**Kununurra**	**7.92 177**			**Pn**	**13 52 14.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**10.63 194**		Pn	**Pn**	**13 52 50.5**	**-0.4**
	0.3nm,0.3s,baz=12,slow=11,SNR=7.0						
FITZ				Sn	**Sn**	**13 54 48.0**	**-0.7**
	0.3nm,0.3s,baz=154,slow=17,SNR=1.8						
FITZ	**Fitzroy Crossi**	**10.63 194**			**Pn**	**13 52 49.6**	**-1.2**
WB0	**Warramunga Arr**	**13.35 154**			**Pn**	**13 53 27.4**	**-0.6**
WRA	**Warramunga Arr**	**13.48 155**		Pn	**Pn**	**13 53 29.2**	**-0.6**
	0.6nm,0.3s,baz=322,slow=13,SNR=19						
WRA				Sn	**Sn**	**13 56 00.1**	**+1.6**
	0.5nm,0.3s,baz=329,slow=23,SNR=6.1						
WRA	**Warramunga Arr**	**13.48 155**			**Pn**	**13 53 27.4**	**-2.5**
WB2	**Warramunga Arr**	**13.49 155**		Pn	**Pn**	**13 53 29.2**	**-0.8**
WR0	**Warramunga Arr**	**13.58 154**		Pn	**Pn**	**13 53 30.9**	**-0.3**
AS31	**Alice Springs**	**16.74 162**		Pn	**Pn**	**13 54 12.1**	**-0.8**
ASAR	**Alice Springs**	**16.74 162**		Pn	**P**	**13 54 13.3**	**-1.5**
	0.4nm,0.3s,baz=340,slow=10,SNR=25						
ASAR				Sn	**Sn**	**13 57 18.2**	**+0.4**
	0.1nm,0.3s,baz=343,slow=27,SNR=5.8						
ASAR	**Alice Springs**	**16.74 162**			**P**	**13 54 12.9**	**-1.9**
FORT	**Forrest**	**22.94 181**		P	**P**	**13 55 23.8**	**+1.7**
FORT				IAmb	IAmb	13 56 17.8	
	comp=Z,11nm,0.8s						
BBOO	**Buckleboo**	**25.98 165**		P	**P**	**13 55 51.8**	**+1.3**
STKA	**Stephens Creek**	**27.03 155**		P	**P**	**13 56 01.1**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=339,slow=12,SNR=4.8						
STKA	**Stephens Creek**	**27.03 155**		IAmb	IAmb	13 56 32.7	
	comp=Z,6.4nm,1.8s						
DZM	**Mont Dzumac**	**39.39 115**		P	**P**	**13 57 50.0**	**+2.3**

*IDC **06** 14:30:48.9±0.9, 7°.20S×128°.11E, h0km, mb3.9/6, mb1 4.1/12, mb1mx3.9/36, mbtmp4.0/12, ML4.2/6, Error ellipse: s-maj=26.8km s-min=16.2km az=92.0*
*NEIC **06** 14:30:49.9±2.9, 7°.21S±0°.07×128°.22E±0°.07, h11km±6km, mb4.5/12, Error ellipse: s-maj=10.4km s-min=9.3km az=222.0*
*DJA **06** 14:30:51.7±1.1, 7°.S±2°×12°.8E±°, h11km±9km, M4.5/11, mb4.8/8, MLv4.3/11*
*ISC **06** 14:30:49.5±0.6, 7°.25S±0°.04×128°.20E±0°.06, h10km, n51, σ2ᵖ17/58, mb4.0/8, Banda Sea*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.15 103**		Pn	**Pn**	**14 31 39.1**	**-0.2**
BNDI	**Bandanaira**	**3.20 32**		P	**Pn**	**14 31 40.4**	**+0.6**
AAI	**Ambon**	**3.54 360**		P	**Pn**	**14 31 43.1**	**-1.5**
AAI				S	**Sn**	**14 32 26.3**	**-0.2**
NLAI	**Namlea**	**4.13 345**		P	**Pn**	**14 31 53.8**	**+1.1**
NLAI				S	**Sn**	**14 32 41.3**	**+0.1**
SOEI	**Soe**	**4.62 237**		P	**Pn**	**14 32 02.2**	**+2.7**
SOEI				S	**Sn**	**14 32 55.9**	**+2.6**
SOEI	**Soe**	**4.62 237**		Pn	**Pn**	**14 32 01.7**	**+2.2**
BATI	**Baumata**	**5.36 236**		Pn	**Pn**	**14 32 11.3**	**+1.7**
	42nm,0.3s,baz=108,slow=3.1,SNR=33						
BATI				Sn	**Sn**	**14 33 13.0**	**+1.5**
	21nm,0.3s,baz=92,slow=20,SNR=5.9						
BATI	**Baumata**	**5.36 236**		P	**Pn**	**14 32 11.5**	**+1.9**
	0.3nm79nm,0.5s						
SANI	**Sanana**	**5.62 337**		P	**Pn**	**14 32 13.9**	**+0.7**
	0.2nm40nm,0.9s						
FAKI	**Fak Fak**	**5.90 43**		P	**Pn**	**14 32 20.0**	**+3.0**
	0.1nm35nm,0.6s						
FAKI	**Fak Fak**	**5.90 43**		Pn	**Pn**	**14 32 19.9**	**+3.0**
MMRI	**Maumere**	**6.07 257**		P	**Pn**	**14 32 21.4**	**+2.1**
	0.5nm154nm,0.6s						
MMRI	**Maumere**	**6.07 257**			**Pn**	**14 32 20.9**	**+1.6**
MTN	**Manton Dam**	**6.26 153**		Pn	**Pn**	**14 32 26.4**	**+4.4**
SIJI	**Sorong**	**7.04 26**		Pn	**Pn**	**14 32 35.0**	**+2.3**
	2.1nm,0.3s,baz=164,slow=22,SNR=6.8						
SIJI				Sn	**Sn**	**14 33 51.0**	**-1.8**
	baz=265,slow=23,SNR=1.4						
TNTI	**Ternate**	**8.01 354**		Pn	**Pn**	**14 32 46.3**	**+0.3**
LUWI	**Luwuk**	**8.21 318**		Pn	**Pn**	**14 32 49.1**	**+0.4**
KNRA	**Kununurra**	**8.39 176**			**Pn**	**14 32 53.5**	**+2.3**
KAPI	**Kappang**	**8.69 284**		Pn	**Pn**	**14 32 54.7**	**-0.6**
	2.4nm,0.3s,baz=102,slow=12,SNR=4.3						
KAPI				Sn	**Sn**	**14 34 26.9**	**-6.7**
	0.4nm,0.3s,baz=243,slow=23,SNR=1.3						
SPSI	**Sidrap Palu**	**9.01 291**		P	**Pn**	**14 33 00.4**	**+0.7**
	34nm,0.7s						
PLAI	**Plampang**	**10.44 261**		P	**Pn**	**14 33 20.9**	**+1.5**
	38nm,0.9s						
FITZ	**Fitzroy Crossi**	**11.07 193**		Pn	**Pn**	**14 33 27.6**	**-0.4**
	0.7nm,0.3s,baz=21,slow=12,SNR=22						
FITZ				Sn	**Sn**	**14 35 26.9**	**-4.9**
	3.6nm,0.3s,baz=118,slow=22,SNR=9.8						
FITZ	**Fitzroy Crossi**	**11.07 193**			**Pn**	**14 33 27.4**	**-0.5**
TWSI	**Taliwang, Sumb**	**11.31 262**		P	**Pn**	**14 33 33.2**	**+1.9**
WB0	**Warramunga Arr**	**13.81 155**			**Pn**	**14 34 05.9**	**+0.3**
WRAB	**Tennant Creek**	**13.95 155**		Pn	**Pn**	**14 34 07.9**	**+0.6**
WRA	**Warramunga Arr**	**13.95 155**		Pn	**Pn**	**14 34 07.7**	**+0.3**
	1.2nm,0.3s,baz=324,slow=14,SNR=59						
WRA				Sn	**Sn**	**14 36 38.8**	**-3.7**
	2.7nm,0.3s,baz=329,slow=22,SNR=12						
WRA	**Warramunga Arr**	**13.95 155**			**Pn**	**14 34 06.6**	**-0.7**
WB2	**Warramunga Arr**	**13.95 155**			**Pn**	**14 34 07.4**	**-0.1**
WR0	**Warramunga Arr**	**14.05 155**			**Pn**	**14 34 06.8**	**-2.0**
MYLDM	**Lahad Datu**	**15.69 322**		Pn	**Pn**	**14 34 28.9**	**-1.9**
MYLDM				IAmb	IAmb	14 34 53.5	
	comp=Z,45nm,1.5s						
COEN	**Coen**	**16.15 116**		P	**P**	**14 34 38.9**	**-1.1**
COEN				IAmb	IAmb	14 35 18.2	
	comp=Z,112nm,1.9s

KLOF					AML	AML	14 42 53.9		
	comp=Z,4μm,0.2s								
KSR	**Koster**	**1.17**	**5**	*e*P	Pg		14 42 39.3	+0.1	
KSR				*e*S	Sb		14 42 55.4	0.0	
KSR				AML	AML		14 42 58.5		
	comp=Z,237nm,0.3s								
ERPM	**east rand prop**	**1.46**	**63**	*e*P	Pb		14 42 45.9	+1.1	
ERPM				*e*S	Sn		14 43 06.0	+1.9	
ERPM				AML	AML		14 43 07.4		
	comp=Z,283nm,0.3s								
BOSA	**Boshof**	**2.09**	**220**	*i* P	Pg		14 43 01.5	+4.5	
BOSA	**Boshof**	**2.09**	**220**	*i* P	Pg		14 42 59.1	+2.1	
BOSA	**Boshof**	**2.09**	**220**	*e*P	Pn		14 42 53.3	+0.2	
BOSA				*e*S	Sn		14 43 20.3	+0.6	
BOSA				AML	AML		14 43 32.2		
	comp=Z,75nm,0.7s								
BOSA	**Boshof**	**2.09**	**220**	*i* P	Pg		14 43 01.5	+4.5	
BOSA	**Boshof**	**2.09**	**220**	*i* P	Pg		14 42 59.1	+2.1	
LBTB	**Lobatse**	**2.27**	**331**	*i* P	Pb		14 42 59.1	+0.6	
LBTB	**Lobatse**	**2.27**	**331**	*e*P	Pn		14 42 56.0	+0.6	
LBTB				*e*S	Sn		14 43 24.5	+0.5	
LBTB				AML	AML		14 43 28.9		
	comp=Z,327nm,0.3s								
LBTB	**Lobatse**	**2.27**	**331**	*i* P	Pb		14 42 59.1	+0.6	
POGA	**Pongola**	**4.39**	**95**	*e*P	Pn		14 43 25.6	+1.1	
POGA				*e*S	Sn		14 44 14.8	-1.4	
POGA				AML	AML		14 44 38.1		
	comp=Z,105nm,0.5s								
UPI	**Upington**	**5.09**	**253**	*e*P	Pn		14 43 34.7	+0.5	
UPI				*e*S	Sn		14 44 32.8	-0.9	
UPI				AML	AML		14 45 32.7		
	comp=Z,5.5nm,0.3s								
KEIM	**Keimoes**	**5.42**	**251**	*e*P	Pn		14 43 39.1	+0.3	
KEIM				*e*S	Sn		14 44 39.0	-2.8	
KEIM				AML	AML		14 45 10.7		
	comp=Z,44nm,0.6s								
MOPA	**Mopani**	**5.43**	**51**	*e*P	Pn		14 43 39.3	+0.4	
MOPA				*e*S	Sn		14 44 40.0	-2.0	
MOPA				AML	AML		14 44 41.5		
	comp=Z,22nm,0.3s								
MSNA	**Messina**	**5.50**	**33**	*e*P	Pn		14 43 40.0	+0.1	
MSNA				*e*S	Sn		14 44 40.4	-3.4	
MSNA				AML	AML		14 45 09.8		
	comp=Z,26nm,0.2s								
SOE	**Somerset East**	**5.77**	**190**	*e*P	Pn		14 43 44.3	+0.7	
SOE				*e*S	Sn		14 44 48.8	-1.6	
SOE				AML	AML		14 45 24.4		
	comp=Z,21nm,0.9s								
GRAN	**Grantham**	**6.62**	**216**	*e*P	Pn		14 43 56.7	+1.4	
GRAN				*e*S	Sn		14 45 08.8	-2.7	
GRAN				AML	AML		14 45 13.8		
	comp=Z,9.7nm,0.5s								
MATP	**Matopo**	**6.75**	**14**	*i* P	Pn		14 43 58.7	+1.7	
MATP	**Matopo**	**6.75**	**14**	*i* P	Pn		14 43 58.3	+1.3	
MATP	**Matopo**	**6.75**	**14**	*i* P	Pn		14 43 58.7	+1.7	
MATP	**Matopo**	**6.75**	**14**	*i* P	Pn		14 43 58.3	+1.3	
BLWY	**Bulawayo**	**7.05**	**14**	*i* P	Pn		14 44 02.0	+0.9	
BLWY	**Bulawayo**	**7.05**	**14**	*i* P	Pn		14 44 02.2	+1.1	
BLWY				*i* S	Sn		14 45 18.9	-3.1	
BLWY	**Bulawayo**	**7.05**	**14**	*i* P	Pn		14 44 02.0	+0.9	
BLWY	**Bulawayo**	**7.05**	**14**	*i* P	Pn		14 44 02.2	+1.1	
BLWY				*i* S	Sn		14 45 18.9	-3.1	
BUFB	**Buffelsbos**	**7.33**	**193**	*e*P	Pn		14 44 05.9	+1.1	
BUFB				*e*S	Sn		14 45 24.7	-3.9	
BUFB				AML	AML		14 45 29.7		
	comp=Z,7.9nm,0.6s								
SUR	**Sutherland**	**7.46**	**223**	*e*P	Pn		14 44 08.3	+1.5	
SUR				*e*S	Sn		14 45 27.8	-4.2	
SUR				AML	AML		14 45 40.6		
	comp=N,7.0nm,0.5s								
CVNA	**Calvinia**	**7.58**	**232**	*e*P	Pn		14 44 09.7	+1.2	
CVNA				*e*S	Sn		14 45 31.1	-3.9	
CVNA				AML	AML		14 46 21.5		
	comp=Z,42nm,0.5s								
KOMG	**Komaggas**	**8.65**	**249**	*e*P	Pn		14 44 23.3	+0.2	
KOMG				*e*S	Sn		14 45 56.9	-4.3	
KOMG				AML	AML		14 46 49.0		
	comp=Z,20nm,0.5s								
TSUM	**Tsumeb**	**11.50**	**311**	*i* P	Pn		14 45 05.0	+2.8	
TSUM	**Tsumeb**	**11.50**	**311**	*i* P	Pn		14 45 05.0	+2.8	

IDC 06 14:52:51.4±10.0, 7.77S×127.92E, h99km±119km, mb3.4/2, mb1 3.3/5, mb1mx3.1/38, mbtmp3.5/5, ML3.3/3, Error ellipse: s-maj=77.5km s-min=51.2km az=30.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.50**	**192**	P		Pn 14 55 19.1	+0.1
	0.1nm,0.3s,baz=26,slow=10.0,SNR=1.4						
FITZ				S		Sn 14 57 15.8	+1.1
	0.1nm,0.3s,baz=0.9,slow=11,SNR=1.8						
WRA	**Warramunga Arr**	**13.61**	**153**	P		Pn 14 55 58.8	-1.6
	0.2nm,0.3s,baz=326,slow=14,SNR=9.4						
WRA				S		Sn 14 58 29.8	-0.4
	0.2nm,0.3s,baz=332,slow=22,SNR=3.6						
ASAR	**Alice Springs**	**16.82**	**161**	P		P 14 56 42.5	+1.0
	0.2nm,0.3s,baz=338,slow=11,SNR=7.3						
MKAR	**Makanchi Array**	**67.75**	**328**	P		P 15 03 38.7	+0.2
	0.2nm,0.5s,baz=123,slow=6.8,SNR=2.2						
ZALV	**Zalesovo Beam**	**71.37**	**335**	P		P 15 04 00.4	-0.2
	0.8nm,0.5s,baz=128,slow=6.3,SNR=2.6						

*SKHL **06** 15:00:57.1±0.3, 46.92N×154.32E, h50km±3km, mb4.5/6*
*MOS **06** 15:00:59.6±0.7, 47.40N×153.60E, h56km, mb4.0/1, Error ellipse: s-maj=18.8km s-min=8.4km az=57.7*
*IDC **06** 15:01:02.5±5.3, 47.46N×153.61E, h63km±54km, mb3.3/6, mb1 3.8/9, mb1mx3.4/41, mbtmp3.8/9, ML2.9/2, Error ellipse: s-maj=80.6km s-min=17.7km az=136.0*
*NEIC **06** 15:01:03.2±0.9, 47.5N±0.1×153.6E±0.2, h70km±9km, mb4.3/14, Error ellipse: s-maj=22.8km s-min=12.7km az=145.0*

ISC 06 15:01:01.0±0.7, 47.26N±0.08×153.80E±0.07, h50km, n63, σ1§16/69, mb4.2/12, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.75**	**23**	*e*P	**Pn**	**15 01 55.8**	**-0.5**
SKR				AMB	AMB	15 01 56.9	
	40nm,0.5s						
SKR				*e*S	**Sn**	**15 02 40.0**	**+0.9**
SKR				A	A	15 02 57.1	
	110nm,0.7s						
SKR				A	A	15 02 57.1	
	120nm,0.7s						
SKR				AMS	AMS	15 03 12.2	
	200nm,12.0s						
SKR				AMS	AMS	15 03 12.2	
	200nm,12.0s						
SKR				AMS	AMS	15 03 12.2	
	100nm,12.0s						
SKR	**Severo-Kuril's**	**3.75**	**23**	*e*PN	**Pn**	**15 01 55.8**	**-0.5**
SKR				*e*S	**Sn**	**15 02 36.7**	**-2.4**
SKR				pmax	pmax		
	comp=Z,36nm,0.5s						
SKR				smax	smax		
	comp=N,111nm,0.6s						
SKR				smax	smax		
	comp=E,114nm,0.8s						
SKR				MLR	MLR		
	comp=Z,100nm,12.0s						
SKR				MLR	MLR		
	comp=N,200nm,11.0s						
SKR				MLR	MLR		
	comp=E,200nm,13.0s						
KUR	**Kuril'sk**	**4.59**	**246**	*i* P	**Pn**	**15 02 07.8**	**+0.1**
KUR				AMB	AMB	15 02 11.0	
	comp=E,20nm,0.3s						
KUR				AMB	AMB	15 02 11.0	
	comp=E,30nm,0.3s						
KUR				AMB	AMB	15 02 11.0	
	comp=E,30nm,0.6s						
KUR				*i* S	**Sn**	**15 03 00.6**	**+0.9**
KUR				A	A	15 03 12.0	
	comp=E,50nm,0.8s						
KUR				A	A	15 03 12.0	
	comp=E,60nm,0.8s						
KUR	**Kuril'sk**	**4.59**	**246**	⇑*i*PN	**Pn**	**15 02 09.1**	**+1.4**
KUR				*i* S	**Sn**	**15 03 04.6**	**+4.9**
KUR				pmax	pmax		
	comp=E,27nm,0.6s						
KUR				pmax	pmax		
	comp=Z,53nm,0.6s						
KUR				pmax	pmax		
	comp=N,20nm,0.3s						
KUR				smax	smax		
	comp=E,57nm,0.8s						
KUR				smax	smax		
	comp=N,50nm,0.9s						
PAU	**Pauzhetka**	**4.65**	**24**	*e*P	**Pn**	**15 02 07.9**	**-0.7**
PAU				AMB	AMB	15 02 09.7	
	comp=N,20nm,0.5s						
PAU				AMB	AMB	15 02 09.7	
	comp=N,40nm,0.5s						
PAU				*e*S	**Sn**	**15 03 01.1**	**-0.1**
PAU				A	A	15 03 15.9	
	comp=N,220nm,0.7s						
PAU				A	A	15 03 15.9	
	comp=N,220nm,0.7s						
PEA0B	**Petropavlovsk-**	**6.37**	**22**	PN	**Pn**	**15 02 32.1**	**-0.1**
PEA0B	**Petropavlovsk-**	**6.37**	**22**	Pn	**Pn**	**15 02 32.1**	**-0.1**
PETK	**Petropavlovsk-**	**6.37**	**22**	P	**Pn**	**15 02 31.7**	**-0.4**
	comp=N,1.1nm,0.3s,baz=180,slow=8.9,SNR=11						
YUK	**Yuzh-Kuril'sk**	**6.43**	**243**	*e*P	**Pn**	**15 02 33.1**	**+0.1**
YUK				AMB	AMB	15 02 39.0	
	comp=N,30nm,0.4s						
YUK				*e*S	**Sn**	**15 03 45.0**	**0.0**
YUK	**Yuzh-Kuril'sk**	**6.43**	**243**	*e*PN	**Pn**	**15 02 33.1**	**+0.1**
YUK				*e*S	**Sn**	**15 03 45.4**	**+0.4**
YUK				pmax	pmax		
	comp=Z,28nm,0.4s						
PET	**Petropavlovsk**	**6.56**	**27**	*e*P	**Pn**	**15 02 35.0**	**+0.3**
PET	**Petropavlovsk**	**6.56**	**27**	PN	**Pn**	**15 02 35.0**	**+0.3**
PET	**Petropavlovsk**	**6.56**	**27**	Pn	**Pn**	**15 02 35.0**	**+0.3**
GLVR	**Golovnino**	**6.80**	**242**	*e*P	**Pn**	**15 02 37.4**	**-0.6**
GLVR				AMB	AMB	15 02 53.0	
	comp=Z,30nm,0.4s						
GLVR				*e*S	**Sn**	**15 03 53.8**	**-0.2**
GLVR	**Golovnino**	**6.80**	**242**	*e*PN	**Pn**	**15 02 37.4**	**-0.6**
GLVR				S	**Sn**	**15 03 53.8**	**-0.2**
GLVR				pmax	pmax		
	comp=Z,27nm,0.4s						
NMR	**Nemuro--Hokkai**	**6.89**	**239**	*e*P	**Pn**	**15 02 37.9**	**-1.4**
NMR				*e*S	**Sn**	**15 03 53.6**	**-2.7**
NMR	**Nemuro--Hokkai**	**6.89**	**239**	*e*PN	**Pn**	**15 02 37.9**	**-1.4**
YSS	**Yuzh-Sakhalins**	**7.54**	**272**	*e*P	**Pn**	**15 02 49.5**	**+1.3**
YSS				AMB	AMB	15 02 49.7	
	comp=Z,10.0nm,0.4s						
YSS				*e*S	**Sn**	**15 04 14.4**	**+2.1**
YSS				A	A	15 04 15.0	
	comp=Z,80nm,0.3s						
YSS				A	A	15 04 15.0	
	comp=Z,50nm,0.3s						
YSS	**Yuzh-Sakhalins**	**7.54**	**272**	*e*PN	**Pn**	**15 02 47.0**	**-1.2**
YSS				*e*S	**Sn**	**15 04 10.6**	**-1.7**
YSS				smax	smax		
	comp=E,20nm,1.1s						
YSS	**Yuzh-Sakhalins**	**7.54**	**272**	Pn	**Pn**	**15 02 48.1**	**-0.2**
JKA	**Kamikawa-asahi**	**8.45**	**252**	*e*P	**Pn**	**15 03 01.7**	**+1.1**
JKA	**Kamikawa-asahi**	**8.45**	**252**		**Pn**	**15 03 01.6**	**+1.1**
ASAJ	**Asahikawa**	**8.45**	**252**	P	**Pn**	**15 03 01.6**	**+1.0**
	comp=E,0.2nm,0.3s,baz=75,slow=17,SNR=4.9						
MA2	**Magadan**	**12.47**	**353**	P	**Pn**	**15 03 54.1**	**-1.4**
	comp=E,1.4nm,0.3s,baz=161,slow=10,SNR=9.5						
SMY	**Shemya**	**14.14**	**60**	P	**Pn**	**15 04 18.8**	**+0.6**
SMY	**Shemya**	**14.14**	**60**	Pn	**Pn**	**15 04 18.8**	**+0.6**
EKMR	**Ekimchan**	**14.55**	**301**	*e*P	**Pn**	**15 04 24.4**	**+0.7**
MJB9	**Matsu-Tunnel**	**15.76**	**233**	P	**P**	**15 04 43.8**	**+1.1**
MAJO	**Matsushiro**	**15.76**	**233**	P	**P**	**15 04 43.8**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,14nm,1.4s						
MAJO	**Matsushiro**	**15.76**	**233**	P	**P**	**15 04 43.8**	**+1.1**
MJAR	**Matsushiro Arr**	**15.76**	**233**	P	**P**	**15 04 43.9**	**+1.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MJAR	**Matsushiro Arr**	**15.76**	**233**	P	**P**	**15 04 43.9**	**+1.3**
BMKR	**Bomnak**	**17.33**	**305**	*e*P	**Pn**	**15 04 59.0**	**0.0**
KSRS	**Korea Array**	**21.40**	**252**	P	**P**	**15 05 44.9**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=61,slow=8.2,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**29.46**	**154**	T	T	15 38 49.0	
	baz=342						
H11N1	**WAKE ISLAND Hy**	**29.48**	**154**	T	T	15 38 48.8	
	baz=342,slow=74						
H11N3	**WAKE ISLAND Hy**	**29.48**	**154**	T	T	15 38 49.5	
	baz=342,slow=74						
H11S1	**WAKE ISLAND Hy**	**30.57**	**155**	T	T	15 40 13.6	
	baz=343,slow=76,SNR=439						
H11S3	**WAKE ISLAND Hy**	**30.57**	**155**	T	T	15 40 14.8	
	baz=343,slow=76,SNR=431						
H11S2	**WAKE ISLAND Hy**	**30.58**	**155**	T	T	15 40 14.8	
	baz=343,slow=76,SNR=302						
IMAR	**Indian Mountai**	**33.08**	**36**	P	**P**	**15 07 30.9**	**-0.6**
SML	**Sawmill**	**35.28**	**44**	P	**P**	**15 07 49.8**	**-0.8**
MDM	**Murphy Dome**	**35.29**	**39**	P	**P**	**15 07 50.8**	**+0.2**
CCB	**Clear Creek Bu**	**35.46**	**39**	P	**P**	**15 07 51.9**	**-0.2**
CCB				IAmb	IAmb	15 08 55.5	
	comp=Z,8.9nm,1.9s						
DHY	**Denali Highway**	**35.67**	**42**	P	**P**	**15 07 53.4**	**-0.6**
DHY				IAmb	IAmb	15 08 43.4	
	comp=Z,8.9nm,1.6s						
ILAR	**Eielson Array**	**35.86**	**39**	P	**P**	**15 07 54.1**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=254,slow=7.2,SNR=4.9						
BCAR	**Beaver Creek A**	**38.21**	**42**	P	**P**	**15 08 15.8**	**+0.3**
EGAK	**Eagle**	**38.31**	**39**	P	**P**	**15 08 15.4**	**-0.8**
EGAK				IAmb	IAmb	15 08 16.5	
	comp=Z,3.0nm,0.9s						
KURK	**Kurchatov**	**47.47**	**303**	P	**P**	**15 09 28.1**	**-2.4**
KURK	**Kurchatov**	**47.47**	**303**	P	**P**	**15 09 28.1**	**-2.4**
KURK				IAmb	IAmb	15 10 57.0	
	comp=Z,12nm,2.0s						
NVAR	**Mina Array Bea**	**61.78**	**63**	P	**P**	**15 11 15.2**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=298,slow=7.4,SNR=6.9						
PDAR	**Pinedale Array**	**64.07**	**54**	P	**P**	**15 11 30.2**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=321,slow=2.3,SNR=6.6						
PDAR	**Pinedale Array**	**64.07**	**54**	P	**P**	**15 11 29.7**	**0.0**
SRU	**San Rafael Swe**	**65.95**	**58**	P	**P**	**15 11 42.4**	**+0.4**
SRU	**San Rafael Swe**	**65.95**	**58**	P	**P**	**15 11 42.4**	**+0.4**
PV17	**East Wray Mesa**	**67.41**	**58**	P	**P**	**15 11 51.0**	**-0.3**
PV13	**Radium Mtn., P**	**67.57**	**58**	P	**P**	**15 11 52.9**	**+0.5**
PV13				IAmb	IAmb	15 11 53.6	
	comp=Z,1.8nm,0.6s						
ASAR	**Alice Springs**	**72.84**	**199**	P	**P**	**15 12 24.8**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=3.5,slow=5.8,SNR=4.8						
TX31	**Lajitas Ar. Si**	**76.83**	**61**	P	**P**	**15 12 47.7**	**+0.1**
TX32	**Lajitas Array**	**76.83**	**61**	P	**P**	**15 12 47.7**	**+0.1**
TX32				IAmb	IAmb	15 12 48.7	
	comp=Z,2.0nm,0.7s						
TXAR	**Lajitas Array**	**76.83**	**61**	P	**P**	**15 12 48.0**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=300,slow=4.2,SNR=23						
TXAR	**Lajitas Array**	**76.83**	**61**	P	**P**	**15 12 47.7**	**+0.1**
TXAR	**Lajitas Array**	**76.83**	**61**	P	**P**	**15 12 47.7**	**+0.1**

*NIED **06** 15:12:03.3, 38.89N×142.09E, h46km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}1.87; $M_{\vartheta\vartheta}$-0.27; $M_{\phi\phi}$-1.59; $M_{r\vartheta}$0.53; $M_{\vartheta\phi}$-0.28; $M_{\phi r}$2.47; Fault plane solution: $M_0$3.08000×10¹⁵ NP1:ϕs12.00000°, δ73.00000°, λ90.00000°. NP2:ϕs191.00000°, δ17.00000°, λ89.00000°.*
*JMA **06** 15:12:03.3±0.1, 38.89N×142.09E, h46km±1km, M4.2*
JMA Felt II J1.
*NEIC **06** 15:12:05.1±1.3, 38.94N±0.08×142.1E±0.1, h60km±7km, mb4.6/28, Error ellipse: s-maj=16.6km s-min=9.3km az=115.0*
*IDC **06** 15:12:05.5±1.9, 38.92N×142.05E, h64km±15km, mb3.9/18, mb1 4.0/25, mb1mx3.8/63, mbtmp4.2/25, MS3.2/5, Ms1 3.2/5, ms1mx2.9/47, Error ellipse: s-maj=21.5km s-min=12.2km az=116.0*

ISC 06 15:12:03.5±1.3, 38.89N±0.05×142.12E±0.09, h46km±9km, n98, σ1§30/103, mb4.4/32, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.40**	**299**	P	**Pn**	**15 12 13.0**	**-0.4**
OFUJ				S	**Sn**	**15 12 19.5**	**-0.9**
JKMT	**Kesennumamotoy**	**0.51**	**262**	P	**Pn**	**15 12 14.0**	**-0.7**
JKMT				*e*S	**Sn**	**15 12 21.4**	**-1.3**
JMK	**Ichinoseki**	**0.71**	**275**	P	**Pn**	**15 12 16.6**	**-0.6**
JMK				*e*S	**Sn**	**15 12 26.0**	**-1.1**
JIO	**Ouri**	**0.74**	**235**	P	**Pn**	**15 12 16.9**	**-0.8**
JIO				S	**Sn**	**15 12 26.2**	**-1.8**
JOM	**Ohasama**	**0.87**	**312**	P	**Pn**	**15 12 19.1**	**-0.3**
JOM				*e*S	**Sn**	**15 12 30.3**	**-0.7**
JTH	**Tanohata**	**1.07**	**349**	P	**Pn**	**15 12 21.6**	**-0.5**
JOU	**Okura**	**1.25**	**246**	P	**Pn**	**15 12 24.1**	**-0.6**
JRG	**Rokugo**	**1.26**	**294**	P	**Pn**	**15 12 24.5**	**-0.3**
JYK	**Kaneyama**	**1.38**	**272**	P	**Pn**	**15 12 25.9**	**-0.4**
JMM	**Marumori**	**1.46**	**226**	P	**Pn**	**15 12 26.5**	**-0.9**
JMM				S	**Sn**	**15 12 44.5**	**-0.9**
JANG	**Nango**	**1.56**	**343**	P	**Pn**	**15 12 28.4**	**-0.4**
JANG				S	**Sn**	**15 12 47.6**	**-0.2**
ERM	**Erimo**	**3.22**	**14**		**Pn**	**15 12 52.0**	**+0.5**
MJAR	**Matsushiro Arr**	**3.89**	**234**	P	**Pn**	**15 13 01.4**	**+0.6**
	2.0nm,0.3s,baz=34,slow=12,SNR=69						
MJAR				S	**Sn**	**15 13 51.0**	**+5.9**
	0.7nm,0.3s,baz=289,slow=28,SNR=4.5						
MJAR				LR	LR	15 14 41.5	
	comp=Z,274nm,19.8s,baz=70,slow=41						
MJAR	**Matsushiro Arr**	**3.89**	**234**		**Pn**	**15 13 00.2**	**-0.6**
MAJO	**Matsushiro**	**3.89**	**234**	Pn	**Pn**	**15 13 02.0**	**+1.2**
MAT	**Matsushiro**	**3.89**	**234**	P	**Pn**	**15 13 02.1**	**+1.3**
MAT				*e*S	**Sn**	**15 13 47.9**	**+2.7**
MJB9	**Matsu-Tunnel**	**3.89**	**234**	Pn	**Pn**	**15 13 01.8**	**+1.0**
ASAJ	**Asahikawa**	**5.24**	**4**	P	**Pn**	**15 13 20.0**	**+0.8**
	2.5nm,0.3s,baz=201,slow=16,SNR=16						
ASAJ				S	**Sn**	**15 14 20.7**	**+2.4**
	3.3nm,0.3s,baz=139,slow=27,SNR=4.3						
JKA	**Kamikawa-asahi**	**5.24**	**4**		**Pn**	**15 13 19.4**	**+0.2**
JKA	**Kamikawa-asahi**	**5.24**	**4**		**Sn**	**15 14 20.7**	**+2.4**
INU	**Inuyama**	**5.39**	**231**	Pn	**Pn**	**15 13 22.9**	**+1.4**
JHJ	**Hachijo jima 2**	**6.06**	**199**	P	**Pn**	**15 13 33.6**	**+3.1**
	22nm,0.3s,baz=117,slow=18,SNR=2.1						
JHJ				S	**Sn**	**15 14 36.4**	**-2.2**
	39nm,0.3s,baz=245,slow=24,SNR=1.8						
USA0B	**Ussuriysk Arra**	**9.26**	**308**	Pn	**Pn**	**15 14 17.4**	**+3.0**
USRK	**Ussuriysk Ar.**	**9.26**	**308**	P	**Pn**	**15 14 14.9**	**+0.5**
	baz=120,slow=11,SNR=32						
USRK				LR	LR	15 17 50.1	
	comp=Z,170nm,19.6s,baz=116,slow=38						
USRK	**Ussuriysk Ar.**	**9.26**	**308**		**Pn**	**15 14 17.3**	**+2.9**
JNU	**Nakatsue**	**10.77**	**241**	P	**Pn**	**15 14 36.9**	**+1.8**
	0.8nm,0.3s,baz=350,slow=5.0,SNR=6.8						
JNU				LR	LR	15 18 24.1	
	comp=Z,205nm,20.6s,baz=354,slow=35						
KSRS	**Korea Array**	**11.27**	**267**	P	**Pn**	**15 14 44.0**	**+2.1**
	0.3nm,0.3s,baz=82,slow=13,SNR=19						
KSRS				LR	LR	15 18 38.7	
	comp=Z,95nm,21.8s,baz=95,slow=35						
KSAR	**Wonju Array Be**	**11.30**	**267**	Pn	**Pn**	**15 14 45.7**	**+3.3**
KS19	**Wonju Array Si**	**11.30**	**267**	Pn	**Pn**	**15 14 45.3**	**+3.0**
KLR	**Kul'dur**	**12.73**	**328**	P	**Pn**	**15 15 02.8**	**+1.0**
	0.1nm,0.3s,baz=130,slow=15,SNR=8.6						
KLR				LR	LR	15 19 42.7	
	comp=Z,179nm,21.6s,baz=164,slow=36						
NJ2	**Nanjing**	**20.11**	**257**	*e*P	**P**	**15 16 33.9**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MA2	**Magadan**	**21.43**	**12**	P	**P**	**15 16 47.5**	**+0.1**
	comp=Z,9.4nm,0.9s,baz=189,slow=8.0,SNR=4.9						
MA2	**Magadan**	**21.43**	**12**	P	**P**	**15 16 47.4**	**0.0**
MA2				IAmb	IAmb	15 16 49.2	
	comp=Z,19nm,1.2s						
YOJ	**Yonaguni jima**	**21.65**	**234**	P	**P**	**15 16 51.5**	**+1.5**
HHC	**Hu-ho-hao-te**	**23.48**	**285**	*e*P	**P**	**15 17 07.7**	**-1.4**
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,170nm,4.5s						
HHC				LR	LR		
	comp=N,330nm,10.1s						
HHC				LR	LR		
	comp=E,280nm,12.0s						
HHC				LR	LR		
	comp=Z,240nm,10.8s						
TPUB	**Ta-pu**	**24.00**	**236**	P	**P**	**15 17 14.3**	**+0.4**
WHN	**Wuhan**	**24.23**	**258**	P	**P**	**15 17 15.7**	**-0.2**
YAK	**Yakutsk**	**24.40**	**346**	P	**P**	**15 17 16.4**	**-0.8**
	comp=Z,14nm,0.7s,baz=354,slow=3.3,SNR=10						
YAK	**Yakutsk**	**24.40**	**346**	P	**P**	**15 17 15.7**	**-1.5**
YAK				IAmb	IAmb	15 17 18.1	
	comp=Z,19nm,0.7s						
SONM	**Songino Array**	**27.27**	**301**	P	**P**	**15 17 43.2**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=104,slow=6.3,SNR=6.6						
SONM	**Songino Array**	**27.27**	**301**	P	**P**	**15 17 43.9**	**+0.4**
ENH	**Enshi**	**28.09**	**262**	P	**P**	**15 17 48.4**	**-2.5**
ENH				IAmb	IAmb	15 17 53.5	
	comp=Z,14nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.68**	**125**	T	T	15 48 17.9	
	baz=322,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.69**	**125**	T	T	15 48 18.6	
	baz=322,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	15 48 19.4	
	baz=322,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.45**	**127**	T	T	15 49 19.5	
	baz=320,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.46**	**127**	T	T	15 49 19.7	
	baz=320,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.47**	**127**	T	T	15 49 21.8	
	baz=320,slow=76						
LZH	**Lanzhou**	**30.36**	**277**	*e*P	**P**	**15 18 10.0**	**-1.1**
LZH				pP	pP	15 18 24.9	+1.6
LZH				sP	sP	15 18 32.2	+3.4
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
KMI	**Kunming**	**

KLMR	**Klimovskoe**	**62.49**	327	*e*P		**P**	**15 22 20.6 -1.2**
KLMR				AMP			15 22 28.1
	comp=Z,9.0nm,1.5s						
ASAR	**Alice Springs**	**62.70**	188	P		**P**	**15 22 22.9 -0.7**
	comp=Z,2.5nm,0.8s,baz=352,slow=6.5,SNR=1.3						
GEYT	**Alibeck**	**63.44**	298	P		**P**	**15 22 27.7 -0.8**
	comp=Z,2.1nm,0.8s,baz=26,slow=3.8,SNR=4.4						
GEYT	**Alibeck**	**63.44**	298	P		**P**	**15 22 28.0 -0.5**
FIA1	**FINESS Array S**	**67.44**	332	P		**P**	**15 22 53.7 -0.1**
FINES	**FINESS Array B**	**67.44**	332	P		**P**	**15 22 53.6 -0.2**
	comp=Z,3.7nm,0.7s,baz=46,slow=8.2,SNR=14						
FINES	**FINESS Array B**	**67.44**	332	P		**P**	**15 22 53.3 -0.6**
KBZ	**Khabaz**	**70.12**	310	P		**P**	**15 23 11.6 +0.7**
	comp=Z,4.4nm,0.9s,baz=290,slow=3.7,SNR=4.7						
NC405	**NORSAR Array S**	**72.49**	337	P		**P**	**15 23 25.5 +0.5**
NC204	**NORSAR Array S**	**72.64**	338	P		**P**	**15 23 25.9 0.0**
NB2	**NORSAR Subarra**	**72.69**	337	P		**P**	**15 23 25.9 -0.3**
	comp=Z,0.5nm,0.6s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**72.69**	337	P		**P**	**15 23 25.9 -0.3**
	comp=Z,1.8nm,0.9s,baz=38,slow=5.9,SNR=6.5						
AKASG	**Malin Array Be**	**73.17**	322	P		**P**	**15 23 28.7 -0.5**
	comp=Z,1.7nm,0.5s,baz=41,slow=7.0,SNR=8.1						
AKASG	**Malin Array Be**	**73.17**	322	IAmb		IAmb	15 23 30.0
	comp=Z,0.9nm,0.7s						
BUR08	**Bucovina Ar. S**	**77.19**	322	P		**P**	**15 23 52.4 0.0**
BURAR	**Bucovina Array**	**77.20**	322	P		**P**	**15 23 52.3 -0.3**
BR131	**Keskin Array S**	**78.04**	312	P		**P**	**15 23 57.5 +0.1**
BRTR	**Keskin Array B**	**78.04**	312	P		**P**	**15 23 56.8 -0.6**
	comp=Z,0.9nm,0.4s,baz=105,slow=3.6,SNR=5.0						
BRTR	**Keskin Array B**	**78.04**	312	P		**P**	**15 23 57.3 -0.1**
MORC	**Moravsky Berou**	**79.11**	327	P		**P**	**15 24 03.2 +0.3**
CLL	**Collm**	**79.77**	330	*i* P		**P**	**15 24 06.3 -0.1**
	comp=Z,5.0nm,1.0s						
KHC	**Kasperske Hory**	**81.25**	329	P		**P**	**15 24 13.7 -0.8**
GERES	**GERESS Array B**	**81.43**	328	P		**P**	**15 24 15.1 -0.4**
	comp=Z,0.9nm,0.7s,baz=37,slow=7.4,SNR=5.4						
FUORN	**Ofenpass-Fuorn**	**84.60**	329	P		**P**	**15 24 31.8 -0.4**

*IDC **06** 15:16:13.9±0.5, 7°27S×128°03E, h0km, mb4.5/19, mb1 4.6/27, mb1mx4.5/44, mbtmp4.6/27, ML4.4/7, MS3.7/17, Ms1 3.7/17, ms1mx3.5/37, Error ellipse: s-maj=16.6km s-min=10.9km az=73.0*

*NEIC **06** 15:16:15.4±1.6, 7°24S±0°06×128°01E±0°06, h10km±1km, mb4.9/60, Error ellipse: s-maj=10.6km s-min=9.7km az=30.0*

*DJA **06** 15:16:19.0±0.2, 7°S±2°×12°8E±°, h51km±4km, M4.7/28, mb5.1/28, mB5.3/13, MLv4.7/14, Mw(mB)4.7/13*

*KLM **06** 15:16:22.0, 7.07°S×127.96E, h51km, mb5.2*

ISC 06 15:16:15.4±0.3, 7°28S±0°04×128°10E±0°04, h10km, n175, σ1°69/178, mb4.8/48, MS3.7/16, 1C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.25**	**103**	P	**Pn**	**15 17 09.2**	**+2.7**
SAUI				S	**Sn**	**15 17 46.6**	**+1.3**
SAUI	**Saumlaki**	**3.25**	**103**	Pn	**Pn**	**15 17 10.1**	**+3.7**
BNDI	**Bandanaira**	**3.28**	**33**	P	**Pn**	**15 17 07.1**	**+0.3**
BNDI				S	**Sn**	**15 17 42.9**	**-2.9**
AAI	**Ambon**	**3.57**	**2**	P	**Pn**	**15 17 08.8**	**-2.0**
AAI				S	**Sn**	**15 17 47.2**	**-5.9**
MSAI	**Masohi**	**3.99**	**12**	P	**Pn**	**15 17 14.6**	**-2.1**
NLAI	**Namlea**	**4.13**	**346**	P	**Pn**	**15 17 18.5**	**-0.1**
SOEI	**Soe**	**4.52**	**237**	P	**Pn**	**15 17 26.6**	**+2.6**
SOEI	**Soe**	**4.52**	**237**	Pn	**Pn**	**15 17 26.0**	**+2.0**
BATI	**Baumata**	**5.26**	**236**	Pn	**Pn**	**15 17 35.2**	**+1.1**
	28nm,0.3s,baz=127,slow=2.2,SNR=28						
BATI				Sn	**Sn**	**15 18 36.6**	**+1.8**
	2.8nm,0.3s,baz=132,slow=18,SNR=2.2						
BATI	**Baumata**	**5.26**	**236**	P	**Pn**	**15 17 36.4**	**+2.3**
	1.6nm4µm506nm,1.0s						
SANI	**Sanana**	**5.60**	**338**	P	**Pn**	**15 17 38.0**	**-0.8**
	0.4nm1µm135nm,0.8s						
MMRI	**Maumere**	**5.96**	**257**	P	**Pn**	**15 17 45.8**	**+2.1**
	1.4nm4µm393nm,1.0s						
MMRI	**Maumere**	**5.96**	**257**	Pn	**Pn**	**15 17 45.1**	**+1.4**
FAKI	**Fak Fak**	**5.99**	**44**	P	**Pn**	**15 17 45.4**	**+1.3**
	0.4nm1µm121nm,0.7s						
FAKI	**Fak Fak**	**5.99**	**44**	Pn	**Pn**	**15 17 44.7**	**+0.6**
MTN	**Manton Dam**	**6.29**	**152**	Pn	**Pn**	**15 17 50.2**	**+2.0**
SIJI	**Sorong**	**7.11**	**27**	Pn	**Pn**	**15 17 60.0**	**+0.4**
	5.8nm,0.3s,baz=207,slow=13,SNR=19						
SIJI				Sn	**Sn**	**15 19 14.0**	**-6.4**
	2.7nm,0.3s,baz=244,slow=23,SNR=6.8						
TNTI	**Ternate**	**8.03**	**355**	Pn	**Pn**	**15 18 12.7**	**+0.5**
LUWI	**Luwuk**	**8.16**	**319**	P	**Pn**	**15 18 12.5**	**-1.4**
	10µm125nm,0.8s						
LUWI	**Luwuk**	**8.16**	**319**	Pn	**Pn**	**15 18 12.9**	**-1.0**
KNRA	**Kununurra**	**8.37**	**176**	Pn	**Pn**	**15 18 17.3**	**+0.4**
BNSI	**Bone**	**8.45**	**289**	P	**Pn**	**15 18 17.6**	**-0.3**
	1µm128nm,0.8s						
KAPI	**Kappang**	**8.60**	**285**	Pn	**Pn**	**15 18 18.7**	**-1.3**
	3.8nm,0.3s,baz=155,slow=13,SNR=7.6						
KAPI	**Kappang**	**8.60**	**285**		**Pn**	**15 18 20.1**	**+0.1**
SPSI	**Sidrap Palu**	**8.92**	**291**	P	**Pn**	**15 18 25.1**	**+0.8**
	2µm192nm,1.1s						
GTOI	**Gorontalo**	**9.36**	**327**	P	**Pn**	**15 18 33.4**	**+3.0**
	42nm,0.7s						
PLAI	**Plampang**	**10.33**	**261**	P	**Pn**	**15 18 44.8**	**+1.0**
	102nm,0.7s						
FITZ	**Fitzroy Crossi**	**11.02**	**192**	Pn	**Pn**	**15 18 52.3**	**-0.8**
	2.1nm,0.3s,baz=25,slow=10,SNR=34						
FITZ				Sn	**Sn**	**15 20 52.0**	**-4.5**
	2.9nm,0.3s,baz=63,slow=17,SNR=2.4						
FITZ				LR	LR	15 23 39.7	
	comp=Z,578nm,20.8s,baz=22,slow=40						
FITZ	**Fitzroy Crossi**	**11.02**	**192**	Pn	**Pn**	**15 18 52.5**	**-0.6**
MPSI	**Mapaga**	**11.14**	**312**	P	**Pn**	**15 18 54.9**	**+0.1**
	24nm,0.9s						
TWSI	**Taliwang, Sumb**	**11.20**	**262**	P	**Pn**	**15 18 55.8**	**+0.1**
	24nm,0.8s						
SMPI	**Sarmi**	**11.81**	**64**	P	**Pn**	**15 19 05.1**	**+1.1**
	24nm,1.1s						
JAY	**Jayapura**	**13.42**	**70**	Pn	**Pn**	**15 19 26.0**	**-0.1**
	0.5nm,0.3s,baz=242,slow=13,SNR=3.6						
WB0	**Warramunga Arr**	**13.84**	**154**		**Pn**	**15 19 28.8**	**-2.9**
WRAB	**Tennant Creek**	**13.97**	**155**		**Pn**	**15 19 30.4**	**-3.1**
WRA	**Warramunga Arr**	**13.97**	**155**	Pn	**Pn**	**15 19 31.6**	**-1.9**
	4.3nm,0.3s,baz=323,slow=13,SNR=131						
WRA				Sn	**Sn**	**15 22 02.3**	**-6.6**
	2.3nm,0.3s,baz=335,slow=22,SNR=5.5						
WRA				LR	LR	15 25 43.3	
	comp=Z,304nm,19.1s,baz=255,slow=41						
WRA	**Warramunga Arr**	**13.97**	**155**		Pn	15 19 29.4	-4.2
WB2	**Warramunga Arr**	**13.97**	**155**	Pn	**Pn**	**15 19 30.6**	**-3.0**
WR0	**Warramunga Arr**	**14.07**	**154**	Pn	**Pn**	**15 19 31.7**	**-3.2**
MYLDM	**Lahad Datu**	**15.65**	**322**	P	**P**	**15 19 59.7**	**-0.6**
MYLDM					IAmb	IAmb	15 20 17.5
	comp=Z,84nm,1.0s						
COEN	**Coen**	**16.23**	**115**	Pn	**Pn**	**15 20 02.5**	**-1.2**
COEN					IAmb	IAmb	15 20 16.4
	comp=Z,57nm,0.8s						
PSA00	**Pilbara Seismi**	**16.29**	**208**	Pn	**Pn**	**15 20 00.7**	**-3.8**
PSA00	**Pilbara Seismi**	**16.29**	**208**	Pn	**Pn**	**15 20 03.0**	**-1.5**
PSA00					IAmb	IAmb	15 20 21.4
	comp=Z,19nm,0.7s						
AS31	**Alice Springs**	**17.22**	**162**	P	**Pn**	**15 20 13.8**	**-2.5**
ASAR	**Alice Springs**	**17.22**	**162**	P	**Pn**	**15 20 14.8**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=338,slow=10,SNR=126						
ASAR				S	**Sn**	**15 23 20.9**	**-7.1**
	comp=Z,0.8nm,0.3s,baz=317,slow=16,SNR=4.3						
ASAR				LR	LR	15 27 31.3	
	comp=Z,338nm,20.1s,baz=330,slow=39						
ASAR	**Alice Springs**	**17.22**	**162**	Pn	**Pn**	**15 20 14.7**	**-1.5**
KKM	**Kota Kinabalu**	**17.77**	**318**	P	**P**	**15 20 23.8**	**-0.1**
SBUM	**Sibu**	**18.56**	**301**		**Pn**	**15 20 33.0**	**+0.3**
SBUM	**Sibu**	**18.56**	**301**	P	**Pn**	**15 20 35.0**	**+2.3**
PMG	**Port Moresby**	**18.98**	**98**	P	**P**	**15 20 38.1**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=277,slow=8.1,SNR=7.9						
PMG				LR	LR	15 29 05.7	
	comp=Z,232nm,21.4s,baz=16,slow=40						
PMG	**Port Moresby**	**18.98**	**98**		**Pn**	**15 20 39.8**	**+2.0**
PMG				IAmb	IAmb	15 21 05.0	
	comp=Z,96nm,1.1s						
KSM	**Kuching**	**19.76**	**295**	P	**Pn**	**15 20 45.8**	**-1.4**
KSM				IAmb	IAmb	15 20 54.4	
	comp=Z,85nm,1.3s						
KSM	**Kuching**	**19.76**	**295**	P	**Pn**	**15 20 47.0**	**-0.3**
CISI	**Cisompet, Garu**	**20.11**	**268**	P	Pn	15 20 50.1	-1.3
CISI					IAmb	IAmb	15 21 29.9
	comp=Z,129nm,1.3s						
GIRL	**Giralia**	**20.29**	**220**		Pn	15 20 52.9	-0.4
LEM	**Lembang**	**20.33**	**270**	LR	LR	15 30 03.8	
	comp=Z,396nm,18.2s,baz=26,slow=41						

CTA	**Charters Tower**	**21.73**	**128**	P		**P**	**15 21 08.3 +1.3**
	comp=Z,4.3nm,0.9s,baz=310,slow=16,SNR=1.7						
CTAO	**Charters Tower**	**21.73**	**128**	P		**P**	**15 21 08.3 +1.3**
CTAO				IAmb		IAmb	15 21 24.2
	comp=Z,151nm,1.9s						
TGY	**Tagaytay City**	**22.40**	**341**	LR		LR	15 31 28.9
	comp=Z,113nm,21.2s,baz=126,slow=41						
FORT	**Forrest**	**23.38**	**180**	P		**P**	**15 21 24.5 +0.2**
MORW	**Morawa**	**24.48**	**206**	P		**P**	**15 21 34.6 -0.1**
BBOO	**Buckleboo**	**26.46**	**165**	P		**P**	**15 21 52.6 -0.1**
NWAO	**Narrogin (SRO)**	**27.44**	**200**	P		**P**	**15 22 01.6 +0.1**
	comp=Z,19nm,0.8s,baz=44,slow=7.5,SNR=11						
NWAO	**Narrogin (SRO)**	**27.44**	**200**	P		**P**	**15 22 01.3 -0.2**
NWAO	**Narrogin (SRO)**	**27.44**	**200**	P		**P**	**15 22 01.3 -0.2**
NWAO				IAmb		IAmb	15 22 09.1
	comp=Z,28nm,0.8s						
STKA	**Stephens Creek**	**27.52**	**155**	P		**P**	**15 22 03.0 +0.7**
	comp=Z,16nm,0.7s,baz=326,slow=9.5,SNR=50						
STKA				LR		LR	15 34 00.4
	comp=Z,302nm,18.7s,baz=331,slow=39						
STKA	**Stephens Creek**	**27.52**	**155**	P		**P**	**15 22 02.5 +0.2**
KULM	**Kulim**	**30.10**	**294**	P		**P**	**15 22 25.9 +0.5**
KULM	**Kulim**	**30.10**	**294**	P		**P**	**15 22 28.0 +2.6**
RPSI	**Rantau Prapat**	**30.75**	**288**	P		**P**	**15 22 31.2 0.0**
CAN	**Canberra**	**33.87**	**148**	P		**P**	**15 23 00.6 +2.2**
TOO	**Toolangi**	**34.04**	**155**	P		**P**	**15 23 01.7 +1.9**
CM31	**Chiang Mai Arr**	**38.49**	**312**	P		**P**	**15 23 36.7 -1.3**
CMAR	**Chiang Mai Arr**	**38.49**	**312**	P		**P**	**15 23 37.5 -0.5**
	comp=Z,2.3nm,0.8s,baz=143,slow=7.0,SNR=20						
CMAR				PcP		**PcP**	**15 25 51.1 0.0**
	comp=Z,0.8nm,0.6s,baz=159,slow=2.8,SNR=3.5						
CMAR				LR		LR	15 43 33.5
	comp=Z,29nm,18.3s,baz=125,slow=43						
CMAR	**Chiang Mai Arr**	**38.49**	**312**	P		**P**	**15 23 37.0 -1.0**
CHTO	**Chiang Mai**	**38.71**	**312**	P		**P**	**15 23 38.8 -1.1**
NJ2	**Nanjing**	**40.09**	**348**	*e*P		**P**	**15 23 53.0 +1.8**
NJ2				pmax		pmax	
	comp=Z,6.0nm,0.5s						
JNU	**Nakatsue**	**40.26**	**4**	LR		LR	15 38 04.2
	comp=Z,101nm,20.3s,baz=168,slow=32						
JNU	**Nakatsue**	**40.26**	**4**	P		**P**	**15 23 52.5 -0.1**
JNU				IAmb		IAmb	15 24 28.7
	comp=Z,36nm,1.5s						
KMI	**Kunming**	**40.58**	**323**	P		**P**	**15 23 58.6 +3.0**
KMI				pP		pwP	15 24 08.7 +6.0
KMI				pmax		pmax	
	comp=Z,26nm,0.9s						
JHJ	**Hachijo jima 2**	**41.68**	**15**	LR		LR	15 38 59.7
	comp=Z,112nm,20.6s,baz=114,slow=33						
KSRS	**Korea Array**	**44.50**	**360**	P		**P**	**15 24 27.7 +0.7**
	comp=Z,5.0nm,0.9s,baz=181,slow=11,SNR=10						
CD2	**Chengdu**	**44.56**	**330**	P		**P**	**15 24 29.6 +1.9**
CD2				pmax		pmax	
	comp=Z,20nm,0.5s						
MAJO	**Matsushiro**	**44.61**	**12**			**P**	**15 24 27.2 -0.7**
MAJO				IAmb		IAmb	15 24 34.2
	comp=Z,13nm,0.9s						
MAT	**Matsushiro**	**44.61**	**12**	P		**P**	**15 24 27.0 -1.0**
MJAR	**Matsushiro Arr**	**44.61**	**12**	P		**P**	**15 24 27.5 -0.5**
	comp=Z,7.6nm,0.9s,baz=192,slow=9.6,SNR=13						
MJAR				LR		LR	15 42 46.5
	comp=Z,80nm,19.4s,baz=280,slow=36						
MJAR	**Matsushiro Arr**	**44.61**	**12**	P		**P**	**15 24 27.0 -1.0**
MJB9	**Matsu-Tunnel**	**44.61**	**12**			**P**	**15 24 27.1 -0.9**
MJB9				IAmb		IAmb	15 24 34.1
	comp=Z,14nm,0.9s						
XAN	**Xi'an**	**44.93**	**337**	P		**P**	**15 24 29.5 -1.1**
XAN				pmax		pmax	
	comp=Z,6.0nm,0.7s						
XAN	**Xi'an**	**44.93**	**337**	P		**P**	**15 24 28.7 -2.0**
XAN				IAmb		IAmb	15 24 41.2
	comp=Z,7.9nm,0.8s						
BJI	**Beijing**	**48.35**	**348**	P		**P**	**15 25 00.9 +3.6**
BJI				pmax		pmax	
	comp=Z,6.0nm,0.8s						
BJI				LR		LR	
	comp=Z,260nm,6.2s						
BJI				LR		LR	
	comp=Z,250nm,6.2s						
LZH	**Lanzhou**	**48.79**	**334**	*e*P		**P**	**15 25 01.0 +0.1**
LZH				pP		pwP	15 25 11.2 +3.1
LZH				sP		sP	15 25 18.4 +15
LZH				*e*PP		**PP**	**15 26 56.2 +1.9**
LZH				pmax		pmax	
	comp=Z,18nm,1.0s						
LZH				pmax		pmax	
	comp=Z,64nm,4.9s						
HHC	**Hu-ho-hao-te**	**50.25**	**344**	*e*P		**P**	**15 25 11.8 -0.1**
HHC				pmax		pmax	
	comp=Z,20nm,1.1s						
HHC				pmax		pmax	
	comp=Z,83nm,5.1s						
HHC				LR		LR	
	comp=Z,230nm,14.4s						
HHC				LR		LR	
	comp=Z,370nm,14.3s						
HHC				LR		LR	
	comp=Z,300nm,14.2s						
LSA	**Lhasa**	**51.11**	**318**	P		**P**	**15 25 18.5 -0.6**
LSA				IAmb		IAmb	15 25 38.4
	comp=Z,11nm,1.1s						
USA0B	**Ussuriysk Arra**	**51.36**	**4**	P		**P**	**15 25 20.4 +0.3**
USRK	**Ussuriysk Ar.**	**51.36**	**4**	P		**P**	**15 25 20.5 +0.4**
	comp=Z,4.2nm,0.7s,baz=188,slow=7.2,SNR=16						
USRK				LR		LR	15 47 37.4
	comp=Z,70nm,19.1s,baz=159,slow=37						
MDJ	**Mudanjiang**	**51.67**	**1**	P		**P**	**15 25 22.6 +0.2**
MDJ				pmax		pmax	
	comp=Z,5.0nm,0.4s						
MDJ				pmax		pmax	
	comp=Z,190nm,5.3s						
LBZ	**Lake Benmore**	**52.01**	**142**	P		**P**	**15 25 26.1 +1.1**
RPZ	**Rata Peaks**	**52.18**	**141**	P		**P**	**15 25 28.1 +1.7**
	comp=Z,21nm,0.6s,baz=320,slow=5.7,SNR=5.0						
ASAJ	**Asahikawa**	**52.81**	**13**	LR		LR	15 46 28.5
	comp=Z,77nm,20.9s,baz=204,slow=34						
KHZ	**Kahutara**	**53.13**	**139**	P		**P**	**15 25 34.0 +0.7**
MQZ	**McQueen's Vall**	**53.18**	**141**	P		**P**	**15 25 33.8 +0.1**
GTA	**Gaotai**	**53.33**	**333**	*e*P		**P**	**15 25 34.4 -0.6**
GTA				pmax		pmax	
	comp=Z,5.0nm,0.8s						
GTA				pmax		pmax	
	comp=Z,95nm,4.9s						
GTA				LR		LR	
	comp=Z,120nm,17.5s						
GTA				LR		LR	
	comp=Z,160nm,20.0s						
GTA				LR		LR	
	comp=Z,77nm,19.4s						
BKZ	**Black Stump Fm**	**53.76**	**134**	P		**P**	**15 25 38.2 +0.1**
URZ	**Urewera**	**53.85**	**133**	P		**P**	**15 25 38.8 0.0**
	comp=Z,9.5nm,0.9s,baz=306,slow=8.7,SNR=1.6						
URZ	**Urewera**	**53.85**	**133**	P		**P**	**15 25 38.7 0.0**
ULN	**Ulaanbaatar**	**57.97**	**343**			**P**	**15 26 08.1 -0.1**
ULN				IAmb		IAmb	15 26 16.3
	comp=Z,23nm,1.2s						
SONM	**Songino Array**	**58.13**	**343**	P		**P**	**15 26 09.5 +0.2**
	comp=Z,4.1nm,0.9s,baz=160,slow=7.4,SNR=14						
SONM	**Songino Array**	**58.13**	**343**			**P**	**15 26 08.7 -0.6**
WMQ	**Urumqi**	**62.61**	**328**	*e*P		**P**	**15 26 37.8 -2.2**
WMQ				pP		pwP	15 26 47.5 +1.2
WMQ				sP		sP	15 26 56.5 +13
WMQ				LR		LR	
	comp=Z,450nm,29.2s						
WMQ				LR		LR	
	comp=Z,1µm,29.0s						
WMQ				LR		LR	
	comp=Z,140nm,29.9s						
PEA0B	**Petropavlovsk-**	**65.19**	**19**	P		**P**	**15 26 56.9 +0.2**
PETK	**Petropavlovsk-**	**65.19**	**19**	P		**P**	**15 26 56.9 +0.2**
	comp=Z,3.8nm,0.8s,baz=194,slow=3.7,SNR=6.9						
PETK				LR		LR	15 51 16.7
	comp=Z,26nm,20.9s,baz=241,slow=32						
PETK	**Petropavlovsk-**	**65.19**	**19**	P		**P**	**15 26 57.0 +0.3**
NIL	**Nilore**	**65.98**	**312**	P		**P**	**15 27 01.8 -0.5**
ZSN	**Zaisan**	**66.54**	**330**	*e*P		**P**	**15 27 04.9 -0.6**
	baz=329						
SHLS	**Shalkode**	**66.80**	**323**	*e*P		**P**	**15 27 05.7 -1.7**
	comp=Z,4.5nm,0.9s,baz=323						
KSH	**Kashi**	**66.96**	**318**	*e*P		**P**	**15 27 08.8 +0.3**
KSH				pmax		pmax	
	comp=Z,18nm,1.0s						
TARG	**Taragay, Kyrgy**	**66.99**	**321**	P		**P**	**15 27 09.2 +0.2**
TARG				IAmb		IAmb	15 27 16.8
	comp=Z,7.7nm,0.9s						

UZB	**Uzynbulak**	**67.05**	**323**	*e*P		**P**	**15 27 08.7 -0.4**
	comp=Z,2.7nm,0.8s,baz=323						
SATY	**Saty**	**67.37**	**323**	*e*P		**P**	**15 27 10.8 -0.3**
	comp=Z,6.6nm,0.9s,baz=322						
MK31	**Makanchi Array**	**67.44**	**328**	P		**P**	**15 27 11.4 +0.1**
MKAR	**Makanchi Array**	**67.44**	**328**	P		**P**	**15 27 11.0 -0.3**
	comp=Z,7.0nm,0.8s,baz=126,slow=8.0,SNR=33						
MKAR				LR		LR	15 56 41.2
	comp=Z,24nm,21.9s,baz=104,slow=36						
MKAR	**Makanchi Array**	**67.44**	**328**	P		**P**	**15 27 10.6 -0.7**
KPKS	**Kokpek**	**67.44**	**323**	*e*P		**P**	**15 27 10.9 -0.5**
	comp=Z,7.0nm,0.8s,baz=323						
KDJ	**Kajisay**	**67.60**	**321**	P		**P**	**15 27 12.5 -0.1**
KDJ				IAmb		IAmb	15 27 30.1
	comp=Z,16nm,1.2s						
MAKZ	**Makanchi**	**67.61**	**328**	P		**P**	**15 27 12.2 -0.2**
MDOK	**Medeo**	**68.25**	**322**	*e*P		**P**	**15 27 16.3 -0.4**
	baz=322						
TDK	**Taldyorghan**	**68.49**	**324**	*e*P		**P**	**15 27 17.8 -0.2**
	baz=324						
CHKK	**Chushkaly**	**68.67**	**323**	*e*P		**P**	**15 27 18.7 -0.5**
	baz=322						
KUU	**Kurty**	**69.08**	**323**	*e*P		**P**	**15 27 21.3 -0.4**
	comp=Z,13nm,0.7s,baz=322						
KBL	**Kabul**	**69.51**	**311**	P		**P**	**15 27 22.5 -2.3**
KBL				IAmb		IAmb	15 27 31.2
	comp=Z,14nm,1.1s						
AAK	**Ala-Archa**	**69.55**	**321**	P		**P**	**15 27 24.4 -0.4**
GAR	**Garm**	**70.53**	**316**	P		**P**	**15 27 30.2 -0.6**
ZAA0	**Zalesovo Array**	**71.01**	**335**			**P**	**15 27 32.0 -1.2**
ZALV	**Zalesovo Beam**	**71.01**	**335**	P		**P**	**15 27 32.5 -0.7**
	comp=Z,10nm,0.7s,baz=125,slow=4.8,SNR=38						
ZALV				LR		LR	16 00 02.7
	comp=Z,37nm,20.7s,baz=73,slow=37						
ZALV	**Zalesovo Beam**	**71.01**	**335**			**P**	**15 27 32.0 -1.2**
BTLS	**Baital**	**71.09**	**323**	*e*P		**P**	**15 27 33.4 -0.6**
	baz=322						
CHGR	**Chuyangaron**	**71.19**	**315**	P		**P**	**15 27 34.1 -0.7**
KURK	**Kurchatov**	**71.78**	**329**			**P**	**15 27 37.6 -0.4**
IUG	**Iuzhnay**	**72.18**	**318**	*e*P		**P**	**15 27 40.5 -0.2**
	comp=Z,4.4nm,0.9s,baz=318						
KK31	**Karatay Array**	**72.31**	**320**	P		**P**	**15 27 40.8 -0.6**
KK31				IAmb		IAmb	15 27 48.3
	comp=Z,14nm,1.4s						
KKAR	**Karatay Array**	**72.31**	**320**	P		**P**	**15 27 41.0 -0.4**
VNDA	**Vanda**	**72.41**	**173**	P		**P**	**15 27 41.2 -0.2**
	comp=Z,1.2nm,0.7s,baz=306,slow=6.3,SNR=4.6						
VNDA				LR		LR	15 59 51.1
	comp=Z,111nm,18.5s,baz=356,slow=36						
MAW	**Mawson**	**74.00**	**201**	P		**P**	**15 27 50.9 0.0**
BRZS	**Berezniki**	**74.49**	**327**	*e*P		**P**	**15 27 53.7 -0.4**
	comp=Z,10nm,0.8s,baz=326						
HRA	**Herat**	**74.64**	**309**	P		**P**	**15 27 55.0 -0.5**
HRA				IAmb		IAmb	15 28 02.2
	comp=Z,11nm,1.2s						
GSTR	**Great Sitkin T**	**75.84**	**32**	P		**P**	**15 28 03.9 +2.0**
BVAR	**Borovoye Array**	**77.30**	**328**	P		**P**	**15 28 09.6 -0.4**
	comp=Z,6.2nm,0.8s,baz=127,slow=9.3,SNR=2.9						
BRVK	**Borovoye**	**77.37**	**328**			**P**	**15 28 09.9 -0.5**
GEYT	**Alibeck**	**78.96**	**311**	P		**P**	**15 28 19.3 -0.4**
	comp=Z,0.7nm,0.4s,baz=20,slow=4.7,SNR=4.0						
GEYT	**Alibeck**	**78.96**	**311**	P		**P**	**15 28 19.2 -0.4**
NRIK	**Noril'sk**	**81.38**	**347**	P		**P**	**15 28 32.3 +0.4**
	comp=Z,6.3nm,0.8s,baz=126,slow=7.0,SNR=9.2						
ABKAR	**Akbulak array**	**81.56**	**322**			**P**	**15 28 32.4 -0.9**
SYO	**Syowa Base**	**82.72**	**201**	*e*P		**P**	**15 28 37.4 -1.6**
SYO	**Syowa Base**	**82.72**	**201**	*e*PcP		**PcP**	**15 28 44.6 +0.6**
AKTO	**Aktyubinsk**	**83.14**	**323**	P		**P**	**15 28 41.9 +0.3**
	comp=Z,4.7nm,0.8s,baz=95,slow=9.0						
ARU	**Arti**	**84.95**	**328**	P		**P**	**15 28 50.2 -0.4**
RND	**Reindeer**	**93.35**	**27**	P		**P**	**15 29 29.4 -1.1**
RND				IAmb		IAmb	15 29 46.6
	comp=Z,7.9nm,1.2s						
ILAR	**Eielson Array**	**94

	comp=Z,11nm,0.9s						
BOSA	**Boshof**	**2.17**	**220**	*e*P	Pn	15 42 56.5	+0.1
BOSA				*e*S	Sn	15 43 24.3	+0.3
BOSA				AML	AML	15 43 27.7	
	comp=Z,6.4nm,0.4s						
LBTB	**Lobatse**	**2.22**	**330**	*e*P	Pn	15 42 57.8	+0.8
LBTB				*e*S	Sn	15 43 25.4	+0.3
LBTB				AML	AML	15 43 30.0	
	comp=Z,13nm,0.4s						

TEH ***06*** *15:55:30.4, 28˚.51N×57˚.19E, h10km, ML3.7*
THR ***06*** *15:55:32.8±0.3, 28˚.40N×57˚.21E, h29km±5km, ML3.6*
DSN ***06*** *15:55:33.6±1.2, 28˚.38N×56˚.96E, h10km, ML4.0/8, Error ellipse: s-maj=51.2km s-min=10.6km az=106.0*
OMAN ***06*** *15:55:35.5±0.2, 28˚.51N×56˚.94E, h40km±440km, ml3.5/10, Error ellipse: s-maj=5.5km s-min=0.7km az=274.0*

ISC 06 15:55:31.5±0.9, 28˚.46N±0˚.04×57˚.19E±0˚.05, h10km, n46, σ1§42/54, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.68**	**138**	*e*Pg	**Pg**	**15 55 44.7**	**0.0**
NGRK	**Negar Kerman**	**1.25**	**341**	*e*Pg	**Pb**	**15 55 53.1**	**-2.3**
NGRK				*e*		15 56 12.2	
GENO	**Geno**	**1.39**	**221**	*e*Pg	**Pn**	**15 55 57.7**	**+0.6**
GENO				*e*		15 56 21.9	
BNDS	**Bandar-Abbas**	**1.39**	**221**	*e*Pg	**Pn**	**15 55 57.8**	**+0.7**
BNDS				*e*Sg	**Sb**	**15 55 57.8**	**+0.1**
BNDS				IAML		15 56 19.6	
	comp=E,1μm,0.4s						
BNDS				IAML		15 56 22.8	
	comp=N,729nm,0.4s						
BNDS	**Bandar-Abbas**	**1.39**	**221**	*e*Pg	**Pn**	**15 55 57.8**	**+0.7**
CHMN	**Cheshme madani**	**1.43**	**12**	*e*Pg	**Pn**	**15 55 56.5**	**-1.3**
CHMN				*e*		15 55 56.9	
TVBK	**TV Kerman**	**1.56**	**346**	*e*Pg	**Pn**	**15 55 58.8**	**-0.9**
TVBK				*e*		15 56 04.3	
KHGB	**Koh Gabri**	**2.01**	**342**	*e*		15 56 43.3	
KHGB				*e*Pn	**Pn**	**15 56 06.1**	**+0.4**
SHME	**Shamm**	**2.58**	**201**	*e*P	**Pn**	**15 56 13.3**	**-0.1**
	SNR=12						
SHME				S	**Sn**	**15 56 44.0**	**-0.8**
BANOM	**Banah**	**2.65**	**198**	*e*P	**Pn**	**15 56 14.3**	**-0.1**
	SNR=17						
BANOM				S	**Sn**	**15 56 46.8**	**+0.3**
BANOM	**Banah**	**2.65**	**198**	P	**Pn**	**15 56 14.4**	**+0.1**
BANOM				S	**Sn**	**15 56 47.4**	**+0.9**
MSFE	**Esma-Masafi**	**3.22**	**197**	P	**Pn**	**15 56 23.0**	**+0.8**
UMQ	**Umm Al-Quwin**	**3.23**	**205**	P	**Pn**	**15 56 23.4**	**+1.2**
UMQ				S	**Sn**	**15 57 02.9**	**+2.2**
MDH	**Madha**	**3.25**	**194**	P	**Pn**	**15 56 21.3**	**-1.2**
MDH	**Madha**	**3.25**	**194**	P	**Pn**	**15 56 23.5**	**+0.9**
ZHSF	**Zahedan**	**3.34**	**69**	*e*Pn	**Pn**	**15 56 25.3**	**+1.3**
ZHSF	**Zahedan**	**3.34**	**69**	*e*Pn	**Pn**	**15 56 25.3**	**+1.3**
UOSS	**Minazif**	**3.61**	**194**	P	**Pn**	**15 56 23.3**	**+0.8**
UOSS	**Minazif**	**3.61**	**194**	P	**Pn**	**15 56 28.5**	**+1.0**
IMEH	**Mehriz**	**3.68**	**323**	*e*Pn	**Pn**	**15 56 29.3**	**+0.6**
GHIR	**Ghir-Karzin**	**3.71**	**268**	*e*Pn	**Pn**	**15 56 30.7**	**+1.7**
GHIR	**Ghir-Karzin**	**3.71**	**268**	*e*Pn	**Pn**	**15 56 30.7**	**+1.7**
NAZ	**Nazwa, Dubai**	**3.72**	**202**	P	**Pn**	**15 56 29.4**	**+0.4**
NAZ	**Nazwa, Dubai**	**3.72**	**202**	P	**Pn**	**15 56 30.4**	**+1.4**
NAZ				S	**Sn**	**15 57 11.2**	**-1.6**
HATD	**Hatta, Dubai**	**3.74**	**195**	P	**Pn**	**15 56 30.9**	**+1.5**
HATD	**Hatta, Dubai**	**3.74**	**195**	P	**Pn**	**15 56 31.1**	**+1.8**
NHDN	**Nehbandan**	**3.83**	**40**	*e*Pn	**Pn**	**15 56 32.2**	**+1.5**
BSRN	**Basiran**	**3.87**	**25**	*e*Pn	**Pn**	**15 56 33.4**	**+2.1**
BSRN	**Basiran**	**3.87**	**25**	*e*Pn	**Pn**	**15 56 33.4**	**+2.1**
ASHO	**Ashiyiah**	**3.90**	**195**	*i* P	**Pn**	**15 56 32.4**	**+0.9**
	SNR=9.0						
ASHO	**Ashiyiah**	**3.90**	**195**	P	**Pn**	**15 56 33.0**	**+1.5**
ASHO				P	**Pn**	**15 56 33.0**	**+1.5**
	SNR=9.3						
FAQ	**Al Faqa, Dubai**	**3.97**	**201**	P	**Pn**	**15 56 33.4**	**+1.0**
FAQ				S	**Sn**	**15 57 18.6**	**-0.5**
CHBR	**Chabahar**	**4.09**	**133**	*e*Pn	**Pn**	**15 56 35.0**	**+0.8**
CHBR	**Chabahar**	**4.09**	**133**	*e*Pn	**Pn**	**15 56 35.0**	**+0.8**
IKOO	**Kooshah**	**4.25**	**21**	*e*Pn	**Pn**	**15 56 36.8**	**+0.3**
SOHO	**SOHO**	**4.35**	**188**	P	**Pn**	**15 56 35.1**	**-2.6**
AJN	**Ajban**	**4.36**	**207**	*i* P	**Pn**	**15 56 37.8**	**+0.1**
	SNR=8.6						
YZKH	**Yazd**	**4.51**	**331**	*e*Pn	**Pn**	**15 56 42.5**	**+2.5**
YZKH	**Yazd**	**4.51**	**331**	*e*Pn	**Pn**	**15 56 42.5**	**+2.5**
ISAD	**Sadrabad**	**4.59**	**319**	*e*Pn	**Pn**	**15 56 42.3**	**+1.1**
TABS	**Tabas**	**5.17**	**359**	*e*Pn	**Pn**	**15 56 51.6**	**+2.5**
TABS	**Tabas**	**5.17**	**359**	*e*Pn	**Pn**	**15 56 51.6**	**+2.5**
IRAM	**Ramesheh**	**5.34**	**310**	*e*Pn	**Pn**	**15 56 51.8**	**+0.3**
KLNJ	**Kolanjah**	**5.49**	**299**	*e*Pn	**Pn**	**15 56 54.2**	**+0.5**
SHRT	**Shahrakht**	**5.81**	**26**	*e*Pn	**Pn**	**15 57 00.1**	**+2.2**
SHRT	**Shahrakht**	**5.81**	**26**	*e*Pn	**Pn**	**15 57 00.1**	**+2.2**

IDC 06 16:02:25.1±1.9, 1˚.18N×127˚.00E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/44, mbtmp3.4/4, MS2.7/1, Ms1 2.7/1, ms1mx2.4/19, Error ellipse: s-maj=171.2km s-min=22.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.20**	**184**	LR	LR	16 13 16.9	
	comp=Z,27nm,21.8s,baz=284,slow=34						
WRA	**Warramunga Arr**	**22.19**	**161**	P	P	16 07 22.4	-0.8
	0.4nm,0.3s,baz=340,slow=11,SNR=28						
ASAR	**Alice Springs**	**25.59**	**165**	P	P	16 07 56.9	+0.6
	0.2nm,0.4s,baz=343,slow=12,SNR=13						
MKAR	**Makanchi Array**	**59.80**	**326**	P	P	16 12 33.0	+0.8
	0.2nm,0.4s,baz=132,slow=6.0,SNR=3.0						
KURBB	**Kurchatov Arra**	**64.03**	**328**	P	P	16 12 59.7	-0.9
	0.1nm,0.4s,baz=132,slow=6.6,SNR=2.2						

YARS ***06*** *16:04:45.5±0.0, 56˚.61N×121˚.58E, h7km, ML2.6/9*
BYKL ***06*** *16:04:45.7±0.5, 56˚.64N×121˚.55E, h4km±6km*

ISC 06 16:04:45.0±0.8, 56˚.56N±0˚.02×121˚.55E±0˚.02, h9km±5km, n39, σ2§79/78, 2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YKLR	**Yuktali**	**0.07**	**65**	⇓*i* Pg	**Pg**	**16 04 47.3**	**+0.3**
YKLR				*e*Sg	**Sg**	**16 04 48.4**	**-0.1**
YKLR	**Yuktali**	**0.07**	**65**	*e*Pg	**Pg**	**16 04 47.3**	**+0.3**
	354nm,0.1s,baz=107						
YKLR				*e*Sg	**Sg**	**16 04 48.4**	**-0.1**
	19μm,0.2s,baz=107						
YKLR				*e*Sg	**Sg**	**16 04 48.4**	**-0.1**
	13μm,0.2s,baz=107						
KHNR	**Khani**	**0.93**	**293**	*e*Pg	**Pg**	**16 05 02.7**	**-0.3**
KHNR				*e*Sg	**Sg**	**16 05 14.9**	**-0.2**
KHN	**Khani**	**1.03**	**291**	*e*Pg	**Pg**	**16 05 02.8**	**-2.1**
	98nm,0.1s,baz=290						
KHN				*e*Sg	**Sg**	**16 05 15.0**	**-3.2**
	2μm,0.1s,baz=290						
CRS	**Chara**	**1.84**	**282**	*e*Pg	**Pb**	**16 05 18.9**	**+0.1**
CRS				*e*		16 05 22.4	
CRS				*e*Sg	**Sg**	**16 05 43.1**	**-0.9**
CRS				*e*		16 05 45.4	
CRS				max			
	100nm,0.8s						
CRS				max			
	461nm,1.0s						
CRS	**Chara**	**1.84**	**282**	*e*Pg	**Pb**	**16 05 19.4**	**+0.5**
	78nm,0.3s,baz=280						
CRS				*e*Sg	**Sb**	**16 05 42.9**	**+1.0**
	457nm,1.0s,baz=280						
CLNS	**Chul'man**	**1.87**	**80**	*e*Pg	**Pb**	**16 05 19.2**	**-0.1**
CLNS				*e*Sg	**Sb**	**16 05 43.5**	**+0.7**
CLNS				*e*		16 05 46.2	
CLNS	**Chul'man**	**1.87**	**80**	*e*Pg	**Pb**	**16 05 19.4**	**0.0**
	22nm,0.2s,baz=81						
CLNS				*e*Sg	**Sb**	**16 05 43.3**	**+0.5**
	128nm,0.3s,baz=81						
CLNS				*e*Sg	**Sb**	**16 05 43.3**	**+0.5**
	147nm,0.2s,baz=81						
IENR	**Iengra**	**1.87**	**99**	*e*Pg	**Pb**	**16 05 18.9**	**-0.6**
IENR				*e*		16 05 42.3	
IENR				*e*Sg	**Sg**	**16 05 44.9**	**-0.3**
IENR	**Iengra**	**1.87**	**99**	*i* Pg	**Pb**	**16 05 19.2**	**-0.2**
	61nm,0.3s,baz=101						
IENR				*i* Sg	**Sb**	**16 05 43.9**	**+0.9**
	357nm,0.4s,baz=101						
IENR				*i* Sg	**Sb**	**16 05 43.9**	**+0.9**
	157nm,0.2s,baz=101						
TNDR	**Tynda**	**2.29**	**127**	*i* Pg	**Pb**	**16 05 26.9**	**+0.4**
	34nm,0.2s,baz=128						
TNDR				*i* Sn	**Sb**	**16 05 53.4**	**-1.4**
	baz=128						
TNDR				*i* Sg	**Sg**	**16 05 57.1**	**-1.3**
	171nm,0.3s,baz=128						
TNDR				*i* Sg	**Sg**	**16 05 57.1**	**-1.3**
	258nm,0.3s,baz=128						
TUP	**Tupik**	**2.33**	**204**	⇓*i* Pn	**Pn**	**16 05 25.2**	**+1.7**
TUP				*e*Pg	**Pb**	**16 05 28.2**	**+1.0**
TUP				*e*Sn	**Sb**	**16 05 55.7**	**-0.3**
TUP				*e*Sg	**Sg**	**16 05 59.9**	**+0.2**
TUP				Pmax			
	23nm,0.3s						
TUP				Smax			
	475nm,0.6s						
TUP	**Tupik**	**2.33**	**204**	*e*Pn	**Pn**	**16 05 24.9**	**+1.4**
	baz=204						
TUP				*e*Pg	**Pb**	**16 05 28.1**	**+1.0**
	23nm,0.3s,baz=204						
TUP				*e*Sn	**Sn**	**16 05 54.3**	**+2.0**
	baz=204						
TUP				*e*Sg	**Sg**	**16 05 58.9**	**-0.8**
	475nm,0.6s,baz=204						
ALDR	**Aldan**	**2.92**	**44**	*e*Pg	**Pb**	**16 05 36.3**	**-1.1**
	8.8nm,0.3s,baz=44						
ALDR				*i* Sn	**Sn**	**16 06 07.5**	**+0.5**
	baz=44						
ALDR				*i* Sg	**Sg**	**16 06 15.8**	**-3.0**
	101nm,0.2s,baz=44						
NLYR	**Nelyaty**	**3.24**	**271**	*e*Pn	**Pn**	**16 05 38.3**	**+2.3**
NLYR				*e*Pg	**Pb**	**16 05 42.9**	**+0.2**
NLYR				*e*Sn	Sn	16 06 02.6	-12
NLYR				*e*Sg	**Sb**	**16 06 25.1**	**+2.9**
NLYR				Pmax			
	11nm,0.4s						
NLYR				Smax			
	190nm,1.0s						
KROS	**Kirovskiy**	**3.75**	**122**	*e*Pn	**Pn**	**16 05 46.5**	**+3.4**
	10.0nm,0.1s,baz=123						
KROS				*e*Sn	**Sn**	**16 06 28.0**	**+0.6**
	baz=123						
KROS				*e*Sg	**Sg**	**16 06 42.1**	**-3.3**
	320nm,0.2s,baz=123						
OLMR	**Olekminsk**	**3.87**	**352**	*i* Pn	**Pn**	**16 05 45.9**	**+1.3**
	baz=352						
OLMR				*i* Pg	**Pb**	**16 05 55.0**	**+1.7**
	9.1nm,0.3s,baz=352						
OLMR				*i* Sn	**Sn**	**16 06 31.2**	**+1.1**
	baz=352						
OLMR				*i* Sg	**Sg**	**16 06 45.9**	**-3.1**
	132nm,0.7s,baz=352						
BOD	**Bodaibo**	**4.29**	**290**	*e*Pn	**Pn**	**16 05 54.7**	**+4.2**
BOD				*e*Pg	**Pb**	**16 06 00.8**	**+0.2**
BOD				*e*Sg	**Sb**	**16 06 55.4**	**+3.0**
BOD				Pmax			
	3.0nm,0.3s						
BOD				Smax			
	91nm,1.6s						
SVKR	**Severomuysk**	**4.47**	**268**	*e*	**Sb**	**16 07 03.7**	**+6.1**
SVKR				*e*Sg	**Sg**	**16 07 06.1**	**-2.2**
SVKR				Smax			
	125nm,1.0s						
BMKR	**Bomnak**	**4.53**	**111**	*e*Pg	**Pb**	**16 06 07.8**	**+3.1**
	15nm,0.2s,baz=112						
BMKR				*e*Sn	**Sn**	**16 06 45.8**	**-0.8**
	baz=112						
BMKR				*e*Sg	**Sg**	**16 07 09.0**	**-1.4**
	153nm,0.2s,baz=112						
UKT	**Uakit**	**4.57**	**260**	*e*Pn	**Pn**	**16 05 54.5**	**+0.1**
UKT				*e*Pg	**Pb**	**16 06 06.9**	**+1.5**
UKT				*e*Sg	**Sg**	**16 07 07.0**	**-4.7**
UKT				*e*		16 07 09.0	
UKT				Pmax			
	7.0nm,0.8s						
UKT				max			
	50nm,1.0s						
CGD	**Chagda**	**5.34**	**62**	*e*Pn	**Pn**	**16 06 07.3**	**+2.4**
	2.5nm,0.2s,baz=62						
CGD				*i* Sn	**Sn**	**16 07 07.3**	**+0.8**
	baz=62						
CGD				*i* Sg	**Sg**	**16 07 31.8**	**-4.5**
	84nm,0.4s,baz=62						
YOA	**Uoyan**	**5.48**	**270**	Sg	**Sg**	**16 07 35.2**	**-5.6**
YOA				*e*		16 07 40.5	
YOA				max			
	214nm,1.3s						
KMO	**Kumora**	**5.81**	**268**	*e*	**Pb**	**16 06 25.5**	**-1.0**
KMO				*e*		16 06 49.7	
KMO				*e*Sg	**Sg**	**16 07 46.9**	**-4.5**
KMO				*e*		16 07 53.5	
KMO				max			
	8.0nm,1.3s						
KMO				max			
	60nm,1.2s						
YLYR	**Ulyunkhan**	**6.11**	**258**	*e*Pn	**Pn**	**16 06 17.9**	**+2.5**
YLYR				*e*Pg	**Pb**	**16 06 34.7**	**+3.2**
YLYR				*e*		16 07 47.2	
YLYR				*e*Sg	**Sg**	**16 07 56.8**	**-4.1**
YLYR				Pmax			
	1.0nm,0.4s						
YLYR				Smax			
	39nm,1.7s						
BLSR	**Bulus**	**6.17**	**36**	*i* Pn	**Pn**	**16 06 17.9**	**+1.6**
	baz=36						
BLSR				*i* Pg	**Pb**	**16 06 36.5**	**+3.9**
	68nm,0.4s,baz=36						
BLSR				*i* Sn	**Sn**	**16 07 24.5**	**-2.4**
	baz=36						
BLSR				*e*Sg	**Sg**	**16 07 55.5**	**-7.4**
	479nm,0.3s,baz=36						
BLSR				*e*Sg	**Sg**	**16 07 55.5**	**-7.4**
	472nm,1.1s,baz=36						
CIT	**Chita**	**6.53**	**229**	Sg	**Sg**	**16 08 09.3**	**-5.0**
CIT				*e*		16 08 23.8	
CIT				Smax			
	43nm,0.3s						
NIZ	**Nizh Angarsk**	**6.75**	**268**	*e*	**Pg**	**16 06 50.6**	**-3.6**
NIZ				*e*Sg	Sg	16 08 12.6	-8.9
NIZ				Smax			
	19nm,0.8s						
SYVR	**Suvo**	**7.23**	**251**	*e*		16 08 10.1	
SYVR				*e*Sg	**Sg**	**16 08 30.2**	**-6.8**
SYVR				Smax			
	32nm,1.5s						
OGRR	**Ongureny**	**8.52**	**256**	*e*Sg	Sg	16 09 08.1	-10
OGRR				*e*		16 09 22.7	
OGRR				max			
	17nm,2.0s						
KELR	**Kotokel**	**8.68**	**250**	Sg	Sg	16 09 13.6	-10
KELR				*e*		16 09 18.5	
KPC	**Khapcheranga**	**8.80**	**223**	*e*	**Pn**	**16 06 53.5**	**+1.1**
KPC				*e*Sg	**Sg**	**16 09 21.1**	**-6.1**
KPC				*e*		16 09 25.9	
KPC				max			
	37nm,1.3s						
UUDB	**Ulan-Yde**	**9.39**	**246**	*e*Sg	Sn	16 09 36.5	+50
UUDB				*e*		16 09 45.2	
TRG	**Tyrgan**	**9.59**	**253**	*e*Sg	Sn	16 09 41.6	+51
TRG				Smax			
	17nm,2.5s						
FFNB	**Fofonovo**	**9.75**	**249**	Sg	Sn	16 09 48.0	+53
HRMR	**Khuramsha**	**9.89**	**246**	*e*		16 08 37.3	
HRMR				*e*Sg	Sn	16 09 54.0	+56
HRMR				*e*		16 10 04.3	
HRMR				max			
	63nm,0.7s						
TLY	**Talaya**	**11.57**	**253**	*e*		16 10 31.2	
TLY				*e*Sg		16 10 45.4	
TLY				*e*		16 10 49.2	
ZAK	**Zakamensk**	**12.50**	**248**	Sg		16 11 12.0	
ZAK				Smax			
	6.0nm,1.3s						
ORL	**Orlik**	**13.22**	**261**	*e*Sg	S	16 11 35.2	+50
ORL				Smax			
	12nm,4.3s						

IDC ***06*** *16:09:40.7±12.0, 36˚.15N×70˚.18E, h164km±112km, mb3.1/2, mb1 3.2/6, mb1mx2.8/45, mbtmp3.6/6, Error ellipse: s-maj=122.7km s-min=42.5km az=38.0*

ISC 06 16:09:35.4±1.7, 36˚.0N±0˚.1×70˚.3E±0˚.2, h110km, n6, σ2§41/7, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**7.41**	**25**	P	**Pn**	**16 11 24.7**	**+3.8**
	1.4nm,0.3s,baz=200,slow=9.3,SNR=5.5						
AAK				S	**Sn**	**16 12 41.6**	**-1.7**
	0.8nm,0.3s,baz=318,slow=21,SNR=18						
MKAR	**Makanchi Array**	**14.05**	**36**	P	**P**	**16 12 51.7**	**-2.1**
	0.1nm,0.3s,baz=224,slow=16,SNR=3.0						
AKTO	**Aktyubinsk**	**16.97**	**332**	P	**P**	**16 13 25.4**	**-0.7**
	0.4nm,0.3s,baz=138,slow=12,SNR=11						
BVAR	**Borovoye Array**	**17.05**	**0**	P	**P**	**16 13 26.2**	**-0.8**
	0.2nm,0.3s,baz=176,slow=9.0,SNR=4.6						
WRA	**Warramunga Arr**	**82.19**	**121**	P	**P**	**16 21 44.1**	**-0.4**
	0.3nm,0.7s,baz=313,slow=4.8,SNR=1.4						
ASAR	**Alice Springs**	**84.42**	**124**	P	**P**	**16 21 56.1**	**+0.3**
	0.3nm,0.7s,baz=312,slow=4.4,SNR=6.1						

IDC ***06*** *16:17:25.9±0.6, 54˚.25S×4˚.82E, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.3/23, mbtmp4.3/12, ML3.9/1, MS3.9/16, Ms1 3.9/16, ms1mx3.9/22, Error ellipse: s-maj=23.4km s-min=17.0km az=96.0*
NEIC ***06*** *16:17:27.6±1.2, 54˚.30S±0˚.07×4˚.8E±0˚.2, h14km±3km, mb4.8/17, Error ellipse: s-maj=19.6km s-min=9.6km az=88.0*
GCMT ***06*** *16:17:30.6±0.3, 54˚.21S±0˚.02×4˚.80E±0˚.07, h21km±1km, MW5.0/92, Moment Tensor Solution. s13,c14; s92,c124; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=3.87±.31; Mθθ3.08±.19; Mθθ0.78±.19; Mrθ1.16±.32; Mθθ-1.26±.11; Mθr1.90±.40; Best double couple: Mθ4.24600×10¹⁶ NP1:ϕs135.00000°, δ47.00000°, λ-57.00000°. NP2: ϕs271.00000°, δ52.00000°, λ-120.00000°. Principal axes: T 3.6510, Plg3.0000°, Azm22.0000°; N 1.1840, Plg23.0000°, Azm291.0000°; P -4.8410, Plg66.0000°, Azm118.0000°; nsta1 refers to body wave waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 16:17:27.2±0.5, 54˚.25S±0˚.08×4˚.8E±0˚.1, h10km, n64, σ0§69/47, mb4.6/13, MS4.0/18, 1C-1D, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.45**	**195**	P	**P**	**16 21 32.2**	**+0.6**
VNA2	**Neumayer--Watz**	**17.58**	**193**	P	**Pn**	**16 21 31.6**	**-0.4**
	baz=15,slow=15						
SNAA	**Sanae**	**17.80**	**188**	P	**Pn**	**16 21 34.5**	**-0.2**
SNAA	**Sanae**	**17.80**	**188**	P	**Pn**	**16 21 34.5**	**-0.2**
	0.4nm,0.3s,baz=11,slow=15,SNR=31						
SNAA				S	Sn	16 24 36.7	-16
	0.1nm,0.3s,baz=294,slow=12,SNR=1.8						
SNAA				LR	LR	16 26 56.6	
	comp=Z,738nm,18.9s,baz=19,slow=32						
SNAA	**Sanae**	**17.80**	**188**		**Pn**	**16 21 33.6**	**-1.1**
VNA3	**Neumayer Olymp**	**18.19**	**195**	P	**Pn**	**16 21 39.4**	**-0.2**
TRIS	**Tristan da Cun**	**20.82**	**319**	P	**P**	**16 22 09.9**	**+1.2**
SYO	**Syowa Base**	**21.74**	**146**	⇓*e*P	**P**	**16 22 17.8**	**-0.5**
SYO	**Syowa Base**	**21.74**	**146**	⇓*i* pPn	**P**	**16 22 21.0**	**+2.7**
SUR	**Sutherland**	**24.67**	**34**	LR	LR	16 29 58.5	
	comp=Z,366nm,19.6s,baz=209,slow=30						
BOSA	**Boshof**	**29.65**	**38**	P	**P**	**16 23 32.7**	**-0.2**
	2.8nm,0.7s,baz=235,slow=8.7,SNR=4.0						
BOSA				LR	LR	16 33 05.8	
	comp=Z,474nm,20.9s,baz=204,slow=32						
BOSA	**Boshof**	**29.65**	**38**	IAmb	IAmb	16 23 59.6	
	comp=Z,49nm,2.0s						
MAW	**Mawson**	**29.92**	**139**	LR	LR	16 33 30.0	
	comp=Z,151nm,21.9s,baz=250,slow=32						
QSPA	**South Pole Qui**	**35.99**	**180**	P	**P**	**16 24 28.3**	**+0.3**
	comp=Z,7.4nm,0.8s,baz=234,slow=2.3,SNR=28						
QSPA	**South Pole Qui**	**35.99**	**180**	P	**P**	**16 24 27.9**	**-0.2**
QSPA				IAmb	IAmb	16 24 36.2	
	comp=Z,10.0nm,0.9s						
TSUM	**Tsumeb**	**36.34**	**21**	P	**P**	**16 24 30.8**	**-0.6**
TSUM				IAmb	IAmb	16 24 34.0	
	comp=Z,11nm,1.0s						
MATP	**Matopo**	**38.30**	**38**	P	**P**	**16 24 47.9**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=200,slow=5.6,SNR=4.8						
VNDA	**Vanda**	**47.72**	**173**	P	**P**	**16 26 03.9**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=216,slow=5.6,SNR=8.4						
VNDA				LR	LR	16 45 59.1	
	comp=Z,193nm,19.2s,baz=192,slow=36						
VNDA	**Vanda**	**47.72**	**173**	P	**P**	**16 26 04.1**	**+0.7**
VNDA				IAmb	IAmb	16 26 08.2	
	comp=Z,5.8nm,1.0s						
PLCA	**Paso Flores**	**50.25**	**253**	LR	LR	16 44 33.9	
	comp=Z,52nm,21.9s,baz=128,slow=32						
PLCA	**Paso Flores**	**50.25**	**253**	P	**P**	**16 26 23.5**	**0.0**
CPUP	**Villa Florida**	**52.86**	**276**	P	**P**	**16 26 42.5**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=135,slow=7.8,SNR=4.5						
CPUP				LR	LR	16 45 00.3	
	comp=Z,71nm,21.1s,baz=212,slow=31						
CPUP	**Villa Florida**	**52.86**	**276**	IAmb	IAmb	16 27 09.6	
	comp=Z,36nm,2.0s						
BDFB	**Brasilia**	**56.01**	**292**	LR	LR	16 46 14.5	
	comp=Z,81nm,19.4s,baz=153,slow=31						
KMBO	**Kilima Mbogo**	**59.29**	**39**	P	**P**	**16 27 30.3**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=198,slow=19,SNR=1.9						
KMBO				LR	LR	16 51 07.9	
	comp=Z,265nm,20.2s,baz=99,slow=34						
KMBO	**Kilima Mbogo**	**59.29**	**39**	IAmb	IAmb	16 27 38.9	
	comp=Z,8.9nm,1.4s						
DBIC	**Dimbokro**	**61.23**	**349**	P	**P**	**16 27 42.3**	**+0.1**
	comp=Z,4.8nm,0.9s,baz=163,slow=14,SNR=1.7						
DBIC				LR	LR	16 47 47.6	
	comp=Z,122nm,21.7s,baz=127,slow=30						
PB08	**IPOC Station P**	**64.54**	**271**	P	**P**	**16 28 03.8**	**-1.0**
PB08				IAmb	IAmb	16 28 06.4	
	comp=Z,8.8nm,1.0s						
PSGCX	**Pisagua**	**65.53**	**270**	P	**P**	**16 28 11.2**	**+0.3**
LPAZ	**La Paz**	**66.95**	**274**	P	**P**	**16 28 21.6**	**+0.9**
	comp=Z,9.3nm,0.9s,baz=129,slow=4.6,SNR=33						
LPAZ				LR	LR	16 55 23.8	
	comp=Z,46nm,20.9s,baz=124,slow=34						
LPAZ	**La Paz**	**66.95**	**274**	P	**P**	**16 28 21.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**67.18**	**357**	P	**P**	**16 28 21.2**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=179,

comp=Z,3.4nm,0.7s,baz=93,slow=2.6,SNR=8.1
ILAR Eielson Array 162.34 318 PKPab **PKPab 16 38 14.9 -0.2**
comp=Z,1.6nm,1.2s,baz=49,slow=4.4,SNR=5.8

*IDC **06** 16:38:14.2±1.8, 1.°72N×126.°98E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/26, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=112.7km s-min=26.4km az=69.0*
*DJA **06** 16:38:19.7±2.2, 2.°N±8.°×12.°6E±.°, h27km±23km, M3.3/5, MLv3.3/5*
ISC 06 16:38:21.3±1.3, 1.°4N±0.°2×126.°4E±0.°2, h47km, n5, σ0s86/7, mb3.3/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.16**	**124**	P	**Pn**	**16 38 40.6**	**-0.6**
TNTI				S	**Sn**	**16 38 56.8**	**+0.9**
FITZ	**Fitzroy Crossi**	**19.42**	**182**	P	**Pn**	**16 42 45.6**	**+0.3**
	0.0nm,0.3s,baz=10,slow=11,SNR=1.7						
WRA	**Warramunga Arr**	**22.62**	**160**	P	**P**	**16 43 18.0**	**-0.4**
	1.6nm,0.6s,baz=340,slow=11,SNR=20						
ASAR	**Alice Springs**	**25.99**	**164**	P	**P**	**16 43 50.4**	**+0.4**
	0.4nm,0.4s,baz=354,slow=8.4,SNR=15						
ASAR				PcP	**PcP**	**16 47 16.5**	**-1.1**
	0.3nm,0.7s,baz=339,slow=2.4,SNR=4.3						
MKAR	**Makanchi Array**	**59.26**	**326**	P	**P**	**16 48 18.7**	**+0.5**
	0.1nm,0.4s,baz=118,slow=6.7,SNR=1.9						

*IDC **06** 16:42:48.7±1.9, 42.°55N×43.°36E, h0km, mb3.5/1, mb1 3.4/2, mb1mx3.1/35, mbtmp3.4/2, ML2.9/1, Error ellipse: s-maj=24.1km s-min=15.3km az=99.0*
*TIF **06** 16:42:48.9, 42.°57N×43.°46E, h14km*
*NORS **06** 16:42:49.5±0.0, 42.°50N×43.°37E, h4km, MPVA4.5*
*DDA **06** 16:42:50.6, 42.°44N×43.°28E, h2km±1km, ML3.4*
*MOS **06** 16:42:50.8±1.3, 42.°56N×43.°42E, h15km, mb3.8/1, Error ellipse: s-maj=5.4km s-min=4.1km az=83.5*
*ISK **06** 16:42:50.2, 42.°48N×43.°38E, h15km, ML3.6/12*
ISC 06 16:42:49.6±0.8, 42.°54N±0.°01×43.°41E±0.°01, h10km±5km, n109, σ1s33/193, 7C-6D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.06**	**33**	PG	**Pg**	**16 42 51.8**	**-0.1**
ONI	**Oni**	**0.06**	**33**	P	**Pg**	**16 42 51.8**	**-0.1**
ONI				S	**Sg**	**16 42 53.5**	**-0.1**
TKB	**Tkibuli**	**0.36**	**239**	PG	**Pb**	**16 42 57.8**	**-0.2**
TKB				S	**Sb**	**16 43 04.0**	**+0.3**
TKB	**Tkibuli**	**0.36**	**239**	P	**Pb**	**16 42 57.8**	**-0.2**
TKB				S	**Sb**	**16 43 04.0**	**+0.3**
DIGR	**Digorskoe uzhe**	**0.39**	**19**	*i* Pg	**Pg**	**16 42 57.0**	**-0.3**
DIGR				*e*Sg	**Sg**	**16 43 02.5**	**0.0**
DIGR	**Digorskoe uzhe**	**0.39**	**19**	⇑*i*PG	**Pg**	**16 42 56.9**	**-0.4**
DIGR				*i* S	**Sg**	**16 43 02.5**	**0.0**
ZEI	**Tsey**	**0.44**	**55**	*i* Pg	**Pg**	**16 42 57.9**	**-0.5**
ZEI				*e*Sg	**Sg**	**16 43 03.9**	**-0.4**
ZEI	**Tsey**	**0.44**	**55**	*i* PG	**Pg**	**16 42 57.9**	**-0.5**
ZEI				*e*S	**Sg**	**16 43 03.9**	**-0.4**
LACR	**Lac**	**0.72**	**66**	*i* Pg	**Pg**	**16 43 02.7**	**-0.8**
LACR				*e*Sg	**Sg**	**16 43 12.1**	**-0.9**
LACR	**Lac**	**0.72**	**66**	*i* PG	**Pg**	**16 43 02.7**	**-0.8**
LACR				*e*S	**Sg**	**16 43 12.0**	**-0.9**
KORR	**Kora**	**0.73**	**41**	*i* Pg	**Pg**	**16 43 03.9**	**+0.1**
KORR				*e*Sg	**Sb**	**16 43 14.8**	**+0.2**
KORR	**Kora**	**0.73**	**41**	⇓*i*PG	**Pg**	**16 43 03.7**	**-0.1**
KORR				*e*S	**Sb**	**16 43 14.6**	**0.0**
BKRG	**Bakuriani**	**0.78**	**174**	PG	**Pg**	**16 43 05.0**	**+0.3**
BKRG				S	**Sb**	**16 43 16.6**	**+0.6**
BKRG	**Bakuriani**	**0.78**	**174**	P	**Pg**	**16 43 05.1**	**+0.3**
BKRG				S	**Sb**	**16 43 16.6**	**+0.6**
LSNR	**Lesken**	**0.80**	**22**	*i* Pg	**Pg**	**16 43 05.2**	**+0.1**
LSNR				*e*Sg	**Sb**	**16 43 16.9**	**+0.3**
LSNR	**Lesken**	**0.80**	**22**	*i* PG	**Pg**	**16 43 05.2**	**+0.1**
LSNR				*e*S	**Sb**	**16 43 16.9**	**+0.3**
NEY	**Neytrino**	**0.87**	**325**	*e*Pg	**Pg**	**16 43 06.5**	**+0.1**
NEY				*e*Sg	**Sb**	**16 43 19.0**	**+0.3**
NEY	**Neytrino**	**0.87**	**325**	*e*PG	**Pg**	**16 43 06.5**	**+0.1**
NEY				*e*S	**Sg**	**16 43 17.5**	**-0.3**
PNSH	**Pansheti**	**0.90**	**83**	PG	**Pg**	**16 43 05.9**	**-1.5**
PNSH				S	**Sg**	**16 43 17.6**	**-1.1**
PNSH	**Pansheti**	**0.90**	**83**	P	**Pb**	**16 43 05.9**	**-1.5**
PNSH				S	**Sg**	**16 43 17.6**	**-1.1**
ARNR	**Ardon**	**0.91**	**45**	*i* Pg	**Pb**	**16 43 07.7**	**+0.1**
ARNR				*e*Sg	**Sn**	**16 43 21.4**	**-0.2**
ARNR	**Ardon**	**0.91**	**45**	⇓*e*PG	**Pb**	**16 43 07.6**	**+0.1**
ARNR				*e*S	**Sn**	**16 43 20.9**	**-0.8**
STDR	**Stavd-Durt**	**0.96**	**30**	*e*Pg	**Pn**	**16 43 09.2**	**0.0**
STDR				*e*Sg	**Sn**	**16 43 23.6**	**+0.7**
STDR	**Stavd-Durt**	**0.96**	**30**	*e*PG	**Pb**	**16 43 08.7**	**+0.3**
STDR				*e*S	**Sn**	**16 43 22.5**	**-0.4**
VLKR	**Vladikavkaz**	**1.07**	**61**	*e*Pg	**Pg**	**16 43 10.9**	**+0.9**
VLKR				*i* Pg	**Pg**	**16 43 11.0**	**+0.9**
VLKR				*e*Sg	**Sn**	**16 43 26.4**	**+0.9**
VLKR				*e*Sg	**Sn**	**16 43 26.4**	**+0.9**
VLKR	**Vladikavkaz**	**1.07**	**61**	*e*PG	**Pb**	**16 43 10.6**	**+0.4**
VLKR				*e*S	**Sn**	**16 43 26.0**	**+0.5**
TRLG	**Trialeti**	**1.12**	**152**	PG	**Pb**	**16 43 10.8**	**-0.4**
TRLG				S	**Sb**	**16 43 26.8**	**+0.9**
TRLG	**Trialeti**	**1.12**	**152**	P	**Pb**	**16 43 10.8**	**-0.4**
TRLG				S	**Sb**	**16 43 26.8**	**+0.9**
AKH	**Akhalkalaki**	**1.13**	**177**	PG	**Pb**	**16 43 11.2**	**-0.1**
AKH				SG	**Sg**	**16 43 26.8**	**+0.8**
AKH	**Akhalkalaki**	**1.13**	**177**	PG	**Pb**	**16 43 11.2**	**-0.1**
AKH				S	**Sg**	**16 43 27.1**	**+1.2**
AKH	**Akhalkalaki**	**1.13**	**177**	P	**Pb**	**16 43 11.2**	**-0.1**
AKH				S	**Sg**	**16 43 27.1**	**+1.2**
BTKR	**Batakoyurt**	**1.18**	**45**	*e*Pg	**Pg**	**16 43 13.8**	**+1.5**
BTKR				*e*Sg	**Sg**	**16 43 31.7**	**+4.0**
BTKR	**Batakoyurt**	**1.18**	**45**	*e*PG	**Pg**	**16 43 13.5**	**+1.2**
BTKR				*e*S	**Sn**	**16 43 28.4**	**+0.1**
KMGR	**Komgaron**	**1.19**	**64**	*e*Pg	**Pb**	**16 43 13.0**	**+0.7**
KMGR				*e*Sg	**Sg**	**16 43 32.4**	**+4.3**
KMGR	**Komgaron**	**1.19**	**64**	*e*PG	**Pb**	**16 43 12.9**	**+0.6**
KMGR				*e*S	**Sg**	**16 43 31.3**	**+3.2**
KBZ	**Khabaz**	**1.25**	**343**	Pg	**Pb**	**16 43 13.2**	**0.0**
	26nm,0.3s,baz=169,slow=11,SNR=185						
KBZ				Lg	Lg	16 43 30.2	
	41nm,0.3s,baz=52,slow=21,SNR=9.5						
KBZ	**Khabaz**	**1.25**	**343**	⇓*e*PG	**Pb**	**16 43 13.1**	**-0.1**
KBZ				*i* S	**Sn**	**16 43 29.6**	**-0.3**
TBLG	**Delisi**	**1.28**	**129**	PN	**Pn**	**16 43 13.6**	**+0.1**
TBLG				SN	**Sn**	**16 43 31.0**	**+0.4**
TBLG	**Delisi**	**1.28**	**129**	PG	**Pn**	**16 43 13.3**	**-0.2**
TBLG				S	**Sn**	**16 43 31.1**	**+0.4**
TBLG	**Delisi**	**1.28**	**129**	P	**Pn**	**16 43 13.3**	**-0.2**
TBLG				S	**Sn**	**16 43 31.1**	**+0.5**
SEAG	**Tbilisi Sea**	**1.29**	**126**	PG	**Pn**	**16 43 13.8**	**0.0**
SEAG				S	**Sb**	**16 43 30.8**	**+0.1**
SEAG	**Tbilisi Sea**	**1.29**	**126**	P	**Pn**	**16 43 13.8**	**0.0**
SEAG				S	**Sb**	**16 43 30.8**	**+0.1**
DMNI	**Dmanisi**	**1.34**	**154**	PG	**Pn**	**16 43 13.9**	**-0.6**
DMNI				S	**Sn**	**16 43 32.3**	**-0.1**
DMNI	**Dmanisi**	**1.34**	**154**	P	**Pn**	**16 43 13.9**	**-0.6**
DMNI				S	**Sn**	**16 43 32.3**	**-0.1**
BTNK	**Botanikuri**	**1.34**	**129**	*i* P	**Pn**	**16 43 14.5**	**+0.1**
BTNK				*i* S	**Sn**	**16 43 32.1**	**-0.2**
BTNK	**Botanikuri**	**1.34**	**129**	PG	**Pn**	**16 43 14.2**	**-0.2**
BTNK				S	**Sb**	**16 43 32.7**	**+0.6**
BTNK	**Botanikuri**	**1.34**	**129**	P	**Pn**	**16 43 14.2**	**-0.2**
BTNK				S	**Sb**	**16 43 32.7**	**+0.6**
KZRT	**Kazreti**	**1.37**	**147**	*i* P	**Pn**	**16 43 14.5**	**-0.3**
KZRT				*i* S	**Sn**	**16 43 32.3**	**-0.6**
KZRT	**Kazreti**	**1.37**	**147**	PG	**Pn**	**16 43 14.4**	**-0.3**
KZRT				S	**Sn**	**16 43 32.7**	**-0.2**
KZRT	**Kazreti**	**1.37**	**147**	P	**Pn**	**16 43 14.4**	**-0.3**
KZRT				S	**Sn**	**16 43 32.7**	**-0.2**
PRTR	**Priterechnaya**	**1.37**	**28**	*e*Pg	**Pg**	**16 43 17.0**	**+1.0**
PRTR				*e*Sg	**Sg**	**16 43 37.4**	**+3.6**
PRTR	**Priterechnaya**	**1.37**	**28**	*e*PG	**Pg**	**16 43 16.8**	**+0.8**
PRTR				*e*S	**Sg**	**16 43 36.1**	**+2.3**
DOMR	**Dombai**	**1.51**	**301**	*e*PG	**Pg**	**16 43 20.2**	**+1.6**
DOMR				*e*S	**Sg**	**16 43 41.0**	**+2.8**
KIV	**Kislovodsk**	**1.51**	**340**	PN	**Pb**	**16 43 18.3**	**+0.5**
KIV				SN	**Sg**	**16 43 38.2**	**-0.1**
KIV	**Kislovodsk**	**1.51**	**340**	*e*PG	**Pb**	**16 43 18.1**	**+0.3**
KIV				*e*S	**Sg**	**16 43 38.0**	**-0.3**
TRKR	**Terskaya**	**1.53**	**39**	*e*Pg	**Pb**	**16 43 18.9**	**+0.9**
TRKR				*e*Sg	**Sg**	**16 43 41.6**	**+2.7**
TRKR	**Terskaya**	**1.53**	**39**	*e*PG	**Pb**	**16 43 18.3**	**+0.2**
TRKR				*e*S	**Sg**	**16 43 41.3**	**+2.4**
BEYR	**Belyy Ugol+**	**1.54**	**344**	*e*PG	**Pg**	**16 43 18.9**	**-0.2**
BEYR				*e*S	**Sg**	**16 43 39.0**	**0.0**
BATM	**Batumi**	**1.58**	**234**	PN	**Pb**	**16 43 18.6**	**-0.3**
BATM				SN	**Sn**	**16 43 37.7**	**-0.4**
BATM	**Batumi**	**1.58**	**234**	*i* P	**Pb**	**16 43 18.3**	**-0.5**
BATM				*i* S	**Sb**	**16 43 39.6**	**+0.7**
BATM	**Batumi**	**1.58**	**234**	⇓*i*PG	**Pb**	**16 43 18.6**	**-0.3**
BATM				*e*S	**Sg**	**16 43 40.1**	**-0.3**
BATM	**Batumi**	**1.58**	**234**	P	**Pb**	**16 43 18.4**	**-0.4**
BATM				S	**Sg**	**16 43 40.6**	**+0.2**
ARTV	**Artvin**	**1.74**	**220**	*i* P	**Pb**	**16 43 21.8**	**0.0**
ARTV				*i* S	**Sb**	**16 43 44.3**	**+0.5**
ARTV				IAML		16 43 50.0	
	comp=E,569nm,0.5s						
ARTV				IAML		16 43 50.0	
	comp=N,514nm,0.6s						
DBOC	**Borcka**	**1.76**	**228**	*i* P	**Pb**	**16 43 21.8**	**-0.2**
DBOC				*i* S	**Sb**	**16 43 45.3**	**+1.2**
DBOC				IAML		16 43 47.0	
	comp=E,439nm,0.6s						
DAGI	**Agillar**	**1.83**	**218**	*i* P	**Pb**	**16 43 23.4**	**+0.1**
DAGI				*i* S	**Sb**	**16 43 46.6**	**+0.3**
DAGI				IAML		16 43 50.0	
	comp=N,344nm,0.6s						
DAGI				IAML		16 43 51.0	
	comp=E,308nm,0.5s						
EAK	**Akyaka**	**1.85**	**175**	*i* P	**Pb**	**16 43 23.7**	**0.0**
EAK				*i* S	**Sb**	**16 43 47.9**	**+1.0**
ARXR	**Arkhyz**	**1.87**	**304**	*e*PN	**Pg**	**16 43 25.1**	**-0.4**
ARXR				*e*S	**Sg**	**16 43 50.9**	**+1.2**
GROC	**Groznyy**	**1.88**	**68**	*e*Pg	**Pb**	**16 43 24.7**	**+0.7**
GROC				*e*Sg	**Sg**	**16 43 50.2**	**+0.2**
GROC	**Groznyy**	**1.88**	**68**	*e*PN	**Pn**	**16 43 22.9**	**+1.2**
GROC				*e*		16 43 49.3	
GROC				pmax	pmax		
	comp=Z,89nm,0.6s						
GROC				smax	smax		
	comp=N,509nm,0.6s						
GROC				smax	smax		
	comp=N,476nm,0.6s						
GROC				smax	smax		
	comp=E,346nm,0.7s						
KARS	**Kars**	**1.92**	**187**	PN	**Pn**	**16 43 22.6**	**+0.1**
KARS	**Kars**	**1.92**	**187**	PN	**Pg**	**16 43 27.7**	**+1.2**
DBAD	**Bademkaya**	**1.98**	**221**	*i* P	**Pb**	**16 43 25.3**	**-0.5**
DBAD				*i* S	**Sb**	**16 43 51.7**	**+1.1**
DBAD				IAML		16 43 54.0	
	comp=N,845nm,0.8s						
DBAD				IAML		16 43 54.0	
	comp=E,683nm,0.4s						
BTLR	**Botlikh**	**2.08**	**86**	*e*PN	**Pb**	**16 43 28.0**	**+0.5**
BTLR				*e*S	**Sb**	**16 43 55.5**	**+2.0**
SENK	**Senkaya-Erzuru**	**2.13**	**202**	PN	**Pb**	**16 43 27.2**	**-1.1**
LGD	**Lagodekhi**	**2.22**	**107**	*e*PN	**Pb**	**16 43 29.0**	**-0.9**
LGD				*e*S	**Sb**	**16 43 58.4**	**+1.0**
LGD	**Lagodekhi**	**2.22**	**107**	P	**Pb**	**16 43 28.9**	**-0.9**
LGD				S	**Sb**	**16 43 57.6**	**+0.3**
DDFL	**Dedoflistskaro**	**2.30**	**117**	*i* P	**Pb**	**16 43 32.5**	**+1.3**
DDFL				*i* S	**Sg**	**16 44 05.0**	**+1.6**
DDFL	**Dedoflistskaro**	**2.30**	**117**	PN	**Pb**	**16 43 30.1**	**-1.0**
DDFL				S	**Sg**	**16 44 06.4**	**+3.0**
DDFL	**Dedoflistskaro**	**2.30**	**117**	P	**Pb**	**16 43 30.2**	**-1.0**
DDFL				S	**Sg**	**16 44 06.4**	**+3.0**
NVNR	**Nevinnomyssk**	**2.33**	**334**	*e*PN	**Pb**	**16 43 33.0**	**+1.4**
NVNR				*e*S	**Sg**	**16 44 32.7**	**-0.7**
XNZR	**Khunzakh**	**2.44**	**89**	*e*PN	**Pb**	**16 43 34.2**	**+0.6**
XNZR				*e*S	**Sn**	**16 44 02.1**	**+2.6**
CHOM	**Cayeli-Rize**	**2.44**	**235**	PN	**Pn**	**16 43 29.8**	**+0.3**
CHOM				SN	**Sn**	**16 43 58.9**	**-0.6**
GOF	**Gofitskoye**	**2.53**	**354**	⇑*e*PN	**Pg**	**16 43 38.7**	**+0.5**
GOF				*i* S	**Sg**	**16 44 12.1**	**+1.1**
GOF				pmax	pmax		
	comp=Z,62nm,0.6s						
GOF				smax	smax		
	comp=N,408nm,0.6s						
ZKTA	**Zakatala**	**2.56**	**109**	PN	**Pb**	**16 43 35.8**	**+0.3**
DBC	**Dubki**	**2.57**	**78**	*i* PN	**Pb**	**16 43 34.9**	**-0.9**
DBC				*e*S	**Sb**	**16 44 07.8**	**+0.4**
TASB	**TASBURUN-IGDIR**	**2.63**	**166**	PN	**Pn**	**16 43 32.5**	**+0.4**
GNBR	**Gunib**	**2.64**	**92**	*e*PN	**Pb**	**16 43 37.2**	**+0.3**
GNBR				*e*S	**Sb**	**16 44 11.0**	**+1.6**
BUJR	**Buynaksk**	**2.75**	**83**	*e*PN	**Pb**	**16 43 40.0**	**+1.2**
BUJR				*e*S	**Sb**	**16 44 13.8**	**+1.3**
KOPR	**Koprukoy-ERZUR**	**2.80**	**205**	PN	**Pn**	**16 43 34.7**	**+0.1**
AKDA	**Akdag**	**2.88**	**213**	*i* P	**Pb**	**16 43 41.7**	**+0.6**
KRIK	**Erzurum-spir**	**2.88**	**221**	*i* P	**Pb**	**16 43 42.7**	**+1.5**
GANJ	**Ganja**	**2.89**	**130**	PN	**Pn**	**16 43 37.5**	**+1.8**
AGRB	**Hanur-Agry**	**2.98**	**186**	PN	**Pn**	**16 43 37.5**	**+0.5**
SEKA	**Sheki**	**3.13**	**114**	PN	**Pb**	**16 43 44.1**	**-1.2**
KTUT	**Trabzon**	**3.13**	**242**	PN	**Pn**	**16 43 39.6**	**+0.6**
BAYB	**BAYBURT**	**3.28**	**227**	*i* P	**Pb**	**16 43 45.0**	**-3.1**
AKT	**Akhty**	**3.39**	**107**	*e*PN	**Pn**	**16 43 45.1**	**+2.5**
AKT				*e*S	**Sn**	**16 44 27.3**	**+4.3**
ESPY	**Espiye-Giresun**	**3.86**	**247**	PN	**Pn**	**16 43 49.8**	**+0.8**
KVT	**Kavak**	**5.69**	**258**	PN	**Pn**	**16 44 16.2**	**+2.0**
SNOP	**Sinop**	**6.10**	**268**	PN	**Pn**	**16 44 22.4**	**+2.6**
DIKM	**Dikmen**	**6.13**	**264**	PN	**Pn**	**16 44 21.4**	**+1.3**
BRTR	**Keskin Array B**	**7.89**	**252**	PN	**Pn**	**16 44 47.6**	**+3.1**
	comp=N,0.2nm,0.3s,baz=64,slow=11,SNR=3.6						
AKTO	**Aktyubinsk**	**12.78**	**47**	⇑P	**Pn**	**16 45 49.2**	**-2.1**
	comp=N,4.6nm,1.2s						
AKTO				⇑S	**Sn**	**16 48 05.0**	**-8.5**
	comp=N,2.2nm,0.8s						
AB31	**Akbulak array**	**13.32**	**54**	⇓P	**Pn**	**16 45 57.8**	**-0.8**
	comp=N,0.5nm,0.2s,baz=246,slow=13,SNR=22						
AB31				⇑S	Sn	16 48 16.9	-10
	comp=N,2.3nm,0.3s,baz=244,slow=22,SNR=4.5						
OBN	**Obninsk**	**13.36**	**343**	*e*P	**Pn**	**16 45 59.7**	**+0.7**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**20.78**	**50**	⇑*i*P	**P**	**16 47 31.3**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**22.83**	**79**	⇓*e*P	**P**	**16 47 50.4**	**-2.4**
KURK	**Kurchatov**	**25.33**	**59**	⇑*e*P	**P**	**16 48 15.1**	**-1.2**
MKAR	**Makanchi Array**	**27.78**	**68**	P	**P**	**16 48 39.9**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=275,slow=7.1,SNR=2.7						

ISC 06 16:54:59.2±1.3, 45.°04N±0.°03×14.°89E±0.°07, h11km±11km, n8, σ0s53/13, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVLJ	**Novalja**	**0.47**	**182**	*e*Pg	**Pg**	**16 55 08.0**	**-0.6**
NVLJ				Sg	**Sg**	**16 55 15.8**	**+1.0**
GBRS	**Gornja Briga**	**0.50**	**353**	*i* Pg	**Pg**	**16 55 08.8**	**-0.2**
GBRS				*i* Sg	**Sb**	**16 55 17.0**	**-0.3**
BOJS	**Bojanci**	**0.53**	**28**	*i* Pg	**Pg**	**16 55 09.3**	**-0.3**
BOJS				*i* Sg	**Sb**	**16 55 17.9**	**-0.3**
KNDS	**Knezji Dol**	**0.61**	**324**	*i* Pg	**Pg**	**16 55 10.4**	**-0.7**
KNDS				*i* Sg	**Sb**	**16 55 20.8**	**+0.2**
VISS	**Visnje**	**0.77**	**357**	*i* Pg	**Pg**	**16 55 14.2**	**+0.1**
GBAS	**Gorenja Brezov**	**0.95**	**341**	*i* Sg	**Sn**	**16 55 32.1**	**0.0**
JAVS	**Javornik**	**1.03**	**326**	*i* Sg	**Sn**	**16 55 34.6**	**+0.3**
DUGI	**Dugi Otok**	**1.05**	**173**	*e*Pg	**Pg**	**16 55 19.1**	**-0.4**
DUGI				Sg	**Sn**	**16 55 34.8**	**+0.2**

*IDC **06** 16:55:23.6±1.3, 0.°24N×145.°89E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.7/33, mbtmp3.9/7, ML3.1/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/35, Error ellipse: s-maj=40.9km s-min=18.8km az=118.0*
*NEIC **06** 16:55:25.9±0.7, 0.°18N±0.°09×146.°0E±0.°1, h16km±4km, mb4.5/12, Error ellipse: s-maj=16.9km s-min=10.8km az=120.0*
ISC 06 16:55:28.2±0.9, 0.°2N±0.°1×146.°0E±0.°1, h35km, n26, σ0s86/18, mb4.2/9, MS3.5/3, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**5.90**	**243**	Pn	**Pn**	**16 56 53.0**	**-0.1**
	0.5nm,0.3s,baz=149,slow=12,SNR=1.3						
JAY				Sn	**Sn**	**16 58 00.6**	**+1.0**
	1.1nm,0.3s,baz=139,slow=20,SNR=1.9						
JAY				LR	LR	16 59 01.4	
	comp=Z,128nm,20.3s,baz=270,slow=37						
SAUI	**Saumlaki**	**16.71**	**241**	Pn	**Pn**	**16 59 18.6**	**-1.2**
HNR	**Honiara**	**16.90**	**125**	LR	LR	17 05 22.9	
	comp=Z,138nm,18.9s,baz=324,slow=35						
HNR	**Honiara**	**16.90**	**125**	Pn	**Pn**	**16 59 20.8**	**-1.3**
MTN	**Manton Dam**	**19.59**	**228**	Pn	**Pn**	**16 59 55.3**	**+0.3**
MTN				lAmb	lAmb	17 00 04.4	
	comp=Z,26nm,1.2s						
WB0	**Warramunga Arr**	**22.84**	**209**	P	**P**	**17 00 28.2**	**-0.3**
WR0	**Warramunga Arr**	**22.94**	**209**	P	**P**	**17 00 29.4**	**-0.1**
WR0				lAmb	lAmb	17 00 44.8	
	comp=Z,32nm,1.9s						
WB2	**Warramunga Arr**	**23.02**	**209**	P	**P**	**17 00 30.3**	**0.0**
WB2				lAmb	lAmb	17 00 54.2	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**23.02**	**209**	P	**P**	**17 00 30.5**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=31,slow=11,SNR=77						
WRA				LR	LR	17 10 13.8	
	comp=Z,89nm,20.5s,baz=185,slow=39						
MMRI	**Maumere**	**25.20**	**249**	P	**P**	**17 00 49.3**	**-1.6**
EIDS	**Eidsvold**	**25.89**	**169**	P	**P**	**17 00 57.9**	**+0.9**
EIDS				lAmb	lAmb	17 01 34.1	
	comp=Z,20nm,1.3s						
AS31	**Alice Springs**	**26.45**	**205**	P	**P**	**17 01 02.4**	**+0.3**
ASAR	**Alice Springs**	**26.45**	**205**	P	**P**	**17 01 02.6**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=32,slow=7.3,SNR=24						
FITZ	**Fitzroy Crossi**	**27.01**	**227**	P	**P**	**17 01 08.3**	**+1.2**
	comp=Z,5.2nm,1.3s,baz=67,slow=7.7,SNR=1.7						
FITZ	**Fitzroy Crossi**	**27.01**	**227**	lAmb	lAmb	17 01 09.3	
	comp=Z,20nm,1.6s						
H11S3	**WAKE ISLAND Hy**	**27.30**	**47**	T	T	17 29 18.0	
	baz=229,slow=75,SNR=9.3						
H11S2	**WAKE ISLAND Hy**	**27.32**	**47**	T	T	17 29 14.2	
	baz=229,slow=75,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**27.32**	**47**	T	T	17 29 22.1	
	baz=229,slow=75,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	**28.23**	**45**	T	T	17 30 34.8	
	baz=227,slow=74						
H11N2	**WAKE ISLAND Hy**	**28.25**	**45**	T	T	17 30 30.4	
	baz=227,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.25**	**45**	T	T	17 30 21.7	
	baz=227						
FORT	**Forrest**	**35.18**	**207**	P	**P**	**17 02 19.0**	**0.0**
CMAR	**Chiang Mai Arr**	**49.59**	**294**	P	**P**	**17 04 15.5**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=115,slow=6.8,SNR=9.1						
CMAR				LR	LR	17 25 33.0	
	comp=Z,56nm,18.2s,baz=231,slow=36						
PETK	**Petropavlovsk-**	**53.64**	**9**	P	**P**	**17 04 46.6**	**+0.6**
	comp=Z,2.5nm,1.0s,baz=166,slow=7.1,SNR=5.8						
SONM	**Songino Array**	**58.54**	**330**	LR	LR	17 34 02.1	
	comp=Z,34nm,18.1s,baz=248,slow=40						
ILAR	**Eielson Array**	**80.25**	**24**	P	**P**	**17 07 35.7**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=245,slow=4.6,SNR=5.2						

*IDC **06** 17:20:30.0±1.7, 6.°62S×129.°96E, h137km±19km, mb4.1/1, mb1 3.8/7, mb1mx3.3/36, mbtmp4.2/7, Error ellipse: s-maj=25.7km s-min=13.2km az=112.0*
*NEIC **06** 17:20:31.6±1.8, 6.°57S±0.°06×129.°76E±0.°10, h149km±16km, mb4.0/3, Error ellipse: s-maj=14.6km s-min=8.8km az=75.0*
*DJA **06** 17:20:32.0±0.3, 7.°S±3.°×13.°0E±.°, h189km±7km, M4.2/7, mb3.9/7, mB5.4/1, MLv4.4/7, Mw(mB)4.8/1*
ISC 06 17:20:34.7±1.2, 7.°02S±0.°09×129.°84E±0.°07, h200km, n24, σ1s95/27, mb4.1/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.73**	**124**	P	**Pn**	**17 21 09.9**	**-0.7**
SAUI				S	**Sn**	**17 21 38.4**	**-0.1**
SAUI	**Saumlaki**	**1.73**	**124**	Pn	**Pn**	**17 21 08.5**	**-2.2**
FAKI	**Fak Fak**	**4.73**	**31**	P	Pn	17 21 37.3	-8.4
FAKI				S	Sn	17 22 26.0	-16
FAKI	**Fak Fak**	**4.73**	**31**		Pn	17 21 36.4	-9.4
MTN	**

ISC 06 17:50:11.9±1.2, 6°64'N±0°10×126°6E±0°2, h50km, n25, σ1§38/23, mb4.3/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.09**	**293**	**Pg**	**Pn**	**17 50 32.4**	**+1.5**
	197nm,0.3s,baz=24,slow=1.3,SNR=10						
DAV				Lg	Lg	17 50 47.6	
	222nm,0.3s,baz=177,slow=24,SNR=3.9						
DAV	**Davao City (W)**	**1.09**	**293**		**Pn**	**17 50 30.3**	**-0.6**
TNTI	**Ternate**	**5.88**	**172**	P	**Pn**	**17 51 39.1**	**+2.6**
	0.1nm15nm,0.7s						
TNTI				S	**Sn**	**17 52 44.8**	**+2.2**
	0.1nm15nm,0.7s						
TNTI	**Ternate**	**5.88**	**172**		**Pn**	**17 51 33.9**	**-2.6**
KMSI	**Cibinong**	**6.56**	**203**	P	**Pn**	**17 51 46.2**	**+0.3**
	0.2nm38nm,0.5s						
GTOI	**Gorontalo**	**6.95**	**211**	P	**Pn**	**17 51 51.0**	**-0.2**
	0.2nm559nm49nm,0.6s						
GTOI				S	Sn	17 53 00.6	-8.4
	0.2nm559nm49nm,0.6s						
LUWI	**Luwuk**	**8.53**	**207**	P	**Pn**	**17 52 13.7**	**+0.9**
SIJI	**Sorong**	**8.80**	**148**	Pn	Pn	17 52 21.1	+4.6
	0.7nm,0.3s,baz=22,slow=19,SNR=1.7						
KAPI	**Kappang**	**13.44**	**211**	LR	LR	17 58 05.8	
	comp=Z,60nm,19.3s,baz=198,slow=39						
KNRA	**Kununurra**	**22.28**	**174**	P	**P**	**17 55 05.0**	**0.0**
KNRA				IAmb	IAmb	17 55 13.4	
	comp=Z,11nm,0.9s						
LEM	**Lembang**	**23.18**	**235**	LR	LR	18 05 31.5	
	comp=Z,78nm,18.3s,baz=144,slow=43						
FITZ	**Fitzroy Crossi**	**24.60**	**182**	P	**P**	**17 55 25.6**	**-1.9**
	comp=Z,2.5nm,1.0s,baz=359,slow=12,SNR=1.9						
FITZ	**Fitzroy Crossi**	**24.60**	**182**	P	**P**	**17 55 25.3**	**-2.2**
WB0	**Warramunga Arr**	**27.34**	**164**	P	**P**	**17 55 52.7**	**+0.3**
WB0				IAmb	IAmb	17 56 11.4	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**27.49**	**164**	P	**P**	**17 55 55.3**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=336,slow=11,SNR=9.0						
WRA	**Warramunga Arr**	**27.49**	**164**	P	**P**	**17 55 54.5**	**+0.8**
WB2	**Warramunga Arr**	**27.50**	**164**	P	**P**	**17 55 54.4**	**+0.6**
WB2				IAmb	IAmb	17 56 17.7	
	comp=Z,11nm,1.4s						
WR0	**Warramunga Arr**	**27.56**	**164**	P	**P**	**17 55 55.2**	**+0.9**
WR0				IAmb	IAmb	17 56 02.0	
	comp=Z,13nm,1.5s						
ASAR	**Alice Springs**	**30.95**	**167**	P	**P**	**17 56 24.6**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=343,slow=7.1,SNR=12						
ASAR	**Alice Springs**	**30.95**	**167**	P	**P**	**17 56 24.1**	**-0.3**
BBOO	**Buckleboo**	**40.25**	**168**	P	**P**	**17 57 44.5**	**+0.5**
MKAR	**Makanchi Array**	**55.12**	**324**	P	**P**	**17 59 40.3**	**+1.2**
	comp=Z,1.5nm,0.5s,baz=117,slow=7.5,SNR=23						
MKAR	**Makanchi Array**	**55.12**	**324**	P	**P**	**17 59 38.6**	**-0.4**
MAKZ	**Makanchi**	**55.31**	**324**	P	**P**	**17 59 41.3**	**+0.9**
KURK	**Kurchatov**	**59.24**	**327**	P	**P**	**18 00 07.7**	**-0.3**

*IDC **06** 17:58:34.1±2.2, 10°48S×161°29E, h108km±16km, mb3.6/9, mb1 3.8/10, mb1mx3.6/45, mbtmp4.0/10, MS3.1/2, Ms1 3.1/2, ms1mx2.7/29, Error ellipse: s-maj=25.3km s-min=17.0km az=96.0*

*NEIC **06** 17:58:34.3±1.2, 10°50S±0°08×161°3E±0°1, h107km±6km, mb4.4/14, Error ellipse: s-maj=20.5km s-min=9.9km az=71.0*

ISC 06 17:58:33.1±0.7, 10°51S±0°07×161°42E±0°10, h100km, n31, σ1§41/33, mb3.9/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.81**	**306**	P	**Pn**	**17 59 02.8**	**-0.4**
	347nm,0.3s,baz=174,slow=8.8,SNR=310						
HNR				S	**Sn**	**17 59 25.2**	**-1.0**
	226nm,0.3s,baz=162,slow=16,SNR=5.0						
HNR	**Honiara**	**1.81**	**306**		**Pn**	**17 59 02.9**	**-0.4**
HNR				Sn	**Sn**	**17 59 25.6**	**-0.6**
DZM	**Mont Dzumac**	**12.46**	**158**	P	**Pn**	**18 01 29.2**	**+2.1**
	1.0nm,0.3s,baz=32,slow=8.3,SNR=61						
DZM				S	**Sn**	**18 03 39.9**	**-4.3**
	0.6nm,0.3s,baz=150,slow=18,SNR=1.8						
DZM				LR	LR	18 05 23.0	
	comp=Z,60nm,20.4s,baz=47,slow=33						
DZM	**Mont Dzumac**	**12.46**	**158**		**Pn**	**18 01 29.0**	**+1.9**
CTA	**Charters Tower**	**17.44**	**235**	P	**Pn**	**18 02 33.2**	**+3.0**
	0.8nm,0.3s,baz=66,slow=12,SNR=12						
CTAO	**Charters Tower**	**17.44**	**235**	Pn	**Pn**	**18 02 33.3**	**+3.0**
CTAO				IAmb	IAmb	18 02 36.8	
	comp=Z,29nm,1.4s						
PATS	**Pohnpei**	**17.51**	**350**	Pn	**Pn**	**18 02 32.5**	**+1.5**
WR0	**Warramunga Arr**	**27.55**	**247**	P	**P**	**18 04 10.7**	**-0.2**
WR0				IAmb	IAmb	18 04 12.6	
	comp=Z,11nm,1.2s						
WB0	**Warramunga Arr**	**27.63**	**247**	P	**P**	**18 04 11.4**	**-0.2**
WB0				IAmb	IAmb	18 04 12.7	
	comp=Z,5.4nm,0.8s						
WB2	**Warramunga Arr**	**27.71**	**247**	P	**P**	**18 04 12.2**	**-0.1**
WB2				IAmb	IAmb	18 04 18.1	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**27.73**	**247**	P	**P**	**18 04 12.2**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=78,slow=9.0,SNR=19						
WRA	**Warramunga Arr**	**27.73**	**247**	P	**P**	**18 04 11.5**	**-0.9**
STKA	**Stephens Creek**	**28.07**	**218**	P	**P**	**18 04 14.8**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=60,slow=14,SNR=1.7						
AS31	**Alice Springs**	**29.30**	**240**	P	**P**	**18 04 25.6**	**-0.9**
ASAR	**Alice Springs**	**29.30**	**240**	P	**P**	**18 04 25.4**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=64,slow=10,SNR=17						
ASAR	**Alice Springs**	**29.30**	**240**	P	**P**	**18 04 25.2**	**-1.2**
TOO	**Toolangi**	**30.52**	**205**	P	**P**	**18 04 38.4**	**+1.4**
KNRA	**Kununurra**	**32.20**	**257**	P	**P**	**18 04 51.5**	**-0.4**
BBOO	**Buckleboo**	**32.21**	**223**	P	**P**	**18 04 52.1**	**+0.2**
BBOO				IAmb	IAmb	18 05 07.3	
	comp=Z,21nm,1.4s						
ASAJ	**Asahikawa**	**57.00**	**344**	LR	LR	18 28 10.5	
	comp=Z,25nm,20.2s,baz=256,slow=31						
KSRS	**Korea Array**	**57.12**	**328**	P	**P**	**18 08 09.4**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=149,slow=7.0,SNR=1.8						
SONM	**Songino Array**	**75.77**	**325**	P	**P**	**18 10 08.3**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=148,slow=6.0,SNR=11						
SONM	**Songino Array**	**75.77**	**325**	P	**P**	**18 10 07.9**	**-0.3**
YAK	**Yakutsk**	**76.44**	**345**	P	**P**	**18 10 10.9**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=92,slow=0.9,SNR=4.7						
YAK	**Yakutsk**	**76.44**	**345**	P	**P**	**18 10 10.8**	**-0.7**
YAK				IAmb	IAmb	18 10 11.9	
	comp=Z,4.7nm,0.7s						
IMAR	**Indian Mountai**	**83.10**	**17**	P	**P**	**18 10 47.6**	**+0.2**
ILAR	**Eielson Array**	**84.40**	**20**	P	**P**	**18 10 54.1**	**0.0**
	comp=Z,0.4nm,0.4s,baz=238,slow=3.5,SNR=6.3						
DOT	**Dot Lake**	**84.69**	**21**	P	**P**	**18 10 56.0**	**+0.4**
NVAR	**Mina Array Bea**	**88.95**	**51**	P	**P**	**18 11 17.8**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=225,slow=8.2,SNR=3.6						
MKAR	**Makanchi Array**	**90.25**	**318**	P	**P**	**18 11 21.1**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=92,slow=6.8,SNR=5.2						
MKAR	**Makanchi Array**	**90.25**	**318**	P	**P**	**18 11 21.9**	**-0.8**

IDC 06 18:28:37.0±8.2, 16°12N×146°23E, h187km±45km, mb2.9/4, mb1 3.1/5, mb1mx2.8/40, mbtmp3.4/5, Error ellipse: s-maj=147.7km s-min=21.9km az=80.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.84**	**208**	P	Pn	18 29 24.4	+0.3
	9.1nm,0.3s,baz=162,slow=20,SNR=1.7						
GUMO				S	Sn	18 30 01.1	+0.3
	5.9nm,0.3s,baz=196,slow=23,SNR=1.3						
H11S3	**WAKE ISLAND Hy**	**19.68**	**80**	T	T	18 54 08.5	
	baz=258						
H11S1	**WAKE ISLAND Hy**	**19.69**	**80**	T	T	18 54 10.3	
	baz=258						
H11S2	**WAKE ISLAND Hy**	**19.69**	**80**	T	T	18 54 24.1	
	baz=258						
H11N1	**WAKE ISLAND Hy**	**19.98**	**77**	T	T	18 54 41.3	
	baz=262						
H11N2	**WAKE ISLAND Hy**	**19.99**	**77**	T	T	18 54 42.2	
	baz=262						
H11N3	**WAKE ISLAND Hy**	**20.00**	**77**	T	T	18 54 44.8	
	baz=262						
WRA	**Warramunga Arr**	**37.69**	**198**	P	P	18 35 34.6	+0.1
	0.2nm,0.3s,baz=36,slow=8.3,SNR=8.0						
ASAR	**Alice Springs**	**41.34**	**197**	P	P	18 36 04.3	-0.3
	0.3nm,0.6s,baz=19,slow=13,SNR=8.3						
MKAR	**Makanchi Array**	**60.62**	**315**	P	P	18 38 28.9	+0.9
	0.1nm,0.5s,baz=91,slow=7.5,SNR=1.9						
KURBB	**Kurchatov Array**	**63.57**	**319**	P	P	18 38 46.9	-0.7
	0.5nm,0.8s,baz=97,slow=7.0,SNR=4.6						

*IDC **06** 18:33:07.5±4.1, 41°.26N×113°.18W, h0km, mb1 2.5/1, mb1mx2.5/36, mbtmp2.0/1, ML2.9/1, Error ellipse: s-maj=98.6km s-min=28.9km az=150.0*

*NEIC **06** 18:33:10.6±3.1, 41°.06N±0°.02×112°.85W±0°.05, h0km±1km, ML1.9/26, Error ellipse: s-maj=6.1km s-min=3.4km az=77.0*

ISC 06 18:33:08.5±1.0, 41°.16N±0°.04×112°.84W±0°.04, h0km, n17, σ0§79/16, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGU	**Big Grassy Mou**	**0.28**	**212**	Pg	**Pg**	**18 33 14.5**	**+0.6**
SPUT	**South Promonto**	**0.33**	**63**		**Pb**	**18 33 18.0**	**+0.7**
HVU	**Hansel Valley**	**0.62**	**4**	Pg	**Pb**	**18 33 22.8**	**+0.5**
DUG	**Dugway, Tooele**	**0.97**	**179**		**Pb**	**18 33 28.3**	**+0.1**
DUG				IAML		18 33 44.3	
	25nm,0.4s						
DUG				IAML		18 33 47.0	
	24nm,0.5s						
HWUT	**Hardware Ranch**	**1.05**	**65**		**Pn**	**18 33 30.9**	**+0.2**
HWUT				IAML		18 33 54.5	
	16nm,0.4s						
TCUT	**Toone Canyon**	**1.08**	**92**		**Pn**	**18 33 31.9**	**+0.7**
JLU	**Jordanelle**	**1.19**	**118**	Pg	**Pn**	**18 33 33.0**	**+0.3**
NLU	**North Lily Min**	**1.34**	**154**	Pg	**Pg**	**18 33 34.0**	**-0.2**
ELK	**Elko**	**1.87**	**258**	Pn	**Pn**	**18 33 42.0**	**0.0**
HLID	**Hailey**	**2.67**	**335**	Pn	**Pb**	**18 33 56.7**	**-0.5**
PSUT	**Pine Spring**	**2.74**	**197**	Pn	**Pn**	**18 33 53.5**	**-0.5**
PDAR	**Pinedale Array**	**2.92**	**56**	Pn	**Pb**	**18 33 59.5**	**-2.1**
	0.2nm,0.3s,baz=224,slow=11,SNR=2.4						
PDAR				Pg	**Pg**	**18 34 04.4**	**-0.1**
	0.7nm,0.3s,baz=229,slow=14,SNR=12						
PDAR				Lg	Lg	18 34 44.7	
	0.8nm,0.3s,baz=218,slow=22,SNR=6.2						
PDAR	**Pinedale Array**	**2.92**	**56**		**Pn**	**18 33 57.4**	**+1.0**
IMW	**Indian Meadow**	**3.07**	**27**		**Pb**	**18 34 04.0**	**-0.2**
IMW				IAML		18 34 56.6	
	4.3nm,0.6s						
BCYI	**Bear Canyon**	**3.17**	**353**	Pn	**Pb**	**18 34 05.3**	**-0.6**
I56US	**NEWPORT INFRAS**	**7.73**	**338**	*i*		19 16 50.0	
	baz=160,slow=315,SNR=2.4						
I57US	**PINON FLAT INF**	**8.07**	**202**	*i*		19 24 40.0	
	baz=17,slow=280,SNR=0.3						

*IDC **06** 18:37:29.6±5.7, 36°.53N×70°.82E, h94km±33km, mb3.3/2, mb1 3.3/8, mb1mx3.0/55, mbtmp3.6/8, Error ellipse: s-maj=67.0km s-min=19.6km az=155.0*

*NNC **06** 18:37:30.6±5.6, 36°.98N×70°.49E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=44.1km s-min=30.2km az=171.0*

ISC 06 18:37:32.1±1.8, 36°.7N±0°.1×70°.70E±0°.09, h100km, n20, σ0§99/25, 6C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.87**	**22**	P	**Pn**	**18 38 56.8**	**-0.1**
	SNR=34						
UCH	**Uchtor**	**6.23**	**27**	P	**Pn**	**18 39 01.4**	**-0.4**
	SNR=8.0						
KK31	**Karatay Array**	**6.37**	**359**	⇑P	**Pn**	**18 39 04.4**	**+1.2**
	1.8nm,0.2s,baz=176,slow=12,SNR=148						
KK31				⇑S	**Sn**	**18 40 15.1**	**+0.7**
	2.6nm,0.3s,baz=182,slow=24,SNR=7.9						
EKS2	**Erkin-Say**	**6.38**	**21**	P	**Pn**	**18 39 03.9**	**+0.3**
	SNR=5.9						
KZA	**Kyzart**	**6.40**	**32**	P	**Pn**	**18 39 03.4**	**-0.6**
	SNR=5.2						
AAK	**Ala-Archa**	**6.58**	**25**	P	**Pn**	**18 39 06.6**	**+0.2**
	2.2nm,0.3s,baz=177,slow=4.9,SNR=9.4						
AAK				S	**Sn**	**18 40 21.4**	**+1.4**
	0.8nm,0.3s,baz=344,slow=19,SNR=9.1						
AAK	**Ala-Archa**	**6.58**	**25**	P	**Pn**	**18 39 06.6**	**+0.2**
	SNR=6.0						
AAK	**Ala-Archa**	**6.58**	**25**	⇑P	**Pn**	**18 39 06.1**	**-0.3**
	3.5nm,0.4s						
AAK				⇓S	**Sn**	**18 40 20.8**	**+0.8**
	7.5nm,0.8s						
CHMS	**Chumysh**	**6.99**	**25**	P	**Pn**	**18 39 11.8**	**0.0**
	SNR=10.0						
TKM2	**Tokmak 2**	**7.24**	**30**	P	Pn	18 39 22.9	+7.6
	SNR=12						
GEYT	**Alibeck**	**10.09**	**281**	P	**Pn**	**18 39 54.1**	**+0.2**
	0.3nm,0.3s,baz=97,slow=18,SNR=2.0						
GEYT				S	**Sn**	**18 41 45.0**	**-0.2**
	0.8nm,0.3s,baz=269,slow=25,SNR=5.8						
MKAR	**Makanchi Array**	**13.25**	**37**	P	**Pn**	**18 40 35.2**	**-0.9**
	0.1nm,0.3s,baz=204,slow=11,SNR=2.0						
AB31	**Akbulak array**	**14.76**	**331**	P	**Pn**	**18 40 56.5**	**+1.0**
	2.4nm,0.3s,baz=168,slow=11,SNR=29						
AB31				⇑S	**Sn**	**18 43 36.6**	**-1.6**
	0.9nm,0.2s,baz=154,slow=23,SNR=6.5						
KURBB	**Kurchatov Arra**	**14.98**	**20**	P	**Pn**	**18 41 00.1**	**+1.7**
	0.1nm,0.3s,baz=208,slow=11,SNR=5.7						
AKTO	**Aktyubinsk**	**16.46**	**330**	P	**Pn**	**18 41 16.3**	**-0.5**
	0.2nm,0.3s,baz=145,slow=12,SNR=2.7						
AKTO	**Aktyubinsk**	**16.46**	**330**	⇑P	**Pn**	**18 41 16.1**	**-0.7**
	2.5nm,0.9s						
AKTO				⇑S	**Sn**	**18 44 17.7**	**-1.4**
	4.0nm,1.4s						
ZALV	**Zalesovo Beam**	**19.81**	**25**	P	**P**	**18 41 52.5**	**-1.8**
	0.5nm,0.3s,baz=209,slow=9.9,SNR=7.8						
FINES	**FINESS Array B**	**37.15**	**326**	P	**P**	**18 44 33.1**	**+0.3**
	0.6nm,0.6s,baz=121,slow=10.0,SNR=1.6						
NB2	**NORSAR Subarra**	**44.05**	**323**	P	**P**	**18 45 31.3**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.05**	**323**	P	**P**	**18 45 29.6**	**0.0**
	comp=Z,0.7nm,0.6s,baz=97,slow=7.7,SNR=5.4						

*ATH **06** 18:42:34.5, 36°.47N×27°.08E, h17km±3km, ML2.3/4, Error ellipse: s-maj=3.3km s-min=1.1km az=36.0*

*THE **06** 18:42:34.7, 36°.44N×27°.10E, h2km±3km, ML2.3/3, Error ellipse: s-maj=3.9km s-min=0.8km az=36.0*

ISK 06 18:42:34.3, 36°.44N×27°.06E, h10km, ML2.5/7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.18**	**17**	P	Pg	18 42 38.5	+0.3
NISR				S	Sg	18 42 41.5	+0.6
NISR	**Nisiros**	**0.18**	**17**	P	Pg	18 42 38.5	+0.3
NISR				S	Sg	18 42 41.5	+0.6
NISR				AML	AML	18 42 42.0	
	comp=E,5682μm,0.2s						
NISR				AML	AML	18 42 42.1	
	comp=N,4029μm,0.1s						
KOSK	**Kos Island**	**0.32**	**348**	P	Pb	18 42 41.6	-0.5
KOSK				S	Sb	18 42 46.2	-1.1
	comp=N,405nm,0.1s						
KOSK	**Kos Island**	**0.32**	**348**	PG	Pg	18 42 41.2	+0.5
KOSK				SG	Sb	18 42 46.2	-1.1
DAT	**Datca**	**0.51**	**55**	P	Pg	18 42 44.2	0.0
DAT				S	Sb	18 42 52.0	-0.8
DAT	**Datca**	**0.51**	**55**	PG	Pg	18 42 44.4	+0.2
DAT				SG	Sb	18 42 52.3	-0.5
DAT	**Datca**	**0.51**	**55**	*i* P	Pg	18 42 43.4	-0.8
DAT				*i* S	Sg	18 42 51.8	+0.9
BODT	**Bodrum**	**0.65**	**18**	P	Pg	18 42 47.3	+0.3
BODT	**Bodrum**	**0.65**	**18**	PG	Pb	18 42 47.4	-0.4
BODT				SG	Sb	18 42 57.0	+0.1
ARG	**Arkhangelos**	**0.89**	**104**	P	Pg	18 42 51.5	+0.1
ARG				S	Sb	18 43 04.2	+0.6
	comp=N,180nm,0.3s						
ARG	**Arkhangelos**	**0.89**	**104**	P	Pg	18 42 51.5	+0.1
ARG				S	Sb	18 43 03.8	+0.2
ARG				AML	AML	18 43 05.8	
	comp=E,412μm,0.3s						
ARG				AML	AML	18 43 06.3	
	comp=N,313μm,0.2s						
ARG	**Arkhangelos**	**0.89**	**104**	PG	Pb	18 42 51.9	+0.1
ARG				SG	Sb	18 43 04.5	+0.9
KARP	**Karpathos**	**0.89**	**175**	P	Pb	18 42 52.0	+0.1
KARP				S	Sb	18 43 04.6	+0.8
KARP	**Karpathos**	**0.89**	**175**	P	Pb	18 42 52.0	+0.2
KARP				S	Sb	18 43 04.6	+0.8
KARP				AML	AML	18 43 07.8	
	comp=N,95μm,0.3s						
KARP				AML	AML	18 43 09.3	
	comp=E,104μm,0.2s						
KARP	**Karpathos**	**0.89**	**175**	PG	Pb	18 42 52.1	+0.2
KARP				SG	Sn	18 43 04.9	-1.0
ANAF	**Anafi Island**	**1.04**	**266**	P	Pn	18 42 54.7	-0.2
ANAF				AML	AML	18 43 13.9	
	comp=N,837μm,0.4s						
ANAF				AML	AML	18 43 14.1	
	comp=E,719μm,0.4s						
SMG	**Samos**	**1.28**	**352**	P	Pn	18 42 57.6	-0.6
SMG	**Samos**	**1.28**	**352**	P	Pn	18 42 57.6	-0.6
SANT	**Santorini**	**1.29**	**267**	P	Pb	18 42 58.7	0.0
SANT	**Santorini**	**1.29**	**267**	P	Pg	18 42 59.2	+0.1
SANT	**Santorini**	**1.29**	**267**	PN	Pb	18 42 58.8	+0.1
APE	**Apeiranthos**	**1.38**	**298**	P	Pg	18 43 01.4	+0.6
APE	**Apeiranthos**	**1.38**	**298**	P	Pg	18 43 00.9	+0.1
APE	**Apeiranthos**	**1.38**	**298**	PN	Pb	18 43 00.2	0.0
IOSP	**Ios island**	**1.46**	**282**	P	Pg	18 43 02.5	+0.3
ZKR	**Zakros**	**1.49**	**208**	P	Pg	18 43 02.8	-0.1
ZKR	**Zakros**	**1.49**	**208**	PN	Pb	18 43 01.7	-0.3
FETY	**Fethiye**	**1.64**	**83**	PN	Pb	18 43 04.0	-0.6
FETY	**Fethiye**	**1.64**	**83**	*i* P	Pb	18 43 04.4	-0.2
AKAS	**Kas**	**2.06**	**95**	*i* P	Pg	18 43 15.1	+1.3
AKAS				*i* S	Sg	18 43 40.2	-0.5
AKAS				IAML		18 43 45.0	
	comp=N,17nm,0.4s						
IDI	**Anoyia**	**2.10**	**238**	PN	Pn	18 43 10.5	+0.9
GOLH	**Golhisar**	**2.16**	**68**	*i* P	Pb	18 43 13.7	+0.2
GOLH				*i* S	Sn	18 43 33.7	-3.5
GOLH				IAML		18 43 34.0	
	comp=N,20nm,0.4s						

*DDA **06** 18:42:44.9, 36°.85N×27°.71E, h7km±1km, ML2.2*

ISK 06 18:42:51.4, 37°.00N×28°.24E, h13km, ML2.3/9, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.14**	**13**	P	Pg	18 42 55.3	+0.3
YER	**Yerkesik**	**0.14**	**13**	PG	Pg	18 42 55.3	+0.3
YER				SG	Sg	18 42 57.9	+0.4
TURN	**Turunc**	**0.22**	**180**	PG	Pg	18 42 56.7	+0.5
TURN				SG	Sb	18 43 00.6	-0.7
TURN	**Turunc**	**0.22**	**180**	*i* P	Pg	18 42 53.5	-2.7
TURN				*i* S	Sg	18 42 59.9	+0.4
TURN				IAML		18 43 01.0	
	comp=E,341nm,0.2s						
TURN				IAML		18 43 01.0	
	comp=N,416nm,0.2s						
DALY	**Dalyan (Mula)**	**0.38**	**119**	PG	Pg	18 42 59.4	+0.5
DALY				SG	Sb	18 43 05.3	-0.3
DALY	**Dalyan (Mula)**	**0.38**	**119**	*i* P	Pb	18 42 59.8	-0.1
DALY				*i* S	Sb	18 43 06.4	+0.8
DALY				IAML		18 43 09.0	
	comp=E,62nm,0.2s						
DALY				IAML		18 43 09.0	
	comp=N,66nm,0.4s						
DAT	**Datca**	**0.60**	**243**	PG	Pb	18 43 03.5	-0.3
DAT				SG	Sb	18 43 12.3	+0.1
TAVA	**DENIZLI_Tavas**	**0.71**	**49**	*i* P	Pg	18 43 04.9	-0.3
BODT	**Bodrum**	**0.75**	**275**	PG	Pb	18 43 06.3	0.0
BODT				SG	Sb	18 43 17.5	+1.0
FETY	**Fethiye**	**0.77**	**118**	PG	Pb	18 43 06.7	+0.1
AYDB	**Zeytinkoy-Aydi**	**0.99**	**344**	PG	Pn	18 43 10.8	-0.3
GCAM	**G?zelcaml?**	**1.07**	**311**	PG	Pn	18 43 12.4	+0.4
GCAM	**G?zelcaml?**	**1.07**	**311**	*i* P	Pn	18 43 13.7	+1.6
AKAS	**Kas**	**1.34**	**125**	PN	Pb	18 43 16.4	0.0

*IDC **06** 18:45:37.1±0.5, 47°.04N×27°.39W, h0km, mb4.3/30, mb1 4.4/32, mb1mx4.4/43, mbtmp4.3/32, ML4.2/2, MS4.3/38, Ms1 4.3/38, ms1mx4.2/48, Error ellipse: s-maj=13.5km s-min=10.8km az=10.0*

*IGIL **06** 18:45:39.7, 47°.02N×27°.25W, h11km, mb5.2*

*GCMT **06** 18:45:39.0±0.2, 47°.03N±0°.02×27°.22W±0°.02, h12km, MW5.0/123, Moment Tensor Solution. s31,c38; s123,c194; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.38±.17; $M_{\theta\theta}$0.14±.10; $M_{\phi\phi}$3.24±.12; $M_{r\theta}$2.07±.38; $M_{\theta\phi}$-0.13±.06; $M_{r\phi}$0.37±.26; Best double couple: M_o3.80800×10^{16} NP1:ϕ_s336.00000°, δ47.00000°, λ-125.00000°. NP2:ϕ_s201.00000°, δ53.00000°, λ-58.00000°. Principal axes: T 3.2600, Plg3.0000°, Azm270.0000°; N 1.0960, Plg25.0000°, Azm1.0000°; P -4.3570, Plg65.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **06** 18:45:39.1±5.7, 47°.03N±0°.10×27°.3W±0°.1, h10km±1km, mb4.9/231 Error ellipse: s-maj=16.6km s-min=14.1km az=180.0*

ISC 06 18:45:40.3±0.3, 47°.05N±0°.07×27°.26W±0°.05, h19km, n435, σ1§20/416, mb4.8/167, MS4.3/56, 13C-11D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGAV	**Gavieira, Arco**	**14.46**	**104**	*eP*	**Pn**	**18 49 01.5**	**-2.5**
	74nm,1.4s						
PGAV				eLR	LR	18 52 09.3	
	2μm,18.0s						
PTO	**Porto**	**14.64**	**107**	*eP*	**Pn**	**18 49 03.5**	**-2.8**
PCAB	**Cabril**	**14.74**	**104**	*eP*	**Pn**	**18 49 04.6**	**-3.1**
	112nm,1.6s						
PVRL	**Vila Real**	**15.15**	**105**	*eP*	**Pn**	**18 49 09.2**	**-4.0**
	81nm,1.4s						
PVIS	**Viseu**	**15.31**	**107**	*eP*	**Pn**	**18 49 12.6**	**-2.8**
	77nm,1.5s						
PMAFR	**Mafra**	**15.42**	**115**	*eP*	**

ESBB Sonseca Array 18.43 105 P P 18 49 53.6 -0.9
CLF Chambon-Foret 19.90 76 P Pn 18 50 11.8 -0.4
SNF Seneffe 20.98 69 P P 18 50 23.5 +1.3
comp=Z,63nm,1.1s
UCC Uccle 21.02 68 P P 18 50 24.4 +1.8
UCC PnPn **PnPn 18 50 39.5 -1.9**
UCC Uccle 21.02 68 P P 18 50 24.4 +1.8
comp=Z,50nm,1.8s
DOU Dourbes 21.21 70 P P 18 50 25.9 +1.2
comp=Z,56nm,1.9s
BMRD Maredsous 21.31 69 P P 18 50 26.9 +1.3
BMRD PnPn **PnPn 18 50 43.3 -2.1**
BGES Gesves 21.50 69 P P 18 50 28.9 +1.1
comp=Z,78nm,1.9s
BCLA Clavier 21.64 69 P P 18 50 30.0 +0.7
comp=Z,61nm,1.8s
BCLA PnPn **PnPn 18 50 48.9 -1.1**
BSTI Sart Tilman 21.80 69 P P 18 50 32.2 +1.2
comp=Z,18nm,2.0s
BSTI PnPn **PnPn 18 50 49.3 -2.8**
BEBN Eben Emael 21.86 68 P P 18 50 32.7 +1.1
BEBN PnPn **PnPn 18 50 52.2 -0.7**
SSB Saint Sauveur 22.02 83 P P 18 50 35.1 +1.7
MEM Membach 22.08 68 P P 18 50 34.7 +0.8
comp=Z,42nm,1.3s
BHOU Houvegnez 22.09 69 P P 18 50 35.7 +1.5
comp=Z,74nm,1.8s
WLF Walferdange 22.25 71 P P 18 50 38.0 +2.2
WLF Walferdange 22.25 71 P P 18 50 37.0 +1.1
MDT Midelt 22.34 121 P P 18 50 38.1 +1.1
comp=Z,10nm,0.9s,baz=255,slow=6.4,SNR=19
ECH Echery 23.11 74 P P 18 50 46.0 +1.0
ASK Askoy 23.12 43 *eP* **P 18 50 45.3 +0.4**
SUE Sulen 23.14 41 *eP* **P 18 50 46.4 +1.4**
BER Bergen 23.15 43 *eP* **P 18 50 46.4 +1.2**
BLS5 Blasjo 23.38 46 *eP* **P 18 50 48.2 +0.7**
SFJD Kangerlussuaq 23.41 337 P P 18 50 46.3 -1.4
comp=Z,9.3nm,0.8s,baz=154,slow=7.5,SNR=4.6
SFJD LR LR 18 57 56.6
comp=Z,966nm,21.1s,baz=142,slow=32
SFJD Kangerlussuaq 23.41 337 IAmb IAmb 18 50 49.9
comp=Z,48nm,1.4s
SNART Snartemo 23.47 49 *eP* **P 18 50 48.5 +0.1**
BNI Bardonecchia 23.53 82 P P 18 50 49.0 -0.4
BNI IAmb IAmb 18 50 59.2
comp=Z,84nm,2.0s
SENIN Lac Senin/Sane 23.60 79 P P 18 50 51.2 +1.2
GBN Guysborough 23.65 279 P P 18 50 50.0 -0.2
GBN IAmb IAmb 18 50 53.0
comp=Z,31nm,1.1s
HYA Hoyanger 23.82 41 *eP* **P 18 50 53.5 +1.8**
BFO Black Forest 23.86 74 P P 18 50 52.7 +0.4
HOMB Homborsund 24.12 49 *eP* **P 18 50 56.5 +2.0**
STU Stuttgart 24.35 72 P P 18 50 57.0 +0.1
STU IAmb IAmb 18 51 00.6
comp=Z,32nm,1.1s
AKN Aaknes 24.56 39 *eP* **P 18 51 00.3 +1.7**
SKAR Skarslia 24.64 43 *eP* **P 18 51 01.3 +1.9**
MOL Molde 24.94 39 *eP* **P 18 51 03.5 +1.5**
TUE Stuetta 24.94 78 P P 18 51 03.4 +0.9
KONO Kongsberg 24.98 46 P P 18 51 03.8 +1.4
KONO IAmb IAmb 18 51 11.4
comp=Z,44nm,1.1s
KONO Kongsberg 24.98 46 *eP* **P 18 51 04.9 +2.5**
DAVA Damuels 25.10 76 *i P* **P 18 51 05.0 +1.2**
comp=Z,36nm,1.1s,SNR=20
ILULI Ilulissat 25.19 340 P P 18 51 05.4 +1.2
HAL Halifax 25.28 278 P P 18 51 06.0 +0.7
HAL IAmb IAmb 18 51 12.9
comp=Z,40nm,1.2s
DOMB Dombas 25.42 41 *eP* **P 18 51 10.0 +3.6**
GRA1 Grafenberg Arr 25.51 70 P P 18 51 08.4 +1.1
FUORN Ofenpass-Fuorn 25.52 77 P P 18 51 09.5 +1.8
FUORN IAmb IAmb 18 51 50.2
comp=Z,36nm,1.6s
JMIC Jan Mayen 25.63 14 LR LR 18 58 45.5
comp=Z,143nm,18.7s,baz=222,slow=31
RETA Reutte 25.64 75 *i P* **P 18 51 10.1 +1.5**
comp=Z,9.8nm,1.2s
FETA Feichten 25.73 76 *i P* **P 18 51 11.3 +1.8**
comp=Z,15nm,1.0s,SNR=19
SCHQ Schefferville 25.83 302 P P 18 51 09.9 -0.3
comp=Z,4.7nm,0.8s,baz=95,slow=8.4,SNR=6.1
SCHQ LR LR 18 59 25.8
comp=Z,810nm,19.7s,baz=76,slow=32
SCHQ Schefferville 25.83 302 P P 18 51 10.2 +0.1
MOTA Moosalm 25.89 75 *i P* **P 18 51 11.7 +0.7**
comp=Z,14nm,1.0s,SNR=14
NBO00 NORSAR Array S 25.90 43 P P 18 51 10.3 -0.4
NC204 NORSAR Array S 25.96 43 P P 18 51 12.4 +1.1
SQTA Sankt Quirin 25.99 75 *i P* **P 18 51 13.1 +1.2**
comp=Z,17nm,1.1s,SNR=11
NB2 NORSAR Subarra 26.11 43 P P 18 51 12.9 +0.3
comp=Z,18nm,1.4s,baz=255,slow=9.3
NB2 NORSAR Subarra 26.11 43 P P 18 51 12.9 +0.3
baz=255,slow=9.3
NOA NORSAR Array B 26.11 43 P P 18 51 13.0 +0.3
comp=Z,2.0nm,0.9s,baz=254,slow=9.3,SNR=7.8
NOA LR LR 19 00 07.0
comp=Z,295nm,21.4s,baz=255,slow=33
SUMG Summit 26.12 352 *i P* **P 18 51 15.5 +2.4**
comp=Z,36nm,0.8s
SUMG Summit 26.12 352 P P 18 51 14.6 +1.5
SUMG IAmb IAmb 18 51 22.6
comp=Z,26nm,1.0s
NB201 NORSAR Array S 26.15 43 P P 18 51 13.1 0.0
NC602 NORSAR Array S 26.18 44 P P 18 51 14.3 +0.9
NC602 NORSAR Array S 26.18 44 *eP* **P 18 51 14.7 +1.4**
BATG Bathurst New B 26.20 285 P P 18 51 15.0 +1.4
WATA Walderalm 26.21 75 *i pP* pP 18 51 15.6 -3.3
comp=Z,17nm,1.1s
NKC Novy Kostel 26.21 68 *eP* **P 18 51 16.0 +2.3**
NKC AMS AMS 19 00 00.0
comp=Z,800nm,23.0s
NC303 NORSAR Array S 26.23 43 P P 18 51 15.3 +1.6
WTTA Wattenberg 26.27 75 *i pP* pP 18 51 16.2 -3.2
comp=Z,32nm,1.3s,SNR=8.6
NC405 NORSAR Array S 26.36 43 P P 18 51 15.7 +0.8
NC405 IAmb IAmb 18 51 21.6
comp=Z,28nm,1.0s
CLL Collm 26.42 66 *eP* **P 18 51 16.0 +0.5**
comp=Z,13nm,1.3s
CLL *i* pP **pP 18 51 20.6 +0.2**
comp=Z,16nm,1.1s
CLL *i* (sP) **sP 18 51 23.3 +0.5**
CLL *e* 18 51 33.0
CLL *e*PP **PnPn 18 51 56.0 +0.7**
CLL *e*S **S 18 55 42.0 -5.9**
CLL *e* 18 56 14.0
CLL LmH 19 00 00.0
comp=Z,500nm,21.9s
CLL Collm 26.42 66 P P 18 51 15.4 -0.1
CTI Castel Tesino 26.59 78 P P 18 51 17.4 +0.1
CTI IAmb IAmb 18 51 27.0
comp=Z,48nm,1.6s
ZCCA Zocca 26.66 82 P P 18 51 18.6 +0.7
ZCCA IAmb IAmb 18 51 33.2
comp=Z,56nm,1.4s
ABTA Abfaltersbach 26.98 76 *i P* **P 18 51 21.2 +0.4**
comp=Z,9.6nm,1.1s
CIMO Cimolais 27.05 77 P P 18 51 21.5 +0.2
CIMO IAmb IAmb 18 51 32.3
comp=Z,35nm,1.7s
BRG Berggiesshubel 27.06 67 *eP* **P 18 51 23.2 +1.9**
comp=Z,18nm,1.2s
comp=Z,770nm,14.8s
comp=N,491nm,15.5s
comp=E,553nm,15.5s
KHC Kasperske Hory 27.12 70 *eP* **P 18 51 23.5 +1.5**
KHC *ex* x 18 51 34.9
KHC AMS AMS 19 01 10.0
comp=E,1μm,17.6s
KHC Kasperske Hory 27.12 70 P P 18 51 22.6 +0.6
GEC2 GERESS Array S 27.26 71 P P 18 51 23.6 +0.3
GERES GERESS Array B 27.26 71 P P 18 51 23.6 +0.3
comp=E,3.0nm,0.9s,baz=282,slow=7.5,SNR=18
GERES LR LR 19 01 59.6
comp=E,1μm,18.1s,baz=268,slow=36
GERES GERESS Array B 27.26 71 P P 18 51 22.9 -0.3
GGN Saint George 27.32 281 P P 18 51 25.4 +1.7
ZOU Zoufplan 27.34 76 P P 18 51 24.5 +0.5
ZOU IAmb IAmb 18 51 27.2
comp=Z,20nm,1.1s
KBA Koelnbreinsper 27.44 75 *i pP* **P 18 51 31.2 +6.2**
comp=Z,15nm,1.2s
PRA Prague 27.50 68 AMS AMS 19 01 00.0
comp=Z,400nm,19.5s
PVCC Panska Ves 27.51 67 AMS AMS 19 02 00.0
comp=Z,500nm,15.3s
PRU Pruhonice 27.58 68 *eP* **P 18 51 28.9 +2.9**
PRU *ep*P **sP 18 51 33.1 -0.2**
PRU AMS AMS 19 01 30.0
comp=Z,900nm,19.2s
GOPC GO Pecny, Ondr 27.75 68 AMS AMS 19 01 30.0
comp=Z,1μm,19.1s
MYKA Terra Mystica 27.76 76 *i* pP pP 18 51 29.3 -3.5
comp=Z,23nm,1.3s
PRED Cave del Predi 27.76 76 P P **18 51 28.3 +0.6**
PRED IAmb IAmb 18 51 43.6
comp=Z,22nm,1.3s
MOA Molln 27.85 73 *i* pP pP 18 51 34.8 +1.3
comp=Z,6.2nm,1.1s
CADS Cadrg 27.93 76 *i* P **P 18 51 29.3 0.0**
F64A Sherman 28.11 283 P **P 18 51 31.8 +1.1**
FRB Frobisher Bay 28.11 321 LR LR 18 59 57.4
comp=Z,436nm,18.5s,baz=89,slow=31
D62A Allapoint, All 28.22 286 P **P 18 51 32.2 +0.4**
D62A IAmb IAmb 18 51 44.8
comp=Z,27nm,1.7s
TREC Trest 28.32 70 AMS AMS 19 01 50.0
comp=Z,1μm,20.0s
MOZS Mozjanca 28.38 76 *i* P **P 18 51 33.6 +0.3**
OBKA Obir 28.39 76 *i* P **P 18 51 33.7 +0.3**
comp=Z,11nm,0.8s
UPC Upice 28.42 67 *eP* **P 18 51 35.0 +1.5**
UPC *ep*P **sP 18 51 39.6 -1.2**
UPC AMS AMS 19 03 50.0
comp=Z,500nm,14.0s
CHVC Chvalec 28.43 67 *eP* **P 18 51 35.0 +1.4**
CHVC AMS AMS 19 03 50.0
comp=Z,600nm,14.3s
OSTC Ostas 28.54 67 AMS AMS 19 02 40.0
comp=Z,500nm,15.5s
DPC Dobruska-Polom 28.64 67 *eP* **P 18 51 37.1 +1.6**
DPC AMS AMS 19 00 40.0
comp=Z,600nm,25.0s
F63A Nahmakanta, Br 28.66 283 P **P 18 51 35.4 -0.2**
F63A IAmb IAmb 18 51 41.7
comp=Z,24nm,1.2s
E62A Clayton Lake 28.66 285 P **P 18 51 36.2 +0.5**
SOKA Soboth 28.66 75 *i* P **P 18 51 35.4 -0.4**
comp=Z,7.3nm,0.8s
PERS Pernice 28.73 75 *eP* **P 18 51 36.3 -0.1**
ARSA Arzberg 28.83 74 *i* P **P 18 51 37.6 +0.4**
comp=Z,19nm,1.1s,SNR=11
CONA Conrad Observa 28.87 72 *i* P **P 18 51 38.3 +0.7**
comp=Z,8.8nm,1.3s
PKME Peaks-Kenny Pk 28.92 282 P **P 18 51 37.6 -0.4**
PKME IAmb IAmb 18 51 50.4
comp=Z,17nm,1.1s
KRUC Moravsky 28.95 70 *eP* **P 18 51 38.5 +0.3**
KRLC Kraliky 28.99 68 *eP* **P 18 51 39.5 +0.9**
KRLC *ex* x 18 51 45.0
KRLC AMS AMS 19 02 30.0
comp=Z,600nm,18.1s
VRAC Vranov 29.02 69 P **P 18 51 39.7 +0.8**
comp=Z,1.1nm,0.5s,baz=283,slow=7.8,SNR=5.8
VRAC LR LR 19 02 57.9
comp=Z,1μm,18.8s,baz=264,slow=36
VRAC Vranov 29.02 69 *eP* **P 18 51 39.9 +1.0**
KEST Kesra 29.44 99 P **P 18 51 43.8 +1.0**
comp=Z,10nm,0.9s,baz=240,slow=4.2,SNR=7.4
KEST LR LR 19 02 39.8
comp=Z,1μm,18.5s,baz=294,slow=35
KEST Kesra 29.44 99 P **P 18 51 43.5 +0.7**
KEST IAmb IAmb 18 51 50.9
comp=Z,22nm,0.9s
MORC Moravsky Berou 29.53 68 ⇑P **P 18 51 43.9 +0.6**
MORC Moravsky Berou 29.53 68 *eP* **P 18 51 40.6 -2.8**
MORC Moravsky Berou 29.53 68 P **P 18 51 44.8 +1.5**
MODS Modra-Piesok 29.68 71 *eP* **P 18 51 46.0 +1.3**
SMOL Smolenice 29.74 70 *eP* **P 18 51 47.9 +2.6**
G62A West of Eustis 29.76 283 P **P 18 51 46.1 +0.6**
I63A Otisfield 30.20 280 P **P 18 51 50.7 +1.4**
I63A IAmb IAmb 18 51 58.0
comp=Z,19nm,1.1s
VYHS Vyhne 30.65 70 *eP* **P 18 51 54.3 +1.0**
PSZ Piszkesteto 31.49 71 ⇓P **P 18 52 02.7 +2.0**
PSZ Piszkesteto 31.49 71 P **P 18 52 01.6 +0.8**
PSZ IAmb IAmb 18 52 08.7
comp=Z,30nm,1.3s
SUW Suwalki 32.21 59 P **P 18 52 07.2 +0.3**
NCB Newcomb 32.67 282 P **P 18 52 12.9 +1.8**
DIVS Divibare 32.81 77 P **P 18 52 13.1 +0.6**
DIVS IAmb IAmb 18 52 19.2
comp=Z,15nm,1.1s
TRPA Tarpa 33.13 69 ⇓P **P 18 52 13.0 -2.0**
SIRR Siria 33.15 73 ⇑P **P 18 52 15.4 +0.1**
FINES FINESS Array B 33.27 45 P **P 18 52 16.4 +0.4**
comp=Z,3.3nm,0.8s,baz=310,slow=8.9,SNR=8.4
FINES LR LR 19 04 38.7
comp=Z,316nm,20.8s,baz=267,slow=34
FINES FINESS Array B 33.27 45 P **P 18 52 16.1 0.0**
BZS Buzias 33.34 74 P **P 18 52 17.8 +0.8**
MDVR Moldovita 33.70 76 ⇓P **P 18 52 21.0 +0.9**
ARCES ARCESS Array B 34.05 30 P **P 18 52 23.6 +0.8**
comp=Z,5.1nm,0.8s,baz=262,slow=8.2,SNR=9.2
ARCES LR LR 19 04 09.6
comp=Z,200nm,20.2s,baz=274,slow=33
ARCES ARCESS Array B 34.05 30 P **P 18 52 22.7 0.0**
HERR Herculane 34.13 75 ⇑P **P 18 52 24.7 +0.9**
CJR Cluj-Napoca 34.26 71 ⇑P **P 18 52 26.7 +1.8**
ARCR ARCALIA 34.62 71 ⇓P **P 18 52 29.6 +1.5**
KSPA Keystone Colle 34.69 279 P **P 18 52 30.0 +1.3**
BUR08 Bucovina Ar. S 34.98 69 P **P 18 52 31.8 +0.5**
BUR08 IAmb IAmb 18 52 35.5
comp=Z,56nm,2.0s
BURAR Bucovina Array 35.00 69 ⇑P **P 18 52 34.2 +2.8**
BURAR Bucovina Array 35.00 69 P **P 18 52 32.9 +1.5**
SPITS Spitsbergen Ar 35.31 14 P **P 18 52 32.2 -1.4**
comp=Z,14nm,1.1s,baz=255,slow=3.9,SNR=5.7
VTS Vitosha 35.57 78 ⇓P **P 18 52 37.7 +1.2**
VTS Vitosha 35.57 78 P **P 18 52 37.0 +0.5**
VOIR 35.66 73 ⇑P **P 18 52 37.2 +0.1**
TAM Tamanrasset 35.75 121 P **P 18 52 38.4 +0.3**
BIZ Bicaz 35.80 70 ⇑P **P 18 52 39.6 +1.4**
OZUR 35.90 72 ⇑P **P 18 52 39.6 +0.5**
MLR Muntele Rosu 36.22 72 ⇑P **P 18 52 42.3 +0.3**
MLR Muntele Rosu 36.22 72 P **P 18 52 42.7 +0.8**
MLR IAmb IAmb 18 52 50.0
comp=Z,25nm,1.3s
NEHR Nehoiu 36.47 72 ⇓P **P 18 52 46.7 +2.7**
PLOR Plostina 36.54 72 ⇑P **P 18 52 45.9 +1.4**
AKASG Malin Array Be 36.56 63 P **P 18 52 44.4 -0.2**
comp=Z,4.0nm,0.8s,baz=284,slow=8.6,SNR=12
AKASG LR LR 19 08 37.7
comp=Z,467nm,18.1s,baz=290,slow=38
AKASG Malin Array Be 36.56 63 IAmb IAmb 18 52 50.8
comp=Z,1.0nm,0.8s
AKBB Malin Array Si 36.56 63 P **P 18 52 44.5 0.0**
ZIMR 36.56 76 ⇓P **P 18 52 44.1 -0.6**
VRI Vrincioaia 36.59 71 ⇓P **P 18 52 45.5 +0.5**
SORM Soroca 36.82 67 ⇓P **P 18 52 46.1 -0.7**
CFR Carcaliu 37.77 72 ⇓P **P 18 52 53.9 -1.0**
HARR Harsova 37.83 73 ⇑P **P 18 52 53.8 -1.7**
TOPG Topolog 38.05 72 ⇓P **P 18 52 55.1 -2.2**
ALN Alexandroupoli 38.22 79 P **P 18 52 59.6 +0.8**
ALN IAmb IAmb 18 53 06.4
comp=Z,37nm,1.2s
KLMR Klimovskoe 39.80 45 *eP* **P 18 53 11.3 -0.4**
KLMR AMP 18 53 23.8
comp=Z,18nm,1.5s
KLMR *ep*PP **PP 18 54 42.9 -0.1**
KLMR LQ LQ 19 06 45.8
KLMR LQ LQ 19 06 45.8
KLMR LR LR 19 07 37.6
H05N1 Guadeloupe/Mar 41.47 234 T T 19 37 23.4
SNR=5.1
TOA0 Torodi Ar. Sit 41.60 135 P **P 18 53 26.4 -0.7**
TORD Torodi Ar. Bea 41.60 135 P **P 18 53 26.4 -0.7**
comp=Z,28nm,0.9s,baz=328,slow=6.7,SNR=62
TORD LR LR 19 09 38.0
comp=Z,1μm,18.7s,baz=320,slow=35
TORD Torodi Ar. Bea 41.60 135 P **P 18 53 26.0 -1.1**
ILGA Ilgaz 43.26 75 P **P 18 53 42.2 +1.6**
ILGA IAmb IAmb 18 53 45.6
comp=Z,17nm,1.0s
B35A Bob, Littlefor 43.47 297 P **P 18 53 43.5 +1.5**
BR131 Keskin Array S 43.86 77 P **P 18 53 46.6 +1.2**
BRTR Keskin Array B 43.87 77 P **P 18 53 45.4 -0.1**
comp=Z,5.6nm,0.9s,baz=297,slow=4.9,SNR=19
BRTR PcP **PcP 18 55 31.4 0.0**
comp=Z,2.0nm,1.1s,baz=252,slow=2.7,SNR=2.9
BRTR LR LR 19 12 02.7
comp=Z,279nm,21.1s,baz=281,slow=36
BRTR Keskin Array B 43.87 77 P **P 18 53 45.7 +0.3**
ULM Lac du Bonnet 43.98 301 P **P 18 53 45.2 -0.8**
comp=Z,6.7nm,0.6s,baz=70,slow=8.3,SNR=5.1
ULM LR LR 19 10 23.5
comp=Z,389nm,18.0s,baz=72,slow=34
ULM Lac du Bonnet 43.98 301 P **P 18 53 45.6 -0.5**
ULM IAmb IAmb 18 53 52.0
comp=Z,39nm,1.6s
DBIC Dimbokro 44.59 147 P **P 18 53 50.8 -0.5**
comp=Z,8.0nm,0.9s,baz=344,slow=8.2,SNR=5.2
DBIC LR LR 19 11 17.7
comp=Z,386nm,18.1s,baz=322,slow=34
DBIC Dimbokro 44.59 147 IAmb IAmb 18 53 56.9
comp=Z,11nm,0.8s
AGMN Agassiz Nation 44.78 298 P **P 18 53 53.0 +0.5**
FFC Flin Flon 45.66 309 P **P 18 53 59.2 -0.2**
FFC IAmb IAmb 18 54 02.8
comp=Z,14nm,1.1s
CCM Cathedral Cave 46.79 283 P **P 18 54 08.5 0.0**
CCM IAmb IAmb 18 54 21.0
comp=Z,11nm,0.9s
T42A Van Buren 47.24 282 P **P 18 54 12.3 +0.2**
T42A IAmb IAmb 18 54 18.5
comp=Z,16nm,1.4s
KBZ Khabaz 47.86 67 P **P 18 54 19.5 +2.8**
comp=Z,4.5nm,1.0s,baz=320,slow=6.5,SNR=3.7
KBZ LR LR 19 16 03.7
comp=Z,246nm,18.6s,baz=290,slow=38
E28A Huff 48.49 298 P **P 18 54 20.7 -0.9**
YKA Yellowknife Ar 48.62 322 P **P 18 54 22.1 -0.3**
comp=Z,3.0nm,1.0s,baz=94,slow=7.5,SNR=2.7
YKA LR LR 19 12 27.3
comp=Z,204nm,18.3s,baz=0.0,slow=33
U40A Yellville 48.80 282 P **P 18 54 23.4 -0.6**
U40A IAmb IAmb 18 54 30.6
comp=Z,24nm,1.4s
DGMT Dagmar 49.65 302 P **P 18 54 30.1 -0.3**
DGMT IAmb IAmb 18 54 40.5
comp=Z,12nm,0.8s
W39A Magazine 50.08 282 P **P 18 54 35.0 +1.2**
W39A IAmb IAmb 18 54 40.3
comp=Z,24nm,1.5s
MIAR Mount Ida 50.31 281 P **P 18 54 34.5 -1.1**
ARU Arti 50.62 46 P **P 18 54 36.4 -1.3**
ARU IAmb IAmb 18 54 44.6
comp=Z,21nm,0.9s
LAO LASA Array 51.73 301 P **P 18 54 46.4 +0.1**
INK Inuvik 52.69 333 P **P 18 54 51.5 -1.4**
comp=Z,3.4nm,1.0s,baz=15,slow=10,SNR=5.9
INK Inuvik 52.69 333 P **P 18 54 52.1 -0.8**
EGMT Eagleton 53.07 304 P **P 18 54 56.1 -0.1**
EGMT IAmb IAmb 18 54 59.7
comp=Z,24nm,1.2s
AKTO Aktyubinsk 53.34 53 P **P 18 54 58.9 +0.9**
baz=288,slow=11
WMOK Wichita Mounta 53.67 284 P **P 18 54 59.8 -0.9**
K22A Casper 54.09 296 P **P 18 55 03.2 -0.6**
RLMT Red Lodge 54.36 300 P **P 18 55 06.2 +0.3**
RLMT IAmb IAmb 18 55 13.1
comp=Z,22nm,1.4s
WHTX Lake Whitney, 54.44 281 P **P 18 55 05.8 -0.5**
WHTX IAmb IAmb 18 55 12.9
comp=Z,26nm,1.4s
NRIK Noril'sk 54.52 23 P **P 18 55 08.3 +2.0**
comp=Z,3.2nm,0.7s,baz=283,slow=6.4,SNR=6.0
HKT Hockley 54.60 278 P **P 18 55 07.9 +0.5**
N23A Red Feather La 54.72 294 P **P 18 55 09.0 +0.5**
WALA Waterton Lakes 54.84 307 P **P 18 55 08.4 -0.7**
WALA IAmb IAmb 18 55 19.6
comp=Z,14nm,1.0s
YNE Yellowstone No 54.86 301 P **P 18 55 09.1 -0.4**
HRY Holter Researc 54.97 303 P **P 18 55 09.7 -0.4**
ABKAR Akbulak array 55.03 53 P **P 18 55 10.6 +0.3**
RWWY Rawlins 55.05 296 P **P 18 55 10.2 -0.7**
ISCO Idaho Springs 55.14 293 P **P 18 55 10.8 -0.8**
ISCO IAmb IAmb 18 55 44.7
comp=Z,19nm,1.9s
YHL Hebgen Lake 55.64 301 P **P 18 55 15.0 -0.2**
YHB Horse Butte 55.70 301 P **P 18 55 15.8 +0.2**
YPP Pitchstone Pla 55.75 300 P **P 18 55 15.8 -0.2**
FLWY Flagg Ranch 55.79 300 P **P 18 55 16.5 +0.3**
FLWY IAmb IAmb 18 55 25.4
comp=Z,17nm,1.4s
H10N2 ASCENSION HYDR 55.81 165 T T 19 55 09.1
baz=350,slow=75,SNR=103
H10N3 ASCENSION HYDR 55.82 165 T T 19 55 15.8
baz=350,slow=75,SNR=81
H10N1 ASCENSION HYDR 55.83 165 T T 19 55 10.3
baz=350,slow=75,SNR=96
BW06 Boulder Array 55.86 298 P **P 18 55 15.2 -1.5**
BW06 IAmb IAmb 18 55 22.6
comp=Z,16nm,1.7s
PD31 Pinedale Array 55.86 298 P **P 18 55 15.2 -1.5**
PDAR Pinedale Array 55.86 298 P **P 18 55 14.8 -1.9**
comp=Z,2.0nm,0.9s,baz=64,slow=7.4,SNR=12
PDAR LR LR 19 17 19.3
comp=Z,360nm,21.2s,baz=66,slow=34
T25A Trinidad 55.93 290 P **P 18 55 17.6 +0.3**
T25A IAmb IAmb 18 55 24.8
comp=Z,33nm,1.8s
MSO Missoula 56.10 304 P **P 18 55 18.1 -0.1**
MSO IAmb IAmb 18 55 20.4
comp=Z,11nm,1.3s
DLMT Dillon 56.17 302 P **P 18 55 18.6 -0.2**
DLMT IAmb IAmb 18 55 22.4
comp=Z,9.9nm,1.1s
FXWY Fox Creek 56.24 300 P **P 18 55 19.3 -0.1**
FXWY IAmb IAmb 18 55 26.2
comp=Z,21nm,1.8s
SDCO Great Sand Dun 56.27 291 P **P 18 55 19.5 -0.3**
TPAW Teton Pass 56.28 300 P **P 18 55 18.8 -1.0**
REDW Red Top Meadow 56.30 299 P **P 18 55 19.7 -0.1**
REDW IAmb IAmb 18 55 27.4
comp=Z,26nm,1.4s
MCMT McKenzie Canyo 56.63 302 P **P 18 55 21.8 -0.4**
MSTX Muleshoe 56.77 286 P **P 18 55 23.1 0.0**
H10S3 ASCENSION HYDR 56.88 165 T T 19 56 24.4
baz=349,slow=74,SNR=77
H10S2 ASCENSION HYDR 56.88 165 T T 19 56 26.5
baz=231,slow=74,SNR=31
NEW Newport 57.05 307 P **P 18 55 24.0 -0.8**
NEW IAmb IAmb 18 55 32.3
comp=Z,20nm,1.4s
RDMU Red Mountain 57.15 296 P **P 18 55 26.1 +0.3**
DLBC Dease Lake 57.24 322 P **P 18 55 26.5 +0.5**
BCYI Bear Canyon 57.25 302 P **P 18 55 26.2 -0.4**
EGAK Eagle 57.27 332 P **P 18 55 26.0 -0.1**
EGAK IAmb IAmb 18 55 37.1
comp=Z,23nm,1.6s
HWUT Hardware Ranch 57.75 298 P **P 18 55 29.4 -0.6**
WHY Whitehorse 57.78 326 P **P 18 55 30.1 +0.2**
WHY IAmb IAmb 18 55 31.9
comp=Z,23nm,1.4s
PV15 Paradox Valley 57.80 293 P **P 18 55 30.3 -0.2**
PV15 IAmb IAmb 18 55 34.4
comp=Z,6.0nm,0.6s
PV07 Paradox Valley 57.85 293 P **P 18 55 30.9 0.0**
PV22 Blue Mesa, Par 57.88 294 P **P 18 55 30.0 -1.0**
C09A Chrisman Ranch 57.94 307 P **P 18 55 30.0 -1.1**
PV12 Saucer Basin, 58.02 293 P **P 18 55 31.8 -0.2**
PV04 Paradox Valley 58.04 294 P **P 18 55 32.2 +0.1**
PV04 IAmb IAmb 18 55 40.1
comp=Z,17nm,1.2s
833A Chaparral WMA, 58.04 278 P **P 18 55 31.2 -0.8**
833A IAmb IAmb 18 55 34.9
comp=Z,16nm,1.2s
PV23 Carpenter Ridg 58.07 294 P **P 18 55 32.5 0.0**
PV11 David Mesa, Pa 58.07 293 P **P 18 55 33.0 +0.6**
PV11 IAmb IAmb 18 55 38.8
comp=Z,19nm,1.2s
PV03 Paradox Valley 58.09 293 P **P 18 55 32.6 +0.1**
PV03 IAmb IAmb 18 55 46.4
comp=Z,13nm,1.4s
PV16 Nyswonger Mesa 58.09 294 P **P 18 55 32.6 +0.1**
PV20 West Nyswonger 58.11 294 P **P 18 55 32.2 -0.4**
PV14 Lion Creek, Pa 58.12 294 P **P 18 55 33.2 +0.5**
PV14 IAmb IAmb 18 55 58.8
comp=Z,19nm,1.2s
PV13 Radium Mtn., P 58.12 293 P **P 18 55 32.4 -0.4**
PV13 IAmb IAmb 18 55 59.0

	comp=Z,18nm,1.7s						
PV18	**Skein Mesa, Pa**	**58.13**	**293**	P	**P**	**18 55 32.9**	**+0.1**
PV18				IAmb	IAmb	18 55 55.3	
	comp=Z,11nm,1.3s						
PV10	**Paradox Valley**	**58.13**	**294**	P	**P**	**18 55 31.9**	**-1.0**
PV10				IAmb	IAmb	18 55 42.9	
	comp=Z,16nm,1.0s						
PV19	**Morning Glory**	**58.14**	**294**	P	**P**	**18 55 33.2**	**+0.3**
PV19				IAmb	IAmb	18 55 39.0	
	comp=Z,14nm,1.2s						
BRVK	**Borovoye**	**58.16**	**45**	P	**P**	**18 55 32.8**	**+0.3**
BRVK				IAmb	IAmb	18 55 39.9	
	comp=Z,14nm,1.1s						
COLD	**Coldfoot**	**58.17**	**337**	P	**P**	**18 55 32.9**	**+0.5**
B08A	**Colville Reser**	**58.18**	**308**	P	**P**	**18 55 32.1**	**-0.7**
HLID	**Hailey**	**58.28**	**301**	P	**P**	**18 55 34.4**	**+0.7**
ROSC	**El Rosal**	**58.31**	**239**	LR	LR	19 16 45.1	
	comp=Z,281nm,20.8s,baz=56,slow=32						
F10A	**Beach Ranch, E**	**58.45**	**305**	P	**P**	**18 55 34.1**	**-0.7**
SPUT	**South Promonto**	**58.46**	**298**	P	**P**	**18 55 34.7**	**-0.3**
MVCO	**Mesa Verde**	**58.50**	**292**	P	**P**	**18 55 35.2**	**-0.3**
MVCO				IAmb	IAmb	18 55 43.2	
	comp=Z,13nm,1.4s						
P17A	**Butcher Ranch,**	**58.53**	**296**	P	**P**	**18 55 34.9**	**-0.7**
ANMO	**Albuquerque**	**58.58**	**289**	P	**P**	**18 55 35.3**	**-0.7**
ANMO				IAmb	IAmb	18 55 42.9	
	comp=Z,15nm,1.8s						
SRU	**San Rafael Swe**	**58.61**	**295**	P	**P**	**18 55 36.0**	**-0.1**
E09A	**Wood Farm, Sta**	**58.64**	**306**	P	**P**	**18 55 35.0**	**-0.9**
E09A				IAmb	IAmb	18 55 46.0	
	comp=Z,13nm,1.3s						
BCAR	**Beaver Creek A**	**58.64**	**331**	P	**P**	**18 55 36.4**	**+0.6**
HYT	**Haines Junctio**	**58.66**	**327**	P	**P**	**18 55 37.0**	**+1.0**
HYT				IAmb	IAmb	18 55 42.9	
	comp=Z,9.4nm,1.1s						
TMUT	**Trail Mountain**	**58.92**	**296**	P	**P**	**18 55 37.9**	**-0.6**
DOT	**Dot Lake**	**58.98**	**332**	P	**P**	**18 55 38.5**	**+0.4**
DOT				IAmb	IAmb	18 55 45.0	
	comp=Z,8.6nm,1.1s						
IL31		**59.04**	**334**	P	**P**	**18 55 38.8**	**+0.4**
IL31				IAmb	IAmb	18 55 47.3	
	comp=Z,12nm,1.5s						
ILAR	**Eielson Array**	**59.04**	**334**	P	**P**	**18 55 39.0**	**+0.6**
	comp=Z,1.5nm,1.0s,baz=33,slow=5.4,SNR=12						
ILAR				PcP	**PcP**	**18 56 25.4**	**-1.8**
	comp=Z,1.0nm,0.8s,baz=6.0,slow=3.7,SNR=4.3						
ILAR				LR	LR	19 19 45.1	
	comp=Z,148nm,19.0s,baz=65,slow=35						
ILAR	**Eielson Array**	**59.04**	**334**	P	**P**	**18 55 38.1**	**-0.4**
BGU	**Big Grassy Mou**	**59.04**	**298**	P	**P**	**18 55 38.5**	**-0.6**
E08A	**Dider Farm, El**	**59.16**	**306**	P	**P**	**18 55 36.4**	**-3.1**
RIDG	**Independent Ri**	**59.16**	**333**	P	**P**	**18 55 39.0**	**-0.4**
RIDG				IAmb	IAmb	18 55 46.5	
	comp=Z,9.1nm,0.9s						
BMO	**Blue Mountains**	**59.17**	**304**	P	**P**	**18 55 38.5**	**-1.3**
BNM	**Barren Site**	**59.18**	**288**	P	**P**	**18 55 39.3**	**-0.9**
MFID	**Camas Ranch**	**59.19**	**302**	P	**P**	**18 55 40.3**	**+0.3**
PETF	**Flores**	**59.19**	**262**	P	**P**	**18 55 39.3**	**-0.8**
COLA	**College**	**59.25**	**335**	P	**P**	**18 55 40.1**	**+0.2**
MDM	**Murphy Dome**	**59.30**	**335**	P	**P**	**18 55 40.7**	**+0.4**
HDA	**Harding Lake**	**59.32**	**334**	P	**P**	**18 55 40.9**	**+0.4**
HDA				IAmb	IAmb	18 55 47.0	
	comp=Z,7.9nm,1.0s						
DUG	**Dugway, Tooele**	**59.36**	**297**	P	**P**	**18 55 41.5**	**+0.2**
MENT	**Mentasta**	**59.37**	**332**	P	**P**	**18 55 41.6**	**+0.8**
MENT				IAmb	IAmb	18 55 54.7	
	comp=Z,11nm,1.0s						
CCB	**Clear Creek Bu**	**59.40**	**334**	P	**P**	**18 55 41.2**	**+0.2**
LTY	**Liberty**	**59.57**	**308**	P	**P**	**18 55 41.5**	**-1.0**
WRH	**Wood River Hil**	**59.62**	**334**	P	**P**	**18 55 43.2**	**+0.7**
WRH				IAmb	IAmb	18 55 49.0	
	comp=Z,14nm,1.1s						
G08A	**Pilot Rock**	**59.83**	**305**	P	**P**	**18 55 43.1**	**-1.3**
PAX	**Paxson**	**59.91**	**332**	P	**P**	**18 55 43.4**	**-1.2**
PAX				IAmb	IAmb	18 55 46.3	
	comp=Z,25nm,1.6s						
CTGM	**Chitina Glacie**	**59.94**	**329**	P	**P**	**18 55 45.7**	**+0.7**
BARN	**Barnard Glacie**	**59.99**	**329**	P	**P**	**18 55 45.8**	**+0.5**
F07A	**Phinny Hill Vi**	**60.00**	**306**	P	**P**	**18 55 45.1**	**-0.3**
F07A				IAmb	IAmb	18 56 54.8	
	comp=Z,10nm,0.8s						
IMAR	**Indian Mountai**	**60.04**	**338**	P	**P**	**18 55 46.0**	**+0.6**
TCRU	**Three Creeks R**	**60.10**	**296**		**P**	**18 55 46.6**	**0.0**
TX31	**Lajitas Ar. Si**	**60.27**	**282**	P	**P**	**18 55 48.0**	**+0.4**
TXAR	**Lajitas Array**	**60.27**	**282**	P	**P**	**18 55 47.7**	**+0.1**
	comp=Z,1.2nm,1.0s,baz=57,slow=7.1,SNR=7.6						
TXAR				LR	LR	19 21 06.8	
	comp=Z,434nm,20.7s,baz=0.0,slow=35						
MTPU	**Mount Pierson**	**60.29**	**295**	P	**P**	**18 55 48.3**	**+0.3**
MCK	**McKinley**	**60.41**	**334**	P	**P**	**18 55 48.0**	**0.0**
ELK	**Elko**	**60.48**	**299**	P	**P**	**18 55 49.3**	**+0.2**
ELK				IAmb	IAmb	18 55 56.7	
	comp=Z,8.6nm,1.2s						
GEYT	**Alibeck**	**60.64**	**65**	P	**P**	**18 55 51.3**	**+1.3**
	comp=Z,4.1nm,0.9s,baz=282,slow=7.2,SNR=8.0						
GEYT				LR	LR	19 23 26.9	
	comp=Z,158nm,21.1s,baz=135,slow=37						
GEYT	**Alibeck**	**60.64**	**65**	P	**P**	**18 55 50.4**	**+0.4**
GYA0B	**ALIBECK ARRAY**	**60.64**	**65**	P	**P**	**18 55 49.9**	**-0.1**
GYA0B				IAmb	IAmb	18 55 58.0	
	comp=Z,20nm,1.4s						
BPAW	**Bear Paw Mtn.**	**60.74**	**335**	P	**P**	**18 55 50.6**	**+0.4**
BPAW				IAmb	IAmb	18 56 02.3	
	comp=Z,11nm,1.2s						
J08A	**Circle Bar Ran**	**60.75**	**303**	P	**P**	**18 55 51.0**	**+0.3**
J08A				IAmb	IAmb	18 55 54.3	
	comp=Z,17nm,1.4s						
121A	**Cookes Peak, D**	**60.95**	**288**	P	**P**	**18 55 50.4**	**-1.9**
PSUT	**Pine Spring**	**61.02**	**296**	P	**P**	**18 55 52.5**	**-0.2**
TRF	**Thorofare Moun**	**61.03**	**334**	P	**P**	**18 55 52.3**	**-0.1**
TRF				IAmb	IAmb	18 55 54.6	
	comp=Z,13nm,1.2s						
SZCU	**Shurtz Canyon**	**61.13**	**295**	P	**P**	**18 55 54.0**	**+0.5**
NLWA	**Neilton Lookou**	**61.19**	**310**	P	**P**	**18 55 53.8**	**+0.3**
BRZS	**Berezniki**	**61.24**	**46**	*i* P	**P**	**18 55 54.7**	**+0.9**
	comp=Z,11nm,1.2s,baz=46						
CCUT	**Cedar City**	**61.33**	**295**	P	**P**	**18 55 55.2**	**+0.3**
KNB	**Kanab**	**61.33**	**295**	P	**P**	**18 55 53.8**	**-1.0**
U15A	**North Rim**	**61.37**	**294**	P	**P**	**18 55 55.3**	**+0.1**
WVOR	**Wild Horse Val**	**61.42**	**303**	P	**P**	**18 55 54.2**	**-1.1**
PINE	**Pine Mountain**	**61.87**	**305**	P	**P**	**18 55 58.9**	**+0.5**
PINE				IAmb	IAmb	18 56 04.7	
	comp=Z,7.6nm,1.1s						
KNK	**Knik Glacier**	**62.01**	**332**	P	**P**	**18 55 59.8**	**+1.0**
R11A	**Troy Canyon, C**	**62.19**	**297**	P	**P**	**18 56 00.5**	**-0.1**
SKT	**Skwentna**	**62.52**	**334**	P	**P**	**18 56 02.6**	**+0.4**
K05A	**Summer Lake**	**62.52**	**304**	P	**P**	**18 56 02.3**	**-0.4**
MOD	**Modoc Plateau**	**62.72**	**303**	P	**P**	**18 56 04.0**	**0.0**
MOD				IAmb	IAmb	18 56 15.2	
	comp=Z,9.1nm,1.2s						
W13A	**Hualapai Mount**	**63.21**	**294**	P	**P**	**18 56 07.5**	**0.0**
KVN	**Kaiserville**	**63.25**	**299**	P	**P**	**18 56 06.8**	**-0.9**
KVN				IAmb	IAmb	18 56 15.3	
	comp=Z,13nm,1.2s						
TPNV	**Topopah Spring**	**63.49**	**296**	P	**P**	**18 56 09.1**	**-0.1**
TPNV				IAmb	IAmb	18 56 16.4	
	comp=Z,14nm,1.3s						
PAHR	**Pah Rah Range**	**63.59**	**301**	P	**P**	**18 56 10.1**	**+0.2**
PAHR				IAmb	IAmb	18 56 13.7	
	comp=Z,16nm,1.5s						
KURK	**Kurchatov**	**63.62**	**43**	P	**P**	**18 56 09.5**	**-0.1**
KURK				IAmb	IAmb	18 56 16.3	
	comp=Z,13nm,1.1s						
NV11	**Mina Array Sit**	**63.69**	**299**	P	**P**	**18 56 10.1**	**-0.4**
NVAR	**Mina Array Bea**	**63.78**	**299**	P	**P**	**18 56 09.8**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=63,slow=7.5,SNR=4.0						
NVAR				LR	LR	19 22 42.6	
	comp=Z,268nm,18.2s,baz=76,slow=35						
NVAR	**Mina Array Bea**	**63.78**	**299**	P	**P**	**18 56 10.3**	**-0.8**
RYN	**Ryan**	**63.78**	**299**	P	**P**	**18 56 09.5**	**-1.6**
ZAIG	**Zacatecas**	**63.84**	**276**	P	**P**	**18 56 09.9**	**-1.9**
VCNR	**Virginia City**	**64.02**	**300**	P	**P**	**18 56 11.1**	**-1.6**
VCNR				IAmb	IAmb	18 56 42.2	
	comp=Z,6.7nm,0.5s						
ZALV	**Zalesovo Beam**	**64.11**	**38**	P	**P**	**18 56 13.0**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=305,slow=5.2,SNR=3.6						
ZALV				LR	LR	19 24 18.7	
	comp=Z,175nm,21.3s,baz=290,slow=36						
ZALV	**Zalesovo Beam**	**64.11**	**38**	P	**P**	**18 56 12.3**	**-0.5**
PNTR	**Pine Nut**	**64.12**	**300**	P	**P**	**18 56 14.0**	**+0.5**
PNTR				IAmb	IAmb	18 56 21.6	
	comp=Z,14nm,1.1s						
SAML	**Samuel**	**64.26**	**220**	P	**P**	**18 56 13.2**	**-1.0**
KK31	**Karatay Array**	**64.59**	**53**	P	**P**	**18 56 16.9**	**+0.7**
KK31				IAmb	IAmb	18 56 23.6	
	comp=Z,8.3nm,1.1s						
KKAR	**Karatay Array**	**64.59**	**53**	P	**P**	**18 56 16.8**	**+0.6**
KKAR				IAmb	IAmb	18 56 23.6	
	comp=Z,8.3nm,1.1s						
KKAR	**Karatay Array**	**64.59**	**53**	P	**P**	**18 56 16.5**	**+0.3**
OMMB	**Old Mammoth Mi**	**64.72**	**299**	P	**P**	**18 56 18.1**	**+0.5**
OMMB				IAmb	IAmb	18 56 29.2	
	comp=Z,15nm,1.6s						
MDPB	**Devils Postpil**	**64.76**	**299**	P	**P**	**18 56 18.3**	**+0.6**
GSC	**Goldstone, Bar**	**64.90**	**295**	P	**P**	**18 56 17.5**	**-0.9**
GSC				IAmb	IAmb	18 56 26.9	
	comp=Z,12nm,1.2s						
IUG	**Iuzhnay**	**64.96**	**55**	*eP*	**P**	**18 56 19.5**	**+0.8**
	comp=Z,9.1nm,1.0s,baz=54						
BDFB	**Brasilia**	**65.13**	**202**	P	**P**	**18 56 20.6**	**+0.6**
	comp=Z,4.2nm,0.8s,baz=76,slow=12,SNR=4.0						
BDFB				LR	LR	19 20 02.1	
	comp=Z,250nm,20.6s,baz=4.3,slow=32						
BDFB	**Brasilia**	**65.13**	**202**	P	**P**	**18 56 20.4**	**+0.4**
GLA	**Glamis**	**65.14**	**292**	P	**P**	**18 56 20.3**	**+0.3**
GLA				IAmb	IAmb	18 56 37.6	
	comp=Z,5.8nm,0.7s						
DZA	**Taraz**	**65.18**	**53**	*eP*	**P**	**18 56 20.7**	**+0.6**
	baz=53						
BTLS	**Baital**	**65.19**	**50**	*i* P	**P**	**18 56 20.9**	**+0.8**
	comp=Z,6.6nm,1.5s,baz=50						
PIX	**Pinacate**	**65.25**	**290**	P	**P**	**18 56 20.7**	**+0.1**
PIX				IAmb	IAmb	18 56 26.7	
	comp=Z,8.8nm,1.3s						
CMB	**Columbia Colle**	**65.28**	**300**	P	**P**	**18 56 20.4**	**-0.4**
CMB				IAmb	IAmb	18 56 27.9	
	comp=Z,12nm,1.6s						
ISA	**Isabella, Lake**	**65.69**	**297**	P	**P**	**18 56 24.0**	**+0.5**
ISA				IAmb	IAmb	18 56 31.6	
	comp=Z,20nm,1.5s						
PFO	**Pinyon Flats O**	**65.79**	**294**	LR	LR	19 24 45.4	
	comp=Z,299nm,20.8s,baz=48,slow=36						
CHGR	**Chuyangaron**	**66.79**	**58**	P	**P**	**18 56 31.6**	**+1.0**
BTK	**Batken**	**66.80**	**56**	P	**P**	**18 56 31.1**	**+0.5**
BTK				IAmb	IAmb	18 56 39.7	
	comp=Z,9.2nm,0.9s						
AAK	**Ala-Archa**	**67.06**	**52**	LR	LR	19 27 21.0	
	comp=Z,258nm,18.4s,baz=300,slow=37						
AAK	**Ala-Archa**	**67.06**	**52**	P	**P**	**18 56 33.2**	**+0.9**
ARSB	**Arslanbob**	**67.14**	**54**	P	**P**	**18 56 33.8**	**+0.9**
KUU	**Kurty**	**67.17**	**50**	*eP*	**P**	**18 56 33.5**	**+0.7**
	comp=Z,5.5nm,0.9s,baz=50						
GAR	**Garm**	**67.22**	**57**	P	**P**	**18 56 34.8**	**+1.4**
TDK	**Taldyqorghan**	**67.46**	**48**	*eP*	**P**	**18 56 35.3**	**+0.6**
	baz=48						
TDK				LR	LR	19 24 54.1	
	comp=Z,170nm,18.0s,baz=48						
CHKK	**Chushkaly**	**67.54**	**49**	*eP*	**P**	**18 56 35.4**	**+0.3**
	baz=49						
UOSS	**Minazif**	**67.87**	**77**	P	**P**	**18 56 37.2**	**-0.2**
MAKZ	**Makanchi**	**67.94**	**44**	P	**P**	**18 56 38.1**	**+0.5**
MAKZ				IAmb	IAmb	18 56 44.6	
	comp=Z,11nm,1.1s						
AAA	**Alma-Ata**	**67.95**	**50**	*eP*	**P**	**18 56 38.6**	**+0.8**
	baz=50						
MDOK	**Medeo**	**68.05**	**50**	*eP*	**P**	**18 56 39.2**	**+0.6**
	baz=50						
MDOK				LR	LR	19 26 06.2	
	comp=Z,132nm,15.8s,baz=50						
TNSS	**Tian-Shan**	**68.09**	**50**	*eP*	**P**	**18 56 39.9**	**+0.8**
	baz=50						
MK31	**Makanchi Array**	**68.10**	**44**	P	**P**	**18 56 37.7**	**-0.9**
MK31				IAmb	IAmb	18 56 45.5	
	comp=Z,9.3nm,1.1s						
MKAR	**Makanchi Array**	**68.10**	**44**	P	**P**	**18 56 38.8**	**+0.2**
	comp=Z,5.5nm,1.0s,baz=318,slow=4.9,SNR=25						
MKAR				LR	LR	19 27 56.3	
	comp=Z,190nm,18.3s,baz=298,slow=37						
MKAR	**Makanchi Array**	**68.10**	**44**	P	**P**	**18 56 38.5**	**-0.1**
LPIG	**La Paz**	**68.17**	**282**	LR	LR	19 26 16.1	
	comp=Z,587nm,19.7s,baz=56,slow=36						
KPKS	**Kokpek**	**68.69**	**49**	*eP*	**P**	**18 56 43.2**	**+0.7**
	comp=Z,27nm,2.1s,baz=49						
SATY	**Saty**	**68.83**	**49**	*eP*	**P**	**18 56 44.2**	**+0.8**
	comp=Z,6.0nm,1.2s,baz=49						
KDJ	**Kajisay**	**68.85**	**51**	P	**P**	**18 56 44.6**	**+1.0**
KDJ				IAmb	IAmb	18 56 51.4	
	comp=Z,9.3nm,1.1s						
UZB	**Uzynbulak**	**69.09**	**49**	*eP*	**P**	**18 56 45.8**	**+0.8**
	comp=Z,4.3nm,1.1s,baz=49						
PRZ	**Przheval'sk**	**69.24**	**50**	P	**P**	**18 56 47.7**	**+1.7**
SHLS	**Shalkode**	**69.31**	**49**	*eP*	**P**	**18 56 48.8**	**+2.5**
	comp=Z,11nm,1.1s,baz=48						
TARG	**Taragay, Kyrgy**	**69.46**	**51**	P	**P**	**18 56 49.6**	**+1.9**
TARG				IAmb	IAmb	18 56 56.4	
	comp=Z,11nm,0.9s						
YAK	**Yakutsk**	**69.70**	**11**	P	**P**	**18 56 47.9**	**-0.4**
YAK				IAmb	IAmb	18 56 49.2	
	comp=Z,13nm,1.2s						
KSH	**Kashi**	**70.04**	**53**	P	**P**	**18 56 53.1**	**+2.2**
KSH				sP	pwP	18 57 02.1	+1.9
KSH				S	**S**	**19 05 59.4**	**-1.2**
KSH				pmax	pmax		
	comp=Z,20nm,0.9s						
KSH				LR	LR		
	comp=Z,160nm,12.0s						
KSH				LR	LR		
	comp=Z,160nm,9.2s						
NIL	**Nilore**	**72.64**	**59**	P	**P**	**18 57 07.1**	**+0.5**
WMQ	**Urumqi**	**72.86**	**43**	*eP*	**P**	**18 57 11.0**	**+3.2**
WMQ				pmax	pmax		
	comp=Z,14nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,79nm,3.7s						
WMQ				LR	LR		
	comp=Z,94nm,21.3s						
WMQ				LR	LR		
	comp=Z,110nm,11.5s						
LPAZ	**La Paz**	**72.95**	**221**	P	**P**	**18 57 08.6**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=37,slow=7.8,SNR=3.2						
LPAZ				LR	LR	19 25 00.5	
	comp=Z,101nm,21.5s,baz=359,slow=32						
LPAZ	**La Paz**	**72.95**	**221**	P	**P**	**18 57 08.4**	**-0.8**
KMBO	**Kilima Mbogo**	**73.74**	**110**	P	**P**	**18 57 16.1**	**+2.6**
	comp=Z,0.8nm,0.5s,baz=356,slow=14,SNR=2.0						
KMBO	**Kilima Mbogo**	**73.74**	**110**	IAmb	IAmb	18 57 21.5	
	comp=Z,7.2nm,1.2s						
SONM	**Songino Array**	**77.22**	**30**	P	**P**	**18 57 33.8**	**+0.9**
	comp=Z,4.9nm,0.9s,baz=320,slow=5.8,SNR=20						
SONM				LR	LR	19 36 12.0	
	comp=Z,44nm,18.1s,baz=310,slow=39						
SONM	**Songino Array**	**77.22**	**30**	IAmb	IAmb	18 57 40.3	
	comp=Z,5.8nm,1.0s						
ULN	**Ulaanbaatar**	**77.42**	**30**	P	**P**	**18 57 35.0**	**+0.9**
ULN				IAmb	IAmb	18 57 45.2	
	comp=Z,12nm,1.1s						
CPUP	**Villa Florida**	**77.93**	**207**	P	**P**	**18 57 36.2**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=73,slow=1.8,SNR=2.8						
CPUP				LR	LR	19 30 10.2	
	comp=Z,70nm,18.1s,baz=39,slow=34						
LSZ	**Lusaka**	**79.44**	**126**	P	**P**	**18 57 45.6**	**+0.1**
LSZ				IAmb	IAmb	18 57 56.9	
	comp=Z,34nm,1.8s						
PETK	**Petropavlovsk-**	**80.13**	**357**	LR	LR	19 34 23.4	
	comp=Z,54nm,18.4s,baz=60,slow=36						
GTA	**Gaotai**	**81.83**	**39**	||P	**P**	**18 57 58.1**	**-0.1**
GTA				pP	PcP	18 58 04.4	+0.5
GTA				sP	pwP	18 58 07.3	-0.3
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,84nm,5.9s						
GTA				LR	LR		
	comp=Z,160nm,20.9s						
GTA				LR	LR		
	comp=Z,140nm,22.5s						
HHC	**Hu-ho-hao-te**	**85.12**	**30**	*eP*	**P**	**18 58 15.2**	**+0.1**
HHC				pmax	pmax		
	comp=Z,22nm,1.2s						
HHC				pmax	pmax		
	comp=Z,92nm,6.4s						
HHC				LR	LR		
	comp=Z,340nm,16.9s						
HHC				LR	LR		
	comp=Z,310nm,16.8s						
LZH	**Lanzhou**	**86.34**	**38**	*eP*	**P**	**18 58 21.9**	**+0.6**
LZH				pP	sP	18 58 28.2	-0.3
LZH				sP	pwP	18 58 30.8	+0.1
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,79nm,6.5s						
LZH				LR	LR		
	comp=Z,290nm,12.5s						
LZH				LR	LR		
	comp=Z,260nm,15.2s						
LZH				LR	LR		
	comp=Z,340nm,16.3s						
BJI	**Beijing**	**87.36**	**27**	P	**P**	**18 58 26.2**	**+0.3**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BOSA	**Boshof**	**88.96**	**136**	LR	LR	19 38 02.6	
	comp=Z,223nm,18.0s,baz=330,slow=35						
KSRS	**Korea Array**	**92.98**	**20**	P	**P**	**18 58 50.5**	**-1.7**
	comp=Z,1.0nm,0.8s,baz=347,slow=6.0,SNR=6.4						
PLCA	**Paso Flores**	**95.52**	**212**	LR	LR	19 41 00.3	
	comp=Z,96nm,19.5s,baz=26,slow=35						
NJ2	**Nanjing**	**95.55**	**28**	*eP*	**P**	**18 59 03.7**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**98.84**	**51**	LR	LR	19 45 06.4	
	comp=Z,51nm,21.9s,baz=330,slow=36						
TAOE	**Nuku Hiva Isla**	**111.99**	**281**	*e*LR	LR	19 37 30.1	
	comp=Z,261nm,23.4s						
PPT2	**Papeete2**	**124.60**	**282**	*e*LR	LR	19 43 20.6	
	comp=Z,197nm,23.8s						
TBI	**Tubuai**	**128.50**	**276**	*e*LR	LR	19 45 09.6	
	comp=Z,212nm,36.2s						
QSPA	**South Pole Qui**	**136.93**	**180**	PKP	**PKPdf**	**19 05 00.3**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=295,slow=3.7,SNR=3.8						
WRA	**Warramunga Arr**	**149.07**	**35**	PKPbc	**PKPbc**	**19 05 26.4**	**-0.9**
	comp=Z,3.1nm,1.0s,baz=339,slow=3.1,SNR=7.3						
VNDA	**Vanda**	**149.22**	**184**	PKPbc	**PKiKP**	**19 05 26.8**	**-0.4**
	comp=Z,2.3nm,1.0s,baz=288,slow=7.5,SNR=4.2						
ASAR	**Alice Springs**	**152.21**	**39**	PKPbc	**PKPbc**	**19 05 34.0**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=357,slow=2.8,SNR=12						
STKA	**Stephens Creek**	**162.60**	**33**	PKPab	**PKPab**	**19 06 28.2**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=198,slow=19,SNR=1.8						

*IDC **06** 18:47:25.6±0.9, 7.°30S×128.°17E, h0km, mb3.8/6, mb1 4.0/11, mb1mx3.8/30, mbtmp3.8/11, ML3.7/5, MS3.3/2, Ms1 3.3/2, ms1mx2.8/34, Error ellipse: s-maj=29.8km s-min=17.6km az=83.0*

ISC 06 18:47:26.8±0.7, 7.°40S±0.°06×128.°26E±0.°09, h10km, n13, σ1§10/16, mb3.9/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.33**	**238**	Pn		**Pn**		**18 48 47.2**	**+0.7**
	3.0nm,0.3s,baz=36,slow=1.8,SNR=5.1								
BATI				Sn		**Sn**		**18 49 48.6**	**+0.5**
	1.3nm,0.3s,baz=274,slow=22,SNR=1.6								
BATI				LR		LR		18 51 16.6	
	comp=Z,284nm,19.8s,baz=194,slow=44								
SIJI	**Sorong**	**7.14**	**25**	Pn		**Pn**		**18 49 12.0**	**+0.5**
	1.3nm,0.3s,baz=184,slow=16,SNR=5.1								
SIJI				Sn		Sn		18 50 23.6	-9.1
	0.2nm,0.3s,baz=107,slow=19,SNR=1.2								
FITZ	**Fitzroy Crossi**	**10.94**	**193**	Pn		**Pn**		**18 50 03.8**	**+0.3**
	0.2nm,0.3s,baz=27,slow=9.6,SNR=11								
FITZ				Sn		**Sn**		**18 52 04.3**	**-1.8**
	0.5nm,0.3s,baz=121,slow=19,SNR=2.5								
WRA	**Warramunga Arr**	**13.80**	**155**	Pn		**Pn**		**18 50 42.6**	**0.0**
	0.6nm,0.3s,baz=348,slow=18,SNR=46								
WRA				Sn		**Sn**		**18 53 16.4**	**+0.3**
	0.4nm,0.3s,baz=327,slow=24,SNR=5.1								
ASAR	**Alice Springs**	**17.06**	**162**	P		**P**		**18 51 26.7**	**-0.7**
	0.2nm,0.3s,baz=335,slow=9.3,SNR=18								
ASAR				S		**Sn**		**18 54 34.6**	**-1.0**
	0.1nm,0.3s,baz=317,slow=18,SNR=3.8								
STKA	**Stephens Creek**	**27.35**	**155**	P		**P**		**18 53 14.6**	**+2.4**
	4.9nm,1.1s,baz=326,slow=7.6,SNR=3.9								
CMAR	**Chiang Mai Arr**	**38.68**	**312**	P		**P**		**18 54 51.7**	**+0.5**
	0.5nm,0.8s,baz=170,slow=7.1,SNR=1.4								
KSRS	**Korea Array**	**44.62**	**360**	P		**P**		**18 55 38.9**	**-0.5**
	0.3nm,0.5s,baz=194,slow=9.9,SNR=2.0								
SONM	**Songino Array**	**58.29**	**343**	P		**P**		**18 57 21.3**	**-0.6**
	0.7nm,0.9s,baz=167,slow=7.1,SNR=3.2								
MKAR	**Makanchi Array**	**67.62**	**328**	P		**P**		**18 58 22.5**	**-1.4**
	0.9nm,0.9s,baz=120,slow=8.5,SNR=3.6								
YAK	**Yakutsk**	**69.23**	**1**	LR		LR		19 28 50.4	
	comp=Z,23nm,18.1s,baz=32,slow=36								
ZALV	**Zalesovo Beam**	**71.18**	**335**	P		**P**		**18 58 44.7**	**-1.0**
	1.0nm,0.5s,baz=126,slow=7.5,SNR=3.9								
**LPAZ

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.71**	**311**	Pn	**Pn**	**19 24 37.4**	**-0.4**
	0.4nm,0.3s,baz=111,slow=17,SNR=2.5						
OPO				Sn	Sn	19 27 27.5	-16
	0.2nm,0.3s,baz=173,slow=18,SNR=1.2						
H08S1	**Diego Garcia H**	**25.14**	**29**	T	T	19 51 05.2	
	baz=204,slow=76,SNR=4.7						
H08S2	**Diego Garcia H**	**25.15**	**29**	T	T	19 51 05.8	
	baz=204,slow=76,SNR=3.7						
H08S3	**Diego Garcia H**	**25.16**	**29**	T	T	19 51 06.7	
	baz=204,slow=76,SNR=5.7						
H01W2	**Cape Leeuwin H**	**45.07**	**111**	T	T	20 16 34.6	
	baz=262,slow=74,SNR=7.7						
H01W3	**Cape Leeuwin H**	**45.07**	**111**	T	T	20 16 35.2	
	baz=262,slow=74,SNR=8.5						
H01W1	**Cape Leeuwin H**	**45.09**	**111**	T	T	20 16 40.8	
	baz=262,slow=74,SNR=7.2						
CMAR	**Chiang Mai Arr**	**60.98**	**43**	P	**P**	**19 30 57.3**	**+0.3**
	0.4nm,0.5s,baz=227,slow=6.5,SNR=5.2						
ASAR	**Alice Springs**	**64.82**	**104**	P	**P**	**19 31 22.7**	**-0.1**
	1.2nm,0.7s,baz=242,slow=6.5,SNR=19						
WRA	**Warramunga Arr**	**66.71**	**100**	P	**P**	**19 31 34.8**	**-0.3**
	1.2nm,0.8s,baz=246,slow=6.0,SNR=7.6						
TORD	**Torodi Ar. Bea**	**71.06**	**298**	P	**P**	**19 32 02.4**	**+0.3**
	1.0nm,0.8s,baz=130,slow=5.3,SNR=1.5						
KURBB	**Kurchatov Arra**	**82.07**	**12**	P	**P**	**19 33 03.4**	**-0.1**
	0.4nm,0.8s,baz=205,slow=4.1,SNR=2.8						

PRU 06 19:32:00.5±0.0, 49.82N×18.53E, h0km, Mining Induced Event Csm, E=2.6e+04, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.25**	**274**	*e*PG	Pg	19 32 04.9	-0.3
OKC				*e*SG	Sg	19 32 08.3	-0.2
	comp=Z,395nm,0.6s						
MORC	**Moravsky Berou**	**0.64**	**267**	*e*PG	Pg	19 32 12.1	-0.7
MORC				*e*SG	Sg	19 32 20.1	-1.0
LANS	**Liptovska Anna**	**0.91**	**137**	*e*PG	Pg	19 32 16.9	-1.0
LANS				*e*SG	Sb	19 32 31.7	-0.1
LANS				*e*LG	Lg	19 32 34.4	
JAVC	**Velka Javorina**	**1.11**	**211**	*e*PG	Pg	19 32 21.2	-0.6
KRLC	**Kraliky**	**1.16**	**283**	*e*PG	Pg	19 32 20.8	-1.9
KRLC				*e*SG	Sg	19 32 36.9	-0.8
	comp=Z,6.1nm,0.5s						
VYHS	**Vyhne**	**1.34**	**171**	*e*PG	Pg	19 32 24.4	-1.8
VYHS				*e*SG	Sg	19 32 42.7	-0.9
VRAC	**Vranov**	**1.36**	**249**	*e*PG	Pg	19 32 25.1	-1.5
VRAC				*e*SG	Sg	19 32 42.9	-1.3
DPC	**Dobruska-Polom**	**1.52**	**291**	*e*PG	Pn	19 32 28.6	-0.4
DPC				*e*SG	Sg	19 32 48.0	-1.2
	comp=Z,3.4nm,0.4s						
KRUC	**Moravsky**	**1.59**	**242**	*e*PG	Pn	19 32 28.4	-1.4
KRUC				*e*SG	Sn	19 32 50.0	-1.1
OSTC	**Ostas**	**1.66**	**297**	*e*PG	Pn	19 32 30.1	-0.8
OSTC				*e*SG	Sn	19 32 52.6	-0.3
	comp=Z,2.6nm,0.5s						
UPC	**Upice**	**1.76**	**294**	*e*SG	Sb	19 32 56.4	+0.1
	comp=Z,3.3nm,0.8s						
CHVC	**Chvalec**	**1.77**	**297**	*e*SG	Sb	19 32 56.6	+0.1
GOPC	**GO Pecny, Ondr**	**2.42**	**274**	*e*SG	Sg	19 33 18.4	+0.1
KHC	**Kasperske Hory**	**3.30**	**260**	*e*SG	Sg	19 33 46.2	-0.3

*BEO **06** 19:33:31.6±1.1, 39.48N×25.09E, h10km, ML2.6/6*
*ISK **06** 19:33:38.3, 40.01N×24.32E, h14km, ML2.6/11*
*ATH **06** 19:33:38.0, 40.02N×24.37E, h28km±1km, ML2.4/6, Error ellipse: s-maj=2.0km s-min=0.9km az=343.0*
*THE **06** 19:33:39.3, 40.04N×24.35E, h13km±1km, ML2.2/9, Error ellipse: s-maj=1.1km s-min=0.6km az=351.0*
*DDA **06** 19:33:41.3, 39.96N×24.53E, h6km±2km, ML2.5*

ISC 06 19:33:38.2±1.0, 40.02N±0.02×24.36E±0.02, h12km±9km, n75, σ0s94/108, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.42**	**317**	P	**Pb**	**19 33 47.7**	**+0.1**
OUR				S	**Sb**	**19 33 53.3**	**-0.7**
	595nm,0.2s						
OUR	**Ouranopolis**	**0.42**	**317**	P	**Pb**	**19 33 47.7**	**+0.1**
OUR				S	**Sb**	**19 33 53.4**	**-0.5**
OUR				AML	AML	19 33 54.4	
	comp=N,1129μm,0.2s						
OUR				AML	AML	19 33 58.1	
	comp=E,1510μm,0.3s						
OUR	**Ouranopolis**	**0.42**	**317**	PG	**Pb**	**19 33 47.6**	**0.0**
OUR				SG	**Sg**	**19 33 53.1**	**+0.8**
PAIG	**Paliouri**	**0.53**	**260**	P	**Pb**	**19 33 49.6**	**+0.2**
PAIG				S	**Sb**	**19 33 57.2**	**+0.2**
	comp=E,345nm,0.3s						
PAIG	**Paliouri**	**0.53**	**260**	P	**Pb**	**19 33 49.6**	**+0.2**
PAIG				S	**Sb**	**19 33 57.2**	**+0.2**
PAIG				AML	AML	19 34 00.5	
	comp=E,696μm,0.3s						
PAIG				AML	AML	19 34 01.4	
	comp=N,693μm,0.2s						
THAS	**Thassos island**	**0.65**	**25**	P	**Pg**	**19 33 50.3**	**-0.5**
THAS				S	**Sb**	**19 33 59.9**	**-0.4**
	comp=N,1μm,0.2s						
THAS	**Thassos island**	**0.65**	**25**	P	**Pg**	**19 33 50.3**	**-0.5**
THAS				S	**Sb**	**19 33 59.9**	**-0.4**
THAS				AML	AML	19 34 01.4	
	comp=E,1306μm,0.2s						
THAS				AML	AML	19 34 01.7	
	comp=N,2793μm,0.2s						
LIA	**Limnos Island**	**0.65**	**101**	P	**Pb**	**19 33 52.1**	**+0.7**
LIA				S	**Sb**	**19 34 01.6**	**+1.2**
	comp=N,295nm,0.3s						
PLG	**Polygyros**	**0.78**	**297**	P	**Pb**	**19 33 53.9**	**+0.1**
PLG				S	**Sb**	**19 34 04.8**	**+0.5**
	comp=N,948nm,0.4s						
PLG	**Polygyros**	**0.78**	**297**	P	**Pb**	**19 33 53.9**	**+0.1**
PLG				S	**Sb**	**19 34 04.8**	**+0.5**
PLG				AML	AML	19 34 07.3	
	comp=E,624μm,0.3s						
PLG				AML	AML	19 34 07.5	
	comp=N,644μm,0.4s						
KAVA	**Kavala**	**0.98**	**7**	P	**Pn**	**19 33 57.8**	**0.0**
KAVA				S	**Sb**	**19 34 10.7**	**+0.7**
	comp=N,242nm,0.2s						
KAVA	**Kavala**	**0.98**	**7**	P	**Pn**	**19 33 57.7**	**0.0**
KAVA				S	**Sb**	**19 34 10.7**	**+0.7**
KAVA				AML	AML	19 34 12.2	
	comp=N,571μm,0.2s						
KAVA				AML	AML	19 34 13.1	
	comp=E,408μm,0.2s						
SMTH	**Samothraki Isl**	**1.00**	**63**	P	**Pn**	**19 33 57.8**	**-0.3**
SMTH				S	**Sn**	**19 34 12.6**	**+0.4**
	comp=E,82nm,0.2s						
SMTH	**Samothraki Isl**	**1.00**	**63**	P	**Pn**	**19 33 57.8**	**-0.3**
SMTH				S	**Sn**	**19 34 11.8**	**-0.4**
SMTH				AML	AML	19 34 13.5	
	comp=N,170μm,0.3s						
SMTH				AML	AML	19 34 14.2	
	comp=E,223μm,0.2s						
SKIA	**Skiathos**	**1.10**	**219**	P	**Pn**	**19 33 59.4**	**0.0**
SKIA	**Skiathos**	**1.10**	**219**	P	**Pn**	**19 33 59.4**	**0.0**
SOH	**Sokhos**	**1.10**	**317**	P	**Pn**	**19 34 00.1**	**+0.6**
SOH				S	**Sb**	**19 34 14.2**	**+0.5**
	comp=E,142nm,0.4s						
SOH	**Sokhos**	**1.10**	**317**	P	**Pn**	**19 34 00.1**	**+0.6**
SOH				S	**Sb**	**19 34 14.2**	**+0.5**
HORT	**Hortiatis**	**1.12**	**301**	P	**Pn**	**19 34 00.0**	**+0.2**
HORT				S	**Sb**	**19 34 14.8**	**+0.7**
	comp=E,58nm,0.2s						
HORT	**Hortiatis**	**1.12**	**301**	P	**Pn**	**19 33 60.0**	**+0.2**
HORT	**Hortiatis**	**1.12**	**301**	PN	**Pn**	**19 33 59.9**	**+0.2**
HORT				SN	**Sn**	**19 34 15.1**	**0.0**
NEO	**Neokhori**	**1.13**	**231**	P	**Pb**	**19 33 59.6**	**-0.1**
NEO	**Neokhori**	**1.13**	**231**	P	**Pb**	**19 33 59.6**	**-0.1**
GADA	**Gvkgeada**	**1.20**	**81**	P	**Pg**	**19 34 00.8**	**-0.4**
GADA	**Gvkgeada**	**1.20**	**81**	PN	**Pg**	**19 34 01.6**	**+0.4**
GADA				SN	**Sn**	**19 34 18.7**	**+1.9**
GOKA	**anakkale-Gk**	**1.20**	**82**	*i* P	**Pg**	**19 34 01.5**	**+0.2**
GOKA				*i* S	**Sn**	**19 34 17.3**	**+0.3**
GOKA				IAML		19 34 19.0	
	comp=N,231nm,0.5s						
GOKA				IAML		19 34 20.0	
	comp=E,163nm,0.5s						
THE	**Thessaloniki**	**1.23**	**300**	P	**Pg**	**19 34 02.1**	**+0.3**
THE	**Thessaloniki**	**1.23**	**300**	P	**Pg**	**19 34 02.1**	**+0.3**
BOZC	**Bozcaada**	**1.32**	**97**	PN	**Pg**	**19 34 03.4**	**-0.2**
BOZC				SN	**Sg**	**19 34 21.6**	**+0.9**
BOZC	**Bozcaada**	**1.32**	**97**	*i* P	**Pg**	**19 34 04.2**	**+0.7**
BOZC				*i* S	**Sg**	**19 34 20.7**	**0.0**
BOZC				IAML		19 34 23.0	
	comp=E,34nm,0.4s						
NVR	**Nevrokopi**	**1.38**	**344**	P	**Pn**	**19 34 03.7**	**+0.4**
NVR	**Nevrokopi**	**1.38**	**344**	P	**Pn**	**19 34 03.3**	**0.0**
KYMI	**Kymi, Euboea I**	**1.40**	**188**	P	**Pn**	**19 34 03.4**	**-0.2**
KYMI	**Kymi, Euboea I**	**1.40**	**188**	P	**Pn**	**19 34 03.4**	**-0.2**
LIT	**Litokhoron**	**1.43**	**274**	P	**Pn**	**19 34 04.0**	**-0.1**
LIT	**Litokhoron**	**1.43**	**274**	P	**Pn**	**19 34 03.9**	**-0.1**
RDO	**Rodhopi**	**1.44**	**38**	P	**Pn**	**19 34 04.1**	**0.0**
RDO	**Rodhopi**	**1.44**	**38**	P	**Pn**	**19 34 03.5**	**-0.6**
RDO	**Rodhopi**	**1.44**	**38**	PN	**Pb**	**19 34 05.0**	**+0.1**
RDO				SN	**Sg**	**19 34 24.7**	**+0.1**
MRKA	**Markates**	**1.44**	**205**	P	**Pn**	**19 34 04.1**	**-0.1**
MRKA				S	**Sb**	**19 34 23.5**	**+0.1**
MRKA	**Markates**	**1.44**	**205**	P	**Pn**	**19 34 04.0**	**-0.2**
MRKA				S	**Sb**	**19 34 23.5**	**+0.1**
EZN	**Ezine**	**1.53**	**97**	PN	**Pb**	**19 34 06.4**	**0.0**
EZN				SN	**Sg**	**19 34 26.9**	**-0.5**
ENEZ	**Enez**	**1.55**	**62**	P	**Pb**	**19 34 06.3**	**-0.5**
ENEZ	**Enez**	**1.55**	**62**	PN	**Pb**	**19 34 06.7**	**-0.1**
ENEZ				SN	**Sg**	**19 34 27.4**	**-0.6**
ALN	**Alexandroupoli**	**1.56**	**55**	P	**Pb**	**19 34 06.3**	**-0.7**
ALN	**Alexandroupoli**	**1.56**	**55**	PN	**Pb**	**19 34 06.7**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**1.71**	**99**	*i* P	**Pb**	**19 34 08.9**	**-0.7**
BAYC				*i* S	**Sn**	**19 34 28.7**	**-0.8**
KDZ	**Kurdzhali**	**1.81**	**26**	PN	**Pn**	**19 34 09.7**	**+0.4**
AGG	**Agios Georgios**	**1.86**	**238**	PN	**Pn**	**19 34 10.3**	**+0.4**
THL	**Klokotos Trika**	**1.86**	**257**	P	**Pn**	**19 34 10.4**	**+0.5**
THL	**Klokotos Trika**	**1.86**	**257**	P	**Pn**	**19 34 09.9**	**0.0**
VAY	**Valandovo**	**1.88**	**314**	*e*Pn	**Pg**	**19 34 14.6**	**+0.4**
VAY	**Valandovo**	**1.88**	**314**	*i* Pn	**Pg**	**19 34 14.7**	**+0.4**
KESN	**Edirne-Kesan**	**1.95**	**65**	*i* S	**Sg**	**19 34 42.3**	**+1.4**
KESN				*i* P	**Sn**	**19 34 33.0**	**-2.9**
DION	**Dionisos Attik**	**1.97**	**190**	P	**Pn**	**19 34 11.5**	**+0.1**
DION	**Dionisos Attik**	**1.97**	**190**	P	**Pn**	**19 34 11.5**	**+0.1**
KARY	**Karystos**	**1.99**	**178**	P	**Pn**	**19 34 12.0**	**+0.3**
KARY	**Karystos**	**1.99**	**178**	P	**Pn**	**19 34 12.0**	**+0.3**
VIL2	**Platees**	**2.00**	**205**	P	**Pn**	**19 34 12.3**	**+0.5**
PTL	**Penteli**	**2.01**	**191**	P	**Pn**	**19 34 12.2**	**+0.3**
PTL	**Penteli**	**2.01**	**191**	P	**Pn**	**19 34 11.9**	**-0.1**
VILL	**Villia**	**2.03**	**204**	P	**Pn**	**19 34 12.3**	**+0.1**
UKOP	**Uzunkopru-Edir**	**2.06**	**57**	PN	**Pn**	**19 34 13.8**	**+1.3**
PLD	**Plovdiv**	**2.10**	**7**	*e*Pn	**Pn**	**19 34 14.4**	**+1.3**
PLD	**Plovdiv**	**2.10**	**7**	PN	**Pn**	**19 34 14.2**	**+1.1**
CHOS	**Chios island**	**2.10**	**141**	PN	**Pn**	**19 34 14.3**	**+1.1**
STIP	**Stip**	**2.34**	**316**	*i* Pn	**Pn**	**19 34 17.4**	**+0.9**
MAR3	**Marsite Statio**	**2.36**	**71**	PN	**Pn**	**19 34 18.2**	**+1.5**
BALY	**Balya**	**2.53**	**95**	*i* S	**Sg**	**19 34 57.6**	**-1.9**
BALY				*i* P	**Sn**	**19 34 47.4**	**-2.4**
MRMT	**Marmara Adasi**	**2.54**	**76**	PN	**Pn**	**19 34 20.9**	**+1.6**
EDRB	**Edirne**	**2.57**	**44**	PN	**Pn**	**19 34 21.1**	**+1.5**
VTS	**Vitosha**	**2.73**	**342**	*e*Pn	**Pn**	**19 34 24.6**	**+2.7**
VTS				*e*Sn	**Sg**	**19 35 04.9**	**-1.0**
BOSS	**Bosilegrad**	**2.85**	**331**	*e*Pn	**Pb**	**19 34 27.2**	**-1.8**
BOSS				*e*Sn	**Sg**	**19 35 08.8**	**-0.9**
DURS	**Dursunbey**	**3.20**	**96**	*i* S	**Sg**	**19 35 19.7**	**-1.3**
DURS				*i* P	Sn	19 34 55.2	-11
BARS	**Barje**	**3.38**	**326**	*e*Pn	**Pb**	**19 34 34.7**	**-3.4**
BARS				*e*Sn	**Sb**	**19 35 23.1**	**+4.0**

*NNC **06** 19:42:53.8±3.1, 37.66N×71.69E, h0km, mb4.0, mpv3.4, Error ellipse: s-maj=24.2km s-min=18.3km az=169.0*
*IDC **06** 19:42:54.5±5.3, 37.55N×71.38E, h154km±28km, mb2.8/1, mb1 3.0/7, mb1mx2.8/42, mbtmp3.5/7, MS3.0/2, Ms1 3.0/2, ms1mx2.4/53, Error ellipse: s-maj=69.7km s-min=18.5km az=152.0*

ISC 06 19:42:51.5±1.7, 37.2N±0.1×71.60E±0.09, h150km, n13, σ1s78/18, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.83**	**21**	P	**Pn**	**19 44 16.6**	**+0.5**
	2.0nm,0.3s,baz=185,slow=15,SNR=11						
AAK				S	**Sn**	**19 45 20.5**	**-1.6**
	1.2nm,0.3s,baz=352,slow=21,SNR=15						
AAK	**Ala-Archa**	**5.83**	**21**	⇓P	**Pn**	**19 44 16.3**	**+0.3**
	3.9nm,0.5s						
AAK				⇑S	**Sn**	**19 45 20.2**	**-2.0**
	20nm,0.7s						
KK31	**Karatay Array**	**5.92**	**352**	⇓P	**Pn**	**19 44 18.5**	**+1.4**
	1.9nm,0.3s,baz=165,slow=12,SNR=28						
KK31				⇑S	**Sn**	**19 45 22.7**	**-1.4**
	6.5nm,0.3s,baz=296,slow=32,SNR=6.8						
TKM2	**Tokmak 2**	**6.45**	**27**	⇑P	**Pn**	**19 44 23.6**	**-0.7**
	1.3nm,0.6s						
TKM2				⇑S	**Sn**	**19 45 35.7**	**-1.3**
	4.5nm,0.8s						
GEYT	**Alibeck**	**10.73**	**278**	P	**Pn**	**19 45 21.2**	**+0.1**
	0.9nm,0.3s,baz=98,slow=12,SNR=7.5						
GEYT				S	**Sn**	**19 47 16.8**	**-3.0**
	0.3nm,0.3s,baz=129,slow=3.9,SNR=1.8						
MKAR	**Makanchi Array**	**12.41**	**36**	P	**Pn**	**19 45 45.2**	**+2.2**
	0.1nm,0.3s,baz=210,slow=9.4,SNR=2.0						
KURBB	**Kurchatov Arra**	**14.27**	**18**	P	**Pn**	**19 46 07.5**	**+0.9**
	0.1nm,0.3s,baz=208,slow=10,SNR=7.2						
AB31	**Akbulak array**	**14.69**	**329**	⇑P	**P**	**19 46 16.8**	**+2.7**
	3.6nm,0.6s,baz=144,slow=11,SNR=27						
AB31				⇓S	**Sn**	**19 48 57.4**	**+2.6**
	4.6nm,0.5s,baz=150,slow=24,SNR=4.7						
BVAR	**Borovoye Array**	**15.81**	**357**	P	**Pn**	**19 46 23.7**	**-2.1**
	0.1nm,0.3s,baz=161,slow=12,SNR=5.1						
BVAR				LR	LR	19 52 10.5	
	comp=Z,28nm,19.6s,baz=126,slow=36						
ZALV	**Zalesovo Beam**	**19.04**	**24**	P	**P**	**19 47 00.5**	**-1.4**
	0.7nm,0.3s,baz=204,slow=11,SNR=11						
ARCES	**ARCESS Array B**	**40.65**	**337**	P	**P**	**19 50 16.4**	**-0.1**
	5.9nm,0.3s,baz=105,slow=9.4,SNR=4.5						
NOA	**NORSAR Array B**	**44.09**	**323**	P	**P**	**19 50 44.2**	**-0.2**
	0.2nm,0.6s,baz=96,slow=7.6,SNR=2.0						
TIXI	**Tiksi**	**44.91**	**22**	LR	LR	20 09 47.6	
	comp=Z,29nm,19.2s,baz=244,slow=36						

*BJI **06** 20:05:39.4±0.0, 39.66N×140.84E, h31km, mB5.0/15, mb4.6/23, Ms4.3/6, Ms7 4.3/3*
*JMA **06** 20:05:40.0, 39.99N×140.77E, h4km±1km, M4.4 Broadband fault plane solution: P waves. NP1: ϕs198.00000°, δ1.00000°, λ90.00000°. NP2:ϕs18.00000°, δ89.00000°, λ90.00000°. Principal axes: T Plg46.0000°, Azm288.0000°; N Plg0.0000°, Azm18.0000°; P Plg44.0000°, Azm108.0000°;*
JMA Felt II J1.
*NIED **06** 20:05:40.0, 39.99N×140.77E, h4km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.10; Mθθ-0.21; Mϕϕ-1.89; Mrθ-0.29; Mθϕ0.79; Mϕr-0.97; Fault plane solution: M0 2.37000×10¹⁵ NP1: ϕs173.00000°, δ57.00000°, λ107.00000°. NP2: ϕs324.00000°, δ37.00000°, λ66.00000°.*
*NEIC **06** 20:05:43.8±2.2, 40.05N±0.07×140.74E±0.07, h25km±3km, mb4.6/90 Error ellipse: s-maj=11.8km s-min=5.2km az=147.0*
*IDC **06** 20:05:45.5±1.5, 39.98N×140.54E, h42km±13km, mb4.1/29, mb1 4.1/33, mb1mx4.0/60, mbtmp4.3/33, ML3.4/4, MS3.5/16, Ms1 3.5/16, ms1mx3.2/59, Error ellipse: s-maj=12.4km s-min=8.0km az=105.0*

ISC 06 20:05:40.4±1.0, 39.99N±0.03×140.79E±0.03, h6km±6km, n201, σ1s07/205, mb4.6/77, MS3.4/12, 3C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAH	**Hinai**	**0.23**	**329**	⇑P	**Pg**	**20 05 44.7**	**-0.1**
JAH				S	**Sg**	**20 05 48.4**	**+0.5**
JSZI	**Iwateshizukuis**	**0.28**	**153**	⇓P	**Pg**	**20 05 46.1**	**+0.2**
JSZI				S	**Sg**	**20 05 49.8**	**+0.1**
JKZ	**Kuzumaki**	**0.42**	**91**	⇓P	**Pg**	**20 05 48.3**	**-0.2**
JKZ				S	**Sg**	**20 05 54.0**	**0.0**
JRG	**Rokugo**	**0.61**	**191**	⇓P	**Pg**	**20 05 51.9**	**-0.2**
JOM	**Ohasama**	**0.65**	**143**	⇓P	**Pg**	**20 05 52.1**	**-0.8**
JANG	**Nango**	**0.68**	**56**	⇓P	**Pg**	**20 05 53.1**	**-0.3**
JANG				S	**Sg**	**20 06 02.0**	**-0.2**
JTM	**Tenmabayashi**	**0.82**	**15**	⇑P	**Pg**	**20 05 55.9**	**-0.3**
JTM				S	**Sg**	**20 06 06.6**	**-0.2**
JIW	**Iwasaki**	**0.84**	**315**	⇑P	**Pb**	**20 05 56.1**	**-1.4**
JIW				S	**Sg**	**20 06 07.4**	**-0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**2.70**	**41**		**Pn**	**20 06 24.5**	**+0.2**
MJB9	**Matsu-Tunnel**	**4.00**	**211**	Pn	**Pn**	**20 06 42.7**	**+0.5**
MAJO	**Matsushiro**	**4.00**	**211**	Pn	**Pn**	**20 06 43.0**	**+0.7**
MAT	**Matsushiro**	**4.00**	**211**	P	**Pn**	**20 06 42.4**	**+0.2**
MAT				*e*S	**Sn**	**20 07 30.6**	**+1.2**
MJAR	**Matsushiro Arr**	**4.00**	**211**	P	**Pn**	**20 06 42.4**	**+0.2**
	0.4nm,0.3s,baz=37,slow=23,SNR=24						
MJAR				S	**Sn**	**20 07 28.2**	**-1.2**
	0.2nm,0.3s,baz=28,slow=14,SNR=4.8						
MJAR				LR	LR	20 08 07.2	
	comp=Z,213nm,19.5s,baz=30,slow=36						
MJAR	**Matsushiro Arr**	**4.00**	**211**		**Pn**	**20 06 42.1**	**-0.1**
ASAJ	**Asahikawa**	**4.33**	**18**	P	**Pn**	**20 06 48.7**	**+1.9**
	7.0nm,0.3s,baz=198,slow=14,SNR=34						
ASAJ				S	**Sn**	**20 07 40.2**	**+2.6**
	4.4nm,0.3s,baz=192,slow=30,SNR=8.5						
ASAJ				LR	LR	20 08 41.4	
	comp=Z,243nm,20.2s,baz=201,slow=40						
JKA	**Kamikawa-asahi**	**4.33**	**18**	Pn	**Pn**	**20 06 47.5**	**+0.7**
INU	**Inuyama**	**5.52**	**214**		**Pn**	**20 07 04.6**	**+1.5**
JHJ	**Hachijo jima 2**	**6.91**	**187**	LR	LR	20 09 54.0	
	comp=Z,220nm,19.0s,baz=117,slow=36						
YSS	**Yuzh-Sakhalins**	**7.10**	**11**	Pn	**Pn**	**20 07 26.3**	**+1.5**
USA0B	**Ussuriysk Arra**	**7.77**	**306**		**Pn**	**20 07 34.0**	**0.0**
USRK	**Ussuriysk Ar.**	**7.77**	**306**	P	**Pn**	**20 07 33.5**	**-0.5**
	baz=116,slow=14,SNR=15						
USRK				S	**Sn**	**20 09 03.7**	**+1.4**
	baz=112,slow=24,SNR=5.6						
USRK	**Ussuriysk Ar.**	**7.77**	**306**		**Pn**	**20 07 34.1**	**+0.1**
KSRS	**Korea Array**	**10.37**	**260**	P	**Pn**	**20 08 11.5**	**+2.0**
	2.6nm,0.3s,baz=73,slow=13,SNR=74						
KSRS				S	**Sn**	**20 10 08.3**	**+2.3**
	2.0nm,0.3s,baz=74,slow=24,SNR=17						
KS19	**Wonju Array Si**	**10.39**	**260**	Pn	**Pn**	**20 08 11.1**	**+1.1**
KSAR	**Wonju Array Be**	**10.40**	**260**		**Pn**	**20 08 13.2**	**+3.2**
JNU	**Nakatsue**	**10.51**	**232**	P	**Pn**	**20 08 14.3**	**+2.7**
	0.6nm,0.3s,baz=346,slow=6.8,SNR=6.5						
JNU				LR	LR	20 12 18.2	
	comp=Z,332nm,18.2s,baz=7.5,slow=38						
JNU	**Nakatsue**	**10.51**	**232**		**Pn**	**20 08 13.4**	**+1.8**
KLR	**Kul'dur**	**11.25**	**328**	P	**Pn**	**20 08 24.4**	**+2.8**
	0.2nm,0.3s,baz=133,slow=13,SNR=25						
CN2	**Changchun**	**12.04**	**293**	*e*P	**Pn**	**20 08 33.9**	**+1.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
DL2	**Dalian**	**14.85**	**272**	P	**P**	**20 09 18.9**	**+2.2**
DL2				pmax	pmax		
	comp=Z,28nm,1.2s						
SONM	**Songino Array**	**25.82**	**299**	P	**P**	**20 11 10.5**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=91,slow=35,SNR=2.6						
SONM				LR	LR	20 21 40.3	
	comp=Z,175nm,18.1s,baz=84,slow=37						
TLY	**Talaya**	**28.09**	**307**	P	**P**	**20 11 31.3**	**-1.4**
	comp=Z,8.0nm,0.7s,baz=107,slow=5.9,SNR=3.4						
TLY				LR	LR	20 23 15.4	
	comp=Z,96nm,19.4s,baz=104,slow=38						
H11N2	**WAKE ISLAND Hy**	**30.16**	**124**	T	T	20 42 39.4	
	baz=318,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**30.16**	**124**	T	T	20 42 42.5	
	baz=318,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**30.17**	**124**	T	T	20 42 45.0	
	baz=318,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**30.94**	**126**	T	T	20 44 02.4	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**30.95**	**126**	T	T	20 43 42.0	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**30.96**	**126**	T	T	20 43 45.2	
	baz=318						
GTA	**Gaotai**	**31.33**	**282**	*e*P	P	20 12 16.6	+15
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ANM	**Nome**	**39.36**	**33**	P	**P**	**20 13 09.7**	**-0.5**
ANM				IAmb	IAmb	20 13 35.6	
	comp=Z,11nm,1.0s						
ZAA0	**Zalesovo Array**	**39.60**	**310**	P	**P**	**20 13 11.6**	**-0.7**
ZALV	**Zalesovo Beam**	**39.60**	**310**	P	**P**	**20 13 11.6**	**-0.8**
	comp=Z,4.0nm,0.7s,baz=87,slow=8.1,SNR=14						
ZALV				PcP	**PcP**	**20 15 18.9**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=67,slow=2.5,SNR=4.2						
ZALV				LR	LR	20 30 18.0	
	comp=Z,94nm,18.8s,baz=68,slow=37						
ZALV	**Zalesovo Beam**	**39.60**	**310**		**P**	**20 13 11.4**	**-0.9**
**C

ARU	**Arti**	**53.84**	**317**	P	**P**	**20 15 03.4**	**-0.4**
CHGR	**Chuyangaron**	**54.00**	**293**	P	**P**	**20 15 04.7**	**-0.6**
ABKAR	**Akbulak array**	**55.69**	**308**	P	**P**	**20 15 16.6**	**-0.7**
KBL	**Kabul**	**55.94**	**289**	P	**P**	**20 15 18.6**	**-1.0**
KBL				IAmb	IAmb	20 15 28.0	
	comp=Z,7.8nm,1.1s						
AKTO	**Aktyubinsk**	**56.36**	**310**	P	**P**	**20 15 20.9**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=68,slow=11,SNR=10.0						
KIRV	**Kirov**	**57.61**	**322**	P	**P**	**20 15 30.2**	**-0.5**
	comp=Z,12nm,0.8s,baz=43,slow=7.5,SNR=4.6						
WB0	**Warramunga Arr**	**59.75**	**187**	P	**P**	**20 15 45.3**	**-0.7**
RES	**Resolute Bay**	**59.86**	**15**	LR	LR	20 45 06.5	
	comp=Z,16nm,18.2s,baz=89,slow=39						
WR0	**Warramunga Arr**	**59.93**	**187**	P	**P**	**20 15 46.4**	**-0.9**
WR0				IAmb	IAmb	20 16 05.9	
	comp=Z,5.8nm,1.0s						
WB2	**Warramunga Arr**	**59.93**	**187**	P	**P**	**20 15 46.5**	**-0.7**
WRA	**Warramunga Arr**	**59.93**	**187**	P	**P**	**20 15 46.2**	**-1.0**
	comp=Z,3.6nm,0.8s,baz=6.2,slow=7.0,SNR=22						
WRA	**Warramunga Arr**	**59.93**	**187**	P	**P**	**20 15 46.7**	**-0.6**
CTA	**Charters Tower**	**59.99**	**174**	P	**P**	**20 15 47.7**	**0.0**
	comp=Z,6.4nm,0.9s						
HRA	**Herat**	**60.91**	**292**	P	**P**	**20 15 54.5**	**+0.1**
HRA				IAmb	IAmb	20 15 55.5	
	comp=Z,6.1nm,0.9s						
KLMR	**Klimovskoe**	**61.00**	**327**	*e*P	**P**	**20 15 50.9**	**-3.3**
KLMR				AMP		20 15 54.5	
	comp=Z,15nm,1.5s						
KLMR				*e*PP	**PP**	**20 18 05.6**	**-2.5**
ARCES	**ARCESS Array B**	**61.06**	**339**	P	**P**	**20 15 53.4**	**-1.1**
	comp=Z,2.1nm,1.0s,baz=60,slow=5.9,SNR=5.3						
GEYT	**Alibeck**	**62.01**	**297**	P	**P**	**20 16 00.2**	**-1.3**
	comp=Z,4.8nm,0.8s,baz=45,slow=2.3,SNR=11						
GEYT	**Alibeck**	**62.01**	**297**	P	**P**	**20 16 01.1**	**-0.3**
GYA0B	**ALIBECK ARRAY**	**62.01**	**297**	P	**P**	**20 16 01.3**	**-0.1**
AS31	**Alice Springs**	**63.65**	**187**	P	**P**	**20 16 12.5**	**+0.1**
ASAR	**Alice Springs**	**63.66**	**187**	P	**P**	**20 16 11.4**	**-1.0**
	comp=Z,2.5nm,0.7s,baz=6.4,slow=5.2,SNR=19						
ASAR	**Alice Springs**	**63.66**	**187**	P	**P**	**20 16 12.1**	**-0.3**
PSA00	**Pilbara Seismi**	**64.29**	**202**	P	**P**	**20 16 18.0**	**+1.5**
OBN	**Obninsk**	**65.44**	**322**	P	**P**	**20 16 23.0**	**-0.7**
	comp=Z,2.1nm,0.4s,baz=114,slow=22,SNR=3.2						
FIA1	**FINESS Array S**	**65.97**	**331**	P	**P**	**20 16 26.6**	**-0.5**
FINES	**FINESS Array B**	**65.97**	**331**	P	**P**	**20 16 26.1**	**-1.0**
	comp=Z,3.8nm,0.8s,baz=90,slow=7.6,SNR=12						
FINES	**FINESS Array B**	**65.97**	**331**	P	**P**	**20 16 26.3**	**-0.8**
KIV	**Kislovodsk**	**68.61**	**310**	P	**P**	**20 16 44.9**	**+0.6**
PINE	**Pine Mountain**	**68.81**	**50**	P	**P**	**20 16 47.9**	**+2.2**
PINE				IAmb	IAmb	20 16 52.0	
	comp=Z,6.7nm,0.8s						
YBH	**Yreka Blue Hor**	**68.94**	**53**	P	**P**	**20 16 47.9**	**+1.5**
	comp=Z,3.4nm,1.0s,baz=350,slow=3.0,SNR=6.5						
YBH				LR	LR	20 45 43.5	
	comp=Z,18nm,19.1s,baz=280,slow=35						
YBH	**Yreka Blue Hor**	**68.94**	**53**	P	**P**	**20 16 48.1**	**+1.8**
YBH				IAmb	IAmb	20 16 52.7	
	comp=Z,3.7nm,0.9s						
MOD	**Modoc Plateau**	**70.30**	**52**	P	**P**	**20 16 55.5**	**+0.7**
MOD				IAmb	IAmb	20 17 00.1	
	comp=Z,3.8nm,0.9s						
J08A	**Circle Bar Ran**	**70.52**	**49**	P	**P**	**20 16 58.1**	**+2.0**
J08A				IAmb	IAmb	20 17 02.2	
	comp=Z,4.2nm,0.8s						
NB2	**NORSAR Subarra**	**71.27**	**337**	P	**P**	**20 16 59.2**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=40,slow=6.5						
NOA	**NORSAR Array B**	**71.27**	**337**	P	**P**	**20 16 59.6**	**-0.6**
	comp=Z,3.9nm,1.0s,baz=38,slow=6.0,SNR=10						
NOA				LR	LR	20 52 56.3	
	comp=Z,19nm,18.8s,baz=20,slow=40						
STKA	**Stephens Creek**	**71.51**	**179**	P	**P**	**20 17 01.1**	**-0.8**
	comp=Z,3.7nm,0.9s,baz=321,slow=4.0,SNR=5.3						
STKA	**Stephens Creek**	**71.51**	**179**	P	**P**	**20 17 02.4**	**+0.6**
AKASG	**Malin Array Be**	**71.67**	**321**	P	**P**	**20 17 01.5**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=43,slow=6.5,SNR=14						
AKASG	**Malin Array Be**	**71.67**	**321**	P	**P**	**20 17 02.1**	**-0.6**
PAHR	**Pah Rah Range**	**72.17**	**53**	P	**P**	**20 17 08.0**	**+1.8**
PAHR				IAmb	IAmb	20 17 10.3	
	comp=Z,4.5nm,0.9s						
LRM	**Limekiln Ridge**	**72.38**	**45**	P	**P**	**20 17 09.1**	**+1.6**
DLMT	**Dillon**	**72.59**	**45**	P	**P**	**20 17 10.2**	**+1.5**
DLMT				IAmb	IAmb	20 17 14.2	
	comp=Z,7.7nm,1.1s						
HLID	**Hailey**	**72.72**	**47**	P	**P**	**20 17 11.1**	**+1.7**
BOZ	**Bozeman (W)**	**72.97**	**44**	P	**P**	**20 17 11.5**	**+0.7**
KVN	**Kaiserville**	**73.36**	**53**	P	**P**	**20 17 14.6**	**+1.3**
KVN				IAmb	IAmb	20 17 19.2	
	comp=Z,5.5nm,0.9s						
NVAR	**Mina Array Bea**	**73.62**	**53**	P	**P**	**20 17 16.3**	**+1.4**
	comp=Z,4.6nm,1.0s,baz=297,slow=5.6,SNR=12						
NVAR	**Mina Array Bea**	**73.62**	**53**	P	**P**	**20 17 16.2**	**+1.3**
R11A	**Troy Canyon, C**	**75.33**	**52**	P	**P**	**20 17 25.6**	**+0.8**
HWUT	**Hardware Ranch**	**75.59**	**48**	P	**P**	**20 17 27.0**	**+0.8**
HWUT				IAmb	IAmb	20 17 29.2	
	comp=Z,8.9nm,1.4s						
BUR08	**Bucovina Ar. S**	**75.68**	**321**	P	**P**	**20 17 26.4**	**-0.1**
BURAR	**Bucovina Array**	**75.69**	**321**	P	**P**	**20 17 26.4**	**-0.2**
DUG	**Dugway, Tooele**	**75.80**	**49**	P	**P**	**20 17 28.4**	**+1.0**
DUG				IAmb	IAmb	20 17 33.3	
	comp=Z,4.7nm,1.0s						
TPNV	**Topopah Spring**	**75.81**	**54**	P	**P**	**20 17 28.9**	**+1.3**
TPNV				IAmb	IAmb	20 17 33.3	
	comp=Z,9.7nm,1.1s						
BW06	**Boulder Array**	**75.95**	**46**	P	**P**	**20 17 28.4**	**+0.1**
PD31	**Pinedale Array**	**75.95**	**46**	P	**P**	**20 17 28.8**	**+0.5**
PDAR	**Pinedale Array**	**75.95**	**46**	P	**P**	**20 17 28.8**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=270,slow=1.5,SNR=9.8						
PDAR	**Pinedale Array**	**75.95**	**46**	P	**P**	**20 17 28.4**	**0.0**
KOLS	**Kolonicke sedl**	**76.15**	**323**	*e*P	**P**	**20 17 29.5**	**+0.5**
PSUT	**Pine Spring**	**76.26**	**51**	P	**P**	**20 17 30.9**	**+0.7**
OJC	**Ojcow**	**76.32**	**325**	*e*P	**P**	**20 17 29.9**	**-0.1**
OJC	**Ojcow**	**76.32**	**325**	P	**P**	**20 17 30.0**	**0.0**
OJC				IAmb	IAmb	20 17 30.9	
	comp=Z,7.2nm,0.8s						
BRTR	**Keskin Array B**	**76.54**	**311**	P	**P**	**20 17 31.9**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=59,slow=22,SNR=4.1						
BRTR				LR	LR	20 53 50.7	
	comp=Z,21nm,19.0s,baz=106,slow=38						
NIE	**Niedzica**	**76.69**	**325**	*e*P	**P**	**20 17 32.1**	**0.0**
SHPR	**Sheep Range**	**76.77**	**53**	P	**P**	**20 17 33.6**	**+0.6**
SHPR				IAmb	IAmb	20 17 39.1	
	comp=Z,6.0nm,1.1s						
CCUT	**Cedar City**	**77.19**	**52**	P	**P**	**20 17 37.1**	**+1.7**
KSP	**Ksiaz**	**77.33**	**328**	*e*P	**P**	**20 17 35.8**	**+0.1**
RDMU	**Red Mountain**	**77.41**	**47**	P	**P**	**20 17 38.4**	**+1.8**
MTPU	**Mount Pierson**	**77.57**	**51**	P	**P**	**20 17 39.2**	**+1.4**
LCMT	**Little Creek M**	**77.61**	**52**	P	**P**	**20 17 38.8**	**+1.1**
MORC	**Moravsky Berou**	**77.62**	**326**	*e*P	**P**	**20 17 36.8**	**-0.6**
MORC	**Moravsky Berou**	**77.62**	**326**	P	**P**	**20 17 37.9**	**+0.5**
MORC				IAmb	IAmb	20 17 38.5	
	comp=Z,5.4nm,1.0s						
CHVC	**Chvalec**	**77.63**	**328**	*e*P	**P**	**20 17 37.7**	**+0.3**
KRLC	**Kraliky**	**77.72**	**327**	*e*P	**P**	**20 17 37.4**	**-0.5**
KRLC				*ex*	x	20 17 49.3	
SRU	**San Rafael Swe**	**77.84**	**49**	P	**P**	**20 17 40.1**	**+1.1**
KNB	**Kanab**	**77.86**	**52**	P	**P**	**20 17 40.7**	**+1.6**
RWWY	**Rawlins**	**77.96**	**45**	P	**P**	**20 17 39.0**	**-0.8**
VYHS	**Vyhne**	**78.02**	**325**	*e*P	**P**	**20 17 39.9**	**+0.3**
CLL	**Collm**	**78.29**	**330**	*i* P	**P**	**20 17 40.3**	**-0.8**
	comp=Z,6.0nm,1.2s						
CLL	**Collm**	**78.29**	**330**	P	**P**	**20 17 40.2**	**-0.8**
CLL				IAmb	IAmb	20 17 42.0	
	comp=Z,6.1nm,1.2s						
VRAC	**Vranov**	**78.38**	**326**	*e*P	**P**	**20 17 41.1**	**-0.5**
U15A	**North Rim**	**78.57**	**52**	P	**P**	**20 17 44.3**	**+1.1**
U15A				IAmb	IAmb	20 17 48.9	
	comp=Z,4.4nm,0.7s						
KRUC	**Moravsky**	**78.65**	**326**	*e*P	**P**	**20 17 42.5**	**-0.5**
PRU	**Pruhonice**	**78.71**	**328**	*e*P	**P**	**20 17 44.0**	**+0.7**
PV21	**Cone Mtn., Par**	**79.10**	**49**	P	**P**	**20 17 47.3**	**+1.2**
PV21				IAmb	IAmb	20 17 51.4	
	comp=Z,4.0nm,0.8s						
PV23	**Carpenter Ridg**	**79.16**	**49**	P	**P**	**20 17 46.7**	**+0.3**
PV23				IAmb	IAmb	20 17 49.0	
	comp=Z,10nm,1.2s						
PV22	**Blue Mesa, Par**	**79.23**	**48**	P	**P**	**20 17 48.4**	**+1.7**
PV22				IAmb	IAmb	20 17 51.2	
	comp=Z,7.1nm,1.1s						
PV04	**Paradox Valley**	**79.26**	**49**	P	**P**	**20 17 48.6**	**+1.8**
PV04				IAmb	IAmb	20 17 49.5	
	comp=Z,13nm,1.3s						
PV17	**East Wray Mesa**	**79.30**	**49**	P	**P**	**20 17 48.1**	**+1.1**
PV17				IAmb	IAmb	20 17 49.5	
	comp=Z,5.0nm,0.9s						
PV16	**Nyswonger Mesa**	**79.31**	**49**	P	**P**	**20 17 48.8**	**+1.6**
PV16				IAmb	IAmb	20 17 49.6	
	comp=Z,9.8nm,1.4s						
PV05	**Paradox Valley**	**79.36**	**49**	P	**P**	**20 17 48.6**	**+1.1**
PV03	**Paradox Valley**	**79.38**	**49**	P	**P**	**20 17 49.2**	**+1.6**
PV13	**Radium Mtn., P**	**79.46**	**49**	P	**P**	**20 17 49.7**	**+1.7**
PV13				IAmb	IAmb	20 17 50.6	
	comp=Z,5.4nm,1.0s						
CONA	**Conrad Observa**	**79.75**	**326**	*i* P	**P**	**20 17 49.7**	**+0.5**
	comp=Z,5.0nm,1.3s						
KHC	**Kasperske Hory**	**79.77**	**328**	*e*P	**P**	**20 17 49.1**	**-0.1**
KHC				*ep*P	**PcP**	**20 17 56.5**	**-0.4**
KHC	**Kasperske Hory**	**79.77**	**328**	P	**P**	**20 17 49.1**	**-0.1**
GERES	**GERESS Array B**	**79.94**	**328**	P	**P**	**20 17 48.5**	**-1.8**
	comp=Z,0.7nm,0.8s,baz=37,slow=6.9,SNR=7.1						
GERES	**GERESS Array B**	**79.94**	**328**	P	**P**	**20 17 49.8**	**-0.5**
EYMN	**Ely**	**80.91**	**33**	P	**P**	**20 17 55.3**	**0.0**
SOKA	**Soboth**	**81.07**	**326**	*i* P	**P**	**20 17 53.8**	**-2.6**
	comp=Z,4.4nm,1.0s						
KBA	**Koelnbreinsper**	**81.48**	**327**	*i* P	**P**	**20 17 58.6**	**0.0**
	comp=Z,3.3nm,0.7s						
MYKA	**Terra Mystica**	**81.71**	**326**	*i* P	**P**	**20 17 58.4**	**-1.3**
	comp=Z,4.9nm,1.1s						
WTTA	**Wattenberg**	**82.04**	**328**	*i* P	**P**	**20 18 01.4**	**-0.2**
	comp=Z,5.8nm,1.2s						
ABTA	**Abfaltersbach**	**82.09**	**327**	*i* P	**P**	**20 18 01.8**	**+0.1**
	comp=Z,3.5nm,0.9s						
MOTA	**Moosalm**	**82.20**	**328**	*i* P	**P**	**20 18 01.8**	**-0.5**
	comp=Z,6.6nm,1.0s						
RETA	**Reutte**	**82.22**	**328**	*i* P	**P**	**20 18 02.5**	**+0.1**
	comp=Z,6.2nm,0.9s						
SQTA	**Sankt Quirin**	**82.25**	**328**	*i* P	**P**	**20 18 01.5**	**-1.1**
	comp=Z,1.3nm,0.5s						
FETA	**Feichten**	**82.61**	**328**	*i* P	**P**	**20 18 04.2**	**-0.3**
	comp=Z,4.0nm,1.0s						
DAVA	**Damuels**	**82.74**	**329**	*i* P	**P**	**20 18 04.7**	**-0.4**
	comp=Z,4.0nm,0.9s						
ECH	**Echery**	**83.03**	**331**	P	**P**	**20 18 05.8**	**-0.7**
ECH				IAmb	IAmb	20 18 06.8	
	comp=Z,4.4nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**83.12**	**328**	P	**P**	**20 18 06.9**	**-0.4**
FUORN				IAmb	IAmb	20 18 14.3	
	comp=Z,6.6nm,1.0s						
P40A	**Paris**	**87.31**	**38**	P	**P**	**20 18 28.2**	**+0.1**
RPZ	**Rata Peaks**	**87.69**	**159**	LR	LR	20 49 56.0	
	comp=Z,206nm,21.9s,baz=236,slow=30						
CCM	**Cathedral Cave**	**88.86**	**38**	P	**P**	**20 18 35.5**	**+0.1**
U40A	**Yellville**	**89.42**	**41**	P	**P**	**20 18 38.1**	**0.0**
MIAR	**Mount Ida**	**90.47**	**42**	P	**P**	**20 18 44.0**	**+1.0**
MIAR				IAmb	IAmb	20 18 47.5	
	comp=Z,4.6nm,0.8s						
SNAA	**Sanae**	**143.42**	**198**	PKP	PKPbc	20 25 11.3	-0.6
	comp=Z,1.5nm,0.7s,baz=183,slow=6.7,SNR=8.6						
LPAZ	**La Paz**	**145.51**	**55**	PKPbc	**PKPab**	**20 25 20.9**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=345,slow=4.2,SNR=11						
LPAZ	**La Paz**	**145.51**	**55**		**PKPab**	**20 25 21.2**	**+0.4**

MOS **06** *20:19:10.3±0.0, 42.°60N×45.°44E, h18km, MPVA3.5*
TIF **06** *20:19:12.3, 42.°58N×45.°50E, h13km±3km*
DRS **06** *20:19:12.3±0.0, 42.°46N×45.°43E, h14km*
NORS **06** *20:19:12.7±0.0, 42.°40N×45.°50E, h23km, MPVA3.6*
DDA **06** *20:19:13.2, 42.°58N×45.°25E, h7km±4km, ML1.7*

ISC 06 20:19:12.7±1.1, **42.°57N**±0.°02×**45.°44E**±0.°02, **h9**km±9km, **n31**, σ=**49**/58, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
BTLR	**Botlikh**	**0.58**	**80**	*i* Pg	**Pb**	**20 19 24.1**	**-1.0**
	36nm,0.5s						
BTLR				*e*Sg	**Sb**	**20 19 32.0**	**-1.5**
	149nm,0.2s						
PNSH	**Pansheti**	**0.61**	**277**	P	**Pb**	**20 19 24.9**	**-0.9**
PNSH				S	**Sg**	**20 19 32.4**	**-0.3**
KMGR	**Komgaron**	**0.65**	**319**	*e*Pg	**Pg**	**20 19 23.1**	**-2.2**
KMGR				*e*Sg	**Sg**	**20 19 30.7**	**-3.1**
GROC	**Groznyy**	**0.69**	**22**	*e*Pg	**Pn**	**20 19 28.0**	**-0.7**
GROC				*e*Sg	**Sb**	**20 19 35.4**	**-1.1**
LACR	**Lac**	**0.88**	**288**	*e*Pg	**Pg**	**20 19 29.1**	**-0.7**
LACR				*e*Sg	**Sg**	**20 19 40.9**	**-0.3**
XNZR	**Khunzakh**	**0.93**	**91**	*e*Pg	**Pb**	**20 19 30.3**	**-0.9**
XNZR				*e*Sg	**Sb**	**20 19 43.4**	**-0.4**
LGD	**Lagodekhi**	**0.94**	**141**	P	**Pb**	**20 19 30.6**	**-0.7**
TBLG	**Delisi**	**0.98**	**212**	*i* P	**Pn**	**20 19 31.8**	**-0.9**
TBLG				*i* S	**Sn**	**20 19 45.6**	**-1.2**
TBLG	**Delisi**	**0.98**	**212**	P	**Pn**	**20 19 32.9**	**+0.1**
TBLG				S	**Sn**	**20 19 47.1**	**+0.3**
BTNK	**Botanikuri**	**1.00**	**209**	*i* P	**Pb**	**20 19 31.3**	**-1.0**
BTNK				*i* S	**Sb**	**20 19 45.1**	**-0.5**
BTNK				IAML		20 19 49.0	
	comp=E,14nm,0.1s						
BTNK				IAML		20 19 50.0	
	comp=N,25nm,0.1s						
BTNK	**Botanikuri**	**1.00**	**209**	P	**Pn**	**20 19 33.0**	**-0.1**
BTNK				S	**Sn**	**20 19 47.2**	**-0.1**
UNCR	**Uncukul**	**1.01**	**81**	*e*Pg	**Pb**	**20 19 31.5**	**-0.9**
	comp=N,21nm,0.3s						
UNCR				*e*Sg	**Sb**	**20 19 44.5**	**-1.3**
	comp=N,95nm,0.4s						
BTKR	**Batakoyurt**	**1.04**	**321**	*e*Pg	**Pn**	**20 19 36.0**	**+2.5**
BTKR				*e*Sg	**Sn**	**20 19 52.2**	**+3.9**
DGRG	**David-gareji**	**1.12**	**183**	*i* P	**Pg**	**20 19 35.5**	**+1.3**
DGRG				*i* S	**Sn**	**20 19 51.5**	**+1.4**
DGRG	**David-gareji**	**1.12**	**183**	P	**Pg**	**20 19 36.0**	**+1.8**
DGRG				S	**Sn**	**20 19 53.0**	**+3.0**
DBC	**Dubki**	**1.12**	**66**	*e*Pg	**Pg**	**20 19 34.6**	**+0.4**
	comp=N,13nm,0.4s						
DBC				*e*Sg	**Sn**	**20 19 49.4**	**-0.7**
	comp=N,27nm,0.3s						
KORR	**Kora**	**1.14**	**298**	*e*Pg	**Pg**	**20 19 35.8**	**+1.2**
KORR				*e*Sg	**Sn**	**20 19 50.4**	**-0.2**
GNBR	**Gunib**	**1.14**	**98**	*e*Pg	**Pn**	**20 19 34.0**	**-0.9**
	comp=N,23nm,0.4s						
GNBR				*e*Sg	**Sb**	**20 19 48.8**	**-0.8**
	comp=N,97nm,0.6s						
DDFL	**Dedoflistskaro**	**1.23**	**156**	*i* P	**Pg**	**20 19 37.8**	**+1.4**
TRKR	**Terskaya**	**1.27**	**336**	*e*Pg	**Pg**	**20 19 38.3**	**+1.2**
TRKR				*e*Sg	**Sg**	**20 19 57.4**	**+3.8**
STDR	**Stavd-Durt**	**1.29**	**309**	*e*Pg	**Pg**	**20 19 38.7**	**+1.1**
STDR				*e*Sg	**Sg**	**20 19 58.7**	**+4.5**
LSNR	**Lesken**	**1.38**	**301**	*e*Pg	**Pg**	**20 19 39.5**	**+0.3**
LSNR				*e*Sg	**Sg**	**20 19 57.4**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.41**	**284**	*e*Pg	**Pn**	**20 19 37.8**	**-1.0**
DIGR				*e*Sg	**Sb**	**20 19 56.3**	**-1.2**
KZRT	**Kazreti**	**1.41**	**214**	*i* P	**Pb**	**20 19 39.2**	**0.0**
KZRT				*i* S	**Sn**	**20 19 56.1**	**-1.2**
KZRT	**Kazreti**	**1.41**	**214**	P	**Pg**	**20 19 39.5**	**-0.3**
KZRT				S	**Sg**	**20 19 59.0**	**+0.8**
TRLG	**Trialeti**	**1.43**	**225**	P	**Pg**	**20 19 40.4**	**+0.2**
TRLG				S	**Sg**	**20 20 00.6**	**+1.8**
ONI	**Oni**	**1.47**	**272**	P	**Pg**	**20 19 40.9**	**-0.1**
DMNI	**Dmanisi**	**1.55**	**217**	P	**Pg**	**20 19 41.8**	**-0.6**
DMNI				S	**Sg**	**20 20 03.0**	**+0.4**
BKRG	**Bakuriani**	**1.64**	**241**	P	**Pg**	**20 19 43.5**	**-0.7**
BKRG				S	**Sg**	**20 20 06.3**	**+0.9**
TKB	**Tkibuli**	**1.82**	**264**	P	**Pg**	**20 19 47.1**	**-0.6**
NEY	**Neytrino**	**2.11**	**290**	*e*Pg	**Pb**	**20 19 50.7**	**-0.6**
NEY				*e*Sg	**Sb**	**20 20 17.4**	**-0.2**

TAP **06** *20:20:58.5, 24.°87N×122.°27E, h12km, ML2.9, C*
JMA **06** *20:20:58.4±0.1, 24.°83N×122.°32E, h12km±4km, M2.4*

ISC 06 20:20:58.3±1.0, **24.°85N**±0.°02×**122.°31E**±0.°02, **h11**km±8km, **n74**, σ=**9.°54**/143, **2C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
TWB1	**Santiao Chiao**	**0.33**	**299**	⇑*i* P	**Pg**	**20 21 05.0**	**0.0**
	baz=298						
TWB1				*i* S	**Sg**	**20 21 09.3**	**-0.1**
	baz=298						
EGS		**0.34**	**270**	P	**Pb**	**20 21 05.7**	**-0.6**
	baz=255						
EGS				S	**Sg**	**20 21 09.8**	**+0.2**
	baz=255						
TIPB	**Shuangxi**	**0.45**	**286**	P	**Pg**	**20 21 07.6**	**+0.4**
	baz=283						
TIPB				S	**Sg**	**20 21 13.9**	**+0.6**
	baz=283						
TWC	**Suao**	**0.48**	**240**	*i* P	**Pg**	**20 21 07.5**	**-0.2**
	baz=236						
TWC				S	**Sg**	**20 21 14.0**	**0.0**
	baz=236						
ILA	**Ilan**	**0.51**	**261**	*e*P	**Pb**	**20 21 09.7**	**+0.5**
	baz=246						
ILA				*e*S	**Sb**	**20 21 17.1**	**+0.4**
	baz=246						
NWF	**Wu-fen Shan**	**0.53**	**295**	P	**Pb**	**20 21 09.1**	**-0.5**
	baz=292						
NWF				*i* S	**Sb**	**20 21 16.8**	**-0.4**
	baz=292						
WFSB	**Wu-fen Shan**	**0.53**	**295**	P	**Pb**	**20 21 09.3**	**-0.2**
	baz=293						
WFSB				S	**Sb**	**20 21 17.0**	**-0.1**
	baz=293						
TWE	**Neicheng**	**0.59**	**258**	*i* P	**Pg**	**20 21 10.0**	**+0.2**
	baz=245						
TWE				S	**Sb**	**20 21 18.4**	**-0.6**
	baz=245						
ENAH	**Nanao**	**0.60**	**229**	*i* P	**Pg**	**20 21 10.1**	**+0.2**
	baz=226						
ENAH				*i* S	**Sg**	**20 21 18.0**	**+0.1**
	baz=226						
ENA	**Nanau**	**0.66**	**231**	*i* P	**Pg**	**20 21 11.1**	**0.0**
	baz=218						
ENA				S	**Sb**	**20 21 21.1**	**+0.2**
	baz=218						
TWA	**Mucha**	**0.67**	**282**	P	**Pg**	**20 21 11.5**	**+0.2**
	baz=279						
TWA				*i* S	**Sb**	**20 21 21.4**	**+0.1**
	baz=279						
JYNG	**Yonagunijimaku**	**0.70**	**124**	P	**Pg**	**20 21 11.4**	**-0.5**
JYNG				S	**Sg**	**20 21 21.4**	**+0.3**
ENTT	**Nioudou**	**0.70**	**253**	*i* P	**Pb**	**20 21 12.4**	**-0.1**
	baz=250						
ENTT				*i* S	**Sb**	**20 21 22.3**	**+0.1**
	baz=250						
NHDH	**Xindian Distri**	**0.72**	**279**	*i* P	**Pb**	**20 21 13.2**	**+0.4**
	baz=277						
NHDH				S	**Sb**	**20 21 23.1**	**+0.5**
	baz=277						
YM01	**YM01**	**0.73**	**294**	P	**Pb**	**20 21 12.9**	**-0.1**
	baz=292						
YM01				S	**Sb**	**20 21 22.9**	**-0.1**
	baz=292						
NWLT	**Wulai**	**0.73**	**265**	*e*P	**Pb**	**20 21 13.2**	**+0.2**
	baz=262						
NWLT				*e*S	**Sb**	**20 21 23.3**	**+0.2**
	baz=262						
YM08	**YM08**	**0.73**	**298**	P	**Pb**	**20 21 12.8**	**-0.3**
	baz=296						
YM08				S	**Sb**	**20 21 22.5**	**-0.6**
	baz=296						
TAP1	**Taipei**	**0.74**	**285**	*e*P	**Pb**	**20 21 13.5**	**+0.4**
	baz=283						
TAP1				*e*S	**Sb**	**20 21 23.0**	**-0.1**
	baz=283						
YM11	**YM11**	**0.74**	**296**	P	**Pb**	**20 21 13.6**	**+0.5**
	baz=294						
YM11				S	**Sb**	**20 21 23.3**	**0.0**
	baz=294						
YM05	**YM05**	**0.74**	**295**	⇑P	**Pb**	**20 21 13.1**	**-0.1**
	baz=293						
YM05				S	**Sb**	**20 21 23.0**	**-0.4**
	baz=293						
YM10	**YM10**	**0.74**	**295**	P	**Pb**	**20 21 13.2**	**0.0**
	baz=293						
YM10				S	**Sb**	**20 21 23.3**	**-0.1**
	baz=293						
YOJ	**Yonaguni jima**	**0.75**	**121**	P	**Pg**	**20 21 12.3**	**-0.4**
YOJ				S	**Sg**	**20 21 22.3**	**-0.2**
TAP	**Taipei**	**0.75**	**285**	P	**Pg**	**20 21 12.9**	**+0.1**
	baz=283						
TAP				*i* S	**Sb**	**20 21 23.9**	**+0.4**
	baz=283						
NDT	**Datong Townshi**	**0.76**	**252**	P	**Pb**	**20 21 13.4**	**-0.1**
	baz=249						
NDT				S	**Sb**	**20 21 23.7**	**-0.2**
	baz=249						
YM04	**YM04**	**0.76**	**294**	P	**Pg**	**20 21 13.2**	**+0.2**
	baz=292						
YM04				S	**Sb**	**20 21 23.4**	**-0.5**
	baz=292						
TWY	**Chenhua**	**0.77**	**304**	*i* P	**Pb**	**20 21 13.5**	**-0.2**
	baz=288						
TWY				*i* S	**Sb**	**20 21 24.6**	**+0.5**
	baz=288	

EGFH	**Guangfu**	**1.42**	**215**	*e*P		**Pn**	**20 21 23.9**	**0.0**
	baz=199									
EGFH				*e*S		**Sg**	**20 21 44.1**	**0.0**
	baz=199									
NSY	**Sanyi**	**1.47**	**253**	*e*P		**Pn**	**20 21 25.1**	**+0.4**
	baz=269									
VWDT	**VWDT**	**1.52**	**225**	*e*P		**Pb**	**20 21 26.8**	**+0.3**
	baz=225									
VWDT				*e*S		**Sb**	**20 21 45.8**	**+0.1**
	baz=225									
HGSD	**Ruisui**	**1.57**	**211**	*e*P		**Pn**	**20 21 26.0**	**0.0**
	baz=198									
HGSD				*e*S		**Sb**	**20 21 48.0**	**+0.9**
	baz=198									
SMLT	**Sun Moon Lake**	**1.60**	**233**	P		**Pg**	**20 21 28.9**	**-0.2**
	baz=233									
SMLT				*e*S		**Sg**	**20 21 49.0**	**-0.8**
	baz=233									
EHY	**Hungye**	**1.61**	**214**	*e*P		**Pn**	**20 21 26.0**	**-0.6**
	baz=216									
EHY				*e*S		**Sb**	**20 21 48.8**	**+0.5**
	baz=216									
TYC	**Yuchr**	**1.62**	**235**	P		**Pb**	**20 21 28.7**	**+0.5**
	baz=235									
TYC				S		**Sg**	**20 21 49.9**	**-0.5**
	baz=235									
SSLB	**Suanglung**	**1.62**	**230**	*e*P		**Pb**	**20 21 28.5**	**+0.3**
	baz=237									
SSLB				*e*S		**Sb**	**20 21 49.2**	**+0.5**
	baz=237									
JKRS	**Kuro-shima**	**1.67**	**111**	P		**Pn**	**20 21 28.3**	**+1.0**
JKRS				*e*S		**Sn**	**20 21 48.9**	**+0.2**
JIJ	**Ishigaki jima**	**1.74**	**106**	P		**Pn**	**20 21 28.8**	**+0.4**
JIJ				*e*S		**Sn**	**20 21 50.6**	**+0.1**
JISG	**Ishigakijimahi**	**1.84**	**98**	*e*S		**Sn**	**20 21 53.5**	**+0.5**
FULB	**Fuli**	**1.88**	**210**	*e*P		**Pn**	**20 21 31.2**	**+0.8**
	baz=197									
ALS	**Alishan**	**1.91**	**226**	P		**Pb**	**20 21 32.9**	**-0.4**
	baz=214									
ALS				*e*S		**Sb**	**20 21 58.5**	**+1.2**
	baz=214									
CHN5	**Tsauling**	**1.94**	**230**	P		**Pb**	**20 21 33.2**	**-0.4**
	baz=232									
CHN5				*e*S		**Sg**	**20 21 60.0**	**-0.6**
	baz=232									
WGK	**Gukeng**	**1.97**	**234**	*e*P		**Pb**	**20 21 34.0**	**-0.1**
	baz=236									
WGK				*e*S		**Sg**	**20 22 00.9**	**-0.6**
	baz=236									
WDLH	**Douliu**	**1.98**	**235**	*e*P		**Pb**	**20 21 34.2**	**-0.1**
	baz=237									
ELDTW	**Lidau**	**2.03**	**216**	P		**Pn**	**20 21 32.5**	**0.0**
	baz=205									
ELDTW				*e*S		**Sn**	**20 21 58.7**	**+0.9**
	baz=205									
EDH	**Donghe**	**2.08**	**206**	*e*S		**Sn**	**20 21 57.7**	**-1.2**
	baz=196									
WTCT	**Ta-ch'eng**	**2.09**	**243**	*e*P		**Pn**	**20 21 32.9**	**-0.3**
	baz=258									
WTCT				*e*S		**Sb**	**20 22 00.6**	**-1.6**
	baz=258									
TPUB	**Ta-pu**	**2.17**	**225**	*e*P		**Pb**	**20 21 36.5**	**-1.1**
	baz=227									
TPUB				*e*S		**Sb**	**20 22 04.9**	**+0.4**
	baz=227									
STYT	**Tauyuan**	**2.19**	**221**	*e*P		**Pb**	**20 21 36.7**	**-1.3**
	baz=223									
STYT				*e*S		**Sb**	**20 22 05.3**	**+0.1**
	baz=223									
LONT	**Longtian**	**2.21**	**209**	*e*P		**Pn**	**20 21 34.2**	**-0.7**
	baz=213									
LONT				*e*S		**Sn**	**20 22 01.7**	**-0.5**
	baz=213									
WTP	**Ta-pu**	**2.22**	**224**	*e*P		**Pb**	**20 21 38.0**	**-0.4**
	baz=211									
WTP				*e*S		**Sb**	**20 22 06.6**	**+0.7**
	baz=211									
TWK	**Hsinying**	**2.29**	**227**	*e*P		**Pb**	**20 21 38.8**	**-0.8**
	baz=229									
TWK				*e*S		**Sb**	**20 22 09.7**	**+1.8**
	baz=229									
CHN1	**Nanshi**	**2.32**	**225**	*e*P		**Pb**	**20 21 40.1**	**0.0**
	baz=227									
CHN1				*e*S		**Sb**	**20 22 09.9**	**+1.1**
	baz=227									
SLGT	**Liugui**	**2.39**	**220**	*e*P		**Pb**	**20 21 40.3**	**-1.0**
	baz=223									
SLGT				*e*S		**Sb**	**20 22 12.5**	**+1.7**
	baz=223									

IDC ***06*** *20:35:25.4±0.4, 6˚19S×150˚92E, h0km, mb4.7/25, mb1 4.9/25, mb1mx4.8/35, mbtmp4.7/25, MS3.7/19, Ms1 3.7/19, ms1mx3.5/42, Error ellipse: s-maj=15.8km s-min=10.5km az=116.0*

BJI ***06*** *20:35:30.2±0.0, 6˚17S×151˚28E, h60km, mB5.0/33, mb4.8/48, Ms4.8/11, Ms7 4.5/8*

MOS ***06*** *20:35:31.1±0.9, 6˚11S×150˚74E, h46km, mb5.0/14, Error ellipse: s-maj=10.4km s-min=7.6km az=103.1*

NEIC ***06*** *20:35:33.3±1.3, 6˚22S±0˚08×150˚85E±0˚08, h56km±4km, mb5.1/99, Error ellipse: s-maj=14.2km s-min=8.5km az=130.0*

DJA ***06*** *20:35:33.6±0.4, 6˚S±3˚×15˚1E±˚, h55km±5km, M5.2/23, mb5.1/23, mB5.2/4, MLv5.5/2, Mw(mB)4.6/4*

ISC 06 20:35:32.6±0.3, 6˚23S±0˚05×150˚86E±0˚05, h50km, n368, σ1§06/362, mb5.0/102, MS3.6/17, 11C-4D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.23**	**31**	Pn		Pn	**Pn**	**20 36 07.8**	**+0.6**
	416nm,0.3s,baz=142,slow=0.9,SNR=200								
KRVT				Sn			**Sn**	**20 36 34.4**	**+0.9**
	1μm,0.3s,baz=191,slow=20,SNR=24								
KRVT				LR		LR	LR	20 37 08.7	
	comp=Z,2μm,18.0s,baz=208,slow=48								
RABL	**Rabaul**	**2.40**	**33**				**Pn**	**20 36 09.4**	**-0.1**
PMG	**Port Moresby**	**4.84**	**229**	Pn			**Pn**	**20 36 43.4**	**+0.5**
	154nm,0.3s,baz=58,slow=6.8,SNR=167								
PMG				Sn			**Sn**	**20 37 37.0**	**-0.6**
	41nm,0.3s,baz=192,slow=6.6,SNR=2.2								
PMG				LR		LR	LR	20 38 06.3	
	comp=Z,214nm,21.6s,baz=132,slow=33								
PMG	**Port Moresby**	**4.84**	**229**	Pn			**Pn**	**20 36 43.6**	**+0.7**
HNR	**Honiara**	**9.55**	**110**	Pn			**Pn**	**20 37 48.1**	**+0.6**
	26nm,0.3s,baz=294,slow=2.6,SNR=15								
HNR				LR		LR	LR	20 41 03.8	
	comp=Z,401nm,21.6s,baz=270,slow=36								
HNR	**Honiara**	**9.55**	**110**	P			**Pn**	**20 37 47.5**	**0.0**
HNR	**Honiara**	**9.55**	**110**	Pn			**Pn**	**20 37 47.5**	**0.0**
JAY	**Jayapura**	**10.78**	**290**	P			Pn	20 38 17.2	+13
COEN	**Coen**	**10.78**	**224**	P			**Pn**	**20 38 03.6**	**-0.8**
	baz=11,SNR=42								
COEN	**Coen**	**10.78**	**224**	Pn			**Pn**	**20 38 03.6**	**-0.8**
MTSU	**Mount Surprise**	**13.45**	**208**	P			**Pn**	**20 38 39.8**	**-1.1**
	baz=14,SNR=4.8								
CTA	**Charters Tower**	**14.49**	**198**	Pn			**P**	**20 38 59.9**	**-0.5**
	0.6nm,0.3s,baz=24,slow=13,SNR=5.6								
QIS	**Mount Isa**	**17.95**	**216**	P			**Pn**	**20 39 38.4**	**-0.2**
	baz=18,SNR=15								
FAKI	**Fak Fak**	**18.84**	**279**				**Pn**	**20 39 49.6**	**+0.1**
EIDS	**Eidsvold**	**19.04**	**179**	P			**P**	**20 39 50.7**	**+0.1**
	baz=19,SNR=3.2								
KDU	**Kakadu**	**19.23**	**249**	P			**P**	**20 39 53.4**	**+0.6**
	baz=19,SNR=39								
RMQ	**Roma**	**20.25**	**185**	P			**P**	**20 40 04.9**	**+1.1**
	baz=20,SNR=11								
SIJI	**Sorong**	**20.26**	**284**	P			**P**	**20 40 04.7**	**+0.6**
	45nm,0.9s,baz=99,slow=8.7,SNR=15								
MTN	**Manton Dam**	**20.53**	**250**	P			**P**	**20 40 07.8**	**+0.8**
	baz=21,SNR=16								
MTN	**Manton Dam**	**20.53**	**250**	P			**P**	**20 40 07.2**	**+0.2**
MTN				IAmb			IAmb	20 40 11.6	
	comp=Z,56nm,0.6s								
GUMO	**Guam**	**20.57**	**343**	LR			LR	20 46 30.4	
	comp=Z,171nm,21.0s,baz=156,slow=32								
WB0	**Warramunga Arr**	**20.91**	**228**	P			**P**	**20 40 11.4**	**+0.3**
WB0				IAmb			IAmb	20 40 25.1	
	comp=Z,47nm,0.8s								
WR0	**Warramunga Arr**	**20.92**	**228**	P			**P**	**20 40 11.2**	**0.0**
BNDI	**Bandanaira**	**20.93**	**274**	P			Pn	20 40 13.1	-1.3
	comp=Z,405nm,1.0s								
WC3	**Warramunga Arr**	**21.05**	**228**	P			**P**	**20 40 12.8**	**+0.3**
	baz=21								
WRAB	**Tennant Creek**	**21.05**	**228**	*ce*P			**P**	**20 40 13.0**	**+0.5**
WRAB					pmax		pmax		
	comp=Z,25nm,0.6s								
WRAB	**Tennant Creek**	**21.05**	**228**	P			**P**	**20 40 08.8**	**-3.7**
WRAB					IAmb		IAmb	20 40 22.7	
	comp=Z,45nm,0.7s								
WB2	**Warramunga Arr**	**21.05**	**228**	P			**P**	**20 40 12.1**	**-0.5**
WB2					IAmb		IAmb	20 40 29.5	
	comp=Z,49nm,0.7s								
WRA	**Warramunga Arr**	**21.06**	**228**	P			**P**	**20 40 13.0**	**+0.4**
	comp=Z,27nm,0.5s,baz=52,slow=11,SNR=226								
WRA					S		**S**	**20 44 04.7**	**+0.2**
	comp=Z,7.9nm,1.2s,baz=54,slow=19,SNR=8.5								
WRA					PcP		**PcP**	**20 44 18.6**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=47,slow=1.8,SNR=4.9								
WRA					ScP		**ScP**	**20 47 57.9**	**+6.9**
	comp=Z,1.6nm,0.7s,baz=40,slow=2.5,SNR=5.8								
WRA					LR		LR	20 49 10.7	
	comp=Z,277nm,21.0s,baz=85,slow=39								
WRA	**Warramunga Arr**	**21.06**	**228**	P			**P**	**20 40 12.1**	**-0.6**
WRA					S		**S**	**20 44 04.7**	**+0.2**
WRA								20 44 18.6	
WRA					pmax		pmax		
	comp=Z,1.0nm,0.7s								
WRA	**Warramunga Arr**	**21.06**	**228**	P			**P**	**20 40 12.1**	**-0.6**
QLP	**Quilpie**	**21.20**	**197**	P			**P**	**20 40 14.6**	**+0.5**
	baz=21,SNR=3.6								
DZM	**Mont Dzumac**	**21.79**	**138**	P			**P**	**20 40 20.7**	**+0.2**
	comp=Z,11nm,0.6s,baz=314,slow=7.3,SNR=8.7								
DZM					LR		LR	20 47 22.2	
	comp=Z,412nm,21.9s,baz=320,slow=33								
DZM	**Mont Dzumac**	**21.79**	**138**	P			**P**	**20 40 20.2**	**-0.3**
DZM					IAmb		IAmb	20 40 37.5	
	comp=Z,72nm,1.5s								
ANA2	**Anatahan**	**23.00**	**347**	P			**P**	**20 40 32.7**	**-0.5**
KNRA	**Kununurra**	**23.62**	**245**	P			**P**	**20 40 38.7**	**-0.6**
	baz=24,SNR=22								
KNRA	**Kununurra**	**23.62**	**245**	P			**P**	**20 40 42.0**	**+2.7**
KNRA					IAmb		IAmb	20 40 43.0	
	comp=Z,72nm,0.8s								
AS31	**Alice Springs**	**23.80**	**221**	P			**P**	**20 40 41.4**	**+0.4**
ASAR	**Alice Springs**	**23.80**	**221**	P			**P**	**20 40 41.0**	**-0.1**
	comp=Z,30nm,0.7s,baz=59,slow=9.1,SNR=411								
ASAR					S		**S**	**20 44 58.5**	**+5.1**
	comp=Z,9.8nm,1.0s,baz=37,slow=21,SNR=16								
ASAR					ScP		**ScP**	**20 48 06.2**	**+8.2**
	comp=Z,0.7nm,0.6s,baz=45,slow=3.2,SNR=4.4								
ASAR					LR		LR	20 49 20.0	
	comp=Z,205nm,21.5s,baz=37,slow=35								
ASAR	**Alice Springs**	**23.80**	**221**	P			**P**	**20 40 40.5**	**-0.5**
CMSA	**Cobar Meteorol**	**25.64**	**190**	P			**P**	**20 40 57.8**	**+0.2**
	baz=26,SNR=7.4								
SOEI	**Soe**	**26.56**	**261**	P			**P**	**20 41 07.7**	**+1.4**
	comp=Z,98nm,1.0s								
SOEI	**Soe**	**26.56**	**261**	P			**P**	**20 41 07.3**	**+1.0**
STKA	**Stephens Creek**	**26.95**	**198**	P			**P**	**20 41 08.8**	**-0.6**
	comp=Z,9.6nm,0.9s,baz=7.2,slow=8.7,SNR=14								
STKA					LR		LR	20 52 16.6	
	comp=Z,267nm,18.2s,baz=22,slow=38								
STKA	**Stephens Creek**	**26.95**	**198**	P			**P**	**20 41 08.6**	**-0.9**
	baz=27,SNR=8.4								
STKA	**Stephens Creek**	**26.95**	**198**	P			**P**	**20 41 10.1**	**+0.7**
STKA					pmax		pmax		
	comp=Z,3.0nm,0.7s								
STKA	**Stephens Creek**	**26.95**	**198**	P			**P**	**20 41 10.1**	**+0.7**
BATI	**Baumata**	**27.20**	**260**	P			**P**	**20 41 13.8**	**+1.8**
	comp=Z,29nm,0.5s,baz=98,slow=5.0,SNR=8.7								
BATI	**Baumata**	**27.20**	**260**	P			**P**	**20 41 14.5**	**+2.6**
	comp=Z,70nm,1.1s								
FITZ	**Fitzroy Crossi**	**27.29**	**242**	P			**P**	**20 41 11.9**	**-0.7**
	comp=Z,6.9nm,0.7s,baz=55,slow=8.5,SNR=37								
FITZ	**Fitzroy Crossi**	**27.29**	**242**	P			**P**	**20 41 13.0**	**+0.4**
	baz=27,SNR=112								
FITZ	**Fitzroy Crossi**	**27.29**	**242**	P			**P**	**20 41 12.2**	**-0.4**
FITZ					IAmb		IAmb	20 41 20.6	
	comp=Z,32nm,0.6s								
MMRI	**Maumere**	**28.48**	**263**	P			P	20 41 34.6	+11
MMRI	**Maumere**	**28.48**	**263**	P			**P**	**20 41 23.9**	**+0.5**
WRKA	**Warakurna**	**28.58**	**227**	P			**P**	**20 41 23.9**	**-0.2**
	baz=29,SNR=27								
HTT	**Hallett**	**29.25**	**201**	P			**P**	**20 41 29.3**	**-0.7**
	baz=29,SNR=7.6								
BASI	**Baing, Sumba**	**30.22**	**260**	P			**P**	**20 41 39.7**	**+0.9**
	comp=Z,259nm,1.4s								
WSI	**Waingapu**	**30.45**	**262**	P			P	20 41 52.3	+11
KAPI	**Kappang**	**30.98**	**271**	LR			LR	20 56 15.4	
	comp=Z,102nm,18.1s,baz=80,slow=40								
WBSI	**Waikabubak, Su**	**31.34**	**262**	P			**P**	**20 41 50.3**	**+1.6**
	comp=Z,94nm,0.8s								
FORT	**Forrest**	**32.47**	**218**	P			**P**	**20 41 57.9**	**-0.5**
FORT					IAmb		IAmb	20 42 14.3	
	comp=Z,28nm,0.8s								
MEEK	**Meekatharra**	**36.81**	**233**	P			**P**	**20 42 36.2**	**+0.2**
	baz=37,SNR=17								
RAO	**Raoul Island**	**37.31**	**132**	LR			LR	20 55 05.8	
	comp=Z,307nm,18.3s,baz=240,slow=32								
KLBR	**Kellerberrin**	**39.93**	**227**	P			**P**	**20 43 01.4**	**-0.7**
	baz=40,SNR=6.7								
MORW	**Morawa**	**39.95**	**231**	P			**P**	**20 43 02.2**	**-0.1**
	baz=40,SNR=6.5								
MORW	**Morawa**	**39.95**	**231**	P			**P**	**20 43 02.2**	**-0.1**
BLDU	**Ballidu**	**40.19**	**229**	P			**P**	**20 43 04.0**	**-0.3**
	baz=40,SNR=5.3								
YHNB	**Yeheng**	**42.05**	**318**	P			**P**	**20 43 20.9**	**+1.3**
YHNB					IAmb		IAmb	20 43 22.7	
	comp=Z,15nm,0.6s								
CISI	**Cisompet, Garu**	**42.74**	**266**	P			**P**	**20 43 26.6**	**+1.1**
	comp=Z,139nm,0.9s								
CISI	**Cisompet, Garu**	**42.74**	**266**	P			**P**	**20 43 25.7**	**+0.2**
CNJI	**Cibinong**	**43.43**	**266**	P			**P**	**20 43 31.5**	**+0.6**
	comp=Z,205nm,0.9s								
JNU	**Nakatsue**	**43.49**	**335**	LR			LR	21 00 53.2	
	comp=Z,65nm,18.2s,baz=144,slow=35								
JNU	**Nakatsue**	**43.49**	**335**	P			**P**	**20 43 31.3**	**+0.1**
JNU					IAmb		IAmb	20 43 33.5	
	comp=Z,39nm,0.8s								
CBJI	**Citeko**	**43.73**	**267**	P			P	20 43 42.9	+9.5
MJAR	**Matsushiro Arr**	**44.17**	**345**	P			**P**	**20 43 35.7**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=184,slow=4.4,SNR=6.0								
MJAR					PcP		**PcP**	**20 45 21.3**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=175,slow=4.3,SNR=5.2								
MJAR	**Matsushiro Arr**	**44.17**	**345**		IAmb		IAmb	20 43 39.6	
	comp=Z,1.5nm,0.6s								
MAJO	**Matsushiro**	**44.17**	**345**	⇑*e*P			**P**	**20 43 35.6**	**-0.9**
MAJO					pmax		pmax		
	comp=Z,4.0nm,0.9s								
MAT	**Matsushiro**	**44.17**	**345**	P			**P**	**20 43 37.0**	**+0.5**
MDSI	**Maura Dua**	**46.50**	**270**	P			**P**	**20 43 56.1**	**+0.7**
KSRS	**Korea Array**	**48.44**	**336**	P			**P**	**20 44 10.4**	**+0.4**
	comp=Z,5.7nm,0.6s,baz=154,slow=8.4,SNR=28								
KSRS					LR		LR	21 03 02.3	
	comp=Z,51nm,20.8s,baz=166,slow=34								
KSAR	**Wonju Array Be**	**48.45**	**335**	P			**P**	**20 44 10.0**	**-0.1**
KSAR	**Wonju Array Be**	**48.45**	**335**	P			**P**	**20 44 10.0**	**-0.1**
KS19	**Wonju Array Si**	**48.51**	**335**	P			**P**	**20 44 11.2**	**+0.7**
NJ2	**Nanjing**	**48.78**	**323**	*e*P			**P**	**20 44 14.8**	**+2.1**
NJ2					pmax		pmax		
	comp=Z,5.0nm,0.5s								
SDSI	**Sungai Dareh**	**49.59**	**274**	P			P	20 44 35.6	+16
DL2	**Dalian**	**52.45**	**331**	P			**P**	**20 44 41.5**	**+1.2**
DL2					pmax		pmax		
	comp=Z,20nm,1.3s								
BJI	**Beijing**	**56.05**	**328**	P			**P**	**20 45 06.7**	**+0.3**
BJI					pmax		pmax		
	comp=Z,4.0nm,0.6s								
BJI					LR		LR		
	comp=Z,180nm,4.8s								
BJI					LR		LR		
	comp=Z,230nm,5.0s								
KMI	**Kunming**	**56.21**	**306**	⇑P			**P**	**20 45 08.6**	**+0.4**
KMI					pmax		pmax		
	comp=Z,7.0nm,0.6s								
XAN	**Xi'an**	**56.35**	**318**	P			**P**	**20 45 08.5**	**-0.4**
XAN					pmax		pmax		
	comp=Z,5.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**56.76**	**297**	P			**P**	**20 45 12.2**	**+0.2**
	comp=Z,3.2nm,1.1s,baz=124,slow=5.1,SNR=7.7								
CMAR					LR		LR	21 10 08.2	
	comp=Z,34nm,19.1s,baz=135,slow=37								
CMAR	**Chiang Mai Arr**	**56.76**	**297**	*i* P			**P**	**20 45 14.1**	**+2.1**
CMAR					pmax		pmax		
	comp=Z,3.0nm,1.1s								
OPA	**Opana**	**57.27**	**59**	P			**P**	**20 45 17.0**	**+1.5**
OPA					pmax		pmax		
	comp=Z,112nm,1.0s								
OPA	**Opana**	**57.27**	**59**	P			**P**	**20 45 17.0**	**+1.5**
KLR	**Kul'dur**	**57.70**	**345**	⇑*e*P			**P**	**20 45 17.3**	**-0.7**
KLR					pmax		pmax		
	comp=Z,4.0nm,0.9s								
CD2	**Chengdu**	**58.23**	**312**	*e*P			**P**	**20 45 22.3**	**+0.2**
CD2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
PETK	**Petropavlovsk-**	**59.39**	**5**	P			**P**	**20 45 28.6**	**-1.2**
	comp=Z,3.7nm,0.5s,baz=157,slow=6.7,SNR=14								
PETK					LR		LR	21 06 11.2	
	comp=Z,46nm,21.1s,baz=63,slow=31								
PETK	**Petropavlovsk-**	**59.39**	**5**	P			**P**	**20 45 29.1**	**-0.6**
PETK	**Petropavlovsk-**	**59.39**	**5**	P			**P**	**20 45 29.1**	**-0.6**
LZH	**Lanzhou**	**60.93**	**317**	*e*P			**P**	**20 45 42.4**	**+1.6**
LZH					pP		sP	20 45 58.7	-1.9
LZH					sP		pP	20 46 04.8	+10
LZH					pmax		pmax		
	comp=Z,17nm,1.2s								
LZH					pmax		pmax		
	comp=Z,55nm,4.3s								
GTA	**Gaotai**	**65.41**	**319**	*e*P			**P**	**20 46 11.2**	**+0.8**
GTA					pP		sP	20 46 30.0	-0.3
GTA					sP		PcP	20 46 38.4	-3.7
GTA					pmax		pmax		
	comp=Z,4.0nm,0.9s								
GTA					pmax		pmax		
	comp=Z,95nm,5.2s								
GTA					LR		LR		
	comp=Z,96nm,17.1s								
GTA					LR		LR		
	comp=Z,110nm,17.8s								
GTA					LR		LR		
	comp=Z,92nm,18.1s								
ULN	**Ulaanbaatar**	**66.21**	**329**	P			**P**	**20 46 15.6**	**+0.2**
ULN					pmax		pmax		
	comp=Z,5.0nm,0.9s								
ULN	**Ulaanbaatar**	**66.21**	**329**	P			**P**	**20 46 15.6**	**+0.2**
SONM	**Songino Array**	**66.52**	**329**	P			**P**	**20 46 18.0**	**+0.7**
	comp=Z,3.7nm,0.5s,baz=147,slow=6.2,SNR=20								
SONM	**Songino Array**	**66.52**	**329**	P			**P**	**20 46 17.5**	**+0.2**
SONM					pmax		pmax		
	comp=Z,5.0nm,0.8s								
SONM	**Songino Array**	**66.52**	**329**	P			**P**	**20 46 17.5**	**+0.2**
LSA	**Lhasa**	**67.47**	**306**	P			**P**	**20 46 24.0**	**-0.2**
LSA					pmax		pmax		
	comp=Z,3.0nm,0.7s								
LSA	**Lhasa**	**67.47**	**306**	P			**P**	**20 46 24.0**	**-0.2**
UNV	**Unalaska Valle**	**69.72**	**25**	P			**P**	**20 46 37.4**	**+0.3**
UNV					IAmb		IAmb	20 46 38.0	
	comp=Z,18nm,0.6s								
ZAK	**Zakamensk**	**69.72**	**330**	*e*P			**P**	**20 46 36.0**	**-1.4**
ZAK					pmax		pmax		
	comp=Z,8.0nm,1.1s								
BOD	**Bodaibo**	**70.45**	**340**	*e*P			**P**	**20 46 40.2**	**-1.3**
BOD					pmax		pmax		
	comp=Z,4.0nm,1.4s								
VNDA	**Vanda**	**71.49**	**177**	P			**P**	**20 46 48.0**	**+0.5**
	comp=Z,6.2nm,0.8s,baz=324,slow=6.4,SNR=20								
VNDA	**Vanda**	**71.49**	**177**	P			**P**	**20 46 47.8**	**+0.3**
VNDA					pmax		pmax		
	comp=Z,9.0nm,0.9s								
VNDA	**Vanda**	**71.49**	**177**	P			**P**	**20 46 47.8**	**+0.3**
SDPT	**Sand Point**	**73.35**	**27**	P			**P**	**20 46 58.9**	**0.0**
BILL	**Bilibino**	**74.89**	**6**	*e*P			**P**	**20 47 09.6**	**+1.9**
BILL				*e*				20 49 57.3	
BILL					pmax		pmax		
	comp=Z,30nm,2.5s								
WMQ	**Urumqi**	**75.49**	**318**	*e*P			**P**	**20 47 13.2**	**+1.4**
WMQ					pmax		pmax		
	comp=Z,10.0nm,0.8s								
WMQ					pmax		pmax		
	comp=Z,89nm,4.1s								
WMQ					LR		LR		
	comp=Z,68nm,6.3s								
WMQ					LR		LR		
	comp=Z,110nm,8.9s								
SII	**Sitkinak Islan**	**76.92**	**28**	P			**P**	**20 47 20.6**	**+1.1**
OHAK	**Old Harbor**	**77.69**	**27**	P			**P**	**20 47 23.9**	**+0.1**
DGZ	**Jazzator, Alta**	**78.07**	**324**	*d* P			**P**	**20 47 26.1**	**-0.1**
DGZ					pmax		pmax		
	comp=Z,7.0nm,1.0s								
KDAK	**Kodiak Island**	**78.32**	**27**	P			**P**	**20 47 27.6**	**+0.5**
	comp=Z,9.2nm,0.8s,baz=217,slow=2.5,SNR=13								
KDAK	**Kodiak Island**	**78.32**	**27**	P			**P**	**20 47 27.7**	**+0.5**
KDAK					pmax		pmax		
	comp=Z,21nm,1.2s								
KDAK	**Kodiak Island**	**78.32**	**27**	P			**P**	**20 47 27.7**	**+0.5**
KDAK					IAmb		IAmb	20 47 29.6	
	comp=Z,21nm,1.2s								
ZSN	**Zaisan**	**78.73**	**321**	*e*P			**P**	**20 47 29.2**	**-0.7**
	baz=321								
ZSN	**Zaisan**	**78.73**	**321**	*e*P			**P**	**20 47 29.1**	**-0.7**
SVW2	**Sparrevohn**	**78.89**	**23**	P			**P**	**20 47 30.7**	**+0.3**
SVW2					IAmb		IAmb	20 47 32.7	
	comp=Z,17nm,1.0s								
HOM	**Homer**	**79.72**	**26**	P			**P**	**20 47

FID		Port Fidalgo	82.51	26	P		P		20 47 49.6	-0.1
FID					IAmb		IAmb		20 47 50.9	
	comp=Z,28nm,1.4s									
MDOK		Medeo	82.57	315	*e*P		P		20 47 50.2	-0.5
	baz=315									
MDOK		Medeo	82.57	315	*e*P		P		20 47 50.1	-0.5
TNSS		Tian-Shan	82.61	315	*e*P		P		20 47 50.4	-0.8
	baz=315									
TNSS		Tian-Shan	82.61	315	*e*P		P		20 47 50.3	-0.8
SCM		Sheep Creek Mo	82.65	25	P		P		20 47 51.3	+0.8
SCM					pmax		pmax			
	comp=Z,15nm,0.8s									
SCM		Sheep Creek Mo	82.65	25	P		P		20 47 51.3	+0.8
SCM					IAmb		IAmb		20 47 53.1	
	comp=Z,15nm,0.8s									
RND		Reindeer	82.79	23	P		P		20 47 49.9	-1.3
RND					pmax		pmax			
	comp=Z,30nm,1.0s									
RND		Reindeer	82.79	23	P		P		20 47 49.9	-1.3
RND					IAmb		IAmb		20 47 52.2	
	comp=Z,30nm,1.0s									
MCK		McKinley	82.92	23	P		P		20 47 50.8	-1.0
MCK					pmax		pmax			
	comp=Z,41nm,0.9s									
MCK		McKinley	82.92	23	P		P		20 47 50.8	-1.0
KLU		Klutina	83.09	26	P		P		20 47 52.8	0.0
KLU					IAmb		IAmb		20 47 55.1	
	comp=Z,29nm,1.0s									
NIL		Nilore	83.19	305	P		P		20 47 53.3	-0.6
NIL					pmax		pmax			
	comp=Z,16nm,0.7s									
NIL		Nilore	83.19	305	P		P		20 47 53.2	-0.6
NIL					IAmb		IAmb		20 47 56.3	
	comp=Z,16nm,0.7s									
DHY		Denali Highway	83.21	24	P		P		20 47 53.0	-0.5
DHY					IAmb		IAmb		20 47 54.8	
	comp=Z,15nm,0.9s									
KUU		Kurty	83.26	315	*e*P		P		20 47 53.7	-0.3
	comp=Z,26nm,1.7s,baz=315									
KUU		Kurty	83.26	315	*ce*P		P		20 47 53.7	-0.3
KUU					pmax		pmax			
	comp=Z,26nm,1.7s									
MAW		Mawson	83.52	203	P		P		20 47 54.8	-0.1
	comp=Z,2.8nm,0.7s,baz=70,slow=3.4,SNR=9.1									
MAW					LR		LR		21 21 52.7	
	comp=Z,67nm,20.9s,baz=59,slow=33									
MAW		Mawson	83.52	203	P		P		20 47 55.4	+0.6
	baz=83,SNR=4.8									
MAW		Mawson	83.52	203	P		P		20 47 54.7	-0.1
MAW					pmax		pmax			
	comp=Z,1.0nm,0.9s									
MAW		Mawson	83.52	203	P		P		20 47 54.7	-0.1
TKM2		Tokmak 2	83.53	314	P		P		20 47 55.6	0.0
	SNR=7.4									
KZA		Kyzart	83.57	313	P		P		20 47 56.8	+0.6
	SNR=9.6									
WRH		Wood River Hil	83.60	22	P		P		20 47 53.6	-1.6
WRH					IAmb		IAmb		20 47 56.2	
	comp=Z,22nm,1.0s									
KURK		Kurchatov	83.71	322	*c i*P		P		20 47 55.1	-1.0
KURK					pmax		pmax			
	comp=Z,14nm,1.0s									
KURK		Kurchatov	83.71	322	P		P		20 47 55.3	-0.8
KURK					IAmb		IAmb		20 47 56.4	
	comp=Z,14nm,1.0s									
QSPA		South Pole Qui	83.74	180	P		P		20 47 56.4	+0.2
QSPA					IAmb		IAmb		20 47 57.3	
	comp=Z,21nm,0.8s									
MDM		Murphy Dome	83.79	22	P		P		20 47 55.6	-0.7
CCB		Clear Creek Bu	83.80	22	P		P		20 47 54.8	-1.5
CCB					IAmb		IAmb		20 47 56.5	
	comp=Z,14nm,0.8s									
COLA		College	83.89	22	*de*P		P		20 47 55.5	-1.2
COLA					pmax		pmax			
	comp=Z,21nm,0.9s									
COLA		College	83.89	22	P		P		20 47 55.8	-0.9
GLB		Gilahina Butte	83.98	26	P		P		20 47 57.3	0.0
GLB					IAmb		IAmb		20 47 58.9	
	comp=Z,13nm,0.7s									
CRQM		Cirque	83.99	27	P		P		20 47 57.6	0.0
CRQM					IAmb		IAmb		20 47 59.3	
	comp=Z,20nm,0.9s									
HDA		Harding Lake	84.01	23	P		P		20 47 56.0	-1.4
VRDI		Verde Repeater	84.05	26	P		P		20 47 57.9	+0.1
VRDI					IAmb		IAmb		20 47 59.3	
	comp=Z,12nm,0.8s									
UCH		Uchtor	84.14	313	P		P		20 47 59.5	+0.5
	SNR=11									
IL31			84.20	22	P		P		20 47 56.8	-1.5
IL31					IAmb		IAmb		20 47 58.3	
	comp=Z,14nm,0.8s									
ILAR		Eielson Array	84.20	22	P		P		20 47 56.6	-1.7
	comp=Z,14nm,0.9s,baz=252,slow=5.1,SNR=60									
ILAR		Eielson Array	84.20	22	P		P		20 47 56.4	-1.9
ILAR		Eielson Array	84.20	22	P		P		20 47 56.4	-1.9
COLD		Coldfoot	84.24	20	P		P		20 47 58.4	0.0
COLD					IAmb		IAmb		20 48 00.5	
	comp=Z,10nm,0.9s									
AAK		Ala-Archa	84.25	314	*e*P		P		20 47 59.6	+0.3
AAK					pmax		pmax			
	comp=Z,5.0nm,1.3s									
AAK		Ala-Archa	84.25	314	P		P		20 47 59.3	0.0
ISLE		Juniper Island	84.29	27	P		P		20 47 59.1	+0.1
ISLE					IAmb		IAmb		20 48 00.6	
	comp=Z,20nm,0.9s									
MCARA		McCarthy VSAT	84.30	26	P		P		20 47 59.5	+0.6
MCARA					IAmb		IAmb		20 48 11.3	
	comp=Z,16nm,0.9s									
BALM		Baldy	84.46	27	P		P		20 47 59.9	+0.1
BALM					IAmb		IAmb		20 48 01.5	
	comp=Z,16nm,0.6s									
RIDG		Independent Ri	84.53	24	P		P		20 47 59.7	-0.3
RIDG					IAmb		IAmb		20 48 01.3	
	comp=Z,16nm,1.0s									
MENT		Mentasta	84.65	25	P		P		20 48 00.5	-0.1
MENT					IAmb		IAmb		20 48 02.2	
	comp=Z,14nm,0.9s									
AML		Almayashu	84.71	313	P		P		20 48 02.0	+0.1
	SNR=19									
EKS2		Erkin-Say	84.77	314	P		P		20 48 02.6	+0.7
	SNR=12									
TABL		Table Mountain	84.77	27	P		P		20 48 02.5	+0.9
BARN		Barnard Glacie	84.78	27	P		P		20 48 02.1	+0.6
DOT		Dot Lake	84.81	24	P		P		20 48 01.3	-0.1
DOT					IAmb		IAmb		20 48 02.8	
	comp=Z,20nm,0.8s									
CTGM		Chitina Glacie	84.89	27	P		P		20 48 02.7	+0.7
ARSB		Arslanbob	85.05	312	P		P		20 48 03.4	+0.1
ARSB					pmax		pmax			
	comp=Z,9.0nm,1.0s									
ARSB		Arslanbob	85.05	312	P		P		20 48 03.4	+0.1
BTLS		Baital	85.14	316	*i*P		P		20 48 03.3	-0.2
	comp=Z,7.0nm,0.9s,baz=316									
BTLS		Baital	85.14	316	*c i*P		P		20 48 03.2	-0.2
BTLS					pmax		pmax			
	comp=Z,7.0nm,0.9s									
TOLK		Toolik Lake Re	85.17	18	P		P		20 48 03.4	+0.2
TOLK					IAmb		IAmb		20 48 05.0	
	comp=Z,16nm,0.8s									
BCAR		Beaver Creek A	85.50	25	P		P		20 48 05.1	+0.1
BTK		Batken	86.40	311	P		P		20 48 09.3	-0.7
BTK					pmax		pmax			
	comp=Z,3.0nm,0.9s									
BTK		Batken	86.40	311	P		P		20 48 09.3	-0.7
EGAK		Eagle	86.43	23	P		P		20 48 09.5	+0.1
GAR		Garm	86.58	310	P		P		20 48 10.0	-0.9
GAR					IAmb		IAmb		20 48 11.1	
	comp=Z,11nm,1.2s									
DZA		Taraz	86.58	314	*i* P		P		20 48 10.4	-0.3
	comp=Z,7.1nm,0.7s,baz=314									
DZA		Taraz	86.58	314	*i* P		P		20 48 10.4	-0.3
DZA					pmax		pmax			
	comp=Z,7.0nm,0.7s									
HYT		Haines Junctio	86.59	28	P		P		20 48 11.3	+0.9
NRIK		Noril'sk	86.69	341	P		P		20 48 10.1	-0.5
	comp=Z,3.2nm,0.5s,baz=106,slow=4.5,SNR=4.9									
DIB		Dawson Inlet,	87.03	36	P		P		20 48 13.7	+1.1
BESE		Bessie Mountai	87.18	30	P		P		20 48 14.9	+1.6
BESE					IAmb		IAmb		20 48 15.5	
	comp=Z,16nm,0.8s									
KK31		Karatay Array	87.21	314	P		P		20 48 13.4	-0.3
KK31					pmax		pmax			
	comp=Z,7.0nm,0.9s									
KK31		Karatay Array	87.21	314	P		P		20 48 13.4	-0.3
KK31					IAmb		IAmb		20 48 14.3	
	comp=Z,6.9nm,0.9s									
KKAR		Karatay Array	87.21	314	P		P		20 48 13.3	-0.4
KKAR					pmax		pmax			
	comp=Z,7.0nm,0.9s									
KKAR		Karatay Array	87.21	314	P		P		20 48 13.3	-0.4
KKAR		Karatay Array	87.21	314	P		P		20 48 13.4	-0.4
KKAR					IAmb		IAmb		20 48 14.3	
	comp=Z,6.9nm,0.9s									
IUG		Iuzhnay	87.38	313	*e*P		P		20 48 14.2	-0.5
	baz=313									
IUG		Iuzhnay	87.38	313	*e*P		P		20 48 14.2	-0.5
CHGR		Chuyangaron	87.41	309	P		P		20 48 14.5	-0.4
CHGR					IAmb		IAmb		20 48 16.9	
	comp=Z,6.3nm,0.7s									
WHY		Whitehorse	87.76	28	P		P		20 48 16.9	+0.8
WRAK		Wrangell Islan	87.90	33	P		P		20 48 18.0	+1.3
DLBC		Dease Lake	89.59	31	P		P		20 48 25.5	+0.7
	comp=Z,5.7nm,0.9s,baz=231,slow=7.9,SNR=8.6									
DLBC		Dease Lake	89.59	31	P		P		20 48 26.0	+1.3
DLBC					IAmb		IAmb		20 48 28.0	
	comp=Z,9.6nm,1.0s									
INK		Inuvik	90.47	21	P		P		20 48 28.2	-0.4
	comp=Z,6.9nm,0.6s,baz=307,slow=3.2,SNR=25									
INK		Inuvik	90.47	21	P		P		20 48 28.1	-0.4
INK					pmax		pmax			
	comp=Z,15nm,1.2s									
INK		Inuvik	90.47	21	P		P		20 48 28.1	-0.4
INK					IAmb		IAmb		20 48 29.4	
	comp=Z,15nm,1.1s									
YBH		Yreka Blue Hor	91.44	48	P		P		20 48 34.7	+0.9
	comp=Z,1.5nm,0.7s,baz=275,slow=1.6,SNR=4.2									
SYO		Syowa Base	91.69	200	*e*P		P		20 48 32.0	-2.2
SYO		Syowa Base	91.69	200	*e*pP		pP		20 48 49.5	+2.0
C36M		Paulatuk	94.04	21	P		P		20 48 44.9	-0.1
C36M					IAmb		IAmb		20 48 45.9	
	comp=Z,9.1nm,0.8s									
NVAR		Mina Array Bea	94.48	52	P		P		20 48 48.8	+0.7
	comp=Z,2.7nm,0.9s,baz=261,slow=6.7,SNR=14									
NV11		Mina Array Sit	94.59	52	P		P		20 48 48.5	0.0
NV11					IAmb		IAmb		20 48 50.6	
	comp=Z,8.6nm,1.4s									
ABKAR		Akbulak array	95.27	319	P		P		20 48 49.1	-1.9
GEYT		Alibeck	95.95	307	P		P		20 48 54.0	-0.6
	comp=Z,1.3nm,0.7s,baz=241,slow=3.1,SNR=3.8									
GEYT					LR		LR		21 35 02.6	
	comp=Z,25nm,19.0s,baz=35,slow=37									
GEYT		Alibeck	95.95	307	IAmb		IAmb		20 48 55.9	
	comp=Z,4.1nm,1.4s									
TPNV		Topopah Spring	96.01	54	P		P		20 48 55.9	+0.9
TPNV					pmax		pmax			
	comp=Z,6.0nm,1.2s									
TPNV		Topopah Spring	96.01	54	P		P		20 48 55.9	+0.9
TPNV					IAmb		IAmb		20 48 56.7	
	comp=Z,5.7nm,1.1s									
UOSS		Minazif	96.80	294	P		P		20 48 57.8	-0.8
YKA		Yellowknife Ar	97.58	28	P		Pdif		20 49 01.7	+0.4
	comp=Z,2.6nm,0.5s,baz=275,slow=5.0,SNR=13									
YKA					LR		LR		21 29 49.5	
	comp=Z,33nm,20.3s,baz=0.0,slow=34									
BCYI		Bear Canyon	98.41	46	P		P		20 49 04.2	-1.5
DUG		Dugway, Tooele	98.81	50			pwP		20 49 24.5	+2.7
SNAA		Sanae	100.36	188	P		Pdif		20 49 12.6	-1.1
VNA1		Neumayer--Stat	102.01	187	P		Pdif		20 49 19.2	-1.7
TMCR		Tamitsa	105.42	335	*e*P		Pdif		20 49 33.0	-3.1
TMCR					pmax		pmax			
	comp=Z,9.0nm,0.5s									
ARCES		ARCESS Array B	107.65	342	Pdiff		Pdif		20 49 43.7	-2.3
	comp=Z,1.3nm,0.9s,baz=336,slow=11,SNR=1.2									
ARCES					PKiKP		PKiKP		20 53 53.6	0.0
	comp=Z,1.4nm,0.7s,baz=111,slow=1.9,SNR=14									
OBN		Obninsk	108.86	326	*e*P		Pdif		20 49 49.8	-1.8
OBN					*e*				20 54 20.6	
OBN					pmax		pmax			
	comp=Z,6.0nm,0.5s									
OBN					pmax		pmax			
	comp=Z,3.0nm,0.9s									
ULM		Lac du Bonnet	109.56	39	PKiKP		PKiKP		20 53 57.6	-0.1
	comp=Z,2.6nm,0.6s,baz=225,slow=1.4,SNR=2.0									
FINES		FINESS Array B	111.53	335	Pdiff		Pdif		20 50 01.9	-1.4
	comp=Z,0.9nm,0.8s,baz=56,slow=4.2,SNR=6.8									
FINES					PKiKP		PKiKP		20 54 00.8	-0.3
	comp=Z,0.6nm,0.5s,baz=145,slow=4.7,SNR=6.4									
FINES		FINESS Array B	111.53	335	P		Pdif		20 50 02.0	-1.4
AKASG		Malin Array Be	114.51	323	PKP		PKiKP		20 54 06.2	-0.8
	comp=Z,0.9nm,0.4s,baz=54,slow=2.9,SNR=5.9									
NB2		NORSAR Subarra	117.57	339	PKPdf		PKPdf		20 54 12.6	-0.2
	comp=Z,2.4nm,1.2s,baz=44,slow=1.9									
NOA		NORSAR Array B	117.57	339	PKP		PKPdf		20 54 11.4	-1.4
	comp=Z,1.1nm,0.8s,baz=48,slow=1.8,SNR=5.0									
LSZ		Lusaka	119.32	249	PKiKP		PKiKP		20 54 18.1	+0.5
LSZ		Lusaka	119.32	249			PKiKP		20 54 18.1	+0.5
PLCA		Paso Flores	119.77	145	PKP		PKPdf		20 54 16.5	-1.2
	comp=Z,1.5nm,0.8s,baz=102,slow=2.6,SNR=3.2									
PLCA		Paso Flores	119.77	145	PKiKP		PKPdf		20 54 16.8	-1.0
PLCA		Paso Flores	119.77	145			PKPdf		20 54 16.8	-1.0
N49A		Columbus Grove	120.13	46			PKPdf		20 54 18.1	-0.1
VLDQ		Val d'Or	121.54	36	PKPdf		PKPdf		20 54 19.3	-1.4
MORC		Moravsky Berou	121.62	326	*e*PKP		PKiKP		20 54 21.2	+0.1
KRLC		Kraliky	121.87	327	*e*PKiKP		PKiKP		20 54 21.8	+0.2
KRLC		Kraliky	121.87	327	*e*PKPDF		PKiKP		20 54 21.8	+0.2
D53A		Lac Vacive, Po	121.89	37	PKPdf		PKPdf		20 54 21.2	-0.3
JAVC		Velka Javorina	122.03	325	*e*PKP		PKiKP		20 54 23.4	+1.5
SADO		Sadowa	122.06	40	PKP		PKPdf		20 54 20.6	-1.2
	comp=Z,3.6nm,0.6s,baz=317,slow=2.5,SNR=4.1									
SADO		Sadowa	122.06	40			PKPdf		20 54 21.2	-0.6
TKL		Tuckaleechee C	122.08	52	PKP		PKPdf		20 54 21.6	-0.6
	comp=Z,3.0nm,0.6s,baz=216,slow=8.6,SNR=4.4									
TKL		Tuckaleechee C	122.08	52	PKiKP		PKPdf		20 54 21.7	-0.5
VRAC		Vranov	122.39	326	*e*PKP		PKiKP		20 54 23.2	+0.7
N53A		Lisbon	122.54	45			PKiKP		20 54 23.1	0.0
KRUC		Moravsky	122.63	326	*e*PKP		PKiKP		20 54 23.3	+0.3
P53A		Whipple	122.63	47			PKPdf		20 54 23.2	+0.1
SCHQ		Schefferville	122.89	25	PKP		PKPdf		20 54 22.6	-0.6
	comp=Z,3.5nm,0.7s,baz=359,slow=5.3,SNR=6.2									
SCHQ		Schefferville	122.89	25			PKPdf		20 54 22.8	-0.4
DIVS		Divibare	122.92	320	PKPdf		PKPdf		20 54 23.7	+0.1
BRG		Berggiesshubel	122.92	329	*e*PKP		PKiKP		20 54 23.4	-0.1
	comp=Z,3.2nm,0.8s									
O54A		Avella	123.10	45			PKiKP		20 54 24.3	0.0
PRU		Pruhonice	123.12	328	*e*PKiKP		PKPdf		20 54 23.6	-0.1
PRU		Pruhonice	123.12	328	*e*PKPDF		PKPdf		20 54 23.6	-0.1
CLL		Collm	123.14	330	*i* PKPdf		PKiKP		20 54 24.1	+0.2
	comp=Z,5.0nm,1.0s									
CLL		Collm	123.14	330	*i* PKiKP		PKiKP		20 54 24.1	+0.2
CLL					pmax		pmax			
	comp=Z,5.0nm,1.0s									
Q54A		Coxs Mills	123.22	47			PKPdf		20 54 23.9	-0.3
CONA		Conrad Observa	123.54	325	*i* PKiKP		PKiKP		20 54 24.9	-0.1
	comp=Z,2.9nm,1.0s									
R55A		Marlinton	123.99	48			PKPdf		20 54 25.9	0.0
NKC		Novy Kostel	124.07	329	*e*PKiKP		PKPdf		20 54 25.5	-0.1
NKC		Novy Kostel	124.07	329	*e*PKPDF		PKPdf		20 54 25.5	-0.1
ARSA		Arzberg	124.10	325	*i* PKiKP		PKiKP		20 54 26.1	+0.1
	comp=Z,1.4nm,0.6s									
KHC		Kasperske Hory	124.13	327	*c i*PKiKP		PKPdf		20 54 25.8	+0.1
KHC					pmax		pmax			
	comp=Z,11nm,1.3s									
KHC		Kasperske Hory	124.13	327	*e*PKPDF		PKiKP		20 54 26.3	+0.3
KHC		Kasperske Hory	124.13	327	PKPdf		PKPdf		20 54 25.9	+0.1
GEC2		GERESS Array S	124.23	327			PKPdf		20 54 25.7	-0.3
GERES		GERESS Array B	124.23	327	PKP		PKiKP		20 54 26.2	-0.1
	comp=Z,1.4nm,0.5s,baz=80,slow=1.5,SNR=21									
GERES		GERESS Array B	124.23	327	PKiKP		PKPdf		20 54 25.6	-0.4
GERES		GERESS Array B	124.23	327			PKPdf		20 54 25.6	-0.4
JTS		Las Juntas de	124.67	82	PKP		PKiKP		20 54 29.6	+1.5
	comp=Z,6.1nm,0.7s,baz=299,slow=8.7,SNR=2.6									
SOKA		Soboth	124.69	324	*i* PKiKP		PKPdf		20 54 26.9	-0.1
	comp=Z,3.6nm,1.0s									
LONY		Lake Ozonia	125.00	38			PKiKP		20 54 27.9	0.0
KBA		Koelnbreinsper	125.43	325	*i* PKiKP		PKPdf		20 54 28.6	+0.1
	comp=Z,3.7nm,1.1s									
J59A		Piesco	125.62	40			PKPdf		20 54 28.5	-0.2
ABTA		Abfaltersbach	126.09	326	*i* PKiKP		PKPdf		20 54 29.4	-0.3
	comp=Z,5.3nm,1.0s									
STAL		STALIGIAL	126.26	325			PKPdf		20 54 29.4	-0.5
WATA		Walderalm	126.27	327	*i* PKiKP		PKPdf		20 54 30.0	-0.1
	comp=Z,4.1nm,0.6s									
WTTA		Wattenberg	126.28	327	*i* PKiKP		PKiKP		20 54 30.3	-0.2
	comp=Z,5.1nm,0.6s									
CIMO		Cimolais	126.38	325	PKPdf		PKPdf		20 54 29.8	-0.3
MOTA		Moosalm	126.52	327	*i* PKiKP		PKPdf		20 54 30.7	+0.1
	comp=Z,2.7nm,0.6s									
SQTA		Sankt Quirin	126.54	327	*i* PKiKP		PKPdf		20 54 30.0	-0.5
	comp=Z,3.6nm,0.8s									
RETA		Reutte	126.62	327	*i* PKiKP		PKiKP		20 54 31.2	+0.2
	comp=Z,5.2nm,1.4s									
PSUB		Penn St. - Bra	126.65	44			PKiKP		20 54 31.1	-0.2
FETA		Feichten	126.92	327	*i* PKiKP		PKPdf		20 54 30.6	-0.7
	comp=Z,5.7nm,1.0s									
MEM		Membach	126.94	333	PKiKP		PKiKP		20 54 31.7	+0.2
DAVA		Damuels	127.21	327	*i* PKiKP		PKPdf		20 54 31.6	-0.3
	comp=Z,4.4nm,0.9s									
FUORN		Ofenpass-Fuorn	127.42	327	PKPdf		PKiKP		20 54 32.9	0.0
WLF		Walferdange	127.53	332	PKiKP		PKiKP		20 54 33.2	+0.5
PQI		Presque Isle	127.67	33			PKiKP		20 54 32.9	-0.2
BMRD		Maredsous	127.72	333	PKiKP		PKiKP		20 54 33.3	+0.2
TUE		Stuetta	128.00	327			PKPdf		20 54 33.8	+0.3
BNI		Bardonecchia	130.35	327	PKiKP		PKiKP		20 54 38.4	-0.3
BNI		Bardonecchia	130.35	327	PKPdf		PKiKP		20 54 38.4	-0.3
KEST		Kesra	134.09	315	PKP		PKiKP		20 54 46.0	-0.5
	comp=Z,3.2nm,0.7s,baz=38,slow=2.4,SNR=4.9									
LPAZ		La Paz	135.40	121	PKP		PKiKP		20 54 49.6	-0.7
	comp=Z,0.8nm,0.3s,baz=88,slow=2.0,SNR=5.7									
LPAZ		La Paz	135.40	121	PKiKP		PKPdf		20 54 47.7	-1.1
LPAZ		La Paz	135.40	121			PKPdf		20 54 47.7	-1.1
PBRG		Braganca	139.36	334	*e*PKPdf		PKPdf		20 54 41.7	-13
ESDC		Sonseca Array	139.72	329	PKP		PKiKP		20 54 57.5	-0.3
	comp=Z,1.0nm,1.0s,baz=264,slow=25,SNR=4.9									
MVO		Moncorvo	140.00	334	*e*PKPdf		PKPdf		20 54 44.2	-12
PVIS		Viseu	140.75	334	*e*PKPdf		PKPdf		20 54 53.5	-3.8
PNCL		Nicolau / Gran	143.16	332	*e*PKPdf		PKPdf		20 55 00.2	-1.3
SMRT		St. Maarten	144.88	67			PKPab		20 55 03.6	-0.7
FDF		Fort de France	147.44	72	PKP2		PKPbc		20 55 12.7	+0.6
FDF		Fort de France	147.44	72			PKPbc		20 55 12.7	+0.6
SVB		Belmont	147.61	75			PKPdf		20 55 11.0	+1.2
TOSP		Speyside	148.58	79			PKPbc		20 55 15.3	+0.3
TOA0		Torodi Ar. Sit	148.86	285			PKPbc		20 55 15.3	-0.5
TORD		Torodi Ar. Bea	148.86	285	PKPbc		PKPbc		20 55 15.6	-0.2
	comp=Z,27nm,0.7s,baz=60,slow=3.0,SNR=117									
TORD		Torodi Ar. Bea	148.86	285	PKPdf		PKPdf		20 55 11.4	-0.5
PMPS		Porto Santo	150.77	338	*e*PKP		PKiKP		20 55 21.3	+0.7
PMAR		Madeira	151.28	338	*e*PKP		PKiKP		20 55 22.9	+0.9
PMOZ		Porto Moniz, M	151.30	339	*e*PKP		PKPbc		20 55 18.8	-2.6
BDFB		Brasilia	151.34	139	PKP		PKPdf		20 55 16.3	+0.4
	comp=Z,2.9nm,0.6s,baz=121,slow=4.3,SNR=3.7									
BDFB					PKPbc		PKPbc		20 55 21.3	-0.6
	comp=Z,18nm,0.8s,baz=216,slow=1.0,SNR=16									
BDFB		Brasilia	151.34	139			PKPbc		20 55 21.8	-0.2
KIC		Kosan Boka	155.75	272	*e*PKP2		PKPab		20 55 49.9	+1.1
	comp=Z,26nm,0.8s									
DBIC		Dimbokro	155.87	272	PKPab		PKPab		20 55 49.5	+0.3
	comp=Z,4.4nm,0.5s,baz=72,slow=4.0,SNR=9.9									
TIC		Toumodi	156.03	272	*e*PKP2		PKPab		20 55 50.9	+0.9
LIC		Lamto	156.03	271	*e*PKP2		PKPab		20 55 51.0	+1.0
	comp=Z,26nm,0.7s									

**SOME 06 20:46:47.8,42°.25N×80°.93E,h0

*KRSC **06** 21:27:32.9±2.2, 52.°52N×160.°63E, h17km±23km, ML4.3*
*MOS **06** 21:27:33.4±0.8, 52.°49N×160.°58E, h16km, mb4.0/1, Error ellipse: s-maj=7.8km s-min=4.2km az=98.9*
ISC 06 21:27:29.9±1.6, **52.°61N**±0.°04×**160.°79E**±0.°04, **h1**km±9km, **n100**, σ**1**s**51**/146, **mb3.8**/10, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.68**	**317**	*e*P	**Pn**	**21 27 46.2**	**-0.4**
SPN				*e*S	**Sb**	**21 27 53.7**	**-0.6**
SPN	**Mys Shipunski**	**0.68**	**317**	PN	**Pn**	**21 27 46.2**	**-0.4**
SPN				*i* S	**Sb**	**21 27 53.7**	**-0.6**
NLC	**Nalytchevo**	**1.04**	**303**	*e*P	**Pn**	**21 27 51.3**	**-0.3**
NLC				*e*S	**Sg**	**21 28 03.4**	**+0.1**
NLC	**Nalytchevo**	**1.04**	**303**	PN	**Pn**	**21 27 51.3**	**-0.3**
NLC				S	**Sg**	**21 28 03.4**	**+0.1**
DALK	**Dalny**	**1.31**	**290**	*e*P	**Pg**	**21 27 55.4**	**+0.5**
DALK				*e*S	**Sg**	**21 28 11.7**	**-0.1**
DALK	**Dalny**	**1.31**	**290**	PN	**Pg**	**21 27 55.4**	**+0.5**
DALK				S	**Sg**	**21 28 11.7**	**-0.1**
SDLR	**Sedlovina**	**1.33**	**301**	*i* P	**Pb**	**21 27 56.1**	**+0.3**
SDLR				*e*S	**Sn**	**21 28 14.4**	**+0.2**
SDLR	**Sedlovina**	**1.33**	**301**	PN	**Pb**	**21 27 56.1**	**+0.3**
SDLR				S	**Sn**	**21 28 14.4**	**+0.2**
UGLR	**Uglovaya**	**1.33**	**297**	*i* P	**Pg**	**21 27 56.3**	**+0.9**
UGLR				*e*S	**Sg**	**21 28 13.0**	**+0.3**
UGLR	**Uglovaya**	**1.33**	**297**	PN	**Pg**	**21 27 56.3**	**+0.9**
UGLR				S	**Sg**	**21 28 13.0**	**+0.3**
PET	**Petropavlovsk**	**1.36**	**289**	*e*P	**Pg**	**21 27 56.4**	**+0.4**
PET				*e*S	**Sb**	**21 28 12.0**	**-2.1**
PET	**Petropavlovsk**	**1.36**	**289**	PN	**Pg**	**21 27 56.4**	**+0.4**
PET				S	**Sb**	**21 28 12.0**	**-2.1**
SMAR	**Somma**	**1.37**	**299**	*i* P	**Pg**	**21 27 56.5**	**+0.4**
SMAR	**Somma**	**1.37**	**299**	PN	**Pg**	**21 27 56.5**	**+0.4**
RUS	**Russkaya**	**1.40**	**264**	*i* P	**Pb**	**21 27 56.6**	**-0.2**
RUS				*e*S	**Sb**	**21 28 12.6**	**-2.6**
RUS	**Russkaya**	**1.40**	**264**	PN	**Pb**	**21 27 56.6**	**-0.2**
RUS				S	**Sb**	**21 28 12.6**	**-2.6**
AVH	**Avacha**	**1.41**	**299**	*i* P	**Pg**	**21 27 57.4**	**+0.6**
AVH	**Avacha**	**1.41**	**299**	PN	**Pg**	**21 27 57.4**	**+0.6**
KRER	**Koryakskii**	**1.42**	**300**	*i* P	**Pg**	**21 27 57.7**	**+0.7**
KRER				*e*S	**Sb**	**21 28 14.9**	**-1.0**
KRER	**Koryakskii**	**1.42**	**300**	PN	**Pg**	**21 27 57.7**	**+0.7**
KRER				S	**Sb**	**21 28 14.9**	**-1.0**
KOK	**Koryaka**	**1.47**	**298**	*i* P	**Pg**	**21 27 58.8**	**+0.7**
KOK				*e*S	**Sg**	**21 28 18.7**	**+1.5**
KOK	**Koryaka**	**1.47**	**298**	PN	**Pg**	**21 27 58.8**	**+0.7**
KOK				S	**Sg**	**21 28 18.7**	**+1.5**
KRX	**Arik**	**1.50**	**301**	*i* P	**Pb**	**21 27 58.4**	**-0.1**
KRX				*e*S	**Sn**	**21 28 17.6**	**-0.6**
KRX	**Arik**	**1.50**	**301**	PN	**Pb**	**21 27 58.4**	**-0.1**
KRX				S	**Sn**	**21 28 17.6**	**-0.6**
MTVR	**Mutnovka**	**1.60**	**266**	*e*P	**Pg**	**21 28 00.3**	**-0.2**
MTVR				*e*S	**Sn**	**21 28 20.1**	**-0.6**
MTVR	**Mutnovka**	**1.60**	**266**	PN	**Pg**	**21 28 00.3**	**-0.2**
MTVR				S	**Sn**	**21 28 20.1**	**-0.6**
KRMR	**Karymshinskiy**	**1.63**	**279**	*e*P	**Pg**	**21 28 01.3**	**+0.1**
KRMR				*e*S	**Sb**	**21 28 22.2**	**+0.3**
KRMR	**Karymshinskiy**	**1.63**	**279**	PN	**Pg**	**21 28 01.3**	**+0.1**
KRMR				S	**Sb**	**21 28 22.2**	**+0.3**
KII	**Karymskiy**	**1.64**	**331**	*e*P	**Pg**	**21 28 01.8**	**+0.5**
KII	**Karymskiy**	**1.64**	**331**	PN	**Pg**	**21 28 01.8**	**+0.5**
GRL	**Gorelyy**	**1.66**	**269**	*i* P	**Pg**	**21 28 01.6**	**-0.1**
GRL				*e*S	**Sb**	**21 28 22.8**	**0.0**
GRL	**Gorelyy**	**1.66**	**269**	PN	**Pg**	**21 28 01.6**	**-0.1**
GRL				S	**Sb**	**21 28 22.8**	**0.0**
ASAK	**Asacha**	**1.78**	**264**	*i* P	**Pb**	**21 28 03.2**	**-0.2**
ASAK				*e*S	**Sn**	**21 28 24.7**	**-0.5**
ASAK	**Asacha**	**1.78**	**264**	PN	**Pb**	**21 28 03.2**	**-0.2**
ASAK				S	**Sn**	**21 28 24.7**	**-0.5**
KDTR	**Khodutka, Kamc**	**1.85**	**245**	*e*P	**Pb**	**21 28 03.7**	**-0.8**
KDTR				*e*S	**Sn**	**21 28 25.0**	**-1.8**
KDTR	**Khodutka, Kamc**	**1.85**	**245**	PN	**Pb**	**21 28 03.7**	**-0.8**
KDTR				S	**Sn**	**21 28 25.0**	**-1.8**
PETK	**Petropavlovsk-** 59nm,0.3s,baz=82,slow=19,SNR=306	**1.94**	**286**	Pn	**Pn**	**21 28 04.3**	**+0.4**
PETK				Sn	**Sn**	**21 28 26.3**	**-2.7**
	57nm,0.3s,baz=152,slow=9.6,SNR=10						
MIPR	**Malaya Ipel'ka**	**2.49**	**264**	*i* P	**Pb**	**21 28 14.5**	**-0.9**
MIPR	**Malaya Ipel'ka**	**2.49**	**264**	PN	**Pb**	**21 28 14.5**	**-0.9**
KZV	**Kizimen**	**2.52**	**353**	*i* P	**Pb**	**21 28 15.9**	**-0.2**
KZV				*e*S	**Sb**	**21 28 47.8**	**+0.1**
KZV	**Kizimen**	**2.52**	**353**	PN	**Pb**	**21 28 15.9**	**-0.2**
KZV				S	**Sb**	**21 28 47.8**	**+0.1**
TUMD	**Tumrok D**	**2.61**	**355**	*e*P	**Pb**	**21 28 16.5**	**-0.9**
TUMD				*e*S	**Sb**	**21 28 48.0**	**-1.9**
TUMR	**Tumrok**	**2.71**	**352**	*i* P	**Pb**	**21 28 18.6**	**-0.5**
TUMR				*e*S	**Sb**	**21 28 50.6**	**-2.2**
TUMR	**Tumrok**	**2.71**	**352**	PN	**Pb**	**21 28 18.6**	**-0.5**
TUMR				S	**Sb**	**21 28 50.6**	**-2.2**
PAU	**Pauzhetka**	**2.71**	**247**	*e*P	**Pb**	**21 28 16.8**	**-2.3**
PAU	**Pauzhetka**	**2.71**	**247**	PN	**Pb**	**21 28 16.8**	**-2.3**
KMNR	**Kamenistaya**	**3.17**	**354**	*e*P	**Pb**	**21 28 25.9**	**-1.1**
KMNR	**Kamenistaya**	**3.17**	**354**	PN	**Pb**	**21 28 25.9**	**-1.1**
BZGR	**Bezymyannyi-Gr**	**3.34**	**359**	*e*P	**Pb**	**21 28 29.0**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**3.34**	**359**	PN	**Pb**	**21 28 29.0**	**-0.9**
KIRR	**Kirishev**	**3.36**	**356**	*e*P	**Pb**	**21 28 28.3**	**-2.0**
KIRR				*e*S	**Sb**	**21 29 09.6**	**-2.1**
KIRR	**Kirishev**	**3.36**	**356**	PN	**Pb**	**21 28 28.3**	**-2.0**
KIRR				S	**Sb**	**21 29 09.6**	**-2.1**
BZWR	**Bezymyannyi-We**	**3.37**	**357**	*e*P	**Pb**	**21 28 29.1**	**-1.3**
BZWR	**Bezymyannyi-We**	**3.37**	**357**	PN	**Pb**	**21 28 29.1**	**-1.3**
KPT	**Kopyto**	**3.38**	**355**	*e*P	**Pb**	**21 28 30.2**	**-0.4**
KPT	**Kopyto**	**3.38**	**355**	PN	**Pb**	**21 28 30.2**	**-0.4**
ZLN	**Zelenaya**	**3.41**	**0**	*e*P	**Pb**	**21 28 29.0**	**-2.2**
ZLN				*e*S	**Sb**	**21 29 14.2**	**+1.0**
ZLN	**Zelenaya**	**3.41**	**0**	PN	**Pb**	**21 28 29.0**	**-2.2**
ZLN				S	**Sb**	**21 29 14.2**	**+1.0**
SKR	**Severo-Kuril's**	**3.49**	**238**	*e*PN	**Pn**	**21 28 23.7**	**-1.6**
SKR				*e*S	**Sn**	**21 29 04.7**	**-2.5**
SKR	comp=Z,49nm,0.8s			pmax	pmax		
SKR	comp=Z,200nm,2.7s			pmax	pmax		
SKR	comp=N,148nm,0.7s			smax	smax		
SKR	comp=E,125nm,0.6s			smax	smax		
SKR	comp=Z,200nm,15.0s			MLR	MLR		
SKR	comp=N,300nm,11.0s			MLR	MLR		
SKR	comp=E,200nm,11.0s			MLR	MLR		
KOZ	**Kozyrevsk**	**3.50**	**352**	*e*P	**Pb**	**21 28 29.8**	**-2.7**
KOZ	**Kozyrevsk**	**3.50**	**352**	PN	**Pb**	**21 28 29.8**	**-2.7**
CIRR	**Tsirk**	**3.51**	**360**	*e*P	**Pb**	**21 28 31.2**	**-1.7**
CIRR				*e*S	**Sb**	**21 29 15.2**	**-0.9**
CIRR	**Tsirk**	**3.51**	**360**	PN	**Pb**	**21 28 31.2**	**-1.7**
CIRR				S	**Sb**	**21 29 15.2**	**-0.9**
KRSR	**Krestovskiy**	**3.62**	**358**	*e*P	**Pb**	**21 28 32.9**	**-1.7**
KRSR	**Krestovskiy**	**3.62**	**358**	PN	**Pb**	**21 28 32.9**	**-1.7**
ALID	**Alaid**	**3.70**	**244**	*e*P	**Pn**	**21 28 29.5**	**+1.3**
ALID	**Alaid**	**3.70**	**244**	PN	**Pn**	**21 28 29.5**	**+1.3**
KLY	**Klyuchi**	**3.71**	**359**	*e*P	**Pb**	**21 28 35.5**	**-0.7**
KLY				*e*S	**Sb**	**21 29 22.4**	**+0.8**
KLY	**Klyuchi**	**3.71**	**359**	PN	**Pb**	**21 28 35.5**	**-0.7**
KLY				S	**Sb**	**21 29 22.4**	**+0.8**
SRDR	**Sredinnyy**	**3.77**	**351**	*e*P	**Pb**	**21 28 33.2**	**-4.0**
SRDR	**Sredinnyy**	**3.77**	**351**	PN	**Pb**	**21 28 33.2**	**-4.0**
KBTR	**Krutoberegovo**	**3.79**	**17**	*e*P	**Pb**	**21 28 33.1**	**-4.5**
KBTR				*e*S	**Sb**	**21 29 22.9**	**-1.1**
KBTR	**Krutoberegovo**	**3.79**	**17**	PN	**Pb**	**21 28 33.1**	**-4.5**
KBTR				S	**Sb**	**21 29 22.9**	**-1.1**
KBG	**Krutoberegovo**	**3.82**	**16**	*e*P	**Pb**	**21 28 37.8**	**-0.2**
KBG				*e*S	**Sb**	**21 29 26.7**	**+2.0**
KBG	**Krutoberegovo**	**3.82**	**16**	PN	**Pb**	**21 28 37.8**	**-0.2**
KBG				S	**Sb**	**21 29 26.7**	**+2.0**
BDR	**Baidarnaya**	**3.97**	**3**	*e*P	**Pb**	**21 28 38.5**	**-2.2**
BDR	**Baidarnaya**	**3.97**	**3**	PN	**Pb**	**21 28 38.5**	**-2.2**
SMKR	**Semkarok**	**4.00**	**5**	*e*P	**Pb**	**21 28 38.0**	**-3.1**
SMKR				*e*S	**Sb**	**21 29 29.1**	**-0.9**
SMKR	**Semkarok**	**4.00**	**5**	PN	**Pb**	**21 28 38.0**	**-3.1**
SMKR				S	**Sb**	**21 29 29.1**	**-0.9**
SRKR	**Sorokina**	**4.06**	**3**	*e*P	**Pb**	**21 28 38.7**	**-3.4**
SRKR				*e*S	**Sb**	**21 29 31.3**	**-0.4**
SRKR	**Sorokina**	**4.06**	**3**	PN	**Pb**	**21 28 38.7**	**-3.4**
SRKR				S	**Sb**	**21 29 31.3**	**-0.4**
MA2	**Magadan** comp=E,32nm,20.8s,baz=229,slow=42	**8.94**	**325**	LR	LR	21 33 36.8	

ASAJ	**Asahikawa** comp=E,0.2nm,0.3s,baz=301,slow=17,SNR=2.0	**14.75**	**242**	Pn	**Pn**	**21 31 01.7**	**+2.2**
USRK	**Ussuriysk Ar.** comp=E,0.9nm,0.7s,baz=67,slow=11,SNR=2.5	**20.78**	**258**	P	**P**	**21 32 11.1**	**-1.0**
H11N2	**WAKE ISLAND Hy** baz=37,slow=74,SNR=92	**33.16**	**169**	T	T	22 09 28.5	
H11N3	**WAKE ISLAND Hy**	**33.17**	**169**	T	T	22 09 34.2	
H11N1	**WAKE ISLAND Hy**	**33.17**	**169**	T	T	22 09 28.5	
H11S1	**WAKE ISLAND Hy** baz=351,slow=76,SNR=11	**34.34**	**170**	T	T	22 10 57.0	
H11S3	**WAKE ISLAND Hy** baz=351,slow=76,SNR=18	**34.36**	**170**	T	T	22 10 57.0	
H11S2	**WAKE ISLAND Hy** baz=351,slow=76,SNR=9.3	**34.36**	**170**	T	T	22 10 57.0	
SONM	**Songino Array** comp=E,0.5nm,0.7s,baz=58,slow=11,SNR=2.5	**34.43**	**284**	P	**P**	**21 34 17.6**	**-1.2**
MKAR	**Makanchi Array** comp=E,0.5nm,0.4s,baz=53,slow=6.8,SNR=13	**48.75**	**296**	P	**P**	**21 36 13.9**	**-2.0**
ARCES	**ARCESS Array B** comp=E,4.5nm,1.1s,baz=39,slow=7.8,SNR=9.7	**53.88**	**342**	P	**P**	**21 36 53.4**	**-0.7**
CMAR	**Chiang Mai Arr** comp=E,0.5nm,0.3s,baz=39,slow=5.8,SNR=2.7	**58.50**	**259**	P	**P**	**21 37 29.1**	**+1.4**
FINES	**FINESS Array B** comp=E,2.9nm,0.5s,baz=37,slow=7.8,SNR=25	**60.73**	**337**	P	**P**	**21 37 42.6**	**+0.2**
AKASG	**Malin Array Be** comp=E,0.8nm,0.3s,baz=29,slow=7.5,SNR=5.5	**69.25**	**329**	P	**P**	**21 38 37.9**	**-0.1**
TXAR	**Lajitas Array** comp=E,0.2nm,0.6s,baz=302,slow=5.4,SNR=3.9	**70.44**	**67**	P	**P**	**21 38 48.6**	**+2.7**
GERES	**GERESS Array B** comp=E,0.2nm,0.4s,baz=39,slow=7.9,SNR=2.2	**75.12**	**338**	P	**P**	**21 39 13.8**	**+0.5**
WRA	**Warramunga Arr** comp=E,0.7nm,1.1s,baz=180,slow=19,SNR=1.8	**75.82**	**206**	P	**P**	**21 39 18.6**	**+1.2**
ASAR	**Alice Springs** comp=E,0.3nm,0.5s,baz=16,slow=4.0,SNR=2.4	**79.50**	**205**	P	**P**	**21 39 39.5**	**+1.6**

*NEIC **06** 21:49:55.9±1.6, 3.°46S±0.°08×138.°50E±0.°08, h81km±9km, mb4.4/23, Error ellipse: s-maj=12.5km s-min=10.6km az=207.0*
*DJA **06** 21:49:55.9±0.5, 3.°S±4.°×13.°9E±.°, h90km±9km, M4.4/7, mB4.8/1, mb4.5/4, MLv4.4/7, Mw(mB)4.0/1*
*IDC **06** 21:49:56.0±1.8, 3.°47S×138.°58E, h87km±18km, mb3.7/7, mb1 4.0/13, mb1mx3.8/28, mbtmp4.2/13, Error ellipse: s-maj=20.6km s-min=11.7km az=91.0*
ISC 06 21:49:54.3±0.5, **3.°53S**±0.°05×**138.°49E**±0.°04, **h71**km, **n51**, σ**2**s**09**/58, **mb4.4**/13, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**1.54**	**8**	P	**Pn**	**21 50 19.5**	**-0.4**
SMPI				S	**Sn**	**21 50 37.6**	**-1.6**
GENI	**Genyem**	**1.92**	**61**	P	**Pn**	**21 50 26.2**	**+1.3**
GENI				S	**Sn**	**21 50 47.7**	**-0.5**
JAY	**Jayapura** 14nm,0.3s,baz=226,slow=12,SNR=60	**2.43**	**66**	P	**Pn**	**21 50 32.0**	**+0.1**
JAY				S	**Sn**	**21 50 55.0**	**-5.6**
	45nm,0.3s,baz=208,slow=12,SNR=13						
JAY	**Jayapura**	**2.43**	**66**	P	**Pn**	**21 50 32.3**	**+0.4**
FAKI	**Fak Fak** 0.2nm27nm,0.9s	**6.26**	**275**	P	**Pn**	**21 51 25.5**	**+1.4**
FAKI	**Fak Fak**	**6.26**	**275**	Pn	**Pn**	**21 51 24.8**	**+0.8**
FAKI				Sn	**Sn**	**21 52 32.1**	**-2.1**
SIJI	**Sorong** 6.9nm,0.3s,baz=149,slow=22,SNR=20	**7.68**	**290**	P	**Pn**	**21 51 44.2**	**+0.6**
SIJI				S	**Sn**	**21 53 05.2**	**-3.9**
	1.8nm,0.3s,baz=315,slow=24,SNR=2.0						
PMG	**Port Moresby** 2.6nm,0.3s,baz=289,slow=12,SNR=1.7	**10.41**	**125**	P	**Pn**	**21 52 22.7**	**+1.8**
PMG	**Port Moresby**	**10.41**	**125**		**Pn**	**21 52 23.1**	**+2.3**
COEN	**Coen**	**11.35**	**156**	Pn	**Pn**	**21 52 36.0**	**+2.3**
COEN				Sn	**Sn**	**21 54 38.3**	**-0.6**
MTN	**Manton Dam**	**11.77**	**218**	Pn	**Pn**	**21 52 41.5**	**+2.1**
MTN				Sn	**Sn**	**21 54 48.4**	**-0.8**
KNRA	**Kununurra** comp=Z,24nm,0.6s	**15.41**	**218**	Pn	**P**	**21 53 29.4**	**-1.4**
KNRA				IAmb	IAmb	21 53 32.2	
SOEI	**Soe**	**15.41**	**246**	Pn	**Pn**	**21 53 29.4**	**+1.5**
LUWI	**Luwuk**	**15.89**	**279**	Pn	**Pn**	**21 53 34.0**	**+0.1**
LUWI	comp=Z,35nm,1.0s			IAmb	IAmb	21 53 47.2	
BATI	**Baumata** comp=Z,7.4nm,0.3s,baz=5.2,slow=1.8,SNR=7.5	**16.14**	**245**	P	**P**	**21 53 40.5**	**+1.6**
WB0	**Warramunga Arr**	**16.63**	**194**	Pn	**P**	**21 53 43.8**	**-0.6**
WB0	comp=Z,8.3nm,0.5s			IAmb	IAmb	21 53 56.9	
WR0	**Warramunga Arr**	**16.78**	**193**		**P**	**21 53 45.8**	**-0.2**
WRAB	**Tennant Creek**	**16.80**	**194**	P	**P**	**21 53 46.4**	**+0.2**
WRAB	comp=Z,12nm,0.6s			IAmb	IAmb	21 53 52.2	
WB2	**Warramunga Arr**	**16.81**	**194**		**P**	**21 53 46.4**	**+0.1**
WRA	**Warramunga Arr** comp=Z,2.1nm,0.3s,baz=18,slow=12,SNR=54	**16.81**	**194**	P	**P**	**21 53 46.3**	**-0.1**
WRA				S	**Sn**	**21 56 43.0**	**-8.5**
	comp=Z,1.2nm,0.3s,baz=6.9,slow=22,SNR=6.6						
WRA	**Warramunga Arr**	**16.81**	**194**		**Pn**	**21 53 45.1**	**-0.1**
CTAO	**Charters Tower**	**18.12**	**156**	P	**Pn**	**21 54 02.7**	**+1.4**
FITZ	**Fitzroy Crossi** comp=Z,0.8nm,0.3s,baz=10,slow=8.9,SNR=11	**19.18**	**220**	P	**Pn**	**21 54 15.1**	**+1.0**
FITZ				S	**S**	**21 57 38.7**	**-7.7**
	comp=Z,1.8nm,0.3s,baz=204,slow=10.0,SNR=9.6						
FITZ	**Fitzroy Crossi**	**19.18**	**220**	P	**Pn**	**21 54 14.8**	**+0.8**
AS31	**Alice Springs**	**20.50**	**192**	P	Pn	21 54 29.4	-0.2
AS31	comp=Z,4.9nm,0.4s			IAmb	IAmb	21 54 40.0	
ASAR	**Alice Springs** comp=Z,3.7nm,0.6s,baz=20,slow=11,SNR=58	**20.51**	**192**	P	Pn	21 54 29.4	-0.2
ASAR	comp=Z,4.3nm,0.6s,baz=18,slow=24,SNR=9.4			S	**S**	**21 58 12.9**	**+0.4**
ASAR	**Alice Springs**	**20.51**	**192**	P	Pn	21 54 29.7	+0.1
BKB	**Balikpapan**	**21.69**	**275**	P	**P**	**21 54 40.5**	**+0.9**
MYLDM	**Lahad Datu**	**21.76**	**293**	P	**P**	**21 54 41.7**	**+1.4**
KKM	**Kota Kinabalu** comp=Z,16nm,0.9s	**24.19**	**293**	P	**P**	**21 55 05.0**	**+0.6**
KKM				IAmb	IAmb	21 55 16.4	
EIDS	**Eidsvold** comp=Z,28nm,1.5s	**24.87**	**152**	P	**P**	**21 55 12.0**	**+1.6**
EIDS				IAmb	IAmb	21 55 15.1	
STKA	**Stephens Creek** comp=Z,0.5nm,0.3s,baz=321,slow=13,SNR=1.8	**28.35**	**174**	P	**P**	**21 55 43.1**	**+1.5**
STKA	**Stephens Creek**	**28.35**	**174**	P	**P**	**21 55 43.2**	**+1.5**
MORW	**Morawa**	**33.16**	**218**	P	**P**	**21 56 24.7**	**+0.5**
CMAR	**Chiang Mai Arr** comp=Z,2.7nm,0.9s,baz=128,slow=7.0,SNR=14	**44.65**	**301**	P	**P**	**21 58 00.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**44.65**	**301**	P	**P**	**21 58 00.6**	**+0.3**
SHL	**Shillong**	**53.62**	**305**	P	**P**	**21 59 09.1**	**+0.2**
SHL	comp=Z,4.8nm,1.0s			IAmb	IAmb	21 59 10.2	
GTA	**Gaotai**	**55.59**	**324**	P	**P**	**21 59 23.9**	**+0.9**
GTA				pP	pP	21 59 29.7	-12
GTA				sP	sP	21 59 32.6	-17
GTA	comp=Z,4.0nm,0.8s			pmax	pmax		
GTA	comp=Z,100nm,5.2s			pmax	pmax		
GTA	comp=N,110nm,18.7s			LR	LR		
GTA	comp=E,80nm,18.4s			LR	LR		
GTA	comp=Z,100nm,18.1s			LR	LR		
SONM	**Songino Array** comp=Z,0.2nm,0.4s,baz=158,slow=10,SNR=2.5	**58.36**	**335**	P	**P**	**21 59 41.5**	**-0.9**
SONM	**Songino Array**	**58.36**	**335**	P	**P**	**21 59 41.1**	**-1.2**
MK31	**Makanchi Array** comp=Z,4.0nm,1.1s	**70.30**	**323**	P	**P**	**22 01 00.8**	**+0.5**
MK31				IAmb	IAmb	22 01 02.2	
MKAR	**Makanchi Array** comp=Z,4.2nm,0.7s,baz=113,slow=8.2,SNR=36	**70.30**	**323**	P	**P**	**22 01 01.0**	**+0.7**
MKAR	**Makanchi Array**	**70.30**	**323**	P	**P**	**22 01 00.9**	**+0.6**
MAKZ	**Makanchi** comp=Z,4.8nm,0.7s	**70.49**	**323**	P	**P**	**22 01 02.1**	**+0.7**
MAKZ				IAmb	IAmb	22 01 03.2	
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.5s,baz=117,slow=5.2,SNR=4.6	**72.53**	**330**	P	**P**	**22 01 13.1**	**-0.4**
KURK	**Kurchatov** comp=Z,5.0nm,1.1s	**74.25**	**325**	P	**P**	**22 01 24.2**	**+0.5**
KURK				IAmb	IAmb	22 01 25.2	
KKAR	**Karatay Array**	**76.55**	**316**	P	**P**	**22 01 37.5**	**+0.3**
BRVK	**Borovoye**	**79.92**	**325**	P	**P**	**22 01 56.0**	**+0.5**
ABKAR	**Akbulak array**	**85.20**	**320**	P	**P**	**22 02 22.7**	**-0.3**
ILAR	**Eielson Array** comp=Z,0.5nm,0.5s,baz=258,slow=3.8,SNR=4.3	**86.66**	**24**	P	**P**	**22 02 28.4**	**-1.5**
TORD	**Torodi Ar. Bea**	**136.26**	**285**	PKP	**PKiKP**	**22 09 09.4**	**-1.1**

comp=Z,0.2nm,0.7s,baz=83,slow=3.2,SNR=1.4

*TAP **06** 21:53:50.0, 25.°15N×122.°77E, h170km, ML3.7, D*
*JMA **06** 21:53:50.8±0.2, 25.°17N×122.°74E, h161km±5km, M2.8*
ISC 06 21:53:51.0±1.8, **25.°07N**±0.°06×**122.°73E**±0.°03, **h166**km±10km, **n83**, σ**0**s**61**/150, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.64**	**162**	P	**Pn**	**21 54 14.9**	**0.0**
JYNG				*e*S	**Sn**	**21 54 34.0**	**+0.8**
YOJ	**Yonaguni jima**	**0.65**	**157**	P	**Pn**	**21 54 15.0**	**+0.1**
YOJ				*e*S	**Sn**	**21 54 34.0**	**+0.7**
TWB1	**Santiao Chiao** baz=265	**0.68**	**265**	P	**Pn**	**21 54 15.2**	**+0.2**
TWB1	baz=265			*e*S	**Sn**	**21 54 33.3**	**-0.1**
EGS	baz=240	**0.76**	**253**	P	**Pn**	**21 54 16.1**	**+0.5**
PCYT	**Pengchaiyu** baz=307	**0.82**	**313**	P	**Pn**	**21 54 15.8**	**-0.1**
TIPB	**Shuangxi** baz=263	**0.83**	**264**	*i* P	**Pn**	**21 54 16.1**	**+0.1**
TIPB	baz=263			S	**Sn**	**21 54 36.0**	**+0.8**
NWF	**Wu-fen Shan** baz=268	**0.86**	**270**	P	**Pn**	**21 54 16.3**	**-0.1**
WFSB	**Wu-fen Shan** baz=268	**0.86**	**270**	P	**Pn**	**21 54 16.1**	**-0.2**
TWC	**Suao** baz=230	**0.92**	**241**	*i* P	**Pn**	**21 54 16.3**	**-0.3**
TWC	baz=230			S	**Sn**	**21 54 35.7**	**-0.7**
TWE	**Neicheng** baz=246	**1.02**	**251**	P	**Pn**	**21 54 17.4**	**0.0**
TWE	baz=246			S	**Sn**	**21 54 37.6**	**-0.2**
ENAH	**Nanao** baz=228	**1.04**	**234**	P	**Pn**	**21 54 17.9**	**+0.3**
ENAH	baz=228			S	**Sn**	**21 54 38.4**	**+0.5**
YM08	**YM08** baz=276	**1.04**	**277**	P	**Pn**	**21 54 17.5**	**-0.1**
YM08	baz=276			S	**Sn**	**21 54 38.6**	**+0.5**
TWA	**Mucha** baz=252	**1.04**	**266**	*i* P	**Pn**	**21 54 17.8**	**+0.1**
TWA	baz=252			*i* S	**Sn**	**21 54 37.7**	**-0.3**
TWY	**Chenhua** baz=280	**1.05**	**282**	*i* P	**Pn**	**21 54 17.5**	**-0.1**
TWY	baz=280			*i* S	**Sn**	**21 54 37.8**	**-0.3**
YM11	**YM11** baz=273	**1.05**	**276**	*e*P	**Pn**	**21 54 17.7**	**-0.1**
YM11	baz=273			*e*S	**Sn**	**21 54 38.0**	**-0.3**
YM01	**YM01** baz=272	**1.05**	**275**	P	**Pn**	**21 54 17.7**	**-0.1**
YM01	baz=272			S	**Sn**	**21 54 39.0**	**+0.7**
YM05	**YM05** baz=273	**1.06**	**275**	P	**Pn**	**21 54 17.5**	**-0.4**
YM05	baz=273			*e*S	**Sn**	**21 54 37.8**	**-0.6**
YM10	**YM10** baz=273	**1.06**	**275**	P	**Pn**	**21 54 18.1**	**+0.2**
YM10	baz=273			*e*S	**Sn**	**21 54 38.4**	**-0.1**
YM04	**YM04** baz=274	**1.09**	**275**	P	**Pn**	**21 54 17.9**	**-0.1**
YM04	baz=274			S	**Sn**	**21 54 38.4**	**-0.3**
NHDH	**Xindian Distri** baz=253	**1.10**	**265**	P	**Pn**	**21 54 18.1**	**0.0**
NHDH	baz=253			*e*S	**Sn**	**21 54 38.0**	**-0.8**
ENA	**Nanau** baz=227	**1.10**	**235**	P	**Pn**	**21 54 18.2**	**+0.1**
ENA	baz=227			S	**Sn**	**21 54 39.0**	**+0.1**
ENTT	**Nioudou** baz=245	**1.14**	**248**	*i* P	**Pn**	**21 54 18.5**	**0.0**
ENTT	baz=245			*i* S	**Sn**	**21 54 40.2**	**+0.6**
NWLT	**Wulai** baz=252	**1.15**	**256**	*e*P	**Pn**	**21 54 18.1**	**-0.5**
NWLT	baz=252			*e*S	**Sn**	**21 54 39.0**	**-0.7**
IRIF	**Iriomote-Funau**	**1.17**	**129**	P	**Pn**	**21 54 18.6**	**0.0**
IRIF				*e*S	**Sn**	**21 54 39.7**	**-0.2**
NDT	**Datong Townshi** baz=250	**1.20**	**248**	P	**Pn**	**21 54 19.5**	**+0.5**
NDT	baz=250			S	**Sn**	**21 54 40.9**	**+0.5**
YHNB	**Yeheng** baz=249	**1.29**	**252**	P	**Pn**	**21 54 19.8**	**-0.1**
YHNB	baz=249			S	**Sn**	**21 54 41.2**	**-0.9**
NSK	**Sanguang** baz=250	**1.31**	**253**

	baz=248							
EGFH	**Guangfu**	**1.83**	**221**	P	**Pn**	**21 54 25.2**	**0.0**	
	baz=215							
EGFH				S	**Sn**	**21 54 50.8**	**-0.8**	
	baz=215							
JTJ	**Tarama**	**1.84**	**103**	P	**Pn**	**21 54 25.3**	**0.0**	
JTJ				S	**Sn**	**21 54 51.4**	**-0.4**	
TWQ1	**Liyutan**	**1.92**	**249**	*e*P	**Pn**	**21 54 26.0**	**-0.2**	
	baz=246							
TWQ1				S	**Sn**	**21 54 52.2**	**-1.1**	
	baz=246							
VWDT	**VWDT**	**1.95**	**228**	P	**Pn**	**21 54 27.2**	**+0.7**	
	baz=223							
VWDT				S	**Sn**	**21 54 54.1**	**+0.1**	
	baz=223							
HGSD	**Ruisui**	**1.97**	**218**	P	**Pn**	**21 54 26.6**	**-0.1**	
	baz=214							
HGSD				S	**Sn**	**21 54 54.9**	**+0.5**	
	baz=214							
EHY	**Hungye**	**2.02**	**220**	P	**Pn**	**21 54 27.6**	**+0.3**	
	baz=219							
EHY				S	**Sn**	**21 54 54.1**	**-1.3**	
	baz=219							
SMLT	**Sun Moon Lake**	**2.04**	**235**	P	**Pn**	**21 54 29.1**	**+1.4**	
	baz=241							
SMLT				S	**Sn**	**21 54 56.9**	**+0.9**	
	baz=241							
SSLB	**Suanglung**	**2.06**	**232**	P	**Pn**	**21 54 29.0**	**+1.2**	
	baz=224							
SSLB				S	**Sn**	**21 54 56.9**	**+0.6**	
	baz=224							
TYC	**Yuchr**	**2.06**	**236**	P	**Pn**	**21 54 28.6**	**+0.9**	
	baz=242							
TYC				S	**Sn**	**21 54 56.4**	**+0.2**	
	baz=242							
TCU	**Taichung**	**2.08**	**244**	*e*S	**Sn**	**21 54 57.1**	**+0.5**	
	baz=248							
WHYT	**Xinyi Township**	**2.19**	**232**	P	**Pn**	**21 54 30.9**	**+1.6**	
	baz=238							
WHYT				S	**Sn**	**21 54 59.8**	**+0.8**	
	baz=238							
WJS	**Zhushan**	**2.21**	**236**	*e*P	**Pn**	**21 54 30.5**	**+1.0**	
	baz=235							
WJS				*e*S	**Sn**	**21 54 59.5**	**+0.4**	
	baz=235							
WNT	**Mingjian**	**2.21**	**238**	S	**Sn**	**21 54 59.4**	**+0.1**	
	baz=236							
JIRB	**Irabujima**	**2.23**	**96**	P	**Pn**	**21 54 29.7**	**0.0**	
JIRB				S	**Sn**	**21 54 59.4**	**-0.2**	
FULB	**Fuli**	**2.28**	**216**	P	**Pn**	**21 54 30.8**	**+0.5**	
	baz=211							
FULB				S	**Sn**	**21 55 01.6**	**+0.9**	
	baz=211							
CHKT	**Chengkung**	**2.32**	**213**	P	**Pn**	**21 54 30.5**	**-0.3**	
	baz=207							
CHKT				S	**Sn**	**21 55 00.8**	**-0.8**	
	baz=207							
ALS	**Alishan**	**2.34**	**229**	P	**Pn**	**21 54 32.1**	**+0.8**	
	baz=223							
ALS				S	**Sn**	**21 55 03.0**	**+0.5**	
	baz=223							
CHN5	**Tsauling**	**2.38**	**232**	P	**Pn**	**21 54 32.5**	**+1.0**	
	baz=239							
CHN5				S	**Sn**	**21 55 02.6**	**-0.3**	
	baz=239							
JMJ2	**Miyako jima3**	**2.38**	**97**	P	**Pn**	**21 54 31.7**	**+0.3**	
JMJ2				*e*S	**Sn**	**21 55 02.8**	**0.0**	
WDLH	**Douliu**	**2.42**	**236**	*e*S	**Sn**	**21 55 03.0**	**-0.7**	
	baz=235							
ELDTW	**Lidau**	**2.44**	**220**	*e*P	**Pn**	**21 54 31.7**	**-0.6**	
	baz=219							
ELDTW				*e*S	**Sn**	**21 55 03.4**	**-0.9**	
	baz=219							
JOGS	**Gusukube**	**2.45**	**97**	P	**Pn**	**21 54 33.0**	**+0.7**	
JOGS				*e*S	**Sn**	**21 55 04.6**	**+0.4**	
EDH	**Donghe**	**2.46**	**212**	*e*P	**Pn**	**21 54 32.6**	**+0.2**	
	baz=208							
EDH				*e*S	**Sn**	**21 54 04.4**	**-0.1**	
	baz=208							
WTK	**Tuku**	**2.54**	**238**	*e*S	**Sn**	**21 55 05.5**	**-0.7**	
	baz=236							
LONT	**Longtian**	**2.60**	**215**	*e*S	**Sn**	**21 55 06.5**	**-1.1**	
	baz=218							
TPUB	**Ta-pu**	**2.60**	**228**	*e*P	**Pn**	**21 54 33.7**	**-0.4**	
	baz=235							
TPUB				*e*S	**Sn**	**21 55 07.5**	**-0.2**	
	baz=235							
STYT	**Tauyuan**	**2.62**	**224**	P	**Pn**	**21 54 35.4**	**+1.0**	
	baz=223							
STYT				S	**Sn**	**21 55 09.3**	**+1.3**	
	baz=223							
CHY	**Chiayi**	**2.62**	**234**	*e*S	**Sn**	**21 55 07.7**	**-0.3**	
	baz=239							
WTP	**Ta-pu**	**2.65**	**227**	*e*P	**Pn**	**21 54 34.3**	**-0.4**	
	baz=234							
WTP				S	**Sn**	**21 55 08.7**	**0.0**	
	baz=234							
TWGBT	**Beinan**	**2.70**	**214**	*e*P	**Pn**	**21 54 35.0**	**-0.4**	
	baz=217							
TWGBT				*e*S	**Sn**	**21 55 08.5**	**-1.3**	
	baz=217							
WLGB	**Puzi**	**2.73**	**235**	*e*S	**Sn**	**21 55 10.3**	**+0.1**	
	baz=238							
SNST	**Tainan City**	**2.75**	**228**	*e*S	**Sn**	**21 55 10.7**	**0.0**	
	baz=234							
CHN1	**Nanshi**	**2.75**	**228**	P	**Pn**	**21 54 36.8**	**+0.8**	
	baz=233							
CHN1				S	**Sn**	**21 55 11.1**	**+0.3**	
	baz=233							
SGST	**Jiashian**	**2.79**	**225**	*e*S	**Sn**	**21 55 11.1**	**-0.5**	
	baz=224							
SLGT	**Liugui**	**2.81**	**223**	*e*P	**Pn**	**21 54 37.6**	**+0.9**	
	baz=228							
SLGT				*e*S	**Sn**	**21 55 13.0**	**+0.9**	
	baz=228							
ICHU	**Yijhu**	**2.81**	**233**	*e*S	**Sn**	**21 55 11.9**	**-0.1**	
	baz=232							
ECL	**Taimali**	**2.95**	**214**	*e*P	**Pn**	**21 54 37.6**	**-0.8**	
	baz=210							
ECL				*e*S	**Sn**	**21 55 13.2**	**-2.0**	
	baz=210							

*IDC **06** 22:15:18.3±1.0,31˚.08N×132˚.11E,h0km,mb3.7/8, mb1 3.9/11,mb1mx3.7/52,mbtmpb3.7/11,ML3.0/3,Error ellipse: s-maj=41.4km s-min=15.8km az=74.0*
*JMA **06** 22:15:20.1±0.1,31˚.15N×132˚.54E,h58km,M3.3*
*NEIC **06** 22:15:24.1±1.3,31˚.13N±0˚.09×132˚.27E±0˚.09,h49km±7km, mb4.2/9,Error ellipse: s-maj=13.4km s-min=10.8km az=184.0*

ISC 06 22:15:23.2±0.7,31˚.20N±0˚.05×132˚.39E±0˚.05,h38km±3km, n48,σ1§35/56,mb3.9/12,1C-1D,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JNKG	**Nichinankitago**	**0.98**	**298**	P		**Pn**	**22 15 40.0**	**-0.5**
JNKG					*e*S	**Sn**	**22 15 54.5**	**+1.3**
JNAR	**Kushima--Naru**	**1.01**	**289**	P		**Pn**	**22 15 40.4**	**-0.5**
JNAR					*e*S	**Sn**	**22 15 55.6**	**+1.7**
JTSR	**Tashiro 2**	**1.26**	**269**	⇑P		**Pn**	**22 15 43.5**	**-0.8**
JTSR					*e*S	**Sn**	**22 16 01.5**	**+1.5**
JTSN	**Tsuno**	**1.29**	**324**	P		**Pn**	**22 15 43.7**	**-1.0**
JTSN					*e*S	**Sn**	**22 16 00.4**	**-0.3**
JTZ	**Takazaki**	**1.32**	**303**	⇓P		**Pn**	**22 15 44.4**	**-0.6**
JTZ					*e*S	**Sn**	**22 16 02.4**	**+1.0**
JTN	**Tanegashima 3**	**1.33**	**246**	P		**Pn**	**22 15 44.1**	**-1.1**
JTN					*e*S	**Sn**	**22 16 01.9**	**+0.2**
JMTN	**Minamitane**	**1.51**	**239**	P		**Pn**	**22 15 46.8**	**-0.9**
JMTN					*e*S	**Sn**	**22 16 06.3**	**+0.2**
JTO	**Tosashimizu**	**1.69**	**12**	P		**Pn**	**22 15 47.8**	**-2.4**
JTO					*e*S	**Sn**	**22 16 07.3**	**-3.4**
JYAK	**Yakushimahirau**	**1.88**	**240**	*e*S		**Sn**	**22 16 14.9**	**-0.4**
JIU3	**Izumi3**	**1.90**	**316**	P		**Pn**	**22 15 53.2**	**+0.1**
JIU3					*e*S	**Sn**	**22 16 17.4**	**+1.5**
UWA2	**Uwa jima 2**	**2.02**	**6**	P		**Pn**	**22 15 53.3**	**-1.5**
UWA2					*e*S	**Sn**	**22 16 16.0**	**-2.8**
JNU	**Nakatsue**	**2.31**	**327**	Pn		**Pn**	**22 15 59.2**	**+0.5**
	5.7nm,0.3s,baz=178,slow=6.6,SNR=35							
JNU					Sn	**Sn**	**22 16 26.9**	**+1.0**
	8.9nm,0.3s,baz=86,slow=8.2,SNR=9.0							
JNU	**Nakatsue**	**2.31**	**327**			**Pn**	**22 15 59.2**	**+0.5**
JNU					Sn	**Sn**	**22 16 24.4**	**-1.6**
JSJ	**Shimokoshiki**	**2.34**	**283**	P		**Pn**	**22 15 57.8**	**-1.3**
JSJ					*e*S	**Sn**	**22 16 26.7**	**+0.2**
JNA	**Nagahama**	**2.35**	**2**	*e*S		**Sn**	**22 16 24.9**	**-2.1**

INU	**Inuyama**	**5.67**	**42**	Pn		**Pn**	**22 16 47.7**	**+2.9**
INU						Sn	**22 17 49.4**	**+0.7**
MJAR	**Matsushiro Arr**	**7.20**	**41**	Pn		**Pn**	**22 17 08.8**	**+2.9**
	0.1nm,0.3s,baz=242,slow=15,SNR=2.3							
KSRS	**Korea Array**	**7.25**	**331**	Pn		**Pn**	**22 17 09.1**	**+2.5**
	0.2nm,0.3s,baz=149,slow=12,SNR=4.6							
INCN	**Inchon**	**7.87**	**324**	Pn		**Pn**	**22 17 14.9**	**-0.2**
BJT	**Baijiatuau**	**15.84**	**308**	Pn		**Pn**	**22 19 03.7**	**+0.4**
BJT				IAmb		IAmb	22 19 19.4	
	comp=Z,4.2nm,0.5s							
KLR	**Kul'dur**	**18.02**	**359**	P		**P**	**22 19 31.7**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=171,slow=8.4,SNR=6.8							
ULN	**Ulaanbaatar**	**25.50**	**318**	P		**P**	**22 20 47.4**	**-0.6**
ULN				IAmb		IAmb	22 20 49.3	
	comp=Z,3.8nm,1.2s							
SONM	**Songino Array**	**25.87**	**317**	P		**P**	**22 20 50.5**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=139,slow=9.9,SNR=4.0							
SONM	**Songino Array**	**25.87**	**317**	P		**P**	**22 20 50.0**	**-1.2**
PETK	**Petropavlovsk-**	**28.57**	**33**	P		**P**	**22 21 16.2**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**33.05**	**102**	T		T	22 56 41.3	
	baz=297,slow=74,SNR=6.3							
H11N1	**WAKE ISLAND Hy**	**33.05**	**102**	T		T	22 56 40.7	
	baz=297,slow=74,SNR=4.2							
H11N3	**WAKE ISLAND Hy**	**33.07**	**102**	T		T	22 56 42.7	
	baz=297,slow=74,SNR=3.7							
MK31	**Makanchi Array**	**41.22**	**307**	P		**P**	**22 23 02.0**	**-2.3**
MKAR	**Makanchi Array**	**41.22**	**307**	P		**P**	**22 23 04.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=87,slow=9.2,SNR=3.3							
MKAR	**Makanchi Array**	**41.22**	**307**	P		**P**	**22 23 02.1**	**-2.1**
FITZ	**Fitzroy Crossi**	**49.44**	**188**	P		**P**	**22 24 09.2**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=18,slow=6.7,SNR=1.6							
KK31	**Karatay Array**	**49.70**	**302**	P		**P**	**22 24 10.8**	**-0.6**
KK31				IAmb		IAmb	22 24 19.8	
	comp=Z,1.7nm,0.7s							
KKAR	**Karatay Array**	**49.70**	**302**	P		**P**	**22 24 10.6**	**-0.8**
WB2	**Warramunga Arr**	**50.88**	**178**	P		**P**	**22 24 20.2**	**-0.2**
WB2				IAmb		IAmb	22 24 21.0	
	comp=Z,7.0nm,1.2s							
WRA	**Warramunga Arr**	**50.88**	**178**	P		**P**	**22 24 20.1**	**-0.3**
	comp=Z,1.1nm,1.1s,baz=354,slow=7.7,SNR=5.5							
WRA	**Warramunga Arr**	**50.88**	**178**	P		**P**	**22 24 20.1**	**-0.3**
ASAR	**Alice Springs**	**54.57**	**178**	P		**P**	**22 24 47.7**	**0.0**
	comp=Z,0.8nm,0.6s,baz=12,slow=13,SNR=13							
ASAR	**Alice Springs**	**54.57**	**178**	P		**P**	**22 24 46.5**	**-1.1**
KDAK	**Kodiak Island**	**56.37**	**38**	P		**P**	**22 25 01.1**	**+0.9**
KDAK				IAmb		IAmb	22 25 02.2	
	comp=Z,13nm,1.3s							
EIDS	**Eidsvold**	**59.02**	**160**	P		**P**	**22 25 18.6**	**-0.6**
KBZ	**Khabaz**	**68.87**	**309**	P		**P**	**22 26 24.8**	**+1.0**
	comp=Z,2.2nm,1.0s,baz=338,slow=2.8,SNR=4.5							
FINES	**FINESS Array B**	**70.34**	**331**	P		**P**	**22 26 32.5**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=46,slow=5.5,SNR=4.7							
AKASC	**Malin Array Be**	**74.12**	**320**	P		**P**	**22 26 55.3**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=87,slow=39,SNR=2.3							
BURAR	**Bucovina Array**	**77.97**	**319**	P		**P**	**22 27 17.6**	**+0.1**
H03N2	**Juan Fernandez**	**153.48**	**103**	T		T	01 27 33.2	
	baz=0.8,slow=76,SNR=5.4							
H03N3	**Juan Fernandez**	**153.49**	**103**	T		T	01 27 29.2	
	baz=0.8,slow=76,SNR=5.9							
H03N1	**Juan Fernandez**	**153.50**	**103**	T		T	01 27 30.4	
	baz=0.8,slow=76,SNR=8.2							

*NNC **06** 22:35:01.8±0.5,42˚.61N×72˚.95E,h0km,mb3.3,mpv3.0, Error ellipse: s-maj=7.3km s-min=2.8km az=178.0*
*KRNET **06** 22:35:02.4±0.1,42˚.65N×72˚.97E,h22km,mb2.4*
*SOME **06** 22:35:02.3,42˚.70N×72˚.95E,h20km*
*KNET **06** 22:35:02.9±0.6,42˚.61N×73˚.00E,h23km±1km,ml1.8,Error ellipse: s-maj=3.6km s-min=3.4km az=27.0*

ISC 06 22:35:02.7±0.9,42˚.64N±0˚.02×72˚.96E±0˚.02,h15km±6km, n53,σ1§36/92,37C-15D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.22**	**62**	⇑*i*P		**Pg**	**22 35 07.7**	**-0.1**
MRKS	baz=64			⇑*i*S		**Sg**	**22 35 11.4**	**+0.1**
MRKS	**Merke**	**0.22**	**62**	⇑*i*P		**Pg**	**22 35 07.7**	**-0.1**
MRKS	36nm,0.1s			⇑*i*S		**Sg**	**22 35 11.4**	**+0.1**
MRKS	**Merke**	**0.22**	**62**	P		**Pg**	**22 35 07.7**	**-0.1**
MRKS	378nm,0.1s 36nm,0.1s			S		**Sg**	**22 35 11.4**	**+0.1**
EKS2	**Erkin-Say**	**0.60**	**88**	⇓*e*P		**Pg**	**22 35 13.8**	**-0.8**
EKS2	baz=89			⇓*i*S		**Sg**	**22 35 22.2**	**-0.5**
EKS2	**Erkin-Say**	**0.60**	**88**	⇑P		**Pb**	**22 35 14.2**	**-0.8**
EKS2	baz=89 4.8nm,0.1s,SNR=30			⇓S		**Sb**	**22 35 23.6**	**+0.2**
AML	**Almayashu**	**0.75**	**133**	⇓*i*P		**Pg**	**22 35 16.7**	**-0.7**
AML	9.1nm,0.2s baz=34			⇓*i*S		**Sg**	**22 35 27.1**	**-0.2**
AML	**Almayashu**	**0.75**	**133**	⇓P		**Pg**	**22 35 16.9**	**-0.5**
AML	baz=34 3.4nm,0.1s,SNR=16			⇑S		**Sg**	**22 35 27.4**	**+0.1**
ARK	**Arkit**	**1.12**	**222**	⇑*i*P		**Pb**	**22 35 23.6**	**-0.3**
ARK	86nm,0.1s baz=20			⇑*i*S		**Sb**	**22 35 39.0**	**+0.7**
AAK	**Ala-Archa**	**1.13**	**90**	⇑*i*P		**Pg**	**22 35 23.2**	**-1.4**
AAK	baz=90			⇑*i*S		**Sg**	**22 35 38.2**	**-1.2**
AAK	**Ala-Archa**	**1.13**	**90**	⇓P		**Pb**	**22 35 24.0**	**-0.1**
AAK	18nm,0.3s,SNR=8.2 6.6nm,0.2s			⇓S		**Sb**	**22 35 39.4**	**+0.8**
AAK	**Ala-Archa**	**1.13**	**90**	⇓P		**Pb**	**22 35 24.0**	**-0.1**
AAK	5.5nm,0.4s 2.5nm,0.3s			⇑S		**Sb**	**22 35 39.2**	**+0.6**
UCH	**Uchtor**	**1.22**	**109**	⇑*i*P		**Pg**	**22 35 25.0**	**-1.4**
UCH	baz=10.0			⇑*i*S		**Sg**	**22 35 41.3**	**-1.1**
UCH	**Uchtor**	**1.22**	**109**	⇑P		**Pg**	**22 35 25.4**	**-0.9**
UCH	1.5nm,0.1s,SNR=14 5.4nm,0.2s			⇑S		**Sb**	**22 35 42.2**	**+0.7**
FRU1	**Bishkek**	**1.24**	**82**	⇑*i*P		**Pg**	**22 35 25.1**	**-1.6**
FRU1	baz=82			⇑*i*S		**Sg**	**22 35 41.6**	**-1.3**
ARLS	**Aral**	**1.28**	**127**	⇑*i*P		**Pg**	**22 35 26.1**	**-1.3**
ARLS	baz=27			⇑*i*S		**Sg**	**22 35 43.1**	**-1.0**
ARSB	**Arslanbob**	**1.32**	**179**	⇑*i*P		**Pn**	**22 35 26.9**	**+0.2**
ARSB	baz=27 baz=80			⇑*i*S		**Sg**	**22 35 44.7**	**-0.6**
CHMS	**Chumysh**	**1.37**	**74**	⇑*i*P		**Pn**	**22 35 27.1**	**-0.1**
CHMS	baz=75			⇑*i*S		**Sg**	**22 35 45.2**	**-1.6**
CHMS	**Chumysh**	**1.37**	**74**	⇑P		**Pn**	**22 35 27.4**	**+0.2**
CHMS	5.7nm,0.1s,SNR=17 8.9nm,0.1s			⇓S		**Sn**	**22 35 45.9**	**+0.8**
KBK	**Karagaybulak**	**1.47**	**89**	⇑*i*P		**Pn**	**22 35 28.9**	**+0.2**
KBK	baz=89			⇑*i*S		**Sb**	**22 35 48.6**	**+0.3**
KBK	**Karagaybulak**	**1.47**	**89**	⇑P		**Pg**	**22 35 29.8**	**-1.2**
KBK	7.5nm,0.1s,SNR=23 22nm,0.1s			⇑S		**Sn**	**22 35 50.7**	**+2.9**
KZA	**Kyzart**	**1.79**	**108**	⇓*i*P		**Pb**	**22 35 35.0**	**-0.4**
KZA	baz=8.0			⇓*i*S		**Sb**	**22 35 58.6**	**+0.8**
KK31	**Karatay Array**	**1.86**	**285**	⇑Pg		**Pn**	**22 35 34.6**	**+0.6**
KK31	0.4nm,0.2s,baz=104,slow=16,SNR=15 2.1nm,0.3s,baz=102,slow=30,SNR=15			⇑Lg		Lg	22 35 59.3	
TKM2	**Tokmak 2**	**1.96**	**81**	⇑*i*P		**Pb**	**22 35 37.0**	**-1.2**
TKM2	baz=81			⇑*i*S		**Sb**	**22 36 02.4**	**-0.1**
TKM2	**Tokmak 2**	**1.96**	**81**	⇑P		**Pb**	**22 35 37.6**	**-0.7**
	5.5nm,0.2s,SNR=15							
TKM2				⇑S		**Sg**	**22 36 04.3**	**-1.5**
	7.2nm,0.1s							
TKM2	**Tokmak 2**	**1.96**	**81**	⇓P		**Pb**	**22 35 37.3**	**-0.9**
	5.5nm,0.5s							
TKM2				⇑S		**Sb**	**22 36 03.6**	**+1.1**
	4.2nm,0.4s							
OHH	**Osh**	**2.12**	**184**	⇓*i*P		**Pb**	**22 35 39.6**	**-1.3**
	baz=84							
OHH				⇓*i*S		**Sb**	**22 36 06.7**	**-0.3**
	baz=84							
DGS	**Degeres**	**2.15**	**73**	*e*P		**Pb**	**22 35 41.5**	**+0.1**
	3.3nm,0.2s							
DGS				*e*S		**Sg**	**22 36 09.3**	**-2.5**
	13nm,0.3s							
DGS	**Degeres**	**2.15**	**73**	Pg		**Pb**	**22 35 41.5**	**+0.1**
	3.3nm,0.2s							
DGS				Lg		Lg	22 36 09.3	
	13nm,0.3s							
IUG	**luzhnay**	**2.23**	**258**	*e*P		**Pg**	**22 35 43.2**	**-2.2**
	4.6nm,0.2s							
IUG				*e*S		**Sg**	**22 36 12.6**	**-1.6**
	9.6nm,0.4s							
IUG	**luzhnay**	**2.23**	**258**	Pg		**Pg**	**22 35 43.2**	**-2.2**
	4.6nm,0.2s							
IUG				Lg		Lg	22 36 12.6	
	9.6nm,0.4s							
KST	**Kastek**	**2.25**	**79**	*e*P		**Pb**	**22 35 42.2**	**-0.8**
	6.6nm,0.3s							
KST				*e*S		**Sb**	**22 36 11.6**	**+0.9**
	7.6nm,0.6s							
KST	**Kastek**	**2.25**	**79**	Pg		**Pb**	**22 35 42.2**	**-0.8**
	6.6nm,0.3s							
KST				Lg		Lg	22 36 11.6	
	7.6nm,0.6s							
KRBS	**Karabastau**	**2.25**	**61**	*e*P		**Pb**	**22 35 42.5**	**-0.6**
	3.8nm,0.3s							
KRBS				*e*S		**Sb**	**22 36 11.2**	**+0.6**
	4.6nm,0.3s							
KRBS	**Karabastau**	**2.25**	**61**	Pg		**Pb**	**22 35 42.5**	**-0.6**
	3.8nm,0.3s							
KRBS				Lg		Lg	22 36 11.2	
	4.6nm,0.3s							
BRLS	**Borolday**	**2.33**	**281**	*e*P		**Pg**	**22 35 46.2**	**-1.1**
	0.7nm,0.1s							
BRLS				*e*S		**Sg**	**22 36 17.5**	**-0.1**
	7.7nm,0.2s							
BRLS	**Borolday**	**2.33**	**281**	Pg		**Pg**	**22 35 46.4**	**-1.0**
	0.7nm,0.1s							
BRLS				Lg		Lg	22 36 18.0	
	7.7nm,0.2s							
BTLS	**Baital**	**2.52**	**18**	*e*P		**Pb**	**22 35 47.0**	**-0.6**
	0.5nm,0.2s							
BTLS				*e*S		**Sb**	**22 36 19.6**	**+1.1**
	2.4nm,0.5s							
BTLS	**Baital**	**2.52**	**18**	Pg		**Pg**	**22 35 50.0**	**-1.1**
	1.5nm,0.2s							
BTLS				Lg		Lg	22 36 23.0	
	5.8nm,0.2s							
KUU	**Kurty**	**2.77**	**62**	*e*P		**Pb**	**22 35 52.1**	**+0.2**
	1.3nm,0.2s							
KUU				*e*S		**Sb**	**22 36 27.4**	**+1.9**
	4.4nm,0.4s							
KUU	**Kurty**	**2.77**	**62**	Pg		**Pb**	**22 35 52.1**	**+0.2**
	1.3nm,0.2s							
KUU				Lg		Lg	22 36 27.4	
	4.4nm,0.4s							
KTBS	**Karatobe**	**2.92**	**67**	*e*P		**Pb**	**22 35 54.9**	**+0.4**
	0.6nm,0.2s							
KTBS				*e*S		**Sb**	**22 36 32.6**	**+2.5**
	6.1nm,0.4s							
KTBS	**Karatobe**	**2.92**	**67**	Pg		**Pb**	**22 35 54.9**	**+0.4**
	0.6nm,0.2s							
KTBS				Lg		Lg	22 36 32.6	
	6.1nm,0.4s							
TNSS	**Tian-Shan**	**2.96**	**81**	*e*P		**Pb**	**22 35 55.8**	**+0.4**
	1.7nm,0.4s							
TNSS				*e*S		**Sg**	**22 36 34.5**	**-3.3**
	2.5nm,0.4s							
TNSS	**Tian-Shan**	**2.96**	**81**	Pg		**Pb**	**22 35 55.8**	**+0.4**
	1.7nm,0.4s							
TNSS				Lg		Lg	22 36 34.5	
	2.5nm,0.4s							
BTK	**Batken**	**3.04**	**213**	⇑*i*P		**Pn**	**22 35 52.5**	**+2.2**
	baz=13							
BTK				⇑*e*S		**Sn**	**22 36 28.9**	**+2.4**
	baz=13							
MDOK	**Medeo**	**3.05**	**79**	*e*P		**Pb**	**22 35 56.9**	**+0.2**
	0.9nm,0.2s							
MDOK				*e*S		**Sb**	**22 36 35.8**	**+2.0**
	2.5nm,0.3s							
MDOK	**Medeo**	**3.05**	**79**	Pg		**Pb**	**22 35 56.9**	**+0.2**
	0.9nm,0.2s							
MDOK				Lg		Lg	22 36 35.8	
	2.5nm,0.3s							
KOTS	**Kotyrbulak**	**3.11**	**78**	*e*P		**Pb**	**22 35 58.2**	**+0.5**
	2.9nm,0.4s							
KOTS				*e*S		**Sg**	**22 36 38.8**	**-3.7**
	5.6nm,0.5s							
KOTS	**Kotyrbulak**	**3.11**	**78**	Pg		**Pb**	**22 35 58.2**	**+0.5**
	2.9nm,0.4s							
KOTS				Lg		Lg	22 36 38.8	
	5.6nm,0.5s							
CHKK	**Chushkaly**	**3.18**	**66**	*e*P		**Pb**	**22 36 00.3**	**+1.3**
	0.5nm,0.1s							
CHKK				*e*S		**Sg**	**22 36 41.7**	**-3.2**
	4.9nm,0.3s							
CHKK	**Chushkaly**	**3.18**	**66**	Pg		**Pb**	**22 36 00.3**	**+1.3**
	0.5nm,0.1s							
CHKK				Lg		Lg	22 36 41.7	
	4.9nm,0.3s							
ARXS	**Arharly**	**3.88**	**64**	*e*P		**Pb**	**22 36 12.9**	**+2.1**
	4.1nm,0.3s							
ARXS				*e*S		**Sg**	**22 37 02.5**	**-4.7**
	5.0nm,0.4s							
ARXS	**Arharly**	**3.88**	**64**	Pg		**Pb**	**22 36 12.9**	**+2.1**
	4.1nm,0.3s							
ARXS				Lg		Lg	22 37 02.5	
	5.0nm,0.4s							

*IDC **06** 22:34:53.0±1.4,2˚.20N×126˚.92E,h0km,mb3.7/5, mb1 4.0/6,mb1mx3.6/35,mbtmpb3.9/6,ML4.1/1,MS3.4/2, Ms1 3.4/2,ms1mx2.7/33,Error ellipse: s-maj=56.6km s-min=21.3km az=73.0*
*DJA **06** 22:35:13.4±0.9,1˚.1N±3˚×12˚.6E±˚,h36km±17km,M4.2/12, mb4.3/3,MLv4.2/12*

ISC 06 22:35:14.0±1.3,0.88N±0˚.09×126˚.39E±0˚.05,h39km,n16, σ2§82/19,mb3.9/4,Northern Molucca Sea

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

mb1 3.9/3, mb1mx3.4/44, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=416.0km s-min=47.8km az=84.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.60**	**19**	Pn	Pn	22 39 50.0	0.0
	0.1nm,0.3s,baz=209,slow=9.2,SNR=4.4						
H08S3	**Diego Garcia H**	**25.44**	**239**	T	T	23 07 35.5	
	baz=57,slow=76,SNR=120						
H08S2	**Diego Garcia H**	**25.44**	**239**	T	T	23 07 35.6	
	baz=57,slow=76,SNR=138						
H08S1	**Diego Carcia H**	**25.45**	**239**	T	T	23 07 37.9	
	baz=57,slow=76,SNR=115						
WRA	**Warramunga Arr**	**46.76**	**124**	P	P	22 45 07.7	+0.5
	1.2nm,0.8s,baz=304,slow=8.6,SNR=4.0						
ASAR	**Alice Springs**	**48.28**	**129**	P	P	22 45 18.4	-0.6
	0.8nm,0.7s,baz=299,slow=7.7,SNR=7.2						

IDC 06 22:42:25.6±1.7, 4°01'S×129°03'E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.5/35, mbtmp3.5/4, ML3.4/2, MS4.1/1, Ms1 4.1/1, ms1mx2.8/25, Error ellipse: s-maj=45.9km s-min=25.2km az=94.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.84**	**36**	Pn	Pn	22 43 27.9	+1.9
	3.0nm,0.3s,baz=87,slow=24,SNR=41						
SIJI				Sn	Sn	22 44 14.2	+2.4
	2.7nm,0.3s,baz=220,slow=22,SNR=6.8						
WRA	**Warramunga Arr**	**16.66**	**162**	Pn	Pn	22 46 19.7	-1.0
	0.1nm,0.3s,baz=347,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**20.10**	**167**	P	P	22 47 01.7	+0.6
	2.4nm,0.7s,baz=350,slow=11,SNR=22						
URZ	**Urewera**	**55.42**	**135**	LR	LR	23 16 16.4	
	comp=Z,160nm,18.9s,baz=188,slow=37						
MKAR	**Makanchi Array**	**65.22**	**327**	P	P	22 53 08.0	-1.0
	0.1nm,0.4s,baz=141,slow=9.3,SNR=1.9						

NNC 06 22:57:59.5±5.9, 37°27'N×70°96'E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=45.6km s-min=37.5km az=171.0
IDC 06 22:58:01.5±5.0, 36°96'N×71°50'E, h123km±35km, mb3.2/3, mb1 3.1/8, mb1mx3.0/43, mbtmp3.5/8, Error ellipse: s-maj=63.4km s-min=24.9km az=142.0
ISC 06 22:58:01.0±1.7, 37°0'N±0°1'×71°3'E±0°1, h106km, n11, σ1s51/15, mb3.7/3, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.15**	**354**	⇑Pn	**Pn**	**22 59 28.6**	**-0.8**
	1.7nm,0.3s,baz=178,slow=13,SNR=42						
KK31				⇑Sn	**Sn**	**23 00 36.5**	**-1.8**
	1.3nm,0.4s,baz=180,slow=24,SNR=3.6						
AAK	**Ala-Archa**	**6.16**	**22**	P	**Pn**	**22 59 29.5**	**-0.1**
	2.0nm,0.3s,baz=163,slow=5.5,SNR=6.6						
AAK				S	**Sn**	**23 00 40.0**	**+1.3**
	1.2nm,0.3s,baz=314,slow=22,SNR=8.2						
AAK	**Ala-Archa**	**6.16**	**22**	⇑Pn	**Pn**	**22 59 30.0**	**+0.4**
	3.0nm,0.4s						
AAK				⇓Sn	**Sn**	**23 00 40.6**	**+1.9**
	6.2nm,0.7s						
TKM2	**Tokmak 2**	**6.78**	**28**	⇑Pn	**Pn**	**22 59 37.9**	**-0.2**
	1.4nm,0.6s						
TKM2				⇓Sn	**Sn**	**23 00 55.6**	**+1.6**
	2.3nm,0.9s						
GEYT	**Alibeck**	**10.54**	**279**	P	**Pn**	**23 00 30.4**	**+1.3**
	0.3nm,0.3s,baz=246,slow=44,SNR=1.7						
MKAR	**Makanchi Array**	**12.75**	**36**	P	**Pn**	**23 00 57.1**	**-1.3**
	0.1nm,0.3s,baz=222,slow=12,SNR=2.0						
BVAR	**Borovoye Array**	**16.06**	**358**	P	**Pn**	**23 01 42.1**	**+1.5**
	0.1nm,0.3s,baz=262,slow=40,SNR=2.1						
ZALV	**Zalesovo Beam**	**19.38**	**25**	P	**P**	**23 02 16.1**	**-2.2**
	0.2nm,0.3s,baz=218,slow=11,SNR=5.0						
FINES	**FINESS Array B**	**37.24**	**326**	P	**P**	**23 05 02.0**	**+0.1**
	1.0nm,0.8s,baz=147,slow=8.3,SNR=2.2						
NOA	**NORSAR Array B**	**44.16**	**323**	P	**P**	**23 05 56.7**	**-2.2**
	0.4nm,0.8s,baz=98,slow=6.7,SNR=1.8						
TORD	**Torodi Ar. Bea**	**65.99**	**269**	P	**P**	**23 08 36.8**	**+0.4**
	1.1nm,1.0s,baz=72,slow=4.7,SNR=3.7						

WEL 06 23:03:52.0±1.3, 46°S±6°×166°E±°, h12km, M3.7/8, ML3.8/8, MLv3.7/8, Error ellipse: s-maj=0.0km s-min=0.0km az=72.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.39**	**51**	P	Pb	23 04 00.5	-0.2
PYZ				S	Sb	23 04 07.1	+0.4
APZ	**The Paps**	**1.27**	**110**	P	Pn	23 04 15.1	-0.5
APZ				S	Sb	23 04 32.0	-0.1
WHZ	**Wether Hill Ro**	**1.29**	**67**	P	Pn	23 04 14.7	-1.1
WHZ				S	Sb	23 04 32.2	-0.5
MLZ	**Mavora Lakes**	**1.67**	**52**	P	Pn	23 04 20.8	-0.3
MLZ				S	Sn	23 04 43.1	+0.6
SYZ	**Scrubby Hill**	**2.00**	**95**	P	Pn	23 04 25.6	+0.1
SYZ				S	Sb	23 04 51.9	-1.2
MSZ	**Milford Sound**	**2.10**	**35**	P	Pn	23 04 26.9	-0.1
TUZ	**Tuapeka**	**2.39**	**80**	P	Pn	23 04 30.7	-0.3
EAZ	**Earnscleugh**	**2.44**	**62**	P	Pn	23 04 31.7	0.0
WKZ	**Wanaka**	**2.51**	**52**	P	Pn	23 04 33.3	+0.7
JCZ	**Jackson Bay**	**2.95**	**38**	P	Pn	23 04 38.5	-0.2
ODZ	**Otahua Downs**	**3.37**	**68**	P	Pn	23 04 42.5	-1.8
LBZ	**Lake Benmore**	**3.43**	**55**	P	Pn	23 04 44.0	-1.3
FOZ	**Fox Glacier**	**3.83**	**43**	P	Pn	23 04 51.0	+0.2
RPZ	**Rata Peaks**	**4.34**	**53**	P	Pn	23 04 55.9	-1.9
OXZ	**Oxford**	**5.14**	**55**	P	Pn	23 05 08.5	-0.3

IDC 06 23:21:57.3±1.0, 7°21'S×128°13E, h0km, mb3.9/6, mb1 4.1/10, mb1mx3.8/40, mbtmp4.0/10, ML4.1/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/37, Error ellipse: s-maj=46.9km s-min=18.2km az=73.0
NEIC 06 23:21:59.4±2.7, 7°26'S±0°05'×127°94'E±0°08, h10km±1km, mb4.2/12, Error ellipse: s-maj=13.7km s-min=8.5km az=85.0
ISC 06 23:21:59.3±0.7, 7°38'S±0°07'×128°06'E±0°08, h10km, n35, σ1s76/36, mb4.1/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.43**	**238**	Pn	**Pn**	**23 23 08.0**	**+1.2**
BATI	**Baumata**	**5.18**	**237**	Pn	**Pn**	**23 23 19.3**	**+2.4**
	5.8nm,0.3s,baz=249,slow=21,SNR=2.5						
BATI				Sn	**Sn**	**23 24 17.6**	**+0.8**
	baz=297,slow=20,SNR=1.2						
MMRI	**Maumere**	**5.90**	**257**	Pn	**Pn**	**23 23 27.1**	**+0.2**
FAKI	**Fak Fak**	**6.08**	**43**	Pn	**Pn**	**23 23 30.1**	**+0.7**
MTN	**Manton Dam**	**6.21**	**151**		**Pn**	**23 23 34.6**	**+3.4**
KNRA	**Kununurra**	**8.28**	**175**		**Pn**	**23 24 02.4**	**+2.9**
FITZ	**Fitzroy Crossi**	**10.91**	**192**	Pn	**Pn**	**23 24 36.5**	**+0.8**
	0.5nm,0.3s,baz=27,slow=9.8,SNR=14						
FITZ				Sn	Sn	23 26 31.5	-6.4
	0.4nm,0.3s,baz=111,slow=20,SNR=1.4						
FITZ	**Fitzroy Crossi**	**10.91**	**192**		**Pn**	**23 24 36.8**	**+1.1**
WB0	**Warramunga Arr**	**13.76**	**154**		**Pn**	**23 25 13.8**	**-0.8**
WRA	**Warramunga Arr**	**13.89**	**155**	Pn	**Pn**	**23 25 15.3**	**-1.2**
	1.2nm,0.3s,baz=324,slow=13,SNR=41						
WRA				Sn	Sn	23 27 42.6	-8.3
	0.1nm,0.3s,baz=201,slow=13,SNR=1.7						
WB2	**Warramunga Arr**	**13.90**	**155**		**Pn**	**23 25 15.9**	**-0.6**
WR0	**Warramunga Arr**	**13.99**	**154**		**Pn**	**23 25 17.5**	**-0.3**
PSA00	**Pilbara Seismi**	**16.19**	**208**	Pn	**Pn**	**23 25 45.6**	**-1.4**
PSA00				IAmb	IAmb	23 26 01.0	
	comp=Z,13nm,1.0s						
COEN	**Coen**	**16.22**	**115**	Pn	**Pn**	**23 25 47.7**	**+0.2**
COEN				IAmb	IAmb	23 26 01.4	
	comp=Z,11nm,0.8s						
AS31	**Alice Springs**	**17.14**	**162**		**Pn**	**23 25 59.6**	**+0.5**
ASAR	**Alice Springs**	**17.14**	**162**	P	**Pn**	**23 25 59.7**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=331,slow=9.3,SNR=29						
ASAR				S	**Sn**	**23 29 03.2**	**-6.6**
	comp=Z,0.0nm,0.3s,baz=338,slow=20,SNR=2.1						
ASAR	**Alice Springs**	**17.14**	**162**		**Pn**	**23 25 59.4**	**+0.2**
PMG	**Port Moresby**	**19.00**	**97**	LR	LR	23 35 45.8	
	comp=Z,70nm,18.1s,baz=120,slow=44						
MORW	**Morawa**	**24.37**	**206**	P	**P**	**23 27 17.9**	**+0.1**
MORW				IAmb	IAmb	23 27 27.3	
	comp=Z,4.0nm,0.8s						
BBOO	**Buckleboo**	**26.37**	**165**	P	**P**	**23 27 36.4**	**+0.5**
BBOO				IAmb	IAmb	23 27 40.0	
	comp=Z,5.5nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.45**	**154**	P	**P**	**23 27 47.1**	**+1.5**
	comp=Z,2.6nm,0.6s,baz=328,slow=11,SNR=8.4						
STKA	**Stephens Creek**	**27.45**	**154**	P	**P**	**23 27 47.6**	**+2.0**
SONM	**Songino Array**	**58.22**	**343**	P	**P**	**23 31 53.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=86,slow=25,SNR=2.6						
SONM	**Songino Array**	**58.22**	**343**	P	**P**	**23 31 53.0**	**-0.9**
MK31	**Makanchi Array**	**67.50**	**328**	P	**P**	**23 32 54.7**	**-0.9**
MK31				IAmb	IAmb	23 33 13.2	
	comp=Z,3.9nm,1.2s						
MKAR	**Makanchi Array**	**67.50**	**328**	P	**P**	**23 32 55.0**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=124,slow=8.1,SNR=5.2						
MKAR	**Makanchi Array**	**67.50**	**328**	P	**P**	**23 32 55.6**	**-0.1**
ZAA0	**Zalesovo Array**	**71.09**	**335**	P	**P**	**23 33 17.0**	**-0.6**
ZAA0				IAmb	IAmb	23 33 35.0	
	comp=Z,3.2nm,1.0s						
ZALV	**Zalesovo Beam**	**71.09**	**335**	P	**P**	**23 33 16.9**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=139,slow=5.5,SNR=5.2						
ZALV	**Zalesovo Beam**	**71.09**	**335**	P	**P**	**23 33 16.8**	**-0.9**
KURBB	**Kurchatov Arra**	**71.84**	**329**	P	**P**	**23 33 21.0**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=130,slow=4.7,SNR=6.1						
KURK	**Kurchatov**	**71.85**	**329**	P	**P**	**23 33 20.9**	**-1.4**
BVAR	**Borovoye Array**	**77.37**	**328**	P	**P**	**23 33 52.0**	**-2.4**
	comp=Z,0.6nm,0.7s,baz=138,slow=9.1,SNR=5.2						
BRVK	**Borovoye**	**77.44**	**328**	P	**P**	**23 33 53.4**	**-1.4**
BRVK				IAmb	IAmb	23 34 02.0	
	comp=Z,3.5nm,1.1s						
QSPA	**South Pole Qui**	**82.60**	**180**	P	**P**	**23 34 23.2**	**+0.6**

BJI 06 23:25:25.2±0.0, 27°04'N×103°42'E, h5km, ML3.6/15, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.00**	**198**	⇑Pg	Pb	23 26 02.5	+0.2
KMI				Sg	Sg	23 26 28.8	-0.8
KMI				smax	smax		
	comp=N,210nm,0.7s						
KMI				smax	smax		
	comp=E,200nm,1.1s						
CD2	**Chengdu**	**3.87**	**4**	Pn	Pn	23 26 27.6	+2.2
CD2				Pg	Pg	23 26 37.0	-2.3
CD2				Sn	Sn	23 27 15.1	+3.8
CD2				Sg	Sg	23 27 28.8	-0.7
CD2				smax	smax		
	comp=N,380nm,0.7s						
CD2				smax	smax		
	comp=E,410nm,0.7s						
XAN	**Xi'an**	**8.44**	**33**	P	Pn	23 27 29.1	+1.0
XAN				smax	smax		
	comp=N,67nm,1.1s						
XAN				smax	smax		
	comp=E,61nm,1.0s						
WMQ	**Urumqi**	**21.02**	**327**	*e*P	P	23 30 11.4	+1.6

IDC 06 23:41:23.3±1.4, 31°32'S×71°84'W, h0km, mb4.3/2, mb1 3.9/6, mb1mx3.7/31, mbtmp3.8/6, ML3.6/4, MS3.2/4, Ms1 3.2/4, ms1mx2.8/28, Error ellipse: s-maj=53.8km s-min=30.7km az=112.0
SJA 06 23:41:26.0±0.9, 31°67'S×71°84'W, h15km, ML4.3, MW4.3
GUC 06 23:41:26.8±0.6, 31°53'S×71°72'W, h34km±6km, ML3.9
ISC 06 23:41:23.0±0.8, 31°50'S±0°02'×71°96'W±0°06, h10km, n55, σ1s85/58, 7C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**1.27**	**59**	⇓*e*P	**Pg**	**23 41 47.7**	**+0.2**
CO03				*e*S	**Sn**	**23 42 03.9**	**-0.4**
CO03				IAML		23 42 08.4	
	comp=E,4μm,0.3s						
GO04	**Tololo Observa**	**1.66**	**37**	⇑*i*P	**Pg**	**23 41 55.0**	**+0.2**
GO04				*e*S	**Sg**	**23 42 16.6**	**+0.2**
ROCH	**El Roble**	**1.67**	**152**	⇓*e*P	**Pg**	**23 41 54.6**	**-0.5**
ROCH				*e*S	**Sg**	**23 42 16.6**	**-0.3**
ROCH				IAML		23 42 19.5	
	comp=N,2μm,0.6s						
ROC1	**El Roble**	**1.67**	**152**	*e*P	**Pg**	**23 41 54.0**	**-1.2**
ROC1				*e*S	**Sb**	**23 42 14.3**	**-1.1**
VA03	**San Esteban**	**1.73**	**137**	⇑*i*P	**Pg**	**23 41 55.0**	**-1.3**
VA03				*e*S	**Sb**	**23 42 15.2**	**-1.8**
VA03				IAML		23 42 19.3	
	comp=E,4μm,0.5s						
MT02	**Curacav**	**1.89**	**159**	⇑*i*P	**Pb**	**23 41 57.5**	**-0.1**
MT02				*e*S	**Sg**	**23 42 21.8**	**-1.9**
MT02				IAML		23 42 26.7	
	comp=E,572nm,0.6s						
PEL	**Peldehue**	**1.96**	**147**	⇑*i*P	**Pb**	**23 41 58.5**	**-0.4**
PEL				*e*S	**Sb**	**23 42 21.8**	**-1.6**
PEL				IAML		23 42 26.1	
	comp=N,956nm,0.4s						
PEL	**Peldehue**	**1.96**	**147**	*e*P	**Pb**	**23 41 58.5**	**-0.4**
MT05	**Renca**	**2.15**	**152**	⇑*i*P	**Pb**	**23 42 01.7**	**-0.5**
MT05				*i* S	**Sb**	**23 42 28.4**	**-0.5**
MT05				IAML		23 42 38.0	
	comp=E,2μm,0.4s						
CO01	**Juntas del Tor**	**2.21**	**47**	*e*P	**Pb**	**23 42 03.4**	**+0.1**
CO01				*e*S	**Sb**	**23 42 30.7**	**-0.1**
CO01				IAML		23 42 33.8	
	comp=N,987nm,0.3s						
CLCH	**Cerro Calan**	**2.24**	**148**	⇑*i*P	**Pb**	**23 42 03.0**	**-0.6**
CLCH				*e*S	**Sb**	**23 42 30.0**	**-1.4**
CLCH				IAML		23 42 37.3	
	comp=E,2μm,0.5s						
RTLS	**Leoncito**	**2.29**	**98**	*i* P	**Pb**	**23 42 04.3**	**-0.3**
AUSP	**Uspallata**	**2.30**	**109**	*e*P	**Pb**	**23 42 04.5**	**-0.4**
MT03	**Universidad Ad**	**2.33**	**149**	⇑*i*P	**Pb**	**23 42 04.1**	**-1.2**
MT03				*e*S	**Sb**	**23 42 32.8**	**-1.4**
MT03				IAML		23 42 38.1	
	comp=N,1μm,0.6s						
AROD	**Rodeo**	**2.52**	**59**	*e*P	**Pg**	**23 42 09.1**	**-2.3**
AROD				*e*S	**Sg**	**23 42 41.9**	**-2.1**
ACCO	**Cerro Coronel**	**2.65**	**71**	*e*P	**Pb**	**23 42 10.6**	**-0.1**
ACCO				*e*S	**Sg**	**23 42 46.1**	**-2.0**
ACCO				IAML		23 42 53.5	
	comp=Z,679nm,0.5s						
ARCO	**CERRO ARCO**	**2.89**	**118**	*e*P	**Pb**	**23 42 13.8**	**-1.0**
ARCO				IAML		23 43 02.0	
	comp=Z,497nm,0.8s						
RTCV	**Cerro Valdivia**	**2.94**	**98**	*e*P	**Pb**	**23 42 14.1**	**-1.5**
RTLL	**Cerro Villicun**	**2.98**	**88**	*e*P	**Pb**	**23 42 14.8**	**-1.5**
RTLL				*e*S	**Sb**	**23 42 53.3**	**+0.4**
RTLL				IAML		23 43 02.2	
	comp=Z,988nm,0.5s						
AAGR	**Agrelo**	**3.09**	**122**	*e*P	**Pb**	**23 42 17.0**	**-1.1**
AAGR				IAML		23 43 05.8	
	comp=Z,423nm,0.7s						
GO05	**Huala**	**3.50**	**180**	*e*P	**Pn**	**23 42 19.2**	**+1.7**
AGUA	**GUANDACOL**	**3.60**	**57**	*e*P	**Pb**	**23 42 24.4**	**-2.6**
AGUA				IAML		23 43 18.6	
	comp=Z,686nm,0.6s						
COIS	**El Sosneado**	**4.11**	**152**	*e*P	**Pb**	**23 42 34.4**	**-1.0**
LAMA	**Las Malvinas**	**4.13**	**147**	*e*P	Pb	23 42 30.6	-5.2
GO03	**Copiap**	**4.17**	**22**	*e*P	**Pn**	**23 42 29.9**	**+3.0**
GO03				*e*S	**Sb**	**23 43 27.6**	**+0.4**
VCA	**Vinchina**	**4.26**	**51**	*i* P	**Pb**	**23 42 34.2**	**-4.0**
VCA				IAML		23 43 39.0	
	comp=Z,727nm,0.7s						
ACLC	**CERRO LA CRUZ**	**4.79**	**66**	*e*P	**Pn**	**23 42 39.0**	**+3.5**
ACLC				IAML		23 43 42.9	
	comp=Z,355nm,0.6s						
CYA	**Choya**	**6.15**	**62**	*e*P	**Pn**	**23 42 56.3**	**+2.3**
CYA				*e*S	**Sn**	**23 44 08.3**	**+3.8**
CYA				IAML		23 44 14.0	
	comp=Z,111nm,1.2s						
H03N1	**Juan Fernandez**	**6.19**	**250**	T	T	23 49 29.5	
	baz=79,slow=72,SNR=95						
H03N3	**Juan Fernandez**	**6.20**	**250**	T	T	23 49 30.8	
	baz=79,slow=72,SNR=156						
H03N2	**Juan Fernandez**	**6.20**	**250**	T	T	23 49 40.5	
	baz=79,slow=72,SNR=4117						
TCA	**Tanti**	**6.30**	**90**	*e*P	**Pn**	**23 42 58.3**	**+2.2**
TCA				*e*S	**Sn**	**23 44 12.4**	**+4.3**
TCA				IAML		23 44 15.7	
	comp=Z,212nm,0.7s						
H03S3	**Juan Fernandez**	**6.30**	**247**	T	T	23 49 38.3	
	baz=86,slow=74,SNR=2.6						
H03S1	**Juan Fernandez**	**6.30**	**246**	T	T	23 49 38.3	
	baz=86,slow=74,SNR=3.1						
H03S2	**Juan Fernandez**	**6.32**	**247**	T	T	23 49 35.4	
	baz=86,slow=74,SNR=6.8						
AHML	**Horco Molle**	**7.46**	**53**	*e*P	**Pn**	**23 43 15.9**	**+3.9**
AHML				IAML		23 45 25.2	
	comp=Z,34nm,0.9s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**9.26**	**18**	Pn	**Pn**	**23 43 33.5**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=252,slow=5.8,SNR=1.3						
LVC				LR	LR	23 47 00.4	
	comp=Z,94nm,21.8s,baz=216,slow=37						
PLCA	**Paso Flores**	**9.28**	**173**	Pn	**Pn**	**23 43 39.3**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=330,slow=11,SNR=5.0						
CPUP	**Villa Florida**	**13.81**	**72**	Pn	**Pn**	**23 44 40.1**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=321,slow=7.9,SNR=2.0						
CPUP				LR	LR	23 50 21.3	
	comp=Z,80nm,19.9s,baz=220,slow=39						
LPAZ	**La Paz**	**15.54**	**14**	Pn	**P**	**23 45 05.3**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=124,slow=11,SNR=2.3						
SIV	**San Ignacio**	**18.36**	**35**	P	**Pn**	**23 45 36.0**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=237,slow=11,SNR=5.5						
BDFB	**Brasilia**	**26.95**	**60**	P	**P**	**23 47 05.1**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=231,slow=21,SNR=2.4						
MDP	**Montagnes des**	**40.80**	**30**	LR	LR	00 07 05.7	
	comp=Z,30nm,20.0s,baz=202,slow=38						
RCBR	**Riachuelo**	**42.31**	**60**	LR	LR	00 08 10.7	
	comp=Z,102nm,18.8s,baz=226,slow=38						
TORD	**Torodi Ar. Bea**	**83.30**	**70**	P	**P**	**23 53 51.4**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=260,slow=4.7,SNR=14						
H11S2	**WAKE ISLAND Hyd**	**25.84**	**271**	T	T	02 19 16.9	
	baz=117,slow=75,SNR=58						
H11S1	**WAKE ISLAND Hyd**	**25.85**	**271**	T	T	02 19 16.3	
	baz=117,slow=75,SNR=47						
H11S3	**WAKE ISLAND Hyd**	**25.85**	**271**	T	T	02 19 18.9	
	baz=117,slow=75,SNR=46						
H11N3	**WAKE ISLAND Hyd**	**26.19**	**272**	T	T	02 19 44.2	
	baz=116,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hyd**	**26.20**	**272**	T	T	02 19 48.0	
	baz=116,slow=75,SNR=7.6						
H11N2	**WAKE ISLAND Hyd**	**26.20**	**272**	T	T	02 19 42.5	
	baz=116,slow=75,SNR=61						
BVAR	**Borovoye Array**	**145.38**	**40**	PKPbc	**PKiKP**	**00 01 02.3**	**-2.4**
	comp=Z,3.5nm,0.5s,baz=297,slow=2.8,SNR=24						
KURBB	**Kurchatov Arra**	**150.97**	**40**	PKPbc	**PKiKP**	**00 01 17.2**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=300,slow=2.9,SNR=15						
ZALV	**Zalesovo Beam**	**152.06**	**30**	PKPbc	**PKiKP**	**00 01 20.0**	**+1.6**
	comp=Z,8.2nm,0.4s,baz=311,slow=3.3,SNR=32						
MKAR	**Makanchi Array**	**155.01**	**45**	PKP	**PKPdf**	**00 01 14.9**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=99,slow=22,SNR=1.7						
MKAR				PKPab	**PKPab**	**00 01 41.0**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=308,slow=4.0,SNR=3.9						

IDC 06 23:44:07.1±2.1, 31°52'S×71°43'W, h0km, mb3.9/1, mb1 3.6/3, mb1mx3.5/29, mbtmp3.6/3, ML3.4/2, Error ellipse: s-maj=105.2km s-min=38.8km az=103.0
SJA 06 23:44:09.8±0.5, 31°63'S×72°04'W, h68km±6km, ML4.3, MW4.3
GUC 06 23:44:11.4±0.7, 31°52'S×71°57'W, h52km±8km, ML3.7
ISC 06 23:44:08.7±1.7, 31°52'S±0°05'×72°21'W±0°10, h51km±17km, n40, σ2s916/42, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**1.47**	**63**	*e*P	**Pn**	**23 44 30.9**	**-2.0**
CO03				*i* S	**Sn**	**23 44 45.5**	**-5.6**
CO03				IAML		23 44 51.8	
	comp=E,2μm,0.2s						
ROCH	**El Roble**	**1.77**	**145**	IAML		23 45 02.6	
	comp=N,2μm,0.4s						
ROC1	**El Roble**	**1.77**	**145**	*e*P	**Pn**	**23 44 37.6**	**+0.5**
ROC1				*e*S	**Sn**	**23 44 58.4**	**-0.3**
GO04	**Tololo Observa**	**1.81**	**42**	*e*P	**Pn**	**23 44 38.1**	**+0.5**
GO04				*i* S	**Sn**	**23 44 59.1**	**-0.5**
VA03	**San Esteban**	**1.88**	**132**	⇓*i*P	**Pn**	**23 44 38.4**	**-0.1**
VA03				*i* S	**Sn**	**23 44 58.2**	**-2.8**
VA03				IAML		23 45 01.0	
	comp=E,3μm,0.5s						
PEL	**Peldehue**	**2.07**	**142**	⇓*i*P	**Pn**	**23 44 41.7**	**+0.6**
PEL				*i* S	**Sn**	**23 45 05.1**	**-0.7**
PEL				IAML		23 45 09.6	
	comp=N,790nm,0.4s						
PEL	**Peldehue**	**2.07**	**142**	*e*P	**Pn**	**23 44 42.9**	**+1.8**
PEL				*e*S	**Sn**	**23 45 05.5**	**-0.3**
MT05	**Renca**	**2.24**	**147**	IAML		23 45 21.5	
	comp=E,1μm,0.5s						
CLCH	**Cerro Calan**	**2.35**	**143**	IAML		23 45 20.4	
	comp=E,1μm,0.4s						
CO01	**Juntas del Tor**	**2.38**	**50**	*e*P	**Pn**	**23 44 46.5**	**+0.9**
CO01				*i* S	**Sn**	**23 45 12.9**	**-0.8**
CO01				IAML		23 45 16.9	
	comp=N,674nm,0.3s						
MT03	**Universidad Ad**	**2.44**	**144**	*e*P	**Pn**	**23 44 47.2**	**+1.1**
MT03				*i* S	**Sn**	**23 45 14.4**	**-0.4**
RTLS	**Leoncito**	**2.50**	**97**	*e*P	**Pn**	**23 44 47.8**	**+0.6**
AUSP	**Uspallata**	**2.50**	**107**	*e*P	**Pn**	**23 44 48.2**	**+1.0**
AUSP				*e*S	**Sn**	**23 45 16.3**	**-0.4**
AROD	**Rodeo**	**2.71**	**61**	*e*P	**Pn**	**23 44 53.1**	**+2.

STKA	**Stephens Creek**	**25.96**	**192**	P		P	00 04 47.6	+1.3
	1.5nm,0.8s,baz=349,slow=10,SNR=3.6							
TORD	**Torodi Ar. Bea**	**145.86**	**284**	PKPbc		PKPdf	00 18 50.2	-1.7
	0.1nm,0.4s,baz=66,slow=3.9,SNR=4.3							

*IDC **06** 23:59:46.4±2.4, 31°.43S×71°.37W, h0km, mb4.4/3, mb1 4.0/6, mb1mx3.7/31, mbtmp4.0/6, ML3.4/3, MS3.1/3, Ms1 3.1/3, ms1mx2.8/20, Error ellipse: s-maj=81.6km s-min=30.9km az=96.0*

*GUC **06** 23:59:50.5±0.5, 31°.49S×71°.55W, h48km±7km, ML3.9*

ISC 06 23:59:49.9±2.1, 31°.40S±0°.06×71°.8W±0°.1, h32km±13km, n30, σ0s88/23, mb4.4/3, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**1.08**	**59**	⇓*i*P	**Pb**	**00 00 09.4**	**-0.7**
CO03				*i* S	**Sn**	**00 00 23.6**	**+0.8**
CO03				IAML		00 00 27.3	
	comp=N,3μm,0.4s						
GO04	**Tololo Observa**	**1.48**	**34**	⇑*i*P	**Pb**	**00 00 16.6**	**-0.3**
GO04				*i* S	**Sb**	**00 00 37.2**	**+1.8**
VA01	**Torpederas**	**1.62**	**177**	IAML		00 00 43.0	
	comp=E,1μm,0.4s						
VA03	**San Esteban**	**1.71**	**143**	⇓*i*P	**Pn**	**00 00 17.6**	**0.0**
VA03				*i* S	**Sn**	**00 00 38.1**	**-0.2**
VA03				IAML		00 00 43.0	
	comp=E,6μm,0.4s						
MT02	**Curacav**	**1.93**	**164**	IAML		00 00 48.1	
	comp=E,1μm,0.2s						
PEL	**Peldehue**	**1.96**	**153**	⇑*i*P	**Pn**	**00 00 21.2**	**+0.2**
PEL				*i* S	**Sn**	**00 00 44.7**	**+0.1**
PEL				IAML		00 00 48.9	
	comp=E,2μm,0.2s						
CO01	**Juntas del Tor**	**2.02**	**46**	*e*P	**Pb**	**00 00 25.1**	**-1.0**
CO01				*i* S	**Sb**	**00 00 51.0**	**+0.1**
CO01				IAML		00 00 54.6	
	comp=E,696nm,0.3s						
MT05	**Renca**	**2.17**	**157**	*e*P	**Pn**	**00 00 24.1**	**+0.2**
MT05				*i* S	**Sn**	**00 00 50.0**	**+0.3**
MT05				IAML		00 00 52.5	
	comp=E,2μm,0.3s						
CLCH	**Cerro Calan**	**2.24**	**153**	*e*P	**Pn**	**00 00 25.5**	**+0.6**
CLCH				*i* S	**Sn**	**00 00 52.0**	**+0.4**
CLCH				IAML		00 01 01.5	
	comp=E,2μm,0.7s						
MT03	**Universidad Ad**	**2.34**	**153**	⇓*i*P	**Pn**	**00 00 26.7**	**+0.4**
MT03				*i* S	**Sn**	**00 00 55.2**	**+1.2**
MT03				IAML		00 01 01.9	
	comp=N,3μm,0.5s						
H03N1	**Juan Fernandez**	**6.38**	**250**	T	T	00 08 03.5	
	baz=79,slow=72,SNR=1491						
H03N3	**Juan Fernandez**	**6.39**	**249**	T	T	00 08 04.2	
	baz=79,slow=72,SNR=2832						
H03N2	**Juan Fernandez**	**6.39**	**250**	T	T	00 08 01.9	
	baz=79,slow=72,SNR=2024						
H03S3	**Juan Fernandez**	**6.50**	**246**	T	T	00 08 17.1	
	baz=69,slow=80,SNR=2.9						
H03S1	**Juan Fernandez**	**6.50**	**246**	T	T	00 08 17.1	
	baz=69,slow=80,SNR=3.3						
H03S2	**Juan Fernandez**	**6.51**	**246**	T	T	00 08 19.0	
	baz=69,slow=80,SNR=5.4						
LVC	**Limon Verde**	**9.12**	**17**	Pn	**Pn**	**00 02 00.5**	**+0.9**
	comp=N,0.7nm,0.3s,baz=212,slow=8.3,SNR=2.4						
LVC				Lg	Lg	00 04 08.1	
	comp=N,0.6nm,0.3s,baz=51,slow=23,SNR=3.8						
LVC				LR	LR	00 05 33.8	
	comp=N,132nm,20.8s,baz=214,slow=38						
PLCA	**Paso Flores**	**9.36**	**174**	Pn	**Pn**	**00 02 02.7**	**0.0**
	comp=N,0.1nm,0.3s,baz=316,slow=9.0,SNR=2.2						
CPUP	**Villa Florida**	**13.62**	**72**	LR	LR	00 08 02.4	
	comp=N,47nm,19.3s,baz=224,slow=37						
SIV	**San Ignacio**	**18.18**	**35**	P	**Pn**	**00 03 57.6**	**-2.3**
	comp=N,0.1nm,0.3s,baz=228,slow=12,SNR=3.2						
DBIC	**Dimbokro**	**74.14**	**72**	P	**P**	**00 11 23.1**	**-0.4**
	comp=N,3.5nm,0.8s,baz=191,slow=5.2,SNR=3.3						
BOSA	**Boshof**	**81.08**	**118**	P	**P**	**00 12 02.5**	**+0.2**
	comp=N,1.6nm,0.7s,baz=236,slow=11,SNR=3.4						
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P	**P**	**00 12 12.8**	**-0.1**
	comp=N,2.7nm,0.8s,baz=243,slow=3.8,SNR=14						
TORD				LR	LR	00 48 34.5	
	comp=N,15nm,18.4s,baz=245,slow=35						
H11S2	**WAKE ISLAND Hyl**	**26.00**	**271**	T	T	02 37 41.2	
	baz=117,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hyl**	**26.01**	**271**	T	T	02 37 41.4	
	baz=117,slow=75,SNR=9.5						
H11S3	**WAKE ISLAND Hyl**	**26.02**	**271**	T	T	02 37 42.7	
	baz=117,slow=75,SNR=9.8						
H11N3	**WAKE ISLAND Hyl**	**26.35**	**272**	T	T	02 38 09.0	
	baz=120,slow=74,SNR=5.1						
H11N1	**WAKE ISLAND Hyl**	**26.36**	**272**	T	T	02 38 06.1	
H11N2	**WAKE ISLAND Hyl**	**26.37**	**272**	T	T	02 38 03.4	
	baz=154,slow=74,SNR=12						
ZALV	**Zalesovo Beam**	**151.89**	**30**	PKPbc	**PKiKP**	**00 19 41.9**	**+0.5**
	comp=N,5.8nm,0.7s,baz=303,slow=3.5,SNR=22						

*IDC **07** 00:15:32.8±3.2, 15°.87S×167°.59E, h160km±32km, mb3.7/8, mb1 3.8/9, mb1mx3.6/28, mbtmp4.2/9, Error ellipse: s-maj=38.3km s-min=21.4km az=110.0*

*NEIC **07** 00:15:32.8±1.4, 15°.9S±0°.1×167°.7E±0°.2, h164km±8km, mb4.4/17, Error ellipse: s-maj=28.5km s-min=15.0km az=104.0*

ISC 07 00:15:36.5±0.8, 16°.09S±0°.07×167°.7E±0°.2, h200km, n34, σ0s98/39, mb4.1/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.07**	**191**	P	**Pn**	**00 17 04.1**	**-0.6**
	13nm,0.3s,baz=316,slow=16,SNR=87						
DZM				S	**Sn**	**00 18 12.9**	**-1.6**
	2.5nm,0.3s,baz=319,slow=21,SNR=2.1						
DZM	**Mont Dzumac**	**6.07**	**191**		**Pn**	**00 17 03.9**	**-0.7**
DZM				Sn	**Sn**	**00 18 12.5**	**-2.0**
EIDS	**Eidsvold**	**18.04**	**236**		**P**	**00 19 33.0**	**+0.2**
EIDS				IAmb	IAmb	00 19 48.5	
	comp=Z,16nm,1.2s						
ARMA	**Armidale**	**20.47**	**223**	P	**P**	**00 20 00.2**	**+1.2**
ARMA				IAmb	IAmb	00 20 19.2	
	comp=Z,20nm,1.3s						
STKA	**Stephens Creek**	**28.43**	**232**	P	**P**	**00 21 13.9**	**+1.2**
	comp=Z,1.9nm,0.5s,baz=83,slow=5.7,SNR=5.5						
STKA				PcP	**PcP**	**00 24 21.2**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=45,slow=2.9,SNR=5.0						
STKA	**Stephens Creek**	**28.43**	**232**	P	**P**	**00 21 15.2**	**+2.5**
WB0	**Warramunga Arr**	**31.84**	**258**	P	**P**	**00 21 42.2**	**-0.6**
WB0				IAmb	IAmb	00 21 44.6	
	comp=Z,5.6nm,1.1s						
WRA	**Warramunga Arr**	**31.89**	**258**	P	**P**	**00 21 42.2**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=88,slow=8.9,SNR=6.1						
WRA	**Warramunga Arr**	**31.89**	**258**	P	**P**	**00 21 42.9**	**-0.4**
AS31	**Alice Springs**	**32.57**	**251**	P	**P**	**00 21 49.6**	**+0.4**
ASAR	**Alice Springs**	**32.57**	**251**	P	**P**	**00 21 49.6**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=78,slow=8.9,SNR=39						
ASAR				PcP	**PcP**	**00 24 31.8**	**+0.9**
	comp=Z,0.9nm,1.0s,baz=77,slow=2.9,SNR=5.4						
ASAR	**Alice Springs**	**32.57**	**251**	P	**P**	**00 21 49.4**	**+0.1**
BBOO	**Buckleboo**	**33.07**	**234**	P	**P**	**00 21 54.5**	**+1.1**
BBOO				IAmb	IAmb	00 21 57.6	
	comp=Z,22nm,1.5s						
FAKI	**Fak Fak**	**37.21**	**287**	P	**P**	**00 22 28.7**	**-0.3**
KNRA	**Kununurra**	**37.38**	**265**	P	**P**	**00 22 30.4**	**0.0**
KNRA				IAmb	IAmb	00 22 37.7	
	comp=Z,14nm,1.0s						
FITZ	**Fitzroy Crossi**	**40.16**	**261**	P	**P**	**00 22 54.4**	**+1.0**
FITZ				IAmb	IAmb	00 22 55.2	
	comp=Z,4.8nm,0.7s						
MJAR	**Matsushiro Arr**	**59.28**	**333**	P	**P**	**00 25 15.5**	**-1.7**
	comp=Z,2.1nm,0.7s,baz=217,slow=1.8,SNR=5.0						
MJAR	**Matsushiro Arr**	**59.28**	**333**	P	**P**	**00 25 15.5**	**-1.7**
JNU	**Nakatsue**	**60.24**	**325**	P	**P**	**00 25 22.7**	**-1.1**
KSRS	**Korea Array**	**65.07**	**326**	P	**P**	**00 25 55.0**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=140,slow=7.8,SNR=2.4						
USA0B	**Ussuriysk Arra**	**68.26**	**333**	P	**P**	**00 26 15.4**	**-0.2**
USA0B				IAmb	IAmb	00 26 17.4	
	comp=Z,6.8nm,1.0s						
USRK	**Ussuriysk Ar.**	**68.26**	**333**	P	**P**	**00 26 15.3**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=160,slow=7.7,SNR=7.3						
USRK	**Ussuriysk Ar.**	**68.26**	**333**	P	**P**	**00 26 15.2**	**-0.4**
PETK	**Petropavlovsk-**	**69.44**	**354**	P	**P**	**00 26 22.3**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=112,slow=11,SNR=3.7						
QSPA	**South Pole Qui**	**73.95**	**180**	P	**P**	**00 26 51.0**	**+1.3**
ULN	**Ulaanbaatar**	**83.45**	**324**	P	**P**	**00 27 41.5**	**-0.2**
ULN				IAmb	IAmb	00 27 42.6	
	comp=Z,5.7nm,0.8s						
SONM	**Songino Array**	**83.81**	**324**	P	**P**	**00 27 42.8**	**-0.7**
	comp=Z,2.2nm,0.9s,baz=138,slow=5.2,SNR=10						
SONM	**Songino Array**	**83.81**	**324**	P	**P**	**00 27 43.1**	**-0.3**
WHY	**Whitehorse**	**89.14**	**25**	P	**P**	**00 28 09.3**	**+0.3**
SNAA	**Sanae**	**92.22**	**183**	P	**P**	**00 28 23.6**	**+0.3**
VNA3	**Neumayer Olymp**	**92.87**	**181**	P	**P**	**00 28 26.6**	**+0.4**
FUORN	**Ofenpass-Fuorn**	**144.22**	**333**		**PKPdf**	**00 34 48.2**	**-0.7**
TUE	**Stuetta**	**144.73**	**334**		**PKPdf**	**00 34 49.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**166.11**	**260**	PKP	**PKPdf**	**00 35 18.1**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=152,slow=1.5,SNR=2.3						
TORD				PKPab	**PKPab**	**00 36 20.5**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=73,slow=5.0,SNR=2.1						

*CRAAG **07** 00:33:29.9, 36°.85N×3°.20E, Ml2.3*

MDD 07 00:33:31.6±1.1, 36°.89N×3°.19E, h0km, mb3.5/1, Error ellipse: s-maj=13.8km s-min=6.2km az=3.0, PRXIMO SIN SOLUCIN, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.15**	**234**	P	Pg	00 33 33.8	-0.7
ABA	**Alger-Bouzarea**	**0.15**	**234**	P	Pg	00 33 33.8	-0.7
ABMS	**Boumerdes**	**0.27**	**121**	P	Pg	00 33 35.8	-1.0
ABMS	**Boumerdes**	**0.27**	**121**	P	Pg	00 33 35.8	-1.0
ADJB	**Djebel Djouab**	**0.76**	**164**	P	Pb	00 33 47.9	+0.2
ADJB	**Djebel Djouab**	**0.76**	**164**	P	Pb	00 33 47.9	+0.2
EIBI	**Ibiza**	**2.58**	**326**	P	Pn	00 34 15.7	+1.0
	0.4nm,0.0s,SNR=4.0						

*IDC **07** 01:01:53.8±1.7, 5°.87S×142°.57E, h53km±18km, mb3.7/7, mb1 3.9/10, mb1mx3.7/33, mbtmp4.0/10, ML2.7/2, MS3.3/5, Ms1 3.3/5, ms1mx2.9/35, Error ellipse: s-maj=22.3km s-min=10.9km az=61.0*

ISC 07 01:01:51.5±0.7, 6°.14S±0°.06×142°.23E±0°.08, h35km, n13, σ2s52/16, mb4.0/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.90**	**337**	P	**Pn**	**01 02 49.9**	**+0.9**
	5.2nm,0.3s,baz=165,slow=8.1,SNR=14						
JAY				S	**Sn**	**01 03 34.9**	**+1.2**
	2.4nm,0.3s,baz=351,slow=14,SNR=3.8						
JAY				LR	LR	01 04 10.5	
	comp=Z,152nm,18.0s,baz=194,slow=36						
PMG	**Port Moresby**	**5.87**	**124**	P	**Pn**	**01 03 16.5**	**+0.4**
	2.8nm,0.3s,baz=283,slow=18,SNR=2.0						
PMG				S	**Sn**	**01 04 21.5**	**-0.6**
	6.7nm,0.3s,baz=330,slow=23,SNR=9.4						
KRVT	**Keravat (AS076**	**9.93**	**80**	LR	LR	01 07 59.1	
	comp=Z,140nm,20.5s,baz=278,slow=38						
WRA	**Warramunga Arr**	**15.72**	**208**	P	**P**	**01 05 32.2**	**-1.8**
	1.7nm,0.3s,baz=28,slow=14,SNR=41						
WRA				S	**Sn**	**01 08 19.9**	**-3.8**
	0.4nm,0.3s,baz=22,slow=24,SNR=4.1						
WRA				LR	LR	01 12 33.2	
	comp=Z,173nm,19.4s,baz=65,slow=40						
ASAR	**Alice Springs**	**19.18**	**204**	P	**Pn**	**01 06 17.6**	**+4.2**
	1.2nm,0.3s,baz=31,slow=11,SNR=56						
ASAR				S	**S**	**01 09 46.5**	**-1.5**
	0.3nm,0.3s,baz=21,slow=27,SNR=5.7						
FITZ	**Fitzroy Crossi**	**20.08**	**232**	P	**Pn**	**01 06 26.8**	**+2.7**
	6.1nm,0.8s,baz=53,slow=13,SNR=9.7						
FITZ				S	**S**	**01 10 03.2**	**-2.9**
	3.0nm,0.9s,baz=125,slow=12,SNR=1.6						
FITZ				LR	LR	01 15 05.2	
	comp=Z,126nm,20.6s,baz=90,slow=39						
KAPI	**Kappang**	**22.40**	**272**	LR	LR	01 16 21.7	
	comp=Z,65nm,18.6s,baz=88,slow=38						
STKA	**Stephens Creek**	**25.62**	**181**	P	**P**	**01 07 22.0**	**+4.3**
	1.1nm,0.6s,baz=11,slow=19,SNR=1.2						
KSRS	**Korea Array**	**45.37**	**344**	P	**P**	**01 10 05.9**	**-0.6**
	0.6nm,0.3s,baz=146,slow=8.8,SNR=5.4						
USRK	**Ussuriysk Ar.**	**50.95**	**351**	P	**P**	**01 10 48.2**	**-1.2**
	2.3nm,0.8s,baz=107,slow=6.4,SNR=4.0						
PETK	**Petropavlovsk-**	**60.46**	**11**	P	**P**	**01 11 56.2**	**-1.4**
	1.6nm,0.9s,baz=177,slow=2.9,SNR=4.3						
MKAR	**Makanchi Array**	**74.63**	**322**	P	**P**	**01 13 27.4**	**+0.1**
	0.5nm,0.8s,baz=106,slow=9.2,SNR=4.1						
ILAR	**Eielson Array**	**87.50**	**24**	P	**P**	**01 14 33.1**	**-2.2**
	1.0nm,0.7s,baz=256,slow=4.9,SNR=8.1						

*UCR **07** 01:14:26.8±1.5, 11°.98N×87°.28W, h35km±9km, MD4.3, ML3.6*

*INET **07** 01:14:27.7, 12°.03N×87°.21W, h46km, ML3.8*

*SNET **07** 01:14:28.2±0.9, 12°.10N×87°.44W, h16km±4km, ML3.6*

*IDC **07** 01:14:28.2±1.6, 11°.99N×87°.02W, h82km±26km, mb3.4/2, mb1 3.7/5, mb1mx3.3/36, mbtmp3.6/5, MS2.7/2, Ms1 2.7/2, ms1mx2.4/23, Error ellipse: s-maj=64.9km s-min=14.4km az=43.0*

ISC 07 01:14:26.3±1.2, 11°.95N±0°.09×87°.22W±0°.08, h63km±15km, n43, σ1s51/53, 2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.45**	**336**	*e*P	**Pn**	**01 14 50.4**	**-0.2**
CNCH	**Conchagua**	**1.45**	**336**	*e*P	**Pn**	**01 14 50.4**	**-0.2**
LCND	**La Caada**	**1.50**	**334**	⇓*i*P	**Pn**	**01 14 50.8**	**-0.4**
LCND				IAML		01 15 11.5	
	comp=Z,2μm,0.3s						
LCND	**La Caada**	**1.50**	**334**	⇓*i*P	**Pn**	**01 14 50.8**	**-0.4**
LCND				*e*S	**Sn**	**01 15 08.7**	**-1.2**
LCND				IAML		01 15 11.5	
	comp=Z,2μm,0.3s						
JUCU	**Jucuarįn**	**1.64**	**322**	*e*P	**Pn**	**01 14 52.5**	**-0.6**
JUCU				*e*S	**Sn**	**01 15 11.5**	**-1.9**
JUCU	**Jucuarįn**	**1.64**	**322**	*e*P	**Pn**	**01 14 52.5**	**-0.6**
JUCU				*e*S	**Sn**	**01 15 11.5**	**-1.9**
BLLM	**Bellamira**	**1.79**	**326**	*e*P	**Pn**	**01 14 55.0**	**-0.1**
BLLM	**Bellamira**	**1.79**	**326**	*e*P	**Pn**	**01 14 55.0**	**-0.1**
LCY	**Lacayo**	**1.81**	**324**	*e*P	**Pn**	**01 14 55.9**	**+0.5**
LCY	**Lacayo**	**1.81**	**324**	*e*P	**Pn**	**01 14 55.9**	**+0.5**
ALJI	**Alcalda de J**	**1.91**	**316**	*e*S	**Sn**	**01 15 18.0**	**-1.5**
ALJI	**Alcalda de J**	**1.91**	**316**	*e*S	**Sn**	**01 15 17.9**	**-1.7**
ALJI				*e*S	**Sn**	**01 15 18.0**	**-1.5**
FAGO	**Alcalda de S**	**1.94**	**334**	*e*P	**Pn**	**01 14 57.0**	**-0.1**
FAGO				*e*S	**Sn**	**01 15 20.0**	**-0.5**
FAGO	**Alcalda de S**	**1.94**	**334**	*e*P	**Pn**	**01 14 57.0**	**-0.1**
FAGO				*e*S	**Sn**	**01 15 20.0**	**-0.5**
TECA	**Tecapa**	**1.98**	**321**	*e*P	**Pn**	**01 14 57.9**	**0.0**
TECA	**Tecapa**	**1.98**	**321**	*e*P	**Pn**	**01 14 57.9**	**0.0**
COEB	**Comit de Eme**	**2.01**	**320**	IAML		01 15 24.0	
	comp=Z,382nm,0.3s						
COEB	**Comit de Eme**	**2.01**	**320**	*e*S	**Sn**	**01 15 20.6**	**-1.5**
COEB				IAML		01 15 24.0	
	comp=Z,382nm,0.3s						
GBS3	**Finca Las Img**	**2.08**	**124**	*i* P	**Pn**	**01 14 60.0**	**+1.0**
TGUH	**Tegucigalpa,Un**	**2.10**	**358**	*i* P	**Pn**	**01 14 59.7**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.10**	**358**	*i* P	**Pn**	**01 14 59.7**	**+0.4**
GB1A	**Borinquen Arri**	**2.11**	**122**	*i* P	**Pn**	**01 15 00.3**	**+0.9**
BUEV	**Buena Vista**	**2.11**	**123**	*i* P	**Pn**	**01 15 01.8**	**+2.4**
BUAI	**Buenos Aires**	**2.13**	**120**	*i* P	**Pn**	**01 15 01.7**	**+2.1**
UESV	**Universidad de**	**2.27**	**318**	*e*S	**Sn**	**01 15 27.3**	**-1.3**
UESV	**Universidad de**	**2.27**	**318**	*e*S	**Sn**	**01 15 27.3**	**-1.3**
LIM1	**Limonal**	**2.29**	**123**	*i* P	**Pn**	**01 15 02.8**	**+0.9**
COEG	**Centro de Oper**	**2.32**	**316**	*e*P	**Pn**	**01 15 02.4**	**+0.1**
COEG				*e*S	**Sn**	**01 15 29.0**	**-0.9**
COEG	**Centro de Oper**	**2.32**	**316**	*e*P	**Pn**	**01 15 02.4**	**+0.1**
COEG				*e*S	**Sn**	**01 15 29.0**	**-0.9**
HORNC	**Hornillas**	**2.34**	**121**	*i* P	**Pn**	**01 15 04.1**	**+1.4**
COLC	**Colonia**	**2.35**	**123**	*i* P	**Pn**	**01 15 03.9**	**+1.2**
GUAI	**GUAI**	**2.36**	**135**	*i* P	**Pn**	**01 15 04.6**	**+1.8**
CUI	**Cuipilapa**	**2.39**	**122**	*i* P	**Pn**	**01 15 04.8**	**+1.6**
LFRS	**El Faro**	**2.45**	**313**	*e*P	**Pn**	**01 15 04.2**	**+0.1**
LFRS	**El Faro**	**2.45**	**313**	*e*P	**Pn**	**01 15 04.2**	**+0.1**
ACAL	**Aguas Claras**	**2.51**	**121**	*i* P	**Pn**	**01 15 05.8**	**+1.0**
ACAL				*i* S	**Sn**	**01 15 37.0**	**+2.7**
JTS	**Las Juntas de**	**2.77**	**126**	P	**Pn**	**01 15 10.0**	**+1.7**
	comp=Z,14nm,0.3s,baz=354,slow=8.5,SNR=21						
JTS				S	**Sn**	**01 15 40.4**	**-0.2**
	comp=Z,16nm,0.3s,baz=352,slow=16,SNR=5.7						
JTS				LR	LR	01 16 23.1	
	comp=Z,60nm,21.2s,baz=38,slow=44						
CASO	**Castillo**	**2.86**	**121**	*i* P	**Pn**	**01 15 12.1**	**+2.4**
TEIG	**Tepich**	**8.29**	**353**	P	**Pn**	**01 16 25.0**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=139,slow=13,SNR=3.1						
CMIG	**Matias Romero**	**9.01**	**305**	P	**Pn**	**01 16 36.9**	**+3.1**
	comp=Z,0.3nm,0.3s,baz=133,slow=19,SNR=1.5						
CMIG				S	**Sn**	**01 18 19.3**	**+5.4**
	comp=Z,0.2nm,0.3s,baz=54,slow=19,SNR=2.1						
TXAR	**Lajitas Array**	**23.11**	**321**	P	**P**	**01 19 28.5**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=138,slow=9.8,SNR=29						
PDAR	**Pinedale Array**	**36.32**	**332**	P	**P**	**01 21 24.9**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=122,slow=10,SNR=7.1						
PDAR				LR	LR	01 39 13.5	
	comp=Z,24nm,18.3s,baz=112,slow=41						
WRA	**Warramunga Arr**	**139.35**	**253**	PKP	**PKPdf**	**01 33 45.0**	**-2.4**
	comp=Z,0.4nm,0.6s,baz=90,slow=2.5,SNR=1.8						

*CRAAG **07** 01:27:13.6, 35°.68N×0°.50E, Ml2.6*

*MDD **07** 01:27:14.9±1.1, 35°.58N×0°.50E, h19km±9km, mb3.5/21, Error ellipse: s-maj=12.9km s-min=8.4km az=131.0, PRXIMO*

*CNRM **07** 01:27:15.6±0.9, 35°.48N×0°.26E, h158km±18km, Error ellipse: s-maj=13.6km s-min=4.6km az=97.0*

ISC 07 01:27:15.6±1.4, 35°.67N±0°.05×0°.56E±0°.05, h35km, n32, σ1s53/50, 1C-1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKGL	**Djebel Kef Gue**	**0.37**	**11**	P	**Pn**	**01 27 24.1**	**-0.5**
	53nm,0.1s,SNR=4.0						
OKGL				S	**Sn**	**01 27 30.7**	**0.0**
	197nm,0.1s,SNR=7.9						
EANR	**'Ain N'Sour**	**0.52**	**58**	P	**Pn**	**01 27 26.0**	**-0.7**
EANR	**'Ain N'Sour**	**0.52**	**58**	P	**Pn**	**01 27 26.0**	**-0.7**
EBNR	**Beni Rached**	**1.00**	**52**	P	**Pn**	**01 27 32.8**	**-0.5**
OTSS	**Djebel Tessala**	**1.17**	**251**	P	**Pn**	**01 27 38.9**	**+3.3**
OTSS	**Djebel Tessala**	**1.17**	**251**	P	**Pn**	**01 27 38.9**	**+3.3**
TAF	**Taforalt**	**2.58**	**252**	P	**Pn**	**01 27 54.4**	**-0.5**
TAF				S	**Sn**	**01 28 25.6**	**+0.6**
ENIJ	**Nijar**	**2.58**	**301**	P	**Pn**	**01 27 54.0**	**-1.0**
	1.1nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**01 28 21.7**	**-3.4**
	2.5nm,0.3s,SNR=4.0						
EMUR	**La Murta**	**2.60**	**327**	P	**Pn**	**01 27 54.6**	**-0.6**
	0.4nm,0.1s,SNR=6.0						
EMUR				S	**Sn**	**01 28 25.1**	**-0.6**
	0.4nm,0.1s,SNR=7.9						
TLOR	**Lorca, Murcia**	**2.68**	**318**	P	**Pn**	**01 27 56.6**	**+0.3**
	46nm,0.1s,SNR=7.9						
TLOR				S	**Sn**	**01 28 25.7**	**-1.9**
	SNR=7.9						
JBK	**JBK**	**2.89**	**243**	P	**Pn**	**01 28 00.3**	**+1.0**
JBK				S	**Sn**	**01 28 33.4**	**+0.5**
EALB	**Alboran**	**2.93**	**276**	P	**Pn**	**01 28 00.1**	**+0.3**
	3.9nm,0.3s,SNR=4.0						
EALB				S	**Sn**	**01 28 32.3**	**-1.4**
	SNR=4.0						
EBER	**Berja**	**3.04**	**295**	⇑P	**Pn**	**01 28 00.7**	**-0.8**
	1.7nm,0.1s,SNR=18						
EBER				S	**Sn**	**01 28 36.2**	**-0.5**
	0.5nm,0.0s,SNR=7.9						
EBEN2	**Beniarda presa**	**3.06**	**349**	P	**Pn**	**01 28 03.1**	**+1.6**
	1.1nm,0.1s,SNR=4.0						
EBEN2				S	**Sn**	**01 28 37.3**	**+0.4**
	2.6nm,0.2s,SNR=7.9						
AFON	**Font Roja**	**3.12**	**344**	P	**Pn**	**01 28 03.5**	**+1.2**
	0.1nm,0.1s,SNR=4.0						
EIBI	**Ibiza**	**3.41**	**10**	P	**Pn**	**01 28 08.3**	**+2.0**
	0.5nm,0.1s,SNR=4.0						
EIBI				S	**Sn**	**01 28 46.3**	**+0.9**
	0.4nm,0.0s,SNR=7.9						
ETOB	**Tobarra**	**3.41**	**331**	P	**Pn**	**01 28 07.4**	**+1.0**
	1.5nm,0.1s,SNR=19						
ETOB				S	**Sn**	**01 28 44.5**	**-1.1**
	0.1nm,0.4s,SNR=7.9						
GORA	**Gorafe**	**3.41**	**303**	P	**Pn**	**01 28 07.1**	**+0.7**
	2.8nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.49**	**315**	⇓P	**Pn**	**01 28 08.8**	**+1.3**
	11nm,0.1s,SNR=18						
SESP				S	**Sn**	**01 28 48.1**	**+0.4**
	1.8nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**3.49**	**315**	P	**Pn**	**01 28 09.5**	**+1.9**
SESP				S	**Sn**	**01 28 51.5**	**+3.9**
EQUE	**Quentar**

0.2nm,0.3s,baz=297,slow=12,SNR=22
ESDC LR LR 01 47 06.4
comp=Z,391nm,18.6s,baz=295,slow=33
ESDC Sonseca Array 18.39 104 P P 01 41 17.9 -1.7
ESBB Sonseca Array 18.39 104 Pn 01 41 20.6 +1.0
CLF Chambon-Foret 19.98 76 P P 01 41 36.4 -0.3
CLF IAmb IAmb 01 41 44.1
comp=Z,29nm,1.1s
SNF Seneffe 21.09 68 P P 01 41 49.5 +0.8
comp=Z,22nm,1.0s
SNF x x 01 42 03.1
SNF PnPn **PnPn 01 42 11.2 +3.4**
UCC Uccle 21.13 67 P P 01 41 49.7 +0.5
UCC Uccle 21.13 67 P P 01 41 49.1 -0.1
UCC IAmb IAmb 01 41 51.4
comp=Z,38nm,1.1s
DOU Dourbes 21.31 69 P P 01 41 51.3 +0.2
comp=Z,15nm,1.9s
BMRD Maredsous 21.41 69 P P 01 41 53.3 +1.1
BGES Gesves 21.61 69 ⇓P P 01 41 54.9 +0.5
comp=Z,27nm,2.0s
BGES PnPn **PnPn 01 42 16.1 +1.1**
BCLA Clavier 21.75 68 P P 01 41 57.2 +1.4
comp=Z,22nm,1.8s
BCLA PnPn **PnPn 01 42 17.8 +1.0**
BSTI Sart Tilman 21.91 68 P P 01 41 58.0 +0.5
BSTI PnPn **PnPn 01 42 21.3 +2.4**
SSB Saint Sauveur 22.07 82 P P 01 41 59.2 -0.2
MEM Membach 22.18 68 P P 01 42 00.9 +0.4
MEM PnPn **PnPn 01 42 18.4 -4.4**
BHOU Houvegnez 22.20 69 P P 01 42 02.0 +1.4
comp=Z,29nm,2.0s
MDT Midelt 22.24 121 P P 01 41 60.0 -1.4
comp=Z,2.2nm,0.9s,baz=330,slow=8.1,SNR=3.8
WLF Walferdange 22.35 70 P P 01 42 03.6 +1.3
WLF PnPn **PnPn 01 42 26.4 +1.3**
ECH Echery 23.20 74 P P 01 42 11.0 -0.3
ECH IAmb IAmb 01 42 19.1
comp=Z,23nm,1.3s
SFJD Kangerlussuaq 23.62 337 LR LR 01 49 22.3
comp=Z,284nm,20.3s,baz=142,slow=32
SENIN Lac Senin/Sane 23.67 78 P P 01 42 15.3 -0.7
SENIN IAmb IAmb 01 42 23.7
comp=Z,19nm,1.1s
TUE Stuetta 25.01 77 P P 01 42 27.2 -1.3
TUE IAmb IAmb 01 42 42.4
comp=Z,14nm,1.0s
DAVA Damuels 25.18 75 *i* pP **P 01 42 32.2 +2.3**
comp=Z,18nm,1.2s
HAL Halifax 25.30 278 P P 01 42 30.9 +0.2
RETA Reutte 25.72 74 *i* P **P 01 42 34.4 -0.3**
comp=Z,5.5nm,1.2s
FETA Feichten 25.80 75 *i* pP **P 01 42 38.1 +2.5**
comp=Z,11nm,1.2s
JMIC Jan Mayen 25.86 14 LR LR 01 50 01.5
comp=Z,47nm,20.1s,baz=234,slow=30
SCHQ Schefferville 25.93 303 P P 01 42 34.5 -2.0
comp=Z,3.4nm,0.7s,baz=89,slow=9.3,SNR=6.2
SCHQ LR LR 01 50 41.8
comp=Z,242nm,20.9s,baz=108,slow=32
SCHQ Schefferville 25.93 303 P P 01 42 35.1 -1.4
MOTA Moosalm 25.98 75 *i* pP **P 01 42 39.4 +2.2**
comp=Z,8.9nm,1.2s
SQTA Sankt Quirin 26.08 75 *i* pP **P 01 42 40.5 +2.5**
comp=Z,12nm,1.7s
NOA NORSAR Array B 26.29 43 P P 01 42 37.7 -2.0
comp=Z,1.0nm,1.0s,baz=32,slow=7.9,SNR=2.1
NOA LR LR 01 51 33.0
comp=Z,80nm,21.7s,baz=260,slow=33
WATA Walderalm 26.29 74 *i* P **P 01 42 42.4 +2.4**
comp=Z,11nm,1.7s
NKC Novy Kostel 26.32 68 AMS AMS 01 51 20.0
comp=Z,300nm,28.0s
SUMG Summit 26.35 352 P P 01 42 39.7 -0.8
SUMG IAmb IAmb 01 42 52.2
comp=Z,19nm,1.3s
WTTA Wattenberg 26.35 75 *i* pP **P 01 42 42.0 +1.4**
comp=Z,14nm,1.4s
CLL Collm 26.54 65 *i* (P) **P 01 42 46.6 +4.6**
comp=Z,14nm,1.6s
CLL *i* 01 42 50.0
CLL *i* 01 43 05.0
CLL Lm MLR 01 52 00.0
comp=Z,100nm,21.5s
CLL LmV 04 02 00.0
comp=Z,100nm,18.3s
CTI Castel Tesino 26.67 77 P P 01 42 43.3 0.0
CTI IAmb IAmb 01 42 46.8
comp=Z,27nm,1.9s
ABTA Abfaltersbach 27.06 75 *i* P **P 01 42 44.9 -1.9**
comp=Z,3.4nm,1.0s
BRG Berggiesshubel 27.18 66 *e*P **P 01 42 49.2 +1.5**
comp=Z,5.9nm,1.1s
BRG *e* 01 42 57.2
comp=Z,19nm,1.8s
comp=Z,260nm,22.3s
comp=N,130nm,17.1s
comp=E,180nm,17.1s
KHC Kasperske Hory 27.23 70 *e*P **P 01 42 49.3 +1.0**
KHC AMS AMS 01 52 30.0
comp=E,300nm,7.0s
GERES GERESS Array B 27.36 71 P P 01 42 48.0 -1.6
comp=E,0.7nm,0.8s,baz=267,slow=13,SNR=7.8
GERES LR LR 01 53 25.4
comp=E,308nm,18.2s,baz=268,slow=36
GERES GERESS Array B 27.36 71 P P 01 42 49.0 -0.5
KBA Koelnbreinsper 27.52 74 *i* pP **P 01 42 57.3 +6.2**
comp=E,4.9nm,1.1s
PRA Prague 27.61 68 AMS AMS 01 52 40.0
comp=E,100nm,18.2s
PVCC Panska Ves 27.62 67 AMS AMS 01 54 40.0
comp=E,200nm,13.9s
PRU Pruhonice 27.69 68 AMS AMS 01 53 00.0
comp=E,300nm,21.4s
MYKA Terra Mystica 27.84 75 *i* pP **P 01 42 56.4 +2.6**
comp=E,7.3nm,1.4s
GOPC GO Pecny, Ondr 27.86 68 AMS AMS 01 52 50.0
comp=E,300nm,18.0s
MOA Molln 27.94 72 *i* sP **P 01 42 57.8 +3.1**
comp=E,3.4nm,1.4s
FRB Frobisher Bay 28.28 322 LR LR 01 51 23.4
comp=E,135nm,18.2s,baz=156,slow=30
TREC Trest 28.42 69 AMS AMS 01 53 50.0
comp=E,400nm,16.2s
OBKA Obir 28.47 75 *i* P **P 01 42 58.4 -1.1**
comp=E,9.5nm,1.1s
UPC Upice 28.53 66 AMS AMS 01 55 40.0
comp=E,200nm,17.0s
CHVC Chvalec 28.55 66 AMS AMS 01 55 30.0
comp=E,200nm,14.6s
OSTC Ostas 28.65 66 AMS AMS 01 55 20.0
comp=E,200nm,15.4s
SOKA Soboth 28.75 75 *i* P **P 01 43 02.3 +0.4**
comp=E,3.2nm,1.4s
DPC Dobruska-Polom 28.76 67 AMS AMS 01 53 40.0
comp=E,200nm,18.0s
ARSA Arzberg 28.92 73 *i* pP **P 01 43 04.9 +1.5**
comp=E,5.2nm,0.9s
CONA Conrad Observa 28.97 72 *i* P **P 01 43 03.7 -0.2**
comp=E,3.5nm,1.4s
KRLC Kraliky 29.10 67 *e*P **P 01 43 04.8 -0.1**
KRLC AMS AMS 01 54 20.0
comp=E,200nm,21.2s
VRAC Vranov 29.13 69 LR LR 01 54 23.7
comp=E,354nm,18.9s,baz=270,slow=36
KEST Kesra 29.43 99 P P 01 43 07.5 -0.5
comp=E,7.3nm,0.9s,baz=252,slow=1.1,SNR=5.7
KEST LR LR 01 54 05.5
comp=E,371nm,18.7s,baz=296,slow=35
KEST Kesra 29.43 99 P P 01 43 08.4 +0.4
OKC Ostrava-Krasne 30.01 67 *e*P P 01 43 00.1 -13
FINES FINESS Array B 33.45 44 P P 01 43 41.5 -1.5
comp=E,2.8nm,1.0s,baz=289,slow=13,SNR=3.1
FINES LR LR 01 56 15.0
comp=E,86nm,20.3s,baz=258,slow=35
FINES FINESS Array B 33.45 44 P P 01 43 41.9 -1.2
ARCES ARCESS Array B 34.26 30 P P 01 43 50.2 +0.2
comp=E,2.1nm,0.9s,baz=297,slow=9.4,SNR=4.0
ARCES LR LR 01 55 35.6
comp=E,64nm,18.9s,baz=300,slow=33
BUR08 Bucovina Ar. S 35.09 69 P P 01 43 59.6 +2.1
BURAR Bucovina Array 35.11 69 P P 01 43 57.9 +0.1
AKASG Malin Array Be 36.69 63 P P 01 44 08.8 -2.2
comp=E,0.2nm,0.3s,baz=288,slow=8.3,SNR=5.1
AKASG LR LR 02 00 03.6
comp=E,136nm,18.3s,baz=285,slow=38
AKASG Malin Array Be 36.69 63 P P 01 44 11.0 0.0

TOA0 Torodi Ar. Sit 41.46 135 P P 01 44 51.9 +0.6
TORD Torodi Ar. Bea 41.46 135 P P 01 44 52.3 +1.0
comp=E,10nm,0.8s,baz=329,slow=8.1,SNR=48
TORD LR LR 02 00 54.5
comp=E,346nm,19.4s,baz=320,slow=34
TORD Torodi Ar. Bea 41.46 135 P P 01 44 50.8 -0.4
BRTR Keskin Array B 43.94 76 P P 01 45 10.4 -1.0
comp=E,1.2nm,0.9s,baz=284,slow=5.8,SNR=3.1
BRTR LR LR 02 03 29.0
comp=E,76nm,21.3s,baz=294,slow=36
BRTR Keskin Array B 43.94 76 P P 01 45 11.3 -0.1
ULM Lac du Bonnet 44.08 301 P P 01 45 11.7 -0.6
comp=E,3.2nm,0.5s,baz=62,slow=6.1,SNR=3.5
ULM LR LR 02 01 49.4
comp=E,118nm,18.1s,baz=72,slow=34
DBIC Dimbokro 44.41 147 LR LR 02 02 43.6
comp=E,110nm,18.2s,baz=323,slow=35
FFC Flin Flon 45.79 309 P P 01 45 26.2 +0.4
FFC IAmb IAmb 01 45 26.6
comp=Z,5.4nm,0.8s
PLAL Pickwick Lake 46.36 278 P P 01 45 30.7 +0.2
PLAL IAmb IAmb 01 45 38.2
comp=Z,6.7nm,1.1s
CCM Cathedral Cave 46.82 283 P P 01 45 34.1 0.0
CCM IAmb IAmb 01 45 46.4
comp=Z,4.9nm,0.9s
T42A Van Buren 47.27 282 IAmb IAmb 01 45 44.4
comp=Z,4.3nm,0.9s
Z47A Carrollton 47.37 276 P P 01 45 39.2 +0.8
KBZ Khabaz 47.98 67 LR LR 02 07 29.9
comp=Z,69nm,19.2s,baz=306,slow=38
YKA Yellowknife Ar 48.80 322 LR LR 02 03 35.4
comp=Z,68nm,18.4s,baz=0.0,slow=33
U40A Yellville 48.82 282 IAmb IAmb 01 45 57.1
comp=Z,5.1nm,0.9s
MIAR Mount Ida 50.33 281 IAmb IAmb 01 46 08.8
comp=Z,7.2nm,0.9s
EGMT Eagleton 53.18 304 IAmb IAmb 01 46 33.9
comp=Z,7.5nm,1.0s
WALA Waterton Lakes 54.96 307 IAmb IAmb 01 46 35.8
comp=Z,7.4nm,0.9s
YNE Yellowstone No 54.96 301 P P 01 46 36.0 +0.4
HRY Holter Researc 55.08 303 P P 01 46 36.0 -0.2
ABKAR Akbulak array 55.19 53 P P 01 46 37.2 +0.4
H10N2 ASCENSION HYDR 55.59 165 T T 02 46 34.1
baz=350,slow=76
H10N3 ASCENSION HYDR 55.60 165 T T 02 46 34.3
baz=350,slow=76
H10N1 ASCENSION HYDR 55.61 165 T T 02 46 38.5
baz=350,slow=76
PDAR Pinedale Array 55.95 298 P P 01 46 41.4 -1.4
comp=Z,1.2nm,0.8s,baz=68,slow=8.2,SNR=9.2
PDAR LR LR 02 08 34.3
comp=Z,111nm,20.6s,baz=65,slow=34
PDAR Pinedale Array 55.95 298 P P 01 46 42.0 -0.7
DLMT Dillon 56.28 302 IAmb IAmb 01 46 48.3
comp=Z,6.8nm,1.2s
DLBC Dease Lake 57.41 322 P P 01 46 53.4 +0.8
DLBC IAmb IAmb 01 46 53.5
comp=Z,8.8nm,1.3s
ROSC El Rosal 58.17 239 LR LR 02 08 11.8
comp=Z,79nm,21.9s,baz=68,slow=32
HLID Hailey 58.38 302 IAmb IAmb 01 47 12.3
comp=Z,8.6nm,1.6s
ILAR Eielson Array 59.24 334 P P 01 47 03.7 -1.5
comp=Z,0.3nm,0.5s,baz=35,slow=6.6,SNR=3.3
ILAR LR LR 02 10 29.0
comp=Z,52nm,20.1s,baz=97,slow=34
ILAR Eielson Array 59.24 334 P P 01 47 05.3 +0.1
BMO Blue Mountains 59.28 304 IAmb IAmb 01 47 15.0
comp=Z,6.1nm,1.4s
TXAR Lajitas Array 60.29 282 P P 01 47 13.4 +0.3
comp=Z,0.5nm,0.8s,baz=68,slow=6.7,SNR=6.7
TXAR LR LR 02 12 11.7
comp=Z,139nm,21.5s,baz=0.0,slow=35
TXAR Lajitas Array 60.29 282 P P 01 47 13.7 +0.5
ELK Elko 60.57 299 P P 01 47 15.6 +0.5
ELK IAmb IAmb 01 47 26.8
comp=Z,8.6nm,1.8s
GEYT Alibeck 60.76 65 P P 01 47 16.6 +0.5
comp=Z,0.7nm,0.5s,baz=292,slow=7.6,SNR=1.9
GEYT LR LR 02 15 03.8
comp=Z,36nm,20.9s,baz=175,slow=38
GEYT Alibeck 60.76 65 P P 01 47 16.7 +0.5
R11A Troy Canyon, C 62.27 297 IAmb IAmb 01 47 43.5
comp=Z,10.0nm,2.0s
KVN Kaiserville 63.35 299 IAmb IAmb 01 47 34.7
comp=Z,4.4nm,0.9s
KURK Kurchatov 63.80 43 P P 01 47 37.1 +0.9
KURK IAmb IAmb 01 47 46.3
comp=Z,3.1nm,0.9s
NVAR Mina Array Bea 63.87 299 LR LR 02 13 38.0
comp=Z,100nm,19.7s,baz=116,slow=34
ZALV Zalesovo Beam 64.31 37 LR LR 02 15 54.6
comp=Z,64nm,19.5s,baz=278,slow=36
KKAR Karatay Array 64.75 53 P P 01 47 43.2 +0.6
BDFB Brasilia 64.91 202 LR LR 02 12 44.5
comp=Z,88nm,19.4s,baz=251,slow=33
MK31 Makanchi Array 68.28 44 IAmb IAmb 01 48 11.3
comp=Z,4.3nm,1.2s
MKAR Makanchi Array 68.28 44 P P 01 48 04.9 -0.2
comp=Z,1.3nm,0.8s,baz=313,slow=6.2,SNR=9.2
MKAR Makanchi Array 68.28 44 P P 01 48 05.3 +0.2
KSH Kashi 70.20 53 *e*P P **01 48 19.6 +2.4**
KSH pmax pmax
comp=Z,7.0nm,0.7s
LPAZ La Paz 72.76 221 LR LR 02 16 04.8
comp=Z,34nm,21.7s,baz=7.5,slow=32
WMQ Urumqi 73.05 43 *e*P P **01 48 36.8 +2.5**
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,48nm,4.7s
WMQ LR LR
comp=N,700nm,29.1s
WMQ LR LR
comp=E,1μm,29.1s
WMQ LR LR
comp=Z,78nm,29.1s
SONM Songino Array 77.43 30 P P 01 48 59.1 -0.4
comp=Z,1.8nm,0.9s,baz=312,slow=4.8,SNR=5.2
SONM LR LR 02 25 18.4
comp=Z,33nm,18.2s,baz=92,slow=38
SONM Songino Array 77.43 30 P P 01 48 59.8 +0.3
GTA Gaotai 82.03 39 ⇑P P 01 49 24.9 +0.3
GTA pP pP 01 49 29.6 -0.5
GTA sP sP 01 49 31.9 0.0
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,71nm,5.1s
GTA LR LR
comp=N,110nm,18.1s
GTA LR LR
comp=E,130nm,18.7s
GTA LR LR
comp=Z,100nm,18.7s
HHC Hu-ho-hao-te 85.34 30 *e*P **P 01 49 43.2 +1.7**
LZH Lanzhou 86.54 38 *e*P P 01 49 52.9 +5.3
LZH pP pwP 01 49 57.6 +0.5
LZH sP sP 01 50 01.0 +6.0
LZH pmax pmax
comp=Z,13nm,1.0s
BOSA Boshof 88.81 136 LR LR 02 29 02.2
comp=Z,65nm,18.1s,baz=342,slow=35
NJ2 Nanjing 95.76 28 *e*P **P 01 50 30.1 -0.4**
NJ2 pmax pmax
comp=Z,11nm,0.5s
CMAR Chiang Mai Arr 99.01 51 LR LR 02 38 52.0
comp=Z,34nm,19.2s,baz=170,slow=38
WRA Warramunga Arr 149.27 35 PKPbc **PKPbc 01 56 51.9 -1.3**
comp=Z,1.4nm,0.9s,baz=330,slow=3.3,SNR=5.5
WRA Warramunga Arr 149.27 35 PKPdf **PKPdf 01 56 49.3 +0.4**
ASAR Alice Springs 152.40 40 PKPbc **PKPbc 01 56 59.7 -0.8**
comp=Z,1.0nm,0.8s,baz=3.9,slow=2.7,SNR=8.7
ASAR Alice Springs 152.40 40 PKPdf **PKPdf 01 56 54.3 +0.6**

*ISK **07** 02:03:40.6,34.17N×35.45E,h9km,ML2.9/8*
*GII **07** 02:03:41.4±0.0,34.12N×35.56E,h3km,MD2.2/5,Mm2.5/4*
*NIC **07** 02:03:42.7±0.0,34.18N×35.56E,h21km±3km,Ml2.3/4*
*DDA **07** 02:03:43.8,34.58N×35.60E,h11km±3km,ML2.4*
*GRAL **07** 02:03:43.0±0.2,34.15N×35.75E,h26km±1km,MD3.3*
ISC 07 02:03:39.7±1.2,34.17N±0.02×35.60E±0.03,h5km±10km,
n68,σ1.920/96,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.27**	**170**	*e*P	**Pn**	**02 03 49.0**	**-1.4**
BHL				*e*S	**Sb**	**02 03 53.6**	**+1.7**
BEYL	**Beirut**	**0.31**	**197**	*e*P	**Pn**	**02 03 50.3**	**-0.6**
HWQ	**Hawqa**	**0.31**	**69**	*e*P	**Pb**	**02 03 48.4**	**+0.6**
HWQ				*e*S	**Sb**	**02 03 52.4**	**-0.8**
DQRL	**Deir Qamar**	**0.46**	**183**	*e*P	**Pn**	**02 03 52.1**	**-1.0**
DQRL				*e*S	**Sb**	**02 03 58.8**	**+1.2**
QRWL	**Qaraoun**	**0.62**	**174**	*e*P	**Pn**	**02 03 54.1**	**-1.2**
RCY	**Rachaya**	**0.70**	**164**	*e*P	**Pn**	**02 03 55.0**	**-1.3**
RCY				*e*S	**Sb**	**02 04 03.9**	**-0.5**
SHBL	**Chebaa**	**0.83**	**172**	*e*P	**Pn**	**02 03 57.3**	**-0.9**
NATI	**Neve Ativ**	**0.91**	**173**	P	**Pn**	**02 03 58.6**	**-0.6**
NATI				S	**Sn**	**02 04 12.2**	**-0.4**
NATI	**Neve Ativ**	**0.91**	**173**	Pg	**Pn**	**02 03 58.7**	**-0.5**
NATI				Sg	**Sb**	**02 04 10.7**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.96**	**177**	P	**Pn**	**02 03 59.5**	**-0.3**
GEM				S	**Sn**	**02 04 12.9**	**-0.9**
GEM	**Giv'at Ha'Em**	**0.96**	**177**	Pg	**Pn**	**02 03 59.5**	**-0.3**
GEM				Sg	**Sn**	**02 04 12.6**	**-1.2**
HNTI	**Hanita**	**1.14**	**198**	P	**Pn**	**02 04 02.6**	**+0.3**
MMA0B	**Mount Meron ar**	**1.16**	**188**	Pg	**Pn**	**02 04 02.9**	**+0.2**
MMA0B				Sg	**Sn**	**02 04 18.6**	**-0.4**
SHMJ	**Saham**	**1.44**	**174**	P	**Pg**	**02 04 07.4**	**0.0**
SHMJ				S	**Sg**	**02 04 27.1**	**+1.0**
SHMJ	**Saham**	**1.44**	**174**	Pn	**Pg**	**02 04 07.2**	**-0.2**
SHMJ				Sn	**Sg**	**02 04 27.7**	**+1.6**
BLGI	**Bet Lehem HaGe**	**1.47**	**194**	P	**Pg**	**02 04 08.1**	**+0.2**
BLGI	**Bet Lehem HaGe**	**1.47**	**194**	Pn	**Pg**	**02 04 07.7**	**-0.2**
BLGI				Sn	**Sg**	**02 04 27.7**	**+0.7**
PARAL	**Paralimni**	**1.53**	**303**	S	**Sn**	**02 04 27.9**	**0.0**
OFRI	**`Ofer**	**1.63**	**199**	Pn	**Pb**	**02 04 09.4**	**0.8**
OFRI				Sn	**Sg**	**02 04 32.0**	**0.0**
MMLI	**Mount Malkishu**	**1.73**	**185**	PN	**Pb**	**02 04 11.5**	**-0.5**
MMLI				SN	**Sb**	**02 04 34.0**	**-0.1**
MMLI	**Mount Malkishu**	**1.73**	**185**	P	**Pb**	**02 04 11.7**	**-0.3**
MMLI	**Mount Malkishu**	**1.73**	**185**	Pn	**Pb**	**02 04 11.5**	**-0.5**
MMLI				Sn	**Sg**	**02 04 34.7**	**-0.7**
MMLI	**Mount Malkishu**	**1.73**	**185**	P	**Pb**	**02 04 11.4**	**-0.6**
MMLI				S	**Sg**	**02 04 34.5**	**-0.8**
MMLI				AML	AML	02 04 36.1	
	0.1nm,0.3s						
MMLI				AML	AML	02 04 36.1	
	0.1nm,0.3s						
MMLI				AML	AML	02 04 42.3	
	0.1nm,0.7s						
MMLI				AML	AML	02 04 42.3	
	0.1nm,0.7s						
QRNJ	**Al-Qirein**	**1.83**	**181**	P	**Pb**	**02 04 12.9**	**-0.7**
QRNJ	**Al-Qirein**	**1.83**	**181**	Pn	**Pb**	**02 04 13.1**	**-0.5**
MVOU	**Mavrovouni**	**1.83**	**298**	P	**Pn**	**02 04 11.7**	**-0.1**
MVOU				S	**Sn**	**02 04 35.9**	**+0.5**
MVOU				AML	AML	02 04 36.4	
	0.1nm,0.4s						
MVOU				AML	AML	02 04 36.4	
	0.1nm,0.4s						
MVOU				AML	AML	02 04 42.9	
	0.1nm,0.6s						
MVOU				AML	AML	02 04 42.9	
	0.1nm,0.6s						
YAYL	**Yayladag**	**1.91**	**12**	*i* P	**Pn**	**02 04 13.2**	**+0.2**
YAYL				*i* S	**Sn**	**02 04 33.6**	**-4.0**
YAYL				IAML		02 04 47.0	
	comp=E,35nm,0.3s						
YAYL				IAML		02 04 47.0	
	comp=N,45nm,0.3s						
HMDT	**Nahal Hemdat**	**1.91**	**182**	Pn	**Pb**	**02 04 13.9**	**-1.2**
HMDT				Sn	**Sb**	**02 04 39.2**	**0.0**
SLTI	**Sal'it**	**1.98**	**194**	Pn	**Pb**	**02 04 15.2**	**-1.0**
SLTI				Sn	**Sb**	**02 04 40.6**	**-0.6**
LFK	**Lefkose**	**2.03**	**304**	PN	**Pn**	**02 04 14.9**	**+0.2**
CSS	**Mathiatis**	**2.03**	**294**	PN	**Pn**	**02 04 14.2**	**-0.4**
CSS	**Mathiatis**	**2.03**	**294**	P	**Pn**	**02 04 15.0**	**+0.4**
ASGA	**Asgata**	**2.04**	**288**	P	**Pb**	**02 04 15.8**	**-1.4**
ASGA				S	**Sn**	**02 04 40.4**	**-0.1**
ASGA				AML	AML	02 04 41.8	
	comp=N,0.1nm,0.2s						
ASGA				AML	AML	02 04 41.8	
	comp=N,0.1nm,0.2s						
ASGA				AML	AML	02 04 42.8	
	comp=N,0.1nm,0.5s						
ASGA				AML	AML	02 04 42.8	
	comp=N,0.1nm,0.5s						
SZAC	**Souni**	**2.32**	**285**	P	**Pn**	**02 04 19.6**	**+1.0**
SZAC				AML	AML	02 04 47.7	
	comp=N,0.2nm,0.4s						
SZAC				AML	AML	02 04 47.7	
	comp=N,0.2nm,0.4s						
SZAC				S	**Sn**	**02 04 48.1**	**+0.5**
SZAC				AML	AML	02 04 53.4	
	comp=N,0.3nm,0.6s						
SZAC				AML	AML	02 04 53.4	
	comp=N,0.3nm,0.6s						
KRTS	**Karatas**	**2.41**	**356**	PN	**Pn**	**02 04 21.5**	**+1.7**
IKL	**Isikli**	**2.59**	**323**	PN	**Pn**	**02 04 22.6**	**+0.3**
KIZK	**Mersin**	**2.60**	**333**	PN	**Pn**	**02 04 22.9**	**+0.5**
DSI	**Dead Sea**	**2.60**	**184**	Pn	**Pn**	**02 04 23.5**	**+1.1**
AKKU	**Akkuyu-Mersin**	**2.60**	**320**	PN	**Pn**	**02 04 22.9**	**+0.5**
WALJ	**Wala**	**2.60**	**176**	P	**Pb**	**02 04 26.8**	**-0.1**
GULN	**MERSIN_Gulnar**	**2.62**	**321**	*i* P	**Pb**	**02 04 25.8**	**-1.4**
GULN				*i* S	**Sn**	**02 04 52.8**	**-2.1**
YURE	**YUREGIR**	**2.65**	**1**	PN	**Pn**	**02 04 24.9**	**+1.7**
YURE	**YUREGIR**	**2.65**	**1**	*i* P	**Pg**	**02 04 30.6**	**0.0**
AMAZ	**Amatzia**	**2.69**	**193**	P	**Pn**	**02 04 24.7**	**+1.0**
AMAZ				S	**Sn**	**02 04 58.4**	**+1.8**
AKMS	**Akamas**	**2.82**	**288**	P	**Pn**	**02 04 26.6**	**+1.1**
YTIR	**Yattir**	**2.83**	**188**	Pn	**Pn**	**02 04 26.8**	**+1.2**
MERS	**Mersin**	**2.83**	**342**	PN	**Pn**	**02 04 27.1**	**+1.4**
TEKE	**Tekeli-Mersin**	**2.83**	**315**	PN	**Pn**	**02 04 26.3**	**+0.7**
DED	**Mersin**	**2.86**	**347**	*i* P	**Pn**	**02 04 27.8**	**+1.7**
DED				*i* S	**Sn**	**02 04 57.9**	**-3.1**
KUZU	**Kuzuini**	**2.87**	**24**	*i* P	**Pn**	**02 04 26.3**	**+0.2**
KUZU				*i* S	**Sb**	**02 05 06.8**	**0.0**
KUZU				IAML		02 05 15.0	
	comp=N,44nm,0.4s						
KUZU				IAML		02 05 19.0	
	comp=E,56nm,0.4s						
TEVE	**Tevekalti-Mers**	**2.87**	**323**	PN	**Pn**	**02 04 26.8**	**+0.6**
OSC2	**CSNet OBS 4**	**2.99**	**250**	S	**Sn**	**02 05 04.6**	**+0.7**
KARA	**Karaisali**	**3.12**	**352**	PN	**Pn**	**02 04 31.0**	**+1.4**
KAMA	**Osmaniye**	**3.13**	**16**	*i* P	**Pn**	**02 04 29.9**	**0.0**
GULE	**Gulek**	**3.18**	**348**	*i* P	Pn	02 04 20.2	-10
GAZ	**Gaziantep**	**3.27**	**23**	PN	**Pn**	**02 04 34.5**	**+2.7**
KOZT	**Kozan**	**3.31**	**3**	PN	**Pn**	**02 04 34.2**	**+2.0**
GAZI	**Gazipasa**	**3.39**	**308**	PN	**Pn**	**02 04 33.9**	**+0.6**
KZIT	**Kziot**	**3.41**	**198**	PN	**Pn**	**02 04 35.1**	**+1.6**
KERG	**Konya-Eregli**	**3.45**	**340**	*i* P	**Pn**	**02 04 36.1**	**+1.7**
KERG				*i* S	**Sn**	**02 05 14.4**	**-1.2**
ANDN	**Andirin**	**3.46**	**10**	*i* P	**Pn**	**02 04 34.0**	**-0.3**
CMRD	**Camardi-Nigde**	**3.52**	**352**	PN	**Pn**	**02 04 36.4**	**+1.2**
GZT	**Gaziantep**	**3.56**	**26**	*i* P	**Pg**	**02 04 46.5**	**-1.5**
GZT				*i* S	**Sb**	**02 05 29.8**	**+2.9**
SURC	**SANLIURFA_SURC**	**3.66**	**41**	*i* P	**Pb**	**02 04 44.6**	**-0.3**
SURC				*i* S	**Sb**	**02 05 29.3**	**-0.2**
OSC1	**CSNet OBS 1**	**3.66**	**261**	S	**Sn**	**02 05 21.4**	**+0.9**
PRNI	**Paran**	**3.84**	**188**	P	**Pn**	**02 04 40.3**	**+0.8**
HRFI	**Mount Harif**	**4.15**	**187**	PN	**Pn**	**02 04 45.8**	**+2.1**
URFA	**Urfa**	**4.19**	**38**	PN	**Pn**	**02 04 47.6**	**+3.3**

IDC 07 02:32:15.5±2.8,57.26S×25.17W,h0km,mb4.0/2,
mb1 4.1/2,mb1mx3.7/16,mbtmp4.0/2,MS3.2/1,Ms1 3.2/1,
ms1mx2.6/16,Error ellipse: s-maj=98.5km
s-min=47.2km az=169.0,South Sandwich Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**33.31**	**280**	LR	LR	02 51 27.1	
	comp=Z,38nm,19.7s,baz=126,slow=35						
CPUP	**Villa Florida**	**38.44**	**310**	P	P	02 39 38.7	-0.1
	1.9nm,0.8s,baz=166,slow=6.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**73.59**	**27**	P	P	02 43 50.3	0.0
	0.6nm,0.4s,baz=201,slow=6.4,SNR=18						
ILAR	**Eielson Array**	**151.75**	**310**	PKPbc	PKPbc	02 52 10.3	-0.1
	1.3nm,0.8s,baz=112,slow=1.5,SNR=13						
ILAR				PKPab	PKPab	02 52 18.9	-0.6
	2.2nm,0.7s,baz=126,slow=2.1,SNR=15						

IDC 07 03:23:11.7±3.8,5.42S×11.14W,h0km,mb4.0/6,

mb1 4.0/6, mb1mx3.7/37, mbtmp4.0/6, Error ellipse: s-maj=102.8km s-min=27.2km az=76.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**4.10**	**234**	T	T	03 27 45.7	
	baz=50						
H10N1	**ASCENSION HYDR**	**4.10**	**234**	T	T	03 27 57.4	
	baz=50,slow=74						
H10N3	**ASCENSION HYDR**	**4.12**	**234**	T	T	03 27 57.8	
	baz=50,slow=74						
H10S2	**ASCENSION HYDR**	**4.95**	**224**	T	T	03 28 58.1	
	SNR=76						
H10S3	**ASCENSION HYDR**	**4.95**	**225**	T	T	03 28 58.1	
TORD	**Torodi Ar. Bea**	**22.42**	**35**	P	P	03 28 11.8	-0.5
	3.5nm,1.0s,baz=216,slow=10,SNR=15						
SUR	**Sutherland**	**40.11**	**136**	P	P	03 30 49.3	-0.3
	6.3nm,0.9s,baz=293,slow=8.5,SNR=2.6						
MATP	**Matopo**	**41.27**	**115**	P	P	03 30 59.2	0.0
	4.4nm,1.1s,baz=266,slow=5.6,SNR=5.4						
GERES	**GERESS Array B**	**58.24**	**19**	P	P	03 33 08.4	+0.4
	0.9nm,0.9s,baz=193,slow=5.5,SNR=7.0						
BRTR	**Keskin Array B**	**60.97**	**38**	P	P	03 33 28.2	+1.1
	0.9nm,0.8s,baz=227,slow=8.2,SNR=4.0						
AKASG	**Malin Array Be**	**65.80**	**27**	P	P	03 33 57.7	-1.0
	0.8nm,0.5s,baz=227,slow=7.5,SNR=6.0						

*INET **07** 03:24:43.6, 11°.43N×86°.30W, h56km, ML2.9*

UCR 07 03:24:43.4±1.5, 11°.46N×86°.30W, h65km±10km, MD4.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASN	**Masaya**	**0.55**	**15**	*i* P		Pn	03 24 55.6	-0.7
MASN				*e*S		Sn	03 25 07.6	+1.8
GB1A	**Borinquen Arri**	**1.09**	**126**	*i* P		Pn	03 25 02.5	-0.4
GB1A				*i* S		Sn	03 25 17.9	+0.6
LAPC	**Finca la Perla**	**1.09**	**129**	*i* P		Pn	03 25 01.7	-1.1
LAPC				*i* S		Sn	03 25 18.4	+1.1
BUEV	**Buena Vista**	**1.09**	**127**	*e*P		Pn	03 25 02.4	-0.5
BUEV				*i* P			03 25 02.5	
BUAI	**Buenos Aires**	**1.11**	**121**	*i* P		Pn	03 25 03.2	0.0
GPS1	**Guardaparques**	**1.15**	**126**	*i* P		Pn	03 25 03.4	-0.4
GPS3	**Bodega del ICE**	**1.15**	**127**	*i* P		Pn	03 25 03.2	-0.5
GPS3				*i* S		Sn	03 25 19.4	+0.6
ACON	**Acoyapa**	**1.22**	**65**	*e*P		Pn	03 25 04.0	-0.4
ACON				*e*S		Sn	03 25 20.1	0.0
GUAB	**Guayabo de Bag**	**1.29**	**125**	*i* P		Pn	03 25 05.5	+0.1
GUAB				*i* S		Sn	03 25 23.2	+1.3
HORNC	**Hornillas**	**1.33**	**124**	*i* P		Pn	03 25 06.2	+0.2
HORNC				*i* S		Sn	03 25 23.6	+0.7
COLC	**Colonia**	**1.33**	**126**	*i* P		Pn	03 25 06.2	+0.2
COLC				*i* S		Sn	03 25 24.2	+1.2
CUI	**Cuipilapa**	**1.37**	**125**	*e*P		Pn	03 25 06.7	+0.2
CUI				*e*S		Sn	03 25 25.0	+1.2
CRIN	**San Cristobal**	**1.44**	**329**	*e*P		Pn	03 25 07.2	-0.3
PLVR	**Palo Verde**	**1.44**	**140**	*e*P		Pn	03 25 08.2	+0.6
PLVR				*e*S		Sn	03 25 25.4	-0.4
PTEN	**Parque Tenorio**	**1.48**	**120**	*i* P		Pn	03 25 08.4	+0.3
PTEN				*i* S		Sn	03 25 26.7	+0.1
ACAL	**Aguas Claras**	**1.49**	**123**	*i* P		Pn	03 25 08.5	+0.3
MATN	**Matagalpa**	**1.51**	**14**	*e*P		Pn	03 25 08.6	+0.1
JTS	**Las Juntas de**	**1.76**	**131**	*e*P		Pn	03 25 11.5	-0.2
CEDE	**Laguna Cedeo**	**1.84**	**121**	*i* S		Sn	03 25 36.8	+1.6
ARE1	**Arenal 1**	**1.84**	**122**	*e*P		Pn	03 25 13.8	+0.9
CASO	**Castillo**	**1.84**	**123**	*i* P		Pn	03 25 14.4	+1.5
CASO				*i* S		Sn	03 25 36.5	+1.3
FORC	**Fortuna**	**1.88**	**121**	*i* P		Pn	03 25 15.1	+1.8
FORC				*i* S		Sn	03 25 37.5	+1.4
ESPN	**Las Esperanzas**	**2.09**	**69**	*e*P		Pn	03 25 16.4	+0.3
LCR2	**La Lucha 2**	**2.83**	**127**	*e*P		Pn	03 25 26.9	+0.5

*NEIC **07** 03:26:10.7±0.9, 5°.54S±0°.09×11°.38W±0°.10, h10km±1km, mb4.6/35, Error ellipse: s-maj=22.1km s-min=5.3km az=133.0*

*IDC **07** 03:26:10.4±0.8, 5°.51S×11°.28W, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.2/44, mbtmp4.3/16, ML3.3/1, MS4.0/22, Ms1 3.9/22, ms1mx3.9/24, Error ellipse: s-maj=22.8km s-min=17.4km az=94.0*

*GCMT **07** 03:26:12.7±0.3, 5°.54S±0°.03×11°.51W±0°.02, h12km±1km, MW4.9/99, Moment Tensor Solution. s25,c26; s99,c138; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.39±.18; $M_{\theta\theta}$=0.16±.09; $M_{\phi\phi}$=2.23±.12; $M_{r\theta}$=-0.44±.39; $M_{\theta\phi}$=-0.33±.06; $M_{r\phi}$=0.43±.26; Best double couple: M_o=2.41400×10^{16} NP1:φs=359.00000°, δ40.00000°, λ-78.00000°. NP2: φs=163.00000°, δ52.00000°, λ-100.00000°. Principal axes: T 2.3350, Plg6.0000°, Azm260.0000°; N 0.1580, Plg8.0000°, Azm169.0000°; P -2.4930, Plg80.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 03:26:11.5±0.4, 5°.53S±0°.09×11°.38W±0°.09, h13km, n123, σ0.991/99, mb4.5/37, MS4.0/22, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASCN	**Ascension**	**3.80**	**231**	Pn	**Pn**	**03 27 09.2**	**-0.6**
H10N2	**ASCENSION HYDR**	**3.84**	**233**	T	T	03 30 56.1	
	baz=52,SNR=3200						
H10N1	**ASCENSION HYDR**	**3.84**	**233**	T	T	03 30 56.5	
	baz=52,SNR=3174						
H10N3	**ASCENSION HYDR**	**3.86**	**233**	T	T	03 30 57.4	
	baz=52,SNR=3116						
H10S2	**ASCENSION HYDR**	**4.70**	**223**	T	T	03 32 00.6	
	baz=176,slow=74,SNR=101						
H10S3	**ASCENSION HYDR**	**4.71**	**224**	T	T	03 32 01.2	
	baz=44,slow=74,SNR=138						
LIC	**Lamto**	**13.29**	**29**	*e*P	**Pn**	**03 29 21.3**	**+1.3**
	56nm,1.2s						
KIC	**Kosan Boka**	**13.54**	**29**	*e*P	**Pn**	**03 29 24.7**	**+1.2**
	100nm,1.6s						
TIC	**Toumodi**	**13.66**	**28**	*e*P	**Pn**	**03 29 24.8**	**-0.3**
DBIC	**Dimbokro**	**13.76**	**28**	Pn	**Pn**	**03 29 26.3**	**-0.1**
	0.2nm,0.3s,baz=189,slow=14,SNR=5.1						
DBIC				LR	LR	03 33 31.7	
	comp=Z,632nm,21.4s,baz=174,slow=32						
DBIC	**Dimbokro**	**13.76**	**28**		**Pn**	**03 29 26.1**	**-0.3**
TOA0	**Torodi Ar. Sit**	**22.65**	**35**	P	**P**	**03 31 12.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**22.65**	**35**	P	**P**	**03 31 11.5**	**-1.1**
	19nm,1.1s,baz=218,slow=7.7,SNR=30						
TORD				LR	LR	03 39 01.6	
	comp=Z,602nm,19.4s,baz=220,slow=34						
TORD	**Torodi Ar. Bea**	**22.65**	**35**	P	**P**	**03 31 11.5**	**-1.1**
RCBR	**Riachuelo**	**24.40**	**268**	LR	LR	03 38 28.1	
	comp=Z,543nm,20.8s,baz=96,slow=30						
GDU01	**Guandu, BA**	**28.94**	**252**	*e*P	**P**	**03 32 09.6**	**-1.2**
TSUM	**Tsumeb**	**31.31**	**118**	LR	LR	03 42 50.4	
	comp=Z,573nm,20.0s,baz=282,slow=32						
TAM	**Tamanrasset**	**32.64**	**30**	P	**P**	**03 32 42.8**	**-0.7**
SDBA	**SAO DESIDERIO**	**33.78**	**256**	*e*P	**P**	**03 32 52.0**	**-1.6**
PEXB	**Peixe**	**37.03**	**257**	*e*P	**P**	**03 33 20.9**	**-0.6**
BDFB	**Brasilia**	**37.33**	**251**	LR	LR	03 45 43.7	
	comp=Z,326nm,20.3s,baz=105,slow=31						
PRPB	**Parauapebas**	**38.24**	**267**	*e*P	**P**	**03 33 31.1**	**-0.6**
BB19B	**Bebedouro**	**39.17**	**243**	*e*P	**P**	**03 33 39.6**	**+0.1**
LSZ	**Lusaka**	**40.04**	**107**	P	**P**	**03 33 46.9**	**0.0**
LBTB	**Lobatse**	**40.38**	**123**	P	**P**	**03 33 49.4**	**-0.3**
	8.1nm,1.1s,baz=254,slow=2.7,SNR=5.9						
LBTB	**Lobatse**	**40.38**	**123**	P	**P**	**03 33 49.3**	**-0.3**
ARAG	**Araguaiana, MT**	**40.93**	**252**	*e*P	**P**	**03 33 54.4**	**+0.3**
MATP	**Matopo**	**41.44**	**115**	P	**P**	**03 33 58.2**	**-0.2**
	11nm,1.1s,baz=296,slow=7.3,SNR=12						
BOSA	**Boshof**	**41.59**	**128**	P	**P**	**03 33 59.4**	**-0.1**
	6.3nm,1.0s,baz=318,slow=6.1,SNR=4.4						
BOSA				LR	LR	03 48 52.0	
	comp=Z,183nm,19.6s,baz=288,slow=33						
BOSA	**Boshof**	**41.59**	**128**	P	**P**	**03 33 59.8**	**+0.2**
BOSA				IAmb	IAmb	03 34 07.3	
	comp=Z,9.5nm,1.1s						
MALB	**Monte Alegre**	**42.94**	**273**	*e*P	**P**	**03 34 11.6**	**+1.0**
PTGB	**Pitanga**	**43.42**	**240**	*e*P	**P**	**03 34 14.8**	**+0.3**
CLDB	**Colider**	**44.25**	**260**	*e*P	**P**	**03 34 20.9**	**-0.3**
KEST	**Kesra**	**45.43**	**24**	LR	LR	03 53 52.0	
	comp=Z,360nm,20.2s,baz=182,slow=37						
ESDC	**Sonseca Array**	**45.50**	**8**	P	**P**	**03 34 31.1**	**+0.4**
	comp=Z,1.3nm,1.1s,baz=188,slow=7.1,SNR=6.8						
ESDC	**Sonseca Array**	**45.50**	**8**	P	**P**	**03 34 30.3**	**-0.4**
PTLB	**Pontes e Lacer**	**47.88**	**254**	*e*P	**P**	**03 34 50.8**	**+1.1**
CPUP	**Villa Florida**	**48.45**	**240**	LR	LR	03 51 56.7	
	comp=Z,120nm,21.7s,baz=70,slow=32						
CPUP	**Villa Florida**	**48.45**	**240**	*e*P	**P**	**03 34 54.0**	**0.0**
VILB	**Vilhena**	**48.68**	**258**	*e*P	**P**	**03 34 56.6**	**+0.6**
KMBO	**Kilima Mbogo**	**48.73**	**87**	LR	LR	03 54 20.2	
	comp=Z,713nm,18.2s,baz=272,slow=35						
PTGA	**Pitinga**	**48.73**	**274**	*e*P	**P**	**03 34 56.7**	**+0.3**
MACA	**Manacapuru-AM**	**49.21**	**271**	*e*P	**P**	**03 35 00.6**	**+0.6**
SIV	**San Ignacio**	**49.80**	**254**	P	**P**	**03 35 06.2**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=90,slow=11,SNR=4.2						
SIV				PcP	**PcP**	**03 36 25.8**	**+0.5**
	comp=Z,1.5nm,1.0s,baz=82,slow=5.9,SNR=3.0						
SAML	**Samuel**	**51.47**	**263**	P	**P**	**03 35 16.8**	**-0.4**
SAML	**Samuel**	**51.47**	**263**	*e*P	**P**	**03 35 18.2**	**+1.0**
H05N1	**Guadeloupe/Mah**	**53.72**	**295**	T	T	04 33 20.6	
	SNR=3.9						
ETMB	**Extrema**	**54.46**	**262**	*e*P	**P**	**03 35 38.8**	**-0.5**
DAVA	**Damuels**	**55.85**	**17**	*i* P	**P**	**03 35 49.1**	**+0.3**
	comp=Z,5.4nm,1.0s						
FETA	**Feichten**	**55.87**	**18**	*i* P	**P**	**03 35 49.0**	**0.0**
	comp=Z,5.5nm,1.0s						
ZOU	**Zoufplan**	**56.19**	**20**	P	**P**	**03 35 51.3**	**0.0**
ZOU				IAmb	IAmb	03 35 55.4	
	comp=Z,8.7nm,1.1s						
SQTA	**Sankt Quirin**	**56.19**	**18**	*i* P	**P**	**03 35 52.2**	**+0.9**
	comp=Z,10nm,1.1s						
ABTA	**Abfaltersbach**	**56.20**	**20**	*i* P	**P**	**03 35 53.0**	**+1.8**
	comp=Z,4.5nm,1.0s						
MOTA	**Moosalm**	**56.27**	**18**	*i* P	**P**	**03 35 52.3**	**+0.4**
	comp=Z,7.7nm,1.1s						
WTTA	**Wattenberg**	**56.37**	**19**	*i* P	**P**	**03 35 53.3**	**+0.7**
WATA	**Walderalm**	**56.41**	**19**	*i* P	**P**	**03 35 53.5**	**+0.7**
	comp=Z,6.4nm,1.0s						
LPAZ	**La Paz**	**56.58**	**254**	LR	LR	03 57 38.0	
	comp=Z,134nm,21.9s,baz=78,slow=33						
LPAZ	**La Paz**	**56.58**	**254**	*e*P	**P**	**03 35 56.2**	**+1.0**
DIVS	**Divibare**	**56.91**	**27**	P	**P**	**03 35 56.4**	**0.0**
DIVS				IAmb	IAmb	03 36 11.0	
	comp=Z,7.0nm,1.1s						
SOKA	**Soboth**	**57.02**	**21**	*i* P	**P**	**03 35 57.7**	**+0.6**
	comp=Z,3.8nm,1.0s						
ARSA	**Arzberg**	**57.68**	**21**	*i* P	**P**	**03 36 03.4**	**+1.7**
	comp=Z,2.9nm,0.7s						
MOA	**Molln**	**57.75**	**20**	*i* P	**P**	**03 36 02.5**	**+0.3**
	comp=Z,2.9nm,1.0s						
CONA	**Conrad Observa**	**58.38**	**21**	*i* P	**P**	**03 36 08.2**	**+1.5**
	comp=Z,6.3nm,1.2s						
GEC2	**GERESS Array S**	**58.42**	**19**	P	**P**	**03 36 07.4**	**+0.4**
GEC2				IAmb	IAmb	03 36 08.8	
	comp=Z,8.5nm,1.1s						
GERES	**GERESS Array B**	**58.42**	**19**	P	**P**	**03 36 07.2**	**+0.2**
	comp=Z,3.9nm,1.0s,baz=191,slow=6.3,SNR=20						
GERES				LR	LR	04 01 33.5	
	comp=Z,116nm,18.6s,baz=230,slow=36						
GERES	**GERESS Array B**	**58.42**	**19**	P	**P**	**03 36 07.4**	**+0.4**
KHC	**Kasperske Hory**	**58.63**	**19**	*e*P	**P**	**03 36 09.3**	**+1.0**
KRUC	**Moravsky**	**59.52**	**21**	*e*P	**P**	**03 36 15.1**	**+0.6**
VRAC	**Vranov**	**59.80**	**21**	*e*P	**P**	**03 36 17.1**	**+0.7**
JAVC	**Velka Javorina**	**59.82**	**22**	*e*P	**P**	**03 36 18.7**	**+2.1**
PSZ	**Piszkesteto**	**59.91**	**24**	P	**P**	**03 36 17.6**	**+0.4**
VYHS	**Vyhne**	**59.95**	**23**	*e*P	**P**	**03 36 18.9**	**+1.4**
KRLC	**Kraliky**	**60.52**	**20**	*e*P	**P**	**03 36 22.2**	**+0.9**
MORC	**Moravsky Berou**	**60.53**	**21**	*e*P	**P**	**03 36 22.5**	**+1.0**
MORC	**Moravsky Berou**	**60.53**	**21**	P	**P**	**03 36 21.9**	**+0.4**
MORC				IAmb	IAmb	03 36 23.8	
	comp=Z,4.0nm,0.9s						
KECS	**Kecovo**	**60.59**	**24**	*e*P	**P**	**03 36 23.9**	**+2.0**
CHVC	**Chvalec**	**60.70**	**20**	*e*P	**P**	**03 36 23.2**	**+0.6**
OSTC	**Ostas**	**60.73**	**20**	*e*P	**P**	**03 36 24.1**	**+1.3**
MLR	**Muntele Rosu**	**60.74**	**29**	P	**P**	**03 36 22.7**	**-0.4**
BRTR	**Keskin Array B**	**61.20**	**38**	P	**P**	**03 36 28.4**	**+2.1**
	comp=Z,3.8nm,0.9s,baz=211,slow=6.9,SNR=14						
BRTR				PcP	**PcP**	**03 37 10.4**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=228,slow=3.7,SNR=3.7						
BRTR				LR	LR	04 04 05.1	
	comp=Z,60nm,20.8s,baz=186,slow=37						
BRTR	**Keskin Array B**	**61.20**	**38**	P	**P**	**03 36 25.9**	**-0.4**
BRTR					**PcP**	**03 37 07.9**	**-1.1**
CRVS	**Cervenica-Dubn**	**61.32**	**24**	*e*P	**P**	**03 36 27.9**	**+1.1**
KOLS	**Kolonicke sedl**	**61.68**	**25**	*e*P	**P**	**03 36 31.2**	**+2.0**
PLCA	**Paso Flores**	**63.26**	**227**	LR	LR	04 00 24.8	
	comp=Z,71nm,20.5s,baz=124,slow=32						
ROSC	**El Rosal**	**63.69**	**278**	LR	LR	04 02 51.9	
	comp=Z,188nm,20.2s,baz=134,slow=34						
AKASG	**Malin Array Be**	**66.00**	**27**	P	**P**	**03 36 57.8**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=226,slow=6.8,SNR=18						
AKASG				LR	LR	04 08 55.8	
	comp=Z,39nm,18.3s,baz=240,slow=39						
AKASG	**Malin Array Be**	**66.00**	**27**	P	**P**	**03 36 57.4**	**-0.3**
AKBB	**Malin Array Si**	**66.00**	**27**	P	**P**	**03 36 58.2**	**+0.6**
SNAA	**Sanae**	**66.28**	**177**	P	**P**	**03 37 00.9**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=1.1,slow=9.1,SNR=3.1						
SNAA	**Sanae**	**66.28**	**177**	P	**P**	**03 36 58.0**	**-1.2**
NOA	**NORSAR Array B**	**68.68**	**12**	LR	LR	04 10 11.7	
	comp=Z,26nm,19.1s,baz=210,slow=38						
KBZ	**Khabaz**	**69.18**	**39**	P	**P**	**03 37 18.6**	**+0.7**
	comp=Z,4.4nm,0.9s,baz=239,slow=4.3,SNR=6.1						
BATG	**Bathurst New B**	**71.23**	**324**	P	**P**	**03 37 31.0**	**+0.5**
FINES	**FINESS Array B**	**72.80**	**18**	P	**P**	**03 37 40.1**	**+0.6**
	comp=Z,3.5nm,1.0s,baz=264,slow=1.9,SNR=7.0						
FINES				LR	LR	04 09 36.8	
	comp=Z,77nm,21.8s,baz=224,slow=36						
FINES	**FINESS Array B**	**72.80**	**18**	P	**P**	**03 37 39.0**	**-0.5**
J59A	**Piesco**	**74.81**	**318**	IAmb	IAmb	03 37 54.6	
	comp=Z,7.3nm,1.1s						
SCHQ	**Schefferville**	**75.61**	**331**	LR	LR	04 04 42.3	
	comp=Z,31nm,20.9s,baz=326,slow=31						
L56A	**Greenwood**	**76.41**	**316**	P	**P**	**03 38 00.4**	**-0.6**
KLMR	**Klimovskoe**	**77.07**	**23**	*e*P	**P**	**03 38 02.3**	**-1.8**
KLMR				AMP		03 38 04.5	
	comp=Z,12nm,1.4s						
GEYT	**Alibeck**	**77.46**	**49**	P	**P**	**03 38 08.6**	**+1.6**
	comp=Z,2.2nm,0.4s,baz=300,slow=12,SNR=3.9						
GEYT	**Alibeck**	**77.46**	**49**	P	**P**	**03 38 06.3**	**-0.7**
BG3	**Lake Jocassee**	**78.23**	**307**	IAmb	IAmb	03 38 18.8	
	comp=Z,4.6nm,1.0s						
MAW	**Mawson**	**78.93**	**158**	LR	LR	04 04 35.6	
	comp=Z,55nm,21.9s,baz=246,slow=29						
ARCES	**ARCESS Array B**	**79.03**	**12**	LR	LR	04 16 08.7	
	comp=Z,48nm,18.1s,baz=204,slow=38						
T50A	**Nancy**	**80.25**	**309**	IAmb	IAmb	03 38 29.2	
	comp=Z,5.6nm,1.1s						
ABKAR	**Akbulak array**	**82.15**	**39**	P	**P**	**03 38 31.2**	**-0.9**
WVT	**Waverly**	**82.38**	**307**	P	**P**	**03 38 33.1**	**-0.5**
WVT				IAmb	IAmb	03 38 40.0	
	comp=Z,9.3nm,1.1s						
QSPA	**South Pole Qui**	**84.57**	**180**	P	**P**	**03 38 45.0**	**+0.6**
QSPA				IAmb	IAmb	03 38 53.7	
	comp=Z,7.1nm,1.1s						
LCAR	**Lake Charles**	**85.01**	**307**	IAmb	IAmb	03 38 53.6	
	comp=Z,2.0nm,0.9s						
CCM	**Cathedral Cave**	**85.44**	**309**	P	**P**	**03 38 48.8**	**-0.4**
CCM				IAmb	IAmb	03 38 55.2	
	comp=Z,6.9nm,1.1s						
U38A	**Gravette**	**87.64**	**307**	IAmb	IAmb	03 39 06.0	
	comp=Z,4.9nm,0.9s						
KKAR	**Karatay Array**	**87.84**	**47**	P	**P**	**03 39 01.0**	**+0.1**
ECSD	**EROS Data Cent**	**90.35**	**314**	IAmb	IAmb	03 39 17.0	
	comp=Z,2.8nm,1.0s						
TARG	**Taragay, Kyrgy**	**93.03**	**49**	P	**P**	**03 39 24.3**	**-1.4**
TXAR	**Lajitas Array**	**94.67**	**299**	P	**P**	**03 39 34.0**	**+1.0**
	comp=Z,0.4nm,1.0s,baz=111,slow=7.0,SNR=3.9						
TXAR	**Lajitas Array**	**94.67**	**299**	P	**P**	**03 39 32.7**	**-0.4**
MKAR	**Makanchi Array**	**96.51**	**44**	P	**P**	**03 39 40.8**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=267,slow=6.1,SNR=3.8						
MKAR				LR	LR	04 27 13.9	
	comp=Z,37nm,20.2s,baz=237,slow=38						
MKAR	**Makanchi Array**	**96.51**	**44**	P	**P**	**03 39 41.2**	**+0.2**
PDAR	**Pinedale Array**	**99.73**	**312**	LR	LR	04 20 52.8	
	comp=Z,58nm,18.4s,baz=113,slow=33						
PPT2	**Papeete2**	**132.76**	**240**	*e*SS	SS	04 05 32.5	-0.7
	comp=Z,63nm,26.0s						
PPT2				*e*LR	LR	04 27 35.0	
	comp=Z,71nm,22.5s						
ASAR	**Alice Springs**	**135.40**	**132**	PKP	**PKiKP**	**03 45 33.5**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=186,slow=1.3,SNR=4.1						
ASAR	**Alice Springs**	**135.40**	**132**		**PKPdf**	**03 45 32.0**	**-0.2**
EIDS	**Eidsvold**	**144.87**	**152**		**PKPdf**	**03 45 48.7**	**-0.5**

MAN 07 03:27:53.6, 5°.32N×126°.53E, h1km, MS4.1, Mindanao

JMA 07 03:32:51.4±0.2, 24°.98N×124°.61E, h80km±3km, M1.3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTJ	**Tarama**	**0.35**	**166**	P	Pn	03 33 04.1	+0.1
JTJ				S	Sn	03 33 13.7	+0.5
JISG	**Ishigakijimahi**	**0.48**	**215**	P	Pn	03 33 05.0	+0.1
JISG				S	Sn	03 33 14.9	0.0
JIRB	**Irabujima**	**0.53**	**106**	*e*S	Sn	03 33 15.1	-0.7
JMJ2	**Miyako jima3**	**0.69**	**110**	P	Pn	03 33 07.1	+0.1
JMJ2				*e*S	Sn	03 33 19.0	+0.4
JIJ	**Ishigaki jima**	**0.75**	**215**	P	Pn	03 33 07.7	+0.1
JIJ				S	Sn	03 33 19.4	-0.1
JKRS	**Kuro-shima**	**0.92**	**217**	P	Pn	03 33 09.3	-0.2
JKRS				*e*S	Sn	03 33 23.3	+0.3

TAP 07 03:33:01.9, 24°.75N×122°.44E, h17km±1km, ML2.3, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.56**	**255**	*i* P	Pg	03 33 12.9	-0.1
	baz=254						
TIPB	**Shuangxi**	**0.60**	**291**	*i* P	Pb	03 33 14.2	+0.2
	baz=291						
TIPB				S	Sb	03 33 23.3	+1.2
	baz=291						
ENAH	**Nanao**	**0.65**	**242**	*i* P	Pb	03 33 15.0	+0.3
	baz=242						
ENAH				*e*S	Sn	03 33 24.9	-1.3
	baz=242						
ENA	**Nanao**	**0.71**	**243**	P	Pg	03 33 16.3	+0.4
	baz=242						
ENA				*e*S	Sb	03 33 25.3	0.0
	baz=242						
NWLT	**Wulai**	**0.85**	**272**	P	Pn	03 33 19.0	-0.1
	baz=271						
NWLT				*e*S	Sg	03 33 30.0	+0.1
	baz=271						
NDT	**Datong Townshi**	**0.86**	**260**	P	Pn	03 33 19.3	+0.2
	baz=260						
NDT				*e*S	Sn	03 33 31.4	+0.1
	baz=260						
YHNB	**Yeheng**	**0.97**	**265**	P	Pn	03 33 20.9	+0.1
	baz=265						
YHNB				*e*S	Sg	03 33 33.9	+0.3
	baz=265						
NNSB	**Datong**	**1.02**	**252**	*e*P	Pg	03 33 21.7	+0.1
	baz=251						
NNSB				S	Sn	03 33 35.5	+0.1
	baz=251						
NNSH	**Datong**	**1.02**	**252**	P	Pn	03 33 21.4	0.0
	baz=251						

*IDC **07** 03:37:00.8±0.9, 55°.35N×34°.98W, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.7/39, mbtmp3.7/13, ML3.0/2, MS3.3/12, Ms1 3.4/12, ms1mx3.1/44, Error ellipse: s-maj=32.4km s-min=15.4km az=7.0*

*NEIC **07** 03:37:01.9±1.4, 55°.4N±0°.2×35°.1W±0°.2, h10km±1km, mb4.2/6, Error ellipse: s-maj=28.0km s-min=17.0km az=18.0*

ISC 07 03:37:02.6±0.6, 55°.4N±0°.2×35°.03W±0°.07, h14km, n36, σ0.882/28, mb3.8/12, MS3.4/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**11.60**	**30**	LR	LR	03 43 03.4	
	comp=Z,282nm,18.6s,baz=235,slow=31						
SFJD	**Kangerlussuaq**	**13.81**	**334**	LR	LR	03 44 39.4	
	comp=Z,92nm,21.2s,baz=132,slow=33						
EKA	**Eskdalemuir Ar**	**18.04**	**77**	P	**P**	**03 41 13.4**	**+0.4**
	baz=302,slow=7.8,SNR=5.1						
SCHQ	**Schefferville**	**18.13**	**281**	P	**Pn**	**03 41 12.9**	**-0.8**
	0.2nm,0.3s,baz=52,slow=14,SNR=5.2						
SCHQ				LR	LR	03 46 36.4	
	comp=Z,110nm,21.9s,baz=338,slow=32						
SCHQ	**Schefferville**	**18.13**	**281**	IAmb	IAmb	03 41 13.6	
	comp=Z,8.5nm,1.1s						
SCHQ				P	**P**	**03 41 13.8**	**-0.2**
FRB	**Frobisher Bay**	**18.73**	**310**	LR	LR	03 47 01.1	
	comp=Z,119nm,18.5s,baz=156,slow=32						
JMIC	**Jan Mayen**	**19.42**	**26**	LR	LR	03 46 12.4	
	comp=Z,25nm,21.3s,baz=230,slow=28						
E63A

UEES	**Universidad Ev**	**0.87**	**44**	*eP*	**Pn**	**04 08 27.8**	**-0.1**
UDBS	**Universidad Do**	**0.93**	**48**	*i* P	**Pn**	**04 08 28.8**	**0.0**
QUEZ	**Alcaldia de Qu**	**0.94**	**38**	*eP*	**Pb**	**04 08 29.3**	**+0.2**
LFRS	**El Faro**	**0.94**	**56**	*i* P	**Pn**	**04 08 29.0**	**0.0**
LFRS				*eS*	**Sb**	**04 08 40.7**	**-0.7**
AEIL	**Aeropuerto Ilo**	**0.94**	**50**	*eP*	**Pb**	**04 08 29.3**	**0.0**
AEIL				*eS*	**Sb**	**04 08 41.8**	**+0.4**
AEIL				IAML		04 08 47.9	
	comp=Z,879nm,0.3s						
TACO	**Tacachico**	**1.00**	**30**	*i* P	**Pn**	**04 08 29.8**	**+0.1**
COEG	**Centro de Oper**	**1.09**	**61**	*eP*	**Pn**	**04 08 31.4**	**+0.4**
COEG				*eS*	**Sb**	**04 08 45.1**	**-0.5**
UESV	**Universidad de**	**1.18**	**63**	*eS*	**Sb**	**04 08 47.1**	**-1.0**
IXG	**Ixpaco**	**1.21**	**332**	*eP*	**Pn**	**04 08 33.9**	**+1.1**
ALJI	**Alcalda de J**	**1.28**	**79**	*eP*	**Pn**	**04 08 33.7**	**+0.2**
ALJI				*eS*	**Sn**	**04 08 49.6**	**-0.2**
COEB	**Comit de Eme**	**1.36**	**73**	*eP*	**Pn**	**04 08 35.2**	**+0.5**
COEB				*eS*	**Sn**	**04 08 51.8**	**-0.1**
MTO3	**Montecristo**	**1.39**	**21**	*eP*	**Pn**	**04 08 35.7**	**+0.5**
MTO3				*eS*	**Sb**	**04 08 53.7**	**-0.6**
ESQI	**Esquipulas**	**1.54**	**19**	*eP*	**Pn**	**04 08 38.2**	**+0.9**
NBG	**Las Nubes**	**1.56**	**342**	*eP*	**Pb**	**04 08 40.2**	**+0.3**
NBG				*eS*	**Sb**	**04 09 00.4**	**+1.1**
BLLM	**Bellamira**	**1.62**	**77**	*eP*	**Pn**	**04 08 39.5**	**+1.3**
FUG	**Fuego 3**	**1.65**	**325**	*eP*	**Pn**	**04 08 36.6**	**-2.1**

IDC ***07*** *04:24:27.5±1.3, 7.19S×128.25E, h0km, mb4.0/3, mb1 4.1/7, mb1mx3.8/38, mbtmp4.0/7, ML3.8/4, MS2.9/1, Ms1 2.9/1, ms1mx2.5/34, Error ellipse: s-maj=46.6km s-min=21.2km az=72.0*

ISC 07 04:24:32.3±1.3, 7.34S±0.10×128.4E±0.1, h35km, n7, σ1§16/11, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.44**	**238**	Pn	**Pn**	**04 25 51.3**	**+0.3**
	8.6nm,0.3s,baz=307,slow=3.9,SNR=3.2						
BATI				Sn	**Sn**	**04 26 52.4**	**0.0**
	5.5nm,0.3s,baz=65,slow=23,SNR=2.2						
FITZ	**Fitzroy Crossi**	**11.02**	**194**	Pn	**Pn**	**04 27 07.6**	**+0.2**
	0.3nm,0.3s,baz=40,slow=10.0,SNR=7.9						
FITZ				Sn	**Sn**	**04 29 08.4**	**-1.0**
	0.5nm,0.3s,baz=51,slow=15,SNR=4.3						
FITZ				LR	LR	04 31 54.5	
	comp=Z,69nm,21.9s,baz=334,slow=40						
WRA	**Warramunga Arr**	**13.81**	**156**	Pn	**Pn**	**04 27 45.2**	**-0.4**
	0.6nm,0.3s,baz=324,slow=13,SNR=21						
WRA				Sn	**Sn**	**04 30 17.3**	**-0.5**
	0.5nm,0.3s,baz=331,slow=23,SNR=7.1						
ASAR	**Alice Springs**	**17.09**	**162**	P	**P**	**04 28 29.0**	**-1.0**
	0.2nm,0.3s,baz=338,slow=9.7,SNR=14						
ASAR				S	**Sn**	**04 31 37.9**	**+0.3**
	0.2nm,0.3s,baz=323,slow=15,SNR=4.2						
STKA	**Stephens Creek**	**27.36**	**155**	P	**P**	**04 30 16.9**	**+2.7**
	2.1nm,0.6s,baz=336,slow=9.7,SNR=7.5						
MKAR	**Makanchi Array**	**67.63**	**328**	P	**P**	**04 35 25.1**	**-0.5**
	0.5nm,0.6s,baz=128,slow=8.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**71.17**	**335**	P	**P**	**04 35 46.7**	**-0.6**
	1.4nm,0.8s,baz=115,slow=6.5,SNR=5.4						

TIR ***07*** *04:34:36.0, 39.23N×18.91E, h21km, Md2.8/6*
THE ***07*** *04:34:37.2, 39.29N×18.86E, h0km±4km, ML2.7/6, Error ellipse: s-maj=6.0km s-min=1.4km az=299.0*

ISC 07 04:34:38.6±1.2, 39.36N±0.05×18.81E±0.05, h22km±7km, n40, σ1§09/57, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCTE	**Santa Cesarea**	**0.76**	**340**	*i* PG	**Pb**	**04 34 53.3**	**+0.2**
SCTE				*i* SG	**Sn**	**04 35 07.3**	**+2.5**
KEK	**Kerkira**	**0.84**	**65**	P	**Pn**	**04 34 57.7**	**-1.9**
SRN	**Sarande**	**1.06**	**60**	P	**Pn**	**04 34 57.3**	**-0.8**
SRN				S	**Sn**	**04 35 13.2**	**+1.1**
	170nm,0.5s						
SRN	**Sarande**	**1.06**	**60**	*i* PG	**Pn**	**04 34 57.3**	**-0.8**
SRN				*i* SG	**Sn**	**04 35 11.6**	**-0.6**
IGT	**Igoumenitsa**	**1.19**	**81**	P	**Pn**	**04 34 58.2**	**-1.8**
IGT				S	**Sb**	**04 35 15.7**	**+0.2**
	205nm,0.5s						
IGT	**Igoumenitsa**	**1.19**	**81**	*i* PG	**Pn**	**04 34 57.9**	**-2.1**
IGT				*i* SG	**Sn**	**04 35 13.9**	**-1.6**
TSLK	**Tsoukalades, L**	**1.53**	**110**	P	**Pn**	**04 35 05.0**	**+0.4**
TSLK				S	**Sb**	**04 35 25.8**	**+0.5**
	355nm,0.4s						
LSK	**Leskovik**	**1.59**	**60**	*i* PN	**Pn**	**04 35 05.1**	**-0.4**
LSK				*i* SN	**Sb**	**04 35 27.9**	**+0.9**
JAN	**Janina**	**1.61**	**79**	P	**Pn**	**04 35 05.1**	**-0.6**
EVGI	**Lefkada island**	**1.62**	**117**	P	**Pn**	**04 35 04.9**	**-0.9**
FSK	**Fiskardo**	**1.64**	**123**	P	**Pn**	**04 35 06.5**	**+0.4**
FSK				S	**Sn**	**04 35 27.4**	**+1.0**
	310nm,0.9s						
VSK1	**VASILIKIADES**	**1.67**	**124**	P	**Pn**	**04 35 05.1**	**-1.4**
VSK1				S	**Sn**	**04 35 27.8**	**+0.6**
VLS	**Valsamata**	**1.83**	**130**	P	**Pn**	**04 35 09.6**	**+0.9**
VLS				S	**Sn**	**04 35 33.0**	**+1.9**
	230nm,0.4s						
PENT	**Pentalofos**	**1.98**	**64**	P	**Pn**	**04 35 11.5**	**+0.6**
NEST	**Nestorio**	**2.02**	**58**	P	**Pn**	**04 35 12.7**	**+1.3**
KPRO	**Kipourio**	**2.06**	**72**	P	**Pn**	**04 35 12.2**	**+0.2**
PVO	**Paravola**	**2.24**	**108**	P	**Pn**	**04 35 14.0**	**-0.4**
PVO				S	**Sn**	**04 35 43.1**	**+1.7**
	142nm,0.5s						
OHR	**Ohrid**	**2.32**	**40**	*e*Pn	**Pb**	**04 35 20.2**	**+0.4**
EVR	**Evrytania**	**2.38**	**100**	P	**Pn**	**04 35 17.3**	**+1.0**
RLS	**Riolos of Patr**	**2.45**	**121**	P	**Pn**	**04 35 16.5**	**-0.8**
THL	**Klokotos Trika**	**2.49**	**84**	P	**Pn**	**04 35 17.5**	**-0.3**
ANX	**Ano Chora**	**2.54**	**107**	P	**Pn**	**04 35 18.7**	**+0.1**
EFP	**Efpalio**	**2.59**	**110**	P	**Pn**	**04 35 19.1**	**-0.1**
MAKR	**Makrakomi, Fth**	**2.61**	**97**	P	**Pn**	**04 35 20.9**	**+1.5**
PHP	**Peshkopia**	**2.63**	**28**	*i* PN	**Pn**	**04 35 20.4**	**+0.5**
DRO	**Drossia**	**2.67**	**121**	P	**Pn**	**04 35 19.6**	**-0.7**
SERG	**Sergoula**	**2.71**	**109**	P	**Pn**	**04 35 20.7**	**-0.1**
AGG	**Agios Georgios**	**2.76**	**96**	P	**Pn**	**04 35 22.6**	**+1.1**
PUK	**Puka**	**2.81**	**17**	*i* PN	**Pn**	**04 35 23.2**	**+1.0**
AMT	**Artemida-Makis**	**2.92**	**128**	P	**Pn**	**04 35 23.0**	**-0.7**
LIT	**Litokhoron**	**2.93**	**74**	P	**Pn**	**04 35 23.5**	**-0.4**
DBRK	**Dubrovnik**	**3.34**	**352**	*e*Pn	**Pn**	**04 35 29.2**	**-0.3**
DBRK				Sn	**Sn**	**04 36 08.5**	**-0.1**
STIP	**Stip**	**3.47**	**47**	*i* Pn	**Pn**	**04 35 33.7**	**+2.3**
STON	**Ston**	**3.61**	**347**	Sn	**Sn**	**04 36 14.5**	**-0.5**
DID	**Didima**	**3.94**	**117**	P	**Pn**	**04 35 37.5**	**-0.3**
HVAR	**Hvar**	**4.21**	**336**	*e*Pn	**Pn**	**04 35 41.0**	**-0.4**
HVAR				Sn	**Sn**	**04 36 28.1**	**-1.8**
RICI	**Ricice**	**4.32**	**344**	*e*Pn	**Pn**	**04 35 42.9**	**-0.1**
RICI				Sn	**Sn**	**04 36 32.2**	**-0.4**
ZIRJ	**Zirje**	**4.90**	**332**	*e*Pn	**Pn**	**04 35 51.4**	**+0.4**
ZIRJ				Sn	**Sn**	**04 36 45.5**	**-1.5**
MORI	**Morici**	**5.07**	**334**	*e*Pn	**Pn**	**04 35 54.3**	**+1.1**
MORI				Sn	**Sn**	**04 36 50.2**	**-0.8**
DUGI	**Dugi Otok**	**5.41**	**330**	*e*Pn	**Pn**	**04 35 58.5**	**+0.5**
DUGI				Sn	**Sn**	**04 36 57.9**	**-1.7**

KRSC 07 05:12:33.6±2.1, 54.89N×165.48E, h34km±13km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.42**	**42**	*eP*	Pb	05 12 42.0	-1.1
BKI				*eS*	Sb	05 12 46.9	-2.7
KBTR	**Krutoberegovo**	**2.01**	**312**	*eP*	Pn	05 13 05.1	0.0
SMKR	**Semkarok**	**2.83**	**308**	*eP*	Pb	05 13 21.1	-2.4
BZGR	**Bezymyannyi-Gr**	**2.92**	**293**	*eP*	Pb	05 13 23.1	-2.0
TUMD	**Tumrok D**	**2.94**	**278**	*eP*	Pn	05 13 21.5	+3.5
KZV	**Kizimen**	**2.99**	**276**	*eP*	Pb	05 13 22.7	-3.6
KZV				*eS*	Sn	05 13 56.8	+3.2
SRKR	**Sorokina**	**3.01**	**308**	*eP*	Pn	05 13 22.4	+3.4
BZWR	**Bezymyannyi-We**	**3.04**	**293**	*eP*	Pb	05 13 23.6	-3.4
TUMR	**Tumrok**	**3.09**	**280**	*eP*	Pb	05 13 24.8	-3.1
KRSR	**Krestovskiy**	**3.09**	**298**	*eP*	Pn	05 13 23.6	+3.5
KMNR	**Kamenistaya**	**3.12**	**288**	*eP*	Pb	05 13 28.0	-0.4
KPT	**Kopyto**	**3.18**	**292**	*eP*	Pn	05 13 25.4	+4.0
SRDR	**Sredinnyy**	**3.57**	**296**	*eP*	Pn	05 13 30.6	+4.0
KII	**Karymskiy**	**3.62**	**259**	*eP*	Pb	05 13 32.6	-4.3
KII				*eS*	Sn	05 14 13.9	+5.0
SPN	**Mys Shipunski**	**3.69**	**243**	*eP*	Pn	05 13 32.7	+4.5
SPN				*eS*	Sn	05 14 13.8	+3.4
NLC	**Nalytchevo**	**4.00**	**247**	*eP*	Pn	05 13 36.7	+4.2
NLC				*eS*	Sn	05 14 21.1	+2.9
SDLR	**Sedlovina**	**4.20**	**250**	*eP*	Pn	05 13 40.8	+5.4
SDLR				*eS*	Sn	05 14 28.3	+4.9
SMAR	**Somma**	**4.26**	**250**	*eP*	Pn	05 13 41.8	+5.6
SMAR				*eS*	Sn	05 14 29.8	+5.0
KRER	**Koryakskii**	**4.27**	**251**	*eP*	Pn	05 13 41.7	+5.3
KRER				*eS*	Sn	05 14 29.6	+4.5
UGLR	**Uglovaya**	**4.27**	**249**	*eP*	Pn	05 13 41.8	+5.5
UGLR				*eS*	Sn	05 14 30.2	+5.3
AVH	**Avacha**	**4.29**	**250**	*eP*	Pn	05 13 42.2	+5.6
AVH				*eS*	Sn	05 14 30.1	+4.7
KRX	**Arik**	**4.30**	**252**	*eP*	Pn	05 13 41.9	+5.1
KRX				*eS*	Sn	05 14 29.9	+4.1
KOK	**Koryaka**	**4.33**	**251**	*eP*	Pn	05 13 42.5	+5.3
KRMR	**Karymshinskiy**	**4.81**	**248**	*eP*	Pn	05 13 49.5	+5.8
KRMR				*eS*	Sn	05 14 43.1	+4.9
MTVR	**Mutnovka**	**4.96**	**244**	*eP*	Pn	05 13 50.9	+5.1
GRL	**Gorelyy**	**4.98**	**245**	*eP*	Pn	05 13 51.9	+5.8
GRL				*eS*	Sn	05 14 47.3	+4.8
ASAK	**Asacha**	**5.16**	**244**	*eP*	Pn	05 13 54.3	+5.8
ASAK				*eS*	Sn	05 14 52.2	+5.3
KDTR	**Khodutka, Kamc**	**5.40**	**238**	*eP*	Pn	05 13 56.1	+4.4
KDTR				*eS*	Sn	05 14 54.9	+2.3

BJI ***07*** *05:24:49.2±0.0, 4.13N×126.65E, h80km, mB5.1/44, mb4.8/64, Ms4.5/32, Ms7 4.2/31*
MOS ***07*** *05:24:50.4±1.0, 4.62N×126.26E, h58km, mb5.2/68, MS4.3/4, Error ellipse: s-maj=8.6km s-min=4.3km az=113.6*
MAN ***07*** *05:24:52.9, 4.47N×126.29E, h43km, MS5.0*
IDC ***07*** *05:24:53.2±1.4, 4.54N×126.30E, h68km±12km, mb4.5/30, mb1 4.6/34, mb1mx4.6/44, mbtmp4.8/34, MS3.9/30, Ms1 3.9/30, ms1mx3.8/40, Error ellipse: s-maj=16.9km s-min=8.1km az=78.0*
GCMT ***07*** *05:24:54.5±0.2, 4.49N±0.01×126.45E±0.02, h64km±2km, MW5.1/109, Moment Tensor Solution. s62,c73; s109,c158; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.61±.18; Mθθ2.22±.15; Mϕϕ-2.83±.17; Mrθ-0.73±.09; Mθϕ-2.08±.13; Mϕr3.99±.12; Best double couple: M=5.15400×10^16 NP1=ϕs247.00000°, δ38.00000°, λ174.00000°. NP2=ϕs342.00000°, δ86.00000°, λ53.00000°. Principal axes: T 4.6170, Plg38.0000°, Azm219.0000°; N 1.0780, Plg37.0000°, Azm345.0000°; P -5.6910, Plg31.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***07*** *05:24:54.5±2.1, 4.55N±0.05×126.51E±0.07, h80km±4km, mb5.1/148 Error ellipse: s-maj=10.7km s-min=7.1km az=78.0*
DJA ***07*** *05:24:55.1±0.3, 5.3N×12.7E±, h73km±4km, M5.2/37, mb5.3/37, mB5.6/25, MLv5.5/11, Mw(mB)5.0/25*
KLM ***07*** *05:24:56.0, 4.46N×126.56E, h91km, mb5.1*

ISC 07 05:24:54.7±0.4, 4.53N±0.03×126.38E±0.04, h81km±3km, h82km: pP-P, n496, σ1§41/528, mb5.0/144, 19C-8D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.70**	**337**	*eP*	**Pn**	**05 25 20.1**	**-2.6**
DDMP				*eS*	**Sn**	**05 25 42.5**	**-1.6**
MATI	**Mati**	**2.40**	**357**	*eP*	**Pn**	**05 25 31.5**	**-0.6**
MATI				*eS*	**Sn**	**05 26 02.8**	**+2.1**
DAV	**Davao City (W)**	**2.65**	**342**	P	**Pn**	**05 25 34.6**	**-0.7**
	426nm,0.3s,baz=214,slow=6.0,SNR=13						
DAV				S	**Sn**	**05 26 09.1**	**+2.5**
	230nm,0.3s,baz=269,slow=22,SNR=6.2						
DAV	**Davao City (W)**	**2.65**	**342**		**Pn**	**05 25 34.7**	**-0.7**
DAV				Sn	**Sn**	**05 26 10.2**	**+3.6**
SKMP	**Bagumbayan, Su**	**2.69**	**317**	*eP*	**Pn**	**05 25 34.5**	**-1.5**
SKMP				*eS*	**Sn**	**05 26 06.4**	**-1.3**
KCP	**Kidapawan**	**2.78**	**332**	⇓*iP*	**Pn**	**05 25 37.2**	**0.0**
KCP				*i* S	**Sn**	**05 26 08.4**	**-1.5**
BUKP	**Musuan**	**3.58**	**339**	*eP*	**Pn**	**05 25 48.2**	**+0.2**
BUKP				*eS*	**Sn**	**05 26 29.9**	**+0.7**
BIP	**Bislig**	**3.67**	**358**	⇓*eP*	**Pn**	**05 25 48.0**	**-1.3**
BIP				*eS*	**Sn**	**05 26 31.6**	**+0.2**
TNTI	**Ternate**	**3.86**	**165**	P	**Pn**	**05 25 51.0**	**-0.8**
TNTI				S	**Sn**	**05 26 34.1**	**-1.9**
TNTI	**Ternate**	**3.86**	**165**	Pn	**Pn**	**05 25 51.4**	**-0.4**
TNTI				Sn	**Sn**	**05 26 35.8**	**-0.2**
PAGZ	**Pagadian**	**4.45**	**318**	*eP*	**Pn**	**05 25 58.0**	**-1.8**
PAGZ				*eS*	**Sn**	**05 26 50.6**	**+0.3**
ZCP	**Zamboanga City**	**4.91**	**299**	⇓*iP*	**Pn**	**05 26 05.3**	**-0.7**
ZCP				*i* S	**Sn**	**05 27 00.6**	**-1.0**
GTOI	**Gorontalo**	**5.13**	**221**	P	**Pn**	**05 26 08.6**	**-0.5**
	1.9nm8μm538nm,0.4s						
GTOI				S	**Sn**	**05 27 02.9**	**-4.1**
	1.9nm8μm538nm,0.4s						
LBMI	**Labuha**	**5.25**	**168**	P	**Pn**	**05 26 10.6**	**-0.2**
	4.1nm9μm462nm,0.8s						
LBMI				S	**Sn**	**05 27 05.8**	**-4.2**
	4.1nm9μm462nm,0.8s						
TBP	**Tagbilaran**	**5.71**	**334**	*eP*	**Pn**	**05 26 14.4**	**-2.5**
MSLP	**Maasin**	**5.77**	**345**	*eP*	**Pn**	**05 26 19.1**	**+1.2**
MSLP				*eS*	Sn	05 27 32.3	+10
LLP	**Lapu-Lapu**	**6.23**	**338**	*eP*	**Pn**	**05 26 24.9**	**+0.8**
LLP				*eS*	Sn	05 27 43.8	+10
SANI	**Sanana**	**6.55**	**183**	P	**Pn**	**05 26 26.5**	**-1.9**
LUWI	**Luwuk**	**6.61**	**213**	P	**Pn**	**05 26 32.0**	**+2.8**
	14nm36μm3μm,0.9s						
LUWI	**Luwuk**	**6.61**	**213**	Pn	**Pn**	**05 26 32.6**	**+3.4**
LUWI				Sn	**Sn**	**05 27 48.5**	**+5.4**
SIJI	**Sorong**	**7.25**	**138**	P	**Pn**	**05 26 37.4**	**-0.6**
	51nm,0.3s,baz=332,slow=15,SNR=46						
SIJI				LR	LR	05 29 42.4	
	comp=Z,1μm,21.4s,baz=293,slow=40						
NLAI	**Namlea**	**7.75**	**175**	P	**Pn**	**05 26 43.1**	**-1.7**
MYLDM	**Lahad Datu**	**7.88**	**275**	Pn	**Pn**	**05 26 49.0**	**+2.3**
MSAI	**Masohi**	**8.23**	**162**	P	**Pn**	**05 26 52.1**	**+0.7**
	65nm,0.7s						
FAKI	**Fak Fak**	**9.44**	**142**	P	**Pn**	**05 27 07.8**	**-0.1**
	55nm575nm,0.9s						
FAKI	**Fak Fak**	**9.44**	**142**	Pn	**Pn**	**05 27 06.5**	**-1.4**
SPMM	**Sapulut**	**9.89**	**271**	P	**Pn**	**05 27 18.0**	**+3.9**
KKM	**Kota Kinabalu**	**10.24**	**279**	Pn	**Pn**	**05 27 20.9**	**+2.0**
SMKI	**Samarinda**	**10.41**	**242**	P	**Pn**	**05 27 25.1**	**+3.9**
	12μm372nm,0.6s						
LQP	**Lukban**	**10.65**	**334**	⇑*eP*	Pn	05 27 30.3	+5.6
SPSI	**Sidrap Palu**	**10.72**	**218**	P	**Pn**	**05 27 27.5**	**+2.2**
	2μm129nm,0.8s						
BNSI	**Bone**	**10.86**	**215**	P	**Pn**	**05 27 29.8**	**+2.5**
	1μm138nm,0.8s						
TGY	**Tagaytay City**	**10.92**	**331**	LR	LR	05 32 06.0	
	comp=Z,713nm,20.1s,baz=190,slow=40						
BKB	**Balikpapan**	**11.09**	**239**	P	**Pn**	**05 27 32.0**	**+1.6**
	6μm700nm,1.1s						
BKB	**Balikpapan**	**11.09**	**239**	Pn	**Pn**	**05 27 30.7**	**+0.3**
KAPI	**Kappang**	**11.56**	**215**	P	**Pn**	**05 27 37.1**	**+0.3**
	5.4nm,0.3s,baz=38,slow=6.4,SNR=24						
KAPI				LR	LR	05 32 24.2	
	comp=Z,879nm,21.6s,baz=32,slow=39						
KAPI	**Kappang**	**11.56**	**215**	P	**Pn**	**05 27 36.6**	**-0.3**
KAPI	**Kappang**	**11.56**	**215**	Pn	**Pn**	**05 27 36.6**	**-0.3**
MTKI	**Muara Teweh, K**	**12.70**	**245**	P	**Pn**	**05 27 54.8**	**+2.5**
	5μm326nm,1.0s						
KBKI	**Kotabaru**	**12.83**	**233**	P	**P**	**05 28 01.8**	**0.0**
MMRI	**Maumere**	**13.71**	**198**	P	P	05 28 21.8	+10
MMRI	**Maumere**	**13.71**	**198**		**Pn**	**05 28 07.0**	**+1.3**
CVP	**Callao Caves**	**13.83**	**342**	⇑*eP*	**P**	**05 28 12.5**	**-0.4**
SMPI	**Sarmi**	**13.92**	**117**	P	**Pn**	**05 28 10.4**	**+2.0**
EDFI	**Ende, Flores**	**14.00**	**200**	P	**Pn**	**05 28 11.5**	**+2.0**
	582nm65nm,0.7s						
BBKI	**Banjar Baru**	**14.00**	**236**	P	**P**	**05 28 12.9**	**-1.9**
	4μm118nm,0.8s						
SBUM	**Sibu**	**14.29**	**262**	Pn	**P**	**05 28 15.7**	**-2.3**
SBUM	**Sibu**	**14.29**	**262**	P	**P**	**05 28 17.0**	**-1.0**
SOEI	**Soe**	**14.35**	**188**	P	**Pn**	**05 28 14.3**	**+0.2**
	2μm184nm,0.8s						
SOEI	**Soe**	**14.35**	**188**	Pn	**Pn**	**05 28 14.2**	**+0.1**
BATI	**Baumata**	**14.89**	**190**	P	**Pn**	**05 28 21.0**	**+0.1**
	7.4nm,0.3s,baz=253,slow=2.0,SNR=8.7						
BATI				LR	LR	05 33 54.4	
	comp=Z,466nm,21.5s,baz=28,slow=36						
BATI	**Baumata**	**14.89**	**190**	P	**P**	**05 28 22.9**	**-1.8**
	1μm95nm,0.5s						
GENI	**Genyem**	**15.48**	**117**	P	**Pn**	**05 28 28.0**	**-0.6**
	218nm,1.0s						
WBSI	**Waikabubak, Su**	**15.71**	**206**	P	**Pn**	**05 28 31.4**	**0.0**
	168nm,0.8s						
PLAI	**Plampang**	**15.80**	**213**	P	**P**	**05 28 35.2**	**+0.4**
	2μm190nm,0.9s						
JAY	**Jayapura**	**15.93**	**116**	P	**P**	**05 28 35.7**	**-0.6**
	1.4nm,0.3s,baz=300,slow=16,SNR=2.7						
JAY				LR	LR	05 33 54.6	
	comp=Z,651nm,21.0s,baz=358,slow=34						
JAY	**Jayapura**	**15.93**	**116**	P	P	05 28 45.5	+9.2
TWSI	**Taliwang, Sumb**	**16.23**	**216**	P	**P**	**05 28 39.6**	**+0.1**
	1μm160nm,0.9s						
KSM	**Kuching**	**16.34**	**260**		**P**	**05 28 40.0**	**-0.7**
KSM				IAmb	IAmb	05 28 46.1	
	comp=Z,175nm,1.5s						
KSM	**Kuching**	**16.34**	**260**	P	**P**	**05 28 43.0**	**+2.3**
PBKI	**Pangkalan Bun**	**16.36**	**244**	P	**P**	**05 28 42.1**	**+1.1**
	comp=Z,362nm,1.0s						
SRBI	**Singaraja**	**16.77**	**222**	P	**Pn**	**05 28 44.5**	**-0.1**
	comp=Z,3μmcomp=Z,182nm,0.9s						
JAGI	**Jajag, Banyuwa**	**17.76**	**223**	P	**Pn**	**05 29 02.4**	**+5.6**
JAGI	**Jajag, Banyuwa**	**17.76**	**223**		**Pn**	**05 28 57.2**	**+0.4**
JAGI				IAmb	IAmb	05 29 02.7	
	comp=Z,101nm,0.8s						
MTN	**Manton Dam**	**17.89**	**165**	P	P	**05 28 55.6**	**-2.3**
	baz=18,SNR=30						
MTN	**Manton Dam**	**17.89**	**165**	P	**P**	**05 28 54.7**	**-3.2**
MTN				IAmb	IAmb	05 28 59.1	
	comp=Z,76nm,0.7s						
GRJI	**Gresik**	**17.94**	**231**	P	Pn	05 29 07.0	+8.1
KDU	**Kakadu**	**18.14**	**161**	P	**P**	**05 28 59.3**	**-1.3**
	baz=18,SNR=13						
TWG	**Pinlang**	**18.90**	**345**	P	**P**	**05 29 07.8**	**-1.0**
TWG				IAmb	IAmb	05 29 10.7	
	comp=Z,144nm,1.2s						
NGJI	**Ngawi**	**19.01**	**232**	P	**Pn**	**05 29 13.4**	**+1.7**
	comp=Z,121nm,1.0s						
DLV	**T Lat**	**19.17**	**294**	P	**P**	**05 29 12.8**	**+0.6**
DLV				IAmb	IAmb	05 29 15.4	
	comp=Z,66nm,0.9s						
YULB	**Yu-li**	**19.39**	**346**	P	**P**	**05 29 11.8**	**-2.5**
TPUB	**Ta-pu**	**19.47**	**344**	P	**P**	**05 29 13.8**	**-1.4**
TPUB				IAmb	IAmb	05 29 18.9	
	comp=Z,50nm,0.6s						
SMRI	**Semarang**	**19.63**	**234**	P	**Pn**	**05 29 19.8**	**+0.7**
	comp=Z,187nm,1.7s						
SMRI	**Semarang**	**19.63**	**234**	P	**P**	**05 29 17.5**	**+0.5**
SMRI				IAmb	IAmb	05 29 28.1	
	comp=Z,148nm,1.0s						
SSLB	**Suanglung**	**19.85**	**345**	P	**P**	**05 29 18.9**	**-0.4**
TPI	**Tanjungpandan**	**20.07**	**249**	P	**P**	**05 29 22.6**	**+0.9**
	comp=Z,95nm,0.9s						
KNRA	**Kununurra**	**20.21**	**173**	P	P	**05 29 23.6**	**+0.4**
	baz=20,SNR=21						
KNRA	**Kununurra**	**20.21**	**173**	P	**P**	**05 29 22.8**	**-0.4**
GUMO	**Guam**	**20.34**	**63**	LR	LR	05 35 44.0	
	comp=Z,957nm,21.5s,baz=238,slow=32						
YHNB	**Yeheng**	**20.60**	**347**	P	**P**	**05 29 27.4**	**0.0**
QIZ	**Qiongzhong**	**21.64**	**313**	P	**P**	**05 29 39.4**	**+0.8**
QIZ				sP	**sP**	**05 30 03.7**	**-1.1**
QIZ				S	**S**	**05 33 35.6**	**+1.7**
QIZ				sS	**sS**	**05 34 03.2**	**+3.8**
LEM	**Lembang**	**21.86**	**239**	LR	LR	05 39 46.5	
	comp=Z,288nm,18.2s,baz=40,slow=41						
CISI	**Cisompet, Garu**	**22.08**	**237**	P	**P**	**05 29 43.2**	**-0.1**
ANA2	**Anatahan**	**22.31**	**57**	P	**P**	**05 29 40.3**	**-5.5**
FITZ	**Fitzroy Crossi**	**22.50**	**182**	P	**P**	**05 29 47.0**	**-0.7**
	comp=Z,46nm,0.6s,baz=345,slow=7.2,SNR=78						
FITZ				S	**S**	**05 33 49.6**	**+0.6**
	comp=Z,25nm,1.1s,baz=34,slow=4.7,SNR=6.1						
FITZ	**Fitzroy Crossi**	**22.50**	**182**	P	**P**	**05 29 46.9**	**-0.7**
	baz=22,SNR=92						
FITZ	**Fitzroy Crossi**	**22.50**	**182**	P	**P**	**05 29 48.0**	**+0.4**
FITZ				IAmb	IAmb	05 29 50.9	

comp=Z,280nm,12.3s
GYA LR LR
comp=Z,440nm,20.1s
GSI Gunungsitoli 28.94 265 P **P** **05 30 46.4 -0.2**
GSI IAmb IAmb 05 30 47.4
comp=Z,46nm,0.9s
AS31 Alice Springs 28.97 166 P **P** **05 30 47.0 +0.3**
ASAR Alice Springs 28.97 166 P **P** **05 30 46.6 0.0**
comp=Z,8.3nm,0.6s,baz=344,slow=7.0,SNR=97
ASAR ScP **ScP** **05 37 30.1 +1.8**
comp=Z,1.9nm,0.8s,baz=345,slow=4.1,SNR=4.1
ASAR LR LR 05 44 48.8
comp=Z,176nm,18.8s,baz=328,slow=41
ASAR Alice Springs 28.97 166 P **P** **05 30 46.7 0.0**
ASAR **ScP** **05 37 30.6 +2.3**
WRKA Warakurna 29.45 176 P **P** **05 30 51.1 +0.1**
baz=30,SNR=25
GIRL Giralia 29.50 203 P **P** **05 30 52.4 +1.0**
baz=30,SNR=3.2
GIRL Giralia 29.50 203 P **P** **05 30 52.1 +0.7**
GIRL IAmb IAmb 05 30 54.3
comp=Z,74nm,1.2s
ENH Enshi 30.17 330 P **P** **05 30 56.8 -0.5**
CM31 Chiang Mai Arr 30.18 300 P **P** **05 30 57.6 +0.1**
CMAR Chiang Mai Arr 30.18 300 P **P** **05 30 57.4 -0.1**
comp=Z,3.2nm,0.7s,baz=121,slow=7.5,SNR=13
CMAR PcP **PcP** **05 33 57.8 +0.7**
comp=Z,2.0nm,0.8s,baz=153,slow=2.5,SNR=4.3
CMAR ScP **ScP** **05 37 34.0 +1.7**
comp=Z,5.1nm,0.8s,baz=125,slow=1.7,SNR=13
CMAR LR LR 05 45 11.8
comp=Z,188nm,18.7s,baz=164,slow=40
CMAR Chiang Mai Arr 30.18 300 *ce*P **P** **05 30 58.4 +0.9**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 30.18 300 P **P** **05 30 57.8 +0.4**
CMAR **PcP** **05 34 00.8 +3.8**
CMAR **ScP** **05 37 33.9 +1.7**
CHTO Chiang Mai 30.32 300 P **P** **05 30 59.1 +0.4**
CHTO pmax pmax
comp=Z,32nm,1.4s
CHTO Chiang Mai 30.32 300 P **P** **05 30 59.1 +0.4**
CHTO IAmb IAmb 05 31 03.3
comp=Z,32nm,1.4s
KMI Kunming 30.57 314 ⇑P **P** **05 31 01.0 -0.2**
KMI pP pP 05 31 20.1 +0.9
KMI S **S** **05 36 00.9 +3.3**
KMI sS sS 05 36 28.6 +0.2
KMI pmax pmax
comp=Z,13nm,1.1s
KMI pmax pmax
comp=Z,150nm,5.5s
KMI LR LR
comp=Z,250nm,24.9s
KMI LR LR
comp=Z,370nm,17.8s
KMI LR LR
comp=Z,570nm,22.0s
CTA Charters Tower 31.30 142 P **P** **05 31 08.1 +0.7**
comp=Z,9.5nm,0.8s,baz=322,slow=13,SNR=6.8
CTAO Charters Tower 31.30 142 P **P** **05 31 09.2 +1.8**
CTAO pmax pmax
comp=Z,30nm,1.3s
CTAO Charters Tower 31.30 142 P **P** **05 31 09.2 +1.8**
CTAO IAmb IAmb 05 31 12.1
comp=Z,30nm,1.2s
TJN Taejon 31.71 2⇑*e*P **P** **05 31 08.7 -2.0**
MEEK Meekatharra 31.88 193 P **P** **05 31 12.1 -0.3**
baz=32,SNR=126
TIA Tai'an 32.66 346 P **P** **05 31 18.9 -0.2**
TIA pmax pmax
comp=Z,6.0nm,0.5s
KSAR Wonju Array Be 32.79 2 P **P** **05 31 20.4 +0.3**
KSAR Wonju Array Be 32.79 2 P **P** **05 31 20.4 +0.3**
KSRS Korea Array 32.80 2 P **P** **05 31 20.5 +0.3**
comp=Z,10nm,0.6s,baz=182,slow=10.0,SNR=53
KSRS PcP **PcP** **05 34 04.8 +1.1**
comp=Z,1.9nm,0.7s,baz=183,slow=2.0,SNR=4.6
KSRS ScP **ScP** **05 37 42.6 +2.0**
comp=Z,1.5nm,0.7s,baz=199,slow=3.5,SNR=4.7
KS19 Wonju Array Si 32.85 2 P **P** **05 31 20.5 -0.2**
KS19 IAmb IAmb 05 31 21.4
comp=Z,17nm,0.9s
XAN Xi'an 33.55 333 P **P** **05 31 25.1 -1.8**
XAN pmax pmax
comp=Z,11nm,1.0s
XAN Xi'an 33.55 333 P **P** **05 31 25.4 -1.5**
XAN pmax pmax
comp=Z,36nm,1.2s
XAN Xi'an 33.55 333 P **P** **05 31 25.4 -1.5**
XAN IAmb IAmb 05 31 33.5
comp=Z,36nm,1.2s
MAJO Matsushiro 33.66 17 P **P** **05 31 25.6 -2.3**
MAJO pmax pmax
comp=Z,17nm,1.2s
MAJO Matsushiro 33.66 17 P **P** **05 31 25.6 -2.3**
MAT Matsushiro 33.66 17 P **P** **05 31 25.6 -2.2**
MJAR Matsushiro Arp 33.66 17 P **P** **05 31 26.0 -1.8**
comp=Z,4.6nm,0.8s,baz=202,slow=10,SNR=11
MJAR LR LR 05 43 42.3
comp=Z,196nm,21.5s,baz=190,slow=34
MJAR Matsushiro Arp 33.66 17 P **P** **05 31 25.6 -2.3**
MJB9 Matsu-Tunnel 33.67 17 P **P** **05 31 25.6 -2.3**
CD2 Chengdu 33.80 324 P **P** **05 31 31.5 +2.4**
CD2 S **S** **05 36 51.5 +4.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,690nm,14.2s
CD2 LR LR
comp=Z,750nm,15.7s
DL2 Dalian 34.49 353 P **P** **05 31 36.0 +1.1**
DL2 pmax pmax
comp=Z,34nm,1.0s
MORW Morawa 34.85 196 P **P** **05 31 37.7 -0.4**
baz=35,SNR=16
MORW Morawa 34.85 196 P **P** **05 31 37.9 -0.3**
MORW IAmb IAmb 05 31 40.0
comp=Z,29nm,1.1s
FORT Forrest 35.15 177 P **P** **05 31 41.2 +0.6**
baz=35,SNR=23
FORT Forrest 35.15 177 P **P** **05 31 41.3 +0.6**
QLP Quilpie 35.43 152 P **P** **05 31 43.1 0.0**
baz=35,SNR=6.5
KMBL Kambalda 35.95 187 P **P** **05 31 47.9 +0.4**
baz=36,SNR=7.4
BLDU Balliduu 36.15 194 P **P** **05 31 48.9 -0.3**
baz=36,SNR=34
BJT Baijiatuan 36.52 347 P **P** **05 31 52.2 -0.1**
BJT pmax pmax
comp=Z,35nm,0.9s
BJT Baijiatuan 36.52 347 P **P** **05 31 52.2 -0.1**
BJI Beijing 36.53 347 P **P** **05 31 52.2 -0.2**
BJI sP **sP** **05 32 19.0 -0.5**
BJI pmax pmax
comp=Z,18nm,0.8s
BJI pmax pmax
comp=Z,170nm,3.5s
BJI LR LR
comp=Z,190nm,8.0s
BJI LR LR
comp=Z,170nm,7.6s
BJI LR LR
comp=Z,160nm,20.8s
KLBR Kellerberrin 36.85 192 P **P** **05 31 55.0 -0.2**
baz=37,SNR=9.9
MUN Mundaring 37.58 194 P **P** **05 32 01.2 -0.1**
baz=38,SNR=12
LZH Lanzhou 37.64 329 *e*P **P** **05 32 03.0 +0.9**
LZH pP pP 05 32 21.6 +1.2
LZH sP sP 05 32 31.2 +1.7
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.9s
LZH LR LR
comp=Z,400nm,14.9s
LZH LR LR
comp=Z,340nm,14.9s
LZH LR LR
comp=Z,420nm,15.2s
EIDS Eidsvold 38.19 142 P **P** **05 32 06.9 +0.3**
baz=38,SNR=4.6
EIDS Eidsvold 38.19 142 P **P** **05 32 06.9 +0.3**
NWAO Narrogin (SRO) 38.25 192 P **P** **05 32 07.2 +0.2**
comp=Z,45nm,0.9s,baz=23,slow=8.0,SNR=20
NWAO Narrogin (SRO) 38.25 192 P **P** **05 32 07.4 +0.5**
baz=38,SNR=18
NWAO Narrogin (SRO) 38.25 192 P **P** **05 32 07.5 +0.5**
NWAO pmax pmax
comp=Z,44nm,1.2s
NWAO Narrogin (SRO) 38.25 192 P **P** **05 32 07.5 +0.5**
NWAO Narrogin (SRO) 38.25 192 P **P** **05 32 07.5 +0.5**
BBOO Buckleboo 38.25 167 P **P** **05 32 06.8 -0.2**
baz=38,SNR=57
BBOO Buckleboo 38.25 167 P **P** **05 32 07.0 0.0**
HHC Hu-ho-hao-te 38.54 342 *e*P **P** **05 32 09.6 +0.1**
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,220nm,4.3s
HHC LR LR
comp=Z,220nm,13.6s
HHC LR LR
comp=Z,140nm,12.8s
VLA Vladivostok 38.74 6*ce*P **P** **05 32 09.4 -1.5**
VLA pmax pmax
comp=Z,57nm,1.3s
STKA Stephens Creek 38.99 159 P **P** **05 32 13.5 +0.2**
comp=Z,29nm,0.8s,baz=335,slow=8.3,SNR=59
STKA LR LR 05 50 24.8
comp=Z,114nm,19.7s,baz=359,slow=39
STKA Stephens Creek 38.99 159 P **P** **05 32 13.7 +0.5**
baz=39,SNR=22
STKA Stephens Creek 38.99 159 P **P** **05 32 13.8 +0.5**
STKA pmax pmax
comp=Z,9.0nm,0.9s
STKA Stephens Creek 38.99 159 P **P** **05 32 13.8 +0.5**
CN2 Changchun 39.12 359 *e*P **P** **05 32 17.6 +3.5**
CN2 *e*pP pwP 05 32 36.0 -1.3
CN2 pmax pmax
comp=Z,10.0nm,1.0s
SHL Shillong 39.13 306 P **P** **05 32 13.6 -1.2**
SHL pmax pmax
comp=Z,33nm,0.7s
SHL Shillong 39.13 306 P **P** **05 32 13.6 -1.2**
HTT Hallett 39.58 163 P **P** **05 32 18.7 +0.6**
baz=40,SNR=14
USA0B Ussuriysk Arra 39.82 6 P **P** **05 32 20.6 +0.7**
USA0B pmax pmax
comp=Z,32nm,1.1s
USA0B Ussuriysk Arra 39.82 6 P **P** **05 32 20.6 +0.7**
USA0B IAmb IAmb 05 32 21.4
comp=Z,32nm,1.1s
USRK Ussuriysk Ar. 39.82 6 P **P** **05 32 20.4 +0.5**
comp=Z,15nm,0.8s,baz=194,slow=7.6,SNR=30
USRK Ussuriysk Ar. 39.82 6 P **P** **05 32 20.2 +0.3**
RKGY Rocky Gully 39.93 192 P **P** **05 32 22.4 +1.5**
baz=40,SNR=11
MDJ Mudanjiang 40.02 4 P **P** **05 32 22.6 +0.9**
MDJ pmax pmax
comp=Z,41nm,1.0s
MDJ pmax pmax
comp=Z,310nm,5.0s
MDJ Mudanjiang 40.02 4 P **P** **05 32 21.9 +0.2**
MDJ IAmb IAmb 05 32 23.3
comp=Z,28nm,0.8s
CMSA Cobar Meteorol 40.31 154 P **P** **05 32 25.1 +0.8**
baz=40,SNR=6.7
TEY Ternei 41.33 11⇑*e*P **P** **05 32 32.5 +0.1**
TEY *e* 05 32 53.0
TEY pmax pmax
comp=Z,20nm,1.0s
TEY pmax pmax
comp=N,20nm,1.4s
TEY pmax pmax
comp=Z,60nm,1.1s
TEY pmax pmax
comp=N,50nm,0.9s
TEY pmax pmax
comp=E,10.0nm,0.7s
LSA Lhasa 41.66 311 P **P** **05 32 35.8 -0.1**
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 41.66 311 P **P** **05 32 35.8 -0.1**
ASAJ Asahikawa 41.94 18 P **P** **05 32 38.0 +0.7**
comp=Z,14nm,0.8s,baz=231,slow=18,SNR=7.0
ASAJ Asahikawa 41.94 18 P **P** **05 32 37.3 -0.1**
ASAJ pmax pmax
comp=Z,65nm,1.5s
JKA Kamikawa-asahi 41.94 18 P **P** **05 32 37.3 0.0**
JKA IAmb IAmb 05 32 39.4
comp=Z,65nm,1.5s
H11N1 WAKE ISLAND Hy 42.24 66 T T 06 18 32.2
baz=255,slow=75,SNR=10
GTA Gaotai 42.24 329 *e*P **P** **05 32 40.3 +0.2**
GTA pP pwP 05 33 01.4 -1.5
GTA sP sP 05 33 10.0 +2.3
GTA ScP **ScP** **05 38 17.9 +1.6**
GTA ScS **ScS** **05 42 33.6 -0.8**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,160nm,4.9s
GTA LR LR
comp=Z,190nm,17.8s
GTA LR LR
comp=Z,210nm,17.1s
GTA LR LR
comp=Z,210nm,17.5s
H11N2 WAKE ISLAND Hy 42.24 66 T T 06 18 44.9
baz=255,slow=75,SNR=13
H11N3 WAKE ISLAND Hy 42.25 66 T T 06 18 43.4
baz=255,slow=75,SNR=8.7
ARMA Armidale 42.32 147 P **P** **05 32 42.1 +1.2**
baz=42,SNR=15
ARMA Armidale 42.32 147 P **P** **05 32 40.4 -0.5**
ARMA IAmb IAmb 05 32 45.9
comp=Z,32nm,0.8s
TAPN Taplejung 43.27 306 *e*P **P** **05 32 47.1 -1.7**
comp=Z,26nm,0.7s
ODAN Odare 43.33 305 *e*P **P** **05 32 47.7 -1.5**
comp=Z,27nm,0.6s
ARPS Mount Arapiles 43.55 162 P **P** **05 32 51.8 +1.3**
baz=44,SNR=13
RAMN Ramite 44.01 305 *e*P **P** **05 32 53.4 -1.3**
comp=Z,25nm,0.5s
YSS Yuzh-Sakhalins 44.57 16⇑*i*P **P** **05 32 58.5 0.0**
YSS *e* 05 33 19.0
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 44.57 16 P **P** **05 32 58.5 0.0**
YSS IAmb IAmb 05 33 00.6
comp=Z,54nm,1.4s
JIRN Jiri 44.63 305 *e*P **P** **05 32 58.3 -1.5**
comp=Z,27nm,0.4s
KLR Kul'dur 44.77 5 P **P** **05 33 00.2 0.0**
comp=Z,8.5nm,0.5s,baz=198,slow=4.5,SNR=36
KLR Kul'dur 44.77 5*ce*P **P** **05 33 00.3 +0.2**
KLR pmax pmax
comp=Z,18nm,1.0s
HIA Hailar 44.93 354 P **P** **05 33 00.9 -0.6**
HIA pmax pmax
comp=Z,21nm,0.9s
HIA Hailar 44.93 354 P **P** **05 33 00.8 -0.6**
HIA IAmb IAmb 05 33 03.7
comp=Z,21nm,0.9s
CAN Canberra 44.98 154 P **P** **05 33 03.3 +1.3**
CAN pmax pmax
comp=Z,25nm,1.1s
CAN Canberra 44.98 154 P **P** **05 33 03.3 +1.3**
CAN IAmb IAmb 05 33 08.6
comp=Z,25nm,1.1s
GUN Gumba 44.98 306 *e*P **P** **05 33 01.2 -1.4**
comp=Z,48nm,0.6s
PKI Pulchoki 45.23 305 *e*P **P** **05 33 03.0 -1.5**
comp=Z,27nm,1.0s
TOO Toolangi 45.51 159 P **P** **05 33 06.7 +0.6**
TOO pmax pmax
comp=Z,42nm,1.5s
TOO Toolangi 45.51 159 P **P** **05 33 06.7 +0.6**
TOO IAmb IAmb 05 33 09.1
comp=Z,42nm,1.5s
ULN Ulaanbaatar 46.26 342 *i* P **P** **05 33 11.4 -0.7**
ULN pmax pmax
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 46.26 342 P **P** **05 33 12.3 +0.2**
SONM Songino Array 46.44 341 P **P** **05 33 14.5 +1.1**
comp=Z,4.6nm,0.8s,baz=155,slow=7.2,SNR=12
SONM PcP **PcP** **05 34 47.1 +0.2**
comp=Z,3.1nm,0.7s,baz=163,slow=4.3,SNR=4.1
SONM LR LR 05 53 02.5
comp=Z,228nm,21.6s,baz=118,slow=36
SONM Songino Array 46.44 341 P **P** **05 33 13.8 +0.4**
SONM 05 34 47.7
SONM pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 46.44 341 P **P** **05 33 13.8 +0.4**
SONM **PcP** **05 34 47.7 +0.7**
KOLN Koldanda 46.79 304 *e*P **P** **05 33 15.1 -1.5**
comp=Z,48nm,0.6s
GRNR Gornyy 46.85 9⇓*i*P **P** **05 33 16.6 +0.1**
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR MLR MLR
comp=E,130nm,19.0s
GRNR MLR MLR
comp=N,160nm,20.0s
GRNR MLR MLR
comp=Z,100nm,12.0s
DANN Dangsing 46.87 305 *e*P **P** **05 33 15.7 -1.7**
comp=Z,75nm,0.6s
DZM Mont Dzumac 47.28 126 P **P** **05 33 20.5 +0.2**
comp=Z,34nm,0.8s,baz=13,slow=23,SNR=19
DZM Mont Dzumac 47.28 126 *e*P **P** **05 33 21.6 +1.3**
comp=Z,143nm,1.2s
DZM Mont Dzumac 47.28 126 *e*LR LR 05 46 50.0
comp=Z,455nm,28.9s
DZM Mont Dzumac 47.28 126 P **P** **05 33 21.0 +0.6**
PYUN Piuthan 47.41 304 *e*P **P** **05 33 20.1 -1.4**
comp=Z,16nm,0.4s
HYB Hyderabad 48.52 289 *i* P **P** **05 33 28.0 -2.0**
ZAK Zakamensk 49.66 341 *e*P **P** **05 33 42.2 +4.0**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
TLY Talaya 50.67 342 *e*P **P** **05 33 47.3 +1.6**
TLY pmax pmax
comp=Z,17nm,0.9s
TLY MLR MLR
comp=Z,229nm,12.0s
WMQ Urumqi 51.88 325 *e*P **P** **05 33 55.6 +0.6**
WMQ sP sP 05 34 25.6 +2.6
WMQ pmax pmax
comp=Z,9.0nm,1.3s
WMQ pmax pmax
comp=Z,61nm,4.1s
WMQ LR LR
comp=Z,1μm,28.8s
WMQ LR LR
comp=Z,1μm,29.2s
WMQ LR LR
comp=Z,290nm,29.1s
PEA0B Petropavlovsk- 54.83 23 P **P** **05 34 16.8 +0.5**
PEA0B pmax pmax
comp=Z,16nm,0.8s
PEA0B Petropavlovsk- 54.83 23 P **P** **05 34 16.8 +0.5**
PEA0B IAmb IAmb 05 34 17.2
comp=Z,16nm,0.8s
PETK Petropavlovsk- 54.83 23 P **P** **05 34 16.6 +0.3**
comp=Z,14nm,0.7s,baz=191,slow=5.6,SNR=35
PETK LR LR 05 58 33.7
comp=Z,56nm,20.5s,baz=241,slow=37
PETK Petropavlovsk- 54.83 23 P **P** **05 34 16.4 +0.1**
MSVF Nonsavu 55.56 115 *i* P **P** **05 34 21.3 -1.0**
MSVF pmax pmax
comp=Z,44nm,1.0s
MSVF Nonsavu 55.56 115 P **P** **05 34 24.6 +2.4**
ZSN Zaisan 55.65 327 *e*P **P** **05 34 21.1 -1.4**
baz=327
ZSN Zaisan 55.65 327 *e*P **P** **05 34 21.0 -1.4**
DGZ Jazzator, Alta 55.73 330 *i* P **P** **05 34 22.1 -1.0**
DGZ pmax pmax
comp=Z,4.0nm,1.0s
SHLS Shalkode 56.52 320 *e*P **P** **05 34 25.4 -3.4**
baz=320
SHLS Shalkode 56.52 320 *e*P **P** **05 34 25.4 -3.4**
PDGK Podgornoye 56.58 320 P **P** **05 34 27.8 -1.4**
MK31 Makanchi Array 56.71 325 P **P** **05 34 29.1 -0.8**
MK31 pmax pmax
comp=Z,9.0nm,1.1s
MK31 Makanchi Array 56.71 325 P **P** **05 34 29.1 -0.8**
MKAR Makanchi Array 56.71 325 P **P** **05 34 28.9 -1.0**
comp=Z,5.6nm,0.5s,baz=123,slow=6.5,SNR=35
MKAR PcP **PcP** **05 35 24.7 -0.5**
comp=Z,7.4nm,0.8s,baz=129,slow=3.8,SNR=3.7
MKAR ScP **ScP** **05 39 18.1 +0.5**
comp=Z,8.9nm,0.9s,baz=116,slow=5.5,SNR=8.7
MKAR LR LR 05 59 32.1
comp=Z,206nm,18.9s,baz=118,slow=37
MKAR Makanchi Array 56.71 325 *i* P **P** **05 34 29.0 -1.0**
MKAR pmax pmax
comp=Z,6.0nm,0.4s
MKAR Makanchi Array 56.71 325 P **P** **05 34 29.5 -0.4**
MKAR **PcP** **05 35 25.4 +0.3**
UZB Uzynbulak 56.79 320 *e*P **P** **05 34 29.3 -1.4**
baz=320
UZB Uzynbulak 56.79 320 *e*P **P** **05 34 29.3 -1.4**
MAKZ Makanchi 56.89 325 P **P** **05 34 30.4 -0.8**
MAKZ pmax pmax
comp=Z,16nm,1.1s
MAKZ Makanchi 56.89 325 P **P** **05 34 30.4 -0.8**
MAKZ IAmb IAmb 05 34 32.5
comp=Z,16nm,1.1s
SATY Saty 57.15 320 *e*P **P** **05 34 31.9 -1.3**
comp=Z,4.4nm,0.9s,baz=320
SATY Saty 57.15 320 *e*P **P** **05 34 31.9 -1.3**
SATY pmax pmax
comp=Z,4.0nm,0.9s
SATY Saty 57.15 320 *e*P **P** **05 34 31.9 -1.3**
SATY pmax pmax
comp=Z,4.0nm,0.9s
KPKS Kokpek 57.16 320 *e*P **P** **05 34 31.9 -1.4**
comp=Z,4.6nm,0.6s,baz=320
KPKS Kokpek 57.16 320 *e*P **P** **05 34 31.9 -1.4**
KPKS pmax pmax
comp=Z,5.0nm,0.6s
NIL Nilore 57.17 307 P **P** **05 34 32.7 -0.7**
NIL pmax pmax
comp=Z,20nm,1.0s
NIL Nilore 57.17 307 P **P** **05 34 32.7 -0.7**
NIL IAmb IAmb 05 34 34.5
comp=Z,20nm,1.0s
KSH Kashi 57.24 315 *e*P **P** **05 34 34.2 +0.2**
KSH S **S** **05 42 16.7 -7.2**
KSH pmax pmax
comp=Z,6.0nm,0.5s
KSH pmax pmax
comp=Z,120nm,4.1s
KSH LR LR
comp=Z,120nm,10.2s
KSH LR LR
comp=Z,160nm,11.0s
YAK Yakutsk 57.43 2 *e*P **P** **05 34 34.9 +0.3**
YAK *e**PP **pP** **05 34 54.5 +0.5**
YAK *e* 05 35 26.0
YAK *e* 05 36 42.2
YAK *e*S **S** **05 42 26.5 +1.3**
YAK *e* 05 44 16.7
YAK *e*SS **SS** **05 46 18.3 +2.2**
YAK pmax pmax
comp=Z,63nm,1.5s
YAK pmax pmax
comp=N,54nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK pmax pmax
comp=Z,98nm,3.8s
YAK pmax pmax
comp=N,65nm,3.7s
YAK pmax pmax
comp=E,60nm,3.8s
YAK smax smax
comp=N,19nm,1.3s
YAK smax smax
comp=E,35nm,1.5s
YAK Yakutsk 57.43 2 P **P** **05 34 35.6 +1.0**
KDJ Kajisay 57.52 318 P **P** **05 34 34.9 -1.1**
KDJ pmax pmax
comp=Z,10.0nm,1.0s
KDJ Kajisay 57.52 318 P **P** **05 34 34.9 -1.1**
KDJ IAmb IAmb 05 34 38.9
comp=Z,10nm,0.9s
MA2 Magadan 58.02 14*ce*P **P** **05 34 37.6 -1.3**
MA2 pmax pmax
comp=Z,24nm,1.3s
MDOK Medeo 58.08 319 *e*P **P** **05 34 38.5 -1.3**
baz=319
MDOK Medeo 58.08 319 *e*P **P** **05 34 38.5 -1.3**

TDK	**Taldyqorghan**	**58.08**	**322**	*e*P		**P**		**05 34 38.4**	**-1.2**
	baz=322								
TDK	**Taldyqorghan**	**58.08**	**322**	*e*P		**P**		**05 34 38.4**	**-1.2**
TNSS	**Tian-Shan**	**58.09**	**319**	*e*P		**P**		**05 34 39.4**	**-0.8**
	baz=319								
TNSS	**Tian-Shan**	**58.09**	**319**	*e*P		**P**		**05 34 39.3**	**-0.8**
CHKK	**Chushkaly**	**58.43**	**320**	*e*P		**P**		**05 34 40.7**	**-1.4**
	baz=320								
CHKK	**Chushkaly**	**58.43**	**320**	*e*P		**P**		**05 34 40.7**	**-1.4**
KUU	**Kurty**	**58.87**	**320**	*e*P		**P**		**05 34 43.7**	**-1.4**
	comp=Z,11nm,0.8s,baz=320								
KUU	**Kurty**	**58.87**	**320**	*e*P		**P**		**05 34 43.7**	**-1.4**
KUU					pmax	pmax			
	comp=Z,11nm,0.8s								
TKM2	**Tokmak 2**	**58.92**	**318**	P		**P**		**05 34 44.4**	**-1.4**
AAK	**Ala-Archa**	**59.54**	**318**	*ce*P		**P**		**05 34 49.8**	**-0.2**
AAK					pmax	pmax			
	comp=Z,7.0nm,1.7s								
ZAA0	**Zalesovo Array**	**59.72**	**333**	P		**P**		**05 34 50.1**	**-0.7**
ZALV	**Zalesovo Beam**	**59.72**	**333**	P		**P**		**05 34 49.5**	**-1.2**
	comp=Z,3.6nm,0.6s,baz=131,slow=8.7,SNR=10.0								
ZALV					LR	LR		06 02 17.2	
	comp=Z,79nm,18.2s,baz=118,slow=38								
ZALV	**Zalesovo Beam**	**59.72**	**333**	*i* P		**P**		**05 34 53.4**	**+2.6**
ZALV					pmax	pmax			
	comp=Z,4.0nm,0.6s								
ZALV	**Zalesovo Beam**	**59.72**	**333**	P		**P**		**05 34 50.0**	**-0.8**
ARSB	**Arslanbob**	**60.05**	**316**	P		**P**		**05 34 52.6**	**-0.9**
ARSB					pmax	pmax			
	comp=Z,12nm,1.3s								
ARSB	**Arslanbob**	**60.05**	**316**	P		**P**		**05 34 52.6**	**-0.9**
ARSB					IAmb	IAmb		05 34 57.7	
	comp=Z,12nm,1.2s								
KBL	**Kabul**	**60.77**	**307**	P		**P**		**05 34 57.2**	**-1.4**
KBL					pmax	pmax			
	comp=Z,10.0nm,0.8s								
KBL	**Kabul**	**60.77**	**307**	P		**P**		**05 34 57.1**	**-1.4**
KBL					IAmb	IAmb		05 34 58.6	
	comp=Z,9.6nm,0.8s								
BTLS	**Baital**	**60.84**	**320**	*e*P		**P**		**05 34 56.9**	**-1.8**
	baz=320								
BTLS	**Baital**	**60.84**	**320**	*e*P		**P**		**05 34 56.8**	**-1.8**
KURK	**Kurchatov**	**60.88**	**327**	P		**P**		**05 34 57.9**	**-0.8**
KURK					pmax	pmax			
	comp=Z,21nm,0.9s								
KURK	**Kurchatov**	**60.88**	**327**	P		**P**		**05 34 57.9**	**-0.8**
KURK					IAmb	IAmb		05 35 10.1	
	comp=Z,20nm,0.8s								
BTK	**Batken**	**61.12**	**314**	P		**P**		**05 35 00.3**	**-0.4**
BTK					pmax	pmax			
	comp=Z,23nm,1.4s								
BTK	**Batken**	**61.12**	**314**	P		**P**		**05 35 00.3**	**-0.4**
BTK					IAmb	IAmb		05 35 15.1	
	comp=Z,23nm,1.4s								
GAR	**Garm**	**61.13**	**312**	P		**P**		**05 35 00.2**	**-0.7**
CHGR	**Chuyangaron**	**61.88**	**312**	P		**P**		**05 35 05.0**	**-0.9**
CHGR					IAmb	IAmb		05 35 22.9	
	comp=Z,11nm,0.9s								
IUG	**Iuzhnay**	**62.40**	**316**	*e*P		**P**		**05 35 07.8**	**-1.6**
	baz=316								
IUG	**Iuzhnay**	**62.40**	**316**	*e*P		**P**		**05 35 07.7**	**-1.6**
KK31	**Karatay Array**	**62.41**	**317**	P		**P**		**05 35 08.1**	**-1.2**
KK31					pmax	pmax			
	comp=Z,9.0nm,1.1s								
KK31	**Karatay Array**	**62.41**	**317**	P		**P**		**05 35 08.1**	**-1.2**
KKAR	**Karatay Array**	**62.41**	**317**	P		**P**		**05 35 08.1**	**-1.2**
KKAR					pmax	pmax			
	comp=Z,9.0nm,1.1s								
KKAR	**Karatay Array**	**62.41**	**317**	P		**P**		**05 35 07.8**	**-1.5**
KKAR	**Karatay Array**	**62.41**	**317**	P		**P**		**05 35 08.1**	**-1.2**
KKAR					IAmb	IAmb		05 35 11.4	
	comp=Z,9.2nm,1.1s								
RAO	**Raoul Island**	**63.08**	**126**		LR	LR		06 01 52.8	
	comp=Z,161nm,18.2s,baz=262,slow=35								
BKZ	**Black Stump Fm**	**63.41**	**138**	P		**P**		**05 35 16.8**	**+0.9**
BRZS	**Berezniki**	**63.84**	**325**	*e*P		**P**		**05 35 17.3**	**-1.2**
	comp=Z,6.9nm,1.1s,baz=324								
BRZS	**Berezniki**	**63.84**	**325**	*e*P		**P**		**05 35 17.3**	**-1.2**
BRZS					pmax	pmax			
	comp=Z,7.0nm,1.1s								
AFI	**Afiamalu**	**64.02**	**108**		LR	LR		05 58 12.2	
	comp=Z,118nm,21.1s,baz=331,slow=31								
BVA0	**Borovoye Array**	**66.47**	**327**	*i* P		**P**		**05 35 34.0**	**-1.5**
BVAR	**Borovoye Array**	**66.47**	**327**		LR	LR		06 05 26.3	
	comp=Z,113nm,20.1s,baz=112,slow=37								
BRVK	**Borovoye**	**66.54**	**327**	P		**P**		**05 35 34.8**	**-1.1**
BRVK					pmax	pmax			
	comp=Z,18nm,0.8s								
BRVK	**Borovoye**	**66.54**	**327**	P		**P**		**05 35 34.8**	**-1.1**
BRVK					IAmb	IAmb		05 35 48.0	
	comp=Z,18nm,0.8s								
TIXI	**Tiksi**	**67.05**	**1**	*ce*P		**P**		**05 35 39.3**	**+0.5**
TIXI					pmax	pmax			
	comp=Z,20nm,1.3s								
TIXI	**Tiksi**	**67.05**	**1**	P		**P**		**05 35 38.4**	**-0.4**
TIXI					IAmb	IAmb		05 35 42.3	
	comp=Z,17nm,1.0s								
BILL	**Bilibino**	**68.88**	**15**	*e*P		**P**		**05 35 50.9**	**+0.6**
BILL				*e*				05 36 12.2	
BILL				*e*				05 38 23.8	
BILL				*e*	PPP	PPP		05 40 04.7	
BILL					pmax	pmax			
	comp=Z,20nm,1.3s								
BILL	**Bilibino**	**68.88**	**15**	P		**P**		**05 35 50.3**	**0.0**
NRIK	**Noril'sk**	**69.58**	**346**	P		**P**		**05 35 54.0**	**-0.7**
	comp=Z,8.0nm,0.6s,baz=127,slow=6.9,SNR=13								
NRIK					LR	LR		06 07 54.0	
	comp=Z,105nm,21.1s,baz=184,slow=37								
NRIK	**Noril'sk**	**69.58**	**346**	P		**P**		**05 35 54.0**	**-0.7**
GEYT	**Alibeck**	**70.13**	**309**	P		**P**		**05 35 58.3**	**-0.4**
	comp=Z,2.2nm,0.4s,baz=190,slow=6.0,SNR=6.0								
GEYT	**Alibeck**	**70.13**	**309**	P		**P**		**05 35 58.5**	**-0.3**
GYA0B	**ALIBECK ARRAY**	**70.13**	**309**	P		**P**		**05 35 58.6**	**-0.1**
ABKAR	**Akbulak array**	**71.32**	**321**	P		**P**		**05 36 04.6**	**-1.0**
AKTO	**Aktyubinsk**	**72.82**	**322**	LR		LR		06 10 48.1	
	comp=Z,97nm,18.1s,baz=108,slow=38								
AKTO	**Aktyubinsk**	**72.82**	**322**	P		**P**		**05 36 13.2**	**-1.4**
SVE	**Sverdlovsk**	**73.10**	**328**	*e*P		**P**		**05 36 15.9**	**-0.2**
ARU	**Arti**	**74.08**	**328**	*c i*P		**P**		**05 36 20.6**	**-1.3**
ARU					*PP	**pP**		**05 36 42.8**	**+0.7**
ARU								05 39 02.0	
ARU					S	**S**		**05 45 47.8**	**-0.4**
ARU					SS	**SS**		**05 50 29.2**	**-5.4**
ARU					pmax	pmax			
	comp=Z,8.0nm,0.8s								
ARU	**Arti**	**74.08**	**328**	P		**P**		**05 36 20.5**	**-1.3**
ARU					IAmb	IAmb		05 36 33.3	
	comp=Z,15nm,0.7s								
FALS	**False Pass**	**74.97**	**34**	P		**P**		**05 36 26.9**	**-0.1**
SDPT	**Sand Point**	**76.73**	**34**	P		**P**		**05 36 36.9**	**-0.1**
AKT	**Akhty**	**78.51**	**311**	*e*P		**P**		**05 36 46.4**	**-1.1**
AKT				*e*				05 36 56.1	
AKT					pmax	pmax			
	comp=Z,5.0nm,0.7s								
RDOG	**Red Dog Mine**	**78.67**	**21**	P		**P**		**05 36 49.5**	**+1.9**
RDOG					IAmb	IAmb		05 36 49.7	
	comp=Z,19nm,1.1s								
SVW2	**Sparrevohn**	**80.27**	**29**	P		**P**		**05 36 57.8**	**+1.3**
TTA	**Tatalina**	**80.35**	**27**	P		**P**		**05 36 56.6**	**-0.3**
TTA					pmax	pmax			
	comp=Z,22nm,1.4s								
TTA	**Tatalina**	**80.35**	**27**	P		**P**		**05 36 56.6**	**-0.3**
TTA					IAmb	IAmb		05 36 59.7	
	comp=Z,22nm,1.4s								
SII	**Sitkinak Islan**	**80.41**	**34**	P		**P**		**05 36 56.8**	**-0.5**
OHAK	**Old Harbor**	**80.97**	**33**	P		**P**		**05 36 59.9**	**-0.3**
OHAK					IAmb	IAmb		05 37 01.8	
	comp=Z,27nm,0.9s								
KDAK	**Kodiak Island**	**81.40**	**32**	P		**P**		**05 37 02.0**	**-0.5**
KDAK					pmax	pmax			
	comp=Z,31nm,1.0s								
KDAK	**Kodiak Island**	**81.40**	**32**	P		**P**		**05 37 01.9**	**-0.5**
KDAK					IAmb	IAmb		05 37 04.1	
	comp=Z,31nm,0.9s								
ZEI	**Tsey**	**81.42**	**312**	*e*P		**P**		**05 37 00.8**	**-2.5**
ZEI					pmax	pmax			
	comp=Z,9.0nm,0.8s								
RSO	**Redoubt South**	**81.57**	**30**	P		**P**		**05 37 03.8**	**+0.2**
PRGR	**Permogore**	**81.64**	**332**	*e*P		**P**		**05 37 02.6**	**-1.1**
PRGR				*e*	*PP	**pP**		**05 37 23.2**	**-1.0**
PRGR				*e*				05 40 04.6	
PRGR				*e*	S	**S**		**05 47 03.3**	**-6.0**
PRGR					pmax	pmax			
	comp=Z,13nm,0.8s								
IMAR	**Indian Mountai**	**81.76**	**24**	P		**P**		**05 37 04.4**	**+0.2**
PPLA	**Purkeypile**	**82.08**	**27**	P		**P**		**05 37 06.6**	**+0.5**
PPLA					IAmb	IAmb		05 37 07.3	
	comp=Z,14nm,0.9s								
KBZ	**Khabaz**	**82.18**	**313**	P		**P**		**05 37 08.1**	**+1.2**
	comp=Z,2.8nm,0.8s,baz=134,slow=1.3,SNR=3.5								
CNPM	**China Poot**	**82.25**	**31**	P		**P**		**05 37 06.8**	**-0.2**
CNPM					IAmb	IAmb		05 37 07.9	
	comp=Z,24nm,0.9s								
SKT	**Skwentna**	**82.30**	**28**	P		**P**		**05 37 07.3**	**+0.1**
SKT					IAmb	IAmb		05 37 08.0	
	comp=Z,29nm,1.1s								
KIV	**Kislovodsk**	**82.34**	**314**	*e*P		**P**		**05 37 07.5**	**-0.4**
KIV					pmax	pmax			
	comp=Z,32nm,1.1s								
KIV					MLR	MLR			
	comp=Z,133nm,19.0s								
BRLK	**Bradley Lake**	**82.44**	**30**	P		**P**		**05 37 08.1**	**+0.1**
BRLK					IAmb	IAmb		05 37 10.1	
	comp=Z,43nm,1.3s								
SUA	**Susitna One**	**82.63**	**29**	P		**P**		**05 37 08.4**	**-0.6**
SUA					IAmb	IAmb		05 37 11.2	
	comp=Z,24nm,0.8s								
BPAW	**Bear Paw Mtn.**	**82.72**	**26**	P		**P**		**05 37 10.0**	**+0.6**
CUT	**Chulitna**	**82.92**	**28**	P		**P**		**05 37 10.2**	**-0.1**
	baz=266								
TRF	**Thorofare Moun**	**82.98**	**27**	P		**P**		**05 37 11.3**	**+0.4**
TRF					IAmb	IAmb		05 37 12.7	
	comp=Z,30nm,1.1s								
O22K	**Cooper Landing**	**83.07**	**30**	P		**P**		**05 37 11.4**	**+0.3**
	baz=267								
VRH	**Novokhopyorsk**	**83.15**	**321**	*e*P		**P**		**05 37 11.1**	**-0.6**
VRH					pmax	pmax			
	comp=Z,9.0nm,0.5s								
SEW	**Seward**	**83.19**	**30**	P		**P**		**05 37 12.3**	**+0.6**
COLD	**Coldfoot**	**83.30**	**23**	P		**P**		**05 37 13.6**	**+1.4**
	baz=266								
COLD	**Coldfoot**	**83.30**	**23**	P		**P**		**05 37 14.1**	**+1.8**
COLD					IAmb	IAmb		05 37 14.9	
	comp=Z,24nm,1.0s								
BWN	**Browne**	**83.40**	**26**	P		**P**		**05 37 14.1**	**+1.3**
PMR	**Palmer**	**83.41**	**29**	P		**P**		**05 37 13.2**	**+0.3**
PMR					pmax	pmax			
	comp=Z,34nm,1.0s								
PMR	**Palmer**	**83.41**	**29**	P		**P**		**05 37 13.2**	**+0.3**
PMR					IAmb	IAmb		05 37 13.9	
	comp=Z,34nm,1.0s								
GHO	**Glory Hole Cre**	**83.52**	**28**	P		**P**		**05 37 14.1**	**+0.5**
GHO					IAmb	IAmb		05 37 27.0	
	comp=Z,20nm,1.0s								
NEA2	**Nenana**	**83.59**	**26**	P		**P**		**05 37 14.4**	**+0.6**
	baz=267								
MCK	**McKinley**	**83.61**	**26**	P		**P**		**05 37 14.4**	**+0.5**
MCK					pmax	pmax			
	comp=Z,51nm,1.2s								
MCK	**McKinley**	**83.61**	**26**	P		**P**		**05 37 14.4**	**+0.5**
RND	**Reindeer**	**83.63**	**27**	P		**P**		**05 37 13.9**	**-0.2**
RND					pmax	pmax			
	comp=Z,29nm,1.2s								
RND	**Reindeer**	**83.63**	**27**	P		**P**		**05 37 13.9**	**-0.2**
RND					IAmb	IAmb		05 37 14.9	
	comp=Z,29nm,1.2s								
TOLK	**Toolik Lake Re**	**83.63**	**22**	P		**P**		**05 37 15.0**	**+1.0**
	baz=266								
TOLK	**Toolik Lake Re**	**83.63**	**22**	P		**P**		**05 37 15.8**	**+1.8**
TOLK					IAmb	IAmb		05 37 16.6	
	comp=Z,31nm,1.1s								
KNK	**Knik Glacier**	**83.73**	**29**	P		**P**		**05 37 14.8**	**+0.2**
SML	**Sawmill**	**83.80**	**28**	P		**P**		**05 37 15.8**	**+0.8**
MDM	**Murphy Dome**	**83.97**	**25**	P		**P**		**05 37 16.0**	**+0.2**
WRH	**Wood River Hil**	**84.01**	**26**	P		**P**		**05 37 16.1**	**+0.2**
WRH					IAmb	IAmb		05 37 17.6	
	comp=Z,33nm,1.2s								
TCOL	**CIGO, UAF Yank**	**84.12**	**25**	P		**P**		**05 37 16.9**	**+0.5**
	baz=268								
COLA	**College**	**84.12**	**25**	*i* P		**P**		**05 37 15.8**	**-0.6**
COLA					pmax	pmax			
	comp=Z,6.0nm,0.9s								
COLA	**College**	**84.12**	**25**	P		**P**		**05 37 16.4**	**-0.1**
CCB	**Clear Creek Bu**	**84.14**	**26**	P		**P**		**05 37 16.5**	**-0.1**
CCB					IAmb	IAmb		05 37 18.0	
	comp=Z,25nm,1.2s								
VNDA	**Vanda**	**84.26**	**173**	P		**P**		**05 37 16.9**	**+0.1**
	comp=Z,2.5nm,0.5s,baz=319,slow=6.8,SNR=16								
VNDA	**Vanda**	**84.26**	**173**	P		**P**		**05 37 17.0**	**+0.1**
VNDA					pmax	pmax			
	comp=Z,8.0nm,1.0s								
VNDA	**Vanda**	**84.26**	**173**	P		**P**		**05 37 17.0**	**+0.2**
SCM	**Sheep Creek Mo**	**84.28**	**28**	P		**P**		**05 37 17.6**	**+0.1**
SCM					pmax	pmax			
	comp=Z,52nm,1.2s								
SCM	**Sheep Creek Mo**	**84.28**	**28**	P		**P**		**05 37 17.6**	**+0.1**
DHY	**Denali Highway**	**84.28**	**27**	P		**P**		**05 37 17.9**	**+0.3**
DHY					IAmb	IAmb		05 37 20.9	
	comp=Z,16nm,1.4s								
POKR	**Poker Plat Res**	**84.31**	**25**	P		**P**		**05 37 18.7**	**+1.3**
	baz=268								
GLI	**Glacier Island**	**84.38**	**29**	P		**P**		**05 37 17.6**	**-0.2**
MAW	**Mawson**	**84.38**	**200**	P		**P**		**05 37 18.0**	**+0.4**
	comp=Z,4.3nm,1.0s,baz=28,slow=6.2,SNR=6.5								
MAW					LR	LR		06 11 41.6	
	comp=Z,50nm,18.7s,baz=58,slow=33								
MAW	**Mawson**	**84.38**	**200**	P		**P**		**05 37 19.6**	**+2.0**
MAW					pmax	pmax			
	comp=Z,2.0nm,1.2s								
MAW	**Mawson**	**84.38**	**200**	P		**P**		**05 37 19.6**	**+2.0**
HDA	**Harding Lake**	**84.50**	**26**	P		**P**		**05 37 17.9**	**-0.6**
	baz=269								
HDA	**Harding Lake**	**84.50**	**26**	P		**P**		**05 37 18.0**	**-0.4**
IL31		**84.53**	**25**	P		**P**		**05 37 18.1**	**-0.4**
ILAR	**Eielson Array**	**84.53**	**25**	P		**P**		**05 37 17.7**	**-0.9**
	comp=Z,4.1nm,0.7s,baz=252,slow=3.7,SNR=34								
ILAR					LR	LR		06 15 35.4	
	comp=Z,29nm,19.7s,baz=253,slow=36								
ILAR	**Eielson Array**	**84.53**	**25**	P		**P**		**05 37 17.5**	**-1.1**
KLMR	**Klimovskoe**	**84.54**	**331**	*e*P		**P**		**05 37 15.9**	**-2.7**
KLMR				*e*				05 40 31.4	
KLMR					pmax	pmax			
	comp=Z,12nm,0.6s								
KLMR	**Klimovskoe**	**84.54**	**331**	*e*P		**P**		**05 37 16.0**	**-2.7**
KLMR					AMP			05 37 20.2	
	comp=Z,12nm,0.6s								
KLMR				*e*	PP	**PP**		**05 40 31.4**	**-3.5**
FID	**Port Fidalgo**	**84.68**	**30**	P		**P**		**05 37 19.5**	**+0.2**
VSR	**Storozhevoye**	**84.75**	**321**	*e*P		**P**		**05 37 18.2**	**-1.7**
VSR					pmax	pmax			
	comp=Z,6.0nm,0.5s								
M24K	**Tolsona, Glenn**	**84.83**	**28**	P		**P**		**05 37 20.4**	**+0.3**
	baz=270								
LPSR	**Galich'ya Gora**	**84.89**	**322**	*e*P		**P**		**05 37 19.1**	**-1.4**
LPSR					pmax	pmax			
	comp=Z,20nm,0.6s								
KLU	**Klutina**	**84.95**	**29**	P		**P**		**05 37 20.8**	**0.0**
KLU					IAmb	IAmb		05 37 22.5	
	comp=Z,42nm,1.5s								
PAX	**Paxson**	**85.15**	**27**	P		**P**		**05 37 22.7**	**+0.9**
PAX					pmax	pmax			
	comp=Z,33nm,1.5s								
PAX	**Paxson**	**85.15**	**27**	P		**P**		**05 37 22.7**	**+0.9**
PAX					IAmb	IAmb		05 37 23.5	
	comp=Z,33nm,1.5s								
TMCR	**Tamitsa**	**85.23**	**334**	*e*P		**P**		**05 37 20.9**	**-1.1**
TMCR					pmax	pmax			
	comp=Z,52nm,1.0s								
RIDG	**Independent Ri**	**85.42**	**26**	P		**P**		**05 37 23.1**	**-0.1**
RIDG					IAmb	IAmb		05 37 25.2	
	comp=Z,31nm,1.4s								
MOS	**Moscow**	**85.59**	**325**	*e*P		**P**		**05 37 24.6**	**+0.6**
MOS				*e*				05 37 47.9	
PPT2	**Papeete2**	**85.69**	**108**	*e*LR		LR		06 04 37.1	
	comp=Z,322nm,32.2s								
DOT	**Dot Lake**	**85.78**	**27**	P		**P**		**05 37 25.2**	**+0.3**
SCRK	**Sand Creek**	**85.80**	**26**	P		**P**		**05 37 25.1**	**+0.1**
	baz=272								
GLB	**Gilahina Butte**	**85.96**	**29**	P		**P**		**05 37 26.4**	**+0.6**
GLB					IAmb	IAmb		05 37 29.0	
	comp=Z,26nm,1.1s								
ANN	**Anapa**	**86.10**	**314**	*e*P		**P**		**05 37 27.9**	**+1.2**
ANN					pmax	pmax			
	comp=Z,38nm,0.9s								
VRDI	**Verde Repeater**	**86.14**	**29**	P		**P**		**05 37 27.1**	**+0.2**
VRDI					IAmb	IAmb		05 37 29.3	
	comp=Z,14nm,1.0s								
OBN	**Obninsk**	**86.21**	**325**	*e*P		**P**		**05 37 26.8**	**-0.3**
OBN				*e*				05 40 51.8	
OBN					pmax	pmax			
	comp=Z,10.0nm,0.4s								
TBI	**Tubuai**	**86.42**	**114**	*e*	LR	LR		06 04 55.0	
	comp=Z,316nm,31.8s								
LVZ	**Lovozero**	**86.49**	**338**	*ce*P		**P**		**05 37 27.6**	**-0.7**
LVZ					pmax	pmax			
	comp=Z,71nm,1.7s								
LVZ	**Lovozero**	**86.49**	**338**	P		**P**		**05 37 27.9**	**-0.4**
LVZ					IAmb	IAmb		05 37 29.3	
	comp=Z,16nm,0.9s								
K27K	**Chicken**	**86.64**	**26**	P		**P**		**05 37 30.0**	**+0.9**
	baz=273								
BCAR	**Beaver Creek A**	**86.83**	**27**	P		**P**		**05 37 30.5**	**+0.4**
APA	**Apatity**	**86.99**	**337**	*i*P		**P**		**05 37 29.4**	**-1.2**
APA					pmax	pmax			
	comp=Z,14nm,1.0s								
APA					MLR	MLR			
	comp=Z,300nm,22.0s								
EGAK	**Eagle**	**86.99**	**25**	P		**P**		**05 37 31.0**	**+0.3**
HYT	**Haines Junctio**	**89.06**	**29**	P		**P**		**05 37 41.1**	**+0.3**
KMBO	**Kilima Mbogo**	**89.22**	**269**	P		**P**		**05 37 41.9**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=43,slow=9.8,SNR=5.7								
KMBO					LR	LR		06 13 45.3	
	comp=Z,38nm,21.7s,baz=97,slow=33								
KMBO	**Kilima Mbogo**	**89.22**	**269**	P		**P**		**05 37 41.8**	**-0.9**
KMBO					pmax	pmax			
	comp=Z,5.0nm,1.0s								
KMBO	**Kilima Mbogo**	**89.22**	**269**	P		**P**		**05 37 41.8**	**-0.9**
BR131	**Keskin Array S**	**89.25**	**310**	P		**P**		**05 37 40.6**	**-1.6**
BR131					pmax	pmax			
	comp=Z,3.0nm,0.8s								
BR131	**Keskin Array S**	**89.25**	**310**	P		**P**		**05 37 40.6**	**-1.6**
BRTR	**Keskin Array B**	**89.25**	**310**	P		**P**		**05 37 40.5**	**-1.6**
	comp=Z,2.9nm,0.9s,baz=134,slow=2.7,SNR=10								
BRTR					LR	LR		06 23 42.2	
	comp=Z,20nm,18.7s,baz=16,slow=40								
BRTR	**Keskin Array B**	**89.25**	**310**	*i* P		**P**		**05 37 40.0**	**-2.2**
BRTR					pmax	pmax			
	comp=Z,3.0nm,0.8s								
BRTR	**Keskin Array B**	**89.25**	**310**	P		**P**		**05 37 40.2**	**-2.0**
INK	**Inuvik**	**89.55**	**21**	P		**P**		**05 37 42.6**	**-0.1**
INK					pmax	pmax			
	comp=Z,11nm,1.1s								
INK	**Inuvik**	**89.55**	**21**	P		**P**		**05 37 42.6**	**-0.1**
INK					IAmb	IAmb		05 37 43.5	
	comp=Z,11nm,1.1s								
ARCES	**ARCESS Array B**	**89.58**	**340**	P		**P**		**05 37 41.9**	**-1.1**
	comp=Z,16nm,0.8s,baz=78,slow=4.9,SNR=35								
ARCES	**ARCESS Array B**	**89.58**	**340**	P		**P**		**05 37 42.1**	**-0.8**
ARCES	**ARCESS Array B**	**89.58**	**340**	P		**P**		**05 37 42.1**	**-0.8**
ARE0	**ARCESS Array S**	**89.58**	**340**	P		**P**		**05 37 42.3**	**-0.6**
WHY	**Whitehorse**	**90.36**	**29**	P		**P**		**05 37 47.2**	**+0.3**
WHY					IAmb	IAmb		05 37 48.6	
	comp=Z,10nm,1.1s								
FIA1	**FINESS Array S**	**90.97**	**332**	P		**P**		**05 37 49.2**	**-0.2**
FINES	**FINESS Array B**	**90.97**	**332**	P		**P**		**05 37 48.3**	**-1.2**
	comp=Z,4.4nm,0.7s,baz=64,slow=4.6,SNR=16								
FINES					LR	LR		06 21 54.2	
	comp=Z,115nm,19.9s,baz=60,slow=38								
FINES	**FINESS Array B**	**90.97**	**332**	*i* P		**P**		**05 37 48.9**	**-0.6**
FINES					pmax	pmax			
	comp=Z,4.0nm,0.7s								
FINES	**FINESS Array B**	**90.97**	**332**	P		**P**		**05 37 48.7**	**-0.8**
AKASG	**Malin Array Be**	**91.06**	**321**	P		**P**		**05 37 48.6**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=69,slow=4.4,SNR=4.0								
AKASG	**Malin Array Be**	**91.06**	**321**	*i* P		**P**		**05 37 49.4**	**-0.7**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.4s								
AKBB	**Malin Array Si**	**91.06**	**321**	*ce*P		**P**		**05 37 49.6**	**-0.5**
WRAK	**Wrangell Islan**	**92.47**	**33**	P		**P**		**05 37 57.1**	**+0.6**
WRAK					IAmb	IAmb		05 37 58.8	
	comp=Z,9.2nm,1.1s								
SYO	**Syowa Base**	**93.04**	**201**	*e*P		**P**		**05 38 01.0**	**+2.2**
SYO	**Syowa Base**	**93.04**	**201**	*e*X		**P**		**05 38 03.2**	**+4.4**
SYO	**Syowa Base**	**93.04**	**201**	*e*pP		pP		05 38 19.6	-0.2
DLBC	**Dease Lake**	**93.24**	**31**	P		**P**		**05 38 01.3**	**+1.1**
BURAR	**Bucovina Array**	**94.18**	**318**	P		**P**		**05 38 03.9**	**-0.9**
BUR08	**Bucovina Ar. S**	**94.18**	**318**	P		**P**		**05 38 03.8**	**-1.0**
QSPA	**South Pole Qui**	**94.43**	**180**	P		**P**		**05 38 05.5**	**0.0**
QSPA					IAmb	IAmb		05 38 08.

JAGI					IAmb	IAmb	05 32 02.8	
	comp=Z,43nm,1.0s							
MTN	**Manton Dam**	**17.82**	**165**	P		**P**	**05 31 55.5**	**-0.5**
MTN					IAmb	IAmb	05 32 00.6	
	comp=Z,34nm,1.1s							
YULB	**Yu-li**	**19.46**	**346**	P		**P**	**05 32 12.3**	**-1.7**
TPUB	**Ta-pu**	**19.55**	**344**	P		**P**	**05 32 13.1**	**-1.8**
TPUB					IAmb	IAmb	05 32 19.2	
	comp=Z,37nm,1.3s							
KNRA	**Kununurra**	**20.13**	**173**	P		**P**	**05 32 22.2**	**+1.0**
KNRA					IAmb	IAmb	05 32 33.2	
	comp=Z,50nm,1.1s							
FITZ	**Fitzroy Crossi**	**22.40**	**182**	P		**P**	**05 32 47.0**	**+1.5**
	comp=Z,27nm,1.0s,baz=360,slow=7.4,SNR=8.0							
FITZ	**Fitzroy Crossi**	**22.40**	**182**	P		**P**	**05 32 46.5**	**+0.9**
FITZ					IAmb	IAmb	05 32 50.1	
	comp=Z,28nm,1.0s							
ANA2	**Anatahan**	**22.41**	**57**	P		**P**	**05 32 43.3**	**-2.4**
COEN	**Coen**	**24.77**	**138**	P		**P**	**05 33 07.6**	**-0.3**
COEN					IAmb	IAmb	05 33 18.1	
	comp=Z,44nm,1.4s							
WB0	**Warramunga Arr**	**25.33**	**162**	P		**P**	**05 33 12.1**	**-0.8**
WB0					IAmb	IAmb	05 33 18.4	
	comp=Z,29nm,0.9s							
XMIS	**Christmas Isla**	**25.37**	**234**	P		**P**	**05 33 12.0**	**-1.4**
WRAB	**Tennant Creek**	**25.47**	**162**	P		**P**	**05 33 13.8**	**-0.5**
WRAB					IAmb	IAmb	05 33 19.9	
	comp=Z,26nm,0.8s							
WRA	**Warramunga Arr**	**25.48**	**162**	P		**P**	**05 33 16.2**	**+1.9**
	comp=Z,14nm,0.7s,baz=339,slow=10,SNR=8.2							
WRA	**Warramunga Arr**	**25.48**	**162**	P		**P**	**05 33 15.7**	**+1.4**
WB2	**Warramunga Arr**	**25.48**	**162**	P		**P**	**05 33 14.8**	**+0.5**
WB2					IAmb	IAmb	05 33 20.0	
	comp=Z,24nm,0.8s							
WR0	**Warramunga Arr**	**25.55**	**162**	P		**P**	**05 33 16.1**	**+1.2**
WR0					IAmb	IAmb	05 33 28.6	
	comp=Z,22nm,0.9s							
PSA00	**Pilbara Seismi**	**26.62**	**194**	P		**P**	**05 33 24.7**	**+0.2**
PSA00					IAmb	IAmb	05 33 26.9	
	comp=Z,23nm,0.8s							
PSA00	**Pilbara Seismi**	**26.62**	**194**	P		**P**	**05 33 21.4**	**-3.2**
PSA00					IAmb	IAmb	05 33 22.6	
	comp=Z,16nm,0.9s							
PBKT	**Sadao Pong**	**27.65**	**298**	P		**P**	**05 33 33.7**	**-0.1**
ASAR	**Alice Springs**	**28.89**	**166**	P		**P**	**05 33 46.3**	**+1.4**
	comp=Z,3.5nm,0.6s,baz=336,slow=6.9,SNR=3.9							
ASAR	**Alice Springs**	**28.89**	**166**	P		**P**	**05 33 45.2**	**+0.3**
MORW	**Morawa**	**34.75**	**196**	P		**P**	**05 34 36.9**	**+0.7**
FORT	**Forrest**	**35.06**	**177**	P		**P**	**05 34 38.9**	**+0.2**
NWAO	**Narrogin (SRO)**	**38.15**	**192**	P		**P**	**05 35 06.3**	**+1.4**
	comp=Z,24nm,0.9s,baz=40,slow=7.7,SNR=4.1							
NWAO	**Narrogin (SRO)**	**38.15**	**192**	P		**P**	**05 35 04.5**	**-0.4**
NWAO	**Narrogin (SRO)**	**38.15**	**192**	P		**P**	**05 35 04.5**	**-0.4**
BBOO	**Buckleboo**	**38.18**	**167**	P		**P**	**05 35 06.7**	**+1.5**
BBOO					IAmb	IAmb	05 35 09.0	
	comp=Z,11nm,0.8s							
STKA	**Stephens Creek**	**38.93**	**159**	P		**P**	**05 35 13.5**	**+1.9**
	comp=Z,8.6nm,0.7s,baz=335,slow=6.7,SNR=2.9							
STKA	**Stephens Creek**	**38.93**	**159**	P		**P**	**05 35 13.0**	**+1.5**
USRK	**Ussuriysk Ar.**	**39.91**	**6**	P		**P**	**05 35 18.6**	**-1.0**
ARMA	**Armidale**	**42.27**	**147**	P		**P**	**05 35 39.9**	**+0.7**
ARMA					IAmb	IAmb	05 35 57.8	
	comp=Z,8.3nm,0.8s							
H11N1	**WAKE ISLAND Hy**	**42.32**	**65**	T		T	06 21 42.1	
	baz=255,slow=75,SNR=9.8							
H11N2	**WAKE ISLAND Hy**	**42.33**	**65**	T		T	06 21 40.8	
	baz=255,slow=75,SNR=8.9							
H11N3	**WAKE ISLAND Hy**	**42.34**	**65**	T		T	06 21 38.3	
	baz=255,slow=75,SNR=7.7							
SONM	**Songino Array**	**46.51**	**342**	ScP		**ScP**	**05 41 33.5**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=180,slow=3.9,SNR=2.5							
PEA0B	**Petropavlovsk-**	**54.93**	**23**	P		**P**	**05 37 16.1**	**+0.2**
PEA0B					IAmb	IAmb	05 37 33.9	
	comp=Z,10nm,1.2s							
PETK	**Petropavlovsk-**	**54.93**	**23**	P		**P**	**05 37 16.5**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=199,slow=4.5,SNR=4.2							
PETK	**Petropavlovsk-**	**54.93**	**23**	P		**P**	**05 37 15.4**	**-0.5**
MK31	**Makanchi Array**	**56.75**	**325**	P		**P**	**05 37 29.3**	**+0.2**
MKAR	**Makanchi Array**	**56.75**	**325**	P		**P**	**05 37 29.5**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=122,slow=7.9,SNR=2.4							
MKAR					ScP	**ScP**	**05 42 17.1**	**+0.9**
	comp=Z,2.0nm,0.9s,baz=139,slow=4.8,SNR=4.8							
MKAR	**Makanchi Array**	**56.75**	**325**	P		**P**	**05 37 28.5**	**-0.5**
MAKZ	**Makanchi**	**56.94**	**325**	P		**P**	**05 37 29.8**	**-0.5**
MAKZ					IAmb	IAmb	05 37 32.1	
	comp=Z,9.3nm,1.3s							
NIL	**Nilore**	**57.18**	**307**	P		**P**	**05 37 30.9**	**-1.5**
NIL					IAmb	IAmb	05 37 31.5	
	comp=Z,7.6nm,1.1s							
KURK	**Kurchatov**	**60.93**	**327**	P		**P**	**05 37 56.9**	**-1.0**
KURK					IAmb	IAmb	05 37 59.0	
	comp=Z,10.0nm,1.1s							
GAR	**Garm**	**61.15**	**312**	P		**P**	**05 37 58.9**	**-0.9**
KK31	**Karatay Array**	**62.45**	**317**	P		**P**	**05 38 07.3**	**-1.0**
KKAR	**Karatay Array**	**62.45**	**317**	P		**P**	**05 38 07.3**	**-1.0**
KKAR	**Karatay Array**	**62.45**	**317**	P		**P**	**05 38 07.2**	**-1.1**
KKAR					IAmb	IAmb	05 38 20.4	
	comp=Z,2.6nm,0.9s							
BKZ	**Black Stump Fm**	**63.37**	**138**	P		**P**	**05 38 14.9**	**+0.4**
BRVK	**Borovoye**	**66.58**	**327**	P		**P**	**05 38 34.8**	**-0.2**
BRVK					IAmb	IAmb	05 38 37.7	
	comp=Z,4.5nm,0.9s							
TIXI	**Tiksi**	**67.14**	**1**	P		**P**	**05 38 38.8**	**+0.6**
TIXI					IAmb	IAmb	05 38 42.5	
	comp=Z,5.6nm,0.8s							
NRIK	**Noril'sk**	**69.65**	**346**	P		**P**	**05 38 54.6**	**+0.7**
	comp=Z,4.3nm,0.6s,baz=123,slow=10,SNR=3.5							
GEYT	**Alibeck**	**70.14**	**309**	P		**P**	**05 38 58.4**	**+0.8**
	comp=Z,1.8nm,0.4s,baz=86,slow=4.5,SNR=2.5							
ABKAR	**Akbulak array**	**71.35**	**321**	P		**P**	**05 39 03.8**	**-0.9**
CASY	**Casey**	**71.47**	**187**	P		**P**	**05 39 05.6**	**+0.7**
UNV	**Unalaska Valle**	**73.07**	**35**	P		**P**	**05 39 14.2**	**-0.5**
AKUT	**Akutan**	**73.57**	**35**	P		**P**	**05 39 18.3**	**+0.6**
ANM	**Nome**	**76.79**	**24**	P		**P**	**05 39 35.9**	**-0.1**
OHAK	**Old Harbor**	**81.08**	**33**	P		**P**	**05 39 58.8**	**-0.8**
OHAK					IAmb	IAmb	05 40 09.1	
	comp=Z,12nm,1.1s							
KDAK	**Kodiak Island**	**81.51**	**32**	P		**P**	**05 40 02.5**	**+0.7**
KDAK					IAmb	IAmb	05 40 17.5	
	comp=Z,7.9nm,0.9s							
IMAR	**Indian Mountai**	**81.86**	**24**	P		**P**	**05 40 04.1**	**+0.5**
CNPM	**China Poot**	**82.36**	**31**	P		**P**	**05 40 05.3**	**-1.0**
CNPM					IAmb	IAmb	05 40 15.5	
	comp=Z,5.8nm,1.0s							
SKT	**Skwentna**	**82.41**	**28**	P		**P**	**05 40 05.8**	**-0.7**
BPAW	**Bear Paw Mtn.**	**82.83**	**26**	P		**P**	**05 40 07.5**	**-1.2**
BPAW					IAmb	IAmb	05 40 17.9	
	comp=Z,7.0nm,1.2s							
COLD	**Coldfoot**	**83.40**	**23**	P		**P**	**05 40 11.4**	**-0.2**
CCB	**Clear Creek Bu**	**84.24**	**26**	P		**P**	**05 40 16.1**	**+0.3**
ILAR	**Eielson Array**	**84.64**	**25**	P		**P**	**05 40 18.9**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=273,slow=6.5,SNR=4.5							
BCAR	**Beaver Creek A**	**86.93**	**27**	P		**P**	**05 40 29.5**	**+0.2**
BRTR	**Keskin Array B**	**89.27**	**310**	P		**P**	**05 40 39.6**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=117,slow=7.1,SNR=3.6							
ARCES	**ARCESS Array B**	**89.65**	**340**	P		**P**	**05 40 41.5**	**-0.5**
	comp=Z,6.6nm,0.7s,baz=75,slow=5.5,SNR=9.1							
ARCES	**ARCESS Array B**	**89.65**	**340**	P		**P**	**05 40 41.8**	**-0.2**
ARE0	**ARCESS Array S**	**89.65**	**340**	P		**P**	**05 40 41.9**	**-0.1**
FINES	**FINESS Array B**	**91.02**	**332**	P		**P**	**05 40 48.4**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=74,slow=5.2,SNR=8.0							
FINES	**FINESS Array B**	**91.02**	**332**	P		**P**	**05 40 48.0**	**-0.6**
QSPA	**South Pole Qui**	**94.34**	**180**	P		**P**	**05 41 03.2**	**-0.6**
QSPA					IAmb	IAmb	05 41 07.8	
	comp=Z,3.0nm,1.1s							
NB2	**NORSAR Subarra**	**97.98**	**334**	P		**P**	**05 41 19.5**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=65,slow=4.6							
NOA	**NORSAR Array B**	**97.98**	**334**	P		**P**	**05 41 19.6**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=65,slow=4.6,SNR=5.5							
TORD	**Torodi Ar. Bea**	**122.32**	**288**	PKP		**PKPdf**	**05 46 40.2**	**0.0**
	comp=Z,0.8nm,0.8s,baz=88,slow=2.1,SNR=5.0							

*SOME **07** 05:48:24.5, 39°.30N×75°.38E, h5km*
*NNC **07** 05:48:26.6±1.2, 39°.36N×75°.38E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=9.2km s-min=8.2km az=100.0*
*KRNET **07** 05:48:38.3±0.1, 39°.47N×74°.70E, mb2.8*
ISC 07 05:48:35.9±2.3, 39°.5N±0°.1×74°.74E±0°.07, h10km, n18, σ1§66/30, 10C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.82**	**305**	⇓*iP*	**Pn**	**05 49 09.0**	**+1.6**
	baz=6.0						
OHH				⇓*i*S	**Sn**	**05 49 31.0**	**+0.5**
ARSB	**Arslanbob**	**2.27**	**324**	⇑*iP*	**Pn**	**05 49 15.3**	**+1.7**
	baz=25						
ARSB				⇑*i*S	**Sn**	**05 49 42.5**	**+0.8**
	baz=25						
ARLS	**Aral**	**2.39**	**353**	⇑*eP*	**Pn**	**05 49 16.8**	**+1.6**
	baz=53						
ARLS				⇑*i*S	**Sn**	**05 49 45.8**	**+1.2**
	baz=53						
KZA	**Kyzart**	**2.61**	**8**	⇓*eP*	**Pn**	**05 49 20.0**	**+1.5**
	baz=9.0						
KZA				⇓*i*S	**Sn**	**05 49 51.6**	**+1.1**
	baz=9.0						
UCH	**Uchtor**	**2.74**	**356**	⇑*iP*	**Pn**	**05 49 21.7**	**+1.4**
	baz=57						
UCH				⇑*i*S	**Sn**	**05 49 54.3**	**+0.6**
	baz=57						
AML	**Almayashu**	**2.75**	**344**	⇓*iP*	**Pn**	**05 49 21.9**	**+1.4**
	baz=44						
AML				⇓*i*S	**Sn**	**05 49 54.8**	**+0.8**
	baz=44						
ULHL	**Ulahol**	**2.98**	**22**	⇓*eP*	**Pn**	**05 49 25.2**	**+1.8**
	baz=22						
ULHL				⇓*i*S	**Sn**	**05 50 00.5**	**+1.2**
	baz=22						
BTK	**Batken**	**3.07**	**282**	⇑*iP*	**Pn**	**05 49 26.0**	**+1.4**
	baz=82						
BTK				⇑*i*S	**Sn**	**05 50 01.2**	**-0.3**
	baz=82						
AAK	**Ala-Archa**	**3.15**	**357**	⇓Pg	**Pn**	**05 49 27.6**	**+1.9**
	2.3nm,0.6s						
AAK				⇓Lg	Lg	05 50 13.1	
	1.7nm,0.4s						
MRKS	**Merke**	**3.44**	**341**	*eP*	**Pb**	**05 49 34.9**	**-2.2**
	3.4nm,0.2s						
MRKS				*eS*	**Sg**	**05 50 26.1**	**-0.4**
	2.1nm,0.3s						
MRKS	**Merke**	**3.44**	**341**	Pg	**Pb**	**05 49 34.9**	**-2.2**
	3.4nm,0.2s						
MRKS				Lg	Lg	05 50 26.1	
	2.1nm,0.3s						
TKM2	**Tokmak 2**	**3.48**	**10**	⇑Pg	**Pn**	**05 49 32.1**	**+1.7**
	2.0nm,0.5s						
TKM2				⇑Lg	Lg	05 50 18.9	
	3.4nm,0.6s						
KST	**Kastek**	**3.67**	**14**	⇓*iP*	**Pn**	**05 49 34.7**	**+1.9**
	2.2nm,0.3s						
KST				*eS*	**Sb**	**05 50 25.7**	**+0.3**
	3.8nm,0.5s						
KST	**Kastek**	**3.67**	**14**	Pg	**Pn**	**05 49 34.7**	**+1.9**
	5.2nm,1.3s						
KST				Lg	Lg	05 50 25.7	
	4.6nm,0.8s						
DGS	**Degeres**	**3.83**	**11**	*eP*	**Pn**	**05 49 37.5**	**+2.5**
	3.8nm,0.5s						
DGS				*eS*	**Sb**	**05 50 30.4**	**+0.4**
	2.1nm,0.7s						
DGS	**Degeres**	**3.83**	**11**	Pg	**Pn**	**05 49 37.4**	**+2.5**
	3.8nm,0.5s						
DGS				Lg	Lg	05 50 30.3	
	2.1nm,0.7s						
TNSS	**Tian-Shan**	**3.91**	**24**	*eP*	**Pn**	**05 49 36.8**	**+0.4**
	2.3nm,0.6s						
TNSS				*eS*	**Sb**	**05 50 29.2**	**-3.5**
	2.2nm,0.3s						
TNSS	**Tian-Shan**	**3.91**	**24**	Pg	**Pn**	**05 49 36.8**	**+0.4**
	2.3nm,0.4s						
TNSS				Lg	Lg	05 50 29.2	
	2.2nm,0.3s						

*NEIC **07** 06:36:30.1±1.2, 19°.75N±0°.04×68°.87W±0°.04, h24km±12km, Error ellipse: s-maj=6.6km s-min=4.4km az=48.0*
*OSPL **07** 06:36:31.5±1.2, 17°.57N×69°.22W, h80km±26km, ML2.7*
*RSPR **07** 06:36:31.5, 19°.71N×68°.94W, h20km±18km*
ISC 07 06:36:31.4±1.6, 19°.67N±0°.08×68°.83W±0°.04, h26km±15km, n26, σ1§15/36, 6C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DR12	**Loma Pena Alta**	**1.02**	**211**		**Pn**	**06 36 49.4**	**-0.6**
DR12				Sg	**Sb**	**06 37 03.6**	**+0.2**
PCDR	**Punta Cana, DR**	**1.22**	**160**	⇑*eP*	**Pn**	**06 36 51.6**	**-1.1**
PCDR	**Punta Cana, DR**	**1.22**	**160**	*eS*	**Sn**	**06 37 08.0**	**-0.3**
PCDR	**Punta Cana, DR**	**1.22**	**160**	*iP*	**Pn**	**06 36 51.6**	**-1.1**
PCDR				*eS*	**Sn**	**06 37 08.4**	**+0.1**
PCDR				IAML		06 37 15.6	
	comp=Z,162nm,1.9s						
PCDR	**Punta Cana, DR**	**1.22**	**160**		**Pn**	**06 36 52.4**	**-0.3**
PCDR					**Pb**	**06 36 54.3**	**+0.5**
PCDR				Sn	**Sn**	**06 37 08.6**	**+0.2**
PCDR					**Sb**	**06 37 10.2**	**+1.1**
SC01	**Santiago de lo**	**1.81**	**263**	*i*P	**Pb**	**06 37 03.4**	**-0.4**
SC01				*eS*	**Sb**	**06 37 28.9**	**+2.9**
SC01				IAML		06 37 31.1	
	comp=Z,24nm,0.3s						
SC01	**Santiago de lo**	**1.81**	**263**	Pn	**Pb**	**06 37 03.4**	**-0.4**
BANI	**BANI**	**1.92**	**229**		Pn	06 36 57.0	-5.5
BANI					Pb	06 37 16.6	+11
AGPR	**Aguadilla, PR**	**2.01**	**126**	*i*P	**Pn**	**06 37 04.8**	**+1.2**
AGPR				*eS*	**Sn**	**06 37 29.7**	**+1.7**
AGPR				IAML		06 37 34.4	
	comp=Z,52nm,2.0s						
AGPR	**Aguadilla, PR**	**2.01**	**126**	Pn	**Pn**	**06 37 05.5**	**+1.8**
AGPR				Sn	**Sn**	**06 37 28.7**	**+0.7**
LSP	**Las Mesas**	**2.22**	**132**	⇑*eP*	**Pn**	**06 37 06.6**	**+0.2**
LSP	**Las Mesas**	**2.22**	**132**	*eS*	**Sn**	**06 37 33.4**	**+0.3**
LSP	**Las Mesas**	**2.22**	**132**		**Pn**	**06 37 06.6**	**+0.2**
LSP					**Sn**	**06 37 33.4**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.32**	**135**	Pn	**Pn**	**06 37 10.0**	**+2.2**
AOPR	**Arecibo Observ**	**2.36**	**123**	⇑*eP*	**Pn**	**06 37 08.4**	**-0.1**
AOPR	**Arecibo Observ**	**2.36**	**123**	*eS*	**Sn**	**06 37 37.0**	**+0.4**
AOPR	**Arecibo Observ**	**2.36**	**123**		**Pn**	**06 37 09.2**	**+0.7**
AOPR					**Pb**	**06 37 09.8**	**-3.4**
AOPR					**Sn**	**06 37 36.5**	**-0.1**
MLPR	**Magueyes Islan**	**2.39**	**135**	⇑*eP*	**Pn**	**06 37 08.5**	**-0.2**
SDDR	**Presa de Saban**	**2.42**	**254**	*iP*	**Pn**	**06 37 08.1**	**-1.2**
SDDR				IAML		06 37 39.2	
	comp=Z,14nm,0.3s						
SDDR	**Presa de Saban**	**2.42**	**254**		**Pn**	**06 37 08.0**	**-1.2**
GCPR	**Guaynabo City**	**2.93**	**117**	Pn	**Pn**	**06 37 15.7**	**-0.5**
PDPR	**Patillas Dam,**	**3.12**	**121**	Pn	**Pn**	**06 37 18.7**	**-0.2**
CBYP	**Canovanas**	**3.13**	**116**	⇑*eP*	**Pn**	**06 37 19.4**	**+0.2**
CBYP	**Canovanas**	**3.13**	**116**		**Pn**	**06 37 19.1**	**0.0**
HUMP	**Col San Antoni**	**3.20**	**118**	⇑*eP*	**Pn**	**06 37 20.4**	**+0.4**
HUMP	**Col San Antoni**	**3.20**	**118**		**Pn**	**06 37 19.9**	**-0.1**

*SOME **07** 06:37:32.5, 39°.93N×75°.45E, h15km*
*KRNET **07** 06:37:33.4±0.1, 40°.01N×75°.42E, mb2.4*
*NNC **07** 06:37:37.1±1.9, 39°.92N×75°.66E, h29km±7km, mb3.6, mpv3.1, Error ellipse: s-maj=12.6km s-min=9.7km az=176.0*
ISC 07 06:37:35.1±2.1, 39°.94N±0°.08×75°.48E±0°.05, h4km±11km, n24, σ1§29/41, 11C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARLS	**Aral**	**2.11**	**336**	⇑*iP*	**Pn**	**06 38 10.5**	**-0.8**
	baz=36						
ARLS				⇑*i*S	**Sn**	**06 38 37.2**	**-0.9**
	baz=36						
KZA	**Kyzart**	**2.14**	**355**	⇓*iP*	**Pn**	**06 38 10.9**	**-1.1**
	baz=56						
KZA				⇓*i*S	**Sn**	**06 38 38.5**	**-0.7**
	baz=56						
OHH	**Osh**	**2.14**	**287**	⇑*iP*	**Pn**	**06 38 11.3**	**-0.4**
	baz=85						
OHH				⇑*i*S	**Sn**	**06 38 38.9**	**+0.1**
	baz=85						
ARSB	**Arslanbob**	**2.35**	**307**	⇓*iP*	**Pn**	**06 38 14.0**	**-0.6**
	baz=6.0						
ARSB				⇓*i*S	**Sn**	**06 38 43.5**	**-0.5**
	baz=6.0						
ULHL	**Ulahol**	**2.37**	**14**	⇓*iP*	**Pn**	**06 38 14.8**	**-0.2**
	baz=15						
ULHL				⇓*i*S	**Sn**	**06 38 44.9**	**+0.2**
	baz=15						
UCH	**Uchtor**	**2.40**	**343**	⇑*iP*	**Pn**	**06 38 14.7**	**-0.9**
	baz=43						
UCH				⇑*i*S	**Sn**	**06 38 44.9**	**-0.7**
	baz=43						
KDJ	**Kajisay**	**2.54**	**30**	⇑*iP*	**Pn**	**06 38 17.0**	**-0.2**
	baz=32						
KDJ				⇑*i*S	**Sn**	**06 38 48.7**	**0.0**
	baz=32						
TKM2	**Tokmak 2**	**2.98**	**2**	⇓Pn	**Pn**	**06 38 23.0**	**-0.4**
	1.8nm,0.3s						
TKM2				⇓Sn	**Sn**	**06 38 58.8**	**-0.8**
	3.0nm,0.5s						
KST	**Kastek**	**3.12**	**7**	*eP*	**Pn**	**06 38 26.1**	**+0.9**
	1.7nm,0.4s						
KST				*eS*	**Sn**	**06 39 03.7**	**+0.7**
	5.5nm,0.8s						
KST	**Kastek**	**3.12**	**7**	Pg	**Pg**	**06 38 34.3**	**-0.6**
	2.5nm,0.2s						
KST				Lg	Lg	06 39 16.0	
	5.6nm,0.5s						
MRKS	**Merke**	**3.27**	**330**	*eP*	**Pb**	**06 38 34.7**	**+0.9**
	1.6nm,0.2s						
MRKS				*eS*	**Sg**	**06 39 18.8**	**-1.5**
	2.1nm,0.5s						
MRKS	**Merke**	**3.27**	**330**	Pg	**Pg**	**06 38 37.9**	**+0.1**
	2.8nm,0.3s						
MRKS				Lg	Lg	06 39 22.3	
	2.1nm,0.5s						
TNSS	**Tian-Shan**	**3.28**	**19**	*eP*	**Pg**	**06 38 36.8**	**-1.2**
	0.4nm,0.6s						
TNSS				*eS*	**Sg**	**06 39 22.5**	**+1.9**
	5.8nm,0.5s						
TNSS	**Tian-Shan**	**3.28**	**19**	Pg	**Pg**	**06 38 38.9**	**+0.8**
	2.1nm,0.4s						
TNSS				Lg	Lg	06 39 23.8	
	4.6nm,0.6s						
DGS	**Degeres**	**3.31**	**4**	*eP*	**Pb**	**06 38 35.8**	**+1.4**
	0.8nm,0.5s						
DGS				*eS*	**Sg**	**06 39 20.7**	**-0.6**
	4.0nm,0.4s						
DGS	**Degeres**	**3.31**	**4**	Pg	**Pg**	**06 38 38.0**	**-0.4**
	2.7nm,0.5s						
DGS				Lg	Lg	06 39 22.5	
	4.0nm,0.4s						
MDOK	**Medeo**	**3.43**	**20**	*eP*	**Pb**	**06 38 37.1**	**+0.7**
	2.5nm,0.3s						
MDOK				*eS*	**Sg**	**06 39 23.6**	**-1.6**
	4.6nm,0.4s						
MDOK	**Medeo**	**3.43**	**20**	⇑Pg	**Pb**	**06 38 39.0**	**+2.5**
	0.9nm,0.3s						
MDOK				Lg	Lg	06 39 26.1	
	4.8nm,0.7s						
MDOK	**Medeo**	**3.43**	**20**	Pg	**Pg**	**06 38 40.1**	**-0.7**
	2.5nm,0.3s						
MDOK				Lg	Lg	06 39 26.0	
	4.6nm,0.4s						
BTK	**Batken**	**3.58**	**273**	⇓*iP*	**Pn**	**06 38 31.3**	**-0.2**
	baz=72						
BTK				⇓*i*S	**Sn**	**06 39 14.0**	**-0.3**
	baz=72						
KTBS	**Karatobe**	**3.87**	**13**	*eP*	**Pb**	**06 38 46.5**	**+2.5**
	1.3nm,0.3s						
KTBS				*eS*	**Sg**	**06 39 38.9**	**-0.7**
	6.7nm,0.4s						
KTBS	**Karatobe**	**3.87**	**13**	Pg	**Pg**	**06 38 48.5**	**-0.8**
	1.3nm,0.3s						
KTBS				Lg	Lg	06 39 40.2	
	6.7nm,0.4s						
KPKS	**Kokpek**	**4.26**	**33**	*eP*	**Pb**	**06 38 49.9**	**-0.7**
	2.0nm,0.3s						
KPKS				*eS*	**Sb**	**06 39 44.4**	**+2.0**
	4.7nm,0.4s						
PDGK	**Podgornoye**	**4.53**	**40**	⇑Pg	**Pb**	**06 38 56.6**	**+1.4**
	1.5nm,1.1s						
PDGK				⇑Sn	**Sn**	**06 39 33.4**	**-4.3**
	2.9nm,0.9s						
PDGK				⇓Lg	Lg	06 39 56.3	
	1.9nm,0.7s						

*IDC **07** 06:48:59.6±7.6, 17°.67S×175°.73W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/35, mbtmp3.9/3, Error ellipse: s-maj=333.0km s-min=38.2km az=142.0*
*NEIC **07** 06:49:22.7±0.7, 17°.8S±0°.2×176°.00W±0°.07, h196km±10km, mb4.3/13, Error ellipse: s-maj=25.7km s-min=9.9km az=184.0*
ISC 07 06:49:22.9±0.9, 17°.9S±0°.2×176°.03W±0°.10, h200km, n19, σ1§10/20, mb4.2/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.91**	**102**	Pn	**Pn**	**06 50 48.1**	**-0.9**
MSWZ	**Moikau Station**	**24.61**	**196**	P	**P**	**06 54 25.6**	**+0.8**
ARMA	**Armidale**	**31.92**	**241**	P	**P**	**06 55 28.7**	**-1.2**
ARMA					IAmb	IAmb	06 55 43.1	
	comp=Z,18nm,1.5s						
ARMA				S	**S**	**07 00 23.4**	**-2.8**
CTAO	**Charters Tower**	**35.68**	**260**	P	**P**	**06 56 02.8**	**+0.4**
WB0	**Warramunga Arr**	**46.83**	**259**	P	**P**	**06 57 34.2**	**+1.1**
WB2	**Warramunga Arr**	**46.85**	**259**	P	**P**	**06 57 33.8**	**+0.6**
WB2					IAmb	IAmb	06 57 39.3	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**46.85**	**259**	P	**P**	**06 57 33.9**	**+0.6**
WRAB					IAmb	IAmb	06 57 35.8	

ISC 07 06:58:29.2±1.3, 24.76N±0.03×122.02E±0.02, h77km±5km, n112, σ0.91/199, 6C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.12**	**317**	*e*P	**Pn**	**06 58 40.8**	**+0.4**
	baz=325						
EGS				*e*S	**Sn**	**06 58 48.7**	**+0.1**
	baz=325						
NTC	**Toucheng**	**0.20**	**299**	*i* P	**Pn**	**06 58 40.5**	**-0.1**
	baz=300						
NTC				*e*S	**Sn**	**06 58 48.4**	**-0.6**
	baz=300						
TWC	**Suao**	**0.21**	**226**	P	**Pn**	**06 58 40.8**	**+0.1**
	baz=222						
TWC				*e*S	**Sn**	**06 58 48.5**	**-0.7**
	baz=222						
ILA	**Ilan**	**0.25**	**272**	*e*P	**Pn**	**06 58 40.2**	**-0.6**
	baz=276						
ILA				*e*S	**Sn**	**06 58 50.0**	**+0.6**
	baz=276						
TWB1	**Santiao Chiao**	**0.25**	**353**	P	**Pn**	**06 58 40.9**	**0.0**
	baz=357						
TWB1				S	**Sn**	**06 58 49.1**	**-0.3**
	baz=357						
TIPB	**Shuangxi**	**0.28**	**320**	P	**Pn**	**06 58 41.0**	**0.0**
	baz=311						
TIPB				S	**Sn**	**06 58 49.2**	**-0.6**
	baz=311						
TWE	**Neicheng**	**0.32**	**264**	*e*P	**Pn**	**06 58 41.6**	**+0.3**
	baz=267						
TWE				*e*S	**Sn**	**06 58 51.8**	**+1.7**
	baz=267						
ENAH	**Nanao**	**0.36**	**212**	P	**Pn**	**06 58 42.0**	**+0.4**
	baz=212						
ENAH				*e*S	**Sn**	**06 58 51.3**	**+0.7**
	baz=212						
NWF	**Wu-fen Shan**	**0.38**	**325**	*i* P	**Pn**	**06 58 41.7**	**-0.1**
	baz=322						
NWF				*e*S	**Sn**	**06 58 50.0**	**-1.0**
	baz=322						
WFSB	**Wu-fen Shan**	**0.38**	**325**	P	**Pn**	**06 58 41.6**	**-0.1**
	baz=322						
WFSB				*e*S	**Sn**	**06 58 50.2**	**-0.7**
	baz=322						
ENA	**Nanau**	**0.42**	**218**	*i* P	**Pn**	**06 58 42.4**	**+0.4**
	baz=212						
ENA				*e*S	**Sn**	**06 58 52.2**	**+0.9**
	baz=212						
ENTT	**Nioudou**	**0.43**	**254**	⇑*i*P	**Pn**	**06 58 42.8**	**+0.7**
	baz=252						
ENTT				*e*S	**Sn**	**06 58 53.1**	**+1.5**
	baz=252						
TWA	**Mucha**	**0.45**	**299**	*i* P	**Pn**	**06 58 42.2**	**-0.1**
	baz=306						
TWA				*e*S	**Sn**	**06 58 51.5**	**-0.4**
	baz=306						
NWLT	**Wulai**	**0.47**	**272**	*i* P	**Pn**	**06 58 42.5**	**0.0**
	baz=280						
NWLT				*e*S	**Sn**	**06 58 51.8**	**-0.5**
	baz=280						
NDT	**Datong Townshi**	**0.49**	**252**	⇑*i*P	**Pn**	**06 58 43.2**	**+0.7**
	baz=259						
NDT				S	**Sn**	**06 58 53.1**	**+0.7**
	baz=259						
NHDH	**Xindian Distri**	**0.49**	**294**	P	**Pn**	**06 58 42.5**	**0.0**
	baz=300						
NHDH				*e*S	**Sn**	**06 58 52.2**	**-0.3**
	baz=300						
TAP1	**Taipei**	**0.53**	**302**	P	**Pn**	**06 58 42.7**	**-0.2**
	baz=308						
TAP1				*e*S	**Sn**	**06 58 53.0**	**-0.1**
	baz=308						
TAP	**Taipei**	**0.55**	**301**	*e*P	**Pn**	**06 58 42.3**	**-0.7**
	baz=308						
TAP				*e*S	**Sn**	**06 58 52.7**	**-0.6**
	baz=308						
YM01	**YM01**	**0.56**	**313**	*i* P	**Pn**	**06 58 43.1**	**-0.2**
	baz=314						
YM01				S	**Sn**	**06 58 53.3**	**-0.4**
	baz=314						
YM11	**YM11**	**0.57**	**315**	*e*P	**Pn**	**06 58 43.5**	**+0.1**
	baz=315						
YM11				*e*S	**Sn**	**06 58 53.2**	**-0.8**
	baz=315						
YM10	**YM10**	**0.57**	**314**	P	**Pn**	**06 58 43.1**	**-0.3**
	baz=314						
YM10				*e*S	**Sn**	**06 58 52.6**	**-1.4**
	baz=314						
YM05	**YM05**	**0.58**	**314**	*i* P	**Pn**	**06 58 43.2**	**-0.2**
	baz=315						
YM05				*e*S	**Sn**	**06 58 53.3**	**-0.7**
	baz=315						
YM08	**YM08**	**0.58**	**318**	*i* P	**Pn**	**06 58 43.0**	**-0.4**
	baz=318						
YM08				*e*S	**Sn**	**06 58 52.6**	**-1.3**
	baz=318						
YM04	**YM04**	**0.59**	**312**	*i* P	**Pn**	**06 58 43.2**	**-0.3**
	baz=312						
YM04				S	**Sn**	**06 58 53.5**	**-0.6**
	baz=312						
YHNB	**Yeheng**	**0.59**	**262**	⇑*i*P	**Pn**	**06 58 43.9**	**+0.3**
	baz=269						
YHNB				*e*S	**Sn**	**06 58 54.4**	**+0.1**
	baz=269						
YM03	**YM03**	**0.60**	**314**	*e*P	**Pn**	**06 58 43.2**	**-0.5**
	baz=314						
YM03				*e*S	**Sn**	**06 58 55.6**	**+1.2**
	baz=314						
NSK	**Sanguang**	**0.61**	**262**	⇑P	**Pn**	**06 58 44.0**	**+0.3**
	baz=270						
NSK				*e*S	**Sn**	**06 58 54.3**	**-0.2**
	baz=270						
ANP	**Anpu**	**0.62**	**313**	*e*P	**Pn**	**06 58 43.6**	**-0.3**
	baz=314						
ANP				*e*S	**Sn**	**06 58 54.7**	**-0.1**
	baz=314						
TWY	**Chenhua**	**0.64**	**324**	*e*P	**Pn**	**06 58 44.2**	**+0.2**
	baz=324						
TWY				*e*S	**Sn**	**06 58 55.4**	**+0.4**
	baz=324						
TWS1	**Kuangyinshan**	**0.65**	**302**	*e*P	**Pn**	**06 58 44.3**	**+0.2**
	baz=309						
TWS1				*e*S	**Sn**	**06 58 55.4**	**+0.4**
	baz=309						
NTST	**Danshui**	**0.66**	**308**	*e*P	**Pn**	**06 58 44.0**	**-0.1**
	baz=314						
NTST				*e*S	**Sn**	**06 58 55.1**	**-0.2**
	baz=314						
NNSB	**Datong**	**0.67**	**241**	⇑*i*P	**Pn**	**06 58 44.9**	**+0.5**
	baz=247						
NNSB				*e*S	**Sn**	**06 58 56.4**	**+0.7**
	baz=247						
NNSH	**Datong**	**0.67**	**241**	⇑*i*P	**Pn**	**06 58 44.9**	**+0.5**
	baz=246						
NNSH				*e*S	**Sn**	**06 58 55.6**	**-0.1**
	baz=246						
NNS	**Nan Shan**	**0.67**	**242**	*i* P	**Pn**	**06 58 44.9**	**+0.4**
	baz=248						
NNS				*e*S	**Sn**	**06 58 56.3**	**+0.5**
	baz=248						
ETLH	**Xiulin Townshi**	**0.74**	**222**	P	**Pn**	**06 58 45.0**	**-0.2**
	baz=229						
ETLH				*e*S	**Sn**	**06 58 56.7**	**-0.2**
	baz=229						
TWD	**Chiawan**	**0.78**	**210**	P	**Pn**	**06 58 45.0**	**-0.4**
	baz=219						
TWD				*e*S	**Sn**	**06 58 57.5**	**0.0**
	baz=219						
NCU	**National Centr**	**0.79**	**286**	*i* P	**Pn**	**06 58 46.0**	**+0.5**
	baz=277						
NCU				S	**Sn**	**06 58 58.6**	**+0.9**
	baz=277						
NCUH	**Zhongli**	**0.79**	**286**	*i* P	**Pn**	**06 58 45.9**	**+0.3**
	baz=277						
NCUH				*i* S	**Sn**	**06 58 58.4**	**+0.7**
	baz=277						
HWA	**Hwalien**	**0.86**	**206**	*e*P	**Pn**	**06 58 46.4**	**-0.1**
	baz=196						
PCYT	**Pengchaiyu**	**0.87**	**3**	*e*P	**Pn**	**06 58 46.8**	**+0.3**
	baz=4.0						
PCYT				*e*S	**Sn**	**06 58 59.3**	**-0.1**
	baz=4.0						
FUSS	**Fushou**	**0.87**	**234**	P	**Pn**	**06 58 47.3**	**+0.5**
	baz=226						
FUSS				*e*S	**Sn**	**06 58 59.8**	**-0.1**
	baz=226						
JYNG	**Yonagunijimaku**	**0.90**	**110**	P	**Pn**	**06 58 46.9**	**+0.1**
JYNG				S	**Sn**	**06 59 00.0**	**+0.1**
TWT	**Tachien**	**0.92**	**237**	P	**Pn**	**06 58 48.3**	**+1.0**
	baz=229						
TWT				*e*S	**Sn**	**06 59 01.2**	**+0.5**
	baz=229						
WHF	**Hehuan Shan**	**0.92**	**229**	*i* P	**Pn**	**06 58 47.6**	**0.0**
	baz=222						
WHF				S	**Sn**	**06 59 01.4**	**+0.2**
	baz=222						
LIOB	**Emei**	**0.92**	**263**	P	**Pn**	**06 58 47.3**	**+0.2**
	baz=263						
LIOB				*e*S	**Sn**	**06 59 00.8**	**+0.3**
	baz=263						
TDCB	**Techi**	**0.93**	**238**	*e*P	**Pn**	**06 58 48.2**	**+0.8**
	baz=229						
TDCB				*e*S	**Sn**	**06 59 01.6**	**+0.7**
	baz=229						
NSTT	**Nanjuang**	**0.94**	**262**	*i* P	**Pn**	**06 58 47.4**	**+0.1**
	baz=262						
NSTT				*e*S	**Sn**	**06 59 01.0**	**+0.2**
	baz=262						
SBCB	**Hsinchu**	**0.94**	**272**	*e*P	**Pn**	**06 58 47.7**	**+0.4**
	baz=272						
SBCB				*e*S	**Sn**	**06 59 01.8**	**+0.9**
	baz=272						
YOJ	**Yonaguni jima**	**0.95**	**108**	P	**Pn**	**06 58 47.4**	**0.0**
YOJ				*e*S	**Sn**	**06 59 01.1**	**+0.1**
HSN	**Hsinchu**	**0.96**	**273**	*e*P	**Pn**	**06 58 47.4**	**-0.1**
	baz=274						
HSN				*e*S	**Sn**	**06 59 01.2**	**0.0**
	baz=274						
CHGB	**Renai**	**1.04**	**228**	P	**Pn**	**06 58 49.2**	**+0.5**
	baz=227						
CHGB				*e*S	**Sn**	**06 59 03.3**	**0.0**
	baz=227						
ESL	**Shilin**	**1.08**	**210**	*e*P	**Pn**	**06 58 47.8**	**-1.3**
	baz=214						
ESL				*e*S	**Sn**	**06 59 04.2**	**+0.3**
	baz=214						
WHP	**Taichung City**	**1.09**	**244**	P	**Pn**	**06 58 50.2**	**+0.9**
	baz=252						
WHP				S	**Sn**	**06 59 04.7**	**+0.5**
	baz=252						
NMLH	**Miaoli**	**1.14**	**259**	P	**Pn**	**06 58 50.4**	**+0.6**
	baz=258						
NMLH				*e*S	**Sn**	**06 59 05.3**	**+0.1**
	baz=258						
NSY	**Sanyi**	**1.20**	**254**	*e*P	**Pn**	**06 58 51.1**	**+0.6**
	baz=253						
NSY				*e*S	**Sn**	**06 59 07.5**	**+0.9**
	baz=253						
TWQ1	**Liyutan**	**1.21**	**250**	*e*P	**Pn**	**06 58 51.0**	**+0.4**
	baz=250						
TWQ1				*e*S	**Sn**	**06 59 07.4**	**+0.7**
	baz=250						
EGFH	**Guangfu**	**1.21**	**207**	*e*P	**Pn**	**06 58 50.5**	**-0.2**
	baz=212						
EGFH				*e*S	**Sn**	**06 59 05.9**	**-1.0**
	baz=212						
PTSB	**Yuanli**	**1.24**	**256**	*e*P	**Pn**	**06 58 49.3**	**-1.7**
	baz=255						
PTSB				*e*S	**Sn**	**06 59 07.2**	**-0.2**
	baz=255						
VWDT	**VWDT**	**1.28**	**219**	*e*P	**Pn**	**06 58 51.8**	**+0.2**
	baz=211						
VWDT				*e*S	**Sn**	**06 59 08.2**	**-0.2**
	baz=211						
WDJ	**Dajia District**	**1.32**	**252**	*e*S	**Sn**	**06 59 09.4**	**+0.1**
	baz=251						
SMLT	**Sun Moon Lake**	**1.34**	**230**	P	**Pn**	**06 58 53.4**	**+0.9**
	baz=222						
SMLT				*e*S	**Sn**	**06 59 10.5**	**+0.5**
	baz=222						
TYC	**Yuchr**	**1.36**	**232**	P	**Pn**	**06 58 53.4**	**+0.8**
	baz=230						
TYC				*e*S	**Sn**	**06 59 10.7**	**+0.6**
	baz=230						
SSLB	**Suanglung**	**1.37**	**225**	P	**Pn**	**06 58 53.5**	**+0.7**
	baz=224						
SSLB				*e*S	**Sn**	**06 59 12.0**	**+1.5**
	baz=224						
HGSD	**Ruisui**	**1.37**	**204**	*e*P	**Pn**	**06 58 52.1**	**-0.6**
	baz=202						
HGSD				*e*S	**Sn**	**06 59 10.3**	**-0.1**
	baz=202						
EHY	**Hungye**	**1.40**	**207**	P	**Pn**	**06 58 51.7**	**-1.4**
	baz=197						
EHY				*e*S	**Sn**	**06 59 08.2**	**-2.9**
	baz=197						
WCHH	**Zhanghua**	**1.50**	**243**	*e*P	**Pn**	**06 58 53.7**	**-0.6**
	baz=242						
WCHH				*e*S	**Sn**	**06 59 13.5**	**+0.2**
	baz=242						
WHYT	**Xinyi Township**	**1.50**	**225**	*e*P	**Pn**	**06 58 55.9**	**+1.4**
	baz=234						
WHYT				*e*S	**Sn**	**06 59 15.9**	**+2.4**
	baz=234						
WNT	**Mingjian**	**1.50**	**235**	*e*S	**Sn**	**06 59 14.6**	**+1.1**
	baz=243						
WJS	**Zhushan**	**1.50**	**232**	*e*P	**Pn**	**06 58 55.4**	**+0.9**
	baz=242						
WJS				*e*S	**Sn**	**06 59 14.1**	**+0.5**
	baz=242						
TWF1	**Yuli**	**1.55**	**205**	*e*P	**Pn**	**06 58 53.6**	**-1.4**
	baz=203						
TWF1				*e*S	**Sn**	**06 59 14.3**	**-0.3**
	baz=203						
YUS	**Yu-Shan**	**1.60**	**218**	P	**Pn**	**06 58 56.7**	**+0.6**
	baz=208						
YUS				*e*S	**Sn**	**06 59 16.7**	**+0.3**
	baz=208						
IRIF	**Iriomote-Funau**	**1.61**	**105**	P	**Pn**	**06 58 55.9**	**+0.1**
IRIF				*e*S	**Sn**	**06 59 16.0**	**0.0**
ALS	**Alishan**	**1.67**	**222**	P	**Pn**	**06 58 58.3**	**+1.4**
	baz=230						
ALS				*e*S	**Sn**	**06 59 20.2**	**+2.4**
	baz=230						
CHN5	**Tsauling**	**1.69**	**227**	P	**Pn**	**06 58 57.9**	**+1.0**
	baz=235						
CHN5				*e*S	**Sn**	**06 59 20.4**	**+2.5**
	baz=235						
FULB	**Fuli**	**1.69**	**203**	P	**Pn**	**06 58 56.8**	**-0.2**
	baz=207						
FULB				*e*S	**Sn**	**06 59 18.1**	**+0.2**
	baz=207						
WGK	**Gukeng**	**1.71**	**232**	*e*P	**Pn**	**06 58 58.1**	**+1.0**
	baz=239						
WGK				*e*S	**Sn**	**06 59 18.6**	**+0.3**
	baz=239						
WDLH	**Douliu**	**1.72**	**232**	*e*P	**Pn**	**06 58 58.0**	**+0.7**
	baz=241						
WDLH				*e*S	**Sn**	**06 59 19.5**	**+0.9**
	baz=241						
CHKT	**Chengkung**	**1.76**	**200**	P	**Pn**	**06 58 57.0**	**-0.8**
	baz=198						
ELDTW	**Lidau**	**1.81**	**211**	P	**Pn**	**06 58 58.0**	**-0.6**
	baz=201						
ELDTW				*e*S	**Sn**	**06 59 19.8**	**-1.1**
	baz=201						
JKRS	**Kuro-shima**	**1.88**	**106**	P	**Pn**	**06 59 00.2**	**+0.8**
JKRS				S	**Sn**	**06 59 23.3**	**+0.8**
EDH	**Donghe**	**1.90**	**200**	P	**Pn**	**06 58 58.9**	**-0.7**
	baz=200						
EDH				*e*S	**Sn**	**06 59 20.8**	**-1.9**
	baz=200						
CHY	**Chiayi**	**1.92**	**230**	*e*P	**Pn**	**06 59 01.0**	**+1.0**
	baz=228						
CHY				*e*S	**Sn**	**06 59 24.1**	**+0.7**
	baz=228						
TPUB	**Ta-pu**	**1.93**	**222**	P	**Pn**	**06 59 01.4**	**+1.3**
	baz=230						
TPUB				*e*S	**Sn**	**06 59 24.4**	**+0.8**
	baz=230						
JIJ	**Ishigaki jima**	**1.97**	**101**	P	**Pn**	**06 59 01.4**	**+0.8**
JIJ				S	**Sn**	**06 59 24.7**	**+0.1**
WTP	**Ta-pu**	**1.98**	**221**	*e*P	**Pn**	**06 59 01.8**	**+1.0**
	baz=230						
LONT	**Longtian**	**2.02**	**204**	*e*P	**Pn**	**06 59 00.7**	**-0.6**
	baz=196						
LONT				*e*S	**Sn**	**06 59 23.5**	**-2.2**
	baz=196						
TWK	**Hsinying**	**2.04**	**224**	*e*P	**Pn**	**06 59 02.7**	**+1.1**
	baz=221						
TWK				*e*S	**Sn**	**06 59 26.9**	**+0.5**
	baz=221						
CHN1	**Nanshi**	**2.08**	**221**	P	**Pn**	**06 59 03.3**	**+1.2**
	baz=230						
CHN1				*e*S	**Sn**	**06 59 28.6**	**+1.4**
	baz=230						
JISG	**Ishigakijimahi**	**2.09**	**94**	*e*S	**Sn**	**06 59 28.4**	**+1.0**
ICHU	**Yijhu**	**2.11**	**229**	*e*P	**Pn**	**06 59 04.6**	**+2.1**
	baz=227						
TWG	**Pinlang**	**2.12**	**204**	*e*P	**Pn**	**06 59 01.6**	**-0.9**
	baz=196						
TWG				*e*S	**Sn**	**06 59 25.3**	**-2.7**
	baz=196						
TWGBT	**Beinan**	**2.12**	**204**	*e*P	**Pn**	**06 59 00.9**	**-1.7**
	baz=196						
TWGBT				*e*S	**Sn**	**06 59 25.9**	**-2.2**
	baz=196						
SGST	**Jiashian**	**2.12**	**219**	*e*P	**Pn**	**06 59 01.9**	**-0.8**
	baz=227						
LDUT	**Ludao**	**2.14**	**194**	P	**Pn**	**06 59 01.1**	**-1.7**
	baz=190						
LDUT				*e*S	**Sn**	**06 59 25.6**	**-2.8**
	baz=190						
SLGT	**Liugui**	**2.16**	**216**	*e*P	**Pn**	**06 59 05.2**	**+2.1**
	baz=214						
PTTC	**Pingtan**	**2.17**	**290**	*e*P	**Pn**	**06 59 02.8**	**-0.4**
	baz=290						
MATB	**Ma-tsu**	**2.33**	**307**	*e*P	**Pn**	**06 59 04.8**	**-0.6**
	baz=306						
VWUC	**VWUC**	**2.35**	**276**	*e*P	**Pn**	**06 59 05.4**	**-0.2**
	baz=275						
ECL	**Taimali**	**2.36**	**205**	*e*P	**Pn**	**06 59 06.0**	**+0.1**
	baz=197						
SSD	**Sandimen**	**2.37**	**213**	*e*P	**Pn**	**06 59 08.0**	**+2.0**
	baz=201						
TSMG	**Majia**	**2.40**	**212**	*e*P	**Pn**	**06 59 06.6**	**+0.2**
	baz=200						
JTJ	**Tarama**	**2.44**	**92**	S	**Sn**	**06 59 38.1**	**+2.3**
MASBT	**Mashibuluo**	**2.49**	**211**	*e*P	**Pn**	**06 59 08.8**	**+1.2**
	baz=209						
MASBT				*e*S	**Sn**	**06 59 37.5**	**+0.6**
	baz=209						
PHUB	**P'eng-hu**	**2.56**	**242**	*e*P	**Pn**	**06 59 08.3**	**-0.2**
	baz=240						
EAST	**Anshuo**	**2.60**	**205**	*e*P	**Pn**	**06 59 08.2**	**-0.9**
	baz=197						
PTMZ	**Houxiangcun**	**2.65**	**277**	*e*P	**Pn**	**06 59 09.3**	**-0.4**
	baz=276						
LYJJ	**Jianjiangzhen**	**2.71**	**312**	*e*P	**Pn**	**06 59 10.5**	**-0.1**
	baz=311						
XPSS	**Dashiqiu**	**2.72**	**323**	*e*P	**Pn**	**06 59 09.9**	**-0.7**
	baz=323						
SLIU	**Shizi**	**2.77**	**204**	*e*P	**Pn**	**06 59 11.7**	**+0.4**
	baz=202						
MHZQ	**Yeshan**	**3.02**	**297**	*e*P	**Pn**	**06 59 14.7**	**0.0**
	baz=296						
KNMB	**Chin-men Tao**	**3.32**	**266**	*e*P	**Pn**	**06 59 17.7**	**-1.1**
	baz=264						
ZPLA	**Ao Xicun**	**3.98**	**259**	*e*P	**Pn**	**06 59 26.6**	**-1.3**
	baz=257						

TAP 07 07:05:59.7, 24.66N×121.31E, h11km, ML0.6, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NSK	**Sanguang**	**0.05**	**73**	*i* P		Pg	07 06 02.3	+0.4
	baz=77							
NSK				*e*S		Sg	07 06 04.2	+0.8
	baz=77							
YHNB	**Yeheng**	**0.06**	**83**	P		Pg	07 06 02.4	+0.4
	baz=83							
YHNB				S		Sg	07 06 04.5	+0.7
	baz=83							
NDT	**Datong Townshi**	**0.20**	**108**	*e*P		Pb	07 06 04.8	-0.6
	baz=107							
NDT				*e*S		Sg	07 06 08.3	+1.6
	baz=107							
NWLT	**Wulai**	**0.21**	**57**	P		Pb	07 06 05.1	-0.5
	baz=57							
NWLT				S		Sg	07 06 08.8	+1.6
	baz=57							

*IDC **07** 07:06:31.5±1.1, 19.00N×145.68E, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.6/41, mbtmp3.5/5, Error ellipse: s-maj=50.7km s-min=24.4km az=108.0*
*NEIC **07** 07:06:32.7±1.6, 18.9N±0.1×145.6E±0.2, h10km±1km, mb4.5/5, Error ellipse: s-maj=26.8km s-min=17.3km az=94.0*

ISC 07 07:06:32.3±0.8, 18.9N±0.1×145.7E±0.2, h10km, n13, σ1.03/13, mb3.8/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**2.55**	**179**		Pn	**Pn**	**07 07 12.3**	**-1.4**
GUMO	**Guam**	**5.34**	**188**		Pn	**Pn**	**07 07 52.2**	**+0.1**
PATS	**Pohnpei**	**17.18**	**133**		Pn	**P**	**07 10 34.0**	**-0.2**
PATS					IAmb	IAmb	07 10 53.1	
	comp=Z,126nm,1.4s							
LUWI	**Luwuk**	**29.99**	**231**		P	**P**	**07 12 41.3**	**+0.1**
WB0	**Warramunga Arr**	**39.99**	**197**		P	**P**	**07 14 07.7**	**+0.3**
WB0					IAmb	IAmb	07 14 09.2	
	comp=Z,18nm,1.5s							
WB2	**Warramunga Arr**	**40.17**	**197**		P	**P**	**07 14 09.8**	**+0.9**
WB2					IAmb	IAmb	07 14 12.8	
	comp=Z,7.9nm,1.2s							
WRA	**Warramunga Arr**	**40.18**	**197**		P	**P**	**07 14 10.5**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=19,slow=9.1,SNR=12							
ASAR	**Alice Springs**	**43.84**	**196**		P	**P**	**07 14 39.7**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=12,slow=9.0,SNR=1.5							
MKAR	**Makanchi Array**	**58.30**	**314**		P	**P**	**07 16 27.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=81,slow=8.1,SNR=3.4							
ILAR	**Eielson Array**	**63.47**	**26**		P	**P**	**07 17 01.9**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=268,slow=5.2,SNR=4.2							
ABKAR	**Akbulak array**	**73.17**	**317**		P	**P**	**07 18 01.6**	**-1.6**
NVAR	**Mina Array Bea**	**83.03**	**52**		P	**P**	**07 18 59.5**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=262,slow=5.5,SNR=7.2							
NVAR	**Mina Array Bea**	**83.03**	**52**		P	**P**	**07 18 59.3**	**+0.8**

JMA 07 07:06:36.6±0.1, 24.05N×123.27E, h24km±3km, M1.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.50**	**323**		P	Pb	07 06 46.5	-0.2
JYNG					S	Sb	07 06 53.8	+0.2
IRIF	**Iriomote-Funau**	**0.51**	**56**		P	Pb	07 06 46.7	-0.2
IRIF					S	Sb	07 06 54.0	+0.1
JKRS	**Kuro-shima**	**0.70**	**74**		P	Pb	07 06 49.8	-0.4
JKRS					S	Sb	07 06 59.4	0.0
JIJ	**Ishigaki jima**	**0.86**	**68**		P	Pb	07 06 52.6	-0.2
JIJ					S	Sb	07 07 03.7	-0.2
JISG	**Ishigakijimahi**	**1.09**	**60**		P	Pn	07 06 56.5	+0.1
JISG					S	Sn	07 07 10.8	+0.1

*IDC **07** 07:13:32.5±1.8, 17.96S×178.59W, h521km±21km, mb3.5/13, mb1 3.7/15, mb1mx3.5/39, mbtmp4.4/15, Error ellipse: s-maj=23.0km s-min=12.1km az=147.0*
*NEIC **07** 07:13:34.3±1.9, 18.0S±0.1×178.5W±0.1, h550km±6km, mb4.5/28, Error ellipse: s-maj=20.2km s-min=11.5km az=136.0*

ISC 07 07:13:34.5±0.4, 17.97S±0.09×178.56W±0.08, h550km, n119, σ1.01/124, mb4.4/30, 10C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.24**	**274**		P	**P**	**07 14 52.4**	**+1.2**
AFI	**Afiamalu**	**7.67**	**59**		P	**P**	**07 15 25.6**	**-3.6**
	5.9nm,0.3s,baz=340,slow=3.9,SNR=9.0							
AFI	**Afiamalu**	**7.67**	**59**		P	**P**	**07 15 26.3**	**-2.9**
NIUE	**Niue**	**8.27**	**99**		P	**P**	**07 15 35.3**	**+0.4**
RAO	**Raoul Island**	**11.24**	**177**		P	**P**	**07 16 04.5**	**-0.6**
DZM	**Mont Dzumac**	**14.67**	**251**		P	**P**	**07 16 37.5**	**-3.3**
	0.3nm,0.3s,baz=144,slow=20,SNR=1.5							
DZM	**Mont Dzumac**	**14.67**	**251**		P	**P**	**07 16 38.9**	**-1.8**
URZ	**Urewera**	**20.57**	**190**		P	**P**	**07 17 33.8**	**-1.7**
	7.1nm,0.7s,baz=189,slow=20,SNR=2.0							
URZ	**Urewera**	**20.57**	**190**		P	**P**	**07 17 34.1**	**-1.4**
BKZ	**Black Stump Fm**	**21.55**	**191**		P	**P**	**07 17 42.9**	**-1.7**
BKZ					IAmb	IAmb	07 17 58.3	
	comp=Z,25nm,1.4s							
ODZ	**Otahua Downs**	**28.46**	**196**		P	**P**	**07 18 44.0**	**-1.5**
ODZ					IAmb	IAmb	07 18 54.8	
	comp=Z,22nm,1

ARMA					IAmb	IAmb	07 18 58.8	
	comp=Z,12nm,0.6s							
WHZ	**Wether Hill Ro**	**30.02**	**199**		P	**P**	**07 19 01.6**	**+2.7**
CTAO	**Charters Tower**	**33.29**	**261**		P	**P**	**07 19 27.4**	**+0.1**
CTAO					IAmb	IAmb	07 19 28.2	
	comp=Z,20nm,1.1s							
CAN	**Canberra**	**33.55**	**233**		P	**P**	**07 19 30.5**	**+1.3**
CAN					IAmb	IAmb	07 19 30.7	
	comp=Z,8.1nm,0.8s							
COEN	**Coen**	**36.96**	**271**		P	**P**	**07 19 58.4**	**+0.6**
COEN					IAmb	IAmb	07 19 58.7	
	comp=Z,16nm,0.8s							
TOO	**Toolangi**	**37.02**	**231**		P	**P**	**07 19 58.9**	**+0.9**
STKA	**Stephens Creek**	**38.47**	**241**		P	**P**	**07 20 10.7**	**+0.8**
	comp=Z,11nm,0.7s,baz=98,slow=11,SNR=21							
STKA	**Stephens Creek**	**38.47**	**241**		P	**P**	**07 20 10.7**	**+0.8**
JAY	**Jayapura**	**42.78**	**286**		P	**P**	**07 20 45.1**	**+0.6**
	comp=Z,16nm,1.0s,baz=165,slow=7.2,SNR=5.6							
BBOO	**Buckleboo**	**43.25**	**241**		P	**P**	**07 20 48.2**	**+0.4**
BBOO					IAmb	IAmb	07 20 48.5	
	comp=Z,16nm,0.6s							
WR0	**Warramunga Arr**	**44.29**	**260**		P	**P**	**07 20 55.1**	**-0.9**
WB0	**Warramunga Arr**	**44.44**	**260**		P	**P**	**07 20 56.4**	**-0.8**
WB0					IAmb	IAmb	07 20 57.2	
	comp=Z,12nm,0.9s							
WB2	**Warramunga Arr**	**44.47**	**260**		P	**P**	**07 20 56.7**	**-0.8**
WB2					IAmb	IAmb	07 20 57.4	
	comp=Z,8.7nm,0.6s							
WRA	**Warramunga Arr**	**44.48**	**260**		P	**P**	**07 20 56.7**	**-0.9**
	comp=Z,5.1nm,0.5s,baz=98,slow=7.0,SNR=110							
WRA					PcP	**PcP**	**07 22 28.8**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=92,slow=3.7,SNR=5.0							
WRA	**Warramunga Arr**	**44.48**	**260**		P	**P**	**07 20 56.6**	**-0.9**
AS31	**Alice Springs**	**44.63**	**254**		P	**P**	**07 20 58.3**	**-0.4**
ASAR	**Alice Springs**	**44.63**	**254**		P	**P**	**07 20 58.5**	**-0.3**
	comp=Z,65nm,0.6s,baz=89,slow=8.2,SNR=960							
ASAR					PcP	**PcP**	**07 22 29.4**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=108,slow=4.0,SNR=6.2							
ASAR	**Alice Springs**	**44.63**	**254**		P	**P**	**07 20 58.1**	**-0.6**
FORT	**Forrest**	**49.85**	**245**		P	**P**	**07 21 37.4**	**-0.3**
KNRA	**Kununurra**	**50.34**	**264**		P	**P**	**07 21 41.1**	**-0.3**
MJAR	**Matsushiro Arr**	**67.87**	**323**		P	**P**	**07 23 37.6**	**-0.8**
	comp=Z,3.1nm,0.6s,baz=169,slow=7.2,SNR=6.6							
MJAR	**Matsushiro Arr**	**67.87**	**323**		IAmb	IAmb	07 23 38.9	
	comp=Z,2.0nm,0.7s							
MAT	**Matsushiro**	**67.87**	**323**		P	**P**	**07 23 38.3**	**-0.1**
PETK	**Petropavlovsk-**	**73.70**	**345**		P	**P**	**07 24 12.6**	**+0.2**
	comp=Z,4.8nm,0.7s,baz=138,slow=7.9,SNR=10							
PETK	**Petropavlovsk-**	**73.70**	**345**		P	**P**	**07 24 12.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**76.58**	**326**		P	**P**	**07 24 29.9**	**+1.3**
	comp=Z,1.6nm,0.5s,baz=82,slow=12,SNR=2.6							
NJ2	**Nanjing**	**77.87**	**310**		*e*P	**P**	**07 24 34.3**	**-1.5**
NJ2					pmax	pmax		
	comp=Z,17nm,0.5s							
NVAR	**Mina Array Bea**	**79.57**	**44**		P	**P**	**07 24 46.5**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=226,slow=9.5,SNR=10							
NVAR	**Mina Array Bea**	**79.57**	**44**		P	**P**	**07 24 46.1**	**+1.1**
WVOR	**Wild Horse Val**	**81.55**	**40**		P	**P**	**07 24 55.4**	**+0.2**
U15A	**North Rim**	**82.67**	**48**		P	**P**	**07 25 01.1**	**-0.1**
GHO	**Glory Hole Cre**	**82.90**	**14**		P	**P**	**07 25 01.7**	**+0.2**
GHO					IAmb	IAmb	07 25 02.1	
	comp=Z,7.3nm,0.6s							
BJI	**Beijing**	**83.73**	**315**		P	**P**	**07 25 06.6**	**+0.7**
BJI					pmax	pmax		
	comp=Z,6.0nm,1.0s							
TRF	**Thorofare Moun**	**84.10**	**12**		P	**P**	**07 25 07.0**	**-0.5**
TRF					IAmb	IAmb	07 25 08.3	
	comp=Z,8.2nm,0.8s							
RND	**Reindeer**	**84.36**	**13**		P	**P**	**07 25 06.7**	**-2.0**
RND					IAmb	IAmb	07 25 09.7	
	comp=Z,7.5nm,1.0s							
CCB	**Clear Creek Bu**	**85.68**	**13**		P	**P**	**07 25 14.1**	**-0.8**
ILAR	**Eielson Array**	**85.98**	**13**		P	**P**	**07 25 15.8**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=221,slow=5.0,SNR=15							
ILAR	**Eielson Array**	**85.98**	**13**		P	**P**	**07 25 15.3**	**-1.1**
TXAR	**Lajitas Array**	**86.15**	**58**		P	**P**	**07 25 20.5**	**+2.4**
	comp=Z,0.9nm,0.8s,baz=222,slow=7.1,SNR=11							
TXAR	**Lajitas Array**	**86.15**	**58**		P	**P**	**07 25 20.0**	**+1.9**
XAN	**Xi'an**	**86.18**	**307**		P	**P**	**07 25 19.5**	**+1.4**
XAN					pP	PcP	07 25 32.4	+13
XAN					pmax	pmax		
	comp=Z,10.0nm,1.0s							
XAN	**Xi'an**	**86.18**	**307**		P	**P**	**07 25 16.9**	**-1.2**
XAN					IAmb	IAmb	07 25 20.1	
	comp=Z,8.4nm,1.1s							
HHC	**Hu-ho-hao-te**	**87.21**	**315**		*e*P	**P**	**07 25 24.9**	**+2.0**
HHC					pmax	pmax		
	comp=Z,21nm,0.8s							
HHC					pmax	pmax		
	comp=Z,190nm,4.6s							
HHC					LR	LR		
	comp=N,240nm,12.8s							
HHC					LR	LR		
	comp=E,240nm,12.8s							
PDAR	**Pinedale Array**	**87.50**	**43**		P	**P**	**07 25 25.1**	**+0.8**
	comp=E,0.8nm,0.6s,baz=203,slow=3.0,SNR=9.8							
CMAR	**Chiang Mai Arr**	**88.77**	**295**		P	**P**	**07 25 31.2**	**+0.8**
	comp=E,0.8nm,0.3s,baz=111,slow=3.2,SNR=7.5							
INK	**Inuvik**	**91.98**	**15**		P	**P**	**07 25 44.0**	**-0.1**
	comp=E,1.9nm,0.9s,baz=132,slow=1.7,SNR=3.0							
MKAR	**Makanchi Array**	**109.07**	**314**		PKiKP	**PKiKP**	**07 31 01.1**	**-0.8**
	comp=E,0.3nm,0.6s,baz=160,slow=1.9,SNR=4.9							
KURBB	**Kurchatov Arra**	**111.83**	**318**		PKiKP	**PKiKP**	**07 31 05.8**	**-1.2**
	comp=E,0.4nm,0.6s,baz=82,slow=1.8,SNR=5.5							
KK31	**Karatay Array**	**117.25**	**310**			**PKPdf**	**07 31 17.3**	**-0.4**
KKAR	**Karatay Array**	**117.25**	**310**			**PKPdf**	**07 31 17.1**	**-0.6**
KKAR	**Karatay Array**	**117.25**	**310**			**PKPdf**	**07 31 17.6**	**-0.1**
ARCES	**ARCESS Array B**	**126.35**	**350**		PKP	**PKPdf**	**07 31 34.1**	**-0.3**
	comp=E,1.9nm,0.8s,baz=116,slow=2.8,SNR=3.9							
FINES	**FINESS Array B**	**133.21**	**344**		PKP	**PKPdf**	**07 31 46.7**	**-0.9**
	comp=E,1.1nm,0.8s,baz=46,slow=6.0,SNR=2.6							
BUR08	**Bucovina Ar. S**	**144.59**	**332**			**PKPdf**	**07 32 09.1**	**+0.3**
BURAR	**Bucovina Array**	**144.60**	**332**		⇓P	**PKPab**	**07 32 10.7**	**+1.1**
BURAR	**Bucovina Array**	**144.60**	**332**			**PKPdf**	**07 32 09.1**	**+0.3**
BIZ	**Bicaz**	**144.69**	**330**		⇑P	**PKPab**	**07 32 10.5**	**+0.7**
BR131	**Keskin Array S**	**144.72**	**315**			**PKPdf**	**07 32 09.0**	**-0.3**
BRTR	**Keskin Array B**	**144.72**	**315**		PKP	**PKPdf**	**07 32 09.6**	**+0.2**
	comp=E,3.3nm,0.8s,baz=132,slow=1.8,SNR=10.0							
BRTR	**Keskin Array B**	**144.72**	**315**			**PKPdf**	**07 32 08.8**	**-0.5**
TESR	**Tescani**	**144.77**	**329**		⇓P	**PKPab**	**07 32 10.2**	**+0.2**
CFR	**Carcaliu**	**144.91**	**326**		⇑P	**PKPdf**	**07 32 08.3**	**-0.9**
TOPG	**Topolog**	**144.98**	**326**		⇑P	**PKPab**	**07 32 11.0**	**0.0**
PLOR	**Plostina**	**145.21**	**329**		⇑P	**PKPbc**	**07 32 11.0**	**+0.2**
HARR	**Harsova**	**145.34**	**326**		⇑P	**PKPab**	**07 32 12.3**	**-0.1**
BISRR	**Bisoca**	**145.39**	**328**		⇓P	**PKiKP**	**07 32 14.6**	**+0.2**
OSTC	**Ostas**	**145.41**	**343**		*e*PKP	**PKPbc**	**07 32 12.2**	**+1.0**
CHVC	**Chvalec**	**145.42**	**344**		*e*PKP	**PKPab**	**07 32 13.1**	**+0.5**
CLL	**Collm**	**145.49**	**347**	⇓	*i*PKPbc	**PKPbc**	**07 32 11.8**	**+0.4**
	comp=Z,11nm,1.0s							
CLL	**Collm**	**145.49**	**347**			**PKPbc**	**07 32 11.7**	**+0.4**
UPC	**Upice**	**145.51**	**344**		*e*PKP	**PKPbc**	**07 32 12.1**	**+0.6**
DPC	**Dobruska-Polom**	**145.57**	**343**		*e*PKP	**PKPbc**	**07 32 12.7**	**+1.0**
LANS	**Liptovska Anna**	**145.65**	**339**		*e*PKP	**PKPab**	**07 32 13.7**	**+0.2**
KRLC	**Kraliky**	**145.68**	**342**		*e*PKP	**PKPbc**	**07 32 12.8**	**+0.7**
BRG	**Berggiesshubel**	**145.69**	**346**		*i*PKP	**PKPbc**	**07 32 12.8**	**+0.8**
	comp=Z,9.8nm,1.1s							
MORC	**Moravsky Berou**	**145.72**	**341**		⇑P	**PKPbc**	**07 32 12.4**	**+0.2**
MLR	**Muntele Rosu**	**145.81**	**329**		PKPbc	**PKPbc**	**07 32 12.8**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=131,slow=13,SNR=4.2							
MLR	**Muntele Rosu**	**145.81**	**329**		⇑P	**PKPdf**	**07 32 12.0**	**+1.0**
MLR	**Muntele Rosu**	**145.81**	**329**			**PKPbc**	**07 32 12.5**	**-0.2**
PRU	**Pruhonice**	**146.37**	**345**		*e*PKP	**PKPbc**	**07 32 14.6**	**+0.7**
GOPC	**GO Pecny, Ondr**	**146.37**	**344**		*e*PKP	**PKPbc**	**07 32 14.6**	**+0.6**
VYHS	**Vyhne**	**146.42**	**339**		*e*PKP	**PKPbc**	**07 32 15.0**	**+0.8**
ARR	**Arges**	**146.54**	**330**		⇑P	**PKPbc**	**07 32 13.8**	**-0.8**
KHC	**Kasperske Hory**	**147.40**	**345**		*e*PKP	**PKPbc**	**07 32 17.3**	**+0.5**
KHC					*ex*	x	07 32 20.6	
KHC	**Kasperske Hory**	**147.40**	**345**			**PKPbc**	**07 32 17.1**	**+0.4**
GERES	**GERESS Array B**	**147.63**	**345**		PKPbc	**PKPbc**	**07 32 17.9**	**+0.4**
	comp=Z,2.8nm,0.5s,baz=27,slow=3.3,SNR=24							
GERES	**GERESS Array B**	**147.63**	**345**			**PKPbc**	**07 32 17.6**	**+0.2**
CONA	**Conrad Observa**	**147.88**	**342**		*i*PKPbc	**PKPbc**	**07 32 17.6**	**-0.5**
	comp=Z,2.9nm,0.6s							
HERR	**Herculane**	**147.94**	**331**		⇑P	**PKPbc**	**07 32 18.1**	**-0.2**
MDVR	**Moldovita**	**148.34**	**332**		⇑P	**PKPbc**	**07 32 19.8**	**+0.5**
ARSA	**Arzberg**	**148.59**	**341**		*i*PKPbc	**PKPbc**	**07 32 19.1**	**-0.7**
	comp=Z,1.6nm,0.6s							
BFO	**Black Forest**	**149.20**	**351**			**PKPbc**	**07 32 21.6**	**+0.3**
BFO					PKPab	**PKPab**	**07 32 27.8**	**-0.2**
SOKA	**Soboth**	**149.25**	**342**		*i*PKPbc	**PKPbc**	**07 32 20.6**	**-0.9**
	comp=Z,4.1nm,1.2s							
KBA	**Koelnbreinsper**	**149.36**	**344**		*i*PKPbc	**PKPdf**	**07 32 18.6**	**+1.8**
	comp=Z,6.1nm,1.2s							
WATA	**Walderalm**	**149.55**	**346**		*i*PKPbc	**PKPbc**	**07 32 21.5**	**-0.8**
	comp=Z,3.1nm,0.6s							
WTTA	**Wattenberg**	**149.61**	**346**		*i*PKiKP	**PKPbc**	**07 32 22.8**	**+0.4**
	comp=Z,6.4nm,0.6s							
DIVS	**Divibare**	**149.63**	**333**			**PKPbc**	**07 32 23.1**	**+0.6**
DIVS					PKPab	**PKPab**	**07 32 28.7**	**-1.3**
MOTA	**Moosalm**	**149.65**	**347**		*i*PKiKP	**PKPbc**	**07 32 22.6**	**+0.1**
	comp=Z,8.4nm,1.2s							
MYKA	**Terra Mystica**	**149.69**	**343**		*i*PKPbc	**PKPbc**	**07 32 22.0**	**-0.5**
	comp=Z,4.3nm,0.6s							
SQTA	**Sankt Quirin**	**149.74**	**347**		*i*PKPbc	**PKPbc**	**07 32 21.7**	**-1.0**
	comp=Z,4.0nm,0.6s							
ABTA	**Abfaltersbach**	**149.88**	**345**		*i*PKPbc	**PKPbc**	**07 32 22.6**	**-0.4**
	comp=Z,5.8nm,0.6s							
PRED	**Cave del Predi**	**149.89**	**343**		PKPbc	**PKPbc**	**07 32 22.6**	**-0.4**
PRED						**PKPab**	**07 32 30.2**	**-0.7**
LJU	**Ljubljana**	**149.97**	**342**		*i*PKPbc	**PKPbc**	**07 32 23.7**	**+0.5**
FETA	**Feichten**	**150.03**	**347**		*i*PKiKP	**PKPbc**	**07 32 23.4**	**-0.1**
	comp=Z,5.4nm,0.8s							
BOJS	**Bojanci**	**150.23**	**340**		*e*PKPbc	**PKiKP**	**07 32 24.6**	**+0.3**
CIMO	**Cimolais**	**150.31**	**345**			**PKPbc**	**07 32 23.8**	**-0.1**
FUORN	**Ofenpass-Fuorn**	**150.51**	**348**			**PKiKP**	**07 32 25.5**	**+0.3**
FUORN					PKPab	**PKPab**	**07 32 34.2**	**+0.5**

*IDC **07** 07:18:28.6±1.0, 37.52N×144.53E, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.7/52, mbtmp3.6/8, ML3.5/2, Error ellipse: s-maj=30.5km s-min=21.8km az=120.0*
*JMA **07** 07:18:33.8±0.2, 37.71N×144.36E, h48km, M4.1*
*NEIC **07** 07:18:34.8±2.0, 37.81N±0.08×144.43E±0.09, h35km±2km, mb4.4/5, Error ellipse: s-maj=15.6km s-min=8.5km az=42.0*

ISC 07 07:18:33.3±0.9, **37.72N**±0.06×**144.50E**±0.07, **h35**km, **n35**, σ1**9**66/49, **mb3.9**/8, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.47**	**285**	P		**P**	**Pn**	**07 19 11.3**	**+0.3**
JIKH				*e*S		**Sn**	**Sn**	**07 19 39.1**	**-0.8**
JIO	**Ouri**	**2.59**	**287**	P		**P**	**Pn**	**07 19 13.1**	**+0.4**
JIO				*e*S		**Sn**	**Sn**	**07 19 42.3**	**-0.7**
OFUJ	**Ofunato**	**2.60**	**302**	P		**P**	**Pn**	**07 19 13.6**	**+0.7**
JKMT	**Kesennumamotoy**	**2.62**	**296**	P		**P**	**Pn**	**07 19 13.5**	**+0.4**
JKMT				S		**Sn**	**Sn**	**07 19 43.1**	**-0.6**
JMK	**Ichinoseki**	**2.86**	**297**	P		**P**	**Pn**	**07 19 17.3**	**+0.9**
JMK				*e*S		**Sn**	**Sn**	**07 19 50.0**	**+0.5**
JOM	**Ohasama**	**3.06**	**306**	P		**P**	**Pn**	**07 19 20.3**	**+1.1**
JOM				*e*S		**Sn**	**Sn**	**07 19 54.8**	**+0.2**
JFT	**Otama**	**3.31**	**268**	P		**P**	**Pn**	**07 19 23.6**	**+0.9**
JFT				*e*S		**Sn**	**Sn**	**07 20 00.4**	**-0.4**
JYK	**Kaneyama**	**3.47**	**291**	P		**P**	**Pn**	**07 19 25.9**	**+1.1**
JYK				S		**Sn**	**Sn**	**07 20 05.3**	**+0.6**
ERM	**Erimo**	**4.41**	**347**	Pn		**P**	**Pn**	**07 19 38.5**	**+0.8**
JRY	**Ryogami san**	**4.80**	**251**	P		**P**	**Pn**	**07 19 42.9**	**-0.2**
JRY				S		**Sn**	**Sn**	**07 20 33.9**	**-3.6**
JKB	**Kayabe**	**4.95**	**328**	*e*S		**Sn**	**Sn**	**07 20 38.6**	**-2.4**
JCH	**Churui**	**4.97**	**350**	*e*S		**Sn**	**Sn**	**07 20 39.1**	**-2.4**
JOD2	**Odawara 2**	**5.00**	**242**	P		**P**	**Pn**	**07 19 46.4**	**+0.5**
JOD2				*e*S		**Sn**	**Sn**	**07 20 38.9**	**-3.6**
MJAR	**Matsushiro Arr**	**5.16**	**259**	Pn		**P**	**Pn**	**07 19 47.6**	**-0.5**
	0.3nm,0.3s,baz=88,slow=15,SNR=7.9								
MJAR				Sn		**Sn**	**Sn**	**07 20 43.5**	**-2.9**
	0.1nm,0.3s,baz=310,slow=38,SNR=1.5								
MJAR	**Matsushiro Arr**	**5.16**	**259**				**Pn**	**07 19 49.7**	**+1.6**
MAJO	**Matsushiro**	**5.16**	**259**	Pn			**Pn**	**07 19 48.5**	**+0.4**
NEM2	**Nemuro 2**	**5.72**	**9**	P			**Pn**	**07 19 53.8**	**-1.9**
NEM2				*e*S			**Sn**	**07 20 55.4**	**-4.7**
JOSM	**Okushiri--Mats**	**5.82**	**320**	P			**Pn**	**07 19 58.6**	**+1.5**
JTKR	**Abashiri--Toko**	**6.26**	**356**	P			**Pn**	**07 20 03.3**	**+0.2**
JTKR				*e*S			**Sn**	**07 21 09.6**	**-3.8**
JKA	**Kamikawa-asahi**	**6.55**	**348**				**Pn**	**07 20 07.1**	**-0.1**
JKA							**Sn**	**07 21 19.8**	**-0.7**
ASAJ	**Asahikawa**	**6.55**	**348**	Pn			**Pn**	**07 20 07.2**	**+0.1**
	1.9nm,0.3s,baz=203,slow=9.9,SNR=4.8								
ASAJ				Sn			**Sn**	**07 21 18.7**	**-1.9**
	1.5nm,0.3s,baz=61,slow=29,SNR=4.0								
KSAR	**Wonju Array Be**	**13.19**	**274**				**Pn**	**07 21 38.7**	**+0.7**
ULN	**Ulaanbaatar**	**29.03**	**302**	P		**P**		**07 24 28.8**	**-1.3**
MKAR	**Makanchi Array**	**45.84**	**302**	P		**P**		**07 26 53.3**	**+1.4**
	0.4nm,0.7s,baz=92,slow=7.3,SNR=4.9								
KURK	**Kurchatov**	**47.45**	**308**	P		**P**		**07 27 05.4**	**+1.0**
KURK						IAmb	IAmb	07 27 19.2	
	comp=Z,1.2nm,0.7s								
ILAR	**Eielson Array**	**47.60**	**33**	P		**P**		**07 27 07.1**	**+1.8**
	comp=Z,1.3nm,0.9s,baz=259,slow=7.7,SNR=7.9								
WB0	**Warramunga Arr**	**57.96**	**191**	P		**P**		**07 28 20.5**	**-1.8**
WB2	**Warramunga Arr**	**58.14**	**191**	P		**P**		**07 28 21.7**	**-1.8**
WB2						IAmb	IAmb	07 28 31.0	
	comp=Z,8.7nm,1.2s								
WRA	**Warramunga Arr**	**58.15**	**191**	P		**P**		**07 28 22.4**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=12,slow=7.2,SNR=6.5								
WRA	**Warramunga Arr**	**58.15**	**191**	P		**P**		**07 28 22.6**	**-1.0**
ASAR	**Alice Springs**	**61.87**	**191**	P		**P**		**07 28 48.3**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=14,slow=7.1,SNR=2.2								
ASAR	**Alice Springs**	**61.87**	**191**	P		**P**		**07 28 49.3**	**+0.2**
NVAR	**Mina Array Bea**	**72.60**	**55**	P		**P**		**07 29 58.9**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=287,slow=7.1,SNR=4.1								
PDAR	**Pinedale Array**	**75.42**	**47**	P		**P**		**07 30 15.2**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=275,slow=4.4,SNR=2.9								
PDAR	**Pinedale Array**	**75.42**	**47**	P		**P**		**07 30 14.6**	**+0.8**

*TEH **07** 07:26:52.5, 38.65N×48.69E, h27km, ML3.6*
*AZER **07** 07:26:52.1, 38.72N×48.58E, h20km, ML3.6*
*THR **07** 07:26:53.9±0.3, 38.45N×48.70E, h17km±4km, ML3.6*
*NNC **07** 07:27:20.2±8.8, 39.66N×51.82E, h0km, mb3.7, Error ellipse: s-maj=84.2km s-min=23.6km az=58.0*

ISC 07 07:26:54.0±0.9, **38.66N**±0.02×**48.57E**±0.02, **h20**km±3km, **n81**, σ1**9**20/111, **4C-2D**, **Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LKRN	**Lenkeran, Azer**	**0.17**	**72**	P		**P**	**Pb**	**07 26 58.3**	**+0.1**
	SNR=392								
LKRN				S		**Sg**	**Sg**	**07 27 02.2**	**+0.2**
LKRN	**Lenkeran, Azer**	**0.17**	**72**	*e*Pg		**Pb**	**Pb**	**07 26 58.2**	**+0.1**
LRK	**Lerik**	**0.18**	**266**	P		**Pg**	**Pg**	**07 26 59.2**	**+0.2**
	SNR=3259								
LRK				S		**Sg**	**Sg**	**07 27 03.9**	**+1.5**
LRK	**Lerik**	**0.18**	**266**	*e*Pg		**Pg**	**Pg**	**07 26 59.2**	**+0.2**
ASTR	**Astara**	**0.20**	**118**	P		**Pg**	**Pg**	**07 26 59.0**	**-0.2**
	SNR=1976								
ASTR				S		**Sg**	**Sg**	**07 27 03.9**	**+1.2**
ASTR	**Astara**	**0.20**	**118**	*e*Pg		**Pg**	**Pg**	**07 26 58.9**	**-0.2**
YRD	**Yardimli**	**0.36**	**316**	P		**Pg**	**Pg**	**07 27 01.1**	**-0.9**
	SNR=451								
YRD				S		**Sg**	**Sg**	**07 27 06.9**	**-0.3**
YRD	**Yardimli**	**0.36**	**316**	*e*Pg		**Pg**	**Pg**	**07 27 01.0**	**-0.9**
GRMI	**Germi**	**0.55**	**286**	IAML				07 27 13.2	
	comp=N,3μm,0.2s								
GLBA	**Clilabad**	**0.60**	**347**	P		**Pb**	**Pb**	**07 27 04.5**	**-1.4**
	SNR=28								
GLBA				S		**Sb**	**Sb**	**07 27 13.4**	**-0.4**
GLBA	**Clilabad**	**0.60**	**347**	*e*Pg		**Pb**	**Pb**	**07 27 04.4**	**-1.4**
IHSH	**Hashtrud**	**1.08**	**252**	*e*Pg		Pg	Pg	07 27 23.8	+8.7
IHSH				*e*				07 27 49.7	
ISRB	**Sarab**	**1.09**	**221**	*e*Pg		**Pb**	**Pb**	**07 27 14.4**	**+0.1**
ISRB				*e*Sg		**Sg**	**Sg**	**07 27 29.8**	**+0.2**
AHAR	**Ahar**	**1.20**	**263**	*e*Pg		**Pn**	**Pn**	**07 27 14.7**	**-1.1**
AHAR				*e*				07 27 33.8	
SAAT	**Saatly**	**1.21**	**355**	P		**Pn**	**Pn**	**07 27 14.9**	**-0.9**
SAAT				S		**Sn**	**Sn**	**07 27 32.1**	**+0.5**
IHRS	**Heris**	**1.24**	**255**	*e*Pg		**Pn**	**Pn**	**07 27 16.6**	**+0.1**
IHRS				*e*				07 27 17.1	
QRD	**Qoradiz**	**1.26**	**310**	P		**Pn**	**Pn**	**07 27 14.7**	**-1.9**
	SNR=11								
QRD				S		**Sn**	**Sn**	**07 27 31.8**	**-1.1**
QRD	**Qoradiz**	**1.26**	**310**	*e*Pg		**Pn**	**Pn**	**07 27 14.9**	**-1.6**
BLQ	**Beylaqan**	**1.32**	**324**	P		**Pn**	**Pn**	**07 27 15.6**	**-1.8**
	SNR=20								
BLQ				S		**Sn**	**Sn**	**07 27 33.5**	**-0.9**
BLQ	**Beylaqan**	**1.32**	**324**	*e*Pn		**Pn**	**Pn**	**07 27 15.5**	**-1.8**
ALIB	**Äli-Bayra**	**1.34**	**15**	P		**Pn**	**Pn**	**07 27 16.7**	**-1.0**
	SNR=6.6								
ALIB				S		**Sg**	**Sg**	**07 27 37.2**	**-0.4**
ALIB	**Äli-Bayra**	**1.34**	**15**	*e*Pn		**Pn**	**Pn**	**07 27 16.9**	**-0.8**
KDMR	**Kurdemir**	**1.74**	**350**	Pn		**Pn**	**Pn**	**07 27 23.1**	**-0.1**
KDMR				Sn		**Sn**	**Sn**	**07 27 45.3**	**+0.5**
ZRD	**Zardab**	**1.76**	**337**	Pn		**Pn**	**Pn**	**07 27 23.0**	**-0.4**
	SNR=5.8								
ZRD				Sn		**Sn**	**Sn**	**07 27 46.0**	**+0.8**
ZRD	**Zardab**	**1.76**	**337**	*e*Pn		**Pn**	**Pn**	**07 27 22.9**	**-0.4**
AGDM	**Agdam**	**1.84**	**323**	Pn		**Pn**	**Pn**	**07 27 23.5**	**-1.0**
	SNR=51								
AGDM				Sn		**Sn**	**Sn**	**07 27 47.8**	**+0.6**
GBS	**Qobustan**	**1.90**	**9**	Pg		**Pb**	**Pb**	**07 27 29.4**	**+1.3**
GBS				Sg		**Sb**	**Sb**	**07 27 51.9**	**+0.5**
BRDA	**Brd**	**1.93**	**327**	Pn		**Pn**	**Pn**	**07 27 26.0**	**+0.2**
	SNR=12								
BRDA				Sg		**Sb**	**Sb**	**07 27 52.8**	**+0.6**
BRDA	**Brd**	**1.93**	**327**	*e*Pn		**Pn**	**Pn**	**07 27 25.9**	**+0.2**
ITBZ	**Tabriz**	**1.95**	**258**	*e*Pn		**Pb**	**Pb**	**07 27 27.9**	**-1.0**
ITBZ				*e*				07 27 30.1	
ZNJK	**Zanjan**	**1.98**	**177**	*e*Pg		**Pn**	**Pn**	**07 27 26.4**	**-0.3**
ZNJK				*e*Sg		**Sn**	**Sn**	**07 27 50.2**	**-1.0**
ZNJK	**Zanjan**	**1.98**	**177**	*e*Pg		**Pn**	**Pn**	**07 27 26.4**	**-0.3**
ORD	**Ordubad**	**2.03**	**279**	Pn		**Pn**	**Pn**	**07 27 27.9**	**+0.7**
	SNR=105								
ORD				Sn		**Sb**	**Sb**	**07 27 54.8**	**-0.3**
PQL	**Pirkuli**	**2.13**	**1**	Pn		**Pn**	**Pn**	**07 27 28.7**	**0.0**
PQL				Sn		**Sn**	**Sn**	**07 27 55.9**	**+1.3**
IML	**Ismayilli**	**2.15**	**352**	Pn		**Pn**	**Pn**	**07 27 28.3**	**-0.6**
IML				Sn		**Sn**	**Sn**	**07 27 56.1**	**+1.1**
QSDN	**Sirdan**	**2.20**	**167**	*e*Pn		**Pn**	**Pn**	**07 27 28.7**	**-1.0**
QSDN				*e*				07 28 02.5	
ATGJ	**Alt

GADA	**Gvkgeada**	**0.64**	**351**	P	**Pg**	**07 40 34.3**	**-0.5**
GADA				S	**Sg**	**07 40 43.4**	**+0.1**
GADA	**Gvkgeada**	**0.64**	**351**	PG	**Pg**	**07 40 34.5**	**-0.3**
LIA	**Limnos Island**	**0.74**	**298**	P	**Pg**	**07 40 36.9**	**+0.3**
LIA				S	**Sb**	**07 40 47.3**	**+0.4**
	comp=E,1μm,0.4s						
LIA	**Limnos Island**	**0.74**	**298**	P	**Pg**	**07 40 36.3**	**-0.2**
LIA				S	**Sb**	**07 40 47.1**	**+0.2**
LIA				AML	AML	07 40 50.2	
	comp=E,2310μm,0.3s						
LIA				AML	AML	07 40 50.6	
	comp=N,1738μm,0.4s						
EFSA	**Agios Efstrati**	**0.81**	**269**	P	**Pg**	**07 40 37.6**	**-0.2**
EFSA				S	**Sg**	**07 40 48.9**	**+0.4**
EFSA				AML	AML	07 40 51.8	
	comp=E,1373μm,0.2s						
EFSA				AML	AML	07 40 52.1	
	comp=N,2549μm,0.4s						
DKL	**Dikili**	**0.83**	**125**	PG	**Pg**	**07 40 38.4**	**0.0**
LPK	**Lapseki**	**0.99**	**34**	PG	**Pg**	**07 40 40.6**	**-0.8**
SMTH	**Samothraki Isl**	**0.99**	**337**	P	**Pg**	**07 40 41.0**	**-0.4**
SMTH	**Samothraki Isl**	**0.99**	**337**	P	**Pg**	**07 40 41.0**	**-0.4**
SMTH				S	**Sb**	**07 40 55.2**	**+1.0**
SMTH				AML	AML	07 40 56.3	
	comp=N,730μm,0.2s						
SMTH				AML	AML	07 40 57.0	
	comp=E,471μm,0.3s						
ZEDA	**zmir-Bergama**	**1.00**	**126**	*i* P	**Pg**	**07 40 41.2**	**-0.4**
ZEDA				*i* S	**Sb**	**07 40 56.0**	**+1.4**
ZEDA				IAML		07 40 57.0	
	comp=N,190nm,0.3s						
KRBN	**Karaburun**	**1.04**	**157**	PG	**Pg**	**07 40 42.5**	**+0.1**
PSRA	**Psara**	**1.08**	**200**	P	**Pg**	**07 40 42.0**	**-1.0**
CHOS	**Chios island**	**1.17**	**179**	P	**Pg**	**07 40 43.4**	**-1.4**
CHOS	**Chios island**	**1.17**	**179**	P	**Pg**	**07 40 43.4**	**-1.4**
CHOS				AML	AML	07 41 04.2	
	comp=E,2462μm,0.2s						
CHOS				AML	AML	07 41 05.3	
	comp=N,1502μm,0.2s						
CHOS	**Chios island**	**1.17**	**179**	PN	**Pg**	**07 40 43.8**	**-1.0**
BALY	**Balya**	**1.24**	**81**	*i* P	**Pb**	**07 40 44.6**	**-1.0**
BALY				*i* S	**Sg**	**07 41 00.8**	**-1.5**
BALY				IAML		07 41 02.0	
	comp=N,351nm,0.6s						
BALY				IAML		07 41 03.0	
	comp=E,199nm,0.2s						
URLA	**Izmir**	**1.27**	**160**	PN	**Pn**	**07 40 44.8**	**-0.9**
URLA	**Izmir**	**1.27**	**160**	*i* P	**Pn**	**07 40 44.9**	**-0.9**
URLA				*i* S	**Sb**	**07 41 01.3**	**-1.1**
URLA				IAML		07 41 08.0	
	comp=N,117nm,0.5s						
STEP	**BALIKESIR_Sava**	**1.32**	**97**	*i* P	**Pn**	**07 40 46.5**	**+0.1**
STEP				*i* S	**Sn**	**07 41 05.6**	**+1.8**
STEP				IAML		07 41 11.0	
	comp=N,161nm,0.5s						
STEP				IAML		07 41 11.0	
	comp=E,140nm,0.4s						
SKY	**Skiros Island**	**1.33**	**240**	P	**Pn**	**07 40 45.8**	**-0.8**
ALN	**Alexandroupoli**	**1.34**	**1**	P	**Pn**	**07 40 46.3**	**-0.3**
ALN				S	**Sn**	**07 41 05.2**	**+0.9**
	comp=E,402nm,0.5s						
ALN	**Alexandroupoli**	**1.34**	**1**	P	**Pn**	**07 40 46.4**	**-0.3**
ALN	**Alexandroupoli**	**1.34**	**1**	PN	**Pn**	**07 40 46.9**	**+0.3**
KESN	**Edirne-Kesan**	**1.36**	**21**	*i* P	**Pn**	**07 40 46.8**	**-0.5**
KESN				*i* S	**Sb**	**07 41 05.4**	**+0.2**
KESN				IAML		07 41 08.0	
	comp=E,250nm,0.2s						
KESN				IAML		07 41 14.0	
	comp=N,380nm,0.5s						
GONE	**Gonen-Balikesi**	**1.37**	**69**	PN	**Pn**	**07 40 47.6**	**+0.6**
BLCB	**Balcova**	**1.41**	**146**	PN	**Pn**	**07 40 48.3**	**+0.7**
BALB	**Balikesir**	**1.43**	**86**	PN	**Pn**	**07 40 48.3**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.43**	**38**	PN	**Pn**	**07 40 48.0**	**0.0**
SART	**Tekirdag**	**1.43**	**38**	*i* P	**Pn**	**07 40 48.1**	**+0.1**
SART				*i* S	**Sg**	**07 41 07.8**	**-0.6**
SART				IAML		07 41 08.0	
	comp=E,136nm,0.4s						
SART				IAML		07 41 08.0	
	comp=N,147nm,0.3s						
THAS	**Thassos island**	**1.45**	**317**	P	**Pn**	**07 40 48.1**	**-0.1**
MAR6	**Marsite Statio**	**1.49**	**39**	PN	**Pn**	**07 40 49.3**	**+0.6**
MAR3	**Marsite Statio**	**1.53**	**39**	PN	**Pn**	**07 40 49.9**	**+0.6**
MAR4	**Marsite Statio**	**1.57**	**38**	PN	**Pn**	**07 40 50.5**	**+0.6**
EDC	**Edincik**	**1.61**	**60**	PN	**Pn**	**07 40 50.3**	**-0.1**
RDO	**Rodhopi**	**1.63**	**347**	P	**Pn**	**07 40 50.7**	**0.0**
RDO	**Rodhopi**	**1.63**	**347**	PN	**Pn**	**07 40 51.3**	**+0.7**
UKOP	**Uzunkopru-Edir**	**1.64**	**16**	PN	**Pn**	**07 40 51.5**	**+0.8**
MAR9	**Marsite Statio**	**1.67**	**50**	PN	**Pn**	**07 40 51.9**	**+0.8**
AOS	**Alonnisos**	**1.71**	**258**	P	**Pn**	**07 40 51.4**	**-0.4**
OUR	**Ouranopolis**	**1.75**	**297**	P	**Pn**	**07 40 52.6**	**+0.3**
KYMI	**Kymi, Euboea I**	**1.76**	**239**	P	**Pn**	**07 40 51.6**	**-0.9**
KAVA	**Kavala**	**1.85**	**322**	P	**Pn**	**07 40 54.0**	**+0.4**
KAVA	**Kavala**	**1.85**	**322**	P	**Pn**	**07 40 53.7**	**+0.1**
KVLA	**Kavala**	**1.87**	**318**	P	**Pn**	**07 40 53.9**	**0.0**
KDZ	**Kurdzhali**	**2.14**	**348**	PN	**Pn**	**07 40 58.3**	**+0.6**
STIP	**Stip**	**3.62**	**307**	*i* Pn	**Pn**	**07 41 17.6**	**-0.4**

*NNC **07** 08:14:41.1±2.4,39°.15N×74°.28E,h0km,mb4.3,mpv3.9, Error ellipse: s-maj=18.5km s-min=12.4km az=151.0*
*BJI **07** 08:14:42.0±0.0,38°.27N×73°.45E,h127km,mb4.4/1*
ISC 07 08:14:40.1±1.2,38°.31N±0°.08×73°.1E±0°.1,h100km,n28, σ1§87/29,5C-1D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.52**	**61**	P	**Pn**	**08 15 15.4**	**-4.2**
KSH				S	Sn	08 15 40.6	-9.3
KSH				smax	smax		
	comp=N,790nm,0.3s						
KSH				smax	smax		
	comp=E,450nm,0.3s						
AML	**Almayashu**	**3.84**	**6**	P	**Pn**	**08 15 38.6**	**+1.2**
	SNR=30						
UCH	**Uchtor**	**4.05**	**15**	P	**Pn**	**08 15 41.9**	**+1.6**
	SNR=104						
KZA	**Kyzart**	**4.10**	**23**	P	**Pn**	**08 15 41.9**	**+1.0**
	SNR=9.8						
EKS2	**Erkin-Say**	**4.37**	**6**	P	**Pn**	**08 15 46.2**	**+1.9**
	SNR=42						
MRKS	**Merke**	**4.43**	**1**	Pg	**Pn**	**08 15 46.8**	**+1.6**
	75nm,0.4s						
MRKS				Lg	Lg	08 16 35.4	
	82nm,0.3s						
AAK	**Ala-Archa**	**4.44**	**13**	P	**Pn**	**08 15 47.3**	**+1.9**
	SNR=16						
AAK	**Ala-Archa**	**4.44**	**13**	⇑Pg	**Pn**	**08 15 45.5**	**+0.1**
	15nm,0.5s						
AAK				⇓Lg	Lg	08 16 34.4	
	34nm,0.5s						
IUG	**Iuzhnay**	**4.50**	**329**	Pg	**Pn**	**08 15 48.1**	**+2.0**
	55nm,0.2s						
IUG				Lg	Lg	08 16 37.7	
	77nm,0.2s						
KBK	**Karagaybulak**	**4.56**	**17**	P	**Pn**	**08 15 48.9**	**+2.0**
	SNR=9.4						
CEP	**Cherat**	**4.59**	**193**	P	**Pn**	**08 15 49.9**	**+2.6**
CHCP	**Chirah Chowk**	**4.64**	**179**	P	**Pn**	**08 15 50.5**	**+2.5**
TKM2	**Tokmak 2**	**4.97**	**21**	P	**Pn**	**08 15 53.9**	**+1.3**
	SNR=8.1						
TKM2	**Tokmak 2**	**4.97**	**21**	⇑Pg	**Pn**	**08 15 53.4**	**+0.9**
	3.2nm,0.5s						
TKM2				⇑Lg	Lg	08 16 47.8	
	4.6nm,0.3s						
USP	**Ospenovka**	**5.06**	**11**	P	**Pn**	**08 15 54.6**	**+1.1**
	SNR=6.7						
KK31	**Karatay Array**	**5.18**	**338**	Pn	**Pn**	**08 15 56.7**	**+1.5**
	3.4nm,0.2s,baz=156,slow=14,SNR=213						
KK31				Sn	**Sn**	**08 16 53.1**	**-0.7**
	16nm,0.3s,baz=150,slow=23,SNR=8.7						
KST	**Kastek**	**5.19**	**24**	Pg	**Pn**	**08 15 56.9**	**+1.4**
	18nm,0.4s						
KST				Lg	Lg	08 16 53.3	
	31nm,0.4s						
DGS	**Degeres**	**5.32**	**21**	Pg	**Pn**	**08 15 58.7**	**+1.5**
	6.3nm,0.5s						
DGS				Lg	Lg	08 16 56.4	
	19nm,0.7s						
MTBS	**Maitube**	**5.43**	**26**	Pg	**Pn**	**08 16 00.1**	**+1.5**
	8.0nm,0.4s						
MTBS				Lg	Lg	08 16 59.1	
	11nm,0.2s						
THW	**Thamme Wali**	**5.62**	**192**	P	**Pn**	**08 16 02.7**	**+1.4**
MDOK	**Medeo**	**5.69**	**30**	Pg	**Pn**	**08 16 03.9**	**+1.7**
	3.6nm,0.2s						
MDOK				Lg	Lg	08 17 05.6	
	7.4nm,0.3s						
KOTS	**Kotyrbulak**	**5.77**	**30**	Pg	**Pn**	**08 16 05.2**	**+1.9**
	12nm,0.4s						
KOTS				Lg	Lg	08 17 07.9	
	23nm,0.7s						
KTBS	**Karatobe**	**6.03**	**25**	Pg	**Pn**	**08 16 08.8**	**+2.1**
	1.8nm,0.3s						
KTBS				Lg	Lg	08 17 14.7	
	18nm,0.6s						
KUU	**Kurty**	**6.08**	**22**	Pg	**Pn**	**08 16 09.1**	**+1.7**
	1.2nm,0.1s						
KUU				Lg	Lg	08 17 15.3	
	14nm,0.5s						
BTLS	**Baital**	**6.76**	**6**	Pg	**Pn**	**08 16 17.4**	**+0.8**
	3.2nm,0.5s						
BTLS				Lg	Lg	08 17 30.4	
	6.5nm,0.7s						
WMQ	**Urumqi**	**12.29**	**59**	*e*P	**Pn**	**08 17 29.5**	**-2.0**
AB01	**Akbulak array**	**14.48**	**323**	⇑P	**Pn**	**08 17 58.8**	**-1.2**
	2.0nm,0.5s						
AKTO	**Aktyubinsk**	**16.20**	**323**	⇑P	**Pn**	**08 18 19.8**	**-1.8**
	4.4nm,0.7s						

*IDC **07** 08:21:44.4±1.5,22°.92S×171°.87E,h0km,mb4.1/6, mb1 4.3/7,mb1mx4.1/23,mbtmp4.1/7,ML3.6/1,MS3.5/2, Ms1 3.5/2,ms1mx2.9/36,Error ellipse: s-maj=67.8km s-min=23.6km az=164.0*
*NEIC **07** 08:21:45.8±2.0,23°.2S±0°.2×171°.76E±0°.10,h10km±1km, mb4.6/10,Error ellipse: s-maj=37.2km s-min=13.9km az=170.0*
ISC 07 08:21:51.2±1.0,23°.0S±0°.2×171°.74E±0°.08,h49km,n25, σ1§10/23,mb4.3/11,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.98**	**280**	Pn	**Pn**	**08 23 02.2**	**-1.3**
	2.4nm,0.3s,baz=114,slow=12,SNR=40						
DZM				Sn	**Sn**	**08 24 00.8**	**+0.8**
	7.4nm,0.3s,baz=120,slow=16,SNR=7.5						
DZM	**Mont Dzumac**	**4.98**	**280**		**Pn**	**08 23 02.1**	**-1.5**
DZM					**Sn**	**08 24 00.7**	**+0.7**
MSVF	**Nonsavu**	**7.90**	**50**	Pn	**Pn**	**08 23 43.9**	**+0.3**
URZ	**Urewera**	**15.89**	**164**	LR	LR	08 29 50.2	
	comp=Z,207nm,21.8s,baz=350,slow=30						
STKA	**Stephens Creek**	**28.11**	**245**	P	**P**	**08 27 39.4**	**+0.9**
	0.7nm,0.3s,baz=42,slow=7.5,SNR=2.9						
STKA	**Stephens Creek**	**28.11**	**245**	IAmb	IAmb	08 27 45.2	
	comp=Z,1.0nm,1.1s						
BBOO	**Buckleboo**	**32.88**	**245**	P	**P**	**08 28 19.9**	**-0.7**
AS31	**Alice Springs**	**34.68**	**261**	P	**P**	**08 28 36.6**	**+0.1**
ASAR	**Alice Springs**	**34.69**	**261**	P	**P**	**08 28 37.0**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=86,slow=9.0,SNR=34						
ASAR	**Alice Springs**	**34.69**	**261**	P	**P**	**08 28 36.5**	**+0.1**
WR0	**Warramunga Arr**	**34.69**	**268**	P	**P**	**08 28 34.6**	**-1.9**
WR0				IAmb	IAmb	08 28 54.2	
	comp=Z,9.3nm,1.3s						
WB0	**Warramunga Arr**	**34.87**	**268**	P	**P**	**08 28 37.6**	**-0.4**
WB0				IAmb	IAmb	08 28 39.2	
	comp=Z,13nm,1.5s						
WB2	**Warramunga Arr**	**34.87**	**268**	P	**P**	**08 28 37.6**	**-0.4**
WB2				IAmb	IAmb	08 28 43.0	
	comp=Z,6.9nm,1.2s						
WRA	**Warramunga Arr**	**34.88**	**268**	P	**P**	**08 28 37.6**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=98,slow=8.2,SNR=15						
WRA	**Warramunga Arr**	**34.88**	**268**	IAmb	IAmb	08 28 39.4	
	comp=Z,0.1nm,0.6s						
FAKI	**Fak Fak**	**43.13**	**292**	P	**P**	**08 29 47.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**43.31**	**268**	P	**P**	**08 29 50.3**	**+1.7**
VNDA	**Vanda**	**54.78**	**183**	LR	LR	08 52 02.2	
	comp=Z,38nm,18.0s,baz=2.5,slow=33						
CMAR	**Chiang Mai Arr**	**82.16**	**294**	P	**P**	**08 34 09.9**	**+2.6**
	comp=Z,1.9nm,0.6s,baz=130,slow=4.5,SNR=7.2						
ISA	**Isabella, Lake**	**88.06**	**50**	P	**P**	**08 34 36.9**	**+0.3**
ISA				IAmb	IAmb	08 34 37.4	
	comp=Z,2.5nm,0.8s						
NVAR	**Mina Array Bea**	**89.56**	**48**	P	**P**	**08 34 43.7**	**0.0**
	comp=Z,0.8nm,0.8s,baz=228,slow=8.1,SNR=6.5						
U15A	**North Rim**	**92.84**	**52**	P	**P**	**08 34 59.4**	**+0.3**
U15A				IAmb	IAmb	08 35 00.3	
	comp=Z,2.7nm,0.8s						
ILAR	**Eielson Array**	**93.13**	**16**	P	**P**	**08 34 57.6**	**-1.7**
	comp=Z,0.5nm,0.9s,baz=236,slow=7.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**166.39**	**226**	PKP	**PKPdf**	**08 41 51.8**	**0.0**
	comp=Z,1.2nm,0.8s,baz=215,slow=1.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**166.39**	**226**	PKPdf	**PKPdf**	**08 41 51.7**	**-0.2**

*IDC **07** 08:30:32.8±0.8,14°.69S×167°.99E,h0km,mb4.3/12, mb1 4.5/13,mb1mx4.2/29,mbtmp4.3/13,ML4.8/1,MS3.7/9, Ms1 3.7/9,ms1mx3.4/31,Error ellipse: s-maj=25.0km s-min=18.1km az=119.0*
*NEIC **07** 08:30:34.1±2.2,14°.64S±0°.03×168°.0E±0°.2,h10km±1km, mb4.7/17,Error ellipse: s-maj=25.3km s-min=3.9km az=100.0*
ISC 07 08:30:37.9±0.6,14°.77S±0°.07×168°.0E±0°.1,h36km,n46, σ1§59/39,mb4.5/20,MS3.8/9,2D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.42**	**192**	Pn	**Pn**	**08 32 23.9**	**+0.1**
	16nm,0.3s,baz=150,slow=23,SNR=110						
DZM				Sn	**Sn**	**08 33 47.9**	**+1.2**
	5.5nm,0.3s,baz=164,slow=22,SNR=3.8						
DZM				LR	LR	08 34 50.1	
	comp=Z,430nm,21.9s,baz=38,slow=34						
DZM	**Mont Dzumac**	**7.42**	**192**	*e*Pn	**Pn**	**08 32 23.9**	**+0.1**
	73nm,0.3s						
DZM				*e*Sn	**Sn**	**08 33 40.2**	**-6.5**
	38nm,0.5s						
DZM				*e*LR	LR	08 34 19.6	
	comp=Z,590nm,23.2s						
DZM	**Mont Dzumac**	**7.42**	**192**		**Pn**	**08 32 24.5**	**+0.7**
DZM					**Sn**	**08 33 49.9**	**+3.2**
HNR	**Honiara**	**9.53**	**303**	LR	LR	08 36 38.7	
	comp=Z,54nm,19.4s,baz=138,slow=39						
EIDS	**Eidsvold**	**19.08**	**234**	P	**Pn**	**08 34 58.3**	**-0.2**
CTA	**Charters Tower**	**21.44**	**253**	P	**P**	**08 35 24.1**	**+0.9**
	8.5nm,0.9s,baz=90,slow=12,SNR=3.9						
ARMA	**Armidale**	**21.68**	**221**	P	**P**	**08 35 27.9**	**+2.1**
ARMA				IAmb	IAmb	08 35 32.5	
	comp=Z,40nm,1.4s						
URZ	**Urewera**	**24.74**	**163**	P	**P**	**08 35 57.0**	**+1.0**
	comp=Z,9.7nm,0.6s,baz=309,slow=12,SNR=5.6						
URZ	**Urewera**	**24.74**	**163**	P	**P**	**08 35 56.8**	**+0.8**
URZ				IAmb	IAmb	08 35 59.7	
	comp=Z,14nm,0.8s						
STKA	**Stephens Creek**	**29.54**	**230**	P	**P**	**08 36 39.9**	**+0.7**
	comp=Z,8.2nm,0.7s,baz=45,slow=8.3,SNR=20						
STKA				LR	LR	08 46 40.0	
	comp=Z,163nm,19.7s,baz=33,slow=33						
STKA	**Stephens Creek**	**29.54**	**230**	P	**P**	**08 36 40.6**	**+1.4**
WB0	**Warramunga Arr**	**32.48**	**256**	P	**P**	**08 37 04.2**	**-1.1**
WB0				IAmb	IAmb	08 37 13.8	
	comp=Z,19nm,1.4s						
WB2	**Warramunga Arr**	**32.52**	**256**	P	**P**	**08 37 06.2**	**+0.5**
WB2				IAmb	IAmb	08 37 22.1	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**32.54**	**256**	P	**P**	**08 37 04.2**	**-1.6**
	comp=Z,1.9nm,0.7s,baz=84,slow=8.6,SNR=12						
WRA				LR	LR	08 49 38.2	
	comp=Z,280nm,19.3s,baz=90,slow=35						
WRA	**Warramunga Arr**	**32.54**	**256**	P	**P**	**08 37 04.8**	**-1.0**
AS31	**Alice Springs**	**33.35**	**249**	P	**P**	**08 37 12.1**	**-0.8**
ASAR	**Alice Springs**	**33.35**	**249**	P	**P**	**08 37 12.5**	**-0.4**
	comp=Z,11nm,0.9s,baz=79,slow=9.2,SNR=59						
ASAR				PcP	**PcP**	**08 39 54.5**	**+0.2**
	comp=Z,1.0nm,1.0s,baz=72,slow=3.0,SNR=4.1						
ASAR				LR	LR	08 49 48.8	
	comp=Z,264nm,19.2s,baz=86,slow=35						
ASAR	**Alice Springs**	**33.35**	**249**	P	**P**	**08 37 13.1**	**+0.1**
BBOO	**Buckleboo**	**34.14**	**233**	P	**P**	**08 37 20.8**	**+1.1**
KNRA	**Kununurra**	**37.87**	**263**	P	**P**	**08 37 50.6**	**-1.1**
KNRA				IAmb	IAmb	08 37 52.3	
	comp=Z,10nm,1.0s						
SIJI	**Sorong**	**38.87**	**287**	LR	LR	08 54 48.0	
	comp=Z,68nm,18.4s,baz=312,slow=38						
FORT	**Forrest**	**39.92**	**240**	P	**P**	**08 38 09.2**	**+0.4**
FORT				IAmb	IAmb	08 38 17.5	
	comp=Z,23nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.74**	**259**	LR	LR	08 54 50.9	
	comp=Z,170nm,18.9s,baz=88,slow=36						
FITZ	**Fitzroy Crossi**	**40.74**	**259**	P	**P**	**08 38 14.3**	**-1.4**
FITZ				IAmb	IAmb	08 38 17.6	
	comp=Z,7.0nm,1.1s						
PPT2	**Papeete2**	**40.74**	**100**	*e*LR	LR	08 49 45.1	
	comp=Z,181nm,27.2s						
TBI	**Tubuai**	**40.95**	**109**	*e*LR	LR	08 49 48.4	
	comp=Z,182nm,28.2s						
KAPI	**Kappang**	**48.45**	**276**	LR	LR	09 01 39.9	
	comp=Z,59nm,18.5s,baz=104,slow=39						
NWAO	**Narrogin (SRO)**	**49.37**	**239**	LR	LR	09 00 27.9	
	comp=Z,171nm,19.0s,baz=67,slow=36						
NWAO	**Narrogin (SRO)**	**49.37**	**239**	P	**P**	**08 39 24.4**	**+0.3**
USRK	**Ussuriysk Ar.**	**67.26**	**333**	P	**P**	**08 41 28.9**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=162,slow=1.9,SNR=7.8						
QSPA	**South Pole Qui**	**75.26**	**180**	P	**P**	**08 42 17.1**	**+0.1**
QSPA				IAmb	IAmb	08 42 24.7	
	comp=Z,8.5nm,1.4s						
CMAR	**Chiang Mai Arr**	**75.65**	**294**	P	**P**	**08 42 21.1**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=115,slow=3.9,SNR=5.2						
SONM	**Songino Array**	**82.97**	**323**	P	**P**	**08 42 59.7**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=123,slow=5.5,SNR=4.7						
SONM	**Songino Array**	**82.97**	**323**	P	**P**	**08 42 58.1**	**-1.3**
ILAR	**Eielson Array**	**86.34**	**18**	P	**P**	**08 43 15.0**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=244,slow=5.6,SNR=9.1						
NVAR	**Mina Array Bea**	**86.73**	**49**	P	**P**	**08 43 20.6**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=224,slow=6.2,SNR=3.8						
SYO	**Syowa Base**	**88.88**	**196**	⇓*e*P	**P**	**08 43 27.0**	**-1.1**
SYO	**Syowa Base**	**88.88**	**196**	⇓*e*X	P	08 43 38.4	+10
VNA3	**Neumayer Olymp**	**94.19**	**181**	P	**P**	**08 43 50.2**	**-2.6**
VNA2	**Neumayer--Watz**	**94.46**	**182**	P	**P**	**08 43 53.5**	**-0.5**
	baz=184,slow=2.8						
TXAR	**Lajitas Array**	**95.64**	**61**	P	**P**	**08 44 00.2**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=242,slow=5.4,SNR=4.1						
MK31	**Makanchi Array**	**97.75**	**316**	P	Pdif	08 44 09.5	+0.1
MK31				IAmb	IAmb	08 44 10.6	
	comp=Z,1.8nm,0.8s						
MKAR	**Makanchi Array**	**97.75**	**316**	P	**P**	**08 44 08.5**	**-0.8**
	comp=Z,2.3nm,0.9s,baz=99,slow=6.0,SNR=13						
MKAR	**Makanchi Array**	**97.75**	**316**	P	Pdif	08 44 09.9	+0.5
MAKZ	**Makanchi**	**97.96**	**316**	P	Pdif	08 44 11.4	+1.1
BNI	**Bardonecchia**	**145.94**	**336**		**PKPdf**	**08 50 13.4**	**0.0**

*JMA **07** 08:32:10.3±0.2,28°.10N×128°.11E,h9km±2km,M3.7*
*NIED **07** 08:32:10.3,28°.10N×128°.11E,h9km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.46; Mθθ1.42; Mφφ=0.96; Mrθ=-1.23; Mθφ0.79; Mφr0.86; Fault plane solution: M₀2.10000×10¹⁵ NP1: φs114.00000°,δ81.00000°,λ-47.00000°. NP2: φs213.00000°,δ44.00000°,λ-167.00000°.*
*IDC **07** 08:32:13.5±3.7,27°.77N×127°.67E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.6/31,mbtmp3.8/4,MS3.5/9,Ms1 3.5/9, ms1mx3.2/38 Error ellipse: s-maj=209.8km s-min=22.4km az=64.0*
ISC 07 08:32:11.3±1.7,28°.05N±0°.05×128°.17E±0°.06,h4km±12km, n21,σ1§47/22,mb3.8/4,MS3.6/7,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.74**	**111**	P	**Pg**	**08 32 25.6**	**+0.2**
JTK				S	**Sg**	**08 32 36.6**	**+1.6**
JOKE	**Okinoerabujima**	**0.78**	**153**	P	**Pg**	**08 32 26.4**	**+0.3**
JOKE				S	**Sg**	**08 32 37.7**	**+1.5**
JAMN	**Amaminishikomi**	**0.91**	**78**	P	**Pg**	**08 32 28.5**	**-0.1**
JAMN				S	**Sg**	**08 32 41.5**	**+1.1**
JIH	**Iheya**	**1.03**	**190**	P	**Pg**	**08 32 30.3**	**-0.7**
JIH				*e*S	**Sg**	**08 32 44.2**	**-0.2**
JYRO	**Yoronjima**	**1.05**	**166**	P	**Pg**	**08 32 31.6**	**+0.1**
JYRO				S	**Sb**	**08 32 46.5**	**+0.3**
JOW	**Kunigami**	**1.22**	**176**	P	**Pn**	**08 32 33.7**	**-1.4**
JOW				*e*S	**Sb**	**08 32 50.3**	**-0.7**
JAM	**Amami Oshima**	**1.31**	**74**	P	**Pn**	**08 32 35.3**	**-1.1**
JAM				*e*S	**Sb**	**08 32 53.4**	**-0.3**
JTAJ	**Takarajima**	**1.42**	**39**	P	**Pb**	**08 32 36.3**	**-2.0**
JTAJ				*e*S	**Sn**	**08 32 54.7**	**-2.3**
JNTH	**Nagotoyohara**	**1.54**	**185**	P	**Pn**	**08 32 38.4**	**-1.0**
JNTH				*e*S	**Sn**	**08 32 58.1**	**-1.7**
KSRS	**Korea Array**	**9.38**	**359**	LR	LR	08 38 16.5	
	comp=Z,172nm,21.2s,baz=170,slow=38						
MJAR	**Matsushiro Arr**	**11.98**	**43**	LR	LR	08 39 19.1	
	comp=Z,165nm,21.4s,baz=190,slow=34						
SONM	**Songino Array**	**26.01**	**325**	P	**P**	**08 37 48.7**	**+3.3**
	1.7nm,0.6s,baz=128,slow=12,SNR=2.4						
SONM				LR	LR	08 48 53.8	
	comp=Z,65nm,20.2s,baz=66,slow=38						
CMAR	**Chiang Mai Arr**	**28.44**	**257**	LR	LR	08 51 00.4	
	comp=Z,54nm,20.3s,baz=75,slow=40						
MKAR	**Makanchi Array**	**40.30**	**310**	P	**P**	**08 39 50.7**	**+1.1**
	0.9nm,0.6s,baz=99,slow=10,SNR=11						
ZALV	**Zalesovo Beam**	**40.78**	**322**	LR	LR	08 58 29.1	
	comp=Z,70nm,20.0

ACAL	Aguas Claras	1.28	321	*i*	P		Pn	08 50 26.5 -0.8
ACAL				*i*	S		Sb	08 50 43.6 -0.4
PTEN	Parque Tenorio	1.32	324	⇑*eP*			Pn	08 50 27.0 -0.7
PTEN				*eS*			Sg	08 50 45.1 -1.1
CUI	Cuipilapa	1.39	317	*i*	P		Pn	08 50 28.0 -0.6
CUI				*eS*			Sb	08 50 46.2 -0.8
PTJ1	Puerto Jimnez	1.41	141	⇓*i*	P		Pn	08 50 28.4 -0.5
PTJ1				*i*	S		Sg	08 50 49.6 +0.6
PTJ1	Puerto Jimnez	1.41	141	*eP*			Pn	08 50 28.1 -0.9
COLC	Colonia	1.42	316	*i*	P		Pn	08 50 28.4 -0.6
COLC				*eS*			Sb	08 50 47.6 -0.2
HORNC	Hornillas	1.44	318	*i*	P		Pn	08 50 28.6 -0.7
HORNC				*eS*			Sb	08 50 47.7 -0.7
EDSV	San Vito	1.46	124	⇑*eP*			Pn	08 50 29.6 -0.2
GUAB	Guayabo de Bag	1.47	317	⇑*eP*			Pn	08 50 29.1 -0.6
GUAB				*eS*			Sn	08 50 48.7 -0.1
PIRO	Carate, Puerto	1.50	145	⇓*i*	P		Pn	08 50 30.1 0.0
PIRO				*i*	S		Sg	08 50 52.0 +0.2
PIRO	Carate, Puerto	1.50	145	⇓*eP*			Pn	08 50 30.1 0.0
GPS3	Bodega del ICE	1.59	314	*i*	P		Pn	08 50 31.1 -0.4
GPS3				*i*	S		Sn	08 50 52.1 +0.2
GPS1	Guardaparques	1.60	315	⇑*eP*			Pn	08 50 31.1 -0.4
GPS1				*eS*			Sn	08 50 52.2 +0.1
MLIR3	Monte Lirio, C	1.60	121	⇓*i*	P		Pn	08 50 31.7 0.0
MLIR3				*i*	S		Sb	08 50 53.5 +0.2
LAPC	Finca la Perla	1.65	313	*i*	P		Pn	08 50 31.6 -0.6
LAPC				⇑*eP*			Pn	08 50 31.7 -0.6
LAPC				*eS*			Sn	08 50 53.0 -0.3
BUEV	Buena Vista	1.65	314	*i*	P		Pn	08 50 31.7 -0.7
BUEV				⇑*eP*			Pb	08 50 31.9 -2.0
BUEV				*eS*			Sb	08 50 54.3 -0.4
BUAI	Buenos Aires	1.66	318	*i*	P		Pn	08 50 31.7 -0.6
BUAI				*eS*			Sb	08 50 54.3 -0.5
GB1A	Borinquen Arri	1.66	315	⇑*eP*			Pn	08 50 32.2 -0.3
GB1A				*eS*			Sn	08 50 54.2 +0.5
BRU2	Volcan	1.71	119	⇑*i*	P		Sn	08 50 32.8 -0.4
BRU2				*i*	S		Sg	08 50 58.5 -0.3
BRU2	Volcan	1.71	119	*eP*			Pn	08 50 32.6 -0.6
BRU2				*eS*			Sn	08 50 55.1 0.0
BC3P	Paso Ancho	1.77	117	*i*	P		Pn	08 50 33.8 -0.4
BC3P				*i*	S		Sg	08 51 00.1 -0.6
BCO2	Palmira	1.89	119	⇓*i*	P		Pn	08 50 35.5 -0.2
BCO2				*i*	S		Sb	08 51 02.7 +1.1
BAGA3	Bagala, Chiriq	2.02	125	*i*	P		Pn	08 50 37.4 0.0
PSOM3	Paja de Sombre	2.09	117	*i*	P		Pn	08 50 38.2 0.0
PSOM3				*i*	S		Sb	08 51 06.9 -0.2
LOCO3	Loma Colorada,	2.15	124	*eP*			Pn	08 50 39.5 +0.4
CHGR2	Aguacate	2.15	109	*i*	P		Pn	08 50 39.8 +0.7
ACON	Acoyapa	2.50	338	*eP*			Pn	08 50 43.5 -0.4
ACON	Acoyapa	2.50	338	Pn			Pn	08 50 43.6 -0.4
ESPN	Las Esperanzas	2.54	358	⇑*eP*			Pn	08 50 44.1 -0.5
ESPN	Las Esperanzas	2.54	358	Pn			Pn	08 50 44.5 0.0
REME3	Remedios, Chir	2.73	121	*eP*			Pn	08 50 49.2 +2.1
NANC3	Nancito, Chiri	2.81	119	⇓*eP*			Pn	08 50 49.8 +1.6
NANC3				*eS*			Sb	08 51 28.5 +0.5
PVID3	Puerto Vidal,	3.01	121	*eP*			Pb	08 50 53.9 -3.2
BOAB	BOACO BROADBAN	3.14	333	Pn			Pn	08 50 52.6 -0.2
CNAZ3	Canazas, Verag	3.23	113	*eP*			Pn	08 50 55.9 +2.0
CNAZ3				*eS*			Sb	08 51 37.9 -2.1
MESA3	La Mesa, Verag	3.33	116	*eP*			Pn	08 50 57.4 +2.1
MESA3				*i*	S		Sb	08 51 43.3 +0.3
RSUS3	Rio de Jesus,	3.43	118	*eP*			Pn	08 50 59.6 +2.9
RSUS3				*i*	S		Sb	08 51 44.1 -1.7
GMAL	Guarumal, Vera	3.48	122	⇓*i*	P		Pn	08 50 57.4 0.0
SFRA3	San Francisco,	3.48	113	⇓*eP*			Pn	08 50 58.9 +1.5
SFRA3				*eS*			Sb	08 51 45.5 -1.7
STIA3	Santiago, Vera	3.54	115	*eP*			Pb	08 51 03.1 -3.0
CALO3	Calobre, Verag	3.57	111	*i*	P		Pn	08 51 01.4 +2.7
PONU3	Ponuga, Veragu	3.63	118	*eP*			Pb	08 51 03.8 -3.9
MATN	Matagalpa	3.68	333	*eP*			Pn	08 51 00.1 -0.1
MATN	Matagalpa	3.68	333	Pn			Pn	08 51 00.2 -0.1
MARI3	Mariato, Verag	3.74	122	*eP*			Pb	08 51 06.6 -2.9
OCU3	Ocu, Herrera	3.78	116	*eP*			Pb	08 51 06.2 -4.0
CRIS3	El Cristo, Coc	3.80	111	*i*	P		Pn	08 51 03.1 +1.2
PNME	Penonome	4.00	106	*eP*			Pb	08 51 10.4 -3.5
CACAO	El Cacao, Vera	4.02	124	*eP*			Pn	08 51 07.4 +2.7
CACAO				*i*	S		Sb	08 52 02.4 -0.3
ESTN	Estel	4.04	329	Pn			Pn	08 51 05.8 +0.5
CHIT3	Chitre	4.10	114	*i*	P		Pb	08 51 13.2 -2.5
VTON	El Valle, Cocl	4.17	104	*eP*			Pn	08 51 07.7 +0.7
AZU	Azuero	4.30	115	*i*	P		Pn	08 51 11.6 +3.0
BCIP	Isla Barro Col	4.34	96	*eP*			Pn	08 51 08.9 -0.3
BCIP	Isla Barro Col	4.34	96	*i*	P		Pn	08 51 09.1 -0.1
BCIP	Isla Barro Col	4.34	96	⇑*eP*			Pn	08 51 08.8 -0.4
BCIP	Isla Barro Col	4.34	96				Pn	08 51 09.0 -0.1
ZANG	Zanguenga, Cho	4.34	99	*i*	P		Pn	08 51 09.8 +0.6
ZANG	Zanguenga, Cho	4.34	99	*eP*			Pn	08 51 09.2 +0.1
FRIJ	El Hiral	4.44	95	*i*	P		Pn	08 51 11.1 +0.5
FRIJ				*i*	S		Sn	08 51 59.9 -2.3
CHOR3	La Chorrera	4.44	99	*i*	P		Pn	08 51 10.9 +0.3
PCRI3	Pocri, Los San	4.49	116	*eP*			Pb	08 51 21.0 -1.3
ARRA3	Arraijan, Pana	4.54	98	*eP*			Pn	08 51 12.8 +0.9
PRVC	Isla de Provid	4.64	37	*eP*			Pn	08 51 12.4 -1.0
UPA	Univ. de Panam	4.66	98	*eP*			Pn	08 51 14.5 +0.9
TABO3	Taboga, Panama	4.67	100	*eP*			Pn	08 51 14.3 +0.6
CHPO	Chepo, Panama	5.04	95	*eP*			Pn	08 51 20.4 +1.5
LCND	La Caada	5.13	316	IAML				08 52 22.1
	comp=Z,46nm,0.4s							
LCND	La Caada	5.13	316	*eP*			Pn	08 51 22.6 +2.4
LCND				IAML				08 52 22.1
	comp=Z,46nm,0.4s							
CNTA3	Canitas, Panam	5.26	94	*eP*			Pn	08 51 23.8 +1.9
COEB	Comit de Eme	5.72	313	*eP*			Pn	08 51 32.1 +3.8
COEB				IAML				08 52 45.0
	comp=Z,41nm,0.4s							
JAYA	Jayaque - finc	6.50	308	*eS*			Sn	08 52 53.3 0.0
JAYA	Jayaque - finc	6.50	308	*eP*			Pn	08 51 42.4 +3.2
JAYA				*eS*			Sn	08 52 53.3 0.0
ESQI	Esquipulas	7.01	315	Pn			Pn	08 51 50.4 +4.3
DBBC	Dabeiba	8.33	108	*eP*			Pn	08 52 06.8 +2.7
UREC	San Jos de Ur	8.78	102	*eP*			Pn	08 52 08.8 -1.4
SJCC	San Jacinto, C	8.90	88	*eP*			Pn	08 52 12.5 +0.5
SJCC	San Jacinto, C	8.90	88	*eP*			Pn	08 52 13.1 +1.1
HELC	Santa Helena	9.25	111	*eP*			Pn	08 52 14.2 -2.3
ZARC	Zaragoza, Cauc	9.49	102	*eP*			Pn	08 52 19.5 +2.8
GUY2C	Guyana, Caldas	9.80	116	*eP*			Pn	08 52 27.5 +2.8
ARGC	Ariguani, Magd	9.82	88	*eP*			Pn	08 52 26.0 +1.5
SMLC	San Martn de	10.04	94	*eP*			Pn	08 52 25.1 -2.5
PTBC	PUERTO BERRIO,	10.13	107	*eP*			Pn	08 52 29.9 +1.1
TOLC	Tolima	10.14	119	*eP*			Pn	08 52 32.5 +3.2
ORTC	Ortega, Tolima	10.56	122	*eP*			Pn	08 52 34.1 -0.7
PCON	Cinco Dias	10.63	133	*eP*			Pn	08 52 41.1 +4.9
GCUF	Volcan Galeras	10.79	140	*eP*			Pn	08 52 42.4 +4.1
ROSC	El Rosal	10.90	115	LR		LR	LR	08 57 48.8
	comp=Z,213nm,18.5s,baz=26,slow=43							
OTAV	Otavalo	10.95	148	*eP*			Pn	08 52 45.0 +4.5
PRAC	Prado	10.97	122	*eP*			Pn	08 52 42.5 +2.2
CHIC	Chingaza	11.52	115	*eP*			Pn	08 52 53.6 +5.4
RUSC	La Rusia	11.63	108	*eP*			Pn	08 52 55.8 +6.0
MACC	Macarena, Meta	12.71	125	*eP*			Pn	08 53 06.0 +2.0
CMIG	Matias Romero	12.76	307	Pn			Pn	08 53 05.6 +0.8
	comp=Z,0.9nm,0.3s,baz=151,slow=8.6,SNR=6.1							
ATAH	Atahualpa	17.64	161	LR		LR	LR	09 00 19.8
	comp=Z,299nm,19.4s,baz=346,slow=35							
344A	Westbrook Farm	22.54	345	P		P	P	08 55 02.7 -0.6
NNA	Nana	22.70	161	LR		LR	LR	09 03 14.3
	comp=Z,59nm,21.5s,baz=338,slow=35							
LRAL	Lakeview Retre	23.43	354	P		P	P	08 55 13.0 +0.5
GOGA	Godfrey	23.67	2	P		P	P	08 55 15.2 +0.4
GOGA				IAmb		IAmb	IAmb	08 55 21.5
	comp=Z,11nm,1.0s							
Y52A	Lilburn	24.11	0	P		P	P	08 55 19.6 +0.6
Y52A				IAmb		IAmb	IAmb	08 55 26.1
	comp=Z,11nm,0.9s							
HODGE	Hodges	24.54	4	P		P	P	08 55 21.2 -1.8
HODGE				IAmb		IAmb	IAmb	08 55 30.4
	comp=Z,15nm,1.1s							
PAULI	Pauline	25.16	5	P		P	P	08 55 26.8 -1.8
PAULI				IAmb		IAmb	IAmb	08 55 37.7
	comp=Z,12nm,1.0s							
W50A	Signal Mountai	25.46	358	P		P	P	08 55 29.5 -1.8
W50A				IAmb		IAmb	IAmb	08 55 38.2
	comp=Z,12nm,1.1s							
PLAL	Pickwick Lake	25.48	353	P		P	P	08 55 29.7 -1.8
CPCT	Cooper Cave	25.70	359	P		P	P	08 55 33.2 -0.2
CPCT				IAmb		IAmb	IAmb	08 55 43.2
	comp=Z,9.8nm,1.1s							
TKL	Tuckaleechee C	25.91	1	P		P	P	08 55 40.1 +4.8
TKL				LR		LR	LR	09 06 14.6
	comp=Z,8.3nm,1.1s,baz=159,slow=8.5,SNR=5.3							
	comp=Z,101nm,18.0s,baz=171,slow=38							

V53A	Saluda	25.95	3	P		P		08 55 34.0 -1.8
V53A				IAmb		IAmb		08 55 46.1
	comp=Z,7.7nm,1.1s							
PTGA	Pitinga	26.24	112	P		P		08 55 39.8 +1.2
	comp=Z,1.3nm,0.3s,baz=54,slow=23,SNR=3.2							
PTGA				LR		LR		09 06 35.4
	comp=Z,150nm,20.6s,baz=290,slow=38							
TXAR	Lajitas Array	26.76	320	P		P		08 55 44.5 +1.2
	comp=Z,1.0nm,0.9s,baz=137,slow=9.9,SNR=8.0							
T42A	Van Buren	27.98	348	P		P		08 55 52.1 -1.8
T42A				IAmb		IAmb		08 55 58.5
	comp=Z,10.0nm,1.2s							
MGMO	Mountain Grove	28.35	346	P		P		08 55 55.4 -1.9
LPIG	La Paz	28.75	303	LR		LR		09 07 00.0
	comp=Z,85nm,19.9s,baz=179,slow=35							
CCM	Cathedral Cave	29.00	348	P		P		08 56 01.3 -1.7
LPAZ	La Paz	30.28	148	LR		LR		09 09 11.7
	comp=Z,123nm,21.8s,baz=322,slow=38							
P40A	Paris	30.58	348	P		P		08 56 15.1 -2.0
P40A				IAmb		IAmb		08 56 21.4
	comp=Z,5.9nm,1.1s							
ECSD	EROS Data Cent	35.64	344	P		P		08 56 58.7 -2.6
SPMN	Marine on St.	36.23	350	P		P		08 57 03.2 -3.0
F36A	Milaca	36.97	349	P		P		08 57 09.4 -3.1
F36A				IAmb		IAmb		08 57 16.2
	comp=Z,4.4nm,0.8s							
F33A	5 Mile Ranch,	37.53	346	P		P		08 57 14.5 -2.8
F33A				IAmb		IAmb		08 57 21.0
	comp=Z,5.5nm,0.8s							
AGMN	Agassiz Nation	39.77	348	P		P		08 57 32.7 -3.3
AGMN				IAmb		IAmb		08 57 34.0
	comp=Z,6.8nm,1.2s							
ULM	Lac du Bonnet	41.63	349	P		P		08 57 53.1 +1.7
	comp=Z,2.6nm,0.4s,baz=228,slow=3.0,SNR=4.1							
ULM				LR		LR		09 16 56.7
	comp=Z,34nm,18.7s,baz=160,slow=39							
ULM	Lac du Bonnet	41.63	349	IAmb		IAmb		08 57 55.3
	comp=Z,4.8nm,0.8s							
NVAR	Mina Array Bea	41.90	319	P		P		08 57 54.0 -0.1
	comp=Z,0.2nm,0.5s,baz=119,slow=7.3,SNR=2.9							
BDFB	Brasilia	43.77	125	LR		LR		09 17 11.1
	comp=Z,106nm,19.0s,baz=308,slow=37							
CPUP	Villa Florida	44.28	144	LR		LR		09 15 53.8
	comp=Z,45nm,18.5s,baz=340,slow=35							
SCHQ	Schefferville	47.15	14	LR		LR		09 17 32.1
	comp=Z,106nm,21.1s,baz=328,slow=35							
PLCA	Paso Flores	51.68	167	P		P		08 59 10.6 +0.3
	comp=Z,4.5nm,1.0s,baz=332,slow=15,SNR=3.1							
PLCA	Paso Flores	51.68	167	IAmb		IAmb		08 59 11.5
	comp=Z,11nm,1.4s							
YKA	Yellowknife Ar	57.17	344	P		P		08 59 51.6 +1.8
	comp=Z,1.9nm,0.8s,baz=137,slow=6.5,SNR=4.2							
YKA				LR		LR		09 26 28.2
	comp=Z,45nm,19.7s,baz=0.0,slow=38							
INK	Inuvik	66.84	342	P		P		09 00 54.1 -0.6
ILAR	Eielson Array	69.87	336	P		P		09 01 13.4 -0.4
	comp=Z,0.2nm,0.5s,baz=119,slow=7.3,SNR=5.0							
ILAR	Eielson Array	69.87	336	P		P		09 01 13.5 -0.3
ESDC	Sonseca Array	76.42	51	P		P		09 01 52.4 -0.7
	comp=Z,0.5nm,0.4s,baz=280,slow=5.6,SNR=6.0							
ESDC				LR		LR		09 30 56.3
	comp=Z,24nm,20.2s,baz=230,slow=32							
ESDC	Sonseca Array	76.42	51	P		P		09 01 52.7 -0.5
TORD	Torodi Ar. Bea	83.90	78	P		P		09 02 34.8 +0.9
	comp=Z,0.5nm,0.8s,baz=289,slow=4.4,SNR=2.5							
NOA	NORSAR Array B	84.26	29	LR		LR		09 36 47.0
	comp=Z,20nm,20.8s,baz=35,slow=33							
GERES	GERESS Array B	87.98	41	LR		LR		09 36 24.0
	comp=Z,50nm,20.8s,baz=277,slow=32							
FINES	FINESS Array B	91.05	27	LR		LR		09 43 33.4
	comp=Z,31nm,18.2s,baz=69,slow=35							
AKASG	Malin Array Be	96.95	36	LR		LR		09 43 57.9
	comp=Z,55nm,20.9s,baz=95,slow=33							
ASAR	Alice Springs	141.06	244	PKP		PKPdf		09 09 32.4 -2.2
	comp=Z,1.3nm,1.1s,baz=105,slow=3.4,SNR=5.1							
WRA	Warramunga Arr	141.44	250	PKP		PKPdf		09 09 34.7 -0.6
	comp=Z,1.0nm,0.9s,baz=100,slow=3.1,SNR=3.1							

*IDC **07** 08:50:08.9±1.3,24.˚37N×123.˚48E,h0km,mb3.9/5, mb1 4.0/6,mb1mx3.6/48,mbtmp3.9/6,ML3.0/1,MS2.9/1, Ms1 2.9/1,ms1mx2.4/39,Error ellipse: s-maj=71.8km s-min=19.8km az=65.0*

*NEIC **07** 08:50:10.9±1.7,24.˚34N±0.˚09×123.˚87E±0.˚03,h10km±1km, mb4.5/14,Error ellipse: s-maj=14.5km s-min=4.7km az=4.0*

*JMA **07** 08:50:16.7±0.1,24.˚42N×123.˚60E,h56km±1km,M3.7 JMA Felt I J1.*

*NIED **07** 08:50:16.7,24.˚42N×123.˚60E,h56km,MW3.8,Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}3.48; $M_{\theta\theta}$-2.48; $M_{\phi\phi}$-1.00; $M_{r\theta}$-3.23; $M_{\theta\phi}$3.06; $M_{\phi r}$1.60; Fault plane solution: $M_0$5.55000×10^{14} NP1: ϕ_s298.00000˚,δ66.00000˚,λ79.00000˚. NP2: ϕ_s143.00000˚,δ26.00000˚,λ113.00000˚.*

ISC 07 08:50:16.1±0.7,24˚39N±0˚06×123˚59E±0˚03,h58km±6km, n41,σ0˚89/50,mb4.3/12,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IRIF	Iriomote-Funau	0.14	115	P		Pn	08 50 25.2	+0.2
IRIF				S		Sn	08 50 31.7	+0.2
HATJ	Hateruma jima	0.39	150	P		Pn	08 50 27.2	+0.4
HATJ				S		Sn	08 50 35.0	+0.5
JKRS	Kuro-shima	0.41	112	P		Pn	08 50 27.6	+0.6
JKRS				S		Sn	08 50 35.9	+1.0
JIJ	Ishigaki jima	0.50	93	P		Pn	08 50 28.2	+0.3
JIJ				S		Sn	08 50 36.3	-0.2
YOJ	Yonaguni jima	0.53	277	P		Pn	08 50 28.8	+0.6
YOJ				S		Sn	08 50 37.5	+0.4
YOJ	Yonaguni jima	0.53	277	Pn		Pn	08 50 28.9	+0.6
JYNG	Yonagunijimaku	0.59	276	P		Pn	08 50 29.5	+0.6
JYNG				S		Sn	08 50 38.6	+0.3
JISG	Ishigakijimahi	0.68	74	P		Pn	08 50 30.4	+0.4
JISG				S		Sn	08 50 40.7	+0.5
JTJ	Tarama	1.04	76	P		Pn	08 50 35.3	+0.7
JTJ				S		Sn	08 50 49.4	+1.1
JIRB	Irabujima	1.50	73	P		Pn	08 50 41.4	+0.7
JIRB				S		Sn	08 50 59.9	+0.6
JIKM	Ikemajima	1.60	70	P		Pn	08 50 42.8	+0.8
JIKM				S		Sn	08 51 01.7	+0.1
NACB	Ninganchiao	1.83	264	Pn		Pn	08 50 45.4	+0.1
TATO	Taipei	2.00	287	Pn		Pn	08 50 48.6	+1.1
YHNB	Yeheng	2.04	278	Pn		Pn	08 50 49.2	+1.1
SSLB	Suanglung	2.48	256	Pn		Pn	08 50 54.5	+0.4
TWG	Pinlang	2.79	236			Pn	08 50 57.1	-1.3
TPUB	Ta-pu	2.92	249	Pn		Pn	08 51 01.4	+1.2
KSRS	Korea Array	13.54	15	Pn		Pn	08 53 22.8	-2.5
	0.1nm,0.3s,baz=194,slow=13,SNR=3.3							
KSRS				LR		LR	08 59 31.2	
	comp=Z,45nm,19.4s,baz=160,slow=42							
MK31	Makanchi Array	39.73	315	P		P	08 57 45.1	+2.2
MKAR	Makanchi Array	39.73	315	P		P	08 57 42.7	-0.2
	0.4nm,0.4s,baz=97,slow=8.8,SNR=6.3							
MKAR	Makanchi Array	39.73	315	P		P	08 57 44.9	+1.9
KNRA	Kununurra	40.15	172	P		P	08 57 46.6	+0.1
KNRA				IAmb		IAmb	08 57 58.6	
	comp=Z,15nm,1.4s							
COEN	Coen	42.65	151	P		P	08 58 07.9	+0.8
COEN				IAmb		IAmb	08 58 08.4	
	comp=Z,15nm,1.0s							
KURK	Kurchatov	43.36	319	P		P	08 58 12.3	-0.1
KURK	Kurchatov	43.36	319	IAmb		IAmb	08 58 30.6	
	comp=Z,3.9nm,1.2s							
KURBB	Kurchatov Arra	43.38	319	P		P	08 58 12.3	-0.3
	comp=Z,0.2nm,0.3s,baz=104,slow=7.7,SNR=4.6							
WB0	Warramunga Arr	45.14	166	P		P	08 58 27.0	0.0
WB0				IAmb		IAmb	08 58 46.8	
	comp=Z,9.2nm,1.4s							
WRA	Warramunga Arr	45.30	166	P		P	08 58 28.6	+0.4
	comp=Z,3.8nm,0.7s,baz=347,slow=8.8,SNR=28							
WRA	Warramunga Arr	45.30	166	P		P	08 58 28.4	+0.2
WB2	Warramunga Arr	45.30	166	P		P	08 58 28.2	-0.1
WR0	Warramunga Arr	45.36	165	P		P	08 58 28.9	+0.2
WR0				IAmb		IAmb	08 58 29.9	
	comp=Z,4.4nm,0.8s							
AS31	Alice Springs	48.81	167	P		P	08 58 56.8	+1.2
ASAR	Alice Springs	48.81	167	P		P	08 58 56.6	+1.0
	comp=Z,0.8nm,0.4s,baz=350,slow=7.4,SNR=22							
ABKAR	Akbulak array	54.87	314	P		P	08 59 40.6	+0.1
BBOO	Buckleboo	58.12	168	P		P	09 00 02.5	-1.2
STKA	Stephens Creek	58.54	162	P		P	09 00 06.4	-0.2
	comp=Z,1.8nm,0.7s,baz=351,slow=7.6,SNR=3.7							
STKA	Stephens Creek	58.54	162	P		P		09 00 06.0 -0.6
RSO	Redoubt South	66.00	33	P		P		09 00 54.6 -1.9
CCB	Clear Creek Bu	67.65	28	P		P		09 01 06.4 -0.2
CCB				IAmb		IAmb		09 01 06.9
	comp=Z,2.6nm,1.4s							
SEW	Seward	67.68	33	P		P		09 01 06.9 0.0
GLB	Gilahina Butte	70.10	31	P		P		09 01 22.9 +0.9
GLB				IAmb		IAmb		09 01 34.3
	comp=Z,7.7nm,1.2s							

*MEX **07** 09:06:53.8±1.3,14˚47N×92˚59W,h63km±23km,MD3.9 GCG **07** 09:06:56.5±0.4,14˚42N×92˚41W,h27km±10km,MD4.3*

ISC 07 09:06:50.4±3.7,14˚42N±0˚09×92˚66W±0˚05,h18km±29km, n12,σ1˚38/19,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		0.62	38	*i* P		Pn	09 07 04.9	+0.5
THIG				*i* S		Sb	09 07 14.4	+3.2
STG3	Santiaguito 3,	1.09	74	*eS*		Sb	09 07 25.7	+0.7
PCIG		1.39	337	*eP*		Pn	09 07 15.3	+0.3
PCIG				*i* S		Sn	09 07 31.9	-1.0
FUG	Fuego 3	1.76	89	*eP*		Pb	09 07 22.1	-0.2
CCIG	Comitan	1.92	15	*i* P		Pn	09 07 23.8	+1.3
CCIG				*eS*		Sn	09 07 46.2	-0.1
PCG	Pacaya	1.99	90	*eP*		Pb	09 07 25.7	-0.5
PCG				*eS*		Sn	09 07 48.6	+0.6
IXG	Ixpaco	2.16	96	*eP*		Pb	09 07 28.1	-1.1
NBG	Las Nubes	2.25	85	*eP*		Pb	09 07 29.6	-1.1
TGIG		2.39	349	*i* P		Pn	09 07 28.6	-0.3
TGIG				*i* S		Sn	09 07 55.8	-1.9
CMIG	Matias Romero	3.42	321	*eP*		Pn	09 07 43.9	+1.0
CMIG				*i* S		Sn	09 08 22.4	-0.6
HUIG	Huatulco	3.59	292	*i* P		Pn	09 07 46.6	+1.3
HUIG				*i* S		Sn	09 08 26.3	-1.0
TEIG	Tepich	7.13	35	*eP*		Pn	09 08 32.1	-1.9
TEIG				*eS*		Sn	09 09 45.4	-9.2

UCR 07 09:13:36.7±0.7,10˚07N×85˚75W,h25km±3km,MD3.9, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LAPC	Finca la Perla	0.76	24	*i* P		Pb	09 13 50.7	-0.6
GPS3	Bodega del ICE	0.78	29	*i* P		Pb	09 13 51.1	-0.5
GPS3				*i* S		Sb	09 14 02.2	+0.4
GPS2	Hotel Rincn d	0.78	30	*eP*		Pb	09 13 51.3	-0.4
BUEV	Buena Vista	0.80	25	*eP*		Pb	09 13 51.4	-0.6
COLC	Colonia	0.80	42	*i* P		Pb	09 13 50.9	-1.0
COLC				*i* S		Sn	09 14 03.4	-0.1
GPS1	Guardaparques	0.80	29	*i* P		Pb	09 13 51.7	-0.3
GUAB	Guayabo de Bag	0.81	39	*i* P		Pb	09 13 51.6	-0.7
GUAB				*i* S		Sn	09 14 03.4	-0.5
JTS	Las Juntas de	0.81	75	*eP*		Pb	09 13 51.6	-0.6
GB1A	Borinquen Arri	0.82	25	*i* P		Pb	09 13 51.9	-0.

0.5nm,0.4s,baz=100,slow=6.7,SNR=18

*ATH **07** 10:01:22.2, 39˚.53N×26˚.01E, h27km±1km, ML2.4/6, Error ellipse: s-maj=2.0km s-min=0.8km az=253.0*
*DDA **07** 10:01:22.5, 39˚.56N×26˚.09E, h12km±2km, ML2.5*
*ISK **07** 10:01:22.1, 39˚.57N×26˚.01E, h4km, ML2.6/18*
*THE **07** 10:01:22.9, 39˚.56N×26˚.03E, h3km±2km, ML2.4/6, Error ellipse: s-maj=2.1km s-min=0.5km az=169.0*

ISC 07 10:01:22.5±0.9, **39˚.56N**±0˚.02×**26˚.04E**±0˚.02, **h14**km±7km, **n53**, σ0**°44**/81, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.28**	**1**	PG		**Pg**	**10 01 28.4**	**-0.1**
BOZC				SG		**Sg**	**10 01 32.7**	**+0.2**
BOZC	**Bozcaada**	**0.28**	**1**	*i* P		**Pg**	**10 01 28.6**	**+0.1**
BOZC				*i* S		**Sg**	**10 01 32.6**	**+0.1**
BOZC				IAML			10 01 33.0	
	comp=N,533nm,0.2s							
BOZC				IAML			10 01 33.0	
	comp=E,704nm,0.2s							
EZN	**Ezine**	**0.34**	**39**	P		**Pg**	**10 01 29.4**	**-0.1**
EZN				S		**Sg**	**10 01 34.4**	**+0.1**
EZN	**Ezine**	**0.34**	**39**	PG		**Pg**	**10 01 29.4**	**-0.1**
PRK	**Paraskevi**	**0.36**	**150**	P		**Pb**	**10 01 30.7**	**+0.1**
PRK				S		**Sb**	**10 01 35.8**	**-0.3**
	comp=E,1μm,0.5s							
PRK	**Paraskevi**	**0.36**	**150**	P		**Pb**	**10 01 30.7**	**+0.1**
PRK				S		**Sb**	**10 01 35.8**	**-0.3**
PRK				AML	AML		10 01 37.6	
	comp=E,1898μm,0.4s							
PRK				AML	AML		10 01 37.7	
	comp=N,1536μm,0.6s							
SIGR	**SIGRI**	**0.38**	**203**	P		**Pg**	**10 01 30.1**	**0.0**
SIGR				S		**Sg**	**10 01 35.4**	**+0.2**
	comp=N,895nm,0.3s							
SIGR	**SIGRI**	**0.38**	**203**	P		**Pg**	**10 01 30.1**	**0.0**
SIGR				S		**Sg**	**10 01 35.4**	**+0.2**
SIGR				AML	AML		10 01 36.4	
	comp=E,1327μm,0.3s							
SIGR				AML	AML		10 01 38.4	
	comp=N,2256μm,0.4s							
SIGR	**SIGRI**	**0.38**	**203**	PG		**Pg**	**10 01 30.1**	**0.0**
SIGR				SG		**Sg**	**10 01 35.7**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**0.43**	**65**	*i* P		**Pg**	**10 01 30.7**	**-0.4**
BAYC				*i* S		**Sg**	**10 01 36.2**	**-0.7**
AYVA	**Ayvalik**	**0.56**	**116**	*i* P		**Pg**	**10 01 32.9**	**-0.6**
AYVA				*i* S		**Sb**	**10 01 43.3**	**+1.4**
GOKA	**anakkale-Gk**	**0.64**	**351**	*i* P		**Pg**	**10 01 34.7**	**-0.3**
GOKA				*i* S		**Sb**	**10 01 44.6**	**+0.3**
GOKA				IAML			10 01 50.0	
	comp=N,195nm,0.5s							
GOKA				IAML			10 01 50.0	
	comp=E,175nm,0.5s							
GADA	**Gvkgeada**	**0.64**	**350**	P		**Pg**	**10 01 34.8**	**-0.2**
GADA				S		**Sb**	**10 01 44.8**	**+0.5**
GADA	**Gvkgeada**	**0.64**	**350**	PG		**Pg**	**10 01 34.9**	**-0.1**
LIA	**Limnos Island**	**0.75**	**297**	P		**Pb**	**10 01 37.5**	**+0.2**
LIA				S		**Sb**	**10 01 47.1**	**-0.2**
	comp=E,235nm,0.4s							
LIA	**Limnos Island**	**0.75**	**297**	P		**Pb**	**10 01 37.5**	**+0.2**
LIA				S		**Sb**	**10 01 47.1**	**-0.2**
LIA				AML	AML		10 01 50.2	
	comp=E,478μm,0.4s							
LIA				AML	AML		10 01 51.0	
	comp=N,452μm,0.4s							
DKL	**Dikili**	**0.83**	**126**	PG		**Pb**	**10 01 39.1**	**+0.5**
LPK	**Lapseki**	**0.98**	**34**	PG		**Pb**	**10 01 41.0**	**-0.3**
SMTH	**Samothraki Isl**	**0.99**	**337**	P		**Pg**	**10 01 41.5**	**-0.2**
SMTH				S		**Sn**	**10 01 55.7**	**-0.2**
	comp=N,92nm,0.3s							
SMTH	**Samothraki Isl**	**0.99**	**337**	P		**Pg**	**10 01 41.5**	**-0.2**
SMTH				S		**Sb**	**10 01 55.0**	**+0.6**
SMTH				AML	AML		10 01 57.5	
	comp=E,156μm,0.3s							
SMTH				AML	AML		10 01 57.9	
	comp=N,211μm,0.3s							
ZEDA	**zmir-Bergama**	**1.00**	**126**	*i* P		**Pb**	**10 01 41.7**	**+0.2**
ZEDA				*i* S		**Sb**	**10 01 54.7**	**+0.2**
PSRA	**Psara**	**1.08**	**200**	P		**Pb**	**10 01 42.3**	**-0.6**
PSRA				S		**Sg**	**10 01 57.3**	**-0.2**
CHOS	**Chios island**	**1.17**	**180**	P		**Pb**	**10 01 44.0**	**-0.5**
CHOS				S		**Sn**	**10 02 01.9**	**+1.6**
	comp=N,182nm,0.3s							
CHOS	**Chios island**	**1.17**	**180**	P		**Pb**	**10 01 43.9**	**-0.5**
CHOS				S		**Sb**	**10 01 59.7**	**+0.1**
CHOS				AML	AML		10 02 06.2	
	comp=N,322μm,0.5s							
CHOS				AML	AML		10 02 07.6	
	comp=E,445μm,0.2s							
CHOS	**Chios island**	**1.17**	**180**	PN		**Pb**	**10 01 44.7**	**+0.2**
BALY	**Balya**	**1.23**	**81**	*i* P		**Pn**	**10 01 45.3**	**0.0**
BALY				*i* S		**Sb**	**10 02 01.2**	**0.0**
BALY				IAML			10 02 03.0	
	comp=N,101nm,0.5s							
URLA	**Izmir**	**1.27**	**160**	PN		**Pg**	**10 01 47.3**	**+0.4**
URLA	**Izmir**	**1.27**	**160**	*i* P		**Pn**	**10 01 45.8**	**0.0**
URLA				*i* S		**Sb**	**10 02 01.9**	**-0.5**
STEP	**BALIKESIR_Sava**	**1.31**	**97**	*i* P		**Pn**	**10 01 45.1**	**-1.3**
STEP				*i* S		**Sb**	**10 02 03.6**	**+0.1**
ALN	**Alexandroupoli**	**1.34**	**0**	P		**Pb**	**10 01 47.2**	**-0.1**
ALN				S		**Sg**	**10 02 05.6**	**0.0**
	comp=N,148nm,0.4s							
ALN	**Alexandroupoli**	**1.34**	**0**	P		**Pb**	**10 01 47.2**	**-0.1**
ALN				S		**Sg**	**10 02 05.6**	**0.0**
ALN				AML	AML		10 02 06.2	
	comp=E,293μm,0.5s							
ALN				AML	AML		10 02 06.8	
	comp=N,302μm,0.4s							
ALN	**Alexandroupoli**	**1.34**	**0**	PN		**Pb**	**10 01 47.7**	**+0.4**
KNL	**Balıkesir**	**1.34**	**58**	*i* P		**Pn**	**10 01 46.5**	**-0.3**
KNL				*i* S		**Sg**	**10 02 05.9**	**+0.1**
KNL				IAML			10 02 07.0	
	comp=N,156nm,0.9s							
KNL				IAML			10 02 08.0	
	comp=E,144nm,0.6s							
SKY	**Skiros Island**	**1.34**	**240**	P		**Pn**	**10 01 46.3**	**-0.5**
KESN	**Edirne-Kesan**	**1.36**	**21**	*i* P		**Pn**	**10 01 47.6**	**+0.3**
KESN				*i* S		**Sn**	**10 02 05.8**	**+0.5**
KESN				IAML			10 02 08.0	
	comp=E,68nm,0.3s							
KESN				IAML			10 02 14.0	
	comp=N,102nm,0.5s							
BLCB	**Balcova**	**1.41**	**146**	PN		**Pg**	**10 01 49.3**	**-0.2**
BALB	**Balikesir**	**1.42**	**86**	PN		**Pb**	**10 01 49.5**	**+0.8**
RKY	**Sarkoy-Tekirda**	**1.42**	**37**	PN		**Pb**	**10 01 48.7**	**-0.1**
MAR6	**Marsite Statio**	**1.48**	**39**	PN		**Pb**	**10 01 50.1**	**+0.3**
MAR2	**Marsite Statio**	**1.51**	**40**	PN		**Pb**	**10 01 50.6**	**+0.3**
MAR3	**Marsite Statio**	**1.52**	**39**	PN		**Pb**	**10 01 50.6**	**+0.1**
MAR4	**Marsite Statio**	**1.56**	**38**	PN		**Pb**	**10 01 51.2**	**0.0**
MRMT	**Marmara Adasi**	**1.58**	**48**	PN		**Pb**	**10 01 51.6**	**0.0**
EDC	**Edincik**	**1.60**	**60**	PN		**Pb**	**10 01 52.1**	**+0.2**
UKOP	**Uzunkopru-Edir**	**1.63**	**16**	PN		**Pb**	**10 01 52.1**	**-0.2**
RDO	**Rodhopi**	**1.63**	**346**	P		**Pb**	**10 01 52.0**	**-0.4**
RDO	**Rodhopi**	**1.63**	**346**	P		**Pb**	**10 01 52.0**	**-0.4**
MAR9	**Marsite Statio**	**1.66**	**50**	PN		**Pb**	**10 01 52.8**	**0.0**
OUR	**Ouranopolis**	**1.77**	**297**	PN		**Pb**	**10 01 53.6**	**-1.0**
KAVA	**Kavala**	**1.85**	**321**	P		**Pn**	**10 01 54.3**	**+0.5**
KAVA	**Kavala**	**1.85**	**321**	P		**Pn**	**10 01 54.3**	**+0.5**
DURS	**Dursunbey**	**1.88**	**88**	*i* P		**Pn**	**10 01 53.9**	**-0.3**
DURS				*i* S		**Sn**	**10 02 16.9**	**-0.9**
DURS				IAML			10 02 25.0	
	comp=N,27nm,0.6s							
SMG	**Samos**	**1.95**	**161**	P		**Pb**	**10 01 57.6**	**-0.2**

*IDC **07** 10:28:36.8±0.7, 33˚.18N×96˚.53E, h0km, mb3.8/12, mb1 4.0/16, mb1mx3.9/50, mbtmp3.9/16, ML4.1/4, MS3.2/9, Ms1 3.2/9, ms1mx3.0/59, Error ellipse: s-maj=29.6km s-min=14.6km az=52.0*
*BJI **07** 10:28:41.3±0.0, 33˚.23N×96˚.71E, h7km, ML3.7/6, Ms3.6/6, Ms7 3.6/4*

ISC 07 10:28:42.2±0.6, **33˚.24N**±0˚.08×**96˚.60E**±0˚.09, **h35**km, **n28**, σ1**°23**/22, **mb3.9**/12, **MS3.7**/7, **Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.84**	**234**	Pn		**Pn**	**10 30 09.3**	**+2.6**
CD2	**Chengdu**	**6.51**	**109**	*e*Pn		**Pn**	**10 30 18.0**	**+2.5**
GTA	**Gaotai**	**6.68**	**22**	*e*Pn		Pn	10 30 24.2	+6.2
GTA				LR		LR		
	comp=N,350nm,8.6s							
GTA				LR		LR		
	comp=Z,270nm,9.5s							
WMQ	**Urumqi**	**12.65**	**329**	*e*P		**Pn**	**10 31 40.0**	**+0.4**
WMQ				smax		smax		
	comp=N,12nm,0.7s							
WMQ				smax		smax		
	comp=E,12nm,0.5s							
CMAR	**Chiang Mai Arr**	**14.87**	**171**	Pn		**Pn**	**10 32 07.4**	**-2.5**
	comp=E,0.8nm,0.3s,baz=344,slow=11,SNR=7.6							
CMAR				LR		LR	10 38 55.6	
	comp=E,31nm,20.7s,baz=358,slow=42							
SONM	**Songino Array**	**16.35**	**24**	Pn		**Pn**	**10 32 28.6**	**-0.4**
	comp=E,0.3nm,0.3s,baz=204,slow=14,SNR=10							
SONM				LR		LR	10 39 40.5	
	comp=E,51nm,19.3s,baz=208,slow=40							
MKAR	**Makanchi Array**	**17.38**	**325**	P		**Pn**	**10 32 40.8**	**-1.1**
	comp=E,0.3nm,0.3s,baz=135,slow=14,SNR=12							
MKAR				LR		LR	10 40 23.6	
	comp=E,78nm,19.0s,baz=136,slow=41							
QIZ	**Qiongzhong**	**18.46**	**137**	P		**Pn**	**10 32 55.0**	**-0.2**
QIZ				S		**S**	**10 36 22.9**	**-1.0**
AAK	**Ala-Archa**	**19.75**	**305**	P		**P**	**10 33 08.6**	**-0.6**
	comp=E,0.5nm,0.3s,baz=135,slow=6.4,SNR=1.9							
KURBB	**Kurchatov Arra**	**21.86**	**328**	P		**P**	**10 33 30.9**	**-0.7**
	comp=E,3.6nm,0.7s,baz=140,slow=11,SNR=16							
ZALV	**Zalesovo Beam**	**22.33**	**341**	P		**P**	**10 33 36.1**	**-0.6**
	comp=E,4.0nm,0.8s,baz=153,slow=10.0,SNR=9.7							
KSRS	**Korea Array**	**25.83**	**72**	P		**P**	**10 34 09.8**	**-0.4**
	comp=E,1.0nm,0.5s,baz=268,slow=10,SNR=6.2							
KSRS				LR		LR	10 45 08.6	
	comp=E,95nm,21.6s,baz=258,slow=38							
GEYT	**Alibeck**	**31.49**	**290**	LR		LR	10 48 56.2	
	comp=E,49nm,20.0s,baz=80,slow=39							
AKTO	**Aktyubinsk**	**33.03**	**313**	LR		LR	10 49 29.8	
	comp=E,32nm,20.1s,baz=115,slow=38							
MJAR	**Matsushiro Arr**	**34.10**	**73**	LR		LR	10 51 30.8	
	comp=E,81nm,18.6s,baz=230,slow=40							
KBZ	**Khabaz**	**42.65**	**300**	LR		LR	10 57 59.1	
	comp=E,44nm,19.1s,baz=80,slow=41							
FINES	**FINESS Array B**	**52.21**	**325**	P		**P**	**10 37 49.5**	**+0.3**
	comp=E,0.9nm,0.5s,baz=104,slow=8.0,SNR=6.4							
ARCES	**ARCESS Array B**	**52.68**	**335**	P		**P**	**10 37 54.4**	**+1.7**
	comp=E,0.9nm,0.7s,baz=91,slow=9.7,SNR=4.8							
JAY	**Jayapura**	**54.73**	**122**	LR		LR	11 02 09.5	
	comp=E,25nm,19.0s,baz=90,slow=37							
NB2	**NORSAR Subarra**	**59.37**	**326**	P		**P**	**10 38 40.3**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=77,slow=7.4							
NOA	**NORSAR Array B**	**59.37**	**326**	P		**P**	**10 38 40.5**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=76,slow=6.8,SNR=4.2							
GERES	**GERESS Array B**	**61.44**	**312**	P		**P**	**10 38 54.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=62,slow=6.2,SNR=3.5							
JMIC	**Jan Mayen**	**63.65**	**339**	LR		LR	11 11 51.0	
	comp=Z,330nm,21.0s,baz=131,slow=41							
WRA	**Warramunga Arr**	**63.99**	**140**	P		**P**	**10 39 12.2**	**0.0**
	comp=Z,1.3nm,0.5s,baz=335,slow=6.4,SNR=49							
ASAR	**Alice Springs**	**66.83**	**143**	P		**P**	**10 39 30.8**	**+0.2**
	comp=Z,2.5nm,0.4s,baz=328,slow=6.8,SNR=88							
ILAR	**Eielson Array**	**70.58**	**24**	P		**P**	**10 39 53.5**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=305,slow=5.6,SNR=3.5							
ESDC	**Sonseca Array**	**76.80**	**309**	P		**P**	**10 40 29.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=47,slow=6.0,SNR=1.7							
TORD	**Torodi Ar. Bea**	**86.93**	**284**	P		**P**	**10 41 23.7**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=28,slow=4.6,SNR=2.5							

NNC 07 10:30:59.6±3.2, **54˚.28N×62˚.21E, h0km, mb3.7, mpv3.0, 5C-1D, Error ellipse: s-maj=30.6km s-min=6.8km az=152.0, Suspected Mining explosion., Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**4.63**	**215**	⇓Lg		Lg	10 33 26.2	
	4.9nm,0.6s							
BRVK	**Borovoye**	**4.95**	**101**	⇑Lg		Lg	10 33 37.5	
	6.3nm,0.7s							
BVA0	**Borovoye Array**	**5.02**	**101**	⇑Pg		Pb	10 32 30.3	+2.0
	4.2nm,1.0s,baz=285,slow=14,SNR=5.6							
BVA0				⇑Lg		Lg	10 33 40.4	
	3.0nm,0.6s,baz=287,slow=14,SNR=3.3							
AB01	**Akbulak array**	**5.22**	**197**	⇑Pg		Pb	10 32 35.4	+3.7
AB31	**Akbulak array**	**5.22**	**197**	Pg		Pb	10 32 35.2	+3.5
	0.1nm,0.1s,baz=184,slow=8.2,SNR=4.6							
AB31				⇑Lg		Lg	10 33 44.6	
	4.2nm,0.5s							

*GCG **07** 10:45:03.0±0.8, 15˚.26N×95˚.07W, h119km±239km, MD5.0*
*MEX **07** 10:45:07.9±1.5, 15˚.43N×94˚.75W, h16km±22km, MD4.9*
*GCMT **07** 10:45:08.6±0.2, 15˚.71N±0˚.02×94˚.85W±0˚.02, h31km, MW5.1/112, Moment Tensor Solution. s100,c143; s112,c170; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}6.00±.17; $M_{\theta\theta}$-3.56±.11; $M_{\phi\phi}$-2.45±.12; $M_{r\theta}$2.37±.15; $M_{\theta\phi}$2.54±.07; $M_{r\phi}$-1.43±.15; Best double couple: M6.42800×10^{16} NP1,φs312.00000°,δ32.00000°, λ95.00000°. NP2,φs126.00000°,δ58.00000°,λ87.00000°. Principal axes: T 6.6340, Plg77.0000°, Azm26.0000°; N -0.4230, Plg3.0000°, Azm127.0000°; P -6.2220, Plg13.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **07** 10:45:08.5±2.3, 15˚.54N±0˚.07×94˚.66W±0˚.06, h33km±5km Error ellipse: s-maj=11.2km s-min=7.1km az=202.0*
*IDC **07** 10:45:09.2±1.9, 15˚.64N×94˚.55W, h43km±15km, mb4.4/27, mb1 4.5/29, mb1mx4.4/41, mbtmp4.6/29, ML4.4/3, MS4.2/27, Ms1 4.2/27, ms1mx4.2/35, Error ellipse: s-maj=18.9km s-min=9.1km az=50.0*
*SNET **07** 10:45:12.4±1.2, 15˚.51N×94˚.01W, h228km±23km, ML4.9*
*UCR **07** 10:45:12.5±1.2, 15˚.51N×94˚.01W, h228km±23km, ML4.3, mb4.8(NEIC)*

ISC 07 10:45:07.1±0.4, **15˚.46N**±0˚.04×**94˚.78W**±0˚.03, **h33**km±2km, **h33**km:**pP-P**, **n645**, σ1**°56**/560, **mb4.8**/140, **MS4.3**/28, **2C, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.32**	**284**	*e*P		**Pn**	**10 45 28.7**	**-0.5**
HUIG				*e*S		**Sn**	**10 45 43.7**	**-2.0**
HUIG	**Huatulco**	**1.32**	**284**			**Pn**	**10 45 28.7**	**-0.5**
HUIG						**Sn**	**10 45 42.2**	**-3.4**
PCIG		**1.52**	**81**	*i* P		**Pn**	**10 45 30.4**	**-1.6**
PCIG				*i* S		**Sn**	**10 45 47.8**	**-3.0**
PCIG		**1.52**	**81**			**Pn**	**10 45 30.4**	**-1.6**
PCIG						**Sn**	**10 45 47.8**	**-3.0**
CMIG	**Matias Romero**	**1.62**	**356**	P		**Pn**	**10 45 32.9**	**-0.5**
	822nm,0.3s,baz=163,slow=11,SNR=6430							
CMIG				S		**Sn**	**10 45 51.4**	**-1.8**
	2μm,0.3s,baz=174,slow=11,SNR=19							
CMIG				LR		LR	10 46 22.3	
	comp=Z,10μm,19.8s,baz=192,slow=49							
CMIG	**Matias Romero**	**1.62**	**356**	*i* P		**Pn**	**10 45 33.0**	**-0.5**
CMIG				*i* S		**Sn**	**10 45 51.8**	**-1.4**
CMIG	**Matias Romero**	**1.62**	**356**			**Pn**	**10 45 33.0**	**-0.5**
CMIG						**Sn**	**10 45 48.8**	**-4.5**
PANG	**Puerto Angel**	**1.65**	**277**	*e*P		**Pn**	**10 45 32.5**	**-1.2**
PANG				*e*S		**Sn**	**10 45 51.9**	**-1.9**
PANG	**Puerto Angel**	**1.65**	**277**			**Pn**	**10 45 32.5**	**-1.2**
PANG						**Sn**	**10 45 51.3**	**-2.4**
TGIG		**2.06**	**50**	*e*P		**Pn**	**10 45 39.5**	**0.0**
TGIG				*i* S		**Sn**	**10 46 02.6**	**-1.5**
TGIG		**2.06**	**50**			**Pn**	**10 45 39.6**	**+0.1**
TGBT	**Tuxtla Gutierr**	**2.08**	**51**	*e*P		**Pn**	**10 45 39.1**	**-0.7**
TGBT				*e*S		**Sn**	**10 46 04.0**	**-0.6**
PEIG	**Puerto Escondi**	**2.34**	**283**	*e*P		**Pn**	**10 45 43.3**	**0.0**
PEIG				*i* S		**Sn**	**10 46 09.3**	**-1.7**
OXBJ	**Oaxaca**	**2.46**	**311**	*e*P		**Pn**	**10 45 45.2**	**+0.1**
OXBJ				*i* S		**Sn**	**10 46 13.3**	**-0.8**
VHO	**Vista Hermosa**	**2.47**	**311**	*e*P		**Pn**	**10 45 47.5**	**+2.3**
THIG		**2.49**	**102**	*e*P		**Pn**	**10 45 43.3**	**-2.0**
THIG		**2.49**	**102**			**Pn**	**10 45 43.3**	**-2.0**
CCIG	**Comitan**	**2.67**	**72**	*e*P		**Pn**	**10 45 48.2**	**+0.2**
CCIG	**Comitan**	**2.67**	**72**	Pn		**Pn**	**10 45 48.6**	**+0.6**
YOIG	**Yosondua**	**3.00**	**298**	*e*P		**Pn**	**10 45 54.9**	**+2.3**
HUEH	**Huehuetenango**	**3.16**	**92**	*e*S		**Sn**	**10 46 35.5**	**+3.9**
HUEH	**Huehuetenango**	**3.16**	**92**			**Pn**	**10 45 56.0**	**+1.1**
PNIG	**Pinotepa**	**3.35**	**286**	*e*P		**Pn**	**10 45 58.1**	**+0.9**
PNIG				*i* S		**Sn**	**10 46 35.7**	**-0.3**
PNIG	**Pinotepa**	**3.35**	**286**			**Pn**	**10 45 58.1**	**+0.9**
PNIG						**Sn**	**10 46 31.7**	**-4.3**
TOIG	**Toxpalan**	**3.41**	**320**	*e*P		**Pn**	**10 45 58.2**	**0.0**
HLIG	**Huajuapan de L**	**3.73**	**309**	*e*P		**Pn**	**10 46 03.1**	**+0.4**
TPIG	**Tehuac#an**	**3.84**	**320**	*e*P		**Pn**	**10 46 04.4**	**+0.3**
TPIG	**Tehuac#an**	**3.84**	**320**			**Pn**	**10 46 07.4**	**+3.3**
FUG	**Fuego 3**	**3.94**	**104**	*e*P		**Pn**	**10 46 06.1**	**+0.6**
FUG				*e*S		**Sn**	**10 46 55.4**	**+4.8**
FTIG	**Fresnillo de T**	**4.03**	**308**	*e*P		**Pn**	**10 46 07.0**	**+0.4**
PCG	**Pacaya**	**4.17**	**104**	*e*P		**Pn**	**10 46 10.5**	**+1.7**
PCG				*e*S		**Sn**	**10 47 01.8**	**+5.3**
TLIG	**Tlapa**	**4.19**	**300**	*e*P		**Pn**	**10 46 09.1**	**+0.2**
TLIG	**Tlapa**	**4.19**	**300**			**Pn**	**10 46 12.1**	**+3.2**
HMTT	**Tlapaneco**	**4.30**	**303**	*e*P		**Pn**	**10 46 10.9**	**+0.5**
HMTT				*i* S		**Sn**	**10 47 00.0**	**+0.4**
NBG	**Las Nubes**	**4.37**	**101**	*e*P		**Pn**	**10 46 13.6**	**+2.1**
CRIG	**Cruz Grande**	**4.37**	**287**	*e*P		**Pn**	**10 46 12.5**	**+1.2**
IXG	**Ixpaco**	**4.39**	**106**	*e*P		**Pn**	**10 46 12.0**	**+0.4**
PHPU	**Puebla**	**4.81**	**318**	*i* S		**Sn**	**10 47 12.5**	**+0.1**
MRL	**Marmol**	**4.93**	**94**	*e*P		**Pn**	**10 46 20.5**	**+1.4**
PETF	**Flores**	**4.94**	**72**	*e*P		**Pn**	**10 46 19.5**	**+0.5**
PETF	**Flores**	**4.94**	**72**	Pn		**Pn**	**10 46 19.6**	**+0.5**
PPM	**Popocatepetl**	**5.13**	**315**	*e*P		**Pn**	**10 46 23.2**	**+1.0**
CEVE	**Cerro Verde**	**5.25**	**107**	*e*P		**Pn**	**10 46 24.1**	**+0.5**
CEVE				*e*S		**Sn**	**10 47 21.9**	**-1.2**
CEVE				IAML			10 47 47.7	
	comp=Z,1μm,0.6s							
CEVE	**Cerro Verde**	**5.25**	**107**	*e*P		**Pn**	**10 46 24.1**	**+0.5**
CEVE				*e*S		**Sn**	**10 47 21.9**	**-1.2**
CEVE				IAML			10 47 47.7	
	comp=Z,1μm,0.6s							
AMVM	**AMECAMECA**	**5.29**	**314**	*i* P		**Pn**	**10 46 25.6**	**+1.4**
ESQI	**Esquipulas**	**5.33**	**99**	*e*P		**Pn**	**10 46 25.1**	**+0.6**
ESQI	**Esquipulas**	**5.33**	**99**			**Pn**	**10 46 25.2**	**+0.7**
MTO3	**Montecristo**	**5.34**	**101**	*e*P		**Pn**	**10 46 26.2**	**+1.4**
MTO3				AMP			10 47 55.5	
	comp=Z,2μm,0.7s							
MTO3	**Montecristo**	**5.34**	**101**	*e*P		**Pn**	**10 46 26.2**	**+1.4**
MTO3				AMP			10 47 55.5	
	comp=Z,2μm,0.7s							
MTO3	**Montecristo**	**5.34**	**101**			**Pn**	**10 46 25.8**	**+1.0**
TACO	**Tacachico**	**5.46**	**105**	*e*P		**Pn**	**10 46 25.9**	**-0.3**
TACO				*e*S		**Sn**	**10 47 23.4**	**-4.5**
TACO	**Tacachico**	**5.46**	**105**	*e*P		**Pn**	**10 46 25.9**	**-0.3**
TACO				*e*S		**Sn**	**10 47 23.4**	**-4.5**
JAYA	**Jayaque - finc**	**5.46**	**109**	*e*P		**Pn**	**10 46 26.5**	**+0.1**
JAYA	**Jayaque - finc**	**5.46**	**109**	*e*P		**Pn**	**10 46 26.5**	**+0.1**
CAIG	**El Cayaco**	**5.50**	**287**	*e*P		**Pn**	**10 46 28.6**	**+1.8**
CAIG	**El Cayaco**	**5.50**	**287**			**Pn**	**10 46 28.6**	**+1.8**
SNET	**Serv Nac Est T**	**5.65**	**107**	Pn		**Pn**	**10 46 29.6**	**+0.6**
MAVM	**Malinalco, Edo**	**5.69**	**308**	*e*P		**Pn**	**10 46 33.0**	**+3.4**
UNM	**Universidad Na**	**5.69**	**313**	Pn		**Pn**	**10 46 30.4**	**+0.7**
LFRS	**El Faro**	**5.83**	**108**	*e*P		**Pn**	**10 46 32.3**	**+0.9**
LFRS	**El Faro**	**5.83**	**108**	*e*P		**Pn**	**10 46 32.3**	**+0.9**
PAVA	**Las Pavas**	**5.92**	**106**	IAML			10 48 31.3	
	comp=Z,127nm,0.4s							
PAVA	**Las Pavas**	**5.92**	**106**	IAML			10 48 31.3	
	comp=Z,127nm,0.4s							
ZUVM	**ZUMPANGO**	**5.97**	**317**	*i* P		**Pn**	**10 46 37.1**	**+3.6**
COEG	**Centro de Oper**	**6.00**	**107**	*e*P		**Pn**	**10 46 34.2**	**+0.5**
COEG				*e*S		**Sn**	**10 47 37.6**	**-3.7**
COEG	**Centro de Oper**	**6.00**	**107**	*e*P		**Pn**	**10 46 34.2**	**+0.5**
COEG				*e*S		**Sn**	**10 47 37.6**	**-3.7**
ARIG	**Puente Sto Nin**	**6.02**	**299**	*e*P		**Pn**	**10 46 38.1**	**+4.2**
ARIG	**Puente Sto Nin**	**6.02**	**299**			**Pn**	**10 46 38.1**	**+4.2**
TOVM	**TOLUCA**	**6.03**	**310**	*e*P		Pn	10 46 39.3	+5.0
ATVM	**ATLACOMULCO**	**6.45**	**312**	*i* P		Pn	10 46 46.6	+6.6
TGUH	**Tegucigalpa,Un**	**7.39**	**100**	Pn		**Pn**	**10 46 52.2**	**-0.7**
MOIG	**Morelia**	**7.41**	**305**	Pn		**Pn**	**10 46 53.4**	**+0.1**
TEIG	**Tepich**	**7.80**	**52

146A Union 17.87 16 P Pn 10 49 13.3 +0.1
WLAR White Oak Lake 18.21 4 P P 10 49 17.7 +0.4
WLAR IAmb IAmb 10 49 36.0
comp=Z,75nm,1.0s
CCAR Cane Creek 18.57 8 P Pn 10 49 22.2 +0.5
CCAR IAmb IAmb 10 49 28.7
comp=Z,90nm,1.2s
Z47A Carrollton 18.68 18 P P 10 49 22.2 -0.3
GDL2 Guadalupe Moun 18.81 334 Pn 10 49 26.0 +1.2
MNTX Cornudas Mount 18.84 331 P Pn 10 49 25.6 +0.6
baz=146,SNR=51
LRAL Lakeview Retre 18.86 21 P Pn 10 49 25.3 0.0
baz=203
TIGA Tifton 18.91 31 P P 10 49 24.0 -1.0
baz=215,SNR=5.5
TIGA Tifton 18.91 31 P Pn 10 49 25.7 -0.1
TIGA IAmb IAmb 10 49 29.5
comp=Z,143nm,1.4s
X40A Basin Creek Fa 19.02 5 P P 10 49 26.7 +0.4
baz=185
MIAR Mount Ida 19.03 3 P P 10 49 26.1 -0.3
baz=183,SNR=36
MIAR Mount Ida 19.03 3 IAmb IAmb 10 49 46.0
comp=Z,39nm,0.9s
X37A Clayton 19.05 359 IAmb IAmb 10 49 43.2
comp=Z,45nm,0.8s
GTBY Guantanamo Bay 19.25 74 IAmb IAmb 10 49 36.1
comp=Z,83nm,1.1s
X43A Marvell 19.30 10 P Pn 10 49 30.1 -0.4
baz=191
X43A Marvell 19.30 10 P Pn 10 49 30.8 +0.3
X43A IAmb IAmb 10 49 36.5
comp=Z,122nm,1.2s
152A Waverly Hall 19.41 26 IAmb IAmb 10 49 36.1
comp=Z,78nm,1.3s
WMOK Wichita Mounta 19.53 350 P P 10 49 31.4 -0.4
baz=168,SNR=45
WMOK Wichita Mounta 19.53 350 P P 10 49 32.1 +0.2
WMOK IAmb IAmb 10 49 41.3
comp=Z,45nm,1.0s
OXF Oxford 19.57 13 P P 10 49 31.8 -0.5
baz=195,SNR=9.1
OXF Oxford 19.57 13 IAmb IAmb 10 49 39.3
comp=Z,76nm,1.1s
W39A Magazine 19.67 2 P P 10 49 33.2 -0.1
baz=182,SNR=20
W39A Magazine 19.67 2 IAmb IAmb 10 49 46.5
comp=Z,42nm,0.9s
W41B Gary Mavity, V 19.76 6 P P 10 49 33.6 -0.7
baz=187,SNR=12
W41B Gary Mavity, V 19.76 6 IAmb IAmb 10 49 42.2
comp=Z,80nm,1.4s
MSTX Muleshoe 19.79 340 P P 10 49 35.5 +0.7
baz=156,SNR=25
MSTX Muleshoe 19.79 340 IAmb IAmb 10 49 40.7
comp=Z,67nm,1.0s
Z51A Franklin 19.79 24 P P 10 49 35.1 +0.4
255A Hazlehurst 19.86 32 P P 10 49 35.8 +0.4
WHAR Wooly Hollow 19.87 6 IAmb IAmb 10 49 43.4
comp=Z,86nm,1.4s
SJCC San Jacinto, C 19.90 104 eP P 10 49 33.2 -2.9
OKCSW OKLAHOMA CITY 20.00 354 P P 10 49 37.6 +0.6
DBBC Dabeiba 20.04 113 eP P 10 49 35.6 -2.0
154A Montrose 20.10 30 P P 10 49 38.0 -0.1
HSIG 20.12 315 P P 10 49 39.1 +0.7
HSIG IAmb IAmb 10 49 47.6
comp=Z,44nm,1.2s
W45A Hickory Valley 20.24 13 P P 10 49 40.4 +0.8
W45A IAmb IAmb 10 49 48.7
comp=Z,96nm,1.2s
BCOK Bluff Creek, N 20.27 353 P P 10 49 40.9 +1.0
AMTX Amarillo 20.31 343 P P 10 49 41.4 +0.9
baz=160
UREC San Jos de Ur 20.34 110 eP P 10 49 40.1 -0.7
TUL1 Leonard 20.38 358 P P 10 49 41.2 +0.1
baz=176,SNR=7.7
TUL1 Leonard 20.38 358 IAmb IAmb 10 49 55.9
comp=Z,65nm,1.1s
OK029 Liberty Lake 20.39 354 P P 10 49 41.4 +0.2
FCAR Ozark Folk Cen 20.48 6 IAmb IAmb 10 49 50.7
comp=Z,61nm,1.3s
GOGA Godfrey 20.60 28 P P 10 49 42.5 -0.9
baz=212,SNR=14
GOGA Godfrey 20.60 28 P Pn 10 49 44.8 -1.1
GOGA IAmb IAmb 10 49 48.9
comp=Z,60nm,1.4s
319A Douglas 20.65 323 P Pn 10 49 46.9 +0.3
319A IAmb IAmb 10 49 59.5
comp=Z,58nm,1.1s
121A Cookes Peak, D 20.70 327 P Pn 10 49 46.3 -1.0
baz=141,SNR=68
121A Cookes Peak, D 20.70 327 P Pn 10 49 47.7 +0.4
Y52A Lilburn 20.72 26 IAmb IAmb 10 49 51.2
comp=Z,43nm,0.9s
CBOC Ciudad Bolivar 20.74 115 eP Pn 10 49 47.4 -0.5
HHAR Hobbs 20.75 2 IAmb IAmb 10 49 49.5
comp=Z,25nm,0.9s
U40A Yellville 20.88 4 P P 10 49 45.9 -0.7
baz=185,SNR=34
U40A Yellville 20.88 4 IAmb IAmb 10 49 47.9
comp=Z,43nm,1.1s
U38A Gravette 20.89 1 IAmb IAmb 10 50 00.2
comp=Z,33nm,1.1s
PLMC San Jos del P 20.99 118 eP P 10 49 49.3 +1.3
HELC Santa Helena 21.01 114 eP P 10 49 48.9 +0.4
ZARC Zaragoza, Cauc 21.05 110 eP P 10 49 46.5 -2.1
SMLC San Martn de 21.29 106 eP P 10 49 49.5 -1.6
V48A Smith Brothers 21.41 18 IAmb IAmb 10 50 01.0
comp=Z,36nm,1.1s
W50A Signal Mountai 21.41 22 IAmb IAmb 10 50 01.3
comp=Z,40nm,0.9s
YOTC Yotoco, Valle 21.43 120 eP P 10 49 52.2 -0.5
WVT Waverly 21.50 16 P P 10 49 51.9 -1.2
baz=198
WVT Waverly 21.50 16 P P 10 49 51.7 -1.4
Y22D IRIS PASSCAL I 21.53 332 P P 10 49 54.9 +1.2
baz=146,SNR=13
Y22D IRIS PASSCAL I 21.53 332 P P 10 49 56.4 +2.7
Z56A Williston 21.53 32 P P 10 49 52.0 -1.5
baz=217
KAN13 South Haven SW 21.60 354 P P 10 49 54.9 +0.7
GUY2C Guyana, Caldas 21.62 116 eP P 10 49 56.0 +0.9
MGMO Mountain Grove 21.72 5 IAmb IAmb 10 50 13.3
comp=Z,39nm,1.1s
KAN10 Anthony SW Sta 21.77 353 P P 10 49 57.0 +0.8
Y55A Saluda 21.78 30 P P 10 49 56.0 -0.2
baz=215
PTBC PUERTO BERRIO, 21.81 112 eP P 10 49 55.1 -1.6
HODGE Hodges 21.83 29 IAmb IAmb 10 50 03.6
comp=Z,54nm,1.3s
BBAC Balboa, Cauca 21.85 126 eP P 10 49 58.7 +1.4
Z57A Bowman 21.86 33 P P 10 49 56.4 -0.6
baz=219
NORC Norcasia 21.89 115 eP P 10 49 58.3 +0.7
KAN12 Harper NE Stat 21.93 353 P P 10 49 58.3 +0.4
Y56A Pelion 21.94 31 P P 10 49 58.0 +0.1
baz=217
ANIL Santa Ana 21.95 118 eP P 10 49 59.1 +0.5
TOLC Tolima 21.97 117 eP P 10 50 01.2 +2.4
NHSC New Hope 21.99 34 P P 10 49 56.8 -1.7
baz=220,SNR=5.8
X54A Belton 22.04 28 P P 10 49 57.5 -1.5
baz=213,SNR=6.6
ANMO Albuquerque 22.06 334 P P 10 50 00.4 +1.0
comp=Z,14nm,0.9s,baz=147,slow=12,SNR=52
ANMO Albuquerque 22.06 334 P P 10 50 01.3 +1.9
baz=148
ANMO Albuquerque 22.06 334 P P 10 50 00.9 +1.6
OTAV Otavalo 22.11 132 eP P 10 50 05.0 +4.6
OTAV Otavalo 22.11 132 eP P 10 49 52.0 -8.5
OTAV eS S 10 53 26.2 -37
T45A Paducah 22.15 13 P P 10 49 58.6 -1.5
BG3 Lake Jocassee 22.17 27 IAmb IAmb 10 50 17.1
comp=Z,30nm,1.1s
S39A Bolivar 22.18 3 IAmb IAmb 10 50 14.0
comp=Z,42nm,1.2s
OCAC Ocana 22.18 106 eP P 10 50 01.7 +0.8
TUC Tucson 22.21 322 P P 10 50 02.8 +1.8
baz=135
TUC Tucson 22.21 322 P P 10 50 02.7 +1.8
TUC IAmb IAmb 10 50 07.2
comp=Z,53nm,1.1s
GCUF Volcan Galeras 22.27 128 eP P 10 50 05.9 +3.7
X55A Gracelyn & Ava 22.32 30 P P 10 50 01.5 -0.6
baz=215,SNR=8.0
JSC Jenkinsville 22.35 31 P P 10 50 03.5 +1.1

Z58A St. Stephen 22.36 35 P P 10 50 01.7 -0.7
baz=221
MARP Paez Belalcaza 22.39 122 eP P 10 50 06.4 +3.2
ORTC Ortega, Tolima 22.39 119 eP P 10 50 03.3 +0.3
TKL Tuckaleechee C 22.39 24 P P 10 50 02.0 -0.8
comp=Z,8.8nm,1.0s,baz=185,slow=9.0,SNR=7.5
TKL S S 10 54 06.6 -0.3
comp=Z,5.8nm,0.9s,baz=167,slow=12,SNR=2.2
TKL LR LR 11 01 23.9
comp=Z,528nm,18.6s,baz=196,slow=44
TKL Tuckaleechee C 22.39 24 IAmb IAmb 10 50 20.0
comp=Z,40nm,1.1s
U49A Red Boiling Sp 22.45 19 IAmb IAmb 10 50 19.2
comp=Z,25nm,0.8s
T47A Sharon Grove 22.50 16 IAmb IAmb 10 50 20.2
comp=Z,26nm,0.9s
PAULI Pauline 22.52 29 IAmb IAmb 10 50 12.6
comp=Z,42nm,1.0s
SPBC San Pablo de B 22.55 113 eP P 10 50 04.5 -0.2
W54A Cherokee Point 22.57 28 P P 10 50 03.8 -1.0
baz=213,SNR=6.9
Y57A Sumter 22.58 33 P P 10 50 04.3 -0.4
baz=218
X56A White Oak 22.63 31 P P 10 50 03.7 -1.6
baz=216
ROSC El Rosal 22.71 116 P P 10 50 08.4 +1.6
comp=Z,45nm,0.8s,baz=35,slow=5.5,SNR=15
ROSC El Rosal 22.71 116 eP P 10 50 07.4 +0.6
ROSC El Rosal 22.71 116 P P 10 50 08.2 +1.5
CCM Cathedral Cave 22.72 7 P P 10 50 05.2 -1.0
baz=188
CCM Cathedral Cave 22.72 7 IAmb IAmb 10 50 17.8
comp=Z,40nm,1.2s
FVM French Village 22.76 9 P P 10 50 07.7 +1.0
FVM IAmb IAmb 10 50 17.6
comp=Z,37nm,1.4s
PRAC Prado 22.80 119 eP P 10 50 07.8 +0.5
V53A Saluda 22.80 26 IAmb IAmb 10 50 16.5
comp=Z,44nm,0.9s
BARC Barichara 22.94 110 eP P 10 50 06.7 -2.3
BIRD Birdtown, Kers 23.04 31 P P 10 50 10.6 +1.1
PAMC Pamplona, Colo 23.08 108 eP P 10 50 11.7 +1.0
T50A Nancy 23.22 21 IAmb IAmb 10 50 26.2
comp=Z,34nm,1.5s
T25A Trinidad 23.22 340 P P 10 50 13.1 +1.5
baz=155,SNR=85
214A Organ Pipe Nat 23.23 318 P P 10 50 13.7 +2.1
baz=130,SNR=12
214A Organ Pipe Nat 23.23 318 IAmb IAmb 10 50 24.7
comp=Z,26nm,1.1s
TZTN Tazewell 23.26 23 P P 10 50 09.7 -2.1
baz=208,SNR=5.5
V54A Nebo 23.26 27 P P 10 50 10.1 -1.7
baz=212,SNR=7.2
PUAC Puerto Asis, P 23.30 128 eP P 10 50 15.3 +3.0
RUSC La Rusia 23.32 112 eP P 10 50 12.5 -0.6
CHIC Chingaza 23.32 115 eP P 10 50 15.5 +2.4
W56A Indian Trail 23.37 30 P P 10 50 11.0 -1.8
baz=216
FLOC Florencia 23.37 124 eP P 10 50 12.6 -0.5
KSU1 Kansas State U 23.60 356 P P 10 50 14.3 -0.8
baz=175
KSU1 Kansas State U 23.60 356 IAmb IAmb 10 50 17.6
comp=Z,64nm,1.3s
V55A Taylorsville 23.65 28 P P 10 50 13.4 -2.2
baz=214,SNR=7.5
V55A Taylorsville 23.65 28 IAmb IAmb 10 50 26.7
comp=Z,26nm,0.9s
CBKS Cedar Bluff 23.67 350 P P 10 50 16.1 +0.4
baz=167,SNR=22
W57A Gilead 23.67 31 P P 10 50 13.9 -1.8
baz=217
W18A Petrified Fore 23.73 328 P P 10 50 17.8 +1.2
baz=141
W18A Petrified Fore 23.73 328 P P 10 50 18.8 +2.2
W18A IAmb IAmb 10 50 32.9
comp=Z,28nm,1.0s
Q44A Meyer Farm, Va 23.89 11 IAmb IAmb 10 50 30.8
comp=Z,38nm,1.1s
OLIL Olney 23.92 13 IAmb IAmb 10 50 31.5
comp=Z,34nm,1.1s
U54A Nelsons Funny 23.94 26 P P 10 50 17.1 -1.3
baz=212
U54A Nelsons Funny 23.94 26 P P 10 50 21.5 +3.1
U54A IAmb IAmb 10 50 30.2
comp=Z,37nm,0.8s
V56A Mocksville 23.95 30 P P 10 50 16.4 -2.0
baz=216,SNR=5.9
W58A Raeford 23.96 33 P P 10 50 16.9 -1.6
baz=219
P38A Dawn 24.10 2 IAmb IAmb 10 50 29.8
comp=Z,26nm,1.3s
X16A Lo Mia Camp, P 24.11 325 IAmb IAmb 10 50 34.6
comp=Z,37nm,1.1s
SDCO Great Sand Dun 24.14 339 P P 10 50 22.0 +1.5
baz=153,SNR=101
SDCO Great Sand Dun 24.14 339 IAmb IAmb 10 50 33.5
comp=Z,43nm,1.1s
U55A TAZ Sparta 24.26 28 P P 10 50 20.0 -1.4
baz=214
R49A Shelbyville 24.27 19 IAmb IAmb 10 50 36.0
comp=Z,30nm,1.4s
X60A Albert Glenn T 24.31 35 P P 10 50 20.3 -1.4
baz=222
V57A Coltrane Farms 24.36 31 P P 10 50 20.0 -2.2
baz=217
113A Mohawk Valley, 24.37 318 IAmb IAmb 10 50 27.2
comp=Z,25nm,1.1s
U56A King 24.44 29 P P 10 50 21.8 -1.1
baz=215
U56A King 24.44 29 IAmb IAmb 10 50 40.5
comp=Z,14nm,0.7s
KSCO Kaye Shedlock' 24.45 345 P P 10 50 23.5 +0.3
baz=161,SNR=18
SOCV Socops 24.46 104 eP P 10 50 23.2 -0.1
SDV Santo Domingo 24.48 103 P P 10 50 23.9 +0.2
comp=Z,18nm,0.5s,baz=7.3,slow=14,SNR=2.1
T54A Tazewell 24.50 26 P P 10 50 21.0 -2.5
baz=212,SNR=6.2
MACC Macarena, Meta 24.51 121 eP P 10 50 24.5 +0.7
V58A Windy Hill, Pi 24.62 32 P P 10 50 22.8 -1.7
baz=218
S22A 4UR Ranch, Cre 24.62 337 P P 10 50 25.5 +0.5
baz=150,SNR=16
S22A 4UR Ranch, Cre 24.62 337 IAmb IAmb 10 50 43.6
comp=Z,18nm,1.0s
MVCO Mesa Verde 24.85 333 P P 10 50 28.8 +1.9
baz=146,SNR=24
MVCO Mesa Verde 24.85 333 IAmb IAmb 10 50 41.5
comp=Z,37nm,1.1s
T55A Pulaski 24.89 27 P P 10 50 25.4 -1.6
baz=213,SNR=5.8
WUAZ Wupatki 24.89 326 P P 10 50 29.6 +2.4
baz=138,SNR=63
PTLC Puerto Leguiza 24.91 126 eP P 10 50 31.5 +4.1
P46A Rosedale 24.96 14 P P 10 50 26.5 -1.1
P46A IAmb IAmb 10 50 35.9
comp=Z,33nm,1.2s
U57A Blanch 25.01 31 P P 10 50 25.8 -2.2
baz=217
V59A Middlesex 25.05 33 P P 10 50 26.3 -2.1
baz=220
Q24A Divide 25.12 341 P P 10 50 31.1 +1.7
baz=155,SNR=6.7
Q24A Divide 25.12 341 P P 10 50 29.7 +0.3
BLA Blacksburg 25.13 28 P P 10 50 27.8 -1.4
baz=214
O44A Mansfield 25.21 11 P P 10 50 29.9 +0.1
GLA Glamis 25.23 318 P P 10 50 31.6 +1.4
baz=129,SNR=11
GLA Glamis 25.23 318 P P 10 50 32.4 +2.2
GLA IAmb IAmb 10 50 35.8
comp=Z,34nm,1.0s
S54A Dingess, Beckl 25.24 26 P P 10 50 29.9 -0.3
baz=211
ESJX Sierra Juarez 25.35 314 P P 10 50 34.1 +2.7
N41A Harden Midland 25.38 7 IAmb IAmb 10 50 49.4
comp=Z,32nm,1.1s
T57A Hurt 25.50 30 P P 10 50 31.3 -1.2
baz=216
Q51A Peebles 25.53 21 IAmb IAmb 10 50 50.5
comp=Z,26nm,1.3s
P49A Miami Univ. Ec 25.55 18 P P 10 50 31.2 -1.8
baz=203
P49A Miami Univ. Ec 25.55 18 IAmb IAmb 10 50 50.4
comp=Z,19nm,1.1s
PDMCI Parker Dam,Lak 25.61 321 P P 10 50 36.0 +2.4
baz=132,SNR=8.1
PV01 Paradox Valley 25.66 334 IAmb IAmb 10 50 41.6
comp=Z,38nm,1.1s
R54A Victor 25.70 26 P P 10 50 32.9 -1.4
baz=212
SFIN Lafayette 25.71 14 P P 10 50 33.0 -1.3
baz=197
PV13 Radium Mtn., P 25.78 334 IAmb IAmb 10 50 48.6
comp=Z,44nm,1.1s
PV15 Paradox Valley 25.80 335 IAmb IAmb 10 50 48.5
comp=Z,52nm,1.4s
SWSC Sam W. Stewart 25.81 316 P P 10 50 36.2 +0.8
baz=127
T58A Grand View Acr 25.81 31 P P 10 50 33.7 -1.7
baz=218
IKP In-Ko-Pah, Jac 25.84 315 P P 10 50 37.9 +2.1
baz=126
Q52A Bidwell 25.86 23 P P 10 50 33.6 -2.2
baz=208,SNR=5.5
PV03 Paradox Valley 25.88 334 IAmb IAmb 10 50 50.1
comp=Z,50nm,1.2s
PV18 Skein Mesa, Pa 25.89 334 IAmb IAmb 10 50 49.6
comp=Z,53nm,1.3s
PV17 East Wray Mesa 25.94 334 IAmb IAmb 10 50 50.7
comp=Z,47nm,1.1s
PV07 Paradox Valley 25.95 335 IAmb IAmb 10 50 40.6
comp=Z,35nm,1.1s
PV19 Morning Glory 25.98 334 IAmb IAmb 10 50 50.4
comp=Z,46nm,1.2s
BGNE Belgrade 26.02 354 P P 10 50 36.8 -0.3
baz=172
BC3 Big Chuckawall 26.02 318 P P 10 50 40.1 +2.7
baz=128,SNR=16
ISCO Idaho Springs 26.03 341 P P 10 50 39.3 +1.6
baz=155,SNR=16
ISCO Idaho Springs 26.03 341 IAmb IAmb 10 50 49.5
comp=Z,18nm,1.1s
P51A Williamsport 26.04 21 P P 10 50 35.9 -1.4
baz=206
Q53A Leroy 26.06 24 P P 10 50 36.6 -1.0
baz=210
PV10 Paradox Valley 26.06 334 P P 10 50 39.2 +1.3
PV10 IAmb IAmb 10 50 50.5
comp=Z,44nm,1.0s
U15A North Rim 26.07 326 IAmb IAmb 10 50 54.1
comp=Z,35nm,1.3s
PV22 Blue Mesa, Par 26.09 334 IAmb IAmb 10 50 41.7
comp=Z,30nm,1.1s
IRM Iron Mountain 26.14 319 P P 10 50 41.0 +2.6
baz=130,SNR=13
R55A Marlinton 26.15 27 P P 10 50 37.3 -1.2
baz=213
MONP2 Monument Peak 26.20 315 P P 10 50 39.9 +0.8
baz=126
O49A Covington 26.27 18 IAmb IAmb 10 50 39.4
comp=Z,24nm,1.1s
SCIA State Center 26.39 3 P P 10 50 39.5 -0.9
baz=183
SCIA State Center 26.39 3 IAmb IAmb 10 50 42.6
comp=Z,37nm,0.9s
Q54A Coxs Mills 26.44 25 P P 10 50 39.8 -1.2
baz=211
L34A Svendsen Farm, 26.45 357 IAmb IAmb 10 50 51.4
comp=Z,42nm,1.1s
P52A Corning 26.50 22 P P 10 50 40.0 -1.6
baz=208
BELC Belle Mtn. Jos 26.59 318 P P 10 50 44.5 +2.0
baz=128,SNR=5.7
XPFO Pion Flat 26.65 317 P P 10 50 45.2 +2.0
PFO Pinyon Flats O 26.65 317 P P 10 50 45.4 +2.3
comp=Z,2.0nm,0.6s,baz=104,slow=5.8,SNR=5.2
PFO LR LR 11 01 56.8
comp=Z,1µm,18.9s,baz=136,slow=38
PFO Pinyon Flats O 26.65 317 P P 10 50 45.3 +2.1
baz=127
PFO Pinyon Flats O 26.65 317 P P 10 50 46.3 +3.1
P53A Whipple 26.65 24 P P 10 50 41.8 -1.2
baz=210
L40A Anamosa 26.68 6 IAmb IAmb 10 50 51.4
comp=Z,41nm,1.5s
Q55A Buckhannon 26.76 26 P P 10 50 42.9 -1.1
baz=212
O51A Pataskala 26.79 21 P P 10 50 43.1 -1.1
baz=206
GMRC Granite Mounta 26.87 320 P P 10 50 47.0 +1.9
baz=130,SNR=10
R57A Stanardsville 26.89 29 P P 10 50 45.6 +0.6
baz=216
R58B Mineral 26.93 30 P P 10 50 43.8 -1.6
baz=218
O52A Adamsville 27.04 22 P P 10 50 44.7 -1.7
baz=208
O52A Adamsville 27.04 22 IAmb IAmb 10 50 45.9
comp=Z,20nm,0.9s
P54A Burton 27.11 25 P P 10 50 46.1 -1.0
baz=211
N23A Red Feather La 27.13 341 P P 10 50 48.7 +1.2
baz=155,SNR=12
MURC Murrieta 27.14 316 P P 10 50 49.6 +2.2
baz=126
R58A Rapidan 27.14 30 P P 10 50 45.5 -1.7
baz=217
MTPU Mount Pierson 27.24 329 P P 10 50 51.3 +2.6
O20A White River Ci 27.25 337 P P 10 50 50.2 +1.7
baz=150
HEC Hector,Ludlow 27.33 319 P P 10 50 50.7 +1.5
baz=129
BBRC Big Bear Solar 27.35 317 P P 10 50 50.6 +1.1
baz=127
O53A New Philadelph 27.38 23 P P 10 50 48.8 -0.7
baz=209
TUQ Turquoise Moun 27.46 320 P P 10 50 52.3 +1.9
baz=130,SNR=8.3
CCUT Cedar City 27.47 327 P P 10 50 53.4 +2.8
JFWS Jewell Farm 27.63 7 P P 10 50 50.9 -0.8
baz=189,SNR=5.4
ATAH Atahualpa 27.71 143 LR LR 11 00 07.3
comp=Z,544nm,19.1s,baz=300,slow=32
P17A Butcher Ranch, 27.71 333 P P 10 50 54.4 +1.8
BFSC Mount Baldy Ra 27.82 316 P P 10 50 54.5 +0.9
baz=126
GSC Goldstone, Bar 27.92 319 P P 10 50 55.9 +1.4
baz=129
N53A Lisbon 28.01 23 P P 10 50 52.9 -2.2
baz=209
N53A Lisbon 28.01 23 IAmb IAmb 10 50 54.8
comp=Z,25nm,1.3s
MWC Mount Wilson 28.08 316 P P 10 50 58.5 +2.5
MWC IAmb IAmb 10 51 10.7
comp=Z,16nm,1.3s
O55A Ligonier 28.11 26 P P 10 50 54.4 -1.6
baz=213
RDMU Red Mountain 28.13 336 P P 10 50 57.6 +1.2
ECSD EROS Data Cent 28.22 357 P P 10 50 56.3 -0.6
baz=176,SNR=19
ECSD EROS Data Cent 28.22 357 IAmb IAmb 10 50 58.4
comp=Z,15nm,0.8s
RWWY Rawlins 28.26 340 IAmb IAmb 10 51 00.1
comp=Z,41nm,1.2s
EDW2 Edwards Air Fo 28.43 317 P P 10 50 59.9 +0.9
baz=126
PSUT Pine Spring 28.47 327 P P 10 51 01.9 +2.5
N54A Moraine State 28.47 24 P P 10 50 58.1 -1.1
baz=211
LRMC Laurel Mtn Rad 28.59 318 P P 10 51 02.8 +2.3
baz=128
TPNV Topopah Spring 28.66 322 P P 10 51 03.1 +1.9
baz=132,SNR=8.0
FURC Furnace Creek, 28.71 321 P P 10 51 03.6 +2.3
baz=130
I42A Draeger Farm, 28.77 9 P P 10 51 02.0 +0.2
MPMC Manual Prospec 28.83 320 P P 10 51 04.7 +1.9
baz=129,SNR=8.8
K22A Casper 28.91 342 P P 10 51 04.5 +1.2
baz=156,SNR=10.0
K22A Casper 28.91 342 IAmb IAmb 10 51 15.8
comp=Z,36nm,1.4s
SUSD Miller 29.10 354 P P 10 51 05.3 +0.5
baz=171
SUSD Miller 29.10 354 IAmb IAmb 10 51 08.4
comp=Z,24nm,0.9s
ARVC Arvin 29.13 317 P P 10 51 07.5 +2.4
baz=126
DUG Dugway, Tooele 29.23 331 P P 10 51 07.9 +1.7
baz=142
DUG Dugway, Tooele 29.23 331 P P 10 51 08.5 +2.4
R11A Troy Canyon, C 29.26 325 P P 10 51 08.6 +2.2
baz=135,SNR=10

CWC Cottonwood Cre 29.44 320 P P 10 51 10.5 +2.4
baz=129
PKM Mcpherson Peak 29.65 315 P P 10 51 11.9 +1.9
baz=124,SNR=6.0
SPMN Marine on St. 29.71 3 P P 10 51 10.1 -0.1
baz=183
SPMN Marine on St. 29.71 3 P P 10 51 09.2 -1.0
SPMN IAmb IAmb 10 51 18.8
comp=Z,30nm,1.3s
VES Vestal, Richgr 29.72 318 P P 10 51 13.1 +2.8
baz=126,SNR=6.4
HWUT Hardware Ranch 29.82 334 IAmb IAmb 10 51 15.8
comp=Z,13nm,1.0s
SMMC Simmler 30.01 316 P P 10 51 15.3 +2.3
baz=124
BW06 Boulder Array 30.02 338 P P 10 51 14.3 +1.1
baz=150,SNR=7.9
PD31 Pinedale Array 30.02 338 P P 10 51 14.2 +1.0
PDAR Pinedale Array 30.02 338 P P 10 51 13.1 -0.2
comp=Z,3.5nm,0.9s,baz=143,slow=8.3,SNR=24
PDAR LR LR 11 06 11.0
comp=Z,510nm,18.5s,baz=159,slow=42
PDAR Pinedale Array 30.02 338 P P 10 51 14.2 +1.0
F36A Milaca 30.32 2 IAmb IAmb 10 51 16.0
comp=Z,15nm,1.4s
HVU Hansel Valley 30.48 333 P P 10 51 19.5 +2.3
AHID Auburn Hatcher 30.60 336 IAmb IAmb 10 51 22.1
comp=Z,14nm,1.1s
MLAC Mammoth, Mammo 30.67 321 P P 10 51 20.4 +1.4
baz=129
NV11 Mina Array Sit 30.78 322 IAmb IAmb 10 51 24.4
comp=Z,20nm,1.1s
MDPB Devils Postpil 30.82 320 IAmb IAmb 10 51 24.6
comp=Z,10nm,0.9s
ELK Elko 30.83 329 IAmb IAmb 10 51 24.4
comp=Z,12nm,0.9s
NVAR Mina Array Bea 30.86 322 P P 10 51 23.4 +2.7
comp=Z,11nm,0.9s,baz=140,slow=8.6,SNR=74
NVAR PcP PcP 10 54 18.3 +1.1
comp=Z,1.5nm,0.9s,baz=145,slow=3.3,SNR=4.1
NVAR LR LR 11 05 19.5
comp=Z,2µm,18.4s,baz=132,slow=39
RYN Ryan 31.12 322 P P 10 51 25.1 +2.2
KVN Kaiserville 31.16 323 IAmb IAmb 10 51 38.1
comp=Z,10nm,1.1s
TPAW Teton Pass 31.16 337 IAmb IAmb 10 51 25.7
comp=Z,22nm,1.0s
E38A The Farm, Brul 31.17 4 IAmb IAmb 10 51 23.7
comp=Z,9.2nm,0.8s
FXWY Fox Creek 31.32 337 IAmb IAmb 10 51 27.7
comp=Z,10nm,1.0s
FLWY Flagg Ranch 31.58 338 P P 10 51 28.8 +1.9
FLWY IAmb IAmb 10 51 30.1
comp=Z,9.0nm,1.0s
WAKR Walker 31.59 321 IAmb IAmb 10 51 31.1
comp=Z,16nm,1.4s
CZSB Cruzeiro do Su 31.77 135 eP P 10 51 27.3 -1.4
H17A Grant Village 31.80 338 P P 10 51 30.4 +1.5
baz=150
H17A Grant Village 31.80 338 IAmb IAmb 10 51 43.4
comp=Z,22nm,1.5s
CMB Columbia Colle 31.88 320 P P 10 51 31.4 +2.0
LKWY Lake 31.89 339 IAmb IAmb 10 51 40.6
comp=Z,14nm,1.1s
RLMT Red Lodge 32.00 340 P P 10 51 31.2 +0.7
baz=152,SNR=18
PNTR Pine Nut 32.06 322 IAmb IAmb 10 51 35.7
comp=Z,17nm,1.2s
H53A Bobcaygeon 32.10 22 P P 10 51 28.9 -2.3
baz=210,SNR=6.0
I55A Frankford 32.13 23 P P 10 51 29.5 -2.0
baz=212
YNE Yellowstone No 32.14 339 P P 10 51 33.1 +1.3
VCNR Virginia City 32.23 322 IAmb IAmb 10 51 48.4
comp=Z,11nm,1.2s
YHL Hebgen Lake 32.41 338 P P 10 51 36.7 +2.4
EYMN Ely 32.50 4 P P 10 51 33.0 -1.8
baz=186,SNR=7.0
MDND Maddock 32.54 354 P P 10 51 34.7 -0.3
baz=171,SNR=5.5
G53A Haliburton 32.56 21 P P 10 51 32.7 -2.5
baz=210
LAO LASA Array 32.56 345 P P 10 51 35.8 +0.5
baz=159,SNR=5.2
LAO LASA Array 32.56 345 IAmb IAmb 10 51 37.5
comp=Z,16nm,1.3s
HLID Hailey 32.63 333 P P 10 51 36.5 +0.3
baz=143,SNR=36
HLID Hailey 32.63 333 IAmb IAmb 10 51 39.4
comp=Z,16nm,0.9s
GCMT Greycliff 32.72 341 P P 10 51 38.2 +1.4
AGMN Agassiz Nation 32.76 359 P P 10 51 36.0 -0.9
baz=178,SNR=26
B35A Bob, Littlefor 32.82 1 IAmb IAmb 10 51 37.9
comp=Z,13nm,0.8s
MFID Camas Ranch 33.15 331 IAmb IAmb 10 51 59.4
comp=Z,13nm,1.4s
BOZ Bozeman (W) 33.22 338 P P 10 51 42.4 +1.2
baz=149,SNR=13
L64A Middleborough 33.49 33 P P 10 51 42.3 -1.1
baz=225
ORV Oroville 33.50 321 P P 10 51 46.4 +2.9
WVOR Wild Horse Val 33.80 327 IAmb IAmb 10 51 49.9
comp=Z,24nm,1.2s
DGMT Dagmar 33.82 349 P P 10 51 47.1 +0.9
baz=163
DGMT Dagmar 33.82 349 IAmb IAmb 10 51 50.4
comp=Z,12nm,1.1s
D51A Lot 18 Range I 34.04 19 P P 10 51 46.5 -1.7
baz=207
D52A ZEK Kipawa Sen 34.25 20 P P 10 51 48.0 -1.9
baz=208
HRY Holter Researc 34.25 339 P P 10 51 51.6 +1.5
MOD Modoc Plateau 34.32 325 IAmb IAmb 10 51 54.2
comp=Z,18nm,1.4s
D53A Lac Vacive, Po 34.58 21 P P 10 51 51.3 -1.5
baz=210
D53A Lac Vacive, Po 34.58 21 P P 10 51 51.5 -1.2
ULM Lac du Bonnet 34.71 359 P P 10 52.1 -1.8
comp=Z,14nm,0.8s,baz=182,slow=7.5,SNR=9.7
ULM LR LR 11 08 05.6
comp=Z,281nm,20.6s,baz=178,slow=40
ULM Lac du Bonnet 34.71 359 IAmb IAmb 10 51 54.2
comp=Z,16nm,0.9s
EGMT Eagleton 34.74 342 P P 10 51 55.3 +1.0
baz=154,SNR=20
EGMT Eagleton 34.74 342 P P 10 51 55.5 +1.2
BMO Blue Mountains 34.94 332 IAmb IAmb 10 51 58.6
comp=Z,13nm,1.2s
D54A Lac Fusel, La 35.00 22 P P 10 51 54.9 -1.6
baz=211
E56A St. Veronique 35.10 24 P P 10 51 56.0 -1.3
baz=214
M04C Macdoel 35.10 324 P P 10 51 59.5 +1.9
baz=130
MSO Missoula 35.11 337 P P 10 51 58.7 +1.2
baz=146,SNR=15
MSO Missoula 35.11 337 IAmb IAmb 10 52 00.2
comp=Z,20nm,1.1s
D55A Sainte-Anne-du 35.33 23 P P 10 51 57.5 -1.7
baz=213
L04D Klamath Falls 35.65 324 P P 10 52 04.0 +1.8
baz=130
J05D Fort Rock, OR 35.77 326 P P 10 52 04.5 +1.2
baz=132
F10A Beach Ranch, E 35.77 333 P P 10 52 04.7 +1.5
JTMT Jette 36.01 337 IAmb IAmb 10 52 07.8
comp=Z,25nm,1.1s
G62A West of Eustis 36.02 30 P P 10 52 05.2 -0.1
baz=222
J04D Umpqua Nationa 36.21 325 P P 10 52 08.7 +1.5
baz=131
H64A Troy 36.24 31 P P 10 52 06.6 -0.5
baz=224
LSQQ Lebel-sur-Quev 36.53 20 P P 10 52 09.1 -0.5
baz=209
I05D Terrebonne, OR 36.54 327 P P 10 51 51.5 +1.8
baz=133
E09A Wood Farm, Sta 36.59 333 IAmb IAmb 10 52 12.1
comp=Z,13nm,0.9s
K02D Willamette Mer 36.73 323 P P 10 52 12.7 +1.2
baz=128
I04A Tendick Farm, 36.74 326 P P 10 52 12.8 +1.4
baz=131
MATQ Matagami 36.94 19 P P 10 52 12.6 -0.4
baz=208
WALA Waterton Lakes 36.98 339 P P 10 52 15.0 +1.5

G05D Wamic, OR 37.16 328 P P 10 52 17.0 +2.0
baz=134
J01E Myrtle Point 37.18 324 P P 10 52 17.2 +2.2
baz=129
I03D Drain, OR 37.19 325 P P 10 52 16.8 +1.6
baz=130
H04A Detroit Lake 37.22 327 IAmb IAmb 10 52 18.4
comp=Z,30nm,1.2s
H04D Lebanon 37.40 326 P P 10 52 18.4 +1.4
baz=132
NEW Newport 37.53 335 P P 10 52 18.8 +0.7
baz=143,SNR=8.9
NEW Newport 37.53 335 P P 10 52 19.1 +1.0
C09A Chrisman Ranch 37.64 334 IAmb IAmb 10 52 21.7
comp=Z,25nm,1.1s
F05D White Salmon 37.68 329 P P 10 52 21.1 +1.8
baz=134,SNR=8.9
E63A Oxbow 37.91 30 P P 10 52 20.6 -0.6
baz=224
G03D McMinnville, O 38.14 327 P P 10 52 25.5 +2.3
baz=132
LTY Liberty 38.29 331 IAmb IAmb 10 52 27.6
comp=Z,25nm,1.1s
MACA Manacapuru-AM 38.48 116 eP P 10 52 24.1 -2.4
B08A Colville Reser 38.52 334 P P 10 52 27.4 +1.0
E04D Cinebar 38.70 329 P P 10 52 30.1 +2.2
baz=134
D05A Enumclaw 38.86 330 P P 10 52 31.7 +2.5
D05A IAmb IAmb 10 52 32.3
comp=Z,30nm,1.1s
D04E Lakebay 39.23 330 P P 10 52 33.7 +1.3
baz=134
FFC Flin Flon 39.58 353 P P 10 52 35.4 +0.3
FFC IAmb IAmb 10 52 37.8
comp=Z,30nm,1.4s
SAML Samuel 39.60 126 eP P 10 52 33.2 -2.6
SAML epP pP 10 52 43.8 -1.5
D03D Eldon 39.64 330 P P 10 52 36.6 +0.8
baz=134,SNR=6.0
B05A Bryant 39.68 331 P P 10 52 37.0 +0.9
baz=136
NLWA Neilton Lookou 39.92 329 IAmb IAmb 10 52 41.6
comp=Z,38nm,1.2s
A04D Lummi Island 40.30 331 P P 10 52 42.9 +1.7
baz=135
LPAZ La Paz 41.08 139 P P 10 52 48.9 +0.2
comp=Z,1.3nm,0.6s,baz=349,slow=5.5,SNR=5.7
LPAZ LR LR 11 08 34.9
comp=Z,384nm,21.7s,baz=313,slow=34
LPAZ La Paz 41.08 139 P P 10 52 49.1 +0.4
LPAZ La Paz 41.08 139 eP P 10 52 47.3 -1.4
LPAZ epP pP 10 52 58.1 -0.1
MALB Monte Alegre 43.60 110 eP P 10 53 06.3 -2.4
MALB epP pP 10 53 17.1 -1.1
VILB Vilhena 44.36 128 eP P 10 53 14.3 -0.4
VILB epP pP 10 53 24.3 -0.1
SCHQ Schefferville 44.85 23 P P 10 53 15.7 -2.4
comp=Z,5.0nm,0.9s,baz=213,slow=4.5,SNR=5.3
SCHQ LR LR 11 14 36.5
comp=Z,664nm,19.0s,baz=212,slow=40
NPGB Novo Progresso 45.00 117 eP P 10 53 17.6 -2.3
NPGB epP pP 10 53 27.5 -2.0
MCPB Macapa, AP 45.03 106 eP P 10 53 19.3 -0.9
MCPB epP pP 10 53 28.3 -1.5
LVC Limon Verde 45.54 146 eP P 10 53 25.4 +1.0
LVC epP sP 10 53 37.0 -0.8
CLDB Colider 46.64 122 epP pP 10 53 41.9 -0.5
PTLB Pontes e Lacer 46.72 129 eP P 10 53 32.5 -0.8
PTLB epP pP 10 53 42.5 -0.5
YKA Yellowknife Ar 49.02 348 P P 10 53 50.3 -0.2
comp=Z,10nm,0.9s,baz=151,slow=7.4,SNR=14
YKA PP PP 10 55 47.1 +3.0
comp=Z,7.2nm,1.3s,baz=145,slow=8.3,SNR=3.9
YKA LR LR 11 18 25.1
comp=Z,196nm,18.9s,baz=0.0,slow=41
PRPB Parauapebas 49.45 112 eP P 10 53 53.6 -1.0
PRPB epP pP 10 54 04.3 0.0
SALV Santo Antonio 49.60 127 eP P 10 53 55.3 -0.3
SALV epP pP 10 54 04.4 -0.9
DLBC Dease Lake 50.24 337 P P 10 54 02.6 +2.6
TAOE Nuku Hiva Isla 51.03 245 eS S 11 01 19.2 -3.0
comp=Z,282nm,26.8s
TAOE eLR LR 11 08 50.7
comp=Z,540nm,23.7s
ARAG Araguaiana, MT 52.53 124 eP P 10 54 16.6 -1.1
ARAG epP pP 10 54 26.2 -1.2
SMTB Santa Maria do 52.63 114 eP P 10 54 18.3 -0.2
SMTB epP pP 10 54 27.8 -0.4
ROSB Rosrio 53.33 106 eP P 10 54 22.4 -1.2
ROSB epP pP 10 54 34.5 +1.1
CPUP Villa Florida 55.24 138 P P 10 54 35.6 -1.7
comp=Z,6.2nm,1.3s,baz=330,slow=7.7,SNR=4.0
CPUP LR LR 11 20 03.8
comp=Z,128nm,18.1s,baz=345,slow=38
CPUP Villa Florida 55.24 138 IAmb IAmb 10 54 47.5
comp=Z,20nm,1.5s
BDFB Brasilia 55.57 122 P P 10 54 39.6 -0.4
comp=Z,8.3nm,0.7s,baz=268,slow=9.7,SNR=8.0
BDFB LR LR 11 19 17.5
comp=Z,252nm,21.9s,baz=308,slow=37
ITRB Iturama 55.94 127 eP P 10 54 44.5 +2.0
SDBA SAO DESIDERIO 56.60 117 eP P 10 54 47.3 0.0
SDBA epP pP 10 54 56.7 -0.4
IPMB Ipameri, GO 56.66 124 eP P 10 54 48.1 +0.4
NBMO Morrinhos-CE 57.28 104 eP P 10 54 53.2 +1.1
BCAR Beaver Creek A 57.63 337 P P 10 54 55.6 +1.7
PTGB Pitanga 57.71 133 eP P 10 54 57.6 +2.5
BB19B Bebedouro 58.12 127 eP P 10 54 59.9 +2.0
K27K Chicken 58.28 338 P P 10 54 59.6 +1.3
baz=123
INK Inuvik 58.29 344 P P 10 54 58.9 +0.5
comp=Z,6.4nm,0.6s,baz=126,slow=6.3,SNR=20
INK Inuvik 58.29 344 P P 10 54 59.2 +0.9
INK IAmb IAmb 10 55 12.0
comp=Z,13nm,1.1s
JANB Januaria 58.36 119 eP P 10 55 01.2 +1.5
KLU Klutina 58.49 334 IAmb IAmb 10 55 03.2
comp=Z,13nm,1.0s
SCRK Sand Creek 58.96 337 P P 10 55 04.2 +1.0
baz=121,SNR=10.0
SFJD Kangerlussuaq 58.97 19 LR LR 11 23 08.7
comp=Z,118nm,18.1s,baz=233,slow=39
RIDG Independent Ri 59.16 337 P P 10 55 06.3 +1.8
ITAB Concordia 59.28 135 eP P 10 55 08.4 +2.6
A36M Sachs Harbour 59.31 349 P P 10 55 05.8 +0.4
baz=145
MC01 Montes Claros 59.48 120 eP P 10 55 09.4 +2.0
MC01 epP pP 10 55 17.9 +0.6
O22K Cooper Landing 59.70 332 P P 10 55 09.6 +1.4
baz=114
GHO Glory Hole Cre 59.89 334 P P 10 55 11.3 +1.6
PMR Palmer 59.91 333 IAmb IAmb 10 55 11.6
comp=Z,7.7nm,0.8s
BRLK Bradley Lake 59.96 331 P P 10 55 12.0 +1.9
CNPM China Poot 60.03 331 P P 10 55 12.3 +1.7
CNPM IAmb IAmb 10 55 13.3
comp=Z,16nm,1.2s
KDAK Kodiak Island 60.07 328 P P 10 55 11.6 +0.8
comp=Z,7.5nm,0.8s,baz=333,slow=2.9,SNR=4.9
KDAK Kodiak Island 60.07 328 IAmb IAmb 10 55 13.0
comp=Z,12nm,0.9s
PLCA Paso Flores 60.26 159 P P 10 55 13.2 +0.8
comp=Z,5.3nm,0.9s,baz=335,slow=8.7,SNR=9.6
PLCA LR LR 11 16 09.1
comp=Z,218nm,19.1s,baz=317,slow=31
PLCA Paso Flores 60.26 159 IAmb IAmb 10 55 27.7
comp=Z,10nm,1.1s
PLCA Paso Flores 60.26 159 eP P 10 55 20.9 +8.5
HDA Harding Lake 60.30 337 P P 10 55 13.3 +1.0
baz=118,SNR=7.9
HDA Harding Lake 60.30 337 IAmb IAmb 10 55 14.2
comp=Z,17nm,1.2s
SPB Sao Paulo 60.40 129 epP pP 10 55 26.2 +2.7
VAO Valinhos 60.41 128 eP P 10 55 15.9 +2.2
ILAR Eielson Array 60.45 337 P P 10 55 14.1 +0.8
comp=Z,11nm,1.0s,baz=134,slow=4.8,SNR=65
ILAR LR LR 11 24 40.9
comp=Z,406nm,18.4s,baz=136,slow=39
ILAR Eielson Array 60.45 337 P P 10 55 13.9 +0.6
PMOR Pomariorio Ree 60.59 243 eT T 12 00 45.2
comp=Z,2.6nm,0.2s
CUT Chulitna 60.73 334 P P 10 55 16.6 +1.3
baz=114
CCB Clear Creek Bu 60.74 337 P P 10 55 15.7 +0.5
MCK McKinley 60.76 336 IAmb IAmb 10 55 17.2
comp=Z,13nm,1.0s
WRH Wood River Hil 60.76 337 IAmb IAmb 10 55 17.4
comp=Z,6.7nm,1.0s
POKR Poker Plat Res 60.82 337 P P 10 55 16.9 +1.0
baz=118
TCOL CIGO, UAF Yank 60.86 337 P P 10 55 16.8 +0.7
baz=118
PET01 Itanhaem-SP 60.92 130 eP P 10 55 17.4 +0.2
BSCB Bom Sucesso 61.01 125 eP P 10 55 18.8 +0.9
MDM Murphy Dome 61.04 337 IAmb IAmb 10 55 18.5
comp=Z,5.3nm,0.9s
RSO Redoubt South 61.09 331 P P 10 55 19.4 +1.4
NEA2 Nenana 61.20 336 P P 10 55 18.8 +0.3
baz=116,SNR=6.0
BPAW Bear Paw Mtn. 61.73 336 P P 10 55 23.0 +0.9
RCBR Riachuelo 62.02 105 eP P 10 55 25.5 +0.7
RCBR epP pP 10 55 35.9 +1.1
SJMB Sao Joao De Ma 62.74 121 eP P 10 55 31.8 +2.3
COLD Coldfoot 62.80 339 P P 10 55 30.7 +1.6
baz=116,SNR=8.7
COLD Coldfoot 62.80 339 IAmb IAmb 10 55 31.5
comp=Z,9.2nm,1.0s
BSFB Barra de Sao F 63.08 121 eP P 10 55 34.0 +2.3
BSFB eS S 11 03 44.2 -17
PPT Papeete 63.21 241 LR LR 11 15 43.8
comp=Z,180nm,21.2s,baz=29,slow=29
PPT2 Papeete2 63.22 241 eS S 11 03 59.3 -3.3
comp=Z,111nm,28.0s
PPT2 eSS SS 11 08 06.5 -3.0
comp=Z,138nm,28.8s
PPT2 eLR LR 11 14 22.5
comp=Z,424nm,25.8s,baz=46
TOLK Toolik Lake Re 63.24 340 P P 10 55 33.1 +1.0
baz=118
IMAR Indian Mountai 63.56 337 P P 10 55 34.3 +0.1
EUNU Eureka 64.74 2 P P 10 55 42.7 +0.9
TBI Tubuai 65.92 235 eLR LR 11 15 45.5
comp=Z,315nm,26.0s
TBI Tubuai 65.92 235 eT T 12 07 26.8
comp=Z,3.5nm,0.3s
BORG Borgarnes 69.08 26 LR LR 11 25 48.2
comp=Z,113nm,18.0s,baz=271,slow=35
PMOZ Porto Moniz, M 71.49 60 eLQ LQ 11 14 24.3
PMOZ eLR LR 11 18 33.6
comp=Z,147nm,22.0s
PGAV Gavieira, Arco 77.27 50 A A 11 26 49.7
comp=Z,133nm,20.0s
PFVI Vila Bisbo 77.66 55 eP P 10 57 08.3 +7.6
PVIS Viseu 77.76 51 eP P 10 57 00.7 -0.5
comp=Z,14nm,1.5s
PMTG Montargil 77.79 53 eP P 10 57 10.7 +9.3
comp=Z,9.3nm,1.6s
MTE Manteigas 78.08 51 eP P 10 57 02.2 -0.8
comp=Z,13nm,1.1s
MTE Manteigas 78.08 51 eLR LR 11 17 52.7
comp=Z,171nm,20.0s
PCBR Castelo Branco 78.23 52 eP P 10 57 03.9 +0.2
comp=Z,8.1nm,1.6s
MVO Moncorvo 78.33 50 eP P 10 57 04.2 -0.2
comp=Z,12nm,1.3s
MVO iP pP PP 10 57 14.4 -0.2
MVO Moncorvo 78.33 50 eLR LR 11 18 02.7
comp=Z,154nm,20.0s
MVO eLQ LQ 11 22 09.7
EKA Eskdalemuir Ar 78.35 36 P P 10 57 03.6 -0.5
comp=Z,10.0nm,0.8s,baz=297,slow=5.5,SNR=16
PMRV Marv??o 78.37 52 eP P 10 57 04.2 -0.4
comp=Z,12nm,1.8s
PMRV iP pP PcP 10 57 14.2 +0.4
PMRV Marv??o 78.37 52 eLR LR 11 18 07.4
comp=Z,174nm,22.0s
PBRG Braganca 78.42 50 eP P 10 57 04.9 0.0
comp=Z,27nm,1.7s
PVAQ Vaqueiros 78.48 54 eLR LR 11 18 12.5
comp=Z,169nm,22.0s
PAB San Pablo 80.65 52 P P 10 57 17.2 +0.1
ESDC Sonseca Array 80.92 51 P P 10 57 18.1 -0.3
comp=Z,14nm,1.1s,baz=292,slow=5.5,SNR=43
ESDC LR LR 11 28 55.0
comp=Z,138nm,20.6s,baz=285,slow=33
ESDC Sonseca Array 80.92 51 P P 10 57 18.4 -0.1
MDT Midelt 81.92 58 P P 10 57 24.3 +0.3
comp=Z,4.2nm,0.7s,baz=317,slow=3.7,SNR=8.5
SNF Seneffe 83.86 39 P P 10 57 33.8 +0.3
SNF pP pP 10 57 43.0 -0.8
NB2 NORSAR Subarra 84.14 28 P P 10 57 35.2 +0.4
comp=Z,1.6nm,0.7s,baz=292,slow=5.1
NOA NORSAR Array B 84.14 28 P P 10 57 35.0 +0.2
comp=Z,5.6nm,1.0s,baz=297,slow=5.0,SNR=9.3
DOU Dourbes 84.17 40 ⇑P P 10 57 35.2 +0.1
DOU pP pP 10 57 45.4 -0.1
BMRD Maredsous 84.22 39 P P 10 57 36.6 +1.3
BGES Gesves 84.39 39 P P 10 57 36.2 0.0
BGES pP pP 10 57 46.4 -0.2
BCLA Clavier 84.51 39 ⇑P P 10 57 37.1 +0.3
BCLA pP pP 10 57 47.2 0.0
MEM Membach 84.88 39 P P 10 57 39.2 +0.5
MEM pP pP 10 57 49.2 +0.2
BHOU Houvegnez 84.96 39 P P 10 57 37.4 -1.8
BHOU pP pP 10 57 50.2 +0.7
WLF Walferdange 85.26 40 P P 10 57 41.2 +0.6
WLF pP pP 10 57 51.5 +0.5
WLF Walferdange 85.26 40 P P 10 57 41.8 +1.2
ARCES ARCESS Array B 85.58 18 P P 10 57 41.5 -0.4
comp=Z,3.2nm,0.8s,baz=262,slow=3.3,SNR=7.6
ARCES LR LR 11 37 25.7
comp=Z,174nm,19.1s,baz=276,slow=37
ARCES ARCESS Array B 85.58 18 P P 10 57 41.8 -0.1
SENIN Lac Senin/Sane 87.05 43 P P 10 57 49.8 0.0
BFO Black Forest 87.05 41 P P 10 57 49.8 +0.2
TIC Toumodi 88.02 84 eP P 10 57 52.6 -2.2
LIC Lamto 88.13 84 eP P 10 57 54.9 -0.4
comp=Z,32nm,0.8s
DBIC Dimbokro 88.17 84 P P 10 57 55.1 -0.4
comp=Z,4.0nm,0.7s,baz=252,slow=8.5,SNR=3.9
DBIC LR LR 11 36 43.4
comp=Z,34nm,18.1s,baz=279,slow=35
KIC Kosan Boka 88.36 84 eP P 10 57 53.9 -2.5
comp=Z,26nm,1.3s
MA2 Magadan 88.57 332 P P 10 57 56.9 +0.3
comp=Z,2.5nm,0.4s,baz=165,slow=14,SNR=3.5
CLL Collm 88.77 37 eP P 10 57 58.0 +0.4
CLL eS S 11 08 45.0 +2.4
CLL ePPS PPS 11 10 18.0
CLL e 11 14 00.0
FUORN Ofenpass-Fuorn 88.89 42 IAmb IAmb 10 58 10.4
comp=Z,7.1nm,0.9s
BRG Berggiesshubel 89.49 37 eP P 10 58 01.0 0.0
comp=Z,7.0nm,1.3s
KHC Kasperske Hory 89.98 39 eP P 10 58 04.0 +0.6
KHC epP pP 10 58 15.0 +1.2
GERES GERESS Array B 90.17 39 P P 10 58 04.3 -0.1
comp=Z,2.8nm,0.9s,baz=318,slow=3.6,SNR=15
GERES LR LR 11 41 15.7
comp=Z,92nm,18.0s,baz=274,slow=37
FINES FINESS Array B 90.30 24 P P 10 58 02.8 -1.8
comp=Z,2.7nm,1.1s,baz=262,slow=9.7,SNR=2.5
FINES LR LR 11 41 31.2
comp=Z,104nm,18.3s,baz=318,slow=38
CIMO Cimolais 90.39 41 IAmb IAmb 10 58 10.7
comp=Z,3.8nm,0.9s
PRED Cave del Predi 91.06 41 P P 10 58 09.3 +0.8
PRED IAmb IAmb 10 58 10.4
comp=Z,4.3nm,0.8s
KEST Kesra 92.14 52 LR LR 11 34 39.3
comp=Z,88nm,20.8s,baz=252,slow=32
TORD Torodi Ar. Bea 92.64 76 P P 10 58 15.0 -1.3
comp=Z,0.7nm,0.8s,baz=295,slow=5.3,SNR=3.0
TORD LR LR 11 37 05.2
comp=Z,151nm,19.4s,baz=290,slow=34
TORD Torodi Ar. Bea 92.64 76 IAmb IAmb 10 58 16.3
comp=Z,1.4nm,1.1s
NRIK Noril'sk 95.41 359 P P 10 58 26.0 -2.0
comp=Z,2.2nm,0.5s,baz=9.5,slow=6.1,SNR=3.6
AKASG Malin Array Be 97.96 32 LR LR 11 43 01.4
comp=Z,82nm,20.3s,baz=350,slow=36
ZALV Zalesovo Beam 110.87 0 PP PP 11 04 12.9 -0.6
comp=Z,0.5nm,0.3s,baz=342,slow=7.8,SNR=5.5
BJI Beijing 117.72 334 PKP PKiKP 11 03 52.4 +2.1
MKAR Makanchi Array 117.98 2 PKP PKPdf 11 03 49.9 -0.8
comp=Z,0.7nm,0.7s,baz=352,slow=2.6,SNR=5.9
MKAR PP PP 11 05 03.2 -0.6
comp=Z,0.6nm,0.8s,baz=7.1,slow=3.5,SNR=5.2
WMQ Urumqi 120.96 358 ePKP PKiKP 11 03 57.8 +1.1
WMQ LR LR
comp=Z,170nm,29.2s

NJ2	**Nanjing**	**122.81**	**326**	*e*PKP	**PKiKP**	**11 04 01.1**	**+0.6**
LZH	**Lanzhou**	**125.79**	**341**	*e*PKP	**PKiKP**	**11 04 07.3**	**+0.7**
LZH				sPKP		11 04 24.2	
MAW	**Mawson**	**125.91**	**170**	PKP	**PKPdf**	**11 04 05.1**	**0.0**
	comp=Z,0.6nm,0.6s,baz=344,slow=5.1,SNR=3.8						
STKA	**Stephens Creek**	**126.41**	**242**	PKP	**PKPdf**	**11 04 07.0**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=88,slow=2.4,SNR=5.2						
CD2	**Chengdu**	**130.57**	**339**	PKP	**PKPdf**	**11 04 15.1**	**-0.2**
WRA	**Warramunga Arr**	**133.12**	**257**	PKP	**PKPdf**	**11 04 20.6**	**+0.3**
	comp=Z,0.4mm,0.6s,baz=89,slow=2.5,SNR=7.2						
ASAR	**Alice Springs**	**133.59**	**252**	PKP	**PKPdf**	**11 04 21.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=76,slow=2.0,SNR=5.0						
FITZ	**Fitzroy Crossi**	**141.26**	**260**	PKhKP	PKPpre	11 04 30.2	
	comp=Z,3.0nm,1.0s,baz=153,slow=2.3,SNR=2.7						
CMAR	**Chiang Mai Arr**	**143.69**	**338**	PKhKP	PKPpre	11 04 37.1	
	comp=Z,1.0nm,0.5s,baz=336,slow=2.0,SNR=7.9						

ISK ***07*** *10:45:11.3, 36.40N×27.03E, h7km, ML3.0/17*
DDA ***07*** *10:45:11.0, 36.39N×27.07E, h6km±11km, MW3.1*
ATH ***07*** *10:45:11.2, 36.52N×27.11E, h27km±1km, ML3.2/6, Error ellipse: s-maj=2.9km s-min=1.0km az=22.0*
THE ***07*** *10:45:12.1, 36.44N×27.10E, h0km, ML3.2/5, Error ellipse: s-maj=1.0km s-min=0.5km az=207.0*

ISC 07 10:45:12.0±0.9, 36.42N±0.02×27.11E±0.02, h12km±7km, n56, σ1.34/79, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.19**	**5**	P		**Pg**	**10 45 16.3**	**+0.2**
NISR				S		**Sg**	**10 45 19.6**	**+0.6**
	21μm,0.2s							
NISR	**Nisiros**	**0.19**	**5**	P		**Pg**	**10 45 16.2**	**+0.1**
NISR				S		**Sg**	**10 45 19.2**	**+0.2**
NISR				AML		AML	10 45 19.8	
	comp=E,51128μm,0.3s							
NISR				AML		AML	10 45 19.9	
	comp=N,32583μm,0.1s							
KOSK	**Kos Island**	**0.34**	**342**	P		**Pb**	**10 45 19.1**	**-0.9**
KOSK				S		**Sb**	**10 45 24.6**	**-0.8**
	comp=N,3μm,0.4s							
KOSK	**Kos Island**	**0.34**	**342**	PG		**Pb**	**10 45 19.1**	**-0.9**
KOSK				SG		**Sb**	**10 45 23.9**	**-1.5**
DAT	**Datca**	**0.49**	**51**	P		**Pb**	**10 45 21.7**	**-0.8**
DAT				S		**Sb**	**10 45 29.6**	**-0.1**
DAT	**Datca**	**0.49**	**51**	PG		**Pb**	**10 45 21.9**	**-0.6**
BODT	**Bodrum**	**0.66**	**14**	P		**Pb**	**10 45 24.9**	**-0.5**
BODT	**Bodrum**	**0.66**	**14**	PG		**Pb**	**10 45 25.2**	**-0.2**
BODT				SG		**Sb**	**10 45 35.2**	**+0.7**
BDRM	**Kayabasi**	**0.69**	**23**	*i* P		**Pb**	**10 45 25.7**	**-0.3**
BDRM				*i* S		**Sb**	**10 45 35.4**	**-0.2**
ARG	**Arkhangelos**	**0.85**	**104**	P		**Pb**	**10 45 28.7**	**+0.1**
ARG				S		**Sn**	**10 45 42.6**	**+0.5**
	comp=N,2μm,0.3s							
ARG	**Arkhangelos**	**0.85**	**104**	P		**Pb**	**10 45 28.6**	**+0.1**
ARG				S		**Sb**	**10 45 40.9**	**+0.9**
ARG				AML		AML	10 45 43.6	
	comp=E,3626μm,0.3s							
ARG				AML		AML	10 45 43.7	
	comp=N,2714μm,0.3s							
ARG	**Arkhangelos**	**0.85**	**104**	PG		**Pb**	**10 45 28.7**	**+0.1**
ARG				SG		**Sn**	**10 45 42.4**	**+0.3**
TURN	**Turunc**	**0.98**	**69**	PG		Pn	10 45 30.9	-4.8
TURN	**Turunc**	**0.98**	**69**	*i* P		**Pn**	**10 45 31.3**	**-4.4**
TURN				*i* S		**Sb**	**10 45 46.1**	**-6.4**
AMGA	**Amorgos Island**	**1.06**	**293**	P		**Pb**	**10 45 31.9**	**-0.3**
AMGA				S		**Sn**	**10 45 48.7**	**+1.4**
	comp=N,952nm,0.5s							
AMGA	**Amorgos Island**	**1.06**	**293**	P		**Pg**	**10 45 31.5**	**-0.8**
AMGA				AML		AML	10 45 50.7	
	comp=E,2004μm,0.6s							
AMGA				AML		AML	10 45 52.0	
	comp=N,1707μm,0.5s							
ANAF	**Anafi Island**	**1.08**	**267**	P		**Pb**	**10 45 32.3**	**-0.3**
ANAF				S		**Sn**	**10 45 48.5**	**+0.7**
	comp=N,4μm,0.4s							
ANAF	**Anafi Island**	**1.08**	**267**	P		**Pb**	**10 45 32.3**	**-0.3**
ANAF				S		**Sn**	**10 45 47.8**	**0.0**
ANAF				AML		AML	10 45 51.9	
	comp=E,6914μm,0.4s							
ANAF				AML		AML	10 45 52.4	
	comp=N,7422μm,0.3s							
YER	**Yerkesik**	**1.18**	**53**	P		**Pn**	**10 45 34.5**	**+0.2**
YER				S		**Sn**	**10 45 51.8**	**+1.4**
YER	**Yerkesik**	**1.18**	**53**	PN		**Pn**	**10 45 34.9**	**+0.6**
YER				SN		**Sn**	**10 45 53.3**	**+2.9**
GCAM	**G?zelcaml?**	**1.28**	**4**	PN		**Pg**	**10 45 36.6**	**+0.1**
GCAM	**G?zelcaml?**	**1.28**	**4**	*i* P		**Pn**	**10 45 34.9**	**-0.7**
GCAM				*i* S		**Sn**	**10 45 56.0**	**+3.3**
DALY	**Dalyan (Mula)**	**1.30**	**72**	PN		**Pg**	**10 45 37.0**	**0.0**
THR8	**Santorini-Mono**	**1.31**	**270**	P		**Pn**	**10 45 35.5**	**-0.6**
SANT	**Santorini**	**1.33**	**268**	P		**Pn**	**10 45 36.0**	**-0.4**
SANT	**Santorini**	**1.33**	**268**	PN		**Pn**	**10 45 35.9**	**-0.5**
SANT	**Santorini**	**1.33**	**268**	*i* P		**Pn**	**10 45 35.7**	**-0.7**
SANT				*i* S		**Sn**	**10 45 55.2**	**+1.2**
SNT1	**Gialos, Santor**	**1.35**	**270**	P		**Pn**	**10 45 36.0**	**-0.7**
THT2	**Imerovigli**	**1.36**	**271**	PN		**Pn**	**10 45 36.5**	**-0.3**
AYDN	**Tasoluk**	**1.38**	**26**	*i* P		**Pg**	**10 45 38.5**	**0.0**
AYDN				*i* S		**Sg**	**10 45 58.2**	**+1.8**
SAP1	**Santorini-Akro**	**1.38**	**268**	P		**Pn**	**10 45 37.0**	**-0.1**
THR9	**Santorini-Faro**	**1.41**	**268**	P		**Pn**	**10 45 37.6**	**+0.2**
APE	**Apeiranthos**	**1.42**	**297**	P		**Pn**	**10 45 36.8**	**-0.8**
APE				AML		AML	10 46 02.2	
	comp=E,700μm,0.4s							
APE				AML		AML	10 46 02.5	
	comp=N,547μm,0.2s							
APE	**Apeiranthos**	**1.42**	**297**	PN		**Pn**	**10 45 37.3**	**-0.3**
APE	**Apeiranthos**	**1.42**	**297**	*i* P		**Pg**	**10 45 38.8**	**-0.4**
APE				*i* S		**Sg**	**10 45 59.0**	**+1.3**
IOSP	**Ios island**	**1.49**	**282**	P		**Pn**	**10 45 37.8**	**-0.8**
ZKR	**Zakros**	**1.49**	**209**	P		**Pb**	**10 45 39.7**	**+0.1**
ZKR	**Zakros**	**1.49**	**209**	P		**Pb**	**10 45 39.8**	**+0.1**
ZKR				S		**Sg**	**10 45 59.5**	**-0.6**
ZKR				AML		AML	10 46 05.5	
	comp=E,646μm,0.5s							
ZKR				AML		AML	10 46 09.7	
	comp=N,210μm,0.4s							
ZKR	**Zakros**	**1.49**	**209**	PN		**Pn**	**10 45 38.8**	**+0.2**
FETY	**Fethiye**	**1.61**	**82**	PN		**Pg**	**10 45 42.0**	**-0.8**
DGB	**zmir**	**1.64**	**354**	*i* P		**Pn**	**10 45 39.5**	**-1.0**
DGB				*i* S		**Sg**	**10 46 06.8**	**+2.2**
NPS	**Neapolis**	**1.68**	**227**	P		**Pn**	**10 45 41.4**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.78**	**54**	*i* P		**Pb**	**10 45 43.9**	**-0.7**
TAVA				*i* S		**Sg**	**10 46 11.9**	**+2.7**
LAST	**Lasithi**	**1.83**	**227**	P		**Pn**	**10 45 43.9**	**+0.6**
BLCB	**Balcova**	**1.96**	**359**	PN		**Pb**	**10 45 46.2**	**-1.3**
URLA	**Izmir**	**1.98**	**348**	PN		**Pb**	**10 45 46.3**	**-1.6**
URLA	**Izmir**	**1.98**	**348**	*i* P		**Pg**	**10 45 49.5**	**-0.4**
AKAS	**Kas**	**2.03**	**95**	PN		**Pb**	**10 45 47.9**	**-0.9**
AKAS	**Kas**	**2.03**	**95**	*i* P		**Pn**	**10 45 47.2**	**+1.1**
AKAS				*i* S		**Sg**	**10 46 17.1**	**0.0**
IDI	**Anoyia**	**2.13**	**238**	P		**Pn**	**10 45 47.2**	**-0.2**
IDI	**Anoyia**	**2.13**	**238**	PN		**Pn**	**10 45 47.1**	**-0.3**
CHOS	**Chios island**	**2.13**	**337**	P		**Pn**	**10 45 46.6**	**-0.8**
CHOS	**Chios island**	**2.13**	**337**	PN		**Pn**	**10 45 47.8**	**+0.4**
ELL	**Elmali**	**2.28**	**81**	PN		**Pb**	**10 45 51.2**	**-1.9**
MANT	**Manisa**	**2.36**	**29**	*i* P		**Pg**	**10 45 56.5**	**-0.8**
KORT	**Korkueli**	**2.67**	**77**	PN		**Pn**	**10 45 56.9**	**+2.0**

KRNET ***07*** *10:46:05.7±0.1, 43.02N×70.94E, mb2.5*
SOME ***07*** *10:46:06.7, 43.00N×71.08E*
NNC ***07*** *10:46:08.7±0.4, 42.91N×70.97E, h0km, mb3.1, mpv3.1, Error ellipse: s-maj=2.1km s-min=1.6km az=118.0, Suspected Mining explosion.*

ISC 07 10:46:07.4±0.8, 42.97N±0.05×70.92E±0.03, h0km, n22, σ0.72/42, 25C-9D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZA	**Taraz**	**0.31**	**105**	P		**Pb**	**10 46 15.6**	**-0.3**
	116nm,0.2s							
KK06	**Karatay Array**	**0.31**	**293**	⇑P		**Pb**	**10 46 15.9**	**-0.1**
KK06				⇑S		**Sb**	**10 46 21.7**	**+0.1**
KK05	**Karatay Array**	**0.33**	**297**	⇑P		**Pb**	**10 46 16.1**	**-0.1**
KK05				⇑S		**Sb**	**10 46 22.1**	**+0.1**
KK02	**Karatay Array**	**0.33**	**294**	⇑P		**Pb**	**10 46 16.1**	**-0.1**
KK02				⇓S		**Sb**	**10 46 22.1**	**+0.1**
KK31	**Karatay Array**	**0.33**	**294**	P		**Pb**	**10 46 15.5**	**-0.7**
	3.2nm,0.2s,baz=117,slow=18,SNR=108							
KK31				S		**Sb**	**10 46 21.9**	**-0.1**
	10nm,0.2s,baz=122,slow=31,SNR=27							
KK07	**Karatay Array**	**0.33**	**291**	⇓P		**Pb**	**10 46 16.2**	**-0.1**
KK07				⇑S		**Sb**	**10 46 22.2**	**+0.1**
KK01	**Karatay Array**	**0.33**	**294**	⇑P		**Pb**	**10 46 16.1**	**-0.1**
KK01				⇑S		**Sb**	**10 46 22.1**	**-0.1**
KK03	**Karatay Array**	**0.33**	**293**	⇑P		**Pb**	**10 46 16.1**	**-0.2**
KK03				⇑S		**Sb**	**10 46 22.4**	**+0.2**
KK04	**Karatay Array**	**0.33**	**294**	⇓P		**Pb**	**10 46 16.1**	**-0.2**
KK04				⇑S		**Sb**	**10 46 22.3**	**+0.1**
KK09	**Karatay Array**	**0.34**	**296**	⇑P		**Pb**	**10 46 16.4**	**0.0**
KK09				⇓S		**Sb**	**10 46 22.6**	**+0.2**
KK08	**Karatay Array**	**0.34**	**293**	⇑P		**Pb**	**10 46 16.4**	**-0.1**
KK08				⇓S		**Sb**	**10 46 22.7**	**+0.2**
IUG	**Iuzhnay**	**1.05**	**219**	P		**Pb**	**10 46 28.3**	**-0.3**
	6.4nm,0.2s							
IUG				S		**Sn**	**10 46 44.0**	**-1.0**
	12nm,0.2s							
ARK	**Arkit**	**1.41**	**146**	⇑*i*P		**Pg**	**10 46 33.0**	**-1.3**
	baz=48							
ARK				⇑*i*S		**Sn**	**10 46 53.7**	**0.0**
	baz=48							
MRKS	**Merke**	**1.71**	**97**	P		**Pn**	**10 46 39.0**	**+0.4**
	4.1nm,0.2s							
MRKS				S		**Sn**	**10 47 02.3**	**+1.1**
	8.8nm,0.7s							
EKS2	**Erkin-Say**	**2.12**	**97**	⇑*i*P		**Pn**	**10 46 44.7**	**+0.4**
	baz=99							
EKS2				⇑*i*S		**Sn**	**10 47 12.6**	**+1.1**
	baz=99							
AML	**Almayashu**	**2.21**	**111**	⇓*i*P		**Pn**	**10 46 46.9**	**+1.1**
	baz=13							
AML				⇓*e*S		**Sb**	**10 47 16.3**	**-0.4**
	baz=13							
ARSB	**Arslanbob**	**2.25**	**136**	⇑*i*P		**Pn**	**10 46 47.5**	**+1.4**
	baz=37							
ARSB				⇑*i*S		**Sb**	**10 47 17.1**	**-0.4**
	baz=37							
USP	**Ospenovka**	**2.64**	**82**	⇓*e*P		**Pn**	**10 46 51.2**	**-0.1**
	baz=83							
USP				⇓*i*S		**Sn**	**10 47 23.4**	**-0.6**
	baz=83							
ARLS	**Aral**	**2.75**	**113**	⇑*e*P		**Pn**	**10 46 54.3**	**+1.3**
	baz=13							
ARLS				⇑*e*S		**Sn**	**10 47 28.9**	**+1.9**
	baz=13							
UCH	**Uchtor**	**2.75**	**104**	⇑*e*P		**Pn**	**10 46 54.2**	**+0.9**
	baz=5.0							
UCH				⇑*i*S		**Sn**	**10 47 28.6**	**+1.1**
	baz=5.0							
BTLS	**Baital**	**3.06**	**46**	Pg		**Pb**	**10 47 01.7**	**-1.1**
	0.7nm,0.2s							
BTLS				Lg		Lg	10 47 41.3	
	2.1nm,0.2s							
KZA	**Kyzart**	**3.32**	**104**	⇑*i*P		**Pn**	**10 47 01.8**	**+0.8**
	baz=5.0							
KZA				⇑*e*S		**Sn**	**10 47 42.3**	**+0.9**
	baz=5.0							

KRSC ***07*** *10:51:00.7±1.8, 48.51N×155.84E, h7km±33km, ML4.7*
MOS ***07*** *10:51:01.1±1.0, 48.44N×154.76E, h56km, mb4.5/12, Error ellipse: s-maj=12.1km s-min=3.5km az=68.7*
SKHL ***07*** *10:51:02.0±0.4, 48.34N×155.07E, h61km±4km, mb4.9/9, msh4.9/1*
IDC ***07*** *10:51:04.5±1.0, 48.70N×154.40E, h65km±7km, mb3.7/12, mb1 4.0/14, mb1mx3.8/52, mbtmp4.1/14, MS3.2/8, Ms1 3.2/8, ms1mx2.9/58, Error ellipse: s-maj=29.2km s-min=15.0km az=161.0*
NEIC ***07*** *10:51:04.8±1.4, 48.6N±0.1×154.5E±0.1, h68km±7km, mb4.5/66, Error ellipse: s-maj=17.8km s-min=9.1km az=142.0*

ISC 07 10:51:01.8±0.5, 48.38N±0.07×154.93E±0.06, h43km, n207, σ1.66/211, mb4.5/50, 3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.44**	**18**	*e*P		**Pn**	**10 51 38.6**	**-0.5**
SKR				*e*S		**Sn**	**10 52 06.6**	**-1.0**
SKR	**Severo-Kuril's**	**2.44**	**18**	*e*P		**Pn**	**10 51 38.9**	**-0.2**
SKR				AMB		AMB	10 51 40.0	
	370nm,0.4s							
SKR				*e*S		**Sn**	**10 52 06.3**	**-1.3**
SKR				A		A	10 52 14.0	
	1μm,0.6s							
SKR				A		A	10 52 14.0	
	660nm,0.6s							
SKR	**Severo-Kuril's**	**2.44**	**18**	*e*PN		**Pn**	**10 51 38.9**	**-0.2**
SKR				*e*S		**Sn**	**10 52 06.2**	**-1.3**
SKR				pmax	pmax			
	comp=Z,370nm,0.4s							
SKR				smax	smax			
	comp=N,1μm,0.6s							
SKR				smax	smax			
	comp=E,658nm,0.6s							
SKR				MLR	MLR			
	comp=Z,400nm,11.0s							
SKR				MLR	MLR			
	comp=Z,100nm,13.0s							
ALID	**Alaid**	**2.53**	**9**	*e*P		**Pn**	**10 51 40.0**	**-0.5**
ALID	**Alaid**	**2.53**	**9**	PN		**Pn**	**10 51 40.0**	**-0.5**
PAU	**Pauzhetka**	**3.33**	**21**	*e*P		**Pn**	**10 51 51.5**	**+0.2**
PAU				*e*S		**Sn**	**10 52 28.9**	**-0.6**
PAU	**Pauzhetka**	**3.33**	**21**	*e*P		**Pn**	**10 51 51.5**	**+0.2**
PAU				AMB		AMB	10 51 53.6	
	comp=Z,240nm,0.7s							
PAU				*e*S		**Sn**	**10 52 28.9**	**-0.6**
PAU				A		A	10 52 33.8	
	comp=Z,370nm,0.4s							
PAU				A		A	10 52 33.8	
	comp=Z,330nm,0.4s							
PAU	**Pauzhetka**	**3.33**	**21**	PN		**Pn**	**10 51 51.5**	**+0.2**
PAU				S		**Sn**	**10 52 28.9**	**-0.6**
KDTR	**Khodutka, Kamc**	**3.99**	**29**	*e*P		**Pn**	**10 52 00.0**	**-0.4**
KDTR				*e*S		**Sn**	**10 52 43.0**	**-2.8**
KDTR	**Khodutka, Kamc**	**3.99**	**29**	PN		**Pn**	**10 52 00.0**	**-0.4**
KDTR				S		**Sn**	**10 52 43.0**	**-2.8**
MIPR	**Malaya Ipel'ka**	**4.08**	**16**	*e*P		**Pn**	**10 52 02.2**	**+0.6**
MIPR	**Malaya Ipel'ka**	**4.08**	**16**	PN		**Pn**	**10 52 02.2**	**+0.6**
ASAK	**Asacha**	**4.44**	**24**	*e*P		**Pn**	**10 52 08.0**	**+1.3**
ASAK	**Asacha**	**4.44**	**24**	PN		**Pn**	**10 52 08.0**	**+1.3**
MTVR	**Mutnovka**	**4.61**	**26**	*e*P		**Pn**	**10 52 09.9**	**+0.9**
MTVR				*e*S		**Sn**	**10 53 00.6**	**-0.7**
MTVR	**Mutnovka**	**4.61**	**26**	PN		**Pn**	**10 52 09.9**	**+0.9**
MTVR				S		**Sn**	**10 53 00.6**	**-0.7**
GRL	**Gorelyy**	**4.64**	**24**	*e*P		**Pn**	**10 52 10.9**	**+1.5**
GRL	**Gorelyy**	**4.64**	**24**	PN		**Pn**	**10 52 10.9**	**+1.5**
RUS	**Russkaya**	**4.66**	**28**	*e*P		**Pn**	**10 52 09.3**	**-0.3**
RUS				*e*S		**Sn**	**10 53 00.2**	**-2.2**
RUS	**Russkaya**	**4.66**	**28**	*e*P		**Pn**	**10 52 09.3**	**-0.3**
RUS	**Russkaya**	**4.66**	**28**	PN		**Pn**	**10 52 09.3**	**-0.3**
APC	**Apacha**	**4.77**	**16**	*e*P		**Pn**	**10 52 13.4**	**+2.3**
APC	**Apacha**	**4.77**	**16**	PN		**Pn**	**10 52 13.4**	**+2.3**
KRMR	**Karymshinskiy**	**4.90**	**23**	*e*P		**Pn**	**10 52 15.4**	**+2.5**
KRMR	**Karymshinskiy**	**4.90**	**23**	PN		**Pn**	**10 52 15.4**	**+2.5**
PEA0B	**Petropavlovsk-**	**5.05**	**19**	*i* PN		**Pn**	**10 52 16.6**	**+1.6**
PEA0B	**Petropavlovsk-**	**5.05**	**19**			**Pn**	**10 52 16.8**	**+1.8**
PETK	**Petropavlovsk-**	**5.05**	**19**	P		**Pn**	**10 52 16.9**	**+1.8**
	comp=Z,11nm,0.3s,baz=179,slow=12,SNR=74							
PETK				S		**Sn**	**10 53 16.2**	**+4.1**
	baz=27,slow=45,SNR=1.4							
PETK				LR		LR	10 54 24.3	
	comp=Z,277nm,20.5s,baz=250,slow=41							
PETK	**Petropavlovsk-**	**5.05**	**19**	PN		**Pn**	**10 52 16.5**	**+1.5**
PETK							10 53 16.2	
PETK	**Petropavlovsk-**	**5.05**	**19**			**Pn**	**10 52 16.5**	**+1.5**
PET	**Petropavlovsk**	**5.22**	**26**	*e*P		**Pn**	**10 52 18.0**	**+0.7**
PET				*e*S		**Sn**	**10 53 15.3**	**-0.8**
PET	**Petropavlovsk**	**5.22**	**26**	*e*P		**Pn**	**10 52 18.3**	**+1.0**
PET	**Petropavlovsk**	**5.22**	**26**	PN		**Pn**	**10 52 18.0**	**+0.7**
PET				S		**Sn**	**10 53 15.3**	**-0.8**
PET	**Petropavlovsk**	**5.22**	**26**	Pn		**Pn**	**10 52 17.9**	**+0.6**
DALK	**Dalny**	**5.26**	**26**	*e*P		**Pn**	**10 52 18.3**	**+0.5**
DALK				*e*S		**Sn**	**10 53 16.2**	**-0.8**
DALK	**Dalny**	**5.26**	**26**	PN		**Pn**	**10 52 18.3**	**+0.5**
DALK				S		**Sn**	**10 53 16.2**	**-0.8**
UGLR	**Uglovaya**	**5.43**	**26**	*e*P		**Pn**	**10 52 21.6**	**+1.3**
UGLR	**Uglovaya**	**5.43**	**26**	PN		**Pn**	**10 52 21.6**	**+1.3**
KOK	**Koryaka**	**5.45**	**24**	*e*P		**Pn**	**10 52 22.7**	**+2.1**
KOK	**Koryaka**	**5.45**	**24**	*e*P		**Pn**	**10 52 22.7**	**+2.1**
KOK	**Koryaka**	**5.45**	**24**	PN		**Pn**	**10 52 22.7**	**+2.1**
AVH	**Avacha**	**5.46**	**25**	*e*P		**Pn**	**10 52 22.3**	**+1.7**
AVH	**Avacha**	**5.46**	**25**	PN		**Pn**	**10 52 22.3**	**+1.7**
SMAR	**Somma**	**5.47**	**25**	*e*P		**Pn**	**10 52 23.0**	**+2.0**
SMAR	**Somma**	**5.47**	**25**	PN		**Pn**	**10 52 23.0**	**+2.0**
KRER	**Koryakskii**	**5.50**	**25**	*e*P		**Pn**	**10 52 22.5**	**+1.2**
KRER	**Koryakskii**	**5.50**	**25**	PN		**Pn**	**10 52 22.5**	**+1.2**
SDLR	**Sedlovina**	**5.51**	**26**	*e*P		**Pn**	**10 52 21.9**	**+0.5**
SDLR	**Sedlovina**	**5.51**	**26**	PN		**Pn**	**10 52 21.9**	**+0.5**
KRX	**Arik**	**5.52**	**24**	*e*P		**Pn**	**10 52 23.0**	**+1.5**
KRX	**Arik**	**5.52**	**24**	PN		**Pn**	**10 52 23.0**	**+1.5**
NLC	**Nalytchevo**	**5.56**	**29**	*e*P		**Pn**	**10 52 21.5**	**-0.4**
NLC	**Nalytchevo**	**5.56**	**29**	*e*P		**Pn**	**10 52 21.5**	**-0.4**
NLC	**Nalytchevo**	**5.56**	**29**	PN		**Pn**	**10 52 21.5**	**-0.4**
SPN	**Mys Shipunski**	**5.73**	**32**	*e*P		**Pn**	**10 52 24.2**	**0.0**
SPN	**Mys Shipunski**	**5.73**	**32**	*e*P		**Pn**	**10 52 24.2**	**0.0**
SPN	**Mys Shipunski**	**5.73**	**32**	PN		**Pn**	**10 52 24.2**	**0.0**
KUR	**Kuril'sk**	**5.78**	**240**	*i* P		**Pn**	**10 52 27.3**	**+2.3**
KUR				AMB		AMB	10 52 30.0	
	comp=Z,60nm,0.2s							
KUR				AMB		AMB	10 52 30.0	
	comp=Z,60nm,0.2s							
KUR				AMB		AMB	10 52 30.0	
	comp=Z,170nm,0.4s							
KUR				AMB		AMB	10 52 39.2	
	comp=Z,300nm,1.2s							
KUR				*e*S		**Sn**	**10 53 32.9**	**+3.0**
KUR				A		A	10 53 43.8	
	comp=Z,400nm,2.0s							
KUR				A		A	10 53 43.8	
	comp=Z,300nm,2.0s							
KUR				A		A	10 53 54.0	
	comp=Z,50nm,0.4s							
KUR				A		A	10 53 54.0	
	comp=Z,170nm,0.4s							
KUR	**Kuril'sk**	**5.78**	**240**	⇑*i*PN		**Pn**	**10 52 27.3**	**+2.3**
KUR				*i* S		**Sn**	**10 53 33.6**	**+3.7**
KUR				pmax	pmax			
	comp=Z,173nm,0.4s							
KUR				pmax	pmax			
	comp=N,60nm,0.2s							
KUR				pmax	pmax			
	comp=E,56nm,0.2s							
KUR				pmax	pmax			
	comp=Z,227nm,1.2s							
KUR				smax	smax			
	comp=E,318nm,2.3s							
KUR				smax	smax			
	comp=N,429nm,1.9s							
KUR				smax	smax			
	comp=E,166nm,0.4s							
KUR				smax	smax			
	comp=N,51nm,0.3s							
KUR				MLR	MLR			
	comp=Z,282nm,13.0s							
KZV	**Kizimen**	**7.52**	**24**	*e*P		**Pn**	**10 52 49.1**	**+0.1**
KZV	**Kizimen**	**7.52**	**24**	PN		**Pn**	**10 52 49.1**	**+0.1**
TUMD	**Tumrok D**	**7.63**	**24**	*e*P		**Pn**	**10 52 53.1**	**+2.8**
TUMR	**Tumrok**	**7.63**	**23**	*e*P		**Pn**	**10 52 51.8**	**+1.3**
TUMR	**Tumrok**	**7.63**	**23**	PN		**Pn**	**10 52 51.8**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**7.64**	**239**	*i* P		**Pn**	**10 52 52.5**	**+2.0**
YUK				AMB		AMB	10 52 52.7	
	comp=Z,60nm,0.4s							
YUK				AMB		AMB	10 52 52.7	
	comp=Z,70nm,0.4s							
YUK				AMB		AMB	10 52 52.7	
	comp=Z,50nm,0.4s							
YUK				AMB		AMB	10 52 57.5	
	comp=Z,300nm,1.1s							
YUK				*e*S		**Sn**	**10 54 16.6**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**7.64**	**239**	⇑*i*PN		**Pn**	**10 52 52.2**	**+1.7**
YUK				*i* S		**Sn**	**10 54 18.0**	**+2.3**
YUK				pmax	pmax			
	comp=Z,462nm,0.4s							
YUK				pmax	pmax			
	comp=E,70nm,0.3s							
YUK				pmax	pmax			
	comp=N,65nm,0.4s							
YUK				pmax	pmax			
	comp=Z,279nm,1.1s							
GRPR	**Tuman**	**7.72**	**239**	*i* P		**Pn**	**10 52 52.6**	**+1.0**
GRPR				AMB		AMB	10 52 57.0	
	comp=Z,10.0nm,0.3s							
GRPR				AMB		AMB	10 52 57.0	
	comp=Z,30nm,0.3s							
GRPR				AMB		AMB	10 52 57.0	
	comp=Z,30nm,0.3s							
GRPR				*e*S		**Sn**	**10 54 18.5**	**+0.9**
GRPR	**Tuman**	**7.72**	**239**	⇑*i*PN		**Pn**	**10 52 52.6**	**+1.0**
GRPR				*e*S		**Sn**	**10 54 18.5**	**+0.9**
GRPR				pmax

MJAR	**Matsushiro Arr**	**17.05**	**232**	P	**Pn**	**10 54 54.5**	**-2.5**
MJAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MJAR	**Matsushiro Arr**	**17.05**	**232**	IAmb	IAmb	10 54 58.4		
	comp=Z,1.5nm,0.7s							
BMKR	**Bomnak**	**17.36**	**301**	*e*P	**Pn**	**10 54 58.7**	**-2.0**
KROS	**Kirovskiy**	**18.39**	**300**	*e*P	**Pn**	**10 55 14.6**	**+1.3**
BILL	**Bilibino**	**20.54**	**12**	*i* P	**P**	**10 55 37.2**	**+1.0**
BILL	**Bilibino**	**20.54**	**12**	*i* P	**P**	**10 55 37.2**	**+1.0**
BILL				pmax	pmax			
	comp=Z,32nm,2.7s							
CN2	**Changchun**	**20.89**	**268**	*e*P	**P**	**10 55 41.5**	**+1.3**
KSRS	**Korea Array**	**22.48**	**251**	P	**P**	**10 55 56.0**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=54,slow=10,SNR=2.8							
KSRS				LR	LR	11 03 46.8		
	comp=Z,70nm,18.2s,baz=72,slow=34							
JNU	**Nakatsue**	**23.62**	**239**	LR	LR	11 06 10.5		
	comp=Z,115nm,18.2s,baz=121,slow=39							
H11N2	**WAKE ISLAND Hy**	**30.17**	**157**	T	T	11 29 03.2		
	baz=343,slow=76							
H11N1	**WAKE ISLAND Hy**	**30.18**	**157**	T	T	11 28 55.0		
	baz=343,slow=76							
H11N3	**WAKE ISLAND Hy**	**30.18**	**157**	T	T	11 29 00.0		
	baz=343,slow=76							
H11S1	**WAKE ISLAND Hy**	**31.29**	**158**	T	T	11 30 21.6		
	baz=344,slow=76,SNR=1248							
H11S3	**WAKE ISLAND Hy**	**31.30**	**158**	T	T	11 30 23.3		
	baz=344,slow=76,SNR=667							
H11S2	**WAKE ISLAND Hy**	**31.31**	**158**	T	T	11 30 21.4		
	baz=344,slow=76,SNR=538							
HHC	**Hu-ho-hao-te**	**31.43**	**273**	*e*P	**P**	**10 57 17.5**	**-1.5**
NJ2	**Nanjing**	**31.66**	**252**	*e*P	**P**	**10 57 22.3**	**+1.4**
NJ2				pmax	pmax			
	comp=Z,3.0nm,0.5s							
COLD	**Coldfoot**	**33.29**	**35**	P	**P**	**10 57 34.8**	**0.0**
MDM	**Murphy Dome**	**33.94**	**40**	P	**P**	**10 57 41.4**	**+0.9**
SML	**Sawmill**	**33.95**	**45**	P	**P**	**10 57 40.6**	**-0.1**
COLA	**College**	**34.10**	**40**	*i* P	**P**	**10 57 40.3**	**-1.5**
COLA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CCB	**Clear Creek Bu**	**34.12**	**40**	P	**P**	**10 57 42.0**	**0.0**
HDA	**Harding Lake**	**34.49**	**41**	P	**P**	**10 57 45.1**	**-0.2**
HDA				IAmb	IAmb	10 57 45.9		
	comp=Z,3.4nm,0.6s							
ILAR	**Eielson Array**	**34.51**	**40**	P	**P**	**10 57 45.0**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=257,slow=5.4,SNR=9.1							
BCAR	**Beaver Creek A**	**36.87**	**43**	P	**P**	**10 58 06.6**	**+0.9**
EGAK	**Eagle**	**36.96**	**40**	P	**P**	**10 58 05.9**	**-0.5**
CTGM	**Chitina Glacie**	**37.39**	**46**	P	**P**	**10 58 11.8**	**+1.5**
LZH	**Lanzhou**	**39.08**	**271**	*e*P	**P**	**10 58 27.0**	**+2.2**
LZH				pP	sP	10 58 40.9	-0.7
LZH				sP	pP	10 58 47.9	+11
LZH				pmax	pmax			
	comp=Z,14nm,1.0s							
HYT	**Haines Junctio**	**39.25**	**46**	P	**P**	**10 58 27.9**	**+2.0**
HYT				IAmb	IAmb	10 58 29.6		
	comp=Z,4.6nm,0.8s							
INK	**Inuvik**	**39.62**	**34**	P	**P**	**10 58 28.4**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=268,slow=4.9,SNR=6.1							
GTA	**Gaotai**	**39.95**	**278**	*e*P	P	10 58 39.1	+7.2
GTA				pP	pP	10 58 44.1	+0.4
GTA				sP	sP	10 58 47.6	-1.2
GTA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ZALV	**Zalesovo Beam**	**42.68**	**305**	PcP	**PcP**	**11 00 43.8**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=84,slow=6.1,SNR=3.6							
ZALV				LR	LR	11 18 29.9		
	comp=Z,30nm,19.4s,baz=84,slow=39							
DLBC	**Dease Lake**	**43.58**	**47**	P	**P**	**10 59 03.0**	**+1.7**
WMQ	**Urumqi**	**45.50**	**291**	*e*P	**P**	**10 59 19.0**	**+2.2**
WMQ				pmax	pmax			
	comp=Z,14nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,93nm,4.5s							
WMQ				LR	LR			
	comp=N,2μm,29.3s							
WMQ				LR	LR			
	comp=E,1μm,29.0s							
WMQ				LR	LR			
	comp=Z,130nm,29.0s							
MK31	**Makanchi Array**	**47.30**	**297**	P	**P**	**10 59 27.6**	**-3.3**
MK31				pmax	pmax			
	comp=Z,1.0nm,1.0s							
MK31	**Makanchi Array**	**47.30**	**297**	P	**P**	**10 59 27.6**	**-3.3**
MKAR	**Makanchi Array**	**47.30**	**297**	P	**P**	**10 59 27.3**	**-3.6**
	comp=Z,0.8nm,0.5s,baz=72,slow=9.0,SNR=11							
MKAR				PcP	**PcP**	**11 00 59.7**	**-1.6**
	comp=Z,0.7nm,1.0s,baz=26,slow=3.7,SNR=3.7							
KURK	**Kurchatov**	**47.50**	**303**	*i* P	**P**	**10 59 29.3**	**-3.0**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.9s							
YKA	**Yellowknife Ar**	**48.88**	**38**	P	**P**	**10 59 43.0**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=300,slow=8.1,SNR=3.8							
CMAR	**Chiang Mai Arr**	**53.95**	**257**	P	**P**	**11 00 20.3**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=36,slow=7.5,SNR=6.1							
B08A	**Colville Reser**	**53.96**	**55**	P	**P**	**11 00 21.8**	**+0.8**
B08A				IAmb	IAmb	11 00 22.9		
	comp=Z,5.1nm,1.0s							
PINE	**Pine Mountain**	**55.71**	**61**	P	**P**	**11 00 36.6**	**+2.6**
I07A	**Izee**	**56.37**	**60**	IAmb	IAmb	11 00 41.8		
	comp=Z,4.4nm,0.9s							
K05A	**Summer Lake**	**56.38**	**62**	P	**P**	**11 00 41.1**	**+2.4**
WALA	**Waterton Lakes**	**56.46**	**52**	P	**P**	**11 00 40.1**	**+0.9**
WALA				IAmb	IAmb	11 00 40.5		
	comp=Z,4.1nm,0.8s							
BMO	**Blue Mountains**	**57.15**	**58**	P	**P**	**11 00 45.7**	**+1.6**
BMO				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BMO	**Blue Mountains**	**57.15**	**58**	P	**P**	**11 00 45.7**	**+1.6**
BMO				IAmb	IAmb	11 00 46.6		
	comp=Z,4.0nm,0.9s							
MOD	**Modoc Plateau**	**57.23**	**62**	P	**P**	**11 00 46.1**	**+1.4**
MOD				IAmb	IAmb	11 00 47.0		
	comp=Z,3.7nm,0.7s							
WVOR	**Wild Horse Val**	**57.88**	**61**	P	**P**	**11 00 50.7**	**+1.5**
WVOR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
WVOR	**Wild Horse Val**	**57.88**	**61**	P	**P**	**11 00 50.7**	**+1.5**
WVOR				IAmb	IAmb	11 00 52.0		
	comp=Z,4.5nm,0.9s							
PAHR	**Pah Rah Range**	**59.14**	**64**	P	**P**	**11 00 59.5**	**+1.4**
PAHR				IAmb	IAmb	11 01 00.6		
	comp=Z,5.4nm,1.1s							
PNTR	**Pine Nut**	**59.40**	**64**	P	**P**	**11 01 01.8**	**+1.7**
HLID	**Hailey**	**59.58**	**57**	P	**P**	**11 01 03.0**	**+1.9**
BOZ	**Bozeman (W)**	**59.83**	**54**	P	**P**	**11 01 03.9**	**+1.1**
BOZ				pmax	pmax			
	comp=Z,6.0nm,0.8s							
BOZ	**Bozeman (W)**	**59.83**	**54**	P	**P**	**11 01 03.9**	**+1.1**
WAKR	**Walker**	**59.87**	**65**	IAmb	IAmb	11 01 06.0		
	comp=Z,3.9nm,0.8s							
RYN	**Ryan**	**60.34**	**64**	IAmb	IAmb	11 01 09.0		
	comp=Z,4.3nm,0.9s							
YHL	**Hebgen Lake**	**60.55**	**55**	P	**P**	**11 01 09.1**	**+1.2**
NVAR	**Mina Array Bea**	**60.60**	**64**	P	**P**	**11 01 09.9**	**+1.6**
	comp=Z,3.0nm,0.7s,baz=293,slow=7.3,SNR=32							
NVAR				pP	**sP**	**11 01 27.1**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=291,slow=7.7,SNR=5.9							
NVAR	**Mina Array Bea**	**60.60**	**64**	P	**P**	**11 01 09.5**	**+1.2**
NVAR					**sP**	**11 01 27.2**	**+1.7**
NV11	**Mina Array Sit**	**60.69**	**64**	P	**P**	**11 01 10.0**	**+1.3**
ELK	**Elko**	**60.92**	**60**	P	**P**	**11 01 12.0**	**+1.6**
ELK				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ELK	**Elko**	**60.92**	**60**	P	**P**	**11 01 12.0**	**+1.6**
ELK				IAmb	IAmb	11 01 14.2		
	comp=Z,3.0nm,0.9s							
RLMT	**Red Lodge**	**61.40**	**53**	P	**P**	**11 01 15.3**	**+1.7**
FXWY	**Fox Creek**	**61.42**	**56**	P	**P**	**11 01 15.2**	**+1.5**
TPAW	**Teton Pass**	**61.56**	**56**	IAmb	IAmb	11 01 17.0		
	comp=Z,5.4nm,0.8s							
SNOW	**Snow King Moun**	**61.68**	**56**	P	**P**	**11 01 17.4**	**+1.9**
R11A	**Troy Canyon, C**	**62.27**	**63**	P	**P**	**11 01 20.4**	**+0.9**
R11A				IAmb	IAmb	11 01 21.8		
	comp=Z,5.1nm,1.1s							
HWUT	**Hardware Ranch**	**62.45**	**58**	P	**P**	**11 01 22.6**	**+1.9**
HWUT				IAmb	IAmb	11 01 23.3		
	comp=Z,11nm,1.4s							
BW06	**Boulder Array**	**62.80**	**56**	P	**P**	**11 01 24.0**	**+1.0**
BW06				IAmb	IAmb	11 01 25.1		
	comp=Z,5.2nm,0.9s							
PD31	**Pinedale Array**	**62.80**	**55**	IAmb	IAmb	11 01 25.1		
	comp=Z,4.8nm,0.9s							
PDAR	**Pinedale Array**	**62.80**	**55**	P	**P**	**11 01 24.1**	**+1.1**
	comp=Z,3.6nm,0.8s,baz=319,slow=1.9,SNR=30							
PDAR				pP	**sP**	**11 01 40.7**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=316,slow=2.1,SNR=4.3							
PDAR	**Pinedale Array**	**62.80**	**55**	P	**P**	**11 01 23.9**	**+0.9**
TPNV	**Topopah Spring**	**62.80**	**64**	P	**P**	**11 01 24.2**	**+1.2**
TPNV				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TPNV	**Topopah Spring**	**62.80**	**64**	P	**P**	**11 01 24.2**	**+1.2**
TPNV				IAmb	IAmb	11 01 25.4		
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**63.09**	**335**	P	**P**	**11 01 20.7**	**-3.6**
	comp=Z,0.5nm,0.4s,baz=32,slow=9.0,SNR=4.4							
FINES	**FINESS Array B**	**63.09**	**335**	*i* P	**P**	**11 01 22.8**	**-1.5**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
OBN	**Obninsk**	**64.66**	**326**	*e*P	**P**	**11 01 31.4**	**-3.3**
OBN				*e*		11 02 03.5		
OBN				*e*PPP	PPP	11 05 29.0		
OBN				pmax	pmax			
	comp=Z,8.0nm,1.2s							
RSSD	**Black Hills**	**64.84**	**51**	P	**P**	**11 01 36.6**	**+0.2**
RSSD				pmax	pmax			
	comp=Z,7.0nm,0.9s							
RSSD	**Black Hills**	**64.84**	**51**	P	**P**	**11 01 36.6**	**+0.2**
RSSD				IAmb	IAmb	11 01 38.0		
	comp=Z,7.3nm,0.8s							
PV14	**Lion Creek, Pa**	**66.07**	**59**	IAmb	IAmb	11 01 46.4		
	comp=Z,4.4nm,0.9s							
PV17	**East Wray Mesa**	**66.17**	**59**	P	**P**	**11 01 46.1**	**+1.0**
PV16	**Nyswonger Mesa**	**66.18**	**59**	IAmb	IAmb	11 01 47.3		
	comp=Z,9.0nm,1.2s							
PV18	**Skein Mesa, Pa**	**66.23**	**59**	IAmb	IAmb	11 01 47.5		
	comp=Z,7.0nm,1.0s							
PV05	**Paradox Valley**	**66.23**	**59**	IAmb	IAmb	11 01 47.6		
	comp=Z,6.6nm,0.8s							
PV13	**Radium Mtn., P**	**66.34**	**59**	P	**P**	**11 01 47.5**	**+1.4**
PV13				IAmb	IAmb	11 01 48.2		
	comp=Z,5.3nm,0.8s							
ISCO	**Idaho Springs**	**67.00**	**56**	IAmb	IAmb	11 01 52.8		
	comp=Z,4.7nm,0.9s							
NOA	**NORSAR Array B**	**67.08**	**342**	P	**P**	**11 01 47.7**	**-2.6**
	comp=Z,0.2nm,0.4s,baz=33,slow=6.4,SNR=1.5							
S22A	**4UR Ranch, Cre**	**67.75**	**58**	P	**P**	**11 01 56.7**	**+1.4**
ECSD	**EROS Data Cent**	**68.87**	**47**	P	**P**	**11 02 02.0**	**+0.2**
ECSD				IAmb	IAmb	11 02 02.6		
	comp=Z,5.7nm,0.8s							
SCHQ	**Schefferville**	**71.33**	**24**	P	**P**	**11 02 15.7**	**-0.9**
	comp=Z,2.3nm,0.5s,baz=344,slow=5.9,SNR=7.2							
SCHQ	**Schefferville**	**71.33**	**24**	IAmb	IAmb	11 02 17.1		
	comp=Z,8.5nm,1.2s							
P38A	**Dawn**	**73.48**	**49**	P	**P**	**11 02 29.9**	**+0.2**
AS31	**Alice Springs**	**74.15**	**200**	P	**P**	**11 02 33.7**	**+0.1**
P40A	**Paris**	**74.29**	**48**	IAmb	IAmb	11 02 35.6		
	comp=Z,5.2nm,1.0s							
CLL	**Collm**	**75.48**	**336**	*i* P	**P**	**11 02 42.7**	**+1.6**
TX31	**Lajitas Ar. Si**	**75.63**	**62**	P	**P**	**11 02 43.2**	**+0.8**
TX32	**Lajitas Array**	**75.63**	**62**	P	**P**	**11 02 43.5**	**+1.0**
TXAR	**Lajitas Array**	**75.63**	**62**	P	**P**	**11 02 43.4**	**+1.0**
	comp=Z,2.1nm,0.6s,baz=296,slow=4.5,SNR=29							
TXAR				pP	**sP**	**11 03 00.9**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=299,slow=4.4,SNR=6.4							
U40A	**Yellville**	**76.33**	**50**	IAmb	IAmb	11 02 46.6		
	comp=Z,7.8nm,0.9s							
FCAR	**Ozark Folk Cen**	**77.06**	**50**	P	**P**	**11 02 50.0**	**-0.3**
FCAR				IAmb	IAmb	11 02 50.6		
	comp=Z,11nm,1.5s							
W41B	**Gary Mavity, V**	**77.55**	**51**	IAmb	IAmb	11 02 53.9		
	comp=Z,4.7nm,0.8s							
CMIG	**Matias Romero**	**90.13**	**64**	LR	LR	11 44 05.1		
	comp=Z,14nm,19.4s,baz=182,slow=35							
H03N2	**Juan Fernandez**	**137.52**	**90**	T	T	13 43 30.2		
	baz=309,slow=77,SNR=15							
H03N1	**Juan Fernandez**	**137.54**	**90**	T	T	13 43 31.4		
	baz=309,slow=77,SNR=16							
H03N3	**Juan Fernandez**	**137.54**	**90**	T	T	13 43 30.3		
	baz=309,slow=77,SNR=20							

*IDC **07** 10:55:47.0±1.1,0.°64N×146.°36E,h0km,mb3.8/10, mb1 4.0/11,mb1mx3.8/45,mbtmp3.8/11,ML3.1/1,MS3.6/5, Ms1 3.6/5,ms1mx3.0/38,Error ellipse: s-maj=39.7km s-min=17.9km az=111.0*

*NEIC **07** 10:55:49.5±1.1,0.°6N±0.°1×146.°3E±0.°1,h15km±5km, mb4.2/8,Error ellipse: s-maj=22.9km s-min=14.9km az=134.0*

ISC 07 10:55:49.1±1.1,0.°6N±0.°1×146.°1E±0.°2,h10km,n25, σ0s98/20,mb4.0/14,MS3.5/5,Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**6.25**	**240**	Pn	**Pn**	**10 57 22.4**	**+0.8**
	0.4nm,0.3s,baz=148,slow=12,SNR=1.3						
JAY				Sn	**Sn**	**10 58 30.7**	**-2.6**
	0.7nm,0.3s,baz=245,slow=3.1,SNR=2.5						
MTN	**Manton Dam**	**20.00**	**228**	P	**P**	**11 00 23.0**	**+0.8**
WB0	**Warramunga Arr**	**23.30**	**209**	P	**P**	**11 00 57.7**	**+0.4**
WB0				IAmb	IAmb	11 01 06.9	
	comp=Z,3.8nm,0.8s						
WR0	**Warramunga Arr**	**23.39**	**208**	P	**P**	**11 00 58.5**	**+0.2**
WRAB	**Tennant Creek**	**23.46**	**209**	P	**P**	**11 00 59.2**	**+0.2**
WRAB				IAmb	IAmb	11 01 07.6	
	comp=Z,8.4nm,1.1s						
WB2	**Warramunga Arr**	**23.47**	**209**	P	**P**	**11 00 59.2**	**+0.2**
WB2				IAmb	IAmb	11 01 07.8	
	comp=Z,14nm,1.3s						
WRA	**Warramunga Arr**	**23.47**	**209**	P	**P**	**11 00 59.3**	**+0.1**
	comp=Z,2.6nm,0.5s,baz=32,slow=11,SNR=42						
WRA	**Warramunga Arr**	**23.47**	**209**	P	**P**	**11 00 59.0**	**-0.2**
KNRA	**Kununurra**	**23.59**	**226**	P	**P**	**11 01 00.5**	**+0.2**
KNRA				IAmb	IAmb	11 01 10.1	
	comp=Z,6.6nm,0.8s						
ASAR	**Alice Springs**	**26.90**	**205**	P	**P**	**11 01 31.5**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=33,slow=6.9,SNR=16						
ASAR				LR	LR	11 12 17.9	
	comp=Z,117nm,19.7s,baz=98,slow=37						
ASAR	**Alice Springs**	**26.90**	**205**	P	**P**	**11 01 30.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**27.43**	**226**	P	**P**	**11 01 36.3**	**+1.0**
	comp=Z,3.9nm,1.1s,baz=5.6,slow=8.5,SNR=3.1						
FITZ	**Fitzroy Crossi**	**27.43**	**226**	P	**P**	**11 01 35.9**	**+0.6**
AFI	**Afiamalu**	**44.10**	**111**	LR	LR	11 18 46.6	
	comp=Z,144nm,21.8s,baz=200,slow=31						
CMAR	**Chiang Mai Arr**	**49.59**	**294**	P	**P**	**11 04 43.0**	**+2.0**
	comp=Z,2.0nm,0.6s,baz=113,slow=5.4,SNR=3.6						
KLR	**Kul'dur**	**49.99**	**348**	P	**P**	**11 04 43.0**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=153,slow=4.5,SNR=2.0						
PETK	**Petropavlovsk-**	**53.20**	**9**	P	**P**	**11 05 06.3**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=171,slow=8.2,SNR=1.9						
SONM	**Songino Array**	**58.27**	**330**	P	**P**	**11 05 44.5**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=108,slow=8.0,SNR=2.6						
SONM	**Songino Array**	**58.27**	**330**	IAmb	IAmb	11 05 45.3	
	comp=Z,0.8nm,0.8s						
TLY	**Talaya**	**62.14**	**332**	LR	LR	11 34 30.7	
	comp=Z,25nm,18.4s,baz=150,slow=37						
PPT	**Papeete**	**65.75**	**110**	LR	LR	11 32 39.9	
	comp=Z,17nm,18.1s,baz=310,slow=34						
MKAR	**Makanchi Array**	**71.91**	**320**	P	**P**	**11 07 12.3**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=123,slow=5.3,SNR=4.8						
VNDA	**Vanda**	**78.52**	**177**	LR	LR	11 40 41.1	
	comp=Z,62nm,18.1s,baz=148,slow=34						
ILAR	**Eielson Array**	**79.80**	**24**	P	P	11 07 55.3	-2.1
	comp=Z,0.2nm,0.7s,baz=247,slow=5.0,SNR=2.4						
NVAR	**Mina Array Bea**	**93.99**	**52**	P	**P**	**11 09 07.7**	**-0.4**
	comp=Z,0.1nm,0.7s,baz=260,slow=9.7,SNR=1.7						

IDC 07 10:58:42.0±0.8,53.°25N×158.°77E,h123km±48km,mb3.1/4, mb1 3.6/4,mb1mx3.0/49,mbtmp3.5/4,Error ellipse: s-maj=113.5km s-min=43.8km az=85.0,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**0.66**	**258**	P	Pn	10 59 02.0	+0.6
	27nm,0.3s,baz=80,slow=9.4,SNR=434						
PETK				S	Sn	10 59 17.1	+1.2
	3.7nm,0.3s,baz=82,slow=11,SNR=9.7						
ILAR	**Eielson Array**	**29.27**	**45**	P		11 04 31.6	-0.6
	0.5nm,0.8s,baz=261,slow=7.2,SNR=6.0						
NVAR	**Mina Array Bea**	**56.44**	**69**	P	P	11 08 11.7	+0.8
	0.3nm,0.7s,baz=285,slow=8.4,SNR=4.2						
PDAR	**Pinedale Array**	**58.14**	**60**	P	P	11 08 22.9	+0.1
	0.4nm,0.5s,baz=334,slow=1.1,SNR=5.4						
TXAR	**Lajitas Array**	**71.31**	**66**	P	P	11 09 47.7	-0.5
	0.2nm,0.4s,baz=289,slow=4.8,SNR=6.1						

IDC 07 11:02:28.4±2.5,30.°11S×176.°87W,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.5/31,mbtmp3.5/3,Error ellipse: s-maj=52.4km s-min=31.5km az=59.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.25**	**313**	Pn	Pb	11 02 52.6	-0.1
	302nm,0.3s,baz=115,slow=7.7,SNR=15						
RAO				Sn	Sn	11 03 12.1	+1.6
	287nm,0.3s,baz=86,slow=23,SNR=5.1						
STKA	**Stephens Creek**	**35.49**	**256**	P	P	11 09 26.1	-0.8
	0.9nm,0.7s,baz=124,slow=7.3,SNR=1.5						
ASAR	**Alice Springs**	**44.10**	**266**	P	P	11 10 39.0	+0.3
	0.3nm,0.7s,baz=108,slow=7.9,SNR=2.1						
WRA	**Warramunga Arr**	**45.06**	**271**	P	P	11 10 46.5	+0.2
	0.6nm,0.8s,baz=111,slow=7.3,SNR=2.7						
FINES	**FINESS Array B**	**145.20**	**341**	PKPbc	PKPbc	11 22 06.1	-0.7
	0.9nm,0.5s,baz=60,slow=4.6,SNR=6.8						

*NEIC **07** 11:33:18.7±3.9,6.°30S±0.°07×75.°95W±0.°10,h69km±16km, Error ellipse: s-maj=14.2km s-min=9.3km az=107.0*

*ARE **07** 11:33:19.3±3.5,6.°22S±0.°08×75.°88W±0.°09,h84km±8km, ML4.5,Error ellipse: s-maj=0.0km s-min=0.0km az=138.0*

*IDC **07** 11:33:21.9±3.0,6.°46S×75.°92W,h35km±27km,mb3.6/4, mb1 3.9/11,mb1mx3.7/32,mbtmp4.0/11,ML3.5/7,MS3.2/4, Ms1 3.2/4,ms1mx2.9/29,Error ellipse: s-maj=20.9km s-min=18.3km az=157.0*

ISC 07 11:33:21.6±0.7,6.°50S±0.°06×75.°87W±0.°08,h35km,n46, σ1s46/41,mb3.8/4,Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.58**	**256**	Pn	**Pn**	**11 34 01.8**	**+0.5**
	23nm,0.3s,baz=58,slow=7.6,SNR=74						
ATAH				Sn	**Sn**	**11 34 30.8**	**-0.9**
	39nm,0.3s,baz=96,slow=9.0,SNR=13						
ATAH				LR	LR	11 35 21.8	
	comp=Z,506nm,20.8s,baz=112,slow=47						
NNA	**Nana**	**5.54**	**190**	Pn	**Pn**	**11 34 42.9**	**+1.2**
	3.8nm,0.3s,baz=360,slow=4.7,SNR=7.0						
NNA				Sn	**Sn**	**11 35 43.8**	**-0.4**
	20nm,0.3s,baz=146,slow=21,SNR=6.4						
NNA	**Nana**	**5.54**	**190**	Pn	**Pn**	**11 34 43.3**	**+1.6**
PTLC	**Puerto Leguiza**	**6.71**	**9**	*e*P	Pn	11 34 53.5	-4.2
PUAC	**Puerto Asis, P**	**7.03**	**354**	*e*P	**Pn**	**11 34 59.4**	**-2.7**
OTAV	**Otavalo**	**7.17**	**339**	*e*P	**Pn**	**11 35 05.2**	**+0.9**
OTAV	**Otavalo**	**7.17**	**339**	Pn	Pn	11 34 58.5	-5.8
GCUF	**Volcan Galeras**	**7.81**	**349**	*e*P	**Pn**	**11 35 10.7**	**-2.5**
FLOC	**Florencia**	**8.03**	**2**	*e*P	**Pn**	**11 35 15.0**	**-0.8**
CRUC	**La Cruz**	**8.08**	**352**	*e*P	**Pn**	**11 35 16.5**	**-0.3**
BBAC	**Balboa, Cauca**	**8.57**	**351**	*e*P	**Pn**	**11 35 19.1**	**-4.3**
GARC	**Garzon, Huila**	**8.63**	**3**	*e*P	**Pn**	**11 35 24.4**	**+0.1**
PCON	**Cinco Dias**	**8.78**	**357**	*e*P	**Pn**	**11 35 26.1**	**-0.5**
MACC	**Macarena, Meta**	**8.82**	**13**	*e*P	**Pn**	**11 35 24.9**	**-1.7**
BETC	**Betania**	**9.13**	**3**	*e*P	**Pn**	**11 35 32.1**	**+1.2**
MARP	**Paez Belalcaza**	**9.28**	**359**	*e*P	**Pn**	**11 35 34.1**	**+0.9**
GUVC	**San Jose del G**	**9.55**	**20**	*e*P	**Pn**	**11 35 37.6**	**+1.0**
PRAC	**Prado**	**10.19**	**6**	*e*P	**Pn**	**11 35 46.2**	**+0.7**
ORTC	**Ortega, Tolima**	**10.35**	**3**	*e*P	**Pn**	**11 35 47.5**	**-0.2**
YOTC	**Yotoco, Valle**	**10.42**	**357**	*e*P	**Pn**	**11 35 49.7**	**+1.0**
ANIL	**Santa Ana**	**10.92**	**2**	*e*P	**Pn**	**11 36 01.9**	**+6.2**
TOLC	**Tolima**	**11.02**	**3**	*e*P	Pn	11 36 04.1	+7.0
CHIC	**Chingaza**	**11.26**	**11**	*e*P	**Pn**	**11 36 00.5**	**+0.1**
ROSC	**El Rosal**	**11.37**	**8**	Pn	**Pn**	**11 36 03.3**	**+1.4**
	1.9nm,0.3s,baz=19,slow=24,SNR=1.6						
ROSC				Lg	Lg	11 39 30.7	
	2.9nm,0.3s,baz=186,slow=24,SNR=2.5						
ROSC				LR	LR	11 41 18.5	
	comp=Z,222nm,20.4s,baz=204,slow=42						
ROSC	**El Rosal**	**11.37**	**8**	Pn		11 35 54.4	-7.5
GUY2C	**Guyana, Caldas**	**11.65**	**3**	*e*P	**Pn**	**11 36 06.9**	**+1.0**
NQRC	**Norcasia**	**12.02**	**5**	*e*P	**Pn**	**11 36 10.6**	**+0.1**
**

LVC	**Limon Verde**	**2.29**	**303**	P		**Pn**	**11 37 37.6**	**+1.1**
	43nm,0.3s,baz=138,slow=6.2,SNR=362							
LVC				S		**S**	**11 38 10.3**	**+0.9**
	30nm,0.3s,baz=197,slow=23,SNR=48							
LVC	**Limon Verde**	**2.29**	**303**	*eP*		**Pn**	**11 37 37.6**	**+1.1**
LVC				*eS*		**S**	**11 38 10.5**	**+1.1**
LVC	**Limon Verde**	**2.29**	**303**	*eP*		**Pn**	**11 37 37.3**	**+0.7**
LVC				*eS*		**S**	**11 38 10.7**	**+1.2**
LVC	**Limon Verde**	**2.29**	**303**	*eP*		**Pn**	**11 37 37.6**	**+1.1**
LVC				*eS*		**S**	**11 38 10.7**	**+1.2**
FSA	**Cafayete**	**2.36**	**161**	*eP*		**Pn**	**11 37 37.1**	**+0.1**
PB15	**IPOC Station P**	**2.52**	**285**	⇑*iP*		**Pn**	**11 37 40.0**	**+1.2**
PB15				*i* S		**S**	**11 38 14.2**	**+0.7**
PB15	**IPOC Station P**	**2.52**	**285**			**Pn**	**11 37 39.9**	**+1.1**
PB15	**IPOC Station P**	**2.52**	**285**	*eP*		**Pn**	**11 37 40.0**	**+1.2**
PB15				*eS*		**S**	**11 38 14.8**	**+1.3**
PB15				IAML			11 38 24.3	
	comp=Z,1μm,0.1s							
PB06	**IPOC Station P**	**2.78**	**294**	⇑*iP*		**Pn**	**11 37 42.7**	**+1.0**
PB06				*i* S		**S**	**11 38 18.4**	**-0.2**
PB06				IAML			11 38 20.6	
	comp=N,840nm,0.1s							
PB06	**IPOC Station P**	**2.78**	**294**			**Pn**	**11 37 42.6**	**+1.0**
PB06	**IPOC Station P**	**2.78**	**294**	*eP*		**Pn**	**11 37 42.6**	**+0.9**
PB06				*eS*		**S**	**11 38 18.9**	**+0.2**
PB06				IAML			11 38 22.2	
	comp=Z,470nm,0.3s							
GO02	**Mina Guanaco**	**2.83**	**242**	*eP*		**Pn**	**11 37 43.5**	**+1.1**
GO02				*eS*		**S**	**11 38 20.9**	**+1.0**
GO02				IAML			11 38 23.2	
	comp=N,1μm,0.2s							
GO02	**Mina Guanaco**	**2.83**	**242**	Pn		**Pn**	**11 37 43.4**	**+1.1**
PB09	**IPOC Station P**	**3.04**	**312**	⇑*iP*		**Pn**	**11 37 45.8**	**+1.1**
PB09				*i* S		**S**	**11 38 25.0**	**+1.0**
PB09	**IPOC Station P**	**3.04**	**312**			**Pn**	**11 37 45.8**	**+1.1**
PB09	**IPOC Station P**	**3.04**	**312**	*eS*		**S**	**11 38 25.3**	**+1.2**
PB09				IAML			11 38 30.5	
	comp=Z,278nm,0.4s							
PB03	**IPOC Station P**	**3.25**	**303**	⇑*iP*		**Pn**	**11 37 47.8**	**+0.6**
PB03				*eS*		**S**	**11 38 28.1**	**-0.4**
PB03	**IPOC Station P**	**3.25**	**303**	*eS*		**S**	**11 38 27.6**	**-0.9**
PB03				IAML			11 38 29.7	
	comp=Z,516nm,0.3s							
PB05	**IPOC Station P**	**3.27**	**287**	⇑*eP*		**Pn**	**11 37 47.8**	**+0.5**
PB05				*eS*		**S**	**11 38 28.0**	**-0.8**
PB05	**IPOC Station P**	**3.27**	**287**	*eP*		**Pn**	**11 37 47.6**	**+0.3**
PB05				*eS*		**S**	**11 38 27.9**	**-0.8**
PB05				IAML			11 38 31.5	
	comp=Z,195nm,0.4s							
PB14	**IPOC Station P**	**3.35**	**256**	Pn		**Pn**	**11 37 49.0**	**+0.5**
PB14	**IPOC Station P**	**3.35**	**256**	*eP*		**Pn**	**11 37 49.0**	**+0.5**
PB14				*eS*		**S**	**11 38 30.4**	**-0.5**
PB14				IAML			11 38 32.1	
	comp=Z,193nm,0.6s							
PB04	**IPOC Station P**	**3.42**	**296**	⇑*iP*		**Pn**	**11 37 49.8**	**+0.6**
PB04				*i* S		**S**	**11 38 31.8**	**-0.4**
PB04	**IPOC Station P**	**3.42**	**296**			**Pn**	**11 37 49.7**	**+0.6**
PB04	**IPOC Station P**	**3.42**	**296**	*eP*		**Pn**	**11 37 49.8**	**+0.6**
PB04				*eS*		**S**	**11 38 31.7**	**-0.4**
PB04				IAML			11 38 33.7	
	comp=Z,406nm,0.3s							
PB10	**IPOC Station P**	**3.44**	**275**	⇑*iP*		**Pn**	**11 37 50.1**	**+0.9**
PB10				*i* S		**S**	**11 38 31.8**	**-0.4**
PB10	**IPOC Station P**	**3.44**	**275**	Pn		**Pn**	**11 37 50.1**	**+0.9**
PB10	**IPOC Station P**	**3.44**	**275**	*eP*		**Pn**	**11 37 49.9**	**+0.7**
PB10				*eS*		**S**	**11 38 31.5**	**-0.7**
PB10				IAML			11 38 34.8	
	comp=Z,184nm,0.3s							
PB07	**IPOC Station P**	**3.54**	**306**	⇑*iP*		**Pn**	**11 37 51.0**	**+0.4**
PB07				*i* S		**S**	**11 38 33.2**	**-1.6**
PB07	**IPOC Station P**	**3.54**	**306**			**Pn**	**11 37 51.0**	**+0.4**
AC02	**Maricunga**	**3.62**	**215**	Pn		**Pn**	**11 37 52.9**	**+1.2**
PB01	**IPOC Station P**	**3.74**	**318**	*eP*		**Pn**	**11 37 53.2**	**+0.3**
PB01				*eS*		**S**	**11 38 37.6**	**-1.4**
PB01	**IPOC Station P**	**3.74**	**318**			**Pn**	**11 37 53.1**	**+0.2**
AC01	**Pan de Azucar**	**4.11**	**236**	*eP*		**Pn**	**11 37 57.2**	**-0.2**
AC01				*i* S		**S**	**11 38 46.2**	**-0.8**
AC01	**Pan de Azucar**	**4.11**	**236**	Pn		**Pn**	**11 37 57.1**	**-0.2**
AC01						**S**	**11 38 45.2**	**-1.8**
PB08	**IPOC Station P**	**4.29**	**329**	*eP*		**Pn**	**11 38 00.8**	**+0.8**
PB08				*eS*		**S**	**11 38 51.2**	**-0.6**
PB08	**IPOC Station P**	**4.29**	**329**			**Pn**	**11 38 00.5**	**+0.4**
PATCX	**Punta Patache**	**4.33**	**314**	⇑*eP*		**Pn**	**11 37 59.3**	**-0.8**
PATCX				*eS*		**S**	**11 38 49.8**	**-2.2**
PATCX	**Punta Patache**	**4.33**	**314**			**Pn**	**11 37 59.0**	**-1.1**
TA01	**Diego Aracena**	**4.53**	**316**	*eP*		**Pn**	**11 38 02.2**	**-0.4**
TA01				*eS*		**S**	**11 38 53.6**	**-2.8**
TA01	**Diego Aracena**	**4.53**	**316**			**Pn**	**11 38 02.1**	**-0.4**
GO01	**Chusmiza**	**4.73**	**332**			**Pn**	**11 38 05.8**	**+0.2**
GO03	**Copiap**	**4.82**	**219**	*eP*		**Pn**	**11 38 05.7**	**-0.5**
GO03				*eS*		**S**	**11 39 02.3**	**-0.8**
GO03	**Copiap**	**4.82**	**219**			**Pn**	**11 38 05.9**	**-0.3**
PB11	**IPOC Station P**	**4.86**	**327**	Pn		**Pn**	**11 38 06.1**	**-0.9**
PSGCX	**Pisagua**	**5.24**	**324**			**Pn**	**11 38 10.9**	**-0.8**
MNMC	**Minye Minye**	**5.38**	**331**			**Pn**	**11 38 13.1**	**-0.4**
AC04	**Llanos de Chal**	**5.77**	**221**	Pn		**Pn**	**11 38 17.2**	**-1.0**
AGUA	**GUANDACOL**	**5.79**	**195**	*eP*		**Pn**	**11 38 18.6**	**0.0**
AGUA				*eS*		**S**	**11 39 25.9**	**+0.3**
AGUA				IAML			11 39 27.6	
	comp=Z,27nm,1.6s							
AC05	**El Transito**	**5.83**	**211**	Pn		**Pn**	**11 38 18.9**	**-0.3**
PB16	**IPOC Station P**	**6.05**	**335**			**Pn**	**11 38 22.2**	**-0.2**
PB12	**IPOC Station P**	**6.17**	**327**	Pn		**Pn**	**11 38 22.4**	**-1.1**
LCO	**Las Campanas**	**6.19**	**213**	Pn		**Pn**	**11 38 22.9**	**-0.9**
ACDV	**Cuesta del Vie**	**6.60**	**198**	*eP*		**Pn**	**11 38 29.8**	**+0.7**
ACDV				IAML			11 40 02.3	
	comp=Z,18nm,3.6s							
AROD	**Rodeo**	**6.70**	**200**	*eP*		**Pn**	**11 38 31.2**	**+0.7**
AROD				*eS*		**S**	**11 39 49.0**	**+1.7**
ACCO	**Cerro Coronel**	**6.98**	**196**	*eP*		**Pn**	**11 38 34.4**	**+0.3**
ACCO				*eS*		**S**	**11 39 52.8**	**-1.1**
ACCO				IAML			11 40 53.9	
	comp=Z,23nm,4.2s							
GO04	**Tololo Observa**	**7.21**	**209**	Pn		**Pn**	**11 38 35.6**	**-1.4**
TCA	**Tanti**	**7.70**	**166**	*eP*		**Pn**	**11 38 41.9**	**-1.2**
TCA				*eS*		**S**	**11 40 06.2**	**-4.2**
CO03	**El Pedregal**	**7.75**	**205**	Pn		**Pn**	**11 38 42.4**	**-1.4**
CO02	**Combarbal**	**8.19**	**206**	Pn		**Pn**	**11 38 48.5**	**-1.1**
CPUP	**Villa Florida**	**8.95**	**108**	P		**Pn**	**11 38 56.9**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=294,slow=9.5,SNR=12							
SIV	**San Ignacio**	**9.52**	**36**	P		**Pn**	**11 39 03.9**	**-2.9**
	comp=Z,1.2nm,0.3s,baz=223,slow=6.2,SNR=7.6							
MT02	**Curacav**	**10.09**	**201**	Pn		**Pn**	**11 39 13.0**	**-1.0**
AQDB	**Aquidauana**	**10.84**	**74**	*eP*		**Pn**	**11 39 22.9**	**-0.8**
PTLB	**Pontes e Lacer**	**11.07**	**42**	*eP*		**Pn**	**11 39 25.7**	**-0.9**
PTLB				*eS*		**S**	**11 41 30.0**	**+0.8**
VILB	**Vilhena**	**12.54**	**31**	*eP*		**Pn**	**11 39 43.6**	**-1.7**
TRCB	**Terra Rica**	**13.08**	**88**	*eP*		**P**	**11 39 52.5**	**-2.3**
SALV	**Santo Antonio**	**13.12**	**55**	*eP*		**Pn**	**11 39 50.7**	**-1.8**
PTGB	**Pitanga**	**13.48**	**97**	*eP*		**P**	**11 39 59.7**	**+0.4**
PTGB				*eS*		**S**	**11 42 32.0**	**+5.4**
ITAB	**Concordia**	**13.68**	**107**	*eP*		**P**	**11 40 00.9**	**-0.4**
C2SB	**Chapadao do Su**	**13.98**	**71**	*eP*		**P**	**11 40 03.6**	**-1.1**
PCMB	**Pacaembu**	**14.53**	**84**	*eP*		**P**	**11 40 11.2**	**+0.3**
PCMB				*eS*		**S**	**11 42 52.8**	**+1.8**
FRTB	**Fartura**	**15.83**	**92**	*eP*		**Pn**	**11 40 25.1**	**-0.5**
ITRB	**Iturama**	**15.84**	**78**	*eP*		**Pn**	**11 40 25.1**	**-0.7**
ARAG	**Araguaiana, MT**	**16.28**	**63**	*eP*		**Pn**	**11 40 29.9**	**-1.2**
CLDB	**Colider**	**16.65**	**41**	*eP*		**P**	**11 40 32.4**	**-1.9**
PLCA	**Paso Flores**	**17.10**	**190**	P		**Pn**	**11 40 40.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=23,slow=15,SNR=6.6							
VAO	**Valinhos**	**18.24**	**91**	*eP*		**P**	**11 40 50.6**	**-1.1**
IPMB	**Ipameri, GO**	**18.34**	**75**	*eP*		**P**	**11 40 52.3**	**-0.4**
BDFB	**Brasilia**	**19.49**	**69**	P		**P**	**11 41 03.9**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=240,slow=13,SNR=8.2							
BDFB	**Brasilia**	**19.49**	**69**	P		**P**	**11 41 04.0**	**-1.2**
NPGB	**Novo Progresso**	**20.02**	**35**	*eP*		**P**	**11 41 08.1**	**-2.8**
MC01	**Montes Claros**	**22.59**	**76**	*eP*		**P**	**11 41 34.7**	**-2.0**
JANB	**Januaria**	**22.94**	**72**	*eP*		**P**	**11 41 35.7**	**-4.1**
CAM01	**Campos-RJ**	**23.27**	**90**	*eP*		**P**	**11 41 41.7**	**-1.0**
SMTB	**Santa Maria do**	**23.68**	**54**	*eP*		**P**	**11 41 44.9**	**-1.7**
SDBA	**SAO DESIDERIO**	**23.70**	**65**	*eP*		**P**	**11 41 45.2**	**-1.6**
PRPB	**Parauapebas**	**24.02**	**46**	*eP*		**P**	**11 41 47.6**	**-2.0**
TEIG	**Tepich**	**48.56**	**333**	P		**P**	**11 45 16.7**	**+0.7**
	comp=Z,2.4nm,0.5s,baz=138,slow=6.1,SNR=2.1							
TEIG	**Tepich**	**48.56**	**333**	P		**P**	**11 45 14.9**	**-1.0**
TEIG				IAmb		IAmb	11 46 22.6	
	comp=Z,13nm,1.2s							
VNA3	**Neumayer Olymp**	**57.22**	**161**	P		**P**	**11 46 20.3**	**+1.7**
VNA2	**Neumayer--Watz**	**57.78**	**160**	P		**P**	**11 46 24.3**	**+1.8**
	baz=292,slow=7.0							
SNAA	**Sanae**	**59.42**	**161**	P		**P**	**11 46 35.4**	**+1.6**
SNAA	**Sanae**	**59.42**	**161**	P		**P**	**11 46 35.5**	**+1.6**
SNAA				IAmb		IAmb	11 46 35.8	
	comp=Z,10nm,1.6s							
WVT	**Waverly**	**62.89**	**341**	P		**P**	**11 46 56.9**	**-0.6**
WVT				IAmb		IAmb	11 46 58.2	
	comp=Z,3.8nm,0.8s							
TXAR	**Lajitas Array**	**63.67**	**324**	P		**P**	**11 47 04.2**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=146,slow=7.8,SNR=8.2							
TXAR	**Lajitas Array**	**63.67**	**324**	P		**P**	**11 47 03.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**76.37**	**69**	P		**P**	**11 48 19.6**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=259,slow=5.8,SNR=9.7							
TORD	**Torodi Ar. Bea**	**76.37**	**69**	IAmb		IAmb	11 48 21.6	
	comp=Z,1.2nm,0.7s							
PDAR	**Pinedale Array**	**77.12**	**329**	P		**P**	**11 48 25.7**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=130,slow=8.8,SNR=3.7							
MAW	**Mawson**	**81.51**	**163**	P		**P**	**11 48 48.7**	**+1.5**
	comp=Z,1.0nm,0.4s,baz=198,slow=12,SNR=3.7							
ASAR	**Alice Springs**	**128.64**	**205**	PKP		**PKiKP**	**11 55 38.1**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=131,slow=2.2,SNR=6.4							
WRA	**Warramunga Arr**	**131.82**	**207**	PKP		**PKiKP**	**11 55 44.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=158,slow=1.7,SNR=10							
PETK	**Petropavlovsk-**	**135.61**	**323**	PKP		**PKiKP**	**11 55 50.5**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=137,slow=3.1,SNR=1.6							
ZALV	**Zalesovo Beam**	**143.20**	**28**	PKP		PKPbc	11 56 00.8	+0.9
	comp=Z,0.7nm,0.4s,baz=309,slow=4.6,SNR=2.0							

KRNET ***07*** *11:38:11.9±0.1, 41°.16N×74°.28E, h30km, mb2.8*
SOME ***07*** *11:38:11.2, 41°.13N×74°.35E, h10km*
NNC ***07*** *11:38:12.5±0.7, 41°.11N×74°.38E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=4.7km s-min=3.3km az=179.0*
KNET ***07*** *11:38:13.7±0.4, 41°.23N×74°.34E, h5km±2km, ml2.3, Error ellipse: s-maj=2.8km s-min=2.4km az=7.0*

ISC 07 11:38:08.0±0.9, 41°.01N±0°.03×74°.39E±0°.02, h10km, n65, σ1§10/108, 29C-33D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.85**	**357**	⇑*iP*			**Pn**	**11 38 25.7**	**-0.5**
	baz=3.0								
ARLS				⇑*iS*			**Sg**	**11 38 35.3**	**-0.2**
	baz=3.0								
ARSB	**Arslanbob**	**1.11**	**287**	⇑*iP*			**Pn**	**11 38 30.4**	**+0.6**
ARSB	baz=80			⇑*iS*			**Sb**	**11 38 43.9**	**0.0**
	baz=80								
UCH	**Uchtor**	**1.22**	**4**	⇓*iP*			**Pn**	**11 38 32.0**	**+0.4**
UCH	baz=9.0			⇓*iS*			**Sg**	**11 38 46.6**	**-0.7**
	baz=9.0								
UCH	**Uchtor**	**1.22**	**4**	⇑P			**Pn**	**11 38 33.3**	**+1.8**
	16nm,0.1s,SNR=108								
UCH				⇓S			**Sn**	**11 38 49.2**	**+0.8**
	27nm,0.2s								
AML	**Almayashu**	**1.23**	**335**	⇑*iP*			**Pg**	**11 38 31.8**	**0.0**
	baz=36								
AML				⇑*iS*			**Sb**	**11 38 46.3**	**-1.5**
	baz=36								
AML	**Almayashu**	**1.23**	**335**	⇓P			**Pg**	**11 38 33.2**	**+1.5**
	34nm,0.2s,SNR=23								
AML				⇑S			**Sn**	**11 38 48.7**	**+0.1**
	67nm,0.3s								
KZA	**Kyzart**	**1.25**	**31**	⇓*iP*			**Pg**	**11 38 33.6**	**+1.6**
	baz=38								
KZA				⇓*iS*			**Sn**	**11 38 49.1**	**+0.1**
	baz=38								
KZA	**Kyzart**	**1.25**	**31**	⇓P			**Pg**	**11 38 34.1**	**+2.1**
	9.0nm,0.2s,SNR=13								
KZA				⇑S			**Sn**	**11 38 51.1**	**+2.1**
	28nm,0.2s								
OHH	**Osh**	**1.31**	**249**	⇑*iP*			**Pg**	**11 38 35.5**	**+2.3**
	baz=41								
OHH				⇑*iS*			**Sg**	**11 38 52.8**	**+2.5**
	baz=41								
AAK	**Ala-Archa**	**1.63**	**3**	⇑*iP*			**Pg**	**11 38 38.9**	**-0.3**
	baz=6.0								
AAK				⇑*iS*			**Sb**	**11 38 58.4**	**-0.5**
	baz=6.0								
AAK	**Ala-Archa**	**1.63**	**3**	⇓P			**Pg**	**11 38 40.8**	**+1.6**
	12nm,0.1s,SNR=12								
AAK				S			**Sg**	**11 39 01.5**	**+1.2**
	36nm,0.2s								
AAK	**Ala-Archa**	**1.63**	**3**	⇓P			**Pg**	**11 38 40.9**	**+1.7**
	7.0nm,0.3s								
AAK				⇓S			**Sg**	**11 39 01.3**	**+1.0**
	28nm,0.5s								
KBK	**Karagaybulak**	**1.69**	**14**	⇑*iP*			**Pg**	**11 38 40.4**	**-0.2**
	baz=18								
KBK				⇑*iS*			**Sb**	**11 39 00.8**	**-0.1**
	baz=18								
KBK	**Karagaybulak**	**1.69**	**14**	⇓P			**Pg**	**11 38 42.6**	**+2.0**
	14nm,0.1s,SNR=6.8								
EKS2	**Erkin-Say**	**1.71**	**345**	⇑*iP*			**Pb**	**11 38 39.9**	**+0.3**
	baz=46								
EKS2				⇑*iS*			**Sn**	**11 38 59.9**	**-0.1**
	baz=46								
EKS2	**Erkin-Say**	**1.71**	**345**	⇓P			**Pg**	**11 38 42.0**	**+1.1**
	5.9nm,0.2s,SNR=7.3								
EKS2				⇓S			**Sg**	**11 39 04.2**	**+1.1**
	12nm,0.2s								
FRU1	**Bishkek**	**1.81**	**6**	⇑*iP*			**Pb**	**11 38 41.6**	**+0.4**
	baz=9.0								
FRU1				⇑*iS*			**Sb**	**11 39 03.1**	**-0.8**
	baz=9.0								
ULHL	**Ulahol**	**1.86**	**48**	⇓*iP*			**Pg**	**11 38 43.8**	**+0.1**
	baz=53								
ULHL				⇓*iS*			**Sg**	**11 39 07.0**	**-0.7**
	baz=53								
MRKS	**Merke**	**1.94**	**334**	⇓*iP*			**Pg**	**11 38 45.6**	**+0.4**
	25nm,0.3s								
MRKS				⇓*iS*			**Sg**	**11 39 10.7**	**+0.4**
	77nm,0.4s								
MRKS	**Merke**	**1.94**	**334**	P			**Pg**	**11 38 45.6**	**+0.4**
	26nm,0.3s								
MRKS				S			**Sg**	**11 39 10.7**	**+0.4**
	77nm,0.5s								
CHMS	**Chumysh**	**2.00**	**8**	⇓*iP*			**Pb**	**11 38 44.3**	**-0.3**
	baz=11								
CHMS				⇓*iS*			**Sn**	**11 39 07.8**	**+0.7**
	baz=11								
CHMS	**Chumysh**	**2.00**	**8**	⇑P			**Pg**	**11 38 47.7**	**+1.3**
	12nm,0.2s,SNR=8.7								
CHMS				⇑S			**Sg**	**11 39 13.6**	**+1.1**
	11nm,0.2s								
TKM2	**Tokmak 2**	**2.11**	**25**	⇑*iP*			**Pb**	**11 38 46.5**	**0.0**
	baz=29								
TKM2				⇑*iS*			**Sb**	**11 39 11.6**	**-1.2**
	baz=29								
TKM2	**Tokmak 2**	**2.11**	**25**	⇓P			**Pg**	**11 38 49.6**	**+1.1**
	6.3nm,0.3s,SNR=8.0								
TKM2	**Tokmak 2**	**2.11**	**25**	⇑Pn			**Pg**	**11 38 49.5**	**+1.0**
	2.1nm,0.3s								
TKM2				⇑Lg			Lg	11 39 18.0	
	17nm,0.4s								
USP	**Ospenovka**	**2.25**	**2**	⇓*iP*			**Pb**	**11 38 47.6**	**-1.3**
	baz=4.0								
USP				⇓*iS*			**Sn**	**11 39 13.8**	**+0.5**
	baz=4.0								
KST	**Kastek**	**2.34**	**29**	⇓*iP*			**Pg**	**11 38 53.8**	**+0.8**
	3.2nm,0.2s								
KST				⇓*iS*			**Sg**	**11 39 24.7**	**+1.4**
	15nm,0.3s								
KST	**Kastek**	**2.34**	**29**	Pg			**Pg**	**11 38 53.8**	**+0.8**
	8.1nm,0.4s								
KST				Lg			Lg	11 39 24.7	
	21nm,0.3s								
KDJ	**Kajisay**	**2.37**	**61**	⇑*iP*			**Pb**	**11 38 51.1**	**+0.1**
	baz=65								
KDJ				⇑*iS*			**Sb**	**11 39 20.3**	**-0.1**
	baz=65								
DGS	**Degeres**	**2.45**	**24**	*eP*			**Pg**	**11 38 56.5**	**+1.4**
	12nm,0.4s								
DGS				*eS*			**Sg**	**11 39 29.4**	**+2.5**
	19nm,0.4s								
DGS	**Degeres**	**2.45**	**24**	Pg			**Pg**	**11 38 56.5**	**+1.4**
	12nm,0.4s								
DGS				Lg			Lg	11 39 29.4	
	19nm,0.4s								
MTBS	**Maitube**	**2.60**	**35**	*eP*			**Pg**	**11 38 58.5**	**+0.6**
	7.2nm,0.2s								
MTBS				*eS*			**Sg**	**11 39 32.9**	**+1.2**
	24nm,0.3s								
MTBS	**Maitube**	**2.60**	**35**	Pg			**Pg**	**11 38 58.5**	**+0.6**
	7.2nm,0.2s								
MTBS				Lg			Lg	11 39 32.9	
	24nm,0.3s								
TARG	**Taragay, Kyrgy**	**2.67**	**73**	⇓*iP*			**Pb**	**11 38 56.0**	**-0.1**
	baz=77								
TARG				⇓*iS*			**Sb**	**11 39 28.3**	**-0.8**
	baz=77								
TNSS	**Tian-Shan**	**2.78**	**42**	*eP*			**Pg**	**11 39 02.0**	**+0.7**
	4.3nm,0.2s								
TNSS				⇓*iS*			**Sg**	**11 39 38.8**	**+1.5**
	17nm,0.4s								
TNSS	**Tian-Shan**	**2.78**	**42**	Pg			**Pg**	**11 39 02.0**	**+0.7**
	4.3nm,0.2s								
TNSS				Lg			Lg	11 39 38.8	
	17nm,0.6s								
KRBS	**Karabastau**	**2.85**	**19**	*eP*			**Pg**	**11 39 02.4**	**-0.2**
	6.2nm,0.4s								
KRBS				*eS*			**Sg**	**11 39 39.5**	**0.0**
	9.2nm,0.5s								
KRBS	**Karabastau**	**2.85**	**19**	Pg			**Pg**	**11 39 02.4**	**-0.2**
	6.2nm,0.4s								
KRBS				Lg			Lg	11 39 39.4	
	9.2nm,0.5s								
BTK	**Batken**	**2.88**	**252**	⇑*iP*			**Pb**	**11 38 58.1**	**-1.5**
	baz=48								
BTK				⇑*iS*			**Sb**	**11 39 31.9**	**-3.1**
	baz=48								
MDOK	**Medeo**	**2.92**	**42**	*eP*			**Pg**	**11 39 04.2**	**+0.2**
	4.1nm,0.3s								
MDOK				*eS*			**Sg**	**11 39 42.7**	**+0.8**
	10nm,0.4s								
MDOK	**Medeo**	**2.92**	**42**	Pg			**Pg**	**11 39 05.0**	**+1.0**
	3.3nm,0.5s								
MDOK				⇓Lg			Lg	11 39 43.6	
	8.4nm,0.6s								
MDOK	**Medeo**	**2.92**	**42**	Pg			**Pg**	**11 39 04.2**	**+0.2**
	4.1nm,0.3s								
MDOK				Lg			Lg	11 39 42.7	
	10nm,0.4s								
KOTS	**Kotyrbulak**	**3.00**	**41**	*eP*			**Pg**	**11 39 05.4**	**-0.2**
	7.9nm,0.3s								
KOTS				*eS*			**Sg**	**11 39 45.0**	**+0.5**
	64nm,0.5s								
KOTS	**Kotyrbulak**	**3.00**	**41**	Pg			**Pg**	**11 39 05.4**	**-0.2**
	7.9nm,0.3s								
KOTS				Lg			Lg	11 39 45.0	
	64nm,0.5s								
ANVS	**Anan'yevo**	**3.02**	**53**	⇓*iP*			**Pb**	**11 39 00.3**	**-1.7**
	baz=56								
ANVS				⇓*iS*			**Sn**	**11 39 35.4**	**+3.0**
	baz=56								
KTBS	**Karatobe**	**3.19**	**31**	*eP*			**Pg**	**11 39 08.6**	**-0.5**
	2.0nm,0.3s								
KTBS				*eS*			**Sg**	**11 39 50.4**	**-0.1**
	22nm,0.5s								
KTBS	**Karatobe**	**3.19**	**31**	Pg			**Pg**	**11 39 08.6**	**-0.5**
	2.0nm,0.3s								
KTBS				Lg			Lg	11 39 50.4	
	22nm,0.5s								
KUU	**Kurty**	**3.22**	**26**	*eP*			**Pg**	**11 39 08.8**	**-0.9**
	2.5nm,0.3s								
KUU				⇓*iS*			**Sg**	**11 39 50.8**	**-0.6**
	12nm,0.5s								
KUU	**Kurty**	**3.22**	**26**	Pg			**Pg**	**11 39 08.8**	**-0.9**
	2.5nm,0.3s								
KUU				Lg			Lg	11 39 50.8	
	13nm,0.3s								
CHKK	**Chushkaly**	**3.43**	**33**	*eP*			**Pg**	**11 39 12.5**	**-1.2**
	1.5nm,0.1s								
CHKK				*eS*			**Sg**	**11 39 57.1**	**-1.0**
	9.4nm,0.2s								
CHKK	**Chushkaly**	**3.43**	**33**	Pg			**Pg**	**11 39 12.5**	**-1.2**
	1.5nm,0.1s						

14nm,0.3s,baz=257,slow=3.8,SNR=170
URZ Sn **Sn** **12 01 37.3 -2.8**
12nm,0.3s,baz=194,slow=23,SNR=8.2
URZ Urewera 6.04 219 P **Pn** **12 00 31.4 -0.7**
URZ S **Sn** **12 01 37.3 -2.8**
URZ Urewera 6.04 219 **Pn** **12 00 32.6 +0.4**
RAGZ Rawiri 6.07 216 P **Pn** **12 00 31.8 -0.8**
RIGZ Rimuhau 6.08 212 P **Pn** **12 00 31.5 -1.2**
PRGZ Paritu Road 6.20 210 P **Pn** **12 00 33.1 -1.3**
SNGZ Shannon Statio 6.33 214 P **Pn** **12 00 37.5 +1.4**
KARZ Kaharoa 6.35 225 P **Pn** **12 00 39.0 +2.5**
KNZ Kokohu 6.38 211 P **Pn** **12 00 35.7 -1.0**
RTZ Ruatahuna 6.38 217 P **Pn** **12 00 37.2 +0.4**
MUGZ Murupara 6.38 219 P **Pn** **12 00 38.0 +1.1**
MHGZ Mahia Peninsul 6.39 209 P **Pn** **12 00 38.9 +2.0**
RRRZ Republican Roa 6.42 221 P **Pn** **12 00 41.4 +4.0**
MKAZ Moumakai 6.51 236 P **Pn** **12 00 41.3 +2.7**
HSRZ Hossack Road 6.55 223 P **Pn** **12 00 41.6 +2.4**
PRRZ Plateau Road 6.60 221 P **Pn** **12 00 40.1 +0.3**
MTHZ Maungataniwha 6.63 217 P **Pn** **12 00 40.8 +0.5**
TOZ Tahuroa Road 6.63 230 P **Pn** **12 00 41.1 +0.9**
WCZ Waipu Caves 6.64 248 P **Pn** **12 00 42.5 +2.1**
ALRZ Allen Road 6.67 221 P **Pn** **12 00 41.7 +0.8**
ARHZ Aropaoanui 6.88 214 P **Pn** **12 00 43.6 -0.1**
BKZ Black Stump Fm 7.04 217 P **Pn** **12 00 45.6 -0.4**
BKZ S **Sn** **12 02 00.3 -4.5**
BKZ Black Stump Fm 7.04 217 **Pn** **12 00 45.6 -0.4**
OUZ Omahuta 7.05 255 P **Pn** **12 00 46.6 +0.6**
MCHZ McNeill Hill 7.16 214 P **Pn** **12 00 46.6 -1.0**
MCHZ S **Sn** **12 02 05.0 -2.7**
CKHZ Cape Kidnapper 7.16 211 P **Pn** **12 00 45.3 -2.2**
CKHZ S **Sn** **12 02 02.9 -4.8**
KWHZ Kaweka Forest 7.28 216 P **Pn** **12 00 49.9 +0.7**
KAHZ Kahuranaki 7.36 212 P **Pn** **12 00 50.1 -0.3**
MOVZ Moawhango 7.60 219 P **Pn** **12 00 53.1 -0.6**
PNHZ Pukenui 7.77 214 P **Pn** **12 00 54.6 -1.3**
MRZ Mangatainoka R 8.65 214 P **Pn** **12 01 04.9 -3.1**
TMWZ Te Maipa 8.87 211 P **Pn** **12 01 07.8 -3.2**
TUWZ Tuamarina 10.03 217 P **Pn** **12 01 23.9 -3.0**
DZM Mont Dzumac 17.85 306 LR LR 12 08 48.1
comp=Z,450nm,21.1s,baz=72,slow=34
PPT Papeete 30.15 65 LR LR 12 18 33.9
comp=Z,73nm,18.2s,baz=226,slow=38
CTA Charters Tower 34.37 284 P **P** **12 05 49.7 +0.5**
8.2nm,1.0s,baz=124,slow=7.3,SNR=3.4
CTAO Charters Tower 34.37 284 P **P** **12 05 47.2 -1.9**
ASAR Alice Springs 42.96 270 P **P** **12 07 00.3 -0.9**
4.3nm,0.8s,baz=110,slow=7.1,SNR=33
ASAR Alice Springs 42.96 270 P **P** **12 06 59.4 -1.9**
WR0 Warramunga Arr 44.06 276 P **P** **12 07 09.2 -0.9**
WR0 IAmb IAmb 12 07 10.7
comp=Z,6.2nm,0.9s
WB2 Warramunga Arr 44.23 276 P **P** **12 07 10.8 -0.6**
WB2 IAmb IAmb 12 07 10.9
comp=Z,11nm,1.1s
WRA Warramunga Arr 44.23 276 P **P** **12 07 10.4 -1.1**
comp=Z,7.7nm,0.8s,baz=117,slow=7.9,SNR=48
WRA Warramunga Arr 44.23 276 P **P** **12 07 10.4 -1.1**
WB0 Warramunga Arr 44.27 276 P **P** **12 07 10.8 -1.0**
CASY Casey 52.27 209 P **P** **12 08 14.9 +2.0**
FITZ Fitzroy Crossi 52.35 272 P **P** **12 08 13.3 -0.8**
FITZ IAmb IAmb 12 08 30.1
comp=Z,4.5nm,1.0s
PETK Petropavlovsk- 88.91 346 P **P** **12 11 56.7 +1.1**
comp=Z,4.2nm,1.0s,baz=120,slow=8.8,SNR=5.4
MKAR Makanchi Array 111.6 309 PKP **PKiKP** **12 17 52.2 +0.7**
comp=Z,0.4nm,0.8s,baz=82,slow=3.1,SNR=2.7
KURBB Kurchatov Arra 123.22 312 PKP **PKiKP** **12 17 59.6 +1.4**
comp=Z,0.7nm,0.7s,baz=107,slow=1.7,SNR=8.1
FINES FINESS Array B 148.12 338 PKPbc **PKiKP** **12 18 48.4 0.0**
comp=Z,2.6nm,0.7s,baz=90,slow=3.8,SNR=9.3
ASF Jabal al Asfar 150.67 277 PKPbc **PKiKP** **12 18 56.6 +1.9**
comp=Z,1.2nm,0.3s,baz=128,slow=4.1,SNR=4.7
NB2 NORSAR Subarra151.92 350 PKP **PKiKP** **12 18 59.8 +3.5**
comp=Z,3.0nm,1.0s,baz=16,slow=4.1
NOA NORSAR Array B151.92 350 PKPbc **PKiKP** **12 18 58.5 +2.3**
comp=Z,0.8nm,0.6s,baz=13,slow=4.1,SNR=4.3
MMAI Mount Meron Ar 152.07 278 PKPbc **PKiKP** **12 19 00.2 +2.7**
comp=Z,5.8nm,0.8s,baz=343,slow=1.7,SNR=7.5
AKASG Malin Array Be 153.74 319 PKPbc **PKiKP** **12 19 03.5 +3.2**
comp=Z,0.3nm,0.3s,baz=88,slow=1.8,SNR=4.0
BRTR Keskin Array B 153.92 293 PKPbc **PKiKP** **12 19 03.0 +1.7**
comp=Z,1.3nm,0.7s,baz=158,slow=4.0,SNR=4.2

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*IDC **07** 12:01:54.4±1.4, 16°.22S×167°.44E, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.8/38, mbtmp4.1/5, ML4.0/1, Error ellipse: s-maj=44.0km s-min=32.2km az=113.0*
ISC 07 12:01:57.9±1.1, 16°.4S±0°.1×167°.5E±0°.2, h20km, n8, σ1§14/10, mb4.0/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.69**	**190**	Pn		**Pn**	**Pn**	**12 03 21.5**	**+0.1**
	3.8nm,0.3s,baz=2.6,slow=1.3,SNR=26								
DZM				Sn		**Sn**	**Sn**	**12 04 24.6**	**-1.7**
	1.4nm,0.3s,baz=128,slow=22,SNR=6.3								
STKA	**Stephens Creek**	**28.08**	**232**	P		**P**	**P**	**12 07 48.8**	**+0.5**
	1.9nm,0.8s,baz=43,slow=11,SNR=1.9								
WRA	**Warramunga Arr**	**31.64**	**259**	PcP		**PcP**	**PcP**	**12 11 11.9**	**-0.1**
	0.5nm,0.7s,baz=88,slow=3.4,SNR=2.6								
ASAR	**Alice Springs**	**32.29**	**252**	P		**P**	**P**	**12 08 25.4**	**-0.3**
	2.1nm,0.7s,baz=76,slow=9.0,SNR=8.2								
ASAR				PcP		**PcP**	**PcP**	**12 11 14.0**	**+0.3**
	1.0nm,0.8s,baz=110,slow=3.7,SNR=6.6								
QSPA	**South Pole Qui**	**73.61**	**180**	P		**P**	**P**	**12 13 31.1**	**+1.5**
	4.2nm,0.8s,baz=4.4,slow=1.5,SNR=22								
ILAR	**Eielson Array**	**88.08**	**18**	P		**P**	**P**	**12 14 44.9**	**-1.6**
	0.2nm,0.5s,baz=234,slow=5.5,SNR=4.3								
SNAA	**Sanae**	**91.87**	**183**	P		**P**	**P**	**12 15 04.9**	**+0.5**
VNA2	**Neumayer--Watz**	**92.79**	**182**	P		**P**	**P**	**12 15 09.3**	**+0.7**

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*IDC **07** 12:11:28.8±1.2, 29°.31N×94°.62E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.5/49, mbtmp3.6/9, ML4.0/1, Error ellipse: s-maj=44.4km s-min=23.7km az=61.0*
ISC 07 12:11:34.0±1.2, 29°.4N±0°.2×94°.6E±0°.2, h35km, n9, σ0§48/9, mb3.8/7, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.89**	**334**	P		**P**	**P**	**12 16 02.8**	**+0.4**
	0.4nm,0.3s,baz=141,slow=12,SNR=16								
SONM	**Songino Array**	**20.57**	**23**	P		**P**	**P**	**12 16 10.1**	**+0.2**
	0.2nm,0.3s,baz=205,slow=12,SNR=0.9								
KURBB	**Kurchatov Arra**	**24.46**	**335**	P		**P**	**P**	**12 16 50.0**	**+0.4**
	1.6nm,0.6s,baz=147,slow=10,SNR=18								
ZALV	**Zalesovo Beam**	**25.59**	**347**	P		**P**	**P**	**12 16 59.9**	**+0.2**
	0.6nm,0.3s,baz=163,slow=10,SNR=1.4								
FINES	**FINESS Array B**	**54.47**	**327**	P		**P**	**P**	**12 20 58.1**	**+0.3**
	1.2nm,0.8s,baz=90,slow=9.7,SNR=3.3								
NOA	**NORSAR Array B**	**61.66**	**327**	P		**P**	**P**	**12 21 48.1**	**0.0**
	0.4nm,0.5s,baz=81,slow=6.6,SNR=1.9								
ASAR	**Alice Springs**	**64.85**	**140**	P		**P**	**P**	**12 22 10.2**	**+0.4**
	0.3nm,0.6s,baz=323,slow=6.1,SNR=5.9								
ILAR	**Eielson Array**	**74.80**	**23**	P		**P**	**P**	**12 23 09.6**	**-0.7**
	0.3nm,0.8s,baz=289,slow=5.6,SNR=2.9								
TORD	**Torodi Ar. Bea**	**86.18**	**283**	P		**P**	**P**	**12 24 11.8**	**-0.4**
	0.8nm,0.8s,baz=47,slow=3.5,SNR=3.6								

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*IDC **07** 12:30:37.0±0.7, 40°.11N×71°.80E, h0km, mb3.9/14, mb1 4.1/22, mb1mx3.9/55, mbtmp4.0/22, ML3.5/8, MS3.3/15, Ms1 3.4/15, ms1mx3.1/55, Error ellipse: s-maj=13.6km s-min=10.2km az=151.0*
*KRNET **07** 12:30:39.6±0.1, 40°.22N×71°.79E, h11km, mb4.4*
*MOS **07** 12:30:40.9±1.6, 40°.31N×71°.62E, h26km, mb4.6/12, Error ellipse: s-maj=9.6km s-min=5.2km az=71.4*
*ISU **07** 12:30:40.0, 40°.40N×71°.60E, h0km*
*SOME **07** 12:30:40.5, 40°.23N×71°.78E, h10km, MS3.6*
*NEIC **07** 12:30:42.9±2.8, 40°.26N±0°.06×71°.62E±0°.08, h36km±7km, mb4.5/10, Error ellipse: s-maj=10.0km s-min=6.7km az=133.0*
*BJI **07** 12:30:42.0±0.0, 40°.40N×71°.90E, h5km, mb3.8/4, ML3.8/1*
*NNC **07** 12:30:43.3±0.9, 40°.39N×71°.77E, h9km±4km, mb4.8, mpv4.5, Error ellipse: s-maj=7.1km s-min=3.7km az=16.0*
ISC 07 12:30:38.4±1.1, 40°.25N±0°.03×71°.89E±0°.02, h4km±7km, n212, σ2§12/245, mb4.2/30, MS3.4/10, 35C-48D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHMI	**Chimion**	**0.28**	**275**	*eP*		**Pb**	**Pb**	**12 30 45.5**	**-0.5**
CHMI				*eS*		**Sg**	**Sg**	**12 30 49.5**	**+2.0**
FRG	**Fergana**	**0.49**	**351**	*eP*		**Pg**	**Pg**	**12 30 44.8**	**-3.1**
FRG				*eS*		**Sg**	**Sg**	**12 30 48.8**	**-5.5**
ANR	**Andizhan**	**0.62**	**35**	*eP*		**Pn**	**Pn**	**12 30 55.2**	**+1.1**
ANR				*eS*		**Sn**	**Sn**	**12 31 06.3**	**+1.8**
OHH	**Osh**	**0.74**	**68**	⇑*iP*		**Pn**	**Pn**	**12 30 55.6**	**-0.1**
	baz=68								
OHH				⇑*iS*		**Sn**	**Sn**	**12 31 06.6**	**-0.9**
	baz=68								
BTK	**Batken**	**0.84**	**257**	⇓*iP*		**Pg**	**Pg**	**12 30 54.5**	**0.0**
	baz=58								
BTK				⇓*iS*		**Sg**	**Sg**	**12 31 05.1**	**-0.4**
	baz=58								
BTK	**Batken**	**0.84**	**257**	PG		**Pg**	**Pg**	**12 30 54.5**	**0.0**
BTK	**Batken**	**0.84**	**257**			**Pg**	**Pg**	**12 30 54.5**	**0.0**
BTK	**Batken**	**0.84**	**257**	*eP*		**Pg**	**Pg**	**12 30 54.1**	**-0.4**
BTK				*eS*		**Sg**	**Sg**	**12 31 05.0**	**-0.4**
ARSB	**Arslanbob**	**1.36**	**37**	⇓*iP*		**Pg**	**Pg**	**12 31 06.9**	**+2.5**
	baz=39								
ARSB				⇓*iS*		**Sn**	**Sn**	**12 31 26.3**	**+3.4**
	baz=39								
ARSB	**Arslanbob**	**1.36**	**37**	PG		**Pg**	**Pg**	**12 31 06.9**	**+2.5**
ARSB	**Arslanbob**	**1.36**	**37**			**Pg**	**Pg**	**12 31 06.9**	**+2.5**
ARSB	**Arslanbob**	**1.36**	**37**	*eP*		**Pg**	**Pg**	**12 31 06.6**	**+2.2**
ARSB				*eS*		**Sn**	**Sn**	**12 31 25.9**	**+3.0**
ARK	**Arkit**	**1.55**	**2**	⇓*iP*		**Pg**	**Pg**	**12 31 09.2**	**+1.1**
	baz=5.0								
ARK				⇓*iS*		**Sg**	**Sg**	**12 31 30.3**	**+2.1**
	baz=5.0								
ARK	**Arkit**	**1.55**	**2**	*eP*		**Pg**	**Pg**	**12 31 09.5**	**+1.4**
ARK				*eS*		**Sg**	**Sg**	**12 31 30.5**	**+2.3**
GAR	**Garm**	**1.74**	**225**			**Pb**	**Pb**	**12 31 11.4**	**+0.4**
CHMG	**Chimgan**	**1.93**	**313**	*eP*		**Pg**	**Pg**	**12 31 15.3**	**0.0**
CHMG				*eS*		**Sg**	**Sg**	**12 31 41.9**	**+1.5**
TAS	**Tashkent**	**2.25**	**300**	⇓*iP*		**Pb**	**Pb**	**12 31 19.0**	**-0.5**
	baz=1.0								
TAS				⇓*iS*		**Sb**	**Sb**	**12 31 48.2**	**+0.5**
	baz=1.0								
TAS	**Tashkent**	**2.25**	**300**	PN		**Pb**	**Pb**	**12 31 20.6**	**+1.1**
AML	**Almayashu**	**2.32**	**35**	⇑*iP*		**Pb**	**Pb**	**12 31 21.4**	**+0.3**
	baz=36								
AML				⇑*iS*		**Sg**	**Sg**	**12 31 52.9**	**-0.1**
	baz=36								
AML	**Almayashu**	**2.32**	**35**	P		**Pb**	**Pb**	**12 31 21.4**	**+0.3**
	SNR=57								
IUG	**Iuzhnay**	**2.36**	**324**	*eP*		**Pg**	**Pg**	**12 31 23.0**	**-0.6**
	2μm,0.4s								
IUG				*eS*		**Sg**	**Sg**	**12 31 54.1**	**-0.1**
	3μm,0.5s								
IUG	**Iuzhnay**	**2.36**	**324**	Pg		**Pg**	**Pg**	**12 31 23.6**	**0.0**
	2μm,0.4s								
IUG				Lg		Lg	Lg	12 31 53.0	
	3μm,0.5s								
ARLS	**Aral**	**2.45**	**48**	⇓*eP*		**Pb**	**Pb**	**12 31 23.9**	**+0.8**
	baz=49								
ARLS				⇓*iS*		**Sg**	**Sg**	**12 31 55.9**	**-1.1**
	baz=49								
CHGR	**Chuyangaron**	**2.64**	**234**			**Pb**	**Pb**	**12 31 24.4**	**-1.9**
DZA	**Taraz**	**2.68**	**351**	*eP*		**Pg**	**Pg**	**12 31 30.0**	**+0.4**
	350nm,0.1s								
DZA				*eS*		**Sg**	**Sg**	**12 32 04.5**	**+0.2**
	5μm,0.3s								
DZA	**Taraz**	**2.68**	**351**	Pg		**Pg**	**Pg**	**12 31 30.0**	**+0.4**
	350nm,0.1s								
DZA				Lg		Lg	Lg	12 32 04.5	
	5μm,0.3s								
MRKS	**Merke**	**2.69**	**21**	*eP*		**Pg**	**Pg**	**12 31 31.1**	**+1.2**
	155nm,0.3s								
MRKS				*eS*		**Sg**	**Sg**	**12 32 06.2**	**+1.4**
	512nm,0.3s								
MRKS	**Merke**	**2.69**	**21**	Pg		**Pg**	**Pg**	**12 31 31.1**	**+1.2**
	155nm,0.3s								
MRKS				Lg		Lg	Lg	12 32 06.2	
	512nm,0.3s								
EKS2	**Erkin-Say**	**2.80**	**30**	⇓*iP*		**Pb**	**Pb**	**12 31 28.1**	**-1.0**
	baz=31								
EKS2				⇓*iS*		**Sb**	**Sb**	**12 32 04.3**	**+0.6**
	baz=31								
EKS2	**Erkin-Say**	**2.80**	**30**	P		**Pb**	**Pb**	**12 31 28.0**	**-1.0**
	SNR=42								
UCH	**Uchtor**	**2.80**	**44**	⇓*eP*		**Pb**	**Pb**	**12 31 28.5**	**-0.7**
	baz=45								
UCH				⇓*iS*		**Sb**	**Sb**	**12 32 04.5**	**+0.4**
	baz=45								
UCH	**Uchtor**	**2.80**	**44**	P		**Pb**	**Pb**	**12 31 28.4**	**-0.9**
	SNR=71								
KK31	**Karatay Array**	**3.04**	**341**	⇓Pn		**Pn**	**Pn**	**12 31 29.4**	**+2.2**
	45nm,0.5s,baz=169,slow=15,SNR=1106								
KK31				⇓Pg		**Pg**	**Pg**	**12 31 35.8**	**-0.8**
	146nm,0.5s,baz=176,slow=18,SNR=19								
KK31				⇑Sn		**Sn**	**Sn**	**12 32 05.6**	**+1.5**
	275nm,0.7s								
KK31				⇑Lg		Lg	Lg	12 32 14.3	
	416nm,0.6s,baz=148,slow=30,SNR=7.1								
KK31	**Karatay Array**	**3.04**	**341**	PN		**Pg**	**Pg**	**12 31 35.7**	**-0.8**
KK31								12 32 05.5	
KK31								12 32 14.3	
KK31					pmax	pmax			
	comp=Z,146nm,0.5s								
KK31					smax	smax			
	comp=N,275nm,0.7s								
KK31					smax	smax			
	comp=Z,416nm,0.6s								
KK31	**Karatay Array**	**3.04**	**341**	Pn		**Pn**	**Pn**	**12 31 29.5**	**+2.2**
KKAR	**Karatay Array**	**3.04**	**341**	PN		**Pn**	**Pn**	**12 31 29.5**	**+2.3**
KKAR	**Karatay Array**	**3.04**	**341**			**Pn**	**Pn**	**12 31 28.9**	**+1.7**
KKAR	**Karatay Array**	**3.04**	**341**	Pn		**Pn**	**Pn**	**12 31 29.5**	**+2.3**
AAK	**Ala-Archa**	**3.09**	**38**	Pn		**Pb**	**Pb**	**12 31 32.4**	**-1.6**
	comp=Z,17nm,0.3s,baz=204,slow=5.7,SNR=35								
AAK				Lg		Lg	Lg	12 32 18.8	
	comp=Z,230nm,0.3s,baz=339,slow=20,SNR=28								
AAK				LR		LR	LR	12 33 06.8	
	comp=Z,367nm,18.8s,baz=204,slow=46								
AAK	**Ala-Archa**	**3.09**	**38**	⇓*iP*		**Pb**	**Pb**	**12 31 32.4**	**-1.6**
	baz=39								
AAK				⇓*iS*		**Sb**	**Sb**	**12 32 11.1**	**-1.0**
	baz=39								
AAK	**Ala-Archa**	**3.09**	**38**	P		**Pb**	**Pb**	**12 31 32.4**	**-1.6**
	SNR=36								
AAK	**Ala-Archa**	**3.09**	**38**	⇑Pn		**Pb**	**Pb**	**12 31 32.2**	**-1.8**
	comp=Z,122nm,0.8s								
AAK				⇑Pg		**Pg**	**Pg**	**12 31 40.3**	**+2.8**
	comp=Z,122nm,0.6s								
AAK				⇓Lg		Lg	Lg	12 32 21.9	
	comp=Z,1μm,0.5s								
AAK	**Ala-Archa**	**3.09**	**38**	*ce*PN		**Pb**	**Pb**	**12 31 32.3**	**-1.6**
AAK					pmax	pmax			
	comp=Z,31nm,0.7s								
KZA	**Kyzart**	**3.13**	**53**	⇓*iP*		**Pb**	**Pb**	**12 31 33.2**	**-1.6**
	baz=54								
KZA				⇓*iS*		**Sb**	**Sb**	**12 32 12.9**	**-0.6**
	baz=54								
KZA	**Kyzart**	**3.13**	**53**	P		**Pb**	**Pb**	**12 31 33.4**	**-1.5**
	SNR=81								
KSH	**Kashi**	**3.23**	**102**	Pn		**Pn**	**Pn**	**12 31 32.4**	**+2.4**
KSH				Sn		**Sg**	**Sg**	**12 32 20.4**	**-1.6**
FRU1	**Bishkek**	**3.29**	**38**	*eP*		**Pb**	**Pb**	**12 31 35.3**	**-2.0**
	baz=39								
FRU1				⇓*iS*		**Sb**	**Sb**	**12 32 15.6**	**-2.1**
	baz=39								
FRU1	**Bishkek**	**3.29**	**38**	PN		**Pb**	**Pb**	**12 31 35.8**	**-1.5**
FRU1	**Bishkek**	**3.29**	**38**			**Pb**	**Pb**	**12 31 35.8**	**-1.5**
KBK	**Karagaybulak**	**3.33**	**43**	P		**Pb**	**Pb**	**12 31 36.3**	**-1.8**
	SNR=82								
CHMS	**Chumysh**	**3.49**	**37**	⇑*eP*		**Pb**	**Pb**	**12 31 37.5**	**-3.2**
	baz=38								
CHMS				⇑*iS*		**Sb**	**Sb**	**12 32 20.8**	**-2.7**
	baz=38								
CHMS	**Chumysh**	**3.49**	**37**	P		**Pb**	**Pb**	**12 31 37.7**	**-3.0**
	SNR=29								
USP	**Ospenovka**	**3.59**	**32**	⇓*iP*		**Pb**	**Pb**	**12 31 38.8**	**-3.7**
	baz=33								
USP				⇓*iS*		**Sb**	**Sb**	**12 32 23.2**	**-3.3**
	baz=33								
USP	**Ospenovka**	**3.59**	**32**	P		**Pb**	**Pb**	**12 31 38.8**	**-3.7**
	SNR=27								
SAM	**Samarkand**	**3.81**	**263**	*eP*		**Pn**	**Pn**	**12 31 40.9**	**+3.0**
SAM				*eS*		**Sg**	**Sg**	**12 32 44.5**	**+3.8**
ULHL	**Ulahol**	**3.84**	**57**	⇑*eP*		**Pb**	**Pb**	**12 31 43.1**	**-3.8**
	baz=58								
ULHL				⇑*iS*		**Sb**	**Sb**	**12 32 29.8**	**-4.0**
	baz=58								
TKM2	**Tokmak 2**	**3.86**	**45**	⇓*iP*		**Pb**	**Pb**	**12 31 43.1**	**-4.0**
	baz=45								
TKM2				⇓*iS*		**Sb**	**Sb**	**12 32 29.8**	**-4.4**
	baz=45								
TKM2	**Tokmak 2**	**3.86**	**45**	P		**Pb**	**Pb**	**12 31 43.2**	**-4.0**
	SNR=48								
TKM2	**Tokmak 2**	**3.86**	**45**	⇓Pn		**Pb**	**Pb**	**12 31 43.1**	**-4.0**
	comp=Z,70nm,0.5s								
TKM2				⇑Lg		Lg	Lg	12 32 45.2	
	comp=Z,262nm,0.5s								
TKM2	**Tokmak 2**	**3.86**	**45**	PN		**Pb**	**Pb**	**12 31 43.0**	**-4.0**
KST	**Kastek**	**4.14**	**46**	*eP*		**Pg**	**Pg**	**12 31 58.7**	**+1.1**
	comp=Z,107nm,0.5s								
KST				*eS*		**Sg**	**Sg**	**12 32 53.2**	**+2.0**
	comp=Z,494nm,0.4s								
KST	**Kastek**	**4.14**	**46**	Pg		**Pg**	**Pg**	**12 31 58.7**	**+1.1**
	comp=Z,107nm,0.5s								
KST				Lg		Lg	Lg	12 32 53.2	
	comp=Z,494nm,0.4s								
DGS	**Degeres**	**4.17**	**43**	*eP*		**Pg**	**Pg**	**12 31 58.8**	**+0.6**
	comp=Z,86nm,0.5s								
DGS				*eS*		**Sg**	**Sg**	**12 32 53.1**	**+0.8**
	comp=Z,683nm,0.8s								
DGS	**Degeres**	**4.17**	**43**	Pg		**Pg**	**Pg**	**12 31 58.8**	**+0.6**
	comp=Z,86nm,0.5s								
DGS				Lg		Lg	Lg	12 32 53.1	
	comp=Z,683nm,0.8s								
KDJ	**Kajisay**	**4.41**	**63**	⇓*eP*		Pb	Pb	12 31 51.0	-5.6
	baz=63								
KDJ				⇓*iS*		**Sb**	**Sb**	**12 32 43.7**	**-6.5**
	baz=63								
KDJ	**Kajisay**	**4.41**	**63**	PN		**Pn**	**Pn**	**12 31 50.5**	**+4.2**
KDJ	**Kajisay**	**4.41**	**63**	Pn		**Pn**	**Pn**	**12 31 50.5**	**+4.2**
KRBS	**Karabastau**	**4.46**	**38**	*eP*		**Pg**	**Pg**	**12 32 03.4**	**-0.3**
	comp=Z,45nm,0.6s								
KRBS				*eS*		**Sg**	**Sg**	**12 33 01.3**	**-0.1**
	comp=Z,183nm,0.7s								
KRBS	**Karabastau**	**4.46**	**38**	Pg		**Pg**	**Pg**	**12 32 03.4**	**-0.3**
	comp=Z,45nm,0.6s								
KRBS				Lg		Lg	Lg	12 33 01.3	
	comp=Z,183nm,0.7s								
MTBS	**Maitube**	**4.46**	**48**	*eP*		**Pg**	**Pg**	**12 32 03.9**	**+0.2**
	comp=Z,34nm,0.3s								
MTBS				⇑*iS*		**Sg**	**Sg**	**12 33 02.6**	**+1.1**
	comp=Z,231nm,0.5s								
MTBS	**Maitube**	**4.46**	**48**	Pg		**Pg**	**Pg**	**12 32 03.9**	**+0.2**
	comp=Z,34nm,0.3s								
MTBS				Lg		Lg	Lg	12 33 02.6	
	comp=Z,231nm,0.5s								
IZV	**Izvestkoviy**	**4.50**	**50**	*eP*		**Pg**	**Pg**	**12 32 04.9**	**+0.2**
	comp=Z,37nm,0.4s								
IZV				*eS*		**Sg**	**Sg**	**12 33 04.1**	**+1.0**
	comp=Z,170nm,0.6s								
IZV	**Izvestkoviy**	**4.50**	**50**	Pg		**Pg**	**Pg**	**12 32 04.9**	**+0.2**
	comp=Z,37nm,0.4s								
IZV				Lg		Lg	Lg	12 33 04.1	
	comp=Z,170nm,0.6s								
TNSS	**Tian-Shan**	**4.71**	**52**	*eP*		**Pg**	**Pg**	**12 32 07.7**	**-0.8**
	comp=Z,51nm,0.5s								
TNSS				*eS*		**Sg**	**Sg**	**12 33 08.8**	**-0.6**
	comp=Z,149nm,0.4s								
TNSS	**Tian-Shan**	**4.71**	**52**	Pg		**Pg**	**Pg**	**12 32 07.7**	**-0.8**
	comp=Z,51nm,0.5s								
TNSS				Lg		Lg	Lg	12 33 08.8	
	comp=Z,149nm,0.4s								
TARG	**Taragay, Kyrgy**	**4.72**	**70**	⇑*iP*		Pn	Pn	12 31 55.7	+5.0
	baz=70								
TARG				⇑*iS*		**Sn**	**Sn**	**12 32 50.5**	**+4.4**
	baz=70								
TARG	**Taragay, Kyrgy**	**4.72**	**70**	Pn		Pn	Pn	12 31 55.4	+4.7
AAA	**Alma-Ata**	**4.79**	**50**	*eP*		**Pg**	**Pg**	**12 32 11.7**	**+1.6**
	comp=Z,40nm,0.2s								
AAA				*eS*		**Sg**	**Sg**	**12 33 15.4**	**+3.3**
	comp=Z,208nm,0.6s								
AAA	**Alma-Ata**	**4.79**	**50**	Pg		**Pg**	**Pg**	**12 32 11.7**	**+1.6**
	comp=Z,40nm,0.2s								
AAA				Lg		Lg	Lg	12 33 15.4	
	comp=Z,208nm,0.6s								
AAA	**Alma-Ata**	**4.79**	**50**	*e*PN		**Pg**	**Pg**	**12 32 11.6**	**+1.6**
AAA					pmax	pmax	pmax		
	comp=Z,40nm,0.3s								
KNDC	**Almaty**	**4.82**	**50**	⇑Pn		Pn	Pn	12 31 56.8	+5.0
	comp=Z,37nm,0.4s								
KNDC				⇓Pg		**Pg**	**Pg**	**12 32 11.1**	**+0.4**
	comp=Z,47nm,0.5s								
KN

UZB Uzynbulak 6.08 59 *e*P **Pg 12 32 35.1 +0.4**
comp=Z,9.6nm,0.5s
UZB *e*S **Sg 12 33 55.7 +2.3**
comp=Z,73nm,0.7s
UZB Uzynbulak 6.08 59 Pg **Pg 12 32 34.6 -0.1**
comp=Z,9.6nm,0.5s
UZB Lg Lg 12 33 54.8
comp=Z,73nm,0.7s
KBL Kabul 6.13 203 PN **Pn 12 32 13.4 +3.5**
KBL Kabul 6.13 203 Pn **Pn 12 32 13.4 +3.5**
SHLS Shalkode 6.37 60 Pg Pg 12 32 45.7 +5.3
comp=Z,31nm,0.5s
SHLS Lg Lg 12 34 14.2
comp=Z,108nm,0.7s
CEP Cherat 6.41 180 P **Pn 12 32 17.7 +4.0**
PDGK Podgornoye 6.46 59 Pg **Pg 12 32 42.6 +0.5**
comp=Z,6.5nm,0.6s
PDGK Lg Lg 12 34 08.7
comp=Z,26nm,0.8s
PDGK Podgornoye 6.46 59 ⇑Pn **Pn 12 32 18.1 +3.7**
comp=Z,4.3nm,0.5s
PDGK ⇓Pg **Pg 12 32 40.9 -1.2**
comp=Z,13nm,0.7s
PDGK ⇓Lg Lg 12 34 10.3
comp=Z,106nm,0.9s
PDGK Podgornoye 6.46 59 PN **Pn 12 32 17.8 +3.4**
PDGK 12 32 43.7
CHCP Chirah Chowk 6.67 170 P **Pn 12 32 21.7 +4.5**
NIL Nilore 6.67 170 PN **Pn 12 32 21.2 +3.9**
NIL Nilore 6.67 170 Pn **Pn 12 32 21.2 +3.9**
KTMS Ketmen 7.08 60 Pg **Pg 12 32 53.8 -0.1**
comp=Z,0.2nm,0.1s
KTMS Lg Lg 12 34 28.1
comp=Z,27nm,0.5s
DJR Jarkent 7.14 53 Pg **Pg 12 32 54.2 -0.8**
comp=Z,8.1nm,0.6s
DJR Lg Lg 12 34 28.3
comp=Z,59nm,0.7s
KAPS Kapalarasan 7.45 45 Pg **Pg 12 32 58.6 -2.4**
comp=Z,6.5nm,0.6s
KAPS Lg Lg 12 34 35.4
comp=Z,47nm,0.6s
OTUK Ortayu 8.00 2 ⇓Pn **Pn 12 32 37.3 +1.9**
comp=Z,4.8nm,0.6s
OTUK ⇓Lg Lg 12 34 53.5
comp=Z,92nm,0.7s
OTUK Ortayu 8.00 2 P **Pn 12 32 36.3 +0.9**
THN Thein Dam 8.38 157 *e*P **Pn 12 32 43.5 +2.8**
THN *e*S **Sn 12 34 13.0 -2.8**
DHRM DHARAMSHALA 8.74 155 *e*P **Pn 12 32 47.3 +1.6**
DHRM *e*S **Sn 12 34 21.6 -3.2**
DHRM IAML 12 34 28.5
comp=N,150nm,0.3s
DHRM IAML 12 34 29.0
comp=E,209nm,0.6s
HRA Herat 9.65 236 Pn **Pn 12 32 57.4 -0.9**
BRZS Berezniki 9.75 3 Pg Pn 12 33 41.1 +42
comp=E,15nm,0.6s
BRZS Lg Lg 12 35 49.4
comp=E,64nm,0.8s
MAKZ Makanchi 9.83 45 ⇓Pn **Pn 12 33 03.0 +2.5**
comp=E,6.4nm,1.1s
MAKZ ⇑Lg Lg 12 35 56.7
comp=E,11nm,0.7s
MAKZ Makanchi 9.83 45 P **Pn 12 33 03.2 +2.7**
MAKZ Makanchi 9.83 45 Pn **Pn 12 33 03.2 +2.7**
MK31 Makanchi Array 9.99 46 ⇓Pn **Pn 12 33 05.3 +2.7**
comp=E,1.3nm,0.5s,baz=225,slow=12,SNR=18
MK31 ⇑Lg Lg 12 36 02.5
comp=E,15nm,0.8s,baz=233,slow=29,SNR=3.5
MK31 Makanchi Array 9.99 46 P **Pn 12 33 05.6 +2.9**
MK31 Makanchi Array 9.99 46 Pn **Pn 12 33 05.6 +2.9**
MKAR Makanchi Array 9.99 46 Pn **Pn 12 33 05.6 +2.9**
comp=E,0.7nm,0.3s,baz=227,slow=14,SNR=22
MKAR Lg Lg 12 35 53.6
comp=E,0.9nm,0.3s,baz=267,slow=36,SNR=3.2
MKAR LR LR 12 37 22.1
comp=E,108nm,19.2s,baz=210,slow=40
MKAR Makanchi Array 9.99 46 **Pn 12 33 05.4 +2.7**
SMLA Simla 10.06 153 *i* x x 12 33 05.2
SMLA *e*P **Pn 12 33 06.3 +2.8**
SMLA *e*S **Sn 12 34 51.4 -5.5**
SMLA IAML 12 34 58.4
comp=N,53nm,0.3s
SMLA IAML 12 34 58.7
comp=E,91nm,0.6s
GEYT Alibeck 10.95 262 Pn **Pn 12 33 12.5 -3.4**
comp=E,0.6nm,0.3s,baz=78,slow=14,SNR=2.6
GEYT Sn Sn 12 35 08.3 -11
comp=E,0.4nm,0.3s,baz=122,slow=44,SNR=1.9
GEYT Alibeck 10.95 262 **Pn 12 33 14.2 -1.7**
KURBB Kurchatov Arra 11.37 22 Pn **Pn 12 33 21.1 -0.4**
comp=E,0.5nm,0.3s,baz=213,slow=12,SNR=36
KURBB Lg Lg 12 36 38.1
comp=E,0.5nm,0.3s,baz=208,slow=30,SNR=16
KURK Kurchatov 11.48 22 ⇓Pn **Pn 12 33 22.8 -0.2**
comp=E,5.4nm,0.9s
KURK ⇑Lg Lg 12 36 46.0
comp=E,83nm,1.2s
KURK Kurchatov 11.48 22 *ce*P **Pn 12 33 22.4 -0.6**
KURK pmax pmax
comp=Z,6.0nm,1.0s
KURK Kurchatov 11.48 22 Pn **Pn 12 33 23.0 0.0**
ZSN Zaisan 11.81 48 Pg Pn 12 34 15.8 +48
comp=Z,7.3nm,0.3s
ZSN Lg Lg 12 36 49.7
comp=Z,9.3nm,0.8s
AB01 Akbulak array 12.36 321 ⇓Pn **Pn 12 33 32.3 -2.8**
comp=Z,10nm,0.5s
ABKAR Akbulak array 12.36 321 Pn **Pn 12 33 32.8 -2.3**
BVA0 Borovoye Array 12.82 356 ⇓Pn **Pn 12 33 41.9 +0.5**
comp=Z,5.9nm,0.8s,baz=159,slow=7.5,SNR=14
BVA0 ⇓Lg Lg 12 37 26.9
comp=Z,31nm,0.9s,baz=161,slow=12,SNR=6.4
BVAR Borovoye Array 12.82 356 Pn **Pn 12 33 40.3 -1.1**
comp=Z,0.7nm,0.3s,baz=167,slow=14,SNR=12
BVAR Lg Lg 12 37 21.4
comp=Z,0.6nm,0.3s,baz=182,slow=21,SNR=1.4
BVAR LR LR 12 39 03.4
comp=Z,168nm,20.4s,baz=122,slow=39
BRVK Borovoye 12.86 356 ⇑Pn **Pn 12 33 41.5 -0.4**
comp=Z,8.9nm,0.9s
BRVK ⇑Lg Lg 12 37 30.0
comp=Z,64nm,1.2s
BRVK Borovoye 12.86 356 *ce*P **Pn 12 33 41.1 -0.8**
BRVK pmax pmax
comp=Z,7.0nm,1.3s
BRVK Borovoye 12.86 356 Pn **Pn 12 33 41.4 -0.5**
AKTO Aktyubinsk 14.08 321 Pn **Pn 12 33 56.5 -2.1**
comp=Z,0.8nm,0.3s,baz=130,slow=13,SNR=8.5
AKTO Sn Sn 12 36 24.9 -10
comp=Z,0.3nm,0.3s,baz=7.6,slow=11,SNR=3.6
AKTO Lg Lg 12 38 06.7
comp=Z,0.3nm,0.3s,baz=197,slow=19,SNR=1.1
AKTO LR LR 12 39 06.4
comp=Z,44nm,20.2s,baz=130,slow=36
AKTO Aktyubinsk 14.08 321 ⇓Pn **Pn 12 33 55.7 -2.8**
comp=Z,8.3nm,0.8s
DGZ Jazzator, Alta 14.48 44 *i* P **P 12 34 07.2 -3.9**
DGZ pmax pmax
comp=Z,3.0nm,1.1s
ZAA0 Zalesovo Array 16.25 28 ⇑Pn **P 12 34 30.8 +0.2**
comp=Z,0.6nm,0.5s
ZAA0 Zalesovo Array 16.25 28 **P 12 34 30.7 +0.1**
ZALV Zalesovo Beam 16.25 28 Pn **Pn 12 34 27.5 +0.2**
comp=Z,1.3nm,0.3s,baz=221,slow=12,SNR=16
ZALV LR LR 12 41 06.4
comp=Z,115nm,18.7s,baz=212,slow=38
ZALV Zalesovo Beam 16.25 28 *i* P **P 12 34 30.3 -0.2**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
ZALV Zalesovo Beam 16.25 28 Pn **P 12 34 29.8 -0.8**
SVE Sverdlovsk 18.15 340 *e*P Pn 12 34 43.7 -7.4
ARU Arti 18.40 336 P **Pn 12 34 52.6 -1.7**
comp=Z,0.0nm,0.3s,baz=156,slow=8.4,SNR=13
ARU LR LR 12 41 59.5
comp=Z,45nm,18.5s,baz=129,slow=37
ARU Arti 18.40 336 *ce*P **Pn 12 34 52.7 -1.5**
ARU pmax pmax
comp=Z,9.0nm,0.7s
WSAR Wadi Sarin 20.32 217 LR LR 12 43 57.8
comp=Z,62nm,18.1s,baz=122,slow=40
GTA Gaotai 21.43 83 P **P 12 35 31.6 +4.0**
GTA pP sP 12 35 38.4 +8.9
GTA sP pP 12 35 41.6 +13
GTA pmax pmax
comp=Z,3.0nm,1.1s
KBZ Khabaz 21.78 289 P **P 12 35 29.4 -1.7**
comp=Z,5.6nm,0.9s,baz=97,slow=8.1,SNR=5.8
KBZ Khabaz 21.78 289 *ce*P **P 12 35 35.3 +4.2**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 21.93 289 *e*P **P 12 35 39.0 +6.2**
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,70nm,14.0s
KIRV Kirov 23.27 330 LR LR 12 45 43.7
comp=Z,82nm,21.9s,baz=132,slow=39
KIRV Kirov 23.27 330 *i* P **P 12 35 48.5 +1.8**
ZAK Zakamensk 24.12 55 *e*P **P 12 35 55.4 +0.1**
ZAK pmax pmax
comp=Z,4.0nm,0.8s
TLY Talaya 24.66 52 LR LR 12 46 38.9
comp=Z,60nm,20.6s,baz=264,slow=39
SONM Songino Array 25.77 61 P **P 12 36 11.7 +1.3**
comp=Z,1.1nm,0.7s,baz=262,slow=11,SNR=6.6
OBN Obninsk 27.68 314 *e*P **P 12 36 31.4 +4.2**
OBN *e*PPP PPP 12 37 18.4
OBN pmax pmax
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 28.64 327 *e*P **P 12 36 35.4 -0.4**
KLMR pmax pmax
comp=Z,7.0nm,1.3s
KLMR Klimovskoe 28.64 327 *e*P **P 12 36 35.4 -0.4**
KLMR AMP 12 36 41.6
comp=Z,7.0nm,1.3s
BRTR Keskin Array B 29.16 282 P **P 12 36 40.9 0.0**
comp=Z,0.6nm,0.5s,baz=102,slow=6.6,SNR=2.0
HHC Hu-ho-hao-te 29.98 76 *e*P P 12 36 54.2 +6.2
AKASG Malin Array Be 31.29 304 P **P 12 36 59.1 -0.2**
comp=Z,1.0nm,0.5s,baz=80,slow=7.0,SNR=2.9
BOD Bodaibo 32.06 43 *e*P **P 12 37 06.8 +0.8**
BOD pmax pmax
comp=Z,7.0nm,0.9s
FINES FINESS Array B 34.84 323 P **P 12 37 30.4 +0.2**
comp=Z,1.8nm,0.6s,baz=110,slow=9.7,SNR=14
FINES LR LR 12 52 32.6
comp=Z,70nm,20.3s,baz=49,slow=38
FINES FINESS Array B 34.84 323 P **P 12 37 27.9 -2.2**
ARCES ARCESS Array B 37.99 336 P **P 12 37 57.1 +0.1**
comp=Z,1.5nm,0.6s,baz=105,slow=7.6,SNR=8.9
ARCES LR LR 12 54 38.0
comp=Z,51nm,20.9s,baz=88,slow=38
ARCES ARCESS Array B 37.99 336 P **P 12 37 57.0 0.0**
YAK Yakutsk 40.55 38 *e*P P 12 38 24.7 +6.3
YAK pmax pmax
comp=Z,9.0nm,0.7s
GERES GERESS Array B 41.44 302 P **P 12 38 27.0 +0.9**
comp=Z,0.3nm,0.3s,baz=71,slow=7.5,SNR=2.8
GERES GERESS Array B 41.44 302 P **P 12 38 27.0 +0.9**
KHC Kasperske Hory 41.47 302 *ce*P P 12 38 32.0 +5.8
KHC pmax pmax
comp=Z,5.0nm,1.3s
NB2 NORSAR Subarra 41.87 321 P **P 12 38 29.1 -0.3**
comp=Z,1.2nm,0.6s,baz=88,slow=7.9
NOA NORSAR Array B 41.87 321 P **P 12 38 28.9 -0.5**
comp=Z,1.5nm,0.8s,baz=92,slow=8.0,SNR=5.5
NOA LR LR 12 56 52.8
comp=Z,59nm,20.4s,baz=100,slow=38
KLR Kul'dur 42.45 57 *i* P P 12 38 42.2 +8.0
KLR pmax pmax
comp=Z,2.0nm,0.9s
YSS Yuzh-Sakhalins 50.16 57 *e*P P 12 39 39.6 +4.8
YSS pmax pmax
comp=Z,10.0nm,0.5s
MA2 Magadan 51.02 40 LR LR 13 02 17.8
comp=Z,42nm,18.4s,baz=218,slow=37
BILL Bilibino 54.95 27 *e*P **P 12 40 13.6 +3.5**
BILL *e* 12 41 20.4
BILL pmax pmax
comp=Z,3.0nm,0.4s
TOA0 Torodi Ar. Sit 66.54 268 P **P 12 41 27.8 -2.0**
TOA0 IAmb IAmb 12 41 28.8
comp=Z,2.7nm,0.7s
TORD Torodi Ar. Bea 66.54 268 P **P 12 41 27.6 -2.2**
comp=Z,2.7nm,0.7s,baz=54,slow=5.0,SNR=17
TORD Torodi Ar. Bea 66.54 268 P **P 12 41 27.8 -2.0**
IMAR Indian Mountai 68.40 18 P **P 12 41 40.7 -0.1**
GUMO Guam 68.40 90 LR LR 13 15 23.0
comp=Z,95nm,18.8s,baz=43,slow=39
INK Inuvik 70.10 10 P **P 12 41 51.2 0.0**
INK pmax pmax
comp=Z,6.0nm,1.2s
INK Inuvik 70.10 10 P **P 12 41 51.2 0.0**
INK IAmb IAmb 12 41 59.0
comp=Z,6.3nm,1.1s
COLA College 70.69 17 *i* P P 12 42 00.9 +6.0
COLA pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 70.99 16 P **P 12 41 56.2 -0.6**
comp=Z,0.5nm,0.8s,baz=333,slow=5.4,SNR=6.0
SKT Skwentna 72.26 20 P **P 12 42 04.3 -0.2**
SKT IAmb IAmb 12 42 05.4
comp=Z,5.1nm,1.0s
SCM Sheep Creek Mo 73.44 18 P **P 12 41 11.4 -0.1**
SCM pmax pmax
comp=Z,7.0nm,1.1s
SCM Sheep Creek Mo 73.44 18 P **P 12 42 11.4 -0.1**
SCM IAmb IAmb 12 42 23.5
comp=Z,6.5nm,1.1s
BCAR Beaver Creek A 73.57 15 P **P 12 42 12.7 +0.4**
FITZ Fitzroy Crossi 76.60 128 P **P 12 42 29.7 -0.6**
comp=Z,1.3nm,0.8s,baz=333,slow=6.8,SNR=1.2
KNRA Kununurra 76.70 124 P **P 12 42 30.3 -0.5**
YKA Yellowknife Ar 77.47 3 P **P 12 42 34.8 +0.2**
comp=Z,1.0nm,0.6s,baz=353,slow=6.3,SNR=4.7
SCHQ Schefferville 78.92 337 LR LR 13 17 39.9
comp=Z,45nm,18.2s,baz=56,slow=36
MORW Morawa 80.23 142 P **P 12 42 49.4 -0.7**
WRA Warramunga Arr 83.41 123 P **P 12 43 05.7 -1.4**
comp=Z,2.0nm,0.7s,baz=325,slow=4.9,SNR=12
WRA Warramunga Arr 83.41 123 IAmb IAmb 12 43 06.6
comp=Z,0.2nm,1.0s
WB2 Warramunga Arr 83.41 123 P **P 12 43 06.1 -1.0**
ASAR Alice Springs 85.85 126 P **P 12 43 18.2 -1.1**
comp=Z,1.4nm,0.7s,baz=316,slow=4.8,SNR=15
PLCA Paso Flores 151.57 257 PKPbc **PKPbc 12 50 33.0 -0.6**
comp=Z,1.7nm,1.0s,baz=26,slow=4.2,SNR=5.8

*NEIC **07** 12:49:49.8±0.7,51.7°N±0.07°×178.45°E±0.06, h99km±4km, Error ellipse: s-maj=10.7km s-min=3.8km az=204.0*
*AEIC **07** 12:49:51.4±1.1,51.73°N±0.06°×178.47°E±0.05, h91km±3km, ML3.5/25, Error ellipse: s-maj=8.6km s-min=4.2km az=186.0*
*IDC **07** 12:49:52.0±6.7,51.62°N×178.59°E, h129km±62km, mb3.1/7, mb1 3.3/9, mb1mx3.1/58, mbtmp3.6/9, Error ellipse: s-maj=44.5km s-min=19.3km az=172.0*
ISC 07 12:49:48.9±0.8, 51.7°N±0.1×178.38°E±0.05, h100km±6km, n34, σ1°19/37, mb3.6/8, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.28**	**18**			**Pn**	**12 50 04.1**	**+0.7**
LSPA	**Little Sitkin**	**0.29**	**25**			**Pn**	**12 50 04.2**	**+0.7**
LSPA						**Sn**	**12 50 14.3**	**0.0**
LSNW	**Little Sitkin**	**0.30**	**17**			**Pn**	**12 50 04.1**	**+0.7**
AMKA	**Amchitka**	**0.66**	**118**			**Pn**	**12 50 06.7**	**+0.8**
AMKA						**Sn**	**12 50 18.5**	**-0.1**
CETU	**Semis' Tuman**	**0.75**	**68**			**Pn**	**12 50 07.2**	**+0.5**
CESW	**Semis' Southwe**	**0.77**	**73**			**Pn**	**12 50 07.0**	**+0.1**
CEAP	**Semis' Anvil P**	**0.81**	**67**			**Pn**	**12 50 07.5**	**+0.2**
CERAA	**Semis' Rag'd T**	**0.84**	**74**			**Pn**	**12 50 07.9**	**+0.3**
GALAA	**Gareloi Lava P**	**1.78**	**87**			**Pn**	**12 50 19.3**	**+0.7**
GALAA						**Sn**	**12 50 41.1**	**-0.1**
GAEA	**Gareloi East**	**1.79**	**86**			**Pn**	**12 50 19.1**	**+0.3**
TASE	**Tanaga Southea**	**2.23**	**85**			**Pn**	**12 50 25.0**	**+0.5**
TAFP	**Tanaga Falls P**	**2.27**	**83**			**Pn**	**12 50 25.1**	**+0.1**
TAPA	**Tanaga Point A**	**2.37**	**85**			**Pn**	**12 50 26.7**	**+0.4**
KIMD	**Kanaga Island**	**2.73**	**87**			**Pn**	**12 50 31.4**	**+0.4**
KICM	**Kanaga Island**	**2.76**	**83**			**Pn**	**12 50 31.9**	**+0.5**
KIKV	**Kanaga Island**	**2.77**	**84**			**Pn**	**12 50 31.7**	**+0.1**
SMY	**Shemya**	**2.83**	**293**			**Pn**	**12 50 34.2**	**+1.9**
SMY						**Sn**	**12 51 04.0**	**-1.6**
ADK	**Adak**	**3.08**	**84**			**Pn**	**12 50 35.7**	**+0.1**
GSMY	**Great Sitkin M**	**3.47**	**82**			**Pn**	**12 50 41.0**	**+0.1**
GSTR	**Great Sitkin T**	**3.47**	**81**	Pn		**Pn**	**12 50 40.9**	**-0.1**
ATKA	**Atka Island**	**4.62**	**81**			**Pn**	**12 50 56.8**	**+0.4**
PETK	**Petropavlovsk-**	**12.70**	**285**	P		**P**	**12 52 50.2**	**-2.7**
	0.2nm,0.3s,baz=13,slow=34,SNR=2.4							
PETK				S		**Sn**	**12 55 02.1**	**-3.2**
	0.1nm,0.3s,baz=112,slow=16,SNR=1.2							
KDAK	**Kodiak Island**	**17.75**	**59**	P		**Pn**	**12 53 48.2**	**-1.1**
	0.2nm,0.3s,baz=249,slow=4.6,SNR=6.2							
ILAR	**Eielson Array**	**22.13**	**40**	P		**P**	**12 54 35.7**	**-0.2**
	0.2nm,0.6s,baz=238,slow=8.3,SNR=2.3							
ILAR				pP		**pwP**	**12 54 57.1**	**+2.2**
	0.6nm,0.9s,baz=252,slow=10,SNR=5.9							
KLR	**Kul'dur**	**29.39**	**284**	P		**P**	**12 55 44.5**	**+2.0**
	0.7nm,0.4s,baz=84,slow=9.2,SNR=4.9							
H11N2	**WAKE ISLAND Hy**	**33.14**	**200**	T		T	13 31 43.4	
	baz=11,slow=76,SNR=9.7							
H11N3	**WAKE ISLAND Hy**	**33.15**	**200**	T		T	13 31 42.2	
	baz=11,slow=76,SNR=8.9							
H11N1	**WAKE ISLAND Hy**	**33.16**	**200**	T		T	13 31 44.5	
	baz=11,slow=76,SNR=12							
SONM	**Songino Array**	**44.92**	**295**	P		**P**	**12 57 56.0**	**+2.4**
	0.5nm,0.4s,baz=69,slow=8.0,SNR=2.7							
PDAR	**Pinedale Array**	**47.88**	**71**	pP		pP	12 58 40.3	0.0
	0.1nm,0.4s,baz=298,slow=3.8,SNR=2.2							
MKAR	**Makanchi Array**	**58.45**	**307**	P		**P**	**12 59 34.1**	**+0.1**
	0.4nm,0.6s,baz=49,slow=4.6,SNR=3.7							
TXAR	**Lajitas Array**	**60.34**	**79**	P		**P**	**12 59 47.8**	**+0.4**
	0.1nm,0.6s,baz=316,slow=5.0,SNR=1.9							
TXAR				pP		**pP**	**13 00 10.5**	**-1.2**
	0.2nm,0.6s,baz=308,slow=6.2,SNR=3.2							
WRA	**Warramunga Arr**	**81.05**	**221**	P		**P**	**13 01 52.6**	**-0.1**
	0.6nm,0.6s,baz=30,slow=5.9,SNR=2.3							
ASAR	**Alice Springs**	**84.55**	**220**	P		**P**	**13 02 09.8**	**-1.0**
	0.5nm,0.7s,baz=25,slow=5.5,SNR=1.9							

*IDC **07** 12:53:17.4±2.2,5.48°S×152.52°E, h53km±17km, mb3.8/11, mb1 4.0/12, mb1mx3.7/46, mbtmp4.2/12, ML2.2/1, Error ellipse: s-maj=26.2km s-min=10.6km az=101.0*
*NEIC **07** 12:53:18.2±1.5,5.44°S±0.07°×152.51°E±0.09, h59km±9km, mb4.3/15, Error ellipse: s-maj=13.5km s-min=10.5km az=92.0*
ISC 07 12:53:16.6±0.7, 5.44°S±0.06°×152.54°E±0.08, h40km, n32, σ1°17/33, mb4.1/17, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.24**	**336**	P		**Pn**	**12 53 38.0**	**+0.5**
	880nm,0.3s,baz=151,slow=2.3,SNR=211							
KRVT				S		**Sn**	**12 53 54.9**	**+1.9**
	441nm,0.3s,baz=152,slow=22,SNR=6.1							
RABL	**Rabaul**	**1.30**	**343**	Pn		**Pn**	**12 53 39.9**	**+1.6**
PMG	**Port Moresby**	**6.63**	**233**	P		**Pn**	**12 54 53.5**	**+2.0**
	2.8nm,0.3s,baz=27,slow=7.2,SNR=9.5							
PMG				S		**Sn**	**12 56 06.1**	**+0.2**
	5.2nm,0.3s,baz=294,slow=8.9,SNR=3.3							
PMG	**Port Moresby**	**6.63**	**233**			**Pn**	**12 54 52.8**	**+1.3**
PMG						**Sn**	**12 56 08.2**	**+2.3**
HNR	**Honiara**	**8.35**	**119**	Pn		**Pn**	**12 55 17.2**	**+2.0**
DZM	**Mont Dzumac**	**21.31**	**142**	P		**P**	**12 58 00.3**	**0.0**
	4.8nm,0.8s,baz=305,slow=17,SNR=1.3							
DZM	**Mont Dzumac**	**21.31**	**142**	P		**P**	**12 57 60.0**	**-0.3**
MTN	**Manton Dam**	**22.36**	**249**	P		**P**	**12 58 12.2**	**+0.7**
MTN				IAmb		IAmb	12 58 15.9	
	comp=Z,24nm,1.2s							
WB0	**Warramunga Arr**	**22.68**	**230**	P		**P**	**12 58 15.4**	**+0.5**
WB0				IAmb		IAmb	12 58 16.4	
	comp=Z,6.0nm,0.8s							
WR0	**Warramunga Arr**	**22.68**	**229**	P		**P**	**12 58 14.9**	**0.0**
WB2	**Warramunga Arr**	**22.82**	**229**	P		**P**	**12 58 16.1**	**-0.2**
WB2				IAmb		IAmb	12 58 23.9	
	comp=Z,6.1nm,0.7s							
WRA	**Warramunga Arr**	**22.83**	**229**	P		**P**	**12 58 15.3**	**-1.1**
	comp=Z,4.6nm,0.8s,baz=54,slow=10,SNR=30							
WRA	**Warramunga Arr**	**22.83**	**229**	IAmb		IAmb	12 58 22.4	
	comp=Z,0.3nm,1.2s							
KNRA	**Kununurra**	**25.46**	**245**	P		**P**	**12 58 40.9**	**-0.1**
AS31	**Alice Springs**	**25.50**	**223**	P		**P**	**12 58 40.6**	**-0.8**
ASAR	**Alice Springs**	**25.50**	**223**	P		**P**	**12 58 40.6**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=56,slow=9.2,SNR=27							
STKA	**Stephens Creek**	**28.22**	**200**	P		**P**	**12 59 04.6**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=273,slow=16,SNR=1.3							
FITZ	**Fitzroy Crossi**	**29.12**	**242**	P		**P**	**12 59 13.1**	**-0.9**
	comp=Z,2.7nm,0.5s,baz=50,slow=8.1,SNR=16							
FITZ	**Fitzroy Crossi**	**29.12**	**242**	P		**P**	**12 59 13.3**	**-0.7**
FITZ				IAmb		IAmb	12 59 31.0	
	comp=Z,4.1nm,0.8s							
BBOO	**Buckleboo**	**31.27**	**207**	P		**P**	**12 59 31.3**	**-1.5**
BBOO				IAmb		IAmb	12 59 35.1	
	comp=Z,9.9nm,1.4s							
FORT	**Forrest**	**34.13**	**219**	P		**P**	**12 59 57.0**	**-0.8**
SONM	**Songino Array**	**66.73**	**328**	P		**P**	**13 04 03.9**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=139,slow=4.4,SNR=2.2							
MKAR	**Makanchi Array**	**80.64**	**319**	P		**P**	**13 05 25.9**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=96,slow=7.4,SNR=6.1							
IMAR	**Indian Mountai**	**81.08**	**20**	P		**P**	**13 05 27.2**	**0.0**
RND	**Reindeer**	**81.42**	**23**	P		**P**	**13 05 29.3**	**+0.1**
RND				IAmb		IAmb	13 05 43.5	
	comp=Z,8.7nm,1.3s							
ZALV	**Zalesovo Beam**	**81.54**	**326**	P		**P**	**13 05 29.5**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=132,slow=5.2,SNR=5.7							
ILAR	**Eielson Array**	**82.85**	**22**	P		**P**	**13 05 35.8**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=255,slow=5.3,SNR=10							
KURK	**Kurchatov**	**84.11**	**322**	P		**P**	**13 05 41.5**	**-1.9**
KURK	**Kurchatov**	**84.11**	**322**	IAmb		IAmb	13 05 56.4	
	comp=Z,3.6nm,0.9s							
KURBB	**Kurchatov Arra**	**84.14**	**322**	P		**P**	**13 05 41.5**	**-2.1**
	comp=Z,1.8nm,0.2s,baz=102,slow=4.4,SNR=4.0							
BVAR	**Borovoye Array**	**89.60**	**323**	P		**P**	**13 06 09.2**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=102,slow=6.2,SNR=7.6							
TORD	**Torodi Ar. Bea**	**150.25**	**287**	PKPbc		**PKPbc**	**13 13 03.7**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=56,slow=2.3,SNR=6.9							

*ISK **07** 13:03:37.1,38.19°N×27.07°E, h5km, ML2.5/7*
*DDA **07** 13:03:39.7,38.25°N×27.08°E, h7km±3km, ML1.6*
ISC 07 13:03:38.3±1.0, 38.20°N±0.03°×27.08°E±0.04, h10km±8km, n12, σ1°15/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.18**	**352**		PG	**Pg**	**13 03 41.7**	**-0.6**
BLCB					SG	**Sg**	**13 03 44.5**	**-0.5**
DGB	**zmir**	**0.21**	**226**	*i* P		**Pg**	**13 03 41.5**	**-1.2**
DGB				*i* S		**Sg**	**13 03 49.4**	**+3.7**
URLA	**Izmir**	**0.41**	**293**	PG		**Pg**	**13 03 45.2**	**-1.2**
URLA				SG		**Sg**	**13 03 52.0**	**+0.2**
URLA	**Izmir**	**0.41**	**293**	*i* P		**Pg**	**13 03 45.1**	**-1.2**
URLA				*i* S		**Sb**	**13 03 54.2**	**+0.2**
GCAM	**G?zelcaml?**	**0.52**	**166**	PG		**Pg**	**13 03 47.1**	**-1.2**
GCAM				SG		**Sg**	**13 03 54.5**	**-0.6**
KRBN	**Karaburun**	**0.57**	**314**	PG		**Pg**	**13 03 48.8**	**-0.5**
KRBN				SG		**Sg**	**13 03 57.1**	**+0.3**
ZEDA	**zmir-Bergama**	**0.76**	**0**	*i* P		**Pg**	**13 03 52.8**	**-0.3**
ZEDA				*i* S		**Sn**	**13 04 05.8**	**-0.9**
ZEDA				IAML			13 04 08.0	
	comp=E,28nm,0.4s							
ZEDA				IAML			13 04 09.0	
	comp=N,29nm,0.2s							
CHOS	**Chios island**	**0.82**	**283**	PG		**Pg**	**13 03 53.5**	**-0.7**
CHOS				SG		**Sg**	**13 04 04.9**	**-0.1**
AYDN	**Tasoluk**	**0.83**	**130**	*i* P		**Pb**	**13 03 55.2**	**+0.3**
AYDN				*i* S		**Sn**	**13 04 08.8**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.28**	**23**	*i* P		**Pg**	**13 04 02.3**	**-0.5**
STEP				*i* S		**Sn**	**13 04 20.4**	**+0.9**
STEP				IAML			13 04 27.0	
	comp=E,18nm,0.7s							
SIGR	**SIGRI**	**1.39**	**317**	PN		**Pn**	**13 04 03.9**	**+0.2**
APE	**Apeiranthos**	**1.67**	**228**	PN		**Pn**	**13 04 07.7**	**+0.1**

*IDC **07** 13:14:06.6±1.4,23.33°N×123.93°E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/33, mbtmp3.4/4, ML2.7/1, Error ellipse: s-maj=52.3km s-min=26.7km az=71.0*
*JMA **07** 13:14:09.3±0.2,23.21°N×123.90°E, h43km±4km, M3.3*
ISC 07 13:14:08.4±2.2, 23.28°N±0.07°×123.90°E±0.06, h12km±12km, n15, σ0°58/25, mb3.3/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

JIJ				S		Sn	13 14 44.4	-0.3
JISG	**Ishigakijimahi**	**1.35**	**16**	P		Pn	13 14 33.1	0.0
JISG				S		Sg	13 14 51.8	-0.2
YOJ	**Yonaguni jima**	**1.43**	**325**	P		Pn	13 14 34.3	+0.1
YOJ				S		Sn	13 14 52.3	-0.6
JYNG	**Yonagunijimaku**	**1.46**	**323**	P		Pn	13 14 34.4	-0.1
JYNG				S		Sn	13 14 53.1	-0.4
JTJ	**Tarama**	**1.54**	**28**	P		Pn	13 14 36.1	+0.5
JTJ				S		Sb	13 14 56.3	+0.1
JIRB	**Irabujima**	**1.93**	**37**	P		Pn	13 14 41.3	+0.3
JIRB				eS		Sn	13 15 05.3	+0.1
JMJ2	**Miyako jima3**	**1.95**	**42**	P		Pn	13 14 41.8	+0.5
JIKM	**Ikemajima**	**2.04**	**37**	P		Pn	13 14 42.9	+0.3
JIKM				eS		Sb	13 15 09.4	-1.4
MJAR	**Matsushiro Arr**	**18.09**	**40**	P		Pn	13 18 18.8	-0.8
	0.0nm,0.3s,baz=220,slow=12,SNR=3.5							
MKAR	**Makanchi Array**	**40.72**	**316**	P		**P**	13 21 48.9	-0.1
	0.3nm,0.4s,baz=102,slow=9.0,SNR=6.4							
WRA	**Warramunga Arr**	**44.15**	**166**	P		**P**	13 22 17.0	-0.1
	0.5nm,0.9s,baz=346,slow=9.0,SNR=2.1							
ASAR	**Alice Springs**	**47.67**	**168**	P		**P**	13 22 45.5	+0.7
	0.2nm,0.8s,baz=357,slow=6.4,SNR=7.2							

NEIC ***07*** *13:41:45.0±2.0,24.22N±0.05×122.00E±0.05,h54km±4km, mb4.3/11,ML4.3(TAP),Error ellipse: s-maj=7.2km s-min=6.5km az=112.0*

JMA ***07*** *13:41:45.2±0.2,24.09N×121.91E,h54km±2km,M3.3*

TAP ***07*** *13:41:46.1,24.20N×121.92E,h54km,ML3.8,C*

ISC 07 13:41:44.7±0.7,24.18N±0.02×121.96E±0.02,h52km±5km, n149,σ2≤14/252,mb4.4/4,16C-10D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
ENAH	**Nanao**	**0.30**	**333**	⇑*i*	P	**Pn**	**13 41 55.6**	**+1.6**
	baz=337							
ENAH					eS	**Sn**	**13 42 02.6**	**+2.0**
	baz=337							
ENA	**Nanau**	**0.32**	**321**	⇑*i*	P	**Pn**	**13 41 55.5**	**+1.4**
	baz=334							
ENA					eS	**Sn**	**13 42 02.9**	**+2.0**
	baz=334							
NACB	**Ninganchiao**	**0.34**	**269**	⇑*i*	P	**Pn**	**13 41 55.5**	**+1.1**
	baz=261							
NACB					eS	**Sn**	**13 42 01.7**	**+0.5**
	baz=261							
NACB	**Ninganchiao**	**0.34**	**269**			**Pn**	**13 41 54.9**	**+0.6**
TWD	**Chiawan**	**0.35**	**253**	⇑*i*	P	**Pn**	**13 41 55.7**	**+1.3**
	baz=242							
TWD					eS	**Sn**	**13 42 02.9**	**+1.5**
	baz=242							
HWA	**Hwalien**	**0.39**	**238**	⇑*i*	P	**Pn**	**13 41 56.5**	**+1.8**
	baz=231							
HWA					eS	**Sn**	**13 42 04.5**	**+2.6**
	baz=231							
TWC	**Suao**	**0.44**	**346**	⇓*i*	P	**Pn**	**13 41 57.2**	**+1.8**
	baz=356							
TWC					S	**Sn**	**13 42 04.8**	**+1.7**
	baz=356							
ETLH	**Xiulin Townshi**	**0.44**	**273**	⇑*i*	P	**Pn**	**13 41 56.8**	**+1.3**
	baz=265							
ETLH					eS	**Sn**	**13 42 04.3**	**+1.1**
	baz=265							
ENTT	**Nioudou**	**0.58**	**322**	⇑*i*	P	**Pn**	**13 41 58.5**	**+1.4**
	baz=320							
ENTT					eS	**Sn**	**13 42 07.6**	**+1.6**
	baz=320							
NNSB	**Datong**	**0.58**	**295**	⇑*i*	P	**Pn**	**13 41 58.5**	**+1.3**
	baz=295							
NNSB					eS	**Sn**	**13 42 07.0**	**+0.8**
	baz=295							
NNSH	**Datong**	**0.58**	**295**	⇑*i*	P	**Pn**	**13 41 58.5**	**+1.3**
	baz=295							
NNSH					eS	**Sn**	**13 42 07.0**	**+0.8**
	baz=295							
NDT	**Datong Townshi**	**0.59**	**316**	*i*	P	**Pn**	**13 41 58.5**	**+1.4**
	baz=318							
NDT					eS	**Sn**	**13 42 07.2**	**+1.1**
	baz=318							
NNS	**Nan Shan**	**0.60**	**296**	⇑*i*	P	**Pn**	**13 41 58.6**	**+1.3**
	baz=296							
NNS					eS	**Sn**	**13 42 07.9**	**+1.4**
	baz=296							
TWE	**Neicheng**	**0.60**	**333**	⇑*i*	P	**Pn**	**13 41 59.1**	**+1.8**
	baz=341							
TWE					eS	**Sn**	**13 42 08.2**	**+1.8**
	baz=341							
ESL	**Shilin**	**0.61**	**233**	⇑*i*	P	**Pn**	**13 41 58.4**	**+1.1**
	baz=239							
ESL					eS	**Sn**	**13 42 07.5**	**+1.0**
	baz=239							
ILA	**Ilan**	**0.61**	**341**	*eP*		**Pn**	**13 41 59.3**	**+1.9**
	baz=346							
ILA					eS	**Sn**	**13 42 09.3**	**+2.7**
	baz=346							
WHF	**Hehuan Shan**	**0.64**	**267**	⇑*i*	P	**Pn**	**13 41 59.3**	**+1.2**
	baz=258							
WHF					eS	**Sn**	**13 42 08.8**	**+1.0**
	baz=258							
FUSS	**Fushou**	**0.66**	**276**	P		**Pn**	**13 41 59.8**	**+1.6**
	baz=275							
FUSS					eS	**Sn**	**13 42 09.2**	**+1.2**
	baz=275							
EGS		**0.66**	**358**	P		**Pn**	**13 42 00.2**	**+2.2**
	baz=3.0							
EGS					eS	**Sn**	**13 42 10.8**	**+3.1**
	baz=3.0							
NTC	**Toucheng**	**0.68**	**350**	⇓*i*	P	**Pn**	**13 42 00.3**	**+2.0**
	baz=3.0							
NTC					eS	**Sn**	**13 42 10.0**	**+1.9**
	baz=3.0							
EGFH	**Guangfu**	**0.71**	**224**	⇓*i*	P	**Pn**	**13 41 59.7**	**+1.1**
	baz=229							
EGFH					eS	**Sn**	**13 42 09.6**	**+0.8**
	baz=229							
TWT	**Tachien**	**0.72**	**276**	*eP*		**Pn**	**13 42 00.9**	**+1.9**
	baz=274							
TWT					S	**Sn**	**13 42 10.9**	**+1.6**
	baz=274							
YHNB	**Yeheng**	**0.72**	**312**	⇑*i*	P	**Pn**	**13 42 00.4**	**+1.5**
	baz=307							
YHNB					eS	**Sn**	**13 42 10.1**	**+0.9**
	baz=307							
YHNB	**Yeheng**	**0.72**	**312**			**Pn**	**13 41 59.7**	**+0.8**
NWLT	**Wulai**	**0.73**	**325**	P		**Pn**	**13 42 00.3**	**+1.5**
	baz=327							
NWLT					eS	**Sn**	**13 42 10.2**	**+1.0**
	baz=327							
CHGB	**Renai**	**0.73**	**261**	*i*	P	**Pn**	**13 42 00.6**	**+1.5**
	baz=252							
CHGB					eS	**Sn**	**13 42 10.4**	**+0.8**
	baz=252							
TDCB	**Techi**	**0.74**	**276**	⇑*i*	P	**Pn**	**13 42 01.0**	**+1.8**
	baz=275							
TDCB					S	**Sn**	**13 42 10.9**	**+1.3**
	baz=275							
NSK	**Sanguang**	**0.74**	**312**	⇑*i*	P	**Pn**	**13 42 00.5**	**+1.4**
	baz=306							
NSK					eS	**Sn**	**13 42 10.3**	**+0.8**
	baz=306							
OWD	**Renai**	**0.75**	**253**	*eP*		**Pn**	**13 42 00.9**	**+1.6**
	baz=249							
OWD					eS	**Sn**	**13 42 10.8**	**+0.8**
	baz=249							
TIPB	**Shuangxi**	**0.80**	**351**	⇓*i*	P	**Pn**	**13 42 02.1**	**+2.3**
TIPB					S	**Sn**	**13 42 13.0**	**+2.1**
TWB1	**Santiao Chiao**	**0.82**	**2**	⇓*i*	P	**Pn**	**13 42 01.8**	**+1.6**
	baz=18							
TWB1					eS	**Sn**	**13 42 12.9**	**+1.5**
	baz=18							
HGSD	**Ruisui**	**0.84**	**216**	P		**Pn**	**13 42 01.8**	**+1.4**
	baz=202							
HGSD					eS	**Sn**	**13 42 13.3**	**+1.4**
	baz=202							
VWDT	**VWDT**	**0.86**	**241**	⇓*i*	P	**Pn**	**13 42 02.5**	**+1.8**
	baz=230							
VWDT					eS	**Sn**	**13 42 13.9**	**+1.6**
	baz=230							
TWA	**Mucha**	**0.87**	**337**	*eP*		**Pn**	**13 42 02.8**	**+2.1**
	baz=340							
TWA					eS	**Sn**	**13 42 14.4**	**+2.0**
	baz=340							
NHDH	**Xindian Distri**	**0.87**	**333**	*eP*		**Pn**	**13 42 02.8**	**+2.0**
	baz=326							
NHDH					eS	**Sn**	**13 42 14.3**	**+1.8**
	baz=326							
EHY	**Hungye**	**0.89**	**221**	⇓*i*	P	**Pn**	**13 42 01.7**	**+0.7**
	baz=225							
EHY					eS	**Sn**	**13 42 12.7**	**-0.3**
	baz=225							
NWF	**Wu-fen Shan**	**0.90**	**349**	⇓*i*	P	**Pn**	**13 42 03.4**	**+2.1**
	baz=353							
NWF					eS	**Sn**	**13 42 15.3**	**+2.0**
	baz=353							
TATO	**Taipei**	**0.90**	**331**			**Pn**	**13 42 02.9**	**+1.8**
WFSB	**Wu-fen Shan**	**0.90**	**349**	⇓*i*	P	**Pn**	**13 42 03.4**	**+2.2**
	baz=353							
WFSB					eS	**Sn**	**13 42 15.3**	**+2.1**
	baz=353							
WHP	**Taichung City**	**0.93**	**276**	P		**Pn**	**13 42 04.0**	**+2.4**
	baz=272							
WHP					eS	**Sn**	**13 42 16.4**	**+2.3**
	baz=272							
JYNG	**Yonagunijimaku**	**0.94**	**73**	P		**Pn**	**13 42 03.6**	**+2.0**
JYNG					S	**Sn**	**13 42 16.6**	**+2.6**
TAP1	**Taipei**	**0.94**	**335**	*eS*		**Sn**	**13 42 16.5**	**+2.3**
	baz=325							
LIOB	**Emei**	**0.98**	**298**	*eP*		**Pn**	**13 42 04.4**	**+2.2**
	baz=299							
LIOB					eS	**Sn**	**13 42 18.2**	**+3.1**
	baz=299							
NSTT	**Nanjuang**	**0.98**	**297**	P		**Pn**	**13 42 04.4**	**+2.2**
	baz=298							
NSTT					eS	**Sn**	**13 42 17.3**	**+2.1**
	baz=298							
YOJ	**Yonaguni jima**	**1.00**	**74**	P		**Pn**	**13 42 04.3**	**+1.9**
YOJ					eS	**Sn**	**13 42 18.0**	**+2.5**
YOJ	**Yonaguni jima**	**1.00**	**74**			**Pn**	**13 42 04.4**	**+2.0**
SSLB	**Suanglung**	**1.00**	**247**	*i*	P	**Pn**	**13 42 04.1**	**+1.5**
	baz=244							
SSLB					eS	**Sn**	**13 42 17.5**	**+1.9**
	baz=244							
SSLB	**Suanglung**	**1.00**	**247**			**Pn**	**13 42 04.1**	**+1.5**
SMLT	**Sun Moon Lake**	**1.02**	**253**	P		**Pn**	**13 42 04.7**	**+1.9**
	baz=245							
SMLT					eS	**Sn**	**13 42 17.9**	**+1.8**
	baz=245							
YM01	**YM01**	**1.02**	**340**	*eP*		**Pn**	**13 42 04.5**	**+1.7**
	baz=330							
YM01					eS	**Sn**	**13 42 18.5**	**+2.2**
	baz=330							
TWF1	**Yuli**	**1.03**	**217**	⇓*i*	P	**Pn**	**13 42 03.6**	**+0.7**
	baz=221							
TWF1					eS	**Sn**	**13 42 16.9**	**+0.6**
	baz=221							
YM10	**YM10**	**1.04**	**339**	P		**Pn**	**13 42 04.8**	**+1.7**
	baz=331							
YM10					eS	**Sn**	**13 42 17.9**	**+1.4**
	baz=331							
TWS1	**Kuangyinshan**	**1.04**	**332**	*eP*		**Pn**	**13 42 05.0**	**+2.0**
	baz=335							
TWS1					eS	**Sn**	**13 42 18.4**	**+1.9**
	baz=335							
YM11	**YM11**	**1.04**	**340**	*eP*		**Pn**	**13 42 04.9**	**+1.8**
	baz=331							
YM11					eS	**Sn**	**13 42 18.3**	**+1.6**
	baz=331							
YM04	**YM04**	**1.04**	**338**	*eP*		**Pn**	**13 42 04.6**	**+1.5**
	baz=330							
YM04					eS	**Sn**	**13 42 18.2**	**+1.6**
	baz=330							
YM05	**YM05**	**1.04**	**340**	*eP*		**Pn**	**13 42 04.6**	**+1.4**
	baz=331							
YM05					eS	**Sn**	**13 42 17.8**	**+1.1**
	baz=331							
NCU	**National Centr**	**1.06**	**318**	*eP*		**Pn**	**13 42 05.5**	**+2.3**
	baz=320							
NCUH	**Zhongli**	**1.06**	**318**	*eP*		**Pn**	**13 42 04.6**	**+1.3**
	baz=320							
NCUH					eS	**Sn**	**13 42 19.4**	**+2.5**
	baz=320							
YM08	**YM08**	**1.06**	**341**	*eP*		**Pn**	**13 42 04.6**	**+1.3**
	baz=344							
YM08					eS	**Sn**	**13 42 18.0**	**+1.0**
	baz=344							
YM03	**YM03**	**1.06**	**339**	*eP*		**Pn**	**13 42 04.7**	**+1.2**
	baz=330							
SBCB	**Hsinchu**	**1.08**	**305**	*eP*		**Pn**	**13 42 06.2**	**+2.6**
	baz=306							
SBCB					eS	**Sn**	**13 42 18.4**	**+0.9**
	baz=306							
ANP	**Anpu**	**1.08**	**338**	*eP*		**Pn**	**13 42 04.7**	**+1.0**
	baz=342							
ANP					eS	**Sn**	**13 42 18.5**	**+0.9**
	baz=342							
NTST	**Danshui**	**1.08**	**335**	*eP*		**Pn**	**13 42 05.2**	**+1.6**
	baz=326							
HSN	**Hsinchu**	**1.10**	**305**	*eP*		**Pn**	**13 42 06.9**	**+3.1**
	baz=308							
HSN					eS	**Sn**	**13 42 21.3**	**+3.5**
	baz=308							
NSY	**Sanyi**	**1.12**	**282**	*eP*		**Pn**	**13 42 06.6**	**+2.5**
	baz=282							
NSY					eS	**Sn**	**13 42 21.4**	**+2.9**
	baz=282							
WHYT	**Xinyi Township**	**1.12**	**245**	*eP*		**Pn**	**13 42 06.6**	**+2.4**
	baz=238							
WHYT					eS	**Sn**	**13 42 20.9**	**+2.3**
	baz=238							
NMLH	**Miaoli**	**1.13**	**289**	*eP*		**Pn**	**13 42 06.4**	**+2.3**
	baz=289							
NMLH					eS	**Sn**	**13 42 21.2**	**+2.6**
	baz=289							
TWY	**Chenhua**	**1.14**	**343**	*eP*		**Pn**	**13 42 06.2**	**+1.9**
	baz=346							
TWY					eS	**Sn**	**13 42 21.2**	**+2.3**
	baz=346							
YUS	**Yu-Shan**	**1.15**	**234**	P		**Pn**	**13 42 06.6**	**+1.6**
	baz=230							
FULB	**Fuli**	**1.15**	**212**	*eP*		**Pn**	**13 42 06.0**	**+1.5**
	baz=198							
FULB					eS	**Sn**	**13 42 22.5**	**+3.2**
	baz=198							
TCU	**Taichung**	**1.18**	**269**	*eP*		**Pn**	**13 42 07.1**	**+2.3**
	baz=267							
TCU					eS	**Sn**	**13 42 23.4**	**+3.6**
	baz=267							
PTSB	**Yuanli**	**1.18**	**283**	*eP*		**Pn**	**13 42 06.7**	**+1.8**
	baz=283							
PTSB					eS	**Sn**	**13 42 21.4**	**+1.5**
	baz=283							
WJS	**Zhushan**	**1.18**	**253**	P		**Pn**	**13 42 08.1**	**+3.1**
	baz=250							
WJS					eS	**Sn**	**13 42 23.6**	**+3.5**
	baz=250							
WNT	**Mingjian**	**1.21**	**256**	*eP*		**Pn**	**13 42 08.2**	**+3.0**
	baz=254							
CHKT	**Chengkung**	**1.21**	**207**	*eP*		**Pn**	**13 42 05.8**	**+0.5**
	baz=193							
CHKT					eS	**Sn**	**13 42 20.1**	**-0.5**
	baz=193							
WDJ	**Dajia District**	**1.22**	**278**	P		**Pn**	**13 42 07.7**	**+2.3**
	baz=278							
WDJ					eS	**Sn**	**13 42 22.0**	**+1.2**
	baz=278							
ALS	**Alishan**	**1.25**	**238**	*eP*		**Pn**	**13 42 08.5**	**+2.4**
	baz=225							
ALS					eS	**Sn**	**13 42 23.0**	**+0.9**
	baz=225							
WCHH	**Zhanghua**	**1.29**	**266**	*eP*		**Pn**	**13 42 08.4**	**+2.1**
	baz=264							
WCHH					eS	**Sn**	**13 42 25.4**	**+2.9**
	baz=264							
CHN5	**Tsauling**	**1.31**	**244**	P		**Pn**	**13 42 09.3**	**+2.6**
	baz=231							
CHN5					eS	**Sn**	**13 42 27.2**	**+4.0**
	baz=231							
ELDTW	**Lidau**	**1.31**	**221**	*eP*		**Pn**	**13 42 07.8**	**+1.0**
	baz=211							
ELDTW					eS	**Sn**	**13 42 23.9**	**+0.6**
	baz=211							
EDH	**Donghe**	**1.35**	**207**	*eP*		**Pn**	**13 42 08.0**	**+0.9**
	baz=194							
EDH					eS	**Sn**	**13 42 24.2**	**+0.3**
	baz=194							
WGK	**Gukeng**	**1.37**	**249**	*eP*		**Pn**	**13 42 10.7**	**+3.2**
	baz=246							
WGK					eS	**Sn**	**13 42 28.7**	**+4.1**
	baz=246							
WDLH	**Douliu**	**1.39**	**250**	*eP*		**Pn**	**13 42 10.8**	**+3.0**
	baz=246							
WDLH					eS	**Sn**	**13 42 28.9**	**+3.8**
	baz=246							
PCYT	**Pengchaiyu**	**1.45**	**4**	*eP*		**Pn**	**13 42 09.8**	**+1.3**
	baz=8.0							
PCYT					eS	**Sn**	**13 42 28.8**	**+2.5**
	baz=8.0							
LONT	**Longtian**	**1.48**	**211**	*eP*		**Pn**	**13 42 09.1**	**+0.1**
	baz=206							
LONT					eS	**Sn**	**13 42 27.9**	**+0.7**
	baz=206							
STYT	**Tauyuan**	**1.50**	**228**	*eP*		**Pn**	**13 42 11.8**	**+2.5**
	baz=222							
STYT					eS	**Sn**	**13 42 31.0**	**+3.2**
	baz=222							
TPUB	**Ta-pu**	**1.50**	**235**	*eP*		**Pn**	**13 42 12.0**	**+2.7**
	baz=221							
TPUB					eS	**Sn**	**13 42 31.5**	**+3.7**
	baz=221							
TPUB	**Ta-pu**	**1.50**	**235**			**Pn**	**13 42 12.1**	**+2.7**
WTK	**Tuku**	**1.52**	**251**	P		**Pn**	**13 42 12.2**	**+2.6**
	baz=261							
WTK					eS	**Sn**	**13 42 32.0**	**+3.8**
	baz=261							
WTP	**Ta-pu**	**1.55**	**233**	*eP*		**Pn**	**13 42 12.6**	**+2.6**
	baz=219							
WTP					eS	**Sn**	**13 42 31.6**	**+2.7**
	baz=219							
CHY	**Chiayi**	**1.56**	**245**	*eP*		**Pn**	**13 42 12.7**	**+2.6**
	baz=231							
CHY					eS	**Sn**	**13 42 33.6**	**+4.3**
	baz=231							
LDUT	**Ludao**	**1.57**	**197**	*eP*		**Pn**	**13 42 10.5**	**+0.3**
	baz=186							
LDUT					eS	**Sn**	**13 42 28.6**	**-0.7**
	baz=186							
WTCT	**Ta-ch'eng**	**1.57**	**259**	*eP*		**Pn**	**13 42 11.9**	**+1.8**
	baz=257							
TWGBT	**Beinan**	**1.58**	**211**	*eP*		**Pn**	**13 42 10.8**	**+0.4**
	baz=206							
TWGBT					eS	**Sn**	**13 42 29.1**	**-0.6**
	baz=206							
TWG	**Pinlang**	**1.58**	**211**	*eP*		**Pn**	**13 42 10.7**	**+0.4**
	baz=206							
TWG					eS	**Sn**	**13 42 29.5**	**-0.2**
	baz=206							
TWG	**Pinlang**	**1.58**	**211**			**Pn**	**13 42 10.9**	**+0.6**
TTN	**Taitung**	**1.61**	**208**	*eP*		**Pn**	**13 42 12.3**	**+1.6**
	baz=204							
IRIF	**Iriomote-Funau**	**1.62**	**84**	P		**Pn**	**13 42 12.7**	**+1.8**
IRIF					eS	**Sn**	**13 42 32.7**	**+2.1**
TWK	**Hsinying**	**1.63**	**236**	*eP*		**Pn**	**13 42 13.6**	**+2.5**
	baz=231							
TWK					eS	**Sn**	**13 42 35.6**	**+4.7**
	baz=231							
CHN1	**Nanshi**	**1.65**	**233**	P		**Pn**	**13 42 14.0**	**+2.7**
	baz=228							
CHN1					eS	**Sn**	**13 42 34.1**	**+2.8**
	baz=228							
SNST	**Tainan City**	**1.65**	**235**	P		**Pn**	**13 42 13.8**	**+2.6**
	baz=230							
SNST					eS	**Sn**	**13 42 35.1**	**+3.8**
	baz=230							
SGST	**Jiashian**	**1.67**	**229**	P		**Pn**	**13 42 13.3**	**+1.7**
	baz=216							
SGST					eS	**Sn**	**13 42 35.2**	**+3.3**
	baz=216							
WLGB	**Puzi**	**1.68**	**246**	*eP*		**Pn**	**13 42 14.8**	**+3.1**
	baz=243							
WSF	**Szhu**	**1.68**	**252**	P		**Pn**	**13 42 14.0**	**+2.3**
	baz=261							
WSF					eS	**Sn**	**13 42 36.0**	**+3.9**
	baz=261							
SLGT	**Liugui**	**1.69**	**226**	P		**Pn**	**13 42 14.7**	**+2.9**
	baz=221							
SLGT					eS	**Sn**	**13 42 36.4**	**+4.0**
	baz=221							
ICHU	**Yijhu**	**1.75**	**242**	P		**Pn**	**13 42 15.3**	**+2.7**
	baz=226							
ICHU					eS	**Sn**	**13 42 38.4**	**+4.8**
	baz=226							
CHN8	**Yiju**	**1.81**	**243**	*eP*		**Pn**	**13 42 15.6**	**+2.2**
	baz=228							
CHN8					eS	**Sn**	**13 42 38.9**	**+3.7**
	baz=228							
ECL	**Taimali**	**1.83**	**211**	P		**Pn**	**13 42 14.0**	**+0.3**
	baz=205							
ECL					eS	**Sn**	**13 42 34.8**	**-0.9**
	baz=205							
CHN3	**Shinhua**	**1.83**	**233**	*eP*		**Pn**	**13 42 17.1**	**+3.3**
	baz=242							
JKRS	**Kuro-shima**	**1.87**	**88**	P		**Pn**	**13 42 16.8**	**+2.5**
JKRS					S	**Sn**	**13 42 39.8**	**+3.1**
SSD	**Sandimen**	**1.88**	**221**	*eP*		**Pn**	**13 42 17.2**	**+2.8**
	baz=215							
SSD					eS	**Sn**	**13 42 41.5**	**+4.5**
	baz=215							
TSMG	**Majia**	**1.90**	**220**	*eP*		**Pn**	**13 42 17.6**	**+2.9**
	baz=214							
TSMG					eS	**Sn**	**13 42 42.0**	**+4.4**
	baz=214							
MASBT	**Mashibuluo**	**1.98**	**218**	P		**Pn**	**13 42 18.1**	**+2.2**
	baz=202							
MASBT					eS	**Sn**	**13 42 43.2**	**+3.7**
	baz=202							
JIJ	**Ishigaki jima**	**2.00**	**84**	P		**Pn**	**13 42 17.7**	**+1.7**
JIJ					S	**Sn**	**13 42 41.3**	**+1.4**
EAST	**Anshuo**	**2.06**	**210**	*eP*		**Pn**	**13 42 18.4**	**+1.4**
	baz=202							
SSPT	**Xinbi**	**2.12**	**217**	*eP*		**Pn**	**13 42 21.1**	**+3.4**
	baz=213							
JISG	**Ishigakijimahi**	**2.18**	**79**	P		**Pn**	**13 42 20.1**	**+1.6**
JISG					eS	**Sn**	**13 42 45.7**	**+1.4**
SCZT	**Fangliau**	**2.18**	**215**	*eP*		**Pn**	**13 42 22.0**	**+3.4**
	baz=208							
SCZT					eS	**Sn**	**13 42 49.0**	**+4.6**
	baz=208							
SLIU	**Shizi**	**2.23**	**209**	*eP*		**Pn**	**13 42 20.2**	**+0.9**
	baz=202							
PHUB	**P'eng-hu**	**2.29**	**254**	P		**Pn**	**13 42 20.9**	**+0.9**
	baz=250							
PHUB					eS	**Sn**	**13 42 48.4**	**+1.4**
	baz=250							
PNG	**Penghu**	**2.29**	**255**	*eP*		**Pn**	**13 42 20.8**	**+0.8**
	baz=252							
PNG					eS	**Sn**	**13 42 48.0**	**+1.1**
	baz=252							
WDGT	**Dungji**	**2.30**	**247**	P		**Pn**	**13 42 22.0**	**+1.9**
	baz=243							
WDGT					eS	**Sn**	**13 42 48.9**	**+1.6**
	baz=243							
PTTC	**Pingtan**	**2.39**	**304**	*eP*		**Pn**	**13 42 21.7**	**+0.3**
	baz=305							
VWUC	**VWUC**	**2.43**	**290**	*eP*		**Pn**	**13 42 22.3**	**+0.5**
	baz=290							
VCHM	**Qimei**	**2.52**	**248**	*eP*		**Pn**	**13 42 23.6**	**+0.4**
	baz=245							
JTJ	**Tarama**	**2.54**	**79**	P		**Pn**	**13 42 25.9**	**+2.5**
JTJ					eS	**Sn**	**13 42 54.9**	**+1.8**
MATB	**Ma-tsu**	**2.68**	**317**	*eP*		**Pn**	**13 42 26.2**	**+0.8**
	baz=318							
PTMZ	**Houxiangcun**	**2.73**	**289**	*eP*		**Pn**	**13 42 26.4**	**+0.4**
	baz=289							
JIRB	**Irabujima**	**3.00**	**77**	*eS*		**Sn**	**13 43 06.2**	**+1.9**
JIKM	**Ikemajima**	**3.08**	**75**	*eS*		**Sn**	**13 43 09.3**	**+2.8**
LYJJ	**Jianjiangzhen**	**3.09**	**320**	*eP*		**Pn**	**13 42 30.7**	**-0.2**
	baz=322							
JMJ2	**Miyako jima3**	**3.12**	**79**	*eS*		**Sn**	**13 43 10.4**	**+3.0**
KNMB	**Chin-men Tao**	**3.27**	**276**	*eP*		**Pn**	**13 42 34.1**	**+0.6**
	baz=265							
KNMB	**Chin-men Tao**	**3.27**	**276**	Pn		**Pn**	**13 42 34.2**	**+0.7**
AXDP	**

GIRL Giralia 47.15 190 P P 13 50 12.3 +0.3
TIXI Tiksi 47.66 3 P P 13 50 13.8 -1.6
TIXI IAmb IAmb 13 50 31.4
comp=Z,7.5nm,0.8s
ABKAR Akbulak array 53.95 314 P P 13 51 02.7 -0.5
SPIA Saint Paul Isl 58.02 36 P P 13 51 30.8 -1.3

IDC ***07*** *13:49:26.2±1.1,30.˚50S×177.˚26W,h0km,mb4.1/6, mb1 4.3/6,mb1mx4.0/32,mbtmp4.1/6,Error ellipse: s-maj=32.1km s-min=25.3km az=140.0*
NEIC ***07*** *13:49:27.8±1.2,30.˚56S±0.˚08×177.˚5W±0.˚2,h10km±1km, mb4.5/9,Error ellipse: s-maj=27.2km s-min=12.7km az=94.0*
ISC 07 13:49:31.1±0.8,30.˚64S±0.˚07×177.˚5W±0.˚2,h33km,n26, σ1§37/29,mb4.4/9,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.43	346	Pn		Pn		13 49 53.0	-1.6
	379nm,0.3s,baz=96,slow=10,SNR=9.8								
RAO				Sn		Sn		13 50 13.2	+0.9
	517nm,0.3s,baz=104,slow=24,SNR=6.4								
RAO	Raoul Island	1.43	346			Pn		13 49 51.7	-2.9
URZ	Urewera	8.79	209	Pn		Pn		13 51 34.0	-1.8
	0.6nm,0.3s,baz=122,slow=15,SNR=7.1								
URZ				Sn		Sn		13 53 12.5	-1.2
	2.1nm,0.3s,baz=131,slow=21,SNR=13								
URZ	Urewera	8.79	209			Pn		13 51 34.2	-1.7
STKA	Stephens Creek	34.82	257	P		P		13 56 22.2	+3.3
	4.1nm,0.5s,baz=100,slow=10,SNR=14								
STKA	Stephens Creek	34.82	257	P		P		13 56 19.5	+0.5
BBOO	Buckleboo	39.30	254	P		P		13 56 56.9	0.0
BBOO				IAmb		IAmb		13 56 59.3	
	comp=Z,6.1nm,0.8s								
AS31	Alice Springs	43.51	267	P		P		13 57 31.4	-0.2
ASAR	Alice Springs	43.51	267	P		P		13 57 33.4	+1.8
	comp=Z,1.0nm,0.5s,baz=103,slow=7.0,SNR=13								
ASAR				PcP		PcP		13 59 20.3	+1.0
	comp=Z,0.3nm,0.5s,baz=120,slow=3.5,SNR=2.2								
ASAR	Alice Springs	43.51	267	P		P		13 57 32.7	+1.0
WR0	Warramunga Arr	44.34	272	P		P		13 57 39.1	+0.8
WR0				IAmb		IAmb		13 57 47.4	
	comp=Z,13nm,1.4s								
WB2	Warramunga Arr	44.51	272	P		P		13 57 40.9	+1.2
WB2				IAmb		IAmb		13 57 51.4	
	comp=Z,8.2nm,1.1s								
WRAB	Tennant Creek	44.51	272	P		P		13 57 39.8	+0.1
WRA	Warramunga Arr	44.52	272	P		P		13 57 40.7	+0.9
	comp=Z,1.1nm,0.4s,baz=111,slow=8.0,SNR=16								
WRA	Warramunga Arr	44.52	272	P		P		13 57 40.9	+1.1
WB0	Warramunga Arr	44.54	272	P		P		13 57 40.8	+0.9
FITZ	Fitzroy Crossi	52.77	270	P		P		13 58 45.0	+1.8
	comp=Z,2.5nm,0.8s,baz=158,slow=6.6,SNR=3.6								
FITZ	Fitzroy Crossi	52.77	270	P		P		13 58 43.8	+0.6
FITZ				IAmb		IAmb		13 58 48.2	
	comp=Z,11nm,1.4s								
VNA3	Neumayer Olymp	78.04	176	P		P		14 01 26.9	+1.0
VNA2	Neumayer--Watz	78.48	177	P		P		14 01 29.7	+1.4
	baz=170,slow=4.1								
PETK	Petropavlovsk-	86.15	345	P		P		14 02 08.4	+0.1
	comp=Z,1.1nm,0.8s,baz=149,slow=3.4,SNR=5.1								
NVAR	Mina Array Bea	88.14	42	P		P		14 02 18.8	+0.2
	comp=Z,0.3nm,0.7s,baz=224,slow=7.6,SNR=2.5								
FINES	FINESS Array B	145.51	340	PKPbc		PKPdf		14 09 04.3	-0.7
	comp=Z,3.4nm,0.6s,baz=60,slow=4.3,SNR=20								
NOA	NORSAR Array B	149.05	352	PKPbc		PKPbc		14 09 14.1	-1.0
	comp=Z,0.7nm,0.8s,baz=14,slow=4.5,SNR=2.2								
AKASG	Malin Array Be	151.74	323	PKPbc		PKPbc		14 09 21.8	-0.1
	comp=Z,0.7nm,0.4s,baz=30,slow=2.7,SNR=5.2								
TORD	Torodi Ar. Bea	162.57	177	PKPab		PKPab		14 10 18.8	+0.7
	comp=Z,0.3nm,0.7s,baz=184,slow=2.9,SNR=1.5								

DJA ***07*** *13:51:34.3±0.6,2.˚S±2.˚×12.˚0E±.˚,h12km±4km,M4.5/13, mb4.8/5,MLv4.5/13,MLv4.3/5*
NEIC ***07*** *13:51:37.0±2.1,1.˚78S±0.˚08×119.˚96E±0.˚07,h84km±9km, mb4.5/7,Error ellipse: s-maj=11.8km s-min=9.8km az=177.0*
IDC ***07*** *13:51:37.1±0.7,1.˚76S×119.˚98E,h86km±8km,mb3.5/7, mb1 3.8/10,mb1mx3.5/39,mbtmp4.0/10,MS2.6/2, Ms1 2.6/2,ms1mx2.5/28,Error ellipse: s-maj=25.5km s-min=9.4km az=79.0*
ISC 07 13:51:37.5±0.6,1.72S±0.˚04×119.˚95E±0.˚05,h100km,n36, σ1§31/43,mb4.0/11,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	2.04	358	P		Pn		13 52 09.2	-1.5
MPSI				Pg		Pn		13 52 09.5	-1.2
MPSI				S		Sn		13 52 34.8	-1.2
SPSI	Sidrap Palu	2.24	185	P		Pn		13 52 11.8	-1.4
SPSI				S		Sn		13 52 39.9	-0.6
BNSI	Bone	2.67	177	P		Pn		13 52 18.3	-0.6
LUWI	Luwuk	2.90	77	P		Pn		13 52 20.7	-1.2
LUWI				Pg		Pn		13 52 21.1	-0.8
LUWI				S		Sn		13 52 54.3	-1.8
LUWI	Luwuk	2.90	77			Pn		13 52 21.2	-0.7
SMKI	Samarinda	3.02	295	P		Pn		13 52 22.6	-1.0
SMKI				S		Sn		13 52 57.1	-2.0
BKB	Balikpapan	3.09	278	P		Pn		13 52 24.0	-0.5
BKB				S		Sn		13 52 59.3	-1.4
BKB	Balikpapan	3.09	278			Pn		13 52 24.0	-0.5
KAPI	Kappang	3.28	184	P		Pn		13 52 26.9	-0.2
	30nm,0.3s,baz=341,slow=7.7,SNR=93								
KAPI				S		Sn		13 53 04.0	-1.2
	14nm,0.3s,baz=274,slow=23,SNR=8.1								
KAPI				LR		LR		13 53 30.7	
	comp=Z,31nm,20.8s,baz=68,slow=35								
KAPI	Kappang	3.28	184			Pn		13 52 26.6	-0.5
GTOI	Gorontalo	3.85	53	P		Pn		13 52 33.4	-1.3
KBKI	Kotabaru	4.09	247	P		Pn		13 52 36.0	-2.0
KMSI	Cibinong	4.63	61	P		Pn		13 52 45.2	0.0
BBKI	Banjar Baru	5.39	251	P		Pn		13 52 54.6	-1.0
	0.5nm113nm,0.5s								
SANI	Sanana	6.04	93	P		Pn		13 53 02.4	-2.0
	0.1nm31nm,0.8s								
MYLDM	Lahad Datu	7.01	348			Pn		13 53 17.9	+0.3
KKM	Kota Kinabalu	8.57	334	Pn		Pn		13 53 40.3	+1.4
SIJI	Sorong	11.34	86	P		Pn		13 54 17.4	+0.8
	1.7nm,0.3s,baz=254,slow=23,SNR=7.5								
FAKI	Fak Fak	12.34	96	Pn		Pn		13 54 30.6	+0.8
TGY	Tagaytay City	15.75	4	LR		LR		14 01 31.4	
	comp=Z,92nm,21.6s,baz=34,slow=38								
FITZ	Fitzroy Crossi	17.21	161	P		P		13 55 32.8	+1.0
	0.1nm,0.3s,baz=349,slow=10,SNR=3.2								
WB0	Warramunga Arr	22.83	143	P		P		13 56 32.3	-0.1
WB0				IAmb		IAmb		13 56 33.0	
	comp=Z,20nm,1.1s								
WRAB	Tennant Creek	22.93	143	P		P		13 56 33.2	-0.1
WRAB				IAmb		IAmb		13 56 34.1	
	comp=Z,22nm,0.8s								
WRA	Warramunga Arr	22.93	143	P		P		13 56 33.0	-0.3
	comp=Z,10.0nm,0.7s,baz=311,slow=13,SNR=60								
WRA	Warramunga Arr	22.93	143	P		P		13 56 32.1	-1.2
WB2	Warramunga Arr	22.94	143	P		P		13 56 32.6	-0.8
WR0	Warramunga Arr	23.07	143	P		P		13 56 34.4	-0.2
WR0				IAmb		IAmb		13 56 35.5	
	comp=Z,24nm,0.9s								
ASAR	Alice Springs	25.66	149	P		P		13 56 58.3	0.0
	comp=Z,2.0nm,0.6s,baz=344,slow=15,SNR=19								
CMAR	Chiang Mai Arr	28.80	315	P		P		13 57 27.8	+1.4
	comp=Z,0.3nm,0.4s,baz=134,slow=6.5,SNR=4.8								
STKA	Stephens Creek	36.28	148	P		P		13 58 31.6	+0.2
	comp=Z,3.1nm,0.8s,baz=325,slow=11,SNR=4.7								
STKA	Stephens Creek	36.28	148	IAmb		IAmb		13 58 32.7	
	comp=Z,0.5nm,0.7s								
SONM	Songino Array	50.76	348	P		P		14 00 30.6	+3.2
	comp=Z,0.3nm,0.4s,baz=174,slow=8.4,SNR=1.5								
SONM				pP		pP		14 00 49.6	-2.0
	comp=Z,0.8nm,0.7s,baz=169,slow=9.0,SNR=3.7								
SONM	Songino Array	50.76	348	IAmb		IAmb		14 00 32.6	
	comp=Z,0.7nm,1.0s								
MKAR	Makanchi Array	58.53	331	P		P		14 01 24.4	+0.8
	comp=Z,0.3nm,0.5s,baz=139,slow=8.0,SNR=3.8								
MKAR				pP		pP		14 01 46.6	-1.9
	comp=Z,1.0nm,0.8s,baz=128,slow=7.9,SNR=5.9								
ZALV	Zalesovo Beam	62.67	337	pP		pP		14 02 14.0	-2.7
	comp=Z,0.3nm,0.3s,baz=150,slow=6.0,SNR=2.5								
KURBB	Kurchatov Arra	62.97	332	P		P		14 01 54.6	+1.1
	comp=Z,0.2nm,0.4s,baz=133,slow=6.4,SNR=2.5								
KURBB				pP		pP		14 02 16.2	-2.6
	comp=Z,1.0nm,0.8s,baz=144,slow=6.0,SNR=6.2								

NEIC ***07*** *14:29:59.9±1.5,40.˚69S±0.˚06×177.˚2E±0.˚1,h43km±12km, mb4.3/7,Error ellipse: s-maj=17.0km s-min=4.4km az=114.0*
IDC ***07*** *14:30:00.1±1.7,40.˚31S×176.˚31E,h0km,mb3.7/2, mb1 3.9/4,mb1mx3.7/24,mbtmp3.7/4,ML3.6/2,MS2.6/1, Ms1 2.6/1,ms1mx2.4/21,Error ellipse: s-maj=39.8km s-min=28.4km az=121.0*
WEL ***07*** *14:30:04.8,40.˚3S±0.˚8×17.˚6E±.˚,h28km±2km,M4.2/19, ML4.4/19,MLv4.2/19,Error ellipse: s-maj=0.0km s-min=0.0km az=71.1*
ISC 07 14:30:04.0±0.9,40.˚38S±0.˚03×176.˚47E±0.˚04,h35km±3km, n153,σ1§31/163,mb4.3/6,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANWZ	Angora Road	0.08	175	P		Pn		14 30 10.8	+0.8
ANWZ				S		Sn		14 30 15.6	+1.5
PRHZ	Porangahau	0.17	49	P		Pn		14 30 11.0	-0.2
PRHZ				S		Sn		14 30 16.2	-0.3
DVHZ	Dannevirke	0.24	289	P		Pn		14 30 10.4	-1.1
DVHZ				S		Sn		14 30 14.8	-2.1
WPHZ	Waipukurau	0.32	357	P		Pn		14 30 11.6	-0.5
WPHZ				S		Sn		14 30 17.3	-0.7
BFZ	Birch Farm	0.35	209	P		Pn		14 30 13.8	+1.2
BFZ	Birch Farm	0.35	209			Pn		14 30 13.7	+1.2
PRWZ	Pori Road	0.42	245	P		Pn		14 30 14.3	+0.9
PXZ	Pawanui	0.46	41	P		Pn		14 30 15.0	+0.9
PXZ				S		Sn		14 30 23.5	+2.5
TSZ	Takapari Road	0.50	309	P		Pn		14 30 13.8	-0.9
TSZ				S		Sn		14 30 20.8	-1.4
PNHZ	Pukenui	0.51	336	P		Pn		14 30 14.0	-0.8
PNHZ				S		Sn		14 30 21.3	-1.0
POWZ	Post Office Ro	0.53	268	P		Pn		14 30 15.3	+0.2
CPWZ	Castlepoint	0.57	201	P		Pn		14 30 17.9	+2.3
CPWZ				S		Sn		14 30 28.7	+4.9
TIWZ	Tintock	0.59	228	P		Pn		14 30 17.3	+1.3
TIWZ				S		Sn		14 30 26.8	+2.3
KAWZ	Kahuranaki	0.66	29	P		Pn		14 30 17.9	+0.9
MRZ	Mangatainoka R	0.73	247	P		Pn		14 30 18.6	+0.8
KRHZ	Kereru	0.74	354	P		Pn		14 30 17.9	-0.1
TMWZ	Te Maipa	0.85	211	P		Pn		14 30 20.6	+1.1
CKHZ	Cape Kidnapper	0.86	33	P		Pn		14 30 20.1	+0.5
HOWZ	Holdsworth Sta	0.89	234	P		Pn		14 30 20.9	+0.8
OHWZ	Ohakea	0.90	281	P		Pn		14 30 21.6	+1.5
BHHZ	Black Hill Sta	0.94	341	P		Pn		14 30 21.0	+0.2
MCHZ	McNeill Hill	0.95	11	P		Pn		14 30 21.7	+0.9
KWHZ	Kaweka Forest	0.95	358	P		Pn		14 30 21.5	+0.5
OGWZ	Otaki Gorge	1.08	246	P		Pn		14 30 23.4	+0.8
MOVZ	Moawhango	1.11	330	P		Pn		14 30 23.9	+0.7
TRWZ	Traveller	1.18	210	P		Pn		14 30 24.7	+0.8
ARHZ	Aropaoanui	1.19	20	P		Pn		14 30 24.9	+0.8
BKZ	Black Stump Fm	1.21	1	P		Pn		14 30 24.9	+0.4
BKZ	Black Stump Fm	1.21	1			Pn		14 30 24.9	+0.4
MTVZ	Mangateitei	1.25	322	P		Pn		14 30 26.6	+1.5
TUVZ	Tukino	1.27	330	P		Pn		14 30 27.1	+1.7
PAUZ	Paruwai Farm	1.27	218	P		Pn		14 30 26.8	+0.6
KIW	Mount Island	1.28	247	P		Pn		14 30 26.3	+0.9
WHVZ	Whangaehu Hut	1.29	328	P		Pn		14 30 26.8	+1.1
CAW	Cannon Point	1.29	235	P		Pn		14 30 26.1	+0.6
TRVZ	Turoa	1.29	326	P		Pn		14 30 27.0	+1.3
WAZ	Wanganui	1.29	298	P		Pn		14 30 27.5	+1.9
DRZ	Dome Shelter	1.30	327	P		Pn		14 30 27.4	+1.4
NMHZ	Naumai	1.31	12	P		Pn		14 30 26.7	+0.9
FWVZ	Far West T-bar	1.32	328	P		Pn		14 30 27.4	+1.2
OTVZ	Oturere	1.36	333	P		Pn		14 30 27.8	+1.2
ETVZ	East Tongariro	1.37	335	P		Pn		14 30 28.4	+1.6
MSWZ	Moikau Station	1.39	221	P		Pn		14 30 27.0	+0.1
MSWZ	Moikau Station	1.39	221			Pn		14 30 26.9	+0.1
PKVZ	Pokaka	1.39	321	P		Pn		14 30 28.2	+1.2
WHHZ	Waihua	1.43	25	P		Pn		14 30 28.1	+0.7
KRVZ	Karewarewa	1.43	333	P		Pn		14 30 29.2	+1.6
WTVZ	West Tongariro	1.43	332	P		Pn		14 30 29.2	+1.6
RITZ	Rihia Road	1.48	341	P		Pn		14 30 29.9	+1.8
PLWZ	Palliser	1.50	217	P		Pn		14 30 28.5	0.0
PLWZ	Palliser	1.50	217			Pn		14 30 28.2	-0.3
HATZ	Hinemaiaia	1.51	349	P		Pn		14 30 29.5	+0.9
TWVZ	Taurewa	1.53	328	P		Pn		14 30 30.4	+1.6
RAHZ	Arahi	1.54	18	P		Pn		14 30 29.6	+0.7
MTHZ	Maungataniwha	1.55	11	P		Pn		14 30 29.5	+0.4
WEL	Wellington	1.57	234	P		Pn		14 30 29.6	+0.2
BHW	Baring Head	1.59	229	P		Pn		14 30 29.6	0.0
BHW	Baring Head	1.59	229			Pn		14 30 29.5	-0.1
RATZ	Rangitukua	1.60	340	P		Pn		14 30 31.7	+1.8
SNZO	South Karori	1.63	235			Pn		14 30 30.2	+0.1
KNZ	Kokohu	1.65	35	P		Pn		14 30 30.2	-0.2
MHGZ	Mahia Peninsul	1.65	43	P		Pn		14 30 30.8	+0.2
SNGZ	Shannon Statio	1.73	23	P		Pn		14 30 31.9	+0.3
WHTZ	Whakaora	1.75	347	P		Pn		14 30 33.3	+1.3
WATZ	Wairara	1.76	341	P		Pn		14 30 32.9	+0.8
RTZ	Ruatahuna	1.81	13	P		Pn		14 30 32.9	+0.2
ALRZ	Allen Road	1.82	357	P		Pn		14 30 33.0	+0.2
VRZ	Vera Road	1.82	313	P		Pn		14 30 34.6	+1.8
PRGZ	Paritu Road	1.82	37	P		Pn		14 30 32.7	-0.2
LREZ	Lake Rotokare	1.83	299	P		Pn		14 30 35.1	+2.2
TCW	Tory Channel	1.86	243	P		Pn		14 30 33.4	+0.1
WPRZ	Whakapapatarin	1.87	353	P		Pn		14 30 33.8	+0.3
PRRZ	Plateau Road	1.88	358	P		Pn		14 30 33.9	+0.3
MUGZ	Murupara	1.91	7	P		Pn		14 30 34.1	0.0
RIGZ	Rimuhau	1.95	31	P		Pn		14 30 34.8	+0.2
KUTZ	Kaahu Road	1.95	345	P		Pn		14 30 35.1	+0.5
DUWZ	D'Urville Isla	1.98	257	P		Pn		14 30 36.3	+1.2
HRRZ	Handcock Road	1.99	356	P		Pn		14 30 35.8	+0.6
RAGZ	Rawiri	2.02	22	P		Pn		14 30 35.6	-0.1
RRRZ	Republican Roa	2.04	1	P		Pn		14 30 35.9	0.0
GRRZ	Galatos Road	2.04	352	P		Pn		14 30 36.5	+0.6
HSRZ	Hossack Road	2.07	355	P		Pn		14 30 36.6	+0.3
MHEZ	Mangahewa	2.10	308	P		Pn		14 30 42.7	+6.0
DREZ	Durham Road	2.11	304	P		Pn		14 30 41.1	+4.2
HLRZ	Highlands Stat	2.13	358	P		Pn		14 30 38.2	+1.2
TARZ	Mount Tarawera	2.14	1	P		Pn		14 30 37.6	+0.3
TLZ	Tolley Road	2.17	340	P		Pn		14 30 39.1	+1.5
URZ	Urewera	2.17	14	Pn		Pn		14 30 37.1	-0.6
	27nm,0.3s,baz=236,slow=7.3,SNR=113								
URZ				Sn		Sn		14 31 03.0	-0.4
	39nm,0.3s,baz=247,slow=4.5,SNR=11								
URZ				LR		LR		14 31 30.0	
	comp=Z,144nm,21.4s,baz=260,slow=42								
URZ	Urewera	2.17	14	P		Pn		14 30 37.1	-0.6
URZ	Urewera	2.17	14			Pn		14 30 37.2	-0.6
KHEZ	Kahui Hut	2.18	299	P		Pn		14 30 41.4	+3.7
TUWZ	Tuamarina	2.18	240	P		Pn		14 30 37.3	-0.5
TUWZ	Tuamarina	2.18	240			Pn		14 30 37.3	-0.5
CMWZ	Cape Campbell	2.19	230	P		Pn		14 30 38.4	+0.6
MWZ	Matawai	2.20	22	P		Pn		14 30 37.6	-0.5
UTU	Utuhina	2.21	354	P		Pn		14 30 38.8	+0.6
NMEZ	Namu Road	2.21	295	P		Pn		14 30 40.7	+2.5
TKGZ	Te Karaka	2.21	29	P		Pn		14 30 38.1	-0.1
HIZ	Hauiti	2.24	326	P		Pn		14 30 40.1	+1.5
PKE	Pukeiti	2.25	301	P		Pn		14 30 45.7	+7.0
OMRZ	Omania	2.27	358	P		Pn		14 30 39.0	0.0
EDRZ	Edgecumbe	2.28	5	P		Pn		14 30 39.1	-0.1
NBEZ	Newall Road No	2.29	298	P		Pn		14 30 42.2	+3.0
CNGZ	Carnagh Statio	2.32	36	P		Pn		14 30 38.0	-1.7
KARZ	Kaharoa	2.36	356	P		Pn		14 30 40.7	+0.4
BSWZ	Blackbirch Sta	2.37	235	P		Pn		14 30 40.0	-0.4
BSWZ	Blackbirch Sta	2.37	235			Pn		14 30 39.8	-0.6
NNZ	Nelson	2.49	249	P		Pn		14 30 42.2	+0.2
TWGZ	Tauwhareparae	2.49	29	P		Pn		14 30 42.0	-0.1
OPRZ	Ohinepanea	2.53	2	P		Pn		14 30 42.3	-0.2
PUZ	Puketiti	2.69	32	P		Pn		14 30 43.8	-1.1
TOZ	Tahuroa Road	2.75	344	P		Pn		14 30 45.9	+0.3
PKGZ	Pakihiroa	2.79	27	P		Pn		14 30 45.8	-0.4
HAZ	Te Kaha	2.81	22	P		Pn		14 30 45.5	-0.9
WMGZ	Waiomatatini S	2.97	31	P		Pn		14 30 48.0	-0.6
KHZ	Kahutara	3.00	226	P		Pn		14 30 47.7	-1.2
THZ	Tophouse	3.03	242	P		Pn		14 30 48.8	-0.7
QRZ	Quartz Range	3.03	260	P		Pn		14 30 49.8	+0.4
MXZ	Matakaoa Point	3.16	28	P		Pn		14 30 51.0	-0.2
MKAZ	Moumakai	3.42	342	P		Pn		14 30 55.8	+1.0
KBAZ	Karaka Road Bo	3.50	339	P		Pn		14 30 57.1	+1.1
AWAZ	Awhitu Peninsu	3.60	336	P		Pn		14 30 58.7	+1.4
ETAZ	East Tamaki Re	3.62	340	P		Pn		14 30 58.4	+0.7
GVZ	Greta Valley S	3.65	224	P		Pn		14 30 55.8	-2.1
KUZ	Kuaotunu	3.67	351	P		Pn		14 30 58.7	+0.4
DSZ	Denniston Nort	3.78	247	P		Pn		14 30 59.4	-0.3
MBAZ	Motutapu North	3.81	341	P		Pn		14 31 00.9	+0.8
LTZ	Lake Taylor	3.96	231	P		Pn		14 31 00.7	-1.6
AMCZ	Amberley	3.99	224	P		Pn		14 31 00.8	-1.9
OKCZ	Okains Bay	4.20	216	P		Pn		14 31 03.9	-1.5
MQZ	McQueen's Vall	4.37	219	Pn		Pn		14 31 05.4	-2.4
AKCZ	Akaroa Harbour	4.38	216	P		Pn		14 31 06.4	-1.6
OXZ	Oxford	4.43	227	P		Pn		14 31 06.3	-2.3
INZ	Inchbonnie	4.44	236	P		Pn		14 31 07.2	-1.6
WCZ	Waipu Caves	4.74	339	P		Pn		14 31 14.0	+1.1
WACZ	Wakanui South	4.95	222	P		Pn		14 31 13.6	-2.2
WVZ	Waitaha Valley	5.06	236	P		Pn		14 31 15.9	-1.4
RPZ	Rata Peaks	5.23	229	Pn		Pn		14 31 18.7	-0.9
	1.6nm,0.3s,baz=76,slow=8.3,SNR=13								
RPZ				Sn		Sn		14 32 14.3	-4.4
	5.0nm,0.3s,baz=322,slow=23,SNR=14								
RPZ	Rata Peaks	5.23	229	P		Pn		14 31 18.8	-0.9
LBZ	Lake Benmore	6.14	227	P		Pn		14 31 30.5	-1.7
ODZ	Otahua Downs	6.33	221	P		Pn		14 31 33.0	-1.8
HHSZ	Highcliff Hill	6.98	216	P		Pn		14 31 43.4	-0.3
AS31	Alice Springs	39.33	282	P		P		14 37 29.4	-0.5
ASAR	Alice Springs	39.33	282	P		P		14 37 30.1	+0.2
	0.4nm,0.6s,baz=127,slow=7.2,SNR=24								
ASAR	Alice Springs	39.33	282	P		P		14 37 30.0	0.0
WR0	Warramunga Arr	41.09	287	P		P		14 37 44.7	+0.2
WR0				IAmb		IAmb		14 37 53.2	
	comp=Z,8.5nm,1.4s								
WB2	Warramunga Arr	41.24	287	P		P		14 37 46.2	+0.5
WB2				IAmb		IAmb		14 37 59.0	
	comp=Z,9.1nm,1.4s								
WRAB	Tennant Creek	41.25	287	P		P		14 37 44.9	-0.9
WRA	Warramunga Arr	41.25	287	P		P		14 37 45.8	0.0
	comp=Z,0.7nm,0.3s,baz=125,slow=8.3,SNR=15								
WRA	Warramunga Arr	41.25	287	P		P		14 37 46.0	+0.1
WB0	Warramunga Arr	41.32	287	P		P		14 37 46.4	0.0
WB0				IAmb		IAmb		14 37 48.0	
	comp=Z,8.0nm,1.1s								
MORW	Morawa	50.06	263	P		P		14 38 52.0	-3.3
MORW				IAmb		IAmb		14 38 54.3	
	comp=Z,3.6nm,1.1s								
TORD	Torodi Ar. Bea	152.49	191	PKPbc		PKiKP		14 49 58.3	+1.1
	comp=Z,0.3nm,0.5s,baz=159,slow=2.8,SNR=2.5								
TORD				PKPab		pPKPbc		14 50 09.2	+0.8
	comp=Z,0.4nm,0.6s,baz=169,slow=3.8,SNR=2.3								

PRE ***07*** *15:10:01.5±0.9,26.˚90S×26.˚81E,h2km,ML3.3*
IDC ***07*** *15:10:02.7±1.1,26.˚86S×26.˚69E,h0km,mb3.9/4, mb1 4.1/9,mb1mx3.8/36,mbtmp4.0/9,ML3.9/3,MS3.5/2, Ms1 3.6/2,ms1mx2.6/33,Error ellipse: s-maj=31.8km s-min=15.9km az=104.0*
BUL ***07*** *15:10:03.9±1.7,26.˚65S×26.˚08E,h10km,MD3.3*
NEIC ***07*** *15:10:03.1±1.6,26.˚82S±0.˚04×26.˚65E±0.˚09,h5km±1km, mb4.6/5,Error ellipse: s-maj=14.3km s-min=7.0km az=76.0*
EAF ***07*** *15:10:05.1±0.9,26.˚69S×26.˚07E,h10km,MD3.3*
ISC 07 15:10:02.0±1.2,26.˚82S±0.˚03×26.˚74E±0.˚03,h6km±8km, n44,σ2§13/73,mb4.0/5,South Africa

| Code |

TSUM	**Tsumeb**	**11.33**	**310**		**Pn**		**15 12 46.2**	**+1.6**
LSZ	**Lusaka**	**11.56**	**7**	Pn	**Pn**		**15 12 48.3**	**+0.5**
	comp=N,0.9nm,0.3s,baz=186,slow=9.5,SNR=14							
LSZ				Sn	**Sn**		15 14 53.4	-3.9
	comp=N,1.7nm,0.3s,baz=176,slow=18,SNR=5.3							
LSZ				Lg	Lg		15 16 02.8	
	comp=N,1.0nm,0.3s,baz=100,slow=23,SNR=6.0							
TOA0	**Torodi Ar. Sit**	**46.58**	**325**	P	**P**		**15 18 32.4**	**+1.5**
TOA0				IAmb	IAmb		15 18 42.9	
	comp=Z,9.6nm,1.5s							
TORD	**Torodi Ar. Bea**	**46.58**	**325**	P	**P**		**15 18 32.0**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=154,slow=7.8,SNR=8.7							
TORD				LR	LR		15 37 52.2	
	comp=Z,79nm,18.5s,baz=65,slow=36							
TORD	**Torodi Ar. Bea**	**46.58**	**325**	P	**P**		**15 18 31.9**	**+1.0**
SNAA	**Sanae**	**47.81**	**192**	P	**P**		**15 18 40.7**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=24,slow=6.3,SNR=10							
SNAA	**Sanae**	**47.81**	**192**	P	**P**		**15 18 41.1**	**+1.1**
SNAA				IAmb	IAmb		15 18 42.8	
	comp=Z,6.3nm,1.3s							
CASY	**Casey**	**63.29**	**153**	P	**P**		**15 20 33.7**	**+2.4**
QSPA	**South Pole Qui**	**63.37**	**180**	P	**P**		**15 20 32.9**	**+0.9**
ESDC	**Sonseca Array**	**72.08**	**336**	P	**P**		**15 21 28.7**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=157,slow=6.0,SNR=2.4							
ESDC				LR	LR		15 55 01.4	
	comp=Z,20nm,18.4s,baz=150,slow=37							
ASAR	**Alice Springs**	**93.60**	**119**	P	**P**		**15 23 21.7**	**+2.1**
	comp=Z,0.4nm,1.0s,baz=237,slow=5.1,SNR=6.2							
NVAR	**Mina Array Bea**	**148.54**	**300**	PKPbc	**PKPab**		**15 29 53.2**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=123,slow=3.3,SNR=6.1							

*BJI **07** 15:53:30.0±0.0,3˚.10N×125˚.40E,h182km,mB4.9/37, mb4.7/54*
*KLM **07** 15:53:30.0,2˚.96N×125˚.58E,h190km,mb4.8*
*IDC **07** 15:53:31.5±0.8,2˚.88N×125˚.15E,h192km±7km, mb4.2/22, mb1 4.3/26,mb1mx4.1/48,mbtmp4.7/26, Error ellipse: s-maj=16.2km s-min=7.5km az=78.0*
*NEIC **07** 15:53:31.4±2.3,2˚.97N±0˚.05×125˚.27E±0˚.03,h190km±5km, mb4.8/129, Error ellipse: s-maj=7.9km s-min=4.2km az=171.0*
*DJA **07** 15:53:32.4±0.3,3˚N±2˚×12˚5E±˚,h167km±4km,M4.6/19, mb4.8/19,mB5.0/10,MLv4.9/13,Mw(mB)4.3/10,Mwp5.8/1*
*MAN **07** 15:53:34.4,3˚.36N×125˚.44E,h211km,MS4.3*
ISC 07 15:53:31.2±0.5,2˚.94N±0˚.03×125˚.31E±0˚.05,h189km±4km, n250,σ1°21/287,mb4.7/85,1C-3D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**2.70**	**209**	P	**Pn**	**15 54 17.4**	**+0.7**
KMSI				S	**Sn**	**15 54 50.9**	**-1.4**
TNTI	**Ternate**	**2.98**	**136**	P	**Pn**	**15 54 18.9**	**-1.2**
TNTI				S	**Sn**	**15 54 55.3**	**-3.0**
TNTI	**Ternate**	**2.98**	**136**	Pn	**Pn**	**15 54 19.3**	**-0.7**
GTOI	**Gorontalo**	**3.24**	**225**	P	**Pn**	**15 54 23.5**	**+0.3**
GTOI				S	**Sn**	**15 55 03.1**	**-0.8**
SKMP	**Bagumbayan, Su**	**3.63**	**348**	*eP*	**Pn**	**15 54 27.6**	**-0.4**
KCP	**Kidapawan**	**4.04**	**357**	ǁ/P	Pn	15 54 38.5	+5.3
KCP				ǁ S	**Sn**	**15 55 23.0**	**+1.0**
MATI	**Mati**	**4.09**	**13**	*eP*	**Pn**	**15 54 33.2**	**-0.6**
MATI				*eS*	**Sn**	**15 55 23.1**	**+0.3**
DAV	**Davao City (W)**	**4.11**	**4**	P	**Pn**	**15 54 35.3**	**+1.3**
	63nm,0.3s,baz=259,slow=4.2,SNR=1.7						
DAV				S	**Sn**	**15 55 24.3**	**+1.0**
	81nm,0.3s,baz=114,slow=20,SNR=6.8						
DAV	**Davao City (W)**	**4.11**	**4**	Pn	**Pn**	**15 54 32.7**	**-1.3**
LUWI	**Luwuk**	**4.70**	**213**	P	**Pn**	**15 54 41.5**	**0.0**
LUWI				S	**Sn**	**15 55 35.9**	**-0.9**
LUWI	**Luwuk**	**4.70**	**213**	Pn	**Pn**	**15 54 41.8**	**+0.3**
BUKP	**Musuan**	**4.91**	**357**	*eP*	**Pn**	**15 54 43.9**	**-0.4**
BUKP				*eS*	**Sn**	**15 55 36.8**	**-5.0**
SANI	**Sanana**	**5.01**	**172**	P	**Pn**	**15 54 43.0**	**-2.5**
PAGZ	**Pagadian**	**5.24**	**339**	*eP*	**Pn**	**15 54 48.6**	**+0.2**
PAGZ				*eS*	Sn	15 55 08.0	-41
MPSI	**Mapaga**	**5.99**	**245**	P	**Pn**	**15 54 59.0**	**+0.8**
	0.1nm600nm40nm,0.8s						
NLAI	**Namlea**	**6.40**	**164**	P	**Pn**	**15 55 03.1**	**-0.4**
	5.6nm13μm308nm,0.4s						
NLAI				S	**Sn**	**15 56 11.0**	**-5.5**
	5.6nm13μm308nm,0.4s						
PCI	**Palu**	**6.67**	**235**	P	**Pn**	**15 55 06.5**	**-0.6**
SIJI	**Sorong**	**7.06**	**122**	P	**Pn**	**15 55 12.5**	**+0.3**
	4.3nm,0.3s,baz=303,slow=23,SNR=9.7						
SIJI				S	**Sn**	**15 56 35.0**	**+2.8**
	baz=270,slow=20,SNR=1.1						
MYLDM	**Lahad Datu**	**7.14**	**288**	Pn	**Pn**	**15 55 12.5**	**-0.8**
MSAI	**Masohi**	**7.22**	**150**	P	**Pn**	**15 55 14.1**	**-0.2**
	0.8nm2μm182nm,0.5s						
MSAI				S	**Sn**	**15 56 32.6**	**-3.4**
	0.8nm2μm182nm,0.5s						
CNOP	**Candoni, Negro**	**7.33**	**339**	*eP*	**Pn**	**15 55 15.9**	**+0.2**
BNDI	**Bandanaira**	**8.72**	**148**	P	**Pn**	**15 55 33.6**	**-0.4**
	354nm,0.7s						
SMKI	**Samarinda**	**8.77**	**248**	P	**Pn**	**15 55 38.0**	**+3.4**
SPSI	**Sidrap Palu**	**8.81**	**219**	P	**Pn**	**15 55 35.3**	**+0.1**
	878nm113nm,0.7s						
BNSI	**Bone**	**8.96**	**215**	P	**Pn**	**15 55 39.0**	**+2.0**
	44nm,1.3s						
FAKI	**Fak Fak**	**9.06**	**130**	Pn	**Pn**	**15 55 37.6**	**-0.9**
BKB	**Balikpapan**	**9.39**	**244**	Pn	**Pn**	**15 55 42.5**	**-0.2**
KKM	**Kota Kinabalu**	**9.57**	**289**	Pn	**Pn**	**15 55 45.1**	**-0.1**
KAPI	**Kappang**	**9.66**	**215**	P	**Pn**	**15 55 46.6**	**+0.4**
	4.7nm,0.3s,baz=24,slow=5.8,SNR=33						
KAPI	**Kappang**	**9.66**	**215**	Pn	**Pn**	**15 55 46.7**	**+0.5**
MMRI	**Maumere**	**11.90**	**195**	P	**P**	**15 56 22.2**	**+1.8**
EDFI	**Ende, Flores**	**12.16**	**197**	P	**Pn**	**15 56 19.4**	**+0.8**
	442nm40nm,0.8s						
BBKI	**Banjar Baru**	**12.24**	**239**	P	**Pn**	**15 56 21.0**	**+1.4**
	72nm,1.1s						
SOEI	**Soe**	**12.66**	**185**	P	**Pn**	**15 56 25.8**	**+0.9**
SOEI	**Soe**	**12.66**	**185**	Pn	**Pn**	**15 56 26.9**	**+2.0**
SBUM	**Sibu**	**13.08**	**268**		**P**	**15 56 34.0**	**+0.4**
SBUM	**Sibu**	**13.08**	**268**	P	**P**	**15 56 35.0**	**+1.4**
BATI	**Baumata**	**13.16**	**187**	P	**Pn**	**15 56 32.6**	**+1.4**
	28nm,0.3s,baz=312,slow=0.7,SNR=23						
BATI	**Baumata**	**13.16**	**187**	P	**Pn**	**15 56 32.1**	**+0.9**
	2μm89nm,0.6s						
WBSI	**Waikabubak, Su**	**13.82**	**205**	P	**Pn**	**15 56 40.1**	**+0.6**
	94nm,0.6s						
PLAI	**Plampang**	**13.89**	**213**	P	**P**	**15 56 42.8**	**+0.2**
	52nm,0.8s						
BASI	**Baing, Sumba**	**13.90**	**200**	P	**Pn**	**15 56 41.3**	**+0.9**
	103nm,1.1s						
TWSI	**Taliwang, Sumb**	**14.32**	**216**	P	**P**	**15 56 46.7**	**-0.7**
	1μm94nm,0.6s						
KSM	**Kuching**	**15.06**	**265**	P	**P**	**15 56 56.2**	**+0.7**
KSM	**Kuching**	**15.06**	**265**	P	**P**	**15 56 58.0**	**+2.5**
JAGI	**Jajag, Banyuwa**	**15.88**	**224**	P	**Pn**	**15 57 06.2**	**+1.5**
JAGI				IAmb	IAmb	15 57 09.4	
	comp=Z,37nm,0.5s						
JAY	**Jayapura**	**16.32**	**109**	P	**Pn**	**15 57 12.3**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=195,slow=13,SNR=4.6						
MTN	**Manton Dam**	**16.72**	**160**		**P**	**15 57 13.4**	**-0.4**
MTN				IAmb	IAmb	15 57 19.8	
	comp=Z,47nm,1.4s						
UGM	**Wanagama**	**18.27**	**234**	P	**P**	**15 57 30.0**	**-0.9**
KNRA	**Kununurra**	**18.81**	**170**	P	**P**	**15 57 36.6**	**-0.1**
DLV	**T Lat**	**18.91**	**299**	P	**P**	**15 57 38.8**	**+0.8**
DLV				IAmb	IAmb	15 57 41.2	
	comp=Z,65nm,1.7s						
TWG	**Pinlang**	**20.18**	**349**	P	**P**	**15 57 48.5**	**-2.9**
TPUB	**Ta-pu**	**20.74**	**348**	P	**P**	**15 57 55.3**	**-2.0**
FITZ	**Fitzroy Crossi**	**20.91**	**179**	P	**P**	**15 57 57.8**	**-1.3**
	comp=Z,25nm,0.4s,baz=9.1,slow=8.2,SNR=90						
FITZ	**Fitzroy Crossi**	**20.91**	**179**	P	**P**	**15 57 58.0**	**-1.2**
FITZ				IAmb	IAmb	15 58 01.3	
	comp=Z,32nm,0.9s						
SSLB	**Suanglung**	**21.14**	**349**	P	**P**	**15 57 58.6**	**-3.0**
SSLB				IAmb	IAmb	15 58 06.0	
	comp=Z,23nm,0.7s						
NACB	**Ninganchiao**	**21.41**	**351**	P	**P**	**15 58 01.3**	**-3.0**
NACB				IAmb	IAmb	15 58 09.1	
	comp=Z,17nm,0.8s						
YHNB	**Yeheng**	**21.93**	**350**	P	**P**	**15 58 08.3**	**-1.5**
YHNB				IAmb	IAmb	15 58 10.3	
	comp=Z,23nm,0.7s						
QIZ	**Qiongzhong**	**22.01**	**318**	P	**P**	**15 58 09.8**	**-0.8**
QIZ				IAmb	IAmb	15 58 11.6	
	comp=Z,98nm,1.7s						
KNMB	**Chin-men Tao**	**22.41**	**343**	P	**P**	**15 58 15.1**	**+0.9**
WB0	**Warramunga Arr**	**24.27**	**159**	P	**P**	**15 58 30.6**	**-0.6**
WB0				IAmb	IAmb	15 58 32.9	
	comp=Z,18nm,0.8s						
WRAB	**Tennant Creek**	**24.41**	**159**	P	**P**	**15 58 32.0**	**-0.4**
WRAB				IAmb	IAmb	15 58 34.4	
	comp=Z,12nm,0.7s						
COEN	**Coen**	**24.41**	**134**	P	**P**	**15 58 31.5**	**-1.0**
COEN				IAmb	IAmb	15 58 32.9	
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**24.41**	**159**	P	**P**	**15 58 31.7**	**-0.8**
	comp=Z,12nm,0.7s,baz=338,slow=10,SNR=113						
WRA				pP	**pP**	**15 59 09.3**	**+0.4**
	comp=Z,5.6nm,0.5s,baz=336,slow=11,SNR=3.6						
WRA				S	**S**	**16 02 36.3**	**-2.2**
	comp=Z,1.3nm,1.1s,baz=332,slow=19,SNR=2.7						
WRA				ScP	**ScP**	**16 05 27.6**	**0.0**
	comp=Z,2.9nm,0.7s,baz=337,slow=3.0,SNR=16						
WRA	**Warramunga Arr**	**24.41**	**159**	P	**P**	**15 58 31.8**	**-0.8**
WRA					**ScP**	**16 05 27.1**	**-0.5**
WB2	**Warramunga Arr**	**24.42**	**159**	P	**P**	**15 58 32.2**	**-0.4**
WB2				IAmb	IAmb	15 58 34.5	
	comp=Z,19nm,0.7s						
WR0	**Warramunga Arr**	**24.50**	**159**	P	**P**	**15 58 32.7**	**-0.6**
KULM	**Kulim**	**24.70**	**276**	P	**P**	**15 58 34.9**	**-0.3**
KULM				IAmb	IAmb	15 58 45.4	
	comp=Z,20nm,1.5s						
PSA00	**Pilbara Seismi**	**24.94**	**192**	P	**P**	**15 58 37.1**	**-0.2**
PSA00				IAmb	IAmb	15 58 38.9	
	comp=Z,29nm,0.6s						
PSA00	**Pilbara Seismi**	**24.94**	**192**	P	**P**	**15 58 37.8**	**+0.5**
PSA00				IAmb	IAmb	15 58 39.1	
	comp=Z,15nm,0.6s						
PBKT	**Sadao Pong**	**27.49**	**301**	P	**P**	**15 59 00.3**	**+0.2**
GIRL	**Giralia**	**27.63**	**202**	P	**P**	**15 59 02.3**	**+0.9**
AS31	**Alice Springs**	**27.74**	**163**	P	**P**	**15 59 02.2**	**-0.2**
ASAR	**Alice Springs**	**27.74**	**163**	P	**P**	**15 59 02.0**	**-0.3**
	comp=Z,2.4nm,0.4s,baz=338,slow=7.1,SNR=153						
ASAR				pP	**pwP**	**15 59 42.0**	**-1.0**
	comp=Z,2.9nm,0.7s,baz=336,slow=9.7,SNR=4.0						
ASAR				PcP	**PcP**	**16 02 14.6**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=350,slow=2.0,SNR=2.5						
ASAR				S	**S**	**16 03 30.1**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=351,slow=22,SNR=4.4						
ASAR				ScP	**SS**	**16 05 36.8**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=344,slow=2.9,SNR=11						
NJ2	**Nanjing**	**29.59**	**349**	*eP*	**P**	**15 59 20.3**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.07**	**303**	P	**P**	**15 59 23.9**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=123,slow=6.7,SNR=8.2						
CMAR	**Chiang Mai Arr**	**30.07**	**303**	P	**P**	**15 59 22.6**	**-0.4**
CHTO	**Chiang Mai**	**30.23**	**303**	P	**P**	**15 59 24.4**	**-0.1**
JNU	**Nakatsue**	**30.47**	**9**	P	**P**	**15 59 26.7**	**+0.3**
JNU				IAmb	IAmb	15 59 30.2	
	comp=Z,32nm,1.1s						
KMI	**Kunming**	**30.96**	**317**	P	**P**	**15 59 33.0**	**+2.0**
KMI				pmax	pmax		
	comp=Z,17nm,0.6s						
ENH	**Enshi**	**31.04**	**333**	P	**P**	**15 59 32.3**	**+0.9**
MORW	**Morawa**	**33.05**	**195**	P	**P**	**15 59 48.4**	**-0.5**
MORW				IAmb	IAmb	15 59 49.4	
	comp=Z,16nm,1.0s						
FORT	**Forrest**	**33.64**	**176**	P	**P**	**15 59 53.8**	**-0.2**
FORT				IAmb	IAmb	15 59 54.6	
	comp=Z,35nm,0.9s						
INU	**Inuyama**	**34.03**	**17**	P	**P**	**15 59 58.1**	**+0.8**
INU				IAmb	IAmb	15 59 58.9	
	comp=Z,25nm,1.0s						
KSAR	**Wonju Array Be**	**34.41**	**4**	P	**P**	**16 00 02.1**	**+1.5**
KSRS	**Korea Array**	**34.43**	**4**	P	**P**	**16 00 01.9**	**+1.3**
	comp=Z,7.9nm,0.6s,baz=180,slow=9.9,SNR=47						
KSRS				PcP	**PcP**	**16 02 32.6**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=169,slow=2.6,SNR=4.1						
KSRS				ScP	**ScP**	**16 05 58.2**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=190,slow=3.1,SNR=5.3						
CD2	**Chengdu**	**34.47**	**326**	*eP*	**P**	**16 00 01.5**	**+0.3**
KS19	**Wonju Array Si**	**34.47**	**4**	P	**P**	**16 00 02.3**	**+1.2**
KS19				IAmb	IAmb	16 00 02.8	
	comp=Z,9.6nm,0.8s						
XAN	**Xi'an**	**34.51**	**336**	P	**P**	**16 00 01.2**	**-0.3**
XAN				pmax	pmax		
	comp=Z,34nm,0.8s						
XAN	**Xi'an**	**34.51**	**336**	P	**P**	**16 00 00.9**	**-0.6**
XAN				IAmb	IAmb	16 00 02.2	
	comp=Z,21nm,0.7s						
MAJO	**Matsushiro**	**35.49**	**18**	P	**P**	**16 00 10.1**	**+0.3**
MAJO				IAmb	IAmb	16 00 10.5	
	comp=Z,15nm,0.8s						
MAT	**Matsushiro**	**35.49**	**18**	P	**P**	**16 00 09.4**	**-0.5**
MJAR	**Matsushiro Arr**	**35.49**	**18**	P	**P**	**16 00 09.6**	**-0.3**
	comp=Z,14nm,0.7s,baz=200,slow=9.7,SNR=41						
MJAR	**Matsushiro Arr**	**35.49**	**18**	P	**P**	**16 00 08.8**	**-1.0**
MJB9	**Matsu-Tunnel**	**35.49**	**18**	P	**P**	**16 00 09.2**	**-0.6**
MJB9				IAmb	IAmb	16 00 10.4	
	comp=Z,15nm,0.8s						
DL2	**Dalian**	**35.95**	**355**	P	**P**	**16 00 13.6**	**-0.1**
DL2				pmax	pmax		
	comp=Z,26nm,0.6s						
NWAO	**Narrogin (SRO)**	**36.48**	**191**	P	**P**	**16 00 18.1**	**-0.2**
NWAO				IAmb	IAmb	16 00 32.7	
	comp=Z,26nm,1.2s						
NWAO	**Narrogin (SRO)**	**36.48**	**191**	P	**P**	**16 00 18.1**	**-0.2**
NWAO				IAmb	IAmb	16 00 32.7	
	comp=Z,21nm,1.2s						
BBOO	**Buckleboo**	**36.99**	**165**	P	**P**	**16 00 22.6**	**0.0**
BBOO				IAmb	IAmb	16 00 23.4	
	comp=Z,17nm,0.5s						
BJT	**Baijiatuan**	**37.82**	**349**	P	**P**	**16 00 29.0**	**-0.5**
BJT				IAmb	IAmb	16 00 29.6	
	comp=Z,10nm,0.6s						
BJI	**Beijing**	**37.84**	**349**	P	**P**	**16 00 29.0**	**-0.6**
BJI				pmax	pmax		
	comp=Z,14nm,0.6s						
STKA	**Stephens Creek**	**37.93**	**157**	P	**P**	**16 00 30.9**	**+0.4**
	comp=Z,3.6nm,0.4s,baz=334,slow=8.5,SNR=26						
STKA				pP	**pP**	**16 01 11.2**	**+1.3**
	comp=Z,3.8nm,0.7s,baz=335,slow=7.0,SNR=4.0						
STKA				ScP	**ScP**	**16 06 12.1**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=321,slow=5.2,SNR=5.6						
STKA	**Stephens Creek**	**37.93**	**157**	P	**P**	**16 00 31.1**	**+0.6**
STKA					**pP**	**16 01 11.0**	**+1.2**
STKA					**ScP**	**16 06 12.2**	**-0.1**
LZH	**Lanzhou**	**38.48**	**332**	*eP*	**P**	**16 00 36.3**	**+1.0**
LZH				pmax	pmax		
	comp=Z,30nm,1.2s						
SHL	**Shillong**	**39.22**	**308**	P	**P**	**16 00 42.2**	**+0.7**
SHL				IAmb	IAmb	16 00 42.5	
	comp=Z,15nm,0.7s						
HHC	**Hu-ho-hao-te**	**39.72**	**344**	*eP*	**P**	**16 00 44.2**	**-1.2**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,4.6s						
CN2	**Changchun**	**40.69**	**0**	*eP*	**P**	**16 00 54.6**	**+1.5**
USA0B	**Ussuriysk Arra**	**41.51**	**7**	P	**P**	**16 01 00.8**	**+1.0**
USA0B				IAmb	IAmb	16 01 02.5	
	comp=Z,18nm,0.6s						
USRK	**Ussuriysk Ar.**	**41.51**	**7**	P	**P**	**16 01 01.0**	**+1.2**
	comp=Z,16nm,0.5s,baz=185,slow=6.5,SNR=55						
ARMA	**Armidale**	**41.62**	**145**	P	**P**	**16 01 02.7**	**+1.6**
MDJ	**Mudanjiang**	**41.67**	**5**	P	**P**	**16 01 02.6**	**+1.5**
MDJ				pmax	pmax		
	comp=Z,60nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,170nm,4.6s						
MDJ	**Mudanjiang**	**41.67**	**5**	P	**P**	**16 01 02.6**	**+1.5**
MDJ				IAmb	IAmb	16 01 03.2	
	comp=Z,37nm,0.7s						
LSA	**Lhasa**	**41.91**	**313**	P	**P**	**16 01 05.2**	**+1.3**
LSA				IAmb	IAmb	16 01 06.4	
	comp=Z,13nm,0.6s						
ERM	**Erimo**	**42.06**	**20**	P	**P**	**16 01 06.7**	**+2.4**
ERM				IAmb	IAmb	16 01 07.7	
	comp=Z,18nm,0.9s						
GTA	**Gaotai**	**43.06**	**331**	ǁP	**P**	**16 01 12.6**	**0.0**
GTA				PcP	**PcP**	**16 03 00.4**	**+1.2**
GTA				ScP	**ScP**	**16 06 32.0**	**-0.5**
GTA				pmax	pmax		
	comp=Z,15nm,0.8s						
GTA				pmax	pmax		
	comp=Z,94nm,5.4s						
GTA				LR	LR		
	comp=Z,110nm,14.6s						
GTA				LR	LR		
	comp=Z,140nm,13.6s						
GTA				LR	LR		
	comp=Z,71nm,15.9s						
TAPN	**Taplejung**	**43.35**	**308**	*eP*	**P**	**16 01 13.9**	**-1.4**
ODAN	**Odare**	**43.38**	**307**	*eP*	**P**	**16 01 15.8**	**+0.3**
	comp=Z,16nm,0.6s						
JKA	**Kamikawa-asahi**	**43.77**	**18**	P	**P**	**16 01 19.7**	**+1.7**
JKA				IAmb	IAmb	16 01 20.4	
	comp=Z,20nm,1.0s						
RAMN	**Ramite**	**44.05**	**307**	*eP*	**P**	**16 01 21.4**	**+0.5**
	comp=Z,16nm,0.5s						
CAN	**Canberra**	**44.07**	**152**	P	**P**	**16 01 22.3**	**+1.7**
CAN				IAmb	IAmb	16 01 29.4	
	comp=Z,48nm,1.8s						
TOO	**Toolangi**	**44.45**	**157**	P	**P**	**16 01 25.8**	**+2.2**
JIRN	**Jiri**	**44.70**	**307**	*eP*	**P**	**16 01 26.4**	**+0.3**
	comp=Z,27nm,0.5s						
PKI	**Pulchoki**	**45.28**	**307**	*eP*	**P**	**16 01 30.3**	**-0.4**
	comp=Z,7.4nm,0.4s						
KKN	**Kakani**	**45.48**	**307**	*eP*	**P**	**16 01 32.0**	**-0.1**
	comp=Z,12nm,0.4s						
DMN	**Daman**	**45.54**	**307**	*eP*	**P**	**16 01 32.7**	**+0.1**
	comp=Z,5.9nm,0.3s						
GKN	**Gorkha**	**46.08**	**307**	*eP*	**P**	**16 01 36.5**	**-0.2**
	comp=Z,14nm,0.4s						
YSS	**Yuzh-Sakhalins**	**46.38**	**16**	P	**P**	**16 01 38.7**	**+0.2**
KOLN	**Koldanda**	**46.82**	**306**	*eP*	**P**	**16 01 42.8**	**+0.3**
	comp=Z,68nm,0.6s						
DANN	**Dangsing**	**46.93**	**307**	*eP*	**P**	**16 01 43.5**	**0.0**
	comp=Z,84nm,0.5s						
DZM	**Mont Dzumac**	**47.26**	**124**	P	**P**	**16 01 45.1**	**-0.8**
DZM				IAmb	IAmb	16 02 06.8	
	comp=Z,39nm,1.4s						
ULN	**Ulaanbaatar**	**47.44**	**343**	P	**P**	**16 01 46.8**	**-0.2**
PYUN	**Piuthan**	**47.44**	**306**	*eP*	**P**	**16 01 47.7**	**+0.3**
	comp=Z,49nm,0.5s						
SONM	**Songino Array**	**47.60**	**343**	P	**P**	**16 01 47.9**	**-0.3**
	comp=Z,6.0nm,0.6s,baz=155,slow=8.4,SNR=25						
SONM				PcP	**PcP**	**16 03 14.8**	**0.0**
	comp=Z,1.8nm,0.7s,baz=163,slow=5.4,SNR=5.5						
SONM	**Songino Array**	**47.60**	**343**	P	**P**	**16 01 47.4**	**-0.8**
SONM					**PcP**	**16 03 14.5**	**-0.3**
WMQ	**Urumqi**	**52.57**	**326**	*eP*	**P**	**16 02 26.6**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,44nm,6.3s						
WMQ				LR	LR		
	comp=Z,250nm,29.2s						
WMQ				LR	LR		
	comp=Z,510nm,28.9s						
WMQ				LR	LR		
	comp=Z,100nm,22.9s						
PEA0B	**Petropavlovsk-**	**56.70**	**23**	P	**P**	**16 02 56.0**	**+1.1**
PEA0B				IAmb	IAmb	16 03 13.1	
	comp=Z,24nm,1.4s						
PEA0B				PcP	**PcP**	**16 03 49.2**	**+0.5**
PETK	**Petropavlovsk-**	**56.70**	**23**	P	**P**	**16 02 56.4**	**+1.5**
	comp=Z,5.7nm,0.7s,baz=184,slow=2.5,SNR=24						
PETK				PcP	**PcP**	**16 03 49.0**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=151,slow=3.3,SNR=6.6						
PETK	**Petropavlovsk-**	**56.70**	**23**	P	**P**	**16 02 56.4**	**+1.5**
PETK				PcP	**PcP**	**16 03 49.4**	**+0.7**
TARG	**Taragay, Kyrgy**	**57.39**	**319**	P	**P**	**16 03 00.6**	**0.0**
TARG				PcP	**PcP**	**16 03 52.8**	**+0.5**
MK31	**Makanchi Array**	**57.40**	**326**	P	**P**	**16 02 59.7**	**-0.3**
MK31				PcP	**PcP**	**16 03 51.2**	**-0.5**
MKAR	**Makanchi Array**	**57.40**	**326**	P	**P**	**16 02 59.6**	**-0.4**
	comp=Z,23nm,0.4s,baz=121,slow=8.3,SNR=6.2						
MKAR				PcP	**PcP**	**16 03 50.6**	**-1.1**
	comp=Z,11nm,0.6s,baz=122,slow=4.9,SNR=4.1						
MAKZ	**Makanchi**	**57.58**	**326**	P	**P**	**16 03 01.0**	**-0.3**
MAKZ				PcP	**PcP**	**16 03 52.1**	**-0.3**
KDJ	**Kajisay**	**58.00**	**319**	P	**P**	**16 03 04.7**	**+0.2**
KDJ				IAmb	IAmb	16 03 05.6	
	comp=Z,6.6nm,0.5s						
KDJ				PcP	**PcP**	**16 03 54.8**	**+0.4**
YAK	**Yakutsk**	**59.04**	**2**	P	**P**	**16 03 11.9**	**+0.9**
MA2	**Magadan**	**59.81**	**15**	P	**P**	**16 03 17.9**	**+1.5**
	comp=Z,24nm,0.6s,baz=205,slow=6.7,SNR=19						
MA2	**Magadan**	**59.81**	**15**	P	**P**	**16 03 17.6**	**+1.2**
ARSB	**Arslanbob**	**60.44**	**317**	P	**P**	**16 03 20.7**	**-0.5**
ZAA0	**Zalesovo Array**	**60.65**	**334**	P	**P**	**16 03 20.1**	**-2.0**
ZALV	**Zalesovo Beam**	**60.65**	**334**	P	**P**	**16 03 20.6**	**-1.5**
	comp=Z,4.5nm

comp=Z,43nm,1.8s
HDA Harding Lake 86.39 26 P P 16 05 51.2 -0.7
ILAR Eielson Array 86.42 25 P P 16 05 50.9 -1.2
comp=Z,0.6nm,0.4s,baz=240,slow=5.1,SNR=5.6
ILAR Eielson Array 86.42 25 P P 16 05 51.0 -1.1
FID Port Fidalgo 86.58 29 P P 16 05 53.2 +0.3
RIDG Independent Ri 87.31 26 P P 16 05 56.5 +0.1
LVZ Lovozero 87.54 338 P P 16 05 56.4 -1.1
LVZ IAmb IAmb 16 05 56.6
comp=Z,8.5nm,1.0s
DOT Dot Lake 87.67 27 P P 16 05 57.7 -0.4
MENT Mentasta 87.85 27 P P 16 05 59.5 +0.6
GLB Gilahina Butte 87.86 29 P P 16 05 59.2 +0.1
GLB IAmb IAmb 16 06 06.2
comp=Z,14nm,1.6s
VRDI Verde Repeater 88.04 29 P P 16 06 00.8 +0.7
VRDI IAmb IAmb 16 06 18.6
comp=Z,21nm,1.6s
BALM Baldy 88.59 29 P 16 06 04.1 +1.5
BALM IAmb IAmb 16 06 09.5
comp=Z,10nm,1.2s
ISLE Juniper Island 88.62 30 P P 16 06 03.8 +1.0
ISLE IAmb IAmb 16 06 31.1
comp=Z,32nm,1.5s
BCAR Beaver Creek A 88.72 27 P P 16 06 04.2 +1.1
EGAK Eagle 88.87 25 P P 16 06 04.5 +0.8
BARN Barnard Glacie 88.92 29 P P 16 06 05.7 +1.5
BARN IAmb IAmb 16 06 06.4
comp=Z,9.1nm,0.7s
CTGM Chitina Glacie 89.09 29 P P 16 06 06.5 +1.5
CTGM IAmb IAmb 16 06 07.2
comp=Z,8.9nm,0.7s
KEV Kevo 90.14 340 P P 16 06 08.3 -1.1
ARCES ARCESS Array B 90.69 340 P P 16 06 11.1 -1.1
comp=Z,3.6nm,0.5s,baz=83,slow=6.5,SNR=32
ARCES ARCESS Array B 90.69 340 P P 16 06 10.9 -1.2
ARE0 ARCESS Array S 90.69 340 P P 16 06 11.1 -1.0
ARE0 ARCESS Array S 90.69 340 eP P 16 06 11.2 -0.9
HYT Haines Junctio 90.96 29 P P 16 06 14.9 +1.2
HYT IAmb IAmb 16 06 15.7
comp=Z,3.8nm,0.6s
SPA0 Spitsbergen Ar 90.97 349 P P 16 06 12.8 -0.5
SPA0 Spitsbergen Ar 90.97 349 eP P 16 06 13.0 -0.3
HAMF Hammerfest 91.09 341 eP P 16 06 12.8 -1.1
SYO Syowa Base 91.19 201 eP P 16 06 15.0 +0.7
SYO Syowa Base 91.19 201 ePP pP 16 07 03.0 +2.2
KBS Kingsbay 91.52 350 P P 16 06 15.4 -0.4
KBS IAmb IAmb 16 06 39.3
comp=Z,15nm,1.2s
KBS Kingsbay 91.52 350 eP P 16 06 15.7 -0.1
HSPB Hornsund (broa 91.53 348 eP P 16 06 16.2 +0.3
FIA1 FINESS Array S 91.84 332 P P 16 06 16.2 -1.4
FIA1 IAmb IAmb 16 06 30.1
comp=Z,28nm,1.8s
FINES FINESS Array B 91.85 332 P P 16 06 16.2 -1.4
comp=Z,2.9nm,0.4s,baz=64,slow=4.7,SNR=43
WHY Whitehorse 92.26 29 P P 16 06 20.9 +1.1
WHY IAmb IAmb 16 06 22.3
comp=Z,5.6nm,0.8s
KIF Kilpisjarvi 92.44 340 eP P 16 06 18.7 -1.5
BESE Bessie Mountai 92.64 31 P P 16 06 21.0 -0.4
BESE IAmb IAmb 16 06 42.3
comp=Z,12nm,1.3s
QSPA South Pole Qui 92.86 180 P P 16 06 22.7 +0.4
comp=Z,0.9nm,0.8s,baz=315,slow=4.3,SNR=6.9
QSPA South Pole Qui 92.86 180 P P 16 06 22.8 +0.5
QSPA IAmb IAmb 16 06 28.4
comp=Z,21nm,1.8s
TRO Tromso 92.91 340 eP P 16 06 20.9 -1.5
SALU Saltoluokta 93.70 338 eP P 16 06 24.0 -2.1
MLR Muntele Rosu 94.47 316 P P 16 06 30.1 -0.2
MLR IAmb IAmb 16 06 44.6
comp=Z,11nm,1.5s
BURAR Bucovina Array 94.63 318 P P 16 06 30.1 -0.8
STEI Steigen 94.72 339 eP P 16 06 29.2 -1.4
FAUS Fauske 94.89 339 eP P 16 06 30.0 -1.4
NSS Namsos 97.19 336 eP P 16 06 39.3 -2.6
NB2 NORSAR Subarra 98.85 333 P P 16 06 47.6 -1.9
comp=Z,1.1nm,0.6s,baz=67,slow=4.6
NB2 NORSAR Subarra 98.85 333 P P 16 06 47.6 -1.9
baz=67,slow=4.6
NOA NORSAR Array B 98.85 333 P P 16 06 47.6 -1.9
comp=Z,1.7nm,0.7s,baz=68,slow=4.5,SNR=8.5
SCHQ Schefferville 121.55 8 PKP PKiKP 16 12 02.3 -0.1
comp=Z,2.3nm,0.4s,baz=29,slow=2.9,SNR=5.5
SCHQ Schefferville 121.55 8 PKiKP 16 12 02.5 +0.1
TORD Torodi Ar. Bea 121.80 287 PKP PKPdf 16 12 03.0 -0.8
comp=Z,0.6nm,0.3s,baz=78,slow=1.6,SNR=9.9

*NEIC **07** 16:02:49.3±1.6,20˚.28S±0˚.10×177˚.7W±0˚.1,h520km±7km, mb4.7/35, Error ellipse: s-maj=15.4km s-min=12.4km az=45.0*
*IDC **07** 16:02:49.6±2.0,20˚.31S×177˚.83W,h512km±22km,mb3.2/9, mb1 3.4/11,mb1mx3.3/26,mbtmp4.1/11, Error ellipse: s-maj=21.4km s-min=16.1km az=119.0*
ISC 07 16:02:51.9±0.5,20˚.30S±0˚.09×177˚.76W±0˚.08,h550km, n60,σ1s26/64,mb4.5/26,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.71**	**302**	P	**P**	**16 04 18.7**	**-0.9**
NIUE	**Niue**	**7.48**	**82**	P	**P**	**16 04 43.6**	**-1.0**
AFI	**Afiamalu**	**8.55**	**43**	P	**P**	**16 04 52.9**	**-2.5**
	2.4nm,0.3s,baz=212,slow=19,SNR=1.9						
AFI				S	S	16 06 28.1	-8.3
	3.3nm,0.3s,baz=142,slow=19,SNR=2.4						
AFI	**Afiamalu**	**8.55**	**43**	P	**P**	**16 04 51.8**	**-3.5**
URZ	**Urewera**	**18.44**	**193**	P	**P**	**16 06 31.7**	**-2.0**
	0.8nm,0.3s,baz=299,slow=2.9,SNR=6.9						
URZ	**Urewera**	**18.44**	**193**	P	**P**	**16 06 31.7**	**-2.0**
EIDS	**Eidsvold**	**29.12**	**254**	P	**P**	**16 08 08.9**	**+0.1**
EIDS				IAmb	IAmb	16 08 24.6	
	comp=Z,39nm,1.6s						
ARMA	**Armidale**	**29.36**	**244**	P	**P**	**16 08 11.4**	**+0.4**
ARMA				IAmb	IAmb	16 08 45.6	
	comp=Z,60nm,1.9s						
CTAO	**Charters Tower**	**33.73**	**264**	P	**P**	**16 08 48.5**	**+0.2**
CTAO				IAmb	IAmb	16 10 21.7	
	comp=Z,39nm,1.4s						
COEN	**Coen**	**37.79**	**273**	P	**P**	**16 09 22.3**	**+0.3**
COEN				IAmb	IAmb	16 10 57.6	
	comp=Z,82nm,1.9s						
STKA	**Stephens Creek**	**38.08**	**244**	P	**P**	**16 09 24.1**	**0.0**
	comp=Z,1.2nm,0.5s,baz=95,slow=13,SNR=8.3						
STKA	**Stephens Creek**	**38.08**	**244**	P	**P**	**16 09 23.5**	**-0.6**
MCQ	**Macquarie Isla**	**38.46**	**202**	P	**P**	**16 09 26.0**	**-0.7**
BBOO	**Buckleboo**	**42.84**	**243**	P	**P**	**16 10 01.6**	**-0.4**
BBOO				IAmb	IAmb	16 10 27.1	
	comp=Z,26nm,1.6s						
WR0	**Warramunga Arr**	**44.66**	**262**	P	**P**	**16 10 15.5**	**-0.9**
WR0				IAmb	IAmb	16 10 28.6	
	comp=Z,45nm,2.0s						
AS31	**Alice Springs**	**44.78**	**257**	P	**P**	**16 10 17.1**	**-0.2**
ASAR	**Alice Springs**	**44.78**	**256**	P	**P**	**16 10 17.1**	**-0.2**
	comp=Z,6.0nm,0.6s,baz=92,slow=7.5,SNR=158						
ASAR				PcP	**PcP**	**16 11 48.0**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=106,slow=3.7,SNR=6.1						
ASAR				ScP	**ScP**	**16 14 51.5**	**+3.8**
	comp=Z,0.3nm,0.9s,baz=111,slow=5.1,SNR=1.9						
ASAR				S	**S**	**16 16 12.5**	**-2.3**
	comp=Z,0.7nm,0.7s,baz=92,slow=17,SNR=5.5						
ASAR	**Alice Springs**	**44.78**	**256**	P	**P**	**16 10 16.6**	**-0.7**
WB0	**Warramunga Arr**	**44.83**	**262**	P	**P**	**16 10 17.0**	**-0.6**
WB2	**Warramunga Arr**	**44.84**	**262**	P	**P**	**16 10 17.2**	**-0.5**
WRA	**Warramunga Arr**	**44.85**	**262**	P	**P**	**16 10 17.2**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=92,slow=6.1,SNR=69						
WRA				PcP	**PcP**	**16 11 48.3**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=103,slow=3.2,SNR=1.7						
WRA	**Warramunga Arr**	**44.85**	**262**	P	**P**	**16 10 17.0**	**-0.8**
WRA					**PcP**	**16 11 48.2**	**+0.4**
MTN	**Manton Dam**	**49.38**	**270**	P	**P**	**16 10 51.7**	**-0.3**
MTN				IAmb	IAmb	16 11 56.4	
	comp=Z,91nm,1.8s						
FORT	**Forrest**	**49.58**	**246**	P	**P**	**16 10 52.5**	**-0.6**
FORT				IAmb	IAmb	16 11 43.8	
	comp=Z,50nm,1.6s						
SAUI	**Saumlaki**	**50.70**	**276**	P	**P**	**16 10 59.9**	**-1.7**
KNRA	**Kununurra**	**50.90**	**266**	P	**P**	**16 11 02.8**	**-0.2**
KNRA				IAmb	IAmb	16 11 20.7	
	comp=Z,31nm,1.6s						
FAKI	**Fak Fak**	**51.67**	**283**	P	**P**	**16 11 08.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**53.28**	**262**	P	**P**	**16 11 20.2**	**+0.2**
PSA00	**Pilbara Seismi**	**57.93**	**257**	P	**P**	**16 11 51.7**	**-0.5**
PSA00				IAmb	IAmb	16 11 52.3	
	comp=Z,44nm,1.8s						
MORW	**Morawa**	**60.11**	**247**	P	**P**	**16 12 06.8**	**0.0**
MORW				IAmb	IAmb	16 13 32.8	
	comp=Z,36nm,1.8s						
GIRL	**Giralia**	**62.82**	**254**	P	**P**	**16 12 25.4**	**+0.9**
CASY	**Casey**	**64.24**	**205**	P	**P**	**16 12 33.0**	**+0.2**
QSPA	**South Pole Qui**	**69.77**	**180**	P	**P**	**16 13 08.2**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=5.7,slow=16,SNR=8.3						
QSPA	**South Pole Qui**	**69.77**	**180**	P	**P**	**16 13 08.3**	**+1.3**
KKM	**Kota Kinabalu**	**69.92**	**285**	P	**P**	**16 13 09.4**	**+0.7**
KKM				IAmb	IAmb	16 13 39.0	
	comp=Z,49nm,1.2s						
MJAR	**Matsushiro Arr**	**70.18**	**323**	P	**P**	**16 13 09.8**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=161,slow=5.9,SNR=8.2						
MJAR	**Matsushiro Arr**	**70.18**	**323**	P	**P**	**16 13 09.8**	**+0.1**
MAJO	**Matsushiro**	**70.18**	**323**	P	**P**	**16 13 10.2**	**+0.5**
MAJO				IAmb	IAmb	16 14 50.8	
	comp=Z,37nm,1.9s						
MJB9	**Matsu-Tunnel**	**70.19**	**323**	P	**P**	**16 13 10.1**	**+0.4**
MJB9				IAmb	IAmb	16 14 50.7	
	comp=Z,39nm,1.9s						
UGM	**Wanagama**	**70.19**	**269**	P	**P**	**16 13 10.5**	**+0.2**
TWG	**Pinlang**	**73.46**	**303**	P	**P**	**16 13 29.8**	**+0.7**
KSM	**Kuching**	**73.61**	**278**	P	**P**	**16 13 31.2**	**+1.1**
KSM				IAmb	IAmb	16 15 14.6	
	comp=Z,9.8nm,0.9s						
SSLB	**Suanglung**	**74.05**	**303**	P	**P**	**16 13 31.9**	**-0.5**
SSLB				IAmb	IAmb	16 16 13.4	
	comp=Z,77nm,2.0s						
TPUB	**Ta-pu**	**74.06**	**303**	P	**P**	**16 13 32.6**	**+0.2**
PETK	**Petropavlovsk-**	**76.14**	**345**	P	**P**	**16 13 43.9**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=124,slow=8.3,SNR=5.2						
PETK	**Petropavlovsk-**	**76.14**	**345**	P	**P**	**16 13 43.4**	**0.0**
KSRS	**Korea Array**	**76.89**	**318**	P	**P**	**16 13 49.5**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=123,slow=5.7,SNR=4.8						
YBH	**Yreka Blue Hor**	**79.99**	**39**	P	**P**	**16 14 03.9**	**-0.6**
TXAR	**Lajitas Array**	**86.76**	**57**	P	**P**	**16 14 41.4**	**+3.0**
	comp=Z,0.1nm,0.5s,baz=213,slow=7.6,SNR=1.8						
TXAR	**Lajitas Array**	**86.76**	**57**	P	**P**	**16 14 41.1**	**+2.7**
LL01	**San Ignacio de**	**87.28**	**134**	P	**P**	**16 14 39.7**	**-0.8**
LL01				IAmb	IAmb	16 14 42.8	
	comp=Z,20nm,1.1s						
CMAR	**Chiang Mai Arr**	**90.26**	**289**	P	**P**	**16 14 56.9**	**+2.1**
	comp=Z,0.7nm,0.5s,baz=104,slow=3.8,SNR=5.1						
CMAR	**Chiang Mai Arr**	**90.26**	**289**	P	**P**	**16 14 55.6**	**+0.9**
MKAR	**Makanchi Array**	**111.22**	**313**	PKiKP	**PKiKP**	**16 20 23.1**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=132,slow=2.1,SNR=3.6						
AKASG	**Malin Array Be**	**142.95**	**331**	PKhKP	PKPpre	16 21 20.7	
	comp=Z,1.5nm,0.5s,baz=45,slow=4.4,SNR=9.3						
AKASG	**Malin Array Be**	**142.95**	**331**		**PKPdf**	**16 21 20.3**	**-2.7**
BRTR	**Keskin Array B**	**146.87**	**313**	PKPbc	**PKPbc**	**16 21 33.6**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=142,slow=5.3,SNR=2.5						
BRTR	**Keskin Array B**	**146.87**	**313**		**PKPbc**	**16 21 33.4**	**+0.2**
GERES	**GERESS Array B**	**150.07**	**345**	PKPbc	**PKPbc**	**16 21 41.1**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=64,slow=4.5,SNR=3.8						
GERES	**GERESS Array B**	**150.07**	**345**		**PKPbc**	**16 21 40.7**	**0.0**

*NEIC **07** 16:24:04.2,20˚.08N×155˚.79W,h18km,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mw0.81; Mθθ-0.78; Mφφ-0.03; Mrθ-0.35; Mrφ0.55; Mθφ0.52; Fault plane solution: M0 1.15000×10^15^ NP1:φ316.03000°, δ62.92000°, λ110.35000°. NP2:φ96.85000°, δ33.41000°, λ55.78000°. Principal axes: T 1.0594, Plg66.0000°, Azm263.0000°; N 0.1654, Plg18.0000°, Azm126.0000°; P -1.2248, Plg16.0000°, Azm31.0000°;*
*HON **07** 16:24:04±1.8,20˚.08N±0˚.07×155˚.80W±0˚.09,h17km±6km Error ellipse: s-maj=14.4km s-min=6.4km az=52.0*
*HVO **07** 16:24:04.2±1.7,20˚.08N±0˚.04×155˚.79W±0˚.07,h17km±3km, ML4.5/45,Mwr4.0/20(NEIC),Error ellipse: s-maj=9.6km s-min=3.3km az=65.0*
NEIC 07 16:24:01.2±0.7,20˚.08N±0˚.03×155˚.74W±0˚.05,h22km±8km, Error ellipse: s-maj=7.3km s-min=2.4km az=59.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HPAH	**Hawaii Prepara**	**0.07**	**137**		Pb	16 24 07.5	+2.3
POHA	**Pohakuloa**	**0.38**	**148**		Pn	16 24 11.4	-0.1
POHA				Sg	Sn	16 24 16.9	-1.4
HUH	**Hualalai**	**0.40**	**192**		Pn	16 24 11.9	0.0
KKH	**Kailua Kona**	**0.49**	**212**		Pn	16 24 12.5	-0.4
KHLU	**Kahalu`u**	**0.50**	**196**		Pn	16 24 12.6	-0.6
HMH	**Humu'ula Sheep**	**0.53**	**152**		Pn	16 24 14.0	+0.2
HMH				Sg	Sn	16 24 21.3	-1.0
MWH	**Moku'aweowe**	**0.61**	**167**		Pn	16 24 14.7	-0.2
MLH	**Mauna Loa**	**0.67**	**150**		Pn	16 24 15.8	+0.1
MLH				Sg	Sb	16 24 24.3	+0.9
AIN	**Ainahou**	**0.75**	**159**		Pn	16 24 16.9	+0.2
AIN				Sg	Sb	16 24 25.8	+0.3
RSD	**Rainshed**	**0.75**	**144**		Pn	16 24 16.9	+0.3
RSD				Sg	Sb	16 24 26.1	+0.5
UWE	**Uwekahuna**	**0.78**	**147**		Pn	16 24 17.1	+0.1
UWE				Sg	Sb	16 24 26.5	+0.2
UWB	**Uwekahuna B**	**0.78**	**146**		Pn	16 24 17.0	-0.1
UWB				Sg	Sb	16 24 26.4	0.0
OBL	**Observatory Le**	**0.79**	**146**		Pn	16 24 17.1	-0.1
OBL				Sg	Sb	16 24 26.9	+0.3
SBLHI	**Steaming Bluff**	**0.79**	**145**		Pn	16 24 17.1	-0.1
SBLHI				Sg	Sb	16 24 26.3	-0.2
WRMHI	**West Rim**	**0.79**	**148**		Pn	16 24 17.1	0.0
NPH	**North Pit**	**0.79**	**147**		Pn	16 24 17.0	-0.2
NPH				Sg	Sb	16 24 26.1	-0.6
HATHI	**Halema'uma'u T**	**0.80**	**145**		Pn	16 24 17.1	-0.1
HATHI					Pb	16 24 26.1	+10
BYL	**Byron's Ledge**	**0.80**	**145**		Pn	16 24 17.3	-0.1
SDHHI	**Sand Hill**	**0.81**	**148**		Pn	16 24 17.3	0.0
RIM	**Rim**	**0.81**	**147**		Pn	16 24 17.4	-0.1
KKO	**Keanakako`i**	**0.81**	**146**		Pn	16 24 17.5	0.0
HLK	**Haleakala**	**0.83**	**325**		Pb	16 24 17.1	+0.1
KHU	**Kahuku**	**0.84**	**172**		Pn	16 24 17.6	-0.3
PUH	**Pauahi**	**0.86**	**145**		Pn	16 24 17.8	-0.3
HLP	**Hilina Pali**	**0.88**	**152**		Pn	16 24 18.5	+0.1
STCH	**Steam Cracks**	**0.90**	**140**		Pn	16 24 18.6	-0.1
NPOC	**North of Pu'u**	**0.91**	**139**		Pn	16 24 18.7	-0.1
JCUZ	**Jacuzzi**	**0.92**	**139**		Pn	16 24 18.8	-0.1
KHLH	**Kahului Airpor**	**1.04**	**322**		Pb	16 24 20.6	+0.2
HON	**Honolulu**	**2.45**	**301**		Pn	16 24 39.2	-0.6
KIP	**Kipapa**	**2.51**	**303**		Pn	16 24 40.5	-0.3
OPA	**Opana**	**2.66**	**307**	Pn	Pn	16 24 41.9	-0.8
KEKH	**Kekaha**	**4.16**	**298**	Pn	Pn	16 25 02.1	-1.3
MIDW	**Midway**	**21.31**	**296**	P	P	16 28 46.1	-0.5
WDC	**Whiskeytown Da**	**34.90**	**47**	P	P	16 30 54.3	+3.1
RUBR	**Rubicon Trail**	**35.97**	**50**	P	P	16 31 05.7	+5.0

*TUL **07** 16:39:21.4±0.9,36˚.82N±0˚.02×98˚.00W±0˚.02,h5km±7km, ML3.2,Error ellipse: s-maj=3.1km s-min=2.6km az=162.0*
*ANF **07** 16:39:21.1±0.4,36˚.84N×97˚.99W,h5km,ML3.9/16,Error ellipse: s-maj=5.6km s-min=3.7km az=23.0*
*NEIC **07** 16:39:22.5±0.9,36˚.82N±0˚.02×97˚.99W±0˚.02,h5km±7km, Error ellipse: s-maj=3.2km s-min=2.7km az=159.0*
ISC 07 16:39:21.6±0.9,36˚.81N±0˚.02×98˚.00W±0˚.02,h13km±7km, n87,σ1s23/111,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.30**	**177**	Pg	**Pg**	**16 39 27.8**	**-0.2**
CROK				Sg	**Sg**	**16 39 32.3**	**+0.2**
KAN10	**Anthony SW Sta**	**0.32**	**347**		**Pg**	**16 39 28.1**	**-0.1**
KAN10				Sg	**Sg**	**16 39 32.8**	**+0.1**
KAN01	**Argonia South**	**0.39**	**30**	Pg	**Pg**	**16 39 29.4**	**-0.1**
KAN13	**South Haven SW**	**0.47**	**64**		**Pg**	**16 39 30.6**	**-0.2**
KAN13				Sg	**Sg**	**16 39 37.1**	**0.0**
KAN12	**Harper NE Stat**	**0.49**	**0**		**Pg**	**16 39 31.0**	**-0.2**
KAN12				Sg	**Sb**	**16 39 38.3**	**-0.8**
U32A	**Winter Ranch,**	**0.91**	**242**		**Pg**	**16 39 38.9**	**-0.4**
U32A				Sg	**Sg**	**16 39 51.6**	**+0.4**
OK029	**Liberty Lake**	**1.10**	**156**		**Pg**	**16 39 42.2**	**-0.7**
OK029				Sg	**Sg**	**16 39 57.2**	**-0.1**
BCOK	**Bluff Creek, N**	**1.19**	**164**		**Pg**	**16 39 43.6**	**-1.0**
BCOK				Sg	**Sg**	**16 40 00.1**	**-0.1**
T35A	**Sooner Cattle**	**1.20**	**85**	Pg	**Pg**	**16 39 43.8**	**-0.9**
T35A				Sg	**Sg**	**16 39 59.9**	**-0.5**
QUOK	**Quay**	**1.22**	**121**		**Pg**	**16 39 44.3**	**-0.8**
QUOK				Sg	**Sg**	**16 40 00.5**	**-0.6**
ADOK	**Arcadia Dam**	**1.26**	**156**		**Pg**	**16 39 44.9**	**-1.0**
OK025	**Westminster Rd**	**1.34**	**156**		**Pg**	**16 39 46.6**	**+0.6**
OKCFA	**Oklahoma City**	**1.46**	**162**		**Pb**	**16 39 49.3**	**+0.7**
OKCSW	**OKLAHOMA CITY**	**1.48**	**162**		**Pn**	**16 39 48.7**	**+0.8**
FNO	**Franklin**	**1.62**	**162**		**Pb**	**16 39 51.4**	**0.0**
R32A	**Long Quarter,**	**1.71**	**341**	Pn	**Pb**	**16 39 52.7**	**-0.1**
W35A	**Tecumseh**	**1.89**	**151**		**Pn**	**16 39 54.8**	**+1.3**
TUL1	**Leonard**	**2.00**	**116**	P	**Pn**	**16 39 56.8**	**+1.8**
	baz=298						
TUL1				S	**Sb**	**16 40 22.8**	**+0.3**
	baz=298						
TUL1	**Leonard**	**2.00**	**116**		**Pn**	**16 39 56.7**	**+1.7**
WMOK	**Wichita Mounta**	**2.16**	**197**	P	**Pn**	**16 39 58.6**	**+1.2**
	baz=17						
WMOK				S	**Sn**	**16 40 26.9**	**+2.9**
	baz=17						
WMOK	**Wichita Mounta**	**2.16**	**197**		**Pn**	**16 39 58.7**	**+1.3**
X34A	**Smith Ranch, M**	**2.21**	**176**		**Pn**	**16 39 60.0**	**+2.0**
CBKS	**Cedar Bluff**	**2.43**	**326**	P	**Pn**	**16 40 02.7**	**+1.7**
	baz=145						
CBKS				S	**Sn**	**16 40 33.5**	**+3.0**
	baz=145						
CBKS	**Cedar Bluff**	**2.43**	**326**	Pn	**Pn**	**16 40 02.6**	**+1.6**
KSU1	**Kansas State U**	**2.54**	**25**	P	**Pn**	**16 40 03.9**	**+1.4**
	baz=206						
KSU1				S	**Sn**	**16 40 36.2**	**+3.0**
	baz=206						
KSU1	**Kansas State U**	**2.54**	**25**	Pn	**Pn**	**16 40 03.9**	**+1.4**
U38A	**Gravette**	**2.93**	**96**		**Pn**	**16 40 09.2**	**+1.3**
X37A	**Clayton**	**3.08**	**135**		**Pn**	**16 40 11.3**	**+1.4**
HHAR	**Hobbs**	**3.31**	**98**		**Pn**	**16 40 13.8**	**+0.7**
Z35A	**Perchaven, San**	**3.53**	**170**	Pn	**Pn**	**16 40 17.8**	**+1.8**
AMTX	**Amarillo**	**3.55**	**238**	P	**Pn**	**16 40 18.9**	**+2.3**
	baz=56						
AMTX				Sb	**Sg**	**16 41 12.5**	**-3.2**
	baz=56						
AMTX	**Amarillo**	**3.55**	**238**		**Pn**	**16 40 18.8**	**+2.3**
W39A	**Magazine**	**3.78**	**114**	P	**Pn**	**16 40 21.4**	**+1.9**
	baz=297						
W39A				S	**Sn**	**16 41 05.7**	**+1.9**
	baz=297						
W39A	**Magazine**	**3.78**	**114**		**Pn**	**16 40 21.6**	**+2.0**
S39A	**Bolivar**	**3.84**	**75**		**Pn**	**16 40 21.5**	**+1.2**
N33A	**J Bar K, Exete**	**3.95**	**6**	Pn	**Pn**	**16 40 23.3**	**+1.5**
U40A	**Yellville**	**4.17**	**95**	P	**Pn**	**16 40 25.7**	**+0.9**
	baz=278						
U40A				S	**Sn**	**16 41 13.9**	**+0.5**
	baz=278						
U40A	**Yellville**	**4.17**	**95**		**Pn**	**16 40 25.8**	**+0.9**
MIAR	**Mount Ida**	**4.25**	**121**	P	**Pn**	**16 40 27.9**	**+1.9**
	baz=304						
MIAR				S	**Sn**	**16 41 17.2**	**+1.7**
	baz=304						
MIAR	**Mount Ida**	**4.25**	**121**		**Pn**	**16 40 27.6**	**+1.6**
KSCO	**Kaye Shedlock'**	**4.27**	**302**	S	**Sn**	**16 41 17.0**	**+0.9**
	baz=120						
KSCO	**Kaye Shedlock'**	**4.27**	**302**		**Pn**	**16 40 28.1**	**+1.7**
ABTX	**Abilene, Hawle**	**4.39**	**198**	S	**Sn**	**16 41 19.9**	**+1.0**
	baz=18						
ABTX	**Abilene, Hawle**	**4.39**	**198**		**Pn**	**16 40 28.4**	**+0.4**
N35A	**Tabor**	**4.44**	**24**		**Pn**	**16 40 29.1**	**+0.4**
P38A	**Dawn**	**4.50**	**50**		**Pn**	**16 40 30.4**	**+1.0**
BGNE	**Belgrade**	**4.59**	**359**	P	**Pn**	**16 40 31.8**	**+1.1**
	baz=178						
BGNE				S	**Sn**	**16 41 24.5**	**+0.6**
	baz=178						
BGNE	**Belgrade**	**4.59**	**359**		**Pn**	**16 40 31.3**	**+0.6**
MGMO	**Mountain Grove**	**4.60**	**84**		**Pn**	**16 40 32.3**	**+1.4**
R40A	**Maddies Statio**	**4.79**	**70**		**Pn**	**16 40 33.8**	**+0.4**
X40A	**Basin Creek Fa**	**4.80**	**117**	P	**Pn**	**16 40 34.9**	**+1.3**
	baz=301						
X40A				S	**Sn**	**16 41 29.8**	**+0.7**
	baz=301						
X40A	**Basin Creek Fa**	**4.80**	**117**		**Pn**	**16 40 34.4**	**+0.8**
MSTX	**Muleshoe**	**4.82**	**235**	S	**Sn**	**16 41 30.6**	**+0.9**
	baz=52						
MSTX	**Muleshoe**	**4.82**	**235**		**Pn**	**16 40 34.5**	**+0.5**
WHTX	**Lake Whitney,**	**4.83**	**174**	P	**Pn**	**16 40 35.2**	**+1.3**
	baz=355						
WHTX				S	**Sn**	**16 41 29.7**	**0.0**
	baz=355						
WHTX	**Lake Whitney,**	**4.83**	**174**		**Pn**	**16 40 35.3**	**+1.3**
FCAR	**Ozark Folk Cen**	**4.83**	**99**		**Pn**	**16 40 34.8**	**+0.8**
WHAR	**Wooly Hollow**	**4.87**	**106**		**Pn**	**16 40 34.2**	**-0.3**
W41B	**Gary Mavity, V**	**4.94**	**108**	P	**Pn**	**16 40 37.2**	**+1.7**
	baz=291						
W41B				S	**Sn**	**16 41 32.3**	**-0.2**
	baz=291						
W41B	**Gary Mavity, V**	**4.94**	**108**		**Pn**	**16 40 34.1**	**-1.4**
T25A	**Trinidad**	**5.14**	**276**	P	**Pn**	**16 40 39.6**	**+1.1**
	baz=92						
T25A				S	**Sn**	**16 41 38.3**	**+0.5**
	baz=92						
T25A	**Trinidad**	**5.14**	**276**		**Pn**	**16 40 39.0**	**+0.5**
L34A	**Svendsen Farm,**	**5.30**	**13**		**Pn**	**16 40 40.0**	**-0.4**
P40A	**Paris**	**5.42**	**58**		**Pn**	**16 40 41.9**	**-0.2**
N38A	**Joes South For**	**5.45**	**42**		**Pn**	**16 40 41.8**	**-0.6**
CCM	**Cathedral Cave**	**5.52**	**75**	P

*UPP **07** 17:00:34.6±0.1, 67.08N×20.90E, h1km, ML2.4, Explosion*
*NAO **07** 17:00:35.2±1.1, 67.05N×21.18E, ML2.7*
*HEL **07** 17:00:36.3, 67.12N×21.12E, h0km, ML2.2, Explosion*
*KOLA **07** 17:00:37.0, 68.04N×20.68E, h0km*
*BER **07** 17:00:37.1±3.6, 67.04N×20.82E, h0km, ML2.7(NAO), Suspected explosion*

ISC 07 17:00:34.1±0.8, 67.07N±0.03×20.90E±0.03, h0km, n43, σ1s37/68, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERTU	**Ertsjaerv**	**0.73**	**135**	P	**Pg**	**17 00 48.1**	**+0.1**
ERTU				S	**Sb**	**17 00 59.9**	**-0.1**
ERTU	**Ertsjaerv**	**0.73**	**135**	*i* P	**Pg**	**17 00 48.1**	**+0.1**
ERTU				*i* S	**Sb**	**17 00 59.9**	**-0.1**
RATU	**Laukkuluspa**	**0.91**	**327**	P	**Pg**	**17 00 51.4**	**-0.2**
RATU	**Laukkuluspa**	**0.91**	**327**	*e*P	**Pg**	**17 00 51.4**	**-0.2**
KUA	**Kurravaara**	**0.92**	**346**	P	**Pg**	**17 00 51.5**	**-0.1**
KUA	**Kurravaara**	**0.92**	**346**	*e*P	**Pg**	**17 00 51.5**	**-0.1**
SALU	**Saltoluokta**	**0.98**	**290**	*e*P	**Pg**	**17 00 51.9**	**-1.0**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**17 00 54.2**	**-0.4**
LANU	**Lannavaara**	**1.07**	**22**	*e*P	**Pg**	**17 00 54.2**	**-0.4**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**17 00 54.5**	**-0.2**
NIKU	**Nikkaluokta**	**1.08**	**319**	*e*P	**Pg**	**17 00 54.5**	**-0.2**
KOVU	**Salmi**	**1.19**	**347**	P	**Pg**	**17 00 56.7**	**-0.2**
KOVU	**Salmi**	**1.19**	**347**	*e*P	**Pg**	**17 00 56.7**	**-0.2**
SJUU	**Sjulsmark**	**1.59**	**169**	P	**Pn**	**17 01 03.9**	**+0.4**
SJUU	**Sjulsmark**	**1.59**	**169**	*e*P	**Pn**	**17 01 03.9**	**+0.4**
TOF	**Tornio**	**1.69**	**124**	*e*P	**Pn**	**17 01 05.4**	**+0.6**
TOF				*e*S	**Sn**	**17 01 27.8**	**+0.7**
TOF				MSG		17 01 32.8	
	comp=Z,16nm,0.1s						
LILU	**Lilltraesk**	**1.84**	**194**	P	**Pn**	**17 01 07.9**	**+1.0**
LILU	**Lilltraesk**	**1.84**	**194**	*e*P	**Pn**	**17 01 07.9**	**+1.0**
KIF	**Kilpisjarvi**	**1.94**	**359**	Pn	**Pb**	**17 01 10.0**	**-0.3**
KIF				Sn	**Sg**	**17 01 36.2**	**-0.3**
KIF	**Kilpisjarvi**	**1.94**	**359**	*e*P	**Pb**	**17 01 10.3**	**0.0**
KIF				*e*S	**Sg**	**17 01 35.5**	**-1.0**
KIF				MSG		17 01 40.6	
	comp=Z,22nm,0.1s						
KIF	**Kilpisjarvi**	**1.94**	**359**	*e*P	**Pb**	**17 01 10.1**	**-0.3**
KIF				Sn	**Sg**	**17 01 36.2**	**-0.3**
SGF	**Sodankyl**	**2.22**	**78**	*e*P	**Pn**	**17 01 13.2**	**+1.2**
SGF				*e*S	**Sn**	**17 01 39.2**	**-0.9**
TRO	**Tromso**	**2.68**	**345**	Pn	**Pb**	**17 01 20.6**	**-2.3**
TRO				Sn	**Sn**	**17 01 52.9**	**+1.4**
TRO	**Tromso**	**2.68**	**345**	Pn	**Pb**	**17 01 20.6**	**-2.3**
TRO				Sn	**Sn**	**17 01 52.9**	**+1.4**
OUL	**Oulu**	**2.85**	**132**	*e*P	**Pn**	**17 01 22.9**	**+2.2**
OUL				*e*S	**Sn**	**17 01 56.1**	**+0.5**
ARA0	**ARCESS Array S** baz=208,slow=16	**3.01**	**33**	Pn	**Pn**	**17 01 23.6**	**+0.6**
ARA0				Sn	**Sn**	**17 02 01.3**	**+1.6**
	baz=211,slow=28						
ARA0	**ARCESS Array S** baz=208,slow=16	**3.01**	**33**	Pn	**Pn**	**17 01 23.6**	**+0.6**
ARA0				Sn	**Sn**	**17 02 01.3**	**+1.6**
	baz=211,slow=28						
ARCES	**ARCESS Array B**	**3.01**	**33**	Pn	**Pn**	**17 01 22.8**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=209,slow=14,SNR=63						
ARCES				Pg	**Pb**	**17 01 24.2**	**-4.3**
	comp=Z,0.5nm,0.3s,baz=210,slow=14,SNR=3.4						
ARCES				Sn	Sn	17 01 49.3	-10
	comp=Z,0.5nm,0.3s,baz=217,slow=21,SNR=5.1						
ARCES				Lg	Lg	17 02 01.5	
	comp=Z,1.6nm,0.3s,baz=208,slow=24,SNR=14						
ARE0	**ARCESS Array S**	**3.01**	**33**	*e*P	**Pn**	**17 01 24.2**	**+1.2**
ARE0				*e*S	**Sn**	**17 01 58.9**	**-0.8**
KEV	**Kevo**	**3.52**	**37**	*e*P	**Pn**	**17 01 30.6**	**+0.7**
KEV				*e*S	**Sn**	**17 02 11.6**	**-0.5**
KU6	**Riekki**	**3.74**	**102**	*e*P	**Pn**	**17 01 33.9**	**+0.8**
KU6				*e*S	**Sn**	**17 02 17.1**	**-0.6**
APA0	**Apatity Array** baz=281,slow=12	**4.71**	**78**	Pn	**Pn**	**17 01 46.0**	**-0.2**
APA0				Sn	**Sn**	**17 02 39.5**	**-2.0**
	baz=266,slow=16						
APA0				Lg	Lg	17 02 59.5	
	baz=262,slow=37						
APA0	**Apatity Array**	**4.71**	**78**	P	**Pn**	**17 01 45.8**	**-0.5**
APA0				S	**Sn**	**17 02 39.0**	**-2.5**
APA0	**Apatity Array** baz=281,slow=12	**4.71**	**78**	Pn	**Pn**	**17 01 46.0**	**-0.2**
APA0				Sn	**Sn**	**17 02 39.5**	**-2.0**
	baz=266,slow=16						
APA0				Sg	**Sb**	**17 02 59.5**	**+5.0**
	baz=262,slow=37						
APA	**Apatity**	**4.87**	**78**	P	**Pn**	**17 01 51.8**	**+3.4**
APA				S	**Sn**	**17 02 46.5**	**+1.2**
FIA0	**FINESS Array S** baz=348,slow=16	**6.08**	**156**	Pn	**Pn**	**17 02 06.3**	**+1.2**
FIA0				Sn	**Sn**	**17 03 14.2**	**-1.0**
	baz=335,slow=28						
FIA0	**FINESS Array S** baz=348,slow=16	**6.08**	**156**	Pn	**Pn**	**17 02 06.3**	**+1.2**
FIA0				Sn	**Sn**	**17 03 14.2**	**-1.0**
	baz=335,slow=28						
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**17 02 06.6**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=349,slow=13,SNR=13						
FINES				Sn	**Sn**	**17 03 15.0**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=350,slow=22,SNR=8.4						
FINES				Lg	Lg	17 03 41.8	
	comp=Z,0.4nm,0.3s,baz=349,slow=24,SNR=3.5						
NB2	**NORSAR Subarra** baz=30,slow=14	**7.39**	**220**	Pn	**Pn**	**17 02 23.3**	**+0.2**
NB2	**NORSAR Subarra** baz=30,slow=14	**7.39**	**220**	Pn	**Pn**	**17 02 23.3**	**+0.2**
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**17 02 23.8**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=39,slow=16,SNR=7.5						
NOA				Sn	**Sn**	**17 03 49.0**	**+1.5**
	comp=Z,0.0nm,0.3s,baz=41,slow=12,SNR=1.8						
NRA0	**NORESS Array S** baz=44,slow=16	**7.57**	**217**	Pn	**Pn**	**17 02 27.0**	**+1.4**
NRA0	**NORESS Array S** baz=44,slow=16	**7.57**	**217**	Pn	**Pn**	**17 02 27.0**	**+1.4**

*ISK **07** 17:46:13.1, 35.91N×30.95E, h11km, ML2.9/28*
*DDA **07** 17:46:15.2, 35.97N×31.00E, h7km±2km, ML2.5*
*NIC **07** 17:46:18.4±0.0, 35.90N×30.81E, h28km±11km, Ml3.1/4*

ISC 07 17:46:12.8±1.3, 35.98N±0.03×30.91E±0.03, h3km±12km, n41, σ1s12/52, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKUM	**Antalya-Kumluc**	**0.57**	**307**	*i* P	**Pn**	**17 46 28.0**	**+0.2**
AKUM				*i* S	**Sn**	**17 46 39.0**	**+1.2**
AKUM				IAML		17 46 42.0	
	comp=E,199nm,0.3s						
KEMT	**Kemer-ANTALYA**	**0.68**	**335**	PG	**Pn**	**17 46 28.1**	**-1.3**
ANTB	**Antalya**	**0.94**	**347**	PG	**Pn**	**17 46 33.1**	**+0.2**
ANTB				SG	**Sn**	**17 46 47.6**	**+0.7**
ALAN	**Alanya-ANTALYA**	**1.07**	**57**	PN	**Pn**	**17 46 34.4**	**-0.4**
ALAN				SN	**Sn**	**17 46 50.0**	**-0.2**
KEPZ	**Antalya-Kepez**	**1.07**	**31**	*i* P	**Pn**	**17 46 35.2**	**+0.4**
KEPZ				*i* S	**Sn**	**17 46 50.3**	**0.0**
AKAS	**Kas**	**1.09**	**284**	PN	**Pn**	**17 46 35.5**	**+0.4**
AKAS				SN	**Sn**	**17 46 50.9**	**+0.2**
ELL	**Elmali**	**1.11**	**314**	PN	**Pn**	**17 46 36.4**	**+1.0**
ELL	**Elmali**	**1.11**	**314**	P	**Pn**	**17 46 38.7**	**+3.3**
KORT	**Korkueli**	**1.11**	**336**	PN	**Pn**	**17 46 36.5**	**+1.1**
KORT	**Korkueli**	**1.11**	**336**	*i* P	**Pn**	**17 46 36.9**	**+1.5**
GAZI	**Gazipasa**	**1.17**	**77**	PN	**Pn**	**17 46 35.8**	**-0.3**
GAZI				SN	**Sb**	**17 46 51.6**	**+0.5**
GAZI	**Gazipasa**	**1.17**	**77**	*i* P	**Pn**	**17 46 35.7**	**-0.3**
GAZI				*i* S	**Sb**	**17 46 51.8**	**+0.6**
GAZI				IAML		17 46 53.0	
	comp=N,167nm,0.4s						
GAZI				IAML		17 46 53.0	
	comp=E,161nm,0.3s						
AKMS	**Akamas**	**1.51**	**129**	P	**Pg**	**17 46 42.7**	**+1.0**
AKMS				S	**Sg**	**17 47 03.2**	**+2.0**
AKMS				AML	AML	17 47 06.4	
	comp=E,0.7nm,0.4s						
AKMS				AML	AML	17 47 06.4	
	comp=E,0.7nm,0.4s						
AKMS				AML	AML	17 47 13.9	
	comp=E,0.5nm,0.7s						
AKMS				AML	AML	17 47 13.9	
	comp=E,0.5nm,0.7s						
ALFC	**Alefka**	**1.60**	**120**	P	**Pg**	**17 46 44.5**	**+0.9**
ALFC				S	**Sg**	**17 47 04.5**	**+0.2**
ALFC				AML	AML	17 47 08.3	
	comp=E,0.6nm,0.3s						
ALFC				AML	AML	17 47 08.3	
	comp=E,0.6nm,0.3s						
ALFC				AML	AML	17 47 13.0	
	comp=E,0.7nm,0.5s						
ALFC				AML	AML	17 47 13.0	
	comp=E,0.7nm,0.5s						
SEYD	**Seydisehir-KON**	**1.60**	**27**	PN	**Pn**	**17 46 41.5**	**-0.7**
FETY	**Fethiye**	**1.61**	**294**	PN	**Pg**	**17 46 42.9**	**-0.8**
TEKE	**Tekeli-Mersin**	**1.79**	**84**	PN	**Pn**	**17 46 44.8**	**+0.2**
AKDN	**Akdeniz- Kibrı**	**1.81**	**112**	PN	**Pn**	**17 46 44.5**	**-0.4**
LEF	**Lefka**	**1.83**	**117**	PN	**Pn**	**17 46 44.1**	**-1.0**
DALY	**Dalyan (Mula)**	**2.00**	**295**	PN	**Pb**	**17 46 48.4**	**-1.5**
SZAC	**Souni**	**2.02**	**127**	P	**Pg**	**17 46 52.7**	**+1.1**
SZAC				AML	AML	17 47 23.3	
	comp=E,0.4nm,0.8s						
TEVE	**Tevekalti-Mers**	**2.10**	**77**	PN	**Pn**	**17 46 49.2**	**+0.3**
AKKU	**Akkuyu-Mersin**	**2.15**	**85**	PN	**Pn**	**17 46 49.4**	**-0.1**
DOGA	**KONYA_Doganhis**	**2.21**	**16**	*i* P	**Pg**	**17 46 54.3**	**-0.7**
DOGA				*i* S	**Sb**	**17 47 22.2**	**+1.0**
DOGA				IAML		17 47 25.0	
	comp=N,49nm,0.8s						
DOGA				IAML		17 47 27.0	
	comp=E,40nm,0.6s						
CSS	**Mathiatis**	**2.22**	**117**	PN	**Pn**	**17 46 50.1**	**-0.5**
KRMN	**Karaman**	**2.24**	**57**	PN	**Pn**	**17 46 51.3**	**+0.4**
LFK	**Lefkose**	**2.25**	**107**	PN	**Pn**	**17 46 50.9**	**-0.1**
IKL	**Isikli**	**2.26**	**83**	PN	**Pn**	**17 46 51.5**	**+0.4**
ARG	**Arkhangelos**	**2.27**	**277**	PN	**Pb**	**17 46 51.8**	**-2.6**
KONT	**Konya--Tatoy**	**2.28**	**30**	PN	**Pn**	**17 46 52.0**	**+0.6**
TURN	**Turunc**	**2.29**	**291**	PN	**Pg**	**17 46 52.4**	**+0.1**
YER	**Yerkesik**	**2.41**	**299**	PN	**Pb**	**17 46 54.1**	**-2.7**
MVOU	**Mavrovouni**	**2.42**	**113**	P	**Pn**	**17 46 52.4**	**-0.9**
MVOU				AML	AML	17 47 33.3	
	comp=E,0.2nm,0.6s						
SILI	**Silifke-Mersin**	**2.47**	**80**	PN	**Pn**	**17 46 54.1**	**+0.2**
OSC1	**CSNet OBS 1**	**2.49**	**173**	P	**Pb**	**17 46 56.9**	**-1.3**
OSC1				S	**Sn**	**17 47 24.5**	**-0.7**
LADK	**Ladik-KONYA**	**2.50**	**27**	PN	**Pn**	**17 46 55.4**	**+0.9**
DAT	**Datca**	**2.79**	**286**	PN	**Pn**	**17 46 59.4**	**+0.9**
CHBY	**Cihanbeyli**	**3.04**	**31**	PN	**Pn**	**17 47 02.9**	**+1.0**
KARP	**Karpathos**	**3.08**	**263**	P	**Pn**	**17 47 03.1**	**+0.7**
BODT	**Bodrum**	**3.09**	**291**	PN	**Pn**	**17 47 03.6**	**+1.0**
TVSB	**Tavsanli**	**3.65**	**342**	PN	**Pn**	**17 47 12.4**	**+2.1**

*DMN **07** 17:55:45.2±0.4, 24.21N×91.79E, h10km, Ml4.8/7, Error ellipse: s-maj=30.5km s-min=7.8km az=30.0*
*IDC **07** 17:55:46.7±0.9, 24.75N×91.88E, h35km±7km, mb3.4/8, mb1 3.6/9, mb1mx3.3/51, mbtmp3.6/9, ML3.3/1, Error ellipse: s-maj=41.3km s-min=14.9km az=56.0*
*NDI **07** 17:55:46.0±2.0, 24.86N×91.74E, h28km±6km, ML4.1*

ISC 07 17:55:46.9±0.9, 24.88N±0.05×91.92E±0.04, h33km±3km, n29, σ1s31/48, mb3.7/8, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**0.68**	**357**	*i* PG	**Pn**	**17 55 59.9**	**-0.5**
SHL				*e*P	**Pn**	**17 55 60.0**	**-0.5**
SHL				*i* SG	**Sn**	**17 56 10.3**	**+0.3**
SHL				*e*S	**Sn**	**17 56 10.4**	**+0.3**
SHL				IAML		17 56 11.3	
	comp=E,4μm,0.1s						
SHL				IAML		17 56 13.6	
	comp=N,4μm,0.1s						
SILR	**SILCHAR**	**0.81**	**97**	*e*P	**Pn**	**17 56 01.6**	**-0.4**
SILR				*e*S	**Sb**	**17 56 15.0**	**+1.8**
SILR				IAML		17 56 17.3	
	comp=N,8μm,0.3s						
GUWA	**GUWAHATI**	**1.32**	**351**	*e*P	**Pn**	**17 56 09.6**	**+0.5**
GUWA				*e*S	**Sb**	**17 56 27.1**	**-0.7**
GUWA				*e*S	**Sb**	**17 56 27.1**	**-0.7**
GUWA				IAML		17 56 29.8	
	comp=E,3μm,0.2s						
IMP	**Imphal**	**1.84**	**91**	*e*P	**Pn**	**17 56 17.2**	**+0.9**
IMP				*e*S	**Sb**	**17 56 43.8**	**+1.1**
TEZP	**TEZPUR**	**1.90**	**24**	*e*P	**Pn**	**17 56 17.3**	**+0.3**
TEZP				*e*S	**Sn**	**17 56 41.2**	**+1.4**
TEZP				IAML		17 56 42.6	
	comp=N,942nm,0.3s						
TEZP				IAML		17 56 44.4	
	comp=E,1μm,0.3s						
ITAN	**ITANAGAR**	**2.77**	**35**	*e*P	**Pn**	**17 56 29.9**	**+0.9**
ITAN				*e*S	**Sn**	**17 57 02.4**	**+1.0**
ITAN				IAML		17 57 04.6	
	comp=N,4μm,0.2s						
ITAN				IAML		17 57 05.0	
	comp=E,3μm,0.4s						
ZIRO	**ZIRO**	**3.15**	**33**	*e*P	**Pn**	**17 56 35.3**	**+0.9**
ZIRO				*e*S	**Sn**	**17 57 10.7**	**-0.3**
GTK	**Tadong**	**3.85**	**310**	*e*P	**Pn**	**17 56 41.6**	**-2.4**
GTK				*ex*	x	17 57 30.0	
GTK				IAML		17 57 47.1	
	comp=E,355nm,0.5s						
TAPN	**Taplejung**	**4.51**	**304**	*e*Pn	**Pn**	**17 56 56.0**	**+2.7**
ODAN	**Odare**	**4.53**	**297**	*e*Pn	**Pn**	**17 56 55.1**	**+1.6**
ODAN				*e*Sn	**Sn**	**17 57 47.6**	**+2.4**
	comp=E,267nm,0.3s						
RAMN	**Ramite**	**5.21**	**294**	*e*Pn	**Pn**	**17 57 04.9**	**+2.0**
JIRN	**Jiri**	**5.84**	**299**	*e*Pn	**Pn**	**17 57 13.7**	**+2.1**
JIRN				*e*Sn	**Sn**	**17 58 18.8**	**+1.2**
	comp=E,324nm,0.3s						
PKI	**Pulchoki**	**6.43**	**296**	*e*Pn	**Pn**	**17 57 20.9**	**+1.2**
PKI				*e*Sn	**Sn**	**17 58 32.2**	**+0.1**
	comp=E,96nm,0.5s						
KKN	**Kakani**	**6.62**	**297**	*e*Pn	**Pn**	**17 57 23.2**	**+1.0**
KKN				*e*Sn	**Sn**	**17 58 37.3**	**+0.6**
	comp=E,59nm,0.2s						
DMN	**Daman**	**6.70**	**295**	*e*Pn	**Pn**	**17 57 23.8**	**+0.6**
GKN	**Gorkha**	**7.23**	**297**	*e*Pn	**Pn**	**17 57 31.6**	**+1.1**
GKN				*e*Sn	**Sn**	**17 58 51.4**	**-0.2**
	comp=E,157nm,0.4s						
BWNR	**Bhubaneshwar**	**7.26**	**232**	*e*S	Sn	17 58 42.5	-10
KOLN	**Koldanda**	**8.00**	**293**	*e*Pn	**Pn**	**17 57 41.8**	**+0.7**
KOLN				*e*Sn	**Sn**	**17 59 08.6**	**-2.0**
	comp=E,66nm,0.4s						
DANN	**Dangsing**	**8.08**	**297**	*e*Pn	**Pn**	**17 57 43.9**	**+1.6**
PYUN	**Piuthan**	**8.62**	**294**	*e*Pn	**Pn**	**17 57 49.8**	**+0.2**
PYUN				*e*Sn	**Sn**	**17 59 23.5**	**-2.3**
	comp=E,70nm,0.4s						
CMAR	**Chiang Mai Arr**	**9.14**	**133**	Pn	**Pn**	**17 57 53.6**	**-2.9**
	comp=E,0.1nm,0.3s,baz=307,slow=13,SNR=1.4						
MKAR	**Makanchi Array**	**23.18**	**343**	P	**P**	**18 00 50.6**	**-0.1**
	comp=E,0.6nm,0.6s,baz=161,slow=9.5,SNR=8.9						
SONM	**Songino Array**	**25.61**	**23**	P	**P**	**18 01 14.4**	**+1.0**
	comp=E,1.5nm,0.6s,baz=206,slow=9.8,SNR=13						
KURBB	**Kurchatov Arra**	**27.70**	**341**	P	**P**	**18 01 33.1**	**+1.1**
	comp=E,0.2nm,0.3s,baz=164,slow=8.7,SNR=1.5						
AKASG	**Malin Array Be**	**53.99**	**316**	P	**P**	**18 05 07.4**	**-0.3**
	comp=E,0.2nm,0.3s,baz=181,slow=9.2,SNR=2.2						
WRA	**Warramunga Arr**	**60.73**	**133**	P	**P**	**18 05 54.3**	**-1.3**
	comp=E,0.8nm,0.6s,baz=322,slow=7.3,SNR=9.5						
WRA				pP	**pP**	**18 06 06.5**	**+0.7**
	comp=E,0.6nm,0.5s,baz=322,slow=7.3,SNR=4.1						
ASAR	**Alice Springs**	**63.13**	**137**	P	**P**	**18 06 10.8**	**-0.8**
	comp=E,1.1nm,0.7s,baz=317,slow=6.5,SNR=30						
ASAR				pP	**pP**	**18 06 20.9**	**-0.9**
	comp=E,0.4nm,0.5s,baz=318,slow=6.5,SNR=3.3						
GERES	**GERESS Array B**	**64.11**	**314**	P	**P**	**18 06 18.7**	**+0.7**
	comp=E,0.3nm,0.5s,baz=75,slow=7.5,SNR=2.3						
GERES				pP	**pP**	**18 06 28.1**	**-0.1**
	comp=E,0.6nm,0.7s,baz=72,slow=6.2,SNR=3.9						
ILAR	**Eielson Array**	**79.83**	**22**	P	**P**	**18 07 51.9**	**+0.1**
	comp=E,0.4nm,0.5s,baz=299,slow=6.1,SNR=1.8						

VIE 07 18:14:53.6±0.4, 47.22N×9.59E, h1km, ml0.4/1, Error ellipse: s-maj=4.3km s-min=1.7km az=21.0 2 km SW of Feldkirch, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAVA	**Damuels** 0.3nm,0.1s	**0.21**	**71**	*e*Pg	Pg	18 14 57.7	+0.1
DAVA				*e*Sg	Sg	18 15 01.0	+0.5
	2.2nm,0.2s						

*VIE **07** 18:15:39.6±0.2, 47.23N×9.59E, h1km, ml0.9/1, Error ellipse: s-maj=1.6km s-min=1.4km az=163.0 1 km SW of Feldkirch felt 3 ems98 at Feldkirch / Vorarlberg*

ZUR 07 18:15:39.0, 47.22N×9.60E, h-1km±1km, MLh0.7/5, 2C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIENZ	**Kamor/St.Gall**	**0.10**	**317**	⇓Pg	Pg	18 15 41.5	+0.5
LIENZ				Sg	Sg	18 15 43.4	+1.1
SBUB	**Buchserberg Ma**	**0.13**	**237**	⇓Pg	Pg	18 15 42.1	+0.6
DAVA	**Damuels**	**0.21**	**70**	⇑Pg	Pg	18 15 43.6	+0.7
DAVA				Sg	Sg	18 15 47.0	+1.4
DAVA	**Damuels** 1.2nm,0.1s	**0.21**	**70**	*e*Pg	Pg	18 15 43.6	+0.7
DAVA				*e*Sg	Sg	18 15 47.0	+1.5
	4.0nm,0.2s						
SGT04	**Schlatt-Haslen**	**0.21**	**308**	Pg	Pg	18 15 43.9	+0.8
PLONS	**Plons/SG**	**0.22**	**221**	Pg	Pg	18 15 43.8	+0.6
SGT05	**Eggersriet**	**0.24**	**337**	⇑Pg	Pg	18 15 44.9	+1.2
SGT00	**Sennhlsen**	**0.28**	**317**	⇓Pg	Pb	18 15 45.7	-1.3
MOTA	**Moosalm**	**1.03**	**82**	*e*Pg	Pn	18 16 01.4	+0.6
SQTA	**Sankt Quirin** 1.2nm,0.1s	**1.10**	**89**	*e*Pg	Pn	18 16 02.7	+0.9

*NIED **07** 18:47:37.5, 33.82N×132.44E, h46km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=2.49; Mθθ=0.12; Mϕϕ=2.61; Mrθ=0.38; Mθϕ=0.13; Mϕr=1.54; Fault plane solution: M0=3.00000×10^14 NP1: ϕs=171.00000°, δ=61.00000°, λ=-96.00000°. NP2: ϕs=4.00000°, δ=30.00000°, λ=-79.00000°.*

JMA 07 18:47:37.5, 33.82N×132.44E, h46km±1km, M3.5, 4C-2D Broadband fault plane solution: P waves. NP1: ϕs=348.00000°, δ=22.00000°, λ=-77.00000°. **NP2:** ϕs=154.00000°, δ=68.00000°, λ=-95.00000°. **Principal axes:** T Plg=23.0000°, Azm=248.0000°; N Plg=5.0000°, Azm=156.0000°; P Plg=66.0000°, Azm=55.0000°; **Shikoku**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNA	**Nagahama**	**0.26**	**173**	⇓P	Pn	18 47 45.6	-0.4
JNA				S	Sn	18 47 51.7	-0.2
JHM	**Kurahashi**	**0.33**	**13**	⇑P	Pn	18 47 46.4	-0.1
JHM				S	Sn	18 47 53.2	+0.3
JET	**Tanbara**	**0.51**	**94**	⇑P	Pn	18 47 48.4	-0.3
JET				S	Sn	18 47 56.9	+0.3
UWA2	**Uwa jima 2**	**0.62**	**166**	P	Pn	18 47 50.1	0.0
UWA2				S	Sn	18 47 59.5	+0.3
JKU	**Kubokawa**	**0.73**	**134**	P	Pn	18 47 51.6	+0.1
JHT	**Toyohira**	**0.84**	**359**	⇑P	Pn	18 47 53.1	+0.1
JHT				S	Sn	18 48 04.6	+0.3
JTO	**Tosashimizu**	**1.00**	**162**	⇓P	Pn	18 47 55.3	+0.1
JMN	**Monobe**	**1.20**	**94**	P	Pn	18 47 57.7	-0.2
JGT2	**ShimaneMisato**	**1.24**	**3**	P	Pn	18 47 58.6	+0.2
JHS	**Saijyo**	**1.30**	**25**	⇑P	Pn	18 47 59.8	+0.5

*TAP **07** 18:54:21.6, 25.00N×122.99E, h150km, ML3.2, C*
*JMA **07** 18:54:22.3±0.2, 24.89N×122.97E, h146km, M2.5*

ISC 07 18:54:22.7±1.9, 24.89N±0.06×122.99E±0.03, h143km±12km, n68, σ0s64/126, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.42**	**178**	P	**Pn**	**18 54 43.1**	**+0.3**
JYNG	**Yonagunijimaku**	**0.43**	**185**	P	**Pn**	**18 54 43.1**	**+0.2**
IRIF	**Iriomote-Funau**	**0.87**	**129**	P	**Pn**	**18 54 45.8**	**+0.2**
IRIF				S	**Sn**	**18 55 03.6**	**+0.6**
TWB1	**Santiao Chiao** baz=270	**0.92**	**278**	*e*P	**Pn**	**18 54 46.0**	**0.0**
TWB1				*e*S	**Sn**	**18 55 04.4**	**+0.7**
	baz=270						
EGS		**0.96**	**268**	*e*P	**Pn**	**18 54 46.4**	**0.0**
	baz=252						
EGS				*e*S	**Sn**	**18 55 04.7**	**+0.2**
	baz=252						
NTC	**Toucheng** baz=258	**1.05**	**269**	*e*P	**Pn**	**18 54 47.5**	**+0.3**
NTC				*e*S	**Sn**	**18 55 06.7**	**+0.8**
	baz=258						
TIPB	**Shuangxi** baz=262	**1.06**	**275**	P	**Pn**	**18 54 47.3**	**-0.1**
TIPB				S	**Sn**	**18 55 06.5**	**+0.4**
	baz=262						
TWC	**Suao** baz=242	**1.07**	**255**	P	**Pn**	**18 54 47.5**	**+0.2**
TWC				S	**Sn**	**18 55 05.7**	**-0.5**
	baz=242						
PCYT	**Pengchaiyu** baz=306	**1.11**	**312**	*e*S	**Sn**	**18 55 06.0**	**-1.0**
JKRS	**Kuro-shima**	**1.13**	**125**	P	**Pn**	**18 54 48.6**	**+0.7**
JKRS				S	**Sn**	**18 55 07.8**	**+0.7**
ENAH	**Nanao** baz=238	**1.16**	**248**	*e*P	**Pn**	**18 54 48.2**	**0.0**
ENAH				*e*S	**Sn**	**18 55 07.4**	**-0.2**
	baz=238						
JIJ	**Ishigaki jima**	**1.17**	**116**	P	**Pn**	**18 54 48.4**	**+0.1**
JIJ				S	**Sn**	**18 55 07.2**	**-0.6**
TWE	**Neicheng** baz=250	**1.21**	**263**	*e*P	**Pn**	**18 54 48.8**	**+0.1**
TWE				*e*S	**Sn**	**18 55 08.2**	**-0.3**
	baz=250						
ENA	**Nanau** baz=238	**1.23**	**248**	P	**Pn**	**18 54 48.8**	**-0

WHF				*e*S		**Sn**	**18 55 18.6**	**-0.6**
	baz=242								
TWT	**Tachien**	**1.77**	**250**	*i* P		**Pn**	**18 54 55.4**	**+0.6**
	baz=240								
TWT				*i* S		**Sn**	**18 55 19.7**	**+0.3**
	baz=240								
ESL	**Shilin**	**1.78**	**233**	P		**Pn**	**18 54 54.0**	**-0.8**
	baz=226								
ESL				*e*S		**Sn**	**18 55 18.2**	**-1.1**
	baz=226								
TDCB	**Techi**	**1.78**	**250**	P		**Pn**	**18 54 55.3**	**+0.3**
	baz=240								
TDCB				S		**Sn**	**18 55 19.2**	**-0.4**
	baz=240								
LIOB	**Emei**	**1.81**	**263**	P		**Pn**	**18 54 54.3**	**-0.9**
	baz=259								
LIOB				S		**Sn**	**18 55 18.7**	**-1.3**
	baz=259								
NSTT	**Nanjuang**	**1.83**	**262**	*e*P		**Pn**	**18 54 55.5**	**+0.2**
	baz=258								
NSTT				*e*S		**Sn**	**18 55 19.6**	**-0.8**
	baz=258								
CHGB	**Renai**	**1.85**	**244**	*e*P		**Pn**	**18 54 55.8**	**0.0**
	baz=241								
CHGB				*e*S		**Sn**	**18 55 21.4**	**+0.3**
	baz=241								
EGFH	**Guangfu**	**1.87**	**230**	*e*P		**Pn**	**18 54 55.3**	**-0.6**
	baz=227								
EGFH				*e*S		**Sn**	**18 55 21.3**	**+0.1**
	baz=227								
WHP	**Taichung City**	**1.96**	**252**	P		**Pn**	**18 54 57.2**	**+0.3**
	baz=256								
WHP				S		**Sn**	**18 55 23.1**	**-0.1**
	baz=256								
JIRB	**Irabujima**	**1.98**	**91**	P		**Pn**	**18 54 57.3**	**+0.2**
JIRB				*e*S		**Sn**	**18 55 22.9**	**-0.6**
HGSD	**Ruisui**	**1.99**	**226**	*e*P		**Pn**	**18 54 57.3**	**0.0**
	baz=228								
HGSD				*e*S		**Sn**	**18 55 24.3**	**+0.5**
	baz=228								
VWDT	**VWDT**	**2.03**	**237**	*e*P		**Pn**	**18 54 57.6**	**-0.1**
	baz=234								
VWDT				*e*S		**Sn**	**18 55 24.6**	**+0.1**
	baz=234								
EHY	**Hungye**	**2.05**	**228**	P		**Pn**	**18 54 57.1**	**-0.9**
	baz=226								
EHY				S		**Sn**	**18 55 24.5**	**-0.6**
	baz=226								
TWQ1	**Liyutan**	**2.09**	**256**	*e*P		**Pn**	**18 54 58.1**	**-0.3**
	baz=252								
TWQ1				S		**Sn**	**18 55 25.4**	**-0.5**
	baz=252								
SMLT	**Sun Moon Lake**	**2.15**	**243**	P		**Pn**	**18 55 00.5**	**+1.2**
	baz=240								
SMLT				S		**Sn**	**18 55 28.9**	**+1.5**
	baz=240								
SSLB	**Suanglung**	**2.16**	**240**	*e*P		**Pn**	**18 54 59.6**	**+0.3**
	baz=235								
SSLB				*e*S		**Sn**	**18 55 27.5**	**+0.1**
	baz=235								
TWF1	**Yuli**	**2.17**	**226**	P		**Pn**	**18 54 59.2**	**-0.3**
	baz=232								
TWF1				*e*S		**Sn**	**18 55 27.1**	**-0.6**
	baz=232								
TYC	**Yuchr**	**2.18**	**244**	*i* P		**Pn**	**18 55 00.1**	**+0.7**
	baz=241								
TYC				S		**Sn**	**18 55 28.5**	**+0.8**
	baz=241								
WHYT	**Xinyi Township**	**2.28**	**239**	*e*P		**Pn**	**18 55 02.2**	**+1.4**
	baz=233								
WHYT				*e*S		**Sn**	**18 55 32.3**	**+2.2**
	baz=233								
FULB	**Fuli**	**2.29**	**223**	P		**Pn**	**18 55 00.9**	**0.0**
	baz=217								
FULB				*e*S		**Sn**	**18 55 30.8**	**+0.6**
	baz=217								
WJS	**Zhushan**	**2.32**	**243**	*e*P		**Pn**	**18 55 01.8**	**+0.6**
	baz=240								
WJS				*e*S		**Sn**	**18 55 32.3**	**+1.5**
	baz=240								
WNT	**Mingjian**	**2.33**	**245**	*e*P		**Pn**	**18 55 01.7**	**+0.4**
	baz=242								
WNT				S		**Sn**	**18 55 32.5**	**+1.4**
	baz=242								
ALS	**Alishan**	**2.42**	**236**	P		**Pn**	**18 55 03.8**	**+1.1**
	baz=228								
ALS				S		**Sn**	**18 55 34.3**	**+0.8**
	baz=228								
EDH	**Donghe**	**2.45**	**219**	*e*P		**Pn**	**18 55 02.0**	**-0.8**
	baz=212								
EDH				*e*S		**Sn**	**18 55 33.0**	**-0.7**
	baz=212								
CHN5	**Tsauling**	**2.47**	**239**	P		**Pn**	**18 55 03.8**	**+0.6**
	baz=245								
CHN5				S		**Sn**	**18 55 34.6**	**+0.3**
	baz=245								
ELDTW	**Lidau**	**2.47**	**227**	*e*P		**Pn**	**18 55 02.6**	**-0.6**
	baz=225								
ELDTW				*e*S		**Sn**	**18 55 34.1**	**-0.3**
	baz=225								
WGK	**Gukeng**	**2.52**	**242**	*e*P		**Pn**	**18 55 04.4**	**+0.8**
	baz=239								
WGK				*e*S		**Sn**	**18 55 35.9**	**+0.7**
	baz=239								
WDLH	**Douliu**	**2.54**	**242**	*e*P		**Pn**	**18 55 04.1**	**+0.2**
	baz=240								
WDLH				*e*S		**Sn**	**18 55 36.0**	**+0.4**
	baz=240								
LONT	**Longtian**	**2.60**	**221**	*e*P		**Pn**	**18 55 03.9**	**-0.8**
	baz=225								
LDUT	**Ludao**	**2.61**	**213**	*e*P		**Pn**	**18 55 04.2**	**-0.6**
	baz=214								
LDUT				*e*S		**Sn**	**18 55 35.5**	**-1.7**
	baz=214								
STYT	**Tauyuan**	**2.67**	**230**	*e*P		**Pn**	**18 55 06.7**	**+1.0**
	baz=228								
TPUB	**Ta-pu**	**2.67**	**234**	*e*P		**Pn**	**18 55 06.0**	**+0.3**
	baz=232								
TPUB				*e*S		**Sn**	**18 55 39.2**	**+0.4**
	baz=232								
TWGBT	**Beinan**	**2.70**	**221**	*e*P		**Pn**	**18 55 05.0**	**-1.0**
	baz=219								
TWG	**Pinlang**	**2.70**	**221**	*e*P		**Pn**	**18 55 05.1**	**-0.9**
	baz=219								
WTP	**Ta-pu**	**2.72**	**234**	*e*P		**Pn**	**18 55 06.9**	**+0.7**
	baz=231								
TWK	**Hsinying**	**2.80**	**235**	*e*P		**Pn**	**18 55 07.7**	**+0.5**
	baz=233								
TWK				*e*S		**Sn**	**18 55 42.0**	**+0.4**
	baz=233								

BJI ***07*** *18:56:57.0±0.0,20˚.40S×177˚.90W,h514km,mB5.1/29, mb4.9/44*

IDC ***07*** *18:56:58.7±0.9,20˚.50S×177˚.84W,h527km,9km,mb4.2/35, mb1 4.3/40,mb1mx4.3/50,mbtmp5.1/40,Error ellipse: s-maj=11.0km s-min=7.5km az=159.0*

NEIC ***07*** *18:57:00.5±1.6,20˚.36S±0˚.07×177˚.9W±0˚.1,h547km±4km, mb4.7/197,Error ellipse: s-maj=14.7km s-min=10.3km az=91.0*

GCMT ***07*** *18:57:03.5±0.6,20˚.27S±0˚.07×177˚.95W±0˚.05, h546km±3km,MW5.4/51,Moment Tensor Solution. s51,c65; Duration: 1ś2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.43±.06; $M_{\theta\theta}$-0.16±.09; $M_{\phi\phi}$0.58±.08; $M_{r\theta}$-1.08±.09; $M_{\theta\phi}$-0.09±.08; $M_{\phi r}$-0.84±.08; Best double couple: $M_0$1.43900×10^{17} NP1:ϕ_s156.00000˚,δ17.00000˚, λ-158.00000˚. NP2:ϕ_s45.00000˚,δ84.00000˚, λ-74.00000˚. Principal axes: T 1.2680, Plg37.0000˚, Azm121.0000˚; N 0.3410, Plg16.0000˚, Azm223.0000˚; P -1.6090, Plg49.0000˚, Azm332.0000˚; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

KLM ***07*** *18:57:12.0,20˚.53S×178˚.80W,h620km,mb5.1*

ISC 07 18:56:59.0±0.3,20˚.48S±0˚.05×177˚.83W±0˚.05,h534km, n596,σ1ś17/648,mb4.8/134,27C-23D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.76**	**304**			**P**	**18 58 27.7**	**+1.7**
NIUE	**Niue**	**7.57**	**81**	P		**P**	**18 58 52.2**	**+0.2**
	baz=7.4,SNR=8.1							
NIUE	**Niue**	**7.57**	**81**	P		**P**	**18 58 50.7**	**-1.3**
NIUE						**S**	**19 00 31.5**	**+7.0**
AFI	**Afiamalu**	**8.72**	**42**	P		**P**	**18 59 01.9**	**-1.9**
	6.2nm,0.3s,baz=199,slow=20,SNR=7.4							
AFI				S		**S**	**19 00 37.3**	**-8.8**
	17nm,0.3s,baz=33,slow=23,SNR=7.6							
AFI	**Afiamalu**	**8.72**	**42**	P		**P**	**18 59 00.7**	**-3.1**
AFI						S	19 00 36.8	-9.3
RIZ	**Raoul Island**	**8.73**	**181**	P		**P**	**18 59 01.1**	**-2.3**
RIZ				S		**S**	**19 00 40.8**	**-5.0**
RAO	**Raoul Island**	**8.73**	**181**	P		**P**	**18 59 03.6**	**0.0**
	161nm,0.3s,baz=114,slow=20,SNR=3.3							
RAO				S		**S**	**19 00 38.6**	**-7.3**
	255nm,0.3s,baz=69,slow=17,SNR=3.8							
GLKZ	**Green Lake**	**8.74**	**181**	P		P	18 58 57.7	-5.9
GLKZ				S		S	19 00 35.6	-10
FUNA	**Funafuti**	**12.23**	**346**	P		**P**	**18 59 39.1**	**-0.9**
DZM	**Mont Dzumac**	**14.75**	**261**	P		**P**	**19 00 05.9**	**-0.4**
	2.5nm,0.3s,baz=74,slow=21,SNR=24							
DZM				S		**S**	**19 02 44.3**	**+3.6**
	baz=334,slow=21,SNR=4.4							
DZM	**Mont Dzumac**	**14.75**	**261**	*e*P		**P**	**19 00 06.2**	**-0.1**
	95nm,1.0s							
DZM	**Mont Dzumac**	**14.75**	**261**	P		**P**	**19 00 06.0**	**-0.3**
OUZ	**Omahuta**	**16.51**	**205**	P		**P**	**19 00 24.5**	**+0.7**
OUZ	**Omahuta**	**16.51**	**205**	P		**P**	**19 00 24.9**	**+1.1**
OUZ				IAmb		IAmb	19 00 26.9	
	comp=Z,34nm,0.7s							
GRZ	**Great Barrier**	**16.78**	**199**	P		**P**	**19 00 28.5**	**+2.3**
WCZ	**Waipu Caves**	**16.86**	**202**	P		**P**	**19 00 27.5**	**+0.4**
RAR	**Rarotonga**	**16.89**	**96**	P		**P**	**19 00 26.7**	**-0.9**
	comp=Z,2.1nm,0.3s,baz=246,slow=14,SNR=2.4							
RAR	**Rarotonga**	**16.89**	**96**	P		**P**	**19 00 27.3**	**-0.2**
KUZ	**Kuaotunu**	**17.16**	**198**	P		**P**	**19 00 30.8**	**+1.1**
MXZ	**Matakaoa Point**	**17.35**	**190**	P		**P**	**19 00 32.5**	**+1.0**
MXZ	**Matakaoa Point**	**17.35**	**190**	P		**P**	**19 00 32.0**	**+0.5**
WIAZ	**Waiheke Island**	**17.38**	**199**	P		**P**	**19 00 34.1**	**+2.3**
MBAZ	**Motutapu North**	**17.43**	**200**	P		**P**	**19 00 34.4**	**+2.2**
WMGZ	**Waiomatatini S**	**17.58**	**190**	P		**P**	**19 00 35.1**	**+1.5**
ETAZ	**East Tamaki Re**	**17.59**	**200**	P		**P**	**19 00 36.2**	**+2.5**
HAZ	**Te Kaha**	**17.63**	**192**	P		**P**	**19 00 33.4**	**-0.7**
WTAZ	**Waiatarua**	**17.68**	**200**	P		**P**	**19 00 37.1**	**+2.5**
PKGZ	**Pakihiroa**	**17.71**	**191**	P		**P**	**19 00 36.2**	**+1.3**
AWAZ	**Awhitu Peninsu**	**17.78**	**200**	P		**P**	**19 00 37.3**	**+1.8**
RUGZ	**Raukumara Rang**	**17.86**	**192**	P		**P**	**19 00 36.0**	**-0.3**
PUZ	**Puketiti**	**17.86**	**190**	P		**P**	**19 00 36.3**	**+0.1**
TGRZ	**Tauranga**	**17.94**	**195**	P		**P**	**19 00 39.7**	**+2.8**
TWGZ	**Tauwhareparae**	**18.00**	**191**	P		**P**	**19 00 39.3**	**+1.7**
TOZ	**Tahuroa Road**	**18.14**	**197**	P		**P**	**19 00 39.9**	**+1.2**
URZ	**Urewera**	**18.25**	**193**	P		**P**	**19 00 37.9**	**-1.9**
	comp=Z,14nm,0.3s,baz=295,slow=3.0,SNR=47							
URZ				S		**S**	**19 03 35.0**	**-4.5**
	comp=Z,1.0nm,0.3s,baz=50,slow=23,SNR=6.5							
URZ	**Urewera**	**18.25**	**193**	P		**P**	**19 00 38.3**	**-1.5**
URZ	**Urewera**	**18.25**	**193**	P		**P**	**19 00 38.1**	**-1.6**
MUGZ	**Murupara**	**18.53**	**193**	P		**P**	**19 00 41.7**	**-0.6**
RIGZ	**Rimuhau**	**18.56**	**191**	P		**P**	**19 00 42.6**	**0.0**
HRRZ	**Handcock Road**	**18.56**	**195**	P		**P**	**19 00 41.8**	**-0.8**
KNTN	**Kanton**	**18.58**	**19**	P		**P**	**19 00 41.8**	**-1.3**
RTZ	**Ruatahuna**	**18.62**	**193**	P		**P**	**19 00 42.5**	**-0.7**
PRRZ	**Plateau Road**	**18.64**	**194**	P		**P**	**19 00 38.3**	**-5.0**
TLZ	**Tolley Road**	**18.69**	**196**	P		**P**	**19 00 45.7**	**+1.9**
SNGZ	**Shannon Statio**	**18.71**	**192**	P		**P**	**19 00 43.2**	**-0.7**
HIZ	**Hauiti**	**19.05**	**198**	P		**P**	**19 00 49.2**	**+2.1**
HIZ	**Hauiti**	**19.05**	**198**	P		**P**	**19 00 48.4**	**+1.3**
BKZ	**Black Stump Fm**	**19.25**	**193**	P		**P**	**19 00 46.5**	**-2.5**
BKZ						IAmb	IAmb	19 00 53.1
	comp=Z,25nm,0.8s							
VRZ	**Vera Road**	**19.65**	**197**	P		**P**	**19 00 54.6**	**+2.1**
MSWZ	**Moikau Station**	**21.68**	**194**	P		**P**	**19 01 09.6**	**-1.3**
SNZO	**Soloh Karori**	**21.71**	**195**	P		**P**	**19 01 09.7**	**-1.4**
BHW	**Baring Head**	**21.76**	**195**	P		**P**	**19 01 10.0**	**-1.6**
PLWZ	**Palliser**	**21.83**	**194**	P		**P**	**19 01 09.9**	**-2.4**
QRZ	**Quartz Range**	**21.88**	**200**	P		**P**	**19 01 13.0**	**+0.3**
NNZ	**Nelson**	**21.98**	**198**	P		**P**	**19 01 13.5**	**0.0**
TUWZ	**Tuamarina**	**22.02**	**197**	P		**P**	**19 01 12.3**	**-1.6**
BSWZ	**Blackbirch Sta**	**22.31**	**197**	P		**P**	**19 01 16.0**	**-0.4**
THZ	**Tophouse**	**22.62**	**198**	P		**P**	**19 01 19.2**	**-0.2**
THZ						IAmb	IAmb	19 01 22.1
	comp=Z,70nm,1.4s							
KHZ	**Kahutara**	**23.05**	**196**	P		**P**	**19 01 21.8**	**-1.3**
LTZ	**Lake Taylor**	**23.74**	**198**	P		**P**	**19 01 27.7**	**-1.6**
LTZ						IAmb	IAmb	19 01 36.4
	comp=Z,54nm,1.2s							
OXZ	**Oxford**	**24.31**	**198**	P		**P**	**19 01 33.2**	**-1.0**
OXZ						IAmb	IAmb	19 01 33.6
	comp=Z,32nm,0.6s							
RPZ	**Rata Peaks**	**24.96**	**199**	P		**P**	**19 01 38.7**	**-1.4**
	comp=Z,16nm,0.6s,baz=40,slow=2.3,SNR=8.8							
RPZ	**Rata Peaks**	**24.96**	**199**	P		**P**	**19 01 38.2**	**-1.8**
RPZ						IAmb	IAmb	19 01 51.3
	comp=Z,59nm,1.2s							
LBZ	**Lake Benmore**	**25.84**	**200**	P		**P**	**19 01 46.0**	**-1.8**
LBZ						IAmb	IAmb	19 01 53.8
	comp=Z,29nm,1.0s							
TBI	**Tubuai**	**26.45**	**101**	*e*P		**P**	**19 01 54.6**	**+1.1**
	comp=Z,62nm,0.6s							
WKZ	**Wanaka**	**26.61**	**201**	P		**P**	**19 01 52.2**	**-2.5**
PPT2	**Papeete2**	**26.85**	**89**	*e*P		**P**	**19 01 57.8**	**+0.7**
	comp=Z,44nm,0.7s							
PPT	**Papeete**	**26.85**	**89**	P		**P**	**19 01 57.1**	**0.0**
	comp=Z,84nm,0.8s,baz=68,slow=3.3,SNR=6.7							
TIAR	**Tiarei**	**27.07**	**89**	*e*P		**P**	**19 01 59.5**	**+0.5**
	comp=Z,21nm,0.8s							
TVO	**Taravao**	**27.11**	**89**	*e*P		**P**	**19 02 00.1**	**+0.6**
	comp=Z,10nm,0.6s							
PMOR	**Pomariorio Ree**	**29.00**	**84**	*e*P		**P**	**19 02 16.3**	**+0.5**
	comp=Z,39nm,0.6s							
EIDS	**Eidsvold**	**29.01**	**254**	P		**P**	**19 02 16.6**	**+0.7**
	baz=29,SNR=16							
EIDS	**Eidsvold**	**29.01**	**254**	P		**P**	**19 02 16.0**	**+0.1**
ARMA	**Armidale**	**29.22**	**244**	P		**P**	**19 02 19.1**	**+1.2**
	baz=29,SNR=26							
ARMA	**Armidale**	**29.22**	**244**	P		**P**	**19 02 19.0**	**+1.2**
ARMA						IAmb	IAmb	19 02 19.9
	comp=Z,21nm,0.8s							
MGCD	**Mangrove Creek**	**30.36**	**239**	P		**P**	**19 02 28.9**	**+1.5**
	baz=30,SNR=4.6							
RMQ	**Roma**	**31.17**	**252**	P		**P**	**19 02 35.8**	**+1.3**
	baz=31,SNR=18							
CNB	**Canberra Magne**	**32.37**	**236**	P		**P**	**19 02 45.9**	**+1.2**
	baz=32,SNR=17							
CAN	**Canberra**	**32.66**	**236**	P		**P**	**19 02 47.8**	**+0.7**
CAN						IAmb	IAmb	19 03 08.9
	comp=Z,24nm,1.3s							
KRVT	**Keravat (AS076**	**33.44**	**295**	P		**P**	**19 02 53.9**	**-0.1**
	comp=Z,50nm,0.6s,baz=204,slow=21,SNR=4.2							
CTA	**Charters Tower**	**33.65**	**264**	P		**P**	**19 02 56.4**	**+0.7**
	comp=Z,123nm,0.4s,baz=90,slow=11,SNR=365							
CTAO	**Charters Tower**	**33.65**	**264**	P		**P**	**19 02 56.3**	**+0.7**
CMSA	**Cobar Meteorol**	**34.44**	**244**	P		**P**	**19 03 02.8**	**+0.6**
	baz=35,SNR=60							
QLP	**Quilpie**	**35.22**	**253**	P		**P**	**19 03 09.2**	**+0.5**
	baz=35,SNR=16							
PMG	**Port Moresby**	**35.50**	**283**	P		**P**	**19 03 10.7**	**-0.4**
	comp=Z,59nm,0.9s,baz=81,slow=5.3,SNR=8.5							
PMG	**Port Moresby**	**35.50**	**283**	P		**P**	**19 03 10.3**	**-0.8**
MTSU	**Mount Surprise**	**35.75**	**267**	P		**P**	**19 03 13.8**	**+0.5**
	baz=36,SNR=156							
PATS	**Pohnpei**	**35.88**	**317**	P		**P**	**19 03 14.9**	**+0.6**
TOO	**Toolangi**	**36.04**	**234**	P		**P**	**19 03 16.2**	**+0.8**
	baz=36,SNR=9.9							
TOO	**Toolangi**	**36.04**	**234**	P		**P**	**19 03 16.1**	**+0.8**
TOO						IAmb	IAmb	19 03 16.6
	comp=Z,12nm,0.8s							
COEN	**Coen**	**37.74**	**274**	P		**P**	**19 03 30.4**	**+0.7**
	baz=38,SNR=29							
COEN	**Coen**	**37.74**	**274**	P		**P**	**19 03 30.4**	**+0.7**
STKA	**Stephens Creek**	**37.94**	**244**	P		**P**	**19 03 31.9**	**+0.9**
	comp=Z,17nm,0.5s,baz=94,slow=11,SNR=79							
STKA						ScP	**ScP**	**19 08 32.1**	**+2.1**
	comp=Z,3.2nm,0.8s,baz=22,slow=8.8,SNR=4.1							
STKA	**Stephens Creek**	**37.94**	**244**	P		**P**	**19 03 32.0**	**+0.9**
	baz=38,SNR=54							
STKA	**Stephens Creek**	**37.94**	**244**	P		**P**	**19 03 32.0**	**+0.9**
ARPS	**Mount Arapiles**	**38.63**	**236**	P		**P**	**19 03 37.6**	**+1.1**
	baz=39,SNR=6.6							
QIS	**Mount Isa**	**39.78**	**262**	P		**P**	**19 03 45.8**	**-0.3**
	baz=40,SNR=16							
HTT	**Hallett**	**40.38**	**242**	P		**P**	**19 03 51.3**	**+0.5**
	baz=40,SNR=17							
BBOO	**Buckleboo**	**42.70**	**244**	P		**P**	**19 04 09.4**	**+0.3**
	baz=43,SNR=113							
BBOO	**Buckleboo**	**42.70**	**244**	P		**P**	**19 04 09.3**	**+0.3**
JAY	**Jayapura**	**44.19**	**288**	P		**P**	**19 04 21.6**	**+0.6**
	comp=Z,191nm,0.5s,baz=147,slow=3.9,SNR=216							
JAY	**Jayapura**	**44.19**	**288**	P		**P**	**19 04 20.6**	**-0.4**
	comp=Z,2μmcomp=Z,190nm,1.0s							
WR0	**Warramunga Arr**	**44.57**	**262**	P		**P**	**19 04 23.3**	**-0.5**
GENI	**Genyem**	**44.63**	**288**	P		**P**	**19 04 24.8**	**+0.5**
	comp=Z,289nm,1.1s							
AS31	**Alice Springs**	**44.68**	**257**	P		**P**	**19 04 24.9**	**+0.2**
AS31						IAmb	IAmb	19 04 25.7
	comp=Z,47nm,1.1s							
ASAR	**Alice Springs**	**44.68**	**257**	P		**P**	**19 04 24.1**	**-0.5**
	comp=Z,81nm,0.6s,baz=94,slow=6.7,SNR=417							
ASAR					PcP	**PcP**	**19 05 55.9**	**+0.2**
	comp=Z,5.2nm,0.7s,baz=100,slow=3.5,SNR=3.2							
ASAR					ScP	**ScP**	**19 08 57.3**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=109,slow=5.0,SNR=3.0							
ASAR					S	**S**	**19 10 20.5**	**-1.9**
	comp=Z,32nm,0.8s,baz=93,slow=16,SNR=64							
ASAR	**Alice Springs**	**44.68**	**257**	P		**P**	**19 04 24.3**	**-0.4**
ASAR					PcP	**PcP**	**19 05 55.8**	**0.0**
WB0	**Warramunga Arr**	**44.74**	**262**	P		**P**	**19 04 24.8**	**-0.4**
WB2	**Warramunga Arr**	**44.75**	**262**	P		**P**	**19 04 24.7**	**-0.5**
WRAB	**Tennant Creek**	**44.76**	**262**	P		**P**	**19 04 24.6**	**-0.6**
WRA	**Warramunga Arr**	**44.76**	**262**	P		**P**	**19 04 24.9**	**-0.4**
	comp=Z,68nm,0.8s,baz=97,slow=8.0,SNR=238							
WRA					PcP	**PcP**	**19 05 56.0**	**0.0**
	comp=Z,1.7nm,0.7s,baz=92,slow=6.8,SNR=3.2							
WRA					ScP	**ScP**	**19 08 56.4**	**-1.2**
	comp=Z,1.8nm,1.1s,baz=106,slow=6.3,SNR=2.2							
WRA					S	**S**	**19 10 21.0**	**-2.6**
	comp=Z,4.4nm,0.8s,baz=98,slow=13,SNR=7.4							
WRA	**Warramunga Arr**	**44.76**	**262**	P		**P**	**19 04 24.3**	**-1.0**
SMPI	**Sarmi**	**46.20**	**288**	P		**P**	**19 04 36.2**	**-0.1**
	comp=Z,84nm,1.1s							
KDU	**Kakadu**	**48.11**	**271**	P		**P**	**19 04 50.6**	**-0.1**
	baz=48,SNR=12							
MTN	**Manton Dam**	**49.33**	**270**	P		**P**	**19 04 59.3**	**-0.4**
	baz=49,SNR=14							
MTN	**Manton Dam**	**49.33**	**270**	P		**P**	**19 04 59.2**	**-0.4**
FORT	**Forrest**	**49.45**	**247**	P		**P**	**19 05 00.2**	**-0.2**
	baz=50,SNR=39							
FORT	**Forrest**	**49.45**	**247**	P		**P**	**19 05 00.0**	**-0.4**
WRKA	**Warakurna**	**49.63**	**254**	P		**P**	**19 05 01.9**	**+0.1**
	baz=50,SNR=497							
KNRA	**Kununurra**	**50.82**	**266**	P		**P**	**19 05 10.7**	**+0.1**
	baz=51,SNR=8.1							
KNRA	**Kununurra**	**50.82**	**266**	P		**P**	**19 05 10.4**	**-0.2**
KNRA						IAmb	IAmb	19 05 11.1
	comp=Z,46nm,0.7s							
FAKI	**Fak Fak**	**51.65**	**283**	P		**P**	**19 05 16.1**	**-0.6**
	comp=Z,85nm,1.3s							
FAKI	**Fak Fak**	**51.65**	**283**	P		**P**	**19 05 16.4**	**-0.3**
FAKI						IAmb	IAmb	19 05 17.7
	comp=Z,56nm,0.8s							
FITZ	**Fitzroy Crossi**	**53.19**	**262**	P		**P**	**19 05 27.9**	**+0.3**
	comp=Z,25nm,0.4s,baz=94,slow=4.5,SNR=170							
FITZ					S	**S**	**19 12 18.2**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=77,slow=22,SNR=1.5							
FITZ	**Fitzroy Crossi**	**53.19**	**262**	P		**P**	**19 05 27.9**	**+0.3**
	baz=53,SNR=82							
SIJI	**Sorong**	**53.39**	**285**	P		**P**	**19 05 29.4**	**+0.3**
	comp=Z,156nm,0.6s,baz=88,slow=5.1,SNR=73							
SOEI	**Soe**	**56.66**	**272**	P		**P**	**19 05 53.6**	**+1.5**
BATI	**Baumata**	**57.09**	**271**	P		**P**	**19 05 56.4**	**+1.4**
	comp=Z,50nm,0.6s,baz=128,slow=0.7,SNR=20							
BATI	**Baumata**	**57.09**	**271**	P		**P**	**19 05 54.8**	**-0.2**
	comp=Z,50nm,0.9s							
TNTI	**Ternate**	**57.61**	**285**	P		**P**	**19 05 57.9**	**-0.6**
	comp=Z,992nmcomp=Z,104nm,1.1s							
TNTI	**Ternate**	**57.61**	**285**	P		**P**	**19 05 58.7**	**+0.2**
TNTI						IAmb	IAmb	19 05 59.8
	comp=Z,92nm,1.0s							
SANI	**Sanana**	**57.74**	**281**	P		**P**	**19 05 58.7**	**-0.6**
	comp=Z,1μmcomp=Z,95nm,1.0s							
PSA00	**Pilbara Seismi**	**57.83**	**257**	P		**P**	**19 05 59.6**	**-0.3**
PSA00						IAmb	IAmb	19 06 00.5
	comp=Z,58nm,0.8s							
PSA00	**Pilbara Seismi**	**57.83**	**257**	P		**P**	**19 05 58.9**	**-1.0**
PSA00						IAmb	IAmb	19 05 59.6
	comp=Z,28nm,0.8s							
VNDA	**Vanda**	**57.94**	**185**	P		**P**	**19 06 01.9**	**+2.3**
	comp=Z,4.7nm,0.8s,baz=358,slow=6.9,SNR=22							
VNDA					ScP	**ScP**	**19 09 55.4**	**+2.0**
	comp=Z,4.2nm,1.1s,baz=337,slow=4.6,SNR=6.2							
VNDA	**Vanda**	**57.94**	**185**	P		**P**	**19 06 01.6**	**+2.0**
MEEK	**Meekatharra**	**58.08**	**251**	P		**P**	**19 06 00.8**	**-0

PETK **Petropavlovsk-** 76.29 345 P P 19 07 52.5 -0.2
comp=Z,19nm,0.7s,baz=126,slow=3.8,SNR=77
PETK **Petropavlovsk-** 76.29 345 P P 19 07 52.2 -0.4
KSRS **Korea Array** 76.98 318 P P 19 07 57.7 +1.0
comp=Z,8.0nm,0.6s,baz=127,slow=5.9,SNR=46
KSAR **Wonju Array Be** 77.00 318 P P 19 07 56.9 0.0
KS19 **Wonju Array Si** 77.05 318 P P 19 07 57.1 0.0
SCZ2 **Santa Cruz Isl** 77.47 46 P P 19 08 00.8 +1.3
baz=235
PKM **Mcpherson Peak** 77.86 45 P P 19 08 03.4 +1.5
baz=234
USRK **Ussuriysk Ar.** 79.04 326 P P 19 08 09.1 +1.4
comp=Z,21nm,0.8s,baz=140,slow=3.3,SNR=38
USRK **Ussuriysk Ar.** 79.04 326 P P 19 08 08.5 +0.8
USA0B **Ussuriysk Arra** 79.04 326 P P 19 08 08.4 +0.8
USA0B IAmb IAmb 19 08 09.9
comp=Z,36nm,0.9s
MONP2 **Monument Peak** 79.07 49 P P 19 08 09.9 +1.5
baz=237
EDW2 **Edwards Air Fo** 79.09 46 P P 19 08 09.7 +1.4
baz=236
O02D **Mt. Diablo Mer** 79.16 40 P P 19 08 10.3 +1.8
baz=231,SNR=5.5
RMX **La Rumorosa** 79.16 49 P P 19 08 09.9 +1.1
IKP **In-Ko-Pah, Jac** 79.16 49 P P 19 08 10.2 +1.4
baz=237
ISA **Isabella, Lake** 79.20 45 P P 19 08 10.2 +1.3
baz=235
ISA **Isabella, Lake** 79.20 45 P P 19 08 09.6 +0.8
DLV **T Lat** 79.27 287 P P 19 08 10.8 +1.0
DLV IAmb IAmb 19 08 12.0
comp=Z,35nm,1.0s
CMB **Columbia Colle** 79.34 43 P P 19 08 10.2 +0.7
PFO **Pinyon Flats O** 79.44 48 P P 19 08 11.7 +1.5
comp=Z,0.9nm,0.5s,baz=263,slow=8.1,SNR=2.5
PFO **Pinyon Flats O** 79.44 48 P P 19 08 11.4 +1.2
baz=237
AFDM **Forest Hills D** 79.52 42 P P 19 08 11.0 +0.6
SWSC **Sam W. Stewart** 79.54 49 P P 19 08 11.9 +1.3
baz=237
ORV **Oroville** 79.56 41 P P 19 08 11.1 +0.5
WDC **Whiskeytown Da** 79.56 40 P P 19 08 11.2 +0.8
LRMC **Laurel Mtn Rad** 79.63 46 P P 19 08 12.2 +1.0
baz=236
MYKOM **Kota Tinggi** 79.70 276 P P 19 08 11.6 -0.3
MYKOM IAmb IAmb 19 08 13.7
comp=Z,83nm,1.5s
MYKOM **Kota Tinggi** 79.70 276 P P 19 08 13.0 +1.1
N02D **Trinity Center** 79.70 39 P P 19 08 13.0 +1.7
baz=231
O03E **Paynes Creek** 79.82 40 P P 19 08 13.0 +0.9
baz=232
M02C **Callahan** 79.88 39 P P 19 08 14.0 +1.7
baz=231
CWC **Cottonwood Cre** 79.91 45 P P 19 08 13.6 +0.9
baz=235
L02E **Cave Junction** 79.92 38 P P 19 08 13.9 +1.5
baz=231
MDPB **Devils Postpil** 79.94 44 P P 19 08 13.8 +0.9
BELC **Belle Mtn. Jos** 79.97 48 P P 19 08 14.3 +1.3
baz=237,SNR=6.1
OMMB **Old Mammoth Mi** 79.98 44 P P 19 08 14.7 +1.5
NJ2 **Nanjing** 79.99 310 *e*P P 19 08 14.0 +1.0
NJ2 pmax pmax
comp=Z,21nm,0.6s
MPMC **Manual Prospec** 80.09 46 P P 19 08 14.7 +1.1
baz=236,SNR=6.7
GSC **Goldstone, Bar** 80.13 47 P P 19 08 14.8 +1.0
baz=236
GSC **Goldstone, Bar** 80.13 47 P P 19 08 15.0 +1.3
BC3 **Big Chuckawall** 80.17 49 P P 19 08 15.6 +1.6
baz=237
YBH **Yreka Blue Hor** 80.17 39 P P 19 08 15.4 +1.5
comp=Z,12nm,0.6s,baz=230,slow=1.1,SNR=20
YBH **Yreka Blue Hor** 80.17 39 P P 19 08 15.3 +1.5
YBH IAmb IAmb 19 08 16.4
comp=Z,13nm,0.7s
HEC **Hector,Ludlow** 80.19 47 P P 19 08 14.9 +0.9
baz=237,SNR=6.0
WAKR **Walker** 80.22 43 P P 19 08 15.6 +1.3
WAKR IAmb IAmb 19 08 16.8
comp=Z,18nm,1.1s
K02D **Willamette Mer** 80.23 37 P P 19 08 15.5 +1.4
baz=230
GLA **Glamis** 80.29 49 P P 19 08 16.4 +1.8
baz=238
GLA **Glamis** 80.29 49 P P 19 08 16.8 +2.2
J01E **Myrtle Point** 80.38 37 P P 19 08 16.1 +1.4
baz=230
PNTR **Pine Nut** 80.46 42 P P 19 08 16.9 +1.3
PNTR IAmb IAmb 19 08 17.9
comp=Z,24nm,0.8s
MDJ **Mudanjiang** 80.60 325 P P 19 08 17.4 +1.5
MDJ IAmb IAmb 19 08 17.5
comp=Z,23nm,0.8s
GMRC **Granite Mounta** 80.63 48 P P 19 08 17.8 +1.3
baz=237
IRM **Iron Mountain** 80.65 48 P P 19 08 17.9 +1.5
baz=238
L04D **Klamath Falls** 80.71 38 P P 19 08 18.0 +1.3
baz=232
M04C **Macdoel** 80.72 39 P P 19 08 18.0 +1.3
baz=232
FURC **Furnace Creek,** 80.74 46 P P 19 08 17.9 +1.2
baz=236
KDAK **Kodiak Island** 80.76 13 P P 19 08 16.6 +0.3
comp=Z,8.7nm,0.8s,baz=132,slow=11,SNR=2.5
KDAK **Kodiak Island** 80.76 13 P P 19 08 15.6 -0.8
KDAK IAmb IAmb 19 08 27.8
comp=Z,45nm,1.4s
TUQ **Turquoise Moun** 80.80 47 P P 19 08 18.5 +1.2
baz=237
RYN **Ryan** 80.87 43 P P 19 08 18.3 +0.7
NVAR **Mina Array Bea** 80.90 43 P P 19 08 19.1 +1.2
comp=Z,6.5nm,0.8s,baz=225,slow=9.4,SNR=40
NVAR **Mina Array Bea** 80.90 43 P P 19 08 18.5 +0.6
PAHR **Pah Rah Range** 80.96 42 P P 19 08 18.1 0.0
NV11 **Mina Array Sit** 81.00 43 P P 19 08 19.2 +1.0
I03D **Drain, OR** 81.05 37 P P 19 08 19.7 +1.5
baz=231
214A **Organ Pipe Nat** 81.17 51 P P 19 08 20.4 +1.2
baz=239
KVN **Kaiserville** 81.39 43 P P 19 08 21.2 +0.9
TPNV **Topopah Spring** 81.41 45 P P 19 08 21.6 +1.2
baz=236
TPNV **Topopah Spring** 81.41 45 P P 19 08 20.5 0.0
PDMCI **Parker Dam,Lak** 81.44 49 P P 19 08 21.9 +1.5
baz=238
J04D **Umpqua Nationa** 81.46 38 P P 19 08 22.1 +1.5
baz=232
I04A **Tendick Farm,** 81.63 37 P P 19 08 22.2 +0.9
baz=231
MAW **Mawson** 81.64 200 P P 19 08 21.4 +0.6
comp=Z,1.4nm,0.5s,baz=156,slow=9.6,SNR=4.8
MAW **Mawson** 81.64 200 P P 19 08 21.5 +0.7
MOD **Modoc Plateau** 81.70 40 P P 19 08 22.6 +0.8
MOD IAmb IAmb 19 08 23.9
comp=Z,13nm,0.9s
BKNI **Bangkinang** 81.81 273 P P 19 08 23.2 +0.4
BKNI IAmb IAmb 19 08 24.8
comp=Z,70nm,1.2s
K05A **Summer Lake** 81.85 39 P P 19 08 23.3 +0.7
K05A IAmb IAmb 19 08 25.1
comp=Z,29nm,0.9s
SHPR **Sheep Range** 81.90 46 P P 19 08 23.4 +0.4
H04D **Lebanon** 81.91 36 P P 19 08 23.9 +1.3
baz=231
J05D **Fort Rock, OR** 81.99 38 P P 19 08 24.7 +1.4
baz=232
W13A **Hualapai Mount** 82.03 48 P P 19 08 24.8 +1.0
Y14A **Wickenburg** 82.05 49 P P 19 08 24.7 +1.1
G03D **McMinnville, O** 82.06 36 P P 19 08 24.7 +1.3
baz=230
SNY **Shenyang** 82.30 320 ⇓P P 19 08 24.9 +0.3
SNY pmax pmax
comp=Z,10.0nm,0.5s
H04A **Detroit Lake** 82.32 36 P P 19 08 25.5 +0.8
H04A IAmb IAmb 19 08 26.0
comp=Z,12nm,0.6s
CN2 **Changchun** 82.38 322 *e*P P 19 08 26.7 +1.7
PINE **Pine Mountain** 82.47 38 P P 19 08 27.2 +1.5
PINE IAmb IAmb 19 08 28.3
comp=Z,27nm,0.8s
WHN **Wuhan** 82.56 306 ⇑P P 19 08 27.2 +1.0
I05D **Terrebonne, OR** 82.58 37 P P 19 08 27.3 +1.2
baz=232

R11A **Troy Canyon, C** 82.62 45 P P 19 08 27.5 +0.9
baz=237
R11A **Troy Canyon, C** 82.62 45 P P 19 08 27.5 +0.9
CNPM **China Poot** 82.64 13 P P 19 08 26.3 +0.3
CNPM IAmb IAmb 19 08 26.5
comp=Z,17nm,0.7s
BRLK **Bradley Lake** 82.94 13 P P 19 08 27.1 -0.3
BRLK IAmb IAmb 19 08 28.2
comp=Z,15nm,0.8s
F04A **Amboy** 82.97 35 P P 19 08 28.5 +0.6
F04A IAmb IAmb 19 08 29.3
comp=Z,12nn,0.5s
WVOR **Wild Horse Val** 83.01 40 P P 19 08 29.8 +1.4
WVOR IAmb IAmb 19 08 30.6
comp=Z,16nm,1.2s
NLWA **Neilton Lookou** 83.13 34 P P 19 08 30.2 +1.5
NLWA IAmb IAmb 19 08 30.6
comp=Z,11nm,0.8s
G05D **Wamic, OR** 83.15 36 P P 19 08 29.8 +0.9
baz=232
E04D **Cinebar** 83.28 35 P P 19 08 30.9 +1.4
baz=231
IPM **Ipoh** 83.29 277 P P 19 08 30.8 +0.5
IPM **Ipoh** 83.29 277 P P 19 08 31.0 +0.7
TIA **Tai'an** 83.38 312 P P 19 08 30.7 +0.5
TIA pmax pmax
comp=Z,20nm,0.6s
X16A **Lo Mia Camp, P** 83.41 50 P P 19 08 32.6 +2.0
F05D **White Salmon** 83.47 36 P P 19 08 31.8 +1.3
baz=232
I07A **Izee** 83.47 38 P P 19 08 31.8 +1.2
I07A IAmb IAmb 19 08 32.9
comp=Z,11nm,0.8s
LCMT **Little Creek M** 83.48 47 P P 19 08 31.3 +0.4
D03D **Eldon** 83.63 34 P P 19 08 32.4 +1.2
baz=230
J08A **Circle Bar Ran** 83.65 39 P P 19 08 32.6 +1.1
J08A IAmb IAmb 19 08 33.8
comp=Z,14nm,1.2s
CCUT **Cedar City** 83.68 46 P P 19 08 33.4 +1.4
KNB **Kanab** 83.77 47 P P 19 08 34.0 +1.6
MA2 **Magadan** 83.81 345 P P 19 08 31.0 -0.8
comp=Z,12nm,0.8s,baz=165,slow=8.9,SNR=5.8
MA2 **Magadan** 83.81 345 P P 19 08 30.8 -1.0
MA2 IAmb IAmb 19 08 31.8
comp=Z,15nm,0.8s
PSUT **Pine Spring** 83.87 45 P P 19 08 34.0 +1.2
KULM **Kulim** 83.93 278 P P 19 08 34.2 +0.7
KULM IAmb IAmb 19 08 34.9
comp=Z,21nm,0.7s
KULM **Kulim** 83.93 278 P P 19 08 34.0 +0.6
WUAZ **Wupatki** 84.01 49 P P 19 08 34.8 +1.2
baz=240
WUAZ **Wupatki** 84.01 49 P P 19 08 34.2 +0.7
GAMB **Gambell** 84.11 3 P P 19 08 34.1 +1.0
ELK **Elko** 84.16 43 P P 19 08 34.8 +0.5
PGC **Sidney** 84.16 33 P P 19 08 34.9 +1.2
PGC IAmb IAmb 19 08 35.6
comp=Z,16nm,0.8s
BBB **Bella Bella** 84.31 28 P P 19 08 34.6 +0.2
comp=Z,6.4nm,0.6s,baz=314,slow=4.7,SNR=5.6
PKCU **Pink Cliffs** 84.34 47 P P 19 08 34.5 -0.8
G08A **Pilot Rock** 84.50 37 P P 19 08 36.9 +1.1
G08A IAmb IAmb 19 08 37.3
comp=Z,10nm,0.7s
SUA **Susitna One** 84.50 13 P P 19 08 34.8 -0.5
SUA IAmb IAmb 19 08 35.8
comp=Z,19nm,0.7s
MTPU **Mount Pierson** 84.73 46 P P 19 08 38.9 +1.6
TTA **Tatalina** 84.90 10 P P 19 08 37.5 +0.4
TTA IAmb IAmb 19 08 38.0
comp=Z,11nm,1.0s
GHO **Glory Hole Cre** 85.17 13 P P 19 08 38.4 -0.1
GHO IAmb IAmb 19 08 39.3
comp=Z,32nm,0.7s
BMO **Blue Mountains** 85.20 38 P P 19 08 39.3 +0.2
MFID **Camas Ranch** 85.27 40 P P 19 08 40.1 +0.7
GSI **Gunungsitoli** 85.39 273 P P 19 08 41.6 +1.0
CUT **Chulitna** 85.45 12 P P 19 08 39.3 -0.4
baz=206
SCM **Sheep Creek Mo** 85.58 14 P P 19 08 40.3 -0.1
SCM IAmb IAmb 19 08 41.4
comp=Z,25nm,0.7s
BJT **Baijiatuau** 85.99 315 P P 19 08 43.0 +0.2
BJT IAmb IAmb 19 08 44.8
comp=Z,14nm,0.8s
BJI **Beijing** 85.99 315 P P 19 08 43.4 +0.6
BJI pmax pmax
comp=Z,19nm,0.6s
TMUT **Trail Mountain** 86.03 46 P P 19 08 44.0 +0.5
GLB **Gilahina Butte** 86.08 16 P P 19 08 42.7 -0.1
GLB IAmb IAmb 19 08 43.4
comp=Z,8.9nm,0.7s
BALM **Baldy** 86.11 16 P P 19 08 43.5 +0.4
BALM IAmb IAmb 19 08 44.3
comp=Z,10nm,0.7s
ENH **Enshi** 86.16 304 P P 19 08 44.5 +0.6
HLID **Hailey** 86.21 41 P P 19 08 45.4 +1.4
baz=237
HLID **Hailey** 86.21 41 P P 19 08 44.8 +0.7
BARN **Barnard Glacie** 86.32 17 P P 19 08 44.0 -0.1
BARN IAmb IAmb 19 08 46.4
comp=Z,14nm,0.8s
SRU **San Rafael Swe** 86.39 46 P P 19 08 45.9 +0.8
TRF **Thorofare Mou** 86.40 12 P P 19 08 43.8 -0.7
TRF IAmb IAmb 19 08 44.6
comp=Z,24nm,0.6s
MNTX **Cornudas Mount** 86.61 55 P P 19 08 47.2 +1.1
baz=244
MNTX **Cornudas Mount** 86.61 55 P P 19 08 47.7 +1.7
RND **Reindeer** 86.64 13 P P 19 08 45.1 -0.4
DHY **Denali Highway** 86.66 23 P P 19 08 45.3 -0.4
BNM **Barren Site** 86.78 52 P P 19 08 46.2 -0.8
GYA **Guiyang** 86.78 300 ⇓P P 19 08 47.7 +0.6
GYA pmax pmax
comp=Z,12nm,1.3s
GYA pmax pmax
comp=Z,130nm,5.4s
SYO **Syowa Base** 86.78 193⇑ *e*P P 19 08 44.9 -1.2
SYO **Syowa Base** 86.78 193⇑ *e*PcP P 19 08 46.3 +0.2
SYO **Syowa Base** 86.78 193⇓ *e*pP pP 19 10 45.6 +3.4
TCUT **Toone Canyon** 86.82 44 P P 19 08 47.7 +0.6
BPAW **Bear Paw Mtn.** 86.85 11 P P 19 08 46.1 -0.3
TX31 **Lajitas Ar. Si** 86.91 57 P P 19 08 49.4 +1.8
TX31 IAmb IAmb 19 08 50.2
comp=Z,16nm,0.9s
TX32 **Lajitas Array** 86.91 57 P P 19 08 49.3 +1.8
TXAR **Lajitas Array** 86.91 57 P P 19 08 49.2 +1.6
comp=Z,2.9nm,0.7s,baz=217,slow=6.4,SNR=33
TXAR pP pP 19 10 45.2 +1.4
comp=Z,0.1nm,0.5s,baz=232,slow=8.8,SNR=1.5
TXAR **Lajitas Array** 86.91 57 P P 19 08 49.3 +1.8
MCK **McKinley** 86.92 12 P P 19 08 46.5 -0.2
MCK IAmb IAmb 19 08 47.4
comp=Z,30nm,1.2s
HWUT **Hardware Ranch** 86.97 43 P P 19 08 48.3 +0.6
SLVN **Son La** 87.02 294 P P 19 08 49.6 +1.4
SLVN IAmb IAmb 19 08 52.0
comp=Z,12nm,1.3s
PV23 **Carpenter Ridg** 87.10 47 P P 19 08 49.4 +0.9
PV23 IAmb IAmb 19 08 50.6
comp=Z,7.2nm,0.7s
PV04 **Paradox Valley** 87.14 47 P P 19 08 49.2 +0.6
PV02 **Paradox Valley** 87.17 47 P P 19 08 49.6 +0.8
PV21 **Cone Mtn., Par** 87.18 47 P P 19 08 49.6 +0.7
ANMO **Albuquerque** 87.27 51 P P 19 08 50.3 +1.0
comp=Z,2.2nm,0.7s,baz=240,slow=4.8,SNR=7.5
ANMO **Albuquerque** 87.27 51 P P 19 08 50.3 +1.0
baz=243
ANMO **Albuquerque** 87.27 51 P P 19 08 50.0 +0.8
PV22 **Blue Mesa, Par** 87.29 47 P P 19 08 49.6 +0.3
HYT **Haines Junctio** 87.31 19 P P 19 08 49.2 +0.5
GDL2 **Guadalupe Moun** 87.61 54 P P 19 08 52.7 +1.9
NEA2 **Nenana** 87.66 12 P P 19 08 49.3 -0.8
baz=207
WRH **Wood River Hil** 87.75 12 P P 19 08 49.9 -0.6
WRH IAmb IAmb 19 08 51.0
comp=Z,22nm,0.8s
RDMU **Red Mountain** 87.75 45 P P 19 08 52.0 +0.6
PBKT **Sadao Pong** 87.77 288 P P 19 08 53.0 +1.3
RIDG **Independent Ri** 87.80 14 P P 19 08 50.7 -0.2
RIDG IAmb IAmb 19 08 51.3
comp=Z,11nm,1.1s
AHID **Auburn Hatcher** 87.85 43 P P 19 08 52.8 +0.9

AHID IAmb IAmb 19 08 53.9
comp=Z,5.6nm,0.8s
DOT **Dot Lake** 87.91 14 P P 19 08 50.9 -0.5
DOT IAmb IAmb 19 08 51.8
comp=Z,7.8nm,0.9s
HDA **Harding Lake** 87.93 13 P P 19 08 51.4 0.0
baz=209
HDA **Harding Lake** 87.93 13 P P 19 08 50.7 -0.7
HDA IAmb IAmb 19 08 51.8
comp=Z,20nm,0.6s
BCAR **Beaver Creek A** 87.96 16 P P 19 08 51.8 +0.1
CCB **Clear Creek Bu** 87.96 12 P P 19 08 50.6 -0.9
DLBC **Dease Lake** 87.97 23 P P 19 08 52.6 +0.8
comp=Z,3.4nm,0.7s,baz=227,slow=4.8,SNR=11
DLBC **Dease Lake** 87.97 23 P P 19 08 52.4 +0.6
DLBC IAmb IAmb 19 08 53.3
comp=Z,7.1nm,0.9s
WHY **Whitehorse** 87.98 20 P P 19 08 52.1 +0.3
WHY IAmb IAmb 19 08 53.1
comp=Z,5.1nm,0.8s
SNAA **Sanae** 88.03 178 P P 19 08 51.7 -0.3
comp=Z,1.1nm,0.9s,baz=201,slow=4.9,SNR=3.6
SNAA **Sanae** 88.03 178 P P 19 08 51.9 -0.1
IMAR **Indian Mountai** 88.11 10 P P 19 08 52.1 -0.1
VNA3 **Neumayer Olymp** 88.15 176 P P 19 08 52.7 +0.2
TCOL **CIGO, UAF Yank** 88.15 12 P P 19 08 51.7 -0.7
baz=208
COLA **College** 88.15 12 P P 19 08 51.7 -0.7
MDM **Murphy Dome** 88.15 12 P P 19 08 51.5 -1.0
MDM IAmb IAmb 19 08 52.6
comp=Z,18nm,0.8s
SCRK **Sand Creek** 88.20 14 P P 19 08 52.5 -0.4
baz=212,SNR=7.3
XAN **Xi'an** 88.25 307 P P 19 08 54.6 +0.9
XAN pmax pmax
comp=Z,42nm,0.9s
XAN **Xi'an** 88.25 307 P P 19 08 54.5 +0.8
IL31 88.26 13 P P 19 08 52.1 -0.7
IL31 IAmb IAmb 19 08 52.7
comp=Z,8.1nm,0.8s
ILAR **Eielson Array** 88.26 13 P P 19 08 52.2 -0.7
comp=Z,5.2nm,0.6s,baz=220,slow=5.6,SNR=25
ILAR pP pP 19 10 50.8 +1.2
comp=Z,2.3nm,1.0s,baz=232,slow=5.5,SNR=4.0
ILAR **Eielson Array** 88.26 13 P P 19 08 52.0 -0.9
S22A **4UR Ranch, Cre** 88.28 49 P P 19 08 55.0 +0.9
baz=242
S22A **4UR Ranch, Cre** 88.28 49 P P 19 08 55.0 +0.9
TPAW **Teton Pass** 88.31 42 P P 19 08 54.0 -0.1
TPAW IAmb IAmb 19 08 54.7
comp=Z,4.8nm,0.7s
FXWY **Fox Creek** 88.34 42 P P 19 08 54.3 +0.2
O20A **White River Ci** 88.43 46 P P 19 08 55.4 +0.8
baz=242
POKR **Poker Plat Res** 88.45 12 P P 19 08 53.1 -0.7
baz=208
IMW **Indian Meadow** 88.53 42 P P 19 08 55.6 +0.5
IMW IAmb IAmb 19 08 57.2
comp=Z,8.4nm,0.8s
VNA2 **Neumayer--Stat** 88.59 177 P P 19 08 55.2 +0.6
baz=184,slow=3.1
QLMT **Earthquake Lak** 88.70 41 P P 19 08 55.5 -0.2
FLWY **Flagg Ranch** 88.77 42 P P 19 08 57.3 +1.2
FLWY IAmb IAmb 19 08 58.5
comp=Z,9.7nm,0.8s
VNA1 **Neumayer--Stat** 88.82 177 P P 19 08 56.3 +0.7
BW06 **Boulder Array** 88.84 43 P P 19 08 57.0 +0.5
baz=241
BW06 **Boulder Array** 88.84 43 P P 19 08 56.6 +0.1
BW06 IAmb IAmb 19 08 57.7
comp=Z,5.7nm,0.8s
PD31 **Pinedale Array** 88.84 43 P P 19 08 56.6 +0.2
PD31 IAmb IAmb 19 08 57.7
comp=Z,5.2nm,0.8s
PDAR **Pinedale Array** 88.84 43 P P 19 08 57.0 +0.5
comp=Z,4.5nm,0.6s,baz=214,slow=3.2,SNR=40
PDAR **Pinedale Array** 88.84 43 P P 19 08 56.7 +0.2
BOZ **Bozeman (W)** 88.97 40 P P 19 08 58.1 +1.2
baz=239
H17A **Grant Village** 89.00 41 P P 19 08 59.7 +2.5
H17A IAmb IAmb 19 09 00.4
comp=Z,8.3nm,0.8s
PLCA **Paso Flores** 89.17 133 P P 19 08 59.7 +1.7
comp=Z,2.6nm,0.9s,baz=307,slow=3.6,SNR=3.0
SDCO **Great Sand Dun** 89.22 49 P P 19 08 59.0 +0.6
baz=243
SDCO **Great Sand Dun** 89.22 49 P P 19 08 59.3 +0.9
HHC **Hu-ho-hao-te** 89.46 314 *e*P P 19 09 00.3 +1.1
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,130nm,4.1s
KMI **Kunming** 89.48 297 ⇓P P 19 09 01.5 +1.6
KMI pmax pmax
comp=Z,27nm,1.1s
EGAK **Eagle** 89.55 15 P P 19 08 59.3 +0.4
EGAK IAmb IAmb 19 09 00.0
comp=Z,14nm,0.8s
MSTX **Muleshoe** 89.57 53 P P 19 09 00.5 +0.6
baz=245
COLD **Coldfoot** 89.83 10 P P 19 09 00.7 +0.5
baz=206
COLD **Coldfoot** 89.83 10 P P 19 09 00.5 +0.3
COLD IAmb IAmb 19 09 01.6
comp=Z,8.0nm,0.8s
RWWY **Rawlins** 89.85 45 P P 19 09 00.6 -0.6
RWWY IAmb IAmb 19 09 01.7
comp=Z,8.5nm,1.1s
CM31 **Chiang Mai Arr** 90.26 290 P P 19 09 05.0 +1.6
CM31 IAmb IAmb 19 09 05.5
comp=Z,14nm,0.8s
CMAR **Chiang Mai Arr** 90.26 290 P P 19 09 04.8 +1.5
comp=Z,9.3nm,0.8s,baz=112,slow=3.0,SNR=41
CMAR PP PP 19 12 48.4 +1.2
comp=Z,0.9nm,0.4s,baz=203,slow=21,SNR=4.2
CMAR **Chiang Mai Arr** 90.26 290 P P 19 09 04.4 +1.1
N23A **Red Feather La** 90.33 46 P P 19 09 04.1 +0.6
baz=243
CHTO **Chiang Mai** 90.39 290 P P 19 09 04.9 +1.0
K22A **Casper** 90.75 44 P P 19 09 05.6 +0.3
K22A IAmb IAmb 19 09 06.8
comp=Z,4.5nm,0.7s
TOLK **Toolik Lake Re** 91.21 10 P P 19 09 06.6 0.0
baz=206
YAK **Yakutsk** 92.16 338 P P 19 09 09.9 -1.1
LZH **Lanzhou** 92.89 307 *e*P P 19 09 16.0 +0.8
LZH pP pP 19 11 09.3 -3.1
LZH pmax pmax
comp=Z,26nm,1.2s
LZH pmax pmax
comp=Z,98nm,4.8s
INK **Inuvik** 94.21 15 P P 19 09 20.2 0.0
comp=Z,2.6nm,0.8s,baz=264,slow=5.2,SNR=3.2
INK **Inuvik** 94.21 15 P P 19 09 20.0 -0.3
INK IAmb IAmb 19 09 20.8
comp=Z,7.1nm,1.2s
ULN **Ulaanbaatar** 95.45 319 P P 19 09 26.3 -0.3
ULN IAmb IAmb 19 09 27.8
comp=Z,2.1nm,0.7s
SONM **Songino Array** 95.85 319 P P 19 09 28.0 -0.3
comp=Z,1.0nm,0.5s,baz=135,slow=5.0,SNR=8.2
SONM PP PP 19 13 27.6 -2.1
comp=Z,0.9nm,0.9s,baz=117,slow=5.3,SNR=5.5
SONM **Songino Array** 95.85 319 P P 19 09 27.8 -0.6
GTA **Gaotai** 97.09 309 ⇑P Pdif 19 09 34.8 +0.7
GTA PP PP 19 13 38.8 -0.6
GTA pmax pmax
comp=Z,4.0nm,1.5s
GTA pmax pmax
comp=Z,160nm,5.4s
ZALV **Zalesovo Beam** 110.58 321 PKiKP PKiKP 19 14 29.2 -1.3
comp=Z,2.6nm,0.6s,baz=165,slow=1.5,SNR=15
MKAR **Makanchi Array** 111.30 313 Pdiff Pdif 19 10 39.2 +2.2
comp=Z,0.2nm,0.5s,baz=91,slow=5.7,SNR=4.3
MKAR PKiKP PKiKP 19 14 31.0 -1.2
comp=Z,2.5nm,0.6s,baz=129,slow=0.3,SNR=37
MKAR **Makanchi Array** 111.30 313 PKiKP 19 14 31.2 -1.0
BRVK **Borovoye** 119.23 320 PKPdf 19 14 46.7 -0.5
GAR **Garm** 119.34 304 PKPdf 19 14 47.9 -0.2
KK31 **Karatay Array** 119.36 309 PKPdf 19 14 47.1 -0.7
KKAR **Karatay Array** 119.36 309 PKPdf 19 14 47.0 -0.8
KKAR **Karatay Array** 119.36 309 PKPdf 19 14 46.9 -0.8
SPITS **Spitsbergen Ar** 121.86 357 PKP PKPdf 19 14 51.1 -0.5
comp=Z,8.9nm,0.8s,baz=99,slow=5.2,SNR=6.8
SFJD **Kangerlussuaq** 122.86 22 PKP PKPdf 19 14 53.3 -0.5
comp=Z,9.7nm,0.8s,baz=270,slow=10,SNR=2.2

SUR	**Sutherland**	**124.49**	**199**	PKP	**PKiKP**	19 14 58.6	-0.1
	comp=Z,5.3nm,0.8s,baz=54,slow=8.7,SNR=2.0						
ARU	**Arti**	**125.28**	**325**	PKPdf	**PKPdf**	19 14 58.5	-0.1
ABKAR	**Akbulak array**	**126.18**	**317**	PKPdf	**PKPdf**	19 14 60.0	-0.7
BOSA	**Boshof**	**126.34**	**205**	PKP	**PKiKP**	19 15 02.5	+0.1
	comp=Z,1.8nm,0.8s,baz=142,slow=0.8,SNR=5.1						
GEYT	**Alibeck**	**128.91**	**303**	PKP	**PKPdf**	19 15 06.2	-0.1
	comp=Z,2.1nm,0.6s,baz=256,slow=1.2,SNR=6.0						
GEYT				PP	**PP**	19 17 17.1	-4.9
	comp=Z,0.9nm,0.4s,baz=49,slow=4.5,SNR=6.3						
GEYT	**Alibeck**	**128.91**	**303**	PKPdf	**PKPdf**	19 15 06.1	-0.2
ARCES	**ARCESS Array B**	**128.93**	**350**	PKP	**PKPdf**	19 15 04.8	-0.5
	comp=Z,4.2nm,0.6s,baz=43,slow=0.7,SNR=25						
KLMR	**Klimovskoe**	**131.93**	**336**	*e*PKPdf	**PKPdf**	19 15 10.5	-0.7
KLMR				AMP		19 15 11.8	
	comp=Z,9.0nm,1.1s						
KLMR				*e*SKP	**SKPbc**	19 17 48.4	+0.9
FINES	**FINESS Array B**	**135.80**	**344**	PKhKP	PKPpre	19 15 10.1	
	comp=Z,0.7nm,0.4s,baz=36,slow=3.3,SNR=9.7						
FINES				PKP	sPdif	19 15 16.6	-0.9
	comp=Z,2.4nm,0.5s,baz=64,slow=3.6,SNR=13						
FINES				SKPbc	**SKPbc**	19 18 00.7	+0.7
	comp=Z,1.3nm,0.5s,baz=104,slow=8.0,SNR=7.0						
FINES	**FINESS Array B**	**135.80**	**344**		PKPpre	19 15 08.0	
NC303	**NORSAR Array S**	**138.78**	**353**		PKPpre	19 15 14.5	
NB2	**NORSAR Subarra**	**138.98**	**353**	PKP	PKPdf	19 15 14.8	-10
	comp=Z,1.8nm,0.8s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**138.98**	**353**	PKhKP	PKPpre	19 15 14.8	
	comp=Z,1.5nm,0.8s,baz=15,slow=4.5,SNR=9.2						
NOA				PKP	**PKPdf**	19 15 24.9	+0.5
	comp=Z,0.4nm,0.6s,baz=13,slow=4.1,SNR=3.9						
NOA				SKPbc	**SKPbc**	19 18 08.2	-1.0
	comp=Z,3.3nm,1.0s,baz=15,slow=4.4,SNR=5.7						
KBZ	**Khabaz**	**139.00**	**314**	PKiKP	**PKiKP**	19 15 27.8	+0.6
	comp=Z,0.7nm,0.4s,baz=75,slow=2.1,SNR=3.5						
SUW	**Suwalki**	**142.88**	**339**	*e*PKP	**PKPdf**	19 15 28.7	-2.8
SUW	**Suwalki**	**142.88**	**339**	PKPdf	**PKPdf**	19 15 27.5	-4.0
AKASG	**Malin Array Be**	**143.07**	**331**	PKhKP	PKPpre	19 15 28.9	
	comp=Z,36nm,0.6s,baz=42,slow=4.2,SNR=162						
AKASG				PKiKP	**PKiKP**	19 15 35.5	+0.1
	comp=Z,0.8nm,0.4s,baz=46,slow=4.0,SNR=5.4						
AKASG				SKPbc	**SKiKP**	19 18 20.6	-0.3
	comp=Z,7.2nm,0.8s,baz=42,slow=2.7,SNR=9.4						
AKASG	**Malin Array Be**	**143.07**	**331**	PKPdf	PKPab	19 15 28.4	-1.1
AKBB	**Malin Array Si**	**143.07**	**331**	PKPdf	PKPab	19 15 28.8	-0.7
MUD	**Monsted U'grnd**	**143.70**	**353**	⇓*i*P	PKPab	19 15 31.4	-0.3
	comp=Z,44nm,0.7s						
BSD	**Bornholm Skovb**	**144.10**	**348**	⇓*i*P	PKPbc	19 15 32.4	-0.6
	comp=Z,54nm,0.8s						
GKP	**Gorka Klasztor**	**145.27**	**344**	*e*PKP	**PKPbc**	19 15 36.8	+0.1
SORM	**Soroca**	**145.27**	**329**	⇓P	**PKPbc**	19 15 36.4	-0.5
GAZ	**Gaziantep**	**145.33**	**306**		**PKPdf**	19 15 36.4	0.0
BEL	**Belsk**	**145.50**	**340**	*e*PKP	**PKPbc**	19 15 37.8	+0.4
BZK	**Bozkurt**	**145.67**	**316**	⇓P	**PKPbc**	19 15 38.5	+0.3
BSEG	**Bad Segeberg**	**146.03**	**351**	*e*PKPbc	**PKPbc**	19 15 39.0	+0.2
	baz=14,slow=2.5						
KWP	**Kalwaria Pacla**	**146.63**	**336**	*e*PKP	**PKPbc**	19 15 40.4	-0.3
BR131	**Keskin Array S**	**146.95**	**312**		**PKPbc**	19 15 41.6	-0.5
BRTR	**Keskin Array B**	**146.95**	**312**	PKPbc	**PKPbc**	19 15 41.4	-0.6
	comp=Z,9.7nm,0.6s,baz=132,slow=4.4,SNR=26						
BRTR	**Keskin Array B**	**146.95**	**312**		**PKPbc**	19 15 41.2	-0.8
TLCR		**146.99**	**324**	⇑P	**PKPbc**	19 15 41.9	+0.2
BUR08	**Bucovina Ar. S**	**147.11**	**331**		**PKPbc**	19 15 41.9	-0.2
BURAR	**Bucovina Array**	**147.12**	**331**	⇑P	**PKPbc**	19 15 42.9	+0.7
BURAR	**Bucovina Array**	**147.12**	**331**	PKPdf	**PKPdf**	19 15 38.6	-0.5
GHRR		**147.16**	**327**	⇓P	**PKiKP**	19 15 43.3	-0.6
BIZ	**Bicaz**	**147.20**	**329**	⇑P	**PKiKP**	19 15 43.2	-0.9
OJC	**Ojcow**	**147.20**	**339**	*e*PKP	**PKPbc**	19 15 42.2	0.0
OJC	**Ojcow**	**147.20**	**339**		**PKPbc**	19 15 42.0	-0.1
JURR	**Jurilovca**	**147.22**	**324**	⇑P	**PKPbc**	19 15 41.7	-0.6
TESR	**Tescani**	**147.23**	**328**	⇑P	**PKPbc**	19 15 42.4	+0.1
CFR	**Carcaliu**	**147.36**	**325**	⇓P	**PKPbc**	19 15 42.6	-0.1
KOLS	**Kolonicke sedl**	**147.36**	**335**	*e*PKP	**PKPdf**	19 15 40.2	+0.9
KOLS				*e*		19 15 43.1	
KOLS				*e*		19 15 46.8	
NRDL	**Niedersach Rie**	**147.46**	**351**	*e*PKPbc	**PKPbc**	19 15 42.6	0.0
	baz=14,slow=2.5						
BR231	**Keskin MP Arra**	**147.49**	**313**		**PKPbc**	19 15 43.5	+0.1
ODBI	**Odobesti**	**147.54**	**327**	⇓P	**PKiKP**	19 15 44.4	-0.3
VRI	**Vrincioaia**	**147.64**	**327**	⇑P	**PKPbc**	19 15 43.4	0.0
TIRR	**Tirgusor**	**147.67**	**324**	⇓P	**PKPbc**	19 15 43.5	0.0
PLOR	**Plostina**	**147.69**	**327**	⇓P	**PKPbc**	19 15 43.4	-0.2
NIE	**Niedzica**	**147.71**	**338**	*e*PKP	**PKPbc**	19 15 44.2	+0.7
KSP	**Ksiaz**	**147.72**	**343**	*e*PKP	**PKPbc**	19 15 44.0	+0.5
ASSE	**Asse, Remlinge**	**147.72**	**350**	*e*PKPbc	**PKPbc**	19 15 43.6	+0.2
	baz=14,slow=2.5						
HARR	**Harsova**	**147.79**	**324**	⇑P	**PKPbc**	19 15 44.2	+0.4
IBBN	**Ibbenburen**	**147.94**	**354**	*e*PKPbc	**PKPbc**	19 15 44.1	+0.1
	baz=14,slow=2.5						
OZUR		**147.95**	**328**	⇑P	**PKPbc**	19 15 44.8	+0.5
MANR	**Mangalia**	**147.97**	**323**	⇓P	**PKPbc**	19 15 44.4	+0.1
OSTC	**Ostas**	**148.00**	**343**	⇑*e*PKP	**PKPbc**	19 15 44.2	0.0
CHVC	**Chvalec**	**148.01**	**343**	⇑*e*PKP	**PKPbc**	19 15 44.4	+0.1
CHVC				*e*PKPAB	**PKPab**	19 15 49.1	+0.2
CLZ	**Clausthal**	**148.05**	**350**	*e*PKPbc	**PKPbc**	19 15 44.6	+0.3
	baz=14,slow=2.5						
OKC	**Ostrava-Krasne**	**148.07**	**340**	⇑*e*PKP	**PKPbc**	19 15 44.7	+0.3
OKC				*e*PKPAB	**PKPab**	19 15 49.7	+0.6
CLL	**Collm**	**148.08**	**347**	*e*PKPdf	**PKPdf**	19 15 40.0	-0.4
CLL				⇓*i*PKPbc	**PKPbc**	19 15 44.4	0.0
	comp=Z,47nm,0.7s						
CLL				*i* PKPab	**PKPab**	19 15 48.8	-0.3
	comp=Z,15nm,0.8s						
CLL				*e*		19 15 58.0	
CLL				*e*pPKPab	**pPKPab**	19 17 53.0	+3.7
CLL				*e*		19 17 59.0	
CLL	**Collm**	**148.08**	**347**		**PKPbc**	19 15 44.2	-0.2
UPC	**Upice**	**148.10**	**343**	⇑*e*PKP	**PKPbc**	19 15 44.8	+0.3
UPC				*e*PKPAB	**PKPab**	19 15 49.8	+0.5
DPC	**Dobruska-Polom**	**148.16**	**343**	⇑*e*PKP	**PKPbc**	19 15 45.0	+0.3
DPC				*e*PKPAB	**PKPab**	19 15 50.2	+0.6
LANS	**Liptovska Anna**	**148.22**	**338**	*e*PKP	**PKiKP**	19 15 46.3	+0.2
LANS				*e*		19 15 51.2	
DOPR	**Dopca**	**148.24**	**329**	⇓P	**PKPbc**	19 15 45.3	+0.3
MDUB	**Mudurnu**	**148.25**	**315**		**PKPbc**	19 15 44.1	-1.2
KRLC	**Kraliky**	**148.27**	**342**	⇑*e*PKP	**PKPbc**	19 15 44.8	-0.2
KRLC				*e*PKPAB	**PKPab**	19 15 50.4	+0.4
BRG	**Berggiesshubel**	**148.28**	**346**	*e*PKP	**PKPdf**	19 15 40.9	+0.2
	comp=Z,11nm,1.4s						
BRG				*i*		19 15 45.1	
	comp=Z,24nm,0.7s						
BRG				*i*		19 15 49.8	
	comp=Z,17nm,0.8s						
BRG				*e*		19 17 55.3	
	comp=Z,3.9nm,1.2s						
BRG	**Berggiesshubel**	**148.28**	**346**	*e*PKPbc	**PKPbc**	19 15 45.2	+0.3
	baz=14,slow=2.5						
MLR	**Muntele Rosu**	**148.30**	**327**	⇓P	**PKPbc**	19 15 44.3	-0.9
MLR	**Muntele Rosu**	**148.30**	**327**		**PKPbc**	19 15 44.4	-0.9
MORC	**Moravsky Berou**	**148.31**	**341**	*e*PKP	**PKPbc**	19 15 45.2	+0.1
MORC	**Moravsky Berou**	**148.31**	**341**		**PKPbc**	19 15 44.9	-0.1
FBE	**Freiberg**	**148.37**	**346**	*e*PKPbc	**PKPbc**	19 15 45.5	+0.5
	baz=14,slow=2.5						
GTTG	**Gottingen**	**148.40**	**351**	*e*PKPbc	**PKPbc**	19 15 45.3	+0.2
	baz=14,slow=2.5						
KECS	**Kecovo**	**148.42**	**336**	*e*PKP	**PKiKP**	19 15 46.1	-0.4
KECS				*e*		19 15 51.4	
NEUB	**Neuenburg**	**148.42**	**348**	*e*PKPbc	**PKPbc**	19 15 45.3	+0.1
	baz=14,slow=2.5						
PVCC	**Panska Ves**	**148.45**	**345**	⇑*e*PKP	**PKPbc**	19 15 45.7	+0.4
VOIR		**148.78**	**328**	⇑P	**PKPbc**	19 15 46.4	0.0
BUG	**Bochum--Univer**	**148.84**	**354**	*e*PKPbc	**PKPbc**	19 15 46.2	0.0
	baz=14,slow=2.5						
PRA	**Prague**	**148.91**	**345**	⇑*e*PKP	**PKiKP**	19 15 47.0	-0.4
PRU	**Pruhonice**	**148.96**	**344**	⇑*e*PKP	**PKPbc**	19 15 46.6	0.0
PRU				*e*PKPAB	**PKPab**	19 15 53.1	+0.3
GOPC	**GO Pecny, Ondr**	**148.96**	**344**	⇑*e*PKP	**PKPbc**	19 15 46.6	0.0
GOPC				*e*PKPAB	**PKPab**	19 15 52.5	-0.4
MOX	**Moxa**	**148.99**	**348**	*e*PKPbc	**PKPbc**	19 15 46.7	0.0
	baz=14,slow=2.5						
VYHS	**Vyhne**	**149.00**	**338**	*e*PKP	**PKPbc**	19 15 47.0	+0.2
VYHS				*e*		19 15 53.8	
VRAC	**Vranov**	**149.01**	**342**	*e*PKP	**PKPbc**	19 15 46.8	0.0
CSS	**Mathiatis**	**149.03**	**304**		**PKPbc**	19 15 46.6	-0.7
PLN	**Plauen**	**149.03**	**348**	*e*PKPbc	**PKPbc**	19 15 47.0	+0.2
	baz=14,slow=2.5						
TANN	**Tannenbergstha**	**149.04**	**347**	*e*PKPbc	**PKPbc**	19 15 46.9	+0.1
	baz=14,slow=2.5						
WERD	**Werda**	**149.04**	**347**	*e*PKPbc	**PKPbc**	19 15 46.9	+0.1
	baz=14,slow=2.5						
JAVC	**Velka Javorina**	**149.08**	**340**	*e*PKP	**PKiKP**	19 15 48.2	+0.3
PSZ	**Piszkesteto**	**149.10**	**336**		**PKPbc**	19 15 47.3	+0.2
GUNZ	**Gunzen**	**149.11**	**347**	*e*PKPbc	**PKPbc**	19 15 47.4	+0.4
	baz=14,slow=2.5						
WERN	**Wernitzgruen**	**149.18**	**347**	⇑*e*PKPbc	**PKPbc**	19 15 47.5	+0.4
	baz=14,slow=2.5						
NKC	**Novy Kostel**	**149.21**	**347**	⇑*e*PKP	**PKPbc**	19 15 47.4	+0.2
NKC				*e*PKPAB	**PKPab**	19 15 53.9	0.0
KRUC	**Moravsky**	**149.29**	**342**	*e*PKP	**PKPbc**	19 15 47.4	0.0
LEF	**Lefka**	**149.31**	**305**	⇓P	**PKPbc**	19 15 47.8	-0.1
TREC	**Trest**	**149.34**	**343**	⇑*e*PKP	**PKPbc**	19 15 47.7	+0.1
TREC				*e*PKPAB	**PKPab**	19 15 54.5	+0.1
PBCC	**Pribram**	**149.37**	**345**	⇑*e*PKP	**PKPbc**	19 15 47.5	-0.1
PBCC				*e*PKPAB	**PKPab**	19 15 54.7	+0.2
SMOL	**Smolenice**	**149.46**	**340**	*e*PKP	**PKiKP**	19 15 48.9	+0.3
SMOL				*e*		19 15 56.3	
MANZ	**Manzenberg**	**149.52**	**347**	*e*PKPbc	**PKiKP**	19 15 48.4	-0.4
	baz=14,slow=2.5						
MODS	**Modra-Piesok**	**149.63**	**340**	*e*PKP	**PKPbc**	19 15 48.2	-0.1
MODS				*e*		19 15 56.0	
ROTZ	**Rotzenmuhle**	**149.70**	**347**	*e*PKPbc	**PKPbc**	19 15 48.6	+0.2
	baz=14,slow=2.5						
SIRR	**Siria**	**149.73**	**333**	⇓P	**PKPbc**	19 15 48.8	+0.2
AHRW	**Bad Neuenahr-A**	**149.75**	**354**	*e*PKPbc	**PKPbc**	19 15 48.4	-0.1
	baz=14,slow=2.5						
MEM	**Membach**	**149.78**	**355**	PKPbc	**PKPbc**	19 15 48.5	-0.1
MEM				PKPbc	**PKiKP**	19 15 48.6	-0.6
BSTI	**Sart Tilman**	**149.84**	**356**	PKPbc	**PKPbc**	19 15 48.7	0.0
TNS	**Taunus Mts**	**149.91**	**352**	*e*PKPbc	**PKPbc**	19 15 48.8	-0.1
	baz=14,slow=2.5						
GRA1	**Grafenberg Arr**	**149.97**	**348**		**PKPbc**	19 15 48.9	-0.1
GRF	**Grafenberg Arr**	**149.97**	**348**	*e*PKPbc	**PKPbc**	19 15 49.2	+0.2
	baz=14,slow=2.5						
SNF	**Seneffe**	**149.99**	**357**	PKPbc	**PKPbc**	19 15 49.0	0.0
SNF				PKPab	**PKPab**	19 15 56.8	-0.2
KHC	**Kasperske Hory**	**149.99**	**345**	⇑*e*PKP	**PKPbc**	19 15 48.8	-0.3
KHC				*e*PKPAB	**PKPab**	19 15 57.1	-0.1
KHC				*ex*	x	19 18 05.5	
KHC	**Kasperske Hory**	**149.99**	**345**		**PKPbc**	19 15 49.1	0.0
BCLA	**Clavier**	**150.02**	**356**	PKPbc	**PKPbc**	19 15 49.2	+0.1
BCLA				PKPab	**PKPab**	19 15 56.7	-0.5
BHOU	**Houvegnez**	**150.04**	**355**	PKPbc	**PKiKP**	19 15 49.5	-0.3
BHOU				PKPab	**PKPab**	19 15 56.9	-0.4
WET	**Wettzell**	**150.14**	**346**	*e*PKPbc	**PKPbc**	19 15 49.2	-0.3
	baz=14,slow=2.5						
BMRD	**Maredsous**	**150.17**	**357**	PKPbc	**PKPbc**	19 15 49.4	-0.1
BMRD				PKPab	**PKPab**	19 15 57.4	-0.4
GEC2	**GERESS Array S**	**150.22**	**345**	*e*PKPbc	**PKPbc**	19 15 49.7	-0.1
	baz=14,slow=2.5						
GEC2	**GERESS Array S**	**150.22**	**345**		**PKPbc**	19 15 49.6	-0.2
GERES	**GERESS Array B**	**150.22**	**345**	PKP	**PKPdf**	19 15 44.0	-0.1
	comp=Z,0.5nm,0.5s,baz=42,slow=2.2,SNR=6.8						
GERES				PKPbc	**PKPbc**	19 15 49.7	-0.1
	comp=Z,5.7nm,0.6s,baz=31,slow=2.3,SNR=50						
GERES				PKPab	**PKPab**	19 15 57.8	-0.5
	comp=Z,3.0nm,0.7s,baz=22,slow=4.4,SNR=9.8						
GERES	**GERESS Array B**	**150.22**	**345**		**PKPbc**	19 15 49.4	-0.4
BZS	**Buzias**	**150.26**	**332**	⇓P	**PKPbc**	19 15 49.6	-0.2
DOU	**Dourbes**	**150.39**	**357**	PKPbc	**PKPbc**	19 15 50.0	+0.1
DOU				PKPab	**PKPab**	19 15 57.6	-1.0
HERR	**Herculane**	**150.46**	**330**	⇓P	**PKPbc**	19 15 50.1	-0.2
CONA	**Conrad Observa**	**150.46**	**341**	*i* PKiKP	**PKPbc**	19 15 50.5	+0.1
	comp=Z,15nm,0.6s,SNR=12						
WLF	**Walferdange**	**150.71**	**355**	PKPbc	**PKiKP**	19 15 51.2	0.0
WLF				PKPab	**PKPab**	19 15 59.7	-0.4
WLF	**Walferdange**	**150.71**	**355**	*e*PKPbc	**PKiKP**	19 15 51.4	+0.3
	baz=14,slow=2.5						
WLF	**Walferdange**	**150.71**	**355**		**PKPbc**	19 15 50.7	0.0
MDVR	**Moldovita**	**150.86**	**331**	⇓P	**PKPbc**	19 15 50.9	-0.4
ELL	**Elmali**	**150.90**	**310**		**PKPbc**	19 15 51.3	-0.5
MOA	**Molln**	**151.00**	**343**	*i* PKPbc	**PKPbc**	19 15 51.1	-0.3
	comp=Z,4.1nm,0.5s						
ARSA	**Arzberg**	**151.17**	**341**	*e*PKPbc	**PKPbc**	19 15 51.6	-0.3
	comp=Z,3.0nm,0.7s						
VTS	**Vitosha**	**151.70**	**326**	⇓P	**PKPbc**	19 15 51.6	-1.8
BFO	**Black Forest**	**151.78**	**351**	*e*PKPbc	**PKPbc**	19 15 52.9	-0.3
	baz=14,slow=2.5						
BFO	**Black Forest**	**151.78**	**351**		**PKPbc**	19 15 52.9	-0.3
SOKA	**Soboth**	**151.84**	**341**	*e*PKPbc	**PKPbc**	19 15 52.7	-0.8
	comp=Z,3.5nm,0.6s						
PERS	**Pernice**	**151.85**	**341**	*i* PKPbc	**PKPbc**	19 15 52.8	-0.7
PERS				*i* PKPab	**PKPab**	19 16 05.0	-0.1
KBA	**Koelnbreinsper**	**151.95**	**344**	*i* PKPbc	**PKPbc**	19 15 53.2	-0.6
	comp=Z,3.7nm,0.5s						
OBKA	**Obir**	**152.13**	**342**	*e*PKPbc	**PKPbc**	19 15 53.1	-1.0
	comp=Z,2.2nm,0.6s						
WATA	**Walderalm**	**152.14**	**346**	*i* PKPbc	**PKPbc**	19 15 53.7	-0.5
	comp=Z,3.3nm,0.5s						
DIVS	**Divibare**	**152.17**	**332**		**PKPbc**	19 15 53.5	-0.8
RETA	**Reutte**	**152.17**	**347**	*e*PKPbc	**PKPbc**	19 15 53.8	-0.4
	comp=Z,2.0nm,0.5s						
WTTA	**Wattenberg**	**152.20**	**346**	*i* PKPbc	**PKPbc**	19 15 54.0	-0.4
	comp=Z,6.4nm,0.4s						
MOTA	**Moosalm**	**152.24**	**347**	*i* PKPdf	**PKPdf**	19 15 46.3	-0.9
	comp=Z,4.2nm,0.9s						
MOTA				*i* PKPbc	**PKPbc**	19 15 53.8	-0.6
	comp=Z,7.6nm,0.9s						
MYKA	**Tema Mystica**	**152.28**	**343**	*i* PKPbc	**PKPbc**	19 15 53.4	-1.1
	comp=Z,4.1nm,0.5s						
SQTA	**Sankt Quirin**	**152.33**	**347**	*e*PKPdf	**PKPdf**	19 15 46.6	-0.7
	comp=Z,2.3nm,0.7s						
SQTA				*e*PKPbc	**PKPbc**	19 15 54.2	-0.4
	comp=Z,4.1nm,0.6s						
ABTA	**Abfaltersbach**	**152.47**	**345**	*i* PKPdf	**PKPdf**	19 15 46.3	-1.1
	comp=Z,4.7nm,0.7s						
ABTA				*i* PKPbc	**PKPbc**	19 15 53.9	-1.0
	comp=Z,13nm,0.6s,SNR=6.4						
PRED	**Cave del Predi**	**152.48**	**343**		**PKPbc**	19 15 53.8	-1.1
PRED				PKPab	**PKPab**	19 16 07.0	-0.8
CLF	**Chambon-Foret**	**152.52**	**360**	PKPbc	**PKiKP**	19 15 55.0	+0.1
CLF				PKPab	**PKPab**	19 16 07.6	-0.1
ZOU	**Zoufplan**	**152.53**	**344**		**PKPbc**	19 15 53.6	-1.6
ZOU					**PKPab**	19 16 07.3	-0.9
FETA	**Feichten**	**152.62**	**347**	*i* PKPdf	**PKPdf**	19 15 47.2	-0.5
	comp=Z,4.7nm,1.1s						
FETA				*e*PKPbc	**PKPbc**	19 15 55.0	-0.3
	comp=Z,5.0nm,0.7s						
VISS	**Visnje**	**152.68**	**340**	*i* PKPbc	**PKPbc**	19 15 54.8	-0.5
VISS				*i* PKPab	**PKPab**	19 16 08.0	-0.5
CEY	**Cerknica**	**152.86**	**341**	*i* PKPbc	**PKPbc**	19 15 55.2	-0.5
CEY				*i* PKPab	**PKPab**	19 16 08.9	-0.5
STAL	**STALIGIAL**	**152.87**	**344**		**PKPbc**	19 15 54.6	-1.1
STAL					**PKPab**	19 16 08.3	-1.1
CIMO	**Cimolais**	**152.90**	**344**		**PKPbc**	19 15 54.6	-1.2
FUORN	**Ofenpass-Fuorn**	**153.10**	**348**		**PKPbc**	19 15 56.2	-0.3
FUORN				PKPab	**PKPab**	19 16 11.1	+0.4
CTI	**Castel Tesino**	**153.34**	**345**	PKPab	**PKPab**	19 16 10.9	-0.6
LIT	**Litokhoron**	**153.84**	**323**		**PKPab**	19 16 13.6	-0.1
SENIN	**Lac Senin/Sane**	**153.84**	**352**	PKPab	**PKPab**	19 16 13.7	-0.1
BNI	**Bardonecchia**	**155.21**	**352**	PKPab	**PKPab**	19 16 20.1	+0.6
OSSC	**Osservatorio P**	**155.80**	**344**		**PKPab**	19 16 21.2	-0.8
ESDC	**Sonseca Array**	**160.16**	**14**	PKP	**PKPdf**	19 15 57.8	+0.3
	comp=Z,0.2nm,0.4s,baz=12,slow=2.3,SNR=1.9						
ESDC				PKPab	**PKPab**	19 16 40.7	-0.4
	comp=Z,1.5nm,1.0s,baz=337,slow=3.7,SNR=9.5						
ESDC	**Sonseca Array**	**160.16**	**14**		**PKPab**	19 16 40.9	-0.2
TORD	**Torodi Ar. Bea**	**172.69**	**176**	PKP	**PKPdf**	19 16 06.5	-1.1
	comp=Z,1.2nm,0.7s,baz=94,slow=0.5,SNR=6.5						
TORD				PKPab	**PKPab**	19 17 37.9	+1.0
	comp=Z,0.8nm,0.6s,baz=178,slow=2.6,SNR=3.6						

*IDC **07** 19:01:11.2±0.6, 0.°83N×26.°80W, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.0/50, mbtmp4.1/16, MS3.7/25, Ms1 3.7/25, ms1mx3.6/41, Error ellipse: s-maj=22.0km s-min=15.8km az=146.0*

*NEIC **07** 19:01:12.1±1.7, 0.°8N±0.°2×26.°9W±0.°1, h10km±1km, mb4.6/9, Error ellipse: s-maj=31.2km s-min=17.3km az=148.0*

*GCMT **07** 19:01:15.1±0.4, 0.°96N±0.°02×26.°78W±0.°02, h13km±2km, MW4.8/90, Moment Tensor Solution. s12,c14; s90,c109; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.37±.10; Mθθ0.43±.12; Mθφ-0.05±.10; Mrθ0.67±.25; Mφφ-1.50±.09; Mrφ0.53±.24; Best double couple: M0 1.77000×10^16 NP1:φs 171.00000°, δ65.00000°, λ-19.00000°. NP2: φs 269.00000°, δ73.00000°, λ-154.00000°. Principal axes: T 1.7200, Plg5.0000°, Azm39.0000°; N 0.1010, Plg59.0000°, Azm300.0000°; P -1.8210, Plg30.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 19:01:11.7±0.6, 0.°7N±0.°1×26.°9W±0.°1, h10km, n54, σ1°17/38, mb4.3/20, MS3.8/24, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**11.11**	**234**	Pn	**Pn**	**19 03 49.6**	**-1.4**
	1.4nm,0.3s,baz=30,slow=12,SNR=26						
RCBR				Sn	Sn	19 05 44.5	-11
	0.5nm,0.3s,baz=290,slow=13,SNR=1.3						
RCBR				LR	LR	19 07 03.1	
	comp=Z,970nm,21.4s,baz=26,slow=31						
RCBR	**Riachuelo**	**11.11**	**234**		**Pn**	**19 03 49.8**	**-1.2**
H10N3	**ASCENSION HYDR**	**14.97**	**125**	T	T	19 20 10.7	
	baz=304						
H10N2	**ASCENSION HYDR**	**14.97**	**125**	T	T	19 20 11.1	
	baz=304						
H10N1	**ASCENSION HYDR**	**14.99**	**125**	T	T	19 20 12.3	
	baz=304						
LIC	**Lamto**	**22.47**	**75**	*e*P	**P**	**19 06 10.6**	**-0.8**
	5.6nm,0.3s						
TIC	**Toumodi**	**22.58**	**74**	*e*P	**P**	**19 06 15.5**	**+2.9**
DBIC	**Dimbokro**	**22.74**	**74**	P	**P**	**19 06 13.5**	**-0.8**
	13nm,1.0s,baz=246,slow=10.0,SNR=12						
DBIC				LR	LR	19 13 00.8	
	comp=Z,213nm,21.1s,baz=236,slow=31						
DBIC	**Dimbokro**	**22.74**	**74**	P	**P**	**19 06 13.4**	**-0.9**
DBIC				IAmb	IAmb	19 06 22.6	
	comp=Z,30nm,1.2s						
KIC	**Kosan Boka**	**22.78**	**75**	*e*P	**P**	**19 06 13.9**	**-0.8**
	comp=Z,15nm,0.7s						
MDP	**Montagnes des**	**26.10**	**280**	LR	LR	19 15 42.8	
	comp=Z,67nm,20.4s,baz=97,slow=33						
BDFB	**Brasilia**	**26.47**	**231**	LR	LR	19 16 14.6	
	comp=Z,505nm,19.5s,baz=94,slow=34						
TOA0	**Torodi Ar. Sit**	**30.88**	**65**	P	**P**	**19 07 28.1**	**-0.6**
TOA0				IAmb	IAmb	19 07 29

2.8nm,0.9s,baz=272,slow=6.0,SNR=26
ASAR LR LR 19 51 47.1
comp=Z,139nm,18.3s,baz=252,slow=34
ASAR Alice Springs 62.59 108 P P 19 26 44.8 -0.3
AS31 Alice Springs 62.59 108 P P 19 26 45.1 0.0
AS31 IAmb IAmb 19 26 46.5
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 63.52 104 P P 19 26 52.1 +0.8
comp=Z,3.4nm,0.9s,baz=269,slow=6.1,SNR=14
WRA Warramunga Arr 63.52 104 P P 19 26 52.0 +0.8
WB2 Warramunga Arr 63.53 104 P P 19 26 51.4 +0.1
WB2 IAmb IAmb 19 26 53.0
comp=Z,5.2nm,0.9s
MKAR Makanchi Array 64.61 11 P P 19 26 58.2 +0.4
comp=Z,0.3nm,0.7s,baz=223,slow=5.3,SNR=3.2
MKAR Makanchi Array 64.61 11 P P 19 26 57.9 +0.1
ABKAR Akbulak array 65.92 355 P P 19 27 05.8 -0.3
STKA Stephens Creek 68.40 118 LR LR 19 53 01.1
comp=Z,114nm,19.0s,baz=13,slow=32
TORD Torodi Ar. Bea 71.11 291 LR LR 19 57 17.8
comp=Z,33nm,18.6s,baz=55,slow=35
ZALV Zalesovo Beam 71.93 11 P P 19 27 43.6 +0.1
comp=Z,0.5nm,0.4s,baz=201,slow=7.7,SNR=2.6
SONM Songino Array 73.16 26 P P 19 27 49.8 -1.4
comp=Z,0.2nm,0.3s,baz=233,slow=6.7,SNR=2.8
DBIC Dimbokro 74.84 282 LR LR 20 00 06.1
comp=Z,24nm,18.4s,baz=102,slow=35
AKASG Malin Array Be 74.86 336 P P 19 28 01.3 +0.5
comp=Z,0.2nm,0.3s,baz=142,slow=4.6,SNR=1.8
FINES FINESS Array B 84.40 342 P P 19 28 53.8 +1.5
comp=Z,1.0nm,0.8s,baz=219,slow=11,SNR=1.7
ESDC Sonseca Array 86.64 313 LR LR 20 08 53.6
comp=Z,18nm,18.4s,baz=355,slow=36

NEIC ***07*** *19:26:02.1±1.2,3.°48N±0.°07×96.°3E±0.°1, h64km±10km, mb4.2/9, Error ellipse: s-maj=17.5km s-min=10.0km az=80.0*
IDC ***07*** *19:26:02.8±1.5,3.°69N×96.°51E, h60km±9km, mb3.6/12, mb1 3.7/13, mb1mx3.4/46, mbtmp3.9/13, MS3.5/1, Ms1 3.5/1, ms1mx2.8/35, Error ellipse: s-maj=56.0km s-min=15.8km az=56.0*

ISC 07 19:26:01.2±0.7,3.°47N±0.°08×96.°2E±0.°1, h50km, n34, σ1s08/34, mb3.9/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**1.89**	**23**	Pn	**Pn**	**19 26 31.8**	**+0.7**
GSI	**Gunungsitoli**	**2.55**	**148**	Pn	**Pn**	**19 26 40.3**	**+0.2**
RPSI	**Rantau Prapat**	**2.81**	**106**	Pn	**Pn**	**19 26 44.4**	**+0.7**
KULM	**Kulim**	**4.77**	**68**		**Pn**	**19 27 10.7**	**+0.1**
IPM	**Ipoh**	**4.90**	**78**		**Pn**	**19 27 12.1**	**-0.3**
PBKT	**Sadao Pong**	**13.83**	**19**	P	**Pn**	**19 29 16.0**	**+1.4**
CMAR	**Chiang Mai Arr**	**15.13**	**10**	P	**Pn**	**19 29 29.8**	**-2.1**
	0.3nm,0.3s,baz=178,slow=28,SNR=1.3						
H08S2	**Diego Garcia H**	**26.12**	**245**	T	T	19 57 51.7	
	baz=67,slow=76,SNR=3.5						
H08S3	**Diego Garcia H**	**26.12**	**245**	T	T	19 58 13.4	
	baz=67,slow=76,SNR=2.9						
H08S1	**Diego Garcia H**	**26.14**	**245**	T	T	19 58 02.4	
	baz=67,slow=76,SNR=2.9						
WB0	**Warramunga Arr**	**44.05**	**123**	P	**P**	**19 34 03.9**	**-0.7**
WB0				IAmb	IAmb	19 34 24.9	
	comp=Z,7.1nm,1.2s						
WRA	**Warramunga Arr**	**44.08**	**123**	P	**P**	**19 34 04.4**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=302,slow=9.1,SNR=5.3						
WRA				pP	**pP**	**19 34 19.6**	**+1.7**
	comp=Z,1.0nm,0.5s,baz=302,slow=9.2,SNR=4.6						
WRA	**Warramunga Arr**	**44.08**	**123**	P	**P**	**19 34 03.2**	**-1.6**
WRAB	**Tennant Creek**	**44.09**	**123**	P	**P**	**19 34 06.2**	**+1.4**
WRAB				IAmb	IAmb	19 34 31.4	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**44.09**	**123**	P	**P**	**19 34 03.8**	**-1.1**
WR0	**Warramunga Arr**	**44.26**	**123**	P	**P**	**19 34 05.2**	**-1.0**
WR0				IAmb	IAmb	19 34 23.4	
	comp=Z,3.7nm,0.9s						
MK31	**Makanchi Array**	**44.81**	**346**	P	**P**	**19 34 09.0**	**-1.3**
MKAR	**Makanchi Array**	**44.81**	**346**	P	**P**	**19 34 09.0**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=161,slow=8.9,SNR=22						
MKAR				pP	**pP**	**19 34 24.8**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=151,slow=8.3,SNR=2.3						
MKAR	**Makanchi Array**	**44.81**	**346**	P	**P**	**19 34 08.8**	**-1.4**
MAKZ	**Makanchi**	**44.90**	**346**	P	**P**	**19 34 09.8**	**-1.2**
MAKZ				IAmb	IAmb	19 34 10.5	
	comp=Z,1.4nm,0.9s						
SONM	**Songino Array**	**45.06**	**10**	P	**P**	**19 34 11.2**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=196,slow=7.3,SNR=6.8						
SONM				pP	**pP**	**19 34 26.7**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=212,slow=6.8,SNR=1.8						
SONM	**Songino Array**	**45.06**	**10**	P	**P**	**19 34 10.6**	**-1.6**
ASAR	**Alice Springs**	**45.55**	**128**	P	**P**	**19 34 16.0**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=298,slow=7.5,SNR=5.3						
GEYT	**Alibeck**	**48.85**	**320**	P	**P**	**19 34 43.5**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=119,slow=5.1,SNR=2.2						
KURBB	**Kurchatov Arra**	**49.30**	**345**	P	**P**	**19 34 44.3**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=168,slow=6.7,SNR=13						
KURK	**Kurchatov**	**49.36**	**345**	P	**P**	**19 34 44.9**	**-0.6**
KURK				IAmb	IAmb	19 34 57.3	
	comp=Z,3.8nm,1.4s						
ZALV	**Zalesovo Beam**	**51.18**	**351**	P	**P**	**19 34 58.2**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=164,slow=6.9,SNR=3.7						
ZALV				LR	LR	19 59 37.0	
	comp=Z,45nm,19.1s,baz=274,slow=40						
BVAR	**Borovoye Array**	**53.80**	**341**	P	**P**	**19 35 18.2**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=133,slow=11,SNR=6.7						
ABKAR	**Akbulak array**	**55.06**	**332**	P	**P**	**19 35 27.4**	**-0.5**
AKTO	**Aktyubinsk**	**56.78**	**332**	P	**P**	**19 35 41.0**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=159,slow=17,SNR=1.9						
FINES	**FINESS Array B**	**77.54**	**332**	P	**P**	**19 37 51.4**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=108,slow=7.5,SNR=1.3						
ARCES	**ARCESS Array B**	**80.08**	**340**	P	**P**	**19 38 05.1**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=86,slow=5.7,SNR=2.0						
ARCES	**ARCESS Array B**	**80.08**	**340**	P	**P**	**19 38 05.3**	**0.0**
SPITS	**Spitsbergen Ar**	**84.54**	**348**	P	**P**	**19 38 28.6**	**0.0**
	comp=Z,4.3nm,0.8s,baz=130,slow=5.8,SNR=6.1						

VAO ***07*** *19:36:39.9±0.5, 17.°62S×69.°21W, h132km±6km, mb4.7*
NEIC ***07*** *19:36:40.3±1.6, 17.°65S±0.°06×69.°36W±0.°08, h140km±5km, mb4.7/41, Error ellipse: s-maj=11.0km s-min=7.8km az=104.0*
GUC ***07*** *19:36:40.7±0.9, 17.°84S×69.°46W, h155km±5km, ML4.5*
IDC ***07*** *19:36:42.5±0.6, 17.°66S×69.°06W, h152km±4km, mb4.5/10, mb1 4.4/14, mb1mx4.2/35, mbtmp4.9/14, MS3.1/4, Ms1 3.1/4, ms1mx2.8/33, Error ellipse: s-maj=13.4km s-min=9.2km az=113.0*

ISC 07 19:36:40.4±0.5, 17.°71S±0.°04×69.°34W±0.°05, h145km±4km, n157, σ1s45/169, mb4.7/29, 6C-3D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**0.64**	**194**	↓*eP*	**Pn**	**19 37 04.0**	**+1.3**
PB16				*eS*	**Sn**	**19 37 21.6**	**+2.0**
PB16	**IPOC Station P**	**0.64**	**194**		**Pn**	**19 37 03.8**	**+1.1**
AP01	**Chacalluta**	**1.16**	**235**	↑*iP*	**Pn**	**19 37 05.9**	**-0.2**
AP01				*eS*	**Sn**	**19 37 25.8**	**+0.1**
AP01				IAML		19 37 26.9	
	comp=N,9μm,0.8s						
AP01	**Chacalluta**	**1.16**	**235**	Pn	**Pn**	**19 37 06.3**	**+0.3**
PB12	**IPOC Station P**	**1.30**	**226**	↑*iP*	**Pn**	**19 37 07.5**	**0.0**
PB12				*eS*	**Sn**	**19 37 28.0**	**-0.3**
PB12				IAML		19 37 29.4	
	comp=N,8μm,0.5s						
PB12	**IPOC Station P**	**1.30**	**226**	Pn	**Pn**	**19 37 07.5**	**0.0**
MNMC	**Minye Minye**	**1.43**	**190**	↑*iP*	**Pn**	**19 37 10.2**	**+1.1**
MNMC				*eS*	**Sn**	**19 37 32.4**	**+1.2**
MNMC				IAML		19 37 35.8	
	comp=E,6μm,0.6s						
MNMC	**Minye Minye**	**1.43**	**190**	Pn	**Pn**	**19 37 09.7**	**+0.5**
LPAZ	**La Paz**	**1.83**	**40**	P	**Pn**	**19 37 14.8**	**+1.0**
	comp=E,326nm,0.3s,baz=236,slow=5.2,SNR=3675						
LPAZ				S	**Sn**	**19 37 38.9**	**-0.6**
	comp=E,71nm,0.3s,baz=104,slow=22,SNR=17						
GO01	**Chusmiza**	**1.95**	**176**	*eP*	**Pn**	**19 37 16.5**	**+1.3**
GO01				*eS*	**Sn**	**19 37 43.5**	**+1.7**
GO01				IAML		19 37 49.8	
	comp=N,3μm,0.1s						
GO01	**Chusmiza**	**1.95**	**176**		**Pn**	**19 37 16.3**	**+1.2**
PSGC	**Pisagua**	**2.02**	**201**	↑*iP*	**Pn**	**19 37 15.5**	**0.0**
PSGC				*eS*	**Sn**	**19 37 41.5**	**-1.0**
PSGC				IAML		19 37 42.2	
	comp=N,4μm,0.3s						
PSGCX	**Pisagua**	**2.02**	**201**	Pn	**Pn**	**19 37 15.8**	**+0.3**
PSGCX				Sn	**Sn**	**19 37 41.3**	**-1.2**
PB11	**IPOC Station P**	**2.06**	**188**	↓*eP*	**Pn**	**19 37 16.4**	**+0.3**
PB11				*eS*	**Sn**	**19 37 43.4**	**-0.2**
PB11				IAML		19 37 46.2	
	comp=E,2μm,0.2s						
PB11	**IPOC Station P**	**2.06**	**188**	Pn	**Pn**	**19 37 16.2**	**+0.1**
PB08	**IPOC Station P**	**2.42**	**176**	*i* P	**Pn**	**19 37 21.8**	**+1.1**
PB08				*eS*	**Sn**	**19 37 52.2**	**+0.5**
PB08	**IPOC Station P**	**2.42**	**176**		**Pn**	**19 37 21.5**	**+0.8**
TA01	**Diego Aracena**	**2.95**	**195**	↑*eP*	**Pn**	**19 37 26.5**	**-0.4**
TA01				*i* S	**Sn**	**19 37 59.4**	**-3.4**
TA01				IAML		19 38 01.0	
	comp=E,954nm,0.2s						
TA01	**Diego Aracena**	**2.95**	**195**	Pn	**Pn**	**19 37 26.4**	**-0.5**
PATCX	**Punta Patache**	**3.19**	**194**	*eP*	**Pn**	**19 37 29.8**	**-0.2**
PATCX				*eS*	**Sn**	**19 38 05.8**	**-2.6**
PATCX				IAML		19 38 17.3	
	comp=E,1μm,0.7s						
PATCX	**Punta Patache**	**3.19**	**194**		**Pn**	**19 37 30.0**	**0.0**
PB01	**IPOC Station P**	**3.32**	**182**	*eP*	**Pn**	**19 37 32.0**	**+0.3**
PB01				*eS*	**Sn**	**19 38 09.8**	**-1.6**
PB01				IAML		19 38 13.1	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**3.32**	**182**	Pn	**Pn**	**19 37 31.7**	**0.0**
PB07	**IPOC Station P**	**4.03**	**187**	Pn	**Pn**	**19 37 40.8**	**-0.2**
PB09	**IPOC Station P**	**4.07**	**179**	Pn	**Pn**	**19 37 41.9**	**+0.4**
PB04	**IPOC Station P**	**4.66**	**189**	Pn	**Pn**	**19 37 48.9**	**-0.5**
LVC	**Limon Verde**	**4.89**	**175**	P	**Pn**	**19 37 53.3**	**+0.7**
	comp=E,35nm,0.3s,baz=350,slow=8.6,SNR=521						
LVC				S	**Sn**	**19 38 44.8**	**-4.0**
	comp=E,52nm,0.3s,baz=91,slow=21,SNR=17						
LVC	**Limon Verde**	**4.89**	**175**	Pn	**Pn**	**19 37 53.1**	**+0.5**
LVC	**Limon Verde**	**4.89**	**175**	*eP*	**Pn**	**19 37 53.2**	**+0.7**
PB06	**IPOC Station P**	**4.97**	**182**	Pn	**Pn**	**19 37 52.7**	**-0.8**
PB15	**IPOC Station P**	**5.47**	**181**	Pn	**Pn**	**19 37 59.1**	**-1.1**
PB10	**IPOC Station P**	**5.88**	**191**	Pn	**Pn**	**19 38 03.5**	**-2.0**
PB14	**IPOC Station P**	**6.95**	**188**	Pn	**Pn**	**19 38 17.3**	**-2.8**
GO02	**Mina Guanaco**	**7.42**	**182**	Pn	**Pn**	**19 38 24.2**	**-2.1**
SIV	**San Ignacio**	**8.10**	**79**	P	**Pn**	19 38 32.5	-2.7
	comp=E,118nm,0.3s,baz=275,slow=9.6,SNR=259						
SIV				S	Sn	19 39 59.2	-6.3
	baz=353,slow=23,SNR=1.1						
SIV				LR	LR	19 42 33.5	
	comp=E,58nm,21.1s,baz=291,slow=45						
ETMB	**Extrema**	**8.41**	**22**	*eP*	**Pn**	**19 38 37.1**	**-2.3**
ETMB				*eS*	**Sn**	**19 40 10.4**	**-2.6**
AC01	**Pan de Azucar**	**8.48**	**188**	Pn	**Pn**	**19 38 36.9**	**-3.3**
AC02	**Maricunga**	**9.08**	**179**	Pn	**Pn**	**19 38 47.1**	**-1.6**
NNA	**Nana**	**9.21**	**307**	P	**Pn**	**19 38 49.3**	**-0.8**
	comp=E,29nm,0.3s,baz=131,slow=11,SNR=30						
NNA				S	**Sn**	**19 40 28.5**	**-3.9**
	comp=E,2.4nm,0.3s,baz=48,slow=18,SNR=1.9						
NNA				LR	LR	19 43 14.2	
	comp=E,80nm,20.0s,baz=210,slow=42						
GO03	**Copiap**	**9.87**	**185**		**Pn**	**19 38 55.4**	**-3.4**
VILB	**Vilhena**	**10.01**	**63**	*eP*	Pn	19 38 58.1	-2.5
PTLB	**Pontes e Lacer**	**10.04**	**79**	*eP*	Pn	19 38 58.1	-3.0
CZSB	**Cruzeiro do Su**	**10.45**	**341**	*eP*	**Pn**	**19 39 05.3**	**-1.1**
AC04	**Llanos de Chal**	**10.57**	**188**	Pn	Pn	19 39 03.0	-4.9
SAML	**Samuel**	**10.57**	**35**	Pn	Pn	19 39 05.0	-3.1
SAML	**Samuel**	**10.57**	**35**	*eP*	Pn	19 39 04.8	-3.3
SAML				*eS*	**Sn**	**19 41 02.0**	**-3.0**
AC05	**El Transito**	**11.11**	**184**	Pn	**Pn**	**19 39 11.9**	**-3.3**
GO04	**Tololo Observa**	**12.48**	**186**		**Pn**	**19 39 29.8**	**-3.5**
CO03	**El Pedregal**	**13.13**	**185**	Pn	**Pn**	**19 39 38.1**	**-3.4**
CO02	**Combarbal**	**13.52**	**186**	Pn	**Pn**	**19 39 42.9**	**-3.5**
ATAH	**Atahualpa**	**13.73**	**312**	P	**Pn**	**19 39 48.6**	**-0.9**
	comp=E,0.6nm,0.3s,baz=82,slow=11,SNR=2.1						
ZON	**Zonda**	**13.79**	**178**	P	**P**	**19 39 50.1**	**-3.4**
CPUP	**Villa Florida**	**14.05**	**130**	P	**Pn**	**19 39 51.3**	**-1.8**
	comp=E,0.5nm,0.3s,baz=292,slow=14,SNR=6.1						
CPUP	**Villa Florida**	**14.05**	**130**	P	**Pn**	**19 39 52.8**	**-0.3**
CLDB	**Colider**	**14.78**	**64**	*eP*	**Pn**	**19 39 59.9**	**-2.5**
VA03	**San Esteban**	**15.03**	**184**	P	**P**	**19 40 06.1**	**-1.2**
ROC1	**El Roble**	**15.28**	**185**	P	**Pn**	**19 40 06.6**	**-2.0**
MT02	**Curacav**	**15.57**	**186**	P	**Pn**	**19 40 10.5**	**-1.5**
MT02				IAmb	IAmb	19 40 16.4	
	comp=Z,42nm,0.6s						
MT05	**Renca**	**15.67**	**184**	P	**P**	**19 40 12.4**	**-1.9**
C2SB	**Chapadao do Su**	**15.72**	**96**	*eP*	**Pn**	**19 40 13.1**	**-0.9**
BO01	**Tunca**	**16.69**	**185**	P	**Pn**	**19 40 25.9**	**+0.2**
ARAG	**Araguaiana, MT**	**16.91**	**86**	*eP*	**P**	**19 40 27.5**	**-0.7**
BO02	**Sierra Bellavi**	**17.06**	**184**	P	**Pn**	**19 40 31.4**	**+1.1**
NPGB	**Novo Progresso**	**17.28**	**54**	*eP*	**P**	**19 40 32.0**	**-0.2**
PTGB	**Pitanga**	**17.54**	**116**	*eP*	**P**	**19 40 35.5**	**+0.4**
ITRB	**Iturama**	**18.09**	**99**	*eP*	**P**	**19 40 40.9**	**-0.3**
BI02	**San Fabin de**	**18.96**	**185**	P	**Pn**	**19 40 51.5**	**-1.2**
PTGA	**Pitinga**	**19.23**	**30**	P	**P**	**19 40 52.2**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=209,slow=15,SNR=11						
FRTB	**Fartura**	**19.35**	**110**	*eP*	**P**	**19 40 54.4**	**-0.4**
BB19B	**Bebedouro**	**19.92**	**103**	*eP*	**P**	**19 40 58.4**	**-2.5**
OTAV	**Otavalo**	**19.96**	**332**	P	**P**	**19 41 01.8**	**-0.1**
PLTB	**Pedras Altas**	**19.97**	**137**	*eP*	**P**	**19 41 00.9**	**-0.4**
IPMB	**Ipameri, GO**	**20.12**	**94**	*eP*	**P**	**19 41 02.2**	**-1.0**
CNLB	**Canela**	**20.48**	**128**	*eP*	**P**	**19 41 07.3**	**+0.3**
BDFB	**Brasilia**	**20.54**	**87**	P	**P**	**19 41 07.1**	**-0.6**
	comp=Z,33nm,0.4s,baz=256,slow=10,SNR=31						
BDFB	**Brasilia**	**20.54**	**87**	P	**P**	**19 41 07.0**	**-0.6**
PEXB	**Peixe**	**21.08**	**78**	*eP*	**P**	**19 41 12.5**	**-0.9**
LC01	**Cunco**	**21.23**	**185**	P	**P**	**19 41 15.0**	**+0.2**
LC01				IAmb	IAmb	19 41 17.6	
	comp=Z,15nm,0.8s						
SMTB	**Santa Maria do**	**22.91**	**70**	*eP*	**P**	**19 41 31.4**	**-0.5**
ROSC	**El Rosal**	**22.94**	**347**	LR	LR	19 51 22.7	
	comp=Z,64nm,18.5s,baz=148,slow=38						
PLCA	**Paso Flores**	**22.97**	**182**	P	**P**	**19 41 33.7**	**+1.4**
	comp=Z,25nm,0.7s,baz=2.7,slow=11,SNR=73						
PLCA	**Paso Flores**	**22.97**	**182**	P	**P**	**19 41 33.6**	**+1.4**
PLCA				IAmb	IAmb	19 41 34.6	
	comp=Z,31nm,0.8s						
PLCA	**Paso Flores**	**22.97**	**182**	*eP*	**P**	**19 41 33.8**	**+1.4**
BSCB	**Bom Sucesso**	**23.40**	**102**	*eP*	**P**	**19 41 35.1**	**-1.4**
JANB	**Januaria**	**24.16**	**87**	*eP*	**P**	**19 41 42.5**	**-0.9**
SDBA	**SAO DESIDERIO**	**24.17**	**81**	*eP*	**P**	**19 41 43.1**	**-0.4**
MCPB	**Macapa, AP**	**24.22**	**46**	*eP*	**P**	**19 41 43.0**	**-0.8**
MC01	**Montes Claros**	**24.28**	**91**	*eP*	**P**	**19 41 44.1**	**-0.3**
LL01	**San Ignacio de**	**24.73**	**185**	P	**P**	**19 41 48.9**	**+0.7**
LL01				IAmb	IAmb	19 41 51.9	
	comp=Z,30nm,0.8s						
GDU01	**Guandu, BA**	**28.91**	**86**	*eP*	**P**	**19 42 25.7**	**-0.3**
RCBR	**Riachuelo**	**34.73**	**74**	P	**P**	**19 43 16.3**	**-0.6**
RCBR				IAmb	IAmb	19 43 34.5	
	comp=Z,32nm,1.2s						
EFI	**East Falkland**	**35.05**	**168**	P	**P**	**19 43 20.5**	**+1.4**
SWET	**Sewanee**	**54.94**	**343**	P	**P**	**19 45 56.0**	**-0.3**
SWET				IAmb	IAmb	19 46 03.5	
	comp=Z,5.0nm,0.7s						
MIAR	**Mount Ida**	**56.85**	**336**	P	**P**	**19 46 08.4**	**-1.4**
TXAR	**Lajitas Array**	**57.31**	**324**	P	**P**	**19 46 14.7**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=157,slow=8.8,SNR=2.4						
TXAR				pP	**pP**	**19 46 51.6**	**+2.8**
	comp=Z,1.6nm,1.0s,baz=148,slow=7.4,SNR=5.3						
FVM	**French Village**	**58.84**	**341**	P	**P**	**19 46 24.5**	**+0.8**
FVM				IAmb	IAmb	19 46 28.2	
	comp=Z,6.4nm,0.6s						
TUL1	**Leonard**	**58.92**	**335**	P	**P**	**19 46 25.1**	**+0.8**
TUL1				IAmb	IAmb	19 46 25.7	
	comp=Z,5.0nm,0.7s						
S39A	**Bolivar**	**59.55**	**338**	P	**P**	**19 46 28.8**	**+0.2**
S39A				IAmb	IAmb	19 46 29.1	
	comp=Z,3.8nm,0.5s						
K43A	**Burlington**	**62.61**	**344**	P	**P**	**19 46 48.7**	**-0.4**
K43A				IAmb	IAmb	19 47 16.4	
	comp=Z,9.9nm,0.8s						
G65A	**Princeton**	**62.63**	**1**	P	**P**	**19 46 48.3**	**-0.8**
G65A				IAmb	IAmb	19 46 55.8	
	comp=Z,13nm,1.4s						
G62A	**West of Eustis**	**62.63**	**359**	P	**P**	**19 46 49.3**	**+0.1**
G62A				IAmb	IAmb	19 46 50.9	
	comp=Z,10nm,1.4s						
VNA3	**Neumayer Olymp**	**63.78**	**162**	P	**P**	**19 46 57.9**	**+1.4**
VNA1	**Neumayer--Stat**	**63.98**	**161**	P	**P**	**19 46 59.6**	**+1.8**
VNA2	**Neumayer--Watz**	**64.35**	**161**	P	**P**	**19 47 01.5**	**+1.3**
	baz=300,slow=7.6						
L34A	**Svendsen Farm,**	**64.42**	**338**	P	**P**	**19 47 00.7**	**-0.3**
L34A				IAmb	IAmb	19 47 02.0	
	comp=Z,12nm,0.8s						
BGNE	**Belgrade**	**64.59**	**336**	P	**P**	**19 47 02.2**	**0.0**
SNAA	**Sanae**	**65.98**	**161**	P	**P**	**19 47 12.1**	**+1.3**
SNAA	**Sanae**	**65.98**	**161**	P	**P**	**19 47 11.8**	**+1.0**
SNAA				IAmb	IAmb	19 47 12.9	
	comp=Z,11nm,0.7s						
ECSD	**EROS Data Cent**	**66.05**	**339**	P	**P**	**19 47 12.2**	**+0.6**
F36A	**Milaca**	**66.96**	**342**	P	**P**	**19 47 17.5**	**+0.3**
F36A				IAmb	IAmb	19 47 17.9	
	comp=Z,5.9nm,0.7s						
DBIC	**Dimbokro**	**68.10**	**75**	P	**P**	**19 47 24.3**	**-0.8**
	comp=Z,6.7nm,0.5s,baz=239,slow=6.8,SNR=14						
DBIC	**Dimbokro**	**68.10**	**75**	P	**P**	**19 47 24.4**	**-0.8**
EYMN	**Ely**	**68.30**	**344**	P	**P**	**19 47 25.4**	**-0.2**
AGMN	**Agassiz Nation**	**69.85**	**341**	P	**P**	**19 47 35.5**	**+0.4**
AGMN				IAmb	IAmb	19 47 36.2	
	comp=Z,6.1nm,0.8s						
E28A	**Huff**	**69.96**	**338**	P	**P**	**19 47 37.4**	**+1.5**
E28A				IAmb	IAmb	19 47 37.8	
	comp=Z,13nm,0.6s						
PDAR	**Pinedale Array**	**70.64**	**330**	P	**P**	**19 47 41.4**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=119,slow=8.3,SNR=3.7						
PDAR	**Pinedale Array**	**70.64**	**330**	P	**P**	**19 47 39.6**	**-0.8**
ULM	**Lac du Bonnet**	**71.60**	**342**	P	**P**	**19 47 45.8**	**+0.1**
	comp=Z,6.2nm,0.5s,baz=154,slow=6.5,SNR=6.5						
ULM	**Lac du Bonnet**	**71.60**	**342**	P	**P**	**19 47 45.7**	**+0.1**
ULM				IAmb	IAmb	19 47 46.7	
	comp=Z,8.0nm,0.6s						
NVAR	**Mina Array Bea**	**72.28**	**322**	P	**P**	**19 47 52.2**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=116,slow=5.8,SNR=4.6						
NVAR	**Mina Array Bea**	**72.28**	**322**	P	**P**	**19 47 51.7**	**+1.4**
QSPA	**South Pole Qui**	**72.46**	**180**	P	**P**	**19 47 52.8**	**+1.9**
	comp=Z,7.8nm,0.4s,baz=162,slow=3.7,SNR=136						
QSPA	**South Pole Qui**	**72.46**	**180**	P	**P**	**19 47 52.8**	**+1.9**
QSPA				IAmb	IAmb	19 47 53.3	
	comp=Z,12nm,0.5s						
KVN	**Kaiserville**	**72.57**	**322**	P	**P**	**19 47 53.3**	**+1.3**
BMO	**Blue Mountains**	**76.03**	**327**	P	**P**	**19 48 13.7**	**+1.9**
TOA0	**Torodi Ar. Sit**	**76.50**	**71**	P	**P**	**19 48 14.3**	**-0.6**
TOA0				IAmb	IAmb	19 48 16.1	
	comp=Z,15nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.50**	**71**	P	**P**	**19 48 14.3**	**-0.6**
	comp=Z,9.5nm,0.3s,baz=255,slow=5.1,SNR=127						
TORD	**Torodi Ar. Bea**	**76.50**	**71**	P	**P**	**19 48 14.2**	**-0.8**
SYO	**Syowa Base**	**80.18**	**160**	↑*eP*	**P**	**19 48 34.0**	**-0.1**
SYO	**Syowa Base**	**80.18**	**160**	↓*ePcP*	**P**	**19 48 36.0**	**+1.9**
VNDA	**Vanda**	**80.49**	**190**	P	**P**	**19 48 38.5**	**+2.8**
	comp=Z,2.1nm,0.8s,baz=121,slow=5.3,SNR=13						
VNDA	**Vanda**	**80.49**	**190**	P	**P**	**19 48 38.7**	**+3.0**
ESDC	**Sonseca Array**	**83.44**	**45**	P	**P**	**19 48 52.8**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=280,slow=4.9,SNR=2.2						
ESDC	**Sonseca Array**	**83.44**	**45**	P	**P**	**19 48 52.1**	**+0.3**
BOSA	**Boshof**	**85.59**	**118**	P	**P**	**19 49 03.1**	**0.0**
	comp=Z,2.0nm,0.5s,baz=273,slow=4.2,SNR=8.3						
BOSA	**Boshof**	**85.59**	**118**	P	**P**	**19 49 03.1**	**0.0**
BOSA				IAmb	IAmb	19 49 20.9	
	comp=Z,12nm,1.4s						
SFJD	**Kangerlussuaq**	**85.60**	**7**	LR	LR	20 25 57.7	
	comp=Z,17nm,20.3s,baz=285,slow=35						
YKA	**Yellowknife Ar**	**87.49**	**341**	P	**P**	**19 49 12.0**	**+0.8**
	comp=Z,3.6nm,0.6s,baz=132,slow=4.7,SNR=13						
MAW	**Mawson**	**88.06**	**164**	P	**P**	**19 49 15.7**	**+1.7**
	comp=Z,9.4nm,0.6s,baz=208,slow=5.0,SNR=22						
MAW	**Mawson**	**88.06**	**164**	P	**P**	**19 49 15.8**	**+1.8**
STKA

HDC	**Heredia**	**0.75**	**37**	⫴	*i*P	**Pb**	**19 44 58.8**	**-0.4**
HDC	**Heredia**	**0.75**	**37**	⫴	*i*P	**Pb**	**19 44 58.7**	**-0.4**
JTS	**Las Juntas de**	**0.96**	**337**	⫴	*i*P	**Pg**	**19 45 02.0**	**-0.2**
JTS	**Las Juntas de**	**0.96**	**337**	⫴	*e*P	**Pg**	**19 45 02.0**	**-0.2**
JTS					*e*S	**Sb**	**19 45 15.8**	**+0.2**
EDLM	**Las Mercedes**	**0.98**	**97**		*e*P	**Pg**	**19 45 02.6**	**0.0**
CVTR	**Volcan Turrial**	**1.01**	**53**	⫴	*e*P	**Pg**	**19 45 03.3**	**+0.1**
CASO	**Castillo**	**1.04**	**351**		*i* P	**Pb**	**19 45 04.1**	**0.0**
CASO					*i* S	**Sn**	**19 45 19.4**	**-0.2**
ARE1	**Arenal 1**	**1.06**	**352**	⫴	*i*P	**Pb**	**19 45 04.5**	**0.0**
ARE1					*e*S	**Sn**	**19 45 20.7**	**+0.6**
FORC	**Fortuna**	**1.06**	**355**		*i* P	**Pb**	**19 45 04.5**	**0.0**
FORC					*i* S	**Sn**	**19 45 20.3**	**+0.2**
CEDE	**Laguna Cedeo**	**1.08**	**353**		*i* P	**Pb**	**19 45 05.1**	**+0.2**
EDPN	**Palmar Norte**	**1.19**	**112**	⫛	*e*P	**Pg**	**19 45 05.6**	**-1.0**
EDPN					*e*S	**Sg**	**19 45 22.1**	**+0.2**
PLVR	**Palo Verde**	**1.21**	**321**		*e*P	**Pg**	**19 45 05.8**	**-1.3**
EDBA	**Buenos Aires**	**1.30**	**100**		*e*S	**Sb**	**19 45 25.6**	**0.0**
ACAL	**Aguas Claras**	**1.31**	**340**		*i* P	**Pn**	**19 45 08.3**	**-0.2**
CUI	**Cuipilapa**	**1.38**	**335**	⫴	*e*P	**Pn**	**19 45 09.2**	**-0.2**
CUI					*e*S	**Sn**	**19 45 28.6**	**+0.7**
COLC	**Colonia**	**1.40**	**334**		*i* P	**Pn**	**19 45 09.5**	**-0.2**
COLC					*i* S	**Sg**	**19 45 29.8**	**+0.9**
HORNC	**Hornillas**	**1.43**	**335**		*i* P	**Pn**	**19 45 10.1**	**-0.1**
GUAB	**Guayabo de Bag**	**1.45**	**334**		*i* P	**Pn**	**19 45 10.6**	**+0.2**
LIM1	**Limonal**	**1.45**	**333**		*i* P	**Pn**	**19 45 10.4**	**-0.1**
LIM1					*i* S	**Sg**	**19 45 30.8**	**+0.2**
PTJ1	**Puerto Jimnez**	**1.52**	**124**		*e*P	**Pn**	**19 45 11.5**	**+0.2**
GPS2	**Hotel Rincn d**	**1.54**	**330**		*i* P	**Pn**	**19 45 12.0**	**+0.3**
GPS2					*e*S	**Sg**	**19 45 33.8**	**+0.2**
GPS3	**Bodega del ICE**	**1.55**	**330**		*i* P	**Pn**	**19 45 12.5**	**+0.6**
PIRO	**Carate, Puerto**	**1.57**	**129**		*e*P	**Pb**	**19 45 13.8**	**+0.6**
LAPC	**Finca la Perla**	**1.60**	**328**		*i* P	**Pn**	**19 45 12.1**	**-0.4**
BUEV	**Buena Vista**	**1.61**	**329**		*e*P	**Pn**	**19 45 13.1**	**+0.4**
GBS3	**Finca Las Img**	**1.62**	**328**		*i* P	**Pn**	**19 45 13.3**	**+0.5**
GB1A	**Borinquen Arri**	**1.62**	**330**		*i* P	**Pn**	**19 45 13.4**	**+0.5**
GB1A					*e*S	**Sg**	**19 45 35.9**	**-0.2**
BUAI	**Buenos Aires**	**1.65**	**333**		*i* P	**Pn**	**19 45 13.3**	**+0.2**
MLIR3	**Monte Lirio, C**	**1.83**	**109**		*e*P	**Pn**	**19 45 16.4**	**+0.7**
BRU2	**Volcan** baz=284,slow=6.5	**1.96**	**108**	⫛	*e*P	**Pn**	**19 45 16.6**	**-0.9**
BRU2					*e*S	**Sb**	**19 45 44.1**	**-0.3**
BRU2	**Volcan**	**1.96**	**108**		*e*P	**Pn**	**19 45 16.6**	**-0.9**
BC3P	**Paso Ancho**	**2.02**	**107**		*i* P	**Pn**	**19 45 18.4**	**-0.1**
BC3P					*i* S	**Sb**	**19 45 46.3**	**-0.2**
BCO2	**Palmira**	**2.13**	**108**		*i* P	**Pn**	**19 45 19.1**	**-0.8**
BAGA3	**Bagala, Chiriq**	**2.23**	**115**		*e*P	**Pb**	**19 45 23.4**	**-0.9**
DVD	**David**	**2.31**	**114**		*e*P	**Pn**	**19 45 22.4**	**+0.3**
PSOM3	**Paja de Sombre**	**2.33**	**108**		*e*P	**Pn**	**19 45 20.3**	**-2.3**
LOCO3	**Loma Colorada,**	**2.35**	**115**		*e*P	**Pg**	**19 45 29.8**	**+1.0**
CHGR2	**Aguacate**	**2.44**	**101**		*i* P	**Pn**	**19 45 23.5**	**-0.6**
CHGR2					*e*S	**Sn**	**19 45 54.0**	**-0.2**
ACON	**Acoyapa**	**2.62**	**347**		*e*P	**Pn**	**19 45 26.4**	**-0.1**
ESPN	**Las Esperanzas**	**2.79**	**6**		*e*P	**Pn**	**19 45 29.1**	**+0.3**
MESA3	**La Mesa, Verag**	**3.57**	**110**		*e*P	**Pn**	**19 45 40.0**	**+0.4**
GMAL	**Guarumal, Vera**	**3.68**	**116**		*i* P	**Pn**	**19 45 41.3**	**+0.1**
CACAO	**El Cacao, Vera**	**4.20**	**119**		*e*P	**Pn**	**19 45 48.6**	**+0.3**
AZU	**Azuero**	**4.54**	**110**		*e*P	**Pn**	**19 45 53.1**	**+0.1**

*NEIC **07** 19:46:42.5±1.2,22.°88N±0.°09×12.°1W±0.°1, h10km±1km, mb4.5/7, Error ellipse: s-maj=20.3km s-min=10.9km az=310.0*

*IDC **07** 19:46:42.2±1.8,22.°83N×11.°81W, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.7/46, mbtmp3.8/10, ML3.4/3, Error ellipse: s-maj=54.6km s-min=21.2km az=92.0*

ISC 07 19:46:41.7±0.9, 22.°77N±0.°08×12.°2W±0.°1, h10km, n26, σ1s42/27, mb4.1/9, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMOZ	**Porto Moniz, M**	**10.94**	**337**	Pn	**Pn**	**19 49 17.3**	**-1.1**
MDT	**Midelt**	**12.07**	**32**	Pn	**Pn**	**19 49 31.9**	**-1.9**
	0.1nm,0.3s,baz=216,slow=19,SNR=2.4						
MDT				Sn	**Sn**	**19 51 51.7**	**+3.2**
	0.1nm,0.3s,baz=130,slow=16,SNR=1.3						
MDT				Lg	Lg	19 52 56.8	
	0.4nm,0.3s,baz=334,slow=17,SNR=4.3						
TORD	**Torodi Ar. Bea**	**16.32**	**124**	Pn	**Pn**	**19 50 27.9**	**-3.3**
	0.1nm,0.3s,baz=317,slow=12,SNR=4.0						
TORD				Sn	**Sn**	**19 53 35.4**	**+3.0**
	0.2nm,0.3s,baz=310,slow=21,SNR=4.8						
DBIC	**Dimbokro**	**17.51**	**155**	P	**Pn**	**19 50 45.6**	**-0.4**
	0.3nm,0.3s,baz=261,slow=6.5,SNR=2.8						
DBIC				S	Sn	19 53 49.6	-11
	0.2nm,0.3s,baz=267,slow=19,SNR=3.9						
DBIC				Lg	Lg	19 55 56.2	
	0.2nm,0.3s,baz=37,slow=20,SNR=1.9						
DBIC	**Dimbokro**	**17.51**	**155**		**Pn**	**19 50 46.5**	**+0.5**
DBIC				IAmb	IAmb	19 51 31.3	
	comp=Z,40nm,1.7s						
ESDC	**Sonseca Array**	**18.26**	**21**	P	**Pn**	**19 50 55.0**	**-0.3**
	baz=212,slow=10,SNR=4.9						
I42PT	**GRACIOSA ISLAN**	**21.08**	**324**	*i*		21 55 50.0	
	baz=140,slow=330,SNR=2.9						
KEST	**Kesra**	**22.77**	**51**	P	**P**	**19 51 43.7**	**-0.7**
	comp=Z,2.7nm,0.6s,baz=209,slow=11,SNR=5.1						
KEST	**Kesra**	**22.77**	**51**	P	**P**	**19 51 43.6**	**-0.8**
GEC2	**GERESS Array S**	**33.15**	**32**	P	**P**	**19 53 17.8**	**-0.5**
GEC2				IAmb	IAmb	19 53 19.1	
	comp=Z,4.6nm,1.2s						
GERES	**GERESS Array B**	**33.15**	**32**	P	**P**	**19 53 17.8**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=218,slow=8.5,SNR=12						
GERES	**GERESS Array B**	**33.15**	**32**	P	**P**	**19 53 17.4**	**-0.9**
NOA	**NORSAR Array B**	**41.56**	**17**	P	**P**	**19 54 29.3**	**0.0**
	comp=Z,0.6nm,0.9s,baz=208,slow=8.6,SNR=2.2						
FINES	**FINESS Array B**	**46.73**	**24**	P	**P**	**19 55 10.6**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=235,slow=5.0,SNR=14						
FINES	**FINESS Array B**	**46.73**	**24**	P	**P**	**19 55 10.4**	**-0.2**
FIA1	**FINESS Array S**	**46.73**	**24**	P	**P**	**19 55 10.8**	**+0.1**
FIA1				IAmb	IAmb	19 56 59.2	
	comp=Z,24nm,1.6s						
V53A	**Saluda**	**61.76**	**299**	P	**P**	**19 57 03.3**	**+2.6**
V53A				IAmb	IAmb	19 57 05.1	
	comp=Z,6.1nm,0.8s						
352A	**Blakely**	**64.25**	**295**	P	**P**	**19 57 17.4**	**+0.1**
ZALV	**Zalesovo Beam**	**75.91**	**37**	P	**P**	**19 58 29.1**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=347,slow=5.9,SNR=1.9						
ZALV	**Zalesovo Beam**	**75.91**	**37**	P	**P**	**19 58 29.0**	**+0.5**
MK31	**Makanchi Array**	**76.73**	**45**	P	**P**	**19 58 33.7**	**+0.4**
MK31				IAmb	IAmb	20 01 14.9	
	comp=Z,3.2nm,1.4s						
MKAR	**Makanchi Array**	**76.73**	**45**	P	**P**	**19 58 33.6**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=289,slow=5.4,SNR=12						
WRA	**Warramunga Arr**	**148.77**	**91**	PKPbc	**PKPbc**	**20 06 31.1**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=290,slow=2.5,SNR=7.8						
WRA	**Warramunga Arr**	**148.77**	**91**		**PKPbc**	**20 06 30.8**	**+0.6**
ASAR	**Alice Springs**	**148.90**	**98**	PKPbc	**PKPbc**	**20 06 31.5**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=285,slow=1.9,SNR=14						
ASAR	**Alice Springs**	**148.90**	**98**		**PKPbc**	**20 06 31.4**	**+0.9**

ISC 07 20:02:50.2±0.9, 50.°08N±0.°04×19.°16E±0.°03, h0km, n21, σ0s92/38, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.44**	**71**	*e*Pg	**Pg**	**20 02 58.1**	**-0.4**
OJC				*e*Sg	**Sg**	**20 03 04.2**	**+0.1**
OKC	**Ostrava-Krasne**	**0.70**	**250**	*e*PG	**Pg**	**20 03 03.6**	**+0.1**
OKC				*e*SG	**Sg**	**20 03 12.9**	**+0.4**
	comp=Z,412nm,0.4s						
LANS	**Liptovska Anna**	**0.95**	**168**	*e*PG	**Pg**	**20 03 09.4**	**+1.0**
LANS				*e*SG	**Sb**	**20 03 23.0**	**+0.3**
LANS				*e*LG	Lg	20 03 28.4	
NIE	**Niedzica**	**0.99**	**131**	*e*Pg	**Pg**	**20 03 09.6**	**+0.4**
NIE				*e*Sg	**Sb**	**20 03 24.4**	**+0.5**
MORC	**Moravsky Berou**	**1.09**	**255**	*e*PG	**Pg**	**20 03 10.8**	**-0.2**
MORC				*e*SG	**Sg**	**20 03 25.9**	**+0.8**
KRLC	**Kraliky**	**1.53**	**271**	*e*PG	**Pn**	**20 03 16.9**	**-1.9**
KRLC				*e*SG	**Sg**	**20 03 39.0**	**-0.3**
	comp=Z,23nm,0.4s						
JAVC	**Velka Javorina**	**1.56**	**219**	*e*PN	**Pn**	**20 03 20.0**	**+0.8**
VYHS	**Vyhne**	**1.60**	**188**	*e*PN	**Pn**	**20 03 19.4**	**-0.3**
VYHS				*e*SN	**Sn**	**20 03 40.9**	**-0.2**
KECS	**Kecovo**	**1.82**	**151**	*e*LG	Lg	20 03 50.9	
KECS				*e*SN	**Sg**	**20 03 47.8**	**-0.7**
VRAC	**Vranov**	**1.83**	**246**	*e*PN	**Pn**	**20 03 22.2**	**-0.8**
VRAC				*e*SG	**Sn**	**20 03 46.5**	**-0.4**
DPC	**Dobruska-Polom**	**1.84**	**280**	*e*PG	**Pn**	**20 03 23.5**	**+0.4**
DPC				*e*SG	**Sb**	**20 03 48.5**	**+0.1**
	comp=Z,21nm,0.4s						
OSTC	**Ostas**	**1.95**	**285**	*e*PG	**Pn**	**20 03 24.1**	**-0.4**
OSTC				*e*SG	**Sg**	**20 03 52.5**	**-0.2**
	comp=Z,14nm,0.9s						
KSP	**Ksiaz**	**1.98**	**294**	*e*Pg	**Pb**	**20 03 26.9**	**-0.3**
KSP				*e*Sg	**Sb**	**20 03 53.0**	**+0.6**
CHVC	**Chvalec**	**2.05**	**286**	*e*PG	**Pn**	**20 03 27.5**	**+1.5**
CHVC				*e*SG	**Sb**	**20 03 55.2**	**+0.8**
	comp=Z,31nm,1.5s						
UPC	**Upice**	**2.06**	**283**	*e*PG	**Pn**	**20 03 27.8**	**+1.7**
UPC				*e*SG	**Sb**	**20 03 55.7**	**+1.0**
	comp=Z,9.6nm,0.4s						
KRUC	**Moravsky**	**2.07**	**242**	*e*PN	**Pn**	**20 03 26.0**	**-0.1**
KRUC				*e*SG	**Sb**	**20 03 54.9**	**+0.1**
GOPC	**GO Pecny, Ondr**	**2.83**	**268**	*e*PG	**Pb**	**20 03 41.4**	**-0.1**
GOPC				*e*SG	**Sg**	**20 04 19.5**	**-1.4**
	comp=Z,7.5nm,0.7s						
PRU	**Pruhonice**	**2.98**	**270**	*e*SG	**Sg**	**20 04 24.4**	**-1.4**
	comp=Z,5.9nm,0.4s						
BRG	**Berggiesshubel**	**3.42**	**285**	PG	**Pg**	**20 03 57.6**	**+1.8**
BRG				SG	**Sg**	**20 04 38.6**	**-1.6**
	5.4nm,0.5s						
KHC	**Kasperske Hory**	**3.75**	**258**	*e*PN	**Pn**	**20 03 48.5**	**-0.8**
KHC				*e*SG	**Sg**	**20 04 49.2**	**-1.4**
	comp=Z,3.9nm,0.5s						
CLL	**Collm**	**4.10**	**290**	*e*Sg	**Sg**	**20 05 01.0**	**-0.9**
CLL				Lm	MLR	21 40 00.0	
	comp=Z,100nm,19.0s						

*IDC **07** 20:05:34.2±1.9, 43.°70N×105.°44W, h0km, mb3.9/4, mb1 3.9/8, mb1mx3.6/39, mbtmp3.8/8, ML3.4/4, Error ellipse: s-maj=53.9km s-min=8.8km az=148.0*

*NEIC **07** 20:05:43.4±2.7, 43.°55N±0.°05×106.°21W±0.°09, h0km±2km, ML3.2/45, Error ellipse: s-maj=12.7km s-min=5.1km az=124.0*

ISC 07 20:05:33.9±0.8, 43.°79N±0.°06×105.°20W±0.°08, h0km, n66, σ1s20/65, mb4.0/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RWWY	**Rawlins**	**2.57**	**216**		**Pn**	**20 06 17.6**	**+0.5**
RWWY				IAML		20 06 52.9	
	231nm,0.6s						
PDAR	**Pinedale Array**	**3.34**	**254**	Pn	**Pn**	**20 06 27.9**	**+0.2**
	3.8nm,0.3s,baz=73,slow=17,SNR=28						
PDAR				Lg	Lg	20 07 12.7	
	12nm,0.3s,baz=75,slow=35,SNR=6.3						
PDAR	**Pinedale Array**	**3.34**	**254**		**Pn**	**20 06 27.5**	**-0.2**
YMP	**Mirror Lake Pl**	**3.69**	**287**		**Pn**	**20 06 32.2**	**-0.3**
H17A	**Grant Village**	**3.92**	**281**		**Pn**	**20 06 36.0**	**+0.4**
H17A				IAML		20 07 39.5	
	comp=N,46nm,0.5s						
FLWY	**Flagg Ranch**	**3.98**	**276**		**Pn**	**20 06 36.9**	**+0.5**
YPP	**Pitchstone Pla**	**4.07**	**279**		**Pn**	**20 06 38.2**	**+0.4**
REDW	**Red Top Meadow**	**4.13**	**266**		**Pn**	**20 06 38.3**	**-0.1**
REDW				IAML		20 07 54.6	
	comp=N,45nm,0.6s						
IMW	**Indian Meadow**	**4.15**	**273**	Pn	**Pn**	**20 06 39.2**	**+0.4**
IMW				IAML		20 07 05.1	
	comp=N,32nm,0.5s						
YHH	**Holmes Hill**	**4.18**	**286**		**Pn**	**20 06 41.4**	**+2.2**
TPAW	**Teton Pass**	**4.19**	**268**		**Pn**	**20 06 39.6**	**+0.4**
TPAW				IAML		20 07 55.0	
	comp=N,34nm,0.8s						
FXWY	**Fox Creek**	**4.23**	**270**	Pn	**Pn**	**20 06 40.4**	**+0.6**
YMR	**Madison River**	**4.24**	**284**		**Pn**	**20 06 41.7**	**+1.8**
O20A	**White River Ci**	**4.30**	**213**		**Pn**	**20 06 41.6**	**+0.9**
O20A				IAML		20 07 55.0	
	comp=N,45nm,0.6s						
YHB	**Horse Butte**	**4.41**	**285**		**Pn**	**20 06 43.5**	**+1.2**
YHL	**Hebgen Lake**	**4.42**	**286**		**Pn**	**20 06 43.4**	**+0.8**
AHID	**Auburn Hatcher**	**4.43**	**259**		**Pn**	**20 06 42.8**	**+0.3**
AHID				IAML		20 07 08.0	
	comp=E,51nm,0.6s						
ECR	**Eagle Creek**	**4.56**	**263**		**Pn**	**20 06 43.9**	**-0.4**
RDMU	**Red Mountain**	**4.57**	**227**		**Pn**	**20 06 45.1**	**+0.7**
QLMT	**Earthquake Lak**	**4.59**	**285**		**Pn**	**20 06 46.4**	**+1.6**
BOZ	**Bozeman (W)**	**4.93**	**294**		**Pn**	**20 06 50.0**	**+0.7**
BOZ				IAML		20 08 08.6	
	comp=E,21nm,0.6s						
BOZ				IAML		20 08 10.7	
	comp=E,17nm,0.7s						
HWUT	**Hardware Ranch**	**5.17**	**247**	Pn	**Pn**	**20 06 52.3**	**-0.4**
HWUT				IAML		20 08 31.5	
	comp=E,30nm,0.8s						
HWUT				IAML		20 08 32.7	
	comp=E,26nm,0.6s						
TCUT	**Toone Canyon**	**5.31**	**242**		**Pn**	**20 06 54.0**	**-0.8**
DLMT	**Dillon**	**5.51**	**289**		**Pn**	**20 06 59.0**	**+1.6**
DLMT				IAML		20 08 29.5	
	comp=E,12nm,0.6s						
DLMT				IAML		20 08 38.8	
	comp=E,12nm,0.8s						
HRY	**Holter Researc**	**5.52**	**304**		**Pn**	**20 06 58.5**	**+1.0**
LRM	**Limekiln Ridge**	**5.55**	**294**		**Pn**	**20 06 59.2**	**+1.3**
MCMT	**McKenzie Canyo**	**5.59**	**283**		**Pn**	**20 06 60.0**	**+1.5**
MDND	**Maddock**	**5.64**	**42**		**Pg**	**20 07 19.7**	**-2.2**
SPUT	**South Promonto**	**5.90**	**248**		**Pn**	**20 07 02.5**	**-0.2**
PV22	**Blue Mesa, Par**	**5.91**	**209**	Pn	**Pn**	**20 07 04.4**	**+1.5**
BCYI	**Bear Canyon**	**5.94**	**278**		**Pn**	**20 07 04.6**	**+1.3**
PV07	**Paradox Valley**	**5.95**	**207**		**Pn**	**20 07 04.5**	**+1.1**
PV15	**Paradox Valley**	**5.98**	**206**		**Pn**	**20 07 05.2**	**+1.3**
P17A	**Butcher Ranch,**	**5.99**	**226**		**Pn**	**20 07 04.4**	**+0.5**
SDCO	**Great Sand Dun**	**6.04**	**182**		**Pn**	**20 07 06.9**	**+2.2**
PV23	**Carpenter Ridg**	**6.06**	**210**		**Pn**	**20 07 06.2**	**+1.2**
PV04	**Paradox Valley**	**6.07**	**209**		**Pn**	**20 07 05.7**	**+0.6**
PV12	**Saucer Basin,**	**6.11**	**208**		**Pn**	**20 07 07.2**	**+1.6**
PV14	**Lion Creek, Pa**	**6.13**	**209**		**Pn**	**20 07 07.1**	**+1.1**
PV20	**West Nyswonger**	**6.14**	**209**		**Pn**	**20 07 06.6**	**+0.6**
PV11	**David Mesa, Pa**	**6.15**	**208**		**Pn**	**20 07 07.5**	**+1.3**
PV16	**Nyswonger Mesa**	**6.15**	**208**		**Pn**	**20 07 07.7**	**+1.5**
SRU	**San Rafael Swe**	**6.15**	**222**		**Pn**	**20 07 06.4**	**+0.2**
S22A	**4UR Ranch, Cre**	**6.16**	**192**		**Pn**	**20 07 08.2**	**+1.8**
PV19	**Morning Glory**	**6.17**	**209**		**Pn**	**20 07 07.3**	**+0.8**
PV03	**Paradox Valley**	**6.18**	**208**		**Pn**	**20 07 07.5**	**+1.0**
PV02	**Paradox Valley**	**6.18**	**207**		**Pn**	**20 07 08.2**	**+1.7**
PV01	**Paradox Valley**	**6.20**	**205**		**Pn**	**20 07 08.6**	**+1.7**
PV18	**Skein Mesa, Pa**	**6.21**	**208**		**Pn**	**20 07 08.1**	**+1.1**
PV13	**Radium Mtn., P**	**6.25**	**207**		**Pn**	**20 07 08.8**	**+1.1**
TMUT	**Trail Mountain**	**6.36**	**227**		**Pn**	**20 07 09.0**	**-0.2**
Q16A	**Castle Valley**	**6.62**	**225**		**Pn**	**20 07 11.2**	**-1.4**
T25A	**Trinidad**	**6.67**	**175**		**Pn**	20 07 21.7	+8.4
DUG	**Dugway, Tooele**	**6.71**	**240**	Pn	**Pn**	**20 07 12.2**	**-1.6**
MVCO	**Mesa Verde**	**7.04**	**202**	Pn	**Pn**	**20 07 21.6**	**+3.3**
MTPU	**Mount Pierson**	**7.80**	**225**	Pn	**Pn**	**20 07 29.7**	**+0.6**
PSUT	**Pine Spring**	**8.38**	**234**		**Pn**	**20 07 38.3**	**+1.6**
CCUT	**Cedar City**	**8.79**	**228**		**Pn**	**20 07 42.7**	**+0.3**
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**Pn**	**20 07 47.5**	**+1.5**
	comp=E,0.9nm,0.3s,baz=237,slow=12,SNR=4.1						
ULM				Pg		20 08 19.9	
	comp=E,1.5nm,0.3s,baz=221,slow=15,SNR=5.3						
ULM				Lg	Lg	20 10 20.3	
	comp=E,0.6nm,0.3s,baz=118,slow=13,SNR=2.9						
NVAR	**Mina Array Bea**	**11.24**	**246**	Pn	**Pn**	**20 08 17.2**	**+1.2**
	comp=E,0.2nm,0.3s,baz=51,slow=12,SNR=7.6						
TXAR	**Lajitas Array**	**14.48**	**175**	Pn	**P**	**20 09 05.6**	**-1.6**
	comp=E,0.0nm,0.3s,baz=352,slow=12,SNR=3.8						
YKA	**Yellowknife Ar**	**19.53**	**347**	P	**Pn**	**20 10 04.0**	**+0.2**
	comp=E,0.2nm,0.3s,baz=166,slow=13,SNR=2.4						
ARCES	**ARCESS Array B**	**61.35**	**18**	P	**P**	**20 15 50.2**	**-0.7**
	comp=E,1.5nm,0.8s,baz=341,slow=6.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**82.26**	**354**	P	**P**	**20 17 57.1**	**+0.3**
	comp=E,1.2nm,0.7s,baz=16,slow=4.2,SNR=4.5						
SONM	**Songino Array**	**84.61**	**339**	P	**P**	**20 18 09.7**	**+0.5**
	comp=E,0.3nm,0.5s,baz=53,slow=5.6,SNR=2.3						
MKAR	**Makanchi Array**	**89.56**	**355**	P	**P**	**20 18 33.8**	**+0.7**
	comp=E,0.5nm,0.6s,baz=7.7,slow=3.7,SNR=6.9						

*JMA **07** 20:15:46.3±0.1, 24.°81N×122.°27E, h0km, M2.1*

*TAP **07** 20:15:46.2, 24.°93N×122.°26E, h11km, ML2.6, D*

ISC 07 20:15:46.4±1.1, 24.°87N±0.°02×122.°27E±0.°02, h7km±9km, n46, σ0s49/88, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=288	**0.29**	**298**	P	**Pg**	**20 15 52.1**	**0.0**
TWB1				S	**Sg**	**20 15 55.8**	**-0.2**
	baz=288						
TIPB	**Shuangxi** baz=277	**0.42**	**284**	*e*P	**Pg**	**20 15 54.6**	**+0.1**
TIPB				*e*S	**Sg**	**20 16 00.1**	**+0.1**
	baz=277						
TWC	**Suao** baz=230	**0.46**	**236**	P	**Pg**	**20 15 55.7**	**+0.4**
TWC				*e*S	**Sb**	**20 16 03.0**	**-0.9**
	baz=230						
NWF	**Wu-fen Shan** baz=288	**0.49**	**294**	*e*P	**Pb**	**20 15 56.8**	**-0.5**
NWF				*e*S	**Sb**	**20 16 03.5**	**-1.2**
	baz=288						
WFSB	**Wu-fen Shan** baz=288	**0.49**	**294**	*e*P	**Pb**	**20 15 56.4**	**-0.9**
WFSB				*e*S	**Sb**	**20 16 03.4**	**-1.3**
	baz=288						
TWE	**Neicheng** baz=243	**0.57**	**255**	P	**Pb**	**20 15 58.4**	**-0.3**
TWE				*e*S	**Sb**	**20 16 05.9**	**-1.1**
	baz=243						
ENAH	**Nanao** baz=222	**0.59**	**225**	*e*P	**Pb**	**20 15 58.9**	**-0.2**
ENAH				*e*S	**Sb**	**20 16 07.3**	**-0.3**
	baz=222						
ENA	**Nanau** baz=214	**0.65**	**228**	P	**Pb**	**20 16 00.0**	**-0.1**
ENA				S	**Sb**	**20 16 09.1**	**-0.3**
	baz=214						
ENTT	**Nioudou** baz=237	**0.68**	**251**	P	**Pb**	**20 16 00.3**	**-0.3**
ENTT				*e*S	**Sb**	**20 16 10.0**	**-0.3**
	baz=237						
NHDH	**Xindian Distri** baz=273	**0.68**	**278**	*e*P	**Pb**	**20 16 00.8**	**+0.1**
NHDH				S	**Sb**	**20 16 10.6**	**+0.2**
	baz=273						
YM01	**YM01** baz=289	**0.69**	**294**	P	**Pb**	**20 16 00.3**	**-0.6**
YM01				S	**Sg**	**20 16 09.1**	**+0.3**
	baz=289						
YM08	**YM08** baz=293	**0.70**	**297**	P	**Pb**	**20 16 00.2**	**-0.6**
YM08				S	**Sg**	**20 16 09.3**	**+0.5**
	baz=293						
YM11	**YM11** baz=291	**0.70**	**295**	*e*P	**Pb**	**20 16 01.1**	**+0.1**
YM11				*e*S	**Sb**	**20 16 10.9**	**+0.1**
	baz=291						
NWLT	**Wulai** baz=259	**0.70**	**263**	P	**Pb**	**20 16 00.8**	**-0.2**
NWLT				*e*S	**Sb**	**20 16 11.3**	**+0.3**
	baz=259						
YM05	**YM05** baz=290	**0.70**	**295**	*e*P	**Pg**	**20 15 59.8**	**-0.2**
YM10	**YM10** baz=290	**0.70**	**294**	P	**Pb**	**20 16 00.5**	**-0.6**
YM10				*e*S	**Sb**	**20 16 10.4**	**-0.6**
	baz=290						
YM04	**YM04** baz=289	**0.72**	**293**	P	**Pb**	**20 16 00.7**	**-0.6**
YM04				*e*S	**Sg**	**20 16 10.3**	**+0.6**
	baz=289						
TWY	**Chenhua** baz=300	**0.73**	**304**	*e*P	**Pb**	**20 16 00.9**	**-0.6**
TWY				*e*S	**Sb**	**20 16 12.0**	**+0.4**
	baz=300						
YM03	**YM03** baz=291	**0.73**	**295**	*e*P	**Pb**	**20 16 01.1**	**-0.4**
YM03				*e*S	**Sb**	**20 16 10.9**	**-0.9**
	baz=291						
NDT	**Datong Townshi** baz=237	**0.74**	**249**	P	**Pb**	**20 16 01.3**	**-0.3**
NDT				S	**Sb**	**20 16 12.6**	**+0.7**
	baz=237						
JYNG	**Yonagunijimaku**	**0.74**	**124**	P	**Pg**	**20 16 00.2**	**-0.4**
JYNG				S	**Sg**	**20 16 10.6**	**+0.3**
ANP	**Anpu** baz=291	**0.75**	**295**	*e*P	**Pg**	**20 16 01.1**	**+0.3**
ANP				*e*S	**Sg**	**20 16 11.3**	**+

s-min=15.2km az=101.0

*GCMT **07** 20:19:58.7±0.3,6.73S±0.02×154.41E±0.03,h30km, MW5.0/69,Moment Tensor Solution. s46,c54; s69,c81; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.56±.18; Mθθ-2.00±.11; Mϕϕ-1.56±.11; Mrθ1.71±.15; Mrϕ1.24±.08; Mθϕ-1.67±.15; Best double couple: Mw4.07400×10¹⁶ NP1:ϕs308.00000°,δ27.00000°,λ86.00000°. NP2: ϕs132.00000°,δ63.00000°,λ92.00000°. Principal axes: T 4.3370, Plg72.0000°, Azm47.0000°; N -0.5260, Plg2.0000°, Azm312.0000°; P -3.8110, Plg18.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 20:20:00.7±1.6,6.35S±0.06×154.40E±0.08,h57km±5km, mb4.8/78 Error ellipse: s-maj=12.0km s-min=8.4km az=75.0*

*DJA **07** 20:20:06.4±0.3,7.7S±4.4×15.4E±.9,h115km±6km,M5.0/12, mb4.6/12,mB4.5/1,MLv5.2/3,Mw(mB)3.7/1,Mwp5.2/1*

ISC 07 20:19:59.6±0.4,6.40S±0.06×154.46E±0.07,h48km,n150, σ1§12/143,mb4.8/60,MS4.0/23,3C-1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
RABL	**Rabaul**	**3.17**	**314**		**Pn**	**20 20 47.1**	**0.0**
KRVT	**Keravat (AS076**	**3.20**	**311**	Pn	**Pn**	**20 20 48.0**	**+0.7**
	31nm,0.3s,baz=7.1,slow=4.7,SNR=7.4						
KRVT				Sn	Sn	20 21 36.5	+12
	154nm,0.3s,baz=147,slow=21,SNR=6.2						
HNR	**Honiara**	**6.21**	**119**	Pn	Pn	20 21 21.4	-7.4
	5.6nm,0.3s,baz=124,slow=11,SNR=1.4						
HNR				LR	LR	20 23 52.1	
	comp=Z,2µm,20.4s,baz=244,slow=40						
HNR	**Honiara**	**6.21**	**119**	Pn	**Pn**	**20 21 31.3**	**+2.5**
PMG	**Port Moresby**	**7.82**	**247**	Pn	**Pn**	**20 21 51.3**	**+0.4**
	2.9nm,0.3s,baz=71,slow=9.3,SNR=11						
PMG				LR	LR	20 25 24.3	
	comp=Z,2µm,18.3s,baz=52,slow=42						
PMG	**Port Moresby**	**7.82**	**247**	Pn	**Pn**	**20 21 50.8**	**0.0**
PATS	**Pohnpei**	**13.70**	**16**	Pn	**Pn**	**20 23 11.5**	**+0.2**
JAY	**Jayapura**	**14.25**	**285**	LR	LR	20 28 55.2	
	comp=Z,688nm,20.4s,baz=121,slow=38						
JAY	**Jayapura**	**14.25**	**285**	P	**P**	**20 23 25.1**	**+0.2**
	8.6nm,1.1s						
CTA	**Charters Tower**	**15.77**	**210**	Pn	**P**	**20 23 40.4**	**-1.3**
	0.7nm,0.3s,baz=33,slow=13,SNR=15						
CTA				LR	LR	20 29 52.7	
	comp=Z,739nm,18.4s,baz=350,slow=38						
CTAO	**Charters Tower**	**15.77**	**210**	P	**P**	**20 23 42.7**	**+1.0**
EIDS	**Eidsvold**	**19.14**	**189**	P	**Pn**	**20 24 19.5**	**-0.6**
DZM	**Mont Dzumac**	**19.41**	**145**	P	**P**	**20 24 21.0**	**-0.9**
	1.1nm,0.3s,baz=188,slow=14,SNR=6.3						
DZM				LR	LR	20 30 51.4	
	comp=Z,494nm,18.7s,baz=312,slow=34						
DZM	**Mont Dzumac**	**19.41**	**145**	*e*LQ	LQ	20 28 21.0	
	865nm,24.5s						
DZM				*e*LR	LR	20 29 10.2	
	comp=Z,616nm,22.0s						
DZM	**Mont Dzumac**	**19.41**	**145**	P	**Pn**	**20 24 22.6**	**-0.8**
GUMO	**Guam**	**22.03**	**334**	LR	LR	20 33 09.0	
	comp=Z,159nm,18.9s,baz=155,slow=36						
WR0	**Warramunga Arr**	**23.58**	**233**	P	**P**	**20 25 05.4**	**-0.7**
WR0				IAmb	IAmb	20 25 18.3	
	comp=Z,33nm,0.9s						
WB0	**Warramunga Arr**	**23.59**	**234**	P	**P**	**20 25 05.5**	**-0.8**
WB0				IAmb	IAmb	20 25 07.9	
	comp=Z,22nm,0.9s						
WB2	**Warramunga Arr**	**23.72**	**234**	P	**P**	**20 25 06.7**	**-0.7**
WB2				IAmb	IAmb	20 25 09.1	
	comp=Z,24nm,0.9s						
WRA	**Warramunga Arr**	**23.73**	**234**	P	**P**	**20 25 06.6**	**-0.9**
	comp=Z,24nm,0.8s,baz=56,slow=9.9,SNR=50						
WRA				PcP	**PcP**	**20 28 51.4**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=56,slow=2.6,SNR=6.3						
WRA				LR	LR	20 34 38.7	
	comp=Z,490nm,18.3s,baz=60,slow=37						
WRA	**Warramunga Arr**	**23.73**	**234**	P	**P**	**20 25 06.2**	**-1.3**
SIJI	**Sorong**	**23.78**	**282**	P	**P**	**20 25 09.3**	**+1.2**
	comp=Z,9.1nm,0.6s,baz=54,slow=9.5,SNR=3.8						
MTN	**Manton Dam**	**23.86**	**253**	P	**P**	**20 25 08.8**	**0.0**
AS31	**Alice Springs**	**26.18**	**227**	P	**P**	**20 25 29.3**	**-0.6**
ASAR	**Alice Springs**	**26.18**	**227**	P	**P**	**20 25 27.8**	**-2.0**
	comp=Z,3.4nm,0.7s,baz=60,slow=8.9,SNR=22						
ASAR				PcP	**PcP**	**20 28 56.9**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=55,slow=3.3,SNR=4.6						
ASAR				ScP	**ScP**	**20 32 36.1**	**+4.0**
	comp=Z,1.3nm,1.1s,baz=55,slow=1.3,SNR=4.9						
ASAR				LR	LR	20 36 01.4	
	comp=Z,495nm,18.8s,baz=54,slow=37						
ASAR	**Alice Springs**	**26.18**	**227**	P	**P**	**20 25 29.0**	**-0.9**
KNRA	**Kununurra**	**26.82**	**248**	P	**P**	**20 25 36.0**	**+0.3**
KNRA				IAmb	IAmb	20 26 04.4	
	comp=Z,19nm,0.8s						
STKA	**Stephens Creek**	**28.05**	**204**	P	**P**	**20 25 44.6**	**-1.8**
	comp=Z,7.6nm,0.8s,baz=17,slow=11,SNR=14						
STKA				ScP	**ScP**	**20 32 42.0**	**+4.4**
	comp=Z,14nm,1.2s,baz=40,slow=2.8,SNR=9.4						
STKA				LR	LR	20 36 52.2	
	comp=Z,493nm,20.1s,baz=22,slow=36						
STKA	**Stephens Creek**	**28.05**	**204**	P	**P**	**20 25 44.7**	**-1.8**
FITZ	**Fitzroy Crossi**	**30.41**	**245**	LR	LR	20 39 30.9	
	comp=Z,397nm,18.1s,baz=72,slow=39						
FITZ	**Fitzroy Crossi**	**30.41**	**245**	P	**P**	**20 26 07.1**	**-0.5**
BATI	**Baumata**	**30.70**	**261**	LR	LR	20 40 56.0	
	comp=Z,360nm,19.0s,baz=98,slow=41						
BBOO	**Buckleboo**	**31.36**	**211**	P	**P**	**20 26 14.7**	**-1.1**
DAV	**Davao City (W)**	**31.77**	**294**	LR	LR	20 37 48.6	
	comp=Z,109nm,21.1s,baz=96,slow=34						
MMRI	**Maumere**	**32.02**	**264**	P	**P**	**20 26 22.4**	**+0.5**
NACB	**Ninganchiao**	**44.17**	**315**	P	**P**	**20 28 03.4**	**-0.5**
TPUB	**Ta-pu**	**44.32**	**313**	P	**P**	**20 28 06.3**	**+1.1**
TPUB				IAmb	IAmb	20 28 08.8	
	comp=Z,24nm,0.8s						
SSLB	**Suanglung**	**44.38**	**314**	P	**P**	**20 28 06.2**	**+0.5**
SSLB				IAmb	IAmb	20 28 09.3	
	comp=Z,18nm,0.6s						
YHNB	**Yeheng**	**44.63**	**315**	P	**P**	**20 28 08.7**	**+1.0**
MJAR	**Matsushiro Arr**	**45.35**	**342**	P	**P**	**20 28 11.4**	**-1.8**
	comp=Z,2.2nm,0.8s,baz=170,slow=8.0,SNR=1.9						
MJAR	**Matsushiro Arr**	**45.35**	**342**	P	**P**	**20 28 11.8**	**-1.4**
KSRS	**Korea Array**	**50.17**	**332**	P	**P**	**20 28 50.5**	**0.0**
	comp=Z,6.2nm,1.1s,baz=147,slow=8.6,SNR=14						
KSRS				LR	LR	20 47 01.8	
	comp=Z,66nm,20.7s,baz=141,slow=32						
KSAR	**Wonju Array Be**	**50.18**	**332**	P	**P**	**20 28 49.7**	**-0.9**
KS19	**Wonju Array Si**	**50.24**	**332**	P	**P**	**20 28 49.3**	**-1.7**
KS19				IAmb	IAmb	20 28 55.0	
	comp=Z,19nm,1.4s						
WHN	**Wuhan**	**53.15**	**316**	⇑P	P	20 29 05.8	-7.0
USRK	**Ussuriysk Ar.**	**54.30**	**340**	P	**P**	**20 29 20.2**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=74,slow=11,SNR=2.2						
PPT	**Papeete**	**55.67**	**107**	LR	LR	20 50 00.7	
	comp=Z,76nm,19.6s,baz=309,slow=33						
PPT2	**Papeete2**	**55.68**	**107**	*e*S	S	20 37 33.7	+19
	comp=Z,48nm,24.2s						
PPT2				*e*LQ	LQ	20 43 47.8	
	comp=Z,303nm,28.0s						
PPT2				*e*LR	LR	20 46 09.1	
	comp=Z,73nm,21.2s						
TBI	**Tubuai**	**56.40**	**114**	*e*S	S	20 37 41.5	+17
	comp=Z,62nm,29.5s						
TBI				*e*LQ	LQ	20 44 04.0	
	comp=Z,365nm,29.8s						
TBI				*e*LR	LR	20 46 27.6	
	comp=Z,123nm,36.8s						
ENH	**Enshi**	**56.45**	**313**	P	**P**	**20 29 37.5**	**+0.7**
GYA	**Guiyang**	**56.67**	**307**	⇑P	**P**	**20 29 40.3**	**+1.7**
GYA				pP	pwP	20 30 14.7	+17
GYA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XAN	**Xi'an**	**58.91**	**316**	P	**P**	**20 29 54.6**	**+0.5**
XAN				pP	pP	20 30 06.3	+0.6
XAN				pmax	pmax		
	comp=Z,15nm,1.0s						
XAN	**Xi'an**	**58.91**	**316**	P	**P**	**20 29 54.0**	**-0.1**
XAN				IAmb	IAmb	20 29 55.0	
	comp=Z,15nm,1.1s						
KMI	**Kunming**	**59.25**	**304**	⇓P	**P**	**20 29 59.5**	**+2.7**
KMI				pP	pP	20 30 09.4	+0.9
KMI				sP	sP	20 30 14.8	+1.5
KMI				S	S	20 37 52.1	-10
KMI				pmax	pmax		
	comp=Z,16nm,1.2s						
KMI				pmax	pmax		
	comp=Z,100nm,6.0s						
KMI				LR	LR		
	comp=N,220nm,20.9s						
KMI				LR	LR		
	comp=E,230nm,23.1s						
KMI				LR	LR		
	comp=Z,250nm,20.6s						
KMI	**Kunming**	**59.25**	**304**	P	**P**	**20 29 56.7**	**-0.1**
PETK	**Petropavlovsk-**	**59.35**	**2**	P	**P**	**20 29 54.9**	**-1.7**
	comp=Z,1.1nm,0.6s,baz=143,slow=5.0,SNR=2.7						
PETK				LR	LR	20 51 23.8	
	comp=Z,76nm,21.8s,baz=236,slow=32						
PETK	**Petropavlovsk-**	**59.35**	**2**	P	**P**	**20 29 54.8**	**-1.9**
CMAR	**Chiang Mai Arr**	**60.05**	**295**	P	**P**	**20 30 02.8**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=118,slow=5.4,SNR=14						
CMAR				LR	LR	20 57 20.3	
	comp=Z,78nm,18.1s,baz=174,slow=37						
CMAR	**Chiang Mai Arr**	**60.05**	**295**	P	**P**	**20 30 03.3**	**+1.1**
HHC	**Hu-ho-hao-te**	**61.31**	**324**	*e*P	**P**	**20 30 14.1**	**+3.7**
HHC				pmax	pmax		
	comp=Z,23nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,4.7s						
ADK	**Adak**	**63.09**	**20**	P	**P**	**20 30 22.4**	**+0.5**
LZH	**Lanzhou**	**63.52**	**316**	*e*P	**P**	**20 30 27.3**	**+1.9**
LZH				pP	pwP	20 30 44.5	-0.2
LZH				sP	PcP	20 30 52.5	-9.2
LZH				pmax	pmax		
	comp=Z,32nm,1.2s						
GTA	**Gaotai**	**67.95**	**317**	⇑P	**P**	**20 30 54.7**	**+0.9**
GTA				pP	pP	20 31 01.1	-4.7
GTA				sP	sP	20 31 04.2	-6.5
GTA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,84nm,6.2s						
GTA				LR	LR		
	comp=N,120nm,17.1s						
GTA				LR	LR		
	comp=E,150nm,17.8s						
GTA				LR	LR		
	comp=Z,150nm,16.8s						
ULN	**Ulaanbaatar**	**68.22**	**328**	P	**P**	**20 30 55.8**	**+0.4**
ULN				IAmb	IAmb	20 31 03.1	
	comp=Z,9.0nm,1.1s						
SHL	**Shillong**	**68.54**	**301**	P	**P**	**20 30 58.4**	**+0.5**
SONM	**Songino Array**	**68.56**	**327**	P	**P**	**20 30 58.0**	**+0.6**
	comp=Z,3.6nm,1.0s,baz=141,slow=7.3,SNR=13						
SONM				LR	LR	21 03 46.7	
	comp=Z,97nm,18.1s,baz=114,slow=38						
SONM	**Songino Array**	**68.56**	**327**	P	**P**	**20 30 57.6**	**+0.2**
LSA	**Lhasa**	**70.50**	**304**	P	**P**	**20 31 12.1**	**+1.8**
LSA				pmax	pmax		
	comp=Z,92nm,0.8s						
LSA	**Lhasa**	**70.50**	**304**	P	**P**	**20 31 12.0**	**+1.7**
LSA				IAmb	IAmb	20 31 13.1	
	comp=Z,20nm,0.9s						
YAK	**Yakutsk**	**70.87**	**348**	P	**P**	**20 31 09.8**	**-1.4**
YAK				IAmb	IAmb	20 31 17.1	
	comp=Z,12nm,0.7s						
TAPN	**Taplejung**	**72.64**	**301**	*e*P	**P**	**20 31 23.4**	**+0.4**
	comp=Z,50nm,1.0s						
ODAN	**Odare**	**72.78**	**301**	*e*P	**P**	**20 31 24.7**	**+1.0**
	comp=Z,87nm,1.1s						
RAMN	**Ramite**	**73.48**	**300**	*e*P	**P**	**20 31 28.8**	**+0.9**
	comp=Z,24nm,1.0s						
JIRN	**Jiri**	**74.03**	**301**	*e*P	**P**	**20 31 32.3**	**+1.1**
	comp=Z,41nm,0.8s						
PKI	**Pulchoki**	**74.67**	**301**	*e*P	**P**	**20 31 35.5**	**+0.6**
	comp=Z,76nm,1.1s						
BILL	**Bilibino**	**74.74**	**5**	P	**P**	**20 31 34.2**	**+0.1**
BILL				IAmb	IAmb	20 31 35.0	
	comp=Z,8.8nm,0.7s						
KKN	**Kakani**	**74.84**	**301**	*e*P	**P**	**20 31 36.8**	**+1.0**
	comp=Z,64nm,1.0s						
DMN	**Daman**	**74.94**	**301**	*e*P	**P**	**20 31 37.5**	**+1.1**
	comp=Z,120nm,1.0s						
GKN	**Gorkha**	**75.44**	**301**	*e*P	**P**	**20 31 40.0**	**+0.8**
	comp=Z,134nm,1.0s						
KOLN	**Kolonia**	**76.27**	**300**	*e*P	**P**	**20 31 44.6**	**+0.7**
	comp=Z,92nm,0.9s						
DANN	**Dangsing**	**76.28**	**301**	*e*P	**P**	**20 31 44.8**	**+0.7**
	comp=Z,83nm,0.8s						
PYUN	**Piuthan**	**76.87**	**301**	*e*P	**P**	**20 31 47.8**	**+0.4**
	comp=Z,128nm,1.0s						
CNPM	**China Poot**	**78.45**	**25**	P	**P**	**20 31 55.5**	**+0.3**
TTA	**Tatalina**	**78.66**	**21**	P	**P**	**20 31 56.4**	**0.0**
TTA				IAmb	IAmb	20 32 02.4	
	comp=Z,9.0nm,1.1s						
RDOG	**Red Dog Mine**	**80.08**	**15**	P	**P**	**20 32 04.2**	**+0.3**
RDOG				IAmb	IAmb	20 32 05.3	
	comp=Z,9.2nm,0.9s						
IMAR	**Indian Mountai**	**81.34**	**19**	P	**P**	**20 32 10.4**	**-0.3**
RND	**Reindeer**	**81.56**	**22**	P	**P**	**20 32 11.1**	**-0.9**
RND				IAmb	IAmb	20 32 12.0	
	comp=Z,6.1nm,0.9s						
MCK	**McKinley**	**81.71**	**22**	P	**P**	**20 32 11.7**	**-1.1**
MCK				IAmb	IAmb	20 32 18.0	
	comp=Z,12nm,0.9s						
KLU	**Klutina**	**81.72**	**25**	P	**P**	**20 32 13.1**	**+0.2**
KLU				IAmb	IAmb	20 32 39.6	
	comp=Z,13nm,1.0s						
DHY	**Denali Highway**	**81.95**	**23**	P	**P**	**20 32 13.7**	**-0.5**
DHY				IAmb	IAmb	20 32 32.9	
	comp=Z,7.0nm,0.9s						
WRH	**Wood River Hil**	**82.42**	**22**	P	**P**	**20 32 15.1**	**-1.3**
WRH				IAmb	IAmb	20 32 16.2	
	comp=Z,11nm,1.2s						
GLB	**Gilahina Butte**	**82.59**	**25**	P	**P**	**20 32 17.5**	**+0.1**
GLB				IAmb	IAmb	20 32 36.5	
	comp=Z,12nm,1.2s						
MK31	**Makanchi Array**	**82.61**	**319**	P	**P**	**20 32 17.7**	**-0.1**
MKAR	**Makanchi Array**	**82.61**	**319**	P	**P**	**20 32 18.1**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=106,slow=5.4,SNR=19						
MKAR				LR	LR	21 11 04.0	
	comp=Z,68nm,18.6s,baz=80,slow=37						
MKAR	**Makanchi Array**	**82.61**	**319**	P	**P**	**20 32 17.6**	**-0.2**
CCB	**Clear Creek Bu**	**82.62**	**22**	P	**P**	**20 32 16.1**	**-1.3**
MDM	**Murphy Dome**	**82.63**	**21**	P	**P**	**20 32 16.4**	**-1.2**
HDA	**Harding Lake**	**82.81**	**22**	P	**P**	**20 32 18.5**	**+0.1**
MAKZ	**Makanchi**	**82.82**	**319**	P	**P**	**20 32 18.9**	**0.0**
IL31		**83.02**	**22**	P	**P**	**20 32 17.6**	**-1.8**
ILAR	**Eielson Array**	**83.02**	**22**	P	**P**	**20 32 18.1**	**-1.4**
	comp=Z,3.7nm,1.0s,baz=255,slow=5.1,SNR=17						
ILAR				LR	LR	21 07 34.8	
	comp=Z,213nm,19.3s,baz=244,slow=34						
ILAR	**Eielson Array**	**83.02**	**22**	P	**P**	**20 32 17.7**	**-1.8**
RIDG	**Independent Ri**	**83.27**	**23**	P	**P**	**20 32 20.7**	**-0.2**
RIDG				IAmb	IAmb	20 32 23.2	
	comp=Z,15nm,1.3s						
ZAA0	**Zalesovo Array**	**83.40**	**326**	P	**P**	**20 32 20.7**	**-0.9**
ZALV	**Zalesovo Beam**	**83.40**	**326**	P	**P**	**20 32 20.6**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=116,slow=6.9,SNR=8.3						
ZALV				LR	LR	21 11 08.8	
	comp=Z,60nm,18.5s,baz=100,slow=37						
ZALV	**Zalesovo Beam**	**83.40**	**326**	P	**P**	**20 32 20.3**	**-1.3**
DOT	**Dot Lake**	**83.53**	**23**	P	**P**	**20 32 21.9**	**-0.3**
DOT				IAmb	IAmb	20 32 24.1	
	comp=Z,13nm,1.0s						
QSPA	**South Pole Qui**	**83.57**	**180**	P	**P**	**20 32 22.9**	**+0.3**
QSPA				IAmb	IAmb	20 32 43.4	
	comp=Z,11nm,1.1s						
BCAR	**Beaver Creek A**	**84.17**	**24**	P	**P**	**20 32 25.5**	**0.0**
MAW	**Mawson**	**84.73**	**203**	P	**P**	**20 32 26.6**	**-1.6**
	comp=Z,2.0nm,0.5s,baz=72,slow=6.0,SNR=7.5						
MAW				LR	LR	21 07 32.6	
	comp=Z,93nm,19.2s,baz=58,slow=34						
MAW	**Mawson**	**84.73**	**203**	P	**P**	**20 32 28.7**	**+0.4**
HYT	**Haines Junctio**	**85.09**	**27**	P	**P**	**20 32 30.5**	**+0.2**
HYT				IAmb	IAmb	20 32 32.0	
	comp=Z,7.3nm,1.1s						
EGAK	**Eagle**	**85.18**	**23**	P	**P**	**20 32 30.7**	**+0.2**
EGAK				IAmb	IAmb	20 32 33.5	
	comp=Z,9.6nm,1.0s						
KURK	**Kurchatov**	**86.04**	**322**	P	**P**	**20 32 34.3**	**-0.8**
NIL	**Nilore**	**86.24**	**304**	P	**P**	**20 32 36.4**	**-0.1**
ARSB	**Arslanbob**	**87.82**	**312**	P	**P**	**20 32 46.2**	**+2.0**
NRIK	**Noril'sk**	**88.01**	**341**	P	**P**	**20 32 43.1**	**-1.1**
	comp=Z,4.1nm,0.5s,baz=104,slow=6.0,SNR=4.4						
NRIK				LR	LR	21 14 35.2	
	comp=Z,33nm,18.0s,baz=142,slow=37						
KBL	**Kabul**	**89.83**	**305**	P	**P**	**20 32 52.8**	**-1.0**
KBL				IAmb	IAmb	20 32 56.9	
	comp=Z,3.3nm,0.8s						
KK31	**Karatay Array**	**89.93**	**313**	P	**P**	**20 32 53.3**	**-0.5**
KK31				IAmb	IAmb	20 32 56.4	
	comp=Z,4.1nm,1.2s						
KKAR	**Karatay Array**	**89.93**	**313**	P	**P**	**20 32 54.3**	**+0.4**
KKAR	**Karatay Array**	**89.93**	**313**	P	**P**	**20 32 53.5**	**-0.4**
KKAR				IAmb	IAmb	20 32 56.3	
	comp=Z,4.1nm,1.2s						
VCNR	**Virginia City**	**90.84**	**51**	P	**P**	**20 32 59.6**	**+1.2**
VCNR				IAmb	IAmb	20 33 00.9	
	comp=Z,5.5nm,0.7s						
PAHR	**Pah Rah Range**	**91.09**	**50**	P	**P**	**20 32 59.9**	**+0.3**
PAHR				IAmb	IAmb	20 33 02.0	
	comp=Z,7.9nm,1.3s						
MWC	**Mount Wilson**	**91.48**	**56**	P	**P**	**20 33 02.4**	**+0.9**
RYN	**Ryan**	**91.62**	**51**	P	**P**	**20 33 01.5**	**-0.6**
KVN	**Kaiserville**	**92.00**	**51**	P	**P**	**20 33 04.7**	**+0.8**
G08A	**Pilot Rock**	**92.10**	**45**	P	**P**	**20 33 03.8**	**-0.2**
G08A				IAmb	IAmb	20 33 05.0	
	comp=Z,3.9nm,1.0s						
B08A	**Colville Reser**	**92.22**	**42**	P	**P**	**20 33 03.7**	**-0.7**
B08A				IAmb	IAmb	20 33 04.4	
	comp=Z,3.1nm,1.0s						
GSC	**Goldstone, Bar**	**92.62**	**55**	P	**P**	**20 33 07.5**	**+0.8**
GSC				IAmb	IAmb	20 33 08.8	
	comp=Z,4.2nm,1.1s						
PFO	**Pinyon Flats O**	**92.73**	**57**	P	**P**	**20 33 07.6**	**+0.3**
XPFO	**Pion Flat**	**92.74**	**57**	P	**P**	**20 33 07.7**	**+0.4**
BMO	**Blue Mountains**	**93.22**	**45**	P	**P**	**20 33 08.7**	**-0.5**
BMO				IAmb	IAmb	20 33 10.1	
	comp=Z,3.5nm,1.1s						
TPNV	**Topopah Spring**	**93.23**	**53**	P	**P**	**20 33 10.4**	**+0.9**
F10A	**Beach Ranch, E**	**93.38**	**44**	P	**P**	**20 33 09.5**	**-0.4**
F10A				IAmb	IAmb	20 33 10.4	
	comp=Z,4.4nm,1.1s						
R11A	**Troy Canyon, C**	**93.89**	**52**	P	**P**	**20 33 12.7**	**+0.2**
R11A				IAmb	IAmb	20 33 15.1	
	comp=Z,7.7nm,1.1s						
SHPR	**Sheep Range**	**94.07**	**54**	P	**P**	**20 33 14.1**	**+0.7**
SHPR				IAmb	IAmb	20 33 15.9	
	comp=Z,6.6nm,1.0s						
W13A	**Hualapai Mount**	**94.99**	**55**	P	**P**	**20 33 19.0**	**+1.3**
W13A				IAmb	IAmb	20 33 20.1	
	comp=Z,5.1nm,1.1s						
HRA	**Herat**	**95.40**	**304**	P	**P**	**20 33 19.4**	**-0.2**
HRA				IAmb	IAmb	20 33 33.0	
	comp=Z,4.0nm,0.6s						
BOZ	**Bozeman (W)**	**97.27**	**45**	P	**P**	**20 33 27.5**	**-0.2**
PDAR	**Pinedale Array**	**98.70**	**48**	LR	LR	21 15 27.2	
	comp=Z,76nm,18.2s,baz=304,slow=34						
PV22	**Blue Mesa, Par**	**99.23**	**52**	P	**Pdif**	**20 33 36.0**	**-0.8**
GERES	**GERESS Array B**	**126.28**	**329**	PKP	**PKPdf**	**20 38 56.2**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=17,slow=1.4,SNR=4.9						
GERES	**GERESS Array B**	**126.28**	**329**		**PKPdf**	**20 38 57.5**	**+0.3**
BDFB	**Brasilia**	**148.77**	**135**	PKPbc	**PKPbc**	**20 39 43.0**	**0.0**
	comp=Z,8.3nm,0.9s,baz=315,slow=5.0,SNR=5.5						
TOA0	**Torodi Ar. Sit**	**152.36**	**286**		**PKPbc**	**20 39 50.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**152.36**	**286**	PKP	**PKPdf**	**20 39 44.0**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=18,slow=2.5,SNR=5.0						
TORD				PKPbc	**PKPbc**	**20 39 51.6**	**+0.2**
	comp=Z,13nm,0.8s,baz=54,slow=2.2,SNR=44						
TORD	**Torodi Ar. Bea**	**152.36**	**286**		**PKPbc**	**20 39 50.6**	**-0.8**

*CRAAG **07** 20:31:25.3,36.92N×3.11E,Ml3.4*

*MDD **07** 20:31:26.5±0.7,36.94N×3.17E,h11km±7km,mb3.7/23, Error ellipse: s-maj=8.2km s-min=5.8km az=139.0, PRXIMO*

*LDG **07** 20:31:32.0±0.3,37.30N×2.83E,h30km,Ml2.9/10,Error ellipse: s-maj=6.4km s-min=3.5km az=151.0*

ISC 07 20:31:23.8±0.8,37.10N±0.04×3.26E±0.03,h12km,n69, σ2§70/98,Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
ABA	**Alger-Bouzarea**	**0.35**	**211**	P	**Pg**	**20 31 30.0**	**-0.8**
ABA	**Alger-Bouzarea**	**0.35**	**211**	P	**Pg**	**20 31 30.0**	**-0.8**
EMHD	**Djebel Mahouad**	**0.93**	**195**	P	**Pg**	**20 31 40.3**	**-1.5**
EMHD	**Djebel Mahouad**	**0.93**	**195**	P	**Pg**	**20 31 40.3**	**-1.5**
SET	**Setif**	**1.94**	**117**	P	Pg	20 32 11.0	+10
SET	**Setif**	**1.94**	**117**	P	Pg	20 32 11.0	+10
DFRA	**Djebel Bou Aff**	**2.17**	**104**	P	**Sn**	**20 32 29.4**	**+2.5**
DFRA	**Djebel Bou Aff**	**2.17**	**104**	S	**Sn**	**20 32 29.4**	**+2.5**
OKGL	**Djebel Kef Gue**	**2.36**	**244**	P	**Pn**	**20 32 02.7**	**+0.3**
	8.4nm,0.2s,SNR=7.9						
OKGL				S	**Sn**	**20 32 26.4**	**-4.8**
	1.1nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.44**	**322**	P	**Pb**	**20 32 06.8**	**-0.9**
	13nm,0.1s,SNR=17						
EIBI				S	**Sn**	**20 32 34.7**	**+1.3**
	1.0nm,0.1s,SNR=7.0						
ETOS	**Mallorca**	**2.69**	**353**	P	**Pb**	**20 32 10.8**	**-1.1**
	4.4nm,0.1s,SNR=40						
ETOS				S	**Sn**	**20 32 41.1**	**+1.7**
	1.0nm,0.1s,SNR=4.7						
MAHO	**Mahon**	**2.90**

ELGU	**Los Guajares,** 0.6nm,0.2s,SNR=7.9	**5.52**	**270**	P	**Pn**	**20 32 45.9**	**+0.1**
ELGU	1.0nm,0.2s,SNR=7.9			S	**Sn**	**20 33 46.7**	**-2.5**
ETOR	**Torete** 3.3nm,0.2s,SNR=7.9	**5.56**	**314**	P	**Pn**	**20 32 50.6**	**+4.2**
ETOR	0.8nm,0.0s,SNR=7.9			S	**Sn**	**20 33 48.5**	**-1.9**
ESDC	**Sonseca Array** 0.3nm,0.4s,baz=110,slow=13,SNR=5.8	**6.23**	**297**	P	**Pn**	**20 32 58.2**	**+2.6**
MTLF	**Montolieu**	**6.28**	**353**	*e*P	Pn	20 33 01.7	+5.4
MTLF	0.5nm,0.3s			*e*Sn	**Sn**	**20 34 02.7**	**-5.3**
MTLF	**Montolieu**	**6.28**	**353**	P	Pn	20 33 01.7	+5.4
MTLF	0.2nm,0.3s			S	**Sn**	**20 34 02.7**	**-5.3**
EPF	**Esparros**	**6.33**	**340**	*e*Pn	**Pn**	**20 32 56.9**	**-0.1**
EPF	**Esparros**	**6.33**	**340**	*e*P	**Pn**	**20 33 01.3**	**+4.3**
EPF	1.3nm,0.3s			*e*Sn	**Sn**	**20 34 05.7**	**-3.5**
EPF	**Esparros**	**6.33**	**340**	P	**Pn**	**20 32 56.9**	**-0.1**
EPF	0.6nm,0.3s			S	**Sn**	**20 34 05.7**	**-3.5**
ETSF	**Etsaut**	**6.49**	**334**	*e*Pn	**Pn**	**20 33 03.4**	**+4.2**
ETSF	**Etsaut**	**6.49**	**334**	P	**Pn**	**20 33 03.4**	**+4.2**
ATE	**Arette** 0.3nm,0.3s,SNR=7.9	**6.70**	**334**	P	**Pn**	**20 33 06.3**	**+4.2**
ATE	0.3nm,0.1s,SNR=7.9			S	**Sn**	**20 34 18.3**	**0.0**
LMR	**La Mourre**	**6.70**	**21**	*e*Pn	**Pn**	**20 33 05.3**	**+3.3**
LMR	**La Mourre**	**6.70**	**21**	*e*P	Pn	20 33 09.8	+7.8
LMR	1.4nm,0.2s			*e*Sn	**Sn**	**20 34 17.2**	**-1.1**
LMR	**La Mourre**	**6.70**	**21**	P	**Pn**	**20 33 05.3**	**+3.3**
LMR	0.7nm,0.2s			S	**Sn**	**20 34 17.2**	**-1.1**
EORO	**Oroz-Betelu** 0.2nm,0.2s,SNR=7.9	**6.76**	**330**	P	**Pn**	**20 33 07.4**	**+4.5**
EORO	0.1nm,0.0s,SNR=7.9			S	**Sn**	**20 34 18.3**	**-1.6**
SJPF	**Ste Jean**	**6.92**	**332**	*e*P	Pn	20 33 09.8	+4.8
SJPF	**Ste Jean**	**6.92**	**332**	P	Pn	20 33 09.8	+4.8
FRF	**La Foret Royal**	**6.95**	**21**	*e*Pn	**Pn**	**20 33 09.0**	**+3.5**
FRF	**La Foret Royal**	**6.95**	**21**	*e*P	Pn	20 33 13.9	+8.4
FRF	2.6nm,0.3s			*e*Sn	**Sn**	**20 34 23.8**	**-0.6**
FRF	**La Foret Royal**	**6.95**	**21**	P	**Pn**	**20 33 09.0**	**+3.5**
FRF	1.3nm,0.3s			S	**Sn**	**20 34 23.8**	**-0.6**
LASF	**Ste Croix**	**6.98**	**4**	*e*Pn	**Pn**	**20 33 08.1**	**+2.2**
LASF	**Ste Croix**	**6.98**	**4**	*e*P	Pn	20 33 13.3	+7.4
LASF	1.8nm,0.4s			*e*Sn	**Sn**	**20 34 20.6**	**-4.6**
LASF	**Ste Croix**	**6.98**	**4**	P	**Pn**	**20 33 08.1**	**+2.2**
LASF	0.9nm,0.4s			S	**Sn**	**20 34 20.6**	**-4.6**
PGF	**Pioggiola**	**7.01**	**37**	*e*Pn	Pn	20 33 11.7	+5.4
PGF	1.2nm,0.2s			*e*Sn	**Sn**	**20 34 23.9**	**-2.1**
PGF	**Pioggiola**	**7.01**	**37**	P	Pn	20 33 11.7	+5.4
PGF	0.6nm,0.2s			S	**Sn**	**20 34 23.9**	**-2.1**
SMRF	**Simiane la Rot**	**7.09**	**14**	*e*Pn	**Pn**	**20 33 10.7**	**+3.3**
SMRF	**Simiane la Rot**	**7.09**	**14**	*e*P	Pn	20 33 15.4	+8.0
SMRF	1.8nm,0.4s			*e*Sn	**Sn**	**20 34 26.1**	**-1.8**
SMRF	**Simiane la Rot**	**7.09**	**14**	P	**Pn**	**20 33 10.7**	**+3.3**
SMRF	2.2nm,0.4s			S	**Sn**	**20 34 26.1**	**-1.8**
EALK	**Alkurruntz** 0.5nm,0.2s,SNR=4.0	**7.12**	**331**	P	Pn	20 33 13.6	+5.8
EALK	1.8nm,0.3s,SNR=7.9			S	**Sn**	**20 34 27.3**	**-1.3**
SBF	**Sospel**	**7.47**	**24**	*e*Pn	**Pn**	**20 33 17.2**	**+4.6**
SBF	1.8nm,0.3s			*e*Sn	**Sn**	**20 34 36.0**	**-1.2**
SBF	**Sospel**	**7.47**	**24**	P	**Pn**	**20 33 17.2**	**+4.6**
VIVF	**Saint-Julien-l**	**7.82**	**7**	*e*Pn	**Pn**	**20 33 20.0**	**+2.6**
VIVF	2.2nm,0.4s			*e*Sn	**Sn**	**20 34 42.1**	**-3.8**
VIVF	**Saint-Julien-l**	**7.82**	**7**	P	**Pn**	**20 33 20.0**	**+2.6**
VIVF	1.1nm,0.4s			S	**Sn**	**20 34 42.1**	**-3.8**
CAF	**Calviac**	**7.87**	**354**	*e*Pn	**Pn**	**20 33 20.5**	**+2.4**
CAF	**Calviac**	**7.87**	**354**	P	**Pn**	**20 33 20.5**	**+2.4**
ORIF	**Oris-en-Rattie**	**8.06**	**13**	*e*Pn	**Pn**	**20 33 23.8**	**+3.1**
ORIF	**Oris-en-Rattie**	**8.06**	**13**	P	**Pn**	**20 33 23.8**	**+3.1**
SSF	**Saint Saulge**	**9.96**	**1**	*e*Pn	**Pn**	**20 33 44.4**	**-2.2**
SSF	**Saint Saulge**	**9.96**	**1**	P	**Pn**	**20 33 44.4**	**-2.2**

IDC 07 20:34:52.7±1.6, 2°09S×139°09E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=32.2km s-min=15.7km az=13.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura** 7.1nm,0.3s,baz=240,slow=11,SNR=58	**1.67**	**105**	Pn	Pg	20 35 24.8	0.0
JAY	17nm,0.3s,baz=193,slow=19,SNR=14			Lg	Lg	20 35 45.0	
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=18,slow=11,SNR=5.3	**18.34**	**194**	P	Pn	20 39 07.3	-1.4
ASAR	**Alice Springs** 0.3nm,0.6s,baz=27,slow=11,SNR=4.1	**22.02**	**193**	P	P	20 39 48.6	-0.4
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=107,slow=7.7,SNR=4.2	**69.53**	**322**	P	P	20 46 03.5	0.0

*IDC **07** 20:49:09.8±17.0, 12°51S×167°15E, h170km±163km, mb3.5/7, mb1 3.7/7, mb1mx3.3/39, mbtmp4.0/7, Error ellipse: s-maj=71.5km s-min=57.6km az=142.0*
*NEIC **07** 20:49:12.6±1.1, 12°5S±0°2×167°1E±0°1, h194km±10km, mb4.5/18, Error ellipse: s-maj=24.1km s-min=21.0km az=177.0*
ISC 07 20:49:13.3±0.9, 12°5S±0°1×167°2E±0°1, h200km, n30, σ0s91/29, mb4.3/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.55**	**184**	Pn	Pn	20 51 21.9	-4.9
EIDS	**Eidsvold**	**19.84**	**228**	P	**P**	**20 53 30.3**	**+1.2**
EIDS	comp=Z,8.1nm,0.6s			IAmb	IAmb	20 53 31.2	
CTA	**Charters Tower** comp=Z,6.8nm,0.9s,baz=62,slow=11,SNR=2.2	**21.41**	**247**	P	**P**	**20 53 45.6**	**-0.1**
CTAO	**Charters Tower**	**21.41**	**247**	P	**P**	**20 53 45.7**	**-0.1**
CTAO	comp=Z,18nm,1.2s			IAmb	IAmb	20 54 00.2	
ARMA	**Armidale**	**22.90**	**216**	P	**P**	**20 54 01.3**	**+1.4**
ARMA	comp=Z,18nm,1.2s			IAmb	IAmb	20 54 25.9	
NIUE	**Niue**	**23.00**	**109**	P	**P**	**20 54 00.6**	**-0.2**
COEN	**Coen**	**23.38**	**264**	P	**P**	**20 54 05.6**	**+1.3**
COEN	comp=Z,20nm,1.1s			IAmb	IAmb	20 54 19.5	
BKZ	**Black Stump Fm**	**27.83**	**164**	P	**P**	**20 54 44.5**	**+0.5**
THZ	**Tophouse**	**29.59**	**171**	P	**P**	**20 54 60.0**	**+0.3**
MSWZ	**Moikau Station**	**29.67**	**168**	P	**P**	**20 54 59.7**	**-0.7**
STKA	**Stephens Creek** comp=Z,0.6nm,0.3s,baz=47,slow=10,SNR=9.2	**30.39**	**226**	P	**P**	**20 55 06.5**	**-0.3**
STKA	**Stephens Creek**	**30.39**	**226**	P	**P**	**20 55 06.6**	**-0.3**
LTZ	**Lake Taylor**	**30.50**	**173**	P	**P**	**20 55 08.0**	**+0.3**
WR0	**Warramunga Arr**	**32.13**	**252**	P	**P**	**20 55 20.9**	**-1.3**
WR0	comp=Z,11nm,1.5s			IAmb	IAmb	20 55 43.3	
WB0	**Warramunga Arr**	**32.24**	**253**	P	**P**	**20 55 21.9**	**-1.3**
WB2	**Warramunga Arr**	**32.31**	**252**	P	**P**	**20 55 22.2**	**-1.6**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.3s,baz=79,slow=9.0,SNR=12	**32.32**	**252**	P	**P**	**20 55 22.4**	**-1.4**
WRA	**Warramunga Arr**	**32.32**	**252**	P	**P**	**20 55 22.4**	**-1.4**
ASAR	**Alice Springs** comp=Z,1.1nm,0.6s,baz=71,slow=9.4,SNR=20	**33.41**	**246**	P	**P**	**20 55 32.0**	**-1.4**
ASAR	**Alice Springs**	**33.41**	**246**	P	**P**	**20 55 31.9**	**-1.4**
BBOO	**Buckleboo**	**34.89**	**229**	P	**P**	**20 55 45.7**	**-0.2**
BBOO	comp=Z,17nm,1.2s			IAmb	IAmb	20 55 47.6	
KNRA	**Kununurra**	**37.33**	**261**	P	**P**	**20 56 06.2**	**-0.6**
KNRA	comp=Z,24nm,1.2s			IAmb	IAmb	20 56 07.0	
FITZ	**Fitzroy Crossi**	**40.36**	**257**	P	**P**	**20 56 31.8**	**-0.1**
FORT	**Forrest**	**40.37**	**237**	P	**P**	**20 56 31.7**	**-0.2**
FORT	comp=Z,9.4nm,0.8s			IAmb	IAmb	20 56 52.7	
CMAR	**Chiang Mai Arr**	**73.95**	**293**	P	**P**	**21 00 27.9**	**+0.7**
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.9s,baz=131,slow=6.2,SNR=4.7	**73.95**	**293**	P	**P**	**21 00 27.7**	**+0.5**
ILAR	**Eielson Array** comp=Z,0.7nm,0.5s,baz=241,slow=4.9,SNR=2.8	**84.45**	**18**	P	**P**	**21 01 22.8**	**-0.3**
MK31	**Makanchi Array**	**95.51**	**317**	P	**P**	**21 02 15.9**	**+0.4**
MK31	comp=Z,2.0nm,1.3s			IAmb	IAmb	21 02 24.1	
MKAR	**Makanchi Array** comp=Z,0.4nm,0.8s,baz=89,slow=4.8,SNR=4.8	**95.51**	**317**	P	**P**	**21 02 15.3**	**-0.2**
MKAR	**Makanchi Array**	**95.51**	**317**	P	**P**	**21 02 15.6**	**+0.1**

*NIED **07** 20:58:01.5, 44°56N×149°70E, h30km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-5.78; Mθθ-0.57; Mϕϕ6.35; Mrθ-5.91; Mϕr4.10; Mθr-1.32; Fault plane solution: M₀9.50000×10¹⁴ NP1:φs55.00000°, δ67.00000°, λ-57.00000°. NP2:φs176.00000°, δ40.00000°, λ-142.00000°.*
*SKHL **07** 20:58:01.7±0.7, 44°27N×149°90E, h43km±5km, mb4.5/3*
*MOS **07** 20:58:06.3±1.7, 44°29N×149°39E, h70km, mb3.8/3, Error ellipse: s-maj=15.1km s-min=12.0km az=159.5*
*IDC **07** 20:58:09.3±3.3, 44°28N×149°51E, h86km±28km, mb3.4/7, mb1 3.5/9, mb1mx3.3/39, mbtmp3.7/9, MS3.3/2, Ms1 3.3/2, ms1mx2.8/30, Error ellipse: s-maj=30.4km s-min=24.6km az=152.0*
ISC 07 20:58:05.0±1.0, 44°07N±0°06×149°59E±0°08, h53km±8km, n52, σ2s07/61, mb3.7/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.69**	**314**	*e*P	**Pn**	**20 58 29.0**	**-3.1**
KUR	280nm,0.6s			AMB	AMB	20 58 30.0	
KUR				*e*S	**Sn**	**20 58 50.0**	**-2.6**
KUR	470nm,0.5s			A	A	20 58 53.0	
KUR	1μm,0.5s			A	A	20 58 53.0	
KUR	**Kuril'sk**	**1.69**	**314**	PN	**Pn**	**20 58 29.0**	**-3.1**
KUR				*e*S	**Sn**	**20 58 51.2**	**-1.4**
KUR	comp=Z,283nm,0.6s			pmax	pmax		
KUR	comp=N,473nm,0.3s			smax	smax		
KUR	comp=E,1μm,0.5s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**2.69**	**270**	*e*P	**Pn**	**20 58 46.7**	**+1.0**
YUK	comp=E,60nm,0.4s			AMB	AMB	20 58 47.0	
YUK				*e*S	**Sn**	**20 59 20.0**	**+3.0**
YUK	comp=E,70nm,0.2s			A	A	20 59 21.0	
YUK	comp=E,30nm,0.2s			A	A	20 59 21.0	
YUK	**Yuzh-Kuril'sk**	**2.69**	**270**	*e*PN	**Pn**	**20 58 46.7**	**+1.0**
YUK				S	**Sn**	**20 59 17.7**	**+0.7**
YUK	comp=Z,63nm,0.2s			pmax	pmax		
YUK	comp=N,30nm,0.1s			pmax	pmax		
YUK	comp=E,10.0nm,0.1s			pmax	pmax		
YUK	comp=N,69nm,0.2s			smax	smax		
YUK	comp=E,30nm,0.2s			smax	smax		
GRPR	**Tuman**	**2.75**	**270**	*e*P	**Pn**	**20 58 50.4**	**+3.7**
GRPR				*e*S	**Sn**	**20 59 19.8**	**+1.1**
GRPR	comp=E,140nm,0.2s			A	A	20 59 27.0	
GRPR	comp=E,90nm,0.2s			A	A	20 59 27.0	
GRPR	**Tuman**	**2.75**	**270**	*e*PN	**Pn**	**20 58 50.4**	**+3.7**
GRPR				*e*S	**Sn**	**20 59 19.8**	**+1.1**
GRPR	comp=N,137nm,0.2s			smax	smax		
GRPR	comp=E,90nm,0.2s			smax	smax		
NEM2	**Nemuro 2**	**2.87**	**257**	P	**Pn**	**20 58 47.1**	**-1.2**
NEM2				*e*S	**Sn**	**20 59 20.6**	**-1.1**
NMR	**Nemuro--Hokkai**	**2.88**	**257**	*e*P	**Pn**	**20 58 48.8**	**+0.3**
NMR				*e*S	**Sn**	**20 59 22.9**	**+1.0**
NMR	**Nemuro--Hokkai**	**2.88**	**257**	PN	**Pn**	**20 58 48.8**	**+0.3**
NMR				S	**Sn**	**20 59 21.7**	**-0.2**
GLVR	**Golovnino**	**2.96**	**265**	*e*P	**Pn**	**20 58 49.0**	**-0.5**
GLVR	comp=E,70nm,0.4s			AMB	AMB	20 58 50.0	
GLVR				*e*S	**Sn**	**20 59 25.1**	**+1.4**
GLVR	comp=E,180nm,0.3s			A	A	20 59 30.0	
GLVR	comp=E,200nm,0.3s			A	A	20 59 30.0	
GLVR	**Golovnino**	**2.96**	**265**	*e*PN	**Pn**	**20 58 49.9**	**+0.4**
GLVR				*e*S	**Sn**	**20 59 25.5**	**+1.8**
GLVR	comp=Z,66nm,0.4s			pmax	pmax		
GLVR	comp=N,181nm,0.2s			smax	smax		
GLVR	comp=E,195nm,0.3s			smax	smax		
JRA	**Rausu**	**3.22**	**269**	P	**Pn**	**20 58 53.6**	**+0.5**
JRA				*e*S	**Sn**	**20 59 32.7**	**+2.5**
JAK	**Akkeshi**	**3.71**	**255**	P	**Pn**	**20 58 59.0**	**-0.8**
JTKR	**Abashiri--Toko**	**4.10**	**271**	P	**Pn**	**20 59 05.5**	**+0.4**
JAR	**Ashorobuto**	**4.29**	**262**	P	**Pn**	**20 59 09.0**	**+1.3**
JCH	**Churui**	**4.77**	**254**	P	**Pn**	**20 59 14.8**	**+0.5**
JCH				*e*S	**Sn**	**21 00 09.3**	**+1.1**
JKA	**Kamikawa-asahi**	**5.03**	**273**	*e*P	**Pn**	**20 59 21.3**	**+3.4**
ASAJ	**Asahikawa** comp=E,0.6nm,0.3s,baz=71,slow=13,SNR=5.0	**5.03**	**273**	P	**Pn**	**20 59 21.3**	**+3.3**
ERM	**Erimo**	**5.14**	**249**	*i* PN	**Pn**	**20 59 20.6**	**+1.2**
JNBK	**Urakawa-nobuka**	**5.31**	**253**	P	**Pn**	**20 59 21.3**	**-0.4**
JNB	**Noboribetsu**	**6.44**	**259**	P	**Pn**	**20 59 37.4**	**+0.2**
JNB				*e*S	**Sn**	**21 00 49.4**	**0.0**
JKB	**Kayabe**	**6.64**	**254**	P	**Pn**	**20 59 39.8**	**-0.2**
JKB				*e*S	**Sn**	**21 00 51.8**	**-2.5**
JANG	**Nango**	**7.04**	**241**	P	**Pn**	**20 59 44.5**	**-0.9**
JANG				*e*S	**Sn**	**21 01 00.2**	**-3.8**
JTH	**Tanohata**	**7.08**	**237**	*e*S	**Sn**	**21 00 59.6**	**-5.5**
JTM	**Tenmabayashi**	**7.11**	**245**	*e*S	**Sn**	**21 01 02.8**	**-2.9**
JOSM	**Okushiri--Mats**	**7.67**	**258**	P	**Pn**	**20 59 54.5**	**+0.5**
OFUJ	**Ofunato**	**7.75**	**233**	*e*S	**Sn**	**21 01 17.6**	**-3.9**
JRG	**Rokugo**	**8.16**	**238**	P	**Pn**	**20 59 59.5**	**-1.3**
PETK	**Petropavlovsk-** comp=E,0.2nm,0.3s,baz=202,slow=11,SNR=5.1	**10.51**	**28**	P	**Pn**	**21 00 35.1**	**+2.3**
USRK	**Ussuriysk Ar.** comp=E,79nm,19.4s,baz=158,slow=37	**12.65**	**277**	LR	LR	21 05 53.7	
EKMR	**Ekimchan**	**14.19**	**315**	*e*P	**Pn**	**21 01 20.0**	**-3.0**
KROS	**Kirovskiy**	**17.96**	**313**	*e*P	**Pn**	**21 02 05.8**	**-4.9**
BILL	**Bilibino**	**25.58**	**14**	*e*P	**P**	**21 03 29.2**	**+0.5**
BILL	**Bilibino**	**25.58**	**14**	*e*P	**P**	**21 03 29.2**	**+0.5**
BILL				*e*PP	**sP**	**21 03 47.3**	**+1.0**
BILL				*e*		21 04 09.8	
BILL	comp=Z,2.0nm,1.0s			pmax	pmax		
H11N2	**WAKE ISLAND Hy** baz=334,slow=75,SNR=18	**28.26**	**144**	T	T	21 34 53.3	
H11N1	**WAKE ISLAND Hy** baz=334,slow=75,SNR=13	**28.27**	**144**	T	T	21 35 02.3	
H11N3	**WAKE ISLAND Hy** baz=334,slow=75,SNR=14	**28.27**	**144**	T	T	21 35 03.2	
H11S1	**WAKE ISLAND Hy** baz=335,slow=76,SNR=24	**29.26**	**145**	T	T	21 36 14.3	
H11S3	**WAKE ISLAND Hy** baz=335,slow=76,SNR=12	**29.27**	**145**	T	T	21 36 17.7	
H11S2	**WAKE ISLAND Hy** baz=335,slow=76,SNR=11	**29.28**	**145**	T	T	21 36 15.6	
SONM	**Songino Array** comp=Z,0.5nm,0.6s,baz=85,slow=11,SNR=4.2	**29.97**	**293**	P	**P**	**21 04 08.0**	**-0.3**
SONM	**Songino Array**	**29.97**	**293**	*e*P	**P**	**21 04 10.0**	**+1.7**
SONM	comp=Z,1.0nm,0.8s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,1.1nm,0.7s,baz=74,slow=7.6,SNR=13	**45.99**	**298**	P	**P**	**21 06 23.1**	**+0.3**
WRA	**Warramunga Arr** comp=Z,0.8nm,0.9s,baz=7.5,slow=6.3,SNR=2.9	**65.22**	**196**	P	**P**	**21 08 42.7**	**+1.9**
FINES	**FINESS Array B** comp=Z,1.0nm,0.5s,baz=33,slow=8.8,SNR=13	**65.37**	**334**	P	**P**	**21 08 40.5**	**-0.8**
GEYT	**Alibeck** comp=Z,39nm,18.8s,baz=75,slow=40	**65.81**	**300**	LR	LR	21 41 25.8	
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.6s,baz=29,slow=6.2	**69.92**	**340**	P	**P**	**21 09 08.9**	**-1.2**
NOA	**NORSAR Array B**	**69.92**	**340**	P	**P**	**21 09 09.4**	**-0.7**
AKASG	**Malin Array Be** comp=Z,0.7nm,0.6s,baz=31,slow=6.2,SNR=5.7	**72.34**	**325**	P	**P**	**21 09 24.4**	**-0.5**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.4s,baz=35,slow=8.4,SNR=4.4	**72.34**	**325**	*i* P	**P**	**21 09 24.3**	**-0.6**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.6s,baz=311,slow=4.0,SNR=4.5	**81.00**	**58**	P	**P**	**21 10 14.6**	**+0.3**
TXAR	**Lajitas Array**	**81.00**	**58**	*e*P	**P**	**21 10 16.5**	**+2.3**

*IDC **07** 21:32:29.9±4.5, 45°78N×151°62E, h128km±24km, mb3.5/6, mb1 3.6/9, mb1mx3.2/50, mbtmp3.9/9, MS3.9/2, Ms1 3.9/2, ms1mx2.7/43, Error ellipse: s-maj=101.2km s-min=24.4km az=138.0*
*SKHL **07** 21:32:30.8±0.3, 46°09N×151°36E, h125km±3km, mb4.5/4, msh5.3/4*
*MOS **07** 21:32:31.6±1.3, 46°57N×150°76E, h103km, mb4.0/1, Error ellipse: s-maj=27.7km s-min=12.0km az=51.6*
*JMA **07** 21:32:36.3±0.7, 45°40N×150°99E, h133km, M3.7*
ISC 07 21:32:24.3±1.3, 45°3N±0°1×152°1E±0°1, h100km, n48, σ3s43/57, mb3.8/6, 2C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.96**	**271**	*i* P	**Pn**	**21 33 12.5**	**+3.0**
KUR	40nm,0.5s			AMB	AMB	21 33 14.0	
KUR				*i* S	**Sn**	**21 33 43.6**	**-0.8**
KUR	140nm,0.4s			A	A	21 33 46.0	
KUR	60nm,0.4s			A	A	21 33 46.0	
KUR	**Kuril'sk**	**2.96**	**271**	*d* PN	**Pn**	**21 33 12.5**	**+3.0**
KUR				*i* S	**Sn**	**21 33 43.5**	**-0.8**
KUR	comp=Z,399nm,0.5s			pmax	pmax		
KUR	comp=N,105nm,0.2s			pmax	pmax		
KUR	comp=E,266nm,0.2s			pmax	pmax		
KUR	comp=N,136nm,0.4s			smax	smax		
KUR	comp=E,56nm,0.4s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**4.60**	**256**	*i* P	**Pn**	**21 33 36.2**	**+4.7**
YUK	comp=E,40nm,0.4s			AMB	AMB	21 33 37.0	
YUK				*e*S	**Sn**	**21 34 25.2**	**+1.5**
YUK	comp=E,110nm,0.6s			A	A	21 34 29.0	
YUK	comp=E,50nm,0.6s			A	A	21 34 29.0	
YUK	**Yuzh-Kuril'sk**	**4.60**	**256**	*c i* PN	**Pn**	**21 33 36.2**	**+4.7**
YUK				S	**Sn**	**21 34 25.2**	**+1.5**
YUK	comp=N,67nm,0.2s			pmax	pmax		
YUK	comp=E,86nm,0.2s			pmax	pmax		
YUK	comp=Z,390nm,0.2s			pmax	pmax		
YUK	comp=N,107nm,0.2s			smax	smax		
YUK	comp=E,45nm,0.1s			smax	smax		
GRPR	**Tuman**	**4.67**	**256**	*e*P	**Pn**	**21 33 37.1**	**+4.6**
GRPR	comp=E,20nm,0.5s			AMB	AMB	21 33 39.0	
GRPR				*e*S	**Sn**	**21 34 27.1**	**+1.6**
GRPR	comp=E,110nm,0.5s			A	A	21 34 29.0	
GRPR	comp=E,110nm,0.5s			A	A	21 34 29.0	
GRPR	**Tuman**	**4.67**	**256**	*e*PN	**Pn**	**21 33 37.1**	**+4.6**
GRPR				S	**Sn**	**21 34 27.1**	**+1.6**
GRPR	comp=Z,222nm,0.5s			pmax	pmax		
GRPR	comp=N,136nm,0.2s			pmax	pmax		
GRPR	comp=E,106nm,0.4s			smax	smax		
GRPR	comp=N,112nm,0.1s			smax	smax		
GRPR	comp=E,105nm,0.4s			smax	smax		
NEM2	**Nemuro 2**	**4.92**	**249**	P	**Pn**	**21 33 40.5**	**+4.6**
NEM2				*e*S	**Sn**	**21 34 30.7**	**-0.9**
GLVR	**Golovnino**	**4.93**	**254**	*i* P	**Pn**	**21 33 40.5**	**+4.5**
GLVR	comp=E,20nm,0.4s			AMB	AMB	21 33 43.0	
GLVR				*e*S	**Sn**	**21 34 32.1**	**+0.4**
GLVR				A	A	21 34 34.0	
GLVR	comp=E,140nm,0.5s			A	A	21 34 34.0	
GLVR	comp=E,60nm,0.5s			A	A	21 34 34.0	
GLVR	**Golovnino**	**4.93**	**254**	⇓ *i* PN	**Pn**	**21 33 40.5**	**+4.5**
GLVR				*e*S	**Sn**	**21 34 32.1**	**+0.4**
GLVR	comp=Z,162nm,0.4s			pmax	pmax		
GLVR	comp=E,79nm,0.2s			pmax	pmax		
GLVR	comp=N,93nm,0.3s			pmax	pmax		
GLVR	comp=N,135nm,0.5s			smax	smax		
GLVR	comp=E,55nm,0.3s			smax	smax		
NMR	**Nemuro--Hokkai**	**4.93**	**249**	*i* P	**Pn**	**21 33 40.0**	**+4.0**
NMR	**Nemuro--Hokkai**	**4.93**	**249**	⇑ *i* PN	**Pn**	**21 33 40.3**	**+4.3**
NMR				*e*S	**Sn**	**21 34 30.8**	**-1.0**
JRA	**Rausu**	**5.14**	**257**	P	**Pn**	**21 33 43.0**	**+4.2**
JNK	**Nakash**	**5.53**	**255**	P	**Pn**	**21 33 48.5**	**+4.4**
JAK	**Akkeshi**	**5.77**	**249**	P	**Pn**	**21 33 51.5**	**+4.1**
JAK				*e*S	**Sn**	**21 34 50.3**	**-1.9**
JTKR	**Abashiri--Toko**	**5.97**	**260**	P	**Pn**	**21 33 53.6**	**+3.6**
JAR	**Ashorobuto**	**6.28**	**254**	P	**Pn**	**21 33 58.7**	**+4.4**
JMP	**Maruseppu**	**6.34**	**261**	P	**Pn**	**21 33 58.6**	**+3.5**
JOB	**Onbets**	**6.38**	**251**	P	**Pn**	**21 34 00.2**	**+4.5**
JKK2	**Kamakawa 2**	**6.80**	**261**	P	**Pn**	**21 34 05.0**	**+3.6**
JCH	**Churui**	**6.82**	**250**	P	**Pn**	**21 34 05.6**	**+3.9**
JCH				*e*S	**Sn**	**21 35 14.5**	**-3.3**
JKA	**Kamikawa-asahi**	**6.84**	**264**	*e*P	**Pn**	**21 34 05.6**	**+3.6**
ASAJ	**Asahikawa** comp=E,2.0nm,0.3s,baz=99,slow=26,SNR=19	**6.85**	**264**	P	**Pn**	**21 34 05.6**	**+3.6**
ASAJ	**Asahikawa**	**6.85**	**264**	P	**Pn**	**21 34 05.6**	**+3.6**
JEM	**Erimo**	**7.24**	**246**	P	Pn	21 34 12.6	+5.3
JNBK	**Urakawa-nobuka**	**7.38**	**249**	P	**Pn**	**21 34 12.3**	**+3.1**
JBT2	**Biratori 2**	**7.42**	**254**	P	**Pn**	**21 34 12.6**	**+2.7**
JNB	**Noboribetsu**	**8.45**	**254**	P	**Pn**	**21 34 26.7**	**+2.9**
PETK	**Petropavlovsk-** comp=E,0.2nm,0.3s,baz=174,slow=11,SNR=6.6	**8.65**	**23**	P	**Pn**	**21 34 27.6**	**+1.0**
JKB	**Kayabe**	**8.70**	**251**	P	**Pn**	**21 34 29.6**	**+2.5**
JKB				*e*S	**Sn**	**21 35 56.4**	**-7.0**
JANG	**Nango**	**9.17**	**241**	P	**Pn**	**21 34 36.6**	**+3.0**
JANG				*e*S	**Sn**	**21 36 10.2**	**-4.8**
JTM	**Tenmabayashi**	**9.22**	**245**	P	**Pn**	**21 34 37.3**	**+3.0**
JTM				*e*S	**Sn**	**21 36 10.2**	**-5.9**
JTH	**Tanohata**	**9.22**	**238**	P	**Pn**	**21 34 37.8**	**+3.5**
JSR	**Shiriuchi**	**9.27**	**250**	P	**Pn**	**21 34 37.2**	**+2.3**
JOSM	**Okushiri--Mats**	**9.66**	**255**	P	**Pn**	**21 34 41.9**	**+1.6**
JRG	**R

baz=308,slow=77,SNR=7.3

SCEDC 07 21:45:37.0±0.1, 33°49N×116°47W, h15km, Southern California

*ANF **07** 21:45:45.3±0.2, 33°.49N×116°.46W, h17km±2km, ML3.2/30, ML3.3/11, Error ellipse: s-maj=2.5km s-min=1.6km az=75.0*

SCEDC 07 21:45:46.3, 33°49N×116°47W, h14km, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flats O**	**0.12**	**2**	P	Pg	21 45 49.4	+0.1
	baz=182						
PFO	**Pinyon Flats O**	**0.12**	**2**	S	Sb	21 45 51.7	-0.1
	baz=182						
MONP2	**Monument Peak**	**0.60**	**177**	P	Pb	21 45 57.6	+0.2
	baz=357						
MURC	**Murrieta**	**0.62**	**280**	P	Pg	21 45 57.6	-0.1
	baz=100						
BELC	**Belle Mtn. Jos**	**0.64**	**37**	P	Pb	21 45 58.3	+0.2
	baz=217						
SWSC	**Sam W. Stewart**	**0.78**	**134**	P	Pb	21 46 00.2	-0.1
	baz=314						
109C	**Camp Elliot, M**	**0.81**	**222**	P	Pb	21 46 00.6	-0.3
	baz=42						
BBRC	**Big Bear Solar**	**0.86**	**334**	P	Pg	21 46 02.1	0.0
	baz=154						
BC3	**Big Chuckawall**	**0.86**	**79**	P	Pg	21 46 02.0	0.0
	baz=259						
IKP	**In-Ko-Pah, Jac**	**0.89**	**160**	P	Pb	21 46 02.5	+0.2
	baz=340						
IRM	**Iron Mountain**	**1.28**	**58**	P	Pn	21 46 08.4	-0.1
	baz=239						
GMRC	**Granite Mounta**	**1.45**	**27**	P	Pn	21 46 11.1	+0.2
	baz=207						

*ANF **07** 21:45:52.6±0.1, 33°.47N×116°.47W, h14km±1km, Error ellipse: s-maj=1.1km s-min=1.0km az=61.0*
*SCEDC **07** 21:45:53.8, 33°.48N×116°.47W, h15km, M0.8, M2.2, ML3.2, ML3.3, ML3.2, ML1.8, ML3.3, ML2.5*
*PAS **07** 21:45:53.9±1.0, 33°.48N±0°.01×116°.47W±0°.02, h13km±2km, ML3.3/186, Error ellipse: s-maj=2.6km s-min=1.8km az=79.0*
*NEIC **07** 21:45:53.4±1.1, 33°.476N±0°.010×116°.48W±0°.02, h13km±2km, Error ellipse: s-maj=1.7km s-min=1.4km az=101.0*

ISC 07 21:45:53.1±0.8, 33°46N±0°.01×116°46W±0°.01, h13km±4km, n133, σ0°93/177, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XPFO	**Pion Flat**	**0.15**	**2**	Pg	**Pg**	**21 45 56.9**	**0.0**
XPFO				Sg	**Sg**	**21 45 59.2**	**-0.4**
XPFO	**Pion Flat**	**0.15**	**2**		**Sg**	**21 45 59.2**	**-0.4**
PFO	**Pinyon Flats O**	**0.16**	**1**	P	**Pg**	**21 45 56.9**	**0.0**
	baz=184						
PFO				S	**Sg**	**21 45 59.2**	**-0.4**
	baz=184						
PFO	**Pinyon Flats O**	**0.16**	**1**		**Pg**	**21 45 57.0**	**0.0**
PFO					**Sg**	**21 45 59.2**	**-0.4**
PFO	**Pinyon Flats O**	**0.16**	**1**	Pg	**Pg**	**21 45 57.0**	**0.0**
PFO				Sg	**Sg**	**21 45 59.3**	**-0.4**
SNDA	**J Saunders Pla**	**0.16**	**307**		**Pg**	**21 45 57.3**	**+0.3**
SNDA					**Sg**	**21 46 00.2**	**+0.5**
BZNA	**Buzz No.'s Pla**	**0.17**	**282**		**Pb**	**21 46 00.6**	**+2.3**
DNR	**Dunn Ranch,Anz**	**0.18**	**308**		**Pg**	**21 45 53.4**	**-3.9**
DNR					**Sg**	**21 46 00.8**	**+0.6**
BORC	**Borrego Spring**	**0.19**	**169**		**Pb**	**21 45 58.4**	**-0.1**
BORC					**Sb**	**21 46 01.6**	**-0.5**
PMD	**Palm Desert**	**0.20**	**20**		**Pb**	**21 46 00.2**	**+1.5**
CRY	**Cary Ranch**	**0.26**	**296**		**Pg**	**21 45 55.0**	**-3.5**
CRY					**Sg**	**21 46 02.2**	**0.0**
GVDA	**Garner Valley**	**0.28**	**320**		**Pg**	**21 45 58.8**	**-0.1**
GVDA					**Sg**	**21 46 02.6**	**-0.3**
SLH	**Sleepy Hollow**	**0.31**	**146**		**Sb**	**21 46 05.8**	**+0.1**
PLM	**Palomar**	**0.35**	**253**		**Pb**	**21 46 00.9**	**-0.5**
PLM					**Sg**	**21 46 05.5**	**+0.5**
SALN	**Salton City**	**0.43**	**114**		**Sb**	**21 46 09.4**	**+0.4**
CTCC	**Cactus City**	**0.44**	**63**		**Pb**	**21 46 02.6**	**-0.2**
CTCC					**Sg**	**21 46 08.1**	**+0.4**
POB	**Polly Butte**	**0.45**	**301**		**Pg**	**21 46 02.0**	**0.0**
POB					**Sg**	**21 46 07.6**	**-0.4**
EW2	**E Wide Canyon**	**0.49**	**5**		**Pg**	**21 46 02.6**	**-0.1**
DEVC	**Devers**	**0.49**	**349**		**Pg**	**21 46 02.6**	**-0.1**
DEVC					**Sg**	**21 46 09.2**	**-0.1**
BACC	**Bachelor Mtn.**	**0.51**	**288**		**Pg**	**21 46 03.0**	**0.0**
BACC					**Sg**	**21 46 09.6**	**-0.3**
HMTC	**Hemet**	**0.52**	**299**		**Pg**	**21 46 03.1**	**-0.2**
HMTC					**Sg**	**21 46 09.6**	**-0.6**
CTW	**Cottonwood Mou**	**0.54**	**66**		**Pg**	**21 46 04.0**	**+0.3**
CTW					**Sg**	**21 46 11.3**	**+0.4**
MONP2	**Monument Peak**	**0.56**	**177**	P	**Pb**	**21 46 04.8**	**-0.1**
	baz=356,SNR=8.0						
MONP2				S	**Sg**	**21 46 12.5**	**+0.8**
	baz=356						
MONP2	**Monument Peak**	**0.56**	**177**		**Pb**	**21 46 04.8**	**-0.1**
MONP2					**Sb**	**21 46 12.9**	**-0.1**
CBKC	**Canebrake**	**0.58**	**162**		**Pb**	**21 46 05.2**	**0.0**
HWB	**Hans Werner Br**	**0.60**	**224**		**Pg**	**21 46 05.1**	**+0.3**
HWB					**Sg**	**21 46 13.2**	**+0.6**
DPP	**Dos Picos Cty**	**0.61**	**222**		**Pg**	**21 46 05.3**	**+0.3**
DPP					**Sg**	**21 46 13.3**	**+0.3**
BLAC	**Blackrock camp**	**0.61**	**6**		**Pg**	**21 46 04.8**	**-0.3**
BLAC					**Sg**	**21 46 12.8**	**-0.6**
MURC	**Murrieta**	**0.63**	**283**	P	**Pg**	**21 46 05.1**	**-0.2**
	baz=101						
MURC				S	**Sg**	**21 46 13.0**	**-0.7**
	baz=101						
MURC	**Murrieta**	**0.63**	**283**		**Sg**	**21 46 13.4**	**-0.3**
BBSC	**Beaumont Base**	**0.64**	**317**		**Sg**	**21 46 13.4**	**-0.5**
BELC	**Belle Mtn. Jos**	**0.67**	**35**	P	**Pg**	**21 46 05.7**	**-0.4**
	baz=217,SNR=30						
BELC				S	**Sg**	**21 46 14.3**	**-0.6**
	baz=217						
BELC	**Belle Mtn. Jos**	**0.67**	**35**		**Pg**	**21 46 05.9**	**-0.2**
BELC					**Sg**	**21 46 14.4**	**-0.6**
FRK	**Frink**	**0.69**	**94**		**Pg**	**21 46 06.4**	**-0.1**
HAY	**Hayfield**	**0.70**	**69**		**Pb**	**21 46 07.3**	**+0.2**
HAY					**Sb**	**21 46 16.9**	**+0.2**
CRR	**Carrizo Plain**	**0.70**	**144**		**Pb**	**21 46 07.9**	**+0.7**
GORC	**Green Oak Ranc**	**0.71**	**245**		**Pg**	**21 46 06.6**	**-0.2**
GORC					**Sg**	**21 46 15.8**	**-0.3**
PEC	**Perris**	**0.73**	**307**		**Pg**	**21 46 06.8**	**-0.5**
PEC					**Sg**	**21 46 15.9**	**-0.9**
TPC	**Twentynine Pal**	**0.73**	**28**		**Pg**	**21 46 06.9**	**-0.5**
SWSC	**Sam W. Stewart**	**0.75**	**132**	P	**Pg**	**21 46 07.7**	**0.0**
	baz=314,SNR=10.0						
SWSC				S	**Sb**	**21 46 18.2**	**0.0**
	baz=314						
SWSC	**Sam W. Stewart**	**0.75**	**132**		**Pg**	**21 46 07.6**	**0.0**
RMR	**Rimrock**	**0.76**	**353**		**Pg**	**21 46 07.4**	**-0.5**
109C	**Camp Elliot, M**	**0.78**	**224**	P	**Pg**	**21 46 08.2**	**0.0**
	baz=42,SNR=20						
109C				S	**Sg**	**21 46 18.3**	**-0.1**
	baz=42						
109C	**Camp Elliot, M**	**0.78**	**224**		**Pg**	**21 46 08.2**	**0.0**
109C				Sg	**Sg**	**21 46 18.4**	**-0.1**
CPE	**Camp Elliot**	**0.78**	**224**		**Sg**	**21 46 18.3**	**-0.2**
CFT	**Crafton Hills**	**0.79**	**317**		**Pg**	**21 46 08.1**	**-0.4**
BAR	**Barrett**	**0.79**	**193**	Pg	**Pg**	**21 46 08.6**	**+0.1**
BAR				Sg	**Sg**	**21 46 19.0**	**+0.2**
SDRC	**San Diego Road**	**0.82**	**209**		**Pg**	**21 46 08.8**	**-0.2**
ELS	**Elsinore Mount**	**0.83**	**284**		**Pg**	**21 46 08.4**	**-0.7**
ELS					**Sg**	**21 46 19.5**	**-0.5**
SME	**Santa Rosa Min**	**0.83**	**296**		**Pg**	**21 46 08.5**	**-0.7**
SVD	**Seven Oaks Dam**	**0.84**	**321**		**Pg**	**21 46 08.9**	**-0.4**
SVD					**Sg**	**21 46 19.3**	**-1.0**
GTM	**Goat Mountain**	**0.84**	**6**		**Pg**	**21 46 08.6**	**-0.8**
GTM					**Sg**	**21 46 19.2**	**-1.2**
IKP	**In-Ko-Pah, Jac**	**0.86**	**160**	P	**Pg**	**21 46 09.8**	**+0.1**
	baz=340,SNR=30						
IKP				S	**Sg**	**21 46 14.8**	**-6.0**
	baz=340						
IKP				S	**Sb**	**21 46 21.7**	**+0.4**
	baz=340						
IKP	**In-Ko-Pah, Jac**	**0.86**	**160**		**Pg**	**21 46 09.9**	**+0.2**
IKP					**Sb**	**21 46 21.8**	**+0.4**
COK2	**Cook Ranch 2**	**0.86**	**134**		**Pn**	**21 46 11.2**	**+0.3**
BC3	**Big Chuckawall**	**0.86**	**76**	P	**Pg**	**21 46 09.3**	**-0.5**
	baz=259,SNR=18						
BC3				S	**Sg**	**21 46 21.1**	**-0.1**
	baz=259						
BC3	**Big Chuckawall**	**0.86**	**76**		**Pg**	**21 46 09.3**	**-0.5**
BC3					**Sg**	**21 46 21.1**	**-0.1**
RSBC	**Riverside Bore**	**0.89**	**306**		**Sg**	**21 46 20.7**	**-1.2**
BBRC	**Big Bear Solar**	**0.89**	**335**	P	**Pg**	**21 46 09.5**	**-0.9**
	baz=154						
BBRC				S	**Sg**	**21 46 21.3**	**-0.8**
	baz=154						
BBRC	**Big Bear Solar**	**0.89**	**335**		**Pg**	**21 46 09.8**	**-0.6**
TKX	**Tecate**	**0.89**	**188**		**Pg**	**21 46 10.3**	**0.0**
TKX					**Sg**	**21 46 22.0**	**0.0**
BTL	**Butler Peak**	**0.92**	**331**		**Pg**	**21 46 10.3**	**-0.5**
YUH	**Yuha Desert**	**0.92**	**151**		**Pb**	**21 46 11.4**	**+0.5**
YUH					**Sn**	**21 46 24.3**	**-0.6**
RVR	**Riverside**	**0.93**	**305**		**Pg**	**21 46 10.4**	**-0.7**
RVR					**Sg**	**21 46 21.9**	**-1.3**
OLP	**Otay Lakes Par**	**0.93**	**205**		**Pg**	**21 46 10.9**	**-0.2**
OLP					**Sg**	**21 46 22.9**	**-0.3**
SIL	**Silver Peak**	**0.94**	**341**		**Pg**	**21 46 10.6**	**-0.7**
TJX	**Tijuana**	**1.07**	**208**		**Pb**	**21 46 13.5**	**+0.1**
MLSC	**Mira Loma**	**1.07**	**301**		**Sb**	**21 46 26.2**	**-1.1**
CBX	**Cerro Bola**	**1.15**	**189**	Pn	**Pb**	**21 46 14.7**	**-0.3**
IRM	**Iron Mountain**	**1.30**	**57**	S	**Sn**	**21 46 34.3**	**0.0**
	baz=239						
HEC	**Hector,Ludlow**	**1.38**	**4**	S	**Sb**	**21 46 36.4**	**+0.1**
	baz=185						
HEC	**Hector,Ludlow**	**1.38**	**4**		**Pb**	**21 46 19.0**	**+0.2**
CPBX	**Cerro Prieto**	**1.42**	**136**	Pn	**Pn**	**21 46 18.3**	**-0.4**
GLA	**Glamis**	**1.43**	**106**	Pn	**Pn**	**21 46 15.4**	**-3.4**
GMRC	**Granite Mounta**	**1.48**	**26**	S	**Sb**	**21 46 39.2**	**-0.3**
	baz=208						
RRX	**Edison Barstow**	**1.48**	**343**	Sb	**Sb**	**21 46 39.9**	**+0.5**
	baz=162						
ESJX	**Sierra Juarez**	**1.51**	**163**	Pn	**Pn**	**21 46 20.0**	**0.0**
MWC	**Mount Wilson**	**1.53**	**300**	Pn	**Pn**	**21 46 20.6**	**+0.2**
FMP	**Fort Macarthur**	**1.55**	**280**	Sb	**Sb**	**21 46 41.6**	**+0.4**
	baz=98						
PASC	**Pasadena Art C**	**1.60**	**297**	Pn	**Pb**	**21 46 21.9**	**-0.7**
CIS	**Catalina Islan**	**1.63**	**269**	S	**Sn**	**21 46 42.7**	**+0.2**
	baz=87						
DECC	**Green Verdugo**	**1.75**	**298**	Sb	**Sb**	**21 46 46.6**	**-0.4**
	baz=116						
SCI2	**San Clemente I**	**1.81**	**255**	S	**Sn**	**21 46 46.6**	**-0.3**
	baz=73						
GSC	**Goldstone, Bar**	**1.86**	**351**	Sb	**Sb**	**21 46 51.5**	**+1.1**
	baz=171						
GSC	**Goldstone, Bar**	**1.86**	**351**	Pn	**Pn**	**21 46 24.0**	**-0.8**
EDW2	**Edwards Air Fo**	**1.91**	**319**	Sb	**Sb**	**21 46 51.8**	**+0.2**
	baz=138						
TUQ	**Turquoise Moun**	**2.02**	**13**	Sb	**Sb**	**21 46 56.1**	**+1.1**
	baz=193						
PDMCI	**Parker Dam,Lak**	**2.11**	**66**	Sb	**Sb**	**21 46 59.0**	**+1.7**
	baz=248						
OSI	**Osito Audit: C**	**2.21**	**302**	Sb	**Sb**	**21 47 00.4**	**+0.3**
	baz=121						
OSI	**Osito Audit: C**	**2.21**	**302**	Pn	**Pn**	**21 46 29.7**	**+0.2**
LRMC	**Laurel Mtn Rad**	**2.26**	**334**	Sb	**Sb**	**21 47 02.1**	**+0.4**
	baz=153						
113A	**Mohawk Valley,**	**2.36**	**106**		**Pn**	**21 46 30.8**	**-0.8**
SHOC	**Shoshone, Teco**	**2.44**	**4**	Sb	**Sg**	**21 47 09.4**	**-2.2**
	baz=184						
SPX	**San Pedro Mart**	**2.56**	**160**		**Pb**	**21 46 40.8**	**+1.7**
SNCC	**San Nicolas Is**	**2.57**	**266**	Sb	**Sb**	**21 47 12.1**	**+1.5**
	baz=84						
SNCC	**San Nicolas Is**	**2.57**	**266**	Pn	**Pn**	**21 46 34.6**	**+0.2**
ARVC	**Arvin**	**2.57**	**311**	Sb	**Sb**	**21 47 11.7**	**+1.0**
	baz=130						
SCZ2	**Santa Cruz Isl**	**2.70**	**282**	Sb	**Sb**	**21 47 15.2**	**+0.9**
	baz=100						
MPMC	**Manual Prospec**	**2.73**	**342**	Sb	**Sb**	**21 47 17.4**	**+1.9**
	baz=162						
ISA	**Isabella, Lake**	**2.76**	**324**	Sb	**Sb**	**21 47 17.5**	**+1.4**
	baz=142						
ISA	**Isabella, Lake**	**2.76**	**324**		**Pb**	**21 46 43.3**	**+1.0**
PKM	**Mcpherson Peak**	**3.12**	**298**	Sb	**Sb**	**21 47 28.9**	**+2.2**
	baz=116						
SHPR	**Sheep Range**	**3.23**	**19**		**Pg**	**21 46 53.5**	**-1.5**
214A	**Organ Pipe Nat**	**3.42**	**115**	Pn	**Pn**	**21 46 46.3**	**+0.1**
TPNV	**Topopah Spring**	**3.49**	**3**	Pn	**Pn**	**21 46 47.6**	**+0.3**
X16A	**Lo Mia Camp, P**	**4.28**	**76**	Pn	**Pn**	**21 46 58.2**	**+0.1**
LCMT	**Little Creek M**	**4.42**	**36**		**Pn**	**21 47 00.4**	**+0.3**
U15A	**North Rim**	**4.53**	**48**		**Pn**	**21 47 02.1**	**+0.4**
KNB	**Kanab**	**4.64**	**39**		**Pn**	**21 47 03.7**	**+0.7**
OMMB	**Old Mammoth Mi**	**4.64**	**334**	Pn	**Pn**	**21 47 02.9**	**-0.3**
WUAZ	**Wupatki**	**4.68**	**63**	Pn	**Pn**	**21 47 04.4**	**+0.8**
MDPB	**Devils Postpil**	**4.68**	**334**	Pn	**Pn**	**21 47 04.7**	**+0.9**
CCUT	**Cedar City**	**4.80**	**31**	Pn	**Pn**	**21 47 05.3**	**-0.1**
TUC	**Tucson**	**4.91**	**102**	Pn	**Pn**	**21 47 06.4**	**-0.4**
SZCU	**Shurtz Canyon**	**4.96**	**33**	Pn	**Pn**	**21 47 07.4**	**-0.2**
NV11	**Mina Array Sit**	**5.15**	**345**	Pn	**Pn**	**21 47 10.0**	**-0.1**
NVAR	**Mina Array Bea**	**5.18**	**344**	Pn	**Pn**	**21 47 11.0**	**+0.4**
PKCU	**Pink Cliffs**	**5.23**	**39**	Pn	**Pn**	**21 47 10.9**	**-0.4**
PSUT	**Pine Spring**	**5.49**	**22**	Pn	**Pn**	**21 47 14.9**	**+0.1**
KVN	**Kaiserville**	**5.74**	**347**	Pn	**Pn**	**21 47 18.7**	**+0.5**
MTPU	**Mount Pierson**	**5.75**	**36**	Pn	**Pn**	**21 47 19.9**	**+1.4**
PV17	**East Wray Mesa**	**7.76**	**50**		**Pn**	**21 47 45.9**	**-0.1**
PV18	**Skein Mesa, Pa**	**7.77**	**50**	Pn	**Pn**	**21 47 46.4**	**+0.2**
PV13	**Radium Mtn., P**	**7.78**	**51**	Pn	**Pn**	**21 47 46.5**	**+0.2**
PV20	**West Nyswonger**	**7.79**	**49**	Pn	**Pn**	**21 47 46.2**	**-0.2**
PV16	**Nyswonger Mesa**	**7.81**	**50**	Pn	**Pn**	**21 47 47.0**	**+0.4**
PV03	**Paradox Valley**	**7.82**	**50**	Pn	**Pn**	**21 47 47.5**	**+0.8**
PV11	**David Mesa, Pa**	**7.83**	**50**	Pn	**Pn**	**21 47 47.5**	**+0.7**
PV23	**Carpenter Ridg**	**7.83**	**48**	Pn	**Pn**	**21 47 47.3**	**+0.3**
PV02	**Paradox Valley**	**7.86**	**51**	Pn	**Pn**	**21 47 47.8**	**+0.4**
PV04	**Paradox Valley**	**7.86**	**49**	Pn	**Pn**	**21 47 47.3**	**0.0**
PV12	**Saucer Basin,**	**7.88**	**50**	Pn	**Pn**	**21 47 49.0**	**+1.3**
BNM	**Barren Site**	**8.21**	**82**	Pn	**Pn**	**21 47 52.4**	**+0.1**

*NEIC **07** 21:47:36.1±1.7, 26°.36N±0°.06×141°.8E±0°.1, h35km±7km, mb4.7/16, Error ellipse: s-maj=15.7km s-min=8.3km az=101.0*
*JMA **07** 21:47:37.6, 26°.51N×141°.79E, h33km, M4.4*
JMA Felt I J1.
*IDC **07** 21:47:37.0±2.5, 26°.40N×141°.78E, h40km±24km, mb3.8/10, mb1 4.0/12, mb1mx3.6/47, mbtmp3.9/12, ML2.5/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/35, Error ellipse: s-maj=34.0km s-min=15.2km az=87.0*

ISC 07 21:47:36.2±0.5, 26°34N±0°.05×141°83E±0°.09, h40km, n49, σ0°91/52, mb4.5/18, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**0.43**	**47**	P	**Pn**	**21 47 46.0**	**0.0**
JHH2				S	**Sn**	**21 47 52.0**	**-0.9**
CBIJ	**Chichi jima**	**0.82**	**23**	P	**Pn**	**21 47 50.6**	**-0.7**
JCJ	**Chichijima**	**0.82**	**23**	Pn	**Pn**	**21 47 51.3**	**0.0**
	921nm,0.3s,baz=226,slow=5.0,SNR=45						
JCJ				Sn	**Sn**	**21 48 01.6**	**-0.6**
	879nm,0.3s,baz=309,slow=22,SNR=16						
JCJ				LR	LR	21 48 19.4	
	comp=Z,231nm,21.9s,baz=206,slow=55						
JCJ	**Chichijima**	**0.82**	**23**		**Pn**	**21 47 50.8**	**-0.4**
JCJ					**Sn**	**21 48 01.4**	**-0.8**
JHJ2	**Mitsune**	**6.97**	**346**	Pn	**Pn**	**21 49 14.4**	**-1.4**
BSO3	**Boso 3**	**8.51**	**353**	P	**Pn**	**21 49 36.7**	**+0.1**
BSO3				*e*S	**Sn**	**21 51 11.4**	**+0.2**
BSO4	**Boso 4**	**8.72**	**352**	P	**Pn**	**21 49 41.4**	**+1.8**
BSO4				*e*S	**Sn**	**21 51 17.5**	**+1.0**
JHU	**Hanno**	**9.73**	**348**	P	**Pn**	**21 49 54.4**	**+0.8**
JHU				*e*S	**Sn**	**21 51 40.4**	**-1.1**
ANA2	**Anatahan**	**10.59**	**159**	Pn	**Pn**	**21 50 04.7**	**-0.7**
MJAR	**Matsushiro Arr**	**10.63**	**344**	Pn	**Pn**	**21 50 05.4**	**-0.6**
	0.1nm,0.3s,baz=163,slow=8.9,SNR=1.5						
JNU	**Nakatsue**	**11.67**	**308**	LR	LR	21 54 23.4	
	comp=Z,189nm,20.4s,baz=32,slow=35						
GUMO	**Guam**	**13.00**	**167**	LR	LR	21 54 32.1	
	comp=Z,66nm,19.8s,baz=78,slow=32						
GUMO	**Guam**	**13.00**	**167**		**Pn**	**21 50 36.5**	**-1.9**
SSLB	**Suanglung**	**19.08**	**267**	P	**P**	**21 51 54.1**	**-1.3**
USRK	**Ussuriysk Ar.**	**19.52**	**338**	P	**Pn**	**21 52 01.4**	**-0.2**
	baz=138,slow=17,SNR=4.8						
KLR	**Kul'dur**	**24.16**	**344**	P	**P**	**21 52 49.8**	**+1.3**
	1.1nm,0.5s,baz=148,slow=7.8,SNR=4.2						
COEN	**Coen**	**40.08**	**178**	P	**P**	**21 55 07.0**	**-0.9**
COEN				IAmb	IAmb	21 55 21.6	
	comp=Z,9.4nm,0.9s						
ADK	**Adak**	**40.27**	**39**	P	**P**	**21 55 09.8**	**+0.6**
ADK				IAmb	IAmb	21 55 16.8	
	comp=Z,24nm,0.9s						
GSTR	**Great Sitkin T**	**40.71**	**39**	P	**P**	**21 55 12.9**	**+0.1**
WB0	**Warramunga Arr**	**46.40**	**190**	P	**P**	**21 56 00.5**	**+1.6**
WB0				IAmb	IAmb	21 56 02.7	
	comp=Z,5.0nm,0.8s						
WR0	**Warramunga Arr**	**46.56**	**189**	P	**P**	**21 56 01.7**	**+1.5**
WR0				IAmb	IAmb	21 56 02.0	
	comp=Z,3.6nm,0.7s						
WB2	**Warramunga Arr**	**46.58**	**190**	P	**P**	**21 56 01.9**	**+1.6**
WRA	**Warramunga Arr**	**46.58**	**190**	P	**P**	**21 56 01.8**	**+1.5**
	comp=Z,5.9nm,0.6s,baz=10,slow=8.6,SNR=94						
WRA	**Warramunga Arr**	**46.58**	**190**		**P**	**21 56 01.6**	**+1.3**
FITZ	**Fitzroy Crossi**	**46.89**	**201**	P	**P**	**21 56 03.3**	**+0.6**
ASAR	**Alice Springs**	**50.30**	**189**	P	**P**	**21 56 30.1**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=20,slow=9.9,SNR=16						
MKAR	**Makanchi Array**	**50.71**	**310**	P	**P**	**21 56 31.3**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=92,slow=9.3,SNR=2.4						
STKA	**Stephens Creek**	**57.89**	**180**	P	**P**	**21 57 24.9**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=38,slow=6.7,SNR=4.4						
STKA	**Stephens Creek**	**57.89**	**180**	IAmb	IAmb	21 57 27.9	
	comp=Z,0.4nm,0.9s						
FORT	**Forrest**	**58.30**	**194**	P	**P**	**21 57 27.5**	**+0.5**
BBOO	**Buckleboo**	**59.08**	**186**	P	**P**	**21 57 32.9**	**+0.6**
BBOO				IAmb	IAmb	21 57 34.2	
	comp=Z,3.8nm,0.8s						
KKAR	**Karatay Array**	**59.27**	**306**	P	**P**	**21 57 34.0**	**+0.2**
ABKAR	**Akbulak array**	**65.39**	**314**	P	**P**	**21 58 13.9**	**-0.7**
ARCES	**ARCESS Array B**	**74.15**	**341**	P	**P**	**21 59 08.2**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=77,slow=6.6,SNR=7.7						
ARCES	**ARCESS Array B**	**74.15**	**341**		**P**	**21 59 08.9**	**+0.8**
LTZ	**Lake Taylor**	**74.28**	**157**	P	**P**	**21 59 09.2**	**0.0**
FIA1	**FINESS Array S**	**78.48**	**334**	P	**P**	**21 59 33.6**	**+0.9**
FIA1				IAmb	IAmb	21 59 34.1	
	comp=Z,4.2nm,0.5s						
FINES	**FINESS Array B**	**78.48**	**334**	P	**P**	**21 59 33.5**	**+0.7**
	comp=Z,3.4nm,0.4s,baz=73,slow=4.9,SNR=98						
WALA	**Waterton Lakes**	**79.22**	**40**	P	**P**	**21 59 37.5**	**+0.2**
NVAR	**Mina Array Bea**	**81.24**	**52**	P	**P**	**21 59 49.9**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=287,slow=5.7,SNR=6.1						
NVAR	**Mina Array Bea**	**81.24**	**52**	P	**P**	**21 59 49.5**	**+1.0**
NC405	**NORSAR Array S**	**83.97**	**338**	P	**P**	**22 00 02.5**	**+0.6**
NB201	**NORSAR Array S**	**84.16**	**338**	P	**P**	**22 00 03.2**	**+0.3**
NB201				IAmb	IAmb	22 00 08.8	
	comp=Z,6.0nm,0.9s						
NC204	**NORSAR Array S**	**84.17**	**339**	P	**P**	**22 00 02.9**	**-0.1**
NC204				IAmb	IAmb	22 00 08.6	
	comp=Z,7.9nm,0.9s						
NB2	**NORSAR Subarra**	**84.19**	**338**	P	**P**	**22 00 03.1**	**0.0**
	comp=Z,1.4nm,0.6s,baz=45,slow=5.1						
NOA	**NORSAR Array B**	**84.19**	**338**	P	**P**	**22 00 03.2**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=46,slow=4.8,SNR=9.0						
KNB	**Kanab**	**85.73**	**51**	P	**P**	**22 00 11.4**	**-0.1**
GERES	**GERESS Array B**	**91.99**	**329**	P	**P**	**22 00 40.6**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=38,slow=2.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**124.83**	**310**	PKP	**PKPdf**	**22 06 32.1**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=58,slow=1.3,SNR=4.3						

*PRE **07** 21:52:12.9±1.0, 26°.46S×27°.54E, h2km, ML2.5*
*EAF **07** 21:52:22.5±0.4, 26°.06S×27°.39E, h42km, MD3.9*

ISC 07 21:52:12.7±0.8, 26°42S±0°.03×27°49E±0°.03, h12km±5km, n28, σ2°52/48, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.06**	**268**	*e*P	**Pg**	**21 52 15.0**	**-0.3**
WDLM				*e*S	**Sg**	**21 52 17.2**	**0.0**
WDLM				AML	AML	21 52 18.7	
	comp=Z,4μm,0.2s						
KLOF	**Kloof**	**0.13**	**57**	*e*P	**Pg**	**21 52 15.8**	**-0.4**
KLOF				*e*S	**Sg**	**21 52 17.0**	**-1.5**
KLOF				AML	AML	21 52 20.2	
	comp=Z,3μm,0.3s						
PRYS	**Parys**	**0.51**	**193**	*e*P	**Pg**	**21 52 22.6**	**-0.3**
PRYS				*e*S	**Sg**	**21 52 29.2**	**-0.5**
PRYS				AML	AML	21 52 43.6	
	comp=Z,96nm,0.6s						
ERPM	**east rand prop**	**0.68**	**84**

mb1 3.9/11,mb1mx3.7/33,mbtmp4.1/11,MS2.8/1, Ms1 3.0/1,ms1mx2.7/20,Error ellipse: s-maj=24.7km s-min=17.2km az=65.0

ISC 07 21:59:44.4±0.6,**28°33.93S**±0.03×**68°72W**×0.04,**h113**km±5km, **n118,**σ1°31/140,**mb4.3**/26,**La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VCA	**Vinchina**	**0.49**	**67**	*e*P	**Pn**	**22 00 02.6**	**+0.9**
VCA				*e*S	**Sn**	**22 00 15.3**	**+0.6**
VCA				IAML		22 00 16.6	
	comp=Z,22µm,0.4s						
AGUA	**GUANDACOL**	**0.59**	**161**	*e*P	**Pn**	**22 00 02.4**	**0.0**
AGUA				*e*S	**Sn**	**22 00 15.5**	**-0.4**
AGUA				IAML		22 00 15.9	
	comp=Z,3µm,0.3s						
ACDV	**Cuesta del Vie**	**1.29**	**196**	*e*P	**Pn**	**22 00 09.8**	**+0.6**
ACDV				*e*S	**Sn**	**22 00 28.6**	**+0.7**
ACDV				IAML		22 00 29.3	
	comp=Z,1µm,0.8s						
AC05	**El Transito**	**1.37**	**273**		**Pn**	**22 00 11.1**	**+1.0**
AC05				Sn	**Sn**	**22 00 30.9**	**+1.4**
AROD	**Rodeo**	**1.40**	**208**	*e*P	**Pn**	**22 00 11.3**	**+0.7**
AROD				*e*S	**Sn**	**22 00 31.3**	**+0.9**
CO01	**Juntas del Tor**	**1.59**	**229**		**Pn**	**22 00 14.1**	**+1.3**
CO01				Sn	**Sn**	**22 00 36.3**	**+1.9**
ACLC	**CERRO LA CRUZ**	**1.62**	**108**	*e*P	**Pn**	**22 00 13.4**	**+0.4**
ACLC				*e*S	**Sn**	**22 00 34.9**	**+0.1**
ACLC				IAML		22 00 36.0	
	comp=Z,2µm,0.6s						
ACCO	**Cerro Coronel**	**1.68**	**190**	*e*P	**Pn**	**22 00 14.4**	**+0.5**
ACCO				*e*S	**Sn**	**22 00 36.9**	**+0.5**
ACCO				IAML		22 00 38.7	
	comp=Z,852nm,0.4s						
GO03	**Copiap**	**1.89**	**314**		**Pn**	**22 00 17.0**	**+0.8**
GO03	**Copiap**	**1.89**	**314**	*e*P	**Pn**	**22 00 17.0**	**+0.8**
GO03				*e*S	**Sn**	**22 00 41.9**	**+1.4**
AC02	**Maricunga**	**2.12**	**350**	Pn	**Pn**	**22 00 21.9**	**+2.4**
AC04	**Llanos de Chal**	**2.20**	**289**		**Pn**	**22 00 20.1**	**0.0**
GO04	**Tololo Observa**	**2.20**	**235**		**Pn**	**22 00 20.1**	**-0.2**
APLL	**PUNTA DE LOS L**	**2.40**	**128**	*e*P	**Pn**	**22 00 22.8**	**+0.1**
RTLL	**Cerro Villicun**	**2.40**	**175**	*e*P	**Pn**	**22 00 22.8**	**0.0**
RTLL				*e*S	**Sn**	**22 00 51.8**	**-0.3**
RTLL				IAML		22 00 54.2	
	comp=Z,692nm,0.4s						
CO03	**El Pedregal**	**2.56**	**222**		**Pn**	**22 00 24.7**	**-0.1**
CYA	**Choya**	**2.60**	**80**	*e*P	**Pn**	**22 00 26.1**	**+0.7**
CYA				*e*S	**Sn**	**22 00 56.8**	**0.0**
CYA				IAML		22 00 57.6	
	comp=Z,281nm,0.3s						
ZON	**Zonda**	**2.61**	**179**		**Pn**	**22 00 25.0**	**-0.4**
ZON	**Zonda**	**2.61**	**179**	*e*P	**Pn**	**22 00 25.4**	**0.0**
ZON				*e*S	**Sn**	**22 00 56.4**	**-0.6**
RTLS	**Leoncito**	**2.91**	**190**	*e*P	**Pn**	**22 00 29.8**	**+0.3**
RTLS				*e*S	**Sn**	**22 01 04.2**	**-0.1**
RTLS				IAML		22 01 05.3	
	comp=Z,338nm,0.5s						
RTCV	**Cerro Valdivia**	**2.93**	**177**	*e*P	**Pn**	**22 00 29.6**	**0.0**
RTCV				*e*S	**Sn**	**22 01 03.7**	**-0.8**
CO02	**Combarbal**	**3.01**	**221**		**Pn**	**22 00 29.8**	**-0.9**
AC01	**Pan de Azucar**	**3.23**	**328**	Pn	**Pn**	**22 00 34.6**	**+0.9**
AUSP	**Uspallata**	**3.34**	**190**	*e*P	**Pn**	**22 00 35.5**	**+0.3**
AUSP				*e*S	**Sn**	**22 01 15.0**	**+0.6**
ACAN	**Cantantal**	**3.59**	**159**	*e*P	**Pn**	**22 00 38.6**	**+0.3**
ACAN				IAML		22 02 13.3	
	comp=Z,243nm,0.0s						
ASAL	**Salagasta**	**3.65**	**182**	*e*P	**Pn**	**22 00 39.3**	**+0.1**
ASAL				*e*S	**Sn**	**22 01 21.7**	**+0.1**
ASAL				IAML		22 01 48.4	
	comp=Z,157nm,0.7s						
AHML	**Horco Molle**	**3.68**	**55**	*e*P	**Pn**	**22 00 39.8**	**+0.2**
AHML				IAML		22 01 26.2	
	comp=Z,143nm,0.8s						
FSA	**Cafayete**	**3.71**	**42**	*e*P	**Pn**	**22 00 42.2**	**+2.1**
GO02	**Mina Guanaco**	**3.83**	**348**		**Pn**	**22 00 43.4**	**+1.5**
ARCO	**CERRO ARCO**	**3.91**	**183**	*e*P	**Pn**	**22 00 42.4**	**-0.3**
ARCO				IAML		22 01 31.2	
	comp=Z,159nm,0.4s						
VA03	**San Esteban**	**4.14**	**202**		**Pn**	**22 00 45.1**	**-0.7**
AAGR	**Agrelo**	**4.15**	**181**	*e*P	**Pn**	**22 00 45.5**	**-0.3**
AAGR				*e*S	**Sn**	**22 01 32.3**	**-1.2**
AAGR				IAML		22 01 36.9	
	comp=Z,96nm,0.5s						
MRA	**San Martin**	**4.33**	**144**	*e*P	**Pn**	**22 00 48.0**	**-0.4**
MRA				*e*S	Sn	22 01 23.8	-14
MRA				IAML		22 01 59.1	
	comp=Z,121nm,0.7s						
ROC1	**El Roble**	**4.49**	**206**		**Pn**	**22 00 48.6**	**-2.0**
ROC1	**El Roble**	**4.49**	**206**	*e*P	**Pn**	**22 00 48.4**	**-2.3**
PEL	**Peldehue**	**4.53**	**201**		**Pn**	**22 00 48.9**	**-2.0**
PEL	**Peldehue**	**4.53**	**201**	*e*P	**Pn**	**22 00 49.6**	**-1.4**
PEL				*e*S	**Sn**	**22 01 40.2**	**-2.5**
PB14	**IPOC Station P**	**4.54**	**340**	Pn	**Pn**	**22 00 52.1**	**+0.6**
PB14	**IPOC Station P**	**4.54**	**340**	*e*P	**Pn**	**22 00 51.7**	**+0.3**
PB14				*e*S	**Sn**	**22 01 42.3**	**-1.1**
PB14				IAML		22 01 54.6	
	comp=Z,68nm,0.4s						
MT05	**Renca**	**4.78**	**201**		**Pn**	**22 00 52.6**	**-1.6**
MT02	**Curacav**	**4.79**	**205**		**Pn**	**22 00 51.8**	**-2.6**
VA01	**Torpederas**	**4.80**	**211**	Pn	**Pn**	**22 00 51.5**	**-3.0**
PB15	**IPOC Station P**	**5.74**	**353**		**Pn**	**22 01 07.5**	**+0.1**
PB15	**IPOC Station P**	**5.74**	**353**	*e*P	**Pn**	**22 01 07.6**	**+0.2**
PB15				*e*S	**Sn**	**22 02 10.4**	**-1.8**
PB15				IAML		22 02 17.0	
	comp=Z,103nm,0.2s						
BO01	**Tunca**	**5.81**	**200**		**Pn**	**22 01 04.9**	**-3.3**
LAMA	**Las Malvinas**	**6.00**	**184**	*e*P	**Pn**	**22 01 09.1**	**-1.7**
BO02	**Sierra Bellavi**	**6.11**	**196**		**Pn**	**22 01 09.4**	**-2.8**
PB06	**IPOC Station P**	**6.24**	**353**	Pn	**Pn**	**22 01 14.9**	**+0.6**
PB06	**IPOC Station P**	**6.24**	**353**	*e*P	**Pn**	**22 01 14.3**	**0.0**
PB06				*e*S	**Sn**	**22 02 22.4**	**-1.9**
PB06				IAML		22 02 46.4	
	comp=Z,21nm,0.8s						
LVC	**Limon Verde**	**6.29**	**358**	P	**Pn**	**22 01 15.3**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=154,slow=14,SNR=30						
LVC				S	**Sn**	**22 02 22.8**	**-3.1**
	comp=Z,2.9nm,0.3s,baz=323,slow=21,SNR=8.6						
GO05	**Huala**	**6.65**	**203**	Pn	**Pn**	**22 01 15.1**	**-4.5**
PB04	**IPOC Station P**	**6.69**	**349**	Pn	**Pn**	**22 01 19.7**	**-0.7**
PB09	**IPOC Station P**	**7.12**	**356**	Pn	**Pn**	**22 01 26.2**	**+0.1**
PB07	**IPOC Station P**	**7.25**	**351**	Pn	**Pn**	**22 01 27.4**	**-0.5**
PB01	**IPOC Station P**	**7.88**	**355**	Pn	**Pn**	**22 01 35.1**	**-1.4**
BI02	**San Fabin de**	**8.01**	**195**	Pn	**Pn**	**22 01 37.0**	**-1.0**
PB08	**IPOC Station P**	**8.76**	**357**	Pn	**Pn**	**22 01 46.1**	**-2.4**
PB11	**IPOC Station P**	**9.17**	**354**	Pn	**Pn**	**22 01 52.4**	**-1.5**
CPUP	**Villa Florida**	**10.42**	**78**	P	**Pn**	**22 02 08.2**	**-2.5**
	comp=Z,0.8nm,0.3s,baz=259,slow=12,SNR=8.5						
CPUP	**Villa Florida**	**10.42**	**78**		**Pn**	**22 02 09.2**	**-1.5**
PB16	**IPOC Station P**	**10.57**	**356**	Pn	**Pn**	**22 02 12.8**	**-0.5**
PLCA	**Paso Flores**	**11.87**	**187**	P	**Pn**	**22 02 27.2**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=8.7,slow=9.5,SNR=4.4						
PLCA	**Paso Flores**	**11.87**	**187**		**Pn**	**22 02 25.8**	**-4.3**
LPAZ	**La Paz**	**12.59**	**3**	LR	LR	22 07 40.2	
	comp=Z,44nm,18.5s,baz=138,slow=38						
LPAZ	**La Paz**	**12.59**	**3**	Pn	**Pn**	**22 02 40.7**	**+0.5**
SAML	**Samuel**	**20.54**	**16**	P	**P**	**22 04 13.8**	**-0.3**
BDFB	**Brasilia**	**23.23**	**60**	P	**P**	**22 04 41.6**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=204,slow=6.6,SNR=3.1						
BDFB	**Brasilia**	**23.23**	**60**	IAmb	IAmb	22 04 42.9	
	comp=Z,6.1nm,1.1s						
PAYG	**Puerto Ayora**	**34.84**	**320**	P	**P**	**22 06 25.6**	**+0.8**
MDP	**Montagnes des**	**37.20**	**27**	P	**P**	**22 06 44.4**	**-0.5**
	comp=Z,4.5nm,0.8s,baz=164,slow=8.7,SNR=1.5						
TOSP	**Speyside**	**40.76**	**12**	P	**P**	**22 07 14.4**	**-0.1**
HATO	**Hato, Curacao**	**40.87**	**360**	P	**P**	**22 07 14.6**	**-0.8**
SKI	**Saint Kitts**	**46.35**	**8**	P	**P**	**22 07 56.2**	**-3.1**
PDPR	**Patillas Dam,**	**46.74**	**4**	P	**P**	**22 08 00.7**	**-1.6**
PDPR				IAmb	IAmb	22 08 08.3	
	comp=Z,10nm,1.1s						
TEIG	**Tepich**	**52.39**	**337**	P	**P**	**22 08 45.5**	**+0.3**
SNAA	**Sanae**	**55.26**	**159**	P	**P**	**22 09 05.5**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=271,slow=9.4,SNR=7.8						
SNAA	**Sanae**	**55.26**	**159**	P	**P**	**22 09 05.7**	**+0.2**
QSPA	**South Pole Qui**	**61.30**	**180**	P	**P**	**22 09 48.3**	**+0.7**
QSPA				IAmb	IAmb	22 10 06.0	
	comp=Z,4.9nm,1.4s						
TKL	**Tuckaleechee C**	**65.79**	**347**	P	**P**	**22 10 18.5**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=200,slow=8.9,SNR=3.7						
TKL				pP	**PcP**	**22 10 47.7**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=134,slow=12,SNR=4.1						
TXAR	**Lajitas Array**	**66.87**	**327**	P	**P**	**22 10 25.5**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=162,slow=13,SNR=5.5						
TXAR	**Lajitas Array**	**66.87**	**327**	P	**P**	**22 10 24.6**	**+0.2**
WVT	**Waverly**	**67.17**	**343**	P	**P**	**22 10 25.8**	**-0.2**
WVT				IAmb	IAmb	22 10 27.2	
	comp=Z,4.7nm,0.7s						
O56A	**Blue Knob Stat**	**69.45**	**352**	P	**P**	**22 10 40.8**	**+0.5**
FVM	**French Village**	**69.60**	**342**	P	**P**	**22 10 42.2**	**+1.0**
FVM				IAmb	IAmb	22 10 42.9	
	comp=Z,6.4nm,0.7s						
VNDA	**Vanda**	**69.60**	**190**	pP	pP	22 11 09.9	+0.4
	comp=Z,1.2nm,0.7s,baz=75,slow=18,SNR=5.2						
CCM	**Cathedral Cave**	**69.89**	**341**	P	**P**	**22 10 43.6**	**+0.6**
CCM				IAmb	IAmb	22 10 44.8	
	comp=Z,3.6nm,0.7s						
S39A	**Bolivar**	**70.17**	**339**	IAmb	IAmb	22 10 46.7	
	comp=Z,4.4nm,0.7s						
R40A	**Maddies Statio**	**70.41**	**341**	P	**P**	**22 10 47.2**	**+1.1**
R40A				IAmb	IAmb	22 10 48.0	
	comp=Z,5.5nm,0.8s						
M56A	**Emporium**	**70.60**	**352**	P	**P**	**22 10 48.0**	**+0.7**
M56A				IAmb	IAmb	22 11 03.3	
	comp=Z,6.4nm,1.1s						
M55A	**Ridgway**	**70.66**	**352**	P	**P**	**22 10 48.2**	**+0.6**
M54A	**Oil Creek Stat**	**70.81**	**351**	P	**P**	**22 10 49.7**	**+1.2**
M54A				IAmb	IAmb	22 11 08.8	
	comp=Z,11nm,1.3s						
DBIC	**Dimbokro**	**70.84**	**71**	P	**P**	**22 10 50.4**	**+1.0**
	comp=Z,2.7nm,0.5s,baz=212,slow=8.1,SNR=6.3						
DBIC	**Dimbokro**	**70.84**	**71**	IAmb	IAmb	22 10 52.1	
	comp=Z,21nm,1.4s						
N49A	**Columbus Grove**	**70.96**	**348**	P	**P**	**22 10 50.1**	**+0.7**
N49A				IAmb	IAmb	22 10 50.4	
	comp=Z,7.3nm,0.8s						
L59A	**Walton**	**71.00**	**355**	P	**P**	**22 10 50.7**	**+1.0**
L59A				IAmb	IAmb	22 10 52.4	
	comp=Z,5.5nm,0.7s						
L56A	**Greenwood**	**71.18**	**353**	P	**P**	**22 10 51.2**	**+0.4**
WVNY	**West Valley, N**	**71.56**	**352**	P	**P**	**22 10 54.3**	**+1.2**
WVNY				IAmb	IAmb	22 10 55.3	
	comp=Z,6.6nm,0.8s						
K58A	**Earlville**	**71.62**	**355**	P	**P**	**22 10 54.8**	**+1.4**
SADO	**Sadowa**	**73.96**	**352**	P	**P**	**22 11 07.2**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=254,slow=7.4,SNR=2.0						
F64A	**Sherman**	**74.44**	**0**	P	**P**	**22 11 11.3**	**+1.5**
E63A	**Oxbow**	**75.00**	**0**	P	**P**	**22 11 11.9**	**-1.2**
E63A				IAmb	IAmb	22 11 20.7	
	comp=Z,7.5nm,1.1s						
E62A	**Clayton Lake**	**75.20**	**359**	P	**P**	**22 11 15.3**	**+1.1**
E62A				IAmb	IAmb	22 11 27.8	
	comp=Z,13nm,1.4s						
D62A	**Allapoint, All**	**75.66**	**360**	P	**P**	**22 11 18.2**	**+1.4**
D62A				IAmb	IAmb	22 11 19.8	
	comp=Z,5.2nm,0.9s						
TOA0	**Torodi Ar. Sit**	**79.77**	**69**	P	**P**	**22 11 41.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**79.77**	**69**	P	**P**	**22 11 41.6**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=272,slow=5.6,SNR=22						
TORD				pP	**pP**	**22 12 10.8**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=270,slow=5.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**79.77**	**69**	P	**P**	**22 11 41.4**	**+1.0**
BOSA	**Boshof**	**79.87**	**117**	P	**P**	**22 11 41.0**	**0.0**
	comp=Z,1.4nm,0.8s,baz=254,slow=4.4,SNR=6.9						
BOSA	**Boshof**	**79.87**	**117**	IAmb	IAmb	22 11 49.6	
	comp=Z,6.0nm,1.1s						
PDAR	**Pinedale Array**	**80.63**	**331**	P	**P**	**22 11 46.2**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=131,slow=4.1,SNR=4.6						
PDAR	**Pinedale Array**	**80.63**	**331**	P	**P**	**22 11 44.0**	**-0.7**
KVN	**Kaiserville**	**81.81**	**323**	P	**P**	**22 11 51.8**	**+0.8**
ASAR	**Alice Springs**	**123.36**	**205**	PKP	**PKPdf**	**22 18 27.9**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=139,slow=1.6,SNR=5.5						
ASAR	**Alice Springs**	**123.36**	**205**		**PKiKP**	**22 18 28.6**	**-0.4**
WRA	**Warramunga Arr**	**126.56**	**207**	PKP	**PKiKP**	**22 18 35.2**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=160,slow=1.8,SNR=15						
ZALV	**Zalesovo Beam**	**148.43**	**30**	PKPbc	**PKiKP**	**22 19 18.7**	**0.0**
	comp=Z,6.3nm,0.5s,baz=313,slow=3.1,SNR=25						
ZALV				pPKPbc	**pPKPbc**	**22 19 50.1**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=306,slow=3.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**148.43**	**30**		**PKiKP**	**22 19 18.8**	**+0.1**
MKAR	**Makanchi Array**	**151.22**	**44**	PKPbc	**PKiKP**	**22 19 25.3**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=295,slow=1.5,SNR=31						
MKAR				PKPab	**PKPab**	**22 19 33.6**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=294,slow=3.8,SNR=12						
MKAR				pPKPbc	**pPKPbc**	**22 19 57.2**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=311,slow=2.8,SNR=3.9						
MKAR	**Makanchi Array**	**151.22**	**44**		**PKiKP**	**22 19 25.3**	**+0.4**
MKAR					**PKPab**	**22 19 34.1**	**+1.4**

*IDC **07** 22:20:45.1±3.1,1°.04S×127°.06E,h63km±34km,mb3.0/4, mb1 3.5/7,mb1mx3.2/45,mbtmp3.6/7,ML3.6/3,Error ellipse: s-maj=29.7km s-min=23.8km az=68.0*

ISC 07 22:20:40.4±1.1,**0°9S**±0°.2×**127°4E**±0°.1,**h31**km,**n7,**σ1°63/6, **mb3.5**/3,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.88**	**89**	P	**Pb**	**22 21 47.2**	**-0.8**
	3.6nm,0.3s,baz=269,slow=23,SNR=11						
KAPI	**Kappang**	**8.64**	**242**	P	**Pn**	**22 22 42.4**	**-1.0**
	3.4nm,0.3s,baz=66,slow=2.8,SNR=7.8						
FITZ	**Fitzroy Crossi**	**17.16**	**186**	P	**P**	**22 24 38.8**	**-0.5**
	0.1nm,0.3s,baz=336,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**20.09**	**161**	P	Pn	22 25 12.9	-0.6
	2.0nm,1.2s,baz=340,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**23.48**	**165**	P	**P**	**22 25 49.8**	**+2.2**
	0.2nm,0.4s,baz=351,slow=13,SNR=5.1						
MKAR	**Makanchi Array**	**61.75**	**326**	P	**P**	**22 30 57.1**	**+1.1**
	0.4nm,0.5s,baz=119,slow=7.9,SNR=7.3						
KURBB	**Kurchatov Arra**	**66.00**	**328**	P	**P**	**22 31 23.7**	**-0.1**
	0.2nm,0.5s,baz=134,slow=6.0,SNR=1.7						

*IDC **07** 22:22:27.0±1.0,31°.57N×104°.35E,h0km,mb3.6/7, mb1 3.7/8,mb1mx3.4/53,mbtmp3.6/8,ML3.3/1,Error ellipse: s-maj=90.9km s-min=17.9km az=58.0*
*BJI **07** 22:22:29.8±0.0,31°.39N×103°.93E,h20km,ML3.5/12*

ISC 07 22:22:28.1±0.7,**31°44N**±0°.04×**104°00E**±0°.06,**h14**km,**n13,** σ2°26/20,**mb3.6/7,Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.57**	**201**	Pg	**Pg**	**22 22 38.4**	**-0.9**
CD2				Sg	**Sb**	**22 22 46.3**	**-1.6**
CD2				smax	smax		
	comp=N,2µm,0.5s						
CD2				smax	smax		
	comp=E,2µm,0.7s						
LZH	**Lanzhou**	**4.63**	**358**	*e*Pg	**Pb**	**22 23 45.6**	**-3.6**
LZH				Sg	**Sg**	**22 24 54.6**	**-2.2**
LZH				smax	smax		
	comp=N,61nm,1.0s						
LZH				smax	smax		
	comp=E,72nm,1.0s						
LZH				LR	LR		
	comp=N,290nm,7.1s						
LZH				LR	LR		
	comp=E,190nm,6.5s						
LZH				LR	LR		
	comp=Z,280nm,9.2s						
XAN	**Xi'an**	**4.89**	**57**	Pn	**Pn**	**22 23 45.2**	**+4.0**
XAN				Pg	**Pg**	**22 24 02.1**	**+0.4**
XAN				Sn	**Sn**	**22 24 38.5**	**+0.9**
XAN				Sg	**Sg**	**22 25 00.6**	**-4.4**
XAN				smax	smax		
	comp=Z,59nm,0.7s						
XAN				smax	smax		
	comp=Z,83nm,1.0s						
GYA	**Guiyang**	**5.49**	**154**	Pg	**Pg**	**22 24 13.1**	**-0.1**
GYA				Sn	**Sb**	**22 25 06.2**	**-3.3**
GYA				Sg	**Sg**	**22 25 24.0**	**-0.3**
GYA				smax	smax		
	comp=N,25nm,0.6s						
GYA				smax	smax		
	comp=E,23nm,0.9s						
SONM	**Songino Array**	**16.47**	**6**	Pn	**Pn**	**22 26 17.5**	**-1.3**
	comp=E,0.1nm,0.3s,baz=189,slow=12,SNR=1.7						
WMQ	**Urumqi**	**17.83**	**318**	*e*P	**P**	**22 26 36.2**	**-0.3**
MKAR	**Makanchi Array**	**22.67**	**319**	P	**P**	**22 27 31.2**	**+2.3**
	comp=E,0.6nm,0.5s,baz=120,slow=12,SNR=7.3						
ZALV	**Zalesovo Beam**	**26.38**	**334**	P	**P**	**22 28 05.4**	**+1.7**
	comp=E,0.8nm,0.6s,baz=144,slow=11,SNR=4.1						
KURBB	**Kurchatov Arra**	**26.91**	**323**	P	**P**	**22 28 10.3**	**+1.7**
	comp=E,0.7nm,0.8s,baz=131,slow=9.1,SNR=5.5						
FINES	**FINESS Array B**	**57.24**	**326**	P	**P**	**22 32 15.9**	**+1.3**
	comp=E,0.5nm,0.5s,baz=66,slow=6.5,SNR=5.5						
WRA	**Warramunga Arr**	**58.80**	**146**	P	**P**	**22 32 26.9**	**+0.8**
	comp=E,1.8nm,0.6s,baz=338,slow=7.8,SNR=14						
ASAR	**Alice Springs**	**61.83**	**149**	P	**P**	**22 32 47.6**	**+0.9**
	comp=E,0.4nm,0.6s,baz=332,slow=6.3,SNR=4.4						
NOA	**NORSAR Array B**	**64.33**	**327**	P	**P**	**22 33 04.3**	**+1.4**
	comp=E,0.2nm,0.4s,baz=77,slow=5.1,SNR=2.2						

*IDC **07** 22:30:14.6±5.6, 17°.42S×168°.77E,h286km±66km, mb3.3/5, mb1 3.5/6,mb1mx3.2/28,mbtmp3.9/6,Error ellipse: s-maj=90.1km s-min=27.4km az=165.0*

ISC 07 22:30:15.6±1.3,**17°5S**±0°.1×**168°8E**±0°.2,**h300**km,**n7,** σ0°36/8,**mb3.5**/5,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.02**	**206**	P	**Pn**	**22 31 33.2**	**-0.3**
	1.1nm,0.3s,baz=313,slow=20,SNR=9.4						
DZM				S	**S**	**22 32 36.2**	**+0.2**
	1.6nm,0.3s,baz=161,slow=17,SNR=2.2						
WRA	**Warramunga Arr**	**32.68**	**260**	P	**P**	**22 36 20.3**	**-0.3**
	0.3nm,0.5s,baz=83,slow=8.5,SNR=6.2						
ASAR	**Alice Springs**	**33.16**	**253**	P	**P**	**22 36 25.1**	**+0.4**
	2.0nm,0.6s,baz=80,slow=9.2,SNR=16						
CMAR	**Chiang Mai Arr**	**77.42**	**294**	P	**P**	**22 41 38.8**	**+0.3**
	0.4nm,0.4s,baz=82,slow=6.5,SNR=4.3						
SONM	**Songino Array**	**85.61**	**323**	P	**P**	**22 42 20.4**	**-0.2**
	0.3nm,0.4s,baz=148,slow=7.0,SNR=2.4						
NVAR	**Mina Array Bea**	**88.00**	**49**	P	**P**	**22 42 32.6**	**+0.2**
	0.6nm,0.7s,baz=228,slow=7.7,SNR=5.1						
ARCES	**ARCESS Array B**	**123.32**	**345**	PKP	**PKiKP**	**22 48 36.3**	**-0.3**
	1.3nm,0.7s,baz=58,slow=1.6,SNR=5.7						

*IDC **07** 22:57:41.7±0.8,60°.07S×26°.64W,h0km,mb4.1/7, mb1 4.3/8,mb1mx4.1/20,mbtmp4.2/8,ML4.9/1,MS3.3/4, Ms1 3.3/4,ms1mx3.1/24,Error ellipse: s-maj=30.4km s-min=22.3km az=36.0*
*NEIC **07** 22:57:49.6±1.7,60°.2S±0°.1×26°.5W±0°.2,h69km±8km, mb4.6/30,Error ellipse: s-maj=17.7km s-min=14.0km az=51.0*

ISC 07 22:57:45.0±0.5,**60°16S**±0°.09×**26°40W**±0°.10,**h26**km,**n53,** σ1°32/46,**mb4.5**/19,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**8.04**	**313**	Pn	**Pn**	**22 59 42.5**	**+2.6**
VNA1	**Neumayer--Stat**	**12.87**	**152**	P	**Pn**	**23 00 45.9**	**0.0**
VNA3	**Neumayer Olymp**	**13.01**	**156**	P	**Pn**	**23 00 47.2**	**-0.6**
VNA2	**Neumayer--Watz**	**13.27**	**152**	P	**Pn**	**23 00 50.6**	**-0.8**
	baz=316,slow=14						
SNAA	**Sanae**	**14.87**	**150**	P	**Pn**	**23 01 12.8**	**-0.3**
SNAA	**Sanae**	**14.87**	**150**	Pn	**Pn**	**23 01 12.8**	**-0.3**
	5.0nm,0.3s,baz=305,slow=14,SNR=151						
SNAA				LR	LR	23 05 49.0	
	comp=Z,106nm,18.8s,baz=346,slow=32						
SNAA	**Sanae**	**14.87**	**150**		**Pn**	**23 01 13.2**	**0.0**
PMSA	**Palmer Station**	**17.81**	**239**	LR	LR	23 08 20.7	
	comp=Z,142nm,18.1s,baz=173,slow=36						
PMSA	**Palmer Station**	**17.81**	**239**		**P**	**23 01 50.6**	**-0.5**
EFI	**East Falkland**	**19.50**	**282**	P	**Pn**	**23 02 11.9**	**+0.7**
EFI				IAmb	IAmb	23 02 20.2	
	comp=Z,57nm,1.1s						
TRIS	**Tristan da Cun**	**24.81**	**28**	P	**P**	**23 03 00.6**	**-4.0**
QSPA	**South Pole Qui**	**30.08**	**180**	P	**P**	**23 03 54.5**	**+2.6**
	comp=Z,0.8nm,0.6s,baz=132,slow=2.2,SNR=2.4						
QSPA	**South Pole Qui**	**30.08**	**180**	P	**P**	**23 03 53.2**	**+1.4**
PLCA	**Paso Flores**	**33.33**	**286**	P	**P**	**23 04 19.2**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=152,slow=6.4,SNR=6.1						
PLCA				LR	LR	23 16 25.8	
	comp=Z,36nm,19.2s,baz=136,slow=34						
PLCA	**Paso Flores**	**33.33**	**286**	IAmb	IAmb	23 04 22.3	
	comp=Z,2.0nm,0.8s						
**

comp=E,32µm,0.4s
ATVO AML AML
comp=N,25µm,1.6s
PIEI Pieia 0.13 348 ⇑P Pg 23 04 36.5 +0.4
PIEI S Sg 23 04 38.9 +1.0
PIEI AML AML
comp=E,49µm,0.3s
PIEI AML AML
comp=N,37µm,1.2s
PIEI AML AML
comp=E,49µm,0.3s
ATPI Pietralunga - 0.13 288 P Pg 23 04 36.5 +0.4
ATPI S Sg 23 04 38.9 +0.9
MURB Monte Urbino 0.15 193 P Pg 23 04 37.1 +0.6
MURB S Sg 23 04 39.9 +1.3
FOSV Fossato di Vic 0.18 130 ⇑P Pg 23 04 37.4 +0.5
FOSV S Sg 23 04 41.1 +1.8
ATCC AVT- Casa Cast 0.23 168 P Pg 23 04 38.2 +0.3
ATCC S Sg 23 04 42.9 +1.9
BADI Badiali 0.26 292 P Pg 23 04 39.1 +0.7
BADI S Sb 23 04 43.5 -1.6
ARVD Arcevia 0.28 72 ⇑P Pg 23 04 39.4 +0.6
ARVD S Sb 23 04 44.4 -1.4

*LDG **07** 23:04:41.9±0.1, 44°.85N×11°.35E, h2km, Ml2.2/15, Error ellipse: s-maj=2.5km s-min=1.4km az=101.0*
ROM 07 23:04:40.0±0.2, 44°.891N±0°.006×11°.286E±0°.008, h10km, ML2.1/1, 2C-1D, Error ellipse: s-maj=0.7km s-min=0.5km az=335.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SERM	**Sermide**	**0.12**	**4**	P			Pg	23 04 45.4	+2.5
SERM				S			Sg	23 04 49.9	+5.0
SERM				AML			AML		
	comp=E,629µm,0.3s								
SERM				AML			AML		
	comp=N,902µm,0.3s								
SERM				AML			AML		
	comp=E,849µm,1.0s								
SERM				AML			AML		
	comp=N,1065µm,1.3s								
RAVA	**Ravarino**	**0.18**	**221**	⇓*i*P			Pg	23 04 45.3	+1.5
RAVA				S			Sg	23 04 49.6	+3.2
RAVA				AML			AML		
	comp=E,8340µm,0.5s								
RAVA				AML			AML		
	comp=N,6760µm,0.6s								
FERS	**Ferrara-Casagl**	**0.18**	**86**	P			Pg	23 04 45.3	+1.4
FERS				S			Sg	23 04 49.0	+2.5
CAVE	**Cavezzo**	**0.20**	**263**	⇑*i*P			Pg	23 04 45.8	+1.6
CAVE				S			Sg	23 04 49.8	+2.7
CAVE				AML			AML		
	comp=N,823µm,0.2s								
CAVE				AML			AML		
	comp=E,720µm,0.4s								
CAVE				AML			AML		
	comp=N,828µm,0.2s								
NDIM	**Novi di Modena**	**0.28**	**269**	P			Pb	23 04 46.8	-0.3
CMPO	**Campotto Po**	**0.48**	**130**	P			Pn	23 04 52.2	-0.8
MTRZ	**Monterenzio**	**0.53**	**166**	P			Pn	23 04 54.5	+0.8
ADRI	**Adria, Italy**	**0.54**	**74**	*e*Pg			Pn	23 04 53.1	-0.6
ADRI				*e*Sg			Sn	23 05 03.1	+0.2
TEOL	**Teolo**	**0.54**	**30**	*e*Pg			Pn	23 04 53.2	-0.7
TEOL				*e*Sg			Sn	23 05 02.8	-0.3
ZOVE	**Zovencedo**	**0.58**	**14**	P			Pn	23 04 53.5	-0.9
ZCCA	**Zocca**	**0.58**	**202**	P			Pn	23 04 54.0	-0.4
ZCCA				AML			AML		
	comp=E,104µm,0.7s								
ZCCA				AML			AML		
	comp=E,104µm,0.7s								
ZCCA				AML			AML		
	comp=N,118µm,0.5s								
MARN	**Marana (Italy)**	**0.75**	**356**	*e*Pg			Pn	23 04 57.2	+0.5
MARN				*e*Sg			Sn	23 05 08.2	0.0
BRIS	**BRISIGHELLA**	**0.76**	**168**	P			Pn	23 04 57.1	+0.3
BRIS				AML			AML		
	comp=E,150µm,0.5s								
BRIS				AML			AML		
	comp=E,150µm,0.5s								
BRIS				AML			AML		
	comp=N,94µm,0.4s								
ROVR	**Rover Verones**	**0.77**	**349**	P			Pn	23 04 57.2	+0.1
ROVR				AML			AML		
	comp=N,269µm,0.2s								
ROVR				AML			AML		
	comp=E,132µm,1.0s								
SEI	**Scarperia**	**0.84**	**177**	P			Pn	23 04 59.2	+1.3
SEI				AML			AML		
	comp=E,134µm,0.5s								
SEI				AML			AML		
	comp=N,141µm,0.4s								
SALO	**Salr**	**0.91**	**324**	P			Pn	23 05 00.0	+1.1
SALO				AML			AML		
	comp=E,256µm,0.8s								
SALO				AML			AML		
	comp=E,251µm,0.8s								
SALO				AML			AML		
	comp=N,236µm,0.9s								
SALO				AML			AML		
	comp=N,210µm,0.9s								
GARGN	**Gargnano BS**	**0.91**	**331**	⇑*e*Pg			Pn	23 05 00.6	+1.6
GARGN				*e*Sg			Sn	23 05 13.7	+1.4
POPM	**Popiglio**	**0.93**	**204**	P			Pb	23 04 58.6	+0.4
POPM				AML			AML		
	comp=E,54µm,0.7s								
POPM				AML			AML		
	comp=N,56µm,0.4s								
VENL	**Venezia Lido**	**0.93**	**55**	P			Pn	23 05 01.3	+2.1
PTF	**Prato**	**0.94**	**190**	P			Pn	23 04 60.0	+0.6
GRAM	**Graiana**	**0.96**	**246**	P			Pn	23 05 00.5	+0.9
GRAM				S			Sn	23 05 16.1	+2.7
GRAM	**Graiana**	**0.96**	**246**	P			Pn	23 05 00.5	+0.9
GRAM				AML			AML		
	comp=N,120µm,0.4s								
GRAM				AML			AML		
	comp=E,109µm,0.4s								
BDI	**Bagni Di Lucca**	**0.96**	**211**	P			Pn	23 04 59.7	0.0
BDI				AML			AML		
	comp=N,102µm,0.8s								
BDI				AML			AML		
	comp=E,95µm,0.5s								
DOSS	**Dosso del Somm**	**0.99**	**356**	*e*Pg			Pn	23 05 01.9	+1.7
DOSS				*e*Sg			Sn	23 05 16.7	+2.3
MAGA	**Magasa**	**1.00**	**333**	P			Pn	23 05 01.3	+1.1
MAGA				AML			AML		
	comp=E,674µm,0.4s								
MAGA				AML			AML		
	comp=N,518µm,0.4s								
CARD	**Cardoso**	**1.04**	**214**	P			Pn	23 05 02.3	+1.6
SFI	**Santa Sofia**	**1.06**	**158**	P			Pn	23 05 01.2	+0.2
SFI				AML			AML		
	comp=E,61µm,0.8s								
SFI				AML			AML		
	comp=N,77µm,1.5s								
MTLO	**Montello**	**1.09**	**32**	*e*Pg			Pn	23 05 03.4	+2.0
MTLO				*e*Sg			Sn	23 05 19.7	+3.2
MAIM	**Mastiano**	**1.13**	**211**	P			Pn	23 05 03.4	+1.5
MAIM	**Mastiano**	**1.13**	**211**	P			Pn	23 05 03.4	+1.5
MAIM				AML			AML		
	comp=E,37µm,0.5s								
MAIM				AML			AML		
	comp=N,73µm,0.5s								
PANI	**Panarotta**	**1.16**	**2**	*e*Pg			Pn	23 05 04.1	+1.6
ED06	**Collalto TV**	**1.17**	**34**	*e*Pg			Pn	23 05 04.4	+2.0
CTI	**Castel Tesino**	**1.19**	**12**	P			Pg	23 05 04.1	+1.3
CTI				AML			AML		
	comp=N,524µm,1.1s								
CTI				AML			AML		
	comp=E,456µm,0.8s								
GAGG	**Gaggia**	**1.22**	**349**	*e*Pg			Pg	23 05 05.0	+1.6
PII	**Pisa**	**1.29**	**205**	P			Pg	23 05 05.8	+1.0
PLMA	**Palmaria, Port**	**1.33**	**231**	P			Pg	23 05 06.7	+1.2
PLMA				AML			AML		
	comp=E,49µm,0.9s								
PLMA				AML			AML		
	comp=N,56µm,0.5s								
MSSA	**Maissana**	**1.39**	**246**	P			Pg	23 05 08.3	+1.7
MSSA				AML			AML		
	comp=E,33µm,1.4s								
MSSA				AML			AML		
	comp=N,38µm,0.6s								
GORR	**Gorreto**	**1.45**	**259**	P			Pg	23 05 09.2	+1.4
GORR	**Gorreto**	**1.45**	**259**	P			Pg	23 05 09.1	+1.3
GORR				AML			AML		
	comp=E,49µm,0.5s								
GORR				AML			AML		
	comp=N,45µm,0.6s								
KOSI	**Kohlern**	**1.57**	**2**	P			Pg	23 05 10.3	+0.1
KOSI				AML			AML		
	comp=E,147µm,0.4s								
KOSI				AML			AML		
	comp=N,75µm,0.5s								
FRON	**Frontone**	**1.72**	**142**	P			Pg	23 05 17.1	+4.1
ABSI	**Aberstueckl**	**1.84**	**1**	P			Pb	23 05 14.0	+0.1
FUORN	**Ofenpass-Fuorn**	**1.87**	**338**	P			Pg	23 05 15.8	-0.1
ABTA	**Abfaltersbach**	**2.05**	**24**	*e*Pn			Pb	23 05 18.2	+0.9
	comp=N,0.1nm,0.1s								
ABTA				*e*Pg			Pg	23 05 20.8	+1.5
	comp=N,1.6nm,0.3s								
ABTA				Sg			Sg	23 05 49.5	+3.7
	comp=N,2.7nm,0.2s								
ROBS	**Robic**	**2.07**	**48**	*i* Pn			Pn	23 05 15.8	+1.0
ROBS				*e*Sn			Sn	23 05 41.8	+1.2
	comp=E,6.0nm,0.2s								
VOJS	**Vojsko**	**2.15**	**57**	*i* Pn			Pn	23 05 17.1	+1.0
VOJS				*i* Sn			Sn	23 05 43.9	+1.0
	comp=Z,3.0nm,0.1s								
FETA	**Feichten**	**2.17**	**350**	Pn			Pg	23 05 21.3	-0.3
	comp=Z,0.1nm,0.1s								
FETA				Sg			Sg	23 05 51.1	+1.5
	comp=Z,3.0nm,0.2s								
CADS	**Cadrg**	**2.18**	**51**	*i* Pn			Pn	23 05 17.5	+1.0
CADS				*e*Sn			Sn	23 05 44.1	+0.6
	comp=Z,8.0nm,0.2s								
JAVS	**Javornik**	**2.20**	**62**	*e*Pn			Pn	23 05 17.7	+0.9
	comp=Z,11nm,0.6s								
SQTA	**Sankt Quirin**	**2.33**	**359**	*e*Pn			Pb	23 05 23.0	+0.8
	comp=Z,1.3nm,0.1s								
SQTA				*e*Sg			Sg	23 05 55.1	+0.2
	comp=Z,2.4nm,0.2s								
WTTA	**Wattenberg**	**2.39**	**6**	*e*Pn			Pb	23 05 23.4	+0.2
	comp=Z,0.4nm,0.1s								
WTTA				Sg			Sg	23 05 58.4	+1.7
	comp=Z,5.4nm,0.3s								
MYKA	**Terra Mystica**	**2.40**	**43**	*e*Pn			Pb	23 05 22.0	-1.4
	comp=Z,0.2nm,0.2s								
MYKA				Pg			Pg	23 05 28.1	+2.2
	comp=Z,1.2nm,0.2s								
MYKA				Sg			Sg	23 05 59.7	+2.7
	comp=Z,4.3nm,0.4s								
WATA	**Walderalm**	**2.45**	**5**	*e*Pn			Pb	23 05 24.5	+0.2
	comp=Z,0.6nm,0.2s								
WATA				Sn			Sg	23 05 58.4	-0.4
	comp=Z,3.9nm,0.2s								
MOTA	**Moosalm**	**2.46**	**357**	Pn			Pb	23 05 24.1	-0.3
	comp=Z,0.3nm,0.2s								
MOTA				Sg			Sg	23 06 00.5	+1.5
	comp=Z,2.9nm,0.2s								
NVLJ	**Novalja**	**2.58**	**96**	*e*Pn			Pn	23 05 22.8	+1.0
NVLJ				Sn			Sn	23 05 52.2	-1.0
KBA	**Koelnbreinsper**	**2.62**	**33**	*e*Pn			Pg	23 05 30.4	+0.2
	comp=Z,3.3nm,0.5s								
KBA				Sg			Sg	23 06 06.3	+2.2
	comp=Z,6.7nm,0.4s								
OBKA	**Obir**	**2.80**	**54**	*e*Pn			Pn	23 05 27.2	+2.2
	comp=Z,0.2nm,0.1s								
OBKA				*e*Pg			Pg	23 05 34.1	+0.4
	comp=Z,1.4nm,0.3s								
OBKA				Sn			Sn	23 06 00.9	+2.0
	comp=Z,1.6nm,0.2s								
OBKA				Sg			Sg	23 06 13.5	+3.5
	comp=Z,4.0nm,0.3s								
DUGI	**Dugi Otok**	**2.85**	**107**	*e*Pn			Pn	23 05 26.9	+1.3
DUGI				Sn			Sn	23 05 58.5	-1.4
PGF	**Pioggiola**	**2.87**	**216**	*e*Pn			Pn	23 05 26.7	+0.8
PGF				*e*Sn			Sn	23 06 00.0	-0.6
	comp=Z,9.4nm,0.8s								
SBF	**Sospel**	**2.95**	**251**	*e*Pn			Pn	23 05 28.6	+1.6
SBF				*e*Sn			Sn	23 06 02.8	+0.4
	comp=Z,6.5nm,0.5s								
SOKA	**Soboth**	**3.17**	**54**	*i* Pn			Pn	23 05 32.2	+2.1
	comp=Z,0.2nm,0.2s								
SOKA				*e*Pg			Pg	23 05 40.7	-0.1
	comp=Z,0.6nm,0.3s								
SOKA				*e*Sn			Sn	23 06 09.6	+1.5
	comp=Z,0.6nm,0.3s								
SOKA				Sg			Sg	23 06 22.9	+0.9
	comp=Z,1.4nm,0.3s								
MBDF	**Montbardon**	**3.22**	**269**	*e*Pn			Pn	23 05 32.2	+1.4
MBDF				*e*Sn			Sn	23 06 09.7	+0.5
	comp=Z,1.1nm,0.4s								
LPG	**La Plagne**	**3.26**	**282**	*e*Pn			Pn	23 05 32.9	+1.4
LPL	**La Plagne**	**3.28**	**283**	*e*Pn			Pn	23 05 32.8	+1.1
LPL				*e*Sg			Sg	23 06 26.9	+1.6
	comp=Z,1.3nm,0.4s								
MORI	**Morici**	**3.33**	**106**	*e*Pn			Pb	23 05 35.9	-3.3
MORI				Sn			Sn	23 06 11.2	-0.6
ZIRJ	**Zirje**	**3.37**	**110**	*e*Pn			Pn	23 05 34.6	+1.9
ZIRJ				Sn			Sn	23 06 11.2	-1.4
FRF	**La Foret Royal**	**3.59**	**250**	*e*Pn			Pn	23 05 37.4	+1.7
FRF	**La Foret Royal**	**3.59**	**250**	*e*P			Pb	23 05 39.8	-3.8
FRF				*e*Sn			Sn	23 06 18.0	-0.2
	comp=Z,1.0nm,0.3s								
MOA	**Molln**	**3.61**	**34**	*i* Pn			Pn	23 05 39.7	+3.7
	comp=Z,0.8nm,0.1s								
LMR	**La Mourre**	**3.77**	**247**	*e*Pn			Pn	23 05 38.9	+0.6
LMR				*e*Sn			Sn	23 06 22.2	-0.6
	comp=Z,1.2nm,0.4s								
ORIF	**Oris-en-Rattie**	**3.84**	**272**	*e*Pn			Pn	23 05 41.1	+1.8
ORIF	**Oris-en-Rattie**	**3.84**	**272**	*e*P			Pb	23 05 44.1	-3.8
ORIF				*e*Sn			Sn	23 06 24.5	0.0
	comp=Z,0.6nm,0.3s								
SMRF	**Simiane la Rot**	**4.19**	**259**	*e*P			Pn	23 05 48.7	+4.6
SMRF				*e*Sn			Sn	23 06 31.8	-1.3
	comp=Z,0.4nm,0.3s								
HINF	**Hinteralfeld**	**4.24**	**315**	*e*Pn			Pn	23 05 46.3	+1.6
HINF				*e*Sn			Sn	23 06 33.9	-0.4
	comp=Z,1.3nm,0.4s								
RICI	**Ricice**	**4.43**	**106**	*e*Pn			Pn	23 05 48.6	+1.3
RICI				Sn			Sn	23 06 35.6	-3.4
CDF	**Champ du Feu**	**4.47**	**323**	*e*Pn			Pn	23 05 49.5	+1.5
CDF				*e*Sn			Sn	23 06 39.9	-0.3
	comp=Z,1.8nm,0.5s								
VIVF	**Saint-Julien-l**	**4.70**	**272**	*e*Pn			Pn	23 05 52.3	+1.3
VIVF				*e*Sn			Sn	23 06 44.6	-1.0
	comp=Z,0.7nm,0.3s								
SMF	**Signal de Mont**	**5.50**	**291**	*e*Pn			Pn	23 06 03.7	+1.8
SMF				*e*Sn			Sn	23 07 04.1	-1.1
	comp=Z,0.5nm,0.2s								
LOR	**Lormes**	**5.69**	**297**	*e*Pn			Pn	23 06 06.4	+1.8
	baz=118								
LOR				*e*Sn			Sn	23 07 08.5	-1.4
	comp=Z,0.9nm,0.3s								

*NNC **07** 23:18:43.3±2.8, 39°.19N×74°.98E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=19.8km s-min=14.1km az=163.0*
*KRNET **07** 23:18:52.2±0.1, 39°.37N×75°.43E, mb3.0*
ISC 07 23:18:52.7±2.0, 39°.3N±0°.1×75°.50E±0°.06, h10km, n28, σ1§84/44, 23C-17D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHH	**Osh**			**2.43**	**302**	⇑*i*P	**Pn**	**23 19 34.0**	**+1.4**
	baz=0.0								
OHH					⇑*i*S		**Sn**	**23 20 04.5**	**+2.1**
	baz=0.0								
ARLS	**Aral**			**2.73**	**341**	⇑*i*P	**Pn**	**23 19 38.1**	**+1.4**
	baz=42								
ARLS					⇑*i*S		**Sn**	**23 20 11.5**	**+1.6**
	baz=42								
KZA	**Kyzart**			**2.80**	**356**	⇑*i*P	**Pn**	**23 19 39.2**	**+1.3**
	baz=57								
KZA					⇑*i*S		**Sn**	**23 20 13.7**	**+1.7**
	baz=57								
ARSB	**Arslanbob**			**2.81**	**317**	⇑*i*P	**Pn**	**23 19 39.2**	**+1.4**
	baz=17								
ARSB					⇑*i*S		**Sn**	**23 20 13.2**	**+1.4**
	baz=17								
TARG	**Taragay, Kyrgy**			**3.01**	**35**	⇑*i*P	**Pn**	**23 19 42.8**	**+2.0**
	baz=37								
TARG					⇑*i*S		**Sn**	**23 20 19.7**	**+2.6**
	baz=37								
ULHL	**Ulahol**			**3.01**	**10**	⇑*i*P	**Pn**	**23 19 42.3**	**+1.6**
	baz=12								
ULHL					⇑*i*S		**Sn**	**23 20 18.7**	**+1.7**
	baz=12								
UCH	**Uchtor**			**3.04**	**346**	⇑*i*P	**Pn**	**23 19 42.3**	**+1.1**
	baz=47								
UCH					⇑*i*S		**Sn**	**23 20 19.2**	**+1.3**
	baz=47								
KDJ	**Kajisay**			**3.12**	**24**	⇑*i*P	**Pn**	**23 19 44.1**	**+2.0**
	baz=25								
KDJ					⇑*i*S		**Sn**	**23 20 21.6**	**+2.1**
	baz=25								
AML	**Almayashu**			**3.16**	**335**	⇓*i*P	**Pn**	**23 19 44.3**	**+1.4**
	baz=35								
AML					⇓*e*S		**Sn**	**23 20 21.8**	**+0.9**
	baz=35								
KBK	**Karagaybulak**			**3.40**	**353**	⇓*i*P	**Pn**	**23 19 47.4**	**+1.5**
	baz=54								
KBK					⇓*i*S		**Sn**	**23 20 27.5**	**+1.1**
	baz=54								
AAK	**Ala-Archa**			**3.44**	**347**	⇓*i*P	**Pn**	**23 19 47.8**	**+1.3**
	baz=48								
AAK					⇓*i*S		**Sn**	**23 20 28.4**	**+1.0**
	baz=48								
AAK	**Ala-Archa**			**3.44**	**347**	⇑Pg	**Pn**	**23 19 47.2**	**+0.7**
	6.5nm,0.8s								
AAK					Lg		Lg	23 20 34.2	
	13nm,0.8s								
FRU1	**Bishkek**			**3.59**	**350**	⇓*i*P	**Pn**	**23 19 49.7**	**+1.3**
	baz=50								
FRU1					⇓*i*S		**Sn**	**23 20 32.1**	**+1.2**
	baz=50								
EKS2	**Erkin-Say**			**3.62**	**339**	⇓*i*P	**Pn**	**23 19 50.1**	**+1.2**
	baz=40								
EKS2					⇓*i*S		**Sn**	**23 20 32.7**	**+0.9**
	baz=40								
TKM2	**Tokmak 2**			**3.64**	**1**	⇑*i*P	**Pn**	**23 19 50.6**	**+1.4**
	baz=2.0								
TKM2					⇑*e*S		**Sn**	**23 20 33.5**	**+1.2**
	baz=2.0								
TKM2	**Tokmak 2**			**3.64**	**1**	⇑Pg	**Pn**	**23 19 51.4**	**+2.2**
	2.6nm,0.5s								
TKM2					⇓Lg		Lg	23 20 43.3	
	6.8nm,0.6s								
ARK	**Arkit**			**3.69**	**314**	⇓*i*P	**Pn**	**23 19 50.9**	**+1.1**
	baz=14								
ARK					⇓*i*S		**Sn**	**23 20 33.9**	**+0.5**
	baz=14								
BTK	**Batken**			**3.70**	**284**	⇓*i*P	**Pn**	**23 19 51.7**	**+1.7**
	baz=82								
BTK					⇓*i*S		**Sn**	**23 20 35.1**	**+1.4**
	baz=82								
CHMS	**Chumysh**			**3.76**	**352**	⇓*i*P	**Pn**	**23 19 52.2**	**+1.5**
	baz=52								
CHMS					⇓*i*S		**Sn**	**23 20 36.0**	**+1.0**
	baz=52								
KST	**Kastek**			**3.77**	**5**	Pg	**Pb**	**23 19 56.8**	**-2.7**
	3.9nm,0.4s								
KST					Pg		Pn	23 19 57.0	+5.9
	3.0nm,0.4s								
KST					Lg		Lg	23 20 49.3	
	9.2nm,0.5s								
KST					Lg		Lg	23 20 49.4	
	8.7nm,0.4s								
MRKS	**Merke**			**3.87**	**334**	Pg	**Pn**	**23 19 53.7**	**+1.4**
	0.5nm,0.2s								
MRKS					Lg		Lg	23 20 43.3	
	2.9nm,0.6s								
TNSS	**Tian-Shan**			**3.91**	**16**	Pg	**Pb**	**23 19 58.8**	**-3.1**
	3.0nm,0.6s								
TNSS					Pg		Pn	23 19 59.2	+6.1
	2.8nm,0.2s								
TNSS					Lg		Lg	23 20 52.8	
	7.5nm,0.8s								
TNSS					Lg		Lg	23 20 53.4	
	7.4nm,0.7s								
MDOK	**Medeo**			**4.05**	**16**	⇑Pg	**Pb**	**23 20 01.5**	**-2.7**
	2.6nm,0.6s								
MDOK					⇑Lg		Lg	23 20 59.7	
	12nm,0.9s								
MDOK	**Medeo**			**4.05**	**16**	Pg	**Pb**	**23 20 00.5**	**-3.6**
	2.5nm,0.7s								
MDOK					Lg		Lg	23 20 56.1	
	8.5nm,1.0s								
KUU	**Kurty**			**4.65**	**7**	Pg	**Pb**	**23 20 12.1**	**-2.2**
	2.0nm,0.4s								
KUU					Pg		Pn	23 20 12.5	+10
	2.2nm,0.7s								
KUU					Lg		Lg	23 21 16.2	
	5.9nm,1.0s								
KUU					Lg		Lg	23 21 16.2	
	5.9nm,0.6s								
UZB	**Uzynbulak**			**4.69**	**33**	Pg	**Pb**	**23 20 11.1**	**-3.9**
	1.0nm,0.4s								
UZB					Lg		Lg	23 21 14.6	
	6.0nm,0.6s								
IUG	**Iuzhnay**			**5.05**	**306**	Pg	**Pn**	**23 20 08.3**	**-0.2**
	4.6nm,0.3s								
IUG					Lg		Lg	23 21 09.0	
	7.8nm,0.6s								
KK31	**Karatay Array**			**5.36**	**317**	⇑Lg	Lg	23 21 28.7	
	0.9nm,0.4s,baz=154,slow=25,SNR=3.5								

*IDC **07** 23:22:11.0±1.8, 21°.52N×93°.31E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/49, mbtmp3.6/4, ML3.4/1, MS3.7/2, Ms1 3.7/2, ms1mx2.7/50, Error ellipse: s-maj=80.5km s-min=24.0km az=54.0*
ISC 07 23:22:14.8±2.0, 21°.1N±0°.4×93°.4E±0°.3, h10km, n17, σ2§26/13, mb4.0/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHL	**Shillong**			**4.63**	**342**	*i* SN	Sn	23 24 08.0	-11
SHL	**Shillong**			**4.63**	**342**	*i* PN	**Pn**	**23 23 26.0**	**+1.0**
CMAR	**Chiang Mai Arr**			**5.84**	**116**	Pn	**Pn**	**23 23 44.8**	**+3.4**
	0.2nm,0.3s,baz=304,slow=12,SNR=1.7								
CMAR						Pg	Pg	23 24 02.8	-3.8
	0.4nm,0.3s,baz=296,slow=16,SNR=5.1								
ODAN	**Odare**			**7.93**	**317**	*e*Pn	Pn	23 24 18.7	+8.3
ODAN						*e*Sn	**Sn**	**23 25 40.4**	**0.0**
	88nm,0.4s								
TAPN	**Taplejung**			**8.09**	**321**	*e*Pn	Pn	23 24 18.8	+6.2
TAPN						*e*Sn	**Sn**	**23 25 41.8**	**-2.6**
	85nm,0.5s								
RAMN	**Ramite**			**8.51**	**314**	*e*Sn	**Sn**	**23 25 53.8**	**-0.8**
	52nm,0.5s								
JIRN	**Jiri**			**9.25**	**316**	*e*Pn	Pn	23 24 35.9	+7.2
PKI	**Pulchoki**			**9.72**	**313**	*e*Pn	Pn	23 24 42.5	+7.5
PKI						*e*Sn	**Sn**	**23 26 23.8**	**-0.6**
	11nm,0.3s								
KKN	**Kakani**			**9.94**	**313**	*e*Sn	**Sn**	**23 26 30.5**	**+0.7**
	14nm,0.2s								
GKN	**Gorkha**			**10.52**	**312**	*e*Pn	Pn	23 24 53.5	+7.7
GKN						*e*Sn	**Sn**	**23 26 43.3**	**-0.5**
	28nm,0.2s								
KOLN	**Koldanda**			**11.12**	**308**	*e*Pn	Pn	23 25 02.5	+8.4
KOLN						*e*Sn	**Sn**	**23 26 59.2**	**+0.5**
	34nm,0.4s								
PYUN	**Piuthan**			**11.75**	**308**	*e*Pn	Pn	23 25 10.4	+7.7
PYUN						*e*Sn	**Sn**	**23 27 13.

FUNA	**Funafuti**	**13.43**	**345**		**P**		**23 30 33.4**	**-0.7**
DZM	**Mont Dzumac**	**15.17**	**265**		**Pn**		**23 30 50.4**	**-1.6**
DZM				IAmb	IAmb		23 30 57.3	
	comp=Z,16nm,1.1s							
URZ	**Urewera**	**17.32**	**195**	LR	LR		23 36 39.1	
	comp=Z,69nm,20.2s,baz=295,slow=32							
BHW	**Baring Head**	**20.86**	**197**	P	**P**		**23 31 54.3**	**-1.0**
QRZ	**Quartz Range**	**21.06**	**202**	P	**P**		**23 31 59.9**	**+2.5**
NNZ	**Nelson**	**21.12**	**200**	P	**P**		**23 31 59.5**	**+1.4**
NNZ				IAmb	IAmb		23 32 14.7	
	comp=Z,47nm,1.2s							
THZ	**Tophouse**	**21.77**	**200**	P	**P**		**23 32 06.4**	**+1.3**
THZ				IAmb	IAmb		23 32 19.5	
	comp=Z,23nm,1.1s							
LTZ	**Lake Taylor**	**22.89**	**200**	P	**P**		**23 32 18.0**	**+2.0**
LTZ				IAmb	IAmb		23 32 28.5	
	comp=Z,15nm,1.1s							
FOZ	**Fox Glacier**	**24.40**	**203**	P	**P**		**23 32 30.0**	**+0.4**
LBZ	**Lake Benmore**	**25.01**	**202**	P	**P**		**23 32 35.1**	**-0.1**
ODZ	**Otahua Downs**	**25.44**	**200**	P	**P**		**23 32 37.9**	**-1.2**
ODZ				IAmb	IAmb		23 32 49.3	
	comp=Z,23nm,1.1s							
MLZ	**Mavora Lakes**	**26.60**	**203**	P	**P**		**23 32 50.6**	**+1.1**
WHZ	**Wether Hill Ro**	**27.11**	**203**	P	**P**		**23 32 56.3**	**+2.2**
WHZ				IAmb	IAmb		23 32 59.6	
	comp=Z,28nm,1.1s							
ARMA	**Armidale**	**29.26**	**246**	P	**P**		**23 33 13.9**	**+0.4**
EIDS	**Eidsvold**	**29.27**	**256**	P	**P**		**23 33 14.1**	**+0.6**
EIDS				IAmb	IAmb		23 33 30.7	
	comp=Z,8.4nm,1.1s							
CAN	**Canberra**	**32.52**	**238**	P	**P**		**23 33 41.9**	**-0.1**
CAN				IAmb	IAmb		23 33 42.8	
	comp=Z,3.8nm,0.6s							
CTAO	**Charters Tower**	**34.11**	**266**	P	**P**		**23 33 58.8**	**+2.9**
CTAO				IAmb	IAmb		23 34 10.6	
	comp=Z,8.9nm,1.1s							
TOO	**Toolangi**	**35.85**	**235**	P	**P**		**23 34 10.4**	**-0.3**
TOO				IAmb	IAmb		23 34 13.4	
	comp=Z,6.4nm,1.1s							
TAU	**Tasmania Unive**	**36.37**	**226**	P	**P**		**23 34 14.4**	**-0.6**
STKA	**Stephens Creek**	**37.98**	**246**	P	**P**		**23 34 29.3**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=101,slow=10,SNR=3.3							
STKA	**Stephens Creek**	**37.98**	**246**	P	**P**		**23 34 27.8**	**-0.9**
BBOO	**Buckleboo**	**42.72**	**245**	P	**P**		**23 35 06.9**	**-0.7**
BBOO				IAmb	IAmb		23 35 26.8	
	comp=Z,5.3nm,0.9s							
AS31	**Alice Springs**	**44.98**	**258**	P	**P**		**23 35 27.1**	**+1.2**
ASAR	**Alice Springs**	**44.98**	**258**	P	**P**		**23 35 27.9**	**+2.1**
	comp=Z,1.7nm,0.4s,baz=99,slow=7.2,SNR=19							
ASAR	**Alice Springs**	**44.98**	**258**	P	**P**		**23 35 27.6**	**+1.8**
WR0	**Warramunga Arr**	**44.98**	**263**	P	**P**		**23 35 28.2**	**+2.3**
WC3	**Warramunga Arr**	**45.13**	**263**	P	**P**		**23 35 29.4**	**+2.3**
WB0	**Warramunga Arr**	**45.15**	**263**	P	**P**		**23 35 30.0**	**+2.7**
WB0				IAmb	IAmb		23 35 30.5	
	comp=Z,6.5nm,0.8s							
WB2	**Warramunga Arr**	**45.16**	**263**	P	**P**		**23 35 29.0**	**+1.7**
WRAB	**Tennant Creek**	**45.16**	**263**	P	**P**		**23 35 27.3**	**0.0**
WRA	**Warramunga Arr**	**45.17**	**263**	P	**P**		**23 35 30.4**	**+3.1**
	comp=Z,1.1nm,0.3s,baz=92,slow=8.3,SNR=36							
WRA	**Warramunga Arr**	**45.17**	**263**	P	**P**		**23 35 28.8**	**+1.4**
FORT	**Forrest**	**49.53**	**247**	P	**P**		**23 36 00.4**	**-0.5**
KNRA	**Kununurra**	**51.31**	**267**	P	**P**		**23 36 16.1**	**+1.6**
KNRA				IAmb	IAmb		23 36 22.2	
	comp=Z,13nm,1.1s							
FITZ	**Fitzroy Crossi**	**53.60**	**263**	P	**P**		**23 36 34.6**	**+3.2**
MORW	**Morawa**	**60.08**	**248**	P	**P**		**23 37 16.9**	**0.0**
MORW				IAmb	IAmb		23 37 17.5	
	comp=Z,6.6nm,1.1s							
DLBC	**Dease Lake**	**88.77**	**23**	LR	LR		00 09 41.4	
	comp=Z,24nm,21.7s,baz=243,slow=29							

IDC 07 23:47:03.1≈2.1,7°**98**′N×127°**89**′E,h**0**km,**mb3.6**/1,
mb1 3.5/4,**mb1mx3.3**/35,**mbtmp3.3**/4,**ML3.2**/2,**MS4.0**/1,
Ms1 4.0/1,**ms1mx2.7**/29,**Error ellipse: s-maj=73.8km
s-min=26.1km az=75.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.30**	**192**	Pn	Pn	23 49 33.3	+1.1
	0.1nm,0.3s,baz=89,slow=18,SNR=1.7						
FITZ				Sn	Sn	23 51 31.0	+2.6
	0.2nm,0.3s,baz=135,slow=20,SNR=1.2						
WRA	**Warramunga Arr**	**13.44**	**153**	Pn	Pn	23 50 13.8	-1.4
	0.2nm,0.3s,baz=327,slow=14,SNR=4.8						
WRA				Sn	Sn	23 52 44.4	-1.1
	0.3nm,0.3s,baz=327,slow=23,SNR=5.1						
ASAR	**Alice Springs**	**16.63**	**160**	Pn	Pn	23 50 58.5	+0.7
	baz=341,slow=11,SNR=1.7						
URZ	**Urewera**	**53.54**	**132**	LR	LR	00 20 45.0	
	comp=Z,127nm,18.5s,baz=292,slow=38						
MKAR	**Makanchi Array**	**67.92**	**328**	P	P	23 58 03.6	-0.1
	0.6nm,0.9s,baz=129,slow=7.5,SNR=2.7						

*ATH **08** 00:01:40.8,39°.53N×26°.05E,h28km±1km,ML2.1/3,Error ellipse: s-maj=2.7km s-min=1.0km az=238.0*
*DDA **08** 00:01:41.9,39°.58N×26°.12E,h7km±3km,ML1.8*
*THE **08** 00:01:42.0,39°.57N×26°.05E,h4km±8km,ML1.9/7,Error ellipse: s-maj=8.3km s-min=0.4km az=117.0*

ISK 08 00:01:40.8,39°.55N×26°.06E,h9km,ML2.2/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.29**	**359**	PG	Pb	00 01 47.5	-0.7
BOZC				SG	Sg	00 01 51.8	+1.2
BOZC	**Bozcaada**	**0.29**	**359**	*i* P	Pb	00 01 47.5	-0.7
BOZC				*i* S	Sb	00 01 52.0	-1.2
EZN	**Ezine**	**0.34**	**37**	P	Pg	00 01 48.3	+0.7
EZN				S	Sg	00 01 53.3	+1.1
	318nm,0.1s						
EZN	**Ezine**	**0.34**	**37**	PG	Pg	00 01 48.2	+0.6
EZN				SG	Sg	00 01 53.2	+1.0
PRK	**Paraskevi**	**0.35**	**151**	P	Pb	00 01 49.5	+0.4
PRK				S	Sb	00 01 54.8	+0.2
	485nm,0.3s						
PRK	**Paraskevi**	**0.35**	**151**	P	Pb	00 01 48.9	-0.2
PRK				S	Sb	00 01 53.6	-1.0
PRK				AML	AML	00 01 55.8	
	comp=N,549μm,0.2s						
PRK				AML	AML	00 01 56.3	
	comp=E,736μm,0.3s						
SIGR	**SIGRI**	**0.37**	**205**	P	Pb	00 01 49.0	-0.5
SIGR				S	Sb	00 01 54.5	-0.9
	comp=E,492nm,0.1s						
SIGR	**SIGRI**	**0.37**	**205**	P	Pb	00 01 49.0	-0.5
SIGR				S	Sb	00 01 54.3	-1.1
SIGR				AML	AML	00 01 55.4	
	comp=E,863μm,0.1s						
SIGR				AML	AML	00 01 56.4	
	comp=N,1079μm,0.2s						
SIGR	**SIGRI**	**0.37**	**205**	PG	Pg	00 01 48.7	+0.6
SIGR				SG	Sb	00 01 54.3	-1.1
BAYC	**CANAKKALE_Bayr**	**0.42**	**63**	*i* P	Pg	00 01 49.7	+0.6
BAYC				IAML		00 01 55.0	
	comp=E,129nm,0.1s						
BAYC				IAML		00 01 55.0	
	comp=N,126nm,0.2s						
BAYC				*i* S	Sg	00 01 55.3	+0.6
AYVA	**Ayvalik**	**0.55**	**116**	*i* P	Pn	00 01 54.2	-0.5
AYVA				*i* S	Sn	00 02 03.6	-0.3
GOKA	**anakkale-Gk**	**0.65**	**350**	*i* P	Pb	00 01 54.2	-0.1
GOKA				IAML		00 02 03.0	
	comp=N,58nm,0.9s						
GOKA				*i* S	Sb	00 02 03.6	+0.2
GADA	**Gvkgeada**	**0.65**	**349**	P	Pb	00 01 54.1	-0.2
GADA				S	Sb	00 02 03.2	-0.3
GADA	**Gvkgeada**	**0.65**	**349**	PG	Pg	00 01 53.8	+0.4
LIA	**Limnos Island**	**0.76**	**298**	P	Pb	00 01 56.6	+0.5
LIA				S	Sb	00 02 07.6	+1.1
	comp=N,112nm,0.2s						
LIA	**Limnos Island**	**0.76**	**298**	P	Pb	00 01 56.4	+0.3
LIA				S	Sb	00 02 06.6	+0.1
LIA				AML	AML	00 02 09.5	
	comp=E,261μm,0.3s						
LIA				AML	AML	00 02 10.4	
	comp=N,184μm,0.2s						
DKL	**Dikili**	**0.81**	**126**	PG	Pb	00 01 57.1	0.0
DKL				SG	Sb	00 02 08.7	+0.6
ZEDA	**zmir-Bergama**	**0.98**	**126**	*i* P	Pn	00 02 00.5	-0.2
ZEDA				IAML		00 02 15.0	
	comp=E,20nm,0.4s						
ZEDA				*i* S	Sn	00 02 15.1	+0.4
ZEDA				IAML		00 02 16.0	
	comp=N,19nm,0.3s						
LPK	**Lapseki**	**0.98**	**33**	PG	Pb	00 01 59.9	-0.1
SMTH	**Samothraki Isl**	**1.00**	**336**	P	Pb	00 02 00.5	+0.1
SMTH				S	Sn	00 02 14.8	-0.5
	comp=N,28nm,0.1s						
SMTH	**Samothraki Isl**	**1.00**	**336**	P	Pb	00 02 00.5	+0.1
SMTH				S	Sn	00 02 14.6	-0.7
KRBN	**Karaburun**	**1.03**	**158**	PG	Pn	00 02 01.1	-0.3
PSRA	**Psara**	**1.08**	**201**	P	Pg	00 02 01.2	-0.3
CHOS	**Chios island**	**1.16**	**180**	P	Pn	00 02 03.6	+0.3
CHOS				S	Sn	00 02 21.4	+2.2
	comp=N,90nm,0.2s						
CHOS	**Chios island**	**1.16**	**180**	P	Pb	00 02 02.4	-0.6
CHOS	**Chios island**	**1.16**	**180**	PN	Pn	00 02 03.6	+0.3
ENEZ	**Enez**	**1.19**	**4**	P	Pg	00 02 03.9	+0.3
ENEZ				S	Sn	00 02 20.6	+0.8
ENEZ	**Enez**	**1.19**	**4**	PN	Pg	00 02 03.8	+0.2
BALY	**Balya**	**1.22**	**81**	*i* P	Pg	00 02 04.3	0.0
BALY				*i* S	Sg	00 02 20.4	+0.3
BALY				IAML		00 02 21.0	
	comp=N,25nm,0.4s						
BALY				IAML		00 02 22.0	
	comp=E,17nm,0.3s						
URLA	**Izmir**	**1.26**	**160**	PN	Pn	00 02 04.4	-0.2
URLA	**Izmir**	**1.26**	**160**	*i* P	Pn	00 02 03.9	-0.7
URLA				*i* S	Sb	00 02 20.8	-0.2
STEP	**BALIKESIR_Sava**	**1.30**	**97**	*i* P	Pg	00 02 06.2	+0.5
STEP				IAML		00 02 24.0	
	comp=N,18nm,0.8s						
STEP				IAML		00 02 25.0	
	comp=E,11nm,0.4s						
KNL	**Balıkesir**	**1.34**	**57**	*i* P	Pg	00 02 06.4	-0.2
KNL				*i* S	Sg	00 02 24.9	+1.0
KNL				IAML		00 02 26.0	
	comp=E,40nm,0.8s						
ALN	**Alexandroupoli**	**1.35**	**360**	P	Pb	00 02 06.3	+0.1
ALN				S	Sg	00 02 25.2	+1.1
	comp=E,18nm,0.4s						
ALN	**Alexandroupoli**	**1.35**	**360**	P	Pn	00 02 05.8	+0.1
ALN	**Alexandroupoli**	**1.35**	**360**	PN	Pb	00 02 06.0	-0.2
GONE	**Gonen-Balikesi**	**1.35**	**68**	PN	Pb	00 02 06.2	0.0
KESN	**Edirne-Kesan**	**1.36**	**20**	*i* P	Pg	00 02 06.8	-0.2
KESN				*i* S	Sg	00 02 25.4	+0.8
KESN				IAML		00 02 29.0	
	comp=E,23nm,0.2s						
KESN				IAML		00 02 35.0	
	comp=N,20nm,0.5s						
BLCB	**Balcova**	**1.39**	**146**	P	Pg	00 02 07.9	+0.4
BLCB	**Balcova**	**1.39**	**146**	PN	Pb	00 02 06.9	-0.1
BALB	**Balikesir**	**1.41**	**86**	PN	Pn	00 02 06.9	+0.3
RKY	**Sarkoy-Tekirda**	**1.43**	**37**	PN	Pn	00 02 07.2	+0.3
SART	**Tekirdag**	**1.43**	**37**	*i* P	Pb	00 02 07.7	+0.1
SART				*i* S	Sg	00 02 27.7	+0.9
SART				IAML		00 02 28.0	
	comp=E,19nm,0.2s						
SART				IAML		00 02 29.0	
	comp=N,17nm,0.2s						
THAS	**Thassos island**	**1.47**	**316**	P	Pn	00 02 07.6	+0.2
THAS	**Thassos island**	**1.47**	**316**	P	Pn	00 02 07.2	-0.2
MAR6	**Marsite Statio**	**1.48**	**38**	PN	Pn	00 02 08.0	+0.4
MAR2	**Marsite Statio**	**1.51**	**39**	PN	Pb	00 02 08.7	-0.5
MAR3	**Marsite Statio**	**1.52**	**38**	PN	Pb	00 02 08.7	-0.5
MAR4	**Marsite Statio**	**1.56**	**37**	PN	Pn	00 02 09.2	+0.4
MRMT	**Marmara Adasi**	**1.58**	**48**	PN	Pn	00 02 09.4	+0.4
EDC	**Edincik**	**1.60**	**60**	PN	Pn	00 02 09.8	+0.6
UKOP	**Uzunkopru-Edir**	**1.64**	**15**	PN	Pn	00 02 10.2	+0.5
RDO	**Rodhopi**	**1.64**	**346**	P	Pb	00 02 10.8	-0.4
RDO	**Rodhopi**	**1.64**	**346**	P	Pb	00 02 10.8	-0.4
RDO	**Rodhopi**	**1.64**	**346**	PN	Pn	00 02 10.3	+0.5
MAR9	**Marsite Statio**	**1.65**	**49**	PN	Pn	00 02 10.5	+0.6
OUR	**Ouranopolis**	**1.78**	**297**	PN	Pn	00 02 12.2	+0.6
KCTX	**Karacabey (Bur**	**1.91**	**67**	PN	Pn	00 02 13.9	+0.4
KDZ	**Kurdzhali**	**2.15**	**347**	PN	Pn	00 02 17.6	+0.7
EDRB	**Edirne**	**2.35**	**13**	PN	Pn	00 02 20.4	+0.8
ARMT	**Armutlu**	**2.38**	**64**	PN	Pn	00 02 20.9	+0.9
CTKS	**Kestanelik-??a**	**2.52**	**47**	PN	Pn	00 02 22.9	+1.1

*IDC **08** 00:06:45.6±0.5,0°.62N×25°.88W,h0km,mb4.2/22,
mb1 4.3/22,mb1mx4.1/47,mbtmp4.2/22,MS4.0/39,
Ms1 3.9/39,ms1mx3.9/44,Error ellipse: s-maj=19.3km
s-min=12.4km az=141.0*
*NEIC **08** 00:06:45.6±2.0,0°.84N±0°.09×26°.07W±0°.09,h10km±1km,
mb4.8/73,Error ellipse: s-maj=18.5km s-min=10.9km
az=133.0*
*GCMT **08** 00:06:49.6±0.2,0°.84N±0°.01×25°.88W±0°.01,h14km±1km,
MW4.9/121,Moment Tensor Solution. s44,c51;
s121,c184; Duration: 0 Moment tensor: Scale 10¹⁶Nm;
M_{rr}-0.18±.08; $M_{\theta\theta}$0.69±.09; $M_{\phi\phi}$-0.51±.08; $M_{r\theta}$0.81±.19;
$M_{\theta\phi}$-2.86±.08; $M_{\phi r}$0.79±.19; Best double couple:
M_o3.13400×10¹⁶ NP1:ϕ172.00000°,δ74.00000°,
λ-13.00000°. NP2:ϕ266.00000°,δ78.00000°,
λ-164.00000°. Principal axes: T 3.0180, Plg3.0000°,
Azm39.0000°; N 0.2310, Plg70.0000°, Azm302.0000°; P
-3.2500, Plg20.0000°, Azm129.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function*

**ISC 08 00:06:46.3±0.6,0°.83N±0°.07×26°.01W±0°.06,h11km±3km,
h11km:pP-P,n192,σ1°38/169,mb4.7/58,MS4.0/38,1C,
Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**11.89**	**236**	Pn	**Pn**	**00 09 33.5**	**-2.5**
	7.5nm,0.3s,baz=49,slow=11,SNR=58						
RCBR				Sn	Sn	00 11 33.8	-15
	0.3nm,0.3s,baz=74,slow=19,SNR=2.0						
RCBR				LR	LR	00 12 57.7	
	comp=Z,2μm,21.8s,baz=34,slow=31						
NBPA	**Parau_RN**	**12.87**	**239**	*e*P	**Pn**	**00 09 50.5**	**+1.1**
H10N3	**ASCENSION HYDR**	**14.35**	**127**	T	T	00 24 46.2	
	baz=306,slow=75,SNR=536						
H10N2	**ASCENSION HYDR**	**14.35**	**127**	T	T	00 24 38.9	
	baz=306,slow=75,SNR=838						
H10N1	**ASCENSION HYDR**	**14.37**	**127**	T	T	00 24 40.1	
	baz=306,slow=75,SNR=414						
ROSB	**Rosrio**	**18.49**	**258**	*e*P	**Pn**	**00 11 04.2**	**+1.4**
GDU01	**Guandu, BA**	**19.75**	**222**	*e*P	**P**	**00 11 16.7**	**+0.3**
LIC	**Lamto**	**21.61**	**75**	*e*P	**P**	**00 11 36.3**	**-0.3**
	92nm,1.3s						
TIC	**Toumodi**	**21.71**	**74**	*e*P	**P**	**00 11 37.5**	**-0.3**
DBIC	**Dimbokro**	**21.88**	**74**	P	**P**	**00 11 36.8**	**-2.7**
	19nm,1.1s,baz=237,slow=14,SNR=6.2						
DBIC				LR	LR	00 18 02.9	
	comp=Z,328nm,21.7s,baz=234,slow=31						
DBIC	**Dimbokro**	**21.88**	**74**		**P**	**00 11 36.7**	**-2.8**
KIC	**Kosan Boka**	**21.91**	**75**	*e*P	**P**	**00 11 39.5**	**-0.4**
	67nm,1.3s						
SDBA	**SAO DESIDERIO**	**22.91**	**234**	*e*P	**P**	**00 11 50.5**	**0.0**
SMTB	**Santa Maria do**	**23.56**	**245**	*e*P	**P**	**00 11 58.9**	**+1.7**
JANB	**Januaria**	**24.02**	**228**	*e*P	**P**	**00 12 02.2**	**+0.6**
BSFB	**Barra de Sao F**	**24.38**	**216**	*e*P	**P**	**00 12 05.4**	**+0.6**
SJMB	**Sao Joao De Ma**	**24.48**	**217**	*e*P	**P**	**00 12 05.7**	**-0.1**
RIB01	**Linhares ES**	**24.50**	**214**	*e*P	**P**	**00 12 06.5**	**+0.6**
PRPB	**Parauapebas**	**24.77**	**253**	*e*P	**P**	**00 12 09.4**	**+1.0**
MC01	**Montes Claros**	**24.83**	**225**	*e*P	**P**	**00 12 09.4**	**+0.4**
PEXB	**Peixe**	**25.60**	**239**	*e*P	**P**	**00 12 16.7**	**+0.8**
MCPB	**Macapa, AP**	**26.08**	**267**	*e*P	**P**	**00 12 21.7**	**+1.4**
MDP	**Montagnes des**	**26.93**	**280**	LR	LR	00 21 41.5	
	comp=Z,183nm,21.7s,baz=100,slow=33						
CAM01	**Campos-RJ**	**27.21**	**213**	*e*P	**P**	**00 12 31.3**	**+0.9**
BDFB	**Brasilia**	**27.22**	**232**	P	**P**	**00 12 30.4**	**-0.3**
	5.5nm,0.7s,baz=64,slow=8.8,SNR=8.4						
BDFB				LR	LR	00 22 09.0	
	comp=Z,1μm,20.2s,baz=77,slow=34						
BDFB	**Brasilia**	**27.22**	**232**	P	**P**	**00 12 29.8**	**-0.9**
MALB	**Monte Alegre**	**28.38**	**265**	*e*P	**P**	**00 12 42.2**	**+1.2**
BSCB	**Bom Sucesso**	**28.42**	**219**	*e*P	**P**	**00 12 40.9**	**-0.5**
IPMB	**Ipameri, GO**	**28.76**	**228**	*e*P	**P**	**00 12 44.5**	**+0.2**
MAN01	**Ângra dos Reis**	**29.34**	**215**	*e*P	**P**	**00 12 48.0**	**-1.4**
TOA0	**Torodi Ar. Sit**	**30.04**	**65**	P	**P**	**00 12 55.6**	**-0.2**
TOA0				IAmb	IAmb	00 13 50.5	
	comp=Z,25nm,1.9s						
TORD	**Torodi Ar. Bea**	**30.04**	**65**	P	**P**	**00 12 56.0**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=251,slow=9.9,SNR=11						
TORD				LR	LR	00 23 34.9	
	comp=Z,429nm,19.0s,baz=240,slow=34						
TORD	**Torodi Ar. Bea**	**30.04**	**65**	P	**P**	**00 12 55.6**	**-0.2**
ITTB	**Itaituba**	**30.15**	**260**	*e*P	**P**	**00 12 58.2**	**+1.5**
ITTB				*e*S	**S**	**00 17 58.2**	**+2.3**
NPGB	**Novo Progresso**	**30.31**	**255**	*e*P	**P**	**00 12 59.4**	**+1.2**
NPGB				*e*pP	**sP**	**00 13 02.2**	**+1.1**
ARAG	**Araguaiana, MT**	**30.33**	**236**	*e*P	**P**	**00 12 59.2**	**+1.0**
PARB	**Paraibuna**	**30.68**	**217**	*e*P	**P**	**00 13 01.5**	**+0.1**
PARB				*e*pP	**sP**	**00 13 04.4**	**+0.1**
BB19B	**Bebedouro**	**30.96**	**224**	*e*P	**P**	**00 13 03.8**	**-0.1**
RCLB	**Rio Claro- Sao**	**31.22**	**221**	*e*P	**P**	**00 13 07.0**	**+1.0**
ITRB	**Iturama**	**31.42**	**228**	*e*P	**P**	**00 13 09.0**	**+1.1**
CLDB	**Colider**	**31.82**	**248**	*e*P	**P**	**00 13 11.7**	**+0.2**
CLDB				*e*pP	**sP**	**00 13 14.7**	**+0.3**
SPB	**Sao Paulo**	**31.99**	**219**	*e*P	**P**	**00 13 13.3**	**+0.6**
SPB				*e*S	**S**	**00 18 24.1**	**-0.2**
PET01	**Itanhaem-SP**	**32.40**	**218**	*e*P	**P**	**00 13 16.4**	**0.0**
PMOZ	**Porto Moniz, M**	**32.88**	**14**	P	**P**	**00 13 19.4**	**-1.2**
PCMB	**Pacaembu**	**33.25**	**226**	*e*P	**P**	**00 13 24.2**	**+0.2**
PCMB				*e*pP	**sP**	**00 13 27.4**	**+0.5**
SALV	**Santo Antonio**	**33.71**	**239**	*e*P	**P**	**00 13 29.1**	**+1.2**
TIJ01	**Guaruva-PR**	**34.22**	**219**	*e*P	**P**	**00 13 32.6**	**+0.2**
TOSP	**Speyside**	**35.83**	**288**	P	**P**	**00 13 42.9**	**-3.3**
PTLB	**Pontes e Lacer**	**36.52**	**242**	*e*P	**P**	**00 13 53.1**	**+0.9**
VILB	**Vilhena**	**36.58**	**247**	*e*P	**P**	**00 13 54.6**	**+1.9**
MDT	**Midelt**	**37.65**	**30**	P	**P**	**00 14 04.3**	**+2.6**
	comp=Z,3.9nm,1.0s,baz=203,slow=4.7,SNR=5.0						
CNLB	**Canela**	**38.24**	**216**	*e*P	**P**	**00 14 05.5**	**-1.3**
SAML	**Samuel**	**38.29**	**254**	*e*P	**P**	**00 14 08.5**	**+1.3**
SIV	**San Ignacio**	**38.45**	**243**	P	**P**	**00 14 09.6**	**+1.0**
	comp=Z,5.5nm,0.8s,baz=96,slow=9.6,SNR=26						
SFS	**San Fernando**	**39.92**	**25**	P	**P**	**00 14 19.4**	**-1.2**
CPUP	**Villa Florida**	**40.52**	**226**	P	**P**	**00 14 25.6**	**-0.1**
	comp=Z,5.7nm,1.1s,baz=67,slow=8.3,SNR=3.3						
CPUP				LR	LR	00 30 57.3	
	comp=Z,378nm,18.4s,baz=54,slow=36						
CPUP	**Villa Florida**	**40.52**	**226**	*e*P	**P**	**00 14 26.2**	**+0.5**
ETMB	**Extrema**	**41.40**	**254**	*e*P	**P**	**00 14 34.6**	**+1.5**
PLTB	**Pedras Altas**	**41.65**	**216**	*e*P	**P**	**00 14 37.4**	**+2.4**
GCPR	**Guaynabo City**	**43.00**	**296**	P	**P**	**00 14 45.8**	**-0.4**
ESDC	**Sonseca Array**	**43.58**	**25**	P	**P**	**00 14 52.6**	**+2.1**
	comp=Z,1.6nm,0.8s,baz=218,slow=9.2,SNR=12						
ESDC				LR	LR	00 32 53.2	
	comp=Z,83nm,18.6s,baz=225,slow=36						
ESDC	**Sonseca Array**	**43.58**	**25**	P	**P**	**00 14 51.2**	**+0.7**
ESBB	**Sonseca Array**	**43.58**	**25**	P	**P**	**00 14 51.7**	**+1.2**
AGPR	**Aguadilla, PR**	**43.98**	**296**	P	**P**	**00 14 52.3**	**-1.7**
LPAZ	**La Paz**	**44.91**	**246**	P	**P**	**00 15 03.3**	**+1.1**
	comp=Z,12nm,0.8s,baz=64,slow=5.7,SNR=37						
LPAZ				LR	LR	00 33 09.7	
	comp=Z,381nm,18.2s,baz=72,slow=35						
LPAZ	**La Paz**	**44.91**	**246**	P	**P**	**00 15 01.9**	**-0.3**
LPAZ				IAmb	IAmb	00 15 04.4	
	comp=Z,13nm,0.8s						
LPAZ	**La Paz**	**44.91**	**246**	*e*P	**P**	**00 15 04.1**	**+1.8**
SDV	**Santo Domingo**	**45.14**	**282**	*e*P	**P**	**00 15 04.7**	**+1.0**
TSUM	**Tsumeb**	**47.18**	**117**	P	**P**	**00 15 20.4**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=298,slow=8.9,SNR=5.7						
KEST	**Kesra**	**47.78**	**39**	P	**P**	**00 15 26.1**	**+2.2**
	comp=Z,3.6nm,0.9s,baz=224,slow=14,SNR=3.4						
KEST				LR	LR	00 35 23.8	
	comp=Z,320nm,21.4s,baz=174,slow=36						
KEST	**Kesra**	**47.78**	**39**	IAmb	IAmb	00 15 42.7	
	comp=Z,31nm,1.8s						
LVC	**Limon Verde**	**47.83**	**238**	*e*P	**P**	**00 15 25.0**	**+0.1**
PB07	**IPOC Station P**	**48.33**	**240**	P	**P**	**00 15 27.1**	**-1.4**
ROSC	**El Rosal**	**48.41**	**276**	LR	LR	00 35 20.7	
	comp=Z,210nm,18.5s,baz=94,slow=35						
PB15	**IPOC Station P**	**48.55**	**238**	P	**P**	**00 15 29.4**	**-0.8**
GO02	**Mina Guanaco**	**49.44**	**235**	P	**P**	**00 15 36.6**	**-0.5**
AC04	**Llanos de Chal**	**51.94**	**233**	P	**P**	**00 15 52.5**	**-3.1**
CO01	**Juntas del Tor**	**51.98**	**230**	P	**P**	**00 15 54.8**	**-1.3**
VAE	**Valguarnera**	**52.09**	**41**	LR	LR	00 39 01.2	
	comp=Z,661nm,18.6s,baz=146,slow=37						
ROC1	**El Roble**	**54.10**	**227**	P	**P**	**00 16 09.1**	**-2.7**
PAOL	**Paolisi**	**54.27**	**37**	P	**P**	**00 16 12.1

comp=Z,7.9nm,1.2s
SWET Sewanee 65.26 309 P **P** **00 17 26.6 -1.8**
SWET IAmb IAmb 00 17 31.2
comp=Z,8.7nm,1.2s
U49A Red Boiling Sp 65.54 310 P **P** **00 17 30.6 +0.4**
MMAI Mount Meron Ar 65.80 54 P **P** **00 17 33.6 +1.5**
comp=Z,1.9nm,0.7s,baz=277,slow=12,SNR=4.0
MMAI LR LR 00 47 51.8
comp=Z,83nm,18.4s,baz=220,slow=38
NOA NORSAR Array B 66.41 19 P **P** **00 17 37.9 +2.5**
comp=Z,0.6nm,0.9s,baz=209,slow=6.0,SNR=2.5
NOA LR LR 00 43 38.7
comp=Z,47nm,19.6s,baz=205,slow=33
BRTR Keskin Array B 66.49 47 P **P** **00 17 37.8 +1.4**
comp=Z,2.6nm,0.8s,baz=225,slow=5.2,SNR=7.1
BRTR LR LR 00 47 55.9
comp=Z,108nm,19.6s,baz=210,slow=37
BRTR Keskin Array B 66.49 47 P **P** **00 17 36.1 -0.4**
ASF Jabal al Asfar 66.80 55 P **P** **00 17 39.6 +1.0**
comp=Z,0.7nm,0.5s,baz=209,slow=10,SNR=4.0
PLAL Pickwick Lake 66.87 308 P **P** **00 17 38.4 -0.4**
PLAL IAmb IAmb 00 17 44.9
comp=Z,13nm,1.6s
CCIG Comitan 66.88 287 P **P** **00 17 37.5 -1.9**
AKASG Malin Array Be 68.05 34 P **P** **00 17 46.9 +1.0**
comp=Z,6.8nm,0.7s,baz=241,slow=6.6,SNR=13
AKASG Malin Array Be 68.05 34 P **P** **00 17 45.6 -0.3**
AKBB Malin Array Si 68.05 34 P **P** **00 17 46.4 +0.5**
AKBB IAmb IAmb 00 17 47.7
comp=Z,10.0nm,0.8s
SFJD Kangerlussuaq 68.25 350 LR LR 00 41 46.6
comp=Z,47nm,18.1s,baz=164,slow=31
LCAR Lake Charles 69.58 308 P **P** **00 17 55.3 -0.4**
T42A Van Buren 69.78 309 P **P** **00 17 56.7 -0.2**
CCM Cathedral Cave 70.16 310 P **P** **00 17 59.0 -0.3**
I42A Draeger Farm, 70.17 317 P **P** **00 17 59.3 0.0**
WHAR Wooly Hollow 70.29 307 P **P** **00 17 57.1 -3.1**
WHAR IAmb IAmb 00 20 20.1
comp=Z,14nm,1.7s
MGMO Mountain Grove 70.72 309 P **P** **00 18 01.6 -1.1**
MGMO IAmb IAmb 00 18 08.2
comp=Z,4.9nm,0.8s
JMIC Jan Mayen 70.96 6 LR LR 00 43 02.1
comp=Z,58nm,18.4s,baz=205,slow=31
U40A Yellville 70.98 308 P **P** **00 18 03.6 -0.7**
W39A Magazine 71.46 307 P **P** **00 18 06.7 -0.5**
W39A IAmb IAmb 00 18 14.2
comp=Z,15nm,1.6s
KOPT Kop Dagi 71.61 48 P **P** **00 18 05.7 -2.8**
KOPT IAmb IAmb 00 18 08.8
comp=Z,33nm,1.9s
FINES FINESS Array B 72.07 23 P **P** **00 18 12.4 +2.1**
comp=Z,2.9nm,0.9s,baz=242,slow=4.1,SNR=5.0
FINES LR LR 00 48 26.0
comp=Z,79nm,19.5s,baz=228,slow=35
FINES FINESS Array B 72.07 23 P **P** **00 18 10.6 +0.2**
FIA1 FINESS Array S 72.07 23 P **P** **00 18 10.9 +0.6**
FIA1 IAmb IAmb 00 20 38.1
comp=Z,17nm,1.4s
VNA2 Neumayer--Watz 72.67 174 P **P** **00 18 15.6 +1.9**
baz=338,slow=6.6
SNAA Sanae 73.91 173 P **P** **00 18 21.9 +0.7**
SNAA Sanae 73.91 173 P **P** **00 18 22.0 +0.8**
comp=Z,0.9nm,0.9s,baz=320,slow=7.9,SNR=3.0
SNAA Sanae 73.91 173 IAmb IAmb 00 18 42.3
comp=Z,24nm,2.0s
KIV Kislovodsk 74.19 44 P **P** **00 18 21.6 -1.9**
KBZ Khabaz 74.28 45 LR LR 00 53 41.2
comp=Z,46nm,19.9s,baz=248,slow=38
ECSD EROS Data Cent 75.49 315 P **P** **00 18 30.3 -0.6**
JCT Junction City 75.63 301 P **P** **00 18 31.9 -0.1**
JCT IAmb IAmb 00 18 38.0
comp=Z,6.7nm,1.0s
ABTX Abilene, Hawle 75.79 303 P **P** **00 18 31.9 -0.9**
ABTX IAmb IAmb 00 18 35.0
comp=Z,6.3nm,0.9s
ARCES ARCESS Array B 76.56 16 LR LR 00 47 59.9
comp=Z,72nm,20.4s,baz=212,slow=32
ULM Lac du Bonnet 76.59 322 LR LR 00 46 15.4
comp=Z,93nm,20.7s,baz=119,slow=31
MSTX Muleshoe 78.57 304 IAmb IAmb 00 18 51.5
comp=Z,9.2nm,1.1s
TX31 Lajitas Ar. Si 78.84 300 P **P** **00 18 47.4 -2.6**
TX31 IAmb IAmb 00 19 02.5
comp=Z,9.0nm,1.1s
TX32 Lajitas Array 78.84 300 P **P** **00 18 46.6 -3.5**
TXAR Lajitas Array 78.84 300 P **P** **00 18 52.3 +2.2**
comp=Z,1.8nm,1.0s,baz=134,slow=7.6,SNR=6.9
TXAR LR LR 00 49 57.1
comp=Z,29nm,21.9s,baz=0.0,slow=33
TXAR Lajitas Array 78.84 300 P **P** **00 18 47.3 -2.8**
SPITS Spitsbergen Ar 80.42 8 LR LR 00 48 59.3
comp=Z,63nm,18.0s,baz=195,slow=31
NOR Nord 80.83 1 *i* P **P** **00 18 59.0 -0.7**
SYO Syowa Base 82.22 161⇑ *e*PcP **PcP** **00 19 13.0 +0.5**
RES Resolute Bay 83.71 346 LR LR 00 48 12.4
comp=Z,47nm,20.5s,baz=253,slow=30
PDAR Pinedale Array 84.70 313 P **P** **00 19 24.1 +3.1**
comp=Z,0.5nm,0.8s,baz=93,slow=5.4,SNR=3.8
PDAR LR LR 00 51 44.7
comp=Z,104nm,21.6s,baz=126,slow=32
PDAR Pinedale Array 84.70 313 P **P** **00 19 24.0 +3.1**
GEYT Alibeck 84.85 52 LR LR 01 00 09.6
comp=Z,34nm,20.2s,baz=175,slow=38
GCMT Greycliff 84.98 316 P **P** **00 19 22.5 +0.4**
YNE Yellowstone No 85.17 315 P **P** **00 19 22.6 -0.6**
EGMT Eagleton 85.19 318 P **P** **00 19 21.8 -1.3**
SRU San Rafael Swe 85.22 309 P **P** **00 19 21.1 -2.4**
REDW Red Top Meadow 85.68 313 P **P** **00 19 24.7 -1.1**
REDW IAmb IAmb 00 19 38.8
comp=Z,7.9nm,1.2s
WUAZ Wupatki 85.75 305 P **P** **00 19 26.1 -0.1**
WUAZ IAmb IAmb 00 19 39.4
comp=Z,5.9nm,1.2s
YHH Holmes Hill 85.75 315 P **P** **00 19 25.8 -0.4**
YHL Hebgen Lake 85.99 315 P **P** **00 19 26.5 -0.9**
HWUT Hardware Ranch 86.12 311 P **P** **00 19 26.5 -1.5**
MTPU Mount Pierson 86.48 308 P **P** **00 19 29.5 -0.5**
YKA Yellowknife Ar 88.62 332 LR LR 00 54 47.3
comp=Z,99nm,21.5s,baz=0.0,slow=32
MAW Mawson 90.33 157 LR LR 00 53 15.6
comp=Z,45nm,18.2s,baz=234,slow=31
NVAR Mina Array Bea 91.29 308 LR LR 00 55 29.3
comp=Z,55nm,20.0s,baz=100,slow=32
NRIK Noril'sk 97.38 19 LR LR 01 05 26.6
comp=Z,66nm,18.3s,baz=272,slow=36
CD2 Chengdu 122.84 52 PKP **PKPdf** **00 25 41.0 -2.3**
ASAR Alice Springs 150.08 141 PKPbc **PKiKP** **00 26 39.1 +0.1**
comp=Z,1.2nm,0.7s,baz=205,slow=2.5,SNR=8.4
ASAR Alice Springs 150.08 141 **PKiKP** **00 26 38.9 -0.2**

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*NEIC **08** 00:09:03.9±1.9, 37.66N±0.05×71.99E±0.05, h137km±7km, mb4.2/39, Error ellipse: s-maj=7.7km s-min=3.7km az=145.0*

*MOS **08** 00:09:03.1±1.0, 37.67N×72.13E, h140km, mb4.2/16, Error ellipse: s-maj=6.9km s-min=4.1km az=86.9*

*IDC **08** 00:09:03.7±2.6, 37.63N×72.19E, h127km±21km, mb3.5/18, mb1 3.7/23, mb1mx3.5/52, mbtmp4.0/23, MS2.8/1, Ms1 2.8/1, ms1mx2.1/42, Error ellipse: s-maj=18.0km s-min=14.2km az=3.0*

*BJI **08** 00:09:04.2±0.0, 37.84N×72.20E, h147km, mB4.8/9, mb4.3/10*

*NNC **08** 00:09:04.5±2.9, 37.81N×71.75E, h129km±62km, mb3.8, mpv4.3, Error ellipse: s-maj=27.4km s-min=17.3km az=165.0*

ISC 08 00:09:02.0±0.4, 37.62N±0.04×72.12E±0.03, h130km, n221, σ2s 49/243, mb4.1/39, 17C-14D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**1.98**	**315**		**Pn**	**00 09 37.0**	**+1.3**
GAR				Sn	**Sn**	**00 10 02.2**	**+0.6**
CHGR	**Chuyangaron**	**2.55**	**295**		**Pn**	**00 09 43.6**	**+0.7**
CHGR				Sn	**Sn**	**00 10 13.7**	**-0.7**
BTK	**Batken**	**2.64**	**338**		**Pn**	**00 09 46.6**	**+2.7**
BTK				Sn	**Sn**	**00 10 18.5**	**+2.2**
KSH	**Kashi**	**3.57**	**57**	P	**Pn**	**00 09 54.2**	**-1.9**
KSH				S	**Sn**	**00 10 30.9**	**-7.0**
KSH				pmax	pmax		
	comp=Z,240nm,0.4s						
KSH				smax	smax		
	comp=N,1μm,0.2s						
KSH				smax	smax		
	comp=E,650nm,0.3s						
ARSB	**Arslanbob**	**3.76**	**10**		**Pn**	**00 09 59.6**	**+1.0**
ARSB				Sn	**Sn**	**00 10 41.8**	**-0.7**
CEP	**Cherat**	**3.79**	**183**	P	**Pn**	**00 10 01.7**	**+2.6**
CEP				S	**Sn**	**00 10 43.0**	**-0.4**
KBL	**Kabul**	**3.96**	**220**	Pn	**Pn**	**00 10 03.1**	**+1.7**
KBL				Sn	**Sn**	**00 10 50.5**	**+3.2**
CHCP	**Chirah Chowk**	**4.06**	**166**	P	**Pn**	**00 10 05.3**	**+2.7**
NIL	**Nilore**	**4.07**	**167**	PN	**Pn**	**00 10 05.3**	**+2.6**
NIL	**Nilore**	**4.07**	**167**		**Pn**	**00 10 05.3**	**+2.6**
NIL				Sn	**Sn**	**00 10 51.2**	**+1.5**
TAS	**Tashkent**	**4.30**	**330**	PN	**Pn**	**00 10 07.2**	**+1.6**
TAS	**Tashkent**	**4.30**	**330**	Pn	**Pn**	**00 10 07.2**	**+1.6**
AML	**Almayashu**	**4.67**	**15**	P	**Pn**	**00 10 12.8**	**+1.9**
	SNR=173						
IUG	**Iuzhnay**	**4.80**	**341**	*i* P	**Pn**	**00 10 14.0**	**+1.6**
	12nm,0.4s,baz=342						
IUG	**Iuzhnay**	**4.80**	**341**	*i* PN	**Pn**	**00 10 14.0**	**+1.6**
IUG				pmax	pmax		
	comp=Z,12nm,0.4s						
THW	**Thamme Wali**	**4.83**	**184**	P	**Pn**	**00 10 14.5**	**+1.7**
UCH	**Uchtor**	**4.96**	**21**	P	**Pn**	**00 10 16.9**	**+2.1**
	SNR=46						
KZA	**Kyzart**	**5.06**	**27**	P	**Pn**	**00 10 17.9**	**+1.7**
	SNR=12						
EKS2	**Erkin-Say**	**5.19**	**14**	P	**Pn**	**00 10 20.1**	**+2.4**
	SNR=62						
DZA	**Taraz**	**5.30**	**354**	*e*P	**Pn**	**00 10 20.8**	**+1.8**
	baz=354						
DZA	**Taraz**	**5.30**	**354**	*e*PN	**Pn**	**00 10 20.8**	**+1.8**
AAK	**Ala-Archa**	**5.33**	**19**	P	**Pn**	**00 10 22.1**	**+2.5**
	comp=Z,23nm,0.3s,baz=171,slow=5.8,SNR=93						
AAK				S	**Sn**	**00 11 20.3**	**+0.2**
	comp=Z,17nm,0.3s,baz=329,slow=20,SNR=25						
AAK	**Ala-Archa**	**5.33**	**19**	P	**Pn**	**00 10 22.1**	**+2.5**
	SNR=52						
AAK	**Ala-Archa**	**5.33**	**19**	⇓P	**Pn**	**00 10 22.0**	**+2.5**
	comp=Z,32nm,0.4s						
AAK				⇓S	**Sn**	**00 11 20.3**	**+0.2**
	comp=Z,132nm,0.7s						
AAK	**Ala-Archa**	**5.33**	**19**		**Pn**	**00 10 22.0**	**+2.5**
AAK					**Sn**	**00 11 21.5**	**+1.5**
KBK	**Karagaybulak**	**5.48**	**22**	P	**Pn**	**00 10 24.0**	**+2.4**
	SNR=18						
FRU1	**Bishkek**	**5.53**	**20**	PN	**Pn**	**00 10 24.9**	**+2.8**
FRU1	**Bishkek**	**5.53**	**20**		**Pn**	**00 10 24.9**	**+2.8**
ULHL	**Ulahol**	**5.60**	**33**	P	**Pn**	**00 10 24.9**	**+1.6**
	SNR=15						
KK31	**Karatay Array**	**5.61**	**348**	⇑P	**Pn**	**00 10 25.0**	**+1.8**
	comp=Z,52nm,0.4s,baz=172,slow=13,SNR=470						
KK31				⇑S	**Sn**	**00 11 24.6**	**-1.9**
	comp=Z,65nm,0.3s,baz=173,slow=22,SNR=17						
KK31	**Karatay Array**	**5.61**	**348**	*e*PN	**Pn**	**00 10 24.8**	**+1.6**
KK31	**Karatay Array**	**5.61**	**348**		**Pn**	**00 10 24.8**	**+1.6**
KK31				Sn	**Sn**	**00 11 24.7**	**-1.9**
KKAR	**Karatay Array**	**5.61**	**348**		**Pn**	**00 10 24.8**	**+1.5**
KKAR				Sn	**Sn**	**00 11 24.3**	**-2.3**
KKAR	**Karatay Array**	**5.61**	**348**		**Pn**	**00 10 24.5**	**+1.2**
KKAR				Sn	**Sn**	**00 11 26.2**	**-0.4**
SARP	**Sargodha**	**5.70**	**175**	P	**Pn**	**00 10 25.9**	**+1.4**
CHMS	**Chumysh**	**5.74**	**20**	P	**Pn**	**00 10 27.2**	**+2.3**
	SNR=55						
TKM2	**Tokmak 2**	**5.92**	**26**	P	**Pn**	**00 10 29.8**	**+2.2**
	SNR=36						
TKM2	**Tokmak 2**	**5.92**	**26**	⇑P	**Pn**	**00 10 29.9**	**+2.3**
	comp=Z,14nm,0.5s						
TKM2				⇓S	**Sn**	**00 11 35.4**	**+1.0**
	comp=Z,28nm,0.7s						
TKM2	**Tokmak 2**	**5.92**	**26**	PN	**Pn**	**00 10 29.8**	**+2.2**
USP	**Ospenovka**	**5.93**	**17**	P	**Pn**	**00 10 29.1**	**+1.7**
	SNR=28						
KDJ	**Kajisay**	**5.95**	**39**	PN	**Pn**	**00 10 31.4**	**+3.4**
KDJ	**Kajisay**	**5.95**	**39**	Pn	**Pn**	**00 10 31.4**	**+3.4**
THN	**Thein Dam**	**5.96**	**149**	*e*P	Pn	00 10 34.5	+6.6
THN				*e*S	**Sn**	**00 11 29.0**	**-5.9**
TARG	**Taragay, Kyrgy**	**6.01**	**45**		**Pn**	**00 10 31.3**	**+2.4**
DHRM	**DHARAMSHALA**	**6.36**	**146**	*e*P	**Pn**	**00 10 35.1**	**+1.5**
DHRM				*e*S	**Sn**	**00 11 41.6**	**-3.5**
MTBS	**Maitube**	**6.41**	**30**	*i* P	**Pn**	**00 10 36.0**	**+2.0**
	baz=29						
MTBS	**Maitube**	**6.41**	**30**	*i* PN	**Pn**	**00 10 36.0**	**+2.0**
TNSS	**Tian-Shan**	**6.55**	**33**	*i* P	**Pn**	**00 10 37.8**	**+1.6**
	baz=32						
TNSS	**Tian-Shan**	**6.55**	**33**	*i* PN	**Pn**	**00 10 37.7**	**+1.6**
MDOK	**Medeo**	**6.69**	**33**	*e*P	**Pn**	**00 10 39.4**	**+1.5**
	baz=32						
MDOK	**Medeo**	**6.69**	**33**	⇓P	**Pn**	**00 10 40.8**	**+2.9**
	comp=Z,10nm,0.7s						
MDOK				⇑S	Sn	00 12 09.5	+17
	comp=Z,21nm,1.0s						
MDOK	**Medeo**	**6.69**	**33**	*e*PN	**Pn**	**00 10 39.3**	**+1.5**
PRZ	**Przheval'sk**	**6.84**	**43**	PN	**Pn**	**00 10 42.3**	**+2.4**
PRZ	**Przheval'sk**	**6.84**	**43**	Pn	**Pn**	**00 10 42.3**	**+2.4**
CHKK	**Chushkaly**	**7.24**	**29**	*i* P	**Pn**	**00 10 46.6**	**+1.5**
	baz=29						
CHKK	**Chushkaly**	**7.24**	**29**	*i* PN	**Pn**	**00 10 46.6**	**+1.5**
BTLS	**Baital**	**7.55**	**10**	*i* P	**Pn**	**00 10 50.3**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=10						
BTLS	**Baital**	**7.55**	**10**	*i* PN	**Pn**	**00 10 50.2**	**+0.9**
BTLS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KPKS	**Kokpek**	**7.69**	**39**	*i* P	**Pn**	**00 10 52.3**	**+1.1**
	comp=Z,3.9nm,1.1s,baz=38						
KPKS	**Kokpek**	**7.69**	**39**	*i* PN	**Pn**	**00 10 52.3**	**+1.1**
KPKS				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SMLA	**Simla**	**7.70**	**146**	*e*P	**Pn**	**00 10 52.7**	**+1.3**
SMLA				*e*S	**Sn**	**00 12 10.6**	**-6.5**
PDGK	**Podgornoye**	**8.00**	**42**	⇑P	**Pn**	**00 10 56.7**	**+1.2**
	comp=Z,4.6nm,0.6s						
PDGK				⇑S	Sn	00 12 42.7	+18
	comp=Z,15nm,0.8s						
PDGK	**Podgornoye**	**8.00**	**42**	PN	**Pn**	**00 10 56.7**	**+1.2**
PDGK				S	Sn	00 12 37.7	+13
HRA	**Herat**	**8.63**	**251**		**Pn**	**00 11 04.4**	**+0.3**
TDK	**Taldyqorghan**	**8.76**	**31**	*i* P	**Pn**	**00 11 07.0**	**+1.5**
	comp=Z,4.5nm,0.6s,baz=30						
TDK	**Taldyqorghan**	**8.76**	**31**	*i* PN	**Pn**	**00 11 07.0**	**+1.5**
TDK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NDI	**New Delhi**	**9.88**	**153**	*e*P	Pn	00 11 07.5	-13
NDI				*ex*	x	00 11 11.4	
NDI				*ex*	x	00 11 17.5	
NDI				*ex*	x	00 12 49.6	
NDI				*e*S	Sn	00 12 49.8	-20
NDI				*ex*	x	00 12 56.5	
SONA	**Sohna**	**10.23**	**155**	*e*S	**Sn**	**00 13 09.7**	**-8.6**
SONA				IAML		00 13 12.5	
	comp=N,15nm,0.0s						
SONA				IAML		00 13 13.1	
	comp=E,43nm,1.0s						
OTUK	**Ortayu**	**10.62**	**1**	⇓P	**Pn**	**00 11 30.3**	**-0.2**
	comp=E,5.2nm,0.6s						
OTUK				⇑S	**Sn**	**00 13 23.7**	**-3.9**
	comp=E,30nm,0.9s						
OTUK	**Ortayu**	**10.62**	**1**	P	**Pn**	**00 11 30.3**	**-0.2**
OTUK				S	**Sn**	**00 13 23.6**	**-3.9**
GEYT	**Alibeck**	**11.09**	**276**	P	**Pn**	**00 11 34.8**	**-2.0**
	comp=E,2.1nm,0.3s,baz=116,slow=12,SNR=17						
GEYT				S	**Sn**	**00 13 31.4**	**-7.7**
	comp=E,2.6nm,0.3s,baz=102,slow=21,SNR=3.3						
GEYT	**Alibeck**	**11.09**	**276**	Pn	**Pn**	**00 11 35.1**	**-1.8**
GEYT					**Sn**	**00 13 31.9**	**-7.2**
GYA0	**ALIBECK ARRAY**	**11.09**	**276**	P	**Pn**	**00 11 34.7**	**-2.1**
GYA0				S	**Sn**	**00 13 31.1**	**-7.9**
GYA0B	**ALIBECK ARRAY**	**11.09**	**276**	⇑P	**Pn**	**00 11 34.7**	**-2.1**
GYA0B				⇑S	**Sn**	**00 13 31.1**	**-7.9**
GYA0B	**ALIBECK ARRAY**	**11.09**	**276**	Pn	**Pn**	**00 11 35.3**	**-1.5**
MAKZ	**Makanchi**	**11.73**	**35**	P	**Pn**	**00 11 45.3**	**+0.2**
MAKZ	**Makanchi**	**11.73**	**35**	Pn	**Pn**	**00 11 45.3**	**+0.2**
MKAR	**Makanchi Array**	**11.86**	**36**	P	**Pn**	**00 11 47.6**	**+0.7**
	comp=E,0.2nm,0.3s,baz=220,slow=11,SNR=9.3						
MKAR	**Makanchi Array**	**11.86**	**36**		**Pn**	**00 11 48.4**	**+1.5**
MK31	**Makanchi Array**	**11.86**	**36**	P	**Pn**	**00 11 48.5**	**+1.6**
MK31	**Makanchi Array**	**11.86**	**36**	Pn	**Pn**	**00 11 48.5**	**+1.6**
PYUN	**Piuthan**	**13.17**	**133**	*e*P	**Pn**	**00 12 02.0**	**-2.2**
	comp=E,38nm,0.3s						
WMQ	**Urumqi**	**13.33**	**57**	*e*P	**P**	**00 12 09.5**	**-1.5**
DANN	**Dangsing**	**13.44**	**130**	*e*P	**Pn**	**00 12 05.7**	**-2.1**
	comp=E,68nm,0.4s						
KOLN	**Koldanda**	**13.77**	**132**	*e*P	**Pn**	**00 12 09.7**	**-2.3**
	comp=E,33nm,0.4s						
KURBB	**Kurchatov Arra**	**13.78**	**17**	P	**Pn**	**00 12 10.2**	**-1.5**
	comp=E,0.0nm,0.3s,baz=207,slow=12,SNR=8.1						
KURK	**Kurchatov**	**13.89**	**17**	P	**Pn**	**00 12 13.6**	**+0.5**
KURK	**Kurchatov**	**13.89**	**17**	Pn	**Pn**	**00 12 13.6**	**+0.5**
GKN	**Gorkha**	**14.23**	**129**	*e*P	**Pn**	**00 12 15.0**	**-2.7**
	comp=E,37nm,0.2s						
AB31	**Akbulak array**	**14.59**	**327**	⇑P	**Pn**	**00 12 22.4**	**+0.5**
	comp=E,5.0nm,0.4s,baz=141,slow=12,SNR=190						
AB31	**Akbulak array**	**14.59**	**327**	*i* P	**Pn**	**00 12 21.1**	**-0.8**
AB31				*e*S	Sn	00 14 52.0	-11
ABKAR	**Akbulak array**	**14.59**	**327**	Pn	**Pn**	**00 12 20.7**	**-1.3**
KKN	**Kakani**	**14.78**	**128**	*e*P	**Pn**	**00 12 21.8**	**-3.0**
	comp=E,28nm,0.6s						
DMN	**Daman**	**14.80**	**129**	*e*P	**Pn**	**00 12 22.3**	**-2.7**
	comp=E,36nm,0.6s						
PKI	**Pulchoki**	**15.01**	**128**	*e*P	**Pn**	**00 12 24.9**	**-2.9**
JIRN	**Jiri**	**15.45**	**126**	*e*P	**Pn**	**00 12 31.2**	**-2.0**
	comp=E,101nm,0.4s						
BVA0	**Borovoye Array**	**15.45**	**356**	⇑P	**Pn**	**00 12 32.6**	**-0.2**
	comp=E,4.7nm,0.4s,baz=174,slow=12,SNR=83						
BVAR	**Borovoye Array**	**15.45**	**356**	P	**Pn**	**00 12 33.1**	**+0.4**
	comp=E,3.4nm,0.3s,baz=166,slow=13,SNR=42						
BVAR				S	**Sn**	**00 15 16.1**	**-7.8**
	comp=E,0.7nm,0.3s,baz=168,slow=22,SNR=7.4						
BVAR				LR	LR	00 18 31.6	
	comp=E,32nm,19.6s,baz=180,slow=37						
BRVK	**Borovoye**	**15.49**	**356**	*ce*P	**Pn**	**00 12 33.1**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,26nm,1.3s						
BRVK	**Borovoye**	**15.49**	**356**	Pn	**Pn**	**00 12 33.7**	**+0.5**
BRVK				IAmb	IAmb	00 12 38.0	
	comp=Z,17nm,0.8s						
RAMN	**Ramite**	**16.20**	**127**	*e*P	**Pn**	**00 12 40.1**	**-2.3**
	comp=Z,18nm,0.4s						
AKTO	**Aktyubinsk**	**16.30**	**326**	P	**P**	**00 12 44.5**	**+0.7**
	comp=Z,2.8nm,0.3s,baz=130,slow=12,SNR=26						
AKTO				S	**Sn**	**00 15 34.4**	**-10**
	comp=Z,1.2nm,0.3s,baz=312,slow=22,SNR=11						
AKTO	**Aktyubinsk**	**16.30**	**326**	⇓P	**P**	**00 12 43.9**	**+0.1**
	comp=Z,9.1nm,0.6s						
AKTO	**Aktyubinsk**	**16.30**	**326**	P	**P**	**00 12 43.9**	**+0.1**
AKTO				S	Sn	00 15 33.5	-11
DGZ	**Jazzator, Alta**	**16.35**	**38**	*i* P	**P**	**00 12 45.1**	**+0.6**
TAPN	**Taplejung**	**16.65**	**123**	*e*P	**Pn**	**00 12 46.1**	**-1.9**
	comp=Z,40nm,0.6s						
ODAN	**Odare**	**16.77**	**125**	*e*P	**Pn**	**00 12 47.9**	**-1.5**
	comp=Z,39nm,0.5s						
LSA	**Lhasa**	**17.68**	**111**	P	**Pn**	**00 13 00.8**	**+0.2**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s						
LSA	**Lhasa**	**17.68**	**111**	P	**Pn**	**00 13 00.8**	**+0.2**
LSA				IAmb	IAmb	00 13 06.1	
	comp=Z,11nm,0.8s						
BOK	**Bokaro**	**18.14**	**136**	*ex*	**P**	**00 13 04.0**	**-0.2**
ZAA0	**Zalesovo Array**	**18.53**	**24**		**Pn**	**00 13 09.9**	**0.0**
ZALV	**Zalesovo Beam**	**18.53**	**24**	P	**Pn**	**00 13 10.1**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=230,slow=9.2,SNR=17						
ZALV				S	**S**	**00 16 26.7**	**-5.9**
	comp=Z,0.6nm,0.3s,baz=165,slow=12,SNR=5.5						
ZALV	**Zalesovo Beam**	**18.53**	**24**	*i* P	**Pn**	**00 13 10.1**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZALV	**Zalesovo Beam**	**18.53**	**24**	P	**Pn**	**00 13 09.8**	**0.0**
UOSS	**Minazif**	**18.53**	**232**		**P**	**00 13 09.2**	**+0.8**
AKT	**Akhty**	**19.18**	**289**	*e*P	**Pn**	**00 13 18.8**	**+1.0**
AKT				*e*S	**Sn**	**00 16 52.2**	**-1.4**
AKT				pmax	pmax		
	comp=Z,8.0nm,0.4s						
AKT				smax	smax		
	comp=N,12nm,0.5s						
AKT				smax	smax		
	comp=E,8.0nm,0.6s						
SEKA	**Sheki**	**19.56**	**288**	P	**Pn**	**00 13 23.0**	**+0.7**
ZKTA	**Zakatala**	**20.02**	**290**	P	Pn	00 13 28.2	+0.7
GANJ	**Ganja**	**20.21**	**287**	P	Pn	00 13 30.3	+0.5
SHL	**Shillong**	**20.64**	**120**	P	**P**	**00 13 32.8**	**+1.4**
SHL				pmax	pmax		
	comp=Z,12nm,0.8s						
SHL	**Shillong**	**20.64**	**120**	P	**P**	**00 13 32.8**	**+1.4**
SHL				IAmb	IAmb	00 13 36.5	
	comp=Z,12nm,0.8s						
SVE	**Sverdlovsk**	**20.68**	**342**⇓	*e*P	Pn	00 13 33.8	-1.3
SVE				pmax	pmax		
	comp=Z,12nm,1.0s						
GROC	**Groznyy**	**20.76**	**294**	*e*P	Pn	00 13 35.5	-0.7
GROC				pmax	pmax		
	comp=Z,38nm,1.3s						
ARU	**Arti**	**20.89**	**339**	P	Pn	00 13 36.1	-1.5
	comp=Z,2.9nm,0.6s,baz=158,slow=7.9,SNR=18						
ARU				S	**S**	**00 17 20.7**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=158,slow=19,SNR=2.1						
ARU	**Arti**	**20.89**	**339**	*ce*P	**P**	**00 13 34.7**	**+1.1**
ARU				pmax	pmax		
	comp=Z,14nm,1.3s						
ARU	**Arti**	**20.89**	**339**	P	**P**	**00 13 34.9**	**+1.2**
ARU				IAmb	IAmb	00 13 36.7	
	comp=Z,12nm,0.7s						
NAX	**Nakhchivan**	**20.90**	**282**	P	Pn	00 13 37.6	-0.4
TBLG	**Delisi**	**21.43**	**290**	P	**P**	**00 13 39.0**	**-0.7**
TBLG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TBLG	**Delisi**	**21.43**	**290**	P	**P**	**00 13 39.0**	**-0.7**
TBLG				IAmb	IAmb	00 13 48.4	
	comp=Z,10.0nm,0.8s						
GTA	**Gaotai**	**21.72**	**77**	P	**P**	**00 13 46.8**	**+4.0**
GTA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,200nm,5.1s						
GTA				LR	LR		
	comp=Z,110nm,16.5s						
GTA				LR	LR		
	comp=Z,120nm,17.1s						
GTA				LR	LR		
	comp=Z,81nm,15.9s						
GEVA	**Gevas**	**22.88**	**281**	P	**P**	**00 13 54.6**	**+0.1**
KBZ	**Khabaz**	**22.91**	**295**	P	**P**	**00 13 56.4**	**+1.

AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 32.96 307 P **P** **00 15 21.9 -2.1**
TOPG Topolog 33.35 297 ⇑P **P** **00 15 31.2 +3.7**
ELL Elmali 33.44 282 P **P** **00 15 29.1 +0.6**
ELL pmax pmax
comp=Z,20nm,1.2s
ELL Elmali 33.44 282 P **P** **00 15 29.1 +0.6**
CFR Carcaliu 33.51 297 ⇓P **P** **00 15 32.1 +3.3**
TESR Tescani 34.49 300 ⇓P **P** **00 15 40.9 +3.6**
PLOR Plostina 34.52 298 ⇓P **P** **00 15 41.2 +3.5**
MLR Muntele Rosu 35.03 298 ⇑P **P** **00 15 45.7 +3.5**
MLR Muntele Rosu 35.03 298 P **P** **00 15 43.0 +0.8**
MLR pmax pmax
comp=Z,6.0nm,0.7s
MLR Muntele Rosu 35.03 298 P **P** **00 15 43.0 +0.8**
BURAR Bucovina Array 35.45 302 ⇓P **P** **00 15 49.4 +3.7**
BURAR Bucovina Array 35.45 302 P **P** **00 15 48.0 +2.4**
VOIR 35.66 298 ⇑P **P** **00 15 51.3 +3.8**
FIA1 FINESS Array S 37.07 325 P **P** **00 16 00.9 +1.8**
FIA1 IAmb IAmb 00 16 02.5
comp=Z,4.1nm,0.8s
FINES FINESS Array B 37.07 325 P **P** **00 16 01.7 +2.6**
comp=Z,3.4nm,0.6s,baz=113,slow=9.0,SNR=25
FINES FINESS Array B 37.07 325 P **P** **00 16 00.9 +1.8**
FINES FINESS Array B 37.07 325 P **P** **00 16 00.9 +1.8**
VTS Vitosha 37.30 293 ⇓P **P** **00 16 05.5 +4.1**
VTS Vitosha 37.30 293 P **P** **00 16 03.6 +2.1**
VTS Vitosha 37.30 293 P **P** **00 16 03.6 +2.1**
MDVR Moldovita 38.08 297 ⇓P **P** **00 16 11.5 +3.6**
LIT Litokhoron 38.32 290 P **P** **00 16 10.7 +0.7**
LIT pmax pmax
comp=Z,5.0nm,1.1s
LIT Litokhoron 38.32 290 P **P** **00 16 10.7 +0.7**
LIT IAmb IAmb 00 16 13.5
comp=Z,5.4nm,1.1s
DIVS Divibare 39.40 296 P **P** **00 16 21.1 +2.1**
DIVS IAmb IAmb 00 16 23.4
comp=Z,2.7nm,0.7s
KEV Kevo 40.10 337 P **P** **00 16 25.0 +0.7**
KEV pmax pmax
comp=Z,12nm,1.0s
KEV Kevo 40.10 337 P **P** **00 16 25.0 +0.7**
ARCES ARCESS Array B 40.46 337 P **P** **00 16 29.9 +2.6**
comp=Z,1.4nm,0.5s,baz=112,slow=8.2,SNR=18
ARCES ARCESS Array B 40.46 337 P **P** **00 16 28.4 +1.1**
ARCES ARCESS Array B 40.46 337 P **P** **00 16 28.4 +1.1**
ARE0 ARCESS Array S 40.46 337 P **P** **00 16 27.2 -0.1**
KRC Kraliky 40.90 306 *eP* **P** **00 16 34.3 +3.1**
KRLC Kraliky 40.90 306 *eP* **P** **00 16 34.3 +3.1**
BRG Berggiesshubel 42.64 307 *eP* **P** **00 16 48.6 +3.3**
comp=Z,2.3nm,0.7s
GERES GERESS Array B 43.02 304 P **P** **00 16 51.3 +2.8**
comp=Z,0.4nm,0.6s,baz=81,slow=6.1,SNR=3.7
PRED Cave del Predi 43.48 301 P **P** **00 16 53.0 +0.8**
KSRS Korea Array 43.68 72 P **P** **00 16 55.2 +1.4**
comp=Z,0.9nm,0.6s,baz=302,slow=7.0,SNR=1.9
NC405 NORSAR Array S 43.80 322 P **P** **00 16 55.0 +0.6**
NC405 IAmb IAmb 00 17 12.0
comp=Z,8.3nm,1.1s
NC602 NORSAR Array S 43.86 322 P **P** **00 16 55.5 +0.6**
NC602 IAmb IAmb 00 17 14.3
comp=Z,5.8nm,1.0s
ZOU Zoufplan 43.87 301 P **P** **00 16 55.1 -0.4**
ZOU IAmb IAmb 00 17 05.1
comp=Z,4.5nm,1.1s
NC303 NORSAR Array S 43.97 323 P **P** **00 16 57.2 +1.4**
NB201 NORSAR Array S 44.00 322 P **P** **00 16 57.0 +1.0**
NB2 NORSAR Subarra 44.03 322 P **P** **00 16 58.6 +2.2**
comp=Z,1.6nm,0.6s,baz=93,slow=7.9
NB2 NORSAR Subarra 44.03 322 P **P** **00 16 58.5 +2.2**
NB2 pmax pmax
comp=Z,1.0nm,0.3s
NOA NORSAR Array B 44.03 322 P **P** **00 16 58.6 +2.2**
comp=Z,2.0nm,0.7s,baz=93,slow=7.7,SNR=19
NBO00 NORSAR Array S 44.25 322 P **P** **00 16 59.6 +1.6**
NC204 NORSAR Array S 44.27 323 P **P** **00 16 59.3 +1.0**
NC204 IAmb IAmb 00 17 14.2
comp=Z,5.3nm,1.1s
KONO Kongsberg 44.79 320 P **P** **00 17 02.2 -0.1**
KONO pmax pmax
comp=Z,3.0nm,0.5s
KONO Kongsberg 44.79 320 P **P** **00 17 02.2 -0.1**
KONO IAmb IAmb 00 17 05.0
comp=Z,2.5nm,0.5s
CTI Castel Tesino 44.86 301 P **P** **00 17 03.6 +0.3**
CTI pmax pmax
comp=Z,3.0nm,0.6s
CTI Castel Tesino 44.86 301 P **P** **00 17 03.6 +0.3**
CTI IAmb IAmb 00 17 06.5
comp=Z,2.5nm,0.6s
MSSA Maissana 46.73 299 P **P** **00 17 18.5 +0.7**
MSSA IAmb IAmb 00 17 35.5
comp=Z,4.5nm,0.8s
KBS Kingsbay 47.72 347 P **P** **00 17 22.3 -2.7**
KBS pmax pmax
comp=Z,8.0nm,1.0s
KBS Kingsbay 47.72 347 P **P** **00 17 22.3 -2.7**
KBS IAmb IAmb 00 17 25.3
comp=Z,7.7nm,1.0s
SENIN Lac Senin/Sane 47.74 302 P **P** **00 17 26.9 +1.0**
KMBO Kilima Mbogo 50.24 228 *i* P **P** **00 17 42.2 -3.1**
DSB Dublin 54.48 314 P **P** **00 18 15.1 -0.7**
ESDC Sonseca Array 57.73 298 P **P** **00 18 41.0 +1.9**
comp=Z,0.5nm,0.7s,baz=60,slow=7.4,SNR=5.8
ESDC Sonseca Array 57.73 298 P **P** **00 18 39.6 +0.4**
PETK Petropavlovsk- 58.54 45 P **P** **00 18 46.5 +1.9**
comp=Z,1.2nm,0.9s,baz=283,slow=13,SNR=2.9
TOA0 Torodi Ar. Sit 66.64 269 P **P** **00 19 38.9 +0.1**
TOA0 IAmb IAmb 00 19 44.7
comp=Z,4.6nm,1.1s
TORD Torodi Ar. Bea 66.64 269 P **P** **00 19 40.0 +1.2**
comp=Z,1.4nm,0.7s,baz=51,slow=5.5,SNR=11
TORD Torodi Ar. Bea 66.64 269 P **P** **00 19 39.3 +0.5**
IMAR Indian Mountai 70.83 18 P **P** **00 20 05.6 +1.5**
INK Inuvik 72.65 10 P **P** **00 20 17.6 +2.8**
comp=Z,0.8nm,0.4s,baz=351,slow=4.5,SNR=2.0
INK Inuvik 72.65 10 P **P** **00 20 16.5 +1.7**
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 72.65 10 P **P** **00 20 16.5 +1.7**
INK IAmb IAmb 00 20 33.3
comp=Z,3.5nm,1.1s
ILAR Eielson Array 73.46 16 P **P** **00 20 21.5 +1.8**
comp=Z,0.3nm,0.5s,baz=313,slow=5.7,SNR=4.3
UNV Unalaska Valle 75.84 31 P **P** **00 20 35.1 +1.6**
YKA Yellowknife Ar 80.08 3 P **P** **00 20 59.4 +2.6**
comp=Z,1.3nm,0.6s,baz=350,slow=5.7,SNR=4.8
WRA Warramunga Arr 81.83 123 P **P** **00 21 07.4 +0.6**
comp=Z,0.5nm,0.7s,baz=327,slow=4.9,SNR=1.7

*IDC **08** 00:30:20.6±1.7,39.°12N×23.°26E,h0km,mb3.2/4, mb1 3.5/6,mb1mx3.3/52,mbtmp3.3/6,ML3.3/2,Error ellipse: s-maj=36.6km s-min=21.7km az=101.0*
*THE **08** 00:30:23.6,38.°91N×23.°09E,h7km±1km,ML3.4/18,Error ellipse: s-maj=1.5km s-min=0.3km az=299.0*
*ATH **08** 00:30:23.6,38.°92N×23.°09E,h14km±4km,ML3.4/12,Error ellipse: s-maj=4.9km s-min=0.7km az=15.0*
ISC 08 00:30:23.7±0.8,38.°93N±0.°02×23.°09E±0.°02,h16km±6km, n59,σ0°82/90,mb3.4/3,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKR	**Lokris**	**0.28**	**194**	P	**Pg**	**00 30 29.2**	**-0.6**
LKR				S	**Sg**	**00 30 33.4**	**-0.5**
LKR	**Lokris**	**0.28**	**194**	P	**Pg**	**00 30 29.3**	**-0.5**
LKR				S	**Sg**	**00 30 33.7**	**-0.3**
LKR				AML	AML	00 30 34.4	
	comp=E,16867μm,0.2s						
LKR				AML	AML	00 30 35.0	
	comp=N,12266μm,0.2s						
AXAR	**Agios Charalam**	**0.37**	**245**	P	**Pg**	**00 30 30.7**	**-0.6**
AXAR				S	**Sg**	**00 30 36.2**	**-0.3**
	comp=N,10μm,0.3s						
AXAR	**Agios Charalam**	**0.37**	**245**	P	**Pg**	**00 30 31.1**	**-0.2**
AXAR				S	**Sg**	**00 30 36.9**	**+0.4**
AXAR				AML	AML	00 30 40.3	
	comp=E,16233μm,0.3s						
AXAR				AML	AML	00 30 40.6	
	comp=N,22842μm,0.3s						
SKIA	**Skiathos**	**0.38**	**51**	P	**Pg**	**00 30 31.6**	**+0.1**
SKIA				S	**Sg**	**00 30 36.9**	**+0.1**
	comp=N,7μm,0.3s						
SKIA	**Skiathos**	**0.38**	**51**	P	**Pg**	**00 30 31.6**	**+0.1**
SKIA				S	**Sg**	**00 30 37.0**	**+0.1**
SKIA				AML	AML	00 30 38.4	
	comp=N,11951μm,0.3s						
SKIA				AML	AML	00 30 38.4	
	comp=E,10688μm,0.2s						
NEO	**Neokhori**	**0.40**	**16**	P	**Pg**	**00 30 31.6**	**-0.2**
NEO				S	**Sg**	**00 30 37.0**	**-0.3**
	comp=E,18μm,0.4s						
NEO	**Neokhori**	**0.40**	**16**	P	**Pg**	**00 30 31.6**	**-0.2**
NEO				S	**Sg**	**00 30 37.1**	**-0.2**
NEO				AML	AML	00 30 37.2	
	comp=E,27826μm,0.5s						
NEO				AML	AML	00 30 37.5	
	comp=N,31720μm,0.5s						
MRKA	**Markates**	**0.45**	**119**	P	**Pg**	**00 30 32.6**	**-0.1**
MRKA				S	**Sg**	**00 30 38.6**	**-0.2**
	comp=N,7μm,0.5s						
MRKA	**Markates**	**0.45**	**119**	P	**Pg**	**00 30 32.5**	**-0.3**
MRKA				S	**Sg**	**00 30 38.4**	**-0.4**
MRKA				AML	AML	00 30 39.4	
	comp=E,11482μm,0.2s						
MRKA				AML	AML	00 30 39.5	
	comp=N,17904μm,0.7s						
XOR	**Xorichti**	**0.45**	**10**	P	**Pg**	**00 30 32.6**	**-0.1**
XOR				S	**Sg**	**00 30 38.8**	**-0.1**
	comp=N,8μm,0.3s						
AGG	**Agios Georgios**	**0.60**	**280**	P	**Pg**	**00 30 34.6**	**-0.9**
AGG				S	**Sb**	**00 30 44.1**	**+0.2**
	comp=N,4μm,0.6s						
AGG	**Agios Georgios**	**0.60**	**280**	P	**Pg**	**00 30 34.8**	**-0.7**
AGG				S	**Sg**	**00 30 44.0**	**+0.5**
AGG				AML	AML	00 30 44.7	
	comp=N,6129μm,0.5s						
AGG				AML	AML	00 30 46.7	
	comp=E,7036μm,0.3s						
DLFA	**Delphi**	**0.64**	**226**	P	**Pg**	**00 30 35.7**	**-0.6**
DLFA				S	**Sg**	**00 30 44.6**	**-0.3**
DLFA				AML	AML	00 30 45.2	
	comp=E,6726μm,0.6s						
DLFA				AML	AML	00 30 46.5	
	comp=N,10552μm,0.8s						
ALNA	**Alonissos**	**0.65**	**70**	P	**Pg**	**00 30 35.9**	**-0.5**
AOS	**Alonnisos**	**0.66**	**68**	P	**Pg**	**00 30 36.0**	**-0.7**
AOS				S	**Sg**	**00 30 45.2**	**-0.4**
	comp=N,2μm,0.6s						
DSF	**Desfina**	**0.68**	**221**	P	**Pg**	**00 30 36.1**	**-0.8**
DSF				S	**Sg**	**00 30 45.6**	**-0.3**
	comp=N,5μm,0.3s						
DSF	**Desfina**	**0.68**	**221**	P	**Pg**	**00 30 36.4**	**-0.5**
DSF				S	**Sg**	**00 30 45.8**	**-0.1**
DSF				AML	AML	00 30 47.5	
	comp=N,10588μm,0.4s						
DSF				AML	AML	00 30 47.6	
	comp=E,8164μm,0.2s						
PROD	**Prodromos**	**0.68**	**192**	P	**Pg**	**00 30 36.1**	**-0.9**
PROD	**Prodromos**	**0.68**	**192**	P	**Pg**	**00 30 36.0**	**-1.1**
VIL2	**Platees**	**0.73**	**169**	P	**Pb**	**00 30 38.1**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.75**	**277**	P	**Pg**	**00 30 37.7**	**-0.6**
MAKR				S	**Sb**	**00 30 49.2**	**+0.9**
	comp=E,4μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.75**	**277**	P	**Pg**	**00 30 37.8**	**-0.5**
MAKR				S	**Sb**	**00 30 49.3**	**+1.0**
MAKR				AML	AML	00 30 50.1	
	comp=N,8449μm,0.4s						
MAKR				AML	AML	00 30 53.6	
	comp=E,6570μm,0.3s						
VILL	**Villia**	**0.78**	**167**	P	**Pg**	**00 30 37.8**	**-1.1**
KYMI	**Kymi, Euboea I**	**0.84**	**110**	P	**Pg**	**00 30 39.5**	**-0.6**
KYMI				S	**Sb**	**00 30 51.4**	**+0.4**
	comp=E,2μm,0.8s						
LTK	**Loutraki**	**0.91**	**186**	P	**Pg**	**00 30 40.3**	**-0.9**
LTK				S	**Sb**	**00 30 54.1**	**+1.3**
	comp=E,2μm,0.5s						
LTK	**Loutraki**	**0.91**	**186**	P	**Pg**	**00 30 40.4**	**-0.9**
LRSO	**Larissa Observ**	**0.92**	**324**	P	**Pg**	**00 30 41.0**	**-0.5**
LRSO				S	**Sb**	**00 30 54.7**	**+1.5**
	comp=E,2μm,0.5s						
LOUT	**Loutraki**	**0.94**	**185**	P	**Pg**	**00 30 41.1**	**-0.8**
LOUT	**Loutraki**	**0.94**	**185**	P	**Pg**	**00 30 41.0**	**-1.0**
SERG	**Sergoula**	**0.95**	**238**	P	**Pg**	**00 30 41.2**	**-0.9**
SERG				S	**Sb**	**00 30 54.8**	**+0.6**
	comp=E,4μm,0.5s						
SERG	**Sergoula**	**0.95**	**238**	P	**Pg**	**00 30 41.3**	**-0.9**
SERG				S	**Sg**	**00 30 54.5**	**-0.2**
SERG				AML	AML	00 30 55.0	
	comp=E,5730μm,0.4s						
SERG				AML	AML	00 30 56.5	
	comp=N,9126μm,0.5s						
ANX	**Ano Chora**	**0.97**	**250**	P	**Pg**	**00 30 42.0**	**-0.5**
ANX				S	**Sb**	**00 30 55.6**	**+0.9**
	comp=N,2μm,0.7s						
TRIZ	**Trizonia**	**0.97**	**235**	P	**Pg**	**00 30 41.7**	**-0.8**
TRIZ				S	**Sb**	**00 30 55.3**	**+0.7**
	comp=N,2μm,0.5s						
TRIZ	**Trizonia**	**0.97**	**235**	P	**Pg**	**00 30 42.0**	**-0.5**
THL	**Klokotos Trika**	**1.05**	**308**	P	**Pg**	**00 30 43.3**	**-0.7**
EFP	**Efpalio**	**1.05**	**242**	P	**Pg**	**00 30 42.9**	**-1.1**
EFP				S	**Sb**	**00 30 58.6**	**+1.7**
	comp=N,1μm,0.7s						
EFP	**Efpalio**	**1.05**	**242**	P	**Pg**	**00 30 43.5**	**-0.5**
EFP				S	**Sb**	**00 30 57.9**	**+1.0**
EFP				AML	AML	00 31 01.0	
	comp=E,2636μm,0.4s						
EFP				AML	AML	00 31 02.2	
	comp=N,2309μm,0.7s						
PTL	**Penteli**	**1.07**	**145**	P	**Pg**	**00 30 43.8**	**-0.5**
ATH	**Athens Observa**	**1.07**	**152**	P	**Pg**	**00 30 44.0**	**-0.4**
ATH				S	**Sg**	**00 30 58.1**	**-0.3**
ATH	**Athens Observa**	**1.07**	**152**	P	**Pb**	**00 30 44.3**	**+0.5**
DION	**Dionisos Attik**	**1.07**	**142**	P	**Pg**	**00 30 44.1**	**-0.4**
DION				S	**Sb**	**00 30 58.8**	**+1.2**
	comp=N,3μm,0.6s						
DION	**Dionisos Attik**	**1.07**	**142**	P	**Pg**	**00 30 44.2**	**-0.2**
DION				S	**Sb**	**00 30 58.9**	**+1.2**
DION				AML	AML	00 31 00.0	
	comp=N,5027μm,0.3s						
DION				AML	AML	00 31 00.4	
	comp=E,5936μm,0.7s						
ATHU	**Athens Univers**	**1.10**	**150**	P	**Pg**	**00 30 44.7**	**-0.3**
ATHU				S	**Sg**	**00 30 59.0**	**-0.4**
SKY	**Skiros Island**	**1.14**	**92**	P	**Pg**	**00 30 45.1**	**-0.7**
GUR	**Goura**	**1.15**	**211**	P	**Pb**	**00 30 45.7**	**+0.6**
VLY	**Voula,Athens**	**1.21**	**152**	P	**Pg**	**00 30 46.1**	**-0.9**
LIT	**Litokhoron**	**1.26**	**339**	P	**Pn**	**00 30 47.2**	**+0.6**
KARY	**Karystos**	**1.39**	**130**	P	**Pn**	**00 30 49.1**	**+0.8**
KARY				S	**Sb**	**00 31 07.2**	**+0.6**
	comp=E,315nm,0.4s						
MMB	**Musomiste**	**2.71**	**10**	*eP*	Pn	00 31 00.6	-5.9
KKB	**Krupnik**	**2.94**	**360**	*eP*	Pn	00 31 05.4	-4.3
RZN	**Rozhen**	**3.03**	**24**	*eP*	**Pn**	**00 31 07.5**	**-3.6**
VTS	**Vitosha**	**3.69**	**2**	*eP*	**Pn**	**00 31 21.5**	**+1.4**
IDI	**Anoyia**	**3.91**	**158**	Pn	**Pn**	**00 31 24.5**	**+1.5**
	comp=E,1.3nm,0.3s,baz=319,slow=13,SNR=6.5						
IDI				Sn	**Sn**	**00 32 07.6**	**-0.9**
	comp=E,0.7nm,0.3s,baz=308,slow=18,SNR=1.3						
MLR	**Muntele Rosu**	**6.89**	**17**	Pn	Pn	00 31 59.7	-4.4
	comp=E,0.3nm,0.3s,baz=339,slow=23,SNR=3.0						
ESDC	**Sonseca Array**	**20.92**	**281**	P	**P**	**00 35 05.6**	**+0.1**
	comp=E,0.8nm,0.7s,baz=80,slow=11,SNR=9.0						
NOA	**NORSAR Array B**	**23.34**	**345**	P	**P**	**00 35 29.7**	**-1.3**
	comp=E,0.4nm,0.9s,baz=156,slow=12,SNR=1.5						
EKA	**Eskdalemuir Ar**	**24.04**	**322**	P	**P**	**00 35 36.8**	**-0.9**
	comp=E,0.6nm,0.6s,baz=112,slow=9.3,SNR=2.3						
TORD	**Torodi Ar. Bea**	**31.91**	**222**	P	**P**	**00 36 49.3**	**+0.9**
	comp=E,0.6nm,0.7s,baz=35,slow=9.1,SNR=2.7						

IDC 08 00:34:02.9±3.6,10.°05S×110.°78E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.4/32,mbtmp3.5/4,Error ellipse: s-maj=209.9km s-min=25.6km az=46.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.76**	**116**	P	P	00 39 26.9	+0.4
	0.6nm,0.8s,baz=287,slow=11,SNR=2.2						
ASAR	**Alice Springs**	**25.89**	**124**	P	P	00 39 36.5	-0.3
	0.5nm,0.7s,baz=298,slow=8.0,SNR=1.4						
H08S2	**Diego Garcia H**	**37.89**	**270**	T	T	01 21 26.4	
	baz=92,slow=76						
H08S3	**Diego Garcia H**	**37.90**	**270**	T	T	01 21 29.1	
	baz=92						
H08S1	**Diego Carcia H**	**37.91**	**270**	T	T	01 21 11.1	
	baz=92,slow=76						
MKAR	**Makanchi Array**	**62.05**	**338**	P	P	00 44 25.2	0.0
	0.4nm,0.4s,baz=153,slow=8.5,SNR=7.5						
BVAR	**Borovoye Array**	**71.64**	**336**	P	P	00 45 26.3	0.0
	0.5nm,0.5s,baz=145,slow=5.4,SNR=4.0						

*UPA **08** 00:49:04.7±1.0,5.°22N×82.°41W,h150km±57km,MW3.9*
ISC 08 00:49:07.6±2.0,5.°29N±0.°09×82.°6W±0.°1,h35km,n27, σ1°80/32,South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CACAO	**El Cacao, Vera**	**2.67**	**40**	*eP*	**Pn**	**00 49 46.7**	**-1.4**
CACAO				*eS*	**Sn**	**00 50 18.9**	**-0.3**
GMAL	**Guarumal, Vera**	**2.80**	**29**	*eP*	**Pn**	**00 49 49.2**	**-0.7**
GMAL				*eS*	**Sn**	**00 50 23.0**	**+0.5**
AZU	**Azuero**	**3.39**	**43**	*eP*	**Pn**	**00 49 55.7**	**-2.3**
AZU				*eS*	**Sn**	**00 50 34.2**	**-2.8**
BCO2	**Palmira**	**3.40**	**1**	*eP*	**Pn**	**00 49 57.6**	**-0.8**
BCO2				*eS*	**Sn**	**00 50 39.4**	**+1.8**
BRU2	**Volcan**	**3.48**	**358**	*eP*	**Pn**	**00 49 58.9**	**-0.6**
BRU2				*eS*	**Sn**	**00 50 40.1**	**+0.6**
MLIR3	**Monte Lirio, C**	**3.48**	**356**	*eP*	**Pn**	**00 49 59.7**	**+0.3**
CHGR2	**Aguacate**	**3.65**	**7**	*eP*	**Pn**	**00 50 01.3**	**-0.3**
BCIP	**Isla Barro Col**	**4.72**	**35**	*eP*	**Pn**	**00 50 17.2**	**+0.8**
JTS	**Las Juntas de**	**5.49**	**335**	*eP*	**Pn**	**00 50 26.0**	**-0.9**
UPD2	**Meteti**	**5.58**	**54**	*eP*	**Pn**	**00 50 31.0**	**+2.8**
YOTC	**Yotoco, Valle**	**6.36**	**102**	*eP*	**Pn**	**00 50 38.6**	**-0.4**
OTAV	**Otavalo**	**6.51**	**140**	*eP*	**Pn**	**00 50 40.0**	**-1.4**
DBBC	**Dabeiba**	**6.57**	**75**	*eP*	**Pn**	**00 50 43.3**	**+1.4**
GCUF	**Volcan Galeras**	**6.62**	**127**	*eP*	**Pn**	**00 50 42.8**	**0.0**
PCON	**Cinco Dias**	**6.85**	**115**	*eP*	**Pn**	**00 50 47.3**	**+1.1**
MARP	**Paez Belalcaza**	**7.05**	**110**	*eP*	**Pn**	**00 50 50.2**	**+1.5**
GUY2C	**Guyana, Caldas**	**7.20**	**90**	*eP*	**Pn**	**00 50 50.6**	**-0.2**
ANIL	**Santa Ana**	**7.21**	**96**	*eP*	**Pn**	**00 50 51.0**	**+0.2**
TOLC	**Tolima**	**7.28**	**95**	*eP*	**Pn**	**00 50 53.3**	**+1.4**
UREC	**San Jos de Ur**	**7.43**	**70**	*eP*	**Pn**	**00 50 55.8**	**+2.2**
ORTC	**Ortega, Tolima**	**7.45**	**100**	*eP*	**Pn**	**00 50 55.2**	**+1.2**
BETC	**Betania**	**7.59**	**110**	*eP*	**Pn**	**00 50 52.1**	**-3.8**
NORC	**Norcasia**	**7.70**	**88**	*eP*	**Pn**	**00 50 59.6**	**+2.3**
PRAC	**Prado**	**7.84**	**101**	*eP*	**Pn**	**00 51 00.5**	**+1.2**
ZARC	**Zaragoza, Cauc**	**7.99**	**74**	*eP*	**Pn**	**00 50 57.5**	**-3.8**
CHIC	**Chingaza**	**8.85**	**94**	*eP*	**Pn**	**00 51 17.0**	**+3.5**
SMLC	**San Martn de**	**9.15**	**67**	*eP*	**Pn**	**00 51 17.0**	**-0.1**

*IDC **08** 01:10:27.7±1.3,0.°56N×146.°58E,h0km,mb3.9/13, mb1 4.1/14,mb1mx3.9/47,mbtmp3.9/14,ML3.2/1,MS3.4/13, Ms1 3.4/13,ms1mx3.2/32,Error ellipse: s-maj=43.9km s-min=16.6km az=108.0*
*NEIC **08** 01:10:29.8±1.7,0.°54N±0.°10×146.°5E±0.°2,h14km±6km, mb4.3/10,Error ellipse: s-maj=24.3km s-min=11.7km az=112.0*
ISC 08 01:10:29.4±1.3,0.°6N±0.°1×146.°5E±0.°2,h10km,n36, σ0°89/25,mb4.0/15,MS3.5/9,Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**6.59**	**242**	Pn	**Pn**	**01 12 06.2**	**-0.3**
	0.5nm,0.3s,baz=53,slow=20,SNR=1.9						
JAY				Sn	Sn	01 13 10.8	-11
	3.0nm,0.3s,baz=306,slow=20,SNR=6.2						
JAY				LR	LR	01 14 13.6	
	comp=Z,208nm,18.5s,baz=68,slow=34						
KRVT	**Keravat (AS076**	**7.34**	**132**	LR	LR	01 14 30.9	
	comp=Z,82nm,18.1s,baz=309,slow=33						
GUMO	**Guam**	**13.01**	**353**	LR	LR	01 17 52.8	
	comp=Z,56nm,19.2s,baz=178,slow=34						
HNR	**Honiara**	**16.67**	**127**	LR	LR	01 20 46.5	
	comp=Z,166nm,19.8s,baz=320,slow=37						
DAV	**Davao City (W)**	**21.86**	**288**	LR	LR	01 23 48.9	
	comp=Z,77nm,18.9s,baz=150,slow=37						
WB0	**Warramunga Arr**	**23.48**	**210**	P	**P**	**01 15 38.3**	**-1.1**
WB0				IAmb	IAmb	01 15 48.6	
	comp=Z,7.7nm,0.7s						
WR0	**Warramunga Arr**	**23.57**	**209**	P	**P**	**01 15 39.2**	**-1.1**
WB2	**Warramunga Arr**	**23.65**	**210**	P	**P**	**01 15 40.2**	**-0.9**
WRA	**Warramunga Arr**	**23.65**	**210**	P	**P**	**01 15 40.9**	**-0.3**
	comp=Z,5.7nm,0.6s,baz=32,slow=11,SNR=30						
H11S3	**WAKE ISLAND Hy**	**26.61**	**47**	T	T	01 44 23.7	
	baz=229,slow=76,SNR=6.5						
H11S2	**WAKE ISLAND Hy**	**26.62**	**47**	T	T	01 44 32.9	
	baz=229,slow=76,SNR=6.3						
H11S1	**WAKE ISLAND Hy**	**26.63**	**47**	T	T	01 44 19.5	
	baz=229,slow=76,SNR=5.8						
AS31	**Alice Springs**	**27.06**	**206**	P	**P**	**01 16 14.0**	**+1.7**
ASAR	**Alice Springs**	**27.06**	**206**	P	**P**	**01 16 12.4**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=33,slow=7.0,SNR=16						
ASAR				LR	LR	01 27 01.3	
	comp=Z,128nm,18.8s,baz=45,slow=37						
ASAR	**Alice Springs**	**27.06**	**206**	P	**P**	**01 16 13.7**	**+1.5**
FITZ	**Fitzroy Crossi**	**27.70**	**227**	P	**P**	**01 16 17.1**	**-0.9**
	comp=Z,3.3nm,1.1s,baz=76,slow=8.3,SNR=2.7						
FITZ				LR	LR	01 27 36.5	
	comp=Z,116nm,18.1s,baz=281,slow=37						
STKA	**Stephens Creek**	**32.64**	**188**	LR	LR	01 29 54.4	
	comp=Z,97nm,18.9s,baz=26,slow=36						
KSRS	**Korea Array**	**40.49**	**337**	LR	LR	01 34 49.6	
	comp=Z,45nm,18.1s,baz=140,slow=36						
USA0B	**Ussuriysk Arra**	**45.30**	**345**	P	**P**	**01 18 45.5**	**-1.8**
USRK	**Ussuriysk Ar.**	**45.30**	**345**	P	**P**	**01 18 47.2**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=150,slow=6.1,SNR=2.8						
CMAR	**Chiang Mai Arr**	**49.95**	**294**	P	**P**	**01 19 24.1**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=111,slow=6.2,SNR=5.3						
CMAR				LR	LR	01 41 07.1	
	comp=Z,41nm,18.1s,baz=202,slow=37						
KLR	**Kul'dur**	**50.08**	**347**	P	**P**	**01 19 23.9**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=150,slow=6.3,SNR=6.6						
PETK	**Petropavlovsk-**	**53.15**	**8**	P	**P**	**01 19 47.7**	**+0.4**
	comp=Z,4.5nm,0.6s,baz=164,slow=7.1,SNR=15						
PETK				LR	LR	01 38 36.5	
	comp=Z,32nm,21.7s,baz=241,slow=32						
PETK	**Petropavlovsk-**	**53.15**	**8**	P	**P**	**01 19 46.9**	**-0.5**
SHL	**Shillong**	**58.19**	**300**	P	**P**	**01 20 24.0**	**-0.3**
SONM	**Songino Array**	**58.48**	**329**	P	**P**	**01 20 26.4**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=148,slow=8.5,SNR=1.8						
SONM	**Songino Array**	**58.48**	**329**	IAm

H08S1	**Diego Carcia H**	**23.37**	**247**	T	T	02 34 54.0	
	baz=65,slow=76,SNR=19						
SHL	**Shillong**	**23.92**	**355**	P	**P**	**02 08 59.7**	**-1.7**
H01W3	**Cape Leeuwin H**	**40.89**	**154**	T	T	02 55 43.1	
	baz=331						
H01W2	**Cape Leeuwin H**	**40.91**	**154**	T	T	02 55 45.9	
	baz=331						
H01W1	**Cape Leeuwin H**	**40.91**	**154**	T	T	02 55 48.9	
	baz=331						
BTK	**Batken**	**43.71**	**334**	P	**P**	**02 11 53.3**	**+1.1**
MK31	**Makanchi Array**	**46.17**	**349**	P	**P**	**02 12 11.4**	**-0.2**
MKAR	**Makanchi Array**	**46.17**	**349**	P	**P**	**02 12 12.3**	**+0.7**
	2.0nm,0.6s,baz=168,slow=8.6,SNR=22						
MKAR	**Makanchi Array**	**46.17**	**349**	P	**P**	**02 12 11.7**	**+0.1**
AS31	**Alice Springs**	**46.19**	**125**	P	**P**	**02 12 10.6**	**-1.6**
AS31				IAmb	IAmb	02 12 24.0	
	comp=Z,1.4nm,0.3s						
ASAR	**Alice Springs**	**46.19**	**125**	P	**P**	**02 12 10.5**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=294,slow=7.6,SNR=2.3						
KK31	**Karatay Array**	**46.35**	**336**	P	**P**	**02 12 13.1**	**0.0**
KK31				IAmb	IAmb	02 13 49.7	
	comp=Z,3.6nm,1.4s						
KKAR	**Karatay Array**	**46.35**	**336**	P	**P**	**02 12 13.3**	**+0.2**
SONM	**Songino Array**	**47.29**	**11**	P	**P**	**02 12 20.7**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=196,slow=10,SNR=2.4						
SONM	**Songino Array**	**47.29**	**11**	IAmb	IAmb	02 12 21.9	
	comp=Z,0.8nm,0.8s						
GEYT	**Alibeck**	**48.91**	**322**	P	**P**	**02 12 34.4**	**+1.3**
	comp=Z,1.5nm,0.5s,baz=157,slow=8.8,SNR=4.5						
GEYT	**Alibeck**	**48.91**	**322**	P	**P**	**02 12 33.0**	**-0.1**
COEN	**Coen**	**51.09**	**109**	P	**P**	**02 12 50.0**	**0.0**
ZALV	**Zalesovo Beam**	**52.73**	**353**	P	**P**	**02 13 02.0**	**+0.5**
	comp=Z,1.6nm,0.4s,baz=179,slow=7.4,SNR=6.7						
GERES	**GERESS Array B**	**82.42**	**319**	P	**P**	**02 16 11.1**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=94,slow=5.4,SNR=7.5						
TXAR	**Lajitas Array**	**144.90**	**27**	PKP	PKPbc	02 23 23.1	-0.7
	comp=Z,0.1nm,0.4s,baz=20,slow=2.9,SNR=5.7						

*IDC **08** 02:11:30.5±5.9, 20.76S×178.13W, h395km±64km, mb3.3/10, mb1 3.6/11, mb1mx3.4/25, mbtmp4.1/11, Error ellipse: s-maj=35.6km s-min=20.8km az=171.0*

ISC 08 02:11:30.9±0.8, 20.8S±0.2×178.1W±0.2, h400km, n15, σ0§82/15, mb3.6/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.89**	**192**	P	**P**	**02 15 14.2**	**+0.1**
	0.6nm,0.3s,baz=326,slow=3.6,SNR=1.5						
STKA	**Stephens Creek**	**37.56**	**244**	P	**P**	**02 18 09.5**	**+0.5**
	0.8nm,0.4s,baz=90,slow=11,SNR=4.5						
JAY	**Jayapura**	**44.02**	**289**	P	**P**	**02 19 00.4**	**-0.9**
	6.0nm,0.5s,baz=140,slow=6.0,SNR=5.2						
ASAR	**Alice Springs**	**44.34**	**257**	P	**P**	**02 19 03.8**	**0.0**
	2.7nm,0.7s,baz=88,slow=8.6,SNR=22						
ASAR				PcP	**PcP**	**02 20 39.1**	**-0.7**
	0.5nm,0.6s,baz=109,slow=4.1,SNR=7.4						
WRA	**Warramunga Arr**	**44.45**	**262**	P	**P**	**02 19 04.2**	**-0.3**
	0.9nm,0.3s,baz=96,slow=7.8,SNR=19						
PETK	**Petropavlovsk-**	**76.52**	**345**	P	**P**	**02 22 39.1**	**+1.2**
	1.0nm,0.6s,baz=132,slow=8.7,SNR=2.9						
NVAR	**Mina Array Bea**	**81.31**	**43**	P	**P**	**02 23 04.2**	**-0.1**
	0.8nm,0.8s,baz=225,slow=9.8,SNR=6.6						
TXAR	**Lajitas Array**	**87.31**	**57**	P	**P**	**02 23 34.6**	**+0.5**
	0.4nm,0.7s,baz=215,slow=8.5,SNR=6.1						
ILAR	**Eielson Array**	**88.62**	**13**	P	**P**	**02 23 38.6**	**-0.6**
	0.4nm,0.5s,baz=219,slow=5.0,SNR=6.3						
PDAR	**Pinedale Array**	**89.25**	**43**	P	**P**	**02 23 43.0**	**0.0**
	0.4nm,0.7s,baz=202,slow=1.6,SNR=4.5						
CMAR	**Chiang Mai Arr**	**90.10**	**290**	P	**P**	**02 23 48.7**	**+1.5**
	0.4nm,0.3s,baz=108,slow=2.9,SNR=4.5						
ARCES	**ARCESS Array B**	**129.18**	**350**	PKP	**PKPdf**	**02 29 50.6**	**-1.0**
	1.1nm,0.8s,baz=20,slow=2.9,SNR=3.6						
FINES	**FINESS Array B**	**136.01**	**344**	PKP	**PKiKP**	**02 30 05.8**	**-0.5**
	2.2nm,0.9s,baz=357,slow=17,SNR=3.4						
AKASG	**Malin Array Be**	**143.21**	**331**	PKhKP	PKPpre	02 30 14.5	
	1.9nm,0.4s,baz=42,slow=4.2,SNR=10.0						
GERES	**GERESS Array B**	**150.44**	**344**	PKPbc	**PKPbc**	**02 30 35.1**	**-0.8**
	0.4nm,0.5s,baz=7.8,slow=3.0,SNR=5.3						

BJI 08 02:18:38.8±0.0, 39.78N×106.33E, h5km, ML3.6/13, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTO	**Baotou**	**2.94**	**73**	*e*Pg	Pn	02 19 27.8	+1.5
BTO				Sg	Sb	02 20 05.2	-3.0
LZH	**Lanzhou**	**4.18**	**209**	*e*Pg	Pb	02 19 55.6	+2.7
LZH				Sg	Sb	02 20 48.0	+4.3
LZH				smax	smax		
	comp=N,160nm,1.3s						
LZH				smax	smax		
	comp=E,110nm,1.1s						
GTA	**Gaotai**	**5.05**	**268**	Pn	Pn	02 19 59.4	+4.1
GTA				Pg	Pg	02 20 12.5	-3.0
GTA				Sn	Sn	02 20 55.1	+1.1
GTA				Sg	Sg	02 21 16.3	-4.6
GTA				smax	smax		
	comp=N,37nm,0.9s						
GTA				smax	smax		
	comp=E,23nm,0.9s						
XAN	**Xi'an**	**6.09**	**159**	Pg	Pb	02 20 29.4	+3.9
XAN				Sg	Sb	02 21 44.6	+5.9
XAN				smax	smax		
	comp=N,22nm,0.8s						
XAN				smax	smax		
	comp=E,17nm,0.7s						
WMQ	**Urumqi**	**14.47**	**292**	*e*P	Pn	02 22 04.4	+0.1

*TEH **08** 02:28:04.3, 28.32N×51.47E, h19km, ML3.3*
*DSN **08** 02:28:07.4±1.4, 28.79N×52.19E, h10km, ML3.8/7, Error ellipse: s-maj=39.5km s-min=7.9km az=27.0*
*OMAN **08** 02:28:09.8±1.0, 28.35N×51.73E, h138km±12km, ml3.6/7, Error ellipse: s-maj=15.9km s-min=12.0km az=292.0*

ISC 08 02:28:06.8±1.6, 28.37N±0.06×51.6E±0.1, h24km, n46, σ1§19/57, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAZ1	**Kazerun**	**1.25**	**3**	*e*Pg	**Pn**	**02 28 29.5**	**+0.6**
KAZ1				*e*		02 28 57.9	
SHI	**Shiraz**	**1.51**	**33**	*e*Pg	**Pb**	**02 28 33.5**	**-0.8**
SHI				*e*		02 28 59.5	
LMD1	**Lamerd**	**1.74**	**126**	*e*Pn	**Pn**	**02 28 36.1**	**+0.5**
JHRM	**Jahrom**	**1.77**	**85**	*e*Pg	**Pb**	**02 28 39.3**	**+0.7**
JHRM				*e*		02 29 08.2	
KLNJ	**Kolanjah**	**2.63**	**0**	*e*Pn	**Pn**	**02 28 48.4**	**+0.3**
KLNJ				*e*		02 29 42.7	
IRAM	**Ramesheh**	**3.50**	**11**	*e*Pn	**Pn**	**02 29 00.2**	**+0.3**
JHBN	**Jahan bin**	**3.93**	**349**	*e*Pn	**Pn**	**02 29 06.1**	**+0.2**
ISAD	**Sadrabad**	**3.98**	**27**	*e*Pn	**Pn**	**02 29 08.1**	**+1.5**
ROKH	**ROKH**	**3.99**	**353**	*e*Pn	**Pn**	**02 29 08.8**	**+2.1**
IMEH	**Mehriz**	**4.00**	**40**	*e*Pn	**Pn**	**02 29 08.8**	**+1.9**
IGAR	**Gharneh**	**4.04**	**6**	*e*Pn	**Pn**	**02 29 08.5**	**+1.1**
IPIR	**Pirpir**	**4.34**	**352**	*e*Pn	**Pn**	**02 29 11.0**	**-0.6**
IZEF	**Zefreh**	**4.56**	**8**	*e*Pn	**Pn**	**02 29 15.5**	**+0.9**
SHME	**Shamm**	**4.68**	**119**	P	**Pn**	**02 29 14.1**	**-1.9**
SHME				S	**Sn**	**02 30 07.9**	**-1.7**
SHME	**Shamm**	**4.68**	**119**	*e*Pn	**Pn**	**02 29 16.3**	**+0.3**
NGRK	**Negar Kerman**	**4.69**	**73**	*e*Pn	**Pn**	**02 29 17.2**	**+0.7**
NGRK				*e*		02 30 15.0	
IBAF	**Bafgh**	**4.72**	**46**	*e*Pn	**Pn**	**02 29 18.0**	**+1.3**
BANOM	**Banah**	**4.86**	**119**	*i*P	**Pn**	**02 29 19.0**	**+0.5**
	SNR=20						
BANOM				S	**Sn**	**02 30 12.5**	**-1.6**
BANOM	**Banah**	**4.86**	**119**	P	**Pn**	**02 29 19.3**	**+0.8**
	SNR=20						
BANOM				S	**Sn**	**02 30 12.5**	**-1.6**
BANOM	**Banah**	**4.86**	**119**	*e*Pn	**Pn**	**02 29 19.1**	**+0.5**
NAZ	**Nazwa, Dubai**	**4.97**	**132**	P	**Pn**	**02 29 21.3**	**+1.3**
NAZ	**Nazwa, Dubai**	**4.97**	**132**	P	**Pn**	**02 29 21.7**	**+1.7**
NAZ				S	**Sn**	**02 30 17.7**	**+1.0**
NAZ	**Nazwa, Dubai**	**4.97**	**132**	*e*Pn	**Pn**	**02 29 21.5**	**+1.5**
MSFE	**Esma-Masafi**	**5.08**	**125**	P	**Pn**	**02 29 21.8**	**+0.3**
MSFE	**Esma-Masafi**	**5.08**	**125**	*e*Pn	**Pn**	**02 29 22.5**	**+1.0**
MDH	**Madha**	**5.21**	**125**	P	**Pn**	**02 29 23.4**	**+0.1**
MDH	**Madha**	**5.21**	**125**	P	**Pn**	**02 29 23.9**	**+0.6**
MDH				S	**Sn**	**02 30 21.4**	**-1.2**
MDH	**Madha**	**5.21**	**125**	*e*Pn	**Pn**	**02 29 23.9**	**+0.6**
UOSS	**Minazif**	**5.37**	**128**	*i*P	**Pn**	**02 29 25.5**	**+0.1**
	SNR=7.6						
UOSS	**Minazif**	**5.37**	**128**	P	**Pn**	**02 29 25.9**	**+0.5**
UOSS				S	**Sn**	**02 30 25.1**	**-1.3**
UOSS	**Minazif**	**5.37**	**128**	*e*Pn	**Pn**	**02 29 26.2**	**+0.8**
HATD	**Hatta, Dubai**	**5.39**	**130**	P	**Pn**	**02 29 26.9**	**+1.1**
HATD	**Hatta, Dubai**	**5.39**	**130**	P	**Pn**	**02 29 27.0**	**+1.2**
HATD				S	**Sn**	**02 30 28.8**	**+1.6**
HATD	**Hatta, Dubai**	**5.39**	**130**	*e*Pn	**Pn**	**02 29 28.0**	**+2.2**
ASHO	**Ashiyiah**	**5.44**	**131**	*i* P	**Pn**	**02 29 27.3**	**+0.8**
	SNR=10						
ASHO	**Ashiyiah**	**5.44**	**131**	P	**Pn**	**02 29 27.3**	**+0.8**
	SNR=10						
ASHO	**Ashiyiah**	**5.44**	**131**	*e*Pn	**Pn**	**02 29 27.4**	**+0.8**
SOHO	**SOHO**	**6.13**	**132**	*i* P	**Pn**	**02 29 36.3**	**+0.4**
	SNR=7.2						
SOHO	**SOHO**	**6.13**	**132**	*e*Pn	**Pn**	**02 29 36.2**	**+0.3**
TPRV	**Parvadeh(Tabas**	**6.40**	**42**	*e*Pn	**Pn**	**02 29 42.1**	**+2.4**
UMZA	**Um Al Zommool**	**6.50**	**149**	*e*Pn	**Pn**	**02 29 40.4**	**-0.5**
ARQ	**Araqi**	**6.71**	**137**	P	**Pn**	**02 29 44.4**	**+0.5**
	SNR=7.2						
ARQ				S	**Sn**	**02 31 00.4**	**+0.9**
HOQ	**Hoqain**	**7.03**	**131**	P	**Pn**	**02 29 49.0**	**+0.7**
	SNR=9.3						
HOQ				S	**Sn**	**02 31 05.7**	**-1.8**
BSY	**Bisya**	**7.56**	**137**	P	**Pn**	**02 29 56.3**	**+0.7**
BSY				S	**Sn**	**02 31 20.6**	**+0.1**
WSAR	**Wadi Sarin**	**8.15**	**127**	P	**Pn**	**02 30 03.8**	**0.0**
	SNR=8.4						
WSAR				S	**Sn**	**02 31 32.3**	**-3.0**
DMTO	**DMTO**	**11.05**	**163**	P	**Pn**	**02 30 43.6**	**+0.2**
	SNR=13						

*TEH **08** 03:01:26.3, 33.08N×46.71E, h14km, ML3.1*
*ISN **08** 03:01:28.9±1.0, 33.29N×46.81E, h11km±5km, ML2.9*

ISC 08 03:01:29.5±1.0, 33.19N±0.04×46.77E±0.03, h22km, n17, σ0§98/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.71**	**264**	*e*Pg	**Pn**	**03 01 44.0**	**-0.1**
IBDR				*e*Sg	**Sn**	**03 01 54.0**	**-0.3**
IBDR				AML	AML	03 01 55.9	
	comp=E,669nm,0.5s						
IBDR				AML	AML	03 01 59.4	
	comp=N,386nm,0.3s						
IKFM	**Kafar-mosalman**	**0.96**	**69**	*e*Pg	**Pb**	**03 01 46.5**	**-1.0**
IKFM				*e*		03 01 49.1	
IKFM				*e*Sg	**Sn**	**03 02 01.0**	**+0.3**
IGHG	**Ghaleghazi**	**1.15**	**352**	*e*Pg	**Pb**	**03 01 50.1**	**-0.8**
IGHG				*e*		03 01 51.9	
IKOM	**Komasi**	**1.17**	**32**	*e*Pg	**Pn**	**03 01 49.9**	**-0.7**
IKOM				*e*		03 01 51.8	
KER	**Kermanshah**	**1.23**	**14**	*e*Pg	**Pb**	**03 01 52.1**	**-0.1**
IDOB	**Doab**	**1.32**	**63**	*e*Pg	**Pb**	**03 01 53.4**	**-0.3**
IDOB				*e*		03 01 56.0	
IVIS	**Veis**	**1.34**	**3**	*e*Pg	**Pb**	**03 01 53.7**	**-0.3**
IVIS				*e*		03 02 15.6	
IKMR	**Kamar-syah**	**1.39**	**76**	*e*Pg	**Pb**	**03 01 54.6**	**-0.1**
IKMR				*e*		03 02 18.2	
IDHR	**Dehrash**	**1.54**	**348**	*e*Pg	**Pb**	**03 01 56.5**	**-1.0**
IDHR				*e*		03 02 20.7	
IBZA	**Bozab**	**1.57**	**35**	*e*Pg	**Pb**	**03 01 57.0**	**-1.0**
IBZA				*e*		03 02 02.6	
ILIN	**Lien**	**1.74**	**5**	*e*Pg	**Pb**	**03 01 59.4**	**-1.4**
ILIN				*e*		03 02 04.4	
BHD	**Baghdad**	**2.00**	**273**	*e*Pn	**Pb**	**03 02 05.0**	**-0.2**
BHD				*e*Sn	**Sb**	**03 02 31.0**	**+1.3**
NSR	**Nassriya**	**2.23**	**194**	*e*Pn	**Pb**	**03 02 08.0**	**-1.1**
NSR				*e*Sn	**Sb**	**03 02 38.0**	**+1.7**
HAGD	**Aghdareh**	**2.56**	**50**	*e*Pn	**Pn**	**03 02 10.8**	**+1.0**
HAGD				*e*		03 02 55.4	
IPIR	**Pirpir**	**3.50**	**97**	*e*Pn	**Pn**	**03 02 23.0**	**+0.1**
IKLH	**Kolahrood**	**4.03**	**87**	*e*Pn	**Pn**	**03 02 31.4**	**+1.3**
KLNJ	**Kolanjah**	**4.63**	**117**	*e*Pn	**Pn**	**03 02 36.9**	**-1.6**

*TEH **08** 03:04:59.4, 33.23N×46.77E, h10km, ML2.6*
*ISN **08** 03:04:59.1±0.8, 33.25N×46.73E, h11km±4km, ML2.4*

ISC 08 03:04:58.7±1.1, 33.16N±0.04×46.73E±0.04, h10km, n12, σ0§57/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.67**	**266**	*e*Pg	**Pb**	**03 05 13.0**	**+0.5**
IBDR				*e*Sg	**Sb**	**03 05 22.0**	**+0.2**
IBDR				AML	AML	03 05 25.8	
	comp=N,157nm,0.4s						
IBDR				AML	AML	03 05 35.1	
	comp=E,206nm,0.3s						
IKFM	**Kafar-mosalman**	**1.01**	**69**	*e*Pg	**Pg**	**03 05 17.4**	**-0.7**
IKFM				*e*		03 05 38.1	
KCHF	**Cheshme Sefid,**	**1.14**	**13**	*e*Pg	**Pg**	**03 05 20.2**	**-0.5**
KCHF				*e*		03 05 41.3	
IGHG	**Ghaleghazi**	**1.17**	**354**	*e*Pg	**Pg**	**03 05 21.2**	**-0.1**
IGHG				*e*		03 05 48.2	
IKOM	**Komasi**	**1.20**	**33**	*e*Pg	**Pb**	**03 05 21.7**	**0.0**
IKOM				*e*		03 05 22.8	
IDOB	**Doab**	**1.36**	**62**	*e*Pg	**Pb**	**03 05 24.8**	**+0.3**
IDOB				*e*		03 05 29.3	
IVIS	**Veis**	**1.36**	**4**	*e*Pg	**Pb**	**03 05 24.4**	**-0.1**
IVIS				*e*Sg	**Sg**	**03 05 43.1**	**+0.4**
IVIS				*e*		03 05 48.4	
IKMR	**Kamar-syah**	**1.43**	**75**	*e*Pg	**Pb**	**03 05 26.0**	**+0.5**
IKMR				*e*		03 05 47.5	
IDHR	**Dehrash**	**1.56**	**350**	*e*Pg	**Pb**	**03 05 27.6**	**-0.2**
IDHR				*e*		03 05 53.2	
IBZA	**Bozab**	**1.61**	**36**	*e*Pg	**Pb**	**03 05 28.3**	**-0.5**
IBZA				*e*		03 05 55.7	
BHD	**Baghdad**	**1.97**	**274**	*e*Pn	**Pb**	**03 05 34.0**	**-0.7**
BHD				*e*Sn	**Sb**	**03 06 00.0**	**+0.7**
NSR	**Nassriya**	**2.20**	**193**	*e*Pn	**Pb**	**03 05 38.0**	**-0.6**
NSR				*e*Sn	**Sb**	**03 06 07.0**	**+1.0**

NNC 08 03:23:10.6±6.5, 38.23N×72.16E, h0km, mb3.8, mpv3.6, 3C-1D, Error ellipse: s-maj=56.4km s-min=33.9km az=158.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**4.75**	**21**	⇑P	Pn	03 24 23.6	0.0
	1.6nm,0.3s						
AAK				⇑S	Sn	03 25 20.3	+0.9
	11nm,0.7s						
KK31	**Karatay Array**	**5.03**	**346**	⇓P	Pn	03 24 28.6	+1.3
	7.9nm,0.4s,baz=167,slow=14,SNR=79						
KK31				S	Sn	03 25 27.3	+1.2
	2.0nm,0.3s,baz=164,slow=29,SNR=12						
AB31	**Akbulak array**	**14.10**	**325**	⇑P	Pn	03 26 27.9	-3.6
	0.2nm,0.3s						

*RSNC **08** 03:24:07.7±0.9, 5.47N×77.49W, h22km±3km, ML2.9, Mw3.7*
*IDC **08** 03:24:14.7±3.9, 5.47N×77.44W, h78km±36km, mb3.3/4, mb1 3.6/6, mb1mx3.3/38, mbtmp3.7/6, MS2.8/3, Ms1 2.8/3, ms1mx2.5/19, Error ellipse: s-maj=43.0km s-min=24.5km az=54.0*

ISC 08 03:24:06.7±0.7, 5.47N±0.02×77.56W±0.03, h19km, n47, σ2§02/79, mb3.5/4, 8C, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIZC	**Pizarro, Choco**	**0.54**	**159**	⇑*i*Pg	**Pg**	**03 24 18.2**	**+0.6**
PIZC				*e*Sg	**Sg**	**03 24 24.6**	**-0.3**
PIZC				*i*		03 24 33.8	
	comp=Z,3μm,0.5s						
SOLC	**Bahia Solano**	**0.77**	**11**	*e*P	**Pb**	**03 24 20.7**	**-0.8**
SOLC				*e*S	**Sb**	**03 24 31.8**	**+0.3**
SOLC				*i*		03 24 39.6	
	comp=Z,501nm,0.5s						
PLMC	**San Jos del P**	**1.39**	**114**	⇑*e*P	**Pn**	**03 24 30.2**	**-0.9**
PLMC				*e*S	Sn	**03 24 46.9**	**-2.1**
PLMC				*i*		03 24 51.8	
	comp=Z,521nm,0.2s						
MALC	**Bahia Malaga**	**1.46**	**171**	*e*P	**Pn**	**03 24 31.8**	**-0.3**
MALC				*e*S	**Sn**	**03 24 50.5**	**-0.3**
MALC				*i*		03 24 54.0	
	comp=Z,194nm,0.3s						
CBOC	**Ciudad Bolivar**	**1.58**	**76**	⇑*i*P	Pn	**03 24 33.2**	**-0.7**
CBOC				*e*S	**Sn**	**03 24 51.9**	**-2.1**
CBOC				*i*		03 24 55.0	
	comp=Z,140nm,0.5s						
PTAC	**Punta Ardita,**	**1.69**	**351**	*e*S	**Sn**	**03 24 52.5**	**-3.7**
PTAC				*i*		03 24 55.8	
	comp=Z,355nm,0.2s						
YOTC	**Yotoco, Valle**	**1.91**	**141**	⇑*i*P	**Pn**	**03 24 37.6**	**-0.7**
YOTC				*e*S	**Sn**	**03 25 00.1**	**-1.8**
YOTC				*i*		03 25 03.2	
	comp=Z,79nm,0.3s						
DBBC	**Dabeiba**	**2.04**	**41**	*e*P	**Pn**	**03 24 39.9**	**-0.2**
DBBC				*e*S	**Sn**	**03 25 04.3**	**-0.8**
DBBC				*i*		03 25 21.9	
	comp=Z,242nm,0.5s						
HELC	**Santa Helena**	**2.14**	**70**	⇑*e*P	**Pn**	**03 24 42.1**	**+0.3**
HELC				*e*S	**Sn**	**03 25 06.6**	**-1.4**
HELC				*i*		03 25 15.0	
	comp=Z,53nm,0.5s						
GUY2C	**Guyana, Caldas**	**2.19**	**96**	⇑*e*P	**Pn**	**03 24 43.1**	**+0.5**
GUY2C				*e*S	**Sn**	**03 25 08.1**	**-1.5**
GUY2C				*i*		03 25 19.3	
	comp=Z,100nm,0.6s						
ANIL	**Santa Ana**	**2.35**	**114**	*e*P	**Pn**	**03 24 44.1**	**-0.6**
ANIL				*e*S	**Sn**	**03 25 11.6**	**-1.6**
ANIL				*i*		03 25 33.4	
	comp=Z,119nm,0.4s						
TOLC	**Tolima**	**2.39**	**111**	*e*P	**Pn**	**03 24 46.0**	**+0.8**
TOLC				*e*S	**Sb**	**03 25 16.9**	**-1.8**
TOLC				*i*		03 25 37.9	
	comp=Z,104nm,0.6s						
NORC	**Norcasia**	**2.67**	**88**	*e*P	**Pn**	**03 24 50.4**	**+1.5**
NORC				*e*S	**Sn**	**03 25 19.8**	**-1.1**
NORC				*i*		03 25 29.5	
	comp=Z,46nm,0.5s						
ORTC	**Ortega, Tolima**	**2.77**	**124**	⇑*i*P	**Pn**	**03 24 52.0**	**+1.8**
ORTC				*e*S	**Sn**	**03 25 21.7**	**-1.6**
ORTC				*i*		03 25 30.1	
	comp=Z,37nm,0.5s						
UREC	**San Jos de Ur**	**3.03**	**41**	*e*P	**Pn**	**03 24 56.6**	**+2.9**
UREC				*e*S	**Sn**	**03 25 27.9**	**-1.6**
UREC				*i*		03 25 35.6	
	comp=Z,51nm,0.8s						
MARP	**Paez Belalcaza**	**3.06**	**148**	*e*P	**Pn**	**03 24 56.5**	**+2.2**
MARP				*e*S	**Sn**	**03 25 29.6**	**-1.0**
MARP				*i*		03 25 38.3	
	comp=Z,9.5nm,0.5s						
CAPC	**Capurgana**	**3.15**	**4**	*e*P	**Pn**	**03 24 55.0**	**-0.3**
CAPC				*e*S	**Sn**	**03 25 31.5**	**-1.0**
CAPC				*i*		03 25 40.4	
	comp=Z,11nm,0.7s						
PRAC	**Prado**	**3.18**	**123**	⇑*e*P	**Pn**	**03 24 57.7**	**+1.9**
PRAC				*e*S	**Sn**	**03 25 31.4**	**-1.9**
PRAC				*i*		03 25 58.7	
	comp=Z,30nm,0.7s						
PTBC	**PUERTO BERRIO,**	**3.26**	**71**	*e*P	**Pn**	**03 24 59.0**	**+2.1**
PTBC				*e*S	**Sn**	**03 25 33.0**	**-2.2**
PTBC				*i*		03 25 57.7	
	comp=Z,25nm,0.7s						
ROSC	**El Rosal**	**3.28**	**101**	P	**Pb**	**03 25 03.9**	**-0.8**
	comp=Z,11nm,0.3s,baz=86,slow=8.6,SNR=14						
ROSC				S	**Sg**	**03 25 48.7**	**-3.7**
	baz=153,slow=23,SNR=0.9						
ROSC	**El Rosal**	**3.28**	**101**	*e*P	**Pb**	**03 25 02.5**	**-2.1**
ROSC				*e*S	**Sn**	**03 25 34.2**	**-2.0**
ROSC				*i*		03 25 45.9	
	comp=Z,22nm,0.5s						
PCON	**Cinco Dias**	**3.33**	**160**	*e*P	**Pn**	**03 24 58.5**	**+0.2**
PCON				*e*S	**Sn**	**03 25 37.7**	**+0.1**
PCON				*i*		03 25 52.7	
	comp=Z,26nm,0.5s						
ZARC	**Zaragoza, Cauc**	**3.35**	**53**	*e*P	**Pn**	**03 25 00.0**	**+1.9**
ZARC				*e*S	**Sn**	**03 25 35.9**	**-1.5**
ZARC				*i*		03 26 00.7	
	comp=Z,16nm,0.6s						
SOTA	**Rioblanco**	**3.44**	**164**	*e*S	**Sn**	**03 25 37.9**	**-2.6**
SPBC	**San Pablo de B**	**3.47**	**87**	*e*P	**Pn**	**03 25 01.9**	**+2.1**
SPBC				*e*S	**Sn**	**03 25 39.1**	**-1.4**
SPBC				*i*		03 25 47.8	
	comp=Z,17nm,0.6s						
BETC	**Betania**	**3.48**	**143**	*e*P	**Pn**	**03 25 02.8**	**+2.9**
BETC				*e*S	**Sn**	**03 25 38.3**	**-2.4**
AZU	**Azuero**	**3.55**	**311**	*e*P	Pn	03 24 58.3	-2.6
AZU				*e*S	**Sn**	**03 25 38.2**	**-4.2**
AZU				*i*		03 25 42.7	
	comp=Z,68nm,0.4s						
GARC	**Garzon, Huila**	**3.86**	**148**	*e*P	**Pn**	**03 25 07.1**	**+1.8**
GARC				*e*S	**Sn**	**03 25 48.5**	**-1.7**
GARC				*i*		03 25 56.1	
	comp=Z,56nm,0.4s						
CHIC	**Chingaza**	**3.90**	**102**	*e*P	**Pn**	**03 25 09.2**	**+3.2**
CHIC				*e*S	**Sn**	**03 25 47.8**	**-3.7**
CHIC				*i*		03 25 52.8	
	comp=Z,9.3nm,0.6s						
VILC	**Villavicencio,**	**4.08**	**109**	*e*P	**Pn**	**03 25 11.2**	**+2.9**
VILC				*e*S	**Sn**	**03 25 54.7**	**-0.8**
VILC				*i*		03 26 06.8	
	comp=Z,18nm,0.4s						
GCUF	**Volcan Galeras**	**4.22**	**177**	*e*S	**Sn**	**03 25 56.1**	**-

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.89**	**348**	P	Pg	03 46 43.1	-3.0
JMJ2				S	**Sg**	**03 46 56.0**	**-1.7**
JOGS	**Gusukube**	**0.89**	**353**	P	Pg	03 46 42.9	-3.4
JOGS				S	**Sg**	**03 46 55.9**	**-2.0**
JIRB	**Irabujima**	**1.01**	**341**	P	Pb	03 46 45.3	-3.3
JIRB				*e*S	**Sg**	**03 46 59.3**	**-2.3**
JTJ	**Tarama**	**1.07**	**316**	P	**Pb**	**03 46 47.3**	**-2.4**
JTJ				S	**Sb**	**03 47 02.8**	**-1.1**
JIKM	**Ikemajima**	**1.08**	**346**	P	Pb	03 46 45.9	-3.9
JISG	**Ishigakijimahi**	**1.32**	**303**	P	**Pn**	**03 46 51.7**	**-1.8**
JISG				S	**Sb**	**03 47 10.1**	**-0.8**
JIJ	**Ishigaki jima**	**1.36**	**291**	P	**Pn**	**03 46 53.0**	**-1.1**
JKRS	**Kuro-shima**	**1.44**	**285**	P	**Pn**	**03 46 54.4**	**-0.7**
HATJ	**Hateruma jima**	**1.59**	**277**	P	**Pn**	**03 46 56.2**	**-1.0**
HATJ				*e*S	**Sg**	**03 47 19.2**	**-0.9**
IRIF	**Iriomote-Funau**	**1.71**	**286**	P	**Pn**	**03 46 58.0**	**-0.9**
YOJ	**Yonaguni jima**	**2.37**	**285**	P	**Pn**	**03 47 06.9**	**-1.1**
YOJ	**Yonaguni jima**	**2.37**	**285**		**Pn**	**03 47 08.6**	**+0.6**
NACB	**Ninganchiao**	**3.61**	**276**		**Pn**	**03 47 24.7**	**-0.3**
YHNB	**Yeheng**	**3.87**	**283**		**Pn**	**03 47 28.9**	**+0.2**
SSLB	**Suanglung**	**4.19**	**270**		**Pn**	**03 47 33.2**	**+0.2**
TWG	**Pinlang**	**4.22**	**257**		**Pn**	**03 47 34.4**	**+0.9**
TPUB	**Ta-pu**	**4.53**	**264**		**Pn**	**03 47 37.4**	**-0.3**
KSRS	**Korea Array**	**13.70**	**8**	Pn	**Pn**	**03 49 44.6**	**+1.3**
	0.2nm,0.3s,baz=174,slow=13,SNR=2.8						
JCJ	**Chichijima**	**15.38**	**74**	LR	LR	03 54 40.1	
	comp=Z,261nm,19.5s,baz=227,slow=32						
JHJ2	**Mitsune**	**15.56**	**51**	P	**Pn**	**03 50 07.1**	**-1.4**
MAJO	**Matsushiro**	**16.70**	**38**	Pn	**Pn**	**03 50 23.2**	**0.0**
MAJO				IAmb	IAmb	03 50 35.7	
	comp=Z,11nm,0.9s						
MAT	**Matsushiro**	**16.70**	**38**	P	**Pn**	**03 50 23.9**	**+0.7**
MJAR	**Matsushiro Arr**	**16.70**	**38**	Pn	**Pn**	**03 50 24.3**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=222,slow=9.4,SNR=3.2						
MJAR				LR	LR	03 56 14.4	
	comp=Z,42nm,21.0s,baz=215,slow=35						
MJB9	**Matsu-Tunnel**	**16.70**	**38**	Pn	**Pn**	**03 50 23.9**	**+0.7**
MJB9				IAmb	IAmb	03 50 35.6	
	comp=Z,11nm,0.9s						
XAN	**Xi'an**	**17.69**	**309**		**P**	**03 50 37.6**	**+1.1**
MYLDM	**Lahad Datu**	**19.78**	**201**	P	**P**	**03 50 57.3**	**-2.2**
ASAJ	**Asahikawa**	**24.57**	**31**	LR	LR	04 01 08.7	
	comp=Z,95nm,18.3s,baz=178,slow=36						
CMAR	**Chiang Mai Arr**	**25.35**	**263**	P	**P**	**03 51 59.8**	**+3.4**
	comp=Z,0.8nm,0.6s,baz=64,slow=7.1,SNR=1.6						
CMAR				LR	LR	04 01 58.5	
	comp=Z,136nm,18.6s,baz=142,slow=37						
CMAR	**Chiang Mai Arr**	**25.35**	**263**	P	**P**	**03 51 55.9**	**-0.6**
KLR	**Kul'dur**	**25.78**	**9**	P	**P**	**03 52 02.0**	**+2.0**
	comp=Z,0.9nm,0.8s,baz=306,slow=19,SNR=2.0						
KLR				LR	LR	04 02 38.9	
	comp=Z,42nm,20.6s,baz=164,slow=37						
SONM	**Songino Array**	**28.35**	**332**	P	**P**	**03 52 23.7**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=139,slow=13,SNR=1.8						
SONM				LR	LR	04 05 07.1	
	comp=Z,133nm,18.9s,baz=120,slow=39						
KAPI	**Kappang**	**29.26**	**192**	P	**P**	**03 52 30.2**	**-1.3**
KULM	**Kulim**	**30.24**	**236**	P	**P**	**03 52 39.8**	**-0.5**
SHL	**Shillong**	**30.56**	**285**	P	**P**	**03 52 45.4**	**+2.1**
TLY	**Talaya**	**32.46**	**334**	LR	LR	04 07 20.3	
	comp=Z,58nm,21.4s,baz=138,slow=38						
PETK	**Petropavlovsk-**	**37.98**	**31**	LR	LR	04 09 32.3	
	comp=Z,31nm,21.8s,baz=239,slow=36						
H11N1	**WAKE ISLAND Hy**	**38.53**	**88**	T	T	04 34 40.2	
	baz=284,slow=75,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**38.54**	**88**	T	T	04 34 39.3	
	baz=284,slow=75,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**38.55**	**88**	T	T	04 34 42.2	
	baz=284,slow=75,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**38.65**	**90**	T	T	04 34 47.5	
	baz=286,slow=74						
H11S1	**WAKE ISLAND Hy**	**38.66**	**90**	T	T	04 34 49.5	
	baz=286,slow=74						
H11S2	**WAKE ISLAND Hy**	**38.67**	**90**	T	T	04 34 53.8	
	baz=286						
MK31	**Makanchi Array**	**41.36**	**315**	P	**P**	**03 54 15.9**	**+0.7**
MKAR	**Makanchi Array**	**41.36**	**315**	P	**P**	**03 54 17.0**	**+1.8**
	comp=Z,1.8nm,0.6s,baz=97,slow=10,SNR=21						
MKAR	**Makanchi Array**	**41.36**	**315**	P	**P**	**03 54 15.7**	**+0.5**
MAKZ	**Makanchi**	**41.56**	**314**	P	**P**	**03 54 18.2**	**+1.2**
MAKZ				IAmb	IAmb	03 54 19.9	
	comp=Z,2.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**41.71**	**180**	P	**P**	**03 54 14.6**	**-3.6**
	comp=Z,1.9nm,0.9s,baz=0.0,slow=17,SNR=1.8						
FITZ	**Fitzroy Crossi**	**41.71**	**180**	P	**P**	**03 54 15.0**	**-3.3**
ZALV	**Zalesovo Beam**	**42.71**	**325**	P	**P**	**03 54 26.3**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=112,slow=11,SNR=2.6						
ZALV				LR	LR	04 13 45.1	
	comp=Z,91nm,18.4s,baz=100,slow=38						
WRA	**Warramunga Arr**	**44.39**	**168**	P	**P**	**03 54 38.7**	**-1.3**
	comp=Z,3.2nm,0.7s,baz=348,slow=8.8,SNR=5.4						
WRA	**Warramunga Arr**	**44.39**	**168**	IAmb	IAmb	03 54 45.1	
	comp=Z,0.5nm,1.2s						
WR0	**Warramunga Arr**	**44.44**	**168**	P	**P**	**03 54 38.2**	**-2.1**
KURK	**Kurchatov**	**44.91**	**319**	P	**P**	**03 54 44.6**	**+0.7**
KURBB	**Kurchatov Arra**	**44.93**	**319**	P	**P**	**03 54 44.6**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=110,slow=8.1,SNR=4.8						
AAK	**Ala-Archa**	**45.86**	**307**	P	**P**	**03 54 51.8**	**+0.1**
AAK				IAmb	IAmb	03 55 15.1	
	comp=Z,2.8nm,0.9s						
AS31	**Alice Springs**	**47.95**	**170**	P	**P**	**03 55 06.1**	**-1.8**
AS31				IAmb	IAmb	03 55 15.2	
	comp=Z,4.4nm,1.8s						
ASAR	**Alice Springs**	**47.95**	**170**	P	**P**	**03 55 06.0**	**-2.0**
	comp=Z,1.1nm,1.0s,baz=357,slow=14,SNR=6.1						
KKAR	**Karatay Array**	**48.82**	**307**	P	**P**	**03 55 16.4**	**+1.8**
NWAO	**Narrogin (SRO)**	**57.03**	**188**	P	**P**	**03 56 14.8**	**-0.4**
	comp=Z,4.4nm,0.7s,baz=326,slow=3.6,SNR=1.8						
KBZ	**Khabaz**	**68.76**	**310**	P	**P**	**03 57 33.4**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=45,slow=1.4,SNR=1.9						
FINES	**FINESS Array B**	**73.70**	**330**	P	**P**	**03 58 03.8**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=70,slow=6.2,SNR=2.8						
BRTR	**Keskin Array B**	**76.53**	**308**	P	**P**	**03 58 21.1**	**+1.3**
	comp=Z,1.4nm,0.9s,baz=63,slow=10,SNR=3.2						
NB2	**NORSAR Subarra**	**80.32**	**333**	P	**P**	**03 58 42.3**	**+2.1**
	comp=Z,0.9nm,0.7s,baz=52,slow=6.2						
NOA	**NORSAR Array B**	**80.32**	**333**	P	**P**	**03 58 41.3**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=55,slow=6.3,SNR=2.1						
NOA				LR	LR	04 35 51.2	
	comp=Z,39nm,19.8s,baz=245,slow=37						
GERES	**GERESS Array B**	**85.57**	**322**	P	**P**	**03 59 10.2**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=52,slow=5.2,SNR=5.0						

*IDC **08** 03:50:57.8±2.0, 7.°63N×94.°34E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.7/47, mbtmp3.9/9, Error ellipse: s-maj=73.0km s-min=28.4km az=50.0*

*NEIC **08** 03:51:05.0±1.0, 7.°8N±0.°1×94.°6E±0.°2, h47km±8km, mb4.2/5, Error ellipse: s-maj=29.8km s-min=12.6km az=56.0.*

ISC 08 03:51:02.0±1.1, 7.°7N±0.°2×94.°4E±0.°2, h24km, n23, σ0.°56/21, mb4.1/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.54**	**134**	Pn	**Pn**	**03 51 56.3**	**+0.7**
LHMI				Sn	**Sn**	**03 52 36.8**	**0.0**
IPM	**Ipoh**	**7.34**	**116**	Pn	**Pn**	**03 52 48.1**	**+0.4**
IPM					**Sn**	**03 54 09.8**	**-0.6**
LSA	**Lhasa**	**22.07**	**352**	P	**P**	**03 55 57.2**	**+1.4**
H08S3	**Diego Garcia H**	**26.65**	**236**	T	T	04 23 23.7	
	baz=54,slow=76,SNR=17						
H08S2	**Diego Garcia H**	**26.65**	**236**	T	T	04 23 24.7	
	baz=54,slow=76,SNR=23						
H08S1	**Diego Carcia H**	**26.66**	**236**	T	T	04 23 24.0	
	baz=54,slow=76,SNR=12						
MK31	**Makanchi Array**	**40.29**	**347**	P	**P**	**03 58 37.0**	**-0.4**
MK31				IAmb	IAmb	04 00 00.2	
	comp=Z,1.2nm,1.0s						
MKAR	**Makanchi Array**	**40.29**	**347**	P	**P**	**03 58 37.4**	**0.0**
	comp=Z,1.8nm,0.6s,baz=167,slow=7.8,SNR=16						
MKAR	**Makanchi Array**	**40.29**	**347**	P	**P**	**03 58 37.0**	**-0.4**
SONM	**Songino Array**	**41.25**	**12**		**PcP**	**04 00 43.7**	**-0.2**
KURBB	**Kurchatov Arra**	**44.75**	**346**	P	**P**	**03 59 13.5**	**0.0**
	comp=Z,2.2nm,0.6s,baz=168,slow=7.1,SNR=18						
KURK	**Kurchatov**	**44.82**	**346**	P	**P**	**03 59 13.5**	**-0.5**
KURK	**Kurchatov**	**44.82**	**346**	IAmb	IAmb	04 00 40.7	
	comp=Z,7.9nm,1.6s						
ZAA0	**Zalesovo Array**	**46.74**	**352**	P	**P**	**03 59 29.1**	**-0.1**
ZAA0				IAmb	IAmb	03 59 30.5	
	comp=Z,2.6nm,0.6s						
ZALV	**Zalesovo Beam**	**46.74**	**352**	P	**P**	**03 59 30.1**	**+1.0**
	comp=Z,2.2nm,0.3s,baz=180,slow=8.2,SNR=5.6						
ZALV	**Zalesovo Beam**	**46.74**	**352**	P	**P**	**03 59 29.6**	**+0.4**
WRA	**Warramunga Arr**	**47.97**	**126**	P	**P**	**03 59 39.1**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=306,slow=8.4,SNR=0.8						
BVAR	**Borovoye Array**	**49.21**	**341**	P	**P**	**03 59 48.6**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=140,slow=11,SNR=2.5						
ABKAR	**Akbulak array**	**50.48**	**331**	P	**P**	**03 59 58.0**	**-0.1**
PETK	**Petropavlovsk-**	**67.98**	**36**	P	**P**	**04 01 58.7**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=246,slow=11,SNR=5.3						
FINES	**FINESS Array B**	**72.96**	**332**	P	**P**	**04 02 28.9**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=129,slow=2.7,SNR=4.7						
ARCES	**ARCESS Array B**	**75.49**	**340**	P	**P**	**04 02 44.1**	**+0.1**
	comp=Z,7.1nm,1.2s,baz=97,slow=5.8,SNR=3.6						
NOA	**NORSAR Array B**	**79.98**	**331**	P	**P**	**04 03 08.6**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=91,slow=5.8,SNR=3.3						

*SJA **08** 04:10:07.8±0.6, 33.°51S×72.°85W, h13km±6km, ML5.3, MW5.4*

*IDC **08** 04:10:13.4±0.5, 33.°63S×72.°06W, h0km, mb4.6/16, mb1 4.7/18, mb1mx4.6/22, mbtmp4.6/18, ML4.9/2, MS4.8/14, Ms1 4.8/14, ms1mx4.6/20, Error ellipse: s-maj=20.3km s-min=14.0km az=89.0*

*NEIC **08** 04:10:15.2±1.4, 33.°75S±0.°04×72.°20W±0.°05, h15km±2km, Error ellipse: s-maj=5.7km s-min=5.2km az=103.0*

*NEIC **08** 04:10:15.2, 33.°78S×72.°20W, h22km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.67; $M_{\theta\theta}$-0.67; $M_{\phi\phi}$-2.00; $M_{r\theta}$0.95; $M_{r\phi}$ 1.35; $M_{\theta\phi}$-4.41; Fault plane solution: M_o5.29000×10^{16} NP1:ϕ_s164.78000°, δ74.86000°, λ99.35000°. NP2:ϕ_s312.53000°, δ17.74000°, λ59.00000°. Principal axes: T 5.3313, Plg59.0000°, Azm88.0000°; N -0.0840, Plg9.0000°, Azm342.0000°; P -5.2473, Plg29.0000°, Azm247.0000°;*

*GUC **08** 04:10:15.6±0.7, 33.°78S×72.°20W, h15km±4km, ML4.8*

*NEIC **08** 04:10:16, 33.°86S×72.°08W, h26km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}5.87; $M_{\theta\theta}$0.35; $M_{\phi\phi}$-6.22; $M_{r\theta}$1.34; $M_{r\phi}$ -0.35; $M_{\theta\phi}$-2.58; Fault plane solution: M_o6.72000×10^{16} NP1:ϕ_s16.00000°, δ35.00000°, λ111.00000°. NP2:ϕ_s170.00000°, δ58.00000°, λ75.00000°. Principal axes: T 6.6947, Plg73.0000°, Azm43.0000°; N 0.0546, Plg12.0000°, Azm178.0000°; P -6.7493, Plg11.0000°, Azm271.0000°;*

*VAO **08** 04:10:18.5±1.4, 33.°71S×71.°86W, h27km±9km, mb5.1*

*GCMT **08** 04:10:21.0±0.2, 33.°64S±0.°01×72.°27W±0.°01, h24km, MW5.2/110, Moment Tensor Solution. s88,c129; s110,c178; Duration: 1$\dagger$0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.78±.02; $M_{\theta\theta}$-0.03±.01; $M_{\phi\phi}$-0.75±.01; $M_{r\theta}$-0.10±.02; $M_{r\phi}$-0.09±.01; $M_{\theta\phi}$-0.55±.02; Best double couple: M_o0.95700×10^{17} NP1:ϕ_s5.00000°, δ27.00000°, λ87.00000°. NP2:ϕ_s189.00000°, δ63.00000°, λ92.00000°. Principal axes: T 0.9660, Plg72.0000°, Azm102.0000°; N -0.0200, Plg1.0000°, Azm8.0000°; P -0.9470, Plg18.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 04:10:14.6±0.8, 33.°71S±0.°02×72.°28W±0.°03, h11km±4km, n501, σ1$\dagger$63/484, mb5.1/66, MS4.9/23, 3C-8D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.86**	**38**	*e*P	**Pb**	**04 10 31.9**	**+0.3**
VA01				*e*S	**Sn**	**04 10 44.4**	**-0.9**
VA01	**Torpederas**	**0.86**	**38**		**Pb**	**04 10 32.4**	**+0.8**
VA01					**Sn**	**04 10 44.8**	**-0.5**
MT02	**Curacav**	**1.05**	**65**	⇓*i*P	**Pb**	**04 10 34.1**	**-0.8**
MT02				*i* S	**Sb**	**04 10 48.4**	**-0.3**
MT02				IAML		04 10 52.7	
	comp=N,31μm,0.6s						
MT02	**Curacav**	**1.05**	**65**		**Pb**	**04 10 34.1**	**-0.8**
MT02					**Sb**	**04 10 48.5**	**-0.2**
BO01	**Tunca**	**1.20**	**125**	⇓*i*P	**Pn**	**04 10 35.4**	**-2.1**
BO01				*e*S	**Sb**	**04 10 50.8**	**-2.2**
BO01	**Tunca**	**1.20**	**125**		**Pn**	**04 10 35.3**	**-2.1**
ROC1	**El Roble**	**1.28**	**56**		**Pn**	**04 10 38.3**	**-0.5**
ROC1	**El Roble**	**1.28**	**56**	*e*P	**Pn**	**04 10 38.5**	**-0.3**
ROC1				*e*S	**Sg**	**04 10 57.3**	**+1.2**
ROCH	**El Roble**	**1.29**	**56**	⇓*i*P	**Pn**	**04 10 38.3**	**-0.5**
ROCH				*e*S	**Sn**	**04 10 55.9**	**-0.3**
ROCH				IAML		04 11 00.3	
	comp=N,26μm,0.6s						
MT05	**Renca**	**1.32**	**77**	⇓*i*P	**Pn**	**04 10 38.7**	**-0.5**
MT05				*e*S	**Sb**	**04 10 55.9**	**-0.7**
MT05				IAML		04 11 02.8	
	comp=E,32μm,0.4s						
MT05	**Renca**	**1.32**	**77**		**Pn**	**04 10 38.1**	**-1.1**
GO05	**Huala**	**1.33**	**168**	⇑*i*P	**Pn**	**04 10 38.3**	**-1.0**
GO05				*i* S	**Sn**	**04 10 54.7**	**-2.3**
GO05				IAML		04 11 02.7	
	comp=E,30μm,0.7s						
GO05	**Huala**	**1.33**	**168**		**Pn**	**04 10 38.2**	**-1.0**
GO05	**Huala**	**1.33**	**168**	*e*P	**Pn**	**04 10 38.9**	**-0.4**
PEL	**Peldehue**	**1.45**	**68**	⇓*i*P	**Pn**	**04 10 40.8**	**0.0**
PEL				*i* S	**Sb**	**04 10 59.6**	**-0.4**
PEL				IAML		04 11 07.0	
	comp=E,27μm,0.4s						
PEL	**Peldehue**	**1.45**	**68**		**Pn**	**04 10 40.7**	**0.0**
PEL	**Peldehue**	**1.45**	**68**	*e*P	**Pn**	**04 10 40.8**	**0.0**
PEL				*e*S	**Sg**	**04 11 01.2**	**0.0**
FSR	**Penalolen**	**1.48**	**82**	⇑*e*P	**Pn**	**04 10 41.0**	**-0.3**
FSR				*e*S	**Sn**	**04 11 00.3**	**-0.3**
CLCH	**Cerro Calan**	**1.49**	**78**	⇓*i*P	**Pn**	**04 10 41.4**	**0.0**
CLCH				*e*S	**Sn**	**04 11 00.1**	**-0.7**
CLCH				IAML		04 11 14.3	
	comp=E,37μm,0.8s						
MT03	**Universidad Ad**	**1.49**	**82**	⇓*i*P	**Pn**	**04 10 40.8**	**-0.7**
MT03				*i* S	**Sn**	**04 11 00.3**	**-0.7**
MT03				IAML		04 11 04.6	
	comp=N,31μm,0.3s						
BO02	**Sierra Bellavi**	**1.65**	**132**	*e*P	**Pn**	**04 10 42.6**	**-1.0**
BO02				*e*S	**Sn**	**04 11 03.7**	**-1.1**
BO02				IAML		04 11 13.4	
	comp=E,36μm,0.5s						
BO02	**Sierra Bellavi**	**1.65**	**132**		**Pn**	**04 10 42.7**	**-1.0**
VA03	**San Esteban**	**1.73**	**57**	*e*P	**Pn**	**04 10 45.1**	**+0.4**
VA03				*e*S	**Sb**	**04 11 08.3**	**+0.1**
VA03				IAML		04 11 15.3	
	comp=N,30μm,0.4s						
VA03	**San Esteban**	**1.73**	**57**		**Pn**	**04 10 45.2**	**+0.4**
LMEL	**Las Melosas**	**1.73**	**95**	*e*P	**Pn**	**04 10 44.4**	**-0.5**
LMEL				*e*S	**Sn**	**04 11 06.4**	**-0.7**
LMEL				IAML		04 11 14.9	
	comp=N,17μm,0.3s						
COIS	**El Sosneado**	**2.62**	**123**	*e*P	**Pn**	**04 10 59.4**	**+2.4**
COIS				*e*S	**Sg**	**04 11 37.9**	**-1.0**
CO02	**Combarbal**	**2.72**	**24**		**Pn**	**04 10 58.4**	**-0.1**
LAMA	**Las Malvinas**	**2.82**	**117**	*e*P	**Pn**	**04 11 02.1**	**+2.4**
AUSP	**Uspallata**	**2.84**	**59**	*e*P	**Pn**	**04 11 02.7**	**+2.4**
ARCO	**CERRO ARCO**	**2.93**	**74**	*e*P	**Pn**	**04 11 04.5**	**+3.1**
ARCO				*e*S	**Sg**	**04 11 50.2**	**+1.4**
ARCO				IAML		04 11 52.5	
	comp=Z,7μm,0.7s						
AAGR	**Agrelo**	**2.95**	**79**	*e*P	**Pn**	**04 11 04.2**	**+2.7**
BI02	**San Fabin de**	**3.06**	**165**	*e*P	**Pn**	**04 11 03.1**	**0.0**
BI02				*e*S	**Sn**	**04 11 41.2**	**+1.4**
BI02				IAML		04 11 55.7	
	comp=N,4μm,0.7s						
BI02	**San Fabin de**	**3.06**	**165**		**Pn**	**04 11 03.0**	**-0.1**
ASAL	**Salagasta**	**3.10**	**70**	*e*P	**Pn**	**04 11 07.1**	**+3.5**
MORA	**Malargue**	**3.12**	**121**	*e*P	**Pn**	**04 11 06.1**	**+2.2**
EDS3	**Malargue**	**3.14**	**132**	*e*P	**Pn**	**04 11 07.2**	**+3.0**
EDS3				*e*S	**Sb**	**04 11 50.4**	**+1.5**
AVIZ	**Vizcacheras**	**3.15**	**87**	*e*P	**Pn**	**04 11 06.8**	**+2.5**
RTLS	**Leoncito**	**3.15**	**54**	*e*P	**Pn**	**04 11 07.7**	**+3.2**
RTLS				*e*S	**Sg**	**04 11 54.4**	**-1.5**
RTLS				IAML		04 11 57.1	
	comp=Z,7μm,2.0s						
CO03	**El Pedregal**	**3.16**	**26**		**Pn**	**04 11 04.8**	**+0.3**
BI03	**Tigo**	**3.19**	**191**		**Pn**	**04 11 04.1**	**-0.7**
RTCV	**Cerro Valdivia**	**3.65**	**61**	*e*P	**Pn**	**04 11 13.3**	**+2.2**
RTCV				IAML		04 12 12.4	
	comp=Z,3μm,3.3s						
ZON	**Zonda**	**3.72**	**56**		**Pn**	**04 11 11.8**	**-0.3**
ZON	**Zonda**	**3.72**	**56**	*e*P	**Pn**	**04 11 15.0**	**+2.8**
ZON				*e*S	**Sb**	**04 12 07.8**	**+2.1**
ZON				IAML		04 12 22.5	
	comp=Z,4μm,2.0s						
GO04	**Tololo Observa**	**3.74**	**20**	Pn	**Pn**	**04 11 12.7**	**+0.1**
RTLL	**Cerro Villicun**	**3.99**	**55**	*e*P	**Pn**	**04 11 18.2**	**+2.3**
RTLL				*e*S	**Sb**	**04 12 14.2**	**+0.8**
RTLL				IAML		04 12 24.3	
	comp=Z,3μm,2.3s						
ACCO	**Cerro Coronel**	**4.13**	**42**	*e*P	**Pn**	**04 11 20.2**	**+2.2**
ACCO				IAML		04 12 46.6	
	comp=Z,2μm,1.0s						
CO01	**Juntas del Tor**	**4.16**	**27**		**Pn**	**04 11 19.1**	**+0.8**
AROD	**Rodeo**	**4.26**	**35**	*e*P	**Pn**	**04 11 22.4**	**+2.6**
AROD				*e*S	**Sg**	**04 12 29.8**	**-1.7**
ACDV	**Cuesta del Vie**	**4.43**	**38**	*e*P	**Pn**	**04 11 24.4**	**+2.4**
ACDV				*e*S	**Sb**	**04 12 31.5**	**+5.4**
ACDV				IAML		04 12 46.9	
	comp=Z,2μm,2.2s						
AC05	**El Transito**	**5.15**	**20**	Pn	**Pn**	**04 11 32.1**	**+0.2**
LC01	**Cunco**	**5.19**	**177**	Pn	**Pn**	**04 11 31.3**	**-1.0**
AGUA	**GUANDACOL**	**5.30**	**39**	*e*P	**Pn**	**04 11 35.8**	**+1.9**
AGUA				*e*S	**Sg**	**04 12 59.3**	**-5.7**
AGUA				IAML		04 13 11.9	
	comp=Z,2μm,2.8s						
VA04	**Juan Fernndez**	**5.46**	**269**		**Pn**	**04 11 36.2**	**+0.2**
H03S1	**Juan Fernandez**	**5.52**	**267**	Pn	**Pn**	**04 11 36.9**	**+0.3**
H03S1				Sn	**Sn**	**04 12 34.3**	**-5.7**
H03S1				T	T	04 17 32.3	
	baz=88,slow=75,SNR=3277						
H03S3	**Juan Fernandez**	**5.53**	**267**	Pn	**Pn**	**04 11 37.1**	**+0.5**
H03S3				Sn	**Sn**	**04 12 34.5**	**-5.5**
H03S3				T	T	04 17 48.1	
	baz=88,slow=75,SNR=4112						
H03S2	**Juan Fernandez**	**5.54**	**267**	Pn	**Pn**	**04 11 37.0**	**+0.2**
H03S2				Sn	**Sn**	**04 12 34.4**	**-6.0**
H03S2				T	T	04 17 36.7	
	baz=88,slow=75,SNR=2506						
H03N1	**Juan Fernandez**	**5.54**	**271**	Pn	**Pn**	**04 11 38.2**	**+1.3**
H03N1				Sn	**Sn**	**04 12 35.6**	**-4.9**
H03N1				T	T	04 17 39.8	
	baz=98,slow=74,SNR=34						
H03N3	**Juan Fernandez**	**5.55**	**271**	Pn	**Pn**	**04 11 38.1**	**+1.1**
H03N3				Sn	**Sn**	**04 12 35.5**	**-5.3**
H03N3				T	T	04 17 16.4	
	baz=98,slow=74,SNR=35						
H03N2	**Juan Fernandez**	**5.56**	**271**	Pn	**Pn**	**04 11 38.3**	**+1.2**
H03N2				Sn	**Sn**	**04 12 35.7**	**-5.2**
H03N2				T	T	04 17 39.4	
	baz=98,slow=74,SNR=145						
AC04	**Llanos de Chal**	**5.58**	**11**	Pn	**Pn**	**04 11 36.6**	**-1.1**
MRA	**San Martin**	**5.66**	**79**	*e*P	**Pn**	**04 11 39.5**	**+0.7**
MRA				IAML		04 13 20.3	
	comp=Z,960nm,1.4s						
APLL	**PUNTA DE LOS L**	**5.89**	**57**	*e*P	**Pn**	**04 11 41.9**	**0.0**
APLL				*e*S	**Sb**	**04 13 02.2**	**-5.9**
APLL				IAML		04 13 18.9	
	comp=Z,637nm,2.2s						
VCA	**Vinchina**	**6.06**	**36**	*e*P	**Pn**	**04 11 46.0**	**+1.6**
VCA				*e*S	**Sb**	**04 13 09.4**	**-3.5**
VCA				IAML		04 13 28.6	
	comp=Z,2μm,2.2s						
SUCO	**SUCO**	**6.18**	**89**	*e*P	Pn	04 11 52.6	+6.6
SUCO				IAML		04 13 47.2	
	comp=Z,573nm,0.9s						
ACLC	**CERRO LA CRUZ**	**6.23**	**48**	*e*P	**Pn**	**04 11 46.6**	**-0.2**
ACLC				*e*S	**Sb**	**04 13 11.2**	**-6.8**
ACLC				IAML		04 13 14.7	
	comp=Z,2μm,2.2s						
TCA	**Tanti**	**6.90**	**72**	*e*P	**Pn**	**04 11 56.0**	**+0.1**
TCA				IAML		04 14 05.5	
	comp=Z,1μm,3.3s						
PLCA	**Paso Flores**	**7.15**	**169**	Pn	**Pn**	**04 12 00.6**	**+1.4**
	comp=Z,8.0nm,0.3s,baz=335,slow=11,SNR=186						
PLCA				Sn	Sn	04 13 32.8	+12
	comp=Z,2.1nm,

MALB Monte Alegre 35.90 32 *e*P P **04 17 14.1 -0.9**
PRAC Prado 37.30 356 *e*P P **04 17 27.7 +0.7**
ORTC Ortega, Tolima 37.52 355 *e*P P **04 17 30.6 +1.8**
YOTC Yotoco, Valle 37.68 353 *e*P P **04 17 28.8 -1.5**
CHIC Chingaza 38.15 358 *e*P P **04 17 36.6 +2.0**
TOLC Tolima 38.19 355 *e*P P **04 17 35.8 +0.9**
MCPB Macapa, AP 38.22 34 *e*P P **04 17 33.6 -1.1**
ROSC El Rosal 38.39 357 P P 04 17 41.9 +5.4
comp=Z,5.9nm,0.4s,baz=241,slow=19,SNR=2.4
GUY2C Guyana, Caldas 38.83 355 *e*P P **04 17 42.8 +2.4**
NORC Norcasia 39.13 356 *e*P P **04 17 44.1 +1.7**
RUSC La Rusia 39.39 359 *e*P P **04 17 45.5 +0.5**
CBOC Ciudad Bolivar 39.51 354 *e*P P **04 17 46.0 +0.3**
HELC Santa Helena 39.80 355 *e*P P **04 17 48.8 +0.5**
PTBC PUERTO BERRIO, 40.08 357 *e*P P **04 17 49.8 -0.4**
BARC Barichara 40.09 359 *e*P P **04 17 51.6 +1.0**
ROSB Rosrio 40.38 47 *e*P P **04 17 52.4 -0.4**
DBBC Dabeiba 40.67 354 *e*P P **04 17 55.1 -0.1**
ZARC Zaragoza, Cauc 41.05 356 *e*P P **04 17 57.9 -0.4**
OCAC Ocana 41.73 358 *e*P P **04 18 05.7 +1.7**
SMLC San Martn de 42.31 357 *e*P P **04 18 07.3 -1.2**
ARGC Ariguani, Magd 43.36 357 *e*P P **04 18 17.3 +0.2**
SJCC San Jacinto, C 43.45 356 *e*P P **04 18 17.7 -0.2**
TOSP Speyside 46.13 16 P P **04 18 39.0 -0.1**
VNA3 Neumayer Olymp 49.70 158 P P **04 19 07.1 +0.8**
VNA1 Neumayer--Stat 50.02 157 P P **04 19 10.1 +1.5**
VNA2 Neumayer--Watz 50.36 157 P P **04 19 12.0 +0.7**
baz=288,slow=8.4
MLPR Magueyes Islan 51.63 6 P P **04 19 20.2 -1.1**
CRPR Cabo Rojo, PR 51.66 6 P P **04 19 21.6 0.0**
SNAA Sanae 51.93 158 P P **04 19 23.5 +0.3**
SNAA Sanae 51.93 158 P P **04 19 23.8 +0.6**
comp=Z,17nm,1.1s,baz=270,slow=7.8,SNR=57
SNAA Sanae 51.93 158 P P **04 19 22.8 -0.3**
SNAA IAmb IAmb 04 19 33.1
comp=Z,47nm,1.1s
QSPA South Pole Qui 56.53 180 P P **04 19 56.8 0.0**
QSPA IAmb IAmb 04 20 09.8
comp=Z,25nm,1.1s
VNDA Vanda 64.35 191 P P **04 20 51.8 +1.9**
comp=Z,0.4nm,0.6s,baz=132,slow=6.4,SNR=4.0
VNDA LR LR 04 46 23.8
comp=Z,266nm,18.6s,baz=134,slow=34
TIGA Tifton 65.67 349 P P **04 20 59.0 +0.1**
baz=170
TIGA Tifton 65.67 349 P P **04 20 59.2 +0.3**
TIGA IAmb IAmb 04 20 59.4
comp=Z,11nm,0.8s
SYO Syowa Base 66.21 159↓ *e*P P **04 21 00.4 -1.6**
TAOE Nuku Hiva Isla 66.75 275 *e*S S **04 30 06.9 +8.1**
comp=Z,378nm,23.8s
833A Chaparral WMA, 66.83 334 P P **04 21 08.3 +1.9**
baz=156,SNR=6.4
HKT Hockley 67.12 338 P P **04 21 08.8 +0.6**
HKT IAmb IAmb 04 21 25.7
comp=Z,25nm,1.6s
Z57A Bowman 67.12 352 P P **04 21 07.9 -0.3**
baz=172
TBI Tubuai 67.19 256 *e*S S **04 30 09.5 +5.7**
comp=Z,302nm,24.2s
TBI Tubuai 67.19 256 *e*LR LR 04 41 31.9
comp=Z,1µm,26.5s,baz=113
TBI Tubuai 67.19 256 *e*T T 05 34 26.4
comp=Z,4.3nm,0.2s
Z56A Williston 67.22 352 P P **04 21 08.6 -0.2**
baz=172
GOGA Godfrey 67.59 350 P P **04 21 10.2 -1.0**
baz=170
GOGA Godfrey 67.59 350 P P **04 21 11.0 -0.2**
GOGA IAmb IAmb 04 21 24.3
comp=Z,27nm,1.7s
LRAL Lakeview Retre 67.82 347 P P **04 21 12.5 -0.1**
baz=167
Y55A Saluda 67.89 351 P P **04 21 12.3 -0.7**
baz=171
HPIG 68.13 328 P P **04 21 15.4 +0.5**
HPIG IAmb IAmb 04 21 30.1
comp=Z,25nm,1.4s
X60A Albert Glenn T 68.14 355 P P **04 21 14.1 -0.5**
baz=175
X59A McDuffie Farm, 68.18 354 P P **04 21 14.9 0.0**
baz=174
X57A Johnson Farm, 68.21 353 P P **04 21 14.9 -0.1**
baz=173
X58A Rowland 68.23 354 P P **04 21 15.2 0.0**
baz=174
X56A White Oak 68.34 352 P P **04 21 16.1 +0.2**
baz=172
X55A Gracelyn & Ava 68.39 352 P P **04 21 16.4 +0.2**
baz=172
X54A Belton 68.56 351 P P **04 21 17.8 +0.6**
baz=171
W60A Pink Hill 68.59 355 P P **04 21 18.1 +0.7**
baz=175
W58A Raeford 68.68 354 P P **04 21 18.5 +0.6**
baz=174
MEH Mehetia 68.69 262 *e*T T 05 36 18.0
comp=Z,18nm,0.3s
CNNC Cliffs of the 68.79 355 P P **04 21 19.3 +0.7**
baz=175
W57A Gilead 68.88 353 P P **04 21 19.7 +0.5**
baz=173
W56A Indian Trail 68.92 353 P P **04 21 19.7 +0.2**
baz=173
JCT Junction City 68.94 335 P P **04 21 20.8 +1.1**
baz=156,SNR=5.8
KMSC Kings Mountain 69.01 352 P P **04 21 20.4 +0.3**
baz=172
W54A Cherokee Point 69.06 351 P P **04 21 20.8 +0.5**
baz=171,SNR=6.6
Z41A Richland Creek 69.35 342 P P **04 21 23.3 +1.1**
baz=162
TXAR Lajitas Array 69.38 331 P P **04 21 23.8 +1.2**
comp=Z,2.4nm,0.5s,baz=156,slow=8.5,SNR=79
TXAR LR LR 04 47 42.9
comp=Z,810nm,18.2s,baz=0.0,slow=32
V58A Windy Hill, Pi 69.44 354 P P **04 21 22.6 -0.1**
baz=174
WHTX Lake Whitney, 69.53 337 P P **04 21 24.4 +1.1**
baz=158,SNR=5.2
V56A Mocksville 69.58 353 P P **04 21 23.9 +0.3**
baz=173
V55A Taylorsville 69.70 352 P P **04 21 24.6 +0.3**
baz=172,SNR=7.7
V54A Nebo 69.71 352 P P **04 21 24.5 0.0**
baz=171,SNR=5.8
TVO Taravao 69.72 262 *e*T T 05 37 35.3
comp=Z,0.7nm,0.2s
OXF Oxford 69.74 345 P P **04 21 24.9 +0.4**
baz=165
U59A Littleton 69.89 355 P P **04 21 26.0 +0.6**
baz=175
TIAR Tiarei 69.91 262 *e*T T 05 37 49.6
comp=Z,2.4nm,0.2s
PLAL Pickwick Lake 69.92 346 P P **04 21 25.5 -0.2**
PLAL IAmb IAmb 04 21 39.1
comp=Z,12nm,0.8s
U60A Pendleton 69.97 356 P P **04 21 26.5 +0.6**
baz=176
U58A Oxford 69.99 355 P P **04 21 26.6 +0.6**
baz=174
PPT2 Papeete2 70.08 262 *e*S S **04 30 44.6 +6.2**
comp=Z,394nm,22.8s
PPT2 Papeete2 70.08 262 *e*LR LR 04 42 52.7
comp=Z,982nm,28.0s,baz=112
U57A Blanch 70.09 354 P P **04 21 27.0 +0.3**
baz=174
PPT Papeete 70.09 262 LR LR 04 45 01.4
comp=Z,602nm,18.7s,baz=146,slow=30
U56A King 70.10 353 P P **04 21 27.2 +0.4**
baz=173
U55A TA2, Sparta 70.33 353 P P **04 21 28.6 +0.3**
baz=172
U54A Nelsons Funny 70.43 352 P P **04 21 28.8 -0.1**
baz=172
T59A Double "B" Far 70.49 356 P P **04 21 29.7 +0.6**
baz=175,SNR=6.0
X40A Basin Creek Fa 70.53 342 P P **04 21 29.8 +0.4**
baz=162
T58A Grand View Acr 70.53 355 P P **04 21 29.9 +0.6**
baz=174
T57A Hurt 70.64 354 P P **04 21 30.3 +0.2**
baz=174
TZTN Tazewell 70.68 350 P P **04 21 29.9 -0.4**
baz=170
T56A Rocky Mt 70.74 353 P P **04 21 31.0 +0.3**
baz=173
MIAR Mount Ida 70.77 341 P P **04 21 31.4 +0.5**
baz=161,SNR=7.7
ABTX Abilene, Hawle 70.83 336 P P **04 21 32.1 +0.7**
baz=156,SNR=6.9
T55A Pulaski 70.91 353 P P **04 21 31.8 +0.1**
baz=172
T54A Tazewell 70.94 352 P P **04 21 32.0 0.0**
baz=172
WVT Waverly 70.98 347 P P **04 21 32.5 +0.4**
baz=166
WVT Waverly 70.98 347 P P **04 21 32.3 +0.2**
W41B Gary Mavity, V 71.03 343 P P **04 21 33.0 +0.6**
baz=162,SNR=7.8
S59A Mechanicsville 71.26 356 P P **04 21 34.5 +0.8**
baz=176
S56A Natural Bridge 71.34 354 P P **04 21 35.1 +0.7**
baz=174
S57A Dark Hollow, R 71.38 354 P P **04 21 35.0 +0.5**
baz=174,SNR=5.3
W39A Magazine 71.44 342 P P **04 21 36.0 +1.1**
baz=161,SNR=18
R58B Mineral 71.50 355 P P **04 21 36.3 +1.1**
baz=175
S55A Lewisburg 71.53 353 P P **04 21 36.0 +0.6**
baz=173
R58A Radian 71.84 355 P P **04 21 38.0 +0.8**
baz=175
R57A Stanardsville 71.88 355 P P **04 21 38.3 +0.9**
baz=174
R54A Victor 71.98 353 P P **04 21 38.4 +0.2**
baz=172
R55A Marlinton 72.00 354 P P **04 21 39.0 +0.7**
baz=173
R56A Bull Pasture M 72.06 354 P P **04 21 39.4 +0.8**
baz=174
MNTX Cornudas Mount 72.16 331 P P **04 21 39.8 +0.4**
baz=152
U40A Yellville 72.30 343 P P **04 21 40.4 +0.2**
baz=162,SNR=14
WMOK Wichita Mounta 72.48 337 P P **04 21 41.5 +0.2**
baz=157,SNR=8.6
Q57A Strasburg 72.60 355 P P **04 21 42.1 +0.3**
baz=175
TUL1 Leonard 72.66 340 P P **04 21 42.7 +0.4**
baz=160,SNR=5.2
Q56A Snyder Ridge, 72.67 354 P P **04 21 43.0 +0.7**
baz=174
Q55A Buckhannon 72.70 354 P P **04 21 43.3 +0.8**
baz=173
WCI Wyandotte Cave 72.75 348 P P **04 21 42.7 0.0**
baz=168
Q54A Coxs Mills 72.76 353 P P **04 21 42.8 0.0**
baz=172
Q52A Bidwell 72.90 352 P P **04 21 43.9 +0.3**
baz=171
P58A Pank, Wackersv 72.98 356 P P **04 21 44.9 +0.9**
baz=176
P57A Homestead Farm 73.02 355 P P **04 21 46.3 +2.1**
baz=175
P59A Jarrettsville 73.05 357 P P **04 21 45.7 +1.2**
baz=176
P56A Dayton Farm, R 73.10 355 P P **04 21 45.5 +0.8**
baz=174
MSTX Muleshoe 73.16 334 P P **04 21 45.9 +0.5**
baz=154
P53A Whipple 73.31 353 P P **04 21 46.3 +0.2**
baz=172
MCWV Mont Chateau 73.33 354 P P **04 21 46.5 +0.3**
baz=173
P54A Burton 73.34 353 P P **04 21 46.2 0.0**
baz=173
P51A Williamsport 73.50 351 P P **04 21 47.3 +0.1**
baz=171
MAW Mawson 73.52 164 P P **04 21 47.4 +0.4**
comp=Z,4.4nm,0.4s,baz=227,slow=9.0,SNR=15
MAW LR LR 04 56 53.3
comp=Z,937nm,18.8s,baz=231,slow=38
MAW Mawson 73.52 164 P P **04 21 46.8 -0.1**
P52A Corning 73.54 352 P P **04 21 47.6 +0.2**
baz=171
CCM Cathedral Cave 73.55 344 P P **04 21 47.7 +0.3**
baz=164
CCM Cathedral Cave 73.55 344 P P **04 21 47.8 +0.4**
AMTX Amarillo 73.59 335 P P **04 21 48.3 +0.5**
baz=155
O58A Lewisberry 73.59 356 P P **04 21 48.5 +0.9**
baz=176
O60A Telford 73.71 358 P P **04 21 49.3 +1.0**
baz=177
O57A Amberson 73.72 356 P P **04 21 48.8 +0.4**
baz=175
P49A Miami Univ. Ec 73.78 350 P P **04 21 48.2 -0.5**
baz=169,SNR=6.5
O55A Ligonier 73.83 354 P P **04 21 49.2 +0.1**
baz=174
O56A Blue Knob Stat 73.84 355 P P **04 21 49.5 +0.4**
baz=174
121A Cookes Peak, D 73.89 329 P P **04 21 50.3 +0.5**
baz=150
O52A Adamsville 73.99 352 P P **04 21 49.9 -0.1**
baz=172
O51A Pataskala 74.11 352 P P **04 21 50.5 -0.2**
baz=171
SSPA Standing Stone 74.16 356 P P **04 21 50.3 -0.6**
baz=175
ACSO Alum Creek Sta 74.23 352 P P **04 21 51.3 -0.1**
baz=171
ACSO Alum Creek Sta 74.23 352 P P **04 21 51.3 -0.1**
ACSO IAmb IAmb 04 21 52.0
comp=Z,13nm,0.7s
N60A Cedar Hill Far 74.26 358 P P **04 21 52.1 +0.6**
baz=178
N59A State Game Lan 74.33 357 P P **04 21 52.8 +0.8**
baz=177
N55A Marion Center 74.38 355 P P **04 21 52.7 +0.4**
baz=174
P43A Skaggs, Pawnee 74.71 346 IAmb IAmb 04 21 55.6
comp=Z,16nm,0.7s
LIC Lao 74.87 72 *e*P P **04 21 54.5 -1.3**
comp=Z,21nm,0.8s
M59A Waymart 74.94 358 P P **04 21 56.4 +0.9**
baz=177
SFIN Lafayette 74.98 348 P P **04 21 54.8 -0.9**
baz=167
TUC Tucson 75.02 327 P P **04 21 58.1 +1.9**
baz=148
TUC Tucson 75.02 327 P P **04 21 57.5 +1.2**
M56A Emporium 75.02 355 P P **04 21 56.3 +0.3**
baz=175
M55A Ridgway 75.05 355 P P **04 21 56.4 +0.3**
baz=174
TIC Toumodi 75.13 71 *e*P P **04 21 56.7 -0.6**
P40A Paris 75.14 344 IAmb IAmb 04 22 09.6
comp=Z,22nm,0.9s
M54A Oil Creek Stat 75.16 354 P P **04 21 57.1 +0.3**
baz=174
KIC Kosan Boka 75.18 72 *e*P P **04 21 57.2 -0.3**
comp=Z,32nm,0.7s
DBIC Dimbokro 75.27 72 P P **04 21 57.5 -0.5**
comp=Z,10nm,0.7s,baz=205,slow=5.9,SNR=18
DBIC LR LR 04 53 59.5
comp=Z,467nm,18.6s,baz=215,slow=35
DBIC Dimbokro 75.27 72 P P **04 21 58.0 -0.1**
ANMO Albuquerque 75.43 332 P P **04 21 59.1 +0.3**
baz=151
HDIL Hopedale 75.55 347 P P **04 21 59.2 +0.2**
baz=165
L59A Walton 75.57 358 P P **04 22 00.3 +1.1**
baz=178
L56A Greenwood 75.63 356 P P **04 22 00.3 +0.8**
baz=175
L56A Greenwood 75.63 356 IAmb IAmb 04 22 01.3
comp=Z,38nm,1.6s
214A Organ Pipe Nat 75.66 325 P P **04 22 01.4 +1.4**
baz=146
L55A Hinsdale 75.73 355 P P **04 22 00.7 +0.6**
baz=175
R32A Long Quarter, 75.85 339 IAmb IAmb 04 22 13.8
comp=Z,13nm,0.8s
K58A Earlville 76.16 357 P P **04 22 03.0 +0.5**
baz=177
MMNY Mt. Morris Dam 76.25 356 IAmb IAmb 04 22 05.2
comp=Z,15nm,1.1s
T25A Trinidad 76.58 334 P P **04 22 07.2 +1.9**
baz=153
T25A Trinidad 76.58 334 IAmb IAmb 04 22 20.7
comp=Z,38nm,1.2s
N38A Joes South For 76.61 344 IAmb IAmb 04 22 17.8
comp=Z,20nm,0.7s
J57A Williamstown 76.82 357 P P **04 22 06.6 +0.5**
baz=177
I58A Old Forge 77.07 358 P P **04 22 07.9 +0.3**
baz=178
X16A Lo Mia Camp, P 77.08 328 IAmb IAmb 04 22 23.7
comp=Z,33nm,1.6s
I59A Olmsteadville 77.15 359 P P **04 22 08.0 0.0**
baz=179
I60A Shoreham 77.19 359 P P **04 22 08.9 +0.7**
baz=179
Y14A Wickenburg 77.39 326 IAmb IAmb 04 22 24.6
comp=Z,43nm,1.9s
SDCO Great Sand Dun 77.52 334 P P **04 22 12.9 +2.2**
baz=152
SDCO Great Sand Dun 77.52 334 IAmb IAmb 04 22 27.0
comp=Z,40nm,1.9s
GLA Glamis 77.53 324 P P **04 22 12.7 +2.3**
baz=145
I51A Listowel 77.55 354 P P **04 22 10.3 0.0**
baz=172
KSCO Kaye Shedlock' 77.63 336 IAmb IAmb 04 22 26.1
comp=Z,33nm,1.3s
H61A Lyndonville 77.87 0 P P **04 22 13.7 +1.7**
baz=180
SWSC Sam W. Stewart 77.92 324 P P **04 22 13.2 +0.6**
baz=144
WUAZ Wupatki 77.98 328 P P **04 22 15.3 +2.2**
baz=148
JFWS Jewell Farm 78.01 347 P P **04 22 13.4 +0.6**
baz=165
S22A 4UR Ranch, Cre 78.02 333 P P **04 22 14.8 +1.3**
baz=151
H53A Bobcaygeon 78.12 355 P P **04 22 14.8 +1.4**
baz=175
MVCO Mesa Verde 78.21 331 P P **04 22 15.5 +1.1**
baz=150
H66A Whiting 78.25 4 P P **04 22 15.7 +1.6**
baz=184
BC3 Big Chuckawall 78.33 324 P P **04 22 16.3 +1.3**
baz=144
Q24A Divide 78.47 334 P P **04 22 17.2 +1.3**
baz=153
G63A Kingsbury 78.49 2 P P **04 22 17.0 +1.6**
baz=182
G62A West of Eustis 78.57 1 P P **04 22 17.4 +1.4**
baz=181
G62A West of Eustis 78.57 1 P P **04 22 17.6 +1.7**
IRM Iron Mountain 78.58 325 P P **04 22 17.1 +0.8**
baz=145
G65A Princeton 78.65 3 P P **04 22 17.9 +1.6**
baz=184
G53A Haliburton 78.67 355 P P **04 22 17.8 +1.4**
baz=175
W13A Hualapai Mount 78.76 326 IAmb IAmb 04 22 32.3
comp=Z,28nm,1.9s
PFO Pinyon Flats O 78.78 324 P P **04 22 19.2 +1.7**
baz=144
F63A Nahmakanta, Br 79.09 2 P P **04 22 20.3 +1.6**
baz=183
U15A North Rim 79.14 328 IAmb IAmb 04 22 34.5
comp=Z,40nm,1.8s
PV03 Paradox Valley 79.25 331 IAmb IAmb 04 22 34.3
comp=Z,33nm,1.9s
F64A Sherman 79.28 3 P P **04 22 21.4 +1.7**
baz=183
PV17 East Wray Mesa 79.32 331 IAmb IAmb 04 22 36.5
comp=Z,31nm,1.9s
ISCO Idaho Springs 79.38 334 P P **04 22 22.5 +1.6**
baz=152
TSUM Tsumeb 79.48 106 P P **04 22 22.6 +0.8**
TSUM IAmb IAmb 04 22 24.1
comp=Z,34nm,1.5s
F51A Arnstein 79.57 355 P P **04 22 23.8 +2.5**
baz=174
E58A La Victoria 79.72 359 P P **04 22 24.0 +1.9**
baz=179
E57A Chemin Saint G 79.77 359 P P **04 22 24.3 +1.8**
baz=178
E64A Bridgewater 79.86 3 P P **04 22 25.3 +2.4**
baz=184
E54A Lac Daplat, Po 79.89 357 P P **04 22 23.0 -0.1**
baz=176
E56A St. Veronique 79.92 358 P P **04 22 23.9 +0.7**
baz=178
TUQ Turquoise Moun 80.00 325 P P **04 22 26.1 +2.0**
baz=144
E62A Clayton Lake 80.00 2 P P **04 22 24.9 +1.2**
baz=182
E62A Clayton Lake 80.00 2 P P **04 22 25.2 +1.5**
ECSD EROS Data Cent 80.21 342 P P **04 22 25.8 +0.9**
baz=160
ECSD EROS Data Cent 80.21 342 IAmb IAmb 04 22 38.7
comp=Z,22nm,1.1s
CASY Casey 80.31 181 P P **04 22 26.6 +1.3**
GSC Goldstone, Bar 80.31 324 P P **04 22 27.5 +1.7**
baz=144
GSC Goldstone, Bar 80.31 324 IAmb IAmb 04 22 40.9
comp=Z,46nm,1.9s
E48A Lockeyer 80.32 353 P P **04 22 26.4 +1.0**
baz=172
D57A Chemin Vers le 80.37 359 P P **04 22 26.3 +0.7**
baz=179
BOSA Boshof 80.38 118 P P **04 22 26.3 -0.3**
comp=Z,9.4nm,1.0s,baz=243,slow=3.4,SNR=8.7
BOSA LR LR 04 53 06.7
comp=Z,290nm,21.8s,baz=240,slow=32
BOSA Boshof 80.38 118 P P **04 22 26.8 +0.2**
BOSA IAmb IAmb 04 22 35.5
comp=Z,45nm,1.4s
D55A Sainte-Anne-du 80.41 358 P P **04 22 26.7 +0.8**
baz=177
E47A Iron Bridge 80.41 352 P P **04 22 26.6 +0.7**
baz=171
D56A ZEC Mazanza, M 80.42 358 P P **04 22 26.5 +0.6**
baz=178
D58A Chemin du LacG 80.44 360 P P **04 22 26.8 +0.8**
baz=179
N23A Red Feather La 80.46 335 P P **04 22 28.5 +1.8**
baz=152
D52A ZEK Kipawa Sen 80.50 356 P P **04 22 27.1 +0.7**
baz=175
D53A Lac Vacive, Po 80.56 356 P P **04 22 27.3 +0.6**
baz=175
D54A Lac Fusel, La 80.59 357 P P **04 22 27.1 +0.3**
baz=176
O20A White River Ci 80.64 333 P P **04 22 28.1 +0.6**
baz=150
O20A White River Ci 80.64 333 IAmb IAmb 04 22 42.5
comp=Z,54nm,2.0s
LATQ La Tuque 80.72 360 P P **04 22 27.9 +0.4**
baz=180
SPMN Marine on St. 80.74 345 P P **04 22 28.0 +0.3**
baz=163
D50A G1974 Best Tow 80.79 355 P P **04 22 28.3 +0.4**
baz=174
E43A Lone Tree Farm 80.81 350 IAmb IAmb 04 22 44.7
comp=Z,62nm,1.9s
D46A Sault St. Mari 80.93 352 P P **04 22 28.6 0.0**
baz=170
D48A Paudash Townsh 80.97 353 P P **04 22 29.0 +0.2**
baz=172
TMUT Trail Mountain 81.10 330 P P **04 22 31.1 +0.9**
MPMC Manual Prospec 81.25 324 P P **04 22 33.2 +2.3**
baz=143
FURC Furnace Creek, 81.28 325 P P **04 22 33.3 +2.6**
baz=144
TPNV Topopah Spring 81.37 326 P P **04 22 33.6 +2.1**
baz=144
ISA Isabella, Lake 81.42 324 P P **04 22 33.5 +1.9**
baz=143
PKM Mcpherson Peak 81.48 322 P P **04 22 34.9 +2.8**
baz=142
VLDQ Val d'Or 81.58 356 IAmb IAmb 04 22 48.8
comp=Z,42nm,1.9s
D41A Chassel 81.72 349 IAmb IAmb 04 22 49.8
comp=Z,19nm,0.8s
CWC Cottonwood Cre 81.84 324 P P **04 22 36.0 +2.0**
baz=143
VES Vestal, Richgr 81.86 323 P P **04 22 35.5 +1.7**
baz=142
R11A Troy Canyon, C 82.20 327 P P **04 22 37.4 +1.5**
baz=145
K22A Casper 82.21 335 P P **04 22 37.3 +1.6**
baz=152
K22A Casper 82.21 335 IAmb IAmb 04 22 50.6
comp=Z,19nm,1.1s

LSQQ	Lebel-sur-Quev	82.50	357	P		P	04 22 37.6	+0.7
	baz=176							
DUG	Dugway, Tooele	82.52	330	P		P	04 22 38.8	+1.4
	baz=147							
DUG	Dugway, Tooele	82.52	330	IAmb		IAmb	04 22 52.6	
	comp=Z,16nm,1.1s							
LBTB	Lobatse	82.61	115	P		P	04 22 38.5	+0.1
RSSD	Black Hills	82.69	338	P		P	04 22 40.8	+2.5
HWUT	Hardware Ranch	83.20	331	IAmb		IAmb	04 22 55.5	
	comp=Z,19nm,1.3s							
OMMB	Old Mammoth Mi	83.22	324	IAmb		IAmb	04 22 56.7	
	comp=Z,14nm,1.2s							
PDAR	Pinedale Array	83.41	333	P		P	04 22 43.0	+0.8
	comp=Z,0.9nm,0.8s,baz=146,slow=6.6,SNR=8.5							
PDAR	Pinedale Array	83.41	333	P		P	04 22 42.4	+0.3
BW06	Boulder Array	83.41	333	P		P	04 22 42.8	+0.7
	baz=150							
NVAR	Mina Array Bea	83.53	325	P		P	04 22 44.5	+1.7
	comp=Z,1.0nm,0.7s,baz=156,slow=6.0,SNR=11							
NVAR				LR		LR	04 53 01.1	
	comp=Z,174nm,21.9s,baz=148,slow=31							
NVAR	Mina Array Bea	83.53	325	P		P	04 22 44.3	+1.5
E28A	Huff	83.92	341	IAmb		IAmb	04 22 58.4	
	comp=Z,22nm,1.1s							
AHID	Auburn Hatcher	84.00	332	IAmb		IAmb	04 22 59.3	
	comp=Z,14nm,1.4s							
PMOZ	Porto Moniz, M	84.04	44	eLR		LR	04 52 23.1	
	comp=Z,333nm,18.0s							
TOA0	Torodi Ar. Sit	84.30	70	P		P	04 22 46.8	-0.2
TORD	Torodi Ar. Bea	84.30	70	P		P	04 22 46.7	-0.2
	comp=Z,8.1nm,0.8s,baz=295,slow=6.8,SNR=75							
TORD				LR		LR	04 58 43.5	
	comp=Z,188nm,18.8s,baz=245,slow=35							
TORD	Torodi Ar. Bea	84.30	70	P		P	04 22 46.1	-0.8
AGMN	Agassiz Nation	84.32	344	P		P	04 22 46.8	+0.5
	baz=160							
AGMN	Agassiz Nation	84.32	344	IAmb		IAmb	04 22 47.8	
	comp=Z,32nm,1.8s							
TPAW	Teton Pass	84.56	333	IAmb		IAmb	04 23 00.4	
	comp=Z,30nm,1.9s							
PNTR	Pine Nut	84.67	325	IAmb		IAmb	04 23 04.3	
	comp=Z,12nm,1.1s							
MDND	Maddock	84.80	342	P		P	04 22 49.9	+1.1
	baz=157							
FLWY	Flagg Ranch	84.97	333	P		P	04 22 50.5	+0.5
FLWY				IAmb		IAmb	04 23 05.9	
	comp=Z,12nm,1.0s							
AFDM	Forest Hills D	85.22	324	IAmb		IAmb	04 23 06.2	
	comp=Z,17nm,1.3s							
RLMT	Red Lodge	85.34	335	P		P	04 22 52.8	+1.0
	baz=150							
RLMT	Red Lodge	85.34	335	IAmb		IAmb	04 23 06.2	
	comp=Z,26nm,1.4s							
HLID	Hailey	85.98	331	P		P	04 22 56.6	+1.7
	baz=146							
HLID	Hailey	85.98	331	IAmb		IAmb	04 23 10.2	
	comp=Z,17nm,1.4s							
ULM	Lac du Bonnet	86.17	345	P		P	04 22 55.3	-0.2
	comp=Z,3.2nm,0.7s,baz=207,slow=9.0,SNR=2.1							
ULM	Lac du Bonnet	86.17	345	IAmb		IAmb	04 23 08.6	
	comp=Z,14nm,1.2s							
BOZ	Bozeman (W)	86.61	334	P		P	04 22 59.1	+1.1
	baz=148							
DGMT	Dagmar	86.64	339	P		P	04 22 59.3	+1.4
	baz=154							
O03E	Paynes Creek	86.67	324	P		P	04 23 00.4	+2.0
	baz=141							
DLMT	Dillon	86.77	333	IAmb		IAmb	04 23 12.9	
	comp=Z,19nm,1.5s							
MOD	Modoc Plateau	87.21	326	IAmb		IAmb	04 23 16.2	
	comp=Z,24nm,1.6s							
WDC	Whiskeytown Da	87.25	324	IAmb		IAmb	04 23 04.1	
	comp=Z,32nm,1.9s							
N02D	Trinity Center	87.63	324	P		P	04 23 04.6	+1.6
	baz=140							
M04C	Macdoel	87.84	325	P		P	04 23 06.0	+1.9
	baz=141							
M02C	Callahan	88.03	324	P		P	04 23 06.8	+2.0
	baz=140							
SCHQ	Schefferville	88.31	3	P		P	04 23 05.8	0.0
	comp=Z,2.1nm,0.6s,baz=240,slow=7.7,SNR=5.1							
I07A	Izee	88.57	328	IAmb		IAmb	04 23 22.7	
	comp=Z,15nm,1.3s							
LSZ	Lusaka	90.09	108	P		P	04 23 15.4	+0.1
PVAQ	Vaqueiros	92.81	46	eLR		LR	04 55 25.1	
	comp=Z,486nm,20.0s							
TAM	Tamanrasset	92.88	65	P		P	04 23 26.9	-1.1
TAM				IAmb		IAmb	04 23 37.8	
	comp=Z,13nm,1.5s							
PMRV	Marv??o	94.32	45	eLQ		LQ	04 51 03.8	
PMRV				eLR		LR	04 55 34.6	
	comp=Z,337nm,18.0s							
MTE	Manteigas	94.87	44	eLR		LR	04 57 30.6	
	comp=Z,519nm,18.0s							
PGAV	Gavieira, Arco	95.48	42	eLR		LR	04 58 13.5	
	comp=Z,291nm,18.0s							
MVO	Moncorvo	95.66	44	eLR		LR	04 55 29.0	
	comp=Z,416nm,18.0s							
ESDC	Sonseca Array	96.52	46	P		P	04 23 43.4	-0.8
	comp=Z,0.6nm,0.8s,baz=205,slow=3.1,SNR=4.1							
ESDC				LR		LR	05 06 06.2	
	comp=Z,430nm,19.5s,baz=250,slow=35							
NKC	Novy Kostel	111.97	44	AMS		AMS	05 16 10.0	
	comp=Z,500nm,20.8s							
KHC	Kasperske Hory	112.14	45	AMS		AMS	05 26 00.0	
	comp=Z,300nm,19.1s							
CLL	Collm	112.76	43	ePP		PKiKP	04 29 39.0	+48
CLL				eSKKSac		SKKSac	04 36 42.0	+1.4
CLL				eSdif		Sdif	04 37 24.0	+3.8
CLL				ePS		PS	04 39 19.0	+5.5
CLL				ePPS		PPS	04 40 18.0	
CLL				eSS		SS	04 45 18.0	-3.5
CLL				eSSS		SSS	04 49 24.0	
CLL				eSSSS			04 52 54.0	
CLL				Lm		MLR	05 20 00.0	
	comp=Z,300nm,18.0s							
PRA	Prague	113.05	44	AMS		AMS	05 15 50.0	
	comp=Z,200nm,20.2s							
PRU	Pruhonice	113.08	44	AMS		AMS	05 16 10.0	
	comp=Z,400nm,18.2s							
PVCC	Panska Ves	113.33	44	AMS		AMS	05 14 10.0	
	comp=Z,400nm,23.2s							
UPC	Upice	114.16	44	AMS		AMS	05 17 10.0	
	comp=Z,300nm,17.6s							
CHVC	Chvalec	114.21	44	AMS		AMS	05 18 10.0	
	comp=Z,300nm,17.8s							
DPC	Dobruska-Polom	114.27	45	AMS		AMS	05 17 10.0	
	comp=Z,300nm,19.1s							
KRLC	Kraliky	114.43	45	AMS		AMS	05 20 10.0	
	comp=Z,200nm,18.0s							
ASAR	Alice Springs	117.74	207	PKP		PKPdf	04 29 00.9	-0.6
	comp=Z,0.3nm,0.3s,baz=130,slow=1.8,SNR=7.5							
ASAR				PKKPbc		PKKPbc	04 39 20.9	-1.2
	comp=Z,0.2nm,0.3s,baz=347,slow=3.9,SNR=2.3							
WRA	Warramunga Arr	120.92	209	PKP		PKPdf	04 29 07.0	-0.8
	comp=Z,1.1nm,0.4s,baz=153,slow=1.7,SNR=50							
WRA	Warramunga Arr	120.92	209			PKPdf	04 29 07.2	-0.5
AKASG	Malin Array Be	122.14	47	PKP		PKPdf	04 29 08.0	-0.9
	comp=Z,0.5nm,0.4s,baz=258,slow=2.8,SNR=2.3							
AKBB	Malin Array Si	122.14	47	PKPdf		PKPdf	04 29 07.6	-1.3
ARCES	ARCESS Array B	123.83	25	PKP		PKPdf	04 29 11.2	-0.5
	comp=Z,1.0nm,0.5s,baz=240,slow=1.8,SNR=8.1							
H11S2	WAKE ISLAND Hy	125.58	269	T		T	06 48 16.4	
	baz=118,slow=74,SNR=17							
H11S1	WAKE ISLAND Hy	125.59	269	T		T	06 48 10.9	
	baz=118,slow=74,SNR=8.9							
H11S3	WAKE ISLAND Hy	125.59	269	T		T	06 48 22.3	
	baz=118,slow=74,SNR=13							
KLMR	Klimovskoe	129.28	36	e		PKPdf	04 29 21.3	-1.0
KLMR				AMP			04 29 24.3	
	comp=Z,15nm,1.1s							
KBZ	Khabaz	129.61	58	PKP		PKiKP	04 29 24.6	+0.4
	comp=Z,0.9nm,0.5s,baz=333,slow=2.3,SNR=2.3							
PETK	Petropavlovsk-	139.81	314	PKP		PKPdf	04 29 44.1	+1.8
	comp=Z,1.4nm,0.8s,baz=85,slow=8.0,SNR=3.1							
HRA	Herat	142.55	76	PKPdf		PKPdf	04 29 47.6	-0.5
BRVK	Borovoye	147.13	43			PKPdf	04 29 55.6	+0.5
KSM	Kuching	147.84	185	PKPbc		PKPdf	04 29 59.3	+1.8
RPSI	Rantau Prapat	148.07	163	PKPbc		PKPdf	04 29 58.6	+0.7
KBL	Kabul	148.10	77	PKPbc		PKPbc	04 30 00.3	-0.5
YAK	Yakutsk	148.39	340	PKPbc		PKPbc	04 30 00.2	-0.2
HYB	Hyderabad	149.23	115	i PKP		PKPbc	04 30 03.0	-0.9
KK31	Karatay Array	149.58	61			PKPbc	04 30 03.2	-0.8
KKAR	Karatay Array	149.58	61			PKPdf	04 29 59.8	+0.4
KKAR				PKPbc		PKPbc	04 30 03.5	-0.6
MYLDM	Lahad Datu	149.90	202	PKPbc		PKPbc	04 30 06.6	+0.9
BTK	Batken	149.96	67	PKPbc		PKPbc	04 30 05.7	+0.5
JKA	Kamikawa-asahi	151.13	301			PKiKP	04 30 08.9	+0.7
ASAJ	Asahikawa	151.14	301	PKPbc		PKiKP	04 30 08.9	+0.7
	comp=Z,2.6nm,0.4s,baz=242,slow=24,SNR=4.1							
NIL	Nilore	151.39	80			PKPbc	04 30 08.4	-0.3
AAK	Ala-Archa	152.54	61			PKPbc	04 30 11.7	+0.5
KURK	Kurchatov	152.80	43			PKPdf	04 30 03.2	-0.9
KURK				PKPbc		PKiKP	04 30 12.1	+0.7
KSH	Kashi	153.95	68	eP		PKPbc	04 30 14.5	+0.2
KSH				pmax		pmax		
	comp=Z,12nm,0.6s							
ZAA0	Zalesovo Array	154.08	32			PKPdf	04 30 04.8	-1.0
ZAA0				PKPbc		sPKPdf	04 30 14.2	+4.1
ZALV	Zalesovo Beam	154.08	32	PKP		PKPdf	04 30 05.8	-0.1
	comp=Z,0.9nm,0.5s,baz=247,slow=3.1,SNR=4.8							
ZALV				PKPbc		sPKPdf	04 30 13.7	+3.6
	comp=Z,5.2nm,0.5s,baz=299,slow=2.9,SNR=18							
ZALV	Zalesovo Beam	154.08	32			PKPbc	04 30 13.3	-0.6
MJAR	Matsushiro Arr	154.96	285	PKPab		PKPab	04 30 30.5	-1.4
	comp=Z,0.7nm,0.3s,baz=99,slow=6.4,SNR=1.8							
MAKZ	Makanchi	156.52	48	PKPdf		PKPdf	04 30 09.4	0.0
MAKZ						PKPab	04 30 38.0	-0.2
MKAR	Makanchi Array	156.72	48	PKP		PKPdf	04 30 09.4	-0.3
	comp=Z,1.2nm,1.0s,baz=344,slow=4.0,SNR=6.2							
MKAR				PKPab		PKPab	04 30 38.5	-0.6
	comp=Z,2.9nm,0.6s,baz=296,slow=2.5,SNR=17							
MKAR	Makanchi Array	156.72	48			PKPdf	04 30 09.5	-0.3
MKAR				PKPab		PKPab	04 30 38.1	-1.0
WMQ	Urumqi	161.44	51	ePKP		PKPdf	04 30 14.6	-0.8
WMQ				LR		LR		
	comp=Z,820nm,29.0s							
WMQ				LR		LR		
	comp=Z,260nm,28.9s							
CMAR	Chiang Mai Arr	162.90	150	PKP		PKPdf	04 30 17.8	+0.3
	comp=Z,0.7nm,0.3s,baz=257,slow=3.5,SNR=4.6							
QIZ	Qiongzhong	165.26	188	PKP		PKPdf	04 30 18.2	-1.4
QIZ				PP		PP	04 35 01.8	-0.5
QIZ				SS		SS	04 55 36.9	-0.5
QIZ				AMB		AMB		
	comp=Z,120nm,3.9s							
QIZ				LR		LR		
	comp=Z,190nm,10.6s							
SONM	Songino Array	165.85	4	PKPab		PKPab	04 31 19.7	+0.8
	comp=Z,0.7nm,0.6s,baz=321,slow=1.9,SNR=4.7							
NJ2	Nanjing	170.49	263	eP		PKPdf	04 30 21.7	-1.2
BJI	Beijing	170.74	315	ePKP		PKPdf	04 30 23.1	+0.4
BJI				LR		LR		
	comp=Z,130nm,6.4s							
BJI				LR		LR		
	comp=Z,330nm,6.2s							
GTA	Gaotai	171.47	46	⇑PKP		PKPdf	04 30 25.1	+1.7
GTA				PKPab		PKPab	04 31 45.4	+1.2
GTA				LR		LR		
	comp=Z,230nm,19.7s							
GTA				LR		LR		
	comp=Z,240nm,20.9s							
GTA				LR		LR		
	comp=Z,280nm,21.3s							
HHC	Hu-ho-hao-te	172.24	338	ePKP		PKPdf	04 30 24.5	+0.8
HHC				PP		PP	04 35 42.0	+3.9
HHC				SS		SS	04 56 50.0	+2.2
HHC				AMB		AMB		
	comp=Z,130nm,6.8s							
HHC				LR		LR		
	comp=Z,300nm,15.1s							
HHC				LR		LR		
	comp=Z,260nm,14.3s							
HHC				LR		LR		
	comp=Z,310nm,19.1s							
WHN	Wuhan	173.56	242	PKPbc		PKPdf	04 30 37.3	+13
CD2	Chengdu	175.64	129	PKP		PKPdf	04 30 24.0	-1.1
LZH	Lanzhou	176.03	52	ePKP		PKPdf	04 30 21.0	-4.2
LZH				pPKP		pPKPdf	04 30 31.0	+2.6

JMA 08 04:24:13.9±0.2, 23°.93N×125°.75E, h36km, M3.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	Gusukube	0.88	339	P	Pn	04 24 30.3	+0.5
JOGS				eS	Sn	04 24 41.4	0.0
JMJ2	Miyako jima3	0.89	335	P	Pn	04 24 30.2	+0.2
JMJ2				S	Sn	04 24 42.3	+0.6
JIRB	Irabujima	1.04	330	P	Pn	04 24 32.5	+0.6
JIRB				eS	Sn	04 24 46.1	+0.9
JIKM	Ikemajima	1.09	335	P	Pn	04 24 33.1	+0.5
JIKM				eS	Sn	04 24 47.5	+1.0
JTJ	Tarama	1.19	307	P	Pn	04 24 34.4	+0.4
JTJ				eS	Sn	04 24 50.0	+1.1
JISG	Ishigakijimahi	1.47	297	P	Pn	04 24 38.5	+0.7
JIJ	Ishigaki jima	1.53	287	P	Pn	04 24 39.9	+1.2
JIJ				eS	Sn	04 24 59.4	+2.1
JKRS	Kuro-shima	1.62	281	P	Pn	04 24 41.5	+1.6
JKRS				eS	Sn	04 25 01.0	+1.5
IRIF	Iriomote-Funau	1.89	283	P	Pn	04 24 45.0	+1.4

IDC 08 04:25:41.8±1.5, 30°.08N×138°.64E, h430km±22km, mb3.0/6, mb1 3.0/11, mb1mx2.9/34, mbtmp3.8/11, Error ellipse: s-maj=52.5km s-min=14.3km az=77.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	Hachijo jima 2	3.19	17	P	P	04 26 47.7	-0.9
	20nm,0.3s,baz=73,slow=19,SNR=1.6						
MJAR	Matsushiro Arr	6.46	357	P	P	04 27 20.3	+0.2
	0.2nm,0.3s,baz=173,slow=11,SNR=4.4						
KSRS	Korea Array	11.56	312	P	P	04 28 17.6	+1.6
	0.2nm,0.3s,baz=132,slow=12,SNR=4.6						
USRK	Ussuriysk Ar.	15.05	341	P	P	04 28 54.0	+0.2
	baz=154,slow=8.4,SNR=4.7						
KLR	Kul'dur	19.84	347	P	P	04 29 43.4	+0.8
	0.2nm,0.3s,baz=135,slow=6.4,SNR=5.9						
ZALV	Zalesovo Beam	45.20	318	P	P	04 33 16.6	-1.8
	0.6nm,0.4s,baz=112,slow=6.9,SNR=1.7						
MKAR	Makanchi Array	46.19	308	P	P	04 33 26.1	0.0
	0.4nm,0.6s,baz=77,slow=6.4,SNR=2.0						
WRA	Warramunga Arr	49.90	185	P	P	04 33 54.3	0.0
	0.5nm,0.4s,baz=1.9,slow=7.7,SNR=10						
ASAR	Alice Springs	53.63	185	P	P	04 34 21.4	-0.1
	0.5nm,0.5s,baz=5.3,slow=6.6,SNR=6.1						
ARCES	ARCESS Array B	69.70	340	P	P	04 36 06.8	+0.3
	2.0nm,0.8s,baz=66,slow=9.9,SNR=1.5						
FINES	FINESS Array B	73.89	332	P	P	04 36 31.0	-0.2
	0.3nm,0.3s,baz=56,slow=4.8,SNR=4.6						

IDC 08 05:08:12.7±1.5, 0°.94N×146°.13E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/30, mbtmp3.8/5, ML3.3/1, Error ellipse: s-maj=60.4km s-min=23.8km az=114.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	Jayapura	6.42	238	P	Pn	05 09 48.2	-0.5
	0.7nm,0.3s,baz=304,slow=19,SNR=1.7						
JAY				Sn	Sn	05 10 57.8	-5.1
	0.5nm,0.3s,baz=0.5,slow=21,SNR=1.3						
WRA	Warramunga Arr	23.76	209	P	P	05 13 27.6	+0.5
	3.5nm,0.6s,baz=31,slow=11,SNR=5.0						
ASAR	Alice Springs	27.20	205	P	P	05 13 59.8	+1.4
	1.5nm,0.8s,baz=28,slow=10.0,SNR=5.6						
MKAR	Makanchi Array	71.66	319	P	P	05 19 36.7	+0.2
	0.2nm,0.4s,baz=100,slow=6.4,SNR=2.4						
ILAR	Eielson Array	79.49	24	P	P	05 20 19.8	-1.2
	0.6nm,0.6s,baz=247,slow=6.8,SNR=6.5						

IDC 08 05:31:44.5±2.9, 6°.75N×94°.45E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/31, mbtmp3.7/4, MS4.1/2, Ms1 4.1/2, ms1mx3.2/41, Error ellipse: s-maj=186.5km s-min=32.8km az=51.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S3	Diego Garcia H	26.15	237	T	T	06 04 08.5	
	baz=58						
H08S2	Diego Garcia H	26.15	237	T	T	06 03 58.0	
	baz=58						
H08S1	Diego Carcia H	26.16	237	T	T	06 03 54.6	
	baz=58						
MKAR	Makanchi Array	41.25	347	P	P	05 39 31.6	+0.2
	0.2nm,0.5s,baz=153,slow=9.7,SNR=2.2						
TLY	Talaya	45.44	8	LR	LR	06 00 23.2	
	comp=Z,413nm,21.8s,baz=240,slow=38						

WRA	Warramunga Arr	47.37	125	P		P	05 40 20.6	-0.1
	0.2nm,0.5s,baz=306,slow=8.5,SNR=1.6							
AKTO	Aktyubinsk	53.08	332	LR		LR	06 04 33.6	
	comp=Z,94nm,18.5s,baz=106,slow=37							
FINES	FINESS Array B	73.84	332	P		P	05 43 20.6	-0.3
	0.6nm,0.4s,baz=90,slow=5.8,SNR=8.0							
ARCES	ARCESS Array B	76.42	340	P		P	05 43 35.9	+0.3
	2.9nm,1.0s,baz=91,slow=5.4,SNR=1.8							

*IDC **08** 05:47:03.1±0.8, 40°.15N×143°.42E, h0km, mb4.0/16, mb1 4.2/19, mb1mx4.1/35, mbtmp4.0/19, ML3.2/3, MS3.5/8, Ms1 3.5/8, ms1mx3.2/50, Error ellipse: s-maj=19.5km s-min=17.7km az=94.0*

*NIED **08** 05:47:04.5, 40°.26N×143°.41E, h10km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.60; $M_{\theta\theta}$0.35; $M_{\phi\phi}$-1.95; $M_{r\theta}$0.70; $M_{\theta\phi}$-0.95; $M_{\phi r}$1.62; Fault plane solution: M_o2.63000×10^{15} NP1:ϕ_s23.00000°, δ66.00000°, λ93.00000°. NP2:ϕ_s195.00000°, δ24.00000°, λ82.00000°.*

*JMA **08** 05:47:04.4±0.2, 40°.26N×143°.41E, h10km±2km, M4.2*

*BJI **08** 05:47:06.4±0.0, 40°.31N×143°.36E, h35km, mB5.0/29, mb4.5/37, Ms4.3/12, Ms7 4.0/11*

*NEIC **08** 05:47:08.8±2.5, 40°.20N±0°.07×143°.5E±0°.1, h37km±7km, mb4.5/29, Error ellipse: s-maj=13.3km s-min=9.3km az=112.0*

ISC 08 05:47:09.5±1.4, 40°.24N±0°.05×143°.36E±0°.06, h41km±11km, n105, σ1^{s}34/111, mb4.4/32, MS3.9/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	Tanohata	1.19	256	P	Pn	05 47 27.3	-2.3
JTH				eS	Sn	05 47 43.6	-1.0
JKEN	Kujiedanarisaw	1.27	269	P	Pn	05 47 28.5	-2.2
JKEN				eS	Sn	05 47 45.6	-0.9
MIYJ	Miyakonagasawa	1.36	241	P	Pn	05 47 29.9	-2.1
MIYJ				eS	Sn	05 47 47.8	-1.0
JANG	Nango	1.42	276	P	Pn	05 47 30.9	-1.9
JANG				eS	Sn	05 47 50.3	0.0
JOM	Ohasama	1.77	245	P	Pn	05 47 36.4	-1.2
ERM	Erimo	1.78	355	Pn	Pn	05 47 35.9	-1.9
ERM				Sn	Sn	05 48 01.5	+2.3
JEM	Erimo	1.78	355	P	Pn	05 47 35.3	-2.5
JTM	Tenmabayashi	1.83	288	P	Pn	05 47 37.3	-1.2
JTM				eS	Sn	05 48 00.4	-0.1
JAH	Hinai	2.09	270	P	Pn	05 47 41.3	-0.7
JNBK	Urakawa-nobuka	2.09	348	P	Pn	05 47 40.0	-2.1
JMK	Ichinoseki	2.10	233	P	Pn	05 47 40.9	-1.2
JOT	Ohata	2.10	304	P	Pn	05 47 40.7	-1.4
JRG	Rokugo	2.26	249	P	Pn	05 47 44.2	-0.2
JCH	Churui	2.38	360	P	Pn	05 47 43.6	-2.3
JCH				eS	Sn	05 48 11.4	-2.4
JKB	Kayabe	2.41	314	P	Pn	05 47 45.3	-1.1
JKA	Kamikawa-asahi	3.92	352	Pn	Pn	05 48 06.0	-1.2
ASAJ	Asahikawa	3.92	352	Pn	Pn	05 48 05.7	-1.4
	2.3nm,0.3s,baz=170,slow=7.4,SNR=8.5						
ASAJ				Sn	Sn	05 48 56.8	+5.0
	4.8nm,0.3s,baz=27,slow=32,SNR=5.7						
ASAJ				LR	LR	05 50 06.4	
	comp=Z,326nm,20.4s,baz=176,slow=46						
MAJO	Matsushiro	5.48	229	Pn	Pn	05 48 28.6	0.0
MAT	Matsushiro	5.48	229	P	Pn	05 48 27.8	-0.8
MAT				eS	Sn	05 49 32.8	+2.5
MJAR	Matsushiro Arr	5.48	229	Pn	Pn	05 48 26.9	-1.7
	0.3nm,0.3s,baz=34,slow=11,SNR=34						
MJAR				LR	LR	05 50 47.9	
	comp=Z,286nm,19.1s,baz=40,slow=41						
MJAR	Matsushiro Arr	5.48	229		Pn	05 48 27.2	-1.4
MJB9	Matsu-Tunnel	5.48	229	Pn	Pn	05 48 28.5	-0.1
USA0B	Ussuriysk Arra	9.32	299	Pn	Pn	05 49 23.0	+1.8
USRK	Ussuriysk Ar.	9.32	299	Pn	Pn	05 49 23.1	+1.9
	baz=102,slow=14,SNR=21						
USRK	Ussuriysk Ar.	9.32	299		Pn	05 49 22.6	+1.4
MDJ	Mudanjiang	11.08	298	P	Pn	05 49 45.2	-0.1
MDJ				S	Sn	05 51 45.8	-1.9
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,260nm,5.7s						
MDJ				LR	LR		
	comp=N,260nm,9.3s						
MDJ				LR	LR		
	comp=E,430nm,13.5s						
MDJ				LR	LR		
	comp=Z,650nm,15.5s						
KLR	Kul'dur	12.19	321	Pn	Pn	05 50 00.6	+0.1
	0.1nm,0.3s,baz=120,slow=13,SNR=6.3						
JNU	Nakatsue	12.28	239	LR	LR	05 54 02.7	
	comp=Z,190nm,21.7s,baz=358,slow=34						
KSRS	Korea Array	12.36	262	Pn	Pn	05 50 05.2	+2.5
	0.3nm,0.3s,baz=90,slow=12,SNR=2.3						
KSRS				LR	LR	05 54 18.7	
	comp=Z,330nm,19.7s,baz=28,slow=35						
PETK	Petropavlovsk-	16.16	32	LR	LR	05 56 15.2	
	comp=Z,82nm,20.5s,baz=259,slow=34						
BJI	Beijing	20.76	278	P	P	05 51 44.8	-1.9
BJI				LR	LR		
	comp=N,340nm,5.9s						
BJI				LR	LR		
	comp=E,140nm,5.8s						
BJI				LR	LR		
	comp=Z,220nm,21.6s						
NJ2	Nanjing	21.36	255	eP	P	05 51 53.8

comp=Z,920nm,29.1s
WMQ LR LR
comp=Z,120nm,27.5s
ZAA0 Zalesovo Array 40.97 310 P **P** **05 54 47.0 -1.0**
ZALV Zalesovo Beam 40.97 310 P **P** **05 54 47.9 -0.1**
comp=Z,2.9nm,0.6s,baz=93,slow=8.7,SNR=9.4
ZALV PcP **PcP** **05 56 48.0 +0.5**
comp=Z,1.4nm,0.6s,baz=90,slow=3.0,SNR=3.9
ZALV Zalesovo Beam 40.97 310 P **P** **05 54 48.4 +0.4**
ZALV **PcP** **05 56 47.9 +0.4**
NRIK Noril'sk 41.04 333 P **P** **05 54 49.6 +1.2**
comp=Z,2.6nm,0.4s,baz=119,slow=9.1,SNR=4.6
MK31 Makanchi Array 43.79 300 P **P** **05 55 11.0 -0.1**
MKAR Makanchi Array 43.79 300 P **P** **05 55 10.9 -0.1**
comp=Z,4.1nm,1.0s,baz=83,slow=9.9,SNR=20
MKAR Makanchi Array 43.79 300 P **P** **05 55 11.1 0.0**
MAKZ Makanchi 43.99 300 P **P** **05 55 11.3 -1.4**
MAKZ IAmb IAmb 05 55 14.1
comp=Z,6.9nm,1.1s
KURK Kurchatov 45.23 306 P **P** **05 55 21.3 -1.1**
ILAR Eielson Array 45.98 34 P **P** **05 55 28.2 0.0**
comp=Z,0.6nm,0.8s,baz=280,slow=5.1,SNR=5.9
ILAR Eielson Array 45.98 34 P **P** **05 55 27.6 -0.6**
BCAR Beaver Creek A 48.40 36 P **P** **05 55 47.6 +0.4**
BRVK Borovoye 49.65 311 P **P** **05 55 56.2 -0.6**
BRVK IAmb IAmb 05 55 57.9
comp=Z,5.9nm,0.9s
HYT Haines Junctio 50.83 38 P **P** **05 56 07.1 +1.3**
HYT IAmb IAmb 05 56 17.6
comp=Z,6.4nm,1.1s
INK Inuvik 50.84 28 P **P** **05 56 05.0 -0.6**
comp=Z,2.3nm,0.8s,baz=280,slow=6.3,SNR=5.8
INK Inuvik 50.84 28 P **P** **05 56 06.0 +0.5**
INK IAmb IAmb 05 56 08.2
comp=Z,6.6nm,1.4s
KK31 Karatay Array 52.89 299 P **P** **05 56 20.7 -0.5**
KKAR Karatay Array 52.89 299 P **P** **05 56 20.2 -1.0**
ARU Arti 55.00 318 P **P** **05 56 36.4 0.0**
ARU IAmb IAmb 05 56 37.4
comp=Z,9.7nm,1.2s
NIL Nilore 55.10 287 P **P** **05 56 37.9 +0.4**
CHGR Chuyangaron 55.71 294 P **P** **05 56 41.1 -0.8**
EUNU Eureka 56.79 9 P **P** **05 56 48.8 -0.2**
EUNU IAmb IAmb 05 56 53.4
comp=Z,6.9nm,1.0s
ABKAR Akbulak array 57.07 309 P **P** **05 56 50.7 -0.6**
WB0 Warramunga Arr 60.27 190 P **P** **05 57 11.3 -2.5**
WB0 IAmb IAmb 05 57 16.4
comp=Z,6.7nm,1.1s
WRA Warramunga Arr 60.45 190 P **P** **05 57 13.7 -1.3**
comp=Z,0.7nm,0.7s,baz=7.5,slow=6.9,SNR=5.6
WRA Warramunga Arr 60.45 190 P **P** **05 57 14.7 -0.4**
GEYT Alibeck 63.64 298 P **P** **05 57 35.9 -0.5**
ASAR Alice Springs 64.18 190 P **P** **05 57 39.0 -0.9**
comp=Z,0.5nm,0.7s,baz=18,slow=6.2,SNR=2.6
ASAR Alice Springs 64.18 190 P **P** **05 57 39.6 -0.3**
FINES FINESS Array B 66.69 332 P **P** **05 57 55.7 0.0**
comp=Z,5.0nm,0.8s,baz=35,slow=7.0,SNR=14
FINES LR LR 06 30 10.7
comp=Z,70nm,18.6s,baz=34,slow=39
FINES FINESS Array B 66.69 332 P **P** **05 57 55.4 -0.3**
KIV Kislovodsk 69.96 311 P **P** **05 58 17.8 +1.2**
KBZ Khabaz 69.98 311 P **P** **05 58 17.2 +0.6**
comp=Z,4.4nm,0.8s,baz=114,slow=1.9,SNR=10
BOZ Bozeman (W) 71.40 46 P **P** **05 58 25.9 +0.5**
NC204 NORSAR Array S 71.76 338 P **P** **05 58 27.5 +0.3**
NB2 NORSAR Subarra 71.82 338 P **P** **05 58 27.2 -0.3**
comp=Z,4.8nm,1.0s,baz=36,slow=6.2
NOA NORSAR Array B 71.82 338 P **P** **05 58 26.7 -0.8**
comp=Z,2.5nm,0.8s,baz=37,slow=6.0,SNR=11
NOA LR LR 06 33 20.3
comp=Z,55nm,21.6s,baz=35,slow=39
NVAR Mina Array Bea 71.87 55 P **P** **05 58 29.2 +0.7**
comp=Z,0.2nm,0.7s,baz=289,slow=5.6,SNR=2.1
NVAR Mina Array Bea 71.87 55 P **P** **05 58 28.8 +0.3**
AKASG Malin Array Be 72.69 323 P **P** **05 58 32.8 0.0**
comp=Z,3.0nm,0.7s,baz=43,slow=6.1,SNR=9.4
AKASG Malin Array Be 72.69 323 P **P** **05 58 32.6 -0.2**
AKBB Malin Array Si 72.69 323 P **P** **05 58 31.9 -0.9**
AKBB IAmb IAmb 05 58 33.5
comp=Z,5.0nm,0.8s
PDAR Pinedale Array 74.35 47 P **P** **05 58 43.0 -0.1**
comp=Z,0.1nm,0.3s,baz=224,slow=4.8,SNR=2.4
PDAR Pinedale Array 74.35 47 P **P** **05 58 42.5 -0.6**
BUR08 Bucovina Ar. S 76.72 322 P **P** **05 58 56.1 -0.3**
BURAR Bucovina Array 76.73 322 P **P** **05 58 56.9 +0.4**
OJC Ojcow 77.22 327 P **P** **05 58 59.2 +0.2**
OJC IAmb IAmb 05 59 00.6
comp=Z,9.2nm,1.1s
VYHS Vyhne 78.94 326 *e*P **P** **05 59 09.3 +0.7**
CLL Collm 79.06 331 *i* P **P** **05 59 09.2 0.0**
comp=Z,5.0nm,0.9s
PRU Pruhonice 79.53 329 *e*P **P** **05 59 12.7 +0.9**
KHC Kasperske Hory 80.60 329 *e*P **P** **05 59 18.2 +0.6**
KHC Kasperske Hory 80.60 329 P **P** **05 59 17.8 +0.2**
GERES GERESS Array B 80.78 329 P **P** **05 59 18.9 +0.2**
comp=Z,0.8nm,0.5s,baz=36,slow=5.0,SNR=8.7
GERES GERESS Array B 80.78 329 P **P** **05 59 18.4 -0.3**
PRED Cave del Predi 82.76 328 P **P** **05 59 29.3 +0.2**
PRED IAmb IAmb 05 59 29.3
comp=Z,2.7nm,0.8s
BMRD Maredsous 82.79 335 P **P** **05 59 29.3 +0.2**
FUORN Ofenpass-Fuorn 83.94 330 P **P** **05 59 36.0 +0.6**
TXAR Lajitas Array 86.98 54 P **P** **05 59 51.0 +0.4**
comp=Z,0.6nm,1.1s,baz=289,slow=2.8,SNR=2.6
TXAR Lajitas Array 86.98 54 P **P** **05 59 50.5 -0.2**
SNAA Sanae 144.25 198 PKPdf **PKPab** **06 06 38.0 +0.2**

OMAN 08 06:01:39.5±0.1, 25°.78N×63°.48E, h82km, mb4.7/10, ml3.6/4, Error ellipse: s-maj=2.3km s-min=1.4km az=13.0, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**5.09**	**241**	P		Pn	06 02 52.6	-0.7
WSAR				S		Sn	06 03 50.6	-0.1
JLN	**Jalan Bani Buh**	**5.18**	**227**	P		Pn	06 02 53.3	-1.3
WBK	**Wadi Bani Khal** SNR=23	**5.18**	**233**	P		Pn	06 02 54.0	-0.7
WBK				S		Sn	06 03 53.2	0.0
BIDO	**Bidbid**	**5.36**	**246**	P		Pn	06 02 57.2	+0.1
BIDO				S		Sn	06 03 57.8	+0.4
SMDO	**Samad** SNR=7.3	**5.64**	**242**	P		Pn	06 03 02.0	+1.1
JMDO	**Jabal Madar** SNR=18	**5.97**	**236**	P		Pn	06 03 06.0	+0.6
JMDO				S		Sn	06 04 12.2	-0.2
HOQ	**Hoqain**	**6.02**	**250**	P		Pn	06 03 04.6	-1.5
BANOM	**Banah**	**6.47**	**273**	P		Pn	06 03 11.6	-0.6
BANOM				S		Sn	06 04 25.0	+0.5
BSY	**Bisya** SNR=13	**6.47**	**244**	P		Pn	06 03 13.3	+1.0
BSY				S		Sn	06 04 29.0	+4.3
SOHO	**SOHO**	**6.51**	**257**	P		Pn	06 03 11.4	-1.3
UOSS	**Minazif**	**6.63**	**264**	P		Pn	06 03 12.4	-1.9
UOSS				S		Sn	06 04 26.1	-2.4
HATD	**Hatta, Dubai**	**6.71**	**263**	P		Pn	06 03 15.0	-0.5
ARQ	**Araqi**	**6.78**	**250**	P		Pn	06 03 18.8	+2.3
ASHO	**Ashiyiah**	**6.80**	**262**	P		Pn	06 03 16.3	-0.5

ISC 08 06:02:42.6±2.7, 45°.01N±0°.04×14°.4E±0°.2, h8km±11km, n6, σ0s45/12, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**0.55**	**143**	*e*Pg		**Pg**	**06 02 53.2**	**-0.2**
NVLJ						**Sg**	**06 03 00.7**	**+0.2**
GBRS	**Gornja Briga**	**0.59**	**28**	*i* Pg		**Pg**	**06 02 54.0**	**-0.2**
GBRS				*e*Sg		**Sg**	**06 03 02.1**	**+0.1**
DUGI	**Dugi Otok**	**1.12**	**155**	*e*Pg		**Pg**	**06 03 04.0**	**-0.1**
DUGI				Sg		**Sn**	**06 03 20.1**	**0.0**
MORI	**Morici**	**1.47**	**140**	*e*Pg		**Pn**	**06 03 09.5**	**+0.1**
MORI				Sg		**Sn**	**06 03 28.0**	**-0.8**
ZIRJ	**Zirje**	**1.62**	**146**	*e*Pn		**Pb**	**06 03 12.4**	**-0.2**
ZIRJ				Sn		**Sb**	**06 03 33.5**	**+0.3**
RICI	**Ricice**	**2.47**	**127**	*e*Pn		**Pn**	**06 03 24.0**	**+0.8**
RICI				Sn		**Sn**	**06 03 53.2**	**-0.3**

*NNC **08** 06:14:47.6±0.7, 42°.77N×79°.09E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=5.5km s-min=2.5km az=157.0*
*SOME **08** 06:14:49.3, 42°.83N×79°.02E, h15km*

*KRNET **08** 06:14:52.8±0.1, 42°.63N×78°.69E, h35km, mb2.1*
ISC 08 06:14:46.5±1.1, 42°.71N±0°.03×79°.04E±0°.03, h13km±10km, n29, σ0s71/54, 8C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak** 21nm,0.1s	**0.43**	**359**	⇓*e*P		**Pg**	**06 14 55.5**	**+0.3**
UZB				*e*S		**Sg**	**06 15 00.9**	**-0.2**
UZB	**Uzynbulak** 25nm,0.2s	**0.43**	**359**	P		**Pg**	**06 14 55.5**	**+0.3**
UZB				S		**Sg**	**06 15 00.9**	**-0.2**
PRZ	**Przheval'sk** baz=34	**0.52**	**244**	⇑*i*P		**Pn**	**06 14 59.9**	**+0.1**
PRZ				⇑*i*S		**Sb**	**06 15 05.2**	**0.0**
PDGK	**Podgornoye** 2.9nm,0.3s	**0.70**	**28**	P		**Pg**	**06 15 00.1**	**-0.1**
PDGK				S		**Sg**	**06 15 08.8**	**-0.6**
PDGK	**Podgornoye** 1.3nm,0.2s	**0.70**	**28**	⇑P		**Pg**	**06 14 59.9**	**-0.2**
PDGK				⇑S		**Sg**	**06 15 08.4**	**-1.1**
KPKS	**Kokpek** 17nm,0.2s	**0.80**	**341**	*e*P		**Pb**	**06 15 02.2**	**-0.1**
KPKS				*e*S		**Sg**	**06 15 12.3**	**-0.1**
KURS	**Kuram** 2.5nm,0.2s	**1.00**	**321**	*e*P		**Pn**	**06 15 06.4**	**+0.1**
KURS				*e*S		**Sb**	**06 15 19.5**	**+0.6**
ANVS	**Anan'yevo** baz=82	**1.01**	**275**	⇓*i*P		**Pn**	**06 15 07.7**	**+1.1**
ANVS				⇓*i*S		**Sg**	**06 15 18.7**	**-0.6**
KTMS	**Ketmen** 1.0nm,0.1s	**1.21**	**52**	*e*P		**Pb**	**06 15 09.3**	**-0.1**
KTMS				*e*S		**Sg**	**06 15 24.5**	**-1.1**
KTMS	**Ketmen** 1.0nm,0.1s	**1.21**	**52**	P		**Pb**	**06 15 09.3**	**-0.1**
KTMS				S		**Sg**	**06 15 24.5**	**-1.1**
TARG	**Taragay, Kyrgy** baz=17	**1.34**	**223**	⇓*i*P		**Pg**	**06 15 13.5**	**+1.2**
TARG				⇓*i*S		**Sb**	**06 15 28.5**	**-0.5**
KDJ	**Kajisay** baz=46	**1.49**	**248**	⇑*i*P		**Pg**	**06 15 15.0**	**-0.2**
KDJ				⇑*i*S		**Sn**	**06 15 31.4**	**-1.2**
TNSS	**Tian-Shan** 0.4nm,0.1s	**1.57**	**283**	*e*P		**Pg**	**06 15 17.2**	**+0.5**
TNSS				*e*S		**Sg**	**06 15 38.2**	**+1.0**
TNSS	**Tian-Shan** 1.3nm,0.0s	**1.57**	**283**	P		**Pg**	**06 15 17.2**	**+0.5**
TNSS				S		**Sg**	**06 15 38.2**	**+1.0**
DJR	**Jarkent** 3.1nm,0.3s	**1.71**	**18**	*e*P		**Pb**	**06 15 18.5**	**+0.7**
DJR				*e*S		**Sb**	**06 15 40.2**	**+1.0**
DJR	**Jarkent** 3.1nm,0.3s	**1.71**	**18**	P		**Pb**	**06 15 18.5**	**+0.7**
DJR				S		**Sb**	**06 15 40.2**	**+1.0**
ARXS	**Arharly** 6.0nm,0.4s	**1.74**	**330**	*e*P		**Pg**	**06 15 19.4**	**-0.5**
ARXS				*e*S		**Sg**	**06 15 41.8**	**-0.7**
ARXS	**Arharly** 6.0nm,0.4s	**1.74**	**330**	P		**Pg**	**06 15 19.4**	**-0.5**
ARXS				S		**Sg**	**06 15 41.8**	**-0.7**
CHKK	**Chushkaly** 1.8nm,0.1s	**1.88**	**308**	*e*P		**Pg**	**06 15 21.9**	**-0.7**
CHKK				*e*S		**Sg**	**06 15 46.1**	**-0.9**
CHKK	**Chushkaly** 1.8nm,0.1s	**1.88**	**308**	P		**Pg**	**06 15 21.9**	**-0.7**
CHKK				S		**Sg**	**06 15 46.1**	**-0.9**
KTBS	**Karatobe** 1.1nm,0.2s	**1.99**	**301**	*e*P		**Pg**	**06 15 24.4**	**-0.3**
KTBS				*e*S		**Sg**	**06 15 50.3**	**-0.2**
KTBS	**Karatobe** 1.4nm,0.3s	**1.99**	**301**	Pg		**Pg**	**06 15 24.4**	**-0.3**
KTBS				Lg	Lg		06 15 50.3	
ULHL	**Ulahol** baz=59	**2.12**	**258**	⇑*i*P		**Pb**	**06 15 24.6**	**-0.3**
ULHL				⇑*i*S		**Sn**	**06 15 47.5**	**-0.6**
KST	**Kastek** 5.3nm,0.3s	**2.28**	**279**	*e*P		**Pg**	**06 15 30.0**	**-0.3**
KST				*e*S		**Sg**	**06 15 60.0**	**+0.1**
KST	**Kastek** 7.0nm,0.6s	**2.28**	**279**	Pg		**Pg**	**06 15 30.0**	**-0.3**
KST				Lg	Lg		06 15 60.0	
DGS	**Degeres** 2.4nm,0.6s	**2.45**	**284**	*e*P		**Pg**	**06 15 32.6**	**-1.0**
DGS				*e*S		**Sg**	**06 16 04.3**	**-1.1**
DGS	**Degeres** 2.4nm,0.6s	**2.45**	**284**	Pg		**Pg**	**06 15 32.6**	**-1.0**
DGS				Lg	Lg		06 16 04.3	
KAPS	**Kapalarasan** 3.4nm,0.3s	**2.58**	**5**	*e*P		**Pb**	**06 15 33.3**	**+0.6**
KAPS				*e*S		**Sb**	**06 15 05.6**	**+1.2**
KAPS	**Kapalarasan** 3.4nm,0.3s	**2.58**	**5**	Pg		**Pb**	**06 15 33.3**	**+0.6**
KAPS				Lg	Lg		06 16 05.6	

IDC 08 06:15:00.9±3.1, 30°.06S×138°.80E, h0km, mb1 3.1/3, mb1mx3.1/28, mbtmp2.9/3, ML2.9/3, Error ellipse: s-maj=104.4km s-min=16.8km az=46.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.6nm,0.3s,baz=309,slow=13,SNR=6.5	**3.01**	**128**	Pn		Pn	06 15 49.6	-0.2
STKA				Pg		Pg	06 15 57.2	-1.3
STKA	1.2nm,0.3s,baz=306,slow=13,SNR=10			Sn		Sn	06 16 28.1	+1.5
STKA	1.2nm,0.3s,baz=252,slow=20,SNR=5.6			Lg		Lg	06 16 34.8	
ASAR	**Alice Springs** 0.3nm,0.3s,baz=151,slow=12,SNR=12	**7.72**	**324**	Pn		Pn	06 16 53.6	-1.1
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=154,slow=12,SNR=2.1	**10.85**	**337**	Pn		Pn	06 17 38.3	+0.7

ROM 08 06:18:08.6±0.2, 43°.449N±0°.005×12°.359E±0°.007, h6km±1km, ML1.0/5, 2D, Error ellipse: s-maj=0.6km s-min=0.2km az=223.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.03**	**87**	P		Pg	06 18 09.8	-0.1
ATPI				S		Sg	06 18 10.7	-0.1
ATVO	**AVT- Monte Val**	**0.08**	**152**	P		Pg	06 18 10.8	+0.4
ATVO				S		Sg	06 18 12.7	+1.0
ATVO	comp=E,348μm,0.6s			AML		AML		
ATVO	comp=N,322μm,0.4s			AML		AML		
ATVO	comp=E,218μm,0.4s			AML		AML		
ATVO	comp=N,152μm,0.2s			AML		AML		
CDCA	**Citt' di Caste**	**0.09**	**276**	⇓P		Pg	06 18 10.3	-0.4
BADI	**Badiali**	**0.10**	**306**	P		Pg	06 18 11.2	+0.3
BADI				S		Sg	06 18 13.4	+0.9
BADI	comp=E,370μm,0.1s			AML		AML		
BADI	comp=N,313μm,0.3s			AML		AML		
BADI	comp=E,369μm,0.1s			AML		AML		
BADI	comp=N,470μm,0.4s			AML		AML		
ATMI	**Monte Miggiano**	**0.13**	**210**	P		Pg	06 18 12.2	+0.8
ATMI				AML		AML		
ATMI	comp=E,424μm,0.5s			AML		AML		
ATMI	comp=N,687μm,0.8s			AML		AML		
PIEI	**Pieia**	**0.15**	**56**	P		Pg	06 18 12.3	+0.5
PIEI				S		Sg	06 18 15.2	+1.3
PIEI	comp=E,274μm,1.0s			AML		AML		
PIEI	comp=N,222μm,0.4s			AML		AML		
PIEI	comp=N,31μm,0.8s			AML		AML		
PIEI	comp=E,52μm,0.3s			AML		AML		
PARC	**Parchiule**	**0.22**	**336**	P		Pg	06 18 13.4	+0.5
PARC				S		Sg	06 18 17.4	+1.5
PARC	comp=E,38μm,1.2s			AML		AML		
PARC	comp=E,186μm,1.1s			AML		AML		
PARC	comp=N,200μm,0.6s			AML		AML		
PARC	comp=N,42μm,0.2s			AML		AML		
MURB	**Monte Urbino**	**0.22**	**147**	P		Pg	06 18 13.6	+0.5
MURB				AML		AML		
MURB	comp=N,152μm,0.2s			AML		AML		
MURB	comp=E,1550μm,0.3s			AML		AML		
MURB	comp=N,1030μm,0.9s			AML		AML		
MURB	comp=E,1710μm,0.3s			AML		AML		
MURB	comp=N,1100μm,1.0s			AML		AML		
MURB	comp=E,116μm,0.2s			AML		AML		
CAFI	**Castiglion Fio**	**0.31**	**247**	⇓P		Pg	06 18 15.2	+0.5
CAFI				AML		AML		
CAFI	comp=E,166μm,0.9s			AML		AML		
CAFI	comp=N,220μm,0.7s			AML		AML		
FOSV	**Fossato di Vic**	**0.33**	**118**	S		Sb	06 18 22.0	-0.6

*ROM **08** 06:18:21.8±0.2, 43°.519N±0°.006×13°.85E±0°.01, h9km, ML2.8/45, Error ellipse: s-maj=1.0km s-min=0.4km az=60.0*
ISC 08 06:18:22.8±0.8, 43°.50N±0°.02×13°.83E±0°.02, h12km±6km, n88, σ1s32/98, 11C-5D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AOI	**Ancona**	**0.17**	**286**	⇑P		**Pg**	**06 18 26.0**	**-0.7**
AOI	**Ancona**	**0.17**	**286**	⇑P		**Pg**	**06 18 26.0**	**-0.7**
AOI	**Ancona**	**0.17**	**286**	P		**Pg**	**06 18 26.0**	**-0.7**
AOI				S		**Sg**	**06 18 29.2**	**-0.2**
AOI	comp=E,4715μm,0.2s			AML		AML		
AOI	comp=N,10585μm,1.0s			AML		AML		
AOI	**Ancona**	**0.17**	**286**	⇑P		**Pg**	**06 18 26.0**	**-0.7**
PP3	**Marolino**	**0.20**	**232**	P		**Pg**	**06 18 26.7**	**-0.5**
PP3	comp=E,27700μm,0.7s			AML		AML		
PP3	comp=E,27550μm,0.7s			AML		AML		
PP3	comp=N,12750μm,0.9s			AML		AML		
PP3	comp=N,14850μm,0.2s			AML		AML		
CIMA	**Civitanova Mar**	**0.23**	**210**	⇑P		**Pg**	**06 18 27.8**	**+0.2**
CIMA	**Civitanova Mar**	**0.23**	**210**	⇑P		**Pg**	**06 18 27.8**	**+0.2**
CIMA	**Civitanova Mar**	**0.23**	**210**	P		**Pg**	**06 18 27.7**	**+0.2**
CIMA				S		**Sg**	**06 18 32.5**	**+1.6**
CIMA	comp=E,10265μm,0.9s			AML		AML		
CIMA	comp=N,20450μm,0.4s			AML		AML		
CIMA	comp=E,10270μm,0.9s			AML		AML		
CIMA	comp=N,20450μm,0.4s			AML		AML		
CIMA	**Civitanova Mar**	**0.23**	**210**	⇑P		**Pg**	**06 18 27.8**	**+0.2**
PCRO	**Pietralacroce**	**0.24**	**296**	P		**Pg**	**06 18 27.6**	**-0.2**
PCRO				S		**Sg**	**06 18 31.9**	**+0.6**
CADA	**Capodarco di F**	**0.31**	**189**	P		**Pb**	**06 18 29.4**	**-0.9**
CADA				S		**Sb**	**06 18 35.3**	**-0.1**
GUMA	**Gualdo di Mace**	**0.45**	**170**	P		**Pn**	**06 18 33.5**	**-1.6**
GUMA				S		**Sb**	**06 18 42.0**	**+2.7**
MNTP	**Montappone**	**0.45**	**216**	P		**Pg**	**06 18 31.5**	**-0.2**
MNTP				S		**Sb**	**06 18 38.3**	**-1.0**
SENI	**Senigallia**	**0.48**	**295**	P		**Pb**	**06 18 32.1**	**-1.0**
SENI	comp=N,4655μm,0.5s			AML		AML		
SENI	comp=E,1051μm,0.3s			AML		AML		
SENI	comp=N,1040μm,0.9s			AML		AML		
SENI	comp=E,5760μm,1.0s			AML		AML		
CING	**Cingoli**	**0.48**	**255**	P		**Pg**	**06 18 31.6**	**-0.6**
CING				S		**Sg**	**06 18 39.0**	**+0.4**
CING	comp=N,1325μm,0.2s			AML		AML		
CING	comp=E,932μm,1.5s			AML		AML		
EL6	**Elcito**	**0.56**	**252**	P		**Pg**	**06 18 33.0**	**-0.7**
EL6				S		**Sb**	**06 18 41.7**	**-0.7**
EL6	comp=E,1274μm,0.6s			AML		AML		
EL6	comp=N,1545μm,0.4s			AML		AML		
EL6	comp=N,1546μm,1.6s			AML		AML		
EL6	comp=E,1265μm,0.6s			AML		AML		
EL6	comp=E,1280μm,0.6s			AML		AML		
OFFI	**Offida**	**0.58**	**190**	P		**Pg**	**06 18 33.8**	**-0.3**
OFFI				AML		AML		
OFFI	comp=E,1645μm,0.5s			AML		AML		
OFFI	comp=N,1510μm,0.4s			AML		AML		
OFFI	comp=N,1720μm,1.0s			AML		AML		
CSP1	**Cessapalombo**	**0.61**	**228**	P		**Pg**	**06 18 33.9**	**-0.8**
CSP1				S		**Sb**	**06 18 43.4**	**-0.8**
COR1	**Corinaldo**	**0.61**	**282**	P		**Pb**	**06 18 34.8**	**-0.7**
COR1	comp=E,590μm,0.4s			AML		AML		
COR1	comp=N,855μm,0.4s			AML		AML		
COR1	comp=E,588μm,0.4s			AML		AML		
COR1	comp=N,853μm,0.4s			AML		AML		
COR1	comp=E,590μm,0.4s			AML		AML		
COR1	comp=N,854μm,0.4s			AML		AML		
ARVD	**Arcevia**	**0.64**	**270**	P		**Pg**	**06 18 34.5**	**-0.8**
ARVD				AML		AML		
ARVD	comp=E,278μm,0.6s			AML		AML		
ARVD	comp=N,280μm,1.1s			AML		AML		
SNTG	**Esanatoglia**	**0.69**	**249**	P		**Pg**	**06 18 35.3**	**-1.0**
SNTG				AML		AML		
SNTG	comp=E,407μm,0.3s			AML		AML		
SNTG	comp=N,870μm,0.4s			AML		AML		
SNTG	comp=N,869μm,0.4s			AML		AML		
FSSB	**Fossombrone**	**0.79**	**284**	P		**Pg**	**06 18 37.3**	**-0.7**
FSSB				S		**Sb**	**06 18 48.9**	**-0.1**
FSSB	comp=N,1485μm,0.4s			AML		AML		
FSSB	comp=E,923μm,0.4s			AML		AML		
FSSB				AML		AML		

comp=E,922µm,0.4s
FOSV Fossato di Vic 0.80 255 AML AML
comp=E,750µm,0.3s
FOSV AML AML
comp=N,506µm,0.3s
CESI CESI - Serrava 0.84 234 P **Pg** **06 18 38.0 -1.0**
CESI AML AML
comp=E,346µm,1.3s
CESI AML AML
comp=N,319µm,0.3s
NRCA Norcia 0.85 218 P **Pg** **06 18 37.8 -1.4**
NRCA S **Sb** **06 18 51.0 +0.1**
NRCA AML AML
comp=N,1275µm,0.4s
NRCA AML AML
comp=E,908µm,0.2s
NRCA AML AML
comp=E,908µm,0.2s
NRCA AML AML
comp=N,1330µm,0.7s
NRCA AML AML
comp=E,860µm,0.9s
NRCA AML AML
comp=E,860µm,0.9s
NRCA AML AML
comp=N,1330µm,0.8s
TERO Teramo 0.90 191 P **Pg** **06 18 39.1 -1.0**
TERO AML AML
comp=E,273µm,0.9s
TERO AML AML
comp=N,290µm,0.3s
ATCC AVT- Casa Cast 0.92 250 P **Pg** **06 18 39.6 -1.0**
ATCC AML AML
comp=E,749µm,0.5s
ATCC AML AML
comp=E,748µm,0.5s
ATCC AML AML
comp=N,828µm,0.5s
ATFO Monte Foce - G 0.93 262 P **Pg** **06 18 40.0 -0.7**
ATFO AML AML
comp=N,756µm,0.5s
ATFO AML AML
comp=E,510µm,0.6s
ATFO AML AML
comp=N,756µm,0.5s
PIEI Pieia 0.94 272 P **Pg** **06 18 39.7 -1.3**
PIEI AML AML
comp=E,274µm,1.0s
PIEI AML AML
comp=N,222µm,0.4s
PIEI AML AML
comp=E,274µm,1.0s
SMA1 SAN MARTINO 0.94 203 P **Pg** **06 18 39.6 -1.4**
SMA1 AML AML
comp=E,649µm,0.3s
SMA1 AML AML
comp=N,888µm,1.2s
SMA1 AML AML
comp=E,650µm,0.3s
ASSB Assisi San Ben 0.97 242 P **Pg** **06 18 40.6 -0.9**
ASSB S **Sb** **06 18 54.7 +0.3**
ASSB AML AML
comp=E,460µm,1.4s
ASSB AML AML
comp=N,806µm,1.3s
MURB Monte Urbino 0.98 256 P **Pg** **06 18 40.8 -0.9**
MURB AML AML
comp=E,1550µm,0.3s
MURB AML AML
comp=N,1030µm,0.9s
MURB AML AML
comp=E,1710µm,0.3s
MURB AML AML
comp=N,1029µm,0.9s
MURB AML AML
comp=N,1100µm,1.0s
MURB AML AML
comp=N,1035µm,0.9s
CAMP Campotosto 1.01 198 P **Pg** **06 18 41.0 -1.4**
CAMP AML AML
comp=N,343µm,0.4s
CAMP AML AML
comp=E,308µm,1.3s
DUGI Dugi Otok 1.02 61 *e*Pg **Pn** **06 18 43.5 +0.6**
DUGI Sg **Sn** **06 18 59.5 +2.3**
ATPI Pietralunga - 1.04 268 ⇑P **Pg** **06 18 41.7 -1.1**
ATPI AML AML
comp=N,297µm,0.4s
ATPI AML AML
comp=E,377µm,0.5s
ATPI AML AML
comp=E,378µm,0.5s
ATVO AVT- Monte Val 1.04 264 P **Pg** **06 18 41.5 -1.3**
ATVO AML AML
comp=N,322µm,0.4s
ATVO AML AML
comp=E,348µm,0.6s
ATVO AML AML
comp=E,347µm,0.6s
LNSS Leonessa 1.07 213 P **Pg** **06 18 41.7 -1.7**
LNSS AML AML
comp=N,742µm,0.5s
LNSS AML AML
comp=E,748µm,0.4s
RM33 Pellescritta (1.09 205 P **Pg** **06 18 42.1 -1.7**
RM33 AML AML
comp=N,778µm,0.4s
RM33 AML AML
comp=E,880µm,0.4s
RM33 AML AML
comp=E,881µm,0.4s
RM33 AML AML
comp=N,778µm,0.4s
VCEL Villa Celiera 1.11 179 P **Pg** **06 18 43.3 -0.8**
VCEL AML AML
comp=E,988µm,0.5s
VCEL AML AML
comp=N,776µm,0.4s
VCEL AML AML
comp=E,990µm,0.5s
VCEL AML AML
comp=N,775µm,0.4s
ATTE AVT- Monte Tez 1.12 255 AML AML
comp=N,470µm,1.3s
ATTE AML AML
comp=E,348µm,0.4s
CPGN Carpegna, Ital 1.13 286 AML AML
comp=N,410µm,1.6s
CPGN AML AML
comp=E,531µm,1.6s
MOMA Monte Martano 1.16 233 P **Pb** **06 18 43.9 -0.8**
MOMA S **Sg** **06 18 59.6 -0.4**
PARC Parchiule 1.16 278 P **Pb** **06 18 44.2 -0.7**
PARC AML AML
comp=N,200µm,0.6s
PARC AML AML
comp=E,186µm,1.1s
FAGN Fagnano 1.25 188 AML AML
comp=E,1126µm,0.5s
FAGN AML AML
comp=N,654µm,0.5s
CESX Cesi 1.28 226 AML AML
comp=N,370µm,1.4s
CESX AML AML
comp=E,684µm,0.5s
NVLJ Novalja 1.30 35 Sg **Sn** **06 19 07.0 +2.9**
NVLJ Novalja 1.30 35 *e*Pg **Pg** **06 18 47.9 +0.1**
ZIRJ Zirje 1.33 83 *e*Pg **Pg** **06 18 48.1 -0.2**
ZIRJ Sg **Sg** **06 19 07.6 +2.0**
FIAM Fiamignano 1.34 203 AML AML
comp=N,211µm,0.5s
FIAM AML AML
comp=E,284µm,0.5s
CAFI Castiglion Fio 1.37 263 P **Pn** **06 18 47.0 -0.7**
CAFI AML AML
comp=E,166µm,0.9s
CAFI AML AML
comp=N,220µm,0.7s
CAFI AML AML
comp=N,220µm,0.7s
MGAB Montegabbione 1.39 245 P **Pb** **06 18 48.1 -0.6**
MGAB AML AML
comp=E,398µm,1.6s
MGAB AML AML
comp=E,412µm,1.4s
MGAB AML AML
comp=N,438µm,0.6s
MGAB AML AML
comp=N,390µm,0.6s
MORI Morici 1.41 74 *e*Pg **Pg** **06 18 50.3 +0.4**
MORI Sg **Sg** **06 19 10.0 +1.8**
INTR Introdacqua 1.49 178 P **Pb** **06 18 49.9 -0.6**
INTR AML AML
comp=E,557µm,1.2s
INTR AML AML
comp=N,560µm,0.8s
ASQU Asqua 1.51 282 P **Pb** **06 18 49.9 -0.8**
ASQU AML AML
comp=N,122µm,1.5s
ASQU AML AML
comp=E,132µm,1.1s
SACS San Casciano d 1.55 246 P **Pb** **06 18 51.0 -0.4**
SACS AML AML
comp=E,150µm,0.6s
SACS AML AML
comp=N,181µm,1.2s
SEI Scarperia 1.87 288 AML AML
comp=N,236µm,0.4s
SEI AML AML
comp=E,102µm,0.6s
HVAR Hvar 1.94 99 Sn **Sg** **06 19 22.7 -2.5**
HVAR Hvar 1.94 99 *e*Pn **Pb** **06 18 56.6 -1.5**
LAV9 Lanuvio 2.00 205 ⇓P **Pn** **06 18 57.3 +0.8**
LAV9 AML AML
comp=N,962µm,0.3s
LAV9 AML AML
comp=E,762µm,0.1s
SKDS Skadanscina 2.05 4 *i* Pn **Pb** **06 18 58.0 -2.0**
SKDS *e*Sn **Sb** **06 19 24.8 -0.6**
comp=Z,24nm,0.4s
MAKA Makarska 2.34 94 Sn **Sb** **06 19 33.6 0.0**
MAKA Makarska 2.34 94 *e*Pn **Pb** **06 19 02.1 -2.7**
RICI Ricice 2.41 89 Sn **Sb** **06 19 35.6 -0.1**
RICI Ricice 2.41 89 *e*Pn **Pb** **06 19 03.7 -2.4**
STAL STALIGIAL 2.87 344 ⇓P **Pn** **06 19 09.8 +1.4**
VULT Monte Vulture 2.87 152 S **Sg** **06 19 57.0 +1.9**
STON Ston 2.90 101 Sn **Sb** **06 19 46.9 -3.0**
STON Ston 2.90 101 *e*Pn **Pn** **06 19 09.8 +1.1**
ROVR Rover Verones 2.91 318 P **Pn** **06 19 09.7 +0.7**
ROVR AML AML
comp=N,32µm,0.4s
ROVR AML AML
comp=E,27µm,0.6s
PTCC Patocco-Chiusa 2.92 354 ⇑P **Pn** **06 19 09.1 -0.1**
PTCC AML AML
comp=E,31µm,0.5s
PTCC AML AML
comp=N,25µm,1.6s
MOSL Moslavina 2.97 44 *e*Pn **Pn** **06 19 10.9 +1.1**
MOSL Sn **Sb** **06 19 47.6 -4.3**
OBKA Obir 3.05 9 *e*Pn **Pn** **06 19 11.4 +0.5**
comp=N,3.4nm,0.5s
MYKA Terra Mystica 3.13 358 *e*Pn **Pn** **06 19 13.8 +1.8**
comp=N,1.7nm,0.2s
MAGA Magasa 3.22 316 ⇑P **Pn** **06 19 14.3 +1.0**
MAGA AML AML
comp=E,171µm,0.4s
MAGA AML AML
comp=N,138µm,0.5s
KOSI Kohlern 3.43 330 ⇓P **Pn** **06 19 18.0 +1.8**
KOSI AML AML
comp=E,63µm,0.6s
KOSI AML AML
comp=N,60µm,0.6s
KBA Koelnbreinsper 3.59 355 *e*Pn **Pn** **06 19 20.5 +2.0**
comp=N,0.5nm,0.1s
BULG Bulgheria - Ca 3.61 161 S **Sn** **06 20 01.0 -0.3**
RISI Rein 3.66 341 ⇑P **Pn** **06 19 21.5 +2.1**
RISI AML AML
comp=N,85µm,0.4s
RISI AML AML
comp=E,75µm,0.4s
ROSI Rosskopf 3.83 334 ⇑P **Pn** **06 19 24.1 +2.4**
ROSI AML AML
comp=E,49µm,0.7s
ROSI AML AML
comp=N,42µm,0.7s
WTTA Wattenberg 4.07 338 *e*Pn **Pn** **06 19 24.8 -0.2**
comp=N,2.7nm,0.3s
FETA Feichten 4.14 329 *e*Pn **Pn** **06 19 27.7 +1.7**
comp=N,1.7nm,0.4s
WATA Walderalm 4.15 338 *e*Pn **Pn** **06 19 26.9 +0.9**
comp=N,3.5nm,0.4s
SQTA Sankt Quirin 4.15 335 *e*Pn **Pn** **06 19 26.3 +0.2**
comp=N,1.0nm,0.2s
MOTA Moosalm 4.29 334 *e*Pn **Pn** **06 19 28.1 0.0**
comp=N,3.9nm,0.6s
MOA Molln 4.36 4 *e*Pn **Pn** **06 19 30.1 +1.2**
comp=N,0.9nm,0.2s
CONA Conrad Observa 4.65 17 *e*Pn **Pn** **06 19 33.9 +1.0**
comp=N,0.5nm,0.2s
TIR Tirane 4.96 114 ⇓P Pb 06 19 43.0 -6.6
MTGR Montagna Grand 5.66 189 ⇓P **Pb** **06 20 02.8 +1.2**

*IDC **08** 06:20:11.9±8.0,8.°31N×71.°83W,h0km,mb3.2/2,mb1 3.7/3, mb1mx3.5/23,mbtmp3.4/3,ML2.5/1,Error ellipse: s-maj=162.5km s-min=22.3km az=108.0*
ISC 08 06:20:09.0±0.9,**8.06N**±0.04×**71.31W**±0.05,**h9km,n37,**
σ1§49/39,1D,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOCV	**Socops**	**0.50**	**64**	⇓*e*P	**Pn**	**06 20 22.3**	**-0.1**
SOCV				*e*S	**Sb**	**06 20 29.3**	**+1.8**
PAMC	**Pamplona, Colo**	**1.55**	**243**	*e*P	**Pn**	**06 20 37.1**	**-0.2**
TAMC	**Tame, Arauca**	**1.69**	**196**	*e*P	**Pb**	**06 20 39.6**	**-0.6**
OCAC	**Ocana**	**2.00**	**275**	*e*P	**Pb**	**06 20 43.9**	**-1.8**
BARC	**Barichara**	**2.36**	**232**	*e*P	**Pn**	**06 20 49.2**	**+0.9**
BRRC	**Barranca, Sant**	**2.56**	**248**	*e*P	**Pb**	**06 20 52.8**	**-2.5**
RUSC	**La Rusia**	**2.78**	**219**	*e*P	**Pn**	**06 20 55.0**	**+0.8**
SMLC	**San Martn de**	**2.83**	**285**	*e*P	**Pn**	**06 20 55.0**	**+0.6**
DABV	**Dabajuro**	**2.92**	**13**	*e*P	**Pb**	**06 20 59.7**	**-1.6**
ARGC	**Ariguani, Magd**	**3.41**	**302**	*e*P	**Pn**	**06 21 03.6**	**+1.3**
PTBC	**PUERTO BERRIO,**	**3.47**	**244**	*e*P	**Pn**	**06 21 02.5**	**-0.8**
ZARC	**Zaragoza, Cauc**	**3.56**	**261**	*e*P	**Pn**	**06 21 04.8**	**+0.2**
SPBC	**San Pablo de B**	**3.64**	**229**	*e*P	**Pn**	**06 21 06.9**	**+1.2**
URIC	**Uribia, Colomb**	**3.68**	**350**	*e*P	**Pn**	**06 21 07.4**	**+1.2**
PTGC	**Puerto Gaitan,**	**3.92**	**192**	*e*P	**Pn**	**06 21 09.5**	**0.0**
CHIC	**Chingaza**	**4.17**	**215**	*e*P	**Pn**	**06 21 14.0**	**+0.7**
UREC	**San Jos de Ur**	**4.19**	**266**	*e*P	**Pn**	**06 21 14.7**	**+1.5**
SMRC	**Santa Marta, M**	**4.21**	**317**	*e*P	**Pn**	**06 21 14.3**	**+0.8**
SJCC	**San Jacinto, C**	**4.23**	**296**	*e*P	**Pn**	**06 21 16.1**	**+2.3**
NORC	**Norcasia**	**4.32**	**235**	*e*P	**Pn**	**06 21 15.6**	**+0.6**
ROSC	**El Rosal**	**4.38**	**223**	Pn	**Pn**	**06 21 18.4**	**+2.3**
	5.0nm,0.3s,baz=60,slow=23,SNR=18						
ROSC				Sn	**Sn**	**06 22 07.7**	**+0.1**
	2.9nm,0.3s,baz=331,slow=24,SNR=1.8						
ROSC				Lg	Lg	06 22 27.4	
	4.3nm,0.3s,baz=139,slow=19,SNR=1.8						
ROSC	**El Rosal**	**4.38**	**223**	*e*P	**Pn**	**06 21 18.6**	**+2.5**
HELC	**Santa Helena**	**4.58**	**246**	*e*P	**Pn**	**06 21 20.8**	**+1.9**
VILC	**Villavicencio,**	**4.58**	**211**	*e*P	**Pn**	**06 21 19.6**	**+0.8**
GUY2C	**Guyana, Caldas**	**4.92**	**235**	*e*P	**Pn**	**06 21 25.2**	**+1.6**
DBBC	**Dabeiba**	**4.97**	**258**	*e*P	**Pn**	**06 21 27.1**	**+3.2**
CBOC	**Ciudad Bolivar**	**5.15**	**245**	*e*P	**Pn**	**06 21 29.0**	**+2.4**
TOLC	**Tolima**	**5.27**	**229**	*e*P	**Pn**	**06 21 29.3**	**+0.9**
ANIL	**Santa Ana**	**5.40**	**229**	*e*P	**Pn**	**06 21 30.8**	**+0.7**
PRAC	**Prado**	**5.60**	**220**	*e*P	**Pn**	**06 21 33.0**	**+0.4**
GUVC	**San Jose del G**	**5.64**	**194**	*e*P	**Pn**	**06 21 36.6**	**+3.5**
ORTC	**Ortega, Tolima**	**5.69**	**224**	*e*P	**Pn**	**06 21 34.4**	**+0.6**
MACC	**Macarena, Meta**	**6.40**	**203**	*e*P	**Pn**	**06 21 43.6**	**0.0**
GARC	**Garzon, Huila**	**7.17**	**216**	*e*P	**Pn**	**06 21 54.4**	**0.0**
FLOC	**Florencia**	**7.76**	**214**	*e*P	**Pn**	**06 22 02.2**	**0.0**
TXAR	**Lajitas Array**	**37.03**	**309**	P	**P**	**06 27 19.1**	**-0.4**
	0.2nm,0.6s,baz=129,slow=8.7,SNR=4.1						
PDAR	**Pinedale Array**	**48.17**	**322**	P	**P**	**06 28 50.1**	**+0.1**
	0.2nm,0.4s,baz=121,slow=11,SNR=3.5						

*NNC **08** 06:20:35.5±8.2,36.°75N×70.°31E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=81.2km s-min=47.5km az=154.0*
ISC 08 06:20:30.4±1.6,**35.99N**±0.09×**70.7E**±0.1,**h100km,n19,**
σ1§71/23,4C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.44**	**129**	*e*P	**Pn**	**06 21 51.5**	**+2.5**
THN				*e*S	**Sn**	**06 22 50.5**	**+0.2**
AML	**Almayashu**	**6.55**	**20**	P	**Pn**	**06 22 05.9**	**+1.4**
	SNR=14						
UCH	**Uchtor**	**6.88**	**24**	P	**Pn**	**06 22 10.9**	**+1.8**
	SNR=11						
KZA	**Kyzart**	**7.01**	**29**	P	**Pn**	**06 22 11.9**	**+1.1**
	SNR=11						
EKS2	**Erkin-Say**	**7.06**	**19**	P	**Pn**	**06 22 13.4**	**+2.2**
	SNR=9.7						
KK31	**Karatay Array**	**7.11**	**359**	P	**Pn**	**06 22 12.5**	**+0.8**
	1.2nm,0.4s,baz=181,slow=15,SNR=14						
KK31				⇑S	**Sn**	**06 23 29.0**	**-1.9**
	1.4nm,0.4s,baz=186,slow=24,SNR=4.5						
AAK	**Ala-Archa**	**7.24**	**22**	P	**Pn**	**06 22 16.0**	**+2.3**
	SNR=7.1						
AAK	**Ala-Archa**	**7.24**	**22**	⇑P	**Pn**	**06 22 15.8**	**+2.1**
	5.1nm,0.5s						
AAK				⇑S	**Sn**	**06 23 33.0**	**-1.5**
	7.9nm,0.7s						
CHMS	**Chumysh**	**7.65**	**23**	P	**Pn**	**06 22 21.2**	**+2.1**
	SNR=5.9						
TKM2	**Tokmak 2**	**7.87**	**27**	P	**Pn**	**06 22 24.1**	**+1.8**
	SNR=7.8						
TKM2	**Tokmak 2**	**7.87**	**27**	⇑P	**Pn**	**06 22 23.7**	**+1.4**
	3.1nm,0.5s						
TKM2				⇓S	**Sn**	**06 23 48.7**	**-1.1**
	3.7nm,0.8s						
PYUN	**Piuthan**	**13.02**	**124**	*e*P	**Pn**	**06 23 30.7**	**-1.1**
	13nm,0.3s						
KOLN	**Koldanda**	**13.65**	**123**	*e*P	**Pn**	**06 23 38.6**	**-1.4**
	4.5nm,0.3s						
GKN	**Gorkha**	**14.22**	**120**	*e*P	**Pn**	**06 23 45.2**	**-2.1**
	10nm,0.3s						
PKI	**Pulchoki**	**15.02**	**120**	*e*P	**Pn**	**06 23 56.2**	**-1.5**
AB31	**Akbulak array**	**15.43**	**333**	⇓P	**Pn**	**06 24 02.3**	**-0.1**
	0.7nm,0.4s						
JIRN	**Jiri**	**15.52**	**118**	*e*P	**Pn**	**06 24 02.1**	**-2.0**
	21nm,0.4s						
RAMN	**Ramite**	**16.24**	**119**	*e*P	**Pn**	**06 24 12.0**	**-0.9**
	3.7nm,0.4s						
TAPN	**Taplejung**	**16.80**	**116**	*e*P	**P**	**06 24 20.6**	**+0.2**
	10.0nm,0.4s						

*IDC **08** 06:39:27.9±1.0,27.°07N×103.°22E,h0km,mb3.6/10, mb1 3.8/10,mb1mx3.6/49,mbtmp3.7/10,MS3.3/15, Ms1 3.3/15,ms1mx3.1/58,Error ellipse: s-maj=39.1km s-min=18.1km az=58.0*
*BJI **08** 06:39:29.0±0.0,27.°11N×103.°34E,h7km,mb3.8/2, ML3.9/17*
*NEIC **08** 06:39:30.0±2.4,27.°19N±0.°08×103.°3E±0.°1,h10km±1km, mb4.6/11,Error ellipse: s-maj=22.6km s-min=11.0km az=291.0*
ISC 08 06:39:29.6±0.5,**27.07N**±0.°04×**103.°34E**±0.°05,**h10km,n52,**
σ1§45/49,mb3.9/14,MS3.2/14,1D,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.01**	**196**	Pg	**Pg**	**06 40 06.7**	**-1.5**
KMI				Sg	**Sg**	**06 40 35.9**	**+1.6**
KMI				smax	smax		
	comp=N,450nm,1.1s						
KMI				smax	smax		
	comp=E,480nm,1.2s						
KMI	**Kunming**	**2.01**	**196**		**Pg**	**06 40 06.6**	**-1.6**
GYA	**Guiyang**	**3.03**	**101**	⇓Pn	**Pn**	**06 40 20.1**	**+2.3**
GYA				Pg	**Pb**	**06 40 25.1**	**+1.3**
GYA				Sn	**Sn**	**06 40 55.5**	**+1.3**
GYA				Sg	**Sg**	**06 41 07.0**	**-0.1**
GYA				smax	smax		
	comp=N,500nm,1.0s						
GYA				smax	smax		
	comp=E,200nm,1.4s						
CD2	**Chengdu**	**3.85**	**5**	Pn	**Pn**	**06 40 29.7**	**+0.8**
CD2				Pg	**Pb**	**06 40 40.4**	**+2.8**
CD2				Sn	**Sn**	**06 41 16.7**	**+2.5**
CD2				Sg	**Sg**	**06 41 31.6**	**-1.6**
CD2				smax	smax		
	comp=N,720nm,0.6s						
CD2				smax	smax		
	comp=E,1µm,1.3s						
SLVN	**Son La**	**5.73**	**175**	Pn	Pb	06 41 03.5	-6.3
ENH	**Enshi**	**6.27**	**58**	Pn	**Pn**	**06 41 03.6**	**+1.3**
XAN	**Xi'an**	**8.45**	**33**	P	**Pn**	**06 41 31.3**	**-0.9**
XAN				S	**Sn**	**06 43 03.8**	**-3.8**
XAN				smax	smax		
	comp=N,170nm,1.5s						
XAN				smax	smax		
	comp=E,180nm,1.2s						
XAN	**Xi'an**	**8.45**	**33**	Pn	**Pn**	**06 41 31.2**	**-0.9**
LZH	**Lanzhou**	**9.00**	**3**	*e*P	**Pn**	**06 41 41.7**	**+1.9**
CMAR	**Chiang Mai Arr**	**9.48**	**206**	LR	LR	06 45 48.0	
	comp=Z,154nm,21.8s,baz=34,slow=40						
QIZ	**Qiongzhong**	**9.99**	**142**	P	**Pn**	**06 41 52.2**	**-1.1**
QIZ				S	**Sn**	**06 43 44.0**	**-1.5**
SONM	**Songino Array**	**20.87**	**6**	P	**P**	**06 44 11.7**	**-0.2**
	0.7nm,0.4s,baz=193,slow=11,SNR=2.8						
SONM				LR	LR	06 52 58.9	
	comp=Z,61nm,19.1s,baz=180,slow=39						
SONM	**Songino Array**	**20.87**	**6**	P	**P**	**06 44 11.1**	**-0.8**
WMQ	**Urumqi**	**20.96**	**327**	*e*P	**P**	**06 44 14.1**	**+1.3**
ULN	**Ulaanbaatar**	**20.96**	**7**	P	**P**	**06 44 13.9**	**+1.0**
KSRS	**Korea Array**	**23.16**	**57**	P	**P**	**06 44 35.8**	**-0.5**
	0.5nm,0.4s,baz=241,slow=9.6,SNR=1.9						
KSRS				LR	LR	06 54 46.7	
	comp=Z,117nm,19.0s,baz=236,slow=40						
KKM	**Kota Kinabalu**	**24.24**	**147**	P	**P**	**06 44 48.4**	**+1.4**
KKM				IAmb	IAmb	06 44 49.5	
	comp=Z,15nm,1.2s						
JNU	**Nakatsue**	**24.54**	**69**	LR	LR	06 53 44.5	
	comp=Z,108nm,21.2s,baz=183,slow=35						
TLY	**Talaya**	**24.58**	**0**	LR	LR	06 55 32.0	
	comp=Z,87nm,18.4s,baz=168,slow=39						
MK31	**Makanchi Array**	**25.76**	**325**	P	**P**	**06 45 00.1**	**-0.3**
MKAR	**Makanchi Array**	**25.76**	**325**	P	**P**	**06 45 00.2**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=237,slow=26,SNR=4.7						
MKAR				LR	LR	06 54 40.7	
	comp=Z,72nm,19.8s,baz=126,slow=36						
MKAR	**Makanchi Array**	**25.76**	**325**	P	**P**	**06 45 00.5**	**0.0**
AAK	**Ala-Archa**	**28.14**	**311**	LR	LR	06 58 24.5	
	comp=Z,51nm,20.3s,baz=46,slow=40						
USRK	**Ussuriysk Ar.**	**28.68**	**46**	P	**P**	**06 45 25.6**	**-1.0**
DAV	**Davao City (W)**	**29.01**	**129**	LR	LR	06 56 54.9	
	comp=Z,57nm,18.4s,baz=160,slow=36						
ZALV	**Zalesovo Beam**	**30.13**	**338**	LR	LR	06 58 07.3	
	comp=Z,32nm,20.1s,baz=218,slow=37						
KURBB	**Kurchatov Arra**	**30.18**	**328**	P	**P**	**06 45 40.3**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=133,slow=10,SNR=2.5						
MJAR	**Matsushiro Arr**	**30.96**	**63**	LR	LR	07 00 23.0	
	comp=Z,86nm,19.7s,baz=185,slow=40						
KLR	**Kul'dur**	**31.14**	**37**	LR	LR	07 00 04.8	
	comp=Z,50nm,18.6s,baz=238,slow=40						
MA2	**Magadan**	**45.84**	**31**	LR	LR	07 10 18.9	
	comp=Z,30nm,18.8s,baz=112,slow=40						
OBN	**Obninsk**	**55.08**	**320**	LR	LR	07 13 50.8	
	comp=Z,19nm,22.0s,baz=179,slow=38						
WB0	**Warramunga Arr**	**55.44**	**144**	P	**P**	**06 49 04.6**	**+0.1**
WB0				IAmb	IAmb	06 49 13.4	
	comp=Z,7.7nm,1.3s						
WRA	**Warramunga Arr**	**55.55**	**144**	P	**P**	**06 49 05.6**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=331,slow=8.6,SNR=10						
WRA	**Warramunga Arr**	**55.55**	**144**	P	**P**	**06 49 06.1**	**+0.7**
WB2	**Warramunga Arr**	**55.56**	**144**	P	**P**	**06 49 05.5**	**+0.1**
WB2				IAmb	IAmb	06 49 07.0	
	comp=Z,10.0nm,1.3s						
WR0	**Warramunga Arr**	**55.67**	**144**	P	**P**	**06 49 06.3**	**0.0**
WR0				IAmb	IAmb	06 49 19.4	
	comp=Z,13nm,1.4s						
ASAR	**Alice Springs**	**58.44**	**147**	P	**P**	**06 49 26.4**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=328,slow=6.5,SNR=6.9						
FINES	**FINESS Array B**	**60.57**	**327**	P	**P**	**06 49 39.3**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=96,slow=5.9,SNR=5.6						
FINES	**FINESS Array B**	**60.57**	**327**	P	**P**	**06 49 39.4**	**-0.6**
ARCES	**ARCESS Array B**	**60.67**	**337**	P	**P**	**06 49 39.7**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=75,slow=6.8,SNR=5.9						
ARCES	**ARCESS Array B**	**60.67**	**337**	P	**P**	**06 49 40.2**	**-0.5**
NB2	**NORSAR Subarra**	**67.71**	**328**	P	**P**	**06 50 25.6**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=75,slow=6.5						
NOA	**NORSAR Array B**	**67.71**	**328**	P	**P**	**06 50 25.6**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=74,slow=6.4,SNR=4.0						
NOA				LR	LR	07 24 15.7	
	comp=Z,18nm,18.1s,baz=80,slow=40						
CLL	**Collm**	**69.57**	**318**	*e*P	**P**	**06 50 37.0**	**-1.7**
IMAR	**Indian Mountai**	**70.64**	**25**	P	**P**	**06 50 44.7**	**-0.3**
JMIC	**Jan Mayen**	**71.41**	**341**	LR	LR	07 25 43.3	
	comp=Z,16nm,21.6s,baz=85,slow=39						
BPAW	**Bear Paw Mtn.**	**72.49**	**26**	P	**P**	**06 50 54.6**	**-1.6**
BPAW				IAmb	IAmb	06 51 07.6	

	comp=Z,6.0nm,1.3s						
PPLA	**Purkeypile**	**72.53**	**28**	P	**P**	**06 50 57.9**	**+1.3**
ILAR	**Eielson Array**	**73.76**	**25**	P	**P**	**06 51 05.4**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=300,slow=4.9,SNR=3.1						
ILAR	**Eielson Array**	**73.76**	**25**	P	**P**	**06 51 06.2**	**+2.5**
BRLK	**Bradley Lake**	**74.47**	**30**	P	**P**	**06 51 10.0**	**+2.0**
BCAR	**Beaver Creek A**	**76.58**	**25**	P	**P**	**06 51 22.3**	**+2.2**

*IDC **08** 06:44:40.3±3.1,54˚.28N×87˚.49E, h0km, mb1 3.1/2, mb1mx3.0/46, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=25.3km s-min=17.2km az=53.0*
*NNC **08** 06:44:42.4±4.7,54˚.13N×87˚.29E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=39.0km s-min=32.0km az=161.0, Suspected Mining explosion.*
ISC 08 06:44:42.3±4.6, 54˚.3N±0˚.2×87˚.1E±0˚.2, h0km, n7, σ1§90/10, 2C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**257**	*i*		06 53 30.0	
	baz=75,slow=307,SNR=4.8						
ZALV	**Zalesovo Beam**	**1.40**	**257**	Pg	**Pg**	**06 45 07.6**	**-1.4**
	1.5nm,0.3s,baz=79,slow=17,SNR=14						
ZALV				Lg	Lg	06 45 32.9	
	2.0nm,0.3s,baz=79,slow=25,SNR=11						
KURK	**Kurchatov**	**6.30**	**239**	⇓Pn	**Pn**	**06 46 16.6**	**+0.3**
	1.2nm,0.6s						
KURK				⇑Sn	**Sn**	**06 47 32.8**	**+3.9**
	2.6nm,0.7s						
KURK				⇓Lg	Lg	06 48 03.4	
	13nm,1.1s						
KURBB	**Kurchatov Arra**	**6.40**	**239**	Pn	**Pn**	**06 46 18.8**	**+1.1**
	0.1nm,0.3s,baz=55,slow=14,SNR=10						
KURBB				Lg	Lg	06 48 07.0	
	0.1nm,0.3s,baz=61,slow=30,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.40**	**239**	⇓Pn	**Pn**	**06 46 17.3**	**-0.4**
	2.5nm,0.7s						
KURBB				⇓Sn	**Sn**	**06 47 30.8**	**-0.7**
	6.6nm,0.7s						
KURBB				⇓Lg	Lg	06 48 05.5	
	8.2nm,0.7s						
MK31	**Makanchi Array**	**8.10**	**204**	Pn	**Pn**	**06 46 42.3**	**+1.2**
	0.4nm,0.5s,baz=29,slow=13,SNR=5.4						
MK31				⇓Sn	**Sn**	**06 48 11.3**	**-2.0**
	1.2nm,0.6s,baz=27,slow=25,SNR=8.1						
MK31				⇑Lg	Lg	06 49 00.2	
	5.2nm,0.9s,baz=30,slow=32,SNR=3.6						
MKAR	**Makanchi Array**	**8.10**	**204**	Pn	**Pn**	**06 46 42.1**	**+1.0**
	0.1nm,0.3s,baz=23,slow=12,SNR=5.6						
MKAR				Sn	**Sn**	**06 48 13.2**	**-0.1**
	0.2nm,0.3s,baz=27,slow=28,SNR=12						
MKAR				Lg	Lg	06 48 57.9	
	0.1nm,0.3s,baz=26,slow=31,SNR=2.6						

*BJI **08** 06:51:33.9±0.0,24˚.48S×179˚.55W, h532km, mB5.0/14, mb4.6/19*
*IDC **08** 06:51:34.0±1.5,24˚.40S×179˚.99E, h504km±14km, mb4.0/19, mb1 4.1/20, mb1mx4.0/36, mbtmp4.8/20, Error ellipse: s-maj=14.4km s-min=12.2km az=87.0*
*NEIC **08** 06:51:35.2±2.3,24˚.35S±0˚.10×180˚.0E±0˚.1, h518km±6km, mb4.6/68, Error ellipse: s-maj=15.9km s-min=13.5km az=124.0*
ISC 08 06:51:34.5±0.6, 24˚.45S±0˚.05×179˚.96W±0˚.06, h515km±6km, n206, σ1§27/237, mb4.6/58, 18C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**5.11**	**160**	P	**P**	**06 53 01.1**	**-2.0**
RIZ				S	**S**	**06 54 13.1**	**-2.6**
RAO	**Raoul Island**	**5.12**	**160**	P	**P**	**06 53 04.5**	**+1.2**
GLKZ	**Green Lake**	**5.13**	**160**	P	**P**	**06 53 04.7**	**+1.4**
GLKZ				S	**S**	**06 54 13.3**	**-2.7**
MSVF	**Nonsavu**	**6.94**	**344**	P	**P**	**06 53 21.0**	**+0.2**
NIUE	**Niue**	**10.74**	**62**	P	**P**	**06 53 59.6**	**-0.3**
OUZ	**Omahuta**	**12.10**	**206**	P	**P**	**06 54 15.2**	**+1.3**
OUZ	**Omahuta**	**12.10**	**206**	P	**P**	**06 54 16.3**	**+2.4**
GRZ	**Great Barrier**	**12.41**	**198**	P	**P**	**06 54 19.1**	**+1.9**
WCZ	**Waipu Caves**	**12.46**	**202**	P	**P**	**06 54 20.8**	**+3.1**
DZM	**Mont Dzumac**	**12.72**	**278**	P	**P**	**06 54 22.6**	**+1.8**
	2.0nm,0.3s,baz=59,slow=20,SNR=17						
DZM	**Mont Dzumac**	**12.72**	**278**	P	**P**	**06 54 21.9**	**+1.1**
KUZ	**Kuaotunu**	**12.80**	**196**	P	**P**	**06 54 22.3**	**+1.0**
KUZ	**Kuaotunu**	**12.80**	**196**	P	**P**	**06 54 22.4**	**+1.0**
WIAZ	**Waiheke Island**	**13.01**	**198**	P	**P**	06 54 18.5	-5.0
AFI	**Afiamalu**	**13.02**	**38**	P	**P**	**06 54 19.9**	**-4.0**
	14nm,0.3s,baz=17,slow=2.8,SNR=13						
AFI	**Afiamalu**	**13.02**	**38**	P	**P**	**06 54 20.1**	**-3.9**
MXZ	**Matakaoa Point**	**13.15**	**186**	P	**P**	**06 54 25.9**	**+0.9**
MXZ	**Matakaoa Point**	**13.15**	**186**	P	**P**	**06 54 27.4**	**+2.4**
KBAZ	**Karaka Road Bo**	**13.36**	**198**	P	**P**	**06 54 28.5**	**+1.4**
WMGZ	**Waiomatatini S**	**13.40**	**186**	P	**P**	**06 54 27.2**	**-0.3**
WMGZ				S	**S**	**06 56 53.3**	**+3.1**
HAZ	**Te Kaha**	**13.40**	**188**	P	**P**	**06 54 27.3**	**-0.3**
HAZ				S	**S**	**06 56 47.9**	**-2.4**
RUGZ	**Raukumara Rang**	**13.62**	**188**	P	**P**	**06 54 31.7**	**+1.7**
PUZ	**Puketiti**	**13.66**	**186**	P	**P**	**06 54 30.5**	**+0.2**
PUZ				S	**S**	**06 56 52.9**	**-2.5**
OPRZ	**Ohinepanea**	**13.68**	**192**	P	**P**	**06 54 31.4**	**+0.9**
TOZ	**Tahuroa Road**	**13.80**	**195**	P	**P**	**06 54 31.7**	**0.0**
URZ	**Urewera**	**13.99**	**190**	P	**P**	**06 54 32.8**	**-0.9**
	11nm,0.3s,baz=12,slow=1.3,SNR=52						
URZ				S	**S**	**06 57 01.3**	**-0.2**
	1.8nm,0.3s,baz=0.4,slow=20,SNR=13						
URZ	**Urewera**	**13.99**	**190**	P	**P**	**06 54 31.0**	**-2.8**
URZ				S	**S**	**06 56 57.5**	**-4.0**
URZ	**Urewera**	**13.99**	**190**	P	**P**	**06 54 33.9**	**+0.2**
MWZ	**Matawai**	**14.01**	**188**	P	**P**	**06 54 32.9**	**-1.1**
MWZ				S	**S**	**06 57 01.1**	**-0.8**
TKGZ	**Te Karaka**	**14.07**	**187**	P	**P**	**06 54 34.6**	**0.0**
CNGZ	**Carnagh Statio**	**14.08**	**186**	P	**P**	**06 54 35.8**	**+1.1**
MUGZ	**Murupara**	**14.26**	**190**	P	**P**	**06 54 36.8**	**+0.2**
HRRZ	**Handcock Road**	**14.26**	**192**	P	**P**	**06 54 37.2**	**+0.6**
RIGZ	**Rimuhau**	**14.34**	**187**	P	**P**	**06 54 36.3**	**-1.2**
RIGZ				S	**S**	**06 57 08.3**	**-0.1**
PRRZ	**Plateau Road**	**14.35**	**192**	P	**P**	**06 54 39.3**	**+1.8**
PRGZ	**Paritu Road**	**14.54**	**187**	P	**P**	**06 54 41.7**	**+2.2**
PRGZ				S	**S**	**06 57 12.1**	**-0.1**
MTHZ	**Maungataniwha**	**14.61**	**190**	P	**P**	**06 54 40.3**	**0.0**
MTHZ				S	**S**	**06 57 10.7**	**-2.9**
RAHZ	**Arahi**	**14.64**	**189**	P	**P**	**06 54 39.5**	**-1.1**
RAHZ				S	**S**	**06 57 12.8**	**-1.2**
RATZ	**Rangitukua**	**14.82**	**193**	P	**P**	**06 54 41.3**	**-1.2**
NMHZ	**Naumai**	**14.86**	**190**	P	**P**	**06 54 42.5**	**-0.5**
BKZ	**Black Stump Fm**	**14.98**	**191**	P	**P**	**06 54 44.1**	**0.0**
MSWZ	**Moikau Station**	**17.39**	**192**	P	**P**	**06 55 07.1**	**-1.2**
SNZO	**South Karori**	**17.39**	**194**	P	**P**	**06 55 07.7**	**-0.6**
BHW	**Baring Head**	**17.45**	**193**	P	**P**	**06 55 08.2**	**-0.7**
QRZ	**Quartz Range**	**17.50**	**199**	P	**P**	**06 55 09.0**	**-0.3**
TUWZ	**Tuamarina**	**17.68**	**195**	P	**P**	**06 55 09.9**	**-1.0**
BSWZ	**Blackbirch Sta**	**17.97**	**195**	P	**P**	**06 55 13.2**	**-0.5**
THZ	**Tophouse**	**18.26**	**197**	P	**P**	**06 55 15.8**	**-0.5**
LTZ	**Lake Taylor**	**19.38**	**197**	P	**P**	**06 55 25.0**	**-1.5**
OXZ	**Oxford**	**19.95**	**197**	P	**P**	**06 55 30.4**	**-1.3**
RPZ	**Rata Peaks**	**20.58**	**199**	P	**P**	**06 55 37.4**	**0.0**
	32nm,0.5s,baz=254,slow=0.4,SNR=24						
RPZ	**Rata Peaks**	**20.58**	**199**	P	**P**	**06 55 37.8**	**+0.4**
LBZ	**Lake Benmore**	**21.45**	**200**	P	**P**	**06 55 43.8**	**-1.5**
LBZ				IAmb	IAmb	06 55 46.1	
	comp=Z,40nm,1.2s						
KNTN	**Kanton**	**22.97**	**22**	P	**P**	**06 55 58.1**	**-1.2**
ARMA	**Armidale**	**25.87**	**250**	P	**P**	**06 56 26.7**	**+1.7**
ARMA				IAmb	IAmb	06 56 27.0	
	comp=Z,8.5nm,0.7s						
EIDS	**Eidsvold**	**26.26**	**262**	P	**P**	**06 56 28.9**	**+0.6**
EIDS				IAmb	IAmb	06 56 29.2	
	comp=Z,15nm,0.7s						
CAN	**Canberra**	**28.90**	**241**	P	**P**	**06 56 52.6**	**+1.2**
CAN				IAmb	IAmb	06 56 58.3	
	comp=Z,17nm,1.5s						
CTA	**Charters Tower**	**31.52**	**271**	P	**P**	**06 57 14.6**	**+0.4**
	comp=Z,56nm,0.5s,baz=95,slow=11,SNR=92						
CTAO	**Charters Tower**	**31.52**	**271**	P	**P**	**06 57 14.8**	**+0.6**
TOO	**Toolangi**	**32.19**	**238**	P	**P**	**06 57 20.7**	**+1.0**
STKA	**Stephens Creek**	**34.56**	**249**	P	**P**	**06 57 40.1**	**+0.3**
	comp=Z,8.3nm,0.6s,baz=94,slow=10,SNR=44						
STKA				PcP	**PcP**	**07 00 00.7**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=67,slow=6.0,SNR=5.1						
STKA	**Stephens Creek**	**34.56**	**249**	P	**P**	**06 57 40.3**	**+0.5**
STKA				PcP	**PcP**	**07 00 01.3**	**+1.3**
PMG	**Port Moresby**	**34.71**	**290**	P	**P**	**06 57 40.9**	**-0.3**
	comp=Z,57nm,0.8s,baz=143,slow=6.2,SNR=7.5						
PMG	**Port Moresby**	**34.71**	**290**	P	**P**	**06 57 41.2**	**0.0**
COEN	**Coen**	**36.24**	**280**	P	**P**	**06 57 54.3**	**+0.3**
COEN				IAmb	IAmb	06 57 55.2	
	comp=Z,30nm,1.1s						
BBOO	**Buckleboo**	**39.27**	**248**	P	**P**	**06 58 18.0**	**-0.6**
BBOO				IAmb	IAmb	06 58 18.2	
	comp=Z,14nm,0.5s						
BBOO				PcP	**PcP**	**07 00 15.0**	**+0.4**
AS31	**Alice Springs**	**41.98**	**261**	P	**P**	**06 58 40.2**	**-0.2**
ASAR	**Alice Springs**	**41.99**	**261**	P	**P**	**06 58 40.0**	**-0.5**
	comp=Z,12nm,0.8s,baz=96,slow=7.0,SNR=108						
ASAR				PcP	**PcP**	**07 00 23.3**	**-0.5**
	comp=Z,3.1nm,1.0s,baz=112,slow=5.0,SNR=4.9						
ASAR				ScP	**ScP**	**07 03 26.3**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=107,slow=4.2,SNR=6.2						
ASAR				S	**S**	**07 04 20.1**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=103,slow=19,SNR=5.8						
ASAR	**Alice Springs**	**41.99**	**261**	P	**P**	**06 58 39.8**	**-0.6**
ASAR				PcP	**PcP**	**07 00 23.8**	**+0.1**
ASAR					**ScP**	**07 03 25.9**	**+0.9**
WR0	**Warramunga Arr**	**42.22**	**267**	P	**P**	**06 58 41.1**	**-1.1**
WR0				IAmb	IAmb	06 58 42.1	
	comp=Z,16nm,0.7s						
WB2	**Warramunga Arr**	**42.40**	**267**	P	**P**	**06 58 42.2**	**-1.5**
WRAB	**Tennant Creek**	**42.40**	**267**	P	**P**	**06 58 42.4**	**-1.3**
WRAB				IAmb	IAmb	06 58 43.5	
	comp=Z,32nm,0.9s						
WB0	**Warramunga Arr**	**42.41**	**267**	P	**P**	**06 58 42.6**	**-1.2**
WB0				IAmb	IAmb	06 58 43.6	
	comp=Z,38nm,0.7s						
WRA	**Warramunga Arr**	**42.41**	**267**	P	**P**	**06 58 42.9**	**-0.9**
	comp=Z,29nm,0.6s,baz=104,slow=8.1,SNR=141						
WRA				PcP	**PcP**	**07 00 25.3**	**0.0**
	comp=Z,2.5nm,0.9s,baz=100,slow=3.6,SNR=4.5						
WRA				ScP	**ScP**	**07 03 29.6**	**+2.8**
	comp=Z,8.6nm,1.0s,baz=103,slow=4.0,SNR=19						
WRA				S	**S**	**07 04 23.1**	**-4.9**
	comp=Z,2.0nm,0.8s,baz=99,slow=14,SNR=5.1						
WRA	**Warramunga Arr**	**42.41**	**267**	P	**P**	**06 58 42.3**	**-1.5**
JAY	**Jayapura**	**43.77**	**294**	P	**P**	**06 58 53.9**	**-0.5**
	comp=Z,26nm,0.6s,baz=114,slow=2.9,SNR=19						
JAY	**Jayapura**	**43.77**	**294**	P	**P**	**06 58 55.1**	**+0.6**
	comp=Z,2μmcomp=Z,21nm,0.7s						
FORT	**Forrest**	**46.16**	**250**	P	**P**	**06 59 11.4**	**-1.2**
FORT				PcP	**PcP**	**07 00 38.5**	**+0.4**
MTN	**Manton Dam**	**47.54**	**275**	P	**P**	**06 59 22.2**	**-1.0**
MTN				IAmb	IAmb	06 59 22.5	
	comp=Z,15nm,0.8s						
KNRA	**Kununurra**	**48.73**	**270**	P	**P**	**06 59 31.9**	**-0.2**
KHLU	**Kahalu`u**	**49.66**	**30**	P	**P**	**06 59 39.2**	**+0.3**
KHLU				IAmb	IAmb	06 59 53.3	
	comp=Z,66nm,1.0s						
FAKI	**Fak Fak**	**50.78**	**287**	P	**P**	**06 59 46.5**	**-0.7**
FAKI				IAmb	IAmb	06 59 47.0	
	comp=Z,28nm,1.0s						
FITZ	**Fitzroy Crossi**	**50.83**	**266**	P	**P**	**06 59 47.2**	**-0.3**
FITZ				IAmb	IAmb	06 59 48.8	
	comp=Z,28nm,0.8s						
VNDA	**Vanda**	**53.84**	**185**	P	**P**	**07 00 09.9**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=26,slow=6.5,SNR=5.7						
VNDA	**Vanda**	**53.84**	**185**	P	**P**	**07 00 10.0**	**+1.8**
VNDA				PcP	**PcP**	**07 01 06.8**	**+1.0**
SOEI	**Soe**	**54.93**	**275**	P	**P**	**07 00 17.9**	**+0.9**
	comp=Z,64nm,0.8s						
PSA00	**Pilbara Seismi**	**55.10**	**260**	P	**P**	**07 00 17.3**	**-0.7**
PSA00				IAmb	IAmb	07 00 18.1	
	comp=Z,36nm,1.5s						
MORW	**Morawa**	**56.72**	**250**	P	**P**	**07 00 28.6**	**-0.6**
MORW				IAmb	IAmb	07 00 28.8	
	comp=Z,10nm,0.6s						
EDFI	**Ende, Flores**	**57.66**	**275**	P	**P**	**07 00 33.8**	**-2.1**
	comp=Z,22nm,0.7s						
GIRL	**Giralia**	**59.83**	**257**	P	**P**	**07 00 51.2**	**+1.0**
GTOI	**Gorontalo**	**60.57**	**286**	P	**P**	**07 00 56.0**	**+0.7**
	comp=Z,17nm,0.7s						
MPSI	**Mapaga**	**63.17**	**284**	P	**P**	**07 01 10.9**	**-1.4**
	comp=Z,27nm,1.0s						
QSPA	**South Pole Qui**	**65.64**	**180**	P	**P**	**07 01 29.0**	**+1.8**
QSPA				PcP	**PcP**	**07 01 51.2**	**-2.5**
UGM	**Wanagama**	**68.15**	**271**	P	**P**	**07 01 43.2**	**-0.3**
KKM	**Kota Kinabalu**	**69.10**	**287**	P	**P**	**07 01 49.4**	**+0.1**
KKM				IAmb	IAmb	07 01 49.7	
	comp=Z,18nm,0.6s						
LEM	**Lembang**	**71.22**	**271**	P	**P**	**07 02 01.9**	**-0.1**
	comp=Z,43nm,0.8s,baz=120,slow=21,SNR=6.7						
KSM	**Kuching**	**72.24**	**280**	P	**P**	**07 02 07.7**	**0.0**
KSM				IAmb	IAmb	07 02 08.3	
	comp=Z,32nm,0.8s						
MJAR	**Matsushiro Arr**	**72.37**	**326**	P	**P**	**07 02 07.5**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=172,slow=6.2,SNR=12						
MJAR	**Matsushiro Arr**	**72.37**	**326**	P	**P**	**07 02 07.8**	**-0.2**
SSLB	**Suanglung**	**74.70**	**305**	P	**P**	**07 02 21.6**	**0.0**
SSLB				IAmb	IAmb	07 02 21.8	
	comp=Z,10.0nm,0.7s						
MDSI	**Maura Dua**	**75.29**	**272**	P	**P**	**07 02 23.6**	**-1.5**
	comp=Z,28nm,0.8s						
JKA	**Kamikawa-asahi**	**76.37**	**333**	P	**P**	**07 02 31.6**	**+1.3**
JKA				IAmb	IAmb	07 02 33.0	
	comp=Z,12nm,1.0s						
ASAJ	**Asahikawa**	**76.37**	**333**	P	**P**	**07 02 31.4**	**+1.1**
	comp=Z,5.5nm,0.7s,baz=234,slow=11,SNR=5.5						
KSI	**Kapahiang**	**77.08**	**272**	P	**P**	**07 02 34.5**	**-0.5**
MAW	**Mawson**	**77.25**	**200**	P	**P**	**07 02 35.9**	**+1.0**
	comp=Z,2.1nm,0.5s,baz=121,slow=6.3,SNR=6.1						
MAW	**Mawson**	**77.25**	**200**	P	**P**	**07 02 36.1**	**+1.3**
KSRS	**Korea Array**	**78.69**	**320**	P	**P**	**07 02 44.0**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=134,slow=6.2,SNR=12						
PETK	**Petropavlovsk-**	**79.64**	**347**	P	**P**	**07 02 47.8**	**0.0**
	comp=Z,6.1nm,1.0s,baz=111,slow=8.1,SNR=7.3						
PETK	**Petropavlovsk-**	**79.64**	**347**	P	**P**	**07 02 48.2**	**+0.4**
NJ2	**Nanjing**	**81.05**	**311**	*e*P	**P**	**07 02 56.3**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**81.25**	**327**	P	**P**	**07 02 56.8**	**+0.5**
	comp=Z,6.1nm,0.8s,baz=155,slow=5.2,SNR=9.5						
USRK	**Ussuriysk Ar.**	**81.25**	**327**	P	**P**	**07 02 57.1**	**+0.8**
IPM	**Ipoh**	**81.88**	**279**	P	**P**	**07 03 00.5**	**+0.1**
IPM				IAmb	IAmb	07 03 00.8	
	comp=Z,20nm,0.7s						
KULM	**Kulim**	**82.57**	**279**	P	**P**	**07 03 04.1**	**+0.3**
KULM				IAmb	IAmb	07 03 04.6	
	comp=Z,13nm,0.8s						
RPSI	**Rantau Prapat**	**83.03**	**276**	P	**P**	**07 03 06.2**	**+0.1**
RPSI				IAmb	IAmb	07 03 06.4	
	comp=Z,11nm,1.0s						
SLBS	**Sierra La Lagu**	**83.04**	**60**	P	**P**	**07 03 08.1**	**+2.1**
CMB	**Columbia Colle**	**83.57**	**43**	P	**P**	**07 03 09.5**	**+1.2**
GSI	**Gunungsitoli**	**83.68**	**274**	P	**P**	**07 03 10.1**	**+0.7**
GSI				IAmb	IAmb	07 03 10.2	
	comp=Z,18nm,0.8s						
SNAA	**Sanae**	**84.12**	**179**	P	**P**	**07 03 10.3**	**-0.2**
SNAA	**Sanae**	**84.12**	**179**	P	**P**	**07 03 10.4**	**-0.2**
VNA3	**Neumayer Olymp**	**84.33**	**177**	P	**P**	**07 03 11.6**	**+0.1**
VNA2	**Neumayer--Watz**	**84.74**	**178**	P	**P**	**07 03 13.6**	**0.0**
	baz=183,slow=3.5						
VNA1	**Neumayer--Stat**	**84.98**	**177**	P	**P**	**07 03 15.2**	**+0.5**
KLR	**Kul'dur**	**85.03**	**331**	P	**P**	**07 03 15.8**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=100,slow=3.3,SNR=6.2						
NVAR	**Mina Array Bea**	**85.12**	**44**	P	**P**	**07 03 16.5**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=225,slow=9.4,SNR=10						
NVAR	**Mina Array Bea**	**85.12**	**44**	P	**P**	**07 03 16.0**	**-0.1**
TPNV	**Topopah Spring**	**85.58**	**46**	P	**P**	**07 03 19.4**	**+1.1**
MOD	**Modoc Plateau**	**86.00**	**40**	P	**P**	**07 03 21.0**	**+0.8**
TUC	**Tucson**	**86.82**	**52**	P	**P**	**07 03 26.1**	**+1.8**
TUC				IAmb	IAmb	07 03 27.4	
	comp=Z,4.7nm,0.8s						
319A	**Douglas**	**87.44**	**54**	P	**P**	**07 03 29.4**	**+2.2**
319A				IAmb	IAmb	07 03 30.4	
	comp=Z,14nm,1.1s						
BJI	**Beijing**	**87.45**	**316**	P	**P**	**07 03 28.3**	**+1.4**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
X16A	**Lo Mia Camp, P**	**87.46**	**50**	P	**P**	**07 03 28.8**	**+1.5**
LCMT	**Little Creek M**	**87.61**	**47**	P	**P**	**07 03 29.5**	**+1.6**
I07A	**Izee**	**87.79**	**39**	P	**P**	**07 03 29.3**	**+0.7**
I07A				IAmb	IAmb	07 03 30.9	
	comp=Z,5.2nm,1.0s						
KNB	**Kanab**	**87.90**	**48**	P	**P**	**07 03 30.9**	**+1.5**
U15A	**North Rim**	**87.94**	**48**	P	**P**	**07 03 31.1**	**+1.4**
J08A	**Circle Bar Ran**	**87.95**	**40**	P	**P**	**07 03 30.3**	**+1.0**
J08A				IAmb	IAmb	07 03 31.4	
	comp=Z,11nm,1.2s						
G08A	**Pilot Rock**	**88.83**	**38**	P	**P**	**07 03 34.6**	**+1.2**
G08A				IAmb	IAmb	07 03 35.5	
	comp=Z,9.5nm,1.4s						
MTPU	**Mount Pierson**	**88.88**	**47**	P	**P**	**07 03 35.8**	**+1.7**
XAN	**Xi'an**	**89.11**	**308**	P	**P**	**07 03 35.9**	**+1.0**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MFID	**Camas Ranch**	**89.55**	**41**	P	**P**	**07 03 37.5**	**+0.7**
MFID				IAmb	IAmb	07 03 38.9	
	comp=Z,4.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	**P**	**07 03 39.9**	**+1.8**
	comp=Z,3.0nm,0.7s,baz=137,slow=3.2,SNR=16						
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	**P**	**07 03 39.5**	**+1.3**
TMUT	**Trail Mountain**	**90.19**	**46**	P	**P**	**07 03 41.4**	**+1.3**
MNTX	**Cornudas Mount**	**90.49**	**55**	P	**P**	**07 03 42.4**	**+1.1**
SRU	**San Rafael Swe**	**90.55**	**47**	P	**P**	**07 03 42.0**	**+0.4**
TX31	**Lajitas Ar. Si**	**90.69**	**58**	P	**P**	**07 03 43.3**	**+0.9**
TX31				IAmb	IAmb	07 03 44.8	
	comp=Z,6.7nm,0.8s						
TX32	**Lajitas Array**	**90.69**	**58**	P	**P**	**07 03 42.9**	**+0.5**
TXAR	**Lajitas Array**	**90.69**	**58**	P	**P**	**07 03 44.0**	**+1.7**
	comp=Z,2.1nm,0.8s,baz=215,slow=6.4,SNR=31						
TXAR	**Lajitas Array**	**90.69**	**58**	P	**P**	**07 03 43.2**	**+0.9**
HHC	**Hu-ho-hao-te**	**90.83**	**315**	*e*P	**P**	**07 03 41.8**	**-1.0**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,6.5s						
PDAR	**Pinedale Array**	**93.06**	**44**	P	**P**	**07 03 53.5**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=189,slow=3.9,SNR=7.3						
PDAR	**Pinedale Array**	**93.06**	**44**	P	**P**	**07 03 54.2**	**+1.1**
MKAR	**Makanchi Array**	**112.55**	**313**	PKiKP	**PKiKP**	**07 09 10.8**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=68,slow=0.7,SNR=5.4						
KURK	**Kurchatov**	**115.62**	**316**	PKPdf	**PKPdf**	**07 09 16.7**	**-0.9**
KURBB	**Kurchatov Arra**	**115.67**	**316**	PKP	**PKPdf**	**07 09 16.6**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=98,slow=2.0,SNR=6.8						
KKAR	**Karatay Array**	**120.22**	**307**		**PKPdf**	**07 09 25.8**	**-0.9**
BVAR	**Borovoye Array**	**120.88**	**318**	PKP	**PKPdf**	**07 09 27.0**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=76,slow=3.7,SNR=10						
GEYT	**Alibeck**	**129.28**	**300**	PKP	**PKPdf**	**07 09 43.6**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=350,slow=7.3,SNR=3.7						
GEYT	**Alibeck**	**129.28**	**300**	PKPdf	**PKPdf**	**07 09 44.1**	**-0.1**
ARCES	**ARCESS Array B**	**132.43**	**348**	PKP	**PKPdf**	**07 09 48.8**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=56,slow=2.2,SNR=5.0						
ARCES				SKPbc	**SKPbc**	**07 12 27.7**	**-0.2**
	comp=Z,4.3nm,0.8s,baz=29,slow=5.5,SNR=6.0						
ARCES	**ARCESS Array B**	**132.43**	**348**	PKPdf	**PKPdf**	**07 09 48.2**	**-1.1**
KLMR	**Klimovskoe**	**134.69**	**334**	*e*PP	PP	07 12 33.9	-0.7
KLMR				AMP		07 12 35.8	
	comp=Z,9.0nm,1.2s						
FINES	**FINESS Array B**	**138.98**	**341**	PKhKP	PKPpre	07 09 51.9	
	comp=Z,0.6nm,0.4s,baz=13,slow=2.5,SNR=8.1						
FINES				PKP	sPdif	07 10 02.5	+0.3
	comp=Z,1.6nm,0.5s,baz=22,slow=2.1,SNR=7.5						
FINES				SKPbc	**SKPbc**	**07 12 48.2**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=62,slow=4.5,SNR=11						
FINES	**FINESS Array B**	**138.98**	**341**	PKPdf	**PKPdf**	**07 10 02.4**	**+0.8**
NB2	**NORSAR Subarra**	**142.63**	**351**	PKP	**PKPdf**	**07 10 04.3**	**-3.9**
	comp=Z,2.0nm,0.8s,baz=14,slow=2.5						
NOA	**NORSAR Array B**	**142.63**	**351

GRMI	Germi	0.96	71	*e*Pg	Pg	06 53 43.8	-0.5
ISRB	Sarab	1.00	132	*e*Pg	Pg	06 53 42.7	-2.5
IAZR	Azarshahr	1.01	216	*e*Pg	Pg	06 53 43.0	-2.4
QRD	Qoradiz	1.06	26	*e*Pg	Pb	06 53 46.2	-0.1
NAX	Nakhchivan	1.17	305	*e*Pg	Pb	06 53 47.3	-0.9
YRD	Yardimli	1.25	70	*e*Pg	Pn	06 53 48.8	-0.8
LRK	Lerik	1.27	83	*e*Pg	Pn	06 53 48.5	-1.3
SBZ	Shahbuz	1.28	315	*e*Pg	Pn	06 53 49.0	-0.9
BLQ	Beylaqan	1.38	28	*e*Pg	Pb	06 53 51.3	-0.3
GLBA	Clilabad	1.49	60	*e*Pg	Pb	06 53 53.4	-0.2
MAKU	Maku	1.81	299	*e*Pg	Pn	06 53 57.4	+0.2
MAKU	Maku	1.81	299	*e*Pg	Pn	06 53 57.4	+0.2
SAAT	Saatly	1.89	44	*e*Pn	Pb	06 53 59.3	-1.1
MAHB	Mahabad	1.92	205	*e*Pn	Pn	06 53 58.4	-0.3
MAHB				*e*		06 54 26.1	
ZRD	Zardab	1.92	22	*e*Pn	Pb	06 53 59.6	-1.3
GANJ	Ganja	2.16	352	*e*Pn	Pn	06 54 02.8	+0.9
NRKZ	NAREK	2.19	314	⇑*i*P	Pb	06 54 05.0	-0.7
NRKZ				⇑*i*S	Sg	06 54 34.9	-1.4
ALIB	Äli-Bayra	2.29	50	*e*Pn	Pn	06 54 04.6	+1.0
GDB	GEDABAY	2.34	342	*e*Pn	Pn	06 54 05.2	+0.7
KAPZ	Kaputan	2.40	320	⇑*i*P	Pn	06 54 05.1	-0.3
KAPZ				⇑*i*S	Sb	06 54 38.9	-0.1
ZNJK	Zanjan	2.40	139	*e*Pn	Pn	06 54 05.1	-0.3
ZNJK	Zanjan	2.40	139	*e*Pn	Pn	06 54 05.1	-0.3
IML	Ismayilli	2.54	26	*e*Pn	Pn	06 54 08.0	+0.8
QBL	Gabala	2.58	19	*e*Pn	Pn	06 54 08.4	+0.7
METS	Metsamor	2.63	309	*i* P	Pn	06 54 09.1	+0.7
METS				*i* S	Sb	06 54 45.7	+0.3
GBS	Qobustan	2.65	39	*e*Pn	Pn	06 54 09.4	+0.7
ARUZ	Aruch	2.71	312	*i* P	Pg	06 54 16.3	-1.4
ARUZ				*i* S	Sg	06 54 54.1	+1.3
VNNZ	Vanand	2.76	306	*i* P	Pb	06 54 16.2	+0.9
VNNZ				*i* S	Sg	06 54 53.7	-0.8
QSDN	Sirdan	2.79	135	*e*Pn	Pn	06 54 10.3	-0.4
QSDN				*e*		06 54 59.2	
DDFL	Dedoflistskaro	2.97	351	P	Pb	06 54 19.4	+0.4
DDFL				S	Sg	06 55 04.2	+2.9
LGD	Lagodekhi	3.35	354	P	Pb	06 54 24.0	-1.2
LGD				S	Sg	06 55 10.9	-2.4
KZRT	Kazreti	3.39	329	P	Pb	06 54 27.0	+1.0
DMNI	Dmanisi	3.43	326	P	Pb	06 54 28.1	+1.4
DMNI				S	Sg	06 55 13.7	-2.3
IGZV	Ghazvin	3.49	126	*e*Pn	Pn	06 54 20.8	+0.4
IGZV				*e*		06 55 39.5	
ILIN	Lien	3.58	177	*e*Pn	Pn	06 54 23.3	+1.6
QABG	Abgarm-Qazvin	3.60	140	*e*Pn	Pn	06 54 21.0	-1.0
TRLG	Trialeti	3.64	327	P	Pb	06 54 31.1	+0.8
TRLG				S	Sg	06 55 19.9	-2.9
QALM	Alamut, Qazvin	3.74	122	*e*Pn	Pn	06 54 24.6	+0.7
QALM				*e*		06 54 36.4	
IDHR	Dehrash	3.81	184	*e*Pn	Pn	06 54 26.0	+1.3
IALM	Almabolaq	3.82	162	*e*Pn	Pn	06 54 25.3	+0.4
IRAZ	Razeghan	4.02	139	*e*Pn	Pn	06 54 27.2	-0.4
HAGD	Aghdareh	4.16	151	*e*Pn	Pn	06 54 30.0	+0.5
IGHG	Ghaleghazi	4.17	182	*e*		06 55 56.6	
IKOM	Komasi	4.37	171	*e*Pn	Pn	06 54 34.2	+1.8
HSAM	Samen	4.54	160	*e*Pn	Pn	06 54 35.9	+1.0
ONI	Oni	4.78	330	P	Pb	06 54 50.5	+0.7
ONI				S	Sg	06 55 54.6	-4.8
IPRN	Peran	5.01	115	*e*Pn	Pn	06 54 41.2	+0.1
GEYT	Alibeck	8.98	90	Pn	Pn	06 55 38.1	+2.5
	comp=N,0.6nm,0.3s,baz=300,slow=14,SNR=2.9						
AKTO	Aktyubinsk	14.37	30	Pn	Pn	06 56 49.4	+0.2
	comp=N,0.5nm,0.3s,baz=222,slow=12,SNR=2.6						
AKTO				Sn	Sn	06 59 22.7	-5.9
	comp=N,0.2nm,0.3s,baz=255,slow=20,SNR=1.6						
GERES	GERESS Array B	25.84	304	P	P	06 59 01.2	+3.9
	comp=N,0.6nm,0.6s,baz=98,slow=7.0,SNR=4.1						
MKAR	Makanchi Array	27.25	61	P	P	06 59 15.2	+5.2
	comp=N,0.1nm,0.4s,baz=262,slow=10.0,SNR=2.7						

NEIC ***08*** *07:07:11.2±2.7,25°.43S±0°.09×174°.68W±0°.08,h10km±1km, mb4.8/21, Error ellipse: s-maj=18.8km s-min=7.0km az=141.0*

IDC ***08*** *07:07:13.5±0.8,25°.21S×175°.43W,h0km,mb4.4/12, mb1 4.6/12,mb1mx4.4/30,mbtmp4.4/12,MS3.6/9, Ms1 3.6/9,ms1mx3.3/29,Error ellipse: s-maj=27.6km s-min=19.1km az=152.0*

ISC 08 07:07:15.4±0.6,25°.51S±0°.09×175°.1W±0°.1,h10km,n65, σ1ᵖ59/43,mb4.7/20,MS3.6/10,1D,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	8.00	38	Pn	Pn	07 09 03.5	-8.3
MSVF	Nonsavu	10.00	319	Pn	Pn	07 09 39.7	+0.4
AFI	Afiamalu	11.96	16	Pn	Pn	07 09 58.1	-8.0
	1.9nm,0.3s,baz=329,slow=24,SNR=2.2						
AFI				Sn	Sn	07 11 57.9	-22
	1.6nm,0.3s,baz=31,slow=21,SNR=2.1						
AFI	Afiamalu	11.96	16	Pn	Pn	07 09 59.6	-6.4
URZ	Urewera	14.32	205	Pn	Pn	07 10 34.7	-3.5
	0.2nm,0.3s,baz=281,slow=18,SNR=1.9						
URZ				Sn	Sn	07 13 02.5	-14
	0.3nm,0.3s,baz=280,slow=12,SNR=1.5						
URZ	Urewera	14.32	205	P	P	07 10 46.3	+1.0
RAR	Rarotonga	14.73	76	Pn	Pn	07 10 35.8	-8.0
	1.2nm,0.3s,baz=224,slow=20,SNR=1.7						
RAR				LR	LR	07 16 17.3	
	comp=Z,112nm,19.2s,baz=275,slow=36						
RAR	Rarotonga	14.73	76	Pn	Pn	07 10 36.3	-7.6
BKZ	Black Stump Fm	15.34	205	Pn	Pn	07 10 51.6	-0.4
BFZ	Birch Farm	16.76	203	P	Pn	07 11 12.1	+1.9
BFZ				IAmb	IAmb	07 11 15.5	
	comp=Z,124nm,1.3s						
DZM	Mont Dzumac	17.21	278	Pn	P	07 11 18.5	+0.8
	comp=Z,1.1nm,0.3s,baz=116,slow=22,SNR=9.5						
DZM				LR	LR	07 16 27.9	
	comp=Z,209nm,21.2s,baz=127,slow=33						
DZM	Mont Dzumac	17.21	278	*e*Pn	P	07 11 22.7	+5.0
	comp=Z,68nm,1.1s						
DZM				*e*LR	LR	07 15 33.6	
	comp=Z,318nm,26.1s						
DZM	Mont Dzumac	17.21	278	P	Pn	07 11 18.0	+1.9
THZ	Tophouse	19.00	208	P	P	07 11 35.9	-1.4
THZ				IAmb	IAmb	07 11 52.7	
	comp=Z,94nm,1.5s						
KHZ	Kahutara	19.28	206	P	P	07 11 37.0	-3.2
TBI	Tubuai	23.45	90	*e*LR	LR	07 17 50.4	
	comp=Z,225nm,27.2s						
PPT2	Papeete2	25.00	77	*e*LR	LR	07 18 31.4	
	comp=Z,241nm,25.8s						
PPT	Papeete	25.01	77	LR	LR	07 19 26.5	
	comp=Z,90nm,20.1s,baz=216,slow=29						
HNR	Honiara	28.57	300	LR	LR	07 23 21.4	
	comp=Z,126nm,18.6s,baz=154,slow=34						
EIDS	Eidsvold	30.48	263	P	P	07 13 28.2	-0.4
CTAO	Charters Tower	35.92	271	P	P	07 14 14.8	-1.4
CTAO				IAmb	IAmb	07 14 33.2	
	comp=Z,24nm,1.2s						
TAOE	Nuku Hiva Isla	37.13	70	*e*LR	LR	07 24 10.5	
	comp=Z,84nm,23.3s						
STKA	Stephens Creek	38.30	250	P	P	07 14 34.2	-2.1
	comp=Z,2.9nm,0.7s,baz=88,slow=11,SNR=8.4						
STKA				LR	LR	07 27 56.6	
	comp=Z,114nm,20.2s,baz=31,slow=33						
STKA	Stephens Creek	38.30	250	P	P	07 14 35.5	-0.9
BBOO	Buckleboo	42.95	248	P	P	07 15 11.8	-2.9
BBOO				IAmb	IAmb	07 15 27.1	
	comp=Z,15nm,1.2s						
AS31	Alice Springs	46.16	261	P	P	07 15 38.6	-1.9
ASAR	Alice Springs	46.16	261	P	P	07 15 38.5	-2.0
	comp=Z,9.0nm,0.9s,baz=106,slow=7.9,SNR=48						
ASAR				LR	LR	07 34 47.4	
	comp=Z,88nm,18.2s,baz=92,slow=36						
ASAR	Alice Springs	46.16	261	P	P	07 15 39.0	-1.5
WR0	Warramunga Arr	46.54	266	P	P	07 15 41.6	-1.9
WR0				IAmb	IAmb	07 15 44.0	
	comp=Z,12nm,1.4s						
WB2	Warramunga Arr	46.71	266	P	P	07 15 42.1	-2.8
WB2				IAmb	IAmb	07 15 46.0	
	comp=Z,7.8nm,1.1s						
WRA	Warramunga Arr	46.73	266	P	P	07 15 41.9	-3.1
	comp=Z,3.7nm,0.6s,baz=104,slow=7.9,SNR=22						
WRA	Warramunga Arr	46.73	266	P	P	07 15 42.2	-2.7
WB0	Warramunga Arr	46.73	266	P	P	07 15 42.2	-2.7
WB0				IAmb	IAmb	07 15 45.1	
	comp=Z,6.7nm,0.8s						
JAY	Jayapura	48.23	291	LR	LR	07 34 54.3	
	comp=Z,62nm,18.5s,baz=144,slow=35						

FORT	Forrest	49.93	250	P	P	07 16 06.9	-2.6
FORT				IAmb	IAmb	07 16 08.7	
	comp=Z,12nm,0.7s							
KNRA	Kununurra	53.11	269	P	P	07 16 31.8	-1.7
FITZ	Fitzroy Crossi	55.12	265	P	P	07 16 47.8	-0.4
	comp=Z,8.9nm,0.8s,baz=150,slow=4.4,SNR=13							
FITZ				LR	LR	07 39 54.4		
	comp=Z,77nm,18.3s,baz=56,slow=36							
FITZ	Fitzroy Crossi	55.12	265	P	P	07 16 47.4	-0.8	
FITZ				IAmb	IAmb	07 16 49.0		
	comp=Z,10nm,0.9s							
SIJI	Sorong	57.15	287	P	P	07 16 59.5	-3.3	
	comp=Z,15nm,0.5s,baz=71,slow=9.4,SNR=4.5							
CASY	Casey	60.64	207	P	P	07 17 27.1	+0.9	
CASY				IAmb	IAmb	07 17 29.8		
	comp=Z,4.6nm,0.8s							
QSPA	South Pole Qui	64.59	180	P	P	07 17 54.2	+1.4	
	comp=Z,4.3nm,0.9s,baz=45,slow=6.7,SNR=13							
QSPA	South Pole Qui	64.59	180	P	P	07 17 52.9	+0.1	
QSPA				IAmb	IAmb	07 17 55.3		
	comp=Z,4.5nm,0.9s							
MJAR	Matsushiro Arr	75.79	323	P	P	07 18 58.4	-3.2	
	comp=Z,3.0nm,0.4s,baz=155,slow=8.7,SNR=11							
MJAR	Matsushiro Arr	75.79	323	P	P	07 18 57.8	-3.8	
PETK	Petropavlovsk-	81.78	344	P	P	07 19 31.0	-3.1	
	comp=Z,2.5nm,0.7s,baz=153,slow=11,SNR=6.8							
PETK	Petropavlovsk-	81.78	344	P	P	07 19 33.5	-0.6	
SYO	Syowa Base	82.43	192	⇓*e*pP	P	07 19 36.7	-0.7	
NVAR	Mina Array Bea	82.91	41	P	P	07 19 40.9	+0.2	
	comp=Z,1.4nm,0.8s,baz=222,slow=8.6,SNR=11							
NVAR	Mina Array Bea	82.91	41	P	P	07 19 41.1	+0.5	
VNA3	Neumayer Olymp	82.98	175	P	P	07 19 40.4	0.0	
VNA2	Neumayer--Watz	83.45	176	P	P	07 19 43.6	+0.9	
	baz=163,slow=3.2							
VNA1	Neumayer--Stat	83.66	176	P	P	07 19 44.5	+0.7	
USRK	Ussuriysk Ar.	84.57	325	P	P	07 19 47.3	-1.4	
	comp=Z,4.0nm,0.9s,baz=96,slow=2.9,SNR=7.0							
USRK	Ussuriysk Ar.	84.57	325	P	P	07 19 47.7	-1.0	
TXAR	Lajitas Array	87.58	56	P	P	07 20 04.3	+0.2	
	comp=Z,1.2nm,0.8s,baz=212,slow=7.7,SNR=15							
PDAR	Pinedale Array	90.83	42	P	P	07 20 19.2	0.0	
	comp=Z,0.2nm,0.6s,baz=193,slow=3.7,SNR=2.8							
PDAR				LR	LR	07 54 04.1		
	comp=Z,22nm,19.2s,baz=300,slow=31							
PDAR	Pinedale Array	90.83	42	P	P	07 20 18.6	-0.6	
DOT	Dot Lake	92.16	13	P	P	07 20 24.4	-0.2	
CMAR	Chiang Mai Arr	94.24	288	P	P	07 20 36.9	+1.6	
	comp=Z,3.0nm,0.9s,baz=101,slow=3.2,SNR=11							
CMAR	Chiang Mai Arr	94.24	288	P	P	07 20 36.2	+0.9	
KURBB	Kurchatov Arra	119.48	315	PKP	PKPdf	07 26 03.0	-2.0	
	comp=Z,0.5nm,0.2s,baz=103,slow=2.4,SNR=4.4							
NB2	NORSAR Subarra	144.22	355	PKP	PKPab	07 26 48.5	-0.3	
	comp=Z,0.4nm,0.5s,baz=12,slow=3.4							
NOA	NORSAR Array B	144.22	355	PKP	PKPab	07 26 48.6	-0.3	
	comp=Z,0.4nm,0.7s,baz=10,slow=2.3,SNR=4.3							
AKASG	Malin Array Be	148.65	330	PKPbc	PKPdf	07 27 01.3	+2.5	
	comp=Z,0.3nm,0.3s,baz=44,slow=4.0,SNR=1.5							
AKASG	Malin Array Be	148.65	330	PKPbc	PKPdf	07 27 01.6	+2.8	

JMA 08 07:18:36.4±0.1,35°.90N×139°.08E,h128km±1km,M1.8, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHU	Hanno	0.17	106	P	Pn	07 18 54.3	+0.4
JHU				S	Sn	07 19 07.8	+0.7
JRY	Ryogami san	0.19	309	P	Pn	07 18 54.1	+0.1
JRY				S	Sn	07 19 07.7	+0.4
JSGW	Sagamiharawaka	0.32	161	P	Pn	07 18 54.4	0.0
JSGW				S	Sn	07 19 07.8	-0.1
JYN	Shimob	0.59	228	P	Pn	07 18 55.7	-0.2
JYN				S	Sn	07 19 10.9	+0.3
JAG	Ashikaga	0.60	30	P	Pn	07 18 56.0	+0.1
JAG				S	Sn	07 19 10.5	-0.2
JOD2	Odawara 2	0.64	179	P	Pn	07 18 56.1	-0.1
JOD2				S	Sn	07 19 11.0	0.0
MAT	Matsushiro	0.95	313	S	Sn	07 19 14.7	-0.9
MAT	Matsushiro	0.95	313	P	Pn	07 18 58.4	-0.3
MAT				S	Sn	07 19 14.7	-0.9
MAT	Matsushiro	0.95	313	P	Pn	07 18 58.4	-0.3

IDC ***08*** *07:32:03.5±2.4,0°.25S×122°.95E,h87km±26km,mb3.8/9, mb1 4.0/13,mb1mx3.7/56,mbtmp4.2/13,MS3.3/5, Ms1 3.3/5,ms1mx2.8/48,Error ellipse: s-maj=19.9km s-min=13.6km az=85.0*

DJA ***08*** *07:32:03.5±0.2,0°.5S×12°.3E±°,h62km±6km,M4.8/16, mb4.9/12,mB5.2/6,MLv4.8/16,MLv4.8/11,Mw(mB)4.6/6*

NEIC ***08*** *07:32:04.2±2.7,0°.34S±0°.06×123°.05E±0°.06,h81km±7km, mb4.5/22,Error ellipse: s-maj=11.0km s-min=7.0km az=135.0*

ISC 08 07:32:04.1±0.4,0°.26S±0°.04×123°.06E±0°.05,h81km,n72, σ1ᵖ71/78,mb4.3/23,1C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.83	201	P	Pn	07 32 19.8	-1.6
LUWI				S	Sn	07 32 33.1	-1.1
LUWI	Luwuk	0.83	201	Pn	Pn	07 32 19.8	-1.6
LUWI				Sn	Sn	07 32 33.7	-0.5
KMSI	Cibinong	1.23	48	P	Pn	07 32 25.5	-0.6
KMSI				S	Sn	07 32 41.6	-1.0
MPSI	Mapaga	3.22	281	P	Pn	07 32 51.7	-0.8
SANI	Sanana	3.42	121	P	Pn	07 32 52.4	-2.9
TNTI	Ternate	4.42	77	P	Pn	07 33 10.4	+1.5
TNTI	Ternate	4.42	77	Pn	Pn	07 33 09.8	+0.9
TNTI				Sn	Sn	07 34 03.7	+4.5
LBMI	Labuha	4.45	95	P	Pn	07 33 08.8	-0.5
SPSI	Sidrap Palu	4.94	222	P	Pn	07 33 14.6	-1.4
SPSI				S	Sn	07 34 10.7	-1.1
NLAI	Namlea	5.00	126	P	Pn	07 33 16.2	-0.6
	1.6nm8µm404nm,0.8s						
BNSI	Bone	5.07	216	P	Pn	07 33 16.3	-1.4
	1.0nm1µm124nm,0.9s						
BNSI				S	Sn	07 34 13.9	-1.0
	1.0nm1µm124nm,0.9s						
KAPI	Kappang	5.77	215	P	Pn	07 33 26.5	-0.7
	18nm,0.3s,baz=24,slow=6.8,SNR=25						
KAPI				S	Sn	07 34 29.6	-2.5
	16nm,0.3s,baz=74,slow=22,SNR=9.7						
KAPI	Kappang	5.77	215	Pn	Pn	07 33 26.2	-1.1
MSAI	Masohi	6.62	118	P	Pn	07 33 38.8	0.0
	0.3nm3µm36nm,0.5s						
DDMP	Don Marcelino,	6.85	23	*e*P	Pn	07 33 40.3	-1.7
DDMP				*e*S	Sn	07 34 56.9	-1.6
SKMP	Bagumbayan, Su	6.89	12	*e*P	Pn	07 33 39.9	-2.7
SKMP				*e*S	Sn	07 34 54.4	-5.1
MYLDM	Lahad Datu	7.07	320	Pn	Pn	07 33 47.6	+2.7
KCP	Kidapawan	7.49	16	⇑*e*P	Pn	07 33 48.4	-2.4
KCP				*i* S	Sn	07 35 16.7	+2.3
DAV	Davao City (W)	7.70	19	LR	LR	07 36 59.8	
	comp=Z,99nm,19.2s,baz=339,slow=38						
SIJI	Sorong	8.22	94	P	Pn	07 34 02.9	+2.1
	5.5nm,0.3s,baz=237,slow=22,SNR=4.6						
KKM	Kota Kinabalu	9.27	313		Pn	07 34 16.3	+1.2
SOEI	Soe	9.51	173	Pn	Pn	07 34 12.8	-5.7
FAKI	Fak Fak	9.55	106		Pn	07 34 16.7	-2.3
SBUM	Sibu	11.17	284	Pn	Pn	07 34 43.4	+2.4
MTN	Manton Dam	14.85	148		Pn	07 35 28.8	-1.0
SMPI	Sarmi	15.74	96	P	P	07 35 44.2	+0.7
KNRA	Kununurra	16.32	160		P	07 35 49.2	-0.8
KNRA				IAmb	IAmb	07 35 51.4	
	comp=Z,25nm,0.8s						
GENI	Genyem	17.25	98	P	P	07 36 00.3	-0.1
JAY	Jayapura	17.78	97	P	Pn	07 36 07.4	+0.9
	comp=Z,0.4nm,0.3s,baz=270,slow=24,SNR=20						
FITZ	Fitzroy Crossi	17.91	172	P	P	07 36 06.5	-1.1
	comp=Z,0.5nm,0.3s,baz=9,slow=7.9,SNR=14						
FITZ	Fitzroy Crossi	17.91	172	P	P	07 36 06.5	-1.1
PSA00	Pilbara Seismi	21.42	188	P	P	07 36 46.3	+0.7
WB0	Warramunga Arr	22.34	151	P	P	07 36 54.0	-1.6
WB0				IAmb	IAmb	07 37 00.8	
	comp=Z,11nm,0.8s						
WRA	Warramunga Arr	22.47	151	P	P	07 36 54.9	-2.0
	comp=Z,7.7nm,0.7s,baz=336,slow=9.6,SNR=81						
WRA	Warramunga Arr	22.47	151	P	P	07 36 54.1	-2.7
WB2	Warramunga Arr	22.47	151	P	P	07 36 55.1	-1.8
WB2				IAmb	IAmb	07 36 57.6	
	comp=Z,7.3nm,0.8s						
WR0	Warramunga Arr	22.58	151	P	P	07 36 56.2	-1.8
WR0				IAmb	IAmb	07 37 03.9	
	comp=Z,14nm,0.8s						

COEN	Coen	24.12	125	P	P	07 37 12.2	-0.4	
COEN				IAmb	IAmb	07 37 13.2		
	comp=Z,32nm,1.5s							
YHNB	Yeheng	24.83	356	P	P	07 37 19.8	+0.8	
AS31	Alice Springs	25.54	156	P	P	07 37 25.4	-0.1	
ASAR	Alice Springs	25.54	156	P	P	07 37 24.9	-0.5	
	comp=Z,3.1nm,0.6s,baz=332,slow=8.6,SNR=44							
ASAR				PcP	PcP	07 40 53.5	-1.6	
	comp=Z,0.4nm,0.5s,baz=332,slow=2.3,SNR=4.8							
ASAR				LR	LR	07 47 54.3		
	comp=Z,34nm,18.9s,baz=60,slow=37							
ASAR	Alice Springs	25.54	156	P	P	07 37 24.1	-1.3	
LHMI	Lhok Sumawe	26.64	282	P	P	07 37 36.2	+0.6	
CMAR	Chiang Mai Arr	30.13	309	LR	LR	07 52 39.4		
	comp=Z,43nm,20.3s,baz=177,slow=41							
CMAR	Chiang Mai Arr	30.13	309	P	P	07 38 07.3	+0.8	
FORT	Forrest	30.73	172	P	P	07 38 10.5	-1.1	
FORT				IAmb	IAmb	07 38 11.1		
	comp=Z,12nm,1.1s							
NJ2	Nanjing	32.38	353	*e*P	P	07 38 27.0	+0.9	
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
NWAO	Narrogin (SRO)	32.96	189	LR	LR	07 52 48.4		
	comp=Z,69nm,22.0s,baz=322,slow=38							
ENH	Enshi	33.00	338	P	P	07 38 33.1	+1.5	
BBOO	Buckleboo	34.62	161	P	P	07 38 44.6	-1.0	
BBOO				IAmb	IAmb	07 39 02.7		
	comp=Z,6.9nm,1.1s							
STKA	Stephens Creek	36.00	153	P	P	07 38 57.6	+0.1	
	comp=Z,2.9nm,0.7s,baz=313,slow=9.2,SNR=5.6							
STKA	Stephens Creek	36.00	153	P	P	07 38 57.6	+0.1	
KSRS	Korea Array	37.79	6	P	P	07 39 10.8	-1.8	
	comp=Z,1.5nm,0.8s,baz=194,slow=14,SNR=2.6							
MJAR	Matsushiro Arr	39.22	19	P	P	07 39 22.4	-2.2	
	comp=Z,2.0nm,0.7s,baz=199,slow=10,SNR=10.0							
MJAR	Matsushiro Arr	39.22	19	P	P	07 39 22.0	-2.6	
ARMA	Armidale	40.46	140	P	P	07 39 36.2	+1.2	
ARMA				IAmb	IAmb	07 39 39.2		
	comp=Z,18nm,1.5s							
HHC	Hu-ho-hao-te	42.23	347	*e*P	P	07 39 50.8	+1.4	
HHC				pmax	pmax			
	comp=Z,16nm,0.7s							
HHC				pmax	pmax			
	comp=Z,150nm,7.1s							
CAN	Canberra	42.44	148	P	P	07 39 51.6	+0.4	
CAN				IAmb	IAmb	07 39 59.3		
	comp=Z,19nm,1.5s							
USRK	Ussuriysk Ar.	44.97	9	P	P	07 40 08.9	-2.3	
	comp=Z,2.1nm,0.8s,baz=197,slow=8.3,SNR=4.7							
USRK	Ussuriysk Ar.	44.97	9	P	P	07 40 09.5	-1.7	
SONM	Songino Array	50.05	345	P	P	07 40 50.0	-0.7	
	comp=Z,3.2nm,0.8s,baz=156,slow=8.8,SNR=12							
SONM	Songino Array	50.05	345	P	P	07 40 50.7	+0.1	
WMQ	Urumqi	54.04	329	*e*P	P	07 41 23.3	+2.9	
WMQ				pmax	pmax			
	comp=Z,9.0nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,23nm,5.3s							
WMQ				LR	LR			
	comp=N,500nm,29.3s							
WMQ				LR	LR			
	comp=E,140nm,29.0s							
WMQ				LR	LR			
	comp=Z,95nm,25.1s							
MKAR	Makanchi Array	58.86	328	P	P	07 41 53.4	-1.1	
	comp=Z,0.4nm,0.7s,baz=121,slow=9.0,SNR=4.8							
MKAR				pP	pP	07 42 16.8	+2.3	
	comp=Z,2.0nm,0.7s,baz=125,slow=7.9,SNR=9.0							
MKAR	Makanchi Array	58.86	328	P	P	07 41 54.4	-0.1	
PEA0B	Petropavlovsk-	60.49	23	P	P	07 42 06.6	+1.1	
PEA0B				IAmb	IAmb	07 42 09.4		
	comp=Z,8.9nm,1.2s							
PETK	Petropavlovsk-	60.49	23	P	P	07 42 04.8	-0.8	
	comp=Z,0.9nm,0.5s,baz=203,slow=6.3,SNR=2.9							
PETK	Petropavlovsk-	60.49	23	P	P	07 42 04.3	-1.2	
MCQ	Macquarie Isla	61.57	157	P	P	07 42 14.6	+1.8	
KURBB	Kurchatov Arra	63.22	330	pP	pP	07 42 43.5	-0.5	
	comp=Z,1.1nm,0.8s,baz=134,slow=6.0,SNR=3.4							
VNDA	Vanda	79.99	172	P	P	07 44 06.3	+2.2	
VNDA				IAmb	IAmb	07 44 17.8		
	comp=Z,5.8nm,1.4

WIAZ	**Waiheke Island**	**1.26**	**326**	P		**Pn**	07 42 08.8	**0.0**
RAGZ	**Rawiri**	**1.28**	**121**	P		**Pn**	07 42 09.2	**+0.3**
RAGZ				S		**S**	07 42 38.9	**-2.2**
MWZ	**Matawai**	**1.29**	**113**	P		**Pn**	07 42 08.5	**-0.4**
MWZ				S		**S**	07 42 38.6	**-2.5**
KRVZ	**Karewarewa**	**1.29**	**193**	P		**Pn**	07 42 09.6	**+0.6**
TWVZ	**Taurewa**	**1.32**	**200**	P		**Pn**	07 42 09.8	**+0.7**
RUGZ	**Raukumara Rang**	**1.32**	**96**	P		**Pn**	07 42 07.8	**-1.4**
ETVZ	**East Tongariro**	**1.32**	**190**	P		**Pn**	07 42 10.0	**+0.8**
WTVZ	**West Tongariro**	**1.32**	**195**	P		**Pn**	07 42 09.9	**+0.7**
AWAZ	**Awhitu Peninsu**	**1.34**	**305**	P		**Pn**	07 42 09.6	**+0.4**
OTVZ	**Oturere**	**1.36**	**192**	P		**Pn**	07 42 10.1	**+0.7**
RAHZ	**Arahi**	**1.37**	**143**	P		**Pn**	07 42 10.3	**+0.9**
BKZ	**Black Stump Fm**	**1.38**	**165**	P		**Pn**	07 42 09.9	**+0.5**
BKZ	**Black Stump Fm**	**1.38**	**165**				07 42 10.0	**+0.5**
BKZ				S		**S**	07 42 40.2	**-1.9**
MBAZ	**Motutapu North**	**1.39**	**320**	P		**Pn**	07 42 09.6	**+0.1**
EPAZ	**Eden Park BICE**	**1.40**	**313**	P		**Pn**	07 42 09.8	**+0.3**
HAZ	**Te Kaha**	**1.40**	**87**	P		**Pn**	07 42 08.3	**-1.2**
NMHZ	**Naumai**	**1.40**	**154**	P		**Pn**	07 42 11.0	**+1.4**
SNGZ	**Shannon Statio**	**1.40**	**133**	P		**Pn**	07 42 10.3	**+0.7**
HBAZ	**Herne Bay Bore**	**1.42**	**313**	P		**Pn**	07 42 10.0	**+0.2**
TUVZ	**Tukino**	**1.46**	**191**	P		**Pn**	07 42 10.8	**+0.7**
WTAZ	**Waiatarua**	**1.46**	**308**	P		**Pn**	07 42 10.6	**+0.6**
FWVZ	**Far West T-bar**	**1.47**	**194**	P		**Pn**	07 42 10.6	**+0.4**
DRZ	**Dome Shelter**	**1.48**	**194**	P		**Pn**	07 42 11.3	**+0.8**
TRVZ	**Turoa**	**1.51**	**194**	P		**Pn**	07 42 11.2	**+0.7**
PKVZ	**Pokaka**	**1.55**	**200**	P		**Pn**	07 42 11.1	**+0.6**
ABAZ	**Army Bay**	**1.55**	**322**	P		**Pn**	07 42 11.0	**+0.3**
TKGZ	**Te Karaka**	**1.56**	**113**	P		**Pn**	07 42 11.0	**+0.4**
RVAZ	**Riverhead Bore**	**1.56**	**312**	P		**Pn**	07 42 10.9	**+0.2**
WHHZ	**Waihua**	**1.56**	**143**	P		**Pn**	07 42 11.4	**+0.9**
MOVZ	**Moawhango**	**1.58**	**188**	P		**Pn**	07 42 11.1	**+0.3**
TWGZ	**Tauwhareparae**	**1.59**	**103**	P		**Pn**	07 42 11.0	**+0.2**
MTVZ	**Mangateitei**	**1.61**	**195**	P		**Pn**	07 42 11.7	**+0.7**
KWHZ	**Kaweka Forest**	**1.62**	**169**	P		**Pn**	07 42 12.0	**+0.9**
ARHZ	**Aropaoanui**	**1.62**	**152**	P		**Pn**	07 42 12.0	**+1.1**
RIGZ	**Rimuhau**	**1.62**	**123**	P		**Pn**	07 42 11.8	**+0.7**
VRZ	**Vera Road**	**1.62**	**217**	P		**Pn**	07 42 12.1	**+1.1**
GRZ	**Great Barrier**	**1.64**	**344**	P		**Pn**	07 42 10.9	**-0.4**
BHHZ	**Black Hill Sta**	**1.65**	**179**	P		**Pn**	07 42 11.8	**+0.5**
MCHZ	**McNeill Hill**	**1.69**	**162**	P		**Pn**	07 42 12.7	**+1.2**
KNZ	**Kokohu**	**1.76**	**133**	P		**Pn**	07 42 12.4	**+0.5**
PUZ	**Puketiti**	**1.78**	**98**	P		**Pn**	07 42 11.9	**-0.3**
MHEZ	**Mangahewa**	**1.82**	**227**	P		**Pn**	07 42 14.3	**+1.9**
PRGZ	**Paritu Road**	**1.82**	**127**	P		**Pn**	07 42 13.2	**+0.6**
KRHZ	**Kereru**	**1.83**	**171**	P		**Pn**	07 42 13.2	**+0.7**
MXZ	**Matakaoa Point**	**1.83**	**82**	P		**Pn**	07 42 12.0	**-0.7**
MXZ	**Matakaoa Point**	**1.83**	**82**			**Pn**	07 42 11.9	**-0.7**
MXZ				S		**S**	07 42 44.8	**-3.0**
CNGZ	**Carnagh Statio**	**1.84**	**111**	P		**Pn**	07 42 13.4	**+0.8**
WMGZ	**Waiomatatini S**	**1.90**	**90**	P		**Pn**	07 42 12.9	**-0.2**
DREZ	**Durham Road**	**1.97**	**226**	P		**Pn**	07 42 15.2	**+1.6**
CKHZ	**Cape Kidnapper**	**2.00**	**156**	P		**Pn**	07 42 14.8	**+0.9**
LREZ	**Lake Rotokare**	**2.06**	**217**	P		**Pn**	07 42 15.7	**+1.3**
KAHZ	**Kahuranaki**	**2.07**	**161**	P		**Pn**	07 42 15.5	**+1.0**
PNHZ	**Pukenui**	**2.08**	**176**	P		**Pn**	07 42 15.0	**+0.4**
WAZ	**Wanganui**	**2.08**	**203**	P		**Pn**	07 42 15.2	**+0.7**
PKE	**Pukeiti**	**2.09**	**229**	P		**Pn**	07 42 16.4	**+1.7**
PREZ	**Palmer Road**	**2.10**	**224**	P		**Pn**	07 42 16.3	**+1.5**
KHEZ	**Kahui Hut**	**2.14**	**227**	P		**Pn**	07 42 16.8	**+1.6**
NBEZ	**Newall Road No**	**2.21**	**229**	P		**Pn**	07 42 17.6	**+1.9**
TSZ	**Takapari Road**	**2.22**	**181**	P		**Pn**	07 42 16.2	**+0.4**
WPHZ	**Waipukurau**	**2.25**	**172**	P		**Pn**	07 42 16.6	**+0.6**
PXZ	**Pawanui**	**2.29**	**164**	P		**Pn**	07 42 17.0	**+0.7**
NMEZ	**Namu Road**	**2.30**	**226**	P		**Pn**	07 42 18.0	**+1.6**
WCZ	**Waipu Caves**	**2.32**	**324**	P		**Pn**	07 42 16.7	**-0.1**
OHWZ	**Ohakea**	**2.43**	**193**	P		**Pn**	07 42 18.7	**+1.1**
DVHZ	**Dannevirke**	**2.46**	**177**	P		**Pn**	07 42 18.1	**+0.2**
PRHZ	**Porangahau**	**2.48**	**169**	P		**Pn**	07 42 18.8	**+0.7**
POWZ	**Post Office Ro**	**2.56**	**184**	P		**Pn**	07 42 19.0	**+0.2**
ANWZ	**Angora Road**	**2.65**	**172**	P		**Pn**	07 42 20.3	**+0.7**
PRWZ	**Pori Road**	**2.72**	**181**	P		**Pn**	07 42 20.8	**+0.5**
MRZ	**Mangatainoka R**	**2.84**	**187**	P		**Pn**	07 42 21.5	**-0.1**
BFZ	**Birch Farm**	**2.85**	**177**	P		**Pn**	07 42 21.8	**+0.2**
BFZ	**Birch Farm**	**2.85**	**177**	Pn		**Pn**	07 42 21.7	**+0.2**
BFZ				S		**S**	07 43 02.8	**-1.3**
TIWZ	**Tintock**	**2.94**	**182**	P		**Pn**	07 42 22.7	**+0.2**
OGWZ	**Otaki Gorge**	**3.05**	**192**	P		**Pn**	07 42 23.7	**+0.1**
CPWZ	**Castlepoint**	**3.08**	**177**	P		**Pn**	07 42 24.6	**+0.8**
HOWZ	**Holdsworth Sta**	**3.08**	**187**	P		**Pn**	07 42 23.6	**-0.3**
KIW	**Kapiti Island**	**3.14**	**196**	P		**Pn**	07 42 24.4	**-0.1**
OUZ	**Omahuta**	**3.26**	**322**	P		**Pn**	07 42 25.5	**-0.3**
OUZ	**Omahuta**	**3.26**	**322**	Pn		**Pn**	07 42 25.4	**-0.5**
TMWZ	**Te Maipa**	**3.27**	**183**	P		**Pn**	07 42 25.8	**-0.1**
CAW	**Cannon Point**	**3.35**	**192**	P		**Pn**	07 42 26.5	**-0.2**
DUWZ	**D'Urville Isla**	**3.38**	**208**	P		**Pn**	07 42 26.7	**-0.3**
TRWZ	**Traveller**	**3.57**	**184**	P		**Pn**	07 42 28.9	**-0.1**
PAWZ	**Paruwai Farm**	**3.57**	**187**	P		**Pn**	07 42 28.6	**-0.5**
WEL	**Wellington**	**3.58**	**195**	P		**Pn**	07 42 29.0	**-0.1**
SNZO	**South Karori**	**3.62**	**196**	Pn		**Pn**	07 42 28.9	**-0.6**
MSWZ	**Moikau Station**	**3.63**	**189**	P		**Pn**	07 42 29.3	**-0.4**
MSWZ	**Moikau Station**	**3.63**	**189**	Pn		**Pn**	07 42 28.9	**-0.7**
MSWZ				S		**S**	07 43 16.4	**-2.3**
TCW	**Tory Channel**	**3.63**	**201**	P		**Pn**	07 42 29.5	**-0.2**
BHW	**Baring Head**	**3.68**	**194**	P		**Pn**	07 42 29.7	**-0.5**
BHW	**Baring Head**	**3.68**	**194**	Pn		**Pn**	07 42 29.5	**-0.6**
BHW				S		**S**	07 43 17.6	**-2.1**
PLWZ	**Palliser**	**3.78**	**189**	P		**Pn**	07 42 30.8	**-0.6**
PLWZ	**Palliser**	**3.78**	**189**	Pn		**Pn**	07 42 30.7	**-0.6**
PLWZ				S		**S**	07 43 19.2	**-2.5**
TUWZ	**Tuamarina**	**3.93**	**203**	P		**Pn**	07 42 32.6	**-0.3**
TUWZ	**Tuamarina**	**3.93**	**203**	Pn		**Pn**	07 42 32.6	**-0.2**
TUWZ				S		**S**	07 43 22.7	**-2.1**
NNZ	**Nelson**	**3.95**	**210**	P		**Pn**	07 42 32.2	**-0.9**
NNZ	**Nelson**	**3.95**	**210**	Pn		**Pn**	07 42 32.4	**-0.7**
NNZ				S		**S**	07 43 22.6	**-2.5**
QRZ	**Quartz Range**	**4.03**	**221**	P		**Pn**	07 42 32.7	**-1.4**
QRZ	**Quartz Range**	**4.03**	**221**	Pn		**Pn**	07 42 32.8	**-1.4**
CMWZ	**Cape Campbell**	**4.15**	**199**	P		**Pn**	07 42 36.0	**+0.6**
CMWZ	**Cape Campbell**	**4.15**	**199**	Pn		**Pn**	07 42 35.9	**+0.4**
CMWZ				S		**S**	07 43 29.6	**+0.4**
BSWZ	**Blackbirch Sta**	**4.21**	**202**	P		**Pn**	07 42 35.8	**-0.3**
BSWZ	**Blackbirch Sta**	**4.21**	**202**	Pn		**Pn**	07 42 35.8	**-0.3**
BSWZ				S		**S**	07 43 28.6	**-1.9**
THZ	**Tophouse**	**4.60**	**210**	P		**Pn**	07 42 39.4	**-1.2**
THZ	**Tophouse**	**4.60**	**210**	Pn		**Pn**	07 42 39.6	**-1.1**
THZ				S		**S**	07 43 36.7	**-1.8**
KHZ	**Kahutara**	**4.96**	**202**	P		**Pn**	07 42 44.1	**-0.6**
KHZ	**Kahutara**	**4.96**	**202**	Pn		**Pn**	07 42 44.2	**-0.4**
DSZ	**Denniston Nort**	**5.08**	**218**	P		**Pn**	07 42 44.5	**-1.7**
GVZ	**Greta Valley S**	**5.61**	**203**	P		**Pn**	07 42 51.6	**-0.9**
LTZ	**Lake Taylor**	**5.71**	**209**	P		**Pn**	07 42 52.2	**-1.4**
LTZ	**Lake Taylor**	**5.71**	**209**	Pn		**Pn**	07 42 52.3	**-1.4**
AMCZ	**Amberley**	**5.92**	**205**	P		**Pn**	07 42 55.6	**-0.6**
INZ	**Inchbonnie**	**6.01**	**214**	P		**Pn**	07 42 55.4	**-1.8**
OXZ	**Oxford**	**6.27**	**208**	P		**Pn**	07 42 58.4	**-2.0**
OXZ	**Oxford**	**6.27**	**208**	Pn		**Pn**	07 42 58.4	**-2.0**
OKCZ	**Okains Bay**	**6.30**	**200**	P		**Pn**	07 43 00.0	**-0.7**
MQZ	**McQueen's Vall**	**6.40**	**202**	P		**Pn**	07 43 00.1	**-1.8**
MQZ	**McQueen's Vall**	**6.40**	**202**	Pn		**Pn**	07 43 00.0	**-1.8**
AKCZ	**Akaroa Harbour**	**6.47**	**200**	P		**Pn**	07 43 02.4	**-0.5**
WVZ	**Waitaha Valley**	**6.60**	**216**	P		**Pn**	07 43 02.3	**-2.2**
WACZ	**Wakanui South**	**6.87**	**206**	P		**Pn**	07 43 06.2	**-1.5**
RPZ	**Rata Peaks**	**6.98**	**211**	P		**Pn**	07 43 07.3	**-1.7**
	22nm,0.3s,baz=355,slow=1.3,SNR=87							
RPZ				S		**S**	07 44 25.1	**-5.4**
	20nm,0.3s,baz=140,slow=23,SNR=13							
RPZ	**Rata Peaks**	**6.98**	**211**	P		**Pn**	07 43 07.1	**-1.9**
FOZ	**Fox Glacier**	**7.39**	**218**	P		**Pn**	07 43 11.4	**-2.7**
FOZ	**Fox Glacier**	**7.39**	**218**	Pn		**Pn**	07 43 11.3	**-2.7**
LBZ	**Lake Benmore**	**7.89**	**212**	P		**Pn**	07 43 18.1	**-2.2**
ODZ	**Otahua Downs**	**8.26**	**208**	P		**Pn**	07 43 24.1	**-0.7**
ODZ	**Otahua Downs**	**8.26**	**208**			**Pn**	07 43 24.3	**-0.5**
JCZ	**Jackson Bay**	**8.29**	**219**	P		**Pn**	07 43 22.6	**-2.8**
WKZ	**Wanaka**	**8.75**	**215**	P		**Pn**	07 43 27.8	**-3.1**
EAZ	**Earnscleugh**	**8.94**	**212**	P		**Pn**	07 43 30.2	**-3.1**
MSZ	**Milford Sound**	**9.15**	**219**	P		**Pn**	07 43 33.3	**-2.5**
MLZ	**Mavora Lakes**	**9.57**	**216**	P		**Pn**	07 43 38.7	**-2.4**
WHZ	**Wether Hill Ro**	**10.05**	**214**	P		**Pn**	07 43 44.4	**-2.6**
WHZ	**Wether Hill Ro**	**10.05**	**214**	Pn		**Pn**	07 43 45.1	**-1.8**
SYZ	**Scrubby Hill**	**10.08**	**208**	P		**Pn**	07 43 47.1	**-0.2**
DCZ	**Deep Cove**	**10.10**	**218**	P		**Pn**	07 43 45.9	**-1.7**
APZ	**The Paps**	**10.77**	**211**	P		**Pn**	07 43 54.2	**-1.6**
DZM	**Mont Dzumac**	**17.75**	**330**	P		**P**	07 45 16.7	**+0.6**
	1.0nm,0.3s,baz=191,slow=11,SNR=10							
DZM	**Mont Dzumac**	**17.75**	**330**	P		**P**	07 45 16.6	**+0.6**
MSVF	**Nonsavu**	**20.11**	**6**	P		**P**	07 45 39.7	**-1.5**
MSVF				IAmb		IAmb	07 45 40.9	
	comp=Z,38nm,1.1s							

NIUE	**Niue**	**22.35**	**37**	P		**P**	07 45 58.5	**-4.0**
TOO	**Toolangi**	**24.11**	**261**	P		**P**	07 46 20.4	**+2.0**
TOO				IAmb		IAmb	07 46 37.9	
	comp=Z,9.7nm,1.2s							
STKA	**Stephens Creek**	**28.76**	**271**	P		**P**	07 47 00.7	**+0.8**
	comp=Z,2.1nm,0.6s,baz=75,slow=8.8,SNR=6.8							
STKA	**Stephens Creek**	**28.76**	**271**	P		**P**	07 46 59.3	**-0.5**
BBOO	**Buckleboo**	**32.81**	**267**	P		**P**	07 47 35.7	**+0.4**
BBOO				IAmb		IAmb	07 47 38.2	
	comp=Z,14nm,1.5s							
AS31	**Alice Springs**	**38.53**	**279**	P		**P**	07 48 23.7	**0.0**
ASAR	**Alice Springs**	**38.53**	**279**	P		**P**	07 48 23.8	**+0.1**
	comp=Z,1.4nm,0.3s,baz=114,slow=5.8,SNR=35							
ASAR	**Alice Springs**	**38.53**	**279**	P		**P**	07 48 23.6	**-0.2**
FORT	**Forrest**	**39.88**	**265**	P		**P**	07 48 35.3	**+0.6**
FORT				IAmb		IAmb	07 48 42.3	
	comp=Z,14nm,1.0s							
WR0	**Warramunga Arr**	**40.07**	**285**	P		**P**	07 48 36.1	**-0.3**
WB2	**Warramunga Arr**	**40.22**	**284**	P		**P**	07 48 37.4	**-0.3**
WB2				IAmb		IAmb	07 48 41.4	
	comp=Z,20nm,1.5s							
WRA	**Warramunga Arr**	**40.23**	**284**	P		**P**	07 48 37.6	**-0.1**
	comp=Z,1.2nm,0.5s,baz=124,slow=8.3,SNR=39							
WRA	**Warramunga Arr**	**40.23**	**284**	P		**P**	07 48 37.6	**-0.1**
VNDA	**Vanda**	**40.25**	**185**	P		**P**	07 48 39.8	**+2.7**
	comp=Z,2.0nm,0.6s,baz=358,slow=8.0,SNR=16							
VNDA	**Vanda**	**40.25**	**185**	P		**P**	07 48 39.7	**+2.6**
WB0	**Warramunga Arr**	**40.29**	**285**	P		**P**	07 48 37.9	**-0.3**
WB0				IAmb		IAmb	07 48 38.0	
	comp=Z,7.8nm,1.4s							
CASY	**Casey**	**46.25**	**211**	P		**P**	07 49 24.6	**-0.3**
KNRA	**Kununurra**	**47.03**	**285**	P		**P**	07 49 31.1	**-0.4**
KNRA				IAmb		IAmb	07 49 33.6	
	comp=Z,23nm,1.5s							
FITZ	**Fitzroy Crossi**	**48.02**	**280**	P		**P**	07 49 39.1	**0.0**
FITZ				IAmb		IAmb	07 49 42.4	
	comp=Z,9.6nm,1.4s							
MORW	**Morawa**	**50.06**	**261**	P		**P**	07 49 54.3	**-0.2**
QSPA	**South Pole Qui**	**52.29**	**180**	P		**P**	07 50 12.8	**+2.2**
QSPA				IAmb		IAmb	07 50 13.6	
	comp=Z,18nm,0.8s							
GIRL	**Giralia**	**54.58**	**267**	P		**P**	07 50 28.3	**+0.8**
PMSA	**Palmer Station**	**67.51**	**156**	P		**P**	07 51 54.6	**+1.3**
SNAA	**Sanae**	**70.79**	**180**	P		**P**	07 52 13.6	**+0.3**
SNAA	**Sanae**	**70.79**	**180**	P		**P**	07 52 13.6	**+0.3**
SNAA				IAmb		IAmb	07 52 14.7	
	comp=Z,4.0nm,1.3s							
VNA3	**Neumayer Olymp**	**71.15**	**178**	P		**P**	07 52 15.4	**0.0**
VNA2	**Neumayer--Watz**	**71.52**	**179**	P		**P**	07 52 17.8	**+0.2**
	baz=184,slow=5.8							
VNA1	**Neumayer--Stat**	**71.78**	**178**	P		**P**	07 52 19.4	**+0.3**
EFI	**East Falkland**	**79.12**	**149**	P		**P**	07 53 01.5	**+0.6**
PLCA	**Paso Flores**	**80.92**	**135**	P		**P**	07 53 12.4	**+1.5**
	comp=Z,2.9nm,0.6s,baz=257,slow=5.2,SNR=9.0							
PLCA	**Paso Flores**	**80.92**	**135**	P		**P**	07 53 11.6	**+0.7**
PLCA				IAmb		IAmb	07 53 12.5	
	comp=Z,4.1nm,0.8s							
LC01	**Cunco**	**81.40**	**133**	P		**P**	07 53 14.4	**+1.1**
LC01				IAmb		IAmb	07 53 15.5	
	comp=Z,7.2nm,0.8s							
HHC	**Hu-ho-hao-te**	**97.99**	**316**	*e*P		Pdif	07 54 32.2	+0.4
HHC				pmax		pmax		
	comp=Z,7.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,130nm,6.9s							
ARCES	**ARCESS Array B**	**144.51**	**343**	PKP		**PKPab**	**08 00 27.4**	**-1.3**
	comp=Z,2.9nm,0.9s,baz=25,slow=4.0,SNR=7.1							
ARCES	**ARCESS Array B**	**144.51**	**343**			**PKPab**	**08 00 27.7**	**-1.0**
DBIC	**Dimbokro**	**148.97**	**178**	PKPbc		**PKPbc**	**08 00 41.6**	**-1.2**
	comp=Z,2.2nm,0.5s,baz=184,slow=6.5,SNR=6.6							
FINES	**FINESS Array B**	**149.88**	**331**	PKPbc		**PKPbc**	**08 00 41.9**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=64,slow=3.2,SNR=1.3							
FINES	**FINESS Array B**	**149.88**	**331**	PKPbc		**PKPbc**	**08 00 41.9**	**-1.7**
TORD	**Torodi Ar. Bea**	**154.90**	**193**	PKPbc		**PKPbc**	**08 00 57.9**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=74,slow=1.9,SNR=1.8							
TORD				PKPab		**PKPab**	**08 01 11.0**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=154,slow=4.2,SNR=3.3							
TORD	**Torodi Ar. Bea**	**154.90**	**193**	PKPbc		**PKiKP**	**08 00 57.6**	**+1.4**
TORD				PKPab		**PKPab**	**08 01 12.0**	**-0.6**

IDC 08 07:53:44.7±2.2, 56.25S×27.94W, h0km, mb 3.9/1, mb1 3.9/1, mb1mx3.5/15, mbtmp3.9/1, Error ellipse: s-maj=116.3km s-min=80.8km az=138.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**73.44**	**30**	P	P	08 05 18.7	0.0
	0.2nm,7.0s,baz=206,slow=6.4,SNR=4.6						
ILAR	**Eielson Array**	**149.94**	**312**	PKPbc	PKPbc	08 13 34.9	-0.4
	0.4nm,0.6s,baz=126,slow=1.6,SNR=5.0						
SONM	**Songino Array**	**151.16**	**87**	PKPbc	PKPbc	08 13 38.7	-0.3
	0.7nm,0.4s,baz=215,slow=1.8,SNR=3.9						

*IDC **08** 07:53:53.4±2.7, 53.54N×87.73E, h0km, mb1 3.4/2, mb1mx3.1/46, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=24.4km s-min=14.6km az=65.0*
*NNC **08** 07:53:57.1±4.1, 53.42N×87.33E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=39.6km s-min=26.1km az=176.0, Suspected Mining explosion.*

ISC 08 07:53:55.6±3.8, 53.6N±0.1×87.4E±0.2, h0km, n7, σ0s78/10, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.58**	**286**	*i*		08 05 24.3	
	baz=98,slow=324,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.58**	**286**	Pn	**Pn**	**07 54 24.5**	**-0.3**
	6.2nm,0.3s,baz=102,slow=14,SNR=40						
ZALV				Lg	Lg	07 54 49.7	
	8.9nm,0.3s,baz=106,slow=25,SNR=17						
KURK	**Kurchatov**	**6.10**	**246**	⇓Pn	**Pn**	**07 55 27.9**	**+1.0**
	1.0nm,0.5s						
KURK				⇑Sn	**Sn**	**07 56 37.3**	**0.0**
	1.1nm,0.5s						
KURK				⇑Lg	Lg	07 57 13.4	
	4.7nm,0.8s						
KURBB	**Kurchatov Arra**	**6.20**	**245**	Pn	**Pn**	**07 55 29.3**	**+1.1**
	0.3nm,0.3s,baz=61,slow=14,SNR=9.6						
KURBB				Lg	Lg	07 57 15.6	
	0.1nm,0.3s,baz=62,slow=32,SNR=6.6						
KURBB	**Kurchatov Arra**	**6.20**	**245**	⇓Pn	**Pn**	**07 55 28.8**	**+0.6**
	2.9nm,0.3s						
KURBB				⇑Sn	**Sn**	**07 56 38.9**	**-0.9**
	2.7nm,0.4s						
KURBB				⇑Lg	Lg	07 57 15.0	
	8.9nm,0.7s						
MK31	**Makanchi Array**	**7.51**	**208**	⇓Pn	**Pn**	**07 55 46.4**	**0.0**
	0.2nm,0.3s,baz=31,slow=14,SNR=16						
MK31				⇓Sn	**Sn**	**07 57 11.8**	**-0.5**
	0.3nm,0.5s,baz=32,slow=29,SNR=2.6						
MK31				⇑Lg	Lg	07 57 52.9	
	1.0nm,0.6s,baz=34,slow=30,SNR=4.5						
MKAR	**Makanchi Array**	**7.51**	**208**	Pn	**Pn**	**07 55 46.7**	**+0.3**
	0.3nm,0.3s,baz=31,slow=13,SNR=17						
MKAR				Sn	**Sn**	**07 57 11.5**	**-0.8**
	0.2nm,0.3s,baz=27,slow=28,SNR=5.0						
MKAR				Lg	Lg	07 57 52.2	
	0.2nm,0.3s,baz=25,slow=29,SNR=7.9						

ISC 08 07:59:18.9±1.1, 49.6N±0.1×17.65E±0.1, h16km±14km, n6, σ0s47/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**0.21**	**341**	*e*PG	**Pg**	**07 59 23.9**	**+0.1**
MORC				*e*SG	**Sg**	**07 59 27.1**	**-0.1**
JAVC	**Velka Javorina**	**0.72**	**179**	*e*PG	**Pn**	**07 59 34.7**	**+0.2**
VRAC	**Vranov**	**0.74**	**249**	*e*PG	**Pn**	**07 59 34.2**	**-0.5**
KRUC	**Moravsky**	**0.97**	**238**	*e*PG	**Pn**	**07 59 38.5**	**+0.6**
KOLL	**Kolacno**	**1.11**	**153**	*e*PG	**Pn**	**07 59 40.3**	**+0.5**
KOLL				*e*SG	**Sg**	**07 59 54.7**	**-0.2**
VYHS	**Vyhne**	**1.33**	**144**	*e*PG	**Pn**	**07 59 42.8**	**-0.1**
VYHS				*e*SG	**Sb**	**08 00 00.1**	**-0.3**

*IDC **08** 07:59:26.6±2.9, 54.34N×86.86E, h0km, mb1 3.3/2, mb1mx3.1/43, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=25.4km s-min=15.8km az=61.0*
*NNC **08** 07:59:28.0±2.2, 54.29N×86.85E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=20.5km s-min=14.9km az=160.0,*

Suspected Mining explosion.

ISC 08 07:59:27.1±4.7, 54.3N±0.2×86.8E±0.2, h0km, n7, σ1s45/10, 4C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**253**	*i*		08 07 30.0	
	baz=68,slow=301,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.25**	**253**	Pg	**Pg**	**07 59 49.4**	**-1.7**
	3.7nm,0.3s,baz=76,slow=17,SNR=21						
ZALV				Lg	Lg	08 00 07.3	
	3.2nm,0.3s,baz=71,slow=27,SNR=4.2						
KURK	**Kurchatov**	**6.19**	**238**	⇑Pn	**Pn**	**08 01 00.8**	**+1.2**
	0.4nm,0.3s						
KURK				Sn	**Sn**	**08 02 12.4**	**+1.4**
	3.7nm,0.9s						
KURK				⇑Lg	Lg	08 02 46.7	
	5.1nm,0.8s						
KURBB	**Kurchatov Arra**	**6.29**	**237**	Pn	**Pn**	**08 01 01.8**	**+0.8**
	0.2nm,0.3s,baz=54,slow=14,SNR=17						
KURBB				Lg	Lg	08 02 48.7	
	0.1nm,0.3s,baz=48,slow=32,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.29**	**237**	⇓Pn	**Pn**	**08 01 01.2**	**+0.2**
	1.2nm,0.2s						
KURBB				Sn	**Sn**	**08 02 14.7**	**+1.2**
	4.6nm,0.6s						
KURBB				⇓Lg	Lg	08 02 48.3	
	4.1nm,0.6s						
MK31	**Makanchi Array**	**8.08**	**203**	Pn	**Pn**	**08 01 26.4**	**+0.8**
	0.2nm,0.3s,baz=27,slow=12,SNR=11						
MK31				⇑Sn	**Sn**	**08 02 58.8**	**+1.1**
	0.3nm,0.4s,baz=236,slow=11,SNR=5.0						
MK31				⇑Lg	Lg	08 03 43.3	
	2.2nm,0.8s						
MKAR	**

DOI	**San Damiano**	**0.90**	**336**	P	**Pn**	**08 12 30.5**	**+0.3**
DOI				S	**Sb**	**08 12 42.0**	**+0.9**
DOI				AML	AML		
	comp=E,977µm,0.5s						
DOI				AML	AML		
	comp=N,1260µm,0.2s						
PZZ	**Stroppo**	**0.94**	**331**	P	**Pn**	**08 12 31.3**	**+0.4**
PZZ				S	**Sb**	**08 12 43.5**	**+1.0**
PZZ	**Stroppo**	**0.94**	**331**	P	**Pn**	**08 12 31.2**	**+0.4**
PZZ				S	**Sb**	**08 12 43.7**	**+1.2**
PZZ				AML	AML		
	comp=N,925µm,0.2s						
PZZ				AML	AML		
	comp=E,752µm,0.5s						
LMR	**La Mourre**	**0.97**	**249**	*e*Pg	**Pg**	**08 12 31.2**	**-0.1**
LMR				*e*Sg	**Sg**	**08 12 44.0**	**-0.1**
	comp=E,116nm,0.3s						
PCP	**Piancastagn**	**1.02**	**33**	P	**Pn**	**08 12 32.9**	**+1.0**
PCP				S	**Sn**	**08 12 46.9**	**+1.0**
PCP	**Piancastagn**	**1.02**	**33**	P	**Pn**	**08 12 32.6**	**+0.7**
PCP				S	**Sn**	**08 12 46.4**	**+0.5**
PCP				AML	AML		
	comp=N,422µm,0.7s						
PCP				AML	AML		
	comp=N,423µm,0.7s						
PCP				AML	AML		
	comp=E,739µm,0.5s						
SURF	**Saint Ours**	**1.04**	**320**	Pg	**Pn**	**08 12 33.4**	**+1.0**
OGDI	**Digne**	**1.13**	**292**	Pg	**Pg**	**08 12 36.1**	**+1.7**
OGAG	**Argentiere**	**1.16**	**312**	Pg	Pg	08 12 39.9	+4.9
ROTM	**Rocchetta Tana**	**1.24**	**20**	AML	AML		
	comp=E,892µm,1.5s						
ROTM				AML	AML		
	comp=N,1270µm,0.5s						
MBDF	**Montbardon**	**1.26**	**326**	*e*Pg	**Pg**	**08 12 36.9**	**+0.2**
MBDF				*e*Sg	**Sg**	**08 12 53.8**	**+0.6**
	comp=N,52nm,0.2s						
BLAF	**les Blancs**	**1.27**	**283**	Pg	**Pg**	**08 12 37.5**	**+0.7**
BLAF				Sn	**Sg**	**08 12 54.5**	**+1.1**
MONC	**Moncucco Torin**	**1.39**	**5**	AML	AML		
	comp=N,548µm,0.4s						
MONC				AML	AML		
	comp=E,418µm,0.6s						
MONC				AML	AML		
	comp=N,540µm,0.4s						
MONC				AML	AML		
	comp=E,419µm,0.6s						
RRL	**Rocca Remolon**	**1.41**	**331**	P	**Pg**	**08 12 39.2**	**-0.6**
RRL				AML	AML		
	comp=E,157µm,0.3s						
RRL				AML	AML		
	comp=N,126µm,0.2s						
RRL				AML	AML		
	comp=N,126µm,0.2s						
RRL				AML	AML		
	comp=E,156µm,0.3s						
MSSA	**Maissana**	**1.42**	**63**	P	**Pb**	**08 12 37.8**	**-0.5**
GORR	**Gorreto**	**1.44**	**50**	P	**Pg**	**08 12 39.0**	**-1.1**
PGF	**Pioggiola**	**1.46**	**141**	*e*Pn	**Pn**	**08 12 37.8**	**-0.2**
PGF				*e*Sn	**Sn**	**08 12 55.0**	**-1.7**
	comp=E,7.9nm,0.2s						
PGF				*e*T	T	08 14 01.4	
PGF	**Pioggiola**	**1.46**	**141**	P	**Pn**	**08 12 37.7**	**-0.2**
MLYF	**Mely**	**1.47**	**282**	Pg	**Pb**	**08 12 39.7**	**+0.5**
MLYF				Pn	**Pg**	**08 12 41.1**	**+0.4**
MLYF				Sn	**Sg**	**08 13 00.9**	**+0.9**
RSP	**Reno Superiore**	**1.50**	**347**	P	**Pn**	**08 12 39.3**	**+0.7**
RSP				AML	AML		
	comp=E,104µm,0.3s						
RSP				AML	AML		
	comp=N,83µm,0.4s						
BSTF	**la Bastide-des**	**1.54**	**278**	Pg	**Pb**	**08 12 40.4**	**0.0**
BSTF				Pn	**Pg**	**08 12 41.9**	**-0.2**
BSTF				Sn	**Sg**	**08 13 01.9**	**-0.2**
BNI	**Bardonecchia**	**1.57**	**331**	P	**Pb**	**08 12 41.4**	**+0.4**
BNI				AML	AML		
	comp=E,93µm,0.5s						
BNI				AML	AML		
	comp=N,84µm,1.0s						
BNI				AML	AML		
	comp=N,87µm,1.1s						
BNI				AML	AML		
	comp=E,84µm,1.2s						
BNI				AML	AML		
	comp=N,87µm,1.1s						
GROG	**Isola di Gorgo**	**1.57**	**99**	P	**Pb**	**08 12 39.9**	**-1.0**
SMRF	**Simiane la Rot**	**1.60**	**281**	*e*Pn	**Pb**	**08 12 41.5**	**0.0**
SMRF				*e*Sg	**Sg**	**08 13 05.5**	**+1.3**
	comp=N,205nm,0.3s						
RUSF	**Rustrel**	**1.67**	**280**	Pn	**Pb**	**08 12 42.6**	**0.0**
RUSF				Sg	**Sg**	**08 13 07.8**	**+1.7**
TRAV	**Traversella**	**1.82**	**360**	P	**Pb**	**08 12 44.6**	**-0.7**
TRAV				AML	AML		
	comp=E,56µm,0.9s						
TRAV				AML	AML		
	comp=N,69µm,1.0s						
ORIF	**Oris-en-Rattie**	**1.82**	**313**	*e*P	**Pg**	**08 12 46.7**	**-0.8**
ORIF	**Oris-en-Rattie**	**1.82**	**313**	*e*Pg	**Pg**	**08 12 47.9**	**+0.4**
ORIF				*e*Sg	**Sg**	**08 13 12.4**	**+1.2**
	comp=N,140nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.82**	**313**	AML	AML		
	comp=N,179µm,0.4s						
ORIF				AML	AML		
	comp=E,173µm,0.3s						
LSD	**Lago del Serru**	**1.83**	**346**	P	**Pb**	**08 12 44.7**	**-0.7**
LSD				AML	AML		
	comp=N,59µm,0.4s						
LSD				AML	AML		
	comp=N,59µm,0.4s						
LSD				AML	AML		
	comp=E,98µm,1.0s						
CIRO	**Champorcher**	**1.92**	**356**	P	**Pn**	**08 12 45.4**	**+0.9**
CIRO				AML	AML		
	comp=E,39µm,0.3s						
CIRO				AML	AML		
	comp=N,27µm,0.7s						
GDM	**Grand'Maison**	**1.92**	**323**	Pn	**Pg**	**08 12 49.2**	**-0.1**
LPG	**La Plagne**	**1.95**	**339**	*e*P	**Pb**	**08 12 47.8**	**+0.3**
LPG				*e*Sn	**Sn**	**08 13 09.0**	**0.0**
	comp=N,16nm,0.3s						
SMPL	**Sampolo**	**1.95**	**144**	P	**Pn**	**08 12 45.3**	**+0.7**
LPL	**La Plagne**	**1.97**	**339**	*e*P	**Pb**	**08 12 48.4**	**+0.5**
LPL				*e*Sn	**Sn**	**08 13 09.5**	**0.0**
	comp=N,27nm,0.4s						
RSL	**Roselend**	**2.16**	**338**	Pn	**Pg**	**08 12 52.6**	**-1.2**
VIVF	**Saint-Julien-l**	**2.50**	**299**	*e*Pn	**Pn**	**08 12 53.3**	**+1.0**
VIVF				*e*Sn	**Sn**	**08 13 22.2**	**-0.2**
VIVF				*e*Sg	**Sg**	**08 13 32.9**	**0.0**
	comp=N,30nm,0.3s						
NDIM	**Novi di Modena**	**2.56**	**61**	AML	AML		
	comp=E,3435µm,0.1s						
NDIM				AML	AML		
	comp=N,1355µm,0.1s						
TRBF	**Trabuc cave**	**2.78**	**280**	Pn	**Pn**	**08 12 56.8**	**+0.8**
OG35	**Corcelles**	**2.82**	**327**	Pn	**Pn**	**08 12 58.6**	**+1.9**
LASF	**Ste Croix**	**2.85**	**279**	*e*Pn	**Pn**	**08 12 57.5**	**+0.5**
LASF				*e*Sn	**Sn**	**08 13 30.2**	**-0.6**
	comp=N,7.3nm,0.2s						
LASF				*e*Sg	**Sg**	**08 13 43.4**	**-0.5**
	comp=N,15nm,0.3s						
CABF	**La Chapelle**	**3.15**	**339**	*e*P	**Pb**	**08 13 05.2**	**-2.8**
CABF	**La Chapelle**	**3.15**	**339**	*e*Pg	**Pg**	**08 13 10.8**	**-2.0**
CABF				*e*Sn	**Sn**	**08 13 37.7**	**-0.8**
	comp=N,1.5nm,0.3s						
ARRO	**Arrone**	**3.83**	**105**	P	**Pg**	**08 13 28.4**	**+2.7**
FDMO	**Fiordimonte**	**3.94**	**98**	⇑P	**Pg**	**08 13 28.9**	**+1.0**
MTLF	**Montolieu**	**4.04**	**267**	*e*Pn	**Pn**	**08 13 14.4**	**+1.0**
MTLF				*e*Sn	**Sn**	**08 13 59.4**	**-0.9**
MTLF				*e*Sg	**Sg**	**08 14 21.5**	**-0.7**
	comp=N,6.3nm,0.3s						
SMF	**Signal de Mont**	**4.05**	**318**	*e*P	**Pn**	**08 13 17.7**	**+4.2**
SMF	**Signal de Mont**	**4.05**	**318**	*e*Pg	**Pg**	**08 13 28.0**	**-2.0**
SMF				*e*Sn	**Sn**	**08 13 59.8**	**-0.7**
SMF				*e*Sg	**Sg**	**08 14 20.8**	**-1.6**
	comp=N,8.9nm,0.4s						
HINF	**Hinteralfeld**	**4.18**	**352**	*e*P	**Pn**	**08 13 18.7**	**+3.4**
HINF	**Hinteralfeld**	**4.18**	**352**	*e*Pg	**Pg**	**08 13 32.1**	**-0.3**
HINF				*e*Sn	**Sn**	**08 14 02.2**	**-1.4**
	comp=N,3.3nm,0.3s						
CAF	**Calviac**	**4.27**	**289**	*e*Pn	**Pn**	**08 13 17.6**	**+1.1**
CAF				*e*Sn	**Sn**	**08 14 04.4**	**-1.5**
CAF				*e*Sg	**Sg**	**08 14 28.0**	**-1.4**
	comp=N,2.5nm,0.3s						
AVF	**Avril sur Loir**	**4.39**	**316**	*e*P	**Pn**	**08 13 21.3**	**+3.1**
AVF	**Avril sur Loir**	**4.39**	**316**	*e*Pg	**Pg**	**08 13 35.4**	**-1.1**
AVF				*e*Sn	**Sn**	**08 14 08.4**	**-0.5**
AVF				*e*Sg	**Sg**	**08 14 30.7**	**-2.7**
	comp=N,7.5nm,0.6s						
HAU	**Haudompre**	**4.43**	**348**	*e*P	**Pn**	**08 13 21.1**	**+2.4**
HAU				*e*Sn	**Sn**	**08 14 08.0**	**-1.8**
	comp=N,7.9nm,0.3s						
BGF	**Bois d'Agland**	**4.51**	**311**	*e*P	**Pn**	**08 13 24.0**	**+4.2**
BGF	**Bois d'Agland**	**4.51**	**311**	*e*Pg	**Pg**	**08 13 37.6**	**-1.1**
BGF				*e*Sg	**Sg**	**08 14 35.2**	**-1.8**
	comp=N,9.8nm,0.5s						
LOR	**Lormes**	**4.51**	**324**	*e*P	**Pn**	**08 13 24.0**	**+4.2**
	baz=138						
LOR	**Lormes**	**4.51**	**324**	*e*Pg	**Pg**	**08 13 37.0**	**-1.7**
	baz=137						
LOR				*e*Sn	**Sn**	**08 14 09.8**	**-2.0**
	comp=N,3.1nm,0.3s,baz=145						
LOR				*e*Sg	**Sg**	**08 14 34.8**	**-2.3**
	baz=144						
SSF	**Saint Saulge**	**4.51**	**320**	*e*P	**Pn**	**08 13 23.3**	**+3.5**
SSF	**Saint Saulge**	**4.51**	**320**	*e*Pg	**Pg**	**08 13 37.4**	**-1.4**
SSF				*e*Sn	**Sn**	**08 14 10.7**	**-1.1**
SSF				*e*Sg	**Sg**	**08 14 35.2**	**-2.0**
	comp=N,4.3nm,0.3s						
TCF	**Toulx Ste Croi**	**4.72**	**305**	*e*P	**Pn**	**08 13 27.3**	**+4.6**
TCF				*e*Sn	**Sn**	**08 14 15.5**	**-1.4**
	comp=N,2.0nm,0.3s						
CDF	**Champ du Feu**	**4.74**	**356**	*e*P	**Pn**	**08 13 27.4**	**+4.4**
CDF				*e*Sn	**Sn**	**08 14 15.8**	**-1.7**
	comp=N,2.8nm,0.6s						
RJF	**Les Rejaudoux**	**4.75**	**292**	*e*Pn	**Pn**	**08 13 24.2**	**+1.1**
RJF				*e*Sg	**Sg**	**08 14 42.2**	**-2.6**
	comp=N,3.6nm,0.3s						
EPF	**Esparros**	**5.45**	**266**	*e*Pn	**Pn**	**08 13 33.1**	**+0.4**
EPF				*e*Sg	**Sg**	**08 15 04.2**	**-3.0**
	comp=N,4.2nm,0.4s						
ETSF	**Etsaut**	**6.12**	**265**	*e*Pn	**Pn**	**08 13 42.5**	**+0.5**
ETSF				*e*Sg	**Sg**	**08 15 25.4**	**-3.4**

HLW ***08*** *08:20:42.5, 34.80N×24.63E, h10km±31km, Ml4.9*
BJI ***08*** *08:20:43.0±0.0, 34.95N×24.40E, h18km, mB5.1/18, mb4.8/27, Ms4.7/6, Ms7 4.4/4*
MOS ***08*** *08:20:44.3±1.3, 34.64N×24.82E, h16km, mb4.9/48, Error ellipse: s-maj=6.0km s-min=3.7km az=76.8*
NIC ***08*** *08:20:44.8±0.0, 34.21N×24.94E, h15km±31km, Ml5.1/2*
MED_RC ***08*** *08:20:45.0±0.4, 34.58N×24.79E, h26km±2km, MW4.7/14, Moment Tensor Solution.Mantle waves: s14,c19; Duration: 1±1 Moment tensor: Scale 10^16Nm; Mrr0.29±.12; Mθθ0.39±.07; Mϕϕ-0.68±.08; Mrθ-0.54±.10; Mθϕ0.84±.08; Mϕr0.26±.11; Best double couple: M0 1.17000×10^16 NP1:ϕs196.00000°, δ57.00000°, λ172.00000°. NP2:ϕs290.00000°, δ83.00000°, λ34.00000°. Principal axes: T 1.0400, Plg28.0000°, Azm158.0000°; N 0.2600, Plg56.0000°, Azm301.0000°; P -1.3000, Plg18.0000°, Azm58.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
PDG ***08*** *08:20:45.8±0.3, 34.67N×24.10E, h8km±11km, ML4.4/14 Error ellipse: s-maj=12.7km s-min=5.9km az=90.0*
DDA ***08*** *08:20:45.1, 34.76N×24.95E, h7km±3km, MW4.5*
IDC ***08*** *08:20:46.8±1.9, 34.76N×24.91E, h22km±11km, mb4.3/35, mb1 4.4/42, mb1mx4.3/59, mbtmp4.5/42, ML4.7/7, MS3.6/32, Ms1 3.6/32, ms1mx3.5/58, Error ellipse: s-maj=12.2km s-min=10.3km az=173.0*
NEIC ***08*** *08:20:46.4±2.2, 34.74N±0.04×24.89E±0.07, h17km±3km, mb4.8/107, ML4.8(ATH), Error ellipse: s-maj=8.4km s-min=6.4km az=83.0*
ISK ***08*** *08:20:46.5, 34.63N×24.82E, h27km, ML4.7/37*
ATH ***08*** *08:20:47.8, 34.80N×24.83E, h27km±1km, ML4.8/10, Error ellipse: s-maj=2.1km s-min=1.0km az=350.0*
THE ***08*** *08:20:48.2, 34.79N×24.84E, h13km±1km, ML4.8/18, Error ellipse: s-maj=1.6km s-min=0.6km az=357.0*
GII ***08*** *08:20:52.4±0.0, 34.55N×25.73E, h6km, mb4.6/3, MD4.5/3, Mm4.3/16*

ISC 08 08:20:47.4±0.5, 34.75N±0.03×24.84E±0.02, h26km±3km, h28km:pP-P, n728, σ2s10/784, mb4.7/118, MS3.7/29, 47C-27D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.27**	**355**	P	**Pb**	**08 20 53.8**	**-0.3**
SIVA				S	**Sb**	**08 20 57.5**	**-1.2**
	803µm,0.3s						
SIVA	**Sivas**	**0.27**	**355**	P	**Pb**	**08 20 54.1**	**0.0**
SIVA				S	**Sb**	**08 20 57.9**	**-0.7**
SIVA				AML	AML	08 20 58.3	
SIVA				AML	AML	08 20 59.1	
TMBK	**Timbaki Herakl**	**0.33**	**349**	P	**Pb**	**08 20 55.0**	**+0.1**
TMBK				S	**Sb**	**08 20 59.2**	**-0.9**
	205µm,0.4s						
IDI	**Anoyia**	**0.54**	**4**	Pg	**Pb**	**08 20 57.5**	**-0.8**
	2µm,0.3s,baz=195,slow=11,SNR=3002						
IDI				Lg	Lg	08 21 05.3	
	15µm,0.3s,baz=93,slow=23,SNR=66						
IDI				LR	LR	08 21 27.7	
	comp=Z,84µm,21.6s,baz=20,slow=77						
IDI	**Anoyia**	**0.54**	**4**	P	**Pb**	**08 20 57.6**	**-0.8**
IDI				S	**Sb**	**08 21 05.0**	**-0.8**
	178µm,0.5s						
IDI	**Anoyia**	**0.54**	**4**	P	**Pb**	**08 20 58.0**	**-0.3**
IDI				S	**Sb**	**08 21 05.1**	**-0.8**
IDI				AML	AML	08 21 08.2	
IDI				AML	AML	08 21 08.3	
IDI	**Anoyia**	**0.54**	**4**	Pg	**Pb**	**08 20 57.7**	**-0.7**
IDI				Sg	**Sb**	**08 21 04.9**	**-0.8**
KSTL	**Kastelli Herak**	**0.59**	**19**	P	**Pn**	**08 21 00.4**	**+0.4**
KSTL				S	**Sn**	**08 21 08.6**	**-0.1**
IACM	**Heraklion**	**0.59**	**19**	P	**Pb**	**08 20 59.5**	**+0.4**
IACM				S	**Sb**	**08 21 07.6**	**+0.5**
	468µm,0.4s						
IACM	**Heraklion**	**0.59**	**19**	P	**Pb**	**08 20 59.5**	**+0.4**
IACM				S	**Sb**	**08 21 08.0**	**+0.9**
HRKL	**Herakleio**	**0.60**	**21**	P	**Pb**	**08 20 59.8**	**+0.5**
HRKL				S	**Sb**	**08 21 07.3**	**-0.2**
	247µm,0.6s						
HRKL	**Herakleio**	**0.60**	**21**	PG	**Pn**	**08 21 01.5**	**+1.3**
GVDS	**Gavdos**	**0.62**	**279**	P	**Pn**	**08 21 00.4**	**-0.1**
GVDS				S	**Sn**	**08 21 10.2**	**+0.6**
	84µm,0.4s						
GVDS	**Gavdos**	**0.62**	**279**	PG	**Pn**	**08 21 00.2**	**-0.3**
GVDS				SG	**Sn**	**08 21 10.5**	**+0.9**
GVD	**Gavdhos**	**0.63**	**279**	P	**Pb**	**08 20 59.8**	**+0.1**
GVD				S	**Sn**	**08 21 09.3**	**-0.4**
	132µm,0.5s						
GVD	**Gavdhos**	**0.63**	**279**	P	**Pn**	**08 21 00.1**	**-0.4**
GVD				S	**Sn**	**08 21 09.3**	**-0.4**
GVD				AML	AML	08 21 17.3	
GVD				AML	AML	08 21 19.1	
GVD	**Gavdhos**	**0.63**	**279**	PG	**Pb**	**08 20 59.9**	**+0.2**
GVD				SG	**Sn**	**08 21 09.7**	**0.0**
LAST	**Lasithi**	**0.67**	**52**	P	**Pb**	**08 21 00.0**	**0.0**
LAST				S	**Sb**	**08 21 10.0**	**+0.6**
	50µm,0.5s						
LAST	**Lasithi**	**0.67**	**52**	P	**Pb**	**08 21 00.5**	**0.0**
LAST				S	**Sb**	**08 21 10.0**	**+0.6**
LAST				AML	AML	08 21 11.1	
	comp=E,98866µm,0.4s						
LAST				AML	AML	08 21 14.1	
	comp=N,88917µm,0.4s						
PRNS	**Prines Rethymn**	**0.68**	**336**	P	**Pb**	**08 21 00.4**	**-0.2**
PRNS				S	**Sb**	**08 21 09.9**	**+0.4**
NPS	**Neapolis**	**0.82**	**51**	P	**Pn**	**08 21 03.4**	**+0.2**
NPS				S	**Sn**	**08 21 14.4**	**0.0**
	comp=N,68µm,0.6s						
NPS	**Neapolis**	**0.82**	**51**	P	**Pn**	**08 21 03.2**	**+0.1**
NPS				S	**Sn**	**08 21 14.3**	**-0.1**
NPS				AML	AML	08 21 17.3	
NPS				AML	AML	08 21 22.4	
VAM	**Vamos**	**0.84**	**322**	P	**Pb**	**08 21 02.8**	**-0.6**
VAM				S	**Sn**	**08 21 15.8**	**+0.8**
	comp=N,75µm,0.7s						
VAM	**Vamos**	**0.84**	**322**	P	**Pb**	**08 21 03.2**	**-0.2**
VAM				S	**Sn**	**08 21 15.3**	**+0.3**
VAM				AML	AML	08 21 17.1	
VAM				AML	AML	08 21 20.4	
IMMV	**Iera Moni Meta**	**1.00**	**316**	P	**Pn**	**08 21 05.6**	**-0.1**
IMMV				S	**Sn**	**08 21 20.0**	**+1.0**
	comp=N,53µm,0.6s						
IMMV	**Iera Moni Meta**	**1.00**	**316**	P	**Pn**	**08 21 05.5**	**-0.2**
IMMV	**Iera Moni Meta**	**1.00**	**316**	PG	**Pn**	**08 21 05.5**	**-0.2**
IMMV				SG	**Sn**	**08 21 20.7**	**+1.7**
CHAN	**Chania**	**1.01**	**320**	P	**Pn**	**08 21 05.9**	**+0.1**
CHAN				S	**Sn**	**08 21 20.9**	**+1.8**
	comp=N,14µm,0.7s						
KNDR	**Palaiochora Ch**	**1.06**	**297**	P	**Pb**	**08 21 07.8**	**+0.7**
KNDR				S	**Sb**	**08 21 24.4**	**+3.8**
	comp=N,13µm,0.5s						
KNDR	**Palaiochora Ch**	**1.06**	**297**	PN	**Pb**	**08 21 07.4**	**+0.3**
STIA	**Sitia Lasithi**	**1.12**	**66**	P	**Pb**	**08 21 08.9**	**+0.8**
ZKR	**Zakros**	**1.19**	**72**	P	**Pb**	**08 21 09.4**	**+0.1**
ZKR	**Zakros**	**1.19**	**72**	P	**Pb**	**08 21 10.2**	**+1.0**
ZKR				S	**Sb**	**08 21 28.9**	**+4.6**
ZKR				AML	AML	08 21 32.9	
	comp=N,28376µm,0.5s						
ZKR				AML	AML	08 21 37.4	
	comp=E,45858µm,0.8s						
ZKR	**Zakros**	**1.19**	**72**	PN	**Pb**	**08 21 09.2**	**-0.1**
THR9	**Santorini-Faro**	**1.66**	**15**	P	**Pn**	**08 21 14.9**	**+0.1**
THR6	**Thira Island,**	**1.67**	**16**	P	**Pn**	**08 21 15.7**	**+0.8**
ANKY	**Antikythira Is**	**1.68**	**312**	P	**Pb**	**08 21 17.6**	**0.0**
ANKY				S	**Sb**	**08 21 38.9**	**+0.5**
	comp=E,13µm,0.7s						
SANT	**Santorini**	**1.70**	**17**	P	**Pb**	**08 21 16.9**	**-1.0**
SANT				S	**Sb**	**08 21 38.3**	**-0.5**
SANT				AML	AML	08 21 43.2	
	comp=E,33025µm,0.4s						
SANT				AML	AML	08 21 49.0	
	comp=N,11463µm,0.4s						
SANT	**Santorini**	**1.70**	**17**	⇑P	**Pb**	**08 21 19.6**	**+1.7**
SANT	**Santorini**	**1.70**	**17**	PN	**Pb**	**08 21 16.9**	**-1.0**
SANT	**Santorini**	**1.70**	**17**	*i* P	**Pb**	**08 21 16.9**	**-1.0**
SANT				*i* S	**Sb**	**08 21 39.7**	**+0.8**
SANT	**Santorini**	**1.70**	**17**	Pn	**Pn**	**08 21 16.6**	**+1.3**
THR5	**Thira Island,**	**1.72**	**14**	P	**Pn**	**08 21 16.0**	**+0.5**
SNT1	**Gialos, Santor**	**1.73**	**16**	P	**Pb**	**08 21 17.6**	**-0.9**
SAP3	**Santorini-Thir**	**1.73**	**14**	P	**Pb**	**08 21 17.8**	**-0.7**
SNT3	**Karterados, Sa**	**1.73**	**16**	P	**Pb**	**08 21 17.4**	**-1.1**
THR8	**Santorini-Mono**	**1.73**	**17**	P	**Pn**	**08 21 15.5**	**-0.3**
THT2	**Imerovigli**	**1.75**	**16**	P	**Pb**	**08 21 18.0**	**-0.8**
THT2	**Imerovigli**	**1.75**	**16**	PN	**Pb**	**08 21 17.6**	**-1.2**
SAP4	**Santorini-Oia**	**1.77**	**14**	P	**Pn**	**08 21 16.2**	**-0.1**
ANAF	**Anafi Island**	**1.78**	**25**	P	**Pb**	**08 21 18.1**	**-1.1**
ANAF				S	**Sb**	**08 21 40.4**	**-0.7**
	comp=N,41µm,0.5s						
ANAF	**Anafi Island**	**1.78**	**25**	P	**Pb**	**08 21 18.2**	**-1.1**
ANAF				S	**Sb**	**08 21 40.8**	**-0.3**
ANAF				AML	AML	08 21 46.2	
	comp=E,74363µm,0.5s						
ANAF				AML	AML	08 21 48.4	
	comp=N,93674µm,0.4s						
CMBO	**Columbo, Santo**	**1.78**	**15**	P	**Pb**	**08 21 18.2**	**-1.1**
MHLO	**Agia Marina, M**	**1.97**	**350**	P	**Pn**	**08 21 20.7**	**+1.7**
MHLO				S	**Sb**	**08 21 45.6**	**-1.1**
	comp=N,47µm,0.6s						
MHLO	**Agia Marina, M**	**1.97**	**350**	P	**Pb**	**08 21 21.2**	**-1.4**
IOSP	**Ios island**	**2.00**	**10**	P	**Pb**	**08 21 21.5**	**-1.6**
IOSP				S	**Sn**	**08 21 45.5**	**+1.8**
	comp=N,16µm,0.6s						
IOSP	**Ios island**	**2.00**	**10**	P	**Pn**	**08 21 21.2**	**+1.7**
IOSP				S	**Sn**	**08 21 45.6**	**+1.9**
IOSP				AML	AML	08 21 56.2	
	comp=N,33448µm,0.5s						
IOSP				AML	AML	08 21 56.5	
	comp=E,27933µm,0.7s						
KARP	**Karpathos**	**2.06**	**67**	P	**Pb**	**08 21 23.6**	**-0.6**
KARP	**Karpathos**	**2.06**	**67**	P	**Pb**	**08 21 24.0**	**-0.2**
KARP	**Karpathos**	**2.06**	**67**	PN	**Pn**	**08 21 21.2**	**+0.9**
KARP	**Karpathos**	**2.06**	**67**	⇑P	**Pb**	**08 21 22.6**	**-1.5**
KARP				S	**Sb**	**08 21 50.2**	**+0.8**
KARP				AML	AML	08 22 05.7	
	comp=E,19nm,0.7s						
KARP				AML	AML	08 22 05.7	
	comp=E,19nm,0.7s						
KARP				AML	AML	08 22 08.0	
	comp=E,24nm,0.7s						
KARP				AML	AML	08 22 08.0	
	comp=E,24nm,0.7s						
KARP	**Karpathos**	**2.06**	**67**	Pn	**Pb**	**08 21 23.6**	**-0.6**
KTHA	**Kythira Island**	**2.09**	**317**	P	**Pb**	**08 21 22.9**	**-1.7**
KTHA	**Kythira Island**	**2.09**	**317**	P	**Pb**	**08 21 23.3**	**-1.3**
KTHA	**Kythira Island**	**2.09**	**317**	PN	**Pb**	**08 21 22.6**	**-2.0**
AMGA	**Amorgos Island**	**2.25**	**22**	P	**Pn**	**08 21 24.1**	**+1.2**
AMGA				S	**Sn**	**08 21 51.7**	**+1.9**
	comp=E,8µm,0.5s						
AMGA	**Amorgos Island**	**2.25**	**22**	P	**Pn**	**08 21 24.7**	**+1.9**
APE	**Apeiranthos**	**2.38**	**13**	P	**Pn**	**08 21 25.9**	**+1.1**
APE	**Apeiranthos**	**2.38**	**13**	P	**Pn**	**08 21 26.3**	**+1.5**
APE	**Apeiranthos**	**2.38**	**13**	⇓P	**Pb**	**08 21 28.5**	**-1.2**
APE	**Apeiranthos**	**2.38**	**13**	PN	**Pn**	**08 21 26.5**	**+1.7**
APE	**Apeiranthos**	**2.38**	**13**	*i* P	**Pn**	**08 21 26.4**	**+1.5**
APE				*i* S	**Sn**	**08 21 55.8**	**+2.7**
APE	**Apeiranthos**	**2.38**	**13**	*c i*P	**Pn**	**08 21 26.2**	**+1.5**
SERI	**Serifos**	**2.42**	**353**	P	**Pn**	**08 21 26.9**	**+1.6**
VLI	**Veliai**	**2.50**	**322**	P	**Pn**	**08 21 27.8**	**+1.4**
VLI	**Veliai**	**2.50**	**322**	P	**Pn**	**08 21 27.7**	**+1.4**
KOSK	**Kos Island**	**2.65**	**40**	PN	**Pn**	**08 21 30.2**	**+1.8**
DAT	**Datca**	**2.98**	**48**	P	**Pn**	**08 21 34.7**	**+1.8**
DAT	**Datca**	**2.98**	**48**	PN	**Pn**	**08 21 34.8**	**+1.8**
DID	**Didima**	**3.04**	**335**	P	**Pn**	**08 21 35.2**	**+1.4**
ARG	**Arkhangelos**	**3.06**	**60**	P	**Pn**	**08 21 36.4**	**+2.5**
ARG	**Arkhangelos**	**3.06**	**60**	P	**Pn**	**08 21 36.4**	**+2.5**
ARG	**Arkhangelos**	**3.06**	**60**	PN	**Pn**	**08 21 35.8**	**+1.9**
ARG	**Arkhangelos**	**3.06**	**60**	⇑P	**Pn**	**08 21 36.6**	**+2.7**
ARG				S	**Sb**	**08 22 16.2**	**-1.7**
BODT	**Bodrum**	**3.06**	**40**	P	**Pn**	**08 21 34.9**

AGG Agios Georgios 4.72 335 Pn **Pn** 08 21 59.0 +2.2
AKUM Antalya-Kumluc 4.75 69 *i* P **Pn** 08 21 58.4 +1.2
MANT Manisa 4.78 38 *i* P **Pn** 08 22 01.1 +3.2
MANT Manisa 4.78 38 Pn **Pn** 08 22 00.2 +2.3
XOR Xorichti 4.79 345 P **Pn** 08 21 59.2 +1.3
KULA Kula-Manisa 4.86 38 P **Pn** 08 22 01.9 +3.1
KORT Korkueli 5.01 62 PN **Pn** 08 22 03.4 +2.5
KORT Korkueli 5.01 62 *i* P **Pn** 08 22 02.7 +1.8
KORT *i* S **Sn** 08 23 00.8 +2.8
STEP BALIKESIR_Sava 5.16 26 *i* P **Pn** 08 22 05.0 +2.1
BOZC Bozcaada 5.18 10 PN **Pn** 08 22 06.4 +3.3
ANTB Antalya 5.19 64 PN **Pn** 08 22 05.9 +2.7
EZN Ezine 5.21 13 PN **Pn** 08 22 06.8 +3.3
BASM Basmaki-Afyon 5.26 52 PN **Pn** 08 22 06.1 +1.7
BCK Bucak 5.38 58 PN **Pn** 08 22 08.9 +2.9
BALB Balikesir 5.45 26 PN **Pn** 08 22 10.5 +3.6
SIMA Simav-Kutahya 5.45 36 PN **Pn** 08 22 10.2 +3.2
OSC1 CSNet OBS 1 5.48 101 P **Pn** 08 22 05.0 -2.3
OSC1 S **Sn** 08 23 06.7 -2.8
GADA Gvkgeada 5.50 8 PN **Pn** 08 22 11.0 +3.5
SWA2 5.51 174 P **Pn** 08 22 07.9 +0.1
baz=172
SWA2 S **Sn** 08 23 06.2 -4.1
baz=172
ISP Isparta 5.52 55 PN **Pn** 08 22 10.0 +2.1
ISP Isparta 5.52 55 P **Pn** 08 22 09.4 +1.4
ISP Isparta 5.52 55 Pn **Pn** 08 22 09.3 +1.4
ISP Isparta 5.52 55 **Pn** 08 22 09.4 +1.4
OUR Ouranopolis 5.62 353 P **Pn** 08 22 11.2 +2.1
OUR Ouranopolis 5.62 353 PN **Pn** 08 22 12.1 +3.0
GEDZ Gediz 5.64 39 PN **Pn** 08 22 12.9 +3.4
LPK Lapseki 5.82 15 PN **Pn** 08 22 15.5 +3.6
HBRG Burj al `Arab 5.92 133 P **Pn** 08 22 13.7 +0.3
baz=132
HBRG AMP 08 23 00.0
baz=132
HBRG S **Sn** 08 23 18.2 -2.2
baz=132
SHUT Suhut-Afyon 5.96 49 PN **Pn** 08 22 16.2 +2.3
TVSB Tavsanli 5.97 37 PN **Pn** 08 22 17.4 +3.3
HORT Hortiatis 6.00 347 PN **Pn** 08 22 17.9 +3.4
THE Thessaloniki 6.06 346 P **Pn** 08 22 16.8 +1.6
ENEZ Enez 6.07 9 PN **Pn** 08 22 19.2 +3.9
AKMS Akamas 6.17 85 P **Pn** 08 22 16.1 -0.7
AKMS AML AML 08 23 27.4
comp=E,3.4nm,0.7s
AKMS AML AML 08 23 34.2
comp=E,2.6nm,0.7s
ALN Alexandroupoli 6.21 8 PN **Pn** 08 22 21.1 +3.8
ALN Alexandroupoli 6.21 8 P **Pn** 08 22 18.5 +1.2
ALN Alexandroupoli 6.21 8 Pn **Pn** 08 22 18.4 +1.2
MRMT Marmara Adasi 6.24 20 PN **Pn** 08 22 21.1 +3.3
MAR3 Marsite Statio 6.29 17 PN **Pn** 08 22 22.2 +3.8
MAR4 Marsite Statio 6.34 17 PN **Pn** 08 22 22.8 +3.7
NATA Nata 6.36 88 P **Pn** 08 22 18.9 -0.5
ALFC Alefka 6.38 84 ⇑P **Pn** 08 22 19.1 -0.7
OSC2 CSNet OBS 4 6.40 103 P **Pn** 08 22 17.4 -2.5
OSC2 S **Sn** 08 23 29.1 -2.9
AUBOZ BOZOYUK 6.61 37 PN **Pn** 08 22 26.2 +3.4
SZAC Souni 6.62 88 ⇑P **Pn** 08 22 22.4 -0.6
ARMT Armutlu 6.62 28 PN **Pn** 08 22 26.6 +3.6
CAVI Cavuskoy 6.74 35 PN **Pn** 08 22 28.2 +3.6
BORA Eskisehir 6.80 39 PN **Pn** 08 22 28.9 +3.4
VAY Valandovo 6.80 345 *e*Pn Pn 08 22 30.2 +4.8
ADVT Abdulvahap 6.88 33 PN **Pn** 08 22 29.9 +3.4
MMB Musomiste 6.89 353 *i* P **Pn** 08 22 29.1 +2.5
ASGA Asgata 6.92 87 P **Pn** 08 22 26.7 -0.3
RZN Rozhen 6.93 359 *i* P **Pn** 08 22 30.2 +2.9
CSS Mathiatis 6.98 86 Pn **Pn** 08 22 27.2 -0.7
CSS Mathiatis 6.98 86 ⇑P **Pn** 08 22 27.9 -0.1
CSS Mathiatis 6.98 86 Pn **Pn** 08 22 27.2 -0.7
KIZT Kizilcal 6.99 52 PN **Pn** 08 22 30.2 +2.1
SRCK Saricakaya, Es 7.01 39 PN **Pn** 08 22 31.6 +3.3
HMYD Mayadein 7.06 133 P **Pn** 08 22 28.9 -0.2
baz=132
HNAT Natroun 7.07 135 P **Pn** 08 22 28.8 -0.4
baz=133
HNAT AMP 08 23 00.0
baz=133
SVRH Sivrihisar-ESK 7.11 47 PN **Pn** 08 22 32.4 +2.7
OHR Ohrid 7.11 335 *e*Pn **Pn** 08 22 29.9 +0.2
MVOU Mavrovouni 7.23 85 ⇑P **Pn** 08 22 30.9 -0.5
KKB Krupnik 7.24 350 *i* P **Pn** 08 22 35.4 +4.0
STIP Stip 7.24 344 *e*Pn **Pn** 08 22 33.4 +2.0
DIM Dimitrovgrad 7.31 4 *i* P **Pn** 08 22 36.7 +4.3
SCTE Santa Cesarea 7.34 318 Pn **Pn** 08 22 33.1 +0.2
PLD Plovdiv 7.35 359 *i* P Pn 08 22 38.5 +5.6
MDUB Mudurnu 7.62 40 **Pn** 08 22 40.2 +3.5
HSAF As Saff 7.65 130 P **Pn** 08 22 36.7 -0.4
baz=129
TIR Tirane 7.67 331 ⇑P **Pn** 08 22 38.4 +1.1
HHAG Hagoal 7.78 126 P **Pn** 08 22 38.5 -0.4
baz=125
TIP Timpagrande 7.83 307 ⇑P **Pn** 08 22 38.8 -0.9
TIP Timpagrande 7.83 307 Pn **Pn** 08 22 39.3 -0.3
VTS Vitosha 7.96 351 ⇑P **Pn** 08 22 45.2 +3.7
VTS Vitosha 7.96 351 P **Pn** 08 22 45.1 +3.7
VTS Vitosha 7.96 351 Pn **Pn** 08 22 45.1 +3.7
VTS Vitosha 7.96 351 *i* P **Pn** 08 22 45.1 +3.7
CEL Celeste 8.01 299 Pn **Pn** 08 22 43.2 +1.2
BR231 Keskin MP Arra 8.11 49 **Pn** 08 22 46.1 +2.6
HFRF Wahat Farafira 8.14 158 P **Pn** 08 22 42.9 -0.9
baz=156
HFRF S **Sn** 08 24 07.8 -7.2
baz=156
SUZ Suez 8.35 124 P **Pn** 08 22 46.0 -0.6
baz=123
RSH 8.37 114 P **Pn** 08 22 44.7 -2.3
baz=114
ULC Ulcinj 8.44 330 ⇓*i* Pn **Pn** 08 22 47.5 -0.4
ULC *i* Sn **Sn** 08 24 18.5 -3.7
BR131 Keskin Array S 8.60 52 *d i* P **Pn** 08 22 51.7 +1.6
BR131 Keskin Array S 8.60 52 **Pn** 08 22 51.7 +1.5
BRTR Keskin Array B 8.60 52 Pn **Pn** 08 22 51.8 +1.6
comp=E,1.5nm,0.3s,baz=217,slow=12,SNR=22
BRTR LR LR 08 26 49.1
comp=E,622nm,20.2s,baz=216,slow=42
BRTR Keskin Array B 8.60 52 *i* P **Pn** 08 22 51.7 +1.6
BRTR pmax pmax
comp=Z,8.0nm,0.6s
DRME Dracevica, Mon 8.65 331 ⇑*i* Pn **Pn** 08 22 50.4 -0.3
DRME *i* Sn **Sn** 08 24 23.4 -4.0
DRME Dracevica, Mon 8.65 331 *e*Pn **Pn** 08 22 49.0 -1.7
PVY Plav 8.71 335 ⇓*i* Pn **Pn** 08 22 51.6 -0.1
PVY *i* Sn **Sn** 08 24 26.1 -3.0
MATE Matera 8.73 315 ⇓P **Pn** 08 22 51.2 -0.6
PDG Podgorica 8.83 332 ⇑P **Pn** 08 22 54.9 +1.7
PDG Podgorica 8.83 332 *e*Pn **Pn** 08 22 52.2 -1.0
PDG Podgorica 8.83 332 **Pn** 08 22 52.0 -1.1
TTG Podgorica 8.83 332 ⇓*i* Pn **Pn** 08 22 52.6 -0.6
TTG *i* Sn **Sn** 08 24 28.1 -3.6
BUM Brajici-Budva 8.86 330 ⇑*i* Pn **Pn** 08 22 53.1 -0.6
BUM *i* Sn **Sn** 08 24 28.8 -3.9
VAE Valguarnera 8.87 291 Pn **Pn** 08 22 55.6 +1.8
comp=Z,1.4nm,0.3s,baz=178,slow=10,SNR=1.5
VAE Sn **Sn** 08 24 29.6 -3.3
comp=Z,5.4nm,0.3s,baz=16,slow=13,SNR=1.5
VAE LR LR 08 27 44.7
comp=Z,149nm,18.0s,baz=96,slow=47
SLTI Sal'it 8.88 104 Pn **Pn** 08 22 51.6 -2.3
SLTI Sn **Sn** 08 24 25.8 -7.3
KZIT Kziot 8.91 113 Pn **Pn** 08 22 53.0 -1.3
DQRL Deir Qamar 8.95 94 *e*P **Pn** 08 22 55.6 +0.6
MMA0B Mount Meron ar 8.95 98 Pn **Pn** 08 22 53.2 -1.8
MMAI Mount Meron Ar 8.95 98 Pn **Pn** 08 22 52.9 -2.1
comp=Z,18nm,0.3s,baz=288,slow=12,SNR=24
MMAI Sn **Sn** 08 24 29.6 -5.4
comp=Z,27nm,0.3s,baz=258,slow=25,SNR=10
IVA Berane 8.98 336 ⇑*i* Pn **Pn** 08 22 56.8 +1.4
IVA *i* Sn **Sn** 08 24 32.7 -3.0
AMAZ Amatzia 9.04 108 Pn **Pn** 08 22 54.6 -1.5
AMAZ Sn **Sn** 08 24 29.6 -7.4
CEME Cevo 9.06 331 ⇑*i* Pn **Pn** 08 22 55.3 -1.1
CEME *i* Sn **Sn** 08 24 33.1 -4.4
KOME Kolasin 9.09 334 ⇑*i* Pn **Pn** 08 22 57.2 +0.3
KOME *i* Sn **Sn** 08 24 34.9 -3.5
GEM Giv'at Ha'Em 9.12 97 Pn **Pn** 08 22 55.4 -1.8
GEM Sn **Sn** 08 24 31.0 -8.0
MMLI Mount Malkishu 9.12 102 Pn **Pn** 08 22 55.8 -1.5
MMLI Sn **Sn** 08 24 32.7 -6.5
HCY Herceg Novi 9.15 329 ⇑*i* Pn **Pn** 08 22 57.0 -0.6
HCY *i* Sn **Sn** 08 24 34.8 -4.9

HCY Herceg Novi 9.15 329 *e*Pn **Pn** 08 22 53.6 -4.0
NATI Neve Ativ 9.17 96 Pn **Pn** 08 22 56.4 -1.5
HWQ Hawqa 9.18 90 *e*P **Pn** 08 22 57.3 -0.9
RCY Rachaya 9.20 95 *e*P **Pn** 08 22 56.2 -2.3
NKME Niksic 9.23 332 ⇓*i* Pn **Pn** 08 22 58.3 -0.5
NKME *i* Sn **Sn** 08 24 36.3 -5.4
NKY Niksic 9.25 332 ⇑*i* Pn **Pn** 08 22 58.3 -0.8
NKY *i* Sn **Sn** 08 24 37.5 -4.9
YTIR Yattir 9.26 109 Pn **Pn** 08 22 57.8 -1.5
YTIR Sn **Sn** 08 24 36.2 -6.4
HMDT Nahal Hemdat 9.26 103 Pn **Pn** 08 22 57.3 -1.9
DSI Dead Sea 9.39 107 Pn **Pn** 08 22 58.8 -2.1
ILGA Ilgaz 9.42 45 Pn **Pn** 08 23 02.0 +0.5
TREB Trebinje 9.43 329 *e*Pn **Pn** 08 22 58.8 -2.7
DBRK Dubrovnik 9.48 329 *e*Pn **Pn** 08 23 01.0 -1.1
DBRK Sn **Sn** 08 24 34.8 -13
BRY Bratogost 9.51 331 ⇑*i* Pn **Pn** 08 23 01.8 -0.8
BRY *i* Sn **Sn** 08 24 42.1 -6.6
BRY Bratogost 9.51 331 *e*Pn **Pn** 08 23 00.8 -1.8
KRMI Paran Flat 9.54 116 Pn **Pn** 08 23 01.6 -1.5
PLE Pljevlja 9.56 335 ⇑*i* Pn **Pn** 08 23 02.7 -0.6
PLE *i* Sn **Sn** 08 24 46.6 -3.3
UPM Unac-Piva 9.62 333 ⇓*i* Pn **Pn** 08 23 02.9 -1.3
UPM *i* Sn **Sn** 08 24 47.2 -4.3
UPM Unac-Piva 9.62 333 *e*Pn **Pn** 08 23 02.0 -2.2
PRNI Paran 9.63 114 Pn **Pn** 08 23 03.0 -1.3
PRNI Sn **Sn** 08 24 44.4 -7.3
GHAJ Ghor Haditha 9.64 108 Pn **Pn** 08 23 03.7 -0.6
ZFRI Zfri 9.66 113 Pn **Pn** 08 23 03.1 -1.6
HUMR Humele 9.77 1 ⇑P **Pn** 08 23 10.8 +4.7
HRFI Mount Harif 9.82 116 Pn **Pn** 08 23 06.0 -0.8
HRFI Sn **Sn** 08 24 49.8 -6.4
RUDO Rudo 9.82 336 *e*Pn **Pn** 08 23 02.9 -3.9
CORL Corleone 9.82 292 Pn **Pn** 08 23 08.7 +1.8
STON Ston 9.84 328 *e*Pn **Pn** 08 23 03.2 -3.8
STON Sn Sn 08 24 45.4 -11
MBRI Mt Berech 9.85 117 Pn **Pn** 08 23 06.7 -0.7
EIL Elat 9.95 118 Pn **Pn** 08 23 07.4 -1.2
comp=Z,19nm,0.3s,baz=264,slow=2.1,SNR=75
EIL Sn **Sn** 08 24 51.9 -7.5
comp=Z,7.7nm,0.3s,baz=198,slow=20,SNR=2.1
EIL Elat 9.95 118 Pn **Pn** 08 23 07.4 -1.2
HDK1 Dakhla 9.99 156 P **Pn** 08 23 08.2 -1.0
baz=154
AQBJ Aqaba 9.99 117 Pn **Pn** 08 23 08.5 -0.7
SGRT San Giovanni R 10.00 317 **Pn** 08 23 09.8 +0.5
BBLS Lazići 10.03 337 *e*Pn **Pn** 08 23 06.9 -2.8
HBST Basata 10.05 121 S Sn 08 24 51.8 -10
baz=120
DIVS Divibare 10.06 340 *e*Pn **Pn** 08 23 09.4 -0.8
DIVS Divibare 10.06 340 Pn **Pn** 08 23 09.6 -0.6
TIRR Tirgusor 10.08 15 ⇓P Pn 08 23 15.6 +5.3
TIRR Tirgusor 10.08 15 ⇓P Pn 08 23 15.6 +5.3
PAOL Paolisi 10.25 311 Pn **Pn** 08 23 14.7 +1.9
TR1 Tor 1 10.28 128 P **Pn** 08 23 11.7 -1.5
baz=127
HERR Herculane 10.29 350 ⇓P **Pn** 08 23 16.4 +3.2
MDVR Moldovita 10.30 347 ⇓P **Pn** 08 23 17.0 +3.6
GAZ Gaziantep 10.32 73 Pn **Pn** 08 23 14.6 +0.9
ASF Jabal al Asfar 10.39 101 Pn **Pn** 08 23 13.1 -1.7
comp=Z,1.4nm,0.3s,baz=234,slow=17,SNR=18
ASF Sn **Sn** 08 25 06.1 -4.3
comp=Z,2.8nm,0.3s,baz=311,slow=23,SNR=6.1
ISR Istrita 10.44 7 ⇑P **Pn** 08 23 20.0 +4.6
MAKA Makarska 10.47 327 *e*Pn **Pn** 08 23 15.0 -0.6
MAKA Sn Sn 08 24 59.4 -13
TOPG Topolog 10.47 14 ⇑P Pn 08 23 22.2 +6.5
RICI Ricice 10.58 328 *e*Pn **Pn** 08 23 15.5 -1.8
RICI Sn Sn 08 25 04.5 -10
ARR Arges 10.61 359 ⇑P Pn 08 23 22.6 +4.9
HVAR Hvar 10.65 325 *e*Pn **Pn** 08 23 15.5 -2.7
HVAR Sn Sn 08 25 00.7 -16
VOIR 10.68 1 ⇑P **Pn** 08 23 22.9 +4.2
DIKM Dikmen 10.70 47 ⇑P Pn 08 23 24.9 +6.0
CFR Carcaliu 10.72 13 ⇑P Pn 08 23 24.8 +5.7
LOT Lotru 10.72 356 ⇓P **Pn** 08 23 23.5 +4.3
NEHR Nehoiu 10.72 6 ⇑P Pn 08 23 24.4 +5.2
MLR Muntele Rosu 10.76 4 Pn Pn 08 23 25.2 +5.4
comp=Z,0.5nm,0.3s,baz=189,slow=7.6,SNR=9.5
MLR Muntele Rosu 10.76 4 ⇑P **Pn** 08 23 23.8 +4.0
MLR Muntele Rosu 10.76 4 P **Pn** 08 23 24.3 +4.5
MLR Muntele Rosu 10.76 4 **Pn** 08 23 24.3 +4.5
BZS Buzias 11.13 348 ⇑P **Pn** 08 23 28.9 +4.2
PLOR Plostina 11.18 7 ⇑P **Pn** 08 23 29.9 +4.5
VRI Vrincioaia 11.20 7 ⇓P Pn 08 23 31.0 +5.4
DOPR Dopca 11.21 2 ⇑P **Pn** 08 23 30.6 +4.7
DEV Deva 11.22 353 ⇑P **Pn** 08 23 30.4 +4.5
INTR Introdacqua 11.23 313 Pn **Pn** 08 23 27.6 +1.5
OZUR 11.36 3 ⇓P Pn 08 23 33.4 +5.5
ZIRJ Zirje 11.39 324 *e*Pn **Pn** 08 23 26.5 -1.8
ZIRJ Sn Sn 08 25 22.8 -12
MORI Morici 11.52 325 *e*Pn **Pn** 08 23 28.5 -1.5
MORI Sn Sn 08 25 27.4 -10
BLY Banja Luka 11.59 332 *e*Pn Pn 08 23 26.0 -5.0
SIRR Siria 11.76 349 ⇓P **Pn** 08 23 36.7 +3.4
TESR Tescani 11.83 6 ⇑P Pn 08 23 39.4 +5.0
DUGI Dugi Otok 11.93 324 *e*Pn **Pn** 08 23 34.6 -1.1
DUGI Sn **Sn** 08 25 39.3 -8.5
NRCA Norcia 12.19 315 **Pn** 08 23 41.4 +2.0
ARCR ARCALIA 12.33 358 ⇑P **Pn** 08 23 45.9 +4.8
MORH Mrgy, Hungar 12.38 340 *e*Pn Pn 08 23 36.7 -5.1
NVLJ Novalja 12.44 325 *e*Pn **Pn** 08 23 42.2 -0.4
NVLJ Sn **Sn** 08 25 52.1 -8.3
KEST Kesra 12.71 279 Pn **Pn** 08 23 50.8 +4.4
comp=Z,0.4nm,0.3s,baz=187,slow=3.6,SNR=4.0
MURB Monte Urbino 12.80 315 Pn **Pn** 08 23 49.3 +1.7
BURAR Bucovina Array 12.86 1 ⇑P **Pn** 08 23 52.0 +3.6
BURAR Bucovina Array 12.86 1 **Pn** 08 23 52.1 +3.6
BUR08 Bucovina Ar. S 12.89 1 Pn **Pn** 08 23 52.9 +4.1
BOJS Bojanci 13.00 329 *e*Pn **Pn** 08 23 48.0 -2.2
CRES Cresnjev 13.17 330 *i* Pn **Pn** 08 23 51.0 -1.6
CRES Cresnjev 13.17 330 *e*Pn **Pn** 08 23 50.7 -1.9
CEY Cerknica 13.54 327 *e*Pn **Pn** 08 23 55.4 -2.3
SORM Soroca 13.63 10 ⇑P **P** 08 24 04.0 -3.4
ANN Anapa 13.93 40 *e*P **Pn** 08 24 02.8 -0.2
ANN *e*S **Sn** 08 26 40.8 +4.1
ANN pmax pmax
comp=Z,10.0nm,0.6s
PERS Pernice 13.96 331 *e*Pn **Pn** 08 24 00.2 -3.3
UZH Uzhgorod 14.00 353 *e*P **Pn** 08 24 04.6 +0.7
UZH *e*S **Sn** 08 26 40.6 +2.3
UZH MLR MLR
comp=N,70nm,12.0s
UZH MLR MLR
comp=E,80nm,12.0s
UZH MLR MLR
comp=Z,70nm,12.0s
SOKA Soboth 14.03 331 *e*Pn **Pn** 08 24 04.6 +0.1
comp=Z,3.8nm,0.7s
OBKA Obir 14.09 330 *e*Pn **Pn** 08 24 05.0 -0.3
comp=Z,4.3nm,0.6s
ARSA Arzberg 14.32 334 *e*Pn **Pn** 08 24 08.0 -0.3
comp=Z,1.4nm,0.5s
ZCCA Zocca 14.35 316 P **P** 08 24 17.2 +1.7
VYHS Vyhne 14.44 344 *e*P **P** 08 24 16.7 +0.2
VYHS Vyhne 14.44 344 *e*PN **P** 08 24 16.7 +0.2
PRED Cave del Predi 14.47 327 **Pn** 08 24 09.3 -1.1
MYKA Terra Mystica 14.58 328 *e*Pn **Pn** 08 24 12.6 +0.7
comp=Z,1.8nm,0.4s
STAL STALIGIAL 14.72 325 **Pn** 08 24 15.9 +2.1
MODS Modra-Piesok 14.73 340 *e*P **P** 08 24 22.0 +2.3
MODS Modra-Piesok 14.73 340 *e*PN **P** 08 24 22.0 +2.3
CONA Conrad Observa 14.78 336 *e*Pn **Pn** 08 24 16.0 +1.4
comp=Z,0.7nm,0.5s
ZOU Zoufplan 14.82 326 **Pn** 08 24 14.2 -1.1
CIMO Cimolais 14.89 325 **Pn** 08 24 15.5 -0.5
BATM Batumi 14.91 58 ⇑P **P** 08 24 20.2 -1.5
PRMA PARMA 14.97 316 P **P** 08 24 20.9 -1.4
KBA Koelnbreinsper 15.05 328 *e*Pn **Pn** 08 24 18.4 0.0
comp=Z,1.7nm,0.4s
JAVC Velka Javorina 15.07 342 *e*PN **Pn** 08 24 20.4 +2.0
CTI Castel Tesino 15.09 322 P **Pn** 08 24 16.0 -2.8
CTI pmax pmax
comp=Z,18nm,0.7s
CTI Castel Tesino 15.09 322 Pn **Pn** 08 24 16.0 -2.8
ABTA Abfaltersbach 15.17 326 *e*Pn **Pn** 08 24 19.7 -0.2
comp=Z,9.1nm,0.5s
MSSA Maissana 15.18 314 P **P** 08 24 23.5 -1.3
MOA Molln 15.29 332 *e*Pn **Pn** 08 24 22.9 +1.5
comp=Z,1.2nm,0.6s,SNR=12
SALO Salr 15.39 319 P **P** 08 24 26.9 -0.2
KRUC Moravsky 15.61 339 *e*PN **P** 08 24 28.3 -1.1

VRAC Vranov 15.77 340 Pn **Pn** 08 24 29.0 +1.4
comp=Z,0.9nm,0.3s,baz=149,slow=6.6,SNR=4.8
VRAC LR LR 08 31 17.3
comp=Z,225nm,18.1s,baz=160,slow=40
VRAC Vranov 15.77 340 *e*PN **P** 08 24 30.3 -0.9
VRAC Vranov 15.77 340 P **Pn** 08 24 29.0 +1.4
MORC Moravsky Berou 15.95 343 ⇓P **P** 08 24 33.1 -0.1
MORC Moravsky Berou 15.95 343 *e*PN **P** 08 24 32.9 -0.3
WTTA Wattenberg 15.96 326 *e*Pn **Pn** 08 24 28.9 -1.3
comp=Z,4.7nm,0.5s
WATA Walderalm 16.04 326 *e*Pn **Pn** 08 24 30.3 -0.8
comp=Z,4.9nm,0.6s
TREC Trest 16.09 337 AMS AMS 08 31 50.0
comp=Z,300nm,11.1s
AKH Akhalkalaki 16.11 60 ⇓P **P** 08 24 34.2 -1.0
AKH Akhalkalaki 16.11 60 P **P** 08 24 33.8 -1.4
AKH pmax pmax
comp=Z,23nm,1.0s
AKH Akhalkalaki 16.11 60 P **P** 08 24 33.8 -1.4
SQTA Sankt Quirin 16.13 325 *e*Pn **Pn** 08 24 30.7 -1.6
comp=Z,9.1nm,0.6s
FUORN Ofenpass-Fuorn 16.18 322 P **P** 08 24 37.5 +1.4
FUORN IAmb IAmb 08 24 50.0
comp=Z,59nm,0.8s
FETA Feichten 16.22 323 *e*P **P** 08 24 35.9 -0.5
comp=Z,12nm,1.0s,SNR=20
AKASG Malin Array Be 16.26 10 Pn **Pn** 08 24 34.9 +1.1
comp=Z,14nm,0.3s,baz=201,slow=11,SNR=32
AKASG Sn **Sn** 08 27 38.4 +5.1
baz=193,slow=21,SNR=5.1
AKASG Malin Array Be 16.26 10 P **Pn** 08 24 34.0 +0.2
AKASG pmax pmax
comp=Z,12nm,0.9s
AKASG Malin Array Be 16.26 10 P **Pn** 08 24 34.0 +0.2
AKBB Malin Array Si 16.26 10 *c i* P **Pn** 08 24 35.2 +1.4
AKBB Malin Array Si 16.26 10 P **Pn** 08 24 34.6 +0.8
AKBB IAmb IAmb 08 24 42.7
comp=Z,42nm,0.8s
NEY Neytrino 16.27 53 ⇑*i* P **P** 08 24 37.1 +0.1
MOTA Moosalm 16.27 325 *e*Pn **Pn** 08 24 34.1 0.0
comp=Z,14nm,0.8s,SNR=6.0
GEC2 GERESS Array S 16.32 333 *e*P **P** 08 24 38.0 +0.5
baz=139,slow=11
GEC2 GERESS Array S 16.32 333 P **Pn** 08 24 35.9 +1.1
GEC2 IAmb IAmb 08 24 53.7
comp=Z,35nm,0.7s
GERES GERESS Array B 16.32 333 Pn **Pn** 08 24 35.1 +0.4
comp=Z,2.3nm,0.3s,baz=146,slow=13,SNR=55
GERES LR LR 08 31 07.1
comp=Z,139nm,21.8s,baz=138,slow=38
GERES GERESS Array B 16.32 333 P **P** 08 24 36.4 -1.1
KRLC Kraliky 16.42 341 *e*P **P** 08 24 37.9 -0.5
KRLC MLR MLR
comp=Z,400nm,13.5s
KRLC Kraliky 16.42 341 *e*P **P** 08 24 37.9 -0.5
KRLC *e*pP **pP** 08 24 44.4 -1.2
KRLC AMS AMS 08 32 00.0
comp=Z,400nm,13.5s
DAVOX Davos/Dischmat 16.48 321 Pn **P** 08 24 39.9 +0.5
comp=Z,1.0nm,0.3s,baz=134,slow=20,SNR=8.5
DAVOX LR LR 08 32 47.4
comp=Z,246nm,18.5s,baz=110,slow=44
RETA Reutte 16.53 325 *e*Pn **Pn** 08 24 36.8 -0.6
comp=Z,9.8nm,0.7s
KIV Kislovodsk 16.56 51 ⇓P **P** 08 24 41.6 +1.5
KIV Kislovodsk 16.56 51 *i* P **P** 08 24 41.4 +1.3
SNR=14
KIV Kislovodsk 16.56 51 *e*P **P** 08 24 41.2 +1.1
KIV *e*S **S** 08 27 48.9 -3.0
KIV pmax pmax
comp=Z,248nm,1.1s
KIV MLR MLR
comp=Z,288nm,13.0s
KIV Kislovodsk 16.56 51 P **P** 08 24 41.0 +0.9
KIV IAmb IAmb 08 24 42.9
comp=Z,110nm,1.2s
KVAR Kislovodsk Arr 16.56 51 Pn **P** 08 24 42.4 +2.2
baz=270,slow=20,SNR=5.5
TUE Stuetta 16.56 320 P **P** 08 24 40.8 +0.5
KBZ Khabaz 16.59 52 Pn **P** 08 24 40.4 +0.1
comp=Z,1.9nm,0.3s,baz=271,slow=5.5,SNR=110
KBZ LR LR 08 32 20.4
comp=Z,183nm,21.6s,baz=248,slow=42
KBZ Khabaz 16.59 52 ⇑*i* P **P** 08 24 40.6 +0.3
KHC Kasperske Hory 16.61 333 ⇑*i* P **P** 08 24 41.8 +1.3
KHC pmax pmax
comp=Z,26nm,0.6s
KHC Kasperske Hory 16.61 333 *e*P **Pn** 08 24 38.5 +0.2
KHC *ex* x 08 24 41.6
KHC *ex* x 08 25 24.5
KHC AMS AMS 08 31 50.0
comp=Z,500nm,13.3s
KHC Kasperske Hory 16.61 333 P **Pn** 08 24 39.0 +0.7
DPC Dobruska-Polom 16.79 341 *e*P **P** 08 24 42.5 -0.1
DPC MLR MLR
comp=Z,200nm,18.2s
DPC Dobruska-Polom 16.79 341 *e*P **P** 08 24 42.5 -0.1
DPC *e*pP **pP** 08 24 47.0 -2.7
DPC AMS AMS 08 31 30.0
comp=Z,200nm,18.2s
DAVA Damuels 16.82 323 *e*Pn **Pn** 08 24 41.5 +0.3
comp=Z,6.9nm,0.9s
GOPC GO Pecny, Ondr 16.86 337 *e*P **P** 08 24 49.5 +6.2
GOPC MLR MLR
comp=Z,300nm,10.5s
GOPC GO Pecny, Ondr 16.86 337 *e*pP **P** 08 24 49.5 +6.2
GOPC AMS AMS 08 32 20.0
comp=Z,300nm,10.5s
ZEI Tsey 16.87 56 *e*P **Pn** 08 24 42.3 +0.5
ZEI pmax pmax
comp=Z,24nm,0.6s
WET Wettzell 16.88 332 *e*P **P** 08 24 43.6 0.0
baz=139,slow=11
PBCC Pribram 16.92 335 *e*P **P** 08 24 50.1 +6.1
UBER Ueberruh 16.98 324 *e*P **P** 08 24 46.3 +1.6
baz=139,slow=11
PRU Pruhonice 17.00 337 *e*P **Pn** 08 24 43.9 +0.8
PRU MLR MLR
comp=Z,200nm,14.1s
PRU Pruhonice 17.00 337 *e*P **Pn** 08 24 43.9 +0.8
PRU AMS AMS 08 32 20.0
comp=Z,200nm,14.1s
UPC Upice 17.02 340 AMS AMS 08 32 20.0
comp=Z,300nm,12.8s
CHVC Chvalec 17.08 341 AMS AMS 08 31 30.0
comp=Z,200nm,13.9s
TBLG Delisi 17.10 60 P **P** 08 24 47.6 +1.6
TBLG pmax pmax
comp=Z,19nm,0.6s
TBLG Delisi 17.10 60 P **P** 08 24 47.6 +1.6
PRA Prague 17.10 337 AMS AMS 08 32 30.0
comp=Z,100nm,11.9s
BNI Bardonecchia 17.29 312 P **P** 08 24 50.5 +2.3
BNI pmax pmax
comp=Z,11nm,0.9s
BNI Bardonecchia 17.29 312 P **P** 08 24 50.5 +2.3
GOF Gofitskoye 17.32 48 ⇑*e*P **P** 08 24 50.3 +1.9
GOF pmax pmax
comp=Z,130nm,0.9s
PVCC Panska Ves 17.46 338 AMS AMS 08 32 30.0
comp=Z,200nm,11.6s
SENIN Lac Senin/Sane 17.63 316 P **P** 08 24 52.3 +0.3
NKC Novy Kostel 17.93 333 *e*P **P** 08 24 56.9 +1.7
NKC MLR MLR
comp=Z,500nm,13.2s
NKC Novy Kostel 17.93 333 *e*P **P** 08 24 56.9 +1.7
NKC AMS AMS 08 32 40.0
comp=Z,500nm,13.2s
BRG Berggiesshubel 17.96 337 *e*(P) **P** 08 24 56.0 +0.6
comp=Z,10nm,0.9s
GRA1 Grafenberg Arr 17.98 330 P **P** 08 24 56.4 +0.7
GRA1 IAmb IAmb 08 25 04.2
comp=Z,60nm,1.0s
GRF Grafenberg Arr 17.98 330 P **P** 08 24 56.4 +0.7
GRF pmax pmax
comp=Z,60nm,1.0s
GRF Grafenberg Arr 17.98 330 *e*P **P** 08 24 57.6 +2.0
baz=139,slow=11
GRF *e*L L 08 34 05.7
comp=Z,170nm,18.3s
TANN Tannenbergstha 18.08 334 *e*P **P** 08 24 58.6 +1.9
baz=139,slow=11
GUNZ Gunzen 18.08 333 *e*P **P** 08 24 58.6 +1.8
baz=139,slow=11
BFO Black Forest 18.30 323 P **Pn** 08 25 00.1 +0.8
BFO pmax pmax

BFO **Black Forest** 18.30 323 *e*P Pn 08 25 00.8 +1.5
comp=Z,24nm,1.3s baz=139,slow=11
BFO **Black Forest** 18.30 323 P Pn 08 25 00.1 +0.8
GROC **Groznyy** 18.32 56 *e*P Pn 08 25 02.2 +2.7
GROC pmax pmax
comp=Z,47nm,1.0s
BTLR **Botlikh** 18.43 58⇓*i*P Pn 08 25 03.3 +2.3
BTLR pmax pmax
comp=Z,27nm,0.8s
MOX **Moxa** 18.58 333 *e*L L 08 33 49.5
comp=Z,223nm,18.2s
CLL **Collm** 18.64 336 *e*P Pn 08 25 04.0 +0.7
comp=Z,10.0nm,0.8s
CLL *e*(sP) **sP** 08 25 13.0 +0.1
CLL *e*(S) **Sn** 08 28 24.0 -6.8
CLL LmV 08 32 00.0
comp=Z,200nm,21.2s
CLL **Collm** 18.64 336 *e*P Pn 08 25 04.0 +0.7
CLL *e*S **Sn** 08 28 24.0 -6.8
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL **Collm** 18.64 336 P Pn 08 25 03.5 +0.2
SSB **Saint Sauveur** 18.72 310 P Pn 08 25 04.3 -0.1
SSB pmax pmax
comp=Z,8.0nm,0.9s
SSB **Saint Sauveur** 18.72 310 P Pn 08 25 04.3 -0.1
ECH **Echery** 18.82 321 P P 08 25 04.6 -0.4
ECH pmax pmax
comp=Z,12nm,0.8s
ECH **Echery** 18.82 321 P P 08 25 04.6 -0.4
AKT **Akhty** 19.20 63 *e*P Pn 08 25 10.9 +0.6
AKT pmax pmax
comp=Z,13nm,0.4s
SUW **Suwalki** 19.30 357 P P 08 25 09.6 -0.4
SUW pmax pmax
comp=Z,110nm,1.0s
SUW **Suwalki** 19.30 357 P P 08 25 09.6 -0.4
VORD **Divnogorie** 19.31 29 *e*P Pn 08 25 14.8 +3.5
VORD pmax pmax
comp=Z,10.0nm,0.7s
MAK **Makhachkala** 19.42 58 *e*P P 08 25 07.6 -3.9
MAK *e*S S 08 28 48.8 -0.7
MAK pmax pmax
comp=Z,146nm,0.6s
MAK MLR MLR
comp=Z,100nm,20.0s
VSR **Storozhevoye** 19.45 28 *e*P Pn 08 25 14.2 +1.1
VSR pmax pmax
comp=Z,9.0nm,0.4s
WLF **Walferdange** 20.26 323 P P 08 25 21.4 +0.8
WLF pP sP 08 25 31.7 +1.1
WLF **Walferdange** 20.26 323 P P 08 25 19.0 -1.6
WLF pmax pmax
comp=Z,23nm,0.8s
WLF **Walferdange** 20.26 323 P P 08 25 19.0 -1.6
WLF IAmb IAmb 08 25 29.9
comp=Z,23nm,0.8s
LPSR **Galich'ya Gora** 20.48 25 *e*P P 08 25 22.0 -1.0
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VRH **Novokhopyorsk** 20.49 31 *e*P Pn 08 25 24.7 -0.6
VRH pmax pmax
comp=Z,40nm,0.6s
NRDL **Niedersach Rie** 20.63 334 *e*P P 08 25 25.5 +1.0
baz=139,slow=11
TAM **Tamanrasset** 20.66 240 P Pn 08 25 27.4 -0.4
TAM pmax pmax
comp=Z,8.0nm,0.9s
TAM **Tamanrasset** 20.66 240 P Pn 08 25 27.4 -0.4
BHOU **Houvegnez** 20.78 324 P Pn 08 25 27.9 -0.9
BHOU x x 08 25 31.3
MEM **Membach** 20.95 325 P P 08 25 29.1 +1.0
MEM x x 08 25 30.1
MEM pPn **sP** 08 25 40.0 +1.6
BSTI **Sart Tilman** 21.14 324 P P 08 25 31.6 +1.4
BCLA **Clavier** 21.16 324 P P 08 25 30.3 -0.1
BCLA x x 08 25 36.2
DOU **Dourbes** 21.31 322 P P 08 25 32.2 +0.3
comp=Z,51nm,0.8s
BMRD **Maredsous** 21.35 323 P P 08 25 32.4 0.0
CLF **Chambon-Foret** 21.42 315 P P 08 25 34.4 +1.3
CLF IAmb IAmb 08 25 45.2
comp=Z,32nm,1.0s
BSD **Bornholm Skovb** 21.50 344 *i*P P 08 25 32.8 -1.1
BSD **Bornholm Skovb** 21.50 344 *i*P P 08 25 32.8 -1.1
SNF **Seneffe** 21.73 323 P P 08 25 36.7 +0.3
SNF pP **pwP** 08 25 45.6 +0.1
UCC **Uccle** 21.87 323 P P 08 25 39.2 +1.2
UCC pmax pmax
comp=Z,37nm,0.8s
UCC **Uccle** 21.87 323 P P 08 25 39.2 +1.2
UCC IAmb IAmb 08 25 49.9
comp=Z,37nm,0.8s
OBN **Obninsk** 21.93 18 P P 08 25 38.5 -0.1
comp=Z,11nm,0.4s,baz=203,slow=1.2,SNR=5.6
OBN LR LR 08 34 20.8
comp=Z,37nm,21.3s,baz=185,slow=37
OBN **Obninsk** 21.93 18*de*P P 08 25 38.9 +0.3
OBN *e* 08 26 03.8
OBN pmax pmax
comp=Z,27nm,0.5s
OBN MLR MLR
comp=Z,122nm,19.0s
OBN **Obninsk** 21.93 18 P P 08 25 38.6 +0.1
MOS **Moscow** 22.77 19 *e*P P 08 25 44.3 -3.2
MOS *e* 08 26 22.5
MOS *e*S **S** 08 29 49.3 -5.3
MOS *e* 08 29 59.7
MOS pmax pmax
comp=Z,31nm,0.9s
ESDC **Sonseca Array** 23.41 291 P P 08 25 54.4 +0.2
comp=Z,5.8nm,0.8s,baz=82,slow=8.1,SNR=39
ESDC LR LR 08 36 13.7
comp=Z,71nm,19.0s,baz=70,slow=40
PAB **San Pablo** 23.70 290 P P 08 25 56.6 -0.5
PAB pmax pmax
comp=Z,20nm,1.1s
PAB **San Pablo** 23.70 290 P P 08 25 56.6 -0.5
PAB IAmb IAmb 08 26 14.2
comp=Z,20nm,1.1s
MUD **Monsted U'grnd** 24.20 339 *i*P P 08 26 08.0 +6.5
MUD **Monsted U'grnd** 24.20 339 *i*P P 08 26 08.0 +6.5
MDT **Midelt** 24.52 274 P P 08 26 05.3 +0.5
comp=Z,2.5nm,0.6s,baz=100,slow=9.3,SNR=6.6
MDT LR LR 08 36 56.1
comp=Z,108nm,21.8s,baz=95,slow=40
PBRG **Braganca** 25.67 295 *e*P P 08 26 16.1 +1.0
comp=Z,24nm,1.0s
MVO **Moncorvo** 25.84 294 *e*P P 08 26 18.1 +1.5
comp=Z,33nm,1.0s
HOMB **Homborsund** 25.93 340 *e*P P 08 26 15.8 -1.3
PMRV **Marv??o** 26.05 290 *e*P P 08 26 20.9 +2.4
comp=Z,38nm,1.1s
PCBR **Castelo Branco** 26.12 291 *e*P P 08 26 21.5 +2.4
comp=Z,26nm,1.1s
MTE **Manteigas** 26.19 292 *e*P P 08 26 21.9 +2.1
comp=Z,23nm,1.0s
MTE **Manteigas** 26.19 292 P P 08 26 20.7 +0.9
MTE IAmb IAmb 08 26 30.9
comp=Z,11nm,0.8s
SNART **Snartemo** 26.37 339 *e*P P 08 26 21.4 +0.3
PVAQ **Vaqueiros** 26.38 285 *e*P P 08 26 22.2 +0.7
comp=Z,36nm,1.9s
PVAQ **Vaqueiros** 26.38 285 P P 08 26 22.6 +1.2
PVAQ IAmb IAmb 08 26 34.9
comp=Z,24nm,0.9s
PBEJ **Beja** 26.46 287 *e*P P 08 26 25.0 +2.8
comp=Z,29nm,0.9s
PVIS **Viseu** 26.47 293 *e*P P 08 26 25.5 +3.2
comp=Z,29nm,1.6s
EVO **Evora** 26.55 288 *e*P P 08 26 24.3 +1.3
comp=Z,20nm,1.6s
PBDV **Barranco-do-Ve** 26.56 285 *e*P P 08 26 24.2 +1.0
comp=Z,46nm,1.5s
PCVE **Castro Verde** 26.62 286 *e*P P 08 26 25.6 +2.0
comp=Z,24nm,1.3s
PCAB **Cabril** 26.62 295 *e*P P 08 26 24.8 +1.1
comp=Z,27nm,1.4s
PMTG **Montargil** 26.70 289 *e*P P 08 26 26.3 +1.9
comp=Z,24nm,1.2s
FINES **FINESS Array B** 26.73 1 P P 08 26 22.3 -2.0
comp=Z,2.0nm,0.5s,baz=164,slow=11,SNR=17
FINES LR LR 08 37 09.3
comp=Z,213nm,21.5s,baz=182,slow=37

FINES **FINESS Array B** 26.73 1 P P 08 26 22.7 -1.6
FIA1 **FINESS Array S** 26.73 1 P P 08 26 22.9 -1.5
FIA1 IAmb IAmb 08 26 34.3
comp=Z,12nm,0.8s
KONO **Kongsberg** 26.84 343 P P 08 26 27.2 +1.8
KONO pmax pmax
comp=Z,13nm,1.2s
KONO **Kongsberg** 26.84 343 P P 08 26 27.2 +1.8
KONO **Kongsberg** 26.84 343 *e*P P 08 26 25.0 -0.4
COI **Coimbra** 26.85 292 P P 08 26 27.0 +1.4
COI pmax pmax
comp=Z,25nm,0.8s
COI **Coimbra** 26.85 292 P P 08 26 27.0 +1.4
COI IAmb IAmb 08 26 38.1
comp=Z,25nm,0.8s
GEYT **Alibeck** 26.91 73 P P 08 26 25.7 -0.6
comp=Z,2.9nm,0.3s,baz=278,slow=12,SNR=5.1
GEYT **Alibeck** 26.91 73 P P 08 26 26.1 -0.2
PNCL **Nicolau / Gran** 26.98 287 *e*P P 08 26 30.9 +4.1
NC602 **NORSAR Array S** 27.39 346 P P 08 26 29.9 -0.4
NC602 **NORSAR Array S** 27.39 346 *e*P P 08 26 29.6 -0.7
BLS5 **Blasjo** 27.49 340 *e*P P 08 26 31.2 0.0
NAO01 **NORSAR Array S** 27.62 345 P P 08 26 32.2 -0.2
NC405 **NORSAR Array S** 27.70 346 P P 08 26 31.9 -1.2
NB201 **NORSAR Array S** 27.72 346 P P 08 26 33.3 -0.1
NB201 IAmb IAmb 08 26 44.0
comp=Z,35nm,1.4s
NB2 **NORSAR Subarra** 27.73 346 P P 08 26 32.3 -1.1
comp=Z,3.7nm,0.9s,baz=156,slow=9.3
NB2 **NORSAR Subarra** 27.73 346 P P 08 26 32.3 -1.1
baz=156,slow=9.3
NOA **NORSAR Array B** 27.73 346 P P 08 26 32.9 -0.5
comp=Z,1.1nm,0.5s,baz=154,slow=8.3,SNR=15
NOA LR LR 08 39 00.7
comp=Z,159nm,19.6s,baz=150,slow=39
KLMR **Klimovskoe** 27.79 15 *e*P P 08 26 30.8 -3.0
KLMR pmax pmax
comp=Z,15nm,0.8s
KLMR **Klimovskoe** 27.79 15 *e*P P 08 26 30.8 -3.0
KLMR AMP 08 26 32.3
comp=Z,15nm,0.8s
NBO00 **NORSAR Array S** 27.81 345 P P 08 26 33.0 -1.2
NBO00 IAmb IAmb 08 26 48.0
comp=Z,31nm,1.2s
ODD1 **Odda** 27.84 340 *e*P P 08 26 36.7 +2.2
NC204 **NORSAR Array S** 28.04 346 P P 08 26 36.6 +0.5
NC204 IAmb IAmb 08 26 48.6
comp=Z,33nm,1.5s
SKAR **Skarslia** 28.06 343 *e*P P 08 26 36.4 -0.1
EKA **Eskdalemuir Ar** 28.23 325 P P 08 26 38.0 +0.1
comp=Z,3.9nm,0.4s,baz=122,slow=9.1,SNR=23
EKA **Eskdalemuir Ar** 28.23 325 P P 08 26 38.0 +0.1
ESK **Eskdalemuir** 28.24 325 P P 08 26 38.1 +0.2
ESK pmax pmax
comp=Z,11nm,0.6s
ESK **Eskdalemuir** 28.24 325 P P 08 26 38.1 +0.2
ESK IAmb IAmb 08 26 49.7
comp=Z,11nm,0.6s
ATD **Arta Tunnel** 28.33 140 P P 08 26 38.3 -0.9
comp=Z,12nm,0.9s,baz=78,slow=19,SNR=1.7
ATD **Arta Tunnel** 28.33 140 P P 08 26 38.5 -0.7
NAZ **Nazwa, Dubai** 28.35 102 P P 08 26 40.2 +0.9
BANOM **Banah** 28.45 99 P P 08 26 40.9 +0.7
MSFE **Esma-Masafi** 28.58 101 P P 08 26 41.9 +0.5
ASK **Askoy** 28.72 340 *e*P P 08 26 41.6 -0.5
MDH **Madha** 28.72 101 P P 08 26 42.9 +0.3
AKTO **Aktyubinsk** 28.72 47 P P 08 26 41.6 -0.7
comp=Z,3.8nm,0.4s,baz=245,slow=8.6,SNR=12
AKTO LR LR 08 42 44.1
comp=Z,92nm,18.3s,baz=261,slow=46
HATD **Hatta, Dubai** 28.80 102 P P 08 26 43.1 -0.2
UOSS **Minazif** 28.80 101 P P 08 26 43.0 -0.4
UOSS IAmb IAmb 08 26 53.7
comp=Z,20nm,1.2s
ASHO **Ashiyiah** 28.81 102 *i*P P 08 26 43.7 +0.3
SNR=7.5
ALNE **Al Ain** 28.86 103 *i*P P 08 26 44.6 +0.8
SNR=7.0
KIRV **Kirov** 28.89 27 LR LR 08 39 21.3
comp=Z,118nm,20.5s,baz=222,slow=39
HYA **Hoyanger** 29.02 341 *e*P P 08 26 44.6 -0.1
DOMB **Dombas** 29.09 345 *e*P P 08 26 45.9 +0.4
SOHO **SOHO** 29.45 102 *i*P P 08 26 49.6 +0.6
SNR=8.5
AB31 **Akbulak array** 29.54 50 P P 08 26 46.6 -3.0
ABKAR **Akbulak array** 29.54 50 P P 08 26 49.5 0.0
AKN **Aaknes** 29.68 343 *e*P P 08 26 51.2 +0.5
MOL **Molde** 29.89 344 *e*P P 08 26 52.9 +0.4
PRGR **Permogore** 29.99 20 *e*P P 08 26 50.6 -2.8
PRGR *e*SP **pP** 08 27 00.7 -0.1
PRGR *e*S **S** 08 31 43.8 -5.6
PRGR pmax pmax
comp=Z,19nm,0.6s
TOA0 **Torodi Ar. Sit** 30.02 230 P P 08 26 55.4 +1.2
TOA0 IAmb IAmb 08 27 14.4
comp=Z,10nm,0.7s
TORD **Torodi Ar. Bea** 30.02 230 P P 08 26 55.1 +1.0
comp=Z,4.2nm,0.4s,baz=35,slow=8.5,SNR=67
TORD **Torodi Ar. Bea** 30.02 230 P P 08 26 54.6 +0.4
ARU **Arti** 31.54 36 P P 08 27 07.0 -0.1
comp=Z,1.8nm,0.4s,baz=243,slow=11,SNR=9.6
ARU LR LR 08 40 35.2
comp=Z,84nm,21.7s,baz=244,slow=38
ARU **Arti** 31.54 36*d*i*P* P 08 27 07.8 +0.6
ARU 08 28 07.5
ARU S **S** 08 32 19.8 +5.9
ARU SS **SnSn** 08 34 01.9 +2.0
ARU pmax pmax
comp=Z,7.0nm,0.7s
ARU **Arti** 31.54 36 P P 08 27 07.4 +0.3
ARU IAmb IAmb 08 27 26.0
comp=Z,18nm,1.3s
SVE **Sverdlovsk** 32.74 36 *e*P P 08 27 17.3 -0.4
FAUS **Fauske** 33.14 353 *e*P P 08 27 20.5 -0.6
APA **Apatity** 33.23 6⇓*i*P P 08 27 19.1 -2.8
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,300nm,21.0s
LVZ **Lovozero** 33.67 7 P P 08 27 26.6 +0.9
LVZ pmax pmax
comp=Z,36nm,1.5s
LVZ **Lovozero** 33.67 7 P P 08 27 26.6 +0.9
STEI **Steigen** 33.68 353 *e*P P 08 27 24.8 -0.9
ARCES **ARCESS Array B** 34.84 0 P P 08 27 33.8 -2.0
comp=Z,1.9nm,0.5s,baz=178,slow=9.0,SNR=23
ARCES LR LR 08 42 00.5
comp=Z,151nm,20.3s,baz=197,slow=37
ARE0 **ARCESS Array S** 34.84 0 P P 08 27 33.9 -1.9
ARE0 **ARCESS Array S** 34.84 0 *e*P P 08 27 33.7 -2.1
KK31 **Karatay Array** 36.12 63 P P 08 27 46.0 -1.2
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KK31 **Karatay Array** 36.12 63 P P 08 27 46.0 -1.2
KKAR **Karatay Array** 36.12 63 P P 08 27 47.7 +0.5
KKAR **Karatay Array** 36.12 63 P P 08 27 47.7 +0.5
BRVK **Borovoye** 36.77 46⇓*i*P P 08 27 54.2 +1.7
BRVK pmax pmax
comp=Z,5.0nm,1.1s
BVAR **Borovoye Array** 36.82 46 P P 08 27 52.6 -0.4
comp=Z,1.2nm,0.7s,baz=254,slow=5.2,SNR=4.6
BVAR LR LR 08 46 58.2
comp=Z,136nm,18.7s,baz=270,slow=43
KMBO **Kilima Mbogo** 37.54 159 LR LR 08 45 51.9
comp=Z,108nm,19.6s,baz=88,slow=40
AAK **Ala-Archa** 39.08 63 P P 08 28 12.3 -0.1
comp=Z,2.3nm,0.3s,baz=254,slow=7.3,SNR=5.2
AAK **Ala-Archa** 39.08 63⇓*i*P P 08 28 13.4 +1.1
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK **Ala-Archa** 39.08 63 P P 08 28 12.0 -0.4
DBIC **Dimbokro** 39.10 231 P P 08 28 13.0 +0.4
comp=Z,5.2nm,0.6s,baz=29,slow=9.7,SNR=11
DBIC LR LR 08 47 26.5
comp=Z,109nm,18.1s,baz=22,slow=41
DBIC **Dimbokro** 39.10 231 P P 08 28 13.2 +0.6
DBIC pmax pmax
comp=Z,25nm,1.5s
DBIC **Dimbokro** 39.10 231 P P 08 28 13.2 +0.6
DBIC IAmb IAmb 08 28 28.8
comp=Z,25nm,1.5s
TIC **Toumodi** 39.23 231 *e*P P 08 28 13.8 +0.1
KIC **Kosan Boka** 39.27 231 *e*P P 08 28 13.7 -0.3
comp=Z,15nm,0.8s
LIC **Lamto** 39.55 231 *e*P P 08 28 16.2 -0.2

comp=Z,12nm,0.6s
NIL **Nilore** 39.75 77 P P 08 28 18.2 +0.3
NIL pmax pmax
comp=Z,12nm,0.7s
NIL **Nilore** 39.75 77 P P 08 28 18.2 +0.3
NIL IAmb IAmb 08 28 34.7
comp=Z,12nm,0.7s
JMIC **Jan Mayen** 40.40 344 LR LR 08 46 28.7
comp=Z,33nm,19.5s,baz=93,slow=38
KSH **Kashi** 40.60 68 *e*P P 08 28 33.2 +8.2
KSH sP pwP 08 28 46.4 +11
KSH S S 08 34 45.0 +12
KSH pmax pmax
comp=Z,8.0nm,0.3s
KSH pmax pmax
comp=Z,100nm,5.1s
KSH LR LR
comp=N,140nm,8.3s
KSH LR LR
comp=E,200nm,6.6s
KURBB **Kurchatov Arra** 41.58 51 P P 08 28 32.5 -0.2
comp=E,5.9nm,0.5s,baz=273,slow=8.6,SNR=46
KURBB PP **PnPn** 08 30 13.8 0.0
comp=E,5.3nm,1.0s,baz=273,slow=11,SNR=5.2
KURK **Kurchatov** 41.64 51 P P 08 28 33.2 -0.1
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK **Kurchatov** 41.64 51 P P 08 28 33.2 -0.1
PDGK **Podgornoye** 42.64 61 P P 08 28 41.5 -0.2
SCO **Scoresbysund** 43.63 339 P P 08 28 51.2 +2.2
SCO pmax pmax
comp=Z,31nm,1.0s
SCO **Scoresbysund** 43.63 339 P P 08 28 51.2 +2.2
SPA0 **Spitsbergen Ar** 43.69 357 *e*P P 08 28 50.1 +0.6
SPITS **Spitsbergen Ar** 43.69 357 LR LR 08 48 53.9
comp=Z,106nm,21.3s,baz=175,slow=39
MAKZ **Makanchi** 44.01 56 P P 08 28 52.8 +0.3
MAKZ pmax pmax
comp=Z,6.0nm,0.7s
MAKZ **Makanchi** 44.01 56 P P 08 28 52.8 +0.3
MK31 **Makanchi Array** 44.22 56 P P 08 28 54.4 +0.2
MK31 pmax pmax
comp=Z,11nm,0.5s
MK31 **Makanchi Array** 44.22 56 P P 08 28 54.4 +0.2
MKAR **Makanchi Array** 44.22 56 P P 08 28 54.5 +0.3
comp=Z,11nm,0.4s,baz=271,slow=8.4,SNR=144
MKAR LR LR 08 52 36.4
comp=Z,60nm,18.1s,baz=274,slow=43
KBS **Kingsbay** 44.61 356 *e*P P 08 28 56.8 -0.1
ZALV **Zalesovo Beam** 45.48 46 P P 08 29 02.9 -1.2
comp=Z,4.7nm,0.3s,baz=258,slow=7.4,SNR=7.2
ZALV LR LR 08 52 12.8
comp=Z,82nm,18.5s,baz=264,slow=42
ZALV **Zalesovo Beam** 45.48 46 *i*P P 08 29 03.7 -0.4
ZALV pmax pmax
comp=Z,5.0nm,0.3s
ZALV **Zalesovo Beam** 45.48 46 P P 08 29 03.5 -0.6
DGZ **Jazzator, Alta** 47.34 52⇓*i*P P 08 29 18.9 -0.1
DGZ pmax pmax
comp=Z,2.0nm,0.5s
NRIK **Noril'sk** 48.36 25 P P 08 29 26.6 +0.2
comp=Z,4.6nm,0.6s,baz=238,slow=5.4,SNR=5.9
NRIK LR LR 08 52 03.8
comp=Z,50nm,19.6s,baz=248,slow=39
WMQ **Urumqi** 48.44 59 *e*P P 08 29 29.7 +2.2
WMQ pmax pmax
comp=Z,13nm,0.8s
WMQ pmax pmax
comp=Z,64nm,3.7s
WMQ LR LR
comp=Z,880nm,28.8s
SUMG **Summit** 49.27 339 *i*P P 08 29 34.8 +1.0
comp=Z,14nm,0.7s
SUMG **Summit** 49.27 339 P P 08 29 35.1 +1.3
SUMG pmax pmax
comp=Z,13nm,1.2s
SUMG **Summit** 49.27 339 P P 08 29 35.1 +1.3
SUMG IAmb IAmb 08 29 44.5
comp=Z,13nm,1.2s
NOR **Nord** 49.32 353 *i*P P 08 29 33.1 -0.5
comp=Z,4.8nm,0.4s
NOR **Nord** 49.32 353 *i*P P 08 29 33.1 -0.5
NOR pmax pmax
comp=Z,5.0nm,0.4s
PYUN **Piuthan** 49.48 81 *e*P P 08 29 36.3 +0.5
comp=Z,50nm,0.5s
DANN **Dangsing** 50.01 80 *e*P P 08 29 40.6 +0.7
comp=Z,71nm,0.5s
KOLN **Koldanda** 50.10 81 *e*P P 08 29 40.6 0.0
GKN **Gorkha** 50.85 80 *e*P P 08 29 46.1 -0.1
comp=Z,8.2nm,0.2s
DMN **Daman** 51.39 80 *e*P P 08 29 50.5 +0.1
comp=Z,17nm,0.4s
PKI **Pulchoki** 51.65 80 *e*P P 08 29 52.2 -0.2
GUN **Gumba** 51.90 80 *e*P P 08 29 54.4 +0.2
comp=Z,19nm,0.3s
JIRN **Jiri** 52.25 80 *e*P P 08 29 56.9 0.0
RAMN **Ramite** 52.87 81 *e*P P 08 30 00.3 -1.1
comp=Z,6.0nm,0.3s
ODAN **Odare** 53.55 80 *e*P P 08 30 06.1 -0.3
comp=Z,7.5nm,0.4s
TAPN **Taplejung** 53.61 80 *e*P P 08 30 06.6 -0.2
comp=Z,8.8nm,0.4s
TSUM **Tsumeb** 54.09 188 P P 08 30 11.1 +1.0
TLY **Talaya** 57.08 47 LR LR 08 58 13.6
comp=Z,80nm,18.1s,baz=299,slow=39
TLY **Talaya** 57.08 47 *e*P P 08 30 43.1 +12
TLY pmax pmax
comp=Z,13nm,1.3s
TLY MLR MLR
comp=Z,106nm,7.0s
ZAK **Zakamensk** 57.21 48 *e*P P 08 30 32.2 0.0
ZAK pmax pmax
comp=Z,5.0nm,1.0s
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TULEG **Thule** 57.37 344 P P 08 30 32.2 -0.5
GTA **Gaotai** 58.39 61 *e*P P 08 30 41.1 +0.4
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,39nm,5.2s
GTA LR LR
comp=Z,84nm,18.1s
GTA LR LR
comp=Z,72nm,18.1s
GTA LR LR
comp=Z,110nm,17.8s
LBTB **Lobatse** 59.44 179 P P 08 30 49.6 +1.7
LBTB pmax pmax
comp=Z,15nm,1.4s
LBTB **Lobatse** 59.44 179 P P 08 30 49.6 +1.7
LBTB IAmb IAmb 08 30 50.3
comp=Z,14nm,1.4s
SONM **Songino Array** 59.95 50 P P 08 30 51.7 +0.3
comp=Z,1.9nm,0.5s,baz=280,slow=8.7,SNR=9.5
SONM LR LR 08 58 30.2
comp=Z,61nm,21.1s,baz=280,slow=38
SONM **Songino Array** 59.95 50 P P 08 30 51.9 +0.6
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM **Songino Array** 59.95 50 P P 08 30 51.9 +0.6
ULN **Ulaanbaatar** 60.36 50⇓*i*P P 08 30 54.4 +0.2
ULN pmax pmax
comp=Z,3.0nm,0.6s
BOD **Bodaibo** 60.94 38 *e*P P 08 30 56.6 -1.2
BOD pmax pmax
comp=Z,7.0nm,1.4s
LZH **Lanzhou** 62.62 64 *e*P P 08 31 11.4 +1.8
LZH pP pwP 08 31 22.8 +2.6
LZH pmax pmax
comp=Z,21nm,1.1s
BOSA **Boshof** 63.02 180 P P 08 31 11.4 -0.7
comp=Z,4.0nm,0.7s,baz=345,slow=10,SNR=5.5
BOSA LR LR 09 00 48.2
comp=Z,87nm,18.0s,baz=356,slow=38
BOSA **Boshof** 63.02 180 P P 08 31 12.1 0.0
BOSA pmax pmax
comp=Z,11nm,1.2s
BOSA **Boshof** 63.02 180 P P 08 31 12.1 0.0
BOSA IAmb IAmb 08 31 23.4
comp=Z,11nm,1.2s
SCHQ **Schefferville** 63.33 320 P P 08 31 14.3 +0.5
comp=Z,9.7nm,0.4s,baz=61,slow=6.2,SNR=9.2
SCHQ **Schefferville** 63.33 320 P P 08 31 14.4 +0.5
GBN **Guysborough** 63.92 308 P P 08 31 18.9 +1.0

HAL Halifax 65.58 308 P P 08 31 30.1 +1.4
HAL pmax pmax
comp=Z,10.0nm,0.7s
HAL Halifax 65.58 308 P P 08 31 30.1 +1.4
BATG Bathurst New B 66.00 312 P P 08 31 32.6 +1.2
HHC Hu-ho-hao-te 66.08 56 *eP* **P 08 31 35.0 +2.8**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,190nm,6.0s
CMAR Chiang Mai Arr 66.88 83 P **P 08 31 37.7 +0.2**
comp=Z,2.2nm,0.5s,baz=296,slow=7.9,SNR=9.3
CMAR LR LR 09 06 25.5
comp=Z,51nm,19.0s,baz=291,slow=41
CMAR Chiang Mai Arr 66.88 83 *i* P **P 08 31 38.4 +0.9**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
SUR Sutherland 66.88 184 P P 08 31 37.4 +0.2
XAN Xi'an 67.25 64 P P 08 31 54.7 +15
XAN pP PcP 08 32 01.5 -6.0
XAN pmax pmax
comp=Z,7.0nm,0.6s
PQI Presque Isle 67.47 312 P P 08 31 41.8 +1.0
PQI IAmb IAmb 08 31 52.0
comp=Z,4.7nm,0.7s
D62A Allapoint, All 67.91 313 P P 08 31 45.1 +1.6
E62A Clayton Lake 68.41 312 P P 08 31 48.2 +1.4
E62A IAmb IAmb 08 32 04.9
comp=Z,6.6nm,0.9s
WES Weston 71.60 309 P P 08 32 07.8 +1.4
WES Weston 71.60 309 P P 08 32 07.8 +1.4
WES IAmb IAmb 08 32 18.8
comp=Z,7.4nm,0.7s
VLDQ Val d'Or 72.32 317 P P 08 32 13.3 +2.8
D53A Lac Vacive, Po 73.02 316 P P 08 32 16.5 +1.7
D53A IAmb IAmb 08 32 28.1
comp=Z,8.4nm,0.9s
PLVO Plevna 73.76 314 P P 08 32 21.1 +1.9
PLVO IAmb IAmb 08 32 33.5
comp=Z,6.9nm,1.1s
K58A Earlville 74.13 311 P P 08 32 23.2 +1.8
K58A IAmb IAmb 08 32 33.5
comp=Z,6.3nm,1.1s
KLR Kul'dur 74.25 41 P P 08 32 21.8 -0.1
comp=Z,3.7nm,0.7s,baz=324,slow=7.5,SNR=14
KLR Kul'dur 74.25 41 ⇓ *iP* **P 08 32 21.9 0.0**
KLR pmax pmax
comp=Z,4.0nm,0.8s
SADO Sadowa 75.14 314 P P 08 32 28.2 +1.1
SADO IAmb IAmb 08 32 39.0
comp=Z,13nm,1.4s
NJ2 Nanjing 75.48 61 *eP* **P 08 32 30.0 +0.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
L56A Greenwood 75.66 311 P P 08 32 31.8 +1.5
L56A IAmb IAmb 08 32 47.6
comp=Z,10nm,0.8s
M57A Sunshine Farm, 75.83 311 P P 08 32 32.3 +1.1
M57A IAmb IAmb 08 32 44.3
comp=Z,5.7nm,0.7s
MA2 Magadan 75.97 25 P P 08 32 31.6 0.0
comp=Z,5.1nm,0.6s,baz=162,slow=19,SNR=2.7
MA2 Magadan 75.97 25 P P 08 32 31.1 -0.5
MA2 pmax pmax
comp=Z,11nm,0.9s
MA2 Magadan 75.97 25 P P 08 32 31.1 -0.5
MA2 IAmb IAmb 08 32 47.7
comp=Z,11nm,0.9s
INK Inuvik 75.99 352 P P 08 32 32.0 +0.5
comp=Z,1.8nm,0.6s,baz=22,slow=7.7,SNR=9.0
INK Inuvik 75.99 352 P P 08 32 31.3 -0.2
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 75.99 352 P P 08 32 31.3 -0.2
M56A Emporium 76.41 311 P P 08 32 36.9 +2.4
USA0B Ussuriysk Arra 77.32 45 P P 08 32 39.2 -0.3
USA0B pmax pmax
comp=Z,7.0nm,0.7s
USA0B Ussuriysk Arra 77.32 45 P P 08 32 39.2 -0.3
USA0B IAmb IAmb 08 32 51.3
comp=Z,6.8nm,0.7s
USRK Ussuriysk Ar. 77.32 45 P P 08 32 39.0 -0.5
comp=Z,2.0nm,0.5s,baz=292,slow=3.9,SNR=7.0
YKA Yellowknife Ar 77.76 342 P P 08 32 41.5 -0.2
comp=Z,1.2nm,0.4s,baz=32,slow=5.0,SNR=20
YKA LR LR 09 10 46.0
comp=Z,43nm,18.1s,baz=0.0,slow=39
COLD Coldfoot 78.27 358 P P 08 32 45.6 +1.1
COLD IAmb IAmb 08 32 59.3
comp=Z,5.7nm,0.9s
Q56A Snyder Ridge, 78.43 310 P P 08 32 47.1 +1.2
Q56A IAmb IAmb 08 33 02.0
comp=Z,9.7nm,0.8s
KSAR Wonju Array Be 78.72 52 P P 08 32 47.3 -0.2
KSAR Wonju Array Be 78.72 52 P P 08 32 47.3 -0.2
KSRS Korea Array 78.74 52 P P 08 32 46.4 -1.1
comp=Z,1.8nm,0.7s,baz=305,slow=4.7,SNR=7.4
KSRS LR LR 09 09 55.3
comp=Z,62nm,20.7s,baz=300,slow=38
R55A Marlinton 79.47 309 P P 08 32 53.7 +2.1
R55A IAmb IAmb 08 33 05.0
comp=Z,11nm,1.1s
IMAR Indian Mountai 79.59 359 P P 08 32 52.0 +0.4
FFC Flin Flon 79.87 332 P P 08 32 54.2 +0.8
FFC pmax pmax
comp=Z,6.0nm,0.8s
FFC Flin Flon 79.87 332 P P 08 32 54.2 +0.8
FFC IAmb IAmb 08 33 03.7
comp=Z,5.6nm,0.8s
EGAK Eagle 80.19 354 P P 08 32 55.8 +0.8
MDM Murphy Dome 80.47 357 P P 08 32 57.3 +0.7
MDM IAmb IAmb 08 33 10.9
comp=Z,5.1nm,0.8s
COLA College 80.54 357 ⇓ *iP* **P 08 32 57.8 +1.0**
COLA pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 80.60 356 P P 08 32 57.2 +0.1
comp=Z,0.5nm,0.3s,baz=334,slow=3.3,SNR=8.0
ILAR LR LR 09 13 26.3
comp=Z,31nm,18.9s,baz=278,slow=39
ILAR Eielson Array 80.60 356 P P 08 32 57.7 +0.5
ILAR Eielson Array 80.60 356 P P 08 32 57.7 +0.5
CCB Clear Creek Bu 80.77 357 P P 08 32 59.7 +1.6
CCB IAmb IAmb 08 33 12.7
comp=Z,5.5nm,0.9s
WRH Wood River Hil 80.95 357 P P 08 32 59.4 +0.3
HDA Harding Lake 80.96 356 P P 08 32 59.0 -0.1
HDA IAmb IAmb 08 33 13.3
comp=Z,8.8nm,0.8s
YSS Yuzh-Sakhalins 81.42 38 *eP* **P 08 33 04.9 +3.1**
YSS *e* 08 33 12.3
YSS pmax pmax
comp=Z,10.0nm,0.9s
BPAW Bear Paw Mtn. 81.43 358 P P 08 33 01.7 +0.1
BPAW IAmb IAmb 08 33 15.7
comp=Z,9.7nm,0.9s
DOT Dot Lake 81.54 355 P P 08 33 03.2 +0.9
DOT IAmb IAmb 08 33 20.1
comp=Z,7.9nm,1.1s
BCAR Beaver Creek A 81.93 354 P P 08 33 05.7 +1.4
DHY Denali Highway 82.31 356 P P 08 33 08.0 +1.5
DHY IAmb IAmb 08 33 20.6
comp=Z,9.2nm,0.8s
PPLA Purkeypile 82.66 359 P P 08 33 08.9 +0.6
U49A Red Boiling Sp 84.12 311 P P 08 33 16.7 +0.6
U49A IAmb IAmb 08 33 32.1
comp=Z,5.9nm,0.8s
DLBC Dease Lake 84.81 347 P P 08 33 20.4 +1.2
comp=Z,1.0nm,0.9s,baz=18,slow=19,SNR=2.1
ECSD EROS Data Cent 85.45 322 P P 08 33 22.8 +0.1
ECSD IAmb IAmb 08 33 38.3
comp=Z,4.7nm,0.7s
MJAR Matsushiro Arr 85.80 48 P P 08 33 24.7 +0.1
comp=Z,0.6nm,0.4s,baz=307,slow=4.4,SNR=2.4
MJAR Matsushiro Arr 85.80 48 P P 08 33 25.0 +0.5
MJAR pmax pmax
comp=Z,2.0nm,0.7s
MJAR Matsushiro Arr 85.80 48 P P 08 33 25.0 +0.5
X48A Hartselle 86.22 310 P P 08 33 26.9 +0.3
CCM Cathedral Cave 86.42 315 P P 08 33 28.2 +0.6
CCM pmax pmax
comp=Z,7.0nm,0.8s
CCM Cathedral Cave 86.42 315 P P 08 33 28.2 +0.6
CCM IAmb IAmb 08 33 41.0
comp=Z,6.7nm,0.8s

L34A Svendsen Farm, 86.58 320 P P 08 33 27.1 -1.2
R40A Maddies Statio 86.86 315 P P 08 33 29.9 +0.2
T42A Van Buren 87.02 314 P P 08 33 30.7 +0.2
T42A IAmb IAmb 08 33 42.3
comp=Z,7.0nm,0.9s
LRAL Lakeview Retre 87.10 309 P P 08 33 31.1 +0.1
LAO LASA Array 87.75 329 P P 08 33 34.5 +0.5
KDAK Kodiak Island 87.80 359 P P 08 33 34.8 +1.0
comp=Z,6.0nm,0.8s,baz=101,slow=1.3,SNR=5.8
KDAK Kodiak Island 87.80 359 P P 08 33 34.9 +1.1
KDAK pmax pmax
comp=Z,39nm,1.3s
KDAK Kodiak Island 87.80 359 P P 08 33 34.9 +1.1
NEW Newport 90.64 336 P P 08 33 48.3 +0.8
NEW pmax pmax
comp=Z,4.0nm,0.7s
NEW Newport 90.64 336 P P 08 33 48.3 +0.8
NEW IAmb IAmb 08 33 59.2
comp=Z,4.2nm,0.7s
PDAR Pinedale Array 92.31 328 P P 08 33 55.7 +0.1
comp=Z,0.4nm,0.6s,baz=64,slow=4.1,SNR=4.4
PDAR LR LR 09 16 36.1
comp=Z,56nm,19.1s,baz=1.0,slow=36
PDAR Pinedale Array 92.31 328 P P 08 33 55.9 +0.3
HWUT Hardware Ranch 94.12 329 P P 08 34 05.2 +1.4
HWUT IAmb IAmb 08 34 18.9
comp=Z,3.5nm,0.8s
ANMO Albuquerque 97.06 322 ⇑ *iP* **P 08 34 17.0 -0.4**
ANMO pmax pmax
comp=Z,1.0nm,0.9s
CPUP Villa Florida 98.61 244 LR LR 09 21 59.4
comp=Z,40nm,18.5s,baz=48,slow=37
NVAR Mina Array Bea 99.57 331 P **Pdif 08 34 29.1 +0.4**
comp=Z,0.1nm,0.4s,baz=28,slow=4.1,SNR=2.5
WRA Warramunga Arr 116.81 96 PKP **PKPdf 08 39 29.1 -0.7**
comp=Z,0.3nm,0.4s,baz=324,slow=1.2,SNR=4.9
WRA Warramunga Arr 116.81 96 PKIKP **PKPdf 08 39 29.5 -0.3**
WRA Warramunga Arr 116.81 96 PKPdf **PKPdf 08 39 29.5 -0.3**
ASAR Alice Springs 118.23 100 PKP **PKPdf 08 39 32.1 -0.4**
comp=Z,0.3nm,0.4s,baz=307,slow=1.5,SNR=5.8
ASAR Alice Springs 118.23 100 PKIKP **PKPdf 08 39 32.4 -0.1**
ASAR Alice Springs 118.23 100 PKPdf **PKPdf 08 39 32.4 -0.1**

LJU 08 08:22:12.2, 46.39N×15.07E, h0km Rockburst, Northwestern Balkan Peninsula

*PRU **08** 08:24:32.9±0.0, 51.59N×16.29E, h0km*
ISC 08 08:24:32.6±5.6, 51.6N±0.2×16.2E±0.2, h10km, n7, σ0s43/10, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**176**	*e*Pg		**Pg**	**08 24 47.0**	**-0.1**
KSP				*e*Sg		**Sg**	**08 24 56.6**	**-0.2**
CHVC	**Chvalec**	**1.01**	**186**	*e*PG		**Pg**	**08 24 51.8**	**-0.2**
CHVC				*e*SG		**Sg**	**08 25 04.9**	**-0.2**
comp=Z,10nm,0.9s								
OSTC	**Ostas**	**1.03**	**180**	*e*SG		**Sb**	**08 25 06.9**	**+0.7**
UPC	**Upice**	**1.09**	**187**	*e*P		**Pg**	**08 24 53.4**	**-0.1**
UPC	**Upice**	**1.09**	**187**	*e*PG		**Pg**	**08 24 53.4**	**-0.1**
UPC				*e*SG		**Sg**	**08 25 07.2**	**-0.5**
comp=Z,12nm,0.8s								
DPC	**Dobruska-Polom**	**1.24**	**177**	*e*SG		**Sn**	**08 25 13.3**	**+0.4**
comp=Z,7.0nm,0.8s								
KRLC	**Kraliky**	**1.56**	**166**	*e*SG		**Sg**	**08 25 22.2**	**-0.5**

*IDC **08** 08:31:36.3±6.9, 17.75S×178.23W, h632km±82km, mb2.9/6, mb1 3.1/6, mb1mx2.8/34, mbtmp3.9/6, Error ellipse: s-maj=88.8km s-min=33.5km az=150.0*
ISC 08 08:31:32.3±1.0, 17.9S±0.3×178.0W±0.2, h590km, n8, σ0s73/10, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.96**	**241**	P		**P**	**08 38 09.9**	**+0.8**
1.1nm,0.7s,baz=85,slow=12,SNR=3.6								
WRA	**Warramunga Arr**	**45.01**	**260**	P		**P**	**08 38 56.5**	**-0.1**
0.7nm,0.3s,baz=96,slow=7.5,SNR=18								
WRA				PcP		**PcP**	**08 40 24.1**	**-0.8**
0.2nm,0.3s,baz=93,slow=3.6,SNR=1.7								
ASAR	**Alice Springs**	**45.16**	**254**	P		**P**	**08 38 57.8**	**0.0**
2.7nm,0.6s,baz=90,slow=7.7,SNR=39								
ASAR				PcP		**PcP**	**08 40 24.5**	**-0.9**
0.4nm,0.4s,baz=106,slow=3.3,SNR=6.1								
FITZ	**Fitzroy Crossi**	**53.41**	**260**	P		**P**	**08 39 58.4**	**0.0**
2.2nm,1.0s,baz=90,slow=10,SNR=2.1								
TXAR	**Lajitas Array**	**85.68**	**57**	P		**P**	**08 43 11.1**	**+1.0**
0.5nm,0.9s,baz=205,slow=5.6,SNR=5.3								
ILAR	**Eielson Array**	**85.83**	**13**	P		**P**	**08 43 09.3**	**-0.5**
0.1nm,0.4s,baz=224,slow=4.6,SNR=1.7								
VNA3	**Neumayer Olymp**	**90.69**	**176**	P		**P**	**08 43 31.9**	**-0.6**
VNA2	**Neumayer--Watz**	**91.13**	**177**	P		**P**	**08 43 34.3**	**-0.2**
baz=176,slow=2.7								

IDC 08 08:54:00.5±2.9, 28.58N×106.04E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/56, mbtmp3.3/3, MS3.7/1, Ms1 3.7/1, ms1mx2.6/26, Error ellipse: s-maj=647.8km s-min=30.4km az=54.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**19.97**	**133**	LR		LR	09 05 39.2	
comp=Z,214nm,19.4s,baz=215,slow=35								
MKAR	**Makanchi Array**	**25.99**	**321**	P		P	08 59 34.9	-0.1
0.2nm,0.5s,baz=142,slow=7.3,SNR=1.8								
WRA	**Warramunga Arr**	**55.45**	**147**	P		P	09 03 37.2	+0.1
0.4nm,0.8s,baz=331,slow=8.6,SNR=5.3								
ASAR	**Alice Springs**	**58.47**	**150**	P		P	09 03 58.3	-0.2
0.4nm,0.8s,baz=332,slow=6.7,SNR=2.0								

TAP 08 08:57:33.4, 23.05N×120.92E, h9km±1km, ML3.2, 4C-2D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.16**	**33**	⇑ *iP*		Pg	08 57 37.6	+0.6
baz=35								
ELDTW				*i* S		Sg	08 57 39.9	+0.4
baz=35								
STYT	**Tauyuan**	**0.19**	**306**	⇑ *iP*		Pg	08 57 38.1	+0.8
baz=307								
STYT				*i* S		Sg	08 57 41.0	+0.8
baz=307								
LONT	**Longtian**	**0.24**	**127**	P		Pg	08 57 39.6	+1.3
baz=126								
SLGT	**Liugui**	**0.26**	**257**	*i* P		Pb	08 57 39.8	-0.5
baz=257								
TWG	**Pinlang**	**0.27**	**149**	⇓ *iP*		Pb	08 57 40.1	-0.3
baz=147								
TWG				S		Sb	08 57 45.3	+0.2
baz=147								
TWGBT	**Beinan**	**0.28**	**148**	⇓ P		Pb	08 57 40.1	-0.4
baz=147								
SGST	**Jiashian**	**0.31**	**276**	P		Pg	08 57 40.3	+0.7
baz=275								
SGST				S		Sg	08 57 44.9	+1.0
baz=275								
WTP	**Ta-pu**	**0.34**	**305**	*i* P		Pb	08 57 41.8	+0.1
baz=304								
WTP				S		Sb	08 57 46.9	-0.3
baz=304								
EDH	**Donghe**	**0.36**	**102**	P		Pb	08 57 42.3	+0.4
baz=102								
EDH				S		Sb	08 57 47.2	-0.5
baz=102								
TPUB	**Ta-pu**	**0.36**	**313**	P		Pb	08 57 42.0	-0.1
baz=312								
TPUB				S		Sb	08 57 47.0	-0.9
baz=312								
FULB	**Fuli**	**0.37**	**67**	⇑ *iP*		Pb	08 57 42.3	+0.1
baz=66								
FULB				S		Sb	08 57 47.3	-0.8
baz=66								
CHN1	**Nanshi**	**0.39**	**290**	P		Pb	08 57 43.3	+0.9
baz=290								
CHN1				S		Sb	08 57 49.4	+0.9
baz=290								
SSD	**Sandimen**	**0.40**	**221**	⇑ *iP*		Pg	08 57 41.8	+0.5
baz=220								
CHKT	**Chengkung**	**0.41**	**83**	P		Pn	08 57 44.2	-1.3
baz=83								
CHKT				S		Sb	08 57 50.6	+1.5
baz=83								
SNST	**Tainan City**	**0.42**	**293**	P		Pb	08 57 44.2	+1.1
baz=293								
SNST				S		Sb	08 57 50.5	+1.0
baz=293								
SCST	**Cishan**	**0.43**	**247**	*e*P		Pb	08 57 43.1	0.0
baz=247								
TSMG	**Majia**	**0.43**	**217**	P		Pg	08 57 42.1	+0.3
baz=216								
TSMG				S		Sg	08 57 47.9	+0.4
baz=216								
ECL	**Taimali**	**0.45**	**176**	*i* P		Pb	08 57 43.1	-0.4
baz=175								
ECL				*e*S		Sb	08 57 49.4	-1.0
baz=175								
TWK	**Hsinying**	**0.45**	**298**	P		Pb	08 57 44.4	+0.8
baz=298								
TWF1	**Yuli**	**0.46**	**49**	*i* P		Pb	08 57 43.0	-0.6
baz=49								
TWF1				*e*S		Sb	08 57 50.2	-0.3
baz=49								
ALS	**Alishan**	**0.47**	**347**	*i* P		Pb	08 57 43.7	-0.3
baz=347								
ALS				*i* S		Sb	08 57 50.2	-1.0
baz=347								
YULB	**Yu-li**	**0.48**	**45**	*e*P		Pg	08 57 43.2	+0.4
baz=45								
YULB				*e*S		Sg	08 57 49.5	+0.2
baz=45								
MASBT	**Mashibuluo**	**0.51**	**211**	P		Pb	08 57 44.0	-0.5
baz=211								
MASBT				S		Sb	08 57 52.5	+0.5
baz=211								
EHY	**Hungye**	**0.58**	**39**	P		Pg	08 57 45.2	+0.5
baz=39								
CHN5	**Tsauling**	**0.59**	**338**	*i* P		Pb	08 57 46.3	+0.4
baz=337								
LDUT	**Ludao**	**0.63**	**127**	*e*P		Pb	08 57 47.0	+0.5
baz=126								
HGSD	**Ruisui**	**0.64**	**46**	P		Pb	08 57 46.9	+0.2
baz=46								
SSPT	**Xinbi**	**0.65**	**210**	*e*P		Pb	08 57 47.2	+0.3
baz=210								
EAST	**Anshuo**	**0.67**	**186**	P		Pb	08 57 47.2	0.0
baz=185								
EAST				S		Sb	08 57 56.0	-0.6
baz=185								
VWDT	**VWDT**	**0.73**	**16**	P		Pg	08 57 47.6	+0.1
baz=16								
VWDT				*e*S		Sb	08 57 57.7	-0.6
baz=16								
SCZT	**Fangliau**	**0.73**	**202**	P		Pb	08 57 48.2	-0.1
baz=201								
SCZT				S		Sb	08 57 58.0	-0.3
baz=201								
SSLB	**Suanglung**	**0.73**	**2**	*e*P		Pg	08 57 47.6	0.0
baz=2.0								
SSLB				*e*S		Sb	08 57 59.0	+0.5
baz=2.0								
SMLT	**Sun Moon Lake**	**0.83**	**359**	P		Pb	08 57 50.3	+0.2
baz=359								
SMLT				*e*S		Sn	08 58 02.6	-1.1
baz=359								
TYC	**Yuchr**	**0.85**	**356**	P		Pn	08 57 52.2	+0.6
baz=356								
ESL	**Shilin**	**0.89**	**32**	P		Pn	08 57 52.4	+0.2
baz=32								
CHGB	**Renai**	**1.03**	**13**	*e*P		Pg	08 57 53.3	0.0
baz=12								

TAP 08 08:57:38.0, 23.05N×120.91E, h6km, ML3.3, 1C-2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.17**	**35**	⇑ *iP*		Pg	08 57 41.7	+0.3
baz=37								
ELDTW				*i* S		Sg	08 57 44.5	+0.8
baz=37								
STYT	**Tauyuan**	**0.18**	**308**	*i* P		Pg	08 57 42.2	+0.6
baz=309								
STYT				*i* S		Sg	08 57 45.3	+1.2
baz=309								
LONT	**Longtian**	**0.25**	**126**	P		Pg	08 57 43.6	+0.7
baz=127								
LONT				*i* S		Sg	08 57 47.5	+1.4
baz=127								
SLGT	**Liugui**	**0.25**	**257**	*i* P		Pg	08 57 43.8	+0.9
baz=256								
SLGT				*i* S		Sg	08 57 47.6	+1.3
baz=256								
TWG	**Pinlang**	**0.27**	**147**	⇓ *iP*		Pg	08 57 44.2	+0.8
baz=148								
TWG				*i* S		Sg	08 57 48.5	+1.6
baz=148								
TWGBT	**Beinan**	**0.28**	**146**	⇓ P		Pg	08 57 44.2	+0.7
baz=148								
TWGBT				S		Sg	08 57 48.4	+1.3
baz=148								
SGST	**Jiashian**	**0.30**	**276**	*i* P		Pg	08 57 44.2	+0.2
baz=281								
SGST				*i* S		Sg	08 57 49.1	+1.1
baz=281								
WTP	**Ta-pu**	**0.34**	**305**	*i* P		Pb	08 57 45.9	-0.6
baz=306								
WTP				*i* S		Sb	08 57 51.3	-0.9
baz=306								
TPUB	**Ta-pu**	**0.36**	**314**	P		Pb	08 57 46.1	-0.8
baz=313								
TPUB				S		Sb	08 57 51.7	-1.2
baz=313								
TTN	**Taitung**	**0.37**	**144**	*i* P		Pb	08 57 46.8	-0.2
baz=144								
TTN				S		Sb	08 57 52.9	-0.1
baz=144								
EDH	**Donghe**	**0.37**	**102**	*i* P		Pb	08 57 46.5	-0.5
baz=111								
EDH				*i* S		Sb	08 57 52.5	-0.6
baz=111								
CHN1	**Nanshi**	**0.38**	**291**	P		Pb	08 57 46.8	-0.4
baz=298								
CHN1				*i* S		Sb	08 57 53.5	+0.2
baz=298								
FULB	**Fuli**	**0.38**	**67**	*i* P		Pb	08 57 46.5	-0.8
baz=68								
FULB				*i* S		Sb	08 57 52.3	-1.2
baz=68								
SSD	**Sandimen**	**0.40**	**220**	P		Pg	08 57 46.1	+0.4
baz=219								
SSD				S		Sg	08 57 51.0	+0.1
baz=219								
SNST	**Tainan City**	**0.42**	**294**	P		Pb	08 57 48.2	+0.3
baz=293								
SNST				S		Sb	08 57 55.4	+0.9
baz=293								
SCST	**Cishan**	**0.42**	**247**	*e*P		Pb	08 57 47.6	-0.3
baz=246								
CHKT	**Chengkung**	**0.42**	**83**	P		Pn	08 57 47.9	0.0
baz=85								
CHKT				S		Sb	08 57 55.6	+1.0
baz=85								
TSMG	**Majia**	**0.42**	**216**	P		Pg	08 57 46.5	+0.3
baz=215								
TSMG				*e*S		Sg	08 57 52.6	+0.9
baz=215								
TWK	**Hsinying**	**0.45**	**299**	P		Pb	08 57 47.9	-0.5
baz=299								
TWK				S		Sb	08 57 55.8	+0.4
baz=299								
ECL	**Taimali**	**0.45**	**175**	*i* P		Pb	08 57 47.7	-0.8
baz=175								
ECL				S		Sb	08 57 54.6	-0.9
baz=175								
TWF1	**Yuli**	**0.46**	**50**	*i* P		Pg	08 57 47.1	+0.1
baz=50								
TWF1				*i* S		Sg	08 57 52.9	-0.1
baz=50								
ALS	**Alishan**	**0.47**	**348**	P		Pg	08 57 47.9	+0.8
baz=348								
ALS				*i* S		Sg	08 57 54.4	+1.1
baz=348								
YULB	**Yu-li**	**0.49**	**46**	P		Pg	08 57 47.4	-0.1
baz=45								
YULB				S		Sg	08 57 54.9	+0.9
baz=45								
CHN3	**Shinhua**	**0.50**	**273**	P		Pn	08 57 51.0	-0.8
baz=273								

CHN3					S	Sn	08 57 59.6	-1.3	
	baz=273								
SGLT	**Jiouru**	**0.51**	**230**		S	Sb	08 57 57.0	0.0	
	baz=223								
MASBT	**Mashibuluo**	**0.51**	**211**		P	Pg	08 57 48.0	+0.2	
	baz=215								
CHN5	**Tsauling**	**0.58**	**338**		P	Pb	08 57 50.3	-0.5	
	baz=348								
CHN5				*i*	S	Sb	08 57 59.4	0.0	
	baz=348								
EHY	**Hungye**	**0.59**	**40**		P	Pg	08 57 49.3	-0.1	
	baz=40								
EHY					S	Sg	08 57 57.5	+0.5	
	baz=40								
SNJT	**Kaohsiung City**	**0.61**	**241**		P	Pn	08 57 53.0	-0.3	
	baz=235								
SNJT					*e*S	Sn	08 58 04.6	+1.1	
	baz=235								
CHN2	**Minshiung**	**0.62**	**320**		S	Sn	08 58 02.6	-1.3	
	baz=319								
CHY	**Chiayi**	**0.63**	**315**		*e*P	Pb	08 57 52.5	+1.0	
	baz=315								
CHY					S	Sn	08 58 02.6	-1.4	
	baz=315								
LDUT	**Ludao**	**0.64**	**126**		P	Pb	08 57 51.4	-0.2	
	baz=128								
LDUT					S	Sb	08 58 01.8	+1.1	
	baz=128								
HGSD	**Ruisui**	**0.64**	**47**		S	Sb	08 58 01.1	+0.1	
	baz=39								
SSPT	**Xinbi**	**0.65**	**209**		*e*P	Pb	08 57 52.2	+0.4	
	baz=206								
SSPT					*e*S	Sn	08 58 03.2	-1.2	
	baz=206								
ICHU	**Yijhu**	**0.66**	**298**		*e*P	Pn	08 57 53.1	-0.8	
	baz=297								
ICHU					S	Sn	08 58 04.3	-0.4	
	baz=297								
EAST	**Anshuo**	**0.67**	**185**	*i*	P	Pb	08 57 51.8	-0.4	
	baz=184								
EAST					S	Sg	08 58 00.2	+0.6	
	baz=184								
TAW	**Tawu**	**0.69**	**181**		P	Pb	08 57 52.5	0.0	
	baz=181								
TAW					*e*S	Sb	08 58 01.3	-1.0	
	baz=181								
WLGB	**Puzi**	**0.70**	**307**		*e*P	Pb	08 57 53.0	+0.2	
	baz=306								
WLGB					*e*S	Sn	08 58 04.6	-1.3	
	baz=306								
CHN8	**Yiju**	**0.71**	**295**		*e*S	Sn	08 58 05.1	-0.8	
	baz=295								
WGK	**Gukeng**	**0.71**	**333**		P	Pn	08 57 54.2	-0.4	
	baz=332								
WGK					S	Sn	08 58 05.2	-0.7	
	baz=332								
WDLH	**Douliu**	**0.72**	**332**		*e*P	Pb	08 57 52.8	-0.3	
	baz=330								
WDLH					S	Sn	08 58 05.6	-0.6	
	baz=330								
SCZT	**Fangliau**	**0.73**	**202**		P	Pg	08 57 52.4	+0.4	
	baz=194								
SCZT					S	Sb	08 58 03.5	+0.2	
	baz=194								
VWDT	**VWDT**	**0.73**	**17**		P	Pg	08 57 52.0	-0.1	
	baz=10.0								
SSLB	**Suanglung**	**0.73**	**3**		P	Pg	08 57 52.0	-0.1	
	baz=7.0								
SSLB					*e*S	Sg	08 58 02.5	+0.8	
	baz=7.0								
EGFH	**Guangfu**	**0.78**	**38**		P	Pg	08 57 53.1	+0.1	
	baz=37								
EGFH					S	Sg	08 58 03.2	+0.1	
	baz=37								
WJS	**Zhushan**	**0.79**	**348**		*e*P	Pb	08 57 54.7	+0.5	
	baz=355								
WJS					S	Sn	08 58 07.3	-0.5	
	baz=355								
WTK	**Tuku**	**0.80**	**323**		*e*P	Pb	08 57 54.6	+0.3	
	baz=322								
WTK					*e*S	Sn	08 58 07.5	-0.5	
	baz=322								
SMLT	**Sun Moon Lake**	**0.83**	**359**		P	Pg	08 57 54.2	+0.2	
	baz=8.0								
SMLT					S	Sb	08 57 55.4	+1.1	
	baz=8.0								
SLIU	**Shizi**	**0.84**	**187**		*e*P	Pn	08 57 55.8	-0.6	
	baz=180								
SLIU					*e*S	Sb	08 58 07.7	+1.1	
	baz=180								
WNT	**Mingjian**	**0.85**	**346**		P	Pn	08 57 56.0	-0.6	
	baz=345								
WNT					S	Sn	08 58 08.8	-0.6	
	baz=345								
TYC	**Yuchr**	**0.85**	**357**	*i*	P	Pn	08 57 56.0	-0.6	
	baz=4.0								
TYC					S	Sn	08 58 08.8	-0.6	
	baz=4.0								
WLCH	**Liuqiu**	**0.85**	**215**		*e*P	Pn	08 57 59.0	+2.3	
	baz=215								
WLCH					*e*S	Sn	08 58 12.3	+2.9	
	baz=215								
WSF	**Szhu**	**0.86**	**313**		*e*S	Sn	08 58 09.6	-0.1	
	baz=312								
TWP	**Hsiaoliuchiu**	**0.87**	**216**		P	Pn	08 57 58.5	+1.7	
	baz=215								
TWP					*e*S	Sn	08 58 13.0	+3.2	
	baz=215								
ESL	**Shilin**	**0.90**	**32**	*i*	P	Pg	08 57 55.2	-0.1	
	baz=39								
ESL					S	Sg	08 58 07.5	+0.6	
	baz=39								
CHGB	**Renai**	**1.03**	**13**		*e*P	Pn	08 57 59.6	+0.2	
	baz=3.0								
CHGB					*e*S	Sb	08 58 13.0	+0.6	
	baz=3.0								
HEN	**Hengchun**	**1.05**	**189**		*e*P	Pn	08 58 00.9	+1.5	
	baz=182								
HEN					*e*S	Sn	08 58 15.7	+1.3	
	baz=182								
WCHH	**Zhanghua**	**1.07**	**342**		*e*S	Sn	08 58 16.2	+1.3	
	baz=341								
TWK1	**Hengchun**	**1.11**	**185**		*e*S	Sn	08 58 17.2	+1.5	
	baz=185								
WHF	**Hehuan Shan**	**1.14**	**16**		*e*P	Pb	08 58 00.4	0.0	
	baz=23								
WHF					S	Sn	08 58 16.4	-0.7	
	baz=23								
WDGT	**Dungji**	**1.17**	**280**		P	Pn	08 58 00.9	-0.1	
	baz=281								
WDGT					S	Sn	08 58 17.0	-0.3	
	baz=281								
TWD	**Chiawan**	**1.20**	**31**		P	Pg	08 58 01.1	0.0	
	baz=21								
TWD					S	Sg	08 58 16.8	+0.1	
	baz=21								
TDCB	**Techi**	**1.22**	**11**		*e*P	Pn	08 58 02.2	+0.4	
	baz=2.0								
TDCB					*e*S	Sb	08 58 17.6	-0.1	
	baz=2.0								
TWT	**Tachien**	**1.22**	**11**		P	Pb	08 58 01.6	-0.1	
	baz=2.0								
TWT					S	Sn	08 58 18.5	-0.4	
	baz=2.0								
WHP	**Taichung City**	**1.22**	**1**		P	Pn	08 58 02.0	+0.2	
	baz=8.0								
WHP					*e*S	Sn	08 58 20.1	+1.3	
	baz=8.0								
FUSS	**Fushou**	**1.23**	**14**		*e*P	Pn	08 58 02.0	0.0	
	baz=12								
FUSS					S	Sn	08 58 20.1	+0.9	
	baz=12								
ETLH	**Xiulin Townshi**	**1.26**	**24**		P	Pg	08 58 02.2	-0.1	
	baz=34								
ETLH					*e*S	Sb	08 58 19.1	+0.1	
	baz=34								
NACB	**Ninganchiao**	**1.28**	**29**		*e*P	Pn	08 58 02.2	-0.3	
	baz=39								
NACB					*e*S	Sb	08 58 19.7	+0.3	
	baz=39								
TWQ1	**Liyutan**	**1.30**	**354**		P	Pg	08 58 04.3	+1.4	
	baz=352								
TWQ1					*e*S	Sn	08 58 22.9	+2.4	
	baz=352								
PHUB	**P'eng-hu**	**1.31**	**291**		*e*P	Pn	08 58 02.2	-0.8	
	baz=291								
PHUB					*e*S	Sb	08 58 19.9	-0.5	
	baz=291								
WDJ	**Dajia District**	**1.31**	**349**		*e*S	Sn	08 58 23.6	+2.7	
	baz=347								
PNG	**Penghu**	**1.35**	**293**		*e*P	Pn	08 58 02.6	-0.9	
	baz=293								
PNG					*e*S	Sn	08 58 21.8	0.0	
	baz=293								
NSY	**Sanyi**	**1.37**	**354**		P	Pg	08 58 05.1	+0.8	
	baz=351								
NSY					S	Sn	08 58 25.7	+3.5	
	baz=351								
NNSB	**Datong**	**1.44**	**17**		P	Pg	08 58 06.2	+0.6	
	baz=16								
NNSB					S	Sg	08 58 26.1	+1.8	
	baz=16								
NNSH	**Datong**	**1.44**	**17**		*e*P	Pg	08 58 05.8	+0.2	
	baz=12								
NNSH					*e*S	Sg	08 58 25.7	+1.5	
	baz=12								
NNS	**Nan Shan**	**1.45**	**17**		*e*P	Pg	08 58 06.4	+0.6	
	baz=16								
NNS					*e*S	Sg	08 58 26.9	+2.3	
	baz=16								
ENA	**Nanau**	**1.57**	**29**		*e*P	Pn	08 58 06.4	-0.1	
	baz=45								
LIOB	**Emei**	**1.59**	**3**		*e*P	Pg	08 58 09.1	+0.5	
	baz=346								
ENAH	**Nanao**	**1.62**	**30**		*e*P	Pn	08 58 07.7	+0.6	
	baz=32								
NDT	**Datong Townshi**	**1.64**	**19**		*e*P	Pg	08 58 09.2	-0.3	
	baz=25								
NDT					*e*S	Sg	08 58 31.6	+0.9	
	baz=25								
YHNB	**Yeheng**	**1.67**	**15**		*e*P	Pb	08 58 09.6	+0.4	
	baz=9.0								
YHNB					*e*S	Sg	08 58 31.2	-0.4	
	baz=9.0								
ENTT	**Nioudou**	**1.69**	**21**		*e*P	Pb	08 58 10.0	+0.4	
	baz=31								
ENTT					*e*S	Sg	08 58 33.1	+0.7	
	baz=31								
TWC	**Suao**	**1.77**	**29**		*e*P	Pb	08 58 10.8	-0.2	
	baz=25								
TWC					*e*S	Sb	08 58 33.7	+0.2	
	baz=25								
TWE	**Neicheng**	**1.80**	**22**		P	Pb	08 58 11.7	+0.2	
	baz=32								
TWE					S	Sb	08 58 35.0	+0.7	
	baz=32								
NWLT	**Wulai**	**1.80**	**17**		*e*P	Pg	08 58 12.5	-0.1	
	baz=12								
NWLT					*e*S	Sb	08 58 34.3	-0.1	
	baz=12								

IDC 08 08:59:24.4±2.8, 53°.61N×87°.79E, h0km, mb1 3.4/2, mb1mx3.1/53, mbtmp3.4/2, ML3.0/2, Error ellipse: s-maj=26.3km s-min=15.7km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**282**	*i*			09 10 50.0	
	baz=98,slow=308,SNR=3.4							
ZALV	**Zalesovo Beam**	**1.80**	**282**	Pn		Pn	08 59 56.7	0.0
	6.5nm,0.3s,baz=101,slow=15,SNR=65							
ZALV				Lg		Lg	09 00 21.1	
	4.5nm,0.3s,baz=98,slow=24,SNR=9.7							
KURBB	**Kurchatov Arra**	**6.44**	**246**	Pn		Pn	09 01 01.1	+0.7
	0.2nm,0.3s,baz=62,slow=14,SNR=17							
KURBB				Lg		Lg	09 02 48.2	
	0.1nm,0.3s,baz=63,slow=32,SNR=8.7							
MKAR	**Makanchi Array**	**7.68**	**210**	Pn		Pn	09 01 18.6	+1.1
	0.3nm,0.3s,baz=24,slow=12,SNR=14							
MKAR				Sn		Sn	09 02 44.8	-0.4
	0.2nm,0.3s,baz=27,slow=29,SNR=4.6							
MKAR				Lg		Lg	09 03 23.3	
	0.2nm,0.3s,baz=31,slow=34,SNR=8.0							

*NEIC **08** 09:24:41.2±2.6, 5°.93S±0°.06×130°.76E±0°.07, h10km±1km, mb4.6/19, Error ellipse: s-maj=13.4km s-min=8.7km az=119.0*

*IDC **08** 09:24:41.3±0.7, 5°.78S×130°.47E, h0km, mb4.0/12, mb1 4.4/18, mb1mx4.3/39, mbtmp4.3/18, ML4.5/5, MS3.6/22, Ms1 3.6/22, ms1mx3.5/45, Error ellipse: s-maj=22.7km s-min=14.4km az=76.0*

*DJA **08** 09:24:46.6±0.8, 6°S±2°×13°1E±°, h16km±7km, M4.8/13, mb5.0/13, mB5.2/7, ML4.9/13, Mw(mB)4.6/7*

ISC 08 09:24:42.0±0.4, 5°.92S±0°.04×130°.62E±0°.05, h10km, n90, σ2°29/87, mb4.5/23, MS3.6/16, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.56**	**333**	P		**Pn**	**09 25 08.2**	**-1.6**
BNDI				S		**Sn**	**09 25 25.4**	**-4.6**
SAUI	**Saumlaki**	**2.16**	**162**	P		**Pg**	**09 25 25.7**	**+2.2**
SAUI				S		**Sg**	**09 25 55.7**	**+4.1**
MSAI	**Masohi**	**3.06**	**327**	P		**Pn**	**09 25 30.6**	**+0.2**
MSAI				S		**Sn**	**09 26 04.4**	**-2.7**
FAKI	**Fak Fak**	**3.39**	**29**	P		**Pn**	**09 25 36.2**	**+1.1**
FAKI				S		**Sn**	**09 26 14.7**	**-0.8**
FAKI	**Fak Fak**	**3.39**	**29**			**Pn**	**09 25 36.0**	**+1.0**
NLAI	**Namlea**	**4.40**	**307**	P		**Pn**	**09 25 49.4**	**+0.5**
NLAI				S		**Sn**	**09 26 40.7**	**+0.5**
SIJI	**Sorong**	**5.06**	**7**	Pn		**Pn**	**09 25 58.0**	**+0.1**
	60nm,0.3s,baz=86,slow=24,SNR=70							
SIJI				Sn		**Sn**	**09 26 51.6**	**-4.9**
	84nm,0.3s,baz=46,slow=23,SNR=15							
RKPI	**Ransiki, Papua**	**5.64**	**39**	P		**Pn**	**09 26 08.5**	**+2.5**
	11nm10μm510nm,0.9s							
RKPI				S		**Sn**	**09 27 10.5**	**-0.3**
	11nm10μm510nm,0.9s							
SANI	**Sanana**	**6.00**	**310**	P		**Pn**	**09 26 11.8**	**+0.8**
	0.5nm2μm172nm,0.8s							
LBMI	**Labuha**	**6.09**	**329**	P		**Pn**	**09 26 13.0**	**+0.7**
	0.9nm3μm294nm,0.9s							
MTN	**Manton Dam**	**6.90**	**176**	Pn		**Pn**	**09 26 21.4**	**-2.0**
SOEI	**Soe**	**7.35**	**238**	P		Pn	09 26 35.5	+5.8
	0.5nm2μm128nm,0.8s							
SOEI	**Soe**	**7.35**	**238**			**Pn**	**09 26 33.3**	**+3.6**
TNTI	**Ternate**	**7.39**	**334**	Pn		**Pn**	**09 26 30.8**	**+0.7**
BATI	**Baumata**	**8.10**	**238**	Pn		**Pn**	**09 26 40.2**	**+0.5**
	3.7nm,0.3s,baz=352,slow=2.6,SNR=1.2							
BATI				Sn		**Sn**	**09 28 11.8**	**+0.3**
	1.7nm,0.3s,baz=90,slow=20,SNR=1.4							
BATI				LR		LR	09 30 11.8	
	comp=Z,946nm,18.9s,baz=74,slow=41							
SMPI	**Sarmi**	**8.97**	**65**	P		Pn	09 26 56.0	+4.3
	23nm,0.7s							
EDFI	**Ende, Flores**	**9.29**	**252**	P		**Pn**	**09 27 00.3**	**+4.1**
	18nm,1.9s							
KNRA	**Kununurra**	**9.87**	**190**	Pn		**Pn**	**09 27 05.2**	**+1.1**
GTOI	**Gorontalo**	**10.00**	**310**	P		**Pn**	**09 27 09.1**	**+3.2**
	459nm47nm,0.8s							
GENI	**Genyem**	**10.08**	**71**	P		Pn	09 27 11.7	+4.7
JAY	**Jayapura**	**10.61**	**72**	Pn		**Pn**	**09 27 16.6**	**+2.3**
	0.9nm,0.3s,baz=210,slow=2.4,SNR=6.6							
JAY	**Jayapura**	**10.61**	**72**	P		**Pn**	**09 27 17.5**	**+3.2**
	15nm,0.8s							
KAPI	**Kappang**	**10.85**	**274**	Pn		**Pn**	**09 27 19.8**	**+2.2**
	4.0nm,0.3s,baz=121,slow=6.9,SNR=6.1							
KAPI				LR		LR	09 31 05.9	
	comp=Z,711nm,21.5s,baz=89,slow=36							
SPSI	**Sidrap Palu**	**10.98**	**280**	P		**Pn**	**09 27 22.0**	**+2.7**
MPSI	**Mapaga**	**12.37**	**300**	P		**Pn**	**09 27 42.4**	**+4.0**
FITZ	**Fitzroy Crossi**	**13.04**	**201**	Pn		**Pn**	**09 27 48.2**	**+0.6**
	2.4nm,0.3s,baz=26,slow=7.3,SNR=72							
FITZ				Sn		**Sn**	**09 30 06.5**	**-6.3**
	4.1nm,0.3s,baz=98,slow=18,SNR=8.1							
FITZ				LR		LR	09 33 26.2	
	comp=Z,275nm,20.0s,baz=22,slow=40							
FITZ	**Fitzroy Crossi**	**13.04**	**201**	Pn		**Pn**	**09 27 47.4**	**-0.1**
DAV	**Davao City (W)**	**13.84**	**339**	LR		LR	09 34 04.8	
	comp=Z,267nm,21.6s,baz=167,slow=41							
WB0	**Warramunga Arr**	**14.25**	**165**			**Pn**	**09 28 02.7**	**-1.4**
WRA	**Warramunga Arr**	**14.40**	**166**	Pn		**Pn**	**09 28 05.7**	**-0.5**
	3.0nm,0.3s,baz=348,slow=14,SNR=114							
WRA				Sn		**Sn**	**09 30 38.5**	**-7.6**
	5.3nm,0.3s,baz=346,slow=23,SNR=8.3							
WRA				LR		LR	09 34 24.9	
	comp=Z,317nm,18.9s,baz=340,slow=40							
WRA	**Warramunga Arr**	**14.40**	**166**			**Pn**	**09 28 03.8**	**-2.3**
WB2	**Warramunga Arr**	**14.41**	**166**			**Pn**	**09 28 05.0**	**-1.2**
WR0	**Warramunga Arr**	**14.47**	**165**			**Pn**	**09 28 06.2**	**-0.8**
COEN	**Coen**	**14.72**	**124**	Pn		**Pn**	**09 28 10.6**	**+0.1**

MYLDM	**Lahad Datu**	**16.36**	**312**			**P**	**09 28 34.2**	**-0.7**	
PMG	**Port Moresby**	**16.76**	**103**		Pn	**P**	**09 28 39.4**	**+0.1**	
	2.5nm,0.3s,baz=338,slow=6.6,SNR=7.8								
PMG					LR	LR	09 35 29.2		
	comp=Z,313nm,21.6s,baz=267,slow=38								
PMG	**Port Moresby**	**16.76**	**103**			**Pn**	**09 28 34.4**	**-2.7**	
PMG					IAmb	IAmb	09 28 43.3		
	comp=Z,34nm,0.7s								
AS31	**Alice Springs**	**17.93**	**170**			**Pn**	**09 28 50.7**	**-1.0**	
ASAR	**Alice Springs**	**17.93**	**170**		P	**P**	**09 28 53.7**	**+1.4**	
	comp=Z,3.8nm,0.3s,baz=18,slow=14,SNR=273								
ASAR					S	**Sn**	**09 32 05.8**	**-5.9**	
	comp=Z,1.7nm,0.3s,baz=352,slow=26,SNR=11								
ASAR					LR	LR	09 35 40.3		
	comp=Z,158nm,19.9s,baz=358,slow=36								
ASAR	**Alice Springs**	**17.93**	**170**		P	**P**	**09 28 52.1**	**-0.1**	
KKM	**Kota Kinabalu**	**18.65**	**309**		P	**Pn**	**09 29 02.1**	**+1.5**	
PSA00	**Pilbara Seismi**	**18.73**	**213**		P	**P**	**09 29 00.8**	**-0.3**	
PSA00					IAmb	IAmb	09 29 06.7		
	comp=Z,45nm,0.9s								
PSA00	**Pilbara Seismi**	**18.73**	**213**		P	**Pn**	**09 29 01.7**	**+0.2**	
PSA00					IAmb	IAmb	09 29 07.8		
	comp=Z,14nm,0.8s								
SBUM	**Sibu**	**20.16**	**294**		P	**P**	**09 29 15.2**	**-1.5**	
CTA	**Charters Tower**	**20.72**	**134**		P	Pn	09 29 26.4	+1.2	
	comp=Z,11nm,0.7s,baz=318,slow=14,SNR=5.1								
KRVT	**Keravat (AS076**	**21.39**	**87**		LR	LR	09 38 44.4		
	comp=Z,144nm,20.1s,baz=288,slow=39								
LEM	**Lembang**	**22.87**	**266**		LR	LR	09 40 50.7		
	comp=Z,262nm,18.3s,baz=134,slow=43								
FORT	**Forrest**	**24.85**	**185**		P	**P**	**09 30 06.7**	**+1.9**	
MORW	**Morawa**	**26.84**	**209**		P	**P**	**09 30 23.1**	**+0.3**	
BBOO	**Buckleboo**	**27.23**	**170**		P	**P**	**09 30 28.1**	**+1.8**	
BBOO					IAmb	IAmb	09 30 39.1		
	comp=Z,9.2nm,0.8s								
STKA	**Stephens Creek**	**27.80**	**160**		P	**P**	**09 30 34.0**	**+2.6**	
	comp=Z,1.1nm,0.3s,baz=347,slow=12,SNR=4.3								
STKA					LR	LR	09 43 02.8		
	comp=Z,188nm,19.1s,baz=340,slow=39								
NWAO	**Narrogin (SRO)**	**29.62**	**203**		P	**P**	**09 30 44.1**	**-3.5**	
NWAO					IAmb	IAmb	09 30 58.0		
	comp=Z,16nm,1.1s								
NWAO	**Narrogin (SRO)**	**29.62**	**203**		P	**P**	**09 30 44.0**	**-3.6**	
NWAO					IAmb	IAmb	09 30 58.0		
	comp=Z,13nm,1.1s								
NJ2	**Nanjing**	**39.39**	**344**	*e*	P	**P**	**09 32 12.5**	**+0.5**	
NJ2					pmax	pmax			
	comp=Z,11nm,0.5s								
WHN	**Wuhan**	**39.46**	**338**	⇑	P	**P**	**09 32 13.1**	**+0.5**	
CMAR	**Chiang Mai Arr**	**39.52**	**308**		P	**P**	**09 32 12.6**	**-0.7**	
	comp=Z,4.1nm,0.8s,baz=139,slow=7.4,SNR=17								
CMAR					LR	LR	09 50 29.4		
	comp=Z,85nm,18.3s,baz=168,slow=39								
CMAR	**Chiang Mai Arr**	**39.52**	**308**		P	**P**	**09 32 12.9**	**-0.5**	
CHTO	**Chiang Mai**	**39.73**	**309**		P	**P**	**09 32 14.9**	**-0.1**	
CHTO					IAmb	IAmb	09 32 20.2		
	comp=Z,11nm,0.8s								
MAT	**Matsushiro**	**42.83**	**9**		P	**P**	**09 32 39.6**	**-0.7**	
MJAR	**Matsushiro Arr**	**42.83**	**9**		P	**P**	**09 32 39.6**	**-0.7**	
	comp=Z,3.6nm,0.8s,baz=190,slow=8.9,SNR=6.5								
MJAR					LR	LR	09 48 50.4		
	comp=Z,61nm,21.9s,baz=170,slow=34								
KSRS	**Korea Array**	**43.22**	**357**		P	**P**	**09 32 42.8**	**-0.6**	
	comp=Z,0.7nm,0.7s,baz=356,slow=36,SNR=2.8								
KSRS					LR	LR	09 49 50.5		
	comp=Z,52nm,19.3s,baz=153,slow=35								
XAN	**Xi'an**	**44.73**	**334**		P	**P**	**09 33 00.3**	**+4.6**	
XAN					pP	pwP	09 33 07.2	+2.6	
XAN					pmax	pmax			
	comp=Z,6.0nm,0.9s								
BJI	**Beijing**	**47.63**	**345**		P	**P**	**09 33 18.4**	**+0.1**	
BJI					pmax	pmax			
	comp=Z,7.0nm,0.5s								
LZH	**Lanzhou**	**48.75**	**331**	*e*	P	**P**	**09 33 31.8**	**+4.5**	
LZH					pP	pwP	09 33 38.0	+1.7	
LZH					sP	sP	09 33 42.4	+13	
LZH					pmax	pmax			
	comp=Z,15nm,1.0s								
HHC	**Hu-ho-hao-te**	**49.72**	**341**	*e*	P	**P**	**09 33 35.1**	**+0.5**	
HHC					pmax	pmax			
	comp=Z,24nm,1.0s								
HHC					pmax	pmax			
	comp=Z,160nm,7.4s								
USRK	**Ussuriysk Ar.**	**49.90**	**1**		P	**P**	**09 33 36.2**	**+0.4**	
	comp=Z,2.8nm,0.7s,baz=189,slow=6.7,SNR=4.7								
PALK	**Pallekele**	**51.49**	**284**		LR	LR	09 57 23.5		
	comp=Z,51nm,18.2s,baz=205,slow=38								
KLR	**Kul'dur**	**54.93**	**1**		LR	LR	09 56 36.8		
	comp=Z,36nm,21.4s,baz=189,slow=35								
SONM	**Songino Array**	**57.62**	**341**		P	**P**	**09 34 31.9**	**-0.5**	
	comp=Z,0.6nm,0.4s,baz=156,slow=7.8,SNR=4.8								
SONM					LR	LR	10 00 41.4		
	comp=Z,42nm,18.1s,baz=109,slow=38								
SONM	**Songino Array**	**57.62**	**341**		P	**P**	**09 34 31.6**	**-0.8**	
TLY	**Talaya**	**61.85**	**341**		LR	LR	10 04 10.0		
	comp=Z,31nm,18.4s,baz=154,slow=38								
WMQ	**Urumqi**	**62.83**	**326**	*e*	P	**P**	**09 35 09.7**	**+1.6**	
WMQ					pmax	pmax			
	comp=Z,16nm,0.8s								
WMQ					pmax	pmax			
	comp=Z,70nm,3.7s								
WMQ					LR	LR			
	comp=N,1μm,28.9s								
WMQ					LR	LR			
	comp=E,1μm,29.0s								
WMQ					LR	LR			
	comp=Z,120nm,26.7s								
PETK	**Petropavlovsk-**	**63.11**	**18**		P	**P**	**09 35 09.6**	**-0.1**	
	comp=Z,0.7nm,0.7s,baz=232,slow=1.6,SNR=2.2								
PETK					LR	LR	10 00 34.4		
	comp=Z,30nm,21.1s,baz=241,slow=34								
MK31	**Makanchi Array**	**67.66**	**326**		P	**P**	**09 35 39.4**	**0.0**	
MK31					IAmb	IAmb	09 35 40.3		
	comp=Z,3.4nm,1.0s								
MKAR	**Makanchi Array**	**67.66**	**326**		P	**P**	**09 35 39.3**	**-0.1**	
	comp=Z,1.7nm,0.4s,baz=119,slow=8.3,SNR=28								
MKAR	**Makanchi Array**	**67.66**	**326**		P	**P**	**09 35 39.0**	**-0.4**	
ZAA0	**Zalesovo Array**	**70.89**	**333**		P

TKM2 ⇓S **Sn** **09 29 59.5 -0.6**
4.4nm,0.7s
AB31 **Akbulak array** **14.99 330** ⇑P **Pn** **09 30 25.9 +0.2**
0.8nm,0.6s
AKTO **Aktyubinsk** **16.69 329** ⇓P **P** **09 30 46.1 -0.2**
0.7nm,0.4s

IDC 08 09:44:39.1±2.2,28°.13N×105°.39E,h0km,mb3.3/3, mb1 3.6/3,mb1mx3.3/55,mbtmp3.3/3,MS3.4/2,Ms1 3.4/2, ms1mx2.7/29,Error ellipse: s-maj=558.1km s-min=30.0km az=54.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.98**	**322**	P	P	09 50 13.4	0.0
	0.3nm,0.5s,baz=138,slow=11,SNR=1.7						
WRA	**Warramunga Arr**	**55.39**	**146**	P	P	09 54 14.9	-0.4
	0.3nm,0.5s,baz=332,slow=8.6,SNR=8.3						
OBN	**Obninsk**	**55.44**	**319**	LR	LR	10 17 09.3	
	comp=Z,34nm,21.6s,baz=40,slow=35						
ASAR	**Alice Springs**	**58.38**	**149**	P	P	09 54 36.9	+0.4
	0.2nm,0.7s,baz=327,slow=6.8,SNR=1.4						
ARCES	**ARCESS Array B**	**60.42**	**337**	LR	LR	10 25 38.9	
	comp=Z,25nm,18.7s,baz=86,slow=41						

IDC 08 10:03:53.2±2.2,9°.47S×160°.04E,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.5/34,mbtmp3.5/4,MS3.9/3,Ms1 3.9/3, ms1mx3.0/27,Error ellipse: s-maj=114.8km s-min=31.3km az=130.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.91**	**244**	P	P	10 09 36.6	+0.2
	0.7nm,0.9s,baz=74,slow=9.2,SNR=2.7						
STKA	**Stephens Creek**	**28.11**	**215**	P	P	10 09 47.3	+0.4
	0.4nm,0.5s,baz=112,slow=16,SNR=1.2						
ASAR	**Alice Springs**	**28.68**	**237**	P	P	10 09 51.5	-0.7
	0.4nm,1.0s,baz=61,slow=11,SNR=1.7						
SIJI	**Sorong**	**29.88**	**285**	LR	LR	10 21 43.6	
	comp=Z,90nm,21.6s,baz=156,slow=36						
FITZ	**Fitzroy Crossi**	**34.45**	**252**	LR	LR	10 23 48.4	
	comp=Z,170nm,20.6s,baz=44,slow=35						
KDAK	**Kodiak Island**	**77.30**	**24**	LR	LR	10 44 38.1	
	comp=Z,257nm,21.6s,baz=249,slow=32						
ILAR	**Eielson Array**	**83.89**	**20**	P	P	10 16 24.6	0.0
	0.2nm,0.5s,baz=246,slow=5.0,SNR=5.4						

*IDC **08** 10:07:03.7±0.7,55°.30S×27°.96W,h0km,mb4.5/7, mb1 4.6/8,mb1mx4.3/21,mbtmp4.6/8,ML4.8/1,MS3.7/3, Ms1 3.7/3,ms1mx3.2/20,Error ellipse: s-maj=26.7km s-min=17.6km az=100.0*
*NEIC **08** 10:07:05.9±1.0,55°.3S±0°.1×28°.0W±0°.2,h10km±1km, mb4.7/22,Error ellipse: s-maj=22.1km s-min=17.5km az=200.0*

ISC 08 10:07:07.8±0.5,55°.36S±0°.09×28°.04W±0°.09,h26km,n60, σ0°77/58,mb4.8/15,MS3.8/3,1C-2D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.00**	**279**	Pn	**Pn**	**10 08 20.4**	**-0.6**
VNA1	**Neumayer--Stat**	**17.62**	**158**	P	**P**	**10 11 12.3**	**+0.5**
VNA3	**Neumayer Olymp**	**17.81**	**161**	P	**P**	**10 11 13.7**	**-0.3**
VNA2	**Neumayer--Watz**	**18.02**	**158**	P	**P**	**10 11 16.5**	**+0.2**
	baz=314,slow=14						
SNAA	**Sanae**	**19.57**	**156**	P	**P**	**10 11 33.1**	**-0.3**
SNAA	**Sanae**	**19.57**	**156**	P	**P**	**10 11 33.1**	**-0.3**
	2.6nm,0.3s,baz=288,slow=12,SNR=164						
SNAA	**Sanae**	**19.57**	**156**	P	**P**	**10 11 33.0**	**-0.3**
PMSA	**Palmer Station**	**20.00**	**227**	P	**P**	**10 11 37.9**	**-0.1**
	21nm,0.8s,baz=89,slow=7.3,SNR=8.1						
PMSA				LR	LR	10 18 14.7	
	comp=Z,257nm,18.9s,baz=12,slow=33						
PMSA	**Palmer Station**	**20.00**	**227**	P	**Pn**	**10 11 39.4**	**-0.4**
PMSA				IAmb	IAmb	10 11 47.2	
	comp=Z,49nm,1.1s						
SYO	**Syowa Base**	**32.43**	**142**	*e*P	**P**	**10 13 33.4**	**-1.6**
SYO	**Syowa Base**	**32.43**	**142**	*e*pP	**P**	**10 13 35.8**	**+0.8**
SYO	**Syowa Base**	**32.43**	**142**	*e*PnPn	PnPn	10 14 38.6	-3.5
QSPA	**South Pole Qui**	**34.90**	**180**	P	**P**	**10 13 57.1**	**+0.3**
	comp=Z,6.3nm,0.5s,baz=210,slow=1.7,SNR=84						
QSPA	**South Pole Qui**	**34.90**	**180**	P	**P**	**10 13 57.5**	**+0.7**
QSPA				IAmb	IAmb	10 13 59.6	
	comp=Z,6.6nm,0.6s						
CPUP	**Villa Florida**	**35.99**	**312**	P	**P**	**10 14 04.9**	**-1.4**
	comp=Z,1.6nm,0.5s,baz=150,slow=7.2,SNR=6.0						
CPUP	**Villa Florida**	**35.99**	**312**	P	**P**	**10 14 05.2**	**-1.1**
GO05	**Huala**	**36.23**	**286**	P	**P**	**10 14 07.6**	**-0.8**
GO05				IAmb	IAmb	10 14 09.9	
	comp=Z,29nm,1.4s						
CO02	**Combarbal**	**38.62**	**291**	P	**P**	**10 14 29.2**	**+0.5**
CO01	**Juntas del Tor**	**39.10**	**293**	P	**P**	**10 14 33.9**	**+1.0**
CO01				IAmb	IAmb	10 14 51.4	
	comp=Z,17nm,1.4s						
AC04	**Llanos de Chal**	**41.03**	**293**	P	**P**	**10 14 50.7**	**+2.0**
GO02	**Mina Guanaco**	**42.74**	**298**	P	**P**	**10 15 03.4**	**+0.3**
LVC	**Limon Verde**	**44.53**	**300**	P	**P**	**10 15 19.0**	**+1.5**
PB01	**IPOC Station P**	**46.14**	**301**	P	**P**	**10 15 31.2**	**+1.2**
PB01				IAmb	IAmb	10 15 45.7	
	comp=Z,22nm,1.5s						
BOSA	**Boshof**	**46.28**	**77**	P	**P**	**10 15 29.6**	**-1.5**
	comp=Z,3.7nm,0.8s,baz=198,slow=6.9,SNR=5.1						
BOSA	**Boshof**	**46.28**	**77**	P	**P**	**10 15 30.7**	**-0.3**
BOSA				IAmb	IAmb	10 15 39.1	
	comp=Z,11nm,1.3s						
PB08	**IPOC Station P**	**46.74**	**302**	P	**P**	**10 15 34.3**	**-0.7**
PB08				IAmb	IAmb	10 15 47.7	
	comp=Z,6.4nm,0.8s						
GO01	**Chusmiza**	**47.17**	**302**	P	**P**	**10 15 39.1**	**+0.7**
GO01				IAmb	IAmb	10 15 40.6	
	comp=Z,5.4nm,0.8s						
VNDA	**Vanda**	**47.24**	**183**	P	**P**	**10 15 37.6**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=187,slow=6.4,SNR=16						
VNDA	**Vanda**	**47.24**	**183**	P	**P**	**10 15 38.4**	**+0.5**
VNDA				IAmb	IAmb	10 15 42.2	
	comp=Z,3.0nm,0.7s						
PB11	**IPOC Station P**	**47.31**	**302**	P	**P**	**10 15 39.9**	**+0.7**
MNMC	**Minye Minye**	**47.82**	**302**	P	**P**	**10 15 43.9**	**+0.6**
MNMC				IAmb	IAmb	10 15 51.6	
	comp=Z,8.1nm,0.6s						
PB16	**IPOC Station P**	**48.46**	**303**	P	**P**	**10 15 49.7**	**+1.1**
PB16				IAmb	IAmb	10 15 55.0	
	comp=Z,6.1nm,1.1s						
SAML	**Samuel**	**53.97**	**315**	P	**P**	**10 16 29.6**	**+0.4**
LIC	**Lamto**	**64.27**	**26**	*e*P	**P**	**10 17 41.1**	**+0.6**
	comp=Z,64nm,1.0s						
KIC	**Kosan Boka**	**64.47**	**26**	*e*P	**P**	**10 17 42.3**	**+0.4**
	comp=Z,38nm,1.1s						
TIC	**Toumodi**	**64.68**	**25**	*e*P	**P**	**10 17 43.6**	**+0.4**
DBIC	**Dimbokro**	**64.74**	**26**	P	**P**	**10 17 42.1**	**-1.5**
	comp=Z,6.9nm,0.6s,baz=162,slow=9.1,SNR=12						
DBIC	**Dimbokro**	**64.74**	**26**	P	**P**	**10 17 42.3**	**-1.3**
TOA0	**Torodi Ar. Sit**	**72.69**	**30**	P	**P**	**10 18 33.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**72.69**	**30**	P	**P**	**10 18 33.7**	**+0.6**
	comp=Z,9.7nm,0.6s,baz=203,slow=6.6,SNR=60						
TORD	**Torodi Ar. Bea**	**72.69**	**30**	P	**P**	**10 18 33.9**	**+0.7**
MDT	**Midelt**	**90.09**	**20**	LR	LR	10 54 09.6	
	comp=Z,32nm,20.2s,baz=159,slow=31						
ESDC	**Sonseca Array**	**96.87**	**18**	LR	LR	10 58 42.2	
	comp=Z,34nm,20.7s,baz=135,slow=32						
NVAR	**Mina Array Bea**	**120.67**	**294**	PKP	**PKiKP**	**10 25 57.7**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=145,slow=2.2,SNR=2.1						
FINES	**FINESS Array B**	**123.99**	**28**	PKP	**PKPdf**	**10 26 02.1**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=174,slow=1.9,SNR=9.5						
YKA	**Yellowknife Ar**	**135.33**	**319**	PKP	**PKPdf**	**10 26 24.1**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=130,slow=1.8,SNR=4.1						
INK	**Inuvik**	**144.96**	**321**	PKP	**PKPdf**	**10 26 41.0**	**+0.2**
	comp=Z,8.2nm,0.7s,baz=5.4,slow=5.2,SNR=14						
INK	**Inuvik**	**144.96**	**321**	PKPdf	**PKPdf**	**10 26 41.2**	**+0.5**
BCAR	**Beaver Creek A**	**146.67**	**311**		**PKPab**	**10 26 46.5**	**-0.4**
DOT	**Dot Lake**	**147.82**	**311**		**PKPbc**	**10 26 49.6**	**+0.8**
RIDG	**Independent Ri**	**148.19**	**311**		**PKiKP**	**10 26 51.4**	**-0.1**
IL31		**149.29**	**313**		**PKiKP**	**10 26 53.3**	**-0.3**
ILAR	**Eielson Array**	**149.29**	**313**	PKPbc	**PKPbc**	**10 26 53.0**	**+0.5**
	comp=Z,6.9nm,1.1s,baz=114,slow=1.4,SNR=27						
ILAR	**Eielson Array**	**149.29**	**313**		**PKiKP**	**10 26 53.4**	**-0.3**
WRH	**Wood River Hil**	**149.74**	**312**		**PKiKP**	**10 26 54.5**	**-0.1**
TOLK	**Toolik Lake Re**	**150.84**	**320**		**PKiKP**	**10 26 56.7**	**-0.1**
BPAW	**Bear Paw Mtn.**	**150.91**	**311**		**PKiKP**	**10 26 57.2**	**+0.1**
SONM	**Songino Array**	**151.16**	**86**	PKPbc	**PKPbc**	**10 26 58.0**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=224,slow=2.7,SNR=7.5						
SONM	**Songino Array**	**151.16**	**86**		**PKPbc**	**10 26 57.4**	**-0.4**
IMAR	**Indian Mountai**	**152.30**	**314**		**PKiKP**	**10 27 00.7**	**+0.9**
IMAR				PKPab	**PKPab**	**10 27 09.8**	**+0.1**

*IDC **08** 10:16:47.0±1.0,7°.33S×128°.34E,h0km,mb4.1/7, mb1 4.1/11,mb1mx3.9/51,mbtmp4.0/11,ML4.0/4,MS3.4/1, Ms1 3.4/1,ms1mx2.6/33,Error ellipse: s-maj=40.8km s-min=18.8km az=79.0*
*NEIC **08** 10:16:48.2±2.7,7°.42S±0°.07×128°.28E±0°.04,h10km±1km, mb4.1/9,Error ellipse: s-maj=11.7km s-min=6.9km az=163.0*

ISC 08 10:16:48.1±0.7,7°.45S±0°.06×128°.30E±0°.07,h10km,n32, σ1ş24/35,mb4.2/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.60**	**240**	Pn	**Pn**	**10 17 59.4**	**+1.5**
BATI	**Baumata**	**5.34**	**239**	Pn	**Pn**	**10 18 09.6**	**+1.6**
	7.2nm,0.3s,baz=103,slow=3.2,SNR=4.3						
BATI				Sn	**Sn**	10 19 11.0	+1.4
	3.9nm,0.3s,baz=131,slow=20,SNR=2.0						
FAKI	**Fak Fak**	**5.98**	**41**		**Pn**	**10 18 17.1**	**+0.3**
KNRA	**Kununurra**	**8.19**	**177**		**Pn**	**10 18 48.1**	**+0.9**
LUWI	**Luwuk**	**8.42**	**319**	Pn	**Pn**	**10 18 49.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**10.90**	**193**	Pn	**Pn**	**10 19 25.5**	**+1.2**
	0.4nm,0.3s,baz=11,slow=12,SNR=8.9						
FITZ				Sn	**Sn**	**10 21 25.0**	**-1.3**
	0.6nm,0.3s,baz=156,slow=10.0,SNR=2.1						
FITZ	**Fitzroy Crossi**	**10.90**	**193**		**Pn**	**10 19 24.4**	**+0.1**
WB0	**Warramunga Arr**	**13.60**	**155**	Pn	**Pn**	**10 20 02.5**	**+1.2**
WRAB	**Tennant Creek**	**13.73**	**155**	Pn	**Pn**	**10 20 02.9**	**-0.1**
WRA	**Warramunga Arr**	**13.73**	**155**	Pn	**Pn**	**10 20 03.6**	**+0.6**
	1.0nm,0.3s,baz=321,slow=14,SNR=22						
WRA				Sn	**Sn**	**10 22 33.9**	**-1.9**
	0.6nm,0.3s,baz=332,slow=22,SNR=6.7						
WRA	**Warramunga Arr**	**13.73**	**155**		**Pn**	**10 20 03.7**	**+0.6**
WRA					**Sn**	**10 22 35.5**	**-0.2**
WB2				Pn	**Pn**	**10 20 04.0**	**+0.9**
WR0	**Warramunga Arr**	**13.83**	**155**	Pn	**Pn**	**10 20 05.9**	**+1.5**
COEN	**Coen**	**15.98**	**115**	Pn	**Pn**	**10 20 34.6**	**+1.4**
COEN				IAmb	IAmb	10 20 50.8	
	comp=Z,18nm,1.1s						
PSA00	**Pilbara Seismi**	**16.24**	**209**	Pn	**Pn**	**10 20 34.3**	**-2.3**
PSA00				IAmb	IAmb	10 20 53.5	
	comp=Z,5.5nm,0.7s						
AS31	**Alice Springs**	**17.00**	**162**	P	**Pn**	**10 20 47.4**	**+1.2**
ASAR	**Alice Springs**	**17.00**	**162**	P	**Pn**	**10 20 47.4**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=329,slow=9.3,SNR=30						
ASAR				S	**Sn**	**10 23 52.1**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=323,slow=20,SNR=2.0						
ASAR				LR	LR	10 27 58.1	
	comp=Z,136nm,20.8s,baz=11,slow=39						
ASAR	**Alice Springs**	**17.00**	**162**		**Pn**	**10 20 45.8**	**-0.4**
ASAR				Sn	**Sn**	**10 23 55.0**	**-0.3**
STKA	**Stephens Creek**	**27.28**	**155**	P	**P**	**10 22 34.6**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=316,slow=15,SNR=2.5						
STKA	**Stephens Creek**	**27.28**	**155**	IAmb	IAmb	10 22 43.6	
	comp=Z,0.9nm,0.9s						
RPSI	**Rantau Prapat**	**31.00**	**288**	P	**P**	**10 23 05.2**	**-0.9**
RPSI				IAmb	IAmb	10 23 11.8	
	comp=Z,8.4nm,0.8s						
MJAR	**Matsushiro Arr**	**44.74**	**11**	P	**P**	**10 25 00.8**	**-1.0**
	comp=Z,1.2nm,0.9s,baz=195,slow=11,SNR=3.2						
MJAR	**Matsushiro Arr**	**44.74**	**11**	IAmb	IAmb	10 25 06.4	
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**58.35**	**343**	P	**P**	**10 26 44.1**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=160,slow=9.0,SNR=1.6						
SONM	**Songino Array**	**58.35**	**343**	IAmb	IAmb	10 26 59.5	
	comp=Z,1.8nm,0.6s						
MK31	**Makanchi Array**	**67.69**	**328**	P	**P**	**10 27 45.7**	**0.0**
MK31				IAmb	IAmb	10 28 02.3	
	comp=Z,2.6nm,0.9s						
MKAR	**Makanchi Array**	**67.69**	**328**	P	**P**	**10 27 45.1**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=115,slow=8.5,SNR=5.8						
MKAR	**Makanchi Array**	**67.69**	**328**	P	**P**	**10 27 44.5**	**-1.2**
ZALV	**Zalesovo Beam**	**71.25**	**335**	P	**P**	**10 28 06.9**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=126,slow=7.3,SNR=1.8						
KURBB	**Kurchatov Arra**	**72.02**	**329**	P	**P**	**10 28 11.9**	**-0.3**
	comp=Z,0.9nm,0.2s,baz=134,slow=5.6,SNR=7.6						
KURK	**Kurchatov**	**72.03**	**329**	P	**P**	**10 28 11.4**	**-0.8**
BVAR	**Borovoye Array**	**77.55**	**328**	P	**P**	**10 28 45.1**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=133,slow=6.3,SNR=5.7						

WEL 08 10:23:13.9±0.8,34°.5±6°×17°.9W±1°.2,h33km,M4.4/21, mB4.6/2,ML4.6/21,MLv4.4/21,Mw(mB)3.9/2,Error ellipse: s-maj=0.0km s-min=0.0km az=108.6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.15**	**210**	P	Pn	10 24 14.9	-0.1
MXZ				S	Sn	10 25 01.7	-0.6
WMGZ	**Waiomatatini S**	**4.33**	**207**	P	Pn	10 24 18.6	+1.2
WMGZ				S	Sn	10 25 08.4	+1.7
HAZ	**Te Kaha**	**4.54**	**213**	P	Pn	10 24 20.4	+0.1
HAZ				S	Sn	10 25 15.4	+3.4
PUZ	**Puketiti**	**4.61**	**207**	P	Pn	10 24 20.6	-0.8
PUZ				S	Sn	10 25 15.5	+1.8
RUGZ	**Raukumara Rang**	**4.76**	**213**	P	Pn	10 24 23.6	+0.2
GLKZ	**Green Lake**	**4.81**	**12**	P	Pn	10 24 24.1	0.0
TWGZ	**Tauwhareparae**	**4.81**	**209**	P	Pn	10 24 24.2	+0.1
CNGZ	**Carnagh Statio**	**5.00**	**205**	P	Pn	10 24 26.0	-0.6
GRZ	**Great Barrier**	**5.02**	**242**	P	Pn	10 24 24.9	-1.9
KUZ	**Kuaotunu**	**5.06**	**236**	P	Pn	10 24 28.8	+1.4
TKGZ	**Te Karaka**	**5.09**	**208**	P	Pn	10 24 28.4	+0.6
TKGZ				S	Sn	10 25 24.9	-0.6
MWZ	**Matawai**	**5.13**	**211**	P	Pn	10 24 27.7	-0.8
MWZ				S	Sn	10 25 25.4	-1.2
OPRZ	**Ohinepanea**	**5.23**	**221**	P	Pn	10 24 30.8	+1.0
URZ	**Urewera**	**5.26**	**215**	P	Pn	10 24 29.8	-0.4
RAGZ	**Rawiri**	**5.32**	**211**	P	Pn	10 24 31.3	+0.2
RIGZ	**Rimuhau**	**5.36**	**208**	P	Pn	10 24 30.6	-0.9
SNGZ	**Shannon Statio**	**5.59**	**210**	P	Pn	10 24 34.7	-0.1
RTZ	**Ruatahuna**	**5.61**	**213**	P	Pn	10 24 35.2	+0.1
WCZ	**Waipu Caves**	**5.74**	**248**	P	Pn	10 24 37.0	+0.3
RAHZ	**Arahi**	**5.81**	**211**	P	Pn	10 24 37.8	0.0
MTHZ	**Maungataniwha**	**5.87**	**213**	P	Pn	10 24 39.6	+1.1
NMHZ	**Naumai**	**6.08**	**212**	P	Pn	10 24 42.6	+1.0
OUZ	**Omahuta**	**6.17**	**256**	P	Pn	10 24 42.8	+0.2
BKZ	**Black Stump Fm**	**6.28**	**213**	P	Pn	10 24 43.7	-0.5
MCHZ	**McNeill Hill**	**6.42**	**211**	P	Pn	10 24 46.4	+0.3
KWHZ	**Kaweka Forest**	**6.52**	**212**	P	Pn	10 24 46.6	-0.9
OTVZ	**Oturere**	**6.68**	**218**	P	Pn	10 24 49.8	0.0

*OMAN **08** 10:31:46.9±0.3,24°.82N×62°.55E,h43km,mb4.8/4,ml3.3/7, Error ellipse: s-maj=7.4km s-min=4.5km az=257.0*
*DSN **08** 10:31:48.7±1.8,25°.18N×62°.18E,h10km,ML3.6/4,Error ellipse: s-maj=26.7km s-min=17.0km az=169.0*

ISC 08 10:31:45.6±4.1,24°.9N±0°.1×62°.6E±0°.2,h35km,n19, σ1ş04/29,Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**3.98**	**246**	P	**Pn**	**10 32 44.1**	**-0.1**
	SNR=54						
WSAR				S	**Sn**	**10 33 29.2**	**-0.5**
JLN	**Jalan Bani Buh**	**4.01**	**227**	P	**Pn**	**10 32 43.7**	**-0.9**
	SNR=8.0						
JLN				S	**Sn**	**10 33 30.6**	**+0.1**
WBK	**Wadi Bani Khal**	**4.03**	**236**	P	**Pn**	**10 32 44.4**	**-0.5**
	SNR=671						
WBK				S	**Sn**	**10 33 30.9**	**-0.1**
BIDO	**Bidbid**	**4.30**	**252**	P	**Pn**	**10 32 50.0**	**+1.4**
	SNR=6.7						
BIDO				S	**Sn**	**10 33 38.4**	**+0.9**
SMDO	**Samad**	**4.54**	**247**	P	**Pn**	**10 32 52.6**	**+0.6**
	SNR=61						
JMDO	**Jabal Madar**	**4.83**	**239**	P	**Pn**	**10 32 56.2**	**+0.3**
	SNR=80						
HOQ	**Hoqain**	**4.99**	**256**	P	**Pn**	**10 32 58.6**	**+0.5**
SOHO	**SOHO**	**5.56**	**263**	*i* P	**Pn**	**10 33 05.9**	**0.0**
	SNR=12						
SOHO	**SOHO**	**5.56**	**263**	P	**Pn**	**10 33 06.4**	**+0.5**
SOHO				S	**Sn**	**10 34 08.8**	**+0.2**
MDH	**Madha**	**5.71**	**275**	P	**Pn**	**10 33 07.4**	**-0.4**
MDH	**Madha**	**5.71**	**275**	P	**Pn**	**10 33 07.5**	**-0.4**
MDH				S	**Sn**	**10 34 10.1**	**-2.1**
BANOM	**Banah**	**5.76**	**281**	*i* P	**Pn**	**10 33 08.8**	**+0.1**
	SNR=8.6						
BANOM				P	**Pn**	**10 33 08.9**	**+0.1**
BANOM				P	**Pn**	**10 33 09.0**	**+0.3**
BANOM	**Banah**	**5.76**	**281**	P	**Pn**	**10 33 09.6**	**+0.9**
BANOM				S	**Sn**	**10 34 12.5**	**-1.2**
UOSS	**Minazif**	**5.79**	**272**	*i* P	**Pn**	**10 33 08.5**	**-0.5**
	SNR=8.7						
MSFE	**Esma-Masafi**	**5.83**	**276**	P	**Pn**	**10 33 08.5**	**-1.2**
SHME	**Shamm**	**5.92**	**282**	*i* P	**Pn**	**10 33 12.7**	**+1.7**
	SNR=8.9						
ASHO	**Ashiyiah**	**5.93**	**269**	*i* P	**Pn**	**10 33 12.8**	**+1.8**
	SNR=10						
ASHO				S	**Sn**	**10 34 16.9**	**-0.9**
ASHO	**Ashiyiah**	**5.93**	**269**	P	**Pn**	**10 33 12.4**	**+1.3**
	SNR=10						
ALNE	**Al Ain**	**6.28**	**263**	P	**Pn**	**10 33 18.2**	**+2.4**

*IDC **08** 10:33:03.3±0.7,51°.36N×178°.07W,h0km,mb4.1/27, mb1 4.3/29,mb1mx4.2/59,mbtmp4.1/29,ML4.1/1,MS3.5/23, Ms1 3.5/23,ms1mx3.3/46,Error ellipse: s-maj=21.3km s-min=11.4km az=164.0*
*AEIC **08** 10:33:08.4±2.6,51°.17N±0°.07×178°.03W±0°.05,h26km±4km, ML4.1/36,mb4.4/109(NEIC),Error ellipse: s-maj=10.7km s-min=4.3km az=165.0*
*NEIC **08** 10:33:10.6±2.0,51°.34N±0°.08×178°.07W±0°.06,h50km±6km, Error ellipse: s-maj=11.1km s-min=5.0km az=170.0*

ISC 08 10:33:09.9±0.5,51°.30N±0°.09×178°.07W±0°.03,h45km, n190,σ1ş42/162,mb4.3/69,MS3.5/23,1C,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**0.54**	**2**		**Pn**	**10 33 21.7**	**+0.3**
TAPA	**Tanaga Point A**	**0.54**	**17**		**Pn**	**10 33 21.4**	**-0.1**
TAFP	**Tanaga Falls P**	**0.60**	**5**		**Pn**	**10 33 22.4**	**+0.2**
GAEA	**Gareloi East**	**0.64**	**319**		**Pn**	**10 33 23.0**	**+0.3**
KIMD	**Kanaga Island**	**0.70**	**48**		**Pn**	**10 33 22.8**	**-0.7**
KIKV	**Kanaga Island**	**0.81**	**44**		**Pn**	**10 33 24.6**	**-0.3**
KICM	**Kanaga Island**	**0.82**	**41**		**Pn**	**10 33 25.3**	**+0.2**
KINC	**Kanaga Island**	**0.86**	**42**		**Pn**	**10 33 25.6**	**0.0**
ADK	**Adak**	**1.04**	**55**		**Pn**	**10 33 27.3**	**-0.8**
ETKA	**Kagalaska Isla**	**1.18**	**61**		**Pn**	**10 33 29.7**	**-0.3**
GSTD	**Great Sitkin T**	**1.42**	**57**		**Pn**	**10 33 33.3**	**0.0**
GSTD					**Sn**	**10 33 51.8**	**+1.0**
GSSP	**Great Sitkin S**	**1.42**	**55**		**Sn**	**10 33 53.4**	**+2.7**
GSMY	**Great Sitkin M**	**1.46**	**58**		**Pn**	**10 33 33.5**	**-0.3**
GSTR	**Great Sitkin T**	**1.48**	**57**		**Pn**	**10 33 34.4**	**+0.3**
CERAA	**Semis' Rag'd T**	**1.53**	**294**		**Pn**	**10 33 35.1**	**+0.4**
CERB	**Semis' Cerberu**	**1.57**	**295**		**Sn**	**10 33 58.6**	**+4.2**
CESW	**Semis' Southwe**	**1.60**	**293**		**Pn**	**10 33 36.2**	**+0.6**
CEAP	**Semis' Anvil P**	**1.63**	**297**		**Pn**	**10 33 37.1**	**+1.0**
AMKA	**Amchitka**	**1.65**	**274**	Pn	**Pn**	**10 33 34.5**	**-1.9**
AMKA	**Amchitka**	**1.65**	**274**		**Sn**	**10 33 57.2**	**+0.8**
LSPA	**Little Sitkin**	**2.19**	**289**		**Pn**	**10 33 45.1**	**+1.2**
LSNW	**Little Sitkin**	**2.23**	**289**		**Pn**	**10 33 45.4**	**+1.0**
ATKA	**Atka Island**	**2.57**	**68**	Pn	**Pn**	**10 33 48.4**	**-0.6**
ATKA	**Atka Island**	**2.57**	**68**		**Sn**	**10 34 21.4**	**+2.4**
KOKL	**Mount Kliuchef**	**2.61**	**65**		**Pn**	**10 33 50.1**	**+0.5**
KOFP	**Korovin Flat P**	**2.65**	**67**		**Pn**	**10 33 51.5**	**+1.3**
KOSE	**Korovin Southe**	**2.70**	**66**		**Pn**	**10 33 52.1**	**+1.2**
SMY	**Shemya**	**5.05**	**290**	Pn	**Pn**	**10 34 24.5**	**+1.6**
NIKH	**Nikolski High**	**5.92**	**70**	Pn	**Pn**	**10 34 36.2**	**+1.3**
MAPS	**Pakushin South**	**7.23**	**65**		**Pn**	**10 34 55.2**	**+2.3**
MAPS					**Sn**	**10 36 16.7**	**+3.0**
MREP	**Makushin Rep't**	**7.35**	**66**		**Pn**	**10 34 57.1**	**+2.5**
MSW	**Makushin Switc**	**7.35**	**65**		**Pn**	**10 34 57.3**	**+2.7**
MNAT	**Makushin Natee**	**7.40**	**65**		**Pn**	**10 34 57.9**	**+2.6**
SPIA	**Saint Paul Isl**	**7.46**	**35**	Pn	**Pn**	**10 34 59.1**	**+3.2**
UNV	**Unalaska Valle**	**7.49**	**66**	Pn	**Pn**	**10 34 58.7**	**+2.2**
AKUT	**Akutan**	**7.99**	**64**	Pn	**Pn**	**10 35 05.

INK	**Inuvik**	**27.26**	**35**	P		**P**		**10 38 47.8**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=294,slow=10,SNR=4.3								
INK				LR		LR		10 49 52.4	
	comp=Z,48nm,18.3s,baz=292,slow=37								
KLR	**Kul'dur**	**31.64**	**286**	P		**P**		**10 39 28.5**	**0.0**
	comp=Z,16nm,0.5s,baz=71,slow=7.8,SNR=61								
KLR				LR		LR		10 51 57.6	
	comp=Z,121nm,21.7s,baz=76,slow=36								
H11N2	**WAKE ISLAND Hy**	**33.66**	**206**	T		T		11 16 25.0	
	baz=18,slow=76								
H11N3	**WAKE ISLAND Hy**	**33.67**	**206**	T		T		11 16 26.7	
	baz=18,slow=76								
H11N1	**WAKE ISLAND Hy**	**33.68**	**206**	T		T		11 16 27.4	
	baz=18,slow=76								
USRK	**Ussuriysk Ar.**	**33.76**	**278**	P		**P**		**10 39 47.0**	**-0.1**
	comp=Z,3.6nm,0.7s,baz=53,slow=8.5,SNR=7.3								
USRK				LR		LR		10 51 58.0	
	comp=Z,42nm,21.6s,baz=14,slow=34								
MJAR	**Matsushiro Arr**	**34.23**	**262**	P		**P**		**10 39 50.9**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=40,slow=6.4,SNR=4.5								
MJAR				LR		LR		10 52 53.9	
	comp=Z,52nm,20.7s,baz=95,slow=35								
MJAR	**Matsushiro Arr**	**34.23**	**262**	IAmb		IAmb		10 39 52.7	
	comp=Z,2.5nm,1.1s								
H11S1	**WAKE ISLAND Hy**	**34.88**	**206**	T		T		11 17 06.0	
	baz=17,slow=76								
H11S2	**WAKE ISLAND Hy**	**34.89**	**206**	T		T		11 17 07.1	
	baz=17,slow=76								
H11S3	**WAKE ISLAND Hy**	**34.89**	**206**	T		T		11 17 06.1	
	baz=17,slow=76								
YKA	**Yellowknife Ar**	**34.95**	**46**	P		**P**		**10 39 56.9**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=287,slow=8.8,SNR=4.0								
B08A	**Colville Reser**	**37.13**	**71**	P		**P**		**10 40 17.5**	**+1.5**
B08A				IAmb		IAmb		10 40 24.4	
	comp=Z,4.3nm,0.8s								
H04A	**Detroit Lake**	**37.19**	**78**	P		**P**		**10 40 16.9**	**+0.5**
H04A				IAmb		IAmb		10 40 18.8	
	comp=Z,8.2nm,0.9s								
HAWA	**Hanford**	**37.94**	**74**	P		**P**		**10 40 24.5**	**+1.7**
HAWA				IAmb		IAmb		10 40 40.5	
	comp=Z,5.7nm,0.8s								
PINE	**Pine Mountain**	**38.41**	**78**	P		**P**		**10 40 28.3**	**+1.3**
PINE				IAmb		IAmb		10 40 30.5	
	comp=Z,8.9nm,1.2s								
NEW	**Newport**	**38.48**	**70**	P		**P**		**10 40 27.3**	**-0.1**
NEW				IAmb		IAmb		10 40 35.3	
	comp=Z,6.1nm,1.1s								
I07A	**Izee**	**39.14**	**77**	P		**P**		**10 40 33.7**	**+0.7**
MOD	**Modoc Plateau**	**39.83**	**80**	P		**P**		**10 40 40.0**	**+1.1**
MOD				IAmb		IAmb		10 40 57.3	
	comp=Z,9.7nm,1.5s								
KSRS	**Korea Array**	**40.10**	**271**	P		**P**		**10 40 41.5**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=57,slow=7.3,SNR=10.0								
KSRS				LR		LR		10 54 31.5	
	comp=Z,65nm,20.9s,baz=94,slow=32								
JNU	**Nakatsue**	**41.02**	**264**	LR		LR		10 56 54.2	
	comp=Z,70nm,20.6s,baz=52,slow=35								
PNTR	**Pine Nut**	**41.90**	**83**	P		**P**		**10 40 56.1**	**+0.1**
PNTR				IAmb		IAmb		10 41 15.5	
	comp=Z,7.1nm,0.7s								
BOZ	**Bozeman (W)**	**43.07**	**70**	IAmb		IAmb		10 41 16.9	
	comp=Z,7.6nm,1.4s								
NVAR	**Mina Array Bea**	**43.10**	**83**	P		**P**		**10 41 05.5**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=297,slow=8.0,SNR=5.6								
NVAR	**Mina Array Bea**	**43.10**	**83**	P		**P**		**10 41 06.0**	**+0.2**
ELK	**Elko**	**43.62**	**78**	P		**P**		**10 41 11.0**	**+1.0**
ELK				IAmb		IAmb		10 41 23.5	
	comp=Z,2.5nm,0.7s								
YHL	**Hebgen Lake**	**43.74**	**71**	P		**P**		**10 41 11.9**	**+1.0**
YHH	**Holmes Hill**	**43.98**	**71**	P		**P**		**10 41 14.0**	**+1.2**
H17A	**Grant Village**	**44.36**	**71**	IAmb		IAmb		10 41 36.0	
	comp=Z,9.4nm,1.4s								
NRIK	**Noril'sk**	**44.71**	**330**	LR		LR		11 00 13.4	
	comp=Z,49nm,20.5s,baz=42,slow=36								
RLMT	**Red Lodge**	**44.73**	**70**	IAmb		IAmb		10 41 32.0	
	comp=Z,10nm,1.4s								
R11A	**Troy Canyon, C**	**44.84**	**81**	IAmb		IAmb		10 41 35.6	
	comp=Z,4.8nm,1.4s								
TPNV	**Topopah Spring**	**45.30**	**83**	P		**P**		**10 41 24.2**	**+0.9**
TPNV				IAmb		IAmb		10 41 41.9	
	comp=Z,4.4nm,0.8s								
DUG	**Dugway, Tooele**	**45.44**	**78**	P		**P**		**10 41 25.9**	**+1.6**
DUG				IAmb		IAmb		10 41 37.9	
	comp=Z,4.5nm,0.9s								
BW06	**Boulder Array**	**45.89**	**73**	P		**P**		**10 41 28.2**	**+0.2**
BW06				IAmb		IAmb		10 41 39.6	
	comp=Z,5.1nm,1.1s								
PD31	**Pinedale Array**	**45.90**	**73**	P		**P**		**10 41 28.8**	**+0.8**
PD31				IAmb		IAmb		10 41 39.6	
	comp=Z,4.9nm,1.1s								
PDAR	**Pinedale Array**	**45.90**	**73**	P		**P**		**10 41 27.9**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=319,slow=3.4,SNR=24								
PDAR				LR		LR		10 58 10.0	
	comp=Z,36nm,20.6s,baz=310,slow=33								
PDAR	**Pinedale Array**	**45.90**	**73**	P		**P**		**10 41 28.2**	**+0.2**
GSC	**Goldstone, Bar**	**46.00**	**86**	P		**P**		**10 41 28.7**	**0.0**
GSC				IAmb		IAmb		10 41 45.1	
	comp=Z,3.8nm,0.8s								
SONM	**Songino Array**	**47.09**	**297**	P		**P**		**10 41 38.0**	**+0.9**
	comp=Z,2.6nm,0.7s,baz=55,slow=10.0,SNR=12								
SONM				LR		LR		11 02 00.4	
	comp=Z,165nm,20.3s,baz=59,slow=37								
SONM	**Songino Array**	**47.09**	**297**	P		**P**		**10 41 38.1**	**+0.9**
LCMT	**Little Creek M**	**47.13**	**81**	P		**P**		**10 41 37.5**	**-0.2**
MTPU	**Mount Pierson**	**47.14**	**79**	P		**P**		**10 41 38.7**	**+0.7**
U15A	**North Rim**	**48.09**	**81**	IAmb		IAmb		10 41 59.0	
	comp=Z,5.5nm,1.1s								
HHC	**Hu-ho-hao-te**	**48.15**	**286**	*e*P		**P**		**10 41 47.4**	**+1.9**
HHC				pmax		pmax			
	comp=Z,15nm,1.0s								
HHC				pmax		pmax			
	comp=Z,150nm,6.5s								
PV04	**Paradox Valley**	**48.94**	**77**	IAmb		IAmb		10 42 04.5	
	comp=Z,5.9nm,0.8s								
PV12	**Saucer Basin,**	**49.05**	**77**	IAmb		IAmb		10 42 08.5	
	comp=Z,6.6nm,0.9s								
PV03	**Paradox Valley**	**49.06**	**77**	IAmb		IAmb		10 42 02.5	
	comp=Z,3.8nm,0.6s								
PV01	**Paradox Valley**	**49.30**	**77**	IAmb		IAmb		10 42 07.3	
	comp=Z,4.5nm,0.7s								
SPITS	**Spitsbergen Ar**	**50.48**	**356**	LR		LR		11 04 21.1	
	comp=Z,29nm,20.1s,baz=280,slow=37								
T25A	**Trinidad**	**52.48**	**75**	IAmb		IAmb		10 42 32.4	
	comp=Z,4.6nm,0.9s								
ZALV	**Zalesovo Beam**	**54.42**	**314**	PcP		**PcP**		**10 43 35.9**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=22,slow=4.5,SNR=7.9								
ZALV				LR		LR		11 06 31.4	
	comp=Z,39nm,21.0s,baz=32,slow=37								
GTA	**Gaotai**	**56.02**	**292**	↑P		**P**		**10 42 44.7**	**+0.7**
GTA				pP		pP		10 42 50.6	-5.8
GTA				sP		sP		10 42 53.4	-8.1
GTA				pmax		pmax			
	comp=Z,15nm,0.8s								
GTA				pmax		pmax			
	comp=Z,100nm,5.7s								
GTA				LR		LR			
	comp=N,200nm,15.5s								
GTA				LR		LR			
	comp=E,130nm,16.5s								
GTA				LR		LR			
	comp=Z,150nm,17.8s								
TXAR	**Lajitas Array**	**58.21**	**82**	P		**P**		**10 42 59.5**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=330,slow=5.1,SNR=4.5								
ARCES	**ARCESS Array B**	**58.25**	**350**	P		**P**		**10 42 58.9**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=32,slow=8.6,SNR=5.0								
W35A	**Tecumseh**	**58.34**	**72**	P		**P**		**10 43 02.0**	**+1.7**
KURK	**Kurchatov**	**59.41**	**314**	P		**P**		**10 43 07.0**	**-0.4**
KURK	**Kurchatov**	**59.41**	**314**	IAmb		IAmb		10 43 09.1	
	comp=Z,2.3nm,1.1s								
KURBB	**Kurchatov Arra**	**59.51**	**314**	P		**P**		**10 43 07.0**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=43,slow=6.7,SNR=4.4								
WMQ	**Urumqi**	**59.77**	**303**	*e*P		**P**		**10 43 14.3**	**+4.2**
WMQ				pmax		pmax			
	comp=Z,25nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,87nm,4.9s								
WMQ				LR		LR			
	comp=N,910nm,29.2s								
WMQ				LR		LR			
	comp=E,2μm,28.9s								
WMQ				LR		LR			
	comp=Z,80nm,29.0s								
U40A	**Yellville**	**59.89**	**68**	P		**P**		**10 43 10.2**	**-0.8**
U40A				IAmb		IAmb		10 43 20.4	
	comp=Z,2.9nm,0.6s								
MK31	**Makanchi Array**	**60.44**	**309**	P		**P**		**10 43 13.0**	**-1.6**
MKAR	**Makanchi Array**	**60.44**	**309**	P		**P**		**10 43 13.0**	**-1.6**
	comp=Z,2.2nm,0.9s,baz=56,slow=6.6,SNR=11								
MKAR				LR		LR		11 09 48.8	
	comp=Z,82nm,20.9s,baz=40,slow=36								
MKAR	**Makanchi Array**	**60.44**	**309**	P		**P**		**10 43 12.7**	**-1.9**
T42A	**Van Buren**	**60.44**	**67**	P		**P**		**10 43 13.4**	**-1.3**
T42A				IAmb		IAmb		10 43 13.9	
	comp=Z,1.8nm,0.6s								
MAKZ	**Makanchi**	**60.59**	**309**	P		**P**		**10 43 14.9**	**-0.7**
MAKZ				IAmb		IAmb		10 43 16.8	
	comp=Z,1.5nm,0.8s								
FCAR	**Ozark Folk Cen**	**60.64**	**68**	P		**P**		**10 43 15.6**	**-0.4**
MIAR	**Mount Ida**	**60.72**	**70**	P		**P**		**10 43 17.2**	**+0.6**
MIAR				IAmb		IAmb		10 43 32.8	
	comp=Z,4.5nm,0.9s								
R50A	**Paris**	**63.38**	**61**	P		**P**		**10 43 34.8**	**+0.3**
T50A	**Nancy**	**64.00**	**63**	P		**P**		**10 43 39.1**	**+0.5**
FINES	**FINESS Array B**	**65.96**	**348**	P		**P**		**10 43 49.8**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=50,slow=7.5,SNR=4.4								
FINES				LR		LR		11 16 06.9	
	comp=Z,27nm,19.1s,baz=120,slow=39								
HODGE	**Hodges**	**67.47**	**63**	P		**P**		**10 44 01.9**	**+1.1**
NOA	**NORSAR Array B**	**67.76**	**355**	P		**P**		**10 44 02.5**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=6.2,slow=6.1,SNR=2.6								
NOA				LR		LR		11 12 04.0	
	comp=Z,17nm,21.9s,baz=100,slow=35								
ABKAR	**Akbulak array**	**68.28**	**323**	P		**P**		**10 44 03.6**	**-2.1**
KK31	**Karatay Array**	**68.78**	**313**	P		**P**		**10 44 08.9**	**-0.1**
KK31				IAmb		IAmb		10 44 09.3	
	comp=Z,1.4nm,0.6s								
KKAR	**Karatay Array**	**68.78**	**313**	P		**P**		**10 44 08.3**	**-0.7**
KKAR	**Karatay Array**	**68.78**	**313**	P		**P**		**10 44 08.8**	**-0.2**
KKAR				IAmb		IAmb		10 44 09.3	
	comp=Z,1.4nm,0.6s								
CMAR	**Chiang Mai Arr**	**71.48**	**277**	P		**P**		**10 44 26.2**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=28,slow=6.4,SNR=5.8								
CMAR				LR		LR		11 19 19.1	
	comp=Z,40nm,18.0s,baz=171,slow=39								
PPT	**Papeete**	**72.97**	**152**	LR		LR		11 10 46.7	
	comp=Z,46nm,20.4s,baz=320,slow=31								
EKA	**Eskdalemuir Ar**	**73.65**	**3**	P		**P**		**10 44 38.1**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=354,slow=4.3,SNR=2.4								
AKASG	**Malin Array Be**	**75.76**	**342**	P		**P**		**10 44 50.0**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=20,slow=6.2,SNR=8.3								
AKASG				LR		LR		11 22 13.4	
	comp=Z,19nm,18.4s,baz=55,slow=39								
AKASG	**Malin Array Be**	**75.76**	**342**	IAmb		IAmb		10 44 51.5	
	comp=Z,0.8nm,0.6s								
GEYT	**Alibeck**	**78.45**	**318**	P		**P**		**10 45 05.5**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=273,slow=2.7,SNR=3.8								
GEYT				LR		LR		11 22 46.4	
	comp=Z,78nm,19.3s,baz=55,slow=38								
GEYT	**Alibeck**	**78.45**	**318**	IAmb		IAmb		10 45 07.3	
	comp=Z,2.2nm,0.9s								
KBZ	**Khabaz**	**78.90**	**331**	P		**P**		**10 45 08.4**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=96,slow=2.2,SNR=10								
KBZ				LR		LR		11 25 10.8	
	comp=Z,54nm,19.3s,baz=26,slow=40								
BUR08	**Bucovina Ar. S**	**79.43**	**344**	P		**P**		**10 45 11.8**	**+0.7**
BUR08				IAmb		IAmb		10 45 12.8	
	comp=Z,2.6nm,0.7s								
BURAR	**Bucovina Array**	**79.45**	**344**	P		**P**		**10 45 11.1**	**-0.2**
VYHS	**Vyhne**	**79.54**	**349**	*e*P		**P**		**10 45 11.7**	**+0.1**
GERES	**GERESS Array B**	**79.73**	**352**	P		**P**		**10 45 12.4**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=32,slow=5.8,SNR=3.1								
GERES				LR		LR		11 23 25.6	
	comp=Z,23nm,19.4s,baz=299,slow=38								
MLR	**Muntele Rosu**	**81.38**	**343**	P		**P**		**10 45 19.8**	**-1.9**
	comp=Z,3.7nm,0.5s,baz=191,slow=12,SNR=4.6								
MLR	**Muntele Rosu**	**81.38**	**343**	IAmb		IAmb		10 45 24.1	
	comp=Z,7.9nm,1.0s								
PRED	**Cave del Predi**	**82.12**	**352**	P		**P**		**10 45 25.7**	**+0.2**
WRA	**Warramunga Arr**	**82.28**	**225**	P		P		10 45 25.5	-0.9
	comp=Z,0.7nm,0.8s,baz=33,slow=5.9,SNR=3.1								
DIVS	**Divibare**	**83.70**	**347**	P		**P**		**10 45 33.8**	**+0.1**
VTS	**Vitosha**	**84.64**	**344**	P		**P**		**10 45 38.6**	**0.0**
VTS				IAmb		IAmb		10 45 39.5	
	comp=Z,4.4nm,0.9s								
BRTR	**Keskin Array B**	**85.21**	**336**	P		**P**		**10 45 41.2**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=42,slow=3.3,SNR=19								
BRTR				LR		LR		11 29 25.0	
	comp=Z,18nm,18.1s,baz=350,slow=40								
BRTR	**Keskin Array B**	**85.21**	**336**	P		**P**		**10 45 41.5**	**0.0**
OSSC	**Osservatorio P**	**85.21**	**353**	P		**P**		**10 45 41.1**	**-0.2**
PDG	**Podgorica**	**85.44**	**347**	P		**P**		**10 45 42.5**	**+0.1**
ASAR	**Alice Springs**	**85.74**	**223**	P		**P**		**10 45 44.0**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=26,slow=5.7,SNR=10								
ESDC	**Sonseca Array**	**89.26**	**5**	P		**P**		**10 46 00.3**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=349,slow=3.8,SNR=6.3								
STKA	**Stephens Creek**	**90.11**	**213**	P		**P**		**10 46 04.8**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=329,slow=12,SNR=2.3								
H03N2	**Juan Fernandez**	**120.68**	**106**	T		T		13 04 21.0	
	baz=317,slow=78								
H03N1	**Juan Fernandez**	**120.69**	**106**	T		T		13 04 22.8	
	baz=317,slow=78								
H03N3	**Juan Fernandez**	**120.70**	**106**	T		T		13 04 25.7	
	baz=317,slow=78								
BOSA	**Boshof**	**151.37**	**313**	PKPbc		**PKPbc**		**10 52 58.8**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=54,slow=2.2,SNR=8.8								

IDC 08 11:35:26.7±1.5, 5°47S×150°45E, h0km, mb3.0/2, mb1 3.3/2, mb1mx3.2/29, mbtmp3.1/2, Error ellipse: s-maj=108.9km s-min=20.7km az=139.0, Near Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.94**	**54**	Pn		Pn	11 36 02.0	+1.0
	27nm,0.3s,baz=89,slow=2.7,SNR=8.1							
KRVT				Sn		Sn	11 36 25.3	-0.9
	18nm,0.3s,baz=86,slow=19,SNR=1.6							
WRA	**Warramunga Arr**	**21.28**	**226**	P		P	11 40 15.6	+0.7
	0.3nm,0.7s,baz=52,slow=10,SNR=4.7							
ASAR	**Alice Springs**	**24.11**	**220**	P		P	11 40 44.0	-0.4
	0.4nm,0.8s,baz=54,slow=9.2,SNR=6.1							
TORD	**Torodi Ar. Bea**	**148.27**	**286**	PKPbc		PKPbc	11 55 14.8	-1.1
	0.4nm,0.7s,baz=52,slow=3.0,SNR=2.5							

*DNK **08** 11:56:20.5±0.4, 51°.17N×16°.25E, h135km±38km, ML2.3*
*VIE **08** 11:56:22.9±1.1, 51°.39N×16°.10E, h0km, mb2.5/6, ml3.0/6, Error ellipse: s-maj=12.6km s-min=6.0km az=42.0 71 km WNW of Wroclaw Suspected Mining induced.*
*PRU **08** 11:56:22.5±0.0, 51°.43N×16°.16E, h0km*
*IDC **08** 11:56:22.9±0.9, 51°.38N×16°.12E, h0km, mb1 3.3/5, mb1mx3.2/38, mbtmp3.2/5, ML3.1/5, Error ellipse: s-maj=14.4km s-min=7.7km az=112.0*
*BGR **08** 11:56:23.8±0.4, 51°.35N×16°.13E, h1km, ML2.9/14, Error ellipse: s-maj=7.8km s-min=4.4km az=22.0*

ISC 08 11:56:20.1±0.7, 51°52N±0°.03×16°24E±0°.02, h0km, n55, σ1§00/96, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**177**	*e*Pg		**Pg**	**11 56 33.8**	**+0.6**
KSP				*e*Sg		**Sg**	**11 56 41.2**	**-0.8**
KSP	**Ksiaz**	**0.68**	**177**	*i* Pg		**Pg**	**11 56 33.7**	**+0.6**
KSP				*e*Sg		**Sg**	**11 56 41.6**	**-0.4**
CHVC	**Chvalec**	**0.94**	**187**	*e*PG		**Pg**	**11 56 38.7**	**+0.5**
CHVC				*e*SG		**Sg**	**11 56 50.0**	**-0.4**
	comp=Z,65nm,0.6s							
OSTC	**Ostas**	**0.97**	**181**	*e*PG		**Pg**	**11 56 39.2**	**+0.6**
OSTC				*e*SG		**Sg**	**11 56 51.0**	**-0.2**
UPC	**Upice**	**1.03**	**188**	*e*PG		**Pg**	**11 56 39.9**	**+0.1**
UPC				*e*SG		**Sg**	**11 56 51.2**	**-1.9**
	comp=Z,175nm,0.4s							
DPC	**Dobruska-Polom**	**1.18**	**177**	*e*Pg		**Pg**	**11 56 42.7**	**+0.1**
DPC				*e*Sg		**Sg**	**11 56 57.8**	**0.0**
DPC	**Dobruska-Polom**	**1.18**	**177**	*e*PG		**Pg**	**11 56 42.3**	**-0.3**
DPC				*e*SG		**Sg**	**11 56 56.7**	**-1.1**
	comp=Z,77nm,0.6s							
PVCC	**Panska Ves**	**1.45**	**227**	*e*PG		**Pb**	**11 56 48.2**	**+0.2**
PVCC				*e*SG		**Sg**	**11 57 06.5**	**-0.2**
	comp=Z,285nm,0.2s							
KRLC	**Kraliky**	**1.49**	**166**	*e*PG		**Pn**	**11 56 48.1**	**-0.1**
KRLC				*e*SG		**Sg**	**11 57 07.6**	**-0.3**
	comp=Z,50nm,0.6s							
BRG	**Berggiesshubel**	**1.58**	**247**	*e*Pn		**Pn**	**11 56 49.4**	**0.0**
BRG				*e*Pg		**Pg**	**11 56 51.0**	**+0.5**
BRG				*e*Sg		**Sg**	**11 57 11.3**	**+0.3**
BRG	**Berggiesshubel**	**1.58**	**247**	PN		**Pn**	**11 56 49.2**	**-0.2**
BRG				PG		**Pb**	**11 56 50.5**	**+0.2**
BRG				SG		**Sg**	**11 57 11.4**	**+0.4**
	68nm,0.5s							

PRA	**Prague**	**1.85**	**219**	*e*PG		**Pb**		**11 56 54.1**	**-0.7**
PRA				*e*SG		**Sb**		**11 57 18.7**	**+0.2**
	comp=Z,16nm,0.3s								
PRU	**Pruhonice**	**1.88**	**216**	*e*PG		**Pb**		**11 56 55.2**	**0.0**
PRU				*e*SG		**Sb**		**11 57 19.1**	**-0.1**
	comp=Z,38nm,0.4s								
FBE	**Freiberg**	**1.91**	**253**	*e*Pg		**Pg**		**11 56 57.3**	**+0.6**
FBE				*e*Sg		**Sg**		**11 57 21.6**	**+0.1**
MORC	**Moravsky Berou**	**1.94**	**154**	*e*Pn		**Pn**		**11 56 54.4**	**+0.1**
MORC				*e*Sg		**Sg**		**11 57 21.7**	**-0.6**
MORC	**Moravsky Berou**	**1.94**	**154**	*e*PN		**Pn**		**11 56 54.1**	**-0.2**
MORC				*e*SG		**Sn**		**11 57 20.0**	**+0.7**
CLL	**Collm**	**2.04**	**265**	*e*Pn		**Pn**		**11 56 56.2**	**+0.5**
CLL				*e*Pg		**Pg**		**11 56 58.8**	**-0.3**
CLL	**Collm**	**2.04**	**265**	*e*Pn		**Pn**		**11 56 56.0**	**+0.3**
CLL				*e*Pg		**Pg**		**11 56 59.0**	**-0.1**
CLL				*e*				11 57 02.0	
CLL				*e*Sg		**Sg**		**11 57 27.0**	**+1.5**
	comp=Z,26nm,0.7s								
OKC	**Ostrava-Krasne**	**2.08**	**144**	*e*Pn		**Pn**		**11 56 55.8**	**-0.4**
OKC	**Ostrava-Krasne**	**2.08**	**144**	*e*PG		**Pg**		**11 56 59.7**	**-0.2**
OKC				*e*SG		**Sg**		**11 57 26.5**	**-0.4**
	comp=Z,884nm,0.6s								
VRAC	**Vranov**	**2.23**	**174**	Pn		**Pn**		**11 56 59.2**	**+0.9**
	comp=Z,3.6nm,0.3s,baz=335,slow=18,SNR=16								
VRAC				Pg		**Pg**		**11 57 02.5**	**-0.3**
	comp=Z,3.6nm,0.3s,baz=347,slow=16,SNR=7.3								
VRAC				Lg		Lg		11 57 28.2	
	comp=Z,7.1nm,0.3s,baz=262,slow=16,SNR=8.3								
VRAC	**Vranov**	**2.23**	**174**	*e*PN		**Pn**		**11 56 58.6**	**+0.3**
VRAC				*e*SG		**Sb**		**11 57 29.7**	**+0.3**
TREC	**Trest**	**2.28**	**192**	*e*PG		**Pb**		**11 57 02.6**	**+0.4**
TREC				*e*SG		**Sb**		**11 57 32.2**	**+1.3**
	comp=Z,30nm,0.3s								
PBCC	**Pribram**	**2.33**	**219**	*e*PG		**Pb**		**11 57 03.4**	**+0.4**
PBCC				*e*SG		**Sb**		**11 57 32.8**	**+0.5**
KRUC	**Moravsky**	**2.47**	**178**	*e*PN		**Pn**		**11 57 01.3**	**-0.3**
KRUC				*e*SG		**Sb**		**11 57 37.4**	**+1.2**
OJC	**Ojcow**	**2.61**	**119**	*e*Pn		**Pg**		**11 57 10.0**	**-0.1**
OJC	**Ojcow**	**2.61**	**119**	*e*Pg		**Pg**		**11 57 09.9**	**-0.1**
OJC				*e*Sg		**Sg**		**11 57 45.4**	**+1.6**
TANN	**Tannenbergstha**	**2.63**	**247**	*e*Pn		**Pn**		**11 57 04.5**	**+0.6**
TANN				*e*Sg		**Sg**		**11 57 44.8**	**+0.1**
WERD	**Werda**	**2.71**	**248**	*e*Pn		**Pn**		**11 57 05.6**	**+0.7**
NKC	**Novy Kostel**	**2.73**	**243**	*e*PN		**Pn**		**11 57 06.0**	**+0.8**
NKC				*e*PG		**Pg**		**11 57 11.2**	**-1.1**
NKC				*e*SG		**Sg**		**11 57 47.6**	**0.0**
	comp=Z,47nm,0.7s								
JAVC	**Velka Javorina**	**2.82**	**160**	*e*PN		**Pn**		**11 57 06.2**	**-0.3**
KHC	**Kasperske Hory**	**2.94**	**216**	*e*PN		**Pn**		**11 57 08.5**	**+0.4**
KHC				*e*PG		**Pb**		**11 57 14.6**	**+1.2**
KHC				*e*SN		**Sn**		**11 57 41.0**	**-3.1**
KHC				*e*SG		**Sb**		**11 57 52.0**	**+2.2**
	comp=Z,17nm,0.5s								
MANZ	**Manzenberg**	**3.04**	**241**	*e*Pn		**Pn**		**11 57 10.7**	**+1.2**
MANZ				*e*Sg		**Sg**		**11 57 57.2**	**-0.6**
MOX	**Moxa**	**3.04**	**255**	*e*Sg		**Sg**		**11 57 59.1**	**+1.2**
ROTZ	**Rotzenmuhle**	**3.11**	**237**	*e*Pn		**Pn**		**11 57 11.1**	**+0.7**
I26DE	**FREYUNG INFRAS**	**3.13**	**212**	*i*				12 17 50.0	
	baz=

ROKH					*e*			12 11 41.3		
ROKH	**ROKH**	**2.58**	**93**		Pn		**Pn**	**12 10 48.0**	**+1.6**	
ASAO	**Ashtian**	**2.64**	**40**		*e*Pn		**Pn**	**12 10 49.7**	**+2.6**	
ASAO	**Ashtian**	**2.64**	**40**		*e*Pn		**Pn**	**12 10 49.7**	**+2.6**	
ASAO	**Ashtian**	**2.64**	**40**		Pn		**Pn**	**12 10 49.0**	**+1.9**	
IBRJ	**Brojen**	**2.84**	**102**		*e*Pn		**Pn**	**12 10 51.5**	**+1.5**	
IKLH	**Kolahrood**	**3.12**	**74**		*e*Pn		**Pn**	**12 10 55.8**	**+2.0**	
IRAZ	**Razeghan**	**3.29**	**29**		*e*Pn		**Pn**	**12 10 59.2**	**+3.1**	
IRAZ	**Razeghan**	**3.29**	**29**		Pn		**Pn**	**12 10 59.0**	**+2.9**	
KLNJ	**Kolanjah**	**3.42**	**115**		*e*Pn		**Pn**	**12 10 59.8**	**+1.8**	
KLNJ					*e*			12 12 07.8		
KLNJ	**Kolanjah**	**3.42**	**115**		Pn		**Pn**	**12 11 00.0**	**+2.0**	
IGAR	**Gharneh**	**3.43**	**91**		*e*Pn		**Pn**	**12 10 59.6**	**+1.6**	
IGAR					*e*			12 11 42.4		
QABG	**Abgarm-Qazvin**	**3.44**	**22**		*e*Pn		**Pn**	**12 10 59.8**	**+1.7**	
QABG	**Abgarm-Qazvin**	**3.44**	**22**		Pn		**Pn**	**12 11 00.0**	**+1.9**	
IQOM	**Qom**	**3.45**	**47**		*e*Pn		**Pn**	**12 10 59.9**	**+1.5**	
IZEF	**Zefreh**	**3.68**	**83**		*e*			12 11 07.6		
IZEF					*e*Pn		**Pn**	**12 11 03.1**	**+1.6**	
IRAM	**Ramesheh**	**3.79**	**100**		*e*Pn		**Pn**	**12 11 03.9**	**+0.9**	
IVRN	**Varamin**	**3.97**	**51**		*e*Pn		**Pn**	**12 11 06.3**	**+1.0**	
IHSB	**Hasanabad**	**3.98**	**42**		*e*Pn		**Pn**	**12 11 07.7**	**+2.2**	
IHSB	**Hasanabad**	**3.98**	**42**		Pn		**Pn**	**12 11 08.0**	**+2.5**	
QSDN	**Sirdan**	**4.08**	**14**		*e*Pn		**Pn**	**12 11 09.6**	**+2.6**	
QALM	**Alamut, Qazvin**	**4.47**	**29**		*e*Pn		**Pn**	**12 11 14.3**	**+2.0**	
IDMV	**Damavand**	**4.53**	**47**		*e*Pn		**Pn**	**12 11 15.0**	**+1.8**	
IDMV	**Damavand**	**4.53**	**47**		Pn		**Pn**	**12 11 15.0**	**+1.8**	
MAHB	**Mahabad**	**4.63**	**337**		*e*Pn		**Pn**	**12 11 16.3**	**+1.9**	
ANAR	**Anarak**	**4.88**	**81**		*e*Pn		**Pn**	**12 11 18.7**	**+0.9**	
ANAR	**Anarak**	**4.88**	**81**		Pn		**Pn**	**12 11 19.0**	**+1.2**	
ILAS	**Lasjerd**	**5.02**	**54**		*e*Pn		**Pn**	**12 11 21.7**	**+1.9**	
IPRN	**Peran**	**5.16**	**43**		*e*Pn		**Pn**	**12 11 24.6**	**+2.9**	
IALA	**Alasht**	**5.34**	**47**		*e*Pn		**Pn**	**12 11 26.9**	**+2.7**	
IALA	**Alasht**	**5.34**	**47**		Pn		**Pn**	**12 11 27.0**	**+2.7**	
ISHM	**Shahmirzad**	**5.48**	**52**		*e*Pn		**Pn**	**12 11 27.7**	**+1.5**	
IANJ	**Anjilo**	**5.73**	**58**		*e*Pn		**Pn**	**12 11 30.2**	**+0.6**	
GHIR	**Ghir-Karzin**	**6.04**	**133**		IAML			12 12 46.5		
	comp=E,19nm,0.4s									
GEVA	**Gevas**	**7.03**	**326**		Pn		**Pn**	**12 11 48.0**	**+0.6**	
MARD	**Mardin**	**7.60**	**311**		Pn		**Pn**	**12 11 55.1**	**-0.2**	
BNDS	**Bandar-Abbas**	**8.74**	**124**		IAML			12 14 05.1		
	comp=E,15nm,0.5s									
ASF	**Jabal al Asfar**	**9.39**	**271**		Pn		**Pn**	**12 12 20.5**	**+0.7**	
	comp=E,1.0nm,0.3s,baz=14,slow=6.5,SNR=8.0									
ASF					Sn		**Sn**	**12 14 02.0**	**-3.1**	
	comp=E,0.8nm,0.3s,baz=148,slow=19,SNR=2.0									
ASF					Lg		Lg	12 15 03.8		
	comp=E,0.5nm,0.3s,baz=270,slow=20,SNR=2.1									
KOPT	**Kop Dagi**	**9.61**	**323**		Pn		**Pn**	**12 12 21.3**	**-1.6**	
GEYT	**Alibeck**	**9.88**	**54**		LR		LR	12 16 45.6		
	comp=E,102nm,19.4s,baz=190,slow=41									
UOSS	**Minazif**	**10.44**	**134**		Pn		**Pn**	**12 12 33.2**	**-0.8**	
MMAI	**Mount Meron Ar**	**10.61**	**276**		Pn		**Pn**	**12 12 31.8**	**-4.6**	
	comp=E,2.2nm,0.3s,baz=118,slow=46,SNR=3.0									
MMAI					LR		LR	12 18 14.4		
	comp=E,40nm,18.4s,baz=115,slow=46									
EIL	**Elat**	**11.53**	**259**		Pn		**Pn**	**12 12 49.3**	**+0.3**	
	comp=E,0.4nm,0.3s,baz=65,slow=17,SNR=1.6									
KBZ	**Khabaz**	**11.88**	**342**		LR		LR	12 17 50.2		
	comp=E,71nm,18.3s,baz=152,slow=39									
WSAR	**Wadi Sarin**	**13.19**	**132**		Pn		**Pn**	**12 13 08.9**	**-2.8**	
	comp=E,1.2nm,0.3s,baz=336,slow=6.3,SNR=13									
BRTR	**Keskin Array B**	**13.63**	**306**		Pn		**Pn**	**12 13 21.4**	**+3.7**	
	comp=E,0.2nm,0.3s,baz=132,slow=12,SNR=2.6									
KBL	**Kabul**	**17.67**	**78**		Pn		**Pn**	**12 14 08.0**	**-2.6**	
ABKAR	**Akbulak array**	**18.96**	**25**		P		**P**	**12 14 25.7**	**+0.3**	
TIRR	**Tirgusor**	**19.35**	**314**		P		**P**	**12 14 31.2**	**+1.5**	
TIRR					IAmb		IAmb	12 14 41.0		
	comp=Z,14nm,0.8s									
IDI	**Anoyia**	**19.36**	**285**		P		**P**	**12 14 30.8**	**+0.8**	
	comp=Z,0.7nm,0.3s,baz=80,slow=12,SNR=5.5									
IDI	**Anoyia**	**19.36**	**285**		P		**Pn**	**12 14 32.2**	**+1.0**	
IDI					IAmb		IAmb	12 14 50.2		
	comp=Z,22nm,1.3s									
AKTO	**Aktyubinsk**	**19.37**	**20**		P		**P**	**12 14 29.5**	**-0.5**	
	comp=Z,0.3nm,0.3s,baz=217,slow=9.3,SNR=2.8									
ALN	**Alexandroupoli**	**19.44**	**302**		P		**Pn**	**12 14 33.3**	**+1.4**	
ALN					IAmb		IAmb	12 14 42.9		
	comp=Z,9.5nm,0.9s									
KK31	**Karatay Array**	**20.63**	**53**		P		**P**	**12 14 44.4**	**+0.7**	
KKAR	**Karatay Array**	**20.63**	**53**		P		**P**	**12 14 44.1**	**+0.4**	
KKAR	**Karatay Array**	**20.63**	**53**		P		**P**	**12 14 44.1**	**+0.4**	
KKAR					IAmb		IAmb	12 14 51.8		
	comp=Z,5.8nm,1.1s									
NIL	**Nilore**	**21.18**	**80**		P		**P**	**12 14 50.3**	**+0.5**	
NIL					IAmb		IAmb	12 15 03.5		
	comp=Z,8.2nm,0.9s									
MLR	**Muntele Rosu**	**21.39**	**314**		P		**P**	**12 14 52.4**	**+0.5**	
	comp=Z,2.9nm,0.6s,baz=202,slow=11,SNR=2.3									
MLR	**Muntele Rosu**	**21.39**	**314**		IAmb		IAmb	12 15 06.8		
	comp=Z,7.5nm,0.7s									
TESR	**Tescani**	**21.50**	**317**	⇓	P		**P**	**12 14 54.4**	**+1.4**	
OZUR		**21.79**	**315**	⇑	P		**P**	**12 14 59.7**	**+3.6**	
ITM	**Ithomi**	**21.86**	**290**		P		**P**	**12 14 58.4**	**+1.5**	
VOIR		**21.91**	**313**	⇓	P		**P**	**12 15 00.4**	**+2.8**	
DOPR	**Dopca**	**21.96**	**314**	⇑	P		**P**	**12 15 00.3**	**+2.3**	
AKASG	**Malin Array Be**	**22.83**	**328**		P		**P**	**12 15 06.2**	**-1.0**	
	comp=Z,0.4nm,0.3s,baz=137,slow=9.3,SNR=2.0									
BURAR	**Bucovina Array**	**22.92**	**318**	⇓	P		**P**	**12 15 10.5**	**+2.2**	
BURAR	**Bucovina Array**	**22.92**	**318**		P		**P**	**12 15 10.6**	**+2.2**	
BUR08	**Bucovina Ar. S**	**22.94**	**318**		P		**P**	**12 15 09.7**	**+1.1**	
BUR08					IAmb		IAmb	12 15 22.4		
	comp=Z,3.0nm,0.7s									
AAK	**Ala-Archa**	**23.22**	**57**		LR		LR	12 25 42.4		
	comp=Z,52nm,18.0s,baz=203,slow=41									
HERR	**Herculane**	**23.35**	**309**	⇓	P		**P**	**12 15 14.2**	**+1.6**	
MDVR	**Moldovita**	**23.78**	**309**	⇓	P		**P**	**12 15 17.8**	**+0.9**	
ARU	**Arti**	**25.00**	**14**		P		**P**	**12 15 26.5**	**-1.4**	
	comp=Z,0.7nm,0.3s,baz=197,slow=20,SNR=1.2									
ARU	**Arti**	**25.00**	**14**		P		**P**	**12 15 26.6**	**-1.3**	
ARU					IAmb		IAmb	12 15 34.2		
	comp=Z,8.1nm,1.0s									
KOLS	**Kolonicke sedl**	**25.28**	**318**		*e*P		**P**	**12 15 33.3**	**+2.7**	
CRVS	**Cervenica-Dubn**	**25.73**	**317**		*e*P		**P**	**12 15 36.5**	**+1.9**	
BVAR	**Borovoye Array**	**26.07**	**32**		P		**P**	**12 15 37.4**	**-0.2**	
	comp=Z,2.3nm,0.8s,baz=224,slow=8.3,SNR=11									
BVAR					LR		LR	12 27 33.3		
	comp=Z,44nm,18.0s,baz=144,slow=40									
TIP	**Timpagrande**	**26.08**	**294**	⇓	P		**P**	**12 15 37.5**	**-0.5**	
TIP	**Timpagrande**	**26.08**	**294**		P		**P**	**12 15 40.8**	**+2.8**	
PSZ	**Piszkesteto**	**26.20**	**314**		P		**P**	**12 15 40.6**	**+1.6**	
KURBB	**Kurchatov Arra**	**28.84**	**42**		P		**P**	**12 16 02.4**	**-0.1**	
	comp=Z,0.2nm,0.4s,baz=249,slow=8.8,SNR=1.6									
KURK	**Kurchatov**	**28.93**	**42**		P		**P**	**12 16 02.4**	**-0.9**	
KURK	**Kurchatov**	**28.93**	**42**		IAmb		IAmb	12 16 05.7		
	comp=Z,3.4nm,1.3s									
MK31	**Makanchi Array**	**29.74**	**51**		P		**P**	**12 16 11.0**	**+0.4**	
MKAR	**Makanchi Array**	**29.74**	**51**		P		**P**	**12 16 10.2**	**-0.3**	
	comp=Z,1.0nm,0.7s,baz=248,slow=6.4,SNR=10									
MKAR	**Makanchi Array**	**29.74**	**51**		P		**P**	**12 16 10.9**	**+0.3**	
FINES	**FINESS Array B**	**32.23**	**340**		P		**P**	**12 16 31.6**	**-0.7**	
	comp=Z,4.0nm,0.9s,baz=174,slow=5.7,SNR=6.0									
FINES	**FINESS Array B**	**32.23**	**340**		P		**P**	**12 16 31.9**	**-0.4**	
ZALV	**Zalesovo Beam**	**33.76**	**40**		LR		LR	12 33 42.3		
	comp=Z,21nm,18.6s,baz=190,slow=42									
BNI	**Bardonecchia**	**34.18**	**304**		P		**P**	**12 16 49.2**	**-0.5**	
NB2	**NORSAR Subarra**	**37.17**	**331**		P		**P**	**12 17 14.7**	**-0.4**	
	comp=Z,0.1nm,0.3s,baz=123,slow=8.6									
NOA	**NORSAR Array B**	**37.17**	**331**		P		**P**	**12 17 14.3**	**-0.8**	
	comp=Z,0.4nm,0.6s,baz=122,slow=8.4,SNR=2.9									
NOA					LR		LR	12 34 03.7		
	comp=Z,16nm,19.3s,baz=55,slow=39									
ARCES	**ARCESS Array B**	**39.15**	**348**		P		**P**	**12 17 30.9**	**-0.7**	
	comp=Z,1.9nm,0.8s,baz=153,slow=8.2,SNR=5.9									
ARCES					LR		LR	12 34 32.8		
	comp=Z,40nm,19.4s,baz=178,slow=38									
ESDC	**Sonseca Array**	**42.09**	**295**		P		**P**	**12 17 57.0**	**+0.7**	
	comp=Z,0.7nm,1.0s,baz=75,slow=9.0,SNR=4.5									
TORD	**Torodi Ar. Bea**	**46.41**	**256**		P		**P**	**12 18 31.6**	**+0.5**	
	comp=Z,0.6nm,0.7s,baz=40,slow=7.6,SNR=3.8									
IMAR	**Indian Mountai**	**80.38**	**9**		P		**P**	**12 22 15.0**	**-0.2**	

JMA ***08*** *12:27:13.4±0.1,23.°07N×120.°85E,h0km,M3.3*
TAP ***08*** *12:27:14.7,23.°05N×120.°91E,h4km,ML3.7,C*
ISC 08 12:27:15.1±0.8,23.°06N±0.°01×120.°91E±0.°01,h10km±6km,
n123,σ1§08/205,5C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau** baz=40	**0.16**	**37**	⇑	*i*P		**Pg**	**12 27 18.3**	**-0.4**
ELDTW	baz=40				*e*S		**Sg**	**12 27 21.1**	**-0.1**
STYT	**Tauyuan** baz=311	**0.17**	**305**	⇓	*i*P		**Pg**	**12 27 18.8**	**-0.1**
STYT	baz=311				*e*S		**Sg**	**12 27 21.9**	**+0.4**
LONT	**Longtian** baz=119	**0.25**	**127**	⇓	*i*P		**Pg**	**12 27 20.3**	**+0.1**
LONT	baz=119				S		**Sg**	**12 27 24.1**	**+0.4**
SLGT	**Liugui** baz=256	**0.25**	**255**	⇑	*i*P		**Pg**	**12 27 20.4**	**+0.2**
SLGT	baz=256				*e*S		**Sg**	**12 27 24.2**	**+0.5**
TWG	**Pinlang** baz=146	**0.28**	**148**	⇓	*i*P		**Pg**	**12 27 20.9**	**+0.1**
TWG	baz=146				*e*S		**Sg**	**12 27 25.2**	**+0.7**
TWGBT	**Beinan** baz=146	**0.29**	**147**	⇓	*i*P		**Pg**	**12 27 20.8**	**0.0**
TWGBT	baz=146				*e*S		**Sg**	**12 27 25.2**	**+0.4**
SGST	**Jiashian** baz=281	**0.30**	**274**		*i* P		**Pb**	**12 27 20.6**	**-2.0**
SGST	baz=281				*i* S		**Sb**	**12 27 25.8**	**-1.9**
WTP	**Ta-pu** baz=311	**0.33**	**304**		*e*P		**Pb**	**12 27 22.4**	**-0.7**
WTP	baz=311				*e*S		**Sb**	**12 27 28.1**	**-0.4**
TPUB	**Ta-pu** baz=315	**0.35**	**313**	⇓	*i*P		**Pb**	**12 27 22.8**	**-0.7**
TPUB	baz=315				S		**Sb**	**12 27 28.6**	**-0.5**
EDH	**Donghe** baz=102	**0.37**	**104**		P		**Pb**	**12 27 23.1**	**-0.7**
EDH	baz=102				S		**Sb**	**12 27 29.0**	**-0.6**
TTN	**Taitung** baz=143	**0.37**	**145**		*e*P		**Pb**	**12 27 23.1**	**-0.7**
TTN	baz=143				*e*S		**Sb**	**12 27 29.9**	**+0.2**
CHN1	**Nanshi** baz=299	**0.38**	**289**		P		**Pb**	**12 27 23.6**	**-0.2**
CHN1	baz=299				*e*S		**Sb**	**12 27 30.4**	**+0.7**
FULB	**Fuli** baz=68	**0.38**	**69**	⇑	*i*P		**Pb**	**12 27 23.1**	**-0.8**
FULB	baz=68				S		**Sb**	**12 27 29.0**	**-0.8**
SSD	**Sandimen** baz=210	**0.41**	**220**	⇑	*i*P		**Pb**	**12 27 22.6**	**-1.7**
SSD	baz=210				S		**Sg**	**12 27 27.8**	**-0.7**
SNST	**Tainan City** baz=302	**0.41**	**293**		P		**Pb**	**12 27 24.8**	**+0.3**
SNST	baz=302				S		**Sb**	**12 27 32.0**	**+1.1**
CHKT	**Chengkung** baz=84	**0.42**	**85**		*e*P		**Pb**	**12 27 24.5**	**-0.1**
CHKT	baz=84				*e*S		**Sb**	**12 27 31.3**	**+0.3**
SCST	**Cishan** baz=246	**0.42**	**246**	⇑	*i*P		**Pb**	**12 27 24.1**	**-0.5**
SCST	baz=246				*e*S		**Sb**	**12 27 30.6**	**-0.5**
YUS	**Yu-Shan** baz=17	**0.43**	**5**		*e*P		**Pb**	**12 27 24.3**	**-0.7**
YUS	baz=17				*e*S		**Sb**	**12 27 31.6**	**-0.2**
TSMG	**Majia** baz=207	**0.43**	**215**		P		**Pb**	**12 27 23.1**	**-1.7**
TSMG	baz=207				*e*S		**Sg**	**12 27 28.6**	**-0.7**
TWF1	**Yuli** baz=51	**0.46**	**51**		*i* P		**Pg**	**12 27 23.8**	**-0.2**
TWF1	baz=51				S		**Sg**	**12 27 29.9**	**-0.2**
ALS	**Alishan** baz=350	**0.46**	**348**		*i* P		**Pb**	**12 27 24.3**	**-1.1**
ALS	baz=350				S		**Sb**	**12 27 31.3**	**-1.1**
ECL	**Taimali** baz=173	**0.46**	**175**		*i* P		**Pg**	**12 27 23.7**	**-0.4**
ECL	baz=173				S		**Sb**	**12 27 30.8**	**-1.4**
YULB	**Yu-li** baz=47	**0.48**	**47**		P		**Pg**	**12 27 24.1**	**-0.5**
YULB	baz=47				*e*S		**Sg**	**12 27 29.8**	**-1.1**
CHN3	**Shinhua** baz=273	**0.50**	**272**		P		**Pn**	**12 27 27.7**	**-0.7**
CHN3	baz=273				*e*S		**Sb**	**12 27 34.3**	**+0.8**
SGLT	**Jiouru** baz=222	**0.51**	**229**		*e*P		**Pb**	**12 27 25.8**	**-0.3**
SGLT	baz=222				*e*S		**Sb**	**12 27 33.3**	**-0.4**
MASBT	**Mashibuluo** baz=209	**0.52**	**210**		P		**Pg**	**12 27 24.6**	**-0.6**
MASBT	baz=209				*e*S		**Sb**	**12 27 31.8**	**-2.0**
CHN5	**Tsauling** baz=339	**0.57**	**338**		P		**Pb**	**12 27 26.8**	**-0.5**
CHN5	baz=339				*e*S		**Sb**	**12 27 35.9**	**+0.2**
EHY	**Hungye** baz=41	**0.58**	**40**		P		**Pg**	**12 27 25.9**	**-0.5**
EHY	baz=41				*e*S		**Sg**	**12 27 33.8**	**-0.3**
SNJT	**Kaohsiung City** baz=232	**0.61**	**240**		P		**Pn**	**12 27 30.2**	**+0.4**
SNJT	baz=232				*e*S		**Sn**	**12 27 40.4**	**+0.6**
CHY	**Chiayi** baz=316	**0.62**	**314**		P		**Pn**	**12 27 28.7**	**-1.3**
CHY	baz=316				*e*S		**Sn**	**12 27 38.5**	**-1.6**
TAI1	**Yung-k'ang** baz=268	**0.63**	**268**		*e*P		**Pn**	**12 27 29.6**	**-0.4**
WHYT	**Xinyi Township** baz=4.0	**0.64**	**355**		P		**Pb**	**12 27 27.8**	**-0.5**
WHYT	baz=4.0				*e*S		**Sb**	**12 27 36.3**	**-0.9**
HGSD	**Ruisui** baz=40	**0.64**	**48**		P		**Pb**	**12 27 28.0**	**-0.3**
HGSD	baz=40				*e*S		**Sb**	**12 27 38.0**	**+0.8**
LDUT	**Ludao** baz=126	**0.64**	**127**		P		**Pb**	**12 27 27.9**	**-0.5**
LDUT	baz=126				*e*S		**Sb**	**12 27 38.0**	**+0.6**
ICHU	**Yijhu** baz=298	**0.65**	**297**		P		**Pn**	**12 27 29.6**	**-0.8**
ICHU	baz=298				*e*S		**Sn**	**12 27 40.6**	**-0.2**
SSPT	**Xinbi** baz=206	**0.66**	**209**		P		**Pb**	**12 27 27.9**	**-0.7**
SSPT	baz=206				*e*S		**Sb**	**12 27 37.6**	**-0.2**
SCLT	**Jiali** baz=297	**0.67**	**280**		*e*P		**Pn**	**12 27 30.2**	**-0.4**
SCLT	baz=297				*e*S		**Sn**	**12 27 42.9**	**+1.7**
EAST	**Anshuo** baz=183	**0.68**	**185**		P		**Pb**	**12 27 27.9**	**-1.1**
EAST	baz=183				*e*S		**Sg**	**12 27 36.7**	**-0.4**
TAW	**Tawu** baz=180	**0.70**	**181**		P		**Pb**	**12 27 28.5**	**-0.8**
TAW	baz=180				*e*S		**Sg**	**12 27 37.7**	**-0.1**
WLGB	**Puzi** baz=307	**0.70**	**306**		*e*P		**Pn**	**12 27 30.9**	**-0.1**
WLGB	baz=307				*e*S		**Sn**	**12 27 41.9**	**0.0**
WGK	**Gukeng** baz=334	**0.70**	**333**		*e*P		**Pb**	**12 27 28.3**	**-1.1**
WGK	baz=334				*e*S		**Sn**	**12 27 40.5**	**-1.5**
CHN8	**Yiju** baz=295	**0.70**	**294**		P		**Pn**	**12 27 30.3**	**-0.8**
CHN8	baz=295				*e*S		**Sn**	**12 27 42.7**	**+0.7**
WDLH	**Douliu** baz=332	**0.71**	**331**		P		**Pn**	**12 27 30.8**	**-0.5**
WDLH	baz=332				*e*S		**Sn**	**12 27 42.7**	**+0.5**
VWDT	**VWDT** baz=22	**0.72**	**17**		P		**Pg**	**12 27 28.5**	**-0.5**
VWDT	baz=22				*e*S		**Sg**	**12 27 38.4**	**0.0**
SSLB	**Suanglung** baz=4.0	**0.72**	**3**		P		**Pb**	**12 27 28.9**	**-1.0**
SSLB	baz=4.0				*e*S		**Sg**	**12 27 38.6**	**0.0**
SCZT	**Fangliau** baz=191	**0.74**	**202**		*e*P		**Pb**	**12 27 29.2**	**-0.8**
SCZT	baz=191				*e*S		**Sb**	**12 27 39.6**	**-0.5**
KAU	**Kaohsiung** baz=248	**0.74**	**229**		*e*P		**Pn**	**12 27 33.0**	**+1.4**
EGFH	**Guangfu** baz=38	**0.77**	**38**		P		**Pb**	**12 27 30.2**	**-0.3**
EGFH	baz=38				*e*S		**Sg**	**12 27 39.7**	**-0.3**
WJS	**Zhushan** baz=357	**0.78**	**347**		P		**Pn**	**12 27 31.7**	**-0.4**
WJS	baz=357				*e*S		**Sn**	**12 27 43.6**	**-0.2**
WTK	**Tuku** baz=323	**0.79**	**322**		P		**Pn**	**12 27 31.8**	**-0.4**
WTK	baz=323				*e*S		**Sn**	**12 27 43.9**	**-0.2**
SMLT	**Sun Moon Lake** baz=7.0	**0.82**	**359**		P		**Pb**	**12 27 31.2**	**-0.2**
SMLT	baz=7.0				*e*S		**Sn**	**12 27 44.7**	**-0.3**
WNT	**Mingjian** baz=347	**0.84**	**346**		P		**Pn**	**12 27 32.8**	**-0.2**
WNT	baz=347				*e*S		**Sn**	**12 27 45.5**	**+0.1**
TYC	**Yuchr** baz=6.0	**0.84**	**357**		P		**Pb**	**12 27 31.9**	**+0.2**
TYC	baz=6.0				*e*S		**Sn**	**12 27 44.8**	**-0.7**
SLIU	**Shizi** baz=178	**0.85**	**187**		P		**Pb**	**12 27 31.2**	**-0.7**
SLIU	baz=178				*e*S		**Sb**	**12 27 43.2**	**-0.1**
WSF	**Szhu** baz=313	**0.86**	**312**		*e*P		**Pn**	**12 27 32.3**	**-0.9**
WSF	baz=313				*e*S		**Sn**	**12 27 46.1**	**+0.3**
WLCH	**Liuqiu** baz=213	**0.86**	**215**		*e*P		**Pn**	**12 27 35.6**	**+2.3**
TWP	**Hsiaoliuchiu** baz=213	**0.87**	**216**		*e*P		**Pn**	**12 27 35.8**	**+2.4**
TWP	baz=213				*e*S		**Sn**	**12 27 51.1**	**+4.9**
ESL	**Shilin** baz=40	**0.89**	**32**		*e*P		**Pg**	**12 27 31.8**	**-0.4**
ESL	baz=40				*e*S		**Sg**	**12 27 44.0**	**+0.2**
OWD	**Renai** baz=16	**0.92**	**15**		*e*P		**Pg**	**12 27 31.6**	**-1.3**
CHGB	**Renai** baz=5.0	**1.02**	**14**		*e*P		**Pg**	**12 27 34.1**	**-0.7**
CHGB	baz=5.0				*e*S		**Sn**	**12 27 50.6**	**+0.3**
HEN	**Hengchun** baz=187	**1.06**	**189**		*e*P		**Pn**	**12 27 36.4**	**+0.4**
WCHH	**Zhanghua** baz=343	**1.06**	**342**		*e*P		**Pn**	**12 27 35.9**	**-0.2**
WCHH	baz=343				*e*S		**Sn**	**12 27 51.7**	**+0.7**
TWK1	**Hengchun** baz=192	**1.12**	**185**		*e*P		**Pn**	**12 27 38.1**	**+1.3**
TWKBT	**Hengchun** baz=192	**1.12**	**185**		*e*P		**Pn**	**12 27 36.5**	**-0.3**
WHF	**Hehuan Shan** baz=25	**1.13**	**17**		*e*P		**Pg**	**12 27 36.2**	**-0.6**
WHF	baz=25				*e*S		**Sn**	**12 27 53.2**	**+0.1**
TSEB	**Hengchuen, Pin** baz=190	**1.16**	**181**		*e*P		**Pn**	**12 27 37.6**	**+0.3**
WDGT	**Dungji** baz=281	**1.17**	**280**		P		**Pn**	**12 27 37.4**	**-0.1**
WDGT	baz=281				*e*S		**Sn**	**12 27 53.9**	**+0.4**
TWD	**Chiawan** baz=23	**1.19**	**32**		*e*P		**Pb**	**12 27 37.7**	**-0.1**
TWD	baz=23				*e*S		**Sn**	**12 27 54.7**	**+0.6**
TDCB	**Techi** baz=4.0	**1.21**	**11**		*e*P		**Pn**	**12 27 38.5**	**+0.3**
WHP	**Taichung City** baz=10.0	**1.21**	**1**		*e*P		**Pn**	**12 27 39.1**	**+0.9**
WHP	baz=10.0				*e*S		**Sn**	**12 27 56.0**	**+1.3**
FUSS	**Fushou** baz=8.0	**1.22**	**14**		*e*P		**Pg**	**12 27 37.2**	**-1.4**
FUSS	baz=8.0				*e*S		**Sn**	**12 27 57.8**	**+2.7**
ETLH	**Xiulin Townshi** baz=25	**1.25**	**24**		*e*P		**Pg**	**12 27 38.1**	**-1.1**
ETLH	baz=25				*e*S		**Sn**	**12 27 56.4**	**+0.7**
NACB	**Ninganchiao** baz=42	**1.27**	**29**		*e*P		**Pg**	**12 27 37.5**	**-2.0**
NACB	baz=42				*e*S		**Sb**	**12 27 56.0**	**+0.4**
TWQ1	**Liyutan** baz=354	**1.29**	**354**		*e*P		**Pn**	**12 27 41.0**	**+1.9**
TWQ1	baz=354				*e*S		**Sn**	**12 28 00.4**	**+4.0**
WDJ	**Dajia District** baz=350	**1.30**	**349**		*e*P		**Pn**	**12 27 41.5**	**+2.1**
WDJ	baz=350				*e*S		**Sn**	**12 27 59.8**	**+2.9**
PHUB	**P'eng-hu** baz=291	**1.31**	**290**		*e*P		**Pn**	**12 27 39.4**	**-0.1**
PHUB	baz=291				*e*S		**Sn**	**12 27 57.0**	**-0.1**
PNG	**Penghu** baz=293	**1.35**	**292**		*e*P		**Pb**	**12 27 39.8**	**-0.6**
PNG	baz=293				*e*S		**Sn**	**12 27 58.5**	**+0.6**
NSY	**Sanyi** baz=354	**1.36**	**354**		*e*P		**Pb**	**12 27 42.0**	**+1.4**
NSY	baz=354				*e*S		**Sn**	**12 28 03.0**	**+4.9**
VCHM	**Qimei** baz=292	**1.37**	**276**		*e*P		**Pb**	**12 27 40.0**	**-0.9**
VCHM	baz=292				*e*S		**Sn**	**12 27 58.9**	**+0.3**
PTSB	**Yuanli** baz=355	**1.39**	**352**		*e*P		**Pb**	**12 27 42.6**	**+1.4**
NNSB	**Datong** baz=27	**1.43**	**17**		*e*P		**Pn**	**12 27 41.1**	**-0.1**
NNSB	baz=27				*e*S		**Sn**	**12 28 01.0**	**+0.9**
NNSH	**Datong** baz=18	**1.43**	**17**		*e*P		**Pn**	**12 27 41.1**	**0.0**
NNSH	baz=18				*e*S		**Sn**	**12 28 00.8

TWC	**Suao**	**1.76**	**29**	*eP*		**Pg**	**12 27 47.9**	**-1.0**
	baz=30							
TWC				*eS*		**Sg**	**12 28 11.0**	**-0.8**
	baz=30							
TWE	**Neicheng**	**1.79**	**23**	P		**Pg**	**12 27 48.7**	**-0.8**
	baz=40							
NWLT	**Wulai**	**1.79**	**17**	*eP*		**Pg**	**12 27 48.6**	**-0.8**
	baz=20							
NTC	**Toucheng**	**1.97**	**25**	*eP*		**Pb**	**12 27 50.9**	**-0.2**
	baz=42							
NHDH	**Xindian Distri**	**1.98**	**16**	*eP*		**Pg**	**12 27 53.5**	**+0.6**
	baz=19							
TWA	**Mucha**	**2.01**	**18**	*eP*		**Pg**	**12 27 53.7**	**+0.1**
	baz=20							
TIPB	**Shuangxi**	**2.08**	**24**	*eP*		**Pb**	**12 27 52.0**	**-0.9**
	baz=40							
TWS1	**Kuangyinshan**	**2.08**	**13**	*eP*		**Pg**	**12 27 53.7**	**-1.3**
	baz=15							
NWF	**Wu-fen Shan**	**2.15**	**21**	*eP*		**Pg**	**12 27 54.8**	**-1.6**
	baz=41							
WFSB	**Wu-fen Shan**	**2.15**	**21**	*eP*		**Pg**	**12 27 54.8**	**-1.6**
	baz=41							
YM04	**YM04**	**2.16**	**15**	*eP*		**Pb**	**12 27 53.7**	**-0.6**
	baz=2.0							
YM01	**YM01**	**2.16**	**16**	*eP*		**Pb**	**12 27 54.2**	**-0.1**
	baz=1.0							
YM10	**YM10**	**2.17**	**16**	*eP*		**Pb**	**12 27 54.8**	**+0.4**
	baz=2.0							
TWB1	**Santiao Chiao**	**2.17**	**27**	*eP*		**Pg**	**12 27 55.3**	**-1.5**
	baz=42							
YM05	**YM05**	**2.18**	**16**	*eP*		**Pb**	**12 27 54.7**	**+0.1**
	baz=2.0							
YM11	**YM11**	**2.18**	**16**	*eP*		**Pg**	**12 27 55.4**	**-1.5**
	baz=19							
YM03	**YM03**	**2.19**	**15**	*eP*		**Pn**	**12 27 52.9**	**+1.3**
	baz=18							
YM08	**YM08**	**2.21**	**16**	*eP*		**Pg**	**12 27 56.2**	**-1.1**
	baz=19							
VWUC	**VWUC**	**2.34**	**325**	*eP*		**Pn**	**12 27 53.8**	**+0.2**
	baz=331							
YOJ	**Yonaguni jima**	**2.38**	**54**	P		**Pn**	**12 27 54.9**	**+0.8**
YOJ				*eS*		**Sn**	**12 28 24.8**	**+1.5**
PTMZ	**Houxiangcun**	**2.56**	**321**	*eP*		**Pn**	**12 27 57.2**	**+0.6**
	baz=325							
KNMB	**Chin-men Tao**	**2.70**	**302**	*eP*		**Pn**	**12 27 59.2**	**+0.6**
	baz=304							
HATJ	**Hateruma jima**	**2.83**	**69**	*eS*		**Sn**	**12 28 32.9**	**-1.7**
IRIF	**Iriomote-Funau**	**2.88**	**63**	P		**Pn**	**12 28 01.7**	**+0.7**
IRIF				S		**Sn**	**12 28 35.6**	**-0.1**
JKRS	**Kuro-shima**	**3.07**	**67**	*eS*		**Sn**	**12 28 41.2**	**+0.7**
MATB	**Ma-tsu**	**3.20**	**344**	*eP*		**Pn**	**12 28 06.1**	**+0.7**
	baz=350							
JIJ	**Ishigaki jima**	**3.23**	**66**	P		**Pn**	**12 28 05.8**	**-0.1**
JIJ				*eS*		**Sn**	**12 28 42.8**	**-1.7**
AXDP	**Jialang**	**3.25**	**305**	*eP*		**Pn**	**12 28 07.0**	**+0.8**
	baz=308							
JISG	**Ishigakijimahi**	**3.46**	**63**	S		**Sn**	**12 28 48.2**	**-1.9**
MHZQ	**Yeshan**	**3.48**	**331**	*eP*		**Pn**	**12 28 11.4**	**+2.2**
	baz=338							
JTJ	**Tarama**	**3.81**	**65**	*eS*		**Sn**	**12 28 58.8**	**+0.1**

*MOS **08** 13:40:15.3±0.9, 50°.42N×155°.83E, h126km, mb4.0/5, Error ellipse: s-maj=20.2km s-min=3.9km az=70.3*
*KRSC **08** 13:40:15.2±3.2, 50°.23N×156°.62E, h123km±33km, ML4.3*
*IDC **08** 13:40:19.5±1.5, 50°.83N×155°.62E, h154km±13km, mb3.4/13, mb1 3.5/16, mb1mx3.4/41, mbtmp3.8/16, MS2.5/1, Ms1 2.5/1, ms1mx2.3/38, Error ellipse: s-maj=18.7km s-min=12.1km az=147.0*

ISC 08 13:40:16.8±0.7, 50°.52N±0°.07×155°.89E±0°.07, h132km±5km, n107, σ1s52/122, mb3.8/15, 3C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.22**	**41**	*eP*			**Pn**	**13 40 34.8**	**0.0**
SKR				*eS*			**Sn**	**13 40 48.7**	**+0.1**
SKR	**Severo-Kuril's**	**0.22**	**41**	*j/P*		N	**Pn**	**13 40 34.9**	**+0.1**
SKR				*eS*			**Sn**	**13 40 48.3**	**-0.3**
SKR				pmax		pmax			
	comp=Z,800nm,0.5s								
SKR				pmax		pmax			
	comp=Z,1μm,0.6s								
SKR				smax		smax			
	comp=E,1μm,0.6s								
SKR				smax		smax			
	comp=N,3μm,0.7s								
ALID	**Alaid**	**0.41**	**328**	*eP*			**Pn**	**13 40 35.5**	**-0.3**
ALID	**Alaid**	**0.41**	**328**	P	N		**Pn**	**13 40 35.5**	**-0.3**
PAU	**Pauzhetka**	**1.11**	**31**	*eP*			**Pn**	**13 40 40.6**	**-0.2**
PAU	**Pauzhetka**	**1.11**	**31**	P	N		**Pn**	**13 40 40.6**	**-0.2**
MIPR	**Malaya Ipel'ka**	**1.84**	**17**	*eP*			**Pn**	**13 40 49.1**	**+0.2**
MIPR	**Malaya Ipel'ka**	**1.84**	**17**	P	N		**Pn**	**13 40 49.1**	**+0.2**
KDTR	**Khodutka, Kamc**	**1.89**	**46**	*eP*			**Pn**	**13 40 49.1**	**-0.3**
KDTR				*eS*			**Sn**	**13 41 13.2**	**-1.2**
KDTR	**Khodutka, Kamc**	**1.89**	**46**	P	N		**Pn**	**13 40 49.1**	**-0.3**
KDTR				S			**Sn**	**13 41 13.2**	**-1.2**
ASAK	**Asacha**	**2.25**	**33**	*eP*			**Pn**	**13 40 54.7**	**+0.8**
ASAK	**Asacha**	**2.25**	**33**	P	N		**Pn**	**13 40 54.7**	**+0.8**
MTVR	**Mutnovka**	**2.43**	**35**	*eP*			**Pn**	**13 40 57.4**	**+1.1**
MTVR				*eS*			**Sn**	**13 41 28.2**	**+1.6**
MTVR	**Mutnovka**	**2.43**	**35**	P	N		**Pn**	**13 40 57.4**	**+1.1**
MTVR				S			**Sn**	**13 41 28.2**	**+1.6**
GRL	**Gorelyy**	**2.45**	**33**	*eP*			**Pn**	**13 40 57.5**	**+1.1**
GRL	**Gorelyy**	**2.45**	**33**	P	N		**Pn**	**13 40 57.5**	**+1.1**
RUS	**Russkaya**	**2.52**	**40**	*eP*			**Pn**	**13 40 57.5**	**+0.3**
RUS				*eS*			**Sn**	**13 41 27.1**	**-1.3**
RUS	**Russkaya**	**2.52**	**40**	P	N		**Pn**	**13 40 57.5**	**+0.3**
RUS				S			**Sn**	**13 41 27.1**	**-1.3**
APC	**Apacha**	**2.53**	**18**	*eP*			**Pn**	**13 40 57.4**	**0.0**
APC	**Apacha**	**2.53**	**18**	P	N		**Pn**	**13 40 57.4**	**0.0**
KRMR	**Karymshinskiy**	**2.70**	**30**	*eP*			**Pn**	**13 41 00.9**	**+1.4**
KRMR	**Karymshinskiy**	**2.70**	**30**	P	N		**Pn**	**13 41 00.9**	**+1.4**
PEA0B	**Petropavlovsk-**	**2.82**	**23**	*c i*	PN		**Pn**	**13 41 01.6**	**+0.5**
PETK	**Petropavlovsk-**	**2.82**	**23**	P			**Pn**	**13 41 01.8**	**+0.6**
	comp=N,2.9nm,0.3s,baz=205,slow=11,SNR=34								
PETK				S			**Sn**	**13 41 35.6**	**+0.2**
	comp=N,2.5nm,0.3s,baz=172,slow=12,SNR=4.1								
PET	**Petropavlovsk**	**3.04**	**33**	*eP*			**Pn**	**13 41 05.3**	**+1.5**
PET				*eS*			**Sn**	**13 41 41.0**	**+0.8**
PET	**Petropavlovsk**	**3.04**	**33**	P	N		**Pn**	**13 41 05.3**	**+1.5**
PET				S			**Sn**	**13 41 41.0**	**+0.8**
DALK	**Dalny**	**3.08**	**34**	*eP*			**Pn**	**13 41 05.2**	**+0.8**
DALK				*eS*			**Sn**	**13 41 41.1**	**-0.1**
DALK	**Dalny**	**3.08**	**34**	P	N		**Pn**	**13 41 05.2**	**+0.8**
DALK				S			**Sn**	**13 41 41.1**	**-0.1**
UGLR	**Uglovaya**	**3.25**	**33**	*eP*			**Pn**	**13 41 10.3**	**+3.6**
UGLR				*eS*			**Sn**	**13 41 46.4**	**+1.1**
UGLR	**Uglovaya**	**3.25**	**33**	P	N		**Pn**	**13 41 10.3**	**+3.6**
UGLR				S			**Sn**	**13 41 46.4**	**+1.1**
KOK	**Koryaka**	**3.25**	**30**	*eP*			**Pn**	**13 41 08.8**	**+2.0**
KOK	**Koryaka**	**3.25**	**30**	P	N		**Pn**	**13 41 08.8**	**+2.0**
AVH	**Avacha**	**3.27**	**32**	*eP*			**Pn**	**13 41 09.2**	**+2.3**
AVH	**Avacha**	**3.27**	**32**	P	N		**Pn**	**13 41 09.2**	**+2.3**
SMAR	**Somma**	**3.29**	**32**	*eP*			**Pn**	**13 41 10.1**	**+2.8**
SMAR	**Somma**	**3.29**	**32**	P	N		**Pn**	**13 41 10.1**	**+2.8**
KRER	**Koryakskii**	**3.30**	**31**	*eP*			**Pn**	**13 41 09.9**	**+2.4**
KRER	**Koryakskii**	**3.30**	**31**	P	N		**Pn**	**13 41 09.9**	**+2.4**
KRX	**Arik**	**3.31**	**30**	*eP*			**Pn**	**13 41 09.3**	**+1.7**
KRX	**Arik**	**3.31**	**30**	P	N		**Pn**	**13 41 09.3**	**+1.7**
SDLR	**Sedlovina**	**3.33**	**33**	*eP*			**Pn**	**13 41 09.0**	**+1.3**
SDLR				*eS*			**Sn**	**13 41 46.7**	**-0.4**
SDLR	**Sedlovina**	**3.33**	**33**	P	N		**Pn**	**13 41 09.0**	**+1.3**
SDLR				S			**Sn**	**13 41 46.7**	**-0.4**
NLC	**Nalytchevo**	**3.41**	**38**	*eP*			**Pn**	**13 41 08.5**	**-0.2**
NLC	**Nalytchevo**	**3.41**	**38**	P	N		**Pn**	**13 41 08.5**	**-0.2**
SPN	**Mys Shipunski**	**3.64**	**43**	*eP*			**Pn**	**13 41 11.3**	**-0.4**
SPN				*eS*			**Sn**	**13 41 51.0**	**-3.2**
SPN	**Mys Shipunski**	**3.64**	**43**	P	N		**Pn**	**13 41 11.3**	**-0.4**
SPN				S			**Sn**	**13 41 51.0**	**-3.2**
KII	**Karymskiy**	**4.14**	**30**	*eP*			**Pn**	**13 41 18.7**	**+0.3**
KII	**Karymskiy**	**4.14**	**30**	P	N		**Pn**	**13 41 18.7**	**+0.3**
KZV	**Kizimen**	**5.32**	**28**	*eP*			**Pn**	**13 41 35.7**	**+1.6**
KZV	**Kizimen**	**5.32**	**28**	P	N		**Pn**	**13 41 35.7**	**+1.6**
TUMR	**Tumrok**	**5.42**	**27**	*eP*			**Pn**	**13 41 37.1**	**+1.6**
TUMR	**Tumrok**	**5.42**	**27**	P	N		**Pn**	**13 41 37.1**	**+1.6**
TUMD	**Tumrok D**	**5.43**	**28**	*eP*			**Pn**	**13 41 36.5**	**+1.0**
KMNR	**Kamenistaya**	**5.86**	**25**	*eP*			**Pn**	**13 41 43.4**	**+2.0**
KMNR	**Kamenistaya**	**5.86**	**25**	P	N		**Pn**	**13 41 43.4**	**+2.0**
BZWR	**Bezymyannyi-We**	**6.11**	**25**	*eP*			**Pn**	**13 41 46.6**	**+1.8**
BZWR	**Bezymyannyi-We**	**6.11**	**25**	P	N		**Pn**	**13 41 46.6**	**+1.8**
BZGR	**Bezymyannyi-Gr**	**6.15**	**26**	*eP*			**Pn**	**13 41 45.2**	**0.0**
BZGR	**Bezymyannyi-Gr**	**6.15**	**26**	P	N		**Pn**	**13 41 45.2**	**0.0**
SRDR	**Sredinnyy**	**6.24**	**20**	*eP*			**Pn**	**13 41 48.5**	**+2.1**
SRDR	**Sredinnyy**	**6.24**	**20**	P	N		**Pn**	**13 41 48.5**	**+2.1**
BDR	**Baidarnaya**	**6.83**	**26**	*eP*			**Pn**	**13 41 55.9**	**+1.5**
BDR	**Baidarnaya**	**6.83**	**26**	P	N		**Pn**	**13 41 55.9**	**+1.5**
SRKR	**Sorokina**	**6.90**	**25**	*eP*			**Pn**	**13 41 56.2**	**+0.9**
SRKR	**Sorokina**	**6.90**	**25**	P	N		**Pn**	**13 41 56.2**	**+0.9**
SMKR	**Semkarok**	**6.92**	**27**	*eP*			**Pn**	**13 41 57.6**	**+2.0**
SMKR	**Semkarok**	**6.92**	**27**	P	N		**Pn**	**13 41 57.6**	**+2.0**
KBG	**Krutoberegovo**	**7.04**	**33**	*eP*			**Pn**	**13 41 58.1**	**+1.0**
KBG	**Krutoberegovo**	**7.04**	**33**	P	N		**Pn**	**13 41 58.1**	**+1.0**
KBTR	**Krutoberegovo**	**7.04**	**33**	*eP*			**Pn**	**13 41 56.5**	**-0.6**
KBTR	**Krutoberegovo**	**7.04**	**33**	P	N		**Pn**	**13 41 56.5**	**-0.6**
BKI	**Bering**	**7.69**	**49**	*eP*			**Pn**	**13 42 04.6**	**-1.3**
BKI				*eS*			**Sn**	**13 43 21.1**	**-1.0**
BKI	**Bering**	**7.69**	**49**	P	N		**Pn**	**13 42 04.6**	**-1.3**
MA2	**Magadan**	**9.54**	**344**	P			**Pn**	**13 42 28.9**	**-1.7**
	comp=N,0.4nm,0.3s,baz=157,slow=9.1,SNR=6.2								
MA2				LR			LR	13 46 41.7	
	comp=N,27nm,19.7s,baz=191,slow=42								
MA2	**Magadan**	**9.54**	**344**	*i*	PN		**Pn**	**13 42 30.2**	**-0.4**
MA2				pmax		pmax			
	comp=Z,3.0nm,0.7s								
ASAJ	**Asahikawa**	**11.06**	**240**	P			Pn	13 42 53.6	+2.5
	comp=Z,0.4nm,0.3s,baz=76,slow=9.4,SNR=5.9								
ERM	**Erimo**	**12.23**	**231**		PN		**Pn**	**13 43 06.5**	**0.0**
KLR	**Kul'dur**	**15.60**	**275**	P			**P**	**13 43 51.4**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=74,slow=9.9,SNR=5.9								
ZEA	**Zeya**	**17.82**	**292**	*eP*			**Pn**	**13 44 15.2**	**-1.0**
ZEA				pmax		pmax			
	comp=Z,24nm,1.6s								
BILL	**Bilibino**	**18.30**	**12**	*j eP*			**P**	**13 44 19.0**	**-1.2**
BILL				*eS*			**Sn**	**13 47 49.4**	**+2.7**
BILL				pmax		pmax			
	comp=Z,15nm,1.5s								
YAK	**Yakutsk**	**18.41**	**319**	*eP*			**P**	**13 44 19.7**	**-1.6**
YAK				pmax		pmax			
	comp=Z,19nm,1.1s								
YAK				pmax		pmax			
	comp=N,8.0nm,1.1s								
YAK				pmax		pmax			
	comp=E,8.0nm,1.1s								
KSRS	**Korea Array**	**23.82**	**248**	P			**P**	**13 45 19.8**	**+2.4**
	comp=E,0.4nm,0.6s,baz=72,slow=17,SNR=2.3								
H11N2	**WAKE ISLAND Hy**	**31.94**	**160**	T			T	14 20 11.8	
	baz=348,slow=76,SNR=7.5								
H11N1	**WAKE ISLAND Hy**	**31.96**	**160**	T			T	14 20 11.8	
	baz=348,slow=76,SNR=29								
H11N3	**WAKE ISLAND Hy**	**31.96**	**160**	T			T	14 20 11.8	
	baz=348,slow=76,SNR=35								
COLA	**College**	**32.06**	**42**	*j P*			**P**	**13 46 30.6**	**+0.1**
COLA				pmax		pmax			
	comp=Z,12nm,2.6s								
ILAR	**Eielson Array**	**32.48**	**42**	P			**P**	**13 46 34.1**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=263,slow=6.1,SNR=18								
H11S1	**WAKE ISLAND Hy**	**33.08**	**161**	T			T	14 21 16.7	
	SNR=36								
H11S3	**WAKE ISLAND Hy**	**33.09**	**161**	T			T	14 21 14.4	
	baz=347,slow=74,SNR=38								
H11S2	**WAKE ISLAND Hy**	**33.10**	**161**	T			T	14 21 14.4	
	baz=222,slow=74,SNR=36								
INK	**Inuvik**	**37.49**	**35**	P			**P**	**13 47 16.8**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=265,slow=5.4,SNR=7.1								
DLBC	**Dease Lake**	**41.69**	**50**	P			**P**	**13 47 54.8**	**+2.7**
	comp=Z,0.9nm,0.4s,baz=270,slow=7.1,SNR=4.4								
KURK	**Kurchatov**	**46.88**	**302**	P			**P**	**13 48 32.4**	**-0.8**
KURK								13 50 03.3	
MKAR	**Makanchi Array**	**46.91**	**296**	P			**P**	**13 48 31.6**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=50,slow=5.6,SNR=6.7								
MKAR	**Makanchi Array**	**46.91**	**296**	*eP*			**P**	**13 48 31.8**	**-1.8**
KURBB	**Kurchatov Arra**	**46.97**	**302**	P			**P**	**13 48 32.4**	**-1.6**
	comp=Z,1.0nm,0.6s,baz=62,slow=7.6,SNR=12								
KURBB				PcP			**PcP**	**13 50 03.3**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=58,slow=3.3,SNR=5.2								
BVAR	**Borovoye Array**	**49.93**	**308**	P			**P**	**13 48 54.5**	**-2.1**
	comp=Z,1.3nm,0.3s,baz=52,slow=8.4,SNR=10								
ARCES	**ARCESS Array B**	**54.89**	**341**	P			**P**	**13 49 29.4**	**-3.5**
	comp=Z,2.1nm,1.0s,baz=44,slow=7.5,SNR=3.8								
CMAR	**Chiang Mai Arr**	**55.06**	**256**	P			**P**	**13 49 35.6**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=32,slow=7.0,SNR=5.8								
CMAR	**Chiang Mai Arr**	**55.06**	**256**	*eP*			**P**	**13 49 36.2**	**+1.4**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.4s								
NVAR	**Mina Array Bea**	**59.13**	**66**	P			**P**	**13 50 05.5**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=284,slow=7.3,SNR=2.6								
FINES	**FINESS Array B**	**61.40**	**335**	P			**P**	**13 50 15.7**	**-2.6**
	comp=Z,0.5nm,0.4s,baz=45,slow=8.4,SNR=4.8								
FINES				PcP			**PcP**	**13 50 57.3**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=0.0,slow=2.5,SNR=3.6								
FINES	**FINESS Array B**	**61.40**	**335**	*eP*			**P**	**13 50 16.3**	**-2.0**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.4s								
WRA	**Warramunga Arr**	**72.69**	**201**	P			**P**	**13 51 30.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=13,slow=6.2,SNR=7.5								
WRA	**Warramunga Arr**	**72.69**	**201**	*eP*			**P**	**13 51 30.9**	**+0.9**
TXAR	**Lajitas Array**	**74.09**	**63**	P			**P**	**13 51 38.8**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=299,slow=5.0,SNR=7.5								
ASAR	**Alice Springs**	**76.38**	**201**	P			**P**	**13 51 52.8**	**+1.5**
	comp=Z,0.5nm,0.9s,baz=15,slow=5.2,SNR=4.3								

*IDC **08** 13:55:18.5±1.0, 27°.11N×128°.41E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/45, mbtmp3.7/7, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/37, Error ellipse: s-maj=60.9km s-min=19.4km az=76.0*
*JMA **08** 13:55:21.3±0.1, 27°.16N×128°.84E, h20km±2km, M3.6*
*NEIC **08** 13:55:23.3±0.7, 27°.12N±0°.07×128°.5E±0°.2, h35km±10km, mb4.2/8, Error ellipse: s-maj=21.3km s-min=5.9km az=113.0*

ISC 08 13:55:21.9±1.1, 27°.18N±0°.06×128°.71E±0°.08, h31km±7km, n35, σ1s28/35, mb3.9/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.22**	**326**	P			**Pb**	**13 55 28.1**	**-0.3**
JOKE				*eS*			**Sb**	**13 55 32.7**	**-0.2**
JYRO	**Yoronjima**	**0.28**	**236**	P			**Pb**	**13 55 28.9**	**-1.0**
JYRO				S			**Sn**	**13 55 33.9**	**-1.1**
JOW	**Kunigami**	**0.52**	**228**	P			**Pb**	**13 55 32.8**	**+0.1**
JOW				*eS*			**Sb**	**13 55 40.4**	**+0.4**
JOW	**Kunigami**	**0.52**	**228**	P	n		**Pb**	**13 55 31.7**	**-1.0**
JTK	**Tokunoshima**	**0.64**	**20**	P			**Pn**	**13 55 33.3**	**-1.6**
JTK				*eS*			**Sn**	**13 55 41.2**	**-2.9**
JIH	**Iheya**	**0.68**	**258**	P			**Pb**	**13 55 36.1**	**+0.8**
JIH				*eS*			**Sb**	**13 55 46.7**	**+2.4**
JNTH	**Nagotoyohara**	**0.90**	**223**	P			**Pb**	**13 55 39.2**	**+0.2**
JAMN	**Amaminishikomi**	**1.14**	**21**	P			**Pn**	**13 55 41.7**	**-0.1**
JAMN				*eS*			**Sn**	**13 55 55.4**	**-0.9**
JJT3	**Tamagusuku3**	**1.32**	**219**	P			**Pb**	**13 55 47.3**	**+1.2**
JAM	**Amami Oshima**	**1.46**	**33**	P			**Pn**	**13 55 47.0**	**+0.8**
JAM				*eS*			**Sn**	**13 56 05.5**	**+1.2**
JNU	**Nakatsue**	**6.21**	**17**	P		n	**Pn**	**13 56 54.5**	**+2.9**
	1.8nm,0.3s,baz=37,slow=1.7,SNR=8.9								
YULB	**Yu-li**	**7.69**	**242**	P		n	**Pn**	**13 57 10.3**	**-1.6**
KSRS	**Korea Array**	**10.27**	**356**	LR			LR	14 02 07.6	
	comp=Z,128nm,21.1s,baz=179,slow=40								
ERM	**Erimo**	**18.95**	**35**	P			**Pn**	**13 59 41.6**	**+0.4**
ERM						IAmb	IAmb	13 59 46.7	
	comp=Z,12nm,0.9s								
H11N1	**WAKE ISLAND Hy**	**35.70**	**94**	T			T	14 40 04.3	
	baz=290,slow=74,SNR=6.2								
H11N2	**WAKE ISLAND Hy**	**35.70**	**94**	T			T	14 40 02.6	
	baz=290,slow=74,SNR=9.0								
H11N3	**WAKE ISLAND Hy**	**35.72**	**94**	T			T	14 40 00.2	
	baz=290,slow=74,SNR=7.4								
H11S3	**WAKE ISLAND Hy**	**35.94**	**96**	T			T	14 40 18.9	
	baz=292,slow=75,SNR=4.8								
H11S1	**WAKE ISLAND Hy**	**35.95**	**96**	T			T	14 40 21.3	
	baz=292,slow=75,SNR=4.7								
H11S2	**WAKE ISLAND Hy**	**35.96**	**96**	T			T	14 40 20.2	
	baz=292,slow=75,SNR=6.0								
MKAR	**Makanchi Array**	**41.23**	**311**	P			**P**	**14 03 04.6**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=85,slow=8.6,SNR=3.1								
WB0	**Warramunga Arr**	**46.99**	**173**	P			**P**	**14 03 50.8**	**+0.5**
WB0						IAmb	IAmb	14 04 00.3	
	comp=Z,5.6nm,1.1s								
WRA	**Warramunga Arr**	**47.16**	**173**	P			**P**	**14 03 52.4**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=353,slow=8.4,SNR=19								
WB2	**Warramunga Arr**	**47.16**	**173**	P			**P**	**14 03 52.3**	**+0.6**
WB2						IAmb	IAmb	14 04 11.0	
	comp=Z,10.0nm,1.2s								
WR0	**Warramunga Arr**	**47.20**	**173**	P			**P**	**14 03 52.5**	**+0.5**
AS31	**Alice Springs**	**50.80**	**174**	P			**P**	**14 04 21.0**	**+1.4**
ASAR	**Alice Springs**	**50.80**	**174**	P			**P**	**14 04 20.9**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=354,slow=9.1,SNR=19								
ASAR	**Alice Springs**	**50.80**	**174**	P			**P**	**14 04 20.1**	**+0.6**
ABKAR	**Akbulak array**	**56.31**	**313**	P			**P**	**14 04 58.3**	**-1.4**
STKA	**Stephens Creek**	**60.00**	**167**	P			**P**	**14 05 26.3**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=331,slow=11,SNR=3.5								
STKA	**Stephens Creek**	**60.00**	**167**	P			**P**	**14 05 24.4**	**-1.2**
STKA						IAmb	IAmb	14 05 30.4	
	comp=Z,0.8nm,1.3s								
BBOO	**Buckleboo**	**60.07**	**173**	P			**P**	**14 05 24.1**	**-2.0**
BBOO						IAmb	IAmb	14 05 24.5	
	comp=Z,1.3nm,0.8s								
FINES	**FINESS Array B**	**72.25**	**331**	P			**P**	**14 06 44.4**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=91,slow=7.0,SNR=4.3								
FINES	**FINESS Array B**	**72.25**	**331**	P			**P**	**14 06 44.2**	**+0.3**
NOA	**NORSAR Array B**	**78.65**	**334**	P			**P**	**14 07 21.3**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=52,slow=5.5,SNR=3.4								

*BJI **08** 14:03:45.1±0.0, 4°.77N×127°.58E, h128km, mB5.1/39, mb4.8/63*
*NEIC **08** 14:03:47.4±2.4, 5°.02N±0°.03×127°.53E±0°.08, h123km±5km, mb5.1/84, Error ellipse: s-maj=12.5km s-min=2.8km az=70.0*
*MAN **08** 14:03:47.2, 5°.34N×127°.64E, h155km, MS4.7*
*GCMT **08** 14:03:47.4±0.2, 5°.01N±0°.02×127°.41E±0°.02, h130km±1km, MW5.0/128, Moment Tensor Solution. s82,c98; s128,c185; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.72±.08; Mθθ=0.10±.10; Mφφ=-4.62±.12; Mrθ=0.59±.09; Mθφ=0.54±.12; Mφr=0.51±.12; Best double couple: Mo=4.76500×10^16 NP1:φs=346.00000°, δ=43.00000°, λ=79.00000°. NP2:φs=181.00000°, δ=48.00000°, λ=100.00000°. Principal axes: T 4.8260, Plg82.0000°, Azm154.0000°; N -0.1200, Plg8.0000°, Azm354.0000°; P -4.7040, Plg3.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **08** 14:03:48.2±0.3, 5°.N±2°×12°.7E±°, h122km±3km, M5.0/62, mb5.1/62, mB5.5/30, MLv5.5/11, Mw(mB)4.9/30, Mwp4.8/2*
*KLM **08** 14:03:48.0, 5°.14N×127°.72E, h102km, mb5.3*
*IDC **08** 14:03:48.8±0.5, 4°.91N×127°.47E, h138km±4km, mb4.4/24, mb1 4.5/30, mb1mx4.5/41, mbtmp4.9/30, MS3.6/19, Ms1 3.6/19, ms1mx3.5/31, Error ellipse: s-maj=13.3km s-min=6.3km az=70.0*
*MOS **08** 14:03:49.5±0.7, 4°.94N×127°.48E, h159km, mb5.0/59, Error ellipse: s-maj=10.4km s-min=4.6km az=113.7*

ISC 08 14:03:47.4±0.4, 5°.02N±0°.03×127°.59E±0°.04, h123km±3km, h123km:pP-P, n377, σ1s34/413, mb5.0/124, 43C-15D, Philippine Islands region

| Code | Station Name | Δ° | AZ° | Phase | ID | Op | ISC | Time h

GUMO Guam 19.05 62 P **P** 14 07 59.7 -0.5
GUMO pmax pmax
comp=Z,160nm,1.1s
GUMO Guam 19.05 62 P **P** 14 07 59.6 -0.5
GUMO IAmb IAmb 14 08 08.7
comp=Z,160nm,1.1s
TPUB Ta-pu 19.37 340 P **P** 14 08 00.5 -3.2
SSLB Suanglung 19.72 342 P **P** 14 08 05.9 -1.6
DLV T Lat 20.10 291 P **P** 14 08 12.2 +0.4
YHNB Yeheng 20.43 344 P **P** 14 08 15.8 +0.7
YHNB IAmb IAmb 14 08 29.6
comp=Z,94nm,1.5s
KNRA Kununurra 20.60 177 P **P** 14 08 17.5 +0.6
baz=21,SNR=300
KNRA Kununurra 20.60 177 P **P** 14 08 17.9 +1.0
TPI Tanjungpandan 21.36 249 P **P** 14 08 25.7 +0.5
comp=Z,25nm,1.2s
QIZ Qiongzhong 22.21 310 P **P** 14 08 34.1 0.0
QIZ sP **sP** 14 09 12.4 +1.3
QIZ S **S** 14 12 28.8 -1.6
QIZ sS **sS** 14 13 12.8 +4.7
QIZ pmax pmax
comp=Z,190nm,4.1s
QIZ LR LR
comp=Z,290nm,6.9s
CMJI Cimerak 22.95 236 P **P** 14 08 41.7 +0.4
comp=Z,52nm,0.9s
FITZ Fitzroy Crossi 23.05 185 P **P** 14 08 41.4 -0.9
comp=Z,85nm,0.9s,baz=17,slow=9.7,SNR=65
FITZ Fitzroy Crossi 23.05 185 P **P** 14 08 41.7 -0.5
baz=23,SNR=53
FITZ Fitzroy Crossi 23.05 185 P **P** 14 08 41.6 -0.7
DSRI Dabo 23.62 257 P **P** 14 08 46.8 -0.8
comp=Z,7.0nm,0.9s
MYKOM Kota Tinggi 23.91 263 P **P** 14 08 50.5 +0.3
MYKOM Kota Tinggi 23.91 263 P **P** 14 08 50.0 -0.2
PMG Port Moresby 24.20 126⇓*i* P **P** 14 08 51.8 -1.0
PMG pmax pmax
comp=Z,22nm,1.1s
COEN Coen 24.39 141 P **P** 14 08 54.0 -0.4
baz=24,SNR=15
COEN Coen 24.39 141 P **P** 14 08 54.0 -0.4
MDSI Maura Dua 25.22 248 P **P** 14 09 02.8 +0.8
comp=Z,8.7nm,1.0s
WB0 Warramunga Arr 25.53 165 P **P** 14 09 04.5 -0.3
WRAB Tennant Creek 25.67 165*c i* P **P** 14 09 05.6 -0.5
WRAB pmax pmax
comp=Z,116nm,1.1s
WRAB Tennant Creek 25.67 165 P **P** 14 09 05.9 -0.2
WRA Warramunga Arr 25.68 165 P **P** 14 09 04.8 -1.4
comp=Z,55nm,0.5s,baz=344,slow=10,SNR=110
WRA S **S** 14 13 21.4 -4.5
comp=Z,10nm,0.8s,baz=345,slow=14,SNR=5.8
WRA Warramunga Arr 25.68 165 P **P** 14 09 04.6 -1.5
WRA Warramunga Arr 25.68 165 P **P** 14 09 04.6 -1.5
WB2 Warramunga Arr 25.68 165 P **P** 14 09 05.8 -0.3
WR0 Warramunga Arr 25.75 165 P **P** 14 09 06.4 -0.4
WR0 IAmb IAmb 14 09 10.1
comp=Z,65nm,0.7s
IPM Ipoh 26.48 270 P **P** 14 09 12.2 -1.3
IPM Ipoh 26.48 270 P **P** 14 09 12.0 -1.5
KULM Kulim 26.83 272 P **P** 14 09 15.0 -1.6
PSA00 Pilbara Seismi 27.50 196 P **P** 14 09 22.1 -0.3
PSA00 IAmb IAmb 14 09 24.9
comp=Z,74nm,1.0s
PSA00 Pilbara Seismi 27.50 196 P **P** 14 09 22.1 -0.3
QIS Mount Isa 28.03 155 P **P** 14 09 27.4 +0.2
baz=28,SNR=46
NJ2 Nanjing 28.11 344*e* P **P** 14 09 30.0 +2.3
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
JNU Nakatsue 28.12 6 P **P** 14 09 28.5 +0.5
comp=Z,11nm,0.8s,baz=239,slow=4.1,SNR=5.9
JNU Nakatsue 28.12 6 IAmb IAmb 14 09 31.6
comp=Z,41nm,1.2s
MTSU Mount Surprise 28.31 145 P **P** 14 09 30.7 +0.9
baz=28,SNR=23
PBKT Sadao Pong 28.51 296 P **P** 14 09 31.1 -0.4
AS31 Alice Springs 29.17 168 P **P** 14 09 37.1 -0.2
ASAR Alice Springs 29.17 168 P **P** 14 09 37.0 -0.3
comp=Z,9.1nm,0.6s,baz=345,slow=6.9,SNR=148
ASAR PcP **PcP** 14 12 41.1 -0.9
comp=Z,4.6nm,0.7s,baz=314,slow=11,SNR=4.1
ASAR S **S** 14 14 18.7 -2.1
comp=Z,5.4nm,0.7s,baz=358,slow=20,SNR=5.5
ASAR LR LR 14 22 38.3
comp=Z,114nm,19.7s,baz=314,slow=39
ASAR Alice Springs 29.17 168 P **P** 14 09 37.1 -0.3
ASAR 14 12 41.6
ASAR Alice Springs 29.17 168 P **P** 14 09 37.0 -0.3
ASAR **PcP** 14 12 41.5 -0.5
GYA Guiyang 29.23 319*e* P **P** 14 09 39.6 +1.7
GYA pmax pmax
comp=Z,11nm,0.9s
WRKA Warakurna 29.89 179 P **P** 14 09 43.6 0.0
baz=30,SNR=53
GSI Gunungsitoli 30.19 264 P **P** 14 09 46.0 -0.4
comp=Z,20nm,0.9s
ENH Enshi 30.37 328 P **P** 14 09 47.5 -0.4
GIRL Giralia 30.44 205 P **P** 14 09 49.7 +1.2
baz=30,SNR=15
GIRL Giralia 30.44 205 P **P** 14 09 49.6 +1.2
CTAO Charters Tower 30.97 144 P **P** 14 09 54.0 +0.8
CTAO pmax pmax
comp=Z,28nm,0.8s
CTAO Charters Tower 30.97 144 P **P** 14 09 54.0 +0.8
CTAO IAmb IAmb 14 09 55.0
comp=Z,28nm,0.8s
CMAR Chiang Mai Arr 31.00 298 P **P** 14 09 54.1 +0.6
comp=Z,4.1nm,0.6s,baz=105,slow=7.1,SNR=19
CMAR PcP **PcP** 14 12 47.1 +0.2
comp=Z,1.3nm,0.7s,baz=131,slow=2.0,SNR=5.5
CMAR LR LR 14 23 21.6
comp=Z,203nm,19.1s,baz=154,slow=38
CMAR Chiang Mai Arr 31.00 298*ce* P **P** 14 09 54.9 +1.4
CMAR pmax pmax
comp=Z,5.0nm,0.6s
MLSI Meulaboh, Aceh 31.09 270 P **P** 14 09 54.5 +0.1
comp=Z,24nm,1.2s
KMI Kunming 31.11 313⇓*e* P **P** 14 09 56.2 +1.5
KMI pmax pmax
comp=Z,11nm,1.1s
TJN Taejon 31.21 360⇑*i* P **P** 14 09 56.7 +1.6
INU Inuyama 31.41 15 P **P** 14 09 55.9 -1.0
INU IAmb IAmb 14 09 59.5
comp=Z,56nm,1.5s
KSRS Korea Array 32.28 0 P **P** 14 10 05.0 +0.6
comp=Z,7.4nm,0.7s,baz=176,slow=10,SNR=31
KSRS LR LR 14 27 04.6
comp=Z,39nm,18.1s,baz=176,slow=43
TIA Tai'an 32.50 344 P **P** 14 10 07.5 +1.1
TIA pmax pmax
comp=Z,17nm,0.9s
MEEK Meekatharra 32.65 195 P **P** 14 10 07.4 -0.5
baz=33,SNR=53
MAJO Matsushiro 32.85 16⇓*i* P **P** 14 10 10.0 +0.5
MAJO pmax pmax
comp=Z,5.0nm,0.5s
MAJO Matsushiro 32.85 16 P **P** 14 10 09.2 -0.3
MAJO IAmb IAmb 14 10 10.4
comp=Z,32nm,1.5s
MAT Matsushiro 32.85 16 P **P** 14 10 08.0 -1.5
MAT *e*S **S** 14 15 11.4 -6.6
MJAR Matsushiro Arr 32.85 16 P **P** 14 10 08.6 -0.9
comp=Z,2.6nm,0.5s,baz=190,slow=10,SNR=11
MJAR pP **pwP** 14 10 41.9 -0.8
comp=Z,2.6nm,0.5s,baz=188,slow=9.6,SNR=4.3
MJAR LR LR 14 23 24.9
comp=Z,130nm,19.6s,baz=195,slow=36
MJB9 Matsu-Tunnel 32.85 16 P **P** 14 10 08.8 -0.7
XAN Xi'an 33.68 331 P **P** 14 10 18.2 +1.4
XAN pmax pmax
comp=Z,49nm,0.8s
XAN Xi'an 33.68 331 P **P** 14 10 17.3 +0.5
XAN pmax pmax
comp=Z,28nm,0.7s
XAN Xi'an 33.68 331 P **P** 14 10 17.3 +0.5
XAN IAmb IAmb 14 10 18.6
comp=Z,28nm,0.7s
CD2 Chengdu 34.14 322 P **P** 14 10 21.6 +0.8
CD2 pmax pmax
comp=Z,30nm,0.6s
DL2 Dalian 34.16 352 P **P** 14 10 22.8 +2.0
DL2 pmax pmax
comp=Z,23nm,1.0s

QLP Quilpie 35.31 154 P **P** 14 10 30.5 -0.3
baz=36,SNR=20
FORT Forrest 35.60 179 P **P** 14 10 33.2 0.0
baz=36,SNR=58
FORT Forrest 35.60 179 P **P** 14 10 33.3 0.0
MORW Morawa 35.67 197 P **P** 14 10 33.6 -0.2
baz=36,SNR=17
MORW Morawa 35.67 197 P **P** 14 10 33.7 -0.2
BJI Beijing 36.35 345 P **P** 14 10 40.8 +1.3
BJI pmax pmax
comp=Z,33nm,0.9s
BJI LR LR
comp=Z,190nm,6.3s
BJI LR LR
comp=Z,280nm,6.3s
SNY Shenyang 36.82 355⇓ P **P** 14 10 44.8 +1.3
SNY pmax pmax
comp=Z,18nm,1.3s
BLDU Ballidu 36.93 196 P **P** 14 10 44.2 -0.4
baz=37,SNR=32
RMQ Roma 37.44 148 P **P** 14 10 48.9 -0.1
baz=38,SNR=17
KLBR Kellerberrin 37.60 194 P **P** 14 10 50.1 -0.1
baz=38,SNR=32
LZH Lanzhou 37.85 328*e* P **P** 14 10 53.8 +1.3
LZH pP pwP 14 11 26.4 +1.5
LZH S **S** 14 16 37.0 +2.1
LZH pmax pmax
comp=Z,34nm,1.3s
LZH pmax pmax
comp=Z,250nm,4.9s
EIDS Eidsvold 37.86 144 P **P** 14 10 52.3 -0.2
baz=38,SNR=7.4
EIDS Eidsvold 37.86 144 P **P** 14 10 51.7 -0.8
EIDS IAmb IAmb 14 10 53.4
comp=Z,58nm,1.3s
VLA Vladivostok 38.13 5*c i* P **P** 14 10 56.0 +1.5
VLA pmax pmax
comp=Z,52nm,1.4s
MUN Mundaring 38.36 196 P **P** 14 10 56.5 0.0
baz=38,SNR=21
HHC Hu-ho-hao-te 38.46 340*e* P **P** 14 10 58.7 +1.2
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,190nm,6.8s
BBOO Buckleboo 38.47 169 P **P** 14 10 57.4 -0.1
baz=39,SNR=71
BBOO Buckleboo 38.47 169 P **P** 14 10 57.8 +0.2
NWAO Narrogin (SRO) 39.00 194 P **P** 14 11 02.1 +0.2
baz=39,SNR=29
NWAO Narrogin (SRO) 39.00 194 P **P** 14 11 02.2 +0.2
NWAO pmax pmax
comp=Z,112nm,0.9s
NWAO Narrogin (SRO) 39.00 194 P **P** 14 11 02.2 +0.2
NWAO Narrogin (SRO) 39.00 194 P **P** 14 11 01.7 -0.2
NWAO IAmb IAmb 14 11 03.2
comp=Z,89nm,0.8s
STKA Stephens Creek 39.05 161 P **P** 14 11 02.1 -0.2
comp=Z,79nm,0.7s,baz=336,slow=8.6,SNR=184
STKA LR LR 14 30 54.8
comp=Z,105nm,20.8s,baz=15,slow=42
STKA Stephens Creek 39.05 161 P **P** 14 11 02.6 +0.3
baz=39,SNR=118
STKA Stephens Creek 39.05 161 P **P** 14 11 02.6 +0.3
STKA pmax pmax
comp=Z,17nm,0.9s
STKA Stephens Creek 39.05 161 P **P** 14 11 02.6 +0.3
USA0B Ussuriysk Arra 39.21 5⇓*i* P **P** 14 11 05.0 +1.5
USRK Ussuriysk Ar. 39.21 5 P **P** 14 11 04.7 +1.1
comp=Z,2.9nm,0.4s,baz=184,slow=7.6,SNR=22
USRK LR LR 14 26 13.6
comp=Z,36nm,20.5s,baz=173,slow=34
MDJ Mudanjiang 39.48 2 P **P** 14 11 07.4 +1.7
MDJ pmax pmax
comp=Z,41nm,1.1s
MDJ pmax pmax
comp=Z,140nm,6.5s
HTT Hallett 39.72 165 P **P** 14 11 08.3 +0.3
baz=40,SNR=16
SHL Shillong 39.83 305*i* P **P** 14 11 10.0 +0.8
SHL Shillong 39.83 305 P **P** 14 11 09.3 +0.1
SHL pmax pmax
comp=Z,65nm,0.7s
SHL Shillong 39.83 305 P **P** 14 11 09.3 +0.1
CMSA Cobar Meteorol 40.25 156 P **P** 14 11 12.5 +0.2
baz=40,SNR=25
TEY Ternei 40.63 10⇓*e* P **P** 14 11 16.3 +1.1
TEY pmax pmax
comp=N,20nm,0.8s
TEY pmax pmax
comp=Z,40nm,0.8s
ASAJ Asahikawa 41.12 16 P **P** 14 11 21.6 +2.3
ASAJ pmax pmax
comp=Z,21nm,0.7s
JKA Kamikawa-asahi 41.12 16 P **P** 14 11 21.6 +2.3
JKA IAmb IAmb 14 11 22.2
comp=Z,21nm,0.7s
H01W3 Cape Leeuwin H 41.67 197 P **P** 14 11 25.8 +2.3
baz=40,slow=6.9,SNR=5.1
H01W1 Cape Leeuwin H 41.67 197 P **P** 14 11 25.3 +1.7
baz=40,slow=6.9,SNR=4.1
H01W2 Cape Leeuwin H 41.68 197 P **P** 14 11 25.9 +2.2
baz=40,slow=6.9,SNR=3.1
ARMA Armidale 42.09 148 P **P** 14 11 28.1 +0.6
baz=42,SNR=26
ARMA Armidale 42.09 148 P **P** 14 11 28.1 +0.6
ARMA IAmb IAmb 14 11 29.1
comp=Z,45nm,0.8s
GTA Gaotai 42.45 328⇑ P **P** 14 11 31.3 +0.9
GTA pP pwP 14 12 04.0 +0.7
GTA sP sP 14 12 17.7 +7.7
GTA PcP **PcP** 14 13 21.7 +0.5
GTA pmax pmax
comp=Z,16nm,1.1s
GTA pmax pmax
comp=Z,130nm,4.6s
GTA LR LR
comp=Z,84nm,18.4s
GTA LR LR
comp=Z,210nm,19.0s
GTA LR LR
comp=Z,210nm,18.4s
ARPS Mount Arapiles 43.66 163 P **P** 14 11 40.6 +0.7
baz=44,SNR=37
YNG Young 43.77 155 P **P** 14 11 41.8 +0.9
baz=44,SNR=9.1
YSS Yuzh-Sakhalins 43.78 15⇓*i* P **P** 14 11 42.4 +1.7
YSS pmax pmax
comp=Z,40nm,0.6s
YSS Yuzh-Sakhalins 43.78 15 P **P** 14 11 42.1 +1.3
TAPN Taplejung 43.97 305*e* P **P** 14 11 43.1 +0.1
ODAN Odare 44.04 304*e* P **P** 14 11 43.6 +0.1
comp=Z,100nm,0.8s
KLR Kul'dur 44.19 4*d i* P **P** 14 11 45.1 +1.1
KLR pmax pmax
comp=Z,25nm,0.9s
RAMN Ramite 44.73 304*e* P **P** 14 11 49.3 +0.3
CAN Canberra 44.90 155 P **P** 14 11 50.8 +0.9
CAN pmax pmax
comp=Z,30nm,0.9s
CAN Canberra 44.90 155 P **P** 14 11 50.8 +0.9
CAN IAmb IAmb 14 11 52.1
comp=Z,30nm,0.9s
CNB Canberra Magne 45.05 155 P **P** 14 11 52.1 +1.0
baz=45,SNR=11
JIRN Jiri 45.33 304*e* P **P** 14 11 54.1 +0.2
comp=Z,62nm,0.6s
TOO Toolangi 45.54 160 P **P** 14 11 56.6 +1.7
baz=46,SNR=8.5
TOO Toolangi 45.54 160 P **P** 14 11 55.9 +1.0
TOO pmax pmax
comp=Z,16nm,0.9s
TOO Toolangi 45.54 160 P **P** 14 11 55.9 +1.0
PKI Pulchoki 45.94 304*e* P **P** 14 11 58.2 -0.5
ULN Ulaanbaatar 46.17 341*c i* P **P** 14 12 00.9 +1.0
ULN pmax pmax
comp=Z,16nm,0.9s
GRNR Gornyy 46.19 8⇓*i* P **P** 14 12 01.7 +1.9
GRNR pmax pmax
comp=N,50nm,1.0s
GRNR pmax pmax
comp=Z,60nm,1.2s
DMN Daman 46.21 304*e* P **P** 14 12 00.3 -0.4
SONM Songino Array 46.37 340 P **P** 14 12 02.4 +1.0
comp=Z,6.1nm,0.6s,baz=156,slow=8.4,SNR=29

SONM LR LR 14 34 00.8
comp=Z,83nm,18.1s,baz=126,slow=39
DZM Mont Dzumac 46.60 127 P **P** 14 12 03.4 -0.2
DZM IAmb IAmb 14 12 04.3
comp=Z,25nm,0.7s
GKN Gorkha 46.74 304*e* P **P** 14 12 04.2 -0.5
LHI Lord Howe Isla 47.13 143 P **P** 14 12 07.5 +0.1
baz=47,SNR=3.5
TYV Tymovskoe 47.40 13*e* P **P** 14 12 11.3 +2.1
TYV *e*S **S** 14 18 59.4 +5.5
TYV pmax pmax
comp=Z,100nm,4.5s
TYV pmax pmax
comp=Z,24nm,0.9s
TYV smax smax
comp=E,200nm,8.8s
KOLN Koldanda 47.51 303*e* P **P** 14 12 10.9 +0.1
comp=E,113nm,0.7s
DANN Dangsing 47.58 304*e* P **P** 14 12 11.3 -0.1
comp=E,187nm,0.7s
PYUN Piuthan 48.13 304*e* P **P** 14 12 15.8 +0.3
comp=E,91nm,0.8s
ZEA Zeya 48.57 360*e* P **P** 14 12 18.0 -0.1
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,36nm,1.2s
ZAK Zakamensk 49.61 340*e* P **P** 14 12 26.3 0.0
TLY Talaya 50.59 341*ce* P **P** 14 12 36.0 +2.5
TLY pmax pmax
comp=Z,28nm,1.7s
IRK Irkutsk 50.87 342*e* P **P** 14 12 37.5 +1.9
IRK pmax pmax
comp=Z,37nm,2.0s
MOY Mondy 51.48 339*e* P **P** 14 12 41.7 +1.4
MOY pmax pmax
comp=Z,51nm,2.2s
WMQ Urumqi 52.18 324*e* P **P** 14 12 47.2 +1.6
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ pmax pmax
comp=Z,110nm,3.8s
WMQ LR LR
comp=Z,210nm,24.7s
WMQ LR LR
comp=Z,380nm,29.0s
WMQ LR LR
comp=Z,100nm,29.1s
BOD Bodaibo 53.72 351*e* P **P** 14 12 57.1 +0.5
BOD pmax pmax
comp=Z,43nm,1.3s
PEA0B Petropavlovsk- 53.92 22*c i* P **P** 14 12 59.3 +1.2
PETK Petropavlovsk- 53.92 22 P **P** 14 13 00.0 +1.9
comp=Z,40nm,0.6s,baz=165,slow=4.6,SNR=201
PETK pP **pwP** 14 13 32.6 -0.5
comp=Z,8.2nm,0.6s,baz=195,slow=5.3,SNR=3.7
PETK LR LR 14 35 58.3
comp=Z,37nm,20.9s,baz=238,slow=36
PET Petropavlovsk 54.21 23 P **P** 14 13 02.3 +2.1
PET pmax pmax
comp=Z,498nm,1.3s
PET Petropavlovsk 54.21 23 P **P** 14 13 02.3 +2.1
MSVF Nonsavu 54.68 116*c i* P **P** 14 13 03.8 -0.5
MSVF pmax pmax
comp=Z,24nm,1.1s
ZSN Zaisan 55.91 326*e* P **P** 14 13 12.8 +0.2
comp=Z,4.9nm,1.1s,baz=326
ZSN Zaisan 55.91 326*e* P **P** 14 13 12.7 +0.2
DGZ Jazzator, Alta 55.91 330⇑*i* P **P** 14 13 13.4 +0.7
DGZ pmax pmax
comp=Z,16nm,1.5s
YAK Yakutsk 56.91 1*c i* P **P** 14 13 19.6 +0.3
YAK *e* 14 14 14.0
YAK *e*PPP PPP 14 16 48.6
YAK *e*S **S** 14 21 03.8 +0.5
YAK *e*SS **SS** 14 24 57.9 +4.4
YAK pmax pmax
comp=Z,102nm,1.0s
YAK pmax pmax
comp=N,74nm,1.3s
YAK pmax pmax
comp=E,18nm,1.4s
YAK pmax pmax
comp=Z,121nm,4.3s
YAK pmax pmax
comp=N,76nm,4.8s
YAK pmax pmax
comp=E,47nm,3.7s
YAK smax smax
comp=N,125nm,5.8s
YAK smax smax
comp=E,63nm,5.2s
YAK Yakutsk 56.91 1 P **P** 14 13 20.3 +1.0
SHLS Shalkode 56.92 319⇑*i* P **P** 14 13 18.9 -1.0
comp=E,47nm,1.6s,baz=320
SHLS Shalkode 56.92 319*c i* P **P** 14 13 18.9 -1.0
SHLS pmax pmax
comp=Z,47nm,1.6s
MK31 Makanchi Array 57.00 324 P **P** 14 13 21.2 +0.8
MK31 pmax pmax
comp=Z,27nm,1.2s
MK31 Makanchi Array 57.00 324 P **P** 14 13 21.1 +0.8
MK31 IAmb IAmb 14 13 22.3
comp=Z,27nm,1.2s
MKAR Makanchi Array 57.00 324 P **P** 14 13 20.8 +0.4
comp=Z,5.5nm,0.5s,baz=286,slow=16,SNR=5.4
MKAR pP **pwP** 14 13 54.6 +0.2
comp=Z,9.4nm,0.7s,baz=116,slow=8.5,SNR=6.0
MKAR LR LR 14 40 10.9
comp=Z,59nm,18.2s,baz=104,slow=38
MKAR Makanchi Array 57.00 324 P **P** 14 13 21.2 +0.9
MKAR Makanchi Array 57.00 324 P **P** 14 13 21.2 +0.9
MAKZ Makanchi 57.19 324 P **P** 14 13 21.2 -0.4
MAKZ pmax pmax
comp=Z,46nm,1.2s
MAKZ Makanchi 57.19 324 P **P** 14 13 21.2 -0.4
MAKZ IAmb IAmb 14 13 23.6
comp=Z,46nm,1.2s
UZB Uzynbulak 57.20 319⇑*i* P **P** 14 13 22.4 +0.4
comp=Z,27nm,1.5s,baz=319
UZB *i* S **S** 14 21 08.3 +0.1
baz=319
UZB Uzynbulak 57.20 319*c i* P **P** 14 13 22.3 +0.4
UZB *i* S **S** 14 21 08.3 +0.1
UZB pmax pmax
comp=Z,27nm,1.5s
MA2 Magadan 57.25 14*c i* P **P** 14 13 22.8 +1.0
MA2 pmax pmax
comp=Z,56nm,1.4s
MA2 Magadan 57.25 14 P **P** 14 13 22.8 +1.0
MA2 IAmb IAmb 14 13 24.2
comp=Z,33nm,0.9s
SATY Saty 57.56 319⇑*i* P **P** 14 13 24.9 +0.4
comp=Z,35nm,1.5s,baz=319
SATY *i* S **S** 14 21 13.5 +0.6
baz=319
SATY Saty 57.56 319*c i* P **P** 14 13 24.9 +0.4
SATY *i* S **S** 14 21 13.5 +0.6
SATY pmax pmax
comp=Z,35nm,1.5s
SATY Saty 57.56 319*c i* P **P** 14 13 24.9 +0.4
SATY *i* S **S** 14 21 13.5 +0.6
SATY pmax pmax
comp=Z,35nm,1.5s
KPKS Kokpek 57.56 319⇑*i* P **P** 14 13 25.1 +0.6
comp=Z,54nm,1.7s,baz=319
KPKS Kokpek 57.56 319*c i* P **P** 14 13 25.0 +0.6
KPKS pmax pmax
comp=Z,54nm,1.7s
KSH Kashi 57.75 314 P **P** 14 13 27.8 +1.9
KSH S **S** 14 21 15.4 -0.2
KSH pmax pmax
comp=Z,20nm,0.8s
KSH pmax pmax
comp=Z,140nm,3.9s
KSH LR LR
comp=Z,690nm,10.7s
KSH LR LR
comp=Z,470nm,10.1s
NIL Nilore 57.83 307 P **P** 14 13 26.5 +0.1
NIL pmax pmax
comp=Z,49nm,1.0s
NIL Nilore 57.83 307 P **P** 14 13 26.5 +0.1
KDJ Kajisay 57.97 317 P **P** 14 13 28.0 +0.6
KDJ pmax pmax
comp=Z,17nm,0.7s

KDJ Kajisay 57.97 317 P **P** 14 13 28.0 +0.6
KDJ IAmb IAmb 14 13 29.0
comp=Z,17nm,0.7s
TDK Taldyqorghan 58.45 321 *i* P **P** 14 13 31.1 +0.6
comp=Z,33nm,1.7s,baz=321
TDK Taldyqorghan 58.45 321 *i* P **P** 14 13 31.1 +0.6
TDK pmax pmax
comp=Z,33nm,1.7s
MDOK Medeo 58.50 319 *i* P **P** 14 13 31.6 +0.6
baz=318
MDOK *i* S **S** 14 21 25.6 +0.4
baz=318
MDOK Medeo 58.50 319 *i* P **P** 14 13 31.6 +0.6
MDOK *i* S **S** 14 21 25.6 +0.4
TNSS Tian-Shan 58.51 318⇑ *i* P **P** 14 13 32.6 +1.2
baz=318
TNSS Tian-Shan 58.51 318*c i* P **P** 14 13 32.6 +1.2
AAA Alma-Ata 58.61 319⇑ *i* P **P** 14 13 32.7 +0.9
comp=Z,15nm,0.7s,baz=318
AAA Alma-Ata 58.61 319⇑ *i* P **P** 14 13 32.6 +0.9
AAA pmax pmax
comp=Z,15nm,0.7s
CHKK Chushkaly 58.84 319⇑ *i* P **P** 14 13 33.2 0.0
baz=319
CHKK Chushkaly 58.84 319⇑ *i* P **P** 14 13 33.2 0.0
KZA Kyzart 59.26 317 P **P** 14 13 38.2 +1.5
SNR=13
KUU Kurty 59.28 319⇑ *i* P **P** 14 13 36.5 +0.2
comp=Z,101nm,1.3s,baz=319
KUU *i* S **S** 14 21 35.0 0.0
baz=319
KUU Kurty 59.28 319*c i* P **P** 14 13 36.4 +0.2
KUU *i* S **S** 14 21 35.0 0.0
KUU pmax pmax
comp=Z,101nm,1.3s
TKM2 Tokmak 2 59.36 318 P **P** 14 13 37.9 +0.8
SNR=21
TKM2 Tokmak 2 59.36 318 P **P** 14 13 37.3 +0.2
KBK Karagaybulak 59.69 317 P **P** 14 13 40.1 +0.8
SNR=7.8
UCH Uchtor 59.82 317 P **P** 14 13 41.8 +1.3
SNR=39
ZAA0 Zalesovo Array 59.84 332 P **P** 14 13 39.2 -0.6
ZALV Zalesovo Beam 59.84 332 P **P** 14 13 39.4 -0.4
comp=Z,6.0nm,0.7s,baz=116,slow=6.8,SNR=14
ZALV pP **pwP** 14 14 12.1 -2.6
comp=Z,3.7nm,0.8s,baz=116,slow=6.8,SNR=2.6
ZALV LR LR 14 40 58.9
comp=Z,60nm,20.4s,baz=104,slow=37
CHMS Chumysh 59.96 318 P **P** 14 13 41.5 +0.6
SNR=6.8
AAK Ala-Archa 59.99 317*c i* P **P** 14 13 42.3 +1.0
AAK pmax pmax
comp=Z,20nm,1.3s
USP Ospenovka 60.24 318 P **P** 14 13 43.6 +0.7
SNR=27
AML Almayashu 60.34 316 P **P** 14 13 45.2 +1.1
SNR=25
EKS2 Erkin-Say 60.49 317 P **P** 14 13 45.7 +1.0
SNR=18
KURK Kurchatov 61.13 327 P **P** 14 13 48.7 +0.1
KURK Kurchatov 61.13 327 P **P** 14 13 49.1 +0.4
BTLS Baital 61.25 319⇑ *i* P **P** 14 13 49.9 +0.2
comp=Z,13nm,1.3s,baz=319
BTLS Baital 61.25 319*c i* P **P** 14 13 49.8 +0.2
BTLS pmax pmax
comp=Z,13nm,1.3s
KBL Kabul 61.43 307 P **P** 14 13 49.9 -1.4
KBL pmax pmax
comp=Z,22nm,1.1s
KBL Kabul 61.43 307 P **P** 14 13 49.9 -1.4
KBL IAmb IAmb 14 13 52.4
comp=Z,22nm,1.1s
DZA Taraz 62.25 316⇑ *i* P **P** 14 13 56.7 +0.2
comp=Z,13nm,1.1s,baz=316
DZA Taraz 62.25 316*c i* P **P** 14 13 56.6 +0.2
DZA pmax pmax
comp=Z,13nm,1.1s
KK31 Karatay Array 62.89 316 *i* P **P** 14 14 00.8 +0.2
KK31 Karatay Array 62.89 316 IAmb IAmb 14 14 01.5
comp=Z,19nm,0.8s
KKAR Karatay Array 62.89 316 P **P** 14 14 00.9 +0.3
KKAR Karatay Array 62.89 316 P **P** 14 14 00.9 +0.3
KKAR Karatay Array 62.89 316 IAmb IAmb 14 14 01.5
comp=Z,19nm,0.8s
IUG luzhnay 62.90 315⇑ *i* P **P** 14 14 01.6 +0.8
comp=Z,39nm,1.6s,baz=315
IUG luzhnay 62.90 315*c i* P **P** 14 14 01.6 +0.8
IUG pmax pmax
comp=Z,39nm,1.6s
URZ Urewera 62.90 138 LR LR 14 42 24.2
comp=Z,101nm,18.1s,baz=340,slow=37
OTUK Ortayu 63.63 322 P **P** 14 14 05.4 0.0
BRZS Berezniki 64.14 324⇑ *i* P **P** 14 14 09.1 +0.4
comp=Z,40nm,1.4s,baz=324
BRZS *e*PcP **PcP** 14 14 42.8 0.0
baz=324
BRZS Berezniki 64.14 324*c i* P **P** 14 14 09.1 +0.4
BRZS *e* 14 14 42.7
BRZS pmax pmax
comp=Z,40nm,1.4s
TIXI Tiksi 66.55 0*c i* P **P** 14 14 23.9 +0.1
TIXI pmax pmax
comp=Z,62nm,1.4s
TIXI Tiksi 66.55 0 P **P** 14 14 23.3 -0.5
BVA0 Borovoye Array 66.72 326 *i* P **P** 14 14 25.1 -0.1
BRVK Borovoye 66.79 326*c i* P **P** 14 14 25.8 +0.1
BRVK pmax pmax
comp=Z,42nm,1.2s
BRVK Borovoye 66.79 326 P **P** 14 14 25.9 +0.3
BRVK IAmb IAmb 14 14 27.2
comp=Z,36nm,1.1s
BILL Bilibino 68.09 15⇓ *e*P **P** 14 14 34.4 +0.8
BILL *e* 14 15 01.0
BILL *e* 14 17 07.3
BILL *e*S **SKiKP** 14 24 12.0 -4.7
BILL pmax pmax
comp=Z,10.0nm,1.2s
NRIK Noril'sk 69.39 346 P **P** 14 14 41.4 -0.2
comp=Z,2.7nm,0.5s,baz=104,slow=4.2,SNR=6.7
GEYT Alibeck 70.76 308 P **P** 14 14 51.2 +0.5
comp=Z,22nm,1.0s,baz=145,slow=5.4,SNR=27
GEYT LR LR 14 50 16.3
comp=Z,33nm,18.8s,baz=75,slow=39
GEYT Alibeck 70.76 308 P **P** 14 14 49.2 -1.5
GYA0B ALIBECK ARRAY 70.76 308 P **P** 14 14 49.5 -1.2
GYA0B IAmb IAmb 14 14 52.7
comp=Z,64nm,1.4s
ABKAR Akbulak array 71.70 320 P **P** 14 14 55.9 -0.1
UNV Unalaska Valle 71.88 35 P **P** 14 14 58.2 +1.3
UNV IAmb IAmb 14 14 58.7
comp=Z,58nm,1.1s
CASY Casey 72.19 187 P **P** 14 14 59.0 +0.4
CASY IAmb IAmb 14 15 00.2
comp=Z,40nm,0.9s
AKTO Aktyubinsk 73.19 321 P **P** 14 15 04.3 -0.6
SVE Sverdlovsk 73.32 328*de*P **P** 14 15 05.3 -0.2
SVE pmax pmax
comp=Z,36nm,1.4s
ARU Arti 74.31 327*c i* P **P** 14 15 10.5 -0.8
ARU 14 15 22.4
ARU 14 17 55.8
ARU S **S** 14 24 37.4 +2.1
ARU SS **SS** 14 29 20.7 -2.9
ARU pmax pmax
comp=Z,10.0nm,0.6s
SDPT Sand Point 75.65 34 P **P** 14 15 19.7 +0.8
AKT Akhty 79.10 311 *e*P **P** 14 15 38.9 +0.3
AKT *e* 14 15 46.6
AKT pmax pmax
comp=Z,22nm,1.2s
TTA Tatalina 79.37 27 P **P** 14 15 40.8 +1.2
TTA pmax pmax
comp=Z,28nm,1.3s
TTA Tatalina 79.37 27 P **P** 14 15 40.8 +1.2
TTA IAmb IAmb 14 15 42.1
comp=Z,28nm,1.3s
OHAK Old Harbor 79.91 33 P **P** 14 15 42.5 0.0
KDAK Kodiak Island 80.35 32 P **P** 14 15 45.8 +1.0
KDAK pmax pmax
comp=Z,66nm,1.3s
KDAK Kodiak Island 80.35 32 P **P** 14 15 45.8 +1.0
KDAK IAmb IAmb 14 15 47.1
comp=Z,66nm,1.3s
IMAR Indian Mountai 80.82 24 P **P** 14 15 48.5 +1.3
BPAW Bear Paw Mtn. 81.76 26 IAmb IAmb 14 15 54.6
comp=Z,82nm,1.4s
PRGR Permogore 81.78 331 *e*P **P** 14 15 50.0 -2.4
PRGR *e* 14 18 56.2
PRGR pmax pmax
comp=Z,10.0nm,0.7s
CUT Chulitna 81.93 28 P **P** 14 15 54.2 +1.1
baz=265
COLD Coldfoot 82.38 23 P **P** 14 15 56.1 +0.6
baz=265
COLD Coldfoot 82.38 23 IAmb IAmb 14 15 58.5
comp=Z,49nm,1.4s
BWN Browne 82.43 26 P **P** 14 15 56.4 +0.7
BWN IAmb IAmb 14 15 58.6
comp=Z,18nm,0.8s
NEA2 Nenana 82.63 26 P **P** 14 15 57.2 +0.4
baz=266
RND Reindeer 82.65 27 P **P** 14 15 56.7 -0.3
RND pmax pmax
comp=Z,66nm,1.3s
RND Reindeer 82.65 27 P **P** 14 15 56.7 -0.3
RND IAmb IAmb 14 15 59.0
comp=Z,66nm,1.3s
KBZ Khabaz 82.72 313 P **P** 14 15 57.4 -0.2
comp=Z,3.2nm,0.9s,baz=82,slow=4.8,SNR=8.3
KBZ LR LR 14 57 29.5
comp=Z,29nm,18.4s,baz=71,slow=39
TOLK Toolik Lake Re 82.74 21 P **P** 14 15 57.7 +0.4
baz=265
KIV Kislovodsk 82.87 314 *e*P **P** 14 15 57.4 -1.2
KIV pmax pmax
comp=Z,15nm,0.9s
KIV MLR MLR
comp=Z,84nm,19.0s
MDM Murphy Dome 83.01 25 P **P** 14 15 59.1 +0.3
TCOL CIGO, UAF Yank 83.16 25 P **P** 14 16 00.1 +0.6
baz=267
COLA College 83.17 25⇓ *i* P **P** 14 15 59.6 +0.1
COLA pmax pmax
comp=Z,7.0nm,0.8s
POKR Poker Plat Res 83.36 25 P **P** 14 16 00.9 +0.4
baz=268
VRH Novokhopyorsk 83.53 321 *e*P **P** 14 16 00.8 -0.8
VRH pmax pmax
comp=Z,10.0nm,0.6s
HDA Harding Lake 83.54 26 P **P** 14 16 01.4 -0.1
baz=268
HDA Harding Lake 83.54 26 P **P** 14 16 00.6 -0.8
HDA IAmb IAmb 14 16 02.2
comp=Z,28nm,1.4s
IL31 83.58 25 P **P** 14 16 01.4 -0.1
IL31 IAmb IAmb 14 16 02.9
comp=Z,23nm,1.4s
ILAR Eielson Array 83.58 25 P **P** 14 16 01.2 -0.5
comp=Z,4.1nm,0.5s,baz=249,slow=5.1,SNR=47
ILAR pP **pwP** 14 16 36.6 -4.5
comp=Z,4.6nm,1.0s,baz=247,slow=5.0,SNR=4.5
M24K Tolsona, Glenn 83.83 28 P **P** 14 16 01.5 -1.6
baz=269
KLU Klutina 83.94 29 P **P** 14 16 03.5 -0.1
KLU IAmb IAmb 14 16 05.8
comp=Z,68nm,1.4s
VNDA Vanda 84.59 173 P **P** 14 16 06.5 -0.1
comp=Z,8.6nm,0.9s,baz=318,slow=5.8,SNR=40
VNDA LR LR 14 53 49.8
comp=Z,41nm,19.3s,baz=302,slow=36
VNDA Vanda 84.59 173 P **P** 14 16 06.4 -0.1
VNDA pmax pmax
comp=Z,11nm,0.9s
VNDA Vanda 84.59 173 P **P** 14 16 06.4 -0.1
KLMR Klimovskoe 84.71 331 *e*P **P** 14 16 05.6 -1.8
KLMR pmax pmax
comp=Z,47nm,1.5s
KLMR Klimovskoe 84.71 331 *e*P **P** 14 16 05.7 -1.7
KLMR AMP 14 16 08.0
comp=Z,47nm,1.5s
KLMR *e*pP **pP** 14 16 38.9 +2.1
DOT Dot Lake 84.80 27 P **P** 14 16 06.4 -1.5
SCRK Sand Creek 84.83 26 P **P** 14 16 09.4 +1.2
baz=271
GLB Gilahina Butte 84.95 29 P **P** 14 16 08.1 -0.7
GLB IAmb IAmb 14 16 11.7
comp=Z,51nm,1.2s
MENT Mentasta 84.97 27 P **P** 14 16 09.6 +0.9
VORD Divnogorie 85.06 321 *e*P **P** 14 16 07.4 -2.0
VORD pmax pmax
comp=Z,30nm,1.1s
VSR Storozhevoye 85.13 321 *e*P **P** 14 16 09.0 -0.8
VSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR Galich'ya Gora 85.23 322 *e*P **P** 14 16 09.6 -0.6
LPSR pmax pmax
comp=Z,50nm,1.2s
MAW Mawson 85.25 200 P **P** 14 16 09.5 -0.4
comp=Z,11nm,0.8s,baz=27,slow=5.0,SNR=14
MAW Mawson 85.25 200 P **P** 14 16 10.2 +0.3
baz=85,SNR=8.6
MAW Mawson 85.25 200 P **P** 14 16 10.0 +0.1
MAW pmax pmax
comp=Z,5.0nm,1.1s
MAW Mawson 85.25 200 P **P** 14 16 09.9 +0.1
K27K Chicken 85.67 26 P **P** 14 16 14.0 +1.8
baz=273
BCAR Beaver Creek A 85.84 27 P **P** 14 16 12.4 -0.8
MOS Moscow 85.87 325 *e*P **P** 14 16 11.5 -1.8
OBN Obninsk 86.50 325*ce*P **P** 14 16 14.7 -1.7
OBN *e* 14 19 41.0
OBN pmax pmax
comp=Z,11nm,0.4s
EPYK Eagle Plains 87.72 24 P **P** 14 16 22.3 +0.2
baz=277
INK Inuvik 88.65 22 P **P** 14 16 25.5 -0.9
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 88.65 22 P **P** 14 16 25.4 -0.9
ARCES ARCESS Array B 89.54 340 P **P** 14 16 29.4 -1.2
comp=Z,4.6nm,0.7s,baz=84,slow=5.7,SNR=17
ARCES pP **pwP** 14 17 04.5 -4.8
comp=Z,4.3nm,0.8s,baz=81,slow=7.5,SNR=3.1
BRTR Keskin Array B 89.86 310 P **P** 14 16 31.8 -1.1
comp=Z,2.1nm,1.0s,baz=94,slow=4.0,SNR=5.6
KMBO Kilima Mbogo 90.43 269 LR LR 14 54 02.4
comp=Z,18nm,16.7s,baz=90,slow=33
FINES FINESS Array B 91.11 332 P **P** 14 16 36.0 -2.0
comp=Z,1.0nm,0.5s,baz=72,slow=3.8,SNR=14
FINES FINESS Array B 91.11 332 *i* P **P** 14 16 36.5 -1.5
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 91.11 332 P **P** 14 16 36.3 -1.7
AKASG Malin Array Be 91.44 321 P **P** 14 16 37.6 -2.2
comp=Z,1.1nm,0.5s,baz=66,slow=4.6,SNR=12
AKASG LR LR 15 02 52.1
comp=Z,31nm,18.0s,baz=45,slow=39
AKASG Malin Array Be 91.44 321 *i* P **P** 14 16 38.0 -1.8
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 91.44 321⇓ *i* P **P** 14 16 38.6 -1.2
BURAR Bucovina Array 94.61 318 P **P** 14 16 51.7 -2.9
QSPA South Pole Qui 94.92 180 P **P** 14 16 54.9 -0.6
QSPA IAmb IAmb 14 16 56.4
comp=Z,12nm,0.9s
UZH Uzhgorod 96.27 320 *e*P **P** 14 17 01.1 -0.9
UZH *e* 14 17 37.8
YKA Yellowknife Ar 97.97 24 LR LR 15 06 25.2
comp=Z,16nm,19.1s,baz=0.0,slow=38
NB2 NORSAR Subarra 98.02 334 P pP 14 17 42.6 +3.6
comp=Z,1.8nm,1.1s,baz=67,slow=4.6
NOA NORSAR Array B 98.02 334 P **P** 14 17 07.5 -2.2
comp=Z,1.3nm,0.9s,baz=66,slow=4.6,SNR=3.5
NOA pP **pP** 14 17 42.9 +3.8
comp=Z,0.2nm,0.7s,baz=142,slow=24,SNR=1.4
NOA LR LR 15 05 53.8
comp=Z,41nm,18.8s,baz=75,slow=38
GERES GERESS Array B 101.61 322 P **Pdif** 14 17 25.6 -0.4
comp=Z,0.5nm,0.9s,baz=69,slow=8.5,SNR=4.0
NVAR Mina Array Bea 105.41 48 PKKPbc PKKPbc 14 33 23.3 +0.2
comp=Z,0.3nm,0.5s,baz=139,slow=3.8,SNR=3.7
VNA2 Neumayer--Watz 108.28 194 PKiKP **PKiKP** 14 22 01.1 +0.5
PDAR Pinedale Array 109.82 41 PKKPbc PKKPbc 14 33 17.5 +8.0
comp=Z,1.6nm,0.9s,baz=115,slow=6.7,SNR=8.3
TXAR Lajitas Array 120.13 52 PKP **PKPdf** 14 22 24.2 -0.5
comp=Z,0.4nm,0.7s,baz=232,slow=1.4,SNR=4.9
TXAR PKKPbc **PKKPbc** 14 32 32.9 -0.5
comp=Z,0.9nm,0.9s,baz=130,slow=5.1,SNR=6.3
TORD Torodi Ar. Bea 123.32 289 PKP **PKPdf** 14 22 29.4 -1.6
comp=Z,3.6nm,0.7s,baz=62,slow=2.2,SNR=20
PLCA Paso Flores 140.89 158 PKhKP PKPpre 14 22 58.6
comp=Z,1.6nm,0.8s,baz=165,slow=5.4,SNR=4.0
BO02 Sierra Bellavi 145.84 152 PKPab 14 23 14.0 +0.4
AC05 El Transito 150.88 146 PKiKP 14 23 27.4 +0.3
CPUP Villa Florida 158.29 168 PKPab **PKPab** 14 24 05.1 -0.2
comp=Z,5.2nm,0.8s,baz=219,slow=5.6,SNR=6.1
LPAZ La Paz 160.94 127 PKP **PKPdf** 14 23 35.5 +0.6
comp=Z,3.3nm,0.9s,baz=23,slow=0.5,SNR=4.9
LPAZ PKPab **PKPab** 14 24 19.5 +1.4
comp=Z,5.0nm,0.8s,baz=256,slow=2.5,SNR=6.9

*JMA **08** 14:22:56.5±0.1,23°.16N×122°.99E,h57km,M2.6*
*TAP **08** 14:22:58.7,23°.21N×122°.73E,h13km±1km,ML3.1,D*
ISC 08 14:22:52.8±1.3,**23°.11N**±0°.04×**123°.01E**±0°.03,**h17**km±10km,
n58,σ0°.73/106,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
HATJ	**Hateruma jima**	**1.19**	**38**	P	**Pg**	**14 23 17.0**	**+1.2**
HATJ				*e*S	**Sg**	**14 23 31.4**	**0.0**
JYNG	**Yonagunijimaku**	**1.33**	**358**	P	**Pg**	**14 23 19.0**	**+0.5**
JYNG				*e*S	**Sn**	**14 23 34.9**	**+0.8**
YOJ	**Yonaguni jima**	**1.34**	**0**	P	**Pg**	**14 23 19.1**	**+0.4**
YOJ				*e*S	**Sg**	**14 23 35.4**	**-0.9**
IRIF	**Iriomote-Funau**	**1.39**	**28**	P	**Pg**	**14 23 19.7**	**+0.2**
IRIF				*e*S	**Sg**	**14 23 36.8**	**-0.8**
JKRS	**Kuro-shima**	**1.45**	**39**	P	**Pg**	**14 23 20.7**	**0.0**
JKRS				*e*S	**Sb**	**14 23 37.8**	**+0.3**
LDUT	**Ludao**	**1.48**	**253**	*e*P	**Pb**	**14 23 20.8**	**+0.9**
baz=245							
LDUT				*e*S	**Sn**	**14 23 37.1**	**-0.7**
baz=245							
HGSD	**Ruisui**	**1.50**	**285**	P	**Pb**	**14 23 20.6**	**+0.3**
baz=283							
HGSD				*e*S	**Sn**	**14 23 36.7**	**-1.5**
baz=283							
CHKT	**Chengkung**	**1.51**	**270**	*e*S	**Sn**	**14 23 37.1**	**-1.3**
baz=265							
EGFH	**Guangfu**	**1.55**	**291**	*e*P	**Pb**	**14 23 21.6**	**+0.4**
baz=291							
EGFH				*e*S	**Sn**	**14 23 39.0**	**-0.5**
baz=291							
EDH	**Donghe**	**1.58**	**265**	*e*P	**Pb**	**14 23 22.3**	**+0.8**
baz=259							
EDH				*e*S	**Sn**	**14 23 39.5**	**-0.6**
baz=259							
FULB	**Fuli**	**1.58**	**273**	*e*P	**Pb**	**14 23 22.2**	**+0.6**
baz=269							
FULB				*e*S	**Sn**	**14 23 39.2**	**-0.9**
baz=269							
TWF1	**Yuli**	**1.59**	**279**	P	**Pb**	**14 23 22.3**	**+0.5**
baz=276							
TWF1				*e*S	**Sn**	**14 23 41.1**	**+0.6**
baz=276							
YULB	**Yu-li**	**1.60**	**280**	P	**Pb**	**14 23 22.5**	**+0.6**
baz=278							
YULB				*e*S	**Sn**	**14 23 41.1**	**+0.5**
baz=278							
EHY	**Hungye**	**1.60**	**285**	P	**Pb**	**14 23 22.4**	**+0.5**
baz=283							
EHY				S	**Sn**	**14 23 40.9**	**+0.3**
baz=283							
ESL	**Shilin**	**1.61**	**296**	P	**Pb**	**14 23 21.9**	**-0.1**
baz=297							
ESL				S	**Sn**	**14 23 39.4**	**-1.4**
baz=297							
TWD	**Chiawan**	**1.61**	**307**	*e*P	**Pb**	**14 23 22.0**	**-0.1**
baz=310							
TWD				*e*S	**Sn**	**14 23 40.1**	**-0.9**
baz=310							
JIJ	**Ishigaki jima**	**1.62**	**40**	P	**Pb**	**14 23 22.8**	**+0.5**
JIJ				*e*S	**Sn**	**14 23 41.4**	**+0.2**
NACB	**Ninganchiao**	**1.67**	**309**	*e*P	**Pb**	**14 23 23.0**	**-0.2**
baz=312							
NACB				*e*S	**Sn**	**14 23 40.6**	**-1.9**
baz=312							
LONT	**Longtian**	**1.74**	**264**	*e*S	**Sb**	**14 23 45.4**	**-0.5**
baz=258							
ENA	**Nanau**	**1.75**	**319**	P	**Pb**	**14 23 25.3**	**+0.8**
baz=323							
ENA				*e*S	**Sn**	**14 23 45.3**	**+0.9**
baz=323							
ETLH	**Xiulin Townshi**	**1.77**	**308**	*e*P	**Pb**	**14 23 24.9**	**0.0**
baz=311							
ETLH				*e*S	**Sn**	**14 23 44.9**	**-0.2**
baz=311							
TWGBT	**Beinan**	**1.80**	**261**	*e*P	**Pb**	**14 23 25.9**	**+0.5**
baz=255							
TWGBT				*e*S	**Sn**	**14 23 46.1**	**+0.5**
baz=255							
TWG	**Pinlang**	**1.81**	**261**	P	**Pb**	**14 23 26.1**	**+0.7**
baz=255							
TWG				S	**Sn**	**14 23 46.1**	**+0.3**
baz=255							
TWC	**Suao**	**1.83**	**325**	*e*P	**Pb**	**14 23 26.4**	**+0.5**
baz=330							
VWDT	**VWDT**	**1.83**	**291**	P	**Pb**	**14 23 26.2**	**+0.4**
baz=290							
VWDT				*e*S	**Sn**	**14 23 46.8**	**+0.5**
baz=290							
ELDTW	**Lidau**	**1.83**	**273**	P	**Pb**	**14 23 25.6**	**-0.4**
baz=269							
JISG	**Ishigakijimahi**	**1.89**	**39**	P	**Pb**	**14 23 26.4**	**-0.5**
JISG				*e*S	**Sn**	**14 23 48.4**	**+0.6**
WHF	**Hehuan Shan**	**1.90**	**303**	P	**Pb**	**14 23 26.9**	**-0.4**
baz=304							
WHF				*e*S	**Sn**	**14 23 47.9**	**-0.8**
baz=304							
CHGB	**Renai**	**1.93**	**300**	*e*P	**Pb**	**14 23 27.8**	**+0.1**
baz=300							
CHGB				*e*S	**Sn**	**14 23 49.4**	**+0.3**
baz=300							
ECL	**Taimali**	**1.96**	**255**	*e*P	**Pb**	**14 23 27.9**	**-0.3**
baz=249							
ECL				*e*S	**Sn**	**14 23 49.3**	**-0.3**
baz=249							
NNSB	**Datong**	**1.98**	**312**	*e*P	**Pb**	**14 23 28.3**	**-0.2**
baz=314							
NNSB				*e*S	**Sn**	**14 23 50.0**	**-0.2**
baz=314							
NNSH	**Datong**	**1.98**	**312**	*e*P	**Pb**	**14 23 28.4**	**-0.1**
baz=314							
NNSH				*e*S	**Sn**	**14 23 49.9**	**-0.4**
baz=314							
NNS	**Nan Shan**	**2.00**	**312**	P	**Pb**	**14 23 28.7**	**-0.1**
baz=314							
NNS				S	**Sn**	**14 23 50.6**	**-0.1**
baz=314							
SSLB	**Suanglung**	**2.00**	**290**	*e*P	**Pb**	**14 23 28.7**	**-0.2**
baz=289							
SSLB				*e*S	**Sn**	**14 23 50.5**	**-0.1**
baz=289							
ENTT	**Nioudou**	**2.01**	**319**	P	**Pb**	**14 23 29.4**	**+0.4**
baz=323							
ENTT				S	**Sn**	**14 23 51.5**	**+0.7**
baz=323							
NDT	**Datong Townshi**	**2.02**	**318**	P	**Pb**	**14 23 29.1**	**0.0**
baz=321							
NDT				S	**Sn**	**14 23 51.2**	**+0.2**
baz=321							
TWE	**Neicheng**	**2.02**	**323**	*e*P	**Pb**	**14 23 29.2**	**+0.2**
baz=327							
TWE				*e*S	**Sn**	**14 23 51.7**	**+0.7**
baz=327							
TWT	**Tachien**	**2.03**	**304**	*e*P	**Pb**	**14 23 29.3**	**0.0**
baz=305							
TWT				*e*S	**Sn**	**14 23 51.5**	**+0.1**
baz=305							
TDCB	**Techi**	**2.04**	**304**	*e*P	**Pb**	**14 23 29.3**	**-0.2**
baz=305							
TDCB				*e*S	**Sn**	**14 23 50.4**	**-1.3**
baz=305							
ALS	**Alishan**	**2.06**	**281**	*e*P	**Pb**	**14 23 30.4**	**+0.4**
baz=279							
ALS				*e*S	**Sn**	**14 23 53.8**	**+1.3**
baz=279							
STYT	**Tauyuan**	**2.07**	**272**	*e*P	**Pb**	**14 23 30.3**	**+0.3**
baz=268							
STYT				*e*S	**Sn**	**14 23 53.1**	**+0.7**
baz=268							
SMLT	**Sun Moon Lake**	**2.08**	**292**	*e*P	**Pb**	**14 23 30.1**	**-0.1**
baz=291							
SMLT				*e*S	**Sb**	**14 23 54.5**	**-1.4**
baz=291							
TYC	**Yuchr**	**2.13**	**292**	*e*P	**Pb**	**14 23 32.2**	**+1.3**
baz=292							

TYC					*e*S		**Sn**	**14 23 55.1**	**+1.5**
	baz=292								
TIPB	**Shuangxi**	**2.14**	**330**	*e*P			**Pb**	**14 23 30.6**	**-0.6**
	baz=334								
TIPB					*e*S		**Sn**	**14 23 55.4**	**+1.3**
	baz=334								
YHNB	**Yeheng**	**2.15**	**316**	*e*P			**Pb**	**14 23 31.3**	**-0.1**
	baz=319								
YHNB					*e*S		**Sn**	**14 23 54.0**	**-0.4**
	baz=319								
NWLT	**Wulai**	**2.15**	**321**	*e*P			**Pb**	**14 23 31.9**	**+0.5**
	baz=324								
NWLT					*e*S		**Sn**	**14 23 54.8**	**+0.4**
	baz=324								
NSK	**Sanguang**	**2.17**	**316**	*e*P			**Pb**	**14 23 31.4**	**-0.2**
	baz=319								
NSK					*e*S		**Sn**	**14 23 54.8**	**0.0**
	baz=319								
JTJ	**Tarama**	**2.17**	**45**	P			**Pb**	**14 23 30.9**	**-0.8**
JTJ					*e*S		**Sn**	**14 23 56.0**	**+1.3**
CHN5	**Tsauling**	**2.19**	**283**	*e*P			**Pb**	**14 23 32.9**	**+0.7**
	baz=281								
TPUB	**Ta-pu**	**2.20**	**275**	*e*P			**Pb**	**14 23 32.6**	**+0.5**
	baz=272								
TPUB					*e*S		**Sn**	**14 23 56.1**	**+0.7**
	baz=272								
WTP	**Ta-pu**	**2.21**	**274**	*e*P			**Pb**	**14 23 33.1**	**+0.8**
	baz=271								
WHP	**Taichung City**	**2.22**	**302**	*e*P			**Pb**	**14 23 33.8**	**+1.3**
	baz=303								
WHP					*e*S		**Sn**	**14 23 56.0**	**0.0**
	baz=303								
SSD	**Sandimen**	**2.22**	**261**	*e*P			**Pb**	**14 23 32.9**	**+0.3**
	baz=256								
MASBT	**Mashibuluo**	**2.25**	**258**	*e*P			**Pb**	**14 23 32.5**	**-0.4**
	baz=252								
CHN1	**Nanshi**	**2.28**	**272**	*e*P			**Pb**	**14 23 34.5**	**+0.9**
	baz=269								
LIOB	**Emei**	**2.38**	**310**	*e*P			**Pb**	**14 23 36.0**	**+0.8**
	baz=312								
LIOB					*e*S		**Sn**	**14 24 02.0**	**+2.1**
	baz=312								
JIRB	**Irabujima**	**2.62**	**49**	*e*S			**Sn**	**14 24 06.3**	**+0.6**
JMJ2	**Miyako jima3**	**2.67**	**52**	P			**Pb**	**14 23 38.7**	**-1.5**
JMJ2					*e*S		**Sn**	**14 24 07.5**	**+0.4**

*IDC **08** 14:32:06.3±5.1, 17°.97S×174°.90W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.6/23, mbtmp4.0/3, Error ellipse: s-maj=176.7km s-min=102.7km az=158.0*
*NEIC **08** 14:32:11.9±1.1, 18°.0S±0°.5×174°.0W±0°.2, h100km±22km, mb4.3/11, Error ellipse: s-maj=68.5km s-min=16.6km az=192.0*

ISC 08 14:32:12.9±1.6, 18°.3S±0°.5×174°.0W±0°.1, h100km, n17, σ1s27/17, mb4.3/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.96**	**102**	Pn	**Pn**	**14 33 11.0**	**-0.6**
MSVF	**Nonsavu**	**7.56**	**273**	Pn	**Pn**	**14 34 00.2**	**-0.4**
TOO	**Toolangi**	**40.20**	**233**	P	**P**	**14 39 39.2**	**-0.5**
TOO				IAmb	IAmb	14 39 44.3	
	comp=Z,8.4nm,1.1s						
STKA	**Stephens Creek**	**42.11**	**243**	P	**P**	**14 39 56.0**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=95,slow=11,SNR=3.2						
STKA	**Stephens Creek**	**42.11**	**243**	IAmb	IAmb	14 39 58.0	
	comp=Z,0.2nm,0.3s						
BBOO	**Buckleboo**	**46.88**	**242**	P	**P**	**14 40 33.6**	**+0.3**
BBOO				IAmb	IAmb	14 40 34.4	
	comp=Z,5.5nm,0.9s						
WR0	**Warramunga Arr**	**48.46**	**259**	P	**P**	**14 40 45.5**	**-0.3**
WR0				IAmb	IAmb	14 41 01.6	
	comp=Z,5.0nm,1.1s						
WB0	**Warramunga Arr**	**48.62**	**260**	P	**P**	**14 40 46.3**	**-0.7**
WB0				IAmb	IAmb	14 41 03.5	
	comp=Z,4.1nm,1.1s						
WB2	**Warramunga Arr**	**48.64**	**259**	P	**P**	**14 40 46.7**	**-0.4**
WB2				IAmb	IAmb	14 40 56.7	
	comp=Z,3.0nm,1.1s						
WRA	**Warramunga Arr**	**48.65**	**259**	P	**P**	**14 40 46.4**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=98,slow=7.5,SNR=24						
AS31	**Alice Springs**	**48.69**	**254**	P	**P**	**14 40 47.0**	**-0.5**
ASAR	**Alice Springs**	**48.69**	**254**	P	**P**	**14 40 47.1**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=86,slow=8.3,SNR=48						
ASAR				PcP	**PcP**	**14 42 15.3**	**+3.9**
	comp=Z,0.3nm,0.7s,baz=108,slow=4.1,SNR=4.3						
ASAR	**Alice Springs**	**48.69**	**254**	P	**P**	**14 40 46.9**	**-0.6**
MTN	**Manton Dam**	**52.95**	**268**	P	**P**	**14 41 17.6**	**-1.9**
FORT	**Forrest**	**53.60**	**245**	P	**P**	**14 41 23.5**	**-0.6**
KNRA	**Kununurra**	**54.59**	**264**	P	**P**	**14 41 31.3**	**-0.1**
KNRA				IAmb	IAmb	14 41 42.0	
	comp=Z,6.7nm,1.1s						
FITZ	**Fitzroy Crossi**	**57.07**	**260**	P	**P**	**14 41 49.5**	**+0.4**
FITZ				IAmb	IAmb	14 41 52.0	
	comp=Z,3.7nm,1.1s						

MEX 08 14:48:13.6±0.8, 16°.55N×95°.35W, h72km±10km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.70**	**39**	*e*P	Pn	14 48 27.2	-1.4
CMIG				*e*S	Sn	14 48 37.7	-2.1
HUIG	**Huatulco**	**1.06**	**224**	*e*P	Pn	14 48 31.1	-1.9
HUIG				*e*S	Sn	14 48 46.0	-1.5
PANG	**Puerto Angel**	**1.39**	**231**	*e*P	Pn	14 48 34.8	-2.4
VHO	**Vista Hermosa**	**1.43**	**292**	*e*P	Pn	14 48 39.1	+1.2
PEIG	**Puerto Escondi**	**1.81**	**253**	*e*P	Pn	14 48 41.1	-1.8
PEIG				*e*S	Sn	14 49 03.0	-2.0
PCIG		**2.21**	**112**	*e*P	Pn	14 48 47.0	-1.1
PCIG				*e*S	Sn	14 49 12.9	-1.6
TOIG	**Toxpalan**	**2.25**	**313**	*e*P	Pn	14 48 50.4	+1.6
TOIG				*i*S	Sn	14 49 16.7	+1.0
PNIG	**Pinotepa**	**2.67**	**267**	*e*P	Pn	14 48 53.4	-1.0
PNIG				*e*S	Sn	14 49 24.2	-1.6

IDC 08 14:49:07.8±15.0, 19°.21N×94°.13W, h208km±111km, mb3.0/2, mb1 3.5/3, mb1mx3.1/22, mbtmp3.6/3, Error ellipse: s-maj=128.8km s-min=103.9km az=44.0, Bay of Campeche

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**13.30**	**321**	P	Pn	14 52 08.7	-0.1
	0.1nm,0.3s,baz=154,slow=13,SNR=12						
TXAR				S	S	14 54 38.0	+1.5
	0.1nm,0.3s,baz=129,slow=31,SNR=9.6						
PDAR	**Pinedale Array**	**26.86**	**334**	P	P	14 54 30.9	+1.4
	0.6nm,0.9s,baz=148,slow=9.9,SNR=4.4						
NVAR	**Mina Array Bea**	**28.41**	**317**	P	P	14 54 41.7	-1.5
	0.5nm,0.8s,baz=122,slow=9.7,SNR=3.6						

*BEO **08** 14:49:03.5±1.1, 39°.41N×27°.63E, h15km, ML3.7/5*
*DDA **08** 14:49:22.7, 40°.42N×26°.19E, h14km±1km, ML3.0*
*ISK **08** 14:49:22.0, 40°.41N×26°.18E, h15km, ML3.1/35*
*ATH **08** 14:49:22.5, 40°.44N×26°.11E, h30km±1km, ML2.9/10, Error ellipse: s-maj=2.2km s-min=0.9km az=276.0*
*THE **08** 14:49:23.1, 40°.42N×26°.14E, h11km, ML2.8/9, Error ellipse: s-maj=0.9km s-min=0.4km az=289.0*

ISC 08 14:49:22.7±0.8, 40°.42N±0°.01×26°.19E±0°.02, h16km±6km, n102, σ0s71/141, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GELI	**Tayfur-Gelibol**	**0.22**	**96**	PG	**Pg**	**14 49 27.7**	**0.0**
GOKA	**anakkale-Gk**	**0.31**	**223**	*i*P	**Pg**	**14 49 29.2**	**0.0**
GOKA				*i*S	**Sb**	**14 49 34.7**	**-0.1**
GOKA				IAML		14 49 35.0	
	comp=N,4μm,0.2s						
ENEZ	**Enez**	**0.32**	**356**	P	**Pb**	**14 49 29.6**	**-0.4**
ENEZ				S	**Sg**	**14 49 34.2**	**+0.4**
ENEZ	**Enez**	**0.32**	**356**	PG	**Pg**	**14 49 29.4**	**+0.1**
ENEZ				SG	**Sb**	**14 49 34.5**	**-0.4**
GADA	**Gvkgeada**	**0.32**	**224**	P	**Pg**	**14 49 29.4**	**+0.1**
GADA				S	**Sg**	**14 49 34.1**	**+0.3**
	comp=N,1μm,0.3s						
GADA	**Gvkgeada**	**0.32**	**224**	PG	**Pg**	**14 49 29.1**	**-0.2**
GADA				SG	**Sg**	**14 49 33.8**	**0.0**
LPK	**Lapseki**	**0.44**	**96**	PG	**Pg**	**14 49 31.4**	**-0.1**
LPK				SG	**Sg**	**14 49 37.9**	**+0.3**
ALN	**Alexandroupoli**	**0.49**	**347**	P	**Pg**	**14 49 32.3**	**-0.1**
ALN				S	**Sb**	**14 49 39.4**	**-0.4**
	comp=N,1μm,0.4s						
ALN	**Alexandroupoli**	**0.49**	**347**	P	**Pg**	**14 49 32.3**	**-0.1**
ALN				S	**Sb**	**14 49 39.3**	**-0.5**
ALN				AML	AML	14 49 45.0	
	comp=E,1770μm,0.4s						
ALN				AML	AML	14 49 45.1	
	comp=N,1847μm,0.4s						
ALN	**Alexandroupoli**	**0.49**	**347**	PG	**Pg**	**14 49 32.3**	**-0.1**
ALN				SG	**Sb**	**14 49 39.6**	**-0.2**
SMTH	**Samothraki Isl**	**0.50**	**276**	P	**Pg**	**14 49 32.1**	**-0.6**
SMTH				S	**Sg**	**14 49 39.4**	**0.0**
	comp=N,2μm,0.2s						
SMTH	**Samothraki Isl**	**0.50**	**276**	P	**Pg**	**14 49 32.2**	**-0.4**
SMTH				S	**Sg**	**14 49 39.1**	**-0.3**
SMTH				AML	AML	14 49 40.4	
	comp=E,5273μm,0.2s						
SMTH				AML	AML	14 49 40.4	
	comp=N,4219μm,0.2s						
KESN	**Edirne-Kesan**	**0.55**	**43**	*i*P	**Pg**	**14 49 33.3**	**-0.5**
KESN				*i*S	**Sg**	**14 49 41.3**	**+0.1**
KESN				IAML		14 49 46.0	
	comp=N,971nm,0.3s						
KESN				IAML		14 49 48.0	
	comp=E,1μm,0.2s						
BOZC	**Bozcaada**	**0.59**	**190**	PG	**Pg**	**14 49 33.9**	**-0.4**
BOZC				SG	**Sb**	**14 49 42.4**	**-0.3**
BOZC	**Bozcaada**	**0.59**	**190**	*i*P	**Pg**	**14 49 33.8**	**-0.4**
BOZC				*i*S	**Sn**	**14 49 46.7**	**+1.1**
BOZC				IAML		14 49 47.0	
	comp=N,571nm,0.3s						
EZN	**Ezine**	**0.60**	**170**	P	**Pg**	**14 49 34.1**	**-0.4**
EZN	**Ezine**	**0.60**	**170**	PG	**Pg**	**14 49 34.1**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**0.73**	**158**	*i*P	**Pg**	**14 49 36.7**	**-0.2**
BAYC				*i*S	**Sn**	**14 49 50.2**	**+0.9**
UKOP	**Uzunkopru-Edir**	**0.79**	**26**	PG	**Pb**	**14 49 37.9**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.80**	**70**	PG	**Pg**	**14 49 38.1**	**-0.2**
SART	**Tekirdag**	**0.80**	**70**	*i*P	**Pg**	**14 49 38.0**	**-0.3**
SART				*i*S	**Sn**	**14 49 51.1**	**-0.1**
MAR6	**Marsite Statio**	**0.87**	**71**	PG	**Pb**	**14 49 38.9**	**-0.5**
RDO	**Rodhopi**	**0.88**	**326**	P	**Pb**	**14 49 38.9**	**-0.6**
RDO				S	**Sn**	**14 49 52.0**	**-0.8**
	comp=N,785nm,0.4s						
RDO	**Rodhopi**	**0.88**	**326**	P	**Pb**	**14 49 38.9**	**-0.6**
RDO				S	**Sg**	**14 49 51.4**	**+0.2**
RDO				AML	AML	14 49 54.9	
	comp=E,1687μm,0.3s						
RDO				AML	AML	14 49 55.0	
	comp=N,1620μm,0.3s						
RDO	**Rodhopi**	**0.88**	**326**	PG	**Pb**	**14 49 39.0**	**-0.6**
MAR3	**Marsite Statio**	**0.90**	**69**	PG	**Pg**	**14 49 40.1**	**-0.1**
MAR2	**Marsite Statio**	**0.91**	**71**	PG	**Pg**	**14 49 40.1**	**-0.2**
MAR4	**Marsite Statio**	**0.93**	**66**	PG	**Pb**	**14 49 40.1**	**-0.3**
LIA	**Limnos Island**	**0.93**	**236**	P	**Pb**	**14 49 40.3**	**-0.1**
LIA				S	**Sg**	**14 49 52.9**	**+0.1**
	comp=N,855nm,0.4s						
LIA	**Limnos Island**	**0.93**	**236**	P	**Pb**	**14 49 40.3**	**-0.1**
LIA				S	**Sb**	**14 49 52.2**	**-0.3**
LIA				AML	AML	14 49 54.6	
	comp=N,1345μm,0.3s						
LIA				AML	AML	14 49 55.0	
	comp=E,1824μm,0.4s						
KNL	**Balıkesir**	**1.04**	**98**	*i*P	**Pg**	**14 49 42.5**	**-0.2**
KNL				*i*S	**Sn**	**14 49 59.2**	**+2.4**
KNL				IAML		14 50 00.0	
	comp=N,376nm,0.2s						
MRMT	**Marmara Adasi**	**1.09**	**80**	PN	**Pb**	**14 49 42.9**	**-0.3**
THAS	**Thassos island**	**1.13**	**280**	P	**Pb**	**14 49 42.9**	**-1.0**
THAS				S	**Sn**	**14 49 59.6**	**+0.5**
	comp=N,376nm,0.3s						
THAS	**Thassos island**	**1.13**	**280**	P	**Pb**	**14 49 42.9**	**-1.0**
THAS				AML	AML	14 50 00.1	
	comp=N,777μm,0.2s						
THAS				AML	AML	14 50 01.5	
	comp=E,728μm,0.3s						
MAR9	**Marsite Statio**	**1.17**	**80**	PN	**Pn**	**14 49 44.3**	**-0.2**
PRK	**Paraskevi**	**1.18**	**177**	P	**Pg**	**14 49 45.0**	**-0.3**
PRK				S	**Sg**	**14 50 01.6**	**+0.9**
PRK	**Paraskevi**	**1.18**	**177**	P	**Pg**	**14 49 45.7**	**+0.4**
PRK				S	**Sg**	**14 50 02.0**	**+1.3**
PRK				AML	AML	14 50 04.7	
	comp=N,7292μm,1.0s						
PRK				AML	AML	14 50 08.7	
	comp=E,2681μm,0.6s						
AYVA	**Ayvalik**	**1.18**	**161**	*i*P	**Pb**	**14 49 44.5**	**-0.2**
AYVA				*i*S	**Sg**	**14 50 01.0**	**+0.2**
AYVA				IAML		14 50 03.0	
	comp=N,883nm,0.5s						
AYVA				IAML		14 50 03.0	
	comp=E,471nm,0.4s						
GONE	**Gonen-Balikesi**	**1.21**	**108**	PN	**Pn**	**14 49 44.8**	**-0.1**
SIGR	**SIGRI**	**1.23**	**192**	P	**Pn**	**14 49 45.2**	**-0.1**
SIGR				S	**Sg**	**14 50 02.6**	**0.0**
	comp=E,1μm,0.5s						
SIGR	**SIGRI**	**1.23**	**192**	P	**Pn**	**14 49 45.3**	**0.0**
SIGR				S	**Sn**	**14 50 01.9**	**+0.2**
SIGR				AML	AML	14 50 03.9	
	comp=N,3223μm,0.6s						
SIGR				AML	AML	14 50 04.9	
	comp=E,1956μm,0.4s						
SIGR	**SIGRI**	**1.23**	**192**	PN	**Pn**	**14 49 45.1**	**-0.2**
EFSA	**Agios Efstrati**	**1.27**	**227**	P	**Pn**	**14 49 45.6**	**-0.2**
EDC	**Edincik**	**1.28**	**93**	PN	**Pn**	**14 49 45.9**	**-0.1**
BALY	**Balya**	**1.29**	**121**	*i*P	**Pg**	**14 49 47.5**	**-0.1**
BALY				*i*S	**Sg**	**14 50 04.0**	**-0.5**
BALY				IAML		14 50 10.0	
	comp=N,166nm,1.0s						
KDZ	**Kurdzhali**	**1.36**	**335**	PN	**Pn**	**14 49 47.2**	**+0.2**
CRLT	**Corlu**	**1.37**	**59**	PN	**Pn**	**14 49 47.2**	**0.0**
KAVA	**Kavala**	**1.39**	**295**	P	**Pn**	**14 49 47.1**	**-0.4**
KAVA	**Kavala**	**1.39**	**295**	P	**Pn**	**14 49 47.2**	**-0.3**
KAVA				S	**Sn**	**14 50 04.7**	**-0.9**
KAVA				AML	AML	14 50 08.1	
	comp=N,418μm,0.3s						
KAVA				AML	AML	14 50 10.9	
	comp=E,779μm,0.2s						
DKL	**Dikili**	**1.46**	**157**	PN	**Pn**	**14 49 48.3**	**-0.1**
BOTS	**Marmara Eregli**	**1.48**	**67**	PN	**Pn**	**14 49 48.8**	**+0.1**
EDRB	**Edirne**	**1.49**	**16**	P	**Pn**	**14 49 48.6**	**-0.2**
EDRB				S	**Sb**	**14 50 09.0**	**+0.4**
	comp=E,188nm,0.5s						
EDRB	**Edirne**	**1.49**	**16**	PN	**Pn**	**14 49 48.9**	**+0.1**
BALB	**Balikesir**	**1.52**	**120**	PN	**Pn**	**14 49 49.0**	**-0.2**
KIRK	**Kırklareli**	**1.52**	**27**	*i*P	**Pn**	**14 49 49.0**	**-0.3**
KIRK				*i*S	**Sn**	**14 50 06.6**	**-2.2**
STEP	**BALIKESIR_Sava**	**1.57**	**131**	*i*P	**Pb**	**14 49 51.5**	**0.0**
STEP				*i*S	**Sg**	**14 50 13.2**	**-0.2**
STEP				IAML		14 50 20.0	
	comp=E,147nm,0.6s						
STEP				IAML		14 50 25.0	
	comp=N,158nm,0.4s						
PHSR	**Pinarhisar**	**1.58**	**40**	PN	**Pn**	**14 49 50.1**	**+0.1**
ZEDA	**zmir-Bergama**	**1.61**	**154**	*i*P	**Pb**	**14 49 51.9**	**-0.1**
ZEDA				*i*S	**Sg**	**14 50 13.9**	**-0.6**
KCTX	**Karacabey (Bur**	**1.67**	**95**	PN	**Pn**	**14 49 51.2**	**-0.1**
OUR	**Ouranopolis**	**1.69**	**268**	P	**Pn**	**14 49 50.8**	**-0.7**
OUR	**Ouranopolis**	**1.69**	**268**	P	**Pn**	**14 49 50.8**	**-0.7**
OUR				AML	AML	14 50 18.7	
	comp=N,656μm,0.3s						
OUR				AML	AML	14 50 19.9	
	comp=E,626μm,0.3s						
OUR	**Ouranopolis**	**1.69**	**268**	PN	**Pn**	**14 49 50.9**	**-0.6**
SLVT	**Silivri**	**1.74**	**62**	PN	**Pn**	**14 49 51.9**	**-0.3**
CTYL	**Yalikoy Yolu**	**1.91**	**56**	PN	**Pn**	**14 49 54.8**	**+0.2**
PSRA	**Psara**	**1.94**	**195**	P	**Pn**	**14 49 54.9**	**0.0**
DURS	**Dursunbey**	**1.94**	**114**	*i*P	**Pb**	**14 49 56.6**	**-1.1**
DURS				*i*S	**Sb**	**14 50 20.8**	**-1.0**
DURS				IAML		14 50 28.0	
	comp=E,90nm,0.4s						
CTKS	**Kestanelik-??a**	**1.94**	**64**	PN	**Pn**	**14 49 55.3**	**+0.3**
AKHS	**Akhisar**	**1.99**	**140**	*i*P	**Pn**	**14 49 56.7**	**+1.0**
AKHS				*i*S	**Sg**	**14 50 25.8**	**-0.8**
NVR	**Nevrokopi**	**1.99**	**299**	P	**Pn**	**14 49 56.0**	**+0.2**
NVR				S	**Sn**	**14 50 19.9**	**-0.5**
	comp=E,110nm,0.3s						
PLD	**Plovdiv**	**2.02**	**327**	PN	**Pn**	**14 49 56.4**	**+0.3**
CHOS	**Chios island**	**2.03**	**183**	P	**Pn**	**14 49 56.7**	**+0.3**
CHOS	**Chios island**	**2.03**	**183**	P	**Pn**	**14 49 56.7**	**+0.3**
CHOS				AML	AML	14 50 33.3	
	comp=N,288μm,0.5s						
CHOS				AML	AML	14 50 34.1	
	comp=E,362μm,0.6s						
CHOS	**Chios island**	**2.03**	**183**	PN	**Pn**	**14 49 56.6**	**+0.2**
DST	**Dursunbey**	**2.04**	**113**	PN	**Pn**	**14 49 56.6**	**+0.2**
ARMT	**Armutlu**	**2.05**	**85**	PN	**Pn**	**14 49 56.9**	**+0.4**
MDNY	**Mudanya-Bursa**	**2.06**	**91**	PN	**Pn**	**14 49 56.9**	**+0.2**
URLA	**Izmir**	**2.08**	**171**	PN	**Pn**	**14 49 57.1**	**+0.1**
URLA	**Izmir**	**2.08**	**171**	*i*P	**Pn**	**14 49 57.1**	**+0.1**
URLA				*i*S	**Sb**	**14 50 24.5**	**-1.3**
URLA				IAML		14 50 32.0	
	comp=N,105nm,0.5s						
URLA				IAML		14 50 32.0	
	comp=E,69nm,0.5s						
SRS	**Serrai**	**2.09**	**290**	P	**Pn**	**14 49 56.9**	**-0.2**
SRS	**Serrai**	**2.09**	**290**	*e*Pn	**Pn**	**14 49 56.9**	**-0.2**
BGKT	**Bogazkoy**	**2.11**	**68**	PN	**Pn**	**14 49 57.7**	**+0.4**
BLCB	**Balcova**	**2.14**	**162**	PN	**Pn**	**14 49 57.9**	**+0.2**
AOS	**Alonnisos**	**2.17**	**236**	PN	**Pn**	**14 49 58.5**	**+0.3**
SOH	**Sokhos**	**2.19**	**281**	P	**Pn**	**14 49 58.3**	**-0.2**
TSVK	**Tesvikiye-Yalo**	**2.22**	**84**	PN	**Pn**	**14 49 59.2**	**+0.3**
ULDT	**Uludag**	**2.27**	**96**	*i*P	**Pn**	**14 50 00.7**	**+0.9**
ISK	**Istanbul-Kandi**	**2.28**	**73**	PN	**Pn**	**14 50 00.1**	**+0.5**
KAVV	**Kandilli-Istan**	**2.28**	**73**	PN	**Pn**	**14 50 00.1**	**+0.5**
TRML	**Termal-Yalova**	**2.29**	**84**	PN	**Pn**	**14 50 00.2**	**+0.4**
KLYT	**Kilyos**	**2.32**	**68**	PN	**Pn**	**14 50 00.5**	**+0.3**
HORT	**Hortiatis**	**2.36**	**275**	PN	**Pn**	**14 50 00.9**	**0.0**
SIMA	**Simav-Kutahya**	**2.54**	**121**	PN	**Pn**	**14 50 03.7**	**+0.4**
KULA	**Kula-Manisa**	**2.70**	**134**	P	**Pn**	**14 50 05.6**	**0.0**
USAK	**Uak-Merkez**	**2.77**	**127**	*i*P	**Pn**	**14 50 07.3**	**+0.8**
VAY	**Valandovo**	**2.88**	**289**	*e*Pn	**Pn**	**14 50 06.8**	**-1.2**
VTS	**Vitosha**	**3.12**	**316**	*e*Pn	**Pn**	**14 50 12.3**	**+0.9**
VTS				*e*Sn	**Sg**	**14 51 03.9**	**+1.1**
STIP	**Stip**	**3.28**	**294**	*i*Pn	**Pn**	**14 50 12.1**	**-1.4**
BOSS	**Bosilegrad**	**3.47**	**308**	*e*Pn	**Pn**	**14 50 18.1**	**+2.0**
ZAPS	**Zavoj**	**3.89**	**318**	*e*Pn	**Pn**	**14 50 22.9**	**+1.0**
BARS	**Barje**	**4.06**	**308**	*e*Pn	**Pn**	**14 50 25.4**	**+1.3**
BARS				*e*Sn	**Sb**	**14 51 27.0**	**+4.4**
ZAGS	**Zajecar**	**4.49**	**320**	*e*Pn	**Pn**	**14 50 30.5**	**+0.5**
BOVS	**Bovan**	**4.63**	**315**	*e*Pn	**Pn**	**14 50 33.3**	**+1.3**

*PRE **08** 15:06:01.6±1.0, 27°.02S×26°.79E, h2km, ML3.6*
*NEIC **08** 15:06:03.8±1.8, 26°.93S±0°.05×26°.73E±0°.08, h5km±1km, mb4.6/6, Error ellipse: s-maj=12.2km s-min=8.0km az=76.0*
*IDC **08** 15:06:03.5±0.7, 26°.96S×26°.69E, h0km, mb4.2/9, mb1 4.5/15, mb1mx4.1/34, mbtmp4.4/15, ML4.4/4, MS1.9/1, Ms1 1.9/1, ms1mx1.9/30, Error ellipse: s-maj=17.2km s-min=9.5km az=98.0*

ISC 08 15:06:03.1±1.1, 26°.96S±0°.03×26°.76E±0°.03, h7km±7km, n66, σ2s28/93, mb4.5/10, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.54**	**87**	*e*P	**Pg**	**15 06 12.2**	**-1.3**
PRYS				*e*S	**Sg**	**15 06 18.8**	**-1.7**
PRYS				AML	AML	15 06 27.5	
	comp=Z,1μm,0.2s						
WDLM	**Western Deep L**	**0.80**	**48**	*e*P	**Pg**	**15 06 17.5**	**-0.9**
WDLM				*e*S	**Sg**	**15 06 28.9**	**+0.1**
WDLM				AML	AML	15 06 36.2	
	comp=Z,2μm,0.3s						
KLOF	**Kloof**	**0.97**	**52**	*e*P	**Pg**	**15 06 20.9**	**-0.9**
KLOF				*e*S	**Sg**	**15 06 34.1**	**-0.4**
KLOF				AML	AML	15 06 41.0	
	comp=Z,6μm,0.3s						
KSR	**Koster**	**1.11**	**6**	*e*P	**Pg**	**15 06 24.3**	**-0.1**
KSR				*e*S	**Sg**	**15 06 39.7**	**+0.9**
KSR				AML	AML	15 06 50.2	
	comp=Z,194nm,0.3s						
SWZ	**Schweizer**	**1.29**	**260**	*e*P	**Pg**	**15 06 26.8**	**-1.1**
SWZ				*e*S	**Sg**	**15 06 45.0**	**+0.3**
SWZ				AML	AML	15 06 55.8	
	comp=Z,3μm,0.7s						
ERPM	**east rand prop**	**1.46**	**66**	*e*P	**Pn**	**15 06 30.2**	**+0.1**
ERPM				*e*S	**Sn**	**15 06 50.4**	**+0.9**
ERPM				AML	AML	15 06 55.1	
	comp=Z,843nm,0.7s						
SLR	**Silverton**	**1.83**	**49**	*e*P	**Pn**	**15 06 35.4**	**+0.3**
SLR				*e*S	**Sn**	**15 06 59.1**	**+0.5**
SLR				AML	AML	15 07 02.4	
	comp=Z,1μm,1.0s						
BOSA	**Boshof**	**2.12**	**219**	Pn	**Pn**	**15 06 40.1**	**+1.0**
	comp=Z,76nm,0.3s,baz=39,slow=12,SNR=949						
BOSA				Pg	**Pb**	**15 06 42.0**	**+0.1**
	comp=Z,78nm,0.3s,baz=44,slow=15,SNR=73						
BOSA				Sn	**Sn**	**15 07 06.1**	**+0.4**
	comp=Z,44nm,0.3s,baz=11,slow=20,SNR=4.9						
BOSA				Lg	Lg	15 07 08.8	
	comp=Z,195nm,0.3s,baz=311,slow=16,SNR=16						
BOSA				Rg	Rg	15 07 18.0	
	comp=Z,278nm,0.3s,baz=315,slow=19,SNR=3.9						
BOSA	**Boshof**	**2.12**	**219**	*i*P	**Pn**	**15 06 39.6**	**+0.6**
BOSA	**Boshof**	**2.12**	**219**	*e*P	**Pn**	**15 06 38.6**	**-0.4**
BOSA				*e*S	**Sn**	**15 07 04.7**	**-1.0**
BOSA				AML	AML	15 07 10.2	
	comp=Z,499nm,0.3s						
**

comp=Z,6.9nm,0.3s,baz=51,slow=12,SNR=92
SUR Sn **Sn** **15 09 14.8 -3.2**
comp=Z,12nm,0.3s,baz=337,slow=19,SNR=6.3
SUR Lg Lg 15 09 55.1
comp=Z,15nm,0.3s,baz=128,slow=21,SNR=2.5
SUR Sutherland 7.48 222 *eP* **Pn** **15 07 53.0 +0.2**
SUR *eS* **Sn** **15 09 12.7 -5.3**
SUR AML AML 15 09 17.9
comp=N,24nm,0.4s
CVNA Calvinia 7.59 232 *eP* **Pn** **15 07 53.9 -0.4**
CVNA *eS* **Sn** **15 09 15.9 -4.8**
CVNA AML AML 15 10 01.6
comp=Z,165nm,0.6s
KOMG Komaggas 8.64 249 *eP* **Pn** **15 08 08.7 0.0**
KOMG *eS* **Sn** **15 09 41.8 -4.7**
KOMG AML AML 15 10 01.1
comp=Z,29nm,0.6s
TSUM Tsumeb 11.44 311 Pn **Pn** **15 08 47.1 +0.1**
comp=Z,2.3nm,0.3s,baz=158,slow=14,SNR=20
TSUM Sn **Sn** **15 10 48.5 -6.7**
comp=Z,1.6nm,0.3s,baz=270,slow=13,SNR=3.9
TSUM Lg Lg 15 11 54.1
comp=Z,1.2nm,0.3s,baz=237,slow=16,SNR=4.0
TSUM Tsumeb 11.44 311 **Pn** **15 08 46.9 -0.2**
LSZ Lusaka 11.70 7 Pn **Pn** **15 08 49.9 -0.8**
comp=Z,4.0nm,0.3s,baz=188,slow=12,SNR=52
LSZ Sn **Sn** **15 10 54.5 -7.1**
comp=Z,1.8nm,0.3s,baz=19,slow=4.2,SNR=4.7
LSZ Lg Lg 15 12 03.9
comp=Z,1.0nm,0.3s,baz=95,slow=23,SNR=1.7
LSZ Lusaka 11.70 7 **Pn** **15 08 49.1 -1.5**
OPO Ambohidratompo 20.59 70 P Pn 15 10 45.1 -0.1
comp=Z,6.2nm,0.9s,baz=237,slow=21,SNR=3.6
TOA0 Torodi Ar. Sit 46.71 325 P **P** **15 14 33.7 +0.8**
TORD Torodi Ar. Bea 46.71 325 P **P** **15 14 33.5 +0.6**
comp=Z,2.2nm,0.4s,baz=136,slow=6.0,SNR=16
SNAA Sanae 47.68 192 P **P** **15 14 41.3 +1.4**
SNAA Sanae 47.68 192 P **P** **15 14 41.4 +1.4**
SNAA IAmb IAmb 15 14 42.7
comp=Z,5.8nm,0.9s
VNA1 Neumayer--Stat 48.03 195 P **P** **15 14 44.5 +2.0**
VNA2 Neumayer--Watz 48.03 194 P **P** **15 14 43.8 +1.2**
baz=26,slow=7.2
VNA3 Neumayer Olymp 48.78 195 P **P** **15 14 49.1 +0.8**
CASY Casey 63.16 153 P **P** **15 16 32.8 +1.5**
CASY IAmb IAmb 15 16 33.5
comp=Z,2.6nm,0.9s
QSPA South Pole Qui 63.23 180 P **P** **15 16 32.8 +0.8**
comp=Z,2.2nm,0.8s,baz=71,slow=0.9,SNR=15
QSPA South Pole Qui 63.23 180 IAmb IAmb 15 16 34.3
comp=Z,8.9nm,1.4s
EFI East Falkland 66.23 223 P **P** **15 16 52.1 +0.4**
BDFB Brasilia 69.72 262 P **P** **15 17 15.7 +1.4**
comp=Z,7.3nm,0.9s,baz=94,slow=6.3,SNR=4.4
ESDC Sonseca Array 72.21 336 P **P** **15 17 29.8 +1.0**
comp=Z,2.6nm,0.7s,baz=153,slow=6.1,SNR=18
ESDC Sonseca Array 72.21 336 P **P** **15 17 28.6 -0.2**
VNDA Vanda 72.39 171 P **P** **15 17 30.5 +1.2**
comp=Z,0.9nm,0.6s,baz=252,slow=6.6,SNR=5.1
FUORN Ofenpass-Fuorn 74.74 348 P **P** **15 17 43.1 -0.6**
GERES GERESS Array B 76.36 351 P **P** **15 17 54.1 +1.4**
comp=Z,0.6nm,0.6s,baz=222,slow=1.8,SNR=5.3
GERES GERESS Array B 76.36 351 P **P** **15 17 51.9 -0.9**
AKASG Malin Array Be 77.35 2 P **P** **15 17 59.0 +0.8**
comp=Z,1.1nm,0.4s,baz=185,slow=5.3,SNR=4.3
FINES FINESS Array B 88.09 360 P **P** **15 18 55.4 +1.7**
comp=Z,4.3nm,1.1s,baz=123,slow=7.0,SNR=6.6
FINES FINESS Array B 88.09 360 P **P** **15 18 54.7 +1.0**
DZM Mont Dzumac 117.57 137 PKP **PKiKP** **15 24 53.3 +2.7**
comp=Z,11nm,1.1s,baz=124,slow=11,SNR=3.0
TXAR Lajitas Array 136.48 285 PKP **PKiKP** **15 25 29.3 +1.3**
comp=Z,0.4nm,0.7s,baz=122,slow=1.6,SNR=5.3
ILAR Eielson Array 141.96 356 PKhKP PKPpre 15 25 31.3
comp=Z,0.2nm,0.3s,baz=133,slow=50,SNR=3.3
HYT Haines Junctio 144.49 347 **PKPdf** **15 25 41.5 +1.6**
DLBC Dease Lake 144.59 339 **PKPdf** **15 25 41.4 +1.4**
G08A Pilot Rock 147.14 313 **PKPab** **15 25 49.7 +1.1**
NVAR Mina Array Bea 148.63 300 PKPbc **PKiKP** **15 25 54.5 +1.6**
comp=Z,2.6nm,0.6s,baz=84,slow=4.0,SNR=35
NVAR Mina Array Bea 148.63 300 **PKiKP** **15 25 54.7 +1.8**

IDC 08 15:09:32.5±55.0, 16°44'S×176°22'W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/31, mbtmp4.0/3, Error ellipse: s-maj=1029.0km s-min=166.5km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.17**	**240**	P	P	15 17 19.8	+0.9
	0.5nm,0.4s,baz=90,slow=9.8,SNR=4.7						
WRA	**Warramunga Arr**	**46.97**	**258**	P	P	15 18 04.9	-0.8
	0.4nm,0.3s,baz=97,slow=7.5,SNR=18						
ASAR	**Alice Springs**	**47.21**	**253**	P	P	15 18 07.3	-0.2
	5.0nm,0.5s,baz=90,slow=7.8,SNR=190						

TAP ***08*** *15:14:20.1,24°.84N×122°.45E,h4km,ML2.7,D*
JMA ***08*** *15:14:21.3±0.1,24°.79N×122°.49E,h21km±4km,M1.8*
ISC 08 15:14:20.6±1.1, 24°.82N±0°.04×122°.48E±0°.03, h13km±9km, n32, σ0°40/56, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.48**	**293**	P	**Pg**	**15 14 29.8**	**-0.4**
	baz=292						
TWB1				*eS*	**Sg**	**15 14 36.5**	**-0.2**
	baz=292						
JYNG	**Yonagunijimaku**	**0.56**	**131**	P	**Pg**	**15 14 31.8**	**+0.3**
JYNG				S	**Sg**	**15 14 39.4**	**+0.4**
YOJ	**Yonaguni jima**	**0.60**	**126**	P	**Pg**	**15 14 32.3**	**0.0**
YOJ				*eS*	**Sg**	**15 14 40.0**	**-0.2**
TWC	**Suao**	**0.61**	**250**	P	**Pg**	**15 14 32.5**	**-0.1**
	baz=246						
TWC				*eS*	**Sb**	**15 14 41.4**	**-0.2**
	baz=246						
TIPB	**Shuangxi**	**0.61**	**285**	*eP*	**Pg**	**15 14 32.7**	**+0.1**
	baz=283						
TIPB				*eS*	**Sb**	**15 14 42.1**	**+0.3**
	baz=283						
NWF	**Wu-fen Shan**	**0.68**	**292**	*eP*	**Pg**	**15 14 34.0**	**+0.1**
	baz=290						
NWF				*eS*	**Sb**	**15 14 44.1**	**+0.4**
	baz=290						
ENAH	**Nanao**	**0.71**	**239**	*eP*	**Pb**	**15 14 35.1**	**+0.3**
	baz=236						
ENAH				*eS*	**Sn**	**15 14 46.6**	**-0.5**
	baz=236						
TWE	**Neicheng**	**0.75**	**263**	P	**Pb**	**15 14 35.3**	**-0.1**
	baz=260						
TWE				*eS*	**Sn**	**15 14 47.1**	**-0.8**
	baz=260						
ENA	**Nanau**	**0.78**	**240**	P	**Pb**	**15 14 35.9**	**-0.1**
	baz=237						
ENA				*eS*	**Sn**	**15 14 48.3**	**-0.5**
	baz=237						
TWA	**Mucha**	**0.83**	**281**	*eP*	**Pb**	**15 14 37.3**	**+0.5**
	baz=280						
TWA				*eS*	**Sn**	**15 14 49.5**	**-0.6**
	baz=280						
ENTT	**Nioudou**	**0.85**	**258**	*eP*	**Pg**	**15 14 37.0**	**-0.1**
	baz=255						
ENTT				*eS*	**Sn**	**15 14 49.7**	**-0.9**
	baz=255						
YM01	**YM01**	**0.89**	**292**	*eP*	**Pb**	**15 14 37.9**	**0.0**
	baz=291						
YM01				*eS*	**Sb**	**15 14 50.3**	**+0.6**
	baz=291						
YM08	**YM08**	**0.89**	**295**	*eP*	**Pg**	**15 14 37.7**	**-0.1**
	baz=294						
NWLT	**Wulai**	**0.89**	**268**	*eP*	**Pg**	**15 14 37.5**	**-0.3**
	baz=265						
NWLT				*eS*	**Sb**	**15 14 49.9**	**+0.2**
	baz=265						
YM11	**YM11**	**0.89**	**293**	*eP*	**Pb**	**15 14 38.2**	**+0.2**
	baz=292						
YM11				*eS*	**Sn**	**15 14 51.5**	**-0.2**
	baz=292						
YM05	**YM05**	**0.90**	**293**	*eP*	**Pg**	**15 14 38.0**	**0.0**
	baz=292						
YM10	**YM10**	**0.90**	**292**	*eP*	**Pb**	**15 14 38.1**	**0.0**
	baz=291						
YM10				*eS*	**Sb**	**15 14 50.9**	**+0.9**
	baz=291						
NDT	**Datong Townshi**	**0.91**	**256**	*eP*	**Pn**	**15 14 38.6**	**-0.4**
	baz=254						
NDT				*eS*	**Sn**	**15 14 52.2**	**+0.2**
	baz=254						
YM04	**YM04**	**0.92**	**291**	*eP*	**Pg**	**15 14 38.2**	**-0.1**
	baz=290						
YHNB	**Yeheng**	**1.01**	**262**	*eP*	**Pb**	**15 14 40.0**	**-0.1**
	baz=260						
YHNB				*eS*	**Sn**	**15 14 55.0**	**+0.3**
	baz=260						
NSK	**Sanguang**	**1.03**	**262**	*eP*	**Pg**	**15 14 40.5**	**0.0**
	baz=260						
NSK				*eS*	**Sn**	**15 14 55.5**	**+0.4**
	baz=260						
NACB	**Ninganchiao**	**1.03**	**232**	*eP*	**Pb**	**15 14 40.3**	**0.0**
	baz=229						
NACB				*eS*	**Sn**	**15 14 55.5**	**+0.4**
	baz=229						
NNSB	**Datong**	**1.07**	**249**	*eP*	**Pb**	**15 14 41.1**	**+0.1**
	baz=247						
NNSB				*eS*	**Sn**	**15 14 56.0**	**-0.3**
	baz=247						
NNSH	**Datong**	**1.07**	**249**	*eP*	**Pg**	**15 14 41.2**	**0.0**
	baz=247						
NNSH				*eS*	**Sn**	**15 14 56.2**	**0.0**
	baz=247						
NNS	**Nan Shan**	**1.08**	**250**	*eP*	**Pn**	**15 14 41.5**	**+0.1**
	baz=247						
NNS				*eS*	**Sg**	**15 14 55.4**	**0.0**
	baz=247						
ETLH	**Xiulin Townshi**	**1.09**	**236**	*eP*	**Pg**	**15 14 41.6**	**-0.1**
	baz=234						
ETLH				*eS*	**Sn**	**15 14 58.2**	**+1.5**
	baz=234						
IRIF	**Iriomote-Funau**	**1.24**	**113**	P	**Pn**	**15 14 43.3**	**-0.2**
IRIF				*eS*	**Sb**	**15 14 59.2**	**-0.4**
FUSS	**Fushou**	**1.26**	**243**	*eP*	**Pg**	**15 14 44.9**	**0.0**
	baz=241						
WHF	**Hehuan Shan**	**1.29**	**239**	*eP*	**Pg**	**15 14 45.3**	**-0.2**
	baz=237						
TDCB	**Techi**	**1.33**	**245**	*eP*	**Pb**	**15 14 45.5**	**0.0**
	baz=243						
LIOB	**Emei**	**1.34**	**263**	*eP*	**Pb**	**15 14 45.6**	**0.0**
	baz=261						
CHGB	**Renai**	**1.41**	**238**	*eP*	**Pg**	**15 14 47.4**	**-0.3**
	baz=236						

JMA 08 15:26:41.8±0.1, 36°.87N×142°.51E, h22km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.39**	**280**	P	Pn	15 27 06.1	+0.2
JFK	**Kawauchi**	**1.40**	**291**	P	Pn	15 27 06.5	+0.5
JFK				S	Sn	15 27 24.1	+0.3
JMST	**Minamisoumatoc**	**1.55**	**304**	*eS*	Sn	15 27 28.0	+0.5
JFFD	**Fukushimafurud**	**1.58**	**279**	S	Sn	15 27 28.8	+0.6
JHO	**Hitachi**	**1.58**	**261**	P	Pn	15 27 09.3	+0.6
JHO				S	Sn	15 27 28.9	+0.6
JMM	**Marumori**	**1.69**	**307**	P	Pb	15 27 11.1	-1.1
JIO	**Ouri**	**1.83**	**330**	P	Pn	15 27 12.3	+0.4
JFT	**Otama**	**1.85**	**291**	*eS*	Sn	15 27 36.0	+1.0
JAG	**Ashikaga**	**2.50**	**261**	S	Sn	15 27 52.2	+1.3
JRY	**Ryogami san**	**3.03**	**255**	*eS*	Sn	15 28 05.1	+1.0
MAT	**Matsushiro**	**3.47**	**266**	P	Pn	15 27 37.5	+3.0
MAT				S	Sn	15 28 17.4	+2.4

MAN ***08*** *15:26:42.9, 14°.92N×120°.16E, h68km, MS3.6*
NEIC ***08*** *15:26:44.8±0.8, 14°.9N±0°.1×120°.6E±0°.2, h115km±9km, mb4.4/15, Error ellipse: s-maj=30.0km s-min=10.3km az=66.0*
IDC ***08*** *15:26:45.4±0.5, 14°.83N×120°.41E, h118km±7km, mb3.9/15, mb1 3.9/15, mb1mx3.6/44, mbtmp4.2/15, MS2.9/1, Ms1 3.1/1, ms1mx2.5/29, Error ellipse: s-maj=20.3km s-min=13.0km az=70.0*
ISC 08 15:26:44.4±0.6, 14°.96N±0°.05×120°.23E±0°.08, h100km, n43, σ1§61/49, mb4.4/21, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.10**	**141**	P	**Pn**	**15 27 05.4**	**-0.6**
	416nm,0.3s,baz=337,slow=4.4,SNR=21						
TGY				S	**Sn**	**15 27 22.8**	**+0.6**
	1µm,0.3s,baz=320,slow=22,SNR=13						
SMPP	**San Manuel, Pa**	**1.26**	**20**	*eP*	**Pn**	**15 27 06.7**	**-1.1**
SMPP				*eS*	**Sn**	**15 27 23.9**	**-1.5**
BOLP	**Bolinao**	**1.44**	**348**	*eP*	**Pn**	**15 27 09.0**	**-0.9**
BOLP				*eS*	**Sn**	**15 27 27.0**	**-2.3**
BALP	**Baler**	**1.51**	**59**	*eP*	**Pn**	**15 27 10.4**	**-0.4**
CAUP	**Cauayan**	**2.50**	**38**	*eP*	**Pn**	**15 27 23.5**	**+0.1**
CAUP				*eS*	Sn	15 28 01.0	+7.6
APYP	**Conner**	**3.04**	**19**	*eP*	**Pn**	**15 27 30.8**	**+0.1**
APYP				*eS*	**Sn**	**15 28 07.7**	**+1.3**
SGCP	**Mt. Cagua**	**3.69**	**28**	*eP*	**Pn**	**15 27 38.8**	**-0.7**
SGCP				*eS*	**Sn**	**15 28 27.3**	**+5.2**
MYLDM	**Lahad Datu**	**9.87**	**190**		**Pn**	**15 29 06.4**	**+3.0**
CMAR	**Chiang Mai Arr**	**20.68**	**283**	P	**P**	**15 31 19.2**	**+2.6**
	3.9nm,0.5s,baz=95,slow=8.4,SNR=27						
CMAR				LR	LR	15 38 53.0	
	comp=Z,30nm,19.1s,baz=192,slow=35						
USRK	**Ussuriysk Ar.**	**30.81**	**17**	P	**P**	**15 32 50.6**	**-0.1**
	3.1nm,0.8s,baz=210,slow=13,SNR=9.7						
ASAJ	**Asahikawa**	**34.74**	**29**	P	**P**	**15 33 25.0**	**+0.1**
	1.9nm,0.5s,baz=205,slow=8.8,SNR=5.9						
JKA	**Kamikawa-asahi**	**34.74**	**29**	P	**P**	**15 33 23.8**	**-1.1**
JKA				IAmb	IAmb	15 33 26.2	
	comp=Z,5.4nm,1.0s						
KLR	**Kul'dur**	**35.45**	**13**	P	**P**	**15 33 30.9**	**0.0**
	comp=Z,6.6nm,0.6s,baz=220,slow=6.8,SNR=29						
WB0	**Warramunga Arr**	**37.22**	**158**	P	**P**	**15 33 43.8**	**-2.6**
WB0				IAmb	IAmb	15 33 56.1	
	comp=Z,6.0nm,1.1s						
WRAB	**Tennant Creek**	**37.36**	**158**	P	P	15 33 42.4	-5.0
WRAB				IAmb	IAmb	15 33 53.6	
	comp=Z,9.5nm,1.1s						
WRA	**Warramunga Arr**	**37.36**	**158**	P	**P**	**15 33 44.7**	**-2.8**
	comp=Z,0.8nm,0.3s,baz=337,slow=7.3,SNR=69						
WRA	**Warramunga Arr**	**37.36**	**158**	P	**P**	**15 33 44.3**	**-3.2**
WB2	**Warramunga Arr**	**37.37**	**158**	P	**P**	**15 33 45.1**	**-2.5**
WB2				IAmb	IAmb	15 33 45.7	
	comp=Z,3.3nm,0.7s						
WR0	**Warramunga Arr**	**37.45**	**158**	P	**P**	**15 33 45.9**	**-2.4**
WR0				IAmb	IAmb	15 33 46.2	
	comp=Z,4.3nm,0.9s						
AS31	**Alice Springs**	**40.66**	**161**	P	**P**	**15 34 12.8**	**-2.2**
ASAR	**Alice Springs**	**40.66**	**161**	P	**P**	**15 34 12.9**	**-2.0**
	comp=Z,1.8nm,0.5s,baz=337,slow=7.0,SNR=103						
ASAR	**Alice Springs**	**40.66**	**161**	P	**P**	**15 34 12.8**	**-2.2**
MK31	**Makanchi Array**	**44.75**	**323**	P	**P**	**15 34 48.6**	**+0.7**
MKAR	**Makanchi Array**	**44.75**	**323**	P	**P**	**15 34 48.7**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=106,slow=8.6,SNR=31						
MKAR				PcP	**PcP**	**15 36 28.1**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=137,slow=3.0,SNR=7.2						
MKAR	**Makanchi Array**	**44.75**	**323**	P	**P**	**15 34 48.5**	**+0.6**
MKAR				PcP	**PcP**	**15 36 28.0**	**-0.5**
MAKZ	**Makanchi**	**44.94**	**323**	P	**P**	**15 34 50.0**	**+0.6**
NIL	**Nilore**	**46.24**	**302**	P	**P**	**15 35 00.4**	**+0.5**
NIL				IAmb	IAmb	15 35 00.9	
	comp=Z,6.7nm,0.7s						
ZAA0	**Zalesovo Array**	**47.73**	**332**	P	**P**	**15 35 10.7**	**-0.3**
ZAA0				IAmb	IAmb	15 35 11.6	
	comp=Z,7.2nm,1.1s						
ZALV	**Zalesovo Beam**	**47.73**	**332**	P	**P**	**15 35 11.1**	**0.0**
	comp=Z,3.3nm,0.4s,baz=129,slow=7.0,SNR=14						
ZALV	**Zalesovo Beam**	**47.73**	**332**	P	**P**	**15 35 10.6**	**-0.4**
PETK	**Petropavlovsk-**	**48.15**	**29**	P	**P**	**15 35 14.0**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=213,slow=5.1,SNR=4.3						
KURBB	**Kurchatov Arra**	**48.89**	**326**	P	**P**	**15 35 20.6**	**+0.6**
	comp=Z,5.7nm,0.7s,baz=120,slow=8.3,SNR=43						
KURBB				PcP	**PcP**	**15 36 41.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=116,slow=3.2,SNR=4.1						
KURK	**Kurchatov**	**48.89**	**326**	P	**P**	**15 35 20.0**	**0.0**
KURK	**Kurchatov**	**48.89**	**326**		**PcP**	**15 36 41.9**	**-1.1**
BVAR	**Borovoye Array**	**54.48**	**325**	P	**P**	**15 36 02.1**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=98,slow=11,SNR=4.4						
GEYT	**Alibeck**	**59.03**	**305**	P	**P**	**15 36 35.1**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=60,slow=6.0,SNR=4.6						
GEYT	**Alibeck**	**59.03**	**305**	IAmb	IAmb	15 36 36.5	
	comp=Z,2.4nm,1.1s						
ARCES	**ARCESS Array B**	**77.75**	**339**	P	**P**	**15 38 30.0**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=84,slow=7.2,SNR=17						
FINES	**FINESS Array B**	**78.97**	**331**	P	**P**	**15 38 36.6**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=49,slow=5.6,SNR=12						
NC405	**NORSAR Array S**	**85.68**	**332**	P	**P**	**15 39 11.3**	**-0.6**
NC303	**NORSAR Array S**	**85.79**	**333**	P	**P**	**15 39 11.5**	**-1.0**
NB2	**NORSAR Subarra**	**85.93**	**333**	P	**P**	**15 39 11.9**	**-1.3**
	comp=Z,2.3nm,0.6s,baz=67,slow=4.8						
NOA	**NORSAR Array B**	**85.93**	**333**	P	**P**	**15 39 12.2**	**-1.0**
	comp=Z,2.6nm,0.6s,baz=68,slow=4.8,SNR=21						

IDC 08 15:33:04.5±2.2, 28°.37N×105°.42E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/32, mbtmp3.4/3, Error ellipse: s-maj=547.7km s-min=29.6km az=54.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**25.81**	**322**	P	P	15 38 37.3	0.0
	0.2nm,0.4s,baz=130,slow=9.2,SNR=2.6						
WRA	**Warramunga Arr**	**55.57**	**147**	P	P	15 42 42.2	+0.2
	0.4nm,0.7s,baz=333,slow=8.1,SNR=7.1						
ASAR	**Alice Springs**	**58.57**	**149**	P	P	15 43 02.8	-0.4
	0.3nm,0.7s,baz=328,slow=7.1,SNR=6.0						

SKHL ***08*** *15:55:45.9±0.4, 44°.11N×150°.07E, h57km±5km, mb4.3/2*
IDC ***08*** *15:55:46.4±3.1, 44°.55N×149°.58E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/27, mbtmp3.5/6, ML1.7/1, Error ellipse: s-maj=81.0km s-min=33.5km az=171.0*
ISC 08 15:55:49.6±1.1, 44°.21N±0°.10×149°.76E±0°.09, h36km, n31, σ1§40/36, mb3.6/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.70**	**308**	*i* P	**Pn**	**15 56 15.9**	**-0.7**
KUR				AMB	AMB	15 56 17.0	
	60nm,0.5s						
KUR				AMB	AMB	15 56 17.0	
	40nm,0.5s						
KUR				AMB	AMB	15 56 17.0	
	150nm,0.5s						
KUR				*i* S	**Sn**	**15 56 38.5**	**+1.4**
KUR				A	A	15 56 40.0	
	190nm,0.6s						
KUR				A	A	15 56 40.0	
	480nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.81**	**268**	*eP*	**Pn**	**15 56 31.5**	**-0.5**
YUK				AMB	AMB	15 56 36.0	
	50nm,0.5s						
YUK				*eS*	**Sn**	**15 57 05.9**	**+1.3**
YUK				A	A	15 57 13.0	
	60nm,0.4s						
YUK				A	A	15 57 13.0	
	150nm,0.4s						
GRPR	**Tuman**	**2.88**	**267**	*eP*	**Pn**	**15 56 32.5**	**-0.4**
GRPR				*eS*	**Sn**	**15 57 07.1**	**+0.8**
GRPR				A	A	15 57 10.0	
	90nm,0.4s						
GRPR				A	A	15 57 10.0	
	80nm,0.4s						
NEM2	**Nemuro 2**	**3.03**	**255**	P	**Pn**	**15 56 34.4**	**-0.5**
NEM2				*eS*	**Sn**	**15 57 07.1**	**-2.8**
NMR	**Nemuro--Hokkai**	**3.04**	**255**	*i* P	**Pn**	**15 56 34.4**	**-0.7**
NMR				*eS*	**Sn**	**15 57 08.1**	**-2.1**
GLVR	**Golovnino**	**3.10**	**263**	*eP*	**Pn**	**15 56 35.8**	**-0.1**
GLVR				*eS*	**Sn**	**15 57 12.6**	**+1.0**
GLVR				A	A	15 57 17.0	
	100nm,0.4s						
GLVR				A	A	15 57 17.0	
	190nm,0.4s						
JRA	**Rausu**	**3.35**	**267**	P	**Pn**	**15 56 40.7**	**+1.3**
JNK	**Nakash**	**3.70**	**262**	P	**Pn**	**15 56 45.9**	**+1.8**
JAK	**Akkeshi**	**3.87**	**254**	P	**Pn**	**15 56 46.4**	**-0.1**
JAR	**Ashorobuto**	**4.44**	**260**	P	**Pn**	**15 56 55.6**	**+1.3**
JAR				*eS*	**Sn**	**15 57 46.4**	**+1.8**
JOB	**Onbets**	**4.50**	**255**	P	**Pn**	**15 56 56.0**	**+0.8**
JOB				*eS*	**Sn**	**15 57 46.5**	**+0.3**
JCH	**Churui**	**4.93**	**253**	P	**Pn**	**15 57 02.2**	**+1.2**
JEM	**Erimo**	**5.31**	**248**	P	**Pn**	**15 57 08.5**	**+2.3**
JEM				*eS*	**Sn**	**15 58 05.5**	**-0.6**
JNBK	**Urakawa-nobuka**	**5.47**	**252**	P	**Pn**	**15 57 09.0**	**+0.5**
JBT2	**Biratori 2**	**5.57**	**258**	P	**Pn**	**15 57 11.0**	**+1.2**
JNB	**Noboribetsu**	**6.59**	**258**	P	**Pn**	**15 57 24.7**	**+0.8**
JNB				*eS*	**Sn**	**15 58 36.8**	**-1.0**
JKB	**Kayabe**	**6.80**	**253**	P	**Pn**	**15 57 27.1**	**+0.3**
JKB				*eS*	**Sn**	**15 58 39.0**	**-3.9**
JOSM	**Okushiri--Mats**	**7.82**	**258**	P	**Pn**	**15 57 41.6**	**+0.9**
PETK	**Petropavlovsk-**	**10.33**	**28**	Pn	**Pn**	**15 58 13.2**	**-1.9**
	0.0nm,0.3s,baz=207,slow=12,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**28.29**	**144**	T	T	16 32 44.1	
	baz=334,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.30**	**144**	T	T	16 32 52.1	
	baz=334,slow=75,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	**28.30**	**144**	T	T	16 32 41.9	
	baz=334,slow=75,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**29.30**	**146**	T	T	16 34 06.4	
	baz=335,slow=76,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**29.31**	**146**	T	T	16 34 05.7	
	baz=335,slow=76,SNR=8.7						
H11S2	**WAKE ISLAND Hy**	**29.32**	**146**	T	T	16 33 55.7	
	baz=335,slow=76,SNR=6.8						
SONM	**Songino Array**	**30.04**	**292**	P	**P**	**16 01 54.4**	**-0.7**
	0.3nm,0.4s,baz=72,slow=8.4,SNR=1.6						
MKAR	**Makanchi Array**	**46.04**	**298**	P	**P**	**16 04 10.1**	**+0.6**
	0.6nm,0.7s,baz=67,slow=7.6,SNR=6.6						
FINES	**FINESS Array B**	**65.31**	**334**	P	**P**	**16 06 27.1**	**-0.3**
	0.9nm,0.5s,baz=37,slow=7.9,SNR=8.4						
NB2	**NORSAR Subarra**	**69.84**	**340**	P	**P**	**16 06 55.9**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.84**	**340**	P	**P**	**16 06 55.9**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=28,slow=6.7,SNR=3.0						
TXAR	**Lajitas Array**	**80.82**	**58**	P	**P**	**16 08 01.9**	**+2.1**
	comp=Z,0.1nm,0.4s,baz=298,slow=4.0,SNR=2.0						

GCG ***08*** *16:00:39.9±0.5, 13°.26N×91°.39W, h35km, MD3.9*
SNET ***08*** *16:00:42.8±1.2, 13°.49N×91°.34W, h30km, ML3.3*
ISC 08 16:00:39.1±3.9, 13°.3N±0°.1×91°.4W±0°.2, h6km±23km, n12, σ0§74/18, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**1.22**	**24**	*eP*	**Pg**	**16 01 02.0**	**-0.5**
FUG				*eS*	**Sg**	**16 01 19.5**

n76, σ0.68/129, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.23**	**122**	P	**Pn**	**16 32 14.7**	**+0.2**
JYNG				*e*S	**Sn**	**16 32 26.2**	**+1.2**
YOJ	**Yonaguni jima**	**0.28**	**114**	P	**Pn**	**16 32 15.0**	**+0.3**
TWB1	**Santiao Chiao**	**0.80**	**303**	*e*P	**Pn**	**16 32 16.9**	**-1.6**
	baz=295						
TWC	**Suao**	**0.80**	**273**	*e*P	**Pn**	**16 32 18.3**	**-0.3**
	baz=264						
ENAH	**Nanao**	**0.85**	**262**	*e*P	**Pn**	**16 32 19.1**	**0.0**
	baz=253						
NTC	**Toucheng**	**0.87**	**289**	*e*P	**Pn**	**16 32 18.6**	**-0.7**
	baz=280						
NTC				*e*S	**Sn**	**16 32 33.4**	**0.0**
	baz=280						
ENA	**Nanau**	**0.91**	**261**	P	**Pn**	**16 32 19.7**	**0.0**
	baz=253						
ENA				*e*S	**Sn**	**16 32 35.2**	**+0.9**
	baz=253						
TIPB	**Shuangxi**	**0.91**	**296**	P	**Pn**	**16 32 19.6**	**-0.1**
	baz=289						
TIPB				*e*S	**Sn**	**16 32 34.1**	**-0.3**
	baz=289						
ILA	**Ilan**	**0.92**	**282**	*e*S	**Sn**	**16 32 35.1**	**+0.8**
	baz=275						
IRIF	**Iriomote-Funau**	**0.94**	**104**	P	**Pn**	**16 32 20.0**	**0.0**
IRIF				*e*S	**Sn**	**16 32 35.2**	**+0.4**
TWE	**Neicheng**	**0.98**	**279**	P	**Pn**	**16 32 20.4**	**0.0**
	baz=273						
TWE				*e*S	**Sn**	**16 32 35.8**	**+0.2**
	baz=273						
NWF	**Wu-fen Shan**	**0.99**	**300**	*e*P	**Pn**	**16 32 20.6**	**-0.1**
	baz=290						
WFSB	**Wu-fen Shan**	**0.99**	**300**	*e*P	**Pn**	**16 32 20.6**	**0.0**
	baz=290						
ENTT	**Nioudou**	**1.06**	**274**	P	**Pn**	**16 32 21.8**	**+0.4**
	baz=268						
ENTT				*e*S	**Sn**	**16 32 38.0**	**+0.8**
	baz=268						
HATJ	**Hateruma jima**	**1.11**	**118**	*e*S	**Sn**	**16 32 38.6**	**+0.6**
NDT	**Datong Townshi**	**1.11**	**272**	P	**Pn**	**16 32 22.2**	**+0.4**
	baz=266						
NDT				*e*S	**Sn**	**16 32 39.1**	**+1.0**
	baz=266						
NACB	**Ninganchiao**	**1.11**	**249**	P	**Pn**	**16 32 21.4**	**-0.5**
	baz=240						
NACB				*e*S	**Sn**	**16 32 38.0**	**-0.1**
	baz=240						
TWA	**Mucha**	**1.12**	**291**	*e*P	**Pn**	**16 32 21.8**	**-0.2**
	baz=281						
TWA				*e*S	**Sn**	**16 32 38.1**	**-0.3**
	baz=281						
NWLT	**Wulai**	**1.14**	**280**	*e*P	**Pn**	**16 32 21.8**	**-0.4**
	baz=283						
NWLT				*e*S	**Sn**	**16 32 38.4**	**-0.3**
	baz=283						
TWD	**Chiawan**	**1.15**	**245**	P	**Pn**	**16 32 22.0**	**-0.3**
	baz=236						
TWD				*e*S	**Sn**	**16 32 39.0**	**+0.1**
	baz=236						
NHDH	**Xindian Distri**	**1.16**	**290**	*e*S	**Sn**	**16 32 38.6**	**-0.6**
	baz=279						
TAP1	**Taipei**	**1.19**	**293**	*e*P	**Pn**	**16 32 21.7**	**-1.1**
	baz=282						
ETLH	**Xiulin Townshi**	**1.20**	**252**	P	**Pn**	**16 32 22.5**	**-0.5**
	baz=249						
ETLH				*e*S	**Sn**	**16 32 39.4**	**-0.6**
	baz=249						
YM01	**YM01**	**1.20**	**299**	P	**Pn**	**16 32 22.6**	**-0.3**
	baz=287						
YM01				*e*S	**Sn**	**16 32 40.0**	**-0.1**
	baz=287						
YM10	**YM10**	**1.21**	**299**	P	**Pn**	**16 32 23.0**	**-0.1**
	baz=288						
YM10				*e*S	**Sn**	**16 32 40.2**	**-0.1**
	baz=288						
JKRS	**Kuro-shima**	**1.21**	**106**	P	**Pn**	**16 32 23.5**	**+0.5**
JKRS				S	**Sn**	**16 32 41.1**	**+0.9**
YM04	**YM04**	**1.23**	**298**	*e*P	**Pn**	**16 32 23.0**	**-0.3**
	baz=287						
YM04				*e*S	**Sn**	**16 32 40.0**	**-0.6**
	baz=287						
NNSB	**Datong**	**1.24**	**264**	P	**Pn**	**16 32 23.2**	**-0.3**
	baz=254						
NNSB				*e*S	**Sn**	**16 32 40.6**	**-0.3**
	baz=254						
NNSH	**Datong**	**1.24**	**264**	P	**Pn**	**16 32 23.2**	**-0.3**
	baz=254						
NNSH				*e*S	**Sn**	**16 32 40.9**	**-0.1**
	baz=254						
YHNB	**Yeheng**	**1.24**	**275**	P	**Pn**	**16 32 23.6**	**+0.1**
	baz=265						
YHNB				S	**Sn**	**16 32 41.1**	**+0.3**
	baz=265						
NNS	**Nan Shan**	**1.25**	**264**	P	**Pn**	**16 32 23.4**	**-0.2**
	baz=255						
NNS				*e*S	**Sn**	**16 32 41.3**	**+0.2**
	baz=255						
NSK	**Sanguang**	**1.25**	**275**	*i* P	**Pn**	**16 32 23.6**	**0.0**
	baz=266						
NSK				S	**Sn**	**16 32 41.4**	**+0.2**
	baz=266						
JIJ	**Ishigaki jima**	**1.30**	**99**	P	**Pn**	**16 32 23.9**	**-0.2**
JIJ				S	**Sn**	**16 32 41.4**	**-0.7**
NTST	**Danshui**	**1.30**	**297**	*e*S	**Sn**	**16 32 41.4**	**-0.7**
	baz=287						
TWS1	**Kuangyinshan**	**1.30**	**294**	*e*P	**Pn**	**16 32 23.6**	**-0.5**
	baz=286						
TWS1				*e*S	**Sn**	**16 32 42.0**	**-0.1**
	baz=286						
FUSS	**Fushou**	**1.40**	**257**	P	**Pn**	**16 32 25.5**	**0.0**
	baz=250						
FUSS				*e*S	**Sn**	**16 32 44.4**	**-0.1**
	baz=250						
WHF	**Hehuan Shan**	**1.40**	**253**	P	**Pn**	**16 32 25.6**	**-0.2**
	baz=249						
WHF				*e*S	**Sn**	**16 32 44.7**	**-0.3**
	baz=249						
ESL	**Shilin**	**1.41**	**238**	P	**Pn**	**16 32 24.8**	**-0.6**
	baz=234						
ESL				*e*S	**Sn**	**16 32 43.3**	**-1.1**
	baz=234						
JISG	**Ishigakijimahi**	**1.44**	**89**	P	**Pn**	**16 32 25.4**	**-0.3**
JISG				S	**Sn**	**16 32 44.3**	**-0.7**
NCUH	**Zhongli**	**1.46**	**286**	*e*S	**Sn**	**16 32 45.8**	**+0.3**
	baz=291						
TDCB	**Techi**	**1.47**	**258**	P	**Pn**	**16 32 26.6**	**+0.3**
	baz=254						
TDCB				*e*S	**Sn**	**16 32 45.8**	**-0.1**
	baz=254						
EGFH	**Guangfu**	**1.49**	**233**	*e*P	**Pn**	**16 32 25.9**	**-0.6**
	baz=230						
EGFH				*e*S	**Sn**	**16 32 46.8**	**+0.5**
	baz=230						
CHGB	**Renai**	**1.51**	**251**	P	**Pn**	**16 32 27.1**	**+0.2**
	baz=241						
CHGB				*e*S	**Sn**	**16 32 46.7**	**-0.3**
	baz=241						
LIOB	**Emei**	**1.56**	**273**	*e*P	**Pn**	**16 32 27.2**	**-0.1**
	baz=270						
LIOB				*e*S	**Sn**	**16 32 47.6**	**-0.3**
	baz=270						
NSTT	**Nanjuang**	**1.58**	**272**	P	**Pn**	**16 32 27.4**	**-0.1**
	baz=269						
NSTT				*e*S	**Sn**	**16 32 48.0**	**-0.1**
	baz=269						
HGSD	**Ruisui**	**1.61**	**228**	*e*P	**Pn**	**16 32 27.5**	**-0.4**
	baz=222						
HGSD				*e*S	**Sn**	**16 32 48.0**	**-0.8**
	baz=222						
WHP	**Taichung City**	**1.65**	**260**	P	**Pn**	**16 32 29.3**	**+0.7**
	baz=256						
WHP				*e*S	**Sn**	**16 32 50.5**	**+0.5**
	baz=256						
VWDT	**VWDT**	**1.67**	**241**	P	**Pn**	**16 32 28.5**	**-0.1**
	baz=234						
VWDT				*e*S	**Sn**	**16 32 49.5**	**-0.5**
	baz=234						
EHY	**Hungye**	**1.67**	**231**	P	**Pn**	**16 32 27.8**	**-0.9**
	baz=227						
EHY				*e*S	**Sn**	**16 32 48.7**	**-1.5**
	baz=227						
YULB	**Yu-li**	**1.76**	**228**	P	**Pn**	**16 32 28.9**	**-0.9**
	baz=231						
YULB				*e*S	**Sn**	**16 32 51.0**	**-1.3**
	baz=231						
NMLH	**Miaoli**	**1.77**	**269**	*e*P	**Pn**	**16 32 30.0**	**+0.1**
	baz=274						
NMLH				*e*S	**Sn**	**16 32 52.0**	**-0.4**
	baz=274						
TWF1	**Yuli**	**1.79**	**227**	P	**Pn**	**16 32 29.7**	**-0.5**
	baz=231						
TWF1				*e*S	**Sn**	**16 32 52.8**	**-0.1**
	baz=231						
JTJ	**Tarama**	**1.79**	**87**	P	**Pn**	**16 32 30.0**	**-0.2**
JTJ				S	**Sn**	**16 32 53.1**	**+0.1**
NSY	**Sanyi**	**1.80**	**265**	*e*P	**Pn**	**16 32 30.6**	**+0.3**
	baz=263						
SSLB	**Suanglung**	**1.80**	**245**	*e*P	**Pn**	**16 32 30.4**	**0.0**
	baz=239						
SSLB				*e*S	**Sn**	**16 32 53.5**	**+0.3**
	baz=239						
SMLT	**Sun Moon Lake**	**1.81**	**248**	*e*P	**Pn**	**16 32 31.1**	**+0.6**
	baz=240						
SMLT				*e*S	**Sn**	**16 32 54.5**	**+1.0**
	baz=240						
TYC	**Yuchr**	**1.84**	**249**	P	**Pn**	**16 32 31.5**	**+0.8**
	baz=241						
TYC				*e*S	**Sn**	**16 32 55.4**	**+1.5**
	baz=241						
PTSB	**Yuanli**	**1.85**	**266**	*e*P	**Pn**	**16 32 31.2**	**+0.2**
	baz=264						
FULB	**Fuli**	**1.90**	**224**	P	**Pn**	**16 32 31.3**	**-0.3**
	baz=216						
FULB				*e*S	**Sn**	**16 32 55.3**	**-0.1**
	baz=216						
WHYT	**Xinyi Township**	**1.93**	**243**	*e*P	**Pn**	**16 32 33.1**	**+1.1**
	baz=239						
CHKT	**Chengkung**	**1.93**	**221**	*e*P	**Pn**	**16 32 31.7**	**-0.2**
	baz=212						
CHKT				*e*S	**Sn**	**16 32 54.5**	**-1.5**
	baz=212						
WJS	**Zhushan**	**1.98**	**248**	*e*P	**Pn**	**16 32 32.8**	**+0.3**
	baz=239						
WJS				*e*S	**Sn**	**16 32 58.5**	**+1.3**
	baz=239						
ALS	**Alishan**	**2.06**	**239**	P	**Pn**	**16 32 34.5**	**+0.6**
	baz=236						
ALS				*e*S	**Sn**	**16 33 00.8**	**+1.3**
	baz=236						
EDH	**Donghe**	**2.06**	**220**	*e*P	**Pn**	**16 32 32.9**	**-0.8**
	baz=211						
EDH				*e*S	**Sn**	**16 32 57.2**	**-1.9**
	baz=211						
ELDTW	**Lidau**	**2.09**	**229**	P	**Pn**	**16 32 33.7**	**-0.4**
	baz=222						
ELDTW				*e*S	**Sn**	**16 32 59.0**	**-1.0**
	baz=222						
CHN5	**Tsauling**	**2.11**	**243**	P	**Pn**	**16 32 35.0**	**+0.5**
	baz=234						
CHN5				*e*S	**Sn**	**16 33 02.7**	**+2.2**
	baz=234						
WDLH	**Douliu**	**2.19**	**247**	*e*P	**Pn**	**16 32 35.9**	**+0.5**
	baz=255						
LDUT	**Ludao**	**2.22**	**212**	*e*S	**Sn**	**16 33 01.4**	**-1.4**
	baz=206						
STYT	**Tauyuan**	**2.29**	**233**	*e*P	**Pn**	**16 32 37.0**	**+0.2**
	baz=226						
TPUB	**Ta-pu**	**2.30**	**237**	*e*P	**Pn**	**16 32 37.7**	**+0.9**
	baz=235						
WTK	**Tuku**	**2.31**	**248**	*e*P	**Pn**	**16 32 37.0**	**0.0**
	baz=246						
WTP	**Ta-pu**	**2.35**	**236**	*e*P	**Pn**	**16 32 38.1**	**+0.6**
	baz=233						
WTP				*e*S	**Sn**	**16 33 07.4**	**+1.5**
	baz=233						
TWK	**Hsinying**	**2.43**	**238**	*e*P	**Pn**	**16 32 38.9**	**+0.3**
	baz=236						
CHN1	**Nanshi**	**2.45**	**236**	*e*P	**Pn**	**16 32 39.5**	**+0.8**
	baz=233						
CHN1				*e*S	**Sn**	**16 33 09.4**	**+1.2**
	baz=233						
SLGT	**Liugui**	**2.48**	**231**	*e*P	**Pn**	**16 32 40.1**	**+1.0**
	baz=229						
MASBT	**Mashibuluo**	**2.74**	**225**	*e*P	**Pn**	**16 32 42.9**	**+0.2**
	baz=223						

IDC ***08*** *16:44:32.9±0.4, 14.°79S×166.°89E, h0km, mb5.0/23, mb1 5.1/24, mb1mx5.0/32, mbtmp5.0/24, ML5.0/1, MS4.5/34, Ms1 4.5/34, ms1mx4.4/41, Error ellipse: s-maj=15.6km s-min=12.6km az=86.0*

MOS ***08*** *16:44:33.3±1.0, 14.°79S×166.°85E, h10km, mb5.5/27, MS4.9/8, Error ellipse: s-maj=9.6km s-min=7.4km az=113.5*

NEIC ***08*** *16:44:39.0±1.9, 14.°88S±0.°07×166.°77E±0.°09, h42km±5km, mb5.3/75, Error ellipse: s-maj=12.7km s-min=8.9km az=62.0*

BJI ***08*** *16:44:39.3±0.0, 14.°60S×167.°01E, h60km, mB5.4/47, mb5.2/68, Ms5.1/30, Ms7 4.7/33*

GCMT ***08*** *16:44:40.0±0.1, 14.°92S±0.°01×166.°65E±0.°01, h29km, MW5.3/125, Moment Tensor Solution. s122,c191; s125,c204; Duration: 1ŝ1 Moment tensor: Scale 10^17 Nm; Mrr0.97±.02; Mθθ-0.07±.01; Mφφ-0.90±.01; Mrθ0.37±.02; Mθφ0.32±.01; Mφr-0.12±.02; Best double couple: Mo1.06300×10^17 NP1:φs357.00000°, δ41.00000°, λ115.00000°. NP2:φs145.00000°, δ54.00000°, λ70.00000°. Principal axes: T 1.0910, Plg73.0000°, Azm2.0000°; N -0.0560, Plg16.0000°, Azm157.0000°; P -1.0350, Plg7.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

KLM ***08*** *16:44:41.0, 14.°54S×167.°21E, h35km, mb5.8*

ISC 08 16:44:40.8±0.2, 14.°90S±0.°04×166.°81E±0.°05, h57km, n409, σ1ŝ48/403, mb5.2/103, MS4.6/58, 21C-7D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.14**	**183**	Pn	**Pn**	**16 46 20.9**	**-1.9**
	26nm,0.3s,baz=338,slow=5.9,SNR=134						
DZM				Sn	**Sn**	**16 47 40.2**	**-2.5**
	baz=136,slow=23,SNR=0.9						
DZM				LR	LR	16 49 00.3	
	comp=Z,10μm,18.4s,baz=355,slow=37						
DZM	**Mont Dzumac**	**7.14**	**183**	*e*Pn	**Pn**	**16 46 20.8**	**-2.0**
	563nm,1.1s						
DZM				*e*Sn	**Sn**	**16 47 38.4**	**-4.2**
	453nm,0.9s						
DZM				*e*LR	LR	16 48 00.7	
	comp=Z,12μm,23.9s						
HNR	**Honiara**	**8.63**	**308**	Pn	**Pn**	**16 46 42.2**	**-0.9**
	44nm,0.3s,baz=170,slow=8.0,SNR=13						
HNR				Sn	**Sn**	**16 48 15.8**	**-3.3**
	14nm,0.3s,baz=151,slow=18,SNR=1.6						
HNR				LR	LR	16 49 48.9	
	comp=Z,6μm,19.0s,baz=152,slow=37						
HNR	**Honiara**	**8.63**	**308**	P	**Pn**	**16 46 42.6**	**-0.5**
HNR						16 48 15.8	
HNR	**Honiara**	**8.63**	**308**	Pn	**Pn**	**16 46 42.6**	**-0.5**
	comp=Z,1μm,21.9s,baz=54,slow=32						
MSVF	**Nonsavu**	**11.16**	**106**	P	**Pn**	**16 47 21.8**	**+4.1**
MSVF	**Nonsavu**	**11.16**	**106**	Pn	**Pn**	**16 47 21.8**	**+4.1**
KRVT	**Keravat (AS076**	**17.96**	**304**	P	**Pn**	**16 48 47.0**	**+0.3**
	1.4nm,0.3s,baz=190,slow=18,SNR=2.1						
KRVT				LR	LR	16 56 18.5	
	comp=Z,3μm,19.3s,baz=134,slow=39						
EIDS	**Eidsvold**	**18.05**	**232**	P	**Pn**	**16 48 48.1**	**+0.4**
	baz=18,SNR=15						
EIDS	**Eidsvold**	**18.05**	**232**	P	**Pn**	**16 48 48.7**	**+1.0**
PMG	**Port Moresby**	**19.96**	**284**	P	**P**	**16 49 09.4**	**+0.9**
	93nm,1.1s,baz=6.6,slow=2.3,SNR=5.1						
PMG	**Port Moresby**	**19.96**	**284**	*i* P	**Pn**	**16 49 10.1**	**-0.5**
PMG				pmax	pmax		
	comp=Z,111nm,1.2s						
RAO	**Raoul Island**	**20.08**	**138**	LR	LR	16 55 15.8	
	comp=Z,1μm,21.9s,baz=54,slow=32						
CTA	**Charters Tower**	**20.26**	**252**	P	**P**	**16 49 12.4**	**+0.6**
	comp=Z,85nm,1.0s,baz=82,slow=13,SNR=24						
CTA				LR	LR	16 56 18.1	
	comp=Z,3μm,20.3s,baz=77,slow=35						
CTAO	**Charters Tower**	**20.26**	**252**	P	**P**	**16 49 11.9**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,107nm,1.0s						
CTAO	**Charters Tower**	**20.26**	**252**	P	**P**	**16 49 11.9**	**+0.1**
CTAO				IAmb	IAmb	16 49 19.9	
	comp=Z,107nm,0.9s						
RMQ	**Roma**	**20.41**	**233**	P	**P**	**16 49 14.5**	**+1.2**
	baz=20,SNR=10						
AFI	**Afiamalu**	**20.77**	**90**	LR	LR	16 55 25.8	
	comp=Z,1μm,20.1s,baz=253,slow=32						
ARMA	**Armidale**	**20.81**	**220**	P	**P**	**16 49 18.7**	**+1.0**
	baz=21,SNR=8.6						
ARMA	**Armidale**	**20.81**	**220**	P	**P**	**16 49 19.1**	**+1.3**
ARMA				IAmb	IAmb	16 49 26.3	
	comp=Z,194nm,1.4s						
OUZ	**Omahuta**	**21.14**	**164**	P	**P**	**16 49 23.7**	**+2.7**
OUZ				IAmb	IAmb	16 49 30.9	
	comp=Z,89nm,0.9s						
MTSU	**Mount Surprise**	**21.80**	**258**	P	**P**	**16 49 29.6**	**+1.3**
	baz=22,SNR=8.3						
COEN	**Coen**	**22.90**	**269**	P	**P**	**16 49 40.3**	**+0.2**
	baz=23,SNR=8.8						
COEN	**Coen**	**22.90**	**269**	P	**P**	**16 49 38.8**	**-1.3**
COEN				IAmb	IAmb	16 49 48.8	
	comp=Z,107nm,1.1s						
MGCD	**Mangrove Creek**	**23.14**	**215**	P	**P**	**16 49 43.9**	**+1.7**
	baz=23,SNR=5.3						
PATS	**Pohnpei**	**23.18**	**338**	P	**P**	**16 49 41.9**	**-0.9**
	baz=23,SNR=8.3						
PATS	**Pohnpei**	**23.18**	**338**	P	**P**	**16 49 41.8**	**-1.0**
QLP	**Quilpie**	**24.05**	**237**	P	**P**	**16 49 51.1**	**+0.3**
	baz=24,SNR=25						
URZ	**Urewera**	**24.99**	**161**	P	**P**	**16 50 00.3**	**+1.0**
	comp=Z,31nm,0.5s,baz=242,slow=1.7,SNR=26						
URZ	**Urewera**	**24.99**	**161**	P	**P**	**16 50 00.5**	**+1.3**
URZ				IAmb	IAmb	16 50 02.6	
	comp=Z,67nm,1.1s						
CMSA	**Cobar Meteorol**	**25.43**	**226**	P	**P**	**16 50 03.6**	**+0.3**
	baz=26,SNR=34						
YNG	**Young**	**25.48**	**217**	P	**P**	**16 50 05.5**	**+1.7**
	baz=26,SNR=6.6						
CNB	**Canberra Magne**	**25.66**	**214**	P	**P**	**16 50 07.3**	**+1.8**
	baz=26,SNR=11						
CAN	**Canberra**	**25.87**	**215**	P	**P**	**16 50 10.1**	**+2.7**
CAN				pmax	pmax		
	comp=Z,45nm,1.1s						
CAN	**Canberra**	**25.87**	**215**	P	**P**	**16 50 10.1**	**+2.7**
QIS	**Mount Isa**	**26.49**	**254**	P	**P**	**16 50 13.3**	**+0.2**
	baz=27,SNR=11						
STKA	**Stephens Creek**	**28.54**	**229**	P	**P**	**16 50 31.3**	**0.0**
	comp=Z,5.8nm,0.4s,baz=55,slow=8.7,SNR=37						
STKA				PcP	**PcP**	**16 53 44.8**	**+3.0**
	comp=Z,5.4nm,0.5s,baz=114,slow=4.6,SNR=7.3						
STKA				LR	LR	17 01 11.7	
	comp=Z,2μm,21.3s,baz=68,slow=35						
STKA	**Stephens Creek**	**28.54**	**229**	P	**P**	**16 50 31.5**	**+0.2**
	baz=29,SNR=21						
STKA	**Stephens Creek**	**28.54**	**229**	P	**P**	**16 50 31.8**	**+0.5**
STKA						16 53 44.8	
STKA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
STKA	**Stephens Creek**	**28.54**	**229**	P	**P**	**16 50 31.8**	**+0.5**
RPZ	**Rata Peaks**	**28.95**	**174**	P	**P**	**16 50 34.9**	**+0.2**
	comp=Z,12nm,0.7s,baz=332,slow=2.7,SNR=8.1						
RPZ				LR	LR	17 00 39.6	
	comp=Z,2μm,21.9s,baz=358,slow=33						
RPZ	**Rata Peaks**	**28.95**	**174**	IAmb	IAmb	16 50 35.9	
	comp=Z,113nm,1.5s						
TOO	**Toolangi**	**29.45**	**216**	P	**P**	**16 50 40.7**	**+1.3**
	baz=30,SNR=4.0						
TOO	**Toolangi**	**29.45**	**216**	P	**P**	**16 50 39.8**	**+0.5**
TOO				pmax	pmax		
	comp=Z,29nm,1.2s						
TOO	**Toolangi**	**29.45**	**216**	P	**P**	**16 50 39.8**	**+0.5**
SMPI	**Sarmi**	**30.55**	**292**	P	**P**	**16 50 50.6**	**+1.4**
	comp=Z,58nm,1.3s						
WR0	**Warramunga Arr**	**31.16**	**256**	P	**P**	**16 50 52.7**	**-2.0**
HTT	**Hallett**	**31.27**	**229**	P	**P**	**16 50 55.4**	**0.0**
	baz=31,SNR=6.3						
WB0	**Warramunga Arr**	**31.29**	**256**	P	**P**	**16 50 54.6**	**-1.2**
WB0				IAmb	IAmb	16 51 02.2	
	comp=Z,112nm,1.4s						
WB2	**Warramunga Arr**	**31.34**	**256**	P	**P**	**16 50 54.8**	**-1.4**
WB2				IAmb	IAmb	16 51 03.5	
	comp=Z,104nm,1.5s						
WRAB	**Tennant Creek**	**31.34**	**256**	*i* P	**P**	**16 51 00.1**	**+3.9**
WRAB				pmax	pmax		
	comp=Z,81nm,1.5s						
WRA	**Warramunga Arr**	**31.35**	**256**	P	**P**	**16 50 55.0**	**-1.3**
	comp=Z,3.0nm,0.5s,baz=82,slow=7.1,SNR=29						
WRA				PcP	**PcP**	**16 53 49.2**	**0.0**
	comp=Z,0.5nm,1.1s,baz=87,slow=3.2,SNR=5.3						
WRA				PKiKP	**PKiKP**	**17 01 18.5**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=9.8,slow=0.4,SNR=9.6						
WRA				LR	LR	17 03 13.5	
	comp=Z,3μm,19.1s,baz=80,slow=36						
WRA	**Warramunga Arr**	**31.35**	**256**	P	**P**	**16 50 54.5**	**-1.8**
AS31	**Alice Springs**	**32.19**	**249**	P	**P**	**16 51 02.9**	**-0.9**
ASAR	**Alice Springs**	**32.19**	**249**	P	**P**	**16 51 02.5**	**-1.3**
	comp=Z,25nm,1.1s,baz=73,slow=9.8,SNR=59						
ASAR				PcP	**PcP**	**16 53 51.6**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=71,slow=2.8,SNR=1.3						
ASAR				ScP	**ScP**	**16 57 35.8**	**+5.3**
	comp=Z,1.8nm,1.2s,baz=91,slow=3.9,SNR=2.8						
ASAR				PKiKP	**PKiKP**	**17 01 20.4**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=99,slow=1.5,SNR=11						
ASAR				LR	LR	17 03 43.1	
	comp=Z,2μm,18.6s,baz=78,slow=36						
ASAR	**Alice Springs**	**32.19**	**249**	P	**P**	**16 51 02.7**	**-1.0**
BBOO	**Buckleboo**	**33.12**	**232**	P	**P**	**16 51 11.9**	**+0.3**
	baz=33,SNR=40						
BBOO	**Buckleboo**	**33.12**	**232**	P	**P**	**16 51 12.0**	**+0.3**
BBOO				IAmb	IAmb	16 51 21.4	
	comp=Z,62nm,1.1s						
KDU	**Kakadu**	**33.40**	**269**	P	**P**	**16 51 15.2**	**+1.0**
	baz=34,SNR=7.4						
MTN	**Manton Dam**	**34.67**	**269**	P	**P**	**16 51 27.3**	**+2.0**
	baz=35,SNR=5.7						
MTN	**Manton Dam**	**34.67**	**269**	P	**P**	**16 51 25.2**	**-0.1**
MTN				IAmb	IAmb	16 51 32.6	
	comp=Z,48nm,1.1s						
KNRA	**Kununurra**	**36.67**	**264**	P	**P**	**16 51 41.7**	**-0.7**
	baz=37,SNR=25						
KNRA	**Kununurra**	**36.67**	**264**	P	**P**	**16 51 41.9**	**-0.5**
WRKA	**Warakurna**	**37.46**	**248**	P	**P**	**16 51 48.1**	**-1.0**
	baz=38,SNR=70						
FORT	**Forrest**	**38.83**	**239**	P	**P**	**16 52 00.7**	**+0.2**
	baz=39,SNR=21						
FORT	**Forrest**	**38.83**	**239**	P	**P**	**16 52 00.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**39.54**	**260**	LR	LR	17 08 14.6	
	comp=Z,2μm,19.2s,baz=98,slow=36						
FITZ	**Fitzroy Crossi**	**39.54**	**260**	P	**P**	**16 52 06.2**	**-0.4**
	baz=40,SNR=45						
FITZ	**Fitzroy Crossi**	**39.54**	**260**	P	**P**	**16 52 06.3**	**-0.4**
NLAI	**Namlea**	**40.80**	**283**	P	**P**	**16 52 17.8**	**+0.7**
	comp=Z,2μmcomp=Z,183nm,1.4s						
SOEI	**Soe**	**41.82**	**272**	P	**P**	**16 52 25.5**	**-0.1**
	comp=Z,2μmcomp=Z,105nm,1.4s						
PAE	**Paea**	**41.89**	**100**	*e*P	**P**	**16 52 25.7**	**-0.2**
PPT2	**Papeete2**	**41.90**	**100**	*e*P	**P**	**16 52 26.2**	**+0.1**
	comp=Z,148nm,1.4s						
PPT2				*e*S	**S**	**16 58 40.2**	**-0.4**
	comp=Z,390nm,27.8s						
PPT2				*e*LQ	LQ	17 02 26.0	
	comp=Z,1μm,27.5s						
PPT2				*e*LR	LR	17 04 10.8	
	comp

baz=46,SNR=44
DAV Davao City (W) 46.34 295 LR LR 17 13 40.7
comp=Z,245nm,18.1s,baz=119,slow=38
KLBR Kellerberrin 47.63 241 P **P** **16 53 11.0 -0.5**
baz=48,SNR=22
NWAO Narrogin (SRO) 48.28 239 P **P** **16 53 16.9 +0.4**
baz=48,SNR=9.3
NWAO Narrogin (SRO) 48.28 239 P P **16 53 16.5 0.0**
NWAO pmax pmax
comp=Z,65nm,1.2s
NWAO Narrogin (SRO) 48.28 239 P **P** **16 53 15.5 -1.0**
NWAO Narrogin (SRO) 48.28 239 P **P** **16 53 16.5 0.0**
NWAO IAmb IAmb 16 53 24.2
comp=Z,66nm,1.2s
MORW Morawa 48.79 244 P **P** **16 53 20.6 +0.1**
baz=49,SNR=10
MUN Mundaring 48.99 240 P **P** **16 53 23.4 +1.4**
baz=49,SNR=4.3
GIRL Giralia 50.16 253 P **P** **16 53 32.5 +1.5**
baz=50,SNR=5.9
TAOE Nuku Hiva Isla 52.16 90 *e*S **S** **17 01 04.7 -2.3**
comp=Z,357nm,29.3s
TAOE *e*LR LR 17 08 55.6
comp=Z,668nm,24.1s
TGY Tagaytay City 53.75 300 LR LR 17 14 53.4
comp=Z,246nm,20.6s,baz=108,slow=34
JHJ Hachijo jima 2 54.28 332 LR LR 17 16 58.1
comp=Z,306nm,19.6s,baz=127,slow=36
SBUM Sibu 56.71 283 P **P** **16 54 18.5 -0.6**
SBUM IAmb IAmb 16 54 30.1
comp=Z,40nm,1.1s
SBUM Sibu 56.71 283 P **P** **16 54 21.0 +1.8**
MJAR Matsushiro Arr 57.85 333 P **P** **16 54 25.7 -1.1**
comp=Z,12nm,0.9s,baz=171,slow=7.2,SNR=23
MJAR LR LR 17 20 29.7
comp=Z,84nm,18.9s,baz=145,slow=37
MJAR Matsushiro Arr 57.85 333 P **P** **16 54 25.2 -1.5**
MAJO Matsushiro 57.85 333 ⇑*i*P **P** **16 54 25.9 -0.9**
MAJO pmax pmax
comp=Z,44nm,1.5s
MAJO Matsushiro 57.85 333 P **P** **16 54 24.8 -1.9**
MAJO IAmb IAmb 16 54 30.3
comp=Z,25nm,1.0s
MAT Matsushiro 57.85 333 P **P** **16 54 26.1 -0.7**
MAT *e*S S 17 02 06.4 -16
MJB9 Matsu-Tunnel 57.85 333 P **P** **16 54 24.8 -2.0**
MJB9 IAmb IAmb 16 54 30.2
comp=Z,26nm,1.0s
KSM Kuching 58.20 281 P **P** **16 54 31.0 +1.3**
JNU Nakatsue 58.80 325 LR LR 17 16 49.4
comp=Z,233nm,21.1s,baz=146,slow=33
JNU Nakatsue 58.80 325 P **P** **16 54 33.5 0.0**
SSLB Suanglung 59.04 310 P **P** **16 54 33.9 -1.4**
SSLB IAmb IAmb 16 54 46.4
comp=Z,16nm,1.0s
ERM Erimo 60.69 340 ⇓*i*P **P** **16 54 47.1 +0.9**
ERM pmax pmax
comp=Z,50nm,1.8s
YUK Yuzh-Kuril'sk 61.69 343 *e*P P 16 54 46.9 -6.0
YUK *e* 16 55 32.1
YUK *e* 16 57 06.7
YUK *e*PPP PPP 16 58 43.0
YUK S **S** **17 03 04.7 -6.5**
VNDA Vanda 62.68 181 P **P** **16 54 59.6 +0.4**
comp=Z,14nm,0.7s,baz=356,slow=8.3,SNR=57
VNDA LR LR 17 20 01.7
comp=Z,229nm,18.2s,baz=349,slow=34
VNDA Vanda 62.68 181 P **P** **16 54 59.8 +0.6**
VNDA pmax pmax
comp=Z,17nm,0.7s
VNDA Vanda 62.68 181 P **P** **16 54 59.8 +0.6**
VNDA IAmb IAmb 16 55 05.3
comp=Z,17nm,0.7s
JKA Kamikawa-asahi 62.75 341 P **P** **16 55 00.8 +0.8**
ASAJ Asahikawa 62.75 341 LR LR 17 18 43.4
comp=Z,663nm,21.2s,baz=178,slow=33
ASAJ Asahikawa 62.75 341 P **P** **16 55 00.8 +0.7**
ASAJ pmax pmax
comp=Z,183nm,1.5s
TJN Taejon 63.15 325 ⇑*i*P **P** **16 55 03.6 +0.7**
CASY Casey 63.20 202 P **P** **16 55 03.0 +0.2**
CASY IAmb IAmb 16 55 17.0
comp=Z,34nm,1.4s
KSRS Korea Array 63.63 326 P **P** **16 55 06.2 +0.3**
comp=Z,12nm,1.1s,baz=140,slow=6.6,SNR=19
KSRS LR LR 17 21 02.8
comp=Z,155nm,20.6s,baz=146,slow=34
KSAR Wonju Array Be 63.64 326 P **P** **16 55 06.1 0.0**
KSAR Wonju Array Be 63.64 326 P **P** **16 55 06.1 0.0**
MYKOM Kota Tinggi 64.44 279 P **P** **16 55 12.0 +0.1**
YSS Yuzh-Sakhalins 65.25 342 *e*P **P** **16 55 17.7 +1.3**
YSS *e*S **S** **17 03 58.3 +2.8**
YSS pmax pmax
comp=Z,80nm,1.1s
YSS smax smax
comp=E,200nm,5.1s
QIZ Qiongzhong 65.43 299 P **P** **16 55 19.0 +0.8**
QIZ pP **pP** **16 55 32.8 -1.1**
QIZ PP **PP** **16 57 42.2 -0.7**
QIZ S **S** **17 03 59.0 +0.2**
QIZ sS **sS** **17 04 25.8 +2.6**
QIZ pmax pmax
comp=E,23nm,1.2s
QIZ pmax pmax
comp=E,180nm,2.8s
QIZ LR LR
comp=E,190nm,6.3s
QIZ LR LR
comp=E,350nm,12.0s
NJ2 Nanjing 65.49 316 *e*P **P** **16 55 19.1 +0.9**
NJ2 pmax pmax
comp=E,24nm,1.2s
TEY Ternei 65.65 337 ⇓*e*P **P** **16 55 16.0 -3.0**
TEY *e* 16 55 17.3
SKR Severo-Kuril's 65.97 353 *e*P **P** **16 55 20.7 -0.2**
SKR *e*S **S** **17 04 09.0 +4.9**
SKR pmax pmax
comp=Z,21nm,1.5s
SKR MLR MLR
comp=Z,200nm,19.0s
SKR MLR MLR
comp=Z,100nm,18.0s
USA0B Ussuriysk Arra 66.83 333*c i*P **P** **16 55 27.3 +0.7**
USRK Ussuriysk Ar. 66.83 333 P **P** **16 55 27.3 +0.7**
comp=Z,27nm,1.0s,baz=148,slow=5.0,SNR=66
USRK LR LR 17 23 27.5
comp=Z,129nm,19.7s,baz=145,slow=35
USRK Ussuriysk Ar. 66.83 333 P **P** **16 55 28.2 +1.6**
USRK Ussuriysk Ar. 66.83 333 P **P** **16 55 28.2 +1.6**
PET Petropavlovsk 68.01 355 P **P** **16 55 32.4 -1.4**
PET pmax pmax
comp=Z,55nm,1.3s
PET Petropavlovsk 68.01 355 P **P** **16 55 32.4 -1.4**
PET IAmb IAmb 16 55 35.0
comp=Z,55nm,1.3s
DL2 Dalian 68.17 323 P **P** **16 55 35.5 +0.4**
DL2 pmax pmax
comp=Z,64nm,1.1s
PEA0B Petropavlovsk- 68.18 354*c i*P **P** **16 55 34.9 -0.1**
PEA0B Petropavlovsk- 68.18 354 P **P** **16 55 35.3 +0.4**
PETK Petropavlovsk- 68.18 354 P **P** **16 55 35.0 0.0**
comp=Z,18nm,0.8s,baz=133,slow=6.3,SNR=34
PETK LR LR 17 20 08.6
comp=Z,287nm,20.7s,baz=175,slow=31
PETK Petropavlovsk- 68.18 354 P **P** **16 55 34.6 -0.3**
MDJ Mudanjiang 68.22 332 P **P** **16 55 36.5 +1.1**
MDJ pmax pmax
comp=Z,54nm,1.1s
MDJ pmax pmax
comp=Z,280nm,3.5s
TYV Tymovskoe 68.81 344 *e*P **P** **16 55 39.4 +0.5**
TYV *e*S **S** **17 04 46.0 +7.7**
TYV pmax pmax
comp=Z,30nm,1.3s
TYV pmax pmax
comp=Z,200nm,5.9s
TYV smax smax
comp=N,500nm,8.2s
TIA Tai'an 69.17 319 P **P** **16 55 41.3 -0.2**
TIA pmax pmax
comp=N,25nm,1.1s
CN2 Changchun 69.56 329 *e*P **P** **16 55 43.9 +0.2**
CN2 pmax pmax
comp=N,30nm,1.1s
GRNR Gornyy 70.60 340 ⇑*i*P **P** **16 55 51.1 +1.2**
GRNR *e*S S 17 05 09.3 +10
GRNR pmax pmax
comp=N,8.0nm,1.2s
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR smax smax
comp=E,1.0nm,0.8s
KLR Kul'dur 70.98 337*c i*P **P** **16 55 52.7 +0.4**
KLR pmax pmax
comp=Z,48nm,1.1s
GYA Guiyang 71.44 305 ⇑P **P** **16 55 56.3 +0.5**
GYA pP pP 16 56 12.6 +0.9
GYA pmax pmax
comp=Z,23nm,1.3s
GYA LR LR
comp=Z,370nm,22.5s
PBKT Sadao Pong 72.11 293 P **P** **16 55 59.0 -0.8**
BJI Beijing 72.12 321 P **P** **16 56 00.0 +0.7**
BJI pmax pmax
comp=Z,29nm,1.2s
BJI LR LR
comp=Z,300nm,6.1s
BJI LR LR
comp=Z,210nm,5.9s
BJI LR LR
comp=Z,200nm,24.6s
TIY Taiyuan 73.08 318 P **P** **16 56 06.7 +1.5**
TIY pmax pmax
comp=Z,100nm,1.2s
XAN Xi'an 73.47 313 P **P** **16 56 08.2 +0.6**
XAN pmax pmax
comp=Z,36nm,1.1s
XAN pmax pmax
comp=Z,270nm,5.9s
XAN LR LR
comp=Z,280nm,15.7s
XAN LR LR
comp=Z,510nm,20.1s
XAN LR LR
comp=Z,770nm,21.0s
KMI Kunming 74.01 302⇑*e*P **P** **16 56 12.7 +1.5**
KMI pmax pmax
comp=Z,49nm,1.4s
CMAR Chiang Mai Arr 74.61 294 P **P** **16 56 15.9 +1.5**
comp=Z,15nm,1.1s,baz=119,slow=4.3,SNR=44
CMAR LR LR 17 31 53.1
comp=Z,83nm,18.2s,baz=164,slow=38
CMAR Chiang Mai Arr 74.61 294 *i* P **P** **16 56 16.0 +1.5**
CMAR pmax pmax
comp=Z,16nm,1.1s
CMAR Chiang Mai Arr 74.61 294 P **P** **16 56 15.1 +0.6**
CHTO Chiang Mai 74.74 295 P **P** **16 56 15.5 +0.2**
CHTO pmax pmax
comp=Z,34nm,1.2s
CHTO Chiang Mai 74.74 295 P **P** **16 56 15.5 +0.2**
CHTO IAmb IAmb 16 56 17.8
comp=Z,34nm,1.2s
QSPA South Pole Qui 75.13 180 P **P** **16 56 17.3 +0.4**
QSPA IAmb IAmb 16 56 21.5
comp=Z,40nm,0.8s
MA2 Magadan 75.35 352 LR LR 17 24 11.4
comp=Z,506nm,22.0s,baz=173,slow=32
MA2 Magadan 75.35 352⇑*i*P **P** **16 56 17.0 -0.8**
MA2 pmax pmax
comp=Z,27nm,1.2s
HHC Hu-ho-hao-te 75.42 320 *e*P **P** **16 56 20.4 +1.5**
HHC pmax pmax
comp=Z,37nm,1.0s
HHC pmax pmax
comp=Z,200nm,7.4s
HHC LR LR
comp=Z,270nm,14.0s
HHC LR LR
comp=Z,190nm,18.1s
HHC LR LR
comp=Z,370nm,15.2s
CD2 Chengdu 75.76 308 *e*P **P** **16 56 21.0 +0.1**
CD2 S **S** **17 05 58.0 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,450nm,17.2s
CD2 LR LR
comp=Z,600nm,18.1s
BTO Baotou 76.26 319 *e*P **P** **16 56 25.4 +1.8**
ZEA Zeya 76.27 337 *e*P **P** **16 56 23.9 +0.7**
ZEA pmax pmax
comp=N,49nm,1.6s
ZEA pmax pmax
comp=Z,88nm,1.8s
ZEA MLR MLR
comp=Z,400nm,15.0s
LZH Lanzhou 78.10 312 *e*P **P** **16 56 36.1 +2.0**
LZH pP pP 16 56 52.2 +1.9
LZH sP sP 16 56 59.4 +2.8
LZH pmax pmax
comp=Z,27nm,1.3s
LZH pmax pmax
comp=Z,110nm,5.4s
LZH LR LR
comp=Z,370nm,14.1s
LZH LR LR
comp=Z,330nm,14.6s
LZH LR LR
comp=Z,370nm,16.8s
CIT Chita 80.99 330 *e*P **P** **16 56 49.6 +0.3**
CIT pmax pmax
comp=Z,83nm,1.8s
MAW Mawson 81.56 202 P **P** **16 56 53.2 +1.1**
comp=Z,3.9nm,0.5s,baz=111,slow=4.7,SNR=9.4
MAW LR LR 17 27 54.2
comp=Z,558nm,21.1s,baz=76,slow=32
MAW Mawson 81.56 202 P **P** **16 56 53.2 +1.1**
baz=82,SNR=5.7
MAW Mawson 81.56 202 P **P** **16 56 51.9 -0.2**
ULN Ulaanbaatar 82.01 324⇑*i*P **P** **16 56 55.2 +0.3**
ULN pmax pmax
comp=Z,34nm,1.3s
ULN Ulaanbaatar 82.01 324 P **P** **16 56 53.8 -1.1**
ULN IAmb IAmb 16 56 56.9
comp=Z,32nm,1.2s
YAK Yakutsk 82.06 343*c i*P **P** **16 56 53.9 -0.7**
YAK *e*S **S** **17 07 04.8 +0.4**
YAK *e* 17 07 13.2
YAK pmax pmax
comp=Z,45nm,1.4s
YAK pmax pmax
comp=N,31nm,1.5s
YAK pmax pmax
comp=E,17nm,1.5s
YAK pmax pmax
comp=N,30nm,2.2s
YAK pmax pmax
comp=Z,40nm,2.8s
YAK pmax pmax
comp=E,39nm,2.0s
YAK smax smax
comp=N,70nm,4.7s
YAK smax smax
comp=E,41nm,3.0s
YAK Yakutsk 82.06 343 P **P** **16 56 54.1 -0.5**
SONM Songino Array 82.37 324 P **P** **16 56 57.0 +0.3**
comp=E,5.2nm,0.7s,baz=136,slow=5.7,SNR=35
SONM Songino Array 82.37 324 P **P** **16 56 55.8 -0.9**
GTA Gaotai 82.46 314 ⇑P **P** **16 56 58.6 +1.1**
GTA pP pP 16 57 13.4 -0.2
GTA sP sP 16 57 20.8 +1.0
GTA pmax pmax
comp=E,38nm,1.4s
GTA pmax pmax
comp=E,200nm,4.8s
GTA LR LR
comp=E,220nm,18.1s
GTA LR LR
comp=E,300nm,20.9s
GTA LR LR
comp=E,400nm,20.0s
BILL Bilibino 82.71 360*c i*P **P** **16 56 57.6 -0.3**
BILL *e* 17 00 11.0
BILL *e*SS SS 17 12 46.0 +11
BILL pmax pmax
comp=Z,64nm,0.7s
BILL Bilibino 82.71 360 P **P** **16 56 58.0 +0.1**
O22K Cooper Landing 82.79 20 P **P** **16 56 59.0 +0.6**
baz=222
TTA Tatalina 82.81 16 P **P** **16 56 58.8 +0.2**
TTA Tatalina 82.81 16 P **P** **16 56 58.8 +0.2**
TEZP TEZPUR 82.84 300 *ex* **P** **16 56 59.6 +0.1**
TEZP IAmb IAmb 16 57 06.3
comp=Z,97nm,1.9s
SHL Shillong 83.25 299 *ex* **P** **16 57 00.3 -1.6**
GUWA GUWAHATI 83.63 299 *ex* **P** **16 57 04.2 +0.6**
GUWA IAmb IAmb 16 57 15.1
comp=Z,16nm,0.8s
GHO Glory Hole Cre 84.01 19 P **P** **16 57 03.8 -1.1**
CUT Chulitna 84.06 19 P **P** **16 57 04.8 -0.2**
baz=222
SML Sawmill 84.23 20 P **P** **16 57 05.8 -0.1**
SML IAmb IAmb 16 57 16.2
comp=Z,41nm,1.2s
BOD Bodaibo 84.44 335 *e*P **P** **16 57 05.8 -1.2**
BOD pmax pmax
comp=Z,27nm,1.6s
BPAW Bear Paw Mtn. 85.12 17 IAmb IAmb 16 57 10.3
comp=Z,24nm,1.2s
M24K Tolsona, Glenn 85.15 20 P **P** **16 57 13.0 +2.4**
baz=225
O02D Mt. Diablo Mer 85.17 46 P **P** **16 57 11.4 +0.2**
baz=246
LSA Lhasa 85.27 302 P **P** **16 57 13.6 +1.2**
LSA pmax pmax
comp=Z,67nm,1.2s
ZAK Zakamensk 85.43 325 *e*P **P** **16 57 11.4 -0.9**
ZAK pmax pmax
comp=Z,20nm,1.4s
MCK McKinley 85.45 18 P **P** **16 57 11.4 -0.6**
MCK pmax pmax
comp=Z,66nm,1.2s
MCK McKinley 85.45 18 P **P** **16 57 11.4 -0.6**
DHY Denali Highway 85.45 19 P **P** **16 57 12.0 -0.2**
DHY IAmb IAmb 16 57 19.6
comp=Z,30nm,1.4s
SCI2 San Clemente I 85.60 54 P **P** **16 57 12.0 -1.4**
baz=249
K02D Willamette Mer 85.60 44 P **P** **16 57 13.1 -0.2**
baz=245
M02C Callahan 85.62 45 P **P** **16 57 12.3 -1.1**
baz=246
BALM Baldy 85.76 22 P **P** **16 57 12.0 -1.7**
BALM IAmb IAmb 16 57 14.3
comp=Z,8.2nm,0.6s
ORV Oroville 85.83 47 P **P** **16 57 13.5 -0.9**
ORV pmax pmax
comp=Z,4.0nm,0.9s
ORV Oroville 85.83 47 P **P** **16 57 13.4 -0.9**
IMAR Indian Mountai 85.84 15 P **P** **16 57 13.7 -0.2**
TLY Talaya 85.88 326 *e*P **P** **16 57 14.2 -0.2**
TLY *e* 17 00 30.5
TLY *e*S **S** **17 07 41.1 -2.2**
TLY pmax pmax
comp=Z,75nm,2.0s
TLY MLR MLR
comp=Z,402nm,16.0s
O03E Paynes Creek 85.91 47 P **P** **16 57 14.2 -0.7**
baz=247
NEA2 Nenana 86.05 18 P **P** **16 57 13.6 -1.3**
baz=223
I02D Swisshome 86.08 43 P **P** **16 57 15.7 +0.3**
baz=245
VES Vestal, Richgr 86.21 52 P **P** **16 57 16.0 -0.3**
baz=249
I03D Drain, OR 86.23 43 P **P** **16 57 16.2 -0.1**
baz=246
WRH Wood River Hil 86.25 18 P **P** **16 57 14.6 -1.3**
L04D Klamath Falls 86.33 45 P **P** **16 57 16.1 -0.9**
baz=246
CCB Clear Creek Bu 86.46 18 IAmb IAmb 16 57 17.6
comp=Z,13nm,0.5s
M04C Macdoel 86.47 45 P **P** **16 57 17.3 -0.4**
baz=247
HDA Harding Lake 86.55 18 P **P** **16 57 16.6 -0.8**
baz=224
MDM Murphy Dome 86.56 18 IAmb IAmb 16 57 18.4
comp=Z,30nm,1.3s
GTK Tadong 86.61 299 *ex* **P** **16 57 18.8 +0.1**
GTK IAmb IAmb 16 57 21.4
comp=Z,85nm,1.5s
ISA Isabella, Lake 86.61 52 P **P** **16 57 18.0 -0.4**
baz=249
COLA College 86.61 18*c i*P **P** **16 57 16.1 -1.5**
COLA pmax pmax
comp=Z,33nm,1.1s
EDW2 Edwards Air Fo 86.70 53 P **P** **16 57 18.6 -0.3**
baz=250
BFSC Mount Baldy Ra 86.73 53 P **P** **16 57 17.9 -1.2**
baz=250
IL31 86.83 18 IAmb IAmb 16 57 21.4
comp=Z,13nm,0.7s
ILAR Eielson Array 86.83 18 P **P** **16 57 17.0 -1.7**
comp=Z,7.2nm,0.7s,baz=234,slow=5.0,SNR=21
ILAR LR LR 17 31 20.9
comp=Z,570nm,20.0s,baz=244,slow=32
ILAR Eielson Array 86.83 18 P **P** **16 57 16.9 -1.8**
I04A Tendick Farm, 86.89 43 P **P** **16 57 18.6 -1.0**
baz=246
DOT Dot Lake 86.92 20 IAmb IAmb 16 57 32.6
comp=Z,30nm,1.4s
LRMC Laurel Mtn Rad 87.15 52 P **P** **16 57 20.3 -0.9**
baz=250
CWC Cottonwood Cre 87.18 51 P **P** **16 57 20.4 -0.9**
baz=249
MONP2 Monument Peak 87.25 55 P **P** **16 57 19.9 -1.9**
baz=250
BCAR Beaver Creek A 87.30 21 P **P** **16 57 21.5 +0.4**
TAPN Taplejung 87.37 299 *e*P **P** **16 57 23.1 +0.5**
H04A Detroit Lake 87.40 42 P **P** **16 57 20.8 -1.3**
J05D Fort Rock, OR 87.47 44 P **P** **16 57 22.0 -0.6**
baz=247
K05A Summer Lake 87.49 45 P **P** **16 57 22.3 -0.4**
ODAN Odare 87.49 298 *e*P **P** **16 57 23.4 +0.3**
comp=Z,46nm,0.6s
MPMC Manual Prospec 87.50 52 P **P** **16 57 22.1 -0.8**
baz=250
COLD Coldfoot 87.71 15 P **P** **16 57 23.8 +0.9**
baz=221
NVAR Mina Array Bea 87.72 49 P **P** **16 57 23.4 -0.6**
comp=Z,1.2nm,0.6s,baz=232,slow=7.0,SNR=11
NVAR LR LR 17 29 00.6
comp=Z,818nm,20.6s,baz=279,slow=30
NVAR Mina Array Bea 87.72 49 P **P** **16 57 22.5 -1.4**
GSC Goldstone, Bar 87.76 53 P **P** **16 57 24.0 0.0**
baz=250
SWSC Sam W. Stewart 87.76 55 P **P** **16 57 23.7 -0.3**
baz=251
NV11 Mina Array Sit 87.83 49 P **P** **16 57 23.2 -1.2**
K27K Chicken 87.83 20 P **P** **16 57 23.7 +0.2**
baz=229
E04D Cinebar 87.91 41 P **P** **16 57 23.7 -0.6**
baz=246
BELC Belle Mtn. Jos 87.95 54 P **P** **16 57 24.4 -0.6**
baz=251
D03D Eldon 87.99 40 P **P** **16 57 24.4 -0.3**
baz=246
FURC Furnace Creek, 88.11 52 P **P** **16 57 25.2 -0.3**
baz=250
G05D Wamic, OR 88.19 42 P **P** **16 57 25.2 -0.6**
baz=247
RAMN Ramite 88.19 298 *e*P **P** **16 57 26.7 +0.3**
comp=Z,17nm,0.6s
BC3 Big Chuckawall 88.26 55 P **P** **16 57 26.2 -0.3**
baz=251
F05D White Salmon 88.35 42 P **P** **16 57 26.4 0.0**
baz=247
SHOC Shoshone, Teco 88.37 52 P **P** **16 57 26.0 -0.8**
baz=250
SYO Syowa Base 88.42 197⇓*e*P **P** **16 57 24.8 -1.6**
SYO Syowa Base 88.42 197⇓*i*PcP **P** **16 57 26.0 -0.4**
SYO Syowa Base 88.42 197⇑*i*pP pP 16 57 39.9 -2.7
TUQ Turquoise Moun 88.48 53 P **P** **16 57 27.1 -0.4**
baz=251
GLA Glamis 88.56 55 P **P** **16 57 27.6 -0.2**
baz=251
EGAK Eagle 88.63 20 P **P** **16 57 26.5 -0.8**
EGAK IAmb IAmb 16 57 36.0
comp=Z,15nm,1.4s
TPNV Topopah Spring 88.74 51 P **P** **16 57 28.4 -0.3**
baz=250
JIRN Jiri 88.75 299 *e*P **P** **16 57 29.7 +0.5**
B05A Bryant 88.90 39 P **P** **16 57 29.0 +0.1**
baz=246
TOLK Toolik Lake Re 88.93 15 P **P** **16 57 29.0 +0.3**
baz=222

I07A	**Izee**	**88.94**	**44**	IAmb	IAmb	16 57 32.9	
	comp=Z,16nm,1.3s						
PKI	**Pulchoki**	**89.38**	**299**	*eP*	**P**	**16 57 32.0**	**-0.2**
PDMCI	**Parker Dam,Lak**	**89.50**	**54**	P	**P**	**16 57 31.5**	**-0.6**
	baz=252						
KKN	**Kakani**	**89.56**	**299**	*eP*	**P**	**16 57 33.0**	**+0.2**
	comp=Z,16nm,0.6s						
DMN	**Daman**	**89.65**	**299**	*eP*	**P**	**16 57 33.6**	**+0.3**
	comp=Z,112nm,1.2s						
R11A	**Troy Canyon, C**	**89.70**	**50**	P	**P**	**16 57 31.9**	**-1.3**
	baz=251						
214A	**Organ Pipe Nat**	**89.84**	**57**	P	**P**	**16 57 33.8**	**-0.1**
	baz=252						
TIXI	**Tiksi**	**90.05**	**349**	⇑ *iP*	**P**	**16 57 32.6**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,16nm,1.3s						
TIXI	**Tiksi**	**90.05**	**349**	P	**P**	**16 57 33.0**	**-0.8**
TIXI				IAmb	IAmb	16 57 37.0	
	comp=Z,17nm,1.3s						
GKN	**Gorkha**	**90.16**	**299**	*eP*	**P**	**16 57 35.2**	**-0.4**
KOLN	**Koldanda**	**90.98**	**298**	*eP*	**P**	**16 57 38.8**	**-0.6**
DANN	**Dangsing**	**91.00**	**299**	*eP*	**P**	**16 57 39.2**	**-0.5**
F10A	**Beach Ranch, E**	**91.12**	**43**	IAmb	IAmb	16 57 42.3	
	comp=Z,5.9nm,0.7s						
PYUN	**Piuthan**	**91.59**	**299**	*eP*	**P**	**16 57 41.2**	**-1.1**
	comp=Z,72nm,1.5s						
TUC	**Tucson**	**91.59**	**57**	P	**P**	**16 57 41.7**	**-0.3**
TUC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TUC	**Tucson**	**91.59**	**57**	P	**P**	**16 57 41.7**	**-0.3**
WUAZ	**Wupatki**	**92.04**	**54**	P	**P**	**16 57 43.6**	**-0.6**
	baz=253						
HLID	**Hailey**	**92.22**	**46**	P	**P**	**16 57 44.7**	**-0.1**
	baz=252						
WMQ	**Urumqi**	**92.53**	**315**	*eP*	**P**	**16 57 46.6**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,19nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,51nm,3.7s						
WMQ				LR	LR		
	comp=Z,390nm,29.2s						
WMQ				LR	LR		
	comp=Z,680nm,28.9s						
WMQ				LR	LR		
	comp=Z,230nm,23.1s						
NVL	**N'lazarevskaya**	**92.82**	**188**	*eP*	**P**	**16 57 45.6**	**-1.3**
NVL				*eS*	**SKSac**	**17 08 16.1**	**+0.5**
NVL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SNAA	**Sanae**	**93.36**	**183**	P	**P**	**16 57 48.5**	**-0.9**
SNAA	**Sanae**	**93.36**	**183**	P	**P**	**16 57 48.7**	**-0.7**
SNAA				pmax	pmax		
	comp=Z,29nm,1.4s						
SNAA	**Sanae**	**93.36**	**183**	P	**P**	**16 57 48.7**	**-0.7**
VNA3	**Neumayer Olymp**	**94.04**	**181**	P	**P**	**16 57 51.6**	**-0.9**
VNA2	**Neumayer--Watz**	**94.30**	**182**	P	**P**	**16 57 52.9**	**-0.8**
	baz=187,slow=3.7						
DGZ	**Jazzator, Alta**	**94.51**	**320**	⇑ *iP*	**P**	**16 57 54.8**	**-0.4**
DGZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VNA1	**Neumayer--Stat**	**94.60**	**182**	P	**P**	**16 57 54.0**	**-1.1**
PDAR	**Pinedale Array**	**95.39**	**47**	P	**P**	**16 57 58.5**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=251,slow=6.0,SNR=5.1						
PDAR				LR	LR	17 33 00.6	
	comp=Z,248nm,21.7s,baz=281,slow=30						
TXAR	**Lajitas Array**	**96.75**	**62**	PKKPbc	PKKPbc	17 14 52.8	+4.0
	comp=Z,0.1nm,0.5s,baz=97,slow=4.2,SNR=3.6						
TXAR				LR	LR	17 36 44.7	
	comp=Z,139nm,18.9s,baz=0.0,slow=32						
MK31	**Makanchi Array**	**97.02**	**316**	P	Pdif	16 58 06.7	+0.1
MK31				pmax	pmax		
	comp=Z,12nm,1.3s						
MK31	**Makanchi Array**	**97.02**	**316**	P	Pdif	16 58 06.7	+0.1
MK31				IAmb	IAmb	16 58 07.9	
	comp=Z,12nm,1.2s						
MKAR	**Makanchi Array**	**97.02**	**316**	P	**P**	**16 58 06.3**	**-0.2**
	comp=Z,4.8nm,0.7s,baz=88,slow=6.3,SNR=28						
MKAR				PKKPbc	**PKKPbc**	**17 14 45.4**	**-3.3**
	comp=Z,0.5nm,0.5s,baz=264,slow=3.2,SNR=7.9						
MKAR				LR	LR	17 44 43.4	
	comp=Z,91nm,18.5s,baz=90,slow=37						
MKAR	**Makanchi Array**	**97.02**	**316**	*i* P	Pdif	16 58 06.9	+0.3
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR	**Makanchi Array**	**97.02**	**316**	P	Pdif	16 58 06.8	+0.2
ZAA0	**Zalesovo Array**	**97.26**	**324**	IAmb	IAmb	16 58 07.5	
	comp=Z,21nm,1.4s						
ZALV	**Zalesovo Beam**	**97.26**	**324**	P	**P**	**16 58 05.6**	**-1.8**
	comp=Z,3.8nm,0.8s,baz=108,slow=4.8,SNR=14						
ZALV				LR	LR	17 41 29.6	
	comp=Z,188nm,21.0s,baz=94,slow=35						
ZALV	**Zalesovo Beam**	**97.26**	**324**	*i* P	**P**	**16 58 06.1**	**-1.3**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YKA	**Yellowknife Ar**	**97.90**	**27**	P	**P**	**16 58 08.1**	**-1.9**
	comp=Z,2.7nm,0.8s,baz=259,slow=5.1,SNR=5.5						
YKA				LR	LR	17 35 00.1	
	comp=Z,148nm,21.7s,baz=0.0,slow=31						
KSH	**Kashi**	**99.95**	**308**	*eP*	**Pdif**	**16 58 22.1**	**+2.1**
NRIK	**Noril'sk**	**100.07**	**339**	P	**Pdif**	**16 58 18.7**	**-0.9**
	comp=Z,6.2nm,1.1s,baz=105,slow=2.6,SNR=7.8						
NRIK				LR	LR	17 41 24.5	
	comp=Z,205nm,22.0s,baz=82,slow=34						
KURK	**Kurchatov**	**100.24**	**320**	P	**Pdif**	**16 58 20.0**	**-0.8**
KURBB	**Kurchatov Arra**	**100.28**	**320**	P	**Pdif**	**16 58 20.0**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=110,slow=3.0,SNR=5.1						
KURBB				PKKPbc	**PKKPbc**	**17 14 37.2**	**-2.4**
	comp=Z,0.7nm,0.4s,baz=285,slow=3.4,SNR=7.4						
BVAR	**Borovoye Array**	**105.60**	**321**	PKKPbc	PKKPbc	17 14 22.0	-1.8
	comp=Z,0.4nm,0.5s,baz=180,slow=0.1,SNR=3.6						
ARU	**Arti**	**112.37**	**325**	*i* PKIKP	**PKiKP**	**17 03 10.2**	**+0.1**
ARU						17 03 54.5	
ARU						17 10 21.7	
ARU				SS	SS	17 19 28.7	-3.4
PRGR	**Permogore**	**117.61**	**333**	*e*PKIKP	**PKPdf**	**17 03 19.5**	**-0.5**
PRGR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
HAMF	**Hammerfest**	**119.92**	**347**	*e*PKPdf	**PKiKP**	**17 03 24.9**	**+0.6**
ARCES	**ARCESS Array B**	**120.30**	**345**	PKP	**PKPdf**	**17 03 24.6**	**-0.5**
	comp=Z,8.0nm,0.4s,baz=83,slow=2.1,SNR=129						
ARCES				PKKPbc	**PKKPab**	**17 13 31.3**	**-1.6**
	comp=Z,1.3nm,0.7s,baz=218,slow=3.4,SNR=6.5						
ARCES	**ARCESS Array B**	**120.30**	**345**	PKIKP	**PKPdf**	**17 03 24.8**	**-0.2**
ARCES	**ARCESS Array B**	**120.30**	**345**		**PKPdf**	**17 03 24.8**	**-0.2**
ARE0	**ARCESS Array S**	**120.30**	**345**	*e*PKPdf	**PKPdf**	**17 03 24.3**	**-0.7**
KLMR	**Klimovskoe**	**120.63**	**333**	*e*PKIKP	**PKPdf**	**17 03 24.3**	**-1.6**
KLMR				pmax	pmax		
	comp=Z,19nm,1.2s						
KLMR	**Klimovskoe**	**120.63**	**333**	*e*PKPdf	**PKPdf**	**17 03 24.4**	**-1.5**
KLMR				AMP		17 03 29.3	
	comp=Z,19nm,1.2s						
CPUP	**Villa Florida**	**120.66**	**133**	PKP	**PKPdf**	**17 03 25.9**	**-1.2**
	comp=Z,2.8nm,0.8s,baz=321,slow=2.4,SNR=6.0						
CPUP	**Villa Florida**	**120.66**	**133**	PKIKP	**PKPdf**	**17 03 26.0**	**-1.1**
CPUP	**Villa Florida**	**120.66**	**133**		**PKPdf**	**17 03 26.0**	**-1.1**
AKT	**Akhty**	**121.44**	**310**	*e*PKIKP	**PKiKP**	**17 03 28.9**	**+0.5**
AKT				*e*		17 05 01.5	
AKT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TRO	**Tromso**	**121.73**	**347**	*e*PKPdf	**PKPdf**	**17 03 27.5**	**-0.2**
SCHQ	**Schefferville**	**122.69**	**34**	PKP	**PKPdf**	**17 03 28.0**	**-2.0**
	comp=Z,3.7nm,0.8s,baz=36,slow=4.8,SNR=3.7						
SCHQ	**Schefferville**	**122.69**	**34**		**PKPdf**	**17 03 29.4**	**-0.6**
BOSA	**Boshof**	**122.95**	**221**	PKP	**PKPdf**	**17 03 31.0**	**-0.6**
	comp=Z,3.2nm,0.7s,baz=148,slow=0.7,SNR=8.7						
BOSA	**Boshof**	**122.95**	**221**	PKIKP	**PKiKP**	**17 03 31.8**	**0.0**
BOSA	**Boshof**	**122.95**	**221**		**PKiKP**	**17 03 31.8**	**0.0**
STEI	**Steigen**	**123.91**	**347**	*e*PKPdf	**PKiKP**	**17 03 32.4**	**+0.1**
FAUS	**Fauske**	**124.35**	**347**	*e*PKPdf	**PKPdf**	**17 03 32.9**	**+0.1**
KBZ	**Khabaz**	**124.54**	**313**	PKP	**PKiKP**	**17 03 34.5**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=151,slow=5.2,SNR=3.9						
KBZ	**Khabaz**	**124.54**	**313**	⇑ *i*PKIKP	**PKiKP**	**17 03 34.6**	**+0.4**
OBN	**Obninsk**	**124.61**	**328**	⇓ *i*PKIKP	**PKPdf**	**17 03 33.7**	**+0.1**
OBN				*e*		17 05 19.4	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.7s						
KIV	**Kislovodsk**	**124.64**	**313**	*i* PKIKP	**PKiKP**	**17 03 34.4**	**-0.2**
KIV				pmax	pmax		
	comp=Z,30nm,1.0s						
KIV				MLR	MLR		
	comp=Z,281nm,23.0s						
LBTB	**Lobatse**	**125.19**	**224**	PKIKP	**PKPdf**	**17 03 35.7**	**-0.2**
LBTB	**Lobatse**	**125.19**	**224**		**PKPdf**	**17 03 35.7**	**-0.2**
FINES	**FINESS Array B**	**125.71**	**338**	PKP	**PKPdf**	**17 03 35.3**	**-0.3**
	comp=Z,2.7nm,0.4s,baz=47,slow=2.4,SNR=24						
FINES	**FINESS Array B**	**125.71**	**338**	PKIKP	**PKPdf**	**17 03 35.4**	**-0.2**
KMBO	**Kilima Mbogo**	**127.63**	**257**	PKP	**PKiKP**	**17 03 42.8**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=45,slow=2.5,SNR=5.2						
NC303	**NORSAR Array S**	**130.47**	**345**		**PKiKP**	**17 03 45.3**	**-0.3**
AKASG	**Malin Array Be**	**130.62**	**326**	PKP	**PKPdf**	**17 03 44.8**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=47,slow=2.7,SNR=14						
AKBB	**Malin Array Si**	**130.62**	**326**	⇓ *i*PKIKP	**PKPdf**	**17 03 45.3**	**0.0**
NB2	**NORSAR Subarra**	**130.67**	**345**	PKPdf	**PKPdf**	**17 03 45.3**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=31,slow=1.9						
NB2	**NORSAR Subarra**	**130.67**	**345**	PKPdf	**PKPdf**	**17 03 45.3**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**130.67**	**345**	PKP	**PKPdf**	**17 03 45.0**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=32,slow=2.0,SNR=11						
NOA				SKPbc	**SKiKP**	**17 07 13.6**	**-3.7**
	comp=Z,7.5nm,0.9s,baz=31,slow=3.0,SNR=20						
NC602	**NORSAR Array S**	**130.84**	**344**	*e*PKPdf	**PKPdf**	**17 03 45.8**	**+0.3**
BRTR	**Keskin Array B**	**132.28**	**311**	PKP	**PKPdf**	**17 03 49.5**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=132,slow=1.8,SNR=5.7						
BDFB	**Brasilia**	**134.12**	**130**	PKP	**PKPdf**	**17 03 53.2**	**+0.1**
	comp=Z,6.6nm,0.6s,baz=296,slow=2.7,SNR=7.2						
BDFB	**Brasilia**	**134.12**	**130**		**PKPdf**	**17 03 52.9**	**-0.2**
KOLS	**Kolonicke sedl**	**135.34**	**327**	*e*PKIKP	**PKiKP**	**17 03 55.7**	**-0.1**
KOLS	**Kolonicke sedl**	**135.34**	**327**	*e*PKP	**PKiKP**	**17 03 55.7**	**-0.1**
MORC	**Moravsky Berou**	**137.16**	**331**	*e*PKP	**PKPdf**	**17 03 57.7**	**0.0**
CHVC	**Chvalec**	**137.27**	**333**	AMS	AMS	18 03 40.0	
	comp=Z,200nm,20.7s						
KRLC	**Kraliky**	**137.31**	**332**	*e*PKIKP	**PKiKP**	**17 04 00.0**	**+0.2**
KRLC				MLR	MLR		
	comp=Z,300nm,24.0s						
KRLC	**Kraliky**	**137.31**	**332**	*e*PKPDF	**PKiKP**	**17 04 00.0**	**+0.2**
KRLC				AMS	AMS	18 04 00.0	
	comp=Z,300nm,24.0s						
DPC	**Dobruska-Polom**	**137.32**	**332**	*e*PKIKP	**PKiKP**	**17 04 00.6**	**+0.7**
DPC				MLR	MLR		
	comp=Z,300nm,20.7s						
DPC	**Dobruska-Polom**	**137.32**	**332**	*e*PKPDF	**PKiKP**	**17 04 00.6**	**+0.7**
DPC				AMS	AMS	18 03 40.0	
	comp=Z,300nm,20.7s						
UPC	**Upice**	**137.35**	**333**	AMS	AMS	18 04 10.0	
	comp=Z,300nm,23.3s						
VYHS	**Vyhne**	**137.39**	**329**	*e*PKIKP	**PKPdf**	**17 03 58.9**	**+0.8**
VYHS	**Vyhne**	**137.39**	**329**	*e*PKP	**PKPdf**	**17 03 58.9**	**+0.8**
JAVC	**Velka Javorina**	**137.73**	**330**	*e*PKP	**PKPdf**	**17 03 59.6**	**+0.8**
VRAC	**Vranov**	**137.93**	**331**	*e*PKP	**PKPdf**	**17 03 58.0**	**-1.1**
PVCC	**Panska Ves**	**137.96**	**334**	AMS	AMS	18 09 20.0	
	comp=Z,200nm,18.2s						
BRG	**Berggiesshubel**	**137.97**	**334**	*e*PKP	**PKPdf**	**17 03 59.0**	**-0.1**
	comp=Z,14nm,1.4s						
CLL	**Collm**	**138.02**	**336**	⇓ *i*PKPdf	**PKPdf**	**17 03 58.4**	**-0.7**
CLL				*i* PKiKP	**PKiKP**	**17 04 00.3**	**-0.9**
	comp=Z,15nm,1.6s						
CLL				*i*		17 04 03.6	
CLL				*e*PP	**PP**	**17 06 45.0**	**-2.2**
CLL				*e*(PKSdf)		17 07 34.0	
CLL				*e*PPS	PPS	17 19 00.0	
CLL				*e*SS	SS	17 24 54.0	+0.7
CLL				*e*(SSS)		17 30 36.0	
CLL				Lm	MLR	18 06 00.0	
	comp=N,200nm,21.1s						
CLL				Lm	MLR	18 06 00.0	
	comp=E,100nm,21.2s						
CLL				Lm	MLR	18 06 00.0	
	comp=Z,300nm,21.5s						
CLL	**Collm**	**138.02**	**336**	⇓ *i*PKIKP	**PKPdf**	**17 03 58.4**	**-0.7**
CLL				*i*		17 04 00.3	
CLL				*i*		17 04 03.6	
CLL				pmax	pmax		
	comp=Z,15nm,1.6s						
CLL				MLR	MLR		
	comp=Z,300nm,21.5s						
KRUC	**Moravsky**	**138.20**	**331**	*e*PKP	**PKPdf**	**17 03 59.3**	**-0.3**
MODS	**Modra-Piesok**	**138.25**	**329**	*e*PKIKP	**PKiKP**	**17 04 01.2**	**-0.6**
MODS	**Modra-Piesok**	**138.25**	**329**	*e*PKP	**PKiKP**	**17 04 01.2**	**-0.6**
VTS	**Vitosha**	**138.29**	**319**	PKIKP	**PKPdf**	**17 03 59.5**	**-0.6**
VTS	**Vitosha**	**138.29**	**319**	PKPdf	**PKPdf**	**17 03 59.5**	**-0.6**
PRA	**Prague**	**138.36**	**333**	AMS	AMS	18 08 10.0	
	comp=Z,100nm,22.9s						
PRU	**Pruhonice**	**138.37**	**333**	*e*PKIKP	**PKiKP**	**17 04 02.1**	**+0.2**
PRU				MLR	MLR		
	comp=Z,300nm,21.0s						
PRU	**Pruhonice**	**138.37**	**333**	*e*PKPDF	**PKiKP**	**17 04 02.1**	**+0.2**
PRU				AMS	AMS	18 08 00.0	
	comp=Z,300nm,21.0s						
TREC	**Trest**	**138.45**	**332**	AMS	AMS	18 05 10.0	
	comp=Z,300nm,22.4s						
NKC	**Novy Kostel**	**139.08**	**335**	AMS	AMS	18 11 20.0	
	comp=Z,300nm,18.8s						
CONA	**Conrad Observa**	**139.24**	**330**	*e*PKPdf	**PKPdf**	**17 03 56.4**	**-5.2**
	comp=Z,11nm,1.0s						
KHC	**Kasperske Hory**	**139.43**	**333**	*e*PKIKP	**PKiKP**	**17 04 04.0**	**-0.2**
KHC				*e*		17 06 56.0	
KHC				MLR	MLR		
	comp=Z,300nm,19.0s						
KHC	**Kasperske Hory**	**139.43**	**333**	*e*PKPDF	**PKiKP**	**17 04 04.0**	**-0.2**
KHC				*ex*	x	17 06 56.0	
KHC				AMS	AMS	18 03 30.0	
	comp=Z,300nm,19.0s						
GERES	**GERESS Array B**	**139.59**	**333**	PKhKP	PKPpre	17 03 56.1	
	comp=Z,0.7nm,0.4s,baz=28,slow=3.2,SNR=5.9						
SOKA	**Soath**	**140.52**	**329**	*e*PKPdf	**PKPdf**	**17 03 58.2**	**-5.7**
	comp=Z,12nm,1.5s						
OBKA	**Obir**	**140.87**	**329**	*e*PKPdf	**PKPdf**	**17 04 00.2**	**-4.5**
	comp=Z,4.0nm,1.5s						
KBA	**Koelnbreinsper**	**141.05**	**331**	*e*PKPdf	**PKPdf**	**17 04 01.1**	**-3.9**
	comp=Z,5.4nm,1.1s						
ABTA	**Abfaltersbach**	**141.68**	**331**	*e*PKPdf	**PKPdf**	**17 04 00.5**	**-5.5**
	comp=Z,18nm,1.5s						
WTTA	**Wattenberg**	**141.69**	**333**	*e*PKPdf	**PKPdf**	**17 04 01.6**	**-4.6**
	comp=Z,14nm,1.1s						
MOTA	**Moosalm**	**141.87**	**333**	*e*PKPdf	**PKPdf**	**17 04 02.0**	**-4.4**
	comp=Z,24nm,1.5s						
RETA	**Reutte**	**141.90**	**333**	*e*PKPdf	**PKPdf**	**17 04 02.4**	**-4.0**
	comp=Z,12nm,1.3s						
SQTA	**Sankt Quirin**	**141.91**	**333**	*i* PKPdf	**PKPdf**	**17 04 03.6**	**-2.9**
	comp=Z,13nm,1.3s						
FETA	**Feichten**	**142.28**	**333**	*e*PKPdf	**PKPdf**	**17 04 03.4**	**-3.8**
	comp=Z,6.9nm,0.6s,SNR=8.3						
DAVA	**Damuels**	**142.44**	**334**	*e*PKPdf	**PKPdf**	**17 04 03.2**	**-4.3**
	comp=Z,13nm,1.6s						
CASP	**Castiglione de**	**145.37**	**328**		**PKPbc**	**17 04 12.4**	**-0.1**
BNI	**Bardonecchia**	**145.56**	**335**	PKIKP	**PKPab**	**17 04 14.2**	**+0.7**
BNI	**Bardonecchia**	**145.56**	**335**	PKPdf	**PKPab**	**17 04 14.2**	**+0.7**
SSB	**Saint Sauveur**	**146.21**	**337**	PKP2	**PKPab**	**17 04 16.0**	**+0.2**
SSB	**Saint Sauveur**	**146.21**	**337**	PKPdf	**PKPab**	**17 04 16.0**	**+0.2**
KEST	**Kesra**	**151.05**	**320**	PKPbc	**PKiKP**	**17 04 28.6**	**+0.1**
	comp=Z,36nm,0.9s,baz=282,slow=0.8,SNR=26						
KEST	**Kesra**	**151.05**	**320**		**PKiKP**	**17 04 28.9**	**+0.3**
PBRG	**Braganca**	**152.61**	**349**	*e*PKPdf	**PKPbc**	**17 04 31.3**	**0.0**
PGAV	**Gavieira, Arco**	**152.69**	**352**	*e*PKPdf	**PKPbc**	**17 04 31.5**	**-0.1**
MVO	**Moncorvo**	**153.29**	**351**	*e*PKPdf	**PKPbc**	**17 04 32.9**	**0.0**
PVIS	**Viseu**	**153.87**	**351**	*e*PKPab	**PKPab**	**17 04 39.3**	**+5.1**
ESDC	**Sonseca Array**	**154.02**	**344**	PKPbc	**PKiKP**	**17 04 34.7**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=20,slow=2.5,SNR=10						
ESDC				SKPbc		17 08 19.7	
	comp=Z,0.2nm,0.5s,baz=19,slow=38,SNR=3.6						
MTE	**Manteigas**	**154.12**	**350**	*e*PKPdf	**PKPdf**	**17 04 29.4**	**+2.9**
MTE	**Manteigas**	**154.12**	**350**	*e*PKPab	**PKPab**	**17 04 48.9**	**+0.6**
PCAS	**Casmilo, Conde**	**154.60**	**352**	*e*PKPab	**PKPab**	**17 04 51.6**	**+1.3**
PMRV	**Marv??o**	**155.04**	**349**	*e*PKPab	**PKPab**	**17 04 50.1**	**-2.1**
PMTG	**Montargil**	**155.53**	**351**	*e*PKPab	**PKPab**	**17 04 53.9**	**-0.3**
EVO	**Evora**	**156.02**	**350**	*e*PKPab	**PKPab**	**17 04 56.5**	**+0.1**
PBEJ	**Beja**	**156.49**	**349**	*e*PKPab	**PKPab**	**17 04 59.4**	**+1.0**
PNCL	**Nicolau / Gran**	**156.51**	**351**	*e*PKPab	**PKPab**	**17 05 00.9**	**+2.4**
PCVE	**Castro Verde**	**156.90**	**350**	*e*PKPab	**PKPab**	**17 05 01.1**	**+0.9**
PVAQ	**Vaqueiros**	**157.06**	**349**	*e*PKPab	**PKPab**	**17 05 01.3**	**+0.4**
PTEO	**Sao Teotonio**	**157.10**	**351**	*e*PKPab	**PKPab**	**17 05 02.6**	**+1.6**
MORF	**Marmelete**	**157.32**	**351**	*e*PKPab	**PKPab**	**17 05 02.3**	**+0.2**
DBIC	**Dimbokro**	**168.43**	**226**	PKP	**PKPdf**	**17 04 41.5**	**-0.7**
	comp=Z,6.2nm,1.0s,baz=129,slow=4.0,SNR=4.8						

*NCEDC **08** 16:48:23.8±1.4,35°.94N×0°.02×120°.49W±0°.05,h11km±4km, Mwr3.4/5,Error ellipse: s-maj=6.4km s-min=2.6km az=66.0*

*NEIC **08** 16:48:23.8±1.7,35°.93N±0°.03×120°.50W±0°.03,h17km±2km, Error ellipse: s-maj=4.2km s-min=3.7km az=49.0*

*NEIC **08** 16:48:23.8,35°.94N×120°.49W,h14km,Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=0.12; Mθθ=1.71; Mφφ 1.83; Mrθ=0.20; Mrφ0.34; Mθφ0.06; Fault plane solution: M=1.82000×10^14^ NP1:φs50.21000°, δ84.08000°,λ-4.25000°. NP2:φs140.65000°,δ85.77000°, λ-174.07000°. Principal axes: T 1.8643, Plg1.0000°, Azm275.0000°; N -0.0909, Plg83.0000°, Azm176.0000°; P -1.7734, Plg7.0000°, Azm6.0000°;*

*ANF **08** 16:48:24.7±0.6,35°.90N×120°.35W,h9km±3km, ML3.3/29*
Error ellipse: s-maj=4.6km s-min=2.8km az=103.0
ISC 08 16:48:23.3±0.9,**35°.95N**±0°.02×**120°.50W**±0°.02,**h17**km±5km, **n217**,σ0**93**/233,**Central California**.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSTM	**Stockdale Moun**	**0.02**	**197**		**Pg**	**16 48 26.0**	**-0.4**
PKD	**Bear Valley Ra**	**0.03**	**264**		**Pg**	**16 48 27.5**	**+1.1**
PVCM	**Vineyard Canyo**	**0.04**	**227**		**Pg**	**16 48 26.1**	**-0.3**
PHPM	**Hope Ranch**	**0.09**	**290**		**Pg**	**16 48 26.7**	**-0.1**
PHFM	**Heflinger Ranc**	**0.10**	**130**		**Pb**	**16 48 26.8**	**-0.1**
PPO	**Portuguese Can**	**0.12**	**229**		**Pg**	**16 48 27.5**	**+0.3**
CTM	**Castle Mountai**	**0.13**	**97**		**Pb**	**16 48 27.9**	**+0.5**
PHAM	**Harlan Ranch**	**0.14**	**144**		**Pb**	**16 48 27.4**	**-0.1**
PSMM	**Smith Mountain**	**0.14**	**328**		**Pb**	**16 48 28.1**	**+0.5**
PCMM	**Cholame Hills**	**0.16**	**153**		**Pb**	**16 48 27.8**	**0.0**
GHC	**Gold Hill**	**0.17**	**134**		**Pb**	**16 48 27.6**	**-0.3**
PSRM	**Scobie Ranch**	**0.20**	**117**		**Pb**	**16 48 28.4**	**-0.1**
PKLM	**Kerr Lake**	**0.22**	**143**		**Pb**	**16 48 28.7**	**-0.1**
PSNM	**Stone Corral**	**0.23**	**134**		**Pb**	**16 48 28.7**	**-0.3**
PMRM	**Maxey Ranch**	**0.27**	**127**		**Pb**	**16 48 29.4**	**-0.2**
TCHL	**Shandon**	**0.27**	**163**		**Pb**	**16 48 29.9**	**+0.2**
TCHL					**Sb**	**16 48 34.7**	**+0.6**
PAGB	**Antelope Grade**	**0.30**	**137**		**Pb**	**16 48 29.9**	**-0.2**
PAGB					**Sb**	**16 48 35.2**	**+0.4**
THIS	**South End of C**	**0.32**	**135**		**Pb**	**16 48 30.3**	**-0.1**
THIS					**Sb**	**16 48 36.0**	**+0.7**
PSAM	**San Ardo**	**0.32**	**284**		**Pb**	**16 48 30.6**	**0.0**
PARM	**Anticline Ridg**	**0.33**	**23**		**Pb**	**16 48 32.1**	**+1.5**
TRAM	**Private Proper**	**0.33**	**145**		**Pb**	**16 48 30.7**	**0.0**
PKEM	**Kettleman Hill**	**0.34**	**70**		**Pn**	**16 48 32.4**	**-1.0**
PMPB	**Monarch Peak**	**0.36**	**318**		**Pb**	**16 48 31.6**	**+0.3**
PANM	**San Antonio Re**	**0.37**	**243**		**Pb**	**16 48 31.4**	**0.0**
PTRM	**Twissleman Ran**	**0.38**	**141**		**Pb**	**16 48 31.5**	**0.0**
PDRM	**Domengine Ranc**	**0.40**	**15**		**Pn**	**16 48 33.4**	**-0.9**
TSCN	**Private Proper**	**0.42**	**163**		**Pb**	**16 48 32.5**	**+0.3**
RAMR	**Ramage Ranch**	**0.43**	**224**		**Pb**	**16 48 32.5**	**0.0**
PHRM	**Hernandez Vall**	**0.50**	**329**		**Pb**	**16 48 34.2**	**+0.6**
PBPM	**Bitterwater Pu**	**0.50**	**137**		**Pb**	**16 48 33.9**	**+0.2**
PBWM	**Bitterwater Cr**	**0.50**	**317**		**Pb**	**16 48 34.0**	**+0.3**
BLDC	**Black Mountain**	**0.53**	**219**		**Pb**	**16 48 34.2**	**0.0**
BLDC	**Black Mountain**	**0.53**	**219**		**Pb**	**16 48 34.1**	**0.0**
LRC	**Lone Oak Road**	**0.53**	**304**		**Pb**	**16 48 34.2**	**+0.1**
PCCM	**Crazy Canyon**	**0.56**	**285**		**Pb**	**16 48 34.9**	**+0.3**
PTAM	**Tassajara Cree**	**0.58**	**197**		**Pb

JFP	Foothills Park	1.96	317			Pn	16 48 56.1	+0.4
WCHM	Chimney Peak	1.97	91			Pn	16 48 57.3	+1.2
OSI	Osito Audit: C	1.97	132	P		Pn	16 48 57.1	+1.1
	baz=313,SNR=15							
OSI	Osito Audit: C	1.97	132			Pn	16 48 56.9	+0.9
CVLM	Vallecito	1.99	328			Pb	16 48 57.4	-1.6
PYR	Pyramid	1.99	133			Pn	16 48 57.5	+1.2
MRDM	Red Cones	2.01	35			Pb	16 48 58.9	-0.7
JRSC	Jasper Ridge	2.02	317			Pn	16 48 57.1	+0.7
CWC	Cottonwood Cre	2.02	75	P		Pn	16 48 58.0	+1.3
	baz=256							
CWC				S		Sn	16 49 22.5	+0.9
	baz=256							
CWC	Cottonwood Cre	2.02	75			Pn	16 48 58.3	+1.6
MCUB	Copperopolis B	2.02	357			Pn	16 48 57.3	+0.6
SCHCA	Scheelite	2.03	45			Pb	16 48 58.7	-1.1
BGH	Bear Gulch	2.03	314			Pn	16 48 56.6	0.0
CNIC	Niles Canyon	2.03	325			Pn	16 48 57.5	+0.8
MDPB	Devils Postpil	2.03	34			Pb	16 48 58.8	-1.1
MMPM	Mammoth Pass	2.04	35			Pb	16 48 59.3	-0.7
OMMB	Old Mammoth Mi	2.05	35			Pb	16 48 59.4	-0.8
MINS	Minaret Summit	2.06	34			Pb	16 48 59.2	-1.2
MLIM	Lincoln Peak	2.06	35			Pb	16 49 00.2	-0.3
SCZ2	Santa Cruz Isl	2.07	160	P		Pn	16 48 57.0	-0.3
	baz=340							
JHPM	Huddart Park	2.08	316			Pn	16 48 58.0	+0.6
MDYM	Dry Creek	2.08	35			Pb	16 49 00.3	-0.5
CMB	Columbia Colle	2.08	2			Pb	16 48 59.3	-1.4
CMB	Columbia Colle	2.08	2	Pn		Pn	16 48 58.6	+1.1
MLCM	Laurel Creek C	2.09	37			Pb	16 48 60.0	-0.9
MTUM	Tungsten Hills	2.10	47			Pb	16 48 59.8	-1.2
RCCR	Rock Creek Can	2.10	42			Pb	16 49 00.0	-1.0
MMLB	Mammoth Lakes	2.10	35			Pb	16 49 00.9	-0.1
BHPR	Bishop	2.11	50			Pb	16 49 00.2	-0.9
MGPM	Gravel Pit	2.11	37			Pb	16 49 00.4	-0.8
MCMM	Convict Lake	2.11	38			Pb	16 49 00.4	-0.8
MDCM	Deadman Creek	2.11	33			Pb	16 49 00.1	-1.2
MCVM	Convict Lake	2.12	39			Pb	16 49 00.6	-0.8
MEMM	East Mammoth H	2.12	36			Pn	16 48 59.8	+1.6
MCBM	Casa Benchmark	2.13	37			Pb	16 49 01.0	-0.5
MCSM	Casa Diablo Ho	2.13	36			Pb	16 49 01.0	-0.6
TIN	Tinemaha, Big	2.14	58	P		Pb	16 49 00.4	-1.1
	baz=239,SNR=24							
TIN				S		Sn	16 49 25.8	+1.4
	baz=239							
TIN	Tinemaha, Big	2.14	58			Pb	16 49 00.6	-1.0
MLAC	Mammoth, Mammo	2.15	38	P		Pb	16 49 01.1	-0.7
	baz=219,SNR=16							
MLAC				Sb		Sg	16 49 32.1	-0.3
	baz=219							
MLAC	Mammoth, Mammo	2.15	38			Pb	16 49 01.3	-0.5
MDRNC	Doe Ridge	2.15	38			Pb	16 49 01.3	-0.6
MLHM	Little Hot Cre	2.19	38			Pb	16 49 02.3	-0.3
MNHB	New Hogan Dam	2.21	354			Pn	16 48 59.8	+0.7
ORC	Owens River	2.24	41			Pb	16 49 02.5	-1.0
POCCA	Poleta Canyon	2.27	51			Pb	16 49 02.5	-1.5
MCDM	Chidago Canyon	2.30	45			Pb	16 49 03.1	-1.2
EDW2	Edwards Air Fo	2.31	117	P		Pn	16 49 01.2	+0.7
	baz=298,SNR=44							
EDW2				S		Sn	16 49 29.9	+1.3
	baz=298							
LRMC	Laurel Mtn Rad	2.34	101	P		Pn	16 49 01.5	+0.4
	baz=282,SNR=33							
LRMC				Sb		Sb	16 49 33.8	+0.1
	baz=282							
BENR	Benton	2.34	41			Pb	16 49 03.5	-1.7
LUL	Lundy Lake	2.35	26			Pb	16 49 05.2	-0.1
MGNR	McGee Canyon	2.36	37			Pb	16 49 04.8	-0.7
BRIB	Briones	2.37	327			Pn	16 49 02.3	+0.9
BKS	Berkeley--Byer	2.37	325			Pn	16 49 02.5	+1.1
VAK	Adit at Lawren	2.38	324			Pn	16 48 59.9	-1.6
MLNR	Milner Canyon	2.39	46			Pb	16 49 04.5	-1.4
MPMC	Manual Prospec	2.44	87	P		Pn	16 49 03.2	+0.6
	baz=268,SNR=76							
HCK	Huntoon Valley	2.62	35			Pb	16 49 07.5	-2.1
MWC	Mount Wilson	2.64	130			Pn	16 49 06.2	+0.9
WAKR	Walker	2.69	18			Pb	16 49 09.2	-1.9
AFDM	Forest Hills D	3.02	353			Pb	16 49 13.8	-2.8
CIS	Catalina Islan	3.07	145	P		Pn	16 49 10.8	-0.2
	baz=327							
GSC	Goldstone, Bar	3.08	101	P		Pn	16 49 12.0	+0.9
	baz=283							
GSC	Goldstone, Bar	3.08	101			Pn	16 49 11.1	-0.1
RYN	Ryan	3.10	30			Pb	16 49 15.7	-2.4
NV11	Mina Array Sit	3.11	36			Pb	16 49 17.9	-0.3
PNTR	Pine Nut	3.21	13			Pb	16 49 17.9	-2.1
SCI2	San Clemente I	3.37	151	P		Pn	16 49 15.8	+0.7
	baz=332							
TPNV	Topopah Spring	3.57	73	P		Pn	16 49 19.6	+1.7
	baz=255,SNR=6.7							
TPNV	Topopah Spring	3.57	73			Pn	16 49 19.7	+1.7
HEC	Hector,Ludlow	3.58	107	P		Pn	16 49 18.8	+0.7
	baz=289							
MURC	Murrieta	3.59	130	P		Pn	16 49 19.3	+1.1
	baz=312							
TUQ	Turquoise Moun	3.76	96	P		Pn	16 49 21.3	+0.8
	baz=279							
PFO	Pinyon Flats O	4.06	124	P		Pn	16 49 25.8	+1.0
	baz=306,SNR=5.6							
PFO				S		Sn	16 50 13.1	+1.1
	baz=306							
PFO	Pinyon Flats O	4.06	124			Pn	16 49 25.7	+1.0
XPFO	Pion Flat	4.07	124			Pn	16 49 25.7	+1.0
TPFO	Pinon Flats	4.07	124	P		Pn	16 49 25.6	+0.8
	baz=306							
GMRC	Granite Mounta	4.12	105	P		Pn	16 49 26.0	+0.5
	baz=288							
GMRC				S		Sn	16 50 13.6	+0.1
	baz=288							
BELC	Belle Mtn. Jos	4.18	116	P		Pn	16 49 26.9	+0.6
	baz=299							
SHPR	Sheep Range	4.35	81			Pn	16 49 30.7	+2.0
MONP2	Monument Peak	4.54	131	P		Pn	16 49 32.5	+1.1
	baz=313							
MONP2				S		Sn	16 50 24.7	+0.7
	baz=313							
BC3	Big Chuckawall	4.74	117	S		Sn	16 50 29.5	+0.8
	baz=300							
IRM	Iron Mountain	4.74	111	S		Sn	16 50 29.6	+1.0
	baz=294							
M04C	Macdoel	5.92	350	S		Sn	16 51 04.2	+6.5
	baz=169							

*DJA **08** 16:57:00.9±0.2,2˚N±2˚×9˚9E±˚, h142km±2km, M4.7/27, mB5.5/6, mb4.6/27, MLv4.5/22, Mw(mB)4.9/6, Mwp5.9/3*
*IDC **08** 16:57:01.6±0.6,2.39N×99.10E, h156km±4km, mb4.0/22, mb1 4.0/24, mb1mx3.8/44, mbtmp4.5/24, Error ellipse: s-maj=14.7km s-min=8.6km az=54.0*
*NEIC **08** 16:57:01.0±1.7,2.43N±0.06×99.07E±0.06, h152km±4km, mb4.5/24, Error ellipse: s-maj=9.3km s-min=8.3km az=197.0*

ISC 08 16:57:00.6±0.4,2.35N±0.04×99.03E±0.04, h150km, n119, σ1§50/131, mb4.4/37, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RPSI	Rantau Prapat	0.36	343	Pn		Pn	16 57 22.4	+1.0
RPSI				Sn		Sn	16 57 37.9	+0.7
TSI	Tuntungan	1.23	338	P		Pn	16 57 28.6	+1.1
MNSI	Mandailing Nat	1.64	160	P		Pn	16 57 33.2	+1.5
GSI	Gunungsitoli	1.79	234	P		Pn	16 57 34.7	+1.4
GSI				S		Sn	16 57 56.8	-1.6
GSI	Gunungsitoli	1.79	234	Pn		Pn	16 57 35.1	+1.8
TPTI		2.06	296	P		Pn	16 57 36.9	+0.5
TPTI				S		Sn	16 58 03.3	-0.6
BKNI	Bangkinang	2.84	135	P		Pn	16 57 48.1	+2.1
BKNI	Bangkinang	2.84	135	Pn		Pn	16 57 47.4	+1.4
IPM	Ipoh	2.90	43	Pn		Pn	16 57 47.4	+0.6
IPM				Sn		Sn	16 58 20.9	-1.6
MLSI	Meulaboh, Aceh	3.24	306	P		Pn	16 57 51.4	+0.4
MLSI				S		Sn	16 58 28.1	-2.0
KULM	Kulim	3.34	29	Pn		Pn	16 57 52.2	-0.1
LHMI	Lhok Sumawe	3.53	324	P		Pn	16 57 54.8	0.0
LHMI	Lhok Sumawe	3.53	324	Pn		Pn	16 57 55.5	+0.7
PDSI	Padang	3.54	156	P		Pn	16 57 56.6	+1.6
PDSI				S		Sn	16 58 36.8	-0.4
SISI	Saibi	3.66	179	P		Pn	16 57 56.1	-0.3
SDSI	Sungai Dareh	4.05	144	P		Pn	16 58 03.6	+2.1
MYKOM	Kota Tinggi	4.85	97			Pn	16 58 12.6	+0.5
KRJI	Kerinci	5.04	151	P		Pn	16 58 15.3	+0.6
	2.4nm5µm179nm,0.8s							

PPSI	Pulau Pagai	5.17	169	P		Pn	16 58 14.7	-1.7
	2.7nm105nm,0.8s							
DSRI	Dabo	6.22	117	P		Pn	16 58 32.0	+1.7
	0.1nm11nm,0.6s							
KSI	Kapahiang	6.95	149	P		Pn	16 58 41.1	+1.1
	0.6nm80nm,0.8s							
LHSI	Lahat	7.61	144	P		Pn	16 58 50.2	+1.4
	0.9nm145nm,0.4s							
MNAI	Manna	7.74	150	P		Pn	16 58 50.5	-0.1
	1.9nm172nm,1.1s							
MNAI	Manna	7.74	150	Pn		Pn	16 58 49.1	-1.4
MDSI	Maura Dua	8.52	143	P		Pn	16 59 01.2	+0.2
	28nm,1.1s							
LWLI	Liwa	8.88	146	P		Pn	16 59 07.5	+1.6
	761µm8µm65nm,0.7s							
KASI	Kota Agung	9.54	145	P		Pn	16 59 12.7	-1.9
JCJI	Jatiwangi	12.74	134	P		Pn	16 59 59.1	+2.6
	6µm111nm,0.4s							
SBUM	Sibu	13.18	89	Pn		Pn	17 00 03.8	+1.6
CISI	Cisompet, Garu	13.18	138	P		Pn	16 59 58.3	-4.0
	49nm,1.2s							
DLV	T Lat	13.37	44			P	17 00 08.6	-0.3
PBKT	Sadao Pong	14.26	8			P	17 00 17.7	-0.9
UGM	Wanagama	15.34	132	P		Pn	17 00 29.1	-0.3
	173nm,1.7s							
CM31	Chiang Mai Arr	16.01	360	P		Pn	17 00 37.5	0.0
CM31				IAmb		IAmb	17 00 39.5	
	comp=Z,12nm,0.7s							
CMAR	Chiang Mai Arr	16.01	360	P		P	17 00 38.6	+0.6
	comp=Z,2.3nm,0.3s,baz=191,slow=11,SNR=45							
CHTO	Chiang Mai	16.36	360			P	17 00 42.3	+0.3
BBKI	Banjar Baru	16.82	110	P		Pn	17 00 49.3	+1.8
	comp=Z,24nm,0.7s							
KKM	Kota Kinabalu	17.52	77	P		Pn	17 00 56.7	+0.7
KKM				IAmb		IAmb	17 01 01.4	
	comp=Z,33nm,0.8s							
JAGI	Jajag, Banyuwa	18.52	126	P		Pn	17 01 07.9	+0.2
	comp=Z,29nm,1.5s							
PALK	Pallekele	18.90	286	P		Pn	17 01 13.0	+0.8
	comp=Z,0.4nm,0.3s,baz=243,slow=6.2,SNR=3.7							
PALK	Pallekele	18.90	286	IAmb		IAmb	17 01 14.4	
	comp=Z,33nm,1.1s							
MYLDM	Lahad Datu	19.63	81	P		Pn	17 01 20.6	-0.1
TWSI	Taliwang, Sumb	20.93	122	P		P	17 01 31.9	+0.2
MPSI	Mapaga	20.96	95	P		P	17 01 33.4	+1.4
	comp=Z,16nm,1.5s							
PLAI	Plampang	21.74	121	P		P	17 01 40.2	-0.1
	comp=Z,50nm,0.5s							
KAPI	Kappang	21.96	109	P		P	17 01 43.7	+1.1
	comp=Z,21nm,0.6s,baz=298,slow=8.7,SNR=12							
KAPI	Kappang	21.96	109	P		P	17 01 43.9	+1.3
KAPI				IAmb		IAmb	17 01 45.5	
	comp=Z,21nm,0.6s							
WBSI	Waikabubak, Su	23.52	121	P		P	17 01 56.1	-1.3
	comp=Z,56nm,0.6s							
BATI	Baumata	27.52	117	P		P	17 02 35.4	+2.0
	comp=Z,9.9nm,0.4s,baz=331,slow=5.8,SNR=4.7							
H08S2	Diego Garcia H	28.28	249	T		T	17 30 52.4	
	baz=103,slow=74,SNR=192							
H08S3	Diego Garcia H	28.28	249	T		T	17 30 52.4	
	SNR=201							
H08S1	Diego Carcia H	28.30	249	T		T	17 30 52.4	
	baz=77,slow=74,SNR=257							
CD2	Chengdu	28.75	8	*e*P		P	17 02 45.0	+0.8
XAN	Xi'an	32.85	15	P		P	17 03 18.5	-1.7
XAN				pP		pP	17 03 24.3	-28
XAN				pmax		pmax		
	comp=Z,6.0nm,0.5s							
XAN	Xi'an	32.85	15	P		P	17 03 18.6	-1.6
XAN				IAmb		IAmb	17 03 20.5	
	comp=Z,5.6nm,0.8s							
FITZ	Fitzroy Crossi	33.16	129	P		P	17 03 23.5	+0.4
	comp=Z,4.2nm,0.5s,baz=322,slow=6.8,SNR=36							
FITZ	Fitzroy Crossi	33.16	129	P		P	17 03 23.1	0.0
	baz=33,SNR=19							
FITZ	Fitzroy Crossi	33.16	129	P		P	17 03 23.7	+0.6
FITZ				IAmb		IAmb	17 03 25.3	
	comp=Z,6.4nm,0.9s							
KNRA	Kununurra	34.43	122	P		P	17 03 33.7	-0.3
	baz=34,SNR=7.9							
NJ2	Nanjing	34.94	30	*e*P		P	17 03 38.4	+0.2
NJ2				pmax		pmax		
	comp=Z,5.0nm,0.5s							
MTN	Manton Dam	35.27	116	P		P	17 03 40.8	-0.4
	baz=35,SNR=9.3							
KDU	Kakadu	36.41	115	P		P	17 03 50.4	-0.6
	baz=36,SNR=5.3							
GTA	Gaotai	36.89	1	*e*P		P	17 03 54.1	-0.8
GTA				pP		pP	17 04 30.1	+2.7
GTA				sP		sP	17 04 56.5	+12
GTA				pmax		pmax		
	comp=Z,4.0nm,1.2s							
GTA				pmax		pmax		
	comp=Z,75nm,6.3s							
GTA				LR		LR		
	comp=N,97nm,15.9s							
GTA				LR		LR		
	comp=E,98nm,15.5s							
GTA				LR		LR		
	comp=Z,140nm,15.6s							
MUN	Mundaring	37.84	156	P		P	17 04 04.8	+2.0
	baz=38,SNR=3.3							
WRKA	Warakurna	39.33	136	P		P	17 04 14.6	-0.8
	baz=40,SNR=17							
HHC	Hu-ho-hao-te	39.96	15	*e*P		P	17 04 20.4	-0.1
HHC				pmax		pmax		
	comp=Z,14nm,0.7s							
HHC				pmax		pmax		
	comp=Z,180nm,6.3s							
BJI	Beijing	40.61	20	P		P	17 04 26.1	+0.4
BJI				pmax		pmax		
	comp=Z,11nm,0.5s							
BJI				LR		LR		
	comp=N,310nm,7.5s							
BJI				LR		LR		
	comp=E,220nm,5.9s							
BJI				LR		LR		
	comp=Z,200nm,22.7s							
WRA	Warramunga Arr	41.13	124	P		P	17 04 29.7	-0.6
	comp=Z,5.8nm,0.5s,baz=301,slow=9.2,SNR=54							
WRA				PcP		PcP	17 06 29.2	+2.2
	comp=Z,0.7nm,0.4s,baz=315,slow=2.6,SNR=5.9							
WRA				ScP		ScP	17 09 60.0	-3.0
	comp=Z,0.5nm,0.6s,baz=315,slow=3.1,SNR=4.9							
WRA				S		S	17 10 25.6	-6.8
	comp=Z,1.1nm,0.7s,baz=295,slow=16,SNR=6.9							
WRA	Warramunga Arr	41.13	124	P		P	17 04 30.3	0.0
WB2	Warramunga Arr	41.14	124	P		P	17 04 30.1	-0.3
WB2				IAmb		IAmb	17 04 32.6	
	comp=Z,6.5nm,0.8s							
WR0	Warramunga Arr	41.30	124	P		P	17 04 31.7	0.0
WR0				IAmb		IAmb	17 04 34.1	
	comp=Z,11nm,0.7s							
JAY	Jayapura	41.94	96	P		P	17 04 36.2	-0.9
	comp=Z,21nm,1.0s,baz=172,slow=10,SNR=4.4							
WMQ	Urumqi	42.50	348	*e*P		P	17 04 41.9	+0.7
WMQ				pmax		pmax		
	comp=Z,7.0nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,11nm,4.1s							
WMQ				LR		LR		
	comp=N,230nm,29.2s							
WMQ				LR		LR		
	comp=E,1µm,29.2s							
WMQ				LR		LR		
	comp=Z,150nm,29.2s							
KSH	Kashi	42.52	333	P		P	17 04 40.4	-1.1
KSH				pmax		pmax		
	comp=Z,6.0nm,0.6s							
AS31	Alice Springs	42.66	129	P		P	17 04 42.3	-0.5
ASAR	Alice Springs	42.66	129	P		P	17 04 42.0	-0.8
	comp=Z,2.6nm,0.4s,baz=301,slow=7.4,SNR=91							
ASAR				ScP		ScP	17 10 06.7	-2.4
	comp=Z,0.6nm,0.6s,baz=299,slow=4.4,SNR=11							
ASAR				S		S	17 10 48.0	-6.9
	comp=Z,0.6nm,0.8s,baz=295,slow=15,SNR=5.5							
FORT	Forrest	43.02	142	P		P	17 04 45.3	-0.1
	baz=43,SNR=52							
FORT	Forrest	43.02	142	P		P	17 04 45.6	+0.2
KSRS	Korea Array	43.87	34	P		P	17 04 51.1	-1.0
	comp=Z,1.7nm,0.6s,baz=217,slow=8.1,SNR=8.7							
KSRS				pP		pP	17 05 26.7	+1.1
	comp=Z,3.7nm,0.9s,baz=221,slow=8.5,SNR=5.3							
SONM	Songino Array	45.75	7	P		P	17 05 07.2	+0.1
	comp=Z,3.1nm,0.6s,baz=190,slow=9.8,SNR=18							
SONM				pP		pP	17 05 42.1	+1.3
	comp=Z,1.6nm,0.7s,baz=191,slow=8.8,SNR=3.3							

SONM	Songino Array	45.75	7	P		P	17 05 05.9	-1.1
SONM				PcP		PcP	17 06 42.1	-0.1
QIS	Mount Isa	45.82	122	P		P	17 05 08.6	+0.7
	baz=46,SNR=19							
MK31	Makanchi Array	46.60	344	P		P	17 05 12.7	-0.9
MKAR	Makanchi Array	46.60	344	P		P	17 05 13.5	-0.1
	comp=Z,2.5nm,0.5s,baz=156,slow=8.6,SNR=54							
MKAR				pP		pP	17 05 48.1	+0.6
	comp=Z,1.3nm,0.6s,baz=158,slow=7.5,SNR=2.6							
MKAR	Makanchi Array	46.60	344	P		P	17 05 13.5	-0.1
MKAR				PcP		PcP	17 06 42.2	-2.9
MAKZ	Makanchi	46.70	344	P		P	17 05 14.1	-0.3
KKAR	Karatay Array	47.87	332	P		P	17 05 23.9	+0.5
BBOO	Buckleboo	49.48	138	P		P	17 05 37.3	+1.4
	baz=50,SNR=7.0							
USRK	Ussuriysk Ar.	50.85	30	P		P	17 05 45.7	-0.3
	comp=Z,1.5nm,0.5s,baz=223,slow=4.5,SNR=5.8							
KURBB	Kurchatov Arra	51.13	343	P		P	17 05 48.1	+0.2
	comp=Z,2.2nm,0.6s,baz=159,slow=7.0,SNR=16							
KURBB				pP		pP	17 06 24.6	+2.2
	comp=Z,1.4nm,0.7s,baz=165,slow=7.1,SNR=3.5							
GEYT	Alibeck	51.53	319	P		P	17 05 52.7	+1.4
	comp=Z,1.1nm,0.5s,baz=113,slow=11,SNR=3.7							
HTT	Hallett	51.78	137	P		P	17 05 55.4	+2.3
	baz=52,SNR=6.5							
QLP	Quilpie	52.24	127	P		P	17 05 58.2	+1.6
	baz=52,SNR=25							
ZAA0	Zalesovo Array	52.74	349	IAmb		IAmb	17 06 01.1	
	comp=Z,9.6nm,1.2s							
ZALV	Zalesovo Beam	52.74	349	P		P	17 05 59.7	-0.1
	comp=Z,5.8nm,0.4s,baz=162,slow=7.0,SNR=34							
ZALV				pP		pP	17 06 35.1	+0.7
	comp=Z,2.3nm,0.6s,baz=173,slow=7.2,SNR=2.9							
ZALV	Zalesovo Beam	52.74	349	P		P	17 05 59.6	-0.2
STKA	Stephens Creek	52.80	134	P		P	17 06 00.2	-0.4
	comp=Z,1.8nm,0.6s,baz=323,slow=7.3,SNR=9.3							
STKA	Stephens Creek	52.80	134	P		P	17 06 00.2	-0.4
	baz=53,SNR=4.9							
KLR	Kul'dur	54.42	26	P		P	17 06 11.6	-0.5
	comp=Z,3.0nm,0.6s,baz=241,slow=7.1,SNR=15							
KLR				pP		pP	17 06 48.2	+1.3
	comp=Z,0.9nm,0.5s,baz=271,slow=8.4,SNR=2.0							
CMSA	Cobar Meteorol	55.65	131	P		P	17 06 21.6	+0.3
	baz=56,SNR=24							
BVAR	Borovoye Array	55.79	340	P		P	17 06 21.5	-0.5
	comp=Z,2.5nm,0.4s,baz=144,slow=10,SNR=14							
BVAR				pP		pP	17 06 59.9	+2.9
	comp=Z,1.8nm,0.5s,baz=153,slow=7.6,SNR=4.6							
BRVK	Borovoye	55.86	339	P		P	17 06 21.4	-1.0
BRVK				IAmb		IAmb	17 06 22.9	
	comp=Z,3.9nm,0.4s							
ASAJ	Asahikawa	56.65	36	P		P	17 06 28.6	+0.4
	comp=Z,2.4nm,0.7s,baz=230,slow=11,SNR=6.0							
JKA	Kamikawa-asahi	56.65	36	P		P	17 06 28.6	+0.4
JKA	Kamikawa-asahi	56.65	36	IAmb		IAmb	17 06 38.6	
	comp=Z,7.1nm,1.1s							
ABKAR	Akbulak array	57.39	331	P		P	17 06 32.7	-0.6
ARMA	Armidale	59.75	127	P		P	17 06 53.5	+3.4
	baz=60,SNR=6.4							
YAK	Yakutsk	63.82	16	P		P	17 07 14.8	-1.8
NRIK	Noril'sk	67.32	356	P		P	17 07 38.5	-0.5
	comp=Z,3.5nm,0.5s,baz=143,slow=4.7,SNR=4.9							
PETK	Petropavlovsk-	69.77	33	P		P	17 07 55.6	+1.2
	comp=Z,1.3nm,0.5s,baz=161,slow=2.7,SNR=4.0							
PET	Petropavlovsk	70.26	34	P		P	17 07 57.4	0.0
TIXI	Tiksi	71.75	10	P		P	17 08 05.5	-0.5
BOSA	Boshof	76.94	240	P		P	17 08 38.5	+1.3
	comp=Z,2.5nm,0.6s,baz=67,slow=3.7,SNR=12							
BOSA				pP		pP	17 09 14.6	+0.3
	comp=Z,2.5nm,0.8s,baz=68,slow=2.7,SNR=2.8							
BOSA	Boshof	76.94	240	IAmb		IAmb	17 08 47.7	
	comp=Z,7.9nm,1.5s							
FINES	FINESS Array B	79.83	332	P		P	17 08 51.8	-0.3
	comp=Z,0.9nm,0.4s,baz=117,slow=5.6,SNR=11							
FINES				pP		pP	17 09 29.4	-0.3
	comp=Z,1.2nm,0.6s,baz=111,slow=8.4,SNR=2.6							
ARCES	ARCESS Array B	82.08	340	P		P	17 09 04.0	+0.1
	comp=Z,3.9nm,1.1s,baz=98,slow=6.2,SNR=7.0							
NB2	NORSAR Subarra	86.90	331	P		pP	17 10 06.1	-0.4
	comp=Z,2.4nm,1.0s,baz=94,slow=4.8							
NOA	NORSAR Array B	86.90	331	pP		pP	17 10 06.1	-0.4
	comp=Z,0.8nm,0.8s,baz=94,slow=5.0,SNR=4.6							
TXAR	Lajitas Array	141.72	33	PKhKP		PKPpre	17 16 11.2	
	comp=Z,0.2nm,0.5s,baz=349,slow=1.0,SNR=4.6							

*IDC **08** 17:12:06.6±2.1,36˚36N×136˚73E, h269km±25km, mb3.0/2, mb1 3.2/4, mb1mx2.8/40, mbtmp3.8/4, Error ellipse: s-maj=86.4km s-min=24.3km az=88.0*
*JMA **08** 17:12:07.4±0.2,36˚19N×137˚01E, h280km±2km, M3.0*

ISC 08 17:12:07.3±1.0,36°28N±0˚09×136°96E±0˚09, h277km±8km, n19, σ0§71/24, Near west coast of eastern Honshu

| Code | Station Name | Δ° | AZ° | Phase | ID | | Time | Res |
|---|---|---|---|---|---

ANWZ	Angora Road	0.47	191	P	Pn	17 23 00.1 +0.6
TSZ	Takapari Road	0.49	263	P	Pn	17 23 00.2 +0.4
TSZ				S	Sn	17 23 08.1 +0.4
BFZ	Birch Farm	0.73	201	P	Pn	17 23 03.1 +0.3
BFZ				S	Sn	17 23 13.9 +0.8
PRWZ	Pori Road	0.73	220	P	Pn	17 23 03.7 +0.8
POWZ	Post Office Ro	0.75	238	P	Pn	17 23 03.7 +0.7
ARHZ	Aropaoanui	0.80	23	P	Pn	17 23 04.3 +0.7
BKZ	Black Stump Fm	0.83	354	P	Pn	17 23 04.6 +0.3
BKZ				S	Sn	17 23 16.0 +0.4
NMHZ	Naumai	0.91	10	P	Pn	17 23 06.1 +0.7
TIWZ	Tintock	0.95	215	P	Pn	17 23 06.2 +0.4
CPWZ	Castlepoint	0.96	198	P	Pn	17 23 06.6 +0.8
OHWZ	Ohakea	1.00	258	P	Pn	17 23 08.2 +1.8
MRZ	Mangatainoka R	1.02	229	P	Pn	17 23 06.9 +0.2
MRZ				S	Sn	17 23 20.5 +0.6
WHHZ	Waihua	1.04	28	P	Pn	17 23 07.4 +0.4
TRVZ	Turoa	1.07	310	P	Pn	17 23 09.0 +1.5
FWVZ	Far West T-bar	1.09	312	P	Pn	17 23 09.2 +1.3
ETVZ	East Tongariro	1.10	321	P	Pn	17 23 09.3 +1.4
OTVZ	Oturere	1.10	319	P	Pn	17 23 09.3 +1.3
RAHZ	Arahi	1.14	20	P	Pn	17 23 08.8 +0.4
MTHZ	Maungataniwha	1.16	9	P	Pn	17 23 08.9 +0.2
KRVZ	Karewarewa	1.17	320	P	Pn	17 23 10.7 +1.9
RITZ	Rihia Road	1.17	330	P	Pn	17 23 10.2 +1.5
WTVZ	West Tongariro	1.18	318	P	Pn	17 23 10.2 +1.3
PKVZ	Pokaka	1.20	306	P	Pn	17 23 10.6 +1.4
HOWZ	Holdsworth Sta	1.22	222	P	Pn	17 23 09.4 -0.1
TMWZ	Te Maipa	1.23	206	P	Pn	17 23 09.3 -0.4
WAZ	Wanganui	1.26	281	P	Pn	17 23 12.1 +2.1
KNZ	Kokohu	1.28	41	P	Pn	17 23 10.0 -0.3
TWVZ	Taurewa	1.29	316	P	Pn	17 23 11.6 +1.2
RATZ	Rangitukua	1.30	330	P	Pn	17 23 12.2 +1.7
SNGZ	Shannon Statio	1.34	26	P	Pn	17 23 11.2 +0.1
OGWZ	Otaki Gorge	1.36	233	P	Pn	17 23 11.3 0.0
WHTZ	Whakaora	1.42	339	P	Pn	17 23 13.5 +1.3
ALRZ	Allen Road	1.45	352	P	Pn	17 23 12.9 +0.3
WATZ	Wairara	1.45	332	P	Pn	17 23 13.6 +1.0
PRGZ	Paritu Road	1.46	43	P	Pn	17 23 12.4 -0.3
PRRZ	Plateau Road	1.50	354	P	Pn	17 23 13.8 +0.5
WPRZ	Whakapapatarin	1.51	347	P	Pn	17 23 13.8 +0.3
MUGZ	Murupara	1.52	5	P	Pn	17 23 13.7 +0.1
KIW	Kapiti Island	1.55	236	P	Pn	17 23 14.1 +0.2
TRWZ	Traveller	1.56	206	P	Pn	17 23 13.3 -0.7
CAW	Cannon Point	1.61	226	P	Pn	17 23 14.2 -0.5
KUTZ	Kaahu Road	1.62	338	P	Pn	17 23 15.5 +0.6
HRRZ	Handcock Road	1.62	351	P	Pn	17 23 15.5 +0.5
RAGZ	Rawiri	1.63	23	P	Pn	17 23 14.8 -0.3
PAWZ	Paruwai Farm	1.64	212	P	Pn	17 23 14.5 -0.8
RRRZ	Republican Roa	1.66	358	P	Pn	17 23 15.5 +0.1
VRZ	Vera Road	1.67	301	P	Pn	17 23 16.6 +1.1
GRRZ	Galatos Road	1.69	347	P	Pn	17 23 16.4 +0.6
HSRZ	Hossack Road	1.71	351	P	Pn	17 23 16.5 +0.5
MSWZ	Moikau Station	1.75	215	P	Pn	17 23 15.5 -1.2
HLRZ	Highlands Stat	1.75	354	P	Pn	17 23 17.9 +1.2
TARZ	Mount Tarawera	1.76	358	P	Pn	17 23 17.2 +0.3
LREZ	Lake Rotokare	1.77	287	P	Pn	17 23 19.3 +2.3
URZ	Urewera	1.78	13	P	Pn	17 23 16.7 -0.4
MWZ	Matawai	1.81	24	P	Pn	17 23 17.0 -0.6
TLZ	Tolley Road	1.86	333	P	Pn	17 23 18.5 +0.3
PLWZ	Palliser	1.87	213	P	Pn	17 23 17.2 -1.1
WEL	Wellington	1.89	227	P	Pn	17 23 18.0 -0.6
OMRZ	Omania	1.90	355	P	Pn	17 23 18.8 +0.1
NGRZ	Ngongotaha	1.92	350	P	Pn	17 23 19.4 +0.4
PREZ	Palmer Road	1.99	288	P	Pn	17 23 22.5 +2.5
KARZ	Kaharoa	1.99	352	P	Pn	17 23 20.3 +0.3
HIZ	Hauiti	2.01	317	P	Pn	17 23 21.0 +0.8
MARZ	Manawahe	2.01	2	P	Pn	17 23 20.7 +0.4
DREZ	Durham Road	2.02	293	P	Pn	17 23 23.4 +3.1
KHEZ	Kahui Hut	2.11	289	P	Pn	17 23 24.9 +3.1
TCW	Tory Channel	2.14	235	P	Pn	17 23 21.3 -0.8
OPRZ	Ohinepanea	2.15	359	P	Pn	17 23 21.7 -0.4
WHRZ	Whale Island	2.16	8	P	Pn	17 23 22.0 -0.3
PKE	Pukeiti	2.17	291	P	Pn	17 23 25.0 +2.5
DUWZ	D'Urville Isla	2.19	248	P	Pn	17 23 22.5 -0.3
KMRZ	Kaimai	2.21	346	P	Pn	17 23 23.1 +0.1
NBEZ	Newall Road No	2.23	288	P	Pn	17 23 26.2 +3.0
TOZ	Tahuroa Road	2.42	339	P	Pn	17 23 26.1 +0.3
TUWZ	Tuamarina	2.47	234	P	Pn	17 23 25.6 -1.0
BSWZ	Blackbirch Sta	2.68	229	P	Pn	17 23 28.1 -1.4
NNZ	Nelson	2.73	243	P	Pn	17 23 29.6 -0.5
KBAZ	Karaka Road Bo	3.19	335	P	Pn	17 23 36.9 +0.5
QRZ	Quartz Range	3.21	254	P	Pn	17 23 36.3 -0.4
THZ	Tophouse	3.31	237	P	Pn	17 23 36.6 -1.4
ETAZ	East Tamaki Re	3.31	306	P	Pn	17 23 38.6 +0.8
KUZ	Kuaotunu	3.32	348	P	Pn	17 23 38.6 +0.4
KHZ	Kahutara	3.34	223	P	Pn	17 23 36.3 -2.1
WIAZ	Waiheke Island	3.40	340	P	Pn	17 23 40.3 +1.0
MBAZ	Motutapu North	3.49	337	P	Pn	17 23 41.4 +0.9
RVAZ	Riverhead Bore	3.59	333	P	Pn	17 23 42.1 +0.2
GRZ	Great Barrier	3.85	346	P	Pn	17 23 46.1 +0.6
GVZ	Greta Valley S	4.00	221	P	Pn	17 23 46.3 -1.2
LTZ	Lake Taylor	4.28	228	P	Pn	17 23 49.1 -2.3
WCZ	Waipu Caves	4.42	336	P	Pn	17 23 54.6 +1.3
OKCZ	Okains Bay	4.56	214	P	Pn	17 23 53.2 -2.1
MQZ	McQueen's Vall	4.73	217	P	Pn	17 23 55.1 -2.4
INZ	Inchbonnie	4.74	233	P	Pn	17 23 55.2 -2.4
OXZ	Oxford	4.77	224	P	Pn	17 23 55.5 -2.5
OUZ	Omahuta	5.33	333	P	Pn	17 24 07.1 +1.3
CTZ	Chatham Island	6.29	129	P	Pn	17 24 18.9 0.0
ODZ	Otahua Downs	6.69	219	P	Pn	17 24 22.0 -2.4

IDC 08 17:37:01.4±3.4, 33°87S×178°82W, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/23, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=79.7km s-min=47.9km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	5.48	216	Pn	Pn	17 38 24.0	-0.3
	1.4nm,0.3s,baz=274,slow=2.8,SNR=30						
URZ				Sn	Sn	17 39 22.7	-5.4
	2.6nm,0.3s,baz=285,slow=22,SNR=11						
ASAR	Alice Springs	42.36	271	P	P	17 44 58.7	+1.2
	0.2nm,0.6s,baz=114,slow=7.7,SNR=5.5						
WRA	Warramunga Arr	43.66	276	P	P	17 45 06.7	-1.4
	0.6nm,0.9s,baz=117,slow=8.0,SNR=4.6						
FINES	FINESS Array B	148.12	337	PKPbc	PKPbc	17 56 47.6	-0.7
	1.3nm,0.8s,baz=324,slow=12,SNR=2.5						

ISC 08 17:51:30.5±1.2, 44°46N±0°.04×17°29E±0°.07, h13km±12km, n7, σ1s28/12, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	Banja Luka	0.30	345	*e*Pg	Pg	17 51 35.9	-0.8
BLY				*e*Sg	Sg	17 51 40.8	-0.1
RICI	Ricice	0.97	187	*e*Pg	Pb	17 51 48.6	-0.6
RICI				Sg	Sb	17 52 00.9	-1.0
MOSL	Moslavina	1.22	342	*e*Pg	Pg	17 51 54.3	+0.4
MOSL				Sg	Sb	17 52 10.2	+1.2
MORI	Morici	1.29	243	*e*Pg	Pn	17 51 54.2	+0.1
MORI				Sg	Sb	17 52 10.0	-0.9
ZIRJ	Zirje	1.44	237	*e*Pg	Pn	17 51 55.9	-0.2
ZIRJ				Sn	Sg	17 52 19.0	+2.4
STON	Ston	1.61	169	Sg	Sg	17 52 24.1	+1.8
DUGI	Dugi Otok	1.67	255	Sg	Sg	17 52 24.2	-0.1

*TUL **08** 18:07:48.1±1.5, 35°.82N±0°.01×97°.43W±0°.03, h5km±5km, ML3.3, Error ellipse: s-maj=2.9km s-min=1.5km az=85.0*
*NEIC **08** 18:07:48.2±0.8, 35°.840N±0°.010×97°.44W±0°.03, h5km±1km, Error ellipse: s-maj=4.4km s-min=2.9km az=270.0*
*ANF **08** 18:07:50.2±1.1, 35°.79N×97°.42W, h21km, 10km, ML4.2/16, Error ellipse: s-maj=3.5km s-min=2.3km az=163.0*

ISC 08 18:07:48.2±0.9, 35°.82N±0°.02×97°.43W±0°.02, h7km±5km, n60, σ0s66/81, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.03	221		Pg	18 07 49.4	-0.3
OK029				Sg	Sg	18 07 50.3	-0.4
ADOK	Arcadia Dam	0.17	165		Pg	18 07 52.0	+0.2
ADOK				Sg	Sg	18 07 54.8	+0.6
BCOK	Bluff Creek, N	0.22	222		Pg	18 07 52.6	0.0
BCOK				Sg	Sg	18 07 56.0	+0.4
OK009	Oakdale Elemen	0.24	179		Pg	18 07 53.1	+0.2
OK009				Sg	Sg	18 07 56.9	+0.7
OK025	Westminster Rd	0.25	163		Pg	18 07 53.4	+0.2
OK025				Sg	Sg	18 07 57.2	+0.7
OK005	Luther M Schoo	0.25	131		Pg	18 07 53.5	+0.3
OK005				Sg	Sg	18 07 57.4	+0.7
OK001	Jones High Sch	0.28	157	Pg	Pg	18 07 54.0	+0.2
OK001				Sg	Sg	18 07 58.3	+0.7
OKCFA	Oklahoma City	0.41	183		Pg	18 07 56.1	+0.1
OKCFA				Sg	Sg	18 08 02.0	+0.6
OKCSW	OKLAHOMA CITY	0.41	181		Pg	18 07 56.3	0.0
OKCSW				Sg	Sg	18 08 02.4	+0.7
FNO	Franklin	0.56	178		Pg	18 07 59.6	+0.5
FNO				Sg	Sb	18 08 07.7	-0.9
QUOK	Quay	0.68	59		Pg	18 08 01.3	+0.1
QUOK				Sg	Sg	18 08 10.5	+0.3
W35A	Tecumseh	0.81	146		Pg	18 08 03.0	-0.7
W35A				Sg	Sg	18 08 14.2	0.0
CROK	Carrier	0.82	327		Pg	18 08 03.7	-0.2
KAN13	South Haven SW	1.19	358		Pg	18 08 10.5	-0.5
KAN13				Sg	Sn	18 08 27.8	+0.1
X34A	Smith Ranch, M	1.26	195		Pg	18 08 12.1	-0.3
T35A	Sooner Cattle	1.32	34	Pn	Pn	18 08 12.5	-0.5
TUL1	Leonard	1.33	86	P	Pn	18 08 12.2	-1.0
	baz=268,SNR=38						
TUL1				S	Sg	18 08 30.3	-0.7
	baz=268						
TUL1	Leonard	1.33	86		Pn	18 08 12.4	-0.7
KAN01	Argonia South	1.36	349	Pn	Pn	18 08 12.3	-1.2
U32A	Winter Ranch,	1.39	294		Pn	18 08 13.7	-0.3
KAN10	Anthony SW Sta	1.41	338		Pn	18 08 13.9	-0.3
KAN12	Harper NE Stat	1.54	343		Pn	18 08 16.4	+0.3
WMOK	Wichita Mounta	1.55	226	P	Pn	18 08 16.0	-0.1
	baz=44,SNR=218						
WMOK				S	Sn	18 08 36.3	-0.2
	baz=44						
WMOK	Wichita Mounta	1.55	226		Pn	18 08 16.1	-0.1
X37A	Clayton	2.08	126		Pn	18 08 24.0	+0.5
Z35A	Perchaven, San	2.49	177	Pn	Pn	18 08 30.0	+0.9
U38A	Gravette	2.54	75	Pn	Pn	18 08 31.1	+1.3
R32A	Long Quarter,	2.79	339	Pn	Pn	18 08 34.5	+1.3
HHAR	Hobbs	2.86	80		Pn	18 08 34.6	+0.4
W39A	Magazine	3.04	101	P	Pn	18 08 37.2	+0.6
	baz=283,SNR=7.3						
W39A				S	Sn	18 09 13.1	-0.1
	baz=283						
W39A	Magazine	3.04	101	Pn	Pn	18 08 37.3	+0.6
Z38A	Mt. Pleasant	3.25	141		Pn	18 08 40.7	+1.1
KSU1	Kansas State U	3.34	11	P	Pn	18 08 41.4	+0.6
	baz=192						
KSU1				S	Sn	18 09 21.4	+0.8
	baz=192						
KSU1	Kansas State U	3.34	11	Pn	Pn	18 08 39.6	-1.2
MIAR	Mount Ida	3.40	111	P	Pn	18 08 42.5	+0.9
	baz=293,SNR=13						
MIAR				S	Sn	18 09 22.1	-0.1
	baz=293						
MIAR	Mount Ida	3.40	111		Pn	18 08 42.5	+0.9
CBKS	Cedar Bluff	3.51	329	S	Sn	18 09 25.7	+0.7
	baz=148						
CBKS	Cedar Bluff	3.51	329	Pn	Pn	18 08 43.2	+0.1
AMTX	Amarillo	3.60	256	P	Pn	18 08 45.3	+0.9
	baz=73						
AMTX	Amarillo	3.60	256	Pn	Pn	18 08 45.5	+1.0
ABTX	Abilene, Hawle	3.68	211	P	Pn	18 08 45.2	-0.3
	baz=29						
ABTX	Abilene, Hawle	3.68	211	Pn	Pn	18 08 45.5	0.0
U40A	Yellville	3.74	80	P	Pn	18 08 46.7	+0.3
	baz=263						
U40A				S	Sn	18 09 31.6	+1.0
	baz=263						
U40A	Yellville	3.74	80		Pn	18 08 46.1	-0.2
S39A	Bolivar	3.79	59	Pn	Pn	18 08 47.6	+0.6
WHTX	Lake Whitney,	3.82	180	S	Sn	18 09 32.9	+0.4
	baz=0.2						
X40A	Basin Creek Fa	3.99	108	P	Pn	18 08 50.2	+0.5
	baz=291						
X40A				S	Sn	18 09 37.7	+1.0
	baz=291						
X40A	Basin Creek Fa	3.99	108		Pn	18 08 50.3	+0.5
W41B	Gary Mavity, V	4.28	97	P	Pn	18 08 54.0	+0.4
	baz=280						
W41B				S	Sn	18 09 43.8	+0.1
	baz=280						
W41B	Gary Mavity, V	4.28	97		Pn	18 08 54.1	+0.4
Z41A	Richland Creek	4.59	122	S	Sn	18 09 50.4	-1.2
	baz=305						
NATX	Nacogdoches	4.66	150	S	Sn	18 09 52.3	-0.9
	baz=331						
MSTX	Muleshoe	4.76	249	P	Pn	18 09 01.0	+0.5
	baz=65						
MSTX				S	Sn	18 09 55.8	-0.3
	baz=65						
435B	Jarrell	5.03	182	S	Sn	18 10 01.4	-0.9
	baz=1.4						
JCT	Junction City	5.69	201	S	Sn	18 10 17.8	-0.8
	baz=20						
ISCO	Idaho Springs	7.60	304	P	Pn	18 09 40.5	+0.9
	baz=119						
BNM	Barren Site	7.73	260		Pb	18 10 09.5	+6.8
MNTX	Cornudas Mount	7.79	240	P	Pn	18 09 42.0	0.0
	baz=56						
TX31	Lajitas Ar. Si	8.34	221		Pn	18 09 48.5	-1.0
TX32	Lajitas Array	8.34	221		Pn	18 09 48.5	-1.0

*IDC **08** 18:11:58.3±4.2, 44°.75N×149°.98E, h0km, mb4.1/4, mb1 4.0/5, mb1mx3.6/54, mbtmp4.0/5, ML3.4/1, Error ellipse: s-maj=92.0km s-min=34.0km az=149.0*
*SKHL **08** 18:12:00.4±0.8, 44°.22N×149°.89E, h46km±4km, mb4.4/3*
*JMA **08** 18:12:01.0±0.5, 44°.51N×149°.69E, h30km, M3.7*
*NIED **08** 18:12:01.0, 44°.51N×149°.69E, h30km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=2.32; Mθθ-1.14; Mϕϕ3.45; Mrθ-3.01; Mϕr1.79; Mϕr-0.43; Fault plane solution: M₀4.65000×10¹⁴ NP1:ϕ₁54.00000°, δ69.00000°, λ-49.00000°. NP2:ϕ₂166.00000°, δ45.00000°, λ-150.00000°.*
*MOS **08** 18:12:03.1±1.7, 44°.54N×149°.45E, h39km, mb4.2/5 Error ellipse: s-maj=13.4km s-min=11.0km az=163.8*
*NEIC **08** 18:12:07.4±1.9, 44°.7N±0°.1×149°.3E±0°.1, h47km±9km, mb4.6/14, Error ellipse: s-maj=21.6km s-min=6.2km az=140.0*

ISC 08 18:12:00.3±3.9, 44°03N±0°06×149°80E±0°08, h28km±29km, n78, σ2s19/85, mb4.3/12, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.83	312	*i* P	Pn	18 12 28.0	-1.9
KUR				AMB	AMB	18 12 29.7	
	70nm,0.5s						
KUR				AMB	AMB	18 12 29.7	
	40nm,0.5s						
KUR				AMB	AMB	18 12 29.7	
	210nm,0.5s						
KUR				*e*S	Sn	18 12 49.6	-2.6
KUR				A	A	18 12 52.0	
	450nm,0.7s						
KUR				A	A	18 12 52.0	
	800nm,0.7s						
KUR	Kuril'sk	1.83	312	⇑*i* PN	Pn	18 12 27.8	-2.1
KUR				*e*S	Sn	18 12 45.2	-7.0
KUR				pmax	pmax		
	comp=Z,244nm,0.5s						
KUR				pmax	pmax		
	comp=N,60nm,0.4s						
KUR				pmax	pmax		
	comp=E,64nm,0.4s						
KUR				smax	smax		
	comp=E,797nm,0.6s						
KUR				smax	smax		
	comp=N,454nm,0.7s						
YUK	Yuzh-Kuril'sk	2.84	271	*e*P	Pn	18 12 44.4	+0.6
YUK				AMB	AMB	18 12 48.0	
	comp=N,20nm,0.3s						
YUK				AMB	AMB	18 12 48.0	
	comp=N,20nm,0.3s						
YUK				AMB	AMB	18 12 48.0	
	comp=N,40nm,0.3s						
YUK				*e*S	Sn	18 13 17.7	+0.6
YUK				A	A	18 13 25.9	
	comp=N,70nm,0.4s						
YUK				A	A	18 13 25.9	
	comp=N,240nm,0.4s						
YUK	Yuzh-Kuril'sk	2.84	271	*e*PN	Pn	18 12 44.4	+0.6
YUK				*e*S	Sn	18 13 16.7	-0.4
YUK				pmax	pmax		
	comp=Z,42nm,0.3s						
YUK				pmax	pmax		
	comp=N,17nm,0.4s						
YUK				pmax	pmax		
	comp=E,18nm,0.4s						
YUK				smax	smax		
	comp=E,239nm,0.5s						
YUK				smax	smax		
	comp=N,68nm,0.3s						
GRPR	Tuman	2.91	271	*e*P	Pn	18 12 44.6	-0.1
GRPR				*e*S	Sn	18 13 17.6	-1.2
GRPR				A	A	18 13 28.0	
	comp=N,100nm,0.4s						
GRPR				A	A	18 13 28.0	
	comp=N,190nm,0.4s						
GRPR	Tuman	2.91	271	*e*PN	Pn	18 12 44.6	-0.1
GRPR				*e*S	Sn	18 13 17.6	-1.2
GRPR				smax	smax		
	comp=N,95nm,0.4s						
GRPR				smax	smax		
	comp=E,191nm,0.4s						
NEM2	Nemuro 2	3.02	259	P	Pn	18 12 46.4	+0.2
NEM2				*e*S	Sn	18 13 19.9	-1.6
NMR	Nemuro--Hokkai	3.03	259	*e*P	Pn	18 12 46.1	-0.3
NMR				*e*S	Sn	18 13 19.9	-1.8
NMR	Nemuro--Hokkai	3.03	259	*e*PN	Pn	18 12 46.1	-0.3
NMR				*e*S	Sn	18 13 19.9	-1.8
GLVR	Golovnino	3.11	266	*i* P	Pn	18 12 47.4	-0.1
GLVR				AMB	AMB	18 12 49.0	
	comp=E,70nm,0.5s						
GLVR				*e*S	Sn	18 13 22.8	-0.9
GLVR				A	A	18 13 29.0	
	comp=E,170nm,0.4s						
GLVR				A	A	18 13 29.0	
	comp=E,280nm,0.4s						
GLVR	Golovnino	3.11	266	⇑*i* PN	Pn	18 12 47.4	-0.1
GLVR				*e*S	Sn	18 13 22.8	-0.9
GLVR				pmax	pmax		
	comp=Z,71nm,0.5s						
GLVR				smax	smax		
	comp=N,169nm,0.3s						
GLVR				smax	smax		
	comp=E,282nm,0.3s						
JRA	Rausu	3.38	270	P	Pn	18 12 52.5	+1.3
JNK	Nakash	3.71	265	P	Pn	18 12 56.3	+0.6
JNK				*e*S	Sn	18 13 37.7	-0.8
JAK	Akkeshi	3.86	256	P	Pn	18 12 58.1	+0.4
JAK				*e*S	Sn	18 13 40.5	-1.6
JTKR	Abashiri--Toko	4.25	271	P	Pn	18 13 04.6	+1.4
JAR	Ashorobuto	4.44	263	P	Pn	18 13 07.3	+1.5
JAR				*e*S	Sn	18 13 56.3	-0.2
JOB	Onbets	4.49	258	P	Pn	18 13 07.7	+1.3
JOB				*e*S	Sn	18 13 56.5	-1.2
JMP	Maruseppu	4.65	272	P	Pn	18 13 10.4	+1.7
JCH	Churui	4.91	255	P	Pn	18 13 13.6	+1.4
JCH				*e*S	Sn	18 14 07.0	-1.0
JKA	Kamikawa-asahi	5.19	273	*e*P	Pn	18 13 19.2	+3.1
JKA	Kamikawa-asahi	5.19	273		Pn	18 13 18.6	+2.5
ASAJ	Asahikawa	5.19	273	Pn	Pn	18 13 19.2	+3.1
	comp=E,1.1nm,0.3s,baz=78,slow=12,SNR=15						
ASAJ				Sn	Sn	18 14 23.0	+7.9
	baz=221,slow=32,SNR=0.8						
ERM	Erimo	5.27	250	PN	Pn	18 13 19.8	+2.6
ERM	Erimo	5.27	250		Pn	18 13 19.8	+2.6
JNBK	Urakawa-nobuka	5.45	254	P	Pn	18 13 20.3	+0.7
JBT2	Biratori 2	5.56	260	P	Pn	18 13 22.2	+1.0
YSS	Yuzh-Sakhalins	5.75	303	*e*P	Pn	18 13 24.0	+0.2
JNB	Noboribetsu	6.59	259	P	Pn	18 13 36.5	+1.2
JNB				*e*S	Sn	18 14 48.2	-1.2
JKB	Kayabe	6.78	255	P	Pn	18 13 38.8	+0.9
JKB				*e*S	Sn	18 14 50.0	-4.2
JANG	Nango	7.16	242	*e*S	Sn	18 14 58.5	-5.0
JTH	Tanohata	7.19	238	*e*S	Sn	18 14 58.8	-5.5
JTM	Tenmabayashi	7.23	246	*e*S	Sn	18 15 01.2	-4.1
JOSM	Okushiri--Mats	7.81	259	P	Pn	18 13 53.1	+1.1
OFUJ	Ofunato	7.85	234	*e*S	Sn	18 15 17.4	-3.1
JRG	Rokugo	8.27	239	*e*S	Sn	18 15 27.3	-3.6
JIO	Ouri	8.46	232	*e*S	Sn	18 15 29.9	-5.6
PEA0B	Petropavlovsk-	10.47	27	PN	Pn	18 14 28.2	-0.3
PEA0B	Petropavlovsk-	10.47	27	Pn	Pn	18 14 28.1	-0.3
PETK	Petropavlovsk-	10.47	27	Pn	Pn	18 14 26.9	-1.6
	comp=E,0.1nm,0.3s,baz=224,slow=14,SNR=1.9						
H11N2	WAKE ISLAND Hy	28.13	144	T	T	18 48 57.1	
	baz=335,slow=74,SNR=7.8						
H11N1	WAKE ISLAND Hy	28.14	144	T	T	18 49 00.7	
	baz=59,slow=74,SNR=5.6						
H11N3	WAKE ISLAND Hy	28.15	144	T	T	18 48 55.4	
H11S1	WAKE ISLAND Hy	29.14	146	T	T	18 50 12.2	
	baz=350,slow=74,SNR=5.2						
H11S3	WAKE ISLAND Hy	29.15	146	T	T	18 50 19.2	
	baz=96,slow=74,SNR=3.9						
H11S2	WAKE ISLAND Hy	29.16	146	T	T	18 50 13.3	
TIXI	Tiksi	29.50	347	P	P	18 17 56.9	-4.7
	comp=E,1.5nm,0.5s,baz=112,slow=3.5,SNR=3.7						
TIXI	Tiksi	29.50	347	P	P	18 17 57.8	-3.8
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TIXI	Tiksi	29.50	347	P	P	18 17 57.8	-3.8
SONM	Songino Array	30.13	293	P	P	18 18 07.9	+0.2
SONM				pmax	pmax		
	comp=Z,1.0nm,1.2s						
SONM	Songino Array	30.13	293	P	P	18 18 07.9	+0.2
IMAR	Indian Mountai	37.33	34	P	P	18 19 10.8	+1.0
INK	Inuvik	45.19	31	P	P	18 20 17.9	+3.7
INK	Inuvik	45.19	31	P	P	18 20 17.9	+3.7
INK				IAmb	IAmb	18 20 43.8	
	comp=Z,9.7nm,1.4s						
MK31	Makanchi Array	46.15	298	P	P	18 20 22.4	+0.2
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MK31	Makanchi Array	46.15	298	P	P	18 20 22.4	+0.2
MKAR	Makanch

σ1§27/61, **Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.54**	**66**	P	**Pn**	**18 26 36.8**	**+1.3**
	3.1nm,0.1s,SNR=5.5						
PMAFR				S	**Sb**	**18 27 22.9**	**-3.5**
	2.1nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**3.54**	**66**	*e*Pn	**Pn**	**18 26 36.8**	**+1.3**
PMAFR				*e*Sn	**Sn**	**18 27 21.5**	**+4.0**
PMAFR				A	A	18 27 28.6	
	6.9nm,0.5s						
PFVI	**Vila Bisbo**	**3.70**	**95**	P	Pn	18 26 31.9	-5.7
	1.9nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**18 27 19.8**	**-1.5**
	4.2nm,0.5s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.70**	**95**	*e*Sn	**Sn**	**18 27 20.6**	**-0.6**
PTEO	**Sao Teotonio**	**3.74**	**89**	P	**Pn**	**18 26 38.7**	**+0.5**
PTEO				S	**Sn**	**18 27 22.5**	**+0.2**
PTEO	**Sao Teotonio**	**3.74**	**89**	*e*Pn	**Pn**	**18 26 38.7**	**+0.5**
PTEO				*e*Sn	**Sn**	**18 27 22.5**	**+0.2**
MORF	**Marmelete**	**3.81**	**93**	S	**Sn**	**18 27 25.3**	**+1.1**
	3.8nm,0.3s						
MORF	**Marmelete**	**3.81**	**93**	*e*Sn	**Sn**	**18 27 25.3**	**+1.1**
MORF				A	A	18 27 28.7	
	3.8nm,0.3s						
PNCL	**Nicolau / Gran**	**3.92**	**81**	P	**Pn**	**18 26 41.0**	**+0.4**
PNCL				S	**Sn**	**18 27 28.4**	**+1.7**
	2.9nm,0.1s						
PNCL	**Nicolau / Gran**	**3.92**	**81**	*e*Pn	**Pn**	**18 26 41.0**	**+0.4**
PNCL				*e*Sn	**Sn**	**18 27 28.4**	**+1.7**
PNCL				A	A	18 27 33.3	
	2.9nm,0.1s						
PCVE	**Castro Verde**	**4.28**	**88**	P	**Pn**	**18 26 45.5**	**-0.2**
PCVE				S	**Sn**	**18 27 36.6**	**+0.9**
	1.9nm,0.4s						
PCVE	**Castro Verde**	**4.28**	**88**	*e*Pn	**Pn**	**18 26 45.5**	**-0.2**
PCVE				*e*Sn	**Sn**	**18 27 36.6**	**+0.9**
PCVE				A	A	18 27 39.2	
	1.9nm,0.4s						
PMTG	**Montargil**	**4.36**	**68**	P	**Pn**	**18 26 47.8**	**+1.1**
PMTG				S	**Sn**	**18 27 39.8**	**+2.3**
	1.3nm,0.6s						
PMTG	**Montargil**	**4.36**	**68**	*e*Pn	**Pn**	**18 26 47.8**	**+1.1**
PMTG				*e*Sn	**Sn**	**18 27 39.8**	**+2.3**
PMTG				A	A	18 27 45.8	
	1.3nm,0.6s						
EVO	**Evora**	**4.38**	**76**	P	**Pn**	**18 26 47.7**	**+0.6**
EVO				S	**Sn**	**18 27 39.5**	**+1.3**
EVO	**Evora**	**4.38**	**76**	*e*P	**Pn**	**18 26 47.6**	**+0.6**
EVO				*e*S	**Sn**	**18 27 38.2**	**0.0**
EVO	**Evora**	**4.38**	**76**	*e*Pn	**Pn**	**18 26 47.7**	**+0.6**
EVO				*e*Sn	**Sn**	**18 27 39.5**	**+1.3**
PBDV	**Barranco-do-Ve**	**4.39**	**93**	P	**Pn**	**18 26 47.5**	**+0.3**
PBDV				S	**Sn**	**18 27 39.0**	**+0.6**
PBDV	**Barranco-do-Ve**	**4.39**	**93**	*e*Pn	**Pn**	**18 26 47.5**	**+0.3**
PBDV				*e*Sn	**Sn**	**18 27 39.0**	**+0.6**
PBEJ	**Beja**	**4.43**	**82**	S	**Sn**	**18 27 40.7**	**+1.3**
PBEJ	**Beja**	**4.43**	**82**	*e*Sn	**Sn**	**18 27 40.7**	**+1.3**
PVAQ	**Vaqueiros**	**4.55**	**90**	P	**Pn**	**18 26 50.2**	**+0.9**
PVAQ				S	**Sn**	**18 27 42.6**	**+0.4**
	1.9nm,0.1s						
PVAQ	**Vaqueiros**	**4.55**	**90**	*e*Pn	**Pn**	**18 26 50.2**	**+0.9**
PVAQ				*e*Sn	**Sn**	**18 27 42.6**	**+0.4**
PVAQ				A	A	18 27 45.7	
	1.9nm,0.1s						
EGRO	**El Granado**	**4.73**	**89**	P	**Pn**	**18 26 52.0**	**+0.2**
	0.5nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**18 27 46.2**	**-0.5**
	0.2nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**5.09**	**67**	P	**Pn**	**18 26 57.8**	**+1.1**
PMRV	**Marv??o**	**5.09**	**67**	*e*Pn	**Pn**	**18 26 57.8**	**+1.1**
EBAD	**Badajoz**	**5.19**	**75**	P	**Pn**	**18 26 56.7**	**-1.5**
	1.3nm,0.1s,SNR=4.0						
EBAD				S	**Sn**	**18 27 59.5**	**+1.3**
	0.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.37**	**86**	P	**Pn**	**18 27 01.0**	**+0.4**
	0.5nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**18 28 01.6**	**-0.8**
	0.3nm,0.3s,SNR=7.9						
EZAM	**Zamans**	**5.84**	**37**	S	**Sn**	**18 28 14.3**	**+0.2**
	1.1nm,0.3s,SNR=4.0						
PGAV	**Gavieira, Arco**	**5.92**	**41**	P	**Pn**	**18 27 08.9**	**+0.7**
PGAV				S	**Sn**	**18 28 16.4**	**+0.2**
PGAV	**Gavieira, Arco**	**5.92**	**41**	*e*Pn	**Pn**	**18 27 08.9**	**+0.7**
PGAV				*e*Sn	**Sn**	**18 28 16.4**	**+0.2**
ELOB	**Lobios**	**5.96**	**42**	P	**Pn**	**18 27 10.1**	**+1.3**
	0.2nm,0.1s,SNR=4.0						
ELOB				S	**Sn**	**18 28 16.6**	**-0.5**
	0.6nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**6.12**	**52**	S	**Sn**	**18 28 21.9**	**+0.8**
	0.4nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**6.12**	**52**	*e*Sn	**Sn**	**18 28 21.5**	**+0.4**
EMAZ	**Mazaricos**	**6.36**	**31**	P	Pn	18 27 09.5	-4.7
	0.4nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**18 28 23.5**	**-3.3**
	0.4nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.36**	**83**	P	**Pn**	**18 27 15.1**	**+0.8**
	0.3nm,0.2s,SNR=5.5						
ECAB				S	**Sn**	**18 28 25.4**	**-1.7**
	0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.03**	**82**	P	**Pn**	**18 27 24.3**	**+0.8**
	0.3nm,0.1s,SNR=7.9						

*IDC **08** 18:45:44.0±2.7, 36°.05N×140°.90E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.2/56, mbtmp3.6/3, ML2.6/2, Error ellipse: s-maj=49.6km s-min=26.7km az=47.0*
*JMA **08** 18:45:46.4±0.1, 36°.45N×141°.10E, h43km±2km, M3.1*
ISC 08 18:45:44.3±1.2, 36°.45N±0°.05×141°.15E±0°.08, h20km±8km, n20, σ1§03/23, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.47**	**257**	P	**Pn**	**18 45 56.5**	**+0.7**
JHYU				S	**Sn**	**18 46 03.2**	**-0.3**
JHO	**Hitachi**	**0.50**	**289**	P	**Pn**	**18 45 56.6**	**+0.4**
JHO				S	**Sn**	**18 46 03.4**	**-0.8**
JIHU	**Itakohorinouch**	**0.70**	**227**	P	**Pn**	**18 46 00.1**	**+1.1**
JIHU				S	**Sn**	**18 46 09.7**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.71**	**336**	P	**Pn**	**18 45 59.5**	**+0.3**
ONAJ				*e*S	**Sn**	**18 46 08.2**	**-1.4**
JYT	**Yasato**	**0.81**	**254**	P	**Pn**	**18 46 00.8**	**+0.4**
JYT				*e*S	**Sb**	**18 46 10.5**	**+0.5**
JFK	**Kawauchi**	**0.94**	**346**	P	**Pn**	**18 46 02.6**	**+0.2**
JFT	**Otama**	**1.25**	**329**	P	**Pb**	**18 46 08.3**	**+1.1**
JFT				*e*S	**Sb**	**18 46 23.5**	**+0.6**
JAG	**Ashikaga**	**1.37**	**269**	P	**Pb**	**18 46 09.0**	**-0.2**
JMM	**Marumori**	**1.44**	**349**	P	**Pb**	**18 46 10.3**	**-0.1**
JMM				*e*S	**Sn**	**18 46 27.3**	**-0.3**
MJAR	**Matsushiro Arr**	**2.37**	**273**	Pn	**Pn**	**18 46 22.1**	**0.0**
	0.3nm,0.3s,baz=101,slow=27,SNR=18						
MJAR				Sn	**Sn**	**18 46 50.0**	**-0.6**
	0.4nm,0.3s,baz=86,slow=14,SNR=3.5						
MAT	**Matsushiro**	**2.38**	**273**	P	**Pn**	**18 46 24.1**	**+2.0**
MAT				S	**Sb**	**18 46 53.3**	**-1.9**
JHJ	**Hachijo jima 2**	**3.51**	**199**	Pn	Pn	18 46 33.6	-4.0
	8.9nm,0.3s,baz=240,slow=22,SNR=2.5						
JHJ				Sn	**Sn**	**18 47 16.4**	**-2.2**
	11nm,0.3s,baz=69,slow=22,SNR=1.2						
H11N2	**WAKE ISLAND Hy 28.04**	**119**		T	T	19 21 02.4	
	baz=313,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy 28.04**	**120**		T	T	19 21 02.4	
	baz=313,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy 28.05**	**119**		T	T	19 21 02.1	
	baz=313,slow=75,SNR=10.0						
H11S1	**WAKE ISLAND Hy 28.73**	**122**		T	T	19 21 52.8	
	baz=314,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy 28.73**	**122**		T	T	19 21 52.8	
	baz=314,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy 28.74**	**122**		T	T	19 21 54.0	
	baz=314,slow=76,SNR=21						
WRA	**Warramunga Arr**	**56.45**	**188**	P	**P**	**18 55 24.4**	**-0.2**
	0.3nm,0.6s,baz=5.3,slow=7.5,SNR=5.0						
ASAR	**Alice Springs**	**60.18**	**188**	P	**P**	**18 55 50.9**	**+0.2**
	0.3nm,0.7s,baz=9.6,slow=6.1,SNR=4.5						

*WEL **08** 19:03:47.6±1.2, 35°.S±6°.×17°.9E±1°.2, h33km, M4.2/23, ML4.5/23, MLv4.2/23, Error ellipse: s-maj=0.0km s-min=0.0km az=78.6*
*NEIC **08** 19:03:52.8±1.0, 35°.9S±0°.2×179°.6E±0°.2, h250km±9km, mb4.1/7, Error ellipse: s-maj=21.9km s-min=18.1km az=181.0*

*IDC **08** 19:03:55.8±3.3, 35°.79S×179°.15E, h248km±30km, mb3.6/2, mb1 3.7/4, mb1mx3.2/41, mbtmp4.1/4, Error ellipse: s-maj=56.1km s-min=42.3km az=147.0*
ISC 08 19:03:53.9±1.5, 35°.8S±0°.1×179°.4E±0°.1, h265km±8km, n65, σ1§28/67, mb3.9/5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.94**	**206**	P	**Pn**	**19 04 34.5**	**-2.6**
MXZ				S	**S**	**19 05 09.0**	**-2.3**
WMGZ	**Waiomatatini S**	**2.14**	**201**	P	**Pn**	**19 04 37.9**	**-0.9**
HAZ	**Te Kaha**	**2.32**	**213**	P	**Pn**	**19 04 38.2**	**-2.2**
HAZ				S	**S**	**19 05 17.2**	**-0.2**
PUZ	**Puketiti**	**2.42**	**202**	P	**Pn**	**19 04 40.5**	**-0.9**
PUZ				S	**S**	**19 05 19.5**	**+0.3**
RUGZ	**Raukumara Rang**	**2.54**	**212**	P	**Pn**	**19 04 41.0**	**-1.7**
TWGZ	**Tauwhareparae**	**2.61**	**205**	P	**Pn**	**19 04 42.8**	**-0.5**
TWGZ				S	**S**	**19 05 25.6**	**+3.1**
CNGZ	**Carnagh Statio**	**2.82**	**199**	P	**Pn**	**19 04 45.7**	**+0.3**
TKGZ	**Te Karaka**	**2.89**	**205**	P	**Pn**	**19 04 45.8**	**-0.3**
TKGZ				S	**S**	**19 05 29.7**	**+2.1**
MWZ	**Matawai**	**2.92**	**210**	P	**Pn**	**19 04 45.9**	**-0.5**
MWZ				S	**S**	**19 05 29.8**	**+1.6**
URZ	**Urewera**	**3.04**	**216**	P	**Pn**	**19 04 46.0**	**-1.6**
	5.2nm,0.3s,baz=76,slow=4.2,SNR=72						
URZ				S	**S**	**19 05 29.8**	**-0.5**
	8.6nm,0.3s,baz=154,slow=20,SNR=13						
URZ	**Urewera**	**3.04**	**216**	P	**Pn**	**19 04 46.0**	**-1.6**
URZ	**Urewera**	**3.04**	**216**		**Pn**	**19 04 46.2**	**-1.4**
KUZ	**Kuaotunu**	**3.10**	**252**	P	Pn	19 04 40.8	-7.5
GRZ	**Great Barrier**	**3.21**	**261**	P	Pn	19 04 40.3	-9.1
MUGZ	**Murupara**	**3.38**	**217**	P	**Pn**	**19 04 50.0**	**-1.3**
SNGZ	**Shannon Statio**	**3.38**	**208**	P	**Pn**	**19 04 51.6**	**+0.3**
RTZ	**Ruatahuna**	**3.39**	**214**	P	**Pn**	**19 04 50.3**	**-1.1**
WIAZ	**Waiheke Island**	**3.57**	**253**	P	Pn	19 04 46.7	-6.7
RAHZ	**Arahi**	**3.59**	**210**	P	**Pn**	**19 04 53.5**	**-0.1**
MTHZ	**Maungataniwha**	**3.65**	**213**	P	**Pn**	**19 04 53.7**	**-0.6**
TOZ	**Tahuroa Road**	**3.66**	**237**	P	**Pn**	**19 04 54.2**	**-0.1**
ALRZ	**Allen Road**	**3.66**	**221**	P	**Pn**	**19 04 54.2**	**-0.2**
WHHZ	**Waihua**	**3.68**	**207**	P	**Pn**	**19 04 54.7**	**+0.2**
WPRZ	**Whakapapatarin**	**3.73**	**223**	P	**Pn**	**19 04 55.1**	**-0.1**
MBAZ	**Motutapu North**	**3.75**	**254**	P	Pn	19 04 49.3	-6.1
NMHZ	**Naumai**	**3.86**	**211**	P	**Pn**	**19 04 56.8**	**+0.1**
KUTZ	**Kaahu Road**	**3.90**	**226**	P	**Pn**	**19 04 57.1**	**-0.1**
ARHZ	**Aropaoanui**	**3.93**	**208**	P	**Pn**	**19 04 57.5**	**0.0**
TLZ	**Tolley Road**	**3.97**	**230**	P	**Pn**	**19 04 57.4**	**-0.5**
BKZ	**Black Stump Fm**	**4.06**	**214**	P	**Pn**	**19 04 58.5**	**-0.5**
BKZ	**Black Stump Fm**	**4.06**	**214**	Pn	**Pn**	**19 04 58.9**	**-0.1**
WCZ	**Waipu Caves**	**4.09**	**267**	P	Pn	19 04 49.6	-10
MCHZ	**McNeill Hill**	**4.20**	**210**	P	**Pn**	**19 05 00.5**	**-0.1**
KRHZ	**Kereru**	**4.50**	**211**	P	**Pn**	**19 05 03.2**	**-1.0**
HIZ	**Hauiti**	**4.51**	**232**	Pn	**Pn**	**19 05 04.8**	**+0.6**
BHHZ	**Black Hill Sta**	**4.51**	**215**	P	**Pn**	**19 05 03.7**	**-0.7**
BFZ	**Birch Farm**	**5.45**	**206**	Pn	**Pn**	**19 05 15.6**	**+0.2**
MSWZ	**Moikau Station**	**6.46**	**209**	Pn	**Pn**	**19 05 29.0**	**+1.1**
PLWZ	**Palliser**	**6.59**	**208**	Pn	**Pn**	**19 05 29.2**	**-0.3**
SNZO	**South Karori**	**6.60**	**212**	Pn	**Pn**	**19 05 27.6**	**-1.9**
TUWZ	**Tuamarina**	**7.04**	**216**	Pn	**Pn**	**19 05 33.0**	**-2.0**
NNZ	**Nelson**	**7.16**	**219**	Pn	**Pn**	**19 05 34.6**	**-1.9**
BSWZ	**Blackbirch Sta**	**7.29**	**214**	Pn	**Pn**	**19 05 37.1**	**-1.2**
QRZ	**Quartz Range**	**7.35**	**225**	Pn	**Pn**	**19 05 38.7**	**-0.3**
THZ	**Tophouse**	**7.80**	**218**	Pn	**Pn**	**19 05 43.9**	**-0.8**
KHZ	**Kahutara**	**8.00**	**213**	Pn	**Pn**	**19 05 46.5**	**-0.6**
LTZ	**Lake Taylor**	**8.87**	**216**	Pn	**Pn**	**19 05 57.0**	**-1.1**
OXZ	**Oxford**	**9.40**	**215**	Pn	**Pn**	**19 06 03.4**	**-1.3**
MQZ	**McQueen's Vall**	**9.43**	**211**	Pn	**Pn**	**19 06 03.9**	**-1.0**
RPZ	**Rata Peaks**	**10.16**	**217**	P	**Pn**	**19 06 13.3**	**-0.8**
	0.4nm,0.3s,baz=351,slow=14,SNR=8.2						
RPZ				S	**S**	**19 08 06.3**	**-2.0**
	0.3nm,0.3s,baz=315,slow=20,SNR=1.7						
RPZ	**Rata Peaks**	**10.16**	**217**		**Pn**	**19 06 13.6**	**-0.6**
LBZ	**Lake Benmore**	**11.08**	**217**	Pn	**Pn**	**19 06 25.1**	**-0.4**
ODZ	**Otahua Downs**	**11.36**	**213**	Pn	**Pn**	**19 06 29.6**	**+0.5**
MCQ	**Macquarie Isla**	**23.44**	**211**	P	**P**	**19 08 39.0**	**-0.4**
AS31	**Alice Springs**	**40.97**	**274**	P	**P**	**19 11 13.4**	**+2.1**
ASAR	**Alice Springs**	**40.97**	**274**	P	**P**	**19 11 13.5**	**+2.2**
	1.8nm,0.4s,baz=114,slow=8.0,SNR=52						
ASAR	**Alice Springs**	**40.97**	**274**	P	**P**	**19 11 13.2**	**+1.9**
WR0	**Warramunga Arr**	**42.29**	**280**	P	**P**	**19 11 23.4**	**+1.5**
WR0				IAmb	IAmb	19 11 24.9	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**42.45**	**280**	P	**P**	**19 11 24.7**	**+1.5**
WRA	**Warramunga Arr**	**42.46**	**280**	P	**P**	**19 11 24.7**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=118,slow=7.8,SNR=31						
WRA	**Warramunga Arr**	**42.46**	**280**	P	**P**	**19 11 24.6**	**+1.3**
WB0	**Warramunga Arr**	**42.51**	**280**	P	**P**	**19 11 25.2**	**+1.5**
WB0				IAmb	IAmb	19 11 52.2	
	comp=Z,7.5nm,1.1s						
SNAA	**Sanae**	**72.80**	**179**	P	**P**	**19 14 53.0**	**-0.2**
SNAA				IAmb	IAmb	19 15 01.3	
	comp=Z,5.3nm,1.4s						
KSAR	**Wonju Array Be**	**87.13**	**321**	P	P	19 16 14.4	+4.7
FINES	**FINESS Array B**	**149.30**	**335**	PKPbc	**PKPab**	**19 23 14.0**	**-1.9**
	comp=Z,1.2nm,0.7s,baz=45,slow=6.1,SNR=3.5						

*SNET **08** 19:04:44.4±1.5, 13°.69N×90°.77W, h18km±4km, ML4.1*
*UCR **08** 19:04:44.6±1.4, 13°.69N×90°.78W, h19km±4km, ML4.0*
*GCG **08** 19:04:45.6±0.7, 13°.73N×90°.94W, h3km±7km, MD4.0*
ISC 08 19:04:42.6±2.0, 13°.57N±0°.07×90°.83W±0°.05, h13km±11km, n50, σ0§72/75, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.71**	**32**	*e*P	**Pn**	**19 04 58.8**	**+0.3**
PCG	**Pacaya**	**0.85**	**15**	*e*P	**Pn**	**19 05 01.1**	**+0.6**
FUG	**Fuego 3**	**0.88**	**359**	*e*P	**Pn**	**19 05 01.3**	**+0.5**
NBG	**Las Nubes**	**1.12**	**25**	*e*P	**Pn**	**19 05 05.9**	**+1.7**
NBG				*e*S	**Sn**	**19 05 21.3**	**+1.7**
ERG	**Entre ros, C**	**1.13**	**321**	*e*S	**Sb**	**19 05 17.2**	**-1.4**
RTR	**El Retiro**	**1.20**	**74**	*e*P	**Pb**	**19 05 05.4**	**+0.2**
RTR	**El Retiro**	**1.20**	**74**	*e*P	**Pb**	**19 05 05.4**	**+0.2**
CEVE	**Cerro Verde**	**1.20**	**77**	*e*P	**Pb**	**19 05 05.3**	**0.0**
CEVE				*e*S	**Sg**	**19 05 21.8**	**+0.4**
CEVE				IAML		19 05 26.7	
	comp=Z,6μm,0.3s						
CEVE	**Cerro Verde**	**1.20**	**77**	*e*P	**Pb**	**19 05 05.3**	**0.0**
CEVE				*e*S	**Sg**	**19 05 21.8**	**+0.4**
CEVE				IAML		19 05 26.7	
	comp=Z,6μm,0.3s						
SBLS	**San Blas**	**1.20**	**77**	*e*P	**Pn**	**19 05 05.1**	**-0.2**
SBLS	**San Blas**	**1.20**	**77**	*e*P	**Pn**	**19 05 05.1**	**-0.2**
SNJE	**San Jose**	**1.23**	**76**	*e*P	**Pn**	**19 05 05.4**	**-0.2**
SNJE	**San Jose**	**1.23**	**76**	*e*P	**Pn**	**19 05 05.4**	**-0.2**
RTAL	**Retalhuleu**	**1.27**	**319**	*e*P	**Pn**	**19 05 06.0**	**-0.1**
RTAL				*e*S	**Sb**	**19 05 22.2**	**-0.5**
JAYA	**Jayaque - finc**	**1.35**	**86**	*e*P	**Pn**	**19 05 06.9**	**-0.4**
JAYA				*e*S	**Sb**	**19 05 24.3**	**-0.7**
JAYA				IAML		19 05 27.9	
	comp=Z,3μm,0.3s						
JAYA	**Jayaque - finc**	**1.35**	**86**	*e*P	**Pn**	**19 05 06.9**	**-0.4**
JAYA				*e*S	**Sb**	**19 05 24.3**	**-0.7**
JAYA				IAML		19 05 27.9	
	comp=Z,3μm,0.3s						
CEDA	**San Andres**	**1.42**	**80**	*e*P	**Pn**	**19 05 07.9**	**-0.2**
CEDA				*e*S	**Sn**	**19 05 25.9**	**-0.7**
CEDA				IAML		19 05 34.5	
	comp=Z,2μm,0.4s						
CEDA	**San Andres**	**1.42**	**80**	*e*P	**Pn**	**19 05 07.9**	**-0.2**
CEDA				*e*S	**Sn**	**19 05 25.9**	**-0.7**
CEDA				IAML		19 05 34.5	
	comp=Z,2μm,0.4s						
TACO	**Tacachico**	**1.49**	**74**	*e*P	**Pn**	**19 05 09.2**	**+0.1**
TACO				*e*S	**Sb**	**19 05 28.4**	**-0.5**
TACO	**Tacachico**	**1.49**	**74**	*e*P	**Pn**	**19 05 09.2**	**+0.1**
TACO				*e*S	**Sb**	**19 05 28.4**	**-0.5**
BOQS	**Boqueron**	**1.52**	**83**	*e*P	**Pn**	**19 05 09.6**	**0.0**
BOQS	**Boqueron**	**1.52**	**83**	*e*P	**Pn**	**19 05 09.6**	**0.0**
UEES	**Universidad Ev**	**1.55**	**84**	*e*P	**Pn**	**19 05 10.4**	**+0.4**
UEES				*e*S	**Sn**	**19 05 29.6**	**-0.5**
UEES	**Universidad Ev**	**1.55**	**84**	*e*P	**Pn**	**19 05 10.4**	**+0.4**
UEES				*e*S	**Sn**	**19 05 29.6**	**-0.5**
SNET	**Serv Nac Est T**	**1.56**	**85**	*e*P	**Pn**	**19 05 09.9**	**-0.1**
SNET	**Serv Nac Est T**	**1.56**	**85**	*e*P	**Pn**	**19 05 09.9**	**-0.1**
SNET				*e*S	**Sn**	**19 05 29.3**	**-0.9**
OPAM	**Oficina de Pla**	**1.59**	**85**	*e*P	**Pn**	**19 05 11.0**	**+0.4**
OPAM				*e*S	**Sn**	**19 05 30.8**	**-0.2**
OPAM				IAML		19 05 32.5	
	comp=Z,3μm,0.2s						
OPAM	**Oficina de Pla**	**1.59**	**85**	*e*P	**Pn**	**19 05 11.0**	**+0.4**
OPAM				*e*S	**Sn**	**19 05 30.8**	**-0.2**
OPAM				IAML		19 05 32.5	
	comp=Z,3μm,0.2s						
MTO3	**Montecristo**	**1.65**	**60**	*e*P	**Pn**	**19 05 11.4**	**0.0**
MTO3				*e*S	**Sb**	**19 05 32.5**	**-1.3**
MTO3	**Montecristo**	**1.65**	**60**	*e*P	**Pn**	**19 05 11.4**	**0.0**
MTO3				*e*S	**Sb**	**19 05 32.5**	**-1.3**
LFU	**La Fuente**	**1.68**	**84**	*e*P	**Pn**	**19 05 12.8**	**+1.1**
LFU	**La Fuente**	**1.68**	**84**	*e*P	**Pn**	**19 05 12.8**	**+1.1**
LFRS	**El Faro**	**1.72**	**88**	*e*P	**Pn**	**19 05 12.9**	**+0.6**
LFRS	**El Faro**	**1.72**	**88**	*e*P	**Pn**	**19 05 12.9**	**+0.6**
LBRS	**Las Brisas**	**1.75**	**84**	*e*P	**Pn**	**19 05 13.3**	**+0.7**
LBRS	**Las Brisas**	**1.75**	**84**	*e*P	**Pn**	**19 05 13.3**	**+0.7**
ESQI	**Esquipulas**	**1.75**	**55**	*e*P	**Pn**	**19 05 13.1**	**+0.3**
ESQI				*e*S	**Sb**	**19 05 34.8**	**-1.8**
PAVA	**Las Pavas**	**1.85**	**85**	*e*P	**Pn**	**19 05 14.5**	**+0.5**
PAVA				*e*S	**Sb**	**19 05 39.5**	**+0.1**
PAVA	**Las Pavas**	**1.85**	**85**	*e*P	**Pn**	**19 05 14.5**	**+0.5**
PAVA				*e*S	**Sb**	**19 05 39.5**	**+0.1**
MRL	**Marmol**	**1.87**	**36**	*e*P	**Pg**	**19 05 18.0**	**-0.6**
MRL				*e*S	**Sg**	**19 05 43.7**	**+0.8**
COEG	**Centro de Oper**	**1.90**	**88**	*e*P	**Pn**	**19 05 15.4**	**+0.7**
COEG				*e*S	**Sn**	**19 05 39.3**	**+0.7**
COEG				IAML		19 05 45.3	
	comp=Z,2μm,0.3s						
COEG	**Centro de Oper**	**1.90**	**88**	*e*P	**Pn**	**19 05 15.4**	**+0.7**
COEG				*e*S	**Sn**	**19 05 39.3**	**+0.7**
COEG				IAML		19 05 45.3	
	comp=Z,2μm,0.3s						
TECA	**Tecapa**	**2.27**	**92**	*e*P	**Pn**	**19 05 20.7**	**+0.8**
TECA	**Tecapa**	**2.27**	**92**	*e*P	**Pn**	**19 05 20.7**	**+0.8**
BLLM	**Bellamira**	**2.52**	**92**	*e*P	**Pn**	**19 05 24.9**	**+1.5**
BLLM	**Bellamira**	**2.52**	**92**	*e*P	**Pn**	**19 05 24.9**	**+1.5**
CAHU	**Cacacuatique**	**2.55**	**85**	*e*P	**Pn**	**19 05 24.8**	**+0.9**
CAHU	**Cacacuatique**	**2.55**	**85**	*e*P	**Pn**	**19 05 24.8**	**+0.9**
LCND	**La Caada**	**2.87**	**95**	*e*P	**Pn**	**19 05 28.3**	**+0.2**
LCND				*e*S	**Sn**	**19 06 03.1**	**+0.6**
LCND				IAML		19 06 05.8	
	comp=Z,618nm,0.4s						
LCND	**La Caada**	**2.87**	**95**	*e*P	**Pn**	**19 05 28.3**	**+0.2**
LCND				*e*S	**Sn**	**19 06 03.1**	**+0.6**
LCND				IAML		19 06 05.8	
	comp=Z,618nm,0.4s						

*MEX **08** 19:09:23.1±0.3, 14°.14N×92°.18W, h20km±999km, MD3.7*
*GCG **08** 19:09:26.3±0.3, 14°.37N×91°.67W, h50km, MD3.3*
ISC 08 19:09:23.0±3.1, 14°.5N±0°.5×91°.9W±0°.3, h67km, n4, σ0§20/5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.34**	**98**	*e*P	**Pn**	**19 09 34.2**	**+0.1**
FUG	**Fuego 3**	**1.04**	**92**	*e*P	**Pn**	**19 09 41.9**	**-0.1**
IXG	**Ixpaco**	**1.46**	**102**	*e*P	**Pn**	**19 09 47.4**	**-0.1**
PCIG		**1.75**	**314**	*e*P	**Pn**	**19 09 51.0**	**-0.1**
PCIG				*i* S	**Sn**	**19 10 12.6**	**+0.2**

IDC 08 19:12:11.4±7.8, 12°.41N×91°.65E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/46, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=161.8km s-min=50.4km az=105.0, Andaman Islands region

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time

HOWZ	Holdsworth Sta	3.57	51	P		Pn	20 07 40.7	-0.5
MRZ	Mangatainoka R	3.77	48	P		Pn	20 07 41.8	-2.0
SYZ	Scrubby Hill	3.84	210	P		Pn	20 07 44.6	-0.2
WHZ	Wether Hill Ro	3.87	225	P		Pn	20 07 43.6	-1.7
WAZ	Wanganui	4.18	35	P		Pn	20 07 52.9	+3.4
PREZ	Palmer Road	4.24	25	P		Pn	20 07 51.9	+1.5
KHEZ	Kahui Hut	4.25	23	P		Pn	20 07 51.4	+1.0
PKE	Pukeiti	4.33	22	P		Pn	20 07 52.5	+0.9
ANWZ	Angora Road	4.41	53	P		Pn	20 07 54.0	+1.3
APZ	The Paps	4.54	216	P		Pn	20 07 53.7	-0.7
VRZ	Vera Road	4.64	29	P		Pn	20 07 58.6	+2.8
MOVZ	Moawhango	4.80	39	P		Pn	20 07 59.9	+1.8
BHHZ	Black Hill Sta	4.88	42	P		Pn	20 08 01.8	+2.6
OTVZ	Oturere	4.96	36	P		Pn	20 08 03.6	+3.2
HIZ	Hauiti	5.22	27	P		Pn	20 08 06.3	+2.5
ASAR	Alice Springs	36.80	290	P		P	20 13 54.0	+0.1
	0.3nm,0.6s,baz=126,slow=7.2,SNR=5.1							
WRA	Warramunga Arr	39.05	294	P		P	20 14 12.1	-0.7
	0.4nm,0.6s,baz=130,slow=8.3,SNR=2.2							
FINES	FINESS Array B	152.75	324	PKPbc		PKPdf	20 26 26.2	-8.3
	0.9nm,0.8s,baz=33,slow=3.3,SNR=5.8							

*JMA **08** 20:15:47.2±0.5, 44°.49N×149°.75E, h30km, M3.5*
*SKHL **08** 20:15:47.1±0.3, 44°.22N×149°.81E, h44km±3km, mb4.1/1*

ISC 08 20:15:45.5±3.9, 44°.10N±0°.09×149°.9E±0°.2, h51km, n20, σ2§22/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**1.85**	**308**	*eP*		**Pn**	**20 16 14.2**	**-0.5**
KUR				AMB		AMB	20 16 15.0	
	80nm,0.4s							
KUR				*eS*		**Sn**	**20 16 34.4**	**-2.5**
KUR				A		A	20 16 39.0	
	100nm,0.6s							
KUR				A		A	20 16 39.0	
	250nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**2.92**	**270**	*eS*		**Sn**	**20 17 01.9**	**-1.4**
GRPR	**Tuman**	**2.99**	**269**	*eP*		**Pn**	**20 16 30.8**	**+0.4**
GRPR				*eS*		**Sn**	**20 17 03.8**	**-1.2**
GRPR				A		A	20 17 04.0	
	40nm,0.5s							
GRPR				A		A	20 17 04.0	
	60nm,0.5s							
NEM2	**Nemuro 2**	**3.11**	**258**	P		**Pn**	**20 16 33.1**	**+1.1**
NEM2				*eS*		**Sn**	**20 17 06.8**	**-1.2**
NMR	**Nemuro--Hokkai**	**3.12**	**258**	*eP*		**Pn**	**20 16 32.8**	**+0.6**
NMR				*eS*		**Sn**	**20 17 07.0**	**-1.2**
GLVR	**Golovnino**	**3.20**	**265**	*eP*		**Pn**	**20 16 33.7**	**+0.5**
GLVR				*eS*		**Sn**	**20 17 10.6**	**+0.5**
GLVR				A		A	20 17 15.0	
	30nm,0.5s							
GLVR				A		A	20 17 15.0	
	110nm,0.5s							
JRA	**Rausu**	**3.46**	**269**	P		**Pn**	**20 16 39.5**	**+2.7**
JNK	**Nakash**	**3.80**	**264**	P		**Pn**	**20 16 43.2**	**+1.8**
JNK				*eS*		**Sn**	**20 17 24.7**	**-0.1**
JAK	**Akkeshi**	**3.95**	**256**	*eS*		**Sn**	**20 17 27.6**	**-1.0**
JTKR	**Abashiri--Toko**	**4.33**	**270**	P		**Pn**	**20 16 51.4**	**+2.6**
JAR	**Ashorobuto**	**4.53**	**262**	P		**Pn**	**20 16 54.0**	**+2.5**
JAR				*eS*		**Sn**	**20 17 43.7**	**+0.9**
JOB	**Onbets**	**4.58**	**257**	*eS*		**Sn**	**20 17 43.1**	**-1.0**
JCH	**Churui**	**5.00**	**255**	P		**Pn**	**20 17 00.4**	**+2.4**
JCH				*eS*		**Sn**	**20 17 53.6**	**-0.9**
JNB	**Noboribetsu**	**6.68**	**259**	P		**Pn**	**20 17 23.5**	**+2.5**
JNB				*eS*		**Sn**	**20 18 35.1**	**-0.6**
JKB	**Kayabe**	**6.88**	**254**	P		**Pn**	**20 17 25.7**	**+2.0**
JKB				*eS*		**Sn**	**20 18 37.7**	**-2.9**
JANG	**Nango**	**7.26**	**242**	*eS*		**Sn**	**20 18 45.8**	**-4.2**
JTH	**Tanohata**	**7.30**	**238**	*eS*		**Sn**	**20 18 45.8**	**-5.0**
JTM	**Tenmabayashi**	**7.33**	**246**	*eS*		**Sn**	**20 18 48.1**	**-3.6**
JOSM	**Okushiri--Mats**	**7.91**	**259**	P		**Pn**	**20 17 40.3**	**+2.6**
JRG	**Rokugo**	**8.38**	**239**	*eS*		**Sn**	**20 19 15.6**	**-1.8**

*NEIC **08** 20:21:56.9±1.8, 35°.81N±0°.01×97°.43W±0°.05, h4km±7km, Error ellipse: s-maj=6.2km s-min=1.6km az=81.0*
*ANF **08** 20:21:56.6±0.2, 35°.77N×97°.41W, ML4.3/14, Error ellipse: s-maj=2.5km s-min=1.5km az=70.0*
*TUL **08** 20:21:56.8±2.0, 35°.82N±0°.02×97°.42W±0°.06, h4km±6km, ML3.2, Mwr3.3/23(SLM), Error ellipse: s-maj=7.3km s-min=2.2km az=78.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.06; $M_{\theta\theta}$1.13; $M_{\phi\phi}$-1.18; $M_{r\theta}$-0.33; $M_{\theta\phi}$0.45; $M_{r\phi}$0.10;*

ISC 08 20:21:56.8±1.0, 35°.84N±0°.02×97°.42W±0°.03, h4km±7km, n93, σ0§77/109, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK029	**Liberty Lake**	**0.05**	**210**			**Pg**	**20 21 57.9**	**-0.1**
OK029				Sg		**Sg**	**20 21 58.9**	**0.0**
ADOK	**Arcadia Dam**	**0.19**	**167**	Pg		**Pg**	**20 22 00.5**	**-0.1**
BCOK	**Bluff Creek, N**	**0.24**	**220**			**Pg**	**20 22 01.3**	**-0.1**
BCOK				Sg		**Sg**	**20 22 04.8**	**+0.3**
OK009	**Oakdale Elemen**	**0.26**	**180**			**Pg**	**20 22 01.7**	**-0.1**
OK009				Sg		**Sg**	**20 22 05.6**	**+0.4**
OK005	**Luther M Schoo**	**0.27**	**134**	Pg		**Pg**	**20 22 01.7**	**-0.3**
OK005				Sg		**Sg**	**20 22 05.7**	**+0.3**
OK025	**Westminster Rd**	**0.27**	**165**			**Pg**	**20 22 01.9**	**-0.1**
OK025				Sg		**Sg**	**20 22 06.1**	**+0.6**
OKCFA	**Oklahoma City**	**0.42**	**183**			**Pg**	**20 22 04.7**	**-0.3**
OKCFA				Sg		**Sg**	**20 22 10.7**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**0.43**	**182**			**Pg**	**20 22 04.9**	**-0.3**
OKCSW				Sg		**Sg**	**20 22 11.2**	**+0.4**
FNO	**Franklin**	**0.58**	**178**			**Pg**	**20 22 08.2**	**+0.2**
FNO				Sg		**Sg**	**20 22 16.3**	**+0.8**
QUOK	**Quay**	**0.67**	**60**	Pg		**Pg**	**20 22 10.0**	**+0.4**
CROK	**Carrier**	**0.80**	**326**			**Pg**	**20 22 12.8**	**+0.6**
W35A	**Tecumseh**	**0.82**	**147**			**Pg**	**20 22 11.9**	**-0.7**
W35A				Sg		**Sg**	**20 22 22.8**	**-0.4**
KAN13	**South Haven SW**	**1.17**	**358**	Pg		**Pg**	**20 22 19.4**	**+0.1**
X34A	**Smith Ranch, M**	**1.28**	**195**			**Pg**	**20 22 20.7**	**-0.7**
T35A	**Sooner Cattle**	**1.30**	**34**			**Pn**	**20 22 21.6**	**-0.2**
TUL1	**Leonard**	**1.33**	**87**	P		**Pn**	**20 22 20.7**	**-1.5**
	baz=266							
TUL1				S		**Sb**	**20 22 39.4**	**-0.2**
	baz=266							
TUL1	**Leonard**	**1.33**	**87**			**Pn**	**20 22 20.6**	**-1.5**
KAN01	**Argonia South**	**1.34**	**348**			**Pn**	**20 22 22.6**	**+0.2**
U32A	**Winter Ranch,**	**1.39**	**293**			**Pn**	**20 22 22.6**	**-0.4**
KAN10	**Anthony SW Sta**	**1.39**	**337**			**Pn**	**20 22 23.1**	**+0.1**
KAN12	**Harper NE Stat**	**1.53**	**343**			**Pn**	**20 22 25.6**	**+0.6**
WMOK	**Wichita Mounta**	**1.56**	**226**	P		**Pn**	**20 22 24.9**	**-0.5**
	baz=45,SNR=317							
WMOK				S		**Sn**	**20 22 45.1**	**-1.0**
	baz=45							
WMOK	**Wichita Mounta**	**1.56**	**226**	Pg		**Pn**	**20 22 24.9**	**-0.5**
X37A	**Clayton**	**2.09**	**126**			**Pn**	**20 22 33.2**	**+0.5**
Z35A	**Perchaven, San**	**2.51**	**177**			**Pn**	**20 22 38.8**	**+0.4**
U38A	**Gravette**	**2.53**	**75**	Pn		**Pn**	**20 22 40.8**	**+2.1**
R32A	**Long Quarter,**	**2.77**	**339**			**Pn**	**20 22 43.8**	**+1.7**
HHAR	**Hobbs**	**2.86**	**80**			**Pn**	**20 22 43.8**	**+0.6**
W39A	**Magazine**	**3.04**	**101**	P		**Pn**	**20 22 46.0**	**+0.3**
	baz=283,SNR=24							
W39A	**Magazine**	**3.04**	**101**			**Pn**	**20 22 46.0**	**+0.3**
Z38A	**Mt. Pleasant**	**3.27**	**141**			**Pn**	**20 22 49.4**	**+0.5**
KSU1	**Kansas State U**	**3.32**	**11**	Sb		**Sg**	**20 23 41.6**	**-1.8**
	baz=192							
KSU1	**Kansas State U**	**3.32**	**11**			**Pn**	**20 22 50.6**	**+1.0**
MIAR	**Mount Ida**	**3.41**	**111**	P		**Pn**	**20 22 51.4**	**+0.6**
	baz=293,SNR=9.3							
MIAR				S		**Sn**	**20 23 32.3**	**+0.8**
	baz=293							
MIAR	**Mount Ida**	**3.41**	**111**	Pn		**Pn**	**20 22 51.3**	**+0.6**
CBKS	**Cedar Bluff**	**3.49**	**329**	P		**Pn**	**20 22 53.6**	**+1.5**
	baz=148,SNR=15							
CBKS				Sb		**Sg**	**20 23 47.3**	**-1.8**
	baz=148							
CBKS	**Cedar Bluff**	**3.49**	**329**			**Pn**	**20 22 52.9**	**+0.9**
AMTX	**Amarillo**	**3.61**	**256**	Pn		**Pn**	**20 22 53.8**	**+0.2**
ABTX	**Abilene, Hawle**	**3.70**	**210**	S		**Sn**	**20 23 38.9**	**+0.1**
	baz=29							
ABTX	**Abilene, Hawle**	**3.70**	**210**			**Pn**	**20 22 55.1**	**+0.3**
U40A	**Yellville**	**3.74**	**81**	P		**Pn**	**20 22 56.1**	**+0.8**
	baz=263,SNR=7.6							
U40A	**Yellville**	**3.74**	**81**			**Pn**	**20 22 55.5**	**+0.2**
S39A	**Bolivar**	**3.77**	**60**	Pn		**Pn**	**20 22 56.2**	**+0.4**
WHTX	**Lake Whitney,**	**3.84**	**180**	P		**Pn**	**20 22 56.4**	**-0.3**
	baz=0.3							
WHTX				Sb		**Sb**	**20 23 53.5**	**+1.5**
	baz=0.3							
WHTX	**Lake Whitney,**	**3.84**	**180**			**Pn**	**20 22 55.8**	**-0.9**
X40A	**Basin Creek Fa**	**4.00**	**108**	P		**Pn**	**20 22 59.5**	**+0.6**
	baz=291							
X40A	**Basin Creek Fa**	**4.00**	**108**			**Pn**	**20 22 58.6**	**-0.3**
237A	**Washetta, Mont**	**4.06**	**160**			**Pn**	**20 23 00.6**	**+0.9**
WLAR	**White Oak Lake**	**4.15**	**120**	Pn		**Pn**	**20 23 01.7**	**+0.8**
WHAR	**Wooly Hollow**	**4.22**	**96**	Pn		**Pn**	**20 23 02.1**	**+0.2**
W41B	**Gary Mavity, V**	**4.27**	**97**	P		**Pn**	**20 23 03.1**	**+0.4**
	baz=280,SNR=11							
W41B				S		**Sn**	**20 23 53.5**	**+0.5**
	baz=280							
W41B	**Gary Mavity, V**	**4.27**	**97**			**Pn**	**20 23 03.3**	**+0.6**
UALR	**University of**	**4.29**	**103**			**Pn**	**20 23 02.2**	**-0.7**
FCAR	**Ozark Folk Cen**	**4.30**	**88**			**Pn**	**20 23 03.7**	**+0.6**
Z41A	**Richland Creek**	**4.60**	**123**	S		**Sn**	**20 24 00.3**	**-0.7**
	baz=305							
Z41A	**Richland Creek**	**4.60**	**123**			**Pn**	**20 23 07.3**	**+0.1**
MSTX	**Muleshoe**	**4.78**	**249**	P		**Pn**	**20 23 09.7**	**0.0**
	baz=66							
MSTX				S		**Sn**	**20 24 05.3**	**-0.2**
	baz=66							
MSTX	**Muleshoe**	**4.78**	**249**	Pn		**Pn**	**20 23 09.9**	**+0.2**
R40A	**Maddies Statio**	**4.79**	**58**			**Pn**	**20 23 09.6**	**-0.2**
P38A	**Dawn**	**4.88**	**38**			**Pn**	**20 23 12.5**	**+1.5**
N33A	**J Bar K, Exete**	**4.89**	**360**	Pn		**Pn**	**20 23 10.9**	**-0.3**
435B	**Jarrell**	**5.05**	**182**	Pn		**Pn**	**20 23 12.1**	**-1.2**
LCAR	**Lake Charles**	**5.09**	**86**			**Pn**	**20 23 13.8**	**-0.1**
N35A	**Tabor**	**5.21**	**15**			**Pn**	**20 23 15.2**	**-0.3**
KSCO	**Kaye Shedlock'**	**5.21**	**309**	P		**Pn**	**20 23 17.2**	**+1.5**
	baz=126							
KSCO	**Kaye Shedlock'**	**5.21**	**309**			**Pn**	**20 23 16.3**	**+0.6**
T42A	**Van Buren**	**5.24**	**75**	Pn		**Pn**	**20 23 15.8**	**-0.2**
CCM	**Cathedral Cave**	**5.42**	**64**			**Pn**	**20 23 18.3**	**-0.1**
BGNE	**Belgrade**	**5.59**	**354**	Pn		**Pn**	**20 23 21.3**	**+0.5**
P40A	**Paris**	**5.63**	**48**			**Pn**	**20 23 22.3**	**+0.9**
N38A	**Joes South For**	**5.94**	**32**			**Pn**	**20 23 26.9**	**+1.3**
L34A	**Svendsen Farm,**	**6.17**	**7**			**Pn**	**20 23 29.0**	**+0.3**
OGNE	**Ogallala**	**6.25**	**326**	Pn		**Pn**	**20 23 31.0**	**+1.1**
LNXT	**Lenox**	**6.44**	**85**	Pn		**Pn**	**20 23 32.4**	**0.0**
HENM	**Henderson Moun**	**6.48**	**80**	Pn		**Pn**	**20 23 32.7**	**-0.3**
OXF	**Oxford**	**6.70**	**99**	Pn		**Pn**	**20 23 35.4**	**-0.5**
SDCO	**Great Sand Dun**	**6.75**	**289**	Pn		**Pn**	**20 23 38.2**	**+1.2**
GDL2	**Guadalupe Moun**	**6.81**	**240**	Pn		**Pn**	**20 23 38.9**	**+1.3**
SCIA	**State Center**	**6.89**	**27**	Pn		**Pn**	**20 23 38.6**	**0.0**
N41A	**Harden Midland**	**7.09**	**45**	Pn		**Pn**	**20 23 42.1**	**+0.7**
ANMO	**Albuquerque**	**7.43**	**266**			**Pn**	**20 23 44.7**	**-1.5**
ISCO	**Idaho Springs**	**7.59**	**304**	P		**Pn**	**20 23 49.1**	**+0.6**
	baz=119							
ISCO	**Idaho Springs**	**7.59**	**304**			**Pn**	**20 23 48.5**	**0.0**
BNM	**Barren Site**	**7.74**	**260**	Pn		**Pn**	**20 23 49.4**	**-1.1**
S22A	**4UR Ranch, Cre**	**7.78**	**287**	Pn		**Pn**	**20 23 52.2**	**+1.1**
MNTX	**Cornudas Mount**	**7.81**	**240**	P		**Pn**	**20 23 50.6**	**-0.6**
	baz=56							
MNTX	**Cornudas Mount**	**7.81**	**240**	Pn		**Pn**	**20 23 51.6**	**+0.3**
ECSD	**EROS Data Cent**	**7.91**	**4**	P		**Pn**	**20 23 52.4**	**-0.2**
	baz=185							
ECSD	**EROS Data Cent**	**7.91**	**4**			**Pn**	**20 23 52.2**	**-0.4**
HDIL	**Hopedale**	**7.94**	**51**	P		**Pn**	**20 23 52.9**	**-0.1**
	baz=236							
HDIL	**Hopedale**	**7.94**	**51**	Pn		**Pn**	**20 23 53.1**	**0.0**
PHWY	**Pilot Hill**	**8.32**	**313**			**Pn**	**20 23 58.6**	**0.0**
N23A	**Red Feather La**	**8.38**	**310**	Pn		**Pn**	**20 24 00.7**	**+1.4**

*SKHL **08** 20:31:34.0±0.7, 44°.16N×150°.14E, h37km±3km, mb4.4/2*
*JMA **08** 20:31:36.9±0.8, 44°.51N×149°.78E, h30km, M3.7*
*NIED **08** 20:31:37.0, 44°.51N×149°.78E, h30km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.58; $M_{\theta\theta}$0.62; $M_{\phi\phi}$-0.05; $M_{r\theta}$-0.89; $M_{\theta\phi}$0.16; $M_{\phi r}$-0.40; Fault plane solution: $M_0$1.15000×10^{15} NP1:ϕ_s67.00000°, δ74.00000°, λ-96.00000°. NP2:ϕ_s269.00000°, δ17.00000°, λ-69.00000°.*
*MOS **08** 20:31:38.3±1.4, 44°.39N×149°.63E, h41km, mb4.1/3 Error ellipse: s-maj=15.4km s-min=11.6km az=11.0*
*NEIC **08** 20:31:42.5±2.1, 44°.4N±0°.2×149°.5E±0°.1, h53km±9km, mb4.1/6, Error ellipse: s-maj=26.7km s-min=11.6km az=160.0*
*IDC **08** 20:31:43.5±4.6, 44°.72N×149°.52E, h52km±40km, mb3.6/9, mb1 3.7/11, mb1mx3.4/37, mbtmp3.8/11, ML3.0/2, Error ellipse: s-maj=50.7km s-min=30.2km az=172.0*

ISC 08 20:31:37.7±0.8, 44°.08N±0°.07×149°.84E±0°.08, h35km, n68, σ2§01/76, mb4.0/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**1.82**	**310**	*eP*		**Pn**	**20 32 04.4**	**-2.1**
KUR				AMB		AMB	20 32 06.0	
	210nm,0.5s							
KUR				*eS*		**Sn**	**20 32 26.8**	**-1.5**
KUR				A		A	20 32 27.0	
	420nm,0.6s							
KUR				A		A	20 32 27.0	
	620nm,0.6s							
KUR	**Kuril'sk**	**1.82**	**310**	*e*PN		**Pn**	**20 32 04.4**	**-2.1**
KUR				*eS*		**Sn**	**20 32 26.8**	**-1.5**
KUR				pmax	pmax			
	comp=Z,212nm,0.5s							
KUR				pmax	pmax			
	comp=N,59nm,0.4s							
KUR				pmax	pmax			
	comp=E,59nm,0.3s							
KUR				smax	smax			
	comp=N,416nm,0.3s							
KUR				smax	smax			
	comp=E,624nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**2.87**	**271**	*eP*		**Pn**	**20 32 20.9**	**0.0**
YUK				AMB		AMB	20 32 26.0	
	comp=E,50nm,0.4s							
YUK				*eS*		**Sn**	**20 32 55.6**	**+1.4**
YUK				A		A	20 32 59.0	
	comp=E,120nm,0.4s							
YUK				A		A	20 32 59.0	
	comp=E,70nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.87**	**271**	*e*PN		**Pn**	**20 32 20.9**	**0.0**
YUK				*eS*		**Sn**	**20 32 55.6**	**+1.4**
YUK				pmax	pmax			
	comp=Z,52nm,0.4s							
YUK				smax	smax			
	comp=N,122nm,0.5s							
YUK				smax	smax			
	comp=E,71nm,0.4s							
GRPR	**Tuman**	**2.94**	**270**	*eP*		**Pn**	**20 32 21.8**	**0.0**
GRPR				*eS*		**Sn**	**20 32 59.3**	**+3.5**
GRPR	**Tuman**	**2.94**	**270**	*e*PN		**Pn**	**20 32 21.8**	**0.0**
GRPR				*eS*		**Sn**	**20 32 59.3**	**+3.5**
NEM2	**Nemuro 2**	**3.05**	**258**	P		**Pn**	**20 32 23.2**	**-0.3**
NEM2				*eS*		**Sn**	**20 32 57.0**	**-1.7**
NMR	**Nemuro--Hokkai**	**3.06**	**258**	*eP*		**Pn**	**20 32 22.5**	**-1.1**
NMR				*eS*		**Sn**	**20 32 59.5**	**+0.5**
NMR	**Nemuro--Hokkai**	**3.06**	**258**	*e*PN		**Pn**	**20 32 22.1**	**-1.5**
NMR				*eS*		**Sn**	**20 33 03.9**	**+4.9**
JRA	**Rausu**	**3.41**	**269**	P		**Pn**	**20 32 29.4**	**+1.1**
JNK	**Nakash**	**3.74**	**264**	P		**Pn**	**20 32 33.2**	**+0.3**
JNK				*eS*		**Sn**	**20 33 16.0**	**+0.4**
JAK	**Akkeshi**	**3.89**	**256**	P		**Pn**	**20 32 35.3**	**+0.3**
JAK				*eS*		**Sn**	**20 33 19.6**	**+0.2**
JTKR	**Abashiri--Toko**	**4.28**	**271**	P		**Pn**	**20 32 41.5**	**+1.2**
JAR	**Ashorobuto**	**4.47**	**262**	P		**Pn**	**20 32 44.1**	**+1.2**
JAR				*eS*		**Sn**	**20 33 35.8**	**+2.1**
JOB	**Onbets**	**4.52**	**257**	P		**Pn**	**20 32 44.7**	**+1.0**
JMP	**Maruseppu**	**4.67**	**271**	P		**Pn**	**20 32 48.0**	**+2.3**
JCH	**Churui**	**4.95**	**255**	P		**Pn**	**20 32 50.9**	**+1.4**
JKA	**Kamikawa-asahi**	**5.21**	**273**	*eP*		**Pn**	**20 32 55.7**	**+2.5**
JKA	**Kamikawa-asahi**	**5.21**	**273**			**Pn**	**20 32 55.6**	**+2.5**
ASAJ	**Asahikawa**	**5.22**	**273**	P		**Pn**	**20 32 55.8**	**+2.6**
	comp=E,0.8nm,0.3s,baz=87,slow=10.0,SNR=9.1							
ERM	**Erimo**	**5.31**	**249**	PN		**Pn**	**20 32 56.3**	**+1.8**
ERM	**Erimo**	**5.31**	**249**	Pn		**Pn**	**20 32 56.3**	**+1.8**
JNBK	**Urakawa-nobuka**	**5.49**	**253**	P		**Pn**	**20 32 57.4**	**+0.5**
JBT2	**Biratori 2**	**5.60**	**259**	P		**Pn**	**20 32 58.9**	**+0.5**
JNB	**Noboribetsu**	**6.62**	**259**	P		**Pn**	**20 33 13.6**	**+1.1**
JNB				*eS*		**Sn**	**20 34 25.6**	**-1.1**
JKB	**Kayabe**	**6.82**	**254**	P		**Pn**	**20 33 15.3**	**+0.1**
JKB				*eS*		**Sn**	**20 34 27.7**	**-3.8**
JANG	**Nango**	**7.20**	**242**	*eS*		**Sn**	**20 34 36.1**	**-4.9**
JTH	**Tanohata**	**7.24**	**238**	*eS*		**Sn**	**20 34 36.5**	**-5.3**
JTM	**Tenmabayashi**	**7.27**	**246**	*eS*		**Sn**	**20 34 38.2**	**-4.5**
JOSM	**Okushiri--Mats**	**7.85**	**259**	P		**Pn**	**20 33 30.5**	**+1.2**
JRG	**Rokugo**	**8.32**	**239**	*eS*		**Sn**	**20 35 06.5**	**-2.0**
USRK	**Ussuriysk Ar.**	**12.83**	**277**	P		**Pn**	**20 34 38.9**	**+1.4**
	baz=76,slow=15,SNR=2.2							
YAK	**Yakutsk**	**21.52**	**334**	P		**Pn**	**20 36 20.2**	**-3.0**
	comp=E,8.9nm,0.6s,baz=158,slow=0.5,SNR=5.1							
YAK	**Yakutsk**	**21.52**	**334**	P		**P**	**20 36 20.2**	**-3.0**
YAK				IAmb		IAmb	20 36 21.4	
	comp=Z,9.8nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**28.15**	**144**	T		T	21 08 34.6	
	baz=334,slow=76,SNR=10							
H11N1	**WAKE ISLAND Hy**	**28.16**	**144**	T		T	21 08 38.7	
	baz=334,slow=76,SNR=9.8							
H11N3	**WAKE ISLAND Hy**	**28.17**	**144**	T		T	21 08 39.0	
	baz=334,slow=76,SNR=6.9							
H11S1	**WAKE ISLAND Hy**	**29.16**	**146**	T		T	21 09 53.7	
	baz=335,slow=76,SNR=12							
H11S3	**WAKE ISLAND Hy**	**29.17**	**146**	T		T	21 09 53.7	
	baz=335,slow=76,SNR=7.8							
H11S2	**WAKE ISLAND Hy**	**29.18**	**146**	T		T	21 09 54.6	
	baz=335,slow=76,SNR=8.2							
TIXI	**Tiksi**	**29.46**	**347**	P		**P**	**20 37 34.6**	**-3.1**
	comp=Z,0.7nm,0.5s,baz=124,slow=7.3,SNR=1.6							
TIXI	**Tiksi**	**29.46**	**347**	P		**P**	**20 37 34.6**	**-3.1**
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.4s							
TIXI	**Tiksi**	**29.46**	**347**	P		**P**	**20 37 34.6**	**-3.1**
TIXI				IAmb		IAmb	20 37 44.8	
	comp=Z,4.6nm,1.4s							
SONM	**Songino Array**	**30.14**	**293**	P		**P**	**20 37 44.8**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=80,slow=8.6,SNR=4.5							
SONM	**Songino Array**	**30.14**	**293**	P		**P**	**20 37 44.5**	**+0.3**
SONM				pmax	pmax			
	comp=Z,1.0nm,1.0s							
SONM	**Songino Array**	**30.14**	**293**	P		**P**	**20 37 44.5**	**+0.3**
IMAR	**Indian Mountai**	**37.28**	**34**	P		**P**	**20 38 48.0**	**+2.2**
INK	**Inuvik**	**45.13**	**31**	P		**P**	**20 39 52.5**	**+2.3**
	comp=Z,0.7nm,0.4s,baz=268,slow=5.2,SNR=1.8							
INK	**Inuvik**	**45.13**	**31**	P		**P**	**20 39 52.7**	**+2.5**
INK				IAmb		IAmb	20 40 15.2	
	comp=Z,4.5nm,1.2s							
MK31	**Makanchi Array**	**46.15**	**298**	P		**P**	**20 39 59.1**	**+0.5**
MK31				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MK31	**Makanchi Array**	**46.15**	**298**	P		**P**	**20 39 59.1**	**+0.5**
MKAR	**Makanchi Array**	**46.15**	**298**	P		**P**	**20 39 59.1**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=72,slow=7.7,SNR=10							
MKAR	**Makanchi Array**	**46.15**	**298**	*eP*		**P**	**20 39 59.2**	**+0.6**
MKAR	**Makanchi Array**	**46.15**	**298**	P		**P**	**20 39 59.2**	**+0.6**
MKAR	**Makanchi Array**	**46.15**	**298**	P		**P**	**20 39 59.2**	**+0.6**
MAKZ	**Makanchi**	**46.34**	**298**	P		**P**	**20 40 00.6**	**+0.5**
MAKZ	**Makanchi**	**46.34**	**298**	P		**P**	**20 40 00.6**	**+0.5**
ABKAR	**Akbulak array**	**58.36**	**310**	P		**P**	**20 41 30.0**	**+0.9**
FINES	**FINESS Array B**	**65.45**	**334**	P		**P**	**20 42 16.3**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=38,slow=9.6,SNR=15							
FINES	**FINESS Array B**	**65.45**	**334**	P		**P**	**20 42 15.8**	**-0.7**
FINES	**FINESS Array B**	**65.45**	**334**	P		**P**	**20 42 15.8**	**-0.7**
NB2	**NORSAR Subarra**	**69.98**	**340**	P		**P**	**20 42 45.3**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**69.98**	**340**	P		**P**	**20 42 45.0**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=29,slow=6.4,SNR=6.7

H11N1	**WAKE ISLAND Hy**	**23.22**	**70**	T	T	22 07 10.0		
	baz=255							
H11N2	**WAKE ISLAND Hy**	**23.23**	**70**	T	T	22 07 21.5		
	baz=255							
H11N3	**WAKE ISLAND Hy**	**23.24**	**70**	T	T	22 07 11.7		
	baz=255							
MJAR	**Matsushiro Arr**	**23.97**	**349**	P	**P**	**21 43 22.3**	**+0.3**	
	1.6nm,0.7s,baz=178,slow=11,SNR=4.8							
MJAR	**Matsushiro Arr**	**23.97**	**349**	IAmb	IAmb	21 43 26.1		
	comp=Z,1.5nm,0.8s							
MAJO	**Matsushiro**	**23.98**	**349**	P	**P**	**21 43 22.4**	**+0.4**	
MAJO				IAmb	IAmb	21 43 24.0		
	comp=Z,9.0nm,1.1s							
MJB9	**Matsu-Tunnel**	**23.98**	**349**	P	**P**	**21 43 22.9**	**+0.8**	
USA0B	**Ussuriysk Arra**	**32.69**	**344**	P	**P**	**21 44 39.1**	**-0.3**	
SBUM	**Sibu**	**32.86**	**254**	P	**P**	**21 44 40.1**	**-1.1**	
SBUM				IAmb	IAmb	21 44 52.6		
	comp=Z,3.5nm,0.8s							
WB0	**Warramunga Arr**	**33.81**	**196**	P	**P**	**21 44 47.3**	**-2.0**	
WB0				IAmb	IAmb	21 44 58.8		
	comp=Z,5.3nm,1.1s							
WRAB	**Tennant Creek**	**33.98**	**196**	P	**P**	**21 44 50.4**	**-0.5**	
WRAB				IAmb	IAmb	21 44 51.5		
	comp=Z,4.8nm,0.6s							
WB2	**Warramunga Arr**	**33.99**	**196**	P	**P**	**21 44 50.0**	**-0.9**	
WB2				IAmb	IAmb	21 44 55.4		
	comp=Z,7.2nm,1.1s							
WRA	**Warramunga Arr**	**33.99**	**196**	P	**P**	**21 44 50.9**	**0.0**	
	comp=Z,1.4nm,0.5s,baz=19,slow=9.5,SNR=24							
WRA				PcP	**PcP**	**21 47 28.3**	**+2.6**	
	comp=Z,0.3nm,0.6s,baz=21,slow=4.4,SNR=1.7							
WRA	**Warramunga Arr**	**33.99**	**196**	P	**P**	**21 44 49.8**	**-1.1**	
WC3	**Warramunga Arr**	**34.00**	**196**	P	**P**	**21 44 50.6**	**-0.4**	
FITZ	**Fitzroy Crossi**	**35.66**	**210**	P	**P**	**21 45 04.0**	**-1.2**	
FITZ				IAmb	IAmb	21 45 20.0		
	comp=Z,3.5nm,1.1s							
ENH	**Enshi**	**35.97**	**304**	P	**P**	**21 45 07.4**	**-0.5**	
ENH				IAmb	IAmb	21 45 19.9		
	comp=Z,4.1nm,0.4s							
JAGI	**Jajag, Banyuwa**	**36.27**	**236**	P	**P**	**21 45 08.3**	**-2.3**	
AS31	**Alice Springs**	**37.66**	**195**	P	**P**	**21 45 22.4**	**+0.2**	
ASAR	**Alice Springs**	**37.66**	**195**	P	**P**	**21 45 22.6**	**+0.4**	
	comp=Z,0.7nm,0.4s,baz=22,slow=12,SNR=17							
ASAR				PcP	**PcP**	**21 47 38.6**	**+2.0**	
	comp=Z,0.4nm,0.6s,baz=31,slow=2.7,SNR=5.8							
ASAR	**Alice Springs**	**37.66**	**195**	P	**P**	**21 45 21.3**	**-0.9**	
EIDS	**Eidsvold**	**38.79**	**169**	P	**P**	**21 45 30.9**	**-0.7**	
EIDS				IAmb	IAmb	21 45 46.2		
	comp=Z,5.7nm,1.1s							
CMAR	**Chiang Mai Arr**	**43.34**	**283**	P	**P**	**21 46 09.1**	**0.0**	
	comp=Z,0.6nm,0.5s,baz=95,slow=7.9,SNR=5.3							
CMAR	**Chiang Mai Arr**	**43.34**	**283**	P	**P**	**21 46 07.0**	**-2.0**	
STKA	**Stephens Creek**	**44.65**	**183**	P	**P**	**21 46 19.3**	**+0.2**	
	comp=Z,1.5nm,0.8s,baz=289,slow=9.1,SNR=3.4							
STKA	**Stephens Creek**	**44.65**	**183**	IAmb	IAmb	21 46 22.1		
	comp=Z,0.9nm,1.1s							
SONM	**Songino Array**	**46.58**	**326**	P	**P**	**21 46 35.9**	**+1.6**	
	comp=Z,0.8nm,0.5s,baz=147,slow=8.1,SNR=7.1							
SONM	**Songino Array**	**46.58**	**326**	P	**P**	**21 46 34.5**	**+0.2**	
THZ	**Tophouse**	**60.76**	**155**	P	**P**	**21 48 20.4**	**+3.0**	
MK31	**Makanchi Array**	**61.14**	**316**	P	**P**	**21 48 20.7**	**+0.8**	
MKAR	**Makanchi Array**	**61.14**	**316**	P	**P**	**21 48 21.4**	**+1.5**	
	comp=Z,0.7nm,0.5s,baz=91,slow=8.6,SNR=9.5							
MKAR	**Makanchi Array**	**61.14**	**316**	P	**P**	**21 48 21.0**	**+1.1**	
MAKZ	**Makanchi**	**61.35**	**316**	P	**P**	**21 48 22.0**	**+0.7**	
MAKZ				IAmb	IAmb	21 48 23.3		
	comp=Z,2.6nm,0.8s							
ZALV	**Zalesovo Beam**	**61.46**	**325**	P	**P**	**21 48 22.0**	**+0.1**	
	comp=Z,1.4nm,0.5s,baz=111,slow=8.1,SNR=4.3							
ODZ	**Otahua Downs**	**62.70**	**159**	P	**P**	**21 48 30.4**	**+0.2**	
ODZ				IAmb	IAmb	21 48 47.2		
	comp=Z,9.9nm,1.2s							
KURK	**Kurchatov**	**64.32**	**320**	P	**P**	**21 48 42.1**	**+1.3**	
KURK				IAmb	IAmb	21 48 42.8		
	comp=Z,3.6nm,0.6s							
BRLK	**Bradley Lake**	**66.56**	**30**	P	**P**	**21 48 55.7**	**+0.5**	
BRLK				IAmb	IAmb	21 48 59.3		
	comp=Z,6.1nm,0.9s							
GLI	**Glacier Island**	**68.66**	**29**	P	**P**	**21 49 12.2**	**+4.0**	
BRVK	**Borovoye**	**69.77**	**322**	P	**P**	**21 49 16.7**	**+1.5**	
BRVK				IAmb	IAmb	21 49 17.8		
	comp=Z,2.6nm,0.7s							
ABKAR	**Akbulak array**	**76.23**	**318**	P	**P**	**21 49 53.9**	**+0.6**	
FINES	**FINESS Array B**	**91.23**	**335**	P	**P**	**21 51 09.0**	**-0.3**	
	comp=Z,0.5nm,0.4s,baz=59,slow=4.9,SNR=9.4							
Y14A	**Wickenburg**	**93.57**	**54**	P	**P**	**21 51 23.4**	**+2.5**	

*NEIC **08** 22:53:19.1±2.9, 19°.53N±0°.07×146°.5E±0°.1, h83km±7km, mb4.4/48, Error ellipse: s-maj=14.6km s-min=9.9km az=92.0*

*IDC **08** 22:53:24.1±7.5, 19°.70N×146°.14E, h96km±68km, mb3.6/11, mb1 3.7/12, mb1mx3.5/41, mbtmp3.9/12, ML3.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/31, Error ellipse: s-maj=32.2km s-min=17.9km az=87.0*

ISC 08 22:53:21.3±0.4, 19°.54N±0°.07×146°.44E±0°.08, h100km, n83, σ1s75/75, mb4.2/31, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**3.25**	**192**	Pn	Pn	22 54 07.4	-3.0
GUMO	**Guam**	**6.10**	**195**	LR	LR	22 56 54.7	
	comp=Z,177nm,20.5s,baz=356,slow=34						
GUMO	**Guam**	**6.10**	**195**	Pn	Pn	22 54 46.6	-2.5
JHJ2	**Mitsune**	**14.76**	**338**	Pn	**Pn**	**22 56 44.0**	**-0.9**
PATS	**Pohnpei**	**17.10**	**136**		**Pn**	**22 57 12.0**	**-2.2**
PATS				IAmb	IAmb	22 57 23.4	
	comp=Z,21nm,0.9s						
MJAR	**Matsushiro Arr**	**18.42**	**339**	P	**Pn**	**22 57 29.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=170,slow=10,SNR=3.1						
MJAR	**Matsushiro Arr**	**18.42**	**339**	P	**P**	**22 57 27.1**	**-1.7**
MAJO	**Matsushiro**	**18.42**	**339**	P	**P**	**22 57 27.4**	**-1.4**
MJB9	**Matsu-Tunnel**	**18.42**	**339**	P	**P**	**22 57 27.1**	**-1.7**
H11S3	**WAKE ISLAND Hy**	**19.17**	**90**	T	T	23 17 29.5	
	baz=276,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hy**	**19.18**	**90**	T	T	23 17 29.5	
	baz=276,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy**	**19.19**	**90**	T	T	23 17 32.1	
	baz=276,slow=74,SNR=8.5						
H11N1	**WAKE ISLAND Hy**	**19.27**	**86**	T	T	23 17 32.0	
	baz=274,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hy**	**19.27**	**86**	T	T	23 17 30.3	
	baz=274,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**19.28**	**86**	T	T	23 17 29.5	
	baz=274,slow=75,SNR=8.5						
YOJ	**Yonaguni jima**	**22.26**	**287**	P	**P**	**22 58 06.9**	**-3.3**
KSRS	**Korea Array**	**24.08**	**322**	P	**P**	**22 58 27.1**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=151,slow=8.1,SNR=1.9						
KSRS				LR	LR	23 07 48.5	
	comp=Z,60nm,18.2s,baz=103,slow=36						
KS19	**Wonju Array Si**	**24.14**	**322**	P	**P**	**22 58 27.1**	**-0.8**
JKA	**Kamikawa-asahi**	**24.72**	**353**	P	**P**	**22 58 32.5**	**-0.6**
INCN	**Inchon**	**24.86**	**320**	P	**P**	**22 58 33.8**	**-0.7**
INCN				IAmb	IAmb	22 58 35.5	
	comp=Z,14nm,0.8s						
USRK	**Ussuriysk Ar.**	**27.40**	**337**	P	**P**	**22 58 56.5**	**-0.7**
PMG	**Port Moresby**	**28.77**	**179**	P	**P**	**22 59 07.5**	**-2.2**
MYLDM	**Lahad Datu**	**30.72**	**246**	P	**P**	**22 59 26.1**	**-1.0**
PETK	**Petropavlovsk-**	**34.63**	**12**	P	**P**	**23 00 02.9**	**+2.2**
	comp=Z,0.9nm,0.8s,baz=173,slow=13,SNR=2.7						
PETK	**Petropavlovsk-**	**34.63**	**12**	P	**P**	**23 00 00.5**	**-0.2**
WB0	**Warramunga Arr**	**40.81**	**198**	P	**P**	**23 00 55.5**	**+2.4**
WB0				IAmb	IAmb	23 01 05.8	
	comp=Z,3.5nm,0.9s						
AMKA	**Amchitka**	**40.93**	**31**	P	**P**	**23 00 55.6**	**+1.9**
WR0	**Warramunga Arr**	**40.95**	**197**	P	**P**	**23 00 56.3**	**+2.1**
WR0				IAmb	IAmb	23 01 11.7	
	comp=Z,4.3nm,1.0s						
WB2	**Warramunga Arr**	**40.99**	**197**	P	**P**	**23 00 56.8**	**+2.2**
WB2				IAmb	IAmb	23 01 01.6	
	comp=Z,4.3nm,1.1s						
WRA	**Warramunga Arr**	**40.99**	**198**	P	**P**	**23 00 57.8**	**+3.2**
	comp=Z,0.3nm,0.4s,baz=14,slow=8.2,SNR=7.3						
WRA	**Warramunga Arr**	**40.99**	**198**	P	**P**	**23 00 56.2**	**+1.6**
FITZ	**Fitzroy Crossi**	**42.62**	**210**	P	**P**	**23 01 10.1**	**+2.2**
SONM	**Songino Array**	**42.94**	**320**	P	**P**	**23 01 12.2**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=123,slow=7.1,SNR=2.9						
SONM	**Songino Array**	**42.94**	**320**	P	**P**	**23 01 11.6**	**+1.2**
ASAR	**Alice Springs**	**44.65**	**196**	P	**P**	**23 01 28.1**	**+4.0**
	comp=Z,0.4nm,0.3s,baz=19,slow=8.8,SNR=4.2						
ASAR	**Alice Springs**	**44.65**	**196**	P	**P**	**23 01 25.8**	**+1.7**
CISI	**Cisompet, Garu**	**46.60**	**238**	P	**P**	**23 01 38.4**	**-1.3**
IPM	**Ipoh**	**46.70**	**257**	P	**P**	**23 01 41.1**	**+0.6**
IPM				IAmb	IAmb	23 01 42.6	
	comp=Z,10nm,1.1s						
GSI	**Gunungsitoli**	**51.12**	**255**	P	**P**	**23 02 12.8**	**-1.4**
KIP	**Kipapa**	**51.84**	**78**	P	**P**	**23 02 17.5**	**-2.1**
TIXI	**Tiksi**	**53.12**	**353**	P	**P**	**23 02 28.4**	**+0.2**
TIXI				IAmb	IAmb	23 02 31.7	
	comp=Z,2.2nm,0.9s						
CNBA	**Chernabura Isl**	**53.69**	**36**	P	**P**	**23 02 33.7**	**+1.1**
ZAA0	**Zalesovo Array**	**57.79**	**322**	P	**P**	**23 03 02.6**	**+0.6**
ZAA0				IAmb	IAmb	23 03 17.1	
	comp=Z,2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**57.79**	**322**	P	**P**	**23 03 01.7**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=96,slow=6.6,SNR=5.3						
MK31	**Makanchi Array**	**58.40**	**313**	P	**P**	**23 03 06.1**	**-0.2**
MKAR	**Makanchi Array**	**58.40**	**313**	P	**P**	**23 03 07.6**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=95,slow=9.0,SNR=7.1						
MKAR				PcP	**PcP**	**23 03 58.4**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=82,slow=4.6,SNR=1.9						
MKAR	**Makanchi Array**	**58.40**	**313**	P	**P**	**23 03 07.1**	**+0.8**
KURK	**Kurchatov**	**61.12**	**318**	P	**P**	**23 03 25.4**	**+0.5**
KURK				IAmb	IAmb	23 03 26.8	
	comp=Z,2.5nm,0.8s						
URZ	**Urewera**	**64.30**	**154**	P	**P**	**23 03 47.2**	**+1.1**
TABL	**Table Mountain**	**64.53**	**32**	P	**P**	**23 03 46.8**	**-0.8**
BRVK	**Borovoye**	**66.34**	**320**	P	**P**	**23 03 59.7**	**+0.5**
BRVK				IAmb	IAmb	23 04 16.3	
	comp=Z,2.9nm,0.7s						
KK31	**Karatay Array**	**66.78**	**309**	P	**P**	**23 04 03.0**	**+0.7**
KK31				IAmb	IAmb	23 04 04.9	
	comp=Z,2.6nm,0.8s						
KKAR	**Karatay Array**	**66.78**	**309**	P	**P**	**23 04 03.1**	**+0.9**
KKAR	**Karatay Array**	**66.78**	**309**	P	**P**	**23 04 02.2**	**0.0**
KKAR				IAmb	IAmb	23 04 04.9	
	comp=Z,2.6nm,0.8s						
DLBC	**Dease Lake**	**70.21**	**34**	P	**P**	**23 04 23.7**	**+0.4**
ABKAR	**Akbulak array**	**73.21**	**317**	P	**P**	**23 04 41.9**	**+0.5**
MCQ	**Macquarie Isla**	**74.51**	**172**	P	**P**	**23 04 50.0**	**+1.4**
PGC	**Sidney**	**75.66**	**43**	P	**P**	**23 04 55.3**	**-0.2**
PGC				IAmb	IAmb	23 04 56.0	
	comp=Z,11nm,0.8s						
TAOE	**Nuku Hiva Isla**	**77.57**	**104**	P	**P**	**23 05 05.6**	**-1.4**
SPA0	**Spitsbergen Ar**	**78.46**	**351**	P	**P**	**23 05 09.6**	**-1.1**
SPA0				IAmb	IAmb	23 05 23.4	
	comp=Z,9.5nm,1.0s						
KBS	**Kingsbay**	**78.56**	**352**	P	**P**	**23 05 10.1**	**-1.2**
KBS				IAmb	IAmb	23 05 10.6	
	comp=Z,14nm,1.1s						
SAO	**San Andreas Ge**	**80.20**	**55**	P	**P**	**23 05 20.7**	**-0.3**
SAO				IAmb	IAmb	23 05 23.6	
	comp=Z,12nm,1.0s						
PAHR	**Pah Rah Range**	**80.88**	**51**	P	**P**	**23 05 25.5**	**+0.8**
ARCES	**ARCESS Array B**	**81.91**	**342**	P	**P**	**23 05 31.6**	**+2.2**
	comp=Z,3.0nm,0.9s,baz=67,slow=6.8,SNR=5.1						
ARCES	**ARCESS Array B**	**81.91**	**342**	P	**P**	**23 05 26.6**	**-2.9**
NVAR	**Mina Array Bea**	**82.07**	**52**	P	**P**	**23 05 35.2**	**+4.1**
	comp=Z,0.8nm,0.6s,baz=271,slow=6.0,SNR=6.0						
NVAR	**Mina Array Bea**	**82.07**	**52**	P	**P**	**23 05 32.1**	**+1.0**
ELK	**Elko**	**83.54**	**49**	P	**P**	**23 05 39.2**	**+0.5**
BOZ	**Bozeman (W)**	**84.27**	**44**	P	**P**	**23 05 42.5**	**+0.2**
BOZ				IAmb	IAmb	23 05 46.2	
	comp=Z,3.8nm,0.8s						
EGMT	**Eagleton**	**84.53**	**41**	P	**P**	**23 05 41.6**	**-1.8**
EGMT				IAmb	IAmb	23 05 48.9	
	comp=Z,6.5nm,0.9s						
BAR	**Barrett**	**85.22**	**57**	P	**P**	**23 05 44.6**	**-2.6**
BAR				IAmb	IAmb	23 05 48.1	
	comp=Z,3.2nm,0.8s						
SPUT	**South Promonto**	**85.31**	**48**	P	**P**	**23 05 44.8**	**-2.8**
DUG	**Dugway, Tooele**	**85.47**	**49**	P	**P**	**23 05 47.3**	**-1.0**
HWUT	**Hardware Ranch**	**85.82**	**47**	P	**P**	**23 05 48.4**	**-1.7**
HWUT				IAmb	IAmb	23 05 55.8	
	comp=Z,3.6nm,1.1s						
FFC	**Flin Flon**	**86.01**	**33**	P	**P**	**23 05 50.3**	**-0.2**
FFC				IAmb	IAmb	23 06 04.5	
	comp=Z,4.5nm,1.1s						
JLU	**Jordanelle**	**86.28**	**48**	P	**P**	**23 05 50.5**	**-2.0**
LCMT	**Little Creek M**	**86.33**	**52**	P	**P**	**23 05 50.9**	**-1.8**
MPU	**Maple Canyon**	**86.37**	**49**	P	**P**	**23 05 52.3**	**-0.6**
FINES	**FINESS Array B**	**86.42**	**335**	P	**P**	**23 05 53.6**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=50,slow=4.9,SNR=13						
MSU	**Marysvale**	**86.55**	**50**	P	**P**	**23 05 52.4**	**-1.4**
PDAR	**Pinedale Array**	**86.74**	**46**	P	**P**	**23 05 58.0**	**+3.3**
	comp=Z,0.3nm,0.5s,baz=287,slow=3.7,SNR=3.2						
PDAR	**Pinedale Array**	**86.74**	**46**	P	**P**	**23 05 50.8**	**-3.9**
TORD	**Torodi Ar. Bea**	**132.46**	**310**	PKP	**PKiKP**	**23 12 28.6**	**+2.6**
	comp=Z,0.3nm,0.7s,baz=28,slow=2.1,SNR=1.5						

*VIE **08** 23:17:46.8±0.8, 51°.54N×16°.13E, h0km, mb2.0/4, ml2.8/5, Error ellipse: s-maj=6.9km s-min=5.9km az=26.0 79 km NW of Wroclaw Suspected Mining induced.*

*PRU **08** 23:17:47.5±0.0, 51°.53N×16°.08E, h0km*

ISC 08 23:17:45.5±0.8, 51°.63N±0°.03×16°.07E±0°.02, h0km, n30, σ1s22/66, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.80**	**170**	*e*Pg	**Pg**	**23 18 00.8**	**+0.1**
KSP				*e*Sg	**Sg**	**23 18 10.6**	**-0.5**
CHVC	**Chvalec**	**1.04**	**181**	*e*PG	**Pg**	**23 18 05.3**	**-0.1**
CHVC				*e*SG	**Sg**	**23 18 18.6**	**-0.3**
	comp=Z,40nm,0.4s						
OSTC	**Ostas**	**1.08**	**175**	*e*PG	**Pg**	**23 18 06.1**	**0.0**
OSTC				*e*SG	**Sg**	**23 18 19.1**	**-0.9**
UPC	**Upice**	**1.12**	**182**	*e*PG	**Pg**	**23 18 06.9**	**-0.1**
UPC				*e*SG	**Sg**	**23 18 21.1**	**-0.4**
	comp=Z,65nm,0.2s						
DPC	**Dobruska-Polom**	**1.29**	**173**	*e*PG	**Pg**	**23 18 09.5**	**-0.6**
DPC				*e*SG	**Sg**	**23 18 25.0**	**-1.8**
	comp=Z,29nm,0.4s						
PVCC	**Panska Ves**	**1.46**	**221**	*e*PG	**Pb**	**23 18 13.8**	**+0.4**
PVCC				*e*SG	**Sn**	**23 18 33.0**	**+0.3**
	comp=Z,135nm,0.3s						
BRG	**Berggiesshubel**	**1.54**	**241**	PG	**Pg**	**23 18 15.3**	**+0.4**
BRG				SG	**Sb**	**23 18 36.1**	**+1.3**
	51nm,0.5s						
KRLC	**Kraliky**	**1.62**	**164**	*e*PG	**Pn**	**23 18 14.7**	**-0.6**
KRLC				*e*SG	**Sn**	**23 18 35.5**	**-1.4**
	comp=Z,27nm,0.3s						
PRA	**Prague**	**1.88**	**214**	*e*PG	**Pn**	**23 18 19.6**	**+0.9**
PRA				*e*SG	**Sg**	**23 18 45.3**	**-0.3**
	comp=Z,18nm,0.9s						
PRU	**Pruhonice**	**1.91**	**211**	*e*PG	**Pb**	**23 18 21.1**	**0.0**
PRU				*e*SG	**Sg**	**23 18 46.2**	**-0.5**
	comp=Z,22nm,0.5s						
CLL	**Collm**	**1.95**	**262**	*e*Pn	**Pn**	**23 18 20.0**	**+0.2**
CLL				*e*Pg	**Pg**	**23 18 23.0**	**+0.2**
CLL				*e*Sg	**Sg**	**23 18 49.0**	**+1.0**
	comp=Z,27nm,0.4s						
MORC	**Moravsky Berou**	**2.08**	**153**	*e*PN	**Pn**	**23 18 20.6**	**-1.0**
MORC				*e*SG	**Sb**	**23 18 49.9**	**-0.4**
OKC	**Ostrava-Krasne**	**2.23**	**143**	*e*PG	**Pb**	**23 18 25.8**	**-0.7**
OKC				*e*SG	**Sb**	**23 18 55.0**	**+0.4**
	comp=Z,348nm,0.3s						
VRAC	**Vranov**	**2.35**	**172**	*e*PN	**Pn**	**23 18 25.4**	**+0.1**
VRAC				*e*SG	**Sb**	**23 18 59.0**	**+0.9**
PBCC	**Pribram**	**2.35**	**215**	*e*PG	**Pb**	**23 18 28.8**	**+0.1**
PBCC				*e*SG	**Sg**	**23 19 00.0**	**-1.0**
TREC	**Trest**	**2.37**	**189**	*e*PG	**Pb**	**23 18 29.5**	**+0.6**
TREC				*e*SG	**Sb**	**23 18 59.4**	**+0.7**
	comp=Z,12nm,0.3s						
KRUC	**Moravsky**	**2.58**	**175**	*e*PN	**Pn**	**23 18 28.3**	**-0.1**
KRUC				*e*SG	**Sb**	**23 19 05.1**	**+0.4**
NKC	**Novy Kostel**	**2.69**	**240**	*e*PN	**Pn**	**23 18 31.0**	**+1.1**
NKC				*e*SG	**Sg**	**23 19 11.6**	**-0.1**
	comp=Z,32nm,0.6s						
OJC	**Ojcow**	**2.75**	**119**	*e*Pn	**Pn**	**23 18 29.2**	**-1.5**
OJC				*e*Pg	**Pg**	**23 18 39.1**	**+1.0**
OJC				*e*Sg	**Sg**	**23 19 13.7**	**+0.1**
KHC	**Kasperske Hory**	**2.97**	**214**	*e*PN	**Pn**	**23 18 34.2**	**+0.4**
KHC				*e*PG	**Pb**	**23 18 39.2**	**0.0**
KHC				*e*SN	**Sn**	**23 19 09.7**	**-0.4**
KHC				*e*SG	**Sg**	**23 19 19.2**	**-1.5**
	comp=Z,16nm,0.4s						
LANS	**Liptovska Anna**	**3.30**	**137**	*e*PN	**Pn**	**23 18 39.0**	**+0.7**
LANS				*e*PG	**Pg**	**23 18 48.4**	**-0.2**
LANS				*e*SG	**Sg**	**23 19 28.4**	**-2.9**
MODS	**Modra-Piesok**	**3.35**	**166**	*e*PG	**Pg**	**23 18 48.6**	**-1.0**
MODS				*e*SG	**Sb**	**23 19 28.7**	**+1.7**
NIE	**Niedzica**	**3.49**	**128**	*e*Pg	**Pg**	**23 18 53.9**	**+1.6**
NIE				*e*Sg	**Sg**	**23 19 38.0**	**+0.5**
BSD	**Bornholm Skovb**	**3.56**	**349**	*i* P	**Pn**	**23 18 42.0**	**+0.1**
BSD				*i* S	**Sn**	**23 19 21.5**	**-3.1**
BSD	**Bornholm Skovb**	**3.56**	**349**	*i* P	**Pn**	**23 18 42.0**	**+0.1**
BSD				*i* S	**Sn**	**23 19 21.6**	**-3.1**
BSD				IAML		23 19 52.9	
	comp=Z,1.6nm,0.4s						
VYHS	**Vyhne**	**3.61**	**149**	*e*PN	**Pn**	**23 18 41.2**	**-1.4**
VYHS				*e*PG	**Pg**	**23 18 56.3**	**+1.8**
CONA	**Conrad Observa**	**3.71**	**182**	*e*Pn	**Pn**	**23 18 44.6**	**+0.6**
	comp=Z,0.5nm,0.1s						
CONA				Sg	**Sg**	**23 19 42.7**	**-1.7**
	comp=Z,10nm,0.5s						
MOA	**Molln**	**3.96**	**198**	*i* Pn	**Pn**	**23 18 47.9**	**+0.5**
	comp=Z,1.3nm,0.2s						
MOA				Sg	**Sg**	**23 19 51.4**	**-1.2**
	comp=Z,7.7nm,0.3s						
ARSA	**Arzberg**	**4.40**	**185**	*e*Pn	**Pn**	**23 18 54.8**	**+1.3**
	comp=Z,0.6nm,0.2s						
ARSA				Sg	**Sg**	**23 20 07.1**	**+0.4**
	comp=Z,5.9nm,0.4s						
KOLS	**Kolonicke sedl**	**4.80**	**122**	*e*PN	**Pn**	**23 18 59.5**	**+0.5**
KOLS				*e*PG	**Pg**	**23 19 19.8**	**+2.4**
KOLS				*e*SG	**Sg**	**23 20 23.9**	**+4.2**

*JMA **08** 23:30:15.2±0.2, 34°.76N×140°.07E, h65km±2km, M2.8*

*IDC **08** 23:30:17.3±5.0, 34°.45N×139°.37E, h52km±63km, mb3.0/2, mb1 3.4/3, mb1mx3.0/32, mbtmp3.3/3, ML2.7/1, Error ellipse: s-maj=122.5km s-min=33.9km az=63.0*

ISC 08 23:30:15.9±1.0, 34°.78N±0°.05×140°.06E±0°.05, h63km±7km, n26, σ0s55/30, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.29**	**332**	P	**Pn**	**23 30 26.7**	**+0.5**
TATJ				S	**Sn**	**23 30 34.7**	**+1.1**
BSO4	**Boso 4**	**0.31**	**47**	P	**Pn**	**23 30 26.4**	**+0.2**
BSO4				X		23 30 35.2	
BSO3	**Boso 3**	**0.37**	**86**	P	**Pn**	**23 30 26.6**	**+0.1**
BSO3				X		23 30 35.3	
JKUC	**kamogawauchiur**	**0.40**	**17**	P	**Pn**	**23 30 26.6**	**-0.5**
JKUC				S	**Sn**	**23 30 34.9**	**-0.3**
KTR	**Katsuura**	**0.43**	**30**	S	**Sn**	**23 30 35.4**	**-0.2**
JIM2	**Oshima 3**	**0.52**	**264**	P	**Pn**	**23 30 28.0**	**-0.3**
JIM2				S	**Sn**	**23 30 36.9**	**-0.4**
JTHY	**Toshimahigashi**	**0.68**	**248**	S	**Sn**	**23 30 41.3**	**+0.9**
BSO1	**Boso 1**	**0.77**	**99**	P	**Pn**	**23 30 30.3**	**-0.2**
BSO1				X		23 30 41.4	
KTJ3	**Kamata3**	**0.83**	**281**	P	**Pn**	**23 30 31.2**	**-0.6**
KTJ3				S	**Sn**	**23 30 42.6**	**-0.9**
JOD2	**Odawara 2**	**0.93**	**302**	P	**Pn**	**23 30 32.5**	**-0.6**
JOD2				S	**Sn**	**23 30 44.8**	**-1.1**
JMKN	**Mikurajimanish**	**0.96**	**204**	S	**Sn**	**23 30 47.0**	**+0.4**
JIZS	**Izushimoda**	**0.97**	**267**	P	**Pn**	**23 30 33.7**	**+0.1**
JIZS				S	**Sn**	**23 30 46.7**	**-0.1**
JFNN	**Fujinakano**	**1.20**	**291**	P	**Pn**	**23 30 36.5**	**-0.1**
JFNN				eS	**Sn**	**23 30 52.3**	**+0.2**
JYN	**Shimob**	**1.43**	**301**	P	**Pn**	**23 30 39.8**	**0.0**
JYN				S	**Sn**	**23 30 58.3**	**+0.6**
SHZ3	**Shizuoka 3**	**1.54**	**281**	P	**Pn**	**23 30 41.8**	**+0.5**
JRY	**Ryogami san**	**1.56**	**323**	P	**Pn**	**23 30 41.1**	**-0.3**
MJAR	**Matsushiro Arr**	**2.32**	**320**	P	**Pn**	**23 30 51.9**	**+0.3**
	1.9nm,0.3s,baz=155,slow=11,SNR=71						
MJAR				S	**Sn**	**23 31 19.8**	**+0.8**
	0.4nm,0.

*IDC **09** 00:30:52.8±0.9, 3°.51N×71°.40W, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/27, mbtmp3.8/7, ML2.2/1, MS3.0/4, Ms1 3.0/4, ms1mx2.8/32, Error ellipse: s-maj=23.6km s-min=21.7km az=63.0*

*NEIC **09** 00:30:53.6±2.4, 3°.66N±0°.08×71°.33W±0°.09, h15km±5km, mb4.3/23, Error ellipse: s-maj=14.5km s-min=10.0km az=120.0*

*RSNC **09** 00:30:58.0±0.9, 3°.89N×71°.58W, h4km±4km, ML3.5, Mw3.8*

ISC 09 00:30:55.1±1.5, 3°.90N±0°.04×71°.45W±0°.04, h11km±9km, n77, σ1s54/101, mb4.2/13, 1C-2D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTGC	**Puerto Gaitan,**	**0.74**	**294**	⇑*i*	Pg		**Pg**	**00 31 08.7**	**-0.8**
PTGC				*e*	Sg		**Sg**	**00 31 18.0**	**-1.3**
PTGC				*i*				00 31 21.0	
	comp=Z,807nm,0.2s								
GUVC	**San Jose del G**	**1.78**	**221**	*e*	P		**Pn**	**00 31 26.7**	**+0.8**
GUVC				*e*	S		**Sn**	**00 31 49.0**	**+0.5**
GUVC				*i*				00 31 54.0	
	comp=Z,717nm,0.2s								
VILC	**Villavicencio,**	**2.25**	**276**	*e*	P		**Pn**	**00 31 33.5**	**+1.2**
VILC				*e*	S		**Sn**	**00 31 59.5**	**-0.7**
VILC				*i*				00 32 06.5	
	comp=Z,843nm,0.3s								
CHIC	**Chingaza**	**2.39**	**288**	*e*	P		**Pn**	**00 31 35.5**	**+1.0**
CHIC				*e*	S		**Sn**	**00 32 04.9**	**+0.9**
CHIC				*i*				00 32 10.3	
	comp=Z,351nm,0.3s								
TAMC	**Tame, Arauca**	**2.54**	**352**	*e*	P		**Pn**	**00 31 38.9**	**+2.5**
TAMC				*e*	S		**Sb**	**00 32 10.9**	**-1.3**
TAMC				*i*				00 32 23.2	
	comp=Z,500nm,0.4s								
RUSC	**La Rusia**	**2.56**	**321**	⇓*e*	P		**Pn**	**00 31 38.7**	**+1.6**
RUSC				*e*	S		**Sn**	**00 32 09.7**	**+1.2**
RUSC				*i*				00 32 28.0	
	comp=Z,201nm,0.4s								
RUSC	**La Rusia**	**2.56**	**321**				**Pn**	**00 31 38.6**	**+1.6**
MACC	**Macarena, Meta**	**2.96**	**234**	*e*	P		**Pn**	**00 31 45.0**	**+2.9**
MACC				*e*	S		**Sn**	**00 32 21.4**	**+3.9**
MACC				*i*				00 32 30.1	
	comp=Z,230nm,0.3s								
ROSC	**El Rosal**	**3.01**	**288**	Pn			**Pn**	**00 31 44.8**	**+1.6**
	comp=Z,5.6nm,0.3s,baz=120,slow=16,SNR=8.4								
ROSC					Pg		**Pg**	**00 31 53.1**	**+0.3**
	comp=Z,24nm,0.3s,baz=126,slow=15,SNR=23								
ROSC					Lg		Lg	00 32 34.9	
	comp=Z,24nm,0.3s,baz=40,slow=21,SNR=2.7								
ROSC	**El Rosal**	**3.01**	**288**	*e*	P		**Pn**	**00 31 44.6**	**+1.6**
ROSC				*e*	S		**Sn**	**00 32 18.8**	**-0.6**
ROSC				*i*				00 32 43.0	
	comp=Z,84nm,0.5s								
ROSC	**El Rosal**	**3.01**	**288**				**Pn**	**00 31 44.1**	**+1.0**
ROSC							**Pg**	**00 31 54.3**	**+1.5**
SPBC	**San Pablo de B**	**3.14**	**304**	*e*	P		**Pn**	**00 31 45.3**	**+0.7**
SPBC				*e*	S		**Sn**	**00 32 22.2**	**0.0**
SPBC				*i*				00 32 37.7	
	comp=Z,108nm,0.7s								
BARC	**Barichara**	**3.19**	**327**	*e*	P		**Pn**	**00 31 46.1**	**+0.7**
BARC				*e*	S		**Sb**	**00 32 32.6**	**+1.8**
BARC				*i*				00 32 46.3	
	comp=Z,172nm,0.4s								
PRAC	**Prado**	**3.43**	**267**	*e*	P		**Pn**	**00 31 50.7**	**+2.1**
PRAC				*e*	S		**Sb**	**00 32 39.0**	**+1.2**
PRAC				*i*				00 33 01.1	
	comp=Z,234nm,0.9s								
PAMC	**Pamplona, Colo**	**3.64**	**340**	*e*	P		**Pn**	**00 31 53.5**	**+1.7**
PAMC				*e*	S		**Sn**	**00 32 36.6**	**+1.5**
PAMC				*i*				00 32 54.0	
	comp=Z,139nm,0.5s								
ORTC	**Ortega, Tolima**	**3.79**	**270**	*e*	P		**Pn**	**00 31 54.5**	**+1.0**
ORTC				*e*	S		**Sb**	**00 32 50.8**	**+2.9**
ORTC				*i*				00 33 05.3	
	comp=Z,119nm,0.5s								
NORC	**Norcasia**	**3.79**	**296**	*e*	P		**Pn**	**00 31 53.9**	**+0.4**
NORC				*e*	S		**Sb**	**00 32 48.2**	**+0.2**
NORC				*i*				00 32 53.7	
	comp=Z,55nm,0.5s								
BRRC	**Barranca, Sant**	**3.90**	**325**	*e*	P		**Pn**	**00 31 56.3**	**+1.2**
BRRC				*e*	S		**Sn**	**00 32 41.6**	**+0.6**
BRRC				*i*				00 33 10.2	
	comp=Z,92nm,0.6s								
TOLC	**Tolima**	**3.92**	**280**	*e*	P		**Pn**	**00 31 56.6**	**+1.1**
TOLC				*e*	S		**Sn**	**00 32 41.8**	**0.0**
TOLC				*i*				00 33 12.1	
	comp=Z,172nm,0.6s								
PTBC	**PUERTO BERRIO,**	**3.98**	**311**	*e*	P		**Pn**	**00 31 57.0**	**+0.9**
PTBC				*e*	S		**Sn**	**00 32 44.2**	**+1.4**
PTBC				*i*				00 33 01.3	
	comp=Z,50nm,0.5s								
ANIL	**Santa Ana**	**3.98**	**279**	*e*	P		**Pn**	**00 31 56.8**	**+0.3**
ANIL				*e*	S		**Sb**	**00 32 52.1**	**-1.8**
GUY2C	**Guyana, Caldas**	**4.12**	**289**	⇓*e*	P		**Pn**	**00 31 59.6**	**+1.2**
GUY2C				*e*	S		Sn	00 32 38.4	-8.5
GUY2C				*i*				00 33 15.2	
	comp=Z,46nm,0.6s								
BETC	**Betania**	**4.16**	**253**	*e*	P		**Pn**	**00 32 00.3**	**+1.6**
BETC				*e*	S		**Sb**	**00 33 01.9**	**+3.1**
GARC	**Garzon, Huila**	**4.38**	**247**	*e*	P		**Pn**	**00 32 03.2**	**+1.4**
GARC				*e*	S		**Sn**	**00 32 53.9**	**+0.9**
GARC				*i*				00 33 12.9	
	comp=Z,219nm,0.4s								
MARP	**Paez Belalcaza**	**4.62**	**257**	*e*	P		**Pb**	**00 32 15.5**	**-0.9**
MARP				*e*	S		**Sb**	**00 33 13.9**	**+1.8**
MARP				*i*				00 33 24.0	
	comp=Z,33nm,0.8s								
HELC	**Santa Helena**	**4.66**	**299**	*e*	P		**Pn**	**00 32 06.9**	**+1.1**
HELC				*e*	S		**Sn**	**00 32 59.8**	**-0.2**
HELC				*i*				00 33 29.1	
	comp=Z,20nm,0.8s								
OCAC	**Ocana**	**4.70**	**337**	*e*	P		**Pn**	**00 32 07.3**	**+1.2**
OCAC				*e*	S		**Sn**	**00 33 02.9**	**+2.2**
OCAC				*i*				00 33 29.7	
	comp=Z,82nm,0.5s								
FLOC	**Florencia**	**4.78**	**241**	Pn			**Pn**	**00 32 04.7**	**-2.5**
YOTC	**Yotoco, Valle**	**4.88**	**271**	*e*	P		**Pn**	**00 32 08.9**	**+0.2**
YOTC				*e*	S		**Sb**	**00 33 22.5**	**+2.9**
YOTC				*i*				00 33 32.8	
	comp=Z,18nm,0.8s								
ZARC	**Zaragoza, Cauc**	**4.92**	**317**	*e*	P		**Pn**	**00 32 11.4**	**+2.3**
ZARC				*e*	S		**Sn**	**00 33 04.2**	**-1.9**
ZARC				*i*				00 33 12.5	
	comp=Z,21nm,0.5s								
CBOC	**Ciudad Bolivar**	**4.95**	**293**	*e*	P		**Pn**	**00 32 10.5**	**+0.9**
CBOC				*e*	S		**Sb**	**00 33 21.3**	**-0.2**
PTLC	**Puerto Leguiza**	**4.99**	**222**	*e*	S		**Sg**	**00 33 35.1**	**-0.2**
PTLC				*i*				00 33 46.2	
	comp=Z,126nm,0.8s								
SDV	**Santo Domingo**	**5.02**	**9**	Pg			**Pg**	**00 32 32.7**	**+1.3**
	comp=Z,13nm,0.3s,baz=200,slow=16,SNR=3.5								
SDV					Sn		**Sn**	**00 33 09.5**	**+0.6**
	comp=Z,52nm,0.3s,baz=75,slow=20,SNR=7.6								
SDV					Lg		Lg	00 33 41.0	
	comp=Z,29nm,0.3s,baz=63,slow=17,SNR=7.5								
SDV	**Santo Domingo**	**5.02**	**9**	*e*	S		**Sb**	**00 33 25.5**	**+1.7**
SMLC	**San Martn de**	**5.52**	**332**	*e*	P		**Pn**	**00 32 17.3**	**-0.1**
SMLC				*e*	S		**Sn**	**00 33 20.2**	**-0.7**
SMLC				*i*				00 34 02.8	
	comp=Z,28nm,0.6s								
DBBC	**Dabeiba**	**5.66**	**303**	*e*	P		**Pn**	**00 32 20.8**	**+1.5**
DBBC				*e*	S		**Sn**	**00 33 24.0**	**-0.4**
SJCC	**San Jacinto, C**	**7.02**	**328**	*e*	P		**Pn**	**00 32 38.6**	**+0.7**
SJCC				*e*	S		Sn	00 33 48.3	-9.5
SJCC				*i*				00 34 03.9	
	comp=Z,11nm,0.8s								
URIC	**Uribia, Colomb**	**7.77**	**356**	Pn			**Pn**	**00 32 50.4**	**+2.2**
OTAV	**Otavalo**	**7.88**	**243**	Pn			Pn	00 32 45.7	-4.5
HATO	**Hato, Curacao**	**8.59**	**17**	Pn			**Pn**	**00 33 02.5**	**+2.9**
JTS	**Las Juntas de**	**14.82**	**296**	LR			LR	00 41 11.6	
	comp=Z,37nm,21.2s,baz=178,slow=41								
AOPR	**Arecibo Observ**	**15.08**	**17**				**P**	**00 34 32.1**	**-1.5**
AOPR					IAmb		IAmb	00 34 47.7	
	comp=Z,26nm,1.1s								
AGPR	**Aguadilla, PR**	**15.09**	**16**	Pn			**Pn**	**00 34 30.0**	**+1.6**
ESPN	**Las Esperanzas**	**15.15**	**304**	Pn			**Pn**	**00 34 29.8**	**+0.6**
MTP	**Monte Pirata**	**15.25**	**22**	Pn			**Pn**	**00 34 30.5**	**0.0**
MTP					IAmb		IAmb	00 34 47.0	
	comp=Z,19nm,1.1s								
GCPR	**Guaynabo City**	**15.26**	**20**	Pn			**Pn**	**00 34 30.9**	**+0.3**
GCPR					IAmb		IAmb	00 34 39.0	
	comp=Z,19nm,0.9s								
NNA	**Nana**	**16.66**	**199**	LR			LR	00 41 31.9	
	comp=Z,27nm,18.1s,baz=55,slow=39								
LVC	**Limon Verde**	**26.46**	**175**	P			**P**	**00 36 29.1**	**-3.7**
	comp=Z,1.9nm,0.3s,baz=24,slow=5.7,SNR=19								
LVC	**Limon Verde**	**26.46**	**175**	IAmb			IAmb	00 36 42.0	
	comp=Z,11nm,1.1s								
U40A	**Yellville**	**37.84**	**331**	P			**P**	**00 38 12.0**	**0.0**
U40A				IAmb			IAmb	00 38 12.8	
	comp=Z,2.8nm,0.7s								
M56A	**Emporium**	**37.91**	**352**	P			**P**	**00 38 13.4**	**+0.9**
CCM	**Cathedral Cave**	**38.51**	**335**	P			**P**	**00 38 17.6**	**0.0**
CCM				IAmb			IAmb	00 38 18.8	
	comp=Z,4.8nm,0.7s								
LBNH	**Lisbon**	**40.18**	**359**	P			**P**	**00 38 32.5**	**+1.1**
LBNH				IAmb			IAmb	00 38 43.9	
	comp=Z,6.1nm,1.1s								
VT1	**Waterbury**	**40.28**	**359**	P			**P**	**00 38 33.4**	**+1.2**
VT1				IAmb			IAmb	00 38 52.7	
	comp=Z,5.4nm,1.1s								
G62A	**West of Eustis**	**41.16**	**1**	P			**P**	**00 38 40.6**	**+1.1**
MOQ	**Mont Orford**	**41.26**	**359**	P			**P**	**00 38 40.9**	**+0.6**
MNTX	**Cornudas Mount**	**42.19**	**315**	P			**P**	**00 38 48.5**	**+0.3**
MNTX				IAmb			IAmb	00 38 49.6	
	comp=Z,3.8nm,0.8s								
GBN	**Guysborough**	**42.25**	**10**	P			**P**	**00 38 46.3**	**-2.1**
GBN				IAmb			IAmb	00 38 55.6	
	comp=Z,13nm,1.1s								
LPIG	**La Paz**	**42.49**	**302**	LR			LR	00 59 39.1	
	comp=Z,19nm,18.4s,baz=139,slow=40								
D62A	**Allapoint, All**	**43.07**	**2**	P			**P**	**00 38 56.0**	**+0.9**
SCHQ	**Schefferville**	**50.92**	**3**	P			**P**	**00 39 57.0**	**+0.8**
	comp=Z,2.8nm,0.6s,baz=172,slow=8.7,SNR=3.8								
SCHQ	**Schefferville**	**50.92**	**3**	IAmb			IAmb	00 39 57.2	
	comp=Z,2.9nm,0.8s								
E03A	**Lebam**	**61.85**	**322**	P			**P**	**00 41 12.2**	**-2.2**
YKA	**Yellowknife Ar**	**66.56**	**340**	LR			LR	01 10 21.8	
	comp=Z,35nm,18.6s,baz=0.0,slow=35								
ESDC	**Sonseca Array**	**70.26**	**49**	P			**P**	**00 42 10.1**	**+1.4**
	comp=Z,0.5nm,1.0s,baz=265,slow=5.2,SNR=2.5								
SUMG	**Summit**	**71.55**	**10**	P			**P**	**00 42 16.1**	**-0.2**
RES	**Resolute Bay**	**72.04**	**354**	P			**P**	**00 42 17.3**	**-1.5**
TOAD	**Torodi Ar. Sit**	**72.72**	**78**	P			**P**	**00 42 21.8**	**-2.1**
TORD	**Torodi Ar. Bea**	**72.72**	**78**	P			**P**	**00 42 24.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=282,slow=4.5,SNR=6.5								
TORD	**Torodi Ar. Bea**	**72.72**	**78**	P			**P**	**00 42 22.0**	**-2.0**
BESE	**Bessie Mountai**	**73.05**	**331**	P			**P**	**00 42 24.6**	**-0.6**
BESE				IAmb			IAmb	00 42 41.0	
	comp=Z,8.1nm,0.9s								
YAH	**Yahtse**	**76.95**	**331**	P			**P**	**00 42 46.0**	**-1.8**
NOA	**NORSAR Array B**	**83.05**	**29**	P			**P**	**00 43 21.7**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=267,slow=5.1,SNR=2.8								
GERES	**GERESS Array B**	**83.89**	**41**	P			**P**	**00 43 26.2**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=285,slow=3.9,SNR=6.7								
GERES	**GERESS Array B**	**83.89**	**41**	P			**P**	**00 43 22.6**	**-2.7**
ASAR	**Alice Springs**	**148.61**	**229**	PKPbc			**PKPdf**	**00 50 40.9**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=122,slow=3.3,SNR=4.7								
WRA	**Warramunga Arr**	**150.23**	**236**	PKPbc			**PKPdf**	**00 50 45.1**	**+2.9**
	comp=Z,0.6nm,0.7s,baz=109,slow=2.7,SNR=2.7								

*MAN **09** 00:36:26.4, 20°.91N×122°.03E, h134km, MS3.4*

*NEIC **09** 00:36:26.2±2.0, 20°.90N±0°.07×122°.2E±0°.1, h151km±9km, mb4.2/14, Error ellipse: s-maj=22.2km s-min=2.5km az=64.0*

*TAP **09** 00:36:28.0, 21°.04N×121°.94E, h165km, ML4.7, D*

*IDC **09** 00:36:35.7±6.8, 20°.94N×122°.18E, h240km±73km, mb3.5/8, mb1 3.6/9, mb1mx3.2/45, mbtmp4.1/9, Error ellipse: s-maj=29.0km s-min=11.8km az=64.0*

ISC 09 00:36:26.9±0.7, 20°.94N±0°.03×122°.00E±0°.05, h156km±5km, n144, σ1s78/233, mb4.1/15, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.50**	**184**	*e*	P		**Pn**	**00 36 47.2**	**-1.7**
BBP				*e*	S		**Sn**	**00 37 03.1**	**-2.6**
LAY	**Lan-yu**	**1.17**	**339**	*i*	P		**Pn**	**00 36 54.5**	**+0.8**
	baz=340								
LAY				*i*	S		**Sn**	**00 37 13.5**	**-0.8**
	baz=340								
TSEB	**Hengchuen, Pin**	**1.40**	**313**	*i*	P		**Pn**	**00 36 56.9**	**+1.0**
	baz=310								
TSEB				*i*	S		**Sn**	**00 37 18.1**	**0.0**
	baz=310								
TWKBT	**Hengchun**	**1.49**	**312**	⇓	P		**Pn**	**00 36 57.5**	**+0.7**
	baz=310								
TWKBT					S		**Sn**	**00 37 18.7**	**-1.0**
	baz=310								
TWK1	**Hengchun**	**1.49**	**312**	⇓	P		**Pn**	**00 36 57.5**	**+0.7**
	baz=310								
TWK1					S		**Sn**	**00 37 18.7**	**-1.1**
	baz=310								
SNW	**Nanwan**	**1.54**	**311**	*e*	P		**Pn**	**00 36 58.6**	**+1.3**
	baz=309								
SNW				*e*	S		**Sn**	**00 37 20.3**	**-0.4**
	baz=309								
HEN	**Hengchun**	**1.58**	**312**	*e*	P		**Pn**	**00 36 58.0**	**+0.3**
	baz=310								
HEN				*e*	S		**Sn**	**00 37 21.4**	**0.0**
	baz=310								
SLIU	**Shizi**	**1.69**	**319**	*e*	P		**Pn**	**00 36 59.0**	**+0.1**
	baz=317								
SLIU				*e*	S		**Sn**	**00 37 20.7**	**-2.8**
	baz=317								
TAW	**Tawu**	**1.74**	**324**	*e*	P		**Pn**	**00 36 58.5**	**-1.0**
	baz=323								
TAW				*e*	S		**Sn**	**00 37 21.4**	**-3.1**
	baz=323								
EAST	**Anshuo**	**1.79**	**323**	*e*	P		**Pn**	**00 36 59.7**	**-0.4**
	baz=322								
EAST				*e*	S		**Sn**	**00 37 23.8**	**-1.8**
	baz=322								
LDUT	**Ludao**	**1.79**	**344**	*e*	P		**Pn**	**00 36 59.2**	**-0.8**
	baz=344								
LDUT				*e*	S		**Sn**	**00 37 24.0**	**-1.5**
	baz=344								
ECL	**Taimali**	**1.91**	**330**	*e*	P		**Pn**	**00 37 00.9**	**-0.5**
	baz=329								
ECL				*e*	S		**Sn**	**00 37 25.5**	**-2.5**
	baz=329								
SCZT	**Fangliau**	**1.92**	**318**	*e*	P		**Pn**	**00 37 02.0**	**+0.7**
	baz=317								
SCZT				*e*	S		**Sn**	**00 37 26.6**	**-1.4**
	baz=317								
TTN	**Taitung**	**1.97**	**336**	*e*	P		**Pn**	**00 37 03.0**	**+1.0**
	baz=336								
TTN				*e*	S		**Sn**	**00 37 29.9**	**+0.8**
	baz=336								
SSPT	**Xinbi**	**2.03**	**319**	*e*	P		**Pn**	**00 37 03.5**	**+0.8**
	baz=318								
SSPT				*e*	S		**Sn**	**00 37 29.9**	**-0.4**
	baz=318								
TWGBT	**Beinan**	**2.05**	**336**	*e*	P		**Pn**	**00 37 02.0**	**-0.9**
	baz=335								
TWGBT				*e*	S		**Sn**	**00 37 27.4**	**-3.5**
	baz=335								
TWG	**Pinlang**	**2.06**	**335**	*e*	P		**Pn**	**00 37 02.0**	**-1.0**
	baz=335								
TWG				*e*	S		**Sn**	**00 37 27.4**	**-3.6**
	baz=335								
TWG	**Pinlang**	**2.06**	**335**				**Pn**	**00 37 01.9**	**-1.1**
WLCH	**Liuqiu**	**2.06**	**313**	*e*	P		**Pn**	**00 37 04.2**	**+1.2**
	baz=311								
WLCH				*e*	S		**Sn**	**00 37 32.1**	**+1.2**
	baz=311								
TWP	**Hsiaoliuchiu**	**2.07**	**313**	*e*	P		**Pn**	**00 37 04.9**	**+1.8**
	baz=311								
TWP				*e*	S		**Sn**	**00 37 31.9**	**+0.8**
	baz=311								
MASBT	**Mashibuluo**	**2.09**	**323**	*e*	P		**Pn**	**00 37 03.5**	**0.0**
	baz=322								
MASBT				*e*	S		**Sn**	**00 37 28.5**	**-3.1**
	baz=322								
LONT	**Longtian**	**2.12**	**338**	*e*	P		**Pn**	**00 37 03.0**	**-0.7**
	baz=337								
LONT				*e*	S		**Sn**	**00 37 29.9**	**-2.2**
	baz=337								
EDH	**Donghe**	**2.12**	**342**	*e*	P		**Pn**	**00 37 03.5**	**-0.3**
	baz=342								
EDH				*e*	S		**Sn**	**00 37 30.9**	**-1.4**
	baz=342								
TSMG	**Majia**	**2.16**	**325**	*e*	P		**Pn**	**00 37 04.4**	**+0.2**
	baz=324								
TSMG				*e*	S		**Sn**	**00 37 30.9**	**-2.1**
	baz=324								
SSD	**Sandimen**	**2.20**	**325**	*e*	P		**Pn**	**00 37 04.9**	**+0.2**
	baz=324								
SSD				*e*	S		**Sn**	**00 37 31.1**	**-2.8**
	baz=324								
CHKT	**Chengkung**	**2.23**	**345**	*e*	P		**Pn**	**00 37 04.9**	**-0.1**
	baz=345								
CHKT				*e*	S		**Sn**	**00 37 32.8**	**-1.7**
	baz=345								
KAU	**Kaohsiung**	**2.26**	**316**	*e*	S		**Sn**	**00 37 34.2**	**-0.8**
	baz=315								
SGLT	**Jiouru**	**2.26**	**322**	*e*	P		**Pn**	**00 37 07.2**	**+1.9**
	baz=321								
SGLT				*e*	S		**Sn**	**00 37 35.2**	**0.0**
	baz=321								
FULB	**Fuli**	**2.34**	**344**	*e*	P		**Pn**	**00 37 06.8**	**+0.4**
	baz=344								
FULB				*e*	S		**Sn**	**00 37 36.6**	**-0.4**
	baz=344								
SNJT	**Kaohsiung City**	**2.38**	**320**	*e*	P		**Pn**	**00 37 07.5**	**+0.7**
	baz=318								
SNJT				*e*	S		**Sn**	**00 37 34.7**	**-2.9**
	baz=318								
SCST	**Cishan**	**2.39**	**324**	*e*	P		**Pn**	**00 37 07.2**	**+0.3**
	baz=323								
SCST				*e*	S		**Sn**	**00 37 35.9**	**-2.0**
	baz=323								
SLGT	**Liugui**	**2.40**	**329**	*e*	P		**Pn**	**00 37 07.2**	**+0.2**
	baz=328								
SLGT				*e*	S		**Sn**	**00 37 36.1**	**-2.0**
	baz=328								
ELDTW	**Lidau**	**2.42**	**338**	*e*	P		**Pn**	**00 37 07.2**	**-0.1**
	baz=338								
ELDTW				*e*	S		**Sn**	**00 37 36.8**	**-1.9**
	baz=338								
EYUL	**Yuli**	**2.48**	**345**	*e*	P		**Pn**	**00 37 08.4**	**+0.4**
	baz=345								
EYUL				*e*	S		**Sn**	**00 37 38.0**	**-1.8**
	baz=345								
TWF1	**Yuli**	**2.49**	**345**	*e*	P		**Pn**	**00 37 08.9**	**+0.8**
	baz=345								
TWF1				*e*	S		**Sn**	**00 37 38.5**	**-1.6**
	baz=345								
STYT	**Tauyuan**	**2.49**	**333**	*e*	P		**Pn**	**00 37 08.4**	**+0.2**
	baz=332								
STYT				*e*	S		**Sn**	**00 37 37.8**	**-2.5**
	baz=332								
SGST	**Jiashian**	**2.50**	**329**	*e*	P		**Pn**	**00 37 07.7**	**-0.6**
	baz=328								
SGST				*e*	S		**Sn**	**00 37 38.2**	**-2.2**
	baz=328								
YULB	**Yu-li**	**2.52**	**345**	*e*	P		**Pn**	**00 37 08.8**	**+0.3**
	baz=345								
YULB				*e*	S		**Sn**	**00 37 38.2**	**-2.7**
	baz=345								
YULB	**Yu-li**	**2.52**	**345**				**Pn**	**00 37 07.7**	**-0.9**
HGSD	**Ruisui**	**2.59**	**348**	*e*	P		**Pn**	**00 37 09.4**	**0.0**
	baz=348								
HGSD				*e*	S		**Sn**	**00 37 42.2**	**-0.2**
	baz=348								
CHN3	**Shinhua**	**2.61**	**325**	*e*	P		**Pn**	**00 37 10.6**	**+1.0**
	baz=324								
CHN3				*e*	S		**Sn**	**00 37 42.1**	**-0.6**
	baz=324								
CHN1	**Nanshi**	**2.62**	**329**	*e*	P		**Pn**	**00 37 10.1**	**+0.4**
	baz=328								
CHN1				*e*	S		**Sn**	**00 37 40.8**	**-2.1**
	baz=328								
EHY	**Hungye**	**2.63**	**346**	*e*	P		**Pn**	**00 37 10.1**	**+0.2**
	baz=346								
EHY				*e*	S		**Sn**	**00 37 40.4**	**-2.8**
	baz=346								
WTP	**Ta-pu**	**2.63**	**331**	*e*	P		**Pn**	**00 37 09.6**	**-0.3**
	baz=330								
WTP				*e*	S		**Sn**	**00 37 40.6**	**-2.6**
	baz=330								
TAI1	**Yung-k'ang**	**2.66**	**322**	*e*	P		**Pn**	**00 37 10.1**	**-0.1**
	baz=321								
TAI1				*e*	S		**Sn**	**00 37 42.3**	**-1.4**
	baz=321								
SNST	**Tainan City**	**2.66**	**329**	*e*	P		**Pn**	**00 37 10.4**	**+0.2**
	baz=328								
SNST				*e*	S		**Sn**	**00 37 41.5**	**-2.4**
	baz=328								
TPUB	**Ta-pu**	**2.67**	**332**	*e*	P		**Pn**	**00 37 10.4**	**0.0**
	baz=331								
TPUB				*e*	S		**Sn**	**00 37 41.3**	**-2.8**
	baz=331								
SGCP	**Mt. Cagua**	**2.69**	**179**	*e*	P		**Pn**	**00 37 09.7**	**-1.0**
SGCP				*e*	S		**Sn**	**00 37 42.7**	**-1.7**
TWK	**Hsinying**	**2.71**	**329**	*e*	P		**Pn**	**00 37 10.8**	**-0.1**
	baz=328								
TWK				*e*	S		**Sn**	**00 37 42.0**	**-2.9**
	baz=328								
EGFH	**Guangfu**	**2.77**	**349**	*e*	P		**Pn**	**00 37 11.5**	**0.0**
	baz=349								
EGFH				*e*	S		**Sn**	**00 37 44.4**	**-1.8**
	baz=349								
SCLT	**Jiali**	**2.78**	**323**	*e*	P		**Pn**	**00 37 12.2**	**+0.5**
	baz=322								
SCLT				*e*	S		**Sn**	**00 37 44.9**	**-1.6**
	baz=322								
ALS	**Alishan**	**2.79**	**337**	*e*	P		**Pn**	**00 37 11.7**	**-0.3**
	baz=336								
ALS				*e*	S		**Sn**	**00 37 45.6**	**-1.5**
	baz=336								
ICHU	**Y

baz=337
WNT eS Sn 00 37 52.9 -2.2
baz=337
WDGT Dungji 3.17 317 eP Pn 00 37 16.0 -0.6
baz=316
WDGT eS Sn 00 37 51.5 -3.6
baz=316
CHGB Renai 3.20 346 eP Pn 00 37 17.9 +0.7
baz=346
CHGB eS Sn 00 37 54.6 -1.6
baz=346
NACB Ninganchiao 3.24 353 eP Pn 00 37 17.6 +0.2
baz=354
NACB eS Sn 00 37 52.5 -4.3
baz=354
NACB Ninganchiao 3.24 353 Pn 00 37 18.7 +1.2
WHF Hehuan Shan 3.26 348 eP Pn 00 37 19.0 +0.8
baz=348
WHF eS Sn 00 37 56.0 -1.9
baz=348
VCHM Qimei 3.28 314 eP Pn 00 37 17.2 -0.8
baz=312
VCHM eS Sn 00 37 55.3 -2.5
baz=312
ETLH Xiulin Townshi 3.29 352 eP Pn 00 37 18.3 +0.2
baz=352
ETLH eS Sn 00 37 55.4 -2.6
baz=352
FUSS Fushou 3.36 348 eP Pn 00 37 20.0 +0.7
baz=348
TWT Tachien 3.38 347 eS Sn 00 37 57.6 -2.7
baz=347
TDCB Techi 3.39 347 eP Pn 00 37 19.8 +0.3
baz=347
TDCB eS Sn 00 37 58.8 -1.6
baz=347
WCHH Zhanghua 3.40 337 eP Pn 00 37 19.1 -0.4
baz=337
WCHH eS Sn 00 37 57.4 -3.0
baz=337
PHUB P'eng-hu 3.41 319 eP Pn 00 37 18.6 -1.0
baz=318
PHUB eS Sn 00 37 56.9 -3.7
baz=318
PNG Penghu 3.46 320 eP Pn 00 37 19.6 -0.7
baz=318
PNG eS Sn 00 37 57.4 -4.3
baz=318
WHP Taichung City 3.46 344 eP Pn 00 37 20.5 +0.1
baz=344
WHP eS Sn 00 38 00.2 -1.8
baz=344
ENA Nanau 3.48 356 eP Pn 00 37 21.2 +0.7
baz=356
ENA eS Sn 00 38 01.6 -0.6
baz=356
ENAH Nanao 3.50 357 eP Pn 00 37 21.7 +0.9
baz=357
NNSB Datong 3.52 351 eP Pn 00 37 21.4 +0.3
baz=351
NNSB eS Sn 00 38 01.9 -1.5
baz=351
NNSH Datong 3.52 351 eP Pn 00 37 21.2 0.0
baz=351
NNSH eS Sn 00 38 01.6 -1.7
baz=351
NNS Nan Shan 3.53 351 eP Pn 00 37 21.7 +0.3
baz=351
NNS eS Sn 00 38 02.4 -1.3
baz=351
WDJ Dajia District 3.62 340 eS Sn 00 38 02.4 -3.0
baz=339
NSY Sanyi 3.64 342 eS Sn 00 38 03.8 -2.3
baz=342
NDT Datong Townshi 3.67 353 eP Pn 00 37 23.6 +0.5
baz=353
NDT eS Sn 00 38 03.1 -3.7
baz=353
PTSB Yuanli 3.69 341 eS Sn 00 38 03.3 -3.8
baz=341
ENTT Nioudou 3.70 354 eS Sn 00 38 05.4 -2.0
baz=354
YHNB Yeheng 3.75 351 eP Pn 00 37 23.3 -0.8
baz=351
YHNB eS Sn 00 38 06.8 -1.9
baz=351
YHNB Yeheng 3.75 351 Pn 00 37 24.9 +0.7
NSK Sanguang 3.76 351 eP Pn 00 37 22.6 -1.7
baz=351
NSK eS Sn 00 38 06.8 -2.1
baz=351
NSTT Nanjuang 3.79 346 eS Sn 00 38 07.3 -2.0
baz=346
LIOB Emei 3.80 346 eP Pn 00 37 25.0 +0.3
baz=346
LIOB eS Sn 00 38 07.6 -2.1
baz=346
NWLT Wulai 3.84 353 eP Pn 00 37 23.3 -2.0
baz=353
NWLT eS Sn 00 38 09.9 -0.9
baz=353
TIPB Shuangxi 4.01 358 eP Pn 00 37 29.0 +1.5
baz=358
YM05 YM05 4.22 355 eP Pn 00 37 31.1 +0.9
baz=355
YM03 YM03 4.24 354 eP Pn 00 37 31.9 +1.4
baz=354
YM03 eS Sn 00 38 19.1 -0.9
baz=354
VWUC VWUC 4.67 330 eP Pn 00 37 35.6 -0.3
baz=329
VWUC eS Sn 00 38 24.8 -5.1
baz=329
KNMB Chin-men Tao 4.84 317 eP Pn 00 37 37.0 -1.2
baz=316
KNMB eS Sn 00 38 30.8 -3.2
baz=316
PTMZ Houxiangcun 4.87 328 eP Pn 00 37 37.5 -1.1
baz=326
PTMZ eS Sn 00 38 29.1 -5.5
baz=326
SMPP San Manuel, Pa 4.93 195 eP Pn 00 37 38.9 -0.6
ZPLA Ao Xicun 4.93 308 eP Pn 00 37 40.1 +0.7
baz=306
ZPLA eS Sn 00 38 34.1 -2.0
baz=306
PTTC Pingtan 4.98 336 eP Pn 00 37 38.5 -1.6
baz=335
PTTC eS Sn 00 38 32.6 -4.7
baz=335
ZZJH Jiuhuzhen 5.35 312 eS Sn 00 38 41.6 -4.4
baz=310
AXDP Jialang 5.41 317 eP Pn 00 37 45.6 -0.3
baz=316
MHZQ Yeshan 5.81 333 eP Pn 00 37 49.8 -1.3
baz=332
LYJJ Jianjiangzhen 5.95 340 eP Pn 00 37 51.5 -1.4
baz=339
XPSS Dashiqiu 6.19 345 eP Pn 00 37 54.8 -1.3
baz=344
KSRS Korea Array 17.24 16 P Pn 00 40 19.2 +1.0
0.3nm,0.3s,baz=198,slow=12,SNR=2.3
CMAR Chiang Mai Arr 21.84 268 P P 00 41 10.3 +3.1
1.4nm,0.5s,baz=76,slow=7.7,SNR=7.5
SONM Songino Array 29.64 339 P P 00 42 20.0 +2.3
0.5nm,0.5s,baz=157,slow=7.8,SNR=2.6
SONM Songino Array 29.64 339 P P 00 42 20.0 +2.3
SONM Songino Array 29.64 339 IAmb IAmb 00 42 22.2
comp=Z,1.2nm,1.0s
MK31 Makanchi Array 41.21 318 P P 00 43 58.2 +1.9
MK31 IAmb IAmb 00 43 59.6
comp=Z,4.3nm,0.7s
MKAR Makanchi Array 41.21 318 P P 00 43 58.8 +2.5
comp=Z,5.5nm,0.6s,baz=111,slow=9.7,SNR=46
MKAR Makanchi Array 41.21 318 P P 00 43 58.0 +1.7
MAKZ Makanchi 41.42 318 P P 00 43 59.2 +1.3
MAKZ IAmb IAmb 00 44 01.3
comp=Z,5.1nm,0.7s
WB0 Warramunga Arr 42.24 162 P P 00 44 03.8 -1.1
WB0 IAmb IAmb 00 44 05.0
comp=Z,8.1nm,1.1s
WRA Warramunga Arr 42.39 163 P P 00 44 05.5 -0.6
comp=Z,3.6nm,0.7s,baz=344,slow=9.0,SNR=28
WRA Warramunga Arr 42.39 163 IAmb IAmb 00 44 07.2
comp=Z,0.2nm,0.7s
WB2 Warramunga Arr 42.39 163 P P 00 44 05.3 -0.8
WB2 IAmb IAmb 00 44 06.7
comp=Z,6.1nm,0.8s
WR0 Warramunga Arr 42.46 162 P P 00 44 06.9 +0.2
WR0 IAmb IAmb 00 44 07.6
comp=Z,5.3nm,0.7s
ZALV Zalesovo Beam 43.38 329 P P 00 44 15.1 +1.4
comp=Z,1.7nm,0.6s,baz=111,slow=8.7,SNR=8.8
ZALV Zalesovo Beam 43.38 329 P P 00 44 13.6 0.0
KURK Kurchatov 45.07 322 P P 00 44 28.3 +1.2
KURK IAmb IAmb 00 44 30.0
comp=Z,3.3nm,0.7s
ASAR Alice Springs 45.83 165 P P 00 44 34.2 +0.8
comp=Z,1.1nm,0.5s,baz=346,slow=7.2,SNR=18
ASAR Alice Springs 45.83 165 P P 00 44 32.3 -1.1
BRVK Borovoye 50.74 322 P P 00 45 11.3 +0.7
BRVK IAmb IAmb 00 45 13.7
comp=Z,2.5nm,0.8s
FORT Forrest 51.75 173 P P 00 45 14.6 -3.8
STKA Stephens Creek 55.77 160 P P 00 45 48.4 +0.8
comp=Z,1.7nm,0.5s,baz=315,slow=7.3,SNR=4.4
STKA Stephens Creek 55.77 160 P P 00 45 47.5 -0.1
ABKAR Akbulak array 56.26 316 P P 00 45 51.4 +0.4
GEYT Alibeck 57.12 302 P P 00 45 57.8 +0.5
ARU Arti 58.15 324 P P 00 46 04.8 +0.7
SVW2 Sparrevohn 68.25 31 P P 00 47 08.7 -1.8
FINES FINESS Array B 74.62 330 P P 00 47 47.5 -1.1
comp=Z,1.3nm,0.7s,baz=99,slow=9.8,SNR=4.3

IDC 09 01:03:21.3±1.5, 0.81N×146.25E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/33, mbtmp3.7/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/34, Error ellipse: s-maj=70.1km s-min=24.4km az=110.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.70**	**209**	P	P	01 08 34.9	-0.1
	2.1nm,0.8s,baz=31,slow=11,SNR=12						
ASAR	**Alice Springs**	**27.13**	**205**	P	P	01 09 08.2	+1.9
	0.8nm,0.8s,baz=32,slow=8.8,SNR=6.7						
LEM	**Lembang**	**39.28**	**258**	LR	LR	01 28 32.5	
	comp=Z,52nm,18.2s,baz=138,slow=38						
MKAR	**Makanchi Array**	**71.83**	**319**	P	P	01 14 46.1	+0.1
	0.2nm,0.5s,baz=109,slow=6.2,SNR=2.1						
ILAR	**Eielson Array**	**79.57**	**24**	P	P	01 15 28.6	-1.3
	0.9nm,0.6s,baz=254,slow=6.5,SNR=6.2						

*ISK **09** 01:37:38.4, 38.13N×25.83E, h21km, ML2.3/8*
*THE **09** 01:37:39.7, 38.14N×25.86E, h18km±1km, ML2.0/3, Error ellipse: s-maj=1.9km s-min=0.9km az=58.0*
*DDA **09** 01:37:40.6, 38.17N×25.96E, h6km±4km, ML1.8*
ATH 09 01:37:38.9, 38.11N×25.85E, h18km±8km, ML2.2/3, Error ellipse: s-maj=8.5km s-min=1.2km az=25.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.32**	**31**	P	Pg	01 37 45.8	0.0
CHOS				S	Sg	01 37 50.7	+0.2
	688nm,0.3s						
CHOS	**Chios island**	**0.32**	**31**	P	Pg	01 37 45.8	+0.1
CHOS				S	Sg	01 37 50.6	+0.1
CHOS				AML	AML	01 37 51.7	
	comp=E,1767μm,0.4s						
CHOS				AML	AML	01 37 55.0	
	comp=N,580μm,0.5s						
CHOS	**Chios island**	**0.32**	**31**	PG	Pg	01 37 45.7	-0.1
CHOS				SG	Sg	01 37 50.7	+0.2
PSRA	**Psara**	**0.48**	**333**	P	Pg	01 37 48.1	-0.5
PSRA				S	Sg	01 37 55.3	+0.1
PSRA				AML	AML	01 37 56.0	
	comp=E,985μm,0.3s						
PSRA				AML	AML	01 37 56.1	
	comp=N,646μm,0.2s						
URLA	**Izmir**	**0.64**	**67**	PG	Pb	01 37 51.9	+0.3
URLA				SG	Sn	01 38 01.6	-1.3
URLA	**Izmir**	**0.64**	**67**	*i* P	Pb	01 37 51.8	+0.3
URLA				*i* S	Sb	01 38 01.4	+1.2
URLA				IAML		01 38 04.0	
	comp=N,56nm,0.5s						
KRBN	**Karaburun**	**0.73**	**49**	PG	Pb	01 37 52.7	-0.5
TNSA	**Tinos**	**0.79**	**224**	P	Pg	01 37 54.4	+0.1
TNSA				S	Sg	01 38 04.8	+0.1
DGB	**zmir**	**0.82**	**94**	*i* P	Pb	01 37 54.3	-0.3
DGB				*i* S	Sb	01 38 05.2	-0.1
SMG	**Samos**	**0.88**	**117**	P	Pg	01 37 56.2	+0.2
SMG				S	Sg	01 38 08.0	+0.3
	comp=N,150nm,0.4s						
SMG	**Samos**	**0.88**	**117**	P	Pg	01 37 56.2	+0.1
SMG				S	Sg	01 38 08.1	+0.4
SMG				AML	AML	01 38 08.8	
	comp=N,358μm,0.5s						
SMG				AML	AML	01 38 08.9	
	comp=E,239μm,0.4s						
BLCB	**Balcova**	**0.98**	**74**	P	Pb	01 37 57.5	+0.2
BLCB	**Balcova**	**0.98**	**74**	PG	Pn	01 37 57.8	0.0
BLCB				SG	Sn	01 38 11.2	0.0
APE	**Apeiranthos**	**1.07**	**194**	P	Pb	01 37 58.7	-0.3
APE				S	Sn	01 38 13.3	-0.3
APE	**Apeiranthos**	**1.07**	**194**	PN	Pb	01 37 58.7	-0.2
SIGR	**SIGRI**	**1.10**	**0**	P	Pb	01 37 59.0	-0.3
SIGR				S	Sb	01 38 13.1	-0.2
	comp=E,42nm,0.6s						
SIGR	**SIGRI**	**1.10**	**0**	P	Pb	01 37 59.0	-0.4
SIGR	**SIGRI**	**1.10**	**0**	PN	Pb	01 37 59.0	-0.3
KARY	**Karystos**	**1.11**	**266**	P	Pg	01 38 00.4	-0.1
GCAM	**G?zelcaml?**	**1.17**	**110**	PN	Pn	01 38 00.4	0.0
GCAM	**G?zelcaml?**	**1.17**	**110**	*i* P	Pg	01 38 02.3	+0.8
GCAM				IAML		01 38 19.0	
	comp=E,19nm,0.2s						
DKL	**Dikili**	**1.27**	**41**	PN	Pn	01 38 01.6	-0.1
ZEDA	**zmir-Bergama**	**1.29**	**48**	*i* P	Pb	01 38 02.9	+0.3
ZEDA				*i* S	Sb	01 38 19.4	+0.6
ZEDA				IAML		01 38 23.0	
	comp=N,16nm,0.5s						
AYVA	**Ayvalik**	**1.36**	**29**	*i* P	Pn	01 38 03.4	+0.3
AYVA				*i* S	Sn	01 38 19.7	-1.0
AYVA				IAML		01 38 23.0	
	comp=N,19nm,0.6s						
AYVA				IAML		01 38 27.0	
	comp=E,20nm,0.5s						
SERI	**Serifos**	**1.44**	**229**	P	Pn	01 38 04.0	-0.1
SERI	**Serifos**	**1.44**	**229**	P	Pg	01 38 06.5	-0.1
AYDN	**Tasoluk**	**1.67**	**105**	*i* P	Pg	01 38 11.3	+0.3
AYDN				*i* S	Sn	01 38 28.1	-0.3
BAYC	**CANAKKALE_Bayr**	**1.71**	**18**	*i* P	Pn	01 38 07.3	-0.6
BOZC	**Bozcaada**	**1.73**	**5**	PN	Pn	01 38 07.8	-0.3
BOZC	**Bozcaada**	**1.73**	**5**	*i* P	Pn	01 38 06.0	-2.2
STEP	**BALIKESIR_Sava**	**1.93**	**49**	*i* P	Pg	01 38 15.4	-0.6
STEP				*i* S	Sg	01 38 40.8	-0.3
STEP				IAML		01 38 42.0	
	comp=E,11nm,0.3s						
STEP				IAML		01 38 43.0	
	comp=N,10nm,0.6s						
MANT	**Manisa**	**2.17**	**79**	*i* P	Pg	01 38 20.7	+0.2
MANT				*i* S	Sg	01 38 47.0	-1.6
MANT				IAML		01 38 51.0	
	comp=E,5.8nm,0.4s						

IDC 09 01:43:42.5±2.7, 26.70N×142.24E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/41, mbtmp3.7/4, Error ellipse: s-maj=208.3km s-min=12.0km az=88.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**0.40**	**352**	Pn	Pn	01 43 55.8	+0.2
	461nm,0.3s,baz=289,slow=23,SNR=58						
JCJ				Sn	Sb	01 44 03.0	+3.8
	653nm,0.3s,baz=279,slow=22,SNR=15						
KLR	**Kul'dur**	**23.92**	**343**	P	P	01 48 59.5	+1.4
	0.5nm,0.3s,baz=137,slow=18,SNR=4.3						
WRA	**Warramunga Arr**	**46.99**	**190**	P	P	01 52 14.7	-0.9
	1.8nm,0.6s,baz=11,slow=8.6,SNR=18						
ASAR	**Alice Springs**	**50.71**	**190**	P	P	01 52 44.0	-0.1
	0.4nm,0.8s,baz=17,slow=14,SNR=5.7						
FINES	**FINESS Array B**	**78.33**	**334**	P	P	01 55 44.8	+0.5
	0.4nm,0.3s,baz=65,slow=4.7,SNR=8.4						

*IDC **09** 01:47:35.4±1.4, 15.27N×144.56E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.7/52, mbtmp3.8/10, MS3.2/5, Ms1 3.2/5, ms1mx2.9/37, Error ellipse: s-maj=57.6km s-min=17.2km az=79.0*

ISC 09 01:47:38.2±1.2, 15.2N±0.1×144.6E±0.3, h22km, n15, σ1°32/12, mb3.8/10, MS3.1/4, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.58**	**172**	Pn	Pn	01 48 04.6	-0.3
	22nm,0.3s,baz=348,slow=3.9,SNR=8.1						
GUMO				Sn	Sn	01 48 22.9	-1.8
	14nm,0.3s,baz=288,slow=18,SNR=4.5						
JAY	**Jayapura**	**17.99**	**193**	LR	LR	01 58 02.6	
	comp=Z,85nm,21.3s,baz=324,slow=35						
DAV	**Davao City (W)**	**20.34**	**249**	LR	LR	01 58 21.3	
	comp=Z,66nm,20.8s,baz=162,slow=32						
MJAR	**Matsushiro Arr**	**22.05**	**346**	LR	LR	01 59 52.2	
	comp=Z,77nm,18.2s,baz=210,slow=34						
KSRS	**Korea Array**	**26.70**	**329**	P	P	01 53 14.3	-1.5
	0.7nm,0.5s,baz=131,slow=9.4,SNR=5.2						
KLR	**Kul'dur**	**35.58**	**345**	P	P	01 54 33.7	-0.2
	0.5nm,0.6s,baz=141,slow=14,SNR=2.2						
WRA	**Warramunga Arr**	**36.32**	**196**	P	P	01 54 42.1	+1.5
	1.3nm,0.8s,baz=18,slow=9.7,SNR=5.1						
PETK	**Petropavlovsk-**	**39.25**	**12**	LR	LR	02 10 31.3	
	comp=Z,36nm,21.0s,baz=239,slow=35						
ASAR	**Alice Springs**	**39.99**	**195**	P	P	01 55 13.6	+2.1
	0.4nm,0.9s,baz=17,slow=9.7,SNR=2.6						
CMAR	**Chiang Mai Arr**	**43.78**	**281**	P	P	01 55 42.3	-0.3
	0.5nm,0.3s,baz=78,slow=6.3,SNR=5.2						
CMAR				LR	LR	02 13 13.5	
	comp=Z,20nm,19.7s,baz=225,slow=35						
MKAR	**Makanchi Array**	**60.21**	**315**	P	P	01 57 44.5	-0.2
	0.8nm,1.0s,baz=110,slow=11,SNR=3.0						
KURBB	**Kurchatov Arra**	**63.29**	**319**	P	P	01 58 04.7	-0.6
	1.6nm,0.9s,baz=100,slow=6.9,SNR=12						
BVAR	**Borovoye Array**	**68.56**	**321**	P	P	01 58 39.0	-0.2
	1.2nm,0.8s,baz=96,slow=9.1,SNR=3.9						
ARCES	**ARCESS Array B**	**85.53**	**342**	P	P	02 00 16.0	+1.7
	2.0nm,0.9s,baz=62,slow=7.7,SNR=1.6						
FINES	**FINESS Array B**	**89.65**	**335**	P	P	02 00 34.1	-0.1
	0.6nm,0.7s,baz=14,slow=7.8,SNR=3.5						

*IDC **09** 02:22:36.3±1.8, 8.44S×158.65E, h113km±18km, mb3.6/8, mb1 3.9/9, mb1mx3.6/36, mbtmp4.0/9, Error ellipse: s-maj=23.1km s-min=18.1km az=147.0*

ISC 09 02:22:35.1±0.8, 8.4S±0.1×158.6E±0.1, h100km, n13, σ0°83/11, mb3.8/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.73**	**129**	P	Pn	02 23 05.3	+1.0
	90nm,0.3s,baz=258,slow=5.0,SNR=15						
HNR				S	Sn	02 23 26.3	-0.2
	193nm,0.3s,baz=331,slow=11,SNR=15						
JAY	**Jayapura**	**18.70**	**287**	P	Pn	02 26 48.5	+1.2
	0.7nm,0.3s,baz=163,slow=14,SNR=2.3						
WRA	**Warramunga Arr**	**26.13**	**241**	P	P	02 27 59.5	-0.5
	0.9nm,0.6s,baz=66,slow=9.4,SNR=6.8						
ASAR	**Alice Springs**	**28.11**	**234**	P	P	02 28 16.9	-0.8
	0.5nm,0.7s,baz=70,slow=8.7,SNR=6.7						
STKA	**Stephens Creek**	**28.24**	**212**	P	P	02 28 18.9	+0.1
	0.9nm,0.4s,baz=44,slow=16,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**29.06**	**16**	T	T	02 58 44.4	
	baz=196,slow=76,SNR=52						
H11N3	**WAKE ISLAND Hy**	**29.07**	**16**	T	T	02 58 45.2	
	baz=196,slow=76,SNR=44						
H11N2	**WAKE ISLAND Hy**	**29.08**	**16**	T	T	02 58 45.8	
	baz=196,slow=76,SNR=41						
VNDA	**Vanda**	**69.17**	**179**	P	P	02 33 30.0	-0.3
	2.0nm,0.8s,baz=338,slow=5.6,SNR=12						
SONM	**Songino Array**	**72.41**	**326**	P	P	02 33 51.2	+0.6
	2.0nm,0.7s,baz=144,slow=7.3,SNR=6.9						
ILAR	**Eielson Array**	**83.35**	**21**	P	P	02 34 50.2	-0.5
	0.9nm,0.6s,baz=245,slow=5.1,SNR=7.7						
NVAR	**Mina Array Bea**	**89.78**	**51**	P	P	02 35 23.1	+0.1
	0.5nm,0.7s,baz=245,slow=6.6,SNR=3.9						
PDAR	**Pinedale Array**	**96.97**	**48**	P	P	02 35 54.8	-1.2
	0.2nm,0.5s,baz=254,slow=2.6,SNR=3.5						

*BJI **09** 02:28:40.6±0.0, 27.75N×142.93E, h5km, mB5.4/70, mb5.2/77, Ms5.2/83, Ms7 4.9/80*
*JMA **09** 02:28:42.1, 27.87N×143.18E, h19km±1km, M5.2*
*IDC **09** 02:28:42.5±0.4, 27.75N×143.00E, h0km, mb5.0/33, mb1 5.1/38, mb1mx5.0/46, mbtmp5.0/38, ML4.1/5, MS4.7/43, Ms1 4.7/43, ms1mx4.7/48, Error ellipse: s-maj=13.1km s-min=9.3km az=97.0*
*NIED **09** 02:28:42.2, 27.87N×143.18E, h19km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr7.04; Mθθ0.32; Mϕϕ-7.36; Mrθ-1.47; Mθϕ-0.62; Mϕr1.06; Fault plane solution: M07.46000×10^16 NP1: ϕs353.00000°, δ50.00000°, λ74.00000°. NP2: ϕs197.00000°, δ43.00000°, λ108.00000°.*
*NEIC **09** 02:28:43.8±1.5, 27.78N±0.05×142.89E±0.09, h10km±3km, mb5.0/277 Error ellipse: s-maj=11.8km s-min=6.1km az=109.0*
*GCMT **09** 02:28:45.8±0.1, 27.74N±0.01×143.13E±0.01, h12km, MW5.2/155, Moment Tensor Solution. s90, c143; s155, c292; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.80±.01; Mθθ-0.02±.01; Mϕϕ-0.78±.01; Mrθ-0.01±.03; Mθϕ-0.27±.01; Mϕr0.23±.03; Best double couple: M0.86900×10^17 NP1: ϕs203.00000°, δ38.00000°, λ99.00000°. NP2: ϕs12.00000°, δ53.00000°, λ83.00000°. Principal axes: T 0.8380, Plg81.0000°, Azm250.0000°; N 0.0610, Plg5.0000°, Azm16.0000°; P -0.8990, Plg7.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **09** 02:28:45.0±1.0, 27.76N×142.88E, h27km, mb5.4/87, MS4.8/28 Error ellipse: s-maj=7.0km s-min=3.5km az=116.8*

ISC 09 02:28:45.4±0.5, 27.76N±0.03×142.96E±0.04, h19km±1km, h19km:pP-P, n759, σ1°75/753, mb5.1/254, MS4.9/91, 60C-14D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.95**	**226**	P	Pb	02 29 03.5	+0.2
CBIJ				eS	Sn	02 29 18.7	+1.8
JCJ	**Chichijima**	**0.95**	**226**	Pn	Pb	02 29 03.5	+0.2
	875nm,0.3s,baz=43,slow=6.8,SNR=126						
JCJ				Sn	Sn	02 29 17.8	+0.9
	1μm,0.3s,baz=188,slow=20,SNR=15						
JCJ	**Chichijima**	**0.95**	**226**	Pn	Pb	02 29 02.7	-0.6
JCJ					Sb	02 29 15.0	-0.6
JHH2	**Haha-jima-NKT2**	**1.32**	**212**	P	Pn	02 29 08.8	0.0
JHJ2	**Mitsune**	**5.99**	**334**	Pn	Pn	02 30 08.9	-4.0
JHJ	**Hachijo jima 2**	**6.00**	**334**	Pn	Pn	02 30 13.0	-0.2
	27nm,0.3s,baz=329,slow=22,SNR=6.7						
JHJ				Sn	Sn	02 31 18.1	-3.3
	53nm,0.3s,baz=74,slow=20,SNR=2.1						
JHJ				LR	LR	02 32 11.6	
	comp=Z,5μm,19.8s,baz=154,slow=35						
BSO3	**Boso 3**	**7.33**	**344**	P	Pn	02 30 30.8	-0.3
BSO4	**Boso 4**	**7.55**	**343**	P	Pn	02 30 33.9	-0.4
BSO4				eS	Sn	02 31 58.7	-0.6
JOD2	**Odawara 2**	**8.18**	**337**	P	Pn	02 30 41.8	-1.3
JOD2				eS	Sn	02 32 13.5	-1.5
JHU	**Hanno**	**8.65**	**340**	P	Pn	02 30 49.0	-0.6
JHU				eS	Sn	02 32 22.1	-4.5
JNY	**Yasuok**	**8.73**	**331**	P	Pn	02 30 52.9	+2.2
JRY	**Ryogami san**	**8.92**	**338**	P	Pn	02 30 53.0	-0.3
JRY				eS	Sn	02 32 31.9	-1.5
INU	**Inuyama**	**9.11**	**328**	Pn	Pn	02 30 52.5	-3.2
JAG	**Ashikaga**	**9.14**	**342**	P	Pn	02 30 55.0	-1.2
JAG				S	Sn	02 32 33.1	-5.4
MJAR	**Matsushiro Arr**	**9.64**	**337**	Pn	Pn	02 31 01.3	-1.8
	1.6nm,0.3s,baz=159,slow=7.8,SNR=82						
MJAR				Sn	Sn	02 32 49.5	-1.4
	0.8nm,0.3s,baz=156,slow=19,SNR=4.7						
MJAR				LR	LR	02 34 37.0	
	comp=Z,5μm,19.1s,baz=175,slow=37						
MJAR	**Matsushiro Arr**	**9.64**	**337**		Pn	02 31 01.3	-1.8
MJAR					Sn	02 32 47.4	-3.4
MAJO	**Matsushiro**	**9.64**	**337**	⇑	iP	02 31 02.6	-0.5
MAJO				pmax	pmax		
	comp=Z,71nm,1.3s						
MAJO	**Matsushiro**	**9.64**	**337**	Pn	Pn	02 31 01.4	-1.6
MAT	**Matsushiro**	**9.64**	**337**	P	Pn	02 31 02.2	-0.9
MAT				S	Sn	02 32 48.5	-2.4
MJB9	**Matsu-Tunnel**	**9.64**	**337**	Pn	Pn	02 31 02.0	-1.2

JFK **Kawauchi** 9.74 350 S Sn 02 32 43.9 -9.5
JMK **Ichinoseki** 11.26 353 P **Pn** **02 31 22.4 -2.8**
JMK S Sn 02 33 20.0 -10
JNU **Nakatsue** 11.71 300 Pn **Pn** **02 31 33.2 +1.6**
comp=Z,0.9nm,0.3s,baz=109,slow=4.8,SNR=4.5
JNU LR LR 02 35 52.9
comp=Z,5μm,18.8s,baz=126,slow=37
JNU **Nakatsue** 11.71 300 Pn **Pn** **02 31 31.8 +0.3**
GUMO **Guam** 14.21 172 LR LR 02 36 29.6
comp=Z,2μm,20.9s,baz=6.0,slow=33
ERM **Erimo** 14.22 1 *i*P **Pn** **02 32 04.6 -1.1**
ERM **Erimo** 14.22 1 Pn **Pn** **02 32 01.7 -4.0**
NMR **Nemuro--Hokkai** 15.74 7 *e*P **Pn** **02 32 22.5 -3.4**
TJN **Taejon** 15.75 307⇑ *i*P **Pn** **02 32 27.8 +1.6**
KSRS **Korea Array** 15.92 311 Pn **Pn** **02 32 28.6 +0.3**
comp=Z,2.4nm,0.3s,baz=118,slow=12,SNR=43
KSRS LR LR 02 38 22.9
comp=Z,3μm,18.1s,baz=122,slow=36
KSAR **Wonju Array Be** 15.94 311 P **Pn** **02 32 27.7 -0.9**
KSAR **Wonju Array Be** 15.94 311 Pn **Pn** **02 32 27.7 -0.9**
KS19 **Wonju Array Si** 15.98 311 Pn **Pn** **02 32 26.9 -2.3**
GLVR **Golovnino** 16.08 7 *e*P **Pn** **02 32 26.1 -4.2**
GLVR *e*S **Sn** **02 35 20.2 -7.9**
GLVR pmax pmax
comp=Z,540nm,0.9s
GLVR pmax pmax
comp=N,150nm,0.3s
GLVR pmax pmax
comp=E,278nm,0.3s
GLVR pmax pmax
comp=Z,2μm,1.1s
GLVR MLR MLR
comp=Z,1μm,7.0s
JKA **Kamikawa-asahi** 16.32 359 Pn **Pn** **02 32 27.3 -6.2**
ASAJ **Asahikawa** 16.33 359 Pn **Pn** **02 32 29.7 -3.8**
comp=Z,3.0nm,0.3s,baz=202,slow=10.0,SNR=12
ASAJ Sn **Sn** **02 35 24.6 -10**
comp=Z,1.7nm,0.3s,baz=352,slow=25,SNR=5.9
ASAJ LR LR 02 39 11.1
comp=Z,2μm,21.2s,baz=196,slow=38
ASAJ **Asahikawa** 16.33 359 P **Pn** **02 32 27.3 -6.2**
ASAJ pmax pmax
comp=Z,42nm,1.0s
GRPR **Tuman** 16.36 7 *e*P **Pn** **02 32 29.8 -4.1**
GRPR pmax pmax
comp=Z,134nm,1.4s
GRPR pmax pmax
comp=N,173nm,0.5s
GRPR pmax pmax
comp=E,54nm,0.7s
GRPR pmax pmax
comp=Z,231nm,1.0s
GRPR MLR MLR
comp=Z,492nm,12.0s
YUK **Yuzh-Kuril'sk** 16.41 7 *e*P Pn 02 32 24.7 -10
YUK pmax pmax
comp=Z,105nm,0.8s
YUK pmax pmax
comp=N,65nm,0.7s
YUK pmax pmax
comp=E,48nm,0.3s
YUK pmax pmax
comp=Z,415nm,2.1s
YUK MLR MLR
comp=Z,395nm,7.0s
INCN **Inchon** 16.81 309 P **Pn** **02 32 38.5 -1.2**
INCN pmax pmax
comp=Z,106nm,0.8s
INCN **Inchon** 16.81 309 Pn **Pn** **02 32 38.5 -1.2**
INCN IAmb IAmb 02 32 44.7
comp=Z,106nm,0.8s
VLA **Vladivostok** 17.76 333 *d i*P **Pn** **02 32 51.0 -0.5**
VLA pmax pmax
comp=Z,115nm,0.8s
KUR **Kuril'sk** 17.87 11 *d i*P **P** **02 32 55.2 +1.8**
KUR *e*S **S** **02 36 17.9 0.0**
KUR pmax pmax
comp=Z,1μm,4.8s
KUR pmax pmax
comp=Z,41nm,0.7s
KUR MLR MLR
comp=Z,3μm,11.0s
KUR MLR MLR
comp=N,4μm,10.0s
KUR MLR MLR
comp=E,4μm,10.0s
TEY **Ternei** 17.97 345⇑ *e*P **Pn** **02 32 53.3 -0.8**
TEY pmax pmax
comp=Z,10.0nm,2.4s
TEY pmax pmax
comp=E,10.0nm,2.3s
TEY pmax pmax
comp=N,10.0nm,2.2s
TEY MLR MLR
comp=N,200nm,15.0s
TEY MLR MLR
comp=E,300nm,15.0s
TEY MLR MLR
comp=Z,200nm,18.0s
YOJ **Yonaguni jima** 18.21 264 P **P** **02 32 57.9 +0.6**
YOJ pmax pmax
comp=Z,72nm,0.7s
YOJ **Yonaguni jima** 18.21 264 P **P** **02 32 57.9 +0.6**
YOJ IAmb IAmb 02 33 00.6
comp=Z,72nm,0.7s
USA0B **Ussuriysk Arra** 18.62 335⇑ *i*P **P** **02 33 00.9 -0.8**
USA0B **Ussuriysk Arra** 18.62 335 P **P** **02 32 59.6 -2.2**
USA0B IAmb IAmb 02 33 05.6
comp=Z,104nm,0.9s
USRK **Ussuriysk Ar.** 18.62 335 P **P** **02 33 00.4 -1.3**
baz=144,slow=14,SNR=35
USRK LR LR 02 39 47.7
comp=Z,2μm,19.1s,baz=138,slow=36
USRK **Ussuriysk Ar.** 18.62 335 P **Pn** **02 33 03.1 +1.0**
USRK **Ussuriysk Ar.** 18.62 335 P **Pn** **02 33 03.1 +1.0**
YSS **Yuzh-Sakhalins** 19.16 360 *αe*P **Pn** **02 33 08.8 +0.3**
YSS *e*S **Sn** **02 36 42.6 -0.1**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=Z,3μm,4.9s
YSS pmax pmax
comp=N,2μm,5.2s
YSS pmax pmax
comp=E,900nm,4.4s
YSS smax smax
comp=N,1μm,5.7s
YSS smax smax
comp=E,2μm,5.5s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS MLR MLR
comp=N,2μm,13.0s
YSS MLR MLR
comp=E,2μm,14.0s
YSS **Yuzh-Sakhalins** 19.16 360 P **Pn** **02 33 07.2 -0.4**
YSS IAmb IAmb 02 33 14.4
comp=Z,85nm,1.0s
SSE **Sheshan** 19.25 285 P **P** **02 33 08.9 +0.2**
SSE pmax pmax
comp=Z,10.0nm,0.7s
SSE pmax pmax
comp=Z,620nm,4.5s
SSE LR LR
comp=Z,860nm,11.4s
SSE LR LR
comp=Z,900nm,16.0s
SSE LR LR
comp=Z,880nm,17.5s
NACB **Ninganchiao** 19.54 264 P **P** **02 33 10.9 -0.9**
NACB IAmb IAmb 02 33 20.3
comp=Z,66nm,1.0s
YHNB **Yeheng** 19.61 266 P **P** **02 33 11.4 -1.3**
YHNB IAmb IAmb 02 33 14.9
comp=Z,109nm,0.7s
MDJ **Mudanjiang** 19.94 331 P **Pn** **02 33 17.5 -0.4**
MDJ pP pP 02 33 20.2 -0.2
MDJ sP sP 02 33 21.8 +0.5
MDJ pmax pmax
comp=Z,74nm,1.1s
MDJ pmax pmax
comp=Z,2μm,3.7s
MDJ LR LR
comp=Z,4μm,17.1s
MDJ LR LR
comp=Z,4μm,15.5s
MDJ LR LR
comp=Z,1μm,19.4s
MDJ **Mudanjiang** 19.94 331 P **P** **02 33 13.1 -3.1**
MDJ IAmb IAmb 02 33 20.4
comp=Z,73nm,0.8s
YULB **Yu-li** 20.01 262 IAmb IAmb 02 33 24.4
comp=Z,83nm,0.8s
SSLB **Suanglung** 20.20 264 P **P** **02 33 18.0 -1.2**
TPUB **Ta-pu** 20.63 263 P **P** **02 33 22.1 -1.7**
TPUB IAmb IAmb 02 33 32.1
comp=Z,102nm,0.9s
DL2 **Dalian** 20.95 307 P **P** **02 33 26.9 -0.3**
DL2 S Sn 02 37 24.2 -1.8
DL2 pmax pmax
comp=Z,63nm,0.8s
DL2 pmax pmax
comp=Z,960nm,7.2s
DL2 LR LR
comp=Z,2μm,10.4s
DL2 LR LR
comp=Z,4μm,14.9s
DL2 LR LR
comp=Z,5μm,17.0s
SNY **Shenyang** 21.15 317 ⇑P **P** **02 33 29.6 +0.3**
SNY S Sn 02 37 28.7 -2.1
SNY pmax pmax
comp=Z,24nm,0.5s
SNY pmax pmax
comp=Z,720nm,5.7s
SNY LR LR
comp=Z,3μm,15.9s
SNY LR LR
comp=Z,2μm,14.1s
SNY LR LR
comp=Z,3μm,16.9s
NJ2 **Nanjing** 21.32 287 *e*P **P** **02 33 31.3 +0.2**
NJ2 pP **pP** **02 33 35.4 -0.3**
NJ2 sP **pwP** **02 33 38.5 -1.3**
NJ2 PP sP 02 33 53.9 +18
NJ2 S **S** **02 37 28.6 +1.4**
NJ2 pmax pmax
comp=Z,28nm,0.7s
NJ2 pmax pmax
comp=Z,1μm,4.2s
NJ2 LR LR
comp=Z,2μm,13.2s
NJ2 LR LR
comp=Z,3μm,12.6s
NJ2 LR LR
comp=Z,2μm,12.9s
CN2 **Changchun** 21.33 323 *e*P **P** **02 33 30.4 -0.8**
CN2 *e*S **S** **02 37 28.9 +1.6**
CN2 pmax pmax
comp=Z,20nm,1.5s
CN2 pmax pmax
comp=Z,1μm,6.4s
CN2 LR LR
comp=Z,6μm,16.0s
CN2 LR LR
comp=Z,4μm,16.0s
CN2 LR LR
comp=Z,3μm,18.0s
QZH **Quanzhou** 22.01 268 P **P** **02 33 38.9 +0.3**
QZH S **S** **02 37 41.8 +1.0**
QZH LR LR
comp=Z,690nm,13.7s
QZH LR LR
comp=Z,2μm,11.6s
QZH LR LR
comp=Z,1μm,12.4s
KNMB **Chin-men Tao** 22.30 267 P **P** **02 33 39.4 -2.4**
TYV **Tymovskoe** 23.07 360 *e*P **P** **02 33 50.3 +0.6**
TYV *e*S **S** **02 38 04.1 +4.4**
TYV pmax pmax
comp=Z,21nm,0.9s
TYV pmax pmax
comp=Z,1μm,6.5s
TYV smax smax
comp=N,13nm,1.8s
TYV smax smax
comp=E,3μm,6.0s
TYV MLR MLR
comp=E,2μm,19.0s
TYV MLR MLR
comp=Z,3μm,19.0s
KLR **Kul'dur** 23.11 341 P **P** **02 33 50.2 +0.1**
comp=Z,27nm,0.7s,baz=137,slow=9.9,SNR=40
KLR ScP **ScP** **02 41 16.6 +1.1**
comp=Z,0.4nm,0.3s,baz=144,slow=4.2,SNR=3.7
KLR LR LR 02 43 13.2
comp=Z,1μm,18.1s,baz=153,slow=38
KLR **Kul'dur** 23.11 341 *d i*P **P** **02 33 50.3 +0.1**
KLR pmax pmax
comp=Z,58nm,1.1s
TIA **Tai'an** 23.43 298 P **P** **02 33 52.0 -1.4**
TIA S **S** **02 38 06.9 +1.1**
TIA pmax pmax
comp=Z,45nm,0.6s
TIA pmax pmax
comp=Z,670nm,6.1s
TIA LR LR
comp=Z,2μm,13.5s
TIA LR LR
comp=Z,2μm,14.7s
TIA LR LR
comp=Z,2μm,15.5s
GRNR **Gornyy** 23.51 350⇓ *i*P **P** **02 33 55.4 +1.3**
GRNR *e* 02 34 18.4
GRNR pmax pmax
comp=N,10.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,0.8s
TGY **Tagaytay City** 24.60 241 P **P** **02 34 04.9 +0.3**
comp=Z,585nm,0.6s,baz=149,slow=4.8,SNR=9.8
TGY LR LR 02 44 32.7
comp=Z,1μm,18.4s,baz=79,slow=39
SKR **Severo-Kuril's** 24.98 20 *e*P **P** **02 34 09.0 +1.3**
SKR *e*PPP PPP 02 34 43.7
SKR *e*S **S** **02 38 26.2 -4.2**
SKR pmax pmax
comp=Z,27nm,1.0s
SKR pmax pmax
comp=Z,200nm,5.7s
SKR pmax pmax
comp=Z,400nm,5.1s
SKR MLR MLR
comp=Z,1μm,13.0s
SKR MLR MLR
comp=Z,1μm,12.0s
BJT **Baijiatuau** 25.28 306 P **P** **02 34 08.3 -2.2**
BJT pmax pmax
comp=Z,25nm,1.1s
BJT **Baijiatuau** 25.28 306 P **P** **02 34 08.3 -2.2**
BJT IAmb IAmb 02 34 10.0
comp=Z,25nm,1.1s
BJI **Beijing** 25.28 306 P **P** **02 34 08.5 -2.0**
BJI sP **pP** **02 34 14.0 -1.0**
BJI S **S** **02 38 33.6 -1.8**
BJI pmax pmax
comp=Z,43nm,1.3s
BJI pmax pmax
comp=Z,440nm,3.1s
BJI LR LR
comp=Z,1μm,15.9s
BJI LR LR
comp=Z,3μm,16.5s
BJI LR LR
comp=Z,2μm,19.1s
PATS **Pohnpei** 25.40 142 P **P** **02 34 10.6 -1.2**
PATS IAmb IAmb 02 34 24.7
comp=Z,26nm,0.9s
NKL **Nikolayevsk** 25.42 357 *e*P **P** **02 34 11.8 +0.2**
NKL pmax pmax
comp=N,4.0nm,1.8s
NKL pmax pmax
comp=Z,66nm,1.2s
NKL MLR MLR
comp=N,19nm,11.0s
DAV **Davao City (W)** 26.36 222 LR LR 02 43 36.8
comp=N,2μm,20.3s,baz=60,slow=34
TIY **Taiyuan** 27.42 299 *e*P **P** **02 34 29.0 -1.0**
TIY S **S** **02 39 03.9 -5.7**
TIY pmax pmax
comp=N,550nm,3.8s
TIY LR LR
comp=N,2μm,12.5s
TIY LR LR
comp=N,2μm,20.2s
TIY LR LR
comp=N,2μm,16.6s
PEA0B **Petropavlovsk-** 27.58 19 P **P** **02 34 27.7 -3.5**
PEA0B pmax pmax
comp=Z,13nm,1.0s
PEA0B **Petropavlovsk-** 27.58 19 P **P** **02 34 27.7 -3.5**
PETK **Petropavlovsk-** 27.58 19 P **P** **02 34 31.7 +0.5**
comp=Z,3.6nm,0.7s,baz=188,slow=6.7,SNR=11
PETK LR LR 02 45 46.1
comp=Z,533nm,21.7s,baz=200,slow=37
PETK **Petropavlovsk-** 27.58 19 P **P** **02 34 29.8 -1.4**
PET **Petropavlovsk** 27.80 21 P **P** **02 34 31.8 -1.3**
PET pmax pmax
comp=Z,23nm,1.1s
PET **Petropavlovsk** 27.80 21 P **P** **02 34 31.8 -1.3**
PET IAmb IAmb 02 34 37.2
comp=Z,23nm,1.1s
HIA **Hailar** 27.93 327 P **P** **02 34 33.2 -1.1**
HIA pmax pmax
comp=Z,32nm,0.6s
HIA **Hailar** 27.93 327 P **P** **02 34 33.2 -1.1**
ZEA **Zeya** 28.42 340 *e*P **P** **02 34 39.0 +0.4**
ZEA *e*S **S** **02 39 24.0 -0.7**
ZEA *e*SS **SnSn** **02 40 44.0 +0.7**
ZEA pmax pmax
comp=N,41nm,1.0s
ZEA pmax pmax
comp=Z,46nm,1.0s
ZEA pmax pmax
comp=Z,500nm,9.0s
ZEA pmax pmax
comp=N,500nm,5.0s
ZEA smax smax
comp=N,1μm,14.0s
ZEA MLR MLR
comp=Z,2μm,14.0s
ZEA MLR MLR
comp=E,3μm,12.0s
ZEA MLR MLR
comp=N,800nm,13.0s
HHC **Hu-ho-hao-te** 28.87 305 *e*P **P** **02 34 42.3 -0.7**
HHC PP PP 02 35 35.2 -13
HHC S **S** **02 39 30.0 -2.4**
HHC SS **SnSn** **02 40 55.9 +1.2**
HHC pmax pmax
comp=N,31nm,0.8s
HHC pmax pmax
comp=N,390nm,6.0s
HHC LR LR
comp=N,2μm,13.6s
HHC LR LR
comp=N,4μm,14.8s
HHC LR LR
comp=N,5μm,14.0s
ENH **Enshi** 29.32 283 P **P** **02 34 45.7 -1.2**
XAN **Xi'an** 29.78 291 P **P** **02 34 49.6 -1.4**
XAN pP pP 02 34 53.7 -1.8
XAN S **S** **02 39 46.6 0.0**
XAN pmax pmax
comp=N,25nm,1.2s
XAN pmax pmax
comp=N,660nm,3.5s
XAN LR LR
comp=N,1μm,13.9s
XAN LR LR
comp=N,2μm,13.8s
XAN LR LR
comp=N,3μm,14.7s
XAN **Xi'an** 29.78 291 P **P** **02 34 49.0 -2.0**
XAN pmax pmax
comp=Z,50nm,0.8s
XAN **Xi'an** 29.78 291 P **P** **02 34 49.0 -2.0**
SMPI **Sarmi** 29.86 189 P **P** **02 34 53.0 +1.3**
comp=Z,35nm,1.1s
BTO **Baotou** 29.93 304 *e*P **P** **02 34 52.0 -0.4**
SIJI **Sorong** 30.60 203 P **P** **02 34 59.7 +1.4**
comp=Z,9.7nm,0.6s,baz=29,slow=19,SNR=4.4
QIZ **Qiongzhong** 31.53 261 P **P** **02 35 05.0 -1.6**
QIZ S **S** **02 40 14.3 0.0**
QIZ sS **pS** **02 40 19.0 -0.9**
QIZ pmax pmax
comp=Z,360nm,3.5s
QIZ LR LR
comp=Z,1μm,12.2s
QIZ LR LR
comp=Z,910nm,11.8s
QIZ LR LR
comp=Z,1μm,20.0s
MA2 **Magadan** 32.26 7 P **P** **02 35 13.7 +1.2**
comp=Z,8.3nm,0.8s,baz=192,slow=8.1,SNR=4.9
MA2 **Magadan** 32.26 7 P **P** **02 35 11.8 -0.7**
MA2 pmax pmax
comp=Z,10.0nm,0.8s
MA2 **Magadan** 32.26 7 P **P** **02 35 11.8 -0.7**
GYA **Guiyang** 32.26 276 ⇓P **P** **02 35 12.4 -0.7**
GYA S **S** **02 40 23.0 -2.8**
GYA SS **SnSn** **02 42 19.2 +1.6**
GYA pmax pmax
comp=Z,32nm,1.0s
GYA pmax pmax
comp=Z,350nm,5.2s
GYA LR LR
comp=Z,1μm,13.6s
GYA LR LR
comp=Z,620nm,13.3s
GYA LR LR
comp=Z,1μm,18.0s
MYLDM **Lahad Datu** 32.33 230 IAmb IAmb 02 35 32.9
comp=Z,32nm,1.0s
CIT **Chita** 32.72 326 *e*P **P** **02 35 17.4 +0.7**
CIT *e* 02 35 31.4
CIT pmax pmax
comp=Z,191nm,2.7s
GTOI **Gorontalo** 33.06 219 P **P** **02 35 19.2 -0.8**
comp=Z,482nmcomp=Z,23nm,0.8s
KKM **Kota Kinabalu** 33.33 235 P **P** **02 35 22.9 +0.4**
LZH **Lanzhou** 34.04 294 ⇑P **P** **02 35 27.8 -0.8**
LZH sP sP 02 35 34.8 +0.7
LZH S **S** **02 40 51.2 -2.1**
LZH pmax pmax
comp=Z,36nm,1.3s
LZH pmax pmax
comp=Z,370nm,5.4s
LZH LR LR
comp=Z,2μm,16.8s
LZH LR LR
comp=Z,2μm,16.8s
LZH LR LR
comp=Z,2μm,18.0s
CD2 **Chengdu** 34.20 285 P **P** **02 35 29.1 -0.8**
CD2 sP pP 02 35 34.2 -0.2
CD2 PP **PnPn** **02 36 45.2 +1.3**
CD2 S **S** **02 40 51.5 -4.2**
CD2 sS pS 02 41 08.4 +7.1
CD2 pmax pmax
comp=Z,480nm,5.7s
CD2 LR LR
comp=Z,3μm,12.9s
CD2 LR LR
comp=Z,2μm,15.5s
CD2 LR LR
comp=Z,2μm,14.1s
ULN **Ulaanbaatar** 34.32 316 *c i*P **P** **02 35 30.9 0.0**
ULN pmax pmax
comp=Z,71nm,1.1s
ULN **Ulaanbaatar** 34.32 316 P **P** **02 35 31.5 +0.6**
LUWI **Luwuk** 34.59 217 P **P** **02 35 35.0 +1.8**
comp=Z,72nm,0.8s
LUWI **Luwuk** 34.59 217 P **P** **02 35 34.2 +0.9**
SONM **Songino Array** 34.72 315 P **P** **02 35 34.4 +0.1**
comp=Z,13nm,0.6s,baz=126,slow=8.0,SNR=43
SONM LR LR 02 50 35.4
comp=Z,3μm,18.0s,baz=113,slow=38
SONM **Songino Array** 34.72 315 P **P** **02 35 34.2 -0.1**
MPSI **Mapaga** 35.11 223 P **P** **02 35 38.0 +0.3**
comp=Z,34nm,0.9s
YAK **Yakutsk** 35.39 349 *e*P **P** **02 35 37.8 -1.8**
YAK *e**PP **pwP** **02 35 49.7 -1.3**
YAK *e* 02 36 56.0
YAK *e* 02 38 09.7
YAK *e*S **S** **02 41 10.7 -2.4**
YAK *e**SS **sS** **02 41 23.4 +3.7**
YAK *e*SS **SS** **02 43 59.3 +12**

YAK e 02 45 58.3
YAK pmax pmax
comp=Z,21nm,1.0s
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,93nm,2.3s
YAK pmax pmax
comp=N,66nm,2.3s
YAK pmax pmax
comp=E,38nm,2.5s
YAK smax smax
comp=E,209nm,4.8s
YAK smax smax
comp=N,148nm,4.7s
YAK MLR MLR
comp=Z,1µm,16.0s
YAK MLR MLR
comp=N,476nm,14.0s
YAK MLR MLR
comp=E,794nm,14.0s
DLV T Lat 35.88 251 lAmb lAmb 02 35 47.8
comp=Z,22nm,0.9s
SLVN Son La 35.99 269 lAmb lAmb 02 35 47.3
comp=Z,22nm,0.9s
KMI Kunming 36.00 275⇓ *e*P **P** **02 35 45.7 +0.1**
KMI pP pP 02 35 48.1 -2.1
KMI sP sP 02 35 50.1 -0.5
KMI PP **PnPn** **02 37 04.6 -1.9**
KMI S **S** **02 41 20.8 -3.0**
KMI SS **SnSn** **02 43 46.5 -1.9**
KMI pmax pmax
comp=Z,59nm,1.2s
KMI pmax pmax
comp=Z,590nm,5.6s
KMI LR LR
comp=Z,1µm,13.9s
KMI LR LR
comp=Z,750nm,16.3s
KMI LR LR
comp=Z,800nm,17.5s
BOD Bodaibo 36.26 334 *e*P **P** **02 35 47.3 +0.1**
BOD pmax pmax
comp=Z,34nm,1.2s
PMG Port Moresby 37.17 173⇓ *i*P **P** **02 35 55.3 0.0**
PMG pmax pmax
comp=Z,25nm,0.9s
GTA Gaotai 37.45 299⇑ P **P** **02 35 56.5 -1.3**
GTA pP sP 02 36 04.4 +1.1
GTA sP pwP 02 36 07.4 -0.5
GTA S **S** **02 41 43.6 -1.9**
GTA sS ScP 02 41 59.8 -2.7
GTA pmax pmax
comp=Z,79nm,0.9s
GTA pmax pmax
comp=Z,310nm,4.9s
GTA LR LR
comp=Z,1µm,14.9s
GTA LR LR
comp=Z,1µm,15.2s
GTA LR LR
comp=Z,1µm,14.9s
ZAK Zakamensk 37.57 318 *e*P **P** **02 35 58.4 -0.2**
ZAK pmax pmax
comp=Z,28nm,1.1s
IRK Irkutsk 37.75 321 *e*P **P** **02 36 00.6 +0.7**
IRK pmax pmax
comp=Z,198nm,3.2s
TLY Talaya 37.87 320 P **P** **02 36 02.0 +1.0**
comp=Z,39nm,0.8s,baz=138,slow=5.9,SNR=49
TLY Talaya 37.87 320*c* *i*P **P** **02 36 02.1 +1.1**
TLY *e* 02 37 38.1
TLY *e*S **S** **02 41 55.3 +4.0**
TLY pmax pmax
comp=Z,232nm,1.1s
TLY MLR MLR
comp=Z,7µm,15.0s
TLY Talaya 37.87 320 P **P** **02 36 01.1 +0.1**
SPSI Sidrap Palu 38.66 219 P **P** **02 36 08.0 0.0**
comp=Z,31nm,0.9s
SBUM Sibu 38.68 235 P **P** **02 36 08.4 +0.2**
SBUM Sibu 38.68 235 P **P** **02 36 08.0 -0.2**
BNSI Bone 38.84 218 P **P** **02 36 11.4 +2.0**
comp=Z,1µmcomp=Z,49nm,1.1s
MOY Mondy 39.39 319 *e*P **P** **02 36 14.4 +0.5**
MOY pmax pmax
comp=Z,121nm,1.9s
KAPI Kappang 39.54 218 P **P** **02 36 14.7 -0.6**
KAPI pmax pmax
comp=Z,49nm,1.2s
KAPI Kappang 39.54 218 P **P** **02 36 14.7 -0.6**
KAPI lAmb lAmb 02 36 20.3
comp=Z,49nm,1.1s
HNR Honiara 40.47 154 LR LR 02 53 29.5
comp=Z,530nm,18.1s,baz=317,slow=37
KSM Kuching 40.73 236 P **P** **02 36 24.8 -0.5**
KSM Kuching 40.73 236 P **P** **02 36 26.0 +0.7**
CHTO Chiang Mai 41.22 267 P **P** **02 36 28.9 -0.4**
CHTO pmax pmax
comp=Z,21nm,1.2s
CHTO Chiang Mai 41.22 267 P **P** **02 36 28.9 -0.4**
CM31 Chiang Mai Arr 41.35 267 P **P** **02 36 29.7 -0.7**
CMAR Chiang Mai Arr 41.35 267 P **P** **02 36 30.3 -0.1**
comp=Z,6.0nm,0.9s,baz=54,slow=8.1,SNR=19
CMAR PcP **PcP** **02 38 30.4 +1.8**
comp=Z,2.4nm,0.8s,baz=113,slow=1.5,SNR=4.8
CMAR LR LR 02 52 40.0
comp=Z,546nm,19.7s,baz=110,slow=35
CMAR Chiang Mai Arr 41.35 267 *i* P **P** **02 36 31.7 +1.3**
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 41.35 267 P **P** **02 36 29.6 -0.7**
CMAR PcP **PcP** **02 38 27.9 -0.8**
SOEI Soe 41.45 209 P **P** **02 36 31.1 -0.2**
comp=Z,86nm,1.0s
SOEI Soe 41.45 209 P **P** **02 36 31.1 -0.2**
COEN Coen 41.47 180 P **P** **02 36 31.1 -0.1**
COEN lAmb lAmb 02 36 47.0
comp=Z,47nm,1.0s
EDFI Ende, Flores 41.73 213 P **P** **02 36 34.2 +0.7**
comp=Z,368nmcomp=Z,24nm,0.9s
MTN Manton Dam 41.96 197 P **P** **02 36 34.5 -0.7**
BILL Bilibino 42.66 13 *i* P **P** **02 36 38.7 -1.7**
BILL *i* 02 38 35.5
BILL pmax pmax
comp=Z,16nm,1.1s
BILL MLR MLR
comp=Z,673nm,18.0s
PLAI Plampang 43.78 217 P **P** **02 36 51.5 +1.4**
TWSI Taliwang, Sumb 44.20 219 P **P** **02 36 53.1 -0.3**
comp=Z,39nm,0.8s
TIXI Tiksi 44.63 354 P **P** **02 36 56.1 -0.1**
comp=Z,10nm,0.6s,baz=123,slow=7.2,SNR=8.1
TIXI Tiksi 44.63 354 P **P** **02 36 55.6 -0.6**
TIXI pmax pmax
comp=Z,12nm,0.7s
TIXI Tiksi 44.63 354 P **P** **02 36 55.6 -0.6**
TIXI lAmb lAmb 02 37 09.2
comp=Z,12nm,0.7s
KNRA Kununurra 45.32 199 P **P** **02 37 02.4 +0.1**
SHL Shillong 45.43 279 *e*P **P** **02 37 02.5 -1.0**
SHL Shillong 45.43 279 P **P** **02 37 03.0 -0.5**
SHL pmax pmax
comp=Z,32nm,0.9s
SHL Shillong 45.43 279 P **P** **02 37 03.0 -0.5**
MYKOM Kota Tinggi 45.44 242 P **P** **02 37 02.8 -0.6**
MYKOM Kota Tinggi 45.44 242 P **P** **02 37 04.0 +0.6**
JAGI Jajag, Banyuwa 45.54 222 P **P** **02 37 03.4 -0.8**
KULM Kulim 45.97 249 lAmb lAmb 02 37 09.8
comp=Z,27nm,0.9s
KULM Kulim 45.97 249 P **P** **02 37 08.0 +0.4**
IPM Ipoh 46.12 248 P **P** **02 37 08.6 -0.2**
IPM Ipoh 46.12 248 P **P** **02 37 09.0 +0.2**
WMQ Ürumqi 46.75 305 *e*P **P** **02 37 14.8 +1.3**
WMQ sP pwP 02 37 24.8 +1.3
WMQ PP **PP** **02 39 03.3 -0.1**
WMQ S **S** **02 44 01.9 -0.7**
WMQ ScS **ScS** **02 47 06.9 -0.5**
WMQ pmax pmax
comp=Z,61nm,1.3s
WMQ pmax pmax
comp=Z,160nm,3.7s
WMQ LR LR
comp=Z,840nm,14.9s
WMQ LR LR
comp=Z,1µm,18.9s
WMQ LR LR
comp=Z,770nm,24.3s
DGZ Jazzator, Alta 47.31 313*c* *i*P **P** **02 37 18.7 +0.8**
DGZ pmax pmax
comp=Z,85nm,0.9s
CTA Charters Tower 47.67 176 P **P** **02 37 20.9 +0.1**
comp=Z,18nm,0.9s,baz=344,slow=8.6,SNR=11
CTA LR LR 02 57 04.2
comp=Z,285nm,19.1s,baz=338,slow=36
CTAO Charters Tower 47.67 176 P **P** **02 37 20.6 -0.1**
CTAO pmax pmax
comp=Z,21nm,0.9s
CTAO Charters Tower 47.67 176 P **P** **02 37 20.6 -0.1**
WRAB Tennant Creek 48.14 191*d* *i*P **P** **02 37 24.1 -0.2**
WRAB pmax pmax
comp=Z,128nm,0.8s
WRAB Tennant Creek 48.14 191 P **P** **02 37 24.2 -0.2**
WRA Warramunga Arr 48.15 191 P **P** **02 37 24.0 -0.4**
comp=Z,104nm,0.8s,baz=12,slow=8.3,SNR=238
WRA LR LR 02 56 26.4
comp=Z,1µm,21.6s,baz=10.0,slow=35
WRA Warramunga Arr 48.15 191 *i* P **P** **02 37 24.0 -0.4**
WRA pmax pmax
comp=Z,106nm,0.8s
WRA Warramunga Arr 48.15 191 P **P** **02 37 23.1 -1.3**
LEM Lembang 48.46 230 P **P** **02 37 26.6 -0.6**
comp=Z,1µmcomp=Z,101nm,0.8s
BKNI Bangkinang 48.55 243 P **P** **02 37 27.6 -0.1**
FITZ Fitzroy Crossi 48.58 202 P **P** **02 37 27.9 +0.2**
TAPN Taplejung 48.62 283 *e*P **P** **02 37 28.2 -0.3**
SDPT Sand Point 48.76 39 P **P** **02 37 29.1 +0.4**
PSI Prapat 48.79 247 P **P** **02 37 29.4 -0.3**
PSI pmax pmax
comp=Z,37nm,0.7s
ZSN Zaisan 48.84 310⇑ *i*P **P** **02 37 30.1 +0.5**
comp=Z,186nm,3.5s,baz=310
ZSN LR LR 02 58 16.9
comp=Z,356nm,11.5s,baz=310
ZSN Zaisan 48.84 310*c* *i*P **P** **02 37 30.1 +0.5**
ZSN pmax pmax
comp=Z,186nm,3.5s
ZSN MLR MLR
comp=Z,356nm,11.0s
RPSI Rantau Prapat 48.85 247 P **P** **02 37 29.4 -0.6**
CISI Cisompet, Garu 48.86 229 P **P** **02 37 29.9 -0.2**
ODAN Odare 49.02 283 *e*P **P** **02 37 31.0 -0.5**
comp=Z,80nm,0.6s
SDSI Sungai Dareh 49.02 241 P **P** **02 37 31.4 +0.1**
CNBA Chernabura Isl 49.17 40 P **P** **02 37 32.3 +0.4**
ZAA0 Zalesovo Array 49.44 319 P **P** **02 37 34.1 0.0**
ZALV Zalesovo Beam 49.44 319 P **P** **02 37 34.6 +0.6**
comp=Z,42nm,0.8s,baz=98,slow=7.2,SNR=88
ZALV PcP **PcP** **02 38 56.4 +0.3**
comp=Z,11nm,0.7s,baz=119,slow=4.2,SNR=6.5
ZALV LR LR 02 58 56.8
comp=Z,818nm,18.3s,baz=94,slow=37
ZALV Zalesovo Beam 49.44 319 P **P** **02 37 34.2 +0.2**
ZALV PcP **PcP** **02 38 55.5 -0.5**
RAMN Ramite 49.68 283 *e*P **P** **02 37 36.1 -0.5**
comp=Z,106nm,0.8s
JIRN Jiri 49.86 284 *e*P **P** **02 37 38.3 +0.2**
comp=Z,289nm,0.8s
GUN Gumba 50.06 284 *e*P **P** **02 37 39.7 +0.1**
comp=Z,239nm,0.9s
PKI Pulchoki 50.55 284 *e*P **P** **02 37 42.2 -1.1**
comp=Z,77nm,1.1s
MK31 Makanchi Array 50.59 309 P **P** **02 37 42.8 -0.1**
MK31 pmax pmax
comp=Z,24nm,0.9s
MK31 Makanchi Array 50.59 309 P **P** **02 37 42.8 -0.1**
MK31 lAmb lAmb 02 37 45.3
comp=Z,24nm,0.9s
MKAR Makanchi Array 50.59 309 P **P** **02 37 42.8 -0.1**
comp=Z,16nm,0.6s,baz=92,slow=8.9,SNR=106
MKAR LR LR 03 00 03.6
comp=Z,2µm,19.1s,baz=86,slow=37
MKAR Makanchi Array 50.59 309 P **P** **02 37 42.1 -0.8**
KKN Kakani 50.61 284 *e*P **P** **02 37 43.3 -0.3**
DMN Daman 50.80 284 *e*P **P** **02 37 44.7 -0.4**
comp=Z,42nm,0.7s
MAKZ Makanchi 50.80 309 P **P** **02 37 44.0 -0.5**
MAKZ pmax pmax
comp=Z,27nm,0.9s
MAKZ Makanchi 50.80 309 P **P** **02 37 44.0 -0.5**
MAKZ lAmb lAmb 02 37 47.7
comp=Z,27nm,0.8s
GKN Gorkha 51.10 285 *e*P **P** **02 37 47.0 -0.2**
DANN Dangsing 51.77 285 *e*P **P** **02 37 52.3 -0.1**
comp=Z,268nm,0.9s
ASAR Alice Springs 51.87 191 P **P** **02 37 52.0 -0.7**
comp=Z,9.2nm,0.7s,baz=4.5,slow=5.1,SNR=100
ASAR PcP **PcP** **02 39 07.2 +1.9**
comp=Z,6.2nm,0.9s,baz=12,slow=5.0,SNR=4.1
ASAR S **S** **02 45 15.4 +1.0**
comp=Z,0.8nm,1.0s,baz=18,slow=18,SNR=3.3
ASAR LR LR 02 58 30.9
comp=Z,1µm,21.7s,baz=8.5,slow=34
ASAR Alice Springs 51.87 191 P **P** **02 37 51.2 -1.4**
ASAR **PcP** **02 39 04.8 -0.6**
KOLN Koldanda 52.05 285 *e*P **P** **02 37 54.1 -0.3**
comp=Z,124nm,0.9s
NRIK Noril'sk 52.28 338 P **P** **02 37 55.2 0.0**
comp=Z,7.8nm,0.6s,baz=119,slow=9.1,SNR=12
NRIK LR LR 03 00 56.1
comp=Z,769nm,18.3s,baz=119,slow=37
PYUN Piuthan 52.49 285 *e*P **P** **02 37 57.5 -0.1**
comp=Z,182nm,0.7s
TTA Tatalina 52.53 30 P **P** **02 37 57.5 +0.3**
TTA pmax pmax
comp=Z,7.0nm,1.0s
TTA Tatalina 52.53 30 P **P** **02 37 57.5 +0.3**
PDGK Podgornoye 52.73 305 P **P** **02 37 58.3 -0.8**
SHLS Shalkode 52.76 305 *e*P **P** **02 37 56.8 -2.5**
comp=Z,30nm,1.2s,baz=305
SHLS LR LR 02 59 47.2
comp=Z,594nm,17.2s,baz=305
SHLS Shalkode 52.76 305 *e*P **P** **02 37 56.8 -2.5**
SHLS pmax pmax
comp=Z,30nm,1.2s
SHLS MLR MLR
comp=Z,594nm,17.0s
KURK Kurchatov 53.02 314 P **P** **02 38 01.1 +0.2**
KURK pmax pmax
comp=Z,120nm,0.9s
KURK Kurchatov 53.02 314 P **P** **02 38 01.1 +0.2**
KURBB Kurchatov Arra 53.07 314 P **P** **02 38 01.6 +0.3**
comp=Z,99nm,0.7s,baz=90,slow=7.8,SNR=198
UZB Uzynbulak 53.08 305 *i* P **P** **02 38 01.3 -0.4**
comp=Z,26nm,1.1s,baz=305
UZB *e*S **S** **02 45 31.8 +0.7**
baz=305
UZB LR LR 03 00 49.6
comp=Z,385nm,16.1s,baz=305
UZB Uzynbulak 53.08 305 *i* P **P** **02 38 01.3 -0.4**
UZB *e*S **S** **02 45 31.8 +0.7**
UZB pmax pmax
comp=Z,26nm,1.1s
UZB MLR MLR
comp=Z,385nm,16.0s
KPKS Kokpek 53.30 305⇑ *i*P **P** **02 38 02.8 -0.5**
comp=Z,56nm,1.5s,baz=305
KPKS LR LR 03 00 51.6
comp=Z,868nm,16.1s,baz=305
KPKS Kokpek 53.30 305*c* *i*P **P** **02 38 02.7 -0.5**
KPKS pmax pmax
comp=Z,56nm,1.5s
KPKS MLR MLR
comp=Z,868nm,16.0s
TDK Taldyqorghan 53.37 307 *i* P **P** **02 38 03.9 +0.2**
comp=Z,15nm,0.6s,baz=307
TDK LR LR 03 01 04.9
comp=Z,664nm,13.0s,baz=307
TDK Taldyqorghan 53.37 307 *i* P **P** **02 38 03.8 +0.2**
TDK pmax pmax
comp=Z,15nm,0.6s
TDK MLR MLR
comp=Z,664nm,13.0s
SATY Saty 53.54 305⇑ *i*P **P** **02 38 04.7 -0.4**
comp=Z,87nm,3.2s,baz=305
SATY Saty 53.54 305*c* *i*P **P** **02 38 04.7 -0.4**
SATY pmax pmax
comp=Z,87nm,3.2s
SATY Saty 53.54 305*c* *i*P **P** **02 38 04.7 -0.4**
SATY pmax pmax
comp=Z,87nm,3.2s
PSAD2 Pilbara Seismi 53.89 207 P **P** **02 38 06.7 -0.9**
TARG Taragay, Kyrgy 54.13 303 P **P** **02 38 10.4 +0.6**
IMAR Indian Mountai 54.14 27 P **P** **02 38 09.4 +0.4**
CHKK Chushkaly 54.48 306 *e*P **P** **02 38 11.5 -0.3**
baz=306
CHKK Chushkaly 54.48 306 *e*P **P** **02 38 11.5 -0.3**
DZM Mont Dzumac 54.49 153 LR LR 03 01 35.7
comp=Z,958nm,18.4s,baz=18,slow=36
DZM Mont Dzumac 54.49 153 *e*P **P** **02 38 12.9 +0.8**
comp=Z,68nm,1.1s
DZM *e*S **S** **02 45 49.0 -1.3**
comp=Z,1µm,28.1s
DZM *e*LQ LQ 02 51 39.8
comp=Z,4µm,34.0s
DZM *e*LR LR 02 54 02.4
comp=Z,2µm,23.8s
MDOK Medeo 54.52 305 *i* P **P** **02 38 12.7 +0.4**
baz=305
MDOK *e*S **S** **02 45 52.2 +1.6**
baz=305
MDOK LR LR 03 02 23.3
comp=Z,747nm,14.6s,baz=305
MDOK Medeo 54.52 305 *i* P **P** **02 38 12.6 +0.4**
MDOK *e*S **S** **02 45 52.2 +1.6**
MDOK MLR MLR
comp=Z,747nm,15.0s
TNSS Tian-Shan 54.60 305 *e*P **P** **02 38 13.5 +0.3**
baz=305
TNSS Tian-Shan 54.60 305 *e*P **P** **02 38 13.5 +0.3**
AAA Alma-Ata 54.61 305 *i* P **P** **02 38 13.3 +0.5**
comp=Z,39nm,0.9s,baz=305
AAA *e*S **S** **02 45 53.2 +1.6**
baz=305
AAA LR LR 03 02 31.2
comp=Z,886nm,16.9s,baz=305
AAA Alma-Ata 54.61 305 *i* P **P** **02 38 13.3 +0.5**
AAA *e*S **S** **02 45 53.2 +1.6**
AAA pmax pmax
comp=Z,39nm,0.9s
AAA MLR MLR
comp=Z,886nm,17.0s
KUU Kurty 54.95 306⇑ *i*P **P** **02 38 15.1 -0.1**
comp=Z,113nm,1.5s,baz=306
KUU *e*S **S** **02 45 57.3 +1.2**
baz=306
KUU Kurty 54.95 306*c* *i*P **P** **02 38 15.0 -0.1**
KUU *e*S **S** **02 45 57.2 +1.2**
KUU pmax pmax
comp=Z,113nm,1.5s
BPAW Bear Paw Mtn. 54.95 29 lAmb lAmb 02 38 17.4
comp=Z,12nm,1.1s
ULHL Ulahol 55.22 304 P **P** **02 38 18.4 +0.9**
SNR=7.5
TKM2 Tokmak 2 55.60 305 P **P** **02 38 21.3 +1.2**
SNR=25
TKM2 Tokmak 2 55.60 305 P **P** **02 38 20.3 +0.1**
COLD Coldfoot 55.77 26 P **P** **02 38 22.6 +1.9**
baz=260
COLD Coldfoot 55.77 26 lAmb lAmb 02 38 24.8
comp=Z,20nm,1.2s
MCK McKinley 55.81 30 P **P** **02 38 21.2 +0.2**
MCK pmax pmax
comp=Z,21nm,1.1s
MCK McKinley 55.81 30 P **P** **02 38 21.2 +0.2**
MCK lAmb lAmb 02 38 23.2
comp=Z,21nm,1.1s
KSH Kashi 55.83 301 P **P** **02 38 24.6 +2.8**
KSH sP pwP 02 38 30.5 -1.3
KSH S **S** **02 46 11.7 +3.5**
KSH pmax pmax
comp=Z,34nm,1.2s
KSH pmax pmax
comp=Z,400nm,4.5s
KSH LR LR
comp=Z,850nm,13.5s
KSH LR LR
comp=Z,800nm,12.8s
KSH LR LR
comp=Z,890nm,13.8s
NEA2 Nenana 55.85 29 P **P** **02 38 22.2 +0.9**
baz=263,SNR=10
KZA Kyzart 55.97 304 P **P** **02 38 24.8 +1.7**
SNR=21
KBK Karagaybulak 56.11 305 P **P** **02 38 24.8 +1.1**
SNR=19
CHMS Chumysh 56.21 305 P **P** **02 38 24.6 +0.3**
SNR=10
MDM Murphy Dome 56.25 29 lAmb lAmb 02 38 27.7
comp=Z,16nm,1.0s
FRU1 Bishkek 56.32 305 P **P** **02 38 25.2 0.0**
FRU1 pmax pmax
comp=Z,35nm,0.8s
FRU1 Bishkek 56.32 305 P **P** **02 38 25.2 0.0**
USP Ospenovka 56.35 305 P **P** **02 38 26.1 +0.8**
SNR=11
COLA College 56.40 29⇑ *i*P **P** **02 38 26.5 +1.3**
COLA pmax pmax
comp=Z,5.0nm,0.9s
BTLS Baital 56.44 307⇑ *i*P **P** **02 38 25.8 -0.1**
comp=Z,47nm,1.6s,baz=308
BTLS LR LR 03 03 24.4
comp=Z,351nm,16.5s,baz=308
BTLS Baital 56.44 307*c* *i*P **P** **02 38 25.7 -0.1**
BTLS pmax pmax
comp=Z,47nm,1.6s
BTLS MLR MLR
comp=Z,351nm,16.0s
AAK Ala-Archa 56.45 305 P **P** **02 38 25.7 -0.4**
comp=Z,6.6nm,0.5s,baz=99,slow=6.8,SNR=16
AAK Ala-Archa 56.45 305 P **P** **02 38 23.2 -3.0**
SNR=6.9
AAK Ala-Archa 56.45 305 *i* P **P** **02 38 26.7 +0.6**
SNR=7.8
AAK Ala-Archa 56.45 305 P **P** **02 38 25.8 -0.3**
AAK pmax pmax
comp=Z,16nm,1.0s
AAK Ala-Archa 56.45 305 P **P** **02 38 25.8 -0.3**
AAK lAmb lAmb 02 38 39.8
comp=Z,16nm,1.0s
UCH Uchtor 56.49 304 P **P** **02 38 27.7 +0.9**
SNR=24
HDA Harding Lake 56.74 29 P **P** **02 38 27.7 +0.1**
baz=265
IL31 56.80 29 lAmb lAmb 02 38 29.7
comp=Z,15nm,1.1s
ILAR Eielson Array 56.80 29 P **P** **02 38 27.6 -0.4**
comp=Z,8.8nm,1.0s,baz=259,slow=5.2,SNR=40
ILAR LR LR 03 02 57.2
comp=Z,483nm,19.4s,baz=275,slow=36
ILAR Eielson Array 56.80 29 P **P** **02 38 27.0 -1.1**
BRZS Berezniki 56.85 313⇑ *i*P **P** **02 38 29.1 +0.4**
comp=Z,74nm,0.8s,baz=314
BRZS *e*S **S** **02 46 22.8 +1.5**
baz=314
BRZS Berezniki 56.85 313*c* *i*P **P** **02 38 29.1 +0.4**
BRZS *e*S **S** **02 46 22.7 +1.5**
BRZS pmax pmax
comp=Z,74nm,0.8s
EKS2 Erkin-Say 56.97 305 P **P** **02 38 30.6 +0.8**
SNR=11
AML Almayashu 57.11 304 P **P** **02 38 32.6 +1.4**
SNR=27
OTUK Ortayu 57.24 311 P **P** **02 38 31.8 +0.3**
DOT Dot Lake 57.97 30 lAmb lAmb 02 38 51.8
comp=Z,16nm,1.2s
SCRK Sand Creek 58.01 30 P **P** **02 38 37.1 +0.3**
baz=268
BVAR Borovoye Array 58.02 317 P **P** **02 38 37.5 +0.6**
comp=Z,46nm,0.6s,baz=90,slow=10,SNR=191
BRVK Borovoye 58.08 317 P **P** **02 38 36.9 -0.4**
BRVK pmax pmax
comp=Z,48nm,0.8s
BRVK Borovoye 58.08 317 P **P** **02 38 36.9 -0.4**
ARMA Armidale 58.44 171 P **P** **02 38 40.5 +0.4**
ARMA lAmb lAmb 02 38 58.9
comp=Z,12nm,1.0s
DZA Taraz 58.70 305 *i* P **P** **02 38 42.3 +0.4**
baz=305
DZA Taraz 58.70 305 *i* P **P** **02 38 42.2 +0.4**
K27K Chicken 58.85 30 P **P** **02 38 43.1 +0.6**
baz=270
BCAR Beaver Creek A 58.99 31 P **P** **02 38 42.9 -0.7**
NIL Nilore 59.21 294 P **P** **02 38 45.2 -0.3**
NIL pmax pmax
comp=Z,59nm,0.9s

NIL	Nilore	59.21	294		P		P	02 38 45.2	-0.3	
KK31	Karatay Array	59.26	306	*i*	P		P	02 38 45.7	0.0	
KKAR	Karatay Array	59.26	306		P		P	02 38 45.1	-0.6	
KKAR	Karatay Array	59.26	306		P		P	02 38 45.1	-0.6	
STKA	Stephens Creek	59.32	181		P		P	02 38 45.7	-0.3	
	comp=Z,17nm,0.8s,baz=339,slow=7.8,SNR=24									
STKA					LR		LR	03 04 29.1		
	comp=Z,692nm,21.1s,baz=2.2,slow=36									
STKA	Stephens Creek	59.32	181		P		P	02 38 45.4	-0.6	
STKA					pmax		pmax			
	comp=Z,4.0nm,0.9s									
STKA	Stephens Creek	59.32	181		P		P	02 38 45.4	-0.6	
BTK	Batken	59.63	302		P		P	02 38 48.4	0.0	
BTK					pmax		pmax			
	comp=Z,9.0nm,0.8s									
BTK	Batken	59.63	302		P		P	02 38 48.4	0.0	
BTK					IAmb		IAmb	02 38 51.5		
	comp=Z,9.0nm,0.8s									
HYB	Hyderabad	59.78	275	*i*	P		P	02 38 49.0	-0.7	
IUG	luzhnay	59.79	305⇑	*i*	P		P	02 38 50.1	+0.6	
	comp=Z,62nm,0.9s,baz=305									
IUG					LR		LR	03 04 35.4		
	comp=Z,266nm,15.9s,baz=305									
IUG	luzhnay	59.79	305*c*	*i*	P		P	02 38 50.0	+0.6	
IUG					pmax		pmax			
	comp=Z,62nm,0.9s									
IUG					MLR		MLR			
	comp=Z,266nm,16.0s									
FORT	Forrest	59.92	195		P		P	02 38 50.0	-0.2	
DAWY	Dawson	60.03	30		IAmb		IAmb	02 38 53.3		
	comp=Z,8.1nm,0.9s									
AFI	Afiamalu	60.33	127		LR		LR	03 04 27.0		
	comp=Z,642nm,18.1s,baz=297,slow=36									
BBOO	Buckleboo	60.59	187		P		P	02 38 54.7	0.0	
EPYK	Eagle Plains	61.05	27		P		P	02 38 58.8	+1.2	
	baz=273									
EPYK	Eagle Plains	61.05	27		P		P	02 38 58.3	+0.7	
EPYK					IAmb		IAmb	02 39 14.9		
	comp=Z,15nm,0.8s									
HYT	Haines Junctio	61.13	33		P		P	02 38 58.3	0.0	
HYT					IAmb		IAmb	02 39 12.2		
	comp=Z,12nm,1.1s									
INK	Inuvik	62.14	25		P		P	02 39 04.9	+0.1	
INK					pmax		pmax			
	comp=Z,6.0nm,0.9s									
INK	Inuvik	62.14	25		P		P	02 39 04.9	+0.1	
INK					IAmb		IAmb	02 39 07.5		
	comp=Z,6.3nm,0.9s									
KBL	Kabul	62.34	296		P		P	02 39 07.0	-0.1	
	SNR=7.7									
KBL	Kabul	62.34	296		P		P	02 39 07.0	-0.1	
KBL					pmax		pmax			
	comp=Z,31nm,0.9s									
KBL	Kabul	62.34	296		P		P	02 39 07.0	-0.1	
WHY	Whitehorse	62.43	33		IAmb		IAmb	02 39 12.8		
	comp=Z,6.2nm,0.8s									
CAN	Canberra	63.00	174		P		P	02 39 11.6	+0.6	
CAN					pmax		pmax			
	comp=Z,17nm,1.1s									
CAN	Canberra	63.00	174		P		P	02 39 11.6	+0.6	
CAN					IAmb		IAmb	02 39 26.6		
	comp=Z,17nm,1.1s									
SVE	Sverdlovsk	63.12	322	*de*	P		P	02 39 12.3	+0.7	
SVE					*e*S		S	02 47 41.0	-0.6	
SVE					pmax		pmax			
	comp=Z,80nm,1.0s									
SVE					MLR		MLR			
	comp=Z,785nm,14.0s									
ARU	Arti	64.32	322		P		P	02 39 20.3	+0.8	
	comp=Z,29nm,0.7s,baz=93,slow=2.1,SNR=110									
ARU	Arti	64.32	322	*c*	*i*P		P	02 39 19.9	+0.3	
ARU								02 39 54.0		
ARU								02 41 37.9		
ARU					S		S	02 47 59.5	+3.0	
ARU								02 49 14.6		
ARU					SS		SS	02 52 04.1	-1.7	
ARU					pmax		pmax			
	comp=Z,126nm,1.0s									
ARU					MLR		MLR			
	comp=Z,738nm,15.0s									
ARU	Arti	64.32	322		P		P	02 39 19.8	+0.3	
TOO	Toolangi	65.03	178		P		P	02 39 24.1	-0.2	
TOO	Toolangi	65.03	178		P		P	02 39 24.1	-0.2	
AB31	Akbulak array	65.13	314		P		P	02 39 25.1	+0.2	
ABKAR	Akbulak array	65.13	314		P		P	02 39 25.4	+0.5	
DLBC	Dease Lake	65.27	35		LR		LR	03 06 39.1		
	comp=Z,934nm,19.2s,baz=285,slow=35									
DLBC	Dease Lake	65.27	35		IAmb		IAmb	02 39 44.2		
	comp=Z,9.0nm,1.1s									
C36M	Paulatuk	65.36	23		P		P	02 39 26.3	+0.2	
	baz=283									
AKTO	Aktyubinsk	66.04	316		P		P	02 39 31.9	+1.1	
	comp=Z,65nm,0.7s,baz=87,slow=6.5,SNR=106									
RAO	Raoul Island	67.94	143		LR		LR	03 02 54.4		
	comp=Z,498nm,21.8s,baz=357,slow=30									
KIRV	Kirov	68.53	326		P		P	02 39 47.5	+1.2	
	comp=Z,70nm,0.7s,baz=60,slow=1.5,SNR=20									
PRGR	Permogore	69.33	330		*e*P		P	02 39 51.7	+0.4	
PRGR					*e*S		S	02 48 57.7	+1.0	
PRGR					pmax		pmax			
	comp=Z,37nm,0.7s									
ASHT	Ashkhabad	69.52	303		P		P	02 39 53.8	+0.9	
ASHT					pmax		pmax			
	comp=Z,104nm,0.5s									
ASHT	Ashkhabad	69.52	303		P		P	02 39 53.8	+0.9	
GEYT	Alibeck	69.72	303		P		P	02 39 55.1	+0.8	
	comp=Z,7.4nm,0.6s,baz=45,slow=2.3,SNR=14									
GEYT					LR		LR	03 13 46.6		
	comp=Z,1μm,18.0s,baz=60,slow=39									
GEYT	Alibeck	69.72	303		P		P	02 39 54.3	0.0	
GYA0B	ALIBECK ARMY	69.72	303		IAmb		IAmb	02 40 11.7		
	comp=Z,21nm,1.1s									
HSPB	Hornsund (broa	70.77	349		*e*P		P	02 40 01.7	+1.8	
YKA	Yellowknife Ar	71.23	29		P		P	02 40 03.1	+0.2	
	comp=Z,9.0nm,0.9s,baz=295,slow=5.9,SNR=29									
YKA					LR		LR	03 12 50.6		
	comp=Z,270nm,19.3s,baz=0.0,slow=37									
TMCR	Tamitsa	71.55	333		*e*P		P	02 40 05.5	+0.7	
TMCR					pmax		pmax			
	comp=Z,23nm,0.9s									
APA	Apatity	71.70	338⇑	*i*	*i*P		P	02 40 05.3	-0.4	
APA				*i*				02 40 17.5		
APA				*i*	S		S	02 49 28.0	+3.7	
APA					pmax		pmax			
	comp=Z,21nm,0.8s									
APA					MLR		MLR			
	comp=Z,800nm,12.0s									
NLWA	Neilton Lookou	72.14	45		P		P	02 40 07.9	-0.9	
NLWA					IAmb		IAmb	02 40 12.1		
	comp=Z,13nm,1.1s									
KLMR	Klimovskoe	72.35	330		*e*P		P	02 40 08.9	-0.8	
KLMR					*e*			02 42 50.3		
KLMR					*e*SS		SS	02 54 15.6	+6.2	
KLMR					pmax		pmax			
	comp=Z,32nm,0.9s									
KLMR	Klimovskoe	72.35	330		*e*P		P	02 40 09.0	-0.8	
KLMR					AMP			02 40 11.6		
	comp=Z,32nm,0.9s									
KLMR					*e*PP		PP	02 42 50.4	+0.3	
KLMR					*e*SS		SS	02 54 15.6	+6.2	
KLMR					*e*SS		SS	02 54 15.6	+6.2	
KLMR					LQ		LQ	03 05 30.9		
KLMR					LQ		LQ	03 05 30.9		
KLMR					LR		LR	03 11 45.0		
D03D	Eldon	72.58	45		P		P	02 40 13.1	+1.7	
	baz=292									
E03A	Lebam	72.65	46		P		P	02 40 11.5	-0.3	
E03A					IAmb		IAmb	02 40 15.3		
	comp=Z,13nm,0.9s									
URZ	Urewera	73.04	152		LR		LR	03 12 14.0		
	comp=Z,239nm,18.0s,baz=332,slow=36									
ARCES	ARCESS Array B	73.14	341		P		P	02 40 15.3	+1.0	
	comp=Z,9.9nm,0.8s,baz=67,slow=7.6,SNR=18									
ARCES					LR		LR	03 15 25.2		
	comp=Z,448nm,21.1s,baz=68,slow=38									
ARCES	ARCESS Array B	73.14	341		P		P	02 40 13.3	-1.0	
B06A	Marblemount	73.20	44		P		P	02 40 14.4	-0.5	
B06A					IAmb		IAmb	02 40 17.6		
	comp=Z,8.1nm,0.7s									
E04D	Cinebar	73.28	46		P		P	02 40 17.5	+2.0	
	baz=293									
RAR	Rarotonga	73.71	125		LR		LR	03 07 30.7		
	comp=Z,315nm,19.4s,baz=290,slow=32									
RAR	Rarotonga	73.71	125		P		P	02 40 19.0	+0.7	
RAR	Rarotonga	73.71	125		P		P	02 40 19.0	+0.7	
I03D	Drain, OR	73.89	49		P		P	02 40 19.3	+0.2	
	baz=293									
K02D	Willamette Mer	74.06	50		P		P	02 40 20.2	-0.1	
	baz=293									
H04A	Detroit Lake	74.26	48		IAmb		IAmb	02 40 24.0		
	comp=Z,14nm,1.0s									
I04A	Tendick Farm,	74.47	49		P		P	02 40 23.9	+1.2	
	baz=294									
JLN	Jalan Bani Buh	74.57	287		P		P	02 40 10.4	-13	
B08A	Colville Reser	74.58	43		IAmb		IAmb	02 40 25.6		
	comp=Z,12nm,0.9s									
G05D	Wamic, OR	74.61	47		P		P	02 40 25.1	+1.7	
	baz=294									
WBK	Wadi Bani Khal	74.76	288		P		P	02 40 12.1	-12	
I05D	Terrebonne, OR	74.96	48		P		P	02 40 26.5	+1.1	
	baz=294									
DAG	Danmarks Havn	75.10	356	*i*	P		P	02 40 26.7	+1.1	
	comp=Z,36nm,1.3s									
DAG	Danmarks Havn	75.10	356	*i*	P		P	02 40 26.7	+1.1	
DAG					pmax		pmax			
	comp=Z,36nm,1.3s									
BIDO	Bidbid	75.10	289		P		P	02 40 17.1	-9.4	
M02C	Callahan	75.14	51		P		P	02 40 28.0	+1.4	
	baz=294									
L04D	Klamath Falls	75.18	50		P		P	02 40 27.9	+1.0	
	baz=294									
SMDO	Samad	75.35	289		P		P	02 40 20.5	-7.6	
MAK	Makhachkala	75.36	311		*e*P		P	02 40 22.8	-4.8	
MAK					*e*			02 43 12.6		
MAK					*e*S		S	02 49 58.3	-8.2	
MAK					pmax		pmax			
	comp=Z,73nm,1.6s									
MAK					MLR		MLR			
	comp=Z,3μm,16.0s									
D08A	Wollman Farm,	75.37	44		IAmb		IAmb	02 40 30.2		
	comp=Z,11nm,1.0s									
VRH	Novokhopyorsk	75.44	320		*e*P		P	02 40 27.9	0.0	
VRH					pmax		pmax			
	comp=Z,50nm,0.9s									
PINE	Pine Mountain	75.44	48		IAmb		IAmb	02 40 32.2		
	comp=Z,26nm,1.0s									
C09A	Chrisman Ranch	75.45	44		IAmb		IAmb	02 40 33.1		
	comp=Z,9.4nm,0.9s									
J05D	Fort Rock, OR	75.46	49		P		P	02 40 29.7	+1.3	
	baz=294									
MOS	Moscow	75.55	326		*e*P		P	02 40 26.1	-2.4	
MOS					*e*			02 40 38.6		
MOS					*e*			02 43 24.3		
MOS					*e*			02 50 38.2		
MOS					pmax		pmax			
	comp=Z,70nm,1.3s									
MOS					pmax		pmax			
	comp=Z,200nm,2.5s									
JMDO	Jabal Madar	75.59	288		P		P	02 40 23.9	-5.5	
BANOM	Banah	75.64	292		P		P	02 40 31.2	+1.5	
BANOM	Banah	75.64	292		P		P	02 40 29.6	-0.1	
RPZ	Rata Peaks	75.65	159		P		P	02 40 29.8	+0.7	
M04C	Macdoel	75.67	50		P		P	02 40 31.5	+1.8	
	baz=294									
O02D	Mt. Diablo Mer	75.68	52		P		P	02 40 31.3	+1.6	
	baz=294									
SHME	Shamm	75.72	292	*i*	P		P	02 40 31.3	+1.1	
	SNR=10									
HOQ	Hoqain	75.76	289		P		P	02 40 25.5	-4.8	
AKT	Akhty	75.82	309		*e*P		P	02 40 30.7	+0.2	
AKT					*e*			02 40 42.8		
AKT					pmax		pmax			
	comp=Z,50nm,0.8s									
MDH	Madha	75.90	291		P		P	02 40 31.6	+0.5	
MDH	Madha	75.90	291		P		P	02 40 30.8	-0.2	
NEW	Newport	75.95	43		P		P	02 40 31.7	+0.6	
	baz=296									
NEW	Newport	75.95	43		IAmb		IAmb	02 40 33.5		
	comp=Z,13nm,0.9s									
MSFE	Esma-Masafi	75.99	291		P		P	02 40 33.1	+1.4	
E09A	Wood Farm, Sta	76.09	45		IAmb		IAmb	02 40 34.6		
	comp=Z,12nm,0.9s									
UOSS	Minazif	76.12	291		P		P	02 40 32.6	+0.2	
UOSS					IAmb		IAmb	02 40 36.9		
	comp=Z,22nm,1.0s									
SOHO	SOHO	76.18	290	*i*	P		P	02 40 33.9	+1.2	
	SNR=18									
SOHO	SOHO	76.18	290		P		P	02 40 31.4	-1.3	
BSY	Bisya	76.20	289		P		P	02 40 30.9	-2.0	
HATD	Hatta, Dubai	76.23	291	*i*	P		P	02 40 34.5	+1.5	
	SNR=6.5									
HATD	Hatta, Dubai	76.23	291		P		P	02 40 35.0	+2.0	
	SNR=6.5									
O03E	Paynes Creek	76.31	52		P		P	02 40 33.9	+0.6	
	baz=295									
LPSR	Galich'ya Gora	76.34	322		*e*P		P	02 40 33.7	+0.6	
LPSR					pmax		pmax			
	comp=Z,30nm,0.9s									
ASHO	Ashiyiah	76.35	291	*i*	P		P	02 40 35.2	+1.5	
	SNR=6.8									
ASHO	Ashiyiah	76.35	291		P		P	02 40 36.0	+2.2	
	SNR=6.8									
OBN	Obninsk	76.38	325	*c*	*i*P		P	02 40 33.5	+0.3	
OBN					*i*			02 40 44.3		
OBN					*i*			02 43 24.6		
OBN					*i*S		S	02 50 13.0	-4.2	
OBN					pmax		pmax			
	comp=Z,72nm,1.3s									
OBN					MLR		MLR			
	comp=Z,684nm,16.0s									
OBN	Obninsk	76.38	325		P		P	02 40 32.1	-1.1	
GROC	Groznyy	76.39	312		*e*P		P	02 40 35.1	+1.5	
GROC					*e*			02 40 46.3		
GROC					*e*			02 43 26.8		
GROC					*e*S		S	02 50 17.8	-0.1	
GROC					pmax		pmax			
	comp=Z,57nm,1.5s									
ARQ	Araqi	76.52	289		P		P	02 40 36.0	+1.3	
	SNR=13									
ORV	Oroville	76.84	52		IAmb		IAmb	02 40 38.4		
	comp=Z,10nm,1.1s									
VSR	Storozhevoye	76.86	321		*e*P		P	02 40 37.3	+1.2	
VSR					pmax		pmax			
	comp=Z,30nm,0.8s									
ALNE	Al Ain	76.86	290		P		P	02 40 38.4	+1.8	
VORD	Divnogorie	76.91	321		*e*P		P	02 40 36.7	+0.4	
VORD					pmax		pmax			
	comp=Z,10.0nm,1.1s									
J08A	Circle Bar Ran	77.25	48		IAmb		IAmb	02 40 41.4		
	comp=Z,13nm,1.1s									
BMO	Blue Mountains	77.34	46		IAmb		IAmb	02 40 41.3		
	comp=Z,9.1nm,0.8s									
GOF	Gofitskoye	77.37	314⇑		*e*P		P	02 40 40.8	+1.7	
GOF					pmax		pmax			
	comp=Z,34nm,0.8s									
WALA	Waterton Lakes	77.49	41		IAmb		IAmb	02 40 42.4		
	comp=Z,11nm,0.8s									
FIA1	FINESS Array S	77.65	334		IAmb		IAmb	02 40 42.2		
	comp=Z,26nm,1.1s									
FINES	FINESS Array B	77.66	334		P		P	02 40 40.2	-0.1	
	comp=Z,8.8nm,0.5s,baz=76,slow=5.9,SNR=87									
FINES					LR		LR	03 18 58.8		
	comp=Z,568nm,18.0s,baz=46,slow=39									
FINES	FINESS Array B	77.66	334		P		P	02 40 39.6	-0.7	
TBLG	Delisi	77.74	311		IAmb		IAmb	02 40 44.7		
	comp=Z,12nm,0.9s									
ZEI	Tsey	77.83	312		*e*P		P	02 40 42.1	+0.2	
ZEI					pmax		pmax			
	comp=Z,13nm,0.6s									
KBZ	Khabaz	78.06	313		P		P	02 40 44.0	+1.1	
	comp=Z,34nm,0.9s,baz=90,slow=3.6,SNR=58									
KBZ					LR		LR	03 17 56.4		
	comp=Z,538nm,18.7s,baz=62,slow=38									
KIV	Kislovodsk	78.09	313	*i*	P		P	02 40 44.8	+1.6	
	SNR=16									
KIV	Kislovodsk	78.09	313		P		P	02 40 43.1	-0.2	
KIV					pmax		pmax			
	comp=Z,31nm,1.1s									
KIV	Kislovodsk	78.09	313		P		P	02 40 43.0	-0.2	
CMB	Columbia Colle	78.28	53		IAmb		IAmb	02 40 46.8		
	comp=Z,16nm,1.1s									
PNTR	Pine Nut	78.37	52		IAmb		IAmb	02 40 47.3		
	comp=Z,12nm,0.8s									
MSO	Missoula	78.53	43		P		P	02 40 45.8	+0.2	
	baz=298									
AKH	Akhalkalaki	78.72	311		⇑P		P	02 40 48.6	+1.8	
AKH	Akhalkalaki	78.72	311		P		P	02 40 47.7	+0.8	
AKH					pmax		pmax			
	comp=Z,23nm,1.1s									
AKH	Akhalkalaki	78.72	311		P		P	02 40 47.7	+0.8	
AKH					IAmb		IAmb	02 40 50.3		
	comp=Z,22nm,1.1s									
MFID	Camas Ranch	78.95	47		IAmb		IAmb	02 40 50.8		
	comp=Z,16nm,0.9s									
VSU	Vasula	79.14	331		*e*P		P	02 40 49.4	+0.9	
VSU					*e*PP		PP	02 43 48.7	+1.3	
PPT	Papeete	79.34	116		LR		LR	03 09 36.3		
	comp=Z,390nm,19.9s,baz=310,slow=31									
PPT2	Papeete2	79.35	116		*e*S		S	02 50 53.0	+2.5	
	comp=Z,1μm,24.0s									
PPT2	Papeete2	79.35	116		*e*LR		LR	03 05 05.7		
	comp=Z,960nm,26.0s									
PAGB	Antelope Grade	79.39	55		IAmb		IAmb	02 40 53.2		
	comp=Z,17nm,1.1s									
NVAR	Mina Array Bea	79.57	52		P		P	02 40 52.3	+0.6	
	comp=Z,4.5nm,0.7s,baz=289,slow=5.4,SNR=37									
NVAR					LR		LR	03 15 04.9		
	comp=Z,530nm,18.3s,baz=278,slow=35									
NVAR	Mina Array Bea	79.57	52		P		P	02 40 51.7	+0.1	
HLID	Hailey	79.78	46		P		P	02 40 53.3	+0.6	
	baz=299									
SUMG	Summit	79.93	0	*i*	P		P	02 40 54.0	+0.9	
SUMG	Summit	79.93	0	*i*	P		P	02 40 54.9	+1.8	
	comp=Z,29nm,0.9s									
SUMG	Summit	79.93	0	*i*	P		P	02 40 54.9	+1.8	
SUMG					pmax		pmax			
	comp=Z,29nm,0.9s									
SUMG	Summit	79.93	0	P			P	02 40 53.8	+0.6	
SUMG					IAmb		IAmb	02 40 58.6		
	comp=Z,16nm,0.9s									
DLMT	Dillon	80.05	44		P		P	02 40 54.1	0.0	
PKM	Mcpherson Peak	80.09	56		P		P	02 40 56.2	+1.7	
	baz=297									
VES	Vestal, Richgr	80.19	55		P		P	02 40 55.7	+1.0	
	baz=297,SNR=7.8									
EGMT	Eagleton	80.41	41		P		P	02 40 57.2	+1.4	
	baz=301,SNR=5.9									
EGMT	Eagleton	80.41	41		IAmb		IAmb	02 40 58.4		
	comp=Z,13nm,1.1s									
BOZ	Bozeman (W)	80.53	43		P		P	02 40 57.4	+0.8	
	baz=300,SNR=9.8									
CWC	Cottonwood Cre	80.64	54		P		P	02 40 56.9	-0.5	
	baz=298									
ARVC	Arvin	80.70	55		P		P	02 40 59.1	+1.6	
	baz=297									
ISA	Isabella, Lake	80.71	55		P		P	02 40 58.0	+0.3	
	baz=298									
FFC	Flin Flon	80.81	32		P		P	02 40 58.1	+0.4	
FFC					pmax		pmax			
	comp=Z,18nm,1.0s									
FFC	Flin Flon	80.81	32		P		P	02 40 58.1	+0.4	
FFC					IAmb		IAmb	02 41 11.2		
	comp=Z,18nm,1.0s									
MICGM	Minsk	80.95	328		*e*P		P	02 40 58.0	-0.4	
MICGM					*e*PcP		pwP	02 41 12.0	+1.8	
MICGM					*e*S		S	02 51 08.0	+1.8	
MICGM					*e*LR		LR	03 19 17.0		
MNK	Minsk	80.95	328		*e*P		P	02 40 58.0	-0.4	
MNK					*e*			02 41 12.0		
MNK					*e*S		S	02 51 08.0	+1.8	
IZAR	Zarasai	80.97	329		*e*P		P	02 40 59.9	+1.3	
ANN	Anapa	81.00	316	*c*	*i*P		P	02 40 58.4	-0.5	
ANN					*i*			02 41 04.8		
ANN					*e*S		S	02 51 06.1	-1.0	
ANN					pmax		pmax			
	comp=Z,43nm,1.0s									
ANN					pmax		pmax			
	comp=N,20nm,1.4s									
ANN					pmax		pmax			
	comp=E,8.0nm,0.8s									
ANN					pmax		pmax			
	comp=E,30nm,1.0s									
ANN					pmax		pmax			
	comp=Z,441nm,3.9s									
ANN					pmax		pmax			
	comp=N,164nm,3.0s									
IDID	Didziasalis	81.01	329		*e*P		P	02 40 59.9	+1.2	
ISAL	Salakas	81.13	329		*e*P		P	02 41 00.4	+1.0	
NACGM	Naroch	81.23	328		*e*P		P	02 41 01.0	+1.1	
NACGM					*e*S		S	02 51 08.0	-1.1	
NACGM					*e*LQ		LQ	03 14 52.0		
NACGM					*e*LR		LR	03 19 36.0		
MPMC	Manual Prospec	81.24	54		P		P	02 41 00.5	-0.1	
	baz=298,SNR=8.7									
LRMC	Laurel Mtn Rad	81.37	55		P		P	02 41 01.8	+0.6	
	baz=298,SNR=5.4									
EDW2	Edwards Air Fo	81.42	55		P		P	02 41 02.3	+0.9	
	baz=298,SNR=8.8									
FURC	Furnace Creek,	81.49	53		P		P	02 41 01.9	+0.2	
	baz=298,SNR=6.1									
R11A	Troy Canyon, C	81.50	51		P		P	02 41 02.5	+0.6	
	baz=299,SNR=17									
SLIT	Slitere, Latvi	81.53	332		*e*P		P	02 41 01.6	+0.2	
MWC	Mount Wilson	81.68	56		IAmb		IAmb	02 41 04.5		
	comp=Z,14nm,1.1s									
TPNV	Topopah Spring	81.70	53		P		P	02 41 03.3	+0.3	
	baz=298,SNR=9.8									
TPNV	Topopah Spring	81.70	53		IAmb		IAmb	02 41 21.4		
	comp=Z,8.0nm,0.8s									
H17A	Grant Village	81.78	44		P		P	02 41 05.8	+2.4	
	baz=301,SNR=7.7									
IMW	Indian Meadow	81.81	45		IAmb		IAmb	02 41 07.0		
	comp=Z,8.3nm,0.9s									
FLWY	Flagg Ranch	81.86	44		IAmb		IAmb	02 41 07.1		
	comp=Z,8.7nm,0.8s									
FXWY	Fox Creek	81.89	45		IAmb		IAmb	02 41 07.3		
	comp=Z,9.9nm,1.1s									
GSC	Goldstone, Bar	82.08	54		P		P	02 41 06.4	+1.4	
	baz=298,SNR=6.2									
PABE	Paberze	82.14	330		*e*P		P	02 41 05.5	+0.8	
PABE					*e*PP		PP	02 44 13.0	+0.7	
RLMT	Red Lodge	82.20	43		P		P	02 41 06.9	+1.4	

comp=Z,7,9nm,0.9s,baz=42,slow=5.1,SNR=26
NOA LR LR 03 23 06.0

comp=Z,350nm,20.5s,baz=30,slow=39
BW06 Boulder Array 83.26 45 P **P 02 41 12.3 +1.2**
baz=302,SNR=6.8
PDAR Pinedale Array 83.26 45 P **P 02 41 10.9 -0.2**
comp=Z,3.5nm,0.9s,baz=281,slow=3.9,SNR=24
PDAR LR LR 03 14 30.6

comp=Z,683nm,19.8s,baz=324,slow=33
PDAR Pinedale Array 83.26 45 P **P 02 41 11.3 +0.2**
BELC Belle Mtn. Jos 83.29 55 P **P 02 41 11.6 +0.3**
baz=299
NBO00 NORSAR Array S 83.40 339 IAmb IAmb 02 41 22.3
comp=Z,21nm,1.1s
SUW Suwalki 83.44 329 *eP* **P 02 41 11.0 -0.5**
SUW Suwalki 83.44 329 P **P 02 41 10.8 -0.7**
SUW pmax pmax

comp=Z,89nm,1.1s
SUW Suwalki 83.44 329 P **P 02 41 10.8 -0.7**
NAO01 NORSAR Array S 83.50 339 P **P 02 41 11.6 -0.2**
MONP2 Monument Peak 83.51 56 P **P 02 41 12.6 0.0**
baz=299
IRM Iron Mountain 83.83 55 P **P 02 41 14.6 +0.6**
baz=299
BC3 Big Chuckawall 83.85 55 P **P 02 41 14.8 +0.6**
baz=299,SNR=6.7
IKP In-Ko-Pah, Jac 83.86 56 P **P 02 41 15.1 +0.9**
baz=299
KNB Kanab 84.06 51 P **P 02 41 15.4 +0.1**
KNB pmax pmax

comp=Z,13nm,1.0s
KNB Kanab 84.06 51 P **P 02 41 15.4 +0.1**
SORM Soroca 84.44 322 ⇑P **P 02 41 17.1 +0.4**
PDMCI Parker Dam,Lak 84.48 54 P **P 02 41 18.2 +1.0**
baz=300
U15A North Rim 84.72 52 IAmb IAmb 02 41 26.9
comp=Z,6.2nm,1.0s
KIS Kishinev 84.85 321 *eP* **P 02 41 16.0 -2.8**
KIS *eS* **S 02 51 38.0 -8.3**

comp=Z,370nm,14.0s
KIS *eSS* **SS 02 57 26.0 +8.3**
KIS *eLQ* LQ 03 15 00.0

comp=Z,300nm,15.0s
KIS *eLR* LR 03 21 05.0

comp=Z,400nm,16.0s
KIS Kishinev 84.85 321 *eP* **P 02 41 16.0 -2.8**
KIS *eS* **S 02 51 38.0 -8.3**
KIS *eSS* **SS 02 57 26.0 +8.3**
KIS pmax pmax

comp=Z,90nm,6.0s
KIS smax smax

comp=E,370nm,14.0s
KIS MLR MLR

comp=Z,400nm,16.0s
K22A Casper 85.20 44 P **P 02 41 21.2 +0.3**
baz=304
K22A Casper 85.20 44 IAmb IAmb 02 41 25.8
comp=Z,11nm,0.9s
ILGA Ilgaz 85.28 314 P **P 02 41 21.8 +0.4**
ILGA IAmb IAmb 02 41 24.4

comp=Z,19nm,1.0s
RWWY Rawlins 85.31 45 IAmb IAmb 02 41 26.5
comp=Z,17nm,1.1s
Y14A Wickenburg 85.48 54 IAmb IAmb 02 41 27.8
comp=Z,7.5nm,0.9s
O20A White River Ci 85.50 47 P **P 02 41 23.0 +0.5**
baz=303,SNR=6.3
O20A White River Ci 85.50 47 IAmb IAmb 02 41 27.2
comp=Z,14nm,1.1s
LVV L'vov 85.68 325 *eP* **P 02 41 24.0 +1.1**
LVV *eS* **S 02 51 57.0 +2.7**
WUAZ Wupatki 85.83 52 P **P 02 41 24.9 +0.7**
baz=301
WUAZ Wupatki 85.83 52 IAmb IAmb 02 41 26.7
comp=Z,9.7nm,1.1s
RSSD Black Hills 85.87 42 P **P 02 41 25.0 +0.8**
baz=305
RSSD Black Hills 85.87 42 P **P 02 41 24.7 +0.4**
RSSD pmax pmax

comp=Z,9.0nm,1.1s
RSSD Black Hills 85.87 42 P **P 02 41 24.7 +0.4**
RSSD IAmb IAmb 02 41 27.4

comp=Z,8.9nm,1.1s
TLCR 85.92 320 ⇑P **P 02 41 24.7 +0.5**
BEL Belsk 85.95 328 *eP* **P 02 41 24.6 +0.4**
PV04 Paradox Valley 86.00 48 IAmb IAmb 02 41 38.9
comp=Z,18nm,1.1s
PV22 Blue Mesa, Par 86.00 48 IAmb IAmb 02 41 29.9
comp=Z,13nm,1.1s
BR131 Keskin Array S 86.06 313 *d iP* **P 02 41 26.0 +0.8**
BR131 Keskin Array S 86.06 313 IAmb IAmb 02 41 29.3
comp=Z,12nm,0.7s
BRTR Keskin Array B 86.06 313 P **P 02 41 25.3 +0.1**
comp=Z,10nm,0.7s,baz=109,slow=2.8,SNR=29
BRTR LR LR 03 24 29.2

comp=Z,216nm,18.4s,baz=32,slow=39
BRTR Keskin Array B 86.06 313 *i* P **P 02 41 25.2 +0.1**
BRTR pmax pmax

comp=Z,11nm,0.7s
BRTR Keskin Array B 86.06 313 P **P 02 41 25.0 -0.2**
BSD Bornholm Skovb 86.25 333 ⇑*iP* **P 02 41 24.7 -0.9**
comp=Z,22nm,0.8s
BSD Bornholm Skovb 86.25 333 ⇑*iP* **P 02 41 24.7 -0.9**
BSD pmax pmax

comp=Z,22nm,0.8s
CFR Carcaliu 86.31 320 ⇑P **P 02 41 27.1 +1.0**
TESR Tescani 86.34 322 ⇑P **P 02 41 26.9 +0.6**
TOPG Topolog 86.35 320 ⇑P **P 02 41 27.2 +0.9**
BIZ Bicaz 86.38 322 ⇑P **P 02 41 27.7 +1.2**
BUR08 Bucovina Ar. S 86.43 323 IAmb IAmb 02 41 30.8
comp=Z,8.0nm,0.9s
BURAR Bucovina Array 86.44 323 ⇑P **P 02 41 27.9 +1.1**
BURAR Bucovina Array 86.44 323 P **P 02 41 26.8 -0.1**
KWP Kalwaria Pacla 86.46 326 *eP* **P 02 41 26.9 +0.1**
ULM Lac du Bonnet 86.51 33 LR LR 03 20 24.5
comp=Z,356nm,19.8s,baz=318,slow=36
N23A Red Feather La 86.54 45 P **P 02 41 29.3 +1.6**
baz=304
N23A Red Feather La 86.54 45 IAmb IAmb 02 41 30.4
comp=Z,14nm,0.9s
214A Organ Pipe Nat 86.62 56 P **P 02 41 28.9 +0.9**
baz=301
214A Organ Pipe Nat 86.62 56 IAmb IAmb 02 41 30.2
comp=Z,8.1nm,0.8s
VRI Vrincioaia 86.69 321 ⇓P **P 02 41 30.3 +2.3**
PLOR Plostina 86.74 321 ⇑P P 02 41 35.8 +7.4
BISRR Bisoca 86.89 321 ⇑P **P 02 41 31.1 +2.0**
MVCO Mesa Verde 86.90 49 P **P 02 41 30.7 +1.2**
baz=303
KOLS Kolonicke sedl 87.13 325 *eP* **P 02 41 31.4 +1.3**
KOLS pmax pmax

comp=Z,9.0nm,1.4s
KOLS Kolonicke sedl 87.13 325 *eP* **P 02 41 31.4 +1.3**
UZH Uzhgorod 87.32 325 *eP* **P 02 41 28.2 -2.8**
UZH *i* 02 41 35.7
UZH *i* S **S 02 52 02.6 -7.7**
UZH *i* PS 02 53 06.7
UZH MLR MLR

comp=N,100nm,17.0s
UZH MLR MLR

comp=E,260nm,17.0s
UZH MLR MLR

comp=Z,100nm,17.0s
ISCO Idaho Springs 87.36 46 P **P 02 41 31.7 -0.1**
baz=304
ISCO Idaho Springs 87.36 46 P **P 02 41 32.0 +0.2**
ISCO pmax pmax

comp=Z,3.0nm,1.1s
ISCO Idaho Springs 87.36 46 P **P 02 41 32.0 +0.2**
DOPR Dopca 87.37 322 ⇑P **P 02 41 32.3 +1.0**
MUD Monsted U'grnd 87.43 336 *i* P **P 02 41 31.1 -0.2**
MUD Monsted U'grnd 87.43 336 *eP* **P 02 41 31.1 -0.2**
OJC Ojcow 87.50 327 *eP* **P 02 41 31.7 -0.2**
OJC Ojcow 87.50 327 P **P 02 41 30.8 -1.1**
OJC pmax pmax

comp=Z,17nm,1.1s
OJC Ojcow 87.50 327 P **P 02 41 30.8 -1.1**
OJC IAmb IAmb 02 41 34.1

comp=Z,17nm,1.1s
CRVS Cervenica-Dubn 87.56 326 *eP* **P 02 41 32.6 +0.4**
CRVS pmax pmax

comp=Z,53nm,1.6s
CRVS Cervenica-Dubn 87.56 326 *eP* **P 02 41 32.6 +0.4**
S22A 4UR Ranch, Cre 87.72 48 P **P 02 41 34.1 +0.5**
baz=304

NIE Niedzica 87.79 327 *eP* **P 02 41 33.5 +0.2**
AGMN Agassiz Nation 87.79 35 P **P 02 41 33.2 0.0**
baz=311
AGMN Agassiz Nation 87.79 35 IAmb IAmb 02 41 37.7
comp=Z,10nm,0.9s
TUC Tucson 87.91 54 P **P 02 41 35.2 +0.9**
baz=302
TUC Tucson 87.91 54 P **P 02 41 34.8 +0.5**
TUC pmax pmax

comp=Z,5.0nm,1.1s
TUC Tucson 87.91 54 P **P 02 41 34.8 +0.5**
ARR Arges 88.16 322 ⇑P **P 02 41 36.4 +1.3**
LANS Liptovska Anna 88.37 327 *eP* **P 02 41 36.9 +0.8**
LANS pmax pmax

comp=Z,14nm,1.7s
LANS Liptovska Anna 88.37 327 *eP* **P 02 41 36.9 +0.8**
OKC Ostrava-Krasne 88.54 328 *eP* **P 02 41 36.5 -0.3**
OKC Ostrava-Krasne 88.54 328 *eP* **P 02 41 36.5 -0.3**
SDCO Great Sand Dun 88.59 48 P **P 02 41 38.4 +0.7**
baz=305
SUSD Miller 88.60 39 P **P 02 41 37.0 -0.2**
KSP Ksiaz 88.69 329 *eP* **P 02 41 37.4 -0.1**
B35A Bob, Littlefor 88.82 34 IAmb IAmb 02 41 40.1
comp=Z,6.5nm,0.9s
MORC Moravsky Berou 88.86 328 ⇑P **P 02 41 38.5 +0.1**
MORC Moravsky Berou 88.86 328 *eP* **P 02 41 38.1 -0.3**
MORC Moravsky Berou 88.86 328 P **P 02 41 37.7 -0.7**
MORC pmax pmax

comp=Z,9.0nm,1.0s
MORC Moravsky Berou 88.86 328 P **P 02 41 37.7 -0.7**
MORC IAmb IAmb 02 41 40.0

comp=Z,9.1nm,1.0s
OSTC Ostas 88.93 329 *eP* **P 02 41 38.5 -0.2**
OSTC *ePP* **PP 02 45 09.4 +1.9**
OSTC AMS AMS 03 25 50.0

comp=Z,600nm,15.6s
CHVC Chvalec 88.98 329 *eP* **P 02 41 39.0 +0.1**
CHVC AMS AMS 03 26 00.0

comp=Z,700nm,14.4s
PSZ Piszkesteto 88.99 326 ⇑P **P 02 41 39.9 +0.9**
PSZ Piszkesteto 88.99 326 IAmb IAmb 02 41 40.8
comp=Z,15nm,1.0s
KRLC Kraliky 89.01 329 *eP* **P 02 41 39.2 +0.1**
KRLC MLR MLR

comp=Z,1μm,16.2s
KRLC Kraliky 89.01 329 *eP* **P 02 41 39.2 +0.1**
KRLC AMS AMS 03 25 30.0

comp=Z,1μm,16.2s
DPC Dobruska-Polom 89.03 329 *eP* **P 02 41 39.6 +0.5**
DPC *e* 02 52 09.3
DPC Dobruska-Polom 89.03 329 *eP* **P 02 41 39.6 +0.5**
DPC *eSKS* **SKSac 02 52 09.3 +1.3**
UPC Upice 89.06 329 AMS AMS 03 25 50.0
comp=Z,700nm,14.7s
VYHS Vyhne 89.13 327 *eP* **P 02 41 39.8 +0.2**
VYHS pmax pmax

comp=Z,20nm,1.0s
VYHS Vyhne 89.13 327 *eP* **P 02 41 39.8 +0.2**
F33A 5 Mile Ranch, 89.17 37 IAmb IAmb 02 41 44.8
comp=Z,13nm,1.1s
SIRR Siria 89.18 324 ⇑P **P 02 41 40.6 +0.7**
JAVC Velka Javorina 89.44 327 *eP* **P 02 41 41.9 +0.8**
ANMO Albuquerque 89.53 50 P **P 02 41 42.3 +0.3**
baz=304
ANMO Albuquerque 89.53 50 ⇑*iP* **P 02 41 43.2 +1.2**
ANMO pmax pmax

comp=Z,5.0nm,1.5s
ANMO Albuquerque 89.53 50 P **P 02 41 42.3 +0.3**
BZS Buzias 89.63 323 ⇑P **P 02 41 41.9 -0.1**
VRAC Vranov 89.64 328 ⇑P **P 02 41 42.9 +1.0**
VRAC Vranov 89.64 328 *eP* **P 02 41 41.9 -0.1**
HERR Herculane 89.68 322 ⇑P **P 02 41 42.2 0.0**
PVCC Panska Ves 89.69 330 *eP* **P 02 41 42.5 +0.3**
PVCC Panska Ves 89.69 330 *eP* **P 02 41 42.5 +0.3**
BRG Berggiesshubel 89.72 331 *eP* **P 02 41 42.3 0.0**
comp=Z,6.1nm,0.8s
BRG Berggiesshubel 89.72 331 S S 02 52 22.0 -11
BRG *e* 02 53 38.0
BRG SS **SS 02 58 30.0 +1.7**

comp=Z,740nm,14.7s
comp=N,600nm,14.1s
comp=E,590nm,14.1s
BRG Berggiesshubel 89.72 331 *eP* **P 02 41 41.5 -0.8**
baz=41,slow=4.8
CLL Collm 89.80 331 *i* P **P 02 41 41.6 -1.1**
comp=Z,12nm,0.9s
CLL *ePP* **PP 02 45 13.0 -1.3**
CLL *e*SKSac **SKSac 02 52 12.0 -0.4**
CLL *eS* **ScS 02 52 36.0 -2.0**
CLL *e*PS PS 02 53 41.0 -0.1
CLL *eSS* **SS 02 58 33.0 +3.5**
CLL *e*SSS SSS 03 02 18.0
CLL *e*SSSS 03 05 30.0
CLL LmH 03 18 00.0

comp=N,800nm,21.1s
CLL LmH 03 18 00.0

comp=E,800nm,20.2s
CLL LmV 03 25 00.0

comp=Z,600nm,18.0s
CLL Collm 89.80 331 *i* P **P 02 41 41.6 -1.1**
CLL *e* 02 45 13.0
CLL pmax pmax

comp=Z,12nm,0.9s
CLL MLR MLR

comp=Z,600nm,18.0s
CLL Collm 89.80 331 *eP* **P 02 41 41.5 -1.2**
comp=Z,12nm,0.9s,baz=41,slow=4.8
CLL Collm 89.80 331 IAmb IAmb 02 41 43.8
comp=Z,8.1nm,0.7s
KRUC Moravsky 89.90 328 *eP* **P 02 41 43.0 -0.2**
121A Cookes Peak, D 89.94 53 P **P 02 41 43.6 -0.3**
baz=303
MODS Modra-Piesok 89.96 327 *eP* **P 02 41 42.8 -0.7**
MODS pmax pmax

comp=Z,20nm,1.3s
MODS Modra-Piesok 89.96 327 *eP* **P 02 41 42.8 -0.7**
MANT Manisa 90.01 314 P **P 02 41 42.0 -2.2**
GOPC GO Pecny, Ondr 90.03 329 *eP* **P 02 41 43.4 -0.4**
GOPC *e* 02 45 18.6
GOPC MLR MLR

comp=Z,800nm,15.5s
GOPC GO Pecny, Ondr 90.03 329 *eP* **P 02 41 43.4 -0.4**
GOPC *ePP* **PP 02 45 18.6 +2.4**
GOPC AMS AMS 03 26 30.0

comp=Z,800nm,15.5s
PRA Prague 90.08 330 *eP* **P 02 41 42.0 -2.0**
PRA MLR MLR

comp=Z,400nm,14.5s
PRA Prague 90.08 330 *eP* **P 02 41 42.0 -2.0**
PRA AMS AMS 03 28 50.0

comp=Z,400nm,14.5s
PRU Pruhonice 90.09 330 *eP* **P 02 41 43.7 -0.4**
PRU *e* 02 45 18.5
PRU MLR MLR

comp=Z,800nm,14.8s
PRU Pruhonice 90.09 330 *eP* **P 02 41 43.7 -0.4**
PRU *ePP* **PP 02 45 18.5 +1.8**
PRU AMS AMS 03 28 50.0

comp=Z,800nm,14.8s
TREC Trest 90.16 329 *eP* **P 02 41 44.4 0.0**
TREC MLR MLR

comp=Z,1μm,16.1s
TREC Trest 90.16 329 *eP* **P 02 41 44.4 0.0**
TREC AMS AMS 03 26 00.0

comp=Z,1μm,16.1s
EYMN Ely 90.19 33 P **P 02 41 43.9 -0.7**
baz=314
EYMN Ely 90.19 33 IAmb IAmb 02 41 49.3
comp=Z,11nm,1.1s
ECSD EROS Data Cent 90.35 39 P **P 02 41 45.3 -0.2**
baz=310
CLZ Clausthal 90.50 333 *eP* **P 02 41 45.2 -0.7**
comp=Z,9.2nm,0.9s,baz=41,slow=4.8
VTS Vitosha 90.67 320 ⇑P **P 02 41 49.0 +1.9**
GUNZ Gunzen 90.79 331 *eP* **P 02 41 46.5 -0.9**
comp=Z,8.9nm,0.8s,baz=41,slow=4.8
WERN Wernitzgruen 90.83 331 *eP* **P 02 41 47.1 -0.4**
comp=Z,9.4nm,0.8s,baz=41,slow=4.8
NKC Novy Kostel 90.83 331 *eP* **P 02 41 47.5 -0.1**
NKC MLR MLR

comp=Z,800nm,16.8s
NKC Novy Kostel 90.83 331 *eP* **P 02 41 47.5 -0.1**
NKC AMS AMS 03 26 50.0

comp=Z,800nm,16.8s
MOX Moxa 90.88 331 *eP* **P 02 41 46.7 -1.1**
comp=Z,12nm,1.3s,baz=41,slow=4.8
MOX *e*L L 03 24 22.0

comp=Z,320nm,21.9s
CONA Conrad Observa 90.95 328 *i* PcP **P 02 41 48.5 +0.2**
comp=Z,12nm,0.9s,SNR=12
E38A The Farm, Brul 91.09 34 IAmb IAmb 02 41 54.9
comp=Z,7.2nm,0.9s
KHC Kasperske Hory 91.14 329 ⇓*iP* **P 02 41 49.0 0.0**
KHC pmax pmax

comp=Z,18nm,0.8s
KHC Kasperske Hory 91.14 329 *eP* **P 02 41 48.8 -0.2**
KHC *ePP* **PP 02 45 29.5 +4.4**
KHC *e*SKS **SKSac 02 52 21.1 +0.8**
KHC AMS AMS 03 26 50.0

comp=Z,900nm,15.6s
GEC2 GERESS Array S 91.30 329 IAmb IAmb 02 41 50.9
comp=Z,5.8nm,0.8s
GERES GERESS Array B 91.30 329 P **P 02 41 49.5 -0.3**
comp=Z,4.3nm,0.7s,baz=40,slow=5.2,SNR=52
GERES LR LR 03 26 15.6

comp=Z,538nm,20.8s,baz=54,slow=38
GERES GERESS Array B 91.30 329 P **P 02 41 48.8 -1.0**
SPMN Marine on St. 91.41 36 P **P 02 41 50.3 0.0**
baz=313
SPMN Marine on St. 91.41 36 IAmb IAmb 02 41 52.7
comp=Z,6.2nm,0.8s
ARSA Arzberg 91.59 327 *i* PcP **P 02 41 50.5 -0.7**
comp=Z,8.9nm,1.1s,SNR=6.0
MOA Molln 91.76 328 *i* PcP **P 02 41 51.7 -0.2**
comp=Z,6.4nm,0.8s,SNR=6.0
GRA1 Grafenberg Arr 91.77 331 P **P 02 41 52.3 +0.4**
GRF Grafenberg Arr 91.77 331 P **P 02 41 52.3 +0.4**
GRF pmax pmax

comp=Z,14nm,1.0s
GRF Grafenberg Arr 91.77 331 *e*L L 03 26 48.9
comp=Z,417nm,19.7s
KOGS Kog 91.81 326 *i* P **P 02 41 51.2 -0.9**
KOGS *e*SKSac **SKSac 02 52 23.6 -0.5**
KOGS *eSP* **SPn 02 54 12.3 +11**
MNTX Cornudas Mount 92.09 52 P **P 02 41 54.4 +0.6**
baz=305
PERS Pernice 92.23 327 *i* P **P 02 41 53.5 -0.6**
PERS *ePP* **PP 02 45 35.3 +1.6**
SOKA Soboth 92.24 327 *ePcP* **P 02 41 53.7 -0.5**
comp=Z,12nm,0.8s,SNR=12
RJOB Jochberg 92.52 329 *eP* **P 02 41 54.2 -1.3**
comp=Z,14nm,0.9s,baz=41,slow=4.8
OBKA Obir 92.59 327 *ePcP* **P 02 41 55.9 0.0**
comp=Z,5.7nm,0.8s
G40A Rib Lake 92.70 34 IAmb IAmb 02 42 00.5
comp=Z,7.7nm,1.1s
LIT Litokhoron 92.72 319 P **P 02 41 55.1 -1.4**
LIT pmax pmax

comp=Z,10.0nm,0.9s
LIT Litokhoron 92.72 319 P **P 02 41 55.1 -1.4**
LIT IAmb IAmb 02 42 01.4

comp=Z,9.6nm,0.9s
KBA Koelnbreinsper 92.75 328 *ePcP* **P 02 41 56.5 -0.2**
comp=Z,4.4nm,0.8s
AMTX Amarillo 92.77 48 P **P 02 41 58.2 +1.3**
baz=307
FUR Furstenfeldbru 92.89 330 *eP* **P 02 41 56.8 -0.3**
comp=Z,23nm,0.9s,baz=41,slow=4.8
LJU Ljubljana 92.94 327 *i* P **P 02 41 56.3 -1.0**
LJU *e* 02 50 24.8
MYKA Terra Mystica 92.94 328 *ePcP* **P 02 41 56.0 -1.4**
comp=Z,3.5nm,0.6s
PDG Podgorica 93.02 322 ⇑P **P 02 41 56.9 -0.8**
PDG Podgorica 93.02 322 IAmb IAmb 02 42 05.8
comp=Z,5.1nm,0.7s
PRED Cave del Predi 93.11 328 IAmb IAmb 02 41 58.4
comp=Z,4.7nm,0.8s
ZOU Zoufplan 93.31 328 IAmb IAmb 02 42 10.3
comp=Z,8.7nm,1.0s
STU Stuttgart 93.33 331 P **P 02 41 59.0 -0.1**
STU pmax pmax

comp=Z,13nm,0.7s
STU Stuttgart 93.33 331 P **P 02 41 59.0 -0.1**
WATA Walderalm 93.37 329 *ePcP* **P 02 41 58.2 -1.3**
comp=Z,3.8nm,0.9s
ABTA Abfaltersbach 93.38 328 *ePcP* **P 02 41 58.8 -0.7**
comp=Z,9.9nm,1.1s,SNR=9.0
WTTA Wattenberg 93.40 329 *eP* **P 02 41 57.1 -2.6**
comp=Z,3.2nm,0.9s
AGG Agios Georgios 93.51 318 IAmb IAmb 02 42 11.9
comp=Z,7.0nm,1.0s
MOTA Moosalm 93.58 330 *eP* **P 02 41 58.8 -1.7**
comp=Z,4.4nm,0.8s
RETA Reutte 93.63 330 *ePcP* **P 02 42 00.2 -0.4**
comp=Z,14nm,1.7s
SQTA Sankt Quirin 93.63 329 *ePcP* **P 02 41 59.8 -0.8**
comp=Z,5.8nm,0.8s
STAL STALIGIAL 93.65 328 IAmb IAmb 02 42 07.6
comp=Z,9.1nm,0.9s
CIMO Cimolais 93.74 328 IAmb IAmb 02 42 08.9
comp=Z,5.3nm,0.9s
SCHQ Schefferville 93.84 17 LR LR 03 26 37.9
comp=Z,118nm,20.9s,baz=344,slow=37
WLF Walferdange 93.88 334 pP **P 02 42 03.2 +1.6**
FETA Feichten 93.99 329 *ePcP* **P 02 42 00.7 -1.6**
comp=Z,2.9nm,0.7s
BFO Black Forest 94.04 332 P **P 02 41 01.5 -0.9**
BFO pmax pmax

comp=Z,11nm,0.9s
BFO Black Forest 94.04 332 P **P 02 41 01.4 -0.9**
BFO IAmb IAmb 02 42 06.0

comp=Z,11nm,0.9s
DAVA Damuels 94.17 330 *ePcP* **P 02 42 02.4 -0.7**
comp=Z,12nm,1.1s,SNR=6.0
FUORN Ofenpass-Fuorn 94.50 329 P **P 02 42 04.1 -0.8**
ECH Echery 94.62 332 IAmb IAmb 02 42 06.1
comp=Z,5.8nm,0.8s
TX31 Lajitas Ar. Si 94.66 54 IAmb IAmb 02 42 08.5
comp=Z,8.4nm,0.9s
TXAR Lajitas Array 94.66 54 P **P 02 42 06.8 +1.1**
comp=Z,1.8nm,0.8s,baz=327,slow=2.7,SNR=21
TXAR LR LR 03 20 27.2

comp=Z,318nm,20.0s,baz=0.0,slow=33
TXAR Lajitas Array 94.66 54 P **P 02 42 06.4 +0.7**
TXAR Lajitas Array 94.66 54 P **P 02 42 06.4 +0.7**
WMOK Wichita Mounta 94.75 47 P **P 02 42 06.5 +0.5**
baz=309
WMOK Wichita Mounta 94.75 47 IAmb IAmb 02 42 19.5
comp=Z,4.0nm,0.8s
P38A Dawn 94.79 40 IAmb IAmb 02 42 10.6
comp=Z,11nm,1.1s
TUE Stuetta 95.03 330 IAmb IAmb 02 42 13.3
comp=Z,8.0nm,0.9s
MURB Monte Urbino 95.94 326 P **P 02 42 09.6 -1.6**
MURB IAmb IAmb 02 42 28.6

comp=Z,6.5nm,1.0s
NRCA Norcia 95.96 325 IAmb IAmb 02 42 12.6
comp=Z,5.3nm,0.9s
AQU L'Aquila 96.16 325 P **P 02 42 11.6 -0.7**
AQU pmax pmax

comp=Z,5.0nm,0.8s
AQU L'Aquila 96.16 325 P **P 02 42 11.6 -0.7**
AQU IAmb IAmb 02 42 22.8

comp=Z,4.8nm,0.8s
PGAV Gavieira, Arco 105.70 338 *ePP* **PP 02 47 22.9 +6.5**
PGAV Gavieira, Arco 105.70 338 A A 03 45 26.4
comp=Z,237nm,16.0s
MVO Moncorvo 106.00 337 *ePP* **PP 02 47 18.3 -0.2**
MVO Moncorvo 106.00 337 *eLR* LR 03 26 17.8
comp=Z,271nm,18.0s
ESDC Sonseca Array 106.17 334 PP **PP 02 47 12.5 -7.4**
comp=Z,0.6nm,0.7s,baz=29,slow=6.1,SNR=6.2
MTE Manteigas 106.86 337 *ePP* PP 02 47 38.0 +13
MTE Manteigas 106.86 337 *eLR* LR 03 26 08.7
comp=Z,247nm,16.0s
COI Coimbra 107.33 337 *ePP* **PP 02 47 22.3 -5.9**
PMRV Marv??o 107.66 336 *ePP* **PP 02 47 34.9 +4.2**
PMRV Marv??o 107.66 336 *eLR* LR 03 25 52.9
comp=Z,364nm,18.0s
PSBE So Bento 108.08 337 *ePP* **PP 02 47 37.9 +4.1**
PMTG Montargil 108.28 337 *ePP* PP 02 47 43.1 +7.9
PMAFR Mafra 108.74 337 *ePP* **PP 02 47 32.7 -5.9**
PVAQ Vaqueiros 109.58 336 *ePP* PP 02 47 54.0 +9.3
PVAQ Vaqueiros 109.58 336 A A 03 40 24.6
comp=Z,415nm,18.0s
PFVI Vila Bisbo 110.22 336 *ePP* **PP 02 47 46.6 -2.7**
PMOZ Porto Moniz, M 116.87 341 *ePP* PP 02 48 35.1 -1.5
QSPA South Pole Qui 117.53 180 PKPdf **PKiKP 02 47 29.4 +0.2**
SYO Syowa Base 120.40 204 ⇓*ePKPdf* **PKPdf 02 47 33.3 -1.3**
SYO Syowa Base 120.40 204 ⇓*ePKiKP* **PKiKP 02 47 36.0 +1.3**
TORD Torodi Ar. Bea 124.66 312 PKP **PKPdf 02 47 44.5 0.0**

comp=Z,2.4nm,0.7s,baz=12,slow=3.1,SNR=11
TORD Torodi Ar. Bea 124.66 312 PKPdf **PKPdf 02 47 43.9 -0.6**
BOSA Boshof 125.66 253 PKP **PKiKP 02 47 46.7 +0.2**
comp=Z,1.3nm,0.7s,baz=124,slow=2.7,SNR=4.3
SNAA Sanae 132.18 194 PKPdf **PKPdf 02 47 56.7 -0.5**
SNAA Sanae 132.18 194⇑*iP* PKiKP **PKiKP 02 47 59.5 +1.3**
VNA2 Neumayer--Watz 133.69 193 PKPdf **PKiKP 02 48 01.4 +0.2**
GRGR Grenville 133.72 34 PKPdf **PKPdf 02 47 59.1 -2.6**
VNA3 Neumayer Olymp 133.87 192 PKPdf **PKiKP 02 48 01.3 -0.3**
VNA1 Neumayer--Stat 134.09 193 PKPdf **PKiKP 02 48 02.3 +0.3**
PTGA Pitinga 145.28 43 **PKPbc 02 48 21.5 -0.9**
PB16 IPOC Station P 148.77 80 PKPbc **PKiKP 02 48 34.4 0.0**
LC01 Cunco 149.02 120 **PKiKP 02 48 34.1 +0.5**
SAML Samuel 149.05 58 PKP2 **PKPbc 02 48 32.2 -0.8**
SAML Samuel 149.05 58 **PKPbc 02 48 32.2 -0.8**
PB11 IPOC Station P 149.18 82 **PKPbc 02 48 34.0 +0.6**
GO01 Chusmiza 149.55 82 **PKPbc 02 48 34.6 -0.1**
PLCA Paso Flores 149.62 124 PKPbc **PKPbc 02 48 33.0 -0.8**
comp=Z,8.7nm,0.8s,baz=242,slow=3.8,SNR=15
PLCA Paso Flores 149.62 124 PKP2 **PKPbc 02 48 33.0 -0.8**
PLCA Paso Flores 149.62 124 **PKiKP 02 48 35.6 +0.7**
PB08 IPOC Station P 149.75 83 PKPbc **PKPab 02 48 38.6 -1.9**
PB01 IPOC Station P 149.76 84 **PKPbc 02 48 34.4 -0.4**
BI02 San Fabin de 149.83 116 **PKiKP 02 48 35.5 +0.1**
BO02 Sierra Bellavi 150.42 112 **PKiKP 02 48 36.8 +0.1**
GO04 Tololo Observa 150.43 103 **PKiKP 02 48 37.8 +0.7**
AC05 El Transito 150.77 100 **PKiKP 02 48 38.1 +0.5**
GO02 Mina Guanaco 150.79 92 **PKiKP 02 48 38.5 +0.4**
ZON Zonda 152.30 106 PKIKP **PKiKP 02 48 42.0 +1.4**
ZON Zonda 152.30 106 **PKiKP 02 48 42.0 +1.4**

*NEIC **09** 02:59:54.0±1.1,51.9°N±0.1°×178.42°E±0.07°,h118km±4km, mb4.2/65,ML3.7(AEIC),Error ellipse: s-maj=15.5km s-min=6.3km az=176.0*
*AEIC **09** 02:59:54.7±1.2,51.8°N±0.1°×178.36°E±0.08°,h117km±4km, Error ellipse: s-maj=17.9km s-min=7.0km az=183.0*
*IDC **09** 02:59:55.7±0.9,52.09°N×178.48°E,h128km±7km,mb3.8/15, mb1 4.1/17,mb1mx3.7/47,mbtmp4.3/17,Error ellipse: s-maj=20.4km s-min=9.9km az=166.0*
ISC 09 02:59:54.2±0.6,**51.89N**±0.10°×**178.41E**±0.04,**h120**km±4km, **n144,σ0.977/145,mb4.2/37,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.09**	**46**			**Pn**	**03 00 10.3**	**-0.4**
LSSA						**Sn**	**03 00 22.4**	**-0.7**
LSNW	**Little Sitkin**	**0.10**	**39**			**Pn**	**03 00 10.1**	**-0.6**
LSNW						**Sn**	**03 00 22.6**	**-0.5**
LSPA	**Little Sitkin**	**0.12**	**56**			**Pn**	**03 00 10.3**	**-0.5**
CETU	**Semis' Tuman**	**0.67**	**83**			**Pn**	**03 00 13.4**	**0.0**
CESW	**Semis' Southwe**	**0.71**	**89**			**Pn**	**03 00 13.3**	**-0.4**
CEAP	**Semis' Anvil P**	**0.73**	**81**			**Pn**	**03 00 13.8**	**0.0**
AMKA	**Amchitka**	**0.76**	**132**	Pn		**Pn**	**03 00 13.3**	**-0.7**
AMKA	**Amchitka**	**0.76**	**132**			**Sn**	**03 00 27.5**	**-1.4**
CERAA	**Semis' Rag'd T**	**0.79**	**88**			**Pn**	**03 00 13.9**	**-0.4**
GAEA	**Gareloi East**	**1.77**	**92**			**Pn**	**03 00 24.8**	**0.0**
TASE	**Tanaga Southea**	**2.20**	**90**			**Pn**	**03 00 29.9**	**-0.4**
TAFP	**Tanaga Falls P**	**2.23**	**88**			**Pn**	**03 00 30.3**	**-0.3**
TAFP						**Sn**	**03 00 58.3**	**-0.2**
TAPA	**Tanaga Point A**	**2.34**	**90**			**Pn**	**03 00 31.6**	**-0.4**
KIMD	**Kanaga Island**	**2.70**	**91**			**Pn**	**03 00 36.1**	**-0.5**
KIKV	**Kanaga Island**	**2.74**	**89**			**Pn**	**03 00 37.2**	**+0.1**
SMY	**Shemya**	**2.78**	**289**	Pn		**Pn**	**03 00 36.5**	**-1.1**
SMY	**Shemya**	**2.78**	**289**			**Sn**	**03 01 09.8**	**-1.1**
ADK	**Adak**	**3.04**	**88**	Pn		**Pn**	**03 00 39.5**	**-1.4**
GSTD	**Great Sitkin T**	**3.37**	**85**			**Pn**	**03 00 44.0**	**-0.8**
GSTR	**Great Sitkin T**	**3.42**	**84**	Pn		**Pn**	**03 00 44.6**	**-1.5**
GSMY	**Great Sitkin M**	**3.42**	**85**			**Pn**	**03 00 45.4**	**-0.7**
ATKA	**Atka Island**	**4.57**	**83**	Pn		**Pn**	**03 01 00.6**	**-0.8**
ATKA	**Atka Island**	**4.57**	**83**			**Sn**	**03 01 52.9**	**-0.6**
KOFP	**Korovin Flat P**	**4.64**	**82**			**Pn**	**03 01 02.3**	**+0.1**
NIKH	**Nikolski High**	**7.86**	**77**	Pn		**Pn**	**03 01 44.8**	**-0.8**
OKSP	**Okmok Steeple**	**8.22**	**75**			**Pn**	**03 01 51.6**	**+1.1**
OKCE	**Okmok Cone E**	**8.31**	**74**			**Pn**	**03 01 51.8**	**+0.1**
SPIA	**Saint Paul Isl**	**8.45**	**47**	Pn		**Pn**	**03 01 55.4**	**+1.8**
MAPS	**Pakushin South**	**9.07**	**72**			**Pn**	**03 02 01.9**	**-0.1**
MSW	**Makushin Switc**	**9.18**	**71**			**Pn**	**03 02 03.3**	**-0.1**
MREP	**Makushin Rep't**	**9.19**	**72**			**Pn**	**03 02 04.1**	**+0.5**
MNAT	**Makushin Natee**	**9.23**	**72**			**Pn**	**03 02 03.1**	**-1.1**
UNV	**Unalaska Valle**	**9.33**	**72**	Pn		**Pn**	**03 02 05.9**	**+0.4**
AKMO	**Akutan Morgan**	**9.65**	**71**			**Pn**	**03 02 09.4**	**-0.4**
AKGG	**Akutan Green G**	**9.67**	**70**			**Pn**	**03 02 10.1**	**0.0**
AKUT	**Akutan**	**9.79**	**71**	Pn		**Pn**	**03 02 13.0**	**+1.3**
PEA0B	**Petropavlovsk-**	**12.68**	**284**	Pn		**Pn**	**03 02 50.6**	**+0.6**
PETK	**Petropavlovsk-**	**12.68**	**284**	P		**Pn**	**03 02 50.6**	**+0.6**
	0.8nm,0.3s,baz=91,slow=18,SNR=53							
PETK	**Petropavlovsk-**	**12.68**	**284**			**Pn**	**03 02 50.3**	**+0.2**
SDPT	**Sand Point**	**12.99**	**66**	Pn		**Pn**	**03 02 52.6**	**-1.4**
CNBA	**Chernabura Isl**	**13.45**	**69**			**Pn**	**03 02 58.1**	**-1.9**
OHAK	**Old Harbor**	**17.18**	**61**			**P**	**03 03 44.2**	**-2.1**
MA2	**Magadan**	**17.26**	**307**			**Pn**	**03 03 48.2**	**+0.7**
MA2					IAmb	IAmb	03 03 50.5	
	comp=Z,12nm,1.0s							
TTA	**Tatalina**	**17.52**	**41**			**Pn**	**03 03 50.6**	**-0.1**
KDAK	**Kodiak Island**	**17.62**	**59**	P		**P**	**03 03 49.3**	**-1.8**
	comp=Z,5.7nm,0.3s,baz=274,slow=3.8,SNR=55							
KDAK	**Kodiak Island**	**17.62**	**59**	P		**P**	**03 03 49.3**	**-1.8**
BRLK	**Bradley Lake**	**18.81**	**53**	P		**P**	**03 04 04.4**	**+0.2**
SEW	**Seward**	**19.59**	**53**	P		**P**	**03 04 12.6**	**+0.1**
IMAR	**Indian Mountai**	**19.89**	**34**	P		**P**	**03 04 16.3**	**+0.6**
BPAW	**Bear Paw Mtn.**	**20.06**	**41**	P		**P**	**03 04 18.4**	**+0.8**
BPAW					IAmb	IAmb	03 04 19.8	
	comp=Z,11nm,1.0s							
SCM	**Sheep Creek Mo**	**20.95**	**48**	P		**P**	**03 04 27.5**	**+0.2**
DHY	**Denali Highway**	**21.24**	**45**	P		**P**	**03 04 30.5**	**+0.1**
DHY					IAmb	IAmb	03 04 32.5	
	comp=Z,12nm,0.8s							
MDM	**Murphy Dome**	**21.49**	**40**	P		**P**	**03 04 32.6**	**-0.3**
IL31		**21.96**	**41**	P		**P**	**03 04 37.5**	**-0.3**
ILAR	**Eielson Array**	**21.96**	**41**	P		**P**	**03 04 35.4**	**-2.5**
	comp=Z,0.9nm,0.5s,baz=240,slow=8.9,SNR=9.4							
ILAR				ScP		**ScP**	**03 11 56.4**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=279,slow=3.4,SNR=7.7							
ILAR	**Eielson Array**	**21.96**	**41**	P		**P**	**03 04 37.6**	**-0.3**
PAX	**Paxson**	**22.05**	**46**	P		**P**	**03 04 38.9**	**-0.1**
CRQM	**Cirque**	**22.78**	**52**	P		**P**	**03 04 46.9**	**+0.6**
MENT	**Mentasta**	**22.83**	**46**	P		**P**	**03 04 46.4**	**-0.3**
DOT	**Dot Lake**	**22.83**	**44**	P		**P**	**03 04 46.0**	**-0.6**
DOT					IAmb	IAmb	03 04 48.2	
	comp=Z,8.7nm,0.8s							
BARN	**Barnard Glacie**	**23.53**	**51**	P		**P**	**03 04 54.0**	**+0.7**
YSS	**Yuzh-Sakhalins**	**23.55**	**272**	P		**P**	**03 04 54.1**	**+0.7**
YSS					IAmb	IAmb	03 04 57.2	
	comp=Z,11nm,0.9s							
BCAR	**Beaver Creek A**	**23.72**	**46**	P		**P**	**03 04 54.4**	**-0.4**
EGAK	**Eagle**	**24.32**	**42**	P		**P**	**03 04 59.7**	**-0.5**
DAWY	**Dawson**	**24.94**	**44**	P		**P**	**03 05 06.3**	**+0.4**
DAWY					IAmb	IAmb	03 05 09.2	
	comp=Z,7.4nm,0.8s							
JKA	**Kamikawa-asahi**	**24.99**	**266**	P		**P**	**03 05 06.1**	**-0.4**
ASAJ	**Asahikawa**	**24.99**	**266**	P		**P**	**03 05 07.8**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=52,slow=16,SNR=2.2							
INK	**Inuvik**	**28.05**	**36**	P		**P**	**03 05 33.2**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=274,slow=7.7,SNR=6.9							
INK	**Inuvik**	**28.05**	**36**	P		**P**	**03 05 35.2**	**+1.5**
KLR	**Kul'dur**	**29.37**	**284**	P		**P**	**03 05 46.3**	**+0.7**
	comp=Z,4.8nm,0.4s,baz=71,slow=9.4,SNR=27							
DLBC	**Dease Lake**	**29.53**	**57**	P		**P**	**03 05 46.3**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=324,slow=6.7,SNR=4.3							
DLBC	**Dease Lake**	**29.53**	**57**	P		**P**	**03 05 47.8**	**+0.9**
USRK	**Ussuriysk Ar.**	**31.52**	**275**	P		**P**	**03 06 04.7**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=56,slow=13,SNR=4.2							
USRK	**Ussuriysk Ar.**	**31.52**	**275**	P		**P**	**03 06 04.2**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**33.34**	**200**	T		T	03 42 05.5	
	baz=11,slow=76,SNR=14							
H11N3	**WAKE ISLAND Hy**	**33.35**	**200**	T		T	03 41 47.5	
	baz=11,slow=76,SNR=10							
H11N1	**WAKE ISLAND Hy**	**33.36**	**200**	T		T	03 41 50.7	
	baz=11,slow=76,SNR=13							
YKA	**Yellowknife Ar**	**36.14**	**46**	P		**P**	**03 06 43.3**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=282,slow=9.5,SNR=13							
YKA				pP		**pP**	**03 07 12.8**	**+2.4**
	comp=Z,1.5nm,0.7s,baz=285,slow=8.5,SNR=6.6							
NEW	**Newport**	**40.32**	**69**		IAmb	IAmb	03 07 19.4	
	comp=Z,2.9nm,0.6s							
NEW				P		**P**	**03 07 19.5**	**-0.1**
I07A	**Izee**	**41.13**	**75**	P		**P**	**03 07 26.8**	**+0.5**
I07A					IAmb	IAmb	03 07 27.5	
	comp=Z,3.1nm,0.8s							
WALA	**Waterton Lakes**	**41.76**	**66**	P		**P**	**03 07 30.3**	**-1.1**
WALA					IAmb	IAmb	03 07 31.9	

comp=Z,5.7nm,0.9s
BMO Blue Mountains 42.02 73 P **P 03 07 33.8 +0.3**
BMO IAmb IAmb 03 07 33.8
comp=Z,2.3nm,0.6s
PAHR Pah Rah Range 43.75 81 P **P 03 07 48.1 +0.5**
VCNR Virginia City 43.84 81 P **P 03 07 48.4 0.0**
VCNR IAmb IAmb 03 07 50.3
comp=Z,6.5nm,1.1s
PNTR Pine Nut 44.00 82 P **P 03 07 49.9 +0.2**
HLID Hailey 44.46 73 **P 03 07 53.2 -0.1**
ULN Ulaanbaatar 44.47 294 P **P 03 07 53.1 -0.1**
ULN IAmb IAmb 03 07 55.9
comp=Z,2.2nm,0.7s
BCYI Bear Canyon 44.63 72 P **P 03 07 54.5 -0.2**
MCMT McKenzie Canyo 44.66 71 P **P 03 07 54.3 -0.5**
SONM Songino Array 44.86 295 P **P 03 07 57.6 +1.3**
comp=Z,2.2nm,0.5s,baz=61,slow=7.2,SNR=12
SONM Songino Array 44.86 295 P **P 03 07 56.4 +0.1**
BOZ Bozeman (W) 44.93 69 P **P 03 07 56.0 -1.0**
BOZ IAmb IAmb 03 07 57.0
comp=Z,3.2nm,0.8s
KVN Kaiserville 44.94 81 P **P 03 07 57.7 +0.5**
KVN IAmb IAmb 03 07 58.3
comp=Z,1.8nm,0.5s
RYN Ryan 44.94 81 P **P 03 07 57.4 +0.2**
NVAR Mina Array Bea 45.20 81 P **P 03 08 00.1 +0.9**
comp=Z,2.3nm,0.5s,baz=295,slow=7.8,SNR=33
NVAR pP **pP 03 08 27.1 +0.3**
comp=Z,0.7nm,0.6s,baz=323,slow=4.4,SNR=2.9
NVAR ScP **ScP 03 13 17.9 -0.6**
comp=Z,0.5nm,0.7s,baz=305,slow=5.2,SNR=3.7
NVAR Mina Array Bea 45.20 81 P **P 03 07 59.4 +0.2**
NVAR **pP 03 08 26.5 -0.3**
MDPB Devils Postpil 45.23 83 P **P 03 07 59.6 +0.1**
MDPB IAmb IAmb 03 08 01.6
comp=Z,4.3nm,0.7s
OMMB Old Mammoth Mi 45.29 83 P **P 03 07 59.8 -0.2**
ELK Elko 45.64 77 P **P 03 08 02.9 +0.2**
ELK IAmb IAmb 03 08 03.8
comp=Z,2.4nm,0.6s
YHB Horse Butte 45.67 70 P **P 03 08 02.3 -0.5**
RLMT Red Lodge 46.57 68 P **P 03 08 10.1 +0.3**
RLMT IAmb IAmb 03 08 11.0
comp=Z,5.3nm,1.1s
R11A Troy Canyon, C 46.91 80 P **P 03 08 13.0 +0.4**
R11A IAmb IAmb 03 08 13.6
comp=Z,2.8nm,0.5s
TPNV Topopah Spring 47.40 82 P **P 03 08 16.3 0.0**
DUG Dugway, Tooele 47.44 76 **P 03 08 16.9 +0.3**
BW06 Boulder Array 47.80 71 P **P 03 08 19.2 -0.3**
BW06 IAmb IAmb 03 08 19.6
comp=Z,3.4nm,0.8s
PD31 Pinedale Array 47.80 71 P **P 03 08 19.0 -0.4**
PD31 IAmb IAmb 03 08 19.6
comp=Z,2.7nm,0.8s
PDAR Pinedale Array 47.80 71 P **P 03 08 18.8 -0.6**
comp=Z,2.4nm,0.7s,baz=307,slow=3.7,SNR=22
PDAR pP **pP 03 08 48.7 +1.5**
comp=Z,0.8nm,0.7s,baz=316,slow=4.1,SNR=3.5
PSUT Pine Spring 47.85 78 P **P 03 08 19.5 -0.4**
GSC Goldstone, Bar 48.13 84 P **P 03 08 21.6 -0.3**
CCUT Cedar City 48.77 79 P **P 03 08 26.6 -0.4**
TMUT Trail Mountain 48.96 76 P **P 03 08 28.8 +0.2**
RDMU Red Mountain 49.14 73 P **P 03 08 30.0 +0.2**
MTPU Mount Pierson 49.17 78 P **P 03 08 30.5 +0.3**
KBS Kingsbay 49.19 357 IAML 03 08 31.3
comp=Z,1.7nm,0.2s
KNB Kanab 49.45 79 P **P 03 08 32.3 +0.3**
SRU San Rafael Swe 49.49 75 P **P 03 08 32.3 -0.1**
SPA0 Spitsbergen Ar 49.73 355 *eP* P 03 08 27.6 -5.8
W13A Hualapai Mount 50.06 82 P **P 03 08 37.1 +0.3**
W13A IAmb IAmb 03 08 37.9
comp=Z,2.2nm,0.8s
U15A North Rim 50.16 79 P **P 03 08 37.6 +0.1**
PV13 Radium Mtn., P 51.13 75 P **P 03 08 44.9 +0.2**
SSLB Suanglung 51.67 260 P **P 03 08 47.9 -0.9**
N35A Tabor 56.99 64 P **P 03 09 26.5 -0.5**
ARCES ARCESS Array B 57.27 349 pP pP 03 09 59.8 +3.1
comp=Z,2.4nm,0.8s,baz=32,slow=7.7,SNR=2.6
KURK Kurchatov 57.40 312 P **P 03 09 29.8 +0.2**
KURK IAmb IAmb 03 09 30.8
comp=Z,2.2nm,0.8s
MNTX Cornudas Mount 57.56 79 P **P 03 09 31.6 +0.4**
MNTX IAmb IAmb 03 09 32.5
comp=Z,2.4nm,0.8s
MKAR Makanchi Array 58.34 307 P **P 03 09 36.2 -0.2**
comp=Z,0.9nm,0.5s,baz=48,slow=6.6,SNR=11
MKAR Makanchi Array 58.34 307 P **P 03 09 35.8 -0.6**
BRVK Borovoye 59.38 318 P **P 03 09 43.2 -0.2**
W35A Tecumseh 60.22 70 P **P 03 09 48.9 -0.6**
TX31 Lajitas Ar. Si 60.28 79 P **P 03 09 50.5 +0.5**
TX32 Lajitas Array 60.28 79 P **P 03 09 50.0 0.0**
TXAR Lajitas Array 60.28 79 P **P 03 09 50.3 +0.3**
comp=Z,1.6nm,0.6s,baz=300,slow=4.8,SNR=28
TXAR Lajitas Array 60.28 79 P **P 03 09 49.8 -0.3**
NB2 NORSAR Subarra 66.95 353 P pP 03 11 03.0 +0.9
comp=Z,2.0nm,1.0s,baz=5.9,slow=6.5
NOA NORSAR Array B 66.95 353 pP pP 03 11 03.3 +1.2
comp=Z,0.7nm,0.8s,baz=8.0,slow=6.3,SNR=4.6
WRA Warramunga Arr 81.21 221 P **P 03 11 57.2 +0.7**
comp=Z,3.3nm,0.7s,baz=31,slow=6.0,SNR=21
ASAR Alice Springs 84.72 220 P **P 03 12 15.8 +1.2**
comp=Z,1.7nm,0.8s,baz=23,slow=5.4,SNR=18
ASAR Alice Springs 84.72 220 P **P 03 12 14.6 0.0**
STKA Stephens Creek 89.45 211 P **P 03 12 39.2 +2.1**
comp=Z,2.6nm,0.5s,baz=355,slow=4.2,SNR=11
STKA Stephens Creek 89.45 211 P **P 03 12 37.3 +0.2**
TORD Torodi Ar. Bea 115.17 356 PKP **PKiKP 03 18 21.1 -0.4**
comp=Z,0.3nm,0.5s,baz=16,slow=2.3,SNR=2.0
MAW Mawson 145.82 218 PKPbc **PKPab 03 19 19.0 +0.6**
comp=Z,2.9nm,0.6s,baz=135,slow=15,SNR=4.4
BOSA Boshof 149.32 309 PKPbc **PKPbc 03 19 28.6 -0.1**
comp=Z,2.2nm,0.6s,baz=24,slow=3.6,SNR=9.0
BOSA Boshof 149.32 309 **PKiKP 03 19 29.6 -0.2**

*IDC **09** 03:12:49.6±1.2,26.82N×93.17E,h0km,mb3.7/9, mb1 3.9/9,mb1mx3.6/41,mbtmp3.7/9,MS4.0/1,Ms1 4.0/1, ms1mx3.0/39,Error ellipse: s-maj=43.8km s-min=24.1km az=51.0*
*NDI **09** 03:12:51.6±2.5,26°31N×93°64E,h32km±9km, ML3.7*
ISC 09 03:12:52.4±1.1,**26.34N**±0.05°×**93.55E**±0.06,**h54**km±9km, **n31,σ1933/59,mb3.9/9,Northeastern India**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TEZP	**TEZPUR**	**0.73**	**293**	*eP*		**Pn**	**03 13 07.3**	**+0.6**
TEZP				*eP*		**Pn**	**03 13 07.3**	**+0.6**
TEZP				*eS*		**Sn**	**03 13 18.5**	**+1.4**
TEZP				*eS*		**Sn**	**03 13 18.9**	**+1.8**
TEZP					IAML		03 13 19.5	
	comp=E,8μm,0.1s							
TEZP					IAML		03 13 19.6	
	comp=N,10μm,0.1s							
JORH	**JORHAT**	**0.75**	**57**	*eP*		**Pn**	**03 13 05.1**	**-1.8**
JORH				*eP*		**Pn**	**03 13 05.2**	**-1.8**
JORH				*eS*		**Sn**	**03 13 15.4**	**-2.1**
JORH				*eS*		**Sn**	**03 13 15.6**	**-1.9**
ITAN	**ITANAGAR**	**0.82**	**11**	*eP*		**Pn**	**03 13 07.8**	**-0.1**
ITAN				*eP*		**Pn**	**03 13 07.8**	**-0.1**
ZIRO	**ZIRO**	**1.21**	**13**	*eP*		**Pn**	**03 13 12.7**	**-0.5**
ZIRO				*eP*		**Pn**	**03 13 12.8**	**-0.5**
ZIRO				*eS*		**Sn**	**03 13 28.7**	**-0.1**
GUWA	**GUWAHATI**	**1.68**	**265**	*eP*		**Pn**	**03 13 20.0**	**+0.7**
GUWA				*eP*		**Pn**	**03 13 20.1**	**+0.8**
GUWA				*eS*		**Sn**	**03 13 40.3**	**+0.7**
GUWA				*eS*		**Sn**	**03 13 40.4**	**+0.7**
SHL	**Shillong**	**1.69**	**243**	*eP*		**Pn**	**03 13 19.8**	**+0.1**
SHL				*eP*		**Pn**	**03 13 19.9**	**+0.3**
SHL				*eS*		**Sn**	**03 13 39.5**	**-0.8**
SHL				*eS*		**Sn**	**03 13 39.7**	**-0.5**
SHL					IAML		03 13 41.9	
	comp=E,1μm,0.1s							
SHL					IAML		03 13 42.6	
	comp=N,1μm,0.3s							
SILR	**SILCHAR**	**1.69**	**204**	*eP*		**Pn**	**03 13 20.1**	**+0.6**
SILR				*eP*		**Pn**	**03 13 20.1**	**+0.6**
SAIH	**SAIHA**	**3.87**	**188**	*eP*		**Pn**	**03 13 48.9**	**-0.6**
SAIH				*eS*		**Sn**	**03 14 31.7**	**-2.0**
SAIH					IAML		03 14 34.6	
	comp=E,118nm,0.7s							
SAIH					IAML		03 14 34.7	
	comp=N,46nm,0.6s							

GTK Tadong 4.53 284 *eP* **Pn 03 13 59.7 +1.2**
GTK *eP* **Pn 03 13 59.8 +1.2**
GTK *eS* **Sn 03 14 50.8 +0.8**
TAPN Taplejung 5.31 282 *ePn* **Pn 03 14 10.4 +0.9**
TAPN *eSn* **Sn 03 15 10.7 +1.1**
comp=N,223nm,0.6s
ODAN Odare 5.54 277 *ePn* **Pn 03 14 14.0 +1.5**
ODAN *eSn* **Sn 03 15 16.9 +1.9**
comp=N,188nm,0.3s
RAMN Ramite 6.25 277 *ePn* **Pn 03 14 23.5 +1.2**
RAMN *eSn* **Sn 03 15 33.3 +0.8**
comp=N,102nm,0.3s
JIRN Jiri 6.70 283 *ePn* **Pn 03 14 29.8 +1.3**
JIRN *eSn* **Sn 03 15 43.0 -0.6**
comp=N,137nm,0.3s
GUN Gumba 7.01 285 *ePn* **Pn 03 14 33.6 +0.8**
GUN *eSn* **Sn 03 15 50.3 -1.1**
comp=N,119nm,0.5s
PKI Pulchoki 7.37 281 *ePn* **Pn 03 14 38.1 +0.4**
KKN Kakani 7.51 283 *ePn* **Pn 03 14 40.8 +1.2**
KKN *eSn* **Sn 03 16 02.8 -0.7**
comp=N,36nm,0.2s
DMN Daman 7.64 281 *ePn* **Pn 03 14 41.7 +0.4**
DMN *eSn* **Sn 03 16 05.5 -1.2**
comp=N,40nm,0.4s
GKN Gorkha 8.11 284 *ePn* **Pn 03 14 48.3 +0.6**
GKN *eSn* **Sn 03 16 16.6 -1.5**
DANN Dangsing 8.93 285 *ePn* **Pn 03 14 58.5 -0.6**
DANN *eSn* **Sn 03 16 35.0 -3.4**
comp=N,61nm,0.4s
KOLN Koldanda 8.98 281 *ePn* **Pn 03 14 59.1 -0.6**
KOLN *eSn* **Sn 03 16 37.0 -2.6**
comp=N,64nm,0.6s
PYUN Piuthan 9.56 283 *ePn* **Pn 03 15 06.7 -0.9**
PYUN *eSn* **Sn 03 16 49.7 -4.1**
comp=N,57nm,0.4s
MKAR Makanchi Array 22.29 339 P **P 03 17 42.7 -2.4**
comp=N,1.4nm,0.7s,baz=148,slow=12,SNR=14
SONM Songino Array 23.71 22 P **P 03 17 59.5 0.0**
comp=N,0.9nm,0.8s,baz=203,slow=11,SNR=3.6
KURBB Kurchatov Arra 26.84 339 P **P 03 18 28.3 +0.6**
comp=N,0.3nm,0.3s,baz=156,slow=9.2,SNR=1.9
BATI Baumata 46.65 137 LR LR 03 46 30.0
comp=N,167nm,19.5s,baz=110,slow=43
BRTR Keskin Array B 51.11 301 P **P 03 21 50.9 +1.0**
comp=N,1.0nm,0.7s,baz=94,slow=10,SNR=3.0
AKASG Malin Array Be 54.00 315 P **P 03 22 10.1 -0.8**
comp=N,1.0nm,0.3s,baz=79,slow=6.4,SNR=7.4
FINES FINESS Array B 56.48 328 P **P 03 22 29.3 +0.7**
comp=N,1.4nm,0.6s,baz=100,slow=8.3,SNR=9.9
WRA Warramunga Arr 60.69 135 P P 03 23 07.2 +8.7
comp=N,0.7nm,0.8s,baz=323,slow=7.2,SNR=5.9
NOA NORSAR Array B 63.66 327 P **P 03 23 17.8 0.0**
comp=N,0.4nm,0.6s,baz=83,slow=6.5,SNR=3.4
GERES GERESS Array B 64.17 314 P **P 03 23 22.0 +0.6**
comp=N,0.8nm,0.6s,baz=79,slow=6.9,SNR=9.2

*KRNET **09** 03:31:27.0±0.1,39.43N×77.31E,h12km, mb3.9*
*SOME **09** 03:31:28.3,39.73N×77.02E,h0km*
*BJI **09** 03:31:29.0±0.0,39.46N×77.31E,h8km, ML3.6/7*
*NNC **09** 03:31:31.0±1.5,39.66N×77.23E,h0km, mb4.1,mpv3.8, Error ellipse: s-maj=10.6km s-min=9.1km az=154.0*
ISC 09 03:31:31.3±1.7,**39.54N**±0.08°×**77.34E**±0.04,**h10**km,**n74,σ2821/113,27C-17D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**1.06**	**269**	Pg		**Pn**	**03 31 53.5**	**+1.2**
KSH				Sg		Sn	03 32 16.1	+8.9
TARG	**Taragay, Kyrgy**	**2.22**	**9**⇑*iP*			**Pn**	**03 32 08.8**	**+0.3**
	baz=9.0							
TARG				⇑*iS*		**Sn**	**03 32 37.0**	**+0.8**
	baz=9.0							
KDJ	**Kajisay**	**2.59**	**357**⇓*iP*			**Pn**	**03 32 13.8**	**+0.3**
	baz=58							
KDJ				⇓*iS*		**Sn**	**03 32 46.1**	**+0.9**
	baz=58							
ULHL	**Ulahol**	**2.83**	**343**⇑*iP*			**Pn**	**03 32 17.7**	**+0.9**
	baz=44							
ULHL				⇑*iS*		**Sn**	**03 32 52.6**	**+1.5**
	baz=44							
ULHL	**Ulahol**	**2.83**	**343**	P		**Pb**	**03 32 20.2**	**-1.9**
	SNR=8.3							
KZA	**Kyzart**	**3.00**	**329**⇑*eP*			**Pn**	**03 32 20.3**	**+1.1**
	baz=30							
KZA				⇑*iS*		**Sn**	**03 32 57.5**	**+2.1**
	baz=30							
KZA	**Kyzart**	**3.00**	**329**	P		**Pn**	**03 32 20.1**	**+0.9**
	SNR=16							
PRZ	**Przheval'sk**	**3.05**	**15**⇓*iP*			**Pn**	**03 32 19.9**	**+0.1**
	baz=15							
PRZ				⇓*iS*		**Sn**	**03 32 56.7**	**+0.3**
	baz=15							
ANVS	**Anan'yevo**	**3.25**	**4**⇑*iP*			**Pn**	**03 32 22.9**	**+0.4**
	baz=4.0							
ANVS				⇑*iS*		**Sn**	**03 33 01.7**	**+0.3**
	baz=4.0							
ARLS	**Aral**	**3.27**	**316**⇓*iP*			**Pn**	**03 32 24.1**	**+1.4**
	baz=18							
ARLS				⇓*iS*		**Sn**	**03 33 03.7**	**+2.0**
	baz=18							
UCH	**Uchtor**	**3.44**	**322**⇑*eP*			**Pn**	**03 32 26.6**	**+1.3**
	baz=24							
UCH				⇑*iS*		**Sn**	**03 33 08.4**	**+2.0**
	baz=24							
UCH	**Uchtor**	**3.44**	**322**	P		**Pb**

	26nm,0.7s							
KST				Lg	Lg	03 33 23.2		
	34nm,0.7s							
MTBS	**Maitube**	**3.66**	**349**	*e*P	**Pb**	**03 32 34.4**	**-1.6**	
	14nm,0.5s							
MTBS				*e*S	**Sb**	**03 33 23.2**	**+2.7**	
	35nm,0.5s							
MTBS	**Maitube**	**3.66**	**349**	Pg	**Pb**	**03 32 34.4**	**-1.6**	
	14nm,0.5s							
MTBS				Lg	Lg	03 33 23.2		
	35nm,0.5s							
AAA	**Alma-Ata**	**3.68**	**355**	*e*P	**Pb**	**03 32 35.4**	**-1.1**	
	20nm,0.1s							
AAA				*e*S	**Sb**	**03 33 24.9**	**+3.6**	
	12nm,0.1s							
AAA	**Alma-Ata**	**3.68**	**355**	Pg	**Pb**	**03 32 33.2**	**-3.3**	
	35nm,0.2s							
AAA				Lg	Lg	03 33 21.6		
	12nm,0.1s							
KOTS	**Kotyrbulak**	**3.70**	**357**	*e*P	**Pb**	**03 32 36.0**	**-0.7**	
	78nm,0.5s							
KOTS				*e*S	**Sg**	**03 33 26.7**	**-3.3**	
	61nm,0.7s							
KOTS	**Kotyrbulak**	**3.70**	**357**	Pg	**Pb**	**03 32 36.0**	**-0.7**	
	78nm,0.5s							
KOTS				Lg	Lg	03 33 26.7		
	61nm,0.7s							
ZHN	**Zhinishke**	**3.72**	**12**	*e*P	**Pb**	**03 32 37.2**	**0.0**	
	46nm,0.7s							
ZHN				*e*S	**Sg**	**03 33 27.6**	**-3.1**	
	42nm,0.3s							
ZHN	**Zhinishke**	**3.72**	**12**	Pg	**Pb**	**03 32 37.2**	**0.0**	
	46nm,0.7s							
ZHN				Lg	Lg	03 33 27.6		
	42nm,0.3s							
AAK	**Ala-Archa**	**3.77**	**326**	⇓*e*P	**Pn**	**03 32 31.0**	**+1.3**	
	baz=27							
AAK				⇓*i*S	**Sn**	**03 33 15.6**	**+1.4**	
	baz=27							
AAK	**Ala-Archa**	**3.77**	**326**	⇓Pn	**Pn**	**03 32 32.0**	**+2.4**	
	27nm,0.6s							
AAK				⇑Lg	Lg	03 33 24.2		
	109nm,0.8s							
ARSB	**Arslanbob**	**3.78**	**300**	⇓*i*P	**Pn**	**03 32 31.5**	**+1.8**	
	baz=1.0							
ARSB				⇓*i*S	**Sn**	**03 33 16.1**	**+1.8**	
	baz=1.0							
AML	**Almayashu**	**3.79**	**314**	⇑*e*P	**Pn**	**03 32 31.6**	**+1.5**	
	baz=16							
AML				⇑*i*S	**Sn**	**03 33 17.0**	**+2.0**	
	baz=16							
AML	**Almayashu**	**3.79**	**314**	P	**Pn**	**03 32 33.2**	**+3.1**	
	SNR=18							
UZB	**Uzynbulak**	**3.82**	**19**	*e*P	**Pb**	**03 32 38.9**	**0.0**	
	6.4nm,0.6s							
UZB				*e*S	**Sg**	**03 33 30.8**	**-3.2**	
	91nm,0.8s							
UZB	**Uzynbulak**	**3.82**	**19**	Pg	**Pb**	**03 32 38.9**	**0.0**	
	6.4nm,0.6s							
UZB				Lg	Lg	03 33 30.8		
	91nm,0.8s							
DGS	**Degeres**	**3.89**	**343**	*e*P	**Pb**	**03 32 38.7**	**-1.2**	
	24nm,0.6s							
DGS				*e*S	**Sb**	**03 33 30.8**	**+3.7**	
	49nm,0.6s							
DGS	**Degeres**	**3.89**	**343**	Pg	**Pb**	**03 32 38.7**	**-1.2**	
	24nm,0.6s							
DGS				Lg	Lg	03 33 30.8		
	49nm,0.6s							
SHLS	**Shalkode**	**3.95**	**23**	*e*P	**Pg**	**03 32 43.6**	**-3.4**	
	9.1nm,0.6s							
SHLS				*e*S	**Sg**	**03 33 38.9**	**+0.6**	
	83nm,0.5s							
SHLS	**Shalkode**	**3.95**	**23**	Pg	**Pg**	**03 32 43.6**	**-3.4**	
	20nm,0.9s							
SHLS				Lg	Lg	03 33 38.9		
	83nm,0.5s							
CHMS	**Chumysh**	**3.97**	**331**	⇑*e*P	**Pn**	**03 32 33.3**	**+1.0**	
	baz=32							
CHMS				⇑*i*S	**Sn**	**03 33 19.9**	**+1.0**	
	baz=32							
KPKS	**Kokpek**	**4.05**	**14**	*e*P	**Pb**	**03 32 42.7**	**-0.1**	
	11nm,0.3s							
KPKS				*e*S	**Sg**	**03 33 37.5**	**-3.9**	
	118nm,0.7s							
PDGK	**Podgornoye**	**4.12**	**22**	Pg	**Pb**	**03 32 43.9**	**-0.1**	
	7.6nm,0.6s							
PDGK				Lg	Lg	03 33 39.3		
	32nm,0.6s							
PDGK	**Podgornoye**	**4.12**	**22**	⇑Pn	**Pn**	**03 32 34.2**	**-0.1**	
	2.2nm,0.8s							
PDGK				⇑Pg	**Pb**	**03 32 44.6**	**+0.7**	
	13nm,0.6s							
PDGK				⇑Lg	Lg	03 33 39.2		
	68nm,0.6s							
EKS2	**Erkin-Say**	**4.12**	**320**	⇑*e*P	**Pn**	**03 32 35.6**	**+1.2**	
	baz=22							
EKS2				⇑*i*S	**Sn**	**03 33 23.5**	**+0.7**	
	baz=22							
EKS2	**Erkin-Say**	**4.12**	**320**	P	**Pb**	**03 32 43.6**	**-0.4**	
	SNR=8.4							
KTBS	**Karatobe**	**4.20**	**353**	*e*P	**Pb**	**03 32 44.6**	**-0.7**	
	9.3nm,0.7s							
KTBS				*e*S	**Sb**	**03 33 40.7**	**+4.5**	
	25nm,0.6s							
KTBS	**Karatobe**	**4.20**	**353**	Pg	**Pb**	**03 32 44.6**	**-0.7**	
	9.3nm,0.7s							
KTBS				Lg	Lg	03 33 40.7		
	25nm,0.6s							
CHKK	**Chushkaly**	**4.32**	**357**	*e*P	**Pb**	**03 32 45.9**	**-1.4**	
	11nm,0.5s							
CHKK				*e*S	**Sb**	**03 33 43.4**	**+3.8**	
	38nm,0.5s							
CHKK	**Chushkaly**	**4.32**	**357**	Pg	**Pb**	**03 32 45.9**	**-1.4**	
	11nm,0.5s							
CHKK				Lg	Lg	03 33 43.3		
	38nm,0.5s							
KRBS	**Karabastau**	**4.34**	**344**	*e*P	**Pb**	**03 32 46.9**	**-0.8**	
	18nm,0.8s							
KRBS				*e*S	**Sb**	**03 33 44.2**	**+4.1**	
	23nm,0.6s							
KRBS	**Karabastau**	**4.34**	**344**	Pg	**Pb**	**03 32 46.9**	**-0.8**	
	18nm,0.8s							
KRBS				Lg	Lg	03 33 44.2		
	23nm,0.6s							
KUU	**Kurty**	**4.42**	**351**	*e*P	**Pb**	**03 32 47.8**	**-1.2**	
	9.7nm,0.4s							
KUU				*e*S	**Sb**	**03 33 46.5**	**+4.2**	
	41nm,0.7s							
KUU	**Kurty**	**4.42**	**351**	Pg	**Pb**	**03 32 47.8**	**-1.2**	
	9.7nm,0.4s							
KUU				Lg	Lg	03 33 46.5		
	41nm,0.7s							
MRKS	**Merke**	**4.47**	**317**	*e*P	**Pb**	**03 32 47.2**	**-2.6**	
	18nm,0.6s							
MRKS				*e*S	**Sb**	**03 33 45.0**	**+1.2**	
	32nm,0.5s							
MRKS	**Merke**	**4.47**	**317**	Pg	**Pb**	**03 32 47.2**	**-2.6**	
	18nm,0.6s							
MRKS				Lg	Lg	03 33 44.9		
	32nm,0.5s							
KTMS	**Ketmen**	**4.51**	**29**	*e*P	**Pb**	**03 32 51.4**	**+0.8**	
	0.4nm,0.1s							
KTMS				*e*S	**Sg**	**03 33 52.3**	**-3.8**	
	42nm,0.6s							
KTMS	**Ketmen**	**4.51**	**29**	Pg	**Pb**	**03 32 51.4**	**+0.8**	
	0.4nm,0.1s							
KTMS				Lg	Lg	03 33 52.3		
	42nm,0.6s							
ARXS	**Arharly**	**4.69**	**4**	*e*P	**Pb**	**03 32 53.9**	**+0.3**	
	26nm,0.8s							
ARXS				*e*S	**Sb**	**03 33 56.4**	**+6.2**	
	46nm,0.5s							
ARXS	**Arharly**	**4.69**	**4**	Pg	**Pb**	**03 32 53.9**	**+0.3**	
	26nm,0.8s							
ARXS				Lg	Lg	03 33 56.3		
	46nm,0.5s							
DJR	**Jarkent**	**5.13**	**20**	*e*P	**Pb**	**03 33 02.5**	**+1.5**	
	5.4nm,0.5s							
DJR				*e*S	**Sg**	**03 34 11.2**	**-4.6**	
	29nm,0.7s							
DJR	**Jarkent**	**5.13**	**20**	Pg	**Pb**	**03 33 02.5**	**+1.5**	
	5.4nm,0.5s							
DJR				Lg	Lg	03 34 11.3		
	29nm,0.7s							
BTLS	**Baital**	**6.02**	**337**	*e*P	**Pb**	**03 33 16.2**	**0.0**	
	2.1nm,0.6s							
BTLS				*e*S	**Sb**	**03 34 34.5**	**+6.2**	
	13nm,0.5s							

KK31	**Karatay Array**	**6.26**	**307**	⇓Pg	**Pg**	**03 33 27.2**	**-3.8**	
	1.8nm,0.5s,baz=130,slow=14,SNR=10							
KK31				⇑Lg	Lg	03 34 41.5		
	6.3nm,0.5s,baz=125,slow=28							
BRLS	**Borolday**	**6.64**	**304**	*e*P	**Pb**	**03 33 26.4**	**-0.5**	
	1.5nm,0.3s							
BRLS				*e*S	**Sb**	**03 34 52.0**	**+5.6**	
	9.2nm,0.7s							
MK31	**Makanchi Array**	**8.10**	**25**	⇓Pn	Pb	03 33 40.7	-11	
	0.3nm,0.4s							
MK31				⇓Lg	Lg	03 35 35.2		
	8.1nm,0.9s							
WMQ	**Urumqi**	**8.85**	**58**	*e*P	**Pn**	**03 33 40.0**	**+0.8**	
WMQ				smax	smax			
	comp=N,15nm,0.7s							
WMQ				smax	smax			
	comp=E,14nm,0.7s							

MOS ***09*** *04:04:46.6±1.1,8.°44S×159.°98E,h55km,mb5.0/26,Error ellipse: s-maj=9.0km s-min=7.7km az=77.8*

IDC ***09*** *04:04:48.0±0.4,8.°38S×160.°09E,h55km±3km,mb4.2/18, mb1 4.4/20,mb1mx4.3/31,mbtmp4.5/20,MS3.9/26, Ms1 3.9/26,ms1mx3.8/36,Error ellipse: s-maj=16.0km s-min=5.1km az=93.0*

NEIC ***09*** *04:04:48.1±0.7,8.°43S±0.°07×159.°99E±0.°09,h62km±6km, mb5.0/118,Error ellipse: s-maj=13.2km s-min=9.6km az=95.0*

GCMT ***09*** *04:04:50.1±0.3,8.°34S±0.°02×160.°07E±0.°02,h36km±1km, MW5.0/89,Moment Tensor Solution. s33,c36; s89,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.80±.24; $M_{\theta\theta}$3.44±.15; $M_{\phi\phi}$-1.64±.15; $M_{r\theta}$-1.47±.19; $M_{\theta\phi}$-0.28±.12; $M_{\phi r}$1.50±.18; Best double couple: M_o3.62400×10^{16} NP1:ϕ_s238.00000°,δ43.00000°,λ-150.00000°. NP2: ϕ_s125.00000°,δ70.00000°,λ-51.00000°. Principal axes: T 3.9050, Plg16.0000°, Azm187.0000°; N -0.5620, Plg36.0000°, Azm290.0000°; P -3.3430, Plg49.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 04:04:47.7±0.4,8.°44S±0.°04×160.°04E±0.°07,h54km±3km, h54km:pP-P,n268,σ0.°93/243,mb4.9/80,MS4.0/27,5C-4D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
HNR	**Honiara**	**0.99**	**185**	P		**Pn**		**04 05 06.4**	**+1.0**
	3μm,0.3s,baz=222,slow=3.1,SNR=1420								
HNR				S		**Sn**		**04 05 21.2**	**+2.7**
	12μm,0.3s,baz=338,slow=24,SNR=16								
HNR	**Honiara**	**0.99**	**185**	P		**Pn**		**04 05 06.4**	**+1.0**
HNR								04 05 19.9	
HNR	**Honiara**	**0.99**	**185**	Pn		**Pn**		**04 05 06.4**	**+1.0**
HNR						**Sn**		**04 05 19.9**	**+1.4**
SANVU	**Saraoutou**	**9.88**	**136**			**Pn**		**04 07 06.5**	**-0.6**
PMG	**Port Moresby**	**12.77**	**265**	LR		LR		04 12 49.8	
	comp=Z,963nm,19.2s,baz=127,slow=38								
PMG	**Port Moresby**	**12.77**	**265**	*i* P		**Pn**		**04 07 46.3**	**-0.3**
DZM	**Mont Dzumac**	**14.89**	**156**	P		**Pn**		**04 08 15.7**	**+0.6**
	2.1nm,0.3s,baz=142,slow=18,SNR=19								
DZM				LR		LR		04 13 48.0	
	comp=Z,408nm,19.8s,baz=5.5,slow=36								
DZM	**Mont Dzumac**	**14.89**	**156**	*e*Pn		**P**		**04 08 18.9**	**-0.9**
	38nm,0.7s								
DZM				*e*LR		LR		04 11 46.3	
	comp=Z,1μm,25.8s								
PATS	**Pohnpei**	**15.27**	**353**	Pn		**Pn**		**04 08 17.2**	**-2.9**
TARA	**Tarawa**	**16.11**	**53**	Pn		**Pn**		**04 08 30.7**	**-0.1**
COEN	**Coen**	**17.43**	**250**			**Pn**		**04 08 45.9**	**-1.4**
COEN				IAmb		IAmb		04 09 07.2	
	comp=Z,110nm,1.6s								
CTA	**Charters Tower**	**17.67**	**228**	P		**Pn**		**04 08 50.3**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=45,slow=11,SNR=6.0								
CTA				LR		LR		04 14 46.9	
	comp=Z,465nm,19.1s,baz=44,slow=34								
CTAO	**Charters Tower**	**17.67**	**228**	P		**Pn**		**04 08 49.3**	**-0.9**
CTAO				pmax		pmax			
	comp=Z,59nm,1.2s								
CTAO	**Charters Tower**	**17.67**	**228**			**Pn**		**04 08 49.3**	**-0.9**
KWAJ	**Kwajalein Atol**	**18.71**	**24**	P		**P**		**04 09 01.5**	**-0.5**
KWAJ				pmax		pmax			
	comp=Z,598nm,1.3s								
KWAJ	**Kwajalein Atol**	**18.71**	**24**	P		**P**		**04 09 01.5**	**-0.5**
EIDS	**Eidsvold**	**18.88**	**206**			**P**		**04 09 03.5**	**-0.3**
MSVF	**Nonsavu**	**19.81**	**120**	*i* P		**P**		**04 09 14.3**	**+0.2**
MSVF				pmax		pmax			
	comp=Z,19nm,1.1s								
JAY	**Jayapura**	**20.12**	**286**	P		Pn		04 09 19.6	-0.2
	comp=Z,8.5nm,0.5s,baz=93,slow=5.3,SNR=5.9								
JAY				LR		LR		04 17 38.1	
	comp=Z,215nm,20.4s,baz=188,slow=38								
JAY	**Jayapura**	**20.12**	**286**	P		**P**		**04 09 18.5**	**+1.0**
	comp=Z,3μmcomp=Z,55nm,1.1s								
GENI	**Genyem**	**20.61**	**285**	P		Pn		04 09 30.4	+5.0
SMPI	**Sarmi**	**22.18**	**286**	P		P		04 09 51.6	+12
ARMA	**Armidale**	**23.24**	**199**	P		**P**		**04 09 50.3**	**-0.3**
ARMA				IAmb		IAmb		04 09 52.4	
	comp=Z,36nm,0.9s								
WR0	**Warramunga Arr**	**27.20**	**242**	P		**P**		**04 10 25.7**	**-1.0**
WR0				IAmb		IAmb		04 10 44.3	
	comp=Z,23nm,0.8s								
WB0	**Warramunga Arr**	**27.26**	**243**	P		**P**		**04 10 26.2**	**-1.0**
WB0				IAmb		IAmb		04 10 45.4	
	comp=Z,36nm,1.2s								
WRAB	**Tennant Creek**	**27.36**	**243**	⇓*i*P		**P**		**04 10 27.7**	**-0.4**
WRAB	**Tennant Creek**	**27.36**	**243**	P		**P**		**04 10 27.1**	**-1.0**
WB2	**Warramunga Arr**	**27.36**	**243**	P		**P**		**04 10 27.1**	**-1.0**
WB2				IAmb		IAmb		04 10 56.7	
	comp=Z,32nm,1.2s								
WRA	**Warramunga Arr**	**27.37**	**243**	P		**P**		**04 10 27.2**	**-1.0**
	comp=Z,3.4nm,0.4s,baz=76,slow=8.9,SNR=40								
WRA				pP		**pP**		**04 10 42.6**	**+1.0**
	comp=Z,22nm,1.0s,baz=68,slow=9.5,SNR=16								
WRA				LR		LR		04 20 46.7	
	comp=Z,388nm,21.0s,baz=200,slow=35								
WRA	**Warramunga Arr**	**27.37**	**243**	*e*P		**P**		**04 10 27.9**	**-0.3**
WRA				pmax		pmax			
	comp=Z,4.0nm,0.5s								
WRA	**Warramunga Arr**	**27.37**	**243**	P		**P**		**04 10 27.2**	**-1.0**
H11S2	**WAKE ISLAND Hy**	**27.55**	**14**	T		T		04 39 12.0	
	baz=194,slow=76,SNR=7214								
H11S3	**WAKE ISLAND Hy**	**27.55**	**14**	T		T		04 39 10.0	
	baz=194,slow=76,SNR=1110								
H11S1	**WAKE ISLAND Hy**	**27.57**	**14**	T		T		04 39 17.6	
	baz=194,slow=76,SNR=3771								
AFI	**Afiamalu**	**28.16**	**104**	LR		LR		04 19 38.4	
	comp=Z,188nm,18.2s,baz=284,slow=32								
CAN	**Canberra**	**28.60**	**199**	P		**P**		**04 10 38.7**	**-0.4**
CAN				pmax		pmax			
	comp=Z,26nm,1.2s								
CAN	**Canberra**	**28.60**	**199**	P		**P**		**04 10 38.7**	**-0.4**
H11N1	**WAKE ISLAND Hy**	**28.78**	**13**	T		T		04 40 36.5	
	baz=194,slow=76,SNR=3157								
H11N3	**WAKE ISLAND Hy**	**28.79**	**14**	T		T		04 40 37.7	
	baz=194,slow=76,SNR=1793								
H11N2	**WAKE ISLAND Hy**	**28.80**	**13**	T		T		04 40 37.9	
	baz=194,slow=76,SNR=1664								
STKA	**Stephens Creek**	**28.95**	**214**	P		**P**		**04 10 41.0**	**-1.2**
	comp=Z,4.0nm,0.7s,baz=16,slow=10,SNR=9.9								
STKA				LR		LR		04 22 09.6	
	comp=Z,314nm,18.1s,baz=36,slow=36								
STKA	**Stephens Creek**	**28.95**	**214**	P		**P**		**04 10 41.7**	**-0.4**
AS31	**Alice Springs**	**29.25**	**236**	P		**P**		**04 10 44.1**	**-0.8**
ASAR	**Alice Springs**	**29.25**	**236**	P		**P**		**04 10 44.0**	**-0.9**
	comp=Z,8.7nm,1.0s,baz=65,slow=9.3,SNR=40								
ASAR				pP		**pP**		**04 10 58.8**	**+0.3**
	comp=Z,6.3nm,0.8s,baz=63,slow=8.6,SNR=14								
ASAR				LR		LR		04 21 36.9	
	comp=Z,424nm,22.0s,baz=58,slow=34								
ASAR	**Alice Springs**	**29.25**	**236**	P		**P**		**04 10 44.0**	**-0.9**
SIJI	**Sorong**	**29.63**	**283**	LR		LR		04 25 02.9	
	comp=Z,149nm,19.2s,baz=98,slow=41								
BBOO	**Buckleboo**	**32.88**	**219**	P		**P**		**04 11 15.8**	**-1.0**
THZ	**Tophouse**	**35.08**	**163**	P		**P**		**04 11 34.9**	**-0.9**
TUWZ	**Tuamarina**	**35.09**	**162**	P		**P**		**04 11 35.0**	**-0.7**
RPZ	**Rata Peaks**	**36.43**	**167**	P		**P**		**04 11 46.0**	**-1.3**
	comp=Z,12nm,0.5s,baz=189,slow=2.2,SNR=6.1								
FORT	**Forrest**	**37.21**	**229**	P		**P**		**04 11 53.3**	**-0.7**
FORT				IAmb		IAmb		04 13 00.5	
	comp=Z,19nm,0.9s								
JHJ	**Hachijo jima 2**	**45.61**	**336**	LR		LR		04 30 56.4	
	comp=Z,173nm,19.2s,baz=3.5,slow=34								
MJAR	**Matsushiro Arr**	**49.22**	**337**	LR		LR		04 34 11.9	
	comp=Z,36nm,19.7s,baz=180,slow=36								
PPT2	**Papeete2**	**49.79**	**106**	*e*LR		LR		04 27 47.7	
	comp=Z,344nm,30.0s								
ASAJ	**Asahikawa**	**54.65**	**345**	LR		LR		04 35 59.5	
	comp=Z,199nm,20.5s,baz=148,slow=34								
KSRS	**Korea Array**	**54.65**	**329**	P		**P**		**04 14 12.9**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=137,slow=9.4,SNR=2.7								
KSRS				pP		**pP**		**04 14 26.1**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=145,slow=6.9,SNR=5.0								
KSRS				LR		LR		04 37 41.3	
	comp=Z,66nm,18.4s,baz=138,slow=36								
NJ2	**Nanjing**	**56.27**	**318**	*e*P		**P**		**04 14 24.0**	**+1.0**
NJ2				pmax		pmax			
	comp=Z,5.0nm,0.5s								
YSS	**Yuzh-Sakhalins**	**57.26**	**346**	⇑*e*P		P		04 14 44.1	+14
YSS				pmax		pmax			
	comp=Z,20nm,1.1s								
YSS				MLR		MLR			
	comp=Z,200nm,14.0s								
USA0B	**Ussuriysk Arra**	**58.22**	**337**	P		**P**		**04 14 35.9**	**-0.6**
USA0B				pmax		pmax			
	comp=Z,6.0nm,0.9s								
USA0B	**Ussuriysk Arra**	**58.22**	**337**	P		**P**		**04 14 35.9**	**-0.6**
USA0B				IAmb		IAmb		04 14 38.7	
	comp=Z,6.4nm,0.8s								
USRK	**Ussuriysk Ar.**	**58.22**	**337**	P		**P**		**04 14 36.7**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=117,slow=6.4,SNR=8.5								
USRK				pP		**pP**		**04 14 51.5**	**+0.3**
	comp=Z,6.7nm,0.9s,baz=144,slow=6.5,SNR=6.3								
USRK				LR		LR		04 37 31.3	
	comp=Z,69nm,20.9s,baz=126,slow=34								
USRK	**Ussuriysk Ar.**	**58.22**	**337**	P		**P**		**04 14 35.4**	**-1.1**
USRK	**Ussuriysk Ar.**	**58.22**	**337**	P		**P**		**04 14 35.4**	**-1.1**
TAOE	**Nuku Hiva Isla**	**59.07**	**95**	*e*T		T		05 17 58.0	
	comp=Z,64nm,0.3s								
CN2	**Changchun**	**60.72**	**332**	*e*P		**P**		**04 14 54.5**	**+0.8**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.9s								
PEA0B	**Petropavlovsk-**	**61.34**	**358**	⇓*i*P		**P**		**04 14 58.1**	**+0.4**
PEA0B	**Petropavlovsk-**	**61.34**	**358**	P		**P**		**04 14 57.7**	**0.0**
PETK	**Petropavlovsk-**	**61.34**	**358**	P		**P**		**04 14 58.2**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=162,slow=8.2,SNR=9.7								
PETK				pP		**pP**		**04 15 12.1**	**-0.4**
	comp=Z,4.7nm,0.9s,baz=147,slow=8.3,SNR=8.9								
PETK				LR		LR		04 37 08.6	
	comp=Z,146nm,21.6s,baz=166,slow=32								
PETK	**Petropavlovsk-**	**61.34**	**358**	P		**P**		**04 14 57.6**	**-0.2**
PETK	**Petropavlovsk-**	**61.34**	**358**	P		**P**		**04 14 57.6**	**-0.2**
KLR	**Kul'dur**	**62.55**	**340**	LR		LR		04 38 28.0	
	comp=Z,80nm,20.6s,baz=146,slow=32								
KLR	**Kul'dur**	**62.55**	**340**	⇓*i*P		**P**		**04 15 06.8**	**+0.8**
KLR				pmax		pmax			
	comp=Z,13nm,1.4s								
CM31	**Chiang Mai Arr**	**65.92**	**294**	P		**P**		**04 15 27.5**	**-1.2**
CM31				IAmb		IAmb		04 15 47.6	
	comp=Z,20nm,1.2s								
CMAR	**Chiang Mai Arr**	**65.92**	**294**	P		**P**		**04 15 29.6**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=64,slow=3.3,SNR=4.3								
CMAR				pP		**pP**		**04 15 43.6**	**+0.1**
	comp=Z,6.4nm,0.9s,baz=117,slow=4.8,SNR=5.0								
CMAR				LR		LR		04 43 21.4	
	comp=Z,26nm,20.0s,baz=110,slow=35								
CMAR	**Chiang Mai Arr**	**65.92**	**294**	P		**P**		**04 15 27.3**	**-1.4**
CHTO	**Chiang Mai**	**66.04**	**295**	P		**P**		**04 15 28.2**	**-1.2**
CHTO				pmax		pmax			
	comp=Z,15nm,1.2s								
CHTO	**Chiang Mai**	**66.04**	**295**	P		**P**		**04 15 28.2**	**-1.2**
CHTO				IAmb		IAmb		04 15 47.3	
	comp=Z,15nm,1.2s								
HHC	**Hu-ho-hao-te**	**66.27**	**322**	*e*P		**P**		**04 15 29.3**	**-1.3**
HHC				pmax		pmax			
	comp=Z,42nm,0.6s								
HHC				pmax		pmax			
	comp=Z,200nm,7.8s								
CD2	**Chengdu**	**66.58**	**309**	*e*P		**P**		**04 15 32.0**	**-0.7**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CASY	**Casey**	**66.84**	**200**	P		**P**		**04 15 33.4**	**-0.3**
HIA	**Hailar**	**67.41**	**333**	*i* P		**P**		**04 15 38.2**	**+0.6**
HIA				pmax		pmax			
	comp=Z,7.0nm,1.0s								
HIA	**Hailar**	**67.41**	**333**	P		**P**		**04 15 36.9**	**-0.7**
HIA				IAmb		IAmb		04 15 55.9	
	comp=Z,9.7nm,0.7s								
ZEA	**Zeya**	**67.87**	**340**	*e*P		**P**		**04 15 41.8**	**+1.5**
ZEA				pmax		pmax			
	comp=N,24nm,1.2s								
ZEA				pmax		pmax			
	comp=Z,29nm,1.2s								
LZH	**Lanzhou**	**68.88**	**314**	*e*P		**P**		**04 15 49.3**	**+2.0**
LZH				pP		pP		04 16 04.6	+2.4
LZH				sP		PcP		04 16 11.7	+0.3
LZH				PP		**PP**		**04 18 20.6**	**+0.5**
LZH				pmax		pmax			
	comp=Z,20nm,1.0s								
LZH				pmax		pmax			
	comp=Z,100nm,5.4s								
VNDA	**Vanda**	**69.06**	**180**	P		**P**		**04 15 47.2**	**-0.2**
	comp=Z,4.5nm,0.9s,baz=352,slow=6.0,SNR=22								
VNDA				pP		**pP**		**04 16 02.0**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=332,slow=8.2,SNR=8.4								
VNDA				LR		LR		04 40 25.2	
	comp=Z,249nm,21.8s,baz=359,slow=31								
**VN

TIXI	Tiksi	82.54	350	*i* P		P		04 17 04.4	+0.1
TIXI				pmax		pmax			
	comp=Z,5.0nm,1.0s								
MDM	Murphy Dome	82.60	20	IAmb		IAmb		04 17 05.4	
	comp=Z,24nm,1.3s								
COLA	College	82.67	20	P		P		04 17 05.0	-0.1
COLA				pmax		pmax			
	comp=Z,12nm,0.9s								
COLA	College	82.67	20	P		P		04 17 05.0	-0.1
COLA				IAmb		IAmb		04 17 34.8	
	comp=Z,12nm,0.8s								
HDA	Harding Lake	82.69	20	P		P		04 17 05.3	0.0
	baz=233								
HDA	Harding Lake	82.69	20	P		P		04 17 05.5	+0.2
HDA				IAmb		IAmb		04 17 06.3	
	comp=Z,16nm,1.2s								
ILAR	Eielson Array	82.93	20	P		P		04 17 06.2	-0.3
	comp=Z,3.8nm,1.0s,baz=255,slow=5.0,SNR=21								
ILAR				pP		pP		04 17 20.1	-1.6
	comp=Z,4.6nm,1.1s,baz=249,slow=4.1,SNR=6.6								
ILAR				LR		LR		04 48 19.9	
	comp=Z,62nm,21.3s,baz=234,slow=32								
POKR	Poker Flat Res	82.96	20	P		P		04 17 06.7	0.0
	baz=232								
DOT	Dot Lake	83.28	22	P		P		04 17 08.5	+0.1
WMQ	Urumqi	83.31	316	*eP*		P		04 17 09.0	0.0
WMQ				pmax		pmax			
	comp=Z,17nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,99nm,4.5s								
WMQ				LR		LR			
	comp=N,1μm,29.1s								
WMQ				LR		LR			
	comp=E,2μm,29.1s								
WMQ				LR		LR			
	comp=Z,66nm,28.9s								
SCRK	Sand Creek	83.49	22	P		P		04 17 10.1	+0.5
	baz=236								
BCAR	Beaver Creek A	83.81	23	P		P		04 17 11.2	0.0
K27K	Chicken	84.22	22	P		P		04 17 14.7	+1.6
	baz=238								
MAW	Mawson	84.99	202	P		P		04 17 15.8	-1.2
	comp=Z,2.2nm,0.8s,baz=141,slow=12,SNR=3.7								
MAW				LR		LR		04 53 11.0	
	comp=Z,103nm,18.0s,baz=60,slow=34								
MAW	Mawson	84.99	202	P		P		04 17 17.0	0.0
MAW	Mawson	84.99	202	P		P		04 17 17.0	0.0
DGZ	Jazzator, Alta	85.35	322	μ *iP*		P		04 17 19.4	+0.1
DGZ				pmax		pmax			
	comp=Z,3.0nm,0.8s								
O02D	Mt. Diablo Mer	85.72	49	P		P		04 17 23.1	+1.8
	baz=255								
K02D	Willamette Mer	85.74	46	P		P		04 17 22.9	+1.5
	baz=255								
M02C	Callahan	85.98	47	P		P		04 17 24.3	+1.7
	baz=255								
N02D	Trinity Center	85.98	48	P		P		04 17 24.2	+1.6
	baz=255,SNR=5.1								
WDC	Whiskeytown Da	86.00	48	P		P		04 17 22.4	-0.2
WDC				pmax		pmax			
	comp=Z,26nm,1.6s								
WDC	Whiskeytown Da	86.00	48	P		P		04 17 22.4	-0.2
YBH	Yreka Blue Hor	86.17	47	P		P		04 17 24.4	+0.9
YBH				pmax		pmax			
	comp=Z,33nm,1.5s								
YBH	Yreka Blue Hor	86.17	47	P		P		04 17 24.4	+0.9
I03D	Drain, OR	86.23	45	P		P		04 17 23.0	-0.6
	baz=255								
O03E	Paynes Creek	86.48	49	P		P		04 17 26.3	+1.2
	baz=256,SNR=7.1								
ORV	Oroville	86.53	49	IAmb		IAmb		04 17 27.3	
	comp=Z,11nm,1.3s								
PKM	Mcpherson Peak	86.78	54	P		P		04 17 26.5	-0.3
	baz=258								
M04C	Macdoel	86.81	47	P		P		04 17 28.3	+1.5
	baz=256								
I04A	Tendick Farm,	86.91	45	P		P		04 17 28.1	+1.1
	baz=256								
J04D	Umpqua Nationa	86.98	46	P		P		04 17 28.9	+1.3
	baz=256								
EPYK	Eagle Plains	87.36	21	P		P		04 17 29.7	+1.0
	baz=242								
VES	Vestal, Richgr	87.56	53	P		P		04 17 30.4	+0.1
	baz=258								
J05D	Fort Rock, OR	87.61	46	P		P		04 17 32.3	+1.7
	baz=256								
K05A	Summer Lake	87.72	46	P		P		04 17 30.8	-0.4
MK31	Makanchi Array	87.81	318	P		P		04 17 30.6	-0.7
MK31				pmax		pmax			
	comp=Z,3.0nm,0.9s								
MK31	Makanchi Array	87.81	318	P		P		04 17 30.6	-0.7
MKAR	Makanchi Array	87.81	318	P		P		04 17 31.4	+0.2
	comp=Z,3.7nm,0.8s,baz=99,slow=5.8,SNR=26								
MKAR				pP		pP		04 17 46.5	-0.2
	comp=Z,2.5nm,0.6s,baz=101,slow=5.7,SNR=10.0								
MKAR	Makanchi Array	87.81	318	*eP*		P		04 17 31.8	+0.5
MKAR				pmax		pmax			
	comp=Z,4.0nm,0.8s								
MKAR	Makanchi Array	87.81	318	P		P		04 17 30.7	-0.6
WAKR	Walker	87.85	51	IAmb		IAmb		04 17 34.6	
	comp=Z,18nm,1.6s								
MOD	Modoc Plateau	87.96	47	IAmb		IAmb		04 17 34.6	
	comp=Z,16nm,1.3s								
ISA	Isabella, Lake	88.01	54	P		P		04 17 32.8	+0.2
	baz=258								
MAKZ	Makanchi	88.02	318	P		P		04 17 31.6	-0.7
MAKZ				pmax		pmax			
	comp=Z,8.0nm,1.1s								
MAKZ	Makanchi	88.02	318	P		P		04 17 31.6	-0.7
MAKZ				IAmb		IAmb		04 18 07.0	
	comp=Z,7.6nm,1.1s								
PAHR	Pah Rah Range	88.15	50	IAmb		IAmb		04 17 35.6	
	comp=Z,13nm,1.1s								
ZAA0	Zalesovo Array	88.19	325	P		P		04 17 32.4	-0.4
ZALV	Zalesovo Beam	88.19	325	P		P		04 17 32.1	-0.7
	comp=Z,0.8nm,0.5s,baz=96,slow=9.1,SNR=4.8								
ZALV				LR		LR		04 59 39.9	
	comp=Z,21nm,19.1s,baz=70,slow=37								
ZALV	Zalesovo Beam	88.19	325	*eP*		P		04 17 33.2	+0.3
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.5s								
ZALV	Zalesovo Beam	88.19	325	P		P		04 17 32.4	-0.4
EDW2	Edwards Air Fo	88.24	55	P		P		04 17 35.0	+1.4
	baz=259,SNR=6.0								
BFSC	Mount Baldy Ra	88.39	55	P		P		04 17 35.4	+1.0
	baz=259								
CWC	Cottonwood Cre	88.48	53	P		P		04 17 35.9	+1.0
	baz=259								
RYN	Ryan	88.58	51	IAmb		IAmb		04 17 56.4	
	comp=Z,11nm,1.5s								
LRMC	Laurel Mtn Rad	88.61	54	P		P		04 17 36.7	+1.2
	baz=259								
NVAR	Mina Array Bea	88.71	51	P		P		04 17 35.6	-0.4
	comp=Z,2.3nm,0.9s,baz=239,slow=7.8,SNR=17								
NVAR				LR		LR		04 53 05.2	
	comp=Z,45nm,18.3s,baz=272,slow=33								
NVAR	Mina Array Bea	88.71	51	P		P		04 17 35.4	-0.6
MPMC	Manual Prospec	88.88	53	P		P		04 17 37.7	+0.9
	baz=259,SNR=5.6								
KVN	Kaiserville	88.99	50	IAmb		IAmb		04 17 40.6	
	comp=Z,7.4nm,1.1s								
I07A	Izee	89.02	45	P		P		04 17 36.9	-0.3
MONP2	Monument Peak	89.14	57	P		P		04 17 39.5	+1.4
	baz=260,SNR=12								
PFO	Pinyon Flats O	89.25	56	P		P		04 17 39.5	+1.0
	baz=260,SNR=5.6								
PFO	Pinyon Flats O	89.25	56	P		P		04 17 38.0	-0.5
PFO				IAmb		IAmb		04 17 40.9	
	comp=Z,11nm,1.1s								
XPFO	Pion Flat	89.25	56	P		P		04 17 38.0	-0.5
XPFO				IAmb		IAmb		04 17 40.9	
	comp=Z,10nm,1.1s								
GSC	Goldstone, Bar	89.28	54	P		P		04 17 39.4	+0.9
	baz=259								
GSC	Goldstone, Bar	89.28	54	IAmb		IAmb		04 17 41.0	
	comp=Z,13nm,1.4s								
WVOR	Wild Horse Val	89.28	47	IAmb		IAmb		04 17 41.1	
	comp=Z,14nm,1.2s								
IKP	In-Ko-Pah, Jac	89.36	57	P		P		04 17 40.3	+1.3
	baz=260								
FURC	Furnace Creek,	89.45	53	P		P		04 17 40.5	+1.3
	baz=259,SNR=7.6								
HEC	Hector,Ludlow	89.57	55	P		P		04 17 41.1	+1.2
	baz=260,SNR=12								
J08A	Circle Bar Ran	89.59	46	IAmb		IAmb		04 17 42.4	
	comp=Z,13nm,1.5s								
SWSC	Sam W. Stewart	89.67	57	P		P		04 17 42.0	+1.7
	baz=260,SNR=8.6								
BELC	Belle Mtn. Jos	89.69	56	P		P		04 17 42.1	+1.5
	baz=260,SNR=22								
SHOC	Shoshone, Teco	89.81	54	P		P		04 17 42.0	+1.0
	baz=260,SNR=5.6								
TUQ	Turquoise Moun	90.01	54	P		P		04 17 43.1	+1.1
	baz=260,SNR=8.3								
TPNV	Topopah Spring	90.02	53	P		P		04 17 43.3	+1.2
	baz=260,SNR=9.4								
BC3	Big Chuckawall	90.08	56	P		P		04 17 43.9	+1.5
	baz=260,SNR=12								
GMRC	Granite Mounta	90.11	55	P		P		04 17 43.6	+1.1
	baz=260,SNR=15								
IRM	Iron Mountain	90.42	56	P		P		04 17 45.3	+1.5
	baz=260,SNR=24								
E09A	Wood Farm, Sta	90.47	43	IAmb		IAmb		04 17 45.6	
	comp=Z,9.2nm,1.0s								
GLA	Glamis	90.49	57	P		P		04 17 45.8	+1.6
	baz=260,SNR=8.2								
BMO	Blue Mountains	90.72	45	P		P		04 17 44.8	-0.2
BMO				pmax		pmax			
	comp=Z,9.0nm,1.3s								
BMO	Blue Mountains	90.72	45	P		P		04 17 44.8	-0.2
BMO				IAmb		IAmb		04 17 47.0	
	comp=Z,8.7nm,1.2s								
KSH	Kashi	90.76	310	*eP*		P		04 17 45.0	-0.4
R11A	Troy Canyon, C	90.79	51	P		P		04 17 46.9	+1.2
	baz=260								
NEE2	Needles Airpor	90.95	55	P		P		04 17 47.8	+1.5
	baz=261								
KURK	Kurchatov	91.07	321	*i* P		P		04 17 46.9	+0.5
KURK				pmax		pmax			
	comp=Z,2.0nm,1.2s								
KURK	Kurchatov	91.07	321	P		P		04 17 45.9	-0.5
KURK				IAmb		IAmb		04 18 16.7	
	comp=Z,14nm,1.7s								
PDMCI	Parker Dam,Lak	91.26	56	P		P		04 17 49.1	+1.4
	baz=261,SNR=9.5								
ELK	Elko	91.47	49	P		P		04 17 48.3	-0.5
ELK				pmax		pmax			
	comp=Z,10.0nm,1.1s								
ELK	Elko	91.47	49	P		P		04 17 48.3	-0.5
W13A	Hualapai Mount	91.60	55	P		P		04 17 48.9	-0.6
NRIK	Noril'sk	91.76	340	LR		LR		04 58 33.4	
	comp=Z,64nm,20.4s,baz=77,slow=35								
NIL	Nilore	91.96	304	P		P		04 17 49.9	-1.1
NIL				pmax		pmax			
	comp=Z,9.0nm,1.2s								
NIL	Nilore	91.96	304	P		P		04 17 49.9	-1.1
NIL				IAmb		IAmb		04 19 45.7	
	comp=Z,8.8nm,1.1s								
LCMT	Little Creek M	92.41	53	P		P		04 17 52.6	-0.5
HLID	Hailey	92.54	47	P		P		04 17 54.9	+1.3
	baz=261								
HLID	Hailey	92.54	47	IAmb		IAmb		04 17 56.3	
	comp=Z,9.0nm,1.1s								
U15A	North Rim	93.08	54	IAmb		IAmb		04 18 00.4	
	comp=Z,7.8nm,1.1s								
BGU	Big Grassy Mou	93.15	49	P		P		04 17 56.0	-0.5
DUG	Dugway, Tooele	93.21	50	P		P		04 17 58.2	+1.4
	baz=262								
DUG	Dugway, Tooele	93.21	50	IAmb		IAmb		04 17 59.3	
	comp=Z,11nm,1.6s								
MTPU	Mount Pierson	93.39	52	P		P		04 17 56.9	-1.1
WUAZ	Wupatki	93.69	55	P		P		04 18 02.4	+3.3
	baz=262								
TUC	Tucson	93.75	58	P		P		04 18 01.0	+1.6
	baz=263								
TUC	Tucson	93.75	58	P		P		04 17 58.8	-0.6
TUC				pmax		pmax			
	comp=Z,3.0nm,0.9s								
TUC	Tucson	93.75	58	P		P		04 17 58.8	-0.6
JLU	Jordanelle	94.30	50	P		P		04 18 01.2	-0.7
HWUT	Hardware Ranch	94.34	49	P		P		04 18 01.5	-0.5
HWUT				IAmb		IAmb		04 18 03.9	
	comp=Z,6.7nm,0.9s								
BOZ	Bozeman (W)	94.79	45	P		P		04 18 04.6	+0.7
	baz=263								
319A	Douglas	94.91	59	IAmb		IAmb		04 18 08.1	
	comp=Z,6.5nm,0.9s								
IMW	Indian Meadow	95.08	47	IAmb		IAmb		04 18 07.9	
	comp=Z,11nm,1.6s								
REDW	Red Top Meadow	95.08	47	IAmb		IAmb		04 18 07.8	
	comp=Z,9.2nm,1.4s								
YKA	Yellowknife Ar	95.27	28	P		P		04 18 05.3	-0.2
	comp=Z,1.2nm,0.8s,baz=265,slow=4.4,SNR=6.8								
YKA				LR		LR		04 55 13.6	
	comp=Z,78nm,20.0s,baz=0.0,slow=32								
KK31	Karatay Array	95.36	313	P		P		04 18 05.6	-0.8
KK31				pmax		pmax			
	comp=Z,3.0nm,1.2s								
KK31	Karatay Array	95.36	313	P		P		04 18 05.6	-0.8
KKAR	Karatay Array	95.36	313	P		P		04 18 05.5	-0.9
KKAR				pmax		pmax			
	comp=Z,3.0nm,1.2s								
KKAR	Karatay Array	95.36	313	P		P		04 18 05.5	-0.9
BW06	Boulder Array	95.95	48	P		P		04 18 09.7	+0.3
	baz=264								
BW06	Boulder Array	95.95	48	IAmb		IAmb		04 18 10.8	
	comp=Z,5.0nm,1.0s								
PD31	Pinedale Array	95.95	48	P		P		04 18 08.9	-0.6
PD31				IAmb		IAmb		04 18 10.8	
	comp=Z,4.6nm,1.0s								
PDAR	Pinedale Array	95.95	48	P		P		04 18 09.8	+0.4
	comp=Z,2.9nm,0.9s,baz=231,slow=2.1,SNR=21								
PDAR				pP		pP		04 18 25.0	+0.5
	comp=Z,1.4nm,0.8s,baz=243,slow=1.3,SNR=5.7								
PDAR				LR		LR		04 57 12.6	
	comp=Z,33nm,18.6s,baz=258,slow=33								
PDAR	Pinedale Array	95.95	48	P		P		04 18 08.9	-0.6
BRVK	Borovoye	96.53	323	⇑ *iP*		P		04 18 10.8	-0.7
BRVK				pmax		pmax			
	comp=Z,4.0nm,1.2s								
BRVK	Borovoye	96.53	323	P		P		04 18 10.9	-0.5
BRVK				IAmb		IAmb		04 18 11.9	
	comp=Z,4.2nm,1.1s								
ANMO	Albuquerque	97.63	56	P		Pdif		04 18 18.8	+1.6
	baz=265								
ANMO	Albuquerque	97.63	56	⇑ *iP*		Pdif		04 18 18.4	+1.2
ANMO				pmax		pmax			
	comp=Z,4.0nm,2.7s								
TXAR	Lajitas Array	99.54	62	LR		LR		04 58 59.4	
	comp=Z,42nm,18.7s,baz=0.0,slow=33								
OBN	Obninsk	115.65	328	*i* PKIKP		PKiKP		04 23 23.9	+0.1
OBN				*i*				04 24 27.5	
OBN				pmax		pmax			
	comp=Z,5.0nm,0.8s								
OBN				MLR		MLR			
	comp=Z,59nm,16.0s								
FINES	FINESS Array B	117.25	337	PKP		PKPdf		04 23 26.1	-0.6
	comp=Z,0.9nm,0.7s,baz=95,slow=4.2,SNR=4.5								
FINES	FINESS Array B	117.25	337	*e*PKIKP		PKiKP		04 23 27.0	+0.2
FINES				pmax		pmax			
	comp=Z,1.0nm,0.8s								
FINES	FINESS Array B	117.25	337			PKPdf		04 23 26.6	-0.2
AKASG	Malin Array Be	121.58	326	PKP		PKPdf		04 23 34.9	-0.4
	comp=Z,0.2nm,0.3s,baz=108,slow=2.1,SNR=2.0								
AKASG	Malin Array Be	121.58	326	PKIKP		PKPdf		04 23 35.0	-0.4
AKASG	Malin Array Be	121.58	326			PKPdf		04 23 35.0	-0.4
NB2	NORSAR Subarra	122.64	343	PKPdf		PKPdf		04 23 37.0	-0.2
	comp=Z,0.6nm,0.9s,baz=32,slow=1.8								
NOA	NORSAR Array B	122.64	343	PKP		PKPdf		04 23 36.7	-0.5
	comp=Z,0.8nm,0.8s,baz=32,slow=1.7,SNR=4.0								
NOA	NORSAR Array B	122.64	343	*e*PKIKP		PKiKP		04 23 37.8	+0.4
NOA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
KOLS	Kolonicke sedl	126.35	327	*e*PKIKP		PKiKP		04 23 45.9	+0.8
KOLS	Kolonicke sedl	126.35	327	*e*PKP		PKiKP		04 23 45.9	+0.8
KHC	Kasperske Hory	130.66	331	*e*PKIKP		PKiKP		04 23 54.1	+0.3
KHC	Kasperske Hory	130.66	331	*e*PKP		PKiKP		04 23 54.1	+0.3
GERES	GERESS Array B	130.80	331	PKP		PKiKP		04 23 54.6	+0.5
	comp=Z,0.5nm,0.6s,baz=324,slow=1.8,SNR=5.4								
GERES				pPKP		pPKPdf		04 24 07.6	-1.4
	comp=Z,0.5nm,0.8s,baz=64,slow=3.1,SNR=2.5								
GERES	GERESS Array B	130.80	331			PKPdf		04 23 52.6	-0.6
PBRG	Braganca	144.78	343	*e*PKP		PKPdf		04 24 18.7	-0.3
PGAV	Gavieira, Arco	145.05	345	*e*PKP		PKPdf		04 24 19.8	+0.2
PCAB	Cabril	145.22	344	*e*PKP		PKPdf		04 24 20.3	+0.5
MVO	Moncorvo	145.45	343	*e*PKP		PKPab		04 24 21.2	+0.7
PVRL	Vila Real	145.54	344	*e*PKP		PKPab		04 24 21.9	+1.1
ESBB	Sonseca Array	145.76	338			PKPdf		04 24 20.1	-0.7
ESDC	Sonseca Array	145.76	338	PKPbc		PKPab		04 24 21.6	-0.1
	comp=Z,7.3nm,1.0s,baz=17,slow=3.7,SNR=41								
ESDC				pPKPbc		pPKPdf		04 24 36.9	+0.4
	comp=Z,3.3nm,1.0s,baz=9.2,slow=2.8,SNR=6.2								
ESDC	Sonseca Array	145.76	338			PKPdf		04 24 20.0	-0.8
PVIS	Viseu	146.11	343	*e*PKP		PKPab		04 24 23.5	+0.6
MTE	Manteigas	146.30	343	*e*PKP		PKPab		04 24 23.5	-0.2
MTE	Manteigas	146.30	343			PKPdf		04 24 21.9	+0.2
PCBR	Castelo Branco	146.80	342	*e*PKP		PKPab		04 24 25.1	-0.4
PCAS	Casmilo, Conde	146.90	344	*e*PKP		PKPbc		04 24 25.1	+0.5
PMRV	Marv??o	147.15	342	*e*PKP		PKPbc		04 24 26.0	+0.7
PSBE	So Bento	147.48	344	*e*PKP		PKPbc		04 24 27.3	+1.1
PMTG	Montargil	147.73	343	*e*PKP		PKPbc		04 24 27.5	+0.6
PBEJ	Beja	148.58	341	*e*PKP		PKiKP		04 24 30.2	-0.5
PVAQ	Vaqueiros	149.10	341	*e*PKP		PKiKP		04 24 32.9	+1.1

IDC ***09*** *04:23:34.8±1.1,33°.70S×179°.52W,h0km,mb4.1/4, mb1 4.3/5,mb1mx3.9/30,mbtmp4.1/5,ML4.4/1,MS3.8/8, Ms1 3.7/8,ms1mx3.4/29,Error ellipse: s-maj=34.1km s-min=27.0km az=78.0*

WEL ***09*** *04:23:35.1±0.7,34°.5±6°×17°.8W±1°.4,h105km±38km, M4.4/32,mB5.0/17,ML4.9/9,MLv4.9/32,Mw(mB)4.3/17, Error ellipse: s-maj=0.0km s-min=0.0km az=112.2*

NEIC ***09*** *04:23:40.1±1.2,34°.0S±0°.1×179°.5W±0°.2,h35km±1km, mb4.3/10,Error ellipse: s-maj=25.8km s-min=16.9km az=295.0*

ISC 09 04:23:39.8±0.8,34°.10S±0°.07×178°.9W±0°.1,h50km,n92,
o2843/94,mb4.3/9,MS3.9/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	4.12	212	P	Pn	04 24 39.8	-0.4
MXZ				S	Sn	04 25 28.4	+1.3
MXZ	Matakaoa Point	4.12	212	Pn	Pn	04 24 39.7	-0.5
WMGZ	Waiomatatini S	4.29	209	P	Pn	04 24 43.2	+0.6
HAZ	Te Kaha	4.52	215	P	Pn	04 24 46.0	+0.3
PUZ	Puketiti	4.57	209	P	Pn	04 24 45.9	-0.5
PUZ				S	Sn	04 25 39.7	+1.4
RUGZ	Raukumara Rang	4.74	214	P	Pn	04 24 48.4	-0.4
RUGZ				S	Sn	04 25 44.4	+1.9
TWGZ	Tauwhareparae	4.78	211	P	Pn	04 24 48.9	-0.3
TWGZ				S	Sn	04 25 46.0	+2.7
GLKZ	Green Lake	4.89	10	P	Pn	04 24 44.4	-6.5
GLKZ				S	Sn	04 25 40.1	-6.0
CNGZ	Carnagh Statio	4.95	207	P	Pn	04 24 51.6	+0.1
WHRZ	Whale Island	5.01	220	P	Pn	04 24 54.0	+1.6
TKGZ	Te Karaka	5.05	210	P	Pn	04 24 53.3	+0.3
TKGZ				S	Sn	04 25 51.4	+1.3
MWZ	Matawai	5.11	213	P	Pn	04 24 52.4	-1.3
MWZ				S	Sn	04 25 52.4	+1.0
URZ	Urewera	5.24	216	Pn	Pn	04 24 54.5	-1.1
	12nm,0.3s,baz=329,slow=2.6,SNR=50						
URZ				Sn	Sn	04 25 55.7	+1.0
	13nm,0.3s,baz=86,slow=16,SNR=3.3						
URZ	Urewera	5.24	216	P	Pn	04 24 54.2	-1.3
URZ				S	Sn	04 25 55.0	+0.4
URZ	Urewera	5.24	216		Pn	04 24 54.5	-1.1
URZ					Sn	04 25 49.6	-5.1
RAGZ	Rawiri	5.29	213	P	Pn	04 24 55.0	-1.3
RAGZ				S	Sn	04 25 56.8	+0.8
RIGZ	Rimuhau	5.32	209	P	Pn	04 24 57.3	+0.7
RIGZ				S	Sn	04 25 59.4	+2.9
TGRZ	Tauranga	5.32	226	P	Pn	04 24 57.4	+0.7
KMRZ	Kaimai	5.59	227	P	Pn	04 25 01.5	+1.1
MBAZ	Motutapu North	5.70	240	P	Pn	04 25 06.2	+4.4
ETAZ	East Tamaki Re	5.76	239	P	Pn	04 25 06.5	+3.8
WHHZ	Waihua	5.85	211	P	Pn	04 25 04.7	+0.9
WHHZ				S	Sn	04 26 10.4	+0.8
AWAZ	Awhitu Peninsu	6.01	239	P	Pn	04 25 08.5	+2.4
BKZ	Black Stump Fm	6.25	215	P	Pn	04 25 08.2	-1.3
BKZ	Black Stump Fm	6.25	215		Pn	04 25 07.0	-2.5
OUZ	Omahuta	6.26	258		Pn	04 25 08.7	-0.8
MCHZ	McNeill Hill	6.39	212	P	Pn	04 25 09.8	-1.5
MCHZ				S	Sn	04 26 23.1	+0.3
CKHZ	Cape Kidnapper	6.41	209	P	Pn	04 25 11.2	-0.3
CKHZ				S	Sn	04 26 21.7	-1.6
KWHZ	Kaweka Forest	6.49	214	P	Pn	04 25 12.2	-0.6
KAHZ	Kahuranaki	6.60	209	P	Pn	04 25 11.4	-2.8
OTVZ	Oturere	6.67	219	P	Pn	04 25 13.9	-1.3
HIZ	Hauiti	6.68	227	P	Pn	04 25 17.7	+2.5
HIZ	Hauiti	6.68	227	Pn	Pn	04 25 11.4	-3.8
KRHZ	Kereru	6.69	213	P	Pn	04 25 13.9	-1.6
BHHZ	Black Hill Sta	6.71	215	P	Pn	04 25 14.2	-1.6
TWVZ	Taurewa	6.72	221	P	Pn	04 25 17.2	+1.3
MOVZ	Moawhango	6.80	217	P	Pn	04 25 15.7	-1.3
PXZ	Pawanui	6.81	208	P	Pn	04 25 15.5	-1.6
PNHZ	Pukenui	6.99	212	P	Pn	04 25 17.4	-2.2
DVHZ	Dannevirke	7.32	211	P	Pn	04 25 21.8	-2.3
WAZ	Wanganui	7.46	219	P	Pn	04 25 24.3	-1.6
POWZ	Post Office Ro	7.57	212	P	Pn	04 25 25.6	-1.9
BFZ	Birch Farm	7.61	209	P	Pn	04 25 24.9	-3.1
BFZ	Birch Farm

BBB	**Bella Bella**	**96.71**	**29**	LR	LR	05 11 55.5	
	comp=Z,33nm,21.5s,baz=135,slow=30						
ARCES	**ARCESS Array B**	**142.00**	**346**	PKhKP	PKPpre	04 43 02.7	
	comp=Z,2.2nm,0.8s,baz=16,slow=28,SNR=1.6						
ARCES				PKP	**PKiKP**	**04 43 08.2**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=43,slow=2.3,SNR=7.1						
FINES	**FINESS Array B**	**148.29**	**337**	PKPbc	**PKPbc**	**04 43 19.4**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=49,slow=3.6,SNR=44						
FINES	**FINESS Array B**	**148.29**	**337**	PKPdf	**PKPdf**	**04 43 17.8**	**+1.7**
NB2	**NORSAR Subarra**	**152.25**	**349**	PKP	**PKPbc**	**04 43 29.2**	**0.0**
	comp=Z,1.2nm,0.5s,baz=15,slow=2.5						
NOA	**NORSAR Array B**	**152.25**	**349**	PKPbc	**PKiKP**	**04 43 29.9**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=14,slow=4.1,SNR=17						
TORD	**Torodi Ar. Bea**	**159.14**	**182**	PKPab	**PKPab**	**04 44 14.8**	**+5.1**
	comp=Z,0.7nm,0.6s,baz=165,slow=5.2,SNR=7.9						

KRSC 09 04:24:58.8±2.0, 48°.41N×156°.41E, h7km±39km, ML4.0,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.28**	**355**		*e*P		Pn	04 25 37.4	+0.6
SKR					*e*S		Sn	04 26 06.5	+1.4
ALID	**Alaid**	**2.52**	**347**		*e*P		Pn	04 25 40.2	-0.1
ALID					*e*S		Sn	04 26 11.9	+0.6
PAU	**Pauzhetka**	**3.07**	**5**		*e*S		Sb	04 26 28.5	-2.7
KDTR	**Khodutka, Kamc**	**3.56**	**17**		*e*P		Pn	04 25 57.6	+3.2
KDTR					*e*S		Sb	04 26 41.7	-3.8
ASAK	**Asacha**	**4.08**	**13**		*e*P		Pn	04 26 05.2	+3.5
MTVR	**Mutnovka**	**4.23**	**15**		*e*P		Pn	04 26 06.9	+3.2
MTVR					*e*S		Sn	04 26 58.6	+5.2
RUS	**Russkaya**	**4.24**	**18**		*e*P		Pn	04 26 06.6	+2.8
RUS					*e*S		Sn	04 26 58.2	+4.7
GRL	**Gorelyy**	**4.28**	**14**		*e*P		Pn	04 26 08.1	+3.7
GRL					*e*S		Sb	04 27 01.4	-4.8
UGLR	**Uglovaya**	**5.04**	**17**		*e*P		Pn	04 26 19.9	+5.1
KOK	**Koryaka**	**5.08**	**15**		*e*P		Pn	04 26 20.5	+5.1
SMAR	**Somma**	**5.08**	**16**		*e*P		Pb	04 26 22.0	-6.1
KRER	**Koryakskii**	**5.11**	**16**		*e*P		Pn	04 26 20.9	+4.9
SDLR	**Sedlovina**	**5.12**	**17**		*e*P		Pn	04 26 19.4	+3.5
KRX	**Arik**	**5.15**	**15**		*e*P		Pn	04 26 20.8	+4.4
SPN	**Mys Shipunski**	**5.22**	**25**		*e*P		Pn	04 26 21.4	+4.2
SPN					*e*S		Sn	04 27 23.4	+5.8
KZV	**Kizimen**	**7.13**	**18**		*e*P		Pn	04 26 49.3	+5.8
TUMR	**Tumrok**	**7.26**	**17**		*e*P		Pn	04 26 51.4	+6.1

*JMA **09** 04:54:28.0, 23°.98N×121°.53E, h17km±1km, M3.3*
*TAP **09** 04:54:29.1, 24°.02N×121°.51E, h18km, ML3.9, B*
*ASIES **09** 04:54:29.1, 24°.03N×121°.52E, h23km, MW3.5*
ISC 09 04:54:29.0±0.8, 24°.01N±0°.01×121°.54E±0°.02, h18km±2km,
n129, σ0s.59/230, 8C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.07**	**117**		*i* P		**Pg**	**04 54 33.2**	**+0.9**
	baz=115								
HWA					S		**Sg**	**04 54 36.0**	**+1.3**
	baz=115								
TWD	**Chiawan**	**0.09**	**34**	⇑	*i* P		**Pg**	**04 54 32.9**	**+0.3**
	baz=54								
TWD					*i* S		**Sg**	**04 54 35.5**	**+0.5**
	baz=54								
NACB	**Ninganchiao**	**0.17**	**16**	⇑	*i* P		**Pg**	**04 54 33.5**	**-0.1**
	baz=26								
NACB					S		**Sg**	**04 54 36.6**	**-0.1**
	baz=26								
ETLH	**Xiulin Townshi**	**0.21**	**345**	⇑	*i* P		**Pg**	**04 54 34.0**	**-0.1**
	baz=351								
ETLH					*i* S		**Sb**	**04 54 37.1**	**0.0**
	baz=351								
ESL	**Shilin**	**0.22**	**208**	⇑	*i* P		**Pb**	**04 54 33.9**	**-0.1**
	baz=203								
ESL					S		**Sg**	**04 54 37.8**	**+0.1**
	baz=203								
WHF	**Hehuan Shan**	**0.29**	**299**	⇑	*i* P		**Pg**	**04 54 35.2**	**-0.4**
	baz=294								
WHF					S		**Sg**	**04 54 39.4**	**-0.8**
	baz=294								
OWD	**Renai**	**0.34**	**261**		P		**Pg**	**04 54 36.1**	**-0.2**
	baz=263								
OWD					S		**Sg**	**04 54 40.5**	**-0.7**
	baz=263								
CHGB	**Renai**	**0.34**	**279**	⇑	*i* P		**Pg**	**04 54 36.3**	**-0.1**
	baz=273								
CHGB					S		**Sg**	**04 54 41.0**	**-0.4**
	baz=273								
EGFH	**Guangfu**	**0.35**	**197**		P		**Pg**	**04 54 36.2**	**-0.2**
	baz=197								
EGFH					S		**Sg**	**04 54 41.1**	**-0.4**
	baz=197								
FUSS	**Fushou**	**0.36**	**311**	⇓	*i* P		**Pg**	**04 54 36.8**	**0.0**
	baz=321								
FUSS					S		**Sg**	**04 54 41.6**	**-0.4**
	baz=321								
TWT	**Tachien**	**0.41**	**306**	⇓	*i* P		**Pb**	**04 54 37.8**	**-0.1**
	baz=299								
TWT					S		**Sg**	**04 54 43.4**	**0.0**
	baz=299								
TDCB	**Techi**	**0.43**	**305**	⇓	*i* P		**Pg**	**04 54 37.8**	**0.0**
	baz=299								
TDCB					S		**Sg**	**04 54 43.4**	**-0.4**
	baz=299								
NNSB	**Datong**	**0.44**	**341**	⇓	*i* P		**Pg**	**04 54 38.1**	**0.0**
	baz=344								
NNSB					*i* S		**Sg**	**04 54 43.8**	**-0.5**
	baz=344								
NNSH	**Datong**	**0.44**	**341**	⇓	*i* P		**Pg**	**04 54 38.1**	**0.0**
	baz=343								
NNSH					S		**Sg**	**04 54 43.6**	**-0.7**
	baz=343								
VWDT	**VWDT**	**0.45**	**236**	⇑	*i* P		**Pg**	**04 54 38.0**	**-0.1**
	baz=229								
VWDT					S		**Sg**	**04 54 44.2**	**+0.1**
	baz=229								
ENA	**Nanau**	**0.46**	**23**		*i* P		**Pg**	**04 54 38.0**	**-0.3**
	baz=27								
ENA					*e*S		**Sb**	**04 54 44.8**	**-0.2**
	baz=27								
NNS	**Nan Shan**	**0.46**	**340**	⇓	*i* P		**Pg**	**04 54 38.3**	**-0.1**
	baz=344								
NNS					*i* S		**Sg**	**04 54 44.2**	**-0.5**
	baz=344								
ENAH	**Nanao**	**0.50**	**29**		P		**Pg**	**04 54 38.9**	**-0.3**
	baz=31								
ENAH					S		**Sb**	**04 54 46.2**	**-0.1**
	baz=31								
HGSD	**Ruisui**	**0.52**	**192**		*e*P		**Pg**	**04 54 39.5**	**0.0**
	baz=196								
HGSD					*e*S		**Sb**	**04 54 47.4**	**+0.6**
	baz=196								
EHY	**Hungye**	**0.54**	**202**		*i* P		**Pb**	**04 54 38.5**	**-1.3**
	baz=191								
EHY					*e*S		**Sg**	**04 54 46.0**	**-1.0**
	baz=191								
SSLB	**Suanglung**	**0.58**	**248**	⇑	*i* P		**Pb**	**04 54 40.0**	**-0.5**
	baz=254								
SSLB					S		**Sb**	**04 54 46.9**	**-1.5**
	baz=254								
NDT	**Datong Townshi**	**0.59**	**357**		*i* P		**Pb**	**04 54 40.6**	**-0.1**
	baz=354								
NDT					S		**Sb**	**04 54 48.1**	**-0.6**
	baz=354								
SMLT	**Sun Moon Lake**	**0.60**	**258**		*i* P		**Pb**	**04 54 40.6**	**-0.3**
	baz=256								
SMLT					*e*S		**Sb**	**04 54 48.0**	**-1.0**
	baz=256								
WHP	**Taichung City**	**0.61**	**296**	⇓	*i* P		**Pb**	**04 54 40.9**	**-0.1**
	baz=291								
WHP					*e*S		**Sg**	**04 54 49.2**	**0.0**
	baz=291								
ENTT	**Nioudou**	**0.63**	**2**		*e*P		**Pb**	**04 54 41.3**	**-0.1**
	baz=5.0								
ENTT					*e*S		**Sb**	**04 54 49.5**	**-0.3**
	baz=5.0								
YULB	**Yu-li**	**0.65**	**200**		*e*P		**Pb**	**04 54 40.3**	**-1.4**
	baz=191								
YULB					*e*S		**Sb**	**04 54 49.6**	**-0.8**
	baz=191								
TWC	**Suao**	**0.66**	**25**		*e*P		**Pb**	**04 54 41.6**	**-0.3**
	baz=28								
TWC					*e*S		**Sb**	**04 54 50.7**	**-0.1**
	baz=28								
YHNB	**Yeheng**	**0.68**	**347**		*i* P		**Pb**	**04 54 42.0**	**-0.3**
	baz=342								
YHNB					S		**Sb**	**04 54 50.6**	**-0.7**
	baz=342								
NSK	**Sanguang**	**0.69**	**346**		*i* P		**Pb**	**04 54 42.3**	**-0.1**
	baz=341								
NSK					*e*S		**Sb**	**04 54 51.0**	**-0.6**
	baz=341								
TWF1	**Yuli**	**0.69**	**199**		*e*P		**Pb**	**04 54 42.1**	**-0.3**
	baz=196								
TWF1					*e*S		**Sb**	**04 54 51.1**	**-0.4**
	baz=196								
WHYT	**Xinyi Township**	**0.70**	**244**		*e*P		**Pg**	**04 54 42.9**	**+0.1**
	baz=247								
WHYT					*e*S		**Sb**	**04 54 52.0**	**0.0**
	baz=247								
TWE	**Neicheng**	**0.72**	**9**		*i* P		**Pb**	**04 54 42.5**	**-0.4**
	baz=12								
TWE					*e*S		**Sb**	**04 54 52.3**	**-0.2**
	baz=12								
YUS	**Yu-Shan**	**0.75**	**227**		*e*P		**Pb**	**04 54 43.7**	**0.0**
	baz=214								
YUS					*e*S		**Sb**	**04 54 53.5**	**-0.2**
	baz=214								
NWLT	**Wulai**	**0.77**	**357**		*e*P		**Pb**	**04 54 43.5**	**-0.3**
	baz=359								
NWLT					*e*S		**Sb**	**04 54 51.8**	**-2.1**
	baz=359								
WJS	**Zhushan**	**0.77**	**256**		*i* P		**Pg**	**04 54 44.4**	**+0.4**
	baz=255								
WJS					S		**Sn**	**04 54 55.1**	**-0.8**
	baz=255								
ILA	**Ilan**	**0.78**	**14**		*e*S		**Sn**	**04 54 55.7**	**-0.5**
	baz=16								
TWQ1	**Liyutan**	**0.78**	**296**		P		**Pg**	**04 54 44.4**	**+0.2**
	baz=306								
TWQ1					*e*S		**Sn**	**04 54 55.8**	**-0.5**
	baz=306								
NSTT	**Nanjuang**	**0.79**	**322**	⇓	*i* P		**Pg**	**04 54 44.5**	**-0.1**
	baz=323								
NSTT					*e*S		**Sb**	**04 54 54.6**	**0.0**
	baz=323								
WNT	**Mingjian**	**0.80**	**261**		*e*P		**Pn**	**04 54 45.0**	**-0.3**
	baz=257								
WNT					*e*S		**Sn**	**04 54 56.6**	**0.0**
	baz=257								
LIOB	**Emei**	**0.80**	**323**	⇓	*i* P		**Pg**	**04 54 44.6**	**+0.1**
	baz=324								
LIOB					*e*S		**Sn**	**04 54 56.2**	**-0.5**
	baz=324								
TCU	**Taichung**	**0.80**	**280**		P		**Pn**	**04 54 45.3**	**0.0**
	baz=280								
TCU					*e*S		**Sn**	**04 54 57.7**	**+0.8**
	baz=280								
NSY	**Sanyi**	**0.82**	**300**		P		**Pn**	**04 54 45.6**	**0.0**
	baz=309								
NSY					*e*S		**Sn**	**04 54 56.7**	**-0.6**
	baz=309								
ALS	**Alishan**	**0.84**	**234**		P		**Pb**	**04 54 45.1**	**0.0**
	baz=223								
ALS					*e*S		**Sb**	**04 54 55.8**	**-0.3**
	baz=223								
NMLH	**Miaoli**	**0.86**	**308**		*e*P		**Pn**	**04 54 46.6**	**+0.4**
	baz=308								
NMLH					*e*S		**Sn**	**04 54 58.3**	**-0.1**
	baz=308								
PTSB	**Yuanli**	**0.88**	**300**		*e*P		**Pg**	**04 54 46.2**	**0.0**
	baz=300								
PTSB					*e*S		**Sn**	**04 55 00.1**	**+1.3**
	baz=300								
NTC	**Toucheng**	**0.88**	**17**		*e*P		**Pb**	**04 54 45.5**	**-0.2**
	baz=18								
NTC					*e*S		**Sb**	**04 54 57.1**	**-0.1**
	baz=18								
CHN5	**Tsauling**	**0.89**	**243**		P		**Pg**	**04 54 46.4**	**+0.1**
	baz=241								
CHN5					*e*S		**Sg**	**04 54 58.5**	**+0.4**
	baz=241								
WDJ	**Dajia District**	**0.89**	**293**		*e*P		**Pn**	**04 54 46.8**	**+0.3**
	baz=292								
WDJ					*e*S		**Sn**	**04 54 59.0**	**0.0**
	baz=292								
WCHH	**Zhanghua**	**0.90**	**275**		*e*P		**Pb**	**04 54 46.0**	**-0.1**
	baz=273								
WCHH					*e*S		**Sn**	**04 55 00.3**	**+1.1**
	baz=273								
EGS		**0.91**	**23**		*e*P		**Pg**	**04 54 46.5**	**-0.2**
	baz=32								
EGS					*e*S		**Sn**	**04 54 59.7**	**+0.3**
	baz=32								
CHKT	**Chengkung**	**0.92**	**190**		*e*P		**Pb**	**04 54 45.2**	**-1.2**
	baz=188								
CHKT					*e*S		**Sb**	**04 54 58.0**	**-0.2**
	baz=188								
SBCB	**Hsinchu**	**0.93**	**327**		*e*P		**Pb**	**04 54 46.0**	**-0.5**
	baz=334								
SBCB					*e*S		**Sn**	**04 55 01.5**	**+1.5**
	baz=334								
ELDTW	**Lidau**	**0.95**	**211**		*e*P		**Pb**	**04 54 46.3**	**-0.6**
	baz=215								
ELDTW					*e*S		**Sb**	**04 54 59.1**	**0.0**
	baz=215								
HSN	**Hsinchu**	**0.95**	**327**		*e*P		**Pn**	**04 54 47.4**	**0.0**
	baz=330								
NHDH	**Xindian Distri**	**0.95**	**359**		*e*P		**Pn**	**04 54 47.2**	**-0.2**
	baz=360								
NHDH					*e*S		**Sb**	**04 54 59.0**	**-0.2**
	baz=360								
WGK	**Gukeng**	**0.95**	**251**		*e*P		**Pg**	**04 54 47.8**	**+0.3**
	baz=249								
WGK					*e*S		**Sn**	**04 55 01.3**	**+0.8**
	baz=249								
TWA	**Mucha**	**0.97**	**2**		P		**Pn**	**04 54 47.6**	**-0.1**
	baz=357								
TWA					*e*S		**Sb**	**04 55 00.1**	**+0.4**
	baz=357								
WDLH	**Douliu**	**0.97**	**251**		*e*P		**Pg**	**04 54 47.8**	**-0.1**
	baz=250								
WDLH					*e*S		**Sn**	**04 55 01.7**	**+0.7**
	baz=250								
TIPB	**Shuangxi**	**0.99**	**15**		*e*P		**Pb**	**04 54 47.6**	**-0.1**
	baz=16								
TIPB					*e*S		**Sg**	**04 55 01.2**	**-0.3**
	baz=16								
NCUH	**Zhongli**	**1.01**	**341**		*e*P		**Pg**	**04 54 48.7**	**+0.1**
	baz=342								
NCUH					*e*S		**Sg**	**04 55 03.7**	**+1.8**
	baz=342								
NCU	**National Centr**	**1.01**	**341**		*e*P		**Pg**	**04 54 49.2**	**+0.6**
	baz=342								
NCU					*e*S		**Sg**	**04 55 04.3**	**+2.3**
	baz=342								
TAP1	**Taipei**	**1.03**	**359**		*e*P		**Pb**	**04 54 48.1**	**-0.1**
	baz=359								
TAP1					*e*S		**Sn**	**04 55 02.3**	**-0.1**
	baz=359								
TAP	**Taipei**	**1.03**	**358**		*e*P		**Pb**	**04 54 48.1**	**-0.1**
	baz=359								
TAP					*e*S		**Sn**	**04 55 01.9**	**-0.5**
	baz=359								
EDH	**Donghe**	**1.05**	**192**		*e*P		**Pb**	**04 54 47.5**	**-1.1**
	baz=191								
EDH					*e*S		**Sb**	**04 55 01.4**	**-0.6**
	baz=191								
TWB1	**Santiao Chiao**	**1.08**	**22**		*e*P		**Pn**	**04 54 49.2**	**+0.1**
	baz=16								
TWB1					*e*S		**Sb**	**04 55 02.6**	**-0.2**
	baz=16								
NWF	**Wu-fen Shan**	**1.08**	**12**		*e*P		**Pb**	**04 54 49.1**	**-0.1**
	baz=12								
NWF					*e*S		**Sb**	**04 55 03.1**	**+0.1**
	baz=12								
WFSB	**Wu-fen Shan**	**1.08**	**12**		*e*P		**Pb**	**04 54 49.0**	**-0.1**
	baz=12								
WFSB					*e*S		**Sn**	**04 55 03.8**	**0.0**
	baz=12								
CHN2	**Minshiung**	**1.09**	**244**		*e*P		**Pg**	**04 54 50.5**	**+0.5**
	baz=243								
CHN2					*e*S		**Sg**	**04 55 06.4**	**+2.1**
	baz=243								
TPUB	**Ta-pu**	**1.09**	**230**		P		**Pg**	**04 54 50.0**	**-0.2**
	baz=218								
TPUB					*e*S		**Sg**	**04 55 05.0**	**+0.4**
	baz=218								
TWS1	**Kuangyinshan**	**1.09**	**354**		*e*P		**Pn**	**04 54 49.5**	**+0.2**
	baz=7.0								
TWS1					*e*S		**Sg**	**04 55 06.0**	**+1.4**
	baz=7.0								
WTK	**Tuku**	**1.10**	**254**		*e*P		**Pb**	**04 54 49.6**	**+0.1**
	baz=252								
WTK					*e*S		**Sg**	**04 55 05.1**	**+0.2**
	baz=252								
STYT	**Tauyuan**	**1.11**	**221**		*e*P		**Pn**	**04 54 49.6**	**0.0**
	baz=209								
STYT					*e*S		**Sg**	**04 55 05.2**	**+0.3**
	baz=209								
YM01	**YM01**	**1.14**	**1**		*e*P		**Pb**	**04 54 50.3**	**+0.2**
	baz=2.0								
YM01					*e*S		**Sg**	**04 55 06.0**	**+0.1**
	baz=2.0								
WTP	**Ta-pu**	**1.14**	**229**		*e*P		**Pg**	**04 54 50.9**	**-0.1**
	baz=216								
WTP					*e*S		**Sg**	**04 55 06.7**	**+0.7**
	baz=216								
YM04	**YM04**	**1.14**	**360**		P		**Pb**	**04 54 50.5**	**+0.4**
YM04					*e*S		**Sn**	**04 55 05.2**	**-0.1**
CHY	**Chiayi**	**1.14**	**244**		*e*P		**Pg**	**04 54 50.9**	**-0.3**
	baz=254								
CHY					*e*S		**Sg**	**04 55 07.0**	**+0.9**
	baz=254								
YM10	**YM10**	**1.14**	**1**		*e*P		**Pb**	**04 54 50.4**	**+0.1**
	baz=1.0								
YM10					*e*S		**Sg**	**04 55 05.9**	**-0.3**
	baz=1.0								
YM05	**YM05**	**1.15**	**1**		*e*P		**Pb**	**04 54 50.5**	**+0.1**
	baz=2.0								
YM05					*e*S		**Sg**	**04 55 06.1**	**-0.3**
	baz=2.0								
YM11	**YM11**	**1.15**	**1**		*e*P		**Pg**	**04 54 51.1**	**-0.3**
	baz=2.0								
NTST	**Danshui**	**1.16**	**356**		*e*P		**Pn**	**04 54 50.2**	**0.0**
	baz=8.0								
NTST					*e*S		**Sg**	**04 55 06.8**	**+0.3**
	baz=8.0								
LONT	**Longtian**	**1.16**	**199**		*e*P		**Pg**	**04 54 51.0**	**-0.4**
	baz=183								
LONT					*e*S		**Sn**	**04 55 06.2**	**+0.5**
	baz=183								
WTCT	**Ta-ch'eng**	**1.16**	**263**		*e*P		**Pb**	**04 54 50.6**	**+0.1**
	baz=261								
YM03	**YM03**	**1.17**	**360**		*e*P		**Pb**	**04 54 50.7**	**+0.1**
YM03					*e*S		**Sg**	**04 55 07.1**	**+0.1**
ANP	**Anpu**	**1.18**	**359**		*e*P		**Pb**	**04 54 50.9**	**+0.1**
	baz=360								
ANP					*e*S		**Sg**	**04 55 07.1**	**-0.1**
	baz=360								
YM08	**YM08**	**1.18**	**2**		*e*P		**Pn**	**04 54 50.0**	**-0.6**
	baz=3.0								
TWK	**Hsinying**	**1.22**	**233**		*e*P		**Pg**	**04 54 52.2**	**-0.3**
	baz=231								
TWK					*e*S		**Sg**	**04 55 08.6**	**+0.2**
	baz=231								
WMLT	**Mailiao**	**1.22**	**261**		*e*P		**Pb**	**04 54 51.8**	**+0.3**
	baz=248								
WMLT					*e*S		**Sg**	**04 55 09.2**	**+0.5**
	baz=248								
SNST	**Tainan City**	**1.24**	**231**		*e*P		**Pg**	**04 54 52.9**	**0.0**
	baz=227								
CHN1	**Nanshi**	**1.24**	**229**		*e*P		**Pg**	**04 54 52.4**	**-0.5**
	baz=219								
CHN1					*e*S		**Sg**	**04 55 08.9**	**-0.2**
	baz=219								
TWG	**Pinlang**	**1.26**	**200**		P		**Pb**	**04 54 52.0**	**-0.1**
	baz=185								
TWGBT	**Beinan**	**1.26**	**200**		*e*P		**Pn**	**04 54 51.7**	**+0.1**
	baz=185								
WSF	**Szhu**	**1.26**	**253**		*e*P		**Pg**	**04 54 53.0**	**-0.4**
	baz=251								
TWY	**Chenhua**	**1.27**	**2**		*e*P		**Pg**	**04 54 53.3**	**-0.1**
	baz=3.0								
TWY					*e*S		**Sb**	**04 55 08.0**	**-0.2**
	baz=3.0								
SGST	**Jiashian**	**1.27**	**224**		P		**Pb**	**04 54 52.8**	**+0.4**
	baz=214								
SGST					*e*S		**Sg**	**04 55 10.1**	**-0.1**
	baz=214								
SLGT	**Liugui**	**1.30**	**219**		*e*P		**Pb**	**04 54 52.7**	**-0.2**
	baz=218								
SLGT					*e*S		**Sg**	**04 55 11.3**	**+0.2**
	baz=218								
ICHU	**Yijhu**	**1.32**	**241**		*e*P		**Pb**	**04 54 53.4**	**+0.2**
	baz=222								
ICHU					*e*S		**Sg**	**04 55 13.1**	**+1.3**
	baz=222								
LDUT	**Ludao**	**1.33**	**183**		*e*P		**Pn**	**04 54 50.4**	**-2.2**
	baz=167								
JYNG	**Yonagunijimaku**	**1.35**	**71**		P		**Pn**	**04 54 52.8**	**-0.1**
JYNG					S		**Sb**	**04 55 10.9**	**+0.1**
CHN8	**Yiju**	**1.39**	**242**		*e*P		**Pb**	**04 54 54.0**	**-0.3**
	baz=224								
CHN8					*e*S		**Sg**	**04 55 13.5**	**-0.3**
	baz=224								
YOJ	**Yonaguni jima**	**1.42**	**71**		P		**Pn**	**04 54 53.6**	**-0.2**
YOJ					*e*S		**Sb**	**04 55 12.3**	**-0.2**
CHN3	**Shinhua**	**1.42**	**230**		*e*P		**Pg**	**04 54 57.6**	**+1.2**
	baz=225								
SCST	**Cishan**	**1.47**	**221**		*e*P		**Pb**	**04 54 55.3**	**-0.5**
	baz=217								
SSD	**Sandimen**	**1.51**	**214**		*e*P		**Pn**	**04 54 55.7**	**+0.7**
	baz=212								
SSD					*e*S		**Sb**	**04 55 15.9**	**+0.7**
	baz=212								
TSMG	**Majia**	**1.54**	**213**		*e*P		**Pb**	**04 54 57.0**	**+0.1**
	baz=211								
TSMG					*e*S		**Sb**	**04 55 16.7**	**+0.8**
	baz=211								
MASBT	**Mashibuluo**	**1.62**	**211**		*e*P		**Pn**	**04 54 57.4**	**+0.8**
	baz=208								
EAST	**Anshuo**	**1.74**	**202**		*e*P		**Pb**	**04 54 59.5**	**-0.9**
	baz=188								
SCZT	**Fangliau**	**1.83**	**208**		*e*P		**Pn**	**04 55 00.4**	**+0.8**
	baz=196								
PHUB	**P'eng-hu**	**1.87**	**255**		*e*P		**Pn**	**04 55 00.3**	**+0.3**
	baz=250								
PNG	**Penghu**	**1.87**	**257**		*e*P		**Pn**	**04 55 00.1**	**+0.1**
	baz=254								
PNG					*e*S		**Sn**	**04 55 24.1**	**+0.9**
	baz=254								
WDGT	**Dungji**	**1.88**	**247**		*e*P		**Pn**	**04 54 59.6**	**-0.5**
	baz=241								
SLIU	**Shizi**	**1.91**	**201**		*e*P		**Pn**	**04 55 01.6**	**+1.1**
	baz=185								
IRIF	**Iriomote-Funau**	**2.02**	**80**		P		**Pn**	**04 55 02.2**	**+0.1**
IRIF					S		**Sn**	**04 55 27.2**	**+0.2**
HATJ	**Hateruma jima**	**2.07**	**88**		P		**Pn**	**04 55 02.8**	**0.0**
HATJ					*e*S		**Sn**	**04 55 28.0**	**-0.1**
VCHM	**Qimei**	**2.09**	**248**		*e*P		**Pn**	**04 55 03.9**	**+0.8**
	baz=226								
VWUC	**VWUC**	**2.14**	**298**		*e*P		**Pn**	**04 55 03.0**	**-0.8**
	baz=298					

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.33**	**349**	P	**Pn**	**04 56 09.4**	**-1.3**
PRK				S	**Sn**	**04 56 14.7**	**-2.1**
	3μm,0.2s						
PRK	**Paraskevi**	**0.33**	**349**	P	**Pb**	**04 56 09.2**	**+0.8**
PRK				S	**Sn**	**04 56 14.8**	**-2.0**
PRK				AML	AML	04 56 20.1	
	comp=E,3056μm,0.2s						
PRK				AML	AML	04 56 20.2	
	comp=N,3726μm,0.2s						
KRBN	**Karaburun**	**0.36**	**154**	PG	**Pb**	**04 56 08.3**	**-0.6**
KRBN				SG	**Sb**	**04 56 13.7**	**-0.4**
DKL	**Dikili**	**0.46**	**71**	PG	**Pb**	**04 56 10.3**	**-0.2**
DKL				SG	**Sb**	**04 56 16.8**	**0.0**
AYVA	**Ayvalik**	**0.47**	**34**	*i* P	**Pb**	**04 56 10.6**	**-0.1**
AYVA				*i* S	**Sb**	**04 56 15.1**	**-2.1**
SIGR	**SIGRI**	**0.48**	**307**	P	**Pb**	**04 56 11.3**	**+0.3**
SIGR				S	**Sb**	**04 56 17.1**	**-0.5**
	comp=N,228nm,0.3s						
SIGR	**SIGRI**	**0.48**	**307**	P	**Pb**	**04 56 11.4**	**+0.5**
SIGR				S	**Sb**	**04 56 18.8**	**+1.2**
SIGR				AML	AML	04 56 20.9	
	comp=E,351μm,0.4s						
SIGR				AML	AML	04 56 21.7	
	comp=N,334μm,0.2s						
SIGR	**SIGRI**	**0.48**	**307**	PG	**Pb**	**04 56 11.5**	**+0.5**
ZEDA	**zmir-Bergama**	**0.57**	**85**	*i* P	**Pb**	**04 56 12.1**	**-0.4**
ZEDA				*i* S	**Sb**	**04 56 19.2**	**-0.9**
CHOS	**Chios island**	**0.58**	**204**	P	**Pb**	**04 56 12.5**	**-0.2**
CHOS				S	**Sn**	**04 56 23.0**	**-0.1**
	comp=N,772nm,0.3s						
CHOS	**Chios island**	**0.58**	**204**	P	**Pb**	**04 56 12.7**	**0.0**
CHOS				S	**Sn**	**04 56 22.2**	**-0.8**
CHOS				AML	AML	04 56 24.2	
	comp=N,1338μm,0.3s						
CHOS				AML	AML	04 56 24.2	
	comp=E,1712μm,0.3s						
CHOS	**Chios island**	**0.58**	**204**	PG	**Pb**	**04 56 12.6**	**-0.2**
URLA	**Izmir**	**0.59**	**161**	PG	**Pb**	**04 56 12.1**	**-0.8**
URLA				SG	**Sb**	**04 56 20.5**	**-0.4**
URLA	**Izmir**	**0.59**	**161**	*i* P	**Pb**	**04 56 12.0**	**-0.8**
URLA				*i* S	**Sb**	**04 56 19.2**	**-1.6**
PSRA	**Psara**	**0.72**	**239**	P	**Pn**	**04 56 15.9**	**-0.1**
PSRA				S	**Sn**	**04 56 26.4**	**0.0**
PSRA				AML	AML	04 56 27.5	
	comp=E,3622μm,0.2s						
PSRA				AML	AML	04 56 27.8	
	comp=N,2633μm,0.2s						
BAYC	**CANAKKALE_Bayr**	**0.83**	**10**	*i* P	**Pn**	**04 56 17.0**	**-0.6**
BAYC				*i* S	**Sb**	**04 56 27.5**	**-0.3**
BAYC				IAML		04 56 30.0	
	comp=E,250nm,0.3s						
BAYC				IAML		04 56 31.0	
	comp=N,211nm,0.2s						
EZN	**Ezine**	**0.90**	**359**	P	**Pn**	**04 56 18.6**	**+0.1**
EZN				S	**Sn**	**04 56 30.9**	**0.0**
	comp=N,312nm,0.3s						
EZN	**Ezine**	**0.90**	**359**	PG	**Pn**	**04 56 18.4**	**-0.1**
EZN				SG	**Sn**	**04 56 31.8**	**+0.9**
BOZC	**Bozcaada**	**0.95**	**346**	PG	**Pn**	**04 56 19.7**	**+0.5**
BOZC				SG	**Sn**	**04 56 33.2**	**+1.2**
BOZC	**Bozcaada**	**0.95**	**346**	*i* P	**Pn**	**04 56 19.7**	**+0.5**
BOZC				*i* S	**Sn**	**04 56 32.3**	**+0.3**
BOZC				IAML		04 56 34.0	
	comp=N,212nm,0.4s						
BOZC				IAML		04 56 35.0	
	comp=E,248nm,0.5s						
DGB	**zmir**	**0.96**	**154**	*i* P	**Pb**	**04 56 18.6**	**-0.5**
DGB				*i* S	**Sb**	**04 56 29.8**	**-1.6**
AKHS	**Akhisar**	**1.14**	**92**	*i* P	**Pb**	**04 56 23.0**	**+0.8**
AKHS				*i* S	**Sn**	**04 56 37.3**	**+0.5**
STEP	**BALIKESIR_Sava**	**1.16**	**66**	*i* P	**Pb**	**04 56 22.7**	**+0.3**
STEP				*i* S	**Sn**	**04 56 37.6**	**+0.4**
STEP				IAML		04 56 40.0	
	comp=N,184nm,0.4s						
STEP				IAML		04 56 42.0	
	comp=E,108nm,0.3s						
SMG	**Samos**	**1.27**	**162**	P	**Pb**	**04 56 25.3**	**+0.9**
SMG	**Samos**	**1.27**	**162**	P	**Pb**	**04 56 24.9**	**+0.5**
SMG				AML	AML	04 56 44.5	
	comp=E,462μm,0.4s						
SMG				AML	AML	04 56 44.9	
	comp=N,559μm,0.6s						
BALY	**Balya**	**1.28**	**50**	*i* P	**Pb**	**04 56 25.0**	**+0.4**
BALY				*i* S	**Sb**	**04 56 40.9**	**+0.3**
BALY				IAML		04 56 46.0	
	comp=N,94nm,0.6s						
GOKA	**anakkale-Gk**	**1.31**	**345**	*i* P	**Pb**	**04 56 26.0**	**+0.9**
GOKA				*i* S	**Sb**	**04 56 42.1**	**+0.6**
GOKA				IAML		04 56 45.0	
	comp=N,104nm,0.3s						
GADA	**Gvkgeada**	**1.32**	**345**	PN	**Pb**	**04 56 25.9**	**+0.8**
LIA	**Limnos Island**	**1.33**	**318**	P	**Pb**	**04 56 25.7**	**+0.3**
BALB	**Balikesir**	**1.39**	**58**	PN	**Pb**	**04 56 26.8**	**+0.5**
BALB				SN	**Sb**	**04 56 45.2**	**+1.6**
GCAM	**G?zelcaml?**	**1.40**	**150**	PN	**Pb**	**04 56 26.7**	**+0.1**
GCAM				SN	**Sb**	**04 56 45.4**	**+1.4**
GCAM	**G?zelcaml?**	**1.40**	**150**	*i* P	**Pb**	**04 56 26.2**	**-0.4**
GCAM				*i* S	**Sn**	**04 56 42.7**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.48**	**4**	PN	**Pb**	**04 56 27.8**	**-0.1**
LPK	**Lapseki**	**1.48**	**12**	PN	**Pb**	**04 56 28.3**	**+0.3**
GONE	**Gonen-Balikesi**	**1.53**	**42**	PN	**Pb**	**04 56 28.9**	**+0.2**
SMTH	**Samothraki Isl**	**1.67**	**338**	P	**Pb**	**04 56 30.5**	**-0.8**
AYDN	**Tasoluk**	**1.74**	**136**	*i* P	**Pb**	**04 56 31.7**	**-0.7**
MANT	**Manisa**	**1.78**	**103**	*i* P	**Pb**	**04 56 33.9**	**+0.7**
DURS	**Dursunbey**	**1.78**	**67**	*i* P	**Pb**	**04 56 32.7**	**-0.4**
DURS				*i* S	**Sn**	**04 56 52.2**	**-0.6**
ENEZ	**Enez**	**1.82**	**355**	PN	**Pb**	**04 56 32.8**	**-0.9**
EDC	**Edincik**	**1.84**	**39**	PN	**Pb**	**04 56 33.1**	**-1.0**
EDC				SN	**Sb**	**04 56 56.2**	**-0.5**
KULA	**Kula-Manisa**	**1.85**	**102**	PN	**Pb**	**04 56 33.1**	**-1.2**
MAR6	**Marsite Statio**	**1.92**	**21**	PN	**Pb**	**04 56 34.5**	**-0.9**
KESN	**Edirne-Kesan**	**1.92**	**7**	*i* P	**Pb**	**04 56 33.9**	**-1.8**
KESN				IAML		04 57 03.0	
	comp=E,46nm,0.7s						
MRMT	**Marmara Adasi**	**1.93**	**29**	PN	**Pb**	**04 56 34.5**	**-1.2**
APE	**Apeiranthos**	**1.96**	**200**	PN	**Pb**	**04 56 34.6**	**+1.5**
ALN	**Alexandroupoli**	**1.99**	**353**	P	**Pb**	**04 56 35.1**	**-1.5**
MAR9	**Marsite Statio**	**1.99**	**31**	PN	**Pb**	**04 56 35.4**	**-1.2**
MAR4	**Marsite Statio**	**2.00**	**21**	PN	**Pb**	**04 56 35.7**	**-1.2**
RDO	**Rodhopi**	**2.31**	**345**	PN	**Pb**	**04 56 39.7**	**-2.4**
ULDT	**Uludag**	**2.48**	**60**	*i* P	**Pb**	**04 56 45.8**	**+0.8**
KAVA	**Kavala**	**2.51**	**326**	P	**Pn**	**04 56 42.0**	**+1.4**
ARMT	**Armutlu**	**2.54**	**49**	PN	**Pn**	**04 56 42.9**	**+1.9**
TSVK	**Tesvikiye-Yalo**	**2.71**	**50**	PN	**Pn**	**04 56 45.2**	**+1.8**

IDC 09 05:35:50.3±3.7, 0°.01S×67°.86E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/39, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=99.2km s-min=41.9km az=74.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.71**	**60**	Pn	Pn	05 39 20.0	0.0
	0.7nm,0.3s,baz=357,slow=10,SNR=4.3						
MKAR	**Makanchi Array**	**48.30**	**13**	P	P	05 44 33.3	-0.1
	0.2nm,0.6s,baz=206,slow=9.6,SNR=1.8						
H01W3	**Cape Leeuwin H**	**55.37**	**134**	T	T	06 46 20.6	
	baz=299,slow=75,SNR=4.7						
H01W2	**Cape Leeuwin H**	**55.37**	**134**	T	T	06 46 25.3	
	baz=299,slow=75,SNR=4.0						
H01W1	**Cape Leeuwin H**	**55.38**	**134**	T	T	06 46 21.9	
	baz=299,slow=75,SNR=3.2						
WRA	**Warramunga Arr**	**67.94**	**111**	P	P	05 46 51.8	+0.1
	1.1nm,0.9s,baz=293,slow=5.5,SNR=4.6						
ASAR	**Alice Springs**	**68.14**	**115**	P	P	05 46 52.8	-0.1
	0.3nm,0.8s,baz=280,slow=5.5,SNR=5.9						

*NNC **09** 05:44:27.5±2.2, 39°.42N×75°.10E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=16.6km s-min=13.9km az=120.0*
*KRNET **09** 05:44:35.8±0.1, 39°.58N×75°.49E, mb2.9*
ISC 09 05:44:35.6±2.6, 39°.5N±0°.1×75°.64E±0°.10, h10km, n17, σ2°.01/27, 11C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**2.41**	**296**	⇑*i*P	**Pn**	**05 45 16.5**	**+1.3**
	baz=95						
OHH				⇑*i*S	**Sn**	**05 45 46.3**	**+1.4**
	baz=95						
ARLS	**Aral**	**2.55**	**337**	⇑*i*P	**Pn**	**05 45 18.8**	**+1.5**
	baz=39						
ARLS				⇑*i*S	**Sn**	**05 45 50.1**	**+1.6**
	baz=39						
KZA	**Kyzart**	**2.58**	**354**	⇓*e*P	**Pn**	**05 45 19.7**	**+1.8**
	baz=56						
KZA				⇓*i*S	**Sn**	**05 45 51.8**	**+2.2**
	baz=56						
ARSB	**Arslanbob**	**2.72**	**313**	⇑*i*P	**Pn**	**05 45 20.8**	**+1.3**
	baz=13						
ARSB				⇑*i*S	**Sn**	**05 45 53.5**	**+1.0**
	baz=13						
UCH	**Uchtor**	**2.85**	**343**	⇓*i*P	**Pn**	**05 45 23.2**	**+1.6**
	baz=45						
UCH				⇓*i*S	**Sn**	**05 45 57.7**	**+1.6**
	baz=45						
KDJ	**Kajisay**	**2.87**	**24**	⇓*i*P	**Pb**	**05 45 24.3**	**-2.7**
	baz=26						
KDJ				⇓*i*S	**Sb**	**05 46 00.1**	**-2.2**
	baz=26						
AML	**Almayashu**	**3.01**	**331**	⇑*e*P	**Pn**	**05 45 25.1**	**+1.4**
	baz=32						
AML				⇑*i*S	**Sn**	**05 46 01.2**	**+1.2**
	baz=32						
TKM2	**Tokmak 2**	**3.41**	**360**	⇑*i*P	**Pn**	**05 45 31.2**	**+2.1**
	baz=1.0						
TKM2				⇑*i*S	**Sn**	**05 46 11.5**	**+1.8**
	baz=1.0						
TKM2	**Tokmak 2**	**3.41**	**360**	⇑Pn	**Pn**	**05 45 32.7**	**+3.6**
	3.1nm,0.5s						
TKM2				⇓Lg	Lg	05 46 18.1	
	11nm,0.7s						
KST	**Kastek**	**3.54**	**4**	Pg	**Pn**	**05 45 33.4**	**+2.7**
	4.8nm,0.5s						
KST				Lg	Lg	05 46 22.9	
	9.7nm,0.5s						
ARK	**Arkit**	**3.61**	**310**	⇓*i*P	**Pn**	**05 45 32.8**	**+1.1**
	baz=11						
ARK				⇓*i*S	**Sn**	**05 46 14.4**	**-0.1**
	baz=11						
MRKS	**Merke**	**3.71**	**331**	Pg	**Pn**	**05 45 33.4**	**+0.3**
	3.3nm,0.3s						
MRKS				Lg	Lg	05 46 23.2	
	4.5nm,0.4s						
DGS	**Degeres**	**3.73**	**2**	Pg	**Pb**	**05 45 37.9**	**-3.8**
	4.8nm,0.5s						
DGS				Lg	Lg	05 46 30.9	
	7.8nm,0.7s						
BTK	**Batken**	**3.75**	**280**	⇓*e*P	**Pn**	**05 45 35.4**	**+1.7**
	baz=79						
BTK				⇓*i*S	**Sn**	**05 46 18.7**	**+0.8**
	baz=79						
KOTS	**Kotyrbulak**	**3.88**	**16**	Pg	**Pb**	**05 45 42.4**	**-1.9**
	3.9nm,0.5s						
KOTS				Lg	Lg	05 46 38.3	
	6.1nm,0.6s						
KTBS	**Karatobe**	**4.27**	**10**	Pg	**Pb**	**05 45 49.9**	**-1.0**
	1.1nm,0.8s						
KTBS				Lg	Lg	05 46 50.7	
	7.4nm,0.5s						
KUU	**Kurty**	**4.41**	**7**	Pg	**Pb**	**05 45 51.2**	**-2.0**
	1.0nm,0.3s						
KUU				Lg	Lg	05 46 53.2	
	8.1nm,0.5s						

*JMA **09** 05:46:13.6, 33°.82N×137°.17E, h383km, M3.3*
*IDC **09** 05:46:16.5±1.1, 33°.85N×137°.15E, h340km±10km, mb3.0/10, mb1 3.2/12, mb1mx3.0/41, mbtmp3.7/12, Error ellipse: s-maj=18.5km s-min=14.6km az=107.0*
ISC 09 05:46:17.5±0.8, 33°.94N±0°.10×137°.14E±0°.08, h349km±7km, n30, σ0°.80/36, mb3.3/10, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.23**	**205**	P	**Pn**	**05 47 01.7**	**+0.7**
TTO4	**TONANKAI O.B.S**	**0.34**	**79**	P	**Pn**	**05 47 01.9**	**+0.9**
TTO1	**TONANKAI O.B.S**	**0.44**	**223**	P	**Pn**	**05 47 01.7**	**+0.4**
JIE	**Ise**	**0.57**	**321**	P	**Pn**	**05 47 02.2**	**+0.4**
JKN2	**Miekihoku**	**0.78**	**293**	P	**Pn**	**05 47 02.4**	**0.0**
JTNC	**Tanabenakahech**	**1.28**	**265**	P	**Pn**	**05 47 04.3**	**-0.2**
JWY	**Kouya**	**1.31**	**282**	P	**Pn**	**05 47 04.6**	**-0.1**
JAO	**Obara**	**1.32**	**4**	P	**Pn**	**05 47 05.2**	**+0.6**
JEG	**Eigenji**	**1.34**	**333**	P	**Pn**	**05 47 05.1**	**+0.4**
JNY	**Yasuok**	**1.53**	**23**	P	**Pn**	**05 47 06.2**	**+0.4**
JYTA	**Yamagatataniai**	**1.68**	**349**	P	**Pn**	**05 47 06.9**	**+0.3**
JWT	**Wachi**	**1.96**	**313**	P	**Pn**	**05 47 08.5**	**+0.1**
JOD2	**Odawara 2**	**2.08**	**50**	P	**Pn**	**05 47 09.1**	**-0.2**
JOD2				*e*S	**S**	**05 47 52.8**	**+2.0**
JAI	**Aioi**	**2.24**	**267**	P	**Pn**	**05 47 10.1**	**-0.4**
JRY	**Ryogami san**	**2.52**	**34**	P	**Pn**	**05 47 12.9**	**+0.2**
JRY				*e*S	**S**	**05 47 57.6**	**+0.5**
JHU	**Hanno**	**2.59**	**42**	P	**Pn**	**05 47 13.2**	**0.0**
JHU				*e*S	**S**	**05 47 56.5**	**-1.5**
MJAR	**Matsushiro Arr**	**2.74**	**18**	P	**Pn**	**05 47 13.5**	**-0.9**
	0.6nm,0.3s,baz=196,slow=9.2,SNR=26						
MJAR				S	**S**	**05 47 59.4**	**-0.9**
	0.1nm,0.3s,baz=190,slow=16,SNR=4.6						
MAT	**Matsushiro**	**2.74**	**18**	P	**Pn**	**05 47 14.3**	**-0.2**
MAT				S	**S**	**05 47 58.8**	**-1.5**
BSO4	**Boso 4**	**2.84**	**68**	P	**Pn**	**05 47 14.7**	**-0.5**
BSO4				*e*S	**S**	**05 48 00.2**	**-1.5**
KSRS	**Korea Array**	**8.28**	**298**	P	**Pn**	**05 48 15.6**	**+0.7**
	0.5nm,0.3s,baz=113,slow=12,SNR=11						
PETK	**Petropavlovsk-**	**24.12**	**31**	P	**P**	**05 51 02.6**	**-0.1**
	0.3nm,0.5s,baz=233,slow=6.5,SNR=2.3						
SONM	**Songino Array**	**26.86**	**310**	P	**P**	**05 51 28.1**	**+0.6**
	1.0nm,0.8s,baz=128,slow=9.6,SNR=4.4						
MKAR	**Makanchi Array**	**42.89**	**304**	P	**P**	**05 53 42.4**	**-0.4**
	0.6nm,0.6s,baz=89,slow=11,SNR=5.7						
KDAK	**Kodiak Island**	**51.71**	**40**	P	**P**	**05 54 50.5**	**+0.7**
	7.7nm,0.9s,baz=225,slow=1.4,SNR=6.6						
WRA	**Warramunga Arr**	**53.65**	**183**	P	**P**	**05 55 03.2**	**-1.1**
	0.5nm,0.3s,baz=0.3,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**57.37**	**184**	P	**P**	**05 55 29.9**	**-0.7**
	0.5nm,1.0s,baz=20,slow=11,SNR=1.8						
INK	**Inuvik**	**58.70**	**26**	P	**P**	**05 55 39.9**	**+0.9**
	0.6nm,0.5s,baz=207,slow=4.5,SNR=2.0						
FINES	**FINESS Array B**	**69.89**	**331**	P	**P**	**05 56 51.0**	**0.0**
	0.5nm,0.7s,baz=349,slow=1.9,SNR=4.6						
NVAR	**Mina Array Bea**	**79.63**	**51**	P	**P**	**05 57 48.0**	**+0.8**
	0.5nm,0.8s,baz=269,slow=5.9,SNR=4.1						
PDAR	**Pinedale Array**	**82.31**	**43**	P	**P**	**05 58 00.5**	**-0.7**
	0.3nm,0.6s,baz=292,slow=4.7,SNR=3.6						

*NIED **09** 05:49:36.5, 38°.89N×141°.97E, h49km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.56; $M_{\theta\theta}$-0.63; $M_{\phi\phi}$-3.93; $M_{r\theta}$2.01; $M_{\theta\phi}$-1.46; $M_{r\phi}$5.60; Fault plane solution: $M_0$7.48000×10^{14} NP1:ϕ_s20.00000°, δ71.00000°, λ89.00000°. NP2:ϕ_s202.00000°, δ19.00000°, λ92.00000°.*
*JMA **09** 05:49:36.5±0.1, 38°.89N×141°.97E, h49km±1km, M3.9*
JMA Felt II J1.
*NEIC **09** 05:49:38.2±1.8, 38°.84N±0°.08×142°.1E±0°.1, h68km±9km, mb4.4/12, Error ellipse: s-maj=19.2km s-min=5.8km az=124.0*
*IDC **09** 05:49:41.1±2.3, 38°.79N×141°.86E, h95km±19km, mb3.6/11, mb1 3.7/15, mb1mx3.5/40, mbtmp3.9/15, MS2.7/2, Ms1 2.7/2, ms1mx2.5/38, Error ellipse: s-maj=22.8km s-min=15.1km az=92.0*
ISC 09 05:49:36.9±1.1, 38°.86N±0°.05×141°.97E±0°.08, h50km±7km, n62, σ1°.48/64, mb4.2/19, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.32**	**313**	P	**Pn**	**05 49 45.8**	**-0.4**
OFUJ				S	**Sn**	**05 49 52.1**	**-0.8**
JKMT	**Kesennumamotoy**	**0.39**	**262**	P	**Pn**	**05 49 46.5**	**-0.4**
JKMT				S	**Sn**	**05 49 53.3**	**-0.8**
JMK	**Ichinoseki**	**0.59**	**279**	P	**Pn**	**05 49 48.9**	**-0.4**
JMK				S	**Sn**	**05 49 57.5**	**-0.7**
JIO	**Ouri**	**0.64**	**230**	P	**Pn**	**05 49 49.4**	**-0.4**
JIO				S	**Sn**	**05 49 58.1**	**-1.0**
JOM	**Ohasama**	**0.80**	**319**	P	**Pn**	**05 49 51.5**	**-0.6**
JOM				S	**Sn**	**05 50 02.3**	**-0.8**
JOU	**Okura**	**1.14**	**244**	P	**Pn**	**05 49 56.1**	**-0.4**
JOU				S	**Sn**	**05 50 10.8**	**-0.2**
JRG	**Rokugo**	**1.17**	**298**	P	**Pn**	**05 49 56.4**	**-0.5**
JRG				*e*S	**Sn**	**05 50 11.5**	**-0.2**
JYK	**Kaneyama**	**1.26**	**273**	P	**Pn**	**05 49 57.8**	**-0.3**
JMM	**Marumori**	**1.36**	**223**	P	**Pn**	**05 49 58.8**	**-0.7**
JMM				S	**Sn**	**05 50 15.2**	**-1.2**
JANG	**Nango**	**1.55**	**347**	P	**Pn**	**05 50 01.2**	**-0.9**
ERM	**Erimo**	**3.27**	**16**	Pn	**Pn**	**05 50 27.2**	**+1.5**
MAJO	**Matsushiro**	**3.78**	**233**	Pn	**Pn**	**05 50 35.0**	**+2.3**
MAT	**Matsushiro**	**3.78**	**233**	P	**Pn**	**05 50 34.6**	**+1.9**
MAT				*e*S	**Sn**	**05 51 18.9**	**+3.0**
MJAR	**Matsushiro Arr**	**3.78**	**233**	P	**Pn**	**05 50 34.8**	**+2.2**
	0.9nm,0.3s,baz=32,slow=12,SNR=32						
MJAR				LR	LR	05 52 03.8	
	comp=Z,80nm,18.6s,baz=165,slow=39						
MJAR	**Matsushiro Arr**	**3.78**	**233**		**Pn**	**05 50 33.8**	**+1.1**
MJB9	**Matsu-Tunnel**	**3.78**	**233**	Pn	**Pn**	**05 50 35.2**	**+2.5**
ASAJ	**Asahikawa**	**5.27**	**5**	P	Pn	05 50 59.1	+6.0
	1.7nm,0.3s,baz=178,slow=4.4,SNR=6.9						
JKA	**Kamikawa-asahi**	**5.27**	**5**	Pn	**Pn**	**05 50 55.6**	**+2.5**
INU	**Inuyama**	**5.29**	**230**	Pn	**Pn**	**05 50 56.2**	**+2.8**
USA0B	**Ussuriysk Arra**	**9.19**	**309**	Pn	**Pn**	**05 51 51.0**	**+4.3**
USRK	**Ussuriysk Ar.**	**9.19**	**309**	P	**Pn**	**05 51 50.0**	**+3.3**
	baz=125,slow=14,SNR=16						
USRK	**Ussuriysk Ar.**	**9.19**	**309**		**Pn**	**05 51 50.6**	**+3.9**
KSRS	**Korea Array**	**11.15**	**267**	P	**Pn**	**05 52 16.6**	**+2.9**
	0.4nm,0.3s,baz=83,slow=13,SNR=4.4						
KLR	**Kul'dur**	**12.69**	**328**	LR	LR	05 57 15.3	
	comp=Z,46nm,18.6s,baz=122,slow=36						
HHC	**Hu-ho-hao-te**	**23.37**	**285**	*e*P	**P**	**05 54 40.5**	**-0.7**
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,91nm,6.5s						
SONM	**Songino Array**	**27.18**	**301**	P	**P**	**05 55 16.1**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=92,slow=12,SNR=2.9						
SONM	**Songino Array**	**27.18**	**301**	P	**P**	**05 55 17.3**	**+1.6**
H11N2	**WAKE ISLAND Hy**	**28.76**	**124**	T	T	06 26 04.6	
	baz=317,slow=75,SNR=286						
H11N1	**WAKE ISLAND Hy**	**28.77**	**124**	T	T	06 26 05.2	
	baz=317,slow=75,SNR=280						
H11N3	**WAKE ISLAND Hy**	**28.78**	**124**	T	T	06 26 05.9	
	baz=317,slow=75,SNR=195						
H11S1	**WAKE ISLAND Hy**	**29.54**	**126**	T	T	06 26 51.5	
	baz=318,slow=76,SNR=109						
H11S3	**WAKE ISLAND Hy**	**29.54**	**126**	T	T	06 26 51.7	
	baz=318,slow=76,SNR=216						
H11S2	**WAKE ISLAND Hy**	**29.55**	**126**	T	T	06 26 52.8	
	baz=318,slow=76,SNR=166						
LZH	**Lanzhou**	**30.24**	**277**	*e*P	**P**	**05 55 43.6**	**+0.5**
LZH				pP	pP	05 56 02.2	+6.2
LZH				sP	sP	05 56 09.5	+7.6
LZH				PP	**PnPn**	**05 56 41.3**	**-1.0**
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,75nm,4.9s						
WMQ	**Urumqi**	**40.44**	**295**	*e*P	**P**	**05 57 10.8**	**+0.4**
WMQ				pmax	pmax		
	comp=Z,13nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,34nm,4.9s						
WMQ				LR	LR		
	comp=N,890nm,28.9s						
WMQ				LR	LR		
	comp=E,970nm,29.0s						
WMQ				LR	LR		
	comp=Z,26nm,25.1s						
ZAA0	**Zalesovo Array**	**41.03**	**311**	P	**P**	**05 57 14.0**	**-1.0**
ZAA0				lAmb	lAmb	05 57 15.2	
	comp=Z,4.2nm,1.0s						
ZALV	**Zalesovo Beam**	**41.03**	**311**	P	**P**	**05 57 14.5**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=86,slow=7.5,SNR=8.7						
ZALV	**Zalesovo Beam**	**41.03**	**311**	P	**P**	**05 57 14.4**	**-0.6**
MK31	**Makanchi Array**	**43.54**	**301**	P	**P**	**05 57 35.3**	**-0.3**
MK31				lAmb	lAmb	05 57 36.0	
	comp=Z,3.7nm,0.8s						
MKAR	**Makanchi Array**	**43.54**	**301**	P	**P**	**05 57 35.2**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=86,slow=9.7,SNR=28						
MAKZ	**Makanchi**	**43.75**	**301**	P	**P**	**05 57 37.1**	**-0.2**
KURK	**Kurchatov**	**45.17**	**307**	P	**P**	**05 57 47.2**	**-1.3**
KURK				lAmb	lAmb	05 57 48.5	
	comp=Z,7.7nm,0.9s						
ILAR	**Eielson Array**	**47.72**	**33**	P	**P**	**05 58 08.6**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=266,slow=5.7,SNR=6.1						
ILAR	**Eielson Array**	**47.72**	**33**	P	**P**	**05 58 09.1**	**+0.7**
KKAR	**Karatay Array**	**52.60**	**299**	P	**P**	**05 58 45.0**	**-0.7**
ABKAR	**Akbulak array**	**57.11**	**309**	P	**P**	**05 59 16.9**	**-1.1**
WB0	**Warramunga Arr**	**58.75**	**188**	P	**P**	**05 59 28.9**	**-0.9**
WR0	**Warramunga Arr**	**58.93**	**188**	P	**P**	**05 59 30.3**	**-0.7**
WR0				lAmb	lAmb	05 59 45.2	
	comp=Z,4.2nm,1.1s						
WB2	**Warramunga Arr**	**58.93**	**188**	P	**P**	**05 59 30.3**	**-0.8**
WRA	**Warramunga Arr**	**58.93**	**188**	P	**P**	**05 59 29.4**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=6.2,slow=7.0,SNR=18						
WRA	**Warramunga Arr**	**58.93**	**188**	P	**P**	**05 59 30.5**	**-0.6**
YKA	**Yellowknife Ar**	**62.01**	**31**	P	**P**	**05 59 51.8**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=325,slow=10,SNR=2.1						
ASAR	**Alice Springs**	**62.66**	**188**

130nm,0.3s
KUR Kuril'sk 1.56 9 *e*P **Pn 06 19 19.7 +0.5**
KUR AMB AMB 06 19 22.0
30nm,0.4s
KUR *i* S **Sn 06 19 37.7 -0.8**
KUR A A 06 19 39.0
230nm,0.4s
KUR A A 06 19 39.0
280nm,0.4s
JRA Rausu 1.74 279 P **Pn 06 19 22.9 +1.2**
JRA *e*S **Sn 06 19 42.8 -0.3**
JNSB Nemuroshibetsu 1.81 273 P **Pn 06 19 24.1 +1.4**
JNSB *e*S **Sn 06 19 44.2 -0.8**
JKHN Kushirohamanak 1.82 251 P **Pn 06 19 23.7 +0.9**
JKHN *e*S **Sn 06 19 44.0 -1.0**
JNK Nakash 2.03 268 P **Pn 06 19 26.7 +1.0**
JNK *e*S **Sn 06 19 49.2 -1.0**
JAK Akkeshi 2.17 252 P **Pn 06 19 28.4 +0.8**
JAK *e*S **Sn 06 19 52.3 -1.3**
JAR Ashorobuto 2.75 263 P **Pn 06 19 37.3 +1.7**
JAR *e*S **Sn 06 20 08.4 +0.4**
JOB Onbets 2.80 255 P **Pn 06 19 37.6 +1.4**
JOB *e*S **Sn 06 20 08.6 -0.5**
JCH Churui 3.22 252 P **Pn 06 19 43.2 +1.1**
JCH *e*S **Sn 06 20 18.1 -1.5**
JKK2 Kamakawa 2 3.45 275 P **Pn 06 19 48.3 +3.0**
JNBK Urakawa-nobuka 3.77 249 P **Pn 06 19 51.1 +1.5**

*IDC **09** 06:23:36.0±1.1,5.˚34S×131.˚67E,h0km,mb4.1/5,*
mb1 4.6/10,mb1mx4.2/33,mbtmp4.5/10,ML4.9/5,Error
ellipse: s-maj=27.7km s-min=22.0km az=86.0
*BJI **09** 06:23:42.5±0.0,5.˚16S×131.˚63E,h44km,mB5.0/9,*
mb4.8/10,Ms5.0/1,Ms7 4.6/1
*NEIC **09** 06:23:43.1±1.9,5.˚17S±0.˚06×131.˚71E±0.˚08,h54km±3km,*
mb4.6/10,Error ellipse: s-maj=11.8km s-min=7.7km
az=111.0
*DJA **09** 06:23:43.6±0.2,5.˚S±2.˚×13.˚2E±.˚,h76km±5km,M5.0/22,*
mb4.7/22,mB5.7/7,MLv5.1/15,Mw(mB)5.2/7
ISC 09 06:23:42.8±0.5,5.˚17S±0.˚05×131.˚72E±0.˚06,h47km,n65,
σ1§82/62,mb4.4/12,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.92**	**289**	P		P	**Pn**	**06 24 15.6**	**+2.5**
FAKI	**Fak Fak**	**2.29**	**13**	P		P	**Pn**	**06 24 19.2**	**+1.0**
FAKI	**Fak Fak**	**2.29**	**13**				**Pn**	**06 24 18.9**	**+0.8**
FAKI					Sn		**Sn**	**06 24 44.1**	**-1.1**
KMPI	**Kaimana, Papua**	**2.48**	**53**	P		P	**Pn**	**06 24 22.1**	**+1.4**
SAUI	**Saumlaki**	**2.83**	**189**	P		P	**Pn**	**06 24 27.4**	**+1.9**
SAUI				S			**Sn**	**06 25 03.5**	**+5.1**
SAUI	**Saumlaki**	**2.83**	**189**	Pn		P	**Pn**	**06 24 27.5**	**+1.9**
MSAI	**Masohi**	**3.32**	**303**	P		P	**Pn**	**06 24 33.9**	**+1.6**
SIJI	**Sorong**	**4.29**	**354**	Pn		P	**Pn**	**06 24 45.6**	**0.0**
	42nm,0.3s,baz=136,slow=23,SNR=47								
SIJI					Sn		**Sn**	**06 25 30.6**	**-3.9**
	65nm,0.3s,baz=48,slow=23,SNR=17								
RKPI	**Ransiki, Papua**	**4.38**	**34**	P		P	**Pn**	**06 24 48.2**	**+1.4**
NLAI	**Namlea**	**4.99**	**292**	P		P	**Pn**	**06 24 57.5**	**+2.3**
	1.6nm7μm320nm,0.5s								
SANI	**Sanana**	**6.51**	**298**	P		P	**Pn**	**06 25 15.4**	**-0.6**
	0.9nm3μm202nm,0.6s								
WAMI	**Wamena**	**7.08**	**80**	P		P	**Pn**	**06 25 26.0**	**+2.1**
	1.9nm203nm,0.4s								
MTN	**Manton Dam**	**7.65**	**184**	Pn		P	**Pn**	**06 25 30.9**	**-0.8**
SMPI	**Sarmi**	**7.65**	**66**	P		P	**Pn**	**06 25 32.7**	**+0.9**
	0.1nm13nm,1.0s								
SOEI	**Soe**	**8.69**	**238**	P		P	**Pn**	**06 25 47.0**	**+1.0**
	92nm,0.8s								
SOEI	**Soe**	**8.69**	**238**	Pn		P	**Pn**	**06 25 47.1**	**+1.0**
MMPI	**Merauke**	**9.20**	**111**	P		P	**Pn**	**06 25 53.8**	**+0.8**
	22μm407nm,0.7s								
JAY	**Jayapura**	**9.34**	**74**	Pn		P	**Pn**	**06 25 55.0**	**+0.1**
	1.6nm,0.3s,baz=241,slow=11,SNR=7.2								
JAY					Sn		**Sn**	**06 27 40.0**	**+1.3**
	1.2nm,0.3s,baz=187,slow=22,SNR=1.4								
JAY	**Jayapura**	**9.34**	**74**	P		P	**Pn**	**06 25 54.9**	**0.0**
	9.9nm,0.9s								
BATI	**Baumata**	**9.43**	**237**	Pn		P	**Pn**	**06 25 56.6**	**+0.5**
	13nm,0.3s,baz=138,slow=4.0,SNR=6.4								
BATI					Sn		**Sn**	**06 27 36.0**	**-4.8**
	5.1nm,0.3s,baz=93,slow=19,SNR=1.9								
BATI	**Baumata**	**9.43**	**237**	P		P	**Pn**	**06 25 57.4**	**+1.3**
	46nm,0.6s								
LUWI	**Luwuk**	**9.83**	**294**	P		P	**Pn**	**06 26 03.6**	**+2.0**
	60nm,0.8s								
EDFI	**Ende, Flores**	**10.58**	**250**	P		P	**Pn**	**06 26 14.0**	**+2.1**
	12nm,1.3s								
KNRA	**Kununurra**	**10.84**	**195**	Pn		P	**Pn**	**06 26 13.8**	**-1.7**
BNSI	**Bone**	**11.60**	**273**	P		P	**Pn**	**06 26 29.7**	**+3.8**
	36nm,1.6s								
MPSI	**Mapaga**	**13.01**	**294**	P		P	**Pn**	**06 26 47.5**	**+2.3**
	17nm,0.8s								
FITZ	**Fitzroy Crossi**	**14.16**	**204**	Pn		Pn		06 26 55.4	-5.4
	11nm,0.3s,baz=31,slow=9.7,SNR=90								
FITZ					Sn		Sn	06 29 19.5	-17
	5.7nm,0.3s,baz=47,slow=20,SNR=5.1								
FITZ	**Fitzroy Crossi**	**14.16**	**204**	Pn		Pn		06 26 55.5	-5.2
COEN	**Coen**	**14.27**	**129**			Pn		**06 26 59.5**	**-2.7**
PLAI	**Plampang**	**14.31**	**254**	P		Pn		**06 27 03.3**	**+0.5**
	35nm,0.7s								
WB0	**Warramunga Arr**	**14.74**	**170**	Pn		Pn		06 27 03.5	-5.1
WRAB	**Tennant Creek**	**14.90**	**170**			Pn		06 27 05.7	-4.8
WRA	**Warramunga Arr**	**14.91**	**170**	Pn		Pn		06 27 05.5	-5.2
	8.0nm,0.3s,baz=350,slow=13,SNR=138								
WRA					Sn		Sn	06 29 41.9	-13
	4.4nm,0.3s,baz=357,slow=23,SNR=7.2								
WRA	**Warramunga Arr**	**14.91**	**170**				Pn	06 27 03.8	-6.9
WB2	**Warramunga Arr**	**14.91**	**170**				Pn	06 27 05.3	-5.4
WR0	**Warramunga Arr**	**14.96**	**170**	Pn			Pn	06 27 06.3	-5.0
TWSI	**Taliwang, Sumb**	**15.15**	**256**	P			**Pn**	**06 27 13.8**	**-0.1**
	15nm,1.0s								
MYLDM	**Lahad Datu**	**16.73**	**308**				**P**	**06 27 36.5**	**+0.8**
AS31	**Alice Springs**	**18.51**	**174**	P			**P**	**06 27 53.2**	**-2.2**
AS31					IAmb		IAmb	06 28 00.6	
	comp=Z,12nm,0.4s								
ASAR	**Alice Springs**	**18.51**	**174**	P			**P**	**06 27 52.4**	**-3.0**
	comp=Z,3.5nm,0.3s,baz=342,slow=8.1,SNR=91								
ASAR					S		Sn	06 31 07.6	-15
	comp=Z,0.6nm,0.3s,baz=355,slow=27,SNR=6.0								
ASAR	**Alice Springs**	**18.51**	**174**	P			**P**	**06 27 52.9**	**-2.5**
PSA00	**Pilbara Seismi**	**19.96**	**214**	P			**P**	**06 28 10.6**	**-0.6**
PSA00					IAmb		IAmb	06 28 12.1	
	comp=Z,15nm,0.6s								
SBUM	**Sibu**	**20.90**	**291**	P			**P**	**06 28 21.3**	**-0.1**
GIRL	**Giralia**	**24.24**	**223**	P			**P**	**06 28 55.6**	**+0.1**
GIRL					IAmb		IAmb	06 29 09.5	
	comp=Z,63nm,1.4s								
FORT	**Forrest**	**25.71**	**187**	P			**P**	**06 29 10.2**	**+1.4**
FORT					IAmb		IAmb	06 29 28.9	
	comp=Z,24nm,0.8s								
MORW	**Morawa**	**28.03**	**210**	P			**P**	**06 29 29.4**	**-0.3**
MORW					IAmb		IAmb	06 29 34.1	
	comp=Z,16nm,1.2s								
NJ2	**Nanjing**	**38.99**	**343**	*e*P			**P**	**06 31 06.7**	**+2.0**
NJ2					pmax		pmax		
	comp=Z,8.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**39.94**	**307**	P			**P**	**06 31 13.2**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=135,slow=7.4,SNR=8.1								
CMAR	**Chiang Mai Arr**	**39.94**	**307**	P			**P**	**06 31 13.0**	**+0.2**
LZH	**Lanzhou**	**48.65**	**330**	*e*P			**P**	**06 32 24.9**	**+2.5**
LZH				pP		pwP		06 32 37.3	-1.0
LZH				sP		sP		06 32 42.0	+2.5
LZH				PP			**PP**	**06 34 14.8**	**-1.1**
LZH				pmax		pmax			
	comp=Z,22nm,1.3s								
LZH				pmax		pmax			
	comp=Z,110nm,5.4s								
USRK	**Ussuriysk Ar.**	**49.14**	**0**	P			**P**	**06 32 26.3**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=177,slow=8.7,SNR=3.7								
USRK	**Ussuriysk Ar.**	**49.14**	**0**	P			**P**	**06 32 25.4**	**-0.4**
HHC	**Hu-ho-hao-te**	**49.38**	**340**	*e*P			**P**	**06 32 30.7**	**+2.8**
HHC				pmax		pmax			
	comp=Z,18nm,0.8s								
HHC				pmax		pmax			
	comp=Z,290nm,7.9s								
PALK	**Pallekele**	**52.39**	**283**	P			**P**	**06 32 50.2**	**-0.7**
GTA	**Gaotai**	**53.24**	**329**	*e*P			P	06 33 11.1	+14
GTA				pP			sP	06 33 15.6	+1.5
GTA				sP			pwP	06 33 18.2	+5.3
GTA				pmax		pmax			
	comp=Z,3.0nm,1.1s								
SONM	**Songino Array**	**57.29**	**340**	P			**P**	**06 33 26.5**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=168,slow=7.4,SNR=2.6								
SONM	**Songino Array**	**57.29**	**340**	P			**P**	**06 33 25.4**	**-0.4**
PETK	**Petropavlovsk-**	**62.07**	**17**	P			**P**	**06 33 59.0**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=198,slow=7.6,SNR=6.5								
PETK	**Petropavlovsk-**	**62.07**	**17**	P			**P**	**06 33 58.8**	**+0.3**
WMQ	**Urumqi**	**62.83**	**326**	*e*P			**P**	**06 34 05.3**	**+1.4**
MKAR	**Makanchi Array**	**67.66**	**326**	P			**P**	**06 34 35.5**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=112,slow=7.3,SNR=10								
MKAR	**Makanchi Array**	**67.66**	**326**	P			**P**	**06 34 35.2**	**+0.1**
KKAR	**Karatay Array**	**73.12**	**318**	P			**P**	**06 35 07.8**	**-0.7**
HLK	**Haleakala**	**75.16**	**67**	P			**P**	**06 35 18.9**	**-2.2**
ABKAR	**Akbulak array**	**82.16**	**321**				**P**	**06 35 58.0**	**-0.7**

IDC 09 06:28:02.8±10.0,18.˚83N×46.˚39W,h0km,mb3.8/4,
mb1 4.2/4,mb1mx3.6/46,mbtmp3.8/4,MS3.2/5,Ms1 3.2/5,
ms1mx2.9/35,Error ellipse: s-maj=260.2km
s-min=80.9km az=164.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**30.60**	**246**	LR		LR		06 47 02.2	
	comp=Z,35nm,20.3s,baz=122,slow=37								
TKL	**Tuckaleechee C**	**36.96**	**305**	P		P		06 35 13.5	-0.4
	2.1nm,0.7s,baz=113,slow=13,SNR=4.3								
H10N3	**ASCENSION HYDR**	**41.12**	**127**	T		T		07 19 30.2	
	baz=310,slow=75,SNR=36								
H10N2	**ASCENSION HYDR**	**41.12**	**127**	T		T		07 19 28.5	
	baz=310,slow=75,SNR=34								
H10N1	**ASCENSION HYDR**	**41.14**	**127**	T		T		07 19 29.1	
	baz=310,slow=75,SNR=40								
ESDC	**Sonseca Array**	**41.96**	**51**	LR		LR		06 49 12.9	
	comp=Z,29nm,19.4s,baz=225,slow=30								
DBIC	**Dimbokro**	**42.16**	**101**	LR		LR		06 52 54.3	
	comp=Z,45nm,18.2s,baz=265,slow=35								
TXAR	**Lajitas Array**	**52.88**	**293**	P		P		06 37 20.8	-0.1
	0.6nm,1.0s,baz=116,slow=6.1,SNR=5.0								
TXAR						LR		06 57 36.6	
	comp=Z,20nm,22.0s,baz=0.0,slow=34								
PDAR	**Pinedale Array**	**57.87**	**309**	P		P		06 37 57.2	+0.4
	0.6nm,0.5s,baz=112,slow=9.8,SNR=7.2								
PDAR						LR		07 00 46.9	
	comp=Z,28nm,20.4s,baz=151,slow=34								
ILAR	**Eielson Array**	**77.53**	**334**	P		P		06 40 00.1	-0.1
	1.1nm,0.8s,baz=75,slow=4.7,SNR=10								

*NNC **09** 06:40:06.8±0.4,42.˚60N×76.˚62E,h0km±2km,mb4.0,*
mpv4.0,Error ellipse: s-maj=3.2km s-min=1.2km az=164.0
*KRNET **09** 06:40:07.0±0.1,42.˚59N×76.˚63E,h21km,mb3.8*
*SOME **09** 06:40:07.0,42.˚58N×76.˚62E,h20km*
*KNET **09** 06:40:08.6±0.5,42.˚62N×76.˚45E,h12km±2km,ml2.9,Error*
ellipse: s-maj=3.8km s-min=2.1km az=73.0
ISC 09 06:40:06.0±1.1,42.˚59N±0.˚02×76.˚62E±0.˚01,h7km±10km,
n98,σ1§04/180,65C-28D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IZV	**Izvestkoviy**	**0.44**	**360**	*e*P			**Pb**	**06 40 16.1**	**-0.2**
	baz=58								
IZV					*e*S		**Sb**	**06 40 22.6**	**-0.6**
	baz=58								
IZV	**Izvestkoviy**	**0.44**	**360**	*e*P			**Pb**	**06 40 16.1**	**-0.2**
	178nm,0.1s								
IZV					*e*S		**Sb**	**06 40 22.6**	**-0.6**
	651nm,0.2s								
IZV	**Izvestkoviy**	**0.44**	**360**	P			**Pb**	**06 40 16.1**	**-0.2**
	178nm,0.1s								
IZV					S		**Sb**	**06 40 22.6**	**-0.6**
	651nm,0.2s								
ULHL	**Ulahol**	**0.45**	**219**	⇑*i*P			**Pb**	**06 40 16.2**	**-0.1**
	baz=20								
ULHL					⇑*i*S		**Sb**	**06 40 22.5**	**-0.8**
	baz=20								
ULHL	**Ulahol**	**0.45**	**219**	P			**Pb**	**06 40 16.2**	**-0.1**
	708nm,0.2s,SNR=282								
ULHL					⇑S		**Sb**	**06 40 22.8**	**-0.4**
	586nm,0.1s								
TNSS	**Tian-Shan**	**0.51**	**29**	⇑*i*P			**Pb**	**06 40 17.0**	**-0.5**
	baz=28								
TNSS					⇑*e*S		**Sb**	**06 40 24.3**	**-0.9**
	baz=28								
TNSS	**Tian-Shan**	**0.51**	**29**	⇑*i*P			**Pb**	**06 40 17.0**	**-0.5**
	180nm,0.1s								
TNSS					*e*S		**Sb**	**06 40 24.4**	**-0.9**
	265nm,0.3s								
TNSS	**Tian-Shan**	**0.51**	**29**	P			**Pb**	**06 40 17.0**	**-0.5**
	180nm,0.1s								
TNSS					S		**Sb**	**06 40 24.4**	**-0.9**
	265nm,0.3s								
MTBS	**Maitube**	**0.55**	**346**	⇓*i*P			**Pb**	**06 40 17.9**	**-0.2**
	baz=45								
MTBS					⇓*e*S		**Sb**	**06 40 25.5**	**-0.9**
	baz=45								
MTBS	**Maitube**	**0.55**	**346**	⇓*i*P			**Pb**	**06 40 17.9**	**-0.2**
	200nm,0.2s								
MTBS					*e*S		**Sb**	**06 40 25.4**	**-0.9**
	335nm,0.2s								
MTBS	**Maitube**	**0.55**	**346**	P			**Pb**	**06 40 17.9**	**-0.2**
	200nm,0.2s								
MTBS					S		**Sg**	**06 40 24.9**	**+0.9**
	477nm,0.3s								
KDJ	**Kajisay**	**0.62**	**138**	⇑*i*P			**Pb**	**06 40 19.0**	**-0.3**
	baz=38								
KDJ					⇑*i*S		**Sb**	**06 40 27.6**	**-0.7**
	baz=38								
MDOK	**Medeo**	**0.65**	**29**	⇓*i*P			**Pb**	**06 40 19.4**	**-0.4**
	baz=28								
MDOK					⇓*i*S		**Sb**	**06 40 28.2**	**-1.0**
	baz=28								
MDOK	**Medeo**	**0.65**	**29**	⇓*i*P			**Pb**	**06 40 19.4**	**-0.4**
	96nm,0.5s								
MDOK					⇓*i*S		**Sb**	**06 40 28.2**	**-1.0**
	216nm,0.5s								
MDOK	**Medeo**	**0.65**	**29**	⇓P			**Pb**	**06 40 19.2**	**-0.6**
	55nm,0.5s								
MDOK					⇓S		**Sb**	**06 40 28.2**	**-1.0**
	58nm,0.3s								
MDOK	**Medeo**	**0.65**	**29**	Pg			**Pb**	**06 40 19.4**	**-0.4**
	96nm,0.5s								
MDOK					Lg		Lg	06 40 28.2	
	216nm,0.5s								
AAA	**Alma-Ata**	**0.65**	**19**	*e*P			**Pb**	**06 40 20.0**	**+0.2**
	baz=19								
AAA					*e*S		**Sb**	**06 40 29.4**	**+0.2**
	baz=19								
AAA	**Alma-Ata**	**0.65**	**19**	*e*P			**Pb**	**06 40 19.9**	**+0.2**
	64nm,0.1s								
AAA					*e*S		**Sb**	**06 40 29.4**	**+0.2**
	551nm,0.1s								
AAA	**Alma-Ata**	**0.65**	**19**	P			**Pb**	**06 40 19.9**	**+0.2**
	64nm,0.1s								
AAA					S		**Sb**	**06 40 29.4**	**+0.2**
	551nm,0.1s								
KST	**Kastek**	**0.66**	**313**	⇓*i*P			**Pb**	**06 40 19.8**	**-0.1**
	baz=13								
KST					⇓*i*S		**Sb**	**06 40 29.3**	**-0.1**
	baz=13								
KST	**Kastek**	**0.66**	**313**	⇓*i*P			**Pb**	**06 40 19.8**	**-0.1**
	226nm,0.2s								
KST					⇓*i*S		**Sb**	**06 40 29.3**	**-0.1**
	685nm,0.2s								
KST	**Kastek**	**0.66**	**313**	P			**Pb**	**06 40 19.8**	**-0.1**
	226nm,0.2s								
KST					S		**Sb**	**06 40 29.3**	**-0.1**
	685nm,0.2s								
KNDC	**Almaty**	**0.67**	**22**	⇑P			**Pb**	**06 40 20.1**	**0.0**
	35nm,0.2s								
KNDC					⇑S		**Sb**	**06 40 29.6**	**-0.2**
	308nm,0.3s								
KOTS	**Kotyrbulak**	**0.74**	**29**	*e*P			**Pb**	**06 40 21.1**	**-0.2**
	baz=29								
KOTS					*e*S		**Sb**	**06 40 31.3**	**-0.3**
	baz=29								
KOTS	**Kotyrbulak**	**0.74**	**29**	*e*P			**Pb**	**06 40 21.1**	**-0.2**
	201nm,0.2s								
KOTS					*e*S		**Sb**	**06 40 31.3**	**-0.3**
	2μm,0.4s								
KOTS	**Kotyrbulak**	**0.74**	**29**	P			**Pb**	**06 40 21.1**	**-0.2**
	201nm,0.2s								
KOTS					S		**Sb**	**06 40 31.3**	**-0.3**
	2μm,0.4s								
ANVS	**Anan'yevo**	**0.80**	**76**	⇑*i*P			**Pb**	**06 40 21.9**	**-0.4**
	baz=75								
ANVS					⇑*i*S		**Sb**	**06 40 32.7**	**-0.7**
	baz=75								
TKM2	**Tokmak 2**	**0.82**	**294**	⇑*i*P			**Pb**	**06 40 22.9**	**+0.1**
	baz=94								
TKM2					⇑*i*S		**Sb**	**06 40 34.1**	**0.0**
	baz=94								
TKM2	**Tokmak 2**	**0.82**	**294**	⇑P			**Pb**	**06 40 22.8**	**+0.1**
	42nm,0.1s,SNR=59								
TKM2					⇓S		**Sb**	**06 40 33.9**	**-0.2**
	798nm,0.1s								
TKM2	**Tokmak 2**	**0.82**	**294**	⇑P			**Pb**	**06 40 22.8**	**+0.1**
	6.8nm,0.2s								
TKM2					⇑S		**Sb**	**06 40 34.0**	**0.0**
	564nm,0.6s								
DGS	**Degeres**	**0.90**	**317**	*e*P			**Pb**	**06 40 24.0**	**0.0**
	baz=16								
DGS					*e*S		**Sb**	**06 40 36.2**	**0.0**
	baz=16								
DGS	**Degeres**	**0.90**	**317**	*e*P			**Pb**	**06 40 24.0**	**0.0**
	52nm,0.1s								
DGS					*e*S		**Sb**	**06 40 36.3**	**0.0**
	176nm,0.1s								
DGS	**Degeres**	**0.90**	**317**	P			**Pb**	**06 40 24.0**	**0.0**
	52nm,0.1s								
DGS					S		**Sb**	**06 40 36.3**	**0.0**
	176nm,0.1s								
KTBS	**Karatobe**	**1.12**	**2**	*e*P			**Pn**	**06 40 28.0**	**-0.2**
	baz=55								
KTBS					*e*S		**Sn**	**06 40 42.9**	**-1.0**
	baz=55								
KTBS	**Karatobe**	**1.12**	**2**	*e*P			**Pn**	**06 40 28.0**	**-0.2**
	34nm,0.1s								
KTBS					*e*S		**Sn**	**06 40 42.9**	**-1.0**
	1μm,0.3s								
KTBS	**Karatobe**	**1.12**	**2**	P			**Pn**	**06 40 28.0**	**-0.2**
	34nm,0.1s								
KTBS					S		**Sn**	**06 40 42.9**	**-1.0**
	1μm,0.3s								
KZA	**Kyzart**	**1.14**	**244**	⇑*i*P			**Pn**	**06 40 28.4**	**-0.3**
	baz=44								
KZA					⇑*i*S		**Sg**	**06 40 43.8**	**+1.2**
	baz=44								
KZA	**Kyzart**	**1.14**	**244**	P			**Pn**	**06 40 28.6**	**-0.1**
	72nm,0.2s,SNR=214								
KZA					⇓S		**Sn**	**06 40 45.0**	**+0.2**
	56nm,0.2s								
KBK	**Karagaybulak**	**1.23**	**274**	⇑*i*P			**Pg**	**06 40 30.1**	**+0.4**
	baz=74								
KBK					⇑*i*S		**Sn**	**06 40 46.8**	**-0.1**
	baz=74								
KBK	**Karagaybulak**	**1.23**	**274**	⇑P			**Pg**	**06 40 30.2**	**+0.4**
	39nm,0.1s,SNR=26								
TARG	**Taragay, Kyrgy**	**1.23**	**134**	⇑*i*P			**Pn**	**06 40 29.5**	**-0.6**
	baz=34								
TARG					⇑*i*S		**Sg**	**06 40 46.0**	**+0.3**
	baz=34								
CHKK	**Chushkaly**	**1.29**	**12**	⇑*i*P			**Pg**	**06 40 30.9**	**+0.2**
	baz=12								
CHKK					⇑*i*S		**Sg**	**06 40 47.8**	**+0.3**
	baz=12								
CHKK	**Chushkaly**	**1.29**	**12**	⇑*i*P			**Pg**	**06 40 30.9**	**+0.2**
	36nm,0.1s								
CHKK					⇑*i*S		**Sg**	**06 40 47.8**	**+0.3**
	718nm,0.3s								
CHKK	**Chushkaly**	**1.29**	**12**	P			**Pg**	**06 40 30.9**	**+0.2**
	36nm,0.1s								
CHKK					S		**Sg**	**06 40 47.8**	**+0.3**
	718nm,0.3s								
KRBS	**Karabastau**	**1.30**	**328**	*e*P			**Pg**	**06 40 31.2**	**+0.2**
	144nm,0.2s								
KRBS					*e*S		**Sg**	**06 40 48.3**	**+0.5**
	48nm,0.2s								
KRBS	**Karabastau**	**1.30**	**328**	P			**Pg**	**06 40 31.2**	**+0.2**
	144nm,0.2s								
KRBS					S		**Sg**	**06 40 48.3**	**+0.5**
	48nm,0.2s								
KUU	**Kurty**	**1.31**	**351**	⇓*i*P			**Pg**	**06 40 31.4**	**+0.1**
	baz=51								
KUU					⇑*i*S		**Sg**	**06 40 48.6**	**+0.2**
	baz=51								
KUU	**Kurty**	**1.31**	**351**	⇓*i*P			**Pg**	**06 40 31.4**	**+0.1**
	58nm,0.1s								
KUU					⇑*i*S		**Sg**	**06 40 48.5**	**+0.2**
	179nm,0.2s								
KUU	**Kurty**	**1.31**	**351**	P			**Pg**	**06 40 31.4**	**+0.1**
	58nm,0.1s								
KUU					S		**Sg**	**06 40 48.5**	**+0.2**
	179nm,0.2s								
PRZ	**Przheval'sk**	**1.32**	**94**	⇑*i*P			**Pg**	**06 40 31.2**	**-0.2**
	baz=94								
PRZ					⇑*i*S		**Sg**	**06 40 49.3**	**+0.8**
	baz=94								
SATY	**Saty**	**1.40**	**70**	⇑*i*P			**Pb**	**06 40 32.1**	**-0.4**
	57nm,0.1s								
SATY					*e*S		**Sg**	**06 40 50.3**	**-0.6**
	394nm,0.1s								
SATY	**Saty**	**1.40**	**70**	P			**Pb**	**06 40 32.1**	**-0.4**
	57nm,0.1s								
SATY					S		**Sg**	**06 40 50.3**	**-0.6**
	394nm,0.1s								
CHMS	**Chumysh**	**1.43**	**287**	⇑*i*P			**Pb**	**06 40 33.2**	**+0.1**
	baz=87								
CHMS					⇑*i*S		**Sg**	**06 40 52.3**	**+0.3**
	baz=87								
CHMS	**Chumysh**	**1.43**	**287**	⇑P			**Pb**	**06 40 33.2**	**+0.1**
	12nm,0.1s,SNR=35								
CHMS					⇑S		**Sg**	**06 40 52.3**	**+0.3**
	140nm,0.3s								
ZHN	**Z

UZB	**Uzynbulak**	**1.85**	**72**	*e*P		**Pb**	**06 40 39.9**	**-0.4**
	84nm,0.3s							
UZB				*e*S		**Sg**	**06 41 04.1**	**-1.4**
	89nm,0.2s							
UZB	**Uzynbulak**	**1.85**	**72**	P		**Pb**	**06 40 39.9**	**-0.4**
	84nm,0.3s							
UZB				S		**Sg**	**06 41 04.1**	**-1.4**
	89nm,0.2s							
ARLS	**Aral**	**1.85**	**248**	⇑*i*P		**Pb**	**06 40 40.1**	**-0.2**
	baz=48							
ARLS				⇑*i*S		**Sb**	**06 41 04.2**	**+0.4**
	baz=48							
EKS2	**Erkin-Say**	**2.10**	**273**	⇑*i*P		**Pb**	**06 40 43.4**	**-1.0**
	baz=73							
EKS2				⇑*i*S		**Sb**	**06 41 10.2**	**-0.5**
	baz=73							
EKS2	**Erkin-Say**	**2.10**	**273**	⇑P		**Pb**	**06 40 44.8**	**+0.4**
	28nm,0.2s,SNR=31							
SHLS	**Shalkode**	**2.17**	**74**	*e*P		**Pg**	**06 40 50.7**	**+3.2**
	36nm,0.3s							
SHLS				*e*S		**Sg**	**06 41 22.3**	**+6.7**
	110nm,0.5s							
SHLS	**Shalkode**	**2.17**	**74**	Pg		**Pg**	**06 40 50.5**	**+3.0**
	36nm,0.3s							
SHLS				Lg		Lg	06 41 22.9	
	110nm,0.5s							
AML	**Almayashu**	**2.21**	**259**	⇑*i*P		**Pb**	**06 40 45.2**	**-1.4**
	baz=59							
AML				⇑*i*S		**Sb**	**06 41 13.2**	**-1.2**
	baz=59							
AML	**Almayashu**	**2.21**	**259**	⇑P		**Pb**	**06 40 47.5**	**+0.9**
	24nm,0.2s,SNR=9.6							
PDGK	**Podgornoye**	**2.23**	**70**	⇑Pn		**Pb**	**06 40 45.4**	**-1.3**
	10nm,0.3s							
PDGK				⇑Sn		**Sb**	**06 41 14.9**	**+0.2**
	31nm,0.6s							
MRKS	**Merke**	**2.51**	**275**	*e*P		**Pb**	**06 40 52.4**	**+1.0**
	26nm,0.3s							
MRKS				⇓*i*S		**Sg**	**06 41 24.8**	**-1.7**
	83nm,0.4s							
MRKS	**Merke**	**2.51**	**275**	Pg		**Pb**	**06 40 52.4**	**+1.0**
	26nm,0.3s							
MRKS				Lg		Lg	06 41 24.8	
	83nm,0.4s							
TDK	**Taldyqorghan**	**2.73**	**28**	*e*P		**Pb**	**06 40 55.6**	**+0.3**
	25nm,0.3s							
TDK				*e*S		**Sb**	**06 41 30.3**	**+1.4**
	110nm,0.3s							
TDK	**Taldyqorghan**	**2.73**	**28**	Pg		**Pg**	**06 40 58.0**	**-0.4**
	42nm,0.5s							
TDK				Lg		Lg	06 41 32.8	
	107nm,0.3s							
KTMS	**Ketmen**	**2.87**	**71**	*e*P		**Pb**	**06 40 57.3**	**-0.3**
	3.6nm,0.1s							
KTMS				*e*S		**Sb**	**06 41 32.9**	**0.0**
	38nm,0.4s							
KTMS	**Ketmen**	**2.87**	**71**	Lg		Lg	06 41 32.9	
	38nm,0.4s							
DJR	**Jarkent**	**2.89**	**52**	*e*P		**Pg**	**06 41 00.5**	**-0.8**
	16nm,0.3s							
DJR				*e*S		**Sg**	**06 41 37.5**	**-1.4**
	12nm,0.2s							
DJR	**Jarkent**	**2.89**	**52**	Pg		**Pg**	**06 41 00.5**	**-0.8**
	16nm,0.3s							
DJR				Lg		Lg	06 41 37.5	
	12nm,0.2s							
ARSB	**Arslanbob**	**2.99**	**246**	⇑*i*P		**Pn**	**06 40 56.3**	**+2.3**
	baz=46							
ARSB				⇑*i*S		**Sn**	**06 41 31.9**	**+1.7**
	baz=46							
BTLS	**Baital**	**3.07**	**324**	*e*P		**Pb**	**06 41 01.9**	**+0.9**
	4.5nm,0.2s							
BTLS				*e*S		**Sb**	**06 41 41.0**	**+2.3**
	10nm,0.5s							
ARK	**Arkit**	**3.55**	**259**	⇑*i*P		**Pn**	**06 41 04.0**	**+2.4**
	baz=58							
ARK				⇑*i*S		**Sn**	**06 41 44.8**	**+0.9**
	baz=58							
KK31	**Karatay Array**	**4.52**	**279**	⇑Pg		**Pb**	**06 41 28.1**	**+2.5**
	1.0nm,0.4s,baz=92,slow=16,SNR=16							
KK31				⇓Lg		Lg	06 42 25.9	
	25nm,0.7s,baz=99,slow=30							
IUG	**Iuzhnay**	**4.90**	**267**	*e*P		**Pg**	**06 41 36.3**	**-3.6**
	5.2nm,0.3s							
IUG				*e*S		**Sg**	**06 42 39.9**	**-3.5**
	23nm,0.8s							
BRLS	**Boroldday**	**5.01**	**277**	*e*P		**Pg**	**06 41 38.8**	**-3.2**
	0.7nm,0.2s							
BRLS				*e*S		**Sg**	**06 42 44.1**	**-2.7**
	7.7nm,0.6s							
MK31	**Makanchi Array**	**5.83**	**42**	⇑Pn		**Pn**	**06 41 35.1**	**+2.2**
	1.3nm,0.5s,baz=219,slow=15,SNR=17							
MK31				Pg		**Pb**	**06 41 48.4**	**+0.5**
	1.3nm,0.5s,baz=225,slow=16,SNR=4.6							
MK31				⇓Lg		Lg	06 43 05.3	
	2.7nm,0.6s							
OTUK	**Ortayu**	**6.40**	**333**	⇓Pn		**Pn**	**06 41 41.5**	**+0.8**
	2.1nm,1.0s							
OTUK				⇑Lg		Lg	06 43 24.1	
	4.9nm,0.5s							
KURBB	**Kurchatov Arra**	**8.14**	**9**	⇑Lg		Lg	06 44 22.3	
	10nm,0.7s							
KURK	**Kurchatov**	**8.24**	**9**	⇓Lg		Lg	06 44 22.7	
	7.7nm,1.0s							

BJI ***09*** *06:45:48.5±0.0,36°.50N×69°.80E,h220km,mB4.7/12, mb4.5/18*
MOS ***09*** *06:45:50.1±0.8,36°.57N×69°.81E,h243km,mb4.3/16,Error ellipse: s-maj=8.8km s-min=4.4km az=74.4*
IDC ***09*** *06:45:50.9±0.8,36°.41N×69°.84E,h243km±7km, mb3.7/25, mb1 3.8/32,mb1mx3.6/58,mbtmp4.4/32,Error ellipse: s-maj=10.9km s-min=8.9km az=1.0*
NEIC ***09*** *06:45:51.0±2.0,36°.53N±0°.05×69°.84E±0°.07,h241km±5km, mb4.3/52,Error ellipse: s-maj=9.6km s-min=6.3km az=57.0*

ISC 09 06:45:51.5±0.3,36°.53N±0°.04×69°.89E±0°.04,h250km,n225, σ1ˢ44/243,mb4.2/57,4C-10D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
KBL	**Kabul**	**2.10**	**199**	PN		Pn	Pn	**06**	**46**	**33.1**	**-2.1**
KBL				S		S	S	**06**	**47**	**04.6**	**-5.0**
KBL	**Kabul**	**2.10**	**199**	Pn		Pn	Pn	**06**	**46**	**33.1**	**-2.1**
KBL				S		S	S	**06**	**47**	**04.6**	**-5.0**
CHGR	**Chuyangaron**	**2.21**	**345**	Pn		Pn	Pn	**06**	**46**	**34.2**	**-1.7**
CHGR				S		S	S	**06**	**47**	**05.5**	**-5.5**
GAR	**Garm**	**2.49**	**8**	Pn		Pn	Pn	**06**	**46**	**37.4**	**-1.4**
GAR				S		S	S	**06**	**47**	**11.6**	**-4.5**
CEP	**Cherat**	**3.16**	**148**	⇓P		Pn	Pn	**06**	**46**	**45.1**	**-0.9**
CEP				S		S	S	**06**	**47**	**26.0**	**-3.1**
NIL	**Nilore**	**3.98**	**135**	PN		Pn	Pn	**06**	**46**	**55.2**	**0.0**
NIL	**Nilore**	**3.98**	**135**	Pn		Pn	Pn	**06**	**46**	**55.1**	**0.0**
NIL				S		S	S	**06**	**47**	**42.9**	**-2.7**
CHCP	**Chirah Chowk**	**3.98**	**135**	⇓P		Pn	Pn	**06**	**46**	**55.0**	**-0.2**
THW	**Thamme Wali**	**4.02**	**157**	⇓P		Pn	Pn	**06**	**46**	**54.1**	**-1.6**
TAS	**Tashkent**	**4.81**	**355**	PN		Pn	Pn	**06**	**47**	**04.3**	**-0.7**
TAS	**Tashkent**	**4.81**	**355**	Pn		Pn	Pn	**06**	**47**	**04.3**	**-0.7**
SARP	**Sargodha**	**5.14**	**153**	P		Pn	Pn	**06**	**47**	**07.3**	**-1.7**
IUG	**Iuzhnay**	**5.61**	**1**	⇓*i*P		Pn	Pn	**06**	**47**	**13.5**	**-1.3**
	baz=1.6										
IUG	**Iuzhnay**	**5.61**	**1**	⇓*i*PN		Pn	Pn	**06**	**47**	**13.5**	**-1.3**
KSH	**Kashi**	**5.66**	**56**	P		Pn	Pn	06	47	10.0	-5.4
KSH				S		S	S	06	48	11.3	-11
KSH	comp=N,120nm,0.6s			smax		smax					
KSH	comp=E,160nm,0.6s			smax		smax					
THN	**Thein Dam**	**6.31**	**129**	⇑*i*P		Pn	Pn	**06**	**47**	**23.5**	**0.0**
THN				*e*S		S	S	**06**	**48**	**34.0**	**-3.2**
AML	**Almayashu**	**6.33**	**27**	P		Pn	Pn	**06**	**47**	**22.8**	**-1.2**
	SNR=75										
DZA	**Taraz**	**6.45**	**9**	⇓*i*P		Pn	Pn	**06**	**47**	**23.9**	**-1.4**
	41nm,0.4s,baz=9.8										
DZA	**Taraz**	**6.45**	**9**	⇓*i*PN		Pn	Pn	**06**	**47**	**23.8**	**-1.4**
DZA	comp=Z,41nm,0.4s			pmax		pmax					
KK31	**Karatay Array**	**6.59**	**4**	PN		Pn	Pn	**06**	**47**	**25.4**	**-1.5**
KK31	**Karatay Array**	**6.59**	**4**	Pn		Pn	Pn	**06**	**47**	**25.4**	**-1.5**
KKAR	**Karatay Array**	**6.59**	**4**	PN		Pn	Pn	**06**	**47**	**25.1**	**-1.8**
KKAR	**Karatay Array**	**6.59**	**4**			Pn	Pn	**06**	**47**	**25.1**	**-1.8**
KKAR	**Karatay Array**	**6.59**	**4**	Pn		Pn	Pn	**06**	**47**	**25.4**	**-1.4**
HRA	**Herat**	**6.59**	**253**			Pn	Pn	**06**	**47**	**26.3**	**-0.9**
UCH	**Uchtor**	**6.72**	**31**	P		Pn	Pn	**06**	**47**	**28.2**	**-0.8**
	SNR=172										
DHRM	**DHARAMSHALA**	**6.80**	**127**	*e*P		Pn	Pn	**06**	**47**	**28.3**	**-1.6**
DHRM				*e*S		S	S	**06**	**48**	**42.6**	**-6.2**
DHRM				IAML				06	48	46.6	
DHRM	comp=N,691nm,0.4s			IAML				06	48	46.9	
EKS2	comp=E,614nm,0.5s **Erkin-Say**	**6.82**	**25**	P		Pn	Pn	**06**	**47**	**29.4**	**-0.6**
	SNR=39										
KZA	**Kyzart**	**6.93**	**35**	P		Pn	Pn	**06**	**47**	**31.1**	**-0.5**
	SNR=17										
AAK	**Ala-Archa**	**7.06**	**29**	P		Pn	Pn	**06**	**47**	**32.4**	**-0.6**
	comp=E,19nm,0.3s,baz=200,slow=5.8,SNR=59										
AAK	comp=E,3.6nm,0.3s,baz=182,slow=8.8,SNR=4.2			S		S	S	**06**	**48**	**49.4**	**-5.1**
AAK	**Ala-Archa**	**7.06**	**29**	P		Pn	Pn	**06**	**47**	**32.5**	**-0.6**
	SNR=36										
AAK	**Ala-Archa**	**7.06**	**29**	*d* PN		Pn	Pn	**06**	**47**	**32.3**	**-0.7**
AAK	**Ala-Archa**	**7.06**	**29**	Pn		Pn	Pn	**06**	**47**	**32.1**	**-0.9**
KBK	**Karagaybulak**	**7.26**	**31**	P		Pn	Pn	**06**	**47**	**35.3**	**-0.2**
	SNR=18										
CHMS	**Chumysh**	**7.47**	**29**	P		Pn	Pn	**06**	**47**	**37.4**	**-0.6**
	SNR=23										
ULHL	**Ulahol**	**7.54**	**39**	P		Pn	Pn	**06**	**47**	**38.5**	**-0.6**
	SNR=26										
USP	**Ospenovka**	**7.61**	**26**	P		Pn	Pn	**06**	**47**	**38.8**	**-1.0**
	SNR=16										
TKM2	**Tokmak 2**	**7.75**	**33**	P		Pn	Pn	**06**	**47**	**41.0**	**-0.8**
	SNR=17										
TARG	**Taragay, Kyrgy**	**8.05**	**47**	Pn		Pn	Pn	**06**	**47**	**45.3**	**-0.4**
SMLA	**Simla**	**8.10**	**130**	*e*P		Pn	Pn	**06**	**47**	**44.8**	**-1.3**
SMLA				*e*S		S	S	**06**	**49**	**13.8**	**-4.5**
SMLA				IAML				06	49	15.4	
SMLA	comp=E,144nm,0.3s			IAML				06	49	15.8	
MTBS	comp=N,125nm,0.3s **Maitube**	**8.29**	**35**	*i* P		Pn	Pn	**06**	**47**	**47.6**	**-0.9**
	baz=35										
MTBS	**Maitube**	**8.29**	**35**	*i* PN		Pn	Pn	**06**	**47**	**47.5**	**-0.9**
TNSS	**Tian-Shan**	**8.47**	**38**	*i* P		Pn	Pn	**06**	**47**	**50.1**	**-1.0**
	baz=38										
TNSS	**Tian-Shan**	**8.47**	**38**	*i* PN		Pn	Pn	**06**	**47**	**50.0**	**-1.0**
AAA	**Alma-Ata**	**8.58**	**37**	*e*P		Pn	Pn	**06**	**47**	**51.7**	**-0.5**
	baz=37										
AAA	**Alma-Ata**	**8.58**	**37**	*e*PN		Pn	Pn	**06**	**47**	**51.6**	**-0.5**
MDOK	**Medeo**	**8.61**	**38**	*i* P		Pn	Pn	**06**	**47**	**51.9**	**-0.7**
	baz=37										
MDOK	**Medeo**	**8.61**	**38**	*i* PN		Pn	Pn	**06**	**47**	**51.9**	**-0.7**
BTLS	**Baital**	**9.07**	**19**	*i* P		Pn	Pn	**06**	**47**	**57.1**	**-1.1**
	comp=N,9.1nm,0.7s,baz=19										
BTLS	**Baital**	**9.07**	**19**	*i* P		Pn	Pn	**06**	**47**	**57.1**	**-1.1**
BTLS	comp=Z,9.0nm,0.7s			pmax		pmax					
DDI	**Dehra Dun**	**9.21**	**130**	*e*P		Pn	Pn	**06**	**47**	**59.7**	**-0.5**
SATY	**Saty**	**9.24**	**43**	*e*P		Pn	Pn	**06**	**47**	**59.6**	**-1.0**
	baz=42										
SATY	**Saty**	**9.24**	**43**	*e*P		Pn	Pn	**06**	**47**	**59.5**	**-1.0**
SATY	**Saty**	**9.24**	**43**	*e*P		Pn	Pn	**06**	**47**	**59.5**	**-1.0**
GEYT	**Alibeck**	**9.49**	**282**	P		Pn	Pn	**06**	**48**	**01.2**	**-2.4**
	comp=Z,1.6nm,0.3s,baz=110,slow=13,SNR=12										
GYA0B	**ALIBECK ARRAY**	**9.49**	**282**	Pn		Pn	Pn	**06**	**48**	**01.1**	**-2.5**
UZB	**Uzynbulak**	**9.64**	**44**	*e*P		Pn	Pn	**06**	**48**	**05.3**	**-0.3**
	baz=44										
UZB	**Uzynbulak**	**9.64**	**44**	*e*P		Pn	Pn	**06**	**48**	**05.3**	**-0.3**
KPKS	**Kokpek**	**9.67**	**42**	*e*P		Pn	Pn	**06**	**48**	**05.8**	**-0.1**
	baz=41										
KPKS	**Kokpek**	**9.67**	**42**	*e*P		Pn	Pn	**06**	**48**	**05.7**	**-0.1**
SHLS	**Shalkode**	**9.90**	**45**	*i* P		P	P	**06**	**48**	**13.0**	**-1.7**
	baz=46										
SHLS	**Shalkode**	**9.90**	**45**	*i* P		P	P	**06**	**48**	**13.0**	**-1.7**
SONA	**Sohna**	**10.25**	**142**	*e*P		Pn	Pn	**06**	**48**	**11.3**	**-1.9**
SONA				*e*S		S		06	49	57.0	-11
BRZS	**Berezniki**	**13.60**	**8**	*e*P		Pn	Pn	**06**	**48**	**53.1**	**-1.5**
	baz=7.8										
BRZS	**Berezniki**	**13.60**	**8**	*e*P		Pn	Pn	**06**	**48**	**53.1**	**-1.5**
MAKZ	**Makanchi**	**13.66**	**38**	P		P	P	**06**	**48**	**55.7**	**-0.7**
MAKZ	**Makanchi**	**13.66**	**38**			P	P	**06**	**48**	**55.7**	**-0.7**
MK31	**Makanchi Array**	**13.81**	**38**	P		P	P	**06**	**48**	**57.5**	**-0.5**
MK31	**Makanchi Array**	**13.81**	**38**			P	P	**06**	**48**	**57.5**	**-0.5**
MKAR	**Makanchi Array**	**13.81**	**38**	P		P	P	**06**	**48**	**57.6**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=221,slow=14,SNR=38										
MKAR	**Makanchi Array**	**13.81**	**38**	P		P		**06**	**48**	**57.0**	**-1.0**
MKAR	**Makanchi Array**	**13.81**	**38**	P		P		**06**	**48**	**57.0**	**-1.0**
PYUN	**Piuthan**	**13.89**	**123**	*e*P		Pn		**06**	**48**	**56.7**	**-1.9**
	comp=Z,55nm,0.4s										
DANN	**Dangsing**	**14.26**	**121**	*e*P		Pn		**06**	**49**	**02.3**	**-0.8**
KOLN	**Koldanda**	**14.52**	**123**	*e*P		Pn		**06**	**49**	**05.1**	**-1.0**
ABKAR	**Akbulak array**	**14.64**	**333**	P		P		**06**	**49**	**05.5**	**-1.7**
GKN	**Gorkha**	**15.08**	**120**	*e*P		Pn		**06**	**49**	**12.5**	**-0.4**
	comp=Z,58nm,0.4s										
KURBB	**Kurchatov Arra**	**15.40**	**21**	P		Pn		**06**	**49**	**15.7**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=210,slow=12,SNR=52										
WMQ	**Urumqi**	**15.42**	**56**	*e*P		Pn		**06**	**49**	**17.6**	**+0.9**
KURK	**Kurchatov**	**15.51**	**21**	P		P		**06**	**49**	**16.2**	**-0.5**
KURK	comp=Z,6.0nm,0.8s			pmax		pmax					
KURK	**Kurchatov**	**15.51**	**21**	P		P		**06**	**49**	**16.2**	**-0.5**
KURK				IAmb		IAmb		06	49	17.7	
	comp=Z,5.5nm,0.8s										
DMN	**Daman**	**15.65**	**120**	*e*P		Pn		**06**	**49**	**19.6**	**-0.2**
	comp=Z,55nm,0.6s										
KKN	**Kakani**	**15.66**	**119**	*e*P		Pn		**06**	**49**	**20.3**	**+0.4**
PKI	**Pulchoki**	**15.89**	**120**	*e*P		Pn		**06**	**49**	**22.0**	**-0.6**
	comp=Z,12nm,0.4s										
GUN	**Gumba**	**16.01**	**118**	*e*P		Pn		**06**	**49**	**24.5**	**+0.3**
	comp=Z,10.0nm,0.3s										
AKTO	**Aktyubinsk**	**16.32**	**332**	P		Pn		**06**	**49**	**26.7**	**-0.5**
	comp=Z,4.2nm,0.3s,baz=156,slow=10,SNR=41										
AKTO	comp=Z,0.1nm,0.3s,baz=204,slow=19,SNR=1.6			S		S		**06**	**52**	**21.9**	**-1.6**
JIRN	**Jiri**	**16.38**	**118**	*e*P		Pn		**06**	**49**	**28.8**	**+0.3**
	comp=Z,30nm,0.4s										
WSAR	**Wadi Sarin**	**16.43**	**219**	P		P		**06**	**49**	**27.2**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=45,slow=7.1,SNR=1.8										
BVAR	**Borovoye Array**	**16.50**	**1**	P		Pn		**06**	**49**	**28.8**	**-0.4**
	comp=Z,7.7nm,0.3s,baz=177,slow=13,SNR=57										
BVAR	baz=190,slow=24,SNR=2.8			S		S		**06**	**52**	**24.8**	**-2.2**
BRVK	**Borovoye**	**16.53**	**1**	*c* iP		Pn		**06**	**49**	**28.9**	**-0.7**
BRVK	comp=Z,19nm,0.8s			pmax		pmax					
BRVK	**Borovoye**	**16.53**	**1**			Pn		**06**	**49**	**28.8**	**-0.8**
RAMN	**Ramite**	**17.10**	**119**	*e*P		Pn		**06**	**49**	**36.6**	**-0.2**
	comp=Z,20nm,0.4s										
TAPN	**Taplejung**	**17.66**	**116**	*e*P		Pn		**06**	**49**	**42.8**	**-0.6**
	comp=Z,24nm,0.4s										
ODAN	**Odare**	**17.72**	**118**	*e*P		Pn		**06**	**49**	**43.9**	**-0.1**
	comp=Z,41nm,0.6s										
DGZ	**Jazzator, Alta**	**18.31**	**39**	*c* iP		Pn		**06**	**49**	**49.1**	**-1.6**
DGZ	comp=Z,34nm,0.6s			pmax		pmax					
ZAA0	**Zalesovo Array**	**20.27**	**26**	P		P		**06**	**50**	**08.3**	**+0.1**
ZAA0	comp=Z,14nm,1.1s			IAmb		IAmb		06	50	10.6	
ZALV	**Zalesovo Beam**	**20.27**	**26**	P		P		**06**	**50**	**08.3**	**+0.2**
	comp=Z,14nm,0.5s,baz=219,slow=11,SNR=41										
ZALV	comp=Z,5.0nm,0.8s,baz=207,slow=18,SNR=6.7			S		S		**06**	**53**	**40.3**	**-0.5**
ZALV	**Zalesovo Beam**	**20.27**	**26**	P		P		**06**	**50**	**08.0**	**-0.2**
AKH	**Akhalkalaki**	**21.06**	**291**	P		P		**06**	**50**	**19.7**	**+2.9**
AKH	comp=Z,13nm,1.0s			pmax		pmax					
AKH	**Akhalkalaki**	**21.06**	**291**	P		P		**06**	**50**	**19.6**	**+2.9**
AKH	comp=Z,13nm,1.0s			IAmb		IAmb		06	50	20.8	
ARU	**Arti**	**21.33**	**343**	P		P		**06**	**50**	**19.9**	**+1.0**
	comp=Z,2.8nm,0.5s,baz=112,slow=5.8,SNR=7.3										
ARU	**Arti**	**21.33**	**343**	*d* iP		P		**06**	**50**	**19.0**	**+0.1**
ARU				S		S		**06**	**54**	**01.3**	**+2.8**
ARU	comp=Z,5.0nm,0.7s			pmax		pmax					
ARU	**Arti**	**21.33**	**343**	P		P		**06**	**50**	**19.4**	**+0.5**
ARU	comp=Z,6.8nm,0.7s			IAmb		IAmb		06	50	26.7	
SHL	**Shillong**	**21.73**	**114**	P		P		**06**	**50**	**24.2**	**+0.9**
SHL	comp=Z,10.0nm,0.5s			pmax		pmax					
SHL	**Shillong**	**21.73**	**114**	P		P		**06**	**50**	**24.2**	**+0.9**
KBZ	**Khabaz**	**21.79**	**298**	*i* P		P		**06**	**50**	**23.4**	**0.0**
KBZ	comp=Z,2.0nm,1.0s			pmax		pmax					
GTA	**Gaotai**	**23.72**	**74**	⇓P		P		**06**	**50**	**43.4**	**+2.2**
GTA	comp=Z,11nm,1.0s			pmax		pmax					
LZH	**Lanzhou**	**27.29**	**81**	*e*P		P		**06**	**51**	**12.6**	**-0.7**
LZH				pP		pP		06	52	01.1	-2.6
LZH				sP		PP		06	52	26.1	+5.8
LZH	comp=Z,24nm,1.0s			pmax		pmax					
LZH	comp=Z,100nm,5.4s			pmax		pmax					
BRTR	**Keskin Array B**	**28.57**	**288**	P		P		**06**	**51**	**25.2**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=95,slow=11,SNR=4.7										
BRTR	**Keskin Array B**	**28.57**	**288**	*i* P		P		**06**	**51**	**25.7**	**+1.1**
BRTR	comp=Z,1.0nm,0.6s			pmax		pmax					
BRTR	**Keskin Array B**	**28.57**	**288**	P		P		**06**	**51**	**24.5**	**-0.1**
SONM	**Songino Array**	**29.06**	**56**	P		P		**06**	**51**	**30.8**	**+2.0**
	comp=Z,1.1nm,0.4s,baz=260,slow=9.5,SNR=6.4										
SONM				PcP		PcP		**06**	**54**	**30.3**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=302,slow=3.2,SNR=3.8										
SONM	**Songino Array**	**29.06**	**56**	P		P		**06**	**51**	**30.5**	**+1.7**
SONM								06	54	29.9	
SONM	comp=Z,2.0nm,1.0s			pmax		pmax					
SONM	**Songino Array**	**29.06**	**56**	P		P		**06**	**51**	**30.5**	**+1.7**
SONM				PcP		PcP		**06**	**54**	**29.9**	**-0.2**
OBN	**Obninsk**	**29.34**	**320**	*i* P		P		**06**	**51**	**30.7**	**-0.2**
OBN	comp=Z,4.0nm,0.9s			pmax		pmax					
ULN	**Ulaanbaatar**	**29.50**	**56**	*i* P		P		**06**	**51**	**34.0**	**+1.3**
ULN	comp=Z,2.0nm,0.9s			pmax		pmax					
KLMR	**Klimovskoe**	**31.02**	**331**	*e*P		P		**06**	**51**	**44.8**	**-0.9**
KLMR	comp=Z,6.0nm,1.2s			pmax		pmax					
KLMR	**Klimovskoe**	**31.02**	**331**	*e*P		P		**06**	**51**	**44.9**	**-0.8**
KLMR				AMP				06	51	51.5	
CMAR	comp=Z,6.0nm,1.2s **Chiang Mai Arr**	**31.26**	**117**	P		P		**06**	**51**	**49.9**	**+1.6**
	comp=Z,1.2nm,0.3s,baz=297,slow=7.6,SNR=5.2										
CMAR				PcP		PcP		**06**	**54**	**37.0**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=296,slow=5.7,SNR=4.3										
CMAR	**Chiang Mai Arr**	**31.26**	**117**	*e*P		P		**06**	**51**	**51.6**	**+3.4**
CMAR	comp=Z,1.0nm,0.3s			pmax		pmax					
CMAR	**Chiang Mai Arr**	**31.26**	**117**	P		P		**06**	**51**	**48.7**	**+0.5**
CMAR				PcP		PcP		**06**	**54**	**36.4**	**+0.3**
ELL	**Elmali**	**31.92**	**283**	P		P		**06**	**51**	**54.8**	**+0.8**
ELL	comp=Z,33nm,0.5s			pmax		pmax					
ELL	**Elmali**	**31.92**	**283**	P		P		**06**	**51**	**54.8**	**+0.8**
AKASG	**Malin Array Be**	**32.23**	**309**	P		P		**06**	**51**	**56.1**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=86,slow=6.4,SNR=5.8										
AKASG	**Malin Array Be**	**32.23**	**309**	*e*P		P		**06**	**51**	**56.4**	**+0.1**
AKASG	comp=Z,2.0nm,0.6s			pmax		pmax					
AKASG	**Malin Array Be**	**32.23**	**309**	P		P		**06**	**51**	**55.4**	**-0.9**
HHC	**Hu-ho-hao-te**	**32.59**	**69**	*e*P		P		**06**	**52**	**01.6**	**+1.8**
HHC	comp=Z,18nm,0.7s			pmax		pmax					
HHC	comp=Z,120nm,6.6s			pmax		pmax					
MLR	**Muntele Rosu**	**33.99**	**299**	P		P		**06**	**52**	**13.4**	**+1.7**
	comp=Z,4.0nm,0.7s,baz=149,slow=5.8,SNR=5.8										
NRIK	**Noril'sk**	**34.27**	**11**	P		P		**06**	**52**	**15.4**	**+1.7**
	comp=Z,9.5nm,0.9s,baz=211,slow=6.0,SNR=8.4										
BURAR	**Bucovina Array**	**34.52**	**303**	P		P		**06**	**52**	**17.0**	**+0.8**
VSU	**Vasula**	**35.61**	**322**	*i* P		P		**06**	**52**	**24.9**	**-0.3**
VSU	comp=Z,10.0nm,0.8s			pmax		pmax					
BOD	**Bodaibo**	**35.90**	**39**	*e*P		P		**06**	**52**	**28.8**	**+1.1**
BOD	comp=Z,3.0nm,1.3s			pmax		pmax					
IDI	**Anoyia**	**36.22**	**282**	P		P		**06**	**52**	**30.5**	**-0.3**
	comp=Z,3.0nm,0.5s,baz=152,slow=16,SNR=1.6		

DBIC	Dimbokro	73.81	266	P		P		06 56 58.5	-0.5
DBIC				pmax		pmax			
	comp=Z,20nm,1.4s								
DBIC	Dimbokro	73.81	266	P		P		06 56 58.5	-0.5
C36M	Paulatuk	73.94	5	P		P		06 56 60.0	+1.2
INK	Inuvik	74.02	9	P		P		06 57 01.0	+1.7
	comp=Z,2.8nm,0.5s,baz=335,slow=5.6,SNR=24								
INK	Inuvik	74.02	9	P		P		06 57 01.2	+1.9
INK				pmax		pmax			
	comp=Z,5.0nm,0.7s								
INK	Inuvik	74.02	9	P		P		06 57 01.2	+1.9
INK				IAmb		IAmb		06 57 01.5	
	comp=Z,4.9nm,0.7s								
MDM	Murphy Dome	74.54	16	P		P		06 57 03.8	+1.3
MDM				IAmb		IAmb		06 57 04.5	
	comp=Z,2.5nm,0.8s								
BPAW	Bear Paw Mtn.	74.64	17	P		P		06 57 04.0	+0.9
BPAW				IAmb		IAmb		06 57 04.8	
	comp=Z,8.2nm,1.4s								
CCB	Clear Creek Bu	74.90	16	P		P		06 57 05.2	+0.7
WRH	Wood River Hil	74.99	16	P		P		06 57 05.3	+0.3
IL31		74.99	15	P		P		06 57 05.1	+0.2
ILAR	Eielson Array	74.99	15	P		P		06 57 05.2	+0.1
	comp=Z,1.2nm,0.6s,baz=316,slow=4.5,SNR=15								
ILAR	Eielson Array	74.99	15	P		P		06 57 05.4	+0.4
ILAR	Eielson Array	74.99	15	P		P		06 57 05.4	+0.4
PPLA	Purkeypile	75.35	18	P		P		06 57 08.1	+0.9
EPYK	Eagle Plains	75.40	11	P		P		06 57 08.3	+0.9
EPYK				IAmb		IAmb		06 57 09.2	
	comp=Z,9.3nm,1.3s								
KNRA	Kununurra	76.00	122	P		P		06 57 11.0	-0.3
RIDG	Independent Ri	76.33	15	P		P		06 57 13.2	+0.5
RIDG				IAmb		IAmb		06 57 13.4	
	comp=Z,3.3nm,0.5s								
DOT	Dot Lake	76.58	15	P		P		06 57 15.0	+1.0
PAX	Paxson	76.88	16	P		P		06 57 16.6	+0.8
PAX				pmax		pmax			
	comp=Z,5.0nm,0.6s								
PAX	Paxson	76.88	16	P		P		06 57 16.6	+0.8
PAX				IAmb		IAmb		06 57 17.1	
	comp=Z,5.1nm,0.6s								
DAWY	Dawson	77.10	13	P		P		06 57 18.0	+1.1
BOSA	Boshof	77.19	219	P		P		06 57 17.8	-0.2
	comp=Z,2.8nm,0.9s,baz=31,slow=5.0,SNR=3.7								
BOSA	Boshof	77.19	219	P		P		06 57 17.9	-0.1
BOSA				IAmb		IAmb		06 57 29.5	
	comp=Z,3.9nm,1.1s								
BCAR	Beaver Creek A	77.56	14	P		P		06 57 20.7	+1.2
MORW	Morawa	78.34	140	P		P		06 57 25.9	+1.8
MORW				IAmb		IAmb		06 57 41.2	
	comp=Z,11nm,1.2s								
KDAK	Kodiak Island	79.51	22	P		P		06 57 31.1	+1.0
KDAK				pmax		pmax			
	comp=Z,14nm,1.2s								
KDAK	Kodiak Island	79.51	22	P		P		06 57 31.1	+1.0
WHY	Whitehorse	81.05	12	P		P		06 57 38.3	-0.1
WHY				IAmb		IAmb		06 57 57.9	
	comp=Z,4.9nm,1.1s								
YKA	Yellowknife Ar	81.26	2	P		P		06 57 40.1	+0.8
	comp=Z,3.0nm,0.8s,baz=351,slow=5.7,SNR=23								
YKA				pP		pP		06 58 37.9	-1.1
	comp=Z,1.3nm,0.8s,baz=349,slow=5.9,SNR=4.3								
NWAO	Narrogin (SRO)	82.04	141	P		P		06 57 45.1	+1.3
NWAO				pmax		pmax			
	comp=Z,32nm,1.4s								
NWAO	Narrogin (SRO)	82.04	141	P		P		06 57 45.1	+1.3
WB0	Warramunga Arr	82.69	121	P		P		06 57 46.3	-1.1
WB0				IAmb		IAmb		06 57 51.9	
	comp=Z,8.7nm,1.2s								
WRA	Warramunga Arr	82.77	121	P		P		06 57 46.6	-1.2
	comp=Z,2.0nm,0.5s,baz=328,slow=4.6,SNR=29								
WRA				pP		pP		06 58 46.0	-2.6
	comp=Z,0.8nm,0.9s,baz=317,slow=4.9,SNR=2.0								
WRA	Warramunga Arr	82.77	121	P		P		06 57 46.3	-1.5
WB2	Warramunga Arr	82.78	121	P		P		06 57 46.8	-1.1
WB2				IAmb		IAmb		06 58 03.4	
	comp=Z,10nm,1.3s								
ASAR	Alice Springs	85.01	124	P		P		06 57 58.0	-1.1
	comp=Z,2.7nm,0.5s,baz=314,slow=4.9,SNR=44								
ASAR				pP		pP		06 58 57.8	-2.3
	comp=Z,0.6nm,0.8s,baz=305,slow=5.1,SNR=2.8								
ASAR	Alice Springs	85.01	124	P		P		06 57 58.2	-0.9
SNAA	Sanae	119.11	200	PKIKP		PKPdf		07 04 09.3	-0.2
SNAA	Sanae	119.11	200	PKPdf		PKPdf		07 04 09.3	-0.2
PB01	IPOC Station P	141.50	282	PKPdf		PKPdf		07 04 51.6	-1.6
AC02	Maricunga	144.04	274			PKPdf		07 04 57.5	-0.5
AC01	Pan de Azucar	144.91	276			PKPab		07 04 59.2	+0.2
AC05	El Transito	145.79	271	PKPbc		PKPbc		07 05 02.0	+0.4
AC04	Llanos de Chal	146.18	273	PKPbc		PKPab		07 05 03.8	0.0
CO03	El Pedregal	146.88	268	PKPbc		PKPbc		07 05 05.2	+0.6
BO02	Sierra Bellavi	148.15	261	PKPbc		PKPbc		07 05 08.4	+0.6
GO05	Huala	149.11	261	PKPbc		PKPbc		07 05 10.3	+0.2

IDC ***09*** *06:53:38.3±0.6,31°.82N×104°.23E,h0km,mb4.2/24, mb1 4.3/27,mb1mx4.2/52,mbtmp4.2/27,ML3.5/2,MS3.4/11, Ms1 3.5/11,ms1mx3.2/41,Error ellipse: s-maj=16.0km s-min=12.5km az=42.0*

NEIC ***09*** *06:53:40.3±1.9,31°.86N±0°.07×104°.23E±0°.04,h10km±1km, mb4.7/46,Error ellipse: s-maj=12.6km s-min=3.8km az=205.0*

BJI ***09*** *06:53:41.7±0.0,31°.83N×104°.13E,h20km,mB4.6/17, mb4.5/27,ML4.4/28,Ms4.2/30,Ms7 3.9/26*

MOS ***09*** *06:53:42.3±1.1,31°.88N×104°.23E,h38km,mb4.6/24,Error ellipse: s-maj=8.8km s-min=6.0km az=102.5*

ISC 09 06:53:41.2±0.3,31°.78N±0°.03×104°.27E±0°.04,h15km,n169, σ1§59/179,mb4.4/57,MS3.5/9,10C-2D,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	0.97	207	Pg	Pb	06 53 59.0	-0.8
CD2				Sg	Sb	06 54 12.4	0.0
CD2				smax	smax		
	comp=N,7μm,0.7s						
CD2				smax	smax		
	comp=E,6μm,0.7s						
LZH	Lanzhou	4.31	355	*e*Pn	Pn	06 54 48.1	+1.6
LZH				Sn	Sn	06 55 40.0	+3.4
LZH				Sg	Sg	06 55 59.7	0.0
LZH				smax	smax		
	comp=N,590nm,0.8s						
LZH				smax	smax		
	comp=E,680nm,0.7s						
LZH				LR	LR		
	comp=N,2μm,7.1s						
LZH				LR	LR		
	comp=E,1μm,6.0s						
LZH				LR	LR		
	comp=Z,2μm,8.7s						
XAN	Xi'an	4.52	59	Pn	Pn	06 54 49.4	+0.3
XAN				Pg	Pb	06 55 02.5	+2.2
XAN				Sn	Sn	06 55 43.6	+2.2
XAN				Sg	Sg	06 56 02.0	-4.3
XAN				smax	smax		
	comp=N,950nm,0.9s						
XAN				smax	smax		
	comp=E,1μm,0.9s						
XAN				LR	LR		
	comp=N,2μm,6.4s						
XAN				LR	LR		
	comp=E,2μm,7.9s						
XAN				LR	LR		
	comp=Z,2μm,8.8s						
XAN	Xi'an	4.52	59	P	Pn	06 54 49.4	+0.3
XAN	Xi'an	4.52	59	Pn	Pn	06 54 49.4	+0.3
ENH	Enshi	4.72	107	Pn	Pn	06 54 54.6	+2.6
GYA	Guiyang	5.70	158	⇑Pn	Pn	06 55 09.5	+4.0
GYA				Sg	Sg	06 56 49.2	+5.0
GYA				smax	smax		
	comp=N,440nm,0.8s						
GYA				smax	smax		
	comp=E,300nm,1.1s						
GYA				LR	LR		
	comp=N,1μm,9.1s						
GYA				LR	LR		
	comp=E,670nm,4.8s						
GYA				LR	LR		
	comp=Z,1μm,8.7s						
KMI	Kunming	6.76	192	⇓*e*Pn	Pn	06 55 22.4	+2.2
KMI				Sn	Sn	06 56 37.3	+0.2
KMI				LR	LR		
	comp=N,940nm,12.5s						
KMI				LR	LR		
	comp=E,910nm,7.3s						
KMI				LR	LR		
	comp=Z,950nm,12.4s						
GTA	Gaotai	8.43	336	*e*P	Pn	06 55 46.7	+3.7
GTA				S	Sn	06 57 26.0	+8.0
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,45nm,4.3s						
GTA				smax	smax		
	comp=N,15nm,1.2s						
GTA				smax	smax		
	comp=E,12nm,1.3s						
GTA				LR	LR		
	comp=N,950nm,9.8s						
GTA				LR	LR		
	comp=E,590nm,9.8s						
GTA				LR	LR		
	comp=Z,890nm,11.1s						
WHN	Wuhan	8.73	95	⇓P	Pn	06 55 50.1	+3.2
WHN				S	Sn	06 57 22.4	-2.6
WHN				LR	LR		
	comp=E,2μm,5.3s						
WHN				LR	LR		
	comp=Z,2μm,10.8s						
SLVN	Son La	10.41	182	Pn	Pn	06 56 15.2	+5.1
HHC	Hu-ho-hao-te	10.79	31	*e*P	Pn	06 56 18.6	+3.3
HHC				S	Sn	06 58 16.9	+1.0
HHC				SS	SnSn	06 58 33.5	+5.6
HHC				pmax	pmax		
	comp=Z,31nm,0.7s						
HHC				pmax	pmax		
	comp=Z,170nm,7.8s						
HHC				LR	LR		
	comp=N,320nm,8.1s						
HHC				LR	LR		
	comp=E,350nm,7.2s						
HHC				LR	LR		
	comp=Z,360nm,7.7s						
NJ2	Nanjing	12.40	85	*e*P	Pn	06 56 39.3	+2.1
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BJI	Beijing	12.68	46	P	Pn	06 56 42.3	+1.3
BJI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BJI				LR	LR		
	comp=N,490nm,5.1s						
BJI				LR	LR		
	comp=E,410nm,4.1s						
QIZ	Qiongzhong	13.65	157	P	Pn	06 56 54.2	-0.2
QIZ				S	Sn	06 59 27.2	+1.3
QIZ				pmax	pmax		
	comp=Z,25nm,1.9s						
QIZ				LR	LR		
	comp=N,350nm,6.4s						
QIZ				LR	LR		
	comp=E,500nm,8.2s						
QIZ				LR	LR		
	comp=Z,490nm,11.0s						
CM31	Chiang Mai Arr	14.11	201	P	P	06 57 09.1	+0.8
CMAR	Chiang Mai Arr	14.11	201	Pn	Pn	06 57 00.5	-0.2
	baz=12,slow=11,SNR=5.2						
CMAR				LR	LR	07 03 21.5	
	comp=Z,60nm,20.1s,baz=28,slow=41						
CMAR	Chiang Mai Arr	14.11	201	*e*P	Pn	06 57 02.3	+1.7
CMAR	Chiang Mai Arr	14.11	201	P	P	06 57 09.6	+1.3
SONM	Songino Array	16.12	5	Pn	Pn	06 57 25.3	-2.1
	0.4nm,0.3s,baz=186,slow=13,SNR=10						
SONM				LR	LR	07 04 31.4	
	comp=Z,207nm,21.4s,baz=108,slow=41						
SONM	Songino Array	16.12	5	Pn	Pn	06 57 26.3	-1.0
ULN	Ulaanbaatar	16.21	7	*e*P	Pn	06 57 27.7	-0.8
ULN				pmax	pmax		
	comp=Z,12nm,1.3s						
ULN	Ulaanbaatar	16.21	7		Pn	06 57 27.6	-0.9
WMQ	Urumqi	17.74	317	*e*P	P	06 57 49.8	+1.3
ZAK	Zakamensk	18.60	358	*e*P	P	06 57 56.9	-1.1
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
TLY	Talaya	19.89	359	P	P	06 58 12.6	+0.6
	comp=Z,0.0nm,0.3s,baz=272,slow=2.9,SNR=4.2						
TLY	Talaya	19.89	359	*i* P	P	06 58 10.2	-1.8
TLY				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TLY	Talaya	19.89	359	Pn	Pn	06 58 13.6	0.0
KSAR	Wonju Array Be	20.22	67	P	Pn	06 58 17.9	+0.3
KSAR	Wonju Array Be	20.22	67	P	Pn	06 58 17.9	+0.3
KSRS	Korea Array	20.25	67	P	Pn	06 58 16.9	-1.0
	comp=Z,8.7nm,0.7s,baz=259,slow=10,SNR=14						
KSRS				LR	LR	07 06 43.6	
	comp=Z,31nm,19.6s,baz=85,slow=39						
DGZ	Jazzator, Alta	21.90	330	*i* P	P	06 58 33.8	0.0
DGZ				pmax	pmax		
	comp=Z,13nm,1.0s						
JNU	Nakatsue	22.48	79	LR	LR	07 08 28.8	
	comp=Z,328nm,19.5s,baz=44,slow=40						
MK31	Makanchi Array	22.57	318	P	P	06 58 40.2	-0.7
MK31				pmax	pmax		
	comp=Z,12nm,1.1s						
MK31	Makanchi Array	22.57	318	P	P	06 58 40.2	-0.7
MKAR	Makanchi Array	22.57	318	P	P	06 58 40.2	-0.7
	comp=Z,8.3nm,1.0s,baz=116,slow=12,SNR=32						
MKAR				PcP	PcP	07 02 33.4	-0.6
	comp=Z,1.2nm,0.8s,baz=90,slow=4.9,SNR=4.2						
MKAR				LR	LR	07 08 27.6	
	comp=Z,178nm,19.8s,baz=123,slow=40						
MKAR	Makanchi Array	22.57	318	P	P	06 58 40.1	-0.9
MKAR				PcP	PcP	07 02 32.6	-1.4
MAKZ	Makanchi	22.76	318	P	P	06 58 42.7	-0.2
MAKZ				pmax	pmax		
	comp=Z,15nm,1.2s						
MAKZ	Makanchi	22.76	318	P	P	06 58 42.7	-0.2
MAKZ				IAmb	IAmb	06 58 44.3	
	comp=Z,15nm,1.2s						
TARG	Taragay, Kyrgy	23.33	303	P	P	06 58 49.7	+0.4
TARG				IAmb	IAmb	06 58 58.3	
	comp=Z,10nm,1.0s						
KSH	Kashi	24.19	296	*e*P	P	06 59 00.6	+3.4
USA0B	Ussuriysk Arra	24.99	52	P	P	06 59 04.7	+0.4
USA0B				pmax	pmax		
	comp=Z,9.0nm,0.9s						
USA0B	Ussuriysk Arra	24.99	52	P	P	06 59 04.7	+0.4
USA0B				IAmb	IAmb	06 59 07.3	
	comp=Z,9.5nm,0.8s						
USRK	Ussuriysk Ar.	24.99	52	P	P	06 59 03.9	-0.4
	comp=Z,9.3nm,0.8s,baz=250,slow=11,SNR=14						
USRK	Ussuriysk Ar.	24.99	52	P	P	06 59 05.7	+1.4
USRK	Ussuriysk Ar.	24.99	52	P	P	06 59 05.7	+1.4
AAK	Ala-Archa	25.95	303	P	P	06 59 11.5	-1.7
	comp=Z,1.5nm,0.3s,baz=161,slow=4.2,SNR=1.6						
AAK				LR	LR	07 10 54.7	
	comp=Z,60nm,18.1s,baz=107,slow=40						
AAK	Ala-Archa	25.95	303	*i* P	P	06 59 12.5	-0.7
AAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
AAK	Ala-Archa	25.95	303	P	P	06 59 10.8	-2.4
NIL	Nilore	26.12	282	P	P	06 59 15.1	+0.4
NIL				pmax	pmax		
	comp=Z,13nm,0.9s						
NIL	Nilore	26.12	282	P	P	06 59 15.1	+0.4
NIL				IAmb	IAmb	06 59 23.0	
	comp=Z,13nm,0.9s						
ZAA0	Zalesovo Array	26.18	334	P	P	06 59 13.9	-1.0
ZAA0				IAmb	IAmb	06 59 15.3	
	comp=Z,8.5nm,0.8s						
ZALV	Zalesovo Beam	26.18	334	P	P	06 59 13.7	-1.3
	comp=Z,6.1nm,0.7s,baz=128,slow=9.6,SNR=19						
ZALV				LR	LR	07 10 40.1	
	comp=Z,48nm,19.6s,baz=158,slow=39						
ZALV	Zalesovo Beam	26.18	334	*e*P	P	06 59 14.5	-0.5
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZALV	Zalesovo Beam	26.18	334	P	P	06 59 14.2	-0.7
KURBB	Kurchatov Arra	26.79	322	P	P	06 59 20.1	-0.5
	comp=Z,4.6nm,0.9s,baz=130,slow=8.5,SNR=32						
KURBB				PcP	PcP	07 02 42.4	-0.8
	comp=Z,1.9nm,0.8s,baz=118,slow=2.2,SNR=11						
KURK	Kurchatov	26.80	322	*e*P	P	06 59 20.5	-0.1
KURK				pmax	pmax		
	comp=Z,13nm,1.7s						
KURK	Kurchatov	26.80	322	P	P	06 59 19.2	-1.4
BOD	Bodaibo	26.88	12	*e*P	P	06 59 21.5	+0.2
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s						
KLR	Kul'dur	26.99	42	P	P	06 59 21.8	-0.6
	comp=Z,3.5nm,0.9s,baz=252,slow=13,SNR=4.7						
KLR	Kul'dur	26.99	42	*ce*P	P	06 59 22.0	-0.4
KLR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TEY	Ternei	28.38	53	*e*P	P	06 59 33.8	-1.0
KK31	Karatay Array	28.91	303	P	P	06 59 38.7	-0.8
KK31				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KK31	Karatay Array	28.91	303		P	06 59 38.7	-0.8
KKAR	Karatay Array	28.91	303	P	P	06 59 39.4	-0.1
KKAR	Karatay Array	28.91	303	P	P	06 59 39.4	-0.1
DAV	Davao City (W)	31.62	137	LR	LR	07 13 19.1	
	comp=Z,75nm,18.2s,baz=141,slow=37						
BVAR	Borovoye Array	32.35	321	PcP	PcP	07 02 56.5	-0.9
	comp=Z,1.9nm,0.8s,baz=134,slow=4.3,SNR=9.3						
BRVK	Borovoye	32.43	321	*ce*P	P	07 00 09.0	-1.5
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
BRVK	Borovoye	32.43	321	P	P	07 00 10.2	-0.3
YSS	Yuzh-Sakhalins	33.02	51	P	P	07 00 15.7	-0.1
YSS				pmax	pmax		
	comp=Z,7.0nm,0.5s						
YSS	Yuzh-Sakhalins	33.02	51	P	P	07 00 15.7	-0.1
YSS				IAmb	IAmb	07 00 16.1	
	comp=Z,6.9nm,0.5s						
ABKAR	Akbulak array	37.34	311	P	P	07 00 52.9	0.0
GEYT	Alibeck	38.06	292	P	P	07 00 58.8	-0.5
	comp=Z,2.1nm,0.4s,baz=113,slow=3.9,SNR=7.0						
GEYT	Alibeck	38.06	292	P	P	07 00 59.4	+0.1
NRIK	Noril'sk	38.79	351	P	P	07 01 04.1	-0.8
	comp=Z,3.7nm,0.6s,baz=151,slow=6.5,SNR=6.3						
SVE	Sverdlovsk	39.05	323	*e*P	P	07 01 07.6	+0.4
SVE				pmax	pmax		
	comp=Z,16nm,1.2s						
ARU	Arti	39.99	322	*c i*P	P	07 01 14.8	-0.3
ARU						07 02 47.1	
ARU				S	S	07 07 21.0	+1.1
ARU				pmax	pmax		
	comp=Z,15nm,0.8s						
ARU	Arti	39.99	322	P	P	07 01 14.9	-0.1
ARU				IAmb	IAmb	07 01 19.9	
	comp=Z,15nm,0.8s						
PEA0B	Petropavlovsk-	43.61	45	*ce*P	P	07 01 43.3	-1.5
PEA0B	Petropavlovsk-	43.61	45	P	P	07 01 44.4	-0.4
PEA0B				IAmb	IAmb	07 01 45.3	
	comp=Z,7.4nm,0.9s						
PETK	Petropavlovsk-	43.61	45	P	P	07 01 44.1	-0.6
	comp=Z,4.7nm,0.8s,baz=212,slow=5.3,SNR=17						
PETK	Petropavlovsk-	43.61	45	P	P	07 01 44.3	-0.4
PET	Petropavlovsk	44.17	45	*i* P	P	07 01 47.7	-1.5
PET				pmax	pmax		
	comp=Z,23nm,1.1s						
KIRV	Kirov	45.31	323	⇑*e*P	P	07 01 58.3	+0.1
PRGR	Permogore	47.77	327	*e*P	P	07 02 15.3	-2.2
KBZ	Khabaz	48.94	302	P	P	07 02 26.2	-0.6
	comp=Z,1.3nm,0.6s,baz=83,slow=17,SNR=1.8						
KIV	Kislovodsk	49.06	303	⇑*e*P	P	07 02 28.7	+0.8
KIV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KLMR	Klimovskoe	50.59	325	*e*P	P	07 02 36.9	-2.2
KLMR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KLMR	Klimovskoe	50.59	325	*e*P	P	07 02 36.9	-2.2
KLMR				AMP		07 02 43.3	
	comp=Z,9.0nm,0.8s						
LPSR	Galich'ya Gora	50.80	314	*e*P	P	07 02 43.7	+2.9
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MTN	Manton Dam	51.30	146	P	P	07 02 44.1	-0.8
OBN	Obninsk	52.08	318	*i* P	P	07 02 48.3	-2.0
OBN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KNRA	Kununurra	52.71	150		P	07 02 55.2	-0.2
KNRA				IAmb	IAmb	07 02 55.8	
	comp=Z,13nm,0.7s						
FITZ	Fitzroy Crossi	53.66	155	P	P	07 03 02.1	-0.2
FITZ				IAmb	IAmb	07 03 20.2	
	comp=Z,7.1nm,1.2s						
KEV	Kevo	56.17	336	P	P	07 03 19.4	-0.6
KEV				pmax	pmax		
	comp=Z,22nm,1.2s						
KEV	Kevo	56.17	336	P	P	07 03 19.4	-0.6
BRTR	Keskin Array B	56.53	299	P	P	07 03 22.1	-1.2
	comp=Z,1.2nm,0.6s,baz=71,slow=9.3,SNR=4.3						
BRTR	Keskin Array B	56.53	299	*ce*P	P	07 03 22.6	-0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	56.53	299	P	P	07 03 22.0	-1.2
ARCES	ARCESS Array B	56.70	336	P	P	07 03 22.5	-1.3
	comp=Z,1.9nm,0.6s,baz=80,slow=8.8,SNR=10						
ARCES	ARCESS Array B	56.70	336	*e*P	P	07 03 23.0	-0.8
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	ARCESS Array B	56.70	336	P	P	07 03 23.6	-0.2
AKASG	Malin Array Be	57.03	313	P	P	07 03 25.1	-1.2
	comp=Z,1.6nm,0.5s,baz=67,slow=6.8,SNR=4.2						
AKASG	Malin Array Be	57.03	313	P	P	07 03 23.6	-2.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	Malin Array Be	57.03	313	P	P	07 03 23.6	-2.7
AKBB	Malin Array Si	57.03	313	P	P	07 03 25.0	-1.3
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKBB	Malin Array Si	57.03	313	P	P	07 03 25.0	-1.3
FIA1	FINESS Array S	57.09	326	P	P	07 03 25.9	-0.7
FIA1				IAmb	IAmb	07 03 26.6	
	comp=Z,4.9nm,0.7s						
FINES	FINESS Array B	57.09	326	P	P	07 03 25.7	-0.9
	comp=Z,2.4nm,0.4s,baz=100,slow=8.0,SNR=37						
FINES				LR	LR	07 29 40.2	
	comp=Z,35nm,20.4s,baz=60,slow=38						
FINES	FINESS Array B	57.09	326	P	P	07 03 25.9	-0.7
COEN	Coen	58.81	135	P	P	07 03 39.7	+0.5
WB0	Warramunga Arr	58.83	146	P	P	07 03 39.2	-0.1
WB0				IAmb	IAmb	07 03 39.8	
	comp=Z,6.0nm,0.8s						
WRA	Warramunga Arr	58.96	147	P	P	07 03 39.9	-0.2
	comp=Z,3.4nm,0.7s,baz=338,slow=7.4,SNR=35						
WRA	Warramunga Arr	58.96	147	P	P	07 03 40.2	0.0
WRA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRA	Warramunga Arr	58.96	147	P	P	07 03 39.7	-0.5
WB2	Warramunga Arr	58.96	147	P	P	07 03 40.3	+0.1
WR0	Warramunga Arr	59.06	146	P	P	07 03 40.7	-0.2
WR0				IAmb	IAmb	07 03 49.1	
	comp=Z,12nm,1.2s						
BURAR	Bucovina Array	60.31	310	P	P	07 03 49.4	0.0
AS31	Alice Springs	61.99	149	P	P	07 04 01.3	+0.4
ASAR	Alice Springs	61.99	149	P	P	07 04 00.8	-0.1
	comp=Z,1.4nm,0.5s,baz=335,slow=6.7,SNR=28						
ASAR	Alice Springs	61.99	149	P	P	07 04 01.0	+0.1
NC405	NORSAR Array S	63.91	327	P	P	07 04 11.8	-1.5
VYHS	Vyhne	64.12	313	*e*P	P	07 04 14.9	+0.1
VYHS	Vyhne	64.12	313	*e*P	P	07 04 14.9	+0.1
NB201	NORSAR Array S	64.13

comp=Z,2.0nm,1.0s,baz=296,slow=6.2,SNR=14

ILAR	**Eielson Array**	**69.17**	**26**	P	**P**	**07 04 45.5**	**-1.3**
OHAK	**Old Harbor**	**70.13**	**34**	P	**P**	**07 04 52.5**	**-0.2**
RIDG	**Independent Ri**	**70.47**	**26**	P	**P**	**07 04 54.2**	**-0.7**
RIDG				IAmb	IAmb	07 05 09.9	

comp=Z,16nm,1.4s

BBOO	**Buckleboo**	**70.91**	**152**	P	**P**	**07 04 57.5**	**-0.2**
KMBO	**Kilima Mbogo**	**71.20**	**256**	P	**P**	**07 05 01.4**	**+1.1**

comp=Z,1.5nm,0.4s,baz=46,slow=8.7,SNR=3.6

KMBO	**Kilima Mbogo**	**71.20**	**256**	*eP*	**P**	**07 05 02.8**	**+2.5**
KMBO				pmax	pmax		

comp=Z,2.0nm,0.4s

KMBO	**Kilima Mbogo**	**71.20**	**256**	P	**P**	**07 04 60.0**	**-0.3**
KMBO				IAmb	IAmb	07 05 02.6	

comp=Z,3.6nm,1.1s

INK	**Inuvik**	**71.47**	**19**	P	**P**	**07 05 00.2**	**-0.5**
INK				pmax	pmax		

comp=Z,7.0nm,1.0s

INK	**Inuvik**	**71.47**	**19**	P	**P**	**07 05 00.2**	**-0.5**
INK				IAmb	IAmb	07 05 00.9	

comp=Z,7.4nm,1.0s

EPYK	**Eagle Plains**	**71.75**	**22**	P	**P**	**07 05 02.0**	**-0.6**
EPYK				IAmb	IAmb	07 05 02.6	

comp=Z,7.5nm,1.0s

BCAR	**Beaver Creek A**	**71.99**	**26**	P	**P**	**07 05 04.1**	**0.0**
GLB	**Gilahina Butte**	**72.13**	**28**	P	**P**	**07 05 04.5**	**-0.4**
GLB				IAmb	IAmb	07 05 16.7	

comp=Z,12nm,1.2s

STKA	**Stephens Creek**	**72.50**	**147**	P	**P**	**07 05 06.9**	**-0.4**

comp=Z,1.8nm,0.9s,baz=323,slow=8.3,SNR=4.5

STKA	**Stephens Creek**	**72.50**	**147**	*eP*	**P**	**07 05 08.0**	**+0.7**
STKA				pmax	pmax		

comp=Z,2.0nm,0.9s

STKA	**Stephens Creek**	**72.50**	**147**	P	**P**	**07 05 06.8**	**-0.5**
YKA	**Yellowknife Ar**	**81.01**	**17**	P	**P**	**07 05 54.2**	**-0.8**

comp=Z,2.6nm,0.8s,baz=328,slow=5.1,SNR=16

ESDC	**Sonseca Array**	**82.67**	**312**	P	**P**	**07 06 02.9**	**-1.5**

comp=Z,0.4nm,0.8s,baz=44,slow=6.2,SNR=2.7

ESDC	**Sonseca Array**	**82.67**	**312**	P	**P**	**07 06 04.0**	**-0.3**
PDAR	**Pinedale Array**	**99.58**	**25**	LR	LR	07 55 17.6	

comp=Z,48nm,20.4s,baz=288,slow=37

SNAA	**Sanae**	**125.20**	**202**	PKPdf	**PKPdf**	**07 12 39.2**	**-1.1**
SNAA	**Sanae**	**125.20**	**202**	PKIKP	**PKPdf**	**07 12 39.2**	**-1.1**
SNAA	**Sanae**	**125.20**	**202**	PKPdf	**PKPdf**	**07 12 39.2**	**-1.1**
VNA2	**Neumayer--Watz**	**126.75**	**202**	PKPdf	**PKPdf**	**07 12 42.7**	**-0.5**
VNA1	**Neumayer--Stat**	**127.08**	**203**	PKPdf	**PKPdf**	**07 12 43.1**	**-0.6**
BCIP	**Isla Barro Col**	**139.10**	**6**	PKIKP	**PKPdf**	**07 13 04.5**	**-3.6**
BCIP	**Isla Barro Col**	**139.10**	**6**	PKPdf	**PKPdf**	**07 13 04.5**	**-3.6**
FLOC	**Florencia**	**146.82**	**360**		**PKPdf**	**07 13 22.6**	**+0.8**
BDFB	**Brasilia**	**150.09**	**296**	PKPbc	**PKPbc**	**07 13 30.0**	**-2.1**

comp=Z,2.1nm,0.9s,baz=21,slow=4.0,SNR=3.8

BDFB	**Brasilia**	**150.09**	**296**	PKPbc	**PKPbc**	**07 13 30.4**	**-1.7**

*NEIC **09** 07:06:32.8±1.9, 14°.28S×167°.3E±0°.1, h152km±9km, mb4.5/12, Error ellipse: s-maj=17.3km s-min=10.1km az=94.0*

*IDC **09** 07:06:34.9±10.0, 14°.48S×167°.36E, h179km±99km, mb3.5/3, mb1 3.6/4, mb1mx3.2/35, mbtmp4.0/4, Error ellipse: s-maj=183.4km s-min=75.6km az=83.0*

ISC 09 07:06:34.4±1.0, 14°.4S±0°.1×167°.4E±0°.1, h170km, n19, σ1§10/21, mb4.3/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.02**	**188**		**Pn**	**07 07 00.1**	**-1.1**
SANVU				Sn	**Sn**	**07 07 19.1**	**-3.0**
DZM	**Mont Dzumac**	**7.65**	**186**	P	**Pn**	**07 08 23.0**	**-0.2**

0.7nm,0.3s,baz=30,slow=20,SNR=1.8

DZM				S	**Sn**	**07 09 48.8**	**-0.2**

0.3nm,0.3s,baz=76,slow=14,SNR=1.8

DZM	**Mont Dzumac**	**7.65**	**186**	Pn	**Pn**	**07 08 23.2**	**0.0**
EIDS	**Eidsvold**	**18.76**	**232**	Pn	**Pn**	**07 10 42.7**	**-0.3**
EIDS				IAmb	IAmb	07 10 49.9	

comp=Z,10nm,1.1s

COEN	**Coen**	**23.45**	**268**	P	**P**	**07 11 29.7**	**+1.1**
COEN				IAmb	IAmb	07 11 41.6	

comp=Z,14nm,1.2s

STKA	**Stephens Creek**	**29.25**	**229**	P	**P**	**07 12 20.0**	**-0.5**

comp=Z,1.8nm,0.4s,baz=50,slow=12,SNR=7.8

STKA	**Stephens Creek**	**29.25**	**229**	P	**P**	**07 12 21.8**	**+1.3**
WB0	**Warramunga Arr**	**31.92**	**256**	P	**P**	**07 12 43.7**	**-0.5**
WB0				IAmb	IAmb	07 12 58.0	

comp=Z,10.0nm,1.4s

WRA	**Warramunga Arr**	**31.98**	**255**	P	**P**	**07 12 44.2**	**-0.5**

comp=Z,0.6nm,0.6s,baz=86,slow=9.3,SNR=6.2

WRA	**Warramunga Arr**	**31.98**	**255**	P	**P**	**07 12 43.7**	**-1.0**
AS31	**Alice Springs**	**32.86**	**249**	P	**P**	**07 12 51.9**	**-0.5**
ASAR	**Alice Springs**	**32.86**	**249**	P	**P**	**07 12 51.8**	**-0.6**

comp=Z,0.9nm,0.4s,baz=80,slow=9.0,SNR=31

ASAR	**Alice Springs**	**32.86**	**249**	P	**P**	**07 12 51.5**	**-0.9**
BBOO	**Buckleboo**	**33.83**	**232**	P	**P**	**07 13 01.5**	**+0.9**
BBOO				IAmb	IAmb	07 13 09.9	

comp=Z,12nm,1.2s

KNRA	**Kununurra**	**37.26**	**263**	P	**P**	**07 13 30.8**	**+0.8**
KNRA				IAmb	IAmb	07 13 43.0	

comp=Z,25nm,1.4s

FITZ	**Fitzroy Crossi**	**40.15**	**259**	P	**P**	**07 13 55.3**	**+1.2**
FITZ				IAmb	IAmb	07 13 57.7	

comp=Z,12nm,1.5s

MCQ	**Macquarie Isla**	**40.52**	**188**	P	**P**	**07 13 58.0**	**+1.4**
PPTF	**Pamatai, Papee**	**41.47**	**100**	P	**P**	**07 14 05.4**	**+0.5**
PPTF				IAmb	IAmb	07 14 05.8	

comp=Z,30nm,0.8s

ERM	**Erimo**	**60.43**	**339**	P	**P**	**07 16 25.1**	**-0.8**

IDC 09 07:19:20.5±3.7, 28°.55S×177°.98W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/18, mbtmp3.7/2, Error ellipse: s-maj=79.2km s-min=18.2km az=64.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.70**	**176**	Pn	Pn	07 19 38.1	+0.4

227nm,0.3s,baz=81,slow=12,SNR=16

RAO				Sn	Sn	07 19 49.4	+0.1

869nm,0.3s,baz=124,slow=23,SNR=20

ASAR	**Alice Springs**	**43.26**	**265**	P	P	07 27 23.9	-0.1

0.6nm,1.0s,baz=106,slow=7.2,SNR=5.1

WRA	**Warramunga Arr**	**44.08**	**270**	P	P	07 27 30.4	-0.1

1.0nm,0.4s,baz=111,slow=7.9,SNR=23

FINES	**FINESS Array B**	**143.41**	**341**	PKP	PKPbc	07 38 54.4	+1.0

1.8nm,0.6s,baz=59,slow=3.6,SNR=11

UCR 09 08:08:43.0±1.1, 9°.87N×84°.01W, h74km±2km, MD3.9, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.08**	**326**	*eP*	Pn	08 08 53.8	-0.1
SJS				*eS*	Sn	08 09 02.4	+0.6
LCR2	**La Lucha 2**	**0.13**	**177↑**	*iP*	Pn	08 08 53.8	-0.3
LCR2				*eS*	Sn	08 09 02.3	+0.1
HDC	**Heredia**	**0.16**	**321**	*eS*	Sn	08 09 02.7	+0.5
SRA1	**San Ramn**	**0.51**	**294↓**	*eP*	Pn	08 08 56.1	-0.3
SRA1				*eS*	Sn	08 09 06.7	+0.5
EDDO	**Dominical**	**0.63**	**167↓**	*iP*	Pn	08 08 58.2	+0.7
EDDO				*eS*	Sn	08 09 09.4	+1.2
EDLM	**Las Mercedes**	**0.72**	**145**	*eP*	Pn	08 08 58.8	+0.3
EDLM				*eS*	Sn	08 09 10.7	+0.7
FORC	**Fortuna**	**0.88**	**312**	*iP*	Pn	08 09 00.1	-0.1
FORC				*iS*	Sn	08 09 13.8	+0.8
CASO	**Castillo**	**0.90**	**308**	*iP*	Pn	08 09 00.5	-0.1
CASO				*iS*	Sn	08 09 14.4	+0.7
ARE1	**Arenal 1**	**0.91**	**310**	*eP*	Pn	08 09 00.6	-0.1
ARE1				*eS*	Sn	08 09 15.3	+1.5
CEDE	**Laguna Cedeo**	**0.92**	**312**	*iP*	Pn	08 09 00.7	0.0
CEDE				*iS*	Sn	08 09 14.7	+0.8
EDBA	**Buenos Aires**	**1.01**	**134**	*eP*	Pn	08 09 01.8	-0.1
EDBA				*eS*	Sn	08 09 15.9	-0.1
JTS	**Las Juntas de**	**1.02**	**294↓**	*iP*	Pn	08 09 01.9	0.0
JTS				*eS*	Sn	08 09 17.1	+1.1
ACAL	**Aguas Claras**	**1.26**	**307**	*iP*	Pn	08 09 05.1	+0.1
PTEN	**Parque Tenorio**	**1.27**	**311**	*iP*	Pn	08 09 05.1	-0.2
CUI	**Cuipilapa**	**1.38**	**305**	*iP*	Pn	08 09 06.5	-0.1
CUI				*iS*	Sn	08 09 25.9	+1.7
PLVR	**Palo Verde**	**1.40**	**290**	*eP*	Pn	08 09 07.3	+0.3
COLC	**Colonia**	**1.41**	**304**	*iP*	Pn	08 09 07.0	-0.1
COLC				*iS*	Sn	08 09 26.1	+1.0
HORNC	**Hornillas**	**1.42**	**306**	*iP*	Pn	08 09 06.3	-0.9
GUAB	**Guayabo de Bag**	**1.46**	**305**	*iP*	Pn	08 09 07.5	-0.1
LIM1	**Limonal**	**1.47**	**304**	*iP*	Pn	08 09 07.0	-0.8
GUAI	**GUAI**	**1.53**	**285**	*iP*	Pn	08 09 08.4	-0.1
GPS1	**Guardaparques**	**1.59**	**304**	*iS*	Sn	08 09 30.8	+1.4
BUEV	**Buena Vista**	**1.65**	**304**	*eP*	Pn	08 09 10.0	-0.2
GBS3	**Finca Las Img**	**1.68**	**303**	*iP*	Pn	08 09 10.1	-0.4
BRU2	**Volcan**	**1.69**	**129**	*eP*	Pn	08 09 11.0	+0.3

RSNC 09 08:29:32.8±0.8, 6°.87N×73°.25W, h128km±7km, ML1.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**167**	*eP*	Pn	08 29 50.1	-0.9
BARC				*eS*	Sn	08 30 04.6	-0.1
BARC				*i*		08 30 05.8	

comp=Z,7.8nm,0.4s

BARC	**Barichara**	**0.28**	**167**	*eP*	Pn	08 29 51.0	-0.1
BARC				*eS*	Sn	08 30 04.6	-0.1
BARC				*i*		08 30 05.8	

comp=Z,7.8nm,0.4s

BRRC	**Barranca, Sant**	**0.52**	**297**	*eP*	Pn	08 29 51.7	-0.1
BRRC				*eS*	Sn	08 30 05.9	-0.2
BRRC	**Barranca, Sant**	**0.52**	**297**	*eP*	Pn	08 29 51.6	-0.2
BRRC				*eS*	Sn	08 30 04.6	-1.5
PTBC	**PUERTO BERRIO,**	**1.25**	**255**	*eP*	Pn	08 29 58.0	-0.1
PTBC				*eS*	Sn	08 30 16.5	-0.7
PTBC				*i*		08 30 18.9	

comp=Z,2.1nm,0.3s

PTBC	**PUERTO BERRIO,**	**1.25**	**255**	*eP*	Pn	08 29 58.0	0.0
PTBC				*eS*	Sn	08 30 14.2	-3.0
PTBC				*i*		08 30 18.9	

comp=Z,2.1nm,0.3s

OCAC	**Ocana**	**1.36**	**357**	*eS*	Sn	08 30 19.1	-0.6
SPBC	**San Pablo de B**	**1.46**	**214**	*eS*	Sn	08 30 21.0	-0.5
SPBC	**San Pablo de B**	**1.46**	**214**	*eS*	Sn	08 30 19.7	-1.9

*NEIC **09** 08:40:49.2±0.6, 4°.9S±0°.1×153°.9E±0°.1, h109km±14km, mb4.2/5, Error ellipse: s-maj=20.2km s-min=17.9km az=201.0*

*IDC **09** 08:40:50.3±6.4, 4°.75S×153°.70E, h114km±42km, mb3.2/2, mb1 3.6/3, mb1mx3.1/32, mbtmp3.8/3, Error ellipse: s-maj=69.3km s-min=35.3km az=94.0*

ISC 09 08:40:48.9±1.1, 4°.84S±0°.1×153°.8E±0°.1, h105km, n15, σ0§76/16, mb3.9/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.78**	**291**	Pn	**Pn**	**08 41 20.2**	**+1.2**
KRVT	**Keravat (AS076**	**1.88**	**286**	P	**Pn**	**08 41 20.1**	**-0.1**

8.2nm,0.3s,baz=29,slow=21,SNR=1.6

KRVT				S	**Sn**	**08 41 42.9**	**-1.1**

8.1nm,0.3s,baz=22,slow=23,SNR=7.0

PMG	**Port Moresby**	**8.02**	**235**	P	**Pn**	**08 42 43.4**	**+0.6**

1.8nm,0.3s,baz=59,slow=5.9,SNR=3.2

PMG	**Port Moresby**	**8.02**	**235**	Pn	**Pn**	**08 42 43.8**	**+1.0**
PATS	**Pohnpei**	**12.43**	**21**	Pn	**Pn**	**08 43 42.6**	**+0.2**
WB0	**Warramunga Arr**	**24.05**	**230**		**P**	**08 45 55.9**	**+1.3**
WB0				IAmb	IAmb	08 46 08.6	

comp=Z,7.6nm,1.2s

WB2	**Warramunga Arr**	**24.19**	**230**	P	**P**	**08 45 56.2**	**+0.4**
WB2				IAmb	IAmb	08 46 09.0	

comp=Z,6.8nm,1.3s

WRA	**Warramunga Arr**	**24.20**	**230**	P	**P**	**08 45 56.2**	**+0.3**

comp=Z,1.1nm,0.6s,baz=55,slow=10,SNR=9.2

AS31	**Alice Springs**	**26.82**	**224**	P	**P**	**08 46 19.7**	**+0.1**
ASAR	**Alice Springs**	**26.82**	**224**	P	**P**	**08 46 19.6**	**-0.1**

comp=Z,0.3nm,0.5s,baz=55,slow=8.8,SNR=7.4

ASAR	**Alice Springs**	**26.82**	**224**	P	**P**	**08 46 18.7**	**-0.9**
FORT	**Forrest**	**35.41**	**220**	P	**P**	**08 47 34.8**	**-0.1**
ODZ	**Otahua Downs**	**42.66**	**162**	P	**P**	**08 48 34.5**	**-0.6**
ODZ				IAmb	IAmb	08 48 48.4	

comp=Z,24nm,1.4s

TORD	**Torodi Ar. Bea**	**151.29**	**289**	PKPbc	**PKPbc**	**09 00 31.1**	**-0.3**

baz=46,slow=2.7

TORD	**Torodi Ar. Bea**	**151.29**	**289**	PKPbc	**PKPbc**	**09 00 31.3**	**-0.1**

*IDC **09** 08:43:49.0±1.4, 7°.24S×127°.87E, h0km, mb4.0/3, mb1 4.0/5, mb1mx3.7/30, mbtmp3.9/5, ML3.6/2, MS3.1/3, Ms1 3.1/3, ms1mx2.6/40, Error ellipse: s-maj=94.5km s-min=22.7km az=70.0*

ISC 09 08:43:50.5±1.4, 7°.4S±0°.1×128°.0E±0°.2, h10km, n8, σ2§75/7, mb4.0/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.84**	**192**	Pn	**Pn**	**08 46 28.0**	**+2.1**

0.3nm,0.3s,baz=18,slow=11,SNR=8.3

FITZ				Sn	**Sn**	**08 48 23.5**	**-3.9**

0.2nm,0.3s,baz=126,slow=18,SNR=1.3

FITZ				LR	LR	08 50 24.9	

comp=Z,30nm,18.7s,baz=225,slow=36

WRA	**Warramunga Arr**	**13.89**	**154**	Pn	**Pn**	**08 47 06.9**	**-0.7**

0.3nm,0.3s,baz=323,slow=13,SNR=22

WRA				Sn	Sn	08 49 36.3	-5.6

0.3nm,0.3s,baz=333,slow=22,SNR=7.5

ASAR	**Alice Springs**	**17.12**	**161**	P	**Pn**	**08 47 50.8**	**+0.7**

0.2nm,0.3s,baz=333,slow=8.9,SNR=17

ASAR				S	Sn	08 50 50.9	-10

0.1nm,0.3s,baz=333,slow=37,SNR=1.8

STKA	**Stephens Creek**	**27.44**	**154**	P	**P**	**08 49 39.1**	**+2.5**

1.6nm,0.5s,baz=332,slow=9.8,SNR=9.3

PALK	**Pallekele**	**49.35**	**286**	LR	LR	09 13 48.0	

comp=Z,34nm,18.9s,baz=254,slow=37

MKAR	**Makanchi Array**	**67.50**	**328**	P	**P**	**08 54 46.4**	**-0.4**

0.4nm,0.5s,baz=138,slow=6.9,SNR=3.5

ZALV	**Zalesovo Beam**	**71.09**	**335**	P	**P**	**08 55 07.0**	**-1.9**

1.3nm,0.6s,baz=123,slow=5.3,SNR=5.5

KBZ	**Khabaz**	**91.53**	**314**	LR	LR	09 45 36.9	

comp=Z,16nm,18.4s,baz=178,slow=41

IDC 09 08:56:49.7±6.7, 8°.07S×128°.17E, h0km, mb3.8/1, mb1 3.6/4, mb1mx3.4/29, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=88.0km s-min=58.5km az=132.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.27**	**194**	Pn	Pn	08 59 19.9	+1.5

0.1nm,0.3s,baz=18,slow=10,SNR=1.2

FITZ				Sn	Sn	09 01 17.1	+2.7

baz=19,slow=18

WRA	**Warramunga Arr**	**13.23**	**154**	Pn	Pn	08 59 58.4	-0.6

0.2nm,0.3s,baz=323,slow=14,SNR=11

WRA				Sn	Sn	09 02 28.4	+1.3

0.2nm,0.3s,baz=330,slow=22,SNR=1.8

ASAR	**Alice Springs**	**16.46**	**161**	Pn	Pn	09 00 41.0	-1.1

0.1nm,0.3s,baz=338,slow=9.4,SNR=8.9

STKA	**Stephens Creek**	**26.78**	**154**	P	P	09 02 31.4	-0.1

0.8nm,0.6s,baz=338,slow=5.4,SNR=4.3

*IDC **09** 09:04:06.7±2.8, 11°.62S×161°.69E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/35, mbtmp3.7/4, Error ellipse: s-maj=109.4km s-min=38.8km az=138.0*

*NEIC **09** 09:04:08.7±1.1, 11°.4S±0°.1×161°.4E±0°.1, h10km±1km, mb4.4/7, Error ellipse: s-maj=25.7km s-min=14.0km az=55.0*

ISC 09 09:04:08.9±0.9, 11°.4S±0°.1×161°.4E±0°.1, h10km, n14, σ0§83/15, mb4.2/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.40**	**323**	Pn	**Pn**	**09 04 47.8**	**-0.5**
HNR				Sn	**Sn**	**09 05 18.2**	**+0.4**
WR0	**Warramunga Arr**	**27.21**	**248**	P	**P**	**09 09 52.8**	**-0.4**
WR0				IAmb	IAmb	09 10 03.9	

comp=Z,15nm,1.4s

WB0	**Warramunga Arr**	**27.30**	**249**	P	**P**	**09 09 52.8**	**-1.2**
WB0				IAmb	IAmb	09 09 58.1	

comp=Z,10nm,1.4s

WB2	**Warramunga Arr**	**27.38**	**249**	P	**P**	**09 09 53.5**	**-1.3**
ASAR	**Alice Springs**	**28.87**	**241**	P	**P**	**09 10 08.4**	**+0.3**

comp=Z,0.2nm,0.5s,baz=72,slow=11,SNR=1.6

ASAR	**Alice Springs**	**28.87**	**241**	P	**P**	**09 10 08.2**	**+0.1**
PPT	**Papeete**	**47.76**	**103**	P	**P**	**09 12 47.1**	**+0.4**
PPTF	**Pamatai, Papee**	**47.77**	**103**	P	**P**	**09 12 46.9**	**0.0**
KKM	**Kota Kinabalu**	**48.18**	**289**	P	**P**	**09 12 50.7**	**+0.7**
SONM	**Songino Array**	**76.46**	**325**	P	**P**	**09 16 00.6**	**+1.5**

comp=Z,1.5nm,0.6s,baz=131,slow=4.0,SNR=5.2

SONM	**Songino Array**	**76.46**	**325**	P	**P**	**09 15 58.3**	**-0.8**
IMAR	**Indian Mountai**	**83.92**	**17**	P	**P**	**09 16 38.9**	**+0.1**
ILAR	**Eielson Array**	**85.21**	**20**	P	**P**	**09 16 45.7**	**+0.4**

comp=Z,0.2nm,0.7s,baz=242,slow=5.6,SNR=4.3

YKA	**Yellowknife Ar**	**97.23**	**28**	P	**P**	**09 17 40.8**	**-0.9**

comp=Z,0.4nm,0.8s,baz=266,slow=4.9,SNR=2.5

IDC 09 09:06:41.6±5.8, 7°.80S×128°.09E, h0km, mb4.0/1, mb1 3.8/4, mb1mx3.5/36, mbtmp3.7/4, ML3.4/3, Error ellipse: s-maj=75.6km s-min=57.3km az=118.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.51**	**193**	Pn	Pn	09 09 14.5	+0.9

0.2nm,0.3s,baz=17,slow=12,SNR=3.9

FITZ				Sn	Sn	09 11 15.2	+3.0

0.1nm,0.3s,baz=123,slow=23,SNR=1.2

WRA	**Warramunga Arr**	**13.51**	**154**	Pn	Pn	09 09 54.0	-0.6

0.2nm,0.3s,baz=323,slow=14,SNR=12

WRA				Sn	Sn	09 12 25.8	+0.1

0.1nm,0.3s,baz=331,slow=23,SNR=3.0

WRA	**Warramunga Arr**	**13.51**	**154**	P	Pn	09 09 53.9	-0.8
ASAR	**Alice Springs**	**16.74**	**161**	Pn	Pn	09 10 37.8	+0.1

0.1nm,0.3s,baz=344,slow=9.6,SNR=12

ASAR				Sn	Sn	09 13 45.4	+1.1

0.1nm,0.3s,baz=320,slow=22,SNR=2.1

STKA	**Stephens Creek**	**27.06**	**154**	P	P	09 12 25.6	-0.2

2.1nm,1.0s,baz=322,slow=11,SNR=4.1

*NNC **09** 09:11:54.9±1.4, 44°.28N×82°.08E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=15.4km s-min=5.1km az=128.0*

*SOME **09** 09:11:54.0, 44°.35N×82°.10E, h20km*

ISC 09 09:11:53.4±1.5, 44°.19N±0°.05×82°.17E±0°.05, h6km±12km, n31, σ1§49/50, 3C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.51**	**241**	*eP*	**Pg**	**09 12 22.5**	**+0.2**

15nm,0.1s

KTMS				*eS*	**Sg**	**09 12 43.5**	**+1.6**

278nm,0.2s

KTMS	**Ketmen**	**1.51**	**241**	P	**Pg**	**09 12 22.5**	**+0.2**

15nm,0.1s

KTMS				S	**Sg**	**09 12 43.5**	**+1.6**

278nm,0.2s

DJR	**Jarkent**	**1.71**	**275**	*eP*	**Pg**	**09 12 25.9**	**-0.3**

30nm,0.4s

DJR				*eS*	**Sg**	**09 12 48.3**	**-0.1**

46nm,0.3s

DJR	**Jarkent**	**1.71**	**275**	P	**Pg**	**09 12 25.9**	**-0.3**

30nm,0.4s

DJR				S	**Sg**	**09 12 48.3**	**-0.1**

46nm,0.3s

PDGK	**Podgornoye**	**2.12**	**247**	Pg	**Pb**	**09 12 32.3**	**0.0**

3.5nm,0.1s

PDGK				Lg	Lg	09 13 01.3	

63nm,0.4s

PDGK	**Podgornoye**	**2.12**	**247**	⇑Pn	**Pb**	**09 12 32.2**	**-0.1**

1.7nm,0.2s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.57**	**210**	P	P	09 24 14.5	-1.6
	1.0nm,0.3s,baz=32,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**25.97**	**206**	P	P	09 24 50.1	+1.5
	0.5nm,0.7s,baz=35,slow=6.8,SNR=6.0						
MKAR	**Makanchi Array**	**72.55**	**320**	P	P	09 30 42.9	-0.2
	0.3nm,0.4s,baz=108,slow=4.7,SNR=6.9						

KRSC 09 09:21:12.8±1.7, 48°.67N×156°.11E, h30km±22km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.02**	**0**	P	Pn	09 21 46.6	+1.8
SKR				S	Sb	09 22 11.9	-1.5
ALID	**Alaid**	**2.23**	**351**	P	Pn	09 21 48.8	+0.9
ALID				S	Sn	09 22 15.4	+0.9
PAU	**Pauzhetka**	**2.84**	**9**	S	Sb	09 22 33.6	-3.4
KDTR	**Khodutka, Kamc**	**3.39**	**21**	P	Pn	09 22 07.6	+4.0
KDTR				S	Sb	09 22 48.1	-4.7
ASAK	**Asacha**	**3.89**	**16**	P	Pn	09 22 15.4	+4.8
ASAK				S	Sn	09 23 01.1	+5.8
MTVR	**Mutnovka**	**4.04**	**18**	P	Pn	09 22 17.4	+4.7
MTVR				S	Sn	09 23 05.0	+5.9
RUS	**Russkaya**	**4.07**	**21**	P	Pn	09 22 16.7	+3.7
RUS				S	Sn	09 23 03.9	+4.4
GRL	**Gorelyy**	**4.08**	**17**	P	Pn	09 22 18.0	+4.7
GRL				S	Sn	09 23 06.0	+5.9
KOK	**Koryaka**	**4.90**	**18**	P	Pn	09 22 30.0	+5.6
SPN	**Mys Shipunski**	**5.08**	**28**	S	Sn	09 23 29.4	+5.0

IDC 09 09:47:39.0±20.0, 18°.68N×107°.80W, h0km, mb3.3/3, mb1 3.8/4, mb1mx3.5/26, mbtmp3.4/4, ML3.2/1, MS3.0/7, Ms1 3.0/7, ms1mx2.8/16, Error ellipse: s-maj=288.1km s-min=80.7km az=163.0, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**2.97**	**272**	T	T	09 50 53.0	
	SNR=38						
H06S1	**SOCORRO T**	**3.00**	**271**	T	T	09 50 57.5	
	SNR=39						
H06N1	**SOCORRO T-PHAS**	**3.03**	**274**	T	T	09 50 51.9	
	SNR=25						
LPIG	**La Paz**	**5.88**	**337**	LR	LR	09 50 55.5	
	comp=Z,206nm,18.9s,baz=188,slow=33						
TXAR	**Lajitas Array**	**11.25**	**19**	Pn	Pn	09 50 22.3	+1.1
	0.0nm,0.3s,baz=200,slow=12,SNR=21						
TXAR				LR	LR	09 53 30.2	
	comp=Z,21nm,20.4s,baz=0.0,slow=31						
ANMO	**Albuquerque**	**16.24**	**4**	LR	LR	09 57 19.7	
	comp=Z,53nm,21.5s,baz=190,slow=36						
PFO	**Pinyon Flats O**	**16.77**	**334**	LR	LR	09 56 51.7	
	comp=Z,111nm,20.6s,baz=174,slow=33						
NVAR	**Mina Array Bea**	**21.70**	**337**	P	P	09 52 32.1	+0.3
	1.5nm,1.0s,baz=166,slow=12,SNR=8.4						
NVAR				LR	LR	10 00 01.3	
	comp=Z,38nm,18.4s,baz=188,slow=34						
ELK	**Elko**	**22.90**	**345**	P	P	09 52 44.7	+0.1
	1.1nm,0.8s,baz=186,slow=9.2,SNR=4.2						
ELK				LR	LR	10 00 11.7	
	comp=Z,31nm,20.7s,baz=190,slow=33						
PDAR	**Pinedale Array**	**24.05**	**357**	P	P	09 52 55.8	-0.4
	0.6nm,0.9s,baz=157,slow=8.0,SNR=4.5						
YBH	**Yreka Blue Hor**	**26.26**	**334**	LR	LR	10 03 08.5	
	comp=Z,48nm,18.1s,baz=210,slow=35						
H03N2	**Juan Fernandez**	**58.70**	**152**	T	T	11 01 57.4	
	baz=329,slow=77,SNR=34						
H03N1	**Juan Fernandez**	**58.71**	**152**	T	T	11 01 58.3	
	baz=329,slow=77,SNR=90						
H03N3	**Juan Fernandez**	**58.72**	**152**	T	T	11 01 57.9	
	baz=329,slow=77,SNR=59						

*MDD **09** 10:19:43.9±0.5, 36°.93N×3°.21E, h11km±7km, mb4.0/29, Error ellipse: s-maj=6.9km s-min=5.1km az=2.0, PRXIMO*
*CRAAG **09** 10:19:43.8, 36°.81N×3°.20E, Ml4.0*
ISC 09 10:19:42.1±0.9, 37°.04N±0°.04×3°.21E±0°.04, h12km, n52, σ2s71/80, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.28**	**210**	P	**Pg**	**10 19 47.4**	**-0.4**
ABA	**Alger-Bouzarea**	**0.28**	**210**	P	**Pg**	**10 19 47.4**	**-0.4**
ABMS	**Boumerdes**	**0.36**	**143**	P	**Pg**	**10 19 49.5**	**+0.2**
ABMS	**Boumerdes**	**0.36**	**143**	P	**Pg**	**10 19 49.5**	**+0.2**
ADJB	**Djebel Djouab**	**0.90**	**168**	P	**Pg**	**10 19 58.7**	**-0.8**
ADJB	**Djebel Djouab**	**0.90**	**168**	P	**Pg**	**10 19 58.7**	**-0.8**
AKET	**Djebel Ketaf**	**1.13**	**151**	P	**Pb**	**10 20 02.7**	**-1.0**
AKET	**Djebel Ketaf**	**1.13**	**151**	P	**Pb**	**10 20 02.7**	**-1.0**
DFRA	**Djebel Bou Aff**	**2.20**	**102**	P	**Pn**	**10 20 16.8**	**-1.7**
DFRA	**Djebel Bou Aff**	**2.20**	**102**	P	**Pn**	**10 20 16.8**	**-1.7**
OKGL	**Djebel Kef Gue**	**2.30**	**245**	P	**Pn**	**10 20 21.3**	**+1.5**
	SNR=4.0						
OKGL				S	**Sn**	**10 20 48.1**	**+0.1**
	108nm,0.3s,SNR=4.0						
EIBI	**Ibiza**	**2.47**	**324**	P	**Pn**	**10 20 24.0**	**+1.8**
	10.0nm,0.1s,SNR=36						
EIBI				S	**Sn**	**10 20 52.5**	**+0.3**
	14nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**2.74**	**354**	P	**Pn**	**10 20 28.1**	**+2.3**
	11nm,0.1s,SNR=18						
ETOS				S	**Sn**	**10 20 58.3**	**-0.6**
	4.1nm,0.2s,SNR=7.9						
MAHO	**Mahon**	**2.97**	**16**	P	**Pn**	**10 20 30.8**	**+1.8**
MAHO				S	**Sn**	**10 21 01.5**	**-3.0**
MAHO	**Mahon**	**2.97**	**16**	*e*P	**Pn**	**10 20 30.8**	**+1.8**
MAHO				*e*S	**Sn**	**10 21 01.5**	**-3.0**
MAHO				*e*L	L	10 23 32.8	
EBEN2	**Beniarda presa**	**3.15**	**302**	P	**Pn**	**10 20 33.4**	**+1.9**
	SNR=7.9						
EBEN2				S	**Sn**	**10 21 06.7**	**-2.3**
	6.2nm,0.4s,SNR=7.9						
AFON	**Font Roja**	**3.38**	**300**	P	**Pn**	**10 20 37.1**	**+2.3**
	0.5nm,0.0s,SNR=7.9						
AFON				S	**Sn**	**10 21 12.6**	**-2.3**
	3.7nm,0.3s,SNR=7.9						
CART	**Cartagena**	**3.40**	**280**	P	**Pn**	**10 20 34.6**	**-0.3**
CART				S	**Sn**	**10 21 10.8**	**-4.4**
CART	**Cartagena**	**3.40**	**280**	*e*P	**Pn**	**10 20 34.6**	**-0.3**
CART				*e*S	**Sn**	**10 21 10.8**	**-4.4**
CMAH	**Djebel Manchou**	**3.40**	**96**	P	Pn	10 20 29.8	-5.2
CMAH	**Djebel Manchou**	**3.40**	**96**	P	Pn	10 20 29.8	-5.2
EMUR	**La Murta**	**3.63**	**284**	P	**Pn**	**10 20 41.3**	**+3.1**
	2.6nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**10 21 19.1**	**-1.8**
	5.4nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**4.09**	**294**	P	**Pn**	**10 20 46.2**	**+1.7**
	5.2nm,0.2s,SNR=24						
ETOB				S	**Sn**	**10 21 29.9**	**-2.4**
	5.7nm,0.4s,SNR=7.9						
ECHE	**Chera**	**4.16**	**309**	P	**Pn**	**10 20 48.2**	**+2.9**
	1.9nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**4.34**	**271**	S	**Sn**	**10 21 34.0**	**-4.3**
	6.7nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.39**	**320**	P	**Pn**	**10 20 50.6**	**+1.9**
	1.6nm,0.1s,SNR=19						
EMOS				S	**Sn**	**10 21 39.0**	**-0.9**
	3.2nm,0.5s,SNR=7.9						
ERTA	**Horta de San J**	**4.50**	**331**	P	**Pn**	**10 20 52.2**	**+2.1**
	1.1nm,0.1s,SNR=7.9						
ERTA				S	**Sn**	**10 21 40.5**	**-2.0**
	1.9nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**4.61**	**340**	P	**Pn**	**10 20 53.9**	**+2.3**
	1.0nm,0.1s,SNR=6.8						
EPOB				S	**Sn**	**10 21 44.4**	**-0.8**
	1.1nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**4.70**	**285**	P	**Pn**	**10 20 55.0**	**+2.1**
	1.0nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**10 21 46.9**	**-0.5**
	7.9nm,0.5s,SNR=7.9						
SESP	**Santiago Espad**	**4.70**	**285**	P	**Pn**	**10 20 55.4**	**+2.5**
SESP				S	**Sn**	**10 21 45.2**	**-2.2**
CFON	**Fontmartina**	**4.75**	**353**	P	**Pn**	**10 20 55.8**	**+2.2**
	5.3nm,0.1s,SNR=18						
CFON				S	**Sn**	**10 21 49.7**	**+1.1**
	3.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.89**	**270**	P	**Pn**	**10 20 55.0**	**-0.5**
	1.1nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**10 21 49.6**	**-2.5**
	2.3nm,0.4s,SNR=7.9						
EMIR	**Miracle**	**5.04**	**346**	P	**Pn**	**10 21 01.2**	**+3.7**
	16nm,0.2s,SNR=9.5						
EMIR				S	**Sn**	**10 21 50.8**	**-4.8**
	10nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.06**	**281**	P	**Pn**	**10 21 00.7**	**+2.9**
	3.3nm,0.3s,SNR=11						
EQES				S	**Sn**	**10 21 55.7**	**-0.5**
	6.2nm,0.4s,SNR=5.8						
TAF	**Taforalt**	**5.08**	**246**	P	Pn	10 21 03.2	+5.2
TAF				S	**Sn**	**10 22 02.2**	**+5.5**
EJON	**La Jonquera**	**5.41**	**357**	P	**Pn**	**10 21 05.3**	**+2.8**
	4.2nm,0.1s,SNR=20						
EJON				S	**Sn**	**10 22 03.1**	**-1.6**
	1.4nm,0.4s,SNR=7.9						
JBK	**JBK**	**5.42**	**242**	P	**Pn**	**10 21 07.2**	**+4.3**
JBK				S	**Sn**	**10 22 13.3**	**+8.0**
SJAF	**Saint Jean de**	**5.44**	**357**	P	**Pn**	**10 21 05.9**	**+2.9**
	3.4nm,0.1s,SNR=7.9						
SJAF				S	**Sn**	**10 22 04.5**	**-1.0**
	0.2nm,0.1s,SNR=7.9						
ELGU	**Los Guajares,**	**5.48**	**270**	P	**Pn**	**10 21 03.2**	**-0.4**
	0.9nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**10 22 02.7**	**-3.9**
	2.6nm,0.3s,SNR=7.9						
CLLI	**Llivia**	**5.51**	**350**	P	**Pn**	**10 21 07.3**	**+3.2**
	1.1nm,0.2s,SNR=7.9						
CLLI				S	**Sn**	**10 22 05.9**	**-1.5**
	0.4nm,0.2s,SNR=7.9						
CSOR	**Sort**	**5.56**	**344**	P	**Pn**	**10 21 08.2**	**+3.4**
	1.1nm,0.1s,SNR=13						
CSOR				S	**Sn**	**10 22 08.3**	**-0.3**
	1.3nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**5.85**	**273**	P	**Pn**	**10 21 06.3**	**-2.5**
	0.1nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**10 22 11.8**	**-4.0**
	2.0nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**6.22**	**297**	P	**Pn**	**10 21 16.0**	**+2.3**
	0.6nm,0.1s,baz=111,slow=13,SNR=6.1						
PAB	**San Pablo**	**6.45**	**295**	P	**Pn**	**10 21 18.6**	**+1.7**
	0.2nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**6.78**	**304**	P	**Pn**	**10 21 22.8**	**+1.3**
	0.2nm,0.1s,SNR=7.9						
EORO	**Oroz-Betelu**	**6.79**	**331**	P	**Pn**	**10 21 24.7**	**+3.1**
	0.2nm,0.2s,SNR=7.9						
EORO				S	**Sn**	**10 22 36.8**	**-2.1**
	1.1nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**6.93**	**281**	P	**Pn**	**10 21 23.3**	**-0.2**
	0.9nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	**10 22 39.0**	**-3.3**
	0.8nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**7.15**	**331**	P	**Pn**	**10 21 30.0**	**+3.5**
	0.1nm,0.3s,SNR=7.9						
EALK				S	**Sn**	**10 22 44.2**	**-3.5**
	1.3nm,0.2s,SNR=7.9						
MD31	**MD31**	**7.75**	**240**	P	Pn	10 21 39.9	+5.1
MD31				S	**Sn**	**10 23 09.6**	**+7.0**
MVO	**Moncorvo**	**8.96**	**300**	P	**Pn**	**10 21 53.1**	**+1.8**
	0.7nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**8.97**	**317**	P	**Pn**	**10 21 55.3**	**+3.8**
	0.4nm,0.1s,SNR=8.8						
ECAL	**Calabor**	**9.11**	**306**	P	**Pn**	**10 21 55.1**	**+1.6**
	2.3nm,0.3s,SNR=7.9						

*IDC **09** 10:45:22.4±2.1, 15°.39N×93°.07W, h90km±14km, mb3.3/5, mb1 3.7/8, mb1mx3.4/33, mbtmp3.7/8, MS2.9/1, Ms1 2.9/1, ms1mx2.2/24, Error ellipse: s-maj=76.6km s-min=13.9km az=40.0*
*MEX **09** 10:45:22.9±0.6, 15°.31N×93°.12W, h97km±6km, MD4.1*
*NEIC **09** 10:45:22.3±1.7, 15°.36N±0°.05×93°.13W±0°.03, h88km±7km, Error ellipse: s-maj=7.4km s-min=4.6km az=185.0*
*GCG **09** 10:45:24.9±0.6, 16°.76N×91°.35W, h30km, MD4.3*
ISC 09 10:45:22.1±0.8, 15°.32N±0°.05×93°.16W±0°.03, h91km±6km, n70, σ1s66/92, mb4.1/15, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.39**	**352**	*e*P	**Pn**	**10 45 36.4**	**+0.2**
PCIG				*e*S	**Sn**	**10 45 47.2**	**+0.6**
PCIG		**0.39**	**352**		**Pn**	**10 45 36.4**	**+0.2**
PCIG					**Sn**	**10 45 47.2**	**+0.6**
THIG		**0.96**	**115**	*e*P	**Pn**	**10 45 41.0**	**-0.4**
THIG				*e*S	**Sn**	**10 45 54.6**	**-1.2**
THIG		**0.96**	**115**		**Pn**	**10 45 41.0**	**-0.4**
THIG					**Sn**	**10 45 54.6**	**-1.2**
CCIG	**Comitan**	**1.38**	**46**	*e*P	**Pn**	**10 45 46.5**	**0.0**
CCIG				*i* S	**Sn**	**10 46 05.1**	**+0.1**
CCIG	**Comitan**	**1.38**	**46**		**Pn**	**10 45 46.9**	**+0.4**
CCIG				Sn	**Sn**	**10 46 04.8**	**-0.1**
TGBT	**Tuxtla Gutierr**	**1.45**	**3**	*i* P	**Pn**	**10 45 47.1**	**-0.2**
TGBT				*i* S	**Sn**	**10 46 05.8**	**-0.5**
TGBT	**Tuxtla Gutierr**	**1.45**	**3**		**Pn**	**10 45 43.7**	**-3.6**
TGBT					**Sn**	**10 46 04.6**	**-1.7**
TGIG		**1.45**	**2**	*e*P	**Pn**	**10 45 47.1**	**-0.3**
TGIG				*i* S	**Sn**	**10 46 05.8**	**-0.7**
TGIG		**1.45**	**2**		**Pn**	**10 45 47.1**	**-0.3**
TGIG					**Sn**	**10 46 05.2**	**-1.2**
HUEH	**Huehuetenango**	**1.60**	**90**		**Pn**	**10 45 49.6**	**+0.1**
HUEH				Sn	**Sn**	**10 46 08.2**	**-1.9**
RTAL	**Retalhuleu**	**1.62**	**119**		**Pn**	**10 45 49.5**	**+0.1**
RTAL				Sn	**Sn**	**10 46 08.7**	**-1.5**
FUG	**Fuego 3**	**2.41**	**111**	*e*P	**Pn**	**10 46 01.9**	**+2.1**
FUG				*e*S	**Sn**	**10 46 31.1**	**+2.3**
CMIG	**Matias Romero**	**2.42**	**317**	P	**Pn**	**10 46 00.5**	**+0.6**
	7.5nm,0.3s,baz=153,slow=12,SNR=132						
CMIG				S	**Sn**	**10 46 29.9**	**+1.1**
	28nm,0.3s,baz=120,slow=13,SNR=21						
CMIG	**Matias Romero**	**2.42**	**317**	*e*P	**Pn**	**10 46 00.5**	**+0.6**
CMIG				*e*S	**Sn**	**10 46 29.1**	**+0.3**
NBG	**Las Nubes**	**2.82**	**105**	*e*S	**Sn**	**10 46 31.0**	**-7.8**
IXG	**Ixpaco**	**2.87**	**113**	*e*P	**Pn**	**10 46 08.3**	**+2.2**
IXG				*e*S	**Sn**	**10 46 40.4**	**+0.5**
HUIG	**Huatulco**	**2.88**	**279**	*i* P	**Pn**	**10 46 05.2**	**-0.8**
HUIG				*i* S	**Sn**	**10 46 39.0**	**-0.7**
HUIG	**Huatulco**	**2.88**	**279**		**Pn**	**10 46 05.1**	**-0.9**
HUIG					**Sn**	**10 46 33.1**	**-6.6**
PETF	**Flores**	**3.54**	**63**		**Pn**	**10 46 14.8**	**-0.2**
PETF				Sn	**Sn**	**10 46 52.9**	**-3.0**
ESQI	**Esquipulas**	**3.77**	**101**		**Pn**	**10 46 17.6**	**-0.6**
MTO3	**Montecristo**	**3.79**	**103**		**Pn**	**10 46 18.4**	**-0.2**
VHO	**Vista Hermosa**	**3.85**	**297**	*i* P	**Pn**	**10 46 21.0**	**+1.7**
VHO				*i* S	**Sn**	**10 47 04.2**	**+0.6**
PEIG	**Puerto Escondi**	**3.90**	**280**	*i* P	**Pn**	**10 46 19.3**	**-0.5**
PEIG				*i* S	**Sn**	**10 47 01.4**	**-3.2**
TLIG	**Tlapa**	**5.64**	**294**	Pn	**Pn**	**10 46 44.9**	**+1.3**
TGUH	**Tegucigalpa,Un**	**5.83**	**102**	Pn	**Pn**	**10 46 46.8**	**+0.5**
TEIG	**Tepich**	**6.74**	**43**	Pn	**Pn**	**10 46 57.2**	**-1.4**
TEIG				Sn	**Sn**	**10 48 10.6**	**-3.2**
JTS	**Las Juntas de**	**9.44**	**121**	P	**Pn**	**10 47 35.5**	**+0.2**
	0.7nm,0.3s,baz=359,slow=22,SNR=5.9						
JTS				S	**Sn**	**10 49 18.6**	**-1.1**
	0.2nm,0.3s,baz=180,slow=20,SNR=1.3						
JTS	**Las Juntas de**	**9.44**	**121**	Pn	**Pn**	**10 47 34.5**	**-0.8**
TX31	**Lajitas Ar. Si**	**16.98**	**327**		**P**	**10 49 17.0**	**+2.4**
TX31				IAmb	IAmb	10 49 18.8	
	comp=Z,19nm,1.5s						
TX32	**Lajitas Array**	**16.98**	**327**		**P**	**10 49 17.0**	**+2.4**
TXAR	**Lajitas Array**	**16.98**	**327**	P	**P**	**10 49 15.7**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=154,slow=12,SNR=18						
TXAR	**Lajitas Array**	**16.98**	**327**	P	**P**	**10 49 16.9**	**+2.3**
152A	**Waverly Hall**	**18.90**	**22**	P	**P**	**10 49 35.2**	**-0.3**
152A				IAmb	IAmb	10 49 42.0	
	comp=Z,7.6nm,1.2s						
X40A	**Basin Creek Fa**	**19.09**	**1**	P	**P**	**10 49 37.9**	**+0.4**
MIAR	**Mount Ida**	**19.15**	**359**	P	**P**	**10 49 37.6**	**-0.6**
MNTX	**Cornudas Mount**	**19.75**	**328**	P	**P**	**10 49 44.9**	**0.0**
MSTX	**Muleshoe**	**20.50**	**337**	P	**P**	**10 49 52.9**	**-0.1**
MSTX				IAmb	IAmb	10 49 56.6	
	comp=Z,4.6nm,0.8s						
TUL1	**Leonard**	**20.64**	**354**	P	**P**	**10 49 54.1**	**-0.3**
TUL1				IAmb	IAmb	10 49 56.3	
	comp=Z,5.5nm,0.8s						
AMTX	**Amarillo**	**20.93**	**340**	P	**P**	**10 49 57.9**	**+0.3**
AMTX				IAmb	IAmb	10 50 00.8	
	comp=Z,7.6nm,0.7s						
U40A	**Yellville**	**20.95**	**1**	P	**P**	**10 49 58.0**	**+0.2**
TKL	**Tuckaleechee C**	**21.93**	**21**	LR	LR	10 59 34.3	
	comp=Z,31nm,18.2s,baz=258,slow=39						
S39A	**Bolivar**	**22.28**	**360**	P	**P**	**10 50 09.8**	**-2.2**
S39A				IAmb	IAmb	10 50 11.3	
	comp=Z,5.4nm,0.7s						
ANMO	**Albuquerque**	**22.91**	**331**	P	**P**	**10 50 18.9**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=145,slow=11,SNR=6.4						
ANMO	**Albuquerque**	**22.91**	**331**	P	**P**	**10 50 19.4**	**+0.8**
T25A	**Trinidad**	**23.92**	**337**	P	**P**	**10 50 30.1**	**+2.2**
T25A				IAmb	IAmb	10 50 31.1	
	comp=Z,6.1nm,0.8s						
S22A	**4UR Ranch, Cre**	**25.41**	**334**	P	**P**	**10 50 42.8**	**+1.3**
MVCO	**Mesa Verde**	**25.71**	**331**	P	**P**	**10 50 45.0**	**+0.8**
MVCO				IAmb	IAmb	10 50 47.0	
	comp=Z,7.0nm,0.8s						
PV13	**Radium Mtn., P**	**26.62**	**332**	IAmb	IAmb	10 50 55.3	
	comp=Z,5.6nm,0.9s						
PV03	**Paradox Valley**	**26.71**	**332**	P	**P**	**10 50 53.4**	**+0.1**
PV03				IAmb	IAmb	10 50 56.0	
	comp=Z,4.7nm,0.9s						
PV23	**Carpenter Ridg**	**26.95**	**332**	P	**P**	**10 50 55.1**	**-0.3**
PDAR	**Pinedale Array**	**30.76**	**336**	P	**P**	**10 51 28.6**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=138,slow=7.2,SNR=3.3						
SNOW	**Snow King Moun**	**31.82**	**335**	P	**P**	**10 51 39.4**	**+0.9**
LOHW	**Long Hollow**	**31.89**	**336**	P	**P**	**10 51 39.4**	**+0.4**
LOHW				IAmb	IAmb	10 51 40.9	
	comp=Z,3.2nm,0.8s						
TPAW	**Teton Pass**	**31.93**	**335**	P	**P**	**10 51 39.5**	**+0.1**
TPAW				IAmb	IAmb	10 51 40.1	
	comp=Z,3.3nm,0.9s						
NVAR	**Mina Array Bea**	**31.94**	**321**	P	**P**	**10 51 40.4**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=129,slow=7.1,SNR=12						
NVAR				PcP	**PcP**	**10 54 29.2**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=139,slow=4.8,SNR=2.1						
FXWY	**Fox Creek**	**32.08**	**335**	P	**P**	**10 51 40.9**	**+0.1**
IMW	**Indian Meadow**	**32.26**	**336**	P	**P**	**10 51 42.4**	**+0.1**
IMW				IAmb	IAmb	10 51 44.9	
	comp=Z,2.1nm,0.7s						
HLID	**Hailey**	**33.48**	**331**	P	**P**	**10 51 53.4**	**+0.5**
HLID				IAmb	IAmb	10 51 55.5	
	comp=Z,1.8nm,0.9s						
MCMT	**McKenzie Canyo**	**33.80**	**334**	P	**P**	**10 51 56.4**	**+0.7**
DLMT	**Dillon**	**34.13**	**335**	P	**P**	**10 51 59.3**	**+0.8**
DLMT				IAmb	IAmb	10 52 01.1	
	comp=Z,2.6nm,0.9s						
J08A	**Circle Bar Ran**	**35.33**	**327**	P	**P**	**10 52 09.8**	**+1.0**
F10A	**Beach Ranch, E**	**36.62**	**332**	P	**P**	**10 52 20.7**	**+1.0**
F04A	**Amboy**	**39.14**	**327**	P	**P**	**10 52 42.2**	**+1.4**
YKA	**Yellowknife Ar**	**49.49**	**347**	P	**P**	**10 54 01.7**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=150,slow=7.3,SNR=5.3						
DLBC	**Dease Lake**	**51.00**	**336**	P	**P**	**10 54 16.9**	**+2.3**
BCAR	**Beaver Creek A**	**58.38**	**336**	P	**P**	**10 55 06.0**	**-1.9**
INK	**Inuvik**	**58.86**	**344**	P	**P**	**10 55 11.1**	**+0.1**
ILAR	**Eielson Array**	**61.19**	**337**	P	**P**	**10 55 27.0**	**0.0**
	comp=Z,1.6nm,0.9s,baz=120,slow=5.1,SNR=12						
ILAR	**Eielson Array**	**61.19**	**337**	P	**P**	**10 55 26.2**	**-0.9**

WEL 09 10:48:11.7, 37°.5±2°.1×17°.5±1°.1, h10km±2km, M1.8/8, ML1.7/6, MLv1.8/8, Error ellipse: s-maj=0.0km s-min=0.0km az=63.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIAZ	**Waiheke Island**	**0.28**	**327**	P	Pb	10 48 19.1	+0.2
WIAZ				S	Sb	10 48 23.7	0.0
ETAZ	**East Tamaki Re**	**0.33**	**283**	P	Pb	10 48 19.9	+0.2
KBAZ	**Karaka Road Bo**	**0.36**	**260**	P	Pb	10 48 20.5	+0.3
KUZ	**Kuaotunu**	**0.42**	**48**	P	Pb	10 48 21.1	-0.2
KUZ				S	Sb	10 48 27.1	-0.7
MBAZ	**Motutapu North**	**0.43**	**307**	P	Pb	10 48 21.7	+0.3
AWAZ	**Awhitu Peninsu**	**0.55**	**266**	P	Pb	10 48 24.2	+0.7
ABAZ	**Army Bay**	**0.59**	**317**	P	Pb	10 48 24.6	+0.6
WTAZ	**Waiatarua**	**0.61**	**279**	P	Pn	10 48 25.5	-1.0
RVAZ	**Riverhead Bore**	**0.65**	**293**	P	Pb	10 48 26.1	+0.9
TOZ	**Tahuroa Road**	**0.71**	**169**	P	Pg	10 48 25.3	-0.2
GRZ	**Great Barrier**	**0.79**	**8**	P	Pn	10 48 29.1	+0.2
TLZ	**Tolley Road**	**1.31**	**173**	P	Pn	10 48 35.9	-0.2
WCZ	**Waipu Caves**	**1.35**	**324**	P	Pg	10 48 38.4	+0.8

WEL 09 10:49:27.6, 44°.5±1°.1×172°.7E±0°.8, h9km±1km, M3.5/7, ML3.7/7, MLv3.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=178.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.19**	**183**	P	Pg	10 49 33.2	+1.7
MQZ				S	Sg	10 49 36.4	+2.1
AMCZ	**Amberley**	**0.34**	**358**	P	Pb	10 49 36.2	+0.4
AMCZ				S	Sb	10 49 41.3	-0.1
OKCZ	**Okains Bay**	**

MAN Intensity IV - Talacogon, Agusan del Sur; Intensity III - Dap-dap and Barobo, Surigao del Sur; Prosperidad, Agusan del Sur; Intensity II - Bislig and Lingig, Surigao del Sur,

*DJA **09** 10:54:51.3±0.7,8°N±6",12°6E±°, h10km,M4.9/11,mB5.2/4, mb5.0/11,MLv4.9/5,Mw(mB)4.6/4*

ISC 09 10:54:42.5±0.9,8°38N±0.03×125°87E±0.03,h17km±6km, n118,σ1§68/120,mb4.5/43,MS3.5/11,3C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIP	**Bislig**	**0.41**	**113**	*eP*		**Pg**	**10 54 51.1**		**+0.2**
BIP				*eS*		**Sg**	**10 54 59.4**		**+3.0**
BUKP	**Musuan**	**0.94**	**238**	*eP*		**Pg**	**10 54 59.9**		**-1.0**
BUKP				*eS*		**Sn**	**10 55 15.7**		**+1.4**
DAV	**Davao City (W)**	**1.34**	**193**	Pn		**Pn**	**10 55 07.9**		**+1.5**
	1μm,0.3s,baz=253,slow=6.7,SNR=49								
DAV				Sn		**Sg**	**10 55 28.1**		**+2.4**
	878nm,0.3s,baz=285,slow=23,SNR=9.1								
DAV				LR		LR	10 55 35.0		
	comp=Z,924nm,20.4s,baz=179,slow=38								
DAV	**Davao City (W)**	**1.34**	**193**			**Pn**	**10 55 07.9**		**+1.5**
DAV						**Sb**	**10 55 24.8**		**+0.8**
DAV	**Davao City (W)**	**1.34**	**193**	*↑iP*		**Pn**	**10 55 07.1**		**+0.6**
MATI	**Mati**	**1.48**	**165**	*eP*		**Pn**	**10 55 08.6**		**+0.2**
MATI				*eS*		**Sn**	**10 55 29.0**		**+1.7**
KCP	**Kidapawan**	**1.57**	**210**	*↑iP*		**Pn**	**10 55 10.2**		**+0.5**
KCP				*i* S		**Sg**	**10 55 40.1**		**+6.9**
DDMP	**Don Marcelino,**	**2.27**	**184**	*eP*		**Pn**	**10 55 18.8**		**-0.5**
DDMP				*eS*		**Sg**	**10 55 54.4**		**-1.2**
SKMP	**Bagumbayan, Su**	**2.27**	**216**	*eP*		**Pn**	**10 55 18.9**		**-0.5**
SKMP				*eS*		**Sg**	**10 55 55.8**		**+0.1**
TBP	**Tagbilaran**	**2.37**	**303**	*eP*		**Pn**	**10 55 20.8**		**+0.1**
TBP				*i* S		**Sn**	**10 55 48.4**		**-1.0**
PAGZ	**Pagadian**	**2.52**	**258**	*eP*		**Pn**	**10 55 22.3**		**-0.5**
PAGZ				*eS*		**Sb**	**10 55 58.5**		**+0.4**
LLP	**Lapu-Lapu**	**2.69**	**316**	*↑eP*		**Pn**	**10 55 25.6**		**+0.5**
LLP				*eS*		**Sn**	**10 55 58.4**		**+1.1**
OCLP	**Ormoc**	**2.93**	**335**	*eP*		**Pn**	**10 55 28.3**		**-0.1**
OCLP				*eS*		**Sb**	**10 56 07.9**		**-2.0**
CNOP	**Candoni, Negro**	**3.50**	**294**	*eP*		**Pn**	**10 55 36.2**		**0.0**
CNOP				*eS*		**Sn**	**10 56 16.9**		**-0.4**
GUIM	**Jordan**	**3.93**	**305**	*eP*		**Pn**	**10 55 40.8**		**-1.3**
GUIM				*eS*		**Sn**	**10 56 26.7**		**-1.2**
CNP	**Catarman**	**4.27**	**344**	*eP*		**Pn**	**10 55 49.1**		**+2.3**
CNP				*eS*		**Sn**	**10 56 42.9**		**+6.6**
PVCP	**Virac**	**5.45**	**342**	*eP*		**Pn**	**10 56 04.5**		**+1.5**
PVCP				*eS*		**Sn**	**10 57 08.2**		**+2.8**
TNTI	**Ternate**	**7.71**	**169**	Pn		**Pn**	**10 56 34.3**		**+0.2**
MYLDM	**Lahad Datu**	**7.98**	**247**			**Pn**	**10 56 40.7**		**+2.9**
KMSI	**Cibinong**	**7.98**	**194**	P		**Pn**	**10 56 37.7**		**-0.1**
	0.6nm3μm148nm,0.7s								
GTOI	**Gorontalo**	**8.21**	**200**	P		**Pn**	**10 56 40.1**		**-0.8**
	0.3nm771nm94nm,0.7s								
KKM	**Kota Kinabalu**	**9.86**	**257**	Pn		**Pn**	**10 57 06.4**		**+2.7**
LUWI	**Luwuk**	**9.86**	**198**	P		**Pn**	**10 57 03.7**		**+0.1**
	109nm,0.9s								
LUWI	**Luwuk**	**9.86**	**198**			**Pn**	**10 57 05.4**		**+1.8**
SIJI	**Sorong**	**10.65**	**149**	Pn		**Pn**	**10 57 13.0**		**-1.4**
	5.6nm,0.3s,baz=344,slow=13,SNR=6.6								
SIJI				LR		LR	11 01 57.4		
	comp=Z,77nm,18.6s,baz=166,slow=42								
KAPI	**Kappang**	**14.64**	**205**	LR		LR	11 04 34.2		
	comp=Z,78nm,19.6s,baz=354,slow=40								
KAPI	**Kappang**	**14.64**	**205**	Pn		**Pn**	**10 58 10.6**		**+1.5**
SBUM	**Sibu**	**14.81**	**247**	Pn		**P**	**10 58 15.8**		**-1.4**
BBKI	**Banjar Baru**	**16.11**	**224**	P		**P**	**10 58 34.6**		**+3.0**
SMPI	**Sarmi**	**16.43**	**128**	P		**Pn**	**10 58 34.0**		**+1.5**
SOEI	**Soe**	**18.09**	**185**	P		**Pn**	**10 58 53.9**		**+0.6**
	77nm,1.1s								
SOEI	**Soe**	**18.09**	**185**	P		**Pn**	**10 58 53.2**		**-0.1**
SOEI				IAmb	IAmb	IAmb	10 59 09.8		
	comp=Z,59nm,0.9s								
BATI	**Baumata**	**18.60**	**187**	P		**P**	**10 58 58.7**		**-0.5**
	comp=Z,7.8nm,0.3s,baz=289,slow=3.2,SNR=7.2								
BATI				LR		LR	11 08 51.9		
	comp=Z,206nm,18.1s,baz=126,slow=46								
QIZ	**Qiongzhong**	**18.81**	**306**	P		**Pn**	**10 59 02.9**		**+0.9**
QIZ				S		**S**	**11 02 35.2**		**+0.2**
QIZ				sS		**pS**	**11 02 49.2**		**-3.8**
QIZ				pmax		pmax			
	comp=Z,140nm,4.2s								
QIZ				LR		LR			
	comp=Z,180nm,11.0s								
MTN	**Manton Dam**	**21.73**	**166**	P		**P**	**10 59 32.5**		**-0.6**
MTN				IAmb		IAmb	10 59 34.0		
	comp=Z,29nm,1.2s								
LEM	**Lembang**	**23.65**	**231**	LR		LR	11 11 33.9		
	comp=Z,101nm,19.0s,baz=66,slow=42								
KNRA	**Kununurra**	**24.07**	**173**	P		**P**	**10 59 56.6**		**-0.7**
NJ2	**Nanjing**	**24.44**	**345**	*eP*		**P**	**11 00 02.4**		**+1.9**
NJ2				pmax		pmax			
	comp=Z,5.0nm,0.5s								
JNU	**Nakatsue**	**25.05**	**10**	LR		LR	11 08 40.1		
	comp=Z,42nm,20.8s,baz=166,slow=34								
FITZ	**Fitzroy Crossi**	**26.31**	**180**	P		**P**	**11 00 16.1**		**-1.5**
	comp=Z,4.5nm,0.7s,baz=2.2,slow=6.2,SNR=21								
FITZ	**Fitzroy Crossi**	**26.31**	**180**	P		**P**	**11 00 16.3**		**-1.3**
FITZ				IAmb		IAmb	11 00 30.5		
	comp=Z,16nm,1.3s								
CMAR	**Chiang Mai Arr**	**28.00**	**294**	P		**P**	**11 00 36.7**		**+3.8**
	comp=Z,0.3nm,0.3s,baz=113,slow=9.6,SNR=1.5								
COEN	**Coen**	**28.06**	**142**	P		**P**	**11 00 31.8**		**-1.6**
COEN				IAmb		IAmb	11 00 41.2		
	comp=Z,16nm,0.8s								
INU	**Inuyama**	**28.72**	**19**	P		**P**	**11 00 38.1**		**-0.9**
INU				IAmb		IAmb	11 00 45.3		
	comp=Z,11nm,1.0s								
LHMI	**Lhok Sumawe**	**28.89**	**266**	P		**P**	**11 00 41.9**		**+1.1**
KSRS	**Korea Array**	**29.00**	**3**	P		P	11 00 38.6		**-2.8**
	comp=Z,0.5nm,0.6s,baz=173,slow=9.0,SNR=1.9								
KSRS				LR		LR	11 13 30.0		
	comp=Z,33nm,19.3s,baz=218,slow=39								
WB0	**Warramunga Arr**	**29.20**	**163**	P		**P**	**11 00 42.2**		**-1.3**
WRAB	**Tennant Creek**	**29.35**	**164**	P		**P**	**11 00 43.6**		**-1.2**
WRA	**Warramunga Arr**	**29.36**	**164**	P		P	11 00 41.7		**-3.1**
	comp=Z,0.7nm,0.4s,baz=342,slow=9.9,SNR=8.0								
WB2	**Warramunga Arr**	**29.36**	**164**	P		**P**	**11 00 43.5**		**-1.4**
WB2				IAmb		IAmb	11 00 44.6		
	comp=Z,15nm,1.5s								
WR0	**Warramunga Arr**	**29.43**	**163**	P		**P**	**11 00 44.2**		**-1.2**
MJAR	**Matsushiro Arr**	**30.20**	**20**	P		P	11 00 49.1		**-3.1**
	comp=Z,1.3nm,0.8s,baz=201,slow=8.9,SNR=2.0								
MJAR				LR		LR	11 14 32.5		
	comp=Z,38nm,18.0s,baz=230,slow=40								
MJAR	**Matsushiro Arr**	**30.20**	**20**	IAmb		IAmb	11 00 50.3		
	comp=Z,4.0nm,1.4s								
PSA00	**Pilbara Seismi**	**30.35**	**191**	P		**P**	**11 00 51.7**		**-1.9**
PSA00				IAmb		IAmb	11 01 10.8		
	comp=Z,21nm,1.5s								
CD2	**Chengdu**	**30.47**	**320**	*eP*		**P**	**11 00 56.4**		**+1.7**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
AS31	**Alice Springs**	**32.80**	**166**	P		**P**	**11 01 13.8**		**-1.5**
ASAR	**Alice Springs**	**32.81**	**166**	P		**P**	**11 01 13.6**		**-1.6**
	comp=Z,1.7nm,0.5s,baz=348,slow=6.2,SNR=33								
ASAR				PcP		**PcP**	**11 03 59.7**		**-0.6**
	comp=Z,0.4nm,0.5s,baz=356,slow=3.8,SNR=2.3								
ASAR				LR		LR	11 16 03.1		
	comp=Z,133nm,19.7s,baz=234,slow=39								
ASAR	**Alice Springs**	**32.81**	**166**	P		**P**	**11 01 13.9**		**-1.3**
LZH	**Lanzhou**	**34.12**	**327**	*eP*		**P**	**11 01 29.4**		**+2.6**
LZH				pP		sP	11 01 38.0		+4.0
LZH				sP		pP	11 01 42.9		+11
LZH				PP		**PnPn**	**11 02 43.1**		**+2.6**
LZH				pmax		pmax			
	comp=Z,19nm,1.1s								
LZH				pmax		pmax			
	comp=Z,130nm,4.8s								
CTA	**Charters Tower**	**34.68**	**145**	P		**P**	**11 01 29.6**		**-2.0**
	comp=Z,4.7nm,1.0s,baz=303,slow=6.9,SNR=1.5								
CTAO	**Charters Tower**	**34.68**	**145**	P		**P**	**11 01 30.5**		**-1.1**
HHC	**Hu-ho-hao-te**	**34.75**	**341**	*eP*		**P**	**11 01 33.0**		**+0.9**
HHC				pmax		pmax			
	comp=Z,20nm,0.7s								
HHC				pmax		pmax			
	comp=Z,150nm,6.3s								
USA0B	**Ussuriysk Arra**	**36.08**	**7**	P		**P**	**11 01 40.9**		**-2.4**
USA0B				IAmb		IAmb	11 01 49.5		
	comp=Z,14nm,0.9s								
USRK	**Ussuriysk Ar.**	**36.08**	**7**	P		**P**	**11 01 42.6**		**-0.7**
	comp=Z,3.8nm,0.7s,baz=184,slow=6.4,SNR=7.3								
USRK	**Ussuriysk Ar.**	**36.08**	**7**	P		**P**	**11 01 42.0**		**-1.3**
MORW	**Morawa**	**38.42**	**194**	P		**P**	**11 02 03.4**		**0.0**
MORW				IAmb		IAmb	11 02 04.2		
	comp=Z,14nm,1.2s								
GTA	**Gaotai**	**38.72**	**327**	*eP*		P	11 02 11.3		**+5.3**
GTA				pP		sP	11 02 16.4		**+3.1**
GTA				sP		pP	11 02 19.8		**+8.6**
GTA				pmax		pmax			
	comp=Z,7.0nm,1.1s								
GTA				pmax		pmax			
	comp=Z,35nm,5.9s								
GTA				LR		LR			
	comp=N,190nm,18.7s								
GTA				LR		LR			
	comp=E,140nm,19.0s								
GTA				LR		LR			
	comp=Z,130nm,19.7s								
LSA	**Lhasa**	**38.83**	**308**	P		**P**	**11 02 07.4**		**0.0**
FORT	**Forrest**	**38.99**	**177**	P		**P**	**11 02 08.1**		**0.0**
H11S3	**WAKE ISLAND Hy**	**40.86**	**71**	T		T	11 45 32.0		
	baz=262,slow=74,SNR=106								
H11S1	**WAKE ISLAND Hy**	**40.88**	**71**	T		T	11 45 36.1		
	baz=262,slow=74,SNR=65								
H11S2	**WAKE ISLAND Hy**	**40.88**	**71**	T		T	11 45 33.3		
	baz=262,slow=74,SNR=44								
KLR	**Kul'dur**	**41.01**	**6**	P		**P**	**11 02 23.1**		**-1.6**
	comp=Z,1.3nm,0.5s,baz=169,slow=12,SNR=3.9								
H11N1	**WAKE ISLAND Hy**	**41.25**	**70**	T		T	11 45 59.1		
	baz=259,slow=74								
H11N2	**WAKE ISLAND Hy**	**41.26**	**70**	T		T	11 46 08.3		
	baz=259,slow=74								
H11N3	**WAKE ISLAND Hy**	**41.27**	**70**	T		T	11 46 00.4		
	baz=259,slow=74								
NWAO	**Narrogin (SRO)**	**41.90**	**191**	P		**P**	**11 02 30.8**		**-1.4**
NWAO				IAmb		IAmb	11 02 47.4		
	comp=Z,24nm,1.4s								
BBOO	**Buckleboo**	**42.10**	**167**	P		**P**	**11 02 33.3**		**-0.5**
BBOO				IAmb		IAmb	11 02 34.2		
	comp=Z,12nm,0.8s								
SONM	**Songino Array**	**42.65**	**341**	P		**P**	**11 02 38.1**		**-0.2**
	comp=Z,0.3nm,0.4s,baz=155,slow=7.9,SNR=1.4								
SONM	**Songino Array**	**42.65**	**341**	P		**P**	**11 02 37.2**		**-1.1**
STKA	**Stephens Creek**	**42.76**	**160**	P		**P**	**11 02 39.1**		**-0.1**
	comp=Z,2.9nm,0.6s,baz=322,slow=11,SNR=6.3								
STKA	**Stephens Creek**	**42.76**	**160**	P		**P**	**11 02 37.9**		**-1.4**
ARMA	**Armidale**	**45.83**	**148**	P		**P**	**11 03 02.0**		**-2.0**
ARMA				IAmb		IAmb	11 03 18.0		
	comp=Z,5.8nm,0.8s								
WMQ	**Urumqi**	**48.48**	**323**	*eP*		**P**	**11 03 27.1**		**+2.7**
WMQ				pmax		pmax			
	comp=Z,13nm,0.6s								
WMQ				pmax		pmax			
	comp=Z,80nm,3.9s								
WMQ				LR		LR			
	comp=N,680nm,29.2s								
WMQ				LR		LR			
	comp=E,2μm,29.0s								
WMQ				LR		LR			
	comp=Z,80nm,20.7s								
PEA0B	**Petropavlovsk-**	**51.51**	**24**	P		**P**	**11 03 47.1**		**-0.1**
PEA0B				IAmb		IAmb	11 03 49.8		
	comp=Z,13nm,1.5s								
PETK	**Petropavlovsk-**	**51.51**	**24**	P		**P**	**11 03 46.9**		**-0.4**
	comp=Z,1.2nm,0.6s,baz=201,slow=3.1,SNR=10								
PETK				LR		LR	11 24 41.8		
	comp=Z,19nm,20.9s,baz=240,slow=35								
PETK	**Petropavlovsk-**	**51.51**	**24**	P		**P**	**11 03 45.6**		**-1.7**
PET	**Petropavlovsk**	**51.84**	**25**	P		**P**	**11 03 48.2**		**-1.4**
PET				IAmb		IAmb	11 03 54.4		
	comp=Z,10nm,1.2s								
MK31	**Makanchi Array**	**53.30**	**324**	P		**P**	**11 04 00.2**		**-0.5**
MKAR	**Makanchi Array**	**53.30**	**324**	P		**P**	**11 04 00.9**		**+0.2**
	comp=Z,1.9nm,0.9s,baz=126,slow=7.6,SNR=9.5								
MKAR	**Makanchi Array**	**53.30**	**324**	P		**P**	**11 04 00.2**		**-0.5**
MAKZ	**Makanchi**	**53.49**	**324**	P		**P**	**11 04 00.8**		**-1.3**
MAKZ				IAmb		IAmb	11 04 14.9		
	comp=Z,6.7nm,1.4s								
KDJ	**Kajisay**	**54.36**	**317**	P		**P**	**11 04 07.9**		**-0.9**
NIL	**Nilore**	**54.48**	**305**	P		**P**	**11 04 09.4**		**-0.2**
ZALV	**Zalesovo Beam**	**56.09**	**332**	P		**P**	**11 04 20.9**		**+0.1**
	comp=Z,3.8nm,0.8s,baz=133,slow=6.1,SNR=2.8								
ZALV	**Zalesovo Beam**	**56.09**	**332**	P		**P**	**11 04 20.7**		**-0.1**
KURK	**Kurchatov**	**57.40**	**326**	P		**P**	**11 04 29.9**		**-0.2**
KURK				IAmb		IAmb	11 04 36.2		
	comp=Z,4.1nm,0.7s								
BTK	**Batken**	**58.14**	**312**	P		**P**	**11 04 35.9**		**+0.2**
GAR	**Garm**	**58.21**	**311**	P		**P**	**11 04 35.9**		**-0.3**
CHGR	**Chuyangaron**	**58.98**	**310**	P		**P**	**11 04 41.3**		**-0.3**
KK31	**Karatay Array**	**59.30**	**316**	P		**P**	**11 04 42.2**		**-1.3**
KK31				IAmb		IAmb	11 04 44.4		
	comp=Z,4.7nm,1.1s								
KKAR	**Karatay Array**	**59.30**	**316**	P		**P**	**11 04 42.8**		**-0.8**
KKAR	**Karatay Array**	**59.30**	**316**	P		**P**	**11 04 42.2**		**-1.3**
KKAR				IAmb		IAmb	11 04 44.4		
	comp=Z,4.7nm,1.1s								
BRVK	**Borovoye**	**63.06**	**326**	P		**P**	**11 05 08.8**		**-0.1**
BRVK				IAmb		IAmb	11 05 26.3		
	comp=Z,4.2nm,0.8s								
NRIK	**Noril'sk**	**65.74**	**346**	P		**P**	**11 05 27.4**		**+1.3**
	comp=Z,4.8nm,0.9s,baz=112,slow=6.2,SNR=4.0								
ABKAR	**Akbulak array**	**68.05**	**320**	P		**P**	**11 05 40.1**		**-1.0**
AKTO	**Aktyubinsk**	**69.52**	**321**	LR		LR	11 38 34.0		
	comp=Z,54nm,18.8s,baz=104,slow=38								
ARU	**Arti**	**70.58**	**327**	LR		LR	11 36 41.3		
	comp=Z,32nm,21.4s,baz=104,slow=36								
ARU	**Arti**	**70.58**	**327**	P		**P**	**11 05 56.5**		**-0.2**
ARU				IAmb		IAmb	11 06 02.0		
	comp=Z,3.8nm,0.7s								
KLMR	**Klimovskoe**	**80.96**	**330**	*eP*		**P**	**11 06 57.9**		**+1.9**
KLMR				AMP			11 07 01.9		
	comp=Z,5.0nm,0.6s								
ILAR	**Eielson Array**	**81.30**	**26**	P		**P**	**11 06 56.9**		**-0.9**
	comp=Z,0.7nm,0.8s,baz=240,slow=5.1,SNR=5.0								
TABL	**Table Mountain**	**84.25**	**30**	P		P	11 07 10.5		**-2.9**
ARCES	**ARCESS Array B**	**85.82**	**340**	P		**P**	**11 07 22.7**		**+1.9**
	comp=Z,1.6nm,0.8s,baz=74,slow=6.7,SNR=5.0								
FINES	**FINESS Array B**	**87.36**	**332**	P		**P**	**11 07 27.5**		**-1.0**
	comp=Z,0.8nm,0.6s,baz=1.9,slow=5.7,SNR=5.3								
FINES	**FINESS Array B**	**87.36**	**332**	P		**P**	**11 07 26.1**		**-2.4**
NOA	**NORSAR Array B**	**94.27**	**334**	LR		LR	11 54 04.8		
	comp=Z,27nm,19.5s,baz=65,slow=38								
YKA	**Yellowknife Ar**	**95.63**	**24**	P		**P**	**11 08 07.0**		**0.0**
	comp=Z,0.4nm,0.6s,baz=302,slow=4.2,SNR=3.8								
TORD	**Torodi Ar. Bea**	**120.58**	**291**	PKP		**PKPdf**	**11 13 32.2**		**-2.3**
	comp=Z,0.5nm,0.6s,baz=65,slow=1.5,SNR=3.0								

*IDC **09** 10:56:06.3±1.0, 17°01N×94°09W,h144km±6km,mb3.3/10, mb1 3.6/12,mb1mx3.4/33,mbtmp3.7/12,MS3.6/1, Ms1 3.7/1,ms1mx2.7/16,Error ellipse: s-maj=26.6km s-min=18.3km az=47.0*

*NEIC **09** 10:56:07.9±2.2, 17°17N±0°08×94°49W±0°05,h138km±8km, Error ellipse: s-maj=11.5km s-min=7.3km az=175.0*

*MEX **09** 10:56:09.2±0.9, 17°22N×94°48W,h143km±4km, MD4.3*

ISC 09 10:56:07.9±0.5, 17°15N±0°04×94°50W±0°03,h150km±4km, n134,σ1§50/169,mb4.1/26,Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.37**	**262**	LR		LR		10 56 16.8	
	comp=Z,2nm,20.7s,baz=124,slow=14								
CMIG				P		**Pn**		**10 56 27.6**	**-1.1**
	443nm,0.3s,baz=94,slow=3.1								
CMIG				S		**Sn**		**10 56 42.0**	**-2.4**
	baz=294,slow=19								
CMIG	**Matias Romero**	**0.37**	**262**	*i* P		**Pn**		**10 56 27.9**	**-0.7**
CMIG				*i* S		**Sn**		**10 56 42.5**	**-2.0**
CMIG	**Matias Romero**	**0.37**	**262**			**Pn**		**10 56 27.9**	**-0.7**
CMIG						**Sn**		**10 56 42.4**	**-2.0**
TUIG	**Tuzandepetl**	**0.89**	**5**	*eP*		**Pn**		**10 56 30.6**	**-1.2**
TUIG				*i* S		**Sn**		**10 56 47.0**	**-2.9**
TUIG	**Tuzandepetl**	**0.89**	**5**			**Pn**		**10 56 30.6**	**-1.2**
TGIG		**1.37**	**105**	*eP*		**Pn**		**10 56 35.8**	**-0.4**
TGIG				*eS*		**Sn**		**10 56 55.4**	**-2.3**
TGIG		**1.37**	**105**			**Pn**		**10 56 35.8**	**-0.4**
TGIG						**Sn**		**10 56 55.4**	**-2.3**
TGBT	**Tuxtla Gutierr**	**1.40**	**105**	*eP*		**Pn**		**10 56 35.6**	**-0.7**
TGBT				*eS*		**Sn**		**10 56 56.1**	**-2.0**
TGBT	**Tuxtla Gutierr**	**1.40**	**105**			**Pn**		**10 56 35.6**	**-0.7**
TGBT						**Sn**		**10 56 56.1**	**-2.0**
PCIG		**1.89**	**139**	*eP*		**Pn**		**10 56 42.0**	**+0.3**
PCIG				*eS*		**Sn**		**10 57 07.4**	**-0.2**
PCIG		**1.89**	**139**			**Pn**		**10 56 42.0**	**+0.3**
PCIG						**Sn**		**10 57 07.4**	**-0.2**
HUIG	**Huatulco**	**2.06**	**229**	*eP*		**Pn**		**10 56 42.0**	**-1.8**
HUIG				*i* S		**Sn**		**10 57 10.5**	**-0.8**
HUIG	**Huatulco**	**2.06**	**229**			**Pn**		**10 56 42.0**	**-1.8**
HUIG						**Sn**		**10 57 10.5**	**-0.8**
VHO	**Vista Hermosa**	**2.14**	**268**	*eP*		**Pn**		**10 56 45.2**	**+0.3**
VHO				*i* S		**Sn**		**10 57 12.3**	**-0.9**
PANG	**Puerto Angel**	**2.40**	**232**	*eP*		**Pn**		**10 56 45.8**	**-1.9**
PANG				*i* S		**Sn**		**10 57 16.0**	**-2.5**
PANG	**Puerto Angel**	**2.40**	**232**			**Pn**		**10 56 45.8**	**-1.9**
PANG						**Sn**		**10 57 17.7**	**-0.8**
CCIG	**Comitan**	**2.42**	**110**	*eP*		**Pn**		**10 56 48.1**	**-0.1**
CCIG				*i* S		**Sn**		**10 57 18.0**	**-1.2**
CCIG	**Comitan**	**2.42**	**110**			**Pn**		**10 56 48.0**	**-0.2**
CCIG					Sn	**Sn**		**10 57 18.3**	**-0.9**
TOIG	**Toxpalan**	**2.62**	**291**	*eP*		**Pn**		**10 56 50.5**	**-0.1**
TOIG				*i* S		**Sn**		**10 57 22.2**	**-1.4**
PEIG	**Puerto Escondi**	**2.79**	**246**	*eP*		**Pn**		**10 56 50.5**	**-2.1**
PEIG				*i* S		**Sn**		**10 57 26.4**	**-0.6**
YOIG	**Yosondua**	**2.93**	**265**	*eP*		**Pn**		**10 56 54.1**	**-0.6**
YOIG				*i* S		**Sn**		**10 57 30.6**	**-0.2**
TPIG	**Tehuac#an**	**3.01**	**295**	*eP*		**Pn**		**10 56 55.6**	**+0.1**
TPIG				*i* S		**Sn**		**10 57 31.5**	**-0.9**
TPIG	**Tehuac#an**	**3.01**	**295**			**Pn**		**10 56 55.6**	**+0.1**
TXIG	**Tlaxiaco**	**3.13**	**272**	*i* P		**Pn**		**10 56 57.2**	**+0.1**
TXIG				*i* S		**Sn**		**10 57 34.7**	**-0.5**
HLIG	**Huajuapan de L**	**3.23**	**283**	*eP*		**Pn**		**10 56 58.6**	**+0.2**
HLIG				*i* S		**Sn**		**10 57 35.9**	**-1.4**
HUEH	**Huehuetenango**	**3.40**	**122**			**Pn**		**10 57 00.3**	**-0.4**
HUEH					Sn	**Sn**		**10 57 40.3**	**-1.2**
FTIG	**Fresnillo de T**	**3.55**	**283**	*eP*		**Pn**		**10 57 02.9**	**+0.4**
FTIG				*i* S		**Sn**		**10 57 44.3**	**-0.3**
PNIG	**Pinotepa**	**3.56**	**258**	*eP*		**Pn**		**10 57 00.7**	**-1.7**
PNIG				*i* S		**Sn**		**10 57 41.8**	**-2.9**
PNIG	**Pinotepa**	**3.56**	**258**			**Pn**		**10 57 00.7**	**-1.7**
RTAL	**Retalhuleu**	**3.75**	**134**			**Pn**		**10 57 06.3**	**+1.4**
TLIG	**Tlapa**	**3.91**	**277**	*eP*		**Pn**		**10 57 07.2**	**+0.1**
TLIG				*i* S		**Sn**		**10 57 49.3**	**-3.7**
TLIG	**Tlapa**	**3.91**	**277**	Pn		**Pn**		**10 57 07.7**	**+0.6**
HMTT	**Tlapaneco**	**3.93**	**280**	*eP*		**Pn**		**10 57 05.6**	**-1.8**
HMTT				*i* S		**Sn**		**10 57 51.1**	**-2.3**
PPM	**Popocatepetl**	**4.37**	**297**	*eP*		**Pn**		**10 57 14.3**	**+0.9**
PPM				*i* S		**Sn**		**10 57 59.8**	**-4.5**
PETF	**Flores**	**4.44**	**92**			**Pn**		**10 57 11.5**	**-2.4**
CRIG	**Cruz Grande**	**4.45**	**265**	*eP*		**Pn**		**10 57 12.6**	**-1.5**
CRIG				*i* S		**Sn**		**10 58 03.8**	**-1.9**
MAVM	**Malinalco, Edo**	**5.08**	**292**	*eP*		**Pn**		**10 57 24.2**	**+1.6**
CAIG	**El Cayaco**	**5.52**	**270**	*eP*		**Pn**		**10 57 27.3**	**-0.9**
CAIG				*i* S		**Sn**		**10 58 27.6**	**-3.3**
CAIG	**El Cayaco**	**5.52**	**270**			**Pn**		**10 57 27.3**	**-0.9**
ESQI	**Esquipulas**	**5.59**	**117**			**Pn**		**10 57 28.6**	**-0.7**
MTO3	**Montecristo**	**5.65**	**118**			**Pn**		**10 57 28.8**	**-1.4**
TEIG	**Tepich**	**6.64**	**62**	Pn		**Pn**		**10 57 40.9**	**-2.3**
JTS	**Las Juntas de**	**11.51**	**125**	P		Pn		10 58 40.9	-7.0
	0.

PV12				IAmb	IAmb	11 01 18.1		
	comp=Z,4.9nm,0.7s							
ISCO	**Idaho Springs**	**24.55**	**339**	P	**P**	**11 01 15.4**	**+1.3**	
PV11	**David Mesa, Pa**	**24.55**	**332**	P	**P**	**11 01 15.9**	**+1.9**	
PV11				IAmb	IAmb	11 01 18.3		
	comp=Z,7.3nm,0.6s							
PV17	**East Wray Mesa**	**24.58**	**332**	P	**P**	**11 01 16.4**	**+2.1**	
PV17				IAmb	IAmb	11 01 18.5		
	comp=Z,4.1nm,0.8s							
PV16	**Nyswonger Mesa**	**24.58**	**332**	P	**P**	**11 01 18.2**	**+3.9**	
PV16				IAmb	IAmb	11 01 18.3		
	comp=Z,3.1nm,0.6s							
PV04	**Paradox Valley**	**24.65**	**332**	P	**P**	**11 01 16.7**	**+1.9**	
PV04				IAmb	IAmb	11 01 19.5		
	comp=Z,5.9nm,0.7s							
PV22	**Blue Mesa, Par**	**24.71**	**332**	P	**P**	**11 01 17.1**	**+1.7**	
PV23	**Carpenter Ridg**	**24.74**	**332**	P	**P**	**11 01 16.6**	**+0.8**	
PV23				IAmb	IAmb	11 01 20.0		
	comp=Z,6.0nm,0.9s							
L34A	**Svendsen Farm,**	**24.79**	**357**	P	**P**	**11 01 16.1**	**+0.2**	
L34A				IAmb	IAmb	11 01 17.5		
	comp=Z,6.1nm,0.7s							
PDAR	**Pinedale Array**	**28.58**	**336**	P	**P**	**11 01 51.2**	**+1.1**	
	comp=Z,0.2nm,0.5s,baz=156,slow=9.9,SNR=2.6							
PDAR				PcP	**PcP**	**11 04 57.4**	**-0.2**	
	comp=Z,0.2nm,0.4s,baz=133,slow=5.0,SNR=2.5							
ELK	**Elko**	**29.56**	**327**	P	**P**	**11 01 59.6**	**+0.8**	
	comp=Z,0.5nm,0.6s,baz=161,slow=8.3,SNR=4.0							
ELK				pP	**pP**	**11 02 33.1**	**+2.6**	
	comp=Z,0.7nm,0.7s,baz=114,slow=8.6,SNR=2.0							
NVAR	**Mina Array Bea**	**29.73**	**320**	P	**P**	**11 02 03.0**	**+2.8**	
	comp=Z,1.6nm,0.7s,baz=135,slow=9.2,SNR=20							
NVAR				pP	**pP**	**11 02 34.8**	**+2.8**	
	comp=Z,1.0nm,0.9s,baz=130,slow=9.2,SNR=4.2							
NVAR				sP	**sP**	**11 02 50.6**	**+1.3**	
	comp=Z,1.0nm,0.7s,baz=136,slow=9.2,SNR=5.9							
NVAR				PcP	**PcP**	**11 05 01.6**	**+1.0**	
	comp=Z,0.3nm,0.6s,baz=104,slow=3.8,SNR=3.6							
NVAR	**Mina Array Bea**	**29.73**	**320**	P	**P**	**11 02 01.8**	**+1.5**	
E28A	**Huff**	**29.79**	**351**	P	**P**	**11 02 00.9**	**+0.4**	
AGMN	**Agassiz Station**	**31.09**	**358**	P	**P**	**11 02 10.9**	**-0.9**	
MCMT	**McKenzie Canyo**	**31.61**	**335**	P	**P**	**11 02 18.7**	**+1.9**	
BOZ	**Bozeman (W)**	**31.77**	**337**	P	**P**	**11 02 19.7**	**+1.6**	
HRY	**Holter Researc**	**32.79**	**338**	P	**P**	**11 02 28.5**	**+1.6**	
D53A	**Lac Vacive, Po**	**32.92**	**21**	P	**P**	**11 02 26.1**	**-1.8**	
D53A				IAmb	IAmb	11 02 44.3		
	comp=Z,6.6nm,1.4s							
J08A	**Circle Bar Ran**	**33.11**	**327**	P	**P**	**11 02 31.7**	**+2.0**	
J08A				IAmb	IAmb	11 02 32.3		
	comp=Z,4.1nm,0.7s							
F10A	**Beach Ranch, E**	**34.41**	**332**	P	**P**	**11 02 42.1**	**+1.2**	
F10A				IAmb	IAmb	11 02 44.3		
	comp=Z,3.0nm,0.8s							
H04A	**Detroit Lake**	**35.97**	**326**	P	**P**	**11 02 55.9**	**+1.6**	
LPAZ	**La Paz**	**42.18**	**141**	LR	LR	11 22 16.8		
	comp=Z,75nm,18.8s,baz=28,slow=38							
YKA	**Yellowknife Ar**	**47.44**	**347**	P	**P**	**11 04 26.8**	**-0.3**	
	comp=Z,0.4nm,0.5s,baz=174,slow=6.6,SNR=8.9							
YKA				pP	**pP**	**11 05 00.7**	**-0.2**	
	comp=Z,0.6nm,0.6s,baz=150,slow=6.8,SNR=4.3							
ILAR	**Eielson Array**	**59.01**	**337**	P	**P**	**11 05 52.2**	**+0.6**	
	comp=Z,0.5nm,0.6s,baz=140,slow=5.3,SNR=10							
ILAR	**Eielson Array**	**59.01**	**337**		**P**	**11 05 53.0**	**+1.4**	
ESDC	**Sonseca Array**	**79.66**	**52**	P	**P**	**11 07 56.9**	**-2.2**	
	comp=Z,0.2nm,0.4s,baz=286,slow=5.4,SNR=4.2							
NOA	**NORSAR Array B**	**82.53**	**28**	P	**P**	**11 08 13.3**	**-0.4**	
	comp=Z,0.9nm,0.8s,baz=269,slow=5.2,SNR=2.9							
ARCES	**ARCESS Array B**	**83.91**	**18**	P	**P**	**11 08 19.4**	**-1.2**	
	comp=Z,1.5nm,0.8s,baz=299,slow=5.4,SNR=4.9							
WRA	**Warramunga Arr**	**133.74**	**259**	PKP	**PKPdf**	**11 15 08.8**	**+1.1**	
	comp=Z,0.6nm,0.5s,baz=86,slow=2.3,SNR=7.5							
ASAR	**Alice Springs**	**134.34**	**253**	PKP	**PKPdf**	**11 15 09.3**	**+0.5**	
	comp=Z,0.6nm,0.8s,baz=92,slow=1.7,SNR=7.1							

*IDC **09** 11:13:19.0±0.8,36°.32N×141°.60E,h0km,mb3.6/9, mb1 3.8/13,mb1mx3.7/36,mbtmp3.6/13,ML3.1/4,Error ellipse: s-maj=18.8km s-min=17.9km az=83.0*
*NEIC **09** 11:13:22.2±2.4,36°.2N±0°.1×141°.7E±0°.1,h33km±7km, mb4.4/6,Error ellipse: s-maj=19.9km s-min=7.9km az=144.0*
*JMA **09** 11:13:23.4±0.1,36°.45N×141°.51E,h45km±4km,M3.4*

ISC 09 11:13:22.3±0.7,36°.40N±0°.05×141°.59E±0°.05,h26km,n45, σ1§34/46,mb3.8/12,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHYU	**Hitachinakayam**	**0.81**	**266**	P		**Pn**	**11 13 38.0**	**0.0**
JHYU				S		**Sn**	**11 13 48.2**	**-0.9**
JHO	**Hitachi**	**0.84**	**285**	P		**Pb**	**11 13 37.9**	**-0.5**
JHO				eS		**Sb**	**11 13 48.7**	**-0.6**
CHOJ	**Chosi**	**0.91**	**220**	P		**Pn**	**11 13 40.0**	**+0.6**
ONAJ	**Iwakimizuishiy**	**0.94**	**318**	P		**Pn**	**11 13 39.2**	**-0.7**
JFK	**Kawauchi**	**1.12**	**330**	P		**Pn**	**11 13 41.8**	**-0.6**
JFT	**Otama**	**1.50**	**319**	P		**Pn**	**11 13 48.1**	**+0.6**
JFT				S		**Sn**	**11 14 05.3**	**-1.0**
JMM	**Marumori**	**1.60**	**337**	P		**Pn**	**11 13 48.7**	**-0.1**
JAG	**Ashikaga**	**1.72**	**272**	P		**Pn**	**11 13 50.7**	**+0.1**
JAG				eS		**Sn**	**11 14 10.2**	**-1.5**
JFY	**Yanaizu**	**1.81**	**304**	P		**Pn**	**11 13 52.7**	**+0.9**
JKT	**Katashina**	**1.92**	**282**	P		**Pn**	**11 13 54.2**	**+0.9**
MJAR	**Matsushiro Arr**	**2.73**	**274**	Pn		**Pn**	**11 14 03.5**	**-0.9**
	2.1nm,0.3s,baz=114,slow=8.2,SNR=111							
MJAR				Sn		**Sn**	**11 14 39.3**	**+2.8**
	1.1nm,0.3s,baz=95,slow=11,SNR=6.6							
MJAR	**Matsushiro Arr**	**2.73**	**274**			**Pn**	**11 14 03.9**	**-0.5**
MJAR						**Sn**	**11 14 37.4**	**+0.9**
MAJO	**Matsushiro**	**2.73**	**274**			**Pn**	**11 14 05.9**	**+1.5**
MAT	**Matsushiro**	**2.73**	**274**	P		**Pn**	**11 14 06.0**	**+1.6**
MAT				S		**Sb**	**11 14 40.1**	**-3.3**
MJB9	**Matsu-Tunnel**	**2.73**	**274**			**Pn**	**11 14 05.9**	**+1.4**
INU	**Inuyama**	**3.85**	**256**	Pn		**Pn**	**11 14 20.0**	**+0.1**
ERM	**Erimo**	**5.74**	**12**	Pn		**Pn**	**11 14 46.1**	**+0.3**
ERM						**Sn**	**11 15 51.9**	**+1.2**
ASAJ	**Asahikawa**	**7.75**	**5**	Pn		**Pn**	**11 15 14.1**	**+0.7**
	0.6nm,0.3s,baz=217,slow=13,SNR=5.3							
ASAJ				Sn		**Sn**	**11 16 39.0**	**-1.2**
	0.6nm,0.3s,baz=270,slow=20,SNR=2.1							
USRK	**Ussuriysk Ar.**	**10.69**	**320**	Pn		**Pn**	**11 15 53.5**	**-0.1**
	baz=119,slow=12,SNR=2.1							
USRK	**Ussuriysk Ar.**	**10.69**	**320**	Pn		**Pn**	**11 15 54.8**	**+1.1**
KSRS	**Korea Array**	**10.99**	**280**	Pn		**Pn**	**11 16 00.2**	**+2.4**
	0.1nm,0.3s,baz=90,slow=14,SNR=2.8							
PETK	**Petropavlovsk-**	**20.17**	**29**	P		Pn	11 17 55.6	-1.0
	1.1nm,0.9s,baz=209,slow=12,SNR=2.9							
GUMO	**Guam**	**22.90**	**172**	P		**P**	**11 18 23.7**	**-0.5**
	15nm,0.3s,baz=168,slow=24,SNR=2.2							
H11N2	**WAKE ISLAND Hy**	**27.71**	**120**	T		T	11 48 12.5	
	baz=313,slow=75,SNR=14							
H11N1	**WAKE ISLAND Hy**	**27.72**	**120**	T		T	11 48 18.6	
	baz=313,slow=75,SNR=8.6							
H11N3	**WAKE ISLAND Hy**	**27.73**	**120**	T		T	11 48 17.7	
	baz=313,slow=75,SNR=11							
SONM	**Songino Array**	**28.26**	**305**	P		**P**	**11 19 15.2**	**+1.8**
	1.4nm,0.6s,baz=102,slow=8.7,SNR=6.7							
SONM	**Songino Array**	**28.26**	**305**	P		**P**	**11 19 14.6**	**+1.3**
H11S1	**WAKE ISLAND Hy**	**28.40**	**122**	T		T	11 49 01.3	
	baz=314,slow=75,SNR=8.2							
H11S3	**WAKE ISLAND Hy**	**28.40**	**122**	T		T	11 49 20.4	
	baz=314,slow=75,SNR=4.8							
H11S2	**WAKE ISLAND Hy**	**28.42**	**122**	T		T	11 49 11.0	
	baz=314,slow=75,SNR=7.7							
ZALV	**Zalesovo Beam**	**42.45**	**313**	P		**P**	**11 21 14.7**	**0.0**
	1.2nm,0.6s,baz=97,slow=7.8,SNR=4.5							
ZALV	**Zalesovo Beam**	**42.45**	**313**	P		**P**	**11 21 16.0**	**+1.2**
MK31	**Makanchi Array**	**44.57**	**303**	P		**P**	**11 21 33.5**	**+1.5**
MK31				IAmb		IAmb	11 21 36.0	
	comp=Z,1.3nm,1.0s							
MKAR	**Makanchi Array**	**44.57**	**303**	P		**P**	**11 21 32.8**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=87,slow=7.8,SNR=4.0							
MKAR	**Makanchi Array**	**44.57**	**303**	P		**P**	**11 21 33.2**	**+1.2**
PMG	**Port Moresby**	**45.86**	**172**	P		**P**	**11 21 40.0**	**-2.4**
PMG				IAmb		IAmb	11 21 42.4	
	comp=Z,40nm,1.2s							
KURK	**Kurchatov**	**46.43**	**309**	P		**P**	**11 21 45.5**	**-1.1**
KURK				IAmb		IAmb	11 21 50.2	
	comp=Z,2.6nm,0.7s							
ILAR	**Eielson Array**	**49.96**	**32**	P		**P**	**11 22 14.5**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=258,slow=8.2,SNR=4.1							
WRA	**Warramunga Arr**	**56.45**	**188**	P		**P**	**11 23 02.3**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=5.9,slow=7.5,SNR=6.9							
WRA	**Warramunga Arr**	**56.45**	**188**	IAmb		IAmb	11 23 04.8	
	comp=Z,0.2nm,1.1s							
ASAR	**Alice Springs**	**60.18**	**188**	P		**P**	**11 23 26.8**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=10,slow=5.7,SNR=2.0							
YKA	**Yellowknife Ar**	**64.29**	**30**	P		**P**	**11 23 54.2**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=304,slow=6.6,SNR=3.0							
NVAR	**Mina Array Bea**	**75.26**	**53**	P		**P**	**11 25 06.3**	**+3.1**
	comp=Z,0.6nm,0.8s,baz=297,slow=6.5,SNR=5.1							
NVAR	**Mina Array Bea**	**75.26**	**53**	P		**P**	**11 25 02.1**	**-1.2**

WEL 09 11:40:40.5,42°S±2°×17°4E±°,h28km±4km,M2.3/11, mB5.8/1,ML2.4/10,MLv2.3/11,Mw(mB)5.3/1,Error ellipse: s-maj=0.0km s-min=0.0km az=120.7,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSWZ	**Blackbirch Sta**	**0.22**	**341**	P		Pb	11 40 47.1	+0.3
CMWZ	**Cape Campbell**	**0.25**	**46**	P		Pn	11 40 49.3	+0.9
TUWZ	**Tuamarina**	**0.49**	**358**	P		Pb	11 40 51.2	+0.4
KHZ	**Kahutara**	**0.59**	**213**	P		Pn	11 40 54.8	+1.8
TCW	**Tory Channel**	**0.75**	**18**	P		Pn	11 40 55.3	0.0
THZ	**Tophouse**	**0.81**	**281**	P		Pn	11 40 56.5	+0.3
NNZ	**Nelson**	**0.83**	**328**	P		Pb	11 40 56.4	0.0
WEL	**Wellington**	**0.88**	**43**	P		Pb	11 40 57.7	+0.6
PLWZ	**Palliser**	**1.02**	**70**	P		Pb	11 40 59.6	0.0
DUWZ	**D'Urville Isla**	**1.12**	**358**	P		Pb	11 41 01.4	+0.1
CAW	**Cannon Point**	**1.16**	**46**	P		Pb	11 41 01.7	-0.2
GVZ	**Greta Valley S**	**1.25**	**213**	P		Pb	11 41 04.0	+0.5
QRZ	**Quartz Range**	**1.54**	**315**	P		Pb	11 41 08.0	-0.4
DSZ	**Denniston Nort**	**1.63**	**276**	P		Pb	11 41 09.8	-0.1
WMGZ	**Waiomatatini S**	**5.34**	**41**	P		Pn	11 42 01.0	+2.7

*IDC **09** 11:42:59.9±1.6,43°.15N×78°.16E,h0km,mb3.2/1, mb1 3.5/7,mb1mx3.3/44,mbtmp3.5/7,ML3.3/6,MS2.3/1, Ms1 2.3/1,ms1mx2.0/31,Error ellipse: s-maj=28.2km s-min=8.6km az=150.0*
*NNC **09** 11:43:00.7±0.2,43°.29N×78°.05E,h0km,mb4.0,mpv4.4, Error ellipse: s-maj=3.7km s-min=1.4km az=175.0*
*SOME **09** 11:43:01.2,43°.30N×78°.03E,h10km,MS2.6*
*KRNET **09** 11:43:01.2±0.1,43°.25N×78°.04E,h20km,mb4.4*

ISC 09 11:43:01.2±1.1,43°.27N±0°.02×78°.00E±0°.01,h2km±9km, n99,σ1§26/181,48C-8D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZHN	**Zhinishke**	**0.33**	**108**	*e*P		**Pg**	**11 43 07.4**	**-0.1**
	baz=5.0							
ZHN				*e*S		**Sg**	**11 43 11.4**	**-0.4**
	baz=5.0							
ZHN	**Zhinishke**	**0.33**	**108**	*e*P		**Pg**	**11 43 07.4**	**-0.1**
	1μm,0.2s							
ZHN				*e*S		**Sg**	**11 43 11.4**	**-0.4**
	3μm,0.2s							
SATY	**Saty**	**0.36**	**125**	*e*P		**Pg**	**11 43 08.2**	**+0.1**
	2μm,0.1s							
SATY				*e*S		**Sg**	**11 43 13.0**	**+0.1**
	17μm,0.2s							
SATY	**Saty**	**0.36**	**125**	P		**Pg**	**11 43 08.2**	**+0.1**
	2μm,0.1s							
SATY				S		**Sg**	**11 43 13.0**	**+0.1**
	9μm,0.1s							
KPKS	**Kokpek**	**0.53**	**68**	*e*P		**Pg**	**11 43 11.3**	**-0.1**
	baz=67							
KPKS				*e*S		**Sg**	**11 43 18.1**	**-0.3**
	baz=67							
KPKS	**Kokpek**	**0.53**	**68**	*e*P		**Pg**	**11 43 11.3**	**-0.1**
	1μm,0.1s							
KPKS				*e*S		**Sg**	**11 43 18.0**	**-0.3**
	11μm,0.2s							
ANVS	**Anan'yevo**	**0.55**	**207**	⇑*i*P		**Pg**	**11 43 11.7**	**+0.1**
	baz=11							
ANVS				⇑*i*S		**Sg**	**11 43 18.5**	**-0.2**
	baz=11							
KOTS	**Kotyrbulak**	**0.65**	**267**	*e*P		**Pg**	**11 43 14.7**	**+1.0**
	baz=69							
KOTS				*e*S		**Sg**	**11 43 23.9**	**+1.7**
	baz=69							
KOTS	**Kotyrbulak**	**0.65**	**267**	*e*P		**Pg**	**11 43 14.7**	**+1.0**
	834nm,0.2s							
KOTS				*e*S		**Sg**	**11 43 23.9**	**+1.7**
	9μm,0.3s							
KOTS	**Kotyrbulak**	**0.65**	**267**	P		**Pg**	**11 43 14.6**	**+1.0**
	834nm,0.2s							
KOTS				S		**Sg**	**11 43 23.9**	**+1.7**
	9μm,0.3s							
MDOK	**Medeo**	**0.71**	**262**	*e*P		**Pg**	**11 43 15.1**	**+0.4**
	baz=64							
MDOK				*e*S		**Sg**	**11 43 24.6**	**+0.7**
	baz=64							
MDOK	**Medeo**	**0.71**	**262**	*e*P		**Pg**	**11 43 15.1**	**+0.4**
	102nm,0.2s							
MDOK				*e*S		**Sg**	**11 43 24.6**	**+0.7**
	892nm,0.1s							
MDOK	**Medeo**	**0.71**	**262**	⇓P		**Pg**	**11 43 14.9**	**+0.1**
	60nm,0.4s							
MDOK				⇓S		**Sg**	**11 43 25.1**	**+1.2**
	161nm,0.2s							
MDOK	**Medeo**	**0.71**	**262**	Pg		**Pg**	**11 43 15.1**	**+0.4**
	102nm,0.2s							
MDOK				Lg		Lg	11 43 24.6	
	892nm,0.1s							
UZB	**Uzunbulak**	**0.75**	**99**	*e*P		**Pg**	**11 43 15.0**	**-0.6**
	baz=98							
UZB				*e*S		**Sg**	**11 43 24.5**	**-0.9**
	baz=98							
UZB	**Uzunbulak**	**0.75**	**99**	*e*P		**Pg**	**11 43 15.0**	**-0.6**
	2μm,0.1s							
UZB				*e*S		**Sg**	**11 43 24.5**	**-0.9**
	2μm,0.1s							
UZB	**Uzunbulak**	**0.75**	**99**	P		**Pg**	**11 43 15.0**	**-0.6**
	2μm,0.1s							
UZB				S		**Sg**	**11 43 24.5**	**-0.9**
	2μm,0.1s							
KNDC	**Almaty**	**0.76**	**266**	⇑P		**Pg**	**11 43 16.4**	**+0.7**
	189nm,0.5s							
KNDC				⇑S		**Sg**	**11 43 27.4**	**+1.8**
	907nm,0.5s							
AAA	**Alma-Ata**	**0.80**	**266**	*e*P		**Pg**	**11 43 17.4**	**+1.0**
	299nm,0.2s							
AAA				*e*S		**Sb**	**11 43 28.6**	**-0.5**
	610nm,0.2s							
AAA	**Alma-Ata**	**0.80**	**266**	P		**Pg**	**11 43 17.4**	**+1.0**
	299nm,0.2s							
AAA				S		**Sb**	**11 43 28.6**	**-0.5**
	610nm,0.2s							
TNSS	**Tian-Shan**	**0.81**	**254**	*e*P		**Pg**	**11 43 17.1**	**+0.4**
	baz=56							
TNSS				*e*S		**Sg**	**11 43 28.2**	**+1.0**
	baz=56							
TNSS	**Tian-Shan**	**0.81**	**254**	*e*P		**Pg**	**11 43 17.1**	**+0.4**
	120nm,0.1s							
TNSS				*e*S		**Sg**	**11 43 28.2**	**+1.0**
	799nm,0.3s							
TNSS	**Tian-Shan**	**0.81**	**254**	P		**Pg**	**11 43 17.1**	**+0.4**
	120nm,0.1s							
TNSS				S		**Sg**	**11 43 28.2**	**+1.0**
	799nm,0.3s							
PRZ	**Przheval'sk**	**0.84**	**160**	⇑*i*P		**Pg**	**11 43 16.9**	**-0.3**
	baz=60							
PRZ				⇑*i*S		**Sg**	**11 43 27.9**	**-0.2**
	baz=60							
CHKK	**Chushkaly**	**0.94**	**309**	*e*P		**Pg**	**11 43 19.2**	**0.0**
	baz=9.0							
CHKK				*e*S		**Sg**	**11 43 31.7**	**+0.3**
	baz=9.0							
CHKK	**Chushkaly**	**0.94**	**309**	*e*P		**Pg**	**11 43 19.2**	**0.0**
	132nm,0.1s							
CHKK				*e*S		**Sg**	**11 43 31.7**	**+0.3**
	1μm,0.3s							
CHKK	**Chushkaly**	**0.94**	**309**	P		**Pg**	**11 43 19.2**	**0.0**
	132nm,0.1s							
CHKK				S		**Sg**	**11 43 31.7**	**+0.3**
	1μm,0.3s							
ARXS	**Arharly**	**0.95**	**352**	*e*P		**Pg**	**11 43 19.2**	**-0.2**
	478nm,0.2s							
ARXS				*e*S		**Sg**	**11 43 31.7**	**-0.1**
	814nm,0.2s							
ARXS	**Arharly**	**0.95**	**352**	P		**Pg**	**11 43 19.3**	**-0.2**
	478nm,0.2s							
ARXS				S		**Sg**	**11 43 31.7**	**-0.1**
	814nm,0.2s							
IZV	**Izvestkoviy**	**1.04**	**258**	*e*P		**Pg**	**11 43 21.5**	**+0.3**
	baz=59							
IZV				*e*S		**Sg**	**11 43 35.6**	**+0.9**
	baz=59							
IZV	**Izvestkoviy**	**1.04**	**258**	*e*P		**Pg**	**11 43 21.5**	**+0.3**
	151nm,0.1s							
IZV				*e*S		**Sg**	**11 43 35.6**	**+0.9**
	750nm,0.2s							
IZV	**Izvestkoviy**	**1.04**	**258**	P		**Pg**	**11 43 21.5**	**+0.3**
	151nm,0.1s							
IZV				S		**Sg**	**11 43 35.6**	**+0.9**
	750nm,0.2s							
KTBS	**Karatobe**	**1.06**	**295**	*e*P		**Pg**	**11 43 21.6**	**+0.1**
	316nm,0.2s							
KTBS				*e*S		**Sg**	**11 43 35.6**	**+0.4**
	572nm,0.3s							
KTBS	**Karatobe**	**1.06**	**295**	P		**Pg**	**11 43 21.6**	**+0.1**
	316nm,0.2s							
KTBS				S		**Sg**	**11 43 35.6**	**+0.4**
	572nm,0.3s							
SHLS	**Shalkode**	**1.07**	**96**	*e*P		**Pn**	**11 43 26.5**	**+3.1**
	baz=93							
SHLS				*e*S		**Sn**	**11 43 44.2**	**+5.3**
	baz=93							
SHLS	**Shalkode**	**1.07**	**96**	*e*P		**Pn**	**11 43 26.5**	**+3.1**
	363nm,0.1s							
SHLS				*e*S		**Sn**	**11 43 44.1**	**+5.3**
	1μm,0.2s							
SHLS	**Shalkode**	**1.07**	**96**	P		**Pn**	**11 43 26.5**	**+3.1**
	363nm,0.1s							
SHLS				S		**Sn**	**11 43 44.2**	**+5.3**
	1μm,0.2s							
PDGK	**Podgornoye**	**1.09**	**86**	P		**Pg**	**11 43 20.8**	**-1.2**
	288nm,0.1s							
PDGK				S		**Sg**	**11 43 34.4**	**-1.7**
	428nm,0.2s							
PDGK	**Podgornoye**	**1.09**	**86**	⇑P		**Pg**	**11 43 20.6**	**-1.4**
	274nm,0.5s							
PDGK				⇑S		**Sg**	**11 43 34.6**	**-1.4**
	340nm,0.3s							
MTBS	**Maitube**	**1.16**	**264**	*e*P		**Pb**	**11 43 23.4**	**-0.6**
	baz=65							
MTBS				*e*S		**Sb**	**11 43 38.9**	**-0.6**
	baz=65							
MTBS	**Maitube**	**1.16**	**264**	*e*P		**Pb**	**11 43 23.4**	**-0.6**
	178nm,0.1s							
MTBS				*e*S		**Sb**	**11 43 38.9**	**-0.6**
	815nm,0.2s							
MTBS	**Maitube**	**1.16**	**264**	P		**Pb**	**11 43 23.4**	**-0.6**
	178nm,0.1s							
MTBS				S		**Sb**	**11 43 38.9**	**-0.6**
	815nm,0.2s							
KDJ	**Kajisay**	**1.29**	**208**	⇑*i*P		**Pn**	**11 43 25.3**	**-1.1**
	baz=9.0							
KDJ				⇑*i*S		**Sb**	**11 43 41.2**	**-2.2**
	baz=9.0							
KUU	**Kurty**	**1.36**	**298**	*e*P		**Pn**	**11 43 26.6**	**-0.6**
	baz=98							
KUU				*e*S		**Sb**	**11 43 44.4**	**-0.9**
	baz=98							
KUU	**Kurty**	**1.36**	**298**	*e*P		**Pn**	**11 43 26.6**	**-0.6**
	211nm,0.3s							
KUU				*e*S		**Sb**	**11 43 44.4**	**-0.9**
	413nm,0.2s							
KST	**Kastek**	**1.51**	**262**	*e*P		**Pb**	**11 43 29.7**	**-0.3**
	baz=63							
KST				*e*S		**Sb**	**11 43 49.7**	**0.0**
	baz=63							
KST	**Kastek**	**1.51**	**262**	*e*P		**Pb**	**11 43 29.7**	**-0.3**
	93nm,0.1s							
KST				*e*S		**Sb**	**11 43 49.7**	**0.0**
	578nm,0.3s							
KST	**Kastek**	**1.51**	**262**	P		**Pb**	**11 43 29.7**	**-0.3**
	93nm,0.1s							
KST				S		**Sb**	**11 43 49.7**	**0.0**
	578nm,0.3s							
DGS	**Degeres**	**1.63**	**270**	*e*P		**Pb**	**11 43 31.5**	**-0.5**
	baz=71							
DGS				*e*S		**Sb**	**11 43 53.4**	**+0.3**
	baz=71							
DGS	**Degeres**	**1.63**	**270**	*e*P		**Pb**	**11 43 31.5**	**-0.5**
	234nm,0.3s							
DGS				*e*S		**Sb**	**11 43 53.4**	**+0.3**
	1μm,0.4s							
DGS	**Degeres**	**1.63**	**270**	P		**Pb**	**11 43 31.5**	**-0.5**
	234nm,0.3s							
DGS				S		**Sb**	**11 43 53.4**	**+0.3**
	1μm,0.4s							
ULHL	**Ulahol**	**1.65**	**232**	⇑*i*P		**Pn**	**11 43 31.4**	**0.0**
	baz=33							
ULHL				⇑*i*S		**Sn**	**11 43 52.4**	**-0.9**
	baz=33							
ULHL	**Ulahol**	**1.65**	**232**	P		**Pb**	**11 43 32.3**	**-0.2**
	SNR=13							
DJR	**Jarkent**	**1.67**	**50**	*e*P		**Pn**	**11 43 31.7**	**+0.1**
	150nm,0.2s							
DJR				*e*S		**Sn**	**11 43 53.1**	**-0.6**
	1μm,0.2s							
DJR	**Jarkent**	**1.67**	**50**	P		**Pn**	**11 43 31.7**	**+0.1**
	150nm,0.2s							
DJR				S		**Sn**	**11 43 53.1**	**-0.6**

AAK	**Ala-Archa**	**2.65**	**257**	⇑*i*P	**Pn**	**11 43 46.3**	**+1.2**
	baz=58							
AAK				⇑*i*S	**Sn**	**11 44 17.8**	**-0.1**
	baz=58							
AAK	**Ala-Archa**	**2.65**	**257**	P	**Pb**	**11 43 49.1**	**-0.4**
	SNR=46							
AAK	**Ala-Archa**	**2.65**	**257**	⇑Pg	**Pb**	**11 43 48.8**	**-0.7**
	31nm,0.4s							
AAK				⇑Sn	**Sb**	**11 44 23.8**	**+1.3**
	280nm,0.7s							
UCH	**Uchtor**	**2.77**	**249**	⇑*i*P	**Pn**	**11 43 48.2**	**+1.2**
	baz=50							
UCH				⇑*i*S	**Sn**	**11 44 21.1**	**-0.2**
	baz=50							
UCH	**Uchtor**	**2.77**	**249**	P	**Pb**	**11 43 51.4**	**-0.4**
	SNR=240							
ARLS	**Aral**	**3.06**	**244**	⇑*i*P	**Pn**	**11 43 51.6**	**+0.9**
	baz=45							
ARLS				⇑*i*S	**Sn**	**11 44 27.3**	**-0.7**
	baz=45							
EKS2	**Erkin-Say**	**3.16**	**260**	⇑*i*P	**Pn**	**11 43 53.3**	**+1.2**
	baz=61							
EKS2				⇑*i*S	**Sn**	**11 44 30.1**	**-0.3**
	baz=61							
EKS2	**Erkin-Say**	**3.16**	**260**	P	**Pn**	**11 43 53.5**	**+1.5**
	SNR=17							
BTLS	**Baital**	**3.35**	**303**	*e*P	**Pb**	**11 44 01.0**	**-0.3**
	4.5nm,0.5s							
BTLS				*e*S	**Sb**	**11 44 43.4**	**+0.8**
	60nm,0.4s							
AML	**Almayashu**	**3.37**	**252**	⇑*i*P	**Pn**	**11 43 56.5**	**+1.3**
	baz=52							
AML				⇑*i*S	**Sn**	**11 44 35.5**	**-0.5**
	baz=52							
AML	**Almayashu**	**3.37**	**252**	P	**Pb**	**11 44 02.9**	**+1.0**
	SNR=8.0							
MRKS	**Merke**	**3.54**	**263**	*e*P	**Pb**	**11 44 04.7**	**+0.1**
	15nm,0.4s							
MRKS				*e*S	**Sb**	**11 44 49.7**	**+1.5**
	71nm,0.3s							
MAKZ	**Makanchi**	**4.52**	**37**	⇑Pn	**Pn**	**11 44 11.5**	**+0.8**
	2.3nm,0.2s							
MAKZ				⇑Pg	**Pb**	**11 44 24.5**	**+3.3**
	7.9nm,0.6s							
MAKZ				⇑Sn	**Sn**	**11 45 02.9**	**-0.9**
	8.9nm,0.6s							
MAKZ				⇑Lg	Lg	11 45 18.7		
	32nm,0.4s							
MK31	**Makanchi Array**	**4.65**	**39**	⇓Pn	**Pn**	**11 44 12.9**	**+0.4**
	4.0nm,0.3s,baz=215,slow=14,SNR=85							
MK31				⇑Pg	**Pb**	**11 44 26.7**	**+3.2**
	7.4nm,0.5s,baz=212,slow=15,SNR=8.2							
MK31				⇑Sn	**Sn**	**11 45 05.0**	**-2.0**
	7.2nm,0.4s							
MK31				⇓Lg	Lg	11 45 21.7		
	49nm,0.6s							
MKAR	**Makanchi Array**	**4.65**	**39**	Pn	**Pn**	**11 44 13.1**	**+0.6**
	2.2nm,0.3s,baz=214,slow=15,SNR=52							
MKAR				Pg	**Pb**	**11 44 26.2**	**+2.7**
	3.8nm,0.3s,baz=214,slow=15,SNR=15							
MKAR				Sn	**Sn**	**11 45 06.8**	**-0.2**
	6.1nm,0.3s,baz=213,slow=24,SNR=8.0							
MKAR				Lg	Lg	11 45 22.5		
	15nm,0.3s,baz=215,slow=28,SNR=7.0							
KK31	**Karatay Array**	**5.48**	**271**	Pn	**Pb**	**11 44 34.6**	**-3.0**
	0.4nm,0.4s,baz=81,slow=14,SNR=34							
KK31				⇑Pg	**Pg**	**11 44 42.3**	**-3.9**
	1.4nm,0.3s,baz=84,slow=16,SNR=31							
KK31				⇑Lg	Lg	11 45 51.7		
	27nm,0.5s							
OTUK	**Ortayu**	**6.36**	**323**	⇑Pn	**Pn**	**11 44 36.3**	**+0.4**
	1.9nm,0.5s							
OTUK				⇑Lg	Lg	11 46 16.7		
	36nm,0.6s							
KURBB	**Kurchatov Arra**	**7.37**	**3**	Pn	**Pn**	**11 44 51.9**	**+2.2**
	0.2nm,0.3s,baz=189,slow=12,SNR=6.1							
KURBB				Lg	Lg	11 46 49.2		
	0.3nm,0.3s,baz=192,slow=28,SNR=6.6							
KURBB	**Kurchatov Arra**	**7.37**	**3**	⇑Lg	Lg	11 46 53.0		
	65nm,0.6s							
KURK	**Kurchatov**	**7.46**	**3**	⇑Pn	**Pn**	**11 44 54.4**	**+3.5**
	2.9nm,0.9s							
KURK				⇓Pg	Pg	11 45 18.7	-5.3
	1.5nm,0.4s							
KURK				⇓Lg	Lg	11 46 51.3		
	48nm,0.9s							
BVAR	**Borovoye Array**	**11.00**	**335**	Pn	**Pn**	**11 45 37.8**	**-1.7**
	0.3nm,0.3s,baz=145,slow=15,SNR=4.6							
BVAR				Lg	Lg	11 48 46.6		
	0.6nm,0.3s,baz=167,slow=17,SNR=5.0							
ZALV	**Zalesovo Beam**	**11.59**	**20**	Pn	**Pn**	**11 45 47.2**	**-0.3**
	0.3nm,0.3s,baz=212,slow=14,SNR=6.7							
ZALV				Lg	Lg	11 49 03.4		
	0.1nm,0.3s,baz=203,slow=26,SNR=3.8							
TLY	**Talaya**	**19.19**	**55**	P	**P**	**11 47 25.7**	**-0.3**
	0.0nm,0.3s,baz=265,slow=11,SNR=1.7							
SONM	**Songino Array**	**20.34**	**67**	P	**P**	**11 47 37.7**	**-1.0**
	0.4nm,0.3s,baz=271,slow=9.9,SNR=1.7							

*IDC **09** 11:42:58.9±2.0, 33.74S×179.05W, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.7/28, mbtmp3.9/4, ML3.7/2, MS3.4/2, Ms1 3.4/2, ms1mx2.9/28, Error ellipse: s-maj=58.5km s-min=33.7km az=126.0*

*WEL **09** 11:43:06.6±1.3, 34.5S±12.1×177.9W±1.7, h231km±24km, M4.4/12, mB4.7/3, MLv4.5/12, Mw(mB)4.0/3, Error ellipse: s-maj=0.0km s-min=0.0km az=106.8*

*NEIC **09** 11:43:12.4±1.0, 34.4S±0.2×179.5W±0.2, h106km±10km, mb4.2/5, Error ellipse: s-maj=23.8km s-min=17.6km az=144.0*

ISC 09 11:43:10.6±1.1, 34.29S±0.08×179.2W±0.1, h100km, n32, σ2§25/43, mb4.0/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.85**	**211**	P		**Pn**	**11 44 06.3**	**-1.4**
MXZ					S	**Sn**	**11 44 55.8**	**+3.9**
MXZ	**Matakaoa Point**	**3.85**	**211**	Pn		**Pn**	**11 44 06.3**	**-1.4**
HAZ	**Te Kaha**	**4.25**	**214**	P		**Pn**	**11 44 13.0**	**0.0**
HAZ					S	**Sn**	**11 45 06.9**	**+5.4**
PUZ	**Puketiti**	**4.31**	**208**	P		**Pn**	**11 44 12.8**	**-1.0**
PUZ					S	**Sn**	**11 45 05.8**	**+2.8**
RUGZ	**Raukumara Rang**	**4.46**	**214**	P		**Pn**	**11 44 15.4**	**-0.7**
RUGZ					S	**Sn**	**11 45 10.2**	**+3.2**
KUZ	**Kuaotunu**	**4.83**	**238**	P		**Pn**	**11 44 21.2**	**+0.3**
MWZ	**Matawai**	**4.83**	**212**	P		**Pn**	**11 44 19.1**	**-1.9**
MWZ					S	**Sn**	**11 45 15.4**	**+2.2**
OPRZ	**Ohinepanea**	**4.95**	**223**	P		**Pn**	**11 44 22.1**	**-0.4**
URZ	**Urewera**	**4.97**	**216**	Pn		**Pn**	**11 44 21.7**	**-1.0**
	3.2nm,0.3s,baz=30,slow=14,SNR=38							
URZ					Sn	**Sn**	**11 45 20.4**	**+1.5**
	7.5nm,0.3s,baz=212,slow=21,SNR=7.5							
URZ	**Urewera**	**4.97**	**216**	P		**Pn**	**11 44 22.3**	**-0.5**
URZ					S	**Sn**	**11 45 22.8**	**+3.9**
URZ	**Urewera**	**4.97**	**216**			**Pn**	**11 44 22.3**	**-0.5**
RAGZ	**Rawiri**	**5.02**	**212**	P		**Pn**	**11 44 22.1**	**-1.4**
RAGZ					S	**Sn**	**11 45 21.1**	**+0.8**
RIGZ	**Rimuhau**	**5.05**	**208**	P		**Pn**	**11 44 23.6**	**-0.3**
MUGZ	**Murupara**	**5.30**	**217**	P		**Pn**	**11 44 24.4**	**-3.0**
MUGZ					S	**Sn**	**11 45 30.1**	**+2.9**
BKZ	**Black Stump Fm**	**5.98**	**214**	P		**Pn**	**11 44 35.4**	**-1.1**
BKZ					S	**Sn**	**11 45 43.6**	**-0.1**
BKZ	**Black Stump Fm**	**5.98**	**214**			**Pn**	**11 44 35.5**	**-1.1**
OUZ	**Omahuta**	**6.01**	**259**	P		**Pn**	**11 44 34.7**	**-2.3**
BFZ	**Birch Farm**	**7.34**	**208**	P		**Pn**	**11 44 51.4**	**-3.7**
BFZ					S	**Sn**	**11 46 14.6**	**-2.2**
RPZ	**Rata Peaks**	**12.09**	**216**	Pn		**Pn**	**11 45 58.9**	**-0.4**
	0.3nm,0.3s,baz=20,slow=12,SNR=1.3							
RPZ					Sn	**Sn**	**11 48 04.8**	**-7.3**
	0.4nm,0.3s,baz=338,slow=19,SNR=1.2							
DZM	**Mont Dzumac**	**17.54**	**310**	LR		LR	11 52 36.8	
	comp=Z,106nm,20.0s,baz=12,slow=33							
RAR	**Rarotonga**	**21.51**	**58**	LR		LR	11 55 13.8	
	comp=Z,122nm,20.4s,baz=286,slow=35							
ARMA	**Armidale**	**24.92**	**271**	P		**P**	**11 48 23.3**	**-1.2**
ARMA					IAmb	IAmb	11 48 28.0	
	comp=Z,12nm,1.4s							
ASAR	**Alice Springs**	**42.06**	**272**	P		**P**	**11 50 53.4**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=113,slow=7.9,SNR=7.2							
WB2	**Warramunga Arr**	**43.39**	**277**	P		**P**	**11 51 04.0**	**+0.6**
WB2					IAmb	IAmb	11 51 37.6	
	comp=Z,4.8nm,1.2s							
WRA	**Warramunga Arr**	**43.40**	**277**	P		**P**	**11 51 03.5**	**+0.1**
	comp=Z,1.5nm,1.0s,baz=117,slow=8.0,SNR=5.8							
WRA	**Warramunga Arr**	**43.40**	**277**	P		**P**	**11 51 02.3**	**-1.2**
WB0	**Warramunga Arr**	**43.44**	**277**	P		**P**	**11 51 03.5**	**-0.3**
VNDA	**Vanda**	**44.14**	**186**	P		**P**	**11 51 08.2**	**-0.3**
FINES	**FINESS Array B**	**148.38**	**337**	PKPbc		**PKPbc**	**12 02 45.1**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=70,slow=2.2,SNR=8.1							
FINES	**FINESS Array B**	**148.38**	**337**			**PKiKP**	**12 02 45.9**	**-0.1**
FINES				PKPab		**PKPab**	**12 02 49.2**	**+1.2**
NB2	**NORSAR Subarra**	**152.40**	**349**	PKP		**PKiKP**	**12 02 55.8**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=16,slow=2.5							
NOA	**NORSAR Array B**	**152.40**	**349**	PKPbc		**PKPbc**	**12 02 54.4**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=13,slow=4.1,SNR=4.9							

*KRNET **09** 11:52:17.1±0.1, 40.44N×72.69E, h18km, mb2.5*
*NNC **09** 11:52:18.9±0.8, 40.53N×72.62E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=7.6km s-min=3.9km az=178.0*

ISC 09 11:52:17.6±1.5, 40.49N±0.06×72.65E±0.04, h1km±14km, n12, σ1§14/21, 14C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.11**	**70**	⇑*i*P		**Pg**	**11 52 19.5**	**-0.3**
	baz=42							
OHH				⇑*i*S		**Sg**	**11 52 21.3**	**+0.1**
	baz=42							
ARK	**Arkit**	**1.41**	**339**	⇑*i*P		**Pn**	**11 52 44.2**	**-0.3**
	baz=39							
ARK				⇑*i*S		**Sg**	**11 53 03.8**	**+0.9**
	baz=39							
BTK	**Batken**	**1.47**	**254**	⇑*i*P		**Pn**	**11 52 44.8**	**-0.5**
	baz=56							
BTK				⇑*i*S		**Sg**	**11 53 05.1**	**+0.4**
	baz=56							
AML	**Almayashu**	**1.82**	**25**	⇑*e*P		**Pb**	**11 52 51.6**	**-0.4**
	baz=24							
AML				⇑*i*S		**Sg**	**11 53 16.6**	**+0.4**
	baz=24							
ARLS	**Aral**	**1.87**	**42**	⇓*i*P		**Pb**	**11 52 52.1**	**-0.5**
	baz=40							
ARLS				⇓*i*S		**Sg**	**11 53 17.7**	**+0.1**
	baz=40							
UCH	**Uchtor**	**2.23**	**38**	⇑*i*P		**Pb**	**11 52 57.6**	**-1.5**
	baz=37							
UCH				⇑*i*S		**Sb**	**11 53 26.9**	**-0.5**
	baz=37							
MRKS	**Merke**	**2.30**	**11**	Pg		**Pb**	**11 53 00.1**	**+0.2**
	12nm,0.4s							
MRKS				Lg		Lg	11 53 31.2	
	19nm,0.3s							
EKS2	**Erkin-Say**	**2.33**	**21**	⇑*i*P		**Pb**	**11 52 59.0**	**-1.5**
	baz=20							
EKS2				⇑*i*S		**Sb**	**11 53 29.7**	**-0.2**
	baz=20							
KZA	**Kyzart**	**2.52**	**50**	⇓*i*P		**Pn**	**11 53 01.6**	**+1.5**
	baz=49							
KZA				⇓*i*S		**Sb**	**11 53 33.8**	**-1.8**
	baz=49							
AAK	**Ala-Archa**	**2.56**	**32**	⇑Pn		**Pn**	**11 53 01.6**	**+1.2**
	1.9nm,0.4s							
AAK				⇑Sn		**Sg**	**11 53 38.7**	**-1.0**
	3.7nm,0.4s							
IUG	**Iuzhnay**	**2.58**	**311**	Pg		**Pb**	**11 53 05.2**	**+0.5**
	10nm,0.5s							
IUG				Lg		Lg	11 53 39.3	
	17nm,0.6s							
KTBS	**Karatobe**	**4.40**	**42**	Pg		**Pb**	**11 53 38.4**	**+2.7**
	0.8nm,0.2s							
KTBS				Lg		Lg	11 54 38.0	
	3.1nm,0.4s							

*THE **09** 12:05:48.7, 37.84N×21.06E, h14km, ML3.6/13, Error ellipse: s-maj=0.8km s-min=0.4km az=223.0*
*ATH **09** 12:05:48.4, 37.83N×21.06E, h14km±1km, ML3.4/21, Error ellipse: s-maj=1.9km s-min=0.9km az=6.0*
*IDC **09** 12:05:55.1±1.6, 37.85N×21.02E, h64km±21km, mb3.4/7, mb1 3.5/13, mb1mx3.3/48, mbtmp3.6/13, Error ellipse: s-maj=17.9km s-min=11.1km az=11.0*

ISC 09 12:05:48.8±0.7, 37.86N±0.02×21.07E±0.02, h13km±4km, n80, σ1§14/111, mb3.7/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.11**	**57**	P		**Pg**	**12 05 51.7**	**-0.2**
VTN				S		**Sg**	**12 05 55.0**	**+0.9**
VTN	**Vitineika**	**0.11**	**57**	P		**Pg**	**12 05 51.8**	**-0.2**
VTN				S		**Sg**	**12 05 54.6**	**+0.4**
ZAK2	**Zakynthos**	**0.15**	**243**	P		**Pg**	**12 05 51.6**	**-1.0**
ZAK2				S		**Sg**	**12 05 55.0**	**-0.2**
	101µm,0.5s							
KRI1	**kERI**	**0.28**	**226**	P		**Pg**	**12 05 54.4**	**-0.3**
KRI1				S		**Sb**	**12 05 58.9**	**-1.4**
	20µm,0.3s							
VLMS	**Volimes, Zakyn**	**0.33**	**273**	P		**Pg**	**12 05 55.3**	**-0.2**
VLMS				S		**Sb**	**12 06 00.4**	**-1.2**
VLMS				AML	AML		12 06 04.2	
	comp=E,45159µm,0.3s							
VLMS				AML	AML		12 06 06.0	
	comp=N,50176µm,0.5s							
RLS	**Riolos of Patr**	**0.37**	**57**	P		**Pg**	**12 05 56.0**	**-0.3**
RLS				S		**Sb**	**12 06 02.7**	**-0.2**
	comp=N,25µm,0.3s							
RLS	**Riolos of Patr**	**0.37**	**57**	P		**Pg**	**12 05 55.9**	**-0.4**
RLS				S		**Sb**	**12 06 02.9**	**0.0**
RLS				AML	AML		12 06 05.8	
	comp=N,50070µm,0.3s							
RLS				AML	AML		12 06 06.0	
	comp=E,49963µm,0.3s							
AXS	**Araxos**	**0.41**	**35**	P		**Pg**	**12 05 57.2**	**+0.1**
AXS				S		**Sb**	**12 06 04.3**	**+0.2**
AXS				AML	AML		12 06 05.8	
	comp=N,12227µm,0.6s							
AXS				AML	AML		12 06 07.7	
	comp=E,12879µm,0.4s							
VLS	**Valsamata**	**0.50**	**310**	P		**Pg**	**12 05 58.5**	**-0.2**
VLS				S		**Sb**	**12 06 05.9**	**-0.7**
	comp=E,5µm,0.4s							
VLS	**Valsamata**	**0.50**	**310**	P		**Pg**	**12 05 58.1**	**-0.6**
VLS				AML	AML		12 06 07.7	
	comp=E,7659µm,0.4s							
VLS				AML	AML		12 06 07.9	
	comp=N,10732µm,0.4s							
DRO	**Drossia**	**0.51**	**79**	P		**Pg**	**12 05 58.3**	**-0.7**
DRO				S		**Sg**	**12 06 06.3**	**+0.5**
	comp=N,16µm,0.7s							
DRO	**Drossia**	**0.51**	**79**	P		**Pg**	**12 05 58.5**	**-0.4**
DRO				S		**Sb**	**12 06 06.8**	**-0.3**
DRO				AML	AML		12 06 12.8	
	comp=N,39120µm,0.3s							
DRO				AML	AML		12 06 13.7	
	comp=E,20347µm,0.5s							
ARG2	**Argostoli**	**0.56**	**305**	P		**Pg**	**12 05 59.6**	**-0.3**
ARG2				S		**Sb**	**12 06 07.8**	**-0.6**
	comp=E,9µm,0.2s							
AMT	**Artemida-Makis**	**0.60**	**123**	P		**Pg**	**12 06 00.1**	**-0.5**
AMT				S		**Sb**	**12 06 09.8**	**+0.2**
	comp=E,6µm,0.4s							
AMT	**Artemida-Makis**	**0.60**	**123**	P		**Pg**	**12 06 00.1**	**-0.5**
AMT				AML	AML		12 06 16.3	
	comp=N,10959µm,0.4s							
AMT				AML	AML		12 06 16.5	
	comp=E,10595µm,0.4s							
KEF5	**Kardakata, Kep**	**0.64**	**311**	P		**Pg**	**12 06 00.5**	**-0.8**
KEF4	**Livadi, Kephal**	**0.65**	**308**	P		**Pg**	**12 06 01.0**	**-0.5**
KEF3	**Kipouria, Keph**	**0.67**	**301**	P		**Pg**	**12 06 01.2**	**-0.6**
AST1	**Astakos**	**0.68**	**1**	P		**Pg**	**12 06 02.4**	**+0.3**
AST1				S		**Sb**	**12 06 13.0**	**+1.1**
	comp=E,5µm,0.2s							
FSK	**Fiskardo**	**0.72**	**326**	P		**Pg**	**12 06 02.1**	**-0.8**
FSK				S		**Sb**	**12 06 14.1**	**+1.0**
	comp=E,2µm,0.5s							
FSK	**Fiskardo**	**0.72**	**326**	P		**Pg**	**12 06 02.2**	**-0.8**
FSK				AML	AML		12 06 21.1	
	comp=E,4292µm,0.5s							
FSK				AML	AML		12 06 26.4	
	comp=N,3954µm,0.6s							
EVGl	**Lefkada island**	**0.83**	**337**	P		**Pg**	**12 06 04.1**	**-0.8**
PVO	**Paravola**	**0.84**	**25**	P		**Pg**	**12 06 05.1**	**0.0**
PVO	**Paravola**	**0.84**	**25**	P		**Pb**	**12 06 05.4**	**+0.2**
PVO				S		**Sg**	**12 06 16.6**	**+0.5**
PVO				AML	AML		12 06 26.7	
	comp=E,8272µm,0.4s							
PVO				AML	AML		12 06 28.8	
	comp=N,4852µm,0.4s							
ALIK	**Aliki, Aigiali**	**0.91**	**64**	P		**Pb**	**12 06 06.4**	**-0.1**
TRIZ	**Trizonia**	**0.94**	**57**	P		**Pb**	**12 06 06.2**	**-0.7**
TRIZ	**Trizonia**	**0.94**	**57**	P		**Pb**	**12 06 06.9**	**0.0**
SERG	**Sergoula**	**0.95**	**54**	P		**Pb**	**12 06 06.8**	**-0.4**
SERG	**Sergoula**	**0.95**	**54**	P		**Pb**	**12 06 07.0**	**-0.2**
SERG					AML	AML	12 06 24.8	
	comp=N,11177µm,0.3s							
SERG					AML	AML	12 06 32.0	
	comp=E,8044µm,0.4s							
ITM	**Ithomi**	**0.96**	**135**	P		**Pb**	**12 06 06.7**	**-0.6**
ITM	**Ithomi**	**0.96**	**135**	P		**Pb**	**12 06 06.4**	**-0.9**
ITM					AML	AML	12 06 30.6	
	comp=N,2869µm,0.4s							
ITM					AML	AML	12 06 34.9	
	comp=E,1960µm,0.7s							
LKD2	**Lefkada island**	**0.98**	**341**	P		**Pb**	**12 06 06.9**	**-0.9**
LKD2				S		**Sg**	**12 06 21.6**	**+0.8**
	comp=E,3µm,0.8s							
LKD2	**Lefkada island**	**0.98**	**341**	P		**Pb**	**12 06 06.9**	**-0.9**
LKD2					AML	AML	12 06 31.3	
	comp=N,5516µm,0.7s							
LKD2					AML	AML	12 06 34.9	
	comp=E,7090µm,0.9s							
ANX	**Ano Chora**	**0.99**	**42**	P		**Pb**	**12 06 07.9**	**0.0**
ANX				S		**Sg**	**12 06 21.9**	**+0.9**
	comp=E,5µm,0.5s							
ANX	**Ano Chora**	**0.99**	**42**	P		**Pb**	**12 06 08.1**	**+0.1**
ANX					AML	AML	12 06 26.5	
	comp=N,11478µm,0.6s							
ANX					AML	AML	12 06 27.6	
	comp=E,10166µm,0.5s							
TRIP	**Tripoli**	**1.01**	**109**	P		**Pb**	**12 06 07.2**	**-0.9**
TRIP	**Tripoli**	**1.01**	**109**	P		**Pb**	**12 06 07.5**	**-0.6**
TRIP					AML	AML	12 06 34.4	
	comp=E,2966µm,0.5s							
TRIP					AML	AML	12 06 34.8	
	comp=N,2286µm,0.5s							
GUR	**Goura**	**1.01**	**85**	P		**Pb**	**12 06 07.0**	**-1.2**
GUR				S		**Sn**	**12 06 23.0**	**+0.2**
	comp=N,5µm,0.4s							
GUR	**Goura**	**1.01**	**85**	P		**Pb**	**12 06 07.2**	**-1.0**
GUR					AML	AML	12 06 30.6	
	comp=E,7376µm,0.4s							
GUR					AML	AML	12 06 32.1	
	comp=N,11904µm,0.4s							
TSLK	**Tsoukalades, L**	**1.02**	**341**	P		**Pb**	**12 06 07.7**	**-0.6**
TSLK	**Tsoukalades, L**	**1.02**	**341**	P		**Pb**	**12 06 07.8**	**-0.6**
TSLK					AML	AML	12 06 33.6	
	comp=E,4565µm,0.5s							
TSLK					AML	AML	12 06 40.4	
	comp=N,6190µm,0.7s							
PYL	**PYLOS**	**1.10**	**151**	P		**Pb**	**12 06 08.8**	**-0.9**
PYL				S		**Sn**	**12 06 24.5**	**-0.4**
	comp=N,968nm,0.7s							
PYL	**PYLOS**	**1.10**	**151**	P		**Pb**	**12 06 08.5**	**-1.1**
PYL					AML	AML	12 06 35.8	
	comp=E,2012µm,0.6s							
PYL					AML	AML	12 06 36.8	
	comp=N,1770µm,0.8s							
VLX	**Vlachokerasia**	**1.15**	**115**	P		**Pb**	**12 06 10.1**	**-0.4**
EVR	**Evrytania**	**1.21**	**28**	P		**Pn**	**12 06 11.1**	**-0.4**
EVR	**Evrytania**	**1.21**	**28**	P		**Pb**	**12 06 11.8**	**+0.2**
EVR				S		**Sg**	**12 06 28.2**	**+0.5**
EVR					AML	AML	12 06 38.3	
	comp=N,1961µm,0.6s							
EVR					AML	AML	12 06 48.0	
	comp=E,2270µm,0.7s							
DSF	**Desfina**	**1.27**	**64**	P		**Pn**	**12 06 11.7**	**-0.6**
DSF	**Desfina**	**1.27**	**64**	P		**Pb**	**12 06 12.6**	**-0.1**
DSF					AML	AML	12 06 37.6	
	comp=N,2562µm,0.5s							
DSF					AML	AML	12 06 38.0	
	comp=E,1574µm,0.4s							
LTK	**Loutraki**	**1.51**	**83**	P		**Pn**	**12 06 14.7**	**-0.8**
DID	**Didima**	**1.75**	**101**	P		**Pb**	**12 06 20.6**	**-0.2**
DID					AML	AML	12 06 54.6	
	comp=N,1092µm,0.7s							
DID					AML	AML	12 06 57.3	
	comp=E,1347µm,0.8s							
IGT	**Igoumenitsa**	**1.77**	**341**	P		**Pb**	**12 06 20.9**	**-0.3**
IGT					AML	AML	12 07 00.2	
	comp=N,517µm,0.7s							
IGT					AML	AML	12 07 02.2	
	comp=E,631µm,0.6s							
JAN	**Janina**	**1.80**	**355**	P		**Pb**	**12 06 22.4**	**+0.6**
THL	**Klokotos Trika**	**1.86**	**23**	P		**Pb**	**12 06 23.6**	**+1.1**
VLI	**Veliai**	**1.87**	**127**	P		**Pb**	**12 06 22.5**	**-0.4**
VLI					AML	AML	12 06 59.5	
	comp=E,987µm,0.8s							
VLI					AML	AML	12 07 10.8	
	comp=N,764µm,1.0s							
OHR	**Ohrid**	**3.26**	**356**	*e*Pn		**Pn**	**12 06 41.0**	**+1.4**
VAY	**Valandovo**	**3.65**	**18**	*e*Pn		**Pn**	**12 06 44.0**	**-0.9**
IDI	**Anoyia**	**4.00**	**129**	P		**Pn**	**12 06 53.3**	**+3.4**
	comp=N,0.7nm,0.3s,baz=328,slow=13,SNR=1.2							
IDI					S	**Sn**	**12 07 40.8**	**+4.1**
	comp=N,2.6nm,0.3s,baz=133,slow=17,SNR=4.1							
VAE	**Valguarnera**	**5.30**	**268**	P		**Pn**	**12 07 11.4**	**+3.8**
	comp=N,0.8nm,0.3s,baz=51,slow=6.5,SNR=1.3							
VAE					S	**Sn**	**12 08 11.7**	**+3.1**
	comp=N,4.1nm,0.3s,baz=269,slow=4.0,SNR=6.3							
DBRK	**Dubrovnik**	**5.30**	**336**	*e*Pn		**Pn**	**12 07 07.0**	**-0.7**
DBRK					Sn	**Sn**	**12 08 07.0**	**-1.6**
STON	**Ston**	**5.63**	**334**	*e*Pn		**Pn**	**12 07 12.2**	**+0.1**
STON					Sn	**Sn**	**12 08 15.0**	**-1.6**
MAKA	**Makarska**	**6.24**	**332**	*e*Pn		**Pn**	**12 07 20.1**	**-0.4**
MAKA					Sn	**Sn**	**12 08 31.1**	**-0.5**
HVAR	**Hvar**	**6.37**	**328**	*e*Pn		**P

MORC	**Moravsky Berou**	**1.01**	**234**	*e*Pg		**Pg**	**12 11 50.6**	**+0.8**
	baz=54								
MORC				*e*Sg		**Sg**	**12 12 03.3**	**+0.5**
	41nm,0.3s,baz=54								
LANS	**Liptovska Anna**	**1.30**	**160**	*e*PG		**Pg**	**12 11 55.9**	**+0.6**
LANS				*e*SG		**Sb**	**12 12 13.6**	**+0.7**
LANS				*e*LG	Lg		12 12 17.5	
KRLC	**Kraliky**	**1.33**	**258**	*e*PG		**Pg**	**12 11 55.8**	**-0.2**
KRLC				*e*SG		**Sb**	**12 12 14.3**	**+0.3**
	comp=Z,48nm,0.4s								
NIE	**Niedzica**	**1.36**	**134**	*e*Pg		**Pg**	**12 11 56.8**	**+0.3**
NIE				*e*Sg		**Sn**	**12 12 16.1**	**+0.6**
DPC	**Dobruska-Polom**	**1.59**	**270**	*e*PG		**Pn**	**12 12 00.5**	**+0.6**
DPC				*e*SG		**Sg**	**12 12 22.3**	**+0.8**
	30nm,0.5s								
OSTC	**Ostas**	**1.67**	**277**	*e*PG		**Pn**	**12 12 01.4**	**+0.4**
OSTC				*e*SG		**Sg**	**12 12 25.0**	**+1.0**
KSP	**Ksiaz**	**1.67**	**287**	*e*Pg		**Pg**	**12 12 03.9**	**+1.5**
KSP				*e*Sg		**Sg**	**12 12 26.5**	**+2.5**
JAVC	**Velka Javorina**	**1.68**	**206**	*e*PN		**Pn**	**12 12 01.9**	**+0.7**
JAVC	**Velka Javorina**	**1.68**	**206**	*e*Pn		**Pn**	**12 12 01.9**	**+0.7**
	baz=26								
CHVC	**Chvalec**	**1.77**	**278**	*e*PG		**Pn**	**12 12 03.0**	**+0.6**
CHVC				*e*SG		**Sn**	**12 12 26.6**	**+1.0**
VRAC	**Vranov**	**1.78**	**234**	Pn		**Pn**	**12 12 03.2**	**+0.6**
	4.2nm,0.3s,baz=60,slow=11,SNR=27								
VRAC				Pg		**Pb**	**12 12 04.4**	**+0.4**
	4.2nm,0.3s,baz=52,slow=12,SNR=14								
VRAC				Lg	Lg		12 12 28.0		
	5.8nm,0.3s,baz=144,slow=20,SNR=17								
VRAC	**Vranov**	**1.78**	**234**	*e*PN		**Pn**	**12 12 03.2**	**+0.6**
VRAC				*e*SG		**Sb**	**12 12 27.7**	**+0.7**
VRAC	**Vranov**	**1.78**	**234**	*e*Pn		**Pn**	**12 12 03.1**	**+0.6**
	baz=53								
VRAC				*e*Sg		**Sb**	**12 12 27.6**	**+0.6**
	32nm,0.6s,baz=53								
UPC	**Upice**	**1.79**	**275**	*e*SG		**Sg**	**12 12 29.0**	**+1.0**
VYHS	**Vyhne**	**1.88**	**179**	*e*PN		**Pn**	**12 12 04.2**	**+0.3**
VYHS				*e*SN		**Sn**	**12 12 28.6**	**+0.3**
KRUC	**Moravsky**	**2.04**	**231**	*e*PN		**Pn**	**12 12 06.8**	**+0.7**
KRUC				*e*SG		**Sg**	**12 12 36.1**	**+0.1**
KRUC	**Moravsky**	**2.04**	**231**	*e*Pn		**Pn**	**12 12 06.8**	**+0.7**
	baz=49								
KRUC				*e*Sg		**Sg**	**12 12 36.1**	**+0.1**
	26nm,0.6s,baz=49								
KECS	**Kecovo**	**2.19**	**149**	*e*SN		**Sn**	**12 12 34.5**	**-1.3**
MODS	**Modra-Piesok**	**2.23**	**207**	*e*SG		**Sg**	**12 12 43.8**	**+1.5**
CRVS	**Cervenica-Dubn**	**2.27**	**129**	*e*PN		**Pb**	**12 12 13.0**	**+0.7**
CRVS				*e*SG		**Sg**	**12 12 44.3**	**+1.0**
GOPC	**GO Pecny, Ondr**	**2.62**	**261**	*e*PG		**Pb**	**12 12 19.0**	**+0.6**
GOPC				*e*SG		**Sg**	**12 12 53.9**	**-0.9**
	comp=Z,14nm,0.5s								
KOLS	**Kolonicke sedl**	**2.67**	**121**	*e*PG		**Pg**	**12 12 23.4**	**+1.7**
PRU	**Pruhonice**	**2.77**	**264**	*e*SG		**Sg**	**12 12 59.0**	**-0.3**
	comp=Z,7.0nm,0.4s								
CONA	**Conrad Observa**	**3.12**	**219**	*i* Pn		**Pn**	**12 12 21.3**	**+0.4**
	0.2nm,0.1s								
CONA				*e*Sn		**Sn**	**12 13 00.5**	**+1.6**
	2.3nm,0.3s								
BRG	**Berggiesshubel**	**3.14**	**281**	PG		**Pg**	**12 12 31.1**	**+0.6**
BRG				SG		**Sg**	**12 13 11.4**	**+0.2**
	7.5nm,0.5s								
KHC	**Kasperske Hory**	**3.61**	**252**	*e*PN		**Pn**	**12 12 27.9**	**+0.2**
KHC				*e*PG		**Pg**	**12 12 40.5**	**+0.9**
KHC				*e*SG		**Sg**	**12 13 24.3**	**-2.1**
	comp=Z,7.5nm,0.4s								
GERES	**GERESS Array B**	**3.65**	**247**	Pn		**Pn**	**12 12 29.1**	**+0.7**
	0.3nm,0.3s,baz=60,slow=16,SNR=3.8								
GERES				Pg		**Pb**	**12 12 35.9**	**-0.1**
	0.9nm,0.3s,baz=61,slow=15,SNR=12								
GERES				Sn		**Sb**	**12 13 17.8**	**-3.0**
	0.8nm,0.3s,baz=72,slow=23,SNR=2.6								
GERES				Lg	Lg		12 13 27.8		
	2.0nm,0.3s,baz=68,slow=29,SNR=21								
CLL	**Collm**	**3.79**	**287**	*e*Pg		**Pg**	**12 12 44.0**	**+0.8**
CLL				*e*Sn		**Sb**	**12 13 25.0**	**+0.2**
CLL				*i* Sg		**Sg**	**12 13 34.8**	**+2.5**
	comp=Z,11nm,0.7s								
MOA	**Molln**	**3.91**	**231**	*i* Pn		**Pn**	**12 12 33.6**	**+1.8**
	comp=Z,0.5nm,0.1s								
MOA				*e*Sn		**Sb**	**12 13 24.3**	**-3.7**
	comp=Z,1.5nm,0.2s								
FINES	**FINESS Array B**	**11.81**	**17**	Pn		**Pn**	**12 14 17.2**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=196,slow=13,SNR=7.8								
ARCES	**ARCESS Array B**	**19.49**	**7**	Pn		**P**	**12 15 57.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=5.3								

*IDC **09** 12:12:28.9±1.4, 10°.22N×94°.24E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/50, mbtmp3.6/7, ML3.8/1, MS3.6/3, Ms1 3.6/3, ms1mx2.8/37, Error ellipse: s-maj=55.0km s-min=23.8km az=52.0*

ISC 09 12:12:32.6±1.2, 10°.2N±0°.2×94°.2E±0°.2, h25km, n10, σ1^{9}50/7, mb3.6/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.43**	**29**	Pn	**Pn**	**12 14 47.6**	**+0.6**
	0.2nm,0.3s,baz=215,slow=16,SNR=2.2						
LEM	**Lembang**	**21.55**	**141**	LR	LR	12 27 04.9	
	comp=Z,58nm,21.5s,baz=130,slow=41						
MKAR	**Makanchi Array**	**37.87**	**347**	P	**P**	**12 19 46.4**	**-1.0**
	0.3nm,0.5s,baz=142,slow=6.1,SNR=3.9						
GEYT	**Alibeck**	**42.55**	**316**	P	**P**	**12 20 28.0**	**+1.6**
	2.7nm,0.5s,baz=126,slow=7.5,SNR=5.7						
WRA	**Warramunga Arr**	**49.58**	**127**	P	**P**	**12 21 23.6**	**+1.6**
	0.3nm,0.8s,baz=306,slow=8.9,SNR=2.4						
ASAR	**Alice Springs**	**51.37**	**131**	P	**P**	**12 21 34.5**	**-1.0**
	0.3nm,0.9s,baz=316,slow=6.6,SNR=3.0						
MA2	**Magadan**	**64.72**	**28**	LR	LR	12 51 47.5	
	comp=Z,166nm,21.7s,baz=346,slow=36						
FINES	**FINESS Array B**	**70.71**	**332**	P	**P**	**12 23 45.7**	**-0.5**
	0.6nm,0.7s,baz=93,slow=7.1,SNR=1.6						
ARCES	**ARCESS Array B**	**73.13**	**340**	LR	LR	12 58 31.0	
	comp=Z,23nm,18.2s,baz=58,slow=38						
ILAR	**Eielson Array**	**92.61**	**22**	P	**P**	**12 25 40.8**	**-1.0**
	0.2nm,0.6s,baz=304,slow=6.4,SNR=2.3						

*ATH **09** 12:34:40.0, 39°.19N×26°.05E, h21km±2km, ML2.3/7, Error ellipse: s-maj=2.7km s-min=1.2km az=262.0*
*ISK **09** 12:34:39.9, 39°.16N×26°.01E, h9km, ML2.7/12*
*DDA **09** 12:34:40.3, 39°.19N×26°.06E, h7km±2km, ML2.5*
*THE **09** 12:34:40.5, 39°.16N×26°.03E, h12km±1km, ML2.3/6, Error ellipse: s-maj=1.0km s-min=0.5km az=115.0*

ISC 09 12:34:40.4±0.8, 39°.18N±0°.02×26°.03E±0°.02, h14km±6km, n38, σ0^{8}57/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.14**	**284**	P	**Pb**	**12 34 44.5**	**-0.3**
SIGR				S	**Sg**	**12 34 46.5**	**0.0**
	1µm,0.3s						
SIGR	**SIGRI**	**0.14**	**284**	P	**Pb**	**12 34 44.6**	**-0.3**
SIGR				S	**Sg**	**12 34 47.0**	**+0.5**
SIGR				AML	AML	12 34 47.3	
	comp=E,2543µm,0.2s						
SIGR				AML	AML	12 34 48.5	
	comp=N,2354µm,0.3s						
PRK	**Paraskevi**	**0.20**	**70**	P	**Pb**	**12 34 45.3**	**-0.5**
PRK				S	**Sg**	**12 34 48.4**	**+0.5**
	comp=N,2µm,0.4s						
PRK	**Paraskevi**	**0.20**	**70**	P	**Pb**	**12 34 45.6**	**-0.2**
PRK				S	**Sg**	**12 34 48.1**	**+0.2**
PRK				AML	AML	12 34 49.9	
	comp=N,2985µm,0.4s						
PRK				AML	AML	12 34 51.3	
	comp=E,2616µm,0.3s						
AYVA	**Ayvalik**	**0.53**	**75**	*i* P	**Pg**	**12 34 50.5**	**-0.3**
AYVA				*i* S	**Sg**	**12 34 57.7**	**0.0**
BOZC	**Bozcaada**	**0.66**	**1**	PG	**Pb**	**12 34 53.7**	**0.0**
BOZC				SG	**Sb**	**12 35 03.3**	**+0.5**
BOZC	**Bozcaada**	**0.66**	**1**	*i* P	**Pg**	**12 34 53.2**	**-0.1**
BOZC				*i* P	**Pb**	**12 34 53.4**	**-0.4**
BOZC				*i* S	**Sg**	**12 35 01.9**	**-0.2**
BOZC				*i* S	**Sb**	**12 35 02.4**	**-0.5**
BOZC				IAML		12 35 04.0	
	comp=N,193nm,0.2s						
BOZC				IAML		12 35 04.0	
	comp=E,220nm,0.2s						
BOZC				IAML		12 35 04.0	
	comp=E,232nm,0.2s						
EZN	**Ezine**	**0.69**	**19**	P	**Pb**	**12 34 53.9**	**-0.2**
EZN				S	**Sb**	**12 35 04.2**	**+0.7**
	comp=E,250nm,0.1s						
EZN	**Ezine**	**0.69**	**19**	PG	**Pb**	**12 34 53.9**	**-0.2**
EZN				SG	**Sb**	**12 35 04.2**	**+0.7**
DKL	**Dikili**	**0.69**	**99**	PG	**Pb**	**12 34 54.3**	**+0.2**
DKL				SG	**Sb**	**12 35 04.1**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**0.69**	**35**	*i* P	**Pg**	**12 34 53.1**	**-0.7**
BAYC				*i* S	**Sg**	**12 35 02.7**	**-0.3**
BAYC				IAML		12 35 06.0	
	comp=E,177nm,0.1s						
PSRA	**Psara**	**0.73**	**210**	P	**Pg**	**12 34 54.3**	**-0.3**
PSRA				S	**Sb**	**12 35 05.9**	**+1.1**
PSRA				AML	AML	12 35 07.8	
	comp=E,1795µm,0.2s						
PSRA				AML	AML	12 35 08.8	
	comp=N,1335µm,0.3s						
CHOS	**Chios island**	**0.79**	**179**	P	**Pg**	**12 34 54.8**	**-0.9**
CHOS				S	**Sg**	**12 35 06.3**	**+0.2**
	comp=N,468nm,0.4s						
CHOS	**Chios island**	**0.79**	**179**	P	**Pg**	**12 34 55.0**	**-0.7**
CHOS				S	**Sb**	**12 35 06.6**	**+0.1**
CHOS				AML	AML	12 35 08.7	
	comp=E,1136µm,0.2s						
CHOS				AML	AML	12 35 10.7	
	comp=N,614µm,0.4s						
ZEDA	**zmir-Bergama**	**0.84**	**104**	*i* P	**Pg**	**12 34 56.4**	**-0.3**
ZEDA				*i* S	**Sg**	**12 35 06.7**	**-1.0**
ZEDA				IAML		12 35 09.0	
	comp=N,148nm,0.4s						
URLA	**Izmir**	**0.93**	**151**	PG	**Pb**	**12 34 58.5**	**+0.3**
URLA				SG	**Sb**	**12 35 10.9**	**+0.5**
URLA	**Izmir**	**0.93**	**151**	*i* P	**Pg**	**12 34 57.8**	**-0.5**
URLA				*i* S	**Sg**	**12 35 08.9**	**-1.6**
LIA	**Limnos Island**	**0.97**	**318**	P	**Pn**	**12 34 59.6**	**0.0**
LIA				S	**Sn**	**12 35 13.0**	**-0.2**
	comp=N,162nm,0.4s						
LIA	**Limnos Island**	**0.97**	**318**	P	**Pn**	**12 34 59.6**	**0.0**
LIA				S	**Sn**	**12 35 13.0**	**-0.2**
LIA				AML	AML	12 35 14.4	
	comp=N,268µm,0.4s						
LIA				AML	AML	12 35 14.9	
	comp=E,384µm,0.3s						
GOKA	**anakkale-Gk**	**1.02**	**355**	*i* P	**Pb**	**12 34 59.6**	**-0.1**
GOKA				*i* S	**Sb**	**12 35 13.5**	**+0.5**
GOKA				IAML		12 35 17.0	
	comp=N,281nm,0.3s						
GADA	**Gvkgeada**	**1.02**	**354**	P	**Pg**	**12 34 59.9**	**-0.1**
GADA				S	**Sn**	**12 35 14.4**	**+0.1**
GADA	**Gvkgeada**	**1.02**	**354**	PG	**Pb**	**12 34 59.7**	**-0.1**
GADA				SG	**Sn**	**12 35 14.6**	**+0.3**
BLCB	**Balcova**	**1.12**	**135**	PN	**Pb**	**12 35 01.5**	**0.0**
BLCB				SN	**Sn**	**12 35 17.6**	**+0.8**
GELI	**Tayfur-Gelibol**	**1.27**	**15**	PN	**Pg**	**12 35 04.5**	**-0.2**
GELI				SN	**Sg**	**12 35 22.3**	**+1.1**
LPK	**Lapseki**	**1.32**	**25**	PN	**Pb**	**12 35 04.9**	**0.0**
LPK				SN	**Sg**	**12 35 23.5**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.32**	**81**	*i* P	**Pg**	**12 35 05.7**	**-0.2**
STEP				*i* S	**Sb**	**12 35 21.6**	**-0.2**
STEP				IAML		12 35 24.0	
	comp=N,235nm,0.5s						
STEP				IAML		12 35 25.0	
	comp=E,211nm,0.4s						
SMTH	**Samothraki Isl**	**1.35**	**344**	P	**Pn**	**12 35 04.9**	**+0.1**
SMTH				S	**Sn**	**12 35 23.0**	**+0.5**
	comp=E,72nm,0.4s						
SMTH	**Samothraki Isl**	**1.35**	**344**	P	**Pb**	**12 35 05.6**	**+0.2**
SMTH				S	**Sg**	**12 35 23.5**	**-0.3**
SMTH				AML	AML	12 35 25.5	
	comp=E,118µm,0.3s						
SMTH				AML	AML	12 35 25.8	
	comp=N,151µm,0.3s						
BALY	**Balya**	**1.35**	**65**	*i* P	**Pg**	**12 35 06.2**	**-0.1**
BALY				*i* S	**Sb**	**12 35 22.4**	**-0.3**
BALY				IAML		12 35 25.0	
	comp=N,76nm,0.6s						
AKHS	**Akhisar**	**1.42**	**102**	*i* P	**Pb**	**12 35 06.4**	**-0.2**
BALB	**Balikesir**	**1.50**	**72**	PN	**Pb**	**12 35 07.8**	**-0.3**
ENEZ	**Enez**	**1.56**	**3**	PN	**Pb**	**12 35 08.9**	**-0.1**
ENEZ				SN	**Sg**	**12 35 29.4**	**-1.2**
SMG	**Samos**	**1.60**	**156**	P	**Pn**	**12 35 08.6**	**+0.4**
ALN	**Alexandroupoli**	**1.72**	**0**	P	**Pn**	**12 35 10.1**	**+0.2**
ALN				AML	AML	12 35 36.8	
	comp=E,72µm,0.3s						
ALN				AML	AML	12 35 37.0	
	comp=N,53µm,0.4s						
KESN	**Edirne-Kesan**	**1.72**	**17**	*i* P	**Pn**	**12 35 09.5**	**-0.7**
KESN				*i* S	**Sn**	**12 35 31.3**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.75**	**30**	PN	**Pb**	**12 35 11.5**	**-0.7**
EDC	**Edincik**	**1.83**	**50**	PN	**Pb**	**12 35 12.7**	**-1.0**
ARMT	**Armutlu**	**2.58**	**57**	PN	**Pn**	**12 35 23.5**	**+1.8**

*IDC **09** 12:37:30.4±1.2, 40°.18N×145°.10E, h0km, mb3.5/6, mb1 3.6/9, mb1mx3.5/32, mbtmp3.5/9, ML3.7/1, Error ellipse: s-maj=32.5km s-min=20.7km az=82.0*
*JMA **09** 12:37:31.2±0.3, 40°.47N×145°.50E, h55km, M3.9*

ISC 09 12:37:32.3±1.2, 40°.42N±0°.05×145°.45E±0°.08, h29km, n31, σ1^{8}75/45, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**2.35**	**313**	P	**Pn**	**12 38 08.4**	**-0.5**
JEM				*e*S	**Sn**	**12 38 35.3**	**-1.5**
JTHR	**Tokachihiroo**	**2.47**	**320**	P	**Pn**	**12 38 10.2**	**-0.4**
JAK	**Akkeshi**	**2.63**	**348**	P	**Pn**	**12 38 11.4**	**-1.4**
JAK				*e*S	**Sn**	**12 38 40.9**	**-2.9**
JKHN	**Kushirohamanak**	**2.67**	**355**	P	**Pn**	**12 38 12.3**	**-1.0**
JKHN				S	**Sn**	**12 38 42.1**	**-2.5**
JCH	**Churui**	**2.70**	**325**	P	**Pn**	**12 38 13.1**	**-0.6**
JCH				*e*S	**Sn**	**12 38 43.1**	**-2.2**
JNBK	**Urakawa-nobuka**	**2.75**	**313**	P	**Pn**	**12 38 14.9**	**+0.5**
JNBK				S	**Sn**	**12 38 46.4**	**-0.3**
JOB	**Onbets**	**2.76**	**334**	P	**Pn**	**12 38 13.9**	**-0.6**
JOB				S	**Sn**	**12 38 45.2**	**-1.7**
NEM2	**Nemuro 2**	**2.95**	**4**	P	**Pn**	**12 38 15.8**	**-1.3**
NEM2				*e*S	**Sn**	**12 38 49.0**	**-2.5**
JANG	**Nango**	**3.01**	**270**	P	**Pn**	**12 38 16.8**	**-1.2**
JAR	**Ashorobuto**	**3.14**	**337**	P	**Pn**	**12 38 18.5**	**-1.2**
JAR				*e*S	**Sn**	**12 38 53.4**	**-2.8**
JOM	**Ohasama**	**3.34**	**255**	P	**Pn**	**12 38 22.1**	**-0.4**
JOM				S	**Sn**	**12 38 58.6**	**-2.5**
JOT	**Ohata**	**3.47**	**287**	P	**Pn**	**12 38 24.0**	**-0.3**
JFR	**Furan**	**3.48**	**323**	P	**Pn**	**12 38 23.8**	**-0.6**
JFR				S	**Sn**	**12 39 01.5**	**-3.1**
JRA	**Rausu**	**3.52**	**356**	P	**Pn**	**12 38 23.8**	**-1.2**
JRA				*e*S	**Sn**	**12 39 01.8**	**-3.9**
JMK	**Ichinoseki**	**3.58**	**247**	P	**Pn**	**12 38 25.1**	**-0.7**
JMK				S	**Sn**	**12 39 02.9**	**-4.2**
JKB	**Kayabe**	**3.65**	**295**	P	**Pn**	**12 38 26.3**	**-0.4**
JKB				*e*S	**Sn**	**12 39 06.2**	**-2.5**
JTKR	**Abashiri--Toko**	**3.73**	**343**	P	**Pn**	**12 38 27.4**	**-0.4**
JTKR				*e*S	**Sn**	**12 39 08.9**	**-1.8**
JEW	**Eniwo**	**3.85**	**310**	P	**Pn**	**12 38 30.5**	**+0.9**
JEW				*e*S	**Sn**	**12 39 13.6**	**-0.2**
JKK2	**Kamakawa 2**	**3.99**	**331**	P	**Pn**	**12 38 31.5**	**0.0**
JYK	**Kaneyama**	**4.21**	**251**	P	**Pn**	**12 38 34.2**	**-0.3**
JYK				*e*S	**Sn**	**12 39 19.6**	**-3.0**
ASAJ	**Asahikawa**	**4.26**	**331**	Pn	**Pn**	**12 38 35.7**	**+0.6**
	3.4nm,0.3s,baz=182,slow=12,SNR=35						
ASAJ				Sn	**Sn**	**12 39 24.4**	**+0.6**
	2.3nm,0.3s,baz=85,slow=30,SNR=6.5						
JOMM	**Oshimamatsumae**	**4.27**	**287**	P	**Pn**	**12 38 35.7**	**+0.4**
JOSM	**Okushiri--Mats**	**4.80**	**292**	P	**Pn**	**12 38 42.2**	**-0.4**
MJAR	**Matsushiro Arr**	**6.88**	**238**	Pn	Pn	12 39 05.6	-5.5
	0.0nm,0.3s,baz=360,slow=37,SNR=1.3						
USRK	**Ussuriysk Ar.**	**10.66**	**295**	Pn	**Pn**	**12 40 02.8**	**-0.2**
	baz=170,slow=27,SNR=3.3						
SONM	**Songino Array**	**28.75**	**298**	P	**P**	**12 43 29.7**	**+2.4**
	0.9nm,0.7s,baz=113,slow=11,SNR=1.6						
ILAR	**Eielson Array**	**44.93**	**34**	P	P	12 45 49.0	+4.8
	0.4nm,0.8s,baz=253,slow=6.4,SNR=3.0						
MKAR	**Makanchi Array**	**45.08**	**300**	P	**P**	**12 45 46.9**	**+1.3**
	0.3nm,0.7s,baz=87,slow=8.8,SNR=2.2						
WRA	**Warramunga Arr**	**60.94**	**192**	P	**P**	**12 47 43.4**	**+0.8**
	0.5nm,0.5s,baz=8.5,slow=6.8,SNR=12						
ASAR	**Alice Springs**	**64.66**	**192**	P	**P**	**12 48 07.7**	**+0.4**
	0.3nm,0.7s,baz=13,slow=6.7,SNR=5.5						
FINES	**FINESS Array B**	**67.26**	**333**	P	P	12 48 27.5	+3.9
	0.6nm,0.7s,baz=46,slow=8.2,SNR=5.1						

WEL 09 12:39:02.5±0.9, 34°S±10°×17°9W±1°6, h200km±23km, M4.2/13, mB4.3/1, ML4.2/6, MLv4.2/13, Mw(mB)3.4/1, Error ellipse: s-maj=0.0km s-min=0.0km az=115.8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.91**	**212**	P	Pn	12 40 01.7	-1.4
MXZ				S	S	12 40 51.7	+1.5
HAZ	**Te Kaha**	**4.31**	**215**	P	Pn	12 40 07.6	-0.5
HAZ				S	S	12 41 00.2	+1.0
PUZ	**Puketiti**	**4.37**	**209**	P	Pn	12 40 08.7	-0.1
PUZ				S	S	12 41 01.1	+0.6
RUGZ	**Raukumara Rang**	**4.53**	**215**	P	Pn	12 40 09.4	-1.5
RUGZ				S	S	12 41 05.6	+1.2
CNGZ	**Carnagh Statio**	**4.74**	**207**	P	Pn	12 40 15.0	+1.5
TKGZ	**Te Karaka**	**4.84**	**210**	P	Pn	12 40 13.9	-0.9
MWZ	**Matawai**	**4.90**	**213**	P	Pn	12 40 13.4	-2.1
MWZ				S	S	12 41 14.5	+1.8
KUZ	**Kuaotunu**	**4.91**	**238**	P	Pn	12 40 15.2	-0.5
URZ	**Urewera**	**5.03**	**217**	P	Pn	12 40 15.9	-1.3
URZ				S	S	12 41 15.3	-0.5
RAGZ	**Rawiri**	**5.08**	**213**	P	Pn	12 40 18.1	+0.2
RAGZ				S	S	12 41 18.0	+1.0
GLKZ	**Green Lake**	**5.09**	**11**	P	Pn	12 40 18.9	+0.8
MUGZ	**Murupara**	**5.37**	**217**	P	Pn	12 40 22.2	+0.6
MUGZ				S	S	12 41 24.6	+0.9
TOZ	**Tahuroa Road**	**5.59**	**230**	P	Pn	12 40 26.1	+1.7
MTHZ	**Maungataniwha**	**5.63**	**215**	P	Pn	12 40 25.7	+0.7
MTHZ				S	S	12 41 30.7	+0.9
WCZ	**Waipu Caves**	**5.64**	**251**	P	Pn	12 40 24.4	-0.7
NMHZ	**Naumai**	**5.84**	**213**	P	Pn	12 40 27.6	-0.2
NMHZ				S	S	12 41 36.2	+1.4
BKZ	**Black Stump Fm**	**6.04**	**215**	P	Pn	12 40 31.5	+1.2

*IDC **09** 12:40:07.0±0.8, 23°.10S×70°.72W, h0km, mb4.3/9, mb1 4.2/11, mb1mx4.0/30, mbtmp4.2/11, ML4.3/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/25, Error ellipse: s-maj=25.3km s-min=17.7km az=140.0*
*SJA **09** 12:40:09.3±0.8, 23°.11S×70°.70W, h28km±2km, ML4.4, MW4.3*
*NEIC **09** 12:40:09.2±1.8, 23°.13S±0°.04×70°.85W±0°.04, h26km±5km, mb4.5/8, Mwr4.0/46, ML4.2(GUC), Error ellipse: s-maj=6.0km s-min=4.5km az=131.0*
*NEIC **09** 12:40:09.1, 23°.11S×70°.89W, h31km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.39; $M_{\theta\theta}$-0.00; $M_{\phi\phi}$-1.39; $M_{r\theta}$0.00; $M_{\theta\phi}$0.39; $M_{r\phi}$0.03; Fault plane solution: $M_0$1.44000×10^{15} NP1:ϕ_s165.04000°, δ44.52000°, λ89.55000°. NP2:ϕ_s345.67000°, δ45.49000°, λ90.44000°. Principal axes: T 1.3908, Plg90.0000°, Azm-72.0000°; N 0.1000, Plg0.0000°, Azm165.0000°; P -1.4908, Plg0.0000°, Azm75.0000°;*
*GUC **09** 12:40:10.0±0.7, 23°.15S×70°.65W, h42km±1km, ML4.2*

ISC 09 12:40:08.6±1.2, 23°.11S±0°.02×70°.84W±0°.05, h17km±7km, n106, σ1^{9}23/119, mb4.4/11, 6C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB10	**IPOC Station P**	**0.49**	**147**	⇓*i* P	**Pg**	**12 40 19.4**	**+0.9**
PB10				*i* S	**Sg**	**12 40 25.4**	**+0.4**
PB10				IAML		12 40 26.8	
	comp=E,26µm,0.4s						
PB10	**IPOC Station P**	**0.49**	**147**		**Pg**	**12 40 19.3**	**+0.9**
PB10				Sg	**Sg**	**12 40 25.6**	**+0.6**
PB10	**IPOC Station P**	**0.49**	**147**	*e*P	**Pg**	**12 40 19.3**	**+0.9**
PB10				*e*S	**Sg**	**12 40 25.6**	**+0.6**
PB05	**IPOC Station P**	**0.64**	**67**	⇓*i* P	**Pg**	**12 40 21.0**	**-0.3**
PB05	**IPOC Station P**	**0.64**	**67**	*e*P	**Pg**	**12 40 20.9**	**-0.5**
PB05				*e*S	**Sg**	**12 40 28.8**	**-1.1**
PB04	**IPOC Station P**	**1.00**	**40**	⇓*i* P	**Pg**	**12 40 27.5**	**-0.5**
PB04				*i* S	**Sg**	**12 40 40.4**	**-0.9**
PB04				IAML		12 40 44.5	
	comp=N,8µm,0.5s						
PB04	**IPOC Station P**	**1.00**	**40**		**Pg**	**12 40 27.4**	**-0.7**
PB04					**Sg**	**12 40 41.2**	**0.0**
PB04	**IPOC Station P**	**1.00**	**40**	*e*P	**Pg**	**12 40 27.5**	**-0.5**
PB04				*e*S	**Sg**	**12 40 41.0**	**-0.2**
PB04				IAML		12 40 48.0	
	comp=Z,5µm,0.5s						
PB06	**IPOC Station P**	**1.24**	**72**	*i* P	**Pn**	**12 40 30.2**	**-1.1**
PB06				*i* S	**Sb**	**12 40 44.6**	**-2.8**
PB06				IAML		12 40 48.8	
	comp=E,6µm,0.3s						
PB06	**IPOC Station P**	**1.24**	**72**		**Pn**	**12 40 30.3**	**-0.9**
P

AC01	**Pan de Azucar**	**3.04**	**176**		Pn		**Pn**	**12 40 55.4**	**-0.6**
PB08	**IPOC Station P**	**3.34**	**28**				**Pn**	**12 41 00.7**	**+0.3**
PB11	**IPOC Station P**	**3.51**	**19**		Pn		**Pn**	**12 41 01.8**	**-0.7**
PSGCX	**Pisagua**	**3.56**	**11**				**Pn**	**12 41 03.1**	**0.0**
GO01	**Chusmiza**	**3.75**	**25**				**Pn**	**12 41 07.4**	**+1.3**
AC02	**Maricunga**	**4.03**	**158**	*i*	S		**Sn**	**12 41 56.6**	**-0.4**
AC02	**Maricunga**	**4.03**	**158**		Pn		**Pn**	**12 41 12.0**	**+2.0**
MNMC	**Minye Minye**	**4.12**	**17**				**Pn**	**12 41 11.5**	**+0.5**
PB12	**IPOC Station P**	**4.49**	**6**		Pn		**Pn**	**12 41 16.4**	**+0.4**
GO03	**Copiap**	**4.50**	**173**	*eP*			**Pn**	**12 41 15.7**	**-0.4**
GO03	**Copiap**	**4.50**	**173**				**Pn**	**12 41 15.5**	**-0.6**
GO03	**Copiap**	**4.50**	**173**	*eP*			**Pn**	**12 41 16.2**	**+0.1**
GO03				*eS*			**Sn**	**12 42 07.5**	**-0.6**
PB16	**IPOC Station P**	**4.91**	**15**				**Pn**	**12 41 23.4**	**+1.3**
AC04	**Llanos de Chal**	**5.08**	**182**				**Pn**	**12 41 22.4**	**-1.6**
AC05	**El Transito**	**5.73**	**175**				**Pn**	**12 41 32.6**	**-0.4**
LCO	**Las Campanas**	**5.88**	**179**		Pn		**Pn**	**12 41 34.0**	**-1.3**
VCA	**Vinchina**	**6.09**	**158**	*eP*			**Pn**	**12 41 40.4**	**+2.4**
VCA					IAML			12 43 10.1	
	comp=Z,182nm,1.6s								
AHML	**Horco Molle**	**6.20**	**127**	*eP*			**Pn**	**12 41 41.6**	**+2.2**
CO01	**Juntas del Tor**	**6.88**	**175**				**Pn**	**12 41 46.6**	**-2.3**
GO04	**Tololo Observa**	**7.04**	**180**				**Pn**	**12 41 49.6**	**-1.5**
AROD	**Rodeo**	**7.14**	**170**	*eP*			**Pn**	**12 41 53.7**	**+1.1**
ACLC	**CERRO LA CRUZ**	**7.20**	**152**	*eP*			**Pn**	**12 41 54.0**	**+0.7**
ACLC					IAML			12 43 29.7	
	comp=Z,43nm,0.7s								
ACDV	**Cuesta del Vie**	**7.20**	**168**	*eP*			**Pn**	**12 41 55.0**	**+1.7**
ACDV					IAML			12 43 57.2	
	comp=Z,66nm,0.9s								
LPAZ	**La Paz**	**7.25**	**21**		Pn		**Pn**	**12 41 57.2**	**+2.9**
	comp=Z,0.7nm,0.3s,baz=224,slow=4.4,SNR=12								
LPAZ					LR		LR	12 44 58.7	
	comp=Z,177nm,21.4s,baz=194,slow=40								
LPAZ	**La Paz**	**7.25**	**21**		Pn		**Pn**	**12 41 56.9**	**+2.6**
CO03	**El Pedregal**	**7.71**	**179**				**Pn**	**12 41 58.9**	**-1.2**
CO02	**Combarbal**	**8.07**	**181**		Pn		**Pn**	**12 42 03.6**	**-1.5**
PEL	**Peldehue**	**10.00**	**179**		Pn		**Pn**	**12 42 30.4**	**-1.2**
MT02	**Curacav**	**10.12**	**181**		Pn		**Pn**	**12 42 31.6**	**-1.6**
SIV	**San Ignacio**	**11.61**	**54**		Pn		**Pn**	**12 42 52.0**	**-1.7**
	comp=Z,1.4nm,0.3s,baz=257,slow=9.0,SNR=22								
SIV					Sn		**Sn**	**12 45 03.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=142,slow=23,SNR=1.2								
SIV					LR		LR	12 48 06.7	
	comp=Z,265nm,18.5s,baz=282,slow=42								
GO05	**Huala**	**11.90**	**184**		Pn		**Pn**	**12 42 55.1**	**-2.4**
NNA	**Nana**	**12.45**	**332**		LR		LR	12 47 19.9	
	comp=Z,71nm,19.7s,baz=170,slow=35								
H03N1	**Juan Fernandez**	**12.51**	**213**		T		T	12 56 08.1	
	baz=39,slow=72,SNR=708								
H03N2	**Juan Fernandez**	**12.52**	**213**		T		T	12 56 09.7	
	baz=39,slow=72,SNR=562								
H03N3	**Juan Fernandez**	**12.52**	**213**		T		T	12 56 05.1	
	baz=39,slow=72,SNR=862								
CPUP	**Villa Florida**	**12.70**	**107**		Pn		**Pn**	**12 43 07.7**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=283,slow=11,SNR=2.2								
CPUP					LR		LR	12 48 32.5	
	comp=Z,263nm,19.1s,baz=278,slow=40								
PLCA	**Paso Flores**	**17.58**	**179**		LR		LR	12 51 10.5	
	comp=Z,148nm,20.4s,baz=314,slow=38								
PLCA	**Paso Flores**	**17.58**	**179**		Pn		**Pn**	**12 44 10.2**	**-2.6**
PTGA	**Pitinga**	**24.62**	**27**		P		**P**	**12 45 28.8**	**+0.5**
PTGA					IAmb		IAmb	12 45 35.0	
	comp=Z,7.9nm,1.3s								
RCBR	**Riachuelo**	**37.79**	**68**		P		**P**	**12 47 24.6**	**+0.3**
	comp=Z,11nm,0.9s,baz=249,slow=14,SNR=2.1								
VNA3	**Neumayer Olymp**	**59.15**	**161**		P		**P**	**12 50 09.1**	**+1.1**
SWET	**Sewanee**	**59.74**	**346**		P		**P**	**12 50 11.1**	**-1.4**
VNA2	**Neumayer--Watz**	**59.75**	**160**		P		**P**	**12 50 13.2**	**+1.1**
	baz=292,slow=8.3								
TX31	**Lajitas Ar. Si**	**60.96**	**327**		P		**P**	**12 50 18.8**	**-2.2**
TX31					IAmb		IAmb	12 50 20.9	
	comp=Z,7.0nm,1.4s								
SNAA	**Sanae**	**61.36**	**160**		P		**P**	**12 50 23.9**	**+0.7**
SNAA	**Sanae**	**61.36**	**160**		P		**P**	**12 50 24.2**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=282,slow=7.8,SNR=29								
QSPA	**South Pole Qui**	**67.09**	**180**		P		**P**	**12 51 02.6**	**+1.7**
	comp=Z,1.5nm,0.5s,baz=331,slow=1.3,SNR=30								
QSPA	**South Pole Qui**	**67.09**	**180**		IAmb		IAmb	12 51 03.6	
	comp=Z,3.1nm,1.1s								
DBIC	**Dimbokro**	**70.90**	**74**		P		**P**	**12 51 24.9**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=225,slow=7.1,SNR=1.9								
PDAR	**Pinedale Array**	**74.63**	**331**		P		**P**	**12 51 49.0**	**+1.9**
	comp=Z,0.1nm,0.4s,baz=130,slow=8.4,SNR=1.9								
TORD	**Torodi Ar. Bea**	**79.58**	**71**		P		**P**	**12 52 15.1**	**-0.2**
	comp=Z,2.6nm,0.5s,baz=257,slow=5.0,SNR=35								
MAW	**Mawson**	**83.31**	**164**		P		**P**	**12 52 35.0**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=221,slow=7.5,SNR=4.1								
MAW	**Mawson**	**83.31**	**164**		IAmb		IAmb	12 52 40.5	
	comp=Z,1.4nm,1.2s								
BOSA	**Boshof**	**84.27**	**119**		P		**P**	**12 52 40.1**	**+0.1**
	comp=Z,2.5nm,1.0s,baz=248,slow=6.5,SNR=2.4								
BOSA	**Boshof**	**84.27**	**119**		IAmb		IAmb	12 52 44.0	
	comp=Z,8.2nm,1.4s								
YKA	**Yellowknife Ar**	**92.11**	**341**		P		**P**	**12 53 17.8**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=142,slow=4.4,SNR=3.1								
H11S2	**WAKE ISLAND Hyl**	**26.29**	**277**		T		T	15 18 27.7	
	baz=106,slow=75								
H11S1	**WAKE ISLAND Hyl**	**26.30**	**277**		T		T	15 18 28.4	
	baz=106,slow=75								
H11S3	**WAKE ISLAND Hyl**	**26.31**	**277**		T		T	15 18 28.4	
	baz=106,slow=75								
H11N3	**WAKE ISLAND Hyl**	**26.42**	**278**		T		T	15 18 34.6	
	baz=106,slow=75								
H11N2	**WAKE ISLAND Hyl**	**26.43**	**278**		T		T	15 18 36.5	
	baz=106,slow=75								
H11N1	**WAKE ISLAND Hyl**	**26.43**	**278**		T		T	15 18 35.7	
	baz=106,slow=75								
ASAR	**Alice Springs**	**127.66**	**209**		PKP		**PKPdf**	**12 59 14.5**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=128,slow=1.5,SNR=7.4								
WRA	**Warramunga Arr**	**130.66**	**212**		PKP		**PKiKP**	**12 59 20.7**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=151,slow=1.7,SNR=8.9								
ZALV	**Zalesovo Beam**	**144.16**	**25**		PKP		**PKPdf**	**12 59 43.6**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=321,slow=4.7,SNR=3.9								
MKAR	**Makanchi Array**	**147.98**	**36**		PKPbc		**PKPbc**	**12 59 54.1**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=338,slow=2.7,SNR=13								
LZH	**Lanzhou**	**166.27**	**18**	*ePKP*			**PKPdf**	**13 00 09.8**	**-3.6**
LZH					pPKP		sPKPdf	13 00 21.5	+1.9
LZH					sPKP			13 00 25.2	

*NEIC **09** 12:47:54.4±1.9,55°.2S±0°.1×28°.7W±0°.2,h10km±1km, mb4.5/11,Error ellipse: s-maj=25.9km s-min=13.9km az=220.0*
*IDC **09** 12:47:54.0±0.8,55°.20S×28°.54W,h0km,mb4.1/4, mb1 4.2/5,mb1mx3.9/24,mbtmp4.1/5,ML4.2/1,MS3.6/3, Ms1 3.5/3,ms1mx3.1/17,Error ellipse: s-maj=38.3km s-min=14.1km az=67.0*
ISC 09 12:47:54.9±0.7,55°.2S±0°.1×28°.7W±0°.1,h10km,n29, σ1s51/28,mb4.3/8,MS3.5/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**4.61**	**278**			**Pn**	**12 49 04.5**	**-0.1**
HOPE				Sn		**Sn**	**12 49 57.3**	**-0.9**
VNA1	**Neumayer--Stat**	**17.94**	**158**	P		**P**	**12 52 09.3**	**+4.7**
VNA3	**Neumayer Olymp**	**18.11**	**160**	P		**P**	**12 52 08.3**	**+1.7**
VNA2	**Neumayer--Watz**	**18.33**	**158**	P		**Pn**	**12 52 08.0**	**-1.0**
	baz=317,slow=13							
SNAA	**Sanae**	**19.90**	**156**	P		**P**	**12 52 25.1**	**-1.2**
SNAA	**Sanae**	**19.90**	**156**	P		**P**	**12 52 25.5**	**-0.7**
	0.8nm,0.3s,baz=302,slow=10,SNR=32							
SNAA				S		**Sn**	**12 56 11.1**	**-0.1**
	0.0nm,0.3s,baz=348,slow=7.3,SNR=1.5							
SNAA	**Sanae**	**19.90**	**156**	P		**P**	**12 52 25.0**	**-1.2**
QSPA	**South Pole Qui**	**35.09**	**180**	P		**P**	**12 54 47.5**	**-0.4**
	1.8nm,0.6s,baz=179,slow=2.4,SNR=20							
QSPA	**South Pole Qui**	**35.09**	**180**	P		**P**	**12 54 48.5**	**+0.5**
CPUP	**Villa Florida**	**35.59**	**312**	P		**P**	**12 54 53.2**	**+0.9**
	1.5nm,0.6s,baz=167,slow=4.7,SNR=3.8							
CPUP	**Villa Florida**	**35.59**	**312**	P		**P**	**12 54 54.3**	**+1.9**
CPUP				IAmb		IAmb	12 55 16.2	
	comp=Z,4.2nm,1.1s							
MT02	**Curacav**	**36.70**	**289**	P		**P**	**12 55 03.1**	**+1.2**
CO02	**Combarbal**	**38.21**	**291**	P		**P**	**12 55 14.0**	**-0.9**
CO03	**El Pedregal**	**38.33**	**292**	P		**P**	**12 55 16.2**	**+0.4**
CO03				IAmb		IAmb	12 55 21.4	
	comp=Z,8.8nm,1.2s							
GO04	**Tololo Observa**	**38.91**	**292**	P		**P**	**12 55 19.8**	**-1.0**
GO04				IAmb		IAmb	12 55 27.0	
	comp=Z,42nm,1.5s							
LVC	**Limon Verde**	**44.12**	**301**	P		**P**	**12 56 03.0**	**-0.8**
LVC				IAmb		IAmb	12 56 05.3	
	comp=Z,111nm,1.2s							
BOSA	**Boshof**	**46.59**	**78**	LR		LR	13 11 33.9	
	comp=Z,52nm,19.9s,baz=205,slow=30							
LPAZ	**La Paz**	**49.17**	**306**	P		**P**	**12 56 45.6**	**+1.9**
	comp=Z,1.5nm,0.6s,baz=159,slow=6.1,SNR=6.0							
LPAZ	**La Paz**	**49.17**	**306**	P		**P**	**12 56 41.1**	**-2.6**
LPAZ				IAmb		IAmb	12 57 07.7	
	comp=Z,4.0nm,1.1s							
CASY	**Casey**	**55.02**	**161**	P		**P**	**12 57 25.1**	**-0.8**
CASY				IAmb		IAmb	12 57 36.4	
	comp=Z,18nm,1.4s							
DBIC	**Dimbokro**	**64.73**	**26**	LR		LR	13 20 11.5	
	comp=Z,27nm,20.7s,baz=152,slow=30							
TORD	**Torodi Ar. Bea**	**72.71**	**31**	P		**P**	**12 59 23.6**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=198,slow=6.1,SNR=9.7							
TORD	**Torodi Ar. Bea**	**72.71**	**31**	P		**P**	**12 59 21.2**	**-1.7**
KEST	**Kesra**	**96.22**	**30**	LR		LR	13 40 00.8	
	comp=Z,45nm,19.4s,baz=285,slow=32							
ASAR	**Alice Springs**	**100.08**	**164**	P		**Pdif**	**13 01 42.4**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=180,slow=5.5,SNR=5.3							
FINES	**FINESS Array B**	**124.00**	**28**	PKP		**PKiKP**	**13 06 51.9**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=48,slow=2.8,SNR=4.6							
YKA	**Yellowknife Ar**	**134.95**	**319**	PKP		**PKPdf**	**13 07 12.6**	**0.0**
	comp=Z,0.6nm,0.8s,baz=140,slow=1.5,SNR=4.6							
ILAR	**Eielson Array**	**148.89**	**313**	PKPbc		**PKiKP**	**13 07 42.1**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=124,slow=1.9,SNR=40							
SONM	**Songino Array**	**151.51**	**86**	PKPbc		**PKiKP**	**13 07 48.7**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=190,slow=3.5,SNR=4.6							

*RSNC **09** 12:56:59.8±1.1,3°.88N×71°.59W,h1km±6km,ML3.5,Mw3.7*
*IDC **09** 12:57:04.6±1.5,2°.11N×75°.04W,h0km,mb3.4/1,mb1 3.7/2, mb1mx3.4/26,mbtmp3.4/2,ML3.8/1,Error ellipse: s-maj=47.7km s-min=18.2km az=100.0*
ISC 09 12:56:57.7±1.9,3°.89N±0°.04×71°.52W±0°.06,h4km±11km, n28,σ1s88/50,2C,Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PTGC	**Puerto Gaitan,**	**0.68**	**297**	*i*	*P*	**Pg**	**12 57 10.6**	**-0.2**
PTGC					*eS*	**Sg**	**12 57 19.9**	**+0.2**
PTGC					*i*		12 57 33.3	
	comp=Z,1μm,0.3s							
GUVC	**San Jose del G**	**1.73**	**220**		*eP*	**Pn**	**12 57 28.8**	**+0.2**
GUVC					*eS*	**Sn**	**12 57 51.6**	**+0.4**
GUVC					*i*		12 57 58.2	
	comp=Z,818nm,0.2s							
VILC	**Villavicencio,**	**2.18**	**276**		*eP*	**Pn**	**12 57 35.9**	**+1.1**
VILC					*eS*	**Sn**	**12 58 02.6**	**+0.2**
VILC					*i*		12 58 08.7	
	comp=Z,764nm,0.3s							
CHIC	**Chingaza**	**2.32**	**288**	*i*	*P*	**Pn**	**12 57 38.1**	**+1.0**
CHIC					*eS*	**Sn**	**12 58 07.5**	**+1.2**
CHIC					*i*		12 58 11.5	
	comp=Z,368nm,0.5s							
RUSC	**La Rusia**	**2.52**	**322**		*eP*	**Pn**	**12 57 41.0**	**+1.1**
RUSC					*eS*	**Sn**	**12 58 13.6**	**+2.2**
TAMC	**Tame, Arauca**	**2.54**	**354**		*eP*	**Pn**	**12 57 41.0**	**+1.2**
TAMC					*eS*	**Sn**	**12 58 12.8**	**+1.6**
TAMC					*i*		12 58 27.6	
	comp=Z,294nm,0.5s							
MACC	**Macarena, Meta**	**2.90**	**233**		*eP*	**Pn**	**12 57 45.4**	**+0.8**
MACC					*eS*	**Sb**	**12 58 24.4**	**-1.4**
MACC					*i*		12 58 37.1	
	comp=Z,288nm,0.5s							
ROSC	**El Rosal**	**2.95**	**289**	Pn		**Pn**	**12 57 47.3**	**+1.7**
	comp=Z,8.4nm,0.3s,baz=329,slow=14,SNR=9.5							
ROSC				Pg		**Pg**	**12 57 56.1**	**+1.9**
	comp=Z,28nm,0.3s,baz=121,slow=11,SNR=23							
ROSC				Lg		Lg	12 58 34.1	
	comp=Z,24nm,0.3s,baz=73,slow=22,SNR=2.6							
ROSC	**El Rosal**	**2.95**	**289**		*eP*	**Pn**	**12 57 46.6**	**+1.0**
ROSC					*i*		12 58 43.6	
	comp=Z,98nm,0.5s							
SPBC	**San Pablo de B**	**3.09**	**305**		*eP*	**Pn**	**12 57 46.9**	**-0.4**
SPBC					*eS*	**Sn**	**12 58 18.5**	**-6.2**
SPBC					*i*		12 58 40.2	
	comp=Z,145nm,0.3s							
BARC	**Barichara**	**3.15**	**328**		*eP*	**Pn**	**12 57 48.6**	**+0.3**
BARC					*eS*	**Sb**	**12 58 35.5**	**+2.2**
BARC					*i*		12 58 43.2	
	comp=Z,277nm,0.4s							
PRAC	**Prado**	**3.36**	**267**		*eP*	**Pn**	**12 57 52.7**	**+1.7**
PRAC					*eS*	**Sn**	**12 58 33.5**	**+2.0**
PRAC					*i*		12 58 59.0	
	comp=Z,80nm,0.7s							
PAMC	**Pamplona, Colo**	**3.62**	**341**		*eP*	**Pn**	**12 57 55.7**	**+0.7**
PAMC					*eS*	**Sn**	**12 58 37.9**	**-0.6**
PAMC					*i*		12 58 54.7	
	comp=Z,108nm,0.3s							
ORTC	**Ortega, Tolima**	**3.72**	**270**		*eP*	**Pn**	**12 57 56.8**	**+0.8**
ORTC					*eS*	**Sb**	**12 58 52.6**	**+3.1**
ORTC					*i*		12 59 02.7	
	comp=Z,116nm,0.4s							
NORC	**Norcasia**	**3.73**	**297**		*eP*	**Pn**	**12 57 56.7**	**+0.6**
NORC					*eS*	**Sn**	**12 58 41.2**	**+0.7**
NORC					*i*		12 58 55.3	
	comp=Z,48nm,0.3s							
TOLC	**Tolima**	**3.85**	**280**		*eP*	**Pn**	**12 57 59.2**	**+1.2**
TOLC					*eS*	**Sb**	**12 58 53.8**	**+0.2**
TOLC					*i*		12 59 06.8	
	comp=Z,222nm,0.6s							
BRRC	**Barranca, Sant**	**3.87**	**326**		*eP*	**Pn**	**12 57 58.5**	**+0.6**
BRRC					*eS*	**Sn**	**12 58 43.4**	**-0.6**
BRRC					*i*		12 59 09.9	
	comp=Z,57nm,0.4s							
ANIL	**Santa Ana**	**3.92**	**279**		*eP*	**Pn**	**12 57 57.4**	**-1.5**
ANIL					*eS*	**Sb**	**12 58 51.5**	**-3.9**
ANIL					*i*		12 59 07.9	
	comp=Z,23nm,0.3s							
GUY2C	**Guyana, Caldas**	**4.05**	**289**		*eP*	**Pn**	**12 58 02.1**	**+1.1**
GUY2C					*eS*	**Sn**	**12 58 48.7**	**-0.4**
GUY2C					*i*		12 59 05.3	
	comp=Z,48nm,0.7s							
GARC	**Garzon, Huila**	**4.31**	**247**		*eP*	**Pn**	**12 58 04.9**	**+0.5**
GARC					*eS*	**Sn**	**12 58 55.2**	**0.0**
MARP	**Paez Belalcaza**	**4.55**	**257**		*eP*	**Pb**	**12 58 15.2**	**-3.0**
MARP					*eS*	**Sb**	**12 59 18.3**	**+4.7**
MARP					*i*		12 59 23.7	
	comp=Z,24nm,0.4s							
HELC	**Santa Helena**	**4.60**	**300**		*eP*	**Pn**	**12 58 08.8**	**+0.4**
HELC					*eS*	**Sn**	**12 59 01.2**	**-1.3**
HELC					*i*		12 59 30.7	
	comp=Z,15nm,0.5s							
FLOC	**Florencia**	**4.72**	**241**		*eP*	**Pn**	**12 58 11.4**	**+1.6**
FLOC					*eS*	**Sb**	**12 59 18.9**	**+0.6**
FLOC					*i*		12 59 33.0	
	comp=Z,84nm,0.4s							
ZARC	**Zaragoza, Cauc**	**4.88**	**317**		*eP*	**Pn**	**12 58 11.1**	**-0.8**
ZARC					*eS*	**Sn**	**12 59 05.8**	**-3.1**
ZARC					*i*		12 59 28.2	
	comp=Z,24nm,0.5s							
LPAZ	**La Paz**	**20.33**	**171**	P		**P**	**13 01 34.0**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=355,slow=12,SNR=2.2							
TXAR	**Lajitas Array**	**39.60**	**313**	P		P	13 04 27.6	-3.0
	comp=Z,0.4nm,0.7s,baz=123,slow=9.1,SNR=5.7							
ASAR	**Alice Springs**	**148.55**	**229**	PKP		**PKPdf**	**13 16 42.9**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=119,slow=3.7,SNR=5.0							
WRA	**Warramunga Arr**	**150.17**	**236**	PKPbc		**PKPdf**	**13 16 48.1**	**+2.3**
	comp=Z,0.8nm,0.9s,baz=109,slow=2.9,SNR=6.7							

BEO 09 13:09:54.4±0.3,44°.14N×19°.80E,h0km,ML1.5/6, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DIVS	**Divibare**	**0.14**	**108**	*eP*		Pg	13 09 56.4	-0.7
DIVS				*eS*		Sg	13 09 58.4	-0.6
BBLS	**Lazići**	**0.40**	**226**	*eP*		Pg	13 10 01.4	-0.6
BBLS				*eS*		Sg	13 10 06.6	-0.5
TRUS	**Trudelj**	**0.44**	**79**	*eP*		Pg	13 10 02.4	-0.5
TRUS				*eS*		Sg	13 10 08.3	-0.3
TEKS	**Tekeris**	**0.45**	**334**	*eP*		Pg	13 10 01.9	-1.2
TEKS				*eS*		Sg	13 10 08.5	-0.4
GRUS	**Gruza**	**0.71**	**111**	*eP*		Pg	13 10 07.5	-0.4
SJES	**Sjenica**	**0.89**	**172**	*eP*		Pg	13 10 10.9	-0.5
SJES				*eS*		Sg	13 10 23.1	+0.2
FRGS	**Fruska Gora**	**1.02**	**0**	*eP*		Pg	13 10 13.8	-0.1
FRGS				*eS*		Sg	13 10 26.9	-0.1
SELS	**Selova**	**1.33**	**134**	*eP*		Pg	13 10 17.6	-2.2
SELS				*eS*		Sg	13 10 37.0	-0.1
RICI	**Ricice**	**2.04**	**252**	*i*	Pg	Pg	13 10 42.5	+9.0
RICI					Sg	Sn	13 10 47.2	-8.9
MAKA	**Makarska**	**2.19**	**248**	*ePg*		Pg	13 10 46.1	+10
MAKA					Sg	Sn	13 10 53.5	-6.3
HVAR	**Hvar**	**2.62**	**250**	*ePg*		Pg	13 10 52.8	+8.2
HVAR					Sg	Sn	13 11 06.1	-4.2
MORI	**Morici**	**2.97**	**266**	*ePg*		Pg	13 11 00.0	+8.8
MORI					Sg	Sn	13 11 20.0	+1.0
ZIRJ	**Zirje**	**3.04**	**262**	*ePg*		Pg	13 11 01.0	+8.2
ZIRJ					Sg	Sn	13 11 20.2	-0.6

*NEIC **09** 13:10:02.6±1.4,34°.095N±0°.010×118°.721W±0°.008, h17km±1km,Error ellipse: s-maj=1.7km s-min=0.4km az=210.0*
*ANF **09** 13:10:02.2±0.1,34°.07N×118°.72W,h19km±1km,ML2.7/30, ML2.8/30,Error ellipse: s-maj=1.1km s-min=1.1km az=35.0*
*PAS **09** 13:10:02.9±1.9,34°.079N±0°.010×118°.723W±0°.010, h2km±5km,ML2.7/133,Error ellipse: s-maj=1.4km s-min=1.1km az=201.0*
*SCEDC **09** 13:10:03.0,34°.08N×118°.73W,h7km,ML2.8,ML2.7,ML2.7*
ISC 09 13:10:02.3±0.8,34°.09N±0°.02×118°.73W±0°.01,h14km±5km, n117,σ0s90/159,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AGOC	**Agoura**	**0.07**	**331**			**Pg**	**13 10 04.8**	**-0.4**
PT2	**Point Dume**	**0.10**	**218**			**Pg**	**13 10 05.3**	**-0.2**
DJJ	**Donna J Jenkin**	**0.23**	**85**			**Pg**	**13 10 07.4**	**+0.1**
DJJ						**Sg**	**13 10 10.7**	**0.0**
DJJ	**Donna J Jenkin**	**0.23**	**85**			**Pg**	**13 10 07.4**	**+0.1**
DJJ						**Sg**	**13 10 10.6**	**0.0**
OAT	**Oat Mountain**	**0.27**	**20**			**Pb**	**13 10 08.8**	**-0.3**
HLLC	**North Hollywoo**	**0.32**	**74**			**Pg**	**13 10 09.2**	**+0.4**
HLLC						**Sb**	**13 10 14.2**	**-0.7**
GR2C	**Griffith Obs.**	**0.36**	**85**			**Pg**	**13 10 09.5**	**0.0**
GR2C						**Sg**	**13 10 14.3**	**-0.2**
DECC	**Green Verdugo**	**0.37**	**63**	P		**Pg**	**13 10 10.1**	**+0.4**
	baz=242,SNR=44							
DECC				S		**Sg**	**13 10 15.1**	**+0.3**
	baz=242							
DECC	**Green Verdugo**	**0.37**	**63**			**Pg**	**13 10 10.2**	**+0.4**
DECC						**Sg**	**13 10 15.5**	**+0.7**
PDE	**Pardee, Santa**	**0.37**	**19**			**Pb**	**13 10 10.8**	**0.0**
IR2C	**Iron Canyon**	**0.41**	**42**			**Pg**	**13 10 10.8**	**+0.3**
WTT2	**Watts, South G**	**0.41**	**109**			**Pb**	**13 10 12.2**	**+0.8**
RPV	**Rancho Palos V**	**0.43**	**142**			**Pg**	**13 10 11.3**	**+0.3**
RPV						**Sg**	**13 10 17.6**	**+0.7**
STCC	**Santa Clara**	**0.44**	**300**			**Pb**	**13 10 12.0**	**+0.2**
PASC	**Pasadena Art C**	**0.46**	**79**	Pg		**Pg**	**13 10 11.3**	**-0.1**
PASC	**Pasadena Art C**	**0.46**	**79**			**Sg**	**13 10 17.7**	**+0.2**
PYR	**Pyramid**	**0.48**	**359**			**Pb**	**13 10 12.8**	**+0.2**
GVRC	**Garvey Reservo**	**0.51**	**94**			**Pg**	**13 10 12.6**	**+0.3**
FMP	**Fort Macarthur**	**0.52**	**136**	P		**Pg**	**13 10 12.7**	**+0.2**
	baz=316,SNR=6.1							
FMP				S		**Sg**	**13 10 19.6**	**+0.2**
	baz=316							
FMP	**Fort Macarthur**	**0.52**	**136**			**Pg**	**13 10 12.6**	**0.0**
FMP						**Sb**	**13 10 20.4**	**-0.2**
OSI	**Osito Audit: C**	**0.53**	**0**	P		**Pb**	**13 10 13.4**	**0.0**
	baz=180,SNR=8.0							
OSI				S		**Sb**

DTP	**Desert Tortois**	**1.38**	**31**			**Pb**	**13 10 27.5**	**-0.5**
DTP						**Sg**	**13 10 46.5**	**-0.5**
CRGC	**Crocker Grade**	**1.42**	**325**			**Pb**	**13 10 28.7**	**+0.1**
WOFM	**Oak Flat**	**1.45**	**0**			**Pb**	**13 10 29.6**	**+0.5**
BACC	**Bachelor Mtn.**	**1.48**	**108**			**Pb**	**13 10 29.7**	**+0.1**
HMTC	**Hemet**	**1.48**	**104**			**Pb**	**13 10 29.3**	**-0.3**
HMTC						**Sb**	**13 10 49.2**	**+0.9**
BBRC	**Big Bear Solar** baz=263,SNR=5.5	**1.51**	**83**		Pb	**Pb**	**13 10 29.8**	**-0.4**
BBRC					Sb	**Sb**	**13 10 49.9**	**+0.6**
	baz=263							
CARC	**Carrizo Plain**	**1.53**	**323**			**Pb**	**13 10 29.8**	**-0.7**
POB	**Polly Butte**	**1.55**	**104**			**Pn**	**13 10 29.9**	**+0.2**
BCH	**Branch Mountai**	**1.57**	**315**			**Pn**	**13 10 30.4**	**+0.6**
ISA	**Isabella, Lake** baz=188,SNR=15	**1.59**	**7**		Pb	**Pb**	**13 10 31.4**	**-0.1**
ISA	**Isabella, Lake**	**1.59**	**7**		Pn	**Pb**	**13 10 31.4**	**-0.1**
SMMC	**Simmler** baz=140	**1.61**	**320**		Sb	**Sb**	**13 10 53.1**	**+1.0**
RRX	**Edison Barstow** baz=241,SNR=5.8	**1.63**	**61**		Pg	**Pg**	**13 10 33.0**	**-0.6**
RRX	**Edison Barstow**	**1.63**	**61**			**Pg**	**13 10 33.0**	**-0.6**
LRMC	**Laurel Mtn Rad** baz=212,SNR=15	**1.63**	**31**		P	**Pn**	**13 10 31.1**	**+0.3**
LRMC					S	**Sb**	**13 10 51.8**	**-1.0**
	baz=212							
WHFM	**Hanning Flat**	**1.64**	**11**			**Pb**	**13 10 31.7**	**-0.6**
WASM	**Alta Sierra Ca**	**1.65**	**5**			**Pb**	**13 10 33.0**	**+0.3**
VES	**Vestal, Richgr** baz=170	**1.77**	**351**		S	**Sb**	**13 10 55.6**	**-1.1**
HWB	**Hans Werner Br**	**1.82**	**125**			**Sn**	**13 10 56.5**	**+0.5**
DPP	**Dos Picos Cty**	**1.84**	**126**			**Pn**	**13 10 32.5**	**-1.1**
DPP						**Sn**	**13 10 55.1**	**-1.7**
PFO	**Pinyon Flats O** baz=284,SNR=7.0	**1.95**	**103**		Pb	**Pb**	**13 10 36.4**	**-1.2**
PFO					Sb	**Sb**	**13 11 01.4**	**-0.5**
	baz=284							
PFO	**Pinyon Flats O**	**1.95**	**103**		Pn	**Pn**	**13 10 36.1**	**+1.0**
XPFO	**Pion Flat**	**1.95**	**103**			**Pn**	**13 10 36.0**	**+0.9**
GSC	**Goldstone, Bar** baz=233	**1.99**	**52**		S	**Sn**	**13 11 01.3**	**+0.8**
GSC	**Goldstone, Bar**	**1.99**	**52**			**Pn**	**13 10 36.2**	**+0.5**
PAGB	**Antelope Grade**	**2.06**	**323**			**Pn**	**13 10 37.0**	**+0.5**
HEC	**Hector,Ludlow** baz=250,SNR=26	**2.11**	**69**		Pg	**Pb**	**13 10 41.3**	**+0.9**
HEC					Sg	**Sg**	**13 11 10.3**	**+0.1**
	baz=250							
MPMC	**Manual Prospec** baz=207,SNR=9.2	**2.21**	**27**		P	**Pn**	**13 10 39.2**	**+0.4**
MONP2	**Monument Peak** baz=302	**2.27**	**121**		P	**Pn**	**13 10 39.2**	**-0.3**
MONP2					S	**Sn**	**13 11 07.2**	**-0.1**
	baz=302							
BELC	**Belle Mtn. Jos** baz=273,SNR=18	**2.27**	**91**		P	**Pn**	**13 10 40.2**	**+0.7**
BELC					Sb	**Sb**	**13 11 11.9**	**+0.8**
	baz=273							
IKP	**In-Ko-Pah, Jac** baz=304	**2.62**	**122**		P	**Pn**	**13 10 45.4**	**+1.2**
IKP					S	**Sn**	**13 11 16.4**	**+0.5**
	baz=304							
GMRC	**Granite Mounta** baz=255,SNR=12	**2.63**	**74**		Pg	**Pb**	**13 10 51.0**	**+1.7**
TUQ	**Turquoise Moun** baz=240,SNR=10	**2.67**	**59**		Pb	**Pb**	**13 10 51.0**	**+1.0**
TUQ					Sb	**Sg**	**13 11 25.4**	**-2.8**
	baz=240							
IRM	**Iron Mountain** baz=270	**2.97**	**88**		Sb	**Sb**	**13 11 33.6**	**+2.4**
TPNV	**Topopah Spring** baz=216	**3.50**	**35**		P	**Pn**	**13 10 57.6**	**+1.1**
TPNV					S	**Sn**	**13 11 37.5**	**-0.2**
	baz=216							
TPNV	**Topopah Spring**	**3.50**	**35**		Pn	**Pn**	**13 10 57.6**	**+1.1**

RHSSO 09 13:10:39.7±0.5, 43.77N×17.53E, h6km±3km, ML1.8/6,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.91**	**172**	*e*Pg	Pg	13 10 51.7	-5.4
STON				Sg	Sg	13 11 04.9	-3.9
BLY	**Banja Luka**	**1.01**	**346**	*e*Pg	Pg	13 10 57.9	-1.2
BLY				*e*Sg	Sg	13 11 11.7	-0.4
BRY	**Bratogost**	**1.14**	**139**	*e*Pg	Pg	13 11 00.7	-0.9
BRY				*e*Sg	Sg	13 11 16.2	-0.1
UPM	**Unac-Piva**	**1.15**	**119**	*e*Pg	Pg	13 10 59.7	-2.1
UPM				*e*Sg	Sg	13 11 16.6	-0.1
DBRK	**Dubrovnik**	**1.19**	**157**	*e*Pg	Pg	13 11 00.2	-2.3
DBRK				Sn	Sg	13 11 15.9	-2.0
TREB	**Trebinje**	**1.21**	**150**	*e*Pg	Pg	13 11 02.2	-0.7
TREB				*e*Sg	Sg	13 11 17.7	-1.0
BBLS	**Lazići**	**1.36**	**85**	*e*Pg	Pn	13 11 04.0	-1.3
BBLS				*e*Sg	Sb	13 11 23.4	+0.1
UDBI	**Udbina**	**1.48**	**301**	*e*Pn	Pn	13 11 04.6	-2.3
UDBI				Sn	Sg	13 11 28.3	+1.1
DUGI	**Dugi Otok**	**1.80**	**278**	*e*Pn	Pn	13 11 08.0	-3.3
DUGI				Sn	Sn	13 11 34.1	-0.3
DIVS	**Divibare**	**1.81**	**79**	*e*Pn	Pn	13 11 11.0	-0.5
DIVS				*e*Sn	Sn	13 11 34.7	-0.1
PDG	**Podgorica**	**1.84**	**136**	*e*Pn	Sn	13 11 35.6	+0.1
DRME	**Dracevica, Mon**	**2.00**	**142**	*e*Pn	Pn	13 11 14.0	0.0
DRME				*e*Sn	Sn	13 11 39.4	+0.1
NVLJ	**Novalja**	**2.07**	**293**	*e*Pn	Pn	13 11 14.1	-0.9
NVLJ				Sg	Sb	13 11 44.4	+0.7

*PRU **09** 13:47:47.7±0.0, 43.41N×11.34E, h0km*
*LDG **09** 13:47:49.4±0.1, 43.53N×11.02E, h10km, Md3.1/2,*
Ml3.3/30, Error ellipse: s-maj=2.7km s-min=2.1km az=30.0
*ROM **09** 13:47:49.5±0.1, 43.537N±0.004×11.036E±0.006,*
h10km, ML3.4/37, Mw3.4, Error ellipse: s-maj=0.5km
s-min=0.3km az=219.0, Moment Tensor Solution.
Moment tensor: Scale 10^{14}Nm; M_{rr}0.03; $M_{\theta\theta}$0.86;
$M_{\phi\phi}$-0.89; $M_{r\theta}$0.29; $M_{r\phi}$-1.46; $M_{\theta\phi}$0.02; Fault plane
solution: $M_0$1.72736×10^{14} NP1:ϕ_s165.00000°, δ80.00000°,
λ2.00000°. NP2:ϕ_s74.00000°, δ88.00000°, λ170.00000°.
*STR **09** 13:47:50.4±1.5, 43°N±5°×1°1E±1°0, h20km±13km, mB6.3/2,*
mb3.4/2, MLv3.3/14, Mw(mB)6.0/2, smi:scs/0.6/LOCSAT
earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary

ISC 09 13:47:48.8±0.9, 43.50N±0.02×10.94E±0.02, h14km±6km,
n172, σ2.2 s22/218, 7C-7D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OSSC	**Osservatorio P**	**0.22**	**85**	⇓P	**Pg**	**13 47 53.2**	**-0.4**
OSSC				S	**Sg**	**13 47 55.9**	**-1.1**
OSSC				AML	AML		
	comp=E,28300μm,0.8s						
OSSC				AML	AML		
	comp=N,40200μm,0.6s						
OSSC				AML	AML		
	comp=E,28350μm,0.8s						
OSSC				AML	AML		
	comp=E,28250μm,0.8s						
OSSC				AML	AML		
	comp=N,40200μm,0.6s						
OSSC				AML	AML		
	comp=N,40900μm,0.6s						
OSSC				AML	AML		
	comp=N,40900μm,0.6s						
OSSC				AML	AML		
	comp=N,40200μm,0.6s						
OSSC				AML	AML		
	comp=E,28250μm,0.8s						
OSSC				AML	AML		
	comp=E,28350μm,0.8s						
CSNT	**Castellina Chi**	**0.26**	**97**	⇓P	**Pg**	**13 47 53.8**	**-0.4**
CSNT				S	**Sg**	**13 47 57.1**	**-0.9**
CSNT				AML	AML		
	comp=E,9125μm,0.3s						
CSNT				AML	AML		
	comp=N,16350μm,0.6s						
CRMI	**Carmignano**	**0.29**	**4**	⇑P	**Pg**	**13 47 55.2**	**+0.4**
CRMI				S	**Sg**	**13 47 59.4**	**+0.5**
CRMI				AML	AML		
	comp=E,32900μm,0.5s						
CRMI				AML	AML		
	comp=N,28050μm,0.3s						
CRMI				AML	AML		
	comp=N,11800μm,0.3s						
CRMI				AML	AML		
	comp=N,28050μm,0.3s						
CRMI				AML	AML		
	comp=E,14200μm,0.5s						
CRMI				AML	AML		
	comp=N,11795μm,0.3s						
CRMI				AML	AML		
	comp=N,28050μm,0.3s						
CRMI				AML	AML		
	comp=E,32900μm,0.5s						
FROS	**Frosini**	**0.33**	**152**	⇑P	**Pb**	**13 47 56.7**	**+0.2**
FROS				S	**Sb**	**13 48 01.6**	**-0.1**
FROS				AML	AML		
	comp=E,15750μm,0.5s						
FROS				AML	AML		
	comp=N,10150μm,1.4s						
FROS				AML	AML		
	comp=E,15750μm,0.5s						
FROS				AML	AML		
	comp=E,15750μm,0.5s						
FROS				AML	AML		
	comp=N,10145μm,1.4s						
FIR	**Firenze**	**0.35**	**40**	P	**Pg**	**13 47 55.7**	**-0.3**
FIR				S	**Sg**	**13 48 00.3**	**-0.5**
PII	**Pisa**	**0.37**	**306**	⇓P	**Pb**	**13 47 58.1**	**+0.9**
PII				S	**Sb**	**13 48 03.9**	**+1.1**
PII				AML	AML		
	comp=E,19550μm,0.2s						
PII				AML	AML		
	comp=E,19550μm,0.2s						
PII				AML	AML		
	comp=N,17000μm,0.3s						
TRIF	**Trifonti**	**0.39**	**184**	⇑P	**Pb**	**13 47 58.5**	**+1.0**
TRIF				S	**Sb**	**13 48 04.5**	**+1.2**
TRIF				AML	AML		
	comp=E,5710μm,0.5s						
TRIF				AML	AML		
	comp=N,4670μm,0.4s						
PTF	**Prato**	**0.46**	**11**	P	**Pg**	**13 47 58.1**	**+0.1**
MTCR	**Monte La Croce**	**0.52**	**4**	P	**Pg**	**13 47 59.3**	**+0.2**
MTCR				S	**Sg**	**13 48 06.6**	**+0.4**
MTCR				AML	AML		
	comp=E,8860μm,1.0s						
MTCR				AML	AML		
	comp=N,9320μm,1.4s						
MTCR				AML	AML		
	comp=E,8865μm,1.0s						
MTCR				AML	AML		
	comp=N,9335μm,1.4s						
MAIM	**Mastiano**	**0.53**	**322**	P	**Pb**	**13 48 00.4**	**+0.6**
MAIM				S	**Sb**	**13 48 07.5**	**+0.3**
MAIM	**Mastiano**	**0.53**	**322**	⇓P	**Pb**	**13 48 00.4**	**+0.6**
MAIM				S	**Sb**	**13 48 07.6**	**+0.3**
MAIM				AML	AML		
	comp=N,8175μm,0.4s						
MAIM				AML	AML		
	comp=E,6885μm,0.2s						
RUFI	**Rufina**	**0.53**	**51**	⇑P	**Pg**	**13 47 58.7**	**-0.5**
RUFI				S	**Sg**	**13 48 05.2**	**-1.1**
RUFI				AML	AML		
	comp=E,10965μm,1.3s						
RUFI				AML	AML		
	comp=N,5530μm,1.3s						
RUFI				AML	AML		
	comp=E,10955μm,1.3s						
RUFI				AML	AML		
	comp=N,5525μm,1.3s						
RUFI				AML	AML		
	comp=E,11000μm,1.3s						
POPM	**Popiglio**	**0.56**	**346**	P	**Pb**	**13 48 00.5**	**+0.2**
POPM				S	**Sb**	**13 48 08.2**	**0.0**
POPM	**Popiglio**	**0.56**	**346**	P	**Pb**	**13 48 00.6**	**+0.2**
POPM				S	**Sb**	**13 48 08.1**	**-0.1**
POPM				AML	AML		
	comp=E,20250μm,0.3s						
POPM				AML	AML		
	comp=E,20300μm,0.3s						
POPM				AML	AML		
	comp=N,15600μm,1.3s						
BDI	**Bagni Di Lucca**	**0.61**	**336**	P	**Pb**	**13 48 01.6**	**+0.3**
BDI				S	**Sb**	**13 48 10.2**	**+0.3**
BDI				AML	AML		
	comp=N,8845μm,0.9s						
BDI				AML	AML		
	comp=E,6520μm,0.5s						
BDI				AML	AML		
	comp=N,9690μm,1.0s						
BDI				AML	AML		
	comp=E,8015μm,0.4s						
CARD	**Cardoso**	**0.62**	**328**	P	**Pb**	**13 48 01.9**	**+0.5**
CARD				S	**Sb**	**13 48 10.6**	**+0.6**
CARD	**Cardoso**	**0.62**	**328**	⇓P	**Pb**	**13 48 01.9**	**+0.5**
CARD				S	**Sb**	**13 48 10.6**	**+0.6**
CARD				AML	AML		
	comp=E,9540μm,0.5s						
CARD				AML	AML		
	comp=N,7825μm,0.9s						
CARD				AML	AML		
	comp=E,9580μm,0.5s						
CARD				AML	AML		
	comp=N,7820μm,0.9s						
SEI	**Scarperia**	**0.63**	**28**	⇑P	**Pg**	**13 48 00.8**	**-0.2**
FNVD	**Fontana Vidola**	**0.68**	**11**	⇑P	**Pg**	**13 48 02.1**	**+0.1**
FNVD				AML	AML		
	comp=N,8015μm,0.9s						
FNVD				AML	AML		
	comp=E,5105μm,0.4s						
ASQU	**Asqua**	**0.68**	**64**	⇑P	**Pg**	**13 48 01.3**	**-0.7**
ASQU				S	**Sg**	**13 48 10.0**	**-1.0**
ASQU				AML	AML		
	comp=E,15350μm,0.4s						
ASQU				AML	AML		
	comp=N,11605μm,0.7s						
CASP	**Castiglione de**	**0.71**	**185**	P	**Pn**	**13 48 04.9**	**+0.4**
CASP				AML	AML		
	comp=E,5155μm,0.7s						
CASP				AML	AML		
	comp=N,1970μm,0.4s						
ARCI	**Arcidosso**	**0.76**	**149**	P	**Pb**	**13 48 04.2**	**+0.3**
ARCI				AML	AML		
	comp=E,1083μm,0.6s						
ARCI				AML	AML		
	comp=N,1670μm,1.1s						
BRIS	**BRISIGHELLA**	**0.77**	**32**	P	**Pn**	**13 48 06.6**	**+1.4**
BRIS				AML	AML		
	comp=N,2140μm,0.4s						
BRIS				AML	AML		
	comp=E,3300μm,0.6s						
CAFI	**Castiglion Fio**	**0.77**	**103**	P	**Pg**	**13 48 03.1**	**-0.6**
CAFI				S	**Sg**	**13 48 12.7**	**-1.1**
CAFI				AML	AML		
	comp=E,1635μm,0.5s						
CAFI				AML	AML		
	comp=N,1490μm,0.5s						
CAFI				AML	AML		
	comp=E,1640μm,0.5s						
CAFI				AML	AML		
	comp=N,1580μm,0.5s						
CAFI				AML	AML		
	comp=N,1490μm,0.5s						
CAFI				AML	AML		
	comp=E,1705μm,0.5s						
SFI	**Santa Sofia**	**0.77**	**58**	P	**Pg**	**13 48 02.8**	**-0.9**
GROG	**Isola di Gorgo**	**0.77**	**265**	P	**Pn**	**13 48 05.7**	**+0.5**
GROG				AML	AML		
	comp=N,1700μm,1.3s						
GROG				AML	AML		
	comp=E,1800μm,0.5s						
VLC	**Villacollemand**	**0.77**	**329**	⇓P	**Pb**	**13 48 04.7**	**+0.7**
VLC				S	**Sb**	**13 48 15.0**	**+0.7**
VLC				AML	AML		
	comp=N,3205μm,0.8s						
VLC				AML	AML		
	comp=N,3285μm,0.8s						
VLC				AML	AML		
	comp=N,3210μm,0.8s						
VLC				AML	AML		
	comp=E,2735μm,0.9s						
VLC				AML	AML		
	comp=E,2845μm,1.0s						
SARO	**Sassorosso**	**0.79**	**330**	P	**Pb**	**13 48 04.8**	**+0.5**
SARO				S	**Sb**	**13 48 15.7**	**+0.8**
SARO	**Sassorosso**	**0.79**	**330**	⇓P	**Pb**	**13 48 04.8**	**+0.5**
SARO				S	**Sb**	**13 48 15.6**	**+0.8**
SARO				AML	AML		
	comp=N,2350μm,0.6s						
SARO				AML	AML		
	comp=E,3150μm,1.5s						
LMD	**Lutirano**	**0.80**	**44**	*e*Pg	**Pg**	**13 48 03.6**	**-0.7**
LMD				*e*Sg	**Sg**	**13 48 13.9**	**-0.8**
LMD	**Lutirano**	**0.80**	**44**	P	**Pg**	**13 48 03.6**	**-0.7**
LMD				S	**Sg**	**13 48 13.9**	**-0.8**
LMD				AML	AML		
	comp=N,4815μm,0.2s						
LMD				AML	AML		
	comp=E,3415μm,0.5s						
ZCCA	**Zocca**	**0.85**	**2**	P	**Pn**	**13 48 06.3**	**-0.1**
ZCCA				AML	AML		
	comp=N,3145μm,0.4s						
ZCCA				AML	AML		
	comp=N,3245μm,0.4s						
ZCCA				AML	AML		
	comp=E,3080μm,1.1s						
ZCCA				AML	AML		
	comp=N,3150μm,0.4s						
ZCCA				AML	AML		
	comp=E,3005μm,1.1s						
SSP9	**Sansepolcro**	**0.87**	**85**	P	**Pb**	**13 48 05.4**	**-0.2**
SSP9				AML	AML		
	comp=E,3250μm,0.5s						
SSP9				AML	AML		
	comp=N,2555μm,0.6s						
SSP9				AML	AML		
	comp=N,2545μm,0.6s						
SSP9				AML	AML		
	comp=E,3260μm,0.5s						
EQUI	**Equi**	**0.88**	**319**	P	**Pn**	**13 48 06.6**	**0.0**
EQUI				S	**Sg**	**13 48 18.1**	**+0.9**
EQUI	**Equi**	**0.88**	**319**	P	**Pn**	**13 48 06.7**	**0.0**
EQUI				S	**Sg**	**13 48 18.3**	**+1.1**
EQUI				AML	AML		
	comp=N,3990μm,1.1s						
EQUI				AML	AML		
	comp=E,2585μm,0.6s						
MCIV	**Monte Civitell**	**0.90**	**143**	P	**Pg**	**13 48 06.5**	**+0.3**
MCIV				AML	AML		
	comp=E,801μm,0.5s						
MCIV				AML	AML		
	comp=N,638μm,1.1s						
MCIV				AML	AML		
	comp=N,638μm,1.1s						
MCIV				AML	AML		
	comp=E,801μm,0.4s						
FIVI	**Fivizzano**	**0.94**	**322**	P	**Pn**	**13 48 08.4**	**+0.7**
BADI	**Badiali**	**0.95**	**89**	P	**Pb**	**13 48 06.8**	**-0.1**
BADI				AML	AML		
	comp=E,1865μm,0.6s						
BADI				AML	AML		
	comp=N,1965μm,0.8s						
MTRZ	**Monterenzio**	**0.95**	**23**	P	**Pb**	**13 48 06.6**	**-0.5**
MTRZ				AML	AML		
	comp=E,4390μm,0.8s						
MTRZ				AML	AML		
	comp=N,3605μm,0.5s						
MTRZ				AML	AML		
	comp=N,3555μm,0.5s						
MTRZ				AML	AML		
	comp=E,4670μm,0.8s						
PARC	**Parchiule**	**0.95**	**81**	P	**Pb**	**13 48 06.7**	**-0.4**
PARC				AML	AML		
	comp=E,1665μm,1.0s						
PARC				AML	AML		
	comp=N,2545μm,0.4s						
PLMA	**Palmaria, Port**	**0.96**	**305**	P	**Pn**	**13 48 08.7**	**+0.8**
PLMA				AML	AML		
	comp=N,2230μm,0.4s						
PLMA				AML	AML		
	comp=E,1150μm,0.7s						
SACS	**San Casciano d**	**0.96**	**132**	P	**Pg**	**13 48 07.5**	**+0.1**
SACS				AML	AML		
	comp=N,446μm,0.6s						
SACS				AML	AML		
	comp=N,448μm,0.6s						
SACS				AML	AML		
	comp=E,424μm,0.8s						
SACS				AML	AML		
	comp=E,403μm,0.5s						
ATMI	**Monte Miggiano**	**0.98**	**100**	AML	AML		
	comp=N,4220μm,0.6s						
ATMI				AML	AML		
	comp=E,2915μm,0.4s						
MGAB	**Montegabbione**	**1.04**	**124**	P	**Pb**	**13 48 08.3**	**-0.2**
MGAB				AML	AML		
	comp=E,788μm,0.5s						
MGAB				AML	AML		
	comp=N,610μm,0.7s						
MGAB				AML	AML		
	comp=E,732μm,0.5s						
MGAB				AML	AML		
	comp=N,648μm,0.7s						
CPGN	**Carpegna, Ital**	**1.04**	**73**	AML	AML		
	comp=E,38μm,1.6s						
CPGN				AML	AML		
	comp=E,28μm,1.6s						
CPGN				AML	AML		
	comp=N,2140μm,0.6s						
CPGN				AML	AML		
	comp=E,2605μm,0.7s						
CPGN				AML	AML		
	comp=N,2125μm,0.6s						
CPGN				AML	AML		
	comp=N,2156μm,0.6s						
ATTE	**AVT- Monte Tez**	**1.07**	**106**	P	**Pb**	**13 48 08.7**	**-0.5**
ATTE				AML	AML		
	comp=N,1180μm,0.5s						
ATTE				AML	AML		
	comp=E,1300μm,1.0s						
ATVO	**AVT- Monte Val**	**1.07**	**96**	P	**Pb**	**13 48 08.9**	**-0.2**
ATVO				AML	AML		
	comp=E,1800μm,0.9s						
ATVO				AML	AML		
	comp=N,2080μm,0.6s						
APEC	**Apecchio**	**1.07**	**87**	AML	AML		
	comp=N,2495μm,0.4s						
APEC				AML	AML		
	comp=E,1990μm,0.8s						
LATE	**Laterza**	**1.09**	**144**	P	**Pg**	**13 48 09.9**	**+0.1**
PIEI	**Pieia**	**1.16**	**88**	AML	AML		
	comp=E,726μm,0.8s						
PIEI				AML	AML		
	comp=N,550μm,0.6s						
GRAM	**Graiana**	**1.17**	**328**	P	**Pg**	**13 48 12.1**	**+0.7**
GRAM				AML	AML		
	comp=E,5295μm,1.3s						
GRAM				AML	AML		
	comp=N,4420μm,0.8s						
MURB	**Monte Urbino**	**1.18**	**101**	AML	AML		
	comp=E,2695μm,1.1s						
MURB				AML	AML		
	comp=N,1940μm,0.4s						
MURB				AML	AML		
	comp=N,2175μm,0.4s						
MURB				AML	AML		
	comp=E,3000μm,1.1s						
ATFO	**Monte Foce - G**	**1.19**	**96**	AML	AML		
	comp=E,1010μm,0.5s						
ATFO				AML	AML		
	comp=N,1465μm,1.3s						
ATCC	**AVT- Casa Cast**	**1.28**	**104**	AML	AML		
	comp=N,1076μm,1.5s						
ATCC				AML	AML		
	comp=E,1770μm,0.8s						
MSSA	**Maissana**	**1.31**	**309**	P	**Pg**	**13 48 14.3**	**+0.3**
MSSA				AML	AML		
	comp=N,1405μm,0.6s						
MSSA				AML	AML		
	comp=E,1095μm,0.3s						
ASSB	**Assisi San Ben**	**1.33**	**110**	AML	AML		
	comp=E,369μm,0.5s						
ASSB				AML	AML		
	comp=N,547μm,0.8s						
FSSB	**Fossombrone**	**1.35**	**81**	AML	AML		
	comp=E,1510μm,0.4s						
FSSB				AML	AML		
	comp=N,1650μm,1.2s						
MOMA	**Monte Martano**	**1.38**	**120**	AML	AML		
	comp=E,437μm,1.3s						
MOMA				AML	AML		
	comp=N,296μm,0.8s						
GORR	**Gorreto**	**1.62**	**313**	P	**Pb**	**13 48 18.9**	**+0.4**
GORR				AML	AML		
	comp=E,910μm,0.8s						
GORR				AML	AML		
	comp=N,1051μm,1.5s						

FDMO	**Fiordimonte**	**1.63**	**106**		AML		AML		
	comp=N,229µm,1.4s								
FDMO					AML		AML		
	comp=E,238µm,1.1s								
PGF	**Pioggiola**	**1.72**	**237**	*e*Pn		**Pb**		**13 48 19.8**	**-0.3**
PGF				*e*Sn		**Sn**		**13 48 40.3**	**+0.2**
	comp=E,44nm,0.4s								
PGF	**Pioggiola**	**1.72**	**237**	P		**Pb**		**13 48 19.9**	**-0.2**
PGF	**Pioggiola**	**1.72**	**237**	P		**Pb**		**13 48 20.1**	**-0.1**
LNSS	**Leonessa**	**1.78**	**120**	AML		AML			
	comp=E,262µm,1.1s								
LNSS					AML		AML		
	comp=N,271µm,1.1s								
SMPL	**Sampolo**	**1.86**	**221**	AML		AML			
	comp=N,5280µm,0.7s								
SMPL					AML		AML		
	comp=E,4445µm,0.8s								
SMPL	**Sampolo**	**1.86**	**221**	P		**Pb**		**13 48 22.6**	**0.0**
ROVR	**Rover Verones**	**2.15**	**2**	AML		AML			
	comp=N,314µm,0.3s								
ROVR					AML		AML		
	comp=E,188µm,1.3s								
RORO	**Rocca Rossa**	**2.17**	**287**	AML		AML			
	comp=N,118µm,1.2s								
RORO					AML		AML		
	comp=E,100µm,1.3s								
MAGA	**Magasa**	**2.28**	**354**	AML		AML			
	comp=E,1935µm,0.6s								
MAGA					AML		AML		
	comp=N,981µm,0.5s								
SAOF	**Saorge**	**2.50**	**282**	AML		AML			
	comp=N,140µm,1.5s								
SAOF					AML		AML		
	comp=E,115µm,0.6s								
SAOF	**Saorge**	**2.50**	**282**	P		**Pn**		**13 48 31.3**	**+2.2**
SBF	**Sospel**	**2.57**	**279**	*e*P		**Pn**		**13 48 32.6**	**+2.6**
SBF				*e*Sn		**Sn**		**13 49 00.0**	**-1.1**
	comp=E,103nm,0.5s								
CTI	**Castel Tesino**	**2.59**	**11**	AML		AML			
	comp=E,339µm,0.8s								
CTI					AML		AML		
	comp=N,494µm,0.2s								
ESCA	**l'Escarene**	**2.61**	**278**	P		**Pn**		**13 48 32.6**	**+2.0**
TURF	**col de Turini**	**2.62**	**282**	P		**Pn**		**13 48 33.2**	**+2.4**
MUGIO	**Muggio**	**2.77**	**331**	AML		AML			
	comp=E,152µm,0.4s								
MUGIO					AML		AML		
	comp=N,185µm,0.8s								
DOI	**San Damiano**	**2.85**	**292**	AML		AML			
	comp=E,143µm,0.5s								
DOI					AML		AML		
	comp=N,136µm,1.0s								
CALF	**Calern**	**2.93**	**276**	P		**Pn**		**13 48 37.1**	**+2.1**
KOSI	**Kohlern**	**2.98**	**6**	AML		AML			
	comp=E,274µm,1.2s								
KOSI					AML		AML		
	comp=N,233µm,0.8s								
RNI2	**Rionero Sannit**	**2.98**	**126**	AML		AML			
	comp=E,82µm,1.6s								
RNI2					AML		AML		
	comp=N,67µm,0.8s								
TRI	**Trieste**	**2.99**	**41**	AML		AML			
	comp=N,87µm,0.7s								
TRI					AML		AML		
	comp=E,99µm,0.5s								
SKDS	**Skadanscina**	**3.00**	**46**	*e*Pn		**Pn**		**13 48 35.3**	**-0.6**
SKDS				*e*Sn		**Sn**		**13 49 09.3**	**-2.4**
	comp=Z,34nm,0.3s								
DUGI	**Dugi Otok**	**3.02**	**79**	*e*Pn		**Pn**		**13 48 36.8**	**+0.6**
DUGI				Sn		**Sn**		**13 49 10.9**	**-1.2**
NVLJ	**Novalja**	**3.02**	**68**	*e*Pn		**Pn**		**13 48 37.1**	**+0.9**
NVLJ				Sn		**Sn**		**13 49 11.0**	**-1.2**
SABO	**M.te Sabotino**	**3.12**	**36**	AML		AML			
	comp=E,184µm,1.6s								
SABO					AML		AML		
	comp=N,227µm,1.0s								
RIY	**Rijeka**	**3.12**	**53**	*e*Pn		**Pn**		**13 48 37.9**	**+0.3**
RIY				Sn		**Sn**		**13 49 15.0**	**+0.4**
MOSI	**Grossmontoni**	**3.12**	**355**	AML		AML			
	comp=N,674µm,0.7s								
MOSI					AML		AML		
	comp=E,462µm,1.0s								
TUE	**Stuetta**	**3.18**	**340**	AML		AML			
	comp=E,154µm,0.4s								
TUE					AML		AML		
	comp=E,140µm,0.3s								
TUE					AML		AML		
	comp=N,156µm,0.5s								
TUE					AML		AML		
	comp=N,130µm,0.4s								
LMR	**La Mourre**	**3.23**	**269**	*e*Pn		**Pn**		**13 48 40.1**	**+1.0**
LMR				*e*Sn		**Sn**		**13 49 15.9**	**-1.5**
	comp=N,3.6nm,0.2s								
ABSI	**Aberstueckl**	**3.24**	**5**	AML		AML			
	comp=E,442µm,0.6s								
ABSI					AML		AML		
	comp=N,457µm,0.6s								
MBDF	**Montbardon**	**3.24**	**294**	*e*P		**Pn**		**13 48 41.4**	**+2.0**
MBDF				*e*Sn		**Sn**		**13 49 15.9**	**-2.0**
	comp=N,54nm,0.6s								
OGAG	**Argentiere**	**3.32**	**288**	P		**Pb**		**13 48 45.8**	**-1.6**
FUSIO	**Fusio**	**3.37**	**332**	AML		AML			
	comp=E,146µm,0.6s								
FUSIO					AML		AML		
	comp=N,99µm,1.5s								
ZIRJ	**Zirje**	**3.42**	**86**	*e*Pn		**Pn**		**13 48 43.1**	**+1.5**
ZIRJ				Sn		**Sn**		**13 49 21.4**	**-0.5**
ABTA	**Abfaltersbach**	**3.43**	**18**	*e*Pn		**Pn**		**13 48 43.5**	**+1.7**
	comp=N,19nm,0.6s,SNR=12								
ABTA				*e*Sn		**Sn**		**13 49 23.8**	**+1.4**
	comp=N,42nm,0.7s								
ROSI	**Rosskopf**	**3.44**	**5**	AML		AML			
	comp=E,227µm,0.9s								
ROSI					AML		AML		
	comp=N,228µm,0.8s								
MORI	**Morici**	**3.47**	**82**	*e*Pn		**Pn**		**13 48 44.2**	**+1.8**
MORI				Sn		**Sn**		**13 49 23.4**	**+0.1**
FETA	**Feichten**	**3.52**	**358**	*i* Pn		**Pn**		**13 48 46.1**	**+2.9**
	comp=N,7.9nm,0.4s,SNR=13								
FETA				*e*Sn		**Sn**		**13 49 27.0**	**+2.3**
	comp=N,14nm,0.4s								
RISI	**Rein**	**3.54**	**13**	AML		AML			
	comp=N,490µm,0.4s								
RISI					AML		AML		
	comp=E,408µm,0.4s								
ASEAF	**Site Antares,**	**3.57**	**260**	P		**Pn**		**13 48 45.7**	**+2.3**
BLAF	**les Blancs**	**3.58**	**279**	P		**Pn**		**13 48 46.7**	**+2.8**
LJU	**Ljubljana**	**3.60**	**44**	AML		AML			
	comp=N,815µm,0.4s								
LJU					AML		AML		
	comp=E,578µm,0.5s								
LPG	**La Plagne**	**3.60**	**305**	*e*P		**Pn**		**13 48 47.9**	**+3.5**
LPG				*e*Sn		**Sn**		**13 49 24.2**	**-2.7**
	comp=E,21nm,0.5s								
LPL	**La Plagne**	**3.62**	**305**	*e*P		**Pn**		**13 48 47.9**	**+3.2**
LPL				*e*Sn		**Sn**		**13 49 24.7**	**-2.6**
	comp=E,23nm,0.4s								
UDBI	**Udbina**	**3.62**	**72**	*e*Pn		**Pn**		**13 48 45.4**	**+0.8**
UDBI				Sn		**Sn**		**13 49 28.4**	**+1.3**
MYKA	**Terra Mystica**	**3.66**	**31**	*e*Pn		**Pn**		**13 48 46.4**	**+1.3**
	comp=E,3.0nm,0.3s								
BOJS	**Bojanci**	**3.67**	**56**	AML		AML			
	comp=N,60µm,1.5s								
BOJS					AML		AML		
	comp=E,65µm,0.9s								
SQTA	**Sankt Quirin**	**3.72**	**3**	*e*Pn		**Pn**		**13 48 48.7**	**+2.8**
	comp=E,29nm,0.2s,SNR=34								
SQTA				*i* Sn		**Sn**		**13 49 30.8**	**+1.2**
	comp=E,38nm,0.4s								
ARTF	**Artigues**	**3.74**	**273**	P		**Pn**		**13 48 48.9**	**+2.9**
RSL	**Roselend**	**3.78**	**307**	P		**Pb**		**13 48 51.3**	**-4.0**
MLYF	**Mely**	**3.78**	**279**	P		**Pn**		**13 48 49.8**	**+3.1**
WTTA	**Wattenberg**	**3.79**	**7**	*e*Pn		**Pn**		**13 48 49.6**	**+2.6**
	comp=E,23nm,0.3s,SNR=19								
WTTA				*i* Sn		**Sn**		**13 49 32.2**	**+0.8**
	comp=E,46nm,0.5s								
WTTA	**Wattenberg**	**3.79**	**7**	AML		AML			
	comp=N,93µm,1.4s								
WTTA					AML		AML		
	comp=E,141µm,0.8s								
MOTA	**Moosalm**	**3.84**	**2**	*i* Pn		**Pn**		**13 48 50.9**	**+3.2**
	comp=E,29nm,0.5s,SNR=20								
MOTA				*e*Sn		**Sn**		**13 49 33.8**	**+1.1**
	comp=E,51nm,0.6s								
DAVA	**Damuels**	**3.86**	**349**	*e*Pn		**Pn**		**13 48 51.4**	**+3.6**
	comp=E,14nm,0.4s								
DAVA				*e*Sn		**Sn**		**13 49 37.8**	**+4.8**
	comp=E,106nm,0.5s								
WATA	**Walderalm**	**3.86**	**6**	*i* Pn		**Pn**		**13 48 50.6**	**+2.8**
	comp=E,21nm,0.2s,SNR=19								
WATA				*e*Sn		**Sn**		**13 49 36.4**	**+3.4**
	comp=E,42nm,0.6s								
BSTF	**la Bastide-des**	**3.86**	**277**	P		**Pn**		**13 48 49.3**	**+1.5**
ORIF	**Oris-en-Rattie**	**3.91**	**293**	*e*P		**Pn**		**13 48 53.1**	**+4.7**
ORIF				*e*Sn		**Sn**		**13 49 31.6**	**-2.5**
	comp=E,55nm,0.6s								
ORIF	**Oris-en-Rattie**	**3.91**	**293**	P		**Pn**		**13 48 50.4**	**+2.0**
SMRF	**Simiane la Rot**	**3.92**	**279**	*e*P		**Pn**		**13 48 51.6**	**+3.0**
SMRF				*e*Sn		**Sn**		**13 49 32.4**	**-2.0**
SMRF				*e*Sg		**Sg**		**13 49 53.8**	**-0.8**
	comp=E,12nm,0.5s								
OBKA	**Obir**	**3.94**	**39**	*i* Pn		**Pn**		**13 48 50.2**	**+1.2**
	comp=E,1.5nm,0.2s								
OBKA				*e*Sn		**Sn**		**13 49 36.8**	**+1.7**
	comp=E,19nm,0.4s								
KBA	**Koelnbreinsper**	**3.96**	**25**	*i* Pn		**Pn**		**13 48 50.9**	**+1.7**
	comp=E,11nm,0.3s								
RUSF	**Rustrel**	**3.98**	**278**	P		**Pn**		**13 48 52.0**	**+2.6**
RETA	**Reutte**	**3.99**	**358**	*i* Pn		**Pn**		**13 48 52.7**	**+3.2**
	comp=E,31nm,0.5s,SNR=15								
RETA				*e*Sn		**Sn**		**13 49 38.7**	**+2.7**
	comp=E,12nm,0.6s								
HVAR	**Hvar**	**4.03**	**93**	*e*Pn		**Pn**		**13 48 51.2**	**+1.2**
HVAR				Sn		**Sn**		**13 49 35.1**	**-1.9**
ARBF	**Arbois**	**4.08**	**272**	P		**Pn**		**13 48 53.3**	**+2.6**
SOKA	**Soboth**	**4.30**	**41**	*e*Pn		**Pn**		**13 48 56.0**	**+2.2**
	comp=E,9.5nm,0.4s,SNR=6.3								
OGSM	**Saint Maurice**	**4.30**	**301**	P		**Pn**		**13 48 56.5**	**+2.8**
PTJ	**Puntijarka**	**4.31**	**54**	*e*Pn		**Pn**		**13 48 54.6**	**+0.6**
PTJ				Sn		**Sn**		**13 49 43.7**	**-0.5**
MAKA	**Makarska**	**4.43**	**91**	*e*Pn		**Pn**		**13 48 59.6**	**+4.0**
MAKA				Sn		**Sn**		**13 49 47.2**	**+0.3**
RICI	**Ricice**	**4.50**	**88**	*e*Pn		**Pn**		**13 48 58.9**	**+2.4**
RICI				Sn		**Sn**		**13 49 50.2**	**+1.5**
OG35	**Corcelles**	**4.59**	**305**	P		**Pn**		**13 49 00.9**	**+3.0**
CABF	**La Chapelle**	**4.63**	**314**	*e*P		**Pn**		**13 49 01.1**	**+2.7**
CABF				*e*Sn		**Sn**		**13 49 48.0**	**-4.1**
	comp=E,11nm,0.4s								
VIVF	**Saint-Julien-l**	**4.71**	**289**	*e*P		**Pn**		**13 49 02.6**	**+3.2**
VIVF				*e*Sn		**Sn**		**13 49 50.4**	**-3.4**
	comp=E,3.1nm,0.4s								
KALN	**Kalnik**	**4.72**	**54**	Sn		**Sn**		**13 49 52.1**	**-1.9**
SSB	**Saint Sauveur**	**4.92**	**293**	P		**Pn**		**13 49 02.8**	**+0.4**
KIZ	**Kirchzarten**	**4.93**	**336**	P		**Pn**		**13 49 04.4**	**+2.0**
KIZ	**Kirchzarten**	**4.93**	**336**	S		**Sn**		**13 49 56.8**	**-2.5**
MOA	**Molln**	**4.93**	**27**	*i* Pn		**Pn**		**13 49 03.8**	**+1.3**
	comp=E,2.7nm,0.2s								
MOA				*e*Sn		**Sn**		**13 50 00.7**	**+1.4**
	comp=E,4.2nm,0.3s								
ARSA	**Arzberg**	**4.94**	**39**	*e*Pn		**Pn**		**13 49 03.2**	**+0.5**
	comp=E,6.8nm,0.3s,SNR=6.6								
STON	**Ston**	**4.98**	**95**	*e*Pn		**Pn**		**13 49 04.6**	**+1.5**
STON				Sn		**Sn**		**13 49 60.0**	**-0.4**
MOF	**Molkenrain**	**5.10**	**330**	S		**Sn**		**13 50 03.4**	**-0.1**
MOF	**Molkenrain**	**5.10**	**330**	P		**Pn**		**13 49 07.4**	**+2.5**
LASF	**Ste Croix**	**5.16**	**279**	*e*P		**Pn**		**13 49 07.9**	**+2.3**
LASF				*e*Sn		**Sn**		**13 50 02.1**	**-2.9**
	comp=E,2.4nm,0.4s								
HINF	**Hinteralfeld**	**5.18**	**328**	*e*P		**Pn**		**13 49 07.8**	**+1.9**
HINF				*e*Sn		**Sn**		**13 50 00.8**	**-4.6**
	comp=E,44nm,0.6s								
OPP	**Oppenau**	**5.35**	**340**	P		**Pn**		**13 49 09.9**	**+1.7**
ECH	**Echery**	**5.40**	**332**	P		**Pn**		**13 49 10.6**	**+1.7**
ECH				S		**Sn**		**13 50 07.7**	**-3.2**
WLS	**Welschbruch**	**5.51**	**334**	P		**Pn**		**13 49 12.3**	**+1.8**
HAU	**Haudompre**	**5.53**	**326**	*e*P		**Pn**		**13 49 12.9**	**+2.2**
HAU				*e*Sn		**Sn**		**13 50 09.7**	**-4.4**
	comp=E,57nm,0.5s								
CDF	**Champ du Feu**	**5.53**	**334**	*e*P		**Pn**		**13 49 12.4**	**+1.6**
CDF				*e*Sn		**Sn**		**13 50 09.4**	**-4.8**
	comp=E,31nm,0.6s								
CONA	**Conrad Observa**	**5.61**	**36**	*e*Pn		**Pn**		**13 49 12.6**	**+0.8**
	comp=E,2.6nm,0.3s								
CONA				*e*Sn		**Sn**		**13 50 16.2**	**+0.2**
	comp=E,5.1nm,0.3s								
KHC	**Kasperske Hory**	**5.92**	**17**	*e*PN		**Pn**		**13 49 16.5**	**+0.5**
KHC				*e*SN		**Sn**		**13 50 22.5**	**-1.1**
KHC				*e*SG		**Sg**		**13 50 58.5**	**-0.1**
SMF	**Signal de Mont**	**5.93**	**304**	*e*P		**Pn**		**13 49 18.9**	**+2.8**
SMF				*e*Sn		**Sn**		**13 50 20.5**	**-3.3**
	comp=E,12nm,0.6s								
PAGF	**Fort de Pagny**	**6.22**	**326**	*e*P		**Pn**		**13 49 21.1**	**+1.0**
PAGF				*e*Sn		**Sn**		**13 50 25.7**	**-5.3**
	comp=E,5.0nm,0.3s,baz=145								
LOR	**Lormes**	**6.25**	**309**	*e*P		**Pn**		**13 49 23.2**	**+2.7**
	baz=129								
LOR				*e*Sn		**Sn**		**13 50 27.2**	**-4.5**
	comp=E,7.3nm,0.4s								
SFTF	**Sexfontaines**	**6.25**	**321**	*e*P		**Pn**		**13 49 23.9**	**+3.3**
	baz=141								
SFTF				*e*Sn		**Sn**		**13 50 26.8**	**-5.0**
	comp=E,3.9nm,0.3s								
AVF	**Avril sur Loir**	**6.29**	**304**	*e*P		**Pn**		**13 49 24.6**	**+3.5**
AVF				*e*Sn		**Sn**		**13 50 28.2**	**-4.6**
	comp=E,1.7nm,0.4s								
SSF	**Saint Saulge**	**6.34**	**307**	*e*P		**Pn**		**13 49 25.3**	**+3.6**
SSF				*e*Sn		**Sn**		**13 50 29.6**	**-4.3**
	comp=E,4.6nm,0.5s								
SSF				*e*Sg		**Sg**		**13 51 10.9**	**-1.2**
	comp=E,3.6nm,0.5s								
MTLF	**Montolieu**	**6.36**	**272**	*e*P		**Pn**		**13 49 24.6**	**+2.6**
MEZF	**Maizieres J'vi**	**6.46**	**323**	*e*P		**Pn**		**13 49 26.9**	**+3.4**
	baz=141								
MEZF				*e*Sn		**Sn**		**13 50 31.9**	**-5.1**
	comp=E,4.3nm,0.3s								
BGF	**Bois d'Agland**	**6.50**	**301**	*e*P		**Pn**		**13 49 27.7**	**+3.7**
BGF				*e*Sn		**Sn**		**13 50 33.3**	**-4.6**
	comp=E,12nm,0.5s								
PBCC	**Pribram**	**6.53**	**18**	*e*PN		**Pn**		**13 49 24.8**	**+0.4**
CAF	**Calviac**	**6.54**	**286**	*e*P		**Pn**		**13 49 28.2**	**+3.7**
CAF				*e*Sn		**Sn**		**13 50 34.3**	**-4.6**
	comp=E,2.3nm,0.5s								
MODS	**Modra-Piesok**	**6.57**	**40**	*e*PN		**Pn**		**13 49 24.6**	**-0.4**
MODS				*e*SN		**Sn**		**13 50 35.2**	**-4.5**
TCF	**Toulx Ste Croi**	**6.80**	**297**	*e*P		**Pn**		**13 49 31.4**	**+3.3**
TCF				*e*Sn		**Sn**		**13 50 40.3**	**-5.0**
	comp=E,1.2nm,0.4s								
PRU	**Pruhonice**	**6.94**	**20**	*e*PN		**Pn**		**13 49 30.0**	**0.0**
VYHS	**Vyhne**	**7.42**	**45**	*e*PN		**Pn**		**13 49 38.7**	**+2.1**
VYHS				*e*SN		**Sn**		**13 50 54.0**	**-6.6**
LFF	**La Frestale**	**7.47**	**285**	*e*Sn		**Sn**		**13 50 56.6**	**-5.1**
	comp=E,3.8nm,0.2s								
BRG	**Berggiesshubel**	**7.65**	**14**	SG		**Pn**		**13 49 41.2**	**+1.5**
	comp=E,2.9nm,0.4s								
CLL	**Collm**	**7.93**	**9**	*i* Pn		**Pn**		**13 49 44.1**	**+0.5**
CLL				*e*Sg		Sb		13 52 02.0	+22
ETSF	**Etsaut**	**8.43**	**270**	*e*P		**Pn**		**13 49 55.2**	**+4.7**
ETSF				*e*Sg		Sb		13 52 09.0	+14
	comp=E,2.9nm,0.8s								
MFF	**Saint Martin d**	**8.44**	**295**	*e*P		**Pn**		**13 49 54.7**	**+4.1**

*IDC **09** 13:52:33.7±1.6,8°.03S×122°.89E,h210^{km}±18^{km},mb3.5/2, mb1 3.5/6,mb1mx3.2/40,mbtmp3.9/6,MS3.8/1,Ms1 3.8/1, ms1mx2.5/24,Error ellipse: s-maj=80.2km s-min=18.6km az=59.0*

*DJA **09** 13:52:34.0±0.5,8°S±6'×12°3E±°,h216^{km}±7^{km},M3.8/8, mb4.0/2,MLv3.7/8*

ISC 09 13:52:33.3±0.9,**8°.18S**±0°.07×**122°.69E**±0°.07,**h226**^{km},**n20,** σ1§**40**/20,**Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.64**	**224**	P	**Pn**	**13 53 02.8**	**-1.1**
EDFI	**Ende, Flores**	**1.14**	**240**	P	**Pn**	**13 53 05.8**	**-1.0**
SOEI	**Soe**	**2.21**	**135**	P	**Pn**	**13 53 17.7**	**+1.6**
BATI	**Baumata**	**2.24**	**154**	P	**Pn**	**13 53 17.1**	**+0.9**
	24nm,0.3s,baz=355,slow=2.9,SNR=22						
BATI				S	**S**	**13 53 49.6**	**-0.1**
	42nm,0.3s,baz=74,slow=20,SNR=8.1						
BATI	**Baumata**	**2.24**	**154**	P	**Pn**	**13 53 17.3**	**+1.1**
WSI	**Waingapu**	**2.79**	**238**	P	**S**	**13 53 58.1**	**-1.9**
BASI	**Baing, Sumba**	**2.91**	**226**	P	**Pn**	**13 53 23.7**	**+0.4**
WBSI	**Waikabubak, Su**	**3.56**	**246**	P	**Pn**	**13 53 30.7**	**-0.2**
BNSI	**Bone**	**4.54**	**326**	P	**Pn**	**13 53 43.8**	**+1.1**
PLAI	**Plampang**	**4.90**	**262**	P	**Pn**	**13 53 46.5**	**-0.6**
TWSI	**Taliwang, Sumb**	**5.77**	**264**	P	**Pn**	**13 53 57.2**	**-0.8**
	0.1nm14nm,1.5s						
NLAI	**Namlea**	**6.58**	**42**	P	S	13 55 15.4	-8.9
AAI	**Ambon**	**7.07**	**51**	P	**S**	**13 55 31.9**	**-3.6**
MSAI	**Masohi**	**7.85**	**53**	P	S	13 55 38.7	-15
FITZ	**Fitzroy Crossi**	**10.27**	**164**	P	**Pn**	**13 54 56.1**	**+0.4**
	0.4nm,0.3s,baz=3.4,slow=11,SNR=26						
FITZ				S	**S**	**13 56 49.9**	**-1.1**
	1.3nm,0.3s,baz=15,slow=12,SNR=9.3						
WRA	**Warramunga Arr**	**16.25**	**137**	P	**Pn**	**13 56 10.2**	**+0.7**
	0.4nm,0.3s,baz=315,slow=13,SNR=14						
WRA				S	**S**	**13 59 07.3**	**-0.1**
	0.4nm,0.3s,baz=316,slow=25,SNR=7.4						
ASAR	**Alice Springs**	**18.78**	**146**	P	**Pn**	**13 56 39.3**	**-0.1**
	0.7nm,0.3s,baz=324,slow=11,SNR=70						
JCJ	**Chichijima**	**39.83**	**28**	LR	LR	14 14 10.6	
	comp=Z,130nm,20.4s,baz=166,slow=33						
MKAR	**Makanchi Array**	**65.46**	**331**	P	**P**	**14 02 54.1**	**+2.0**
	0.7nm,0.4s,baz=129,slow=8.2,SNR=15						
ZALV	**Zalesovo Beam**	**69.64**	**337**	P	**P**	**14 03 19.2**	**+1.2**
	1.1nm,0.5s,baz=127,slow=4.3,SNR=5.2						

*IDC **09** 13:59:06.4±3.4,29°.59S×177°.66W,h56^{km}±27^{km},mb3.8/4, mb1 3.9/4,mb1mx3.5/34,mbtmp4.0/4,MS3.2/1,Ms1 3.2/1, ms1mx2.7/24,Error ellipse: s-maj=75.6km s-min=47.5km az=11.0*

*NEIC **09** 13:59:08.1±1.3,29°.3S±0°.2×177°.8W±0°.2,h68^{km}±8^{km}, mb4.2/10,Error ellipse: s-maj=30.1km s-min=10.9km az=137.0*

ISC 09 13:59:05.9±1.1,**29°.6S**±0°.1×**177°.6W**±0°.1,**h52**^{km},**n23,** σ1§**88**/22,**mb4.1/9,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.46**	**320**	P	**Pn**	**13 59 18.0**	**+1.2**
	130nm,0.3s,baz=90,slow=8.3,SNR=9.6						
RAO				S	**Sn**	**13 59 27.2**	**+2.6**
	474nm,0.3s,baz=261,slow=22,SNR=10						
RAO	**Raoul Island**	**0.46**	**320**	Pn	**Pn**	**13 59 18.2**	**+1.4**
OUZ	**Tomahuta**	**9.33**	**231**	Pn	**Pn**	**14 01 20.4**	**+2.7**
NIUE	**Niue**	**12.58**	**35**	Pn	**Pn**	**14 02 02.4**	**+0.2**
PLWZ	**Palliser**	**13.28**	**204**	Pn	**Pn**	**14 02 14.5**	**+2.8**
AFI	**Afiamalu**	**16.51**	**20**	LR	LR	14 08 40.9	
	comp=Z,75nm,18.2s,baz=110,slow=35						
ARMA	**Armidale**	**26.64**	**260**	P	**P**	**14 04 34.9**	**-5.0**
ARMA				IAmb	IAmb	14 04 46.0	
	comp=Z,5.2nm,1.1s						
EIDS	**Eidsvold**	**28.07**	**271**	P	**P**	**14 04 50.4**	**-2.3**
EIDS				IAmb	IAmb	14 04 55.3	
	comp=Z,8.3nm,1.1s						
CTA	**Charters Tower**	**34.04**	**278**	P	**P**	**14 05 44.6**	**-0.7**
	comp=Z,4.7nm,0.9s,baz=78,slow=11,SNR=1.6						
CTAO	**Charters Tower**	**34.04**	**278**	P	**P**	**14 05 44.4**	**-0.9**
STKA	**Stephens Creek**	**35.02**	**256**	P	**P**	**14 05 53.4**	**-0.2**
	comp=Z,3.9nm,1.1s,baz=90,slow=9.4,SNR=3.1						
STKA	**Stephens Creek**	**35.02**	**256**	P	**P**	**14 05 52.8**	**-0.9**
BBOO	**Buckleboo**	**39.54**	**253**	P	**P**	**14 06 31.5**	**-0.4**
AS31	**Alice Springs**	**43.52**	**266**	P	**P**	**14 07 04.0**	**-0.7**
ASAR	**Alice Springs**	**43.52**	**266**	P	**P**	**14 07 04.0**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=104,slow=7.4,SNR=13						
ASAR	**Alice Springs**	**43.52**	**266**	P	**P**	**14 07 02.4**	**-2.3**
WR0	**Warramunga Arr**	**44.26**	**271**	P	**P**	**14 07 09.0**	**-1.5**
WR0				IAmb	IAmb	14 07 09.4	
	comp=Z,4.5nm,1.1s						
WB2	**Warramunga Arr**	**44.43**	**271**	P	**P**	**14 07 11.4**	**-0.5**
WB2				IAmb	IAmb	14 07 29.0	
	comp=Z,4.1nm,1.1s						
WRA	**Warramunga Arr**	**44.44**	**271**	P	**P**	**14 07 11.2**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=111,slow=8.0,SNR=12						
WRA	**Warramunga Arr**	**44.44**	**271**	IAmb	IAmb	14 07 13.0	
	comp=Z,0.1nm,0.9s						
WB0	**Warramunga Arr**	**44.46**	**271**	P	**P**	**14 07 11.8**	**-0.4**
WB0				IAmb	IAmb	14 07 13.0	
	comp=Z,4.2nm,0.9s						
FIA1	**FINESS Array S**	**144.52**	**341**	PKPdf	**PKPdf**	**14 18 35.6**	**-0.2**
FINES	**FINESS Array B**	**144.52**	**341**	PKP	**PKPdf**	**14 18 35.4**	**-0.4**
	comp=Z,3.8nm,0.5s,baz=66,slow=3.5,SNR=34						

*NEIC **09** 14:05:03.6±2.0,5°.7S±0°.1×153°.9E±0°.1,h48^{km}±7^{km}, mb4.1/9,Error ellipse: s-maj=18.8km s-min=12.7km az=125.0*

*IDC **09** 14:05:04.6±2.5,5°.65S×153°.79E,h46^{km}±22^{km},mb3.6/12, mb1 3.8/14,mb1mx3.7/37,mbtmp4.0/14,ML3.1/2,MS3.2/5, Ms1 3.2/5,ms1mx2.9/30,Error ellipse: s

IDC 09 14:08:39.9±23.0, 19°60S×178°65W, h630km±302km, mb2.9/6, mb1 3.2/6, mb1mx2.9/27, mbtmp3.9/6, Error ellipse: s-maj=202.8km s-min=75.6km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.98**	**263**	P	P	14 14 26.1	+0.6
	2.6nm,0.5s,baz=85,slow=11,SNR=1.5						
WRA	**Warramunga Arr**	**44.13**	**261**	P	P	14 15 54.9	-0.1
	1.1nm,0.3s,baz=96,slow=7.6,SNR=47						
ASAR	**Alice Springs**	**44.14**	**256**	P	P	14 15 54.9	-0.1
	2.2nm,0.7s,baz=89,slow=8.3,SNR=39						
NVAR	**Mina Array Bea**	**80.79**	**44**	P	P	14 19 50.2	+0.3
	0.4nm,0.8s,baz=198,slow=5.4,SNR=3.0						
TXAR	**Lajitas Array**	**87.08**	**58**	P	P	14 20 20.4	-0.3
	0.4nm,0.8s,baz=201,slow=6.7,SNR=5.1						
PDAR	**Pinedale Array**	**88.72**	**43**	P	P	14 20 28.4	+0.2
	0.1nm,0.4s,baz=205,slow=4.0,SNR=2.4						

*IDC **09** 14:20:26.9±3.5, 2.°96N×92.°45E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.4/29, mbtmp3.6/3, ML4.2/1, MS3.3/7, Ms1 3.4/7, ms1mx3.0/38, Error ellipse: s-maj=113.3km s-min=35.7km az=61.0*

*NEIC **09** 14:20:29.6±1.6, 3.°0N±0.°2×92.°2E±0.°3, h31km±7km, mb4.3/3, Error ellipse: s-maj=24.3km s-min=3.6km az=184.0*

ISC 09 14:20:29.9±1.1, 3.°0N±0.°1×92.°2E±0.°1, h35km, n23, σ1°15/13, mb3.7/3, MS3.3/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**5.22**	**64**	Pn	**Pn**	**14 21 45.1**	**-0.4**
GSI	**Gunungsitoli**	**5.59**	**107**		**Pn**	**14 21 50.2**	**-0.4**
RPSI	**Rantau Prapat**	**6.69**	**92**		**Pn**	**14 22 06.0**	**+0.2**
KULM	**Kulim**	**8.71**	**74**	Pn	**Pn**	**14 22 34.8**	**+1.2**
IPM	**Ipoh**	**8.90**	**80**		**Pn**	**14 22 37.1**	**+0.9**
PALK	**Pallekele**	**12.26**	**291**	Pn	**Pn**	**14 23 21.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.75**	**23**	Pn	**P**	**14 24 23.1**	**-0.9**
	0.3nm,0.3s,baz=220,slow=14,SNR=4.1						
CMAR				LR	LR	14 30 18.8	
	comp=Z,75nm,18.0s,baz=228,slow=36						
H08S2	**Diego Garcia H**	**22.33**	**242**	T	T	14 48 34.8	
	baz=62,slow=75,SNR=4.7						
H08S3	**Diego Garcia H**	**22.33**	**242**	T	T	14 48 32.2	
	baz=62,slow=75,SNR=4.2						
H08S1	**Diego Garcia H**	**22.35**	**242**	T	T	14 48 34.4	
	baz=62,slow=75,SNR=5.6						
QIZ	**Qiongzhong**	**23.49**	**46**	P	**P**	**14 25 35.0**	**-1.8**
QIZ				IAmb	IAmb	14 25 53.6	
	comp=Z,9.6nm,1.0s						
DAV	**Davao City (W)**	**33.46**	**82**	LR	LR	14 43 18.1	
	comp=Z,43nm,18.5s,baz=162,slow=41						
MKAR	**Makanchi Array**	**44.51**	**350**	P	**P**	**14 28 40.3**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=159,slow=7.8,SNR=5.9						
MKAR	**Makanchi Array**	**44.51**	**350**	P	**P**	**14 28 38.2**	**+0.1**
SONM	**Songino Array**	**46.35**	**13**	LR	LR	14 50 20.0	
	comp=Z,36nm,19.8s,baz=193,slow=39						
GEYT	**Alibeck**	**46.75**	**322**	LR	LR	14 48 47.9	
	comp=Z,33nm,21.9s,baz=90,slow=36						
WRA	**Warramunga Arr**	**47.18**	**121**	P	**P**	**14 29 00.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=300,slow=8.7,SNR=2.9						
WRA	**Warramunga Arr**	**47.18**	**121**	IAmb	IAmb	14 29 04.9	
	comp=Z,0.3nm,1.4s						
WRAB	**Tennant Creek**	**47.19**	**121**	P	**P**	**14 29 00.6**	**+1.0**
WB2	**Warramunga Arr**	**47.19**	**121**	P	**P**	**14 28 58.9**	**-0.8**
KSRS	**Korea Array**	**47.43**	**39**	LR	LR	14 51 59.9	
	comp=Z,33nm,20.0s,baz=0.0,slow=40						
BVAR	**Borovoye Array**	**53.08**	**344**	LR	LR	14 52 33.2	
	comp=Z,32nm,21.8s,baz=169,slow=36						
PETK	**Petropavlovsk-**	**73.09**	**35**	LR	LR	15 05 58.9	
	comp=Z,34nm,18.2s,baz=241,slow=37						

*BEO **09** 14:34:19.5±1.0, 40.°01N×24.°05E, h2km±4km, ML2.5/7*
*ATH **09** 14:34:22.5, 40.°31N×23.°95E, h26km±1km, ML2.3/17, Error ellipse: s-maj=1.5km s-min=0.7km az=354.0*
*ISK **09** 14:34:23.5, 40.°26N×23.°89E, h6km, ML2.6/8*
*THE **09** 14:34:23.8, 40.°31N×23.°94E, h13km, ML2.4/11, Error ellipse: s-maj=0.9km s-min=0.5km az=348.0*
*SKO **09** 14:34:25.1, 40.°38N×23.°96E, h9km*
*DDA **09** 14:34:35.6, 40.°20N×24.°63E, h8km±4km, ML2.3*

ISC 09 14:34:23.6±0.8, 40.°29N±0.°02×23.°95E±0.°01, h14km±4km, n70, σ0°85/116, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.05**	**28**	P	**Pg**	**14 34 26.3**	**0.0**
OUR				S	**Sg**	**14 34 27.9**	**-0.2**
	23μm,0.2s						
OUR	**Ouranopolis**	**0.05**	**28**	P	**Pg**	**14 34 26.4**	**+0.1**
OUR				AML	AML	14 34 28.1	
	comp=E,34078μm,0.2s						
OUR				AML	AML	14 34 28.2	
	comp=N,58382μm,0.2s						
OUR	**Ouranopolis**	**0.05**	**28**	PG	**Pg**	**14 34 26.4**	**+0.1**
OUR				SG	**Sg**	**14 34 27.9**	**-0.2**
PLG	**Polygyros**	**0.40**	**283**	P	**Pg**	**14 34 31.6**	**0.0**
PLG				S	**Sg**	**14 34 36.9**	**-0.1**
	comp=N,3μm,0.2s						
PLG	**Polygyros**	**0.40**	**283**	P	**Pg**	**14 34 31.6**	**0.0**
PLG				AML	AML	14 34 37.2	
	comp=N,2441μm,0.2s						
PLG				AML	AML	14 34 38.5	
	comp=E,1768μm,0.2s						
THAS	**Thassos island**	**0.67**	**61**	P	**Pg**	**14 34 36.3**	**-0.3**
THAS				S	**Sb**	**14 34 46.3**	**+0.3**
	comp=E,2μm,0.3s						
THAS	**Thassos island**	**0.67**	**61**	P	**Pg**	**14 34 36.4**	**-0.3**
THAS				S	**Sg**	**14 34 45.2**	**-0.3**
THAS				AML	AML	14 34 47.6	
	comp=N,4902μm,0.2s						
THAS				AML	AML	14 34 47.6	
	comp=E,1844μm,0.3s						
SOH	**Sokhos**	**0.70**	**320**	P	**Pg**	**14 34 37.1**	**-0.2**
SOH				S	**Sg**	**14 34 46.4**	**-0.1**
	comp=E,328nm,0.2s						
SOH	**Sokhos**	**0.70**	**320**	P	**Pg**	**14 34 36.5**	**-0.7**
SOH				S	**Sg**	**14 34 45.8**	**-0.7**
SOH				AML	AML	14 34 47.5	
	comp=N,670μm,0.2s						
SOH				AML	AML	14 34 49.5	
	comp=E,782μm,0.3s						
HORT	**Hortiatis**	**0.72**	**296**	P	**Pg**	**14 34 37.4**	**-0.2**
HORT				S	**Sg**	**14 34 47.2**	**+0.1**
	comp=E,165nm,0.2s						
HORT	**Hortiatis**	**0.72**	**296**	P	**Pg**	**14 34 36.6**	**-1.0**
HORT				S	**Sg**	**14 34 46.6**	**-0.6**
HORT				AML	AML	14 34 49.7	
	comp=E,442μm,0.2s						
HORT				AML	AML	14 34 49.9	
	comp=N,437μm,0.2s						
HORT	**Hortiatis**	**0.72**	**296**	PG	**Pg**	**14 34 37.3**	**-0.3**
HORT				SG	**Sg**	**14 34 47.4**	**+0.3**
KVLA	**Kavala**	**0.73**	**27**	P	**Pg**	**14 34 36.6**	**-1.2**
KVLA				S	**Sg**	**14 34 47.0**	**-0.3**
KVLA				AML	AML	14 34 49.4	
	comp=E,950μm,0.2s						
KVLA				AML	AML	14 34 49.5	
	comp=N,1151μm,0.2s						
KAVA	**Kavala**	**0.83**	**31**	P	**Pg**	**14 34 39.6**	**0.0**
KAVA				S	**Sg**	**14 34 50.7**	**+0.2**
	comp=N,338nm,0.1s						
KAVA	**Kavala**	**0.83**	**31**	P	**Pg**	**14 34 38.2**	**-1.4**
KAVA				S	**Sg**	**14 34 50.2**	**-0.3**
KAVA				AML	AML	14 34 51.8	
	comp=E,813μm,0.1s						
KAVA				AML	AML	14 34 52.6	
	comp=N,528μm,0.2s						
THE	**Thessaloniki**	**0.83**	**295**	P	**Pg**	**14 34 38.6**	**-1.1**
THE				S	**Sg**	**14 34 50.0**	**-0.5**
THE				AML	AML	14 34 54.9	
	comp=N,233μm,0.4s						
THE				AML	AML	14 34 55.7	
	comp=E,151μm,0.3s						
SRS	**Serrai**	**0.87**	**342**	P	**Pg**	**14 34 40.2**	**-0.3**
SRS				S	**Sg**	**14 34 52.1**	**+0.2**
	comp=E,208nm,0.2s						
SRS	**Serrai**	**0.87**	**342**	*e*Pg	**Pg**	**14 34 40.8**	**+0.3**
SRS				*e*Sg	**Sn**	**14 34 55.6**	**+1.7**
SRS	**Serrai**	**0.87**	**342**	P	**Pg**	**14 34 38.9**	**-1.6**
SRS				S	**Sg**	**14 34 51.3**	**-0.7**
SRS				AML	AML	14 34 55.5	
	comp=E,456μm,0.2s						
SRS				AML	AML	14 34 56.5	
	comp=N,398μm,0.2s						
LIA	**Limnos Island**	**1.02**	**112**	P	**Pb**	**14 34 42.7**	**-0.3**
LIA				S	**Sn**	**14 34 57.4**	**-0.2**
	comp=N,188nm,0.5s						
LIA	**Limnos Island**	**1.02**	**112**	P	**Pb**	**14 34 42.0**	**-1.0**
LIA				S	**Sn**	**14 34 57.3**	**-0.2**
LIA				AML	AML	14 34 59.4	
	comp=N,442μm,0.3s						
LIA				AML	AML	14 35 00.4	
	comp=E,231μm,0.5s						
NVR	**Nevrokopi**	**1.06**	**356**	P	**Pb**	**14 34 43.6**	**-0.1**
NVR				S	**Sb**	**14 34 57.4**	**-0.1**
	comp=E,128nm,0.3s						
NVR	**Nevrokopi**	**1.06**	**356**	P	**Pb**	**14 34 42.3**	**-1.5**
NVR				S	**Sb**	**14 34 56.6**	**-0.9**
NVR				AML	AML	14 35 00.6	
	comp=E,238μm,0.2s						
NVR				AML	AML	14 35 00.8	
	comp=N,254μm,0.1s						
XOR	**Xorichti**	**1.09**	**213**	P	**Pb**	**14 34 44.1**	**-0.1**
XOR	**Xorichti**	**1.09**	**213**	P	**Pb**	**14 34 44.1**	**-0.1**
XOR				AML	AML	14 35 00.5	
	comp=E,206μm,0.4s						
XOR				AML	AML	14 35 00.9	
	comp=N,259μm,0.6s						
AOS	**Alonnisos**	**1.12**	**183**	P	**Pb**	**14 34 44.1**	**-0.5**
AOS				S	**Sn**	**14 35 01.3**	**+1.4**
	comp=N,135nm,0.3s						
AOS	**Alonnisos**	**1.12**	**183**	P	**Pb**	**14 34 44.1**	**-0.5**
AOS				AML	AML	14 35 02.3	
	comp=N,255μm,0.6s						
AOS				AML	AML	14 35 03.9	
	comp=E,288μm,0.4s						
AOS	**Alonnisos**	**1.12**	**183**	PN	**Pb**	**14 34 44.5**	**-0.1**
AOS				SN	**Sn**	**14 35 00.6**	**+0.7**
NEO	**Neokhori**	**1.13**	**210**	P	**Pb**	**14 34 44.6**	**-0.2**
NEO				S	**Sg**	**14 34 59.9**	**-0.2**
NEO				AML	AML	14 35 01.2	
	comp=E,295μm,0.6s						
NEO				AML	AML	14 35 02.1	
	comp=N,250μm,0.6s						
LIT	**Litokhoron**	**1.13**	**261**	P	**Pb**	**14 34 44.8**	**-0.1**
LIT	**Litokhoron**	**1.13**	**261**	P	**Pb**	**14 34 44.0**	**-0.9**
LIT				S	**Sg**	**14 35 00.3**	**0.0**
LIT				AML	AML	14 35 00.5	
	comp=N,98μm,0.3s						
LIT				AML	AML	14 35 02.5	
	comp=E,108μm,0.2s						
SKIA	**Skiathos**	**1.18**	**199**	P	**Pb**	**14 34 45.5**	**-0.2**
SKIA				AML	AML	14 35 05.3	
	comp=N,179μm,0.3s						
SKIA				AML	AML	14 35 06.9	
	comp=E,199μm,0.5s						
VOL3	**Nea Ionia, Vol**	**1.20**	**221**	P	**Pg**	**14 34 47.3**	**+0.5**
SMTH	**Samothraki Isl**	**1.22**	**81**	P	**Pn**	**14 34 45.5**	**-0.7**
SMTH				S	**Sg**	**14 35 03.3**	**+0.3**
	comp=E,100nm,0.4s						
SMTH	**Samothraki Isl**	**1.22**	**81**	P	**Pn**	**14 34 45.4**	**-0.7**
SMTH				AML	AML	14 35 04.0	
	comp=N,245μm,0.5s						
SMTH				AML	AML	14 35 04.6	
	comp=E,146μm,0.2s						
VAY	**Valandovo**	**1.47**	**315**	*e*Pn	**Pb**	**14 34 50.9**	**+0.3**
VAY				*e*Sn	**Sg**	**14 35 12.4**	**+1.4**
VAY	**Valandovo**	**1.47**	**315**	*i* Pg	**Pb**	**14 34 51.0**	**+0.3**
VAY				*i* Sg	**Sg**	**14 35 11.6**	**+0.6**
VAY				*e*Lg	Lg	14 35 12.7	
	comp=N,35nm,0.6s						
VAY				*e*Lg	Lg	14 35 13.3	
	comp=E,31nm,0.6s						
RDO	**Rodhopi**	**1.48**	**54**	P	**Pn**	**14 34 49.0**	**-0.7**
RDO	**Rodhopi**	**1.48**	**54**	PN	**Pg**	**14 34 52.2**	**+0.2**
RDO				SN	**Sg**	**14 35 13.0**	**+1.7**
SKY	**Skiros Island**	**1.48**	**162**	P	**Pn**	**14 34 49.6**	**-0.1**
GADA	**Gvkgeada**	**1.49**	**93**	PN	**Pg**	**14 34 51.9**	**-0.4**
GADA				SN	**Sg**	**14 35 12.9**	**+1.2**
GOKA	**anakkale-Gk**	**1.50**	**93**	*i* P	**Pg**	**14 34 54.1**	**+1.6**
GOKA				*i* S	**Sg**	**14 35 11.5**	**-0.4**
GOKA	**anakkale-Gk**	**1.50**	**93**	*i* P	**Pg**	**14 34 54.0**	**+1.6**
THL	**Klokotos Trika**	**1.66**	**245**	P	**Pn**	**14 34 51.9**	**-0.2**
KYMI	**Kymi, Euboea I**	**1.66**	**176**	P	**Pn**	**14 34 52.0**	**-0.1**
BOZC	**Bozcaada**	**1.67**	**105**	PN	**Pb**	**14 34 54.6**	**+0.5**
BOZC				SN	**Sg**	**14 35 17.1**	**-0.4**
BOZC	**Bozcaada**	**1.67**	**105**	*i* P	**Pn**	**14 34 53.1**	**+0.7**
BOZC	**Bozcaada**	**1.67**	**105**	*i* P	Pn	14 34 47.0	-5.4
ALN	**Alexandroupoli**	**1.71**	**68**	P	**Pn**	**14 34 51.9**	**-0.9**
ALN	**Alexandroupoli**	**1.71**	**68**	PN	**Pb**	**14 34 55.3**	**+0.6**
ALN				SN	**Sg**	**14 35 18.7**	**+0.2**
ALN	**Alexandroupoli**	**1.71**	**68**	*i* P	**Pb**	**14 34 55.3**	**+0.6**
ALN				*i* S	**Sg**	**14 35 18.8**	**+0.3**
ENEZ	**Enez**	**1.74**	**74**	PN	**Pb**	**14 34 55.5**	**+0.3**
ENEZ				SN	**Sg**	**14 35 18.9**	**-0.6**
KDZ	**Kurdzhali**	**1.76**	**39**	PN	**Pn**	**14 34 55.0**	**+1.4**
KDZ				SN	**Sb**	**14 35 18.1**	**+0.7**
AGG	**Agios Georgios**	**1.78**	**225**	PN	**Pn**	**14 34 54.8**	**+0.9**
AGG	**Agios Georgios**	**1.78**	**225**	*i* P	**Pn**	**14 34 53.8**	**-0.1**
SIGR	**SIGRI**	**1.82**	**126**	PN	**Pb**	**14 34 56.4**	**-0.2**
SIGR				SN	**Sb**	**14 35 19.7**	**+0.5**
PLD	**Plovdiv**	**1.90**	**17**	PN	**Pb**	**14 34 57.9**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.93**	**86**	PN	**Pb**	**14 34 58.3**	**-0.2**
STIP	**Stip**	**1.94**	**317**	*e*Pn	**Pn**	**14 34 56.0**	**-0.1**
STIP				*i* Sg	**Sn**	**14 35 22.3**	**+2.1**
BAYC	**CANAKKALE_Bayr**	**2.07**	**104**	*i* P	**Pg**	**14 35 02.6**	**-0.6**
BAYC				*i* S	**Sn**	**14 35 20.4**	**-3.0**
BAYC				IAML		14 35 33.0	
	comp=E,12nm,0.5s						
BAYC	**CANAKKALE_Bayr**	**2.07**	**104**	*i* P	**Pg**	**14 35 03.0**	**-0.2**
BAYC				*i* S	**Sn**	**14 35 22.2**	**-1.1**
KESN	**Edirne-Kesan**	**2.15**	**75**	*i* P	**Pg**	**14 35 04.4**	**-0.4**
KESN				*i* S	**Sn**	**14 35 24.0**	**-1.8**
KESN				IAML		14 35 34.0	
	comp=E,41nm,0.4s						
KESN				IAML		14 35 39.0	
	comp=N,31nm,0.4s						
KESN	**Edirne-Kesan**	**2.15**	**75**	*i* P	**Pg**	**14 35 04.2**	**-0.6**
KESN				*i* S	**Sn**	**14 35 27.2**	**+1.4**
KESN				IAML		14 35 34.0	
	comp=E,41nm,0.4s						
KESN				IAML		14 35 39.0	
	comp=N,31nm,0.4s						
VTS	**Vitosha**	**2.39**	**347**	*e*Pn	**Pn**	**14 35 03.0**	**+0.6**
VTS				*e*Sn	**Sb**	**14 35 35.5**	**-0.3**
BOSS	**Bosilegrad**	**2.47**	**334**	*e*Pn	**Pn**	**14 35 04.6**	**+1.3**
BOSS				*e*Sn	**Sb**	**14 35 38.3**	**+0.4**
KIRK	**Kırklareli**	**2.81**	**57**	*i* P	**Pb**	**14 35 14.5**	**+1.1**
KIRK				*i* S	**Sb**	**14 35 47.3**	**-0.4**
KIRK				IAML		14 35 58.0	
	comp=N,6.2nm,0.8s						
KIRK	**Kırklareli**	**2.81**	**57**	*i* P	**Pb**	**14 35 15.0**	**+1.5**
BARS	**Barje**	**2.99**	**328**	*e*Pn	**Pn**	**14 35 11.6**	**+1.1**
BARS				*e*Sn	**Sb**	**14 35 51.4**	**-1.6**
ZAPS	**Zavoj**	**3.14**	**342**	*e*Pn	**Pn**	**14 35 14.0**	**+1.4**
ZAPS				*e*Sn	**Sb**	**14 35 55.1**	**-2.2**
SELS	**Selova**	**3.61**	**325**	*e*Pn	**Pn**	**14 35 19.3**	**+0.2**

*JMA **09** 14:35:26.9±0.1, 24.°84N×122.°14E, h107km±2km, M2.0*
*TAP **09** 14:35:27.4, 24.°86N×122.°16E, h104km, ML3.1, C*

ISC 09 14:35:28.1±1.6, 24.°83N±0.°05×122.°17E±0.°03, h99km±9km, n66, σ0°75/116, 6C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.24**	**318**	P	**Pn**	**14 35 42.2**	**-0.1**
	baz=305						
TWB1				S	**Sn**	**14 35 52.8**	**-0.1**
	baz=305						
TIPB	**Shuangxi**	**0.34**	**295**	*i* P	**Pn**	**14 35 42.8**	**-0.1**
	baz=279						
TIPB				S	**Sn**	**14 35 53.5**	**-0.3**
	baz=279						
TWC	**Suao**	**0.36**	**233**	*e*P	**Pn**	**14 35 42.8**	**0.0**
	baz=228						
TWC				*e*S	**Sn**	**14 35 53.6**	**-0.2**
	baz=228						
NWF	**Wu-fen Shan**	**0.43**	**305**	P	**Pn**	**14 35 43.2**	**-0.1**
	baz=294						
NWF				S	**Sn**	**14 35 54.5**	**-0.3**
	baz=294						
WFSB	**Wu-fen Shan**	**0.43**	**305**	*i* P	**Pn**	**14 35 43.3**	**0.0**
	baz=293						
WFSB				S	**Sn**	**14 35 54.7**	**+0.1**
	baz=293						
TWE	**Neicheng**	**0.47**	**257**	P	**Pn**	**14 35 43.5**	**-0.1**
	baz=254						
TWE				*e*S	**Sn**	**14 35 55.1**	**0.0**
	baz=254						
ENAH	**Nanao**	**0.50**	**221**	*e*P	**Pn**	**14 35 44.2**	**+0.5**
	baz=215						
ENAH				*e*S	**Sn**	**14 35 56.4**	**+1.0**
	baz=215						
TWA	**Mucha**	**0.55**	**286**	*e*S	**Sn**	**14 35 55.5**	**-0.8**
	baz=283						
ENA	**Nanau**	**0.56**	**225**	P	**Pn**	**14 35 44.6**	**+0.4**
	baz=213						
ENA				S	**Sn**	**14 35 57.3**	**+1.1**
	baz=213						
ENTT	**Nioudou**	**0.58**	**251**	S	**Sn**	**14 35 58.3**	**+1.7**
	baz=245						
NHDH	**Xindian Distri**	**0.60**	**283**	P	**Pn**	**14 35 44.1**	**-0.5**
	baz=285						
NHDH				S	**Sn**	**14 35 56.0**	**-0.8**
	baz=285						
NWLT	**Wulai**	**0.61**	**266**	P	**Pn**	**14 35 44.3**	**-0.4**
	baz=266						
NWLT				*e*S	**Sn**	**14 35 55.7**	**-1.3**
	baz=266						
YM01	**YM01**	**0.63**	**300**	*i*P	**Pn**	**14 35 44.5**	**-0.3**
	baz=294						
YM01				*e*S	**Sn**	**14 35 56.5**	**-0.9**
	baz=294						
YM08	**YM08**	**0.64**	**304**	*e*P	**Pn**	**14 35 44.3**	**-0.6**
	baz=296						
YM11	**YM11**	**0.64**	**302**	P	**Pn**	**14 35 44.8**	**-0.1**
	baz=293						
NDT	**Datong Townshi**	**0.64**	**250**	P	**Pn**	**14 35 45.4**	**+0.6**
	baz=255						
NDT				S	**Sn**	**14 35 58.4**	**+0.9**
	baz=255						
YM10	**YM10**	**0.64**	**301**	*e*P	**Pn**	**14 35 44.5**	**-0.5**
	baz=291						
YM05	**YM05**	**0.64**	**302**	P	**Pn**	**14 35 44.5**	**-0.5**
	baz=295						
YM05				*e*S	**Sn**	**14 35 57.0**	**-0.7**
	baz=295						
YM04	**YM04**	**0.66**	**300**	P	**Pn**	**14 35 44.5**	**-0.6**
	baz=292						
YM04				*e*S	**Sn**	**14 35 56.5**	**-1.3**
	baz=292						
TWS1	**Kuangyinshan**	**0.73**	**292**	*e*P	**Pn**	**14 35 45.5**	**-0.2**
	baz=295						
TWS1				*e*S	**Sn**	**14 36 00.9**	**+2.0**
	baz=295						
YHNB	**Yeheng**	**0.74**	**258**	*i*P	**Pn**	**14 35 45.9**	**0.0**
	baz=255						
YHNB				S	**Sn**	**14 35 59.1**	**0.0**
	baz=255						
NSK	**Sanguang**	**0.75**	**259**	*i*P	**Pn**	**14 35 45.9**	**-0.1**
	baz=255						
NSK				S	**Sn**	**14 35 59.2**	**-0.2**
	baz=255						
JYNG	**Yonagunijimaku**	**0.80**	**118**	P	**Pn**	**14 35 46.4**	**+0.1**
JYNG				S	**Sn**	**14 36 01.3**	**+1.3**
NNSB	**Datong**	**0.82**	**241**	*e*P	**Pn**	**14 35 47.1**	**+0.4**
	baz=244						
NNSB				*e*S	**Sn**	**14 36 01.1**	**+0.5**
	baz=244						
NNSH	**Datong**	**0.82**	**241**	*e*P	**Pn**	**14 35 47.2**	**+0.6**
	baz=244						
NNSH				S	**Sn**	**14 36 01.1**	**+0.5**
	baz=244						
NNS	**Nan Shan**	**0.82**	**242**	*e*P	**Pn**	**14 35 47.3**	**+0.6**
	baz=245						
NNS				*e*S	**Sn**	**14 36 00.9**	**+0.2**
	baz=245						
NACB	**Ninganchiao**	**0.83**	**219**	*e*P	**Pn**	**14 35 46.5**	**-0.2**
	baz=207						
NACB				*e*S	**Sn**	**14 36 00.3**	**-0.3**
	baz=207						
YOJ	**Yonaguni jima**	**0.85**	**115**	P	**Pn**	**14 35 46.8**	**0.0**
ETLH	**Xiulin Townshi**	**0.88**	**226**	*e*P	**Pn**	**14 35 47.1**	**-0.1**
	baz=230						
ETLH				*e*S	**Sn**	**14 36 01.3**	**-0.3**
	baz=230						
TWD	**Chiawan**	**0.91**	**215**	*e*P	**Pn**	**14 35 47.3**	**-0.2**
	baz=224						
TWD				*e*S	**Sn**	**14 36 01.7**	**-0.3**
	baz=224						
FUSS	**Fushou**	**1.02**	**236**	*e*P	**Pn**	**14 35 49.6**	**+0.6**
	baz=225						
FUSS				*e*S	**Sn**	**14 36 04.9**	**+0.3**
	baz=225						
LIOB	**Emei**	**1.06**	**261**	*i*P	**Pn**	**14 35 49.1**	**-0.1**
	baz=250						
LIOB				*e*S	**Sn**	**14 36 04.8**	**-0.2**
	baz=250						
WHF	**Hehuan Shan**	**1.07**	**231**	*e*P	**Pn**	**14 35 50.0**	**+0.3**
	baz=226						
WHF				*e*S	**Sn**	**14 36 05.8**	**0.0**
	baz=226						
TWT	**Tachien**	**1.07**	**238**	*e*S	**Sn**	**14 36 06.4**	**+0.9**
	baz=227						
SBCB	**Hsinchu**	**1.08**	**268**	*e*S	**Sn**	**14 36 05.3**	**+0.1**
	baz=259						
TDCB	**Techi**	**1.08**	**238**	P	**Pn**	**14 35 50.5**	**+1.0**
	baz=228						
TDCB				S	**Sn**	**14 36 06.3**	**+0.7**
	baz=228						
CHGB	**Renai**	**1.19**	**230**	P	**Pn**	**14 35 51.4**	**+0.6**
	baz=226						
CHGB				*e*S	**Sn**	**14 36 08.2**	**+0.4**
	baz=226						
ESL	**Shilin**	**1.21**	**214**	*e*P	**Pn**	**14 35 49.9**	**-1.0**
	baz=215						
ESL				*e*S	**Sn**	**14 36 06.4**	**-1.6**
	baz=215						
WHP	**Taichung City**	**1.24**	**244**	P	**Pn**	**14 35 51.8**	**+0.5**
	baz=250						
WHP				S	**Sn**	**14 36 08.9**	**+0.1**
	baz=250						
NMLH	**Miaoli**	**1.29**	**257**	*e*S	**Sn**	**14 36 08.9**	**-0.6**
	baz=256						
EGFH	**Guangfu**	**1.34**	**211**	P	**Pn**	**14 35 51.7**	**-0.6**
	baz=205						
EGFH				*e*S	**Sn**	**14 36 09.3**	**-1.3**
	baz=205						
VWDT	**VWDT**	**1.42**	**222**	P	**Pn**	**14 35 53.8**	**+0.4**
	baz=211						
VWDT				S	**Sn**	**14 36 12.5**	**+0.1**
	baz=211						
SMLT	**Sun Moon Lake**	**1.49**	**231**	*e*P	**Pn**	**14 35 55.5**	**+1.2**
	baz=236						
SMLT				*e*S	**Sn**	**14 36 15.4**	**+1.3**
	baz=236						
HGSD	**Ruisui**	**1.49**	**207**	P	**Pn**	**14 35 54.0**

FULB				*e*S		**Sn**	**14 36 21.3**	**+0.2**
	baz=210							
CHN5	**Tsauling**	**1.83**	**228**	P		**Pn**	**14 35 59.2**	**+0.6**
	baz=225							
CHN5				S		**Sn**	**14 36 22.8**	**+1.1**
	baz=225							
JIJ	**Ishigaki jima**	**1.85**	**104**	P		**Pn**	**14 35 58.5**	**-0.3**
JIJ				S		**Sn**	**14 36 22.3**	**+0.2**
ELDTW	**Lidau**	**1.94**	**213**	P		**Pn**	**14 35 59.5**	**-0.5**
	baz=205							
JISG	**Ishigakijimahi**	**1.96**	**97**	P		**Pn**	**14 36 00.3**	**+0.2**
JISG				S		**Sn**	**14 36 24.5**	**-0.1**
EDH	**Donghe**	**2.01**	**203**	*e*P		**Pn**	**14 35 59.9**	**-0.8**
	baz=204							
EDH				*e*S		**Sn**	**14 36 24.0**	**-1.6**
	baz=204							
TPUB	**Ta-pu**	**2.07**	**223**	*e*P		**Pn**	**14 36 01.1**	**-0.5**
	baz=219							
TPUB				*e*S		**Sn**	**14 36 28.5**	**+1.3**
	baz=219							
WTP	**Ta-pu**	**2.12**	**222**	*e*P		**Pn**	**14 36 02.5**	**+0.2**
	baz=230							
WTP				*e*S		**Sn**	**14 36 29.3**	**+0.9**
	baz=230							
LONT	**Longtian**	**2.13**	**207**	*e*S		**Sn**	**14 36 26.6**	**-2.1**
	baz=193							
TWK	**Hsinying**	**2.19**	**225**	*e*S		**Sn**	**14 36 30.2**	**+0.3**
	baz=221							
CHN1	**Nanshi**	**2.22**	**223**	*e*S		**Sn**	**14 36 30.5**	**-0.1**
	baz=230							
JTJ	**Tarama**	**2.31**	**94**	P		**Pn**	**14 36 04.8**	**+0.1**
JTJ				*e*S		**Sn**	**14 36 32.6**	**-0.1**

IDC ***09*** *14:55:07.7±8.6,2˙71S×103˙66E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.5/45, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=215.9km s-min=118.5km az=63.0*
NEIC ***09*** *14:55:24.7±2.4,3˙0S±0˙2×105˙64E±0˙07, h15km±8km, mb4.2/7, Error ellipse: s-maj=34.2km s-min=5.4km az=193.0*

ISC 09 14:55:26.0±2.4,**2˙8S**±0˙3×**105˙6E**±0˙1,**h35**km,**n13,**
σ1s**79**/12,**mb3.9**/6,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MNAI	**Manna**	**3.02**	**240**	Pn		**Pn**	**14 56 11.7**	**+0.4**
LEM	**Lembang**	**4.45**	**153**	Pn		**Pn**	**14 56 33.6**	**+2.3**
	5.6nm,0.3s,baz=113,slow=21,SNR=6.1							
CISI	**Cisompet, Garu**	**5.19**	**155**	Pn		**Pn**	**14 56 39.6**	**-1.7**
WB0	**Warramunga Arr**	**32.79**	**123**	P		**P**	**15 01 58.1**	**+1.9**
WB0				IAmb		IAmb	15 02 03.5	
	comp=Z,8.6nm,1.4s							
WRA	**Warramunga Arr**	**32.82**	**123**	P		**P**	**15 01 58.1**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=299,slow=9.3,SNR=8.5							
WRA	**Warramunga Arr**	**32.82**	**123**	P		**P**	**15 01 57.2**	**+0.7**
WRAB	**Tennant Creek**	**32.83**	**123**	P		**P**	**15 01 54.9**	**-1.6**
WB2	**Warramunga Arr**	**32.83**	**123**	P		**P**	**15 01 59.5**	**+2.9**
WB2				IAmb		IAmb	15 02 12.2	
	comp=Z,6.9nm,1.3s							
WR0	**Warramunga Arr**	**33.00**	**123**	P		**P**	**15 01 57.2**	**-0.8**
WR0				IAmb		IAmb	15 02 16.0	
	comp=Z,2.1nm,0.9s							
ASAR	**Alice Springs**	**34.34**	**130**	P		**P**	**15 02 09.4**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=298,slow=7.9,SNR=4.4							
AS31	**Alice Springs**	**34.34**	**130**	P		**P**	**15 02 09.9**	**+0.2**
STKA	**Stephens Creek**	**44.51**	**134**	P		**P**	**15 03 33.1**	**-1.3**
	comp=Z,1.2nm,0.4s,baz=310,slow=11,SNR=5.7							
STKA	**Stephens Creek**	**44.51**	**134**	IAmb		IAmb	15 03 49.0	
	comp=Z,1.1nm,1.2s							

IDC ***09*** *14:55:24.2±1.8,7˙96S×118˙75E, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.5/42, mbtmp3.6/6, ML3.2/3, Error ellipse: s-maj=53.1km s-min=20.6km az=72.0*

ISC 09 14:55:30.5±1.6,**7˙8S**±0˙1×**119˙4E**±0˙4,**h35**km,**n6,** σ2s**20**/7,
mb3.8/3,**Flores Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAPI	**Kappang**	**2.78**	**8**	Pn		**Pn**	**14 56 12.2**	**-0.3**
	1.6nm,0.3s,baz=194,slow=12,SNR=3.7							
KAPI				S		Sn	14 56 52.9	+8.1
	5.9nm,0.3s,baz=264,slow=20,SNR=6.5							
FITZ	**Fitzroy Crossi**	**11.93**	**150**	Pn		**Pn**	**14 58 19.2**	**+1.2**
	0.1nm,0.3s,baz=1.4,slow=13,SNR=1.4							
FITZ				Sn		**Sn**	**15 00 26.4**	**-3.6**
	0.1nm,0.3s,baz=306,slow=18,SNR=1.9							
WRA	**Warramunga Arr**	**18.87**	**131**	P		**Pn**	**14 59 49.1**	**+0.4**
	0.1nm,0.3s,baz=301,slow=9.7,SNR=11							
ASAR	**Alice Springs**	**21.06**	**140**	P		**P**	**15 00 13.2**	**+1.5**
	1.7nm,0.4s,baz=313,slow=8.7,SNR=25							
STKA	**Stephens Creek**	**31.66**	**142**	P		**P**	**15 01 51.7**	**+1.1**
	0.7nm,0.4s,baz=323,slow=11,SNR=5.7							
MKAR	**Makanchi Array**	**63.56**	**332**	P		**P**	**15 05 56.5**	**-1.1**
	0.1nm,0.4s,baz=145,slow=5.3,SNR=1.4							

MEX 09 14:56:17.6±0.5,**14˙10N**×**92˙73W**,**h92**km±72km,**MD3.6,**
Near coast of Chiapas

JMA 09 15:08:16.8±0.1,**37˙66N**×**141˙72E**,**h39**km±2km,**M3.5,**
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JMST	**Minamisoumatoc**	**0.66**	**276**	P		Pn	15 08 29.8	+0.1
JMST				S		Sn	15 08 38.8	-0.1
JIKH	**Ishinomakikobu**	**0.68**	**343**	P		Pn	15 08 30.0	0.0
JIKH				S		Sn	15 08 38.7	-0.7
JFK	**Kawauchi**	**0.73**	**247**	P		Pn	15 08 30.7	0.0
JFK				S		Sn	15 08 40.2	-0.5
JMM	**Marumori**	**0.76**	**286**	P		Pn	15 08 31.3	+0.2
JMM				S		Sn	15 08 41.4	0.0
JIO	**Ouri**	**0.84**	**340**	P		Pn	15 08 32.3	+0.1
JIO				S		Sn	15 08 42.7	-0.7
ONAJ	**Iwakimizuishiy**	**0.92**	**233**	P		Pn	15 08 33.3	0.0
ONAJ				S		Sn	15 08 44.7	-0.7
JOU	**Okura**	**1.09**	**311**	P		Pn	15 08 36.2	+0.6
JFT	**Otama**	**1.11**	**263**	P		Pn	15 08 36.9	+1.1
JFT				S		Sn	15 08 51.1	+1.2
JKMT	**Kesennumamotoy**	**1.17**	**350**	P		Pn	15 08 37.0	+0.4
JKMT				S		Sn	15 08 50.7	-0.5
JMK	**Ichinoseki**	**1.35**	**343**	P		Pn	15 08 39.7	+0.6
JMK				S		Sn	15 08 56.1	+0.3
JYS	**Shirataka**	**1.42**	**294**	P		Pn	15 08 41.1	+1.0
JYS				S		Sn	15 08 58.6	+1.0
JFY	**Yanaizu**	**1.62**	**262**	P		Pn	15 08 44.1	+1.2
JFY				S		Sn	15 09 03.8	+1.2
JYK	**Kaneyama**	**1.65**	**320**	P		Pn	15 08 44.1	+0.8
JYK				*e*S		Sn	15 09 04.3	+1.1
MAT	**Matsushiro**	**3.02**	**249**	P		Pn	15 09 05.2	+3.1
MAT				*e*S		Sn	15 09 41.7	+4.6

IDC ***09*** *15:16:14.9±0.5,9˙93S×125˙06E, h0km, mb4.3/16, mb1 4.3/18, mb1mx4.2/40, mbtmp4.3/18, ML4.5/3, MS3.6/12, Ms1 3.6/12, ms1mx3.4/28, Error ellipse: s-maj=12.3km s-min=12.0km az=43.0*
KLM ***09*** *15:16:16.0, 10˙51S×124˙85E, h10km, mb4.9*
BJI ***09*** *15:16:17.6±0.0, 10˙08S×125˙07E, h46km, mB5.0/25, mb4.7/36, Ms4.7/6, Ms7 4.3/6*
DJA ***09*** *15:16:18.2±1.0, 10˚S±3˚×12˚5E±˚, h16km±9km, M5.0/24, mb5.0/24, mB5.4/11, MLv5.2/12, Mw(mB)4.9/11*
NEIC ***09*** *15:16:19.4±2.7, 10˙11S±0˙07×124˙93E±0˙06, h35km± 1km, mb4.6/27, Error ellipse: s-maj=12.5km s-min=9.1km az=205.0*

ISC 09 15:16:19.6±0.3,**10˙18S**±0˙04×**124˙95E**±0˙05,**h35**km,**n156,**
σ2s**12**/147,**mb4.5**/33,**MS3.7**/9,**1C**,**Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SOEI	**Soe**	**0.79**	**302**	P		**Pn**	**15 16 34.4**	**0.0**
SOEI	**Soe**	**0.79**	**302**	Pn		**Pn**	**15 16 34.5**	**0.0**
BATI	**Baumata**	**1.27**	**269**	Pn		**Pn**	**15 16 42.3**	**+1.5**
	233nm,0.3s,baz=281,slow=2.1,SNR=379							
BATI				Lg		Lg	15 16 59.9	
	1µm,0.3s,baz=358,slow=18,SNR=9.5							
BATI				LR		LR	15 17 20.8	
	comp=Z,2µm,20.4s,baz=85,slow=47							
BATI	**Baumata**	**1.27**	**269**	P		**Pn**	**15 16 41.8**	**+0.9**
MMRI	**Maumere**	**3.08**	**300**	P		**Pn**	**15 17 06.9**	**+1.0**
MMRI	**Maumere**	**3.08**	**300**	Pn		**Pn**	**15 17 06.7**	**+0.8**
EDFI	**Ende, Flores**	**3.52**	**294**	P		**Pn**	**15 17 12.2**	**+0.3**
BASI	**Baing, Sumba**	**4.30**	**269**	P		**Pn**	**15 17 23.1**	**+0.5**
WSI	**Waingapu**	**4.61**	**276**	P		Pn	15 17 21.6	-5.3
WBSI	**Waikabubak, Su**	**5.50**	**275**	P		**Pn**	**15 17 38.1**	**-1.1**
	1.7nm3µm305nm,0.7s							
KNRA	**Kununurra**	**6.61**	**146**	P		**Pn**	**15 17 55.0**	**+0.8**
	baz=6.6,SNR=208							
KNRA				S		**Sn**	**15 19 05.6**	**-2.8**
	baz=6.6							
KNRA	**Kununurra**	**6.61**	**146**	Pn		**Pn**	**15 17 55.1**	**+0.8**
MTN	**Manton Dam**	**6.61**	**114**	P		**Pn**	**15 17 55.2**	**+0.9**
	baz=6.7,SNR=389							
MTN				S		**Sn**	**15 19 08.4**	**-0.2**
	baz=6.7							
MTN	**Manton Dam**	**6.61**	**114**	Pn		**Pn**	**15 17 55.3**	**+0.9**
PLAI	**Plampang**	**7.20**	**280**	P		**Pn**	**15 18 02.7**	**+0.2**
	1.8nm5µm546nm,0.7s							
KAPI	**Kappang**	**7.27**	**315**	Pn		**Pn**	**15 18 02.5**	**-0.9**
	1.5nm,0.3s,baz=122,slow=12,SNR=2.4							
KAPI				LR		LR	15 20 35.2	
	comp=Z,558nm,21.2s,baz=116,slow=36							
BNSI	**Bone**	**7.49**	**320**	P		**Pn**	**15 18 08.9**	**+2.5**
	0.3nm98nm,1.1s							
KDU	**Kakadu**	**7.79**	**109**	P		**Pn**	**15 18 10.8**	**+0.3**
	baz=7.8,SNR=147							
FITZ	**Fitzroy Crossi**	**7.90**	**175**	Pn		**Pn**	**15 18 13.3**	**+1.3**
	3.9nm,0.3s,baz=359,slow=10.0,SNR=98							
FITZ				Sn		**Sn**	**15 19 35.9**	**-4.3**
	20nm,0.3s,baz=111,slow=18,SNR=18							
FITZ				Lg		Lg	15 20 32.5	
	19nm,0.3s,baz=252,slow=22,SNR=3.6							
FITZ	**Fitzroy Crossi**	**7.90**	**175**	P		**Pn**	**15 18 12.6**	**+0.6**
	baz=7.9,SNR=144							
FITZ	**Fitzroy Crossi**	**7.90**	**175**	Pn		**Pn**	**15 18 13.2**	**+1.2**
SPSI	**Sidrap Palu**	**8.04**	**320**	P		Pn	15 18 22.8	+8.9
TWSI	**Taliwang, Sumb**	**8.09**	**280**	P		**Pn**	**15 18 14.0**	**-0.6**
	992nm120nm,0.8s							
LUWI	**Luwuk**	**9.34**	**346**	P		Pn	15 18 45.4	+14
FAKI	**Fak Fak**	**10.23**	**46**	P		**Pn**	**15 18 44.4**	**+0.4**
	66nm,1.3s							
FAKI	**Fak Fak**	**10.23**	**46**	Pn		**Pn**	**15 18 44.9**	**+0.9**
JAGI	**Jajag, Banyuwa**	**10.79**	**278**	Pn		**Pn**	**15 18 49.4**	**-2.3**
SIJI	**Sorong**	**11.18**	**35**	Pn		**Pn**	**15 18 58.4**	**+1.3**
	0.6nm,0.3s,baz=162,slow=20,SNR=1.6							
SIJI				Sn		**Sn**	**15 21 07.6**	**+6.6**
	0.9nm,0.3s,baz=105,slow=20,SNR=1.3							
SIJI				LR		LR	15 23 52.6	
	comp=Z,169nm,18.3s,baz=198,slow=42							
MPSI	**Mapaga**	**11.60**	**334**	P		Pn	15 19 18.2	+15
PSA00	**Pilbara Seismi**	**12.34**	**203**	Pn		**Pn**	**15 19 13.4**	**+0.5**
PSA00	**Pilbara Seismi**	**12.34**	**203**			**Pn**	**15 19 12.3**	**-0.6**
WB0	**Warramunga Arr**	**13.19**	**137**	Pn		**Pn**	**15 19 21.8**	**-2.7**
WRA	**Warramunga Arr**	**13.28**	**138**	Pn		**Pn**	**15 19 23.1**	**-2.6**
	3.6nm,0.3s,baz=304,slow=12,SNR=197							
WRA				Sn		Sn	15 21 42.0	-10
	3.6nm,0.3s,baz=306,slow=23,SNR=6.4							
WRA				Lg		Lg	15 23 27.7	
	baz=308,slow=26,SNR=1.8							
WRA				LR		LR	15 25 38.8	
	comp=Z,574nm,18.9s,baz=320,slow=42							
WRA	**Warramunga Arr**	**13.28**	**138**			**Pn**	**15 19 22.6**	**-3.1**
WRAB	**Tennant Creek**	**13.28**	**138**			**Pn**	**15 19 23.3**	**-2.4**
WB2	**Warramunga Arr**	**13.28**	**138**	Pn		**Pn**	**15 19 23.0**	**-2.8**
WC3	**Warramunga Arr**	**13.31**	**138**	P		**Pn**	**15 19 23.3**	**-2.8**
	baz=13							
WR0	**Warramunga Arr**	**13.42**	**138**	Pn		**Pn**	**15 19 25.0**	**-2.7**
NGJI	**Ngawi**	**13.62**	**281**	P		**P**	**15 19 43.3**	**+4.5**
UGM	**Wanagama**	**14.42**	**278**	P		**Pn**	**15 19 40.3**	**-1.1**
	124nm,0.8s							
UGM	**Wanagama**	**14.42**	**278**	Pn		**Pn**	**15 19 39.9**	**-1.6**
SMRI	**Semarang**	**14.68**	**281**	P		**P**	**15 19 52.2**	**+1.6**
WAMI	**Wamena**	**15.02**	**66**	P		P	15 20 07.3	+13
WRKA	**Warakurna**	**15.11**	**168**	P		**Pn**	**15 19 48.9**	**-1.7**
	baz=15,SNR=25							
AS31	**Alice Springs**	**15.90**	**149**	Pn		**Pn**	**15 19 59.1**	**-1.9**
ASAR	**Alice Springs**	**15.90**	**149**	Pn		**Pn**	**15 19 59.0**	**-1.9**
	1.4nm,0.3s,baz=323,slow=12,SNR=168							
ASAR				Sn		**Sn**	**15 22 47.7**	**-8.5**
	1.6nm,0.3s,baz=313,slow=21,SNR=6.7							
ASAR				Lg		Lg	15 24 39.7	
	baz=325,slow=35,SNR=1.7							
ASAR				LR		LR	15 27 16.1	
	comp=Z,156nm,20.9s,baz=328,slow=41							
ASAR	**Alice Springs**	**15.90**	**149**	Pn		**Pn**	**15 19 59.9**	**-1.0**
GIRL	**Giralia**	**16.09**	**218**	Pn		**Pn**	**15 20 03.6**	**+0.4**
GIRL				IAmb		IAmb	15 20 10.4	
	comp=Z,93nm,1.1s							
JCJI	**Jatiwangi**	**16.90**	**281**	P		**P**	**15 20 19.5**	**+4.2**
CISI	**Cisompet, Garu**	**17.13**	**277**	P		**P**	**15 20 21.7**	**+3.8**
CISI	**Cisompet, Garu**	**17.13**	**277**	P		**P**	**15 20 17.5**	**-0.4**
DAV	**Davao City (W)**	**17.15**	**2**	LR		LR	15 28 46.0	
	comp=Z,63nm,18.1s,baz=159,slow=44							
MEEK	**Meekatharra**	**17.43**	**199**	P		**Pn**	**15 20 20.3**	**+0.2**
	baz=17,SNR=9.5							
LEM	**Lembang**	**17.46**	**280**	P		**P**	**15 20 21.8**	**+0.1**
	comp=Z,8.7nm,0.3s,baz=58,slow=14,SNR=44							
LEM				LR		LR	15 27 45.5	
	comp=Z,158nm,21.5s,baz=141,slow=39							
LEM	**Lembang**	**17.46**	**280**	P		**Pn**	**15 20 21.3**	**+0.6**
	comp=Z,1µmcomp=Z,155nm,0.8s							
QIS	**Mount Isa**	**17.48**	**128**	P		**Pn**	**15 20 19.7**	**-1.1**
	baz=18,SNR=53							
SBUM	**Sibu**	**17.84**	**314**	P		**P**	**15 20 25.8**	**+0.2**
CNJI	**Cibinong**	**17.84**	**278**	P		**Pn**	**15 20 23.0**	**-2.3**
	comp=Z,2µmcomp=Z,246nm,1.0s							
COEN	**Coen**	**18.21**	**104**	P		**P**	**15 20 29.6**	**-0.3**
	baz=18,SNR=11							
COEN	**Coen**	**18.21**	**104**	P		**P**	**15 20 29.5**	**-0.3**
CBJI	**Citeko**	**18.29**	**280**	P		**P**	**15 20 29.7**	**-1.0**
	comp=Z,5µmcomp=Z,506nm,0.7s							
KKM	**Kota Kinabalu**	**18.32**	**331**	P		**Pn**	**15 20 31.8**	**+0.6**
KKM				IAmb		IAmb	15 20 34.0	
	comp=Z,31nm,1.0s							
DBJI	**Dramaga**	**18.36**	**280**	P		**Pn**	**15 20 32.4**	**+0.7**
KSM	**Kuching**	**18.61**	**308**	P		**Pn**	**15 20 34.6**	**-0.1**
KSM	**Kuching**	**18.61**	**308**	P		**Pn**	**15 20 35.0**	**+0.3**
MTSU	**Mount Surprise**	**20.36**	**115**	P		Pn	15 20 56.5	+0.9
	baz=20,SNR=13							
MORW	**Morawa**	**20.56**	**203**	P		**P**	**15 20 56.7**	**+1.4**
	baz=21,SNR=9.6							
MORW	**Morawa**	**20.56**	**203**	P		**P**	**15 20 55.7**	**+0.3**
MORW				IAmb		IAmb	15 20 57.4	
	comp=Z,27nm,0.8s							
FORT	**Forrest**	**20.70**	**172**	P		Pn	15 20 58.8	-0.5
	baz=21,SNR=13							
FORT	**Forrest**	**20.70**	**172**	P		**P**	**15 20 58.1**	**+1.2**
KASI	**Kota Agung**	**20.78**	**281**	P		**P**	**15 20 57.6**	**-0.2**
	comp=Z,1µmcomp=Z,171nm,0.9s							
LWLI	**Liwa**	**21.33**	**282**	P		P	15 21 11.2	+7.3
MDSI	**Maura Dua**	**21.36**	**284**	P		**P**	**15 21 04.5**	**+0.4**
	comp=Z,11nm,0.8s							
BLDU	**Ballidu**	**21.73**	**199**	P		**P**	**15 21 09.6**	**+1.6**
	baz=22,SNR=11							
PMG	**Port Moresby**	**21.90**	**90**	P		**P**	**15 21 08.5**	**-1.4**
	comp=Z,17nm,1.0s,baz=256,slow=11,SNR=2.0							
PMG				LR		LR	15 31 37.6	
	comp=Z,395nm,19.5s,baz=254,slow=42							
LHSI	**Lahat**	**22.17**	**285**	P		P	15 21 24.4	+12
KLBR	**Kellerberrin**	**22.32**	**196**	P		**P**	**15 21 15.7**	**+1.4**
	baz=22,SNR=11							
CTA	**Charters Tower**	**22.78**	**118**	P		**P**	**15 21 18.9**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=315,slow=13,SNR=1.9							
KSI	**Kapahiang**	**23.11**	**285**	P		**P**	**15 21 29.6**	**+6.8**
MUN	**Mundaring**	**23.15**	**199**	P		**P**	**15 21 23.6**	**+0.7**
	baz=23,SNR=5.3							
NWAO	**Narrogin (SRO)**	**23.73**	**196**	P		**P**	**15 21 29.5**	**+0.9**
	comp=Z,15nm,0.7s,baz=37,slow=10,SNR=9.9							
NWAO	**Narrogin (SRO)**	**23.73**	**196**	P		**P**	**15 21 29.8**	**+1.2**
	baz=24,SNR=7.0							
NWAO	**Narrogin (SRO)**	**23.73**	**196**	P		**P**	**15 21 29.7**	**+1.1**
NWAO				IAmb		IAmb	15 21 31.1	
	comp=Z,17nm,0.7s							
NWAO	**Narrogin (SRO)**	**23.73**	**196**	IAmb		IAmb	15 21 31.1	
	comp=Z,13nm,0.8s							
MYKOM	**Kota Tinggi**	**24.14**	**298**	P		**P**	**15 21 31.9**	**-0.7**
MYKOM				IAmb		IAmb	15 21 35.4	
	comp=Z,19nm,1.2s							
MYKOM	**Kota Tinggi**	**24.14**	**298**	P		**P**	**15 21 30.0**	**-2.6**
QLP	**Quilpie**	**24.46**	**134**	P		**P**	**15 21 37.8**	**+2.4**
	baz=24,SNR=8.1							
BBOO	**Buckleboo**	**24.74**	**157**	P		**P**	**15 21 40.0**	**+2.1**
	baz=25,SNR=8.1							
BBOO	**Buckleboo**	**24.74**	**157**	P		**P**	**15 21 40.0**	**+2.1**
BBOO				IAmb		IAmb	15 21 53.7	
	comp=Z,20nm,0.9s							
HTT	**Hallett**	**26.47**	**153**	P		**P**	**15 21 56.1**	**+2.5**
	baz=26,SNR=4.2							
STKA	**Stephens Creek**	**26.52**	**147**	P		**P**	**15 21 56.9**	**+2.8**
	comp=Z,3.0nm,0.8s,baz=322,slow=12,SNR=7.7							
STKA				LR		LR	15 34 33.3	
	comp=Z,175nm,18.9s,baz=277,slow=41							
STKA	**Stephens Creek**	**26.52**	**147**	P		**P**	**15 21 56.1**	**+2.0**
	baz=27,SNR=6.0							
STKA	**Stephens Creek**	**26.52**	**147**			**P**	**15 21 56.8**	**+2.8**
KRVT	**Keravat (AS076**	**27.48**	**80**	LR		LR	15 34 47.4	
	comp=Z,153nm,20.2s,baz=243,slow=41							
CMSA	**Cobar Meteorol**	**28.66**	**141**	P		**P**	**15 22 16.4**	**+3.2**
	baz=29,SNR=9.3							
ARPS	**Mount Arapiles**	**30.56**	**153**	P		**P**	**15 22 33.5**	**+3.5**
	baz=31,SNR=7.1							
ARMA	**Armidale**	**31.97**	**133**	P		**P**	**15 22 39.4**	**-3.3**
ARMA				IAmb		IAmb	15 22 47.5	
	comp=Z,10nm,1.1s							
QIZ	**Qiongzhong**	**32.62**	**333**	P		**P**	**15 22 44.4**	**-3.9**
CNB	**Canberra Magne**	**33.47**	**142**	P		**P**	**15 22 59.5**	**+3.9**
	baz=34,SNR=6.0							
TPUB	**Ta-pu**	**33.54**	**353**	P		**P**	**15 22 53.9**	**-2.4**
YULB	**Yu-li**	**33.56**	**354**	P		**P**	**15 22 54.6**	**-1.8**
CM31	**Chiang Mai Arr**	**38.32**	**318**	P		**P**	**15 23 34.2**	**-3.1**
CM31				IAmb		IAmb	15 23 43.4	
	comp=Z,8.7nm,0.9s							
CMAR	**Chiang Mai Arr**	**38.32**	**318**	P		**P**	**15 23 36.6**	**-0.7**
	comp=Z,5.8nm,0.9s,baz=192,slow=12,SNR=12							
CMAR				PcP		**PcP**	**15 25 52.6**	**+1.8**
	comp=Z,1.4nm,0.7s,baz=181,slow=3.4,SNR=4.2							
CMAR				LR		LR	15 41 39.0	
	comp=Z,50nm,18.4s,baz=197,slow=40							
CHTO	**Chiang Mai**	**38.58**	**318**	P		**P**	**15 23 36.3**	**-3.1**
CHTO				IAmb		IAmb	15 23 38.9	
	comp=Z,6.3nm,0.8s							
GYA	**Guiyang**	**40.52**	**334**	⇑P		**P**	**15 23 54.4**	**-1.3**
GYA				pmax		pmax		
	comp=Z,14nm,1.0s							
NJ2	**Nanjing**	**42.40**	**352**	*e*P		**P**	**15 24 11.6**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
XAN	**Xi'an**	**46.54**	**342**	P		**P**	**15 24 41.7**	**-2.3**
XAN				pmax		pmax		
	comp=Z,13nm,0.9s							
PALK	**Pallekele**	**47.35**	**290**	LR		LR	15 44 00.7	
	comp=Z,60nm,20.3s,baz=229,slow=35							
KSAR	**Wonju Array Be**	**47.45**	**3**	P		**P**	**15 24 49.2**	**-1.7**
KSRS	**Korea Array**	**47.47**	**3**	P		**P**	**15 24 50.7**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=173,slow=9.1,SNR=2.9							
MJAR	**Matsushiro Arr**	**48.12**	**14**	P		**P**	**15 24 53.8**	**-2.4**
	comp=Z,1.6nm,0.6s,baz=198,slow=9.6,SNR=5.2							
LZH	**Lanzhou**	**50.14**	**338**	*e*P		**P**	**15 25 11.2**	**-0.6**
LZH				pP		sP	15 25 26.5	+0.8
LZH				sP		pwP	15 25 30.9	+6.8
LZH				pmax		pmax		
	comp=Z,24nm,1.0s							
LZH				pmax		pmax		
	comp=Z,100nm,4.9s							
LZH				LR		LR		
	comp=Z,150nm,13.6s							
LZH				LR		LR		
	comp=Z,150nm,14.0s							
LZH				LR		LR		
	comp=Z,220nm,16.8s							
ODAN	**Odare**	**51.81**	**316**	*e*P		**P**	**15 25 22.5**	**-2.2**
	comp=Z,17nm,0.6s							
TAPN	**Taplejung**	**51.91**	**317**	*e*P		**P**	**15 25 23.3**	**-2.2**
	comp=Z,18nm,0.7s							
HHC	**Hu-ho-hao-te**	**52.26**	**347**	*e*P		**P**	**15 25 26.7**	**-0.9**
HHC				pmax		pmax		
	comp=Z,10.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,170nm,7.3s							
RAMN	**Ramite**	**52.41**	**316**	*e*P		**P**	**15 25 27.1**	**-2.1**
	comp=Z,30nm,0.6s							
JIRN	**Jiri**	**53.14**	**316**	*e*P		**P**	**15 25 32.6**	**-2.1**
	comp=Z,28nm,0.6s							
PKI	**Pulchoki**	**53.62**	**315**	*e*P		**P**	**15 25 36.0**	**-2.2**
	comp=Z,16nm,0.6s							
DMN	**Daman**	**53.86**	**315**	*e*P		**P**	**15 25 37.8**	**-2.0**
GKN	**Gorkha**	**54.43**	**315**	*e*P		**P**	**15

IDC ***09*** *15:27:30.4±0.5, 19°.50N×70°.58W, h0km, mb4.1/16, mb1 4.3/17, mb1mx4.2/45, mbtmp4.1/17, ML3.8/1, MS3.7/16, Ms1 3.7/16, ms1mx3.5/35, Error ellipse: s-maj=19.4km s-min=13.1km az=28.0*

OSPL ***09*** *15:27:33.2±0.8, 19°.61N×70°.57W, h25km±3km, ML4.1, Fault plane solution: NP1:ϕs322.00000°, δ87.00000°, λ83.00000°.*

NEIC ***09*** *15:27:34.0±2.4, 19°.44N±0°.04×70°.57W±0°.04, h25km±4km, mb4.6/33, Mwr4.3/17, Error ellipse: s-maj=6.7km s-min=4.6km az=223.0*

NEIC ***09*** *15:27:34.4, 19°.40N×70°.59W, h19km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.29; Mθθ0.40; Mϕϕ-0.69; Mrθ-2.47; Mϕθ0.24; Mϕr3.20; Fault plane solution: M₀4.10000×10¹⁵ NP1:ϕs322.12000°, δ87.19000°, λ83.46000°. NP2:ϕs208.94000°, δ7.12000°, λ156.66000°. Principal axes: T 3.9787, Plg47.0000°, Azm225.0000°; N 0.2303, Plg7.0000°, Azm322.0000°; P -4.2090, Plg42.0000°, Azm58.0000°;*

ISC 09 15:27:34.1±0.8, 19°.45N±0°.04×70°.55W±0°.04, h24km±6km, n251,σ1s79/251, mb4.4/28, MS3.6/15, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.17**	**264**	*i* P		**Pb**	**15 27 38.8**	**-0.6**
SC01				*e*S		**Sb**	**15 27 43.0**	**+0.1**
SC01				IAML			15 27 50.8	
	comp=Z,36μm,2.0s							
SC01	**Santiago de lo**	**0.17**	**264**			**Pb**	**15 27 38.8**	**-0.6**
SDDR	**Presa de Saban**	**0.84**	**237**	*i* P		**Pb**	**15 27 48.9**	**-1.1**
SDDR				*e*S		**Sb**	**15 28 00.7**	**-0.2**
SDDR				IAML			15 28 03.6	
	comp=Z,6μm,0.5s							
SDDR	**Presa de Saban**	**0.84**	**237**	Pg		**Pb**	**15 27 48.9**	**-1.1**
SDDR						**Pn**	**15 27 49.2**	**-1.2**
SDDR				Sg		**Sb**	**15 27 59.8**	**-1.1**
SJM1	**San Juan de la**	**0.90**	**225**	*i* P		**Pb**	**15 27 51.0**	**-0.1**
BANI	**BANI**	**1.06**	**170**			**Pn**	**15 27 53.7**	**+0.1**
SDD	**Santo Domingo**	**1.15**	**148**	*i* P		**Pn**	**15 27 54.0**	**-0.6**
SDD				*e*S		**Sn**	**15 28 10.2**	**+0.5**
SDD				IAML			15 28 18.7	
	comp=Z,3μm,0.5s							
SDD	**Santo Domingo**	**1.15**	**148**			**Pn**	**15 27 54.1**	**-0.6**
SDD				Pg		**Pb**	**15 27 54.7**	**-0.6**
DR12	**Loma Pena Alta**	**1.28**	**120**			**Pn**	**15 27 56.2**	**-0.4**
GRTK	**Grand Turk**	**2.13**	**345**			**Pn**	**15 28 07.6**	**-0.5**
PCDR	**Punta Cana, DR**	**2.25**	**114**			**Pb**	**15 28 12.5**	**-1.6**
AGPR	**Aguadilla, PR**	**3.40**	**106**			**Pn**	**15 28 27.4**	**+1.8**
CRPR	**Cabo Rojo, PR**	**3.56**	**113**			**Pn**	**15 28 31.1**	**+3.2**
MLPR	**Magueyes Islan**	**3.63**	**113**			**Pn**	**15 28 30.7**	**+1.9**
AOPR	**Arecibo Observ**	**3.75**	**106**			**Pn**	**15 28 33.0**	**+2.5**
OBIP	**Obispado Ponce**	**3.99**	**110**			**Pn**	**15 28 36.2**	**+2.5**
GTBY	**Guantanamo Bay**	**4.33**	**277**	Pn		**Pn**	**15 28 36.4**	**-2.0**
GCPR	**Guaynabo City**	**4.38**	**104**			**Pn**	**15 28 39.9**	**+0.8**
PDPR	**Patillas Dam,**	**4.52**	**108**			**Pn**	**15 28 42.8**	**+1.8**
CBYP	**Canovanas**	**4.59**	**104**			**Pn**	**15 28 40.5**	**-1.6**
HUMP	**Col San Antoni**	**4.64**	**105**			**Pn**	**15 28 44.1**	**+1.4**
MTP	**Monte Pirata**	**4.92**	**105**			**Pn**	**15 28 47.5**	**+0.9**
CUPR	**Culebra, Puert**	**5.11**	**102**			**Pn**	**15 28 48.8**	**-0.4**
CDVI	**St. Croix**	**5.74**	**106**			**Pn**	**15 29 00.6**	**+2.8**
MTDJ	**Mount Denham**	**6.73**	**261**	Pn		**Pn**	**15 29 11.4**	**0.0**
SMRT	**St. Maarten**	**7.22**	**100**	Pn		**Pn**	**15 29 17.6**	**-0.5**
HATO	**Hato, Curacao**	**7.38**	**168**	Pn		**Pn**	**15 29 22.7**	**+2.2**
SKI	**Saint Kitts**	**7.71**	**105**	Pn		**Pn**	**15 29 26.4**	**+1.5**
ANWB	**Willy Bob**	**8.50**	**101**	Pn		**Pn**	**15 29 34.7**	**-1.0**
H05N1	**Guadeloupe/Mar**	**9.56**	**108**	Pn		**Pn**	**15 29 51.2**	**+0.9**
H05N1				Sn		**Sn**	**15 31 33.9**	**-3.1**
FSCY	**Frank Sound, G**	**10.04**	**271**	Pn		**Pn**	**15 29 56.3**	**-0.6**
SDV	**Santo Domingo**	**10.50**	**180**	Pn		**Pn**	**15 30 07.0**	**+3.6**
	comp=Z,5.3nm,0.3s,baz=348,slow=5.4,SNR=5.0							
SDV				Sn		**Sn**	**15 31 57.8**	**-2.5**
	comp=Z,3.2nm,0.3s,baz=322,slow=18,SNR=8.8							
H05S1	**Guadeloupe/Mar**	**10.55**	**117**	Pn		**Pn**	**15 30 04.3**	**+0.5**
H05S1				Sn		**Sn**	**15 32 03.7**	**+2.5**
SVB	**Belmont**	**10.83**	**123**	Pn		**Pn**	**15 30 08.8**	**+1.1**
SMLC	**San Martn de**	**11.12**	**198**	*e*P		**Pn**	**15 30 13.5**	**+1.8**
GRGR	**Grenville**	**11.23**	**129**	Pn		**Pn**	**15 30 14.5**	**+1.3**
UREC	**San Jos de Ur**	**12.59**	**203**	*e*P		**Pn**	**15 30 35.2**	**+3.4**
BARC	**Barichara**	**13.03**	**192**	*e*P		**Pn**	**15 30 36.7**	**-1.4**
PTBC	**PUERTO BERRIO,**	**13.38**	**197**	*e*P		**Pn**	**15 30 46.0**	**+3.4**
DBBC	**Dabeiba**	**13.52**	**205**	*e*P		**P**	**15 30 51.0**	**-2.5**
RUSC	**La Rusia**	**13.70**	**191**	*e*P		**Pn**	**15 30 49.0**	**+1.6**
RUSC	**La Rusia**	**13.70**	**191**	Pn		**Pn**	**15 30 49.5**	**+2.2**
BBSR	**BB Station**	**13.90**	**21**	Pn		**Pn**	**15 30 48.8**	**-0.8**
HELC	**Santa Helena**	**14.04**	**201**	*e*P		**Pn**	**15 30 56.0**	**+4.0**
SPBC	**San Pablo de B**	**14.13**	**195**	*e*P		**Pn**	**15 30 55.8**	**+2.8**
NORC	**Norcasia**	**14.43**	**198**	*e*P		**P**	**15 31 01.4**	**-2.2**
CBOC	**Ciudad Bolivar**	**14.51**	**202**	*e*P		**Pn**	**15 31 00.5**	**+2.3**
GUY2C	**Guyana, Caldas**	**14.89**	**199**	*e*P		**Pn**	**15 31 05.7**	**+2.0**
ROSC	**El Rosal**	**14.98**	**195**	Pn		**Pn**	**15 31 06.9**	**+2.2**
	comp=Z,2.6nm,0.3s,baz=16,slow=12,SNR=6.0							
CHIC	**Chingaza**	**15.05**	**192**	*e*P		**P**	**15 31 12.6**	**+1.7**
TOLC	**Tolima**	**15.49**	**198**	*e*P		**Pn**	**15 31 13.8**	**+2.5**
VILC	**Villavicencio,**	**15.55**	**192**	*e*P		**P**	**15 31 16.6**	**+0.5**
ANIL	**Santa Ana**	**15.60**	**198**	*e*P		**P**	**15 31 21.8**	**+4.9**
Y60A	**Bolivia**	**16.03**	**336**	Pn		**Pn**	**15 31 14.3**	**-3.6**
Y60A				IAmb		IAmb	15 31 25.3	
	comp=Z,43nm,0.8s							
ORTC	**Ortega, Tolima**	**16.11**	**197**	*e*P		**Pn**	**15 31 20.5**	**+1.3**
Z58A	**St. Stephen** baz=147	**16.12**	**331**	P		**Pn**	**15 31 16.9**	**-2.2**
PRAC	**Prado**	**16.20**	**196**	*e*P		**Pn**	**15 31 21.5**	**+1.2**
JTS	**Las Juntas de** baz=104,slow=12,SNR=3.9	**16.62**	**239**	Pn		**P**	**15 31 29.3**	**+1.3**
JTS				LR		LR	15 37 32.3	
	comp=Z,42nm,19.4s,baz=126,slow=36							
TEIG	**Tepich**	**16.70**	**276**	Pn		**Pn**	**15 31 26.3**	**-0.3**
Y57A	**Sumter**	**16.95**	**331**	Pn		**Pn**	**15 31 29.6**	**0.0**
W58A	**Raeford** baz=152	**17.32**	**335**	P		**P**	**15 31 36.0**	**+0.5**
BIRD	**Birdtown, Kers**	**17.51**	**332**			**Pn**	**15 31 35.3**	**-1.3**
JSC	**Jenkinsville**	**17.58**	**329**	Pn		**Pn**	**15 31 36.2**	**-1.2**
Y55A	**Saluda** baz=142	**17.60**	**327**	P		**Pn**	**15 31 35.1**	**-2.6**
V59A	**Middlesex** baz=156	**17.61**	**339**	P		**Pn**	**15 31 37.5**	**-0.3**
X56A	**White Oak** baz=146	**17.64**	**330**	P		**Pn**	**15 31 35.8**	**-2.4**
451A	**Vernon**	**17.68**	**312**	Pn		**Pn**	**15 31 36.3**	**-2.5**
451A				IAmb		IAmb	15 31 58.8	
	comp=Z,78nm,1.2s							
W57A	**Gilead** baz=150	**17.74**	**334**	P		**Pn**	**15 31 39.4**	**0.0**
X55A	**Gracelyn & Ava** baz=144	**17.91**	**329**	P		**Pn**	**15 31 41.4**	**-0.2**
V58A	**Windy Hill, Pi** baz=153	**17.95**	**337**	P		**Pn**	**15 31 39.5**	**-2.5**
W56A	**Indian Trail** baz=148	**17.97**	**332**	P		**Pn**	**15 31 41.7**	**-0.6**
GOGA	**Godfrey** baz=137	**18.07**	**323**	P		**P**	**15 31 44.5**	**+0.7**
U58A	**Oxford** baz=155	**18.29**	**339**	P		**P**	**15 31 49.5**	**+3.3**
KMSC	**Kings Mountain** baz=146	**18.32**	**331**	P		**Pn**	**15 31 45.4**	**-1.1**
X54A	**Belton** baz=142	**18.34**	**327**	P		**P**	**15 31 46.7**	**-0.1**
FLOC	**Florencia**	**18.44**	**196**	*e*P		**Pn**	**15 31 51.5**	**+3.2**
V56A	**Mocksville** baz=149	**18.51**	**334**	P		**P**	**15 31 47.3**	**-1.3**
U57A	**Blanch** baz=153,SNR=6.0	**18.60**	**337**	P		**Pn**	**15 31 50.0**	**+0.1**
W54A	**Cherokee Point** baz=144	**18.67**	**329**	P		**Pn**	**15 31 50.8**	**-0.1**
T58A	**Grand View Acr** baz=156	**18.79**	**340**	P		**Pn**	**15 31 52.1**	**-0.1**
V55A	**Taylorsville** baz=148	**18.85**	**332**	P		**Pn**	**15 31 53.0**	**-0.1**
U56A	**King** baz=150	**18.93**	**335**	P		**P**	**15 31 53.1**	**-0.1**
BG3	**Lake Jocassee**	**18.97**	**327**	P		**P**	**15 31 53.9**	**+0.1**
V54A	**Nebo** baz=146	**19.12**	**331**	P		**P**	**15 31 55.8**	**+0.4**
S58A	**Poland Farm, P** baz=158	**19.25**	**342**	P		**P**	**15 31 57.3**	**+0.6**
U55A	**TA2, Sparta** baz=149,SNR=7.1	**19.33**	**334**	P		**Pn**	**15 31 58.7**	**-0.2**
T56A	**Rocky Mt** baz=152	**19.39**	**337**	P		**Pn**	**15 32 00.7**	**+1.3**
R58B	**Mineral**	**19.52**	**342**	P		**P**	**15 31 59.5**	**-0.2**
	baz=159							
S57A	**Dark Hollow, R** baz=156	**19.66**	**340**	P		**Pn**	**15 32 03.9**	**+1.1**
U54A	**Nelsons Funny** baz=147	**19.68**	**332**	P		**P**	**15 32 02.4**	**+0.8**
BLA	**Blacksburg** baz=152	**19.69**	**336**	P		**P**	**15 32 02.1**	**+0.4**
BLA	**Blacksburg**	**19.69**	**336**	P		**P**	**15 32 00.8**	**-0.9**
T55A	**Pulaski** baz=150	**19.75**	**335**	P		**Pn**	**15 32 03.4**	**-0.5**
TKL	**Tuckaleechee C**	**19.92**	**327**	P		**P**	**15 32 03.9**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=155,slow=12,SNR=5.4							
TKL				S		S	15 35 31.4	-16
	comp=Z,0.2nm,0.3s,baz=173,slow=17,SNR=2.3							
TKL	**Tuckaleechee C**	**19.92**	**327**	P		**P**	**15 32 02.8**	**-1.3**
LRAL	**Lakeview Retre** baz=129,SNR=14	**19.98**	**316**	P		**Pn**	**15 32 05.8**	**-0.8**
R57A	**Stanardsville** baz=158	**20.02**	**341**	P		**Pn**	**15 32 08.2**	**+1.1**
T54A	**Tazewell** baz=148	**20.03**	**333**	P		**P**	**15 32 05.7**	**+0.3**
CPCT	**Cooper Cave**	**20.16**	**325**	P		**P**	**15 32 05.6**	**-1.1**
T53A	**Wise** baz=146	**20.38**	**331**	P		**P**	**15 32 10.2**	**+1.0**
R56A	**Bull Pasture M** baz=156	**20.40**	**340**	P		**P**	**15 32 10.4**	**+1.0**
TZTN	**Tazewell** baz=143,SNR=10	**20.50**	**329**	P		**P**	**15 32 11.1**	**+0.6**
TZTN	**Tazewell**	**20.50**	**329**	P		**P**	**15 32 10.8**	**+0.3**
TZTN				IAmb		IAmb	15 32 12.0	
	comp=Z,24nm,0.9s							
S54A	**Dingess, Beckl** baz=150	**20.55**	**335**	P		**P**	**15 32 12.1**	**+1.1**
OTAV	**Otavalo**	**20.60**	**203**	*e*P		Pn	15 32 14.6	+0.1
R54A	**Victor** baz=151	**20.76**	**336**	P		**P**	**15 32 14.2**	**+1.0**
Q56A	**Snyder Ridge,** baz=157	**20.91**	**341**	P		**P**	**15 32 13.9**	**-0.9**
Q55A	**Buckhannon** baz=154	**21.16**	**339**	P		**P**	**15 32 19.2**	**+1.7**
O60A	**Telford** baz=167	**21.22**	**350**	P		**P**	**15 32 23.2**	**+5.1**
P56A	**Dayton Farm, R** baz=158	**21.23**	**342**	P		**P**	**15 32 18.6**	**+0.3**
O58A	**Lewisberry** baz=163	**21.32**	**346**	P		**P**	**15 32 26.0**	**+6.7**
O59A	**Robesonia** baz=165	**21.35**	**348**	P		**P**	**15 32 20.7**	**+1.2**
Q54A	**Coxs Mills** baz=153	**21.41**	**338**	P		**P**	**15 32 21.4**	**+1.2**
T50A	**Nancy**	**21.52**	**327**	P		**P**	**15 32 21.2**	**-0.1**
T50A				IAmb		IAmb	15 32 22.9	
	comp=Z,17nm,0.8s							
P55A	**Reedsville** baz=156	**21.54**	**340**	P		**P**	**15 32 21.8**	**+0.3**
Q53A	**Leroy** baz=151	**21.55**	**336**	P		**P**	**15 32 21.3**	**-0.4**
U49A	**Red Boiling Sp**	**21.63**	**325**	P		**P**	**15 32 22.7**	**+0.2**
U49A				IAmb		IAmb	15 32 23.9	
	comp=Z,13nm,1.0s							
V48A	**Smith Brothers**	**21.66**	**322**	P		**P**	**15 32 22.6**	**-0.3**
N60A	**Cedar Hill Far** baz=168	**21.71**	**351**	P		**P**	**15 32 24.6**	**+1.3**
P54A	**Burton** baz=154	**21.84**	**339**	P		**P**	**15 32 26.1**	**+1.3**
N59A	**State Game Lan** baz=167	**21.86**	**349**	P		**P**	**15 32 23.2**	**-1.9**
O56A	**Blue Knob Stat** baz=159	**21.87**	**343**	P		**P**	**15 32 26.5**	**+1.3**
PLAL	**Pickwick Lake**	**21.91**	**318**	P		**P**	**15 32 25.6**	**+0.1**
PLAL				IAmb		IAmb	15 32 26.6	
	comp=Z,23nm,0.9s							
Q52A	**Bidwell** baz=149,SNR=9.2	**21.93**	**335**	P		**P**	**15 32 26.0**	**+0.2**
N58A	**Sunbury** baz=164	**21.97**	**347**	P		**P**	**15 32 31.5**	**+5.4**
M62A	**Hamden** baz=174	**22.02**	**355**	P		**P**	**15 32 31.5**	**+4.9**
O55A	**Ligonier** baz=158	**22.02**	**342**	P		**P**	**15 32 28.2**	**+1.5**
SSPA	**Standing Stone** baz=161	**22.04**	**345**	P		**P**	**15 32 29.2**	**+2.3**
N57A	**Milroy** baz=162	**22.07**	**346**	P		**P**	**15 32 32.2**	**+5.0**
M60A	**Port Jervis** baz=170	**22.09**	**352**	P		**P**	**15 32 30.4**	**+3.0**
M59A	**Waymart** baz=168	**22.41**	**350**	P		**P**	**15 32 32.3**	**+1.3**
M58A	**Price's Panora** baz=165	**22.43**	**348**	P		**P**	**15 32 36.2**	**+5.1**
OXF	**Oxford** baz=127	**22.47**	**316**	P		**P**	**15 32 28.6**	**-3.0**
WVT	**Waverly** baz=133	**22.52**	**321**	P		**P**	**15 32 31.3**	**-0.8**
WVT	**Waverly**	**22.52**	**321**	P		**P**	**15 32 30.1**	**-2.1**
WVT				IAmb		IAmb	15 32 34.3	
	comp=Z,14nm,0.9s							
M57A	**Sunshine Farm,** baz=164	**22.53**	**347**	P		**P**	**15 32 33.9**	**+1.7**
MDP	**Montagnes des**	**22.53**	**127**	P		**P**	**15 32 30.1**	**-2.4**
	comp=Z,4.5nm,0.9s,baz=338,slow=5.4,SNR=2.1							
PTGA	**Pitinga**	**22.58**	**151**	P		**P**	**15 32 33.2**	**+0.2**
PTGA				IAmb		IAmb	15 32 35.6	
	comp=Z,12nm,0.8s							
L60A	**Shokan** baz=171	**22.69**	**353**	P		**P**	**15 32 35.7**	**+1.9**
O52A	**Adamsville** baz=152	**22.77**	**337**	P		**P**	**15 32 36.4**	**+1.7**
L61A	**Hillsdale 1, H** baz=173	**22.82**	**354**	P		**P**	**15 32 36.2**	**+1.0**
M56A	**Emporium** baz=161	**22.91**	**345**	P		**P**	**15 32 37.3**	**+1.1**
HRV	**Adam Dziewonsk** baz=178	**23.00**	**358**	P		**P**	**15 32 38.4**	**+1.2**
O51A	**Pataskala** baz=150	**23.09**	**336**	P		**P**	**15 32 38.1**	**+0.1**
L57A	**Andrews Acres** baz=165	**23.11**	**348**	P		**P**	**15 32 39.9**	**+1.7**
BINY	**Binghamton** baz=167	**23.15**	**350**	P		**P**	**15 32 38.3**	**-0.3**
K63A	**Dunstable** baz=178	**23.19**	**358**	P		**P**	**15 32 45.1**	**+6.2**
K61A	**Williamstown** baz=174	**23.27**	**355**	P		P	15 32 49.3	+10
M54A	**Oil Creek Stat** baz=158	**23.32**	**343**	P		**P**	**15 32 40.2**	**-0.1**
K59A	**Cooperstown** baz=170	**23.54**	**352**	P		**P**	**15 32 47.2**	**+4.7**
K58A	**Earlville** baz=168	**23.64**	**351**	P		**P**	**15 32 50.6**	**+7.1**
J61A	**Chester** baz=175	**23.89**	**356**	P		**P**	**15 32 47.6**	**+1.8**
J57A	**Williamstown** baz=168	**24.33**	**350**	P		**P**	**15 32 50.2**	**+0.4**
W41B	**Gary Mavity, V** baz=124	**24.76**	**314**	P		**P**	**15 32 54.5**	**+0.6**
X40A	**Basin Creek Fa** baz=122,SNR=14	**24.80**	**312**	P		**P**	**15 32 55.2**	**+0.9**
NATX	**Nacogdoches** baz=114	**24.90**	**304**	P		**P**	**15 32 56.6**	**+1.4**
H61A	**Lyndonville** baz=177	**25.04**	**358**	P		**P**	**15 32 56.4**	**+0.1**
FCAR	**Ozark Folk Cen**	**25.08**	**315**	P		**P**	**15 32 56.4**	**-0.3**
FCAR				IAmb		IAmb	15 32 58.0	
	comp=Z,14nm,0.8s							
SFIN	**Lafayette** baz=141	**25.23**	**329**	P		**P**	**15 33 00.2**	**+2.0**
MIAR	**Mount Ida** baz=121	**25.36**	**311**	P		**P**	**15 32 59.9**	**+0.6**
H56A	**Elgin** baz=168,SNR=5.0	**25.52**	**351**	P		**P**	**15 33 00.8**	**+0.1**
U40A	**Yellville** baz=125,SNR=11	**25.83**	**315**	P		**P**	**15 33 03.9**	**+0.3**
W39A	**Magazine** baz=122,SNR=13	**25.83**	**312**	P		**P**	**15 33 04.8**	**+1.2**
CCM	**Cathedral Cave** baz=130	**25.84**	**320**	P		**P**	**15 33 03.6**	**0.0**
CCM	**Cathedral Cave**	**25.84**	**320**	P		**P**	**15 33 03.5**	**-0.2**
CCM				IAmb		IAmb	15 33 04.7	
	comp=Z,19nm,1.1s							
SADO	**Sadowa**	**26.25**	**346**	P		**P**	**15 33 06.3**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=171,slow=13,SNR=2.4							
SADO	**Sadowa**	**26.25**	**346**	IAmb		IAmb	15 33 59.6	
	comp=Z,26nm,1.7s							
E57A	**Chemin Saint G** baz=173	**27.06**	**355**	P		**P**	**15 33 15.6**	**+1.0**
ATAH	**Atahualpa**	**27.52**	**197**	LR		LR	15 45 06.3	
	comp=Z,71nm,19.0s,baz=313,slow=38							
TUL1	**Leonard** baz=120	**27.61**	**312**	P		**P**	**15 33 19.8**	**+0.2**
D55A	**Sainte-Anne-du** baz=170	**27.80**	**353**	P		**P**	**15 33 21.4**	**+0.2**
D53A	**Lac Vacive, Po** baz=166	**28.18**	**350**	P		**P**	**15 33 23.9**	**-0.6**
T35A	**Sooner Cattle**	**28.61**	**313**	P		**P**	**15 33 25.7**	**-2.9**
T35A				IAmb		IAmb	15 33 29.8	
	comp=Z,12nm,0.8s							
SAML	**Samuel**	**29.13**	**165**	P		P	15 33 29.6	-3.7
SAML				IAmb		IAmb	15 33 48.0	
	comp=Z,10nm,1.4s							
ABTX	**Abilene, Hawle** baz=110,SNR=5.6	**29.14**	**303**	P		**P**	**15 33 34.0**	**+0.6**
WMOK	**Wichita Mounta** baz=114,SNR=17	**29.26**	**307**	P		**P**	**15 33 34.2**	**-0.2**
WMOK	**Wichita Mounta**	**29.26**	**307**	P		**P**	**15 33 31.9**	**-2.5**
WMOK				IAmb		IAmb	15 33 35.3	
	comp=Z,11nm,0.8s							
D46A	**Sault St. Mari** baz=154	**29.52**	**341**	P		**P**	**15 33 33.2**	**-3.4**
AMTX	**Amarillo** baz=111	**31.52**	**306**	P		**P**	**15 33 54.7**	**+0.2**
TXAR	**Lajitas Array**	**31.63**	**295**	P		**P**	**15 33 56.0**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=107,slow=9.3,SNR=22							
TXAR				PcP		**PcP**	**15 36 47.9**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=130,slow=5.0,SNR=16							
TXAR				LR		LR	15 49 31.7	
	comp=Z,110nm,21.2s,baz=0.0,slow=42							
MSTX	**Muleshoe** baz=109	**32.06**	**303**	P		**P**	**15 33 58.9**	**-0.3**
MNTX	**Cornudas Mount** baz=103,SNR=15	**33.56**	**298**	P		**P**	**15 34 13.2**	**+0.9**
MNTX	**Cornudas Mount**	**33.56**	**298**	P		**P**	**15 34 12.1**	**-0.2**
T25A	**Trinidad** baz=112	**34.40**	**308**	P		**P**	**15 34 20.8**	**+1.0**
ANMO	**Albuquerque**	**35.26**	**303**	P		**P**	**15 34 26.5**	**-0.7**
	comp=Z,5.8nm,0.9s,baz=110,slow=9.8,SNR=11							
ANMO				LR		LR	15 51 49.4	
	comp=Z,120nm,18.0s,baz=203,slow=41							
ANMO	**Albuquerque** baz=107	**35.26**	**303**	P		**P**	**15 34 28.2**	**+1.1**
SDCO	**Great Sand Dun** baz=111,SNR=10	**35.43**	**308**	P		**P**	**15 34 29.3**	**+0.6**
SCHQ	**Schefferville**	**35.44**	**4**	LR		LR	15 48 25.0	
	comp=Z,94nm,19.9s,baz=266,slow=36							
LPAZ	**La Paz**	**35.59**	**176**	P		**P**	**15 34 32.1**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=7.3,slow=8.5,SNR=2.3							
LPAZ				LR		LR	15 50 22.5	
	comp=Z,216nm,19.4s,baz=348,slow=38							
LPAZ	**La Paz**	**35.59**	**176**	IAmb		IAmb	15 34 43.8	
	comp=Z,6.2nm,1.4s							
ISCO	**Idaho Springs** baz=114,SNR=6.3	**36.29**	**312**	P		**P**	**15 34 37.1**	**+1.0**
S22A	**4UR Ranch, Cre** baz=110,SNR=5.6	**36.41**	**308**	P		**P**	**15 34 37.8**	**+0.6**
ULM	**Lac du Bonnet**	**36.74**	**333**	LR		LR	15 50 13.8	
	comp=Z,72nm,18.9s,baz=124,slow=37							
TUC	**Tucson** baz=100	**38.18**	**298**	P		**P**	**15 34 52.9**	**+0.9**
H07S1	**FLORES T-PHASE** SNR=12	**39.22**	**51**	T		T	16 15 59.3	
WUAZ	**Wupatki** baz=103,SNR=6.9	**39.29**	**303**	P		**P**	**15 35 02.5**	**+1.1**
PDAR	**Pinedale Array**	**40.19**	**314**	P		**P**	**15 35 08.4**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=95,slow=10,SNR=4.0							
PDAR				PcP		**PcP**	**15 37 12.3**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=97,slow=3.6,SNR=3.9							
PDAR				LR		LR	15 52 11.3	
	comp=Z,86nm,19.3s,baz=130,slow=37							
NLU	**North Lily Min**	**41.00**	**309**	P		**P**	**15 35 15.3**	**-0.2**
BDFB	**Brasilia**	**41.32**	**146**	P		**P**	**15 35 17.6**	**-0.6**
	comp=Z,11nm,0.8s,baz=301,slow=10,SNR=14							
BDFB	**Brasilia**	**41.32**	**146**	P		**P**	**15 35 15.2**	**-2.9**
BDFB				IAmb		IAmb	15 35 18.6	
	comp=Z,11nm,0.9s							
DUG	**Dugway, Tooele** baz=107,SNR=5.7	**41.61**	**309**	P		**P**	**15 35 21.2**	**+0.8**
IRM	**Iron Mountain** baz=99	**42.08**	**300**	P		**P**	**15 35 25.9**	**+1.6**
BC3	**Big Chuckawall** baz=98	**42.27**	**299**	P		**P**	**15 35 26.9**	**+1.0**
GMRC	**Granite Mounta** baz=99	**42.60**	**301**	P		**P**	**15 35 29.6**	**+1.0**
TUQ	**Turquoise Moun** baz=100,SNR=7.3	**42.92**	**301**	P		**P**	**15 35 32.6**	**+1.4**
MONP2	**Monument Peak** baz=96	**42.98**	**298**	P		**P**	**15 35 33.4**	**+1.6**
PFO	**Pinyon Flats O**	**43.09**	**299**	LR		LR	15 57 08.3	
	comp=Z,73nm,18.9s,baz=94,slow=41							
HEC	**Hector,Ludlow** baz=99	**43.16**	**300**	P		**P**	**15 35 34.5**	**+1.5**
R11A	**Troy Canyon, C** baz=103,SNR=9.9	**43.22**	**306**	P		**P**	**15 35 34.7**	**+1.1**
SHOC	**Shoshone, Teco** baz=100	**43.28**	**302**	P		**P**	**15 35 35.6**	**+1.6**
TPNV	**Topopah Spring** baz=101,SNR=8.6	**43.44**	**304**	P		**P**	**15 35 36.9**	**+1.5**
ELK	**Elko**	**43.54**	**309**	LR		LR	15 54 53.3	
	comp=Z,67nm,20.4s,baz=114,slow=38							
GSC	**Goldstone, Bar** baz=99	**43.61**	**301**	P		**P**	**15 35 38.1**	**+1.4**
FURC	**Furnace Creek,** baz=100	**43.84**	**303**	P		**P**	**15 35 40.2**	**+1.8**
MPMC	**Manual Prospec** baz=99,SNR=5.5	**44.27**	**302**	P		**P**	**15 35 43.2**	**+1.0**
LRMC	**Laurel Mtn Rad** baz=98	**44.34**	**301**	P		**P**	**15 35 44.0**	**+1.3**
EDW2	**Edwards Air Fo** baz=98,SNR=5.5	**44.51**	**300**	P		**P**	**15 35 44.9**	**+1.0**
CWC	**Cottonwood Cre** baz=99	**44.81**	**302**	P		**P**	**15 35 47.8**	**+1.4**
KVN	**Kaiserville**	**45.29**	**306**	P		**P**	**15 35 48.4**	**-1.8**
NVAR	**Mina Array Bea**	**45.32**	**305**	P		**P**	**15 35 50.1**	**-0.4**
	comp=Z,11nm,1.0s,baz=103,slow=7.6,SNR=46							
NVAR				PcP		**PcP**	**15 37 31.2**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=122,slow=4.4,SNR=3.8							
NVAR				LR		LR	15 56 32.3	
	comp=Z,119

LZH			pPKP	pPKPdf	15 46 39.2	-1.1	
LZH			sPKP		15 46 42.8		
CMAR	**Chiang Mai Arr**	**140.94 16**	PKP	**PKPdf**	**15 47 02.8**	**-0.2**	
	comp=Z,1.0nm,0.7s,baz=324,slow=4.5,SNR=4.8						
STKA	**Stephens Creek**	**148.62 240**	PKPbc	**PKPbc**	**15 47 18.9**	**-0.6**	
	comp=Z,7.3nm,0.9s,baz=93,slow=7.5,SNR=12						
STKA	**Stephens Creek**	**148.62 240**		**PKPbc**	**15 47 19.2**	**-0.4**	
WRA	**Warramunga Arr**	**156.57 265**	PKP	**PKPdf**	**15 47 27.1**	**-0.8**	
	comp=Z,1.1nm,0.8s,baz=17,slow=0.4,SNR=6.3						
WRA			PKPab	**PKPab**	**15 47 56.7**	**-0.1**	
	comp=Z,2.1nm,1.0s,baz=87,slow=4.0,SNR=6.7						
WRA	**Warramunga Arr**	**156.57 265**		**PKPdf**	**15 47 26.7**	**-1.1**	
ASAR	**Alice Springs**	**156.88 255**	PKP	**PKPdf**	**15 47 27.5**	**-0.7**	
	comp=Z,0.7nm,0.9s,baz=101,slow=3.2,SNR=4.6						
ASAR			PKPab	**PKPab**	**15 47 57.9**	**-0.3**	
	comp=Z,3.6nm,0.9s,baz=110,slow=4.1,SNR=12						

*NEIC **09** 15:28:49.5±2.2,52°.23N±0°.05×115°.26W±0°.07,h1km±5km, Error ellipse: s-maj=8.5km s-min=2.7km az=221.0*
*IDC **09** 15:28:50.5±0.5,52°.35N×115°.12W,h0km,mb3.8/10, mb1 4.0/18,mb1mx3.8/52,mbtmp3.8/18,ML3.6/8,MS2.9/4, Ms1 2.9/4,ms1mx2.6/41,Error ellipse: s-maj=10.4km s-min=7.7km az=59.0*
*PGC **09** 15:28:51.9±0.6,52°.17N×115°.25W,h5km,ML4.1/8,Mw3.8, 34km Wsw of Rocky Mt. House, Alberta Alberta, Canada*
ISC 09 15:28:49.5±0.5,52°.43N±0°.03×114°.82W±0°.03,h10km, n191,σ2s31/243,mb3.8/9,Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRDA	**Priddis**	**1.60**	**168**	Pn	**Pn**	**15 29 17.7**	**-0.2**
PRDA				Sg	**Sn**	**15 29 37.1**	**-1.5**
PRDA	**Priddis**	**1.60**	**168**	Pn	**Pn**	**15 29 17.7**	**-0.2**
PRDA					**Sn**	**15 29 37.1**	**-1.5**
MNB	**Mounoet Dainar**	**2.20**	**265**	Pn	**Pn**	**15 29 26.0**	**-0.3**
SLEB	**Sale Mountain**	**2.41**	**240**	Pn	**Pn**	**15 29 27.3**	**-1.9**
SLEB				Sg	**Sn**	**15 29 56.5**	**-2.4**
SLEB	**Sale Mountain**	**2.41**	**240**	Pn	**Pn**	**15 29 27.3**	**-1.9**
SLEB					**Sn**	**15 29 56.5**	**-2.4**
BLBC	**Blue River**	**2.74**	**264**	Pn	**Pn**	**15 29 33.2**	**-0.6**
BLBC				Pg	**Pb**	**15 29 35.4**	**-3.4**
BLBC	**Blue River**	**2.74**	**264**	Pn	**Pn**	**15 29 33.2**	**-0.6**
BLBC				Pg	**Pb**	**15 29 35.4**	**-3.4**
WALA	**Waterton Lakes**	**3.42**	**170**	Pn	**Pn**	**15 29 43.3**	**+0.3**
WALA				Sn	**Sn**	**15 30 19.7**	**-3.9**
WALA	**Waterton Lakes**	**3.42**	**170**	Pn	**Pn**	**15 29 43.3**	**+0.3**
PNT	**Penticton**	**4.35**	**226**	Pn	**Pn**	**15 29 53.3**	**-2.3**
PNT				Sg	**Sb**	**15 30 53.6**	**-4.9**
NEW	**Newport**	**4.42**	**200**	Pn	**Pn**	**15 29 53.7**	**-2.9**
	baz=16,SNR=8.8						
NEW				Pb	**Pb**	**15 30 05.5**	**-1.7**
	baz=16						
NEW				Sb	**Sb**	**15 30 57.9**	**-2.6**
	baz=16						
NEW	**Newport**	**4.42**	**200**	Pn	**Pn**	**15 29 53.8**	**-2.9**
BSMT	**Bassoo Peak**	**4.58**	**180**	Pn	**Pn**	**15 29 57.7**	**-1.3**
BSMT				Pg	**Pb**	**15 30 09.3**	**-0.8**
BSMT	**Bassoo Peak**	**4.58**	**180**	Pn	**Pn**	**15 29 57.7**	**-1.3**
BSMT					**Pb**	**15 30 09.3**	**-0.8**
YBMT	**Yellow Bay**	**4.60**	**173**	Pn	**Pn**	**15 29 58.6**	**-0.6**
YBMT	**Yellow Bay**	**4.60**	**173**	Pn	**Pn**	**15 29 58.6**	**-0.6**
JTMT	**Jette**	**4.70**	**176**	Pn	**Pn**	**15 29 59.4**	**-1.1**
JTMT	**Jette**	**4.70**	**176**		**Pn**	**15 29 59.5**	**-1.1**
MANA	**Manning**	**4.73**	**341**	Sn	Sn	15 30 08.0	-48
MANA	**Manning**	**4.73**	**341**		**Pb**	**15 30 08.0**	**-4.4**
NBC4	**NorthernBC 4**	**4.74**	**316**	Pn	**Pn**	**15 30 03.4**	**+2.3**
NBC4				Sn	**Sn**	**15 30 55.5**	**-0.6**
NBC4	**NorthernBC 4**	**4.74**	**316**	Pn	**Pn**	**15 30 03.4**	**+2.3**
NBC4				Sn	**Sn**	**15 30 55.5**	**-0.6**
LLLB	**Lillooet**	**4.77**	**250**	Pn	**Pn**	**15 29 59.1**	**-2.3**
LLLB				Pg	**Pb**	**15 30 11.7**	**-1.5**
LLLB				Sg	**Sb**	**15 31 09.8**	**-0.8**
LLLB	**Lillooet**	**4.77**	**250**	Pn	**Pn**	**15 29 59.1**	**-2.3**
LLLB					**Pb**	**15 30 11.7**	**-1.5**
LLLB				Sg	**Sb**	**15 31 09.8**	**-0.8**
BHMT	**Big Hole Peak**	**4.85**	**182**	Pn	**Pn**	**15 30 01.6**	**-1.0**
BHMT	**Big Hole Peak**	**4.85**	**182**	Pn	**Pn**	**15 30 01.6**	**-1.0**
SWMT	**Swartz Lake**	**4.95**	**174**	Pn	**Pn**	**15 30 02.9**	**-1.2**
SWMT				Pg	**Pb**	**15 30 17.2**	**+0.9**
SWMT	**Swartz Lake**	**4.95**	**174**	Pn	**Pn**	**15 30 02.9**	**-1.2**
SWMT					**Pb**	**15 30 17.2**	**+0.9**
B08A	**Colville Reser**	**4.99**	**217**	Pn	**Pn**	**15 30 01.6**	**-2.9**
B08A				Sg	**Sb**	**15 31 13.9**	**-3.1**
B08A	**Colville Reser**	**4.99**	**217**	Pn	**Pn**	**15 30 01.7**	**-2.7**
B08A	**Colville Reser**	**4.99**	**217**		**Sb**	**15 31 13.9**	**-3.1**
FBMT	**Ferry Basin**	**5.03**	**177**	Pn	**Pn**	**15 30 03.9**	**-1.3**
FBMT				Pg	**Pb**	**15 30 17.6**	**-0.1**
FBMT	**Ferry Basin**	**5.03**	**177**	Pn	**Pn**	**15 30 03.9**	**-1.3**
FBMT					**Pb**	**15 30 17.6**	**-0.1**
C09A	**Chrisman Ranch**	**5.13**	**207**	Sg	**Sb**	**15 31 21.5**	**+0.4**
C09A	**Chrisman Ranch**	**5.13**	**207**		**Sn**	**15 30 04.3**	**-2.1**
C09A	**Chrisman Ranch**	**5.13**	**207**	Sg	**Sb**	**15 31 21.5**	**+0.4**
HOPB	**Hope**	**5.17**	**237**	Sg	**Sb**	**15 31 20.4**	**-1.5**
HOPB	**Hope**	**5.17**	**237**	Sg	**Sb**	**15 31 20.4**	**-1.5**
SLMT	**Seeley Lake**	**5.26**	**170**	Pn	**Pn**	**15 30 07.7**	**-0.6**
SLMT				Pg	**Pb**	**15 30 22.6**	**+1.0**
SLMT	**Seeley Lake**	**5.26**	**170**	Pn	**Pn**	**15 30 07.7**	**-0.6**
SLMT					**Pb**	**15 30 22.6**	**+1.0**
EGMT	**Eagleton**	**5.48**	**142**	Pn	**Pn**	**15 30 11.9**	**+0.7**
	baz=322,SNR=14						
EGMT				Pb	**Pg**	**15 30 30.1**	**-4.3**
	baz=322						
EGMT				Sb	**Sb**	**15 31 38.2**	**+7.2**
	baz=322						
EGMT	**Eagleton**	**5.48**	**142**		**Pn**	**15 30 11.9**	**+0.7**
OVMT	**Ovando**	**5.50**	**167**	Pn	**Pn**	**15 30 11.3**	**-0.2**
OVMT	**Ovando**	**5.50**	**167**	Pn	**Pn**	**15 30 11.3**	**-0.2**
BMBC	**Bull Mountain**	**5.61**	**313**	Pn	**Pn**	**15 30 14.6**	**+1.6**
BMBC				Sn	**Sn**	**15 31 16.4**	**-1.1**
BMBC	**Bull Mountain**	**5.61**	**313**	Pn	**Pn**	**15 30 14.6**	**+1.6**
BMBC				Sn	**Sn**	**15 31 16.4**	**-1.1**
MSO	**Missoula**	**5.63**	**174**	Pn	**Pn**	**15 30 12.3**	**-1.0**
	baz=351,SNR=14						
MSO				Pb	**Pb**	**15 30 29.0**	**+1.1**
	baz=351						
MSO				Sb	**Sb**	**15 31 37.9**	**+2.4**
	baz=351						
MSO	**Missoula**	**5.63**	**174**		**Pn**	**15 30 12.1**	**-1.2**
LYMT	**Lyon Mountain**	**5.70**	**162**	Pn	**Pn**	**15 30 14.8**	**+0.3**
LYMT	**Lyon Mountain**	**5.70**	**162**	Pn	**Pn**	**15 30 14.8**	**+0.3**
B06A	**Marblemount**	**5.78**	**230**	Sg	**Sb**	**15 31 40.6**	**+1.1**
MBW	**Mount Baker**	**5.79**	**234**	Pn	**Pn**	**15 30 13.5**	**-2.2**
HNBB	**Haney**	**5.83**	**240**	Sg	**Sb**	**15 31 39.8**	**-1.2**
RPW	**Rockport**	**5.84**	**230**	Pn	**Pn**	**15 30 13.2**	**-3.0**
C06D	**Leavenworth**	**5.96**	**223**	S	**Sn**	**15 31 24.4**	**-1.7**
	baz=38						
WPB	**Watts Point**	**5.97**	**246**	Pg	**Pb**	**15 30 33.9**	**+0.3**
FSB	**Fort Saint Jam**	**6.04**	**294**	Pn	**Pn**	**15 30 18.7**	**-0.1**
FSB				Pg	**Pb**	**15 30 37.5**	**+2.8**
HRY	**Holter Researc**	**6.04**	**160**	Pn	**Pn**	**15 30 19.1**	**+0.1**
HRY	**Holter Researc**	**6.04**	**160**		**Pn**	**15 30 18.8**	**-0.2**
BPMT	**Black Pine Rid**	**6.06**	**171**	Pn	**Pn**	**15 30 18.4**	**-0.9**
BPMT	**Black Pine Rid**	**6.06**	**171**	Pn	**Pn**	**15 30 18.4**	**-0.9**
ELMT	**Elliston**	**6.10**	**165**	Pn	**Pn**	**15 30 19.9**	**0.0**
ELMT	**Elliston**	**6.10**	**165**	Pn	**Pn**	**15 30 19.9**	**0.0**
BIB	**Bowen Island**	**6.16**	**244**	Pg	**Pb**	**15 30 35.5**	**-1.2**
JCW	**Jim Creek**	**6.22**	**230**	Pn	**Pn**	**15 30 18.4**	**-2.9**
B05A	**Bryant**	**6.25**	**231**	P	**Pn**	**15 30 19.5**	**-2.1**
	baz=46						
B05A				Sb	**Sb**	**15 31 53.2**	**+0.2**
	baz=46						
HILA	**High Level**	**6.27**	**349**	Sn	**Sn**	**15 31 36.0**	**+2.5**
HILA	**High Level**	**6.27**	**349**	Sn	**Sn**	**15 31 36.0**	**+2.5**
SHB	**Sechelt**	**6.38**	**247**	Pg	**Pb**	**15 30 40.9**	**+0.3**
SHB				Sg	**Sb**	**15 31 58.0**	**+1.1**
LTY	**Liberty**	**6.41**	**218**	Pn	**Pn**	**15 30 20.2**	**-3.8**
LTY				Sg	**Sb**	**15 31 59.5**	**+1.7**
SNB	**Saturna Island**	**6.45**	**239**	Pn	**Pn**	**15 30 22.8**	**-1.6**
SNB				Sg	**Sb**	**15 32 01.7**	**+2.9**
C05A	**Tolt Reservoir**	**6.48**	**226**	Sg	**Sb**	**15 32 03.5**	**+3.8**
C05A	**Tolt Reservoir**	**6.48**	**226**	Sg	**Sb**	**15 32 03.5**	**+3.8**
GOBB	**Galiano Island**	**6.53**	**241**	Pn	**Pn**	**15 30 22.9**	**-2.5**
GOBB	**Galiano Island**	**6.53**	**241**	Pn	**Pn**	**15 30 22.9**	**-2.5**
NLLB	**Nanaimo Lost L**	**6.63**	**245**	Sg	**Sb**	**15 32 05.9**	**+1.9**
NLLB	**Nanaimo Lost L**	**6.63**	**245**	Sg	**Sb**	**15 32 05.9**	**+1.9**
TXB	**Texada**	**6.65**	**250**	Pg	**Pb**	**15 30 45.6**	**+0.5**
B011	**North Saanich**	**6.67**	**239**	Sg	**Sb**	**15 32 07.0**	**+1.8**
B011	**North Saanich**	**6.67**	**239**	Sg	**Sb**	**15 32 07.0**	**+1.8**
B010	**North Saanich**	**6.67**	**239**	Pg	**Pb**	**15 30 45.9**	**+0.4**
B010				Sg	**Sb**	**15 32 06.5**	**+1.3**
B010	**North Saanich**	**6.67**	**239**		**Pb**	**15 30 45.9**	**+0.4**
B010				Sg	**Sb**	**15 32 06.5**	**+1.3**
PA12	**PA12 Sannich**	**6.67**	**239**	Pg	**Pb**	**15 30 46.5**	**+1.0**
PA12	**PA12 Sannich**	**6.67**	**239**	Pg	**Pb**	**15 30 46.5**	**+1.0**
PGC	**Sidney**	**6.67**	**239**	Pg	**Pb**	**15 30 46.1**	**+0.7**
PGC				Sg	**Sb**	**15 32 08.8**	**+3.6**
B009	**North Saanich**	**6.67**	**239**	Sg	**Sb**	**15 32 06.8**	**+1.6**
B009	**North Saanich**	**6.67**	**239**	Sg	**Sb**	**15 32 06.8**	**+1.6**
GHNB	**Nanoose**	**6.73**	**246**	Pg	**Pb**	**15 30 46.0**	**-0.4**
GHNB				Sg	**Sb**	**15 32 09.8**	**+3.0**
GHNB	**Nanoose**	**6.73**	**246**		**Pb**	**15 30 46.0**	**-0.4**
GHNB				Sg	**Sb**	**15 32 09.8**	**+3.0**
VGZ	**Gonzales**	**6.75**	**237**	Sg	**Sb**	**15 32 09.8**	**+2.2**
LRM	**Limekiln Ridge**	**6.79**	**166**	Pn	**Pn**	**15 30 28.8**	**-0.6**
LRM	**Limekiln Ridge**	**6.79**	**166**		**Pn**	**15 30 28.5**	**-0.9**
HBMT	**Mount Humbug**	**6.80**	**167**	Pn	**Pn**	**15 30 29.1**	**-0.4**
HBMT	**Mount Humbug**	**6.80**	**167**	Pn	**Pn**	**15 30 29.1**	**-0.4**
NBC5	**NorthernBC 5**	**6.82**	**322**	Pn	**Pn**	**15 30 31.3**	**+1.8**
NBC5				Sn	**Sn**	**15 31 44.8**	**-2.4**
NBC5	**NorthernBC 5**	**6.82**	**322**	Pn	**Pn**	**15 30 31.3**	**+1.8**
NBC5				Sn	**Sn**	**15 31 44.8**	**-2.4**
B926	**Mesachie Lake**	**6.93**	**242**	Pn	**Pn**	**15 30 29.2**	**-1.9**
B926	**Mesachie Lake**	**6.93**	**242**	Pn	**Pn**	**15 30 29.2**	**-1.9**
YOUB	**Youbou, Lake C**	**6.96**	**243**	Pn	**Pn**	**15 30 27.9**	**-3.6**
YOUB				Sg	**Sb**	**15 32 16.4**	**+2.8**
YOUB	**Youbou, Lake C**	**6.96**	**243**	Pn	**Pn**	**15 30 27.9**	**-3.6**
YOUB				Sg	**Sb**	**15 32 16.4**	**+2.8**
D05A	**Enumclaw**	**7.00**	**224**	Pg	**Pb**	**15 30 50.0**	**-1.1**
D05A				Sg	**Sb**	**15 32 19.5**	**+4.9**
CBB	**Campbell River**	**7.04**	**254**	Pg	**Pb**	**15 30 52.9**	**+1.1**
CBB				Sg	**Sb**	**15 32 19.6**	**+3.8**
FMW	**Mount Fremont**	**7.07**	**222**	Pn	**Pn**	**15 30 30.1**	**-3.1**
HDW	**Hoodsport**	**7.14**	**231**	Pn	**Pn**	**15 30 31.4**	**-2.6**
MGB	**Mount Grey**	**7.14**	**245**	Pn	**Pn**	**15 30 32.3**	**-1.8**
MGB				Sg	**Sb**	**15 32 22.6**	**+3.7**
BOZ	**Bozeman (W)**	**7.15**	**162**	P	**Pn**	**15 30 33.9**	**-0.3**
	baz=341,SNR=12						
BOZ				Sb	**Sb**	**15 32 22.5**	**+3.4**
	baz=341						
BOZ	**Bozeman (W)**	**7.15**	**162**		**Pn**	**15 30 33.5**	**-0.8**
NBC6	**NorthernBC 6**	**7.19**	**332**	Pn	**Pn**	**15 30 37.1**	**+2.5**
NBC6				Sn	**Sn**	**15 31 54.5**	**-1.7**
NBC6	**NorthernBC 6**	**7.19**	**332**	Pn	**Pn**	**15 30 37.1**	**+2.5**
NBC6				Sn	**Sn**	**15 31 54.5**	**-1.7**
DLMT	**Dillon**	**7.22**	**167**		**Pn**	**15 30 34.4**	**-0.8**
D03D	**Eldon**	**7.24**	**231**	P	**Pn**	**15 30 34.3**	**-0.9**
	baz=44						
D03D				Sb	**Sb**	**15 32 22.6**	**+1.2**
	baz=44						
PFB	**Port Renfrew**	**7.25**	**242**	Pn	**Pn**	**15 30 32.1**	**-3.3**
PFB				Sg	**Sb**	**15 32 24.7**	**+3.0**
OSD	**Olympics--Snow**	**7.33**	**235**	Pn	**Pn**	**15 30 35.3**	**-1.5**
D04E	**Lakebay**	**7.35**	**228**	Sb	**Sb**	**15 32 27.0**	**+2.3**
	baz=42						
BTB	**Buttle Lake**	**7.38**	**251**	Pn	**Pn**	**15 30 35.3**	**-2.0**
BTB				Pg	**Pb**	**15 30 59.0**	**+1.4**
BTB				Sg	**Sb**	**15 32 29.0**	**+3.3**
GCMT	**Greycliff**	**7.45**	**151**		**Pn**	**15 30 38.9**	**+0.5**
B928	**Bamfield**	**7.48**	**245**	Sg	**Sb**	**15 32 31.2**	**+2.9**
B928	**Bamfield**	**7.48**	**245**	Sg	**Sb**	**15 32 31.2**	**+2.9**
BFSB	**Bamfield**	**7.48**	**245**	Sg	**Sb**	**15 32 32.4**	**+4.0**
OZB	**Mount Ozzard**	**7.61**	**247**	Sg	**Sb**	**15 32 37.5**	**+5.2**
G08A	**Pilot Rock**	**7.64**	**203**		**Pn**	**15 30 38.9**	**-2.1**
MCMT	**McKenzie Canyo**	**7.72**	**169**		**Pn**	**15 30 41.4**	**-0.7**
E04D	**Cinebar**	**7.74**	**224**	P	**Pn**	**15 30 42.7**	**+0.6**
	baz=38						
BMO	**Blue Mountains**	**7.76**	**193**		**Pn**	**15 30 41.8**	**-0.7**
DGMT	**Dagmar**	**7.85**	**116**	P	**Pn**	**15 30 46.1**	**+2.4**
	baz=302						
DGMT				Sn	**Sn**	**15 32 11.6**	**-1.0**
	baz=302						
DGMT				Sb	**Sg**	**15 32 52.6**	**-8.7**
	baz=302						
DGMT	**Dagmar**	**7.85**	**116**	Pn	**Pn**	**15 30 46.2**	**+2.4**
QLMT	**Earthquake Lak**	**7.93**	**162**	Pn	**Pn**	**15 30 45.1**	**+0.2**
NBC3	**NorthernBC 3**	**7.93**	**338**	Sn	**Sn**	**15 32 12.4**	**-2.1**
YHL	**Hebgen Lake**	**7.95**	**161**		**Pn**	**15 30 45.3**	**-0.1**
TPMT	**Tepee Creek**	**7.98**	**164**	Pn	**Pn**	**15 30 45.8**	**0.0**
TPMT	**Tepee Creek**	**7.98**	**164**	Pn	**Pn**	**15 30 45.8**	**0.0**
MAYB	**Maynard**	**7.98**	**260**	Pn	**Pn**	**15 30 44.1**	**-1.5**
MAYB	**Maynard**	**7.98**	**260**	Pn	**Pn**	**15 30 44.1**	**-1.5**
LAO	**LASA Array**	**8.01**	**132**	P	**Pn**	**15 30 49.3**	**+3.3**
	baz=316						
LAO				Sb	**Sb**	15 32 54.7	+11
	baz=316						
PHC	**Port Hardy**	**8.04**	**263**	Sg	**Sb**	15 32 51.8	+7.2
YHB	**Horse Butte**	**8.05**	**161**		**Pn**	**15 30 46.5**	**-0.1**
YNE	**Yellowstone No**	**8.08**	**155**		**Pn**	**15 30 46.6**	**-0.4**
EDB	**Eliza Dome**	**8.14**	**257**	Pn	**Pn**	**15 30 44.8**	**-2.9**
EDB				Sg	**Sb**	15 32 54.5	+7.0
BBB	**Bella Bella**	**8.15**	**274**	Pn	**Pn**	**15 30 46.3**	**-1.5**
	0.4nm,0.3s,baz=76,slow=6.9,SNR=6.2						
BBB				Lg	Lg	15 32 57.0	
	2.1nm,0.3s,baz=161,slow=23,SNR=5.3						
BBB	**Bella Bella**	**8.15**	**274**	Pn	**Pn**	**15 30 46.1**	**-1.7**
BBB				Sg	**Sb**	15 32 55.8	+8.1
PACB	**Port Alice, BC**	**8.17**	**261**	Sg	**Sb**	15 32 55.4	+7.3
PACB	**Port Alice, BC**	**8.17**	**261**	Sg	**Sb**	15 32 55.4	+7.3
BCYI	**Bear Canyon**	**8.18**	**173**		**Pn**	**15 30 47.0**	**-1.4**
RLMT	**Red Lodge**	**8.18**	**151**	P	**Pn**	**15 30 49.7**	**+1.3**
	baz=333,SNR=11						
RLMT				Sb	Sg	15 33 00.8	-11
	baz=333						
RLMT	**Red Lodge**	**8.18**	**151**	Pn	**Pn**	**15 30 49.6**	**+1.3**
G05D	**Wamic, OR**	**8.37**	**213**	Sb	Sb	15 33 01.7	+7.8
	baz=28						
BPBC	**Brooks Peninsu**	**8.43**	**259**	Pn	**Pn**	**15 30 48.0**	**-3.6**
BPBC	**Brooks Peninsu**	**8.43**	**259**	Pn	**Pn**	**15 30 48.0**	**-3.6**
HOLB	**Holberg**	**8.49**	**263**	Sg	Sb	15 33 06.2	+8.7
HOLB	**Holberg**	**8.49**	**263**	Sg	Sb	15 33 06.2	+8.7
NBC2	**NorthernBC 2**	**8.52**	**333**	Pn	**Pn**	**15 30 55.1**	**+2.3**
NBC2				Sn	**Sn**	**15 32 24.8**	**-4.0**
NBC2	**NorthernBC 2**	**8.52**	**333**	Pn	**Pn**	**15 30 55.1**	**+2.3**
NBC1	**NorthernBC 1**	**8.82**	**329**	Sn	**Sn**	**15 32 32.5**	**-3.7**
HLID	**Hailey**	**8.87**	**178**	P	**Pn**	**15 30 56.5**	**-1.4**
	baz=357						
G03D	**McMinnville, O**	**9.11**	**221**	P	**Pn**	**15 31 01.3**	**+0.4**
	baz=34						
H04D	**Lebanon**	**9.49**	**217**	P	**Pn**	**15 31 07.0**	**+0.9**
	baz=30						
I04A	**Tendick Farm,**	**10.01**	**213**	P	**Pn**	**15 31 14.2**	**+0.9**
	baz=27						
YKA	**Yellowknife Ar**	**10.10**	**1**	Pn	**Pn**	**15 31 16.5**	**+2.1**
	2.6nm,0.3s,baz=142,slow=16,SNR=93						
YKA				Sn	**Sn**	**15 33 03.9**	**-3.6**
	5.7nm,0.3s,baz=180,slow=23,SNR=8.5						
YKA				Lg	Lg	15 34 01.2	
	0.6nm,0.3s,baz=180,slow=28,SNR=4.6						
YKA				LR	LR	15 35 31.3	
	comp=Z,91nm,18.3s,baz=0.0,slow=39						
J05D	**Fort Rock, OR**	**10.11**	**208**	P	**Pn**	**15 31 17.1**	**+2.3**
	baz=22						
YKW3	**Yellowknife Ar**	**10.16**	**1**	P	**Pn**	**15 31 17.0**	**+1.8**
YKW3				Sn	**Sn**	**15 33 04.9**	**-4.3**
BW06	**Boulder Array**	**10.29**	**158**	P	**Pn**	**15 31 20.0**	**+2.5**
	baz=340						
PDAR	**Pinedale Array**	**10.29**	**158**	Pn	**Pn**	**15 31 20.3**	**+2.9**
	0.3nm,0.3s,baz=1.3,slow=16,SNR=16						
PDAR				Lg	Lg	15 34 07.7	
	0.3nm,0.3s,baz=4.6,slow=24,SNR=3.3						
DLBC	**Dease Lake**	**10.52**	**311**	Pn	**Pn**	**15 31 18.8**	**-1.4**
	0.1nm,0.3s,baz=31,slow=12,SNR=2.4						
DLBC				Sn	**Sn**	**15 33 13.1**	**-4.9**
	0.2nm,0.3s,baz=159,slow=17,SNR=1.2						
DLBC				Lg	Lg	15 34 23.5	
	0.5nm,0.3s,baz=260,slow=7.3,SNR=6.0						
DLBC	**Dease Lake**	**10.52**	**311**	P	**Pn**	**15 31 18.3**	**-1.9**
RSSD	**Black Hills**	**10.98**	**135**	P	**Pn**	**15 31 28.4**	**+1.6**
	baz=321						
K22A	**Casper**	**11.27**	**147**	P	**Pn**	**15 31 32.5**	**+1.8**
	baz=331,SNR=9.7						
ELK	**Elko**	**11.69**	**182**	Pn	**Pn**	**15 31 37.5**	**+1.0**
	0.1nm,0.3s,baz=348,slow=12,SNR=4.0						
ELK				Lg	Lg	15 34 49.3	
	0.1nm,0.3s,baz=271,slow=20,SNR=3.2						
ELK				LR	LR	15 36 16.7	
	comp=Z,44nm,18.5s,baz=210,slow=38						
YBH	**Yreka Blue Hor**	**11.96**	**210**	LR	LR	15 36 18.4	
	comp=Z,68nm,19.1s,baz=335,slow=38						
ULM	**Lac du Bonnet**	**12.05**	**93**	Pn	**Pn**	**15 31 42.1**	**+1.0**
	1.1nm,0.3s,baz=300,slow=10,SNR=3.8						
ULM				Sn	**Sn**	**15 33 53.1**	**-2.3**
	1.0nm,0.3s,baz=227,slow=19,SNR=1.9						
ULM				Lg	Lg	15 35 06.2	
	0.7nm,0.3s,baz=243,slow=15,SNR=3.9						
ULM				LR	LR	15 36 50.0	
	comp=Z,46nm,18.7s,baz=299,slow=39						
FCC	**Fort Churchill**	**13.30**	**53**	P	**Pn**	**15 31 56.5**	**-1.6**
EPLO	**Experimental L**	**13.55**	**93**	P	**Pn**	**15 32 00.4**	**-1.2**
NVAR	**Mina Array Bea**	**14.21**	**191**	Pn	**Pn**	**15 32 11.9**	**+1.0**
	0.1nm,0.3s,baz=7.8,slow=14,SNR=3.7						
SOLO	**Sioux Lookout**	**14.44**	**91**	P	**Pn**	**15 32 12.6**	**-1.2**
DHRN	**Dharma Camp**	**14.84**	**353**	P	**Pn**	**15 32 20.4**	**+1.3**
ECSD	**EROS Data Cent**	**14.92**	**118**	P	**Pn**	**15 32 20.0**	**-0.4**
	baz=311						
KUKN	**Kugluktuk,NWT**	**15.45**	**360**	P	**Pn**	**15 32 27.1**	**-0.1**
EYMN	**Ely**	**15.57**	**97**	P	**Pn**	**15 32 29.5**	**+0.6**
	baz=294						
SILO	**Sutton Inlier**	**17.87**	**72**	P	**Pn**	**15 32 54.7**	**-3.2**
INK	**Inuvik**	**18.28**	**338**	P	**P**	**15 33 03.2**	**+0.3**
	0.4nm,0.3s,baz=131,slow=11,SNR=8.4						
INK				S	**Sn**	**15 36 16.0**	**-11**
	0.4nm,0.3s,baz=282,slow=14,SNR=5.1						
ILAR	**Eielson Array**	**20.49**	**319**	P	Pn	15 33 30.4	+1.0
	1.2nm,0.7s,baz=107,slow=10.0,SNR=8.5						
TXAR	**Lajitas Array**	**24.51**	**156**	P	**P**	**15 34 10.2**	**+1.2**
	0.5nm,0.6s,baz=354,slow=8.2,SNR=5.1						
PETK	**Petropavlovsk-**	**49.68**	**308**	P	**P**	**15 37 41.8**	**+0.7**
	0.8nm,0.8s,baz=69,slow=7.9,SNR=2.3						
FINES	**FINESS Array B**	**62.29**	**20**	P	**P**	**15 39 14.8**	**+3.6**
	1.8nm,0.7s,baz=337,slow=8.3,SNR=7.3						
GERES	**GERESS Array B**	**70.03**	**33**	P	**P**	**15 40 05.0**	**+3.8**
	0.7nm,0.7s,baz=343,slow=4.2,SNR=4.0						
ESDC	**Sonseca Array**	**70.46**	**50**	P	**P**	**15 40 07.3**	**+3.4**
	0.5nm,0.7s,baz=312,slow=6.2,SNR=2.6						
ZALV	**Zalesovo Beam**	**72.73**	**348**	P	**P**	**15 40 19.4**	**+2.1**
	2.5nm,0.6s,baz=19,slow=6.1,SNR=11						
AKASG	**Malin Array Be**	**72.85**	**23**	P	**P**	**15 40 21.2**	**+3.2**
	0.3nm,0.5s,baz=336,slow=5.7,SNR=4.2						
SONM	**Songino Array**	**74.11**	**333**	P	P	15 40 29.9	+4.2
	0.3nm,0.6s,baz=24,slow=7.9,SNR=2.4						
SONM	**Songino Array**	**74.11**	**333**	IAmb	IAmb	15 41 39.3	
	comp=Z,1.3nm,1.3s						
MKAR	**Makanchi Array**	**80.08**	**348**	P	**P**	**15 41 01.3**

baz=33
ULHL ⇑*i*S Sg 15 31 23.5 -0.6
baz=33
DJR Jarkent 1.67 50 *e*P Pb 15 31 01.1 -0.1
1.0nm,0.1s
DJR *e*S Sb 15 31 22.8 +0.7
5.9nm,0.2s
DJR Jarkent 1.67 50 P Pb 15 31 01.1 -0.1
1.0nm,0.1s
DJR S Sb 15 31 22.8 +0.7
5.9nm,0.2s
KTMS Ketmen 1.71 83 *e*P Pb 15 31 02.1 +0.1
baz=83
KTMS *e*S Sg 15 31 24.7 -1.2
baz=83
KTMS Ketmen 1.71 83 *e*P Pb 15 31 02.1 +0.1
1.4nm,0.0s
KTMS *e*S Sg 15 31 24.6 -1.2
3.3nm,0.1s
KTMS Ketmen 1.71 83 P Pb 15 31 02.1 +0.1
1.4nm,0.0s
KTMS S Sg 15 31 24.6 -1.2
3.3nm,0.1s
KRBS Karabastau 1.75 285 *e*P Pb 15 31 02.9 +0.2
0.7nm,0.4s
KRBS *e*S Sb 15 31 25.6 +1.0
3.4nm,0.2s
TKM2 Tokmak 2 1.81 260⇑*e*P Pb 15 31 03.4 -0.2
baz=60
TKM2 ⇑*i*S Sg 15 31 28.8 +0.1
baz=60
TKM2 Tokmak 2 1.81 260 ⇑Pn Pb 15 31 03.1 -0.5
2.8nm,1.1s
TKM2 ⇑Sn Sg 15 31 28.5 -0.2
1.1nm,0.3s

IDC 09 15:35:24.7±2.1,**1°76′N**×**126°16′E,h0**km,**mb3.4**/3, **mb1 3.6**/3,**mb1mx3.4**/26,**mbtmp3.4**/3,**Error ellipse: s-maj=179.3km s-min=25.7km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.01**	**160**	P	P	15 40 30.9	-0.6
	1.0nm,0.5s,baz=338,slow=10,SNR=16						
ASAR	**Alice Springs**	**26.37**	**164**	P	P	15 41 03.2	+0.4
	0.2nm,0.4s,baz=339,slow=6.9,SNR=6.5						
MKAR	**Makanchi Array**	**58.85**	**326**	P	P	15 45 25.4	0.0
	0.2nm,0.4s,baz=126,slow=7.4,SNR=5.3						

*IDC **09** 15:45:47.9±0.9,35°.28N×4°.25W,h0km, mb3.8/12, mb1 4.0/17,mb1mx3.8/49,mbtmp3.8/17,ML3.7/5,MS3.2/6, Ms1 3.3/6,ms1mx3.0/34,Error ellipse: s-maj=23.5km s-min=14.0km az=96.0*
*LDG **09** 15:45:48.6±0.5,35°.38N×4°.17W,h10km,Ml3.5/10,Error ellipse: s-maj=9.3km s-min=5.6km az=8.0*
*MDD **09** 15:45:50.0±0.3,35°.30N×4°.14W,h0km,mbLg3.6/41,Error ellipse: s-maj=4.0km s-min=2.7km az=145.0,PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA - ESPAA.
*SFS **09** 15:45:49.0,35°.24N×4°.14W,ML3.6,TORRES DE ALCALA (MARRUECOS)*
*CNRM **09** 15:45:49.5±0.4,35°.32N×4°.10W,h12km±3km,Error ellipse: s-maj=3.8km s-min=3.1km az=59.0*
*IGIL **09** 15:45:49.4,35°.25N×4°.15W,h1km*
*CRAAG **09** 15:45:50.2,35°.34N×4°.17W,Mb4.1*
*INMG **09** 15:45:50.3±1.5,35°.32N×4°.12W,h0km,ML3.5,Error ellipse: s-maj=2.4km s-min=2.3km az=110.0*
ISC 09 15:45:49.6±0.8,**35°.29N**±0°.02×**4°.13W**±0°.02,**h13**km±5km, **n207,**σ1§**97**/336,**mb3.9**/10,**13C-11D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.17**	**115**	P	**Pg**	**15 45 53.0**	**-0.6**
PALE				S	**Sg**	**15 45 55.6**	**-0.7**
PVLZ	**Peæn de**	**0.18**	**231**	P	**Pg**	**15 45 53.5**	**-0.2**
PVLZ				S	**Sg**	**15 45 56.1**	**-0.5**
PVLZ	**Peæn de**	**0.18**	**231**⇑*i*	P	**Pg**	**15 45 53.5**	**-0.2**
PVLZ				*e*S	**Sg**	**15 45 56.1**	**-0.5**
AKLM	**AKL**	**0.81**	**164**	P	**Pg**	**15 46 04.4**	**-0.8**
AKLM				S	**Sg**	**15 46 15.5**	**-0.3**
GOG	**Mont Gurugu**	**0.93**	**94**	P	**Pg**	**15 46 06.7**	**-0.9**
GOG				S	**Sb**	**15 46 19.9**	**0.0**
MELI	**Melilla**	**0.97**	**89**	⇑P	**Pb**	**15 46 07.5**	**-0.9**
	2µm,1.2s,SNR=18						
MELI				S	**Sb**	**15 46 21.6**	**+0.4**
	20µm,0.7s,SNR=7.9						
CHEFC	**Chefchaouen**	**1.01**	**260**	P	**Pn**	**15 46 09.7**	**+0.1**
CHEFC				S	**Sn**	**15 46 23.5**	**-0.2**
SMIR	**Smir Dam**	**1.10**	**291**	P	**Pb**	**15 46 08.5**	**-2.0**
SMIR				S	**Sb**	**15 46 23.3**	**-1.3**
EALB	**Alboran**	**1.10**	**54**	⇑P	**Pb**	**15 46 09.3**	**-1.2**
	781nm,0.4s,SNR=18						
EALB				S	**Sn**	**15 46 25.6**	**-0.3**
	1µm,0.2s,SNR=12						
CEU	**Ceuta**	**1.18**	**301**	P	**Pn**	**15 46 08.6**	**-3.3**
CEU				S	**Sb**	**15 46 24.5**	**-2.7**
CEU	**Ceuta**	**1.18**	**301**⇓*i*	P	**Pn**	**15 46 08.6**	**-3.3**
CEU				*e*S	**Sb**	**15 46 24.5**	**-2.7**
ECEU	**Ceuta**	**1.19**	**301**	⇓P	**Pn**	**15 46 09.7**	**-2.3**
	196nm,0.6s,SNR=18						
ECEU				S	**Sb**	**15 46 25.3**	**-2.0**
	1µm,0.3s,SNR=23						
EMIJ	**Mijas**	**1.38**	**338**	⇓P	**Pn**	**15 46 13.1**	**-1.6**
	92nm,0.4s,SNR=18						
EMIJ				S	**Sn**	**15 46 32.0**	**-0.7**
	519nm,0.3s,SNR=12						
RSA	**Sarsar**	**1.45**	**254**	P	**Pg**	**15 46 18.3**	**+0.9**
RSA				S	**Sg**	**15 46 36.4**	**+0.2**
TAF	**Taforalt**	**1.48**	**108**	P	**Pn**	**15 46 15.0**	**-1.1**
TAF				S	**Sn**	**15 46 34.1**	**-1.3**
EMAL	**Malaga-Limoner**	**1.49**	**351**	P	**Pn**	**15 46 15.5**	**-0.6**
EMAL				S	**Sn**	**15 46 34.4**	**-1.0**
EMAL	**Malaga-Limoner**	**1.49**	**351**	*e*P	**Pn**	**15 46 15.5**	**-0.6**
EMAL				*e*S	**Sn**	**15 46 34.4**	**-1.0**
CPS	**Cap Spartel**	**1.53**	**289**	P	**Pg**	**15 46 20.4**	**+1.3**
CPS				S	**Sb**	**15 46 37.6**	**+0.3**
SICH	**Sidi Chahed**	**1.54**	**220**	P	**Pg**	**15 46 18.6**	**-0.5**
SICH				S	**Sg**	**15 46 38.5**	**-0.6**
JBK	**JBK**	**1.60**	**126**	P	**Pn**	**15 46 16.7**	**-1.1**
JBK				S	**Sn**	**15 46 38.4**	**0.0**
ELGU	**Los Guajares,**	**1.63**	**14**	⇓P	**Pn**	**15 46 17.1**	**-1.0**
	121nm,0.3s,SNR=18						
ELGU				S	**Sb**	**15 46 40.7**	**+0.6**
	3µm,0.6s,SNR=7.9						
LCRM	**LCR**	**1.71**	**201**	P	**Pb**	**15 46 20.4**	**-0.5**
LCRM				S	**Sg**	**15 46 45.3**	**+0.7**
EGOR	**Sierra Gorda,**	**1.82**	**0**	P	**Pn**	**15 46 20.6**	**-0.2**
	75nm,0.5s,SNR=7.9						
EGOR				S	**Sn**	**15 46 43.8**	**0.0**
	895nm,0.7s,SNR=7.9						
EBER	**Berja**	**1.89**	**32**	P	**Pn**	**15 46 20.6**	**-1.2**
	30nm,0.4s,SNR=77						
EBER				S	**Sb**	**15 46 46.8**	**-1.0**
	1µm,0.7s,SNR=12						
CNIL	**Conil**	**1.90**	**305**	P	**Pb**	**15 46 23.5**	**-0.7**
CNIL				S	**Sn**	**15 46 45.0**	**-0.6**
CNIL	**Conil**	**1.90**	**305**	*i* P	**Pb**	**15 46 23.5**	**-0.7**
CNIL				*e*S	**Sn**	**15 46 45.0**	**-0.6**
EQUE	**Quentar**	**1.99**	**16**	P	**Pn**	**15 46 23.5**	**+0.4**
	72nm,0.4s,SNR=81						
EQUE				S	**Sb**	**15 46 51.1**	**+0.5**
	476nm,0.5s,SNR=7.6						
SFS	**San Fernando**	**2.06**	**305**	P	**Pg**	**15 46 28.4**	**-0.7**
SFS				S	**Sb**	**15 46 52.1**	**-0.2**
SFS	**San Fernando**	**2.06**	**305**	*e*P	**Pg**	**15 46 28.4**	**-0.7**
SFS				*e*S	**Sb**	**15 46 52.1**	**-0.2**
ESPR	**Espera**	**2.11**	**319**	P	**Pn**	**15 46 24.7**	**+0.1**
	50nm,0.4s,SNR=22						
ESPR				S	**Sn**	**15 46 51.6**	**+0.9**
	290nm,0.7s,SNR=7.3						
ENIJ	**Nijar**	**2.29**	**42**	P	**Pn**	**15 46 26.8**	**-0.3**
	113nm,0.4s,SNR=7.9						
ENIJ				S	**Sn**	**15 46 53.5**	**-1.7**
	307nm,0.3s,SNR=7.9						
GORA	**Gorafe**	**2.35**	**22**	P	**Pb**	**15 46 30.7**	**-1.3**
	202nm,0.6s,SNR=7.9						
GORA				S	**Sn**	**15 46 57.2**	**+0.2**
	557nm,0.6s,SNR=7.9						
CZD	**Col de Zad**	**2.38**	**199**	P	**Pn**	**15 46 29.3**	**+0.7**
CZD				S	**Sn**	**15 46 59.6**	**+1.9**
MD31	**MD31**	**2.47**	**192**	P	**Pn**	**15 46 31.3**	**+1.5**
MD31				S	**Sn**	**15 47 02.1**	**+2.2**
MDT	**Midelt**	**2.50**	**189**	Pn	**Pn**	**15 46 30.7**	**+0.6**
	21nm,0.3s,baz=35,slow=12,SNR=138						
MDT				Sn	**Sn**	**15 47 02.3**	**+1.7**
	53nm,0.3s,baz=98,slow=21,SNR=8.6						
MDT				LR	LR	15 47 08.1	
	comp=Z,194nm,18.0s,baz=148,slow=32						
MDT	**Midelt**	**2.50**	**189**	P	**Pn**	**15 46 30.7**	**+0.6**
RTC	**Rabat Centre**	**2.60**	**241**	P	**Pn**	**15 46 32.0**	**+0.6**
RTC				S	**Sb**	**15 47 05.5**	**-2.4**
EQES	**Quesada**	**2.65**	**18**	P	**Pn**	**15 46 33.7**	**+1.5**
	53nm,0.3s,SNR=267						
EQES				S	**Sb**	**15 47 07.4**	**-2.1**
	941nm,1.0s,SNR=5.8						
HORN	**Hornachuelos**	**2.71**	**341**	P	**Pn**	**15 46 34.0**	**+1.0**
OTSS	**Djebel Tessala**	**2.73**	**89**	P	**Pn**	**15 46 32.0**	**-1.2**
OTSS	**Djebel Tessala**	**2.73**	**89**	P	**Pn**	**15 46 32.0**	**-1.2**
ZHG	**ZHG**	**2.78**	**229**	P	**Pn**	**15 46 34.1**	**+0.2**
ZHG				S	**Sn**	**15 47 08.5**	**+1.2**
TDRA	**Tendrara**	**2.84**	**142**	P	**Pn**	**15 46 34.2**	**-0.6**
TDRA				S	**Sn**	**15 47 10.0**	**+1.0**
EADA	**Adamuz**	**2.90**	**353**	P	**Pn**	**15 46 36.5**	**+1.0**
	49nm,0.7s,SNR=86						
ECAB	**El Cabril**	**2.97**	**340**	⇓P	**Pn**	**15 46 36.9**	**+0.4**
	10.0nm,0.3s,SNR=18						
ECAB				S	**Sn**	**15 47 12.4**	**+0.4**
	125nm,0.4s,SNR=6.6						
SESP	**Santiago Espad**	**3.10**	**24**	P	**Pn**	**15 46 39.4**	**+1.0**
	96nm,0.4s,SNR=7.9						
SESP				S	**Sn**	**15 47 17.7**	**+2.3**
	288nm,0.6s,SNR=7.9						
SESP	**Santiago Espad**	**3.10**	**24**	P	**Pn**	**15 46 40.2**	**+1.8**
SESP				S	**Sn**	**15 47 15.8**	**+0.4**
EMIN	**Mina Concepcio**	**3.21**	**321**	P	**Pn**	**15 46 39.9**	**+0.1**
	14nm,0.4s,SNR=50						
EMIN				S	**Sn**	**15 47 17.4**	**-0.6**
	99nm,0.7s,SNR=5.2						
ODJA	**Bouhanifia**	**3.25**	**88**	P	Pg	15 46 59.0	+7.1
ODJA	**Bouhanifia**	**3.25**	**88**	P	Pg	15 46 59.0	+7.1
AVE	**Averroes**	**3.37**	**235**	P	**Pb**	**15 46 46.4**	**-2.8**
AVE				S	**Sn**	**15 47 23.0**	**+1.2**
AVE	**Averroes**	**3.37**	**235**	*e*P	**Pg**	**15 46 52.8**	**-1.4**
AVE				*e*S	**Sn**	**15 47 21.9**	**+0.1**
CART	**Cartagena**	**3.41**	**47**	P	**Pn**	**15 46 41.5**	**-1.0**
CART				S	**Sn**	**15 47 15.1**	**-7.7**
CART	**Cartagena**	**3.41**	**47**	*e*P	**Pn**	**15 46 41.5**	**-1.0**
CART				*e*S	**Sn**	**15 47 15.1**	**-7.7**
EMUR	**La Murta**	**3.45**	**42**	P	**Pn**	**15 46 43.7**	**+0.6**
	10nm,0.4s,SNR=15						
EMUR				S	**Sn**	**15 47 22.4**	**-1.5**
	79nm,0.4s,SNR=9.2						
EGRO	**El Granado**	**3.51**	**311**	⇓P	**Pn**	**15 46 43.8**	**-0.1**
	40nm,0.3s,SNR=18						
EGRO				S	**Sn**	**15 47 24.3**	**-1.1**
	94nm,0.3s,SNR=7.1						
PVAQ	**Vaqueiros**	**3.58**	**307**	P	**Pn**	**15 46 44.5**	**-0.4**
PVAQ				S	**Sn**	**15 47 25.9**	**-1.3**
	119nm,0.5s						
PVAQ	**Vaqueiros**	**3.58**	**307**	P	**Pn**	**15 46 44.5**	**-0.4**
PVAQ				S	**Sn**	**15 47 26.2**	**-0.9**
PVAQ	**Vaqueiros**	**3.58**	**307**	*e*Pn	**Pn**	**15 46 44.5**	**-0.4**
PVAQ				*e*Sn	**Sn**	**15 47 25.9**	**-1.3**
PVAQ				A	A	15 47 29.8	
	119nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.64**	**304**	P	**Pn**	**15 46 45.5**	**-0.2**
PBDV				S	**Sn**	**15 47 28.1**	**-0.5**
	67nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.64**	**304**	*e*Pn	**Pn**	**15 46 45.5**	**-0.2**
PBDV				*e*Sn	**Sn**	**15 47 28.1**	**-0.5**
PBDV				A	A	15 47 36.4	
	67nm,0.5s						
GOLM	**Goulmima**	**3.64**	**191**	P	**Pn**	**15 46 48.0**	**+2.1**
GOLM				S	**Sn**	**15 47 33.4**	**+4.6**
OJBR	**Djebel Berber**	**3.66**	**84**	P	**Pb**	**15 46 53.0**	**-1.3**
OJBR	**Djebel Berber**	**3.66**	**84**	P	**Pb**	**15 46 53.0**	**-1.3**
ARF	**Arif**	**3.85**	**181**	P	**Pn**	**15 46 49.8**	**+1.1**
ARF				S	**Sn**	**15 47 35.9**	**+2.1**
PCVE	**Castro Verde**	**3.92**	**308**	P	**Pn**	**15 46 51.0**	**+1.4**
PCVE				S	**Sn**	**15 47 35.2**	**-0.4**
	73nm,0.6s						
PCVE	**Castro Verde**	**3.92**	**308**	*e*Pn	**Pn**	**15 46 51.0**	**+1.4**
PCVE				*e*Sn	**Sn**	**15 47 35.2**	**-0.4**
PCVE				A	A	15 47 42.9	
	73nm,0.6s						
ETOB	**Tobarra**	**3.94**	**31**	⇓P	**Pn**	**15 46 51.9**	**+2.1**
	32nm,0.3s,SNR=18						
ETOB				S	**Sn**	**15 47 37.6**	**+1.7**
	483nm,1.5s,SNR=4.7						
OKGL	**Djebel Kef Gue**	**3.96**	**78**	P	**Pn**	**15 46 49.9**	**-0.1**
	35nm,0.4s,SNR=7.9						
OKGL				S	**Sn**	**15 47 34.9**	**-1.5**
	463nm,1.5s,SNR=7.9						
PBEJ	**Beja**	**4.06**	**313**	P	**Pn**	**15 46 52.7**	**+1.2**
PBEJ				S	**Sn**	**15 47 39.5**	**+0.6**
	18nm,0.6s						
PBEJ	**Beja**	**4.06**	**313**	*e*Pn	**Pn**	**15 46 52.7**	**+1.2**
PBEJ				*e*Sn	**Sn**	**15 47 39.5**	**+0.6**
PBEJ				A	A	15 48 02.9	
	35nm,0.6s						
MORF	**Marmelete**	**4.17**	**300**	*e*P	**Pn**	**15 46 52.5**	**-0.6**
MORF	**Marmelete**	**4.17**	**300**	P	**Pn**	**15 46 52.5**	**-0.6**
MORF				S	**Sn**	**15 47 41.0**	**-0.7**
	41nm,0.3s						
MORF	**Marmelete**	**4.17**	**300**	*e*Pn	**Pn**	**15 46 54.4**	**+1.4**
MORF				*e*Sn	**Sn**	**15 47 41.0**	**-0.7**
MORF				A	A	15 47 45.4	
	41nm,0.3s						
SRHM	**Skhour des Reh**	**4.21**	**229**	P	**Pn**	**15 46 58.2**	**+4.6**
PFVI	**Vila Bisbo**	**4.22**	**297**	P	**Pn**	**15 46 54.1**	**+0.4**
	19nm,0.4s,SNR=7.5						
PFVI				S	**Sn**	**15 47 41.0**	**-1.9**
	93nm,0.5s,SNR=10						
PFVI	**Vila Bisbo**	**4.22**	**297**	P	**Pn**	**15 46 53.7**	**0.0**
PFVI				S	**Sn**	**15 47 42.6**	**-0.3**
PFVI	**Vila Bisbo**	**4.22**	**297**	*e*Pn	**Pn**	**15 46 54.6**	**+0.9**
PFVI				*e*Sn	**Sn**	**15 47 41.2**	**-1.7**
PFVI				A	A	15 47 54.6	
	77nm,0.7s						
PAB	**San Pablo**	**4.25**	**358**	P	**Pn**	**15 46 55.3**	**+1.1**
	SNR=7.9						
PAB				S	**Sn**	**15 47 42.8**	**-1.0**
	206nm,1.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**4.34**	**303**	P	**Pn**	**15 46 56.7**	**+1.4**
PTEO				S	**Sn**	**15 47 45.3**	**-0.4**
	41nm,0.6s						
PTEO	**Sao Teotonio**	**4.34**	**303**	*e*Pn	**Pn**	**15 46 56.7**	**+1.4**
PTEO				*e*Sn	**Sn**	**15 47 45.3**	**-0.4**
PTEO				A	A	15 47 58.7	
	82nm,0.6s						
ESDC	**Sonseca Array**	**4.38**	**2**	Pn	**Pn**	**15 46 57.5**	**+1.6**
	4.5nm,0.3s,baz=181,slow=12,SNR=206						
ESDC				Sn	**Sn**	**15 47 47.9**	**+1.1**
	2.8nm,0.3s,baz=186,slow=23,SNR=5.4						
ESDC				Lg	Lg	15 48 06.9	
	4.9nm,0.3s,baz=186,slow=28,SNR=7.1						
ESDC				LR	LR	15 48 14.5	
	comp=Z,89nm,21.9s,baz=185,slow=33						
ESDC	**Sonseca Array**	**4.38**	**2**	P	**Pn**	**15 46 56.6**	**+0.7**
	30nm,0.5s,baz=177,slow=12,SNR=166						
ESDC				S	**Sn**	**15 47 46.0**	**-0.9**
	312nm,1.1s,baz=184,slow=22,SNR=6.8						
AFON	**Font Roja**	**4.43**	**39**	P	**Pn**	**15 46 58.8**	**+2.2**
	3.2nm,0.3s,SNR=6.4						
AFON				S	**Sn**	**15 47 47.1**	**-1.0**
	172nm,1.5s						
EVO	**Evora**	**4.49**	**317**	P	**Pn**	**15 46 57.9**	**+0.5**
EVO				S	**Sn**	**15 47 49.3**	**-0.2**
	46nm,0.5s						
EVO	**Evora**	**4.49**	**317**	*e*P	**Pn**	**15 46 57.5**	**+0.1**
EVO				*e*S	**Sn**	**15 47 49.3**	**-0.2**
EVO	**Evora**	**4.49**	**317**	*e*Pn	**Pn**	**15 46 57.9**	**+0.5**
EVO				*e*Sn	**Sn**	**15 47 49.3**	**-0.2**
EVO				A	A	15 48 00.7	
	46nm,0.5s						
PNCL	**Nicolau / Gran**	**4.52**	**310**	P	**Pn**	**15 46 58.0**	**+0.2**
PNCL				S	**Sn**	**15 47 49.1**	**-1.1**
	47nm,0.4s						
PNCL	**Nicolau / Gran**	**4.52**	**310**	*e*Pn	**Pn**	**15 46 58.0**	**+0.2**
PNCL				*e*Sn	**Sn**	**15 47 49.1**	**-1.1**
PNCL				A	A	15 47 59.5	
	47nm,0.4s						
EBEN2	**Beniarda presa**	**4.62**	**42**	S	**Sn**	**15 47 51.5**	**-1.3**
	85nm,0.8s,SNR=7.9						
TZRR	**Tazzarine**	**4.65**	**195**	P	**Pn**	**15 47 01.2**	**+1.5**
TZRR				S	**Sn**	**15 47 54.7**	**+1.1**
PMRV	**Marv??o**	**4.88**	**329**	P	**Pn**	**15 47 03.3**	**+0.5**
PMRV				S	**Sn**	**15 47 59.1**	**-0.1**
	49nm,0.6s						
PMRV	**Marv??o**	**4.88**	**329**	*e*Pn	**Pn**	**15 47 03.3**	**+0.5**
PMRV				*e*Sn	**Sn**	**15 47 59.1**	**-0.1**
PMRV				A	A	15 48 23.7	
	49nm,0.6s						
OUZM	**OUZ**	**4.89**	**208**	P	**Pn**	**15 47 04.4**	**+1.3**
OUZM				S	**Sn**	**15 48 00.4**	**+0.7**
ECHE	**Chera**	**4.98**	**29**	P	**Pn**	**15 47 04.5**	**+0.4**
	3.6nm,0.3s,SNR=7.9						
PMTG	**Montargil**	**4.99**	**320**	P	**Pn**	**15 47 04.7**	**+0.4**
PMTG				S	**Sn**	**15 48 00.5**	**-1.4**
	41nm,0.6s						
PMTG	**Montargil**	**4.99**	**320**	*e*Pn	**Pn**	**15 47 04.7**	**+0.4**
PMTG				*e*Sn	**Sn**	**15 48 00.5**	**-1.4**
PMTG				A	A	15 48 06.2	
	41nm,0.6s						
EPLA	**Plasencia**	**5.01**	**343**	P	**Pn**	**15 47 05.1**	**+0.5**
	22nm,0.7s,SNR=56						
EPLA				S	**Sn**	**15 48 00.3**	**-2.1**
	166nm,0.9s						
UCM	**Universidad Co**	**5.06**	**8**	P	**Pn**	**15 47 06.6**	**+1.4**
UCM				S	**Sn**	**15 48 02.6**	**-1.0**
UCM	**Universidad Co**	**5.06**	**8**⇓*i*	P	**Pn**	**15 47 06.6**	**+1.4**
UCM				*e*S	**Sn**	**15 48 02.6**	**-1.0**
OUK	**Oukaimeden**	**5.14**	**219**	P	**Pn**	**15 47 06.6**	**0.0**
OUK				S	**Sn**	**15 48 05.4**	**-0.6**
PCBR	**Castelo Branco**	**5.26**	**331**	P	**Pn**	**15 47 09.5**	**+1.5**
PCBR				S	**Sn**	**15 48 07.8**	**-0.8**
	24nm,0.4s						
PCBR	**Castelo Branco**	**5.26**	**331**	*e*Pn	**Pn**	**15 47 09.5**	**+1.5**
PCBR				*e*Sn	**Sn**	**15 48 07.8**	**-0.8**
PCBR				A	A	15 48 10.8	
	49nm,0.4s						
ZGR	**Zagora**	**5.31**	**194**	P	**Pn**	**15 47 08.8**	**+0.1**
ZGR				S	**Sn**	**15 48 12.0**	**+2.2**
PMAFR	**Mafra**	**5.51**	**313**	P	**Pn**	**15 47 11.6**	**+0.2**
	34nm,0.4s,SNR=8.1						
PMAFR				S	**Sn**	**15 48 12.8**	**-1.8**
	134nm,0.6s,SNR=5.7						
PMAFR	**Mafra**	**5.51**	**313**	*e*Pn	**Pn**	**15 47 12.3**	**+0.9**
PMAFR				*e*Sn	**Sn**	**15 48 14.7**	**+0.1**
PMAFR				A	A	15 48 19.0	
	35nm,0.6s						
PSBE	**So Bento**	**5.62**	**320**	*e*Pn	**Pn**	**15 47 14.3**	**+1.4**
PSBE				*e*Sn	**Sn**	**15 48 17.2**	**-0.2**
PSBE				A	A	15 48 50.4	
	38nm,0.6s						
EIBI	**Ibiza**	**5.75**	**48**	P	**Pn**	**15 47 15.0**	**+0.4**
	15nm,0.5s,SNR=37						
EIBI				S	**Sn**	**15 48 17.7**	**-2.7**
	98nm,1.0s						
ETOR	**Torete**	**5.76**	**16**	P	**Pn**	**15 47 15.9**	**+1.0**
	26nm,0.3s,SNR=29						
ETOR				S	**Sn**	**15 48 19.4**	**-1.4**
	180nm,1.5s						
MTE	**Manteigas**	**5.77**	**333**	P	**Pn**	**15 47 16.4**	**+1.3**
MTE				S	**Sn**	**15 48 21.2**	**0.0**
	22nm,0.5s						
MTE	**Manteigas**	**5.77**	**333**	*e*Pn	**Pn**	**15 47 16.4**	**+1.3**
MTE				*e*Sn	**Sn**	**15 48 21.2**	**0.0**
MTE				A	A	15 48 36.7	
	45nm,0.5s						
EAH	**EAH**	**5.83**	**233**	P	**Pn**	**15 47 16.2**	**+0.4**
EAH				S	**Sn**	**15 48 23.7**	**+1.2**
EMOS	**Mosqueruela**	**5.83**	**29**	P	**Pn**	**15 47 17.4**	**+1.4**
	0.1nm,0.2s,SNR=5.8						
EMOS				S	**Sn**	**15 48 21.7**	**-1.2**
	132nm,1.4s						
PCAS	**Casmilo, Conde**	**5.88**	**325**	P	**Pn**	**15 47 18.2**	**+1.7**
PCAS				S	**Sn**	**15 48 22.4**	**-1.5**
PCAS	**Casmilo, Conde**	**5.88**	**325**	*e*Pn	**Pn**	**15 47 18.2**	**+1.7**
PCAS				*e*Sn	**Sn**	**15 48 22.4**	**-1.5**
TTIG	**Tnine Tigouga,**	**5.96**	**219**	P	**Pn**	**15 47 16.5**	**-1.2**
TTIG				S	**Sn**	**15 48 25.1**	**-0.8**
PVIS	**Viseu**	**6.18**	**332**	P	**Pn**	**15 47 22.1**	**+1.5**
PVIS				S	**Sn**	**15 48 29.7**	**-1.5**
	17nm,0.8s						
PVIS	**Viseu**	**6.18**	**332**	*e*Pn	**Pn**	**15 47 22.1**	**+1.5**
PVIS				*e*Sn	**Sn**	**15 48 29.7**	**-1.5**
PVIS				A	A	15 48 34.8	
	33nm,0.8s						
MVO	**Moncorvo**	**6.29**	**340**	P	**Pn**	**15 47 22.8**	**+0.6**
	42nm,0.6s,SNR=66						
MVO				S	**Sn**	**15 48 30.6**	**-3.5**
	139nm,1.1s,SNR=15						
MVO	**Moncorvo**	**6.29**	**340**	*e*Pn	**Pn**	**15 47 22.9**	**+0.7**
MVO				*e*Sn	**Sn**	**15 48 31.0**	**-3.1**
PVRL	**Vila Real**	**6.61**	**336**	P	**Pn**	**15 47 27.6**	**+1.1**
PVRL	**Vila Real**	**6.61**	**336**	*e*Pn	**Pn**	**15 47 27.6**	**+1.1**
ERTA	**Horta de San J**	**6.66**	**31**	P	**Pn**	**15 47 29.5**	**+2.3**
	1.2nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	**15 48 40.8**	**-2.2**
	4.6nm,0.5s,SNR=7.9						
CGR	**Cap Guir**	**6.70**	**228**	P	**Pn**	**15 47 27.6**	**-0.2**
CGR				S	**Sn**	**15 48 46.3**	**+2.2**
PBRG	**Braganca**	**6.82**	**343**	P	**Pn**	**15 47 30.6**	**+1.2**
PBRG				S	**Sn**	**15 48 45.4**	**-1.6**
	16nm,0.5s						
PBRG	**Braganca**	**6.82**	**343**	*e*Pn	**Pn**	**15 47 30.6**	**+1.2**
PBRG				*e*Sn	**Sn**	**15 48 45.4**	**-1.6**
PBRG				A	A	15 48 46.6	
	32nm,0.5s						
ECAL	**Calabor**	**6.95**	**344**	P	**Pn**	**15 47 32.2**	**+1.0**
	9.5nm,0.3s,SNR=20						
ECAL				S	**Sn**	**15 48 48.4**	**-1.8**
	72nm,0.5s,SNR=14						
ESAC	**San Caprasio**	**7.03**	**23**	P	**Pn**	**15 47 33.3**	**+1.0**
	2.0nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**

	1.8nm,0.4s							
EALK	**Alkurruntz**	**8.18**	**14**	P		**Pn**	**15 47 50.0**	**+1.9**
	6.1nm,0.2s,SNR=7.9							
EALK				S		**Sn**	**15 49 17.7**	**-2.7**
	34nm,0.6s,SNR=7.9							
CSOR	**Sort**	**8.18**	**29**	P		**Pn**	**15 47 49.8**	**+1.7**
	0.1nm,0.6s,SNR=7.3							
CSOR				S		**Sn**	**15 49 17.9**	**-2.6**
	5.7nm,0.5s,SNR=7.7							
CFON	**Fontmartina**	**8.26**	**37**	P		**Pn**	**15 47 48.7**	**-0.5**
	2.1nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**8.36**	**345**	P		**Pn**	**15 47 52.0**	**+1.5**
	0.6nm,0.3s,SNR=7.4							
EPON				S		**Sn**	**15 49 20.7**	**-4.1**
	3.4nm,0.3s,SNR=6.0							
EPF	**Esparros**	**8.47**	**23**	*e*P		**Pn**	**15 47 53.6**	**+1.5**
EPF				*e*Sn		**Sn**	**15 49 20.4**	**-7.2**
	4.2nm,0.5s							
EMAZ	**Mazaricos**	**8.53**	**335**	P		**Pn**	**15 47 53.7**	**+1.0**
	1.4nm,0.3s,SNR=7.9							
EMAZ				S		**Sn**	**15 49 25.1**	**-3.7**
	4.5nm,0.4s,SNR=7.9							
CLLI	**Llivia**	**8.61**	**32**	P		**Pn**	**15 47 57.6**	**+3.6**
	1.5nm,0.3s,SNR=7.9							
CLLI				S		**Sn**	**15 49 26.1**	**-5.0**
	4.0nm,0.8s,SNR=4.0							
SJAF	**Saint Jean de**	**9.02**	**35**	P		**Pn**	**15 48 00.5**	**+0.9**
	0.6nm,0.8s,SNR=7.9							
SJAF				S		**Sn**	**15 49 43.4**	**+2.3**
	1.7nm,0.5s,SNR=7.9							
TANT	**Tantan**	**9.14**	**223**	P		**Pn**	**15 48 00.3**	**-1.0**
MTLF	**Montolieu**	**9.42**	**30**	*e*P		**Pn**	**15 48 06.2**	**+1.1**
MTLF	**Montolieu**	**9.42**	**30**	P		**Pn**	**15 48 06.2**	**+1.1**
EFAM	**Famara**	**10.05**	**235**	P		**Pn**	**15 48 17.5**	**+3.7**
	3.9nm,0.8s,SNR=7.9							
EFAM				S		**Sn**	**15 49 59.6**	**-6.8**
	8.7nm,0.5s,SNR=7.9							
LFF	**La Frestale**	**10.33**	**20**	*e*P		**Pn**	**15 48 20.4**	**+2.9**
LFF	**La Frestale**	**10.33**	**20**	P		**Pn**	**15 48 20.4**	**+2.9**
KEST	**Kesra**	**10.99**	**84**	Pn		**Pn**	**15 48 28.5**	**+1.9**
	0.3nm,0.3s,baz=188,slow=14,SNR=1.9							
KEST				LR		LR	15 53 15.4	
	comp=Z,181nm,18.5s,baz=226,slow=40							
PMOZ	**Porto Moniz, M**	**11.12**	**261**	S		**Sn**	**15 50 25.1**	**-7.5**
	155nm,0.9s,SNR=7.9							
LMR	**La Mourre**	**11.50**	**42**	*e*P		**Pn**	**15 48 36.4**	**+2.9**
LMR	**La Mourre**	**11.50**	**42**	P		**Pn**	**15 48 36.4**	**+2.9**
PGF	**Pioggiola**	**12.52**	**51**	*e*P		**Pn**	**15 48 49.8**	**+2.2**
PGF				*e*Sn		Sn	15 50 57.4	-10
	0.3nm,0.2s							
PGF	**Pioggiola**	**12.52**	**51**	P		**Pn**	**15 48 49.8**	**+2.2**
PGF				S		Sn	15 50 57.4	-10
	0.2nm,0.2s							
QUIF	**Quistinic**	**12.64**	**3**	*e*P		**Pn**	**15 48 49.7**	**+0.7**
QUIF				*e*Sn		Sn	15 51 00.2	-9.4
	3.9nm,0.4s							
QUIF	**Quistinic**	**12.64**	**3**	P		**Pn**	**15 48 49.7**	**+0.7**
QUIF				S		Sn	15 51 00.2	-9.4
	1.9nm,0.4s							
SGMF	**Saint Gilles**	**13.01**	**5**	*e*P		**Pn**	**15 48 55.3**	**+1.2**
SGMF				*e*Sn		Sn	15 51 08.5	-10
	1.3nm,0.3s							
SGMF	**Saint Gilles**	**13.01**	**5**	P		**Pn**	**15 48 55.3**	**+1.2**
SGMF				S		Sn	15 51 08.5	-10
	0.6nm,0.3s							
ROSF	**Rostrenen**	**13.05**	**3**	*e*P		**Pn**	**15 48 55.9**	**+1.2**
ROSF				*e*Sn		Sn	15 51 10.0	-10
	1.7nm,0.3s							
ROSF	**Rostrenen**	**13.05**	**3**	P		**Pn**	**15 48 55.9**	**+1.2**
ROSF				S		Sn	15 51 10.0	-10
	0.9nm,0.3s							
GRR	**Gorron**	**13.31**	**10**	*e*P		**Pn**	**15 48 59.5**	**+1.3**
GRR				*e*Sn		Sn	15 51 16.0	-10
	0.4nm,0.2s							
GRR	**Gorron**	**13.31**	**10**	P		**Pn**	**15 48 59.5**	**+1.3**
GRR				S		Sn	15 51 16.0	-10
	0.2nm,0.2s							
LDF	**La Druitiere**	**13.62**	**11**	*e*P		**Pn**	**15 49 03.5**	**+1.1**
DAVOX	**Davos/Dischmat**	**15.58**	**38**	Pn		**P**	**15 49 31.2**	**-2.1**
	0.1nm,0.3s,baz=205,slow=19,SNR=1.6							
GERES	**GERESS Array B**	**18.88**	**39**	P		**P**	**15 50 09.9**	**+0.2**
	0.1nm,0.3s,baz=224,slow=9.3,SNR=6.2							
KHC	**Kasperske Hory**	**19.00**	**38**	*e*P		**Pn**	**15 50 14.7**	**+3.1**
EKA	**Eskdalemuir Ar**	**20.06**	**2**	P		Pn	15 50 24.1	-0.1
	1.3nm,0.7s,baz=176,slow=11,SNR=2.2							
MODS	**Modra-Piesok**	**20.54**	**44**	*e*P		**P**	**15 50 28.7**	**+1.0**
VRAC	**Vranov**	**20.67**	**41**	P		**P**	**15 50 30.1**	**+1.0**
	3.0nm,0.7s,baz=226,slow=10,SNR=5.8							
VRAC	**Vranov**	**20.67**	**41**	⇑P		Pn	15 50 30.8	-0.7
CHVC	**Chvalec**	**21.16**	**38**	*e*P		**P**	**15 50 39.3**	**+4.9**
KRLC	**Kraliky**	**21.22**	**39**	*e*P		**P**	**15 50 36.9**	**+1.8**
MORC	**Moravsky Berou**	**21.45**	**41**	⇑P		**P**	**15 50 38.8**	**+1.3**
VYHS	**Vyhne**	**21.49**	**45**	*e*P		**P**	**15 50 38.5**	**+0.5**
MDVR	**Moldovita**	**21.86**	**56**	⇑P		**P**	**15 50 45.8**	**+3.8**
BZS	**Buzias**	**22.05**	**54**	⇑P		**P**	**15 50 47.8**	**+3.8**
SIRR	**Siria**	**22.30**	**53**	⇑P		**P**	**15 50 49.9**	**+3.2**
HERR	**Herculane**	**22.37**	**57**	⇑P		**P**	**15 50 51.0**	**+3.5**
TORD	**Torodi Ar. Bea**	**22.66**	**165**	P		**P**	**15 50 50.4**	**-0.4**
	4.4nm,0.9s,baz=341,slow=8.7,SNR=12							
IDI	**Anoyia**	**23.65**	**82**	P		**P**	**15 51 02.1**	**+1.3**
	7.3nm,0.9s,baz=300,slow=8.1,SNR=1.7							
VOIR		**24.31**	**56**	⇑P		**P**	**15 51 09.1**	**+2.1**
DOPR	**Dopca**	**24.68**	**55**	⇑P		**P**	**15 51 11.3**	**+1.1**
MLR	**Muntele Rosu**	**24.94**	**57**	P		**P**	**15 51 14.9**	**+2.2**
	4.1nm,0.9s,baz=288,slow=7.6,SNR=3.8							
MLR	**Muntele Rosu**	**24.94**	**57**	⇑P		**P**	**15 51 14.0**	**+1.3**
OZUR		**24.98**	**55**	⇑P		**P**	**15 51 12.7**	**-0.3**
BURAR	**Bucovina Array**	**25.05**	**52**	⇓P		**P**	**15 51 13.7**	**+0.1**
PLOR	**Plostina**	**25.50**	**56**	⇓P		**P**	**15 51 18.2**	**+0.6**
VRI	**Vrincioaia**	**25.56**	**56**	⇓P		**P**	**15 51 19.8**	**+1.6**
DBIC	**Dimbokro**	**28.49**	**182**	LR		LR	16 04 46.6	
	comp=Z,40nm,20.7s,baz=306,slow=40							
AKASG	**Malin Array Be**	**28.55**	**47**	P		**P**	**15 51 44.7**	**-0.3**
	0.4nm,0.3s,baz=240,slow=11,SNR=5.4							
FINES	**FINESS Array B**	**32.42**	**27**	P		**P**	**15 52 18.5**	**-0.6**
	1.3nm,0.8s,baz=224,slow=7.5,SNR=4.6							
ARCES	**ARCESS Array B**	**37.96**	**16**	LR		LR	16 08 27.6	
	comp=Z,71nm,19.4s,baz=150,slow=36							
ZALV	**Zalesovo Beam**	**61.78**	**42**	P		**P**	**15 56 09.7**	**+1.8**
	0.4nm,0.4s,baz=304,slow=3.3,SNR=2.1							
MKAR	**Makanchi Array**	**63.06**	**50**	P		**P**	**15 56 17.4**	**+0.8**
	1.0nm,0.9s,baz=289,slow=4.4,SNR=5.7							
YKA	**Yellowknife Ar**	**67.88**	**332**	P		**P**	**15 56 47.1**	**-0.3**
	1.0nm,0.7s,baz=60,slow=6.6,SNR=6.1							
SONM	**Songino Array**	**76.60**	**40**	P		**P**	**15 57 40.0**	**0.0**
	0.3nm,0.3s,baz=302,slow=6.6,SNR=2.0							
SONM				LR		LR	16 34 54.5	
	comp=Z,74nm,18.8s,baz=318,slow=38							
PDAR	**Pinedale Array**	**76.77**	**313**	P		**P**	**15 57 41.4**	**+0.2**
	0.3nm,0.8s,baz=32,slow=5.3,SNR=4.2							

ASRS 09 15:55:48.0±0.9, 52.7°N×3.9°×9.7°E±*, h10km, MLh3.1/4,
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/tab confirmed,
Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDJR	**Todzha**	**0.76**	**326**	Pg	Pg	15 56 01.3	-1.4
TDJR				Sg	Sg	15 56 13.1	+0.4
ORL	**Orlik**	**2.01**	**66**	Pg	Pn	15 56 16.1	-6.0
ORL				Sg	Sn	15 56 38.9	-8.5
ARDR	**Aradan**	**2.22**	**293**	Pg	Pb	15 56 27.2	-1.0
ARDR				Sg	Sg	15 57 00.1	+0.7
DJOS	**Djoyskaya Sosn**	**3.47**	**289**	Pg	Pb	15 56 49.2	-0.2
DJOS				Sg	Sg	15 57 36.0	-3.3
CERR	**Cheremushki**	**3.48**	**290**	Pg	Pb	15 56 50.1	+0.5
CERR				Sg	Sg	15 57 36.6	-2.8
DJO	**Djoy, Khakassi**	**3.57**	**289**	Pg	Pb	15 56 51.9	+0.7
DJO				Sg	Sg	15 57 41.0	-1.6
TBTR	**Tabat**	**3.90**	**290**	Pg	Pb	15 56 59.4	+2.6
TBTR				Sg	Sg	15 57 49.5	-3.6
SHRR	**Shira**	**4.84**	**307**	Pg	Pg	15 57 16.9	-3.6
SHRR				Sg	Sg	15 58 21.1	-2.0
CUR	**Chagan-Uzun**	**5.59**	**256**	Sg	Sg	15 58 44.8	-2.6
ULGR	**Ulagan, Altay**	**5.67**	**262**	Sg	Sg	15 58 48.3	-1.6
ARTR	**Artybash**	**5.90**	**274**	Sg	Sg	15 58 56.1	-1.2
AKAR	**Aktash**	**5.96**	**260**	Sg	Sg	15 58 58.4	-0.9
CHBI	**Chibit, Altay**	**6.04**	**260**	Sg	Sg	15 58 59.6	-2.0
DGZ	**Jazzator, Alta**	**6.29**	**254**	Sg	Sg	15 59 06.6	-3.2
ELT	**Eltsovka**	**6.61**	**287**	Sg	Sg	15 59 20.7	+0.6
TUNR	**Tungur**	**6.80**	**260**	Sg	Sg	15 59 29.6	+3.5

*INET **09** 16:24:01.2, 10.72N×86.22W, h20km, ML3.4*
UCR 09 16:23:58.9±1.4, 10.69N×86.34W, h21km±4km, MD3.7, 3C,
Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.73**	**88**	*i*P	Pb	16 24 13.2	+0.2
HZTE				*e*S	Sn	16 24 23.8	-0.9
GBS3	**Finca Las Img**	**0.88**	**84**	*i*P	Pb	16 24 15.0	-0.5
GBS3				*i*S	Sb	16 24 27.1	+0.3
LAPC	**Finca la Perla**	**0.90**	**85**	*i*P	Pb	16 24 15.1	-0.7
LAPC				*i*S	Sb	16 24 27.6	+0.3
GUAI	**GUAI**	**0.92**	**117**	*i*P	Pb	16 24 14.9	-1.1
BUEV	**Buena Vista**	**0.93**	**83**	⇑*e*P	Pb	16 24 15.8	-0.5
BUEV				*i*S	Sb	16 24 28.7	+0.5
GB1A	**Borinquen Arri**	**0.94**	**82**	*i*P	Pb	16 24 15.8	-0.7
GB1A				*i*S	Sn	16 24 29.4	-0.4
GPS3	**Bodega del ICE**	**0.96**	**86**	*i*P	Pb	16 24 16.0	-0.9
GPS3				*i*S	Sn	16 24 29.9	-0.5
GPS2	**Hotel Rincn d**	**0.97**	**86**	*i*P	Pb	16 24 16.9	-0.3
GPS1	**Guardaparques**	**0.98**	**85**	*i*P	Pb	16 24 16.6	-0.6
BUAI	**Buenos Aires**	**1.01**	**79**	*i*P	Pb	16 24 17.5	-0.2
LIM1	**Limonal**	**1.07**	**89**	*i*P	Pn	16 24 17.9	-0.9
LIM1				*i*S	Sn	16 24 32.7	-0.3
GUAB	**Guayabo de Bag**	**1.09**	**89**	*i*S	Sb	16 24 33.0	0.0
COLC	**Colonia**	**1.12**	**91**	*i*P	Pn	16 24 18.2	-1.2
COLC				*i*S	Sn	16 24 34.2	0.0
HORNC	**Hornillas**	**1.14**	**89**	*i*P	Pn	16 24 18.4	-1.4
HORNC				*i*S	Sb	16 24 34.5	0.0
CUI	**Cuipilapa**	**1.16**	**91**	⇑*i*P	Pn	16 24 19.2	-0.7
CUI				*i*S	Sn	16 24 35.3	+0.1
ACAL	**Aguas Claras**	**1.28**	**92**	*i*P	Pn	16 24 21.6	-0.2
ACAL				*i*S	Sb	16 24 39.3	+0.8
JTS	**Las Juntas de**	**1.42**	**106**	*e*P	Pn	16 24 22.6	-0.9
JTS				*e*S	Sb	16 24 42.2	-0.2
ARE1	**Arenal 1**	**1.61**	**98**	*e*P	Pn	16 24 26.4	+0.3

*LDG **09** 16:26:53.5±0.3, 43.57N×13.95E, h7km, Ml1.9/6, Error ellipse: s-maj=5.6km s-min=3.8km az=98.0*
*ROM **09** 16:26:54.9±0.2, 43.502N±0.008×13.85E±0.01, h7km, ML2.5/25, Error ellipse: s-maj=1.1km s-min=0.8km az=61.0*
ISC 09 16:26:56.2±0.8, 43.45N±0.03×13.77E±0.02, h17km±5km,
n55, σ2.807/74, 3C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PP3	**Marolino**	**0.14**	**237**	P	**Pg**	**16 26 59.7**	**-0.4**
PP3				S	**Sg**	**16 27 03.4**	**+0.7**
PP3				AML	AML		
	comp=E,13315μm,0.8s						
PP3				AML	AML		
	comp=N,8455μm,0.6s						
PP3				AML	AML		
	comp=E,13315μm,0.8s						
PP3				AML	AML		
	comp=N,8420μm,0.6s						
PP3				AML	AML		
	comp=E,12500μm,0.5s						
PP3				AML	AML		
	comp=N,6090μm,0.5s						
PP3				AML	AML		
	comp=E,13295μm,0.8s						
PP3				AML	AML		
	comp=N,6085μm,0.5s						
PP3				AML	AML		
	comp=N,8465μm,0.6s						
AOI	**Ancona**	**0.15**	**308**	P	**Pg**	**16 26 59.1**	**-1.4**
AOI				S	**Sg**	**16 27 02.4**	**-0.9**
AOI				AML	AML		
	comp=N,3800μm,0.4s						
AOI				AML	AML		
	comp=E,2750μm,0.9s						
CIMA	**Civitanova Mar**	**0.17**	**206**	P	**Pg**	**16 27 00.8**	**+0.3**
CADA	**Capodarco di F**	**0.26**	**181**	P	**Pb**	**16 27 02.5**	**0.0**
CING	**Cingoli**	**0.43**	**260**	⇑P	**Pg**	**16 27 04.8**	**-0.1**
CING				S	**Sb**	**16 27 12.3**	**+0.8**
CING				AML	AML		
	comp=N,429μm,0.3s						
CING				AML	AML		
	comp=E,434μm,0.2s						
CING				AML	AML		
	comp=N,428μm,0.3s						
CING				AML	AML		
	comp=E,435μm,0.2s						
SENI	**Senigallia**	**0.46**	**303**	⇑P	**Pg**	**16 27 05.8**	**+0.3**
SENI				AML	AML		
	comp=E,471μm,1.1s						
SENI				AML	AML		
	comp=N,666μm,0.8s						
SENI				AML	AML		
	comp=E,472μm,1.1s						
SENI				AML	AML		
	comp=N,673μm,0.8s						
SENI				AML	AML		
	comp=N,667μm,0.8s						
SENI				AML	AML		
	comp=E,465μm,1.1s						
EL6	**Elcito**	**0.50**	**256**	⇑P	**Pg**	**16 27 06.2**	**-0.1**
EL6				S	**Sb**	**16 27 14.9**	**+1.2**
EL6				AML	AML		
	comp=E,579μm,0.7s						
EL6				AML	AML		
	comp=N,816μm,0.5s						
EL6				AML	AML		
	comp=E,578μm,0.7s						
EL6				AML	AML		
	comp=N,821μm,0.5s						
CSP1	**Cessapalombo**	**0.55**	**229**	P	**Pg**	**16 27 07.1**	**0.0**
CSP1				S	**Sb**	**16 27 17.0**	**+1.9**
ARVD	**Arcevia**	**0.60**	**274**	P	**Pg**	**16 27 07.6**	**-0.6**
ARVD				S	**Sb**	**16 27 18.3**	**+1.6**
ARVD				AML	AML		
	comp=E,122μm,0.3s						
ARVD				AML	AML		
	comp=N,160μm,0.5s						
ARVD				AML	AML		
	comp=N,160μm,0.5s						
ARVD				AML	AML		
	comp=E,122μm,0.3s						
SNTG	**Esanatoglia**	**0.64**	**252**	P	**Pg**	**16 27 08.5**	**-0.3**
SNTG				S	**Sb**	**16 27 19.4**	**+1.8**
SNTG				AML	AML		
	comp=E,142μm,1.0s						
SNTG				AML	AML		
	comp=N,346μm,0.3s						
SNTG				AML	AML		
	comp=E,143μm,1.0s						
SNTG				AML	AML		
	comp=N,346μm,0.3s						
FDMO	**Fiordimonte**	**0.65**	**230**	P	**Pg**	**16 27 08.8**	**-0.3**
FDMO				S	**Sb**	**16 27 19.9**	**+1.9**
FDMO				AML	AML		
	comp=N,282μm,0.8s						
FDMO				AML	AML		
	comp=E,492μm,1.3s						
FOSV	**Fossato di Vic**	**0.75**	**258**	P	**Pg**	**16 27 10.3**	**-0.6**
FOSV				S	**Sb**	**16 27 22.3**	**+1.4**
FSSB	**Fossombrone**	**0.76**	**289**	P	**Pg**	**16 27 10.6**	**-0.4**
CESI	**CESI - Serrava**	**0.78**	**235**	P	**Pg**	**16 27 11.1**	**-0.2**
TERO	**Teramo**	**0.84**	**188**	P	**Pb**	**16 27 12.3**	**-0.1**
TERO				AML	AML		
	comp=N,100μm,0.5s						
TERO				AML	AML		
	comp=E,130μm,1.6s						
ATCC	**AVT- Casa Cast**	**0.87**	**252**	P	**Pg**	**16 27 12.6**	**-0.5**
ATCC				AML	AML		
	comp=E,386μm,0.6s						
ATCC				AML	AML		
	comp=N,398μm,0.5s						
ATFO	**Monte Foce - G**	**0.88**	**265**	P	**Pb**	**16 27 13.6**	**+0.5**
ATFO				AML	AML		
	comp=N,468μm,0.4s						
ATFO				AML	AML		
	comp=E,254μm,0.5s						
PIEI	**Pieia**	**0.90**	**276**	P	**Pg**	**16 27 12.7**	**-1.0**
PIEI				AML	AML		
	comp=N,118μm,0.4s						
PIEI				AML	AML		
	comp=E,194μm,0.4s						
ASSB	**Assisi San Ben**	**0.91**	**244**	P	**Pg**	**16 27 13.8**	**-0.1**
MURB	**Monte Urbino**	**0.93**	**259**	P	**Pg**	**16 27 14.3**	**+0.1**
MURB				AML	AML		
	comp=E,683μm,0.4s						
MURB				AML	AML		
	comp=N,617μm,0.9s						
MURB				AML	AML		
	comp=N,702μm,0.9s						
MURB				AML	AML		
	comp=E,728μm,0.3s						
ATPI	**Pietralunga -**	**1.00**	**270**	P	**Pg**	**16 27 15.2**	**-0.4**
ATPI				AML	AML		
	comp=E,140μm,0.5s						
ATPI				AML	AML		
	comp=N,166μm,0.7s						
ATVO	**AVT- Monte Val**	**1.00**	**266**	P	**Pg**	**16 27 14.7**	**-0.8**
ATVO				AML	AML		
	comp=E,150μm,0.5s						
ATVO				AML	AML		
	comp=N,150μm,1.0s						
ATVO				AML	AML		
	comp=N,150μm,1.0s						
ATVO				AML	AML		
	comp=E,150μm,0.5s						
LNSS	**Leonessa**	**1.00**	**212**	P	**Pg**	**16 27 15.1**	**-0.6**
LNSS				AML	AML		
	comp=N,342μm,0.3s						
LNSS				AML	AML		
	comp=E,388μm,0.6s						
LNSS				AML	AML		
	comp=N,341μm,0.3s						
ATTE	**AVT- Monte Tez**	**1.06**	**257**	AML	AML		
	comp=E,178μm,0.9s						
ATTE				AML	AML		
	comp=N,244μm,1.3s						
ATTE				AML	AML		
	comp=N,244μm,1.3s						
DUGI	**Dugi Otok**	**1.08**	**60**	*e*Pg	**Pn**	**16 27 16.8**	**+0.2**
DUGI				Sg	**Sn**	**16 27 32.5**	**+1.3**
PARC	**Parchiule**	**1.13**	**280**	P	**Pg**	**16 27 17.4**	**-0.6**
PARC				AML	AML		
	comp=E,126μm,0.7s						
PARC				AML	AML		
	comp=N,114μm,0.6s						
FAGN	**Fagnano**	**1.20**	**187**	P	**Pg**	**16 27 18.1**	**-1.2**
FAGN				AML	AML		
	comp=E,387μm,0.7s						
FAGN				AML	AML		
	comp=N,356μm,0.5s						
FAGN				AML	AML		
	comp=N,357μm,0.5s						
FAGN				AML	AML		
	comp=E,390μm,0.6s						
CAFI	**Castiglion Fio**	**1.32**	**265**	AML	AML		
	comp=N,144μm,0.7s						
CAFI				AML	AML		
	comp=E,77μm,0.8s						
CAFI				AML	AML		
	comp=N,144μm,0.7s						
CAFI				AML	AML		
	comp=E,77μm,0.8s						
MGAB	**Montegabbione**	**1.33**	**247**	AML	AML		
	comp=N,236μm,0.6s						
MGAB				AML	AML		
	comp=E,217μm,1.0s						
MGAB				AML	AML		
	comp=N,240μm,0.8s						
MGAB				AML	AML		
	comp=E,214μm,0.8s						
MGAB				AML	AML		
	comp=N,236μm,0.6s						
NVLJ	**Novalja**	**1.36**	**35**	*e*Pn	**Pg**	**16 27 20.7**	**-1.8**
NVLJ				Sn	**Sn**	**16 27 40.9**	**+2.7**
ZIRJ	**Zirje**	**1.38**	**81**	*e*Pg	**Pb**	**16 27 21.7**	**+0.2**
ZIRJ				Sg	**Sn**	**16 27 41.2**	**+2.7**
MORI	**Morici**	**1.47**	**73**	*e*Pn	**Pg**	**16 27 23.0**	**-1.4**
MORI				Sg	**Sn**	**16 27 42.9**	**+2.1**
UDBI	**Udbina**	**1.80**	**53**	*e*Pn	**Pg**	**16 27 30.0**	**-0.8**
UDBI				Sn	**Sg**	**16 27 54.3**	**+0.2**
MIDA	**Miranda**	**1.85**	**169**	AML	AML		
	comp=E,138μm,0.6s						
MIDA				AML	AML		
	comp=N,104μm,0.1s						
HVAR	**Hvar**	**1.98**	**97**	*e*Pn	**Pb**	**16 27 30.2**	**-1.5**
HVAR				Sn	**Sb**	**16 27 55.3**	**-0.8**
MAKA	**Makarska**	**2.38**	**93**	Sn	**Sb**	**16 28 05.6**	**-1.9**
RICI	**Ricice**	**2.45**	**88**	*e*Pn	**Pb**	**16 27 37.6**	**-2.3**
RICI				Sn	**Sb**	**16 28 09.6**	**-0.1**
STON	**Ston**	**2.93**	**100**	Sn	**Sn**	**16 28 19.9**	**+2.9**
CTI	**Castel Tesino**	**3.00**	**331**	AML	AML		
	comp=N,41μm,0.3s						
CTI				AML	AML		
	comp=E,43μm,0.2s						
OBKA	**Obir**	**3.10**	**10**	Pg	**Pg**	**16 27 53.2**	**-2.5**
	comp=E,4.1nm,0.4s						
OBKA				*e*Sn	**Sn**	**16 28 22.1**	**+0.8**
	comp=E,2.5nm,0.3s						
ABTA	**Abfaltersbach**	**3.41**	**345**	Pn	**Pn**	**16 27 50.2**	**+1.4**
	comp=E,1.0nm,0.2s,SNR=8.1						
KOSI	**Kohlern**	**3.45**	**331**	AML	AML		
	comp=E,43μm,0.8s						
KOSI				AML	AML		
	comp=N,38μm,1.6s						
PGF	**Pioggiola**	**3.61**	**257**	*e*Pn	**Pn**	**16 27 49.5**	**-2.1**
PGF				*e*Sn	**Sn**	**16 28 30.6**	**-3.3**
ABSI	**Aberstueckl**	**3.71**	**333**	AML	AML		
	comp=N,75μm,0.4s						
ABSI				AML	AML		
	comp=E,59μm,0.3s						
WTTA	**Wattenberg**	**4.10**	**339**	*i* Pn	**Pn**	**16 28 00.9**	**+2.7**
	comp=E,0.9nm,0.2s						
WTTA				*i* Sn	**Sn**	**16 28 47.2**	**+1.4**
	comp=E,1.8nm,0.4s						
FETA	**Feichten**	**4.16**	**330**	*i* Pn	**Pn**	**16 28 01.4**	**+2.3**
	comp=E,0.3nm,0.1s						
FETA				*e*Sn	**Sn**	**16 28 48.4**	**+0.9**
	comp=E,0.9nm,0.3s						
SQTA	**Sankt Quirin**	**4.18**	**335**	*i* Pn	**Pn**	**16 28 02.3**	**+3.0**
	comp=E,2.7nm,0.3s						
SQTA				*i* Sn	**Sn**	**16 28 50.4**	**+2.6**
	comp=E,5.6nm,0.5s						
WATA	**Walderalm**	**4.18**	**339**	Pn	**Pn**	**16 28 02.1**	**+2.8**
	comp=E,3.2nm,0.4s,SNR=5.1						
MOTA	**Moosalm**	**4.32**	**335**	*i* Pn	**Pn**	**16 28 03.9**	**+2.6**
	comp=E,1.6nm,0.4s						
DAVA	**Damuels**	**4.71**	**326**	*i* Pn	**Pn**	**16 28 10.3**	**+3.6**
	comp=E,0.6nm,0.2s						
DAVA				*i* Sn	**Sn**	**16 29 03.1**	**+2.1**
	comp=E,5.4nm,0.4s						
MBDF	**Montbardon**	**5.20**	**287**	*e*P	**Pn**	**16 28 14.8**	**+1.4**
MBDF				*e*Sn	**Sn**	**16 29 07.7**	**-5.3**
	comp=E,0.3nm,0.2s						
LPG	**La Plagne**	**5.42**	**295**	*e*P	**Pn**	**16 28 17.7**	**+1.1**
LPG				*e*Sn	**Sn**	**16 29 13.0**	**-5.7**
	comp=E,0.4nm,0.2

STVI	**Saint Thomas**	**1.16 294**		Pn	16 29 49.2	+4.5		
SKI	**Saint Kitts**	**1.18 117**	*e*P	**Pn**	**16 29 45.7**	**+0.7**		
SKI			*e*S	**Sn**	**16 30 06.4**	**+0.9**		
SKI	**Saint Kitts**	**1.18 117**		**Pn**	**16 29 45.5**	**+0.5**		
SKOC	**St. Kitts, UWI**	**1.21 119**	*e*P	**Pn**	**16 29 45.0**	**-0.2**		
CUPR	**Culebra, Puert**	**1.44 287⇓**	*e*P	**Pn**	**16 29 47.6**	**+0.2**		
CUPR	**Culebra, Puert**	**1.44 287**	*e*S	**Sn**	**16 30 10.2**	**+0.3**		
CUPR	**Culebra, Puert**	**1.44 287**		**Pn**	**16 29 47.6**	**+0.2**		
CUPR				**Sn**	**16 30 10.2**	**+0.3**		
MTP	**Monte Pirata**	**1.65 278⇓**	*e*P	**Pn**	**16 29 49.8**	**+0.2**		
MTP			*e*S	**Sn**	**16 30 13.9**	**+0.2**		
MTP	**Monte Pirata**	**1.65 278⇓**	*e*P	**Pn**	**16 29 49.8**	**+0.2**		
MTP	**Monte Pirata**	**1.65 278**		**Pn**	**16 29 49.8**	**+0.2**		
MTP				**Sn**	**16 30 13.9**	**+0.2**		
HUMP	**Col San Antoni**	**1.93 278**		**Pn**	**16 29 52.8**	**0.0**		
MLYT	**Lee's Yard**	**1.95 126**	*i* P	**Pn**	**16 29 53.3**	**+0.3**		
MLYT			*e*S	**Sn**	**16 30 20.2**	**+0.3**		
CBYP	**Canovanas**	**1.96 282⇑**	*e*P	**Pn**	**16 29 53.8**	**+0.7**		
CBYP			*e*S	**Sn**	**16 30 20.8**	**+0.7**		
CBYP	**Canovanas**	**1.96 282⇑**	*e*P	**Pn**	**16 29 53.8**	**+0.7**		
CBYP	**Canovanas**	**1.96 282**		**Pn**	**16 29 53.1**	**-0.1**		
CBYP				**Sn**	**16 30 18.8**	**-1.3**		
ANWB	**Willy Bob**	**1.97 96**	*e*P	**Pn**	**16 29 53.0**	**-0.2**		
ANWB			*e*S	**Sn**	**16 30 18.6**	**-1.4**		
ANWB	**Willy Bob**	**1.97 96**	Pn	**Pn**	**16 29 52.9**	**-0.2**		
PDPR	**Patillas Dam,**	**2.08 274⇑**	*e*P	**Pn**	**16 29 55.1**	**+0.5**		
PDPR	**Patillas Dam,**	**2.08 274**		**Pn**	**16 29 54.5**	**0.0**		
IGPR	**InterUniversit**	**2.16 273⇑**	*e*P	**Pn**	**16 29 55.9**	**+0.4**		
IGPR	**InterUniversit**	**2.16 273**	*e*S	**Sn**	**16 30 23.7**	**-0.5**		
IGPR	**InterUniversit**	**2.16 273**		**Pn**	**16 29 55.5**	**+0.1**		
GCPR	**Guaynabo City**	**2.18 282⇓**	*e*P	**Pn**	**16 29 56.0**	**+0.4**		
GCPR	**Guaynabo City**	**2.18 282**	*e*S	**Sn**	**16 30 24.9**	**+0.4**		
GCPR	**Guaynabo City**	**2.18 282**		**Pn**	**16 29 55.4**	**-0.3**		
GCPR				**Sn**	**16 30 23.6**	**-0.9**		
OBIP	**Obispado Ponce**	**2.64 274**	Pn	**Pn**	**16 30 01.3**	**+0.1**		
ABD	**La Joyeuse, An**	**2.65 122**	*e*P	**Pn**	**16 30 01.4**	**+0.1**		
ABD			*e*S	**Sn**	**16 30 35.0**	**+0.4**		
CBE	**Ff, Capester**	**2.79 130**	*e*P	**Pn**	**16 30 03.2**	**0.0**		
CBE			*e*S	**Sn**	**16 30 38.8**	**+0.8**		
AOPR	**Arecibo Observ**	**2.81 280⇑**	*e*P	**Pn**	**16 30 04.3**	**+0.9**		
AOPR			*e*S	**Sn**	**16 30 39.2**	**+0.9**		
AOPR	**Arecibo Observ**	**2.81 280⇑**	*e*P	**Pn**	**16 30 04.3**	**+0.9**		
AOPR	**Arecibo Observ**	**2.81 280**		**Pn**	**16 30 02.5**	**-0.9**		
TBG	**Guadaloupe-3**	**2.91 134**	*e*P	**Pn**	**16 30 05.0**	**+0.4**		
TBG			*e*S	**Sn**	**16 30 41.0**	**+0.5**		
TDBA	**Terre de Bas,**	**2.92 134**	*e*P	**Pn**	**16 30 04.3**	**-0.5**		
TDBA			*e*S	**Sn**	**16 30 42.5**	**+1.7**		
MAGL	**Barre de l'ile**	**3.11 128**	*e*P	**Pn**	**16 30 07.7**	**+0.5**		
MAGL			*e*S	**Sn**	**16 30 44.7**	**-0.3**		
AGPR	**Aguadilla, PR**	**3.17 281⇑**	*e*P	**Pn**	**16 30 08.6**	**+0.7**		
AGPR	**Aguadilla, PR**	**3.17 281⇑**	*e*P	**Pn**	**16 30 08.6**	**+0.7**		
AGPR	**Aguadilla, PR**	**3.17 281**		**Pn**	**16 30 06.6**	**-1.3**		
DSLB	**Salisbury**	**3.36 136**	*e*P	**Pn**	**16 30 10.2**	**-0.1**		
DSLB			*e*S	**Sn**	**16 30 50.8**	**+0.1**		
ILAM	**Ilet Lapin Mar**	**4.20 137**	*e*S	**Sn**	**16 31 09.7**	**-0.5**		
MPOM	**Morne Pois Mar**	**4.46 140**	*e*S	**Sn**	**16 31 16.2**	**-0.1**		
SLBI	**Saint Lucia, B**	**4.72 144**	*e*S	**Sn**	**16 31 21.5**	**-1.1**		
SLAC	**Saint Lucia, A**	**4.87 144**	*e*S	**Sn**	**16 31 24.4**	**-1.6**		

*LDG **09** 16:29:21.2±0.5, 43.53N×14.19E, h10km, Ml2.5/9, Error ellipse: s-maj=8.3km s-min=5.6km az=107.0*
*ROM **09** 16:29:26.3±0.3, 43.483N±0.010×13.74E±0.02, h8km, ML2.6/1, Error ellipse: s-maj=2.0km s-min=0.7km az=241.0*
*VIE **09** 16:29:28.3±0.8, 43.60N×13.62E, h8km, mb2.9/6, ml2.9/8, Error ellipse: s-maj=37.5km s-min=5.8km az=93.0 99 km ESE of San Marino*
*PRU **09** 16:29:28.3±0.0, 43.58N×13.78E, h0km*

ISC 09 16:29:27.0±0.8, 43.49N±0.003×13.70E±0.02, h16km±5km, n83, σ1.87/91, 2C, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOI	**Ancona**	**0.09**	**307**	P	**Pg**	**16 29 29.3**	**-1.2**
AOI				S	**Sg**	**16 29 32.5**	**-0.2**
AOI				AML	AML		
	comp=E,5855μm,0.9s						
AOI				AML	AML		
	comp=N,8775μm,1.0s						
PP3	**Marolino**	**0.13**	**211**	P	**Pg**	**16 29 30.1**	**-0.7**
PP3				AML	AML		
	comp=E,20700μm,0.8s						
PP3				AML	AML		
	comp=N,9455μm,1.0s						
PP3				AML	AML		
	comp=E,19550μm,0.5s						
PP3				AML	AML		
	comp=N,7505μm,1.0s						
PCRO	**Pietralacroce**	**0.17**	**313**	P	**Pg**	**16 29 31.0**	**-0.4**
CIMA	**Civitanova Mar**	**0.19**	**188**	P	**Pg**	**16 29 31.1**	**-0.5**
CADA	**Capodarco di F**	**0.30**	**172**	P	**Pg**	**16 29 32.8**	**-0.7**
CING	**Cingoli**	**0.39**	**253**	⇑P	**Pg**	**16 29 35.0**	**0.0**
CING				S	**Sg**	**16 29 42.3**	**+1.9**
CING				AML	AML		
	comp=E,608μm,0.6s						
CING				AML	AML		
	comp=N,688μm,0.5s						
CING				AML	AML		
	comp=E,608μm,0.6s						
SENI	**Senigallia**	**0.40**	**302**	P	**Pb**	**16 29 35.3**	**-0.5**
SENI				AML	AML		
	comp=E,4795μm,0.3s						
SENI				AML	AML		
	comp=E,916μm,1.0s						
SENI				AML	AML		
	comp=N,1215μm,0.9s						
SENI				AML	AML		
	comp=E,4800μm,0.3s						
SENI				AML	AML		
	comp=E,920μm,1.0s						
SENI				AML	AML		
	comp=N,1225μm,0.9s						
SENI				AML	AML		
	comp=N,1220μm,0.9s						
SENI				AML	AML		
	comp=E,916μm,1.0s						
SENI				AML	AML		
	comp=N,4885μm,1.5s						
GUMA	**Gualdo di Mace**	**0.46**	**159**	P	**Pg**	**16 29 36.9**	**+0.6**
EL6	**Elcito**	**0.47**	**250**	⇑P	**Pg**	**16 29 36.3**	**-0.1**
EL6				AML	AML		
	comp=E,1015μm,0.5s						
EL6				AML	AML		
	comp=N,1180μm,1.0s						
EL6				AML	AML		
	comp=E,1007μm,0.5s						
EL6				AML	AML		
	comp=N,1182μm,1.0s						
COR1	**Corinaldo**	**0.53**	**285**	P	**Pb**	**16 29 38.1**	**+0.2**
COR1				AML	AML		
	comp=E,574μm,0.5s						
COR1				AML	AML		
	comp=N,1122μm,0.4s						
COR1				AML	AML		
	comp=E,578μm,0.5s						
COR1				AML	AML		
	comp=N,1125μm,0.4s						
CSP1	**Cessapalombo**	**0.54**	**222**	P	**Pg**	**16 29 37.2**	**-0.6**
ARVD	**Arcevia**	**0.56**	**271**	P	**Pg**	**16 29 37.7**	**-0.3**
ARVD				AML	AML		
	comp=E,242μm,0.5s						
ARVD				AML	AML		
	comp=N,220μm,0.5s						
OFFI	**Offida**	**0.56**	**181**	P	**Pg**	**16 29 38.5**	**+0.4**
SNTG	**Esanatoglia**	**0.61**	**247**	P	**Pg**	**16 29 38.5**	**-0.4**
SNTG				AML	AML		
	comp=E,218μm,0.3s						
SNTG				AML	AML		
	comp=N,449μm,0.6s						
FDMO	**Fiordimonte**	**0.64**	**225**	P	**Pg**	**16 29 38.9**	**-0.8**
FDMO				AML	AML		
	comp=N,348μm,0.9s						
FDMO				AML	AML		
	comp=E,600μm,1.0s						
FSSB	**Fossombrone**	**0.70**	**287**	P	**Pg**	**16 29 40.5**	**-0.3**
FSSB				AML	AML		
	comp=E,1060μm,0.4s						
FSSB				AML	AML		
	comp=N,1310μm,0.4s						
FSSB				AML	AML		
	comp=E,1060μm,0.4s						
FOSV	**Fossato di Vic**	**0.72**	**254**	P	**Pg**	**16 29 40.5**	**-0.5**
FOSV				AML	AML		
	comp=E,319μm,0.5s						
FOSV				AML	AML		
	comp=N,325μm,0.4s						
CESI	**CESI - Serrava**	**0.76**	**230**	AML	AML		
	comp=E,260μm,1.0s						
CESI				AML	AML		
	comp=E,260μm,1.0s						
CESI				AML	AML		
	comp=N,232μm,0.6s						
NRCA	**Norcia**	**0.79**	**213**	AML	AML		
	comp=N,568μm,0.4s						
NRCA				AML	AML		
	comp=E,472μm,0.4s						
NRCA				AML	AML		
	comp=N,564μm,0.4s						
NRCA				AML	AML		
	comp=N,569μm,0.4s						
NRCA				AML	AML		
	comp=E,472μm,1.3s						
ATCC	**AVT- Casa Cast**	**0.83**	**249**	P	**Pg**	**16 29 42.6**	**-0.7**
ATCC				AML	AML		
	comp=E,588μm,0.4s						
ATCC				AML	AML		
	comp=N,543μm,0.7s						
ATFO	**Monte Foce - G**	**0.83**	**262**	P	**Pg**	**16 29 42.9**	**-0.4**
ATFO				AML	AML		
	comp=E,445μm,0.4s						
ATFO				AML	AML		
	comp=N,559μm,0.5s						
ATFO				AML	AML		
	comp=N,560μm,0.5s						
PIEI	**Pieia**	**0.85**	**273**	AML	AML		
	comp=E,243μm,0.4s						
PIEI				AML	AML		
	comp=N,177μm,0.3s						
PIEI				AML	AML		
	comp=N,176μm,0.3s						
TERO	**Teramo**	**0.87**	**185**	P	**Pg**	**16 29 42.6**	**-1.4**
ASSB	**Assisi San Ben**	**0.89**	**240**	P	**Pg**	**16 29 43.6**	**-0.7**
ASSB				AML	AML		
	comp=N,594μm,0.5s						
ASSB				AML	AML		
	comp=E,494μm,0.5s						
ATPI	**Pietralunga -**	**0.95**	**268**	P	**Pg**	**16 29 45.0**	**-0.5**
ATPI				AML	AML		
	comp=E,258μm,1.6s						
ATPI				AML	AML		
	comp=E,258μm,1.6s						
ATPI				AML	AML		
	comp=N,258μm,0.7s						
ATVO	**AVT- Monte Val**	**0.95**	**264**	P	**Pg**	**16 29 44.9**	**-0.6**
ATVO				AML	AML		
	comp=N,222μm,0.5s						
ATVO				AML	AML		
	comp=E,329μm,0.3s						
ATVO				AML	AML		
	comp=N,222μm,0.5s						
CAMP	**Campotosto**	**0.98**	**193**	P	**Pg**	**16 29 44.5**	**-1.6**
ATTE	**AVT- Monte Tez**	**1.03**	**254**	P	**Pg**	**16 29 46.6**	**-0.3**
ATTE				AML	AML		
	comp=E,231μm,1.0s						
ATTE				AML	AML		
	comp=N,370μm,1.4s						
RM33	**Pellescritta (**	**1.05**	**200**	P	**Pg**	**16 29 45.7**	**-1.6**
RM33				AML	AML		
	comp=E,673μm,0.3s						
RM33				AML	AML		
	comp=N,580μm,1.4s						
RM33				AML	AML		
	comp=N,579μm,1.4s						
CPGN	**Carpegna, Ital**	**1.05**	**288**	AML	AML		
	comp=E,358μm,0.9s						
CPGN				AML	AML		
	comp=N,295μm,0.4s						
ATMI	**Monte Miggiano**	**1.06**	**262**	AML	AML		
	comp=E,440μm,0.5s						
ATMI				AML	AML		
	comp=N,553μm,1.0s						
ATMI				AML	AML		
	comp=E,440μm,0.5s						
BADI	**Badiali**	**1.06**	**271**	P	**Pg**	**16 29 47.2**	**-0.3**
PARC	**Parchiule**	**1.08**	**279**	AML	AML		
	comp=N,210μm,0.9s						
PARC				AML	AML		
	comp=E,186μm,0.7s						
DUGI	**Dugi Otok**	**1.10**	**63**	*e*Pg	**Pg**	**16 29 46.7**	**-1.6**
DUGI				Sg	**Sn**	**16 30 02.9**	**+0.3**
VCEL	**Villa Celiera**	**1.10**	**175**	P	**Pg**	**16 29 47.9**	**-0.4**
VCEL				AML	AML		
	comp=N,630μm,0.6s						
VCEL				AML	AML		
	comp=N,629μm,0.6s						
VCEL				AML	AML		
	comp=E,881μm,1.6s						
CAFI	**Castiglion Fio**	**1.28**	**263**	AML	AML		
	comp=N,190μm,0.7s						
CAFI				AML	AML		
	comp=E,115μm,0.4s						
CAFI				AML	AML		
	comp=N,210μm,0.8s						
CAFI				AML	AML		
	comp=E,109μm,0.7s						
CAFI				AML	AML		
	comp=E,109μm,0.7s						
MGAB	**Montegabbione**	**1.30**	**244**	AML	AML		
	comp=N,418μm,0.6s						
MGAB				AML	AML		
	comp=E,311μm,0.9s						
MGAB				AML	AML		
	comp=N,415μm,0.6s						
MGAB				AML	AML		
	comp=E,328μm,0.9s						
NVLJ	**Novalja**	**1.36**	**38**	*e*Pg	**Pg**	**16 29 50.7**	**-2.6**
NVLJ				Sg	**Sn**	**16 30 10.5**	**+1.5**
ZIRJ	**Zirje**	**1.42**	**83**	*e*Pg	**Pn**	**16 29 51.7**	**-0.4**
ZIRJ				Sg	**Sb**	**16 30 10.8**	**-0.1**
SACS	**San Casciano d**	**1.46**	**244**	AML	AML		
	comp=N,218μm,0.9s						
SACS				AML	AML		
	comp=E,140μm,0.7s						
INTR	**Introdacqua**	**1.49**	**174**	AML	AML		
	comp=N,514μm,0.6s						
INTR				AML	AML		
	comp=E,442μm,1.0s						
INTR				AML	AML		
	comp=N,516μm,0.6s						
INTR				AML	AML		
	comp=E,442μm,1.0s						
MORI	**Morici**	**1.50**	**75**	*i* Pg	**Pn**	**16 29 53.7**	**+0.4**
MORI				Sg	**Sb**	**16 30 12.6**	**-0.6**
UDBI	**Udbina**	**1.81**	**54**	*e*Pn	**Pb**	**16 29 59.9**	**+0.1**
UDBI				Sn	**Sg**	**16 30 23.4**	**-2.0**
HVAR	**Hvar**	**2.03**	**98**	*e*Pn	**Pn**	**16 29 59.9**	**-0.6**
HVAR				Sn	**Sn**	**16 30 26.7**	**+1.2**
SKDS	**Skadanscina**	**2.06**	**6**	*i* Pn	**Pn**	**16 30 01.5**	**+0.5**
SKDS				*e*Sn	**Sb**	**16 30 28.7**	**-0.9**
	comp=Z,12nm,0.2s						
TRI	**Trieste**	**2.22**	**1**	AML	AML		
	comp=E,38μm,1.3s						
TRI				AML	AML		
	comp=N,33μm,0.6s						
BOJS	**Bojanci**	**2.29**	**28**	AML	AML		
	comp=E,40μm,0.7s						
BOJS				AML	AML		
	comp=N,33μm,0.6s						
MAKA	**Makarska**	**2.42**	**94**	*e*Pn	**Pn**	**16 30 06.2**	**+0.3**
MAKA				Sn	**Sn**	**16 30 36.3**	**+1.0**
RICI	**Ricice**	**2.50**	**89**	*e*Pn	**Pn**	**16 30 07.2**	**+0.3**
RICI				Sn	**Sn**	**16 30 38.9**	**+1.9**
LJU	**Ljubljana**	**2.62**	**13**	AML	AML		
	comp=E,86μm,0.7s						
LJU				AML	AML		
	comp=N,109μm,0.7s						
CTI	**Castel Tesino**	**2.94**	**331**	AML	AML		
	comp=N,101μm,0.3s						
CTI				AML	AML		
	comp=E,63μm,0.5s						
STON	**Ston**	**2.99**	**101**	*e*Pn	**Pn**	**16 30 13.5**	**-0.2**
OBKA	**Obir**	**3.08**	**11**	Pn	**Pn**	**16 30 16.8**	**+1.8**
	comp=E,0.9nm,0.2s						
MYKA	**Terra Mystica**	**3.14**	**359**	*e*Pn	**Pn**	**16 30 17.2**	**+1.4**
	comp=E,3.2nm,0.3s,SNR=4.1						
MYKA				*i* Sn	**Sn**	**16 30 54.1**	**+1.1**
	comp=E,1.4nm,0.2s						
MAGA	**Magasa**	**3.17**	**317**	AML	AML		
	comp=E,203μm,0.5s						
MAGA				AML	AML		
	comp=N,130μm,0.5s						
DBRK	**Dubrovnik**	**3.36**	**103**	*e*Pn	**Pn**	**16 30 19.6**	**+0.8**
ABTA	**Abfaltersbach**	**3.36**	**346**	*e*Pn	**Pn**	**16 30 20.4**	**+1.5**
	comp=N,2.0nm,0.2s,SNR=5.7						
KOSI	**Kohlern**	**3.40**	**332**	AML	AML		
	comp=E,74μm,0.9s						
KOSI				AML	AML		
	comp=N,61μm,0.8s						
PGF	**Pioggiola**	**3.58**	**256**	*e*P	**Pn**	**16 30 23.6**	**+1.7**
PGF				*e*Sn	**Sn**	**16 31 02.7**	**-1.2**
	comp=N,0.4nm,0.2s						
RISI	**Rein**	**3.64**	**342**	AML	AML		
	comp=E,120μm,1.2s						
RISI				AML	AML		
	comp=N,148μm,0.4s						
ABSI	**Aberstueckl**	**3.65**	**333**	AML	AML		
	comp=E,114μm,0.3s						
ABSI				AML	AML		
	comp=N,140μm,0.4s						
MDI	**Monti di Nese**	**3.65**	**310**	AML	AML		
	comp=N,33μm,1.1s						
MDI				AML	AML		
	comp=E,30μm,1.0s						
WTTA	**Wattenberg**	**4.04**	**340**	Pn	**Pn**	**16 30 30.8**	**+2.4**
	comp=E,2.8nm,0.2s,SNR=6.9						
WTTA				*i* Sn	**Sn**	**16 31 18.0**	**+2.5**
	comp=E,1.9nm,0.2s						
FETA	**Feichten**	**4.11**	**330**	*e*Pn	**Pn**	**16 30 31.7**	**+2.4**
	comp=E,2.5nm,0.4s,SNR=5.0						
FETA				*e*Sn	**Sn**	**16 31 19.6**	**+2.7**
	comp=E,1.1nm,0.3s						
SQTA	**Sankt Quirin**	**4.12**	**336**	*i* Pn	**Pn**	**16 30 32.4**	**+3.0**
	comp=E,5.3nm,0.3s,SNR=6.3						
SQTA				*e*Sn	**Sn**	**16 31 21.4**	**+4.1**
	comp=E,8.5nm,0.4s						
WATA	**Walderalm**	**4.12**	**339**	*e*Pn	**Pn**	**16 30 32.1**	**+2.6**
	comp=E,2.8nm,0.2s,SNR=5.0						
WATA				*e*Sn	**Sn**	**16 31 20.4**	**+3.0**
	comp=E,2.7nm,0.3s						
MOTA	**Moosalm**	**4.26**	**335**	*e*Pn	**Pn**	**16 30 34.2**	**+2.8**
	comp=E,3.4nm,0.3s,SNR=7.8						
MOTA				*e*Sn	**Sn**	**16 31 24.0**	**+3.1**
	comp=E,1.7nm,0.2s						
SBF	**Sospel**	**4.56**	**277**	*e*P	**Pn**	**16 30 37.3**	**+1.9**
SBF				*e*Sn	**Sn**	**16 31 25.6**	**-2.5**
	comp=E,1.6nm,0.2s						
DAVA	**Damuels**	**4.65**	**326**	*e*Pn	**Pn**	**16 30 39.8**	**+3.1**
	comp=E,1.8nm,0.2s						
DAVA				*e*Sn	**Sn**	**16 31 32.8**	**+2.4**
	comp=E,3.0nm,0.3s						
CONA	**Conrad Observa**	**4.69**	**18**	*e*Pn	**Pn**	**16 30 37.9**	**+0.8**
	comp=E,0.7nm,0.2s						
MBDF	**Montbardon**	**5.14**	**286**	*e*P	**Pn**	**16 30 44.8**	**+1.3**
MBDF				*e*Sn	**Sn**	**16 31 39.4**	**-3.1**
	comp=E,0.9nm,0.3s						
LPG	**La Plagne**	**5.36**	**294**	*e*P	**Pn**	**16 30 48.1**	**+1.5**
LPG				*e*Sn	**Sn**	**16 31 43.9**	**-4.2**
	comp=E,0.8nm,0.3s						
LPL	**La Plagne**	**5.38**	**294**	*e*P	**Pn**	**16 30 48.6**	**+1.8**
LPL				*e*Sn	**Sn**	**16 31 45.1**	**-3.4**
	comp=E,2.5nm,0.3s						
KHC	**Kasperske Hory**	**5.64**	**359**	*e*PN	**Pn**	**16 30 50.5**	**+0.3**
KHC				*e*SN	**Sn**	**16 31 54.3**	**-0.3**
ORIF	**Oris-en-Rattie**	**5.80**	**287**	*e*P	**Pn**	**16 30 54.8**	**+2.3**
ORIF				*e*Sn	**Sn**	**16 31 55.3**	**-3.4**
	comp=E,0.8nm,0.3s						
CABF	**La Chapelle**	**6.23**	**303**	*e*P	**Pn**	**16 30 59.4**	**+1.1**
CABF				*e*Sn	**Sn**	**16 32 04.9**	**-4.3**
	comp=E,1.8nm,0.6s						
HINF	**Hinteralfeld**	**6.46**	**314**	*e*P	**Pn**	**16 31 02.3**	**+0.9**
HINF				*e*Sn	**Sn**	**16 32 09.3**	**-5.5**
	comp=E,2.4nm,0.3s						
VIVF	**Saint-Julien-l**	**6.64**	**285**	*e*P	**Pn**	**16 31 05.5**	**+1.6**
CDF	**Champ du Feu**	**6.65**	**320**	*e*P	**Pn**	**16 31 05.3**	**+1.2**
HAU	**Haudompre**	**6.84**	**314**	*e*P	**Pn**	**16 31 08.0**	**+1.3**
LASF	**Ste Croix**	**7.15**	**278**	*e*P	**Pn**	**16 31 14.5**	**+3.6**
SMF	**Signal de Mont**	**7.66**	**298**	*e*P	**Pn**	**16 31 18.7**	**+0.8**
BGF	**Bois d'Agland**	**8.28**	**295**	*e*P	**Pn**	**16 31 28.5**	**+2.1**

IDC 09 16:32:51.4±3.5, 23.70S×175.82W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/31, mbtmp3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/37, Error ellipse: s-maj=333.4km s-min=35.9km az=162.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.43**	**272**	LR	LR	16 41 26.1	
	comp=Z,87nm,20.3s,baz=300,slow=31						
ASAR	**Alice Springs**	**45.84**	**259**	P	P	16 41 15.4	-0.1
	1.3nm,1.0s,baz=92,slow=8.1,SNR=10						
WRA	**Warramunga Arr**	**46.24**	**265**	P	P	16 41 18.5	-0.2
	0.6nm,0.6s,baz=105,slow=7.5,SNR=2.9						
TXAR	**Lajitas Array**	**87.11**	**56**	P	P	16 45 39.5	0.0
	0.8nm,1.0s,baz=194,slow=6.5,SNR=4.1						

*NEIC **09** 16:46:28.8±1.7, 35.17N±0.01×118.66W±0.01, h9km±6km, Error ellipse: s-maj=1.7km s-min=1.6km az=106.0*
*ANF **09** 16:46:28.3±0.1, 35.19N×118.65W, h15km±1km, ML3.2/39, Error ellipse: s-maj=1.2km s-min=1.1km az=119.0*
*SCEDC **09** 16:46:29.4, 35.17N×118.66W, h12km, ML3.2, ML3.2, ML3.2*
*PAS **09** 16:46:29.4±1.2, 35.17N±0.01×118.66W±0.02, h12km±6km, ML3.2/179, Error ellipse: s-maj=2.2km s-min=1.6km az=68.0*

ISC 09 16:46:28.5±0.7, 35.17N±0.01×118.66W±0.01, h8km, n107, σ0.76/159, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEJ	**El Tejon**	**0.06**	**340**		**Pg**	**16 46 33.1**	**+2.7**
ARVC	**Arvin**	**0.14**	**252**	P	**Pg**	**16 46 32.8**	**+1.2**
	baz=71,SNR=466						
ARVC				S	**Sg**	**16 46 35.4**	**+1.7**
	baz=71						
THC	**Tehachapi Micr**	**0.26**	**180**		**Pg**	**16 46 34.5**	**+0.7**
WOFM	**Oak Flat**	**0.37**	**353**		**Pg**	**16 46 36.3**	**+0.5**
BAKC	**Calstate**	**0.40**	**296**		**Pb**	**16 46 37.5**	**-0.4**
BAKC					**Sg**	**16 46 43.2**	**+1.6**
TPO	**Tropico Hills**	**0.46**	**129**		**Pg**	**16 46 37.9**	**+0.5**
BTPC	**Burnt Peak**	**0.49**	**171**		**Sg**	**16 46 45.5**	**+1.0**
ISA	**Isabella, Lake**	**0.51**	**17**	P	**Pg**	**16 46 38.9**	**+0.4**
	baz=198,SNR=120						
ISA				S	**Sg**	**16 46 45.5**	**+0.2**
	baz=198						
ISA	**Isabella, Lake**	**0.51**	**17**	Pg	**Pg**	**16 46 38.9**	**+0.4**
CCAC	**Calif City Air**	**0.53**	**92**		**Pg**	**16 46 39.2**	**+0.4**
CCAC					**Sg**	**16 46 46.2**	**+0.5**
MPI	**Mount Pinos, F**	**0.53**	**228**		**Sg**	**16 46 46.5**	**+0.6**
OSI	**Osito Audit: C**	**0.56**	**185**	P	**Pg**	**16 46 39.9**	**+0.6**
	baz=4.9,SNR=58						
OSI				S	**Sg**	**16 46 47.5**	**+0.9**
	baz=4.9						
OSI	**Osito Audit: C**	**0.56**	**185**		**Pg**	**16 46 39.9**	**+0.6**
ABL	**Mount Abel**	**0.56**	**235**		**Pg**	**16 46 39.6**	**+0.2**
WBSM	**Bird Springs**	**0.56**	**49**		**Pg**	**16 46 39.9**	**+0.4**
WBSM					**Sg**	**16 46 48.0**	**+1.1**
ALPC	**Antelope**	**0.57**	**148**		**Sg**	**16 46 47.6**	**+0.7**
WASM	**Alta Sierra Ca**	**0.57**	**9**		**Pg**	**16 46 40.0**	**+0.4**
WASM					**Sg**	**16 46 47.5**	**+0.3**
WHFM	**Hanning Flat**	**0.58**	**26**		**Pg**	**16 46 40.1**	**+0.4**
WHFM					**Sg**	**16 46 47.8**	**+0.3**
PYR	**Pyramid**	**0.60**	**186**		**Pg**	**16 46 40.7**	**+0.5**
EDW2	**Edwards Air Fo**	**0.62**	**118**	P	**Pg**	**16 46 40.6**	**+0.1**
	baz=298,SNR=109				

LRMC	**Laurel Mtn Rad**	**0.86**	**69**	P	**Pg**	**16 46 45.0 0.0**
	baz=249,SNR=183					
LRMC				S	**Sg**	**16 46 56.3 +0.1**
	baz=249					
LRMC	**Laurel Mtn Rad**	**0.86**	**69**		**Pg**	**16 46 45.0 0.0**
LRMC					**Sg**	**16 46 56.3 +0.1**
CRGC	**Crocker Grade**	**0.87**	**275**		**Pg**	**16 46 45.3 0.0**
SRTC	**Snort**	**0.91**	**55**		**Pg**	**16 46 46.4 +0.4**
WNMM	**Nine Mile Cany**	**0.91**	**42**		**Pg**	**16 46 45.9 -0.1**
BLUC	**Black Canyon**	**0.93**	**181**		**Pb**	**16 46 47.3 +0.5**
JNH	**Juniper Hills**	**0.93**	**141**		**Pg**	**16 46 46.2 -0.1**
HYS	**Haystack Butte**	**0.95**	**109**		**Pg**	**16 46 46.4 -0.4**
DECC	**Green Verdugo**	**0.95**	**163**	P	**Pg**	**16 46 47.0 +0.1**
	baz=344,SNR=12					
DECC				S	**Sb**	**16 47 00.6 +0.5**
	baz=344					
DECC	**Green Verdugo**	**0.95**	**163**		**Pg**	**16 46 47.0 +0.1**
TOW	**Tower One**	**0.97**	**49**		**Pg**	**16 46 47.5 +0.3**
CARC	**Carrizo Plain**	**0.98**	**278**		**Pg**	**16 46 46.8 -0.5**
CARC					**Sg**	**16 47 00.1 +0.1**
HOLC	**Holcomb Ridge**	**0.98**	**136**		**Pg**	**16 46 47.2 -0.1**
PKM	**Mcpherson Peak**	**0.99**	**254**	P	**Pg**	**16 46 46.9 -0.5**
	baz=73,SNR=25					
PKM				S	**Sg**	**16 47 00.4 +0.1**
	baz=73					
PKM	**Mcpherson Peak**	**0.99**	**254**		**Pg**	**16 46 47.0 -0.5**
PKM					**Sg**	**16 46 59.8 -0.5**
CHFC	**Chilao Flat St**	**0.99**	**148**		**Pg**	**16 46 47.3 -0.2**
CHFC					**Sg**	**16 47 00.4 +0.1**
WLHM	**Little Horse**	**1.02**	**16**		**Pg**	**16 46 48.0 -0.1**
SPG2	**Springville 2**	**1.03**	**355**		**Sg**	**16 47 00.8 -0.9**
WVPM	**Volcano Peak E**	**1.04**	**41**		**Sg**	**16 46 48.4 -0.1**
JRC2	**Joshua Ridge**	**1.07**	**40**		**Sg**	**16 47 02.4 -0.5**
MWC	**Mount Wilson**	**1.07**	**152**		**Pg**	**16 46 48.6 -0.4**
PASC	**Pasadena Art C**	**1.07**	**158**		**Pg**	**16 46 48.6 -0.4**
DJJ	**Donna J Jenkin**	**1.08**	**171**		**Pg**	**16 46 49.2 0.0**
CLC	**China Lake**	**1.08**	**53**		**Sg**	**16 47 03.1 -0.2**
GR2C	**Griffith Obs.**	**1.09**	**164**		**Pg**	**16 46 49.3 -0.1**
XTL	**Crystal Lake,**	**1.09**	**143**		**Pg**	**16 46 49.3 -0.2**
SMMC	**Simmler**	**1.10**	**278**	P	**Pg**	**16 46 48.9 -0.8**
	baz=97,SNR=21					
SMMC				S	**Sg**	**16 47 03.0 -0.9**
	baz=97					
SMMC	**Simmler**	**1.10**	**278**		**Pg**	**16 46 48.8 -0.8**
SBC	**Santa Barbara**	**1.13**	**230**	P	**Pb**	**16 46 50.6 +0.3**
	baz=49,SNR=10					
SBC				S	**Sb**	**16 47 05.7 +0.6**
	baz=49					
GVRC	**Garvey Reservo**	**1.21**	**158**		**Pb**	**16 46 51.6 +0.1**
BFSC	**Mount Baldy Ra**	**1.25**	**138**	P	**Pb**	**16 46 51.8 -0.5**
	baz=319,SNR=60					
BFSC				S	**Sn**	**16 47 09.3 0.0**
	baz=319					
VOG	**Valley Oaks Go**	**1.29**	**333**	P	**Pn**	**16 46 52.0 -0.8**
	baz=153,SNR=9.3					
VOG				S	**Sb**	**16 47 09.5 -0.2**
	baz=153					
MPMC	**Manual Prospec**	**1.30**	**47**	P	**Pn**	**16 46 53.0 -0.2**
	baz=228,SNR=316					
MPMC				Sg	**Sb**	**16 47 10.6 +0.3**
	baz=228					
CWC	**Cottonwood Cre**	**1.35**	**20**	Pg	**Pn**	**16 46 53.9 +0.1**
	baz=201					
CWC				Sb	**Sb**	**16 47 11.3 -0.4**
	baz=201					
RRX	**Edison Barstow**	**1.40**	**102**	Pg	**Pg**	**16 46 55.4 +0.1**
	baz=283					
RRX				Sg	**Sg**	**16 47 13.8 +0.3**
	baz=283					
SCZ2	**Santa Cruz Isl**	**1.42**	**215**	P	**Pn**	**16 46 53.9 -0.8**
	baz=34,SNR=9.5					
SCZ2				S	**Sb**	**16 47 13.2 -0.3**
	baz=34					
FMP	**Fort Macarthur**	**1.49**	**168**	Pg	**Pg**	**16 46 57.1 +0.1**
	baz=348					
FMP				Sb	**Sg**	**16 47 16.0 -0.2**
	baz=348					
GSC	**Goldstone, Bar**	**1.53**	**85**	Pb	**Pn**	**16 46 55.8 -0.4**
	baz=266,SNR=133					
GSC				Pg	**Pb**	**16 46 57.6 +0.5**
	baz=266					
GSC				Sg	**Sg**	**16 47 18.2 +0.6**
	baz=266					
GSC	**Goldstone, Bar**	**1.53**	**85**	Pn	**Pn**	**16 46 55.7 -0.4**
BTL	**Butler Peak**	**1.64**	**123**		**Pn**	**16 46 57.3 -0.6**
ALV	**Alvord Mountai**	**1.67**	**93**		**Pg**	**16 47 00.5 -0.1**
BBRC	**Big Bear Solar**	**1.70**	**122**	Pg	**Pg**	**16 47 00.8 -0.2**
	baz=303					
BBRC				Sb	**Sg**	**16 47 22.7 -0.3**
	baz=303					
CIS	**Catalina Islan**	**1.78**	**173**	P	**Pn**	**16 46 59.4 -0.1**
	baz=353,SNR=6.9					
CIS				Sb	**Sb**	**16 47 24.7 +1.0**
	baz=353					
PSMM	**Smith Mountain**	**1.81**	**300**		**Pn**	**16 46 59.6 -0.4**
TIN	**Tinemaha, Big**	**1.91**	**10**	Pg	**Pb**	**16 47 04.3 +0.6**
	baz=191,SNR=6.8					
TIN				Sb	**Sg**	**16 47 29.3 -0.7**
	baz=191					
HEC	**Hector,Ludlow**	**1.94**	**99**	Pg	**Pg**	**16 47 05.3 -0.4**
	baz=281,SNR=73					
HEC				Sb	**Sb**	**16 47 29.7 +1.1**
	baz=281					
FURC	**Furnace Creek,**	**1.95**	**48**	Pg	**Pg**	**16 47 05.6 -0.3**
	baz=229,SNR=85					
MURC	**Murrieta**	**1.98**	**142**	Pn	**Pn**	**16 47 01.7 -0.6**
	baz=323,SNR=32					
MURC				Pb	**Pb**	**16 47 05.3 +0.5**
	baz=323					
MURC				Sb	**Sb**	**16 47 30.5 +0.8**
	baz=323					
PMPB	**Monarch Peak**	**2.03**	**302**		**Pn**	**16 47 02.4 -0.6**
SNCC	**San Nicolas Is**	**2.05**	**201**	S	**Sn**	**16 47 29.0 0.0**
	baz=20					
SHOC	**Shoshone, Teco**	**2.08**	**69**	P	**Pn**	**16 47 03.3 -0.4**
	baz=250,SNR=36					
SHOC				Sg	**Sg**	**16 47 36.1 +0.8**
	baz=250					
SCI2	**San Clemente I**	**2.19**	**177**	Pg	**Pg**	**16 47 09.9 -0.5**
	baz=358,SNR=6.0					
SCI2				Sb	**Sg**	**16 47 37.8 -1.0**
	baz=358					
TUQ	**Turquoise Moun**	**2.25**	**82**	Pn	**Pn**	**16 47 05.7 -0.5**
	baz=264,SNR=45					
TUQ				Pg	**Pg**	**16 47 11.2 -0.6**
	baz=264					
TUQ				Sg	**Sg**	**16 47 41.3 +0.4**
	baz=264					
PFO	**Pinyon Flats O**	**2.40**	**130**	Pn	**Pn**	**16 47 07.6 -0.5**
	baz=311,SNR=12					
PFO				Pg	**Pg**	**16 47 14.4 -0.1**
	baz=311					
PFO	**Pinyon Flats O**	**2.40**	**130**	Pn	**Pn**	**16 47 07.6 -0.5**
XPFO	**Pion Flat**	**2.40**	**130**		**Pn**	**16 47 07.4 -0.8**
TPC	**Twentynine Pal**	**2.40**	**116**		**Pn**	**16 47 07.6 -0.5**
OMMB	**Old Mammoth Mi**	**2.45**	**354**	Pn	**Pb**	**16 47 12.1 -0.9**
MLAC	**Mammoth, Mammo**	**2.46**	**357**	Sb	**Sb**	**16 47 45.8 +2.2**
	baz=177					
MDPB	**Devils Postpil**	**2.48**	**352**	Pn	**Pb**	**16 47 12.5 -1.0**
BELC	**Belle Mtn. Jos**	**2.49**	**117**	Pn	**Pn**	**16 47 09.1 -0.4**
	baz=299,SNR=24					
BELC				Pg	**Pg**	**16 47 15.4 -0.8**
	baz=299					
BELC				Sb	**Sb**	**16 47 46.2 +1.8**
	baz=299					
GMRC	**Granite Mounta**	**2.50**	**98**	Pn	**Pn**	**16 47 08.3 -1.2**
	baz=280					
GMRC				Pg	**Pb**	**16 47 15.0 +1.3**
	baz=280,SNR=16					
GMRC				Sn	**Sn**	**16 47 38.0 -2.2**
	baz=280					
GMRC				Sb	**Sg**	**16 47 47.4 -1.3**
	baz=280					
TPNV	**Topopah Spring**	**2.64**	**47**	Pn	**Pn**	**16 47 12.5 +0.9**
	baz=228,SNR=19					
TPNV				Pg	**Pg**	**16 47 18.2 -0.9**
	baz=228					
TPNV	**Topopah Spring**	**2.64**	**47**		**Pn**	**16 47 12.4 +0.9**
SAO	**San Andreas Ge**	**2.76**	**306**	Pn	**Pn**	**16 47 13.1 +0.1**
MONP2	**Monument Peak**	**2.94**	**140**	Pn	**Pn**	**16 47 15.7 0.0**
	baz=322					
MONP2				Pb	**Pb**	**16 47 21.3 0.0**
	baz=322,SNR=15					
MONP2				Sb	**Sb**	**16 47 59.8 +2.4**
	baz=322					
BAR	**Barrett**	**2.98**	**146**	Pn	**Pn**	**16 47 15.6 -0.6**
BC3	**Big Chuckawall**	**3.05**	**119**	Pn	**Pn**	**16 47 16.0 -1.1**
	baz=301					
BC3				Pg	**Pg**	**16 47 25.4 -1.6**
	baz=301,SNR=10					
BC3				Sb	**Sg**	**16 48 04.2 -2.4**
	baz=301					
IRM	**Iron Mountain**	**3.07**	**108**	Pb	**Pb**	**16 47 25.2 +1.8**
	baz=290,SNR=8.0					
SHPR	**Sheep Range**	**3.14**	**64**		**Pn**	**16 47 19.2 +0.8**
CMB	**Columbia Colle**	**3.18**	**335**		**Pn**	**16 47 20.0 +1.2**
SWSC	**Sam W. Stewart**	**3.25**	**132**	Pg	**Pg**	**16 47 30.2 -0.6**
	baz=314,SNR=8.6					
IKP	**In-Ko-Pah, Jac**	**3.29**	**139**	Pb	**Pb**	**16 47 27.9 +0.7**
	baz=321,SNR=18					
CBX	**Cerro Bola**	**3.30**	**149**	Pn	**Pn**	**16 47 21.2 +0.6**
W13A	**Hualapai Mount**	**3.92**	**90**		**Pn**	**16 47 28.9 -0.2**
R11A	**Troy Canyon, C**	**4.02**	**37**	Pg	**Pg**	**16 47 43.9 -1.6**
	baz=219					
LCMT	**Little Creek M**	**4.76**	**66**	Pn	**Pn**	**16 47 40.5 -0.1**
Y14A	**Wickenburg**	**4.83**	**103**	Pn	**Pn**	**16 47 41.0 -0.5**

IDC ***09*** *16:48:29.5±2.4, 8˚.28S×119˚.62E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/38, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=245.7km s-min=27.3km az=53.0*

DJA ***09*** *16:48:51.2±0.6, 8˚.5S±8˚×12˚.0E±˚, h189km±7km, M3.8/7, mb4.2/3, MLv3.6/7*

ISC 09 16:48:51.2±1.1, 8.4S±0.1×120.27E±0.06, h200km, n12, σ1§06/13, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.47**	**106**	P		P	**Pn**	**16 49 23.6**	**-1.1**
WBSI	**Waikabubak, Su**	**1.55**	**214**	P		P	**Pn**	**16 49 24.5**	**-0.9**
WBSI				S		S	**Sn**	**16 49 49.9**	**-2.1**
BASI	**Baing, Sumba**	**1.88**	**171**	P		P	**Pn**	**16 49 28.3**	**-0.2**
MMRI	**Maumere**	**1.97**	**98**	P		P	**Pn**	**16 49 28.9**	**-0.5**
PLAI	**Plampang**	**2.51**	**259**	P		P	**Pn**	**16 49 35.3**	**+0.2**
TWSI	**Taliwang, Sumb**	**3.37**	**263**	P		P	**Pn**	**16 49 45.4**	**+0.2**
BATI	**Baumata**	**3.83**	**119**	P		P	**Pn**	**16 49 50.7**	**-0.2**
SOEI	**Soe**	**4.19**	**110**	P		P	**Pn**	**16 49 55.1**	**-0.4**
WRA	**Warramunga Arr**	**17.84**	**132**	P		**P**		**16 52 45.8**	**+0.4**
	0.3nm,0.3s,baz=306,slow=10,SNR=22								
ASAR	**Alice Springs**	**20.07**	**141**	P		**P**		**16 53 10.9**	**+1.5**
	0.3nm,0.3s,baz=328,slow=12,SNR=13								
STKA	**Stephens Creek**	**30.68**	**143**	P		**P**		**16 54 48.5**	**+1.2**
	1.4nm,0.9s,baz=326,slow=15,SNR=1.8								
MKAR	**Makanchi Array**	**64.46**	**332**	P		**P**		**16 59 05.8**	**-0.5**
	0.3nm,0.7s,baz=132,slow=10,SNR=2.3								

IDC ***09*** *16:52:28.5±1.7, 15˚.52S×177˚.50W, h398km±21km, mb3.0/8, mb1 3.3/9, mb1mx3.2/43, mbtmp3.8/9, Error ellipse: s-maj=34.9km s-min=14.8km az=148.0*

ISC 09 16:52:27.6±0.7, 15.5S±0.2×177.6W±0.1, h386km, n10, σ0§61/12, mb3.2/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.85**	**75**	P		P	**Pn**	**16 53 58.9**	**+0.7**
	2.6nm,0.3s,baz=266,slow=23,SNR=4.5								
AFI				S		**S**		**16 55 11.7**	**-0.1**
	1.6nm,0.3s,baz=180,slow=21,SNR=1.8								
STKA	**Stephens Creek**	**40.51**	**239**	P		**P**		**16 59 31.4**	**+0.5**
	1.0nm,0.8s,baz=88,slow=6.8,SNR=4.9								
WRA	**Warramunga Arr**	**45.88**	**257**	P		**P**		**17 00 14.0**	**+0.5**
	0.3nm,0.3s,baz=92,slow=6.2,SNR=10.0								
WRA				PcP		**PcP**		**17 01 42.6**	**-0.8**
	0.9nm,1.0s,baz=87,slow=3.9,SNR=2.7								
ASAR	**Alice Springs**	**46.23**	**252**	P		**P**		**17 00 16.9**	**+0.6**
	5.1nm,0.6s,baz=89,slow=7.9,SNR=16								
ASAR				PcP		**PcP**		**17 01 43.9**	**-0.8**
	0.3nm,0.7s,baz=109,slow=5.0,SNR=2.4								
VNDA	**Vanda**	**62.92**	**185**	P		**P**		**17 02 13.2**	**-0.6**
	0.8nm,0.9s,baz=339,slow=5.1,SNR=2.5								
PETK	**Petropavlovsk-**	**71.54**	**345**	P		**P**		**17 03 07.6**	**0.0**
	1.1nm,0.8s,baz=120,slow=8.5,SNR=2.7								
NVAR	**Mina Array Bea**	**77.14**	**44**	P		**P**		**17 03 39.9**	**-0.2**
	0.2nm,0.7s,baz=224,slow=6.3,SNR=3.6								
ILAR	**Eielson Array**	**83.36**	**13**	P		**P**		**17 04 11.5**	**-0.5**
	0.4nm,0.5s,baz=232,slow=5.6,SNR=2.7								
TXAR	**Lajitas Array**	**84.05**	**58**	P		**P**		**17 04 16.6**	**+0.2**
	0.1nm,0.7s,baz=207,slow=7.9,SNR=4.6								
BRTR	**Keskin Array B**	**143.57**	**318**	PKP		PKPbc		17 11 16.1	+0.4
	1.9nm,0.9s,baz=67,slow=3.7,SNR=7.0								

IDC ***09*** *16:54:38.3±2.0, 10˚.93S×113˚.27E, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.7/42, mbtmp3.7/8, ML4.0/1, Error ellipse: s-maj=69.1km s-min=19.3km az=44.0*

ISC 09 16:54:39.8±1.9, 10.9S±0.3×113.3E±0.2, h10km, n12, σ0§43/8, mb3.7/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**10.23**	**87**	Pn		**Pn**	**Pn**	**16 57 06.8**	**0.0**
	1.2nm,0.3s,baz=270,slow=17,SNR=1.6								
BATI				Sn		Sn	Sn	16 58 52.5	-9.3
	0.8nm,0.3s,baz=201,slow=21,SNR=1.7								
FITZ	**Fitzroy Crossi**	**13.91**	**122**	Pn		Pn	Pn	16 57 54.0	-3.4
	0.3nm,0.3s,baz=304,slow=9.3,SNR=6.1								
FITZ				Sn		Sn	Sn	17 00 16.0	-16
	0.2nm,0.3s,baz=200,slow=20,SNR=2.2								
WRA	**Warramunga Arr**	**22.17**	**116**	P		**P**		**16 59 35.9**	**-0.3**
	1.6nm,0.7s,baz=290,slow=11,SNR=15								
ASAR	**Alice Springs**	**23.38**	**126**	P		**P**		**16 59 49.0**	**+0.1**
	1.0nm,0.7s,baz=301,slow=9.6,SNR=15								
CMAR	**Chiang Mai Arr**	**32.44**	**334**	P		**P**		**17 01 09.7**	**-0.7**
	1.3nm,1.1s,baz=162,slow=9.2,SNR=5.1								
H08S2	**Diego Garcia H**	**40.36**	**271**	T		T		17 45 36.3	
	baz=96,slow=75,SNR=5.1								
H08S3	**Diego Garcia H**	**40.37**	**271**	T		T		17 45 33.7	
	baz=96,slow=75,SNR=5.9								
H08S1	**Diego Carcia H**	**40.38**	**271**	T		T		17 45 37.8	
	baz=96,slow=75,SNR=6.0								
MJAR	**Matsushiro Arr**	**52.73**	**25**	P		**P**		**17 03 54.9**	**+0.1**
	0.6nm,0.7s,baz=218,slow=9.2,SNR=1.4								
SONM	**Songino Array**	**58.81**	**355**	P		**P**		**17 04 38.7**	**+0.2**
	0.3nm,0.4s,baz=165,slow=12,SNR=2.1								
MKAR	**Makanchi Array**	**63.79**	**337**	P		**P**		**17 05 12.4**	**+0.3**
	0.3nm,0.4s,baz=150,slow=7.8,SNR=6.7								
ZALV	**Zalesovo Beam**	**68.99**	**342**	P		**P**		**17 05 45.7**	**+0.5**
	0.4nm,0.4s,baz=182,slow=8.2,SNR=2.5								

IDC 09 16:55:05.2±52.0, 25.28S×175.30W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/34, mbtmp3.7/3, Error ellipse: s-maj=966.5km s-min=195.9km az=91.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.23**	**250**	P		P	P	17 02 27.0	-0.1
	1.0nm,0.8s,baz=90,slow=10,SNR=1.0								
ASAR	**Alice Springs**	**46.04**	**261**	P		P	P	17 03 30.2	-0.8
	1.0nm,0.8s,baz=93,slow=8.8,SNR=7.1								
WRA	**Warramunga Arr**	**46.58**	**266**	P		P	P	17 03 35.9	+0.6
	0.6nm,0.6s,baz=107,slow=7.5,SNR=5.6								
H03S2	**Juan Fernandez**	**81.27**	**123**	T		T	T	18 36 59.6	
	baz=242,slow=74,SNR=6.5								
H03S1	**Juan Fernandez**	**81.28**	**123**	T		T	T	18 37 00.7	
	baz=242,slow=74,SNR=7.8								
H03S3	**Juan Fernandez**	**81.28**	**123**	T		T	T	18 36 59.6	
	baz=242,slow=74,SNR=8.0								

SJA ***09*** *17:01:31.2±0.6, 20˚.54S×71˚.08W, h30km±3km, ML4.0, MW4.4*

NEIC ***09*** *17:01:32.9±2.2, 20˚.54S±0˚.04×70˚.95W±0˚.04, h12km±4km, mb4.4/6, Mwr4.3/46, ML3.8(GUC), Error ellipse: s-maj=6.1km s-min=5.0km az=62.0*

NEIC ***09*** *17:01:32.8, 20˚.54S×70˚.95W, h17km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.72; Mθθ 1.79; Mϕϕ-2.51; Mrθ 1.51; Mθϕ 1.47; Mϕr-1.12; Fault plane solution: M₀3.28000×10¹⁵ NP1:φ₁122.24000°, δ83.24000°, λ38.23000°. NP2:φ₂26.95000°, δ52.09000°, λ171.42000°. Principal axes: T 2.9277, Plg31.0000°, Azm352.0000°; N 0.6105, Plg51.0000°, Azm131.0000°; P -3.5382, Plg21.0000°, Azm249.0000°;*

GUC ***09*** *17:01:33.7±0.7, 20˚.55S×70˚.93W, h44km±1km, ML3.8*

IDC ***09*** *17:01:33.0±0.9, 20˚.46S×70˚.82W, h0km, mb3.6/7, mb1 4.0/8, mb1mx3.9/20, mbtmp3.7/8, ML4.0/1, MS3.5/8, Ms1 3.5/8, ms1mx3.3/23, Error ellipse: s-maj=30.6km s-min=19.6km az=62.0*

ISC 09 17:01:32.2±1.6, 20.57S±0.03×71.00W±0.05, h5km±10km, n110, σ1§27/118, MS3.5/5, 9C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.77**	**90**	*eP*		**Pg**		**17 01 47.4**	**+0.3**
TA01				*i* S		**Sg**		**17 01 57.6**	**+0.6**
TA01				IAML				17 02 04.0	
	comp=N,5μm,0.6s								
TA01	**Diego Aracena**	**0.77**	**90**			**Pg**		**17 01 47.5**	**+0.5**
TA01						**Sg**		**17 01 56.8**	**-0.2**
PATCX	**Punta Patache**	**0.83**	**108**	⇓*iP*		**Pg**		**17 01 49.1**	**+0.8**
PATCX				*i* S		**Sg**		**17 01 59.6**	**+0.5**
PATCX				IAML				17 02 11.3	
	comp=N,4μm,0.7s								
PATCX	**Punta Patache**	**0.83**	**108**			**Pg**		**17 01 48.9**	**+0.6**
PATCX						**Sg**		**17 01 59.6**	**+0.5**
PATCX	**Punta Patache**	**0.83**	**108**	*eP*		**Pg**		**17 01 49.0**	**+0.8**
PATCX				*eP*		**Pg**		**17 01 49.0**	**+0.8**
PATCX				*eP*				17 01 49.1	
TA02	**Huaiquique**	**0.87**	**70**	*eP*		**Pg**		**17 01 49.2**	**+0.3**
TA02				*i* S		**Sg**		**17 02 00.0**	**-0.2**
TA02				IAML				17 02 02.1	
	comp=N,11μm,0.6s								
PSGC	**Pisagua**	**1.27**	**41**	⇑*iP*		**Pn**		**17 01 55.0**	**-1.8**
PSGC				*i* S		**Sb**		**17 02 12.0**	**-1.5**
PSGC				IAML				17 02 19.8	
	comp=N,3μm,0.6s								
PSGCX	**Pisagua**	**1.27**	**41**			**Pn**		**17 01 55.0**	**-1.8**
PSGCX				Sn		**Sb**		**17 02 11.8**	**-1.6**
PSGCX	**Pisagua**	**1.27**	**41**	*eP*		**Pn**		**17 01 55.3**	**-1.5**
PSGCX				*eS*		**Sb**		**17 02 12.8**	**-0.6**
PB01	**IPOC Station P**	**1.49**	**109**	*eP*		**Pn**		**17 01 58.9**	**-0.9**
PB01				*eS*		**Sn**		**17 02 17.5**	**-2.3**
PB01				IAML				17 02 20.0	
	comp=N,3μm,0.5s								
PB01	**IPOC Station P**	**1.49**	**109**			**Pn**		**17 01 59.2**	**-0.6**
PB01						Pg		17 01 59.3	-1.6
PB01				Sn		**Sn**		**17 02 18.2**	**-1.6**
PB11	**IPOC Station P**	**1.50**	**58**	⇑*iP*		**Pn**		**17 01 58.7**	**-1.3**
PB11				IAML				17 02 22.3	
	comp=N,4μm,0.5s								
PB11	**IPOC Station P**	**1.50**	**58**			**Pn**		**17 01 58.7**	**-1.3**
PB11	**IPOC Station P**	**1.50**	**58**	*eP*		**Pn**		**17 01 58.7**	**-1.3**
PB11				*eS*		**Sn**		**17 02 19.2**	**-0.8**
PB11				IAML				17 02 35.2	
	comp=Z,3μm,1.0s								
PB07	**IPOC Station P**	**1.55**	**138**	⇑*iP*		**Pn**		**17 02 00.3**	**-0.4**
PB07				*eS*		**Sn**		**17 02 19.5**	**-1.9**
PB07				IAML				17 02 34.2	
	comp=E,1μm,0.5s								
PB07	**IPOC Station P**	**1.55**	**138**			**Pn**		**17 02 00.4**	**-0.4**
PB07	**IPOC Station P**	**1.55**	**138**	*eP*		**Pn**		**17 02 00.2**	**-0.6**
PB07				IAML				17 02 41.3	
	comp=Z,1μm,0.7s								
PB08	**IPOC Station P**	**1.79**	**77**	⇑*iP*		**Pn**		**17 02 03.4**	**-0.8**
PB08				*i* S		**Sn**		**17 02 25.3**	**-2.2**
PB08	**IPOC Station P**	**1.79**	**77**			**Pn**		**17 02 03.3**	**-0.8**
PB03	**IPOC Station P**	**1.88**	**142**	⇑*iP*		**Pn**		**17 02 04.7**	**-0.5**
PB03				*i* S		**Sn**		**17 02 28.1**	**-1.3**
PB03				IAML				17 02 53.6	
	comp=E,613nm,0.5s								
PB03	**IPOC Station P**	**1.88**	**142**	*eP*		**Pn**		**17 02 04.9**	**-0.3**
PB03				IAML				17 02 53.0	
	comp=Z,809nm,0.5s								
GO01	**Chusmiza**	**1.92**	**63**	*eP*		**Pn**		**17 02 05.2**	**-0.9**
GO01				*i* S		**Sn**		**17 02 28.9**	**-2.0**
GO01				IAML				17 02 32.2	
	comp=N,3μm,0.2s								
GO01	**Chusmiza**	**1.92**	**63**			**Pn**		**17 02 05.2**	**-0.9**
PB04	**IPOC Station P**	**1.93**	**156**	⇑*iP*		**Pn**		**17 02 05.5**	**-0.4**
PB04				IAML				17 02 47.9	
	comp=N,2μm,0.6s								
PB04	**IPOC Station P**	**1.93**	**156**			**Pn**		**17 02 05.5**	**-0.4**
PB04	**IPOC Station P**	**1.93**	**156**	*eP*		**Pn**		**17 02 05.5**	**-0.4**
PB04				IAML				17 02 44.0	
	comp=Z,1μm,1.5s								
MNMC	**Minye Minye**	**1.95**	**43**	⇑*iP*		**Pn**		**17 02 05.4**	**-0.9**
MNMC				*eS*		**Sn**		**17 02 29.2**	**-2.1**
MNMC	**Minye Minye**	**1.95**	**43**			**Pn**		**17 02 05.3**	**-1.0**
MNMCX	**Minye Minye**	**1.95**	**43**	*eP*		**Pn**		**17 02 05.3**	**-1.0**
PB12	**IPOC Station P**	**2.04**	**18**	⇑*iP*		**Pn**		**17 02 06.4**	**-1.0**
PB12				*i* S		**Sn**		**17 02 34.1**	**+0.7**
PB12				IAML				17 02 44.6	
	comp=E,2μm,0.4s								
PB12	**IPOC Station P**	**2.04**	**18**			**Pn**		**17 02 06.4**	**-1.0**
PB09	**IPOC Station P**	**2.05**	**127**			**Pn**		**17 02 08.5**	**+0.9**
PB09	**IPOC Station P**	**2.05**	**127**	*eP*		**Pn**		**17 02 08.4**	**+0.9**
PB09				IAML				17 02 46.4	
	comp=Z,1μm,0.6s								
AP01	**Chacalluta**	**2.27**	**16**			**Pn**		**17 02 10.1**	**-0.4**
PB05	**IPOC Station P**	**2.39**	**162**	⇑*iP*		**Pn**		**17 02 11.5**	**-0.7**
PB05	**IPOC Station

H03S1	**Juan Fernandez**	**14.97**	**206**	Pn		**Pn**	**17 05 02.2**	**-2.1**
H03S2	**Juan Fernandez**	**14.97**	**206**	Pn		**Pn**	**17 05 02.4**	**-1.9**
PLCA	**Paso Flores**	**20.11**	**179**	P		Pn	17 06 09.1	+0.3
	comp=Z,8.3nm,1.0s,baz=357,slow=11,SNR=6.8							
PLCA	**Paso Flores**	**20.11**	**179**	P		**P**	**17 06 08.2**	**+1.2**
PLCA				IAmb		IAmb	17 06 14.0	
	comp=Z,14nm,1.1s							
BDFB	**Brasilia**	**22.38**	**81**	P		**P**	**17 06 32.7**	**+0.9**
	comp=Z,1.8nm,0.5s,baz=250,slow=8.2,SNR=3.4							
BDFB				LR		LR	17 16 38.8	
	comp=Z,193nm,20.2s,baz=295,slow=41							
BDFB	**Brasilia**	**22.38**	**81**	P		**P**	**17 06 31.3**	**-0.5**
PTGA	**Pitinga**	**22.47**	**30**	P		**P**	**17 06 30.7**	**-1.9**
	comp=Z,9.2nm,0.7s,baz=206,slow=10,SNR=19							
PTGA	**Pitinga**	**22.47**	**30**	P		**P**	**17 06 30.6**	**-2.0**
PTGA				IAmb		IAmb	17 06 33.6	
	comp=Z,10nm,0.8s							
RUSC	**La Rusia**	**26.37**	**355**	P		**P**	**17 07 09.9**	**-0.3**
TXAR	**Lajitas Array**	**58.76**	**327**	P		**P**	**17 11 34.1**	**+2.4**
	comp=Z,0.1nm,0.4s,baz=128,slow=6.9,SNR=1.5							
TXAR	**Lajitas Array**	**58.76**	**327**	P		**P**	**17 11 33.3**	**+1.7**
S39A	**Bolivar**	**61.64**	**340**	P		**P**	**17 11 51.0**	**-0.1**
S39A				IAmb		IAmb	17 12 00.5	
	comp=Z,3.7nm,0.8s							
O20A	**White River Ci**	**69.66**	**330**	P		**P**	**17 12 41.6**	**-1.5**
DBIC	**Dimbokro**	**70.36**	**75**	LR		LR	17 41 53.8	
	comp=Z,29nm,20.1s,baz=175,slow=34							
PDAR	**Pinedale Array**	**72.34**	**331**	P		**P**	**17 13 01.0**	**+1.7**
	comp=Z,0.1nm,0.4s,baz=123,slow=6.6,SNR=2.1							
PDAR	**Pinedale Array**	**72.34**	**331**	P		**P**	**17 12 59.9**	**+0.5**
NVAR	**Mina Array Bea**	**73.57**	**323**	P		**P**	**17 13 08.3**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=133,slow=8.8,SNR=1.9							
NVAR	**Mina Array Bea**	**73.57**	**323**	P		**P**	**17 13 07.1**	**+0.4**
ULM	**Lac du Bonnet**	**73.86**	**344**	LR		LR	17 49 01.5	
	comp=Z,41nm,18.3s,baz=8.5,slow=39							
SCHQ	**Schefferville**	**75.18**	**2**	LR		LR	17 45 58.1	
	comp=Z,30nm,21.7s,baz=264,slow=36							
ESDC	**Sonseca Array**	**86.56**	**45**	LR		LR	17 50 53.5	
	comp=Z,29nm,19.3s,baz=335,slow=34							
YKA	**Yellowknife Ar**	**89.67**	**341**	P		**P**	**17 14 32.9**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=124,slow=4.7,SNR=2.5							
ILAR	**Eielson Array**	**102.57**	**335**	P		**Pdif**	**17 15 29.4**	**0.0**
	comp=Z,0.5nm,0.4s,baz=150,slow=8.0,SNR=4.1							
H11S2	**WAKE ISLAND Hy**	**125.82**	**278**	T		T	19 40 02.6	
	baz=102,slow=74,SNR=33							
H11S1	**WAKE ISLAND Hy**	**125.82**	**278**	T		T	19 39 47.5	
	baz=102,slow=74,SNR=18							
H11S3	**WAKE ISLAND Hy**	**125.83**	**278**	T		T	19 40 07.5	
	baz=102,slow=74,SNR=20							
H11N3	**WAKE ISLAND Hy**	**125.88**	**280**	T		T	19 39 18.3	
	baz=102,slow=75,SNR=9.7							
H11N2	**WAKE ISLAND Hy**	**125.89**	**280**	T		T	19 39 50.0	
	baz=102,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**125.90**	**280**	T		T	19 39 28.7	
	baz=102,slow=75,SNR=7.8							
ASAR	**Alice Springs**	**129.78**	**210**	PKP		**PKiKP**	**17 20 44.7**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=134,slow=2.7,SNR=2.1							
ASAR	**Alice Springs**	**129.78**	**210**			**PKPdf**	**17 20 43.7**	**+0.1**
WRA	**Warramunga Arr**	**132.71**	**213**	PKP		**PKiKP**	**17 20 50.8**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=155,slow=1.3,SNR=1.5							
ZALV	**Zalesovo Beam**	**141.91**	**23**	PKP		**PKPdf**	**17 21 06.3**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=302,slow=3.2,SNR=2.3							
ZALV	**Zalesovo Beam**	**141.91**	**23**			**PKPdf**	**17 21 05.4**	**+0.4**
MKAR	**Makanchi Array**	**145.98**	**34**	PKPbc		**PKPdf**	**17 21 13.2**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=320,slow=3.1,SNR=7.1							

*JMA **09** 17:05:28.8, 24°.41N×121°.92E, h30km±2km, M2.2*
*TAP **09** 17:05:29.1, 24°.44N×121°.94E, h16km, ML2.8, C*
ISC 09 17:05:28.5±0.9, **24°.45N**±0°.02×**121°.98E**±0°.03, **h15**km±6km, **n71**, σ**0°.49**/115, **6D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENAH	**Nanao**	**0.16**	**269**	*i* P	**Pg**	**17 05 32.8**	**+0.3**
	baz=283						
ENAH				S	**Sg**	17 05 35.3	+0.2
	baz=283						
ENA	**Nanau**	**0.22**	**264**	⇓*i* P	**Pg**	**17 05 33.6**	**+0.1**
	baz=272						
ENA				*e*S	**Sg**	17 05 36.7	-0.2
	baz=272						
ILA	**Ilan**	**0.38**	**325**	*e*P	**Pb**	17 05 36.7	-0.2
	baz=323						
ILA				*e*S	**Sb**	17 05 42.7	+0.1
	baz=323						
TWE	**Neicheng**	**0.39**	**313**	P	**Pb**	**17 05 37.2**	**0.0**
	baz=319						
TWE				*e*S	**Sb**	17 05 42.7	-0.3
	baz=319						
EGS		**0.40**	**353**	*e*P	**Pb**	17 05 37.5	+0.3
	baz=355						
EGS				*e*S	**Sb**	17 05 44.1	+1.0
	baz=355						
ENTT	**Nioudou**	**0.42**	**296**	⇓*i* P	**Pb**	17 05 37.6	-0.2
	baz=300						
ENTT				*e*S	**Sg**	17 05 42.7	-0.1
	baz=300						
NTC	**Toucheng**	**0.42**	**341**	P	**Pb**	17 05 37.9	+0.2
	baz=344						
NTC				*e*S	**Sb**	17 05 43.4	-0.6
	baz=344						
NACB	**Ninganchiao**	**0.45**	**232**	⇓*i* P	**Pg**	17 05 37.1	-0.3
	baz=232						
NACB				*e*S	**Sg**	17 05 43.2	-0.4
	baz=232						
NDT	**Datong Townshi**	**0.46**	**289**	⇓*i* P	**Pb**	17 05 38.1	-0.1
	baz=292						
NDT				*e*S	**Sg**	17 05 43.4	-0.4
	baz=292						
TWD	**Chiawan**	**0.51**	**224**	*e*P	**Pg**	17 05 38.5	-0.2
	baz=229						
TWD				*e*S	**Sg**	17 05 44.9	-0.6
	baz=229						
ETLH	**Xiulin Townshi**	**0.52**	**242**	P	**Pg**	17 05 38.3	-0.5
	baz=243						
ETLH				*e*S	**Sg**	17 05 45.1	-0.7
	baz=243						
TIPB	**Shuangxi**	**0.54**	**344**	*e*P	**Pb**	17 05 40.0	+0.3
	baz=346						
TIPB				*e*S	**Sb**	17 05 46.8	-0.4
	baz=346						
NWLT	**Wulai**	**0.55**	**307**	*e*P	**Pb**	17 05 39.9	+0.1
	baz=304						
NWLT				*e*S	**Sg**	17 05 46.5	-0.1
	baz=304						
NNSB	**Datong**	**0.55**	**268**	P	**Pg**	17 05 39.4	0.0
	baz=269						
NNSB				*e*S	**Sg**	17 05 46.5	-0.2
	baz=269						
NNSH	**Datong**	**0.55**	**268**	P	**Pg**	17 05 39.4	0.0
	baz=269						
NNSH				*e*S	**Sg**	17 05 46.2	-0.5
	baz=269						
TWB1	**Santiao Chiao**	**0.55**	**0**	*e*P	**Pg**	17 05 38.7	-0.7
	baz=356						
TWB1				*e*S	**Sb**	17 05 47.4	-0.3
	baz=356						
NNS	**Nan Shan**	**0.56**	**269**	P	**Pg**	17 05 39.5	0.0
	baz=270						
NNS				*e*S	**Sg**	17 05 46.4	-0.6
	baz=270						
HWA	**Hwalien**	**0.59**	**216**	*e*P	**Pn**	17 05 41.9	-0.4
	baz=222						
YHNB	**Yeheng**	**0.59**	**292**	⇓*i* P	**Pb**	17 05 40.8	+0.1
	baz=299						
YHNB				*e*S	**Sg**	17 05 46.9	-1.3
	baz=299						
NSK	**Sanguang**	**0.61**	**292**	⇓*i* P	**Pb**	17 05 41.0	0.0
	baz=299						
NSK				*e*S	**Sg**	17 05 48.4	-0.3
	baz=299						
TWA	**Mucha**	**0.64**	**325**	*e*P	**Pn**	17 05 42.4	-0.7
	baz=328						
TWA				*e*S	**Sb**	17 05 49.8	-0.4
	baz=328						
NWF	**Wu-fen Shan**	**0.64**	**343**	*e*P	**Pn**	17 05 42.3	-0.9
	baz=336						
NWF				*e*S	**Sb**	17 05 50.5	+0.1
	baz=336						
WFSB	**Wu-fen Shan**	**0.64**	**343**	P	**Pn**	17 05 42.4	-0.7
	baz=336						
WFSB				S	**Sb**	17 05 50.6	+0.3
	baz=336						
NHDH	**Xindian Distri**	**0.66**	**321**	*e*P	**Pn**	17 05 44.0	+0.6
	baz=312						
NHDH				*e*S	**Sb**	17 05 50.8	+0.1
	baz=312						
FUSS	**Fushou**	**0.70**	**253**	P	**Pg**	**17 05 42.2**	**-0.2**
	baz=254						
FUSS				*e*S	**Sg**	17 05 51.1	-0.6
	baz=254						
TAP1	**Taipei**	**0.72**	**324**	*e*P	**Pn**	17 05 45.0	+0.8
	baz=326						
WHF	**Hehuan Shan**	**0.72**	**245**	P	**Pg**	17 05 42.3	-0.4
	baz=254						
WHF				*e*S	**Sg**	17 05 51.9	-0.4
	baz=254						
TAP	**Taipei**	**0.73**	**323**	*e*P	**Pg**	17 05 42.2	-0.5
	baz=315						
TAP				*e*S	**Sb**	17 05 53.4	+0.7
	baz=315						
TDCB	**Techi**	**0.78**	**255**	*e*P	**Pg**	17 05 43.6	-0.1
	baz=256						
TDCB				*e*S	**Sg**	17 05 53.5	-0.5
	baz=256						
YM01	**YM01**	**0.79**	**332**	*e*P	**Pn**	17 05 45.3	+0.1
	baz=340						
YM01				*e*S	**Sb**	17 05 55.2	+0.7
	baz=340						
YM10	**YM10**	**0.80**	**331**	*e*P	**Pn**	17 05 45.5	+0.1
	baz=340						
YM10				*e*S	**Sb**	17 05 55.4	+0.6
	baz=340						
YM11	**YM11**	**0.80**	**332**	*e*P	**Pn**	17 05 45.8	+0.4
	baz=334						
YM05	**YM05**	**0.81**	**332**	*e*P	**Pn**	17 05 45.5	+0.1
	baz=340						
YM05				*e*S	**Sb**	17 05 55.9	+0.9
	baz=340						
YM04	**YM04**	**0.81**	**330**	P	**Pn**	17 05 45.3	-0.1
	baz=338						
YM04				*e*S	**Sb**	17 05 55.4	+0.4
	baz=338						
ESL	**Shilin**	**0.81**	**219**	*e*P	**Pg**	17 05 43.8	-0.5
	baz=225						
YM08	**YM08**	**0.82**	**334**	*e*P	**Pn**	17 05 45.2	-0.3
	baz=336						
TWS1	**Kuangyinshan**	**0.83**	**322**	*e*P	**Pn**	17 05 46.7	+1.1
	baz=316						
TWS1				*e*S	**Sn**	17 05 58.3	+0.7
	baz=316						
YM03	**YM03**	**0.83**	**331**	*e*P	**Pn**	17 05 45.5	-0.3
	baz=339						
YM03				*e*S	**Sn**	17 05 57.2	-0.6
	baz=339						
CHGB	**Renai**	**0.84**	**242**	*e*P	**Pg**	17 05 44.5	-0.3
	baz=251						
CHGB				*e*S	**Sg**	17 05 56.2	+0.4
	baz=251						
ANP	**Anpu**	**0.84**	**330**	*e*P	**Pn**	17 05 45.8	-0.1
	baz=338						
ANP				*e*S	**Sn**	17 05 58.1	-0.1
	baz=338						
NTST	**Danshui**	**0.86**	**326**	*e*P	**Pn**	17 05 46.3	+0.2
	baz=326						
NTST				*e*S	**Sn**	17 05 58.1	-0.3
	baz=326						
JYNG	**Yonagunijimaku**	**0.88**	**90**	P	**Pn**	**17 05 46.2**	**-0.1**
JYNG				*e*S	**Sb**	**17 05 57.7**	**+0.8**
NCUH	**Zhongli**	**0.89**	**305**	*e*P	**Pn**	**17 05 47.1**	**+0.6**
	baz=307						
TWY	**Chenhua**	**0.89**	**337**	*e*P	**Pn**	**17 05 47.5**	**+1.0**
	baz=338						
TWY				*e*S	**Sb**	**17 05 58.1**	**+0.7**
	baz=338						
LIOB	**Emei**	**0.90**	**283**	*e*P	**Pn**	**17 05 47.1**	**+0.4**
	baz=284						
EGFH	**Guangfu**	**0.93**	**213**	*e*P	**Pb**	**17 05 46.6**	**+0.2**
	baz=224						
WHP	**Taichung City**	**0.96**	**260**	*e*P	**Pn**	**17 05 47.5**	**-0.1**
	baz=261						
WHP				*e*S	**Sb**	**17 05 59.3**	**-0.2**
	baz=261						
SBCB	**Hsinchu**	**0.97**	**291**	*e*P	**Pn**	**17 05 48.8**	**+1.2**
	baz=287						
VWDT	**VWDT**	**1.04**	**228**	*e*P	**Pb**	**17 05 48.4**	**+0.2**
	baz=234						
HGSD	**Ruisui**	**1.08**	**208**	*e*P	**Pg**	**17 05 49.5**	**+0.1**
	baz=208						
EHY	**Hungye**	**1.12**	**213**	*e*P	**Pb**	**17 05 49.6**	**0.0**
	baz=213						
SMLT	**Sun Moon Lake**	**1.14**	**240**	*e*P	**Pg**	**17 05 50.6**	**+0.1**
	baz=248						
SSLB	**Suanglung**	**1.15**	**235**	*e*P	**Pn**	**17 05 50.1**	**0.0**
	baz=244						
SSLB				*e*S	**Sb**	**17 06 05.0**	**+0.1**
	baz=244						
TYC	**Yuchr**	**1.17**	**242**	*e*P	**Pb**	**17 05 50.7**	**+0.3**
	baz=243						
YULB	**Yu-li**	**1.23**	**211**	*e*P	**Pn**	**17 05 50.9**	**-0.3**
	baz=212						
TWF1	**Yuli**	**1.26**	**210**	*e*P	**Pn**	**17 05 50.7**	**-1.0**
	baz=225						
WNT	**Mingjian**	**1.32**	**245**	*e*P	**Pg**	**17 05 54.8**	**+0.9**
	baz=240						
FULB	**Fuli**	**1.40**	**207**	*e*P	**Pn**	**17 05 53.1**	**-0.5**
	baz=224						
ALS	**Alishan**	**1.43**	**229**	*e*P	**Pb**	**17 05 55.6**	**+0.6**
	baz=220						
ALS				*e*S	**Sg**	**17 06 14.3**	**-0.3**
	baz=220						
CHN5	**Tsauling**	**1.47**	**235**	*e*P	**Pg**	**17 05 57.1**	**+0.4**
	baz=236						
WDLH	**Douliu**	**1.52**	**240**	*e*P	**Pg**	**17 05 58.2**	**+0.4**
	baz=242						
ELDTW	**Lidau**	**1.54**	**215**	*e*P	**Pb**	**17 05 56.5**	**-0.3**
	baz=203						
IRIF	**Iriomote-Funau**	**1.60**	**94**	P	**Pn**	**17 05 56.2**	**0.0**
IRIF				*e*S	**Sn**	**17 06 16.3**	**-0.2**
TPUB	**Ta-pu**	**1.69**	**228**	*e*P	**Pb**	**17 05 59.1**	**-0.2**
	baz=230						
STYT	**Tauyuan**	**1.71**	**221**	*e*P	**Pb**	**17 06 00.4**	**+0.8**
	baz=223						
WTP	**Ta-pu**	**1.74**	**227**	*e*P	**Pb**	**17 06 00.5**	**+0.3**
	baz=228						
TWK	**Hsinying**	**1.81**	**230**	*e*P	**Pb**	**17 06 01.2**	**-0.1**
	baz=232						
CHN1	**Nanshi**	**1.83**	**227**	*e*P	**Pb**	**17 06 02.7**	**+0.9**
	baz=229						
JKRS	**Kuro-shima**	**1.86**	**96**	P	**Pn**	**17 06 00.3**	**+0.5**
JKRS				*e*S	**Sn**	**17 06 23.6**	**+0.6**
JIJ	**Ishigaki jima**	**1.97**	**92**	P	**Pn**	**17 06 01.6**	**+0.3**
JIJ				S	**Sn**	**17 06 25.5**	**-0.3**
JISG	**Ishigakijimahi**	**2.12**	**86**	P	**Pn**	**17 06 03.5**	**+0.1**

*MAN **09** 17:25:56.9, 7°.34N×124°.84E, h4km, MS3.5*
*IDC **09** 17:25:57.6±1.4, 7°.03N×124°.72E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/50, mbtmp3.5/4, Error ellipse: s-maj=26.0km s-min=11.8km az=172.0*
ISC 09 17:25:57.4±1.2, **7°.34N**±0°.03×**124°.84E**±0°.04, **h9**km±10km, **n17**, σ**1°.45**/27, **mb3.6**/4, **2C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**0.41**	**143**	⇑*i* P	**Pg**	**17 26 06.2**	**+0.7**
KCP				*i* S	**Sb**	**17 26 13.1**	**-0.3**
DAV	**Davao City (W)**	**0.78**	**110**	Pg	**Pg**	**17 26 12.9**	**+0.5**
	465nm,0.3s,baz=289,slow=3.5,SNR=35						
DAV				Lg	Lg	17 26 26.5	
	523nm,0.3s,baz=145,slow=23,SNR=7.8						
SKMP	**Bagumbayan, Su**	**0.87**	**200**	*e*P	**Pg**	**17 26 12.2**	**-1.9**
SKMP				*e*S	**Sn**	**17 26 30.9**	**+2.2**
MATI	**Mati**	**1.46**	**105**	*e*P	**Pn**	**17 26 22.2**	**-1.8**
MATI				*e*S	**Sb**	**17 26 43.2**	**-0.3**
DDMP	**Don Marcelino,**	**1.50**	**145**	*e*P	**Pn**	**17 26 24.8**	**+0.2**
DDMP				*e*S	**Sg**	**17 26 47.2**	**+1.4**
PAGZ	**Pagadian**	**1.53**	**289**	*e*P	**Pn**	**17 26 24.4**	**-0.6**
PAGZ				*e*S	**Sb**	**17 26 45.8**	**+0.2**
BIP	**Bislig**	**1.65**	**58**	⇓*i* P	**Pn**	**17 26 25.6**	**-1.0**
BIP				*i* S	**Sg**	**17 26 52.0**	**+1.5**
TBP	**Tagbilaran**	**2.53**	**338**	*e*P	**Pn**	**17 26 39.5**	**+0.8**
MSLP	**Maasin**	**2.77**	**0**	*e*P	**Pn**	**17 26 42.3**	**+0.2**
MSLP				*e*S	**Sb**	**17 27 21.1**	**-0.3**
LLP	**Lapu-Lapu**	**3.08**	**344**	⇑*i* P	**Pb**	**17 26 50.6**	**-1.9**
LLP				*e*S	**Sn**	**17 27 20.5**	**-2.8**
CNOP	**Candoni, Negro**	**3.29**	**319**	*e*P	**Pn**	**17 26 49.8**	**+0.6**
CNOP				*e*S	**Sg**	**17 27 43.5**	**+0.2**
OCLP	**Ormoc**	**3.69**	**356**	*e*P	**Pn**	**17 26 55.8**	**+1.1**
OCLP				*e*S	**Sb**	**17 27 47.8**	**-0.1**
GUIM	**Jordan**	**3.95**	**326**	*e*P	**Pn**	**17 27 00.5**	**+2.2**
FITZ	**Fitzroy Crossi**	**25.29**	**178**	P	**P**	**17 31 23.4**	**-1.1**
	1.3nm,0.7s,baz=7.6,slow=15,SNR=5.7						
WRA	**Warramunga Arr**	**28.68**	**161**	P	**P**	**17 31 54.8**	**-0.2**
	0.5nm,0.7s,baz=333,slow=10,SNR=2.4						
ASAR	**Alice Springs**	**32.06**	**164**	P	**P**	**17 32 23.9**	**-1.1**
	0.3nm,0.5s,baz=340,slow=7.0,SNR=4.6						
MKAR	**Makanchi Array**	**53.54**	**325**	P	**P**	**17 35 21.6**	**+3.0**
	0.7nm,0.8s,baz=128,slow=7.9,SNR=6.6						

*JMA **09** 17:43:06.1, 35°.09N×138°.24E, h30km±1km, M3.7*
Broadband fault plane solution: P waves. NP1: φs262.00000°, δ27.00000°, λ152.00000°. NP2: φs17.00000°, δ78.00000°, λ66.00000°. Principal axes: T Plg51.0000°, Azm260.0000°; N Plg23.0000°, Azm22.0000°; P Plg29.0000°, Azm126.0000°;
JMA Felt II J1.
*NIED **09** 17:43:06.1, 35°.09N×138°.24E, h30km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.59; Mθθ-1.42; Mφφ-0.17; Mrθ1.34; Mθφ-1.30; Mφr4.06; Fault plane solution: Mo4.71000×10¹⁴ NP1:φs23.00000°, δ80.00000°, λ73.00000°. NP2:φs265.00000°, δ20.00000°, λ150.00000°.*
*IDC **09** 17:43:07.9±2.3, 35°.01N×138°.23E, h52km±21km, mb3.4/9, mb1 3.6/10, mb1mx3.4/46, mbtmp3.7/10, ML2.9/1, MS2.8/4, Ms1 2.9/4, ms1mx2.7/27 Error ellipse: s-maj=28.1km s-min=15.4km az=97.0*
ISC 09 17:43:05.6±0.8, **35°.07N**±0°.04×**138°.27E**±0°.04, **h31**km±5km, **n28**, σ**0°.57**/30, **mb3.6**/9, **5C-1D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHZ3	**Shizuoka 3**	**0.05**	**271**	P	**Pb**	**17 43 10.9**	**-0.1**
SHZ3				S	**Sb**	**17 43 14.5**	**-0.1**
JFNN	**Fujinakano**	**0.36**	**69**	⇑P	**Pn**	**17 43 14.4**	**-0.4**
JFNN				S	**Sn**	**17 43 20.6**	**-0.2**
JNY	**Yasuok**	**0.45**	**311**	⇓P	**Pb**	**17 43 15.0**	**-0.3**
JNY				S	**Sb**	**17 43 21.5**	**-0.5**
JYN	**Shimob**	**0.49**	**27**	⇑P	**Pb**	**17 43 16.1**	**+0.1**
JYN				S	**Sb**	**17 43 23.4**	**+0.4**
JIZS	**Izushimoda**	**0.61**	**125**	⇑P	**Pb**	**17 43 17.8**	**0.0**
JIZS				S	**Sn**	**17 43 26.5**	**-0.3**
JOD2	**Odawara 2**	**0.70**	**73**	⇑P	**Pb**	**17 43 19.3**	**-0.1**
JOD2				S	**Sn**	**17 43 29.0**	**-0.1**
TK04	**Tokai 4**	**0.75**	**206**	P	**Pn**	**17 43 20.7**	**+0.7**
JIM2	**Oshima 3**	**1.01**	**110**	P	**Pb**	**17 43 24.8**	**+0.1**
JRY	**Ryogami san**	**1.08**	**28**	⇑P	**Pb**	**17 43 25.6**	**-0.2**
TK02	**Tokai 2**	**1.19**	**201**	P	**Pn**	**17 43 25.8**	**-0.2**
TK02				X		17 43 42.0	
MJAR	**Matsushiro Arr**	**1.48**	**358**	P	**Pn**	**17 43 30.5**	**+0.4**
	6.5nm,0.3s,baz=187,slow=16,SNR=152						
MJAR				S	**Sb**	**17 43 51.8**	**+1.0**
	13nm,0.3s,baz=6.9,slow=18,SNR=7.1						
MJAR				LR	LR	17 44 26.2	
	comp=Z,98nm,19.2s,baz=185,slow=52						
MAT	**Matsushiro**	**1.48**	**358**	P	**Pb**	**17 43 31.8**	**-0.7**
MAT				S	**Sb**	**17 43 51.7**	**+0.8**
JNU	**Nakatsue**	**6.43**	**255**	P	**Pn**	**17 44 39.1**	**+0.8**
	0.3nm,0.3s,baz=106,slow=15,SNR=2.0						
JNU				LR	LR	17 47 07.4	
	comp=Z,106nm,19.6s,baz=46,slow=38						
KSRS	**Korea Array**	**8.69**	**289**	LR	LR	17 48 29.2	
	comp=Z,71nm,20.5s,baz=97,slow=37						
KLR	**Kul'dur**	**14.95**	**343**	LR	LR	17 51 18.4	
	comp=Z,25nm,18.4s,baz=152,slow=33						
PETK	**Petropavlovsk-**	**22.68**	**31**	P	**P**	**17 48 05.3**	**+1.0**
	1.4nm,0.8s,baz=212,slow=5.1,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**29.52**	**114**	T	T	18 19 33.6	
	baz=308,slow=75,SNR=3.5						
H11N1	**WAKE ISLAND Hy**	**29.52**	**114**	T	T	18 19 35.1	
	baz=308,slow=75,SNR=3.4						
H11N3	**WAKE ISLAND Hy**	**29.53**	**114**	T	T	18 19 36.2	
	baz=308,slow=75,SNR=3.0						
CMAR	**Chiang Mai Arr**	**38.53**	**255**	LR	LR	18 09 27.2	
	comp=Z,17nm,18.5s,baz=130,slow=41						
MKAR	**Makanchi Array**	**43.04**	**303**	P	**P**	**17 51 03.0**	**+0.6**
	0.4nm,0.6s,baz=90,slow=11,SNR=4.9						
ILAR	**Eielson Array**	**52.51**	**31**	P	**P**	**17 52 15.1**	**-0.3**
	0.4nm,0.7s,baz=265,slow=4.3,SNR=2.5						
WRA	**Warramunga Arr**	**54.83**	**185**	P	**P**	**17 52 32.3**	**-0.6**
	0.4nm,0.6s,baz=359,slow=7.5,SNR=6.4						
ASAR	**Alice Springs**	**58.56**	**185**	P	**P**	**17 52 58.6**	**-0.8**
	0.3nm,0.9s,baz=5.7,slow=11,SNR=1.5						
STKA	**Stephens Creek**	**66.66**	**177**	P	**P**	**17 53 54.0**	**+0.8**
	2.3nm,0.9s,baz=325,slow=19,SNR=4.5						
FINES	**FINESS Array B**	**69.35**	**332**	P	**P**	**17 54 09.8**	**0.0**
	0.8nm,0.8s,baz=78,slow=8.7,SNR=4.2						
KBZ	**Khabaz**	**70.23**	**310**	P	**P**	**17 54 15.1**	**-0.5**
	1.5nm,0.8s,baz=44,slow=2.6,SNR=4.6						
AKASG	**Malin Array Be**	**74.27**	**321**	P	**P**	**17 54 38.8**	**-0.8**
	0.3nm,0.4s,baz=52,slow=5.2,SNR=2.1						

*MDD **09** 17:58:35.7±0.5, 42°.83N×1°.27W, h0km, mbLg1.2/4, Error ellipse: s-maj=4.2km s-min=3.3km az=168.0, PRXIMO*
LDG 09 17:58:34.0±0.2, **43°.40N**±0°.94W, **h2**km, **Md1.2**/2, **Ml1.0**/1, **Error ellipse: s-maj=3.5km s-min=1.3km az=166.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.35**	**216**	*e*Pg	Pg	17 58 40.7	-0.1
SJPF				*e*Sg	Sg	17 58 45.7	+0.3
	7.4nm,0.2s						
SJPF	**Ste Jean**	**0.35**	**216**	Pg	Pg	17 58 40.7	-0.1
SJPF				Lg	Lg	17 58 45.7	
	3.7nm,0.2s						
ATE	**Arette**	**0.36**	**151**	Pg	Pn	17 58 45.0	-1.3

MLR				⇓S		Sn	18 03 55.5	-0.3		
GRER		0.41	119	⇑S		Sn	18 03 56.3	+0.6		
GRER		0.41	119	⇑S		Sn	18 03 56.3	+0.6		
ODBI	**Odobesti**	0.46	66	⇑P		Pn	18 03 41.0	0.0		
ODBI				⇓S		Sn	18 03 56.7	+0.5		
ODBI	**Odobesti**	0.46	66	⇑P		Sn	18 03 41.0	0.0		
ODBI				⇓S		Sn	18 03 56.7	+0.5		
ISR	**Istrita**	0.46	173	⇑P		Pn	18 03 41.0	-0.2		
ISR				⇑S		Sn	18 03 56.7	+0.3		
ISR	**Istrita**	0.46	173	⇑P		Pn	18 03 41.0	-0.2		
ISR				⇑S		Sn	18 03 56.7	+0.3		
PETR	**Petresti**	0.56	74	⇑S		Sn	18 03 57.3	+0.2		
PETR	**Petresti**	0.56	74	⇑S		Sn	18 03 57.3	+0.2		
SECR		0.61	208	⇑P		Pn	18 03 41.8	-0.1		
SECR		0.61	208	⇑P		Pn	18 03 41.8	-0.1		
OZUR		0.70	318	⇑P		Pn	18 03 42.7	+0.1		
OZUR				⇑S		Sn	18 03 57.8	-1.1		
OZUR		0.70	318	⇑P		Pn	18 03 42.7	+0.1		
OZUR				⇑S		Sn	18 03 57.8	-1.1		
PGOR	**Pogoanele**	0.76	151	⇑S		Sn	18 03 59.9	+0.4		
PGOR	**Pogoanele**	0.76	151	⇑S		Sn	18 03 59.9	+0.4		
GHRR		0.82	53	⇑S		Sn	18 04 00.6	+0.3		
GHRR		0.82	53	⇑S		Sn	18 04 00.6	+0.3		
TUDR		0.85	88	⇑P		Pn	18 03 43.4	-0.1		
TUDR				⇑S		Sn	18 03 59.7	-0.9		
TUDR		0.85	88	⇑P		Pn	18 03 43.4	-0.1		
TUDR				⇑S		Sn	18 03 59.7	-0.9		
DOPR	**Dopca**	0.85	298	⇑P		Pn	18 03 43.7	+0.1		
DOPR				⇑S		Sn	18 04 00.1	-0.7		
DOPR	**Dopca**	0.85	298	⇑P		Pn	18 03 43.7	+0.1		
DOPR				⇑S		Sn	18 04 00.1	-0.7		
SULR		0.91	189	⇑P		Pn	18 03 44.4	+0.3		
SULR				⇑S		Sn	18 04 01.9	+0.4		
SULR		0.91	189	⇑P		Pn	18 03 44.4	+0.3		
SULR				⇑S		Sn	18 04 01.9	+0.4		
TESR	**Tescani**	0.94	8	⇑P		Pn	18 03 44.8	+0.4		
TESR				⇑S		Sn	18 04 01.4	-0.8		
TESR	**Tescani**	0.94	8	⇑P		Pn	18 03 44.8	+0.4		
TESR				⇑S		Sn	18 04 01.4	-0.8		
VOIR		1.00	263	⇓P		Pn	18 03 45.4	+0.4		
VOIR				⇑S		Sn	18 04 02.4	-0.8		
VOIR		1.00	263	⇓P		Pn	18 03 45.4	+0.4		
VOIR				⇑S		Sn	18 04 02.4	-0.8		
VARL	**Varlezi**	1.02	71	⇑S		Sn	18 04 02.9	-0.4		
VARL	**Varlezi**	1.02	71	⇑S		Sn	18 04 02.9	-0.4		
BIR	**Birlad**	1.06	49	⇑P		Pn	18 03 46.1	+0.7		
BIR				⇓S		Sn	18 04 03.9	-0.2		
BIR	**Birlad**	1.06	49	⇑P		Pn	18 03 46.1	+0.7		
BIR				⇓S		Sn	18 04 03.9	-0.2		
LEHL	**Lehliu**	1.13	167	⇑P		Pn	18 03 46.8	+0.7		
LEHL				⇑S		Sn	18 04 04.9	-0.2		
LEHL	**Lehliu**	1.13	167	⇑P		Pn	18 03 46.8	+0.7		
LEHL				⇑S		Sn	18 04 04.9	-0.2		
GIUM	**Giurgiulesti**	1.23	94	⇑S		Sn	18 04 06.6	-0.1		
GIUM	**Giurgiulesti**	1.23	94	⇑S		Sn	18 04 06.6	-0.1		
CFR	**Carcaliu**	1.24	108	⇑P		Pn	18 03 47.4	+0.2		
CFR				⇑S		Sn	18 04 06.3	-0.7		
CFR	**Carcaliu**	1.24	108	⇑P		Pn	18 03 47.4	+0.2		
CFR				⇑S		Sn	18 04 06.3	-0.7		
STFAR	**Stefanesti-Arg**	1.28	237	⇑S		Sn	18 04 08.5	+0.7		
STFAR	**Stefanesti-Arg**	1.28	237	⇑S		Sn	18 04 08.5	+0.7		
ARR	**Arges**	1.30	261	⇓S		Sn	18 04 08.4	+0.1		
ARR	**Arges**	1.30	261	⇓S		Sn	18 04 08.4	+0.1		
HARR	**Harsova**	1.36	130	⇑P		Pn	18 03 48.8	+0.4		
HARR	**Harsova**	1.36	130	⇑P		Pn	18 03 48.8	+0.4		
SGRR	**Singureni**	1.40	195	⇑S		Sn	18 04 09.0	-0.9		
SGRR	**Singureni**	1.40	195	⇑S		Sn	18 04 09.0	-0.9		
VASR	**Vaslui**	1.41	40	⇑P		Pn	18 03 49.7	+0.9		
VASR				⇑S		Sn	18 04 09.3	-0.9		
VASR	**Vaslui**	1.41	40	⇑P		Pn	18 03 49.7	+0.9		
VASR				⇑S		Sn	18 04 09.3	-0.9		
HUMR	**Humele**	1.48	226	⇑S		Sn	18 04 10.8	-0.7		
HUMR	**Humele**	1.48	226	⇑S		Sn	18 04 10.8	-0.7		
TOPG	**Topolog**	1.52	117	⇑P		Pn	18 03 50.2	+0.2		
TOPG				⇑S		Sn	18 04 11.3	-0.9		
TOPG	**Topolog**	1.52	117	⇑P		Pn	18 03 50.2	+0.2		
TOPG				⇑S		Sn	18 04 11.3	-0.9		
TLBR	**Topalu**	1.52	132	⇑P		Pn	18 03 50.6	+0.5		
TLBR				⇑S		Sn	18 04 11.2	-1.0		
TLBR	**Topalu**	1.52	132	⇑P		Pn	18 03 50.6	+0.5		
TLBR				⇑S		Sn	18 04 11.2	-1.0		
COPA	**Copaceanca**	1.69	212	⇑S		Sn	18 04 14.7	-0.9		
COPA	**Copaceanca**	1.69	212	⇑S		Sn	18 04 14.7	-0.9		
TLCR		1.70	102	⇑P		Pn	18 03 52.5	+0.5		
TLCR				⇑S		Sn	18 04 15.0	-0.7		
TLCR		1.70	102	⇑P		Pn	18 03 52.5	+0.5		
TLCR				⇑S		Sn	18 04 15.0	-0.7		
TIRR	**Tirgusor**	1.78	128	⇑P		Pn	18 03 53.5	+0.5		
TIRR				⇑S		Sn	18 04 16.5	-0.8		
TIRR	**Tirgusor**	1.78	128	⇑P		Pn	18 03 53.5	+0.5		
TIRR				⇑S		Sn	18 04 16.5	-0.8		
RAZG	**Razgrad**	2.01	179	⇓P		Pn	18 03 56.2	+0.5		
RAZG	**Razgrad**	2.01	179	⇓P		Pn	18 03 56.2	+0.5		
MILM	**Milestii Mici**	2.11	50	Pn		Pn	18 03 57.7	+0.9		
MILM	**Milestii Mici**	2.11	50	⇓P		Pn	18 03 57.7	+0.9		
MILM				⇑S		Sn	18 04 23.7	-0.6		
MILM	**Milestii Mici**	2.11	50	⇓P		Pn	18 03 57.7	+0.9		
MILM				⇑S		Sn	18 04 23.7	-0.6		
KIS	**Kishinev**	2.16	48	⇑S		Sn	18 04 24.9	-0.6		
KIS	**Kishinev**	2.16	48	⇑S		Sn	18 04 24.9	-0.6		
SRE	**Strehaia**	2.48	250	⇑S		Sn	18 04 32.0	-0.4		
SRE	**Strehaia**	2.48	250	⇑S		Sn	18 04 32.0	-0.4		
SORM	**Soroca**	2.87	26	⇓P		Pn	18 04 05.7	-0.6		
SORM	**Soroca**	2.87	26	⇓P		Pn	18 04 05.7	-0.6		
NDNU3	**Rozkopintsy**	2.99	12	*i* Pn		Pn	18 04 08.6	+0.8		
NDNU3				*i* Sn		Sn	18 04 45.0	+1.0		
NDNU	**Novodnistrovsk**	3.08	11	*i* Pn		Pn	18 04 09.7	+0.7		

*IDC **09** 18:05:38.7±0.9,43°.74N×105°.42W,h0km,mb3.9/4, mb1 3.8/10,mb1mx3.6/45,mbtmp3.6/10,ML3.2/5,Error ellipse: s-maj=23.5km s-min=7.6km az=149.0*
*ANF **09** 18:05:40.5±0.3,43°.74N×105°.21W,ML3.7/14,Error ellipse: s-maj=4.9km s-min=3.5km az=123.0,Mining explosion.*
*NEIC **09** 18:05:40.3±1.0,43°.82N±0°.05×105°.23W±0°.05,h0km±1km, ML3.4/69,Error ellipse: s-maj=9.6km s-min=4.9km az=151.0*

ISC 09 18:05:40.0±0.6,**43°.76N**±0°.03×**105°.30W**±0°.04,**h0**km,**n106,** σ1℘**37**/116,**mb4.0/4,Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RSSD	**Black Hills**	0.98	68	P		**Pg**	18 05 58.1	-0.8
	baz=246							
RSSD	**Black Hills**	0.98	68	Pg		**Pg**	18 05 58.0	-0.8
K22A	**Casper**	1.43	219	P		**Pn**	18 06 06.7	-0.6
	baz=41,SNR=550							
K22A				S		**Sg**	18 06 27.8	+2.0
	baz=41							
K22A	**Casper**	1.43	219			**Pn**	18 06 06.7	-0.6
K22A				IAML			18 06 30.5	
	comp=E,529nm,0.3s							
K22A				IAML			18 06 32.2	
	comp=N,625nm,0.6s							
RWWY	**Rawlins**	2.50	215			**Pn**	18 06 24.1	+1.9
RWWY				IAML			18 07 01.3	
	comp=N,230nm,0.5s							
N23A	**Red Feather La**	2.90	190	P		**Pn**	18 06 29.1	+1.3
	baz=10,SNR=54							
N23A				S		**Sn**	18 07 06.8	+3.4
	baz=10							
N23A	**Red Feather La**	2.90	190	Pn		**Pn**	18 06 29.0	+1.3
N23A				IAML			18 07 12.0	
	comp=N,110nm,0.5s							
N23A				IAML			18 07 17.2	
	comp=E,91nm,0.5s							
LAO	**LASA Array**	3.00	348	P		**Pn**	18 06 28.8	0.0
	baz=166							
LAO				S		**Sn**	18 07 07.8	+2.2
	baz=166							
LAO	**LASA Array**	3.00	348			**Pn**	18 06 28.7	-0.1
LAO				IAML			18 07 17.4	
	comp=E,280nm,0.7s							
RLMT	**Red Lodge**	3.15	297	P		**Pn**	18 06 31.8	+0.7
	baz=114,SNR=46							
RLMT				S		**Sn**	18 07 11.9	+2.4
	baz=114							
RLMT	**Red Lodge**	3.15	297	Pn		**Pn**	18 06 31.6	+0.5
RLMT				IAML			18 07 25.2	
	comp=E,81nm,0.7s							
PD31	**Pinedale Array**	3.26	254			**Pn**	18 06 33.8	+1.1
PDAR	**Pinedale Array**	3.26	254	Pn		**Pn**	18 06 33.8	+1.1
	comp=E,7.0nm,0.3s,baz=64,slow=17,SNR=74							
PDAR				Pg		**Pb**	18 06 38.4	-0.6
	comp=E,10.0nm,0.3s,baz=72,slow=20,SNR=26							
PDAR				Lg		Lg	18 07 19.4	
	comp=E,15nm,0.3s,baz=68,slow=29,SNR=5.4							
BW06	**Boulder Array**	3.27	254	P		**Pn**	18 06 33.9	+1.2
	baz=72,SNR=57							
BW06				S		**Sb**	18 07 19.4	0.0
	baz=72							
BW06	**Boulder Array**	3.27	254			**Pn**	18 06 33.8	+1.1
BW06				IAML			18 07 26.7	
	comp=N,58nm,0.6s							
YNE	**Yellowstone No**	3.60	292			**Pn**	18 06 37.6	+0.3
YMP	**Mirror Lake Pl**	3.62	287			**Pn**	18 06 38.3	+0.6
OGNE	**Ogallala**	3.71	138	Pn		**Pn**	18 06 39.2	+0.5
GCMT	**Greycliff**	3.71	305			**Pn**	18 06 39.5	+0.7
LKWY	**Lake**	3.76	284			**Pn**	18 06 40.8	+1.4
LKWY				IAML			18 07 05.9	
	comp=N,67nm,0.5s							
LOHW	**Long Hollow**	3.85	270	Pn		**Pn**	18 06 42.0	+1.3
H17A	**Grant Village**	3.85	281			**Pn**	18 06 43.0	+2.2
H17A				IAML			18 07 51.9	
	comp=N,39nm,0.6s							
FLWY	**Flagg Ranch**	3.91	277			**Pn**	18 06 43.0	+1.4
FLWY				IAML			18 07 51.1	
	comp=N,72nm,2.2s							
FLWY				IAML			18 07 55.2	
	comp=N,52nm,2.7s							
ISCO	**Idaho Springs**	3.96	183	P		**Pn**	18 06 43.7	+1.4
	baz=4.2,SNR=7.9							
ISCO				Sb		**Sb**	18 07 43.4	+3.9
	baz=4.2							
ISCO	**Idaho Springs**	3.96	183	Pn		**Pn**	18 06 43.4	+1.1
SNOW	**Snow King Moun**	3.97	268			**Pn**	18 06 43.7	+1.3
SNOW				IAML			18 07 59.6	
	comp=N,39nm,0.9s							
SNOW				IAML			18 08 07.6	
	comp=N,37nm,1.4s							
YPP	**Pitchstone Pla**	4.00	279			**Pn**	18 06 43.9	+1.1
REDW	**Red Top Meadow**	4.05	266			**Pn**	18 06 45.0	+1.4
REDW				IAML			18 07 51.4	
	comp=N,60nm,1.2s							
REDW				IAML			18 08 07.7	
	comp=N,69nm,1.7s							
IMW	**Indian Meadow**	4.08	274	Pn		**Pn**	18 06 45.5	+1.6
IMW				IAML			18 07 18.5	
	comp=N,59nm,0.6s							
IMW				IAML			18 07 53.6	
	comp=N,36nm,0.5s							
TPAW	**Teton Pass**	4.11	268			**Pn**	18 06 45.2	+0.8
TPAW				IAML			18 08 07.4	
	comp=N,49nm,0.6s							
TPAW				IAML			18 08 10.2	
	comp=N,32nm,0.7s							
FXWY	**Fox Creek**	4.15	270			**Pn**	18 06 45.9	+1.0
YMR	**Madison River**	4.17	285			**Pn**	18 06 46.4	+1.2
O20A	**White River Ci**	4.23	212	P		**Pn**	18 06 47.5	+1.6
	baz=31,SNR=10							
O20A	**White River Ci**	4.23	212			**Pn**	18 06 47.4	+1.5
O20A				IAML			18 08 10.1	
	comp=N,60nm,2.3s							
O20A				IAML			18 08 51.1	
	comp=E,42nm,1.9s							
E28A	**Huff**	4.30	48			**Pn**	18 06 46.7	-0.1
YHB	**Horse Butte**	4.35	285			**Pn**	18 06 48.2	+0.6
AHID	**Auburn Hatcher**	4.35	259			**Pn**	18 06 49.8	+2.2
AHID				IAML			18 08 02.6	
	comp=N,65nm,1.9s							
AHID				IAML			18 08 05.6	
	comp=E,38nm,0.6s							
YHL	**Hebgen Lake**	4.36	287			**Pn**	18 06 48.1	+0.4
RDMU	**Red Mountain**	4.50	226			**Pn**	18 06 51.1	+1.6
QLMT	**Earthquake Lak**	4.53	286			**Pn**	18 06 50.5	+0.5
SUSD	**Miller**	4.62	79	Pb		**Pb**	18 07 02.2	+0.3
	baz=263							
DGMT	**Dagmar**	4.77	9	Pn		**Pn**	18 06 54.5	+1.3
	baz=189							
DGMT				Pb		**Pb**	18 07 05.4	+0.9
	baz=189							
DGMT				Sb		**Sb**	18 08 06.2	+3.7
	baz=189							
DGMT	**Dagmar**	4.77	9	Pn		**Pn**	18 06 54.3	+1.1
Q24A	**Divide**	4.79	179	Pb		**Pb**	18 07 04.8	-0.3
	baz=360							
BOZ	**Bozeman (W)**	4.87	294	P		**Pn**	18 06 55.1	+0.5
	baz=110							
BOZ	**Bozeman (W)**	4.87	294			**Pn**	18 06 54.7	0.0
BOZ				IAML			18 08 13.6	
	comp=E,18nm,0.6s							
HWUT	**Hardware Ranch**	5.09	247	Pn		**Pn**	18 06 57.6	-0.1
HWUT				IAML			18 08 27.9	
	comp=E,35nm,1.0s							
HWUT				IAML			18 08 28.2	
	comp=E,33nm,0.7s							
KSCO	**Kaye Shedlock'**	5.15	156	P		**Pn**	18 06 58.8	+0.3
	baz=338,SNR=6.5							
KSCO				S		**Sn**	18 07 57.0	-1.7
	baz=338							
KSCO	**Kaye Shedlock'**	5.15	156			**Pn**	18 06 58.8	+0.3
EGMT	**Eagleton**	5.28	325	P		**Pn**	18 07 01.0	+0.8
	baz=142							
EGMT	**Eagleton**	5.28	325	Pn		**Pn**	18 06 58.6	-1.6
HRY	**Holter Researc**	5.47	305			**Pn**	18 07 03.4	+0.5
LRM	**Limekiln Ridge**	5.49	295			**Pn**	18 07 03.5	+0.3
JLU	**Jordanelle**	5.55	237			**Pn**	18 07 04.8	+0.7
CTU	**Camp Tracy**	5.69	240			**Pn**	18 07 05.3	-0.6
MDND	**Maddock**	5.71	42	Pb		**Pb**	18 07 21.6	+1.2
	baz=226,SNR=5.1							
MDND				Sb		**Sb**	18 08 33.9	+4.5
	baz=226							
MDND	**Maddock**	5.71	42			**Pn**	18 07 05.3	-0.7
BGNE	**Belgrade**	5.78	112			**Pn**	18 07 06.4	-0.6
SPUT	**South Promonto**	5.82	248			**Pn**	18 07 08.7	+1.0
PV22	**Blue Mesa, Par**	5.84	208	Pn		**Pn**	18 07 08.7	+0.6
PV07	**Paradox Valley**	5.89	207			**Pn**	18 07 10.4	+1.8
PV21	**Cone Mtn., Par**	5.89	209			**Pn**	18 07 09.9	+1.2
P17A	**Butcher Ranch,**	5.91	225			**Pn**	18 07 10.2	+1.2
SDCO	**Great Sand Dun**	6.01	182			**Pn**	18 07 11.5	+1.0
PV04	**Paradox Valley**	6.01	208			**Pn**	18 07 11.9	+1.6
PV14	**Lion Creek, Pa**	6.07	209			**Pn**	18 07 12.0	+0.7
SRU	**San Rafael Swe**	6.08	222			**Pn**	18 07 11.9	+0.6
PV16	**Nyswonger Mesa**	6.09	208			**Pn**	18 07 12.8	+1.3
PV03	**Paradox Valley**	6.12	207			**Pn**	18 07 13.0	+1.2
S22A	**4UR Ranch, Cre**	6.12	191			**Pn**	18 07 12.7	+0.8
PV17	**East Wray Mesa**	6.13	208			**Pn**	18 07 13.7	+1.7
PV01	**Paradox Valley**	6.14	205			**Pn**	18 07 13.8	+1.7
PV18	**Skein Mesa, Pa**	6.15	208			**Pn**	18 07 13.7	+1.5
PV13	**Radium Mtn., P**	6.20	207			**Pn**	18 07 14.3	+1.4
TMUT	**Trail Mountain**	6.29	227			**Pn**	18 07 15.6	+1.4
ECSD	**EROS Data Cent**	6.29	87	P		**Pn**	18 07 13.6	-0.5
	baz=273							
ECSD	**EROS Data Cent**	6.29	87	Pn		**Pn**	18 07 13.8	-0.3
BGU	**Big Grassy Mou**	6.39	246	Pn		**Pn**	18 07 16.6	+1.1
Q16A	**Castle Valley**	6.55	224			**Pn**	18 07 18.5	+0.7
HLID	**Hailey**	6.61	271	P		**Pn**	18 07 21.1	+2.4
	baz=85							
DUG	**Dugway, Tooele**	6.63	240	P		**Pn**	18 07 19.5	+0.7
	baz=55,SNR=7.0							
T25A	**Trinidad**	6.65	174			**Pn**	18 07 18.4	-0.8
L34A	**Svendsen Farm,**	6.80	102			**Pn**	18 07 20.5	-0.5
MSO	**Missoula**	6.82	300	P		**Pn**	18 07 21.6	+0.2
	baz=114,SNR=5.8							
MSO	**Missoula**	6.82	300	Pn		**Pn**	18 07 21.1	-0.3
MTPU	**Mount Pierson**	7.73	225	Pn		**Pn**	18 07 35.4	+1.2
ELK	**Elko**	7.96	251	Pn		**Pn**	18 07 36.8	-0.4
	comp=E,0.2nm,0.3s,baz=66,slow=8.9,SNR=2.7							
ELK	**Elko**	7.96	251			**Pn**	18 07 38.1	+0.9
WALA	**Waterton Lakes**	7.97	315	Pn		**Pn**	18 07 36.5	-0.6
AGMN	**Agassiz Nation**	7.98	52	P		**Pn**	18 07 35.8	-1.4
	baz=238,SNR=6.6							
KSU1	**Kansas State U**	8.02	123			Pb	18 08 05.9	+6.2
PSUT	**Pine Spring**	8.30	234			**Pn**	18 07 43.6	+1.8
ULM	**Lac du Bonnet**	9.14	41	Pn		**Pn**	18 07 51.4	-1.6
	comp=E,1.7nm,0.3s,baz=227,slow=12,SNR=5.9							
ULM				Lg		Lg	18 10 20.9	
	comp=E,0.7nm,0.3s,baz=131,slow=22,SNR=1.5							
B35A	**Bob, Littlefor**	9.27	56	Pn		**Pn**	18 07 53.0	-1.8
R11A	**Troy Canyon, C**	9.46	239	P		**Pn**	18 07 59.2	+1.5
	baz=52							
NV11	**Mina Array Sit**	11.06	246			**Pn**	18 08 20.6	+1.1
NVAR	**Mina Array Bea**	11.16	246	Pn		**Pn**	18 08 21.4	+0.4
	comp=E,0.2nm,0.3s,baz=50,slow=12,SNR=6.1							
FFC	**Flin Flon**	11.19	10			**Pn**	18 08 18.8	-2.3
TXAR	**Lajitas Array**	14.46	174	Pn		**Pn**	18 09 05.5	-0.5
	comp=E,0.1nm,0.3s,baz=360,slow=9.9,SNR=1.6							
YKA	**Yellowknife Ar**	19.54	347	P		**P**	18 10 07.1	-1.7
	comp=E,0.1nm,0.3s,baz=160,slow=11,SNR=4.6							
ARCES	**ARCESS Array B**	61.40	18	P		**P**	18 15 56.0	-1.4
	comp=E,1.3nm,0.7s,baz=332,slow=7.2,SNR=6.6							
ARCES	**ARCESS Array B**	61.40	18	P		**P**	18 15 56.3	-1.1
FINES	**FINESS Array B**	68.02	23	P		**P**	18 16 39.6	-1.0
	comp=E,1.2nm,0.8s,baz=345,slow=10,SNR=2.6							
FINES	**FINESS Array B**	68.02	23	P		**P**	18 16 40.2	-0.4
ZALV	**Zalesovo Beam**	82.28	354	P		**P**	18 18 01.8	-1.2
	comp=E,0.4nm,0.4s,baz=11,slow=10,SNR=2.7							
MKAR	**Makanchi Array**	89.58	355	P		**P**	18 18 37.9	-1.4
	comp=E,0.3nm,0.6s,baz=359,slow=4.2,SNR=4.1							

*IDC **09** 18:36:53.0±1.1,16°.32N×120°.33E,h0km,mb3.6/10, mb1 3.7/10,mb1mx3.5/49,mbtmp3.6/10,MS3.1/4, Ms1 3.1/4,ms1mx2.7/39,Error ellipse: s-maj=37.7km s-min=19.4km az=78.0*
*MAN **09** 18:36:57.9,16°.41N×120°.21E,h12km,MS2.9*

ISC 09 18:36:57.2±1.7,**16°.35N**±0°.04×**120°.15E**±0°.08,**h26**km±13km, **n21,**σ1℘**51**/26,**mb3.6**/10,**1C,Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMPP	**San Manuel, Pa**	0.55	111	*e*P		**Pb**	18 37 08.3	0.0
SMPP				*e*S		**Sb**	18 37 15.9	+0.1
SCZP	**Santa Cruz**	0.61	202	*e*P		**Pn**	18 37 11.4	+1.2
SCZP				*e*S		**Sn**	18 37 21.7	+2.4
BALP	**Baler**	1.50	114	*e*P		**Pb**	18 37 23.6	-0.8
BALP				*e*S		**Sb**	18 37 43.8	+0.8
SIPP	**Brgy, Tapao**	1.59	11	*e*P		**Pn**	18 37 24.4	+0.7
SIPP				*e*S		**Sb**	18 37 46.9	+1.3
CAUP	**Cauayan**	1.71	70	*e*P		**Pb**	18 37 28.3	+0.3
CAUP				*e*S		**Sb**	18 37 52.5	+3.4
APYP	**Conner**	1.83	35	*e*P		**Pn**	18 37 27.1	+0.1
APYP				*e*S		**Sb**	18 37 51.3	-1.2
TGY	**Tagaytay City**	2.36	161	Pn		**Pb**	18 37 37.1	-2.0
	55nm,0.3s,baz=286,slow=4.5,SNR=8.4							
TGY				Sn		**Sb**	18 38 07.4	-0.4
	115nm,0.3s,baz=327,slow=17,SNR=5.9							
TGY				LR		LR	18 38 54.7	
	comp=Z,263nm,19.7s,baz=300,slow=53							
SGCP	**Mt. Cagua**	2.61	44	*e*P		**Pn**	18 37 39.2	+1.5
SGCP				*e*S		**Sb**	18 38 11.7	-3.3
DAV	**Davao City (W)**	10.64	149	LR		LR	18 44 37.1	
	comp=Z,82nm,20.8s,baz=326,slow=44							
JNU	**Nakatsue**	19.31	28	LR		LR	18 49 37.0	
	comp=Z,45nm,18.6s,baz=176,slow=40							
KSRS	**Korea Array**	22.12	17	P		**P**	18 41 50.6	0.0
	1.0nm,0.8s,baz=197,slow=11,SNR=2.8							
MJAR	**Matsushiro Arr**	25.72	35	P		**P**	18 42 25.0	-0.5
	1.0nm,0.8s,baz=224,slow=12,SNR=2.1							
SONM	**Songino Array**	33.38	343	P		**P**	18 43 34.5	+1.1
	0.4nm,0.5s,

JIJ				S		Sn	18 47 50.0	-0.7	
WHP	**Taichung City**	**1.55**	**254**	*e*P		**Pn**	**18 47 32.7**	**+0.4**	
	baz=254								
WHP				*e*S		Sn	18 47 53.1	+0.3	
	baz=254								
JISG	**Ishigakijimahi**	**1.58**	**94**	P		**Pn**	**18 47 32.5**	**0.0**	
JISG				S		Sn	18 47 52.7	-0.6	
HGSD	**Ruisui**	**1.60**	**222**	*e*P		**Pn**	**18 47 32.3**	**-0.5**	
	baz=221								
HGSD				*e*S		Sn	18 47 53.3	-0.5	
	baz=221								
VWDT	**VWDT**	**1.62**	**235**	*e*P		**Pn**	**18 47 33.6**	**+0.6**	
	baz=234								
VWDT				*e*S		Sn	18 47 54.5	+0.3	
	baz=234								
JTJ	**Tarama**	**1.93**	**91**	S		**Sn**	**18 48 00.9**	**-0.3**	

*DJA **09** 18:48:35.0±2.6,8˚S±4˚×11˚9E±˚, h29km±27km, M3.3/6, MLv3.3/6*
*IDC **09** 18:48:39.0±4.3,7˚.05S×118˚.78E, h162km±41km, mb3.4/2, mb1 3.2/6, mb1mx3.0/37, mbtmp3.6/6, MS3.1/1, Ms1 3.3/1, ms1mx2.5/24, Error ellipse: s-maj=89.6km s-min=21.2km az=60.0*
ISC 09 18:48:34.9±1.1, 7˚.79S±0˚.06×119˚.00E±0˚.05, h35km, n13, σ0§69/14, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.58**	**229**	P		**Pn**	**18 49 00.7**	**+0.2**
PLAI				S		Sn	18 49 19.8	0.0
WBSI	**Waikabubak, Su**	**1.88**	**168**	P		**Pn**	**18 49 05.0**	**+0.4**
WBSI				S		Sn	18 49 28.0	+0.9
TWSI	**Taliwang, Sumb**	**2.29**	**246**	P		**Pn**	**18 49 10.2**	**-0.1**
EDFI	**Ende, Flores**	**2.83**	**110**	P		**Pn**	**18 49 17.9**	**+0.1**
EDFI				S		Sn	18 49 50.5	-0.3
KAPI	**Kappang**	**2.86**	**15**	P		**Pn**	**18 49 18.0**	**-0.1**
	1.4nm,0.3s,baz=201,slow=4.7,SNR=21							
MMRI	**Maumere**	**3.32**	**105**	P		**Pn**	**18 49 24.2**	**-0.2**
BNSI	**Bone**	**3.55**	**18**	P		**Pn**	**18 49 28.2**	**+0.7**
BATI	**Baumata**	**5.20**	**118**	P		Pn	18 50 02.4	+12
	1.0nm,0.3s,baz=316,slow=22,SNR=1.1							
BATI				S		Sn	18 51 09.1	+20
	1.4nm,0.3s,baz=359,slow=15,SNR=1.7							
FITZ	**Fitzroy Crossi**	**12.12**	**148**	P		**P**	**18 51 35.7**	**-1.7**
	0.0nm,0.3s,baz=284,slow=8.3,SNR=2.0							
FITZ				S		Sn	18 54 00.8	+22
	0.1nm,0.3s,baz=43,slow=24,SNR=1.5							
WRA	**Warramunga Arr**	**19.16**	**131**	P		**P**	**18 52 56.3**	**+0.8**
	0.1nm,0.3s,baz=311,slow=10,SNR=1.9							
ASAR	**Alice Springs**	**21.30**	**139**	P		**P**	**18 53 19.4**	**+0.6**
	0.8nm,0.4s,baz=315,slow=8.8,SNR=32							
STKA	**Stephens Creek**	**31.89**	**142**	P		**P**	**18 54 57.2**	**+0.1**
	3.4nm,1.2s,baz=342,slow=14,SNR=1.2							
CMAR	**Chiang Mai Arr**	**32.74**	**323**	LR		LR	19 09 59.4	
	comp=Z,31nm,19.6s,baz=200,slow=40							

IDC 09 18:54:03.3±1.9, 2˚.57N×128˚.39E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/31, mbtmp3.5/5, Error ellipse: s-maj=103.4km s-min=25.7km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.71**	**187**	P		P	18 58 44.8	-0.6
	2.2nm,1.0s,baz=15,slow=12,SNR=1.5							
WRA	**Warramunga Arr**	**23.12**	**166**	P		P	18 59 11.4	+0.2
	0.7nm,0.5s,baz=346,slow=9.8,SNR=13							
ASAR	**Alice Springs**	**26.62**	**169**	P		P	18 59 42.5	-1.2
	0.6nm,1.0s,baz=339,slow=7.2,SNR=6.2							
STKA	**Stephens Creek**	**36.48**	**161**	P		P	19 01 10.1	-0.1
	1.2nm,0.5s,baz=328,slow=6.5,SNR=11							
MKAR	**Makanchi Array**	**59.45**	**325**	P		P	19 04 09.3	+1.3
	0.2nm,0.4s,baz=122,slow=8.7,SNR=1.7							

*KRNET **09** 18:56:00.3±0.1, 41˚.81N×72˚.35E, h12km, mb2.0*
*SOME **09** 18:56:00.9, 41˚.87N×72˚.33E, h0km*
*NNC **09** 18:56:04.9±1.7, 41˚.99N×72˚.25E, h0km, mb2.7, mpv2.9, Error ellipse: s-maj=19.1km s-min=6.8km az=172.0*
ISC 09 18:56:00.3±1.1, 41˚.81N±0˚.03×72˚.35E±0˚.02, h7km±12km, n22, σ0§64/41, 16C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.29**	**267**	⇑*i*P		**Pg**	**18 56 06.0**	**-0.1**
ARK	baz=63			⇑*i*S		Sg	18 56 09.8	-0.2
	baz=63							
ARSB	**Arslanbob**	**0.68**	**136**	⇑*i*P		**Pg**	**18 56 13.6**	**+0.2**
ARSB	baz=36			⇑*i*S		Sg	18 56 23.1	+0.9
	baz=36							
AML	**Almayashu**	**1.05**	**72**	⇑*i*P		**Pg**	**18 56 20.1**	**-0.4**
AML	baz=72			⇑*i*S		Sb	18 56 34.7	-0.4
	baz=72							
MRKS	**Merke**	**1.14**	**35**	*e*P		**Pg**	**18 56 23.0**	**+0.9**
MRKS	4.5nm,0.1s			*e*S		Sn	18 56 38.8	+0.3
	23nm,0.3s							
MRKS	**Merke**	**1.14**	**35**	P		**Pg**	**18 56 23.0**	**+0.9**
MRKS	4.5nm,0.1s			S		Sn	18 56 38.8	+0.3
	23nm,0.3s							
OHH	**Osh**	**1.33**	**166**	⇑*i*P		**Pb**	**18 56 25.5**	**-0.1**
OHH	baz=66			⇑*i*S		Sg	18 56 43.3	+0.3
	baz=66							
EKS2	**Erkin-Say**	**1.36**	**51**	⇓*i*P		**Pb**	**18 56 25.7**	**-0.4**
EKS2	baz=51			⇓*i*S		Sg	18 56 44.5	+0.6
	baz=51							
ARLS	**Aral**	**1.47**	**87**	⇓*i*P		**Pb**	**18 56 27.9**	**-0.2**
ARLS	baz=87			⇓*i*S		Sg	18 56 48.2	+0.5
	baz=87							
UCH	**Uchtor**	**1.66**	**75**	⇑*i*P		**Pb**	**18 56 31.4**	**-0.1**
UCH	baz=75			⇑*i*S		Sg	18 56 54.0	+0.2
	baz=75							
IUG	**Iuzhnay**	**1.76**	**282**	*e*P		**Pg**	**18 56 35.0**	**+0.9**
IUG	2.7nm,0.1s			*e*S		Sg	18 56 57.7	+0.7
	13nm,0.3s							
IUG	**Iuzhnay**	**1.76**	**282**	P		**Pg**	**18 56 35.0**	**+0.9**
IUG	2.7nm,0.1s			S		Sg	18 56 57.7	+0.7
	13nm,0.3s							
AAK	**Ala-Archa**	**1.79**	**62**	⇑*i*P		**Pb**	**18 56 33.6**	**+0.1**
AAK	baz=62			⇑*i*S		Sg	18 56 57.8	-0.1
	baz=62							
KK31	**Karatay Array**	**1.88**	**314**	Pn		**Pg**	**18 56 35.4**	**-0.9**
	0.7nm,0.3s,baz=131,slow=15,SNR=32							
KK31				⇓Sn		Sg	18 56 59.6	-1.0
	1.4nm,0.3s,baz=132,slow=28							
BTK	**Batken**	**2.10**	**214**	⇑*e*P		**Pb**	**18 56 38.5**	**-0.3**
BTK	baz=14			⇑*i*S		Sg	18 57 06.4	-1.5
	baz=14							
KZA	**Kyzart**	**2.18**	**82**	⇓*i*P		**Pb**	**18 56 39.9**	**-0.3**
KZA	baz=82			⇓*i*S		Sb	18 57 08.4	+0.8
	baz=82							
BRLS	**Borolday**	**2.23**	**304**	*e*P		**Pg**	**18 56 42.9**	**-0.1**
BRLS	1.7nm,0.2s			*e*S		Sg	18 57 11.8	0.0
	9.4nm,0.3s							
BRLS	**Borolday**	**2.23**	**304**	Pg		**Pg**	**18 56 42.9**	**-0.1**
BRLS	1.7nm,0.2s			Lg		Lg	18 57 11.8	
	9.4nm,0.3s							
TKM2	**Tokmak 2**	**2.65**	**64**	⇑Pn		**Pg**	**18 56 49.8**	**-1.2**
TKM2	1.8nm,1.0s			⇑Sn		Sg	18 57 26.0	+0.7
	4.5nm,0.6s							
DGS	**Degeres**	**2.90**	**59**	*e*P		**Pg**	**18 56 55.2**	**-0.7**
DGS	0.8nm,0.3s			*e*S		Sg	18 57 33.6	+0.1
	4.9nm,0.6s							
DGS	**Degeres**	**2.90**	**59**	Pg		**Pg**	**18 56 55.2**	**-0.7**
DGS	0.8nm,0.3s			Lg		Lg	18 57 33.6	
	4.9nm,0.6s							
KST	**Kastek**	**2.94**	**64**	*e*P		**Pg**	**18 56 56.0**	**-0.7**
	1.4nm,0.1s							
KST				*e*S		Sg	18 57 34.8	0.0
	2.5nm,0.4s							
KST	**Kastek**	**2.94**	**64**	Pg		**Pg**	**18 56 56.0**	**-0.7**
	1.4nm,0.1s							
KST				Lg		Lg	18 57 34.8	
	2.5nm,0.4s							

*IDC **09** 19:16:58.3±2.9, 20˚.89S×174˚.21W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/26, mbtmp3.6/3, Error ellipse: s-maj=188.9km s-min=28.3km az=152.0*
ISC 09 19:17:04.6±3.6, 20˚.S±2˚×174˚.6W±0˚.9, h35km, n7, σ0§42/9, mb3.6/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.70**	**256**	P		**P**	**19 25 38.4**	**+0.2**
	0.7nm,1.0s,baz=91,slow=7.4,SNR=6.3							
ASAR				PcP		PcP	19 27 07.0	-0.3
	0.3nm,0.8s,baz=104,slow=3.9,SNR=1.6							
WRA	**Warramunga Arr**	**47.80**	**261**	P		**P**	**19 25 39.1**	**+0.1**
	0.3nm,0.5s,baz=99,slow=4.4,SNR=14							
WRA				PcP		PcP	19 27 08.3	+0.6
	0.6nm,0.9s,baz=98,slow=3.5,SNR=1.5							
NVAR	**Mina Array Bea**	**78.61**	**42**	P		**P**	**19 29 03.5**	**+0.4**
	0.8nm,0.7s,baz=227,slow=9.0,SNR=7.6							
MKAR	**Makanchi Array**	**113.27**	**313**	PKP		**PKiKP**	**19 35 38.6**	**0.0**
	0.2nm,0.7s,baz=89,slow=2.0,SNR=1.8							
AKASG	**Malin Array Be**	**144.17**	**334**	PKPbc		**PKPdf**	**19 36 36.0**	**-0.6**
	1.6nm,0.5s,baz=40,slow=4.3,SNR=14							
BRTR	**Keskin Array B**	**148.90**	**315**	PKPbc		**PKiKP**	**19 36 50.1**	**-0.3**
	0.4nm,0.5s,baz=157,slow=3.7,SNR=3.5							
GERES	**GERESS Array B**	**150.60**	**349**	PKPbc		**PKiKP**	**19 36 53.4**	**-0.2**
	0.2nm,0.6s,baz=35,slow=3.6,SNR=4.5							

*MOS **09** 20:00:42.4±0.0, 42˚.26N×45˚.98E, h24km, MPVA3.0*
*TIF **09** 20:00:42.5, 42˚.15N×45˚.94E, h25km±1km*
*DDA **09** 20:00:42.4, 42˚.38N×45˚.70E, h9km±2km, ML1.3*
*DRS **09** 20:00:43.2±0.0, 42˚.17N×45˚.82E, h17km*
ISC 09 20:00:42.5±1.2, 42˚.24N±0˚.03×45˚.92E±0˚.02, h7km±10km, n18, σ1§16/34, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.47**	**149**	P		**Pg**	**20 00 51.4**	**-0.3**
LGD				S		**Sg**	**20 00 57.5**	**-0.4**
BTLR	**Botlikh**	**0.48**	**28**	*i* Pg		**Pb**	**20 00 53.1**	**-0.3**
BTLR				*e*Sg		**Sb**	**20 01 00.4**	**-0.3**
XNZR	**Khunzakh**	**0.66**	**63**	*e*Pg		**Pg**	**20 00 55.4**	**+0.2**
XNZR				*i* Sg		**Sb**	**20 01 05.5**	**-0.4**
GNBR	**Gunib**	**0.79**	**79**	*e*Pg		**Pb**	**20 00 58.2**	**-0.5**
GNBR				*e*Sg		**Sb**	**20 01 09.2**	**-0.5**
DDFL	**Dedoflistskaro**	**0.81**	**169**	*i* P		**Pn**	**20 01 01.1**	**+0.7**
DDFL				*i* S		**Sn**	**20 01 16.0**	**+3.2**
DDFL	**Dedoflistskaro**	**0.81**	**169**	P		**Pn**	**20 01 00.5**	**0.0**
DDFL				S		**Sn**	**20 01 16.1**	**+3.2**
BTNK	**Botanikuri**	**1.00**	**237**	*i* P		**Pb**	**20 01 01.1**	**-1.1**
BTNK				*i* S		**Sb**	**20 01 15.1**	**-0.6**
BTNK				IAML			20 01 17.0	
	comp=E,20nm,0.4s							
BTNK				IAML			20 01 19.0	
	comp=N,29nm,0.1s							
BTNK	**Botanikuri**	**1.00**	**237**	P		**Pb**	**20 01 01.2**	**-1.1**
BTNK				S		**Sb**	**20 01 15.2**	**-0.5**
TBLG	**Delisi**	**1.02**	**240**	*i* P		**Pb**	**20 01 01.6**	**-0.9**
TBLG				IAML			20 01 15.0	
	comp=N,5.3nm,0.4s							
TBLG				*i* S		**Sb**	**20 01 15.3**	**-0.8**
TBLG				IAML			20 01 19.0	
	comp=E,6.7nm,0.8s							
TBLG	**Delisi**	**1.02**	**240**	P		**Pb**	**20 01 01.6**	**-0.9**
TBLG				S		**Sb**	**20 01 15.4**	**-0.7**
DBC	**Dubki**	**1.03**	**41**	*i* Pg		**Pn**	**20 01 02.8**	**-0.7**
DBC				*e*Sg		**Sn**	**20 01 17.2**	**-1.0**
PNSH	**Pansheti**	**1.04**	**293**	P		**Pb**	**20 01 01.6**	**-1.4**
LACR	**Lac**	**1.33**	**297**	*e*Pg		**Pg**	**20 01 09.3**	**+1.2**
LACR				*i* Sg		**Sg**	**20 01 27.3**	**+2.0**
TRLG	**Trialeti**	**1.53**	**243**	P		**Pn**	**20 01 09.8**	**-0.6**
TRLG				S		**Sn**	**20 01 30.0**	**-0.6**
DMNI	**Dmanisi**	**1.58**	**235**	P		**Pn**	**20 01 10.3**	**-0.8**
DMNI				S		**Sn**	**20 01 30.9**	**-1.0**
KORR	**Kora**	**1.60**	**302**	*e*Pg		**Pn**	**20 01 13.0**	**+0.5**
KORR				*i* Sg		**Sg**	**20 01 34.6**	**+0.6**
BKRG	**Bakuriani**	**1.85**	**256**	P		**Pn**	**20 01 15.5**	**+0.7**
LSNR	**Lesken**	**1.86**	**305**	*e*Pg		**Pb**	**20 01 16.7**	**-0.1**
LSNR				*i* Sg		**Sg**	**20 01 41.5**	**-0.6**

*ROM **09** 20:07:36.9±0.2, 43˚.553N±0˚.009×13˚.94E±0˚.01, h5km, ML2.6/14, Error ellipse: s-maj=1.2km s-min=0.8km az=236.0*
*PRU **09** 20:07:41.1±0.0, 43˚.52N×14˚.10E, h15km*
ISC 09 20:07:40.6±0.8, 43˚.46N±0˚.02×13˚.74E±0˚.02, h12km±5km, n65, σ1§28/71, 1C, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PP3	**Marolino**	**0.13**	**231**	P		**Pg**	**20 07 43.2**	**-0.6**
AOI	**Ancona**	**0.14**	**312**	⇑P		**Pg**	**20 07 42.7**	**-1.3**
AOI				S		**Sg**	**20 07 46.1**	**-0.4**
AOI				AML		AML		
	comp=N,3395μm,0.3s							
AOI				AML		AML		
	comp=E,3095μm,0.8s							
CIMA	**Civitanova Mar**	**0.16**	**200**	P		**Pg**	**20 07 44.2**	**0.0**
CIMA				S		**Sb**	**20 07 49.4**	**+2.6**
PCRO	**Pietralacroce**	**0.21**	**314**	P		**Pg**	**20 07 44.1**	**-1.1**
PCRO				S		**Sg**	**20 07 48.6**	**+0.2**
PCRO				AML		AML		
	comp=E,3075μm,0.8s							
PCRO				AML		AML		
	comp=N,5035μm,1.0s							
PCRO				AML		AML		
	comp=E,3075μm,0.8s							
PCRO				AML		AML		
	comp=N,5035μm,1.0s							
PCRO				AML		AML		
	comp=N,5040μm,1.0s							
CADA	**Capodarco di F**	**0.26**	**177**	P		**Pg**	**20 07 45.9**	**-0.1**
MNTP	**Montappone**	**0.38**	**212**	P		**Pg**	**20 07 48.0**	**-0.1**
CING	**Cingoli**	**0.41**	**259**	P		**Pg**	**20 07 48.2**	**-0.5**
CING				AML		AML		
	comp=E,386μm,0.7s							
CING				AML		AML		
	comp=N,424μm,0.8s							
GUMA	**Gualdo di Mace**	**0.42**	**160**	P		**Pb**	**20 07 50.1**	**+0.1**
SENI	**Senigallia**	**0.45**	**304**	P		**Pg**	**20 07 48.7**	**-0.7**
SENI				AML		AML		
	comp=E,611μm,1.0s							
SENI				AML		AML		
	comp=N,877μm,0.9s							
EL6	**Elcito**	**0.48**	**255**	P		**Pg**	**20 07 49.6**	**-0.5**
EL6				AML		AML		
	comp=E,717μm,0.5s							
EL6				AML		AML		
	comp=N,1174μm,1.2s							
EL6				AML		AML		
	comp=N,1184μm,1.2s							
EL6				AML		AML		
	comp=E,716μm,0.5s							
EL6				AML		AML		
	comp=N,1167μm,1.2s							
OFFI	**Offida**	**0.52**	**185**	AML		AML		
	comp=N,1275μm,0.8s							
OFFI				AML		AML		
	comp=E,1164μm,0.5s							
CSP1	**Cessapalombo**	**0.54**	**227**	AML		AML		
	comp=E,418μm,0.9s							
CSP1				AML		AML		
	comp=N,634μm,1.5s							
COR1	**Corinaldo**	**0.57**	**288**	P		**Pg**	**20 07 51.6**	**0.0**
ARVD	**Arcevia**	**0.59**	**274**	P		**Pg**	**20 07 51.1**	**-0.9**
ARVD				S		**Sb**	**20 08 02.5**	**+1.5**
ARVD				AML		AML		
	comp=N,145μm,0.7s							
ARVD				AML		AML		
	comp=N,146μm,0.7s							
ARVD				AML		AML		
	comp=E,176μm,0.8s							
SNTG	**Esanatoglia**	**0.62**	**251**	P		**Pg**	**20 07 52.4**	**-0.2**
SNTG				S		**Sn**	**20 08 04.4**	**-0.7**
SNTG				AML		AML		
	comp=E,174μm,0.7s							
SNTG				AML		AML		
	comp=N,330μm,0.8s							
SNTG				AML		AML		
	comp=E,174μm,0.7s							
FOSV	**Fossato di Vic**	**0.73**	**258**	AML		AML		
	comp=E,198μm,0.3s							
FOSV				AML		AML		
	comp=N,278μm,0.9s							
FOSV				AML		AML		
	comp=E,197μm,0.3s							
CESI	**CESI - Serrava**	**0.76**	**234**	P		**Pg**	**20 07 54.8**	**-0.5**
CESI				S		**Sn**	**20 08 08.3**	**-0.3**
CESI				AML		AML		
	comp=N,158μm,0.6s							
CESI				AML		AML		
	comp=E,182μm,1.0s							
NRCA	**Norcia**	**0.78**	**217**	AML		AML		
	comp=E,542μm,1.3s							
NRCA				AML		AML		
	comp=E,543μm,1.3s							
NRCA				AML		AML		
	comp=N,460μm,0.4s							
ATCC	**AVT- Casa Cast**	**0.85**	**252**	P		**Pg**	**20 07 56.2**	**-0.8**
ATCC				S		**Sn**	**20 08 10.9**	**+0.1**
ATCC				AML		AML		
	comp=E,378μm,0.7s							
ATCC				AML		AML		
	comp=E,377μm,0.7s							
ATCC				AML		AML		
	comp=N,410μm,1.0s							
ATFO	**Monte Foce - G**	**0.86**	**264**	P		**Pg**	**20 07 56.6**	**-0.6**
ATFO				AML		AML		
	comp=E,268μm,0.7s							
ATFO				AML		AML		
	comp=N,366μm,0.9s							
PIEI	**Pieia**	**0.88**	**276**	P		**Pg**	**20 07 56.3**	**-1.3**
PIEI				AML		AML		
	comp=E,182μm,0.4s							
PIEI				AML		AML		
	comp=N,124μm,1.3s							
ASSB	**Assisi San Ben**	**0.90**	**243**	P		**Pg**	**20 07 56.8**	**-1.0**
ASSB				S		**Sn**	**20 08 12.1**	**+0.2**
ASSB				AML		AML		
	comp=E,249μm,0.8s							
ASSB				AML		AML		
	comp=N,431μm,0.3s							
MURB	**Monte Urbino**	**0.91**	**258**	P		**Pg**	**20 07 57.4**	**-0.7**
MURB				AML		AML		
	comp=E,964μm,0.3s							
MURB				AML		AML		
	comp=N,772μm,1.5s							
MURB				AML		AML		
	comp=N,679μm,0.3s							
MURB				AML		AML		
	comp=E,859μm,0.3s							
PE3	**Peglio**	**0.94**	**285**	AML		AML		
	comp=N,1130μm,0.7s							
PE3				AML		AML		
	comp=E,504μm,0.8s							
CAMP	**Campotosto**	**0.95**	**195**	P		**Pg**	**20 07 58.1**	**-0.9**
ATVO	**AVT- Monte Val**	**0.98**	**266**	P		**Pb**	**20 07 58.5**	**-0.9**
ATVO				AML		AML		
	comp=N,176μm,0.9s							
ATVO				AML		AML		
	comp=E,148μm,0.8s							
ATVO				AML		AML		
	comp=E,140μm,1.0s							
LNSS	**Leonessa**	**1.00**	**211**	P		**Pb**	**20 07 58.3**	**-1.5**
LNSS				AML		AML		
	comp=N,336μm,0.5s							
LNSS				AML		AML		
	comp=E,540μm,0.5s							
LNSS				AML		AML		
	comp=E,540μm,0.5s							
RM33	**Pellescritta (**	**1.02**	**202**	AML		AML		
	comp=E,403μm,0.8s							
RM33				AML		AML		
	comp=E,404μm,0.8s							
RM33				AML		AML		
	comp=N,443μm,0.8s							
RM33				AML		AML		
	comp=N,444μm,0.8s							
ATTE	**AVT- Monte Tez**	**1.05**	**256**	P		**Pb**	**20 07 59.7**	**-1.0**
ATTE				AML		AML		
	comp=E,186μm,0.9s							
ATTE				AML		AML		
	comp=N,264μm,1.0s							
VCEL	**Villa Celiera**	**1.06**	**176**	AML		AML		
	comp=N,637μm,0.7s							
VCEL				AML		AML		
	comp=E,648μm,0.6s							
VCEL				AML		AML		
	comp=E,648μm,0.6s							
VCEL				AML		AML		
	comp=N,638μm,0.7s							
MOMA	**Monte Martano**	**1.08**	**233**	AML		AML		
	comp=E,216μm,1.0s							
MOMA				AML		AML		
	comp=E,265μm,0.9s							
MOMA				AML		AML		
	comp=N,628μm,1.2s							
MOMA				AML		AML		
	comp=N,236μm,1.1s							
DUGI	**Dugi Otok**	**1.09**	**60**	*e*Pg		**Pb**	**20 07 59.8**	**-1.6**
DUGI				Sg		**Sb**	**20 08 16.0**	**+0.4**
BADI	**Badiali**	**1.09**	**273**	P		**Pb**	**20 08 00.9**	**-0.5**
PARC	**Parchiule**	**1.11**	**280**	AML		AML		
	comp=N,150μm,0.6s							
PARC				AML		AML		
	comp=E,150μm,1.3s							
CESX	**Cesi**	**1.20**	**226**	P		**Pn**	**20 08 02.3**	**-0.9**
CESX				AML		AML		
	comp=E,415μm,0.7s							
CESX				AML		AML		
	comp=N,245μm,0.7s							
CAFI	**Castiglion Fio**	**1.30**	**265**	AML		AML		
	comp=E,97μm,1.2s							
CAFI				AML		AML		
	comp=N,171μm,0.8s							
CAFI				AML		AML		
	comp=E,97μm,1.2s							
CAFI				AML		AML		
	comp=N,172μm,0.8s							
MGAB	**Montegabbione**	**1.31**	**246**	AML		AML		
	comp=E,280μm,0.6s							
MGAB				AML		AML		
	comp=E,271μm,0.6s							
MGAB				AML		AML		
	comp=N,206μm,0.9s							
MGAB				AML		AML		
	comp=N,218μm,0.9s							
NVLJ	**Novalja**	**1.37**	**36**	*e*Pg		**Pn**	**20 08 03.8**	**-1.7**
NVLJ				Sg		**Sn**	**20 08 23.8**	**+0.1**
ZIRJ	**Zirje**	**1.40**	**81**	*e*Pg		**Pn**	**20 08 04.9**	**-0.9**
ZIRJ				Sg		**Sn**	**20 08 24.1**	**-0.1**
INTR	**Introdacqua**	**1.45**	**175**	AML		AML		
	comp=N,466μm,0.7s							
INTR				AML		AML		
	comp=N,514μm,0.7s							
INTR				AML		AML		
	comp=E,468μm,0.9s							
MORI	**Morici**	**1.48**	**73**	*e*Pn		**Pn**	**20 08 06.8**	**-0.3**
MORI				Sg		**Sb**	**20 08 28.4**	**+1.6**
UDBI	**Udbina**	**1.81**	**53**	*e*Pn		**Pn**	**20 08 13.0**	**+1.3**
UDBI				Sn		**Sb**	**20 08 37.7**	**+1.4**
RIV	**Rijeka**	**1.94**	**16**	*e*Pn		**Pn**	**20 08 12.3**	**-1.1**
RIV				Sn		**Sn**	**20 08 37.8**	**+0.1**
HVAR	**Hvar**	**1.99**	**97**	*e*Pn		**Pn**	**20 08 13.1**	**-1.0**
HVAR				Sn		**Sn**	**20 08 39.2**	**+0.2**
MSAG	**Monte S. Angel**	**2.37**	**137**	P		**Pn**	**20 08 17.6**	**-1.6**
MSAG				AML		AML		
	comp=E,76μm,0.6s							
MSAG				AML		AML		
	comp=N,136μm,0.6s							
MAKA	**Makarska**	**2.40**	**93**	*e*Pn		**Pn**	**20 08 19.0**	**-0.6**
MAKA				Sn		**Sn**	**20 08 49.4**	**+0.6**
RICI	**Ricice**	**2.47**	**88**	*e*Pn		**Pn**	**20 08 19.6**	**-1.0**
RICI				Sn		**Sn**	**20 08 52.7**	**+2.0**
PAOL	**Paolisi**	**2.50**	**166**	AML		AML		
	comp=N,32μm,1.0s							
PAOL				AML		AML		
	comp=E,29μm,1.4s							
LJU	**Ljubljana**	**2.65**	**12**	AML		AML		
	comp=E,70μm,0.7s							
LJU				AML		AML		
	comp=N,108μm,0

CTI	**Castel Tesino**	**2.99**	**331**	AML	AML			
	comp=E,60µm,0.2s							
CTI				AML	AML			
	comp=N,74µm,0.6s							
OBKA	**Obir**	**3.10**	**10**	*i* Pn	**Pn**	**20 08 30.0**	**+0.6**	
	comp=N,0.9nm,0.2s							
OBKA				Sg	**Sb**	**20 09 18.3**	**+4.7**	
	comp=N,12nm,0.6s							
MYKA	**Terra Mystica**	**3.17**	**359**	*i* Pn	**Pn**	**20 08 30.0**	**-0.4**	
	comp=N,0.5nm,0.2s							
MYKA				*e*Sg	**Sg**	**20 09 23.2**	**+0.7**	
	comp=N,1.3nm,0.3s							
DBRK	**Dubrovnik**	**3.32**	**102**	*e*Pn	**Pn**	**20 08 33.0**	**+0.7**	
ABTA	**Abfaltersbach**	**3.40**	**346**	*i* Pn	**Pn**	**20 08 33.7**	**+0.1**	
	comp=N,0.7nm,0.2s,SNR=8.2							
KOSI	**Kohlern**	**3.44**	**332**	AML	AML			
	comp=N,47µm,0.7s							
KOSI				AML	AML			
	comp=E,59µm,0.8s							
RISI	**Rein**	**3.68**	**342**	AML	AML			
	comp=N,59µm,0.3s							
RISI				AML	AML			
	comp=E,63µm,0.4s							
ABSI	**Aberstueckl**	**3.69**	**333**	AML	AML			
	comp=E,70µm,0.7s							
ABSI				AML	AML			
	comp=N,94µm,0.6s							
WTTA	**Wattenberg**	**4.09**	**339**	*i* Pn	**Pn**	**20 08 44.2**	**+1.2**	
	comp=N,0.7nm,0.1s,SNR=5.0							
WTTA				*e*Sn	**Sn**	**20 09 28.7**	**-2.1**	
	comp=N,2.6nm,0.3s							
FETA	**Feichten**	**4.15**	**330**	*i* Pn	**Pn**	**20 08 45.1**	**+1.2**	
	comp=N,0.2nm,0.1s							
SQTA	**Sankt Quirin**	**4.17**	**335**	*i* Pn	**Pn**	**20 08 45.8**	**+1.7**	
	comp=N,1.3nm,0.2s							
SQTA				*i* Sn	**Sn**	**20 09 33.5**	**+0.7**	
	comp=N,4.6nm,0.4s							
WATA	**Walderalm**	**4.17**	**339**	*i* Pn	**Pn**	**20 08 45.7**	**+1.5**	
	comp=N,2.1nm,0.2s,SNR=9.7							
WATA				*e*Sn	**Sn**	**20 09 33.9**	**+1.1**	
	comp=N,1.8nm,0.2s							
MOTA	**Moosalm**	**4.31**	**335**	*e*Pn	**Pn**	**20 08 47.3**	**+1.2**	
	comp=N,0.3nm,0.1s							
MOTA				*i* Sn	**Sn**	**20 09 36.9**	**+0.6**	
	comp=N,2.6nm,0.4s							
RETA	**Reutte**	**4.54**	**334**	*i* Pn	**Pn**	**20 08 51.2**	**+2.0**	
	comp=N,0.9nm,0.1s,SNR=5.5							
DAVA	**Damuels**	**4.70**	**326**	*e*Sn	**Sn**	**20 09 45.9**	**0.0**	
	comp=N,4.2nm,0.3s							
KHC	**Kasperske Hory**	**5.68**	**359**	*e*PN	**Pn**	**20 09 03.5**	**-1.2**	
KHC				*e*SN	**Sn**	**20 10 05.8**	**-4.0**	

*IDC **09** 20:17:58.1±5.2,4.°80S×153.°64E,h118^{km}±33^{km},mb3.3/4, mb1 3.6/5,mb1mx3.4/37,mbtmp3.8/5, Error ellipse: s-maj=57.1km s-min=20.6km az=99.0*

ISC 09 20:17:56.3±1.7,4.°8S±0.°1×153.°8E±0.°2,h105^{km},n6, σ0^{s}52/8,mb3.4/4,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.82**	**286**	P	**Pn**	**20 18 26.9**	**+0.1**
	31nm,0.3s,baz=84,slow=2.9,SNR=37						
KRVT				S	**Sn**	**20 18 50.1**	**+0.1**
	53nm,0.3s,baz=90,slow=20,SNR=7.2						
PMG	**Port Moresby**	**8.01**	**235**	P	**Pn**	**20 19 50.7**	**+0.7**
	4.3nm,0.3s,baz=34,slow=9.7,SNR=9.8						
PMG				S	**Sn**	**20 21 18.3**	**-0.6**
	1.4nm,0.3s,baz=18,slow=19,SNR=1.5						
WRA	**Warramunga Arr**	**24.18**	**230**	P	**P**	**20 23 03.1**	**0.0**
	2.5nm,0.8s,baz=54,slow=9.8,SNR=15						
ASAR	**Alice Springs**	**26.82**	**224**	P	**P**	**20 23 26.4**	**-0.6**
	0.9nm,0.7s,baz=53,slow=8.9,SNR=13						
SONM	**Songino Array**	**66.85**	**327**	P	**P**	**20 28 37.0**	**-0.1**
	0.5nm,0.9s,baz=133,slow=6.3,SNR=2.8						
MKAR	**Makanchi Array**	**80.97**	**319**	P	**P**	**20 29 59.5**	**+0.1**
	0.5nm,0.8s,baz=104,slow=6.1,SNR=3.7						

*NNC **09** 20:19:25.8±13.0,37.°78N×71.°48E,h0^{km},mb4.1,mpv3.8, Error ellipse: s-maj=111.3km s-min=100.8km az=26.0*

ISC 09 20:19:28.3±4.8,37.°6N±0.°3×71.°8E±0.°1,h35^{km},n10, σ1^{s}02/12,3C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**4.76**	**344**	Pg	**Pn**	**20 20 39.0**	**+1.4**
	4.3nm,0.1s						
IUG				Lg	Lg	20 21 34.1	
	15nm,0.3s						
AML	**Almayashu**	**4.79**	**18**	P	**Pn**	**20 20 39.0**	**+0.7**
	SNR=29						
UCH	**Uchtor**	**5.11**	**24**	P	**Pn**	**20 20 42.7**	**-0.1**
	SNR=14						
EKS2	**Erkin-Say**	**5.31**	**16**	P	**Pn**	**20 20 46.3**	**+1.1**
	SNR=8.5						
AAK	**Ala-Archa**	**5.47**	**22**	P	**Pn**	**20 20 48.3**	**+0.7**
	SNR=9.1						
AAK	**Ala-Archa**	**5.47**	**22**	⇑P	**Pn**	**20 20 48.1**	**+0.6**
	6.7nm,0.5s						
AAK				⇑S	**Sn**	**20 21 49.8**	**+0.4**
	4.9nm,0.5s						
KK31	**Karatay Array**	**5.60**	**351**	P	**Pn**	**20 20 47.5**	**-1.7**
	4.0nm,0.3s,baz=182,slow=15,SNR=97						
KK31				⇑S	**Sn**	**20 21 51.8**	**-0.6**
	2.6nm,0.4s,baz=187,slow=28						
CHMS	**Chumysh**	**5.88**	**22**	P	**Pn**	**20 20 53.3**	**+0.3**
	SNR=7.8						
TKM2	**Tokmak 2**	**6.09**	**28**	⇓P	**Pn**	**20 20 55.5**	**-0.6**
	2.9nm,0.7s						
KRBS	**Karabastau**	**6.80**	**25**	Pg	**Pn**	**20 21 04.6**	**-1.1**
	1.8nm,0.4s						
KRBS				Lg	Lg	20 22 14.8	
	1.1nm,0.6s						

*NEIC **09** 20:25:44.0±1.4,3.°07S±0.°07×139.°63E±0.°06,h71^{km}±7^{km}, mb4.7/45, Error ellipse: s-maj=11.0km s-min=8.4km az=163.0*

*IDC **09** 20:25:44.5±1.0,3.°07S×139.°63E,h75^{km}±11^{km},mb3.8/15, mb1 4.0/20,mb1mx4.0/29,mbtmp4.2/20,MS3.5/2, Ms1 3.5/2,ms1mx2.9/31,Error ellipse: s-maj=13.1km s-min=10.7km az=96.0*

*DJA **09** 20:25:46.3±0.3,3.°5S±4.°×14.°0E±°,h87^{km}±5^{km},M4.6/14, mB5.2/3,mb4.5/14,MLv4.6/7,Mw(mB)4.6/3,Mwp5.8/1*

ISC 09 20:25:46.5±0.4,3.°09S±0.°05×139.°67E±0.°05,h100^{km},n92, σ1^{s}45/93,mb4.4/29,1C-1D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.70**	**45**	P	**Pn**	**20 26 01.6**	**-2.3**
JAY	**Jayapura**	**1.18**	**61**	P	**Pn**	**20 26 05.6**	**-3.3**
	93nm,0.3s,baz=236,slow=12,SNR=743						
JAY				S	**Sn**	**20 26 21.9**	**-4.0**
	249nm,0.3s,baz=162,slow=20,SNR=11						
JAY				LR	LR	20 26 39.4	
	comp=Z,607nm,18.1s,baz=167,slow=46						
JAY	**Jayapura**	**1.18**	**61**	P	**Pn**	**20 26 06.4**	**-2.6**
WAMI	**Wamena**	**1.24**	**230**	P	**Pn**	**20 26 10.7**	**+1.1**
SMPI	**Sarmi**	**1.45**	**319**	P	**Pn**	**20 26 11.8**	**-0.3**
MMPI	**Merauke**	**5.39**	**172**	P	**Pn**	**20 27 05.2**	**+0.7**
	6.8nm13µm661nm,0.7s						
FAKI	**Fak Fak**	**7.41**	**271**	P	**Pn**	**20 27 31.6**	**-0.4**
	0.3nm42nm,1.6s						
FAKI	**Fak Fak**	**7.41**	**271**	Pn	**Pn**	**20 27 30.6**	**-1.4**
SIJI	**Sorong**	**8.68**	**285**	P	**Pn**	**20 27 47.7**	**-1.6**
	2.2nm,0.3s,baz=73,slow=19,SNR=12						
SIJI				S	**Sn**	**20 29 22.0**	**-3.6**
	0.3nm,0.3s,baz=178,slow=23,SNR=1.7						
PMG	**Port Moresby**	**9.74**	**130**	P	**Pn**	**20 28 03.9**	**+0.2**
	1.2nm,0.3s,baz=238,slow=15,SNR=2.1						
PMG				S	**Sn**	**20 29 47.9**	**-3.3**
	1.2nm,0.3s,baz=206,slow=20,SNR=1.3						
PMG	**Port Moresby**	**9.74**	**130**	Pn	**Pn**	**20 28 02.8**	**-0.8**
COEN	**Coen**	**11.34**	**162**	Pn	**Pn**	**20 28 23.2**	**-2.2**
MTN	**Manton Dam**	**12.86**	**221**	Pn	**Pn**	**20 28 43.1**	**-2.4**
TNTI	**Ternate**	**12.88**	**287**	Pn	**Pn**	**20 28 43.4**	**-2.5**
KNRA	**Kununurra**	**16.49**	**220**		**Pn**	**20 29 31.0**	**-0.9**
KNRA				IAmb	IAmb	20 29 48.5	
	comp=Z,32nm,0.5s						
SOEI	**Soe**	**16.67**	**246**		**Pn**	**20 29 33.8**	**-0.5**
SOEI				IAmb	IAmb	20 29 52.1	
	comp=Z,32nm,0.7s						
GUMO	**Guam**	**17.35**	**17**		**P**	**20 29 41.3**	**-1.1**
WB0	**Warramunga Arr**	**17.36**	**197**	P	**P**	**20 29 40.5**	**-1.9**
WB0				IAmb	IAmb	20 29 56.6	
	comp=Z,16nm,0.6s						
BATI	**Baumata**	**17.39**	**245**	P	**P**	**20 29 42.0**	**-0.9**
	comp=Z,4.8nm,0.3s,baz=199,slow=4.8,SNR=7.4						
BATI	**Baumata**	**17.39**	**245**	P	**Pn**	**20 29 43.3**	**+0.3**
	comp=Z,25nm,0.8s						
WR0	**Warramunga Arr**	**17.50**	**196**	P	**P**	**20 29 42.3**	**-1.7**
WR0				IAmb	IAmb	20 29 57.2	
	comp=Z,22nm,0.7s						
WB2	**Warramunga Arr**	**17.54**	**197**	P	**P**	**20 29 43.3**	**-1.1**
WB2				IAmb	IAmb	20 29 46.9	
	comp=Z,20nm,0.7s						
WRA	**Warramunga Arr**	**17.54**	**197**	P	**P**	**20 29 43.0**	**-1.5**
	comp=Z,3.7nm,0.3s,baz=20,slow=11,SNR=61						
WRA				S	Sn	20 32 47.4	-13
	comp=Z,2.8nm,0.3s,baz=14,slow=21,SNR=7.1						
WRA	**Warramunga Arr**	**17.54**	**197**	P	**P**	**20 29 42.6**	**-1.9**
CTA	**Charters Tower**	**18.08**	**160**	P	**P**	**20 29 50.9**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=344,slow=13,SNR=6.9						
CTAO	**Charters Tower**	**18.08**	**160**	P	**P**	**20 29 50.9**	**+0.5**
MMRI	**Maumere**	**18.19**	**252**	P	**P**	**20 29 51.3**	**-0.3**
MMRI				IAmb	IAmb	20 29 56.2	
	comp=Z,82nm,1.5s						
FITZ	**Fitzroy Crossi**	**20.29**	**222**	P	**P**	**20 30 13.7**	**-0.7**
	comp=Z,15nm,0.7s,baz=42,slow=10,SNR=34						
FITZ				S	**S**	**20 33 52.7**	**-3.8**
	comp=Z,28nm,0.8s,baz=82,slow=12,SNR=11						
FITZ	**Fitzroy Crossi**	**20.29**	**222**	P	**P**	**20 30 13.9**	**-0.4**
HNR	**Honiara**	**21.11**	**108**	P	**P**	**20 30 23.0**	**-0.3**
AS31	**Alice Springs**	**21.20**	**195**	P	**P**	**20 30 24.4**	**+0.1**
ASAR	**Alice Springs**	**21.20**	**195**	P	**P**	**20 30 24.6**	**+0.3**
	comp=Z,9.5nm,0.5s,baz=27,slow=10,SNR=147						
ASAR				S	**S**	**20 34 11.9**	**-2.6**
	comp=Z,5.8nm,0.8s,baz=18,slow=25,SNR=5.9						
ASAR	**Alice Springs**	**21.20**	**195**	P	**P**	**20 30 23.9**	**-0.3**
MYLDM	**Lahad Datu**	**22.69**	**291**	P	**P**	**20 30 40.9**	**+1.0**
EIDS	**Eidsvold**	**24.73**	**155**	P	**P**	**20 31 01.0**	**+2.4**
EIDS				IAmb	IAmb	20 31 02.6	
	comp=Z,35nm,0.8s						
KKM	**Kota Kinabalu**	**25.12**	**291**	P	**P**	**20 31 02.4**	**0.0**
KKM				IAmb	IAmb	20 31 12.1	
	comp=Z,24nm,1.1s						
JAGI	**Jajag, Banyuwa**	**25.93**	**257**	P	**P**	**20 31 11.3**	**+1.6**
JAGI				IAmb	IAmb	20 31 26.0	
	comp=Z,46nm,1.2s						
STKA	**Stephens Creek**	**28.70**	**177**	P	**P**	**20 31 35.1**	**+0.9**
	comp=Z,2.6nm,0.5s,baz=354,slow=8.9,SNR=13						
STKA				LR	LR	20 44 14.0	
	comp=Z,140nm,20.5s,baz=211,slow=39						
STKA	**Stephens Creek**	**28.70**	**177**	P	**P**	**20 31 35.2**	**+1.0**
ARMA	**Armidale**	**29.45**	**159**	P	**P**	**20 31 42.1**	**+1.2**
ARMA				IAmb	IAmb	20 31 43.6	
	comp=Z,13nm,1.1s						
BBOO	**Buckleboo**	**29.76**	**186**	P	**P**	**20 31 44.1**	**+0.5**
BBOO				IAmb	IAmb	20 31 44.3	
	comp=Z,25nm,1.4s						
CAN	**Canberra**	**33.22**	**166**	P	**P**	**20 32 16.3**	**+2.3**
CAN				IAmb	IAmb	20 32 17.0	
	comp=Z,14nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**34.17**	**50**	T	T	21 07 31.8	
	baz=229						
H11S2	**WAKE ISLAND Hy**	**34.19**	**50**	T	T	21 07 32.4	
	baz=229						
H11S1	**WAKE ISLAND Hy**	**34.19**	**50**	T	T	21 07 32.4	
	baz=229						
MORW	**Morawa**	**34.23**	**219**	P	**P**	**20 32 23.2**	**+0.3**
TOO	**Toolangi**	**34.73**	**172**	P	**P**	**20 32 29.7**	**+2.7**
TOO				IAmb	IAmb	20 32 30.6	
	comp=Z,8.8nm,0.6s						
NWAO	**Narrogin (SRO)**	**36.37**	**213**	P	**P**	**20 32 40.7**	**-0.4**
JNU	**Nakatsue**	**36.96**	**348**	P	**P**	**20 32 46.0**	**-0.1**
IPM	**Ipoh**	**39.34**	**281**	P	**P**	**20 33 05.6**	**-0.8**
IPM				IAmb	IAmb	20 33 23.4	
	comp=Z,27nm,1.5s						
MJAR	**Matsushiro Arr**	**39.45**	**358**	P	**P**	**20 33 07.0**	**0.0**
	comp=Z,1.3nm,0.8s,baz=158,slow=13,SNR=1.0						
MJAR	**Matsushiro Arr**	**39.45**	**358**	P	**P**	**20 33 06.9**	**0.0**
MAJO	**Matsushiro**	**39.45**	**358**	P	**P**	**20 33 06.6**	**-0.4**
MAJO				IAmb	IAmb	20 33 11.5	
	comp=Z,11nm,1.2s						
TAU	**Tasmania Unive**	**40.23**	**171**	P	**P**	**20 33 15.5**	**+2.1**
KSRS	**Korea Array**	**41.79**	**346**	P	**P**	**20 33 26.2**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=164,slow=8.0,SNR=5.0						
GSI	**Gunungsitoli**	**42.30**	**275**	P	**P**	**20 33 30.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**45.45**	**300**	P	**P**	**20 33 56.1**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=120,slow=6.6,SNR=8.2						
CMAR	**Chiang Mai Arr**	**45.45**	**300**	P	**P**	**20 33 55.6**	**-0.3**
USRK	**Ussuriysk Ar.**	**47.58**	**353**	P	**P**	**20 34 13.0**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=198,slow=9.1,SNR=3.0						
USRK	**Ussuriysk Ar.**	**47.58**	**353**	P	**P**	**20 34 12.8**	**+0.8**
TUWZ	**Tuamarina**	**49.02**	**146**	P	**P**	**20 34 23.7**	**+0.4**
BKZ	**Black Stump Fm**	**49.08**	**142**	P	**P**	**20 34 24.9**	**+1.1**
RPZ	**Rata Peaks**	**49.08**	**150**	P	**P**	**20 34 23.8**	**+0.1**
LBZ	**Lake Benmore**	**49.15**	**151**	P	**P**	**20 34 25.0**	**+0.8**
SHL	**Shillong**	**54.34**	**305**	P	**P**	**20 35 03.2**	**0.0**
SHL				IAmb	IAmb	20 35 04.3	
	comp=Z,7.8nm,0.6s						
PETK	**Petropavlovsk-**	**58.01**	**13**	P	**P**	**20 35 29.9**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=152,slow=4.1,SNR=2.6						
SONM	**Songino Array**	**58.47**	**334**	P	**P**	**20 35 33.0**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=155,slow=8.1,SNR=3.6						
SONM	**Songino Array**	**58.47**	**334**	P	**P**	**20 35 32.6**	**+0.4**
YAK	**Yakutsk**	**65.39**	**355**	P	**P**	**20 36 18.9**	**+0.9**
YAK				IAmb	IAmb	20 36 19.4	
	comp=Z,5.8nm,0.7s						
MK31	**Makanchi Array**	**70.67**	**322**	P	**P**	**20 36 52.0**	**+0.5**
MKAR	**Makanchi Array**	**70.67**	**322**	P	**P**	**20 36 52.1**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=103,slow=8.5,SNR=28						
MKAR	**Makanchi Array**	**70.67**	**322**	P	**P**	**20 36 51.8**	**+0.3**
MAKZ	**Makanchi**	**70.87**	**322**	P	**P**	**20 36 53.3**	**+0.6**
MAKZ				IAmb	IAmb	20 36 53.7	
	comp=Z,4.1nm,0.5s						
NIL	**Nilore**	**72.32**	**307**	P	**P**	**20 37 02.6**	**+0.9**
NIL				IAmb	IAmb	20 37 03.3	
	comp=Z,11nm,0.7s						
ZALV	**Zalesovo Beam**	**72.74**	**330**	P	**P**	**20 37 03.3**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=110,slow=5.0,SNR=6.1						
ZALV	**Zalesovo Beam**	**72.74**	**330**	P	**P**	**20 37 03.1**	**-0.6**
KURK	**Kurchatov**	**74.58**	**325**	P	**P**	**20 37 15.1**	**+0.6**
VNDA	**Vanda**	**75.32**	**175**	P	**P**	**20 37 19.3**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=327,slow=5.9,SNR=15						
VNDA	**Vanda**	**75.32**	**175**	P	**P**	**20 37 19.5**	**+1.2**
CHGR	**Chuyangaron**	**76.85**	**311**	P	**P**	**20 37 28.3**	**+0.4**
CHGR				IAmb	IAmb	20 37 29.1	
	comp=Z,6.2nm,0.7s						
KKAR	**Karatay Array**	**77.07**	**315**	P	**P**	**20 37 29.5**	**+0.6**
BRVK	**Borovoye**	**80.24**	**325**	P	**P**	**20 37 46.6**	**+0.5**
MAW	**Mawson**	**82.14**	**202**	P	**P**	**20 37 57.2**	**+1.3**
	comp=Z,2.6nm,0.9s,baz=154,slow=3.2,SNR=4.3						
MAW	**Mawson**	**82.14**	**202**	P	**P**	**20 37 57.1**	**+1.3**
GEYT	**Alibeck**	**85.22**	**308**	P	**P**	**20 38 13.0**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=184,slow=2.3,SNR=1.9						
GEYT	**Alibeck**	**85.22**	**308**	P	**P**	**20 38 13.0**	**+0.7**
ILAR	**Eielson Array**	**85.78**	**24**	P	**P**	**20 38 14.0**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=256,slow=4.6,SNR=6.8						
QSPA	**South Pole Qui**	**86.86**	**180**	P	**P**	**20 38 20.1**	**+0.2**
QSPA				IAmb	IAmb	20 38 25.1	
	comp=Z,3.6nm,1.1s						
SYO	**Syowa Base**	**90.75**	**201**	⇑*e*P	**P**	**20 38 37.6**	**-0.3**
SYO	**Syowa Base**	**90.75**	**201**	⇓*e*PcP	**PcP**	**20 38 42.4**	**+3.5**
YKA	**Yellowknife Ar**	**99.97**	**27**	LR	LR	21 22 16.1	
	comp=Z,16nm,19.9s,baz=6.0,slow=34						
LPAZ	**La Paz**	**146.45**	**126**	PKPbc	**PKPab**	**20 45 18.9**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=208,slow=1.4,SNR=8.2						

*IDC **09** 20:30:26.8±6.4,16.°27N×101.°73W,h0^{km},mb3.6/2, mb1 4.0/4,mb1mx3.6/33,mbtmp3.5/4,ML3.3/1,MS2.6/1, Ms1 2.6/1,ms1mx2.3/33,Error ellipse: s-maj=126.2km s-min=39.5km az=21.0*

*NEIC **09** 20:30:36.5±1.7,17.°5N±0.°1×101.°2W±0.°1,h16^{km}±1.3^{km}, Error ellipse: s-maj=23.8km s-min=10.0km az=220.0*

*MEX **09** 20:30:38.2±2.2,17.°55N×101.°25W,h20^{km}±20^{km},MD4.2*

ISC 09 20:30:36.1±1.0,17.°53N±0.°04×101.°20W±0.°03,h15^{km}±8^{km}, n49,σ1^{s}66/72,mb3.8/6,2C,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.26**	**286**	*i*P	**Pg**	**20 30 41.9**	**+0.2**
	baz=106,slow=16						
ZIIG				*i* S	**Sg**	**20 30 46.3**	**+0.8**
CAIG	**El Cayaco**	**1.02**	**118**	⇑*e*P	**Pg**	**20 30 54.2**	**-1.6**
	baz=304,slow=11						
CAIG				*e*S	**Sb**	**20 31 08.0**	**-0.7**
ARIG	**Puente Sto Nin**	**1.10**	**48**	*e*P	**Pn**	**20 30 56.9**	**-0.2**
ARIG				*e*S	**Sn**	**20 31 12.6**	**+0.4**
ACP2	**Acapulco**	**1.42**	**117**	*e*P	**Pn**	**20 31 00.6**	**-0.8**
ACP2				*e*S	**Sb**	**20 31 18.5**	**-1.8**
PLIG	**Platanillo**	**1.83**	**62**	*e*P	**Pn**	**20 31 06.8**	**-0.4**
PLIG				*i* S	**Sn**	**20 31 28.2**	**-2.0**
URUA	**Uruapan**	**2.05**	**336**	*e*P	**Pn**	**20 31 11.0**	**+0.7**
URUA				*i* S	**Sn**	**20 31 34.4**	**-1.4**
MOIG	**Morelia**	**2.13**	**0**	*i* P	**Pn**	**20 31 10.2**	**-1.2**
MOIG				*e*S	**Sn**	**20 31 35.0**	**-2.9**
MOIG	**Morelia**	**2.13**	**0**	Pn	**Pb**	**20 31 12.8**	**-1.8**
CRIG	**Cruz Grande**	**2.13**	**111**	*e*P	**Pn**	**20 31 09.9**	**-1.3**
CRIG				*i* S	**Sn**	**20 31 36.1**	**-1.5**
MAVM	**Malinalco, Edo**	**2.15**	**49**	*e*P	**Pn**	**20 31 10.8**	**-1.0**
MAVM				*i* S	**Sn**	**20 31 36.2**	**-2.2**
MMIG	**Aquila**	**2.17**	**291**	*e*P	**Pn**	**20 31 09.3**	**-2.5**
MMIG				*i* S	**Sn**	**20 31 34.6**	**-3.9**
TOVM	**TOLUCA**	**2.26**	**40**	*e*P	**Pn**	**20 31 12.5**	**-0.9**
TOVM				*i* S	**Sn**	**20 31 39.7**	**-1.6**
YAIG	**Yautepec**	**2.42**	**57**	*e*P	**Pn**	**20 31 14.6**	**-0.8**
YAIG				*i* S	**Sn**	**20 31 43.2**	**-1.7**
TLIG	**Tlapa**	**2.52**	**89**	*e*P	**Pn**	**20 31 15.8**	**-0.9**
TLIG				*e*S	**Sn**	**20 31 46.0**	**-1.2**
TLIG	**Tlapa**	**2.52**	**89**		**Pn**	**20 31 17.2**	**+0.5**
HMTT	**Tlapaneco**	**2.54**	**84**	*i* P	**Pn**	**20 31 18.2**	**+1.3**
HMTT				*i* S	**Sb**	**20 31 51.4**	**-1.2**
ATVM	**ATLACOMULCO**	**2.57**	**30**	*e*P	**Pn**	**20 31 16.8**	**-0.7**
ATVM				*e*S	**Sn**	**20 31 46.7**	**-1.9**
UNM	**Universidad Na**	**2.62**	**47**	Pn	**Pb**	**20 31 21.2**	**-1.9**
AMVM	**AMECAMECA**	**2.79**	**55**	*i* P	**Pn**	**20 31 20.0**	**-0.6**
AMVM				*i* S	**Sn**	**20 31 52.6**	**-1.7**
COIG	**Colima**	**2.87**	**305**	*e*P	**Pn**	**20 31 21.1**	**-0.4**
COIG				*e*S	**Sn**	**20 31 52.6**	**-3.3**
PPM	**Popocatepetl**	**2.88**	**58**	*e*P	**Pn**	**20 31 21.9**	**-0.2**
PPM				*e*S	**Sn**	**20 31 56.3**	**-0.4**
FTIG	**Fresnillo de T**	**2.95**	**82**	*e*P	**Pn**	**20 31 22.8**	**+0.2**
FTIG				*e*S	**Sn**	**20 31 54.8**	**-3.1**
EZ5V		**2.99**	**311**	*e*P	**Pn**	**20 31 23.4**	**+0.1**
EZ5V				*i* S	**Sn**	**20 32 00.1**	**+1.1**
R15V		**3.10**	**302**	*e*P	**Pn**	**20 31 24.5**	**-0.1**
R15V				*i* S	**Sn**	**20 31 59.6**	**-1.9**
PNIG	**Pinotepa**	**3.16**	**111**	*e*P	**Pn**	**20 31 25.2**	**-0.1**
PNIG				*i* S	**Sn**	**20 32 02.2**	**-0.7**
VTVM	**Tizayuca**	**3.20**	**46**	*i* S	**Sn**	**20 32 00.4**	**-4.0**
HLIG	**Huajuapan de L**	**3.25**	**84**	*e*P	**Pn**	**20 31 27.3**	**+0.4**
TXIG	**Tlaxiaco**	**3.29**	**94**	*e*P	**Pn**	**20 31 27.6**	**+0.1**
TXIG				*i* S	**Sn**	**20 32 05.7**	**-0.8**
DEIG	**Demacu**	**3.43**	**36**	*e*P	**Pn**	**20 31 29.1**	**-0.3**
DEIG				*i* S	**Sn**	**20 32 08.4**	**-1.6**
TOIG	**Toxpalan**	**3.98**	**81**	*e*P	**Pn**	**20 31 38.9**	**+2.1**
TOIG				*i* S	**Sn**	**20 32 26.2**	**+2.9**
AAIG	**Aguscalientes**	**4.55**	**346**	*e*P	**Pn**	**20 31 46.9**	**+2.2**
AAIG				*e*S	**Sn**	**20 32 35.2**	**-2.2**
CMIG	**Matias Romero**	**6.05**	**93**	Pn	**Pn**	**20 32 05.6**	**+0.4**
	0.6nm,0.3s,baz=243,slow=14,SNR=2.4						
CMIG				Sn	**Sn**	**20 33 14.8**	**+0.6**
	0.8nm,0.3s,baz=289,slow=21,SNR=1.8						
TXAR	**Lajitas Array**	**11.96**	**350**	Pn	Pn	20 33 37.9	+12
	baz=175,slow=11,SNR=3.4						
TXAR				LR	LR	20 39 25.3	
	comp=Z,27nm,19.5s,baz=0.0,slow=41						
TXAR	**Lajitas Array**	**11.96**	**350**	Pn	**Pn**	**20 33 30.4**	**+4.1**
WMOK	**Wichita Mounta**	**17.27**	**7**	Pn	**P**	**20 34 37.8**	**-0.5**
Z41A	**Richland Creek**	**17.39**	**24**	Pn	**P**	**20 34 39.6**	**+0.1**
X43A	**Marvell**	**19.27**	**27**	P	**Pn**	**20 35 00.8**	**-0.5**
X43A				IAmb	IAmb	20 35 11.2	
	comp=Z,23nm,0.7s						
SDCO	**Great Sand D

EGS					S		Sg	20 36 13.4	+0.7
	baz=30								
NTC	**Toucheng**	**0.10**	**317**	*e*P		Pg	20 36 12.4	+1.0
	baz=316								
NTC					S		Sg	20 36 14.4	+1.1
	baz=316								
TWC	**Suao**	**0.18**	**197**	*i* P		Pb	20 36 13.7	-0.5
	baz=193								
TWC				*i* S		Sg	20 36 16.4	+1.1
	baz=193								
TIPB	**Shuangxi**	**0.20**	**339**	⇑*i*P		Pg	20 36 13.8	+0.7
	baz=339								
TIPB				*i* S		Sg	20 36 16.8	+0.7
	baz=339								
TWE	**Neicheng**	**0.23**	**254**	⇓*i*P		Pb	20 36 14.6	-0.3
	baz=252								
TWE				*i* S		Sg	20 36 18.2	+1.6
	baz=252								
TWB1	**Santiao Chiao**	**0.24**	**19**	P		Pb	20 36 14.7	-0.5
	baz=20								
TWB1				*e*S		Sg	20 36 18.9	+1.9
	baz=20								
NWF	**Wu-fen Shan**	**0.31**	**339**	*i* P		Pb	20 36 16.0	-0.4
	baz=338								
NWF				S		Sb	20 36 21.0	-0.6
	baz=338								
WFSB	**Wu-fen Shan**	**0.31**	**339**	P		Pb	20 36 16.1	-0.4
	baz=338								
WFSB				S		Sb	20 36 20.9	-0.6
	baz=338								
ENTT	**Nioudou**	**0.34**	**245**	*i* P		Pb	20 36 16.9	0.0
	baz=244								
ENTT				S		Sb	20 36 21.5	-0.9
	baz=244								
ENAH	**Nanao**	**0.34**	**195**	*e*S		Sb	20 36 22.0	-0.4
	baz=194								
TWA	**Mucha**	**0.35**	**304**	P		Pb	20 36 17.0	-0.1
	baz=304								
TWA				*i* S		Sb	20 36 22.4	-0.4
	baz=304								
NWLT	**Wulai**	**0.37**	**269**	*e*P		Pb	20 36 17.2	-0.1
	baz=269								
NWLT				S		Sb	20 36 22.2	-0.9
	baz=269								
ENA	**Nanau**	**0.38**	**203**	*i* P		Pb	20 36 17.4	-0.2
	baz=201								
ENA				*i* S		Sb	20 36 22.8	-0.8
	baz=201								
NDT	**Datong Townshi**	**0.40**	**243**	P		Pb	20 36 17.7	-0.3
	baz=243								
NDT				S		Sb	20 36 23.6	-0.5
	baz=243								
YM01	**YM01**	**0.47**	**320**	P		Pb	20 36 19.6	+0.3
	baz=320								
YM01				S		Sb	20 36 25.8	-0.5
	baz=320								
YM10	**YM10**	**0.49**	**320**	*e*P		Pb	20 36 19.6	+0.2
	baz=319								
YM11	**YM11**	**0.49**	**322**	*e*P		Pb	20 36 19.8	+0.4
	baz=321								
YM05	**YM05**	**0.49**	**321**	P		Pb	20 36 19.5	0.0
	baz=320								
YM05				*e*S		Sb	20 36 27.0	+0.2
	baz=320								
YHNB	**Yeheng**	**0.49**	**257**	P		Pb	20 36 19.3	-0.3
	baz=256								
YHNB				S		Sb	20 36 27.2	+0.3
	baz=256								
YM08	**YM08**	**0.49**	**325**	*e*P		Pb	20 36 19.5	-0.1
	baz=324								
YM04	**YM04**	**0.50**	**318**	P		Pb	20 36 19.9	+0.3
	baz=317								
YM04				*e*S		Sb	20 36 27.4	+0.4
	baz=317								
NSK	**Sanguang**	**0.51**	**258**	P		Pb	20 36 19.5	-0.3
	baz=257								
NSK				S		Sb	20 36 26.9	-0.4
	baz=257								
TWY	**Chenhua**	**0.56**	**331**	*e*P		Pg	20 36 19.9	+0.2
	baz=331								
NACB	**Ninganchiao**	**0.67**	**205**	*e*P		Pg	20 36 21.8	0.0
	baz=205								
NACB				*e*S		Sb	20 36 31.8	-0.1
	baz=205								
ETLH	**Xiulin Townshi**	**0.69**	**214**	*e*P		Pb	20 36 23.1	+0.1
	baz=213								
ETLH				*e*S		Sb	20 36 33.6	+1.0
	baz=213								

*KRNET **09** 20:44:41.1±0.1, 43˚.15N×78˚.39E, h24km, mb2.6*
*NNC **09** 20:44:41.2±0.4, 43˚.21N×78˚.42E, h0km, mpv2.7, Error ellipse: s-maj=4.6km s-min=2.3km az=175.0*
*SOME **09** 20:44:41.0, 43˚.12N×78˚.37E, h15km*

ISC 09 20:44:41.2±0.8, **43˚.14N**±0˚.03×**78˚.39E**±0˚.02, **h16**km±5km, **n31**, σ0**s45/60, 9C-6D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.08**	**173**	*e*P		**Pg**	**20 44 44.6**	**-0.1**
	8.9nm,0.1s							
SATY				*e*S		**Sg**	**20 44 46.9**	**-0.1**
	119nm,0.1s							
SATY	**Saty**	**0.08**	**173**	P		**Pg**	**20 44 44.6**	**-0.1**
	8.9nm,0.1s							
SATY				S		**Sg**	**20 44 46.9**	**-0.1**
	119nm,0.1s							
KPKS	**Kokpek**	**0.39**	**33**	*e*P		**Pg**	**20 44 49.2**	**0.0**
	baz=36							
KPKS				*e*S		**Sg**	**20 44 54.6**	**-0.1**
	baz=36							
KPKS	**Kokpek**	**0.39**	**33**	*e*P		**Pg**	**20 44 49.2**	**0.0**
	12nm,0.1s							
KPKS				*e*S		**Sg**	**20 44 54.6**	**-0.1**
	16nm,0.2s							
UZB	**Uzynbulak**	**0.46**	**89**	*e*P		**Pg**	**20 44 50.3**	**-0.2**
	baz=91							
UZB				*e*S		**Sg**	**20 44 56.5**	**-0.3**
	baz=91							
UZB	**Uzynbulak**	**0.46**	**89**	*e*P		**Pg**	**20 44 50.3**	**-0.2**
	11nm,0.1s							
UZB				*e*S		**Sg**	**20 44 56.5**	**-0.3**
	25nm,0.1s							
UZB	**Uzynbulak**	**0.46**	**89**	P		**Pg**	**20 44 50.3**	**-0.2**
	11nm,0.1s							
UZB				S		**Sg**	**20 44 56.5**	**-0.3**
	25nm,0.1s							
ANVS	**Anan'yevo**	**0.64**	**236**	⇓*i*P		**Pg**	**20 44 53.2**	**-0.7**
	baz=36							
ANVS				⇓*i*S		**Sb**	**20 45 02.8**	**0.0**
	baz=36							
PRZ	**Przheval'sk**	**0.66**	**179**	⇑*i*P		**Pg**	**20 44 54.0**	**-0.1**
	baz=78							
PRZ				⇑*i*S		**Sb**	**20 45 04.0**	**+0.7**
	baz=78							
PDGK	**Podgornoye**	**0.82**	**76**	P		**Pb**	**20 44 56.6**	**-0.6**
	1.1nm,0.2s							
PDGK				S		**Sb**	**20 45 07.3**	**-0.7**
	3.1nm,0.2s							
PDGK	**Podgornoye**	**0.82**	**76**	⇑P		**Pb**	**20 44 56.5**	**-0.7**
	1.0nm,0.4s							
PDGK				⇑S		**Sb**	**20 45 07.4**	**-0.7**
	2.0nm,0.3s							
KOTS	**Kotyrbulak**	**0.94**	**276**	*e*P		**Pb**	**20 44 58.9**	**-0.3**
	baz=75							
KOTS				*e*S		**Sg**	**20 45 11.7**	**-0.2**
	baz=75							
KOTS	**Kotyrbulak**	**0.94**	**276**	*e*P		**Pb**	**20 44 58.9**	**-0.3**
	5.5nm,0.2s							
KOTS				*e*S		**Sg**	**20 45 11.7**	**-0.2**
	11nm,0.4s							
KOTS	**Kotyrbulak**	**0.94**	**276**	P		**Pb**	**20 44 58.9**	**-0.3**
	5.5nm,0.2s							
KOTS				S		**Sg**	**20 45 11.7**	**-0.2**
	11nm,0.4s							
MDOK	**Medeo**	**0.98**	**272**	*e*P		**Pb**	**20 44 59.6**	**-0.3**
	baz=71							
MDOK				*e*S		**Sb**	**20 45 12.4**	**-0.3**
	baz=71							
MDOK	**Medeo**	**0.98**	**272**	*e*P		**Pb**	**20 44 59.6**	**-0.3**
	0.9nm,0.1s							
MDOK				*e*S		**Sb**	**20 45 12.4**	**-0.3**
	1.7nm,0.2s							
MDOK	**Medeo**	**0.98**	**272**	Pg		**Pb**	**20 44 59.6**	**-0.3**
	0.9nm,0.1s							
MDOK				Lg		Lg	20 45 12.4	
	1.7nm,0.2s							
ARXS	**Arharly**	**1.15**	**339**	*e*P		**Pb**	**20 45 02.8**	**+0.1**
	1.3nm,0.1s							
ARXS				*e*S		**Sn**	**20 45 17.9**	**-0.1**
	2.3nm,0.1s							
ARXS	**Arharly**	**1.15**	**339**	P		**Pb**	**20 45 02.8**	**+0.1**
	1.3nm,0.1s							
ARXS				S		**Sn**	**20 45 17.9**	**-0.1**
	2.3nm,0.1s							
KDJ	**Kajisay**	**1.35**	**222**	⇓*i*P		**Pn**	**20 45 05.7**	**+0.2**
	baz=21							
KDJ				⇓*i*S		**Sg**	**20 45 24.3**	**-0.5**
	baz=21							
KTBS	**Karatobe**	**1.37**	**295**	*e*P		**Pb**	**20 45 06.7**	**+0.3**
	0.9nm,0.2s							
KTBS				*e*S		**Sg**	**20 45 24.9**	**-0.6**
	4.1nm,0.2s							
KTBS	**Karatobe**	**1.37**	**295**	P		**Pb**	**20 45 06.7**	**+0.3**
	0.9nm,0.2s							
KTBS				S		**Sg**	**20 45 24.9**	**-0.6**
	4.1nm,0.2s							
KTMS	**Ketmen**	**1.46**	**77**	*e*P		**Pb**	**20 45 08.1**	**0.0**
	baz=77							
KTMS				*e*S		**Sb**	**20 45 27.1**	**+0.6**
	baz=77							
KTMS	**Ketmen**	**1.46**	**77**	*e*P		**Pb**	**20 45 08.1**	**0.0**
	0.6nm,0.1s							
KTMS				*e*S		**Sb**	**20 45 27.1**	**+0.6**
	3.9nm,0.2s							
KTMS	**Ketmen**	**1.46**	**77**	P		**Pb**	**20 45 08.1**	**0.0**
	0.6nm,0.1s							
KTMS				S		**Sb**	**20 45 27.1**	**+0.6**
	3.9nm,0.2s							
TARG	**Taragay, Kyrgy**	**1.48**	**197**	⇓*i*P		**Pn**	**20 45 07.7**	**+0.3**
	baz=97							
TARG				⇓*i*S		**Sg**	**20 45 28.5**	**-0.4**
	baz=97							
DJR	**Jarkent**	**1.56**	**40**	*e*P		**Pb**	**20 45 10.1**	**+0.3**
	0.8nm,0.1s							
DJR				*e*S		**Sg**	**20 45 30.6**	**-1.1**
	1.9nm,0.2s							
DJR	**Jarkent**	**1.56**	**40**	P		**Pb**	**20 45 10.1**	**+0.3**
	0.8nm,0.1s							
DJR				S		**Sg**	**20 45 30.6**	**-1.1**
	1.9nm,0.2s							
ULHL	**Ulahol**	**1.82**	**241**	⇑*i*P		**Pn**	**20 45 12.8**	**+0.8**
	baz=41							
ULHL				⇑*i*S		**Sb**	**20 45 36.5**	**-0.3**
	baz=41							
TKM2	**Tokmak 2**	**2.06**	**265**	⇑*e*P		**Pn**	**20 45 16.0**	**+0.7**
	baz=64							
TKM2				⇑*i*S		**Sn**	**20 45 41.7**	**+1.0**
	baz=64							
TKM2	**Tokmak 2**	**2.06**	**265**	⇑Sn		**Sg**	**20 45 46.9**	**-0.7**
	0.5nm,0.3s							

*IDC **09** 21:11:45.8±0.7, 12˚.42N×95˚.19E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.8/41, mbtmp3.9/12, ML3.6/1, MS3.5/16, Ms1 3.5/16, ms1mx3.4/37, Error ellipse: s-maj=28.4km s-min=15.4km az=57.0*
*NDI **09** 21:11:46.9±3.1, 12˚.42N×95˚.37E, h15km±81km, ML3.8, mb4.3(NEIC)*
*NEIC **09** 21:11:48.4±1.4, 12˚.59N±0˚.08×95˚.34E±0˚.07, h21km±5km, mb4.3/25, Error ellipse: s-maj=11.7km s-min=10.1km az=168.0*

ISC 09 21:11:47.3±0.5, **12˚.58N**±0˚.07×**95˚.38E**±0˚.05, **h13**km, **n63**, σ1**s28/54, mb4.2/23, MS3.5**/15, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**2.46**	**284**	*e*P		**Pn**	**21 12 26.4**	**-0.7**
DGPR				*e*S		**Sn**	**21 12 57.4**	**+0.3**
PBA	**Port Blair**	**2.73**	**251**	*e*P		Pn	21 12 30.0	-0.9
PBA				*ex*		x	21 13 17.7	
PBA	**Port Blair**	**2.73**	**251**			Pn	21 12 29.0	-2.0
SRIT	**Nakonsritamara**	**5.74**	**133**	Pn		**Pn**	**21 13 09.8**	**-2.4**
CM31	**Chiang Mai Arr**	**6.78**	**30**	Pn		**Pn**	**21 13 26.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**6.78**	**30**	Pn		**Pn**	**21 13 29.9**	**+3.3**
	0.3nm,0.3s,baz=217,slow=15,SNR=7.1							
CMAR	**Chiang Mai Arr**	**6.78**	**30**	Pn		**Pn**	**21 13 26.8**	**+0.2**
CHTO	**Chiang Mai**	**7.09**	**29**	Pn		**Pn**	**21 13 29.9**	**-0.9**
SHL	**Shillong**	**13.34**	**346**	*e*P		**Pn**	**21 14 58.0**	**+1.4**
SHL				*e*S		**S**	**21 17 47.1**	**-2.1**
SHL	**Shillong**	**13.34**	**346**	Pn		**Pn**	**21 14 54.5**	**-2.1**
PALK	**Pallekele**	**15.38**	**251**	LR		LR	21 20 36.9	
	comp=Z,88nm,18.3s,baz=135,slow=35							
LSA	**Lhasa**	**17.49**	**348**	P		**P**	**21 15 52.2**	**-0.5**
MYLDM	**Lahad Datu**	**23.98**	**106**	P		**P**	**21 17 03.4**	**+1.6**
MYLDM				IAmb		IAmb	21 17 07.5	
	comp=Z,6.1nm,0.8s							
SMLA	**Simla**	**24.96**	**321**	*e*P		**P**	**21 17 10.9**	**+0.3**
KAPI	**Kapgang**	**29.87**	**124**	LR		LR	21 29 46.7	
	comp=Z,110nm,20.5s,baz=265,slow=36							
DAV	**Davao City (W)**	**30.24**	**98**	LR		LR	21 31 36.1	
	comp=Z,48nm,19.0s,baz=6.5,slow=39							
TARG	**Taragay, Kyrgy**	**32.84**	**335**	P		**P**	**21 18 20.2**	**-1.1**
PRZ	**Przheval'sk**	**33.25**	**337**	P		**P**	**21 18 24.6**	**+0.1**
KDJ	**Kajisay**	**33.44**	**335**	P		**P**	**21 18 23.3**	**-2.9**
TNTI	**Ternate**	**33.81**	**108**	P		**P**	**21 18 28.8**	**-0.7**
BTK	**Batken**	**34.89**	**326**	P		**P**	**21 18 37.8**	**-0.9**
BTK				IAmb		IAmb	21 18 55.6	
	comp=Z,2.8nm,0.8s							
AAK	**Ala-Archa**	**35.00**	**333**	P		**P**	**21 18 38.2**	**-1.5**
AAK				IAmb		IAmb	21 18 50.5	
	comp=Z,3.6nm,1.1s							
FRU1	**Bishkek**	**35.08**	**333**	P		**P**	**21 18 39.2**	**-1.1**
MK31	**Makanchi Array**	**35.85**	**345**	P		**P**	**21 18 46.6**	**-0.2**
MK31				IAmb		IAmb	21 18 57.4	
	comp=Z,3.9nm,1.0s							
MKAR	**Makanchi Array**	**35.85**	**345**	P		**P**	**21 18 48.0**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=152,slow=10,SNR=14							
MKAR				LR		LR	21 36 32.3	
	comp=Z,64nm,19.1s,baz=158,slow=41							
MKAR	**Makanchi Array**	**35.85**	**345**	P		**P**	**21 18 46.4**	**-0.4**
MAKZ	**Makanchi**	**35.94**	**344**	P		**P**	**21 18 47.1**	**-0.5**
MAKZ				IAmb		IAmb	21 18 57.5	
	comp=Z,2.8nm,0.8s							
SONM	**Songino Array**	**36.34**	**13**	P		**P**	**21 18 53.6**	**+2.5**
	comp=Z,0.4nm,0.6s,baz=192,slow=12,SNR=0.8							
SONM				PcP		**PcP**	**21 21 16.5**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=215,slow=3.5,SNR=2.3							
SONM				LR		LR	21 36 56.5	
	comp=Z,54nm,18.9s,baz=192,slow=41							
SONM	**Songino Array**	**36.34**	**13**	P		**P**	**21 18 47.5**	**-3.6**
KK31	**Karatay Array**	**37.24**	**329**	P		**P**	**21 18 58.2**	**-0.6**
KKAR	**Karatay Array**	**37.24**	**329**	P		**P**	**21 18 57.7**	**-1.0**
KKAR	**Karatay Array**	**37.24**	**329**	P		**P**	**21 18 58.0**	**-0.7**
KKAR				IAmb		IAmb	21 19 08.4	
	comp=Z,1.7nm,1.1s							
KURBB	**Kurchatov Arra**	**40.36**	**343**	P		**P**	**21 19 26.1**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=156,slow=7.9,SNR=13							
KURK	**Kurchatov**	**40.42**	**344**	P		**P**	**21 19 25.3**	**+0.1**
KURK				IAmb		IAmb	21 19 35.7	
	comp=Z,5.5nm,1.0s							
GEYT	**Alibeck**	**41.68**	**314**	P		**P**	**21 19 36.8**	**+0.9**
	comp=Z,3.2nm,0.5s,baz=148,slow=7.0,SNR=11							
GEYT				LR		LR	21 38 38.4	
	comp=Z,67nm,19.0s,baz=75,slow=39							
GEYT	**Alibeck**	**41.68**	**314**	P		**P**	**21 19 36.0**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**41.68**	**314**	P		**P**	**21 19 35.4**	**-0.4**
GYA0B				IAmb		IAmb	21 19 37.4	
	comp=Z,4.8nm,0.6s							
ZAA0	**Zalesovo Array**	**42.11**	**351**	P		**P**	**21 19 39.3**	**+0.3**
ZAA0				IAmb		IAmb	21 19 49.0	
	comp=Z,6.1nm,1.1s							
ZALV	**Zalesovo Beam**	**42.11**	**351**	P		**P**	**21 19 40.1**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=183,slow=4.4,SNR=9.9							
ZALV				LR		LR	21 39 32.5	
	comp=Z,39nm,18.3s,baz=152,slow=40							
ZALV	**Zalesovo Beam**	**42.11**	**351**	P		**P**	**21 19 39.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**42.67**	**135**	LR		LR	21 38 59.6	
	comp=Z,114nm,18.3s,baz=318,slow=38							
ABKAR	**Akbulak array**	**46.79**	**329**	P		**P**	**21 20 15.9**	**-0.7**
WRA	**Warramunga Arr**	**50.15**	**130**	P		**P**	**21 20 43.1**	**+0.3**
	comp=Z,7.9nm,0.6s,baz=310,slow=8.2,SNR=11							
ARU	**Arti**	**52.11**	**335**	P		**P**	**21 20 57.2**	**+0.2**
ARU				IAmb		IAmb	21 21 06.3	
	comp=Z,3.8nm,0.8s							
AS31	**Alice Springs**	**52.12**	**134**	P		**P**	**21 20 58.2**	**+0.5**
ASAR	**Alice Springs**	**52.12**	**134**	P		**P**	**21 20 58.5**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=311,slow=6.5,SNR=18							
ASAR				LR		LR	21 44 35.1	
	comp=Z,90nm,19.9s,baz=132,slow=38							
ASAR	**Alice Springs**	**52.12**	**134**	P		**P**	**21 20 57.8**	**+0.1**
BRTR	**Keskin Array B**	**60.38**	**309**	P		**P**	**21 21 58.2**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=52,slow=12,SNR=2.2							
BRTR				LR		LR	21 51 48.2	
	comp=Z,38nm,19.6s,baz=81,slow=40							
TIXI	**Tiksi**	**62.41**	**11**	P		**P**	**21 22 09.5**	**-0.1**
TIXI				IAmb		IAmb	21 22 11.1	
	comp=Z,3.7nm,1.1s							
STKA	**Stephens Creek**	**62.55**	**136**	P		**P**	**21 22 12.3**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=338,slow=11,SNR=1.6							
STKA	**Stephens Creek**	**62.55**	**136**	P		**P**	**21 22 11.1**	**0.0**
AKASG	**Malin Array Be**	**65.29**	**320**	LR		LR	21 54 44.1	
	comp=Z,36nm,20.6s,baz=110,slow=40							
FINES	**FINESS Array B**	**69.17**	**331**	P		**P**	**21 22 53.7**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=94,slow=8.6,SNR=3.5							
FINES				LR		LR	21 56 38.8	
	comp=Z,47nm,19.4s,baz=106,slow=39							
ARCES	**ARCESS Array B**	**71.30**	**340**	LR		LR	21 58 28.1	
	comp=Z,80nm,19.0s,baz=159,slow=39							
GERES	**GERESS Array B**	**75.18**	**317**	P		**P**	**21 23 29.6**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=88,slow=6.5,SNR=14							
GERES				LR		LR	22 01 43.0	
	comp=Z,23nm,19.8s,baz=315,slow=40							
NOA	**NORSAR Array B**	**76.27**	**330**	LR		LR	22 00 48.3	
	comp=Z,15nm,19.0s,baz=90,slow=39							
BOSA	**Boshof**	**79.12**	**237**	P		**P**	**21 23 51.6**	**-0.6**
	baz=109,slow=5.3,SNR=3.7							
BOSA	**Boshof**	**79.12**	**237**	IAmb		IAmb	21 24 05.8	
	comp=Z,2.4nm,0.9s							
IMAR	**Indian Mountai**	**86.85**	**23**	P		**P**	**21 24 32.4**	**+1.0**
ESDC	**Sonseca Array**	**89.12**	**310**	LR		LR	22 08 39.7	
	comp=Z,37nm,18.4s,baz=250,slow=38							
TORD	**Torodi Ar. Bea**	**90.70**	**284**	P		**P**	**21 24 50.1**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=60,slow=3.7,SNR=2.0							
TORD	**Torodi Ar. Bea**	**90.70**	**284**	IAmb		IAmb	21 24 56.8	
	comp=Z,0.9nm,1.0s							
NVAR	**Mina Array Bea**	**120.28**	**30**	PKP		**PKiKP**	**21 30 40.5**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=331,slow=2.5,SNR=2.6							

*ROM **09** 21:23:02.9±0.4, 43˚.517N±0˚.010×13˚.90E±0˚.02, h6km±1km, Md1.6/3, Error ellipse: s-maj=2.0km s-min=0.9km az=250.0*
*PRU **09** 21:23:04.4±0.0, 43˚.45N×14˚.13E, h0km*
*LDG **09** 21:23:04.3±1.1, 43˚.69N×14˚.15E, h5km, Ml2.7/2, Error ellipse: s-maj=23.2km s-min=9.1km az=110.0*
*VIE **09** 21:23:05.8±0.4, 43˚.48N×13˚.86E, h8km, mb2.5/16, ml3.1/19, Error ellipse: s-maj=7.2km s-min=3.6km az=97.0*
122 km ESE of San Marino

ISC 09 21:23:05.4±1.0, **43˚.51N**±0˚.03×**13˚.75E**±0˚.03, **h10**km±7km, **n90**, σ1**s41/60, 1C, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AOI	**Ancona**	**0.12**	**289**	P		**Pg**	**21 23 07.8**	**-0.4**
AOI				S		**Sg**	**21 23 11.2**	**+1.0**
AOI				AML		AML		
	comp=E,14650μm,1.6s							
AOI				AML		AML		
	comp=N,23600μm,0.5s							
AOI				END				
AOI				END				
PP3	**Marolino**	**0.17**	**218**	AML		AML		
	comp=E,25200μm,0.5s							
PP3				AML		AML		
	comp=E,29300μm,0.8s							
PP3				AML		AML		
	comp=N,18500μm,1.4s							
PP3				AML		AML		
	comp=N,13800μm,0.5s							
PP3				END				
CIMA	**Civitanova Mar**	**0.21**	**196**	P		**Pg**	**21 23 09.6**	**-0.3**
CIMA				S		**Sg**	**21 23 13.3**	**+0.5**
CIMA				AML		AML		
	comp=E,11500μm,0.2s							
CIMA				AML		AML		
	comp=N,20900μm,0.3s							
CIMA				AML		AML		
	comp=E,26950μm,1.3s							
CIMA				AML		AML		
	comp=N,59950μm,0.4s							
CIMA				END				
SENI	**Senigallia**	**0.42**	**297**	P		**Pb**	**21 23 14.0**	**-1.1**
SENI				S		**Sb**	**21 23 22.4**	**+0.8**
SENI				AML		AML		
	comp=E,3515μm,1.3s							
SENI				AML		AML		
	comp=N,5045μm,0.3s							
SENI				AML		AML		
	comp=E,952μm,0.9s							
SENI				AML		AML		
	comp=N,1330μm,0.9s							
SENI				AML		AML		
	comp=E,3330μm,0.9s							
SENI				AML		AML		
	comp=N,4015μm,0.4s							
SENI				AML		AML		
	comp=E,868μm,1.6s							
SENI				AML		AML		
	comp=N,1340μm,0.9s							
SENI				AML		AML		
	comp=E,12750μm,1.0s							
SENI				AML		AML		
	comp=N,11850μm,0.4s							
SENI				AML		AML		
	comp=E,3215μm,0.9s							
SENI				AML		AML		
	comp=N,5075μm,0.9s							
SENI				END				
CING	**Cingoli**	**0.43**	**252**	⇑P		**Pb**	**21 23 13.6**	**-1.5**
CING				AML		AML		
	comp=E,1450μm,1.6s							
CING				AML		AML		
	comp=N,993μm,0.3s							
CING				AML		AML		
	comp=E,849μm,0.6s							
CING				AML		AML		
	comp=N,830μm,0.4s							
CING				AML		AML		
	comp=E,2970μm,1.6s							
CING				AML		AML		
	comp=N,3070μm,1.1s							
CING				END				
CING				END				
GUMA	**Gualdo di Mace**	**0.47**	**163**	P		**Pg**	**21 23 15.5**	**+0.9**
GUMA				S		**Sb**	**21 23 24.9**	**+2.1**
GUMA				AML		AML		
	comp=E,4195μm,0.5s							
GUMA				AML		AML		
	comp=N,2995μm,0.7s							
GUMA				AML		AML		
	comp=E,4080μm,0.6s							
GUMA				AML		AML		
	comp=N,2545μm,0.5s							
GUMA				AML		AML		
	comp=E,16400μm,0.5s							
GUMA				AML		AML		
	comp=N,10225μm,0.5s							
GUMA				AML		AML		
	comp=E,17600μm,0.5s							
GUMA				AML		AML		
	comp=N,11600μm,0.6s							
EL6	**Elcito**	**0.51**	**249**	P		**Pb**	**21 23 14.9**	**-1.6**
EL6				AML		AML		
	comp=E,1661μm,0.7s							
EL6				AML		AML		
	comp=N,2030μm,0.5s							
EL6				AML		AML		
	comp=E,1195μm,0.7

CSP1	**Cessapalombo**	**0.58**	**224**	P	**Pg**	**21 23 15.8**	**-0.9**
CSP1				AML	AML		
	comp=E,800µm,0.5s						
CSP1				AML	AML		
	comp=N,965µm,0.4s						
CSP1				AML	AML		
	comp=E,2395µm,1.4s						
CSP1				AML	AML		
	comp=N,3250µm,0.4s						
ARVD	**Arcevia**	**0.59**	**269**	P	**Pb**	**21 23 16.8**	**-1.1**
ARVD				AML	AML		
	comp=E,292µm,0.5s						
ARVD				AML	AML		
	comp=N,284µm,0.5s						
ARVD				AML	AML		
	comp=E,870µm,1.5s						
ARVD				AML	AML		
	comp=N,1170µm,0.4s						
SNTG	**Esanatoglia**	**0.65**	**247**	P	**Pb**	**21 23 17.2**	**-1.6**
SNTG				AML	AML		
	comp=E,336µm,0.6s						
SNTG				AML	AML		
	comp=N,573µm,0.8s						
SNTG				AML	AML		
	comp=E,163µm,1.5s						
SNTG				AML	AML		
	comp=N,324µm,0.5s						
SNTG				AML	AML		
	comp=E,1070µm,0.4s						
SNTG				AML	AML		
	comp=N,2165µm,0.5s						
FDMO	**Fiordimonte**	**0.68**	**226**	P	**Pg**	**21 23 17.5**	**-1.0**
FDMO				AML	AML		
	comp=E,2340µm,1.2s						
FDMO				AML	AML		
	comp=N,1290µm,0.4s						
TRTR	**Tortoreto Alta**	**0.71**	**170**	AML	AML		
	comp=N,2655µm,0.8s						
TRTR				AML	AML		
	comp=E,2020µm,0.5s						
TRTR				AML	AML		
	comp=E,9490µm,0.4s						
TRTR				AML	AML		
	comp=N,8655µm,0.6s						
FSSB	**Fossombrone**	**0.73**	**285**	P	**Pb**	**21 23 19.3**	**-1.0**
FSSB				S	**Sn**	**21 23 30.6**	**-2.5**
FSSB				AML	AML		
	comp=E,766µm,0.4s						
FSSB				AML	AML		
	comp=N,1185µm,0.4s						
FSSB				AML	AML		
	comp=E,2715µm,0.4s						
FSSB				AML	AML		
	comp=N,5915µm,0.4s						
FOSV	**Fossato di Vic**	**0.75**	**254**	AML	AML		
	comp=N,388µm,0.4s						
FOSV				AML	AML		
	comp=E,388µm,1.4s						
FOSV				AML	AML		
	comp=E,2220µm,0.3s						
FOSV				AML	AML		
	comp=N,1685µm,0.4s						
CESI	**CESI - Serrava**	**0.80**	**231**	AML	AML		
	comp=E,342µm,0.9s						
CESI				AML	AML		
	comp=N,310µm,0.8s						
CESI				AML	AML		
	comp=E,1545µm,0.4s						
CESI				AML	AML		
	comp=N,1025µm,0.8s						
NRCA	**Norcia**	**0.82**	**215**	AML	AML		
	comp=E,2030µm,0.9s						
NRCA				AML	AML		
	comp=N,2065µm,0.4s						
NRCA				AML	AML		
	comp=E,2055µm,0.9s						
NRCA				AML	AML		
	comp=N,2120µm,0.4s						
NARO	**Abbazia di Nar**	**0.86**	**277**	AML	AML		
	comp=N,214µm,0.3s						
NARO				AML	AML		
	comp=E,276µm,0.5s						
NARO				AML	AML		
	comp=E,714µm,0.5s						
NARO				AML	AML		
	comp=N,602µm,0.5s						
ATFO	**Monte Foce - G**	**0.87**	**261**	AML	AML		
	comp=E,737µm,0.5s						
ATFO				AML	AML		
	comp=N,726µm,0.6s						
ATFO				AML	AML		
	comp=E,1715µm,0.4s						
ATFO				AML	AML		
	comp=N,3285µm,0.5s						
ATCC	**AVT- Casa Cast**	**0.88**	**248**	AML	AML		
	comp=E,1027µm,1.5s						
ATCC				AML	AML		
	comp=N,845µm,0.5s						
ATCC				AML	AML		
	comp=E,788µm,0.8s						
ATCC				AML	AML		
	comp=N,844µm,0.5s						
ATCC				AML	AML		
	comp=E,2355µm,0.8s						
ATCC				AML	AML		
	comp=N,2805µm,0.5s						
PIEI	**Pieia**	**0.89**	**272**	AML	AML		
	comp=E,308µm,1.2s						
PIEI				AML	AML		
	comp=N,226µm,0.4s						
PIEI				AML	AML		
	comp=E,1044µm,0.3s						
PIEI				AML	AML		
	comp=N,659µm,0.5s						
TERO	**Teramo**	**0.90**	**187**	AML	AML		
	comp=E,1970µm,0.6s						
TERO				AML	AML		
	comp=E,586µm,1.1s						
TERO				AML	AML		
	comp=N,612µm,0.4s						
TERO				AML	AML		
	comp=E,238µm,0.3s						
TERO				AML	AML		
	comp=E,586µm,1.1s						
TERO				AML	AML		
	comp=E,238µm,0.3s						
TERO				AML	AML		
	comp=N,261µm,0.6s						
TERO				AML	AML		
	comp=N,1695µm,0.4s						
TERO				AML	AML		
	comp=E,826µm,0.6s						
TERO				AML	AML		
	comp=N,710µm,0.4s						
ASSB	**Assisi San Ben**	**0.93**	**240**	AML	AML		
	comp=E,1835µm,0.6s						
ASSB				AML	AML		
	comp=E,954µm,0.6s						
ASSB				AML	AML		
	comp=N,679µm,1.2s						
ASSB				AML	AML		
	comp=N,2405µm,0.4s						
MURB	**Monte Urbino**	**0.93**	**255**	AML	AML		
	comp=E,1490µm,0.3s						
MURB				AML	AML		
	comp=E,1410µm,0.3s						
MURB				AML	AML		
	comp=N,942µm,1.0s						
MURB				AML	AML		
	comp=N,970µm,0.3s						
MURB				AML	AML		
	comp=E,4170µm,1.6s						
MURB				AML	AML		
	comp=N,3655µm,1.4s						
MURB				AML	AML		
	comp=E,4885µm,1.6s						
MURB				AML	AML		
	comp=N,3925µm,1.0s						
PE3	**Peglio**	**0.93**	**282**	AML	AML		
	comp=N,1535µm,0.8s						
PE3				AML	AML		
	comp=E,956µm,0.5s						
PE3				AML	AML		
	comp=E,4185µm,0.5s						
PE3				AML	AML		
	comp=N,6090µm,0.5s						
APEC	**Apecchio**	**0.97**	**273**	AML	AML		
	comp=N,586µm,0.6s						
APEC				AML	AML		
	comp=E,422µm,1.6s						
APEC				AML	AML		
	comp=E,1280µm,0.7s						
APEC				AML	AML		
	comp=N,1455µm,0.6s						
ATPI	**Pietralunga -**	**0.98**	**267**	AML	AML		
	comp=E,1600µm,0.5s						
ATPI				AML	AML		
	comp=E,340µm,1.2s						
ATPI				AML	AML		
	comp=N,357µm,0.5s						
ATPI				AML	AML		
	comp=N,982µm,0.5s						
ATVO	**AVT- Monte Val**	**0.99**	**263**	AML	AML		
	comp=E,410µm,0.5s						
ATVO				AML	AML		
	comp=N,292µm,0.5s						
ATVO				AML	AML		
	comp=E,1235µm,0.6s						
ATVO				AML	AML		
	comp=N,1200µm,0.7s						
CAMP	**Campotosto**	**1.01**	**195**	AML	AML		
	comp=N,1720µm,0.8s						
CAMP				AML	AML		
	comp=E,1180µm,0.9s						
ATTE	**AVT- Monte Tez**	**1.07**	**253**	AML	AML		
	comp=N,2530µm,1.3s						
ATTE				AML	AML		
	comp=E,1170µm,0.4s						
RM33	**Pellescritta (**	**1.08**	**202**	AML	AML		
	comp=E,3715µm,0.6s						
RM33				AML	AML		
	comp=N,3290µm,1.5s						
CPGN	**Carpegna, Ital**	**1.08**	**286**	AML	AML		
	comp=E,1710µm,0.9s						
CPGN				AML	AML		
	comp=N,1078µm,0.9s						
PARC	**Parchiule**	**1.11**	**278**	AML	AML		
	comp=E,1078µm,0.9s						
PARC				AML	AML		
	comp=E,340µm,0.5s						
PARC				AML	AML		
	comp=N,278µm,0.6s						
PARC				AML	AML		
	comp=N,724µm,0.8s						
VCEL	**Villa Celiera**	**1.12**	**177**	AML	AML		
	comp=E,3405µm,0.5s						
VCEL				AML	AML		
	comp=E,1330µm,0.5s						
VCEL				AML	AML		
	comp=N,1100µm,1.1s						
VCEL				AML	AML		
	comp=N,2925µm,0.7s						
ARRO	**Arrone**	**1.18**	**218**	AML	AML		
	comp=E,1048µm,1.4s						
ARRO				AML	AML		
	comp=N,1015µm,1.1s						
FAGN	**Fagnano**	**1.25**	**186**	AML	AML		
	comp=E,1750µm,0.6s						
FAGN				AML	AML		
	comp=N,1760µm,0.4s						
FAGN				AML	AML		
	comp=E,4185µm,0.5s						
FAGN				AML	AML		
	comp=N,2705µm,0.5s						
CAFI	**Castiglion Fio**	**1.31**	**263**	AML	AML		
	comp=E,690µm,0.8s						
CAFI				AML	AML		
	comp=N,918µm,0.7s						
NVLJ	**Novalja**	**1.32**	**37**	*e*Pg	**Pn**	**21 23 27.6**	**-2.5**
FIAM	**Fiamignano**	**1.33**	**201**	AML	AML		
	comp=E,1050µm,0.5s						
FIAM				AML	AML		
	comp=N,1200µm,1.1s						
MGAB	**Montegabbione**	**1.34**	**244**	AML	AML		
	comp=N,1870µm,0.7s						
MGAB				AML	AML		
	comp=E,1575µm,1.4s						
MGAB				AML	AML		
	comp=N,1750µm,0.7s						
MGAB				AML	AML		
	comp=E,1825µm,1.5s						
ZIRJ	**Zirje**	**1.38**	**83**	*e*Pg	**Pn**	**21 23 29.4**	**-1.4**
ZIRJ				Sg	**Sn**	**21 23 49.3**	**+0.1**
ASQU	**Asqua**	**1.45**	**282**	AML	AML		
	comp=E,708µm,1.1s						
ASQU				AML	AML		
	comp=N,550µm,0.9s						
MORI	**Morici**	**1.46**	**75**	*e*Pg	**Pn**	**21 23 31.6**	**-0.3**
SACS	**San Casciano d**	**1.50**	**244**	AML	AML		
	comp=E,792µm,0.8s						
SACS				AML	AML		
	comp=E,810µm,0.8s						
SACS				AML	AML		
	comp=N,1195µm,0.9s						
SACS				AML	AML		
	comp=N,1200µm,0.9s						
INTR	**Introdacqua**	**1.50**	**176**	AML	AML		
	comp=E,2330µm,0.9s						
INTR				AML	AML		
	comp=N,2235µm,0.8s						
UDBI	**Udbina**	**1.77**	**54**	*e*Pg	**Pn**	**21 23 37.6**	**+1.3**
MIDA	**Miranda**	**1.91**	**169**	AML	AML		
	comp=E,511µm,0.9s						
MIDA				AML	AML		
	comp=N,502µm,1.0s						
LAV9	**Lanuvio**	**1.99**	**203**	AML	AML		
	comp=E,819µm,0.8s						
LAV9				AML	AML		
	comp=E,830µm,1.3s						
LAV9				AML	AML		
	comp=N,1103µm,0.5s						
LAV9				AML	AML		
	comp=N,1064µm,0.6s						
HVAR	**Hvar**	**2.00**	**99**	*e*Pg	**Pn**	**21 23 38.2**	**-1.0**
SKDS	**Skadanscina**	**2.04**	**5**	*e*Pn	**Pn**	**21 23 40.0**	**0.0**
KNDS	**Knezji Dol**	**2.06**	**12**	*i* Pn	**Pn**	**21 23 40.9**	**+0.6**
RICI	**Ricice**	**2.46**	**89**	*e*Pg	**Pn**	**21 23 43.8**	**-1.9**
LJU	**Ljubljana**	**2.59**	**12**	AML	AML		
	comp=E,332µm,0.6s						
LJU				AML	AML		
	comp=N,383µm,1.0s						
ROVR	**Rover Verones**	**2.87**	**319**	AML	AML		
	comp=N,120µm,0.9s						
ROVR				AML	AML		
	comp=E,110µm,0.8s						
CTI	**Castel Tesino**	**2.94**	**330**	AML	AML		
	comp=N,218µm,0.7s						
CTI				AML	AML		
	comp=E,284µm,0.9s						
OBKA	**Obir**	**3.05**	**10**	*e*Pn	**Pn**	**21 23 54.6**	**+0.8**
	comp=E,0.8nm,0.3s,SNR=4.3						
MYKA	**Terra Mystica**	**3.12**	**359**	*i* Pn	**Pn**	**21 23 55.7**	**+0.9**
	comp=E,1.0nm,0.2s						
SOKA	**Soboth**	**3.29**	**16**	*i* Pn	**Pn**	**21 23 58.7**	**+1.5**
	comp=E,0.8nm,0.2s						
ABTA	**Abfaltersbach**	**3.35**	**345**	*e*Pn	**Pn**	**21 23 59.0**	**+0.9**
	comp=E,4.6nm,0.4s,SNR=16						
KOSI	**Kohlern**	**3.40**	**331**	AML	AML		
	comp=E,250µm,0.8s						
KOSI				AML	AML		
	comp=N,257µm,0.8s						
KBA	**Koelnbreinsper**	**3.58**	**356**	*i* Pn	**Pn**	**21 24 02.0**	**+0.8**
	comp=N,0.4nm,0.1s						
PGF	**Pioggiola**	**3.62**	**256**	*e*Pn	**Pn**	**21 24 03.2**	**+1.6**
PGF				*e*Sn	**Sn**	**21 24 46.2**	**+1.7**
	comp=N,2.4nm,0.3s						
RISI	**Rein**	**3.63**	**342**	AML	AML		
	comp=N,183µm,0.5s						
RISI				AML	AML		
	comp=E,171µm,0.5s						
ABSI	**Aberstueckl**	**3.65**	**333**	AML	AML		
	comp=E,282µm,0.7s						
ABSI				AML	AML		
	comp=N,358µm,0.7s						
WTTA	**Wattenberg**	**4.04**	**339**	*e*Pn	**Pn**	**21 24 09.1**	**+1.6**
	comp=N,1.3nm,0.2s,SNR=6.6						
FETA	**Feichten**	**4.11**	**330**	*i* Pn	**Pn**	**21 24 10.2**	**+1.7**
	comp=N,0.5nm,0.2s						
SQTA	**Sankt Quirin**	**4.12**	**335**	*i* Pn	**Pn**	**21 24 10.3**	**+1.7**
	comp=N,5.0nm,0.4s,SNR=5.9						
WATA	**Walderalm**	**4.12**	**339**	*i* Pn	**Pn**	**21 24 10.7**	**+2.1**
	comp=N,3.5nm,0.2s,SNR=13						
MOTA	**Moosalm**	**4.26**	**335**	*i* Pn	**Pn**	**21 24 12.7**	**+2.2**
	comp=N,1.0nm,0.2s,SNR=5.6						
MOA	**Molln**	**4.35**	**5**	*e*Pn	**Pn**	**21 24 12.8**	**+1.1**
	comp=N,0.4nm,0.2s						
RETA	**Reutte**	**4.50**	**333**	*i* Pn	**Pn**	**21 24 16.2**	**+2.5**
	comp=N,1.8nm,0.3s,SNR=6.6						
SBF	**Sospel**	**4.59**	**277**	*e*Pn	**Pn**	**21 24 16.5**	**+1.4**
SBF				*e*Sn	**Sn**	**21 25 08.9**	**+0.3**
	comp=N,1.2nm,0.2s						
DAVA	**Damuels**	**4.66**	**326**	*e*Pn	**Pn**	**21 24 18.4**	**+2.4**
	comp=N,0.7nm,0.2s						
CONA	**Conrad Observa**	**4.66**	**18**	*i* Pn	**Pn**	**21 24 16.8**	**+0.8**
	comp=N,0.5nm,0.2s						
MBDF	**Montbardon**	**5.17**	**286**	*e*Pn	**Pn**	**21 24 23.5**	**+0.4**
LMR	**La Mourre**	**5.28**	**271**	*e*Pn	**Pn**	**21 24 25.8**	**+1.4**
LPG	**La Plagne**	**5.39**	**294**	*e*Pn	**Pn**	**21 24 26.0**	**-0.1**
LPL	**La Plagne**	**5.41**	**294**	*e*Pn	**Pn**	**21 24 27.5**	**+1.2**
KHC	**Kasperske Hory**	**5.62**	**359**	*e*PN	**Pn**	**21 24 28.7**	**-0.4**
ORIF	**Oris-en-Rattie**	**5.83**	**287**	*e*Pn	**Pn**	**21 24 34.2**	**+2.1**
CABF	**La Chapelle**	**6.25**	**302**	*e*Pn	**Pn**	**21 24 37.3**	**-0.5**
HINF	**Hinteralfeld**	**6.47**	**314**	*e*Pn	**Pn**	**21 24 38.3**	**-2.5**
VIVF	**Saint-Julien-l**	**6.67**	**285**	*e*Pn	**Pn**	**21 24 44.1**	**+0.6**
HAU	**Haudompre**	**6.86**	**314**	*e*Pn	**Pn**	**21 24 43.6**	**-2.5**
BRG	**Berggiesshubel**	**7.37**	**1**	*e*(P)	**Pg**	**21 25 27.3**	**+0.9**
BRG				*e*		21 26 43.4	
BRG				*e*		21 27 15.6	
	comp=N,9.2nm,1.3s						
SMF	**Signal de Mont**	**7.68**	**297**	*e*Pn	**Pn**	**21 24 57.0**	**-0.4**
LOR	**Lormes**	**7.91**	**302**	*e*Pn	**Pn**	**21 24 59.6**	**-0.9**
	baz=119						
AVF	**Avril sur Loir**	**8.05**	**298**	*e*Pn	**Pn**	**21 25 01.9**	**-0.5**
SSF	**Saint Saulge**	**8.05**	**300**	*e*Pn	**Pn**	**21 25 01.5**	**-0.9**
BGF	**Bois d'Agland**	**8.30**	**295**	*e*Pn	**Pn**	**21 25 05.7**	**-0.2**

*IDC **09** 22:11:05.0±11.0, 35°.33N×71°.67E, h64km±40km, mb3.5/4, mb1 3.5/9, mb1mx3.2/63, mbtmp3.7/9, ML3.3/5, MS3.3/1, Ms1 3.3/1, ms1mx2.3/46, Error ellipse: s-maj=159.4km s-min=30.9km az=158.0*

*NNC **09** 22:11:18.0±10.0, 36°.53N×70°.84E, h89km±252km, mb3.4, mpv3.9, Error ellipse: s-maj=112.8km s-min=78.2km az=53.0*

ISC 09 22:11:13.6±0.9, 36°.17N±0°.08×71°.23E±0°.07, h102km, n26, σ2s 10/27, mb3.9/3, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**6.04**	**352**	Pg	**Pn**	**22 12 41.5**	**+1.0**
	3.1nm,0.1s						
IUG				Lg	Lg	22 13 45.9	
	62nm,0.7s						
MRKS	**Merke**	**6.74**	**13**	Pg	**Pn**	**22 12 50.9**	**+0.9**
	4.7nm,0.5s						
MRKS				Lg	Lg	22 14 02.9	
	4.4nm,0.5s						
BRLS	**Boroldav**	**6.93**	**352**	Pg	**Pn**	**22 12 49.7**	**-2.8**
	1.6nm,0.1s						
AAK	**Ala-Archa**	**6.93**	**20**	P	**Pn**	**22 12 53.7**	**+1.0**
	0.6nm,0.3s,baz=200,slow=8.0,SNR=4.2						
AAK				S	**Sn**	**22 14 07.9**	**-2.2**
	0.4nm,0.3s,baz=312,slow=22,SNR=6.4						
KK31	**Karatay Array**	**6.94**	**356**	P	**Pn**	**22 12 53.0**	**+0.3**
	2.0nm,0.3s,baz=179,slow=13,SNR=100						
KK31				⇑S	**Sn**	**22 14 05.9**	**-4.2**
	7.5nm,0.5s,baz=179,slow=19						
TKM2	**Tokmak 2**	**7.54**	**25**	⇑P	**Pn**	**22 13 01.8**	**+0.9**
	1.8nm,0.5s						
GEYT	**Alibeck**	**10.63**	**283**	P	**Pn**	**22 13 42.4**	**-0.3**
	0.5nm,0.3s,baz=110,slow=9.7,SNR=5.7						
GEYT				S	**Sn**	**22 15 35.5**	**-4.3**
	0.9nm,0.3s,baz=302,slow=29,SNR=3.2						
PYUN	**Piuthan**	**12.80**	**126**	*e*P	**Pn**	**22 14 11.1**	**-0.9**
	28nm,0.3s						
DANN	**Dangsing**	**13.15**	**123**	*e*P	**Pn**	**22 14 15.3**	**-1.4**
KOLN	**Koldanda**	**13.42**	**125**	*e*P	**Pn**	**22 14 19.5**	**-0.7**
	5.0nm,0.3s						
MKAR	**Makanchi Array**	**13.45**	**35**	P	**Pn**	**22 14 18.5**	**-1.7**
	0.0nm,0.3s,baz=189,slow=15,SNR=1.9						
GKN	**Gorkha**	**13.97**	**122**	*e*P	**Pn**	**22 14 25.9**	**-1.4**
	18nm,0.3s						
DMN	**Daman**	**14.54**	**122**	*e*P	**Pn**	**22 14 33.4**	**-1.3**
	8.8nm,0.5s						
KKN	**Kakani**	**14.55**	**121**	*e*P	**Pn**	**22 14 33.3**	**-1.4**
	18nm,0.6s						
PKI	**Pulchoki**	**14.78**	**121**	*e*P	**Pn**	**22 14 36.5**	**-1.2**
	9.0nm,0.5s						
KURBB	**Kurchatov Arra**	**15.38**	**18**	P	**P**	**22 14 47.9**	**+0.7**
	0.1nm,0.3s,baz=207,slow=10,SNR=9.2						
AB31	**Akbulak array**	**15.46**	**331**	⇑P	**Pn**	**22 14 45.1**	**-0.7**
RAMN	**Ramite**	**15.99**	**121**	*e*P	**Pn**	**22 14 51.6**	**-1.3**
	8.3nm,0.4s						
ODAN	**Odare**	**16.60**	**119**	*e*P	**P**	**22 15 00.3**	**-0.8**
	7.6nm,0.5s						
AKTO	**Aktyubinsk**	**17.16**	**330**	P	**P**	**22 15 10.5**	**+3.7**
	0.2nm,0.3s,baz=132,slow=14,SNR=5.9						
ZALV	**Zalesovo Beam**	**20.14**	**24**	P	Pn	22 15 40.5	-1.6
	1.2nm,0.4s,baz=223,slow=9.8,SNR=8.3						
FINES	**FINESS Array B**	**37.86**	**326**	P	**P**	**22 18 22.7**	**+2.6**
	1.1nm,0.6s,baz=123,slow=7.0,SNR=7.1						
ARCES	**ARCESS Array B**	**41.52**	**338**	P	**P**	**22 18 53.2**	**+2.9**
	3.0nm,1.0s,baz=99,slow=7.5,SNR=4.8						
NB2	**NORSAR Subarra**	**44.75**	**323**	P	**P**	**22 19 18.7**	**+2.1**
	comp=Z,0.9nm,0.6s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.75**	**323**	P	**P**	**22 19 18.5**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=103,slow=7.3,SNR=2.4						
TIXI	**Tiksi**	**46.01**	**22**	LR	LR	22 41 04.0	
	comp=Z,37nm,19.9s,baz=181,slow=39						

*NDI **09** 22:18:32.1±3.3, 10°.37N×91°.38E, h39km±203km, ML4.0, mb4.4(NEIC)*

*IDC **09** 22:18:33.3±0.7, 10°.58N×91°.71E, h0km, mb4.0/16, mb1 4.1/18, mb1mx3.9/57, mbtmp4.0/18, ML4.1/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/43, Error ellipse: s-maj=27.9km s-min=13.0km az=55.0*

*NEIC **09** 22:18:37.3±1.3, 10°.57N±0°.06×91°.72E±0°.06, h30km±5km, mb4.4/31, Error ellipse: s-maj=10.6km s-min=7.6km az=137.0*

ISC 09 22:18:37.2±0.4, 10°.60N±0°.07×91°.81E±0°.07, h29km, n89, σ1s 08/82, mb4.2/29, 9C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.39**	**41**	*e*P	Pn	22 19 01.2	+0.5
PBA				*e*S	Sb	22 19 22.2	+2.2
PBA				IAML		22 19 27.5	
	comp=E,2µm,0.5s						
PBA				IAML		22 19 29.6	
	comp=N,1µm,0.3s						
PBA	**Port Blair**	**1.39**	**41**		Pn	22 19 01.6	+0.9
PBA				Sn	Sb	22 19 19.8	-0.3
DGPR	**DIGLIPUR**	**2.79**	**23**	*e*P	**Pn**	**22 19 20.0**	**+0.1**
DGPR				*i* x	x	22 19 30.0	
LHMI	**Lhok Sumawe**	**7.37**	**136**	Pn	**Pn**	**22 20 24.3**	**+1.3**
SRIT	**Nakonsritamara**	**7.94**	**104**	Pn	**Pn**	**22 20 31.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**10.42**	**41**	Pn	**Pn**	**22 21 05.0**	**+0.1**
	comp=N,0.3nm,0.3s,baz=234,slow=15,SNR=5.5						
CMAR				LR	LR	22 25 22.3	
	comp=N,62nm,19.9s,baz=214,slow=39						
BWNR	**Bhubaneshwar**	**11.24**	**330**	*e*P	Pn	22 21 07.6	-8.5
BWNR				*e*S	Sn	22 23 03.1	-18
PALK	**Pallekele**	**11.46**	**254**	Pn	**Pn**	**22 21 17.9**	**-1.2**
	comp=N,1.7nm,0.3s,baz=176,slow=10,SNR=14						
PALK				Sn	Sn	22 23 15.2	-11
	comp=N,6.4nm,0.3s,baz=265,slow=20,SNR=13						
PALK				LR	LR	22 24 53.9	
	comp=N,97nm,18.4s,baz=193,slow=34						
PALK	**Pallekele**	**11.46**	**254**		Sn	22 23 16.0	-10
SHL	**Shillong**	**14.89**	**0**	*e*P	**Pn**	**22 22 04.9**	**-1.1**
SHL	**Shillong**	**14.89**	**0**	Pn	**Pn**	**22 22 06.8**	**+0.8**
SLVN	**Son La**	**15.77**	**46**	P	**Pn**	**22 22 17.9**	**+0.4**
ODAN	**Odare**	**16.71**	**346**	*e*P	**Pn**	**22 22 28.9**	**-0.6**
	comp=N,5.6nm,0.3s						
RAMN	**Ramite**	**16.99**	**344**	*e*P	**Pn**	**22 22 31.3**	**-1.9**
	comp=N,16nm,0.5s						
PKI	**Pulchoki**	**17.93**	**341**	*e*P	**Pn**	**22 22 44.5**	**-0.3**
	comp=N,11nm,0.5s						
DMN	**Daman**	**18.06**	**340**	*e*P	**P**	**22 22 46.3**	**-0.3**
GKN	**Gorkha**	**18.58**	**340**	*e*P	**Pn**	**22 22 53.2**	**+0.6**
	comp=N,11nm,0.3s						
KOLN	**Koldanda**	**18.75**	**337**	*e*P	**Pn**	**22 22 57.1**	**+2.4**
	comp=N,22nm,0.5s						
LSA	**Lhasa**	**19.02**	**358**	P	**Pn**	**22 22 57.7**	**-0.5**
PYUN	**Piuthan**	**19.28**	**336**	*e*P	**Pn**	**22 23 04.8**	**+3.6**
	comp=N,18nm,0.4s						
SMLA	**Simla**	**24.54**	**329**	*e*P	**P**	**22 23 55.7**	**+1.3**
ENH	**Enshi**	**25.57**	**37**	P	**P**	**22 24 04.1**	**+0.2**

ENH				IAmb	IAmb	22 24 04.6		
	comp=Z,11nm,0.9s							
H08S3	**Diego Garcia H**	**26.42**	**228**	T	T	22 51 34.7		
	baz=46,slow=75,SNR=1704							
H08S2	**Diego Garcia H**	**26.43**	**227**	T	T	22 51 33.8		
	baz=46,slow=75,SNR=1455							
H08S1	**Diego Garcia H**	**26.44**	**227**	T	T	22 51 36.0		
	baz=46,slow=75,SNR=1623							
NIL	**Nilore**	**28.57**	**326**	P	**P**	**22 24 30.1**	**-0.7**	
NIL				IAmb	IAmb	22 24 32.2		
	comp=Z,6.9nm,1.1s							
KDJ	**Kajisay**	**33.93**	**340**	P	**P**	**22 25 15.8**	**-2.2**	
KDJ				IAmb	IAmb	22 25 20.2		
	comp=Z,3.4nm,0.7s							
GAR	**Garm**	**34.17**	**329**	P	**P**	**22 25 18.8**	**-1.4**	
GAR				IAmb	IAmb	22 25 21.0		
	comp=Z,5.0nm,0.6s							
BTK	**Batken**	**34.75**	**331**	P	**P**	**22 25 24.9**	**-0.2**	
AAK	**Ala-Archa**	**35.32**	**338**	P	**P**	**22 25 30.4**	**+0.3**	
	comp=Z,2.4nm,0.6s,baz=167,slow=8.9,SNR=4.4							
AAK	**Ala-Archa**	**35.32**	**338**	P	**P**	**22 25 29.2**	**-0.9**	
AAK				IAmb	IAmb	22 25 32.9		
	comp=Z,4.4nm,0.9s							
MMRI	**Maumere**	**35.80**	**121**	P	**P**	**22 25 31.5**	**-2.8**	
MK31	**Makanchi Array**	**36.97**	**349**	P	**P**	**22 25 44.4**	**+0.5**	
MKAR	**Makanchi Array**	**36.97**	**349**	P	**P**	**22 25 44.7**	**+0.8**	
	comp=Z,4.0nm,0.8s,baz=167,slow=8.4,SNR=27							
MKAR	**Makanchi Array**	**36.97**	**349**	P	**P**	**22 25 44.5**	**+0.5**	
MAKZ	**Makanchi**	**37.04**	**349**	P	**P**	**22 25 44.8**	**+0.2**	
MAKZ				IAmb	IAmb	22 25 46.1		
	comp=Z,2.5nm,0.7s							
KK31	**Karatay Array**	**37.32**	**334**	P	**P**	**22 25 48.3**	**+1.3**	
KK31				IAmb	IAmb	22 25 49.0		
	comp=Z,3.3nm,0.7s							
KKAR	**Karatay Array**	**37.32**	**334**	P	**P**	**22 25 47.8**	**+0.8**	
KKAR	**Karatay Array**	**37.32**	**334**	P	**P**	**22 25 48.3**	**+1.3**	
KKAR				IAmb	IAmb	22 25 49.0		
	comp=Z,3.3nm,0.7s							
SONM	**Songino Array**	**39.10**	**16**	P	**P**	**22 26 03.3**	**+1.2**	
	comp=Z,0.9nm,0.4s,baz=201,slow=9.0,SNR=10							
SONM	**Songino Array**	**39.10**	**16**	P	**P**	**22 26 02.3**	**+0.3**	
ULN	**Ulaanbaatar**	**39.30**	**16**	P	**P**	**22 26 02.1**	**-1.7**	
INCN	**Inchon**	**41.17**	**44**	P	**P**	**22 26 17.3**	**-1.9**	
KURK	**Kurchatov**	**41.45**	**347**	P	**P**	**22 26 21.1**	**-0.2**	
KSRS	**Korea Array**	**42.03**	**44**	LR	LR	22 44 38.5		
	comp=Z,39nm,18.2s,baz=195,slow=37							
TLY	**Talaya**	**42.09**	**11**	LR	LR	22 45 21.5		
	comp=Z,42nm,18.2s,baz=147,slow=38							
ZAA0	**Zalesovo Array**	**43.60**	**354**	P	**P**	**22 26 38.8**	**+0.1**	
ZAA0				IAmb	IAmb	22 26 40.8		
	comp=Z,4.6nm,1.1s							
ZALV	**Zalesovo Beam**	**43.60**	**354**	P	**P**	**22 26 39.3**	**+0.6**	
	comp=Z,1.6nm,0.5s,baz=169,slow=8.9,SNR=11							
FITZ	**Fitzroy Crossi**	**43.91**	**130**	P	**P**	**22 26 42.3**	**+0.6**	
	comp=Z,2.9nm,0.8s,baz=346,slow=8.3,SNR=6.8							
BVAR	**Borovoye Array**	**45.70**	**342**	P	**P**	**22 26 55.5**	**+0.1**	
	comp=Z,0.4nm,0.4s,baz=143,slow=9.9,SNR=4.5							
ABKAR	**Akbulak array**	**46.76**	**332**	P	**P**	**22 27 04.1**	**+0.2**	
ATD	**Arta Tunnel**	**48.02**	**276**	P	**P**	**22 27 12.8**	**-1.5**	
AKTO	**Aktyubinsk**	**48.47**	**332**	P	**P**	**22 27 17.2**	**0.0**	
	comp=Z,1.0nm,0.5s,baz=126,slow=7.8,SNR=3.2							
WB0	**Warramunga Arr**	**51.66**	**126**	P	**P**	**22 27 42.0**	**+0.2**	
WB0				IAmb	IAmb	22 27 49.0		
	comp=Z,3.5nm,0.8s							
WRA	**Warramunga Arr**	**51.71**	**126**	P	**P**	**22 27 43.1**	**+0.9**	
	comp=Z,1.3nm,0.5s,baz=307,slow=8.1,SNR=42							
WRA				PcP	**PcP**	**22 28 56.1**	**+0.6**	
	comp=Z,0.5nm,0.5s,baz=315,slow=3.0,SNR=2.0							
WRA	**Warramunga Arr**	**51.71**	**126**	P	**P**	**22 27 42.6**	**+0.4**	
WB2	**Warramunga Arr**	**51.72**	**126**	P	**P**	**22 27 42.5**	**+0.3**	
WB2				IAmb	IAmb	22 27 43.7		
	comp=Z,3.2nm,0.5s							
WR0	**Warramunga Arr**	**51.88**	**126**	P	**P**	**22 27 44.0**	**+0.6**	
WR0				IAmb	IAmb	22 27 44.4		
	comp=Z,3.8nm,1.1s							
ARU	**Arti**	**52.50**	**337**	P	**P**	**22 27 47.4**	**-0.1**	
	comp=Z,0.3nm,0.3s,baz=186,slow=7.2,SNR=4.5							
ARU	**Arti**	**52.50**	**337**	IAmb	IAmb	22 27 48.7		
	comp=Z,3.3nm,0.9s							
ASAR	**Alice Springs**	**53.42**	**130**	P	**P**	**22 27 55.5**	**+0.7**	
	comp=Z,1.4nm,0.5s,baz=306,slow=6.9,SNR=25							
ASAR				PcP	**PcP**	**22 29 02.1**	**+0.3**	
	comp=Z,0.7nm,0.6s,baz=310,slow=3.3,SNR=4.3							
ASAR	**Alice Springs**	**53.42**	**130**	P	**P**	**22 27 55.2**	**+0.4**	
ASAR					**PcP**	**22 29 03.0**	**+1.1**	
COEN	**Coen**	**56.48**	**115**	P	**P**	**22 28 17.1**	**-0.1**	
COEN				IAmb	IAmb	22 28 20.4		
	comp=Z,10nm,1.1s							
PAF	**Port-aux-Franc**	**62.64**	**196**	P	**P**	**22 28 59.4**	**+0.5**	
STKA	**Stephens Creek**	**63.64**	**134**	P	**P**	**22 29 07.7**	**+1.8**	
	comp=Z,1.6nm,0.6s,baz=338,slow=9.4,SNR=4.6							
STKA	**Stephens Creek**	**63.64**	**134**	P	**P**	**22 29 06.5**	**+0.5**	
MILM	**Milestii Mici**	**63.96**	**317**	⇑P	**P**	**22 29 07.9**	**+0.1**	
CFR	**Carcaliu**	**64.05**	**315**	⇑P	**P**	**22 29 10.8**	**+2.3**	
VRI	**Vrincioaia**	**65.16**	**316**	⇑P	**P**	**22 29 17.3**	**+1.6**	
PLOR	**Plostina**	**65.21**	**316**	⇑P	**P**	**22 29 17.0**	**+0.9**	
TESR	**Tescani**	**65.33**	**316**	⇑P	**P**	**22 29 17.2**	**+0.4**	
MLR	**Muntele Rosu**	**65.63**	**315**	⇑P	**P**	**22 29 20.3**	**+1.3**	
BIZ	**Bicaz**	**65.78**	**317**	⇑P	**P**	**22 29 20.1**	**+0.3**	
VOIR		**66.24**	**315**	⇑P	**P**	**22 29 24.1**	**+1.3**	
BURAR	**Bucovina Array**	**66.50**	**317**	⇑P	**P**	**22 29 25.1**	**+0.6**	
BURAR	**Bucovina Array**	**66.50**	**317**	P	**P**	**22 29 24.6**	**+0.2**	
BUR08	**Bucovina Ar. S**	**66.51**	**317**	P	**P**	**22 29 24.4**	**-0.1**	
BUR08				IAmb	IAmb	22 29 26.1		
	comp=Z,2.5nm,1.1s							
CRZF	**Crozet Islands**	**67.09**	**209**	P	**P**	**22 29 26.7**	**-1.2**	
FIA1	**FINESS Array S**	**69.24**	**332**	P	**P**	**22 29 41.5**	**+0.2**	
FINES	**FINESS Array B**	**69.24**	**332**	P	**P**	**22 29 41.6**	**+0.4**	
	comp=Z,2.4nm,0.7s,baz=113,slow=5.5,SNR=10.0							
FINES	**FINESS Array B**	**69.24**	**332**	P	**P**	**22 29 41.5**	**+0.2**	
ARCES	**ARCESS Array B**	**71.94**	**340**	P	**P**	**22 29 58.5**	**+0.9**	
	comp=Z,2.0nm,0.8s,baz=82,slow=6.5,SNR=7.3							
ARCES	**ARCESS Array B**	**71.94**	**340**	P	**P**	**22 29 57.4**	**-0.3**	
GERES	**GERESS Array B**	**74.28**	**318**	P	**P**	**22 30 11.6**	**-0.4**	
	comp=Z,0.6nm,0.8s,baz=101,slow=2.7,SNR=6.3							
NOA	**NORSAR Array B**	**76.24**	**330**	P	**P**	**22 30 22.8**	**-0.1**	
	comp=Z,0.3nm,0.8s,baz=103,slow=5.2,SNR=1.9							
TORD	**Torodi Ar. Bea**	**87.75**	**283**	P	**P**	**22 31 25.5**	**+1.3**	
	comp=Z,0.3nm,0.8s,baz=123,slow=19,SNR=1.2							
IMAR	**Indian Mountai**	**89.99**	**22**	P	**P**	**22 31 34.8**	**+1.1**	
KHZ	**Kahutara**	**91.03**	**133**	P	**P**	**22 31 38.0**	**-0.9**	
BSWZ	**Blackbirch Sta**	**91.12**	**132**	P	**P**	**22 31 38.9**	**-0.6**	

*IDC **09** 22:22:23.6±3.2, 38°.31N×21°.95E, h0km, mb3.2/4, mb1 3.3/4, mb1mx3.2/41, mbtmp3.3/4, Error ellipse: s-maj=78.6km s-min=33.2km az=174.0*
*ATH **09** 22:22:24.4, 38°.36N×21°.88E, h17km±1km, ML3.0/10, Error ellipse: s-maj=1.5km s-min=0.7km az=327.0*
*THE **09** 22:22:24.6, 38°.36N×21°.88E, h1km, ML3.0/15, Error ellipse: s-maj=0.9km s-min=0.3km az=71.0*
ISC 09 22:22:24.6±0.8, 38°.36N±0°.02×21°.87E±0°.02, h11km±5km, n72, σ0°73/99, mb3.5/3, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.08**	**22**	P	**Pg**	**22 22 26.5**	**-0.5**
EFP				S	**Sg**	**22 22 28.2**	**-0.6**
	36μm,0.3s						
EFP	**Efpalio**	**0.08**	**22**	P	**Pg**	**22 22 26.6**	**-0.5**
LAKA	**Lakka**	**0.14**	**143**	P	**Pg**	**22 22 28.0**	**0.0**
SERG	**Sergoula**	**0.16**	**69**	P	**Pg**	**22 22 28.1**	**-0.1**
SERG				S	**Sg**	**22 22 30.8**	**+0.1**
	13μm,0.2s						
SERG	**Sergoula**	**0.16**	**69**	P	**Pg**	**22 22 28.2**	**+0.1**
SERG				S	**Sg**	**22 22 31.0**	**+0.3**
SERG				AML	AML	22 22 31.9	
	comp=E,20162μm,0.2s						
SERG				AML	AML	22 22 32.0	
	comp=N,30633μm,0.2s						
TRIZ	**Trizonia**	**0.16**	**87**	P	**Pg**	**22 22 28.2**	**+0.1**
TRIZ				S	**Sg**	**22 22 31.1**	**+0.5**
	comp=N,17μm,0.3s						
TRIZ	**Trizonia**	**0.16**	**87**	P	**Pg**	**22 22 28.5**	**+0.3**
TRIZ				S	**Sg**	**22 22 31.1**	**+0.5**
ALIK	**Aliki, Aigiali**	**0.21**	**117**	P	**Pg**	**22 22 29.3**	**+0.3**
ALIK				S	**Sg**	**22 22 32.2**	**+0.1**
ANX	**Ano Chora**	**0.24**	**10**	P	**Pg**	**22 22 29.4**	**-0.2**
ANX				S	**Sg**	**22 22 33.3**	**+0.3**
	comp=N,19μm,0.4s						
ANX	**Ano Chora**	**0.24**	**10**	P	**Pg**	**22 22 29.6**	**-0.1**
ANX				S	**Sg**	**22 22 33.4**	**+0.4**
ANX				AML	AML	22 22 35.3	
	comp=N,35749μm,0.4s						
ANX				AML	AML	22 22 35.5	
	comp=E,40942μm,0.4s						
PVO	**Paravola**	**0.38**	**314**	P	**Pg**	**22 22 31.8**	**-0.2**
PVO				S	**Sb**	**22 22 38.1**	**-1.0**
	comp=E,2μm,0.4s						
PVO	**Paravola**	**0.38**	**314**	P	**Pg**	**22 22 32.0**	**-0.1**
PVO				S	**Sb**	**22 22 38.4**	**-0.7**
PVO				AML	AML	22 22 41.6	
	comp=N,4802μm,0.4s						
PVO				AML	AML	22 22 42.0	
	comp=E,4716μm,0.4s						
AXS	**Araxos**	**0.42**	**248**	P	**Pg**	**22 22 32.9**	**+0.1**
AXS				S	**Sb**	**22 22 39.9**	**-0.4**
DRO	**Drossia**	**0.42**	**197**	P	**Pg**	**22 22 32.8**	**-0.1**
DRO				S	**Sb**	**22 22 39.9**	**-0.5**
	comp=E,3μm,0.3s						
DRO	**Drossia**	**0.42**	**197**	P	**Pg**	**22 22 32.9**	**0.0**
DRO				S	**Sb**	**22 22 39.8**	**-0.7**
DRO				AML	AML	22 22 40.2	
	comp=N,8105μm,0.4s						
DRO				AML	AML	22 22 40.4	
	comp=E,3589μm,0.3s						
RLS	**Riolos of Patr**	**0.43**	**227**	P	**Pg**	**22 22 33.1**	**0.0**
RLS				S	**Sb**	**22 22 40.2**	**-0.6**
	comp=E,1μm,0.3s						
RLS	**Riolos of Patr**	**0.43**	**227**	P	**Pg**	**22 22 33.2**	**0.0**
RLS				S	**Sb**	**22 22 40.4**	**-0.4**
RLS				AML	AML	22 22 40.8	
	comp=N,2750μm,0.3s						
RLS				AML	AML	22 22 41.1	
	comp=E,1774μm,0.4s						
DLFA	**Delphi**	**0.51**	**76**	P	**Pg**	**22 22 34.1**	**-0.4**
DLFA				S	**Sb**	**22 22 41.8**	**-1.1**
DSF	**Desfina**	**0.52**	**84**	P	**Pg**	**22 22 34.2**	**-0.5**
DSF				S	**Sg**	**22 22 41.9**	**+0.3**
	comp=E,1μm,0.1s						
DSF	**Desfina**	**0.52**	**84**	P	**Pg**	**22 22 34.4**	**-0.3**
DSF				S	**Sb**	**22 22 42.8**	**-0.5**
DSF				AML	AML	22 22 44.5	
	comp=E,1815μm,0.2s						
DSF				AML	AML	22 22 45.3	
	comp=N,2586μm,0.1s						
GUR	**Goura**	**0.56**	**138**	P	**Pg**	**22 22 35.0**	**-0.5**
GUR				S	**Sg**	**22 22 43.3**	**+0.4**
	comp=N,2μm,0.5s						
GUR	**Goura**	**0.56**	**138**	P	**Pg**	**22 22 35.0**	**-0.5**
GUR				S	**Sg**	**22 22 43.4**	**+0.4**
GUR				AML	AML	22 22 44.6	
	comp=E,2938μm,0.3s						
GUR				AML	AML	22 22 45.9	
	comp=N,5212μm,0.4s						
EVR	**Evrytania**	**0.56**	**355**	P	**Pg**	**22 22 34.9**	**-0.6**
EVR				S	**Sb**	**22 22 43.6**	**-1.0**
	comp=N,2μm,0.4s						
EVR	**Evrytania**	**0.56**	**355**	P	**Pg**	**22 22 35.2**	**-0.3**
EVR				S	**Sb**	**22 22 43.8**	**-0.7**
EVR				AML	AML	22 22 48.9	
	comp=E,3778μm,0.5s						
EVR				AML	AML	22 22 49.0	
	comp=N,2609μm,0.6s						
AST1	**Astakos**	**0.64**	**287**	P	**Pg**	**22 22 37.3**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.69**	**17**	P	**Pg**	**22 22 37.8**	**-0.1**
MAKR				S	**Sb**	**22 22 47.1**	**-1.0**
	comp=N,2μm,0.4s						
MAKR	**Makrakomi, Fth**	**0.69**	**17**	P	**Pg**	**22 22 37.7**	**-0.1**
MAKR				S	**Sb**	**22 22 47.7**	**-0.4**
MAKR				AML	AML	22 22 50.0	
	comp=E,5425μm,0.4s						
MAKR				AML	AML	22 22 50.6	
	comp=N,4436μm,0.5s						
AXAR	**Agios Charalam**	**0.74**	**56**	P	**Pg**	**22 22 38.2**	**-0.7**
AXAR				S	**Sb**	**22 22 49.4**	**-0.3**
	comp=N,2μm,0.4s						
AXAR	**Agios Charalam**	**0.74**	**56**	P	**Pg**	**22 22 38.3**	**-0.6**
AXAR				S	**Sb**	**22 22 49.3**	**-0.4**
AXAR				AML	AML	22 22 52.3	
	comp=N,4829μm,0.2s						
AXAR				AML	AML	22 22 54.2	
	comp=E,4386μm,0.4s						
AGG	**Agios Georgios**	**0.76**	**28**	P	**Pg**	**22 22 38.1**	**-1.1**
AGG				S	**Sb**	**22 22 50.0**	**-0.1**
	comp=E,832nm,0.4s						
AGG	**Agios Georgios**	**0.76**	**28**	P	**Pg**	**22 22 38.2**	**-1.0**
PROD	**Prodromos**	**0.82**	**96**	P	**Pg**	**22 22 40.1**	**-0.2**
PROD	**Prodromos**	**0.82**	**96**	P	**Pb**	**22 22 40.3**	**-0.5**
AMT	**Artemida-Makis**	**0.83**	**189**	P	**Pb**	**22 22 40.9**	**-0.1**
AMT	**Artemida-Makis**	**0.83**	**189**	P	**Pb**	**22 22 41.1**	**0.0**
TRIP	**Tripoli**	**0.89**	**159**	P	**Pg**	**22 22 41.0**	**-0.7**
TRIP	**Tripoli**	**0.89**	**159**	P	**Pg**	**22 22 40.9**	**-0.7**
LTK	**Loutraki**	**0.93**	**111**	P	**Pg**	**22 22 42.1**	**-0.3**
LTK	**Loutraki**	**0.93**	**111**	P	**Pg**	**22 22 42.2**	**-0.4**
LKR	**Lokris**	**0.93**	**71**	P	**Pg**	**22 22 42.2**	**-0.4**
LKR	**Lokris**	**0.93**	**71**	P	**Pg**	**22 22 42.2**	**-0.4**
LOUT	**Loutraki**	**0.94**	**113**	P	**Pn**	**22 22 43.0**	**-0.8**
EVGI	**Lefkada island**	**0.99**	**286**	P	**Pg**	**22 22 42.6**	**-1.0**
VLS	**Valsamata**	**1.02**	**260**	P	**Pb**	**22 22 43.3**	**-1.0**
VLS				S	**Sn**	**22 22 59.0**	**-0.2**
	comp=E,358nm,0.4s						
VLS	**Valsamata**	**1.02**	**260**	P	**Pb**	**22 22 43.3**	**-1.0**
FSK	**Fiskardo**	**1.03**	**276**	P	**Pb**	**22 22 43.6**	**-0.8**
FSK				S	**Sn**	**22 22 59.2**	**-0.2**
	comp=E,340nm,0.5s						
LKD2	**Lefkada island**	**1.04**	**295**	P	**Pb**	**22 22 44.0**	**-0.7**
VLX	**Vlachokerasia**	**1.06**	**158**	P	**Pb**	**22 22 44.0**	**-1.0**
VLX	**Vlachokerasia**	**1.06**	**158**	P	**Pb**	**22 22 44.1**	**-1.0**
VLMS	**Volimes, Zakyn**	**1.06**	**244**	P	**Pb**	**22 22 44.8**	**-0.3**
VILL	**Villia**	**1.15**	**99**	P	**Pn**	**22 22 46.3**	**-0.4**
ITM	**Ithomi**	**1.18**	**178**	P	**Pb**	**22 22 46.5**	**-0.4**
ITM	**Ithomi**	**1.18**	**178**	P	**Pg**	**22 22 47.0**	**-0.1**
MRKA	**Markates**	**1.39**	**75**	P	**Pg**	**22 22 51.2**	**-0.1**
NEO	**Neokhori**	**1.42**	**48**	P	**Pb**	**22 22 50.9**	**-0.2**
PYL	**PYLOS**	**1.46**	**184**	P	**Pn**	**22 22 50.8**	**-0.1**
SKIA	**Skiathos**	**1.49**	**57**	P	**Pb**	**22 22 51.8**	**-0.5**
ATH	**Athens Observa**	**1.51**	**104**	P	**Pg**	**22 22 53.1**	**-0.3**
ATHU	**Athens Univers**	**1.56**	**104**	P	**Pb**	**22 22 53.0**	**-0.4**
PTL	**Penteli**	**1.60**	**100**	P	**Pb**	**22 22 53.9**	**-0.3**
DION	**Dionisos Attik**	**1.65**	**99**	P	**Pb**	**22 22 54.7**	**-0.3**
VLI	**Veliai**	**1.84**	**152**	P	**Pb**	**22 22 57.5**	**-0.7**
KARY	**Karystos**	**2.05**	**98**	P	**Pb**	**22 23 00.0**	**-1.8**
VAY	**Valandovo**	**3.01**	**10**	*e*Pn	**Pn**	**22 23 13.9**	**+1.7**
STIP	**Stip**	**3.34**	**4**	*e*Pn	**Pb**	**22 23 21.9**	**-2.0**
MMB	**Musomiste**	**3.53**	**23**	*i* P	**Pn**	**22 23 20.9**	**+1.5**
RZN	**Rozhen**	**3.98**	**32**	*i* P	**Pn**	**22 23 29.1**	**+3.4**
VTS	**Vitosha**	**4.38**	**13**	*i* P	Pn	22 23 35.9	+4.7
ESDC	**Sonseca Array**	**20.10**	**282**	P	Pn	22 26 59.7	-0.4
	comp=E,0.3nm,0.7s,baz=79,slow=11,SNR=4.5						
FINES	**FINESS Array B**	**23.26**	**5**	P	**P**	**22 27 32.7**	**+1.0**
	comp=E,0.5nm,0.7s,baz=152,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**44.30**	**59**	P	**P**	**22 30 35.0**	**+0.7**
	comp=E,0.3nm,0.5s,baz=278,slow=7.1,SNR=5.9						
ZALV	**Zalesovo Beam**	**44.78**	**48**	P	**P**	**22 30 38.0**	**+0.1**
	comp=E,0.3nm,0.4s,baz=266,slow=14,SNR=1.8						

*IDC **09** 22:24:23.6±1.3, 0°.74N×146°.60E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/34, mbtmp3.9/8, ML3.0/1, MS3.3/5, Ms1 3.3/5, ms1mx2.9/37, Error ellipse: s-maj=46.0km s-min=19.2km az=114.0*
*NEIC **09** 22:24:25.3±1.3, 0°.7N±0°.1×146°.57E±0°.08, h10km±1km, mb4.1/5, Error ellipse: s-maj=20.1km s-min=12.8km az=13.0*
ISC 09 22:24:24.9±0.8, 0°.7N±0°.1×146°.6E±0°.1, h10km, n19, σ1°26/16, mb4.0/9, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**6.70**	**241**	Pn	**Pn**	**22 26 03.2**	**-0.3**
	0.3nm,0.3s,baz=100,slow=18,SNR=1.2						
JAY				Sn	Sn	22 27 08.4	-12
	2.7nm,0.3s,baz=269,slow=23,SNR=7.0						
JAY				LR	LR	22 28 15.3	
	comp=Z,373nm,18.6s,baz=333,slow=34						
KRVT	**Keravat (AS076**	**7.37**	**133**	LR	LR	22 28 47.1	
	comp=Z,132nm,18.7s,baz=247,slow=36						
RABL	**Rabaul**	**7.39**	**131**	Pn	**Pn**	**22 26 13.6**	**+0.5**
GUMO	**Guam**	**12.91**	**352**	LR	LR	22 32 16.6	
	comp=Z,33nm,18.2s,baz=200,slow=37						
HNR	**Honiara**	**16.68**	**127**	LR	LR	22 34 28.1	
	comp=Z,110nm,18.2s,baz=120,slow=36						
WB0	**Warramunga Arr**	**23.61**	**210**	P	**P**	**22 29 36.8**	**+0.5**
WB0				IAmb	IAmb	22 29 47.8	
	comp=Z,4.8nm,0.8s						
WR0	**Warramunga Arr**	**23.70**	**209**	P	**P**	**22 29 36.9**	**-0.2**
WR0				IAmb	IAmb	22 29 51.1	
	comp=Z,7.1nm,0.9s						
WB2	**Warramunga Arr**	**23.78**	**210**	P	**P**	**22 29 38.2**	**+0.3**
WRA	**Warramunga Arr**	**23.78**	**210**	P	**P**	**22 29 38.2**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=32,slow=10,SNR=12						
ASAR	**Alice Springs**	**27.19**	**206**	P	**P**	**22 30 10.5**	**+1.5**
	comp=Z,1.5nm,1.0s,baz=35,slow=8.8,SNR=9.4						
ASAR	**Alice Springs**	**27.19**	**206**	P	**P**	**22 30 11.8**	**+2.9**
FITZ	**Fitzroy Crossi**	**27.83**	**227**	P	**P**	**22 30 14.4**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=54,slow=7.7,SNR=6.2						
FITZ				LR	LR	22 41 23.9	
	comp=Z,125nm,19.6s,baz=172,slow=37						
FITZ	**Fitzroy Crossi**	**27.83**	**227**	P	**P**	**22 30 12.9**	**-1.8**
PLWZ	**Palliser**	**49.44**	**152**	P	**P**	**22 33 13.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**49.97**	**294**	P	**P**	**22 33 20.5**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=110,slow=5.0,SNR=6.9						
PETK	**Petropavlovsk-**	**53.03**	**8**	P	**P**	**22 33 43.4**	**+1.4**
	comp=Z,3.5nm,0.8s,baz=164,slow=7.2,SNR=5.7						
PETK	**Petropavlovsk-**	**53.03**	**8**	P	**P**	**22 33 42.6**	**+0.5**
MKAR	**Makanchi Array**	**72.13**	**319**	P	**P**	**22 35 48.9**	**-1.0**
	comp=Z,0.3nm,0.9s,baz=85,slow=8.8,SNR=1.9						
ILAR	**Eielson Array**	**79.52**	**24**	P	**P**	**22 36 30.9**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=244,slow=5.6,SNR=6.0						

*SNET **09** 22:35:45.9±0.3, 14°.27N×89°.59W, h15km±999km, ML2.0*
*GCG **09** 22:35:45.5±0.7, 14°.37N×89°.72W, h27km±4km, MD3.5*
ISC 09 22:35:44.9±1.4, 14°.29N±0°.06×89°.61W±0°.05, h35km, n8, σ0°45/12, 2C, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTO3	**Montecristo**	**0.27**	**65**	⇑*i* P	**Pn**	**22 35 52.4**	**-0.3**
MTO3				IAML		22 35 58.1	
	comp=Z,239nm,0.2s						
ESQI	**Esquipulas**	**0.38**	**44**	⇑*i* P	**Pn**	**22 35 54.0**	**0.0**
ESQI				*e*S	**Sn**	**22 36 00.3**	**+0.1**
SNJE	**San Jose**	**0.42**	**179**	*e*P	**Pn**	**22 35 54.8**	**+0.2**
SBLS	**San Blas**	**0.45**	**182**	*e*P	**Pn**	**22 35 55.2**	**+0.2**
NBG	**Las Nubes**	**0.77**	**293**	*e*P	**Pn**	**22 36 00.2**	**+0.6**
NBG				*e*S	**Sn**	**22 36 09.3**	**-0.9**
MRL	**Marmol**	**0.79**	**355**	*e*P	**Pn**	**22 36 00.2**	**+0.4**
MRL				*e*S	**Sn**	**22 36 10.3**	**-0.3**
IXG	**Ixpaco**	**0.81**	**262**	*e*P	**Pn**	**22 35 59.7**	**-0.4**
FUG	**Fuego 3**	**1.21**	**278**	*e*P	**Pn**	**22 36 05.3**	**-0.1**
FUG				*e*S	**Sn**	**22 36 21.1**	**+0.4**

*JMA **09** 22:37:29.6±0.4, 46°.98N×147°.32E, h477km, M3.7*
*NIED **09** 22:37:29.7, 46°.98N×147°.32E, h477km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.92; Mθθ0.31; Mφφ-1.22; Mrθ-0.64; Mθφ0.78; Mφr-2.46; Fault plane solution: M0 2.88000×10^15 NP1: φs190.00000°, δ80.00000°, λ111.00000°. NP2: φs305.00000°, δ23.00000°, λ26.00000°.*
*SKHL **09** 22:37:30.4±0.7, 47°.61N×147°.09E, h407km±15km, mb4.6/2, msh4.5/2*
*MOS **09** 22:37:30.1±1.0, 47°.71N×146°.94E, h414km, mb4.0/14, Error ellipse: s-maj=7.9km s-min=7.0km az=69.4*
*IDC **09** 22:37:31.1±0.9, 47°.71N×146°.93E, h413km±10km, mb3.4/18, mb1 3.6/26, mb1mx3.5/41, mbtmp4.3/26, Error ellipse: s-maj=11.3km s-min=8.5km az=141.0*
*NEIC **09** 22:37:31.9±1.2, 47°.7N±0°.1×147°.0E±0°.1, h422km±8km, mb4.4/128, Error ellipse: s-maj=16.6km s-min=12.7km az=139.0*
ISC 09 22:37:30.0±0.4, 47°.62N±0°.05×147°.05E±0°.05, h403km, n292, σ1°46/302, mb4.3/93, 15C-6D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.45**	**166**	*i* P	**P**	**22 38 31.5**	**+2.3**
KUR				AMB	A

OKH **Okha** 6.49 338 *e*P **P** **22 39 10.9 +3.4**
OKH AMB AMB 22 39 11.6
comp=Z,110nm,0.6s
SKR **Severo-Kuril's** 6.69 59 *e*P **P** **22 39 12.0 +1.4**
SKR AMB AMB 22 39 12.7
comp=Z,130nm,0.7s
SKR *e*S **S** **22 40 31.9 +0.1**
SKR A A 22 40 39.2
comp=Z,70nm,0.6s
SKR A A 22 40 39.2
comp=Z,90nm,0.6s
SKR AMS AMS 22 44 22.8
comp=Z,300nm,13.0s
SKR **Severo-Kuril's** 6.69 59 *e*PN **P** **22 39 11.4 +0.8**
SKR *e*S **S** **22 40 30.4 -1.4**
SKR pmax pmax
comp=Z,132nm,0.7s
SKR smax smax
comp=E,93nm,0.6s
SKR smax smax
comp=N,70nm,0.7s
SKR MLR MLR
comp=Z,200nm,14.0s
SKR MLR MLR
comp=Z,300nm,13.0s
NKL **Nikolayevsk** 6.88 326 *e*P **P** **22 39 14.5 +1.9**
JKB **Kayabe** 7.15 219 *e*S **S** **22 40 35.5 -6.0**
PAU **Pauzhetka** 7.42 55 *i*P **P** **22 39 20.1 +1.4**
PAU AMB AMB 22 39 21.0
comp=Z,230nm,0.9s
JOT **Ohata** 7.57 217 *e*S **S** **22 40 42.8 -7.3**
GRNR **Gornyy** 7.65 298 *i*P **P** **22 39 23.0 +1.8**
GRNR AMB AMB 22 39 23.4
comp=Z,30nm,0.6s
GRNR **Gornyy** 7.65 298⇑ *i*PN **P** **22 39 23.0 +1.8**
GRNR pmax pmax
comp=Z,30nm,0.6s
GRNR MLR MLR
comp=E,40nm,16.0s
GRNR MLR MLR
comp=N,50nm,12.0s
GRNR MLR MLR
comp=Z,90nm,12.0s
TEY **Ternei** 7.68 254 *i*P **P** **22 39 23.5 +1.8**
TEY AMB AMB 22 39 24.3
comp=Z,20nm,0.8s
TEY AMB AMB 22 39 24.3
comp=Z,110nm,0.8s
TEY AMB AMB 22 39 24.3
comp=Z,110nm,0.8s
TEY **Ternei** 7.68 254⇓ *i*PN **P** **22 39 23.5 +1.8**
TEY pmax pmax
comp=N,20nm,0.8s
TEY pmax pmax
comp=E,110nm,0.8s
TEY pmax pmax
comp=Z,110nm,0.8s
PEA0B **Petropavlovsk-** 8.74 47 *ce*PN **P** **22 39 35.1 +1.8**
PEA0B **Petropavlovsk-** 8.74 47 **P** **22 39 35.0 +1.6**
PETK **Petropavlovsk-** 8.74 47 P **P** **22 39 34.8 +1.5**
comp=Z,0.7nm,0.3s,baz=224,slow=8.7,SNR=21
PETK S **S** **22 41 10.3 -4.2**
comp=Z,1.0nm,0.3s,baz=105,slow=3.0,SNR=6.3
PETK **Petropavlovsk-** 8.74 47 P **P** **22 39 34.6 +1.2**
PET **Petropavlovsk** 9.18 50 *e*P **P** **22 39 40.0 +1.9**
PET AMB AMB 22 39 43.1
comp=Z,60nm,1.0s
PET **Petropavlovsk** 9.18 50⇑ *e*PN **P** **22 39 40.0 +1.9**
PET pmax pmax
comp=Z,71nm,1.3s
KLR **Kul'dur** 10.30 285 P **P** **22 39 52.8 +2.1**
comp=Z,1.8nm,0.3s,baz=84,slow=9.8,SNR=42
KLR S **S** **22 41 47.7 +0.9**
baz=266,slow=22,SNR=9.6
KLR **Kul'dur** 10.30 285 *e*P **P** **22 39 52.9 +2.2**
KLR AMB AMB 22 39 54.6
comp=Z,20nm,0.9s
KLR **Kul'dur** 10.30 285 *de*PN **P** **22 39 52.9 +2.2**
KLR pmax pmax
comp=Z,17nm,0.9s
EKMR **Ekimchan** 10.53 306 *e*P **P** **22 39 56.0 +2.8**
EKMR AMB AMB 22 39 59.8
comp=Z,10.0nm,0.7s
USA0B **Ussuriysk Arra** 11.04 258 *d*PN **P** **22 39 59.0 +0.1**
USA0B **Ussuriysk Arra** 11.04 258 P **P** **22 39 59.6 +0.8**
USRK **Ussuriysk Ar.** 11.04 258 P **P** **22 39 59.6 +0.7**
baz=68,slow=12,SNR=22
USRK **Ussuriysk Ar.** 11.04 258 P **P** **22 39 59.2 +0.3**
VLA **Vladivostok** 11.57 253 *i*P **P** **22 40 05.3 +0.5**
VLA AMB AMB 22 40 09.4
comp=Z,30nm,0.8s
VLA **Vladivostok** 11.57 253 *i*PN **P** **22 40 05.3 +0.5**
VLA pmax pmax
comp=Z,26nm,0.8s
MDJ **Mudanjiang** 12.48 263 P **P** **22 40 15.9 +1.1**
MJB9 **Matsu-Tunnel** 12.86 214 P **P** **22 40 21.0 +1.9**
MAJO **Matsushiro** 12.86 214 *i*PN **P** **22 40 20.5 +1.5**
MAJO pmax pmax
comp=Z,9.0nm,1.0s
MAJO **Matsushiro** 12.86 214 P **P** **22 40 20.7 +1.7**
MAT **Matsushiro** 12.86 214 P **P** **22 40 20.4 +1.4**
MJAR **Matsushiro Arr** 12.86 214 P **P** **22 40 20.9 +1.9**
comp=Z,0.2nm,0.3s,baz=11,slow=11,SNR=14
MJAR **Matsushiro Arr** 12.86 214 PN **P** **22 40 20.5 +1.5**
MJAR **Matsushiro Arr** 12.86 214 P **P** **22 40 20.5 +1.5**
BMKR **Bomnak** 13.43 309 *i*P **P** **22 40 26.7 +1.7**
BMKR AMB AMB 22 40 27.0
comp=Z,20nm,0.6s
BMKR AMB AMB 22 40 27.0
comp=Z,30nm,0.6s
BMKR AMB AMB 22 40 27.0
comp=Z,60nm,0.6s
ZEA **Zeya** 13.95 303 *i*P **P** **22 40 32.0 +1.3**
ZEA **Zeya** 13.95 303 *e*P **P** **22 40 31.2 +0.5**
KROS **Kirovskiy** 14.33 306 *i*P **P** **22 40 36.8 +2.0**
KROS AMB AMB 22 40 37.0
comp=Z,20nm,0.7s
KROS AMB AMB 22 40 37.0
comp=Z,40nm,0.7s
KROS AMB AMB 22 40 37.0
comp=Z,50nm,0.7s
INU **Inuyama** 14.36 215 P **P** **22 40 36.2 +0.8**
KSRS **Korea Array** 17.33 241 P **P** **22 41 09.2 +2.0**
comp=Z,0.7nm,0.3s,baz=50,slow=10,SNR=19
KS19 **Wonju Array Si** 17.33 241 P **P** **22 41 09.1 +1.8**
KSAR **Wonju Array Be** 17.36 241 *e*P **P** **22 41 08.6 +1.1**
KSAR **Wonju Array Be** 17.36 241 P **P** **22 41 08.6 +1.1**
KSAR **Wonju Array Be** 17.36 241 P **P** **22 41 08.6 +1.1**
YAK **Yakutsk** 17.48 332 P **P** **22 41 07.8 -0.6**
comp=Z,0.2nm,0.3s,baz=128,slow=1.6,SNR=14
YAK **Yakutsk** 17.48 332 *e*P **P** **22 41 07.0 -1.4**
YAK *e*S **S** **22 44 06.6 -2.7**
YAK pmax pmax
comp=Z,24nm,0.8s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax smax
comp=N,66nm,1.9s
YAK smax smax
comp=E,40nm,1.4s
YAK **Yakutsk** 17.48 332 P **P** **22 41 07.9 -0.5**
HIA **Hailar** 18.16 285 *i*P **P** **22 41 14.9 -1.0**
HIA pmax pmax
comp=Z,7.0nm,1.1s
JNU **Nakatsue** 18.96 226 P **P** **22 41 23.9 -0.4**
comp=Z,0.8nm,0.3s,baz=76,slow=3.3,SNR=6.7
JNU **Nakatsue** 18.96 226 P **P** **22 41 25.1 +0.7**
AMKA **Amchitka** 21.18 68 P **P** **22 41 45.3 +0.6**
BOD **Bodaibo** 22.25 310 *e*P **P** **22 41 52.8 -1.5**
BOD **Bodaibo** 22.25 310 *e*P **P** **22 41 52.8 -1.5**
BOD pmax pmax
comp=Z,6.0nm,1.4s
BJT **Baijiatuau** 23.43 262 P **P** **22 42 06.1 +0.9**
BJT pmax pmax
comp=Z,13nm,0.9s
BJT **Baijiatuau** 23.43 262 P **P** **22 42 06.1 +0.9**
BJT IAmb IAmb 22 42 08.1
comp=Z,13nm,0.9s
TIXI **Tiksi** 25.57 347 *i*P **P** **22 42 24.9 +1.0**
TIXI **Tiksi** 25.57 347 *i*P **P** **22 42 24.9 +1.0**
TIXI pmax pmax
comp=Z,2.0nm,1.1s
HHC **Hu-ho-hao-te** 26.14 268 *e*P **P** **22 42 30.8 +1.3**
HHC pmax pmax
comp=Z,38nm,0.8s
HHC pmax pmax
comp=Z,130nm,5.0s
ULN **Ulaanbaatar** 26.70 286 *e*P **P** **22 42 34.6 +0.2**
ULN **Ulaanbaatar** 26.70 286 *ce*P **P** **22 42 34.6 +0.2**
ULN pmax pmax
comp=Z,26nm,2.5s
ULN **Ulaanbaatar** 26.70 286 P **P** **22 42 34.7 +0.3**
ULN IAmb IAmb 22 42 40.5
comp=Z,13nm,1.0s
SONM **Songino Array** 27.13 286 P **P** **22 42 38.7 +0.5**
comp=Z,1.6nm,0.8s,baz=76,slow=8.9,SNR=8.2
SONM **Songino Array** 27.13 286 P **P** **22 42 38.3 +0.1**
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM **Songino Array** 27.13 286 P **P** **22 42 38.3 +0.1**
TLY **Talaya** 28.08 295 *i*P **P** **22 42 46.4 0.0**
TLY **Talaya** 28.08 295 *i*P **P** **22 42 46.4 0.0**
TLY pmax pmax
comp=Z,6.0nm,0.7s
ZAK **Zakamensk** 28.54 292 *e*P **P** **22 42 50.3 -0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
WHN **Wuhan** 30.29 248 ⇓P **P** **22 43 06.1 +0.2**
NACB **Ninganchiao** 30.93 230 P **P** **22 43 12.2 +0.7**
XAN **Xi'an** 31.55 259 P **P** **22 43 17.4 +0.5**
XAN pmax pmax
comp=Z,18nm,0.9s
XAN **Xi'an** 31.55 259 P **P** **22 43 16.4 -0.5**
XAN pmax pmax
comp=Z,12nm,0.8s
XAN **Xi'an** 31.55 259 P **P** **22 43 16.4 -0.5**
XAN IAmb IAmb 22 43 18.0
comp=Z,12nm,0.8s
CNBA **Chernabura Isl** 33.47 57 P **P** **22 43 33.3 +0.3**
LZH **Lanzhou** 33.77 266 ⇑P **P** **22 43 36.4 +0.3**
LZH pP pP 22 44 53.1 +2.7
LZH PP PP 22 45 16.4 +13
LZH sP sP 22 45 33.8 -3.1
LZH pmax pmax
comp=Z,27nm,1.3s
LZH pmax pmax
comp=Z,100nm,5.0s
GTA **Gaotai** 34.77 274 ⇑P **P** **22 43 45.6 +1.2**
GTA ScP **ScP** **22 49 12.4 -1.0**
GTA pmax pmax
comp=Z,12nm,1.0s
CHIR **Chirikof Islan** 35.51 55 P **P** **22 43 50.4 +0.2**
IMAR **Indian Mountai** 35.54 37 P **P** **22 43 50.3 -0.1**
OHAK **Old Harbor** 36.50 52 P **P** **22 43 58.6 +0.1**
SPU **Mount Spurr** 36.52 45 P **P** **22 43 59.7 +0.9**
KDAK **Kodiak Island** 36.77 51 P **P** **22 44 01.2 +0.5**
KDAK pmax pmax
comp=Z,195nm,1.9s
KDAK **Kodiak Island** 36.77 51 P **P** **22 44 01.2 +0.5**
MDM **Murphy Dome** 37.88 39 P **P** **22 44 10.3 +0.4**
GHO **Glory Hole Cre** 37.93 44 P **P** **22 44 11.0 +0.5**
SEW **Seward** 37.95 47 P **P** **22 44 10.8 +0.4**
CCB **Clear Creek Bu** 38.09 39 P **P** **22 44 11.2 -0.3**
CCB IAmb IAmb 22 45 27.4
comp=Z,21nm,1.9s
SML **Sawmill** 38.21 44 P **P** **22 44 13.4 +0.7**
IL31 38.47 39 P **P** **22 44 15.2 +0.6**
ILAR **Eielson Array** 38.47 39 P **P** **22 44 14.9 +0.3**
comp=Z,2.1nm,0.6s,baz=274,slow=7.7,SNR=16
ILAR **Eielson Array** 38.47 39 P **P** **22 44 14.8 +0.1**
ILAR **Eielson Array** 38.47 39 P **P** **22 44 14.8 +0.1**
HDA **Harding Lake** 38.48 40 P **P** **22 44 14.6 -0.2**
HDA IAmb IAmb 22 44 30.4
comp=Z,26nm,1.8s
DGZ **Jazzator, Alta** 38.54 296 *i*P **P** **22 44 15.7 0.0**
DGZ pmax pmax
comp=Z,4.0nm,0.6s
ZALV **Zalesovo Beam** 38.72 303 P **P** **22 44 15.8 -1.0**
comp=Z,1.9nm,0.7s,baz=76,slow=6.0,SNR=6.5
ZALV PcP **PcP** **22 46 18.4 -0.5**
comp=Z,0.6nm,0.3s,baz=45,slow=5.3,SNR=2.6
ZALV **Zalesovo Beam** 38.72 303 P **P** **22 44 15.6 -1.2**
FID **Port Fidalgo** 39.27 45 P **P** **22 44 20.9 -0.4**
KLU **Klutina** 39.39 44 P **P** **22 44 22.0 -0.4**
KLU IAmb IAmb 22 45 10.7
comp=Z,40nm,1.7s
RIDG **Independent Ri** 39.49 40 P **P** **22 44 21.8 -1.3**
RIDG IAmb IAmb 22 45 07.1
comp=Z,18nm,1.5s
DOT **Dot Lake** 39.85 41 P **P** **22 44 23.2 -2.8**
DOT IAmb IAmb 22 44 57.9
comp=Z,21nm,1.6s
WMQ **Urumqi** 40.74 287 *e*P **P** **22 44 34.5 +1.0**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,120nm,4.9s
WMQ LR LR
comp=N,340nm,28.8s
WMQ LR LR
comp=E,1μm,29.2s
WMQ LR LR
comp=Z,88nm,28.8s
BCAR **Beaver Creek A** 40.97 41 P **P** **22 44 35.8 +0.8**
BARN **Barnard Glacie** 41.50 44 P **P** **22 44 40.4 +0.8**
BARN IAmb IAmb 22 46 06.5
comp=Z,40nm,1.7s
MKAR **Makanchi Array** 42.84 294 P **P** **22 44 49.9 -0.3**
comp=Z,5.1nm,0.7s,baz=68,slow=7.7,SNR=52
MKAR ScP **ScP** **22 49 41.7 -2.6**
comp=Z,0.4nm,0.6s,baz=75,slow=4.5,SNR=4.8
MAKZ **Makanchi** 43.03 294 P **P** **22 44 51.4 -0.3**
MAKZ pmax pmax
comp=Z,6.0nm,0.7s
MAKZ **Makanchi** 43.03 294 P **P** **22 44 51.4 -0.3**
INK **Inuvik** 43.13 32 P **P** **22 44 51.9 -0.2**
INK pmax pmax
comp=Z,19nm,1.9s
INK **Inuvik** 43.13 32 P **P** **22 44 51.9 -0.2**
INK IAmb IAmb 22 45 52.6
comp=Z,19nm,1.9s
KURK **Kurchatov** 43.40 301 *e*P **P** **22 44 54.1 -0.5**
KURK **Kurchatov** 43.40 301 *ce*P **P** **22 44 54.1 -0.5**
KURK pmax pmax
comp=Z,19nm,1.3s
KURK **Kurchatov** 43.40 301 P **P** **22 44 54.0 -0.5**
KURK IAmb IAmb 22 44 54.8
comp=Z,10nm,0.8s
SLVN **Son La** 43.40 248 IAmb IAmb 22 44 57.6
comp=Z,21nm,1.5s
HYT **Haines Junctio** 43.51 44 P **P** **22 44 58.0 +2.6**
LSA **Lhasa** 46.13 268 P **P** **22 45 17.4 +0.8**
LSA pmax pmax
comp=Z,12nm,0.6s
LSA **Lhasa** 46.13 268 P **P** **22 45 17.4 +0.8**
LSA IAmb IAmb 22 45 19.0
comp=Z,12nm,0.6s
BRVK **Borovoye** 47.11 307 *e*P **P** **22 45 22.4 -0.8**
BRVK **Borovoye** 47.11 307 *ce*P **P** **22 45 22.4 -0.8**
BRVK pmax pmax
comp=Z,5.0nm,1.7s
BRVK **Borovoye** 47.11 307 P **P** **22 45 23.0 -0.2**
TARG **Taragay, Kyrgy** 48.11 290 P **P** **22 45 31.3 -0.1**
SHL **Shillong** 48.31 263 P **P** **22 45 33.1 +0.2**
SHL pmax pmax
comp=Z,13nm,1.0s
SHL **Shillong** 48.31 263 P **P** **22 45 33.0 +0.2**
SHL IAmb IAmb 22 45 33.6
comp=Z,13nm,1.0s
CHTO **Chiang Mai** 48.40 251 P **P** **22 45 33.9 +0.5**
CHTO pmax pmax
comp=Z,5.0nm,0.6s
CHTO **Chiang Mai** 48.40 251 P **P** **22 45 33.9 +0.5**
CMAR **Chiang Mai Arr** 48.66 250 P **P** **22 45 33.7 -1.7**
comp=Z,1.5nm,0.4s,baz=37,slow=7.4,SNR=9.7
CMAR ScP **ScP** **22 50 08.2 -0.7**
comp=Z,0.7nm,0.4s,baz=25,slow=3.1,SNR=5.9
CMAR **Chiang Mai Arr** 48.66 250 *ce*P **P** **22 45 36.5 +1.1**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
TKM2 **Tokmak 2** 48.88 292 P **P** **22 45 37.1 +0.2**
SNR=7.0
EUNU **Eureka** 49.07 11 P **P** **22 45 37.1 -0.6**
USP **Ospenovka** 49.38 293 P **P** **22 45 40.9 +0.4**
SNR=9.9
KZA **Kyzart** 49.54 292 P **P** **22 45 43.3 +1.1**
SNR=8.4
AAK **Ala-Archa** 49.71 293 *e*P **P** **22 45 43.4 +0.3**
AAK pmax pmax
comp=Z,5.0nm,0.7s
TAPN **Taplejung** 49.96 268 *e*P **P** **22 45 45.1 -0.2**
comp=Z,14nm,0.4s
EKS2 **Erkin-Say** 50.15 293 P **P** **22 45 46.7 +0.4**
SNR=14
KSH **Kashi** 50.48 288 *e*P **P** **22 45 53.3 +4.5**
KSH pmax pmax
comp=Z,11nm,0.6s
AML **Almayashu** 50.48 293 P **P** **22 45 49.8 +0.7**
SNR=5.4
ODAN **Odare** 50.49 268 *e*P **P** **22 45 49.5 +0.3**
comp=Z,8.0nm,0.4s
JIRN **Jiri** 50.78 270 *e*P **P** **22 45 51.9 +0.4**
RAMN **Ramite** 50.97 269 *e*P **P** **22 45 53.1 +0.4**
RES **Resolute Bay** 51.29 17 P **P** **22 45 53.3 -0.7**
RES pmax pmax
comp=Z,25nm,1.2s
RES **Resolute Bay** 51.29 17 P **P** **22 45 53.3 -0.7**
RES IAmb IAmb 22 47 19.1
comp=Z,25nm,1.2s
KKN **Kakani** 51.32 270 *e*P **P** **22 45 55.6 +0.4**
comp=Z,14nm,0.5s
PKI **Pulchoki** 51.37 270 *e*P **P** **22 45 55.9 +0.1**
comp=Z,8.2nm,0.5s
ARU **Arti** 51.52 315 *i*P **P** **22 45 55.2 -0.8**
ARU **Arti** 51.52 315 *di*P **P** **22 45 55.2 -0.8**
ARU 22 47 01.9
ARU *PP **pP** **22 47 17.2 -0.4**
ARU 22 47 53.3
ARU S **S** **22 52 41.4 -3.2**
ARU pmax pmax
comp=Z,10.0nm,0.7s
ARU **Arti** 51.52 315 P **P** **22 45 54.9 -1.2**
ARU IAmb IAmb 22 45 56.1
comp=Z,11nm,0.8s
DMN **Daman** 51.55 270 *e*P **P** **22 45 57.7 +0.7**
GKN **Gorkha** 51.62 271 *e*P **P** **22 45 57.8 +0.5**
comp=Z,13nm,0.3s
KKAR **Karatay Array** 51.92 295 P **P** **22 45 58.9 -0.3**
KKAR **Karatay Array** 51.92 295 P **P** **22 45 58.9 -0.3**
KKAR **Karatay Array** 51.92 295 IAmb IAmb 22 45 59.8
comp=Z,6.5nm,0.8s
DANN **Dangsing** 51.99 272 *e*P **P** **22 46 01.1 +0.9**
comp=Z,62nm,0.6s
KOLN **Koldanda** 52.47 272 *e*P **P** **22 46 04.3 +0.7**
YKA **Yellowknife Ar** 52.65 35 P **P** **22 46 03.9 -0.2**
comp=Z,0.8nm,0.6s,baz=305,slow=7.3,SNR=3.5
PYUN **Piuthan** 52.67 272 *e*P **P** **22 46 05.7 +0.7**
SANI **Sanana** 52.79 207 P P 22 45 58.8 -6.9
comp=Z,3μmcomp=Z,105nm,0.5s
BTK **Batken** 53.45 292 IAmb IAmb 22 46 11.3
comp=Z,12nm,0.7s
NLAI **Namlea** 53.59 205 P P 22 46 01.3 -10
comp=Z,286nm,0.5s
ABKAR **Akbulak array** 54.64 307 P **P** **22 46 18.0 -0.6**
ARCES **ARCESS Array B** 55.61 339 P **P** **22 46 23.8 -1.3**
ARCES **ARCESS Array B** 55.61 339 P **P** **22 46 23.8 -1.3**
ARE0 **ARCESS Array S** 55.61 339 P **P** **22 46 23.7 -1.4**
NIL **Nilore** 55.70 284 P **P** **22 46 27.1 +0.8**
NIL pmax pmax
comp=Z,22nm,0.9s
NIL **Nilore** 55.70 284 P **P** **22 46 27.1 +0.8**
NIL IAmb IAmb 22 46 28.4
comp=Z,22nm,0.9s
KULM **Kulim** 57.86 238 P **P** **22 46 42.0 +0.5**
KULM IAmb IAmb 22 46 59.5
comp=Z,36nm,1.5s
KBL **Kabul** 57.88 288 P **P** **22 46 41.1 -0.6**
KBL pmax pmax
comp=Z,12nm,0.8s
KBL **Kabul** 57.88 288 P **P** **22 46 41.1 -0.6**
KBL IAmb IAmb 22 46 41.5
comp=Z,12nm,0.8s
B08A **Colville Reser** 58.65 51 P **P** **22 46 47.4 +0.9**
SUMG **Summit** 60.05 2 P **P** **22 46 55.6 -0.3**
SUMG pmax pmax
comp=Z,11nm,1.2s
SUMG **Summit** 60.05 2 P **P** **22 46 55.6 -0.3**
SUMG IAmb IAmb 22 48 58.4
comp=Z,11nm,1.2s
LHMI **Lhok Sumawe** 60.08 242 P **P** **22 46 56.4 0.0**
PINE **Pine Mountain** 60.62 56 P **P** **22 47 02.4 +2.4**
PINE IAmb IAmb 22 47 03.0
comp=Z,8.4nm,0.8s
JCC **Jacoby Creek,** 60.71 60 P **P** **22 47 00.3 0.0**
KHMM **Horse Mountain** 60.85 60 P **P** **22 47 02.3 +0.8**
KHMM IAmb IAmb 22 49 09.6
comp=Z,35nm,1.4s
YBH **Yreka Blue Hor** 60.91 59 P **P** **22 47 03.3 +1.5**
YBH pmax pmax
comp=Z,11nm,1.4s
YBH **Yreka Blue Hor** 60.91 59 P **P** **22 47 03.3 +1.5**
YBH IAmb IAmb 22 47 27.7
comp=Z,10nm,1.4s
WALA **Waterton Lakes** 61.00 48 P **P** **22 47 02.1 -0.3**
WALA IAmb IAmb 22 49 01.1
comp=Z,34nm,1.9s
K05A **Summer Lake** 61.32 57 P **P** **22 47 06.1 +1.5**
K05A IAmb IAmb 22 47 18.0
comp=Z,37nm,1.9s
COEN **Coen** 61.39 184 P **P** **22 47 04.7 -0.4**
FIA1 **FINESS Array S** 61.41 332 P **P** **22 47 03.3 -1.3**
FINES **FINESS Array B** 61.41 332 P **P** **22 47 02.2 -2.4**
comp=Z,3.1nm,0.6s,baz=43,slow=7.4,SNR=32
FINES **FINESS Array B** 61.41 332 P **P** **22 47 03.5 -1.2**
FINES **FINESS Array B** 61.41 332 P **P** **22 47 03.5 -1.2**
OBN **Obninsk** 62.18 323 *i*P **P** **22 47 11.3 +1.5**
OBN **Obninsk** 62.18 323 *i*P **P** **22 47 11.3 +1.5**
OBN *i* 22 47 43.3
OBN *i* 22 49 22.4
OBN pmax pmax
comp=Z,5.0nm,0.9s
GEYT **Alibeck** 62.57 297 P **P** **22 47 13.0 +0.2**
comp=Z,9.1nm,0.6s,baz=11,slow=1.5,SNR=18
GEYT **Alibeck** 62.57 297 P **P** **22 47 12.9 +0.2**
GYA0B **ALIBECK ARRAY** 62.57 297 P **P** **22 47 12.6 -0.2**
GYA0B IAmb IAmb 22 47 13.8
comp=Z,8.5nm,0.8s
EGMT **Eagleton** 63.76 47 P **P** **22 47 21.2 +0.8**
EGMT IAmb IAmb 22 49 38.3
comp=Z,33nm,2.0s
LRM **Limekiln Ridge** 63.88 50 P **P** **22 47 21.8 +0.5**
DLMT **Dillon** 64.12 50 P **P** **22 47 23.2 +0.4**
PAHR **Pah Rah Range** 64.14 59 P **P** **22 47 23.6 +0.5**
BOZ **Bozeman (W)** 64.46 50 IAmb IAmb 22 47 26.5
comp=Z,3.9nm,0.6s
KNRA **Kununurra** 65.10 199 P **P** **22 47 28.3 -0.8**
YHL **Hebgen Lake** 65.20 50 P **P** **22 47 30.4 +0.5**
KVN **Kaiserville** 65.32 59 P **P** **22 47 31.4 +0.8**
KVN pmax pmax
comp=Z,7.0nm,1.1s
KVN **Kaiserville** 65.32 59 P **P** **22 47 31.4 +0.8**
KVN IAmb IAmb 22 47 32.8
comp=Z,6.8nm,1.1s
NVAR **Mina Array Bea** 65.62 59 P **P** **22 47 34.1 +1.6**
comp=Z,1.7nm,0.8s,baz=283,slow=7.4,SNR=9.9
NVAR **Mina Array Bea** 65.62 59 P **P** **22 47 32.8 +0.3**
NC303 **NORSAR Array S** 65.78 338 P **P** **22 47 32.2 -0.7**
NC405 **NORSAR Array S** 65.79 338 P **P** **22 47 31.7 -1.3**
ELK **Elko** 65.81 56 P **P** **22 47 34.3 +0.6**
ELK pmax pmax
comp=Z,2.0nm,0.7s
ELK **Elko** 65.81 56 P **P** **22 47 34.3 +0.6**
NB201 **NORSAR Array S** 65.95 338 P **P** **22 47 32.8 -1.2**
NB2 **NORSAR Subarra** 65.98 338 P **P** **22 47 32.3 -1.9**
comp=Z,9.2nm,1.4s,baz=30,slow=6.2
NOA **NORSAR Array B** 65.98 338 P **P** **22 47 33.5 -0.7**
comp=Z,1.0nm,0.7s,baz=30,slow=6.7,SNR=8.3
RLMT **Red Lodge** 66.00 49 P **P** **22 47 35.5 +0.7**
RLMT IAmb IAmb 22 49 04.7
comp=Z,11nm,1.6s
NBO00 **NORSAR Array S** 66.10 338 P **P** **22 47 34.5 -0.4**
FXWY **Fox Creek** 66.11 51 P **P** **22 47 36.3 +0.7**
DGMT **Dagmar** 66.11 44 P **P** **22 47 35.8 +0.5**
DGMT IAmb IAmb 22 47 36.3
comp=Z,6.4nm,0.6s
REDW **Red Top Meadow** 66.39 51 IAmb IAmb 22 47 39.4
comp=Z,14nm,1.6s
KIV **Kislovodsk** 67.16 311 *e*P **P** **22 47 42.5 +0.6**
KIV **Kislovodsk** 67.16 311 P **P** **22 47 42.5 +0.6**
KIV pmax pmax
comp=Z,8.0nm,0.8s

KIV	**Kislovodsk**	**67.16**	**311**	P	**P**	**22 47 42.5**	**+0.6**
KIV				IAmb	IAmb	22 47 44.0	
	comp=Z,8.5nm,0.8s						
KBZ	**Khabaz**	**67.21**	**310**	P	**P**	**22 47 42.5**	**+0.4**
	comp=Z,4.4nm,0.7s,baz=30,slow=5.7,SNR=12						
KBZ	**Khabaz**	**67.21**	**310**	*eP*	**P**	**22 47 43.0**	**+0.9**
KBZ	**Khabaz**	**67.21**	**310**	*ceP*	**P**	**22 47 43.0**	**+0.9**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HWUT	**Hardware Ranch**	**67.23**	**53**	P	**P**	**22 47 43.1**	**+0.6**
HWUT				IAmb	IAmb	22 47 44.8	
	comp=Z,5.1nm,1.0s						
R11A	**Troy Canyon, C**	**67.24**	**58**	IAmb	IAmb	22 47 44.5	
	comp=Z,10nm,1.9s						
PD31	**Pinedale Array**	**67.49**	**51**	IAmb	IAmb	22 47 45.7	
	comp=Z,5.4nm,1.0s						
PDAR	**Pinedale Array**	**67.49**	**51**	P	**P**	**22 47 44.8**	**+0.6**
	comp=Z,4.7nm,0.7s,baz=295,slow=1.1,SNR=36						
PDAR	**Pinedale Array**	**67.49**	**51**	P	**P**	**22 47 44.0**	**-0.1**
DUG	**Dugway, Tooele**	**67.53**	**55**	P	**P**	**22 47 45.3**	**+1.0**
DUG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DUG	**Dugway, Tooele**	**67.53**	**55**	P	**P**	**22 47 45.3**	**+1.0**
DUG				IAmb	IAmb	22 47 46.6	
	comp=Z,4.8nm,0.8s						
TBLG	**Delisi**	**67.65**	**308**	P	**P**	**22 47 44.2**	**-0.7**
TBLG				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TBLG	**Delisi**	**67.65**	**308**	P	**P**	**22 47 44.2**	**-0.7**
TBLG				IAmb	IAmb	22 47 46.4	
	comp=Z,8.7nm,0.7s						
WB0	**Warramunga Arr**	**68.03**	**193**	P	**P**	**22 47 47.0**	**-0.3**
WB0				IAmb	IAmb	22 48 18.7	
	comp=Z,20nm,1.4s						
PSUT	**Pine Spring**	**68.10**	**57**	P	**P**	**22 47 48.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**68.18**	**202**	P	**P**	**22 47 49.0**	**+0.7**
WR0	**Warramunga Arr**	**68.20**	**193**	P	**P**	**22 47 48.6**	**+0.3**
WR0				IAmb	IAmb	22 47 50.8	
	comp=Z,16nm,1.4s						
WB2	**Warramunga Arr**	**68.21**	**193**	P	**P**	**22 47 48.7**	**+0.3**
WRA	**Warramunga Arr**	**68.21**	**193**	P	**P**	**22 47 48.6**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=6.7,slow=6.4,SNR=19						
WRA	**Warramunga Arr**	**68.21**	**193**	P	**P**	**22 47 48.3**	**-0.2**
MPU	**Maple Canyon**	**68.30**	**54**	P	**P**	**22 47 49.3**	**+0.1**
AKASG	**Malin Array Be**	**68.44**	**323**	P	**P**	**22 47 48.5**	**-1.0**
	comp=Z,1.9nm,0.4s,baz=37,slow=6.1,SNR=9.6						
AKASG	**Malin Array Be**	**68.44**	**323**	P	**P**	**22 47 48.5**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**68.44**	**323**	P	**P**	**22 47 48.5**	**-1.0**
AKBB	**Malin Array Si**	**68.44**	**323**	P	**P**	**22 47 48.1**	**-1.5**
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKBB	**Malin Array Si**	**68.44**	**323**	P	**P**	**22 47 48.1**	**-1.5**
RDMU	**Red Mountain**	**69.03**	**53**	P	**P**	**22 47 54.3**	**+0.7**
TMUT	**Trail Mountain**	**69.04**	**54**	P	**P**	**22 47 54.1**	**+0.3**
P17A	**Butcher Ranch,**	**69.17**	**54**	P	**P**	**22 47 55.1**	**+0.6**
MTPU	**Mount Pierson**	**69.38**	**56**	P	**P**	**22 47 57.1**	**+1.1**
PV21	**Cone Mtn., Par**	**70.79**	**54**	P	**P**	**22 48 04.8**	**+0.5**
PV21				IAmb	IAmb	22 49 44.6	
	comp=Z,17nm,1.3s						
PV23	**Carpenter Ridg**	**70.85**	**54**	P	**P**	**22 48 05.1**	**+0.5**
PV23				IAmb	IAmb	22 48 06.4	
	comp=Z,6.8nm,0.7s						
PV14	**Lion Creek, Pa**	**70.90**	**54**	P	**P**	**22 48 04.3**	**-0.6**
PV14				IAmb	IAmb	22 48 06.2	
	comp=Z,4.9nm,0.6s						
PV22	**Blue Mesa, Par**	**70.91**	**54**	P	**P**	**22 48 05.6**	**+0.7**
PV22				IAmb	IAmb	22 48 06.6	
	comp=Z,6.8nm,0.8s						
PV04	**Paradox Valley**	**70.95**	**54**	IAmb	IAmb	22 48 06.6	
	comp=Z,6.3nm,1.1s						
PV19	**Morning Glory**	**70.96**	**54**	P	**P**	**22 48 05.4**	**+0.1**
PV19				IAmb	IAmb	22 48 07.0	
	comp=Z,7.4nm,0.8s						
PV17	**East Wray Mesa**	**71.00**	**54**	P	**P**	**22 48 05.6**	**+0.1**
PV17				IAmb	IAmb	22 48 07.2	
	comp=Z,10nm,0.7s						
PV16	**Nyswonger Mesa**	**71.00**	**54**	P	**P**	**22 48 05.4**	**-0.1**
PV16				IAmb	IAmb	22 48 07.2	
	comp=Z,11nm,1.3s						
PV18	**Skein Mesa, Pa**	**71.05**	**54**	P	**P**	**22 48 06.8**	**+1.0**
PV18				IAmb	IAmb	22 48 07.5	
	comp=Z,5.6nm,0.8s						
PV07	**Paradox Valley**	**71.05**	**54**	P	**P**	**22 48 06.2**	**+0.4**
PV03	**Paradox Valley**	**71.08**	**54**	P	**P**	**22 48 07.0**	**+1.0**
PV13	**Radium Mtn., P**	**71.16**	**54**	P	**P**	**22 48 07.1**	**+0.7**
PV13				IAmb	IAmb	22 48 08.3	
	comp=Z,6.4nm,0.6s						
PV01	**Paradox Valley**	**71.31**	**54**	P	**P**	**22 48 07.3**	**-0.1**
ASAR	**Alice Springs**	**71.93**	**193**	P	**P**	**22 48 11.6**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=6.8,slow=5.6,SNR=16						
ASAR	**Alice Springs**	**71.93**	**193**	P	**P**	**22 48 12.3**	**+1.5**
ASAR	**Alice Springs**	**71.93**	**193**	P	**P**	**22 48 12.3**	**+1.5**
MVCO	**Mesa Verde**	**72.02**	**54**	IAmb	IAmb	22 48 13.3	
	comp=Z,4.7nm,0.8s						
EYMN	**Ely**	**72.07**	**37**	P	**P**	**22 48 10.4**	**-1.0**
EYMN				IAmb	IAmb	22 48 11.3	
	comp=Z,15nm,1.5s						
X16A	**Lo Mia Camp, P**	**72.38**	**58**	P	**P**	**22 48 14.3**	**+0.7**
BUR08	**Bucovina Ar. S**	**72.48**	**323**	P	**P**	**22 48 13.8**	**-0.1**
BUR08				IAmb	IAmb	22 48 14.3	
	comp=Z,16nm,2.0s						
BURAR	**Bucovina Array**	**72.50**	**323**	P	**P**	**22 48 13.5**	**-0.5**
SDCO	**Great Sand Dun**	**73.26**	**52**	P	**P**	**22 48 18.9**	**+0.1**
ANMO	**Albuquerque**	**74.80**	**55**	*ceP*	**P**	**22 48 29.5**	**+1.9**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.3s						
BRTR	**Keskin Array B**	**74.85**	**313**	P	**P**	**22 48 27.9**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=306,slow=36,SNR=3.7						
GERES	**GERESS Array B**	**75.76**	**330**	P	**P**	**22 48 32.0**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=20,slow=4.3,SNR=2.3						
GERES	**GERESS Array B**	**75.76**	**330**	P	**P**	**22 48 32.0**	**-0.6**
VLDQ	**Val d'Or**	**77.10**	**29**	P	**P**	**22 48 38.8**	**-1.1**
VLDQ				IAmb	IAmb	22 48 39.3	
	comp=Z,8.2nm,0.8s						
TX31	**Lajitas Ar. Si**	**80.57**	**57**	IAmb	IAmb	22 49 00.7	
	comp=Z,15nm,1.1s						
TXAR	**Lajitas Array**	**80.57**	**57**	P	**P**	**22 48 59.8**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=288,slow=3.8,SNR=30						
TXAR	**Lajitas Array**	**80.57**	**57**	P	**P**	**22 48 59.6**	**+0.6**
U40A	**Yellville**	**80.75**	**45**	IAmb	IAmb	22 48 59.8	
	comp=Z,6.9nm,0.6s						

*ANF **09** 22:40:18.6±0.5, 44°.45N×124°.12W, h35km±2km, ML2.2/8, Error ellipse: s-maj=5.3km s-min=2.5km az=111.0*

PNSN 09 22:40:18.6±0.2, 44°.43N×124°.03W, h38km, ML2.1, Near coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02D	**Swisshome**	**0.40**	**150**	P	Pb	22 40 27.7	-0.1
	baz=338,SNR=254						
I02D				S	Sn	22 40 34.7	+0.6
	baz=338						
I03D	**Drain, OR**	**0.94**	**143**	P	Pn	22 40 35.1	-0.2
	baz=326,SNR=30						
I03D				S	Sn	22 40 47.7	+0.3
	baz=326						
G03D	**McMinnville, O**	**0.97**	**38**	P	Pn	22 40 35.6	-0.2
	baz=215						
G03D				S	Sn	22 40 48.3	0.0
	baz=215						
H04D	**Lebanon**	**0.99**	**85**	P	Pn	22 40 36.0	0.0
	baz=265,SNR=39						
H04D				S	Sn	22 40 49.0	+0.2
	baz=265						
J01E	**Myrtle Point**	**1.30**	**174**	P	Pn	22 40 40.5	+0.3
	baz=357						
J01E				S	Sn	22 40 56.5	+0.2
	baz=357						
I04A	**Tendick Farm,**	**1.39**	**118**	P	Pn	22 40 41.6	0.0
	baz=299,SNR=8.1						
I04A				S	Sn	22 40 59.8	+1.0
	baz=299						
K02D	**Willamette Mer**	**1.79**	**169**	P	Pn	22 40 47.5	+0.5
	baz=351,SNR=7.1						
K02D				S	Sn	22 41 08.6	+0.1
	baz=351						
L02E	**Cave Junction**	**2.32**	**170**	P	Pn	22 40 55.0	+0.7
	baz=352						
L02E				S	Sn	22 41 22.0	+0.3
	baz=352						
F05D	**White Salmon**	**2.37**	**52**	S	Sn	22 41 24.0	+1.3
	baz=232						

WEL 09 22:42:07.8±1.6, 34°S±32°×17°9E±3°6, h262km±46km, M3.8/9, MLv3.8/9, Error ellipse: s-maj=0.1km s-min=0.0km az=128.5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.51**	**188**	P	Pn	22 43 07.4	+0.9
HAZ	**Te Kaha**	**3.56**	**196**	P	Pn	22 43 06.8	-0.1
HAZ				S	S	22 43 54.6	+0.5
PUZ	**Puketiti**	**3.78**	**189**	S	S	22 43 57.1	-1.7
RUGZ	**Raukumara Rang**	**3.78**	**196**	P	Pn	22 43 09.0	-0.6
RUGZ				S	S	22 44 00.5	+1.6
TWGZ	**Tauwhareparae**	**3.92**	**192**	P	Pn	22 43 11.0	-0.2
TWGZ				S	S	22 44 02.4	+0.7
MWZ	**Matawai**	**4.17**	**196**	P	Pn	22 43 14.2	+0.2
CNGZ	**Carnagh Statio**	**4.19**	**189**	P	Pn	22 43 15.2	+0.9
URZ	**Urewera**	**4.20**	**201**	P	Pn	22 43 12.7	-1.7
URZ				S	S	22 44 08.0	+0.4
RAGZ	**Rawiri**	**4.35**	**197**	P	Pn	22 43 16.4	+0.2
RIGZ	**Rimuhau**	**4.48**	**193**	P	Pn	22 43 18.1	+0.4
MUGZ	**Murupara**	**4.51**	**203**	P	Pn	22 43 18.2	+0.2
RTZ	**Ruatahuna**	**4.57**	**200**	P	Pn	22 43 17.1	-1.8
NMHZ	**Naumai**	**5.07**	**200**	P	Pn	22 43 24.5	-0.3

*IDC **09** 23:02:24.7±0.6, 26°.14N×143°.62E, h0km, mb4.2/24, mb1 4.4/26, mb1mx4.3/48, mbtmp4.2/26, ML4.0/2, MS3.5/23, Ms1 3.6/23, ms1mx3.4/43, Error ellipse: s-maj=17.3km s-min=14.8km az=95.0*

*NEIC **09** 23:02:25.7±1.8, 26°.21N±0°.06×143°.66E±0°.08, h10km±1km, mb4.6/48, Error ellipse: s-maj=13.1km s-min=9.6km az=56.0*

*JMA **09** 23:02:29.5±0.2, 26°.41N×143°.58E, h76km, M5.1*

JMA Felt I J1.

ISC 09 23:02:29.8±0.5, 26°.29N±0°.06×143°.56E±0°.07, h35km, n128, σ1§46/109, mb4.5/42, MS3.5/19, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.29**	**286**	P	**Pn**	**23 02 52.0**	**+0.6**
CBIJ	**Chichi jima**	**1.47**	**304**	P	**Pn**	**23 02 54.0**	**+0.1**
CBIJ				S	**Sn**	**23 03 13.0**	**+1.1**
JCJ	**Chichijima**	**1.47**	**304**	LR	LR	23 02 53.0	
	comp=Z,88nm,18.4s,baz=288,slow=18						
JCJ				Pn	**Pn**	**23 02 54.1**	**+0.3**
	2μm,0.3s,baz=264,slow=22,SNR=226						
JCJ				Sn	**Sn**	**23 03 12.5**	**+0.6**
	1μm,0.3s,baz=291,slow=22,SNR=8.7						
JHJ2	**Mitsune**	**7.54**	**335**	*eS*	**Sn**	**23 05 37.3**	**-4.2**
JHJ2	**Mitsune**	**7.54**	**335**	Pn	**Pn**	**23 04 17.1**	**-0.2**
JHJ	**Hachijo jima 2**	**7.56**	**335**	Pn	**Pn**	**23 04 15.3**	**-2.3**
	30nm,0.3s,baz=127,slow=20,SNR=2.0						
JHJ				Sn	**Sn**	**23 05 37.3**	**-4.7**
	90nm,0.3s,baz=148,slow=23,SNR=8.2						
BSO1	**Boso 1**	**8.63**	**346**	P	**Pn**	**23 04 30.3**	**-1.5**
BSO3	**Boso 3**	**8.89**	**344**	P	**Pn**	**23 04 34.5**	**-1.0**
BSO4	**Boso 4**	**9.11**	**343**	P	**Pn**	**23 04 38.0**	**-0.7**
JIZS	**Izushimoda**	**9.32**	**335**	P	**Pn**	**23 04 41.0**	**-0.7**
JOD2	**Odawara 2**	**9.74**	**338**	P	**Pn**	**23 04 46.8**	**-0.7**
JHU	**Hanno**	**10.22**	**340**	P	**Pn**	**23 04 52.9**	**-1.1**
JYT	**Yasato**	**10.32**	**345**	P	**Pn**	**23 04 55.1**	**-0.3**
JRY	**Ryogami san**	**10.49**	**339**	P	**Pn**	**23 04 56.1**	**-1.6**
INU	**Inuyama**	**10.64**	**330**	Pn	**Pn**	**23 04 59.9**	**+0.2**
MJAR	**Matsushiro Arr**	**11.20**	**337**	Pn	**Pn**	**23 05 04.8**	**-2.7**
	1.0nm,0.3s,baz=21,slow=11,SNR=39						
MJAR				Sn	**Sn**	**23 07 07.8**	**-3.6**
	0.2nm,0.3s,baz=284,slow=30,SNR=3.3						
MJAR				LR	LR	23 08 52.0	
	comp=Z,113nm,21.8s,baz=155,slow=34						
MJAR	**Matsushiro Arr**	**11.20**	**337**		**Pn**	**23 05 04.6**	**-2.8**
MAJO	**Matsushiro**	**11.20**	**337**	Pn	**Pn**	**23 05 06.6**	**-0.9**
MAT	**Matsushiro**	**11.20**	**337**	P	**Pn**	**23 05 06.8**	**-0.6**
MAT				*eS*	**Sn**	**23 07 06.4**	**-5.0**
MAT	**Matsushiro**	**11.20**	**337**	P	**Pn**	**23 05 06.9**	**-0.5**
MJB9	**Matsu-Tunnel**	**11.20**	**337**	Pn	**Pn**	**23 05 07.1**	**-0.4**
JHK	**Hiroka**	**11.59**	**342**	P	**Pn**	**23 05 11.2**	**-1.6**
GUMO	**Guam**	**12.69**	**174**	LR	LR	23 09 50.4	
	comp=Z,233nm,19.9s,baz=17,slow=36						
JNU	**Nakatsue**	**12.95**	**305**	LR	LR	23 09 52.8	
	comp=Z,22nm,20.1s,baz=84,slow=34						
ERM	**Erimo**	**15.70**	**359**	Pn	**Pn**	**23 06 05.5**	**-2.7**
KSRS	**Korea Array**	**17.31**	**314**	P	**Pn**	**23 06 29.2**	**+0.5**
	0.7nm,0.3s,baz=120,slow=12,SNR=31						
KSRS				LR	LR	23 13 01.3	
	comp=Z,97nm,19.4s,baz=117,slow=36						
KSAR	**Wonju Array Be**	**17.32**	**314**	P	**Pn**	**23 06 29.5**	**+0.6**
KS19	**Wonju Array Si**	**17.37**	**314**	P	**Pn**	**23 06 28.7**	**-0.8**
ASAJ	**Asahikawa**	**17.81**	**358**	P	**P**	**23 06 36.4**	**+1.1**
	0.9nm,0.3s,baz=194,slow=8.7,SNR=8.7						
ASAJ				S	Sn	23 09 40.4	-12
	1.0nm,0.3s,baz=356,slow=21,SNR=6.5						
ASAJ				LR	LR	23 12 45.5	
	comp=Z,102nm,21.8s,baz=162,slow=35						
JKA	**Kamikawa-asahi**	**17.81**	**358**	Pn	**Pn**	**23 06 32.0**	**-2.8**
NACB	**Ninganchiao**	**19.98**	**269**		**P**	**23 06 58.8**	**-0.5**
YHNB	**Yeheng**	**20.09**	**270**	P	**P**	**23 07 00.5**	**-0.1**
YHNB				IAmb	IAmb	23 07 01.2	
	comp=Z,21nm,1.0s						
USA0B	**Ussuriysk Arra**	**20.18**	**335**	P	Pn	23 07 02.6	-0.8
USA0B				IAmb	IAmb	23 07 06.2	
	comp=Z,21nm,0.8s						
USRK	**Ussuriysk Ar.**	**20.18**	**335**	P	Pn	23 07 02.8	-0.6
	comp=Z,16nm,0.6s,baz=141,slow=9.3,SNR=22						
USRK	**Ussuriysk Ar.**	**20.18**	**335**	P	Pn	23 07 03.2	-0.1
YULB	**Yu-li**	**20.41**	**267**	P	**P**	**23 07 03.6**	**-0.3**
YULB				IAmb	IAmb	23 07 04.8	
	comp=Z,21nm,1.1s						
SSLB	**Suanglung**	**20.63**	**268**		**P**	**23 07 07.3**	**+0.9**
SSLB				IAmb	IAmb	23 07 12.6	
	comp=Z,35nm,1.1s						
WAKE	**Wake Island**	**22.38**	**103**		**S**	**23 11 28.7**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**22.43**	**102**	T	T	23 30 05.5	
	baz=291,slow=74,SNR=31						
H11N1	**WAKE ISLAND Hy**	**22.43**	**102**	T	T	23 30 07.9	
	baz=291,slow=74,SNR=30						
H11N3	**WAKE ISLAND Hy**	**22.45**	**102**	T	T	23 30 16.2	
	baz=291,slow=74,SNR=28						
H11S3	**WAKE ISLAND Hy**	**22.72**	**105**	T	T	23 30 28.7	
	baz=294,slow=74,SNR=51						
H11S1	**WAKE ISLAND Hy**	**22.73**	**105**	T	T	23 30 29.3	
	baz=294,slow=74,SNR=40						
H11S2	**WAKE ISLAND Hy**	**22.74**	**105**	T	T	23 30 30.2	
	baz=294,slow=74,SNR=42						
TGY	**Tagytay City**	**24.40**	**245**	LR	LR	23 16 21.9	
	comp=Z,117nm,20.1s,baz=193,slow=34						
KLR	**Kul'dur**	**24.68**	**341**	P	**P**	**23 07 48.7**	**+1.3**
	comp=Z,5.9nm,0.7s,baz=140,slow=7.7,SNR=11						
KLR				LR	LR	23 18 39.9	
	comp=Z,60nm,18.2s,baz=153,slow=39						
DAV	**Davao City (W)**	**25.66**	**225**	LR	LR	23 16 26.2	
	comp=Z,196nm,21.2s,baz=72,slow=33						
JAY	**Jayapura**	**28.76**	**186**	LR		23 19 54.5	
	comp=Z,82nm,18.8s,baz=104,slow=37						
PETK	**Petropavlovsk-**	**28.81**	**18**	LR	LR	23 20 12.2	
	comp=Z,77nm,20.1s,baz=228,slow=37						
XAN	**Xi'an**	**30.82**	**293**	P	**P**	**23 08 42.7**	**+0.1**
XAN				IAmb	IAmb	23 08 48.2	
	comp=Z,7.2nm,0.9s						
ULN	**Ulaanbaatar**	**35.75**	**317**	P	**P**	**23 09 26.4**	**+0.9**
SONM	**Songino Array**	**36.15**	**316**	P	**P**	**23 09 30.2**	**+1.3**
	comp=Z,2.0nm,0.9s,baz=116,slow=8.0,SNR=9.4						
SONM				LR	LR	23 24 57.2	
	comp=Z,76nm,18.1s,baz=119,slow=37						
SONM	**Songino Array**	**36.15**	**316**	P	**P**	**23 09 29.9**	**+1.0**
SLVN	**Son La**	**36.51**	**271**	P	**P**	**23 09 32.6**	**+0.4**
SLVN				IAmb	IAmb	23 09 33.6	
	comp=Z,7.0nm,0.9s						
SPSI	**Sidrap Palu**	**37.88**	**221**	P	**P**	**23 09 43.2**	**-0.5**
	comp=Z,33nm,1.1s						
SBUM	**Sibu**	**38.30**	**237**	P	**P**	**23 09 45.3**	**-2.0**
KAPI	**Kappang**	**38.74**	**220**	P	**P**	**23 09 49.7**	**-1.2**
	comp=Z,17nm,0.9s,baz=348,slow=4.5,SNR=4.0						
KAPI	**Kappang**	**38.74**	**220**	P	**P**	**23 09 49.7**	**-1.2**
KAPI				IAmb	IAmb	23 09 51.9	
	comp=Z,29nm,1.1s						
MMRI	**Maumere**	**40.42**	**214**	P	**P**	**23 10 04.5**	**-0.4**
EDFI	**Ende, Flores**	**40.80**	**214**	P	**P**	**23 10 06.8**	**-1.4**
	comp=Z,16nm,1.2s						
CHTO	**Chiang Mai**	**41.71**	**269**	P	**P**	**23 10 15.8**	**+0.1**
CHTO				IAmb	IAmb	23 10 16.4	
	comp=Z,10nm,0.8s						
CM31	**Chiang Mai Arr**	**41.83**	**269**	P	**P**	**23 10 15.7**	**-0.9**
CMAR	**Chiang Mai Arr**	**41.83**	**269**	P	**P**	**23 10 17.0**	**+0.4**
CMAR				LR	LR	23 28 45.2	
	comp=Z,54nm,18.4s,baz=181,slow=38						
CMAR	**Chiang Mai Arr**	**41.83**	**269**	P	**P**	**23 10 16.5**	**0.0**
SHL	**Shillong**	**46.22**	**281**	P	**P**	**23 10 52.8**	**+0.8**
SHL				IAmb	IAmb	23 10 58.7	
	comp=Z,7.4nm,0.8s						
WB0	**Warramunga Arr**	**46.63**	**192**	P	**P**	**23 10 54.1**	**-0.8**
WB0				IAmb	IAmb	23 11 10.4	
	comp=Z,7.9nm,0.8s						
WRAB	**Tennant Creek**	**46.80**	**192**	P	**P**	**23 10 55.4**	**-0.8**
WB2	**Warramunga Arr**	**46.81**	**192**	P	**P**	**23 10 55.7**	**-0.6**
WRA	**Warramunga Arr**	**46.82**	**192**	P	**P**	**23 10 55.4**	**-0.9**
	comp=Z,4.9nm,0.5s,baz=11,slow=8.6,SNR=48						
WRA	**Warramunga Arr**	**46.82**	**192**	P	**P**	**23 10 55.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**47.43**	**203**	P	**P**	**23 11 00.5**	**-0.6**
CISI	**Cisompet, Garu**	**48.33**	**231**	P	**P**	**23 11 05.9**	**-2.4**
RPSI	**Rantau Prapat**	**48.80**	**249**	P	**P**	**23 11 10.2**	**-1.6**
RPSI				IAmb	IAmb	23 11 11.6	
	comp=Z,7.9nm,1.0s						
MNSI	**Mandailing Nat**	**49.30**	**246**	P	**P**	**23 11 13.5**	**-2.2**
	comp=Z,24nm,0.5s						
AS31	**Alice Springs**	**50.53**	**191**	P	**P**	**23 11 23.8**	**-1.1**
ASAR	**Alice Springs**	**50.53**	**191**	P	**P**	**23 11 23.6**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=13,slow=7.0,SNR=11						
ASAR				LR	LR	23 31 39.4	
	comp=Z,92nm,21.2s,baz=112,slow=35						
ASAR	**Alice Springs**	**50.53**	**191**	P	**P**	**23 11 23.2**	**-1.7**
ZALV	**Zalesovo Beam**	**50.90**	**319**	P	**P**	**23 11 27.9**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=104,slow=7.2,SNR=6.0						
ZALV				PcP	**PcP**	**23 12 45.0**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=90,slow=3.3,SNR=1.1						
ZALV				LR	LR	23 33 35.9	
	comp=Z,35nm,18.7s,baz=78,slow=37						
ZALV	**Zalesovo Beam**	**50.90**	**319**	P	**P**	**23 11 27.8**	**+0.5**
XMIS	**Christmas Isla**	**51.90**	**230**	P	**P**	**23 11 34.2**	**-1.1**
MK31	**Makanchi Array**	**51.94**	**310**	P	**P**	**23 11 35.6**	**+0.3**
MKAR	**Makanchi Array**	**51.94**	**310**	P	**P**	**23 11 37.1**	**+1.9**
	comp=Z,2.4nm,0.5s,baz=89,slow=9.4,SNR=33						
MKAR	**Makanchi Array**	**51.94**	**310**	P	**P**	**23 11 36.0**	**+0.8**
MAKZ	**Makanchi**	**52.15**	**310**	P	**P**	**23 11 37.9**	**+1.1**
MAKZ				IAmb	IAmb	23 11 39.3	
	comp=Z,3.3nm,0.6s						
NRIK	**Noril'sk**	**53.85**	**339**	P	**P**	**23 11 49.4**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=87,slow=8.3,SNR=1.9						
NRIK				LR	LR	23 35 11.8	
	comp=Z,51nm,21.8s,baz=122,slow=36						
KDAK	**Kodiak Island**	**54.28**	**36**	P	**P**	**23 11 53.1**	**+0.9**
	comp=Z,5.4nm,0.7s,baz=306,slow=14,SNR=2.2						
KURK	**Kurchatov**	**54.43**	**315**	P	**P**	**23 11 53.6**	**+0.1**
KURK				IAmb	IAmb	23 11 55.9	
	comp=Z,5.4nm,0.6s						
IMAR	**Indian Mountai**	**55.22**	**26**	P	**P**	**23 11 58.6**	**-0.4**
PPLA	**Purkeypile**	**55.24**	**30**	P	**P**	**23 11 59.2**	**-0.1**
PPLA				IAmb	IAmb	23 12 17.5	
	comp=Z,7.0nm,1.2s						
ILAR	**Eielson Array**	**57.84**	**28**	P	**P**	**23 12 18.1**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=261,slow=6.3,SNR=16						
ILAR				LR	LR	23 35 28.8	
	comp=Z,26nm,20.6s,baz=273,slow=34						
ILAR	**Eielson Array**	**57.84**	**28**	P	**P**	**23 12 17.4**	**-0.2**
STKA	**Stephens Creek**	**57.87**	**182**	LR	LR	23 39 17.9	
	comp=Z,213nm,18.2s,baz=204,slow=38						
BRVK	**Borovoye**	**59.53**	**318**	P	**P**	**23 12 29.2**	**-0.3**
BRVK				IAmb	IAmb	23 12 43.0	
	comp=Z,4.6nm,0.6s						
NIL	**Nilore**	**60.31**	**295**	P	**P**	**23 12 37.5**	**+2.2**
KK31	**Karatay Array**	**60.55**	**306**	IAmb	IAmb	23 12 45.3	
	comp=Z,8.8nm,0.8s						
KKAR	**Karatay Array**	**60.55**	**306**	P	**P**	**23 12 37.1**	**+0.3**
KKAR	**Karatay Array**	**60.55**	**306**	IAmb	IAmb	23 12 45.3	
	comp=Z,8.8nm,0.8s						
INK	**Inuvik**	**63.25**	**24**	P	**P**	**23 12 55.7**	**+1.3**
	comp=Z,1.9nm,0.6s,baz=321,slow=8.2,SNR=4.8						
INK	**Inuvik**	**63.25**	**24**	IAmb	IAmb	23 13 11.5	
	comp=Z,4.0nm,0.9s						
KBL	**Kabul**	**63.48**	**297**	P	**P**	**23 12 59.0**	**+2.1**
KBL				IAmb	IA

RUGZ	**Raukumara Rang**	**5.10 215**	P	**Pn**	**23 12 27.0 +3.0**		
RUGZ			S	**Sn**	**23 13 22.1 +0.4**		
TWGZ	**Tauwhareparae**	**5.14 211**	P	**Pn**	**23 12 27.2 +2.8**		
TWGZ			S	**Sn**	**23 13 24.2 +1.7**		
CNGZ	**Carnagh Statio**	**5.30 208**	P	**Pn**	**23 12 29.5 +2.8**		
WHRZ	**Whale Island**	**5.37 220**	P	**Pn**	**23 12 31.7 +4.0**		
KUZ	**Kuaotunu**	**5.46 236**	P	**Pn**	**23 12 32.4 +3.6**		
MWZ	**Matawai**	**5.47 213**	P	**Pn**	**23 12 31.3 +2.3**		
MWZ			S	**Sn**	**23 13 30.5 -0.2**		
URZ	**Urewera**	**5.61 217**	Pn	**Pn**	**23 12 33.1 +2.3**		
	4.4nm,0.3s,baz=315,slow=2.4,SNR=24						
URZ			Sn	**Sn**	**23 13 33.8 -0.2**		
	5.5nm,0.3s,baz=273,slow=22,SNR=11						
URZ	**Urewera**	**5.61 217**	P	**Pn**	**23 12 33.2 +2.3**		
URZ			S	**Sn**	**23 13 32.1 -1.9**		
URZ	**Urewera**	**5.61 217**		**Pn**	**23 12 33.0 +2.1**		
RAGZ	**Rawiri**	**5.65 213**	P	**Pn**	**23 12 33.7 +2.2**		
RAGZ			S	**Sn**	**23 13 35.4 +0.2**		
RIGZ	**Rimuhau**	**5.67 210**	P	**Pn**	**23 12 34.3 +2.5**		
RIGZ			S	**Sn**	**23 13 34.7 -1.0**		
PRGZ	**Paritu Road**	**5.81 208**	P	**Pn**	**23 12 36.1 +2.4**		
WIAZ	**Waiheke Island**	**5.89 238**	P	**Pn**	**23 12 38.4 +3.7**		
SNGZ	**Shannon Statio**	**5.92 212**	P	**Pn**	**23 12 39.5 +4.4**		
SNGZ			S	**Sn**	**23 13 42.5 +0.8**		
MUGZ	**Murupara**	**5.95 217**	P	**Pn**	**23 12 37.6 +2.1**		
MUGZ			S	**Sn**	**23 13 41.0 -1.4**		
RTZ	**Ruatahuna**	**5.95 215**	P	**Pn**	**23 12 36.3 +0.7**		
RTZ			S	**Sn**	**23 13 40.3 -2.2**		
KNZ	**Kokohu**	**5.98 209**	P	**Pn**	**23 12 38.0 +2.1**		
RAHZ	**Arahi**	**6.14 213**	P	**Pn**	**23 12 42.1 +3.9**		
MTHZ	**Maungataniwha**	**6.20 215**	P	**Pn**	**23 12 42.4 +3.3**		
MTHZ			S	**Sn**	**23 13 47.4 -1.3**		
NMHZ	**Naumai**	**6.42 214**	P	**Pn**	**23 12 45.3 +3.3**		
NMHZ			S	**Sn**	**23 13 53.6 -0.5**		
OUZ	**Omahuta**	**6.55 256**	P	**Pn**	**23 12 46.2 +2.3**		
OUZ			S	**Sn**	**23 13 53.6 -3.8**		
OUZ	**Omahuta**	**6.55 256**	Pn	**Pn**	**23 12 46.4 +2.5**		
BKZ	**Black Stump Fm**	**6.62 215**	P	**Pn**	**23 12 47.1 +2.4**		
BKZ			S	**Sn**	**23 13 56.5 -2.5**		
BKZ	**Black Stump Fm**	**6.62 215**	Pn	**Pn**	**23 12 43.9 -0.9**		
KAHZ	**Kahuranaki**	**6.96 210**	P	**Pn**	**23 12 50.5 +1.0**		
OTVZ	**Oturere**	**7.03 219**	P	**Pn**	**23 12 53.0 +2.4**		
HIZ	**Hauiti**	**7.04 226**	Pn	**Pn**	**23 12 49.6 -0.9**		
BFZ	**Birch Farm**	**7.97 209**	Pn	**Pn**	**23 13 00.8 -2.5**		
MSWZ	**Moikau Station**	**8.99 211**	Pn	**Pn**	**23 13 15.6 -1.8**		
PLWZ	**Palliser**	**9.12 210**	Pn	**Pn**	**23 13 15.7 -3.4**		
SNZO	**South Karori**	**9.15 213**	Pn	**Pn**	23 13 14.4 -5.0		
THZ	**Tophouse**	**10.37 218**	Pn	**Pn**	**23 13 35.4 -0.8**		
KHZ	**Kahutara**	**10.56 213**	Pn	**Pn**	**23 13 36.7 -2.0**		
MQZ	**McQueen's Vall**	**11.97 212**	Pn	**Pn**	**23 13 58.1 +0.1**		
RPZ	**Rata Peaks**	**12.72 216**	Pn	**Pn**	**23 14 05.9 -2.5**		
WKZ	**Wanaka**	**14.54 217**	Pn	**Pn**	**23 14 30.3 -2.8**		
MLZ	**Mavora Lakes**	**15.37 218**	Pn	**Pn**	**23 14 43.7 -0.5**		
WHZ	**Wether Hill Ro**	**15.83 216**	Pn	**Pn**	**23 14 49.8 -0.3**		
WHZ			IAmb	IAmb	23 15 05.2		
	comp=Z,34nm,1.3s						
ASAR	**Alice Springs**	**42.50 271**	P	**P**	**23 19 03.8 +1.6**		
	comp=Z,0.3nm,0.6s,baz=119,slow=7.6,SNR=5.0						
ASAR	**Alice Springs**	**42.50 271**	P	**P**	**23 19 03.5 +1.4**		
WB2	**Warramunga Arr**	**43.78 276**	P	**P**	**23 19 13.9 +1.4**		
WB2			IAmb	IAmb	23 19 16.0		
	comp=Z,8.0nm,1.4s						
WRA	**Warramunga Arr**	**43.80 276**	P	**P**	**23 19 15.0 +2.4**		
	comp=Z,0.4nm,0.5s,baz=117,slow=7.6,SNR=7.6						
WRA	**Warramunga Arr**	**43.80 276**	P	**P**	**23 19 10.2 -2.4**		
WB0	**Warramunga Arr**	**43.83 276**	P	**P**	**23 19 14.7 +1.8**		
WB0			IAmb	IAmb	23 19 16.6		
	comp=Z,0.6nm,0.4s						
VNDA	**Vanda**	**44.65 186**	P	**P**	**23 19 15.8 -2.9**		
FINES	**FINESS Array B**	**148.13 338**	PKPbc	**PKPab**	**23 30 57.2 +3.0**		
	comp=Z,1.0nm,0.5s,baz=29,slow=3.3,SNR=14						

*RSPR **10** 00:08:20.1, 18˚.96N×68˚.21W, h80km±2km, MD3.4/9*
*OSPL **10** 00:08:20.4±0.8, 18˚.49N×67˚.73W, h141km±9km, ML3.7*
*NEIC **10** 00:08:20.8±0.7, 19˚.1N±0˚.1×68˚.07W±0˚.06, h43km±49km, Error ellipse: s-maj=17.8km s-min=2.5km az=203.0*

ISC 10 00:08:19.4±1.1, 19˚.16N±0˚.06×68˚.04W±0˚.04, h20km, n45, σ0.99/48, 9C-3D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.72**	**206**	*eP*	**Pb**	**00 08 33.4**	**+0.1**
PCDR	**Punta Cana, DR**	**0.72**	**206**	*eS*	**Sb**	**00 08 43.4**	**+0.6**
PCDR	**Punta Cana, DR**	**0.72**	**206**	Pn	**Pb**	**00 08 33.5**	**+0.2**
PCDR				Sn	**Sb**	**00 08 42.1**	**-0.6**
AGPR	**Aguadilla, PR**	**1.12**	**128**	*eP*	**Pn**	**00 08 38.5**	**-1.5**
AGPR	**Aguadilla, PR**	**1.12**	**128**	*eS*	**Sn**	**00 08 55.9**	**+1.1**
AGPR	**Aguadilla, PR**	**1.12**	**128**	*i P*	**Pn**	**00 08 40.3**	**+0.3**
AGPR				*eS*	**Sb**	**00 08 54.5**	**+0.2**
AGPR				IAML		00 09 00.1	
	comp=Z,689nm,0.3s						
AGPR	**Aguadilla, PR**	**1.12**	**128**	Pn	**Pn**	**00 08 39.7**	**-0.3**
MPR	**Mayaguez**	**1.28**	**138**	*i P*	**Pn**	**00 08 40.6**	**-1.5**
MPR				IAML		00 09 03.8	
	comp=Z,393nm,0.7s						
MPR	**Mayaguez**	**1.28**	**138**		**Pn**	**00 08 41.7**	**-0.4**
DR12	**Loma Pena Alta**	**1.32**	**254**		**Pn**	**00 08 43.1**	**+0.3**
LSP	**Las Mesas**	**1.34**	**137**	*eP*	**Pn**	**00 08 42.4**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.45**	**142**	*eP*	**Pn**	**00 08 43.5**	**-1.0**
CRPR	**Cabo Rojo, PR**	**1.45**	**142**	*eS*	**Sn**	**00 09 01.6**	**-1.3**
CRPR	**Cabo Rojo, PR**	**1.45**	**142**		**Pn**	**00 08 43.2**	**-1.3**
AOPR	**Arecibo Observ**	**1.47**	**123**	*eP*	**Pn**	**00 08 44.9**	**+0.1**
AOPR	**Arecibo Observ**	**1.47**	**123**	*eS*	**Sn**	**00 09 04.4**	**+1.0**
AOPR	**Arecibo Observ**	**1.47**	**123**	Pn	**Pn**	**00 08 44.2**	**-0.6**
MLPR	**Magueyes Islan**	**1.52**	**141**	*eP*	**Pn**	**00 08 43.6**	**-1.9**
MLPR	**Magueyes Islan**	**1.52**	**141**	*eS*	**Sn**	**00 09 04.3**	**-0.4**
MLPR	**Magueyes Islan**	**1.52**	**141**	Pn	**Pn**	**00 08 45.0**	**-0.4**
CELP	**Cerrillos**	**1.76**	**128**	*eP*	**Pn**	**00 08 48.7**	**-0.1**
CELP	**Cerrillos**	**1.76**	**128**	*eS*	**Sn**	**00 09 10.8**	**+0.2**
OBIP	**Obispado Ponce**	**1.76**	**129**	*eP*	**Pn**	**00 08 48.8**	**0.0**
OBIP	**Obispado Ponce**	**1.76**	**129**	*eS*	**Sn**	**00 09 10.7**	**+0.1**
OBIP	**Obispado Ponce**	**1.76**	**129**	Pn	**Pn**	**00 08 48.6**	**-0.2**
SDD	**Santo Domingo**	**1.91**	**249**	*i P*	**Pb**	**00 08 53.9**	**+0.4**
SDD				*eS*	**Sb**	**00 09 19.7**	**+2.8**
GCPR	**Guaynabo City**	**2.04**	**114**	*eP*	**Pn**	**00 08 52.8**	**+0.1**
GCPR	**Guaynabo City**	**2.04**	**114**	*eS*	**Sb**	**00 09 20.0**	**-0.8**
GCPR	**Guaynabo City**	**2.04**	**114**		**Pn**	**00 08 52.6**	**-0.1**
IGPR	**InterUniversit**	**2.19**	**123**	*eP*	**Pn**	**00 08 55.2**	**+0.5**
IGPR	**InterUniversit**	**2.19**	**123**	*eS*	**Sn**	**00 09 21.3**	**+0.1**
IGPR	**InterUniversit**	**2.19**	**123**	Pn	**Pn**	**00 08 55.4**	**+0.7**
PDPR	**Patillas Dam,**	**2.23**	**120**		**Pn**	**00 08 55.5**	**+0.2**
CBYP	**Canovanas**	**2.25**	**113**		**Pn**	**00 08 55.4**	**-0.3**
HUMP	**Col San Antoni**	**2.31**	**116**	*eP*	**Pn**	**00 08 56.7**	**+0.3**
HUMP	**Col San Antoni**	**2.31**	**116**	*eS*	**Sn**	**00 09 25.6**	**+1.3**
HUMP	**Col San Antoni**	**2.31**	**116**		**Pn**	**00 08 56.5**	**+0.1**
SC01	**Santiago de lo**	**2.55**	**276**	*i P*	**Pb**	**00 09 05.7**	**+1.2**
SC01				IAML		00 09 57.0	
	comp=Z,572nm,0.7s						
MTP	**Monte Pirata**	**2.59**	**114**	*eP*	**Pn**	**00 09 00.3**	**+0.1**
MTP	**Monte Pirata**	**2.59**	**114**		**Pn**	**00 09 00.0**	**-0.2**
CUPR	**Culebra, Puert**	**2.75**	**108**	Pn	**Pn**	**00 09 01.6**	**-0.8**
STVI	**Saint Thomas**	**3.04**	**105**	Pn	**Pn**	**00 09 07.6**	**+1.3**
SDDR	**Presa de Saban**	**3.07**	**267**	*i P*	**Pb**	**00 09 10.7**	**-3.1**
SDDR				IAML		00 10 08.1	
	comp=Z,229nm,0.5s						
CDVI	**St. Croix**	**3.41**	**114**		**Pn**	**00 09 12.3**	**+0.8**
GRTK	**Grand Turk**	**3.72**	**309**	Pn	**Pn**	**00 09 14.4**	**-1.4**

TAP 10 00:54:23.6, 23˚.18N×120˚.84E, h6km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STYT	**Tauyuan**	**0.08**	**259**	*i P*	Pg	00 54 26.1	+0.5
	baz=255						
STYT				*i* S	Sg	00 54 27.4	+0.5
	baz=255						
ELDTW	**Lidau**	**0.16**	**86**	*i P*	Pg	00 54 28.3	+1.3
	baz=87						
ELDTW				*i* S	Sg	00 54 31.0	+1.8
	baz=87						
WTP	**Ta-pu**	**0.22**	**288**	P	Pg	00 54 29.6	+1.6
	baz=287						
TPUB	**Ta-pu**	**0.23**	**302**	*eP*	Pg	00 54 29.5	+1.3
	baz=301						
SGST	**Jiashian**	**0.26**	**248**	*eP*	Pg	00 54 29.5	+0.8
	baz=247						
SGST				S	Sb	00 54 34.1	-1.3
	baz=247						
SLGT	**Liugui**	**0.26**	**224**	P	Pb	00 54 30.1	-0.6
	baz=224						
SLGT				*eS*	Sb	00 54 34.1	-1.3
	baz=224						
CHN1	**Nanshi**	**0.29**	**271**	*eP*	Pb	00 54 30.6	-0.7
	baz=271						
CHN1				S	Sb	00 54 35.6	-0.8
	baz=271						
SNST	**Tainan City**	**0.32**	**277**	*eP*	Pb	00 54 31.1	-0.6
	baz=277						
ALS	**Alishan**	**0.33**	**354**	*eP*	Pb	00 54 31.4	-0.8
	baz=355						
ALS				S	Sb	00 54 36.5	-1.3
	baz=355						
TWK	**Hsinying**	**0.34**	**285**	*eP*	Pb	00 54 31.5	-0.6
	baz=285						
TWK				*eS*	Sb	00 54 36.8	-0.9
	baz=285						
LONT	**Longtian**	**0.38**	**136**	*eP*	Pb	00 54 32.3	-0.5
	baz=135						
LONT				*eS*	Sb	00 54 38.2	-0.7
	baz=135						

TAP 10 00:54:27.9, 23˚.20N×120˚.84E, h2km, ML1.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STYT	**Tauyuan**	**0.08**	**243**	*i P*	Pg	00 54 30.1	+0.5
	baz=239						
STYT				*i* S	Sg	00 54 31.3	+0.7
	baz=239						
ELDTW	**Lidau**	**0.17**	**94**	P	Pg	00 54 32.8	+1.6
	baz=87						
ELDTW				*i* S	Sg	00 54 35.0	+1.6
	baz=87						
WTP	**Ta-pu**	**0.21**	**283**	P	Pg	00 54 33.1	+1.1
	baz=283						
WTP				S	Sg	00 54 36.6	+1.9
	baz=283						
WTP	**Ta-pu**	**0.21**	**283**	*i* S	Pg	00 54 32.8	+0.8
	baz=287						
TPUB	**Ta-pu**	**0.21**	**298**	*eP*	Pg	00 54 33.0	+1.0
	baz=305						
TPUB				S	Sg	00 54 37.0	+2.1
	baz=305						
TPUB	**Ta-pu**	**0.21**	**298**	S	Pg	00 54 33.1	+1.0
	baz=301						
SGST	**Jiashian**	**0.26**	**243**	P	Pb	00 54 34.8	-0.6
	baz=243						
SGST				*eS*	Sb	00 54 39.0	-1.3
	baz=243						
CHN4	**Tsaushan**	**0.27**	**304**	S	Sb	00 54 39.1	-1.4
	baz=319						
SLGT	**Liugui**	**0.27**	**220**	*eP*	Pb	00 54 34.7	-0.8
	baz=209						
SLGT				*eS*	Sb	00 54 38.8	-1.7
	baz=209						
SNST	**Tainan City**	**0.31**	**274**	*eP*	Pg	00 54 35.1	+1.1
	baz=269						
SNST				*eS*	Sb	00 54 40.9	-0.8
	baz=269						
TWK	**Hsinying**	**0.33**	**282**	*eP*	Pb	00 54 35.6	-0.9
	baz=282						
TWK				*eS*	Sb	00 54 41.0	-1.2
	baz=282						

IDC 10 01:03:25.6±2.3, 6˚.82S×129˚.22E, h0km, mb3.5/1, mb1 3.7/5, mb1mx3.5/29, mbtmp3.6/5, ML3.5/4, Error ellipse: s-maj=55.0km s-min=30.1km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.45**	**238**	Pn	Pn	01 05 02.8	+0.9
	9.0nm,0.3s,baz=232,slow=0.7,SNR=12						
BATI				Sn	Sn	01 06 06.7	-10
	4.6nm,0.3s,baz=292,slow=19,SNR=2.5						
FITZ	**Fitzroy Crossi**	**11.74**	**197**	Pn	Pn	01 06 13.2	-1.3
	0.4nm,0.3s,baz=28,slow=9.0,SNR=20						
FITZ				Sn	Sn	01 08 08.5	-18
	0.4nm,0.3s,baz=144,slow=22,SNR=7.5						
WRA	**Warramunga Arr**	**13.96**	**160**	Pn	Pn	01 06 46.4	+1.6
	0.1nm,0.3s,baz=335,slow=12,SNR=1.2						
WRA				Sn	Sn	01 09 09.8	-11
	0.2nm,0.3s,baz=327,slow=24,SNR=3.3						
ASAR	**Alice Springs**	**17.35**	**165**	P	Pn	01 07 28.8	-0.5
	0.1nm,0.3s,baz=344,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**67.65**	**327**	P	P	01 14 24.5	-0.1
	0.2nm,0.4s,baz=126,slow=9.1,SNR=2.1						

*BJI **10** 02:15:19.0±0.0, 1˚.60N×124˚.50E, h249km, mB4.6/35, mb4.6/48*
*NEIC **10** 02:15:20.2±1.8, 1˚.52N±0˚.07×124˚.46E±0˚.08, h256km±7km, mb4.6/45, Error ellipse: s-maj=12.1km s-min=10.4km az=64.0*
*DJA **10** 02:15:21.3±0.8, 1˚N±.8˚×12˚5E±˚, h252km±7km, M4.7/8, mB5.3/2, mb4.8/2, MLv4.7/8, Mw(mB)4.8/2*
*IDC **10** 02:15:22.8±0.7, 1˚.53N×124˚.36E, h281km±7km, mb4.1/29, mb1 4.1/31, mb1mx4.0/49, mbtmp4.8/31, Error ellipse: s-maj=13.2km s-min=6.8km az=69.0*

ISC 10 02:15:20.0±0.3, 1˚.51N±0˚.05×124˚.48E±0˚.06, h250km, n155, σ1.32/159, mb4.5/54, 4C-1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.05**	**208**	P	**Pn**	**02 15 57.6**	**+2.2**
GTOI	**Gorontalo**	**1.71**	**240**	P	**Pn**	**02 16 02.5**	**+2.6**
TNTI	**Ternate**	**2.98**	**104**	P	**Pn**	**02 16 13.1**	**+0.8**
TNTI	**Ternate**	**2.98**	**104**	Pn	**Pn**	**02 16 13.7**	**+1.5**
LUWI	**Luwuk**	**3.05**	**214**	P	**Pn**	**02 16 13.9**	**+0.8**
LUWI	**Luwuk**	**3.05**	**214**	Pn	**Pn**	**02 16 13.9**	**+0.8**
SANI	**Sanana**	**3.84**	**157**	P	**Pn**	**02 16 21.6**	**-0.4**
MPSI	**Mapaga**	**4.73**	**256**	P	**Pn**	**02 16 34.1**	**+1.6**
DDMP	**Don Marcelino,**	**4.73**	**15**	*eP*	**Pn**	**02 16 33.0**	**+0.5**
SKMP	**Bagumbayan, Su**	**4.98**	**1**	*eP*	**Pn**	**02 16 36.0**	**+0.4**
NLAI	**Namlea**	**5.39**	**151**	P	**Pn**	**02 16 41.7**	**+1.0**
	7µm156nm,0.7s						
KCP	**Kidapawan**	**5.50**	**6**	*iP*	**Pn**	**02 16 43.6**	**+1.5**
KCP				*i* S	**S**	**02 17 49.5**	**+1.9**
DAV	**Davao City (W)**	**5.63**	**11**	Pn	**Pn**	**02 16 44.1**	**+0.4**
MATI	**Mati**	**5.69**	**18**	*eP*	**Pn**	**02 16 43.2**	**-1.1**
BUKP	**Musuan**	**6.36**	**5**	*eP*	**Pn**	**02 16 54.4**	**+1.7**
MYLDM	**Lahad Datu**	**7.00**	**302**	Pn	**Pn**	**02 17 02.7**	**+2.0**
SKI	**Sorong**	**7.18**	**109**	P	**Pn**	**02 17 04.8**	**+1.7**
	3.8nm,0.3s,baz=153,slow=22,SNR=5.4						
KAPI	**Kappang**	**8.02**	**216**	P	**Pn**	**02 17 16.0**	**+2.4**
	4.0nm,0.3s,baz=214,slow=24,SNR=9.8						
CNOP	**Candoni, Negro**	**8.47**	**348**	*eP*	**Pn**	**02 17 19.8**	**+0.6**
MSLP	**Maasin**	**8.58**	**3**	*eP*	**Pn**	**02 17 22.9**	**+2.2**
FAKI	**Fak Fak**	**8.93**	**120**	Pn	**Pn**	**02 17 25.7**	**+0.6**
KKM	**Kota Kinabalu**	**9.40**	**299**	Pn	**Pn**	**02 17 31.7**	**+0.6**
OCLP	**Ormoc**	**9.48**	**1**	*eP*	**P**	**02 17 37.1**	**-1.5**
BATP	**Bataraza**	**9.83**	**318**	*eP*	**Pn**	**02 17 38.8**	**+2.2**
CUYO	**Cuyo Island**	**9.90**	**340**	*eP*	**Pn**	**02 17 38.7**	**+1.3**
CNP	**Catarman**	**10.93**	**1**	*eP*	**Pn**	**02 17 51.5**	**+1.1**
SJMP	**San Jose**	**11.38**	**343**	*eP*	**Pn**	**02 17 57.5**	**+1.5**
BATI	**Baumata**	**11.66**	**184**	P	**P**	**02 18 01.9**	**-1.1**
	56nm,0.3s,baz=67,slow=5.1,SNR=16						
PVCP	**Virac**	**12.02**	**358**	*eP*	**Pn**	**02 18 05.3**	**+1.5**
SBUM	**Sibu**	**12.29**	**275**	Pn	**Pn**	**02 18 07.3**	**0.0**
LQP	**Lukban**	**12.86**	**347**	*eP*	**P**	**02 18 16.1**	**-0.4**
TGY	**Tagaytay City**	**13.00**	**345**	P	**P**	**02 18 17.6**	**-0.2**
	34nm,0.3s,baz=122,slow=22,SNR=3.6						
POLP	**Polillo Island**	**13.37**	**349**	*eP*	**P**	**02 18 22.8**	**+0.8**
BALP	**Baler**	**14.43**	**349**	*eP*	**P**	**02 18 35.0**	**+1.4**
SCZP	**Santa Cruz**	**14.88**	**343**	*eP*	**Pn**	**02 18 39.3**	**+0.5**
SMPP	**San Manuel, Pa**	**15.03**	**346**	*eP*	**P**	**02 18 40.1**	**-0.1**
CAUP	**Cauayan**	**15.56**	**350**	*eP*	**Pn**	**02 18 47.3**	**+0.3**
ABRA	**Dolores**	**16.46**	**347**	*eP*	**P**	**02 18 55.7**	**-0.3**
APYP	**Conner**	**16.56**	**349**	*eP*	**P**	**02 18 56.2**	**-0.9**
JAY	**Jayapura**	**16.71**	**104**	P	**P**	**02 18 60.0**	**+1.2**
	3.6nm,0.3s,baz=256,slow=7.9,SNR=17						
SGCP	**Mt. Cagua**	**16.80**	**352**	*eP*	**P**	**02 18 59.8**	**+0.1**
TWG	**Pinlang**	**21.44**	**351**	P	**P**	**02 19 48.2**	**-0.7**
YULB	**Yu-li**	**21.97**	**352**	P	**P**	**02 19 53.8**	**-0.1**
YULB				IAmb	IAmb	02 20 02.3	
	comp=Z,21nm,0.8s						
TPUB	**Ta-pu**	**21.98**	**351**	P	**P**	**02 19 52.8**	**-1.2**
SSLB	**Suanglung**	**22.41**	**352**	P	**P**	**02 19 56.5**	**-1.4**
YHNB	**Yeheng**	**23.22**	**353**	P	**P**	**02 20 05.6**	**+0.3**
WB0	**Warramunga Arr**	**23.27**	**156**	P	**P**	**02 20 04.8**	**-0.9**
WRA	**Warramunga Arr**	**23.41**	**156**	P	**P**	**02 20 06.7**	**-0.3**
	comp=Z,82nm,0.6s,baz=336,slow=9.7,SNR=85						
WRA	**Warramunga Arr**	**23.41**	**156**	P	**P**	**02 20 06.3**	**-0.7**
WB2	**Warramunga Arr**	**23.41**	**156**	P	**P**	**02 20 05.8**	**-1.2**
WR0	**Warramunga Arr**	**23.51**	**156**	P	**P**	**02 20 07.1**	**-0.7**
COEN	**Coen**	**24.07**	**130**	P	**P**	**02 20 12.3**	**-0.7**
COEN				IAmb	IAmb	02 20 16.0	
	comp=Z,13nm,0.8s						
PMG	**Port Moresby**	**25.06**	**116**	P	**P**	**02 20 22.4**	**+0.4**
	comp=Z,23nm,0.8s,baz=259,slow=8.5,SNR=5.3						
PMG	**Port Moresby**	**25.06**	**116**	IAmb	IAmb	02 20 28.3	
	comp=Z,35nm,0.9s						
AS31	**Alice Springs**	**26.65**	**160**	P	**P**	**02 20 36.0**	**-0.2**
ASAR	**Alice Springs**	**26.65**	**160**	P	**P**	**02 20 36.9**	**+0.7**
	comp=Z,6.0nm,0.3s,baz=343,slow=7.4,SNR=27						
ASAR				ScP	**ScP**	**02 27 08.0**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=327,slow=2.3,SNR=5.8						
ASAR	**Alice Springs**	**26.65**	**160**	P	**P**	**02 20 36.0**	**-0.2**
KRVT	**Keravat (AS076**	**28.13**	**102**	P	**P**	**02 20 51.3**	**+1.9**
	comp=Z,61nm,0.9s,baz=356,slow=24,SNR=4.4						
GYA	**Guiyang**	**30.15**	**327**	*eP*	**P**	**02 21 09.4**	**+2.2**
GYA				pmax	pmax		
	comp=Z,15nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.19**	**306**	P	**P**	**02 21 06.9**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=135,slow=7.3,SNR=5.3						
CMAR	**Chiang Mai Arr**	**30.19**	**306**	P	**P**	**02 21 07.8**	**+0.3**
CTA	**Charters Tower**	**30.27**	**136**	P	**P**	**02 21 09.4**	**+1.1**
	comp=Z,2.8nm,0.6s,baz=96,slow=4.6,SNR=1.4						
CTAO	**Charters Tower**	**30.27**	**136**	P	**P**	**02 21 08.9**	**+0.6**
CTAO				IAmb	IAmb	02 21 20.5	
	comp=Z,21nm,1.4s						
WHN	**Wuhan**	**30.43**	**343**	P	**P**	**02 21 12.3**	**+2.8**
NJ2	**Nanjing**	**30.84**	**351**	*eP*	**P**	**02 21 15.6**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ENH	**Enshi**	**31.95**	**335**	P	**P**	**02 21 23.2**	**+0.3**
JNU	**Nakatsue**	**32.02**	**10**	P	**P**	**02 21 22.9**	**-0.5**
	comp=Z,30nm,0.9s,baz=222,slow=4.7,SNR=7.2						
FORT	**Forrest**	**32.29**	**174**	P	**P**	**02 21 25.6**	**-0.1**
NWAO	**Narrogin (SRO)**	**34.93**	**191**	P	**P**	**02 21 49.3**	**+0.9**
	comp=Z,3.3nm,0.3s,baz=23,slow=8.7,SNR=8.4						
NWAO	**Narrogin (SRO)**	**34.93**	**191**	P	**P**	**02 21 48.9**	**+0.5**
TIA	**Tai'an**	**35.20**	**350**	P	**P**	**02 21 52.3**	**+1.6**
TIA				pmax	pmax		
	comp=Z,12nm,0.8s						
CD2	**Chengdu**	**35.22**	**328**	*eP*	**P**	**02 21 52.0**	**+1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**35.49**	**337**	P	**P**	**02 21 52.2**	**-1.0**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XAN	**Xi'an**	**35.49**	**337**	P	**P**	**02 21 52.5**	**-0.7**
BBOO	**Buckleboo**	**35.84**	**163**	P	**P**	**02 21 56.5**	**+0.3**
KSRS	**Korea Array**	**35.91**	**5**	P	**P**	**02 21 57.4**	**+0.8**
	comp=Z,4.2nm,0.5s,baz=182,slow=9.5,SNR=10						
STKA	**Stephens Creek**	**36.96**	**155**	P	**P**	**02 22 06.1**	**+0.5**
	comp=Z,9.2nm,0.3s,baz=323,slow=8.3,SNR=16						
STKA	**Stephens Creek**	**36.96**	**155**	P	**P**	**02 22 05.5**	**-0.1**
MJAR	**Matsushiro Arr**	**37.10**	**18**	P	**P**	**02 22 05.6**	**-1.1**
	comp=Z,9.0nm,0.7s,baz=199,slow=9.7,SNR=20						
MJAR	**Matsushiro Arr**	**37.10**	**18**	P	**P**	**02 22 05.7**	**-1.1**
MAJO	**Matsushiro**	**37.10**	**18**	P	**P**	**02 22 06.0**	**-0.8**
MAJO				IAmb	IAmb	02 22 07.2	
	comp=Z,16nm,0.9s						
MAT	**Matsushiro**	**37.10**	**18**	P	**P**	**02 22 05.8**	**-1.0**
MAT				*eS*	**S**	**02 27 33.0**	**-1.0**
EIDS	**Eidsvold**	**37.11**

PETK	**Petropavlovsk-**	**58.33**	**23**	P		**P**	**02 24 49.9**	**+1.0**
	comp=Z,5.5nm,0.6s,baz=181,slow=3.0,SNR=16							
PETK	**Petropavlovsk-**	**58.33**	**23**	P		**P**	**02 24 49.5**	**+0.6**
KDJ	**Kajisay**	**58.55**	**320**	P		**P**	**02 24 50.2**	**-0.7**
YAK	**Yakutsk**	**60.50**	**3**	P		**P**	**02 25 03.6**	**+0.1**
AAK	**Ala-Archa**	**60.53**	**320**	P		**P**	**02 25 02.5**	**-1.9**
	comp=Z,2.5nm,0.5s,baz=162,slow=2.6,SNR=5.0							
RPZ	**Rata Peaks**	**61.30**	**143**	P		**P**		
RPZ				IAmb		IAmb	02 25 11.1	
	comp=Z,11nm,0.8s							
MA2	**Magadan**	**61.40**	**15**	P		**P**	**02 25 09.7**	**0.0**
ZAA0	**Zalesovo Array**	**61.58**	**335**	P		**P**	**02 25 10.0**	**-0.9**
ZAA0				IAmb		IAmb	02 25 12.2	
	comp=Z,8.7nm,0.8s							
ZALV	**Zalesovo Beam**	**61.58**	**335**	P		**P**	**02 25 09.0**	**-1.9**
	comp=Z,7.0nm,0.5s,baz=124,slow=6.2,SNR=18							
KURBB	**Kurchatov Arra**	**62.43**	**329**	P		**P**	**02 25 15.5**	**-1.1**
	comp=Z,11nm,0.6s,baz=133,slow=6.8,SNR=46							
KURBB				pP		**pwP**	**02 26 18.6**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=126,slow=5.9,SNR=3.9							
KURK	**Kurchatov**	**62.44**	**329**	P		**P**	**02 25 15.5**	**-1.2**
BKZ	**Black Stump Fm**	**62.49**	**136**	P		**P**	**02 25 18.1**	**+0.8**
BKZ				IAmb		IAmb	02 25 20.5	
	comp=Z,9.9nm,0.6s							
KKAR	**Karatay Array**	**63.35**	**318**	P		**P**	**02 25 22.0**	**-0.9**
BVAR	**Borovoye Array**	**67.98**	**328**	P		**P**	**02 25 50.9**	**-1.3**
	comp=Z,2.2nm,0.3s,baz=144,slow=8.6,SNR=18							
BVAR				pP		**pwP**	**02 26 54.6**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=119,slow=7.4,SNR=2.3							
TIXI	**Tiksi**	**70.09**	**1**	P		**P**	**02 26 03.9**	**-0.8**
GEYT	**Alibeck**	**70.55**	**310**	P		**P**	**02 26 07.2**	**-1.1**
	comp=Z,2.7nm,0.6s,baz=130,slow=6.0,SNR=7.6							
GEYT	**Alibeck**	**70.55**	**310**	P		**P**	**02 26 07.2**	**-1.1**
NRIK	**Noril'sk**	**72.06**	**347**	P		**P**	**02 26 16.2**	**-0.4**
	comp=Z,16nm,0.6s,baz=123,slow=6.1,SNR=18							
ABKAR	**Akbulak array**	**72.46**	**322**	P		**P**	**02 26 18.0**	**-1.3**
AKTO	**Aktyubinsk**	**74.02**	**322**	P		**P**	**02 26 27.6**	**-0.8**
	comp=Z,4.0nm,0.4s,baz=105,slow=8.7,SNR=25							
ARU	**Arti**	**75.62**	**328**	P		**P**	**02 26 35.9**	**-1.6**
	comp=Z,1.8nm,0.4s,baz=142,slow=3.7,SNR=12							
KIRV	**Kirov**	**80.35**	**329**	P		**P**	**02 27 05.2**	**-1.3**
	comp=Z,9.5nm,0.6s,baz=92,slow=6.0,SNR=5.2							
VNDA	**Vanda**	**81.53**	**172**	P		**P**	**02 27 09.8**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=319,slow=5.8,SNR=10							
AKH	**Akhalkalaki**	**82.24**	**311**	IAmb		IAmb	02 27 17.3	
	comp=Z,6.1nm,0.9s							
KBZ	**Khabaz**	**82.87**	**314**	P		**P**	**02 27 16.1**	**-0.8**
	comp=Z,2.4nm,0.9s,baz=128,slow=3.7,SNR=5.4							
KLMR	**Klimovskoe**	**86.23**	**331**	*eP*		P	02 27 28.0	-5.2
KLMR				AMP			02 27 33.6	
	comp=Z,6.0nm,0.7s							
ASF	**Jabal al Asfar**	**87.16**	**302**	P		**P**	**02 27 37.5**	**-1.0**
	comp=Z,2.8nm,0.6s,baz=60,slow=4.6,SNR=5.7							
ARCES	**ARCESS Array B**	**91.74**	**340**	P		**P**	**02 27 57.0**	**-2.0**
	comp=Z,3.3nm,0.8s,baz=93,slow=7.3,SNR=7.7							
FINES	**FINESS Array B**	**92.71**	**332**	P		**P**	**02 28 01.6**	**-2.0**
	comp=Z,1.9nm,0.8s,baz=20,slow=6.1,SNR=11							
VRI	**Vrincioaia**	**94.33**	**316**	⇑P		P	02 28 21.1	+10
BURAR	**Bucovina Array**	**95.14**	**318**	⇓P		**P**	**02 28 14.8**	**-0.4**
BURAR	**Bucovina Array**	**95.14**	**318**	P		**P**	**02 28 14.3**	**-0.8**
BUR08	**Bucovina Ar. S**	**95.15**	**318**	P		**P**	**02 28 14.3**	**-0.9**
VTS	**Vitosha**	**97.25**	**316**	⇑P		**P**	**02 28 23.5**	**-1.4**
VYHS	**Vyhne**	**99.20**	**320**	*e*PDIFF		**Pdif**	**02 28 42.0**	**+8.7**
TKL	**Tuckaleechee C**	**134.58**	**33**	SKPbc		**SKPbc**	**02 37 12.3**	**-3.2**
	comp=Z,2.2nm,0.7s,baz=180,slow=3.1,SNR=6.5							

IDC ***10*** *02:24:09.5±9.2, 36.˚63N×70.˚68E, h176km±61km, mb3.3/3, mb1 3.4/9, mb1mx3.1/62, mbtmp4.0/9, Error ellipse: s-maj=87.0km s-min=45.4km az=172.0*

NNC ***10*** *02:24:12.1±8.6, 37.˚09N×70.˚48E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=67.0km s-min=58.2km az=169.0*

ISC 10 02:24:09.4±1.0, 36.˚59N±0.˚06×71.˚0E±0.˚1, h150km, n32, σ2s12/35, mb3.4/3, 2C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.87**	**164**	⇓P		**Pn**	**Pn**	**02 24 57.1**	**+1.9**
CEP				S		**Sn**	**Sn**	**02 25 33.0**	**+2.4**
CHCP	**Chirah Chowk**	**3.48**	**147**	P		**Pn**	**Pn**	**02 25 05.3**	**+2.4**
THW	**Thamme Wali**	**3.84**	**170**	P		**Pn**	**Pn**	**02 25 08.0**	**+0.4**
SARP	**Sargodha**	**4.87**	**163**	P		**Pn**	**Pn**	**02 25 20.6**	**-0.5**
KSH	**Kashi**	**4.91**	**52**	Pn		**Pn**	**Pn**	**02 25 21.3**	**-0.4**
KSH				Sn		**Sn**	**Sn**	**02 26 14.0**	**-4.1**
KSH				smax		smax	smax		
	comp=N,120nm,0.3s								
KSH				smax		smax	smax		
	comp=E,78nm,0.4s								
UCH	**Uchtor**	**6.26**	**25**	P		**Pn**	**Pn**	**02 25 42.6**	**+2.7**
	SNR=46								
KZA	**Kyzart**	**6.40**	**30**	P		**Pn**	**Pn**	**02 25 43.9**	**+2.2**
	SNR=8.3								
EKS2	**Erkin-Say**	**6.44**	**19**	P		**Pn**	**Pn**	**02 25 44.5**	**+2.6**
	SNR=26								
KK31	**Karatay Array**	**6.51**	**357**	Pn		**Pn**	**Pn**	**02 25 44.1**	**+1.3**
	comp=E,4.5nm,0.3s,baz=186,slow=12,SNR=131								
KK31				⇓Sn		**Sn**	**Sn**	**02 26 53.8**	**-2.3**
	comp=E,36nm,0.5s,baz=185,slow=21,SNR=26								
AAK	**Ala-Archa**	**6.62**	**23**	P		**Pn**	**Pn**	**02 25 45.9**	**+1.5**
	comp=E,7.7nm,0.3s,baz=164,slow=4.9,SNR=16								
AAK				S		**Sn**	**Sn**	**02 27 01.4**	**+2.5**
	comp=E,1.3nm,0.3s,baz=180,slow=9.0,SNR=4.2								
AAK	**Ala-Archa**	**6.62**	**23**	P		**Pn**	**Pn**	**02 25 47.4**	**+2.9**
	SNR=12								
AAK	**Ala-Archa**	**6.62**	**23**	⇑Pn		**Pn**	**Pn**	**02 25 47.1**	**+2.6**
	comp=E,7.5nm,0.4s								
AAK				⇑Sn		**Sn**	**Sn**	**02 27 01.1**	**+2.1**
	comp=E,38nm,0.5s								
KBK	**Karagaybulak**	**6.79**	**26**	P		**Pn**	**Pn**	**02 25 49.2**	**+2.5**
	SNR=11								
CHMS	**Chumysh**	**7.03**	**23**	P		**Pn**	**Pn**	**02 25 52.5**	**+2.7**
	SNR=13								
USP	**Ospenovka**	**7.20**	**21**	P		**Pn**	**Pn**	**02 25 54.1**	**+2.1**
	SNR=5.6								
TKM2	**Tokmak 2**	**7.26**	**28**	P		**Pn**	**Pn**	**02 25 55.4**	**+2.5**
	SNR=26								
TKM2	**Tokmak 2**	**7.26**	**28**	⇓Pn		**Pn**	**Pn**	**02 25 55.1**	**+2.1**
	comp=E,12nm,0.3s								
TKM2				⇓Sn		**Sn**	**Sn**	**02 27 16.7**	**+2.5**
	comp=E,12nm,0.8s								
PYUN	**Piuthan**	**13.22**	**126**	*e*P		**Pn**	**Pn**	**02 27 09.5**	**-2.1**
	comp=E,11nm,0.3s								
MKAR	**Makanchi Array**	**13.23**	**36**	P		**Pn**	**Pn**	**02 27 11.6**	**+0.1**
	comp=E,0.1nm,0.3s,baz=230,slow=9.0,SNR=3.8								
KOLN	**Koldanda**	**13.84**	**126**	*e*P		**Pn**	**Pn**	**02 27 17.1**	**-2.3**
	comp=E,3.1nm,0.3s								
GKN	**Gorkha**	**14.37**	**123**	*e*P		**Pn**	**Pn**	**02 27 25.4**	**-0.7**
	comp=E,18nm,0.3s								
DMN	**Daman**	**14.94**	**123**	*e*P		**Pn**	**Pn**	**02 27 33.1**	**-0.3**
	comp=E,15nm,0.8s								
KURBB	**Kurchatov Arra**	**15.04**	**19**	P		**Pn**	**Pn**	**02 27 32.4**	**-1.7**
	comp=E,0.2nm,0.3s,baz=208,slow=12,SNR=5.1								
PKI	**Pulchoki**	**15.17**	**122**	*e*P		**Pn**	**Pn**	**02 27 36.2**	**-0.1**
	comp=E,16nm,0.6s								
JIRN	**Jiri**	**15.65**	**120**	*e*P		**P**	**P**	**02 27 43.0**	**-0.2**
	comp=E,27nm,0.4s								
BVAR	**Borovoye Array**	**16.44**	**359**	P		**P**	**P**	**02 27 49.7**	**-1.5**
	comp=E,1.3nm,0.3s,baz=156,slow=8.5,SNR=11								
AKTO	**Aktyubinsk**	**16.69**	**330**	P		**P**	**P**	**02 27 51.3**	**-2.8**
	comp=E,1.4nm,0.3s,baz=138,slow=11,SNR=12								
ODAN	**Odare**	**16.99**	**120**	*e*P		**P**	**P**	**02 27 57.8**	**0.0**
	comp=E,9.6nm,0.6s								
ZALV	**Zalesovo Beam**	**19.84**	**25**	P		**P**	**P**	**02 28 27.6**	**-0.7**
	comp=E,1.0nm,0.3s,baz=219,slow=12,SNR=14								
FINES	**FINESS Array B**	**37.39**	**326**	P		P	P	02 31 03.5	-3.8
	comp=E,4.0nm,1.1s,baz=126,slow=9.7,SNR=3.4								
ARCES	**ARCESS Array B**	**41.05**	**338**	P		P	P	02 31 34.4	-3.2
	comp=E,0.8nm,0.8s,baz=97,slow=7.4,SNR=0.7								
NOA	**NORSAR Array B**	**44.29**	**323**	P		P	P	02 31 59.4	-4.4
	comp=E,0.6nm,0.8s,baz=110,slow=8.1,SNR=1.5								

NEIC ***10*** *02:27:12.9±1.6, 6.˚76N±0.˚07×73.˚00W±0.˚08, h160km±7km, mb4.1/9, Error ellipse: s-maj=13.3km s-min=8.4km az=124.0*

IDC ***10*** *02:27:13.2±0.8, 6.˚75N×72.˚92W, h161km±10km, mb3.4/4, mb1 3.9/6, mb1mx3.4/25, mbtmp4.1/6, Error ellipse: s-maj=32.3km s-min=7.9km az=131.0*

RSNC ***10*** *02:27:14.4±0.9, 6.˚80N×73.˚14W, h152km±3km, ML3.8, Mw4.1, Fault plane solution: NP1:φs128.00000°, δ19.00000°, λ118.00000°.*

ISC 10 02:27:13.1±0.7, 6.˚84N±0.˚03×73.˚09W±0.˚04, h158km±5km, n75, σ1s55/115, mb3.8/7, 8C-8D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**201**	⇑*i*P		**Pn**		**02 27 34.9**	**+0.2**
BARC				*e*S		**Sn**		**02 27 50.1**	**-1.1**
BARC				*i*				02 27 52.7	
	comp=Z,2μm,0.3s								
PAMC	**Pamplona, Colo**	**0.63**	**38**	⇑*i*P		**Pn**		**02 27 37.7**	**+1.1**
PAMC				*e*S		**Sn**		**02 27 54.6**	**+0.1**
PAMC				*i*				02 27 59.0	
	comp=Z,580nm,0.3s								
BRRC	**Barranca, Sant**	**0.67**	**293**	⇑*i*P		**Pn**		**02 27 36.8**	**+0.6**
BRRC				*e*S		**Sn**		**02 27 53.9**	**0.0**
BRRC				*i*				02 28 01.5	
	comp=Z,633nm,0.4s								
RUSC	**La Rusia**	**0.94**	**180**	⇓*i*P		**Pn**		**02 27 38.7**	**+0.1**
RUSC				*e*S		**Sn**		**02 27 57.3**	**-1.0**
RUSC				*i*				02 27 58.6	
	comp=Z,675nm,0.3s								
RUSC	**La Rusia**	**0.94**	**180**			**Pn**		**02 27 38.6**	**-0.1**
RUSC				Sn		**Sn**		**02 27 56.6**	**-1.6**
TAMC	**Tame, Arauca**	**1.35**	**107**	⇑*i*P		**Pn**		**02 27 43.1**	**+1.3**
TAMC				*e*S		**Sn**		**02 28 04.3**	**+0.6**
TAMC				*i*				02 28 05.4	
	comp=Z,439nm,0.6s								
PTBC	**PUERTO BERRIO,**	**1.39**	**258**	⇓*i*P		**Pn**		**02 27 41.4**	**-0.8**
PTBC				*e*S		**Sn**		**02 28 02.6**	**-1.7**
PTBC				*i*				02 28 10.4	
	comp=Z,1μm,0.4s								
OCAC	**Ocana**	**1.41**	**351**	⇑*i*P		**Pn**		**02 27 43.0**	**+0.5**
OCAC				*e*S		**Sn**		**02 28 06.3**	**+1.2**
OCAC				*i*				02 28 11.5	
	comp=Z,1μm,0.3s								
SPBC	**San Pablo de B**	**1.53**	**220**	⇓*i*P		**Pn**		**02 27 43.7**	**+0.1**
SPBC				*e*S		**Sn**		**02 28 06.4**	**-0.7**
SPBC				*i*				02 28 13.1	
	comp=Z,1μm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.87**	**290**	⇑*e*P		**Pn**		**02 27 47.0**	**-0.2**
ZARC				*e*S		**Sn**		**02 28 13.3**	**-0.2**
ZARC				*i*				02 28 19.4	
	comp=Z,633nm,0.3s								
CTAU	**Tausa, Cundina**	**1.88**	**210**	*e*P		Pn		02 27 58.2	+10
CTAU				*i*				02 28 31.0	
	comp=Z,689nm,0.3s								
CTAB	**Cerro Tablazo,**	**2.13**	**211**	*e*P		**Pn**		**02 27 52.8**	**+2.2**
CTAB				*e*S		**Sn**		**02 28 23.3**	**+3.7**
CTAB				*i*				02 28 24.9	
	comp=Z,888nm,0.6s								
NORC	**Norcasia**	**2.18**	**235**	⇓*e*P		**Pn**		**02 27 50.5**	**-0.3**
NORC				*e*S		**Sn**		**02 28 18.4**	**-1.4**
NORC				*i*				02 28 22.7	
	comp=Z,897nm,0.2s								
SMLC	**San Martn de**	**2.18**	**334**	⇑*e*P		**Pn**		**02 27 51.0**	**+0.3**
SMLC				*e*S		**Sn**		**02 28 20.4**	**+0.5**
SMLC				*i*				02 28 24.8	
	comp=Z,766nm,0.3s								
CHIC	**Chingaza**	**2.29**	**196**	⇓*e*P		**Pn**		**02 27 52.5**	**+0.1**
CHIC				*e*S		**Sn**		**02 28 22.0**	**-0.8**
CHIC				*i*				02 28 28.4	
	comp=Z,277nm,0.4s								
ROSC	**El Rosal**	**2.33**	**212**	P		**Pn**		**02 27 53.8**	**+0.9**
	comp=Z,240nm,0.3s,baz=263,slow=1.8,SNR=329								
ROSC				S		**Sn**		**02 28 25.1**	**+1.4**
	comp=Z,271nm,0.3s,baz=103,slow=21,SNR=6.3								
ROSC	**El Rosal**	**2.33**	**212**	⇓*i*P		**Pn**		**02 27 54.4**	**+1.4**
ROSC				*e*S		**Sn**		**02 28 23.9**	**+0.2**
ROSC				*i*				02 28 33.0	
	comp=Z,1μm,0.4s								
ROSC	**El Rosal**	**2.33**	**212**			**Pn**		**02 27 54.1**	**+1.1**
CVER	**Cruz Verde, Cu**	**2.50**	**203**	*e*P		**Pn**		**02 27 55.9**	**+0.8**
CVER				*e*S		**Sn**		**02 28 29.4**	**+1.9**
HELC	**Santa Helena**	**2.51**	**255**	*e*P		**Pn**		**02 27 54.9**	**-0.2**
HELC				*e*S		**Sn**		**02 28 27.0**	**-0.4**
HELC				*i*				02 28 34.2	
	comp=Z,602nm,0.3s								
UREC	**San Jos de Ur**	**2.59**	**291**	*e*P		**Pn**		**02 27 55.1**	**-0.6**
UREC				*e*S		**Sn**		**02 28 25.7**	**-2.9**
UREC				*i*				02 28 35.8	
	comp=Z,469nm,0.2s								
GUY2C	**Guyana, Caldas**	**2.77**	**235**	*e*P		**Pn**		**02 27 58.9**	**+0.5**
GUY2C				*e*S		**Sn**		**02 28 35.2**	**+1.8**
GUY2C				*i*				02 28 41.7	
	comp=Z,594nm,0.3s								
VILC	**Villavicencio,**	**2.77**	**193**	⇓*e*P		**Pn**		**02 27 57.9**	**-0.3**
VILC				*e*S		**Sn**		**02 28 33.1**	**+0.2**
VILC				*i*				02 28 48.3	
	comp=Z,425nm,0.4s								
PTGC	**Puerto Gaitan,**	**2.79**	**160**	⇓*i*P		**Pn**		**02 27 57.8**	**-0.4**
PTGC				*e*S		**Sn**		**02 28 30.7**	**-2.3**
PTGC				*i*				02 28 38.3	
	comp=Z,228nm,0.3s								
CBOC	**Ciudad Bolivar**	**3.06**	**252**	*e*P		**Pn**		**02 28 02.1**	**+0.5**
CBOC				*e*S		**Sn**		**02 28 38.6**	**-0.7**
CBOC				*i*				02 28 50.0	
	comp=Z,155nm,0.7s								
DBBC	**Dabeiba**	**3.10**	**273**	⇑*i*P		**Pn**		**02 28 02.4**	**+0.3**
DBBC				*e*S		**Sn**		**02 28 39.1**	**-1.0**
TOLC	**Tolima**	**3.15**	**225**	*e*P		**Pn**		**02 28 03.5**	**+0.5**
TOLC				*e*S		**Sn**		**02 28 42.0**	**+0.3**
SDV	**Santo Domingo**	**3.17**	**50**	P		**Pn**		**02 28 03.0**	**-0.1**
	comp=Z,87nm,0.3s,baz=223,slow=3.4,SNR=33								
SDV				S		**Sn**		**02 28 40.9**	**-1.0**
	comp=Z,41nm,0.3s,baz=311,slow=12,SNR=17								
SDV	**Santo Domingo**	**3.17**	**50**			**Pn**		**02 28 04.1**	**+1.0**
MOTC	**Monteria, Cord**	**3.20**	**307**	*e*P		**Pn**		**02 28 01.7**	**-1.5**
MOTC				*e*S		**Sn**		**02 28 40.6**	**-1.6**
MOTC				*i*				02 28 44.7	
	comp=Z,180nm,0.2s								
ARGC	**Ariguani, Magd**	**3.21**	**339**	*e*P		**Pn**		**02 28 04.8**	**+1.4**
ARGC				*e*S		**Sn**		**02 28 43.3**	**+0.7**
ARGC				*i*				02 28 47.3	
	comp=Z,231nm,0.4s								
ANIL	**Santa Ana**	**3.28**	**225**	*e*P		**Pn**		**02 28 05.4**	**+0.8**
ANIL				*e*S		**Sn**		**02 28 45.2**	**+0.8**
ANIL				*i*				02 28 49.1	
	comp=Z,118nm,0.3s								
PRAC	**Prado**	**3.58**	**210**	*e*P		**Pn**		**02 28 07.4**	**-0.8**
PRAC				*e*S		**Sn**		**02 28 50.5**	**-0.6**
PRAC				*i*				02 28 55.7	
	comp=Z,368nm,0.4s								
ORTC	**Ortega, Tolima**	**3.62**	**217**	*e*P		**Pn**		**02 28 08.3**	**-0.3**
ORTC				*e*S		**Sn**		**02 28 52.1**	**+0.2**
ORTC				*i*				02 28 58.8	
	comp=Z,251nm,0.3s								
SJCC	**San Jacinto, C**	**3.67**	**326**	*e*P		**Pn**		**02 28 08.6**	**-0.8**
SJCC				*e*S		**Sn**		**02 28 49.7**	**-3.6**
SJCC				*i*				02 28 58.0	
	comp=Z,148nm,0.4s								
PLMC	**San Jos del P**	**3.71**	**239**	*e*P		**Pn**		**02 28 10.4**	**+0.5**
PLMC				*e*S		**Sn**		**02 28 54.4**	**+0.3**
PLMC				*i*				02 28 57.3	
	comp=Z,291nm,0.2s								
LCBC	**Los crdobas,**	**3.82**	**302**	*e*P		**Pn**		**02 28 10.9**	**-0.3**
LCBC				*e*S		**Sn**		**02 28 57.5**	**+1.2**
LCBC				*i*				02 29 00.2	
	comp=Z,152nm,0.3s								
GUVC	**San Jose del G**	**4.29**	**174**	*e*P		**Pn**		**02 28 16.8**	**-0.6**
GUVC				*e*S		**Sn**		**02 29 06.2**	**-1.3**
GUVC				*i*				02 29 12.2	
	comp=Z,145nm,0.4s								
YOTC	**Yotoco, Valle**	**4.31**	**229**	*e*P		**Pn**		**02 28 17.6**	**-0.1**
YOTC				*e*S		**Sn**		**02 29 08.8**	**+0.8**
SOLC	**Bahia Solano**	**4.33**	**262**	*e*P		**Pn**		**02 28 18.4**	**+0.5**
SMRC	**Santa Marta, M**	**4.44**	**345**	*e*P		**Pn**		**02 28 20.0**	**+0.7**
SMRC				*e*S		**Sn**		**02 29 08.0**	**-3.0**
SMRC				*i*				02 29 11.0	
	comp=Z,129nm,0.2s								
CAPC	**Capurgana**	**4.59**	**293**	*e*S		Sn		02 29 05.4	-8.9
CAPC				*i*				02 29 13.8	
	comp=Z,62nm,0.4s								
MACC	**Macarena, Meta**	**4.72**	**189**	*e*P		**Pn**		**02 28 21.4**	**-1.7**
MACC				*e*S		**Sn**		**02 29 13.3**	**-4.4**
MACC				*i*				02 29 21.7	
	comp=Z,54nm,0.5s								
BETC	**Betania**	**4.75**	**210**	*e*P		**Pn**		**02 28 22.5**	**-0.9**
BETC				*e*S		**Sn**		**02 29 11.0**	**-7.3**
MARP	**Paez Belalcaza**	**4.89**	**216**	*e*P		**Pn**		**02 28 25.6**	**+0.1**
MARP				*e*S		**Sn**		**02 29 21.3**	**-0.7**
URIC	**Uribia, Colomb**	**4.95**	**13**	*e*P		**Pn**		**02 28 25.1**	**-1.0**
URIC				*e*S		**Sn**		**02 29 19.1**	**-3.9**
URIC				*i*				02 29 27.5	
	comp=Z,34nm,0.3s								
URIC	**Uribia, Colomb**	**4.95**	**13**	Pn		**Pn**		**02 28 25.0**	**-1.0**
MALC	**Bahia Malaga**	**5.07**	**237**	*e*P		**Pn**		**02 28 28.9**	**+1.3**
MALC				*e*S		**Sn**		**02 29 28.6**	**+2.8**
MALC				*i*				02 29 38.3	
	comp=Z,36nm,0.7s								
GARC	**Garzon, Huila**	**5.21**	**208**	*e*P		**Pn**		**02 28 28.6**	**-1.1**
GARC				*e*S		**Sn**		**02 29 25.1**	**-4.3**
GARC				*i*				02 29 27.8	
	comp=Z,90nm,0.3s								
FLOC	**Florencia**	**5.81**	**206**	*e*P		**Pn**		**02 28 36.9**	**-0.5**
FLOC				*e*S		**Sn**		**02 29 42.0**	**-1.5**
FLOC				*i*				02 29 53.0	
	comp=Z,24nm,0.4s								
FLOC	**Florencia**	**5.81**	**206**			**Pn**		**02 28 36.7**	**-0.8**
SOTA	**Rioblanco**	**5.84**	**217**	*e*S		Sn		02 29 35.4	-10
BBAC	**Balboa, Cauca**	**6.33**	**221**	*e*P		**Pn**		**02 28 45.2**	**+0.7**
BBAC				*e*S		**Sn**		**02 29 54.1**	**-2.0**
BBAC				*i*				02 30 02.3	
	comp=Z,20nm,0.3s								
GCUF	**Volcan Galeras**	**7.01**	**217**	*e*P		**Pn**		**02 28 55.1**	**+1.3**
GCUF				*e*S		**Sn**		**02 30 10.4**	**-2.3**
GCUF				*i*				02 30 17.8	
	comp=Z,13nm,0.5s								
BCIP	**Isla Barro Col**	**7.07**	**290**	Pn		**Pn**		**02 28 53.0**	**-1.1**
OTAV	**Otavalo**	**8.46**	**219**	Pn		**Pn**		**02 29 12.2**	**-0.9**
JAKH	**Jacmel**	**11.34**	**3**	Pn		**Pn**		**02 29 50.1**	**-0.5**
PAPH	**Port-au-Prince**	**11.64**	**4**	Pn		**Pn**		**02 29 55.8**	**+1.3**
SAML	**Samuel**	**18.53**	**148**	P		**P**		**02 31 16.5**	**-1.2**
SAML				IAmb		IAmb		02 31 45.6	
	comp=Z,11nm,1.4s								
MDP	**Montagnes des**	**20.41**	**94**	pP		pP		02 32 04.8	-0.8
	comp=Z,2.5nm,0.5s,baz=277,slow=15,SNR=1.8								
LPAZ	**La Paz**	**23.50**	**168**	pP		pP		02 32 39.5	-0.4
	comp=Z,2.6nm,0.8s,baz=338,slow=12,SNR=11								
LPAZ	**La Paz**	**23.50**	**168**	P		**P**		**02 32 06.3**	**-3.2**
SIV	**San Ignacio**	**25.61**	**152**	pP		pP		02 32 58.1	-3.5
	comp=Z,0.9nm,0.5s,baz=7,slow=15,SNR=3.0								
344A	**Westbrook Farm**	**29.53**	**328**	P		**P**		**02 33 02.1**	**-0.7**
V48A	**Smith Brothers**	**31.40**	**338**	P		**P**		**02 33 20.1**	**+0.9**
FCAR	**Ozark Folk Cen**	**33.77**	**332**	P		**P**		**02 33 40.2**	**+0.3**
T42A	**Van Buren**	**34.24**	**334**	P		**P**		**02 33 44.5**	**+0.6**
T42A				IAmb		IAmb		02 33 45.9	
	comp=Z,3.2nm,0.7s								
U40A	**Yellville**	**34.50**	**331**	P		**P**		**02 33 46.7**	**+0.6**
CCM	**Cathedral Cave**	**35.17**	**335**	P		**P**		**02 33 52.2**	**+0.3**
TXAR	**Lajitas Array**	**36.47**	**312**	P		**P**		**02 34 04.5**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=125,slow=9.4,SNR=11								
PDAR	**Pinedale Array**	**48.08**	**324**	P		**P**		**02 35 38.0**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=124,slow=9.6,SNR=5.2								
SCHQ	**Schefferville**	**48.12**	**5**	P		**P**		**02 35 37.6**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=173,slow=9.8,SNR=5.8								
YKA	**Yellowknife Ar**	**63.26**	**340**	P		**P**		**02 37 24.9**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=130,slow=6.3,SNR=9.6								
ASAR	**Alice Springs**	**149

NEIC ***10*** *03:07:11.8±1.9, 5.86N±0.09×126.8E±0.2, h85km±5km, mb4.1/4, Error ellipse: s-maj=28.6km s-min=10.1km az=70.0.*

IDC ***10*** *03:07:15.3±1.6, 5.80N×126.27E, h113km±13km, mb3.5/6, mb1 3.7/7, mb1mx3.3/43, mbtmp4.0/7, Error ellipse: s-maj=62.2km s-min=14.5km az=74.0*

ISC 10 03:07:12.5±1.1, 5.77N±0.06×126.48E±0.09, h80km±10km, n22, σ2s05/26, mb3.9/7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.84**	**294**	*eP*		**Pn**	**03 07 28.2**	**-1.5**
DDMP				*eS*		**Sn**	**03 07 40.8**	**-1.6**
MATI	**Mati**	**1.20**	**349**	*eP*		**Pn**	**03 07 31.4**	**-2.5**
MATI				*eS*		**Sn**	**03 07 49.8**	**-0.2**
DAV	**Davao City (W)**	**1.58**	**325**	P		**Pn**	**03 07 39.4**	**+0.6**
	95nm,0.3s,baz=255,slow=4.1,SNR=3.8							
DAV				S		**Sn**	**03 08 01.7**	**+3.0**
	161nm,0.3s,baz=173,slow=19,SNR=10.0							
DAV				LR		LR	03 08 28.4	
	comp=Z,101nm,20.4s,baz=147,slow=51							
DAV	**Davao City (W)**	**1.58**	**325**			**Sn**	**03 08 04.1**	**+5.3**
KCP	**Kidapawan**	**1.86**	**312**	⇓*iP*		**Pn**	**03 07 42.6**	**+0.1**
KCP				*iS*		**Sn**	**03 08 06.0**	**+0.6**
SKMP	**Bagumbayan, Su**	**2.07**	**291**	*eP*		**Pn**	**03 07 44.1**	**-1.2**
SKMP				*eS*		**Sn**	**03 08 08.0**	**-2.4**
BUKP	**Musuan**	**2.53**	**326**	*eP*		**Pn**	**03 07 51.2**	**-0.3**
BUKP				*eS*		**Sn**	**03 08 25.7**	**+4.2**
PAGZ	**Pagadian**	**3.71**	**304**	*eP*		**Pn**	**03 08 07.2**	**-0.3**
TNTI	**Ternate**	**5.04**	**170**	Pn		**Pn**	**03 08 26.3**	**+0.7**
KAPI	**Kappang**	**12.64**	**212**	P		**Pn**	**03 10 10.5**	**+1.3**
	0.7nm,0.3s,baz=125,slow=21,SNR=5.3							
SBUM	**Sibu**	**14.60**	**258**			**P**	**03 10 40.6**	**+1.4**
FITZ	**Fitzroy Crossi**	**23.73**	**182**	P		**P**	**03 12 17.5**	**+0.1**
	1.1nm,0.5s,baz=335,slow=6.6,SNR=9.4							
WRA	**Warramunga Arr**	**26.69**	**163**	P		**P**	**03 12 45.9**	**+1.6**
	1.2nm,0.5s,baz=341,slow=10,SNR=8.1							
ENH	**Enshi**	**29.16**	**329**	P		**P**	**03 13 07.2**	**+1.0**
ASAR	**Alice Springs**	**30.14**	**166**	P		**P**	**03 13 14.6**	**-0.3**
	0.3nm,0.3s,baz=344,slow=7.6,SNR=9.5							
ASAR				PcP		**PcP**	**03 16 14.0**	**-0.7**
	0.4nm,0.7s,baz=354,slow=2.4,SNR=5.3							
H11S3	**WAKE ISLAND Hy**	**41.18**	**68**	T		T	03 58 47.3	
	baz=258,slow=75,SNR=7.2							
H11S1	**WAKE ISLAND Hy**	**41.20**	**68**	T		T	03 58 47.5	
	baz=258,slow=75,SNR=9.0							
H11S2	**WAKE ISLAND Hy**	**41.20**	**69**	T		T	03 58 48.5	
	baz=258,slow=75,SNR=13							
MK31	**Makanchi Array**	**55.76**	**325**	P		**P**	**03 16 40.0**	**-1.1**
MK31				IAmb		IAmb	03 17 24.8	
	comp=Z,2.6nm,1.4s							
MKAR	**Makanchi Array**	**55.76**	**325**	P		**P**	**03 16 39.3**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=119,slow=7.4,SNR=7.3							
ARCES	**ARCESS Array B**	**88.47**	**340**	P		**P**	**03 19 53.8**	**-1.8**
	comp=Z,1.7nm,0.9s,baz=79,slow=6.3,SNR=3.9							
FINES	**FINESS Array B**	**89.93**	**332**	P		**P**	**03 20 01.0**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=66,slow=4.6,SNR=5.5							

IDC ***10*** *03:10:28.1±1.4, 15.27S×175.02W, h264km±27km, mb3.2/5, mb1 3.6/6, mb1mx3.2/50, mbtmp3.8/6, Error ellipse: s-maj=128.5km s-min=16.4km az=148.0*

ISC 10 03:10:27.5±1.3, 15.05±0.5×175.3W±0.2, h250km, n7, σ0s78/8, mb3.4/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.52**	**73**	P		**Pn**	**03 11 25.7**	**-0.2**
	6.4nm,0.3s,baz=169,slow=4.1,SNR=6.7							
AFI				S		**S**	**03 12 12.7**	**+0.6**
	11nm,0.3s,baz=130,slow=16,SNR=5.4							
WRA	**Warramunga Arr**	**48.21**	**257**	P		**P**	**03 18 44.3**	**+0.9**
	0.6nm,0.6s,baz=95,slow=8.4,SNR=7.4							
ASAR	**Alice Springs**	**48.55**	**252**	P		**P**	**03 18 45.7**	**-0.4**
	2.3nm,0.4s,baz=89,slow=7.9,SNR=46							
NVAR	**Mina Array Bea**	**75.21**	**43**	P		**P**	**03 21 43.5**	**+0.4**
	0.6nm,0.8s,baz=235,slow=7.8,SNR=3.8							
ILAR	**Eielson Array**	**82.37**	**12**	P		**P**	**03 22 21.1**	**+0.1**
	0.3nm,0.4s,baz=217,slow=5.2,SNR=12							
PDAR	**Pinedale Array**	**83.14**	**43**	P		**P**	**03 22 24.6**	**-1.3**
	0.6nm,0.6s,baz=202,slow=3.8,SNR=6.7							
GERES	**GERESS Array B**	**145.41**	**350**	PKPbc		**PKPdf**	**03 29 35.9**	**+0.1**
	0.1nm,0.3s,baz=5.2,slow=2.9,SNR=5.4							

SJA ***10*** *03:14:24.4±0.6, 27.74S×71.18W, h48km±8km, ML4.6, MW4.6*

NEIC ***10*** *03:14:25.1, 27.84S×71.12W, h34km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.31; Mθθ-0.23; Mϕϕ-1.08; Mrθ0.33; Mrϕ-0.53; Mθϕ-2.68; Fault plane solution: M₀3.01000×10¹⁵ NP1:φs177.43000°, δ78.18000°, λ78.49000°. NP2:φs42.25000°, δ16.44000°, λ133.63000°. Principal axes: T 3.1424, Plg55.0000°, Azm73.0000°; N -0.2963, Plg11.0000°, Azm180.0000°; P -2.8461, Plg32.0000°, Azm277.0000°;*

IDC ***10*** *03:14:25.9±0.7, 27.85S×70.84W, h31km±4km, mb3.9/6, mb1 4.0/9, mb1mx3.8/29, mbtmp4.0/9, ML3.9/3, MS3.5/10, Ms1 3.5/10, ms1mx3.4/25 Error ellipse: s-maj=25.1km s-min=15.5km az=99.0*

GUC ***10*** *03:14:25.9±0.5, 27.90S×71.11W, h33km±2km, ML4.5*

NEIC ***10*** *03:14:25.3±1.7, 27.86S±0.03×71.14W±0.08, h30km±3km, Error ellipse: s-maj=10.3km s-min=4.0km az=105.0*

VAO ***10*** *03:14:35.6±0.6, 27.75S×70.22W, h46km, mb4.3*

ISC 10 03:14:25.2±0.6, 27.89S±0.03×71.15W±0.04, h31km±4km, n128, σ1s95/133, mb4.5/7, MS3.5/4, 4C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.33**	**168**	⇑*iP*		**Pb**	**03 14 33.0**	**-0.1**
AC04				*eS*		**Sb**	**03 14 38.1**	**-0.4**
AC04	**Llanos de Chal**	**0.33**	**168**			**Pb**	**03 14 33.1**	**-0.1**
AC04				Sg		**Sb**	**03 14 38.0**	**-0.4**
GO03	**Copiap**	**0.86**	**71**	⇓*iP*		**Pn**	**03 14 41.1**	**-0.2**
GO03				*iS*		**Sn**	**03 14 52.3**	**-0.5**
GO03				IAML			03 14 53.0	
	comp=N,14μm,0.2s							
GO03	**Copiap**	**0.86**	**71**			**Pn**	**03 14 41.0**	**-0.2**
GO03						**Sn**	**03 14 52.1**	**-0.7**
GO03	**Copiap**	**0.86**	**71**	*eP*		**Pn**	**03 14 41.0**	**-0.2**
GO03				*eS*		**Sb**	**03 14 53.8**	**+0.8**
LCO	**Las Campanas**	**1.19**	**161**	⇓*iP*		**Pn**	**03 14 46.2**	**+0.2**
LCO	**Las Campanas**	**1.19**	**161**	Pn		**Pn**	**03 14 46.4**	**+0.4**
LCO				Sn		**Sn**	**03 15 00.5**	**-0.8**
AC05	**El Transito**	**1.22**	**141**	⇓*iP*		**Pn**	**03 14 46.8**	**+0.5**
AC05				*eS*		**Sb**	**03 15 02.5**	**-0.9**
AC05				IAML			03 15 05.2	
	comp=E,10μm,0.3s							
AC05	**El Transito**	**1.22**	**141**			**Pn**	**03 14 46.8**	**+0.5**
AC05				Sg		**Sb**	**03 15 02.5**	**-0.9**
AC01	**Pan de Azucar**	**1.80**	**16**	*eP*		**Pn**	**03 14 54.4**	**+0.3**
AC01				*iS*		**Sn**	**03 15 16.3**	**+0.4**
AC01	**Pan de Azucar**	**1.80**	**16**			**Pn**	**03 14 54.6**	**+0.5**
AC02	**Maricunga**	**2.08**	**60**	⇑*iP*		**Pb**	**03 15 00.8**	**-1.8**
AC02				*iS*		**Sb**	**03 15 27.7**	**-0.5**
AC02				IAML			03 15 32.1	
	comp=N,6μm,0.3s							
AC02	**Maricunga**	**2.08**	**60**			**Pn**	**03 15 00.4**	**+2.0**
CO01	**Juntas del Tor**	**2.28**	**156**	⇑*eP*		**Pn**	**03 15 02.9**	**+2.0**
CO01				*eS*		**Sb**	**03 15 31.7**	**-2.0**
CO01				IAML			03 15 41.7	
	comp=N,5μm,0.3s							
CO01	**Juntas del Tor**	**2.28**	**156**			**Pn**	**03 15 02.9**	**+2.0**
GO04	**Tololo Observa**	**2.30**	**172**	⇓*iP*		**Pn**	**03 15 02.3**	**+1.1**
GO04				*eS*		**Sn**	**03 15 31.2**	**+2.6**
GO04	**Tololo Observa**	**2.30**	**172**			**Pn**	**03 15 02.7**	**+1.5**
AROD	**Rodeo**	**2.71**	**148**	*eP*		**Pb**	**03 15 10.4**	**-2.8**
VCA	**Vinchina**	**2.73**	**109**	*eP*		**Pb**	**03 15 11.7**	**-1.8**
VCA				*eS*		**Sb**	**03 15 53.1**	**+6.5**
VCA				IAML			03 15 55.8	
	comp=Z,2μm,0.4s							
AGUA	**GUANDACOL**	**2.83**	**125**	*eP*		**Pb**	**03 15 12.7**	**-2.4**
AGUA				IAML			03 15 59.7	
	comp=Z,2μm,2.4s							
ACDV	**Cuesta del Vie**	**2.89**	**142**	*eP*		**Pb**	**03 15 13.1**	**-3.0**
ACDV				IAML			03 16 07.4	
	comp=Z,936nm,0.6s							
CO03	**El Pedregal**	**2.97**	**172**	⇓*iP*		**Pn**	**03 15 11.6**	**+1.3**
CO03				IAML			03 16 06.0	
	comp=E,3μm,0.3s							
CO03	**El Pedregal**	**2.97**	**172**			**Pn**	**03 15 11.2**	**+1.0**
GO02	**Mina Guanaco**	**3.05**	**28**	Pn		**Pn**	**03 15 12.4**	**+0.8**
ACCO	**Cerro Coronel**	**3.25**	**146**	*eP*		**Pn**	**03 15 18.2**	**+3.9**
ACCO				IAML			03 16 09.6	
	comp=Z,1μm,1.1s							
CO02	**Combarbal**	**3.31**	**178**	⇑*iP*		**Pn**	**03 15 15.3**	**+0.3**
CO02	**Combarbal**	**3.31**	**178**			**Pn**	**03 15 15.8**	**+0.9**
PB14	**IPOC Station P**	**3.31**	**12**	Pn		**Pn**	**03 15 14.6**	**-0.6**
PB14	**IPOC Station P**	**3.31**	**12**	*eP*		**Pn**	**03 15 14.6**	**-0.6**
PB14				*eS*		**Sb**	**03 16 04.7**	**+1.2**
ACLC	**CERRO LA CRUZ**	**4.00**	**114**	*eP*		**Pn**	**03 15 27.4**	**+2.9**
ACLC				IAML			03 16 35.9	
	comp=Z,574nm,0.9s							
RTLL	**Cerro Villicun**	**4.15**	**146**	*eP*		**Pn**	**03 15 30.0**	**+3.6**
RTLL				IAML			03 16 27.6	
	comp=Z,634nm,0.5s							
RTLS	**Leoncito**	**4.22**	**158**	*eP*		**Pn**	**03 15 31.8**	**+4.2**
RTLS				IAML			03 16 42.3	
	comp=Z,2μm,0.9s							
ZON	**Zonda**	**4.24**	**150**			**Pn**	**03 15 30.4**	**+2.8**
ZON	**Zonda**	**4.24**	**150**	*eP*		**Pn**	**03 15 31.4**	**+3.8**
ZON				IAML			03 16 42.9	
	comp=Z,558nm,0.8s							
PB10	**IPOC Station P**	**4.39**	**7**			**Pn**	**03 15 28.7**	**-1.0**
PB10	**IPOC Station P**	**4.39**	**7**	*eP*		**Pn**	**03 15 28.2**	**-1.4**
RTCV	**Cerro Valdivia**	**4.57**	**151**	*eP*		**Pn**	**03 15 35.4**	**+3.2**
RTCV				IAML			03 16 50.5	
	comp=Z,506nm,1.2s							
AUSP	**Uspallata**	**4.59**	**161**	*eP*		**Pn**	**03 15 36.6**	**+3.9**
CYA	**Choya**	**4.75**	**98**	*eP*		**Pn**	**03 15 37.2**	**+2.4**
CYA				*eS*		**Sb**	**03 16 37.1**	**-7.5**
CYA				IAML			03 16 39.4	
	comp=Z,204nm,0.5s							
PB15	**IPOC Station P**	**4.90**	**18**			**Pn**	**03 15 37.2**	**+0.4**
PB15	**IPOC Station P**	**4.90**	**18**	*eP*		**Pn**	**03 15 37.3**	**+0.4**
PB15				IAML			03 17 02.4	
	comp=Z,636nm,1.1s							
ROC1	**El Roble**	**5.08**	**179**			**Pn**	**03 15 40.5**	**+1.1**
PB05	**IPOC Station P**	**5.08**	**10**	*eP*		**Pn**	**03 15 37.8**	**-1.6**
PB05				*eS*		**Sn**	**03 16 34.2**	**-2.9**
ASAL	**Salagasta**	**5.10**	**157**	*eP*		**Pn**	**03 15 42.9**	**+3.3**
ASAL				IAML			03 17 09.4	
	comp=Z,820nm,0.8s							
PEL	**Peldehue**	**5.26**	**176**			**Pn**	**03 15 42.7**	**+1.0**
PEL	**Peldehue**	**5.26**	**176**	*eP*		**Pn**	**03 15 43.3**	**+1.6**
PEL				*eS*		**Sb**	**03 16 57.1**	**-2.0**
ARCO	**CERRO ARCO**	**5.30**	**159**	*eP*		**Pn**	**03 15 46.0**	**+3.7**
ARCO				IAML			03 17 25.7	
	comp=Z,639nm,0.9s							
PB06	**IPOC Station P**	**5.35**	**16**	*eP*		**Pn**	**03 15 42.7**	**-0.4**
PB06				IAML			03 17 24.7	
	comp=Z,227nm,1.3s							
MT02	**Curacav**	**5.36**	**180**			**Pn**	**03 15 42.6**	**-0.4**
AAGR	**Agrelo**	**5.56**	**159**	*eP*		**Pn**	**03 15 50.0**	**+4.2**
AAGR				IAML			03 17 33.3	
	comp=Z,406nm,1.0s							
PB04	**IPOC Station P**	**5.60**	**10**	*eP*		**Pn**	**03 15 45.4**	**-1.1**
PB04				*eS*		**Sn**	**03 16 50.5**	**+0.5**
PB04				IAML			03 17 21.6	
	comp=Z,193nm,1.0s							
LVC	**Limon Verde**	**5.63**	**22**	Pn		**Pn**	**03 15 47.2**	**+0.1**
	comp=Z,3.6nm,0.3s,baz=172,slow=10,SNR=98							
LVC				Lg		Lg	03 17 17.3	
	comp=Z,47nm,0.3s,baz=0.6,slow=6.0,SNR=8.7							
LVC				LR		LR	03 18 17.0	
	comp=Z,393nm,19.5s,baz=224,slow=42							
LVC	**Limon Verde**	**5.63**	**22**			**Pn**	**03 15 46.9**	**-0.2**
LVC	**Limon Verde**	**5.63**	**22**	*eP*		**Pn**	**03 15 51.0**	**+3.9**
SLA	**San Lorenzo**	**5.97**	**59**	*eP*		Pn	03 15 57.6	+6.0
PB09	**IPOC Station P**	**6.30**	**16**			**Pn**	**03 15 55.5**	**-0.7**
MRA	**San Martin**	**6.52**	**135**	*eP*		**Pn**	**03 16 00.4**	**+1.3**
MRA				IAML			03 17 23.9	
	comp=Z,281nm,0.7s							
AZAP	**Zapla**	**6.58**	**58**	*eP*		**Pn**	**03 16 03.0**	**+3.0**
AZAP				IAML			03 17 37.9	
	comp=Z,81nm,2.1s							
BO02	**Sierra Bellavi**	**6.89**	**177**	Pn		**Pn**	**03 16 04.7**	**+0.5**
PATCX	**Punta Patache**	**7.09**	**8**	Pn		**Pn**	**03 16 05.3**	**-1.6**
ASTB	**Santa Barbara**	**7.19**	**58**	*eP*		**Pn**	**03 16 10.4**	**+2.1**
TA01	**Diego Aracena**	**7.34**	**7**	Pn		**Pn**	**03 16 08.2**	**-2.0**
PSGCX	**Pisagua**	**8.30**	**7**	Pn		**Pn**	**03 16 20.5**	**-3.1**
GO01	**Chusmiza**	**8.37**	**13**			**Pn**	**03 16 23.2**	**-1.7**
H03N1	**Juan Fernandez**	**8.68**	**228**	T		T	03 25 23.2	
	baz=55,slow=72,SNR=2456							
H03N2	**Juan Fernandez**	**8.69**	**229**	T		T	03 25 17.6	
	baz=55,slow=72,SNR=2094							
H03N3	**Juan Fernandez**	**8.70**	**228**	T		T	03 25 18.8	
	baz=55,slow=72,SNR=2458							
BI02	**San Fabin de**	**8.75**	**181**	Pn		**Pn**	**03 16 30.3**	**+0.6**
MNMC	**Minye Minye**	**8.83**	**10**			**Pn**	**03 16 28.7**	**-2.2**
H03S3	**Juan Fernandez**	**8.92**	**226**	T		T	03 25 34.1	
H03S1	**Juan Fernandez**	**8.93**	**226**	T		T	03 25 29.7	
	baz=36,slow=74,SNR=3.5							
H03S2	**Juan Fernandez**	**8.93**	**226**	T		T	03 25 35.9	
	baz=24,slow=74,SNR=3.2							
PB12	**IPOC Station P**	**9.26**	**5**	Pn		**Pn**	**03 16 34.4**	**-2.3**
LC01	**Cunco**	**11.00**	**183**	Pn		**Pn**	**03 16 59.5**	**-0.9**
LPAZ	**La Paz**	**11.88**	**14**	Pn		**Pn**	**03 17 11.7**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=191,slow=4.8,SNR=8.7							
LPAZ				LR		LR	03 22 53.5	
	comp=Z,110nm,20.3s,baz=174,slow=43							
CPUP	**Villa Florida**	**12.41**	**86**	Pn		**Pn**	**03 17 17.7**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=270,slow=12,SNR=5.4							
CPUP				Lg		Lg	03 20 45.5	
	comp=Z,0.8nm,0.3s,baz=206,slow=8.1,SNR=4.7							
CPUP				LR		LR	03 22 34.4	
	comp=Z,432nm,18.2s,baz=242,slow=40							
CPUP	**Villa Florida**	**12.41**	**86**			**Pn**	**03 17 19.4**	**-0.3**
CPUP	**Villa Florida**	**12.41**	**86**	*eP*		**Pn**	**03 17 18.0**	**-1.7**
PLCA	**Paso Flores**	**12.83**	**178**	LR		LR	03 22 42.2	
	comp=Z,214nm,20.7s,baz=10.0,slow=39							
PLCA	**Paso Flores**	**12.83**	**178**	*eP*		**Pn**	**03 17 26.5**	**+1.0**
PLCA	**Paso Flores**	**12.83**	**178**	*eP*		**P**	**03 17 37.0**	**+1.0**
SIV	**San Ignacio**	**15.07**	**40**	Pn		**Pn**	**03 17 50.4**	**-5.7**
	comp=Z,0.4nm,0.3s,baz=232,slow=9.7,SNR=6.8							
SIV				LR		LR	03 22 49.1	
	comp=Z,57nm,19.8s,baz=210,slow=34							
CPSB	**Cacapava Do Su**	**15.68**	**103**	*eP*		**Pn**	**03 18 02.3**	**-1.6**
PLTB	**Pedras Altas**	**15.71**	**108**	*eP*		**Pn**	**03 18 05.2**	**+0.9**
PTLB	**Pontes e Lacer**	**16.65**	**44**	*eP*		**Pn**	**03 18 17.5**	**+1.2**
NNA	**Nana**	**16.69**	**340**	LR		LR	03 23 28.8	
	comp=Z,106nm,19.4s,baz=166,slow=32							
CNLB	**Canela**	**17.88**	**99**	*eP*		**Pn**	**03 18 31.5**	**-0.2**
ETMB	**Extrema**	**18.57**	**15**	*eP*		**Pn**	**03 18 43.9**	**+3.9**
SALV	**Santo Antonio**	**18.63**	**53**	*eP*		**Pn**	**03 18 40.9**	**+0.1**
PCMB	**Pacaembu**	**19.11**	**75**	*eP*		**Pn**	**03 18 46.3**	**-0.2**
FRTB	**Fartura**	**19.98**	**82**	*eP*		**P**	**03 18 55.5**	**+0.4**
CZSB	**Cruzeiro do Su**	**20.10**	**356**	*eP*		Pn	03 19 06.6	+8.2
SAML	**Samuel**	**20.28**	**23**	P		**P**	**03 18 57.8**	**-0.6**
ITRB	**Iturama**	**20.67**	**71**	*eP*		**P**	**03 19 02.5**	**-0.2**
ARAG	**Araguaiana, MT**	**21.63**	**60**	*eP*		**P**	**03 19 14.9**	**+2.0**
ATAH	**Atahualpa**	**21.75**	**340**	LR		LR	03 27 23.7	
	comp=Z,58nm,20.1s,baz=197,slow=36							
BDFB	**Brasilia**	**24.65**	**65**	P		**P**	**03 19 41.5**	**-1.8**
	comp=Z,1.4nm,0.4s,baz=232,slow=10.0,SNR=5.1							
BDFB				LR		LR	03 30 43.7	
	comp=Z,321nm,19.6s,baz=276,slow=40							
BDFB	**Brasilia**	**24.65**	**65**	P		**P**	**03 19 42.8**	**-0.6**
BDFB				IAmb		IAmb	03 19 58.0	
	comp=Z,16nm,1.2s							
ROSC	**El Rosal**	**32.68**	**354**	LR		LR	03 34 43.7	
	comp=Z,76nm,20.1s,baz=201,slow=37							
RUSC	**La Rusia**	**33.63**	**357**	P		**P**	**03 21 03.7**	**+0.1**
RPN	**Rapa Nui**	**33.79**	**262**	LR		LR	03 31 16.1	
	comp=Z,118nm,18.4s,baz=14,slow=30							
MDP	**Montagnes des**	**37.34**	**31**	P		**P**	**03 21 34.3**	**-0.7**
	comp=Z,7.0nm,0.9s,baz=201,slow=8.3,SNR=4.7							
SNAA	**Sanae**	**56.99**	**159**	P		**P**	**03 24 07.2**	**-0.3**
	comp=Z,5.4nm,0.9s,baz=285,slow=7.6,SNR=17							
SNAA				pP		**pP**	**03 24 16.6**	**-0.3**
	comp=Z,6.0nm,0.9s,baz=291,slow=6.9,SNR=4.6							
H06E1	**SOCORRO T-PHAS**	**60.29**	**316**	T		T	04 29 54.9	
	SNR=39							
QSPA	**South Pole Qui**	**62.33**	**180**	P		**P**	**03 24 45.1**	**+0.7**
TXAR	**Lajitas Array**	**64.85**	**329**	P		**P**	**03 25 02.9**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=160,slow=5.8,SNR=2.3							
TXAR				pP		**pP**	**03 25 11.8**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=128,slow=8.1,SNR=5.8							
TXAR	**Lajitas Array**	**64.85**	**329**	P		**P**	**03 25 02.2**	**+0.8**
VNDA	**Vanda**	**70.23**	**191**	P		**P**	**03 25 36.8**	**+2.1**
	comp=Z,0.7nm,0.9s,baz=135,slow=5.7,SNR=3.1							
VNDA	**Vanda**	**70.23**	**191**	P		**P**	**03 25 35.4**	**+0.7**
VNDA				IAmb		IAmb	03 25 37.9	
	comp=Z,1.0nm,1.0s							
DBIC	**Dimbokro**	**72.55**	**72**	P		**P**	**03 25 47.9**	**-1.8**
	comp=Z,6.0nm,0.8s,baz=234,slow=7.7,SNR=6.9							
DBIC				pP		**pP**	**03 25 59.0**	**-0.5**
	comp=Z,4.9nm,0.7s,baz=234,slow=7.4,SNR=2.3							
TSUM	**Tsumeb**	**80.18**	**106**	P		**P**	**03 26 32.0**	**-1.1**
TSUM				IAmb		IAmb	03 26 45.8	
	comp=Z,6.3nm,1.2s							
ASAR	**Alice Springs**	**123.33**	**208**	PKP		**PKPdf**	**03 33 19.7**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=138,slow=2.0,SNR=3.3							
H11S2	**WAKE ISLAND Hyl**	**26.41**	**273**	T		T	05 52 37.6	
	baz=112,slow=75,SNR=30							
H11S1	**WAKE ISLAND Hyl**	**26.42**	**273**	T		T	05 52 38.4	
	baz=112,slow=75,SNR=30							
H11S3	**WAKE ISLAND Hyl**	**26.43**	**273**	T		T	05 52 39.0	
	baz=112,slow=75,SNR=28							
WRA	**Warramunga Arr**	**126.44**	**210**	PKP		**PKPdf**	**03 33 25.6**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=145,slow=1.7,SNR=5.0							
H11N3	**WAKE ISLAND Hyl**	**26.67**	**275**	T		T	05 52 56.0	
	baz=158,slow=74,SNR=9.4							
H11N2	**WAKE ISLAND Hyl**	**26.69**	**275**	T		T	05 52 59.4	
	baz=116,slow=74,SNR=14							
KKAR	**Karatay Array**	**145.62**	**54**			**PKPdf**	**03 34 00.7**	**+0.3**
KKAR	**Karatay Array**	**145.62**	**54**			**PKPab**	**03 34 01.2**	**+0.2**
GAR	**Garm**	**146.22**	**61**	PKPbc		**PKPdf**	**03 34 02.5**	**+0.8**
ZAA0	**Zalesovo Array**	**148.56**	**27**			**PKPbc**	**03 34 09.3**	**+0.8**
ZALV	**Zalesovo Beam**	**148.56**	**27**	PKPbc		**PKPbc**	**03 34 09.3**	**+0.8**
	comp=Z,2.8nm,0.4s,baz=304,slow=3.4,SNR=16							
ZALV				pPKPbc		**pPKPbc**	**03 34 19.6**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=318,slow=2.0,SNR=2.9							
ZALV	**Zalesovo Beam**	**148.56**	**27**			**PKPdf**	**03 34 05.3**	**+0.5**
MAKZ	**Makanchi**	**151.70**	**41**			**PKPbc**	**03 34 16.0**	**-0.4**
MK31	**Makanchi Array**	**151.89**	**41**			**PKPbc**	**03 34 17.2**	**+0.4**
MK31						**PKPab**	**03 34 27.2**	**+1.2**
MKAR	**Makanchi Array**	**151.89**	**41**	PKPbc		**PKPbc**	**03 34 17.2**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=308,slow=2.3,SNR=19							
MKAR				pPKPbc		**PKPab**	**03 34 27.1**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=298,slow=3.7,SNR=7.4							
LZH	**Lanzhou**	**170.79**	**26**	*e*PKP		**PKPdf**	**03 34 30.7**	**+0.1**
LZH				pPKP		pPKPdf	03 34 42.0	+1.1
LZH				sPKP			03 34 46.5	

IDC ***10*** *03:18:23.0±9.7, 31.60S×66.50W, h128km±75km, mb3.3/2, mb1 3.7/5, mb1mx3.3/28, mbtmp3.8/5, Error ellipse: s-maj=86.9km s-min=38.1km az=39.0*

ISC 10 03:18:23.2±1.4, 31.65±0.2×66.44W±0.2, h132km, n8, σ0s81/8, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**9.56**	**59**	P		**Pn**	**03 20 38.1**	**+0.6**
	0.8nm,0.3s,baz=185,slow=9.8,SNR=7.0							
LPAZ	**La Paz**	**15.34**	**354**	P		**Pn**	**03 21 54.0**	**+0.7**
	0.8nm,0.3s,baz=162,slow=5.8,SNR=17							
SIV	**San Ignacio**	**16.30**	**19**	P		**Pn**	**03 22 03.1**	**-1.6**
	0.1nm,0.3s,baz=213,slow=17,SNR=3.1							
TXAR	**Lajitas Array**	**70.19**	**326**	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.71**	**258**	⇓P	**Pn**	**03 43 32.0**	**+0.9**
JARK				S	**Sn**	**03 43 42.1**	**+1.1**
JAHD	**Aomorihigashid**	**0.72**	**279**	⇓P	**Pn**	**03 43 32.2**	**+0.9**
JAHD				S	**Sn**	**03 43 42.7**	**+1.4**
JOT	**Ohata**	**0.96**	**284**	⇓P	**Pn**	**03 43 35.2**	**+0.8**
JOT				S	**Sn**	**03 43 47.7**	**+0.7**
JANG	**Nango**	**0.97**	**217**	⇓P	**Pn**	**03 43 35.3**	**+0.6**
JANG				S	**Sn**	**03 43 48.0**	**+0.6**
JTM	**Tenmabayashi**	**0.99**	**249**	⇓P	**Pn**	**03 43 36.0**	**+1.1**
JTM				S	**Sn**	**03 43 49.4**	**+1.6**
JKEN	**Kujiedanarisaw**	**1.04**	**205**	⇑P	**Pn**	**03 43 35.9**	**+0.3**
JKEN				eS	**Sn**	**03 43 49.5**	**+0.4**
ERM	**Erimo**	**1.08**	**37**	*ce*P	**Pn**	**03 43 37.6**	**+1.5**
JEM	**Erimo**	**1.08**	**37**	⇑P	**Pn**	**03 43 37.5**	**+1.4**
JEM				S	**Sn**	**03 43 52.2**	**+2.2**
JNBK	**Urakawa-nobuka**	**1.18**	**17**	⇓P	**Pn**	**03 43 38.9**	**+1.4**
JKB	**Kayabe**	**1.19**	**308**	⇓P	**Pn**	**03 43 38.2**	**+0.6**
JKB				eS	**Sn**	**03 43 54.0**	**+1.4**
JTH	**Tanohata**	**1.26**	**195**	⇑P	**Pn**	**03 43 38.2**	**-0.4**
JKZ	**Kuzumaki**	**1.38**	**212**	⇓P	**Pn**	**03 43 41.4**	**+1.2**
JSI2	**Shiura 2**	**1.42**	**267**	⇓P	**Pn**	**03 43 41.9**	**+1.2**
JSR	**Shiriuchi**	**1.45**	**285**	⇓P	**Pn**	**03 43 42.5**	**+1.3**
JSR				eS	**Sn**	**03 44 00.8**	**+1.8**
JIAM	**Iburiatsuma**	**1.49**	**350**	⇓P	**Pn**	**03 43 44.0**	**+2.3**
JIAM				eS	**Sn**	**03 44 02.6**	**+2.6**
JHHS	**Hirosakihyakuz**	**1.54**	**252**	⇓P	**Pn**	**03 43 44.1**	**+1.7**
JAH	**Hinai**	**1.58**	**233**	⇓P	**Pn**	**03 43 44.2**	**+1.2**
JNB	**Noboribetsu**	**1.61**	**325**	⇓P	**Pn**	**03 43 43.8**	**+0.5**
MIYJ	**Miyakonagasawa**	**1.62**	**193**	⇑P	**Pn**	**03 43 43.9**	**+0.4**
JBT2	**Biratori 2**	**1.62**	**2**	⇓P	**Pn**	**03 43 45.2**	**+1.7**
JCH	**Churui**	**1.67**	**29**	⇓P	**Pn**	**03 43 45.6**	**+1.5**
JCH				S	**Sn**	**03 44 06.9**	**+2.6**
JSZI	**Iwateshizukuis**	**1.74**	**216**	⇓P	**Pn**	**03 43 46.8**	**+1.6**
JOMM	**Oshimamatsumae**	**1.75**	**283**	⇓P	**Pn**	**03 43 45.9**	**+0.6**
JOMM				S	**Sn**	**03 44 07.7**	**+1.3**
JEW	**Eniwo**	**1.79**	**340**	⇓P	**Pn**	**03 43 47.5**	**+1.6**
JEW				S	**Sn**	**03 44 10.1**	**+2.7**
JIW	**Iwasaki**	**1.81**	**253**	⇓P	**Pn**	**03 43 47.4**	**+1.2**
JOM	**Ohasama**	**1.84**	**205**	⇓P	**Pn**	**03 43 47.8**	**+1.2**
JOM				eS	**Sn**	**03 44 11.0**	**+2.3**
JFR	**Furan**	**2.02**	**6**	⇓P	**Pn**	**03 43 50.7**	**+1.7**
JYW	**Yuwa**	**2.26**	**225**	⇓P	**Pn**	**03 43 54.4**	**+2.1**
JAR	**Ashorobuto**	**2.41**	**27**	⇓P	**Pn**	**03 43 55.1**	**+0.8**
JKMT	**Kesennumamotoy**	**2.42**	**195**	⇓P	**Pn**	**03 43 56.0**	**+1.5**
JYK	**Kaneyama**	**2.68**	**214**	⇓P	Pn	03 43 53.9	-4.9
JOG3	**Oga3**	**2.73**	**244**	⇓P	Pn	03 43 53.9	-4.9
JKHN	**Kushirohamanak**	**2.88**	**47**	⇓P	**Pn**	**03 44 01.1**	**+0.3**
JKA	**Kamikawa-asahi**	**2.97**	**4**	Pn	**Pn**	**03 44 03.3**	**+1.3**
JKA	**Kamikawa-asahi**	**2.97**	**4**		**Sn**	**03 44 32.7**	**+1.4**
ASAJ	**Asahikawa**	**2.97**	**4**	P	**Pn**	**03 44 04.2**	**+2.2**
	575nm,0.3s,baz=219,slow=9.9,SNR=1959						
ASAJ				S	**Sn**	**03 44 37.7**	**+1.4**
	516nm,0.3s,baz=112,slow=25,SNR=12						
ASAJ	**Asahikawa**	**2.97**	**4**	P	**Pn**	**03 44 04.2**	**+2.2**
NMR	**Nemuro--Hokkai**	**3.38**	**48**	⇓*i*P	**Pn**	**03 44 07.0**	**-0.6**
NMR				*i* S	**Sn**	**03 44 44.1**	**-2.4**
GLVR	**Golovnino**	**3.52**	**42**	⇓*i*P	**Pn**	**03 44 09.8**	**+0.3**
GLVR				*i* S	**Sn**	**03 44 48.5**	**-1.4**
GLVR				pmax	pmax		
	comp=Z,5μm,0.7s						
GLVR				pmax	pmax		
	comp=E,2μm,0.4s						
GLVR				pmax	pmax		
	comp=N,4μm,0.3s						
GLVR				smax	smax		
	comp=N,48μm,0.7s						
GLVR				smax	smax		
	comp=E,28μm,0.7s						
JAW	**Awa shima**	**3.57**	**222**	P	**Pn**	**03 44 13.4**	**+3.2**
GRPR	**Tuman**	**3.83**	**41**	⇑P	**Pn**	**03 44 14.2**	**+0.4**
GRPR				*i* S	**Sn**	**03 44 55.3**	**-2.3**
GRPR				pmax	pmax		
	comp=Z,5μm,1.0s						
GRPR				pmax	pmax		
	comp=E,2μm,0.3s						
GRPR				pmax	pmax		
	comp=N,3μm,0.6s						
GRPR				smax	smax		
	comp=E,30μm,0.4s						
GRPR				smax	smax		
	comp=N,15μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.91**	**41**	⇓*i*P	**Pn**	**03 44 15.1**	**+0.3**
YUK				*i* S	**Sn**	**03 44 57.4**	**-2.0**
YUK				pmax	pmax		
	comp=E,2μm,0.2s						
YUK				pmax	pmax		
	comp=Z,6μm,0.2s						
YUK				pmax	pmax		
	comp=N,3μm,0.3s						
YUK				smax	smax		
	comp=E,39μm,0.6s						
YUK				smax	smax		
	comp=N,45μm,0.9s						
JFT	**Otama**	**3.93**	**203**	⇑P	**Pn**	**03 44 17.8**	**+2.5**
JNS	**Sasagawa**	**4.05**	**215**	⇑P	**Pn**	**03 44 19.7**	**+2.9**
JSD	**Sado**	**4.40**	**226**	⇓P	**Pn**	**03 44 23.3**	**+1.7**
JSB	**Shiboa**	**4.57**	**204**	P	**Pn**	**03 44 26.9**	**+2.9**
JHK	**Hiroka**	**4.65**	**214**	P	**Pn**	**03 44 27.9**	**+2.8**
JHO	**Hitachi**	**4.73**	**197**	P	**Pn**	**03 44 26.7**	**+0.5**
JKT	**Katashina**	**4.98**	**209**	⇑P	**Pn**	**03 44 32.7**	**+3.0**
JJN	**Nakama**	**5.16**	**220**	P	**Pn**	**03 44 35.6**	**+3.5**
JAG	**Ashikaga**	**5.21**	**206**	P	**Pn**	**03 44 34.7**	**+1.8**
JHG	**Hegura jima**	**5.30**	**233**	P	**Pn**	**03 44 37.2**	**+3.2**
JGK	**Kuni**	**5.40**	**213**	P	**Pn**	**03 44 39.0**	**+3.6**
MJB9	**Matsu-Tunnel**	**5.60**	**216**	Pn	**Pn**	**03 44 40.9**	**+2.8**
MAJO	**Matsushiro**	**5.60**	**216**	*c i*P	**Pn**	**03 44 41.0**	**+2.9**
MAJO				pmax	pmax		
	comp=Z,271nm,0.9s						
MAJO	**Matsushiro**	**5.60**	**216**	Pn	**Pn**	**03 44 40.6**	**+2.5**
MAT	**Matsushiro**	**5.60**	**216**	P	**Pn**	**03 44 41.2**	**+3.1**
MAT				eS	**Sn**	**03 45 44.8**	**+3.7**
MAT	**Matsushiro**	**5.60**	**216**	P	**Pn**	**03 44 41.2**	**+3.1**
MJAR	**Matsushiro Arr**	**5.60**	**216**	P	**Pn**	**03 44 41.1**	**+3.0**
	comp=Z,9.5nm,0.3s,baz=30,slow=12,SNR=433						
MJAR				LR	LR	03 47 15.1	
	comp=Z,77μm,20.0s,baz=50,slow=42						
MJAR	**Matsushiro Arr**	**5.60**	**216**	P	**Pn**	**03 44 41.1**	**+3.0**
MJAR	**Matsushiro Arr**	**5.60**	**216**		**Pn**	**03 44 42.5**	**+4.4**
TEY	**Ternei**	**5.68**	**315**	⇓*i*P	**Pn**	**03 44 39.8**	**+0.6**
TEY				eS	**Sn**	**03 45 49.9**	**+6.8**
TEY				pmax	pmax		
	comp=Z,190nm,0.5s						
TEY				pmax	pmax		
	comp=N,160nm,0.5s						
TEY				pmax	pmax		
	comp=E,160nm,0.5s						
TEY				pmax	pmax		
	comp=Z,5μm,3.9s						
TEY				pmax	pmax		
	comp=E,6μm,3.8s						
TEY				pmax	pmax		
	comp=N,4μm,3.7s						
TEY				MLR	MLR		
	comp=E,80μm,16.0s						
TEY				MLR	MLR		
	comp=N,68μm,18.0s						
TEY				MLR	MLR		
	comp=Z,113μm,20.0s						
JNG	**Nsakai**	**5.76**	**216**	⇑P	**Pn**	**03 44 43.6**	**+3.2**
KUR	**Kuril'sk**	**5.77**	**43**	*d i*P	**Pn**	**03 44 41.1**	**+0.8**
KUR				*i* S	**Sn**	**03 45 43.6**	**-1.6**
KUR				pmax	pmax		
	comp=Z,24μm,3.7s						
KUR				pmax	pmax		
	comp=N,17μm,3.6s						
KUR				pmax	pmax		
	comp=E,14μm,3.7s						
KUR				pmax	pmax		
	comp=Z,4μm,0.9s						
KUR				pmax	pmax		
	comp=N,1μm,1.0s						
KUR				pmax	pmax		
	comp=E,948nm,1.0s						
KUR				smax	smax		
	comp=E,145μm,2.3s						
KUR				smax	smax		
	comp=N,139μm,2.0s						
KUR				smax	smax		
	comp=N,6μm,1.2s						
KUR				smax	smax		
	comp=E,6μm,1.4s						
KUR				MLR	MLR		
	comp=Z,65μm,13.0s						
KUR				MLR	MLR		
	comp=E,82μm,16.0s						
KUR				MLR	MLR		
	comp=N,81μm,13.0s						
JRY	**Ryogami san**	**5.77**	**208**	P	**Pn**	**03 44 42.0**	**+1.4**
YSS	**Yuzh-Sakhalins**	**5.81**	**3**	*ce i*P	**Pn**	**03 44 43.1**	**+2.2**
YSS				*e*S	**Sn**	**03 45 44.9**	**-1.2**
YSS				pmax	pmax		
	comp=Z,2μm,1.0s						
YSS				smax	smax		
	comp=N,4μm,1.1s						
YSS				MLR	MLR		
	comp=Z,48μm,18.0s						
YSS				MLR	MLR		
	comp=E,39μm,15.0s						
YSS	**Yuzh-Sakhalins**	**5.81**	**3**	Pn	**Pn**	**03 44 42.2**	**+1.4**
JTT	**Ttatey**	**5.96**	**222**	P	**Pn**	**03 44 46.7**	**+3.6**
JJH	**Hakui**	**6.01**	**227**	P	**Pn**	**03 44 47.5**	**+3.7**
JSGW	**Sagamiharawaka**	**6.05**	**204**	P	**Pn**	**03 44 45.8**	**+1.5**
JNT	**Takato**	**6.19**	**213**	P	**Pn**	**03 44 48.7**	**+2.3**
JGN	**Niukaw**	**6.27**	**220**	P	**Pn**	**03 44 51.1**	**+3.7**
JKG	**Kaga**	**6.74**	**226**	P	**Pn**	**03 44 57.4**	**+3.7**
JNY	**Yasuok**	**6.75**	**212**	P	**Pn**	**03 44 55.9**	**+1.9**
JAO	**Obara**	**7.08**	**216**	P	**Pn**	**03 45 01.9**	**+3.4**
JYZW	**Yoshizawa**	**7.12**	**212**	P	**Pn**	**03 45 00.1**	**+1.2**
UGL	**Uglegorsk**	**7.92**	**359**	⇑*i*P	**Pn**	**03 45 10.9**	**+1.0**
UGL				*e*S	**Sn**	**03 46 29.4**	**-8.7**
UGL				pmax	pmax		
	comp=Z,5μm,5.1s						
UGL				pmax	pmax		
	comp=Z,377nm,1.0s						
UGL				smax	smax		
	comp=N,18μm,4.3s						
UGL				MLR	MLR		
	comp=N,96μm,17.0s						
UGL				MLR	MLR		
	comp=E,58μm,15.0s						
VLA	**Vladivostok**	**7.97**	**288**	*i* P	**Pn**	**03 45 12.3**	**+1.7**
VLA				pmax	pmax		
	comp=Z,1μm,0.9s						
VLA				MLR	MLR		
	comp=Z,115μm,19.0s						
USA0B	**Ussuriysk Arra**	**8.17**	**295**	*d i*P	**Pn**	**03 45 15.1**	**+1.8**
USA0B	**Ussuriysk Arra**	**8.17**	**295**	Pn	**Pn**	**03 45 15.0**	**+1.6**
USRK	**Ussuriysk Ar.**	**8.17**	**295**	P	**Pn**	**03 45 15.1**	**+1.8**
	baz=107,slow=14,SNR=147						
USRK				LR	LR	03 48 15.3	
	comp=Z,118μm,21.7s,baz=97,slow=37						
USRK	**Ussuriysk Ar.**	**8.17**	**295**	P	**Pn**	**03 45 15.1**	**+1.8**
USRK	**Ussuriysk Ar.**	**8.17**	**295**		**Pn**	**03 45 14.7**	**+1.4**
JHJ	**Hachijo jima 2**	**8.27**	**195**	P	**Pn**	**03 45 13.9**	**-0.8**
	comp=Z,202nm,0.3s,baz=314,slow=22,SNR=37						
JHJ				S	**Sn**	**03 46 43.8**	**-2.9**
	comp=Z,184nm,0.3s,baz=222,slow=23,SNR=6.1						
JHJ	**Hachijo jima 2**	**8.27**	**195**		**Pn**	**03 45 13.9**	**-0.8**
JHJ					**Sn**	**03 46 43.8**	**-2.9**
JHJ2	**Mitsune**	**8.27**	**195**	Pn	**Pn**	**03 45 14.3**	**-0.3**
CHJN	**Chongjin**	**9.39**	**278**	P	**Pn**	**03 45 34.4**	**+4.3**
MDJ	**Mudanjiang**	**9.93**	**295**	P	Pn	03 45 43.6	+6.1
MDJ				S	Sn	03 48 23.9	+56
MDJ				pmax	pmax		
	comp=Z,290nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,4μm,2.3s						
MDJ				LR	LR		
	comp=N,17μm,23.0s						
MDJ				LR	LR		
	comp=E,85μm,19.6s						
MDJ				LR	LR		
	comp=Z,142μm,19.1s						
MDJ	**Mudanjiang**	**9.93**	**295**	Pn	**Pn**	**03 45 38.8**	**+1.4**
GRNR	**Gornyy**	**10.44**	**339**	⇑*i*P	**Pn**	**03 45 45.5**	**+1.1**
GRNR				*e*S	**Sn**	**03 47 42.5**	**+2.7**
GRNR				pmax	pmax		
	comp=E,30nm,0.8s						
GRNR				pmax	pmax		
	comp=N,30nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,40nm,0.8s						
GRNR				smax	smax		
	comp=N,40nm,1.0s						
GRNR				MLR	MLR		
	comp=E,15μm,17.0s						
GRNR				MLR	MLR		
	comp=Z,29μm,18.0s						
KLR	**Kul'dur**	**10.96**	**321**	P	**Pn**	**03 45 53.5**	**+2.0**
	comp=Z,1.8nm,0.3s,baz=134,slow=13,SNR=109						
KLR				LR	LR	03 50 07.4	
	comp=Z,81μm,20.9s,baz=137,slow=38						
KLR	**Kul'dur**	**10.96**	**321**	*c i*P	**Pn**	**03 45 52.7**	**+1.2**
KLR				pmax	pmax		
	comp=Z,394nm,2.2s						
KLR				MLR	MLR		
	comp=Z,79nm,20.0s						
HHU	**Hamhung**	**11.30**	**269**	P	Pn	03 46 02.3	+6.2
HHU				S	**Sn**	**03 48 06.8**	**+6.0**
WOSN	**Wonsan**	**11.55**	**265**	P	Pn	03 46 05.0	+5.5
KSRS	**Korea Array**	**11.72**	**256**	P	**Pn**	**03 46 04.7**	**+2.8**
	comp=Z,11nm,0.3s,baz=67,slow=13,SNR=73						
KSRS				S	**Sn**	**03 48 18.2**	**+7.0**
	comp=Z,6.7nm,0.3s,baz=67,slow=24,SNR=8.2						
KSRS				LR	LR	03 50 19.1	
	comp=Z,61μm,18.3s,baz=74,slow=36						
KSRS				ScP	**ScP**	**03 55 18.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=107,slow=1.3,SNR=4.0						
KSRS	**Korea Array**	**11.72**	**256**	P	**Pn**	**03 46 04.7**	**+2.8**
KS19	**Wonju Array Si**	**11.74**	**257**		**Pn**	**03 46 05.1**	**+2.9**
KSAR	**Wonju Array Be**	**11.75**	**256**	P	**Pn**	**03 46 04.3**	**+1.9**
KSAR	**Wonju Array Be**	**11.75**	**256**		**Pn**	**03 46 04.3**	**+1.9**
KGE	**Kanggye**	**11.84**	**274**	P	**Pn**	**03 46 08.0**	**+4.5**
NKL	**Nikolayevsk**	**12.05**	**355**	*e*P	**Pn**	**03 46 05.0**	**-1.3**
NKL				pmax	pmax		
	comp=Z,1μm,1.4s						
NKL				pmax	pmax		
	comp=N,3.0nm,0.4s						
NKL				MLR	MLR		
	comp=Z,49μm,22.0s						
JNU	**Nakatsue**	**12.12**	**232**	P	**Pn**	**03 46 08.8**	**+1.4**
	comp=Z,3.0nm,0.3s,baz=37,slow=2.9,SNR=25						
JNU				LR	LR	03 50 42.2	
	comp=Z,46μm,20.6s,baz=44,slow=37						
JNU	**Nakatsue**	**12.12**	**232**		**Pn**	**03 46 08.9**	**+1.5**
TJN	**Taejon**	**12.58**	**253**	*ce*P	**Pn**	**03 46 17.4**	**+3.8**
INCN	**Inchon**	**12.66**	**258**	P	**Pn**	**03 46 17.3**	**+2.5**
INCN	**Inchon**	**12.66**	**258**	Pn	**Pn**	**03 46 17.3**	**+2.5**
PYS	**Pyongsong**	**12.71**	**267**	P	**Pn**	**03 46 18.5**	**+3.2**
CN2	**Changchun**	**12.71**	**288**	*e*P	**Pn**	**03 46 16.5**	**+1.2**
CN2				PP	**P**	**03 46 27.7**	**+2.3**
CN2				*e*S	**Sn**	**03 48 38.1**	**+2.8**
CN2				pmax	pmax		
	comp=Z,2μm,6.4s						
CN2				LR	LR		
	comp=Z,24μm,20.0s						
CN2				LR	LR		
	comp=Z,42μm,20.0s						
CN2				LR	LR		
	comp=Z,50μm,23.0s						
PYAG	**Pyongyang**	**12.83**	**266**	P	**Pn**	**03 46 20.4**	**+3.4**
PYAG				S	**Sn**	**03 48 45.4**	**+7.2**
HJU	**Haeju**	**13.14**	**262**	P	**P**	**03 46 27.9**	**-2.3**
SKR	**Severo-Kuril's**	**13.53**	**41**	*e*P	**Pn**	**03 46 26.6**	**+0.2**
SKR				*e*S	**Sn**	**03 48 55.9**	**+0.8**
SKR				pmax	pmax		
	comp=Z,194nm,1.0s						
SKR				pmax	pmax		
	comp=Z,2μm,2.2s						
SKR				MLR	MLR		
	comp=N,3μm,15.0s						
SKR				MLR	MLR		
	comp=E,13μm,15.0s						
SKR				MLR	MLR		
	comp=Z,16μm,15.0s						
SUJ	**Sinuiju**	**13.56**	**271**	P	**Pn**	**03 46 27.9**	**+1.0**
SUJ				S	**Sn**	**03 48 57.5**	**+1.5**
JCJ	**Chichijima**	**14.03**	**180**	P	**Pn**	**03 46 29.9**	**-3.5**
	comp=Z,21nm,0.3s,baz=321,slow=12,SNR=6.1						
JCJ				S	Sn	03 48 58.5	-9.1
	comp=Z,20nm,0.3s,baz=124,slow=23,SNR=5.6						
JCJ				LR	LR	03 54 09.1	
	comp=Z,6μm,20.2s,baz=0.5,slow=46						
JCJ	**Chichijima**	**14.03**	**180**		**Pn**	**03 46 32.2**	**-1.2**
SNY	**Shenyang**	**14.04**	**279**	⇑P	**Pn**	**03 46 35.0**	**+1.5**
SNY				pmax	pmax		
	comp=Z,11μm,12.3s						
SNY				LR	LR		
	comp=Z,14μm,13.4s						
SNY				LR	LR		
	comp=Z,36μm,17.5s						
SNY				LR	LR		
	comp=Z,51μm,27.5s						
PEA0B	**Petropavlovsk-**	**15.86**	**36**	P	**Pn**	**03 46 54.8**	**-2.5**
PEA0B				pmax	pmax		
	comp=Z,307nm,1.0s						
PEA0B	**Petropavlovsk-**	**15.86**	**36**		**Pn**	**03 46 54.8**	**-2.5**
PETK	**Petropavlovsk-**	**15.86**	**36**	P	**Pn**	**03 46 54.5**	**-2.8**
	comp=Z,3.1nm,0.3s,baz=215,slow=6.9,SNR=20						
PETK				LR	LR	03 53 15.8	
	comp=Z,27μm,21.4s,baz=229,slow=38						
PETK				PKKP	**PKKPdf**	**04 15 02.7**	**+6.1**
	comp=Z,0.9nm,0.3s,baz=117,slow=5.3,SNR=5.9						
PETK	**Petropavlovsk-**	**15.86**	**36**	P	**Pn**	**03 46 54.7**	**-2.6**
PETK	**Petropavlovsk-**	**15.86**	**36**		**Pn**	**03 46 54.7**	**-2.6**
DL2	**Dalian**	**15.98**	**269**	P	**Pn**	**03 46 59.9**	**+1.0**
DL2				S	**Sn**	**03 49 56.8**	**+1.9**
DL2				pmax	pmax		
	comp=Z,220nm,0.7s						
DL2				pmax	pmax		
	comp=Z,5μm,6.2s						
DL2				LR	LR		
	comp=Z,13μm,17.9s						
DL2				LR	LR		
	comp=Z,15μm,26.3s						
DL2				LR	LR		
	comp=Z,30μm,29.6s						
ZEA	**Zeya**	**16.14**	**326**	*ce*P	**Pn**	**03 46 59.0**	**-1.8**
ZEA				*e*S	**Sn**	**03 49 59.0**	**+0.5**
ZEA				pmax	pmax		
	comp=N,250nm,1.0s						
ZEA				pmax	pmax		
	comp=E,220nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,410nm,1.0s						
ZEA				pmax	pmax		
	comp=N,6μm,12.0s						
ZEA				pmax	pmax		
	comp=E,6μm,12.0s						
ZEA				pmax	pmax		
	comp=Z,10μm,12.0s						
ZEA				smax	smax		
	comp=E,4μm,7.0s						
ZEA				MLR	MLR		
	comp=Z,56μm,18.0s						
ZEA				MLR	MLR		
	comp=N,37μm,16.0s						
ZEA				MLR	MLR		
	comp=E,30μm,16.0s						
PET	**Petropavlovsk**	**16.24**	**38**	P	**Pn**	**03 47 00.6**	**-1.5**
PET				pmax	pmax		
	comp=Z,459nm,1.3s						
PET	**Petropavlovsk**	**16.24**	**38**	Pn	**Pn**	**03 47 00.6**	**-1.5**
HIA	**Hailar**	**17.78**	**305**	P	**Pn**	**03 47 19.8**	**-1.6**
HIA				pmax	pmax		
	comp=Z,320nm,1.0s						
HIA	**Hailar**	**17.78**	**305**	P	**Pn**	**03 47 19.8**	**-1.6**
JIH	**Iheya**	**18.37**	**224**	P	**P**	**03 47 27.8**	**-0.5**
MA2	**Magadan**	**19.19**	**13**	P	**P**	**03 47 34.5**	**-2.5**
	comp=Z,11nm,0.3s,baz=197,slow=10,SNR=66						
MA2	**Magadan**	**19.19**	**13**	*ce*P	**P**	**03 47 36.4**	**-0.6**
MA2				pmax	pmax		
	comp=Z,464nm,1.1s						
MA2	**Magadan**	**19.19**	**13**	P	**P**	**03 47 35.6**	**-1.4**
SSE	**Sheshan**	**19.73**	**246**	P	**P**	**03 47 42.6**	**-0.5**
SSE				sP	**sP**	**03 48 02.3**	**+2.6**
SSE				S	**S**	**03 51 18.3**	**-4.7**
SSE				sS	**sS**	**03 51 35.4**	**-4.7**
SSE				pmax	pmax		
	comp=Z,190nm,0.9s						
SSE				LR	LR		
	comp=Z,8μm,14.1s						
SSE				LR	LR		
	comp=Z,7μm,16.0s						
SSE	**Sheshan**	**19.73**	**246**	P	**P**	**03 47 42.4**	**-0.7**
BJI	**Beijing**	**19.84**	**275**	P	**P**	**03 47 42.9**	**-1.3**
BJI				S	**S**	**03 51 20.2**	**-4.8**
BJI				pmax	pmax		
	comp=Z,310nm,1.3s						
BJI				LR	LR		
	comp=Z,17μm,16.7s						
BJI				LR	LR		
	comp=Z,19μm,25.5s						
BJI				LR	LR		
	comp=Z,33μm,28.9s						
BJT	**Baijiatuau**	**19.85**	**275**	P	**P**	**03 47 42.3**	**-2.0**
BJT				pmax	pmax		
	comp=Z,1μm,1.8s						
BJT	**Baijiatuau**	**19.85**	**275**	P	**P**	**03 47 42.3**	**-2.0**
BJT				lAmb	lAmb	03 47 45.3	
	comp=Z,1μm,1.8s						
TIA	**Tai'an**	**20.22**	**264**	P	**P**	**03 47 47.2**	**-1.2**
TIA				pP	**pP**	**03 47 58.4**	**-0.8**
TIA				sP	**sP**	**03 48 03.2**	**-1.8**
TIA				PP	Pn	03 48 07.5	+17
TIA				S	**S**	**03 51 26.4**	**-6.4**
TIA				sS	Sn	03 51 41.5	+4.0
TIA				PcP	**PcP**	**03 52 03.1**	**+2.1**
TIA				pmax	pmax		
	comp=Z,63nm,0.8s						
TIA				pmax	pmax		
	comp=Z,3μm,3.6s						
TIA				LR	LR		
	comp=Z,14μm,19.4s						
TIA				LR	LR		
	comp=Z,15μm,20.0s						
TIA				LR	LR		
	comp=Z,25μm,20.4s						
NJ2	**Nanjing**	**20.84**	**252**	⇑*i*P	**P**	**03 47 53.5**	**-1.6**
NJ2				pP	**pP**	**03 48 02.4**	**-3.6**
NJ2				sP	**sP**	**03 48 10.3**	**-1.4**
NJ2				S	**S**	**03 51 38.4**	**-6.5**
NJ2				sS	Sn	03 51 53.2	+0.9
NJ2				SS	**SnSn**	**03 52 14.8**	**+7.4**
NJ2				pmax	pmax		
	comp=Z,400nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,1μm,4.9s						
NJ2				LR	LR		
	comp=N,20μm,18.4s						
NJ2				LR	LR		
	comp=E,34μm,18.4s						
NJ2				LR	LR		
	comp=Z,49μm,18.1s						
JTJ	**Tarama**	**22.05**	**227**	P	**P**	**03 48 06.6**	**-1.5**
YAK	**Yakutsk**	**22.24**	**344**	P	**P**	**03 48 06.6**	**-3.3**
	comp=Z,233nm,0.5s,baz=8.1,slow=1.6,SNR=74						
YAK				LR	LR	03 57 03.8	
	comp=Z,17μm,18.9s,baz=152,slow=37						
YAK	**Yakutsk**	**22.24**	**344**	*c i*P	**P**	**03 48 06.5**	**-3.3**
YAK				*e**PP	**pP**	**03 48 21.3**	**+0.6**
YAK				*e*S	**S**	**03 52 04.0**	**-7.6**
YAK				pmax	pmax		
	comp=Z,696nm,0.9s						
YAK				pmax	pmax		
	comp=N,497nm,1.1s						
YAK				pmax	pmax		
	comp=E,118nm,0.9s						
YAK				smax	smax		
	comp=

HHC pmax pmax
comp=Z,130nm,1.0s
HHC LR LR
comp=Z,11µm,12.4s
HHC LR LR
comp=Z,27µm,17.8s
HHC LR LR
comp=Z,37µm,14.8s
YOJ Yonaguni jima 23.14 230 P **P** **03 48 15.9 -3.7**
YOJ pmax pmax
comp=Z,152nm,0.6s
YOJ MLR MLR
comp=Z,19µm,21.0s
YOJ Yonaguni jima 23.14 230 P **P** **03 48 15.9 -3.7**
TIY Taiyuan 23.25 271 *e*P **P** **03 48 18.7 -2.0**
TIY S **S** **03 52 23.7 -5.8**
TIY pmax pmax
comp=Z,160nm,1.1s
TIY LR LR
comp=Z,9µm,14.8s
TIY LR LR
comp=Z,5µm,14.1s
TIY LR LR
comp=Z,15µm,18.5s
TATO Taipei 23.66 233 P **P** **03 48 23.8 -0.8**
TATO P **P** **03 48 23.8 -0.8**
TATO Taipei 23.66 233 P **P** **03 48 22.9 -1.6**
TATO IAmb IAmb 03 48 27.4
comp=Z,1µm,1.4s
TATO Taipei 23.66 233 IAMs_20 IAMs_20 03 58 22.1
comp=Z,23µm,18.0s
YHNB Yeheng 23.95 233 P **P** **03 48 24.3 -3.1**
YHNB IAMs_20 IAMs_20 03 57 46.1
comp=Z,25µm,22.0s
NACB Ninganchiao 24.19 232 P **P** **03 48 26.3 -3.2**
NACB IAMs_20 IAMs_20 03 58 15.4
comp=Z,26µm,21.0s
BTO Baotou 24.33 279 *e*P **P** **03 48 29.3 -1.5**
SMY Shemya 24.41 51 P **P** **03 48 32.6 +1.4**
SMY pmax pmax
comp=Z,2µm,1.4s
SMY MLR MLR
comp=Z,17µm,22.0s
SMY Shemya 24.41 51 P **P** **03 48 32.6 +1.4**
BOD Bodaibo 24.54 322 *e*P **P** **03 48 29.6 -2.7**
BOD pmax pmax
comp=Z,351nm,1.1s
SSLB Suanglung 24.87 232 P **P** **03 48 33.7 -2.0**
SSLB **PcP** **03 52 11.4 +0.7**
SSLB IAMs_20 IAMs_20 03 58 26.2
comp=Z,25µm,22.0s
WHN Wuhan 24.90 254 P **P** **03 48 33.9 -2.0**
WHN S **S** **03 52 48.5 -7.3**
WHN pmax pmax
comp=Z,5µm,4.3s
WHN LR LR
comp=Z,57µm,17.2s
WHN LR LR
comp=Z,66µm,16.0s
WHN LR LR
comp=Z,97µm,17.1s
TPUB Ta-pu 25.43 232 P **P** **03 48 39.8 -1.0**
TPUB IAMs_20 IAMs_20 03 58 45.1
comp=Z,24µm,22.0s
QZH Quanzhou 25.49 238⇑ *i*P **P** **03 48 41.7 +0.5**
QZH S **S** **03 53 05.3 0.0**
QZH pmax pmax
comp=Z,320nm,1.3s
QZH pmax pmax
comp=Z,4µm,4.5s
QZH LR LR
comp=Z,9µm,17.0s
QZH LR LR
comp=Z,5µm,20.8s
QZH LR LR
comp=Z,10µm,17.5s
TWG Pinlang 25.53 231 P **P** **03 48 40.7 -1.0**
TWG IAmb IAmb 03 48 50.2
comp=Z,674nm,1.0s
TWG IAMs_20 IAMs_20 03 58 56.9
comp=Z,44µm,22.0s
ULN Ulaanbaatar 25.84 297 P **P** **03 48 44.5 0.0**
ULN P **P** **03 48 44.5 0.0**
ULN P **P** **03 48 44.5 0.0**
ULN Ulaanbaatar 25.84 297 *ce*P **P** **03 48 43.2 -1.2**
ULN pmax pmax
comp=Z,340nm,1.3s
ULN Ulaanbaatar 25.84 297 P **P** **03 48 43.3 -1.2**
ULN IAmb IAmb 03 48 47.2
comp=Z,403nm,1.3s
KNMB Chin-men Tao 25.96 237 P **P** **03 48 44.6 -0.9**
KNMB IAmb IAmb 03 48 49.8
comp=Z,506nm,1.1s
SONM Songino Array 26.28 297 P **P** **03 48 47.9 -0.6**
comp=Z,210nm,1.1s,baz=107,slow=7.9,SNR=132
SONM LR LR 04 00 01.4
comp=Z,47µm,18.4s,baz=90,slow=38
SONM Songino Array 26.28 297 P **P** **03 48 47.4 -1.0**
SONM pmax pmax
comp=Z,222nm,1.2s
SONM Songino Array 26.28 297 P **P** **03 48 47.4 -1.0**
XAN Xi'an 27.25 266 P **P** **03 48 55.8 -1.4**
XAN pP *s*P 03 49 12.2 -2.3
XAN S **S** **03 53 25.0 -8.2**
XAN pmax pmax
comp=Z,40nm,0.6s
XAN pmax pmax
comp=Z,3µm,7.6s
XAN LR LR
comp=Z,10µm,19.6s
XAN LR LR
comp=Z,14µm,20.5s
XAN LR LR
comp=Z,22µm,25.0s
AMKA Amchitka 27.29 55 P **P** **03 48 58.1 +0.9**
GUMO Guam 27.56 175 P **P** **03 49 01.5 +1.6**
comp=Z,51nm,0.6s,baz=50,slow=23,SNR=4.5
GUMO Guam 27.56 175 P **P** **03 49 00.4 +0.4**
GUMO pmax pmax
comp=Z,316nm,1.2s
GUMO MLR MLR
comp=Z,18µm,22.0s
GUMO Guam 27.56 175 P **P** **03 49 00.3 +0.4**
GUMO IAmb IAmb 03 49 52.8
comp=Z,316nm,1.2s
IRK Irkutsk 28.01 306 *e*P **P** **03 49 03.6 -0.2**
IRK pmax pmax
comp=Z,904nm,3.3s
TLY Talaya 28.33 305 P **P** **03 49 07.0 +0.4**
comp=Z,65nm,0.6s,baz=104,slow=6.7,SNR=107
TLY Talaya 28.33 305 P **P** **03 49 07.2 +0.6**
TLY P **P** **03 49 07.2 +0.6**
TLY P **P** **03 49 07.2 +0.6**
TLY Talaya 28.33 305 *c i*P **P** **03 49 06.7 +0.1**
TLY *e* 03 50 11.2
TLY *e* 03 52 18.9
TLY *e*S **S** **03 53 48.3 -1.4**
TLY *e*SS **sS** **03 54 12.6 +3.0**
TLY pmax pmax
comp=Z,811nm,1.4s
TLY MLR MLR
comp=Z,63µm,18.0s
TLY Talaya 28.33 305 P **P** **03 49 07.0 +0.4**
ZAK Zakamensk 28.44 302 *e*P **P** **03 49 07.3 -0.4**
ZAK pmax pmax
comp=Z,164nm,1.3s
ENH Enshi 28.60 258 IAmb IAmb 03 49 13.1
comp=Z,202nm,0.8s
ENH IAMs_20 IAMs_20 04 01 06.1
comp=Z,23µm,18.0s
ADK Adak 29.83 55 P **P** **03 49 19.6 -0.3**
ADK pmax pmax
comp=Z,314nm,1.3s
ADK MLR MLR
comp=Z,15µm,21.0s
ADK Adak 29.83 55 P **P** **03 49 19.6 -0.3**
ADK IAmb IAmb 03 49 42.9
comp=Z,314nm,1.2s
BILL Bilibino 29.89 18 *c i*P **P** **03 49 20.3 0.0**
BILL *i* 03 50 16.5
BILL *i* S **S** **03 54 09.1 -4.9**
BILL pmax pmax
comp=Z,100nm,1.0s
BILL MLR MLR
comp=Z,18µm,18.0s

BILL Bilibino 29.89 18 P **P** **03 49 20.4 +0.2**
H11N2 WAKE ISLAND Hy 29.92 128 P **P** **03 49 22.4 +1.7**
baz=297,slow=10,SNR=5.3
H11N2 T T 04 20 28.9
baz=319,slow=75,SNR=1265
H11N1 WAKE ISLAND Hy 29.93 128 P **P** **03 49 23.1 +2.3**
baz=297,slow=10,SNR=8.6
H11N1 T T 04 20 25.1
baz=319,slow=75,SNR=768
H11N1 WAKE ISLAND Hy 29.93 128 P **P** **03 49 23.1 +2.3**
H11N3 WAKE ISLAND Hy 29.94 128 P **P** **03 49 23.0 +2.1**
baz=297,slow=10,SNR=5.5
H11N3 T T 04 20 23.1
baz=319,slow=75,SNR=744
MOY Mondy 29.97 305 *e*P **P** **03 49 21.5 +0.2**
MOY pmax pmax
comp=Z,849nm,3.4s
WAKE Wake Island 30.13 129 IAMs_20 IAMs_20 03 59 35.2
comp=Z,17µm,20.0s
GZH Guangzhou 30.21 242 P **P** **03 49 19.1 -4.4**
GZH S **S** **03 54 13.1 -6.7**
GZH pmax pmax
comp=Z,3µm,7.2s
GZH LR LR
comp=Z,16µm,20.1s
GZH LR LR
comp=Z,16µm,19.1s
GSTR Great Sitkin T 30.23 55 P **P** **03 49 24.9 +1.5**
HKPS Hong Kong Po S 30.25 240 P **P** **03 49 24.6 +0.7**
HKPS IAmb IAmb 03 49 32.3
comp=Z,248nm,0.8s
LZH Lanzhou 30.28 273⇑ P **P** **03 49 23.6 -0.7**
LZH pP pP 03 49 35.2 -1.0
LZH sP sP 03 49 40.2 -1.4
LZH PP **PP** **03 50 26.7 -6.4**
LZH S **S** **03 54 15.2 -5.8**
LZH sS sS 03 54 36.3 -4.7
LZH pmax pmax
comp=Z,190nm,1.3s
LZH pmax pmax
comp=Z,2µm,5.8s
LZH LR LR
comp=Z,9µm,17.3s
LZH LR LR
comp=Z,16µm,16.8s
LZH LR LR
comp=Z,16µm,17.4s
H11S1 WAKE ISLAND Hy 30.76 130 T T 04 22 09.9
baz=324,slow=76,SNR=712
H11S3 WAKE ISLAND Hy 30.77 130 T T 04 22 19.7
baz=324,slow=76,SNR=1015
H11S2 WAKE ISLAND Hy 30.78 130 T T 04 22 18.3
baz=324,slow=76,SNR=637
TIXI Tiksi 31.30 352 P **P** **03 49 30.9 -1.7**
comp=Z,42nm,0.5s,baz=148,slow=6.8,SNR=6.8
TIXI LR LR 04 03 16.0
comp=Z,10µm,18.6s,baz=132,slow=38
TIXI Tiksi 31.30 352 *ce*P **P** **03 49 30.2 -2.4**
TIXI pmax pmax
comp=Z,55nm,1.0s
TIXI MLR MLR
comp=Z,8µm,18.0s
TIXI Tiksi 31.30 352 P **P** **03 49 30.9 -1.7**
TIXI Tiksi 31.30 352 IAmb IAmb 03 49 33.7
comp=Z,64nm,1.0s
TIXI IAMs_20 IAMs_20 04 02 56.2
comp=Z,9µm,19.0s
ATKA Atka Island 31.38 54 P **P** **03 49 34.7 +1.2**
ATKA IAmb IAmb 03 49 56.3
comp=Z,498nm,1.3s
ATKA IAMs_20 IAMs_20 04 01 47.0
comp=Z,17µm,22.0s
GTA Gaotai 32.21 281⇑ P **P** **03 49 41.0 -0.2**
GTA PP **PP** **03 50 49.8 -4.6**
GTA PcP **PcP** **03 52 30.1 +1.2**
GTA S **S** **03 54 51.4 +0.3**
GTA ScP **ScP** **03 56 09.2 +0.6**
GTA PcS **PcS** **03 56 14.7 +0.8**
GTA SS **SnSn** **03 56 49.3 +4.2**
GTA pmax pmax
comp=Z,46nm,0.8s
GTA pmax pmax
comp=Z,2µm,10.6s
GTA LR LR
comp=Z,13µm,16.8s
GTA LR LR
comp=Z,28µm,17.5s
GTA LR LR
comp=Z,36µm,18.1s
CD2 Chengdu 32.56 264 P **P** **03 49 43.1 -1.1**
CD2 pP pP 03 49 54.6 -1.6
CD2 S **S** **03 54 53.3 -3.1**
CD2 sS sS 03 55 16.7 +0.3
CD2 pmax pmax
comp=Z,280nm,0.7s
CD2 pmax pmax
comp=Z,2µm,4.5s
CD2 LR LR
comp=Z,19µm,16.7s
CD2 LR LR
comp=Z,21µm,22.4s
CD2 LR LR
comp=Z,19µm,28.9s
GYA Guiyang 32.77 255⇑ P **P** **03 49 45.3 -0.9**
GYA SS SS 03 57 01.3 -21
GYA ScS **ScS** **04 00 09.0 -1.8**
GYA pmax pmax
comp=Z,260nm,1.1s
GYA pmax pmax
comp=Z,2µm,4.8s
GYA LR LR
comp=Z,16µm,16.7s
GYA LR LR
comp=Z,21µm,17.6s
GYA LR LR
comp=Z,33µm,17.3s
QIZ Qiongzhong 35.38 241 P **P** **03 50 10.3 +1.6**
QIZ sP **sP** **03 50 24.6 -1.6**
QIZ PP **PP** **03 51 29.7 +0.1**
QIZ S **S** **03 55 41.3 +1.3**
QIZ pmax pmax
comp=Z,2µm,4.6s
QIZ LR LR
comp=Z,7µm,20.6s
QIZ LR LR
comp=Z,8µm,23.5s
QIZ LR LR
comp=Z,8µm,19.4s
QIZ Qiongzhong 35.38 241 P **P** **03 50 10.2 +1.5**
KMI Kunming 36.42 256⇑ P **P** **03 50 17.7 -0.1**
KMI pP pP 03 50 30.2 +0.2
KMI sP sP 03 50 35.4 +0.1
KMI PP **PP** **03 51 38.5 -2.8**
KMI PcP **PcP** **03 52 44.0 +2.7**
KMI S **S** **03 55 50.9 -5.5**
KMI PcS **PcS** **03 56 28.1 -1.4**
KMI pmax pmax
comp=Z,49nm,0.8s
KMI pmax pmax
comp=Z,4µm,7.1s
KMI LR LR
comp=Z,19µm,17.1s
KMI LR LR
comp=Z,14µm,18.8s
KMI LR LR
comp=Z,22µm,18.7s
KMI Kunming 36.42 256 IAmb IAmb 03 50 22.2
comp=Z,228nm,1.0s
PATS Pohnpei 37.04 153 IAMs_20 IAMs_20 04 02 18.0
comp=Z,14µm,22.0s
DAV Davao City (W) 37.06 208 LR LR 04 07 05.6
comp=Z,4µm,19.0s,baz=25,slow=38
DAV Davao City (W) 37.06 208⇑ *i*P **P** **03 50 22.7 -0.3**
ANM Nome 37.77 34 P **P** **03 50 29.7 +1.2**
ANM pmax pmax
comp=Z,184nm,1.0s
ANM MLR MLR
comp=Z,11µm,22.0s
ANM Nome 37.77 34 P **P** **03 50 29.7 +1.2**
ANM IAmb IAmb 03 50 32.5
comp=Z,184nm,1.0s
FALS False Pass 37.84 50 IAMs_20 IAMs_20 04 05 25.8
comp=Z,13µm,21.0s
SLVN Son La 37.91 250 P **P** **03 50 30.7 +0.4**
SLVN IAmb IAmb 03 50 35.3
comp=Z,250nm,0.9s

SLVN IAMs_20 IAMs_20 04 07 11.0
comp=Z,14µm,19.0s
DGZ Jazzator, Alta 38.66 302 *c i*P **P** **03 50 37.0 +0.6**
DGZ pmax pmax
comp=Z,956nm,1.8s
KWAJ Kwajalein Atol 39.27 138 IAMs_20 IAMs_20 04 03 45.7
comp=Z,15µm,21.0s
RDOG Red Dog Mine 39.55 29 P **P** **03 50 44.2 +0.8**
RDOG IAmb IAmb 03 51 08.2
comp=Z,308nm,1.7s
WMQ Urumqi 39.73 293 P **P** **03 50 46.0 +0.7**
WMQ pP pP 03 50 52.9 -4.7
WMQ sP sP 03 50 59.6 -3.3
WMQ PP **PnPn** **03 52 21.8 +1.3**
WMQ S **S** **03 56 45.9 +0.1**
WMQ ScS **ScS** **04 00 48.4 -0.3**
WMQ pmax pmax
comp=Z,370nm,1.1s
WMQ pmax pmax
comp=Z,3µm,3.9s
WMQ LR LR
comp=Z,7µm,13.1s
WMQ LR LR
comp=Z,22µm,18.3s
WMQ LR LR
comp=Z,30µm,18.9s
ZAA0 Zalesovo Array 39.75 309 IAmb IAmb 03 50 49.9
comp=Z,310nm,0.8s
ZALV Zalesovo Beam 39.75 309 P **P** **03 50 45.2 0.0**
comp=Z,304nm,0.7s,baz=91,slow=8.3,SNR=158
ZALV PcP **PcP** **03 52 51.3 +0.5**
comp=Z,77nm,0.8s,baz=97,slow=2.6,SNR=8.3
ZALV LR LR 04 08 07.9
comp=Z,26µm,18.2s,baz=79,slow=38
ZALV Zalesovo Beam 39.75 309 P **P** **03 50 45.2 0.0**
ZALV 03 52 51.3
ZALV Zalesovo Beam 39.75 309 P **P** **03 50 44.8 -0.5**
ZALV PcP **PcP** **03 52 51.4 +0.6**
NRIK Noril'sk 39.85 333 P **P** **03 50 45.5 -0.4**
comp=Z,117nm,0.6s,baz=110,slow=8.8,SNR=140
NRIK LR LR 04 08 05.8
comp=Z,39µm,21.4s,baz=106,slow=37
NRIK Noril'sk 39.85 333 P **P** **03 50 45.5 -0.4**
CNBA Chernabura Isl 40.06 50 P **P** **03 50 47.8 0.0**
CNBA IAMs_20 IAMs_20 04 08 27.3
comp=Z,15µm,22.0s
ZSN Zaisan 40.76 299⇑ *i*P **P** **03 50 54.5 +0.7**
comp=Z,111nm,1.2s,baz=299
ZSN *e*S **S** **03 57 01.2 +0.3**
baz=299
ZSN LR LR 04 07 44.6
comp=Z,5µm,14.0s,baz=299
ZSN Zaisan 40.76 299 *c i*P **P** **03 50 54.4 +0.7**
ZSN *e*S **S** **03 57 01.2 +0.3**
ZSN pmax pmax
comp=Z,111nm,1.2s
ZSN MLR MLR
comp=Z,5µm,14.0s
DLV T Lat 41.50 235 P **P** **03 51 00.7 +0.3**
DLV IAmb IAmb 03 51 04.1
comp=Z,216nm,1.0s
MYLDM Lahad Datu 41.67 217 P **P** **03 51 02.0 +0.6**
MYLDM IAmb IAmb 03 52 19.7
comp=Z,452nm,1.3s
TTA Tatalina 41.69 37 P **P** **03 51 01.5 +0.2**
TTA Tatalina 41.69 37 P **P** **03 51 01.5 +0.2**
ZIRO ZIRO 41.73 267 *e*P **P** **03 51 02.6 +0.5**
JORH JORHAT 41.84 265 *e*P **P** **03 51 02.4 -0.4**
SVW2 Sparrevohn 41.88 40 P **P** **03 51 03.5 +0.7**
SVW2 IAmb IAmb 03 51 22.9
comp=Z,772nm,1.9s
ITAN ITANAGAR 42.02 266 *e*P **P** **03 51 05.0 +0.7**
CHIR Chirikof Islan 42.21 48 IAmb IAmb 03 51 24.3
comp=Z,565nm,1.2s
CHIR IAMs_20 IAMs_20 04 10 15.9
comp=Z,13µm,21.0s
TNTI Ternate 42.41 202 P **P** **03 51 08.4 +0.9**
comp=Z,2µmcomp=Z,70nm,0.9s
TNTI Ternate 42.41 202 P **P** **03 51 06.8 -0.7**
TNTI IAmb IAmb 03 52 15.1
comp=Z,379nm,1.8s
A21K Barrow 42.42 25 P **P** **03 51 07.8 +0.9**
baz=259
MK31 Makanchi Array 42.62 299 P **P** **03 51 08.9 -0.1**
MK31 pmax pmax
comp=Z,718nm,1.6s
MK31 Makanchi Array 42.62 299 P **P** **03 51 08.9 -0.1**
MK31 IAmb IAmb 03 51 11.7
comp=Z,718nm,1.6s
MKAR Makanchi Array 42.62 299 P **P** **03 51 09.2 +0.1**
comp=Z,121nm,0.8s,baz=84,slow=11,SNR=342
MKAR PcP **PcP** **03 53 00.8 +0.4**
comp=Z,64nm,0.9s,baz=84,slow=1.5,SNR=4.9
MKAR LR LR 04 09 59.0
comp=Z,27µm,19.6s,baz=78,slow=38
MKAR PKPPKP P'P'df 04 23 04.7 -8.2
comp=Z,1.7nm,1.1s,baz=276,slow=2.2,SNR=4.3
MKAR Makanchi Array 42.62 299 *ce*P **P** **03 51 09.1 +0.1**
MKAR pmax pmax
comp=Z,120nm,0.7s
MKAR Makanchi Array 42.62 299 P **P** **03 51 08.7 -0.3**
MKAR Makanchi Array 42.62 299 **PcP** **03 53 00.8 +0.4**
LSA Lhasa 42.65 271 P **P** **03 51 11.5 +1.5**
LSA S **S** **03 57 34.0 +3.7**
LSA pmax pmax
comp=Z,200nm,0.7s
LSA LR LR
comp=Z,13µm,16.4s
LSA LR LR
comp=Z,15µm,17.1s
LSA LR LR
comp=Z,20µm,17.8s
LSA Lhasa 42.65 271 P **P** **03 51 11.1 +1.1**
LSA Lhasa 42.65 271 P **P** **03 51 10.1 +0.1**
LSA pmax pmax
comp=Z,2µm,1.9s
LSA MLR MLR
comp=Z,14µm,20.0s
LSA Lhasa 42.65 271 P **P** **03 51 10.1 +0.1**
LSA IAMs_20 IAMs_20 04 09 31.6
comp=Z,15µm,20.0s
IMAR Indian Mountai 42.79 33 P **P** **03 51 11.0 +0.9**
MAKZ Makanchi 42.83 299 P **P** **03 51 10.8 +0.1**
MAKZ pmax pmax
comp=Z,886nm,1.5s
MAKZ MLR MLR
comp=Z,30µm,19.0s
MAKZ Makanchi 42.83 299 P **P** **03 51 10.8 +0.1**
SII Sitkinak Islan 42.92 47 P **P** **03 51 11.6 +0.3**
SII IAMs_20 IAMs_20 04 09 13.7
comp=Z,16µm,21.0s
TEZP TEZPUR 43.00 266 *e*P **P** **03 51 12.1 -0.1**
SIJI Sorong 43.01 196 LR LR 04 07 12.7
comp=Z,3µm,21.1s,baz=352,slow=33
SMPI Sarmi 43.07 185 P **P** **03 51 14.2 +1.4**
comp=Z,4µmcomp=Z,200nm,1.2s
CHTO Chiang Mai 43.08 252 P **P** **03 51 13.8 +0.8**
CHTO P **P** **03 51 13.8 +0.8**
CHTO P **P** **03 51 13.8 +0.8**
CHTO Chiang Mai 43.08 252 P **P** **03 51 13.4 +0.4**
CHTO pmax pmax
comp=Z,250nm,1.2s
CHTO MLR MLR
comp=Z,11µm,18.0s
CHTO Chiang Mai 43.08 252 P **P** **03 51 13.4 +0.4**
CHTO IAmb IAmb 03 51 34.9
comp=Z,250nm,1.1s
CHTO Chiang Mai 43.08 252 IAMs_20 IAMs_20 04 10 28.9
comp=Z,11µm,18.0s
CM31 Chiang Mai Arr 43.31 252 P **P** **03 51 16.1 +1.3**
SNR=24
CM31 P **P** **03 51 16.1 +1.3**
SNR=24
CM31 Chiang Mai Arr 43.31 252 P **P** **03 51 15.3 +0.5**
CMAR Chiang Mai Arr 43.31 252 P **P** **03 51 15.8 +0.9**
comp=Z,25nm,0.6s,baz=39,slow=7.9,SNR=75
CMAR PcP **PcP** **03 53 04.2 +1.1**
comp=Z,24nm,0.8s,baz=13,slow=1.2,SNR=5.5
CMAR LR LR 04 10 47.2
comp=Z,9µm,19.0s,baz=92,slow=38
CMAR Chiang Mai Arr 43.31 252 P **P** **03 51 15.8 +0.9**
CMAR 03 53 04.2
CMAR Chiang Mai Arr 43.31 252 **PcP** **03 53 04.2 +1.1**
CMAR Chiang Mai Arr 43.31 252 P **P** **03 51 15.3 +0.5**
OHAK Old Harbor 43.33 46 P **P** **03 51 15.2 +0.7**

PPLA Purkeypile 43.44 37 P **P** **03 51 15.4 -0.1**
JAY Jayapura 43.49 182 LR LR 04 09 02.8
comp=Z,4μm,21.3s,baz=14,slow=36
KDAK Kodiak Island 43.64 45 LR LR 04 10 18.8
comp=Z,8μm,21.6s,baz=253,slow=37
KDAK Kodiak Island 43.64 45 IAMs_20 IAMs_20 04 10 16.7
comp=Z,12μm,22.0s
KMSI Cibinong 43.66 207 P **P** **03 51 20.4 +2.8**
comp=Z,4μmcomp=Z,309nm,0.9s
SKT Skwentna 43.79 39 IAmb IAmb 03 51 37.6
comp=Z,317nm,1.5s
BPAW Bear Paw Mtn. 43.95 36 IAmb IAmb 03 51 39.2
comp=Z,219nm,1.1s
GTOI Gorontalo 43.95 208 P **P** **03 51 19.7 -0.2**
comp=Z,2μmcomp=Z,89nm,1.5s
SILR SILCHAR 44.01 264 *e*P **P** **03 51 21.6 +1.3**
KURK Kurchatov 44.02 305 P **P** **03 51 20.2 0.0**
KURK P **P** **03 51 20.2 0.0**
KURK P **P** **03 51 20.2 0.0**
KURK Kurchatov 44.02 305 *ce*P **P** **03 51 20.2 0.0**
KURK pmax pmax
comp=Z,1μm,2.5s
KURK Kurchatov 44.02 305 P **P** **03 51 20.8 +0.6**
KURK **PcP** **03 53 05.4 +0.5**
KURK Kurchatov 44.02 305 IAMs_20 IAMs_20 04 10 08.9
comp=Z,10μm,19.0s
GUWA GUWAHATI 44.07 266 *e*P **P** **03 51 20.7 -0.1**
KURBB Kurchatov Arra 44.10 305 P **P** **03 51 20.8 0.0**
comp=Z,265nm,0.5s,baz=78,slow=8.5,SNR=548
KURBB PcP **PcP** **03 53 05.4 +0.2**
comp=Z,91nm,0.8s,baz=84,slow=3.6,SNR=7.2
SUA Susitna One 44.20 39 IAmb IAmb 03 51 45.3
comp=Z,174nm,0.9s
COLD Coldfoot 44.25 31 P **P** **03 51 23.0 +1.2**
baz=269,SNR=44
COLD S **S** **03 57 53.1 +1.3**
baz=269
SHL Shillong 44.26 266 *e*P **P** **03 51 22.0 -0.6**
SHL *i* P **P** **03 51 24.0 +1.4**
SHL *i* S **S** **03 57 57.0 +3.7**
SHL Shillong 44.26 266 P **P** **03 51 22.6 -0.1**
SNR=49
SHL Shillong 44.26 266 IAmb IAmb 03 51 27.3
comp=Z,237nm,0.8s
TRF Thorofare Moun 44.28 36 IAMs_20 IAMs_20 04 09 47.2
comp=Z,10μm,22.0s
CUT Chulitna 44.35 38 P **P** **03 51 23.7 +1.1**
baz=274,SNR=14
TOLK Toolik Lake Re 44.52 29 P **P** **03 51 24.9 +0.9**
baz=268,SNR=17
TOLK S **S** **03 57 58.5 +2.7**
baz=268
TOLK Toolik Lake Re 44.52 29 IAMs_20 IAMs_20 04 10 23.1
comp=Z,8μm,20.0s
NEA2 Nenana 44.76 35 P **P** **03 51 27.5 +1.6**
baz=273,SNR=127
NEA2 S **S** **03 58 02.3 +3.0**
baz=273
O22K Cooper Landing 44.79 41 P **P** **03 51 26.9 +0.7**
baz=276
O22K S **S** **03 58 03.1 +3.3**
baz=276
FAKI Fak Fak 44.81 194 P **P** **03 51 27.4 +0.6**
comp=Z,3μmcomp=Z,189nm,1.1s
FAKI Fak Fak 44.81 194 P **P** **03 51 27.0 +0.2**
RND Reindeer 44.93 36 IAMs_20 IAMs_20 04 10 06.2
comp=Z,10μm,22.0s
SEW Seward 44.97 41 IAMs_20 IAMs_20 04 13 38.6
comp=Z,10μm,21.0s
SAIH SAIHA 45.19 261 *e*P **P** **03 51 29.6 -0.4**
WRH Wood River Hil 45.19 35 IAmb IAmb 03 51 53.4
comp=Z,208nm,1.0s
TCOL CIGO, UAF Yank 45.26 34 P **P** **03 51 31.6 +1.7**
baz=274,SNR=23
TCOL S **S** **03 58 08.0 +1.6**
baz=274
COLA College 45.27 34 *c i*P **P** **03 51 31.0 +1.1**
COLA pmax pmax
comp=Z,367nm,1.9s
COLA College 45.27 34 P **P** **03 51 30.2 +0.4**
KNK Knik Glacier 45.30 39 IAmb IAmb 03 51 49.5
comp=Z,357nm,1.0s
CCB Clear Creek Bu 45.30 35 IAmb IAmb 03 51 51.1
comp=Z,471nm,1.4s
CCB IAMs_20 IAMs_20 04 09 47.1
comp=Z,9μm,22.0s
SML Sawmill 45.31 39 IAMs_20 IAMs_20 04 14 10.7
comp=Z,9μm,22.0s
MPSI Mapaga 45.41 212 P **P** **03 51 31.9 +0.3**
comp=Z,8μmcomp=Z,2μmcomp=Z,70nm,1.4s
POKR Poker Plat Res 45.43 34 P **P** **03 51 33.1 +1.9**
baz=274,SNR=70
POKR S **S** **03 58 10.4 +1.5**
baz=274
SANI Sanana 45.49 203 P **P** **03 51 33.2 +1.0**
comp=Z,3μmcomp=Z,202nm,0.9s
LUWI Luwuk 45.59 208 P **P** **03 51 33.4 +0.4**
comp=Z,4μmcomp=Z,206nm,1.1s
LUWI Luwuk 45.59 208 P **P** **03 51 31.9 -1.0**
LUWI IAmb IAmb 03 52 06.0
comp=Z,254nm,0.8s
SHLS Shalkode 45.63 294⇑ *i*P **P** **03 51 31.0 -2.3**
comp=Z,103nm,0.8s,baz=294
SHLS *e*S **S** **03 58 07.9 -4.8**
comp=Z,295nm,5.0s,baz=294
SHLS LR LR 04 10 28.4
comp=Z,14μm,18.4s,baz=294
SHLS Shalkode 45.63 294 *c i*P **P** **03 51 31.0 -2.3**
SHLS *e*S **S** **03 58 07.8 -4.8**
SHLS pmax pmax
comp=Z,103nm,0.8s
SHLS MLR MLR
comp=Z,14μm,18.0s
AGT Agartala 45.68 264 *e*P **P** **03 51 34.1 +0.5**
ILAR Eielson Array 45.69 34 P **P** **03 51 33.9 +0.7**
comp=Z,60nm,0.8s,baz=259,slow=5.1,SNR=296
ILAR LR LR 04 10 32.2
comp=Z,6μm,21.9s,baz=282,slow=36
ILAR Eielson Array 45.69 34 P **P** **03 51 33.9 +0.7**
ILAR Eielson Array 45.69 34 P **P** **03 51 33.5 +0.3**
HDA Harding Lake 45.69 35 P **P** **03 51 33.9 +0.6**
baz=275,SNR=64
HDA S **S** **03 58 14.0 +1.3**
baz=275
HDA Harding Lake 45.69 35 IAmb IAmb 03 51 55.8
comp=Z,191nm,0.9s
HDA IAMs_20 IAMs_20 04 09 57.4
comp=Z,9μm,22.0s
TDK Taldyqorghan 45.74 297 *i*P **P** **03 51 34.6 +0.7**
comp=Z,346nm,0.8s,baz=297
TDK *e*S **S** **03 58 14.1 +0.1**
baz=297
TDK LR LR 04 10 33.8
comp=Z,18μm,18.0s,baz=297
TDK Taldyqorghan 45.74 297 *i*P **P** **03 51 34.6 +0.7**
TDK *e*S **S** **03 58 14.0 +0.1**
TDK pmax pmax
comp=Z,346nm,0.8s
TDK MLR MLR
comp=Z,18μm,18.0s
SCM Sheep Creek Mo 45.78 39 IAMs_20 IAMs_20 04 14 32.0
comp=Z,9μm,21.0s
GTK Tadong 45.80 270 *e*P **P** **03 51 34.3 -0.4**
MSAI Masohi 45.94 199 P **P** **03 51 36.8 +1.1**
comp=Z,43nm,1.7s
UZB Uzynbulak 45.94 295⇑ *i*P **P** **03 51 35.7 -0.1**
comp=Z,114nm,1.8s,baz=294
UZB *e*S **S** **03 58 16.4 -0.7**
comp=Z,155nm,3.9s,baz=294
UZB LR LR 04 10 54.4
comp=Z,11μm,18.6s,baz=294
UZB Uzynbulak 45.94 295 *c i*P **P** **03 51 35.6 -0.1**
UZB *e*S **S** **03 58 16.4 -0.7**
UZB pmax pmax
comp=Z,114nm,1.8s
UZB MLR MLR
comp=Z,11μm,19.0s
GLI Glacier Island 46.02 40 IAmb IAmb 03 51 55.0
comp=Z,301nm,1.2s
RABL Rabaul 46.02 166 P **P** **03 51 37.2 +0.8**
RABL IAmb IAmb 03 51 40.8
comp=Z,190nm,0.8s
KPKS Kokpek 46.06 295⇑ *i*P **P** **03 51 36.7 +0.1**
comp=Z,140nm,1.3s,baz=295
KPKS *e*S **S** **03 58 18.5 -0.3**
comp=Z,202nm,4.7s,baz=295
KPKS LR LR 04 10 57.6
comp=Z,15μm,17.7s,baz=295
KPKS Kokpek 46.06 295 *c i*P **P** **03 51 36.7 +0.1**
KPKS *e*S **S** **03 58 18.4 -0.3**
KPKS pmax pmax
comp=Z,140nm,1.3s
KPKS MLR MLR
comp=Z,15μm,18.0s
M24K Tolsona, Glenn 46.29 38 P **P** **03 51 40.1 +2.0**
baz=278
M24K S **S** **03 58 24.7 +3.3**
baz=278
NLAI Namlea 46.31 201 P **P** **03 51 39.0 +0.4**
comp=Z,3μmcomp=Z,54nm,0.7s
HIN Hinchinbrook I 46.38 40 IAMs_20 IAMs_20 04 12 47.1
comp=Z,9μm,21.0s
SATY Saty 46.39 295⇑ *i*P **P** **03 51 39.6 +0.3**
comp=Z,36nm,0.6s,baz=294
SATY *e*S **S** **03 58 23.3 -0.3**
comp=Z,198nm,4.0s,baz=294
SATY LR LR 04 11 12.8
comp=Z,7μm,17.1s,baz=294
SATY Saty 46.39 295 *c i*P **P** **03 51 39.6 +0.3**
SATY *e*S **S** **03 58 23.3 -0.3**
SATY pmax pmax
comp=Z,36nm,0.6s
SATY MLR MLR
comp=Z,7μm,17.0s
SATY Saty 46.39 295 *c i*P **P** **03 51 39.6 +0.3**
SATY *e*S **S** **03 58 23.3 -0.3**
SATY pmax pmax
comp=Z,36nm,0.6s
SATY MLR MLR
comp=Z,7μm,17.0s
AAI Ambon 46.45 200 P **P** **03 51 39.4 -0.3**
comp=Z,4μmcomp=Z,192nm,1.6s
TAPN Taplejung 46.45 271 *e*P **P** **03 51 41.0 +0.9**
comp=Z,810nm,0.7s
KLU Klutina 46.50 39 IAMs_20 IAMs_20 04 14 24.9
comp=Z,9μm,21.0s
PAX Paxson 46.50 37 IAmb IAmb 03 52 02.0
comp=Z,237nm,1.5s
PAX IAMs_20 IAMs_20 04 10 32.9
comp=Z,8μm,22.0s
PRZ Przheval'sk 46.60 294 IAmb IAmb 03 52 03.6
comp=Z,245nm,0.8s
EYAK Cordova Ski Ar 46.73 40 IAmb IAmb 03 52 03.8
comp=Z,209nm,1.0s
EYAK IAMs_20 IAMs_20 04 12 48.1
comp=Z,11μm,21.0s
BNDI Bandanaira 46.85 197 P **P** **03 51 45.4 +2.6**
ODAN Odare 46.95 270 *e*P **P** **03 51 44.5 +0.5**
comp=Z,755nm,0.8s
SCRK Sand Creek 47.02 35 P **P** **03 51 44.5 +0.6**
baz=278
SCRK S **S** **03 58 33.2 +1.1**
baz=278
DOT Dot Lake 47.04 36 IAmb IAmb 03 52 07.0
comp=Z,113nm,0.8s
CHKK Chushkaly 47.08 296⇑ *i*P **P** **03 51 44.5 0.0**
baz=296
CHKK Chushkaly 47.08 296 *c i*P **P** **03 51 44.5 0.0**
SBUM Sibu 47.10 223 P **P** **03 51 44.7 -0.2**
SBUM Sibu 47.10 223 P **P** **03 51 46.0 +1.2**
SMKI Samarinda 47.25 215 P **P** **03 51 48.0 +2.0**
comp=Z,7μmcomp=Z,7μmcomp=Z,149nm,0.6s
RAGM Ragged Mountai 47.28 40 IAMs_20 IAMs_20 04 14 48.7
comp=Z,10μm,20.0s
MDOK Medeo 47.29 295 *i*P **P** **03 51 46.9 +0.6**
baz=295
MDOK *e*S **S** **03 58 36.1 -0.3**
baz=295
MDOK LR LR 04 11 31.2
comp=Z,12μm,19.4s,baz=295
MDOK Medeo 47.29 295 *i*P **P** **03 51 46.8 +0.6**
MDOK *e*S **S** **03 58 36.1 -0.3**
MDOK MLR MLR
comp=Z,12μm,19.0s
AAA Alma-Ata 47.36 295⇑ *i*P **P** **03 51 47.5 +0.7**
comp=Z,90nm,0.7s,baz=295
AAA *e*S **S** **03 58 37.4 +0.1**
baz=295
AAA LR LR 04 11 35.6
comp=Z,10μm,17.7s,baz=295
AAA Alma-Ata 47.36 295 *c i*P **P** **03 51 47.4 +0.7**
AAA *e*S **S** **03 58 37.4 +0.1**
AAA pmax pmax
comp=Z,90nm,0.7s
AAA MLR MLR
comp=Z,10μm,18.0s
TNSS Tian-Shan 47.40 295 *i*P **P** **03 51 48.1 +0.6**
baz=295
TNSS Tian-Shan 47.40 295 *i*P **P** **03 51 48.1 +0.6**
JIRN Jiri 47.44 272 *e*P **P** **03 51 48.5 +0.6**
comp=Z,1μm,0.7s
RAMN Ramite 47.50 271 *e*P **P** **03 51 48.7 +0.5**
comp=Z,1μm,0.8s
KUU Kurty 47.51 296⇑ *i*P **P** **03 51 47.4 -0.5**
comp=Z,239nm,0.8s,baz=296
KUU *e*S **S** **03 58 38.2 -1.1**
baz=296
KUU LR LR 04 12 12.4
comp=Z,10μm,16.1s,baz=296
KUU Kurty 47.51 296 *c i*P **P** **03 51 47.3 -0.5**
KUU *e*S **S** **03 58 38.1 -1.1**
KUU pmax pmax
comp=Z,239nm,0.8s
KUU MLR MLR
comp=Z,10μm,16.0s
GUN Gumba 47.54 272 *e*P **P** **03 51 49.2 +0.5**
comp=Z,936nm,0.6s
KDJ Kajisay 47.57 294 P **P** **03 51 48.4 -0.1**
KDJ pmax pmax
comp=Z,211nm,1.0s
KDJ MLR MLR
comp=Z,52μm,19.0s
KDJ Kajisay 47.57 294 P **P** **03 51 48.4 -0.1**
KDJ IAmb IAmb 03 52 10.6
comp=Z,211nm,1.0s
VRDI Verde Repeater 47.71 39 IAmb IAmb 03 52 10.1
comp=Z,291nm,1.2s
MTBS Maitube 47.72 295⇑ *i*P **P** **03 51 50.1 +0.5**
baz=295
MTBS Maitube 47.72 295⇑ *i*P **P** **03 51 50.0 +0.5**
K27K Chicken 47.85 35 P **P** **03 51 51.6 +1.4**
baz=280
K27K S **S** **03 58 44.0 +0.5**
baz=280
BRZS Berezniki 47.89 305⇑ *i*P **P** **03 51 50.6 0.0**
comp=Z,114nm,0.7s,baz=305
BRZS LR LR 04 12 15.7
comp=Z,3μm,17.2s,baz=305
BRZS Berezniki 47.89 305 *c i*P **P** **03 51 50.6 0.0**
BRZS pmax pmax
comp=Z,114nm,0.7s
BRZS MLR MLR
comp=Z,3μm,17.0s
CRQM Cirque 47.95 40 IAMs_20 IAMs_20 04 14 34.2
comp=Z,9μm,22.0s
KKN Kakani 48.06 273 *e*P **P** **03 51 52.9 +0.4**
comp=Z,1μm,0.8s
PKI Pulchoki 48.07 272 *e*P **P** **03 51 52.8 0.0**
comp=Z,766nm,0.9s
TGL Tana Glacier 48.10 40 IAMs_20 IAMs_20 04 15 10.5
comp=Z,8μm,21.0s
BKB Balikpapan 48.11 215 P **P** **03 51 53.6 +0.9**
comp=Z,8μmcomp=Z,7μmcomp=Z,273nm,1.1s
BKB Balikpapan 48.11 215 IAmb IAmb 03 52 15.2
comp=Z,274nm,1.1s
BCAR Beaver Creek A 48.14 36 P **P** **03 51 53.9 +1.4**
ULHL Ulahol 48.18 294 P **P** **03 51 53.5 +0.2**
SNR=64
DMN Daman 48.28 273 *e*P **P** **03 51 54.7 +0.4**
comp=Z,508nm,0.6s
TKM2 Tokmak 2 48.37 295 P **P** **03 51 55.5 +0.8**
SNR=631
TKM2 Tokmak 2 48.37 295 P **P** **03 51 55.5 +0.8**
BVA0 Borovoye Array 48.38 310 *i*P **P** **03 51 54.5 +0.1**
BVAR Borovoye Array 48.38 310 P **P** **03 51 54.8 +0.4**
comp=Z,176nm,0.6s,baz=73,slow=7.8,SNR=758
BVAR Borovoye Array 48.38 310 P **P** **03 51 54.8 +0.4**
BRVK Borovoye 48.43 310 P **P** **03 51 55.3 +0.6**
BRVK P **P** **03 51 55.3 +0.6**
BRVK P **P** **03 51 55.3 +0.6**
BRVK Borovoye 48.43 310 P **P** **03 51 55.0 +0.3**
GKN Gorkha 48.43 273 *e*P **P** **03 51 55.5 +0.2**
comp=Z,849nm,0.7s
BARN Barnard Glacie 48.60 39 IAMs_20 IAMs_20 04 15 40.5
comp=Z,7μm,21.0s
BTLS Baital 48.63 299⇑ *i*P **P** **03 51 56.2 -0.3**
comp=Z,40nm,0.8s,baz=298
BTLS *e*S **S** **03 58 54.1 -1.0**
baz=298
BTLS LR LR 04 12 28.7
comp=Z,4μm,14.5s,baz=298
BTLS Baital 48.63 299 *c i*P **P** **03 51 56.1 -0.3**
BTLS *e*S **S** **03 58 54.1 -1.0**
BTLS pmax pmax
comp=Z,40nm,0.8s
BTLS MLR MLR
comp=Z,4μm,14.0s
OTUK Ortayu 48.65 303 P **P** **03 51 56.6 +0.1**
MESA MESA 48.65 40 IAMs_20 IAMs_20 04 15 20.0
comp=Z,8μm,19.0s
MTKI Muara Teweh, K 48.72 218 P **P** **03 51 58.0 +0.6**
comp=Z,98nm,0.9s
CTGM Chitina Glacie 48.77 39 IAMs_20 IAMs_20 04 14 59.1
comp=Z,7μm,20.0s
KBK Karagaybulak 48.91 295 P **P** **03 51 59.5 +0.7**
SNR=113
CHMS Chumysh 48.91 296 P **P** **03 51 58.6 -0.1**
SNR=32
DANN Dangsing 48.91 274 *e*P **P** **03 51 59.9 +0.7**
comp=Z,1μm,0.8s
KSM Kuching 48.92 225 P **P** **03 51 59.6 +0.6**
KSM IAmb IAmb 03 52 02.5
comp=Z,207nm,1.3s
KSM Kuching 48.92 225 P **P** **03 52 00.0 +1.1**
KZA Kyzart 48.92 295 P **P** **03 52 00.5 +1.3**
SNR=126
USP Ospenovka 48.98 296 P **P** **03 51 59.5 +0.3**
SNR=121
DAWY Dawson 49.00 35 IAMs_20 IAMs_20 04 16 19.0
comp=Z,10μm,21.0s
FRU1 Bishkek 49.06 296 P **P** **03 51 59.4 -0.5**
FRU1 pmax pmax
comp=Z,1μm,1.9s
FRU1 MLR MLR
comp=Z,16μm,21.0s
FRU1 Bishkek 49.06 296 P **P** **03 51 59.4 -0.5**
AAK Ala-Archa 49.22 296 P **P** **03 52 01.5 +0.3**
comp=Z,62nm,0.4s,baz=110,slow=5.2,SNR=81
AAK Ala-Archa 49.22 296 P **P** **03 52 01.5 +0.3**
SNR=51
AAK Ala-Archa 49.22 296 P **P** **03 52 01.6 +0.3**
AAK P **P** **03 52 01.6 +0.3**
AAK P **P** **03 52 01.6 +0.3**
AAK Ala-Archa 49.22 296 *ce*P **P** **03 52 01.3 +0.1**
AAK pmax pmax
comp=Z,274nm,1.7s
AAK Ala-Archa 49.22 296 P **P** **03 52 01.5 +0.3**
KOLN Koldanda 49.33 274 *e*P **P** **03 52 02.8 +0.5**
UCH Uchtor 49.37 295 P **P** **03 52 03.1 +0.5**
SNR=81
SPSI Sidrap Palu 49.39 210 P **P** **03 52 02.5 0.0**
comp=Z,1μmcomp=Z,85nm,1.1s
KSH Kashi 49.44 291 P **P** **03 52 07.1 +4.2**
KSH sP sP 03 52 22.3 +1.6
KSH S **S** **03 59 11.8 +4.9**
KSH pmax pmax
comp=Z,150nm,0.8s
KSH pmax pmax
comp=Z,3μm,4.8s
KSH LR LR
comp=Z,22μm,17.7s
KSH LR LR
comp=Z,25μm,16.9s
KSH LR LR
comp=Z,24μm,16.3s
PCA Pinnacle 49.49 40 IAmb IAmb 03 52 23.4
comp=Z,199nm,1.2s
PYUN Piuthan 49.62 274 *e*P **P** **03 52 05.0 +0.5**
comp=Z,743nm,0.6s
EPYK Eagle Plains 49.64 32 P **P** **03 52 05.7 +1.8**
baz=282,SNR=75
EPYK S **S** **03 59 10.3 +1.7**
baz=282
BNSI Bone 49.67 210 P **P** **03 52 04.9 +0.3**
comp=Z,3μmcomp=Z,146nm,1.2s
EKS2 Erkin-Say 49.70 296 P **P** **03 52 05.1 +0.3**
SNR=184
AML Almayashu 49.97 295 P **P** **03 52 07.8 +0.6**
SNR=149
KBKI Kotabaru 50.25 215 P **P** **03 52 09.6 +0.6**
comp=Z,1μmcomp=Z,43nm,1.0s
KAPI Kappang 50.36 210 LR LR 04 13 46.9
comp=Z,2μm,21.3s,baz=18,slow=36
PMG Port Moresby 50.51 174 LR LR 04 11 00.9
comp=Z,2μm,21.8s,baz=324,slow=33
PMG Port Moresby 50.51 174 *i*P **P** **03 52 14.2 +3.3**
PMG pmax pmax
comp=Z,20nm,0.9s
BBKI Banjar Baru 50.98 216 P **P** **03 52 14.5 0.0**
comp=Z,4μmcomp=Z,192nm,0.8s
DGPR DIGLIPUR 51.13 252 *e*P **P** **03 52 14.9 -0.7**
DGPR IAmb IAmb 03 52 22.7
comp=Z,204nm,0.6s
DZA Taraz 51.27 297⇑ *i*P **P** **03 52 16.8 +0.2**
comp=Z,190nm,0.7s,baz=297
DZA *e*S **S** **03 59 31.6 -0.3**
baz=297
DZA LR LR 04 14 13.9
comp=Z,3μm,15.3s,baz=297
DZA Taraz 51.27 297 *c i*P **P** **03 52 16.7 +0.2**
DZA *e*S **S** **03 59 31.5 -0.3**
DZA pmax pmax
comp=Z,190nm,0.7s
DZA MLR MLR
comp=Z,3μm,15.0s
KK31 Karatay Array 51.73 298 IAmb IAmb 03 52 22.1
comp=Z,266nm,1.0s
KKAR Karatay Array 51.73 298 P **P** **03 52 19.4 -0.6**
KKAR pmax pmax
comp=Z,266nm,1.0s
KKAR Karatay Array 51.73 298 P **P** **03 52 19.4 -0.6**
KKAR Karatay Array 51.73 298 P **P** **03 52 19.7 -0.3**
KKAR IAmb IAmb 03 52 22.1
comp=Z,266nm,1.0s
PBKI Pangkalan Bun 51.80 220 P **P** **03 52 21.0 +0.3**
comp=Z,244nm,0.9s
WHY Whitehorse 51.91 38 IAMs_20 IAMs_20 04 13 35.9
comp=Z,9μm,22.0s
IPM Ipoh 51.92 237 P **P** **03 52 21.1 -0.5**
IPM IAmb IAmb 03 52 24.4
comp=Z,135nm,0.8s
KEKH Kekaha 52.02 93 IAMs_20 IAMs_20 04 08 40.7
comp=Z,7μm,22.0s
DDI Dehra Dun 52.18 280 *e*P **P** **03 52 22.9 -0.5**
DDI IAmb IAmb 03 52 27.7
comp=Z,364nm,1.1s
A36M Sachs Harbour 52.20 23 P **P** **03 52 24.6 +1.6**
baz=287,SNR=39
A36M S **S** **03 59 43.9 +0.1**
baz=287
PBA Port Blair 52.29 250 *e*P P 03 52 21.5 -2.8
PBA Port Blair 52.29 250 P P 03 52 23.6 -0.7
PBA IAMs_20 IAMs_20 04 16 48.1
comp=Z,6μm,19.0s
MYKOM Kota Tinggi 52.30 232 P **P** **03 52 24.3 -0.1**
MYKOM IAmb IAmb 03 52 28.1
comp=Z,156nm,1.1s
MYKOM Kota Tinggi 52.30 232 P **P** **03 52 26.0 +1.6**
SMLA Simla 52.43 281 *e*P **P** **03 52 25.4 +0.1**
IUG Iuzhnay 52.45 297⇑ *i*P **P** **03 52 25.6 +0.2**
comp=Z,166nm,1.3s,baz=297
IUG *e*S **S** **03 59 47.9 -0.5**
comp=Z,262nm,3.7s,baz=297
IUG LR LR 04 14 58.4
comp=Z,2μm,14.2s,baz=297
IUG Iuzhnay 52.45 297 *c i*P **P** **03 52 25.6 +0.2**
IUG *e*S **S** **03 59 47.8 -0.5**
IUG pmax pmax
comp=Z,166nm,1.3s
IUG MLR MLR
comp=Z,2μm,14.0s
DHRM DHARAMSHALA 52.51 283 *e*P **P** **03 52 26.3 +0.1**
SVE Sverdlovsk 52.56 317 *d i*P **P** **03 52 26.6 +0.8**
SVE *e* 03 54 23.6
SVE *e*S **S** **03 59 49.4 +0.3**
SVE *e* 04 02 05.1
SVE *e* 04 03 25.4
SVE pmax pmax
comp=Z,485nm,1.3s
SVE MLR MLR

comp=N,6µm,18.0s
SVE MLR MLR
comp=Z,28µm,18.0s
SVE MLR MLR
comp=E,20µm,18.0s
MMRI Maumere 52.87 205 P **P** **03 52 28.4 -0.2**
comp=E,5µmcomp=E,7µmcomp=E,273nm,1.5s
MMRI Maumere 52.87 205 P **P** **03 52 27.8 -0.7**
HNR Honiara 52.90 158 LR LR 04 13 33.6
comp=E,8µm,21.4s,baz=340,slow=34
HNR Honiara 52.90 158 IAMs_20 IAMs_20 04 12 37.8
comp=Z,11µm,22.0s
JIS Juneau Island 52.92 41 IAmb IAmb 03 52 52.7
comp=Z,168nm,1.0s
EDFI Ende, Flores 53.15 206 P **P** **03 52 29.7 -1.1**
comp=Z,2µmcomp=Z,1µmcomp=Z,64nm,1.4s
TAS Tashkent 53.30 296 IAMs_20 IAMs_20 04 16 04.3
comp=Z,10µm,21.0s
SOEI Soe 53.31 202 P **P** **03 52 32.3 +0.4**
comp=Z,4µmcomp=Z,422nm,1.1s
C36M Paulatuk 53.42 26 P **P** **03 52 32.9 +0.9**
baz=290,SNR=22
C36M S **S** **04 00 01.3 +0.8**
baz=290
OPA Opana 53.48 92 IAMs_20 IAMs_20 04 09 46.2
comp=Z,10µm,20.0s
GAR Garm 53.62 293 P **P** **03 52 33.8 -0.3**
KIP Kipapa 53.63 92 IAMs_20 IAMs_20 04 10 00.3
comp=Z,8µm,22.0s
NDI New Delhi 53.65 278 *eP* **P** **03 52 34.5 +0.2**
HON Honolulu 53.70 93 IAMs_20 IAMs_20 04 10 15.2
comp=Z,7µm,22.0s
DSRI Dabo 53.70 229 P **P** **03 52 35.1 +0.3**
ARU Arti 53.77 317 P **P** **03 52 35.1 +0.3**
comp=Z,55nm,0.5s,baz=65,slow=5.1,SNR=148
ARU Arti 53.77 317*d iP* **P** **03 52 34.9 +0.1**
ARU *PP **sP** **03 52 50.3 -2.3**
ARU 03 53 39.4
ARU 03 54 34.6
ARU S **S** **04 00 04.6 -1.0**
ARU *SS **sS** **04 00 32.1 +5.0**
ARU SS **SS** **04 03 47.7 +1.4**
ARU SSS SSS 04 05 39.8
ARU pmax pmax
comp=Z,811nm,1.6s
ARU MLR MLR
comp=Z,31µm,18.0s
ARU Arti 53.77 317 P **P** **03 52 35.1 +0.3**
TPI Tanjungpandan 53.89 225 P **P** **03 52 35.8 -0.3**
comp=Z,3µmcomp=Z,125nm,1.1s
BATI Baumata 53.91 203 LR LR 04 14 30.6
comp=Z,1µm,21.5s,baz=31,slow=35
BATI Baumata 53.91 203 P **P** **03 52 36.6 +0.4**
comp=Z,2µmcomp=Z,115nm,0.9s
LHMI Lhok Sumawe 53.99 241 P **P** **03 52 37.5 +0.7**
comp=Z,13µmcomp=Z,6µmcomp=Z,402nm,1.3s
LHMI Lhok Sumawe 53.99 241 P **P** **03 52 37.3 +0.5**
NIL Nilore 54.05 286 IAMs_20 IAMs_20 04 17 39.4
comp=Z,9µm,21.0s
PPBI Pangkal Pinang 54.21 227 P **P** **03 52 39.6 +1.1**
comp=Z,13µmcomp=Z,197nm,1.2s
CHLP Challavanipeta 54.26 264 *eP* **P** **03 52 39.0 +0.3**
CHLP IVmB_BB 03 52 41.2
comp=Z,2µm,2.0s
CHLP *eS* **S** **04 00 11.3 -1.8**
CHLP IVMs_BB IVMs_BB 04 17 07.0
comp=Z,954nm,20.3s
JBP Jabalpur 54.58 271⇑*eP* **P** **03 52 41.1 -0.1**
JBP AMB AMB 03 52 42.7
comp=Z,264nm,1.3s
JBP *ex* x 04 00 12.5
PLAI Plampang 54.61 210 P **P** **03 52 39.9 -1.4**
comp=Z,5µmcomp=Z,2µmcomp=Z,111nm,1.0s
RPSI Rantau Prapat 54.62 237 P **P** **03 52 41.3 -0.1**
RPSI IAmb IAmb 03 52 43.8
comp=Z,168nm,0.8s
RPSI PcP **PcP** **03 53 44.4 +0.4**
WRAK Wrangell Islan 54.62 43 P **P** **03 52 42.5 +1.6**
MTN Manton Dam 54.71 193 P **P** **03 52 42.2 +0.2**
MTN IAmb IAmb 03 53 11.5
comp=Z,117nm,0.9s
WBSI Waikabubak, Su 54.77 208 P **P** **03 52 41.9 -0.6**
comp=Z,1µmcomp=Z,64nm,0.8s
COEN Coen 54.84 179 P **P** **03 52 43.8 +0.9**
TWSI Taliwang, Sumb 54.88 211 P **P** **03 52 42.4 -0.8**
comp=Z,3µmcomp=Z,1µmcomp=Z,69nm,1.1s
MLSI Meulaboh, Aceh 55.06 241 P **P** **03 52 44.1 -0.5**
comp=Z,6µmcomp=Z,640nm,0.8s
GRJI Gresik 55.10 217 P **P** **03 52 44.8 -0.1**
comp=Z,129nm,0.8s
KHLH Kahului Airpor 55.14 92 IAMs_20 IAMs_20 04 10 42.1
comp=Z,9µm,22.0s
BKNI Bangkinang 55.15 233 P **P** **03 52 46.4 +1.2**
comp=Z,9µmcomp=Z,8µmcomp=Z,905nm,1.0s
TPTI 55.31 239 P **P** **03 52 45.5 -0.9**
comp=Z,314nmcomp=Z,19nm,0.9s
HLK Haleakala 55.35 92 IAMs_20 IAMs_20 04 10 47.8
comp=Z,10µm,21.0s
PMBI Palembang 55.60 227 P **P** **03 52 50.0 +1.5**
comp=Z,7µmcomp=Z,15µmcomp=Z,353nm,0.9s
MNSI Mandailing Nat 55.67 235 P **P** **03 52 48.3 -0.7**
comp=Z,7µmcomp=Z,3µmcomp=Z,169nm,0.6s
AB31 Akbulak array 55.86 308 *i* P **P** **03 52 50.2 +0.2**
ABKAR Akbulak array 55.86 308 P **P** **03 52 49.6 -0.4**
SDSI Sungai Dareh 55.91 232 P **P** **03 52 51.4 +0.7**
comp=Z,10µmcomp=Z,585nm,1.0s
ALE Alert 55.96 4 IAMs_20 IAMs_20 04 19 39.2
comp=Z,8µm,20.0s
EUNU Eureka 56.02 9 IAMs_20 IAMs_20 04 17 60.0
comp=Z,11µm,22.0s
SMRI Semarang 56.17 219 P **P** **03 52 52.7 +0.2**
comp=Z,6µmcomp=Z,259nm,1.0s
SMRI Semarang 56.17 219 P **P** **03 52 52.5 0.0**
HPAH Hawaii Prepara 56.20 92 IAMs_20 IAMs_20 04 10 50.3
comp=Z,10µm,22.0s
HOPEN Hopen 56.22 345⇑*iP* **P** **03 52 52.5 +0.3**
HOPEN IVmB_BB 03 52 53.9
comp=Z,4µm,2.4s
HOPEN *eS* **S** **04 00 39.2 +1.4**
HOPEN IVMs_BB IVMs_BB 04 21 36.1
comp=Z,2µm,16.3s
KHLU Kahalu`u 56.31 93 IAMs_20 IAMs_20 04 11 05.3
comp=Z,9µm,22.0s
NGP Nagpur 56.45 270 *eP* **P** **03 52 54.3 -0.3**
NGP IAmb IAmb 03 52 59.4
comp=Z,115nm,0.7s
PDSI Padang 56.48 233 P **P** **03 52 54.8 0.0**
comp=Z,4µmcomp=Z,2µmcomp=Z,68nm,1.1s
AKTO Aktyubinsk 56.48 310 P **P** **03 52 54.5 +0.1**
comp=Z,225nm,0.6s,baz=74,slow=7.7,SNR=141
AKTO Aktyubinsk 56.48 310 P **P** **03 52 54.5 +0.1**
POHA Pohakuloa 56.48 92 IAMs_20 IAMs_20 04 11 32.9
comp=Z,9µm,21.0s
GSI Gunungsitoli 56.54 237 P **P** **03 52 55.5 +0.3**
comp=Z,9µmcomp=Z,427nm,1.5s
GSI Gunungsitoli 56.54 237 P **P** **03 52 55.3 +0.1**
SPA0 Spitsbergen Ar 56.62 348 P **P** **03 52 55.2 +0.2**
SPA0 Spitsbergen Ar 56.62 348⇑*iP* **P** **03 52 55.4 +0.4**
SPA0 IVmBBB 03 52 56.6
comp=Z,4µm,3.5s
SPA0 *eS* **S** **04 00 41.9 -1.3**
SPA0 IVMs_BB IVMs_BB 04 14 44.6
comp=Z,2µm,32.7s
KBL Kabul 56.65 289 P **P** **03 52 55.7 -0.4**
KBL SNR=163
P **P** **03 52 55.7 -0.4**
KBL SNR=163
P **P** **03 52 55.7 -0.4**
KBL SNR=163
KBL Kabul 56.65 289 P **P** **03 52 55.5 -0.6**
KBL pmax pmax
comp=Z,316nm,0.8s
KBL Kabul 56.65 289 P **P** **03 52 55.5 -0.6**
KBS Kingsbay 56.72 350*ce*P **P** **03 52 56.9 +1.2**
KBS pmax pmax
comp=Z,238nm,1.3s
KBS Kingsbay 56.72 350 P **P** **03 52 56.0 +0.3**
KBS Kingsbay 56.72 350⇑*iP* **P** **03 52 55.9 +0.2**
KBS IVmB_BB 03 52 57.9
comp=Z,4µm,2.5s
KBS *eS* **S** **04 00 43.7 -0.8**
KBS IVMs_BB IVMs_BB 04 15 14.1
comp=Z,2µm,25.4s
KBS Kingsbay 56.72 350⇑*iP* **P** **03 52 56.5 +0.8**
KBS IAmb IAmb 03 52 58.9
comp=Z,486nm,1.1s
KBS *i* 03 53 13.7
KBS IAMs_20 IAMs_20 04 19 27.8
comp=Z,9µm,19.0s
PVM Polavaram 56.85 264 *eP* **P** **03 52 57.2 -0.3**
PVM IVmB_BB 03 52 59.6
comp=Z,2µm,2.0s
PVM *eS* **S** **04 00 47.1 -0.6**
PVM IVMs_BB IVMs_BB 04 18 25.8
comp=Z,806nm,17.0s
NOR Nord 56.99 356⇑*iP* **P** **03 52 57.7 +0.2**
comp=Z,96nm,1.1s
NOR *i* 03 53 15.1
comp=Z,4µm,21.0s
NOR Nord 56.99 356⇑*iP* **P** **03 52 57.7 +0.2**
NOR *i* 03 53 15.1
NOR pmax pmax
comp=Z,97nm,1.1s
NOR MLR MLR
comp=Z,4µm,21.0s
NOR Nord 56.99 356⇑*iP* **P** **03 52 57.7 +0.2**
NOR IAmb IAmb 03 52 59.4
comp=Z,96nm,1.1s
NOR *i* 03 53 15.1
NOR IAMs_20 IAMs_20 04 18 54.6
comp=Z,4µm,21.4s
MASI Maura Aman, Be 57.21 230 P **P** **03 53 00.2 +0.2**
comp=Z,9µmcomp=Z,795nm,1.1s
MDSI Maura Dua 57.22 227 P **P** **03 53 00.2 +0.2**
comp=Z,4µmcomp=Z,196nm,1.4s
TNG Tangerang 57.30 224 P **P** **03 53 00.5 -0.1**
comp=Z,345nm,0.8s
LEM Lembang 57.36 222 LR LR 04 16 27.5
comp=Z,1µm,21.4s,baz=36,slow=35
LEM Lembang 57.36 222 P **P** **03 53 01.8 +0.6**
comp=Z,3µmcomp=Z,2µmcomp=Z,161nm,1.0s
BLSI Bandar Lampung 57.37 225 P **P** **03 53 00.5 -0.6**
comp=Z,11µmcomp=Z,3µmcomp=Z,202nm,1.1s
KIRV Kirov 57.41 322 *eP* **P** **03 53 00.9 +0.1**
KSI Kapahiang 57.42 229 P **P** **03 53 01.4 -0.1**
comp=Z,20µmcomp=Z,230nm,0.6s
HSPB Hornsund (broa 57.57 348 *i* P **P** **03 53 02.1 +0.5**
HSPB *ePcP **sP** **03 53 19.1 -0.5**
HSPB *eS* **S** **04 00 55.0 -0.6**
HSPB *eL* L 04 17 03.0
comp=Z,9µm,24.7s
HSPB Hornsund (broa 57.57 348⇑*iP* **P** **03 53 02.2 +0.6**
HSPB IVmBBB 03 53 03.7
comp=Z,4µm,1.2s
HSPB *eS* **S** **04 00 54.7 -1.0**
HSPB IVMs_BB IVMs_BB 04 17 03.3
comp=Z,2µm,25.0s
DBJI Dramaga 57.58 223 P **P** **03 53 03.0 +0.5**
RPR Rampur 57.63 267 *eP* **P** **03 53 02.7 -0.3**
RPR IVmB_BB 03 53 04.6
comp=Z,1µm,1.8s
RPR *eS* **S** **04 00 58.3 +0.3**
RPR IVMs_BB IVMs_BB 04 18 44.4
comp=Z,797nm,23.8s
SISI Saibi 57.64 234 P **P** **03 53 02.6 -0.4**
comp=Z,2µmcomp=Z,102nm,0.8s
PRGR Permogore 57.71 326⇑*iP* **P** **03 53 03.0 +0.1**
PRGR *e*PP **pP** **03 53 17.0 +1.4**
PRGR *eS* **S** **04 00 58.7 +0.9**
PRGR pmax pmax
comp=Z,333nm,0.9s
LWLI Liwa 57.72 227 P **P** **03 53 02.6 -1.1**
comp=Z,6µmcomp=Z,197nm,0.9s
KASI Kota Agung 57.90 226 P **P** **03 53 04.5 -0.3**
MYLAV Mylavaram 57.90 264 *eP* **P** **03 53 05.0 +0.1**
MYLAV IVmB_BB 03 53 07.3
comp=Z,2µm,1.7s
MYLAV *eS* **S** **04 01 02.9 +1.4**
MYLAV IVMs_BB IVMs_BB 04 22 40.4
comp=Z,826nm,18.4s
KNRA Kununurra 57.92 195 P **P** **03 53 05.0 +0.2**
SKJI Sukabumi 58.06 223 P **P** **03 53 01.5 -4.4**
comp=Z,6µmcomp=Z,421nm,0.8s
PPSI Pulau Pagai 58.22 232 P **P** **03 53 07.3 +0.3**
comp=Z,40µmcomp=Z,537nm,0.9s
SRSP Sriramsagar 58.30 268 *eP* **P** **03 53 06.9 -0.8**
SRSP IVmB_BB 03 53 09.1
comp=Z,2µm,1.5s
SRSP *eS* **S** **04 01 04.1 -2.7**
SRSP IVMs_BB IVMs_BB 04 19 26.9
comp=Z,734nm,13.8s
LVZ Lovozero 58.65 335*ce*P **P** **03 53 10.1 +0.7**
LVZ pmax pmax
comp=Z,74nm,1.0s
LVZ MLR MLR
comp=Z,9µm,22.0s
LVZ Lovozero 58.65 335 IAMs_20 IAMs_20 04 21 26.6
comp=Z,7µm,18.0s
BJO1 Bjornoya 58.66 345 *eP* **P** **03 53 09.0 -0.4**
BJO1 *eS* **S** **04 01 11.1 +1.1**
BJO1 IVMs_BB IVMs_BB 04 20 12.5
comp=Z,2µm,21.0s
BBB Bella Bella 58.68 46 IAmb IAmb 03 53 30.8
comp=Z,210nm,1.2s
ADKI Addanki 58.96 264 *eP* **P** **03 53 12.3 +0.1**
ADKI IVmB_BB 03 53 14.6
comp=Z,2µm,2.0s
ADKI *eS* **S** **04 01 14.7 -0.7**
ADKI IVMs_BB IVMs_BB 04 18 50.7
comp=Z,841nm,25.4s
NJS Nagarjunasagar 59.02 265 *eP* **P** **03 53 12.5 -0.2**
NJS IVmB_BB 03 53 14.2
comp=Z,1µm,1.8s
NJS *eS* **S** **04 01 14.6 -1.5**
NJS IVMs_BB IVMs_BB 04 20 54.2
comp=Z,680nm,26.9s
HYBB Hyderabad (bro 59.06 266 *eP* **P** **03 53 12.7 -0.3**
HYBB IVmB_BB 03 53 14.4
comp=Z,2µm,2.0s
HYBB *eS* **S** **04 01 16.6 -0.1**
HYBB IVMs_BB IVMs_BB 04 19 46.9
comp=Z,564nm,13.1s
HYB Hyderabad 59.06 266 *i* P **P** **03 53 12.0 -1.0**
comp=Z,260nm,1.0s
HYB *es*P **sP** **03 53 30.0 -1.0**
HYB *ePcP **PcP** **03 54 01.0 -0.5**
HYB *e* 03 54 23.0
HYB *ePP **PP** **03 55 24.0 +0.2**
HYB *eS* **S** **04 01 16.0 -0.7**
HYB *e* 04 01 30.0
HYB Hyderabad 59.06 266 *eP* **P** **03 53 10.4 -2.5**
APA Apatity 59.23 335⇑*iP* **P** **03 53 12.1 -1.3**
APA *i* 03 53 28.0
APA *i* 03 55 23.0
APA *i* PPP PPP 03 56 46.0
APA *i* S **S** **04 01 14.0 -3.4**
APA *i* 04 01 42.0
APA pmax pmax
comp=Z,49nm,1.0s
TMCR Tamitsa 59.48 330 *eP* **P** **03 53 14.4 -0.7**
TMCR *eS* **S** **04 01 20.2 -0.5**
TMCR pmax pmax
comp=Z,160nm,0.9s
SRLM Srisailam 59.62 265 *eP* **P** **03 53 16.4 -0.4**
SRLM IVmB_BB 03 53 18.2
comp=Z,1µm,1.9s
SRLM *eS* **S** **04 01 22.8 -1.0**
SRLM IVMs_BB IVMs_BB 04 20 59.2
comp=Z,668nm,21.1s
KEV Kevo 59.84 339 P **P** **03 53 17.5 0.0**
KEV pmax pmax
comp=Z,165nm,1.1s
KEV MLR MLR
comp=Z,10µm,22.0s
KEV Kevo 59.84 339 P **P** **03 53 17.5 0.0**
KEV IAmb IAmb 03 53 36.5
comp=Z,165nm,1.1s
KEV IAMs_20 IAMs_20 04 21 29.2
comp=Z,10µm,22.0s
YKA Yellowknife Ar 59.93 32 P **P** **03 53 18.8 +0.5**
comp=Z,65nm,1.0s,baz=302,slow=7.0,SNR=79
YKA LR LR 04 22 08.0
comp=Z,2µm,18.4s,baz=0.0,slow=39
YKA PKPPKP **P'P'df** **04 22 47.5 -2.0**
comp=Z,1.7nm,0.8s,baz=113,slow=2.1,SNR=4.5
YKA Yellowknife Ar 59.93 32 P **P** **03 53 18.8 +0.5**
YKA Yellowknife Ar 59.93 32 P **P** **03 53 18.8 +0.5**
KLRI Killari 60.14 268 *eP* **P** **03 53 19.7 -0.7**
KLRI IVmB_BB 03 53 21.5
comp=Z,3µm,2.0s
KLRI *eS* **S** **04 01 28.4 -2.2**
KLRI IVMs_BB IVMs_BB 04 22 34.0
comp=Z,819nm,21.0s
HAMF Hammerfest 60.16 340 *eP* **P** **03 53 19.1 -0.6**
HAMF IVmBBB 03 53 20.7
comp=Z,3µm,2.8s
HAMF *eS* **S** **04 01 27.8 -1.6**
HAMF IVMs_BB IVMs_BB 04 20 32.9
comp=Z,2µm,24.0s
ARCES ARCESS Array B 60.39 339 P **P** **03 53 21.2 -0.1**
comp=Z,16nm,0.5s,baz=51,slow=6.7,SNR=85
ARCES LR LR 04 21 57.7
comp=Z,9µm,21.9s,baz=46,slow=38
ARCES ARCESS Array B 60.39 339 P **P** **03 53 21.2 -0.1**
ARCES ARCESS Array B 60.39 339 P **P** **03 53 20.7 -0.7**
ARE0 ARCESS Array S 60.39 339⇑*iP* **P** **03 53 20.9 -0.4**
ARE0 IVmBBB 03 53 22.8
comp=Z,3µm,2.6s
ARE0 *eS* **S** **04 01 31.3 -1.1**
ARE0 IVMs_BB IVMs_BB 04 21 34.4
comp=Z,3µm,23.2s
SKHT Srikalahasti 60.48 262 *eP* **P** **03 53 22.7 0.0**
SKHT IVmB_BB 03 53 25.1
comp=Z,2µm,2.2s
SKHT *eS* **S** **04 01 34.6 -0.2**
SKHT IVMs_BB IVMs_BB 04 17 38.0
comp=Z,769nm,34.3s
KNTN Kanton 60.50 124 P **P** **03 53 22.4 -0.4**
MDRS Chennai 60.51 261 *eP* **P** **03 53 21.8 -1.0**
KLMR Klimovskoe 60.66 327*c iP* **P** **03 53 23.2 -0.1**
KLMR *e* 03 55 37.1
KLMR *eS* **S** **04 01 36.7 +0.8**
KLMR *eSS **SS** **04 05 37.5 +3.3**
KLMR pmax pmax
comp=Z,518nm,1.4s
KLMR MLR MLR
comp=Z,6µm,17.0s
KLMR Klimovskoe 60.66 327⇑*iP* **P** **03 53 23.2 -0.1**
KLMR ⇓*iP* **P** **03 53 23.2 -0.1**
KLMR ⇓*iP* **P** **03 53 23.2 -0.1**
KLMR AMP 03 53 25.6
comp=Z,518nm,1.4s
KLMR *ePP **PP** **03 55 37.1 +0.3**
KLMR *eS* **S** **04 01 36.8 +0.8**
KLMR *eS* **S** **04 01 36.8 +0.8**
KLMR *eSS **SS** **04 05 37.5 +3.3**
KLMR *eSS **SS** **04 05 37.5 +3.3**
KLMR LQ LQ 04 14 35.8
KLMR LQ LQ 04 14 35.8
KLMR LR LR 04 18 22.2
KLMR AMP 04 21 39.7
comp=Z,6µm,16.7s
SANVU Saraoutou 60.87 152 P **P** **03 53 26.8 +1.7**
TULEG Thule 60.93 8 *i* P **P** **03 53 24.6 -0.3**
FITZ Fitzroy Crossi 60.94 198 IAmb IAmb 03 53 28.6
comp=Z,181nm,1.6s
CTAO Charters Tower 61.04 176 P **P** **03 53 27.7 +1.4**
CTAO pmax pmax
comp=Z,44nm,1.1s
CTAO Charters Tower 61.04 176 P **P** **03 53 27.7 +1.4**
WB0 Warramunga Arr 61.05 188 IAmb IAmb 03 53 47.1
comp=Z,104nm,0.8s
WB7 Warramunga Arr 61.13 188 IAMs_20 IAMs_20 04 18 57.2
comp=Z,6µm,22.0s
WC2 Warramunga Arr 61.21 189 IAMs_20 IAMs_20 04 18 58.8
comp=Z,5µm,20.0s
WRAB Tennant Creek 61.22 189*ce*P **P** **03 53 26.9 -0.6**
WRAB pmax pmax
comp=Z,47nm,0.9s
WR0 Warramunga Arr 61.23 188 IAmb IAmb 03 54 18.1
comp=Z,153nm,1.2s
WR8 Warramunga Arr 61.23 188 IAMs_20 IAMs_20 04 18 00.2
comp=Z,6µm,22.0s
WR7 Warramunga Arr 61.23 188 IAMs_20 IAMs_20 04 18 01.2
comp=Z,6µm,22.0s
WB2 Warramunga Arr 61.23 189 IAmb IAmb 03 54 01.6
comp=Z,134nm,1.1s
WR5 Warramunga Arr 61.23 188 IAMs_20 IAMs_20 04 18 01.3
comp=Z,6µm,22.0s
WR1 Warramunga Arr 61.23 189 IAMs_20 IAMs_20 04 18 49.3
comp=Z,6µm,22.0s
WR3 Warramunga Arr 61.23 188 IAMs_20 IAMs_20 04 19 00.3
comp=Z,5µm,22.0s
WRA Warramunga Arr 61.23 189 P **P** **03 53 27.1 -0.5**
comp=Z,42nm,0.7s,baz=7.1,slow=6.8,SNR=128
WRA LR LR 04 20 19.2
comp=Z,1µm,21.9s,baz=10.0,slow=36
WRA PKPPKP 04 22 46.1
comp=Z,2.9nm,1.0s,baz=201,slow=2.5,SNR=5.2
WRA Warramunga Arr 61.23 189 P **P** **03 53 26.5 -1.1**
WRA Warramunga Arr 61.23 189 P **P** **03 53 26.5 -1.1**
WR2 Warramunga Arr 61.23 189 IAMs_20 IAMs_20 04 19 00.3
comp=Z,5µm,22.0s
WC3 Warramunga Arr 61.24 188 IAMs_20 IAMs_20 04 19 00.6
comp=Z,7µm,22.0s
WB1 Warramunga Ar. 61.25 189 IAMs_20 IAMs_20 04 18 50.7
comp=Z,7µm,22.0s
WC4 Warramunga Arr 61.25 189 IAMs_20 IAMs_20 04 18 49.8
comp=Z,7µm,22.0s
URV Uravakonda 61.56 265 *eP* **P** **03 53 29.7 -0.3**
URV IVmB_BB 03 53 31.6
comp=Z,1µm,2.5s
URV *eS* **S** **04 01 47.6 -1.1**
URV IVMs_BB IVMs_BB 04 22 10.4
comp=Z,766nm,16.5s
DAG Danmarks Havn 61.73 355⇑*iP* **P** **03 53 30.3 0.0**
comp=Z,144nm,1.1s
DAG *i* 03 53 47.8
DAG *i* S **S** **04 01 48.5 -0.7**
comp=Z,4µm,23.0s
DAG Danmarks Havn 61.73 355⇑*iP* **P** **03 53 30.3 0.0**
DAG *i* 03 53 47.8
DAG *i* S **S** **04 01 48.5 -0.7**
DAG pmax pmax
comp=Z,140nm,1.1s
DAG MLR MLR
comp=Z,4µm,23.0s
DAG Danmarks Havn 61.73 355⇑*iP* **P** **03 53 30.3 0.0**
DAG IAmb IAmb 03 53 32.1
comp=Z,144nm,1.1s
DAG *i* 03 53 47.8
DAG *i* S **S** **04 01 48.5 -0.7**
DAG IAMs_20 IAMs_20 04 18 55.3
comp=Z,4µm,22.7s
POO Poona 61.94 271 *eP* **P** **03 53 31.1 -1.5**
TRO Tromso 62.05 341⇑*iP* **P** **03 53 32.0 -0.5**
TRO IVmBBB 03 53 33.6
comp=Z,3µm,1.6s
TRO *eS* **S** **04 01 56.3 +3.0**
TRO IVMs_BB IVMs_BB 04 29 05.9
comp=Z,1µm,15.6s
ASHT Ashkhabad 62.30 297 P **P** **03 53 35.3 +0.5**
ASHT pmax pmax
comp=Z,334nm,0.9s
ASHT MLR MLR
comp=Z,18µm,18.0s
ASHT Ashkhabad 62.30 297 P **P** **03 53 35.2 +0.5**
BHUJ Bhuj 62.31 278 *eP* **P** **03 53 33.4 -1.6**
BHUJ IAmb IAmb 03 53 38.0
comp=Z,302nm,0.9s
GEYT Alibeck 62.48 298 P **P** **03 53 36.1 +0.1**
comp=Z,235nm,0.8s,baz=40,slow=2.5,SNR=159
GEYT LR LR 04 23 10.4
comp=Z,20µm,19.0s,baz=55,slow=38
GEYT Alibeck 62.48 298 P **P** **03 53 35.5 -0.6**
A04D Lummi Island 63.41 48 P **P** **03 53 43.4 +1.4**
baz=303,SNR=7.6
NLWA Neilton Lookou 63.47 49 IAmb IAmb 03 54 04.3
comp=Z,156nm,1.0s
NLWA IAMs_20 IAMs_20 04 17 31.6
comp=Z,5µm,22.0s
GOA Goa 63.81 268 *eP* **P** **03 53 44.9 -0.1**
KULLO Kullorsuaq 63.81 6 *i* P **P** **03 53 44.8 +0.6**
comp=Z,10µm,17.0s
KULLO Kullorsuaq 63.81 6 *i* P **P** **03 53 44.8 +0.6**
KULLO MLR MLR
comp=Z,10µm,17.0s
KULLO Kullorsuaq 63.81 6 *i* P **P** **03 53 44.9 +0.6**
KULLO IAMs_20 IAMs_20 04 24 28.5
comp=Z,10µm,17.1s
D03D Eldon 63.84 49 P **P** **03 53 46.6 +1.8**
baz=303,SNR=27
PALK Pallekele 63.96 256 P **P** **03 53 45.4 -0.7**
comp=Z,65nm,0.8s,baz=136,slow=6.3,SNR=20
PALK Pallekele 63.96 256 P **P** **03 53 46.6 +0.5**
PALK P **P** **03 53 46.6 +0.5**

PALK P P 03 53 46.6 +0.5
PALK Pallekele 63.96 256 P P 03 53 45.4 -0.7
PALK Pallekele 63.96 256 P P 03 53 45.4 -0.7
PALK Pallekele 63.96 256 IAMs_20 IAMs_20 04 22 26.2
comp=Z,8µm,21.0s
B05A Bryant 64.00 48 P P 03 53 47.2 +1.4
baz=303,SNR=19
B05A S S 04 02 20.9 +2.5
baz=303
N2IH Innhavet 64.00 340⇑*iP* P 03 53 45.0 -0.5
E03A Lebam 64.11 50 IAMs_20 IAMs_20 04 17 37.4
comp=Z,5µm,22.0s
N2VI Vinje 64.17 341⇑*iP* P 03 53 46.2 -0.4
B06A Marblemount 64.20 47 IAmb IAmb 03 54 06.0
comp=Z,268nm,1.4s
B06A IAMs_20 IAMs_20 04 19 09.7
comp=Z,6µm,22.0s
STEI Steigen 64.21 340⇑*iP* P 03 53 45.5 -1.3
STEI IVmBBB 03 53 48.0
comp=Z,3µm,2.9s
STEI *e*S S 04 02 18.9 -1.5
STEI IVMs_BB IVMs_BB 04 27 10.1
comp=Z,2µm,14.7s
D04E Lakebay 64.22 49 P P 03 53 49.4 +2.2
baz=304
DBG Daneborg 64.22 355⇑*iP* P 03 53 46.5 -0.3
DBG IAmb IAmb 03 53 49.2
comp=Z,88nm,1.2s
DBG IAMs_20 IAMs_20 04 20 11.9
comp=Z,5µm,23.9s
MOS Moscow 64.37 323*αiP* P 03 53 47.2 -0.9
MOS *e* 03 54 16.5
MOS *i* 03 56 06.2
MOS *e*S S 04 02 21.1 -1.6
MOS pmax pmax
comp=Z,3µm,3.2s
MOS pmax pmax
comp=Z,670nm,1.6s
MOS smax smax
comp=E,800nm,5.3s
MOS smax smax
comp=N,2µm,4.4s
MOS MLR MLR
comp=N,6µm,18.0s
MOS MLR MLR
comp=E,5µm,18.0s
MOS MLR MLR
comp=Z,10µm,18.0s
LOF Lofoten 64.48 341⇑*iP* P 03 53 47.5 -1.1
LOF IVmB_BB 03 53 49.2
comp=Z,3µm,4.2s
LOF *e*S S 04 02 27.2 +3.5
LOF IVMs_BB IVMs_BB 04 20 41.2
comp=Z,2µm,27.6s
N2TV T♥rnvik 64.51 340⇑*iP* P 03 53 48.0 -0.9
N2ST Straumen 64.55 340⇑*iP* P 03 53 48.3 -0.8
FAUS Fauske 64.61 340⇑*iP* P 03 53 49.3 -0.1
FAUS IVmBBB 03 53 50.7
comp=Z,3µm,1.3s
FAUS *e*S S 04 02 26.4 +1.1
FAUS IVMs_BB IVMs_BB 04 26 44.1
comp=Z,2µm,18.7s
D05A Enumclaw 64.66 49 IAmb IAmb 03 54 28.6
comp=Z,225nm,1.0s
E04D Cinebar 64.68 49 P P 03 53 52.2 +2.0
baz=304
E04D S S 04 02 30.7 +3.9
baz=304
F04D Rainier, OR 64.69 50 P P 03 53 52.1 +1.7
baz=304
N2SV S♥rvågen 64.79 341⇑*iP* P 03 53 50.4 -0.3
C06D Leavenworth 64.86 48 P P 03 53 53.0 +1.5
baz=304
ASAR Alice Springs 64.96 188 P P 03 53 52.4 +0.1
comp=Z,38nm,0.8s,baz=11,slow=6.3,SNR=198
ASAR pP **sP** 03 54 08.0 -2.4
comp=Z,51nm,0.8s,baz=3.9,slow=5.8,SNR=12
ASAR LR LR 04 21 59.6
comp=Z,5µm,21.9s,baz=353,slow=36
ASAR PKPPKP **P'P'df** 04 22 37.1 +6.4
comp=Z,0.8nm,0.6s,baz=177,slow=2.7,SNR=4.3
ASAR Alice Springs 64.96 188 P P 03 53 52.4 +0.1
ASAR *PP **sP** 03 54 08.0 -2.4
ASAR Alice Springs 64.96 188 P P 03 53 52.1 -0.2
PUL Pulkovo 65.00 329 *e*P P 03 53 52.8 +0.6
PUL Pulkovo 65.00 329*ce*P P 03 53 53.2 +1.1
PUL pmax pmax
comp=Z,265nm,1.0s
PUL MLR MLR
comp=Z,10µm,19.0s
VRH Novokhopyorsk 65.00 317 *e*P P 03 53 52.0 -0.3
VRH *e*SP **sP** 03 54 08.6 -1.8
VRH *e*S S 04 02 25.9 -4.8
VRH pmax pmax
comp=Z,760nm,0.9s
VRH pmax pmax
comp=Z,870nm,0.8s
VRH smax smax
comp=N,470nm,7.9s
VRH MLR MLR
comp=Z,22µm,17.0s
G03D McMinnville, O 65.02 51 P P 03 53 53.9 +1.3
baz=304
N2VA Vr y 65.05 341⇑*iP* P 03 53 52.0 -0.3
F04A Amboy 65.11 50 IAmb IAmb 03 54 31.6
comp=Z,290nm,1.3s
NBB05 Inndyr 65.19 340⇑*iP* P 03 53 53.4 +0.1
OBN Obninsk 65.22 322*ciP* P 03 53 53.5 -0.1
OBN *i* *PP **sP** 03 54 10.2 -1.5
OBN *e* 03 54 24.5
OBN *i* 03 56 12.8
OBN *i* S S 04 02 29.4 -3.8
OBN pmax pmax
comp=Z,263nm,1.0s
OBN MLR MLR
comp=Z,13µm,18.0s
I02D Swisshome 65.29 52 P P 03 53 56.1 +1.7
baz=304
N2RO R st 65.30 341⇑*iP* P 03 53 53.4 -0.6
NBB30 Finnes 65.31 340⇑*iP* P 03 53 54.2 +0.2
COR Corvallis 65.35 52 P P 03 53 55.9 +1.2
COR pmax pmax
comp=Z,482nm,1.6s
COR Corvallis 65.35 52 P P 03 53 55.9 +1.2
COR Corvallis 65.35 52 IAMs_20 IAMs_20 04 17 55.3
comp=Z,5µm,22.0s
LTY Liberty 65.36 48 IAmb IAmb 03 54 14.0
comp=Z,257nm,1.4s
LTY IAMs_20 IAMs_20 04 19 21.5
comp=Z,6µm,22.0s
B08A Colville Reser 65.48 46 IAmb IAmb 03 54 14.6
comp=Z,285nm,1.6s
B08A IAMs_20 IAMs_20 04 19 51.4
comp=Z,5µm,21.0s
FINES FINESS Array B 65.50 332 P P 03 53 55.1 -0.2
comp=Z,185nm,0.7s,baz=50,slow=6.7,SNR=833
FINES pP **sP** 03 54 10.6 -2.8
comp=Z,144nm,0.8s,baz=67,slow=6.4,SNR=9.8
FINES LR LR 04 24 44.5
comp=Z,24µm,20.5s,baz=44,slow=38
FINES FINESS Array B 65.50 332 P P 03 53 55.2 -0.2
FINES *PP **sP** 03 54 10.6 -2.8
FINES FINESS Array B 65.50 332 sP 03 54 10.6 -2.8
FINES FINESS Array B 65.50 332 P P 03 53 54.8 -0.5
LPSR Galich'ya Gora 65.60 319 *e*P P 03 53 55.9 -0.2
LPSR *e*SP **sP** 03 54 12.6 -1.6
LPSR *e*S S 04 02 32.5 -5.4
LPSR pmax pmax
comp=Z,570nm,1.0s
LPSR pmax pmax
comp=Z,940nm,1.1s
LPSR smax smax
comp=N,880nm,9.6s
LPSR MLR MLR
comp=Z,12µm,22.0s
UPNV Upernavik 65.64 6 *i*P P 03 53 55.1 -1.0
UPNV IAmb IAmb 03 53 57.2
comp=Z,117nm,1.0s
UPNV IAMs_20 IAMs_20 04 26 18.8
comp=Z,8µm,17.6s
KEBM Edson Butte 65.69 54 P P 03 53 58.4 +1.3
F05D White Salmon 65.69 50 P P 03 53 58.7 +1.8
baz=305
F05D S S 04 02 40.5 +1.2
baz=305
H04D Lebanon 65.72 51 P P 03 53 58.3 +1.2
baz=304
J01E Myrtle Point 65.77 53 P P 03 53 58.9 +1.5
baz=304
PSA00 Pilbara Seismi 65.80 203 P P 03 53 57.5 -0.2
PSA00 IAmb IAmb 03 54 00.1
comp=Z,126nm,1.0s
I03D Drain, OR 65.82 52 P P 03 53 59.7 +2.0
baz=304,SNR=11
KONS Konsvik 65.84 340 *e*P P 03 53 57.2 -0.3
NBB40 Tonnes 65.85 340⇑*iP* P 03 53 56.1 -1.4
H04A Detroit Lake 65.95 51 IAmb IAmb 03 54 20.0
comp=Z,139nm,1.0s
VORR Voronezh 66.01 318⇑*iP* P 03 53 57.0 -1.8
VORR pmax pmax
comp=Z,550nm,1.2s
G05D Wamic, OR 66.14 50 P P 03 54 01.3 +1.5
baz=305,SNR=6.8
K02D Willamette Mer 66.20 53 P P 03 54 01.9 +1.6
baz=305,SNR=11
JMIC Jan Mayen 66.21 350 IVmB_BB 03 54 02.2
comp=Z,3µm,2.2s
JMIC ⇑*iP* P 03 54 02.3 +2.5
JMIC *e*S S 04 02 50.9 +6.1
JMIC IVMs_BB IVMs_BB 04 24 45.0
comp=Z,1µm,4.7s
E07A Sunnyside 66.22 48 IAmb IAmb 03 54 19.9
comp=Z,269nm,1.4s
VSR Storozhevoye 66.30 318 *e*P P 03 54 00.9 +0.2
VSR *e*SP **sP** 03 54 17.5 -1.3
VSR *e*S S 04 02 40.1 -6.4
VSR pmax pmax
comp=Z,520nm,0.9s
VSR pmax pmax
comp=Z,630nm,1.0s
VSR smax smax
comp=N,190nm,5.0s
VSR MLR MLR
comp=Z,5µm,12.0s
I04A Tendick Farm, 66.32 52 P P 03 54 02.5 +1.5
baz=305,SNR=14
C09A Chrisman Ranch 66.38 47 IAmb IAmb 03 54 20.3
comp=Z,319nm,1.5s
VORD Divnogorie 66.39 318 *e*P P 03 54 01.0 -0.2
VORD *e*SP **sP** 03 54 17.9 -1.4
VORD *e*S S 04 02 42.1 -5.4
VORD pmax pmax
comp=Z,320nm,0.8s
VORD pmax pmax
comp=Z,730nm,1.2s
VORD smax smax
comp=N,2µm,14.0s
VORD MLR MLR
comp=Z,11µm,17.0s
D08A Wollman Farm, 66.45 47 IAmb IAmb 03 54 20.9
comp=Z,293nm,1.5s
MAK Makhachkala 66.48 307*diP* P 03 54 02.6 +0.6
MAK *e* 03 56 31.2
MAK *e*PPP PPP 03 58 03.3
MAK *e*S S 04 02 51.4 +2.4
MAK *e*SS SS 04 07 10.2 +4.5
MAK pmax pmax
comp=Z,732nm,1.5s
MAK MLR MLR
comp=Z,9µm,17.0s
HAWA Hanford 66.50 48 IAmb IAmb 03 54 39.9
comp=Z,192nm,1.3s
HAWA IAMs_20 IAMs_20 04 19 55.5
comp=Z,5µm,22.0s
L02E Cave Junction 66.54 54 P P 03 54 04.1 +1.6
baz=305,SNR=6.1
F07A Phinney Hill Vi 66.56 49 IAmb IAmb 03 54 31.8
comp=Z,279nm,1.4s
SUMG Summit 66.57 0⇑*iP* P 03 54 03.4 +0.9
comp=Z,619nm,0.9s
comp=Z,24µm,21.0s
SUMG Summit 66.57 0⇑*iP* P 03 54 03.4 +0.9
SUMG pmax pmax
comp=Z,620nm,0.9s
SUMG MLR MLR
comp=Z,24µm,21.0s
SUMG Summit 66.57 0 P P 03 54 03.3 +0.7
SUMG Summit 66.57 0⇑*iP* P 03 54 03.4 +0.9
SUMG IAmb IAmb 03 54 05.8
comp=Z,619nm,0.9s
SUMG IAMs_20 IAMs_20 04 24 12.7
comp=Z,24µm,20.9s
XMAS Kiritimati 66.58 109 P P 03 54 03.6 +0.6
XMAS IAmb IAmb 03 54 22.1
comp=Z,181nm,1.1s
I05D Terrebonne, OR 66.64 51 P P 03 54 04.6 +1.5
baz=305,SNR=11
EIDS Eidsvold 66.69 171 P P 03 54 04.0 +0.7
E08A Dider Farm, El 66.71 48 IAmb IAmb 03 54 22.7
comp=Z,225nm,1.5s
E08A IAMs_20 IAMs_20 04 20 02.7
comp=Z,5µm,22.0s
NEW Newport 66.73 46 P P 03 54 04.4 +0.8
baz=306,SNR=40
NEW Newport 66.73 46 IAmb IAmb 03 54 22.6
comp=Z,234nm,1.6s
NEW Newport 66.73 46 IAMs_20 IAMs_20 04 20 55.6
comp=Z,6µm,22.0s
DZM Mont Dzumac 66.79 156 *e*P P 03 54 01.2 -2.9
comp=Z,894nm,1.9s
DZM *e*S S 04 02 49.2 -3.9
comp=Z,2µm,27.6s
DZM *e*SS **SS** 04 07 05.4 -6.8
comp=Z,3µm,28.9s
DZM *e*LR LR 04 14 06.3
comp=Z,15µm,23.1s
DZM Mont Dzumac 66.79 156 P P 03 54 06.0 +1.9
DZM IAmb IAmb 03 54 26.4
comp=Z,353nm,1.7s
J04D Umppqua Nationa 66.82 52 P P 03 54 06.2 +1.7
baz=305
NUUG Nuugaatsiaq 67.07 5 *e*P P 03 54 06.7 +1.5
NUUG IAMs_20 IAMs_20 04 26 52.8
comp=Z,10µm,18.4s
AKT Akhty 67.20 306⇑*iP* P 03 54 07.0 +0.3
AKT *e* 03 54 35.3
AKT *e* 03 56 36.1
AKT *e* 04 03 26.7
AKT pmax pmax
comp=Z,708nm,1.0s
PINE Pine Mountain 67.20 51 IAmb IAmb 03 54 46.6
comp=Z,232nm,1.2s
E09A Wood Farm, Sta 67.20 48 IAmb IAmb 03 54 45.0
comp=Z,244nm,1.2s
VSU Vasula 67.26 329 *e*P P 03 54 07.2 +0.6
L04D Klamath Falls 67.30 53 P P 03 54 08.8 +1.4
baz=306,SNR=34
L04D S S 04 02 58.7 -0.5
baz=306
J05D Fort Rock, OR 67.32 52 P P 03 54 09.0 +1.5
baz=306,SNR=23
J05D S S 04 03 02.0 +2.6
baz=306
MSVF Nonsavu 67.33 143 IAMs_20 IAMs_20 04 17 19.6
comp=Z,7µm,21.0s
YBH Yreka Blue Hor 67.33 54 IAmb IAmb 03 54 27.6
comp=Z,211nm,1.4s
GROC Groznyy 67.37 308 *e*P P 03 54 06.4 -1.2
GROC *e* 03 54 35.1
GROC *e* 03 56 35.8
GROC *e*S S 04 03 02.6 +3.0
GROC pmax pmax
comp=Z,270nm,1.0s
K04D Chiloquin, OR 67.39 53 P P 03 54 09.7 +1.8
baz=306
M02C Callahan 67.44 54 P P 03 54 10.1 +1.9
baz=306,SNR=17
M02C S S 04 03 04.6 +3.8
baz=306
KMRM Mail Ridge 67.59 56 IAmb IAmb 03 54 45.1
comp=Z,137nm,1.2s
KMRM IAMs_20 IAMs_20 04 18 34.2
comp=Z,5µm,22.0s
NSS Namsos 67.67 339 *e*P P 03 54 08.4 -0.8
NSS *e*S S 04 03 00.7 -1.9
NSS IVMs_BB IVMs_BB 04 20 58.3
comp=Z,3µm,33.7s
N02D Trinity Center 67.77 55 P P 03 54 12.1 +1.8
baz=306,SNR=23
N02D S S 04 03 07.4 +2.6
baz=306
M04C Macdoel 67.83 53 P P 03 54 12.3 +1.6
baz=306,SNR=29
K05A Summer Lake 67.85 52 IAmb IAmb 03 54 37.7
comp=Z,274nm,1.2s
GOF Gofitskoye 67.88 311⇑*iP* P 03 54 11.4 +0.6
GOF *e*S S 04 03 29.8 +24
GOF pmax pmax
comp=Z,2µm,1.0s
WALA Waterton Lakes 67.96 44 IAmb IAmb 03 54 44.3
comp=Z,193nm,1.5s
WALA IAMs_20 IAMs_20 04 23 31.8
comp=Z,6µm,21.0s
KCPM Cahto Peak 67.98 56 IAMs_20 IAMs_20 04 18 30.2
comp=Z,5µm,20.0s
F10A Beach Ranch, E 68.04 48 IAmb IAmb 03 54 56.1
comp=Z,170nm,1.5s
F10A IAMs_20 IAMs_20 04 20 44.2
comp=Z,5µm,22.0s
SCO Scoresbysund 68.08 354⇑*iP* P 03 54 12.3 +0.7
comp=Z,5µm,27.0s
SCO Scoresbysund 68.08 354⇑*iP* P 03 54 12.3 +0.7
SCO MLR MLR
comp=Z,5µm,27.0s
SCO Scoresbysund 68.08 354 IAmb IAmb 03 54 30.7
comp=Z,319nm,1.7s
SCO Scoresbysund 68.08 354⇑*iP* P 03 54 12.4 +0.7
SCO IAMs_20 IAMs_20 04 21 07.7
comp=Z,5µm,27.0s
WDC Whiskeytown Da 68.10 55 IAmb IAmb 03 54 31.9
comp=Z,248nm,1.4s
O02D Mt. Diablo Mer 68.19 55 P P 03 54 14.8 +1.8
baz=306,SNR=17
O02D S S 04 03 12.2 +2.4
baz=306
JTMT Jette 68.57 45 IAmb IAmb 03 54 34.7
comp=Z,252nm,1.5s
JTMT IAMs_20 IAMs_20 04 22 19.0
comp=Z,7µm,22.0s
GIRL Giralia 68.61 208 P P 03 54 15.2 -0.2
GIRL IAmb IAmb 03 54 18.9
comp=Z,106nm,1.1s
MOD Modoc Plateau 68.69 53 IAmb IAmb 03 54 35.6
comp=Z,204nm,1.4s
HOPS Hopland Field 68.70 56 IAMs_20 IAMs_20 04 18 29.5
comp=Z,5µm,21.0s
O03E Paynes Creek 68.73 55 P P 03 54 17.4 +1.1
baz=306,SNR=26
O03E S S 04 03 18.1 +1.9
baz=306
ZEI Tsey 68.73 309 *e*P P 03 54 13.6 -2.9
ZEI *e*S S 04 03 12.1 -4.3
ZEI *e*SS SS 04 07 40.1 -0.9
ZEI pmax pmax
comp=Z,270nm,0.8s
ZEI MLR MLR
comp=Z,6µm,17.0s
KIV Kislovodsk 68.74 310 P P 03 54 17.7 +1.3
KIV P P 03 54 17.7 +1.3
KIV P P 03 54 17.7 +1.3
KIV Kislovodsk 68.74 310 *e*P P 03 54 17.1 +0.7
KIV *e* 03 54 40.3
KIV *e*S S 04 03 16.4 +0.1
KIV *e*SS SS 04 07 42.1 +1.2
KIV pmax pmax
comp=Z,3µm,4.0s
KIV MLR MLR
comp=Z,17µm,17.0s
KIV Kislovodsk 68.74 310 IAMs_20 IAMs_20 04 28 32.8
comp=Z,8µm,20.0s
KBZ Khabaz 68.76 310 P P 03 54 17.2 +1.0
comp=Z,454nm,1.0s,baz=56,slow=5.3,SNR=251
KBZ LR LR 04 29 50.4
comp=Z,10µm,18.9s,baz=38,slow=41
KBZ Khabaz 68.76 310*ce*P P 03 54 17.1 +0.8
KBZ pmax pmax
comp=Z,502nm,1.0s
J08A Circle Bar Ran 68.90 51 IAmb IAmb 03 54 37.1
comp=Z,281nm,1.6s
GDXM Geysers 68.99 56 IAmb IAmb 03 54 38.7
comp=Z,245nm,1.5s
GDXM IAMs_20 IAMs_20 04 18 38.0
comp=Z,6µm,21.0s
TBLU Trondheim 69.15 339 *e*P P 03 54 17.3 -1.1
TBLU *e*S S 04 03 20.1 -0.2
TBLU IVMs_BB IVMs_BB 04 30 12.4
comp=Z,2µm,5.1s
IZAR Zarasai 69.31 327 *e*P P 03 54 19.8 +0.3
AFI Afiamalu 69.31 132 IAMs_20 IAMs_20 04 17 40.1
comp=Z,6µm,22.0s
MSO Missoula 69.32 45 P P 03 54 20.4 +0.5
baz=308,SNR=51
MCCM Marconi Confer 69.33 57 IAMs_20 IAMs_20 04 18 32.0
comp=Z,5µm,22.0s
WVOR Wild Horse Val 69.36 51 IAmb IAmb 03 54 39.7
comp=Z,264nm,1.8s
IDID Didziasalis 69.40 327 *e*P P 03 54 20.7 +0.6
MICGM Minsk 69.47 325⇑*e*P P 03 54 18.0 -2.6
MICGM ⇑*e*P P 03 54 21.0 +0.4
MICGM PM 03 54 22.0
comp=Z,4.5nm,2.0s
MICGM PM 03 54 23.0
comp=Z,1.3nm,1.0s
MICGM PM 03 54 24.0
comp=N,0.4nm,1.0s
MICGM *ep*P **pP** 03 54 34.0 +0.4
MICGM *es*P **sP** 03 54 39.0 +0.3
MICGM *e*PPP PPP 03 59 40.0
MICGM *e*S S 04 03 16.0 -8.3
MICGM *es*S **pS** 04 03 42.0 +1.8
MICGM *e*ScS **SKiKP** 04 04 06.0 +1.0
MICGM *e*SS **SS** 04 07 44.0 -7.4
MICGM *e*SSS SSS 04 10 56.0
MICGM *e*LQ LQ 04 19 08.0
MICGM *e*LR LR 04 22 40.0
MICGM LRM MLR 04 27 12.0
comp=N,7.7nm,20.0s
MICGM LRM MLR 04 27 16.0
comp=Z,22nm,20.0s
MICGM LRM MLR 04 27 20.0
comp=E,9.4nm,20.0s
MNK Minsk 69.47 325*αe*P P 03 54 18.0 -2.6
MNK *e**PP **pP** 03 54 34.0 +0.4
MNK *e**SP **sP** 03 54 39.0 +0.3
MNK *e*S S 04 03 16.0 -8.3
MNK *e**SS **pS** 04 03 42.0 +1.8
MNK *e* 04 04 06.0
MNK *e*SSS SSS 04 10 56.0
MNK pmax pmax
comp=Z,5µm,2.0s
MNK pmax pmax
comp=N,350nm,1.0s
MNK pmax pmax
comp=Z,1µm,1.0s
ISAL Salakas 69.48 327 *e*P P 03 54 21.4 +0.9
ILULI Ilulissat 69.50 5⇑*iP* P 03 54 21.4 +0.9
comp=Z,146nm,1.0s
comp=Z,9µm,18.0s
ILULI Ilulissat 69.50 5⇑*iP* P 03 54 21.4 +0.9
ILULI pmax pmax
comp=Z,150nm,1.0s
ILULI MLR MLR
comp=Z,9µm,18.0s
ILULI Ilulissat 69.50 5⇑*iP* P 03 54 21.4 +0.9
ILULI IAmb IAmb 03 54 22.4
comp=Z,146nm,1.0s
ILULI IAMs_20 IAMs_20 04 28 26.4
comp=Z,9µm,18.4s
SLIT Slitere, Latvi 69.54 330 *e*P P 03 54 20.9 0.0
NACGM Naroch 69.67 326 *e*P P 03 54 24.0 +2.3
NACGM PM 03 54 25.0
comp=Z,1.0nm,1.0s
NACGM *e*PP **PP** 03 56 50.0 -5.6
NACGM *e*S S 04 03 27.0 +0.4
NACGM *e*PS **PnS** 04 03 44.0 -13
NACGM *e*SS **SS** 04 07 44.0 -10
NACGM *e*SSS SSS 04 11 27.0
NACGM *e*LQ LQ 04 16 30.0
NACGM *e*LR LR 04 22 12.0
NACGM LRM MLR 04 24 52.0
comp=Z,17nm,24.0s
AKH Akhalkalaki 69.81 308 ⇑P P 03 54 24.7 +1.6
AKH Akhalkalaki 69.81 308 P P 03 54 24.1 +1.0
AKH pmax pmax
comp=Z,264nm,1.0s
AKH MLR MLR
comp=Z,7µm,18.0s
AKH Akhalkalaki 69.81 308 P P 03 54 24.1 +1.0

AKH						IAmb	IAmb	03 54 26.8		
	comp=Z,264nm,1.0s									
AKH						IAMs_20	IAMs_20	04 28 23.0		
	comp=Z,7µm,18.0s									
FFC	**Flin Flon**	**69.89**	**34**			IAMs_20	IAMs_20	04 25 42.2		
	comp=Z,5µm,22.0s									
FCC	**Fort Churchill**	**70.03**	**27**			IAMs_20	IAMs_20	04 28 28.3		
	comp=Z,5µm,20.0s									
ICESG	**Greenland Ices**	**70.06**		**1⇑**	*i*	P	**P**	**03 54 25.0**	**+0.6**	
ICESG						IAmb	IAmb	03 54 26.9		
	comp=Z,300nm,1.0s									
ICESG						IAMs_20	IAMs_20	04 22 58.4		
	comp=Z,10µm,27.9s									
MFID	**Camas Ranch**	**70.39**	**49**			IAmb	IAmb	03 54 46.0		
	comp=Z,268nm,1.8s									
PABE	**Paberze**	**70.40**	**328**		*e*P		**P**	**03 54 26.7**	**+0.5**	
MOL	**Molde**	**70.43**	**340**		*e*P		**P**	**03 54 24.3**	**-1.9**	
MOL					*e*S		**S**	**04 03 36.0**	**+0.7**	
MOL					IVMsBB			04 25 57.8		
	comp=Z,3µm,3.9s									
DOMB	**Dombas**	**70.45**	**339**		*e*P		**P**	**03 54 26.0**	**-0.5**	
DOMB					IVmBBB			03 54 27.7		
	comp=Z,3µm,2.0s									
DOMB					*e*S		**S**	**04 03 36.5**	**+0.8**	
DOMB					IVMs_BB	IVMs_BB		04 28 42.2		
	comp=Z,5µm,21.0s									
WSAR	**Wadi Sarin**	**70.49**	**284**		P		**P**	**03 54 28.3**	**+1.0**	
	SNR=7.6									
PAHR	**Pah Rah Range**	**70.56**	**54**		IAmb	IAmb		03 54 49.1		
	comp=Z,122nm,0.9s									
BANOM	**Banah**	**70.57**	**288**	*i*	P		**P**	**03 54 28.0**	**+0.2**	
	SNR=24									
BANOM	**Banah**	**70.57**	**288**		P		**P**	**03 54 28.7**	**+0.9**	
	SNR=6.7									
BANOM					P		**P**	**03 54 28.7**	**+0.9**	
	SNR=6.7									
JLN	**Jalan Bani Buh**	**70.57**	**283**		P		**P**	**03 54 28.7**	**+0.8**	
	SNR=11									
JLN					P		**P**	**03 54 28.7**	**+0.8**	
	SNR=11									
SHME	**Shamm**	**70.61**	**288**	*i*	P		**P**	**03 54 28.3**	**+0.3**	
	SNR=31									
WBK	**Wadi Bani Khal**	**70.62**	**283**		P		**P**	**03 54 29.1**	**+1.0**	
	SNR=19									
WBK					P		**P**	**03 54 29.1**	**+1.0**	
	SNR=19									
WBK					P		**P**	**03 54 31.0**	**+2.8**	
	SNR=18									
WBK					P		**P**	**03 54 31.0**	**+2.8**	
	SNR=18									
NB201	**NORSAR Array S**	**70.62**	**337**		*e*P		**P**	**03 54 27.4**	**-0.2**	
VCNR	**Virginia City**	**70.65**	**55**		P		**P**	**03 54 29.4**	**+1.0**	
NB2	**NORSAR Subarra**	**70.65**	**337**		P		**P**	**03 54 27.6**	**-0.2**	
	comp=Z,409nm,1.2s,baz=37,slow=6.2									
NB2	**NORSAR Subarra**	**70.65**	**337**		P		**P**	**03 54 27.6**	**-0.2**	
	baz=37,slow=6.2									
NOA	**NORSAR Array B**	**70.65**	**337**		P		**P**	**03 54 27.6**	**-0.2**	
	comp=Z,79nm,0.8s,baz=37,slow=6.1,SNR=141									
NOA					pP		**pP**	**03 54 43.2**	**+2.4**	
	comp=Z,72nm,0.8s,baz=38,slow=6.1,SNR=9.8									
NOA					LR		LR	04 29 36.6		
	comp=Z,5µm,19.4s,baz=35,slow=39									
NOA	**NORSAR Array B**	**70.65**	**337**		P		**P**	**03 54 27.6**	**-0.2**	
NOA					*PP		**pP**	**03 54 43.2**	**+2.4**	
BIDO	**Bidbid**	**70.69**	**285**		P		**P**	**03 54 29.8**	**+1.2**	
	SNR=15									
BIDO					P		**P**	**03 54 29.8**	**+1.2**	
	SNR=15									
BATM	**Batumi**	**70.75**	**309**		⇑P		**P**	**03 54 29.6**	**+0.9**	
EGMT	**Eagleton**	**70.76**	**43**		P		**P**	**03 54 29.3**	**+0.6**	
	baz=311,SNR=67									
EGMT	**Eagleton**	**70.76**	**43**		IAmb	IAmb		03 54 31.5		
	comp=Z,134nm,0.9s									
EGMT					IAMs_20	IAMs_20		04 25 12.7		
	comp=Z,4µm,21.0s									
NC602	**NORSAR Array S**	**70.80**	**337**		IVmB_BB			03 54 28.8		
	comp=Z,4µm,3.9s									
NC602					*e*P		**P**	**03 54 29.4**	**+0.8**	
NC602					*e*S		**S**	**04 03 41.6**	**+2.0**	
NC602					IVMs_BB	IVMs_BB		04 28 08.3		
	comp=Z,5µm,25.0s									
PNTR	**Pine Nut**	**70.81**	**55**		IAmb	IAmb		03 54 51.0		
	comp=Z,168nm,1.0s									
PBUR	**Paburge**	**70.83**	**329**		*e*P		**P**	**03 54 29.3**	**+0.4**	
AKN	**Aaknes**	**70.90**	**340**		*e*P		**P**	**03 54 29.5**	**+0.3**	
AKN					*e*S		**S**	**04 03 38.4**	**-2.4**	
AKN					IVMs_BB	IVMs_BB		04 21 54.8		
	comp=Z,7µm,3.8s									
NAO01	**NORSAR Array S**	**70.91**	**337**		*e*P		**P**	**03 54 29.0**	**-0.2**	
MDH	**Madha**	**70.94**	**287**		*i* P		**P**	**03 54 29.0**	**-1.1**	
	SNR=7.7									
CMB	**Columbia Colle**	**70.96**	**56**		IAmb	IAmb		03 54 49.5		
	comp=Z,189nm,1.4s									
CMB					IAMs_20	IAMs_20		04 19 52.3		
	comp=Z,5µm,21.0s									
DLMT	**Dillon**	**70.97**	**46**		IAmb	IAmb		03 54 33.3		
	comp=Z,116nm,0.8s									
MSFE	**Esma-Masafi**	**71.01**	**287**		*i* P		**P**	**03 54 30.7**	**+0.3**	
	SNR=29									
SMDO	**Samad**	**71.02**	**284**		P		**P**	**03 54 32.3**	**+1.6**	
	SNR=17									
SAO	**San Andreas Ge**	**71.07**	**58**		P		**P**	**03 54 32.3**	**+1.6**	
SAO					pmax	pmax				
	comp=Z,90nm,1.3s									
SAO	**San Andreas Ge**	**71.07**	**58**		P		**P**	**03 54 32.2**	**+1.6**	
SAO					IAMs_20	IAMs_20		04 18 58.1		
	comp=Z,5µm,22.0s									
HLID	**Hailey**	**71.10**	**48**		P		**P**	**03 54 32.1**	**+1.1**	
	baz=309,SNR=66									
ANN	**Anapa**	**71.18**	**313**	*i*	P		**P**	**03 54 31.3**	**+0.2**	
ANN				*e*	*PP		**sP**	**03 54 47.0**	**-2.3**	
ANN				*e*				03 54 48.0		
ANN				*e*				03 57 05.9		
ANN				*e*	PPP	PPP		03 58 47.2		
ANN				*e*	S		**S**	**04 03 42.6**	**-1.9**	
ANN					pmax	pmax				
	comp=N,89nm,0.6s									
ANN					pmax	pmax				
	comp=Z,510nm,0.8s									
ANN					pmax	pmax				
	comp=Z,2µm,2.0s									
ANN					pmax	pmax				
	comp=E,108nm,0.7s									
ANN					MLR	MLR				
	comp=N,7µm,19.0s									
ANN					MLR	MLR				
	comp=Z,8µm,18.0s									
ANN					MLR	MLR				
	comp=E,5µm,18.0s									
UOSS	**Minazif**	**71.22**	**287**		P		**P**	**03 54 32.3**	**+0.6**	
UOSS					P		**P**	**03 54 32.3**	**+0.6**	
HOQ	**Hoqain**	**71.24**	**285**		P		**P**	**03 54 32.5**	**+0.6**	
	SNR=25									
WAKR	**Walker**	**71.27**	**55**		IAMs_20	IAMs_20		04 20 32.2		
	comp=Z,4µm,21.0s									
BOZ	**Bozeman (W)**	**71.34**	**45**		P		**P**	**03 54 33.5**	**+1.1**	
	baz=310,SNR=161									
BOZ	**Bozeman (W)**	**71.34**	**45**		IAmb	IAmb		03 54 35.5		
	comp=Z,112nm,0.8s									
HATD	**Hatta, Dubai**	**71.35**	**287**	*i*	P		**P**	**03 54 32.8**	**+0.3**	
	SNR=48									
HATD	**Hatta, Dubai**	**71.35**	**287**		P		**P**	**03 54 33.4**	**+0.8**	
	SNR=18									
HATD					P		**P**	**03 54 33.4**	**+0.8**	
	SNR=18									
JMDO	**Jabal Madar**	**71.40**	**284**		P		**P**	**03 54 33.5**	**+0.6**	
	SNR=14									
AKASG	**Malin Array Be**	**71.46**	**322**		P		**P**	**03 54 32.7**	**-0.1**	
	comp=Z,104nm,0.6s,baz=44,slow=6.1,SNR=379									
AKASG					LR	LR		04 29 43.4		
	comp=Z,9µm,18.2s,baz=55,slow=39									
AKASG	**Malin Array Be**	**71.46**	**322**		P		**P**	**03 54 32.3**	**-0.5**	
AKASG					pmax	pmax				
	comp=Z,73nm,1.0s									
AKASG	**Malin Array Be**	**71.46**	**322**		P		**P**	**03 54 32.2**	**-0.5**	
AKBB	**Malin Array Si**	**71.46**	**322**	*ce*	P		**P**	**03 54 32.5**	**-0.3**	
AKBB	**Malin Array Si**	**71.46**	**322**		IAmb	IAmb		03 54 34.8		
	comp=Z,250nm,0.9s									
SOHO	**SOHO**	**71.48**	**286**	*i*	P		**P**	**03 54 33.1**	**-0.1**	
	SNR=50									
SOHO	**SOHO**	**71.48**	**286**		P		**P**	**03 54 33.7**	**+0.4**	
ASHO	**Ashiyiah**	**71.49**	**287**	*i*	P		**P**	**03 54 33.6**	**+0.2**	
	SNR=60									
ASHO	**Ashiyiah**	**71.49**	**287**		P		**P**	**03 54 34.1**	**+0.7**	
	SNR=21									
NAZ	**Nazwa, Dubai**	**71.59**	**287**	*i*	P		**P**	**03 54 33.9**	**-0.1**	
	SNR=21									
NAZ	**Nazwa, Dubai**	**71.59**	**287**		P		**P**	**03 54 34.6**	**+0.6**	
	SNR=7.8									
NAZ					P		**P**	**03 54 34.6**	**+0.6**	
	SNR=7.8									
OSL	**Oslo**	**71.69**	**337**	*e*	P		**P**	**03 54 34.2**	**+0.2**	
OSL					IVmB_BB			03 54 35.5		
	comp=Z,5µm,2.9s									
OSL				*e*	S		**S**	**04 03 52.6**	**+2.8**	
OSL					IVMs_BB	IVMs_BB		04 31 26.3		
	comp=Z,4µm,5.4s									
SFJD	**Kangerlussuaq**	**71.72**	**5**	*i*	P		**P**	**03 54 34.8**	**+0.7**	
	comp=Z,9.9nm,1.1s									
SFJD				*i*	S		**S**	**04 03 50.5**	**+0.4**	
	comp=Z,760nm,20.0s									
SFJD	**Kangerlussuaq**	**71.72**	**5**		P		**P**	**03 54 34.7**	**+0.7**	
SFJD					pmax	pmax				
	comp=Z,126nm,1.0s									
SFJD					MLR	MLR				
	comp=Z,12µm,22.0s									
SFJD	**Kangerlussuaq**	**71.72**	**5**		P		**P**	**03 54 34.7**	**+0.7**	
SFJD					IAmb	IAmb		03 54 36.3		
	comp=Z,126nm,1.0s									
SFJD	**Kangerlussuaq**	**71.72**	**5**	*i*	P		**P**	**03 54 34.8**	**+0.7**	
SFJD					IAmb	IAmb		03 54 35.8		
	comp=Z,9.9nm,1.1s									
SFJD				*i*	S		**S**	**04 03 50.6**	**+0.4**	
SFJD					IAMs_20	IAMs_20		04 27 11.2		
	comp=Z,761nm,20.5s									
ARMA	**Armidale**	**71.74**	**172**		P		**P**	**03 54 36.6**	**+2.0**	
ARMA					IAMs_20	IAMs_20		04 21 52.2		
	comp=Z,4µm,22.0s									
KVN	**Kaiserville**	**71.75**	**54**		IAmb	IAmb		03 54 56.5		
	comp=Z,135nm,0.9s									
SKAR	**Skarslia**	**71.78**	**338**	*e*	P		**P**	**03 54 34.9**	**+0.3**	
SKAR					IVmB_BB			03 54 35.6		
	comp=Z,5µm,3.8s									
SKAR				*e*	S		**S**	**04 03 54.5**	**+3.3**	
SKAR					IVMs_BB	IVMs_BB		04 29 22.0		
	comp=Z,4µm,10.5s									
FAQ	**Al Faqa, Dubai**	**71.79**	**287**	*i*	P		**P**	**03 54 35.1**	**0.0**	
	SNR=9.8									
FAQ	**Al Faqa, Dubai**	**71.79**	**287**		P		**P**	**03 54 35.6**	**+0.4**	
	SNR=6.1									
FAQ					P		**P**	**03 54 35.6**	**+0.4**	
	SNR=6.1									
SUW	**Suwalki**	**71.79**	**327**	*i*	P		**P**	**03 54 34.4**	**-0.3**	
SUW				*e*	PcP		**sP**	**03 54 51.6**	**-1.3**	
SUW				*e*	PP		**PP**	**03 57 12.8**	**-1.0**	
SUW				*e*	S		**S**	**04 03 50.0**	**-1.3**	
SUW				*e*	L		L	04 27 51.0		
	comp=Z,14µm,21.4s									
PMPB	**Monarch Peak**	**71.81**	**58**		IAMs_20	IAMs_20		04 19 29.9		
	comp=Z,5µm,22.0s									
BSY	**Bisya**	**71.83**	**285**		P		**P**	**03 54 36.2**	**+0.7**	
	SNR=22									
BSY					P		**P**	**03 54 36.2**	**+0.7**	
	SNR=22									
FOO	**Floro**	**71.90**	**340**	*e*	P		**P**	**03 54 35.8**	**+0.7**	
FOO				*e*	S		**S**	**04 03 54.6**	**+2.4**	
FOO					IVMs_BB	IVMs_BB		04 20 02.4		
	comp=Z,6µm,3.9s									
HYA	**Hoyanger**	**71.96**	**339**	*e*	P		**P**	**03 54 35.8**	**+0.2**	
ARQ	**Araqi**	**71.97**	**285**		P		**P**	**03 54 37.0**	**+0.8**	
	SNR=13									
ARQ					P		**P**	**03 54 37.0**	**+0.8**	
	SNR=13									
NVAR	**Mina Array Bea**	**72.01**	**55**		P		**P**	**03 54 38.0**	**+1.4**	
	comp=Z,35nm,0.8s,baz=295,slow=6.0,SNR=110									
NVAR					LR	LR		04 21 27.1		
	comp=Z,3µm,21.5s,baz=304,slow=32									
NVAR					PKPPKP			04 22 15.0		
	comp=Z,0.5nm,0.8s,baz=116,slow=5.6,SNR=4.0									
NVAR	**Mina Array Bea**	**72.01**	**55**		P		**P**	**03 54 37.3**	**+0.7**	
MDPB	**Devils Postpil**	**72.03**	**56**		IAMs_20	IAMs_20		04 20 27.4		
	comp=Z,5µm,22.0s									
OMMB	**Old Mammoth Mi**	**72.09**	**56**		IAMs_20	IAMs_20		04 20 06.0		
	comp=Z,6µm,22.0s									
ALNE	**Al Ain**	**72.09**	**286**	*i*	P		**P**	**03 54 37.3**	**+0.3**	
	SNR=34									
NV11	**Mina Array Sit**	**72.10**	**54**		IAmb	IAmb		03 54 56.7		
	comp=Z,151nm,1.3s									
MLAC	**Mammoth, Mammo**	**72.18**	**55**		P		**P**	**03 54 39.7**	**+2.1**	
	baz=309,SNR=9.5									
KONO	**Kongsberg**	**72.25**	**337**	*ce*	P		**P**	**03 54 38.8**	**+1.5**	
KONO					pmax	pmax				
	comp=Z,193nm,1.7s									
KONO	**Kongsberg**	**72.25**	**337**		P		**P**	**03 54 37.4**	**+0.1**	
KONO					IAmb	IAmb		03 54 39.6		
	comp=Z,151nm,1.2s									
KONO	**Kongsberg**	**72.25**	**337**	*e*	P		**P**	**03 54 37.3**	**-0.1**	
KONO					IVmBBB			03 54 38.7		
	comp=Z,4µm,2.8s									
KONO				*e*	S		**S**	**04 03 58.9**	**+2.5**	
KONO					IVMs_BB	IVMs_BB		04 21 55.9		
	comp=Z,4µm,4.2s									
KTUT	**Trabzon**	**72.27**	**309**	⇓	P		**P**	**03 54 38.0**	**+0.2**	
AJN	**Ajban**	**72.33**	**287**	*i*	P		**P**	**03 54 38.3**	**-0.1**	
	SNR=7.7									
AJN	**Ajban**	**72.33**	**287**		P		**P**	**03 54 38.9**	**+0.5**	
	SNR=8.3									
AJN					P		**P**	**03 54 38.9**	**+0.5**	
	SNR=8.3									
ELK	**Elko**	**72.41**	**51**		IAmb	IAmb		03 54 59.8		
	comp=Z,289nm,1.9s									
SUE	**Sulen**	**72.43**	**340**	*e*	P		**P**	**03 54 37.2**	**-1.1**	
PAGB	**Antelope Grade**	**72.46**	**58**		IAmb	IAmb		03 54 58.8		
	comp=Z,244nm,1.3s									
PAGB					IAMs_20	IAMs_20		04 21 44.1		
	comp=Z,4µm,20.0s									
VOG	**Valley Oaks Go**	**72.65**	**57**		P		**P**	**03 54 40.4**	**+0.3**	
	baz=309									
STKA	**Stephens Creek**	**72.67**	**181**		P		**P**	**03 54 40.7**	**+0.7**	
	comp=Z,9.7nm,0.7s,baz=344,slow=6.1,SNR=21									
STKA					LR	LR		04 25 51.9		
	comp=Z,3µm,21.9s,baz=10,slow=35									
STKA	**Stephens Creek**	**72.67**	**181**		P		**P**	**03 54 40.8**	**+0.7**	
STKA	**Stephens Creek**	**72.67**	**181**		P		**P**	**03 54 40.8**	**+0.7**	
LKWY	**Lake**	**72.67**	**46**		IAmb	IAmb		03 55 01.3		
	comp=Z,173nm,1.4s									
H17A	**Grant Village**	**72.69**	**46**		P		**P**	**03 54 43.3**	**+2.7**	
	baz=311,SNR=65									
H17A	**Grant Village**	**72.69**	**46**		IAMs_20	IAMs_20		04 26 00.2		
	comp=Z,5µm,22.0s									
FORT	**Forrest**	**72.78**	**193**		P		**P**	**03 54 41.3**	**+0.7**	
FORT					IAmb	IAmb		03 55 05.2		
	comp=Z,148nm,1.1s									
ASK	**Askoy**	**72.80**	**339**	*i*	P		**P**	**03 54 37.5**	**-3.1**	
IMW	**Indian Meadow**	**72.82**	**46**		IAmb	IAmb		03 55 09.4		
	comp=Z,122nm,1.1s									
FLWY	**Flagg Ranch**	**72.83**	**46**		IAmb	IAmb		03 55 02.6		
	comp=Z,444nm,1.9s									
BER	**Bergen**	**72.85**	**339**	⇑	P		**P**	**03 54 41.4**	**+0.5**	
BER					IVmBBB			03 54 46.7		
	comp=Z,5µm,3.6s									
BER				*e*	S		**S**	**04 04 04.8**	**+1.7**	
BER					IVMs_BB	IVMs_BB		04 33 01.1		
	comp=Z,8µm,4.2s									
SIM	**Simferopol'**	**72.88**	**315**	*c*	P		**P**	**03 54 40.8**	**-0.5**	
SIM					pmax	pmax				
	comp=Z,159nm,0.5s									
SMMC	**Simmler**	**72.88**	**58**		P		**P**	**03 54 43.2**	**+1.5**	
	baz=309									
SMMC					S		**S**	**04 04 05.9**	**+1.3**	
	baz=309									
ODD1	**Odda**	**72.89**	**338**	*e*	P		**P**	**03 54 44.5**	**+3.3**	
RLMT	**Red Lodge**	**72.91**	**45**		P		**P**	**03 54 43.0**	**+1.1**	
	baz=312,SNR=42									
RLMT	**Red Lodge**	**72.91**	**45**		IAmb	IAmb		03 55 02.4		
	comp=Z,285nm,1.7s									
RLMT					IAMs_20	IAMs_20		04 25 16.0		
	comp=Z,5µm,21.0s									
TIN	**Tinemaha, Big**	**72.92**	**56**		P		**P**	**03 54 43.7**	**+1.9**	
	baz=309,SNR=6.3									
TIN					S		**S**	**04 04 07.8**	**+2.8**	
	baz=309									
TPAW	**Teton Pass**	**73.08**	**47**		IAmb	IAmb		03 55 23.9		
	comp=Z,180nm,1.1s									
VES	**Vestal, Richgr**	**73.14**	**57**		P		**P**	**03 54 43.9**	**+0.9**	
	baz=309,SNR=13									
VES					S		**S**	**04 04 08.1**	**+0.8**	
	baz=309									
SNOW	**Snow King Moun**	**73.20**	**47**		P		**P**	**03 54 45.3**	**+1.6**	
DGMT	**Dagmar**	**73.22**	**40**		P		**P**	**03 54 43.9**	**+0.6**	
	baz=314,SNR=35									
DGMT	**Dagmar**	**73.22**	**40**		IAmb	IAmb		03 54 45.9		
	comp=Z,164nm,0.9s									
REDW	**Red Top Meadow**	**73.22**	**47**		IAmb	IAmb		03 55 12.8		
	comp=Z,146nm,1.2s									
PKM	**Mcpherson Peak**	**73.27**	**58**		P		**P**	**03 54 45.4**	**+1.4**	
	baz=309									
PKM					S		**S**	**04 04 09.2**	**0.0**	
	baz=309									
CWC	**Cottonwood Cre**	**73.39**	**56**		P		**P**	**03 54 46.0**	**+1.2**	
	baz=309									
CWC					S		**SKiKP**	**04 04 11.7**	**+0.1**	
	baz=309									
LAO	**LASA Array**	**73.44**	**42**		P		**P**	**03 54 45.9**	**+1.1**	
	baz=313,SNR=38									
LAO	**LASA Array**	**73.44**	**42**		IAmb	IAmb		03 54 47.9		
	comp=Z,140nm,1.0s									
AHID	**Auburn Hatcher**	**73.47**	**47**		IAmb	IAmb		03 55 04.3		
	comp=Z,194nm,1.6s									
AHID					IAMs_20	IAMs_20		04 24 19.6		
	comp=Z,5µm,22.0s									
ANGG	**Ammassalik, Gr**	**73.56**	**360**		IAMs_20	IAMs_20		04 28 43.3		
	comp=Z,6µm,20.0s									
ANGG	**Ammassalik, Gr**	**73.56**	**360**	*i*	P		**P**	**03 54 44.3**	**-0.6**	
ANGG					IAmb	IAmb		03 54 46.4		
	comp=Z,45nm,1.0s									
ANGG					IAMs_20	IAMs_20		04 25 37.0		
	comp=Z,8µm,25.0s									
SBC	**Santa Barbara**	**73.61**	**59**		P		**P**	**03 54 47.6**	**+1.8**	
	baz=309									
ISOG	**Isortoq, Green**	**73.63**		**1⇑**	*i*	P	**P**	**03 54 45.1**	**-0.2**	
ISOG					IAmb	IAmb		03 54 47.0		
	comp=Z,120nm,1.1s									
ISOG				*i*				03 55 03.0		
ISOG					IAMs_20	IAMs_20		04 31 15.6		
	comp=Z,5µm,22.2s									
ISA	**Isabella, Lake**	**73.64**	**57**		P		**P**	**03 54 46.3**	**+0.2**	
	baz=309,SNR=7.7									
ISA					S		**S**	**04 04 12.8**	**-0.3**	
	baz=309									
ISA	**Isabella, Lake**	**73.64**	**57**		IAMs_20	IAMs_20		04 20 40.1		
	comp=Z,5µm,22.0s									
HOMB	**Homborsund**	**73.71**	**337**	*i*	P		**P**	**03 54 46.0**	**+0.1**	
R11A	**Troy Canyon, C**	**73.72**	**53**		P		**P**	**03 54 47.8**	**+1.1**	
	baz=310,SNR=62									
R11A					S		**S**	**04 04 14.6**	**+0.4**	
	baz=310									
ARVC	**Arvin**	**73.75**	**58**		P		**P**	**03 54 47.4**	**+0.8**	
	baz=309									
ARVC					S		**S**	**04 04 17.0**	**+2.8**	
	baz=309									
BBOO	**Buckleboo**	**73.83**	**185**		P		**P**	**03 54 47.8**	**+0.9**	
SCZ2	**Santa Cruz Isl**	**73.94**	**59**		P		**P**	**03 54 48.4**	**+0.5**	
	baz=309									
LHI	**Lord Howe Isla**	**73.96**	**165**		IAMs_20	IAMs_20		04 21 36.2		
	comp=Z,4µm,22.0s									
MORW	**Morawa**	**73.98**	**204**		P		**P**	**03 54 48.1**	**+0.3**	
MORW					IAmb	IAmb		03 54 50.5		
	comp=Z,208nm,1.6s									
MPMC	**Manual Prospec**	**74.01**	**56**		P		**P**	**03 54 49.4**	**+1.0**	
	baz=310,SNR=27									
MPMC					S		**S**	**04 04 18.8**	**+1.3**	
	baz=310									
SNART	**Snartemo**	**74.04**	**337**	*e*	P		**P**	**03 54 48.8**	**+0.9**	
SNART	**Snartemo**	**74.04**	**337**	*i*	P		**P**	**03 54 48.5**	**+0.6**	
OSI	**Osito Audit: C**	**74.14**	**58**		P		**P**	**03 54 50.6**	**+1.6**	
	baz=309									
OSI					S		**S**	**04 04 20.4**	**+1.6**	
	baz=309									
OSI	**Osito Audit: C**	**74.14**	**58**		IAMs_20	IAMs_20		04 20 59.4		
	comp=Z,7µm,22.0s									
FURC	**Furnace Creek,**	**74.14**	**55**		P		**P**	**03 54 50.2**	**+1.4**	
	baz=310,SNR=48									
FURC					S		**S**	**04 04 21.0**	**+2.5**	
	baz=310									
BSD	**Bornholm Skovb**	**74.14**	**332**	⇑	*i*	P	**P**	**03 54 48.4**	**-0.1**	
	comp=Z,350nm,1.1s									
BSD					*i*			03 55 05.8		
	comp=Z,16µm,21.0s									
BSD	**Bornholm Skovb**	**74.14**	**332**	⇑	*i*	P	**P**	**03 54 48.4**	**-0.1**	
BSD					*i*			03 55 05.8		
BSD						pmax	pmax			
	comp=Z,350nm,1.1s									
BSD						MLR	MLR			
	comp=Z,17µm,21.0s									
BSD	**Bornholm Skovb**	**74.14**	**332**	⇑	*i*	P	**P**	**03 54 48.4**	**-0.1**	
BSD						IAmb	IAmb	03 54 50.4		
	comp=Z,350nm,1.1s									
BSD					*i*			03 55 05.8		
BSD				⇓	*i*	S	**SKiKP**	**04 04 09.3**	**-2.6**	
BSD						IAMs_20	IAMs_20	04 29 31.6		
	comp=Z,17µm,20.6s									
DUG	**Dugway, Tooele**	**74.17**	**50**		P		**P**	**03 54 50.5**	**+1.2**	
	baz=311,SNR=67									
DUG	**Dugway, Tooele**	**74.17**	**50**		IAmb	IAmb		03 55 09.

GKP eL L 04 29 36.8
comp=Z,7µm,20.6s
PASC Pasadena Art C 74.76 58 IAMs_20 IAMs_20 04 21 38.9
comp=Z,6µm,21.0s
MWC Mount Wilson 74.81 58 IAmb IAmb 03 55 34.8
comp=Z,201nm,1.6s
MWC IAMs_20 IAMs_20 04 21 21.2
comp=Z,6µm,21.0s
SHOC Shoshone, Teco 74.86 56 P **P 03 54 54.2 +1.0**
baz=310,SNR=8.8
SHOC S **S 04 04 29.2 +2.4**
baz=310
GSC Goldstone, Bar 74.92 56 P **P 03 54 54.6 +1.0**
baz=310,SNR=14
GSC S **S 04 04 28.1 +0.6**
baz=310
GSC Goldstone, Bar 74.92 56 IAmb IAmb 03 55 30.7
comp=Z,236nm,1.9s
BZK Bozkurt 74.92 313 ⇑P **P 03 54 54.2 +0.8**
VASR Vaslui 74.96 320 ⇑P **P 03 54 54.2 +0.7**
FMP Fort Macarthur 74.98 58 P **P 03 54 54.4 +0.6**
baz=310
MUD Monsted U'grnd 75.00 335 *i* P **P 03 54 53.9 +0.5**
comp=Z,83nm,0.9s
MUD *i* 03 55 08.6
comp=Z,11µm,27.0s
MUD Monsted U'grnd 75.00 335 *i* P **P 03 54 54.0 +0.5**
MUD IAmb IAmb 03 54 55.8
comp=Z,83nm,0.9s
MUD *i* 03 55 08.6
MUD IAMs_20 IAMs_20 04 28 32.3
comp=Z,11µm,26.6s
BFSC Mount Baldy Ra 75.05 58 P **P 03 54 55.4 +0.9**
baz=310,SNR=15
BFSC S **S 04 04 30.0 +0.9**
baz=310
RRX Edison Barstow 75.07 57 P **P 03 54 55.2 +0.9**
baz=310
CIS Catalina Islan 75.10 59 P **P 03 54 55.6 +1.0**
baz=310
CIS S **S 04 04 31.5 +2.0**
baz=310
RGN Rugen 75.15 332 *e*P **P 03 54 55.4 +1.0**
RGN Rugen 75.15 332 *e*P **P 03 54 55.2 +0.8**
comp=Z,655nm,1.4s,baz=35,slow=5.5
SHPR Sheep Range 75.16 54 IAMs_20 IAMs_20 04 22 36.4
comp=Z,5µm,22.0s
KWP Kalwaria Pacla 75.18 324 *i* P **P 03 54 55.7 +1.0**
KWP *e*PcP **sP 03 55 12.9 -0.1**
KWP *e*PP **PP 03 57 43.2 +0.3**
KWP *e*S **S 04 04 29.3 -0.5**
KWP *e*L L 04 30 40.0
comp=Z,12µm,18.7s
PRAR RASCA 75.21 321 ⇓P **P 03 54 55.0 +0.1**
SCI2 San Clemente I 75.28 59 P **P 03 54 55.7 +0.1**
baz=310
BIR Birlad 75.31 319 ⇑P **P 03 54 57.2 +1.7**
TUQ Turquoise Moun 75.38 56 P **P 03 54 57.4 +1.1**
baz=310,SNR=38
TUQ S **S 04 04 33.8 +1.1**
baz=310
VARL Varlezi 75.45 319 ⇑P **P 03 54 57.1 +0.8**
TLCR 75.47 318 ⇓P **P 03 54 56.8 +0.4**
BUR08 Bucovina Ar. S 75.49 322 IAmb IAmb 03 55 17.7
comp=Z,114nm,0.9s
BURAR Bucovina Array 75.50 322 ⇑P **P 03 54 57.5 +0.7**
BURAR Bucovina Array 75.50 322 P **P 03 54 56.6 -0.1**
BBRC Big Bear Solar 75.51 57 P **P 03 54 58.3 +1.2**
baz=310
BBRC S **S 04 04 34.9 +0.5**
baz=310
HEC Hector,Ludlow 75.51 56 P **P 03 54 58.3 +1.3**
baz=310,SNR=12
HEC S **S 04 04 36.6 +2.5**
baz=310
GHRR 75.56 319 ⇑P **P 03 54 57.9 +1.0**
BIZ Bicaz 75.57 321 ⇑P **P 03 54 57.9 +0.9**
TESR Tescani 75.61 320 ⇑P **P 03 54 57.7 +0.5**
ILGA Ilgaz 75.69 312 IAMs_20 IAMs_20 04 31 18.7
comp=Z,6µm,22.0s
ULM Lac du Bonnet 75.70 34 P **P 03 54 57.5 -0.2**
comp=Z,32nm,0.8s,baz=319,slow=6.9,SNR=24
ULM LR LR 04 31 08.3
comp=Z,4µm,19.5s,baz=326,slow=38
ULM Lac du Bonnet 75.70 34 P **P 03 54 57.5 -0.2**
ULM Lac du Bonnet 75.70 34 IAMs_20 IAMs_20 04 30 49.0
comp=Z,3µm,19.0s
JURR Jurilovca 75.73 318 ⇑P **P 03 54 58.6 +0.6**
SCHL Schela 75.74 319 ⇑P **P 03 54 58.9 +0.9**
MURC Murrieta 75.76 58 P **P 03 54 58.8 +0.5**
baz=310,SNR=7.6
MURC S **S 04 04 37.8 +1.0**
baz=310
CFR Carcaliu 75.82 318 ⇑P **P 03 54 58.5 +0.1**
MDND Maddock 75.83 38 P **P 03 54 59.3 +0.8**
baz=317,SNR=17
MDND S **S 04 04 36.5 -0.5**
baz=317
MDND Maddock 75.83 38 IAmb IAmb 03 55 01.2
comp=Z,226nm,1.0s
MDND IAMs_20 IAMs_20 04 27 42.4
comp=Z,5µm,21.0s
PETR Petresti 75.88 319 ⇑P **P 03 55 00.2 +1.4**
KOLS Kolonicke sedl 75.89 324 *e*P **P 03 54 59.3 +0.5**
KOLS pmax pmax
comp=Z,119nm,1.2s
KOLS Kolonicke sedl 75.89 324 *e*P **P 03 54 59.2 +0.5**
KOLS *e*S **S 04 04 29.7 -8.0**
KOLS *e*L L 04 31 25.8
SHAO Shalim 75.91 282 *i* P **P 03 54 59.7 +0.4**
SNR=5.9
TOPG Topolog 75.91 318 ⇑P **P 03 54 59.6 +0.7**
GMRC Granite Mounta 75.97 56 P **P 03 55 00.8 +1.1**
baz=311,SNR=20
GMRC S **S 04 04 39.2 -0.1**
baz=311
OJC Ojcow 76.00 326 *i* P **P 03 55 00.1 +0.8**
OJC *e*PcP **sP 03 55 17.3 -0.3**
OJC *e*PP **PP 03 57 49.7 0.0**
OJC *e*S **S 04 04 37.5 -1.3**
OJC *e*SS **SS 04 09 33.4 +2.4**
OJC *e*L L 04 31 07.4
comp=Z,18µm,20.1s
VRI Vrincioaia 76.03 319 ⇑P **P 03 55 00.4 +0.8**
K22A Casper 76.04 45 P **P 03 55 00.6 +0.6**
baz=314,SNR=41
K22A S **S 04 04 39.9 0.0**
baz=314
K22A Casper 76.04 45 IAmb IAmb 03 55 41.9
comp=Z,287nm,1.4s
PLOR Plostina 76.08 320 ⇑P **P 03 55 00.7 +0.8**
UZH Uzhgorod 76.10 324 *e*P **P 03 54 59.5 -0.5**
UZH *e* 03 55 14.0
UZH *e* 03 57 52.6
UZH *e*S **S 04 04 37.5 -2.4**
UZH *e*PS PnS 04 05 38.5 +17
UZH *e*SS **SS 04 09 35.2 +2.6**
UZH *e*SSS SSS 04 12 54.4
UZH MLR MLR
comp=N,2µm,18.0s
UZH MLR MLR
comp=E,2µm,18.0s
UZH MLR MLR
comp=Z,1µm,18.0s
TIRR Tirgusor 76.18 318 ⇑P **P 03 55 01.0 +0.5**
TIRR Tirgusor 76.18 318 P **P 03 55 00.3 -0.2**
TIRR pmax pmax
comp=Z,425nm,1.1s
TIRR MLR MLR
comp=Z,36µm,21.0s
TIRR Tirgusor 76.18 318 P **P 03 55 00.2 -0.2**
TIRR Tirgusor 76.18 318 *i* P **P 03 55 00.7 +0.2**
PFO Pinyon Flats O 76.22 57 P **P 03 55 01.8 +0.7**
baz=310,SNR=16
PFO S **S 04 04 40.7 -1.4**
baz=310
E28A Huff 76.23 39 IAmb IAmb 03 55 03.4
comp=Z,136nm,0.9s
E28A IAMs_20 IAMs_20 04 28 57.4
comp=Z,6µm,21.0s
BELC Belle Mtn. Jos 76.26 57 P **P 03 55 01.9 +0.6**
baz=311,SNR=16
BELC S **S 04 04 41.7 -0.8**
baz=311
BMR Baia Mare 76.26 322 ⇓P **P 03 55 02.2 +1.3**
HARR Harsova 76.27 318 ⇑P **P 03 55 01.6 +0.7**
BISRR Bisoca 76.27 319 ⇑P **P 03 55 02.6 +1.5**
TSCT Constanta Port 76.27 317 ⇑P **P 03 55 01.5 +0.5**
CRVS Cervenica-Dubn 76.27 324 *e*P **P 03 55 01.8 +0.8**
CRVS pmax pmax
comp=Z,1µm,2.2s
CRVS Cervenica-Dubn 76.27 324 *e*P **P 03 55 01.8 +0.8**
CRVS *e*S **S 04 04 38.5 -3.4**
CRVS *e*L L 04 31 51.5
109C Camp Elliot, M 76.27 58 P **P 03 55 02.0 +0.8**
baz=310
109C S **S 04 04 43.5 +1.2**
baz=310
109C Camp Elliot, M 76.27 58 IAMs_20 IAMs_20 04 22 41.0
comp=Z,5µm,22.0s
ARCR ARCALIA 76.29 322 ⇑P **P 03 55 02.8 +1.7**
TLBR Topalu 76.31 318 ⇓P **P 03 55 02.3 +1.1**
OZUR 76.33 320 ⇑P **P 03 55 02.8 +1.4**
RSSD Black Hills 76.33 43 P **P 03 55 02.0 +0.3**
baz=315
RSSD Black Hills 76.33 43 P **P 03 55 01.9 +0.3**
RSSD pmax pmax
comp=Z,86nm,1.0s
RSSD Black Hills 76.33 43 P **P 03 55 01.9 +0.3**
RSSD Black Hills 76.33 43 IAMs_20 IAMs_20 04 27 54.1
comp=Z,7µm,22.0s
RWWY Rawlins 76.33 46 IAmb IAmb 03 55 38.4
comp=Z,214nm,1.2s
EFOR EFORIE 76.34 317 ⇑P **P 03 55 02.4 +1.0**
SKMB Sankelmark Bun 76.34 334 *e*P **P 03 55 02.4 +1.1**
comp=Z,825nm,1.5s,baz=35,slow=5.5
CAN Canberra 76.36 174 P **P 03 55 03.3 +1.9**
CAN pmax pmax
comp=Z,148nm,1.6s
CAN Canberra 76.36 174 P **P 03 55 03.2 +1.9**
MFTR Murfatlar 76.38 317 ⇓P **P 03 55 02.5 +0.9**
NIE Niedzica 76.39 325 *i* P **P 03 55 02.9 +1.2**
NIE *e*PcP **sP 03 55 20.3 +0.4**
NIE *e*S **S 04 04 43.1 -0.1**
NIE *e*SKSac **ScS 04 05 14.8 +1.5**
NIE *e*L L 04 31 22.2
comp=Z,8µm,19.8s
CVDA Cernavoda 76.46 318 ⇑P **P 03 55 03.2 +1.2**
MANR Mangalia 76.55 317 ⇑P **P 03 55 03.1 +0.5**
TJX Tijuana 76.55 59 IAMs_20 IAMs_20 04 22 48.4
comp=Z,5µm,21.0s
NEHR Nehoiu 76.56 319 ⇑P **P 03 55 03.8 +1.2**
PGOR Pogoanele 76.59 319 ⇑P **P 03 55 03.6 +0.9**
DMTO DMTO 76.60 282 P **P 03 55 03.0 -0.3**
DOPR Dopca 76.61 320 ⇑P **P 03 55 04.0 +1.0**
NEE2 Needles Airpor 76.63 56 P **P 03 55 04.4 +1.2**
baz=311
NEE2 S **S 04 04 48.6 +2.4**
baz=311
RUE Ruedersdorf 76.63 331 *e*P **P 03 55 04.0 +1.1**
RUE Ruedersdorf 76.63 331 *e*P **P 03 55 03.6 +0.7**
comp=Z,485nm,1.4s,baz=35,slow=5.5
BR131 Keskin Array S 76.63 311 P **P 03 55 04.0 +0.6**
SNR=63
BR131 P **P 03 55 04.0 +0.6**
SNR=63
BRTR Keskin Array B 76.63 311 P **P 03 55 03.9 +0.5**
comp=Z,46nm,0.6s,baz=95,slow=3.7,SNR=119
BRTR pP **sP 03 55 20.4 -1.3**
comp=Z,34nm,0.7s,baz=98,slow=3.5,SNR=9.2
BRTR PP **PP 03 57 57.0 +1.5**
comp=Z,17nm,1.0s,baz=67,slow=5.9,SNR=3.6
BRTR LR LR 04 33 36.0
comp=Z,4µm,19.9s,baz=24,slow=39
BRTR Keskin Array B 76.63 311 P **P 03 55 03.9 +0.5**
BRTR *PP **sP 03 55 20.4 -1.3**
BRTR Keskin Array B 76.63 311 sP 03 55 20.4 -1.3
BRTR Keskin Array B 76.63 311 P **P 03 55 03.1 -0.2**
ISR Istrita 76.66 319 ⇑P **P 03 55 04.4 +1.1**
MLR Muntele Rosu 76.68 320 ⇑P **P 03 55 04.2 +0.7**
MLR Muntele Rosu 76.68 320 P **P 03 55 03.3 -0.2**
MLR pmax pmax
comp=Z,239nm,1.4s
MLR MLR MLR
comp=Z,11µm,20.0s
MLR Muntele Rosu 76.68 320 P **P 03 55 03.3 -0.2**
MLR IAmb IAmb 03 55 06.6
comp=Z,239nm,1.4s
BAR Barrett 76.69 58 IAmb IAmb 03 55 22.7
comp=Z,201nm,1.9s
BAR IAMs_20 IAMs_20 04 22 53.9
comp=Z,6µm,22.0s
BSEG Bad Segeberg 76.69 333 *e*P **P 03 55 03.9 +0.7**
comp=Z,293nm,1.3s,baz=35,slow=5.5
IRM Iron Mountain 76.70 56 P **P 03 55 04.8 +1.1**
baz=311,SNR=17
IRM S **S 04 04 47.9 +0.8**
baz=311
MONP2 Monument Peak 76.71 58 P **P 03 55 04.7 +0.8**
baz=311,SNR=10
MONP2 S **S 04 04 49.7 +2.1**
baz=311
ICOR Ion Corvin 76.74 318 ⇑P **P 03 55 04.9 +1.3**
TKX Tecate 76.80 58 IAMs_20 IAMs_20 04 21 06.0
comp=Z,4µm,21.0s
O20A White River Ci 76.83 48 P **P 03 55 05.1 +0.5**
baz=313,SNR=43
O20A S **S 04 04 48.9 +0.3**
baz=313
O20A White River Ci 76.83 48 IAmb IAmb 03 55 27.6
comp=Z,160nm,1.2s
BC3 Big Chuckawall 76.83 57 P **P 03 55 05.5 +0.9**
baz=311,SNR=18
BC3 S **S 04 04 49.8 +1.1**
baz=311
PSN Preselentsi 76.85 317 *i* P **P 03 55 05.3 +1.0**
CJR Cluj-Napoca 76.92 322 ⇑P **P 03 55 06.1 +1.4**
LANS Liptovska Anna 76.95 325 *e*P **P 03 55 06.3 +1.5**
LANS *e* 03 55 22.0
LANS pmax pmax
comp=Z,85nm,1.3s
LANS Liptovska Anna 76.95 325 *e*P **P 03 55 06.3 +1.5**
LANS *e* 03 55 22.0
SECR 76.95 319 ⇑P **P 03 55 05.0 +0.1**
KSP Ksiaz 76.96 328 *i* P **P 03 55 05.5 +0.8**
KSP *e*PcP **sP 03 55 23.0 -0.1**
KSP *e*PP **PP 03 57 56.7 -1.0**
KSP *e*S **S 04 04 47.5 -1.7**
KSP *e*L L 04 31 32.4
comp=Z,9µm,19.5s
U15A North Rim 76.96 53 IAmb IAmb 03 55 34.2
comp=Z,176nm,1.4s
U15A IAMs_20 IAMs_20 04 23 55.8
comp=Z,5µm,22.0s
LEHL Lehliu 76.98 318 ⇑P **P 03 55 05.6 +0.6**
OKC Ostrava-Krasne 76.98 327 *e*P **P 03 55 05.5 +0.6**
OKC *e* 03 55 22.7
OKC MLR MLR
comp=Z,2µm,18.1s
OKC Ostrava-Krasne 76.98 327 *e*P **P 03 55 05.5 +0.6**
OKC *e*sP **sP 03 55 22.7 -0.5**
OKC *e*S S 04 04 59.0 +9.5
OKC AMS AMS 04 31 20.0
comp=Z,2µm,18.1s
RASA Rasa 77.00 318 ⇑P **P 03 55 05.3 +0.2**
KECS Kecovo 77.01 325 *e*P **P 03 55 05.9 +0.8**
KECS *e* 03 55 21.3
KECS pmax pmax
comp=Z,36nm,1.1s
KECS Kecovo 77.01 325 *e*P **P 03 55 05.9 +0.8**
KECS *e* 03 55 21.3
IKP In-Ko-Pah, Jac 77.06 58 P **P 03 55 06.7 +0.9**
baz=311,SNR=10.0
IKP S **S 04 04 53.7 +2.5**
baz=311
SWSC Sam W. Stewart 77.07 58 P **P 03 55 06.4 +0.7**
baz=311,SNR=5.3
SWSC S **S 04 04 51.7 +0.6**
baz=311
SULR 77.11 319 ⇑P **P 03 55 06.7 +1.0**
VOIR 77.16 320 ⇑P **P 03 55 06.9 +0.8**
AGMN Agassiz Nation 77.18 36 P **P 03 55 05.6 -0.5**
baz=319,SNR=41
AGMN Agassiz Nation 77.18 36 IAMs_20 IAMs_20 04 32 57.1
comp=Z,3µm,20.0s
OSTC Ostas 77.21 328 *e*P **P 03 55 06.7 +0.5**
OSTC *ex* x 03 55 24.8
OSTC *e*PP PP 03 57 46.6 -13
OSTC *e*S **S 04 04 49.4 -2.7**
OSTC AMS AMS 04 31 30.0
comp=Z,10µm,17.5s
CCX Cicese 77.22 59 IAMs_20 IAMs_20 04 23 05.0
comp=Z,4µm,22.0s
PDMCI Parker Dam,Lak 77.23 56 P **P 03 55 07.7 +1.1**
baz=311,SNR=19
PDMCI S **S 04 04 53.1 +0.4**
baz=311
CHVC Chvalec 77.25 328 *e*P **P 03 55 07.2 +0.7**
CHVC *ex* x 03 55 24.7
CHVC *e*PP **PP 03 57 54.6 -5.6**
CHVC *e*S S 04 04 42.9 -10
CHVC AMS AMS 04 31 30.0
comp=Z,9µm,18.7s
NWAO Narrogin (SRO) 77.25 201 P **P 03 55 07.0 +0.6**
NWAO pmax pmax
comp=Z,86nm,1.0s
NWAO Narrogin (SRO) 77.25 201 P **P 03 55 07.0 +0.6**
NWAO Narrogin (SRO) 77.25 201 IAMs_20 IAMs_20 04 23 24.2
comp=Z,3µm,18.0s
MORC Moravsky Berou 77.28 327 ⇑P **P 03 55 07.6 +1.0**
MORC Moravsky Berou 77.28 327 *e*P **P 03 55 07.3 +0.6**
MORC *e*S **S 04 04 51.8 -1.1**
MORC Moravsky Berou 77.28 327 IAmb IAmb 03 55 09.8
comp=Z,216nm,1.0s
RBK Rabkut 77.28 282 P **P 03 55 06.7 -0.4**
RBK P **P 03 55 06.7 -0.4**
DPC Dobruska-Polom 77.33 328 *e*P **P 03 55 07.7 +0.8**
DPC *e* 03 55 25.2
DPC *e*S **S 04 04 46.2 -7.2**
DPC MLR MLR
comp=Z,8µm,18.1s
DPC Dobruska-Polom 77.33 328 *e*P **P 03 55 07.7 +0.8**
DPC *e*sP **sP 03 55 25.2 0.0**
DPC *e*PP **PP 03 57 54.6 -6.3**
DPC *e*S S **04 04 46.2 -7.2**
DPC AMS AMS 04 31 30.0
comp=Z,8µm,18.1s
UPC Upice 77.33 328 *e*P **P 03 55 07.7 +0.8**
UPC *e* 03 55 24.5
UPC *e*S **S 04 04 46.3 -7.0**
UPC MLR MLR
comp=Z,10µm,18.6s
UPC Upice 77.33 328 *e*P **P 03 55 07.7 +0.8**
UPC *e*sP **sP 03 55 24.5 -0.7**
UPC *e*PP PP 03 57 46.6 -14
UPC *e*S **S 04 04 46.3 -7.0**
UPC AMS AMS 04 31 40.0
comp=Z,10µm,18.6s
KRLC Kraliky 77.36 327 *e*P **P 03 55 07.4 +0.3**
KRLC *e* 03 55 24.8
KRLC *e*S **S 04 04 44.8 -9.0**
KRLC MLR MLR
comp=Z,9µm,19.3s
KRLC Kraliky 77.36 327 *e*P **P 03 55 07.4 +0.3**
KRLC *ex* x 03 55 24.8
KRLC *e*PP PP 03 57 49.8 -11
KRLC *e*S **S 04 04 44.8 -9.0**
KRLC AMS AMS 04 31 40.0
comp=Z,9µm,19.3s
ARR Arges 77.41 320 ⇑P **P 03 55 09.0 +1.5**
PV21 Cone Mtn., Par 77.48 50 IAmb IAmb 03 55 35.5
comp=Z,109nm,1.0s
PV23 Carpenter Ridg 77.53 50 IAmb IAmb 03 55 46.5
comp=Z,159nm,1.0s
PHWY Pilot Hill 77.55 46 IAmb IAmb 03 55 28.5
comp=Z,242nm,1.7s
N23A Red Feather La 77.57 46 P **P 03 55 10.1 +1.3**
baz=314,SNR=67
N23A S **S 04 04 57.6 +0.7**
baz=314
N23A Red Feather La 77.57 46 IAmb IAmb 03 55 12.2
comp=Z,184nm,1.3s
N23A IAMs_20 IAMs_20 04 26 45.4
comp=Z,4µm,22.0s
PV14 Lion Creek, Pa 77.58 50 IAmb IAmb 03 55 46.6
comp=Z,182nm,1.1s
PV14 IAMs_20 IAMs_20 04 29 23.9
comp=Z,6µm,22.0s
ESJX Sierra Juarez 77.59 58 IAMs_20 IAMs_20 04 23 08.9
comp=Z,5µm,22.0s
PRD Provadia 77.59 317 *i* P **P 03 55 09.5 +1.1**
PV22 Blue Mesa, Par 77.61 49 IAMs_20 IAMs_20 04 29 58.6
comp=Z,5µm,22.0s
STFAR Stefanesti-Arg 77.62 320 ⇓P **P 03 55 08.6 0.0**
GLA Glamis 77.62 57 P **P 03 55 10.1 +1.3**
baz=311,SNR=6.6
GLA Glamis 77.62 57 IAMs_20 IAMs_20 04 23 11.6
comp=Z,6µm,21.0s
PV20 West Nyswonger 77.63 50 IAMs_20 IAMs_20 04 29 24.3
comp=Z,5µm,22.0s
PV04 Paradox Valley 77.64 50 IAMs_20 IAMs_20 04 29 36.4
comp=Z,6µm,22.0s
PSZ Piszkesteto 77.70 324 ⇑P **P 03 55 10.1 +1.0**
PSZ Piszkesteto 77.70 324 IAmb IAmb 03 55 28.1
comp=Z,228nm,1.1s
PV11 David Mesa, Pa 77.72 50 IAMs_20 IAMs_20 04 29 40.5
comp=Z,6µm,22.0s
VYHS Vyhne 77.72 325 *e*P **P 03 55 10.1 +1.0**
VYHS *e* 03 55 26.3
VYHS *e*S **S 04 04 49.8 -7.8**
VYHS pmax pmax
comp=Z,849nm,2.4s
VYHS MLR MLR
comp=Z,10µm,25.1s
VYHS Vyhne 77.72 325 *e*P **P 03 55 10.1 +1.0**
VYHS *e* 03 55 26.3
VYHS *e*S **S 04 04 49.8 -7.8**
VYHS *e*L L 04 30 59.5
PV18 Skein Mesa, Pa 77.73 50 IAMs_20 IAMs_20 04 30 04.9
comp=Z,4µm,22.0s
PV07 Paradox Valley 77.75 49 IAMs_20 IAMs_20 04 30 01.4
comp=Z,5µm,22.0s
LEWI Lewis, Hebride 77.76 344 *e*P **P 03 55 09.9 +0.7**
PV03 Paradox Valley 77.76 50 IAmb IAmb 03 55 48.4
comp=Z,179nm,1.3s
PV03 IAMs_20 IAMs_20 04 29 28.7
comp=Z,6µm,22.0s
LOT Lotru 77.77 321 ⇓P **P 03 55 09.7 +0.2**
RAZG Razgrad 77.78 318 ⇑P **P 03 55 09.8 +0.2**
ORH Orhaniye 77.83 314 *i* P P 03 55 16.3 +6.4
PV13 Radium Mtn., P 77.84 50 IAMs_20 IAMs_20 04 29 20.9
comp=Z,5µm,22.0s
NRS Narsarsuaq 77.84 4 *i* P **P 03 55 09.2 -0.3**
comp=Z,9µm,22.0s
NRS Narsarsuaq 77.84 4 P **P 03 55 10.6 +1.1**
NRS pmax pmax
comp=Z,71nm,1.0s
NRS MLR MLR
comp=Z,5µm,19.0s
NRS Narsarsuaq 77.84 4 P **P 03 55 10.6 +1.1**
NRS IAMs_20 IAMs_20 04 34 20.6
comp=Z,5µm,19.0s
NRS Narsarsuaq 77.84 4 *i* P **P 03 55 09.3 -0.3**
NRS IAMs_20 IAMs_20 04 29 09.5
comp=Z,9µm,22.3s
BRG Berggiesshubel 77.85 329 ⇑ *i* P **P 03 55 10.2 +0.4**
comp=Z,125nm,1.3s
BRG *i* 03 55 27.6
comp=Z,151nm,1.4s
BRG PP **PP 03 58 01.8 -3.4**
comp=Z,47nm,1.4s
BRG S **S 04 05 00.0 +1.1**
BRG SS **SS 04 10 05.0 +6.1**
comp=Z,8µm,20.6s
comp=N,7µm,23.9s
comp=E,6µm,23.9s
BRG Berggiesshubel 77.85 329 *e*P **P 03 55 10.2 +0.4**
comp=E,163nm,1.4s,baz=35,slow=5.5
HUMR Humele 77.85 319 ⇑P **P 03 55 10.2 +0.3**
DEV Deva 77.86 321 ⇑P **P 03 55 10.6 +0.8**
CLL Collm 77.86 330 ⇑ *i* P **P 03 55 09.9 +0.1**
comp=Z,224nm,1.1s
CLL *e*Pmax 03 55 13.0
CLL *i* PcP **PcP 03 55 18.9 -0.7**
CLL *i* sP **sP 03 55 27.3 -0.8**
CLL *e*PP **PP 03 58 06.0 +0.8**
CLL *e*PPP PPP 03 59 54.0
CLL *e*S **S 04 05 00.0 +1.0**
CLL *e*SKSac **SKKSac 04 05 22.0 +1.5**
CLL *e*pSKSac ScS 04 05 37.0 +12
CLL *e*PS **PnS 04 05 44.0 +0.2**
CLL *e*PPS PPS 04 06 00.0
CLL *e*(SS) 04 10 42.0
CLL *e*SSSS 04 15 48.0
CLL Lmax 04 31 00.0
CLL Collm 77.86 330 ⇑ *i* P **P 03 55 09.9 +0.1**

CLL *i* 03 55 27.3
CLL *e* 03 58 06.0
CLL *eS* **S** **04 05 00.0 +1.0**
CLL pmax pmax
comp=Z,224nm,1.1s
CLL MLR MLR
comp=Z,11µm,22.2s
CLL Collm 77.86 330 *eP* **P** **03 55 09.9 +0.1**
comp=Z,224nm,1.1s,baz=35,slow=5.5
CLL Collm 77.86 330 IAmb IAmb 03 55 28.0
comp=Z,177nm,1.0s
PVCC Panska Ves 77.88 329 *eP* **P** **03 55 10.5 +0.5**
PVCC *e* 03 55 19.9
PVCC *e* 03 58 02.6
PVCC MLR MLR
comp=Z,8µm,17.4s
PVCC Panska Ves 77.88 329 *eP* **P** **03 55 10.5 +0.5**
PVCC *epP* **PcP** **03 55 19.9 +0.2**
PVCC *ePP* **PP** **03 58 02.6 -2.8**
PVCC *eS* S 04 04 46.3 -13
PVCC AMS AMS 04 32 50.0
comp=Z,8µm,17.4s
DRUM Mains of Drumt 77.88 341 *eP* **P** **03 55 09.8 0.0**
DRUM IAmb IAmb 03 55 11.3
comp=Z,97nm,1.0s
PV15 Paradox Valley 77.91 49 IAmb IAmb 03 55 48.5
comp=Z,162nm,1.3s
PV15 IAMs_20 IAMs_20 04 30 17.7
comp=Z,4µm,22.0s
JAVC Velka Javorina 77.93 326 *eP* **P** **03 55 12.1 +1.7**
NRDL Niedersach Rie 77.95 332 *eP* **P** **03 55 10.8 +0.6**
comp=Z,585nm,2.1s,baz=35,slow=5.5
PV01 Paradox Valley 78.00 50 IAmb IAmb 03 55 53.1
comp=Z,167nm,1.6s
PV01 IAMs_20 IAMs_20 04 29 36.1
comp=Z,5µm,21.0s
KAC Achnashellach 78.01 343 *eP* **P** **03 55 10.5 0.0**
COPA Copaceanca 78.02 319 ⇑P **P** **03 55 11.7 +0.8**
VRAC Vranov 78.03 327 ⇑P **P** **03 55 11.9 +1.1**
VRAC Vranov 78.03 327 *eP* **P** **03 55 11.7 +0.9**
VRAC *eS* **S** **04 05 01.6 +0.6**
FBE Freiberg 78.04 330 *eP* **P** **03 55 11.5 +0.7**
comp=Z,280nm,1.4s,baz=35,slow=5.5
ABTO Aybut 78.05 283 P **P** **03 55 11.3 -0.2**
SNR=9.3
ABTO P **P** **03 55 11.3 -0.2**
SNR=9.3
ASSE Asse, Remlinge 78.05 332 *eP* **P** **03 55 11.3 +0.5**
comp=Z,171nm,1.4s,baz=35,slow=5.5
B35A Bob, Littlefor 78.06 34 IAmb IAmb 03 55 12.8
comp=Z,106nm,0.9s
WUAZ Wupatki 78.12 53 P **P** **03 55 13.3 +1.6**
baz=312,SNR=42
WUAZ Wupatki 78.12 53 IAMs_20 IAMs_20 04 24 39.5
comp=Z,5µm,22.0s
SIRR Siria 78.15 322 ⇑P **P** **03 55 12.3 +0.8**
ISK Istanbul-Kandi 78.23 315 P **P** **03 55 12.4 +0.3**
GOPC GO Pecny, Ondr 78.28 328 *eP* **P** **03 55 12.9 +0.7**
GOPC *e* 03 55 29.9
GOPC *eS* **S** **04 05 02.8 -0.9**
GOPC MLR MLR
comp=Z,7µm,17.1s
GOPC GO Pecny, Ondr 78.28 328 *eP* **P** **03 55 12.9 +0.7**
GOPC *esP* **sP** **03 55 29.9 -0.6**
GOPC *ePP* PP 03 57 56.2 -13
GOPC *eS* **S** **04 05 02.8 -0.9**
GOPC AMS AMS 04 32 20.0
comp=Z,7µm,17.1s
SZH Strazhica 78.29 318 *i* P **P** **03 55 12.8 +0.4**
ZIMR 78.29 319 ⇓P **P** **03 55 12.7 +0.3**
PRA Prague 78.30 329 *eP* **P** **03 55 13.0 +0.7**
PRA *e* 03 55 30.0
PRA *eS* **S** **04 04 55.0 -8.8**
PRA MLR MLR
comp=Z,4µm,18.0s
PRA Prague 78.30 329 *eP* **P** **03 55 13.0 +0.7**
PRA *ex* x 03 55 30.0
PRA *eS* **S** **04 04 55.0 -8.8**
PRA AMS AMS 04 32 30.0
comp=Z,4µm,18.0s
KRUC Moravsky 78.31 327 *eP* **P** **03 55 13.1 +0.8**
KRUC *eS* **S** **04 05 04.9 +1.0**
PRU Pruhonice 78.32 329 *eP* **P** **03 55 12.8 +0.4**
PRU *e* 03 55 29.9
PRU *eS* **S** **04 05 01.4 -2.6**
PRU MLR MLR
comp=Z,8µm,18.7s
PRU Pruhonice 78.32 329 *eP* **P** **03 55 12.8 +0.4**
PRU *esP* **sP** **03 55 29.9 -0.8**
PRU *ePP* **PP** **03 58 02.6 -6.5**
PRU *eS* **S** **04 05 01.4 -2.6**
PRU AMS AMS 04 32 30.0
comp=Z,8µm,18.7s
CLZ Clausthal 78.39 332 *eP* **P** **03 55 13.5 +0.7**
comp=Z,421nm,1.5s,baz=35,slow=5.5
NEUB Neuenburg 78.40 331 *eP* **P** **03 55 13.1 +0.3**
comp=Z,289nm,1.2s,baz=35,slow=5.5
TOO Toolangi 78.41 177 P **P** **03 55 13.5 +0.7**
TOO pmax pmax
comp=Z,59nm,1.2s
TOO Toolangi 78.41 177 P **P** **03 55 13.5 +0.7**
TOO IAMs_20 IAMs_20 04 26 46.5
comp=Z,3µm,18.0s
SRO2 Moca 78.47 325 *eP* **P** **03 55 13.8 +0.6**
SRO2 *e* 03 55 30.3
SRO2 pmax pmax
comp=Z,162nm,1.2s
SRO2 Moca 78.47 325 *eP* **P** **03 55 13.8 +0.6**
SRO2 *e* 03 55 30.3
MODS Modra-Piesok 78.47 326 *eP* **P** **03 55 13.6 +0.3**
MODS *e* 03 55 30.3
MODS *eS* **S** **04 05 02.7 -3.1**
MODS pmax pmax
comp=Z,1µm,2.5s
MODS MLR MLR
comp=Z,18µm,20.2s
MODS Modra-Piesok 78.47 326 *eP* **P** **03 55 13.6 +0.3**
MODS *e* 03 55 30.3
MODS *eS* **S** **04 05 02.6 -3.2**
MODS *eL* L 04 32 39.2
113A Mohawk Valley, 78.48 57 IAMs_20 IAMs_20 04 23 39.2
comp=Z,6µm,22.0s
TREC Trest 78.49 328 *eP* **P** **03 55 13.8 +0.4**
TREC *e* 03 55 31.0
TREC *eS* **S** **04 04 57.7 -8.3**
TREC MLR MLR
comp=Z,9µm,20.4s
TREC Trest 78.49 328 *eP* **P** **03 55 13.8 +0.4**
TREC *esP* **sP** **03 55 31.0 -0.7**
TREC *ePP* PP 03 57 56.2 -14
TREC *eS* **S** **04 04 57.7 -8.3**
TREC AMS AMS 04 32 10.0
comp=Z,9µm,20.4s
ISCO Idaho Springs 78.52 47 P **P** **03 55 15.3 +1.2**
baz=315,SNR=53
ISCO Idaho Springs 78.52 47 IAmb IAmb 03 55 34.7
comp=Z,268nm,1.9s
ISCO IAMs_20 IAMs_20 04 31 25.4
comp=Z,4µm,22.0s
VLAD Vladila 78.52 319 ⇑P **P** **03 55 13.9 +0.3**
SPX San Pedro Mart 78.53 59 IAMs_20 IAMs_20 04 23 31.8
comp=Z,4µm,20.0s
ELO Logie Almond 78.58 342 *eP* **P** **03 55 13.7 0.0**
SUSD Miller 78.62 40 P **P** **03 55 14.5 +0.3**
baz=318,SNR=66
SUSD S **S** **04 05 02.1 -5.4**
baz=318
SUSD Miller 78.62 40 IAMs_20 IAMs_20 04 28 50.7
comp=Z,6µm,21.0s
BZS Buzias 78.66 322 ⇑P **P** **03 55 14.7 +0.4**
MVCO Mesa Verde 78.68 50 P **P** **03 55 15.7 +0.8**
baz=314,SNR=38
MVCO Mesa Verde 78.68 50 IAmb IAmb 03 55 34.4
comp=Z,216nm,1.6s
MVCO IAMs_20 IAMs_20 04 29 26.0
comp=Z,3µm,22.0s
TIM Timisoara 78.75 322 ⇑P **P** **03 55 15.4 +0.6**
PBCC Pribram 78.78 329 *eP* **P** **03 55 15.2 +0.3**
PBCC *ex* x 03 55 32.5
GTTG Gottingen 78.78 332 *eP* **P** **03 55 15.4 +0.5**
comp=Z,229nm,1.3s,baz=35,slow=5.5
TANN Tannenbergstha 78.78 330 *eP* **P** **03 55 15.5 +0.5**
comp=Z,862nm,2.2s,baz=35,slow=5.5
TANN *epP* **sP** **03 55 32.9 -0.4**

ESY Stoneypath 78.81 341 *eP* **P** **03 55 14.9 0.0**
WERD Werda 78.81 330 *eP* **P** **03 55 15.5 +0.3**
comp=Z,116nm,1.8s,baz=35,slow=5.5
HERR Herculane 78.83 321 ⇑P **P** **03 55 15.5 +0.2**
F33A 5 Mile Ranch, 78.84 37 IAmb IAmb 03 55 17.5
comp=Z,117nm,1.0s
PLN Plauen 78.84 330 *eP* **P** **03 55 15.8 +0.5**
comp=Z,549nm,2.2s,baz=35,slow=5.5
GUNZ Gunzen 78.87 330 *eP* **P** **03 55 16.0 +0.6**
comp=Z,153nm,1.3s,baz=35,slow=5.5
EDRB Edirne 78.90 317 P **P** **03 55 16.5 +0.8**
IBBN Ibbenburen 78.91 334 *eP* **P** **03 55 15.9 +0.3**
comp=Z,404nm,1.5s,baz=35,slow=5.5
IBBN *epP* **sP** **03 55 33.2 -0.6**
MOX Moxa 78.91 331 *eP* **P** **03 55 16.1 +0.4**
comp=Z,3µm,4.2s,baz=35,slow=5.5
MOX *eL* L 04 32 57.7
comp=Z,10µm,20.0s
WERN Wernitzgrien 78.92 330 *eP* **P** **03 55 16.4 +0.6**
comp=Z,167nm,1.4s,baz=35,slow=5.5
SFX San Felipe 78.93 59 IAMs_20 IAMs_20 04 23 44.4
comp=Z,3µm,20.0s
NKC Novy Kostel 78.94 330 *eP* **P** **03 55 16.0 +0.2**
NKC *e* 03 55 33.2
NKC *eS* **S** **04 05 05.4 -5.2**
NKC MLR MLR
comp=Z,10µm,20.6s
NKC Novy Kostel 78.94 330 *eP* **P** **03 55 16.0 +0.2**
NKC *esP* **sP** **03 55 33.2 -0.9**
NKC *ePP* **PP** **03 58 09.0 -5.3**
NKC *eS* **S** **04 05 05.4 -5.2**
NKC AMS AMS 04 32 10.0
comp=Z,10µm,20.6s
HWQ Hawqa 78.95 306 *eP* **P** **03 55 16.6 +0.3**
EAB Aberfoyle 78.98 342 *eP* **P** **03 55 16.2 +0.3**
BAIL Bailesti 79.02 320 ⇑P **P** **03 55 17.5 +1.1**
PUNG Punghina 79.03 320 ⇓P **P** **03 55 16.1 -0.3**
BANR Banloc 79.06 322 ⇑P **P** **03 55 17.5 +1.0**
LAWE Loch Awe, Argy 79.17 342 *eP* **P** **03 55 17.2 +0.3**
LAWE IAmb IAmb 03 55 19.1
comp=Z,150nm,1.2s
MDVR Moldovita 79.24 321 ⇑P **P** **03 55 17.7 +0.1**
MANZ Manzenberg 79.26 330 *eP* **P** **03 55 18.2 +0.5**
comp=Z,87nm,1.1s,baz=35,slow=5.5
S22A 4UR Ranch, Cre 79.27 49 P **P** **03 55 19.8 +1.6**
baz=314,SNR=65
S22A S **S** **04 05 14.4 -0.8**
baz=314
S22A 4UR Ranch, Cre 79.27 49 IAMs_20 IAMs_20 04 31 31.5
comp=Z,4µm,22.0s
EYMN Ely 79.32 33 P **P** **03 55 17.6 -0.3**
baz=322,SNR=71
EYMN Ely 79.32 33 IAmb IAmb 03 55 19.8
comp=Z,124nm,0.9s
EYMN Ely 79.32 33 IAMs_20 IAMs_20 04 30 33.5
comp=Z,5µm,22.0s
MPEP Malo Peshtene 79.32 319 *i* P **P** **03 55 18.5 +0.5**
Q24A Divide 79.36 47 P **P** **03 55 19.5 +0.8**
baz=315
Q24A S **S** **04 05 16.5 +0.4**
baz=315
Q24A Divide 79.36 47 IAMs_20 IAMs_20 04 31 40.7
comp=Z,4µm,22.0s
PGBU Glenifferbraes 79.36 342 *eP* **P** **03 55 18.4 +0.5**
PGBU IAmb IAmb 03 55 20.5
comp=Z,219nm,1.0s
UBBA Unterbreizbach 79.36 331 *eP* **P** **03 55 18.5 +0.5**
comp=Z,287nm,1.8s,baz=35,slow=5.5
W18A Petrified Fore 79.38 52 P **P** **03 55 20.1 +1.3**
baz=313,SNR=20
W18A Petrified Fore 79.38 52 IAMs_20 IAMs_20 04 25 00.7
comp=Z,5µm,22.0s
BHL Bhannes 79.38 306 *eP* **P** **03 55 19.1 +0.4**
KHC Kasperske Hory 79.39 329 *ceP* **P** **03 55 18.9 +0.6**
KHC pmax pmax
comp=Z,834nm,2.5s
KHC Kasperske Hory 79.39 329 *eP* **P** **03 55 19.0 +0.6**
KHC *esP* **sP** **03 55 35.2 -1.4**
KHC *ePP* PP 03 58 09.0 -9.0
KHC *eS* **S** **04 05 11.6 -3.9**
KHC AMS AMS 04 33 00.0
comp=Z,8µm,17.8s
KHC Kasperske Hory 79.39 329 IAMs_20 IAMs_20 04 33 20.9
comp=Z,3µm,18.0s
ROTZ Rotzenmuhle 79.40 330 *eP* **P** **03 55 19.3 +0.9**
comp=Z,810nm,2.2s,baz=35,slow=5.5
CONA Conrad Observa 79.42 327 *i* P **P** **03 55 19.6 +1.0**
comp=Z,139nm,1.2s,SNR=81
PIX Pinacate 79.47 57 P **P** **03 55 20.0 +1.0**
ESK Eskdalemuir 79.50 341 *eP* **P** **03 55 18.7 -0.1**
ESK IAMs_20 IAMs_20 04 34 35.0
comp=Z,6µm,20.2s
ESK Eskdalemuir 79.50 341 IAMs_20 IAMs_20 04 34 39.8
comp=Z,5µm,19.0s
RCY Rachaya 79.54 305 *eP* **P** **03 55 20.3 +0.7**
MORH Mrgy, Hungar 79.55 324 ⇑*iP* **P** **03 55 19.1 -0.1**
DQRL Deir Qamar 79.56 306 *eP* **P** **03 55 20.3 +0.7**
GEC2 GERESS Array S 79.56 328 *eP* **P** **03 55 19.8 +0.4**
comp=Z,201nm,1.7s,baz=35,slow=5.5
GERES GERESS Array B 79.56 328 P **P** **03 55 19.6 +0.2**
comp=Z,24nm,0.6s,baz=40,slow=5.3,SNR=134
GERES pP **sP** **03 55 35.5 -2.1**
comp=Z,20nm,0.7s,baz=35,slow=4.9,SNR=12
GERES PKKPbc **PKKPbc** **04 14 08.5 +2.4**
comp=Z,0.2nm,0.5s,baz=184,slow=3.7,SNR=3.6
GERES LR LR 04 33 37.1
comp=Z,8µm,18.9s,baz=50,slow=38
GERES GERESS Array B 79.56 328 P **P** **03 55 19.6 +0.2**
GERES *PP **sP** **03 55 35.6 -2.1**
GERES GERESS Array B 79.56 328 sP 03 55 35.5 -2.1
GERES GERESS Array B 79.56 328 P **P** **03 55 18.7 -0.7**
QRWL Qaraoun 79.60 306 *eP* **P** **03 55 20.1 +0.3**
214A Organ Pipe Nat 79.62 57 P **P** **03 55 20.9 +1.0**
baz=312,SNR=16
214A S **S** **04 05 20.5 +2.0**
baz=312
214A Organ Pipe Nat 79.62 57 IAMs_20 IAMs_20 04 24 33.5
comp=Z,5µm,21.0s
EDMD Edmundbyers 79.62 340 *eP* **P** **03 55 18.7 -0.7**
EDMD IAMs_20 IAMs_20 04 28 05.1
comp=Z,8µm,32.3s
WET Wettzell 79.65 329 *eP* **P** **03 55 20.6 +0.9**
comp=Z,239nm,1.3s,baz=35,slow=5.5
SHBL Chebaa 79.70 305 *eP* **P** **03 55 21.1 +0.6**
PGB Panagyurishte 79.70 319 *i* P **P** **03 55 21.2 +1.0**
ISP Isparta 79.71 312 P **P** **03 55 20.6 +0.3**
ISP pmax pmax
comp=Z,272nm,1.4s
ISP MLR MLR
comp=Z,6µm,20.0s
ISP Isparta 79.71 312 P **P** **03 55 20.6 +0.3**
ISP IAmb IAmb 03 55 23.8
comp=Z,272nm,1.4s
ISP IAMs_20 IAMs_20 04 35 08.8
comp=Z,6µm,20.0s
KDZ Kurdzhali 79.73 317 *i* P **P** **03 55 21.5 +1.2**
BUG Bochum--Univer 79.80 333 *eP* **P** **03 55 20.6 +0.2**
comp=Z,274nm,1.4s,baz=35,slow=5.5
BUG *epP* **sP** **03 55 38.0 -0.7**
FRGS Fruska Gora 79.84 323 ⇑*iP* **P** **03 55 21.1 +0.3**
GRA1 Grafenberg Arr 79.84 330 IAmb IAmb 03 55 39.9
comp=Z,263nm,0.9s
GRF Grafenberg Arr 79.84 330 *eP* **P** **03 55 21.7 +0.9**
comp=Z,352nm,1.2s,baz=35,slow=5.5
GRF *eL* L 04 33 26.0
comp=Z,9µm,20.5s
NEWG New Galloway 79.93 341 *eP* **P** **03 55 21.2 +0.1**
ALN Alexandroupoli 79.95 316 P **P** **03 55 21.9 +0.5**
ALN Alexandroupoli 79.95 316 IAmb IAmb 03 55 24.4
comp=Z,264nm,1.2s
ENEZ Enez 80.01 316 P **P** **03 55 22.5 +0.7**
SDCO Great Sand Dun 80.02 48 P **P** **03 55 23.4 +1.2**
baz=315,SNR=44
SDCO Great Sand Dun 80.02 48 P **P** **03 55 23.9 +1.6**
RDO Rodhopi 80.03 317 P **P** **03 55 22.8 +0.9**
RZN Rozhen 80.06 318 *i* P **P** **03 55 23.4 +1.1**
K31A O'Neill 80.07 41 IAMs_20 IAMs_20 04 30 13.0
comp=Z,4µm,21.0s
F36A Milaca 80.07 36 IAMs_20 IAMs_20 04 31 08.6
comp=Z,5µm,22.0s
ARSA Arzberg 80.09 326 *i* P **P** **03 55 22.9 +0.7**
comp=Z,67nm,1.1s,SNR=70
VTS Vitosha 80.11 319 ⇑P **P** **03 55 23.7 +1.2**
VTS Vitosha 80.11 319 P **P** **03 55 23.6 +1.1**
VTS pmax pmax
comp=Z,219nm,0.9s
VTS MLR MLR
comp=Z,9µm,19.0s
VTS Vitosha 80.11 319 P **P** **03 55 23.6 +1.1**
VTS IAmb IAmb 03 55 41.6
comp=Z,219nm,0.9s
VTS Vitosha 80.11 319 *i* P **P** **03 55 23.7 +1.2**
MOA Molln 80.13 327 *eP* **P** **03 55 22.8 +0.5**
comp=Z,116nm,2.2s,SNR=39
LEF Lefka 80.22 308 ⇑P **P** **03 55 23.2 +0.2**
KULA Kula-Manisa 80.26 313 P **P** **03 55 23.4 +0.1**
GAL1 Galloway 80.28 341 *eP* **P** **03 55 23.4 +0.5**
GAL1 IAmb IAmb 03 55 25.3
comp=Z,100nm,0.8s
GAL1 IAMs_20 IAMs_20 04 32 31.3
comp=Z,3µm,20.2s
ECSD EROS Data Cent 80.28 39 P **P** **03 55 23.1 -0.1**
baz=319,SNR=84
ECSD EROS Data Cent 80.28 39 IAmb IAmb 03 55 25.4
comp=Z,110nm,0.9s
HPK Haverah Park 80.31 339 *eP* **P** **03 55 22.4 -0.8**
HPK IAmb IAmb 03 55 27.8
comp=Z,105nm,1.0s
HPK IAMs_20 IAMs_20 04 29 10.8
comp=Z,8µm,25.5s
E38A The Farm, Brul 80.35 34 IAmb IAmb 03 55 25.2
comp=Z,128nm,1.0s
E38A IAMs_20 IAMs_20 04 31 15.8
comp=Z,4µm,22.0s
CLGH Cloghs, Cushen 80.41 342 *eP* **P** **03 55 23.6 0.0**
CLGH IAmb IAmb 03 55 26.0
comp=Z,119nm,0.9s
TNS Taunus Mts 80.41 332 *eP* **P** **03 55 24.3 +0.4**
comp=Z,315nm,1.8s,baz=35,slow=5.5
KOGS Kog 80.42 325 *eP* **P** **03 55 23.9 0.0**
TEKS Tekeris 80.43 322 ⇑*iP* **P** **03 55 24.2 +0.2**
SMTH Samothraki Isl 80.53 316 P **P** **03 55 24.3 -0.3**
GADA Gvkgeada 80.54 316 P **P** **03 55 24.3 -0.3**
DIVS Divibare 80.56 322 ⇑*iP* **P** **03 55 25.0 +0.2**
EZN Ezine 80.58 315 P **P** **03 55 25.2 +0.4**
AHRW Bad Neuenahr-A 80.62 333 *eP* **P** **03 55 25.3 +0.4**
comp=Z,193nm,1.3s,baz=35,slow=5.5
AHRW *epP* **sP** **03 55 42.9 -0.3**
MMB Musomiste 80.63 318 *i* P **P** **03 55 26.1 +0.9**
TUC Tucson 80.65 55 P **P** **03 55 26.5 +1.1**
baz=313
TUC Tucson 80.65 55 P **P** **03 55 26.6 +1.1**
TUC pmax pmax
comp=Z,190nm,1.8s
TUC Tucson 80.65 55 P **P** **03 55 26.6 +1.2**
TUC Tucson 80.65 55 IAMs_20 IAMs_20 04 25 04.6
comp=Z,5µm,22.0s
KAVA Kavala 80.67 317 P **P** **03 55 25.5 +0.2**
KSCO Kaye Shedlock' 80.70 46 P **P** **03 55 26.2 +0.4**
baz=316,SNR=14
KSCO S **S** **04 05 27.1 -2.8**
baz=316
KSCO Kaye Shedlock' 80.70 46 IAmb IAmb 03 55 45.4
comp=Z,240nm,1.4s
NVR Nevrokopi 80.74 318 P **P** **03 55 26.2 +0.4**
KKB Krupnik 80.75 319 *i* P **P** **03 55 26.7 +0.9**
SOKA Soboth 80.75 326 *i* P **P** **03 55 26.1 +0.3**
comp=Z,259nm,1.1s,SNR=168
WACR West Acre 80.78 338 *eP* **P** **03 55 25.2 -0.4**
WACR IAmb IAmb 03 55 27.8
comp=Z,245nm,1.1s
WACR IAMs_20 IAMs_20 04 32 39.4
comp=Z,11µm,23.7s
IOMK Kirk Michael 80.79 341 *eP* **P** **03 55 26.1 +0.4**
IOMK IAMs_20 IAMs_20 04 35 34.6
comp=Z,9µm,20.6s
RJOB Jochberg 80.82 328 *eP* **P** **03 55 26.0 -0.1**
comp=Z,195nm,1.1s,baz=35,slow=5.5
SOCY Socotra 80.82 278 P **P** **03 55 25.1 -1.5**
LBWR Ladybower, Pea 80.84 339 *eP* **P** **03 55 26.2 +0.2**
LBWR IAmb IAmb 03 55 28.3
comp=Z,166nm,1.0s
LBWR IAMs_20 IAMs_20 04 34 26.4
comp=Z,6µm,19.7s
THAS Thassos island 80.85 317 P **P** **03 55 26.5 +0.2**
BEBN Eben Emael 80.88 334 P **P** **03 55 26.2 0.0**
BEBN sP **sP** **03 55 43.8 -0.8**
SPMN Marine on St. 80.89 36 P **P** **03 55 26.1 -0.3**
baz=321,SNR=28
SPMN Marine on St. 80.89 36 IAMs_20 IAMs_20 04 31 34.2
comp=Z,5µm,22.0s
WIM Isle of Man 80.92 341 *eP* **P** **03 55 26.4 0.0**
MEM Membach 80.93 334 P **P** **03 55 26.5 0.0**
MEM sP **sP** **03 55 43.6 -1.2**
PTJ Puntijarka 80.96 325 P **P** **03 55 26.7 -0.2**
BBLS Lazići 81.01 322 ⇑*iP* **P** **03 55 27.9 +0.7**
ZAG Zagreb 81.02 325 P **P** **03 55 27.0 -0.1**
PRK Paraskevi 81.03 315 P **P** **03 55 28.4 +1.1**
SRS Serrai 81.05 318 P **P** **03 55 27.5 +0.1**
T25A Trinidad 81.06 48 P **P** **03 55 28.6 +0.9**
baz=316,SNR=46
FUR Furstenfeldbru 81.06 329 *eP* **P** **03 55 28.1 +0.7**
comp=Z,352nm,1.2s,baz=35,slow=5.5
OBKA Obir 81.09 326 *eP* **P** **03 55 27.8 +0.2**
comp=Z,69nm,0.7s,SNR=72
OBKA *ePP* **PP** **03 58 33.8 +1.5**
comp=Z,57nm,1.3s
BSTI Sart Tilman 81.10 334 P **P** **03 55 27.5 0.0**
BSTI sP **sP** **03 55 45.3 -0.4**
KBA Koelnbreinsper 81.13 327 *eP* **P** **03 55 28.2 +0.3**
comp=Z,167nm,1.1s,SNR=114
LIA Limnos Island 81.13 316 P **P** **03 55 27.7 -0.1**
GMM Mts of Mourne 81.14 342 *eP* **P** **03 55 27.6 0.0**
BHOU Houvegnez 81.15 333 P **P** **03 55 28.0 +0.2**
BHOU sP **sP** **03 55 45.6 -0.5**
SCHQ Schefferville 81.19 17 P **P** **03 55 28.1 +0.2**
comp=Z,67nm,0.9s,baz=349,slow=5.5,SNR=43
SCHQ LR LR 04 35 52.6
comp=Z,3µm,20.1s,baz=337,slow=39
SCHQ Schefferville 81.19 17 P **P** **03 55 28.3 +0.4**
SCHQ IAMs_20 IAMs_20 04 38 08.9
comp=Z,3µm,19.0s
RUDO Rudo 81.22 322 *eP* **P** **03 55 27.9 -0.3**
D41A Chassel 81.23 32 IAmb IAmb 03 56 07.2
comp=Z,162nm,1.2s
D41A IAMs_20 IAMs_20 04 38 22.9
comp=Z,3µm,19.0s
BLCB Balcova 81.23 314 P **P** **03 55 28.5 +0.1**
CRES Cresnjev 81.25 326 *i* P **P** **03 55 28.5 +0.1**
CRES Cresnjev 81.25 326 ⇑*iP* **P** **03 55 28.4 +0.1**
BGNE Belgrade 81.27 41 P **P** **03 55 28.5 -0.1**
baz=318,SNR=19
BGNE Belgrade 81.27 41 IAmb IAmb 03 55 30.6
comp=Z,204nm,0.8s
BGNE IAMs_20 IAMs_20 04 32 24.9
comp=Z,5µm,22.0s
SIGR SIGRI 81.27 315 P **P** **03 55 28.6 0.0**
CWF Charnwood Fore 81.31 339 *eP* **P** **03 55 28.1 -0.4**
CWF IAmb IAmb 03 55 30.6
comp=Z,280nm,1.9s
CWF IAMs_20 IAMs_20 04 28 08.5
comp=Z,9µm,35.1s
STIP Stip 81.32 319 ⇑*iP* **P** **03 55 28.3 -0.5**
STIP *iS* **S** **04 05 43.3 +7.4**
BCLA Clavier 81.33 334 P **P** **03 55 28.3 -0.3**
comp=Z,87nm,1.7s
BLY Banja Luka 81.34 324 ⇑*iP* **P** **03 55 29.0 +0.2**
STU Stuttgart 81.35 331 *eP* **P** **03 55 29.2 +0.4**
comp=Z,242nm,1.2s,baz=35,slow=5.5
STU Stuttgart 81.35 331 IAmb IAmb 03 55 47.5
comp=Z,148nm,0.9s
FETY Fethiye 81.36 312 P **P** **03 55 28.5 -0.6**
MYKA Terra Mystica 81.36 327 *eP* **P** **03 55 28.5 -0.5**
comp=Z,132nm,1.1s,SNR=56
MYKA *ePP* **PP** **03 58 35.8 +1.3**
comp=Z,64nm,1.3s
SOH Sokhos 81.39 318 P **P** **03 55 29.1 -0.1**
VAY Valandovo 81.41 319 ⇑*iP* **P** **03 55 30.0 +0.7**
VAY *i* S **S** **04 05 36.6 -0.3**
OUR Ouranopolis 81.43 317 P **P** **03 55 29.5 +0.1**
PLE Pljevlja 81.43 322 ⇓*iP* **P** **03 55 29.2 -0.3**
BGES Gesves 81.43 334 P **P** **03 55 28.6 -0.6**
BGES sP **sP** **03 55 46.4 -1.1**
ANMO Albuquerque 81.44 51 P **P** **03 55 31.3 +1.5**
baz=315
ANMO Albuquerque 81.44 51 P **P** **03 55 30.5 +0.7**
ANMO MLR MLR
comp=Z,3µm,21.0s
ANMO Albuquerque 81.44 51 P **P** **03 55 30.5 +0.7**
ANMO Albuquerque 81.44 51 IAMs_20 IAMs_20 04 31 18.1

comp=Z,3µm,21.0s
YER Yerkesik 81.45 312 P **P** **03 55 30.2 +0.6**
LJU Ljubljana 81.47 326 *i* P **P** **03 55 29.4 -0.1**
LJU *i* PcP **PcP** **03 55 34.3 -1.1**
LJU *e* 03 55 46.9
LJU *e*S **S** **04 05 35.2 -2.1**
LJU Ljubljana 81.47 326⇑ *i*P **P** **03 55 29.4 -0.1**
SKO Skopje 81.48 320⇑ *i*P **P** **03 55 30.7 +1.1**
SKO *i* S **S** **04 05 38.6 +1.0**
WME Myndd Eilian 81.51 341 *e*P **P** **03 55 29.5 0.0**
VISS Visnje 81.53 326 *i* P **P** **03 55 29.7 -0.1**
VISS *i* PP **PP** **03 58 39.2 +3.4**
VISS *e*S **S** **04 05 35.9 -2.1**
IVA Berane 81.54 321⇓ *i*P **P** **03 55 30.1 0.0**
I37A Lemond, Waseca 81.56 37 IAmb IAmb 03 55 32.5
comp=Z,226nm,1.1s
SNF Seneffe 81.59 334 P **P** **03 55 30.0 0.0**
SNF sP **sP** **03 55 47.7 -0.7**
BMRD Maredsous 81.61 334 P **P** **03 55 30.1 0.0**
BMRD sP **sP** **03 55 47.7 -0.7**
WATA Walderalm 81.62 329 *i* P **P** **03 55 30.9 +0.4**
comp=Z,234nm,1.6s,SNR=75
WATA *e*PP **PP** **03 58 38.4 +1.6**
comp=Z,32nm,1.0s
WLF1 Llynfaes 81.63 341 *e*P **P** **03 55 30.2 0.0**
WLF1 IAmb IAmb 03 55 33.8
comp=Z,166nm,1.1s
WLF1 IAMs_20 IAMs_20 04 35 57.9
comp=Z,10µm,18.8s
MGRS Mrkonjic Grad 81.64 324⇑ *i*P P 03 55 40.4 +10
WTTA Wattenberg 81.66 329 *i* P **P** **03 55 31.2 +0.5**
comp=Z,95nm,0.7s,SNR=66
WTTA *e*PP **PP** **03 58 38.7 +1.7**
comp=Z,55nm,1.2s
PLG Polygyros 81.67 317 P **P** **03 55 30.5 -0.2**
HORT Hortiatis 81.68 318 P **P** **03 55 30.4 -0.4**
WLF Walferdange 81.68 333 P **P** **03 55 31.0 +0.5**
WLF sP **sP** **03 55 49.5 +0.6**
WLF Walferdange 81.68 333 *e*P **P** **03 55 31.3 +0.7**
comp=Z,194nm,1.8s,baz=35,slow=5.5
WLF Walferdange 81.68 333 IAmb IAmb 03 55 50.5
comp=Z,180nm,1.2s
FOEL Foel Wylfa 81.69 340 *e*P **P** **03 55 31.1 +0.5**
FOEL IAmb IAmb 03 55 33.9
comp=Z,147nm,0.8s
FOEL IAMs_20 IAMs_20 04 35 15.8
comp=Z,6µm,20.4s
ZOU Zoufplan 81.70 327 IAmb IAmb 03 55 32.6
comp=Z,184nm,1.3s
YRC Rhoscolyn 81.71 341 *e*P **P** **03 55 31.3 +0.7**
PVY Plav 81.72 321⇑ *i*P **P** **03 55 31.3 +0.2**
THE Thessaloniki 81.73 318 P **P** **03 55 30.2 -0.7**
L34A Svendsen Farm, 81.73 40 IAmb IAmb 03 55 32.9
comp=Z,102nm,0.8s
L34A IAMs_20 IAMs_20 04 37 57.8
comp=Z,3µm,20.0s
ROBS Robic 81.73 327 *i* P **P** **03 55 30.0 -0.9**
ABTA Abfaltersbach 81.73 328 *i* P **P** **03 55 30.4 -0.6**
comp=Z,90nm,1.1s,SNR=49
ABTA *e*PP **PP** **03 58 38.5 +1.0**
comp=Z,30nm,1.5s
KOME Kolasin 81.74 321⇑ *i*P **P** **03 55 31.0 -0.1**
VOJS Vojsko 81.75 327 *i* P **P** **03 55 30.3 -0.8**
VOJS *e* 03 55 47.8
CEY Cerknica 81.75 326⇑ *i*P **P** **03 55 30.8 -0.2**
UPM Unac-Piva 81.75 322⇓ *i*P **P** **03 55 30.7 -0.6**
UPM Unac-Piva 81.75 322⇑ *i*P **P** **03 55 30.9 -0.4**
COWI Conover 81.77 33 IAMs_20 IAMs_20 04 34 33.3
comp=Z,4µm,19.0s
CHOS Chios Island 81.77 315 P **P** **03 55 31.4 +0.1**
MOTA Moosalm 81.80 329 *e*P **P** **03 55 31.9 +0.4**
comp=Z,217nm,1.0s,SNR=115
MOTA *e*PP **PP** **03 58 39.4 +1.2**
comp=Z,41nm,1.2s
RETA Reutte 81.82 329 *e*P **P** **03 55 31.9 +0.5**
comp=Z,170nm,1.0s,SNR=71
SMG Samos 81.84 314 P **P** **03 55 31.5 -0.1**
DOU Dourbes 81.84 334 P **P** **03 55 31.2 -0.1**
DOU sP **sP** **03 55 48.6 -1.1**
BCI Bajram Curri 81.84 321 *i* P **P** **03 55 34.3 +2.7**
LLW Llanuwchllyn 81.85 340 *e*P **P** **03 55 31.6 +0.3**
LLW IAmb IAmb 03 55 33.8
comp=Z,80nm,1.2s
LLW IAMs_20 IAMs_20 04 33 34.5
comp=Z,3µm,21.5s
SQTA Sankt Quirin 81.86 329 *e*P **P** **03 55 32.2 +0.5**
comp=Z,102nm,0.9s,SNR=59
SQTA *e*PP **PP** **03 58 39.9 +1.2**
comp=Z,65nm,1.2s
BNM Barren Site 81.89 51 P **P** **03 55 33.6 +1.3**
UBR Ueberruh 81.91 330 *e*P **P** **03 55 32.3 +0.4**
comp=Z,195nm,1.6s,baz=35,slow=5.5
HLM1 Long Mynd 81.94 339 *e*P **P** **03 55 32.1 +0.3**
HLM1 IAMs_20 IAMs_20 04 28 41.7
comp=Z,8µm,29.8s
NKY Niksic 82.01 322⇑ *i*P **P** **03 55 32.3 -0.3**
BFO Black Forest 82.04 331 *e*P **P** **03 55 32.9 +0.4**
comp=Z,336nm,1.5s,baz=35,slow=5.5
BODT Bodrum 82.04 313 P **P** **03 55 32.6 -0.1**
STAL STALIGIAL 82.05 327 P **P** **03 55 31.6 -1.0**
TRI Trieste 82.05 326 IAmb IAmb 03 55 34.1
comp=Z,184nm,1.0s
RIY Rijeka 82.06 326 P **P** **03 55 31.1 -1.5**
RAR Rarotonga 82.06 127 P **P** **03 55 33.3 +0.5**
RAR pmax pmax
comp=Z,365nm,1.9s
RAR Rarotonga 82.06 127 P **P** **03 55 33.3 +0.5**
RAR IAmb IAmb 03 55 53.5
comp=Z,365nm,1.9s
RAR Rarotonga 82.06 127 IAMs_20 IAMs_20 04 22 54.0
comp=Z,6µm,22.0s
NKME Niksic 82.07 322⇑ *i*P **P** **03 55 32.7 -0.1**
CIMO Cimolais 82.11 327 IAmb IAmb 03 55 50.2
comp=Z,128nm,1.2s
N33A J Bar K, Exete 82.13 41 IAMs_20 IAMs_20 04 32 42.5
comp=Z,4µm,21.0s
DAT Datca 82.14 313 P **P** **03 55 32.8 -0.5**
BRY Bratogost 82.16 322⇑ *i*P **P** **03 55 33.0 -0.4**
BRY Bratogost 82.16 322⇑ *i*P **P** **03 55 33.0 -0.4**
DSB Dublin 82.16 342 IAmb IAmb 03 55 52.0
comp=Z,121nm,1.0s
DSB IAMs_20 IAMs_20 04 36 16.1
comp=Z,4µm,22.0s
PUK Puka 82.18 321 *i* P **P** **03 55 33.7 +0.3**
PDG Podgorica 82.18 321⇑ *i*P **P** **03 55 33.6 +0.3**
PDG Podgorica 82.18 321⇑ *i*P **P** **03 55 33.4 +0.1**
PDG Podgorica 82.18 321 IAmb IAmb 03 55 35.8
comp=Z,222nm,0.9s
TTG Podgorica 82.18 321⇑ *i*P **P** **03 55 33.6 +0.3**
PHP Peshkopia 82.19 320 P **P** **03 55 33.5 +0.1**
PHP Peshkopia 82.19 320 *i* P **P** **03 55 33.5 +0.1**
ARG Arkhangelos 82.20 312 P **P** **03 55 33.7 +0.2**
SKY Skiros Island 82.21 316 P **P** **03 55 32.9 -0.6**
FETA Feichten 82.22 329 *e*P **P** **03 55 34.0 +0.3**
comp=Z,108nm,0.9s,SNR=59
FETA *e*PP **PP** **03 58 35.8 -5.8**
comp=Z,24nm,1.1s
319A Douglas 82.22 55 IAMs_20 IAMs_20 04 26 15.2
comp=Z,5µm,21.0s
CEME Cevo 82.25 321⇑ *i*P **P** **03 55 33.7 -0.1**
DAVA Damuels 82.32 330 *e*P **P** **03 55 34.4 +0.2**
comp=Z,197nm,0.9s,SNR=74
121A Cookes Peak, D 82.33 53 P **P** **03 55 36.1 +1.6**
baz=314,SNR=12
AOS Alonnisos 82.34 316 P **P** **03 55 33.7 -0.5**
LIT Litokhoron 82.36 318 P **P** **03 55 33.9 -0.5**
TREB Trebinje 82.39 322⇑ *i*P **P** **03 55 33.3 -1.1**
CBKS Cedar Bluff 82.39 44 P **P** **03 55 34.0 -0.5**
baz=318,SNR=14
CBKS Cedar Bluff 82.39 44 IAmb IAmb 03 56 02.0
comp=Z,134nm,1.1s
DRME Dracevica, Mon 82.40 321⇑ *i*P **P** **03 55 34.7 +0.2**
DRME Dracevica, Mon 82.40 321⇑ *i*P **P** **03 55 34.7 +0.2**
STRD Stroud 82.41 339 *e*P **P** **03 55 34.7 +0.4**
STRD IAmb IAmb 03 55 36.6
comp=Z,315nm,1.1s
STRD IAMs_20 IAMs_20 04 31 49.7
comp=Z,7µm,29.1s
MCH1 Michaelchurch 82.44 339 *e*P **P** **03 55 34.5 +0.1**
MCH1 IAmb IAmb 03 55 36.7
comp=Z,217nm,1.3s
MCH1 IAMs_20 IAMs_20 04 30 10.9
comp=Z,8µm,28.2s
OHR Ohrid 82.45 319⇑ *i*P **P** **03 55 35.0 +0.3**
OHR *i* S **S** **04 05 49.7 +2.0**
BUM Brajici-Budva 82.45 321⇑ *i*P **P** **03 55 34.7 -0.1**
F42A Maple Grove Fa 82.45 33 IAMs_20 IAMs_20 04 39 22.5
comp=Z,4µm,19.0s
DBRK Dubrovnik 82.52 322 P **P** **03 55 34.4 -0.7**
HCY Herceg Novi 82.53 322⇑ *i*P **P** **03 55 35.2 +0.1**
HCY Herceg Novi 82.53 322⇑ *i*P **P** **03 55 34.8 -0.3**
ULC Ulcinj 82.55 321⇑ *i*P **P** **03 55 35.3 0.0**
SWN1 Swindon 82.55 338 *e*P **P** **03 55 35.4 +0.3**
SWN1 IAmb IAmb 03 55 37.5
comp=Z,536nm,1.2s
SWN1 IAMs_20 IAMs_20 04 31 28.3
comp=Z,6µm,25.1s
XOR Xorichti 82.56 317 P **P** **03 55 34.7 -0.7**
ECH Echery 82.56 332 IAmb IAmb 03 55 53.6
comp=Z,102nm,1.0s
SKIA Skiathos 82.56 317 P **P** **03 55 34.2 -1.2**
WOL Wolverton 82.56 338 *e*P **P** **03 55 35.4 +0.2**
WOL IAmb IAmb 03 55 38.8
comp=Z,180nm,1.1s
WOL IAMs_20 IAMs_20 04 36 11.7
comp=Z,8µm,20.1s
KZN Kozani 82.57 318 P **P** **03 55 34.7 -0.8**
NEO Neokhori 82.58 317 P **P** **03 55 34.9 -0.6**
KYMI Kymi, Euboea I 82.63 316 P **P** **03 55 35.1 -0.6**
CTI Castel Tesino 82.65 328 IAmb IAmb 03 55 53.3
comp=Z,132nm,0.9s
TIR Tirane 82.72 320 P **P** **03 55 36.4 +0.3**
TIR Tirane 82.72 320 *i* P **P** **03 55 36.6 +0.4**
TIR Tirane 82.72 320 P **P** **03 55 36.6 +0.4**
TIR pmax pmax
comp=Z,253nm,1.0s
TIR MLR MLR
comp=Z,9µm,18.0s
TIR Tirane 82.72 320 P **P** **03 55 36.6 +0.4**
HSIG 82.78 58 IAMs_20 IAMs_20 04 26 29.4
comp=Z,3µm,22.0s
MRKA Markates 82.84 316 P **P** **03 55 36.3 -0.5**
NEST Nestorio 82.85 319 P **P** **03 55 36.8 -0.2**
KARY Karystos 82.89 315 P **P** **03 55 36.8 -0.3**
HVAR Hvar 82.90 323 P **P** **03 55 36.0 -1.0**
I40A Norwalk 82.90 36 IAMs_20 IAMs_20 04 33 09.4
comp=Z,4µm,22.0s
MATQ Matagami 82.91 25 P **P** **03 55 36.5 -0.4**
baz=331,SNR=19
K38A Parkersburg 82.91 38 IAmb IAmb 03 55 57.8
comp=Z,367nm,2.0s
K38A IAMs_20 IAMs_20 04 32 20.9
comp=Z,4µm,22.0s
N35A Tabor 82.93 40 IAmb IAmb 03 55 39.6
comp=Z,184nm,0.9s
N35A IAMs_20 IAMs_20 04 38 46.6
comp=Z,3µm,19.0s
RSBS Rosebush, Pemb 82.94 340 *e*P **P** **03 55 37.6 +0.5**
RSBS IAMs_20 IAMs_20 04 36 46.5
comp=Z,5µm,20.0s
THL Klokotos Trika 83.01 318 P **P** **03 55 36.1 -1.5**
APE Apeiranthos 83.01 314⇑ P **P** **03 55 37.4 -0.4**
KPRO Kipourio 83.04 318 P **P** **03 55 37.6 -0.3**
SRIG Santa Rosalia 83.11 60 P **P** **03 55 39.3 +0.9**
DION Dionisos Attik 83.13 316 P **P** **03 55 37.1 -1.2**
D46A Sault St. Mari 83.14 30 P **P** **03 55 37.5 -0.7**
baz=327,SNR=53
PTL Penteli 83.18 316 P **P** **03 55 37.6 -1.0**
LKR Lokris 83.19 317 P **P** **03 55 38.0 -0.6**
R32A Long Quarter, 83.22 44 IAMs_20 IAMs_20 04 34 22.5
comp=Z,4µm,22.0s
KARP Karpathos 83.22 312 IAMs_20 IAMs_20 04 37 46.9
comp=Z,5µm,20.0s
AGG Agios Georgios 83.26 317 P **P** **03 55 37.4 -1.6**
AGG Agios Georgios 83.26 317 IAmb IAmb 03 55 40.3
comp=Z,174nm,1.1s
LSK Leskovik 83.28 319 *i* P **P** **03 55 40.0 +0.8**
AXAR Agios Charalam 83.28 317 P **P** **03 55 38.3 -0.8**
SCIA State Center 83.28 38 P **P** **03 55 39.4 +0.3**
baz=321,SNR=26
SCIA State Center 83.28 38 IAmb IAmb 03 55 41.6
comp=Z,219nm,1.1s
SCIA IAMs_20 IAMs_20 04 31 07.8
comp=Z,4µm,22.0s
ATHU Athens Univers 83.29 316 P **P** **03 55 37.6 -1.5**
ATH Athens Observa 83.32 316 P **P** **03 55 38.3 -1.0**
D47A Chapleau 83.35 29 P **P** **03 55 38.4 -0.9**
baz=327,SNR=35
VLY Voula,Athens 83.37 316 P **P** **03 55 37.4 -2.1**
VILL Villia 83.39 316 P **P** **03 55 38.4 -1.3**
SERI Serifos 83.51 315 P **P** **03 55 38.5 -1.8**
CMBO Columbo, Santo 83.52 314 P **P** **03 55 40.0 -0.3**
JAN Janina 83.53 318 P **P** **03 55 40.6 +0.2**
PROD Prodromos 83.53 316 P **P** **03 55 40.1 -0.3**
SANT Santorini 83.56 314⇓ P **P** **03 55 39.5 -1.2**
SANT Santorini 83.56 314 IAMs_20 IAMs_20 04 36 40.0
comp=Z,4µm,22.0s
VLO Vlora 83.58 320 P **P** **03 55 40.6 +0.1**
VLO Vlora 83.58 320 *i* P **P** **03 55 41.3 +0.8**
EVR Evrytania 83.60 317 P **P** **03 55 40.4 -0.5**
DSF Desfina 83.61 317 P **P** **03 55 39.3 -1.6**
I42A Draeger Farm, 83.64 35 IAmb IAmb 03 55 42.9
comp=Z,105nm,1.0s
I42A IAMs_20 IAMs_20 04 39 06.9
comp=Z,3µm,21.0s
H43A Windswept, Lux 83.65 34 IAmb IAmb 03 55 43.1
comp=Z,158nm,1.0s
H43A IAMs_20 IAMs_20 04 33 28.2
comp=Z,5µm,22.0s
LTK Loutraki 83.67 316 P **P** **03 55 39.4 -1.8**
LOUT Loutraki 83.70 316 P **P** **03 55 39.5 -1.8**
D48A Paudash Townsh 83.72 29 P **P** **03 55 40.4 -0.8**
baz=328,SNR=20
LSQQ Lebel-sur-Quev 83.73 25 P **P** **03 55 40.8 -0.4**
baz=331
CHGQ Chibougamau 83.77 23 P **P** **03 55 40.8 -0.6**
baz=333,SNR=39
SRN Sarande 83.78 319 P **P** **03 55 41.1 -0.5**
SRN Sarande 83.78 319 *i* P **P** **03 55 41.7 +0.1**
KSU1 Kansas State U 83.79 42 P **P** **03 55 41.2 -0.4**
baz=320,SNR=17
KSU1 Kansas State U 83.79 42 IAmb IAmb 03 55 43.4
comp=Z,69nm,0.8s
KSU1 Kansas State U 83.79 42 IAMs_20 IAMs_20 04 33 21.5
comp=Z,5µm,22.0s
ANX Ano Chora 83.79 317 P **P** **03 55 41.3 -0.5**
E47A Iron Bridge 83.79 30 P **P** **03 55 40.8 -0.7**
baz=327,SNR=30
D49A Beulah Townshi 83.80 28 P **P** **03 55 40.9 -0.8**
baz=328,SNR=18
JFWS Jewell Farm 83.84 36 P **P** **03 55 41.1 -0.7**
baz=323,SNR=17
SERG Sergoula 83.85 317 P **P** **03 55 41.2 -0.9**
IGT Igoumenitsa 83.88 319 P **P** **03 55 41.6 -0.6**
TRIZ Trizonia 83.88 317 P **P** **03 55 41.1 -1.0**
EFP Efpalio 83.92 317 P **P** **03 55 41.8 -0.6**
PVO Paravola 83.97 317 P **P** **03 55 42.4 -0.2**
KEK Kerkira 84.01 319 P **P** **03 55 42.5 -0.3**
G45A Suttons Bay 84.05 32 IAmb IAmb 03 55 44.9
comp=Z,112nm,0.9s
G45A IAMs_20 IAMs_20 04 37 48.5
comp=Z,4µm,20.0s
ZKR Zakros 84.06 312 P **P** **03 55 43.2 0.0**
GUR Goura 84.06 316 P **P** **03 55 41.6 -1.7**
SENIN Lac Senin/Sane 84.07 330 IAmb IAmb 03 56 02.9
comp=Z,145nm,1.2s
L40A Anamosa 84.08 37 IAmb IAmb 03 55 44.8
comp=Z,116nm,0.9s
N38A Joes South For 84.14 39 IAmb IAmb 03 55 45.7
comp=Z,156nm,0.8s
N38A IAMs_20 IAMs_20 04 33 32.6
comp=Z,6µm,22.0s
E48A Lockeyer 84.18 29 P **P** **03 55 42.8 -0.7**
baz=328,SNR=25
AMTX Amarillo 84.22 48 P **P** **03 55 44.9 +0.8**
baz=317
AMTX Amarillo 84.22 48 IAmb IAmb 03 55 47.1
comp=Z,90nm,0.9s
PRMA PARMA 84.24 328 IAMs_20 IAMs_20 04 38 59.3
comp=Z,5µm,18.0s
MSTX Muleshoe 84.26 49 P **P** **03 55 44.8 +0.4**
baz=317,SNR=50
MSTX Muleshoe 84.26 49 P **P** **03 55 44.8 +0.4**
LKD2 Lefkada island 84.28 318 P **P** **03 55 43.8 -0.5**
NPS Neapolis 84.29 313 P **P** **03 55 43.8 -0.5**
MNTX Cornudas Mount 84.36 52 P **P** **03 55 45.7 +0.9**
baz=316,SNR=64
DRO Drossia 84.38 317 P **P** **03 55 44.7 -0.1**
VLDQ Val d'Or 84.41 25 IAmb IAmb 03 55 45.7
comp=Z,177nm,0.9s
VLDQ IAMs_20 IAMs_20 04 36 58.1
comp=Z,4µm,21.0s
TRIP Tripoli 84.41 316 P **P** **03 55 44.1 -0.9**
EVGI Lefkada island 84.41 318 P **P** **03 55 44.7 -0.2**
D50A G1974 Best Tow 84.42 27 P **P** **03 55 43.9 -0.8**
baz=330,SNR=25
RLS Riolos of Patr 84.43 317 P **P** **03 55 45.0 +0.1**
LAST Lasithi 84.44 313 P **P** **03 55 45.2 0.0**
VLX Viachokerasia 84.47 316 P **P** **03 55 43.8 -1.5**
F48A Evansville 84.56 30 P **P** **03 55 45.1 -0.4**
baz=328,SNR=41
FSK Fiskardo 84.58 318 P **P** **03 55 44.7 -1.0**
U32A Winter Ranch, 84.58 45 IAmb IAmb 03 55 48.6
comp=Z,104nm,1.1s
GLMI Grayling 84.64 31 P **P** **03 55 46.2 +0.3**
baz=326,SNR=20
GLMI Grayling 84.64 31 IAMs_20 IAMs_20 04 34 52.1
comp=Z,5µm,22.0s
I45A Fountain 84.64 33 IAMs_20 IAMs_20 04 36 31.3
comp=Z,4µm,20.0s
D51A Lot 18 Range I 84.65 27 P **P** **03 55 45.1 -0.8**
baz=330,SNR=29
VLI Veliai 84.67 315 P **P** **03 55 43.8 -2.4**
IDI Anoyia 84.67 313 P **P** **03 55 45.5 -0.8**
IDI Anoyia 84.67 313⇓ P **P** **03 55 45.8 -0.5**
IDI Anoyia 84.67 313 IAMs_20 IAMs_20 04 38 32.3
comp=Z,4µm,20.0s
HIZ Hauiti 84.69 155 IAMs_20 IAMs_20 04 28 51.6
comp=Z,5µm,22.0s
AMT Artemida-Makis 84.70 317 P **P** **03 55 45.4 -1.0**
VLC Villacollemand 84.71 327 IAmb IAmb 03 56 16.5
comp=Z,166nm,1.1s
JSA Saint Aubin 84.74 337 *e*P **P** **03 55 46.2 0.0**
JSA IAmb IAmb 03 55 48.5
comp=Z,172nm,1.2s
JSA IAMs_20 IAMs_20 04 35 37.1
comp=Z,8µm,23.7s
E50A Wahnapitae 84.75 28 P **P** **03 55 45.8 -0.6**
baz=329,SNR=18
MATE Matera 84.77 322⇑ P **P** **03 55 46.5 -0.1**
VLS Valsamata 84.78 318 P **P** **03 55 46.2 -0.6**
L42A Oliver, Polo 84.83 36 IAmb IAmb 03 55 48.4
comp=Z,84nm,0.9s
F49A Sandfield 84.83 29 P **P** **03 55 46.4 -0.5**
baz=328,SNR=41
K43A Burlington 84.85 35 IAmb IAmb 03 55 48.7
comp=Z,98nm,0.9s
K43A IAMs_20 IAMs_20 04 39 44.9
comp=Z,3µm,20.0s
ITM Ithomi 84.85 316 P **P** **03 55 46.0 -1.1**
ITM Ithomi 84.85 316 P **P** **03 55 46.6 -0.6**
ITM IAMs_20 IAMs_20 04 38 32.0
comp=Z,4µm,20.0s
OSSC Osservatorio P 84.88 327 IAmb IAmb 03 55 49.0
comp=Z,150nm,1.1s
P38A Dawn 84.91 40 IAmb IAmb 03 55 49.7
comp=Z,132nm,0.9s
P38A IAMs_20 IAMs_20 04 37 31.0
comp=Z,3µm,19.0s
AQU L'Aquila 84.91 325⇑ *i*P **P** **03 55 47.7 +0.3**
SIVA Sivas 84.92 313 P **P** **03 55 47.6 +0.1**
MSSA Maissana 84.93 328 IAmb IAmb 03 56 05.1
comp=Z,172nm,1.1s
KTHA Kythira Island 84.95 315 P **P** **03 55 46.2 -1.4**
VAM Vamos 84.96 314 P **P** **03 55 46.7 -1.0**
CHAN Chania 84.97 314 P **P** **03 55 46.2 -1.5**
MXZ Matakaoa Point 84.99 152 IAMs_20 IAMs_20 04 30 25.8
comp=Z,5µm,20.0s
CROK Carrier 85.03 45 IAMs_20 IAMs_20 04 35 42.8
comp=Z,6µm,21.0s
IMMV Iera Moni Meta 85.04 314 P **P** **03 55 47.4 -0.7**
D52A ZEK Kipawa Sen 85.08 27 P **P** **03 55 47.4 -0.7**
baz=330,SNR=29
E51A G1948 Merrick 85.09 27 P **P** **03 55 47.4 -0.8**
baz=330,SNR=36
ANKY Antikythira Is 85.11 315 P **P** **03 55 47.7 -0.7**
PYL PYLOS 85.16 316 P **P** **03 55 47.6 -1.1**
URZ Urewera 85.20 153 P **P** **03 55 49.2 +0.8**
URZ IAMs_20 IAMs_20 04 29 57.3
comp=Z,4µm,21.0s
D53A Lac Vacive, Po 85.23 26 P **P** **03 55 48.5 -0.3**
baz=331,SNR=42
D53A Lac Vacive, Po 85.23 26 P **P** **03 55 48.2 -0.6**
D53A IAmb IAmb 03 55 50.6
comp=Z,91nm,1.0s
PMOR Pomariorio Ree 85.24 114 *e*T T 05 29 41.0
comp=Z,55nm,0.2s
N41A Harden Midland 85.32 38 IAmb IAmb 03 55 51.5
comp=Z,104nm,0.9s
LATE Laterza 85.39 326 IAmb IAmb 03 56 08.6
comp=Z,265nm,1.6s
BNI Bardonecchia 85.41 330 IAmb IAmb 03 55 56.6
comp=Z,110nm,0.9s
GVDS Gavdos 85.44 313 P **P** **03 55 49.2 -0.9**
GVD Gavdhos 85.45 313 P **P** **03 55 49.2 -0.9**
PAOL Paolisi 85.45 323 IAmb IAmb 03 55 51.8
comp=Z,269nm,1.7s
L44A Lake County Fo 85.45 35 P **P** **03 55 49.9 -0.1**
baz=325,SNR=5.0
L44A Lake County Fo 85.45 35 IAmb IAmb 03 55 52.0
comp=Z,122nm,0.9s
L44A IAMs_20 IAMs_20 04 34 22.0
comp=Z,4µm,22.0s
F51A Arnstein 85.47 28 P **P** **03 55 49.3 -0.7**
baz=330,SNR=25
T35A Sooner Cattle 85.50 43 IAmb IAmb 03 55 53.0
comp=Z,115nm,0.9s
T35A IAMs_20 IAMs_20 04 36 35.9
comp=Z,3µm,21.0s
D54A Lac Fusel, La 85.51 25 P **P** **03 55 49.6 -0.6**
baz=332,SNR=32
E52A Mattawa 85.60 27 P **P** **03 55 49.8 -0.8**
baz=330,SNR=19
CASP Castiglione de 85.64 326 P **P** **03 55 50.5 -0.5**
CASP IAmb IAmb 03 56 09.8
comp=Z,95nm,1.2s
P40A Paris 85.69 39 IAmb IAmb 03 55 53.7
comp=Z,136nm,1.0s
P40A IAMs_20 IAMs_20 04 32 57.7
comp=Z,5µm,22.0s
HQIL Hanson Quary C 85.79 35 IAMs_20 IAMs_20 04 34 06.8
comp=Z,5µm,22.0s
BKZ Black Stump Fm 85.81 154 P **P** **03 55 52.5 +0.9**
BKZ IAmb IAmb 03 56 12.5
comp=Z,282nm,2.0s
BKZ IAMs_20 IAMs_20 04 29 41.4
comp=Z,6µm,22.0s
OK029 Liberty Lake 85.85 45 IAmb IAmb 03 55 54.8
comp=Z,125nm,0.9s
E53A Dumoine, Ponti 85.85 26 P **P** **03 55 51.3 -0.6**
baz=331,SNR=22
J47A Sunmer 85.88 32 IAMs_20 IAMs_20 04 34 42.0
comp=Z,4µm,22.0s
PPT Papeete 85.90 117 LR LR 04 28 25.6
comp=Z,10µm,20.5s,baz=311,slow=32
TIP Timpagrande 85.90 321⇓ P **P** **03 55 53.0 +0.6**
PPT2 Papeete2 85.92 117 *e*S **S** **04 06 17.7 -5.1**
PPT2 Papeete2 85.92 117 *e*LR LR 04 22 51.9
comp=Z,21µm,23.0s,baz=312
PPT2 Papeete2 85.92 117 *e*T T 05 30 33.9
comp=Z,19nm,0.3s
WMOK Wichita Mounta 85.93 46 P **P** **03 55 52.9 +0.3**
baz=319,SNR=70
QUOK Quay 85.96 44 IAmb IAmb 03 55 55.2
comp=Z,101nm,1.1s
E54A Lac Daplat, Po 85.97 26 P **P** **03 55 51.8 -0.7**
baz=331,SNR=32
SSB Saint Sauveur 86.00 332 IAmb IAmb 03 56 11.7
comp=Z,123nm,1.1s
D55A Sainte-Anne-du 86.01 25 P **P** **03 55 52.3 -0.4**
baz=332,SNR=34
D55A S **S** **04 06 19.7 -3.2**
baz=332
TIAR Tiarei 86.05 117 *e*T T 05 30 43.0
comp=Z,10nm,0.4s
I49A Point Hope 86.08 31 IAmb IAmb 03 55 55.5
comp=Z,150nm,0.9s
I49A IAMs_20 IAMs_20 04 35 44.2
comp=Z,4µm,22.0s
ALGO Algonquin Park 86.09 27 P **P** **03 55 52.2 -0.9**
baz=331,SNR=23
OKCFA Oklahoma City 86.14 45 P **P** **03 55 54.7 +1.1**
HDIL Hopedale 86.16 37 P **P** **03 55 53.5 -0.1**
baz=324,SNR=27
HDIL Hopedale 86.16 37 IAmb IAmb 03 55 55.7
comp=Z,138nm,0.9s

D56A	**ZEC Mazanza, M**	**86.20**	**24**	P	**P**	**03 55 53.5**	**-0.2**
	baz=333,SNR=58						
D56A				S	**S**	**04 06 20.9**	**-4.0**
	baz=333						
L46A	**Eue Claire**	**86.28**	**34**	IAmb	IAmb	03 55 56.3	
	comp=Z,108nm,0.9s						
E55A	**Montcerf-Lytto**	**86.32**	**25**	P	**P**	**03 55 53.8**	**-0.4**
	baz=332,SNR=13						
E55A				S	**S**	**04 06 22.9**	**-3.0**
	baz=332						
D57A	**Chemin Vers le**	**86.50**	**24**	P	**P**	**03 55 55.1**	**-0.1**
	baz=334,SNR=87						
D57A				S	**S**	**04 06 26.4**	**-1.4**
	baz=334						
LATQ	**La Tuque**	**86.50**	**23**	P	**P**	**03 55 54.6**	**-0.5**
	baz=334,SNR=11						
S39A	**Bolivar**	**86.52**	**41**	IAmb	IAmb	03 55 56.9	
	comp=Z,69nm,0.9s						
S39A				IAMs_20	IAMs_20	04 35 58.7	
	comp=Z,4µm,22.0s						
TAOE	**Nuku Hiva Isla**	**86.54**	**105**	*e*S	**S**	**04 06 21.3**	**-7.8**
	comp=Z,2µm,25.1s						
TAOE	**Nuku Hiva Isla**	**86.54**	**105**	*e*LR	LR	04 23 16.2	
	comp=Z,15µm,21.8s,baz=313						
R40A	**Maddies Statio**	**86.56**	**40**	IAmb	IAmb	03 55 57.6	
	comp=Z,65nm,0.8s						
R40A				IAMs_20	IAMs_20	04 34 26.8	
	comp=Z,4µm,22.0s						
G54A	**Lake Saint Pet**	**86.56**	**27**	P	**P**	**03 55 54.8**	**-0.6**
	baz=331,SNR=26						
E56A	**St. Veronique**	**86.57**	**25**	P	**P**	**03 55 55.2**	**-0.3**
	baz=333,SNR=45						
E56A				S	**S**	**04 06 25.6**	**-2.8**
	baz=333						
TUL1	**Leonard**	**86.64**	**44**	P	**P**	**03 55 56.4**	**+0.4**
	baz=320,SNR=23						
TUL1				S	**S**	**04 06 28.3**	**-1.1**
	baz=320						
TUL1	**Leonard**	**86.64**	**44**	IAmb	IAmb	03 55 58.4	
	comp=Z,59nm,0.8s						
D58A	**Chemin du LacG**	**86.73**	**23**	P	**P**	**03 55 55.9**	**-0.4**
	baz=334,SNR=19						
D58A				S	**S**	**04 06 28.6**	**-1.4**
	baz=334						
SADO	**Sadowa**	**86.74**	**28**	IAMs_20	IAMs_20	04 38 43.5	
	comp=Z,4µm,21.0s						
F55A	**Otter Lake**	**86.77**	**26**	P	**P**	**03 55 55.6**	**-0.9**
	baz=332,SNR=14						
P43A	**Skaggs, Pawnee**	**86.79**	**37**	IAmb	IAmb	03 55 58.8	
	comp=Z,67nm,0.8s						
P43A				IAMs_20	IAMs_20	04 34 50.5	
	comp=Z,4µm,22.0s						
O44A	**Mansfield**	**86.85**	**36**	IAmb	IAmb	03 55 59.0	
	comp=Z,71nm,1.0s						
I51A	**Listowel**	**86.88**	**30**	P	**P**	**03 55 57.3**	**+0.3**
	baz=329,SNR=28						
U38A	**Gravette**	**86.95**	**42**	IAmb	IAmb	03 55 59.6	
	comp=Z,64nm,0.9s						
U38A				IAMs_20	IAMs_20	04 35 31.4	
	comp=Z,4µm,22.0s						
E57A	**Chemin Saint G**	**86.96**	**24**	P	**P**	**03 55 57.3**	**-0.2**
	baz=334,SNR=83						
E57A				S	**S**	**04 06 30.6**	**-1.7**
	baz=334						
ABTX	**Abilene, Hawle**	**87.03**	**48**	P	**P**	**03 55 58.4**	**+0.4**
	baz=318,SNR=12						
ABTX				S	**S**	**04 06 33.7**	**+0.3**
	baz=318						
ABTX	**Abilene, Hawle**	**87.03**	**48**	IAmb	IAmb	03 56 19.1	
	comp=Z,244nm,1.6s						
CEL	**Celeste**	**87.04**	**321**	P	**P**	**03 55 58.0**	**0.0**
CEL				IAmb	IAmb	03 56 21.6	
	comp=Z,153nm,1.1s						
TUWZ	**Tuamarina**	**87.07**	**157**	P	**P**	**03 55 58.7**	**+1.1**
THZ	**Tophouse**	**87.07**	**158**	IAMs_20	IAMs_20	04 29 51.7	
	comp=Z,5µm,22.0s						
TX32	**Lajitas Array**	**87.09**	**53**	IAmb	IAmb	03 56 19.7	
	comp=Z,239nm,1.9s						
TXAR	**Lajitas Array**	**87.09**	**53**	P	**P**	**03 55 58.9**	**+0.5**
	comp=Z,35nm,0.9s,baz=295,slow=2.6,SNR=136						
TXAR				pP	**sP**	**03 56 15.1**	**-1.6**
	comp=Z,22nm,0.8s,baz=291,slow=3.8,SNR=11						
TXAR				PKKPbc	**PKKPbc**	**04 13 51.0**	**+2.5**
	comp=Z,2.1nm,0.8s,baz=163,slow=4.6,SNR=15						
TXAR				PKPPKP	P'P'df	04 21 49.8	-11
	comp=Z,0.3nm,0.9s,baz=156,slow=3.4,SNR=3.7						
TXAR	**Lajitas Array**	**87.09**	**53**	P	**P**	**03 55 58.3**	**-0.1**
TXAR				*SP	**sP**	**03 56 15.1**	**-1.6**
TXAR	**Lajitas Array**	**87.09**	**53**		sP	03 56 15.1	-1.6
TXAR	**Lajitas Array**	**87.09**	**53**	P	**P**	**03 55 58.3**	**-0.1**
BFZ	**Birch Farm**	**87.10**	**155**	IAMs_20	IAMs_20	04 31 37.5	
	comp=Z,4µm,19.0s						
H53A	**Bobcaygeon**	**87.11**	**28**	P	**P**	**03 55 57.8**	**-0.3**
	baz=330,SNR=23						
L48A	**N Adams**	**87.11**	**33**	IAmb	IAmb	03 56 00.6	
	comp=Z,146nm,0.9s						
L48A				IAMs_20	IAMs_20	04 41 12.7	
	comp=Z,3µm,20.0s						
D59A	**Saint-Raymond**	**87.12**	**23**	P	**P**	**03 55 57.8**	**-0.3**
	baz=335,SNR=9.0						
AAM	**Ann Arbor**	**87.13**	**32**	P	**P**	**03 55 58.2**	**0.0**
	baz=327,SNR=11						
AAM	**Ann Arbor**	**87.13**	**32**	IAmb	IAmb	03 56 00.8	
	comp=Z,102nm,1.1s						
AAM				IAMs_20	IAMs_20	04 37 01.1	
	comp=Z,3µm,21.0s						
MEH	**Mehetia**	**87.13**	**117**	*e*T	T	05 32 04.2	
	comp=Z,122nm,0.3s						
K50A	**Casco**	**87.14**	**31**	IAmb	IAmb	03 56 00.7	
	comp=Z,99nm,1.0s						
K50A				IAMs_20	IAMs_20	04 35 31.4	
	comp=Z,4µm,21.0s						
G55A	**Calabogie**	**87.16**	**26**	P	**P**	**03 55 57.6**	**-0.7**
	baz=332,SNR=20						
PLVO	**Plevna**	**87.23**	**27**	IAmb	IAmb	03 56 00.4	
	comp=Z,63nm,0.9s						
PLVO				IAMs_20	IAMs_20	04 39 17.1	
	comp=Z,3µm,19.0s						
CCM	**Cathedral Cave**	**87.24**	**39**	P	**P**	**03 55 58.8**	**-0.1**
	baz=323						
CCM	**Cathedral Cave**	**87.24**	**39**	P	**P**	**03 55 58.9**	**0.0**
CCM				pmax	pmax		
	comp=Z,113nm,0.9s						
CCM				MLR	MLR		
	comp=Z,4µm,21.0s						
CCM	**Cathedral Cave**	**87.24**	**39**	P	**P**	**03 55 58.9**	**0.0**
CCM				IAmb	IAmb	03 56 01.1	
	comp=Z,113nm,0.9s						
CCM	**Cathedral Cave**	**87.24**	**39**	IAMs_20	IAMs_20	04 35 17.7	
	comp=Z,4µm,21.0s						
SLM	**Saint Louis**	**87.26**	**38**	IAmb	IAmb	03 56 01.1	
	comp=Z,130nm,0.9s						
SLM				IAMs_20	IAMs_20	04 35 04.1	
	comp=Z,5µm,22.0s						
E58A	**La Victoria**	**87.27**	**24**	P	**P**	**03 55 58.5**	**-0.3**
	baz=334,SNR=28						
E58A				S	**S**	**04 06 33.8**	**-1.4**
	baz=334						
SFIN	**Lafayette**	**87.28**	**35**	P	**P**	**03 55 58.9**	**-0.1**
	baz=325,SNR=12						
SFIN				S	**S**	**04 06 34.3**	**-1.1**
	baz=325						
SFIN	**Lafayette**	**87.28**	**35**	IAmb	IAmb	03 56 01.2	
	comp=Z,77nm,1.1s						
F57A	**Harrington**	**87.33**	**25**	P	**P**	**03 55 58.3**	**-0.8**
	baz=333						
ORIO	**Orleans, Innes**	**87.38**	**26**	P	**P**	**03 55 58.7**	**-0.7**
	baz=333,SNR=37						
E59A	**St. Maurice**	**87.40**	**23**	P	**P**	**03 55 59.4**	**0.0**
	baz=335						
D61A	**St Aubert, Com**	**87.41**	**21**	P	**P**	**03 55 59.4**	**-0.1**
	baz=336,SNR=19						
MGMO	**Mountain Grove**	**87.46**	**41**	IAmb	IAmb	03 56 01.8	
	comp=Z,61nm,0.9s						
MGMO				IAMs_20	IAMs_20	04 36 48.5	
	comp=Z,4µm,22.0s						
D60A	**Saint Jean D'O**	**87.47**	**22**	P	**P**	**03 55 59.4**	**-0.3**
	baz=336,SNR=32						
N47A	**Urbana**	**87.47**	**34**	IAmb	IAmb	03 56 01.9	
	comp=Z,134nm,1.2s						
N47A				IAMs_20	IAMs_20	04 36 07.3	
	comp=Z,6µm,22.0s						
DELO	**Deloro Mine**	**87.50**	**27**	IAmb	IAmb	03 56 01.9	
	comp=Z,82nm,1.1s						
DELO				IAMs_20	IAMs_20	04 41 02.4	
	comp=Z,4µm,20.0s						
F58A	**St-Lin Laurent**	**87.55**	**24**	P	**P**	**03 55 59.8**	**-0.4**
	baz=334						
Q44A	**Meyer Farm, Va**	**87.61**	**38**	IAmb	IAmb	03 56 02.9	
	comp=Z,104nm,0.9s						
H55A	**Tweed**	**87.62**	**27**	P	**P**	**03 56 00.3**	**-0.3**
	baz=331,SNR=35						
H55A				S	**S**	**04 06 35.8**	**-2.8**
	baz=331						
FVM	**French Village**	**87.69**	**39**	IAmb	IAmb	03 56 03.3	
	comp=Z,67nm,0.9s						
I55A	**Frankford**	**87.74**	**28**	P	**P**	**03 56 00.7**	**-0.4**
	baz=331,SNR=18						
I55A				S	**S**	**04 06 35.8**	**-3.9**
	baz=331						
U40A	**Yellville**	**87.79**	**42**	P	**P**	**03 56 01.4**	**-0.1**
	baz=322,SNR=93						
U40A				S	**S**	**04 06 38.4**	**-2.2**
	baz=322						
U40A	**Yellville**	**87.79**	**42**	IAmb	IAmb	03 56 03.6	
	comp=Z,117nm,0.9s						
U40A				IAMs_20	IAMs_20	04 36 25.5	
	comp=Z,3µm,22.0s						
E60A	**Ste Agathe de**	**87.81**	**23**	P	**P**	**03 56 01.0**	**-0.5**
	baz=335,SNR=14						
E60A				S	**S**	**04 06 38.4**	**-2.0**
	baz=335						
Z35A	**Perchaven, San**	**87.82**	**46**	IAmb	IAmb	03 56 03.9	
	comp=Z,91nm,0.9s						
Z35A				IAMs_20	IAMs_20	04 41 32.7	
	comp=Z,3µm,19.0s						
D62A	**Allapoint, All**	**87.83**	**21**	P	**P**	**03 56 01.5**	**0.0**
	baz=337,SNR=23						
D62A	**Allapoint, All**	**87.83**	**21**	IAMs_20	IAMs_20	04 41 39.7	
	comp=Z,4µm,18.0s						
LTZ	**Lake Taylor**	**87.83**	**158**	IAMs_20	IAMs_20	04 37 16.8	
	comp=Z,4µm,20.0s						
P46A	**Rosedale**	**87.85**	**36**	IAmb	IAmb	03 56 04.1	
	comp=Z,131nm,0.9s						
G57A	**Newington**	**87.86**	**25**	P	**P**	**03 56 01.3**	**-0.4**
	baz=333,SNR=31						
G57A				S	**S**	**04 06 36.7**	**-4.2**
	baz=333						
X37A	**Clayton**	**87.87**	**44**	IAMs_20	IAMs_20	04 42 15.8	
	comp=Z,3µm,21.0s						
FOZ	**Fox Glacier**	**87.88**	**160**	IAMs_20	IAMs_20	04 28 15.9	
	comp=Z,4µm,22.0s						
F59A	**Saint Guillaume**	**87.89**	**24**	P	**P**	**03 56 01.9**	**+0.1**
	baz=334,SNR=15						
F59A				S	**S**	**04 06 39.6**	**-1.5**
	baz=334						
H56A	**Elgin**	**87.89**	**26**	P	**P**	**03 56 01.4**	**-0.4**
	baz=332,SNR=20						
H56A				S	**S**	**04 06 39.1**	**-2.1**
	baz=332						
F60A	**Warwick**	**88.03**	**23**	P	**P**	**03 56 01.9**	**-0.5**
	baz=335,SNR=8.3						
E61A	**Lac Etchemin**	**88.03**	**22**	P	**P**	**03 56 02.5**	**-0.1**
	baz=336,SNR=9.1						
N49A	**Columbus Grove**	**88.07**	**33**	IAmb	IAmb	03 56 05.2	
	comp=Z,119nm,1.0s						
N49A				IAMs_20	IAMs_20	04 39 13.1	
	comp=Z,3µm,20.0s						
G58A	**Ormstown**	**88.12**	**25**	P	**P**	**03 56 02.7**	**-0.2**
	baz=334,SNR=25						
D63A	**Stockholm**	**88.12**	**20**	P	**P**	**03 56 03.0**	**+0.1**
	baz=338,SNR=15						
D63A				S	**S**	**04 06 42.3**	**-1.0**
	baz=338						
E62A	**Clayton Lake**	**88.13**	**21**	P	**P**	**03 56 02.6**	**-0.4**
	baz=337,SNR=14						
E62A				S	**S**	**04 06 41.0**	**-2.4**
	baz=337						
E62A	**Clayton Lake**	**88.13**	**21**	IAMs_20	IAMs_20	04 41 11.6	
	comp=Z,4µm,19.0s						
T42A	**Van Buren**	**88.13**	**40**	IAmb	IAmb	03 56 05.4	
	comp=Z,88nm,1.1s						
T42A				IAMs_20	IAMs_20	04 35 12.3	
	comp=Z,5µm,22.0s						
M50A	**Fremont**	**88.13**	**32**	IAmb	IAmb	03 56 05.3	
	comp=Z,65nm,0.9s						
M50A				IAMs_20	IAMs_20	04 37 42.7	
	comp=Z,4µm,22.0s						
OLIL	**Olney**	**88.17**	**37**	IAmb	IAmb	03 56 05.8	
	comp=Z,131nm,0.9s						
J54A	**Appleton**	**88.22**	**29**	P	**P**	**03 56 03.5**	**+0.1**
	baz=330,SNR=7.8						
J54A				S	**S**	**04 06 41.8**	**-2.5**
	baz=330						
J54A	**Appleton**	**88.22**	**29**	IAmb	IAmb	03 56 05.7	
	comp=Z,97nm,1.1s						
J54A				IAMs_20	IAMs_20	04 41 17.6	
	comp=Z,4µm,20.0s						
PECO	**Prince Edward**	**88.22**	**27**	IAmb	IAmb	03 56 05.3	
	comp=Z,71nm,1.1s						
PECO				IAMs_20	IAMs_20	04 41 22.6	
	comp=Z,3µm,20.0s						
W39A	**Magazine**	**88.23**	**43**	P	**P**	**03 56 03.6**	**0.0**
	baz=321,SNR=21						
W39A				S	**S**	**04 06 43.3**	**-1.4**
	baz=321						
W39A	**Magazine**	**88.23**	**43**	IAmb	IAmb	03 56 46.8	
	comp=Z,124nm,1.6s						
W39A				IAMs_20	IAMs_20	04 35 24.1	
	comp=Z,4µm,22.0s						
OXZ	**Oxford**	**88.27**	**159**	P	**P**	**03 56 05.0**	**+1.7**
OXZ				IAmb	IAmb	03 56 25.8	
	comp=Z,72nm,1.1s						
H57A	**Richville**	**88.30**	**26**	P	**P**	**03 56 03.4**	**-0.4**
	baz=333,SNR=38						
H57A				S	**S**	**04 06 42.7**	**-2.4**
	baz=333						
F61A	**St Evariste**	**88.30**	**23**	P	**P**	**03 56 04.3**	**+0.5**
	baz=336,SNR=33						
F61A				S	**S**	**04 06 42.4**	**-2.7**
	baz=336						
RPZ	**Rata Peaks**	**88.37**	**160**	IAMs_20	IAMs_20	04 30 49.9	
	comp=Z,5µm,22.0s						
MEDO	**Medina**	**88.38**	**29**	IAmb	IAmb	03 56 06.4	
	comp=Z,133nm,1.4s						
MEDO				IAMs_20	IAMs_20	04 39 44.9	
	comp=Z,3µm,21.0s						
BATG	**Bathurst New B**	**88.42**	**19**	IAmb	IAmb	03 56 07.0	
	comp=Z,86nm,1.0s						
BATG				IAMs_20	IAMs_20	04 38 46.1	
	comp=Z,5µm,21.0s						
LONY	**Lake Ozonia**	**88.42**	**25**	P	**P**	**03 56 04.0**	**-0.4**
	baz=333,SNR=14						
LONY	**Lake Ozonia**	**88.42**	**25**	IAMs_20	IAMs_20	04 40 09.7	
	comp=Z,4µm,20.0s						
G59A	**Clarenceville**	**88.46**	**24**	P	**P**	**03 56 04.4**	**-0.1**
	baz=334,SNR=19						
PQI	**Presque Isle**	**88.48**	**20**	IAmb	IAmb	03 56 06.7	
	comp=Z,63nm,1.0s						
BLO	**Bloomington**	**88.52**	**36**	IAmb	IAmb	03 56 07.3	
	comp=Z,65nm,1.1s						
J55A	**Hilton**	**88.52**	**28**	P	**P**	**03 56 04.7**	**-0.1**
	baz=331,SNR=18						
J55A				S	**S**	**04 06 44.6**	**-2.5**
	baz=331						
J55A	**Hilton**	**88.52**	**28**	IAmb	IAmb	03 56 06.9	
	comp=Z,83nm,1.1s						
J55A				IAMs_20	IAMs_20	04 42 27.5	
	comp=Z,3µm,20.0s						
FCAR	**Ozark Folk Cen**	**88.52**	**41**	IAmb	IAmb	03 56 06.9	
	comp=Z,73nm,1.0s						
FCAR				IAMs_20	IAMs_20	04 37 09.8	
	comp=Z,4µm,22.0s						
JCT	**Junction City**	**88.53**	**50**	P	**P**	**03 56 05.5**	**+0.3**
	baz=318,SNR=24						
JCT	**Junction City**	**88.53**	**50**	IAMs_20	IAMs_20	04 32 23.8	
	comp=Z,4µm,22.0s						
M51A	**Elyria**	**88.54**	**32**	P	**P**	**03 56 05.2**	**+0.2**
	baz=328,SNR=5.4						
M51A				S	**S**	**04 06 44.5**	**-2.9**
	baz=328						
FRNY	**Flat Rock**	**88.55**	**25**	IAMs_20	IAMs_20	04 40 25.0	
	comp=Z,3µm,20.0s						
CORL	**Corleone**	**88.56**	**322**	P	**P**	**03 56 06.3**	**+1.1**
E63A	**Oxbow**	**88.61**	**21**	P	**P**	**03 56 05.0**	**-0.2**
	baz=338,SNR=16						
E63A				S	**S**	**04 06 46.0**	**-1.9**
	baz=338						
E63A	**Oxbow**	**88.61**	**21**	IAmb	IAmb	03 56 07.2	
	comp=Z,77nm,1.1s						
E63A				IAMs_20	IAMs_20	04 41 54.2	
	comp=Z,5µm,19.0s						
O49A	**Covington**	**88.62**	**34**	IAmb	IAmb	03 56 07.7	
	comp=Z,78nm,0.8s						
O49A				IAMs_20	IAMs_20	04 37 05.7	
	comp=Z,4µm,22.0s						
F62A	**Pittston Farm,**	**88.67**	**22**	IAMs_20	IAMs_20	04 39 34.9	
	comp=Z,4µm,21.0s						
I57A	**Carthage**	**88.67**	**26**	P	**P**	**03 56 05.3**	**-0.3**
	baz=332,SNR=19						
I57A				S	**S**	**04 06 46.5**	**-2.2**
	baz=332						
H59A	**Cadyville**	**88.69**	**25**	P	**P**	**03 56 05.3**	**-0.4**
	baz=334,SNR=20						
M52A	**Chesterland**	**88.69**	**31**	P	**P**	**03 56 06.1**	**+0.4**
	baz=329,SNR=18						
M52A				S	**S**	**04 06 46.6**	**-2.3**
	baz=329						
M52A	**Chesterland**	**88.69**	**31**	IAMs_20	IAMs_20	04 36 30.2	
	comp=Z,5µm,22.0s						
G60A	**Masonville**	**88.70**	**24**	P	**P**	**03 56 05.9**	**+0.2**
	baz=335,SNR=10						
G60A				S	**S**	**04 06 45.7**	**-3.2**
	baz=335						
ERPA	**Erie**	**88.72**	**30**	P	**P**	**03 56 06.2**	**+0.3**
	baz=330,SNR=10						
ERPA	**Erie**	**88.72**	**30**	IAMs_20	IAMs_20	04 42 19.0	
	comp=Z,3µm,19.0s						
WHTX	**Lake Whitney,**	**88.72**	**47**	P	**P**	**03 56 06.5**	**+0.4**
	baz=320,SNR=24						
WHTX				S	**S**	**04 06 49.2**	**-0.4**
	baz=320						
WHTX	**Lake Whitney,**	**88.72**	**47**	IAMs_20	IAMs_20	04 35 52.7	
	comp=Z,3µm,22.0s						
H58A	**Gabriels**	**88.73**	**25**	P	**P**	**03 56 05.7**	**-0.2**
	baz=334,SNR=28						
L53A	**Girard**	**88.76**	**30**	P	**P**	**03 56 06.5**	**+0.5**
	baz=330,SNR=34						
L53A				S	**S**	**04 06 47.5**	**-2.0**
	baz=330						
P48A	**Milroy**	**88.76**	**35**	IAmb	IAmb	03 56 08.2	
	comp=Z,87nm,1.1s						
E64A	**Bridgewater**	**88.77**	**20**	P	**P**	**03 56 06.0**	**0.0**
	baz=338,SNR=16						
E64A				S	**S**	**04 06 47.1**	**-2.3**
	baz=338						
LBZ	**Lake Benmore**	**88.77**	**160**	IAMs_20	IAMs_20	04 30 18.5	
	comp=Z,5µm,22.0s						
G61A	**St-Isidore-de-**	**88.78**	**23**	P	**P**	**03 56 06.7**	**+0.7**
	baz=335,SNR=32						
G61A				S	**S**	**04 06 46.3**	**-3.3**
	baz=335						
K54A	**Basiliko Farm,**	**88.78**	**29**	P	**P**	**03 56 06.2**	**0.0**
	baz=330,SNR=21						
K54A				S	**S**	**04 06 45.6**	**-4.1**
	baz=330						
MQZ	**McQueen's Vall**	**88.79**	**158**	IAMs_20	IAMs_20	04 28 04.2	
	comp=Z,3µm,19.0s						
N51A	**Ashland**	**88.81**	**32**	P	**P**	**03 56 06.1**	**-0.2**
	baz=328,SNR=13						
N51A				S	**S**	**04 06 47.5**	**-2.6**
	baz=328						
N51A	**Ashland**	**88.81**	**32**	IAMs_20	IAMs_20	04 35 34.6	
	comp=Z,4µm,22.0s						
MIAR	**Mount Ida**	**88.84**	**43**	P	**P**	**03 56 07.0**	**+0.5**
	baz=322,SNR=73						
MIAR	**Mount Ida**	**88.84**	**43**	IAmb	IAmb	03 56 09.2	
	comp=Z,98nm,0.9s						
MIAR				IAMs_20	IAMs_20	04 36 20.3	
	comp=Z,3µm,22.0s						
J56A	**Wolcott**	**88.85**	**27**	P	**P**	**03 56 06.1**	**-0.3**
	baz=332,SNR=22						
J56A				S	**S**	**04 06 47.3**	**-3.0**
	baz=332						
J56A	**Wolcott**	**88.85**	**27**	IAmb	IAmb	03 56 08.4	
	comp=Z,102nm,1.2s						
J56A				IAMs_20	IAMs_20	04 42 01.2	
	comp=Z,3µm,20.0s						
LCAR	**Lake Charles**	**88.86**	**41**	IAMs_20	IAMs_20	04 35 11.7	
	comp=Z,4µm,22.0s						
L54A	**Sinclairville**	**88.87**	**30**	P	**P**	**03 56 07.0**	**+0.4**
	baz=330,SNR=12						
L54A				S	**S**	**04 06 47.7**	**-2.9**
	baz=330						
K55A	**Perry**	**88.90**	**29**	P	**P**	**03 56 06.8**	**+0.1**
	baz=331,SNR=23						
K55A				S	**S**	**04 06 48.1**	**-2.8**
	baz=331						
WHAR	**Wooly Hollow**	**88.91**	**42**	IAmb	IAmb	03 56 09.1	
	comp=Z,115nm,0.9s						
MMNY	**Mt. Morris Dam**	**88.95**	**28**	IAmb	IAmb	03 56 09.1	
	comp=Z,144nm,1.2s						
MMNY				IAMs_20	IAMs_20	04 43 37.0	
	comp=Z,3µm,20.0s						
WVNY	**West Valley, N**	**88.98**	**29**	IAMs_20	IAMs_20	04 40 04.9	
	comp=Z,4µm,20.0s						
VSL	**Villasalto**	**88.99**	**325**	P	**P**	**03 56 06.5**	**-0.7**
VSL				IAmb	IAmb	03 56 09.0	
	comp=Z,68nm,1.1s						
P49A	**Miami Univ. Ec**	**89.00**	**34**	P	**P**	**03 56 07.3**	**+0.1**
	baz=327,SNR=50						
P49A				S	**S**	**04 06 47.9**	**-4.0**
	baz=327						
W41B	**Gary Mavity, V**	**89.03**	**42**	P	**P**	**03 56 07.5**	**+0.1**
	baz=322,SNR=45						
W41B				S	**S**	**04 06 52.7**	**+0.5**
	baz=322						
W41B	**Gary Mavity, V**	**89.03**	**42**	IAmb	IAmb	03 56 09.6	
	comp=Z,69nm,1.1s						
W41B				IAMs_20	IAMs_20	04 37 39.2	
	comp=Z,3µm,22.0s						
J57A	**Williamstown**	**89.03**	**27**	P	**P**	**03 56 07.1**	**-0.1**
	baz=332,SNR=19						
J57A				S	**S**	**04 06 48.7**	**-3.3**
	baz=332						
J57A	**Williamstown**	**89.03**	**27**	IAmb	IAmb	03 56 09.4	
	comp=Z,137nm,1.2s						
J57A				IAMs_20	IAMs_20	04 41 30.8	
	comp=Z,4µm,20.0s						
M53A	**WI Miller and**	**89.04**	**31**	P	**P**	**03 56 07.9**	**+0.5**
	baz=329,SNR=32						
M53A				S	**S**	**04 06 50.0**	**-2.2**
	baz=329						
M53A	**WI Miller and**	**89.04**	**31**	IAMs_20	IAMs_20	04 40 45.5	
	comp=Z,5µm,21.0s						
ALLY	**Alegheny Colle**	**89.06**	**30**	P	**P**	**03 56 08.0**	**+0.5**
ALLY				IAMs_20	IAMs_20	04 41 34.1	
	comp=Z,4µm,21.0s						
PARMO	**Parma**	**89.07**	**39**	IAMs_20	IAMs_20	04 36 45.0	
	comp=Z,5µm,22.0s						
H60A	**Morristown**	**89.07**	**24**	P	**P**	**03 56 07.6**	**+0.2**
	baz=334,SNR=16						
H60A				S	**S**	**04 06 50.3**	**-2.2**
	baz=334						
F63A	**Nahmakanta, Br**	**89.08**	**21**	P	**P**	**03 56 07.6**	**+0.1**
	baz=337,SNR=9.2						
F63A	**Nahmakanta, Br**	**89.08**	**21**	IAmb	IAmb	03 56 10.0	
	comp=Z,83nm,1.4s						
F63A				IAMs_20	IAMs_20	04 41 41.9	
	comp=Z,3µm,18.0s						
Z38A	**Mt. Pleasant**	**89.10**	**45**	IAMs_20	IAMs_20	04 37 13.3	
	comp=Z,4µm,20.0s						
NCB	**Newcomb**	**89.12**	**25**	IAmb	IAmb	03 56 10.0	
	comp=Z,74nm,1.2s						
NCB				IAMs_20	IAMs_20	04 40 40.1	
	comp=Z,3µm,20.0s						
I58A	**Old Forge**	**89.12**	**26**	P	**P**	**03 56 07.4**	**-0.4**
	baz=333

K56A **Middlesex** 89.19 28 P P 03 56 08.0 -0.1
baz=331,SNR=29
K56A S S 04 06 50.6 -3.0
baz=331
L55A **Hinsdale** 89.24 29 P P 03 56 08.6 +0.2
baz=331,SNR=20
L55A S S 04 06 50.9 -3.3
baz=331
VT1 **Waterbury** 89.26 24 IAmb IAmb 03 56 11.0
comp=Z,118nm,1.3s
VT1 IAMs_20 IAMs_20 04 38 34.1
comp=Z,4µm,22.0s
X40A **Basin Creek Fa** 89.27 43 P P 03 56 09.0 +0.4
baz=322,SNR=42
X40A S S 04 06 54.7 +0.2
baz=322
X40A **Basin Creek Fa** 89.27 43 IAmb IAmb 03 56 11.2
comp=Z,69nm,1.1s
X40A IAMs_20 IAMs_20 04 36 52.6
comp=Z,3µm,22.0s
UALR **University of** 89.29 42 IAmb IAmb 03 56 52.1
comp=Z,124nm,1.6s
UALR IAMs_20 IAMs_20 04 36 53.2
comp=Z,3µm,20.0s
PENMO **Penman** 89.30 39 IAMs_20 IAMs_20 04 37 15.2
comp=Z,4µm,21.0s
T45A **Paducah** 89.31 38 IAmb IAmb 03 56 31.2
comp=Z,66nm,0.7s
T45A IAMs_20 IAMs_20 04 36 52.3
comp=Z,3µm,21.0s
J58A **Remsen** 89.31 26 P P 03 56 08.3 -0.4
baz=333,SNR=27
J58A S S 04 06 52.3 -2.4
baz=333
J58A **Remsen** 89.31 26 IAmb IAmb 03 56 10.8
comp=Z,94nm,1.1s
J58A IAMs_20 IAMs_20 04 41 35.3
comp=Z,4µm,20.0s
H61A **Lyndonville** 89.33 24 P P 03 56 09.4 +0.7
baz=335,SNR=35
M54A **Oil Creek Stat** 89.37 30 P P 03 56 09.4 +0.5
baz=330,SNR=38
M54A S S 04 06 51.2 -4.1
baz=330
M54A **Oil Creek Stat** 89.37 30 IAMs_20 IAMs_20 04 36 41.1
comp=Z,3µm,21.0s
O51A **Pataskala** 89.37 33 P P 03 56 09.0 +0.1
baz=328,SNR=26
O51A S S 04 06 54.4 -1.0
baz=328
I59A **Olmsteadville** 89.39 25 P P 03 56 08.9 -0.1
baz=334,SNR=20
WCI **Wyandotte Cave** 89.40 36 P P 03 56 09.4 +0.2
baz=326
WCI **Wyandotte Cave** 89.40 36 P P 03 56 09.3 +0.2
WCI pmax pmax
comp=Z,76nm,0.9s
WCI MLR MLR
comp=Z,8µm,22.0s
WCI **Wyandotte Cave** 89.40 36 P P 03 56 09.3 +0.2
WCI IAmb IAmb 03 56 11.5
comp=Z,76nm,0.9s
HICK **Hickman** 89.42 39 IAMs_20 IAMs_20 04 37 16.2
comp=Z,4µm,22.0s
PKME **Peaks-Kenny Pk** 89.44 22 P P 03 56 09.5 +0.4
baz=337,SNR=12
PKME **Peaks-Kenny Pk** 89.44 22 IAmb IAmb 03 56 11.8
comp=Z,55nm,1.0s
PKME IAMs_20 IAMs_20 04 41 52.2
comp=Z,3µm,20.0s
K57A **Scipio Center** 89.45 27 P P 03 56 09.1 -0.2
baz=332,SNR=13
K57A S S 04 06 52.9 -3.0
baz=332
PEBM **Pemiscott Bayo** 89.46 40 IAMs_20 IAMs_20 04 36 02.4
comp=Z,5µm,22.0s
J59A **Piesco** 89.48 26 P P 03 56 09.3 -0.1
baz=333,SNR=29
J59A S S 04 06 53.6 -2.7
baz=333
J59A **Piesco** 89.48 26 IAmb IAmb 03 56 11.6
comp=Z,84nm,1.1s
G63A **Kingsbury** 89.48 22 P P 03 56 09.9 +0.6
baz=337,SNR=18
ATD **Arta Tunnel** 89.49 285 P P 03 56 12.5 +2.5
SNR=12
HBAR **Harrisburg** 89.52 41 IAMs_20 IAMs_20 04 38 13.0
comp=Z,4µm,21.0s
N53A **Lisbon** 89.52 31 P P 03 56 10.0 +0.4
baz=329,SNR=42
N53A S S 04 06 55.3 -1.4
baz=329
N53A **Lisbon** 89.52 31 IAMs_20 IAMs_20 04 37 06.2
comp=Z,5µm,22.0s
H62A **Milan** 89.53 23 P P 03 56 10.2 +0.6
baz=336,SNR=44
H62A S S 04 06 55.5 -1.2
baz=336
H62A **Milan** 89.53 23 IAMs_20 IAMs_20 04 37 38.8
comp=Z,5µm,22.0s
I60A **Shoreham** 89.53 25 P P 03 56 09.8 +0.2
baz=334,SNR=30
435B **Jarrell** 89.56 48 P P 03 56 10.3 +0.3
baz=319
G64A **Maxfield** 89.59 21 P P 03 56 10.4 +0.5
baz=337,SNR=15
L56A **Greenwood** 89.60 28 P P 03 56 10.1 0.0
baz=331,SNR=29
L56A S S 04 06 55.7 -1.9
baz=331
L56A **Greenwood** 89.60 28 IAmb IAmb 03 56 12.4
comp=Z,105nm,1.0s
L56A IAMs_20 IAMs_20 04 42 45.1
comp=Z,3µm,20.0s
LBNH **Lisbon** 89.60 24 P P 03 56 10.6 +0.6
baz=335,SNR=8.6
LBNH **Lisbon** 89.60 24 IAMs_20 IAMs_20 04 41 24.8
comp=Z,3µm,20.0s
GLAT **Glass** 89.61 39 IAMs_20 IAMs_20 04 39 34.3
comp=Z,5µm,21.0s
237A **Washetta, Mont** 89.62 46 IAMs_20 IAMs_20 04 33 20.3
comp=Z,4µm,22.0s
WDD **Wied Dalam** 89.63 320 P P 03 56 09.6 -0.6
WDD IAmb IAmb 03 56 30.5
comp=Z,107nm,1.1s
WDD IAMs_20 IAMs_20 04 40 52.3
comp=Z,5µm,22.0s
LNXT **Lenox** 89.64 40 IAMs_20 IAMs_20 04 37 02.3
comp=Z,5µm,21.0s
WHZ **Wether Hill Ro** 89.65 162 IAMs_20 IAMs_20 04 29 38.7
comp=Z,4µm,22.0s
LPAR **Lepanto** 89.65 40 IAMs_20 IAMs_20 04 35 22.6
comp=Z,4µm,22.0s
O52A **Adamsville** 89.71 32 P P 03 56 10.8 +0.3
baz=328,SNR=16
O52A S S 04 06 56.8 -1.7
baz=328
O52A **Adamsville** 89.71 32 IAmb IAmb 03 56 12.9
comp=Z,111nm,0.9s
O52A IAMs_20 IAMs_20 04 42 52.4
comp=Z,3µm,21.0s
N54A **Moraine State** 89.72 31 P P 03 56 11.1 +0.5
baz=330,SNR=46
N54A S S 04 06 56.2 -2.3
baz=330
N54A **Moraine State** 89.72 31 IAMs_20 IAMs_20 04 42 05.4
comp=Z,5µm,20.0s
K58A **Earlville** 89.72 27 P P 03 56 10.8 +0.2
baz=332,SNR=33
K58A S S 04 06 55.3 -3.2
baz=332
K58A **Earlville** 89.72 27 IAmb IAmb 03 56 13.0
comp=Z,120nm,1.1s
K58A IAMs_20 IAMs_20 04 42 01.1
comp=Z,4µm,19.0s
H06N1 **SOCORRO T-PHAS** 89.72 65 T T 05 35 18.8
SNR=72
M55A **Ridgway** 89.74 30 P P 03 56 11.1 +0.4
baz=330,SNR=70
M55A S S 04 06 56.6 -2.2
baz=330
M55A **Ridgway** 89.74 30 IAMs_20 IAMs_20 04 41 30.9
comp=Z,4µm,21.0s
P51A **Williamsport** 89.75 33 P P 03 56 10.6 -0.1
baz=328,SNR=32
P51A **Williamsport** 89.75 33 IAmb IAmb 03 56 12.8
comp=Z,105nm,0.9s
P51A IAMs_20 IAMs_20 04 42 50.4
comp=Z,4µm,20.0s
WLAR **White Oak Lake** 89.75 43 P P 03 56 11.8 +1.0
WLAR IAMs_20 IAMs_20 04 37 09.5
comp=Z,4µm,22.0s
H63A **New Sharon** 89.78 22 P P 03 56 11.3 +0.6
baz=336,SNR=12
I61A **Oroboro, Fairl** 89.79 24 P P 03 56 11.5 +0.7
baz=335,SNR=20
ACCN **Adirondack Com** 89.82 25 IAmb IAmb 03 56 13.4
comp=Z,89nm,1.1s
ACCN IAMs_20 IAMs_20 04 37 28.8
comp=Z,4µm,22.0s
R49A **Shelbyville** 89.84 35 IAmb IAmb 03 56 46.8
comp=Z,202nm,2.0s
O53A **New Philadelph** 89.85 32 P P 03 56 11.4 +0.2
baz=329
O53A S S 04 06 60.0 +0.2
baz=329
O53A **New Philadelph** 89.85 32 IAMs_20 IAMs_20 04 37 15.9
comp=Z,5µm,22.0s
HALT **Halls** 89.87 40 IAMs_20 IAMs_20 04 37 08.3
comp=Z,4µm,21.0s
M56A **Emporium** 89.94 29 P P 03 56 11.9 +0.3
baz=331,SNR=52
M56A S S 04 06 54.7 -5.9
baz=331
M56A **Emporium** 89.94 29 IAMs_20 IAMs_20 04 39 29.3
comp=Z,3µm,21.0s
G65A **Princeton** 89.97 21 P P 03 56 12.1 +0.5
baz=338,SNR=12
G65A S S 04 06 57.2 -3.4
baz=338
G65A **Princeton** 89.97 21 IAmb IAmb 03 56 14.3
comp=Z,68nm,1.1s
L57A **Andrews Acres** 89.97 28 P P 03 56 11.9 +0.1
baz=332,SNR=23
L57A S S 04 06 59.4 -1.6
baz=332
WVL **Waterville** 89.97 22 IAmb IAmb 03 56 47.5
comp=Z,148nm,1.8s
WVL IAMs_20 IAMs_20 04 40 55.5
comp=Z,3µm,19.0s
K59A **Cooperstown** 89.98 26 P P 03 56 11.8 +0.1
baz=333,SNR=52
K59A S S 04 06 59.4 -1.6
baz=333
P52A **Corning** 90.00 33 P P 03 56 11.8 -0.1
baz=328,SNR=26
P52A S S 04 07 01.3 +0.1
baz=328
P52A **Corning** 90.00 33 IAmb IAmb 03 56 13.9
comp=Z,81nm,0.9s
P52A IAMs_20 IAMs_20 04 40 32.1
comp=Z,3µm,20.0s
Q51A **Peebles** 90.01 34 IAMs_20 IAMs_20 04 37 12.5
comp=Z,5µm,22.0s
H64A **Troy** 90.03 22 P P 03 56 12.4 +0.5
baz=337,SNR=12
H64A S S 04 07 02.3 +1.1
baz=337
J60A **Lant Hill Farm** 90.03 25 P P 03 56 12.2 +0.2
baz=334,SNR=16
TBI **Tubuai** 90.07 121 eS S 04 06 56.4 -5.6
TBI **Tubuai** 90.07 121 eLR LR 04 24 46.6
comp=Z,12µm,32.0s,baz=313
TBI **Tubuai** 90.07 121 eT T 05 35 46.5
comp=Z,78nm,0.3s
BINY **Binghamton** 90.10 27 P P 03 56 12.5 +0.1
baz=332,SNR=27
BINY **Binghamton** 90.10 27 IAmb IAmb 03 56 14.8
comp=Z,119nm,1.2s
BINY IAMs_20 IAMs_20 04 41 06.3
comp=Z,3µm,20.0s
I62A **Tamworth** 90.11 24 P P 03 56 13.0 +0.7
baz=335,SNR=12
I62A **Tamworth** 90.11 24 IAmb IAmb 03 56 15.2
comp=Z,74nm,1.2s
HDBT **Hernando Brdge** 90.13 40 IAMs_20 IAMs_20 04 35 58.3
comp=Z,3µm,19.0s
I63A **Otisfield** 90.18 23 P P 03 56 13.6 +1.0
baz=336,SNR=34
I63A **Otisfield** 90.18 23 IAMs_20 IAMs_20 04 40 06.9
comp=Z,4µm,21.0s
J61A **Chester** 90.21 25 P P 03 56 13.5 +0.7
baz=335,SNR=21
MET **Memphis--Engin** 90.22 40 IAMs_20 IAMs_20 04 35 39.5
comp=Z,5µm,21.0s
R50A **Paris** 90.22 35 IAmb IAmb 03 56 15.4
comp=Z,54nm,0.9s
X43A **Marvell** 90.23 41 P P 03 56 13.5 +0.5
baz=323,SNR=7.6
X43A S S 04 07 04.5 +1.1
baz=323
X43A **Marvell** 90.23 41 IAMs_20 IAMs_20 04 38 36.0
comp=Z,3µm,21.0s
GGN **Saint George** 90.23 20 IAmb IAmb 03 56 15.3
comp=Z,62nm,1.1s
GGN IAMs_20 IAMs_20 04 40 20.3
comp=Z,5µm,20.0s
O54A **Avella** 90.23 31 P P 03 56 13.5 +0.5
baz=329,SNR=30
O54A S S 04 07 03.5 +0.1
baz=329
O54A **Avella** 90.23 31 IAmb IAmb 03 56 15.7
comp=Z,109nm,0.9s
O54A IAMs_20 IAMs_20 04 37 29.1
comp=Z,5µm,22.0s
Z41A **Richland Creek** 90.25 43 P P 03 56 13.8 +0.6
baz=322,SNR=7.3
Z41A **Richland Creek** 90.25 43 IAmb IAmb 03 56 57.0
comp=Z,222nm,1.8s
Z41A IAMs_20 IAMs_20 04 37 25.6
comp=Z,4µm,22.0s
H65A **Eastbrook** 90.25 21 P P 03 56 13.3 +0.4
baz=338,SNR=15
N55A **Marion Center** 90.25 30 P P 03 56 13.6 +0.5
baz=330,SNR=48
N55A S S 04 07 02.4 -1.2
baz=330
CCAR **Cane Creek** 90.26 42 IAMs_20 IAMs_20 04 37 32.8
comp=Z,3µm,21.0s
L58A **Harry Jones Me** 90.28 27 P P 03 56 13.6 +0.4
baz=332,SNR=49
L58A S S 04 07 01.7 -2.1
baz=332
833A **Chaparral WMA,** 90.37 51 P P 03 56 14.7 +0.9
baz=318,SNR=8.2
833A S S 04 06 58.9 -6.0
baz=318
833A **Chaparral WMA,** 90.37 51 IAmb IAmb 03 56 35.3
comp=Z,156nm,1.8s
833A IAMs_20 IAMs_20 04 35 12.6
comp=Z,3µm,20.0s
N56A **West Decatur** 90.39 30 P P 03 56 14.3 +0.6
baz=331,SNR=57
N56A S S 04 07 00.2 -4.6
baz=331
TRY **Troy** 90.41 26 IAmb IAmb 03 56 16.3
comp=Z,76nm,1.1s
TRY IAMs_20 IAMs_20 04 41 29.3
comp=Z,4µm,20.0s
WVT **Waverly** 90.41 38 P P 03 56 14.2 +0.3
baz=325
WVT **Waverly** 90.41 38 P P 03 56 13.8 -0.1
WVT pmax pmax
comp=Z,45nm,0.9s
WVT **Waverly** 90.41 38 P P 03 56 13.8 -0.1
WVT IAmb IAmb 03 56 16.3
comp=Z,45nm,0.9s
WVT **Waverly** 90.41 38 IAMs_20 IAMs_20 04 44 58.5
comp=Z,3µm,20.0s
H66A **Whiting** 90.42 21 P P 03 56 14.0 +0.3
baz=338,SNR=10.0
P53A **Whipple** 90.43 32 P P 03 56 14.2 +0.4
baz=329,SNR=23
P53A S S 04 07 03.8 -1.3
baz=329
P53A **Whipple** 90.43 32 IAmb IAmb 03 56 16.4
comp=Z,77nm,1.0s
P53A IAMs_20 IAMs_20 04 41 56.3
comp=Z,5µm,22.0s
NATX **Nacogdoches** 90.43 46 P P 03 56 14.7 +0.6
baz=321
NATX **Nacogdoches** 90.43 46 IAmb IAmb 03 56 58.0
comp=Z,168nm,1.4s
NATX IAMs_20 IAMs_20 04 35 21.6
comp=Z,5µm,22.0s
L59A **Walton** 90.43 27 P P 03 56 14.3 +0.4
baz=333,SNR=52
L59A S S 04 07 02.3 -2.9
baz=333
K60A **Five Rivers En** 90.44 26 P P 03 56 14.3 +0.4
baz=334,SNR=14
EMMW **East Machias** 90.45 21 IAmb IAmb 03 56 16.4
comp=Z,66nm,1.1s
M57A **Sunshine Farm,** 90.45 29 P P 03 56 14.6 +0.6
baz=332,SNR=81
M57A S S 04 07 02.2 -3.2
baz=332
M57A **Sunshine Farm,** 90.45 29 IAMs_20 IAMs_20 04 43 19.8
comp=Z,4µm,19.0s
Q52A **Bidwell** 90.51 33 P P 03 56 14.3 0.0
baz=328,SNR=6.0
Q52A S S 04 07 05.1 -0.8
baz=328
W45A **Hickory Valley** 90.55 40 IAmb IAmb 03 56 16.9
comp=Z,106nm,0.9s
W45A IAMs_20 IAMs_20 04 36 57.4
comp=Z,5µm,22.0s
J62A **Henniker** 90.55 24 P P 03 56 15.3 +0.9
baz=335,SNR=16
I64A **Boothbay** 90.57 22 P P 03 56 15.0 +0.5
baz=337,SNR=7.5
K61A **Williamstown** 90.59 25 P P 03 56 15.2 +0.6
baz=334,SNR=25
O55A **Ligonier** 90.63 31 P P 03 56 15.1 +0.3
baz=330,SNR=22
MSEY **Mahe Island** 90.64 264 IAMs_20 IAMs_20 04 35 59.8
comp=Z,4µm,22.0s
M58A **Price's Panora** 90.66 28 P P 03 56 15.5 +0.5
baz=332,SNR=63
M58A S S 04 07 05.1 -2.2
baz=332
P54A **Burton** 90.69 32 P P 03 56 15.7 +0.5
baz=329,SNR=26
P54A S S 04 07 05.3 -2.3
baz=329
J63A **Strafford** 90.73 24 P P 03 56 15.9 +0.7
baz=336,SNR=21
MAHO **Mahon** 90.74 329⇑ iP P 03 56 16.1 +0.7
KSPA **Keystone Colle** 90.75 28 IAmb IAmb 03 56 17.7
comp=Z,96nm,1.0s
KSPA IAMs_20 IAMs_20 04 44 35.3
comp=Z,3µm,20.0s
SSPA **Standing Stone** 90.79 29 P P 03 56 16.0 +0.4
baz=331
SSPA **Standing Stone** 90.79 29 P P 03 56 16.0 +0.4
SSPA **Standing Stone** 90.79 29 IAMs_20 IAMs_20 04 43 19.5
comp=Z,3µm,19.0s
N57A **Milroy** 90.81 29 P P 03 56 16.0 +0.4
baz=331,SNR=80
O56A **Blue Knob Stat** 90.86 30 P P 03 56 16.4 +0.5
baz=331,SNR=30
O56A S S 04 07 06.9 -2.2
baz=331
O56A **Blue Knob Stat** 90.86 30 IAmb IAmb 03 56 18.5
comp=Z,92nm,1.0s
O56A IAMs_20 IAMs_20 04 42 05.5
comp=Z,3µm,22.0s
M59A **Waymart** 90.88 27 P P 03 56 16.2 +0.2
baz=333,SNR=34
735A **Keneley** 90.89 50 IAMs_20 IAMs_20 04 32 43.3
comp=Z,5µm,22.0s
L60A **Shokan** 90.89 26 P P 03 56 16.5 +0.5
baz=334,SNR=31
L60A S S 04 07 09.8 +0.5
baz=334
MCWV **Mont Chateau** 90.89 31 P P 03 56 16.8 +0.7
baz=330,SNR=15
MCWV **Mont Chateau** 90.89 31 IAMs_20 IAMs_20 04 37 48.6
comp=Z,3µm,21.0s
Q53A **Leroy** 90.91 33 P P 03 56 16.7 +0.6
baz=329,SNR=20
Q53A S S 04 07 08.0 -1.5
baz=329
L61A **Hillsdale 1, H** 90.93 26 P P 03 56 16.6 +0.4
baz=334
K62A **Royalston** 90.93 25 P P 03 56 16.9 +0.8
baz=335,SNR=18
K62A **Royalston** 90.93 25 IAmb IAmb 03 56 19.1
comp=Z,67nm,1.0s
K62A IAMs_20 IAMs_20 04 43 06.0
comp=Z,4µm,21.0s
OXF **Oxford** 90.96 40 P P 03 56 16.5 +0.1
baz=324
OXF **Oxford** 90.96 40 IAMs_20 IAMs_20 04 36 13.3
comp=Z,5µm,21.0s
L61B **Northampton** 90.98 25 P P 03 56 16.4 +0.1
baz=334,SNR=13
P55A **Reedsville** 91.03 31 P P 03 56 17.4 +0.6
baz=330,SNR=20
P55A S S 04 07 11.1 +0.4
baz=330
N58A **Sunbury** 91.04 29 P P 03 56 17.1 +0.4
baz=332,SNR=47
N58A S S 04 07 08.6 -2.1
baz=332
U49A **Red Boiling Sp** 91.04 37 IAmb IAmb 03 56 19.2
comp=Z,70nm,1.0s
T50A **Nancy** 91.04 36 IAmb IAmb 03 56 19.1
comp=Z,60nm,0.8s
Q54A **Coxs Mills** 91.08 32 P P 03 56 17.5 +0.6
baz=329,SNR=19
Q54A S S 04 07 09.1 -2.0
baz=329
Q54A **Coxs Mills** 91.08 32 IAMs_20 IAMs_20 04 42 23.6
comp=Z,4µm,20.0s
K63A **Dunstable** 91.13 24 P P 03 56 17.9 +0.8
baz=335,SNR=21
K63A S S 04 07 11.2 -0.2
baz=335
CLTN **Cedars of Leba** 91.14 37 IAmb IAmb 03 56 19.8
comp=Z,48nm,1.1s
HKT **Hockley** 91.17 47 P P 03 56 18.8 +1.4
HKT pmax pmax
comp=Z,72nm,2.0s
HKT **Hockley** 91.17 47 P P 03 56 18.8 +1.4
HKT **Hockley** 91.17 47 IAMs_20 IAMs_20 04 42 43.3
comp=Z,3µm,19.0s
R53A **Hurricane** 91.18 33 P P 03 56 17.7 +0.3
baz=328
R53A S S 04 07 12.7 +0.7
baz=328
R53A **Hurricane** 91.18 33 IAMs_20 IAMs_20 04 37 32.4
comp=Z,4µm,22.0s
V48A **Smith Brothers** 91.20 38 IAmb IAmb 03 56 19.8
comp=Z,56nm,1.1s
PLAL **Pickwick Lake** 91.23 39 IAMs_20 IAMs_20 04 37 50.2
comp=Z,4µm,21.0s
QUA2 **Belchertown** 91.24 25 IAMs_20 IAMs_20 04 43 15.2
comp=Z,3µm,20.0s
O57A **Amberson** 91.26 29 P P 03 56 18.1 +0.3
baz=331,SNR=15
HRV **Adam Dziewonsk** 91.28 24 P P 03 56 18.5 +0.7
baz=335
HRV **Adam Dziewonsk** 91.28 24 P P 03 56 18.8 +1.0
HRV pmax pmax
comp=Z,91nm,1.1s
HRV MLR MLR
comp=Z,5µm,22.0s
HRV **Adam Dziewonsk** 91.28 24 P P 03 56 18.8 +1.0
HRV IAmb IAmb 03 56 20.7
comp=Z,91nm,1.1s
HRV **Adam Dziewonsk** 91.28 24 IAMs_20 IAMs_20 04 39 43.4
comp=Z,5µm,22.0s
N59A **State Game Lan** 91.31 28 P P 03 56 18.6 +0.6
baz=332,SNR=68
N59A **State Game Lan** 91.31 28 IAMs_20 IAMs_20 04 45 06.3
comp=Z,3µm,21.0s
M60A **Port Jervis** 91.34 27 P P 03 56 18.3 +0.2
baz=333,SNR=21
M60A S S 04 07 11.1 -2.4
baz=333
L62A **Suffield** 91.36 25 P P 03 56 18.5 +0.4
baz=334,SNR=5.7
KSCT **Kent School, K** 91.37 26 IAmb IAmb 03 56 20.7
comp=Z,89nm,1.2s
KSCT IAMs_20 IAMs_20 04 42 08.8
comp=Z,3µm,20.0s
Q55A **Buckhannon** 91.37 32 P P 03 56 18.8 +0.4
baz=330,SNR=14
Q55A S S 04 07 15.0 +1.1
baz=330
143A **Socs Landing,** 91.40 43 IAmb IAmb 03 56 21.4
comp=Z,92nm,1.2s
143A IAMs_20 IAMs_20 04 38 21.2

comp=Z,4µm,22.0s
Y45A Yeager Farm, C 91.42 41 IAMs_20 IAMs_20 04 39 19.3
comp=Z,3µm,22.0s
P56A Dayton Farm, R 91.42 31 P P 03 56 19.0 +0.5
baz=330,SNR=24
P56A S S 04 07 12.3 -1.8
baz=330
WES Weston 91.47 24 IAmb IAmb 03 56 21.4
comp=Z,104nm,1.0s
WES IAMs_20 IAMs_20 04 39 59.2
comp=Z,5µm,22.0s
BCX Boston College 91.56 24 IAmb IAmb 03 56 21.7
comp=Z,58nm,1.2s
BCX IAMs_20 IAMs_20 04 39 39.6
comp=Z,5µm,22.0s
ODNJ Ogdensburg 91.57 27 IAmb IAmb 03 56 21.4
comp=Z,49nm,1.0s
ODNJ IAMs_20 IAMs_20 04 42 56.1
comp=Z,4µm,20.0s
PAGS Pennsylvania G 91.58 29 IAmb IAmb 03 56 57.5
comp=Z,54nm,1.0s
PAGS IAMs_20 IAMs_20 04 43 46.5
comp=Z,2µm,20.0s
N60A Cedar Hill Far 91.59 27 P P 03 56 19.4 +0.2
baz=333,SNR=18
N60A S S 04 07 12.5 -3.1
baz=333
O58A Lewisberry 91.59 29 P P 03 56 19.4 +0.1
baz=332,SNR=16
O58A S S 04 07 12.6 -3.2
baz=332
M61A Granite Spring 91.65 26 P P 03 56 19.8 +0.3
baz=334,SNR=31
M61A S S 04 07 13.1 -3.1
baz=334
S53A Williamson 91.66 34 P P 03 56 19.8 +0.1
baz=328,SNR=6.9
Q56A Snyder Ridge, 91.68 31 P P 03 56 20.0 +0.2
baz=330,SNR=13
Q56A S S 04 07 16.7 +0.1
baz=330
O59A Robesonia 91.70 28 P P 03 56 19.9 +0.2
baz=332,SNR=16
O59A S S 04 07 13.9 -2.8
baz=332
R54A Victor 91.70 33 P P 03 56 20.1 +0.2
baz=329,SNR=12
R54A S S 04 07 14.8 -2.1
baz=329
P57A Homestead Farm 91.75 30 P P 03 56 19.8 -0.2
baz=331,SNR=8.0
P57A S S 04 07 16.1 -1.0
baz=331
P57A Homestead Farm 91.75 30 IAMs_20 IAMs_20 04 41 03.1
comp=Z,3µm,22.0s
M62A Hamden 91.82 26 P P 03 56 19.9 -0.4
baz=334,SNR=6.1
BRYW Bryant College 91.82 25 P P 03 56 21.0 +0.6
BRYW IAmb IAmb 03 56 23.0
comp=Z,50nm,1.1s
BRYW IAMs_20 IAMs_20 04 40 23.7
comp=Z,4µm,22.0s
L63A North Scituate 91.85 25 P P 03 56 20.4 0.0
baz=335,SNR=5.7
PAL Palisades 91.87 27 P P 03 56 20.6 +0.1
baz=334,SNR=13
PAL S S 04 07 15.8 -2.4
baz=334
PAL Palisades 91.87 27 IAmb IAmb 03 56 23.0
comp=Z,59nm,1.0s
PAL IAMs_20 IAMs_20 04 43 00.1
comp=Z,5µm,21.0s
S54A Dingess, Beckl 91.89 33 P P 03 56 20.9 +0.1
baz=329,SNR=9.6
S54A S S 04 07 19.1 +0.5
baz=329
S54A Dingess, Beckl 91.89 33 IAmb IAmb 03 56 23.1
comp=Z,41nm,1.0s
S54A IAMs_20 IAMs_20 04 43 07.3
comp=Z,4µm,21.0s
WSPT Westport, CT 91.92 26 IAmb IAmb 03 56 22.9
comp=Z,80nm,1.3s
WSPT IAMs_20 IAMs_20 04 42 25.3
comp=Z,3µm,20.0s
YLE Yale 91.92 26 IAMs_20 IAMs_20 04 41 57.3
comp=Z,4µm,19.0s
BRNJ Basking Ridge 91.94 27 IAmb IAmb 03 56 23.5
comp=Z,105nm,1.1s
R55A Marlinton 91.97 32 P P 03 56 21.5 +0.3
baz=330,SNR=22
R55A S S 04 07 20.3 +1.0
baz=330
R55A Marlinton 91.97 32 IAmb IAmb 03 56 23.6
comp=Z,50nm,0.9s
R55A IAMs_20 IAMs_20 04 42 57.1
comp=Z,3µm,20.0s
N61A South Mountain 91.97 27 P P 03 56 21.2 +0.2
baz=333,SNR=13
N61A S S 04 07 17.7 -1.4
baz=333
O60A Telford 91.97 28 P P 03 56 21.0 0.0
baz=333,SNR=9.4
O60A S S 04 07 16.0 -3.1
baz=333
342A Flagon Creek P 91.97 44 IAMs_20 IAMs_20 04 37 59.4
comp=Z,5µm,21.0s
Q57A Strasburg 91.99 31 P P 03 56 20.8 -0.4
baz=331,SNR=8.2
Q57A S S 04 07 20.1 +0.7
baz=331
441A DeRidder 92.00 45 IAMs_20 IAMs_20 04 36 44.3
comp=Z,4µm,22.0s
TZTN Tazewell 92.01 35 P P 03 56 21.4 +0.1
baz=327,SNR=18
TZTN Tazewell 92.01 35 IAmb IAmb 03 56 23.7
comp=Z,50nm,1.1s
P58A Pank, Wackersv 92.01 30 P P 03 56 21.3 +0.1
baz=331,SNR=15
P58A S S 04 07 17.9 -1.6
baz=331
L64A Middleborough 92.03 24 P P 03 56 21.7 +0.5
baz=336,SNR=15
SWET Sewanee 92.04 38 IAmb IAmb 03 56 23.3
comp=Z,42nm,1.0s
SWET IAMs_20 IAMs_20 04 36 40.6
comp=Z,4µm,22.0s
CPNY Central Park 92.05 27 IAmb IAmb 03 56 23.9
comp=Z,61nm,1.1s
T53A Wise 92.08 34 P P 03 56 21.8 +0.1
baz=328,SNR=11
T53A S S 04 07 21.1 +0.8
baz=328
N62A Caumsett State 92.09 26 P P 03 56 21.5 -0.1
baz=334,SNR=6.6
M63A Gales Ferry 92.13 25 P P 03 56 21.6 -0.1
baz=335,SNR=8.5
KEST Kesra 92.14 323 P P 03 56 21.5 -0.5
comp=Z,30nm,0.9s,baz=300,slow=2.6,SNR=33
KEST PP PP 04 00 02.8 +1.2
comp=Z,14nm,1.0s,baz=310,slow=7.7,SNR=3.8
KEST LR LR 04 42 21.1
comp=Z,12µm,20.2s,baz=332,slow=38
KEST Kesra 92.14 323 P P 03 56 21.7 -0.3
KEST IAmb IAmb 03 56 23.9
comp=Z,44nm,1.0s
R56A Bull Pasture M 92.14 32 P P 03 56 22.0 0.0
baz=330,SNR=5.1
R56A S S 04 07 21.4 +0.4
baz=330
X48A Hartselle 92.15 39 IAMs_20 IAMs_20 04 39 22.6
comp=Z,4µm,22.0s
P59A Jarrettsville 92.22 29 P P 03 56 22.4 +0.3
baz=332,SNR=9.0
P59A S S 04 07 20.3 -1.1
baz=332
CMAH Djebel Manchou 92.24 325 P P 03 56 21.4 -1.0
VBMS Vicksburg 92.24 43 P P 03 56 23.1 +0.7
baz=323
VBMS Vicksburg 92.24 43 IAMs_20 IAMs_20 04 42 34.4
comp=Z,2µm,19.0s
S55A Lewisburg 92.25 33 P P 03 56 22.5 +0.1
baz=329,SNR=8.0
S55A S S 04 07 23.3 +1.5
baz=329
M64A Tiverton 92.26 24 P P 03 56 22.5 +0.2
baz=336
V51A Loudon 92.27 36 IAmb IAmb 03 56 24.8
comp=Z,48nm,1.1s
PSUB Penn St. - Bra 92.30 28 IAMs_20 IAMs_20 04 42 27.5
comp=Z,5µm,21.0s
P60A Greenville 92.33 28 P P 03 56 22.8 +0.1
baz=332,SNR=10
P60A S S 04 07 18.8 -3.6
baz=332
P60A Greenville 92.33 28 IAmb IAmb 03 56 24.9
comp=Z,48nm,1.0s
P60A IAMs_20 IAMs_20 04 42 19.5
comp=Z,5µm,21.0s
W50A Signal Mountai 92.34 37 IAMs_20 IAMs_20 04 37 14.5
comp=Z,5µm,22.0s
Q58A Fox Den Farm, 92.35 30 P P 03 56 22.9 +0.1
baz=331,SNR=8.8
Q58A S S 04 07 21.7 -0.8
baz=331
CAEH 'Ain El Ouahch 92.35 326 P P 03 56 24.3 +1.4
T54A Tazewell 92.41 34 P P 03 56 23.4 +0.2
baz=329,SNR=14
T54A S S 04 07 23.8 +0.4
baz=329
M65A Busby, Falmout 92.42 24 IAMs_20 IAMs_20 04 41 30.4
comp=Z,5µm,21.0s
O61A Allentown 92.47 27 P P 03 56 23.1 -0.2
baz=333
V52A Sevierville 92.58 36 IAmb IAmb 03 56 56.3
comp=Z,67nm,1.3s
R57A Stanardsville 92.58 31 P P 03 56 24.3 +0.4
baz=331,SNR=8.1
146A Union 92.64 41 IAMs_20 IAMs_20 04 46 13.9
comp=Z,4µm,20.0s
TKL Tuckaleechee C 92.65 36 IAmb IAmb 03 56 26.5
comp=Z,44nm,1.1s
Z47A Carrollton 92.68 40 IAmb IAmb 03 56 26.6
comp=Z,46nm,0.9s
T55A Pulaski 92.70 33 P P 03 56 24.8 +0.3
baz=329,SNR=21
T55A S S 04 07 26.2 +0.4
baz=329
S56A Natural Bridge 92.71 32 P P 03 56 24.4 -0.1
baz=330,SNR=5.6
S56A S S 04 07 24.9 -1.0
baz=330
CKFL Kef-Lekhel 92.73 326 P P 03 56 25.1 +0.3
344A Westbrook Farm 92.74 43 IAmb IAmb 03 56 27.9
comp=Z,49nm,0.9s
344A IAMs_20 IAMs_20 04 39 13.7
comp=Z,4µm,22.0s
FPAL Fort Paine 92.75 38 P P 03 56 24.9 +0.1
FPAL IAMs_20 IAMs_20 04 46 41.3
comp=Z,3µm,20.0s
P61A Hammonton 92.76 28 P P 03 56 24.5 -0.1
baz=333
P61A S S 04 07 26.7 +0.6
baz=333
P61A Hammonton 92.76 28 IAMs_20 IAMs_20 04 42 57.6
comp=Z,4µm,20.0s
BLA Blacksburg 92.76 33 P P 03 56 24.7 -0.1
baz=329,SNR=14
BLA Blacksburg 92.76 33 IAmb IAmb 03 56 27.1
comp=Z,49nm,1.0s
BLA IAMs_20 IAMs_20 04 43 19.3
comp=Z,5µm,22.0s
U54A Nelsons Funny 92.77 34 P P 03 56 24.9 0.0
baz=328,SNR=12
R58A Rapidan 92.78 31 P P 03 56 24.8 0.0
baz=331,SNR=8.9
R58A S S 04 07 27.7 +1.3
baz=331
PBRG Braganca 92.79 337⇑ *eP* P 03 56 24.4 -0.4
PBRG *e*LQ LQ 03 56 42.5
PBRG Braganca 92.79 337 *i* PP PP 04 00 07.9 +1.6
Q59A Harwood 92.80 29 P P 03 56 25.3 +0.5
baz=332
S57A Dark Hollow, R 92.88 32 P P 03 56 25.4 +0.1
baz=330,SNR=9.2
S57A Dark Hollow, R 92.88 32 IAMs_20 IAMs_20 04 39 00.3
comp=Z,5µm,22.0s
Y49A Blount Mountai 92.94 39 IAMs_20 IAMs_20 04 39 56.4
comp=Z,4µm,22.0s
DFRA Djebel Bou Aff 92.96 326 P P 03 56 25.3 -0.5
Q60A Greensboro 92.98 29 P P 03 56 25.7 +0.1
baz=332
Q60A Greensboro 92.98 29 IAMs_20 IAMs_20 04 46 02.5
comp=Z,3µm,20.0s
UCM Universidad Co 93.07 334⇑ *iP* P 03 56 26.8 +0.7
UCM *e*SKS **SKSac** 04 06 51.3 -5.2
PGAV Gavieira, Arco 93.07 338⇑ *eP* P 03 56 25.7 -0.5
PGAV *e*LQ LQ 03 56 43.9
PGAV Gavieira, Arco 93.07 338 *e*PP PP 04 00 09.0 +0.4
PGAV *e*SKS **S** 04 07 27.2 -1.9
PGAV Gavieira, Arco 93.07 338 *e*LR LR 04 27 53.6
comp=Z,2µm,20.0s
T56A Rocky Mt 93.08 33 P P 03 56 25.8 -0.5
baz=330,SNR=8.4
CBN Corbin Frederi 93.11 30 P P 03 56 26.1 -0.2
baz=331
CBN Corbin Frederi 93.11 30 IAMs_20 IAMs_20 04 41 43.1
comp=Z,4µm,21.0s
U55A TA2, Sparta 93.11 34 P P 03 56 26.6 +0.1
baz=329,SNR=9.5
R58B Mineral 93.12 31 P P 03 56 26.2 -0.2
baz=331,SNR=6.1
R59A King George, V 93.21 30 P P 03 56 27.0 +0.2
baz=332
PCAB Cabril 93.24 338 *eP* P 03 56 28.0 +1.1
PCAB Cabril 93.24 338 *e*PP PP 04 00 11.4 +1.5
LRAL Lakeview Retre 93.33 40 P P 03 56 27.0 -0.5
baz=325,SNR=15
LRAL Lakeview Retre 93.33 40 IAMs_20 IAMs_20 04 39 02.9
comp=Z,3µm,20.0s
V54A Nebo 93.35 35 P P 03 56 26.8 -0.7
baz=328,SNR=6.8
S58A Poland Farm, P 93.36 31 P P 03 56 27.1 -0.4
baz=331,SNR=6.3
T57A Hurt 93.42 32 P P 03 56 27.8 0.0
baz=330,SNR=12
T57A Hurt 93.42 32 IAMs_20 IAMs_20 04 39 18.6
comp=Z,4µm,22.0s
SET Setif 93.46 326 P P 03 56 29.0 +0.9
MVO Moncorvo 93.46 337⇑ *eP* P 03 56 27.7 -0.3
MVO *e*LQ LQ 03 56 45.6
MVO Moncorvo 93.46 337 *e*PP PP 04 00 12.3 +0.6
MVO *e*SKS **S** 04 07 31.0 -1.5
MVO Moncorvo 93.46 337 *e*LR LR 04 27 52.7
comp=Z,5µm,22.0s
U56A King 93.52 33 P P 03 56 28.2 0.0
baz=329,SNR=9.3
U56A S S 04 07 33.7 +0.6
baz=329
S59A Mechanicsville 93.53 30 P P 03 56 28.3 +0.1
baz=331,SNR=7.0
PVRL Vila Real 93.56 338 *eP* P 03 56 29.6 +1.2
PVRL *e*LQ LQ 03 56 46.3
PVRL Vila Real 93.56 338 *e*PP PP 04 00 09.4 -3.0
V55A Taylorsville 93.59 34 P P 03 56 28.5 -0.1
baz=329
R61A Willards 93.75 29 P P 03 56 29.6 +0.4
baz=333
R61A Willards 93.75 29 IAMs_20 IAMs_20 04 46 45.1
comp=Z,3µm,20.0s
T58A Grand View Acr 93.75 32 P P 03 56 29.3 0.0
baz=330,SNR=7.4
T58A S S 04 07 32.5 -2.6
baz=330
S60A Water View 93.82 30 P P 03 56 29.8 +0.3
baz=332,SNR=6.6
S60A S S 04 07 32.7 -2.8
baz=332
W54A Cherokee Point 93.83 35 P P 03 56 29.5 -0.2
baz=328,SNR=7.0
W54A S S 04 07 33.5 -2.3
baz=328
U57A Blanch 93.88 32 P P 03 56 29.8 0.0
baz=330,SNR=13
U57A S S 04 07 38.1 +2.0
baz=330
ESDC Sonseca Array 93.88 335 P P 03 56 29.8 -0.1
comp=Z,10nm,0.8s,baz=21,slow=3.8,SNR=56
ESDC PP PP 04 00 16.7 +1.7
comp=Z,16nm,1.0s,baz=25,slow=8.2,SNR=9.1
ESDC LR LR 04 44 15.4
comp=Z,6µm,19.8s,baz=25,slow=39
ESDC Sonseca Array 93.88 335 P P 03 56 29.5 -0.4
V56A Mocksville 93.93 34 P P 03 56 30.0 -0.2
baz=329,SNR=7.7
Z51A Franklin 93.96 38 IAMs_20 IAMs_20 04 47 10.5
comp=Z,3µm,19.0s
Y52A Lilburn 94.02 37 IAMs_20 IAMs_20 04 41 41.9
comp=Z,3µm,21.0s
T59A Double "B" Far 94.11 31 P P 03 56 31.0 0.0
baz=331,SNR=6.8
PAB San Pablo 94.12 335 P P 03 56 30.9 -0.1
PAB pmax pmax
comp=Z,32nm,1.1s
PAB San Pablo 94.12 335 P P 03 56 30.9 -0.1
PVIS Viseu 94.13 338 *eP* P 03 56 32.2 +1.2
PVIS *e*LQ LQ 03 56 49.5
PVIS Viseu 94.13 338 *e*PP PP 04 00 16.8 0.0
KMSC Kings Mountain 94.15 35 P P 03 56 30.7 -0.5
baz=329,SNR=10.0
V57A Coltrane Farms 94.17 33 P P 03 56 31.1 -0.1
baz=330,SNR=7.6
X54A Belton 94.20 36 P P 03 56 31.7 +0.3
baz=328
X54A S S 04 07 34.9 -4.2
baz=328
S61A Accomac 94.21 29 P P 03 56 31.6 +0.3
baz=332
S61A Accomac 94.21 29 IAMs_20 IAMs_20 04 47 12.1
comp=Z,3µm,20.0s
U58A Oxford 94.22 32 P P 03 56 31.4 -0.1
baz=330,SNR=13
T60A Surry 94.28 30 P P 03 56 31.6 -0.1
baz=332
T60A Surry 94.28 30 IAMs_20 IAMs_20 04 42 27.3
comp=Z,4µm,20.0s
FURI Furi 94.29 286 P P 03 56 34.0 +1.5
MTE Manteigas 94.32 337⇑ *eP* P 03 56 31.8 -0.1
MTE *e*LQ LQ 03 56 49.9
MTE Manteigas 94.32 337 *e*PP PP 04 00 19.3 +1.0
MTE *e*SKS **SKSac** 04 07 03.7 +0.4
MTE Manteigas 94.32 337 *e*LR LR 04 28 15.2
comp=Z,3µm,22.0s
MTE Manteigas 94.32 337 IAmb IAmb 03 56 50.6
comp=Z,52nm,1.1s
MTE IAMs_20 IAMs_20 04 44 34.8
comp=Z,4µm,19.0s
W56A Indian Trail 94.47 34 P P 03 56 31.9 -0.7
baz=329
V58A Windy Hill, Pi 94.52 33 P P 03 56 32.3 -0.5
baz=330,SNR=5.9
V58A Windy Hill, Pi 94.52 33 IAMs_20 IAMs_20 04 45 03.7
comp=Z,3µm,20.0s
250A Grady 94.55 40 IAmb IAmb 03 56 35.4
comp=Z,63nm,0.8s
250A IAMs_20 IAMs_20 04 39 21.1
comp=Z,4µm,22.0s
U59A Littleton 94.56 31 P P 03 56 32.4 -0.6
baz=331,SNR=5.3
U59A Littleton 94.56 31 IAMs_20 IAMs_20 04 40 01.7
comp=Z,4µm,22.0s
X55A Gracelyn & Ava 94.59 35 P P 03 56 32.5 -0.7
baz=328
GOGA Godfrey 94.67 37 P P 03 56 33.6 +0.1
baz=327,SNR=9.6
GOGA Godfrey 94.67 37 IAMs_20 IAMs_20 04 38 50.1
comp=Z,3µm,22.0s
U60A Pendleton 94.70 31 P P 03 56 33.1 -0.5
baz=331
W57A Gilead 94.71 34 P P 03 56 32.8 -0.9
baz=330,SNR=7.2
152A Waverly Hall 94.71 38 IAMs_20 IAMs_20 04 47 34.4
comp=Z,4µm,19.0s
CART Cartagena 94.74 332⇑ *iP* P 03 56 33.8 0.0
CART *e*SKS **SKSac** 04 07 06.8 +1.3
CART Cartagena 94.74 332 P P 03 56 32.8 -1.0
CART IAMs_20 IAMs_20 04 42 13.2
comp=Z,5µm,22.0s
COI Coimbra 94.74 338 *eP* P 03 56 33.1 -0.7
COI *e*LQ LQ 03 56 51.4
COI Coimbra 94.74 338 *e*PP PP 04 00 21.7 +0.2
COI Coimbra 94.74 338 IAmb IAmb 03 56 52.1
comp=Z,61nm,1.1s
PCBR Castelo Branco 94.81 337 *eP* P 03 56 35.0 +0.9
PCBR *e*LQ LQ 03 56 51.8
PCBR Castelo Branco 94.81 337 *e*PP PP 04 00 21.4 -0.7
BRAL Brewton 94.83 41 P P 03 56 34.7 +0.4
baz=325
BRAL Brewton 94.83 41 IAMs_20 IAMs_20 04 38 32.7
comp=Z,4µm,22.0s
X56A White Oak 94.83 35 P P 03 56 34.6 +0.3
baz=329,SNR=8.0
V59A Middlesex 94.90 32 P P 03 56 34.5 0.0
baz=331,SNR=7.8
PCAS Casmilo, Conde 94.91 338 *i* PP PP 04 00 25.7 +2.8
JSC Jenkinsville 94.91 35 IAMs_20 IAMs_20 04 40 12.4
comp=Z,4µm,22.0s
Y55A Saluda 94.94 36 P P 03 56 34.8 0.0
baz=328,SNR=8.7
U61A Possum Corner 95.10 30 P P 03 56 35.5 +0.1
baz=332
U61A Possum Corner 95.10 30 IAmb IAmb 03 56 37.9
comp=Z,75nm,1.1s
W58A Raeford 95.14 33 P P 03 56 36.0 +0.3
baz=330,SNR=6.8
PMRV Marv??o 95.17 337⇑ *eP* P 03 56 34.9 -0.9
PMRV *e*LQ LQ 03 56 53.4
PMRV Marv??o 95.17 337 *e*PP PP 04 00 22.7 -2.2
PMRV *e*SKS **SKSac** 04 07 15.0 +7.2
PMRV Marv??o 95.17 337 *e*LR LR 04 28 43.6
comp=Z,5µm,20.0s
X57A Johnson Farm, 95.25 34 P P 03 56 36.7 +0.5
baz=329
V60A Jim Taylor Roa 95.28 31 P P 03 56 37.5 +1.2
baz=331
V60A Jim Taylor Roa 95.28 31 IAMs_20 IAMs_20 04 46 18.8
comp=Z,4µm,20.0s
W59A Clinton 95.33 32 P P 03 56 37.5 +1.0
baz=330
CNNC Cliffs of the 95.49 32 P P 03 56 38.3 +1.0
baz=331
CNNC Cliffs of the 95.49 32 IAMs_20 IAMs_20 04 40 31.4
comp=Z,4µm,22.0s
X58A Rowland 95.49 33 P P 03 56 38.4 +1.1
baz=330
X58A Rowland 95.49 33 IAMs_20 IAMs_20 04 45 13.6
comp=Z,4µm,20.0s
PSBE So Bento 95.50 338 *eP* P 03 56 37.8 +0.5
PSBE *e*LQ LQ 03 56 55.0
PSBE So Bento 95.50 338 *i* PP PP 04 00 28.8 +1.3
PSBE So Bento 95.50 338 *e*PP PP 04 00 29.7 +2.2
154A Montrose 95.50 37 IAmb IAmb 03 56 39.7
comp=Z,36nm,0.8s
154A IAMs_20 IAMs_20 04 45 27.2
comp=Z,3µm,21.0s
352A Blakely 95.60 39 IAmb IAmb 03 56 40.2
comp=Z,57nm,0.9s
352A IAMs_20 IAMs_20 04 42 57.0
comp=Z,4µm,20.0s
MOIG Morelia 95.64 58 P P 03 56 38.2 -0.3
Z56A Williston 95.68 36 P P 03 56 39.1 +1.0
baz=329
Z56A Williston 95.68 36 IAmb IAmb 03 56 40.4
comp=Z,30nm,0.8s
PMTG Montargil 95.75 337⇑ *eP* P 03 56 37.6 -0.8
PMTG *e*LQ LQ 03 56 55.8
PMTG Montargil 95.75 337 *i* PP PP 04 00 28.0 -1.3
PMTG *e*SKS **S** 04 07 50.0 -2.3
451A Vernon 95.92 40 IAMs_20 IAMs_20 04 39 28.5
comp=Z,4µm,22.0s
V62A Hyde County Ai 95.97 30 IAMs_20 IAMs_20 04 43 36.9
comp=Z,3µm,20.0s
PMAFR Mafra 96.15 338 *i* PP PP 04 00 32.8 +0.3
PMAFR Mafra 96.15 338 *e*PP PP 04 00 34.3 +1.8
Y59A Loris 96.17 33 IAMs_20 IAMs_20 04 48 02.6
comp=Z,4µm,20.0s
EVO Evora 96.18 337⇑ *iP* P 03 56 39.1 -1.3
EVO *e*SKS **SKSac** 04 07 08.9 -4.2
EVO Evora 96.18 337⇑ *eP* P 03 56 39.3 -1.1
EVO Evora 96.18 337 *e*PP PP 04 00 35.2 +2.5
TIGA Tifton 96.26 38 P P 03 56 42.2 +1.3
baz=327
TIGA Tifton 96.26 38 IAMs_20 IAMs_20 04 41 29.4
comp=Z,3µm,21.0s
LIS Lisbon 96.34 338 *eP* P 03 56 41.0 -0.1
LIS *e*PP PP 04 00 34.9 +1.0
LIS AMS AMS 04 45 30.4
comp=Z,7µm,21.9s
LIS Lisbon 96.34 338 *eP* P 03 56 40.7 -0.4
LIS Lisbon 96.34 338 *e*PP PP 04 00 35.8 +1.9
255A Hazlehurst 96.37 37 IAmb IAmb 03 56 43.7
comp=Z,34nm,0.9s

255A IAMs_20 IAMs_20 04 47 15.1
comp=Z,3μm,20.0s
Y60A Bolivia 96.43 33 IAMs_20 IAMs_20 04 46 50.4
comp=Z,3μm,20.0s
PBEJ Beja 96.61 337 *e*P **P** **03 56 42.9 +0.6**
PBEJ *e*LQ LQ 03 57 00.2
PBEJ Beja 96.61 337 *e*PP **PP** **04 00 37.8 +1.8**
EMAL Malaga-Limoner 96.67 334⇑ *i*P **P** **03 56 41.0 -1.6**
EMAL *e*SKS **SKSac** **04 07 13.0 -2.7**
PNCL Nicolau / Gran 96.72 337 *e*P **P** **03 56 41.3 -1.5**
PNCL *e*LQ LQ 03 57 00.7
PNCL Nicolau / Gran 96.72 337 *i* PP **PP** **04 00 35.9 -1.0**
PNCL Nicolau / Gran 96.72 337 *e*PP **PP** **04 00 39.1 +2.2**
553A Crawfordville 96.91 39 IAMs_20 IAMs_20 04 40 53.6
comp=Z,4μm,22.0s
PCVE Castro Verde 97.02 337⇑ *e*P **P** **03 56 44.1 -0.1**
PCVE *e*LQ LQ 03 57 02.3
PCVE Castro Verde 97.02 337 *i* PP **PP** **04 00 39.1 -0.1**
PVAQ Vaqueiros 97.14 336 P **PP** **04 00 42.9 +2.8**
SNR=7.4
PVAQ Vaqueiros 97.14 336⇑ *e*P **P** **03 56 44.5 -0.2**
PVAQ Vaqueiros 97.14 336 *e*PP **PP** **04 00 42.6 +2.5**
PVAQ *e*SKS SKS 04 08 11.2
PVAQ Vaqueiros 97.14 336 *e*LR LR 04 29 50.2
comp=Z,13μm,20.0s
UNM Universidad Na 97.18 57 IAMs_20 IAMs_20 04 34 31.6
comp=Z,3μm,22.0s
PTEO Sao Teotonio 97.30 337 *e*P **P** **03 56 45.0 -0.5**
PTEO *e*LQ LQ 03 57 02.8
PTEO Sao Teotonio 97.30 337 *e*PP **PP** **04 00 38.5 -2.9**
PBDV Barranco-do-Ve 97.35 336⇑ *e*P Pdif 03 56 46.0 +0.2
PBDV *e*LQ LQ 03 57 03.7
PBDV Barranco-do-Ve 97.35 336 *i* PP **PP** **04 00 42.3 +0.5**
PBDV *e*SKS **SKSac** **04 07 22.6 +3.3**
MELI Melilla 97.48 332⇑ *i*P Pdif 03 56 46.7 +0.4
MELI *e*SKS **SKSac** **04 07 18.0 -1.9**
MORF Marmelete 97.50 337 *e*P **P** **03 56 46.4 -0.1**
MORF *e*PP **PP** **04 00 43.8 +0.8**
MORF AMS AMS 04 46 03.8
comp=Z,4μm,20.0s
MORF Marmelete 97.50 337 *e*P **P** **03 56 46.4 -0.1**
MORF *e* 04 00 43.8
MORF Marmelete 97.50 337⇑ *e*P **P** **03 56 46.4 -0.1**
MORF *e*LQ LQ 03 57 04.3
MORF Marmelete 97.50 337 *i* PP **PP** **04 00 41.9 -1.1**
MORF *e*SKS **SKSac** **04 07 23.1 +3.0**
SFS San Fernando 97.53 335⇑ *i*P Pdif 03 56 47.5 +1.0
SFS *e*SKS **SKSac** **04 07 23.9 +3.8**
GOG Mont Gurugu 97.57 332 P Pdif 03 56 48.0 +1.1
SNR=5.9
PFVI Vila Bisbo 97.72 337 P **PP** **04 00 45.7 +1.2**
SNR=7.1
PFVI Vila Bisbo 97.72 337⇑ *e*P Pdif 03 56 47.6 +0.2
PFVI Vila Bisbo 97.72 337 *e*PP **PP** **04 00 45.1 +0.5**
PFVI Vila Bisbo 97.72 337 *i* PP **PP** **04 00 46.2 +1.6**
TAF Taforalt 97.73 331 P Pdif 03 56 49.0 +1.4
SNR=8.4
CEU Ceuta 97.77 334⇑ *i*P **P** **03 56 47.1 -0.5**
CEU *e*SKS **SKSac** **04 07 15.9 -5.5**
PALE Palemas 97.91 333 P Pdif 03 56 49.0 +0.7
SNR=8.2
PVLZ Peæn de 98.07 333⇑ *i*P **P** **03 56 47.1 -1.8**
PVLZ *e*SKS **SKSac** **04 07 17.2 -5.7**
JBK JBK 98.21 331 P Pdif 03 56 51.0 +1.1
SNR=9.6
CHEFC Chefchaouen 98.48 334 P Pdif 03 56 52.0 +1.1
SNR=7.4
656A Willston 98.49 38 IAMs_20 IAMs_20 04 42 25.5
comp=Z,4μm,22.0s
RSA Sarsar 98.85 334 P **PP** **04 00 57.0 +3.6**
SNR=6.5
TLIG Tlapa 98.88 57 IAMs_20 IAMs_20 04 37 25.6
comp=Z,3μm,21.0s
DWPF Disney Wildern 100.07 38 IAMs_20 IAMs_20 04 43 46.2
comp=Z,4μm,22.0s
CZD Col de Zad 100.27 333 P **PP** **04 01 08.0 +3.5**
SNR=7.4
AVE Averroes 100.82 335⇑ *i*P **Pdif** **03 57 01.8 +0.5**
AVE *e*SKS 04 07 37.7
ARF Arif 101.42 331 P **PP** **04 01 17.0 +4.0**
SNR=6.8
060A Indiantown 101.48 38 IAMs_20 IAMs_20 04 50 12.6
comp=Z,4μm,20.0s
KMBO Kilima Mbogo 102.04 279 P **Pdif** **03 57 08.9 +1.6**
comp=Z,12nm,1.0s,baz=26,slow=7.8,SNR=18
KMBO PP **PP** **04 01 21.7 +2.6**
comp=Z,13nm,1.0s,baz=37,slow=9.3,SNR=8.9
KMBO Kilima Mbogo 102.04 279 *i* P **Pdif** **03 57 08.1 +0.8**
SNR=15
KMBO Kilima Mbogo 102.04 279 P **Pdif** **03 57 08.9 +1.6**
KMBO Kilima Mbogo 102.04 279 *i* P **Pdif** **03 57 08.8 +1.5**
KMBO pmax pmax
comp=Z,12nm,1.0s
KMBO Kilima Mbogo 102.04 279 Pdif **Pdif** **03 57 07.3 +0.1**
KMBO Kilima Mbogo 102.04 279 IAMs_20 IAMs_20 04 50 19.3
comp=Z,3μm,18.0s
061Z Ochoppi 102.21 39 IAMs_20 IAMs_20 04 51 44.1
comp=Z,4μm,20.0s
PMPST Porto Santo, M 103.54 342 *e*PP **PKiKP** **04 01 33.7 +1.9**
CCIG Comitan 103.84 54 IAMs_20 IAMs_20 04 39 41.9
comp=Z,4μm,22.0s
PMOZ Porto Moniz, M 103.99 342 *e*P **Pdif** **03 57 18.2 +2.7**
PMOZ Porto Moniz, M 103.99 342 *e*PP **PKiKP** **04 01 34.9 +2.2**
PMOZ Porto Moniz, M 103.99 342 *e*LR LR 04 32 54.9
comp=Z,2μm,20.0s
PETF Flores 104.71 51 IAMs_20 IAMs_20 04 40 33.5
comp=Z,4μm,22.0s
TAM Tamanrasset 104.78 319 P **Pdif** **03 57 19.0 -0.3**
TAM MLR MLR
comp=Z,3μm,22.0s
TAM Tamanrasset 104.78 319 Pdif **Pdif** **03 57 19.0 -0.3**
TAM IAMs_20 IAMs_20 04 47 58.5
comp=Z,3μm,22.0s
HUEH Huehuetenango 104.97 54 IAMs_20 IAMs_20 04 39 20.8
comp=Z,2μm,21.0s
RTAL Retalhuleu 105.47 54 IAMs_20 IAMs_20 04 38 42.0
comp=Z,2μm,21.0s
ABPO Ambohimpanom 105.98 259 IAMs_20 IAMs_20 04 43 23.9
comp=Z,3μm,21.0s
MTO3 Montecristo 106.98 53 IAMs_20 IAMs_20 04 41 16.9
comp=Z,3μm,22.0s
SNET Serv Nac Est T 107.61 53 IAMs_20 IAMs_20 04 40 35.7
comp=Z,3μm,22.0s
TGUH Tegucigalpa,Un 108.49 51 IAMs_20 IAMs_20 04 43 51.7
comp=Z,2μm,22.0s
ESTN Estel 109.78 51 IAMs_20 IAMs_20 04 43 28.8
comp=Z,2μm,21.0s
FOMA Nahampoana Res 109.79 254 IAMs_20 IAMs_20 04 46 23.1
comp=Z,2μm,18.0s
GTBY Guantanamo Bay 110.02 37 IAMs_20 IAMs_20 04 50 55.7
comp=Z,2μm,22.0s
MATN Matagalpa 110.17 51 IAMs_20 IAMs_20 04 48 21.3
comp=Z,3μm,22.0s
MTDJ Mount Denham 110.33 40 IAMs_20 IAMs_20 04 58 11.3
comp=Z,2μm,20.0s
BOAB BOACO BROADBAN 110.71 51 IAMs_20 IAMs_20 04 50 46.5
comp=Z,3μm,21.0s
SDDR Presa de Saban 112.54 35 IAMs_20 IAMs_20 04 49 43.3
comp=Z,3μm,22.0s
SMRT St. Maarten 116.57 27 IAMs_20 IAMs_20 04 53 05.2
comp=Z,3μm,22.0s
SEUS St. Eustatius 117.12 27 IAMs_20 IAMs_20 04 54 35.7
comp=Z,3μm,22.0s
ANWB Willy Bob 117.36 26 IAMs_20 IAMs_20 04 51 53.0
comp=Z,3μm,22.0s
PAYG Puerto Ayora 117.81 64 IAMs_20 IAMs_20 04 46 47.2
comp=Z,2μm,22.0s
LSZ Lusaka 117.98 274 PKP **PKiKP** **04 01 59.6 +0.1**
comp=Z,9.2nm,0.9s,baz=34,slow=2.2,SNR=14
LSZ PP **PP** **04 03 14.6 +0.3**
comp=Z,11nm,1.1s,baz=56,slow=9.0,SNR=3.8
LSZ Lusaka 117.98 274 PKIKP **PKiKP** **04 02 00.1 +0.6**
LSZ Lusaka 117.98 274 **PKiKP** **04 02 00.1 +0.6**
LSZ Lusaka 117.98 274 IAMs_20 IAMs_20 04 56 10.1
comp=Z,3μm,22.0s
VNDA Vanda 119.02 175 PKP **PKiKP** **04 01 59.5 0.0**
comp=Z,5.2nm,0.7s,baz=326,slow=4.3,SNR=29
VNDA PKKPbc **PKKPbc** **04 12 16.5 +1.3**
comp=Z,1.7nm,0.9s,baz=233,slow=2.6,SNR=5.2
VNDA Vanda 119.02 175 PKIKP **PKiKP** **04 01 59.5 0.0**
VNDA Vanda 119.02 175 **PKiKP** **04 01 59.7 +0.2**
HATO Hato, Curacao 119.59 36 IAMs_20 IAMs_20 04 53 49.9
comp=Z,3μm,22.0s
DLPL La Plaine 119.72 26 IAMs_20 IAMs_20 04 53 38.3
comp=Z,3μm,21.0s
SMLC San Martn de 120.09 43 *e*P **PKPdf** **04 02 03.5 0.0**
SMLC San Martn de 120.09 43 *e*P **PKKPbc** **04 12 11.3 +1.2**
UREC San Jos de Ur 120.22 45 *e*P **PKPdf** **04 02 03.6 -0.2**
UREC San Jos de Ur 120.22 45 *e*P **PKKPbc** **04 12 11.1 +1.5**
FDF Fort de France 120.31 26 IAMs_20 IAMs_20 04 54 17.0
comp=Z,3μm,22.0s
DBBC Dabeiba 120.47 46 *e*P **PKiKP** **04 02 06.1 +1.6**
ZARC Zaragoza, Cauc 120.79 44 *e*P **PKPdf** **04 02 03.8 -1.0**
ZARC Zaragoza, Cauc 120.79 44 *e*P **PKKPbc** **04 12 08.6 +1.1**
MATP Matopo 120.87 269 PKP **PKPdf** **04 02 04.8 0.0**
comp=Z,18nm,0.9s,baz=69,slow=0.7,SNR=23
MATP PP **PP** **04 03 35.0 +0.8**
comp=Z,18nm,1.1s,baz=55,slow=8.4,SNR=3.8
MBO M'Bour 121.48 336 IAMs_20 IAMs_20 04 57 16.4
comp=Z,3μm,22.0s
HELC Santa Helena 121.53 46 *e*P **PKKPbc** **04 12 05.8 +0.6**
CBOC Ciudad Bolivar 121.54 46 *e*P **PKiKP** **04 02 07.7 +1.0**
SVB Belmont 121.63 27 IAMs_20 IAMs_20 04 54 38.2
comp=Z,3μm,22.0s
BRRC Barranca, Sant 121.72 43 *e*P **PKiKP** **04 02 08.1 +1.3**
SDV Santo Domingo 121.72 39 PKP **PKiKP** **04 02 07.8 +0.8**
comp=Z,17nm,0.4s,baz=12,slow=2.5,SNR=6.4
SDV Santo Domingo 121.72 39 PKPdf **PKPdf** **04 02 06.0 -0.9**
SDV Santo Domingo 121.72 39 IAMs_20 IAMs_20 04 59 47.0
comp=Z,2μm,22.0s
PTBC PUERTO BERRIO 121.81 44 *e*P **PKKPbc** **04 12 03.4 -0.4**
NORC Norcasia 122.41 45 *e*P **PKPdf** **04 02 07.3 -0.7**
NORC Norcasia 122.41 45 *e*P **PKKPbc** **04 12 01.1 -0.3**
GUY2C Guyana, Caldas 122.42 46 *e*P **PKPdf** **04 02 08.1 -0.5**
GUY2C Guyana, Caldas 122.42 46 *e*P **PKKPbc** **04 12 02.8 +0.8**
BARC Barichara 122.43 43 *e*P **PKiKP** **04 02 11.5 +3.0**
GRGR Grenville 122.55 28 IAMs_20 IAMs_20 04 57 09.5
comp=Z,2μm,20.0s
SPBC San Pablo de B 122.76 45 *e*P **PKPdf** **04 02 07.9 -0.8**
SPBC San Pablo de B 122.76 45 *e*P **PKKPbc** **04 11 60.0 -0.2**
YOTC Yotoco, Valle 122.91 48 *e*P **PKPdf** **04 02 08.7 -0.4**
YOTC Yotoco, Valle 122.91 48 *e*P **PKKPbc** **04 12 00.3 +0.7**
TOLC Tolima 122.98 46 *e*P **PKiKP** **04 02 09.9 +0.3**
TOLC Tolima 122.98 46 *e*P **PKKPbc** **04 12 01.3 +1.7**
RUSC La Rusia 123.07 43 *e*P **PKiKP** **04 02 10.3 +0.3**
RUSC La Rusia 123.07 43 *e*P **PKKPbc** **04 11 60.0 +0.5**
RUSC La Rusia 123.07 43 **PKiKP** **04 02 10.2 +0.1**
ROSC El Rosal 123.31 45 PKP **PKiKP** **04 02 11.1 +0.7**
comp=Z,13nm,0.9s,baz=200,slow=10,SNR=6.4
ROSC El Rosal 123.31 45 *e*P **PKPdf** **04 02 07.4 -2.8**
ROSC El Rosal 123.31 45 *e*P **PKKPbc** **04 11 59.8 +1.4**
ROSC El Rosal 123.31 45 IAMs_20 IAMs_20 05 05 39.5
comp=Z,2μm,21.0s
MAW Mawson 123.53 207 PKP **PKPdf** **04 02 08.4 +0.1**
comp=Z,8.2nm,0.7s,baz=76,slow=2.2,SNR=15
MAW Mawson 123.53 207 PKIKP **PKiKP** **04 02 09.1 +0.5**
MAW MLR MLR
comp=Z,400nm,19.0s
MAW Mawson 123.53 207 **PKiKP** **04 02 09.1 +0.5**
ORTC Ortega, Tolima 123.58 47 *e*P **PKPdf** **04 02 09.7 -0.5**
ORTC Ortega, Tolima 123.58 47 *e*P **PKKPbc** **04 11 58.7 +1.8**
DBIC Dimbokro 123.67 320 PKP **PKPdf** **04 02 09.8 -0.6**
comp=Z,20nm,0.8s,baz=4.5,slow=2.4,SNR=14
DBIC PP **PP** **04 03 49.5 -2.6**
comp=Z,21nm,0.9s,baz=10,slow=12,SNR=5.1
DBIC Dimbokro 123.67 320 PKIKP **PKPdf** **04 02 09.8 -0.6**
DBIC Dimbokro 123.67 320 PKPdf **PKPdf** **04 02 09.0 -1.3**
TIC Toumodi 123.77 320 *e*PKP1 **PKPdf** **04 02 10.7 +0.1**
TIC Toumodi 123.77 320 *e*P **PP** **04 03 48.8 -4.0**
CHIC Chingaza 123.80 45 *e*P **PKPdf** **04 02 10.8 -0.4**
KIC Kosan Boka 123.88 319 *e*PKP1 **PKiKP** **04 02 11.2 +0.2**
comp=Z,84nm,1.1s
KIC Kosan Boka 123.88 319 *e*P **PP** **04 03 50.9 -2.6**
comp=Z,92nm,1.3s
PRAC Prado 123.94 47 *e*P **PKPdf** **04 02 10.6 -0.3**
MARP Paez Belalcaza 124.06 48 *e*P **PKiKP** **04 02 12.4 +0.7**
LIC Lamto 124.14 320 *e*PKP1 **PKiKP** **04 02 11.6 +0.1**
comp=Z,85nm,1.0s
VILC Villavicencio, 124.25 45 *e*P **PKPdf** **04 02 11.3 -0.4**
BETC Betania 124.48 48 *e*P **PKiKP** **04 02 13.5 +1.1**
OTAV Otavalo 124.71 53 *e*P **PKiKP** **04 02 14.4 +1.1**
OTAV Otavalo 124.71 53 PKIKP **PKPdf** **04 02 12.8 -0.1**
OTAV Otavalo 124.71 53 PKPdf **PKPdf** **04 02 12.8 -0.1**
FLOC Florencia 125.26 49 *e*P **PKiKP** **04 02 13.7 -0.2**
LBTB Lobatse 125.69 266 PKP **PKiKP** **04 02 14.3 -0.1**
comp=Z,41nm,0.9s,baz=95,slow=2.4,SNR=33
LBTB Lobatse 125.69 266 PKIKP **PKiKP** **04 02 14.3 -0.1**
PTLC Puerto Leguiza 126.90 49 *e*P **PKiKP** **04 02 17.6 +0.5**
BOSA Boshof 127.88 263 PKhKP PKPpre 04 02 09.8
comp=Z,1.7nm,0.6s,baz=42,slow=1.2,SNR=6.4
BOSA PKP **PKPdf** **04 02 18.2 +0.1**
comp=Z,13nm,0.8s,baz=139,slow=1.9,SNR=12
BOSA Boshof 127.88 263 PKIKP **PKPdf** **04 02 18.2 +0.1**
TSUM Tsumeb 128.36 278 PKhKP PKPpre 04 02 10.8
comp=Z,2.7nm,0.9s,baz=357,slow=3.1,SNR=6.5
TSUM PKP **PKPdf** **04 02 19.2 -0.1**
comp=Z,15nm,0.9s,baz=88,slow=1.1,SNR=17
TSUM Tsumeb 128.36 278 **PKiKP** **04 02 19.9 0.0**
TSUM Tsumeb 128.36 278 IAMs_20 IAMs_20 05 04 15.9
comp=Z,2μm,21.0s
ATAH Atahualpa 130.48 58 PKP **PKiKP** **04 02 24.5 -0.2**
comp=Z,28nm,1.0s,baz=331,slow=3.3,SNR=12
QSPA South Pole Qui 130.89 180 **PKiKP** **04 02 23.7 +0.3**
QSPA South Pole Qui 130.89 180 IAMs_20 IAMs_20 04 57 55.1
comp=Z,2μm,22.0s
MDP Montagnes des 131.98 20 PKP **PKiKP** **04 02 27.0 -0.2**
comp=Z,11nm,1.0s,baz=37,slow=7.2,SNR=4.8
SYO Syowa Base 132.17 208⇑ *e*PKPdf **PKPdf** **04 02 25.0 +0.2**
SYO Syowa Base 132.17 208⇑ *e*PKiKP **PKiKP** **04 02 29.2 +3.4**
SYO Syowa Base 132.17 208⇑ *e*pPKPdf **PKiKP** **04 02 29.0 +3.2**
SUR Sutherland 133.08 261 PKP **PKiKP** **04 02 29.5 +0.4**
comp=Z,8.7nm,0.8s,baz=199,slow=9.5,SNR=5.4
SUR Sutherland 133.08 261 **PKiKP** **04 02 29.5 +0.4**
NNA Nana 135.11 61 PKP **PKPdf** **04 02 32.7 +0.7**
comp=Z,5.7nm,0.7s,baz=275,slow=4.5,SNR=3.6
NNA Nana 135.11 61 PKIKP **PKPdf** **04 02 32.7 +0.7**
NNA Nana 135.11 61 **PKPdf** **04 02 32.7 +0.7**
SAML Samuel 140.79 42 PKIKP **PKPdf** **04 02 39.6 -2.9**
SAML MLR MLR
comp=Z,2μm,22.0s
SAML Samuel 140.79 42 PKPdf **PKPdf** **04 02 39.6 -2.9**
SAML Samuel 140.79 42 IAMs_20 IAMs_20 05 06 02.8
comp=Z,2μm,22.0s
NVL N'lazarevskaya 141.34 204 *e*PKIKP **PKPdf** **04 02 37.7 -4.0**
NVL *e*SS SS 04 24 08.4 -2.4
NVL *e*SSS SSS 04 29 26.9
NVL pmax pmax
comp=Z,74nm,1.0s
LPAZ La Paz 143.91 56 PKP PKPbc 04 02 46.4 -0.1
comp=Z,9.3nm,0.7s,baz=353,slow=2.9,SNR=39
LPAZ La Paz 143.91 56 *e*P PKPbc 04 02 46.8 +0.2
LPAZ La Paz 143.91 56 PKIKP PKPbc 04 02 46.4 -0.1
LPAZ La Paz 143.91 56 PKPdf **PKPdf** **04 02 47.8 -1.0**
AP01 Chacalluta 144.03 61 IAMs_20 IAMs_20 05 16 47.6
comp=Z,2μm,22.0s
PB12 IPOC Station P 144.21 61 **PKPdf** **04 02 48.0 -0.5**
PB12 IAMs_20 IAMs_20 04 57 08.5
comp=Z,2μm,21.0s
PB16 IPOC Station P 144.55 60 **PKPdf** **04 02 49.8 +0.1**
PB16 IAMs_20 IAMs_20 04 57 25.3
comp=Z,2μm,22.0s
RCBR Riachuelo 144.79 357 PKP **PKPab** **04 02 48.1 -0.4**
comp=Z,48nm,1.1s,baz=351,slow=5.3,SNR=9.2
RCBR Riachuelo 144.79 357 PKIKP PKPbc 04 02 48.7 +0.1
RCBR Riachuelo 144.79 357 PKPbc 04 02 48.7 0.0
RCBR Riachuelo 144.79 357 IAMs_20 IAMs_20 05 18 27.8
comp=Z,1μm,21.0s
PSGCX Pisagua 145.05 62 **PKPdf** **04 02 50.3 +0.3**
PSGCX IAMs_20 IAMs_20 04 56 22.6
comp=Z,2μm,20.0s
MNMC Minye Minye 145.07 61 IAMs_20 IAMs_20 04 58 16.0
comp=Z,2μm,22.0s
PB11 IPOC Station P 145.47 62 IAMs_20 IAMs_20 04 56 46.9
comp=Z,2μm,22.0s
TA01 Diego Aracena 145.69 63 **PKPab** **04 02 52.1 +0.5**
GO01 Chusmiza 145.71 61 IAMs_20 IAMs_20 04 56 53.2
comp=Z,2μm,20.0s
PB08 IPOC Station P 146.07 61 PKPbc **PKPab** **04 02 54.1 +0.5**
H03N2 Juan Fernandez 146.57 90 T T 06 46 19.3
baz=300,slow=76,SNR=25
H03N3 Juan Fernandez 146.58 90 T T 06 46 27.5
baz=300,slow=76,SNR=15
H03N1 Juan Fernandez 146.59 90 T T 06 46 20.5
baz=300,slow=76,SNR=30
VNA3 Neumayer Olymp 146.71 196 PKPdf **PKPbc** **04 02 52.6 -0.3**
VNA1 Neumayer--Stat 146.85 197 PKPdf **PKPbc** **04 02 53.0 -0.2**
PB04 IPOC Station P 146.91 65 PKPbc **PKPab** **04 02 56.3 -0.2**
PB06 IPOC Station P 147.55 65 **PKPbc** **04 02 56.7 -0.2**
SIV San Ignacio 147.81 46 PKPbc **PKPbc** **04 02 56.2 -1.3**
comp=Z,69nm,1.0s,baz=259,slow=0.5,SNR=44
LVC Limon Verde 147.94 64 PKPbc **PKiKP** **04 02 59.4 -0.6**
comp=Z,28nm,0.7s,baz=312,slow=2.7,SNR=26
LVC Limon Verde 147.94 64 PKIKP **PKPdf** **04 02 56.0 +0.9**
LVC 04 02 58.0
LVC Limon Verde 147.94 64 **PKPdf** **04 02 56.0 +0.9**
LVC PKPbc **PKPbc** **04 02 58.0 -0.2**
AC01 Pan de Azucar 149.02 71 PKPbc **PKPbc** **04 03 00.6 +0.1**
AC04 Llanos de Chal 149.87 75 PKPbc **PKiKP** **04 03 04.3 +0.9**
AC05 El Transito 150.81 75 PKPdf **PKPdf** **04 02 59.5 +0.3**
AC05 PKPbc **PKiKP** **04 03 07.3 +1.8**
ROC1 El Roble 152.33 84 **PKiKP** **04 03 08.8 +0.2**
GO05 Huala 152.50 88 PKPdf **PKPdf** **04 03 00.7 -0.7**
GO05 PKPbc **PKiKP** **04 03 10.1 +1.5**
MT05 Renca 152.73 84 **PKiKP** **04 03 09.7 +0.4**
BO01 Tunca 152.89 86 PKPdf **PKPdf** **04 03 02.1 +0.1**
BO01 **PKiKP** **04 03 10.2 +0.8**
BDFB Brasilia 153.06 22 PKP **PKPdf** **04 03 04.1 +1.2**
comp=Z,6.8nm,1.0s,baz=342,slow=2.3,SNR=8.5
BDFB PKPbc **PKPbc** **04 03 10.3 +0.1**
comp=Z,24nm,0.8s,baz=29,slow=2.3,SNR=20
BDFB PKPab **PKPab** **04 03 23.3 +1.6**
comp=Z,33nm,0.9s,baz=270,slow=5.1,SNR=12
BDFB PP **PP** **04 06 54.1 0.0**
comp=Z,18nm,1.0s,baz=91,slow=8.7,SNR=3.6
BDFB Brasilia 153.06 22 PKP2 **PKPab** **04 03 23.3 +1.6**
BDFB Brasilia 153.06 22 **PKPbc** **04 03 10.3 +0.1**
BDFB **PKPab** **04 03 23.3 +1.6**
BDFB Brasilia 153.06 22 **PKPdf** **04 03 03.9 +1.0**
ZON Zonda 153.40 79 PKIKP **PKPdf** **04 03 03.9 +1.0**
ZON Zonda 153.40 79 PKPdf **PKPdf** **04 03 03.9 +1.0**
BI02 San Fabin de 153.61 91 **PKPdf** **04 03 03.5 +0.5**
LC01 Cunco 153.84 96 **PKPdf** **04 03 05.2 +1.9**
LC01 **PKiKP** **04 03 12.7 +1.5**
LL01 San Ignacio de 154.20 104 **PKPdf** **04 03 04.3 +0.8**
PLCA Paso Flores 155.27 100 PKP **PKPdf** **04 03 06.3 +1.1**
comp=Z,8.9nm,1.2s,baz=33,slow=2.1,SNR=5.1
PLCA PKPab sPKPbc 04 03 32.4 -0.6
comp=Z,11nm,1.0s,baz=264,slow=4.7,SNR=7.9
PLCA Paso Flores 155.27 100 PKIKP **PKPdf** **04 03 06.4 +1.1**
PLCA Paso Flores 155.27 100 **PKPdf** **04 03 06.2 +0.9**
CPUP Villa Florida 158.06 54 PKPbc **PKPdf** **04 03 10.9 +1.7**
comp=Z,3.6nm,0.9s,baz=150,slow=1.4,SNR=7.0
CPUP PKPab **PKPab** **04 03 43.6 +0.8**
comp=Z,11nm,1.1s,baz=343,slow=5.1,SNR=7.8
CPUP Villa Florida 158.06 54 PKIKP **PKPdf** **04 03 10.2 +1.0**
CPUP Villa Florida 158.06 54 **PKPdf** **04 03 10.2 +1.0**

MDD 10 03:59:16.3±0.4,38°49N×1°26W,h10km±1km,mbLg1.5/9,
Error ellipse: s-maj=3.5km s-min=3.0km az=11.0,
PRXIMO,Spain

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ETOB	**Tobarra**	**0.27**	**304**	Pg	Pg		03 59 21.6	-0.3
	0.3nm,0.1s,SNR=50							
ETOB				Lg	Lg		03 59 25.8	
	12nm,0.3s,SNR=14							
AFON	**Font Roja**	**0.59**	**73**	Pg	Pg		03 59 27.2	-0.5
	0.4nm,0.1s,SNR=7.9							
AFON				Lg	Lg		03 59 35.5	
	7.5nm,0.3s,SNR=7.9							
EMUR	**La Murta**	**0.65**	**179**	Pg	Pg		03 59 27.7	-1.1
	0.9nm,0.1s,SNR=12							
EMUR				Lg	Lg		03 59 37.2	
	5.0nm,0.3s,SNR=24							
EBEN2	**Beniarda presa**	**0.86**	**77**	Pg	Pg		03 59 32.0	-0.8
	0.6nm,0.2s,SNR=7.9							
EBEN2				Lg	Lg		03 59 45.1	
	3.2nm,0.1s,SNR=7.9							
SESP	**Santiago Espad**	**1.08**	**250**	Pg	Pg		03 59 36.1	-0.9
	0.1nm,0.3s,SNR=7.9							
SESP				Lg	Lg		03 59 50.7	
	5.3nm,0.2s,SNR=7.9							
ECHE	**Chera**	**1.12**	**12**	Pg	Pb		03 59 36.1	-1.7
	0.2nm,0.2s,SNR=7.9							
ECHE				Lg	Lg		03 59 52.0	
	2.1nm,0.1s,SNR=7.9							
EQES	**Quesada**	**1.59**	**245**	Pg	Pb		03 59 45.2	-0.5
	0.3nm,0.1s,SNR=7.9							
EQES				Lg	Lg		04 00 06.6	
	7.3nm,0.4s,SNR=7.9							
GORA	**Gorafe**	**1.73**	**235**	Pg	Pg		03 59 49.0	-0.5
	1.5nm,0.3s,SNR=7.9							
GORA				Sn	Sn		04 00 08.5	-0.2
	1.7nm,0.4s,SNR=7.9							
GORA				Lg	Lg		04 00 12.3	
	9.4nm,0.4s,SNR=7.9							
EBER	**Berja**	**2.05**	**220**	Pg	Pb		03 59 54.1	+0.4
	0.4nm,0.4s,SNR=7.9							
EBER				Lg	Lg		04 00 22.4	
	0.8nm,0.4s,SNR=7.9							
EQUE	**Quentar**	**2.15**	**234**	Lg	Lg		04 00 23.8	
	0.6nm,0.2s,SNR=4.4							
ETOR	**Torete**	**2.41**	**345**	Pg	Pb		04 00 00.3	+0.6
	0.5nm,0.1s,SNR=7.9							
ETOR				Sn	Sn		04 00 24.2	-1.1
	1.4nm,0.5s,SNR=7.9							
ETOR				Lg	Lg		04 00 32.4	
	1.8nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**2.41**	**300**	Pg	Pb		04 00 00.3	+0.5
	15nm,0.9s,baz=121,slow=16,SNR=6.5							
ESDC				Sn	Sn		04 00 23.4	-2.1
	0.3nm,0.2s,baz=112,slow=23,SNR=3.6							
ESDC				Lg	Lg		04 00 31.2	
	0.2nm,0.1s,baz=115,slow=30,SNR=167							
EADA	**Adamuz**	**2.63**	**264**	Pn	Pn		03 59 56.8	-2.0
	SNR=7.9							
EADA				Pg	Pb		04 00 04.2	+0.7
	0.4nm,0.4s,SNR=7.9							
EADA				Sn	Sn		04 00 28.9	-1.8
	1.1nm,0.7s,SNR=7.0							
EADA				Lg	Lg		04 00 39.0	
	0.9nm,0.3s,SNR=7.9							
EGOR	**Sierra Gorda,**	**2.65**	**239**	Pg	Pb		04 00 05.1	+1.3
	0.2nm,0.2s,SNR=7.9							
EGOR				Lg	Lg		04 00 38.0	
	0.4nm,0.5s,SNR=7.9							
ECAB	**El Cabril**	**3.30**	**264**	Pn	Pn		04 00 06.3	-1.7
	0.0nm,0.3s,SNR=7.9							
ECAB				Sn	Sn		04 00 44.8	-2.5
	0.2nm,3.7s,SNR=7.9							
ECAB				Lg	Lg		04 01 00.8	
	0.0nm,0.2s,SNR=7.9							

*IDC **10** 04:05:35.5±1.6,39°.67N×144°.61E,h0km,mb3.8/5,*
mb1 3.8/8,mb1mx3.6/47,mbtmp3.7/8,ML2.8/3,Error
ellipse: s-maj=49.0km s-min=22.4km az=78.0
*JMA **10** 04:05:40.3±0.2,39°.84N×144°.40E,h45km,M4.0*
ISC 10 04:05:40.0±1.1,39°.75N±0°.06×144°.56E±0°.08,h34km,n24,
σ1s55/35,mb3.9/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**2.09**	**276**	P	**Pn**		**04 06 11.8**	**-0.8**
JTH				*e*S	**Sn**		**04 06 35.2**	**-2.2**
MIYJ	**Miyakonagasawa**	**2.12**	**266**	P	**Pn**		**04 06 12.9**	**-0.2**
MIYJ				S	**Sn**		**04 06 36.7**	**-1.6**
JKEN	**Kujiedanarisaw**	**2.24**	**283**	P	**Pn**		**04 06 14.0**	**-0.7**
JANG	**Nango**	**2.42**	**286**	P	**Pn**		**04 06 16.6**	**-0.6**
JANG				S	**Sn**		**04 06 42.8**	**-2.8**
JOM	**Ohasama**	**2.54**	**265**	P	**Pn**		**04 06 19.1**	**+0.2**
JOM				S	**Sn**		**04 06 47.4**	**-1.2**
JMK	**Ichinoseki**	**2.71**	**254**	P

0.4nm,0.3s,baz=61,slow=11,SNR=16

MAT	**Matsushiro**	**5.95**	**239**	P	**Pn**	**04 07 06.6 +0.9**
MAT				*e*S	**Sn**	**04 08 08.5 -4.1**
USRK	**Ussuriysk Ar.**	**10.36**	**299**	Pn	**Pn**	**04 08 07.9 +1.8**
	baz=100,slow=14,SNR=3.1					
MKAR	**Makanchi Array**	**44.83**	**300**	P	**P**	**04 13 50.7 0.0**
	0.3nm,0.5s,baz=78,slow=10.0,SNR=4.4					
WRA	**Warramunga Arr**	**60.15**	**191**	P	**P**	**04 15 44.1 -0.2**
	0.9nm,0.7s,baz=12,slow=7.1,SNR=5.1					
ASAR	**Alice Springs**	**63.87**	**191**	P	**P**	**04 16 09.8 +0.5**
	0.6nm,0.8s,baz=8.7,slow=7.3,SNR=4.6					
FINES	**FINESS Array B**	**67.55**	**333**	P	**P**	**04 16 33.9 +1.4**
	1.2nm,0.9s,baz=318,slow=2.6,SNR=4.5					
AKASG	**Malin Array Be**	**73.63**	**323**	P	**P**	**04 17 11.2 +1.4**
	0.7nm,0.6s,baz=43,slow=6.2,SNR=2.4					

MAN ***10*** *04:06:39.6,9.˚31N×126.˚12E,h119km,MS3.8*
NEIC ***10*** *04:06:40.5±1.8,9.˚4N±0.˚1×126.˚1E±0.˚2,h123km±9km, mb4.1/11, Error ellipse: s-maj=22.8km s-min=14.7km az=84.0*
IDC ***10*** *04:06:41.1±1.8,9.˚38N×126.˚08E,h124km±19km,mb3.7/10, mb1 3.8/11,mb1mx3.5/43,mbtmp4.1/11, Error ellipse: s-maj=29.5km s-min=16.2km az=78.0*
ISC 10 04:06:40.5±0.9,9.˚33N±0.˚06×125.˚98E±0.˚07,h125km±9km, n39,σ1°64/45,mb4.1/13,2C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIP	**Bislig**	**1.13**	**166**	||*e*P	**Pn**	**04 07 02.4 -1.9**
BIP				*e*S	**Sn**	**04 07 21.6 -0.7**
BUKP	**Musuan**	**1.70**	**212**	*e*P	**Pn**	**04 07 11.9 +1.2**
BUKP				*e*S	**Sn**	**04 07 33.4 -0.3**
TBP	**Tagbilaran**	**2.12**	**280**	*i* P	**Pn**	**04 07 17.0 +1.3**
LLP	**Lapu-Lapu**	**2.21**	**297**	||*e*P	**Pn**	**04 07 17.9 +1.0**
LLP				*i* S	**Sn**	**04 07 45.3 +0.5**
DAV	**Davao City (W)**	**2.28**	**190**	P	**Pn**	**04 07 18.4 +0.6**
	193nm,0.3s,baz=17,slow=2.5,SNR=19					
DAV				S	**Sn**	**04 07 48.9 +2.7**
	78nm,0.3s,baz=273,slow=20,SNR=13					
DAV	**Davao City (W)**	**2.28**	**190**		**Pn**	**04 07 19.5 +1.8**
MATI	**Mati**	**2.38**	**173**	*e*P	**Pn**	**04 07 18.7 -0.4**
MATI				*e*S	**Sn**	**04 07 48.2 -0.4**
KCP	**Kidapawan**	**2.47**	**201**	||*e*P	**Pn**	**04 07 21.4 +1.2**
KCP				*i* S	**Sn**	**04 07 52.0 +1.4**
PAGZ	**Pagadian**	**2.96**	**240**	*e*P	**Pn**	**04 07 26.2 -0.3**
PAGZ				*e*S	**Sn**	**04 07 55.7 -6.2**
SKMP	**Bagumbayan, Su**	**3.13**	**207**	*e*P	**Pn**	**04 07 28.2 -0.6**
SKMP				*e*S	**Sn**	**04 08 02.1 -3.8**
DDMP	**Don Marcelino,**	**3.21**	**185**	*e*P	**Pn**	**04 07 29.5 -0.3**
DDMP				*e*S	**Sn**	**04 08 07.2 -0.6**
CNOP	**Candoni, Negro**	**3.33**	**279**	*e*P	**Pn**	**04 07 31.2 -0.1**
CNOP				*e*S	Sn	04 08 00.0 -11
LQP	**Lukban**	**6.44**	**318**	||*e*P	**Pn**	**04 08 14.8 +1.5**
MYLDM	**Lahad Datu**	**8.49**	**241**	Pn	**Pn**	**04 08 44.1 +3.5**
CMAR	**Chiang Mai Arr**	**27.74**	**292**	P	**P**	**04 12 19.8 +2.2**
	2.2nm,0.7s,baz=100,slow=6.7,SNR=12					
CMAR	**Chiang Mai Arr**	**27.74**	**292**	P	**P**	**04 12 19.2 +1.7**
KSRS	**Korea Array**	**28.06**	**3**	P	**P**	**04 12 20.5 +0.4**
	1.1nm,0.6s,baz=175,slow=9.1,SNR=2.4					
ASAR	**Alice Springs**	**33.70**	**167**	P	**P**	**04 13 11.1 +1.2**
	0.2nm,0.4s,baz=352,slow=7.1,SNR=4.3					
USA0B	**Ussuriysk Arra**	**35.13**	**8**	P	**P**	**04 13 20.8 -1.1**
USRK	**Ussuriysk Ar.**	**35.13**	**8**	P	**P**	**04 13 22.8 +0.8**
	6.3nm,0.7s,baz=191,slow=4.9,SNR=9.4					
SHL	**Shillong**	**36.17**	**301**	P	**P**	**04 13 31.0 -0.4**
KLR	**Kul'dur**	**40.07**	**6**	P	**P**	**04 14 03.6 +0.2**
	1.6nm,0.5s,baz=159,slow=7.0,SNR=7.7					
H11S3	**WAKE ISLAND Hy**	**40.47**	**72**	T	T	04 57 18.1
	baz=262,slow=75,SNR=6.8					
H11S1	**WAKE ISLAND Hy**	**40.48**	**72**	T	T	04 57 18.1
	baz=262,slow=75,SNR=7.5					
H11S2	**WAKE ISLAND Hy**	**40.48**	**72**	T	T	04 57 19.8
	baz=262,slow=75,SNR=9.0					
STKA	**Stephens Creek**	**43.61**	**161**	P	**P**	**04 14 33.3 +0.8**
	1.3nm,0.5s,baz=333,slow=9.2,SNR=5.3					
MK31	**Makanchi Array**	**52.60**	**323**	P	**P**	**04 15 40.8 -0.8**
MK31				lAmb	lAmb	04 15 42.9
	comp=Z,1.8nm,0.8s					
MKAR	**Makanchi Array**	**52.60**	**323**	P	**P**	**04 15 42.3 +0.8**
	comp=Z,2.6nm,0.7s,baz=122,slow=8.2,SNR=18					
MKAR	**Makanchi Array**	**52.60**	**323**	P	**P**	**04 15 42.1 +0.5**
MAKZ	**Makanchi**	**52.80**	**323**	P	**P**	**04 15 43.2 +0.3**
NIL	**Nilore**	**54.03**	**305**	P	**P**	**04 15 51.5 -0.7**
ZAA0	**Zalesovo Array**	**55.31**	**332**	P	**P**	**04 15 60.0 -1.0**
ZAA0				lAmb	lAmb	04 16 01.1
	comp=Z,2.6nm,0.9s					
ZALV	**Zalesovo Beam**	**55.31**	**332**	P	**P**	**04 16 00.2 -0.8**
	comp=Z,1.1nm,0.5s,baz=126,slow=7.7,SNR=3.9					
KURK	**Kurchatov**	**56.68**	**326**	P	**P**	**04 16 10.4 -0.4**
KK31	**Karatay Array**	**58.71**	**315**	P	**P**	**04 16 25.1 -0.2**
KKAR	**Karatay Array**	**58.71**	**315**	P	**P**	**04 16 24.5 -0.7**
KKAR				lAmb	lAmb	04 17 52.0
	comp=Z,3.0nm,1.3s					
TIXI	**Tiksi**	**62.29**	**1**	P	**P**	**04 16 47.2 -1.7**
ARCES	**ARCESS Array B**	**84.97**	**340**	P	**P**	**04 19 01.9 +0.4**
	comp=Z,2.1nm,0.8s,baz=80,slow=8.8,SNR=5.3					
FINES	**FINESS Array B**	**86.58**	**332**		**P**	**04 19 09.3 -0.2**
	comp=Z,1.4nm,0.9s,baz=93,slow=3.4,SNR=5.6					

IDC ***10*** *04:09:04.7±0.7,45.˚27N×142.˚08E,h305km±18km,mb3.0/4, mb1 3.1/7,mb1mx2.9/36,mbtmp3.7/7, Error ellipse: s-maj=46.2km s-min=17.2km az=161.0*
JMA ***10*** *04:09:05.1±0.2,45.˚44N×142.˚03E,h297km±2km,M3.0*
SKHL ***10*** *04:09:06.5±0.1,45.˚50N×144.˚04E,h287km±3km,mb4.3/1, msh4.9/2*
ISC 10 04:09:04.5±0.8,45.˚36N±0.˚07×142.˚09E±0.˚08,h300km±7km, n22,σ1°27/32,mb3.2/4,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.14**	**253**	P	**Pn**	**04 09 42.9 +0.3**
JWK2				*e*S	**S**	**04 10 12.4 -0.4**
JSE	**Soyaes**	**0.53**	**138**	P	**Pn**	**04 09 43.7 +0.4**
JSE				*e*S	**S**	**04 10 14.0 -0.1**
JRBN	**Rebuntou**	**0.72**	**276**	P	**Pn**	**04 09 43.6 -0.2**
JRBN				*e*S	**S**	**04 10 13.4 -1.5**
ASAJ	**Asahikawa**	**1.29**	**163**	P	**Pn**	**04 09 47.6 +1.1**
	1.3nm,0.3s,baz=271,slow=4.8,SNR=7.9					
ASAJ				S	**S**	**04 10 20.2 +0.2**
	0.8nm,0.3s,baz=127,slow=33,SNR=7.1					
JMP	**Maruseppu**	**1.63**	**146**	P	**Pn**	**04 09 49.6 +0.9**
YSS	**Yuzh-Sakhalins**	**1.66**	**16**	*e*P	**Pn**	**04 09 48.7 0.0**
YSS				AMB	AMB	04 09 48.8
	50nm,0.3s					
YSS				*e*S	**S**	**04 10 21.8 -2.0**
YSS				A	A	04 10 22.6
	50nm,0.6s					
YSS				A	A	04 10 22.6
	50nm,0.6s					
JTKR	**Abashiri--Toko**	**1.90**	**136**	P	**Pn**	**04 09 51.7 +1.1**
JAR	**Ashorobuto**	**2.39**	**149**	P	**Pn**	**04 09 56.0 +1.4**
JAR				*e*S	**S**	**04 10 36.6 +2.0**
JEW	**Eniwo**	**2.56**	**191**	P	**Pn**	**04 09 57.7 +1.5**
JRA	**Rausu**	**2.59**	**122**	P	**Pn**	**04 09 58.1 +1.7**
JCH	**Churui**	**2.89**	**161**	P	**Pn**	**04 09 58.7 -0.6**
JCH				*e*S	**S**	**04 10 40.8 -2.2**
YUK	**Yuzh-Kuril'sk**	**3.00**	**115**	*e*P	Pn	04 09 55.6 -4.7
JAK	**Akkeshi**	**3.02**	**141**	P	**Pn**	**04 10 01.6 +1.1**
JAK				*e*S	**S**	**04 10 43.8 -1.4**
JNBK	**Urakawa-nobuka**	**3.11**	**171**	P	**Pn**	**04 10 02.1 +0.6**
JNBK				*e*S	**S**	**04 10 46.1 -0.9**
NEM2	**Nemuro 2**	**3.29**	**126**	P	**Pn**	**04 10 02.4 -0.8**
NEM2				*e*S	**S**	**04 10 47.5 -2.7**
USRK	**Ussuriysk Ar.**	**7.28**	**264**	P	**Pn**	**04 10 50.1 +0.8**
	baz=75,slow=12,SNR=7.7					
MJAR	**Matsushiro Arr**	**9.28**	**200**	P	**Pn**	**04 11 13.4 -0.5**
	0.1nm,0.3s,baz=21,slow=8.9,SNR=2.5					
MJAR				S	**S**	**04 12 57.5 -1.8**
	0.1nm,0.3s,baz=356,slow=25,SNR=4.1					
PETK	**Petropavlovsk-**	**12.80**	**47**	P	**P**	**04 11 58.2 +1.1**
	0.2nm,0.3s,baz=247,slow=11,SNR=1.4					
SONM	**Songino Array**	**24.52**	**289**	P	**P**	**04 13 56.5 -0.7**
	1.1nm,0.4s,baz=101,slow=8.7,SNR=5.3					
MKAR	**Makanchi Array**	**40.63**	**294**	P	**P**	**04 16 15.9 +0.2**
	0.3nm,0.5s,baz=82,slow=9.6,SNR=1.8					
ILAR	**Eielson Array**	**42.36**	**37**	P	**P**	**04 16 29.6 +0.2**
	0.5nm,0.6s,baz=276,slow=9.2,SNR=8.5					
INK	**Inuvik**	**46.85**	**30**	P	**P**	**04 17 04.2 -0.2**
	1.4nm,0.6s,baz=302,slow=9.8,SNR=4.8					

IDC ***10*** *04:12:57.0±16.0,35.˚67N×21.˚16E,h0km,mb3.5/3, mb1 3.6/3,mb1mx3.4/36,mbtmp3.5/3,Error ellipse: s-maj=321.4km s-min=57.6km az=32.0*
ATH ***10*** *04:13:13.1,36.˚77N×21.˚77E,h35km±1km,ML3.1/25,Error ellipse: s-maj=1.8km s-min=1.1km az=228.0*
THE ***10*** *04:13:15.3,36.˚82N×21.˚83E,h22km,ML3.1/8,Error ellipse: s-maj=1.1km s-min=0.6km az=224.0*
ISC 10 04:13:12.8±1.5,36.77N±0.˚07×21.˚64E±0.˚05,h41km±14km, n87,σ2°15/104,mb3.4/3,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.15**	**32**	P	Pn	04 13 18.9	-0.9
PYL				S	Sn	04 13 22.9	-1.9
	17μm,0.7s						
PYL	**PYLOS**	**0.15**	**32**	P	Pn	04 13 19.0	-0.9
PYL				S	Sn	04 13 23.7	-1.1
PYL				AML	AML	04 13 24.2	
	comp=N,27780μm,0.5s						
PYL				AML	AML	04 13 24.4	
	comp=E,40418μm,0.5s						
ITM	**Ithomi**	**0.47**	**29**	P	**Pn**	**04 13 23.0**	**-0.2**
ITM				S	**Sn**	**04 13 29.1**	**-1.5**
	comp=E,3μm,0.3s						
ITM	**Ithomi**	**0.47**	**29**	P	**Pn**	**04 13 23.2**	**0.0**
ITM				S	**Sn**	**04 13 29.2**	**-1.3**
ITM				AML	AML	04 13 32.9	
	comp=N,7208μm,0.3s						
ITM				AML	AML	04 13 34.1	
	comp=E,6176μm,0.3s						
AMT	**Artemida-Makis**	**0.77**	**4**	P	**Pn**	**04 13 28.4**	**+1.2**
AMT				S	**Sn**	**04 13 39.8**	**+2.2**
	comp=E,2μm,0.7s						
AMT	**Artemida-Makis**	**0.77**	**4**	P	**Pn**	**04 13 28.5**	**+1.2**
AMT				S	**Sn**	**04 13 40.1**	**+2.5**
AMT				AML	AML	04 13 46.0	
	comp=N,4703μm,0.4s						
AMT				AML	AML	04 13 48.3	
	comp=E,4135μm,0.4s						
VLX	**Vlachokerasia**	**0.84**	**44**	P	**Pn**	**04 13 28.7**	**+0.4**
VLX				S	**Sn**	**04 13 38.2**	**-1.4**
	comp=E,3μm,0.5s						
VLX	**Vlachokerasia**	**0.84**	**44**	P	**Pn**	**04 13 28.7**	**+0.4**
VLX				S	**Sn**	**04 13 40.4**	**+0.9**
VLX				AML	AML	04 13 46.1	
	comp=N,4180μm,0.5s						
VLX				AML	AML	04 13 46.2	
	comp=E,5963μm,0.6s						
TRIP	**Tripoli**	**0.91**	**33**	P	**Pn**	**04 13 29.3**	**+0.1**
TRIP				S	**Sn**	**04 13 40.9**	**-0.3**
TRIP				AML	AML	04 13 45.5	
	comp=N,2625μm,0.8s						
TRIP				AML	AML	04 13 45.7	
	comp=E,2072μm,0.5s						
VLI	**Veliai**	**1.04**	**92**	P	**Pn**	**04 13 31.9**	**+1.0**
VLI				S	**Sn**	**04 13 44.7**	**+0.4**
	comp=E,1μm,0.6s						
VLI	**Veliai**	**1.04**	**92**	P	**Pn**	**04 13 31.9**	**+1.0**
VLI				S	**Sn**	**04 13 45.4**	**+1.1**
VLI				AML	AML	04 13 49.4	
	comp=E,1445μm,0.5s						
VLI				AML	AML	04 13 55.4	
	comp=N,1474μm,0.4s						
MNVA	**Monemvasia**	**1.12**	**94**	P	**Pn**	**04 13 33.8**	**+1.8**
DRO	**Drossia**	**1.18**	**3**	P	**Pn**	**04 13 35.3**	**+2.4**
DRO				S	**Sn**	**04 13 50.1**	**+2.2**
	comp=N,980nm,0.6s						
DRO	**Drossia**	**1.18**	**3**	P	**Pn**	**04 13 35.3**	**+2.4**
DRO				AML	AML	04 14 04.1	
	comp=N,2672μm,0.7s						
DRO				AML	AML	04 14 05.7	
	comp=E,1150μm,0.4s						
VTN	**Vitineika**	**1.20**	**342**	P	Pn	04 13 36.9	+3.8
KTHA	**Kythira Island**	**1.25**	**114**	P	**Pn**	**04 13 34.8**	**+1.0**
KTHA	**Kythira Island**	**1.25**	**114**	P	**Pn**	**04 13 35.0**	**+1.2**
KTHA				S	**Sn**	**04 13 51.2**	**+1.7**
KTHA				AML	AML	04 13 58.8	
	comp=N,1213μm,0.4s						
KTHA				AML	AML	04 13 59.9	
	comp=E,2213μm,0.5s						
GUR	**Goura**	**1.29**	**25**	P	**Pn**	**04 13 36.6**	**+2.1**
GUR	**Goura**	**1.29**	**25**	P	**Pn**	**04 13 36.6**	**+2.1**
GUR				AML	AML	04 14 09.4	
	comp=N,2112μm,0.4s						
GUR				AML	AML	04 14 10.5	
	comp=E,1396μm,0.6s						
RLS	**Riolos of Patr**	**1.29**	**354**	P	**Pn**	**04 13 36.9**	**+2.5**
RLS				S	**Sn**	**04 13 53.6**	**+3.1**
	comp=E,300nm,1.0s						
RLS	**Riolos of Patr**	**1.29**	**354**	P	**Pn**	**04 13 37.0**	**+2.6**
RLS				AML	AML	04 14 09.3	
	comp=E,608μm,1.0s						
RLS				AML	AML	04 14 20.9	
	comp=N,657μm,0.8s						
VLMS	**Volimes, Zakyn**	**1.35**	**325**	P	**Pn**	**04 13 37.3**	**+2.0**
VLMS				AML	AML	04 14 08.1	
	comp=N,957μm,0.8s						
VLMS				AML	AML	04 14 13.7	
	comp=E,754μm,0.8s						
AXS	**Araxos**	**1.44**	**352**	P	**Pn**	**04 13 39.6**	**+3.1**
DID	**Didima**	**1.47**	**59**	P	**Pn**	**04 13 38.0**	**+1.2**
DID	**Didima**	**1.47**	**59**	P	**Pn**	**04 13 38.1**	**+1.2**
ANKY	**Antikythira Is**	**1.61**	**123**	P	**Pn**	**04 13 40.1**	**+1.3**
ANKY				AML	AML	04 14 01.6	
	comp=N,798μm,0.4s						
ANKY				AML	AML	04 14 14.6	
	comp=E,919μm,0.7s						
LOUT	**Loutraki**	**1.61**	**41**	P	**Pn**	**04 13 40.1**	**+1.3**
TRIZ	**Trizonia**	**1.63**	**12**	P	**Pn**	**04 13 41.7**	**+2.7**
LTK	**Loutraki**	**1.64**	**40**	P	**Pn**	**04 13 40.5**	**+1.4**
LTK				S	**Sn**	**04 13 59.9**	**+0.9**
LTK	**Loutraki**	**1.64**	**40**	P	**Pn**	**04 13 40.2**	**+1.0**
LTK				AML	AML	04 14 10.6	
	comp=E,794μm,0.5s						
LTK				AML	AML	04 14 13.9	
	comp=N,776μm,0.5s						
VLS	**Valsamata**	**1.64**	**330**	P	**Pn**	**04 13 40.8**	**+1.6**
VLS				AML	AML	04 14 19.1	
	comp=N,505μm,0.7s						
VLS				AML	AML	04 14 21.6	
	comp=E,321μm,0.5s						
EFP	**Efpalio**	**1.67**	**7**	P	**Pn**	**04 13 42.2**	**+2.6**
EFP	**Efpalio**	**1.67**	**7**	P	**Pn**	**04 13 41.6**	**+2.0**
SERG	**Sergoula**	**1.68**	**11**	P	**Pn**	**04 13 41.7**	**+2.1**
DSF	**Desfina**	**1.78**	**23**	P	**Pn**	**04 13 42.8**	**+1.6**
DSF				S	**Sn**	**04 14 04.9**	**+2.2**
	comp=E,140nm,0.5s						
DSF	**Desfina**	**1.78**	**23**	P	**Pn**	**04 13 42.9**	**+1.7**
PROD	**Prodromos**	**1.79**	**33**	P	**Pn**	**04 13 42.4**	**+1.1**
PROD				AML	AML	04 14 18.9	
	comp=E,585μm,0.5s						
PROD				AML	AML	04 14 22.6	
	comp=N,691μm,0.6s						
ANX	**Ano Chora**	**1.83**	**7**	P	**Pn**	**04 13 44.6**	**+2.6**
ANX				AML	AML	04 14 25.7	
	comp=E,625μm,1.1s						
ANX				AML	AML	04 14 25.8	
	comp=N,671μm,0.6s						
FSK	**Fiskardo**	**1.89**	**333**	P	**Pn**	**04 13 45.6**	**+3.0**
VIL2	**Platees**	**1.94**	**41**	P	**Pn**	**04 13 43.8**	**+0.5**
VIL2				AML	AML	04 14 24.6	
	comp=E,823μm,0.8s						
VIL2				AML	AML	04 14 26.1	
	comp=N,586μm,0.9s						
EVGI	**Lefkada island**	**2.01**	**337**	P	**Pn**	**04 13 47.8**	**+3.6**
EVGI	**Lefkada island**	**2.01**	**337**	P	**Pn**	**04 13 47.5**	**+3.2**
VLY	**Voula,Athens**	**2.03**	**57**	P	**Pn**	**04 13 44.8**	**+0.3**
VLY				S	**Sn**	**04 14 09.2**	**+0.6**
VLY				AML	AML	04 14 25.1	
	comp=N,432μm,0.7s						
VLY				AML	AML	04 14 28.1	
	comp=E,490μm,0.9s						
ATH	**Athens Observa**	**2.04**	**53**	P	**Pn**	**04 13 45.4**	**+0.7**
ATH				S	**Sn**	**04 14 09.9**	**+0.9**
ATHU	**Athens Univers**	**2.08**	**54**	P	**Pn**	**04 13 45.9**	**+0.6**
ATHU				S	**Sn**	**04 14 10.5**	**+0.5**
ATHU	**Athens Univers**	**2.08**	**54**	P	**Pn**	**04 13 46.0**	**+0.7**
EVR	**Evrytania**	**2.15**	**3**	P	**Pn**	**04 13 49.2**	**+3.0**
EVR				AML	AML	04 14 34.1	
	comp=E,332μm,0.8s						
EVR				AML	AML	04 14 36.7	
	comp=N,314μm,1.0s						
AXAR	**Agios Charalam**	**2.15**	**22**	P	**Pn**	**04 13 48.7**	**+2.5**
AXAR				AML	AML	04 14 35.2	
	comp=E,1104μm,0.6s						
AXAR				AML	AML	04 14 36.9	
	comp=N,857μm,0.7s						
LKD2	**Lefkada island**	**2.16**	**339**	P	**Pn**	**04 13 49.9**	**+3.5**
LKD2	**Lefkada island**	**2.16**	**339**	P	**Pn**	**04 13 49.5**	**+3.1**
LKD2				AML	AML	04 14 37.5	
	comp=E,590μm,0.9s						
LKD2				AML	AML	04 14 48.3	
	comp=N,360μm,0.9s						
LKR	**Lokris**	**2.17**	**29**	P	**Pn**	**04 13 47.9**	**+1.5**
TSLK	**Tsoukalades, L**	**2.20**	**339**	P	**Pn**	**04 13 50.2**	**+3.4**
TSLK				AML	AML	04 14 38.5	
	comp=N,466μm,0.6s						
TSLK				AML	AML	04 14 39.5	
	comp=E,424μm,0.9s						
MHLO	**Agia Marina, M**	**2.22**	**91**	P	**Pn**	**04 13 47.4**	**+0.4**
MHLA	**Pláka, Milos I**	**2.23**	**90**	P	**Pn**	**04 13 49.2**	**+1.9**
DION	**Dionisos Attik**	**2.24**	**54**	P	**Pn**	**04 13 48.3**	**+0.9**
DION	**Dionisos Attik**	**2.24**	**54**	P	**Pn**	**04 13 48.4**	**+0.9**
DION				S	**Sn**	**04 14 14.5**	**+0.6**
MAKR	**Makrakomi, Fth**	**2.27**	**10**	P	**Pn**	**04 13 51.1**	**+3.2**
MAKR				AML	AML	04 14 39.1	
	comp=N,453μm,0.9s						
MAKR				AML	AML	04 14 43.6	
	comp=E,534μm,0.9s						
IMMV	**Iera Moni Meta**	**2.30**	**124**	P	**Pn**	**04 13 49.8**	**+1.6**
SERI	**Serifos**	**2.31**	**79**	P	**Pn**	**04 13 48.7**	**+0.3**
AGG	**Agios Georgios**	**2.31**	**13**	P	**Pn**	**04 13 50.9**	**+2.4**
AGG	**Agios Georgios**	**2.31**	**13**	P	**Pn**	**04 13 51.0**	**+2.5**
AGG				AML	AML	04 14 38.1	
	comp=N,225μm,0.9s						
AGG				AML	AML	04 14 40.0	
	comp=E,214μm,0.9s						
MRKA	**Markates**	**2.47**	**38**	P	**Pn**	**04 13 51.7**	**+1.1**
VAM	**Vamos**	**2.48**	**123**	P	**Pn**	**04 13 51.4**	**+0.7**
KARY	**Karystos**	**2.56**	**60**	P	**Pn**	**04 13 52.1**	**+0.4**
KARY				AML	AML	04 14 32.8	
	comp=E,162μm,0.8s						
KARY				AML	AML	04 14 35.8	
	comp=N,143μm,0.6s						
KYMI	**Kymi, Euboea I**	**2.69**	**46**	P	**Pn**	**04 13 54.3**	**+0.6**
GVD	**Gavdhos**	**2.77**	**133**	P	**Pn**	**04 13 54.8**	**+0.2**
SKIA	**Skiathos**	**2.79**	**30**	P	**Pn**	**04 13 56.1**	**+1.1**
THL	**Klokotos Trika**	**2.81**	**6**	P	**Pn**	**04 13 57.5**	**+2.3**
NEO	**Neokhori**	**2.82**	**26**	P	**Pn**	**04 13 56.4**	**+1.0**
XOR	**Xorichti**	**2.87**	**25**	P	**Pn**	**04 13 58.0**	**+2.0**
AOS	**Alonnisos**	**2.98**	**36**	P	**Pn**	**04 13 58.0**	**+0.5**
IDI	**Anoyia**	**3.02**	**118**	P	**Pn**	**04 13 58.7**	**+0.6**
APE	**Apeiranthos**	**3.13**	**83**	P	**Pn**	**04 13 59.7**	**+0.1**
KPRO	**Kipourio**	**3.19**	**356**	P	Pn	04 14 04.3	+3.8
PENT	**Pentalofos**	**3.44**	**354**	P	**Pn**	**04 14 07.6**	**+3.5**
DBRK	**Dubrovnik**	**6.48**	**337**	*e*Pn	**Pn**	**04 14 45.7**	**+0.1**
DBRK				Sn	**Sn**	**04 15 52.8**	**-5.4**
STON	**Ston**	**6.81**	**335**	Sn	Sn	04 16 00.2	-6.1
MAKA	**Makarska**	**7.41**	**333**	*e*Pn	**Pn**	**04 14 57.7**	**-0.7**
MAKA				Sn	**Sn**	**04 16 16.5**	**-4.7**
HVAR	**Hvar**	**7.54**	**330**	*e*Pn	Pn	04 14 57.3	-2.8
RICI	**Ricice**	**7.55**	**334**	*e*Pn	**Pn**	**04 14 58.9**	**-1.5**
RICI				Sn	**Sn**	**04 16 18.8**	**-5.9**
ZIRJ	**Zirje**	**8.27**	**328**	*e*Pn	**Pn**	**04 15 10.0**	**-0.1**
ZIRJ				Sn	Sn	04 16 35.0	-7.1
MORI	**Morici**	**8.41**	**329**	*e*Pn	**Pn**	**04 15 12.9**	**+0.8**
MORI				Sn	**Sn**	**04 16 40.1**	**-5.6**
DUGI	**Dugi Otok**	**8.79**	**327**	*e*Pn	**Pn**	**04 15 19.2**	**+1.9**
DUGI				Sn	**Sn**	**04 16 49.5**	**-5.5**
UDBI	**Udbina**	**8.94**	**332**	*e*Pn	**Pn**	**04 15 21.9**	**+2.4**
UDBI				Sn	**Sn**	**04 16 56.6**	**-2.3**
FINES	**FINESS Array B**	**24.86**	**5**	P	**P**	**04 18 31.5**	**+0.3**
	comp=N,2.1nm,0.9s,baz=164,slow=11,SNR=5.2						
NOA	**NORSAR Array B**	**25.18**	**348**	P	**P**	**04 18 32.5**	**-1.7**
	comp=N,0.9nm,0.8s,baz=156,slow=9.0,SNR=1.9						
MKAR	**Makanchi Array**	**45.29**	**57**	P	P	04 21 23.6	-2.8
	comp=N,0.1nm,0.3s,baz=274,slow=7.6,SNR=1.8						

SFS ***10*** *04:23:52.0,37.˚84N×3.˚13W,h11km,ML2.1, CABEZAMESADA (TOLEDO)*
MDD 10 04:23:51.9±0.6,39.˚87N×3.˚14W,h11km,mbLg1.9/9,2D, Error ellipse: s-maj=3.4km s-min=2.9km az=80.0, PRXIMO,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCM	**Universidad Co**	**0.45**	**350**	Lg	Lg	04 24 05.8	
UCM	**Universidad Co**	**0.45**	**350**	*e*S	Sg	04 24 05.8	-0.9
ESDC	**Sonseca Array**	**0.66**	**253**	||Pg	Pg	04 24 03.9	-0.8
	0.4nm,0.2s,baz=74,slow=18,SNR=18						
ESDC				Lg	Lg	04 24 12.7	
	1.3nm,0.1s,baz=74,slow=30,SNR=17						
PAB	**San Pablo**	**0.98**	**251**	||Pg	Pg	04 24 09.9	-0.9
	0.4nm,0.1s,SNR=18						
PAB				Lg	Lg	04 24 22.9	
	7.6nm,0.2s,SNR=7.9						
ETOR	**Torete**	**1.27**	**41**	Pg	Pn	04 24 14.8	-0.8
	4.3nm,0.1s,SNR=13						
ETOR				Lg	Lg	04 24 30.5	
	33nm

EARI	**Arriondas**		**3.77**	**336**	Lg	Lg	04 25 48.4		
	0.3nm,0.3s,SNR=7.9								

NEIC 10 04:38:43.5±1.3, 32°.53N±0°.02×109°.13W±0°.06, h5km±2km, ML3.0/34, Error ellipse: s-maj=9.2km s-min=3.2km az=66.0, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
121A	**Cookes Peak, D**	**1.14**	**89**	Pg	Pb	04 39 05.9	+0.2
319A	**Douglas**	**1.16**	**186**	Pg	Pn	04 39 07.7	+1.2
319A				IAML		04 39 30.1	
	comp=E,458nm,0.7s						
319A				IAML		04 39 31.0	
	comp=N,346nm,0.5s						
TUC	**Tucson**	**1.42**	**262**	Pn	Pn	04 39 09.8	-0.1
TUC				IAML		04 39 32.1	
	comp=N,288nm,0.3s						
TUC				IAML		04 39 32.6	
	comp=N,204nm,0.2s						
Y22D	**IRIS PASSCAL I**	**2.41**	**50**		Pn	04 39 23.8	+0.1
W18A	**Petrified Fore**	**2.63**	**349**	Pn	Pn	04 39 26.8	0.0
W18A				IAML		04 40 07.5	
	comp=N,62nm,0.3s						
BNM	**Barren Site**	**2.65**	**52**	Pn	Pn	04 39 26.2	-0.9
X16A	**Lo Mia Camp, P**	**2.70**	**315**	Pn	Pn	04 39 27.9	+0.2
X16A				IAML		04 40 09.8	
	comp=N,63nm,0.6s						
214A	**Organ Pipe Nat**	**3.17**	**261**	Pn	Pn	04 39 33.7	-0.3
214A				IAML		04 40 27.8	
	comp=E,46nm,0.5s						
214A				IAML		04 40 28.5	
	comp=N,37nm,0.4s						
ANMO	**Albuquerque**	**3.28**	**42**	Pn	Pn	04 39 35.4	-0.4
MNTX	**Cornudas Mount**	**3.29**	**104**	Pn	Pn	04 39 35.7	+0.1
MNTX				IAML		04 40 29.4	
	comp=N,29nm,0.4s						
WUAZ	**Wupatki**	**3.52**	**329**	Pn	Pn	04 39 40.2	+1.3
Y14A	**Wickenburg**	**3.54**	**294**		Pn	04 39 38.9	-0.2
Y14A				IAML		04 40 38.3	
	comp=N,28nm,0.4s						
Y14A				IAML		04 40 42.3	
	comp=E,33nm,0.4s						
PIX	**Pinacate**	**3.80**	**256**	Pn	Pn	04 39 42.4	-0.2
PIX				IAML		04 40 46.8	
	comp=E,15nm,0.6s						
PIX				IAML		04 40 48.5	
	comp=N,20nm,0.4s						
113A	**Mohawk Valley,**	**3.92**	**275**	Pn	Pn	04 39 43.7	-0.6
GDL2	**Guadalupe Moun**	**4.05**	**93**	Pn	Pn	04 39 46.7	+0.5
U15A	**North Rim**	**4.68**	**327**	Pn	Pn	04 39 54.5	-0.5
U15A				IAML		04 41 13.8	
	comp=N,15nm,0.7s						
U15A				IAML		04 41 15.6	
	comp=E,14nm,1.0s						
MVCO	**Mesa Verde**	**4.70**	**6**		Pn	04 39 55.4	+0.1
MVCO				IAML		04 41 12.2	
	comp=E,20nm,0.4s						
W13A	**Hualapai Mount**	**4.71**	**304**	Pn	Pn	04 39 55.8	+0.3
KNB	**Kanab**	**5.41**	**327**	Pn	Pn	04 40 05.8	+0.9
PV13	**Radium Mtn., P**	**5.62**	**2**	Pn	Pn	04 40 08.3	+0.4
TX31	**Lajitas Ar. Si**	**5.67**	**123**		Pn	04 40 08.9	+0.4
TX32	**Lajitas Array**	**5.67**	**123**	Pn	Pn	04 40 08.0	-0.5
TXAR	**Lajitas Array**	**5.67**	**123**	Pn	Pn	04 40 07.5	-1.0
PV02	**Paradox Valley**	**5.67**	**3**	Pn	Pn	04 40 10.6	+1.9
PV03	**Paradox Valley**	**5.72**	**2**	Pn	Pn	04 40 07.5	-1.7
PV17	**East Wray Mesa**	**5.74**	**1**	Pn	Pn	04 40 09.1	-0.4
PV16	**Nyswonger Mesa**	**5.77**	**2**		Pn	04 40 10.0	0.0
PV12	**Saucer Basin,**	**5.78**	**3**	Pn	Pn	04 40 10.5	+0.4
PV14	**Lion Creek, Pa**	**5.83**	**1**	Pn	Pn	04 40 10.1	-0.7
PV04	**Paradox Valley**	**5.86**	**2**	Pn	Pn	04 40 09.9	-1.2
PV23	**Carpenter Ridg**	**5.91**	**1**	Pn	Pn	04 40 11.0	-1.0
SZCU	**Shurtz Canyon**	**6.01**	**328**		Pn	04 40 12.5	-0.7

*IDC **10** 04:39:11.3±0.7, 27°.12N×103°.44E, h0km, mb3.9/16, mb1 4.1/17, mb1mx3.9/41, mbtmp3.9/17, ML4.2/1, Error ellipse: s-maj=24.9km s-min=14.7km az=58.0*
*BJI **10** 04:39:12.1±0.0, 27°.04N×103°.38E, h10km, mb4.0/4, ML4.0/14*
*NEIC **10** 04:39:13.1±2.1, 27°.15N±0°.07×103°.42E±0°.10, h10km±1km, mb4.1/9, Error ellipse: s-maj=15.3km s-min=10.6km az=117.0*

ISC 10 04:39:12.9±0.5, 27°.12N±0°.04×103°.38E±0°.05, h10km, n45, σ1s30/53, mb4.0/19, 1C-1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.07**	**196**	⇑Pn	**Pn**	**04 39 49.5**	**+1.6**
KMI				Pg	**Pb**	**04 39 50.5**	**-0.2**
KMI				Sn	**Sn**	**04 40 13.1**	**-0.7**
KMI				Sg	**Sb**	**04 40 15.4**	**-1.1**
KMI				smax	smax		
	comp=N,310nm,1.0s						
KMI				smax	smax		
	comp=E,320nm,1.1s						
KMI	**Kunming**	**2.07**	**196**		**Pn**	**04 39 48.9**	**+1.0**
GYA	**Guiyang**	**3.01**	**102**	⇓Pn	**Pn**	**04 40 03.0**	**+2.2**
GYA				Sn	**Sn**	**04 40 39.9**	**+2.9**
GYA				Sg	**Sg**	**04 40 48.7**	**-1.0**
GYA				smax	smax		
	comp=N,370nm,1.3s						
GYA				smax	smax		
	comp=E,380nm,0.9s						
CD2	**Chengdu**	**3.79**	**5**	Pn	**Pn**	**04 40 14.9**	**+3.4**
CD2				Sg	**Sg**	**04 41 14.6**	**-0.2**
CD2				smax	smax		
	comp=N,870nm,1.2s						
CD2				smax	smax		
	comp=E,880nm,1.2s						
SLVN	**Son La**	**5.78**	**175**		**Pn**	**04 40 40.7**	**+1.9**
ENH	**Enshi**	**6.22**	**58**		**Pn**	**04 40 46.8**	**+2.0**
XAN	**Xi'an**	**8.39**	**33**	P	**Pn**	**04 41 16.1**	**+1.4**
XAN				S	**Sn**	**04 42 48.2**	**-1.3**
XAN				smax	smax		
	comp=N,130nm,1.3s						
XAN				smax	smax		
	comp=E,130nm,1.2s						
XAN	**Xi'an**	**8.39**	**33**		**Pn**	**04 41 15.0**	**+0.3**
LZH	**Lanzhou**	**8.95**	**2**	*eP*	**Pn**	**04 41 23.4**	**+1.0**
LZH				pP	Pg	04 41 29.1	-35
LZH				sP		04 41 32.0	
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
CHTO	**Chiang Mai**	**9.22**	**207**	Pn	**Pn**	**04 41 26.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**9.54**	**206**	Pn	**Pn**	**04 41 32.2**	**+1.8**
	0.6nm,0.3s,baz=15,slow=11,SNR=1.5						
CMAR				Lg	Lg	04 44 20.4	
	1.0nm,0.3s,baz=24,slow=27,SNR=4.7						
SHL	**Shillong**	**10.43**	**264**	Pn	**Pn**	**04 41 42.5**	**-0.2**
GTA	**Gaotai**	**12.62**	**347**	*eP*	**Pn**	**04 42 12.5**	**-0.1**
GTA				pP		04 42 17.0	
GTA				sP		04 42 19.5	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BJT	**Baijiatuau**	**16.68**	**36**	Pn	**Pn**	**04 43 04.1**	**-2.7**
SONM	**Songino Array**	**20.82**	**6**	P	**P**	**04 43 54.7**	**+0.1**
	1.3nm,0.7s,baz=189,slow=12,SNR=6.3						
SONM	**Songino Array**	**20.82**	**6**	P	**P**	**04 43 53.1**	**-1.5**
ULN	**Ulaanbaatar**	**20.91**	**7**	P	**P**	**04 43 54.1**	**-1.5**
ULN				IAmb	IAmb	04 44 15.4	
	comp=Z,3.4nm,0.9s						
WMQ	**Urumqi**	**20.94**	**327**	*eP*	**P**	**04 43 57.4**	**+1.5**
KSRS	**Korea Array**	**23.11**	**57**	P	**P**	**04 44 18.5**	**-0.5**
	comp=Z,3.1nm,0.5s,baz=245,slow=10,SNR=13						
TARG	**Taragay, Kyrgy**	**25.52**	**311**	P	**P**	**04 44 42.5**	**+0.4**
TARG				IAmb	IAmb	04 44 51.0	
	comp=Z,12nm,1.3s						
MK31	**Makanchi Array**	**25.73**	**325**	P	**P**	**04 44 43.9**	**+0.3**
MK31				IAmb	IAmb	04 44 50.3	
	comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	**25.73**	**325**	P	**P**	**04 44 44.2**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=139,slow=11,SNR=9.6						
MKAR				PcP	**PcP**	**04 48 13.4**	**0.0**
	comp=Z,0.3nm,0.8s,baz=104,slow=6.1,SNR=3.7						
MKAR				ScP	**ScP**	**04 51 51.8**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=132,slow=3.4,SNR=4.1						
MKAR	**Makanchi Array**	**25.73**	**325**	P	**P**	**04 44 43.4**	**-0.2**
MAKZ	**Makanchi**	**25.90**	**325**	P	**P**	**04 44 45.2**	**+0.1**
MAKZ				IAmb	IAmb	04 45 00.6	
	comp=Z,13nm,2.0s						
NIL	**Nilore**	**26.73**	**291**	P	**P**	**04 44 53.7**	**+1.0**
NIL				IAmb	IAmb	04 45 06.8	
	comp=Z,4.8nm,0.8s						
ZALV	**Zalesovo Beam**	**30.10**	**338**	P	**P**	**04 45 23.2**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=134,slow=8.5,SNR=4.0						
KURBB	**Kurchatov Arra**	**30.15**	**328**	P	**P**	**04 45 23.6**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=136,slow=9.5,SNR=8.7						
KURK	**Kurchatov**	**30.17**	**328**	P	**P**	**04 45 23.6**	**+0.5**
KKAR	**Karatay Array**	**31.02**	**310**	P	**P**	**04 45 32.9**	**+2.2**
BVAR	**Borovoye Array**	**35.62**	**326**	P	**P**	**04 46 10.9**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=108,slow=13,SNR=2.5						
ABKAR	**Akbulak array**	**39.95**	**315**	P	**P**	**04 46 49.0**	**+1.6**
AKTO	**Aktyubinsk**	**41.49**	**317**	P	**P**	**04 47 01.3**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=118,slow=14,SNR=3.1						
NRIK	**Noril'sk**	**43.26**	**352**	P	**P**	**04 47 14.7**	**+0.5**
	comp=Z,3.2nm,0.5s,baz=109,slow=1.9,SNR=5.5						
WRA	**Warramunga Arr**	**55.58**	**144**	P	**P**	**04 48 48.7**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=332,slow=8.4,SNR=13						
WRA	**Warramunga Arr**	**55.58**	**144**	IAmb	IAmb	04 48 49.7	
	comp=Z,0.2nm,0.9s						
BRTR	**Keskin Array B**	**58.22**	**302**	P	**P**	**04 49 08.1**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=120,slow=4.4,SNR=4.8						
ASAR	**Alice Springs**	**58.47**	**147**	P	**P**	**04 49 09.7**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=326,slow=6.8,SNR=24						
FINES	**FINESS Array B**	**60.54**	**327**	P	**P**	**04 49 22.9**	**-0.2**
	comp=Z,2.7nm,1.0s,baz=100,slow=7.8,SNR=13						
ARCES	**ARCESS Array B**	**60.64**	**337**	P	**P**	**04 49 24.2**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=91,slow=7.3,SNR=5.8						
NOA	**NORSAR Array B**	**67.59**	**328**	P	**P**	**04 50 09.2**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=74,slow=6.4,SNR=3.9						
GERES	**GERESS Array B**	**69.90**	**315**	P	**P**	**04 50 24.1**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=62,slow=5.4,SNR=7.9						
ILAR	**Eielson Array**	**73.70**	**25**	P	**P**	**04 50 45.9**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=279,slow=4.0,SNR=7.4						
TXAR	**Lajitas Array**	**118.18**	**27**	PKP	**PKPdf**	**04 57 60.0**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=156,slow=1.1,SNR=7.5						
ROSC	**El Rosal**	**148.15**	**356**	PKPbc	**PKPbc**	**04 58 59.5**	**-0.8**
	comp=Z,6.5nm,0.5s,baz=41,slow=17,SNR=4.2						
BDFB	**Brasilia**	**151.09**	**287**	PKPbc	**PKPbc**	**04 59 04.9**	**-2.2**
	comp=Z,0.9nm,0.4s,baz=71,slow=13,SNR=3.0						

TRN 10 04:43:13.5, 16°.07N×61°.77W, h180km, MD3.9, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBE	**Ff, Capester**	**0.16**	**89**	*eP*	Pn	04 43 38.4	+1.0
CBE				*eS*	Sn	04 43 56.8	+1.2
TBG	**Guadaloupe-3**	**0.25**	**150**	*eP*	Pn	04 43 38.7	+1.2
TBG	**Guadaloupe-3**	**0.25**	**150**	*e*	Pn	04 43 48.0	+10
TBG				*eS*	Sn	04 43 56.8	+0.9
TDBA	**Terre de Bas,**	**0.26**	**149**	*eP*	Pn	04 43 38.7	+1.2
TDBA				*eS*	Sn	04 43 56.5	+0.6
MAGL	**Barre de l'ile**	**0.49**	**104**	*eP*	Pn	04 43 39.5	+1.3
MAGL				*eS*	Sn	04 43 57.8	+0.7
ABD	**La Joyeuse, An**	**0.49**	**34**	*eP*	Pn	04 43 39.4	+1.2
ABD	**La Joyeuse, An**	**0.49**	**34**	*e*	Pn	04 43 48.5	+10
ABD				*eS*	Sn	04 43 57.4	+0.1
MDPV	**Dominica, Penn**	**0.55**	**142**	*eP*	Pn	04 43 39.9	+1.3
MDPV				*eS*	Sn	04 43 58.3	+0.5
DSLB	**Salisbury**	**0.71**	**151**	*eP*	Pn	04 43 40.4	+1.1
DSLB				*eS*	Sn	04 43 59.5	+0.2
MLYT	**Lee's Yard**	**0.76**	**328**	*eP*	Pn	04 43 40.5	+0.9
MLYT				*eS*	Sn	04 44 01.3	+1.5
MDN	**Morne-Daniel**	**0.83**	**154**	*eP*	Pn	04 43 41.1	+1.0
MDN				*eS*	Sn	04 44 00.6	+0.1
DLPL	**La Plaine**	**0.89**	**145**	*eP*	Pn	04 43 42.0	+1.5
SVN	**Savane Anatole**	**1.35**	**154**	*eP*	Pn	04 43 45.0	+0.9
PCM	**Pelee Case Pet**	**1.36**	**156**	*eP*	Pn	04 43 44.9	+0.7
PCM	**Pelee Case Pet**	**1.36**	**156**	*eP*	Pn	04 43 45.3	+1.1
CXM	**Morne La Croix**	**1.38**	**155**	*eP*	Pn	04 43 45.5	+0.9
BAMF	**Morne Balai**	**1.38**	**154**	*eP*	Pn	04 43 45.3	+0.8
GBMF	**Grand Be**	**1.39**	**155**	*eP*	Pn	04 43 45.3	+0.7
PML	**Morne Lenard**	**1.40**	**156**	*eP*	Pn	04 43 45.3	+0.7
FDF	**Fort de France**	**1.46**	**156**	*eP*	Pn	04 43 45.8	+0.7
FDF				*eS*	Sn	04 44 10.4	+0.8
SKOC	**St. Kitts, UWI**	**1.53**	**323**	*eP*	Pn	04 43 46.8	+1.2
SKOC				*eS*	Sn	04 44 11.2	+0.6
ILAM	**Ilet Lapin Mar**	**1.55**	**146**	*eP*	Pn	04 43 46.8	+0.8
ILAM				*eS*	Sn	04 44 10.4	-0.7
SKI	**Saint Kitts**	**1.56**	**324**	*eP*	Pn	04 43 47.4	+1.3
SKI				*eS*	Sn	04 44 11.2	-0.2
ANWB	**Willy Bob**	**1.59**	**360**	*eP*	Pn	04 43 47.7	+1.3
ANWB	**Willy Bob**	**1.59**	**360**	*e*	Pn	04 44 00.2	+14
ANWB				*eS*	Sn	04 44 11.5	-0.4
ZAM	**Aeronautique**	**1.65**	**154**	*eP*	Pn	04 43 47.8	+0.9
LPMF	**Morne Lapointe**	**1.68**	**152**	*eP*	Pn	04 43 47.6	+0.4
BIM	**Bigot**	**1.69**	**156**	*eP*	Pn	04 43 48.1	+0.8
BIM				*eS*	Sn	04 44 14.4	+0.8
MVM	**Montagne Vaucl**	**1.73**	**150**	*eP*	Pn	04 43 48.5	+0.8
MPOM	**Morne Pois Mar**	**1.84**	**151**	*eP*	Pn	04 43 49.7	+0.8
MPOM				*eS*	Sn	04 44 16.3	0.0
SLBI	**Saint Lucia, B**	**2.17**	**159**	*eP*	Pn	04 43 52.9	+0.4
SLBI				*eS*	Sn	04 44 23.7	+0.8
SLW	**Petit Monier**	**2.19**	**158**	*eP*	Pn	04 43 54.3	+1.6
SLW				*eS*	Sn	04 44 23.4	+0.1
SLAC	**Saint Lucia, A**	**2.32**	**158**	*eP*	Pn	04 43 54.9	+0.8
SLAC				*eS*	Sn	04 44 25.7	-0.1
SLB	**Belfond**	**2.34**	**162**	*eS*	Sn	04 44 26.1	-0.1
SLPA	**Patience**	**2.35**	**159**	*eP*	Pn	04 43 55.8	+1.3
MCLT	**Moule a Chique**	**2.48**	**161**	*eP*	Pn	04 43 56.8	+0.8
MCLT				*eS*	Sn	04 44 29.2	+0.2
SVB	**Belmont**	**2.83**	**170**	*eP*	Pn	04 44 00.6	+0.5
SVB				*eS*	Sn	04 44 36.4	0.0
SVCV	**St. Vincent, C**	**2.84**	**168**	*eP*	Pn	04 44 00.8	+0.4
GCMP	**Grenada, Carri**	**3.58**	**175**	*eP*	Pn	04 44 09.4	+0.1
BBGH	**Gun Hill**	**3.61**	**143**	*eP*	Pn	04 44 10.9	+1.2
BBGH				*eS*	Sn	04 44 53.6	-0.1
BBSP	**Saint Philip**	**3.70**	**142**	*eP*	Pn	04 44 12.5	+1.7
BBSP				*eS*	Sn	04 44 54.5	-1.3
GRGR	**Grenville**	**3.91**	**178**	*eP*	Pn	04 44 14.1	+0.5
TOSP	**Speyside**	**4.89**	**166**	*eP*	Pn	04 44 27.0	+0.9
TOSP	**Speyside**	**4.89**	**166**	*eS*	Sn	04 45 20.2	-2.9
TRN	**Trinidad (W)**	**5.40**	**176**	*eP*	Pn	04 44 33.5	+0.7
TRN	**Trinidad (W)**	**5.40**	**176**	*eS*	Sn	04 45 32.1	-2.9

IDC 10 04:58:35.7±7.0, 21°.60S×179°.79W, h0km, mb4.3/2, mb1 4.6/2, mb1mx3.8/26, mbtmp4.3/2, Error ellipse: s-maj=299.2km s-min=71.0km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.65**	**258**	P	P	05 06 33.6	-0.8
	1.8nm,0.5s,baz=95,slow=8.6,SNR=26						
WRA	**Warramunga Arr**	**42.81**	**264**	P	P	05 06 36.1	+0.5
	2.5nm,0.3s,baz=97,slow=8.3,SNR=85						
BRTR	**Keskin Array B**	**146.30**	**310**	PKPbc	PKPdf	05 18 18.0	+0.3
	0.3nm,0.5s,baz=38,slow=5.3,SNR=2.6						

*AEIC **10** 04:59:17.0±2.4, 50°.90N±0°.07×179°.81W±0°.04, h1km±5km, ML3.5/31, Error ellipse: s-maj=9.9km s-min=2.6km az=196.0*
*NEIC **10** 04:59:17.5±1.7, 50°.74N±0°.09×179°.90W±0°.08, h18km±7km, Error ellipse: s-maj=15.1km s-min=3.6km az=207.0*
*IDC **10** 04:59:18.1±2.5, 51°.60N×179°.99E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/44, mbtmp3.5/7, Error ellipse: s-maj=71.4km s-min=26.4km az=7.0*

ISC 10 04:59:16.9±2.3, 50°.8N±0°.1×179°.85W±0°.04, h9km±11km, n32, σ1s30/39, mb3.7/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.76**	**315**		**Pb**	**04 59 32.9**	**+0.7**
AMKA					**Sb**	**04 59 43.8**	**+1.1**
CERAA	**Semis' Rag'd T**	**1.11**	**345**		**Pg**	**04 59 38.1**	**0.0**
CESW	**Semis' Southwe**	**1.12**	**341**		**Pg**	**04 59 38.4**	**-0.1**
CERB	**Semis' Cerberu**	**1.14**	**344**		**Pg**	**04 59 38.5**	**-0.3**
CERB					**Sn**	**04 59 55.4**	**+0.7**
GALAA	**Gareloi Lava P**	**1.14**	**36**		**Pg**	**04 59 38.5**	**-0.3**
GAEA	**Gareloi East**	**1.17**	**36**		**Pg**	**04 59 38.8**	**-0.5**
CEAP	**Semis' Anvil P**	**1.22**	**343**		**Pg**	**04 59 40.0**	**-0.2**
CEAP					**Sn**	**04 59 58.6**	**+1.9**
LSSE	**Little Sitkin**	**1.48**	**318**		**Pn**	**04 59 44.4**	**+0.8**
LSPA	**Little Sitkin**	**1.49**	**319**		**Pn**	**04 59 44.7**	**+0.9**
LSPA					**Sg**	**05 00 05.5**	**+0.7**
TASE	**Tanaga Southea**	**1.51**	**48**		**Pn**	**04 59 44.3**	**+0.2**
LSSA	**Little Sitkin**	**1.51**	**318**		**Pn**	**04 59 45.0**	**+0.9**
LSNW	**Little Sitkin**	**1.53**	**318**		**Pn**	**04 59 45.0**	**+0.7**
TAFP	**Tanaga Falls P**	**1.58**	**47**		**Pn**	**04 59 45.3**	**+0.3**
TAFP					**Sg**	**05 00 06.7**	**-0.9**
TAPA	**Tanaga Point A**	**1.61**	**52**		**Pn**	**04 59 45.8**	**+0.3**
KIMD	**Kanaga Island**	**1.88**	**60**		**Pn**	**04 59 49.8**	**+0.6**
KIKV	**Kanaga Island**	**1.97**	**57**		**Pn**	**04 59 51.2**	**+0.7**
KIKV					**Sn**	**05 00 16.0**	**+0.7**
KICM	**Kanaga Island**	**1.98**	**56**		**Pn**	**04 59 51.4**	**+0.8**
KIRH	**Kanaga Island**	**2.03**	**57**		**Pn**	**04 59 52.2**	**+1.0**
ADK	**Adak**	**2.24**	**61**		**Pn**	**04 59 55.3**	**+1.2**
GSTD	**Great Sitkin T**	**2.62**	**61**		**Pn**	**05 00 00.7**	**+1.4**
GSTD					**Sn**	**05 00 33.5**	**+2.3**
GSMY	**Great Sitkin M**	**2.66**	**62**		**Pn**	**05 00 00.6**	**+0.7**
GSTR	**Great Sitkin T**	**2.68**	**61**		**Pn**	**05 00 01.7**	**+1.5**
ATKA	**Atka Island**	**3.78**	**67**		**Pn**	**05 00 17.0**	**+1.7**
KOFP	**Korovin Flat P**	**3.87**	**66**		**Pn**	**05 00 17.9**	**+1.4**
ILAR	**Eielson Array**	**22.08**	**38**	P	**P**	**05 04 10.1**	**-1.7**
	0.3nm,0.5s,baz=245,slow=11,SNR=2.7						
YKA	**Yellowknife Ar**	**36.08**	**46**	P	**P**	**05 06 16.3**	**-2.1**
	0.5nm,0.5s,baz=282,slow=8.8,SNR=2.2						
PDAR	**Pinedale Array**	**47.10**	**71**	P	**P**	**05 07 50.0**	**+0.8**
	0.5nm,0.5s,baz=332,slow=2.7,SNR=8.0						
PDAR	**Pinedale Array**	**47.10**	**71**	P	**P**	**05 07 50.0**	**+0.8**
TXAR	**Lajitas Array**	**59.39**	**80**	P	**P**	**05 09 23.0**	**+3.4**
	0.2nm,0.8s,baz=317,slow=3.8,SNR=1.7						
MKAR	**Makanchi Array**	**59.85**	**308**	P	**P**	**05 09 21.5**	**-0.9**
	0.6nm,0.5s,baz=50,slow=7.5,SNR=7.8						
FINES	**FINESS Array B**	**66.16**	**347**	P	**P**	**05 10 01.7**	**-2.3**
	0.5nm,0.5s,baz=20,slow=17,SNR=1.5						
AKASG	**Malin Array Be**	**75.85**	**341**	P	**P**	**05 11 01.2**	**-1.8**
	0.2nm,0.3s,baz=18,slow=5.8,SNR=2.6						

IDC 10 05:10:52.0±1.3, 3°.95N×125°.01E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.7/35, mbtmp4.0/6, Error ellipse: s-maj=106.0km s-min=18.3km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.91**	**178**	P	P	05 15 47.6	+0.5
	1.7nm,0.4s,baz=5.4,slow=7.9,SNR=20						
WRA	**Warramunga Arr**	**25.45**	**159**	P	P	05 16 21.8	-0.1
	2.5nm,0.4s,baz=337,slow=10,SNR=48						
ASAR	**Alice Springs**	**28.79**	**163**	P	P	05 16 51.9	0.0
	0.7nm,0.4s,baz=341,slow=7.3,SNR=15						
STKA	**Stephens Creek**	**38.97**	**157**	P	P	05 18 19.6	-0.4
	1.5nm,0.4s,baz=336,slow=11,SNR=6.1						
MKAR	**Makanchi Array**	**56.41**	**326**	P	P	05 20 35.6	+0.2
	0.8nm,0.3s,baz=121,slow=8.2,SNR=15						
ZALV	**Zalesovo Beam**	**59.62**	**334**	P	P	05 20 57.3	-0.5
	0.3nm,0.3s,baz=138,slow=9.7,SNR=1.8						

IDC 10 05:23:23.3±13.0, 43°.46N×139°.54E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/31, mbtmp3.6/3, Error ellipse: s-maj=349.2km s-min=39.4km az=168.0, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.77**	**295**	P	P	05 30 57.9	+0.3
	0.2nm,0.6s,baz=88,slow=8.9,SNR=2.3						
ILAR	**Eielson Array**	**44.97**	**36**	P	P	05 31 39.7	0.0
	1.1nm,0.8s,baz=264,slow=5.4,SNR=11						
FINES	**FINESS Array B**	**62.50**	**330**	P	P	05 33 47.6	-0.4
	1.1nm,0.7s,baz=59,slow=8.3,SNR=5.4						

*IDC **10** 05:30:29.1±12.0, 9°.96N×74°.83W, h0km, mb1 3.5/1, mb1mx3.1/39, mbtmp3.8/1, ML2.3/1, Error ellipse: s-maj=700.6km s-min=39.7km az=76.0*
*RSNC **10** 05:30:42.2±0.9, 7°.57N×77°.38W, h6km±3km, ML2.8, Mw3.4*
*UPA **10** 05:30:42.2±2.2, 7°.42N×77°.47W, h8km±9km, MW4.0*

ISC 10 05:30:41.7±1.2, 7°.53N±0°.03×77°.40W±0°.02, h13km±9km, n41, σ1s51/77, 1C-2D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.56**	**227**	*eP*g	**Pg**	**05 30 52.7**	**+0.1**
PTAC				*eS*g	**Sg**	**05 31 00.6**	**+0.6**
CAPC	**Capurgana**	**1.10**	**2**	⇑*iP*	**Pb**	**05 31 01.1**	**-1.5**
CAPC				*eS*	**Sb**	**05 31 15.1**	**-1.7**
CAPC				*i*		05 31 26.8	
	comp=Z,144nm,0.5s						
UPD2	**Meteti**	**1.18**	**329**	*eP*	**Pn**	**05 31 04.1**	**+0.2**

YOTC	**Yotoco, Valle**	**3.68**	**163**	*e*P		**Pn**	**05 31 36.6**	**-1.7**
YOTC				*e*S		**Sn**	**05 32 18.5**	**-3.1**
YOTC				*i*			05 32 20.1	
	comp=Z,9.5nm,0.4s							
BRRC	**Barranca, Sant**	**3.68**	**96**	*e*P		**Pn**	**05 31 38.8**	**+0.6**
BRRC				*e*S		**Sn**	**05 32 21.8**	**+0.3**
BRRC				*i*			05 32 30.8	
	comp=Z,15nm,0.4s							
SPBC	**San Pablo de B**	**3.79**	**119**	*e*P		**Pn**	**05 31 40.4**	**+0.5**
SPBC				*e*S		**Sn**	**05 32 26.9**	**+2.4**
SPBC				*i*			05 32 51.9	
	comp=Z,12nm,0.5s							
ROSC	**El Rosal**	**4.06**	**131**	Pn		**Pn**	**05 31 46.0**	**+2.2**
	comp=Z,2.1nm,0.3s,baz=277,slow=18,SNR=6.0							
ROSC				Sn		**Sg**	**05 32 50.7**	**-1.6**
	comp=Z,2.4nm,0.3s,baz=193,slow=23,SNR=1.5							
ROSC	**El Rosal**	**4.06**	**131**	*e*P		**Pn**	**05 31 47.8**	**+3.9**
ROSC				*e*S		**Sb**	**05 32 46.2**	**+3.6**
ROSC				*i*			05 33 06.4	
	comp=Z,12nm,0.8s							
OCAC	**Ocana**	**4.10**	**80**	*e*P		**Pn**	**05 31 43.5**	**-0.7**
OCAC				*e*S		**Sn**	**05 32 31.6**	**-0.5**
OCAC				*i*			05 32 37.9	
	comp=Z,32nm,0.3s							
BARC	**Barichara**	**4.29**	**102**	*e*P		**Pn**	**05 31 48.5**	**+1.7**
BARC				*e*S		**Sn**	**05 32 37.0**	**+0.2**
BARC				*i*			05 32 42.1	
	comp=Z,26nm,0.6s							
PRAC	**Prado**	**4.54**	**146**	*e*P		**Pn**	**05 31 50.2**	**+0.1**
RUSC	**La Rusia**	**4.58**	**111**	*e*P		**Pn**	**05 31 51.9**	**+0.8**
RUSC				*e*S		**Sn**	**05 32 44.8**	**+0.3**
RUSC				*i*			05 32 52.0	
	comp=Z,10nm,0.7s							
CHIC	**Chingaza**	**4.65**	**128**	*e*P		**Pn**	**05 31 55.3**	**+3.3**
PAMC	**Pamplona, Colo**	**4.66**	**92**	*e*P		**Pn**	**05 31 53.4**	**+1.2**
PAMC				*e*S		**Sn**	**05 32 46.5**	**+0.1**
PAMC				*i*			05 32 51.1	
	comp=Z,19nm,0.5s							
ASAR	**Alice Springs**	**145.97**	**238**	PKPbc		**PKPdf**	**05 50 20.6**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=104,slow=4.4,SNR=5.4							
WRA	**Warramunga Arr**	**146.87**	**245**	PKPbc		**PKPdf**	**05 50 22.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=103,slow=2.7,SNR=1.7							

*IDC **10** 05:31:57.1±0.8,25°.84N×142°.92E, h0km,mb3.8/8, mb1 4.0/9,mb1mx3.8/42,mbtmp3.8/9,ML2.8/1, Error ellipse: s-maj=30.9km s-min=15.8km az=77.0*

ISC 10 05:32:02.0±0.9,25°.8N±0°.1×143°.0E±0°.2, h35km, n17, σ1§13/12, mb3.8/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.44**	**332**	Pn	**Pn**	**05 32 25.3**	**-0.4**
	60nm,0.3s,baz=89,slow=20,SNR=11						
JCJ				Sn	**Sn**	**05 32 46.0**	**+2.6**
	125nm,0.3s,baz=279,slow=24,SNR=13						
MJAR	**Matsushiro Arr**	**11.43**	**340**	Pn	**Pn**	**05 34 41.7**	**-1.1**
	0.1nm,0.3s,baz=184,slow=16,SNR=1.6						
H11N2	**WAKE ISLAND Hy**	**22.88**	**100**	T	T	06 00 33.7	
	baz=290,slow=75,SNR=67						
H11N1	**WAKE ISLAND Hy**	**22.88**	**100**	T	T	06 00 36.0	
	baz=290,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hy**	**22.90**	**100**	T	T	06 00 37.1	
	baz=290,slow=75,SNR=53						
H11S3	**WAKE ISLAND Hy**	**23.14**	**104**	T	T	06 01 04.0	
	baz=294,slow=75,SNR=9.1						
H11S1	**WAKE ISLAND Hy**	**23.15**	**104**	T	T	06 01 02.8	
	baz=294,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**23.16**	**104**	T	T	06 00 57.1	
	baz=294,slow=75,SNR=10						
KLR	**Kul'dur**	**24.95**	**342**	P	**P**	**05 37 21.6**	**-0.3**
	1.9nm,0.8s,baz=141,slow=8.5,SNR=6.1						
WRA	**Warramunga Arr**	**46.25**	**191**	P	**P**	**05 40 24.4**	**+0.4**
	2.1nm,0.6s,baz=11,slow=8.6,SNR=24						
ASAR	**Alice Springs**	**49.97**	**191**	P	**P**	**05 40 53.2**	**+0.5**
	0.4nm,0.6s,baz=16,slow=10,SNR=8.5						
ZALV	**Zalesovo Beam**	**50.90**	**320**	P	**P**	**05 40 58.2**	**-1.3**
	0.3nm,0.3s,baz=90,slow=2.9,SNR=1.8						
MKAR	**Makanchi Array**	**51.81**	**310**	P	**P**	**05 41 06.1**	**-0.4**
	0.3nm,0.7s,baz=94,slow=8.8,SNR=2.1						
ILAR	**Eielson Array**	**58.51**	**28**	P	**P**	**05 41 54.2**	**-0.3**
	1.1nm,0.7s,baz=263,slow=6.1,SNR=13						
FINES	**FINESS Array B**	**79.39**	**334**	P	**P**	**05 44 04.3**	**+0.1**
	1.5nm,0.7s,baz=69,slow=6.3,SNR=12						
NVAR	**Mina Array Bea**	**80.77**	**52**	P	**P**	**05 44 13.3**	**+0.9**
	0.5nm,0.6s,baz=281,slow=4.6,SNR=5.1						
LPAZ	**La Paz**	**149.55**	**78**	PKPbc	**PKiKP**	**05 51 50.5**	**+0.2**
	1.4nm,0.7s,baz=297,slow=2.9,SNR=5.3						

*IDC **10** 05:40:40.6±2.3, 45°.23N×18°.38W, h0km,mb3.9/3, mb1 3.9/5,mb1mx3.4/46,mbtmp3.7/5,ML4.0/2, Error ellipse: s-maj=52.0km s-min=37.4km az=28.0*
*MDD **10** 05:40:41.6±2.2,44°.82N×18°.64W, h0km,mb4.2/24, Error ellipse: s-maj=25.3km s-min=18.8km az=30.0,PRXIMO*
*INMG **10** 05:40:45.0±3.1,44°.77N×19°.03W, h10km,ML2.8, Error ellipse: s-maj=41.6km s-min=19.8km az=36.0*

ISC 10 05:40:39.7±1.0,44°.78N±0°.06×18°.46W±0°.07, h10km, n71, σ2§82/108, mb3.9/3, 1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMAZ	**Mazaricos**	**7.10**	**102**	||P	**Pn**	**05 42 26.8**	**+3.2**
	12nm,0.1s,SNR=18						
EMAZ				S	**Sn**	**05 43 43.9**	**-0.4**
	14nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**7.58**	**107**	P	**Pn**	**05 42 33.8**	**+3.6**
	3.0nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**05 43 55.3**	**-0.8**
	2.0nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**7.94**	**107**	P	**Pn**	**05 42 38.7**	**+3.4**
PGAV				S	**Sn**	**05 44 04.2**	**-1.0**
	3.4nm,0.3s						
PGAV	**Gavieira, Arco**	**7.94**	**107**	*e*Pn	**Pn**	**05 42 38.7**	**+3.4**
PGAV				*e*Sn	**Sn**	**05 44 04.2**	**-1.0**
PGAV				A	A	05 44 09.2	
	3.4nm,0.3s						
ELOB	**Lobios**	**8.12**	**107**	P	**Pn**	**05 42 41.1**	**+3.3**
	1.4nm,0.1s,SNR=16						
ELOB				S	**Sn**	**05 44 09.0**	**-0.6**
	1.1nm,0.2s,SNR=4.7						
PCAB	**Cabril**	**8.21**	**108**	P	Pn	05 42 43.9	+5.0
PCAB				S	**Sn**	**05 44 11.8**	**0.0**
PCAB	**Cabril**	**8.21**	**108**	*e*Pn	Pn	05 42 43.9	+5.0
PCAB				*e*Sn	**Sn**	**05 44 11.8**	**0.0**
EPON	**Pontenova**	**8.28**	**96**	P	**Pn**	**05 42 43.2**	**+3.4**
	2.9nm,0.2s,SNR=9.6						
EPON				S	**Sn**	**05 44 11.1**	**-2.2**
	6.7nm,0.1s,SNR=9.3						
PVRL	**Vila Real**	**8.62**	**110**	P	**Pn**	**05 42 48.6**	**+4.1**
PVRL				S	**Sn**	**05 44 21.0**	**-0.7**
	1.5nm,0.1s						
PVRL	**Vila Real**	**8.62**	**110**	*e*P	**Pn**	**05 42 48.6**	**+4.1**
PVRL				S	**Sn**	**05 44 21.0**	**-0.7**
PVRL				A	A	05 44 24.1	
	3.0nm,0.1s						
PCAS	**Casmilo, Conde**	**8.75**	**119**	S	**Sn**	**05 44 24.4**	**-0.6**
	2.1nm,0.3s						
PCAS	**Casmilo, Conde**	**8.75**	**119**	S	**Sn**	**05 44 24.4**	**-0.6**
PCAS				A	A	05 44 27.4	
	2.1nm,0.3s						
PVIS	**Viseu**	**8.77**	**114**	P	**Pn**	**05 42 50.3**	**+3.7**
PVIS				S	**Sn**	**05 44 23.7**	**-1.8**
PVIS	**Viseu**	**8.77**	**114**	*e*P	**Pn**	**05 42 50.3**	**+3.7**
PVIS				*e*S	**Sn**	**05 44 23.7**	**-1.8**
PSBE	**So Bento**	**8.90**	**123**	*e*P	**Pn**	**05 42 52.0**	**+3.7**
PSBE				*e*S	**Sn**	**05 44 26.2**	**-2.5**
PMAFR	**Mafra**	**8.99**	**127**	P	**Pn**	**05 42 52.8**	**+3.3**
	2.7nm,0.1s,SNR=7.0						
PMAFR				S	**Sn**	**05 44 29.3**	**-1.4**
	7.9nm,0.2s,SNR=8.6						
ECAL	**Calabor**	**9.00**	**104**	P	**Pn**	**05 42 53.0**	**+3.2**
	0.7nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**05 44 29.9**	**-1.3**
	9.0nm,0.2s,SNR=8.5						
PBRG	**Braganca**	**9.05**	**105**	P	**Pn**	**05 42 54.7**	**+4.3**
PBRG				S	**Sn**	**05 44 32.4**	**0.0**
PBRG	**Braganca**	**9.05**	**105**	*e*P	**Pn**	**05 42 54.7**	**+4.3**
PBRG				*e*S	**Sn**	**05 44 32.4**	**0.0**
MVO	**Moncorvo**	**9.13**	**109**	P	**Pn**	**05 42 55.5**	**+4.0**
	1.4nm,0.1s,SNR=10						
MVO				S	**Sn**	**05 44 33.9**	**-0.4**
	2.0nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**9.13**	**109**	*e*P	**Pn**	**05 42 55.6**	**+4.1**
MVO				*e*S	**Sn**	**05 44 33.6**	**-0.7**
MTE	**Manteigas**	**9.16**	**115**	P	**Pn**	**05 42 55.3**	**+3.3**
MTE				S	**Sn**	**05 44 33.1**	**-2.1**
	1.7nm,0.4s						
MTE	**Manteigas**	**9.16**	**115**	*e*P	**Pn**	**05 42 55.3**	**+3.3**
MTE				*e*S	**Sn**	**05 44 33.1**	**-2.1**
MTE				A	A	05 44 40.5	
	3.3nm,0.4s						
PCBR	**Castelo Branco**	**9.52**	**117**	S	**Sn**	**05 44 42.5**	**-1.2**
	0.5nm,0.2s						
PCBR	**Castelo Branco**	**9.52**	**117**	S	**Sn**	**05 44 42.5**	**-1.2**
PCBR				A	A	05 44 46.3	
	1.0nm,0.2s						
PMTG	**Montargil**	**9.53**	**123**	P	**Pn**	**05 43 00.0**	**+3.1**
PMTG				S	**Sn**	**05 44 41.9**	**-2.0**
	1.2nm,0.5s						
PMTG	**Montargil**	**9.53**	**123**	*e*P	**Pn**	**05 43 00.0**	**+3.1**
PMTG				*e*S	**Sn**	**05 44 41.9**	**-2.0**
PMTG				A	A	05 44 44.0	
	1.2nm,0.5s						
EARI	**Arriondas**	**9.66**	**94**	P	**Pn**	**05 43 02.1**	**+3.3**
	1.6nm,0.2s,SNR=14						
EARI				S	**Sn**	**05 44 45.6**	**-1.7**
	0.1nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**9.81**	**119**	P	**Pn**	**05 43 04.0**	**+3.2**
PMRV				S	**Sn**	**05 44 48.8**	**-2.2**
	1.8nm,0.2s						
PMRV	**Marv??o**	**9.81**	**119**	*e*P	**Pn**	**05 43 04.0**	**+3.2**
PMRV				*e*S	**Sn**	**05 44 48.8**	**-2.2**
PMRV				A	A	05 44 52.8	
	1.8nm,0.2s						
PNCL	**Nicolau / Gran**	**10.00**	**128**	P	**Pn**	**05 43 06.6**	**+3.3**
PNCL	**Nicolau / Gran**	**10.00**	**128**	*e*P	**Pn**	**05 43 06.6**	**+3.3**
EVO	**Evora**	**10.00**	**125**	P	**Pn**	**05 43 05.8**	**+2.4**
EVO				S	**Sn**	**05 44 52.5**	**-3.2**
	1.3nm,0.3s						
EVO	**Evora**	**10.00**	**125**	*e*P	**Pn**	**05 43 06.4**	**+3.0**
EVO				*e*S	**Sn**	**05 44 51.7**	**-4.0**
EVO	**Evora**	**10.00**	**125**	*e*P	**Pn**	**05 43 05.8**	**+2.4**
EVO				*e*S	**Sn**	**05 44 52.5**	**-3.2**
EVO				A	A	05 44 57.5	
	1.3nm,0.3s						
EPLA	**Plasencia**	**10.29**	**113**	P	**Pn**	**05 43 11.8**	**+4.4**
	3.5nm,0.3s,SNR=18						
EPLA				S	**Sn**	**05 45 00.9**	**-1.9**
	0.5nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**10.52**	**132**	S	**Sn**	**05 45 02.2**	**-6.1**
	2.4nm,0.2s						
MORF	**Marmelete**	**10.52**	**132**	*e*S	**Sn**	**05 45 02.2**	**-6.1**
MORF				A	A	05 45 11.0	
	2.4nm,0.2s						
PFVI	**Vila Bisbo**	**10.55**	**133**	P	**Pn**	**05 43 13.9**	**+2.9**
	0.2nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**05 45 05.7**	**-3.5**
	0.8nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**10.55**	**133**	S	**Sn**	**05 45 07.9**	**-1.3**
PCVE	**Castro Verde**	**10.61**	**129**	S	**Sn**	**05 45 09.5**	**-1.1**
	1.6nm,0.5s						
PCVE	**Castro Verde**	**10.61**	**129**	S	**Sn**	**05 45 09.5**	**-1.1**
PCVE				A	A	05 45 12.9	
	1.6nm,0.5s						
ELAN	**Lanestosa**	**10.94**	**93**	P	**Pn**	**05 43 18.9**	**+2.7**
	1.3nm,0.2s,SNR=7.9						
ELAN				S	**Sn**	**05 45 16.0**	**-2.6**
	1.1nm,0.2s,SNR=13						
PBDV	**Barranco-do-Ve**	**10.95**	**130**	S	**Sn**	**05 45 17.4**	**-1.5**
	2.1nm,0.7s						
PBDV	**Barranco-do-Ve**	**10.95**	**130**	S	**Sn**	**05 45 17.4**	**-1.5**
PBDV				A	A	05 45 25.1	
	2.1nm,0.7s						
PVAQ	**Vaqueiros**	**10.95**	**129**	S	**Sn**	**05 45 14.9**	**-4.0**
	2.2nm,0.5s						
PVAQ	**Vaqueiros**	**10.95**	**129**	S	**Sn**	**05 45 14.9**	**-4.0**
PVAQ				A	A	05 45 22.7	
	2.2nm,0.5s						
EGRO	**El Granado**	**10.99**	**127**	P	**Pn**	**05 43 20.1**	**+3.1**
	0.9nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**05 45 17.5**	**-2.3**
	0.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**11.30**	**124**	P	**Pn**	**05 43 24.9**	**+3.8**
	1.3nm,0.2s,SNR=10						
EMIN				S	**Sn**	**05 45 24.8**	**-2.7**
	0.3nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**11.71**	**112**	P	**Pn**	**05 43 30.9**	**+4.1**
	3.1nm,0.4s,SNR=7.9						
PAB				S	**Sn**	**05 45 34.5**	**-3.0**
	0.5nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**11.86**	**120**	P	**Pn**	**05 43 32.1**	**+3.2**
	2.1nm,0.2s,SNR=24						
ECAB				S	**Sn**	**05 45 38.0**	**-3.1**
	0.8nm,0.2s,SNR=8.6						
ESDC	**Sonseca Array**	**11.89**	**110**	Pn	Pn	05 43 33.9	+4.5
	0.4nm,0.3s,baz=299,slow=13,SNR=20						
ESDC				Sn	**Sn**	**05 45 41.5**	**-0.7**
	0.1nm,0.3s,baz=306,slow=22,SNR=2.2						
ESDC	**Sonseca Array**	**11.89**	**110**	P	**Pn**	**05 43 33.6**	**+4.2**
	4.2nm,0.3s,baz=299,slow=13,SNR=20						
ESDC				S	**Sn**	**05 45 40.3**	**-1.8**
	0.2nm,0.1s,baz=289,slow=24,SNR=4.9						
EALK	**Alkurruntz**	**12.31**	**91**	S	**Sn**	**05 45 47.8**	**-4.6**
	0.9nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**12.33**	**118**	P	**Pn**	**05 43 38.8**	**+3.6**
	0.8nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**05 45 49.3**	**-3.3**
	0.2nm,0.1s,SNR=7.9						
EORO	**Oroz-Betelu**	**12.53**	**93**	P	**Pn**	**05 43 41.1**	**+3.0**
	0.2nm,0.3s,SNR=4.0						
EORO				S	**Sn**	**05 45 55.1**	**-2.6**
	1.4nm,0.3s,SNR=7.9						
ATE	**Arette**	**12.92**	**91**	S	**Sn**	**05 46 05.8**	**-1.3**
	SNR=7.9						
EGOR	**Sierra Gorda,**	**13.27**	**120**	P	Pn	05 43 52.7	+4.5
	0.5nm,0.2s,SNR=7.9						
ECHI	**Chisagues Biel**	**13.66**	**92**	S	**Sn**	**05 46 25.2**	**-0.2**
	1.1nm,0.4s,SNR=4.0						
EMOS	**Mosqueruela**	**13.97**	**102**	S	**Sn**	**05 46 30.3**	**-2.6**
	1.1nm,0.3s,SNR=7.9						
EBER	**Berja**	**14.16**	**118**	P	**P**	**05 44 05.8**	**-2.3**
	1.3nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**14.30**	**99**	P	**P**	**05 44 07.1**	**-2.4**
	0.2nm,0.1s,SNR=7.9						
EKA	**Eskdalemuir Ar**	**14.39**	**37**	Pn	**Pn**	**05 43 59.6**	**-3.7**
	baz=223,slow=12,SNR=3.8						
CSOR	**Sort**	**14.41**	**93**	P	**Pn**	**05 44 06.9**	**+3.2**
	0.1nm,0.3s,SNR=7.9						
CSOR				S	**Sn**	**05 46 44.3**	**+0.7**
	1.3nm,0.4s,SNR=7.9						
CFON	**Fontmartina**	**15.52**	**94**	P	**P**	**05 44 22.2**	**-0.8**
	0.2nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**15.62**	**91**	P	**P**	**05 44 23.7**	**-0.4**
	0.2nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**15.64**	**91**	P	**P**	**05 44 23.9**	**-0.3**
	0.5nm,0.1s,SNR=7.9						
FINES	**FINESS Array B**	**30.73**	**41**	P	**P**	**05 46 53.2**	**-1.4**
	1.4nm,0.9s,baz=231,slow=8.8,SNR=1.9						
ARCES	**ARCESS Array B**	**33.13**	**27**	P	**P**	**05 47 14.5**	**-1.1**
	1.1nm,0.7s,baz=246,slow=8.5,SNR=4.5						
YKA	**Yellowknife Ar**	**54.10**	**325**	P	**P**	**05 50 04.3**	**+0.1**
	0.7nm,0.7s,baz=67,slow=6.3,SNR=2.5						
ASAR	**Alice Springs**	**149.17**	**56**	PKPbc	**PKPbc**	**06 00 29.4**	**+0.9**
	0.4nm,0.6s,baz=353,slow=1.6,SNR=6.7						

*NEIC **10** 05:47:15.3±1.4, 0°.09N±0°.08×125°.48E±0°.07, h69km±10km, mb4.3/9, Error ellipse: s-maj=13.6km s-min=8.8km az=142.0*
*DJA **10** 05:47:15.6±1.2, 0°.N±4°.×12°.5E±°., h24km±11km, M4.2/10, mB4.7/1,mb4.2/2,MLv4.2/10,Mw(mB)4.0/1*
*IDC **10** 05:47:16.1±3.3, 0°.17N×125°.39E, h70km±34km, mb3.5/3, mb1 3.8/6,mb1mx3.4/31,mbtmp3.9/6,ML3.7/3, Error ellipse: s-maj=33.0km s-min=21.7km az=62.0*

ISC 10 05:47:15.2±0.7, 0°.11N±0°.07×125°.47E±0°.05, h49km, n33, σ1§85/38, mb4.3/6, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.56**	**287**	P	**Pn**	**05 47 41.2**	**+0.7**
KMSI				S	**Sn**	**05 48 01.6**	**+2.0**
TNTI	**Ternate**	**2.01**	**71**	P	**Sn**	**05 48 06.7**	**-3.8**
TNTI	**Ternate**	**2.01**	**71**		**Pn**	**05 47 46.6**	**0.0**
TNTI				Sn	**Sn**	**05 48 09.8**	**-0.7**
LBMI	**Labuha**	**2.16**	**110**	P	**Pn**	**05 47 50.2**	**+1.5**
LBMI				S	**Sn**	**05 48 16.4**	**+2.1**
SANI	**Sanana**	**2.20**	**166**	P	**Pn**	**05 47 49.2**	**-0.1**
NLAI	**Namlea**	**3.70**	**154**	P	**Pn**	**05 48 10.9**	**+1.1**
MSAI	**Masohi**	**4.87**	**135**	P	**Pn**	**05 48 29.3**	**+3.4**
MPSI	**Mapaga**	**5.58**	**272**	P	**Pn**	**05 48 36.5**	**+0.8**
SIJI	**Sorong**	**5.87**	**99**	P	**Pn**	**05 48 42.1**	**+2.4**
	1.2nm,0.3s,baz=223,slow=23,SNR=7.1						
KCP	**Kidapawan**	**6.87**	**357**	i P	**Pn**	**05 48 57.3**	**+3.9**
FAKI	**Fak Fak**	**7.41**	**114**	P	**Pn**	**05 49 01.2**	**+0.4**
FAKI	**Fak Fak**	**7.41**	**114**	Pn	**Pn**	**05 49 01.1**	**+0.4**
FAKI				Sn	**Sn**	**05 50 23.2**	**-0.3**
KAPI	**Kappang**	**7.65**	**228**	P	**Pn**	**05 49 04.8**	**+0.8**
	1.8nm,0.3s,baz=191,slow=7.4,SNR=5.1						
KAPI	**Kappang**	**7.65**	**228**		**Pn**	**05 49 05.6**	**+1.5**
KAPI				Sn	**Sn**	**05 50 29.3**	**-0.2**
MYLDM	**Lahad Datu**	**8.60**	**306**		**Pn**	**05 49 17.8**	**+0.7**
EDFI	**Ende, Flores**	**9.57**	**203**	P	**Pn**	**05 49 34.1**	**+3.6**
SOEI	**Soe**	**9.87**	**187**	Pn	**Pn**	**05 49 34.2**	**-0.4**
SBUM	**Sibu**	**13.45**	**280**		**Pn**	**05 50 24.6**	**+1.1**
KSM	**Kuching**	**15.22**	**275**		**Pn**	**05 50 44.7**	**-2.4**
KSM				IAmb	IAmb	05 50 52.7	
	comp=Z,15nm,0.9s						
KNRA	**Kununurra**	**16.02**	**168**	Pn	**Pn**	**05 50 56.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**18.09**	**179**	P	**Pn**	**05 51 23.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=0.0,slow=11,SNR=2.5						
FITZ	**Fitzroy Crossi**	**18.09**	**179**	P	**P**	**05 51 22.0**	**-0.9**
WB0	**Warramunga Arr**	**21.60**	**157**	P	**P**	**05 51 59.2**	**-1.9**
WRA	**Warramunga Arr**	**21.73**	**157**	P	**P**	**05 52 01.7**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=334,slow=11,SNR=18						
WRA	**Warramunga Arr**	**21.73**	**157**	P	**P**	**05 52 00.5**	**-2.0**
WB2	**Warramunga Arr**	**21.74**	**157**	P	**P**	**05 52 00.1**	**-2.5**
PSA00	**Pilbara Seismi**	**22.23**	**194**	P	**P**	**05 52 05.4**	**-2.5**
ASAR	**Alice Springs**	**25.01**	**161**	P	**P**	**05 52 35.2**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=342,slow=7.0,SNR=14						
MK31	**Makanchi Array**	**59.85**	**327**	P	**P**	**05 57 14.2**	**-1.6**
MK31				IAmb	IAmb	05 57 16.1	
	comp=Z,1.2nm,0.5s						
MKAR	**Makanchi Array**	**59.85**	**327**	P	**P**	**05 57 13.7**	**-2.1**
	comp=Z,1.1nm,0.3s,baz=123,slow=8.3,SNR=27						
MAKZ	**Makanchi**	**60.03**	**327**	P	**P**	**05 57 17.1**	**+0.1**
MAKZ				IAmb	IAmb	05 57 17.6	
	comp=Z,4.2nm,1.4s						
KURK	**Kurchatov**	**64.14**	**329**	P	**P**	**05 57 42.5**	**-1.9**
KURK				IAmb	IAmb	05 57 47.3	
	comp=Z,2.8nm,0.9s						
ABKAR	**Akbulak array**	**74.17**	**322**	P	**P**	**05 58 45.0**	**-1.6**

*GCG **10** 05:55:58.3±0.7, 15°.00N×92°.28W, h72km±9km, MD3.6*
*MEX **10** 05:56:01.5±0.7, 14°.44N×91°.98W, h76km±10km, MD3.9*

ISC 10 05:56:04.0±2.5, 14°.5N±0°.3×92°.2W±0°.2, h59km±19km, n8, σ1§90/16, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.40**	**345**	*e*P	**Pn**	**05 56 13.7**	**-1.2**
THIG				*e*S	**Sn**	**05 56 23.9**	**+1.2**
STG3	**Santiaguito 3,**	**0.60**	**72**	*e*P	**Pn**	**05 56 16.4**	**-0.8**
STG3				*e*S	**Sn**	**05 56 27.3**	**+0.4**
FUG	**Fuego 3**	**1.28**	**93**	*e*P	**Pn**	**05 56 23.9**	**-2.0**
FUG				*e*S	**Sn**	**05 56 44.3**	**+2.0**
PCG	**Pacaya**	**1.51**	**95**	*e*P	**Pn**	**05 56 27.6**	**-1.5**
PCG				*e*S	**Sn**	**05 56 51.2**	**+3.3**
PCIG		**1.56**	**319**	*e*P	**Pn**	**05 56 28.4**	**-1.0**
PCIG				*i* S	**Sn**	**05 56 48.8**	**+0.2**
IXG	**Ixpaco**	**1.70**	**102**	*e*P	**Pn**	**05 56 29.7**	**-1.9**
IXG				*e*S	**Sn**	**05 56 55.3**	**+2.8**
NBG	**Las Nubes**	**1.76**	**88**	*e*P	**Pn**	**05 56 30.4**	**-2.0**
NBG				*e*S	**Sn**	**05 56 54.4**	**+0.5**
CMIG	**Matias Romero**	**3.66**	**315**	*e*P	**Pn**	**05 56 58.1**	**0.0**
CMIG				*i* S	**Sn**	**05 57 41.2**	**+1.1**

*TIR **10** 06:14:15.3, 40°.61N×21°.13E, h2km, Md3.1/6*
*ATH **10** 06:14:16.8, 40°.70N×20°.83E, h10km±1km, ML2.1/10, Error ellipse: s-maj=2.5km s-min=1.4km az=166.0*
*THE **10** 06:14:17.0, 40°.70N×20°.79E, h0km±5km, ML2.3/5, Error ellipse: s-maj=5.9km s-min=2.2km az=301.0*
*SKO **10** 06:14:18.8, 40°.67N×20°.81E, h0km*
*BEO **10** 06:14:20.9±0.8, 40°.84N×20°.84E, h13km±4km, ML1.9/10*

ISC 10 06:14:18.9±0.9, 40°.61N±0°.02×20°.85E±0°.02, h12km±6km, n42, σ1§41/73, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEST	**Nestorio**	**0.25**	**142**	P	**

VAY	**Valandovo**	**1.48**	**61**	*i* Pg	**Pn**	**06 14 45.1**	**-0.3**
VAY				*i* Sg	**Sg**	**06 15 06.8**	**+0.2**
VAY				*e*Lg	Lg	06 15 08.7	
	comp=N,53nm,1.1s						
VAY				*e*Lg	Lg	06 15 09.9	
	comp=E,19nm,0.6s						
PUK	**Puka**	**1.60**	**334**	*i* PN	**Pb**	**06 14 47.8**	**-0.7**
PUK				*i* SN	**Sg**	**06 15 13.8**	**+3.3**
TSLK	**Tsoukalades, L**	**1.79**	**185**	P	**Pb**	**06 14 52.0**	**+0.3**
LKD2	**Lefkada island**	**1.83**	**185**	P	**Pb**	**06 14 52.1**	**-0.1**
EVR	**Evrytania**	**1.85**	**156**	P	**Pb**	**06 14 52.6**	**-0.1**
EVR				S	**Sg**	**06 15 18.4**	**+0.1**
EVR				AML	AML	06 15 24.7	
	comp=E,62μm,0.5s						
EVR				AML	AML	06 15 26.8	
	comp=N,57μm,0.5s						
BCI	**Bajram Curri**	**1.85**	**342**	*i* PN	**Pb**	**06 14 53.0**	**+0.4**
BCI				*i* SN	**Sg**	**06 15 21.1**	**+2.7**
SCTE	**Santa Cesarea**	**1.90**	**254**	P	**Pn**	**06 14 50.7**	**-0.5**
AGG	**Agios Georgios**	**1.96**	**144**	P	**Pn**	**06 14 52.6**	**+0.6**
AGG				S	**Sb**	**06 15 19.4**	**+0.6**
AGG				AML	AML	06 15 24.6	
	comp=E,57μm,0.4s						
AGG				AML	AML	06 15 30.7	
	comp=N,52μm,0.4s						
EVGl	**Lefkada island**	**1.99**	**184**	P	**Pb**	**06 14 54.1**	**-1.0**
PLG	**Polygyros**	**1.99**	**96**	P	**Pn**	**06 14 52.6**	**+0.2**
PLG				S	**Sb**	**06 15 18.9**	**-1.1**
PVO	**Paravola**	**2.06**	**165**	P	**Pb**	**06 14 55.9**	**-0.3**
PDG	**Podgorica**	**2.18**	**327**	*e*Pg	**Pn**	**06 14 55.7**	**+0.8**
PDG				*e*Sg	**Sb**	**06 15 24.2**	**-0.9**
ANX	**Ano Chora**	**2.18**	**157**	P	**Pb**	**06 14 56.5**	**-1.8**
BOSS	**Bosilegrad**	**2.25**	**32**	*e*Pg	**Pn**	**06 14 56.1**	**+0.2**
BOSS				*e*Sg	**Sb**	**06 15 27.3**	**+0.1**
BARS	**Barje**	**2.32**	**18**	*e*Pn	**Pn**	**06 14 56.3**	**-0.6**
BARS				*e*Sg	**Sb**	**06 15 27.6**	**-1.7**
AXS	**Araxos**	**2.45**	**170**	P	**Pb**	**06 15 01.4**	**-1.5**
VTS	**Vitosha**	**2.69**	**41**	*e*Sg	**Sb**	**06 15 40.2**	**+0.2**
SJES	**Sjenica**	**2.73**	**346**	*e*Pg	**Pb**	**06 15 06.7**	**-1.0**
SJES				*e*Sg	**Sb**	**06 15 40.2**	**-0.9**
TREB	**Trebinje**	**2.82**	**319**	*e*Pg	**Pb**	**06 15 08.1**	**-1.0**
TREB				*e*Sg	**Sb**	**06 15 46.1**	**+2.5**
ZAPS	**Zavoj**	**2.97**	**26**	*e*Pn	**Pn**	**06 15 05.9**	**0.0**
ZAPS				*e*Sg	**Sb**	**06 15 48.2**	**+0.1**

*UCR **10** 06:28:58.0±1.4, 7.°83N×82.°96W, h5km, MD3.7*
*UPA **10** 06:29:01.0±3.3, 7.°97N×82.°93W, h10km±9km, MW4.3*
ISC 10 06:28:59.3±1.5, 7.°91N±0.°05×82.°96W±0.°04, h12km±9km, n29, σ0.°93/50, 6C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	**Carate, Puerto**	**0.61**	**323**	⇑*e*P	**Pg**	**06 29 11.2**	**-0.1**
PIRO				*e*S	**Sb**	**06 29 21.1**	**+0.6**
BAGA3	**Bagala, Chiriq**	**0.70**	**38**	*e*P	**Pg**	**06 29 13.1**	**+0.1**
BAGA3				*e*S	**Sg**	**06 29 22.0**	**-0.2**
PTJ1	**Puerto Jimnez**	**0.70**	**332**	*e*P	**Pg**	**06 29 13.3**	**+0.2**
PTJ1				*e*S	**Sn**	**06 29 24.7**	**-1.1**
PTJ1	**Puerto Jimnez**	**0.70**	**332**	⇑*e*P	**Pg**	**06 29 13.2**	**+0.2**
PTJ1				*e*S	**Sn**	**06 29 24.7**	**-1.1**
LOCO3	**Loma Colorada,**	**0.73**	**48**	*e*P	**Pg**	**06 29 13.6**	**0.0**
LOCO3				*e*S	**Sb**	**06 29 25.2**	**+1.3**
MLIR3	**Monte Lirio, C**	**0.89**	**9**	*e*P	**Pb**	**06 29 16.8**	**+0.2**
MLIR3				*e*S	**Sn**	**06 29 30.3**	**-0.1**
EDSV	**San Vito**	**0.90**	**360**	⇑*e*P	**Pg**	**06 29 16.7**	**-0.1**
EDSV				*e*S	**Sb**	**06 29 29.8**	**+0.9**
BCO2	**Palmira**	**0.91**	**28**	*e*P	**Pg**	**06 29 16.8**	**-0.2**
BCO2				*e*S	**Sg**	**06 29 29.1**	**+0.3**
BRU2	**Volcan**	**0.92**	**17**	*e*P	**Pg**	**06 29 16.9**	**-0.2**
BRU2				*e*S	**Sb**	**06 29 30.1**	**+0.7**
BRU2	**Volcan**	**0.92**	**17**	⇑*e*P	**Pg**	**06 29 16.8**	**-0.2**
BC3P	**Paso Ancho**	**0.96**	**21**	*e*P	**Pb**	**06 29 17.3**	**-0.8**
BC3P				*e*S	**Sg**	**06 29 30.5**	**-0.1**
EDPN	**Palmar Norte**	**1.15**	**335**	⇑*e*P	**Pn**	**06 29 20.0**	**-1.2**
REME3	**Remedios, Chir**	**1.16**	**74**	*e*P	**Pn**	**06 29 20.7**	**-0.7**
REME3				*e*S	**Sn**	**06 29 37.9**	**+0.7**
NANC3	**Nancito, Chiri**	**1.26**	**75**	*e*P	**Pn**	**06 29 22.0**	**-0.8**
NANC3				*e*S	**Sg**	**06 29 40.7**	**+0.6**
EDBA	**Buenos Aires**	**1.28**	**346**	*e*P	**Pn**	**06 29 22.7**	**-0.3**
EDBA				*e*S	**Sg**	**06 29 41.1**	**+0.5**
CHGR2	**Aguacate**	**1.30**	**39**	*e*P	**Pn**	**06 29 21.6**	**-1.8**
CHGR2				*e*S	**Sb**	**06 29 38.6**	**-1.8**
EDLM	**Las Mercedes**	**1.49**	**336**	⇑*e*P	**Pn**	**06 29 25.4**	**-0.5**
EDLM				*e*S	**Sb**	**06 29 46.7**	**+0.8**
GMAL	**Guarumal, Vera**	**1.72**	**95**	*e*P	**Pn**	**06 29 28.6**	**-0.5**
GMAL				*e*S	**Sn**	**06 29 50.4**	**-0.5**
STIA3	**Santiago, Vera**	**1.98**	**85**	*e*P	**Pg**	**06 29 37.1**	**-0.3**
LCR2	**La Lucha 2**	**2.09**	**331**	*e*P	**Pn**	**06 29 33.9**	**-0.4**
CACAO	**El Cacao, Vera**	**2.16**	**105**	*e*P	**Pb**	**06 29 36.8**	**-1.6**
CACAO				*e*S	**Sn**	**06 30 00.2**	**-1.6**
CVTR	**Volcan Turrial**	**2.23**	**339**	*e*P	**Pn**	**06 29 36.7**	**+0.2**
HDC	**Heredia**	**2.37**	**331**	*e*P	**Pn**	**06 29 39.0**	**+0.9**
HDC				*e*S	**Sb**	**06 30 12.0**	**+0.9**
HDC	**Heredia**	**2.37**	**331**	*e*P	**Pn**	**06 29 38.2**	**+0.1**
AZU	**Azuero**	**2.67**	**92**	*e*P	**Pn**	**06 29 43.5**	**+1.4**
AZU				*e*S	**Sn**	**06 30 16.0**	**+1.6**
PNME	**Penonome**	**2.67**	**78**	*e*P	**Pn**	**06 29 42.8**	**+0.7**
PNME				*e*S	**Sb**	**06 30 21.5**	**+1.7**
VTON	**El Valle, Cocl**	**2.91**	**76**	*e*P	**Pb**	**06 29 50.4**	**-0.7**
BCIP	**Isla Barro Col**	**3.33**	**68**	*e*P	**Pn**	**06 29 52.6**	**+1.3**
BCIP				*e*S	**Sb**	**06 30 40.6**	**+1.7**
CUI	**Cuipilapa**	**3.48**	**322**	⇓ *i*P	**Pn**	**06 29 54.6**	**+1.2**

*ANF **10** 06:29:28.9±0.2, 34.°39N×119.°57W, h20km±2km, ML2.5/7, ML2.5/13, ML2.5/13, Error ellipse: s-maj=2.6km s-min=1.5km az=84.0*
SCEDC 10 06:29:29.8±0.4, 34.°40N×119.°57W, h17km, ML2.4, ML2.4, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBC	**Santa Barbara**	**0.13**	**292**	P	Pb	06 29 33.1	-1.4
	baz=112,SNR=38						
SBC				S	Sb	06 29 36.3	-2.2
	baz=112						
SCZ2	**Santa Cruz Isl**	**0.40**	**188**	P	Pb	06 29 37.3	+0.2
	baz=8.5,SNR=9.1						
SCZ2				S	Sb	06 29 43.7	+0.9
	baz=8.5						
PKM	**Mcpherson Peak**	**0.53**	**338**	P	Pb	06 29 39.6	-0.1
	baz=158,SNR=6.6						
PKM				S	Sb	06 29 47.1	0.0
	baz=158						
OSI	**Osito Audit: C**	**0.73**	**72**	P	Pb	06 29 42.9	0.0
	baz=252,SNR=13						
OSI				S	Sb	06 29 52.9	+0.3
	baz=252						
ARVC	**Arvin**	**0.95**	**40**	P	Pn	06 29 46.9	-0.2
	baz=220,SNR=20						
ARVC				S	Sn	06 29 59.7	-0.4
	baz=220						
SMMC	**Simmler**	**0.98**	**339**	P	Pn	06 29 47.6	+0.1
	baz=159,SNR=17						
SMMC				S	Sn	06 30 01.1	+0.2
	baz=159						
DECC	**Green Verdugo**	**1.03**	**97**	P	Pb	06 29 48.0	0.0
	baz=278						
DECC				S	Sb	06 30 01.5	+0.4
	baz=278						
SNCC	**San Nicolas Is**	**1.14**	**178**	P	Pn	06 29 49.0	-0.7
	baz=358						
SNCC				S	Sb	06 30 04.3	0.0
	baz=358						
FMP	**Fort Macarthur**	**1.26**	**122**	P	Pb	06 29 51.8	0.0
	baz=303						
FMP				S	Sb	06 30 08.0	+0.4
	baz=303						
CIS	**Catalina Islan**	**1.38**	**135**	P	Pb	06 29 53.9	-0.1
	baz=316						
CIS				S	Sb	06 30 11.7	+0.6
	baz=316						
EDW2	**Edwards Air Fo**	**1.39**	**69**	P	Pn	06 29 53.4	+0.3
	baz=250,SNR=16						
EDW2				S	Sb	06 30 11.4	0.0
	baz=250						
ISA	**Isabella, Lake**	**1.55**	**35**	P	Pn	06 29 56.0	+0.6
	baz=215						
ISA				S	Sb	06 30 16.0	-0.3
	baz=215						
MPMC	**Manual Prospec**	**2.38**	**45**	Pb	Pb	06 30 11.7	+0.6
	baz=226,SNR=22						
MPMC				Sb	Sb	06 30 43.7	+3.6
	baz=226						

*ANF **10** 06:30:11.7±0.2, 34.°39N×119.°57W, h22km±2km, Error ellipse: s-maj=2.1km s-min=1.5km az=95.0*
SCEDC 10 06:30:12.8±0.3, 34.°40N×119.°56W, h17km, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBC	**Santa Barbara**	**0.13**	**294**	P	Pb	06 30 16.1	-1.5
	baz=109						
SBC				S	Sb	06 30 19.4	-2.3
	baz=109						
SCZ2	**Santa Cruz Isl**	**0.40**	**188**	P	Pb	06 30 20.3	+0.4
	baz=8.5						
SCZ2				S	Sb	06 30 26.6	+1.0
	baz=8.5						
PKM	**Mcpherson Peak**	**0.54**	**338**	P	Pb	06 30 22.7	0.0
	baz=157						
PKM				S	Sb	06 30 30.2	+0.1
	baz=157						
OSI	**Osito Audit: C**	**0.73**	**72**	P	Pb	06 30 26.0	+0.2
	baz=253						
OSI				S	Sb	06 30 36.1	+0.7
	baz=253						
ARVC	**Arvin**	**0.95**	**39**	P	Pn	06 30 30.0	+0.1
	baz=220						
ARVC				S	Sn	06 30 43.0	+0.2
	baz=220						
SMMC	**Simmler**	**0.99**	**339**	P	Pn	06 30 30.6	+0.3
	baz=159						
SMMC				S	Sn	06 30 44.1	+0.5
	baz=159						
DECC	**Green Verdugo**	**1.03**	**97**	P	Pn	06 30 30.9	0.0
	baz=278						
DECC				S	Sn	06 30 44.5	-0.2
	baz=278						
SNCC	**San Nicolas Is**	**1.14**	**178**	P	Pn	06 30 32.0	-0.4
	baz=358						
SNCC				S	Sn	06 30 47.4	+0.1
	baz=358						
FMP	**Fort Macarthur**	**1.26**	**122**	S	Sb	06 30 51.0	+0.7
	baz=303						
EDW2	**Edwards Air Fo**	**1.39**	**69**	P	Pn	06 30 36.3	+0.4
	baz=250						
EDW2				S	Sn	06 30 53.7	+0.1
	baz=250						
ISA	**Isabella, Lake**	**1.56**	**35**	Pb	Pb	06 30 39.4	-0.5
	baz=215						

*IDC **10** 06:35:34.1±2.8, 10.°96S×113.°47E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/28, mbtmp3.6/4, MS3.5/1, Ms1 3.5/1, ms1mx2.9/29, Error ellipse: s-maj=117.0km s-min=24.1km az=48.0*
*DJA **10** 06:35:43.9±1.4, 10.°S±10.°×11.°4E±.°, h10km, M3.7/7, MLv3.7/7*
ISC 10 06:35:40.9±1.5, 10.°8S±0.°1×113.°95E±0.°08, h35km, n13, σ1.°44/15, mb3.6/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.29**	**5**	P	**Pn**	**06 36 16.7**	**+0.4**
DNP	**Denpasar**	**2.42**	**31**	P	**Pn**	**06 36 18.5**	**+0.5**
GMJI	**Gumukmas**	**2.53**	**349**	P	**Pn**	**06 36 19.0**	**-0.5**
GMJI				S	**Sn**	**06 36 48.1**	**-1.0**
SRBI	**Singaraja**	**2.94**	**25**	P	**Pn**	**06 36 27.2**	**+2.0**
BLJI	**Banyuglugur**	**3.03**	**353**	P	**Pn**	**06 36 29.3**	**+3.0**
TWSI	**Taliwang, Sumb**	**3.53**	**55**	P	**Pn**	**06 36 34.4**	**+1.2**
TWSI				S	**Sn**	**06 37 13.7**	**0.0**
GRJI	**Gresik**	**4.10**	**339**	S	**Sn**	**06 37 28.3**	**+0.5**
PLAI	**Plampang**	**4.24**	**63**	P	**Pn**	**06 36 43.4**	**+0.4**
PLAI				S	**Sn**	**06 37 29.6**	**-1.7**
FITZ	**Fitzroy Crossi**	**13.46**	**124**	LR	LR	06 43 49.9	
	comp=Z,197nm,19.2s,baz=182,slow=36						
WRA	**Warramunga Arr**	**21.65**	**117**	P	**P**	**06 40 30.4**	**+1.9**
	1.2nm,0.6s,baz=290,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**22.93**	**127**	P	**P**	**06 40 42.4**	**+0.2**
	0.5nm,0.5s,baz=303,slow=9.2,SNR=7.4						
SONM	**Songino Array**	**58.73**	**354**	P	**P**	**06 45 34.3**	**-1.0**
	0.5nm,0.4s,baz=176,slow=8.5,SNR=2.7						
MKAR	**Makanchi Array**	**63.91**	**336**	P	**P**	**06 46 09.2**	**-1.1**
	0.3nm,0.5s,baz=154,slow=7.7,SNR=4.6						

*IDC **10** 06:44:35.9±5.3, 1.°61S×77.°82W, h154km±56km, mb3.2/7, mb1 3.4/10, mb1mx3.3/37, mbtmp3.7/10, Error ellipse: s-maj=83.7km s-min=20.5km az=49.0*
ISC 10 06:44:35.2±0.7, 1.°81S±0.°06×77.°94W±0.°10, h150km, n35, σ1.°76/36, mb3.5/7, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**2.10**	**346**	*e*P	**Pn**	**06 45 12.0**	**0.0**
PUAC	**Puerto Asis, P**	**2.71**	**30**	*e*P	**Pn**	**06 45 20.2**	**+1.2**
GCUF	**Volcan Galeras**	**3.08**	**11**	*e*P	**Pn**	**06 45 24.9**	**+0.9**
PTLC	**Puerto Leguiza**	**3.71**	**58**	*e*P	**Pn**	**06 45 31.2**	**-0.5**
BBAC	**Balboa, Cauca**	**3.87**	**10**	*e*P	**Pn**	**06 45 33.6**	**-0.4**
FLOC	**Florencia**	**4.07**	**34**	*e*P	**Pn**	**06 45 36.5**	**+0.1**
PCON	**Cinco Dias**	**4.39**	**21**	*e*P	**Pn**	**06 45 42.6**	**+1.5**
GARC	**Garzon, Huila**	**4.66**	**32**	*e*P	**Pn**	**06 45 44.9**	**+0.5**
GR1C	**Gorgona, Isla**	**4.79**	**357**	*e*P	**Pn**	**06 45 50.3**	**+4.5**
MARP	**Paez Belalcaza**	**5.03**	**23**	*e*P	**Pn**	**06 45 50.0**	**+0.7**
ATAH	**Atahualpa**	**5.31**	**185**	P	**Pn**	**06 45 56.9**	**+3.8**
	3.4nm,0.3s,baz=4.8,slow=15,SNR=12						
ATAH				S	**Sn**	**06 46 51.1**	**-2.8**
	3.1nm,0.3s,baz=336,slow=14,SNR=4.8						
MACC	**Macarena, Meta**	**5.67**	**46**	*e*P	**Pn**	**06 45 58.1**	**+0.5**
YOTC	**Yotoco, Valle**	**5.97**	**15**	*e*P	**Pn**	**06 45 58.6**	**-3.1**
PRAC	**Prado**	**6.28**	**29**	*e*P	**Pn**	**06 46 04.4**	**-1.2**
ORTC	**Ortega, Tolima**	**6.29**	**25**	*e*P	**Pn**	**06 46 06.2**	**+0.4**
TOLC	**Tolima**	**6.87**	**22**	*e*P	**Pn**	**06 46 11.6**	**-2.2**
VILC	**Villavicencio,**	**7.25**	**36**	*e*P	**Pn**	**06 46 19.8**	**+1.0**
GUY2C	**Guyana, Caldas**	**7.45**	**20**	*e*P	**Pn**	**06 46 18.3**	**-3.4**
CHIC	**Chingaza**	**7.65**	**33**	*e*P	**Pn**	**06 46 25.7**	**+1.3**
CBOC	**Ciudad Bolivar**	**7.86**	**14**	*e*P	Pn	06 46 21.1	-5.8
PTGC	**Puerto Gaitan,**	**8.32**	**44**	*e*P	Pn	06 46 28.1	-4.8
SPBC	**San Pablo de B**	**8.36**	**27**	*e*P	**Pn**	**06 46 33.3**	**-0.2**
RUSC	**La Rusia**	**9.06**	**32**	*e*P	**Pn**	**06 46 43.9**	**+0.7**
NNA	**Nana**	**10.17**	**174**	P	**Pn**	**06 46 59.6**	**+2.1**
	0.5nm,0.3s,baz=343,slow=14,SNR=1.2						
NNA				S	**Sn**	**06 48 46.5**	**-3.6**
	1.0nm,0.3s,baz=286,slow=20,SNR=1.6						
LPAZ	**La Paz**	**17.33**	**14**	P	**Pn**	**06 48 30.0**	**+1.3**
	0.1nm,0.3s,baz=336,slow=10.0,SNR=2.0						
SIV	**San Ignacio**	**21.79**	**131**	P	**P**	**06 49 16.4**	**+1.0**
	0.3nm,0.4s,baz=293,slow=13,SNR=2.3						
CMIG	**Matias Romero**	**25.15**	**319**	P	**P**	**06 49 46.4**	**-0.2**
	2.6nm,0.7s,baz=103,slow=4.7,SNR=4.0						
TXAR	**Lajitas Array**	**39.56**	**323**	P	**P**	**06 51 51.8**	**-0.1**
	0.1nm,0.5s,baz=155,slow=6.9,SNR=4.4						
TXAR				PcP	**PcP**	**06 53 56.4**	**0.0**
	0.2nm,0.7s,baz=153,slow=6.1,SNR=3.1						
PDAR	**Pinedale Array**	**52.73**	**331**	P	**P**	**06 53 33.8**	**-1.0**
	0.2nm,0.6s,baz=136,slow=9.4,SNR=3.9						
NVAR	**Mina Array Bea**	**54.64**	**321**	P	**P**	**06 53 49.1**	**+0.3**
	0.3nm,0.4s,baz=119,slow=7.3,SNR=2.6						
INK	**Inuvik**	**79.58**	**342**	P	**P**	**06 56 24.7**	**-0.4**
	0.8nm,0.6s,baz=115,slow=8.4,SNR=3.3						
ILAR	**Eielson Array**	**82.79**	**336**	P	**P**	**06 56 40.9**	**-1.4**
	0.8nm,0.7s,baz=155,slow=4.8,SNR=7.1						
MKAR	**Makanchi Array**	**131.99**	**18**	PKP	**PKPdf**	**07 03 31.1**	**0.0**
	0.1nm,0.4s,baz=338,slow=3.4,SNR=1.9						
ASAR	**Alice Springs**	**140.00**	**229**	PKP	**PKPdf**	**07 03 46.6**	**-0.1**
	0.4nm,0.6s,baz=128,slow=1.8,SNR=5.8						
WRA	**Warramunga Arr**	**141.66**	**234**	PKP	**PKPdf**	**07 03 49.3**	**-0.4**
	0.7nm,0.8s,baz=111,slow=2.5,SNR=2.2						

NNC 10 06:49:43.5±2.0, 43.°21N×87.°44E, h0km, mb3.7, mpv3.5, 5C-2D, Error ellipse: s-maj=15.4km s-min=11.7km az=109.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**4.61**	**338**	Pg	Pg	06 51 09.9	-2.0
	3.4nm,0.3s						
ZSN				Lg	Lg	06 52 16.6	
	7.8nm,0.9s						
MK31	**Makanchi Array**	**5.12**	**316**	⇑Pn	Pn	06 51 01.2	-0.2
	0.6nm,0.3s,baz=132,slow=14,SNR=50						
MK31				⇑Sn	Sn	06 52 02.8	+1.6
	1.8nm,0.6s						
MK31				⇑Lg	Lg	06 52 23.6	
	4.2nm,0.8s,baz=132,slow=28,SNR=8.1						
KTMS	**Ketmen**	**5.18**	**275**	Pg	Pb	06 51 16.1	+1.1
	0.5nm,0.1s						
KTMS				Lg	Lg	06 52 27.8	
	4.6nm,0.4s						
MAKZ	**Makanchi**	**5.29**	**315**	⇓Pn	Pn	06 51 03.5	-0.3
	1.6nm,0.4s						
MAKZ				⇓Lg	Lg	06 52 29.5	
	2.2nm,0.8s						
DJR	**Jarkent**	**5.65**	**284**	Pg	Pb	06 51 25.9	+2.9
	1.8nm,0.5s						
DJR				Lg	Lg	06 52 45.3	
	3.2nm,0.8s						
PDGK	**Podgornoye**	**5.81**	**274**	⇑Pn	Pn	06 51 12.7	+1.7
	2.3nm,0.8s						
PDGK				⇑Lg	Lg	06 52 49.6	
	4.7nm,0.8s						
SHLS	**Shalkode**	**5.83**	**272**	Pg	Pb	06 51 23.3	-2.9
	3.8nm,0.1s						
SHLS				Lg	Lg	06 52 39.8	
	10nm,0.6s						

*IDC **10** 07:03:36.0±0.8, 51.°68N×175.°77W, h0km, mb3.8/10, mb1 4.1/12, mb1mx3.8/51, mbtmp3.8/12, ML3.8/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/45, Error ellipse: s-maj=32.6km s-min=15.6km az=161.0*
*AEIC **10** 07:03:42.1±2.4, 51.°59N±0.°09×175.°59W±0.°03, h26km±6km, ML3.9/35, mb4.0/27(NEIC), Error ellipse: s-maj=12.6km s-min=1.5km az=170.0*
*NEIC **10** 07:03:43.8±2.2, 51.°7N±0.°1×175.°66W±0.°06, h42km±13km, Error ellipse: s-maj=16.3km s-min=3.3km az=163.0*
ISC 10 07:03:42.9±0.7, 51.°56N±0.°09×175.°69W±0.°04, h47km, n98, σ1.°51/92, mb3.9/13, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**0.54**	**335**		**Pn**	**07 03 54.0**	**-0.5**
ETKA	**Kagalaska Isla**	**0.54**	**305**		**Pn**	**07 03 53.8**	**-0.6**
GSTD	**Great Sitkin T**	**0.57**	**331**		**Pn**	**07 03 54.6**	**-0.4**
GSTR	**Great Sitkin T**	**0.58**	**337**		**Pn**	**07 03 54.9**	**-0.2**
ADK	**Adak**	**0.70**	**298**		**Pn**	**07 03 55.9**	**-0.5**
ADK				Sg	**Sn**	**07 04 04.5**	**-1.8**
ADAG	**Mount Adagdak**	**0.71**	**307**		**Pn**	**07 03 56.9**	**+0.3**
KIWB	**Kanaga Island**	**0.95**	**289**		Pn	07 03 55.3	-4.6
KIKV	**Kanaga Island**	**0.97**	**290**		**Pn**	**07 04 00.1**	**-0.1**
KIMD	**Kanaga Island**	**0.98**	**283**		**Pn**	**07 03 59.9**	**-0.4**
KICM	**Kanaga Island**	**1.00**	**292**		**Pn**	**07 04 00.5**	**-0.1**
ATKA	**Atka Island**	**1.13**	**55**		**Pn**	**07 03 59.9**	**-2.4**
ATKA				Sn	**Sn**	**07 04 14.6**	**-2.1**
KOFP	**Korovin Flat P**	**1.22**	**53**		**Pn**	**07 04 01.9**	**-1.7**
KOSE	**Korovin Southe**	**1.29**	**52**		**Pn**	**07 04 03.3**	**-1.2**
TAFA	**Tanaga Point A**	**1.34**	**282**		**Pn**	**07 04 05.6**	**+0.3**
TAFP	**Tanaga Falls P**	**1.47**	**284**		**Pn**	**07 04 07.4**	**+0.5**
TASE	**Tanaga Southea**	**1.49**	**282**		**Pn**	**07 04 07.8**	**+0.6**
GAEA	**Gareloi East**	**1.92**	**278**		**Pn**	**07 04 14.7**	**+1.7**
CERAA	**Semis' Rag'd T**	**2.90**	**279**		**Pn**	**07 04 28.0**	**+1.5**
CESW	**Semis' Southwe**	**2.97**	**279**		**Pn**	**07 04 28.8**	**+1.3**
CEAP	**Semis' Anvil P**	**2.97**	**280**		**Pn**	**07 04 29.3**	**+1.8**
AMKA	**Amchitka**	**3.14**	**269**		**Pn**	**07 04 31.1**	**+1.3**
LSPA	**Little Sitkin**	**3.59**	**279**		**Pn**	**07 04 38.3**	**+2.3**
LSNW	**Little Sitkin**	**3.62**	**279**		**Pn**	**07 04 39.1**	**+2.7**
LSSA	**Little Sitkin**	**3.62**	**279**		**Pn**	**07 04 39.2**	**+2.8**
NIKH	**Nikolski High**	**4.43**	**69**	Pn	**Pn**	**07 04 47.8**	**+0.3**
NIKH	**Nikolski High**	**4.43**	**69**		**Sn**	**07 05 37.0**	**-0.8**
MAPS	**Pakushin South**	**5.78**	**64**		**Pn**	**07 05 06.3**	**+0.3**
MREP	**Makushin Rep't**	**5.89**	**64**		**Pn**	**07 05 08.2**	**+0.6**
MNAT	**Makushin Natee**	**5.95**	**63**		**Pn**	**07 05 08.7**	**+0.3**
UNV	**Unalaska Valle**	**6.04**	**64**	Pn	**Pn**	**07 05 12.1**	**+2.6**
SMY	**Shemya**	**6.39**	**285**	Pn	**Pn**	**07 05 15.3**	**+0.9**
AKBBA	**Akutan Broad B**	**6.44**	**63**		**Pn**	**07 05 15.6**	**+0.2**
SPIA	**Saint Paul Isl**	**6.47**	**27**		**Pn**	**07 05 17.6**	**+2.2**
SPIA				Sn	**Sn**	**07 06 26.7**	**-1.0**
AKUT	**Akutan**	**6.54**	**63**	Pn	**Pn**	**07 05 19.5**	**+3.1**
SDPT	**Sand Point**	**9.84**	**61**	Pn	**Pn**	**07 06 00.5**	**-1.0**
CNBA	**Chernabura Isl**	**10.20**	**65**	Pn	**Pn**	**07 06 04.1**	**-2.4**
GAMB	**Gambell**	**12.43**	**8**	Pn	**Pn**	**07 06 37.1**	**+0.2**
ANM	**Nome**	**14.11**	**19**	Pn	**Pn**	**07 07 00.5**	**+0.7**
OHAK	**Old Harbor**	**14.20**	**58**	Pn	**Pn**	**07 07 00.1**	**-0.8**
SVW2	**Sparrevohn**	**14.62**	**41**		**P**	**07 07 10.2**	**-1.8**
KDAK	**Kodiak Island**	**14.71**	**56**	Pn	**Pn**	**07 07 04.0**	**-3.7**
KDAK	0.4nm,0.3s,baz=191,slow=2.1,SNR=11			Sn	**Sn**	**07 09 53.6**	**+4.5**
	0.2nm,0.3s,baz=143,slow=20,SNR=1.9						
KDAK	**Kodiak Island**	**14.71**

MCMT	**McKenzie Canyo**	**41.27**	**74**	P		**P**	**07 11 23.5**	**-0.1**
NVAR	**Mina Array Bea**	**41.60**	**85**	P		**P**	**07 11 27.8**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=300,slow=7.2,SNR=1.3							
BW06	**Boulder Array**	**44.40**	**74**	P		**P**	**07 11 49.2**	**+0.4**
PD31	**Pinedale Array**	**44.40**	**74**	P		**P**	**07 11 49.2**	**+0.4**
PD31				IAmb		IAmb	07 12 13.5	
	comp=Z,1.4nm,0.7s							
PDAR	**Pinedale Array**	**44.40**	**74**	P		**P**	**07 11 48.5**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=322,slow=3.4,SNR=12							
PDAR	**Pinedale Array**	**44.40**	**74**	P		**P**	**07 11 48.8**	**-0.1**
SONM	**Songino Array**	**48.29**	**298**	PcP		**PcP**	**07 13 45.1**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=51,slow=3.2,SNR=4.1							
TXAR	**Lajitas Array**	**56.70**	**84**	P		**P**	**07 13 20.9**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=308,slow=4.4,SNR=2.2							
MKAR	**Makanchi Array**	**61.43**	**310**	P		**P**	**07 13 53.0**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=44,slow=6.4,SNR=9.9							
CMAR	**Chiang Mai Arr**	**72.92**	**278**	P		**P**	**07 15 08.0**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=26,slow=6.4,SNR=4.9							
WRA	**Warramunga Arr**	**83.52**	**226**	P		**P**	**07 16 05.0**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=33,slow=5.8,SNR=1.8							
ASAR	**Alice Springs**	**86.96**	**225**	P		**P**	**07 16 22.6**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=23,slow=5.0,SNR=4.3							
H03N2	**Juan Fernandez**	**119.33**	**108**	T		T	09 33 01.4	
	baz=317,slow=77							
H03N1	**Juan Fernandez**	**119.35**	**108**	T		T	09 33 02.7	
	baz=317,slow=77							
H03N3	**Juan Fernandez**	**119.35**	**108**	T		T	09 33 02.0	
	baz=317,slow=77							
MAW	**Mawson**	**147.81**	**218**	PKPbc		**PKPbc**	**07 23 20.9**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=6.9,slow=3.2,SNR=4.1							
BOSA	**Boshof**	**152.23**	**318**	PKPbc		**PKPbc**	**07 23 32.2**	**-1.0**
	comp=Z,2.4nm,0.7s,baz=26,slow=2.0,SNR=8.8							

NNC ***10*** *07:48:21.1±0.6, 44.°69N×79.°47E, h0km, mb3.0, mpv3.2, Error ellipse: s-maj=4.5km s-min=3.9km az=0.0*
SOME ***10*** *07:48:22.6, 44.°63N×79.°48E, h15km*
ISC 10 07:48:22.2±1.2, 44.°65N±0.°03×79.°47E±0.°03, h6km±11km, n33, σ0s63/59, 10C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**0.39**	**144**	⇓*iP*		**Pg**	**07 48 30.0**	**+0.1**
	29nm,0.1s							
DJR				⇓*iS*		**Sg**	**07 48 35.2**	**+0.3**
	23nm,0.1s							
DJR	**Jarkent**	**0.39**	**144**	P		**Pg**	**07 48 29.9**	**+0.1**
	30nm,0.1s							
DJR				S		**Sg**	**07 48 35.2**	**+0.3**
	15nm,0.1s							
TDK	**Taldyqorghan**	**0.83**	**296**	⇑*iP*		**Pg**	**07 48 37.9**	**-0.3**
	30nm,0.2s							
TDK				⇓*iS*		**Sg**	**07 48 49.3**	**+0.2**
	29nm,0.2s							
ARXS	**Arharly**	**1.25**	**250**	⇓*iP*		**Pn**	**07 48 45.8**	**-0.5**
	12nm,0.1s							
ARXS				⇑*iS*		**Sg**	**07 49 02.5**	**+0.1**
	8.6nm,0.3s							
ARXS	**Arharly**	**1.25**	**250**	P		**Pn**	**07 48 45.7**	**-0.5**
	12nm,0.1s							
ARXS				S		**Sg**	**07 49 02.7**	**+0.2**
	8.4nm,0.3s							
KPKS	**Kokpek**	**1.31**	**206**	⇑*iP*		**Pb**	**07 48 47.0**	**-0.2**
	13nm,0.1s							
KPKS				⇑*iS*		**Sn**	**07 49 05.1**	**+0.2**
	44nm,0.2s							
PDGK	**Podgornoye**	**1.32**	**179**	P		**Pn**	**07 48 46.8**	**-0.4**
	8.2nm,0.1s							
PDGK				S		**Sg**	**07 49 04.8**	**+0.3**
	3.6nm,0.1s							
KTMS	**Ketmen**	**1.36**	**152**	⇓*iP*		**Pn**	**07 48 47.0**	**-0.8**
	3.3nm,0.1s							
KTMS				⇓*iS*		**Sb**	**07 49 05.1**	**-0.6**
	3.9nm,0.1s							
KTMS	**Ketmen**	**1.36**	**152**	P		**Pn**	**07 48 47.0**	**-0.8**
	3.0nm,0.1s							
KTMS				S		**Sb**	**07 49 05.1**	**-0.6**
	3.9nm,0.1s							
KURS	**Kuram**	**1.49**	**219**	*eP*		**Pb**	**07 48 50.3**	**0.0**
	1.5nm,0.2s							
KURS				*eS*		**Sg**	**07 49 10.8**	**+0.8**
	4.3nm,0.3s							
SHLS	**Shalkode**	**1.49**	**180**	⇑*eP*		**Pg**	**07 48 50.6**	**-0.2**
	1.6nm,0.1s							
SHLS				⇓*eS*		**Sg**	**07 49 10.6**	**+0.5**
	4.7nm,0.1s							
SHLS	**Shalkode**	**1.49**	**180**	P		**Pg**	**07 48 50.6**	**-0.2**
	1.6nm,0.1s							
SHLS				S		**Sg**	**07 49 10.5**	**+0.5**
	4.7nm,0.1s							
UZB	**Uzynbulak**	**1.53**	**192**	⇑*iP*		**Pb**	**07 48 50.8**	**-0.2**
	1.8nm,0.1s							
UZB				⇓*iS*		**Sg**	**07 49 11.4**	**0.0**
	14nm,0.4s							
UZB	**Uzynbulak**	**1.53**	**192**	P		**Pb**	**07 48 50.8**	**-0.2**
	1.8nm,0.1s							
UZB				S		**Sg**	**07 49 11.5**	**0.0**
	14nm,0.4s							
ZHN	**Zhinishke**	**1.66**	**207**	⇑*eP*		**Pb**	**07 48 53.2**	**+0.1**
	70nm,0.4s							
ZHN				⇓*eS*		**Sg**	**07 49 15.5**	**+0.1**
	27nm,0.2s							
ZHN	**Zhinishke**	**1.66**	**207**	P		**Pb**	**07 48 52.6**	**-0.5**
	70nm,0.6s							
ZHN				S		**Sb**	**07 49 14.6**	**+0.3**
	27nm,0.2s							
SATY	**Saty**	**1.76**	**206**	*eP*		**Pb**	**07 48 55.1**	**+0.2**
	4.2nm,0.1s							
SATY				*eS*		**Sg**	**07 49 19.0**	**+0.2**
	32nm,0.1s							
SATY	**Saty**	**1.76**	**206**	P		**Pb**	**07 48 55.1**	**+0.2**
	4.2nm,0.1s							
SATY				S		**Sg**	**07 49 19.0**	**+0.2**
	32nm,0.1s							
CHKK	**Chushkaly**	**1.95**	**247**	*eP*		**Pb**	**07 48 58.1**	**0.0**
	2.1nm,0.3s							
CHKK				*eS*		**Sg**	**07 49 23.9**	**-1.0**
	9.8nm,0.3s							
CHKK	**Chushkaly**	**1.95**	**247**	Pg		**Pb**	**07 48 57.0**	**-1.1**
	1.6nm,0.2s							
CHKK				Lg		Lg	07 49 22.4	
	9.8nm,0.3s							
KOTS	**Kotyrbulak**	**2.21**	**231**	*eP*		**Pb**	**07 49 03.0**	**+0.4**
	3.2nm,0.2s							
KOTS				*eS*		**Sg**	**07 49 33.0**	**-0.3**
	6.7nm,0.2s							
KOTS	**Kotyrbulak**	**2.21**	**231**	Pg		**Pb**	**07 49 03.0**	**+0.4**
	3.2nm,0.2s							
KOTS				Lg		Lg	07 49 33.0	
	6.7nm,0.2s							
KTBS	**Karatobe**	**2.21**	**246**	*eP*		**Pb**	**07 49 02.8**	**+0.2**
	0.7nm,0.2s							
KTBS				*eS*		**Sg**	**07 49 32.0**	**-1.3**
	8.1nm,0.2s							
KTBS	**Karatobe**	**2.21**	**246**	Pg		**Pb**	**07 49 01.5**	**-1.1**
	1.4nm,0.2s							
KTBS				Lg		Lg	07 49 31.1	
	8.1nm,0.2s							
MDOK	**Medeo**	**2.29**	**231**	*eP*		**Pb**	**07 49 04.5**	**+0.5**
	1.1nm,0.1s							
MDOK				*eS*		**Sg**	**07 49 35.2**	**-0.7**
	5.9nm,0.2s							
MDOK	**Medeo**	**2.29**	**231**	Pg		**Pb**	**07 49 04.5**	**+0.5**
	1.1nm,0.1s							
MDOK				Lg		Lg	07 49 35.2	
	5.9nm,0.2s							
KUU	**Kurty**	**2.37**	**253**	*eP*		**Pb**	**07 49 04.8**	**-0.5**
	2.9nm,0.1s							
KUU				*eS*		**Sb**	**07 49 35.3**	**+0.6**
	6.7nm,0.5s							
MTBS	**Maitube**	**2.67**	**236**	*eP*		**Pb**	**07 49 10.4**	**0.0**
	3.1nm,0.1s							
MTBS				*eS*		**Sb**	**07 49 45.1**	**+1.7**
	13nm,0.4s							
MTBS	**Maitube**	**2.67**	**236**	Pg		**Pb**	**07 49 10.4**	**0.0**
	3.1nm,0.1s							
MTBS				Lg		Lg	07 49 45.2	
	13nm,0.4s							
MAKZ	**Makanchi**	**2.79**	**38**	⇑Lg		Lg	07 49 44.4	
	0.5nm,0.3s							
MK31	**Makanchi Array**	**2.92**	**42**	⇑Pn		**Pn**	**07 49 09.1**	**0.0**
	0.1nm,0.2s,baz=225,slow=14,SNR=5.6							
MK31				⇑Pg		**Pb**	**07 49 14.8**	**+0.2**
	0.1nm,0.2s,baz=218,slow=16,SNR=4.8							
MK31				⇓Lg		Lg	07 49 47.4	
	0.2nm,0.2s,baz=217,slow=26,SNR=6.4							
KST	**Kastek**	**3.00**	**239**	*eP*		**Pb**	**07 49 15.5**	**-0.5**
	2.5nm,0.3s							
KST				*eS*		**Sb**	**07 49 53.6**	**+0.6**
	2.3nm,0.5s							
DGS	**Degeres**	**3.02**	**244**	*eP*		**Pb**	**07 49 16.9**	**+0.6**
	1.5nm,0.4s							
DGS				*eS*		**Sb**	**07 49 55.8**	**+2.4**
	4.8nm,0.6s							

IDC ***10*** *07:50:13.8±2.2, 20.°00N×144.°33E, h474km±27km, mb3.2/12, mb1 3.3/14, mb1mx3.1/47, mbtmp4.1/14, Error ellipse: s-maj=29.8km s-min=13.6km az=79.0*
NEIC ***10*** *07:50:14.0±1.4, 19.°94N±0.°04×144.°3E±0.°3, h476km±19km, mb4.1/15, Error ellipse: s-maj=44.8km s-min=4.9km az=85.0*
ISC 10 07:50:12.5±0.9, 20.°03N±0.°10×144.°2E±0.°2, h450km, n35, σ0s77/35, mb3.9/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.43**	**175**	P		**P**	**07 51 53.3**	**+1.9**
	18nm,0.3s,baz=336,slow=2.0,SNR=7.1							
JNU	**Nakatsue**	**17.67**	**320**	P		**P**	**07 53 52.6**	**+0.9**
	0.5nm,0.3s,baz=27,slow=2.3,SNR=1.7							
KSRS	**Korea Array**	**22.44**	**324**	P		**P**	**07 54 36.1**	**+0.3**
	2.2nm,0.5s,baz=147,slow=9.3,SNR=6.6							
WB0	**Warramunga Arr**	**40.71**	**194**	P		**P**	**07 57 11.4**	**-1.3**
WB0				IAmb		IAmb	07 57 13.8	
	comp=Z,12nm,1.4s							
WRAB	**Tennant Creek**	**40.88**	**194**	P		**P**	**07 57 13.1**	**-0.9**
WRAB				IAmb		IAmb	07 57 31.6	
	comp=Z,8.5nm,1.1s							
WB2	**Warramunga Arr**	**40.89**	**194**	P		**P**	**07 57 14.0**	**-0.1**
WB2				IAmb		IAmb	07 57 29.2	
	comp=Z,9.1nm,1.2s							
WRA	**Warramunga Arr**	**40.89**	**194**	P		**P**	**07 57 13.6**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=13,slow=8.8,SNR=17							
WRA	**Warramunga Arr**	**40.89**	**194**	P		**P**	**07 57 14.1**	**-0.1**
SONM	**Songino Array**	**41.25**	**321**	P		**P**	**07 57 17.2**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=144,slow=6.9,SNR=4.8							
SONM	**Songino Array**	**41.25**	**321**	P		**P**	**07 57 17.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**42.06**	**207**	P		**P**	**07 57 23.1**	**-0.3**
FITZ				IAmb		IAmb	07 57 39.2	
	comp=Z,14nm,1.4s							
CMAR	**Chiang Mai Arr**	**42.70**	**276**	P		**P**	**07 57 28.8**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=76,slow=5.0,SNR=5.7							
CMAR	**Chiang Mai Arr**	**42.70**	**276**	P		**P**	**07 57 28.5**	**-0.1**
UGM	**Wanagama**	**43.27**	**233**	P		**P**	**07 57 31.7**	**-1.5**
ASAR	**Alice Springs**	**44.59**	**194**	P		**P**	**07 57 42.6**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=20,slow=7.2,SNR=2.3							
ZALV	**Zalesovo Beam**	**56.13**	**322**	P		**P**	**07 59 07.5**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=121,slow=5.1,SNR=2.8							
ZALV	**Zalesovo Beam**	**56.13**	**322**	P		**P**	**07 59 07.6**	**-0.1**
MK31	**Makanchi Array**	**56.55**	**313**	P		**P**	**07 59 11.9**	**+1.0**
MKAR	**Makanchi Array**	**56.55**	**313**	P		**P**	**07 59 11.1**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=92,slow=8.4,SNR=27							
MKAR	**Makanchi Array**	**56.55**	**313**	P		**P**	**07 59 11.7**	**+0.8**
MAKZ	**Makanchi**	**56.77**	**313**	P		**P**	**07 59 13.1**	**+0.7**
MAKZ				IAmb		IAmb	07 59 13.6	
	comp=Z,4.3nm,0.5s							
KURK	**Kurchatov**	**59.37**	**318**	P		**P**	**07 59 30.0**	**+0.1**
KURBB	**Kurchatov Arra**	**59.42**	**318**	P		**P**	**07 59 30.4**	**+0.1**
	comp=Z,5.7nm,0.7s,baz=96,slow=7.3,SNR=57							
NRIK	**Noril'sk**	**59.90**	**340**	P		**P**	**07 59 33.3**	**+0.1**
	comp=Z,1.9nm,0.4s,baz=93,slow=7.9,SNR=5.8							
ILAR	**Eielson Array**	**63.07**	**27**	P		**P**	**07 59 53.5**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=251,slow=5.6,SNR=1.5							
NIL	**Nilore**	**63.69**	**298**	P		**P**	**07 59 59.5**	**+0.7**
BRVK	**Borovoye**	**64.64**	**320**	P		**P**	**08 00 04.4**	**0.0**
BRVK				IAmb		IAmb	08 00 05.5	
	comp=Z,3.7nm,0.8s							
KK31	**Karatay Array**	**64.87**	**309**	P		**P**	**08 00 06.3**	**+0.2**
KKAR	**Karatay Array**	**64.87**	**309**	P		**P**	**08 00 05.9**	**-0.2**
KKAR	**Karatay Array**	**64.87**	**309**	P		**P**	**08 00 06.6**	**+0.4**
KKAR				IAmb		IAmb	08 00 07.1	
	comp=Z,3.0nm,0.8s							
ABKAR	**Akbulak array**	**71.43**	**317**	P		**P**	**08 00 45.9**	**-0.2**
ARCES	**ARCESS Array B**	**80.81**	**342**	P		**P**	**08 01 37.6**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=68,slow=9.6,SNR=4.3							
FIA1	**FINESS Array S**	**85.10**	**335**	P		**P**	**08 01 58.5**	**-1.0**
FINES	**FINESS Array B**	**85.11**	**335**	P		**P**	**08 01 58.0**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=65,slow=4.5,SNR=15							
FINES	**FINESS Array B**	**85.11**	**335**	P		**P**	**08 01 58.4**	**-1.2**

NIC ***10*** *08:06:44.9±0.0, 35.°66N×31.°04E, h36km±29km, Ml3.0/4*
DDA ***10*** *08:06:46.4, 35.°43N×31.°42E, h8km±2km, ML2.1*
ISC 10 08:06:50.8±2.2, 35.°54N±0.°06×31.°44E±0.°08, h57km±38km, n15, σ1s92/20, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKMS	**Akamas**	**0.90**	**125**	P		**Pn**	**08 07 05.6**	**-1.8**
AKMS				S		**Sn**	**08 07 21.0**	**+1.3**
AKMS				AML		AML	08 07 22.6	
	1.1nm,0.6s							
AKMS				AML		AML	08 07 22.6	
	1.1nm,0.6s							
AKMS				AML		AML	08 07 23.0	
	1.4nm,0.3s							
AKMS				AML		AML	08 07 23.0	
	1.4nm,0.3s							
GAZI	**Gazipasa**	**0.99**	**46**	*i*P		**Pn**	**08 07 07.4**	**-1.2**
GAZI				*i*S		**Sn**	**08 07 22.6**	**+0.8**
GAZI				IAML			08 07 26.0	
	comp=E,36nm,0.4s							
GAZI				IAML			08 07 26.0	
	comp=N,57nm,0.8s							
ALFC	**Alefka**	**1.02**	**112**	P		**Pn**	**08 07 07.4**	**-1.7**
ALFC				S		**Sn**	**08 07 25.2**	**+2.7**
ALFC				AML		AML	08 07 28.0	
	comp=N,0.7nm,0.3s							
ALFC				AML		AML	08 07 28.0	
	comp=N,0.7nm,0.3s							
ALFC				AML		AML	08 07 32.8	
	comp=N,0.6nm,0.4s							
ALFC				AML		AML	08 07 32.8	
	comp=N,0.6nm,0.4s							
AKUM	**Antalya-Kumluc**	**1.18**	**312**	*i*P		**Pn**	**08 07 10.3**	**-0.8**
AKUM				IAML			08 07 36.0	
	comp=N,38nm,0.4s							
NATA	**Nata**	**1.20**	**129**	P		**Pn**	**08 07 10.3**	**-1.1**
NATA				S		**Sn**	**08 07 29.4**	**+2.7**
NATA				AML		AML	08 07 39.7	
	comp=N,1.0nm,0.5s							
NATA				AML		AML	08 07 39.7	
	comp=N,1.0nm,0.5s							
NATA				AML		AML	08 07 41.2	
	comp=N,0.9nm,0.7s							
NATA				AML		AML	08 07 41.2	
	comp=N,0.9nm,0.7s							
LEF	**Lefka**	**1.26**	**109**	*i*P		**Pn**	**08 07 09.5**	**-2.7**
LEF				*i*S		**Sn**	**08 07 27.2**	**-0.9**
KEPZ	**Antalya-Kepez**	**1.36**	**6**	*i*P		**Pn**	**08 07 13.7**	**0.0**
KEPZ				*i*S		**Sn**	**08 07 30.5**	**-0.3**
KEPZ				IAML			08 07 36.0	
	comp=N,69nm,1.3s							
SZAC	**Souni**	**1.42**	**123**	P		**Pn**	**08 07 13.1**	**-1.3**
SZAC				AML		AML	08 07 39.9	
	comp=N,0.2nm,0.4s							
SZAC				AML		AML	08 07 41.6	
	comp=N,0.3nm,0.3s							
ERMK	**Ermenek**	**1.62**	**47**	*i*P		**Pn**	**08 07 17.6**	**+0.3**
ERMK				IAML			08 07 51.0	
	comp=N,16nm,0.6s							
AKAS	**Kas**	**1.64**	**295**	*i*P		Pn	08 07 25.8	+8.3
CSS	**Mathiatis**	**1.65**	**110**	S		**Sn**	**08 07 41.2**	**+3.6**
ASGA	**Asgata**	**1.66**	**116**	P		**Pn**	**08 07 16.1**	**-1.6**
KORT	**Korkueli**	**1.70**	**329**	*i*P		Pn	08 07 34.0	+16
KORT				*i*S		Sn	08 07 47.4	+8.3
GULN	**MERSIN_Gulnar**	**1.83**	**69**	*i*P		**Pn**	**08 07 17.4**	**-2.5**
GULN				*i*S		**Sn**	**08 07 43.1**	**+1.2**
MVOU	**Mavrovouni**	**1.87**	**106**	P		**Pn**	**08 07 20.2**	**-0.2**

JMA ***10*** *08:24:40.9±0.1, 23.°07N×121.°47E, h17km±3km*
TAP ***10*** *08:24:41.7, 23.°09N×121.°37E, h22km, ML2.9, C*
ISC 10 08:24:41.2±0.9, 23.°07N±0.°02×121.°43E±0.°02, h19km±2km, n61, σ0s99/115, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.07**	**293**	P		**Pg**	**08 24 45.6**	**+0.9**
	baz=5.0							
CHKT				*e*S		**Sg**	**08 24 48.8**	**+1.7**
	baz=5.0							
EDH	**Donghe**	**0.15**	**230**	P		**Pg**	**08 24 46.5**	**+0.8**
	baz=217							
EDH				S		**Sg**	**08 24 50.3**	**+1.7**
	baz=217							
FULB	**Fuli**	**0.18**	**314**	*i*P		**Pg**	**08 24 46.4**	**+0.4**
	baz=327							
FULB				S		**Sg**	**08 24 52.2**	**+3.0**
	baz=327							
TWF1	**Yuli**	**0.30**	**336**	P		**Pb**	**08 24 48.4**	**+0.3**
	baz=335							
TWF1				*e*S		**Sb**	**08 24 53.8**	**+1.0**
	baz=335							
LONT	**Longtian**	**0.32**	**239**	*e*P		**Pb**	**08 24 48.6**	**+0.1**
	baz=243							
LONT				*e*S		**Sb**	**08 24 53.7**	**+0.4**
	baz=243							
YULB	**Yu-li**	**0.34**	**339**	*i*P		**Pb**	**08 24 48.8**	**0.0**
	baz=333							
YULB				S		**Sb**	**08 24 53.9**	**0.0**
	baz=333							
LDUT	**Ludao**	**0.40**	**175**	P		**Pb**	**08 24 50.5**	**+0.7**
	baz=168							
LDUT				S		**Sb**	**08 24 57.0**	**+1.4**
	baz=168							
ELDTW	**Lidau**	**0.40**	**287**	P		**Pg**	**08 24 49.0**	**-0.6**
	baz=287							
ELDTW				S		**Sg**	**08 24 54.2**	**-1.1**
	baz=287							
TTN	**Taitung**	**0.41**	**220**	*e*P		**Pb**	**08 24 50.4**	**+0.4**
	baz=205							
TTN				*e*S		**Sb**	**08 24 57.2**	**+1.2**
	baz=205							
TWGBT	**Beinan**	**0.41**	**232**	P		**Pg**	**08 24 49.7**	**-0.1**
	baz=235							
TWGBT				S		**Sg**	**08 24 55.6**	**+0.1**
	baz=235							
TWG	**Pinlang**	**0.42**	**233**	P		**Pg**	**08 24 49.5**	**-0.3**
	baz=235							
TWG				S		**Sg**	**08 24 55.4**	**-0.2**
	baz=235							
HGSD	**Ruisui**	**0.42**	**359**	*e*P		**Pn**	**08 24 51.4**	**-0.8**
	baz=19							
HGSD				*e*S		**Sn**	**08 24 58.4**	**-1.1**
	baz=19							
EHY	**Hungye**	**0.44**	**347**	P		**Pb**	**08 24 50.5**	**0.0**
	baz=340							
EHY				S		**Sb**	**08 24 58.0**	**+1.1**
	baz=340							
EGFH	**Guangfu**	**0.59**	**360**	*e*P		**Pg**	**08 24 53.8**	**+0.7**
	baz=350							
EGFH				*e*S		**Sg**	**08 25 01.6**	**+0.6**
	baz=350							
YUS	**Yu-Shan**	**0.61**	**313**	P		**Pb**	**08 24 53.0**	**-0.5**
	baz=310							
YUS				*e*S		**Sg**	**08 25 01.5**	**-0.3**
	baz=310							
STYT	**Tauyuan**	**0.63**	**278**	*i*P		**Pb**	**08 24 52.9**	**-0.6**
	baz=282							
STYT				S		**Sb**	**08 25 00.8**	**-1.2**
	baz=282							
ECL	**Taimali**	**0.65**	**223**	*e*P		**Pb**	**08 24 52.8**	**-1.1**
	baz=227							
ECL				S		**Sb**	**08 25 01.3**	**-1.2**
	baz=227							
ALS	**Alishan**	**0.72**	**307**	P		**Pb**	**08 24 55.3**	**-0.1**
	baz=309							
ALS				*e*S		**Sb**	**08 25 04.5**	**-0.6**
	baz=309							
SLGT	**Liugui**	**0.73**	**264**	P		**Pb**	**08 24 55.1**	**-0.2**
	baz=262							
SLGT				S		**Sb**	**08 25 04.6**	**-0.3**
	baz=262							
VWDT	**VWDT**	**0.73**	**339**	*e*P		**Pg**	**08 24 55.4**	**-0.2**
	baz=354							
VWDT				*e*S		**Sg**	**08 25 05.1**	**-0.2**
	baz=354							
ESL	**Shilin**	**0.74**	**0**	*e*P		**Pb**	**08 24 54.9**	**-0.6**
	baz=355							
ESL				*e*S		**Sg**	**08 25 05.4**	**-0.2**
	baz=355							
TPUB	**Ta-pu**	**0.77**	**287**	P		**Pg**	**08 24 56.1**	**-0.3**
	baz=293							
TPUB				*e*S		**Sg**	**08 25 06.6**	**-0.1**
	baz=293							
WTP	**Ta-pu**	**0.77**	**283**	P		**Pb**	**08 24 56.1**	**-0.1**
	baz=282							
WTP				S		**Sg**	**08 25 06.4**	**-0.3**
	baz=282							
SGST	**Jiashian**	**0.78**	**271**	P		**Pb**	**08 24 55.6**	**-0.7**
	baz=271							
SGST				*e*S		**Sb**	**08 25 06.0**	**-0.5**
	baz=271							
SSD	**Sandimen**	**0.81**	**246**	*e*P		**Pb**	**08 24 55.1**	**-1.6**
	baz=241							
SSD				*e*S		**Sb**	**08 25 05.4**	**-1.8**
	baz=241							
TSMG	**Majia**	**0.81**	**243**	*e*P		**Pb**	**08 24 55.6**	**-1.2**
	baz=238							
TSMG				*e*S		**Sb**	**08 25 06.3**	**-1.1**
	baz=238							
SSLB	**Suanglung**	**0.84**	**328**	P		**Pb**	**08 24 57.2**	**0.0**
	baz=340							
SSLB				*e*S		**Sg**	**08 25 08.6**	**-0.2**
	baz=340							
CHN1	**Nanshi**	**0.84**	**278**	P		**Pn**	**08 24 57.8**	**-0.3**
	baz=275							
CHN1				*e*S		**Sg**	**08 25 08.7**	**-0.1**
	baz=275							
TAW	**Tawu**	**0.87**	**215**	*e*S		**Sb**	**08 25 07.7**	**-1.3**
	baz=220							
CHN5	**Tsauling**	**0.87**	**307**	P		**Pg**	**08 24 58.1**	**-0.1**
	baz=308							
CHN5				S		**Sg**	**08 25 09.3**	**-0.4**
	baz=308							
MASBT	**Mashibuluo**	**0.87**	**238**	P		**Pb**	**08 24 56.8**	**-0.9**
	baz=233							
MASBT				*e*S		**Sb**	**08 25 08.3**	**-0.6**
	baz=233							
EAST	**Anshuo**	**0.87**	**218**	P		**Pb**	**08 24 56.

WHF	**Hehuan Shan**	**1.08**	**352**	P		**Pn**	**08 25 01.6**	**-0.1**
	baz=6.0							
WHF				*eS*		**Sb**	**08 25 15.7**	**+0.3**
	baz=6.0							
ICHU	**Yijhu**	**1.10**	**285**	*eP*		**Pn**	**08 25 01.8**	**+0.2**
	baz=285							
ICHU				*eS*		**Sg**	**08 25 17.8**	**+0.8**
	baz=285							
NACB	**Ninganchiao**	**1.11**	**8**	*eP*		**Pn**	**08 25 00.4**	**-1.3**
	baz=11							
NACB				*eS*		**Sb**	**08 25 15.2**	**-0.6**
	baz=11							
WLGB	**Puzi**	**1.12**	**291**	*eS*		**Sg**	**08 25 18.8**	**+1.3**
	baz=291							
ETLH	**Xiulin Townshi**	**1.13**	**2**	*eP*		**Pn**	**08 25 00.4**	**-1.7**
	baz=6.0							
ETLH				*eS*		**Sb**	**08 25 15.9**	**-0.7**
	baz=6.0							
WTK	**Tuku**	**1.14**	**303**	*eP*		**Pb**	**08 25 02.3**	**0.0**
	baz=303							
WTK				*eS*		**Sg**	**08 25 18.3**	**+0.1**
	baz=303							
CHN8	**Yiju**	**1.16**	**284**	*eS*		**Sg**	**08 25 20.4**	**+1.6**
	baz=283							
FUSS	**Fushou**	**1.18**	**352**	*eP*		**Pb**	**08 25 03.5**	**+0.3**
	baz=7.0							
FUSS				*eS*		**Sb**	**08 25 17.6**	**-0.6**
	baz=7.0							
TDCB	**Techi**	**1.20**	**348**	*eS*		**Sb**	**08 25 18.7**	**-0.1**
	baz=350							
JYNG	**Yonagunijimaku**	**1.95**	**45**	P		**Pn**	**08 25 12.9**	**-0.4**
JYNG				S		**Sn**	**08 25 37.3**	**0.0**
HATJ	**Hateruma jima**	**2.39**	**65**	P		**Pn**	**08 25 19.7**	**+0.4**
HATJ				S		**Sn**	**08 25 48.1**	**0.0**
IRIF	**Iriomote-Funau**	**2.45**	**59**	P		**Pn**	**08 25 20.8**	**+0.6**
IRIF				S		**Sn**	**08 25 50.5**	**+0.8**
JKRS	**Kuro-shima**	**2.63**	**63**	P		**Pn**	**08 25 20.4**	**-2.3**
JKRS				S		**Sn**	**08 25 54.1**	**0.0**
JIJ	**Ishigaki jima**	**2.80**	**62**	P		**Pn**	**08 25 25.6**	**+0.6**
JIJ				S		**Sn**	**08 25 57.0**	**-1.2**
JISG	**Ishigakijimahi**	**3.04**	**60**	P		**Pn**	**08 25 28.4**	**+0.1**
JISG				*eS*		**Sn**	**08 26 02.1**	**-2.0**
JTJ	**Tarama**	**3.38**	**62**	P		**Pn**	**08 25 33.1**	**+0.2**
JTJ				S		**Sn**	**08 26 11.9**	**-0.6**

*NNC **10** 08:38:39.2±1.9, 40.74N×77.84E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=13.3km s-min=8.4km az=168.0*
*KRNET **10** 08:38:41.5±0.1, 40.85N×77.91E, h16km, mb2.6*
*SOME **10** 08:38:41.4, 40.88N×77.90E, h5km*
ISC 10 08:38:36.3±2.4, 40.67N±0.09×77.92E±0.04, h1km±14km, n32, σ0 93/51, 13C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.06**	**355**	⇑	*iP*	**Pb**	**08 38 58.3**	**+0.6**
	baz=55							
TARG				⇑	*iS*	**Sb**	**08 39 10.7**	**-1.5**
	baz=55							
KDJ	**Kajisay**	**1.56**	**339**	⇑	*iP*	**Pb**	**08 39 07.6**	**+1.5**
	baz=38							
KDJ				⇑	*iS*	**Sn**	**08 39 26.5**	**+0.2**
	baz=38							
PRZ	**Przheval'sk**	**1.84**	**11**	⇑	*iP*	**Pg**	**08 39 12.7**	**+1.1**
	baz=13							
PRZ				⇑	*iS*	**Sg**	**08 39 35.5**	**-0.1**
	baz=13							
ANVS	**Anan'yevo**	**2.12**	**355**	⇓	*iP*	**Pg**	**08 39 17.4**	**+0.6**
	baz=55							
ANVS				⇓	*iS*	**Sg**	**08 39 43.6**	**-0.7**
	baz=55							
SATY	**Saty**	**2.41**	**8**	*eP*		**Pg**	**08 39 23.4**	**+0.9**
	5.9nm,0.4s							
SATY				*eS*		**Sg**	**08 39 53.6**	**-0.1**
	4.6nm,0.1s							
SATY	**Saty**	**2.41**	**8**	Pg		**Pg**	**08 39 22.8**	**+0.3**
	5.7nm,0.4s							
SATY				Lg		Lg	08 39 53.2	
	8.1nm,0.6s							
KZA	**Kyzart**	**2.45**	**306**	⇓	*iP*	**Pg**	**08 39 23.4**	**+0.1**
	baz=2.0							
KZA				⇓	*iS*	**Sg**	**08 39 54.0**	**-1.0**
	baz=2.0							
TNSS	**Tian-Shan**	**2.47**	**343**	*eP*		**Pg**	**08 39 24.3**	**+0.7**
	8.4nm,0.6s							
TNSS				*eS*		**Sg**	**08 39 55.0**	**-0.7**
	6.1nm,0.4s							
TNSS	**Tian-Shan**	**2.47**	**343**	Pg		**Pg**	**08 39 24.1**	**+0.5**
	8.4nm,0.6s							
TNSS				Lg		Lg	08 39 55.6	
	6.1nm,0.4s							
ZHN	**Zhinishke**	**2.52**	**9**	Pg		**Pg**	**08 39 25.2**	**+0.5**
	50nm,0.2s							
ZHN				Lg		Lg	08 39 57.4	
	7.6nm,0.2s							
MDOK	**Medeo**	**2.57**	**346**	*eP*		**Pg**	**08 39 26.5**	**+0.9**
	4.1nm,0.3s							
MDOK				*eS*		**Sg**	**08 39 58.4**	**-0.5**
	4.9nm,0.4s							
MDOK	**Medeo**	**2.57**	**346**	⇑	Pg	**Pg**	**08 39 25.2**	**-0.3**
	1.8nm,0.4s							
MDOK				⇓	Lg	Lg	08 39 58.8	
	4.7nm,0.8s							
UZB	**Uzynbulak**	**2.61**	**18**	*eP*		**Pg**	**08 39 26.9**	**+0.7**
	1.9nm,0.3s							
UZB				*eS*		**Sg**	**08 39 59.3**	**-0.7**
	7.1nm,0.3s							
UZB	**Uzynbulak**	**2.61**	**18**	Pg		**Pg**	**08 39 26.8**	**+0.7**
	1.8nm,0.3s							
UZB				Lg		Lg	08 40 00.2	
	7.1nm,0.3s							
KOTS	**Kotyrbulak**	**2.63**	**347**	*eP*		**Pg**	**08 39 27.5**	**+0.9**
	5.9nm,0.2s							
KOTS				*eS*		**Sg**	**08 40 00.7**	**-0.1**
	4.7nm,0.4s							
KOTS	**Kotyrbulak**	**2.63**	**347**	Pg		**Pg**	**08 39 27.3**	**+0.6**
	5.9nm,0.2s							
KOTS				Lg		Lg	08 40 01.7	
	4.7nm,0.4s							
KST	**Kastek**	**2.78**	**329**	*eP*		**Pg**	**08 39 30.4**	**+0.8**
	3.5nm,0.2s							
KST				*eS*		**Sg**	**08 40 05.2**	**-0.4**
	2.7nm,0.3s							
KST	**Kastek**	**2.78**	**329**	Pg		**Pg**	**08 39 29.1**	**-0.5**
	3.4nm,0.2s							
KST				Lg		Lg	08 40 04.3	
	2.0nm,0.4s							
TKM2	**Tokmak 2**	**2.84**	**323**	⇓	Pg	**Pb**	**08 39 29.7**	**+1.8**
	0.7nm,0.3s							
TKM2				⇑	Lg	Lg	08 40 07.7	
	2.5nm,0.8s							
KPKS	**Kokpek**	**2.85**	**11**	*eP*		**Pg**	**08 39 30.7**	**-0.2**
	7.1nm,0.2s							
KPKS				*eS*		**Sg**	**08 40 05.7**	**-2.0**
	15nm,0.4s							
PDGK	**Podgornoye**	**2.90**	**23**	⇑	Pg	**Pb**	**08 39 30.0**	**+1.1**
	2.8nm,0.7s							
PDGK				⇑	Lg	Lg	08 40 08.4	
	5.0nm,0.5s							
ARLS	**Aral**	**2.96**	**295**	⇓	*iP*	**Pb**	**08 39 30.6**	**+0.7**
	baz=92							
ARLS				⇓	*iS*	**Sb**	**08 40 06.4**	**-0.3**
	baz=92							
UCH	**Uchtor**	**3.00**	**302**	⇑	*iP*	**Pb**	**08 39 31.1**	**+0.4**
	baz=0.0							
UCH				⇑	*iS*	**Sb**	**08 40 07.4**	**-0.6**
	baz=0.0							
DGS	**Degeres**	**3.03**	**329**	*eP*		**Pg**	**08 39 35.5**	**+1.2**
	3.8nm,0.5s							
DGS				*eS*		**Sg**	**08 40 13.9**	**+0.4**
	5.2nm,0.6s							
KTBS	**Karatobe**	**3.17**	**344**	*eP*		**Pg**	**08 39 37.4**	**+0.3**
	1.4nm,0.3s							
KTBS				*eS*		**Sg**	**08 40 17.1**	**-1.1**
	4.1nm,0.2s							
KTBS	**Karatobe**	**3.17**	**344**	Pg		**Pb**	**08 39 35.5**	**+2.0**
	1.9nm,0.4s							
KTBS				Lg		Lg	08 40 15.3	
	4.1nm,0.2s							
AAK	**Ala-Archa**	**3.23**	**309**	⇓	Pg	**Pb**	**08 39 32.9**	**-1.7**
	2.0nm,0.5s							
AAK				⇑	Lg	Lg	08 40 18.5	
	5.8nm,0.8s							
KTMS	**Ketmen**	**3.31**	**32**	*eP*		**Pg**	**08 39 40.5**	**+0.8**
	0.3nm,0.1s							
KTMS				*eS*		**Sg**	**08 40 22.2**	**-0.4**
	4.2nm,0.5s							
KTMS	**Ketmen**	**3.31**	**32**	Pg		**Pg**	**08 39 38.8**	**-0.9**
	0.3nm,0.1s							
KTMS				Lg		Lg	08 40 20.8	
	4.2nm,0.5s							
ARXS	**Arharly**	**3.54**	**359**	*eP*		**Pg**	**08 39 43.7**	**-0.4**
	2.4nm,0.2s							
ARXS				*eS*		**Sg**	**08 40 28.3**	**-1.7**
	4.9nm,0.5s							
DJR	**Jarkent**	**3.91**	**20**	*eP*		**Pg**	**08 39 51.2**	**0.0**
	1.0nm,0.1s							
DJR				*eS*		**Sg**	**08 40 40.9**	**-1.0**
	4.1nm,0.5s							
DJR	**Jarkent**	**3.91**	**20**	Pg		**Pg**	**08 39 50.0**	**-1.2**
	1.0nm,0.2s							
DJR				Lg		Lg	08 40 40.3	
	4.1nm,0.5s							

*IDC **10** 10:03:12.6±0.9, 5.49S×133.80E, h0km, mb4.0/4, mb1 4.3/11, mb1mx3.9/41, mbtmp4.2/11, ML4.1/7, Error ellipse: s-maj=30.3km s-min=19.7km az=72.0*
*NEIC **10** 10:03:14.6±2.9, 5.39S±0.05×133.81E±0.08, h16km±5km, mb4.1/6, Error ellipse: s-maj=11.7km s-min=6.7km az=65.0*
ISC 10 10:03:13.5±0.6, 5.38S±0.06×133.74E±0.08, h10km, n33, σ1 9 2/36, mb4.0/4, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FAKI	**Fak Fak**	**2.86**	**329**			**Pn**	**10 04 00.7**	**+1.4**
FAKI						**Sn**	**10 04 32.1**	**-1.7**
SIJI	**Sorong**	**5.12**	**331**	Pn		**Pn**	**10 04 31.2**	**+0.9**
	5.0nm,0.3s,baz=117,slow=2.3,SNR=30							
SIJI				Sn		**Sn**	**10 05 25.6**	**-3.9**
	13nm,0.3s,baz=261,slow=23,SNR=14							
JAY	**Jayapura**	**7.51**	**68**	Pn		**Pn**	**10 05 01.9**	**-1.3**
	1.0nm,0.3s,baz=256,slow=12,SNR=4.1							
MTN	**Manton Dam**	**7.85**	**199**	Pn		**Pn**	**10 05 10.4**	**+2.6**
SOEI	**Soe**	**10.34**	**245**	Pn		**Pn**	**10 05 45.7**	**+3.5**
BATI	**Baumata**	**11.07**	**244**	Pn		**Pn**	**10 05 53.4**	**+1.3**
	7.6nm,0.3s,baz=82,slow=4.9,SNR=5.3							
BATI				Sn		**Sn**	**10 07 51.7**	**-4.4**
	2.8nm,0.3s,baz=190,slow=22,SNR=1.6							
KNRA	**Kununurra**	**11.34**	**205**	Pn		**Pn**	**10 05 56.7**	**+1.1**
WB0	**Warramunga Arr**	**14.31**	**177**	Pn		**Pn**	**10 06 34.1**	**-2.3**
WRAB	**Tennant Creek**	**14.48**	**178**	P		**P**	**10 06 46.9**	**+1.4**
WB2	**Warramunga Arr**	**14.48**	**178**	Pn		**Pn**	**10 06 36.2**	**-2.6**
WRA	**Warramunga Arr**	**14.48**	**178**	Pn		**Pn**	**10 06 35.9**	**-2.9**
	0.3nm,0.3s,baz=359,slow=13,SNR=23							
WRA				Sn		Sn	10 09 06.0	-14
	0.1nm,0.3s,baz=0.4,slow=24,SNR=1.7							
WRA	**Warramunga Arr**	**14.48**	**178**	Pn		**Pn**	**10 06 35.8**	**-3.0**
WR0	**Warramunga Arr**	**14.51**	**177**	Pn		**Pn**	**10 06 37.2**	**-1.9**
FITZ	**Fitzroy Crossi**	**14.91**	**211**	Pn		**Pn**	**10 06 43.0**	**-1.6**
	1.4nm,0.3s,baz=35,slow=10,SNR=35							
FITZ				Sn		Sn	10 09 17.4	-12
	0.7nm,0.3s,baz=200,slow=18,SNR=2.8							
FITZ	**Fitzroy Crossi**	**14.91**	**211**	Pn		**Pn**	**10 06 43.4**	**-1.2**
AS31	**Alice Springs**	**18.18**	**180**			**Pn**	**10 07 25.5**	**-0.8**
ASAR	**Alice Springs**	**18.18**	**180**	P		**Pn**	**10 07 24.5**	**-1.8**
	0.7nm,0.3s,baz=5.3,slow=11,SNR=35							
ASAR				S		Sn	10 10 36.5	-13
	0.1nm,0.3s,baz=2.6,slow=28,SNR=2.4							
ASAR	**Alice Springs**	**18.18**	**180**			**P**	**10 07 26.0**	**-0.6**
CTA	**Charters Tower**	**19.02**	**141**	P		**Pn**	**10 07 36.2**	**-0.4**
	0.4nm,0.3s,baz=310,slow=12,SNR=5.3							
CTAO	**Charters Tower**	**19.02**	**141**	P		**Pn**	**10 07 36.9**	**+0.4**
CTAO						IAmb	IAmb	10 07 51.4
	comp=Z,17nm,1.1s							
PSA00	**Pilbara Seismi**	**20.98**	**219**	P		**P**	**10 07 59.8**	**+2.7**
PSA00						IAmb	IAmb	10 08 04.7
	comp=Z,10nm,1.3s							
STKA	**Stephens Creek**	**27.37**	**165**	P		**P**	**10 08 58.0**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=345,slow=11,SNR=4.8							
STKA	**Stephens Creek**	**27.37**	**165**	P		**P**	**10 08 58.4**	**-0.7**
STKA						IAmb	IAmb	10 09 11.6
	comp=Z,2.8nm,1.4s							
MKAR	**Makanchi Array**	**68.98**	**325**	P		**P**	**10 14 20.7**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=118,slow=7.3,SNR=7.5							
MKAR	**Makanchi Array**	**68.98**	**325**	P		**P**	**10 14 20.4**	**+1.2**
VNDA	**Vanda**	**73.62**	**174**	P		**P**	**10 14 46.7**	**0.0**
	comp=Z,0.8nm,0.8s,baz=334,slow=5.8,SNR=5.4							
VNDA	**Vanda**	**73.62**	**174**	P		**P**	**10 14 46.5**	**-0.2**
VNDA						IAmb	IAmb	10 14 58.1
	comp=Z,4.4nm,1.5s							
ABKAR	**Akbulak array**	**83.59**	**321**	P		**P**	**10 15 42.4**	**+0.3**
QSPA	**South Pole Qui**	**84.58**	**180**	P		**P**	**10 15 47.2**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=285,slow=1.3,SNR=6.7							
QSPA	**South Pole Qui**	**84.58**	**180**	P		**P**	**10 15 47.4**	**+0.4**
CPUP	**Villa Florida**	**146.70**	**162**	PKPbc		**PKPab**	**10 22 56.9**	**-0.6**
	comp=Z,3.9nm,1.0s,baz=171,slow=2.9,SNR=6.1							
CPUP	**Villa Florida**	**146.70**	**162**	PKPbc		**PKPab**	**10 22 57.0**	**-0.5**
LPAZ	**La Paz**	**149.48**	**135**	PKPbc		**PKPbc**	**10 23 05.1**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=196,slow=5.1,SNR=5.0							

*IDC **10** 10:26:03.3±1.4, 17.70S×178.64W, h518km±17km, mb3.4/13, mb1 3.5/15, mb1mx3.4/28, mbtmp4.3/15, Error ellipse: s-maj=17.4km s-min=12.2km az=134.0*
*NEIC **10** 10:26:06.2±2.1, 17.65S±0.1×178.72W±0.1, h556km±8km, mb4.5/23, Error ellipse: s-maj=17.6km s-min=17.1km az=155.0*
ISC 10 10:26:05.7±0.5, 17.67S±0.08×178.65W±0.07, h547km, n77, σ1 9 0/84, mb4.3/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**3.15**	**268**	P		**P**	**10 27 25.6**	**+4.1**
AFI	**Afiamalu**	**7.59**	**61**	P		**P**	**10 27 56.2**	**-3.3**
	1.4nm,0.3s,baz=4.7,slow=16,SNR=1.4							
AFI				S		**S**	**10 29 29.1**	**-3.6**
	1.8nm,0.3s,baz=43,slow=18,SNR=2.0							
AFI	**Afiamalu**	**7.59**	**61**	P		**P**	**10 28 00.3**	**+0.8**
NIUE	**Niue**	**8.39**	**101**	P		**P**	**10 28 08.9**	**+1.6**
FUNA	**Funafuti**	**9.33**	**347**	P		**P**	**10 28 18.6**	**+1.8**
SANVU	**Sarraoutou**	**13.75**	**277**	P		**P**	**10 29 04.3**	**+1.9**
DZM	**Mont Dzumac**	**14.69**	**250**	P		**P**	**10 29 11.6**	**-0.6**
	1.3nm,0.3s,baz=126,slow=18,SNR=9.7							
DZM	**Mont Dzumac**	**14.69**	**250**	P		**P**	**10 29 11.9**	**-0.3**
OUZ	**Omahuta**	**18.80**	**200**	P		**P**	**10 29 53.9**	**+3.0**
MXZ	**Matakaoa Point**	**20.00**	**187**	P		**P**	**10 30 00.9**	**-0.9**
RUGZ	**Raukumara Rang**	**20.48**	**188**	P		**P**	**10 30 05.8**	**-0.5**
TGRZ	**Tauranga**	**20.48**	**192**	P		**P**	**10 30 08.1**	**+1.9**
PUZ	**Puketiti**	**20.51**	**187**	P		**P**	**10 30 05.9**	**-0.5**
TWGZ	**Tauwhareparae**	**20.65**	**188**	P		**P**	**10 30 07.8**	**+0.2**
KMRZ	**Kaimai**	**20.66**	**192**	P		**P**	**10 30 09.3**	**+1.5**
URZ	**Urewera**	**20.85**	**189**	P		**P**	**10 30 07.0**	**-2.4**
	9.6nm,0.3s,baz=270,slow=1.1,SNR=22							
URZ	**Urewera**	**20.85**	**189**	P		**P**	**10 30 07.2**	**-2.2**
URZ	**Urewera**	**20.85**	**189**	P		**P**	**10 30 07.2**	**-2.2**
MWZ	**Matawai**	**20.86**	**188**	P		**P**	**10 30 08.7**	**-0.9**
CNGZ	**Carnagh Statio**	**20.92**	**187**	P		**P**	**10 30 04.8**	**-5.3**
MUGZ	**Murupara**	**21.12**	**190**	P		**P**	**10 30 05.7**	**-6.2**
RIGZ	**Rimuhau**	**21.20**	**188**	P		**P**	**10 30 12.3**	**-0.3**
MTHZ	**Maungataniwha**	**21.47**	**190**	P		**P**	**10 30 15.2**	**+0.1**
RAHZ	**Arahi**	**21.50**	**189**	P		**P**	**10 30 15.1**	**-0.2**
BKZ	**Black Stump Fm**	**21.84**	**190**	P		**P**	**10 30 16.5**	**-1.9**
BKZ	**Black Stump Fm**	**21.84**	**190**	P		**P**	**10 30 16.6**	**-1.8**
BKZ						IAmb	IAmb	10 30 25.5
	comp=Z,15nm,1.3s							
KRVZ	**Karewarewa**	**21.92**	**192**	P		**P**	**10 30 15.2**	**-4.1**
OTVZ	**Oturere**	**21.98**	**192**	P		**P**	**10 30 18.9**	**-0.9**
TUVZ	**Tukino**	**22.09**	**192**	P		**P**	**10 30 20.5**	**-0.3**
TRVZ	**Turoa**	**22.14**	**192**	P		**P**	**10 30 26.0**	**+4.7**
VRZ	**Vera Road**	**22.14**	**194**	P		**P**	**10 30 23.1**	**+2.1**
BHHZ	**Black Hill Sta**	**22.23**	**191**	P		**P**	**10 30 20.4**	**-1.5**
PXZ	**Pawanui**	**22.62**	**189**	P		**P**	**10 30 24.7**	**-0.7**
TSZ	**Takapari Road**	**22.80**	**191**	P		**P**	**10 30 26.3**	**-0.7**
OGWZ	**Otaki Gorge**	**23.68**	**192**	P		**P**	**10 30 33.2**	**-1.5**
QRZ	**Quartz Range**	**24.30**	**196**	P		**P**	**10 30 40.6**	**+0.4**
BHW	**Baring Head**	**24.31**	**192**	P		**P**	**10 30 39.0**	**-1.3**
BSWZ	**Blackbirch Sta**	**24.81**	**193**	P		**P**	**10 30 46.2**	**+1.4**
RPZ	**Rata Peaks**	**27.39**	**196**	P		**P**	**10 31 05.7**	**-1.7**
	comp=Z,4.4nm,0.4s,baz=27,slow=1.7,SNR=1.9							
RPZ	**Rata Peaks**	**27.39**	**196**	P		**P**	**10 31 06.7**	**-0.7**
WKZ	**Wanaka**	**28.99**	**198**	P		**P**	**10 31 20.4**	**-1.0**
WKZ						IAmb	IAmb	10 31 24.6
	comp=Z,24nm,1.1s							
CTAO	**Charters Tower**	**33.27**	**260**	P		**P**	**10 31 58.1**	**-0.3**
CTAO						IAmb	IAmb	10 31 59.5
	comp=Z,23nm,1.2s							
COEN	**Coen**	**36.88**	**270**	P		**P**	**10 32 29.0**	**+0.5**
COEN						IAmb	IAmb	10 32 29.3
	comp=Z,10.0nm,0.8s							
STKA	**Stephens Creek**	**38.55**	**241**	P		**P**	**10 32 41.2**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=74,slow=6.6,SNR=9.1							
STKA	**Stephens Creek**	**38.55**	**241**	P		**P**	**10 32 42.7**	**+0.8**
JAY	**Jayapura**	**42.62**	**286**	P		**P**	**10 33 14.9**	**+0.3**
	comp=Z,25nm,1.0s,baz=57,slow=16,SNR=1.6							
BBOO	**Buckleboo**	**43.33**	**241**	P		**P**	**10 33 19.9**	**+0.1**
BBOO						IAmb	IAmb	10 33 38.5
	comp=Z,24nm,1.3s							
WR0	**Warramunga Arr**	**44.26**	**259**	P		**P**	**10 33 26.2**	**-1.0**
WB0	**Warramunga Arr**	**44.42**	**260**	P		**P**	**10 33 27.4**	**-1.1**
WB2	**Warramunga Arr**	**44.44**	**259**	P		**P**	**10 33 27.8**	**-0.9**
WB2						IAmb	IAmb	10 33 32.6
	comp=Z,15nm,1.4s							
WRA	**Warramunga Arr**	**44.45**	**259**	P		**P**	**10 33 27.9**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=89,slow=6.8,SNR=95							
WRA				S		**S**	**10 39 18.9**	**-5.5**
	comp=Z,1.0nm,1.2s,baz=98,slow=14,SNR=1.7							
WRA	**Warramunga Arr**	**44.45**	**259**	P		**P**	**10 33 27.6**	**-1.1**
WRA				PcP		**PcP**	**10 34 56.5**	**-3.9**
AS31	**Alice Springs**	**44.64**	**254**	P		**P**	**10 33 30.1**	**-0.1**
AS31						IAmb	IAmb	10 33 30.4
	comp=Z,5.0nm,0.7s							
ASAR	**Alice Springs**	**44.64**	**254**	P		**P**	**10 33 29.9**	**-0.3**
	comp=Z,13nm,0.4s,baz=89,slow=7.7,SNR=445							
ASAR				PcP		**PcP**	**10 35 00.6**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=96,slow=4.2,SNR=4.2							
ASAR				ScP		**ScP**	**10 38 02.8**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=102,slow=4.4,SNR=2.0							
ASAR				S		**S**	**10 39 23.2**	**-3.8**
	comp=Z,0.9nm,0.8s,baz=91,slow=16,SNR=7.8							
ASAR	**Alice Springs**	**44.64**	**254**	P		**P**	**10 33 29.6**	**-0.6**
ASAR				PcP		**PcP**	**10 35 00.3**	**-0.8**
MTN	**Manton Dam**	**48.58**	**268**	P		**P**	**10 33 59.5**	**-0.5**
MTN						IAmb	IAmb	10 34 14.5
	comp=Z,30nm,1.4s							
KNRA	**Kununurra**	**50.29**	**264**	P		**P**	**10 34 12.1**	**-0.4**
KNRA						IAmb	IAmb	10 34 15.9
	comp=Z,15nm,1.1s							
FITZ	**Fitzroy Crossi**	**52.85**	**260**	P		**P**	**10 34 31.3**	**+0.3**
VNDA	**Vanda**	**60.66**	**185**	P		**P**	**10 35 24.2**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=353,slow=6.4,SNR=8.0							
VNDA	**Vanda**	**60.66**	**185**	P		**P**	**10 35 25.0**	**+1.5**
MJAR	**Matsushiro Arr**	**67.58**	**323**	P		**P**	**10 36 07.4**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=158,slow=6.0,SNR=2.5							
MJAR	**Matsushiro Arr**	**67.58**	**323**	P		**P**	**10 36 07.2**	**-0.9**
MAJO	**Matsushiro**	**67.58**	**323**	P		**P**	**10 36 07.7**	**-0.4**
MAJO						IAmb	IAmb	10 36 24.3
	comp=Z,10nm,1.2s							
QSPA	**South Pole Qui**	**72.39**	**180**	P		**P**	**10 36 36.8**	**+0.5**
QSPA						IAmb	IAmb	10 36 37.9
	comp=Z,10nm,1.1s							
PETK	**Petropavlovsk-**	**73.39**	**345**	P		**P**	**10 36 41.5**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=142,slow=7.4,SNR=0.9							
NVAR	**Mina Array Bea**	**79.41**	**44**	P		**P**	**10 37 16.3**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=204,slow=6.4,SNR=2.4							
MAW	**Mawson**	**84.01**	**200**	P		**P**	**10 37 38.6**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=136,slow=5.1,SNR=9.0							
MAW	**Mawson**	**84.01**	**200**	P		**P**	**10 37 38.7**	**+0.4**
TXAR	**Lajitas Array**	**86.06**	**58**	P		**P**	**10 37 50.8**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=216,slow=5.5,SNR=7.6							
TXAR	**Lajitas Array**	**86.06**	**58**	P		**P**	**10 37 50.6**	**+1.4**
PDAR	**Pinedale Array**	**87.33**	**44**	P		**P**	**10 37 54.7**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=212,slow=3.2,SNR=2.4							
PDAR	**Pinedale Array**	**87.33**	**44**	P		**P**	**10 37 55.0**	**-0.1**
VNA3	**Neumayer Olymp**	**90.99**	**176**	P		**P**	**10 38 11.1**	**-0.2**
VNA2	**Neumayer--Watz**	**91.43**	**177**	P		**P**	**10 38 13.3**	**0.0**
	baz=179,slow=2.8							
VNA1	**Neumayer--Stat**	**91.66**	**177**	P		**P**	**10 38 14.6**	**+0.3**
GERES	**GERESS Array B**	**147.32**	**345**	PKPbc		**PKPbc**	**10 44 47.7**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=30,slow=4.5,SNR=5.8							
GERES	**GERESS Array B**	**147.32**	**345**			**PKPbc**	**10 44 47.8**	**-0.3**

*ANF **10** 10:40:02.1±0.3, 37.32N×115.03W, h1km, ML4.

	baz=69							
MSU	**Marysvale**	**2.58**	**62**		**Pb**	**10 40 48.1**	**-1.3**	
NEE2	**Needles Airpor**	**2.58**	**172**	Pn	**Pn**	**10 40 44.9**	**0.0**	
	baz=352							
NEE2				Pg	**Pg**	**10 40 51.4**	**-1.1**	
	baz=352							
NEE2				Sb	**Sg**	**10 41 24.6**	**-1.3**	
	baz=352							
GMRC	**Granite Mounta**	**2.58**	**191**	P	**Pn**	**10 40 45.5**	**+0.5**	
	baz=10,SNR=48							
GMRC				Pg	**Pg**	**10 40 52.0**	**-0.5**	
	baz=10							
GMRC				Sb	**Sg**	**10 41 24.0**	**-2.0**	
	baz=10							
MLNR	**Milner Canyon**	**2.62**	**277**		**Pn**	**10 40 46.3**	**+0.8**	
BONR	**Boundary Peak**	**2.64**	**285**		**Pn**	**10 40 46.5**	**+0.6**	
NV11	**Mina Array Sit**	**2.68**	**295**		**Pn**	**10 40 46.6**	**+0.3**	
HEC	**Hector,Ludlow**	**2.69**	**203**	P	**Pn**	**10 40 46.8**	**+0.4**	
	baz=22							
HEC				Pg	**Pg**	**10 40 53.4**	**-1.2**	
	baz=22,SNR=45							
HEC				Sb	**Sg**	**10 41 27.8**	**-1.7**	
	baz=22							
NVAR	**Mina Array Bea**	**2.78**	**294**	Pn	**Pn**	**10 40 48.1**	**+0.3**	
	16nm,0.3s,baz=118,slow=14,SNR=349							
NVAR				Pg	**Pg**	**10 40 54.8**	**-1.6**	
	45nm,0.3s,baz=120,slow=16,SNR=25							
NVAR				Lg	Lg	10 41 31.3		
	100nm,0.3s,baz=108,slow=29,SNR=3.4							
NVAR	**Mina Array Bea**	**2.78**	**294**		**Pn**	**10 40 46.8**	**-1.1**	
BENR	**Benton**	**2.81**	**279**		**Pn**	**10 40 49.0**	**+0.8**	
ORC	**Owens River**	**2.87**	**277**		**Pn**	**10 40 50.2**	**+1.2**	
LHV	**Little Huntoon**	**2.87**	**290**		**Pn**	**10 40 49.5**	**+0.7**	
SCHCA	**Scheelite**	**2.88**	**272**		**Pn**	**10 40 50.3**	**+1.1**	
RRX	**Edison Barstow**	**2.90**	**213**	Pg	**Pg**	**10 40 57.8**	**-0.7**	
	baz=32							
RCCR	**Rock Creek Can**	**2.91**	**274**		**Pn**	**10 40 50.7**	**+1.1**	
KVN	**Kaiserville**	**2.94**	**307**		**Pn**	**10 40 50.6**	**+0.7**	
MLAC	**Mammoth, Mammo**	**3.01**	**277**	P	**Pn**	**10 40 52.1**	**+1.2**	
	baz=95,SNR=11							
MLAC				Sb	**Sg**	**10 41 39.1**	**-0.6**	
	baz=95							
RYN	**Ryan**	**3.02**	**297**		**Pn**	**10 40 51.4**	**+0.3**	
PDMCI	**Parker Dam,Lak**	**3.11**	**166**	Pg	**Pg**	**10 41 01.2**	**-1.3**	
	baz=346							
OMMB	**Old Mammoth Mi**	**3.14**	**276**	Pn	**Pn**	**10 40 53.7**	**+0.9**	
IRM	**Iron Mountain**	**3.16**	**181**	Pn	**Pn**	**10 40 53.3**	**+0.4**	
	baz=0.9,SNR=34							
IRM				Pg	**Pg**	**10 41 02.2**	**-1.4**	
	baz=0.9							
IRM				Sb	**Sg**	**10 41 43.1**	**-1.5**	
	baz=0.9							
MDPB	**Devils Postpil**	**3.20**	**277**		**Pn**	**10 40 54.7**	**+1.1**	
ISA	**Isabella, Lake**	**3.21**	**240**	Pn	**Pn**	**10 40 54.2**	**+0.8**	
	baz=58,SNR=15							
ISA				Pg	**Pg**	**10 41 03.2**	**-1.2**	
	baz=58							
ISA	**Isabella, Lake**	**3.21**	**240**		**Pn**	**10 40 54.3**	**+0.8**	
DUG	**Dugway, Tooele**	**3.36**	**31**	Pn	**Pn**	**10 40 56.7**	**+1.0**	
	baz=212,SNR=24							
DUG				Pg	**Pg**	**10 41 06.3**	**-1.1**	
	baz=212							
DUG				Sb	**Sg**	**10 41 48.8**	**-2.3**	
	baz=212							
DUG	**Dugway, Tooele**	**3.36**	**31**	Pn	**Pn**	**10 40 56.8**	**+1.1**	
EDW2	**Edwards Air Fo**	**3.40**	**225**	Pg	**Pg**	**10 41 06.6**	**-1.5**	
	baz=43,SNR=25							
EDW2				Sb	**Sg**	**10 41 48.7**	**-3.5**	
	baz=43							
BELC	**Belle Mtn. Jos**	**3.40**	**193**	Pn	**Pn**	**10 40 57.1**	**+0.8**	
	baz=12,SNR=15							
BELC				Pg	**Pg**	**10 41 07.2**	**-1.0**	
	baz=12							
BELC				Sb	**Sg**	**10 41 51.0**	**-1.3**	
	baz=12							
BBRC	**Big Bear Solar**	**3.41**	**207**	Pg	**Pg**	**10 41 07.0**	**-1.3**	
	baz=25,SNR=21							
BBRC				Sb	**Sg**	**10 41 51.3**	**-1.2**	
	baz=25							
ELK	**Elko**	**3.42**	**358**	Pn	**Pn**	**10 40 57.4**	**+0.9**	
WUAZ	**Wupatki**	**3.49**	**120**	Pg	**Pb**	**10 41 06.4**	**+1.5**	
	baz=302,SNR=136							
WUAZ				Sb	**Sb**	**10 41 49.5**	**+2.1**	
	baz=302							
WUAZ	**Wupatki**	**3.49**	**120**	Pn	**Pn**	**10 40 58.9**	**+1.5**	
TMUT	**Trail Mountain**	**3.62**	**56**		**Pn**	**10 41 01.7**	**+2.3**	
WAKR	**Walker**	**3.65**	**290**		**Pn**	**10 41 00.2**	**+0.6**	
BC3	**Big Chuckawall**	**3.68**	**185**	Pg	**Pg**	**10 41 12.4**	**-1.1**	
	baz=4.6,SNR=18							
BC3				Sb	**Sg**	**10 41 59.3**	**-1.8**	
	baz=4.6							
BFSC	**Mount Baldy Ra**	**3.73**	**215**	Pg	**Pg**	**10 41 12.1**	**-2.3**	
	baz=33,SNR=23							
BFSC				Sb	**Sg**	**10 41 59.4**	**-3.4**	
	baz=33							
ARVC	**Arvin**	**3.75**	**235**	Pn	**Pn**	**10 41 02.7**	**+1.8**	
	baz=53							
ARVC				Pg	**Pg**	**10 41 14.8**	**+0.1**	
	baz=53							
Y14A	**Wickenburg**	**3.78**	**153**		**Pn**	**10 41 02.7**	**+1.4**	
PFO	**Pinyon Flats O**	**3.88**	**197**	P	**Pn**	**10 41 03.8**	**+1.1**	
	baz=16							
PFO				Sb	**Sg**	**10 42 05.3**	**-2.2**	
	baz=16							
PFO	**Pinyon Flats O**	**3.88**	**197**		**Pn**	**10 41 03.9**	**+1.1**	
XPFO	**Pion Flat**	**3.88**	**197**		**Pn**	**10 41 03.9**	**+1.1**	
BFC	**Buffalo Canyon**	**3.91**	**295**		**Pn**	**10 41 03.6**	**+0.4**	
BGU	**Big Grassy Mou**	**3.93**	**23**		**Pn**	**10 41 04.9**	**+1.4**	
MWC	**Mount Wilson**	**3.93**	**219**		**Pn**	**10 41 05.0**	**+1.4**	
PNTR	**Pine Nut**	**3.98**	**298**		**Pn**	**10 41 04.8**	**+0.6**	
SRU	**San Rafael Swe**	**4.00**	**62**		**Pn**	**10 41 07.2**	**+2.7**	
P17A	**Butcher Ranch,**	**4.02**	**56**		**Pn**	**10 41 07.8**	**+3.0**	
VCNR	**Virginia City**	**4.10**	**300**		**Pn**	**10 41 06.4**	**+0.4**	
MURC	**Murrieta**	**4.10**	**206**	P	**Pn**	**10 41 07.4**	**+1.6**	
	baz=24,SNR=7.1							
PAHR	**Pah Rah Range**	**4.13**	**306**		**Pn**	**10 41 05.9**	**-0.4**	
X16A	**Lo Mia Camp, P**	**4.14**	**133**		**Pn**	**10 41 08.3**	**+1.9**	
CTU	**Camp Tracy**	**4.24**	**37**		**Pn**	**10 41 10.8**	**+3.0**	
GLA	**Glamis**	**4.27**	**177**	Pg	**Pg**	**10 41 22.8**	**-2.0**	
	baz=357							
GLA				Sb	**Sg**	**10 42 15.8**	**-4.4**	
	baz=357							
CMB	**Columbia Colle**	**4.28**	**281**		**Pn**	**10 41 08.9**	**+0.8**	
JLU	**Jordanelle**	**4.32**	**40**		**Pn**	**10 41 11.7**	**+2.8**	
SWSC	**Sam W. Stewart**	**4.41**	**188**	Pg	**Pg**	**10 41 27.5**	**0.0**	
	baz=7.4							
PEAR	**Peavine Mounta**	**4.46**	**302**		**Pn**	**10 41 12.6**	**+1.7**	
PKM	**Mcpherson Peak**	**4.54**	**239**	Sb	**Sg**	**10 42 24.8**	**-4.1**	
	baz=56							
WVA	**Winnemucca Val**	**4.55**	**307**		**Pn**	**10 41 14.4**	**+2.4**	
MONP2	**Monument Peak**	**4.56**	**194**	Pg	**Pg**	**10 41 27.9**	**-2.5**	
	baz=14,SNR=15							
MONP2				Sb	**Sg**	**10 42 26.2**	**-3.3**	
	baz=14							
KBF	**Kyburz Flat**	**4.59**	**300**		**Pn**	**10 41 14.3**	**+1.7**	
113A	**Mohawk Valley,**	**4.67**	**166**		**Pn**	**10 41 14.3**	**+0.7**	
LOY	**Loyalton**	**4.67**	**301**		**Pn**	**10 41 15.6**	**+1.9**	
109C	**Camp Elliot, M**	**4.73**	**201**	P	**Pn**	**10 41 16.2**	**+1.8**	
	baz=20							
109C				Sb	**Sg**	**10 42 30.2**	**-4.7**	
	baz=20							
109C	**Camp Elliot, M**	**4.73**	**201**		**Pn**	**10 41 15.8**	**+1.4**	
TCUT	**Toone Canyon**	**4.74**	**36**		**Pn**	**10 41 17.7**	**+3.1**	
IKP	**In-Ko-Pah, Jac**	**4.74**	**191**	Pb	**Pb**	**10 41 26.5**	**+0.2**	
	baz=9.9							
IKP				Sb	**Sb**	**10 42 28.5**	**+5.1**	
	baz=9.9							
BAR	**Barrett**	**4.82**	**196**		**Pn**	**10 41 17.2**	**+1.6**	
W18A	**Petrified Fore**	**4.84**	**115**	Pg	**Pg**	**10 41 32.1**	**-3.6**	
	baz=299,SNR=48							
W18A				Sb	**Sb**	**10 42 31.9**	**+5.4**	
	baz=299							
W18A	**Petrified Fore**	**4.84**	**115**		**Pn**	**10 41 17.9**	**+1.8**	
PV14	**Lion Creek, Pa**	**4.90**	**76**		**Pn**	**10 41 19.6**	**+2.7**	
AFDM	**Forest Hills D**	**4.92**	**291**		**Pn**	**10 41 18.7**	**+1.7**	
PV20	**West Nyswonger**	**4.94**	**76**		**Pn**	**10 41 20.0**	**+2.6**	
HWUT	**Hardware Ranch**	**5.06**	**31**	Pn	**Pn**	**10 41 22.2**	**+3.1**	
CBX	**Cerro Bola**	**5.17**	**195**		**Pn**	**10 41 21.9**	**+1.4**	
MVCO	**Mesa Verde**	**5.24**	**89**	Pg	**Pg**	**10 41 39.7**	**-3.7**	
	baz=273,SNR=13							
MVCO	**Mesa Verde**	**5.24**	**89**	Pn	**Pn**	**10 41 24.5**	**+2.8**	
ESJX	**Sierra Juarez**	**5.36**	**188**		**Pn**	**10 41 24.2**	**+1.1**	
RDMU	**Red Mountain**	**5.37**	**51**		**Pn**	**10 41 27.9**	**+4.5**	
ORV	**Oroville**	**5.51**	**296**		**Pn**	**10 41 25.3**	**+0.2**	
214A	**Organ Pipe Nat**	**5.67**	**160**	Pg	**Pg**	**10 41 47.3**	**-4.3**	
	baz=342							
214A				Sb	**Sg**	**10 42 59.3**	**-5.8**	
	baz=342							
214A	**Organ Pipe Nat**	**5.67**	**160**	Pn	**Pn**	**10 41 28.9**	**+1.5**	
O20A	**White River Ci**	**6.03**	**60**	Pg	**Pg**	**10 41 56.3**	**-2.2**	
	baz=244							
O03E	**Paynes Creek**	**6.03**	**301**	P	**Pn**	**10 41 34.3**	**+1.9**	
	baz=117							
MOD	**Modoc Plateau**	**6.10**	**320**		**Pn**	**10 41 36.5**	**+3.2**	
TUC	**Tucson**	**6.12**	**144**	P	**Pn**	**10 41 35.7**	**+2.1**	
	baz=326							
TUC				S	**Sn**	**10 42 44.1**	**+0.4**	
	baz=326							
TUC	**Tucson**	**6.12**	**144**		**Pn**	**10 41 34.9**	**+1.4**	
HLID	**Hailey**	**6.25**	**4**	Pb	**Pb**	**10 41 54.3**	**+2.3**	
	baz=185							
HLID				Sb	**Sg**	**10 43 16.1**	**-7.4**	
	baz=185							
J08A	**Circle Bar Ran**	**6.56**	**338**		**Pn**	**10 41 43.5**	**+3.9**	
S22A	**4UR Ranch, Cre**	**6.56**	**84**		**Pn**	**10 41 41.2**	**+1.4**	
BW06	**Boulder Array**	**6.88**	**36**	Sb	**Sg**	**10 43 37.0**	**-6.9**	
	baz=220							
PD31	**Pinedale Array**	**6.88**	**36**	Pn	**Pn**	**10 41 47.3**	**+3.1**	
PDAR	**Pinedale Array**	**6.88**	**36**	Pn	**Pn**	**10 41 48.3**	**+4.1**	
	0.3nm,0.3s,baz=210,slow=12,SNR=12							
PDAR				Pg	**Pg**	**10 42 11.8**	**-3.0**	
	0.6nm,0.3s,baz=225,slow=15,SNR=9.0							
PDAR				Lg	Lg	10 43 40.5		
	0.7nm,0.3s,baz=226,slow=32,SNR=8.1							
PDAR	**Pinedale Array**	**6.88**	**36**		**Pn**	**10 41 47.7**	**+3.5**	
TPAW	**Teton Pass**	**6.91**	**26**	Pn	**Pn**	**10 41 47.9**	**+3.4**	
SNOW	**Snow King Moun**	**6.96**	**27**		**Pn**	**10 41 49.4**	**+4.2**	
K05A	**Summer Lake**	**7.00**	**322**		Pn	10 41 50.3	+4.6	
FXWY	**Fox Creek**	**7.02**	**25**		**Pn**	**10 41 50.5**	**+4.5**	
IMW	**Indian Meadow**	**7.28**	**24**		**Pn**	**10 41 53.3**	**+3.8**	
ANMO	**Albuquerque**	**7.36**	**106**	Pg	Pg	10 42 18.7	-5.3	
	baz=291							
ANMO				Sb	Sg	10 43 49.3	-10	
	baz=291							
ANMO	**Albuquerque**	**7.36**	**106**		**Pn**	**10 41 53.2**	**+2.5**	
I07A	**Izee**	**7.54**	**335**		**Pn**	**10 41 57.3**	**+4.3**	
319A	**Douglas**	**7.62**	**139**		**Pn**	**10 41 57.0**	**+2.7**	
K22A	**Casper**	**8.44**	**48**		**Pn**	**10 42 07.6**	**+2.2**	
TXAR	**Lajitas Array**	**12.42**	**127**	Pn	Pn	10 43 05.8	+5.8	
	0.0nm,0.3s,baz=302,slow=10,SNR=6.2							
TXAR				Pg		10 43 53.0		
	0.0nm,0.3s,baz=319,slow=17,SNR=6.4							
TXAR				Lg	Lg	10 46 35.3		
	0.0nm,0.3s,baz=324,slow=9.0,SNR=1.9							

*HLW **10** 10:54:03.5,35˚35N×28˚81E,h0km±4km,Md3.9,MI3.7*
*ATH **10** 10:54:07.2,35˚75N×28˚67E,h84km±2km,ML2.7/1,Error ellipse: s-maj=5.0km s-min=1.7km az=321.0*
*NIC **10** 10:54:07.2±0.0,35˚43N×28˚90E,h32km±25km,MI3.7/3*
*DDA **10** 10:54:07.6,35˚52N×28˚84E,h35km±7km,ML3.0*
*THE **10** 10:54:08.5,35˚60N×28˚84E,h63km±10km,Error ellipse: s-maj=10.8km s-min=1.2km az=56.0*

ISC 10 10:54:06.6±1.1,35˚47N±0˚04×28˚86E±0˚03,h42km±58km, n69,σ1s61/96,2C-2D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.96**	**321**		P	**Pn**	**10 54 23.3**	**-0.3**
ARG	**Arkhangelos**	**0.96**	**321**		P	**Pn**	**10 54 23.2**	**-0.3**
ARG					S	**Sn**	**10 54 34.9**	**-1.2**
ARG					AML	AML	10 54 40.9	
	comp=N,1014μm,0.8s							
ARG					AML	AML	10 54 43.8	
	comp=E,768μm,0.3s							
ARG	**Arkhangelos**	**0.96**	**321**		P	**Pn**	**10 54 23.5**	**-0.1**
ARG					S	**Sn**	**10 54 38.5**	**+2.5**
FETY	**Fethiye**	**1.18**	**9**		P	**Pn**	**10 54 26.4**	**-0.2**
FETY					S	**Sn**	**10 54 40.9**	**-0.6**
FETY	**Fethiye**	**1.18**	**9**	*i*	P	**Pn**	**10 54 26.1**	**-0.5**
DALY	**Dalyan (Mula)**	**1.36**	**353**	*i*	P	**Pn**	**10 54 28.3**	**-0.7**
DALY				*i*	S	**Sn**	**10 54 45.4**	**-0.4**
KARP	**Karpathos**	**1.39**	**274**		P	**Pn**	**10 54 30.4**	**+0.9**
KARP					S	**Sn**	**10 54 48.6**	**+1.9**
KARP	**Karpathos**	**1.39**	**274**		P	**Pn**	**10 54 30.1**	**+0.6**
KARP					S	**Sn**	**10 54 47.2**	**+0.4**
KARP	**Karpathos**	**1.39**	**274**		P	**Pn**	**10 54 30.5**	**+0.9**
KARP					S	**Sn**	**10 54 48.8**	**+2.1**
TURN	**Turunc**	**1.40**	**339**	*i*	P	**Pn**	**10 54 30.0**	**+0.1**
AKUM	**Antalya-Kumluc**	**1.47**	**54**	*i*	P	**Pn**	**10 54 31.5**	**+0.8**
AKUM				*i*	S	**Sn**	**10 54 44.6**	**-4.1**
ELL	**Elmali**	**1.53**	**33**		P	**Pn**	**10 54 33.2**	**+1.6**
ELL					S	**Sn**	**10 54 51.9**	**+1.6**
DAT	**Datca**	**1.63**	**321**		P	**Pn**	**10 54 32.1**	**+0.2**
DAT	**Datca**	**1.63**	**321**	*i*	P	**Pn**	**10 54 32.9**	**0.0**
YER	**Yerkesik**	**1.73**	**344**		P	**Pn**	**10 54 34.2**	**0.0**
GOLH	**Golhisar**	**1.85**	**17**	*i*	P	**Pn**	**10 54 38.0**	**+2.0**
GOLH				*i*	S	**Sn**	**10 54 57.9**	**-0.3**
KORT	**Korkueli**	**1.94**	**38**	*i*	P	**Pn**	**10 54 39.0**	**+1.7**
KORT				*i*	S	**Sn**	**10 55 04.0**	**+3.5**
TAVA	**DENIZLI_Tavas**	**1.99**	**1**	*i*	P	**Pn**	**10 54 39.3**	**+1.4**
TAVA				*i*	S	**Sn**	**10 54 59.9**	**-1.8**
BODT	**Bodrum**	**2.02**	**322**		P	**Pn**	**10 54 38.2**	**0.0**
BODT					S	**Sn**	**10 55 00.6**	**-1.7**
ZKR	**Zakros**	**2.19**	**261**		P	**Pn**	**10 54 41.6**	**+1.0**
GCAM	**G?zelcaml?**	**2.58**	**330**	*i*	P	**Pn**	**10 54 47.3**	**+1.4**
GCAM				*i*	S	**Sn**	**10 55 14.6**	**-1.4**
GCAM					IAML		10 55 18.0	
	comp=N,44nm,0.3s							
KEPZ	**Antalya-Kepez**	**2.64**	**56**	*i*	P	**Pn**	**10 54 47.7**	**+1.0**
KEPZ				*i*	S	**Sn**	**10 55 19.3**	**+1.8**
NPS	**Neapolis**	**2.67**	**266**		P	**Pn**	**10 54 48.6**	**+1.5**
LAST	**Lasithi**	**2.79**	**265**		P	**Pn**	**10 54 50.3**	**+1.6**
OSC1	**CSNet OBS 1**	**2.80**	**134**		P	**Pn**	**10 54 49.5**	**+0.6**
OSC1					S	**Sn**	**10 55 22.1**	**+0.7**
AKMS	**Akamas**	**2.88**	**98**	⇑	P	**Pn**	**10 54 50.8**	**+0.8**
AKMS					AML	AML	10 54 51.6	
	comp=N,0.6nm,0.3s							
AKMS					AML	AML	10 54 53.0	
	comp=N,0.7nm,0.3s							
GAZI	**Gazipasa**	**2.91**	**74**	*i*	P	**Pn**	**10 54 49.7**	**-0.6**
GAZI				*i*	S	**Sn**	**10 55 22.6**	**-1.4**
GAZI					IAML		10 55 25.0	
	comp=E,42nm,0.5s							
BAGO	**Egridir - ISPA**	**2.95**	**31**	*i*	P	**Pn**	**10 54 53.3**	**+2.2**
THR3	**Thira Island,**	**2.96**	**289**		P	**Pn**	**10 54 49.7**	**-1.4**
MANT	**Manisa**	**3.03**	**355**	*i*	P	**Pn**	**10 54 53.0**	**+0.8**
MANT				*i*	S	**Sn**	**10 55 25.8**	**-1.5**
DGB	**zmir**	**3.03**	**329**	*i*	P	**Pn**	**10 54 52.8**	**+0.8**
DGB				*i*	S	**Sn**	**10 55 21.6**	**-5.4**
DGB					IAML		10 55 30.0	
	comp=N,43nm,1.2s							
DGB					IAML		10 55 31.0	
	comp=E,57nm,0.5s							
ALFC	**Alefka**	**3.07**	**95**		P	**Pn**	**10 54 53.4**	**+0.8**
ALFC					AML	AML	10 54 55.8	
	comp=E,1.0nm,0.3s							
ALFC					AML	AML	10 54 56.0	
	comp=E,0.5nm,0.1s							
NATA	**Nata**	**3.12**	**102**	⇑	P	**Pn**	**10 54 54.3**	**+1.0**
USAK	**Uak-Merkez**	**3.24**	**2**	*i*	P	**Pn**	**10 54 56.1**	**+1.2**
USAK					IAML		10 55 32.0	
	comp=N,104nm,0.3s							
IDI	**Anoyia**	**3.25**	**268**		P	**Pn**	**10 54 55.8**	**+0.6**
IDI	**Anoyia**	**3.25**	**268**		P	**Pn**	**10 54 55.7**	**+0.6**
IDI					S	**Sn**	**10 55 31.4**	**-1.2**
LEF	**Lefka**	**3.31**	**95**	*i*	P	**Pn**	**10 54 53.8**	**-2.1**
LEF				*i*	S	Sn	10 55 23.9	-10
LEF					IAML		10 55 36.0	
	comp=E,39nm,1.4s							
LEF					IAML		10 55 39.0	
	comp=N,47nm,1.7s							
SIVA	**Sivas**	**3.35**	**263**		P	**Pn**	**10 54 58.1**	**+1.7**
SZAC	**Souni**	**3.37**	**101**	⇓	P	**Pn**	**10 54 57.7**	**+1.0**
SZAC					AML	AML	10 55 04.4	
	comp=N,0.2nm,0.4s							
SZAC					AML	AML	10 55 06.7	
	comp=N,0.3nm,0.4s							
URLA	**Izmir**	**3.41**	**328**	*i*	P	**Pn**	**10 55 00.1**	**+2.8**
ASGA	**Asgata**	**3.66**	**99**	⇓	P	**Pn**	**10 55 01.2**	**+0.5**
CSS	**Mathiatis**	**3.69**	**97**		P	**Pn**	**10 55 01.6**	**+0.5**
OSC2	**CSNet OBS 4**	**3.69**	**129**		P	**Pn**	**10 55 02.0**	**+0.8**
OSC2					S	**Sn**	**10 55 43.6**	**+0.2**
KONT	**Konya--Tatoy**	**3.74**	**48**	*i*	P	**Pn**	**10 55 04.8**	**+3.0**
VAM	**Vamos**	**3.81**	**270**		P	**Pn**	**10 55 03.4**	**+0.7**
GULN	**MERSIN_Gulnar**	**3.87**	**78**	*i*	P	**Pn**	**10 55 04.5**	**+0.9**
GULN				*i*	S	**Sn**	**10 55 46.7**	**-1.0**
MVOU	**Mavrovouni**	**3.93**	**95**		P	**Pn**	**10 55 04.9**	**+0.6**
GVD	**Gavdhos**	**3.96**	**262**		P	**Pn**	**10 55 05.7**	**+0.9**
IMMV	**Iera Moni Meta**	**3.98**	**271**		P	**Pn**	**10 55 05.7**	**+0.5**
KDHN	**Kadinhani**	**4.01**	**40**	*i*	P	**Pn**	**10 55 07.2**	**+1.7**
KDHN				*i*	S	**Sn**	**10 55 52.2**	**+0.9**
RODP	**Rodopos**	**4.17**	**273**		P	**Pn**	**10 55 08.9**	**+1.3**
BALY	**Balya**	**4.38**	**347**	*i*	P	**Pn**	**10 55 12.1**	**+1.6**
KIZK	**Mersin**	**4.40**	**75**	*i*	P	**Pn**	**10 55 11.1**	**+0.3**
KIZK				*i*	S	**Sn**	**10 55 55.5**	**-5.3**
ANKY	**Antikythira Is**	**4.55**	**277**		P	**Pn**	**10 55 13.2**	**+0.4**
KERG	**Konya-Eregli**	**4.67**	**64**	*i*	P	**Pn**	**10 55 14.7**	**+0.1**
KERG				*i*	S	**Sn**	**10 56 08.8**	**+1.3**
KTHA	**Kythira Island**	**4.78**	**281**		P	**Pn**	**10 55 16.5**	**+0.5**
KTHA	**Kythira Island**	**4.78**	**281**		P	**Pn**	**10 55 16.5**	**+0.5**
VLI	**Veliai**	**4.96**	**286**		P	**Pn**	**10 55 19.2**	**+0.7**
VLI	**Veliai**	**4.96**	**286**		P	**Pn**	**10 55 18.9**	**+0.4**
DID	**Didima**	**4.97**	**296**		P	**Pn**	**10 55 18.6**	**-0.1**
DED	**Mersin**	**5.03**	**71**	*i*	P	**Pn**	**10 55 20.7**	**+1.2**
GULE	**Gulek**	**5.10**	**67**	*i*	P	**Pn**	**10 55 23.6**	**+2.9**
GUR	**Goura**	**5.79**	**297**		P	**Pn**	**10 55 30.3**	**+0.3**
ITM	**Ithomi**	**5.86**	**289**		P	**Pn**	**10 55 31.2**	**+0.4**
RSH		**6.07**	**136**		P	**Pn**	**10 55 33.9**	**+0.2**
	baz=135							
HHAG	**Hagoal**	**6.14**	**153**		P	**Pn**	**10 55 34.5**	**-0.3**
	baz=151							
HHAG					AMP		10 56 00.0	
	baz=151							
HHAG					S	**Sn**	**10 56 40.7**	**-3.0**
	baz=151							
GLL	**Jalalah**	**6.35**	**157**		P	**Pn**	**10 55 37.0**	**-0.6**
	baz=156							
SUZ	**Suez**	**6.53**	**148**		P	**Pn**	**10 55 39.3**	**-0.8**
	baz=147							
SWA2		**6.84**	**206**		P	**Pn**	**10 55 43.6**	**-0.8**
	baz=206							
SWA2					S	**Sn**	**10 56 56.9**	**-4.1**
	baz=206							
SWA2					AMP		10 57 00.0	
	baz=206							

IDC 10 11:01:44.5±2.8,34˚70S×179˚03E,h0km,mb4.1/2, mb1 4.3/3,mb1mx3.8/33,mbtmp4.0/3,ML3.6/1,Error ellipse: s-maj=59.6km s-min=43.8km az=101.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**3.87**	**203**	Pn	Pn	11 02 44.7	-0.5
	4.6nm,0.3s,baz=266,slow=3.4,SNR=64						
URZ				Sn	Sb	11 03 38.1	-3.0
	6.0nm,0.3s,baz=354,slow=23,SNR=9.8						
ASAR	**Alice Springs**	**40.60**	**273**	P	P	11 09 26.4	+0.1
	1.2nm,0.4s,baz=114,slow=7.5,SNR=40						
WRA	**Warramunga Arr**	**42.00**	**279**	P	P	11 09 37.3	-0.4
	1.2nm,0.4s,baz=118,slow=7.8,SNR=36						
FINES	**FINESS Array B**	**148.17**	**336**	PKPbc	PKPbc	11 21 31.0	-0.5
	2.3nm,0.8s,baz=90,slow=2.8,SNR=6.2						

IDC 10 11:11:16.1±1.6,8˚87N×138˚74E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.6/30,mbtmp3.6/5,Error ellipse: s-maj=47.4km s-min=32.6km az=83.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**28.75**	**68**	T	T	11 47 43.3	
	baz=254,slow=75,SNR=47						
H11S1	**WAKE ISLAND Hy**	**28.77**	**68**	T	T	11 47 41.6	
	baz=254,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.77**	**68**	T	T	11 47 44.4	
	baz=254,slow=75,SNR=24						
ASAR	**Alice Springs**	**32.68**	**188**	P	P	11 17 50.4	+0.1
	0.3nm,0.7s,baz=19,slow=12,SNR=2.3						
CMAR	**Chiang Mai Arr**	**39.75**	**288**	P	P	11 18 50.5	-0.5
	0.7nm,0.5s,baz=103,slow=7.0,SNR=5.4						
SONM	**Songino Array**	**

SHLS Shalkode 0.89 83⇓*i*P Pn 11 23 25.3 +2.9
31nm,0.1s
SHLS ⇑*i*S Sn 11 23 41.5 +6.4
125nm,0.2s
SHLS Shalkode 0.89 83 P Pn 11 23 25.2 +2.9
31nm,0.1s
SHLS S Sn 11 23 41.4 +6.3
125nm,0.2s
MDOK Medeo 0.89 278⇑*e*P Pb 11 23 20.1 -1.4
baz=79
MDOK ⇑*i*S Sg 11 23 32.6 -0.5
baz=79
MDOK Medeo 0.89 278⇑*e*P Pb 11 23 20.1 -1.4
9.9nm,0.2s
MDOK ⇑*i*S Sg 11 23 32.6 -0.5
46nm,0.2s
MDOK Medeo 0.89 278 ⇓P Pb 11 23 20.1 -1.4
13nm,0.6s
MDOK ⇓S Sg 11 23 32.2 -0.9
45nm,0.7s
MDOK Medeo 0.89 278 Pg Pb 11 23 20.1 -1.4
9.9nm,0.2s
MDOK Lg Lg 11 23 32.6
46nm,0.2s
PDGK Podgornoye 0.94 72 P Pb 11 23 20.3 -2.0
42nm,0.2s
PDGK S Sg 11 23 32.7 -2.0
29nm,0.3s
PDGK Podgornoye 0.94 72 ⇑P Pb 11 23 20.3 -2.0
18nm,0.2s
PDGK ⇓S Sg 11 23 32.6 -2.1
38nm,0.5s
KNDC Almaty 0.96 281 ⇑P Pn 11 23 23.3 0.0
13nm,0.5s
KNDC ⇑S Sb 11 23 35.0 -0.3
62nm,0.5s
TNSS Tian-Shan 0.96 270⇑*i*P Pb 11 23 21.6 -1.2
baz=71
TNSS ⇓*i*S Sg 11 23 35.2 -0.2
baz=71
TNSS Tian-Shan 0.96 270⇑*i*P Pb 11 23 21.6 -1.2
24nm,0.2s
TNSS ⇓*i*S Sg 11 23 35.1 -0.2
80nm,0.2s
TNSS Tian-Shan 0.96 270 P Pb 11 23 21.6 -1.2
24nm,0.2s
TNSS S Sg 11 23 35.4 0.0
80nm,0.2s
AAA Alma-Ata 1.00 280⇑*i*P Pb 11 23 22.9 -0.3
baz=80
AAA ⇑*e*S Sb 11 23 36.7 +0.4
baz=80
AAA Alma-Ata 1.00 280⇑*i*P Pb 11 23 22.9 -0.3
40nm,0.1s
AAA *e*S Sb 11 23 36.7 +0.4
80nm,0.1s
AAA Alma-Ata 1.00 280 P Pb 11 23 23.1 -0.2
40nm,0.1s
AAA S Sb 11 23 36.4 +0.2
80nm,0.1s
ARXS Arharly 1.21 345⇑*i*P Pn 11 23 25.6 -1.1
33nm,0.3s
ARXS ⇓*i*S Sb 11 23 41.6 -0.7
72nm,0.1s
ARXS Arharly 1.21 345 P Pn 11 23 25.6 -1.1
33nm,0.3s
ARXS S Sb 11 23 41.4 -1.0
72nm,0.1s
IZV Izvestkoviy 1.21 270⇑*e*P Pn 11 23 26.4 -0.4
baz=71
IZV ⇑*i*S Sn 11 23 43.0 -0.1
baz=71
IZV Izvestkoviy 1.21 270⇑*e*P Pn 11 23 26.4 -0.4
20nm,0.2s
IZV ⇑*i*S Sn 11 23 43.0 -0.1
82nm,0.3s
IZV Izvestkoviy 1.21 270 P Pn 11 23 26.3 -0.5
20nm,0.2s
IZV S Sb 11 23 42.7 +0.3
82nm,0.3s
KDJ Kajisay 1.22 221⇑*i*P Pn 11 23 26.1 -0.8
baz=22
KDJ ⇑*i*S Sb 11 23 41.3 -1.4
baz=22
CHKK Chushkaly 1.23 311 *e*P Pn 11 23 26.1 -0.8
baz=12
CHKK *e*S Sb 11 23 42.4 -0.5
baz=12
CHKK Chushkaly 1.23 311 *e*P Pn 11 23 26.1 -0.8
23nm,0.1s
CHKK *e*S Sb 11 23 42.4 -0.5
79nm,0.2s
CHKK Chushkaly 1.23 311 P Pn 11 23 26.1 -0.8
23nm,0.1s
CHKK S Sb 11 23 42.4 -0.5
79nm,0.2s
KTBS Karatobe 1.33 301⇑*i*P Pn 11 23 28.2 -0.1
17nm,0.1s
KTBS ⇓*i*S Sn 11 23 45.7 -0.2
128nm,0.3s
KTBS Karatobe 1.33 301 P Pn 11 23 28.2 -0.1
17nm,0.1s
KTBS S Sn 11 23 45.7 -0.2
128nm,0.3s
MTBS Maitube 1.34 274⇑*i*P Pn 11 23 28.5 -0.1
baz=75
MTBS ⇓*i*S Sn 11 23 46.4 0.0
baz=75
MTBS Maitube 1.34 274⇑*i*P Pn 11 23 28.5 -0.1
8.9nm,0.1s
MTBS ⇓*i*S Sn 11 23 46.3 0.0
37nm,0.2s
MTBS Maitube 1.34 274 P Pn 11 23 28.5 -0.1
8.1nm,0.2s
MTBS S Sn 11 23 46.5 +0.2
37nm,0.2s
TARG Taragay, Kyrgy 1.36 194⇑*i*P Pn 11 23 28.3 -0.8
baz=96
TARG ⇑*i*S Sb 11 23 46.1 -1.0
baz=96
KTMS Ketmen 1.58 75⇓*e*P Pn 11 23 31.2 -0.7
baz=73
KTMS ⇓*e*S Sn 11 23 51.3 -1.0
baz=73
KTMS Ketmen 1.58 75⇓*e*P Pn 11 23 31.2 -0.7
12nm,0.1s
KTMS *e*S Sn 11 23 51.2 -1.0
32nm,0.2s
KTMS Ketmen 1.58 75 P Pn 11 23 31.3 -0.7
12nm,0.1s
KTMS S Sn 11 23 51.2 -1.0
32nm,0.2s
KUU Kurty 1.63 302 *e*P Pn 11 23 33.2 +0.7
baz=2.0
KUU ⇓*i*S Sb 11 23 54.4 -0.1
baz=2.0
KUU Kurty 1.63 302 *e*P Pn 11 23 33.2 +0.7
11nm,0.1s
KUU ⇓*i*S Sb 11 23 54.4 -0.1
86nm,0.3s
KUU Kurty 1.63 302 P Pn 11 23 33.2 +0.7
11nm,0.1s
KUU S Sb 11 23 54.4 -0.1
85nm,0.2s
KST Kastek 1.68 271⇑*i*P Pn 11 23 34.0 +0.7
baz=71
KST ⇓*e*S Sb 11 23 56.1 0.0
baz=71
KST Kastek 1.68 271⇑*i*P Pn 11 23 34.0 +0.7
13nm,0.2s
KST ⇓*e*S Sb 11 23 56.2 0.0
15nm,0.2s
KST Kastek 1.68 271 P Pn 11 23 34.1 +0.8
13nm,0.2s
KST S Sb 11 23 56.1 0.0
15nm,0.2s
ULHL Ulahol 1.69 242⇑*i*P Pb 11 23 34.2 -0.9
baz=43
ULHL ⇑*i*S Sb 11 23 56.4 0.0
baz=43
ULHL Ulahol 1.69 242 P Pb 11 23 34.4 -0.8
SNR=8.5
DJR Jarkent 1.70 40⇑*i*P Pn 11 23 33.8 +0.4
38nm,0.2s
DJR ⇑*e*S Sb 11 23 55.7 -0.8
76nm,0.3s
DJR Jarkent 1.70 40 P Pn 11 23 33.8 +0.4
38nm,0.2s
DJR S Sb 11 23 55.6 -0.9
76nm,0.3s
DGS Degeres 1.83 277 *e*P Pb 11 23 36.7 -0.8
baz=77
DGS *e*S Sb 11 24 00.6 +0.3
baz=77
DGS Degeres 1.83 277 *e*P Pb 11 23 36.7 -0.8
16nm,0.4s
DGS *e*S Sb 11 24 00.6 +0.3
36nm,0.2s
DGS Degeres 1.83 277 P Pb 11 23 36.7 -0.8
16nm,0.4s
DGS S Sb 11 24 00.6 +0.3
36nm,0.2s
TDK Taldyqorghan 1.96 3⇓*e*P Pb 11 23 38.7 -0.9
33nm,0.3s
TDK ⇑*i*S Sb 11 24 03.9 0.0
99nm,0.3s
TDK Taldyqorghan 1.96 3 P Pb 11 23 38.6 -1.0
33nm,0.3s
TDK S Sb 11 24 03.9 0.0
99nm,0.3s
TKM2 Tokmak 2 1.96 267⇑*i*P Pb 11 23 38.9 -0.8
baz=68
TKM2 ⇑*i*S Sb 11 24 03.7 -0.4
baz=68
TKM2 Tokmak 2 1.96 267 P Pb 11 23 39.2 -0.5
SNR=7.1
TKM2 Tokmak 2 1.96 267 ⇑Pg Pb 11 23 39.1 -0.5
8.3nm,0.7s
TKM2 ⇑Lg Lg 11 24 05.9
12nm,0.2s
KRBS Karabastau 1.99 290⇑*i*P Pb 11 23 39.2 -1.0
5.9nm,0.2s
KRBS ⇓*i*S Sb 11 24 05.5 +0.6
66nm,0.3s
KRBS Karabastau 1.99 290 Pg Pb 11 23 39.2 -1.0
5.9nm,0.2s
KRBS Lg Lg 11 24 05.3
66nm,0.3s
KZA Kyzart 2.42 247⇓*e*P Pn 11 23 45.4 +1.6
baz=48
KZA ⇓*i*S Sn 11 24 15.0 +1.5
baz=48
KZA Kyzart 2.42 247 P Pb 11 23 46.6 -1.2
SNR=16
KBK Karagaybulak 2.47 262⇓*i*P Pn 11 23 45.2 +1.1
baz=62
KBK ⇓*i*S Sn 11 24 15.4 +1.2
baz=62
KBK Karagaybulak 2.47 262 P Pb 11 23 48.0 -0.4
SNR=17
CHMS Chumysh 2.57 270⇑*i*P Pn 11 23 46.5 +1.1
baz=70
CHMS ⇑*i*S Sn 11 24 17.7 +1.1
baz=70
CHMS Chumysh 2.57 270 P Sb 11 24 22.2 +0.6
SNR=6.7
USP Ospenovka 2.76 276⇑*i*P Pn 11 23 49.1 +1.1
baz=76
USP ⇑*i*S Sn 11 24 22.2 +1.0
baz=76
USP Ospenovka 2.76 276 P Pb 11 23 51.8 -1.4
SNR=5.1
AAK Ala-Archa 2.80 263 P Pb 11 23 53.7 -0.3
SNR=6.0
AAK Ala-Archa 2.80 263 ⇑Pg Pb 11 23 53.5 -0.5
7.3nm,0.6s
AAK ⇑Lg Lg 11 24 31.1
12nm,0.6s
UCH Uchtor 2.88 255 P Pb 11 23 53.8 -1.8
SNR=9.7
AML Almayashu 3.49 256 P Pb 11 24 07.1 +1.1
SNR=6.9
BTLS Baital 3.63 305 *e*P Pb 11 24 08.0 -0.1
1.8nm,0.4s
BTLS *e*S Sb 11 24 54.3 +2.2
1.3nm,0.3s
BTLS Baital 3.63 305 Pg Pb 11 24 08.0 -0.1
1.8nm,0.4s
BTLS Lg Lg 11 24 54.3
1.3nm,0.3s
MRKS Merke 3.71 267 *e*P Pb 11 24 10.0 +0.5
4.5nm,0.3s
MRKS *e*S Sb 11 24 57.8 +3.4
8.6nm,0.3s
MRKS Merke 3.71 267 Pg Pb 11 24 10.0 +0.5
4.5nm,0.3s
MRKS Lg Lg 11 24 57.7
8.6nm,0.3s
MAKZ Makanchi 4.59 34 ⇑Lg Lg 11 25 25.9
1.4nm,0.7s
MK31 Makanchi Array 4.71 36 ⇓Pn Pn 11 24 15.5 +0.7
0.2nm,0.2s,baz=212,slow=13,SNR=29
MK31 ⇑Lg Lg 11 25 29.4
1.2nm,0.5s,baz=216,slow=26,SNR=9.9
KK31 Karatay Array 5.67 273 ⇑Pg Pb 11 24 47.0 +4.0
1.1nm,0.7s,baz=86,slow=16,SNR=8.7
KK31 ⇑Lg Lg 11 26 03.1
0.8nm,0.3s,baz=80,slow=29,SNR=9.1

*IDC **10** 11:40:00.5±0.7, 6°27S×152°94E, h0km, mb4.2/13, mb1 4.4/15, mb1mx4.2/38, mbtmp4.2/15, ML3.0/2, MS3.4/6, Ms1 3.4/6, ms1mx3.1/32, Error ellipse: s-maj=23.8km s-min=14.7km az=102.0*
*NEIC **10** 11:40:01.9±1.9, 6°25S±0°07×153°08E±0°09, h10km±4km, mb4.7/31, Error ellipse: s-maj=13.0km s-min=9.8km az=63.0*
ISC 10 11:40:02.0±0.4, 6°27S±0°06×153°06E±0°08, h10km, n82, σ0s93/76, mb4.6/32, 2C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.21**	**332**	Pn	**Pn**	**11 40 38.2**	**-0.5**
	26nm,0.3s,baz=188,slow=2.0,SNR=36						
KRVT				Sn	**Sn**	**11 41 05.0**	**-1.1**
	144nm,0.3s,baz=291,slow=15,SNR=14						
KRVT				LR	LR	11 41 33.8	
	comp=Z,469nm,19.4s,baz=146,slow=43						
RABL	**Rabaul**	**2.25**	**337**		**Pn**	**11 40 38.8**	**-0.6**
PMG	**Port Moresby**	**6.62**	**242**	Pn	**Pn**	**11 41 39.8**	**+0.3**
	7.0nm,0.3s,baz=38,slow=11,SNR=15						
PMG				LR	LR	11 44 14.0	
	comp=Z,403nm,18.7s,baz=36,slow=39						
PMG	**Port Moresby**	**6.62**	**242**	Pn	**Pn**	**11 41 40.1**	**+0.7**
HNR	**Honiara**	**7.51**	**115**	Pn	**Pn**	**11 41 51.5**	**-0.2**
JAY	**Jayapura**	**12.87**	**286**	LR	LR	11 47 52.8	
	comp=Z,144nm,18.8s,baz=80,slow=37						
GUMO	**Guam**	**21.34**	**338**	LR	LR	11 52 49.0	
	comp=Z,72nm,19.3s,baz=170,slow=36						
WR0	**Warramunga Arr**	**22.55**	**231**	P	**P**	**11 45 01.4**	**-1.1**
WR0				IAmb	IAmb	11 45 04.0	
	comp=Z,21nm,1.4s						
WB0	**Warramunga Arr**	**22.56**	**232**	P	**P**	**11 45 01.5**	**-1.1**
WB2	**Warramunga Arr**	**22.69**	**231**	P	**P**	**11 45 01.6**	**-2.4**
WRA	**Warramunga Arr**	**22.70**	**231**	P	**P**	**11 45 01.9**	**-2.2**
	comp=Z,4.2nm,1.0s,baz=56,slow=10,SNR=9.0						
WRA				PcP	**PcP**	**11 48 56.9**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=46,slow=2.5,SNR=3.0						
WRA	**Warramunga Arr**	**22.70**	**231**	P	**P**	**11 45 04.2**	**+0.1**
AS31	**Alice Springs**	**25.27**	**225**	P	**P**	**11 45 28.3**	**-0.3**
ASAR	**Alice Springs**	**25.27**	**225**	P	**P**	**11 45 27.6**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=57,slow=9.3,SNR=29						
ASAR	**Alice Springs**	**25.27**	**225**	P	**P**	**11 45 28.3**	**-0.3**
KNRA	**Kununurra**	**25.59**	**247**	P	**P**	**11 45 32.2**	**+0.6**
KNRA				IAmb	IAmb	11 45 42.6	
	comp=Z,28nm,1.4s						
STKA	**Stephens Creek**	**27.64**	**201**	P	**P**	**11 45 50.8**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=23,slow=10.0,SNR=5.9						
STKA	**Stephens Creek**	**27.64**	**201**	P	**P**	**11 45 51.7**	**+1.7**
H11S3	**WAKE ISLAND Hy**	**28.04**	**28**	T	T	12 15 28.1	
	baz=215						
H11S2	**WAKE ISLAND Hy**	**28.05**	**28**	T	T	12 15 32.6	
	baz=215						
H11S1	**WAKE ISLAND Hy**	**28.06**	**28**	T	T	12 15 30.4	
	baz=215						
FITZ	**Fitzroy Crossi**	**29.21**	**244**	P	**P**	**11 46 02.6**	**-1.6**
	comp=Z,8.8nm,0.8s,baz=54,slow=7.9,SNR=16						
FITZ	**Fitzroy Crossi**	**29.21**	**244**	P	**P**	**11 46 03.1**	**-1.0**
FITZ				IAmb	IAmb	11 46 04.8	
	comp=Z,8.8nm,0.9s						
BFZ	**Birch Farm**	**40.06**	**152**	P	**P**	**11 47 35.3**	**-2.2**
MLZ	**Mavora Lakes**	**41.09**	**164**	P	**P**	**11 47 46.2**	**+0.2**
MLZ				IAmb	IAmb	11 47 54.0	
	comp=Z,41nm,1.4s						
MJAR	**Matsushiro Arr**	**44.81**	**343**	LR	LR	12 05 32.7	
	comp=Z,32nm,21.8s,baz=195,slow=34						
NJ2	**Nanjing**	**50.15**	**322**	*e*P	**P**	**11 48 58.8**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WHN	**Wuhan**	**52.09**	**317**	P	P	11 49 26.2	+14
IPM	**Ipoh**	**53.04**	**280**	P	**P**	**11 49 19.1**	**-0.7**
IPM				IAmb	IAmb	11 49 35.3	
	comp=Z,8.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**58.74**	**296**	P	**P**	**11 50 00.9**	**+0.3**
	comp=Z,2.2nm,1.0s,baz=104,slow=5.9,SNR=9.8						
CMAR	**Chiang Mai Arr**	**58.74**	**296**	P	**P**	**11 50 01.6**	**+0.9**
PEA0B	**Petropavlovsk-**	**59.28**	**3**	P	**P**	**11 50 03.9**	**+0.1**
PETK	**Petropavlovsk-**	**59.28**	**3**	P	**P**	**11 50 04.3**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=160,slow=5.8,SNR=2.6						
PETK	**Petropavlovsk-**	**59.28**	**3**	P	**P**	**11 50 04.6**	**+0.9**
CD2	**Chengdu**	**59.89**	**311**	*e*P	**P**	**11 50 09.0**	**+0.6**
HHC	**Hu-ho-hao-te**	**60.39**	**325**	*e*P	**P**	**11 50 13.0**	**+1.3**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,85nm,6.5s						
LZH	**Lanzhou**	**62.46**	**316**	*e*P	**P**	**11 50 26.8**	**+0.9**
LZH				pP	pwP	11 50 32.0	-2.2
LZH				sP	sP	11 50 35.2	+7.1
LZH				PP	PP	11 52 32.6	-11
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH				pmax	pmax		
	comp=Z,65nm,5.4s						
MA2	**Magadan**	**65.66**	**359**	P	**P**	**11 50 46.9**	**+0.6**
GTA	**Gaotai**	**66.91**	**318**	*e*P	**P**	**11 50 55.8**	**+0.9**
GTA				pP	pwP	11 51 00.6	-2.2
GTA				sP	sP	11 51 03.4	+6.1
GTA				S	S	**11 59 48.2**	**+0.1**
GTA	**Gaotai**	**66.91**	**318**	SS	SS	12 04 10.3	+3.5
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,76nm,7.3s						
GTA				LR	LR		
	comp=N,71nm,18.7s						
GTA				LR	LR		
	comp=E,110nm,19.4s						
GTA				LR	LR		
	comp=Z,85nm,21.6s						
SHL	**Shillong**	**67.28**	**301**	P	**P**	**11 50 56.7**	**-0.8**
ULN	**Ulaanbaatar**	**67.38**	**328**	P	**P**	**11 50 58.0**	**+0.3**
ULN				IAmb	IAmb	11 50 59.7	
	comp=Z,7.4nm,1.1s						
SONM	**Songino Array**	**67.70**	**328**	P	**P**	**11 51 00.2**	**+0.5**
	comp=Z,5.0nm,1.0s,baz=136,slow=6.4,SNR=19						
SONM	**Songino Array**	**67.70**	**328**	P	**P**	**11 51 00.5**	**+0.8**
YAK	**Yakutsk**	**70.46**	**349**	P	**P**	**11 51 16.3**	**0.0**
VNDA	**Vanda**	**71.36**	**178**	P	**P**	**11 51 21.6**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=331,slow=6.4,SNR=4.8						
TLY	**Talaya**	**71.47**	**330**	P	**P**	**11 51 23.0**	**+0.2**
TLY				IAmb	IAmb	11 51 35.2	
	comp=Z,5.1nm,0.7s						
WMQ	**Urumqi**	**76.99**	**318**	*e*P	**P**	**11 51 55.4**	**+0.2**
WMQ				sP	pwP	11 52 03.8	+0.6
WMQ				pmax	pmax		
	comp=Z,27nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,130nm,5.5s						
SML	**Sawmill**	**81.35**	**24**	P	**P**	**11 52 20.1**	**+1.5**
SML				IAmb	IAmb	11 52 21.2	
	comp=Z,13nm,1.0s						
MK31	**Makanchi Array**	**81.60**	**319**	P	**P**	**11 52 20.3**	**0.0**
MKAR	**Makanchi Array**	**81.60**	**319**	P	**P**	**11 52 18.8**	**-1.5**
	comp=Z,1.6nm,0.9s,baz=99,slow=7.5,SNR=9.7						
MKAR	**Makanchi Array**	**81.60**	**319**	P	**P**	**11 52 20.0**	**-0.3**
IMAR	**Indian Mountai**	**81.68**	**19**	P	**P**	**11 52 21.3**	**+1.1**
MAKZ	**Makanchi**	**81.81**	**319**	P	**P**	**11 52 21.1**	**-0.3**
MCK	**McKinley**	**82.12**	**22**	P	**P**	**11 52 22.9**	**+0.3**
ZALV	**Zalesovo Beam**	**82.51**	**326**	P	**P**	**11 52 23.8**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=162,slow=2.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**82.51**	**326**	P	**P**	**11 52 24.2**	**-0.7**
CCB	**Clear Creek Bu**	**83.02**	**22**	P	**P**	**11 52 27.4**	**+0.2**
CCB				IAmb	IAmb	11 52 27.7	
	comp=Z,3.0nm,0.9s						
COLA	**College**	**83.11**	**22**	P	**P**	**11 52 26.9**	**-0.9**
COLA				IAmb	IAmb	11 52 28.8	
	comp=Z,9.8nm,0.9s						
IL31		**83.42**	**22**	P	**P**	**11 52 28.4**	**-0.8**
IL31				IAmb	IAmb	11 52 29.7	
	comp=Z,6.7nm,1.1s						
ILAR	**Eielson Array**	**83.42**	**22**	P	**P**	**11 52 28.9**	**-0.4**
	comp=Z,4.1nm,1.0s,baz=262,slow=5.1,SNR=21						
ILAR				LR	LR	12 26 51.4	
	comp=Z,50nm,18.8s,baz=262,slow=34						
ILAR	**Eielson Array**	**83.42**	**22**	P	**P**	**11 52 28.7**	**-0.6**
QSPA	**South Pole Qui**	**83.70**	**180**	P	**P**	**11 52 30.5**	**-0.5**
QSPA				IAmb	IAmb	11 52 34.2	
	comp=Z,4.4nm,1.0s						
KDJ	**Kajisay**	**83.81**	**313**	P	**P**	**11 52 31.6**	**-0.4**
KDJ				IAmb	IAmb	11 52 36.0	
	comp=Z,3.9nm,0.9s						
DOT	**Dot Lake**	**83.97**	**24**	P	**P**	**11 52 32.9**	**+0.7**
DOT				IAmb	IAmb	11 52 34.8	
	comp=Z,10.0nm,1.2s						
MAW	**Mawson**	**84.32**	**203**	P	**P**	**11 52 33.7**	**-0.3**
	comp=Z,5.1nm,1.1s,baz=95,slow=3.1,SNR=6.8						
MAW	**Mawson**	**84.32**	**203**	P	**P**	**11 52 35.0**	**+1.1**
BCAR	**Beaver Creek A**	**84.63**	**25**	P	**P**	**11 52 36.3**	**+0.7**
EGAK	**Eagle**	**85.60**	**23**	P	**P**	**11 52 41.4**	**+1.0**
EGAK				IAmb	IAmb	11 52 42.5	
	comp=Z,10nm,1.1s						
EPYK	**Eagle Plains**	**87.92**	**22**	P	**P**	**11 52 52.3**	**+0.5**
KKAR	**Karatay Array**	**88.82**	**313**	P	**P**	**11 52 55.8**	**-0.7**
SYO	**Syowa Base**	**92.37**	**199⇑**	*e*P	**P**	**11 53 10.2**	**-2.3**
SYO	**Syowa Base**	**92.37**	**199⇑**	*e*pP	pP	11 53 15.0	+0.8
NVAR	**Mina Array Bea**	**92.79**	**52**	P	**P**	**11 53 16.7**	**+1.3**
	comp=Z,1.0nm,0.9s,baz=246,slow=4.5,SNR=6.0						
NVAR	**Mina Array Bea**	**92.79**	**52**	P	**P**	**11 53 16.5**	**+1.2**
VYHS	**Vyhne**	**122.84**	**325**	*e*PKP	**PKPdf**	**11 58 57.2**	**-1.3**
GERES	**GERESS Array B**	**125.43**	**328**	PKP	**PKPdf**	**11 59 02.9**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=26,slow=2.5,SNR=3.9						
GERES	**GERESS Array B**	**125.43**	**328**		**PKPdf**	**11 59 02.7**	**-0.9**
SVB	**Belmont**	**145.51**	**76**		**PKPdf**	**11 59 41.7**	**+0.1**
BDFB	**Brasilia**	**149.84**	**136**	PKPbc	**PKPbc**	**11 59 54.1**	**+0.4**
	comp=Z,5.4nm,0.9s,baz=204,slow=5.3,SNR=4.4						
BDFB	**Brasilia**	**149.84**	**136**		**PKPbc**	**11 59 53.5**	**-0.1**
MACI	**Morro de la Ar**	**156.01**	**337**	PKPdf	**PKPdf**	**11 59 57.5**	**-0.1**

*IDC **10** 11:41:06.1±0.8, 6°31S×152°99E, h0km, mb4.1/13, mb1 4.3/15, mb1mx4.1/39, mbtmp4.2/15, ML3.1/2, Error ellipse: s-maj=24.5km s-min=15.6km az=107.0*
*NEIC **10** 11:41:08.9±2.2, 6°29S±0°09×153°0E±0°1, h10km±1km, mb4.6/14, Error ellipse: s-maj=19.6km s-min=15.0km az=83.0*
ISC 10 11:41:08.6±0.6, 6°30S±0°06×152°9E±0°1, h10km, n48, σ1s27/48, mb4.5/19, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.17**	**336**	Pn	**Pn**	**11 41 44.5**	**-0.4**
	20nm,0.3s,baz=210,slow=20,SNR=3.8						
KRVT				Sn	**Sn**	**11 42 11.3**	**-0.4**
	152nm,0.3s,baz=131,slow=17,SNR=4.7						
PMG	**Port Moresby**	**6.49**	**241**	Pn	**Pn**	**11 42 45.7**	**+1.4**
	8.3nm,0.3s,baz=59,slow=9.1,SNR=6.7						
PMG				Sn	**Sn**	**11 43 58.3**	**-0.1**
	3.0nm,0.3s,baz=43,slow=19,SNR=1.1						
PMG	**Port Moresby**	**6.49**	**241**		**Pn**	**11 42 46.7**	**+2.4**
PATS	**Pohnpei**	**14.11**	**23**	P	**P**	**11 44 40.2**	**+3.7**
WRA	**Warramunga Arr**	**22.58**	**231**	P	**P**	**11 46 08.6**	**-0.8**
	2.5nm,0.9s,baz=56,slow=10,SNR=2.1						
WRA				PcP	**PcP**	**11 50 01.8**	**-1.2**
	0.6nm,0.8s,baz=57,slow=2.9,SNR=2.4						
ARMA	**Armidale**	**24.03**	**183**	P	**P**	**11 46 25.4**	**+1.4**
ARMA				IAmb	IAmb	11 46 32.7	
	comp=Z,14nm,1.4s						
AS31	**Alice Springs**	**25.15**	**225**	P	**P**	**11 46 35.2**	**+0.9**
ASAR	**Alice Springs**	**25.15**	**225**	P	**P**	**11 46 34.3**	**0.0**
	comp=Z,1.9nm,0.7s,baz=60,slow=8.9,SNR=4.9						
ASAR	**Alice Springs**	**25.15**	**225**	P	**P**	**11 46 32.6**	**-1.7**
STKA	**Stephens Creek**	**27.57**	**201**	P	**P**	**11 46 55.7**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=360,slow=5.1,SNR=3.5						
STKA	**Stephens Creek**	**27.57**	**201**	P	**P**	**11 46 56.6**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**28.13**	**29**	T	T	12 16 37.3	
	baz=215						
H11S2	**WAKE ISLAND Hy**	**28.13**	**29**	T	T	12 16 38.7	
	baz=215						

H11S1	WAKE ISLAND Hy	28.15	29	T		T		12 16 36.0	
	baz=215								
FITZ	Fitzroy Crossi	29.08	244	P		P		11 47 09.2	-0.4
	comp=Z,8.5nm,0.7s,baz=37,slow=10,SNR=7.5								
FITZ	Fitzroy Crossi	29.08	244	P		P		11 47 09.2	-0.4
FITZ				IAmb		IAmb		11 47 11.5	
	comp=Z,10nm,0.9s								
NWAO	Narrogin (SRO)	42.44	227	P		P		11 49 04.0	+0.1
CMAR	Chiang Mai Arr	58.63	296	P		P		11 51 05.1	-1.4
	comp=Z,0.7nm,0.4s,baz=106,slow=6.7,SNR=2.9								
CMAR	Chiang Mai Arr	58.63	296	P		P		11 51 06.5	0.0
PETK	Petropavlovsk-	59.32	3	P		P		11 51 10.5	-0.1
	comp=Z,2.3nm,0.6s,baz=168,slow=9.8,SNR=4.2								
PETK	Petropavlovsk-	59.32	3	P		P		11 51 10.2	-0.4
SONM	Songino Array	67.65	328	P		P		11 52 06.1	+0.1
	comp=Z,2.3nm,0.8s,baz=145,slow=5.2,SNR=6.5								
SONM	Songino Array	67.65	328	P		P		11 52 06.4	+0.4
VNDA	Vanda	71.34	178	P		P		11 52 27.0	-1.2
	comp=Z,0.4nm,0.7s,baz=312,slow=6.1,SNR=1.9								
SVW2	Sparrevohn	78.15	23	P		P		11 53 08.8	+0.9
SVW2				IAmb		IAmb		11 53 22.7	
	comp=Z,12nm,1.4s								
MKAR	Makanchi Array	81.53	319	P		P		11 53 26.9	+0.3
	comp=Z,1.2nm,0.9s,baz=99,slow=7.6,SNR=2.5								
MKAR	Makanchi Array	81.53	319	P		P		11 53 26.3	-0.3
IMAR	Indian Mountai	81.75	19	P		P		11 53 27.6	+0.4
ZALV	Zalesovo Beam	82.46	326	P		P		11 53 29.8	-1.4
	comp=Z,1.3nm,0.7s,baz=111,slow=4.9,SNR=3.7								
ZALV	Zalesovo Beam	82.46	326	P		P		11 53 31.8	+0.6
COLA	College	83.19	22	P		P		11 53 33.5	-1.2
IL31		83.49	22	P		P		11 53 35.2	-1.1
IL31				IAmb		IAmb		11 53 36.8	
	comp=Z,3.8nm,1.0s								
ILAR	Eielson Array	83.49	22	P		P		11 53 34.9	-1.5
	comp=Z,2.6nm,0.8s,baz=244,slow=4.8,SNR=11								
ILAR	Eielson Array	83.49	22	P		P		11 53 35.4	-0.9
QSPA	South Pole Qui	83.67	180	P		P		11 53 37.3	-0.2
QSPA				IAmb		IAmb		11 53 40.8	
	comp=Z,5.2nm,1.1s								
DOT	Dot Lake	84.04	24	P		P		11 53 39.7	+0.4
DOT				IAmb		IAmb		11 53 40.6	
	comp=Z,5.7nm,0.9s								
MAW	Mawson	84.24	203	P		P		11 53 37.8	-2.4
	comp=Z,3.2nm,0.9s,baz=76,slow=3.1,SNR=4.7								
MAW	Mawson	84.24	203	P		P		11 53 40.1	-0.1
BCAR	Beaver Creek A	84.71	25	P		P		11 53 43.7	+1.0
EGAK	Eagle	85.68	23	P		P		11 53 48.9	+1.5
EGAK				IAmb		IAmb		11 53 50.1	
	comp=Z,5.7nm,1.1s								
EPYK	Eagle Plains	88.00	22	P		P		11 53 58.6	-0.2
KKAR	Karatay Array	88.74	313	P		P		11 54 04.8	+2.0
NVAR	Mina Array Bea	92.91	52	P		P		11 54 22.3	-0.2
	comp=Z,0.8nm,0.8s,baz=261,slow=6.0,SNR=6.5								
NVAR	Mina Array Bea	92.91	52	P		P		11 54 22.6	0.0
GERES	GERESS Array B	125.38	328	PKP		PKPdf		12 00 07.4	-2.8
	comp=Z,0.7nm,0.8s,baz=29,slow=3.0,SNR=4.4								
GERES	GERESS Array B	125.38	328	PKPdf		PKPdf		12 00 07.6	-2.6
BDFB	Brasilia	149.92	137	PKPbc		PKPbc		12 00 60.0	-0.5
	comp=Z,2.2nm,0.7s,baz=202,slow=14,SNR=1.9								
BDFB	Brasilia	149.92	137	PKPbc		PKPbc		12 01 00.9	+0.4

MOS ***10*** *12:12:22.6±1.1, 0.71N×25.98W, h10km, mb5.1/38, Error ellipse: s-maj=12.8km s-min=6.6km az=48.7*
IDC ***10*** *12:12:23.4±0.4, 0.75N×25.99W, h0km, mb4.5/31, mb1 4.5/31, mb1mx4.5/44, mbtmp4.5/31, MS4.2/31, Ms1 4.2/31, ms1mx4.1/36, Error ellipse: s-maj=16.1km s-min=11.4km az=139.0*
NEIC ***10*** *12:12:24.8±1.3, 0.75N±0.04×26.05W±0.09, h10km±1km, mb5.0/209, Error ellipse: s-maj=15.6km s-min=4.0km az=111.0*
GCMT ***10*** *12:12:27.8±0.2, 0.86N×0.01×25.92W±0.01, h16km, MW5.1/131, Moment Tensor Solution. s53,c74; s131,c206; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-0.59±.11; Mθθ 1.04±.12; Mφφ-0.45±.11; Mrθ-0.13±.31; Mθφ-4.82±.10; Mφr 1.36±.32; Best double couple: M○5.06900×1016 NP1○s266.00000°, δ74.00000°, λ-178.00000°. NP2○s175.00000°, δ88.00000°, λ-16.00000°. Principal axes: T 5.3380, Plg10.0000°, Azm222.0000°; N -0.5380, Plg74.0000°, Azm347.0000°; P -4.8010, Plg13.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 12:12:24.9±0.3, 0.64N±0.06×26.02W±0.05, h14km, n563, σ1.2 s24/485, mb4.9/162, MS4.2/35, 19C-21D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
RCBR	Riachuelo	11.78	237	Pn		Pn	12	15	10.1	-2.6
	4.7nm,0.3s,baz=51,slow=11,SNR=62									
RCBR				Sn		Sn	12	17	10.0	-14
	0.3nm,0.3s,baz=13,slow=11,SNR=1.3									
RCBR				LR		LR	12	18	34.2	
	comp=Z,3μm,21.7s,baz=36,slow=31									
RCBR	Riachuelo	11.78	237	P		Pn	12	15	10.4	-2.3
RCBR	Riachuelo	11.78	237			Pn	12	15	10.3	-2.3
H10N3	ASCENSION HYDR	14.24	126	T		T	12	30	19.1	
	baz=306,slow=75,SNR=528									
H10N2	ASCENSION HYDR	14.25	126	T		T	12	30	22.0	
	baz=306,slow=75,SNR=587									
H10N1	ASCENSION HYDR	14.26	126	T		T	12	30	22.7	
	baz=306,slow=75,SNR=566									
ASCN	Ascension	14.41	126	Pn		P	12	15	53.2	-2.4
H10S3	ASCENSION HYDR	14.79	130	T		T	12	31	00.5	
	baz=308,slow=74,SNR=46									
H10S2	ASCENSION HYDR	14.81	130	T		T	12	31	01.9	
	baz=272,slow=74,SNR=27									
MBO	M'Bour	16.34	33	P		P	12	16	17.2	+0.2
MBO				IAmb		IAmb	12	16	20.6	
	comp=Z,170nm,1.3s									
ROSB	Rosrio	18.44	259	*e*P		P	12	16	40.0	-0.2
GDU01	Guandu, BA	19.60	223	*e*P		P	12	16	51.7	-1.3
LIC	Lamto	21.67	75	*e*P		P	12	17	14.2	-1.2
	comp=Z,227nm,1.3s									
TIC	Toumodi	21.78	74	*e*P		P	12	17	14.3	-2.3
DBIC	Dimbokro	21.94	74	P		P	12	17	17.3	-1.0
	comp=Z,44nm,1.0s,baz=242,slow=13,SNR=21									
DBIC				LR		LR	12	23	41.2	
	comp=Z,595nm,21.9s,baz=233,slow=31									
DBIC	Dimbokro	21.94	74	P		P	12	17	17.0	-1.4
DBIC				pmax		pmax				
	comp=Z,85nm,1.2s									
DBIC	Dimbokro	21.94	74	P		P	12	17	17.0	-1.4
DBIC				IAmb		IAmb	12	17	18.5	
	comp=Z,85nm,1.1s									
KIC	Kosan Boka	21.98	75	*e*P		P	12	17	17.5	-1.3
	comp=Z,253nm,1.4s									
SDBA	SAO DESIDERIO	22.79	235	*e*P		P	12	17	27.3	-0.2
SMTB	Santa Maria do	23.47	246	*e*P		P	12	17	35.2	+0.8
JANB	Januaria	23.89	228	*e*P		P	12	17	39.0	+0.5
BSFB	Barra de Sao F	24.22	216	*e*P		P	12	17	42.5	+1.1
SJMB	Sao Joao De Ma	24.32	217	*e*P		P	12	17	43.5	+1.1
RIB01	Linhares ES	24.34	215	*e*P		P	12	17	43.9	+1.3
MC01	Montes Claros	24.69	225	*e*P		P	12	17	46.6	+0.8
PRPB	Parauapebas	24.70	254	*e*P		P	12	17	45.8	-0.2
PEXB	Peixe	25.49	240	*e*P		P	12	17	53.2	+0.1
MCPB	Macapa, AP	26.06	268	*e*P		P	12	17	58.8	+0.6
MDP	Montagnes des	26.95	280	LR		LR	12	27	38.8	
	comp=Z,218nm,18.4s,baz=96,slow=34									
CAM01	Campos-RJ	27.05	213	*e*P		P	12	18	08.0	+1.0
BDFB	Brasilia	27.09	232	P		P	12	18	08.3	+0.7
	comp=Z,4.3nm,0.6s,baz=20,slow=10,SNR=5.6									
BDFB				LR		LR	12	27	45.6	
	comp=Z,2μm,20.1s,baz=67,slow=34									
BDFB	Brasilia	27.09	232	P		P	12	18	08.2	+0.5
BDFB				pmax		pmax				
	comp=Z,70nm,2.0s									
BDFB	Brasilia	27.09	232	P		P	12	18	08.2	+0.5
BDFB				IAmb		IAmb	12	18	13.8	
	comp=Z,70nm,2.0s									
BSCB	Bom Sucesso	28.27	219	*e*P		P	12	18	17.9	-0.2
MALB	Monte Alegre	28.35	265	*e*P		P	12	18	20.7	+1.8
IPMB	Ipameri, GO	28.62	229	*e*P		P	12	18	21.9	+0.6
ITTB	Itaituba	30.10	260	*e*P		P	12	18	33.9	-0.6
ARAG	Araguaiana, MT	30.22	236	*e*P		P	12	18	36.7	+1.3
NPGB	Novo Progresso	30.25	255	*e*P		P	12	18	35.4	-0.4
PARB	Paraibuna	30.52	217	*e*P		P	12	18	39.0	+0.9
PARB				*e*pP		pP	12	18	41.9	+0.5
BB19B	Bebedouro	30.82	224	*e*P		P	12	18	41.8	+1.1
RCLB	Rio Claro- Sao	31.06	221	*e*P		P	12	18	43.6	+0.7
RCLB				*e*pP		pP	12	18	46.1	0.0
VAO	Valinhos	31.11	220	*e*P		P	12	18	45.1	+1.8
ITRB	Iturama	31.28	228	*e*P		P	12	18	46.2	+1.5
CLDB	Colider	31.74	248	*e*P		P	12	18	48.7	-0.2
SPB	Sao Paulo	31.83	219	*e*P		P	12	18	50.9	+1.4
SPB				*e*pP		pP	12	18	52.9	+0.1
PET01	Itanhaem-SP	32.24	218	*e*P		P	12	18	53.6	+0.5
C2SB	Chapadao do Su	32.65	232	*e*P		P	12	18	57.2	+0.4
PCMB	Pacaembu	33.11	227	*e*P		P	12	19	02.0	+1.1
SALV	Santo Antonio	33.60	239	*e*P		P	12	19	05.6	+0.5
TIJ01	Guaruva-PR	34.07	219	*e*P		P	12	19	09.6	+0.4
PTGB	Pitanga	35.67	223	*e*P		P	12	19	23.2	+0.1
AQDB	Aquidauana	35.84	232	*e*P		P	12	19	24.7	+0.2
AQDB				*e*S		S	12	24	57.3	-4.7
PTLB	Pontes e Lacer	36.42	243	*e*P		P	12	19	30.7	+1.2
VILB	Vilhena	36.49	247	*e*S		S	12	25	12.9	+0.8
H05S1	Guadeloupe/Mar	37.05	293	T		T	12	58	43.7	
	SNR=6.2									
ITAB	Concordia	37.40	220	*e*P		P	12	19	38.2	+0.5
ITAB				*e*pP		pP	12	19	40.5	-0.5
TAM	Tamanrasset	37.75	52	P		P	12	19	41.2	+0.3
TAM				pmax		pmax				
	comp=Z,17nm,0.9s									
TAM	Tamanrasset	37.75	52	P		P	12	19	41.2	+0.3
TAM				IAmb		IAmb	12	19	42.6	
	comp=Z,17nm,0.9s									
MDT	Midelt	37.82	30	P		P	12	19	41.0	-0.3
	comp=Z,4.3nm,0.9s,baz=222,slow=9.4,SNR=7.8									
MDT				LR		LR	12	34	32.1	
	comp=Z,825nm,20.1s,baz=249,slow=35									
H05N1	Guadeloupe/Mar	37.88	296	T		T	12	59	44.0	
CNLB	Canela	38.08	216	*e*P		P	12	19	44.6	+1.1
CNLB				*e*S		S	12	25	32.9	-3.2
SAML	Samuel	38.23	255	P		P	12	19	45.6	+0.7
SAML				pmax		pmax				
	comp=Z,8.0nm,1.2s									
SAML	Samuel	38.23	255	P		P	12	19	45.6	+0.7
SAML	Samuel	38.23	255	*e*P		P	12	19	46.0	+1.2
SIV	San Ignacio	38.35	243	P		P	12	19	47.4	+1.5
	comp=Z,5.3nm,0.8s,baz=96,slow=9.8,SNR=28									
CPUP	Villa Florida	40.38	226	P		P	12	20	03.8	+1.1
CPUP				pmax		pmax				
	comp=Z,38nm,1.7s									
CPUP	Villa Florida	40.38	226	P		P	12	20	03.8	+1.1
CPUP				IAmb		IAmb	12	20	05.4	
	comp=Z,38nm,1.7s									
ETMB	Extrema	41.33	254	*e*P		P	12	20	11.3	+0.6
PLTB	Pedras Altas	41.49	217	*e*P		P	12	20	12.9	+1.1
ESDC	Sonseca Array	43.75	25	P		P	12	20	30.6	+0.5
	comp=Z,1.8nm,0.8s,baz=217,slow=8.9,SNR=13									
ESDC				LR		LR	12	38	21.4	
	comp=Z,137nm,19.4s,baz=205,slow=36									
ESDC	Sonseca Array	43.75	25	P		P	12	20	30.2	+0.1
LPAZ	La Paz	44.82	246	P		P	12	20	40.9	+1.2
	comp=Z,12nm,0.9s,baz=66,slow=4.9,SNR=42									
LPAZ				LR		LR	12	38	46.5	
	comp=Z,707nm,18.6s,baz=74,slow=35									
LPAZ	La Paz	44.82	246	P		P	12	20	41.2	+1.5
LPAZ				pmax		pmax				
	comp=Z,14nm,0.9s									
LPAZ	La Paz	44.82	246	P		P	12	20	41.2	+1.5
LPAZ				IAmb		IAmb	12	20	41.6	
	comp=Z,14nm,0.9s									
LPAZ	La Paz	44.82	246	*e*P		P	12	20	39.8	+0.1
MNMC	Minye Minye	47.06	243	P		P	12	20	56.7	-0.2
TSUM	Tsumeb	47.10	117	P		P	12	20	58.4	+1.3
	comp=Z,7.2nm,0.8s,baz=274,slow=8.6,SNR=14									
TSUM	Tsumeb	47.10	117	P		P	12	20	59.8	+2.7
TSUM				IAmb		IAmb	12	21	00.5	
	comp=Z,11nm,1.0s									
PB11	IPOC Station P	47.32	242	P		P	12	20	59.2	+0.4
PB11				IAmb		IAmb	12	21	00.3	
	comp=Z,17nm,1.4s									
PSGCX	Pisagua	47.68	243	P		P	12	21	00.2	-1.3
PSGCX				IAmb		IAmb	12	21	01.1	
	comp=Z,16nm,1.1s									
LVC	Limon Verde	47.72	238	P		P	12	21	00.7	-1.5
LVC				pmax		pmax				
	comp=Z,16nm,1.3s									
LVC	Limon Verde	47.72	238	P		P	12	21	00.7	-1.5
LVC				IAmb		IAmb	12	21	03.0	
	comp=Z,16nm,1.3s									
LVC	Limon Verde	47.72	238	*e*P		P	12	21	01.6	-0.6
LVC				*e*pP		pP	12	21	05.2	-0.3
KEST	Kesra	47.94	39	P		P	12	21	04.2	+0.9
	comp=Z,13nm,1.0s,baz=226,slow=3.3,SNR=9.2									
KEST				LR		LR	12	41	01.4	
	comp=Z,615nm,20.7s,baz=182,slow=36									
KEST	Kesra	47.94	39	P		P	12	21	03.8	+0.5
KEST				IAmb		IAmb	12	21	08.2	
	comp=Z,16nm,1.1s									
PB07	IPOC Station P	48.23	240	P		P	12	21	06.1	+0.3
PB06	IPOC Station P	48.32	238	P		P	12	21	06.0	-0.6
PB06				IAmb		IAmb	12	21	08.3	
	comp=Z,20nm,1.1s									
ROSC	El Rosal	48.41	276	P		P	12	21	09.6	+1.9
	comp=Z,4.2nm,0.5s,baz=110,slow=7.4,SNR=3.9									
ROSC				LR		LR	12	40	48.2	
	comp=Z,369nm,18.8s,baz=113,slow=35									
ROSC	El Rosal	48.41	276	P		P	12	21	08.7	+1.0
PB15	IPOC Station P	48.43	238	P		P	12	21	07.5	+0.1
GO02	Mina Guanaco	49.32	235	P		P	12	21	15.1	+0.7
AC02	Maricunga	49.66	233	IAmb		IAmb	12	21	24.4	
	comp=Z,15nm,1.4s									
TRQA	Tornquist	50.80	217	*e*P		P	12	21	25.4	+0.3
ZON	Zonda	51.53	228	IAmb		IAmb	12	21	33.3	
	comp=Z,41nm,1.7s									
CO01	Juntas del Tor	51.84	230	P		P	12	21	35.5	+2.2
NNA	Nana	51.99	254⇑	*e*P		P	12	21	33.2	-1.2
NNA				pmax		pmax				
	comp=Z,5.0nm,0.3s									
GO04	Tololo Observa	52.48	230	P		P	12	21	39.1	+1.1
CO03	El Pedregal	52.70	229	P		P	12	21	40.0	+0.5
CO03				IAmb		IAmb	12	21	43.9	
	comp=Z,20nm,1.1s									
CO02	Combarbal	53.11	229	P		P	12	21	43.7	+1.2
CO02				IAmb		IAmb	12	21	52.8	
	comp=Z,22nm,1.1s									
VA03	San Esteban	53.52	227	P		P	12	21	46.7	+1.2
PEL	Peldehue	53.80	227	IAmb		IAmb	12	21	49.2	
	comp=Z,18nm,0.9s									
MT05	Renca	53.96	227	P		P	12	21	50.2	+1.6
ROC1	El Roble	53.96	227	P		P	12	21	49.5	+0.6
MT02	Curacav	54.19	227	P		P	12	21	50.9	+0.6
BO02	Sierra Bellavi	54.69	225	P		P	12	21	54.9	+0.9
BO01	Tunca	54.70	226	P		P	12	21	54.4	+0.4
TIP	Timpagrande	54.73	40	P		P	12	21	53.5	-0.6
SUR	Sutherland	55.05	131	P		P	12	21	58.5	+1.7
	comp=Z,10.0nm,0.9s,baz=129,slow=5.8,SNR=4.3									
SUR	Sutherland	55.05	131	P		P	12	21	57.9	+1.1
GO05	Huala	55.62	226	P		P	12	22	01.6	+1.0
LSZ	Lusaka	55.84	109	P		P	12	22	03.9	+1.3
	comp=Z,1.6nm,0.5s,baz=246,slow=0.8,SNR=4.2									
LSZ	Lusaka	55.84	109	P		P	12	22	03.9	+1.3
LSZ				IAmb		IAmb	12	22	16.7	
	comp=Z,17nm,1.6s									
DAVA	Damuels	55.97	29	*i* P		P	12	22	02.3	-0.8
	comp=Z,7.4nm,1.2s									
BI02	San Fabin de	55.99	224	P		P	12	22	03.9	+0.6
BI02				IAmb		IAmb	12	22	05.2	
	comp=Z,13nm,0.9s									
CTI	Castel Tesino	56.00	31	P		P	12	22	02.6	-0.6
CTI				pmax		pmax				
	comp=Z,6.0nm,0.9s									
CTI	Castel Tesino	56.00	31	P		P	12	22	02.6	-0.6
FETA	Feichten	56.20	30	*e*P		P	12	22	03.8	-1.0
	comp=Z,6.4nm,1.0s									
SQTA	Sankt Quirin	56.58	30	*e*P		P	12	22	06.5	-0.9
	comp=Z,6.3nm,0.8s									
CIMO	Cimolais	56.58	31	P		P	12	22	06.8	-0.5
MOTA	Moosalm	56.61	29	*e*P		P	12	22	06.4	-1.2
	comp=Z,5.6nm,0.9s									
MBAR	Mbarara	56.77	91⇑	*e*P		P	12	22	07.7	-1.7
MBAR				pmax		pmax				
	comp=Z,2.0nm,0.3s									
WTTA	Wattenberg	56.82	30	*e*P		P	12	22	08.0	-1.1
	comp=Z,6.0nm,1.1s									
WATA	Walderalm	56.84	30	*e*P		P	12	22	08.1	-1.2
	comp=Z,5.6nm,1.2s									
TRI	Trieste	56.88	32	P		P	12	22	09.9	+0.5
TRI				pmax		pmax				
	comp=Z,16nm,1.1s									
TRI	Trieste	56.88	32	P		P	12	22	09.9	+0.5
TRI				IAmb		IAmb	12	22	11.1	
	comp=Z,16nm,1.1s									
ABTA	Abfaltersbach	56.91	31	*e*P		P	12	22	09.5	-0.1
	comp=Z,11nm,1.0s									
BOSA	Boshof	57.00	125	P		P	12	22	10.6	-0.1
	comp=Z,4.1nm,0.9s,baz=280,slow=11,SNR=3.4									
BOSA				LR		LR	12	42	12.5	
	comp=Z,343nm,20.2s,baz=274,slow=31									
BOSA	Boshof	57.00	125	P		P	12	22	09.7	-1.0
BOSA				pmax		pmax				
	comp=Z,19nm,1.5s									
BOSA	Boshof	57.00	125	P		P	12	22	09.7	-1.0
BOSA				IAmb		IAmb	12	22	27.7	
	comp=Z,19nm,1.4s									
VOJS	Vojsko	57.15	32	*e*P		P	12	22	11.4	0.0
EMMW	East Machias	57.16	326	P		P	12	22	11.6	+0.3
EMMW				IAmb		IAmb	12	22	13.4	
	comp=Z,19nm,1.2s									
JAVS	Javornik	57.16	32	*i* P		P	12	22	11.5	0.0
MYKA	Terra Mystica	57.41	31	*e*P		P	12	22	13.0	-0.2
	comp=Z,7.7nm,1.0s									
LJU	Ljubljana	57.51	32	*e*P		P	12	22	14.2	+0.3
G65A	Princeton	57.52	326	P		P	12	22	14.1	+0.2
	baz=128									
KBA	Koelnbreinsper	57.56	31	*e*P		P	12	22	15.5	+1.1
	comp=Z,3.0nm,0.7s									
PLCA	Paso Flores	57.69	219	P		P	12	22	15.9	+0.5
	comp=Z,4.2nm,1.1s,baz=52,slow=13,SNR=3.5									
PLCA				LR		LR	12	48	10.3	
	comp=Z,301nm,18.0s,baz=68,slow=37									
PLCA	Paso Flores	57.69	219	*e*P		P	12	22	15.5	+0.1
OBKA	Obir	57.81	32	*e*P		P	12	22	15.3	-0.8
	comp=Z,1.6nm,0.7s									
L63A	North Scituate	57.99	321	P		P	12	22	17.2	-0.1
	baz=123									
BATG	Bathurst New B	58.03	329	P		P	12	22	17.4	-0.1
PDG	Podgorica	58.10	38	⇓P		P	12	22	19.4	+1.4
PDG	Podgorica	58.10	38	IAmb		IAmb	12	22	19.8	
	comp=Z,15nm,1.1s									
SOKA	Soboth	58.18	32	*e*P		P	12	22	18.3	-0.3
	comp=Z,8.6nm,1.2s									
HRV	Adam Dziewonsk	58.31	322	P		P	12	22	20.0	+0.6
	baz=123									
HRV	Adam Dziewonsk	58.31	322	P		P	12	22	20.1	+0.6
HRV				pmax		pmax				
	comp=Z,21nm,1.1s									
HRV	Adam Dziewonsk	58.31	322	P		P	12	22	20.1	+0.6
E64A	Bridgewater	58.42	327	P		P	12	22	20.2	0.0
	baz=129									
MOA	Molln	58.53	31	*e*P		P	12	22	19.6	-1.4
	comp=Z,6.0nm,0.9s									
WSPT	Westport, CT	58.73	320	P		P	12	22	22.4	0.0
WSPT				IAmb		IAmb	12	22	23.7	
	comp=Z,18nm,1.1s									
ARSA	Arzberg	58.80	32	*e*P		P	12	22	22.0	-0.9
	comp=Z,2.7nm,0.8s									
GERES	GERESS Array B	58.91	30	P		P	12	22	23.0	-0.7
	comp=Z,2.8nm,0.8s,baz=212,slow=4.7,SNR=20									
GERES				PP		PP	12	24	38.1	+4.1
	comp=Z,0.8nm,0.8s,baz=200,slow=8.3,SNR=3.9									
GERES				LR		LR	12	47	36.2	
	comp=Z,113nm,19.1s,baz=254,slow=36									
GERES	GERESS Array B	58.91	30	P		P	12	22	22.6	-1.1
L61B	Northampton	58.98	321	P		P	12	22	24.4	+0.2
	baz=122									
PAL	Palisades	59.02	319	P		P	12	22

baz=121
VRAC **Vranov** 60.66 31 ⇓P P 12 22 35.2 -0.4
VTS **Vitosha** 60.71 40 ⇑P P 12 22 36.6 +0.3
VTS **Vitosha** 60.71 40 P P 12 22 36.6 +0.3
VTS **Vitosha** 60.71 40 P P 12 22 36.5 +0.3
H59A **Cadyville** 60.76 323 P P 12 22 36.9 +0.4
baz=122,SNR=6.7
U57A **Blanch** 60.77 312 P P 12 22 36.9 +0.3
baz=113,SNR=5.8
W57A **Gilead** 60.77 311 P P 12 22 36.4 -0.3
baz=112
L58A **Harry Jones Me** 60.80 319 P P 12 22 37.3 +0.5
baz=119
N58A **Sunbury** 60.80 318 P P 12 22 36.4 -0.3
baz=118
N58A **Sunbury** 60.80 318 IAmb IAmb 12 22 38.2
comp=Z,9.3nm,1.1s
MDVR **Moldovita** 60.87 37 ⇓P P 12 22 38.0 +0.8
M58A **Price's Panora** 60.88 318 P P 12 22 37.7 +0.3
baz=118,SNR=6.7
V57A **Coltrane Farms** 60.89 311 P P 12 22 37.7 +0.2
baz=113
T57A **Hurt** 60.94 313 P P 12 22 37.8 +0.1
baz=114
R57A **Stanardsville** 60.94 314 P P 12 22 36.4 -1.3
baz=115
BINY **Binghamton** 60.97 319 P P 12 22 38.3 +0.4
baz=119
BINY **Binghamton** 60.97 319 IAmb IAmb 12 22 39.6
comp=Z,12nm,1.0s
K58A **Earlville** 61.02 320 P P 12 22 38.9 +0.7
baz=120
S57A **Dark Hollow, R** 61.02 314 P P 12 22 38.4 0.0
baz=114
S57A **Dark Hollow, R** 61.02 314 IAmb IAmb 12 22 39.6
comp=Z,8.5nm,1.0s
P57A **Homestead Farm** 61.08 316 P P 12 22 39.1 +0.4
baz=116
J58A **Remsen** 61.09 321 P P 12 22 39.0 +0.4
baz=120
J58A **Remsen** 61.09 321 IAmb IAmb 12 22 39.9
comp=Z,12nm,1.1s
O57A **Amberson** 61.14 317 P P 12 22 38.5 -0.6
baz=116
DPC **Dobruska-Polom** 61.18 30 *e*P P 12 22 39.0 -0.2
DPC **Dobruska-Polom** 61.18 30 *e*P P 12 22 39.0 -0.2
CHVC **Chvalec** 61.20 29 *e*P P 12 22 38.6 -0.7
KRLC **Kraliky** 61.23 30 *e*P P 12 22 39.2 -0.4
KRLC **Kraliky** 61.23 30 *e*P P 12 22 39.2 -0.4
BZS **Buzias** 61.26 36 ⇑P P 12 22 39.3 -0.4
M57A **Sunshine Farm,** 61.31 318 P P 12 22 40.6 +0.4
baz=118
M57A **Sunshine Farm,** 61.31 318 IAmb IAmb 12 22 41.0
comp=Z,9.4nm,0.9s
VYHS **Vyhne** 61.33 32 *e*P P 12 22 40.1 -0.1
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS **Vyhne** 61.33 32 *e*P P 12 22 40.1 -0.1
N57A **Milroy** 61.33 317 P P 12 22 41.1 +0.7
baz=117
HERR **Herculane** 61.35 37 ⇓P P 12 22 41.2 +0.8
V56A **Mocksville** 61.40 311 P P 12 22 40.8 -0.1
baz=112
MORC **Moravsky Berou** 61.43 31 ⇑P P 12 22 41.5 +0.6
MORC **Moravsky Berou** 61.43 31 IAmb IAmb 12 22 41.8
comp=Z,9.0nm,1.1s
L57A **Andrews Acres** 61.44 319 P P 12 22 41.4 +0.3
baz=118
E58A **La Victoria** 61.45 325 P P 12 22 40.9 -0.1
baz=123
SSPA **Standing Stone** 61.51 317 P P 12 22 41.9 +0.4
baz=116
J57A **Williamstown** 61.56 321 P P 12 22 42.2 +0.3
baz=120
J57A **Williamstown** 61.56 321 P P 12 22 41.8 0.0
J57A IAmb IAmb 12 22 43.5
comp=Z,14nm,1.2s
PSZ **Piszkesteto** 61.56 33 ⇑P P 12 22 42.1 +0.2
I57A **Carthage** 61.61 321 P P 12 22 42.1 -0.1
baz=120
R56A **Bull Pasture M** 61.61 314 P P 12 22 42.6 +0.2
baz=114
D58A **Chemin du LacG** 61.63 325 P P 12 22 42.1 -0.1
baz=124
SIRR **Siria** 61.64 36 ⇓P P 12 22 42.9 +0.6
P56A **Dayton Farm, R** 61.67 316 P P 12 22 43.3 +0.6
baz=115
Q56A **Snyder Ridge,** 61.72 315 P P 12 22 43.2 +0.1
baz=115
Q56A **Snyder Ridge,** 61.72 315 IAmb IAmb 12 22 44.6
comp=Z,13nm,1.1s
G57A **Newington** 61.79 323 P P 12 22 43.7 +0.4
baz=121
O56A **Blue Knob Stat** 61.81 316 P P 12 22 43.9 +0.2
baz=116
BLA **Blacksburg** 61.88 313 P P 12 22 44.5 +0.4
baz=113
N56A **West Decatur** 61.91 317 P P 12 22 44.8 +0.5
baz=116
V55A **Taylorsville** 61.96 311 P P 12 22 45.5 +0.8
baz=112
L56A **Greenwood** 61.97 319 P P 12 22 44.7 0.0
baz=118
J56A **Wolcott** 62.05 320 P P 12 22 45.2 +0.1
baz=119,SNR=6.9
LANS **Liptovska Anna** 62.05 32 *e*P P 12 22 45.7 +0.6
LANS pmax pmax
comp=Z,3.0nm,1.1s
LANS **Liptovska Anna** 62.05 32 *e*P P 12 22 45.7 +0.6
K56A **Middlesex** 62.07 319 P P 12 22 45.2 -0.2
baz=118
M56A **Emporium** 62.08 318 P P 12 22 45.5 +0.1
baz=117
T55A **Pulaski** 62.11 312 P P 12 22 46.2 +0.4
baz=112
S55A **Lewisburg** 62.15 313 P P 12 22 46.3 +0.3
baz=113
O55A **Ligonier** 62.29 316 P P 12 22 47.6 +0.7
baz=115,SNR=6.0
H56A **Elgin** 62.31 322 P P 12 22 46.7 -0.2
baz=120
N55A **Marion Center** 62.32 317 P P 12 22 47.7 +0.6
baz=116,SNR=5.8
Q55A **Buckhannon** 62.34 315 P P 12 22 47.6 +0.4
baz=114
P55A **Reedsville** 62.37 315 P P 12 22 47.3 -0.1
baz=114
W54A **Cherokee Point** 62.42 310 P P 12 22 48.4 +0.5
baz=110
MCWV **Mont Chateau** 62.44 315 P P 12 22 48.7 +0.8
baz=114
M55A **Ridgway** 62.47 318 P P 12 22 48.1 +0.1
baz=116,SNR=6.7
V54A **Nebo** 62.48 311 P P 12 22 48.7 +0.5
baz=111
E56A **St. Veronique** 62.57 324 P P 12 22 47.9 -0.7
baz=122
L55A **Hinsdale** 62.57 318 P P 12 22 49.3 +0.5
baz=117,SNR=5.5
K55A **Perry** 62.57 319 P P 12 22 48.7 0.0
baz=117
U54A **Nelsons Funny** 62.66 311 P P 12 22 49.9 +0.4
baz=111
U54A **Nelsons Funny** 62.66 311 IAmb IAmb 12 22 51.4
comp=Z,10nm,1.0s
R54A **Victor** 62.67 313 P P 12 22 49.6 +0.1
baz=113
T54A **Tazewell** 62.67 312 P P 12 22 49.7 +0.2
baz=112
S54A **Dingess, Beckl** 62.76 313 P P 12 22 50.2 +0.2
baz=112
S54A **Dingess, Beckl** 62.76 313 IAmb IAmb 12 22 51.3
comp=Z,9.2nm,0.9s
ELL **Elmali** 62.83 48 P P 12 22 50.7 0.0
ELL pmax pmax
comp=Z,31nm,1.0s
ELL **Elmali** 62.83 48 P P 12 22 50.7 0.0
GOGA **Godfrey** 62.86 308 P P 12 22 51.5 +0.8
baz=109
H55A **Tweed** 62.87 321 P P 12 22 50.3 -0.3
baz=119
P54A **Burton** 62.87 315 P P 12 22 50.4 -0.3
baz=114
Q54A **Coxs Mills** 62.87 314 P P 12 22 51.1 +0.4
baz=113,SNR=5.2
G55A **Calabogie** 62.92 322 P P 12 22 50.8 -0.1
baz=120
K54A **Basiliko Farm,** 62.93 319 P P 12 22 51.1 0.0
baz=117
CRVS **Cervenica-Dubn** 62.98 33 *e*P P 12 22 52.3 +1.0
CRVS pmax pmax
comp=Z,22nm,1.5s
CRVS **Cervenica-Dubn** 62.98 33 *e*P P 12 22 52.3 +1.0
I55A **Frankford** 63.02 321 P P 12 22 51.2 -0.4
baz=118
O54A **Avella** 63.03 316 P P 12 22 51.5 -0.3
baz=114
D55A **Sainte-Anne-du** 63.07 324 P P 12 22 51.9 0.0
baz=122
N54A **Moraine State** 63.08 317 P P 12 22 52.2 0.0
baz=115
N54A **Moraine State** 63.08 317 IAmb IAmb 12 22 53.1
comp=Z,11nm,0.9s
M54A **Oil Creek Stat** 63.09 317 P P 12 22 52.1 -0.1
baz=116
M54A **Oil Creek Stat** 63.09 317 IAmb IAmb 12 22 54.3
comp=Z,16nm,1.2s
DELO **Deloro Mine** 63.12 321 P P 12 22 51.8 -0.5
DELO IAmb IAmb 12 22 53.2
comp=Z,13nm,1.2s
TRPA **Tarpa** 63.15 34 ⇑P P 12 22 52.2 -0.1
VOIR 63.24 38 ⇑P P 12 22 53.1 -0.1
KMBO **Kilima Mbogo** 63.29 92 LR LR 12 47 30.6
comp=Z,238nm,20.4s,baz=266,slow=33
Q53A **Leroy** 63.32 314 P P 12 22 54.0 +0.3
baz=113
T53A **Wise** 63.36 312 P P 12 22 54.5 +0.4
baz=111
R53A **Hurricane** 63.42 313 P P 12 22 55.3 +0.9
baz=112
KOLS **Kolonicke sedl** 63.44 33 *e*P P 12 22 57.5 +3.1
KOLS **Kolonicke sedl** 63.44 33 *e*P P 12 22 57.5 +3.1
SCHQ **Schefferville** 63.45 335 LR LR 12 47 19.4
comp=Z,163nm,19.2s,baz=136,slow=33
P53A **Whipple** 63.46 315 P P 12 22 54.9 +0.2
baz=113
P53A **Whipple** 63.46 315 IAmb IAmb 12 22 55.8
comp=Z,12nm,1.1s
N53A **Lisbon** 63.60 316 P P 12 22 55.9 +0.3
baz=114
O53A **New Philadelph** 63.64 315 P P 12 22 56.0 +0.2
baz=114
DOPR **Dopca** 63.70 37 ⇓P P 12 22 56.3 +0.1
H53A **Bobcaygeon** 63.76 321 P P 12 22 56.0 -0.5
baz=118
E54A **Lac Daplat, Po** 63.79 323 P P 12 22 56.4 -0.2
baz=120
MLR **Muntele Rosu** 63.81 38 ⇓P P 12 22 57.2 +0.2
G54A **Lake Saint Pet** 63.84 322 P P 12 22 56.8 -0.2
baz=118
Q52A **Bidwell** 63.89 314 P P 12 22 57.8 +0.3
baz=112
ISR **Istrita** 64.01 39 ⇑P P 12 22 56.9 -1.3
O52A **Adamsville** 64.03 315 P P 12 22 58.5 +0.1
baz=113,SNR=5.5
E53A **Dumoine, Ponti** 64.05 323 P P 12 22 58.0 -0.4
baz=119
P52A **Corning** 64.05 315 P P 12 22 58.1 -0.4
baz=113
P52A **Corning** 64.05 315 IAmb IAmb 12 22 59.5
comp=Z,9.1nm,0.9s
ALGO **Algonquin Park** 64.08 322 P P 12 22 58.3 -0.2
baz=119
N52A **McGinn's Farm,** 64.20 316 P P 12 23 00.3 +0.8
baz=114
BISRR **Bisoca** 64.31 38 ⇓P P 12 23 00.2 -0.1
S51A **Beattyville** 64.38 312 IAmb IAmb 12 23 01.8
comp=Z,9.8nm,1.1s
D53A **Lac Vacive, Po** 64.42 324 P P 12 23 00.1 -0.7
baz=120
BURAR **Bucovina Array** 64.42 36 ⇓P P 12 23 01.5 +0.6
BURAR **Bucovina Array** 64.42 36 P P 12 23 01.2 +0.3
PLOR **Plostina** 64.42 38 ⇑P P 12 23 00.4 -0.5
VRI **Vrincioaia** 64.48 38 ⇑P P 12 23 00.9 -0.3
E52A **Mattawa** 64.61 322 P P 12 23 01.4 -0.6
baz=118
BIZ **Bicaz** 64.61 37 ⇓P P 12 23 02.8 +0.7
HARR **Harsova** 64.69 40 ⇓P P 12 23 02.3 -0.3
N51A **Ashland** 64.72 316 P P 12 23 02.7 -0.2
baz=113
TESR **Tescani** 64.73 37 ⇓P P 12 23 02.4 -0.5
M51A **Elyria** 64.75 316 P P 12 23 03.2 +0.2
baz=113
D52A **ZEK Kipawa Sen** 64.79 323 P P 12 23 02.7 -0.5
baz=119
W50A **Signal Mountai** 64.88 309 IAmb IAmb 12 23 05.6
comp=Z,11nm,1.1s
ACSO **Alum Creek Sta** 64.88 315 P P 12 23 04.3 +0.3
baz=112
LVV **L'vov** 64.89 33 *e*P P 12 23 03.6 -0.2
LVV *e* 12 23 42.8
LVV *e* 12 32 54.4
FPAL **Fort Paine** 64.91 308 IAmb IAmb 12 23 05.7
comp=Z,11nm,1.0s
I51A **Listowel** 64.98 319 P P 12 23 04.0 -0.5
baz=115
LSQQ **Lebel-sur-Quev** 65.00 326 P P 12 23 04.0 -0.5
baz=121
KONO **Kongsberg** 65.02 19 ⇑*e*P P 12 23 03.7 -0.7
KONO pmax pmax
comp=Z,18nm,1.2s
CFR **Carcaliu** 65.04 39 ⇓P P 12 23 03.8 -1.1
TOPG **Topolog** 65.06 40 ⇑P P 12 23 03.9 -1.0
R50A **Paris** 65.15 312 IAmb IAmb 12 23 07.2
comp=Z,14nm,1.1s
E51A **G1948 Merrick** 65.23 322 P P 12 23 06.1 0.0
baz=118
SWET **Sewanee** 65.37 309 IAmb IAmb 12 23 08.5
comp=Z,15nm,1.2s
D51A **Lot 18 Range I** 65.42 323 P P 12 23 05.7 -1.6
baz=118
LRAL **Lakeview Retre** 65.57 306 P P 12 23 08.8 +0.2
baz=106
U49A **Red Boiling Sp** 65.65 310 IAmb IAmb 12 23 10.4
comp=Z,11nm,0.9s
CLTN **Cedars of Leba** 65.94 310 IAmb IAmb 12 23 12.1
comp=Z,9.5nm,1.2s
V48A **Smith Brothers** 66.22 309 IAmb IAmb 12 23 13.7
comp=Z,17nm,1.2s
MILM **Milestii Mici** 66.24 38 ⇓P P 12 23 11.2 -1.3
F49A **Sandfield** 66.48 321 P P 12 23 13.5 -0.6
baz=115
SORM **Soroca** 66.52 36 ⇓P P 12 23 13.0 -1.3
WCI **Wyandotte Cave** 66.59 312 P P 12 23 15.2 +0.2
baz=109
NB2 **NORSAR Subarra** 66.60 19 P P 12 23 14.9 +0.2
comp=Z,0.8nm,0.7s,baz=222,slow=6.5
NOA **NORSAR Array B** 66.60 19 P P 12 23 15.0 +0.4
comp=Z,2.6nm,0.9s,baz=222,slow=6.2,SNR=4.7
NOA LR LR 12 49 35.5
comp=Z,84nm,19.2s,baz=205,slow=34
BR131 **Keskin Array S** 66.63 46 *c i*P P 12 23 15.0 -0.5
BR131 **Keskin Array S** 66.63 46 IAmb IAmb 12 23 16.2
comp=Z,13nm,1.0s
BRTR **Keskin Array B** 66.63 46 P P 12 23 15.2 -0.3
comp=Z,9.5nm,0.8s,baz=229,slow=6.1,SNR=44
BRTR PP PP 12 25 33.9 -8.4
comp=Z,0.6nm,0.8s,baz=257,slow=5.6,SNR=2.7
BRTR LR LR 12 53 33.8
comp=Z,174nm,19.7s,baz=210,slow=37
BRTR **Keskin Array B** 66.63 46 P P 12 23 15.0 -0.5
D49A **Beulah Townshi** 66.71 322 P P 12 23 15.8 +0.2
baz=116
SUW **Suwalki** 66.76 29 P P 12 23 15.1 -0.7
SUW pmax pmax
comp=Z,47nm,1.1s
SUW **Suwalki** 66.76 29 P P 12 23 15.1 -0.7
E48A **Lockyer** 66.86 321 P P 12 23 16.8 +0.2
baz=116
F48A **Evansville** 66.87 321 P P 12 23 16.1 -0.6
baz=115
ASF **Jabal al Asfar** 66.92 55 P P 12 23 17.9 +0.5
comp=Z,9.0nm,1.1s,baz=137,slow=2.7,SNR=7.9
D48A **Paudash Townsh** 66.94 322 P P 12 23 16.9 -0.2
baz=116
PLAL **Pickwick Lake** 66.98 308 IAmb IAmb 12 23 18.1
comp=Z,8.7nm,1.1s
WVT **Waverly** 67.11 309 P P 12 23 17.0 -1.4
baz=107
WVT **Waverly** 67.11 309 P P 12 23 17.9 -0.5
WVT pmax pmax
comp=Z,6.0nm,1.2s
WVT **Waverly** 67.11 309 P P 12 23 17.9 -0.5
E47A **Iron Bridge** 67.55 321 P P 12 23 20.7 -0.3
baz=114
D47A **Chapleau** 67.69 322 P P 12 23 21.1 -0.8
baz=115
SFIN **Lafayette** 67.88 314 P P 12 23 23.0 -0.2
baz=109
E46A **Sault Ste Mari** 68.16 321 P P 12 23 24.3 -0.5
D46A **Sault St. Mari** 68.20 321 P P 12 23 24.8 -0.3
baz=114
AKASG **Malin Array Be** 68.22 34 P P 12 23 24.5 -0.5
comp=Z,20nm,0.7s,baz=240,slow=6.5,SNR=32
AKASG LR LR 12 54 05.6
comp=Z,62nm,19.4s,baz=195,slow=37
AKASG **Malin Array Be** 68.22 34 P P 12 23 23.8 -1.3
AKASG pmax pmax
comp=Z,12nm,0.9s
AKASG **Malin Array Be** 68.22 34 P P 12 23 23.8 -1.3
AKBB **Malin Array Si** 68.22 34 *c i*P P 12 23 24.3 -0.7
Q44A **Meyer Farm, Va** 68.83 312 IAmb IAmb 12 23 29.5
comp=Z,11nm,1.0s
X43A **Marvell** 69.08 307 P P 12 23 31.0 +0.2
baz=104
HDIL **Hopedale** 69.52 313 P P 12 23 32.8 -0.6
baz=108
E43A **Lone Tree Farm** 69.89 320 IAmb IAmb 12 23 35.9
comp=Z,8.1nm,0.9s
CCM **Cathedral Cave** 70.27 310 P P 12 23 37.2 -0.8
baz=105
CCM **Cathedral Cave** 70.27 310 P P 12 23 36.9 -1.2
CCM pmax pmax
comp=Z,15nm,1.2s
CCM **Cathedral Cave** 70.27 310 P P 12 23 36.9 -1.2
CCM IAmb IAmb 12 23 38.2
comp=Z,15nm,1.2s
I42A **Draeger Farm,** 70.30 317 IAmb IAmb 12 23 38.8
comp=Z,16nm,1.1s
UALR **University of** 70.31 307 IAmb IAmb 12 23 39.4
comp=Z,10nm,1.0s
W41B **Gary Mavity, V** 70.33 307 P P 12 23 37.8 -0.7
baz=104
W41B **Gary Mavity, V** 70.33 307 IAmb IAmb 12 23 39.3
comp=Z,13nm,1.2s
WHAR **Wooly Hollow** 70.39 307 IAmb IAmb 12 23 39.7
comp=Z,17nm,1.4s
VSU **Vasula** 70.88 26 ⇓*e*P P 12 23 41.3 0.0
VSU pmax pmax
comp=Z,23nm,1.0s
U40A **Yellville** 71.09 308 P P 12 23 42.2 -0.9
baz=104
R40A **Maddies Statio** 71.11 310 IAmb IAmb 12 23 43.3
comp=Z,8.5nm,1.1s
COWI **Conover** 71.18 319 P P 12 23 42.0 -1.5
MIAR **Mount Ida** 71.25 306 P P 12 23 43.1 -1.0
baz=103
P40A **Paris** 71.26 312 IAmb IAmb 12 23 44.6
comp=Z,17nm,1.3s
W39A **Magazine** 71.56 307 P P 12 23 45.8 -0.2
baz=103
W39A **Magazine** 71.56 307 IAmb IAmb 12 23 46.9
comp=Z,15nm,1.3s
NATX **Nacogdoches** 71.58 303 P P 12 23 46.6 +0.5
baz=101
S39A **Bolivar** 71.77 310 IAmb IAmb 12 23 47.5
comp=Z,11nm,1.1s
VNA1 **Neumayer--Stat** 72.12 174 P P 12 23 51.1 +2.5
FINES **FINESS Array B** 72.25 23 P P 12 23 49.8 +0.2
comp=Z,5.9nm,0.9s,baz=168,slow=1.8,SNR=13
FINES LR LR 12 53 53.6
comp=Z,120nm,19.2s,baz=238,slow=34
FINES **FINESS Array B** 72.25 23 P P 12 23 49.4 -0.2
VNA2 **Neumayer--Watz** 72.48 174 P P 12 23 52.6 +1.9
baz=335,slow=4.8
VNA3 **Neumayer Olymp** 72.55 175 P P 12 23 53.1 +1.9
TUL1 **Leonard** 73.31 307 P P 12 23 55.9 -0.6
baz=102
SPMN **Marine on St.** 73.36 317 P P 12 23 55.1 -1.4
baz=106
SPMN **Marine on St.** 73.36 317 IAmb IAmb 12 23 56.4
comp=Z,14nm,1.2s
SNAA **Sanae** 73.72 173 P P 12 23 59.5 +1.3
comp=Z,1.4nm,0.9s,baz=314,slow=7.6,SNR=3.6
WHTX **Lake Whitney,** 73.96 303 P P 12 23 58.8 -1.5
baz=100
T35A **Sooner Cattle** 74.08 308 IAmb IAmb 12 24 01.5
comp=Z,21nm,1.1s
OBN **Obninsk** 74.12 32 *i*P P 12 23 59.0 -1.7
OBN *i* 12 24 16.6
OBN *i* 12 26 45.5
OBN pmax pmax
comp=Z,10.0nm,1.1s
OBN MLR MLR
comp=Z,89nm,17.0s
VORD **Divnogorie** 74.17 37 *e*P P 12 24 00.4 -0.7
VORD pmax pmax
comp=Z,10.0nm,0.5s
VSR **Storozhevoye** 74.18 36 *e*P P 12 24 00.7 -0.5
VSR pmax pmax
comp=Z,20nm,1.2s
KIV **Kislovodsk** 74.34 44 *e*P P 12 24 02.4 0.0
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,127nm,19.0s
KBZ **Khabaz** 74.43 45 P P 12 24 03.3 +0.6
comp=Z,9.2nm,0.9s,baz=251,slow=4.5,SNR=18
KBZ LR LR 12 59 18.7
comp=Z,91nm,19.8s,baz=246,slow=38
KBZ **Khabaz** 74.43 45 *c i*P P 12 24 03.0 +0.2
KBZ pmax pmax
comp=Z,13nm,0.9s
LPSR **Galich'ya Gora** 74.51 35 *e*P P 12 24 02.7 -0.3
LPSR pmax pmax
comp=Z,10.0nm,1.0s
KSU1 **Kansas State U** 74.60 310 P P 12 24 02.8 -1.1
baz=102
KSU1 **Kansas State U** 74.60 310 P P 12 24 02.8 -1.1
KSU1 IAmb IAmb 12 24 03.5
comp=Z,10nm,0.8s
OK029 **Liberty Lake** 74.62 307 IAmb IAmb 12 24 04.8
comp=Z,20nm,1.1s
MOS **Moscow** 74.92 32 *e*P P 12 24 04.0 -1.3
833A **Chaparral WMA,** 75.08 299 IAmb IAmb 12 24 08.9
comp=Z,16nm,1.1s
NVL **N'lazarevskaya** 75.45 168 *e*P P 12 24 03.3 -4.8
NVL pmax pmax
comp=Z,6.0nm,0.6s
WMOK **Wichita Mounta** 75.50 306 P P 12 24 08.5 -0.7
baz=99
ECSD **EROS Data Cent** 75.61 315 P P 12 24 08.9 -0.7
baz=103
JCT **Junction City** 75.72 301 P P 12 24 10.7 +0.1
baz=98
JCT **Junction City** 75.72 301 IAmb IAmb 12 24 11.6
comp=Z,15nm,1.0s
ABTX **Abilene, Hawle** 75.89 303 P P 12 24 11.7 +0.2
baz=98
ABTX **Abilene, Hawle** 75.89 303 IAmb IAmb 12 24 12.4
comp=Z,13nm,1.1s
AGMN **Agassiz Nation** 76.21 320 P P 12 24 12.3 -0.6
baz=105
ULM **Lac du Bonnet** 76.73 322 LR LR 12 52 04.1
comp=Z,154nm,21.1s,baz=106,slow=31
ULM **Lac du Bonnet** 76.73 322 ⇓*e*P P 12 24 15.4 -0.4
ARCES **ARCESS Array B** 76.75 16 P P 12 24 16.2 +0.6
comp=Z,2.2nm,0.8s,baz=219,slow=6.9,SNR=4.3
ARCES LR LR 12 53 37.3
comp=Z,130nm,20.4s,baz=222,slow=32
ARCES **ARCESS Array B** 76.75 16 P P 12 24 15.8 +0.2
K31A **O'Neill** 76.91 314 P P 12 24 16.5 -0.6
MAK **Makhachkala** 77.54 46 *e*P P 12 24 15.3 -5.2
MAK *e*S S 12 34 01.8 -10
MAK pmax pmax
comp=Z,27nm,0.4s
KLMR **Klimovskoe** 77.74 27 *e*P P 12 24 19.3 -1.9
KLMR pmax pmax
comp=Z,27nm,1.3s
KLMR **Klimovskoe** 77.74 27 *e*P P 12 24 19.3 -1.9
KLMR AMP 12 24 23.3
comp=Z,27nm,1.3s
APA **Apatity** 78.14 20 ⇑*i*P P 12 24 23.4 0.0
APA pmax pmax
comp=Z,10.0nm,0.9s
APA MLR MLR
comp=Z,400nm,15.0s
LVZ **Lovozero** 78.72 20 ⇓*e*P P 12 24 27.7 +1.1
LVZ pmax pmax
comp=Z,52nm,1.7s
TXAR **Lajitas Array** 78.92 300 P P 12 24 29.1 +0.5

comp=Z,4.3nm,1.0s,baz=120,slow=6.2,SNR=33
TXAR LR LR 12 55 34.4
comp=Z,59nm,21.9s,baz=0.0,slow=33
TXAR Lajitas Array 78.92 300 P **P** **12 24 28.8 +0.2**
TX31 Lajitas Ar. Si 78.92 300 IAmb IAmb 12 24 30.6
comp=Z,12nm,0.9s
T25A Trinidad 80.36 307 P **P** **12 24 37.2 +0.8**
baz=96
MNTX Cornudas Mount 80.61 302 P **P** **12 24 37.4 -0.3**
baz=95
PRGR Permogore 80.79 27 *e*P P 12 24 30.1 -7.8
PRGR pmax pmax
comp=Z,16nm,0.9s
RSSD Black Hills 80.95 314 P **P** **12 24 39.8 +0.3**
baz=98
Q24A Divide 81.14 309 P **P** **12 24 41.8 +1.0**
baz=96
SDCO Great Sand Dun 81.29 308 P **P** **12 24 42.7 +1.1**
baz=96
SDCO Great Sand Dun 81.29 308 IAmb IAmb 12 24 43.5
comp=Z,11nm,1.1s
ISCO Idaho Springs 81.59 310 P **P** **12 24 44.1 +1.0**
baz=96
DGMT Dagmar 81.68 319 P **P** **12 24 43.8 +0.8**
baz=98
DGMT Dagmar 81.68 319 IAmb IAmb 12 24 44.8
comp=Z,19nm,1.1s
ANMO Albuquerque 81.79 305 P **P** **12 24 45.1 +1.0**
baz=95
ANMO Albuquerque 81.79 305*ce*P **P** **12 24 45.5 +1.4**
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO Albuquerque 81.79 305 P **P** **12 24 44.8 +0.7**
KIRV Kirov 81.88 31 P **P** **12 24 43.3 -0.4**
comp=Z,3.2nm,0.6s,baz=248,slow=11,SNR=4.4
N23A Red Feather La 81.96 311 P **P** **12 24 45.9 +0.9**
baz=96
N23A Red Feather La 81.96 311 IAmb IAmb 12 24 48.0
comp=Z,11nm,1.1s
S22A 4UR Ranch, Cre 82.34 308 P **P** **12 24 48.1 +1.0**
baz=95
LAO LASA Array 82.81 317 P **P** **12 24 49.9 +0.9**
baz=97
MVCO Mesa Verde 83.62 307 P **P** **12 24 54.5 +0.9**
baz=94
MVCO Mesa Verde 83.62 307 IAmb IAmb 12 24 55.8
comp=Z,7.7nm,1.1s
O20A White River Ci 83.64 310 P **P** **12 24 54.1 +0.5**
baz=94
O20A White River Ci 83.64 310 IAmb IAmb 12 24 55.3
comp=Z,11nm,1.2s
PV13 Radium Mtn., P 83.94 308 IAmb IAmb 12 24 57.3
comp=Z,10nm,1.1s
PV03 Paradox Valley 83.97 308 P **P** **12 24 56.4 +1.0**
PV03 IAmb IAmb 12 25 01.7
comp=Z,14nm,1.7s
PV11 David Mesa, Pa 83.99 308 IAmb IAmb 12 25 11.8
comp=Z,20nm,1.6s
PV16 Nyswonger Mesa 84.02 308 IAmb IAmb 12 24 57.7
comp=Z,8.9nm,1.3s
PV14 Lion Creek, Pa 84.11 308 IAmb IAmb 12 24 58.1
comp=Z,7.2nm,0.9s
PV05 Paradox Valley 84.15 308 IAmb IAmb 12 24 57.8
comp=Z,6.9nm,0.9s
RLMT Red Lodge 84.78 315 P **P** **12 24 59.6 +0.3**
baz=94
RLMT Red Lodge 84.78 315 IAmb IAmb 12 25 00.9
comp=Z,7.7nm,0.9s
BW06 Boulder Array 84.81 313 P **P** **12 24 59.4 -0.2**
baz=94
PDAR Pinedale Array 84.81 313 P **P** **12 24 59.6 0.0**
comp=Z,0.9nm,0.8s,baz=66,slow=4.6,SNR=9.0
PDAR LR LR 12 57 11.0
comp=Z,184nm,21.4s,baz=126,slow=32
PDAR Pinedale Array 84.81 313 P **P** **12 24 58.6 -1.0**
GEYT Alibeck 84.97 52 P **P** **12 24 59.7 -0.5**
comp=Z,0.7nm,0.4s,baz=240,slow=5.0,SNR=3.7
GEYT LR LR 13 05 39.0
comp=Z,60nm,19.9s,baz=230,slow=38
GEYT Alibeck 84.97 52 P **P** **12 24 56.5 -3.8**
TUC Tucson 85.23 302 P **P** **12 25 03.0 +1.3**
baz=92
TUC Tucson 85.23 302 P **P** **12 25 01.5 -0.2**
TUC pmax pmax
comp=Z,5.0nm,1.2s
TUC Tucson 85.23 302 P **P** **12 25 01.5 -0.2**
EGMT Eagleton 85.33 318 P **P** **12 25 02.3 +0.4**
baz=94
LOHW Long Hollow 85.63 314 IAmb IAmb 12 25 05.8
comp=Z,16nm,1.4s
AKTO Aktyubinsk 85.70 40 P **P** **12 25 04.2 +0.6**
comp=Z,4.3nm,1.0s,baz=269,slow=3.7,SNR=7.9
AKTO LR LR 13 06 38.9
comp=Z,58nm,21.2s,baz=280,slow=38
FLWY Flagg Ranch 85.73 314 IAmb IAmb 12 25 05.9
comp=Z,8.6nm,0.9s
SNOW Snow King Moun 85.73 313 IAmb IAmb 12 25 06.5
comp=Z,18nm,1.4s
WUAZ Wupatki 85.84 305 P **P** **12 25 06.1 +1.3**
baz=92
TPAW Teton Pass 85.88 313 IAmb IAmb 12 25 05.5
comp=Z,8.4nm,0.9s
IMW Indian Meadow 85.89 314 P **P** **12 25 05.2 +0.2**
FXWY Fox Creek 85.94 314 IAmb IAmb 12 25 19.9
comp=Z,12nm,1.4s
AHID Auburn Hatcher 85.95 313 IAmb IAmb 12 25 06.4
comp=Z,6.6nm,0.9s
HWUT Hardware Ranch 86.24 311 IAmb IAmb 12 25 07.9
comp=Z,7.2nm,0.9s
ARU Arti 86.46 34 P **P** **12 25 08.0 +0.9**
comp=Z,1.2nm,0.3s,baz=248,slow=6.5,SNR=8.6
ARU LR LR 13 04 27.4
comp=Z,52nm,20.3s,baz=252,slow=36
ARU Arti 86.46 34*d* P **P** **12 25 08.3 +1.2**
ARU 12 28 27.2
ARU S **S** **12 35 34.5 -8.4**
ARU SS **SS** **12 41 26.0 +3.0**
ARU pmax pmax
comp=Z,18nm,1.5s
ARU Arti 86.46 34 P **P** **12 25 07.5 +0.4**
ARU IAmb IAmb 12 25 09.1
comp=Z,11nm,1.0s
BOZ Bozeman (W) 86.47 315 P **P** **12 25 08.2 +0.6**
baz=93
U15A North Rim 86.62 306 IAmb IAmb 12 25 11.8
comp=Z,14nm,1.9s
ABKAR Akbulak array 86.87 41 P **P** **12 25 09.4 0.0**
DUG Dugway, Tooele 87.14 310 P **P** **12 25 11.4 +0.4**
baz=92
PDMCI Parker Dam,Lak 88.09 304 P **P** **12 25 16.4 +0.9**
baz=90
MSO Missoula 88.11 317 P **P** **12 25 16.5 +1.0**
baz=91
HLID Hailey 88.40 313 P **P** **12 25 18.0 +1.0**
baz=91
YKA Yellowknife Ar 88.78 332 LR LR 13 00 13.7
comp=Z,180nm,21.7s,baz=0.0,slow=32
IRM Iron Mountain 88.92 304 P **P** **12 25 21.0 +1.5**
baz=90
BC3 Big Chuckawall 89.18 303 P **P** **12 25 21.7 +0.9**
baz=90
R11A Troy Canyon, C 89.27 308 P **P** **12 25 21.4 +0.2**
baz=90
GMRC Granite Mounta 89.34 305 P **P** **12 25 22.3 +0.7**
baz=90
TUQ Turquoise Moun 89.56 305 P **P** **12 25 23.5 +0.9**
baz=90
BELC Belle Mtn. Jos 89.63 304 P **P** **12 25 23.9 +0.9**
baz=89
IKP In-Ko-Pah, Jac 89.73 302 P **P** **12 25 24.7 +1.2**
baz=89
TPNV Topopah Spring 89.80 307 P **P** **12 25 24.8 +1.0**
baz=89
HEC Hector,Ludlow 89.90 305 P **P** **12 25 25.3 +1.2**
baz=89
MONP2 Monument Peak 90.00 303 P **P** **12 25 25.6 +0.8**
baz=89
MAW Mawson 90.16 157 P **P** **12 25 26.6 +2.1**
comp=Z,3.2nm,1.1s,baz=266,slow=7.6,SNR=3.9
MAW LR LR 13 00 57.7
comp=Z,66nm,18.5s,baz=90,slow=32
MAW Mawson 90.16 157 P **P** **12 25 26.2 +1.7**
MAW pmax pmax
comp=Z,1.0nm,1.3s
MAW Mawson 90.16 157 P **P** **12 25 26.2 +1.7**
FURC Furnace Creek, P **P** **12 25 27.6 +1.7**
baz=89

MURC Murrieta 90.63 303 P **P** **12 25 28.5 +1.0**
baz=89
QSPA South Pole Qui 90.71 180 P **P** **12 25 28.2 +1.0**
QSPA IAmb IAmb 12 25 32.0
comp=Z,7.5nm,1.1s
MPMC Manual Prospec 90.82 306 P **P** **12 25 29.2 +0.6**
baz=88
EDW2 Edwards Air Fo 91.26 305 P **P** **12 25 30.8 +0.3**
baz=88
NVAR Mina Array Bea 91.40 308 P **P** **12 25 31.7 +0.4**
comp=Z,0.2nm,0.5s,baz=156,slow=1.5,SNR=4.0
NVAR LR LR 13 01 30.9
comp=Z,89nm,21.1s,baz=90,slow=32
NVAR Mina Array Bea 91.40 308 P **P** **12 25 31.5 +0.2**
BVAR Borovoye Array 93.36 37 LR LR 13 08 56.7
comp=Z,73nm,20.6s,baz=231,slow=36
AAK Ala-Archa 97.30 47‖*e*P Pdif 12 25 58.7 +0.5
AAK pmax pmax
comp=Z,1.0nm,1.2s
NRIK Noril'sk 97.56 19 LR LR 13 11 22.7
comp=Z,71nm,18.5s,baz=276,slow=36
KURBB Kurchatov Arra 98.71 39 P Pdif 12 26 04.8 +0.7
comp=Z,0.7nm,0.9s,baz=282,slow=4.9,SNR=4.3
KURK Kurchatov 98.75 38 P Pdif 12 26 04.8 +0.6
KURK Kurchatov 98.75 38 P Pdif 12 26 04.6 +0.4
KURK IAmb IAmb 12 26 06.1
comp=Z,3.9nm,1.5s
KSH Kashi 98.84 50 *e*P Pdif 12 26 06.0 +0.9
KSH S **S** **12 37 30.0 -5.2**
KSH LR LR
comp=Z,300nm,10.1s
KSH LR LR
comp=Z,400nm,12.5s
MKAR Makanchi Array 101.99 42 P **Pdif** **12 26 18.5 -0.3**
comp=Z,0.2nm,0.7s,baz=336,slow=3.2,SNR=2.2
MKAR Makanchi Array 101.99 42 Pdif **Pdif** **12 26 17.5 -1.3**
BILL Bilibino 110.93 355 *i* PKIKP **PKiKP** **12 30 57.5 +0.1**
BILL *i* 12 31 37.0
BILL pmax pmax
comp=Z,8.0nm,0.9s
LZH Lanzhou 120.84 46 *e*PKP **PKPdf** **12 31 14.0 -3.6**
LZH LR LR
comp=Z,130nm,18.0s
LZH LR LR
comp=Z,140nm,18.1s
LZH LR LR
comp=Z,190nm,20.2s
CD2 Chengdu 122.97 52 PKP **PKPdf** **12 31 21.1 -0.6**
HHC Hu-ho-hao-te 123.56 38 *e*PKP **PKiKP** **12 31 24.6 +1.8**
SKR Severo-Kuril's 128.84 358 *i* P **Pdif** **12 28 32.5 +14**
NJ2 Nanjing 133.52 42 *e*PKP **PKPdf** **12 31 41.3 -0.3**
STKA Stephens Creek 146.80 161 PKPbc **PKPab** **12 32 08.9 +0.4**
comp=Z,1.6nm,0.7s,baz=189,slow=4.7,SNR=1.8
STKA Stephens Creek 146.80 161 PKPbc **PKPbc** **12 32 08.1 +0.8**
ASAR Alice Springs 149.94 141 PKPbc **PKPbc** **12 32 15.9 0.0**
comp=Z,1.7nm,0.7s,baz=204,slow=2.2,SNR=20
ASAR Alice Springs 149.94 141 PKPbc **PKPbc** **12 32 15.4 -0.5**
WRA Warramunga Arr 152.84 136 PKPbc **PKPbc** **12 32 23.0 +0.3**
comp=Z,0.5nm,0.7s,baz=225,slow=2.0,SNR=2.4
WRA Warramunga Arr 152.84 136 PKIKP **PKPbc** **12 32 21.7 -1.0**
WRA Warramunga Arr 152.84 136 PKPbc **PKPbc** **12 32 21.7 -1.0**

*IDC **10** 12:12:57.0±10.0, 35.65N×71.32E, h59km±38km, mb3.5/4, mb1 3.5/9, mb1mx3.2/48, mbtmp3.6/9, ML3.5/5, MS3.2/1, Ms1 3.2/1, ms1mx2.3/50, Error ellipse: s-maj=150.4km s-min=30.2km az=159.0*
ISC 10 12:13:08.2±2.1, 36.6N±0.2×71.2E±0.2, h100km, n13, σ1s24/14, mb3.7/3, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.51**	**356**	‖Pn	**Pn**	**12 14 41.6**	**+0.1**
	1.8nm,0.4s,baz=176,slow=12,SNR=51						
KK31				⇑Sn	**Sn**	**12 15 54.2**	**-0.1**
	1.6nm,0.3s,baz=187,slow=24,SNR=7.3						
AAK	**Ala-Archa**	**6.55**	**22**	P	**Pn**	**12 14 43.3**	**+1.3**
	1.7nm,0.3s,baz=182,slow=9.7,SNR=5.3						
AAK				S	**Sn**	**12 15 52.6**	**-2.7**
	0.3nm,0.3s,baz=140,slow=22,SNR=1.7						
AAK	**Ala-Archa**	**6.55**	**22**	‖Pn	**Pn**	**12 14 43.1**	**+1.0**
	2.4nm,0.5s						
AAK				⇑Sn	**Sn**	**12 15 57.8**	**+2.5**
	4.8nm,0.8s						
GEYT	**Alibeck**	**10.49**	**281**	P	Pn	12 15 28.9	-6.7
	0.7nm,0.3s,baz=124,slow=12,SNR=7.5						
GEYT				S	Sn	12 17 18.6	-12
	0.3nm,0.3s,baz=223,slow=34,SNR=1.8						
MKAR	**Makanchi Array**	**13.13**	**36**	P	**Pn**	**12 16 10.2**	**-0.5**
	0.1nm,0.3s,baz=218,slow=16,SNR=2.3						
KURBB	**Kurchatov Arra**	**14.98**	**18**	P	**P**	**12 16 37.2**	**-0.3**
	0.1nm,0.3s,baz=205,slow=11,SNR=4.5						
AKTO	**Aktyubinsk**	**16.76**	**330**	P	**P**	**12 16 57.7**	**+0.5**
	0.3nm,0.3s,baz=123,slow=6.4,SNR=3.2						
ZALV	**Zalesovo Beam**	**19.77**	**24**	P	**P**	**12 17 30.1**	**0.0**
	1.6nm,0.3s,baz=217,slow=11,SNR=9.3						
FINES	**FINESS Array B**	**37.48**	**326**	P	**P**	**12 20 11.6**	**-0.1**
	0.4nm,0.4s,baz=115,slow=13,SNR=4.7						
ARCES	**ARCESS Array B**	**41.10**	**338**	P	**P**	**12 20 42.2**	**+0.4**
	0.9nm,0.7s,baz=123,slow=8.1,SNR=1.2						
NB2	**NORSAR Subarra**	**44.38**	**323**	P	**P**	**12 21 08.4**	**0.0**
	comp=Z,1.0nm,0.6s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**12 21 08.4**	**0.0**
	comp=Z,0.7nm,0.8s,baz=104,slow=7.3,SNR=1.1						
ASAJ	**Asahikawa**	**53.38**	**58**	LR	LR	12 47 54.0	
	comp=Z,24nm,21.8s,baz=58,slow=39						

*ATH **10** 12:16:10.0, 39.53N×25.99E, h31km±1km, ML2.6/9, Error ellipse: s-maj=1.7km s-min=0.8km az=236.0*
*ISK **10** 12:16:10.4, 39.55N×25.99E, h5km, ML2.9/25*
*DDA **10** 12:16:11.5, 39.60N×26.13E, h16km±1km, ML2.7*
*THE **10** 12:16:11.0, 39.56N×26.00E, h5km±1km, ML2.5/8, Error ellipse: s-maj=1.8km s-min=0.6km az=160.0*
ISC 10 12:16:10.7±0.8, 39.55N±0.01×26.01E±0.02, h16km±7km, n73, σ0s74/105, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.29**	**6**	PG	**Pg**	**12 16 17.1**	**+0.1**
BOZC				SG	**Sg**	**12 16 21.6**	**+0.3**
BOZC	**Bozcaada**	**0.29**	**6**	*i* P	**Pg**	**12 16 17.0**	**0.0**
BOZC				IAML		12 16 21.0	
	comp=E,730nm,0.3s						
BOZC				*i* S	**Sg**	**12 16 21.2**	**-0.1**
SIGR	**SIGRI**	**0.36**	**200**	P	**Pg**	**12 16 17.9**	**-0.1**
SIGR				S	**Sg**	**12 16 23.1**	**+0.1**
	comp=E,1μm,0.1s						
SIGR	**SIGRI**	**0.36**	**200**	P	**Pg**	**12 16 18.1**	**+0.1**
SIGR				S	**Sg**	**12 16 23.4**	**+0.4**
SIGR				AML	AML	12 16 24.1	
	comp=N,2224μm,0.2s						
SIGR				AML	AML	12 16 24.4	
	comp=E,2394μm,0.1s						
SIGR	**SIGRI**	**0.36**	**200**	PG	**Pg**	**12 16 18.1**	**+0.1**
SIGR				SG	**Sg**	**12 16 23.2**	**+0.2**
PRK	**Paraskevi**	**0.36**	**146**	P	**Pb**	**12 16 19.0**	**+0.3**
PRK				S	**Sb**	**12 16 24.4**	**+0.2**
	comp=E,3μm,0.2s						
PRK	**Paraskevi**	**0.36**	**146**	P	**Pb**	**12 16 19.1**	**+0.4**
PRK				S	**Sb**	**12 16 24.3**	**+0.2**
PRK				AML	AML	12 16 24.6	
	comp=E,4240μm,0.2s						
PRK				AML	AML	12 16 25.1	
	comp=N,3684μm,0.3s						
EZN	**Ezine**	**0.37**	**41**	P	**Pg**	**12 16 18.1**	**-0.1**
EZN				S	**Sg**	**12 16 23.4**	**0.0**
	comp=N,630nm,0.3s						
EZN	**Ezine**	**0.37**	**41**	PG	**Pg**	**12 16 18.1**	**-0.1**
EZN				SG	**Sg**	**12 16 23.1**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.46**	**65**	*i* P	**Pg**	**12 16 19.4**	**-0.4**
BAYC				*i* S	**Sg**	**12 16 23.8**	**-2.2**
AYVA	**Ayvalik**	**0.58**	**114**	*i* P	**Pg**	**12 16 22.1**	**+0.1**
GOKA	**anakkale-Gk**	**0.65**	**353**	*i* P	**Pg**	**12 16 23.4**	**0.0**
GOKA				*i* S	**Sb**	**12 16 32.6**	**+0.1**
GOKA				IAML		12 16 33.0	
	comp=N,461nm,0.4s						
GADA	**Gvkgeada**	**0.65**	**352**	P	**Pg**	**12 16 22.9**	**-0.5**
GADA				S	**Sb**	**12 16 32.6**	**+0.1**
GADA	**Gvkgeada**	**0.65**	**352**	PG	**Pg**	**12 16 22.9**	**-0.5**
LIA	**Limnos Island**	**0.73**	**299**	P	**Pb**	**12 16 25.3**	**+0.3**
LIA				S	**Sb**	**12 16 35.7**	**+0.9**
	comp=N,250nm,0.2s						

LIA Limnos Island 0.73 299 P **Pb** **12 16 25.4 +0.3**
LIA S **Sb** **12 16 35.4 +0.6**
LIA AML AML 12 16 38.2
comp=E,506μm,0.2s
LIA AML AML 12 16 40.0
comp=N,486μm,0.2s
EFSA Agios Efstrati 0.79 270 P **Pg** **12 16 26.4 +0.3**
EFSA S **Sb** **12 16 37.4 +0.8**
DKL Dikili 0.84 124 PG **Pb** **12 16 27.3 +0.4**
GELI Tayfur-Gelibol 0.92 22 PG **Pb** **12 16 28.2 -0.1**
SMTH Samothraki Isl 0.99 338 P **Pb** **12 16 29.6 +0.1**
SMTH S **Sn** **12 16 43.4 -0.4**
comp=N,222nm,0.3s
SMTH Samothraki Isl 0.99 338 P **Pb** **12 16 29.6 +0.1**
SMTH S **Sg** **12 16 42.9 -0.1**
SMTH AML AML 12 16 44.1
comp=E,458μm,0.3s
SMTH AML AML 12 16 44.3
comp=N,423μm,0.4s
LPK Lapseki 1.00 35 PG **Pb** **12 16 29.6 -0.1**
ZEDA zmir-Bergama 1.01 125 *i* P **Pb** **12 16 29.9 +0.1**
ZEDA *i* S **Sb** **12 16 42.8 0.0**
KRBN Karaburun 1.04 156 PG **Pb** **12 16 30.7 +0.4**
PSRA Psara 1.06 199 P **Pb** **12 16 29.8 -0.9**
PSRA S **Sb** **12 16 45.2 +0.8**
PSRA AML AML 12 16 48.7
comp=N,1812μm,0.2s
PSRA AML AML 12 16 49.6
comp=E,2442μm,0.3s
CHOS Chios island 1.16 178 P **Pn** **12 16 32.0 -0.3**
CHOS S **Sn** **12 16 48.6 +0.7**
comp=E,420nm,0.3s
CHOS Chios island 1.16 178 P **Pn** **12 16 31.4 -1.0**
CHOS S **Sb** **12 16 47.2 0.0**
CHOS AML AML 12 16 51.6
comp=E,823μm,0.4s
CHOS AML AML 12 16 52.8
comp=N,821μm,0.2s
CHOS Chios island 1.16 178 PN **Pn** **12 16 32.2 -0.1**
ENEZ Enez 1.19 5 P **Pb** **12 16 33.1 +0.1**
ENEZ S **Sg** **12 16 49.8 +0.5**
ENEZ Enez 1.19 5 PN **Pb** **12 16 33.0 +0.1**
BALY Balya 1.25 81 *i* P **Pn** **12 16 33.6 0.0**
BALY *i* S **Sb** **12 16 49.8 -0.2**
BALY IAML 12 16 52.0
comp=E,143nm,0.5s
BALY IAML 12 16 52.0
comp=N,278nm,0.6s
URLA Izmir 1.27 159 *i* P **Pn** **12 16 33.3 -0.5**
URLA S **Sb** **12 16 48.9 -1.5**
STEP BALIKESIR_Sava 1.33 97 *i* P **Pn** **12 16 33.9 -0.7**
STEP S **Sn** **12 16 51.2 -0.9**
ALN Alexandroupoli 1.35 1 P **Pn** **12 16 35.3 +0.4**
ALN S **Sb** **12 16 53.2 +0.6**
comp=N,185nm,0.4s
ALN Alexandroupoli 1.35 1 P **Pn** **12 16 35.3 +0.4**
ALN S **Sb** **12 16 52.7 +0.1**
ALN AML AML 12 16 54.6
comp=E,487μm,0.4s
ALN AML AML 12 16 55.1
comp=N,248μm,0.5s
ALN Alexandroupoli 1.35 1 PN **Pn** **12 16 35.3 +0.4**
KESN Edirne-Kesan 1.38 22 *i* P **Pn** **12 16 35.9 +0.3**
KESN *i* S **Sb** **12 16 53.9 +0.2**
KESN IAML 12 16 57.0
comp=N,154nm,0.5s
KESN IAML 12 16 59.0
comp=E,141nm,0.2s
GONE Gonen-Balikesi 1.38 68 PN **Pb** **12 16 37.0 +0.9**
BLCB Balcova 1.41 145 P **Pb** **12 16 37.6 +1.0**
BLCB S **Sg** **12 16 53.1 -0.1**
BLCB Balcova 1.41 145 PN **Pb** **12 16 37.6 +1.0**
BALB Balikesir 1.45 86 PN **Pb** **12 16 38.2 +1.0**
RKY Sarkoy-Tekirda 1.45 38 PN **Pn** **12 16 37.0 +0.7**
THAS Thassos island 1.45 317 P **Pn** **12 16 36.3 0.0**
THAS S **Sg** **12 16 57.5 0.0**
comp=E,72nm,0.3s
THAS Thassos island 1.45 317 P **Pn** **12 16 36.1 -0.1**
THAS S **Sn** **12 16 54.4 -0.6**
THAS AML AML 12 16 59.5
comp=E,135μm,0.4s
THAS AML AML 12 17 00.8
comp=N,147μm,0.3s
MAR6 Marsite Statio 1.50 39 PN **Pg** **12 16 39.3 -0.3**
MAR3 Marsite Statio 1.55 39 PN **Pb** **12 16 38.9 0.0**
MAR4 Marsite Statio 1.58 38 PN **Pb** **12 16 39.8 +0.2**
MRMT Marmara Adasi 1.61 49 PN **Pb** **12 16 40.0 0.0**
EDC Edincik 1.63 60 PN **Pb** **12 16 40.3 -0.1**
RDO Rodhopi 1.64 347 P **Pn** **12 16 39.3 +0.4**
RDO S **Sn** **12 16 59.4 -0.1**
RDO Rodhopi 1.64 347 PN **Pn** **12 16 39.4 +0.6**
DGB zmir 1.64 155 *i* P **Pn** **12 16 39.7 +0.8**
MAR9 Marsite Statio 1.68 50 PN **Pb** **12 16 41.5 +0.3**
AOS Alonnisos 1.70 258 P **Pn** **12 16 39.6 0.0**
KYMI Kymi, Euboea I 1.75 239 P **Pn** **12 16 39.2 -1.1**
OUR Ouranopolis 1.75 297 PN **Pb** **12 16 41.7 -0.7**
KAVA Kavala 1.85 322 P **Pn** **12 16 41.5 -0.3**
KAVA S **Sn** **12 17 03.7 -1.1**
KAVA AML AML 12 17 04.2
comp=N,105μm,0.2s
KAVA AML AML 12 17 04.6
comp=E,139μm,0.3s
DURS Dursunbey 1.90 88 *i* P **Pn** **12 16 41.4 -1.2**
KCTX Karacabey (Bur 1.94 68 PN **Pb** **12 16 44.9 -0.8**
SMG Samos 1.95 160 P **Pn** **12 16 42.5 -0.6**
CRLT Corlu 2.06 39 PN **Pb** **12 16 46.7 -0.9**
GCAM G?zelcaml? 2.08 152 *i* P **Pn** **12 16 46.7 +1.9**
GCAM *i* S **Sb** **12 17 13.6 +0.1**
KDZ Kurdzhali 2.15 348 PN **Pn** **12 16 47.3 +1.4**
MANT Manisa 2.25 117 *i* P Pn 12 16 40.2 -7.2
MDNY Mudanya-Bursa 2.35 69 PN **Pb** **12 16 51.6 -1.1**
EDRB Edirne 2.36 13 PN **Pb** **12 16 51.2 -1.7**
SLVT Silivri 2.37 44 PN **Pn** **12 16 50.5 +1.5**
KIRK Kirklareli 2.38 20 *i* P **Pn** **12 16 50.6 +1.5**
KIRK IAML 12 17 25.0
comp=N,82nm,0.4s
ARMT Armutlu 2.41 64 PN **Pn** **12 16 51.8 +2.3**
SRS Serrai 2.43 311 P **Pn** **12 16 49.5 -0.2**
NVR Nevrokopi 2.44 318 P **Pn** **12 16 50.4 +0.5**
ULDT Uludag 2.48 75 *i* P Pn 12 16 43.4 -7.1
CTKS Kestanelik-??a 2.54 48 PN **Pn** **12 16 53.6 +2.3**

*IDC **10** 12:48:01.1±0.9, 35.91N×82.34E, h0km, mb3.6/9, mb1 3.9/15, mb1mx3.7/45, mbtmp3.8/15, ML3.4/6, MS2.9/2, Ms1 2.9/2, ms1mx2.6/51, Error ellipse: s-maj=25.7km s-min=15.4km az=50.0*
*BJI **10** 12:48:02.8±0.0, 36.03N×82.31E, h8km, mb4.0/2, ML4.0/6*
*NNC **10** 12:48:11.4±7.7, 36.60N×82.66E, h0km, mb4.5, mpv4.0, Error ellipse: s-maj=61.2km s-min=58.2km az=38.0*
ISC 10 12:48:06.2±0.8, 36.02N±0.08×82.55E±0.09, h35km, n23, σ1s84/26, mb3.5/9, 6C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**7.68**	**343**	‖P	**Pn**	**12 49 56.9**	**+1.3**
	10nm,0.8s						
PDGK				‖S	**Sn**	**12 51 21.1**	**-0.2**
	69nm,0.8s						
WMQ	**Urumqi**	**8.74**	**25**	*e*P	**Pn**	**12 50 14.0**	**+3.9**
WMQ				smax	smax		
	comp=N,26nm,1.1s						
WMQ				smax	smax		
	comp=E,19nm,0.9s						
TKM2	**Tokmak 2**	**8.74**	**324**	⇑P	Pn	12 50 14.7	+4.4
	3.7nm,0.8s						
TKM2				⇑S	**Sn**	**12 51 51.5**	**+3.9**
	36nm,1.3s						
AAK	**Ala-Archa**	**9.09**	**319**	Pn	**Pn**	**12 50 15.0**	**0.0**
	0.4nm,0.3s,baz=146,slow=13,SNR=4.7						
AAK				Lg	Lg	12 52 38.5	
	0.3nm,0.3s,baz=251,slow=7.7,SNR=2.5						
AAK				LR	LR	12 53 58.3	
	comp=Z,44nm,18.2s,baz=128,slow=39						
MK31	**Makanchi Array**	**10.77**	**359**	⇑P	**Pn**	**12 50 38.2**	**+0.3**
	7.5nm,0.7s,baz=185,slow=12,SNR=105						
MK31				⇑S	**Sn**	**12 52 34.1**	**-3.0**
	4.2nm,0.7s,baz=184,slow=23,SNR=4.8						
MKAR	**Makanchi Array**	**10.77**	**359**	Pn	**Pn**	**12 50 38.0**	**+0.1**
	1.3nm,0.3s,baz=181,slow=13,SNR=59						
MKAR				Sn	**Sn**	**12 52 37.2**	**+0.1**
	0.4nm,0.3s,baz=177,slow=24,SNR=5.0						
MAKZ	**Makanchi**	**10.79**	**358**	⇑P	**Pn**	**12 50 38.5**	**+0.3**

	24nm,1.2s								
MAKZ					⇑S		Sn	12 52 35.2	-2.5
	5.8nm,0.7s								
GTA	**Gaotai**	**14.08**	**71**	*eP*		**P**		**12 51 28.6**	**-1.9**
GTA				pP		Pn		12 51 32.7	+10
GTA				sP				12 51 36.0	
GTA				pmax		pmax			
	comp=Z,1.0nm,0.9s								
KURBB	**Kurchatov Arra**	**14.89**	**350**	Pn		**Pn**		**12 51 32.4**	**-1.5**
	0.0nm,0.3s,baz=173,slow=12,SNR=14								
ZALV	**Zalesovo Beam**	**18.00**	**4**	P		**Pn**		**12 52 12.1**	**-1.3**
	0.2nm,0.3s,baz=205,slow=9.8,SNR=11								
BVAR	**Borovoye Array**	**19.04**	**337**	P		**P**		**12 52 24.7**	**-0.4**
	0.4nm,0.3s,baz=144,slow=9.7,SNR=14								
GEYT	**Alibeck**	**19.61**	**283**	P		**P**		**12 52 28.9**	**-2.6**
	0.2nm,0.3s,baz=98,slow=11,SNR=6.4								
SONM	**Songino Array**	**21.22**	**49**	P		**P**		**12 52 52.4**	**+3.5**
	4.9nm,0.9s,baz=245,slow=10,SNR=20								
TLY	**Talaya**	**21.71**	**37**	LR		LR		13 02 08.8	
	comp=Z,45nm,21.8s,baz=216,slow=39								
CMAR	**Chiang Mai Arr**	**22.71**	**136**	P		**P**		**12 53 04.5**	**-0.4**
	0.7nm,0.6s,baz=325,slow=9.4,SNR=4.1								
AKTO	**Aktyubinsk**	**22.82**	**317**	P		**P**		**12 53 05.2**	**-0.7**
	0.8nm,0.4s,baz=101,slow=8.4,SNR=4.4								
BRTR	**Keskin Array B**	**38.41**	**291**	P		**P**		**12 55 24.1**	**-0.4**
	0.4nm,0.6s,baz=65,slow=8.3,SNR=1.7								
FINES	**FINESS Array B**	**43.23**	**324**	P		**P**		**12 56 03.7**	**+0.1**
	1.2nm,0.7s,baz=210,slow=11,SNR=2.3								
NB2	**NORSAR Subarra**	**50.38**	**323**	P		**P**		**12 57 01.1**	**+1.5**
	comp=Z,3.5nm,0.9s,baz=87,slow=7.9								
NOA	**NORSAR Array B**	**50.38**	**323**	P		**P**		**12 56 59.2**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=86,slow=7.4,SNR=4.7								
GERES	**GERESS Array B**	**50.75**	**307**	P		**P**		**12 57 03.1**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=91,slow=4.0,SNR=2.8								
WRA	**Warramunga Arr**	**74.14**	**130**	P		**P**		**12 59 39.5**	**+0.4**
	comp=Z,1.3nm,1.2s,baz=316,slow=6.9,SNR=2.1								
ASAR	**Alice Springs**	**76.67**	**133**	P		**P**		**12 59 54.3**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=325,slow=6.5,SNR=4.9								

*JMA **10** 12:49:51.1±0.4,21°.93N×122°.74E,h43km,M3.4*
*TAP **10** 12:49:51.8,21°.89N×122°.72E,h55km±1km,ML3.2,D*
ISC 10 12:49:51.5±1.9,21°.88N±0°.09×122°.80E±0°.04,h35km,n64,
σ1§38/94,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.17**	**278**	P		**Pn**		**12 50 10.3**	**-1.1**
	baz=287								
LDUT	**Ludao**	**1.47**	**303**	*e*P		**Pn**		**12 50 13.9**	**-1.5**
	baz=314								
LDUT				*e*S		**Sn**		**12 50 30.1**	**-3.3**
	baz=314								
EDH	**Donghe**	**1.76**	**309**	*e*P		**Pn**		**12 50 18.5**	**-1.0**
	baz=310								
EDH				*e*S		**Sn**		**12 50 38.0**	**-2.7**
	baz=310								
CHKT	**Chengkung**	**1.80**	**313**	*e*S		**Sn**		**12 50 38.6**	**-3.1**
	baz=321								
TWGBT	**Beinan**	**1.85**	**301**	*e*P		**Pn**		**12 50 20.7**	**0.0**
	baz=307								
ECL	**Taimali**	**1.85**	**293**	*i* P		**Pn**		**12 50 21.1**	**+0.4**
	baz=285								
ECL				*i* S		**Sn**		**12 50 42.7**	**-0.3**
	baz=285								
LONT	**Longtian**	**1.85**	**304**	P		**Pn**		**12 50 20.9**	**+0.1**
	baz=310								
LONT				*e*S		**Sn**		**12 50 43.2**	**+0.1**
	baz=310								
TWG	**Pinlang**	**1.85**	**301**	*i* P		**Pn**		**12 50 20.7**	**-0.1**
	baz=307								
TWG				*e*S		**Sn**		**12 50 42.8**	**-0.3**
	baz=307								
EAST	**Anshuo**	**1.88**	**286**	*i* P		**Pn**		**12 50 20.9**	**-0.2**
	baz=286								
EAST				*e*S		**Sn**		**12 50 42.9**	**-0.8**
	baz=286								
SLIU	**Shizi**	**1.89**	**281**	*i* P		**Pn**		**12 50 21.2**	**-0.1**
	baz=281								
FULB	**Fuli**	**1.92**	**314**	*e*P		**Pn**		**12 50 20.6**	**-1.1**
	baz=321								
FULB				*e*S		**Sn**		**12 50 42.3**	**-2.3**
	baz=321								
TWF1	**Yuli**	**2.02**	**317**	*e*P		**Pn**		**12 50 22.2**	**-0.9**
	baz=318								
TWF1				*e*S		**Sn**		**12 50 46.9**	**-0.3**
	baz=318								
HGSD	**Ruisui**	**2.05**	**322**	*e*P		**Pn**		**12 50 22.1**	**-1.4**
	baz=323								
HGSD				*e*S		**Sn**		**12 50 44.8**	**-3.1**
	baz=323								
YULB	**Yu-li**	**2.05**	**318**	*e*P		**Pn**		**12 50 22.8**	**-0.7**
	baz=325								
YULB				*e*S		**Sn**		**12 50 46.9**	**-1.0**
	baz=325								
ELDTW	**Lidau**	**2.10**	**309**	*e*P		**Pn**		**12 50 23.5**	**-0.9**
	baz=310								
EHY	**Hungye**	**2.12**	**320**	*e*P		**Pn**		**12 50 24.4**	**-0.1**
	baz=321								
EHY				*e*S		**Sn**		**12 50 49.0**	**-0.6**
	baz=321								
MASBT	**Mashibuluo**	**2.14**	**290**	*e*P		**Pn**		**12 50 25.5**	**+0.8**
	baz=283								
TSMG	**Majia**	**2.16**	**293**	*i* P		**Pn**		**12 50 25.5**	**+0.5**
	baz=287								
SSD	**Sandimen**	**2.19**	**294**	*e*P		**Pn**		**12 50 26.3**	**+0.9**
	baz=286								
EGFH	**Guangfu**	**2.19**	**325**	P		**Pn**		**12 50 24.9**	**-0.5**
	baz=326								
EGFH				*i* S		**Sn**		**12 50 50.0**	**-1.3**
	baz=326								
SLGT	**Liugui**	**2.28**	**300**	*e*P		**Pn**		**12 50 27.9**	**+1.2**
	baz=305								
STYT	**Tauyuan**	**2.28**	**305**	*i* P		**Pn**		**12 50 27.1**	**+0.4**
	baz=299								
ESL	**Shilin**	**2.31**	**327**	*e*P		**Pn**		**12 50 26.3**	**-0.7**
	baz=338								
ESL				*e*S		**Sn**		**12 50 51.6**	**-2.6**
	baz=338								
HATJ	**Hateruma jima**	**2.36**	**23**	P		**Pn**		**12 50 28.3**	**+0.5**
HATJ				S		**Sn**		**12 50 55.0**	**-0.5**
SGST	**Jiashian**	**2.38**	**301**	*e*P		**Pn**		**12 50 28.0**	**0.0**
	baz=301								
VWDT	**VWDT**	**2.42**	**321**	*e*P		**Pn**		**12 50 28.9**	**+0.3**
	baz=328								
WTP	**Ta-pu**	**2.44**	**304**	*i* P		**Pn**		**12 50 30.6**	**+1.7**
	baz=305								
WTP				*e*S		**Sn**		**12 51 00.5**	**+3.0**
	baz=305								
TPUB	**Ta-pu**	**2.46**	**306**	P		**Pn**		**12 50 30.9**	**+1.8**
	baz=296								
ALS	**Alishan**	**2.46**	**312**	*i* P		**Pn**		**12 50 30.5**	**+1.1**
	baz=320								
ALS				*e*S		**Sn**		**12 50 59.5**	**+1.2**
	baz=320								
CHN1	**Nanshi**	**2.47**	**302**	P		Pn		12 50 32.2	+2.9
	baz=291								
CHN1				*e*S		**Sn**		**12 51 01.5**	**+3.2**
	baz=291								
SNST	**Tainan City**	**2.51**	**303**	*e*P		Pn		12 50 32.5	+2.6
	baz=291								
SNST				*e*S		**Sn**		**12 51 02.7**	**+3.4**
	baz=291								
NACB	**Ninganchiao**	**2.54**	**334**	*e*P		**Pn**		**12 50 30.6**	**+0.3**
	baz=335								
SSLB	**Suanglung**	**2.55**	**319**	*i* P		**Pn**		**12 50 30.9**	**+0.5**
	baz=326								
SSLB				*i* S		**Sn**		**12 50 59.9**	**-0.4**
	baz=326								
JYNG	**Yonagunijimaku**	**2.57**	**3**	P		**Pn**		**12 50 32.2**	**+1.6**
JYNG				*e*S		**Sn**		**12 51 00.8**	**+0.2**
YOJ	**Yonaguni jima**	**2.58**	**4**	P		**Pn**		**12 50 32.3**	**+1.5**
YOJ				S		**Sn**		**12 51 01.6**	**+0.6**
IRIF	**Iriomote-Funau**	**2.59**	**19**	P		**Pn**		**12 50 31.7**	**+0.7**
IRIF				*e*S		**Sn**		**12 51 01.3**	**0.0**
CHN5	**Tsauling**	**2.60**	**312**	P		**Pn**		**12 50 33.6**	**+2.4**
	baz=316								
CHN5				*e*S		**Sn**		**12 51 04.3**	**+2.7**
	baz=316								
JKRS	**Kuro-shima**	**2.60**	**25**	P		**Pn**		**12 50 31.9**	**+0.8**
JKRS				*e*S		**Sn**		**12 51 01.4**	**-0.1**
ETLH	**Xiulin Townshi**	**2.62**	**333**	P		**Pn**		**12 50 32.0**	**+0.6**
	baz=342								
ETLH				*e*S		**Sn**		**12 51 00.5**	**-1.5**
	baz=342								
CHGB	**Renai**	**2.64**	**326**	*e*P		**Pn**		**12 50 32.2**	**+0.4**
	baz=327								
CHGB				*e*S		**Sn**		**12 51 01.8**	**-1.0**
	baz=327								
SMLT	**Sun Moon Lake**	**2.66**	**319**	*e*P		**Pn**		**12 50 33.3**	**+1.4**
	baz=326								
WHF	**Hehuan Shan**	**2.67**	**328**	P		**Pn**		**12 50 32.4**	**+0.1**
	baz=329								
WHF				*e*S		**Sn**		**12 51 02.4**	**-1.3**
	baz=329								
TYC	**Yuchr**	**2.70**	**319**	*e*P		**Pn**		**12 50 34.7**	**+2.3**
	baz=324								
ENA	**Nanau**	**2.72**	**339**	*e*S		**Sn**		**12 51 03.9**	**-0.6**
	baz=340								
FUSS	**Fushou**	**2.76**	**329**	P		**Pn**		**12 50 34.3**	**+0.8**
	baz=330								
FUSS				*e*S		**Sn**		**12 51 04.7**	**-1.0**
	baz=330								
JIJ	**Ishigaki jima**	**2.77**	**26**	P		**Pn**		**12 50 33.8**	**+0.4**
JIJ				S		**Sn**		**12 51 04.3**	**-1.3**
WNT	**Mingjian**	**2.79**	**316**	*e*P		Pn		12 50 36.5	+2.8
	baz=326								
NNSB	**Datong**	**2.86**	**333**	*e*P		**Pn**		**12 50 35.9**	**+1.2**
	baz=334								
NNSB				*e*S		**Sn**		**12 51 07.2**	**-0.7**
	baz=334								
NNSH	**Datong**	**2.86**	**333**	*e*P		**Pn**		**12 50 35.7**	**+1.0**
	baz=334								
NNSH				*e*S		**Sn**		**12 51 07.1**	**-0.8**
	baz=334								
NNS	**Nan Shan**	**2.87**	**333**	*e*P		**Pn**		**12 50 36.2**	**+1.3**
	baz=334								
NNS				*i* S		**Sn**		**12 51 07.3**	**-1.0**
	baz=334								
WHP	**Taichung City**	**2.94**	**325**	*e*P		Pn		12 50 38.6	+2.8
	baz=333								
NDT	**Datong Townshi**	**2.96**	**337**	*e*P		**Pn**		**12 50 37.3**	**+1.2**
	baz=338								
ENTT	**Nioudou**	**2.98**	**338**	*e*P		**Pn**		**12 50 37.9**	**+1.6**
	baz=339								
ENTT				*i* S		**Sn**		**12 51 10.0**	**-0.8**
	baz=339								
JISG	**Ishigakijimahi**	**3.04**	**27**	P		**Pn**		**12 50 37.5**	**+0.5**
JISG				*e*S		**Sn**		**12 51 10.9**	**-1.3**
YHNB	**Yeheng**	**3.07**	**335**	*e*P		**Pn**		**12 50 39.1**	**+1.5**
	baz=344								
NSK	**Sanguang**	**3.09**	**335**	*e*P		**Pn**		**12 50 38.9**	**+1.0**
	baz=344								
NWLT	**Wulai**	**3.12**	**338**	*e*P		**Pn**		**12 50 39.2**	**+0.9**
	baz=345								
NSTT	**Nanjuang**	**3.20**	**329**	*e*P		**Pn**		**12 50 40.0**	**+0.7**
	baz=338								
LIOB	**Emei**	**3.21**	**330**	*e*P		Pn		12 50 42.6	+3.2
	baz=338								
TIPB	**Shuangxi**	**3.21**	**344**	*e*P		**Pn**		**12 50 41.9**	**+2.4**
	baz=345								
JTJ	**Tarama**	**3.26**	**32**	P		**Pn**		**12 50 40.5**	**+0.4**
JTJ				S		**Sn**		**12 51 17.1**	**-0.7**
JIRB	**Irabujima**	**3.66**	**36**	S		**Sn**		**12 51 25.5**	**-2.1**
JMJ2	**Miyako jima3**	**3.68**	**39**	*e*S		**Sn**		**12 51 26.9**	**-1.2**
JIKM	**Ikemajima**	**3.78**	**36**	S		**Sn**		**12 51 29.5**	**-1.0**

*IDC **10** 12:56:21.5±5.1,22°.83N×11°.38W,h0km,mb3.7/3,*
mb1 3.8/5,mb1mx3.4/48,mbtmp3.7/5,ML3.4/2,Error
ellipse: s-maj=212.5km s-min=30.9km az=92.0
ISC 10 12:56:18.7±1.5,22.7N±0.1×12.4W±0.3,h10km,n14,
σ1§89/16,mb3.8/3,Mauritania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TTIG	**Tnine Tigouga,**	**8.61**	**23**	P		**Pn**		**12 58 21.9**	**-1.7**
TTIG				S		**Sn**		**13 00 04.0**	**+3.2**
OUK	**Oukaimeden**	**9.41**	**24**	P		**Pn**		**12 58 35.6**	**+0.9**
OUK				S		**Sn**		**13 00 24.4**	**+3.5**
ZGR	**Zagora**	**9.58**	**38**	S		**Sn**		**13 00 24.1**	**-0.6**
OUZM	**OUZ**	**9.62**	**30**	P		Pn		12 58 32.1	-5.4
OUZM				S		**Sn**		**13 00 22.2**	**-3.5**
MD31	**MD31**	**12.19**	**32**	P		**Pn**		**12 59 12.9**	**+0.3**
MD31				S		**Sn**		**13 01 29.8**	**+1.1**
MDT	**Midelt**	**12.22**	**32**	S		**Sn**		**13 01 30.8**	**+1.3**
DBIC	**Dimbokro**	**17.47**	**154**	P		**Pn**		**13 00 23.7**	**+1.1**
	0.3nm,0.3s,baz=318,slow=12,SNR=3.7								
ESDC	**Sonseca Array**	**18.41**	**21**	P		**P**		**13 00 32.9**	**-1.2**
	0.0nm,0.3s,baz=218,slow=11,SNR=4.3								
I42PT	**GRACIOSA ISLAN**	**21.09**	**324**	*i*				15 02 40.0	
GERES	**GERESS Array B**	**33.31**	**32**	P		**P**		**13 02 55.6**	**-1.1**
	1.1nm,0.9s,baz=217,slow=8.1,SNR=7.3								
FINES	**FINESS Array B**	**46.88**	**24**	P		**P**		**13 04 48.6**	**-0.3**
	0.9nm,0.6s,baz=228,slow=4.9,SNR=5.4								
MKAR	**Makanchi Array**	**76.89**	**45**	P		**P**		**13 08 11.7**	**+0.4**
	0.3nm,0.4s,baz=290,slow=4.1,SNR=4.0								
WRA	**Warramunga Arr**	**148.90**	**91**	PKPbc		**PKiKP**		**13 16 08.8**	**-0.1**
	0.5nm,0.8s,baz=296,slow=2.4,SNR=4.8								
ASAR	**Alice Springs**	**149.01**	**99**	PKPbc		**PKiKP**		**13 16 09.8**	**+0.6**
	0.5nm,0.7s,baz=280,slow=1.6,SNR=8.8								

*IDC **10** 13:08:24.5±1.8,37°.72N×20°.94E,h0km,mb3.6/3,*
mb1 3.6/5,mb1mx3.4/40,mbtmp3.5/5,ML2.3/2,Error
ellipse: s-maj=36.6km s-min=24.6km az=14.0
*ATH **10** 13:08:27.4,37°.58N×20°.94E,h21km±1km,ML3.0/30,Error*
ellipse: s-maj=1.7km s-min=0.7km az=33.0
*THE **10** 13:08:27.8,37°.61N×20°.90E,h21km,ML3.0/6,Error*
ellipse: s-maj=1.1km s-min=0.5km az=248.0
ISC 10 13:08:27.8±0.9,37.59N±0.03×20.93E±0.02,h18km±2km,
n85,σ0§99/111,mb3.6/3,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.11**	**311**	P		**Pg**		**13 08 32.1**	**+0.4**
KRI1				S		**Sg**		**13 08 34.4**	**+0.1**
ZAK2	**Zakynthos**	**0.20**	**354**	P		**Pb**		**13 08 32.1**	**-0.2**
ZAK2				S		**Sg**		**13 08 36.5**	**+0.3**
VLMS	**Volimes, Zakyn**	**0.36**	**324**	P		**Pg**		**13 08 35.1**	**-0.3**
VLMS				S		**Sb**		**13 08 41.1**	**+0.2**
VLMS				AML		AML		13 08 44.6	
	comp=N,13121μm,0.3s								
VLMS				AML		AML		13 08 47.1	
	comp=E,11674μm,0.2s								
VTN	**Vitineika**	**0.39**	**32**	P		**Pb**		**13 08 36.2**	**0.0**
VTN				S		**Sb**		**13 08 42.3**	**+0.4**
AMT	**Artemida-Makis**	**0.62**	**95**	P		**Pg**		**13 08 40.3**	**+0.1**
AMT				S		**Sg**		**13 08 49.4**	**+0.8**
	comp=E,3μm,0.5s								
AMT	**Artemida-Makis**	**0.62**	**95**	P		**Pg**		**13 08 40.4**	**+0.1**
AMT				S		**Sb**		**13 08 47.5**	**-1.0**
AMT				AML		AML		13 08 55.5	
	comp=E,5574μm,0.4s								
AMT				AML		AML		13 08 57.1	
	comp=N,6106μm,0.3s								
RLS	**Riolos of Patr**	**0.64**	**42**	P		**Pb**		**13 08 39.8**	**-0.4**
RLS				S		**Sg**		**13 08 49.7**	**+0.8**
	comp=N,872nm,0.4s								
RLS	**Riolos of Patr**	**0.64**	**42**	P		**Pb**		**13 08 39.8**	**-0.4**
RLS				S		**Sb**		**13 08 48.5**	**-0.2**
RLS				AML		AML		13 08 52.7	
	comp=N,2047μm,0.5s								
RLS				AML		AML		13 09 01.1	
	comp=E,1615μm,0.7s								
VLS	**Valsamata**	**0.65**	**336**	P		**Pb**		**13 08 39.5**	**-0.9**
VLS	**Valsamata**	**0.65**	**336**	P		**Pb**		**13 08 39.5**	**-0.9**
VLS				S		**Sb**		**13 08 48.4**	**-0.6**
VLS				AML		AML		13 08 57.3	
	comp=N,2230μm,0.3s								
VLS				AML		AML		13 08 59.6	
	comp=E,2457μm,0.2s								
ARGA	**Argostoli. Kep**	**0.69**	**329**	P		**Pb**		**13 08 40.4**	**-0.8**
AXS	**Araxos**	**0.70**	**30**	P		**Pb**		**13 08 40.8**	**-0.6**
DRO	**Drossia**	**0.72**	**59**	P		**Pb**		**13 08 41.5**	**-0.2**
DRO				S		**Sg**		**13 08 51.6**	**0.0**
	comp=E,2μm,0.4s								
DRO	**Drossia**	**0.72**	**59**	P		**Pb**		**13 08 41.6**	**-0.2**
DRO				S		**Sg**		**13 08 52.2**	**+0.6**
DRO				AML		AML		13 09 02.6	
	comp=E,2928μm,0.5s								
DRO				AML		AML		13 09 03.7	
	comp=N,4431μm,0.4s								
KEF3	**Kipouria, Keph**	**0.77**	**324**	P		**Pb**		**13 08 42.0**	**-0.5**
KEF3				S		**Sg**		**13 08 53.9**	**+0.9**
KEF4	**Livadi, Kephal**	**0.78**	**330**	P		**Pg**		**13 08 43.5**	**+0.4**
KEF4				S		**Sb**		**13 08 53.3**	**+0.3**
KEF5	**Kardakata, Kep**	**0.78**	**332**	P		**Pb**		**13 08 41.7**	**-1.1**
KEF5				S		**Sg**		**13 08 54.0**	**+0.6**
VSK1	**VASILIKIADES**	**0.87**	**341**	P		**Pb**		**13 08 42.6**	**-1.7**
ITM	**Ithomi**	**0.90**	**117**	P		**Pb**		**13 08 44.8**	**0.0**
ITM				S		**Sn**		**13 08 58.0**	**+0.1**
	comp=N,365nm,0.3s								
ITM	**Ithomi**	**0.90**	**117**	P		**Pg**		**13 08 44.9**	**-0.3**
ITM				AML		AML		13 09 05.5	
	comp=E,1186μm,0.4s								
ITM				AML		AML		13 09 05.5	
	comp=N,1315μm,0.3s								
FSK	**Fiskardo**	**0.92**	**342**	P		**Pb**		**13 08 44.2**	**-0.9**
FSK	**Fiskardo**	**0.92**	**342**	P		**Pb**		**13 08 44.2**	**-0.9**
FSK				AML		AML		13 09 02.4	
	comp=E,1873μm,0.2s								
FSK				AML		AML		13 09 07.7	
	comp=N,1431μm,0.5s								
PYL	**PYLOS**	**0.95**	**136**	P		**Pb**		**13 08 45.2**	**-0.5**
PYL	**PYLOS**	**0.95**	**136**	P		**Pb**		**13 08 45.5**	**-0.1**
PYL				AML		AML		13 09 10.2	
	comp=E,799μm,0.2s								
PYL				AML		AML		13 09 16.1	
	comp=N,797μm,0.5s								
EVGI	**Lefkada island**	**1.05**	**348**	P		**Pb**		**13 08 46.6**	**-0.8**
EVGI	**Lefkada island**	**1.05**	**348**	P		**Pb**		**13 08 46.9**	**-0.6**
LAKA	**Lakka**	**1.06**	**52**	P		**Pb**		**13 08 47.2**	**-0.3**
LAKA				AML		AML		13 09 13.4	
	comp=E,922μm,0.6s								
LAKA				AML		AML		13 09 17.6	
	comp=N,1232μm,1.0s								
TRIP	**Tripoli**	**1.07**	**93**	P		**Pb**		**13 08 47.6**	**-0.2**
TRIP				S		**Sg**		**13 09 02.7**	**+0.1**
TRIP				AML		AML		13 09 13.0	
	comp=E,1112μm,0.5s								
TRIP				AML		AML		13 09 15.8	
	comp=N,1115μm,0.5s								
KLV	**Kalavryta, Ach**	**1.07**	**64**	P		**Pb**		**13 08 47.3**	**-0.5**
KLV				S		**Sn**		**13 09 02.1**	**-0.2**
	comp=N,348nm,0.9s								
MGNA	**Meganis**	**1.07**	**354**	P		**Pg**		**13 08 48.5**	**-0.1**
MGNA				S		**Sg**		**13 09 03.8**	**+1.1**
PVO	**Paravola**	**1.13**	**25**	P		**Pn**		**13 08 48.8**	**+0.1**
PVO				S		**Sg**		**13 09 04.9**	**+0.4**
PVO				AML		AML		13 09 12.6	
	comp=N,2141μm,0.5s								
PVO				AML		AML		13 09 14.9	
	comp=E,1306μm,0.4s								
EFP	**Efpalio**	**1.14**	**42**	P		**Pn**		**13 08 48.4**	**-0.4**
EFP	**Efpalio**	**1.14**	**42**	P		**Pn**		**13 08 48.4**	**-0.4**
EFP				AML		AML		13 09 21.9	
	comp=N,914μm,0.5s								
EFP				AML		AML		13 09 26.6	
	comp=E,905μm,0.5s								
GUR	**Goura**	**1.18**	**72**	P		**Pn**		**13 08 49.0**	**-0.3**
GUR	**Goura**	**1.18**	**72**	P		**Pn**		**13 08 49.1**	**-0.3**
GUR				AML		AML		13 09 17.2	
	comp=N,2136μm,0.4s								
GUR				AML		AML		13 09 17.8	
	comp=E,2375μm,0.4s								
VLX	**Vlachokerasia**	**1.18**	**100**	P		**Pn**		**13 08 49.1**	**-0.3**
VLX				S		**Sn**		**13 09 04.7**	**-0.3**
	comp=E,785nm,0.6s								
VLX	**Vlachokerasia**	**1.18**	**100**	P		**Pn**		**13 08 49.3**	**0.0**
VLX				S		**Sn**		**13 09 04.6**	**-0.3**
VLX				AML		AML		13 09 08.8	
	comp=E,1362μm,0.5s								
VLX				AML		AML		13 09 10.7	
	comp=N,1612μm,0.6s								
TRIZ	**Trizonia**	**1.19**	**49**	P		**Pn**		**13 08 49.4**	**-0.1**
SERG	**Sergoula**	**1.22**	**47**	P		**Pn**		**13 08 49.7**	**-0.2**
LKD2	**Lefkada island**	**1.22**	**350**	P		**Pn**		**13 08 49.8**	**-0.1**
LKD2				S		**Sg**		**13 09 07.7**	**+0.4**
LKD2				AML		AML		13 09 13.9	
	comp=N,1161μm,0.3s								
LKD2				AML		AML		13 09 18.1	
	comp=E,1915μm,0.5s								
TSLK	**Tsoukalades, L**	**1.25**	**350**	P		**Pn**		**13 08 50.3**	**0.0**
TSLK				S		**Sg**		**13 09 10.0**	**+1.5**
TSLK				AML		AML		13 09 11.9	
	comp=E,1906μm,0.4s								
TSLK				AML		AML		13 09 16.3	
	comp=N,1750μm,0.4s								
ANX	**Ano Chora**	**1.27**	**38**	P		**Pn**		**13 08 49.5**	**-1.2**
ANX	**Ano Chora**	**1.27**	**38**	P		**Pn**		**13 08 50.6**	**-0.1**
ANX				S		**Sn**		**13 09 08.3**	**+0.9**
ANX				AML		AML		13 09 19.0	
	comp=E,2442μm,0.4s								
ANX				AML		AML		13 09 20.0	
	comp=N,1818μm,0.5s								
EVR	**Evrytania**	**1.50**	**27**	P		**Pb**		**13 08 54.8**	**-0.3**
EVR				AML		AML		13 09 22.8	
	comp=N,532μm,0.8s								
EVR				AML		AML		13 09 29.6	
	comp=E,503μm,0.4s								
DSF	**Desfina**	**1.51**	**57**	P		**Pn**		**13 08 54.5**	**+0.6**
DSF				AML		AML		13 09 24.8	
	comp=E,376μm,0.3s								
DSF				AML		AML		13 09 26.5	
	comp=N,520μm,0.3s								
LOUT	**Loutraki**	**1.67**	**76**	P		**Pb**		**13 08 58.3**	**+0.3**
LTK	**Loutraki**	**1.67**	**74**	P		**Pb**		**13 08 58.4**	**+0.4**
LTK				AML		AML		13 09 31.9	
	comp=N,537μm,0.6s								
LTK				AML		AML		13 09 36.0	
	comp=E,565μm,0.4s								
MAKR	**Makrakomi, Fth**	**1.71**	**33**	P		**Pb**		**13 08 58.8**	**

KZN	**Kozani**	**2.79**	**13**	P		**Pn**	**13 09 13.7**	**+2.1**
AOS	**Alonnisos**	**2.81**	**55**	P		**Pn**	**13 09 13.1**	**+1.4**
KARY	**Karystos**	**2.82**	**80**	P		**Pn**	**13 09 13.0**	**+1.2**
IMMV	**Iera Moni Meta**	**3.25**	**130**	P		**Pn**	**13 09 18.9**	**+1.1**
IDI	**Anoyia**	**3.94**	**124**	Pn		**Pn**	**13 09 26.9**	**-0.4**
	comp=E,0.2nm,0.3s,baz=353,slow=14,SNR=1.5							
IDI				Sn		**Sn**	**13 10 16.2**	**+3.2**
	comp=E,4.0nm,0.3s,baz=311,slow=18,SNR=12							
STIP	**Stip**	**4.21**	**13**	*i* Pn		**Pn**	**13 09 34.2**	**+3.1**
MMB	**Musomiste**	**4.59**	**28**	*i* P		**Pn**	**13 09 37.1**	**+1.5**
KKB	**Krupnik**	**4.59**	**21**	*i* P		**Pn**	**13 09 38.2**	**+2.0**
RZN	**Rozhen**	**5.03**	**34**	*i* P		**Pn**	**13 09 44.2**	**+1.7**
VAE	**Valguarnera**	**5.18**	**271**	Pn		**Pn**	**13 09 44.9**	**+0.5**
	comp=E,0.7nm,0.3s,baz=227,slow=18,SNR=1.7							
VAE				Sn		**Sn**	**13 10 44.4**	**+0.8**
	comp=E,1.5nm,0.3s,baz=359,slow=20,SNR=2.1							
VTS	**Vitosha**	**5.33**	**19**	*i* P		**Pn**	**13 09 47.6**	**+1.1**
FINES	**FINESS Array B**	**24.10**	**6**	P		**P**	**13 13 40.2**	**-1.8**
	comp=E,1.9nm,0.9s,baz=178,slow=11,SNR=5.0							
MKAR	**Makanchi Array**	**45.34**	**58**	P		**P**	**13 16 43.2**	**-1.4**
	comp=E,0.3nm,0.6s,baz=289,slow=6.7,SNR=4.5							
ZALV	**Zalesovo Beam**	**45.85**	**48**	P		**P**	**13 16 47.7**	**-0.8**
	comp=E,0.6nm,0.4s,baz=268,slow=7.2,SNR=2.6							

*NEIC **10** 13:12:30.4±2.6, 8.37S×0.07×108.84E±0.06, h98km±3km, mb4.4/24, Error ellipse: s-maj=11.2km s-min=8.1km az=201.0*

*DJA **10** 13:12:31.0±0.3, 8.3S×3.1×10.9E±.1, h62km±7km, M4.4/20, mB5.2/4, mb4.3/6, MLv4.5/20, MLv4.3/12, Mw(mB)4.6/4*

*IDC **10** 13:12:33.1±1.1, 8.11S×108.88E, h129km±11km, mb3.8/9, mb1 3.9/10, mb1mx3.6/34, mbtmp4.2/10, Error ellipse: s-maj=57.9km s-min=11.0km az=47.0*

ISC 10 13:12:30.4±0.8, **8.36S**±0.06×**108.86E**±0.04, **h102**km±7km, **n65**,σ1§**42**/71, **mb4.3**/17, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.70**	**325**	P	**Pn**	**13 12 47.5**	**-0.5**
CMJI				S	**Sn**	**13 12 59.4**	**-1.7**
CISI	**Cisompet, Garu**	**1.30**	**308**	P	**Pn**	**13 12 54.4**	**0.0**
CISI				S	**Sn**	**13 13 12.1**	**-0.5**
CISI	**Cisompet, Garu**	**1.30**	**308**	Pn	**Pn**	**13 12 53.9**	**-0.5**
YOGI	**Yogyakarta**	**1.52**	**69**	P	**Pn**	**13 12 56.9**	**-0.1**
YOGI				S	**Sn**	**13 13 16.2**	**-1.0**
UGM	**Wanagama**	**1.71**	**75**	P	**Pn**	**13 12 59.3**	**-0.1**
UGM				S	**Sn**	**13 13 19.9**	**-1.5**
UGM	**Wanagama**	**1.71**	**75**	Pn	**Pn**	**13 12 58.7**	**-0.7**
LEM	**Lembang**	**1.95**	**321**	P	**Pn**	**13 13 04.2**	**+1.6**
	70nm,0.3s,baz=67,slow=6.4,SNR=82						
LEM				S	**Sn**	**13 13 29.1**	**+2.0**
	107nm,0.3s,baz=135,slow=22,SNR=5.8						
LEM	**Lembang**	**1.95**	**321**	P	**Pn**	**13 13 04.1**	**+1.5**
CNJI	**Cibinong**	**2.00**	**301**	P	**Pn**	**13 13 03.2**	**+0.1**
CNJI				S	**Sn**	**13 13 26.4**	**-1.6**
SMRI	**Semarang**	**2.04**	**51**	P	**Pn**	**13 13 04.6**	**+1.1**
SMRI				S	**Sn**	**13 13 30.9**	**+2.0**
SMRI	**Semarang**	**2.04**	**51**		**Pn**	**13 13 04.4**	**+0.8**
WOJI	**Wonogiri, Jawa**	**2.11**	**76**	P	**Pn**	**13 13 03.6**	**-0.9**
WOJI				S	**Sn**	**13 13 28.3**	**-2.2**
SKJI	**Sukabumi**	**2.65**	**300**	P	**Pn**	**13 13 12.0**	**+0.5**
SKJI				S	**Sn**	**13 13 43.6**	**+0.5**
DBJI	**Dramaga**	**2.75**	**310**	P	**Pn**	**13 13 14.5**	**+1.6**
DBJI				S	**Sn**	**13 13 48.3**	**+2.7**
NGJI	**Ngawi**	**2.76**	**69**	P	**Pn**	**13 13 14.7**	**+1.7**
XMIS	**Christmas Isla**	**3.80**	**236**	Pn	**Pn**	**13 13 25.8**	**-1.2**
GRJI	**Gresik**	**3.87**	**68**	P	**Pn**	**13 13 28.5**	**+0.7**
GRJI				S	**Sn**	**13 14 11.9**	**-0.4**
GMJI	**Gumukmas**	**4.54**	**89**	P	**Pn**	**13 13 37.4**	**+0.5**
KASI	**Kota Agung**	**5.16**	**303**	P	**Pn**	**13 13 46.6**	**+1.3**
	0.6nm2µm40nm,0.9s						
JAGI	**Jajag, Banyuwa**	**5.24**	**92**	P	**Pn**	**13 13 46.7**	**+0.3**
	0.9nm3µm41nm,0.8s						
JAGI	**Jajag, Banyuwa**	**5.24**	**92**	Pn	**Pn**	**13 13 46.8**	**+0.3**
LWLI	**Liwa**	**5.81**	**305**	P	**Pn**	**13 13 57.3**	**+3.1**
MDSI	**Maura Dua**	**6.03**	**309**	P	**Pn**	**13 13 58.2**	**+1.0**
	0.1nm927nm12nm,0.8s						
MNAI	**Manna**	**7.08**	**304**	Pn	**Pn**	**13 14 12.3**	**+0.9**
TWSI	**Taliwang, Sumb**	**7.95**	**93**	P	**Pn**	**13 14 23.4**	**+0.2**
	0.2nm0.2nm6.6nm,0.4s						
PLAI	**Plampang**	**8.83**	**94**	P	**Pn**	**13 14 35.4**	**+0.1**
GIRL	**Giralia**	**15.12**	**161**	Pn	**Pn**	**13 15 58.3**	**-0.3**
KKM	**Kota Kinabalu**	**16.08**	**27**	P	**Pn**	**13 16 11.7**	**+1.0**
PSA00	**Pilbara Seismi**	**16.88**	**142**	P	**P**	**13 16 22.8**	**+2.0**
FITZ	**Fitzroy Crossi**	**18.98**	**122**	P	**Pn**	**13 16 45.9**	**+0.2**
	0.1nm,0.3s,baz=296,slow=5.5,SNR=6.3						
FITZ				S	S	13 20 02.9	-11
	0.1nm,0.3s,baz=315,slow=13,SNR=2.3						
FITZ	**Fitzroy Crossi**	**18.98**	**122**	P	**P**	**13 16 45.2**	**+1.3**
KNRA	**Kununurra**	**20.77**	**112**	P	**P**	**13 17 04.5**	**+1.2**
KNRA				IAmb	IAmb	13 17 05.2	
	comp=Z,17nm,1.1s						
MORW	**Morawa**	**21.68**	**163**	P	**P**	**13 17 17.0**	**+4.0**
MORW				IAmb	IAmb	13 17 37.4	
	comp=Z,37nm,1.6s						
MTN	**Manton Dam**	**22.34**	**103**	P	**P**	**13 17 21.0**	**+0.9**
FAKI	**Fak Fak**	**23.89**	**78**	P	**P**	**13 17 34.5**	**-0.4**
NWAO	**Narrogin (SRO)**	**25.65**	**164**	P	**P**	**13 17 50.7**	**0.0**
NWAO				IAmb	IAmb	13 18 09.0	
	comp=Z,34nm,1.4s						
NWAO	**Narrogin (SRO)**	**25.65**	**164**	P	**P**	**13 17 50.7**	**0.0**
NWAO				IAmb	IAmb	13 18 09.0	
	comp=Z,41nm,1.4s						
WB0	**Warramunga Arr**	**27.20**	**117**	P	**P**	**13 18 05.8**	**+1.1**
WB0				IAmb	IAmb	13 19 06.2	
	comp=Z,41nm,2.0s						
WRA	**Warramunga Arr**	**27.21**	**118**	P	**P**	**13 18 05.8**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=292,slow=11,SNR=16						
WRA	**Warramunga Arr**	**27.21**	**118**	IAmb	IAmb	13 18 09.5	
	comp=Z,0.2nm,1.0s						
WB2	**Warramunga Arr**	**27.23**	**118**	P	**P**	**13 18 06.1**	**+1.1**
WB2				IAmb	IAmb	13 18 09.6	
	comp=Z,26nm,1.8s						
WR0	**Warramunga Arr**	**27.40**	**118**	P	**P**	**13 18 07.9**	**+1.4**
WR0				IAmb	IAmb	13 18 32.5	
	comp=Z,34nm,2.0s						
AS31	**Alice Springs**	**28.41**	**125**	P	**P**	**13 18 16.2**	**+0.6**
ASAR	**Alice Springs**	**28.41**	**125**	P	**P**	**13 18 16.4**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=303,slow=8.8,SNR=39						
FORT	**Forrest**	**28.62**	**144**	P	**P**	**13 18 19.0**	**+1.7**
BBOO	**Buckleboo**	**35.02**	**138**	P	**P**	**13 19 13.8**	**+0.6**
H08S2	**Diego Garcia H**	**36.01**	**268**	T	T	13 57 34.5	
	baz=93,slow=76,SNR=60						
H08S3	**Diego Garcia H**	**36.02**	**269**	T	T	13 57 34.7	
	baz=93,slow=76,SNR=53						
H08S1	**Diego Carcia H**	**36.03**	**268**	T	T	13 57 35.9	
	baz=93,slow=76,SNR=42						
STKA	**Stephens Creek**	**38.37**	**132**	P	**P**	**13 19 43.5**	**+1.7**
	comp=Z,9.2nm,0.8s,baz=303,slow=7.6,SNR=20						
STKA	**Stephens Creek**	**38.37**	**132**	P	**P**	**13 19 43.4**	**+1.6**
STKA				IAmb	IAmb	13 19 44.2	
	comp=Z,1.9nm,0.7s						
SONM	**Songino Array**	**55.99**	**358**	P	**P**	**13 21 57.3**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=175,slow=11,SNR=6.0						
SONM				PcP	**PcP**	**13 22 55.4**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=174,slow=4.3,SNR=1.9						
SONM	**Songino Array**	**55.99**	**358**	IAmb	IAmb	13 21 58.1	
	comp=Z,0.7nm,0.6s						
MK31	**Makanchi Array**	**59.79**	**339**	P	**P**	**13 22 22.5**	**-2.3**
MK31				IAmb	IAmb	13 22 58.2	
	comp=Z,3.6nm,1.6s						
MKAR	**Makanchi Array**	**59.79**	**339**	P	**P**	**13 22 22.5**	**-2.3**
	comp=Z,0.7nm,0.5s,baz=147,slow=7.8,SNR=13						
ZAA0	**Zalesovo Array**	**65.31**	**345**	P	**P**	**13 22 58.6**	**-2.7**
ZAA0				IAmb	IAmb	13 23 00.2	
	comp=Z,2.7nm,0.9s						
ZALV	**Zalesovo Beam**	**65.31**	**345**	P	**P**	**13 22 58.8**	**-2.5**
	comp=Z,1.5nm,0.4s,baz=154,slow=6.0,SNR=8.8						
GEYT	**Alibeck**	**66.00**	**318**	P	**P**	**13 23 05.1**	**-1.0**
	comp=Z,2.2nm,0.5s,baz=176,slow=5.7,SNR=5.0						
GEYT	**Alibeck**	**66.00**	**318**	IAmb	IAmb	13 23 06.1	
	comp=Z,1.7nm,0.8s						
BKZ	**Black Stump Fm**	**67.45**	**129**	P	**P**	**13 23 16.5**	**+1.0**
ABKAR	**Akbulak array**	**71.52**	**329**	P	**P**	**13 23 38.6**	**-1.5**
PETK	**Petropavlovsk-**	**73.89**	**28**	P	**P**	**13 23 52.7**	**-1.4**
VNDA	**Vanda**	**74.31**	**170**	P	**P**	**13 23 57.9**	**+1.7**
VNDA				IAmb	IAmb	13 25 26.7	
	comp=Z,7.9nm,1.8s						
BRTR	**Keskin Array B**	**84.10**	**311**	P	**P**	**13 24 49.1**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=134,slow=7.0,SNR=6.0						
FINES	**FINESS Array B**	**93.83**	**331**	P	**P**	**13 25 35.0**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=256,slow=7.7,SNR=1.6						

DJA 10 13:25:36.7±1.0, **8°S**±.5°×**12°5E**±°, **h10**km, **M4.0/6, mb4.5/1, MLv3.8/6, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.75**	**201**	P	Pn	13 26 07.0	-0.3
SOEI				S	Sn	13 26 29.5	-0.2
BATI	**Baumata**	**2.42**	**210**	P	Pn	13 26 16.9	+0.6
BATI				S	Sb	13 26 49.1	-1.1
MMRI	**Maumere**	**2.69**	**259**	P	Pn	13 26 20.9	+0.9
EDFI	**Ende, Flores**	**3.24**	**258**	P	Pn	13 26 29.0	+1.3
EDFI				S	Sn	13 27 06.4	0.0
BASI	**Baing, Sumba**	**4.75**	**244**	P	Pn	13 26 49.0	+0.5
WBSI	**Waikabubak, Su**	**5.65**	**254**	P	Pn	13 27 00.7	-0.2

*MOS **10** 13:33:19.8±0.9, 5.90N×127.08E, h75km, mb6.2/86, MS4.6/12, Error ellipse: s-maj=6.7km s-min=3.5km az=117.1*

*NEIC **10** 13:33:21.0±1.5, 5.87N±0.04×127.14E±0.07, h78km±1km, mb5.7/208, Mwb5.6/36, Mwc5.5(GCMT), Error ellipse: s-maj=12.7km s-min=6.6km az=81.0*

*BJI **10** 13:33:22.1±0.0, 5.86N×127.22E, h104km, mB5.7/70, mb5.7/88*

*MAN **10** 13:33:23.3, 5.93N×127.13E, h99km, MS5.5*

MAN Intensity IV - Talacogon, Agusan del Sur; Intensity III- Hinatuan, Surigao del Sur; Davao City; Intensity II - General Santos City; Intensity I - Bislig City.

*IDC **10** 13:33:23.2±0.8, 5.87N×127.14E, h90km±7km, mb5.1/44, mb1 5.1/49, mb1mx5.0/53, mbtmp5.4/49, MS4.4/34, Ms1 4.4/34, ms1mx4.3/40, Error ellipse: s-maj=9.2km s-min=6.3km az=65.0*

*NEIC **10** 13:33:23.2, 5.85N×127.13E, h75km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.40; $M_{\theta\theta}$0.23; $M_{\phi\phi}$-2.63; $M_{r\theta}$0.32; $M_{\theta\phi}$0.46; $M_{\phi r}$1.15; Fault plane solution: M_o2.83000×10^{17} NP1:ϕ_s159.25000°, δ34.63000°, λ70.87000°. NP2:ϕ_s2.10000°, δ57.52000°, λ102.75000°. Principal axes: T 2.7187, Plg74.0000°, Azm307.0000°; N 0.2108, Plg11.0000°, Azm175.0000°; P -2.9295, Plg12.0000°, Azm83.0000°;*

*GCMT **10** 13:33:24.0±0.1, 5.81N±0.01×127.12E±0.01, h84km, MW5.5/155, Moment Tensor Solution. s134,c251; s155,c317; Duration: 1§4 Moment tensor: Scale 10^{17} Nm; M_{rr}1.82±.03; $M_{\theta\theta}$0.13±.03; $M_{\phi\phi}$-1.95±.03; $M_{r\theta}$0.48±.02; $M_{\theta\phi}$-0.51±.03; $M_{\phi r}$1.66±.02; Best double couple: M_o2.60000×10^{17} NP1:ϕ_s190.00000°, δ24.00000°, λ85.00000°. NP2:ϕ_s15.00000°, δ66.00000°, λ92.00000°. Principal axes: T 2.4780, Plg69.0000°, Azm289.0000°; N 0.2440, Plg2.0000°, Azm194.0000°; P -2.7210, Plg21.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **10** 13:33:25.5, 5.82N×127.13E, h92km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.83; $M_{\theta\theta}$0.17; $M_{\phi\phi}$-2.00; $M_{r\theta}$0.45; $M_{\theta\phi}$-0.43; $M_{\phi r}$1.71; Fault plane solution: M_o2.65000×10^{17} NP1:ϕ_s187.00000°, δ24.00000°, λ84.00000°. NP2:ϕ_s14.00000°, δ66.00000°, λ93.00000°. Principal axes: T 2.5121, Plg69.0000°, Azm289.0000°; N 0.2496, Plg2.0000°, Azm193.0000°; P -2.7618, Plg21.0000°, Azm102.0000°;*

*KLM **10** 13:33:25.0, 5.89N×127.13E, h104km, mb5.8*

*DJA **10** 13:33:25.5±0.3, 6°N±2×12°7E±°, h103km±3km, M5.4/69, mB5.8/61, mb5.5/69, MLv5.9/9, Mw(mB)5.4/61, Mwp5.5/25*

ISC 10 13:33:23.8±0.3, **5.90N**±0.03×**127.14E**±0.03, **h100**km±2km, **h101**km:**pP-P, n1407**,σ1§**34**/1540, **mb5.7**/250, **120C-36D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.36**	**320**	*e*P	**Pn**	**13 33 47.3**	**-1.1**
MATI				*e*S	**Sn**	**13 34 05.8**	**-1.2**
DAV	**Davao City (W)**	**1.94**	**307**	P	**Pn**	**13 33 56.6**	**+1.1**
	4µm,0.3s,baz=125,slow=0.9,SNR=684						
DAV				S	**Sn**	**13 34 19.6**	**-0.3**
	2µm,0.3s,baz=90,slow=6.9,SNR=8.8						
DAV	**Davao City (W)**	**1.94**	**307**		**Pn**	**13 33 56.4**	**+0.8**
DAV	**Davao City (W)**	**1.94**	**307**	*i*P	**Pn**	**13 33 57.4**	**+1.8**
KCP	**Kidapawan**	**2.31**	**299**	*i*P	**Pn**	**13 34 00.6**	**+0.1**
KCP				*i* S	**Sn**	**13 34 29.3**	**+0.6**
BIP	**Bislig**	**2.48**	**339**	*e*P	**Pn**	**13 33 58.8**	**-3.8**
BIP				*e*S	Sn	13 34 20.5	-12
SKMP	**Bagumbayan, Su**	**2.65**	**284**	*e*P	**Pn**	**13 34 04.1**	**-0.8**
SKMP				*e*S	**Sn**	**13 34 36.4**	**-0.2**
BUKP	**Musuan**	**2.85**	**314**	*e*P	**Pn**	**13 34 08.1**	**+0.5**
BUKP				*e*S	**Sn**	**13 34 42.7**	**+1.4**
PAGZ	**Pagadian**	**4.20**	**298**	*e*P	**Pn**	**13 34 25.9**	**+0.2**
PAGZ				*e*S	**Sn**	**13 35 10.4**	**-3.4**
MSLP	**Maasin**	**4.78**	**332**	*e*P	**Pn**	**13 34 33.9**	**+0.4**
MSLP				*e*S	**Sn**	**13 35 29.6**	**+1.9**
TBP	**Tagbilaran**	**4.97**	**319**	*e*P	**Pn**	**13 34 37.2**	**+1.0**
TNTI	**Ternate**	**5.10**	**177**	P	**Pn**	**13 34 38.4**	**+0.6**
	7.5nm6µm19µm1µm,0.7s						
TNTI				S	**Sn**	**13 35 36.1**	**+0.6**
	7.5nm6µm19µm1µm,0.7s						
TNTI	**Ternate**	**5.10**	**177**	Pn	**Pn**	**13 34 37.1**	**-0.7**
ZCP	**Zamboanga City**	**5.13**	**282**	*i*P	**Pn**	**13 34 38.2**	**-0.1**
ZCP				*i* S	**Sn**	**13 35 37.6**	**+1.2**
LLP	**Lapu-Lapu**	**5.40**	**325**	*i*P	**Pn**	**13 34 43.5**	**+1.5**
LLP				*i* S	**Sn**	**13 35 43.9**	**+1.0**
OCLP	**Ormoc**	**5.70**	**334**	*e*P	**Pn**	**13 34 47.0**	**+1.0**
OCLP				*e*S	**Sn**	**13 35 50.1**	**-0.1**
CNOP	**Candoni, Negro**	**5.92**	**312**	*e*P	**Pn**	**13 34 49.9**	**+0.8**
CNOP				*e*S	**Sn**	**13 35 55.8**	**+0.1**
KMSI	**Cibinong**	**6.15**	**211**	P	**Pn**	**13 34 53.0**	**+0.8**
	8.2nm578nm18µm2µm,0.8s						
GUIM	**Jordan**	**6.51**	**317**	*e*P	**Pn**	**13 34 57.5**	**+0.5**
GUIM				*e*S	**Sn**	**13 36 07.2**	**-2.6**
GTOI	**Gorontalo**	**6.65**	**218**	P	**Pn**	**13 34 58.3**	**-0.7**
	2.8nm8µm649nm,0.8s						
CNP	**Catarman**	**7.01**	**340**	*e*P	**Pn**	**13 35 03.0**	**-0.8**
CNP				*e*S	**Sn**	**13 36 17.0**	**-5.1**
JAP	**San Jose, Anti**	**7.04**	**314**	*e*P	**Pn**	**13 35 07.3**	**+3.1**
SIJI	**Sorong**	**7.88**	**148**	P	**Pn**	**13 35 15.1**	**-0.7**
	94nm,0.3s,baz=114,slow=9.2,SNR=324						
SIJI				S	**Sn**	**13 36 36.7**	**-6.7**
	57nm,0.3s,baz=205,slow=23,SNR=13						
SIJI				LR	LR	13 38 24.3	
	comp=Z,5µm,21.2s,baz=342,slow=38						
SANI	**Sanana**	**7.98**	**188**	P	**Pn**	**13 35 15.9**	**-1.1**
	2.1nm6µm8µm328nm,1.0s						
LUWI	**Luwuk**	**8.15**	**212**	P	**Pn**	**13 35 21.4**	**+2.0**
	9µm22µm1µm,0.6s						
LUWI	**Luwuk**	**8.15**	**212**	Pn	**Pn**	**13 35 18.6**	**-0.8**
PVCP	**Virac**	**8.20**	**339**	*e*P	**Pn**	**13 35 20.1**	**+0.2**
PVCP				*e*S	**Sn**	**13 36 44.3**	**-6.6**
MYLDM	**Lahad Datu**	**8.63**	**266**	Pn	**Pn**	**13 35 26.4**	**+0.5**
NLAI	**Namlea**	**9.07**	**180**	P	**Pn**	**13 35 30.7**	**-1.2**
	787µm13µm324nm,0.7s						
MPSI	**Mapaga**	**9.09**	**233**	P	**Pn**	**13 35 31.3**	**-0.9**
	15µm3µm183nm,0.8s						
MSAI	**Masohi**	**9.35**	**169**	P	**Pn**	**13 35 37.5**	**+1.8**
	1µm87nm,1.4s						
AAI	**Ambon**	**9.58**	**174**	P	**Pn**	**13 35 40.0**	**+1.2**
	5µm273nm,0.6s						
LQP	**Lukban**	**9.85**	**326**	*e*P	**Pn**	**13 35 43.6**	**+1.0**
FAKI	**Fak Fak**	**10.14**	**150**	P	**Pn**	**13 35 46.8**	**+0.4**
	5µm3µm302nm,0.9s						
FAKI	**Fak Fak**	**10.14**	**150**	Pn	**Pn**	**13 35 46.2**	**-0.2**
RKPI	**Ransiki, Papua**	**10.18**	**136**	P	**Pn**	**13 35 50.6**	**+3.7**
	29µm2µm,1.8s						
RKPI				S	**Sn**	**13 37 41.3**	**+2.1**
	29µm2µm,1.8s						
TGY	**Tagaytay City**	**10.18**	**324**	P	**Pn**	**13 35 46.6**	**-0.5**
	9.3nm,0.3s,baz=253,slow=17,SNR=1.0						
TGY				LR	LR	13 40 39.8	
	comp=Z,4µm,19.2s,baz=142,slow=43						
SPMM	**Sapulut**	**10.69**	**264**	P	**Pn**	**13 35 55.0**	**+1.0**
KKM	**Kota Kinabalu**	**10.87**	**271**	Pn	**Pn**	**13 35 56.0**	**-0.4**
SMKI	**Samarinda**	**11.74**	**238**	P	**Pn**	**13 36 09.8**	**+1.7**
	9µm7µm348nm,1.1s						
SPSI	**Sidrap Palu**	**12.25**	**217**	P	**Pn**	**13 36 13.6**	**-1.3**
	8µm3µm90nm,0.6s						
BNSI	**Bone**	**12.41**	**215**	P	**Pn**	**13 36 17.6**	**+0.7**
	3µm198nm,1.2s						
BKB	**Balikpapan**	**12.46**	**236**	P	**Pn**	**13 36 18.7**	**+1.1**
	8µm11µm836nm,1.5s						
BKB	**Balikpapan**	**12.46**	**236**	Pn	**Pn**	**13 36 14.8**	**-2.8**
KAPI	**Kappang**	**13.11**	**214**	P	**Pn**	**13 36 24.4**	**-1.8**
	6.1nm,0.3s,baz=18,slow=6.6,SNR=50						
KAPI				LR	LR	13 42 14.6	
	comp=Z,3µm,19.8s,baz=36,slow=41						
KAPI	**Kappang**	**13.11**	**214**	P	**Pn**	**13 36 24.5**	**-1.7**
KAPI				P	**Pn**	**13 36 24.5**	**-1.7**
KAPI	**Kappang**	**13.11**	**214**	P	**Pn**	**13 36 22.6**	**-3.6**
KAPI	**Kappang**	**13.11**	**214**	Pn	**Pn**	**13 36 22.6**	**-3.6**
SMPI	**Sarmi**	**13.96**	**124**	P	**P**	**13 36 39.7**	**-2.3**
	7µm16µm1µm,1.4s						
MTKI	**Muara Teweh, K**	**13.98**	**241**	P	**Pn**	**13 36 38.5**	**+0.9**
	6µm360nm,1.7s						
KBKI	**Kotabaru**	**14.26**	**230**	P	**Pn**	**13 36 41.1**	**-0.1**
	1µm82nm,0.7s						
MMRI	**Maumere**	**15.24**	**199**	Pn	**Pn**	**13 36 51.0**	**-2.6**
MMRI				IAmb	IAmb	13 37 34.6	
	comp=Z,570nm,1.1s						
SBUM	**Sibu**	**15.27**	**258**	P	**Pn**	**13 36 54.9**	**+1.0**
SBUM	**Sibu**	**15.27**	**258**	P	**P**	**13 36 56.0**	**-0.5**
BBKI	**Banjar Baru**	**15.40**	**233**	P	**P**	**13 36 57.1**	**-1.0**
	comp=Z,6µmcomp=Z,5µmcomp=Z,260nm,1.7s						
GENI	**Genyem**	**15.51**	**123**	P	**P**	**13 36 59.6**	**+0.4**
	comp=Z,7µmcomp=Z,14µmcomp=Z,761nm,1.8s						
EDFI	**Ende, Flores**	**15.53**	**201**	P	**Pn**	**13 36 57.3**	**-0.1**
	comp=Z,2µmcomp=Z,1µmcomp=Z,120nm,0.8s						
SOEI	**Soe**	**15.81**	**190**	P	**P**	**13 37 05.5**	**+2.8**
	comp=Z,7µmcomp=Z,433nm,0.7s						
SOEI	**Soe**	**15.81**	**190**	P	**P**	**13 37 01.8**	**-0.8**
SOEI				IAmb	IAmb	13 37 18.7	
	comp=Z,506nm,1.0s						
JAY	**Jayapura**	**15.92**	**121**	P	**Pn**	**13 37 02.9**	**+0.7**
	comp=Z,3.8nm,0.3s,baz=238,slow=10,SNR=15						
JAY				S	**Sn**	**13 39 58.6**	**+0.1**
	baz=50,slow=16,SNR=1.4						
JAY				LR	LR	13 42 11.4	
	comp=Z,2µm,20.3s,baz=308,slow=33						
JAY	**Jayapura**	**15.92**	**121**	P	**P**	**13 37 03.8**	**0.0**
	comp=Z,2µmcomp=Z,125nm,1.6s						
BATI	**Baumata**	**16.37**	**192**	P	**P**	**13 37 10.0**	**+1.2**
	comp=Z,13nm,0.3s,baz=11,slow=1.1,SNR=16						
BATI				S	**Sn**	**13 40 08.7**	**-0.6**
	baz=119,slow=23,SNR=1.1						
BATI	**Baumata**	**16.37**	**192**	P	**P**	**13 37 10.6**	**+1.8**
	comp=Z,3µmcomp=Z,184nm,0.6s						
STKI	**Sintang**	**16.67**	**250**	P	**P**	**13 37 12.9**	**+0.8**
	comp=Z,13µmcomp=Z,108nm,0.9s						
WSI	**Waingapu**	**16.90**	**204**	P	**Pn**	**13 37 14.0**	**-0.2**
	comp=Z,11µmcomp=Z,438nm,0.7s						
WBSI	**Waikabubak, Su**	**17.26**	**207**	P	**P**	**13 37 17.8**	**-0.8**
	comp=Z,4µmcomp=Z,459nm,0.9s						
BASI	**Baing, Sumba**	**17.29**	**202**	P	**P**	**13 37 16.9**	**-2.0**
	comp=Z,2µmcomp=Z,5µmcomp=Z,211nm,0.8s						
PLAI	**Plampang**	**17.35**	**213**	P	**P**	**13 37 19.5**	**-0.1**
	comp=Z,4µmcomp=Z,4µmcomp=Z,302nm,1.3s						
KSM	**Kuching**	**17.36**	**256**	P	**P**	**13 37 19.3**	**-0.4**
KSM				IAmb	IAmb	13 37 23.3	
	comp=Z,646nm,1.5s						
KSM	**Kuching**	**17.36**	**256**	P	**Pn**	**13 37 21.0**	**+1.2**
PBKI	**Pangkalan Bun**	**17.65**	**241**	P	**Pn**	**13 37 24.6**	**+1.2**
	comp=Z,370nm,0.8s						
TWSI	**Taliwang, Sumb**	**17.77**	**215**	P	**P**	**13 37 24.2**	**-0.1**
	comp=Z,2µmcomp=Z,156nm,0.7s						
TWG	**Pinlang**	**17.82**	**341**	P	**P**	**13 37 20.4**	**-4.2**
TWG				IAmb	IAmb	13 37 28.0	
	comp=Z,323nm,0.6s						
YULB	**Yu-li**	**18.28**	**343**	P	**P**	**13 37 26.1**	**-3.7**
KMMI	**Kalianget**	**18.39**	**226**	P	**Pn**	**13 37 32.8**	**+0.6**
	comp=Z,225nm,0.9s		

MYKOM IAmb IAmb 13 38 27.1
comp=Z,667nm,1.7s
MYKOM **Kota Tinggi 23.59 261** P **P** **13 38 26.0 +0.3**
CBJI Citeko 23.66 239 P **P** **13 38 27.6 +1.3**
comp=Z,10µmcomp=Z,679nm,1.5s
DBJI Dramaga 23.81 239 P **P** **13 38 28.3 +0.6**
comp=Z,7µmcomp=Z,215nm,1.9s
CNJI Cibinong 23.89 237 P **P** **13 38 27.3 -1.0**
comp=Z,4µmcomp=Z,365nm,1.2s
FITZ Fitzroy Crossi 23.89 184 P **P** **13 38 28.4 +0.2**
comp=Z,70nm,0.8s,baz=21,slow=9.9,SNR=72
FITZ S **S** **13 42 35.2 -2.1**
comp=Z,6.4nm,0.7s,baz=182,slow=15,SNR=1.4
FITZ LR LR 13 49 12.2
comp=Z,561nm,22.0s,baz=356,slow=40
FITZ Fitzroy Crossi 23.89 184 P **P** **13 38 28.8 +0.5**
baz=24,SNR=92
FITZ Fitzroy Crossi 23.89 184 P **P** **13 38 27.7 -0.5**
PMBI Palembang 23.99 249 P **P** **13 38 28.9 -0.4**
BLSI Bandar Lampung 24.55 243 P **P** **13 38 33.5 -0.9**
comp=Z,4µmcomp=Z,188nm,0.7s
PMG Port Moresby 25.08 127 LR LR 13 50 10.3
comp=Z,708nm,19.6s,baz=286,slow=40
PMG Port Moresby 25.08 127⇑*e*P **P** **13 38 40.0 +0.8**
PMG pmax pmax
comp=Z,47nm,2.1s
MDSI Maura Dua 25.14 246 P **P** **13 38 39.4 -0.3**
comp=Z,2µmcomp=Z,161nm,1.3s
KASI Kota Agung 25.29 244 P **P** **13 38 39.3 -1.8**
comp=Z,3µmcomp=Z,246nm,1.1s
COEN Coen 25.35 141 P **P** **13 38 42.3 +0.8**
baz=25,SNR=15
COEN Coen 25.35 141 P **P** **13 38 41.8 +0.2**
LWLI Liwa 25.47 245 P **P** **13 38 42.0 -0.8**
comp=Z,6µmcomp=Z,361nm,1.2s
JCJ Chichijima 25.49 33 P **P** **13 38 42.8 0.0**
comp=Z,914nm,0.5s,baz=243,slow=4.0,SNR=63
JCJ LR LR 13 47 35.9
comp=Z,896nm,20.8s,baz=256,slow=33
JCJ Chichijima 25.49 33 P **P** **13 38 42.4 -0.4**
RGRI Rengat 25.53 257 P **P** **13 38 43.9 +0.6**
comp=Z,218nm,0.9s
SSE Sheshan 25.68 348 P **P** **13 38 45.6 +1.2**
SSE S **S** **13 43 07.6 +1.9**
SSE pmax pmax
comp=Z,32nm,1.0s
SSE pmax pmax
comp=Z,350nm,3.4s
SSE LR LR
comp=Z,320nm,23.1s
SSE LR LR
comp=Z,370nm,11.2s
SSE LR LR
comp=Z,280nm,13.2s
SSE Sheshan 25.68 348 P **P** **13 38 44.0 -0.4**
IPM Ipoh 26.04 268 P **P** **13 38 46.4 -1.6**
IPM Ipoh 26.04 268 P **P** **13 38 48.0 0.0**
KSI Kapahiang 26.28 249 P **P** **13 38 50.0 -0.2**
comp=Z,6µmcomp=Z,211nm,1.2s
KULM Kulim 26.37 270 P **P** **13 38 49.0 -1.8**
KULM IAmb IAmb 13 39 20.5
comp=Z,474nm,1.8s
KULM Kulim 26.37 270 P **P** **13 38 51.0 +0.1**
MASI Maura Aman, Be 26.44 251 P **P** **13 38 50.4 -1.1**
comp=Z,8µmcomp=Z,465nm,1.4s
WB0 Warramunga Arr 26.48 165 P **P** **13 38 51.2 -0.6**
SDSI Sungai Dareh 26.55 256 P **P** **13 38 51.9 -0.6**
comp=Z,3µmcomp=Z,186nm,1.7s
BKNI Bangkinang 26.63 259 P **P** **13 38 52.8 -0.4**
comp=Z,3µmcomp=Z,378nm,0.8s
BKNI Bangkinang 26.63 259 P **P** **13 38 52.6 -0.6**
BKNI IAmb IAmb 13 38 53.8
comp=Z,267nm,0.7s
WRAB Tennant Creek 26.63 165⇑*e*P **P** **13 38 53.3 +0.2**
WRAB pmax pmax
comp=Z,120nm,1.8s
WRAB Tennant Creek 26.63 165 P **P** **13 38 51.8 -1.3**
WRA Warramunga Arr 26.64 165 P **P** **13 38 52.3 -0.9**
comp=Z,6.1nm,0.5s,baz=342,slow=10,SNR=78
WRA S **S** **13 43 18.7 -2.4**
comp=Z,1.8nm,0.5s,baz=136,slow=27,SNR=2.2
WRA ScP **ScP** **13 45 46.8 +0.8**
comp=Z,7.9nm,0.6s,baz=338,slow=3.1,SNR=9.7
WRA LR LR 13 50 32.3
comp=Z,838nm,20.9s,baz=335,slow=39
WRA P3KPbc 14 11 34.3
comp=Z,0.6nm,0.9s,baz=160,slow=4.1,SNR=2.0
WRA Warramunga Arr 26.64 165 P **P** **13 38 52.2 -1.0**
WB2 Warramunga Arr 26.64 165 P **P** **13 38 51.9 -1.3**
WR0 Warramunga Arr 26.71 164 P **P** **13 38 53.4 -0.5**
KRJI Kerinci 26.84 254 P **P** **13 38 54.7 -0.5**
comp=Z,369nm,1.1s
KRVT Keravat (AS076 26.84 112 P **P** **13 38 55.0 -0.1**
comp=Z,83nm,0.9s,baz=58,slow=4.4,SNR=10
KRVT LR LR 13 47 56.1
comp=Z,2µm,21.9s,baz=287,slow=32
NJ2 Nanjing 27.15 344 *e*P **P** **13 38 58.5 +0.9**
NJ2 pP **pwP** **13 39 24.5 -1.2**
NJ2 S **S** **13 43 33.1 +4.2**
NJ2 sS **sS** **13 44 06.3 +1.1**
NJ2 pmax pmax
comp=Z,30nm,0.9s
NJ2 pmax pmax
comp=Z,860nm,3.6s
NJ2 LR LR
comp=Z,630nm,13.8s
NJ2 LR LR
comp=Z,810nm,10.4s
NJ2 LR LR
comp=Z,930nm,21.9s
SLVN Son La 27.23 307 P **P** **13 38 58.0 -0.7**
WHN Wuhan 27.31 335⇓P **P** **13 39 00.6 +1.5**
WHN pP **pP** **13 39 23.1 +3.2**
WHN S **S** **13 43 33.8 +2.4**
WHN pmax pmax
comp=Z,65nm,0.6s
WHN pmax pmax
comp=Z,1µm,4.6s
WHN LR LR
comp=Z,2µm,18.3s
JNU Nakatsue 27.31 7 P **P** **13 38 58.9 -0.3**
comp=Z,103nm,0.8s,baz=218,slow=2.8,SNR=31
JNU LR LR 13 49 36.8
comp=Z,457nm,22.0s,baz=168,slow=36
JNU Nakatsue 27.31 7 P **P** **13 38 58.8 -0.3**
PDSI Padang 27.48 257 P **P** **13 39 00.0 -0.9**
MBWA Marble Bar 27.85 195 P **P** **13 39 04.6 +0.5**
PSA00 Pilbara Seismi 28.22 194 P **P** **13 39 07.2 0.0**
PSA00 IAmb IAmb 13 39 09.0
comp=Z,101nm,0.9s
PSA00 Pilbara Seismi 28.22 194 P **P** **13 39 06.7 -0.6**
PSA00 IAmb IAmb 13 39 09.2
comp=Z,40nm,0.8s
GYA Guiyang 28.28 319⇑P **P** **13 39 08.9 +0.9**
GYA PcP **PcP** **13 42 20.5 +1.5**
GYA sS sS 13 44 23.0 -0.5
GYA SS **SnSn** **13 45 18.9 +3.7**
GYA ScS **ScS** **13 49 44.5 +0.2**
GYA pmax pmax
comp=Z,60nm,1.2s
GYA pmax pmax
comp=Z,510nm,3.5s
GYA LR LR
comp=Z,1µm,21.8s
GYA LR LR
comp=Z,790nm,24.0s
GYA LR LR
comp=Z,2µm,20.9s
PSI Prapat 28.30 265 P **P** **13 39 07.6 -0.7**
PSI pmax pmax
comp=Z,55nm,0.9s
RPSI Rantau Prapat 28.31 265 P **P** **13 39 07.6 -0.6**
QIS Mount Isa 29.00 155 P **P** **13 39 14.9 +0.6**
baz=29,SNR=34
MTSU Mount Surprise 29.28 145 P **P** **13 39 17.1 +0.3**
baz=29,SNR=16
ENH Enshi 29.39 328 P **P** **13 39 16.9 -0.8**
JHJ Hachijo jima 2 29.53 22 P **P** **13 39 18.4 -0.5**
comp=Z,90nm,0.5s,baz=247,slow=18,SNR=1.5
JHJ2 Mitsune 29.54 22 P **P** **13 39 17.7 -1.2**
GSI Gunungsitoli 29.85 262 P **P** **13 39 20.0 -1.9**
LHMI Lhok Sumawe 30.05 270 P **P** **13 39 23.0 -0.7**
LHMI IAmb IAmb 13 39 25.2
comp=Z,157nm,0.7s
AS31 Alice Springs 30.11 168 P **P** **13 39 23.8 -0.4**
ASAR Alice Springs 30.12 168 P **P** **13 39 24.0 -0.1**
comp=Z,9.9nm,0.6s,baz=341,slow=7.0,SNR=143
ASAR PcP **PcP** **13 42 25.1 +1.5**
comp=Z,7.6nm,0.6s,baz=348,slow=2.7,SNR=3.2
ASAR S **S** **13 44 12.2 -3.5**
comp=Z,1.4nm,0.7s,baz=190,slow=21,SNR=1.8
ASAR ScP **ScP** **13 45 57.6 +0.8**
comp=Z,5.9nm,0.6s,baz=338,slow=3.0,SNR=9.3
ASAR LR LR 13 52 14.6
comp=Z,885nm,22.0s,baz=348,slow=38
ASAR P3KPbc 14 11 15.8
comp=Z,0.3nm,0.9s,baz=165,slow=4.0,SNR=5.1
ASAR Alice Springs 30.12 168 P **P** **13 39 23.1 -1.0**
CM31 Chiang Mai Arr 30.20 297 P **P** **13 39 25.9 +1.0**
SNR=21
CM31 Chiang Mai Arr 30.20 297 P **P** **13 39 23.7 -1.2**
CMAR Chiang Mai Arr 30.20 297 P **P** **13 39 25.1 +0.1**
comp=Z,18nm,0.7s,baz=110,slow=6.9,SNR=84
CMAR PcP **PcP** **13 42 26.1 +2.3**
comp=Z,10nm,0.8s,baz=92,slow=0.8,SNR=8.8
CMAR ScP **ScP** **13 45 59.2 +2.0**
comp=Z,7.4nm,0.9s,baz=106,slow=1.5,SNR=13
CMAR PKiKP **PKiKP** **13 49 56.5 +0.7**
comp=Z,0.9nm,0.6s,baz=244,slow=1.5,SNR=4.9
CMAR Chiang Mai Arr 30.20 297 P **P** **13 39 23.8 -1.2**
KMI Kunming 30.20 312⇑P **P** **13 39 26.4 +1.3**
KMI pP pwP 13 39 50.3 -0.5
KMI sP sP 13 40 02.7 +4.8
KMI PP **PnPn** **13 40 28.4 +1.3**
KMI PcP **PcP** **13 42 26.1 +2.1**
KMI S **S** **13 44 12.3 -5.1**
KMI ScP **ScP** **13 45 59.4 +2.0**
KMI pmax pmax
comp=Z,270nm,1.2s
KMI pmax pmax
comp=Z,980nm,4.3s
KMI LR LR
comp=Z,980nm,20.6s
KMI LR LR
comp=Z,1µm,23.5s
KMI LR LR
comp=Z,2µm,34.0s
KMI Kunming 30.20 312 P **P** **13 39 25.5 +0.4**
KMI pmax pmax
comp=Z,268nm,1.0s
KMI Kunming 30.20 312 P **P** **13 39 25.5 +0.4**
KMI IAmb IAmb 13 39 27.9
comp=Z,268nm,1.0s
CHTO Chiang Mai 30.32 298 P **P** **13 39 26.3 +0.3**
CHTO P **P** **13 39 26.3 +0.3**
CHTO Chiang Mai 30.32 298 P **P** **13 39 25.7 -0.3**
CHTO pmax pmax
comp=Z,349nm,2.0s
CHTO Chiang Mai 30.32 298 P **P** **13 39 25.7 -0.3**
CHTO IAmb IAmb 13 39 28.8
comp=Z,349nm,1.9s
TJN Taejon 30.34 0⇑*e*P **P** **13 39 26.0 +0.1**
WRKA Warakurna 30.77 178 P **P** **13 39 30.2 +0.3**
baz=31,SNR=86
GIRL Giralia 31.05 204 P **P** **13 39 33.7 +1.4**
baz=31,SNR=19
GIRL Giralia 31.05 204 P **P** **13 39 32.8 +0.5**
GIRL IAmb IAmb 13 39 35.1
comp=Z,269nm,0.8s
KSAR Wonju Array Be 31.41 1 P **P** **13 39 35.2 -0.1**
KSAR Wonju Array Be 31.41 1 P **P** **13 39 35.2 -0.1**
KSRS Korea Array 31.42 1 P **P** **13 39 35.9 +0.5**
comp=Z,15nm,0.6s,baz=180,slow=10.0,SNR=68
KSRS ScP **ScP** **13 46 02.0 +1.2**
comp=Z,3.3nm,1.0s,baz=173,slow=4.5,SNR=4.0
KSRS LR LR 13 54 54.1
comp=Z,406nm,19.3s,baz=174,slow=41
KS19 Wonju Array Si 31.47 1 P **P** **13 39 35.7 -0.1**
TIA Tai'an 31.54 344 P **P** **13 39 36.5 0.0**
TIA pmax pmax
comp=Z,48nm,0.8s
CTA Charters Tower 31.94 144 P **P** **13 39 39.8 -0.4**
comp=Z,8.9nm,0.7s,baz=324,slow=11,SNR=16
CTAO Charters Tower 31.94 144 P **P** **13 39 40.8 +0.6**
CTAO pmax pmax
comp=Z,63nm,1.3s
CTAO Charters Tower 31.94 144 P **P** **13 39 40.8 +0.6**
MAJO Matsushiro 32.14 17⇓*e*P **P** **13 39 41.5 -0.3**
MAJO pmax pmax
comp=Z,130nm,1.7s
MAJO Matsushiro 32.14 17 P **P** **13 39 40.6 -1.2**
MAJO IAmb IAmb 13 39 43.5
comp=Z,199nm,1.6s
MAT Matsushiro 32.14 17 P **P** **13 39 41.4 -0.4**
MAT *e*S **S** **13 44 46.8 -0.4**
MJAR Matsushiro Arr 32.14 17 P **P** **13 39 39.0 -2.8**
comp=Z,18nm,0.7s,baz=193,slow=8.1,SNR=44
MJAR PP **PP** **13 40 56.8 +0.4**
comp=Z,17nm,0.9s,baz=197,slow=13,SNR=5.7
MJAR ScP **ScP** **13 46 04.8 +1.5**
comp=Z,5.6nm,0.9s,baz=213,slow=3.7,SNR=7.8
MJAR LR LR 13 51 42.5
comp=Z,981nm,21.7s,baz=200,slow=34
MJAR Matsushiro Arr 32.14 17 P **P** **13 39 38.6 -3.2**
MJAR 13 40 56.8
MJAR pmax pmax
comp=Z,10.0nm,0.9s
MJAR Matsushiro Arr 32.14 17 P **P** **13 39 38.6 -3.2**
MJB9 Matsu-Tunnel 32.15 17 P **P** **13 39 40.7 -1.2**
MJB9 IAmb IAmb 13 39 43.3
comp=Z,212nm,1.7s
XAN Xi'an 32.70 331 P **P** **13 39 47.2 +0.4**
XAN PP **PnPn** **13 40 59.4 +0.7**
XAN S **S** **13 44 55.3 -0.6**
XAN pmax pmax
comp=Z,250nm,1.2s
XAN pmax pmax
comp=Z,1µm,3.8s
XAN LR LR
comp=Z,970nm,25.0s
XAN LR LR
comp=Z,640nm,18.3s
XAN LR LR
comp=Z,2µm,25.0s
XAN Xi'an 32.70 331 P **P** **13 39 46.5 -0.3**
XAN pmax pmax
comp=Z,457nm,1.2s
XAN Xi'an 32.70 331 P **P** **13 39 46.5 -0.3**
CD2 Chengdu 33.18 321⇑P **P** **13 39 51.6 +0.6**
CD2 sP sP 13 40 24.6 +0.8
CD2 PP **PP** **13 41 10.7 +2.8**
CD2 S **S** **13 45 02.5 -1.0**
CD2 sS sS 13 45 43.8 +3.6
CD2 pmax pmax
comp=Z,390nm,0.7s
CD2 pmax pmax
comp=Z,1µm,5.5s
CD2 LR LR
comp=Z,3µm,24.5s
CD2 LR LR
comp=Z,3µm,16.7s
CD2 LR LR
comp=Z,3µm,26.5s
DL2 Dalian 33.24 352 P **P** **13 39 52.2 +0.9**
DL2 S **S** **13 45 04.7 +0.7**
DL2 pmax pmax
comp=Z,57nm,1.0s
DL2 pmax pmax
comp=Z,290nm,4.5s
DL2 LR LR
comp=Z,680nm,16.8s
DL2 LR LR
comp=Z,600nm,17.5s
MEEK Meekatharra 33.38 194 P **P** **13 39 52.1 -0.6**
baz=34,SNR=39
TIY Taiyuan 34.39 339 P **P** **13 40 02.6 +1.2**
TIY pmax pmax
comp=Z,560nm,5.9s
PBA Port Blair 34.45 282 P P 13 39 59.8 -2.4
BJT Baijiatuau 35.38 345 P **P** **13 40 09.5 -0.3**
BJT pmax pmax
comp=Z,171nm,0.7s
BJT Baijiatuau 35.38 345 P **P** **13 40 09.5 -0.3**
BJI Beijing 35.40 345 P **P** **13 40 10.2 +0.3**
BJI S **S** **13 45 37.6 +0.4**
BJI pmax pmax
comp=Z,220nm,0.8s
BJI LR LR
comp=N,470nm,5.3s
BJI LR LR
comp=E,660nm,4.3s
BJI Beijing 35.40 345 P **P** **13 40 09.8 -0.1**
BJI PcP **PcP** **13 42 39.3 +1.5**
BJI S **S** **13 45 37.7 +0.5**
BJI sS **ScP** **13 46 19.1 +4.4**
BJI pmax pmax
comp=E,58nm,1.0s
BJI pmax pmax
comp=E,400nm,4.2s
BJI LR LR
comp=E,320nm,5.7s
BJI LR LR
comp=E,610nm,8.4s
SNY Shenyang 35.92 355⇑P **P** **13 40 14.8 +0.4**
SNY S **S** **13 45 47.3 +2.1**
SNY pmax pmax
comp=E,71nm,0.9s
SNY pmax pmax
comp=E,350nm,4.5s
SNY LR LR
comp=E,450nm,13.9s
SNY LR LR
comp=E,510nm,21.3s
SNY LR LR
comp=E,870nm,25.7s
QLP Quilpie 36.29 154 P **P** **13 40 18.3 +0.5**
baz=36,SNR=8.8
MORW Morawa 36.37 197 P **P** **13 40 18.7 +0.4**
baz=36,SNR=19
MORW Morawa 36.37 197 P **P** **13 40 17.9 -0.4**
MORW IAmb IAmb 13 40 20.1
comp=Z,116nm,1.1s
FORT Forrest 36.48 179 P **P** **13 40 19.3 0.0**
baz=37,SNR=34
FORT Forrest 36.48 179 P **P** **13 40 19.0 -0.3**
FORT IAmb IAmb 13 40 21.0
comp=Z,127nm,0.7s
LZH Lanzhou 36.88 328⇑P **P** **13 40 24.7 +1.9**
LZH pP pwP 13 40 48.3 -1.3
LZH PP **PP** **13 41 55.4 +6.6**
LZH S **S** **13 45 58.1 -2.2**
LZH sS sS 13 46 45.1 +7.7
LZH SS **SnSn** **13 48 37.4 -5.7**
LZH pmax pmax
comp=Z,160nm,1.3s
LZH pmax pmax
comp=Z,930nm,4.9s
LZH LR LR
comp=Z,3µm,17.9s
LZH LR LR
comp=Z,4µm,16.8s
LZH LR LR
comp=Z,5µm,18.8s
VLA Vladivostok 37.31 6*ce*P **P** **13 40 26.9 +0.8**
VLA pmax pmax
comp=Z,109nm,1.0s
HHC Hu-ho-hao-te 37.49 340 *e*P **P** **13 40 29.0 +1.1**
HHC PP **PnPn** **13 42 00.4 +3.0**
HHC S **S** **13 46 10.3 +0.9**
HHC SS **SS** **13 48 51.5 -6.0**
HHC pmax pmax
comp=Z,75nm,1.2s
HHC LR LR
comp=Z,440nm,20.5s
HHC LR LR
comp=Z,340nm,13.6s
HHC LR LR
comp=Z,630nm,18.7s
JORH JORHAT 37.56 307 *e*P **P** **13 40 27.9 -0.6**
BLDU Ballidu 37.65 195 P **P** **13 40 29.2 0.0**
baz=38,SNR=58
CN2 Changchun 37.78 358 *e*P **P** **13 40 31.9 +1.8**
CN2 *e*S **S** **13 46 16.4 +2.9**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,400nm,15.0s
BTO Baotou 37.81 339 *e*P **P** **13 40 32.0 +1.4**
SILR SILCHAR 37.89 303 *e*P **P** **13 40 31.5 +0.2**
ZIRO ZIRO 38.24 308 *e*P **P** **13 40 34.4 -0.1**
ZIRO IAmb IAmb 13 40 37.0
comp=Z,348nm,1.0s
KLBR Kellerberrin 38.34 193 P **P** **13 40 34.9 0.0**
baz=38,SNR=22
USA0B Ussuriysk Arra 38.39 6 P **P** **13 40 35.3 +0.1**
USA0B pmax pmax
comp=Z,171nm,1.7s
USA0B Ussuriysk Arra 38.39 6 P **P** **13 40 35.3 +0.1**
USA0B IAmb IAmb 13 40 37.3
comp=Z,171nm,1.6s
USRK Ussuriysk Ar. 38.39 6 P **P** **13 40 36.3 +1.1**
comp=Z,30nm,0.8s,baz=184,slow=6.8,SNR=29
USRK LR LR 13 55 26.8
comp=Z,303nm,21.9s,baz=182,slow=34
USRK Ussuriysk Ar. 38.39 6 P **P** **13 40 35.2 0.0**
RMQ Roma 38.41 148 P **P** **13 40 35.4 -0.3**
baz=38,SNR=6.2
MDJ Mudanjiang 38.63 3 P **P** **13 40 38.4 +1.2**
MDJ pmax pmax
comp=Z,100nm,1.3s
MDJ Mudanjiang 38.63 3 P **P** **13 40 37.2 0.0**
MDJ IAmb IAmb 13 40 41.7
comp=Z,82nm,0.9s
TEZP TEZPUR 38.66 306 *e*P **P** **13 40 37.1 -0.8**
TEZP IAmb IAmb 13 40 39.9
comp=Z,105nm,1.1s
TEZP *i* x x 13 42 40.4
TEZP *ex* x x 13 49 15.5
ERM Erimo 38.69 19⇑*e*P **P** **13 40 40.4 +2.7**
ERM pmax pmax
comp=Z,33nm,0.8s
ERM Erimo 38.69 19 P **P** **13 40 37.1 -0.6**
ERM IAmb IAmb 13 41 14.0
comp=Z,327nm,1.6s
EIDS Eidsvold 38.83 144 P **P** **13 40 39.2 0.0**
baz=39,SNR=6.0
EIDS Eidsvold 38.83 144 P **P** **13 40 38.1 -1.0**
SHL Shillong 38.97 304 *i* x x 13 40 39.0
SHL *e*P **P** **13 40 39.7 -0.9**
SHL IAmb IAmb 13 40 43.2
comp=Z,195nm,0.5s
SHL *e*pP pP 13 40 58.0 -4.6
SHL *i* x x 13 42 45.9
SHL *i* x x 13 46 28.0
SHL Shillong 38.97 304 P **P** **13 40 41.2 +0.6**
SNR=76
SHL Shillong 38.97 304 P **P** **13 40 39.9 -0.7**
SHL pmax pmax
comp=Z,265nm,0.8s
SHL Shillong 38.97 304 P **P** **13 40 39.9 -0.7**
MUN Mundaring 39.08 195 P **P** **13 40 41.6 +0.4**
baz=39,SNR=53
GUWA GUWAHATI 39.38 305 *e*P **P** **13 40 42.6 -1.2**
BBOO Buckleboo 39.42 168 P **P** **13 40 44.4 +0.5**
baz=40,SNR=38
BBOO Buckleboo 39.42 168 P **P** **13 40 43.7 -0.3**
BBOO IAmb IAmb 13 41 15.6
comp=Z,65nm,0.8s
NWAO Narrogin (SRO) 39.74 193 P **P** **13 40 47.2 +0.7**
comp=Z,56nm,0.5s,baz=24,slow=8.3,SNR=97
NWAO Narrogin (SRO) 39.74 193 P **P** **13 40 47.4 +0.7**
baz=40,SNR=66
NWAO Narrogin (SRO) 39.74 193 P **P** **13 40 47.5 +0.9**
NWAO P **P** **13 40 47.5 +0.9**
NWAO Narrogin (SRO) 39.74 193 P **P** **13 40 46.6 0.0**
NWAO pmax pmax
comp=Z,243nm,1.3s
NWAO Narrogin (SRO) 39.74 193 P **P** **13 40 46.6 0.0**
NWAO Narrogin (SRO) 39.74 193 P **P** **13 40 46.5 0.0**
NWAO IAmb IAmb 13 40 49.0
comp=Z,243nm,1.2s
TEY Ternei 39.85 10⇓*e*P **P** **13 40 48.7 +1.3**
TEY pmax pmax
comp=N,60nm,0.8s
TEY pmax pmax
comp=Z,120nm,0.8s
STKA Stephens Creek 40.01 161 P **P** **13 40 48.9 0.0**
comp=Z,26nm,0.8s,baz=339,slow=8.9,SNR=45
STKA LR LR 14 00 14.6
comp=Z,546nm,20.2s,baz=328,slow=40
STKA Stephens Creek 40.01 161 P **P** **13 40 49.0 +0.1**
baz=40,SNR=33

STKA **Stephens Creek** 40.01 161 P **P** **13 40 48.7 -0.2**
STKA pmax pmax
comp=Z,11nm,0.9s
STKA **Stephens Creek** 40.01 161 P **P** **13 40 48.6 -0.2**
ASAJ **Asahikawa** 40.41 17 P **P** **13 40 53.4 +1.3**
comp=Z,25nm,0.5s,baz=221,slow=10,SNR=51
ASAJ **Asahikawa** 40.41 17 P **P** **13 40 52.3 +0.2**
ASAJ pmax pmax
comp=Z,67nm,1.0s
JKA **Kamikawa-asahi** 40.42 17 P **P** **13 40 52.3 +0.2**
JKA IAmb IAmb 13 40 55.0
comp=Z,67nm,1.0s
H11S3 **WAKE ISLAND Hy** 40.53 68 T T 14 25 16.4
baz=258,slow=75,SNR=15
H11S1 **WAKE ISLAND Hy** 40.54 68 T T 14 25 15.6
baz=258,slow=75,SNR=16
H11S2 **WAKE ISLAND Hy** 40.54 68 T T 14 25 12.7
baz=258,slow=75,SNR=16
HTT **Hallett** 40.68 165 P **P** **13 40 56.3 +1.8**
baz=41,SNR=4.7
H11N1 **WAKE ISLAND Hy** 41.00 67 T T 14 25 54.2
baz=255,slow=74,SNR=11
H11N2 **WAKE ISLAND Hy** 41.01 67 T T 14 25 56.5
baz=255,slow=74,SNR=17
H11N3 **WAKE ISLAND Hy** 41.02 67 T T 14 25 54.6
baz=255,slow=74,SNR=12
CMSA **Cobar Meteorol** 41.23 156 P **P** **13 40 59.9 +1.0**
baz=41,SNR=19
LSA **Lhasa** 41.35 309 P **P** **13 41 01.7 +1.1**
LSA pmax pmax
comp=Z,610nm,1.3s
LSA **Lhasa** 41.35 309 P **P** **13 41 01.7 +1.1**
LSA **Lhasa** 41.35 309 P **P** **13 41 01.1 +0.5**
LSA **Lhasa** 41.35 309 P **P** **13 41 01.0 +0.4**
LSA pmax pmax
comp=Z,439nm,1.6s
LSA **Lhasa** 41.35 309 P **P** **13 41 00.9 +0.4**
YUK **Yuzh-Kuril'sk** 41.39 20 *eP* **P** **13 41 00.4 +0.3**
YUK *e* 13 42 36.4
YUK *eS* **S** **13 47 08.6 +1.2**
YUK *eSS* **SS** **13 50 17.8 +2.4**
YUK *eSSS* SSS 13 50 55.1
YUK pmax pmax
comp=Z,306nm,1.0s
YUK pmax pmax
comp=N,218nm,1.2s
YUK pmax pmax
comp=E,159nm,1.0s
YUK pmax pmax
comp=Z,334nm,1.3s
YUK MLR MLR
comp=Z,275nm,16.0s
GTA **Gaotai** 41.48 328 ⇑P **P** **13 41 02.4 +1.3**
GTA pP pwP 13 41 25.6 -2.1
GTA sP sP 13 41 36.4 +2.0
GTA PP **PP** **13 42 40.8 +2.0**
GTA ScP **ScP** **13 46 38.8 +0.7**
GTA S **S** **13 47 12.8 +3.6**
GTA sS sS 13 47 52.8 +6.0
GTA ScS **ScS** **13 50 55.8 +1.0**
GTA pmax pmax
comp=Z,180nm,1.1s
GTA pmax pmax
comp=Z,940nm,7.3s
GTA LR LR
comp=Z,920nm,23.5s
GTA LR LR
comp=Z,970nm,23.5s
GTA LR LR
comp=Z,2μm,25.4s
GTK **Tadong** 42.36 305 *eP* **P** **13 41 08.8 +0.3**
GTK IAmb IAmb 13 41 11.6
comp=Z,577nm,1.5s
BWNR **Bhubaneshwar** 42.58 294 *eP* P 13 41 04.9 -5.2
BWNR *i* x x 13 41 09.0
YSS **Yuzh-Sakhalins** 43.06 16 *eP* **P** **13 41 11.7 -1.9**
YSS *e* 13 42 57.7
YSS *eS* **S** **13 47 28.6 -3.3**
YSS pmax pmax
comp=Z,200nm,2.0s
YSS pmax pmax
comp=Z,50nm,0.7s
YSS MLR MLR
comp=Z,500nm,14.0s
YSS MLR MLR
comp=N,400nm,15.0s
YSS MLR MLR
comp=E,200nm,16.0s
YSS **Yuzh-Sakhalins** 43.06 16 P **P** **13 41 13.8 +0.2**
YSS IAmb IAmb 13 41 15.6
comp=Z,195nm,1.6s
ARMA **Armidale** 43.06 148 P **P** **13 41 14.9 +0.9**
baz=43,SNR=7.3
ARMA **Armidale** 43.06 148 P **P** **13 41 14.5 +0.5**
ARMA IAmb IAmb 13 41 44.9
comp=Z,137nm,1.4s
TAPN **Taplejung** 43.10 304 *eP* **P** **13 41 15.0 +0.3**
KUR **Kuril'sk** 43.15 21 *c iP* **P** **13 41 15.3 +1.0**
KUR *e*PPP PPP 13 43 28.7
KUR *eS* **S** **13 47 38.4 +5.2**
KUR SSS SSS 13 51 35.5
KUR pmax pmax
comp=Z,165nm,1.3s
KUR pmax pmax
comp=N,55nm,1.4s
ODAN **Odare** 43.19 303 *eP* **P** **13 41 15.4 +0.2**
comp=N,586nm,0.9s
KLR **Kul'dur** 43.36 4 P **P** **13 41 16.6 +0.6**
comp=N,30nm,0.8s,baz=208,slow=5.0,SNR=71
KLR **Kul'dur** 43.36 4 *c iP* **P** **13 41 16.2 +0.2**
KLR pmax pmax
comp=Z,54nm,0.9s
BOK **Bokaro** 43.45 299 *eP* **P** **13 41 16.4 -0.7**
BOK IAmb IAmb 13 41 19.8
comp=Z,280nm,1.2s
HIA **Hailar** 43.67 353 P **P** **13 41 18.0 -0.5**
HIA pmax pmax
comp=Z,42nm,1.1s
HIA **Hailar** 43.67 353 P **P** **13 41 18.0 -0.5**
CHLP **Challavanipeta** 43.81 291 *eP* **P** **13 41 20.2 +0.1**
CHLP IVmB_BB 13 41 21.6
comp=Z,1μm,1.1s
RAMN **Ramite** 43.88 303 *eP* **P** **13 41 21.2 +0.4**
comp=Z,910nm,1.0s
JIRN **Jiri** 44.47 304 *eP* **P** **13 41 26.1 +0.4**
comp=Z,1μm,0.8s
ARPS **Mount Arapiles** 44.62 163 P **P** **13 41 27.9 +1.7**
baz=45,SNR=19
GUN **Gumba** 44.82 304 *eP* **P** **13 41 29.1 +0.7**
comp=Z,382nm,0.3s
SANVU **Saraoutou** 45.00 119 P **P** **13 41 28.0 -1.5**
SANVU IAmb IAmb 13 41 49.7
comp=Z,274nm,1.5s
PKI **Pulchoki** 45.09 303 *eP* **P** **13 41 30.2 -0.3**
ULN **Ulaanbaatar** 45.21 341 P **P** **13 41 31.0 +0.1**
ULN P **P** **13 41 31.0 +0.1**
ULN P **P** **13 41 31.0 +0.1**
ULN **Ulaanbaatar** 45.21 341 *c iP* **P** **13 41 31.7 +0.8**
ULN pmax pmax
comp=Z,120nm,1.4s
ULN **Ulaanbaatar** 45.21 341 P **P** **13 41 30.3 -0.6**
ULN IAmb IAmb 13 41 36.5
comp=Z,205nm,1.5s
KKN **Kakani** 45.27 304 *eP* **P** **13 41 31.6 -0.3**
comp=Z,507nm,1.0s
DMN **Daman** 45.35 303 *eP* **P** **13 41 32.5 0.0**
comp=Z,543nm,1.0s
GRNR **Gornyy** 45.39 8 ⇑*iP* **P** **13 41 32.9 +0.7**
GRNR *eS* **S** **13 48 08.9 +3.2**
GRNR pmax pmax
comp=N,10.0nm,0.8s
GRNR pmax pmax
comp=Z,30nm,0.8s
GRNR smax smax
comp=N,2.0nm,0.8s
GRNR MLR MLR
comp=E,90nm,11.0s
GRNR MLR MLR
comp=N,160nm,15.0s
GRNR MLR MLR
comp=Z,290nm,15.0s
SONM **Songino Array** 45.40 340 P **P** **13 41 33.3 +0.9**
comp=Z,33nm,0.6s,baz=158,slow=7.9,SNR=54
SONM PcP **PcP** **13 43 09.5 -0.6**
comp=Z,12nm,0.8s,baz=166,slow=4.4,SNR=3.8
SONM LR LR 14 02 17.7
comp=Z,485nm,18.8s,baz=156,slow=38
SONM **Songino Array** 45.40 340 P **P** **13 41 31.7 -0.7**
SONM 13 43 09.5
SONM pmax pmax
comp=Z,38nm,0.9s
SONM **Songino Array** 45.40 340 P **P** **13 41 31.7 -0.7**
PVM **Polavaram** 45.88 288 *eP* **P** **13 41 36.9 +0.4**
PVM IVmB_BB 13 41 37.7
comp=Z,978nm,2.2s
GKN **Gorkha** 45.88 304 *eP* **P** **13 41 36.3 -0.3**
comp=Z,298nm,0.7s
CNB **Canberra Magne** 46.02 155 P **P** **13 41 38.9 +1.5**
baz=46,SNR=5.5
PALK **Pallekele** 46.13 274 P **P** **13 41 38.6 -0.1**
comp=Z,20nm,0.8s,baz=182,slow=6.9,SNR=8.7
PALK **Pallekele** 46.13 274 *deP* **P** **13 41 38.5 -0.1**
PALK pmax pmax
comp=Z,43nm,1.1s
PALK **Pallekele** 46.13 274 P **P** **13 41 37.3 -1.3**
PALK IAmb IAmb 13 41 40.7
comp=Z,84nm,1.2s
TOO **Toolangi** 46.51 160 P **P** **13 41 43.7 +2.6**
baz=47,SNR=7.0
TYV **Tymovskoe** 46.66 13 *eP* **P** **13 41 43.2 +1.2**
TYV *eS* **S** **13 48 26.9 +3.2**
TYV pmax pmax
comp=Z,26nm,1.1s
TYV pmax pmax
comp=Z,500nm,4.9s
TYV smax smax
comp=N,400nm,8.5s
KOLN **Koldanda** 46.66 303 *eP* **P** **13 41 43.1 +0.3**
comp=N,1μm,0.8s
DANN **Dangsing** 46.73 304 *eP* **P** **13 41 43.4 0.0**
comp=N,1μm,0.7s
MYLAV **Mylavaram** 46.74 287 *eP* **P** **13 41 43.7 +0.4**
MYLAV IVmBBB 13 41 44.6
comp=Z,780nm,1.1s
ADKI **Addanki** 47.27 286 *eP* **P** **13 41 47.6 +0.3**
ADKI IVmB_BB 13 41 48.5
comp=Z,777nm,2.1s
PYUN **Piuthan** 47.28 303 *eP* **P** **13 41 48.0 +0.4**
SKHT **Srikalahasti** 47.31 283 *eP* **P** **13 41 48.0 +0.3**
SKHT IVmB_BB 13 41 48.8
comp=Z,817nm,0.6s
CIT **Chita** 47.33 349 *eP* **P** **13 41 48.6 +1.2**
CIT *e* 13 42 12.0
CIT *e* 13 42 17.6
CIT *e* 13 43 44.4
CIT pmax pmax
comp=Z,113nm,1.4s
DZM **Mont Dzumac** 47.48 127 P **P** **13 41 49.3 +0.3**
comp=Z,211nm,0.7s,baz=286,slow=9.2,SNR=6.8
DZM **Mont Dzumac** 47.48 127 *eP* **P** **13 41 47.1 -1.9**
comp=Z,86nm,1.3s
DZM *eS* **S** **13 48 32.0 -4.5**
comp=Z,1μm,29.0s
DZM *e*LR LR 13 55 23.3
comp=Z,5μm,34.9s
DZM **Mont Dzumac** 47.48 127 P **P** **13 41 47.8 -1.2**
ZEA **Zeya** 47.70 0 *eP* **P** **13 41 49.8 -0.3**
ZEA *e* 13 51 34.0
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,29nm,1.0s
NJS **Nagarjunasagar** 47.98 287 *eP* **P** **13 41 52.9 0.0**
NJS IVmB_BB 13 41 53.6
comp=Z,864nm,1.0s
RPR **Rampur** 48.31 290 *eP* **P** **13 41 55.8 +0.4**
RPR IVmB_BB 13 41 56.4
comp=Z,1μm,1.8s
SRLM **Srisailam** 48.32 286 *eP* **P** **13 41 55.3 -0.2**
SRLM IVmBBB 13 41 56.2
comp=Z,852nm,0.9s
ZAK **Zakamensk** 48.64 340 *eP* **P** **13 41 57.3 -0.2**
ZAK *e* 13 43 19.0
ZAK pmax pmax
comp=Z,18nm,1.4s
ZAK pmax pmax
comp=Z,13nm,1.1s
HYB **Hyderabad** 48.80 288 *i* P **P** **13 41 58.0 -1.3**
HYB *e*pP **pP** **13 42 18.0 -4.1**
HYB *e*PcP **PcP** **13 41 21.0 -1.7**
HYB *eS* **S** **13 48 52.0 -3.3**
HYB **Hyderabad** 48.80 288 *eP* **P** **13 41 58.6 -0.7**
HYB IAmb IAmb 13 42 00.9
comp=Z,162nm,1.0s
HYBB **Hyderabad (bro** 48.81 288 *eP* **P** **13 41 58.9 -0.4**
HYBB IVmB_BB 13 41 59.8
comp=Z,1μm,1.5s
NGP **Nagpur** 48.94 293 *eP* **P** **13 42 01.1 +0.9**
SRSP **Sriramsagar** 49.21 290 *eP* **P** **13 42 02.2 -0.1**
SRSP IVmB_BB 13 42 03.1
comp=Z,1μm,1.6s
TLY **Talaya** 49.62 341 P **P** **13 42 06.8 +1.9**
comp=Z,33nm,0.7s,baz=238,slow=3.9,SNR=13
TLY **Talaya** 49.62 341 *eP* **P** **13 42 06.3 +1.4**
TLY *e* 13 43 18.7
TLY *eS* **S** **13 49 03.3 -2.3**
TLY *eSS* **SS** **13 52 31.1 -8.0**
TLY pmax pmax
comp=Z,85nm,0.9s
TLY MLR MLR
comp=Z,598nm,19.0s
TLY **Talaya** 49.62 341 P **P** **13 42 04.2 -0.7**
TLY IAmb IAmb 13 42 10.2
comp=Z,40nm,0.7s
URV **Uravakonda** 49.77 285 *eP* **P** **13 42 06.2 -0.5**
URV IVmBBB 13 42 06.9
comp=Z,637nm,1.4s
IRK **Irkutsk** 49.90 342 *eP* **P** **13 42 06.8 -0.2**
IRK pmax pmax
comp=Z,112nm,2.4s
MOY **Mondy** 50.51 339 *eP* **P** **13 42 12.7 +1.0**
MOY pmax pmax
comp=Z,190nm,2.4s
KLRI **Killari** 50.74 288 *eP* **P** **13 42 13.3 -0.6**
KLRI IVmB_BB 13 42 14.2
comp=Z,1μm,1.4s
WMQ **Urumqi** 51.21 324 *eP* **P** **13 42 18.2 +1.1**
WMQ pP pP 13 42 39.1 -1.0
WMQ PcP **PcP** **13 43 32.3 +1.2**
WMQ S **S** **13 49 27.4 -0.6**
WMQ sS sS 13 50 09.1 +2.4
WMQ ScS **ScS** **13 51 55.5 -2.4**
WMQ pmax pmax
comp=Z,120nm,1.7s
WMQ pmax pmax
comp=Z,850nm,4.3s
WMQ LR LR
comp=Z,1μm,22.1s
WMQ LR LR
comp=Z,740nm,23.1s
WMQ LR LR
comp=Z,2μm,25.9s
WMQ **Urumqi** 51.21 324 P **P** **13 42 16.4 -0.7**
WMQ pmax pmax
comp=Z,514nm,1.7s
WMQ **Urumqi** 51.21 324 P **P** **13 42 16.4 -0.7**
DDI **Dehra Dun** 52.07 304 *eP* **P** **13 42 23.8 0.0**
NDI **New Delhi** 52.30 302 *ex* **P** **13 42 26.0 +0.6**
BOD **Bodaibo** 52.80 351 *eP* **P** **13 42 29.3 +0.8**
BOD pmax pmax
comp=Z,64nm,1.5s
SMLA **Simla** 53.05 305 *eP* **P** **13 42 31.3 +0.5**
SMLA IAmb IAmb 13 42 33.4
comp=Z,280nm,0.7s
PEA0B **Petropavlovsk-** 53.28 22 ⇑*iP* **P** **13 42 34.8 +2.6**
PEA0B **Petropavlovsk-** 53.28 22 P **P** **13 42 31.5 -0.7**
PEA0B IAmb IAmb 13 42 35.0
comp=Z,90nm,1.0s
PETK **Petropavlovsk-** 53.28 22 P **P** **13 42 34.3 +2.1**
comp=Z,38nm,0.8s,baz=192,slow=2.7,SNR=14
PETK LR LR 14 05 50.1
comp=Z,134nm,20.3s,baz=228,slow=36
PETK **Petropavlovsk-** 53.28 22 P **P** **13 42 31.9 -0.3**
POO **Poona** 53.38 289 *ex* **P** **13 42 33.0 -0.5**
PET **Petropavlovsk** 53.59 23 P **P** **13 42 35.4 +1.1**
PET pmax pmax
comp=Z,102nm,1.0s
PET **Petropavlovsk** 53.59 23 P **P** **13 42 35.4 +1.1**
PET IAmb IAmb 13 42 37.0
comp=Z,102nm,1.0s
DHRM **DHARAMSHALA** 54.09 306 *eP* **P** **13 42 38.5 -0.3**
DHRM *ex* x 13 50 02.1
THN **Thein Dam** 54.62 306 *ex* **P** **13 42 43.5 +1.3**
THN *ex* x 13 43 45.0
DGZ **Jazzator, Alta** 54.93 330 *c iP* **P** **13 42 45.3 +0.9**
DGZ pmax pmax
comp=Z,122nm,1.2s
DGZ MLR MLR
comp=Z,1μm,25.0s
ZSN **Zaisan** 54.93 326 ⇑*iP* **P** **13 42 45.1 +0.8**
comp=Z,84nm,1.3s,baz=326
ZSN *eS* **S** **13 50 20.0 +1.7**
baz=326
ZSN **Zaisan** 54.93 326 *c iP* **P** **13 42 45.1 +0.8**
ZSN *eS* **S** **13 50 20.0 +1.7**
ZSN pmax pmax
comp=Z,84nm,1.3s
MSVF **Nonsavu** 55.47 116 ⇑*eP* **P** **13 42 50.3 +1.6**
MSVF pmax pmax
comp=Z,12nm,0.7s
SHLS **Shalkode** 55.97 319 ⇑*iP* **P** **13 42 51.2 -0.7**
comp=Z,127nm,0.7s,baz=319
SHLS *eS* **S** **13 50 30.6 -1.9**
baz=319
SHLS **Shalkode** 55.97 319 *c iP* **P** **13 42 51.2 -0.7**
SHLS *eS* **S** **13 50 30.5 -1.9**
SHLS pmax pmax
comp=Z,127nm,0.7s
PDGK **Podgornoye** 56.03 319 P **P** **13 42 52.4 +0.1**
MK31 **Makanchi Array** 56.03 324 P **P** **13 42 53.0 +0.8**
MK31 pmax pmax
comp=Z,175nm,0.8s
MK31 **Makanchi Array** 56.03 324 P **P** **13 42 53.0 +0.8**
MKAR **Makanchi Array** 56.03 324 P **P** **13 42 53.2 +1.0**
comp=Z,188nm,0.6s,baz=124,slow=8.2,SNR=1362
MKAR PcP **PcP** **13 43 50.2 +0.9**
comp=Z,35nm,0.8s,baz=104,slow=6.1,SNR=4.3
MKAR ScP **ScP** **13 47 39.5 0.0**
comp=Z,3.6nm,0.7s,baz=123,slow=4.4,SNR=5.6
MKAR LR LR 14 09 53.0
comp=Z,404nm,18.7s,baz=116,slow=39
MKAR PKPPKP **P'P'df** **14 12 50.9 -0.3**
comp=Z,0.5nm,0.9s,baz=48,slow=1.8,SNR=3.9
MKAR PKP2bc 14 13 04.8
comp=Z,0.7nm,1.0s,baz=308,slow=6.0,SNR=3.8
MKAR **Makanchi Array** 56.03 324 P **P** **13 42 52.9 +0.7**
YAK **Yakutsk** 56.05 1 P **P** **13 42 52.5 +0.6**
comp=Z,35nm,0.4s,baz=190,slow=1.6,SNR=46
YAK **Yakutsk** 56.05 1 *c iP* **P** **13 42 52.1 +0.2**
YAK *e**PP **pwP** **13 43 21.5 -1.4**
YAK *eS* **S** **13 50 33.7 +1.2**
YAK *e**SS sS 13 51 01.5 -8.8
YAK *e* 13 52 24.9
YAK *eSS* **SS** **13 54 14.2 -6.0**
YAK pmax pmax
comp=Z,141nm,0.9s
YAK pmax pmax
comp=N,69nm,1.0s
YAK pmax pmax
comp=E,7.0nm,0.8s
YAK smax smax
comp=N,52nm,2.3s
YAK smax smax
comp=E,67nm,3.5s
YAK **Yakutsk** 56.05 1 P **P** **13 42 51.5 -0.5**
MAKZ **Makanchi** 56.22 324 P **P** **13 42 54.3 +0.7**
MAKZ pmax pmax
comp=Z,248nm,0.8s
MAKZ **Makanchi** 56.22 324 P **P** **13 42 54.3 +0.7**
UZB **Uzynbulak** 56.25 319 ⇑*iP* **P** **13 42 54.9 +1.0**
comp=Z,95nm,0.7s,baz=319
UZB **Uzynbulak** 56.25 319 *c iP* **P** **13 42 54.9 +1.0**
UZB pmax pmax
comp=Z,95nm,0.7s
PRZ **Przheval'sk** 56.36 318 P **P** **13 42 56.2 +1.4**
PRZ pmax pmax
comp=Z,715nm,1.4s
PRZ **Przheval'sk** 56.36 318 P **P** **13 42 56.2 +1.4**
TARG **Taragay, Kyrgy** 56.43 317 P **P** **13 42 55.8 +0.2**
TARG IAmb IAmb 13 43 07.7
comp=Z,192nm,1.4s
MA2 **Magadan** 56.52 14 P **P** **13 42 56.1 +0.7**
comp=Z,31nm,0.7s,baz=199,slow=6.8,SNR=38
MA2 **Magadan** 56.52 14 P **P** **13 42 55.6 +0.3**
MA2 pmax pmax
comp=Z,38nm,0.8s
MA2 **Magadan** 56.52 14 P **P** **13 42 55.6 +0.3**
MA2 IAmb IAmb 13 42 58.7
comp=Z,38nm,0.8s
SATY **Saty** 56.61 319 ⇑*iP* **P** **13 42 57.7 +1.1**
comp=Z,126nm,0.8s,baz=319
SATY *eS* **S** **13 50 42.7 +1.6**
baz=319
SATY **Saty** 56.61 319 *c iP* **P** **13 42 57.6 +1.1**
SATY *eS* **S** **13 50 42.6 +1.6**
SATY pmax pmax
comp=Z,126nm,0.8s
SATY **Saty** 56.61 319 *c iP* **P** **13 42 57.6 +1.1**
SATY *eS* **S** **13 50 42.6 +1.6**
SATY pmax pmax
comp=Z,126nm,0.8s
KPKS **Kokpek** 56.61 319 ⇑*iP* **P** **13 42 57.3 +0.8**
comp=Z,338nm,1.6s,baz=319
KPKS **Kokpek** 56.61 319 *c iP* **P** **13 42 57.3 +0.8**
KPKS pmax pmax
comp=Z,338nm,1.6s
KSH **Kashi** 56.82 314 P **P** **13 43 00.2 +2.1**
KSH S **S** **13 50 45.2 +1.3**
KSH sS sS 13 51 27.4 +1.1
KSH pmax pmax
comp=Z,220nm,1.2s
NIL **Nilore** 56.95 306 P **P** **13 42 59.2 +0.2**
NIL pmax pmax
comp=Z,515nm,0.9s
NIL **Nilore** 56.95 306 P **P** **13 42 59.2 +0.2**
KDJ **Kajisay** 57.02 317 P **P** **13 43 00.5 +1.0**
KDJ pmax pmax
comp=Z,373nm,1.3s
KDJ **Kajisay** 57.02 317 P **P** **13 43 00.5 +1.0**
TDK **Taldyqorghan** 57.49 321 *i* P **P** **13 43 03.5 +1.0**
comp=Z,102nm,0.6s,baz=321
TDK *i* S **S** **13 50 53.9 +1.5**
baz=321
TDK **Taldyqorghan** 57.49 321 *i* P **P** **13 43 03.5 +1.0**
TDK *i* S **S** **13 50 53.8 +1.5**
TDK pmax pmax
comp=Z,102nm,0.6s
MDOK **Medeo** 57.55 318 *i* P **P** **13 43 04.3 +1.1**
baz=318
MDOK *eS* **S** **13 50 55.1 +1.6**
baz=318
MDOK **Medeo** 57.55 318 *i* P **P** **13 43 04.3 +1.1**
MDOK *eS* **S** **13 50 55.0 +1.6**
TNSS **Tian-Shan** 57.56 318 *i* P **P** **13 43 04.9 +1.3**
baz=318
TNSS **Tian-Shan** 57.56 318 *d iP* **P** **13 43 04.9 +1.3**
AAA **Alma-Ata** 57.66 318 ⇑*iP* **P** **13 43 05.0 +1.2**
comp=Z,148nm,1.3s,baz=318
AAA *eS* **S** **13 50 56.3 +1.6**
baz=318
AAA **Alma-Ata** 57.66 318 *eP* **P** **13 43 05.2 +1.4**
AAA *eS* **S** **13 50 46.7 -7.9**
AAA pmax pmax
comp=Z,600nm,3.7s
AAA smax smax
comp=N,100nm,4.4s
AAA MLR MLR
comp=Z,500nm,27.0s
ULHL **Ulahol** 57.71 317 P **P** **13 43 05.5 +1.1**
SNR=65
BHUJ **Bhuj** 57.87 294 *eP* **P** **13 43 05.5 0.0**
CHKK **Chushkaly** 57.89 319 *i* P **P** **13 43 06.0 +0.6**
baz=319
CHKK **Chushkaly** 57.89 319 *i* P **P** **13 43 05.9 +0.6**
MTBS **Maitube** 57.95 318 *i* P **P** **13 43 06.6 +0.7**
baz=318
MTBS **Maitube** 57.95 318 *i* P **P** **13 43 06.5 +0.7**
KZA **Kyzart** 58.32 317 P **P** **13 43 10.4 +1.6**
SNR=128
KUU **Kurty** 58.33 319 ⇑*iP* **P** **13 43 09.3 +0.8**
comp=Z,457nm,1.1s,baz=319
KUU *eS* **S** **13 51 04.4 +1.2**
comp=Z,80nm,2.0s,baz=319
KUU *i* S S 13 51 04.7 +1.5
baz=319
KUU **Kurty** 58.33 319 *c iP* **P** **13 43 09.2 +0.8**

KUU eS **S** **13 51 04.4 +1.2**
KUU i S S 13 51 04.7 +1.5
KUU pmax pmax
comp=Z,457nm,1.1s
KUU smax smax
comp=N,80nm,2.0s
TKM2 Tokmak 2 58.42 318 P **P** **13 43 10.2 +0.9**
SNR=152
TKM2 Tokmak 2 58.42 318 P **P** **13 43 09.0 -0.3**
KBK Karagaybulak 58.75 317 P **P** **13 43 13.7 +2.1**
SNR=44
ZAA0 Zalesovo Array 58.86 332 P **P** **13 43 11.4 -0.4**
ZAA0 IAmb IAmb 13 43 13.5
comp=Z,74nm,0.8s
ZALV Zalesovo Beam 58.86 332 P **P** **13 43 12.2 +0.3**
comp=Z,40nm,0.5s,baz=124,slow=6.2,SNR=173
ZALV PP **PP** **13 45 23.9 +0.9**
comp=Z,2.5nm,0.6s,baz=134,slow=8.3,SNR=2.0
ZALV LR LR 14 12 25.3
comp=Z,254nm,18.5s,baz=133,slow=40
ZALV PKP2bc 14 12 53.9
comp=Z,0.5nm,0.5s,baz=322,slow=9.4,SNR=3.7
ZALV Zalesovo Beam 58.86 332 P **P** **13 43 11.4 -0.4**
ZALV Zalesovo Beam 58.86 332 P **P** **13 43 11.4 -0.4**
UCH Uchtor 58.88 316 P **P** **13 43 14.1 +1.3**
SNR=280
CHMS Chumysh 59.02 317 P **P** **13 43 13.8 +0.6**
SNR=50
FRU1 Bishkek 59.02 317 P **P** **13 43 13.1 -0.3**
FRU1 pmax pmax
comp=Z,199nm,1.4s
FRU1 Bishkek 59.02 317 P **P** **13 43 13.1 -0.3**
AAK Ala-Archa 59.05 317 P **P** **13 43 14.9 +1.3**
comp=Z,31nm,0.5s,baz=105,slow=5.3,SNR=75
AAK PcP **PcP** **13 44 02.1 +0.6**
comp=Z,24nm,0.6s,baz=146,slow=3.6,SNR=6.1
AAK Ala-Archa 59.05 317 P **P** **13 43 14.8 +1.1**
SNR=18
AAK Ala-Archa 59.05 317 P **P** **13 43 14.9 +1.3**
AAK Ala-Archa 59.05 317 P **P** **13 43 14.8 +1.1**
AAK Ala-Archa 59.05 317*c i*P **P** **13 43 14.6 +1.0**
AAK *i* *PP **pwP** **13 43 40.5 -1.1**
AAK pmax pmax
comp=Z,132nm,1.3s
AAK Ala-Archa 59.05 317 P **P** **13 43 14.1 +0.4**
AAK IAmb IAmb 13 43 16.5
comp=Z,126nm,1.2s
USP Ospenovka 59.29 318 P **P** **13 43 16.0 +0.9**
SNR=166
AML Almayashu 59.41 316 P **P** **13 43 17.7 +1.3**
SNR=189
EKS2 Erkin-Say 59.55 317 P **P** **13 43 18.3 +1.3**
SNR=142
KURK Kurchatov 60.15 327 P **P** **13 43 21.7 +0.9**
KURK P **P** **13 43 21.7 +0.9**
KURK Kurchatov 60.15 327*c i*P **P** **13 43 21.4 +0.6**
KURK *i* *PP **pwP** **13 43 47.0 -1.9**
KURK pmax pmax
comp=Z,598nm,1.0s
KURK Kurchatov 60.15 327 P **P** **13 43 21.5 +0.6**
KURK Kurchatov 60.15 327 PP 13 45 35.9 +1.3
KURBB Kurchatov Arra 60.16 327 P **P** **13 43 21.5 +0.7**
comp=Z,298nm,0.8s,baz=126,slow=6.0,SNR=1424
KURBB PP **PP** **13 45 35.9 +1.3**
comp=Z,36nm,1.2s,baz=126,slow=8.7,SNR=4.8
BTLS Baital 60.30 319⇑*i*P **P** **13 43 22.4 +0.4**
comp=Z,128nm,1.7s,baz=319
BTLS *eS* **S** **13 51 29.5 +1.0**
baz=319
BTLS Baital 60.30 319*c i*P **P** **13 43 22.3 +0.4**
BTLS *eS* **S** **13 51 29.5 +1.0**
BTLS pmax pmax
comp=Z,128nm,1.7s
KBL Kabul 60.55 306 P **P** **13 43 24.5 +0.4**
SNR=66
KBL Kabul 60.55 306 P **P** **13 43 23.9 -0.3**
KBL pmax pmax
comp=Z,165nm,0.8s
KBL Kabul 60.55 306 P **P** **13 43 23.9 -0.3**
BTK Batken 60.74 313 P **P** **13 43 25.4 +0.3**
BTK pmax pmax
comp=Z,297nm,1.1s
BTK Batken 60.74 313 P **P** **13 43 25.4 +0.3**
GAR Garm 60.78 312 P **P** **13 43 25.8 +0.3**
DZA Taraz 61.31 316⇑*i*P **P** **13 43 29.7 +0.8**
comp=Z,112nm,1.2s,baz=316
DZA *eS* **S** **13 51 43.0 +1.3**
baz=316
DZA Taraz 61.31 316*c i*P **P** **13 43 29.6 +0.8**
DZA *eS* **S** **13 51 42.9 +1.3**
DZA pmax pmax
comp=Z,112nm,1.2s
CHGR Chuyangaron 61.55 311 P **P** **13 43 30.5 -0.1**
KK31 Karatay Array 61.95 316 P **P** **13 43 33.5 +0.4**
KK31 pmax pmax
comp=Z,238nm,1.1s
KK31 Karatay Array 61.95 316 P **P** **13 43 33.5 +0.4**
KKAR Karatay Array 61.95 316 P **P** **13 43 33.1 -0.1**
KKAR Karatay Array 61.95 316 P **P** **13 43 33.0 -0.1**
IUG luzhnay 61.97 315⇑*i*P **P** **13 43 34.4 +0.9**
comp=Z,119nm,0.8s,baz=315
IUG luzhnay 61.97 315*c i*P **P** **13 43 34.3 +0.9**
IUG pmax pmax
comp=Z,119nm,0.8s
TAS Tashkent 62.23 314 P **P** **13 43 35.3 +0.2**
TAS pmax pmax
comp=Z,270nm,0.9s
TAS Tashkent 62.23 314 P **P** **13 43 35.3 +0.2**
AMKA Amchitka 62.49 34 P **P** **13 43 38.1 +1.6**
OTUK Ortayu 62.66 322 P **P** **13 43 38.6 +0.8**
NNZ Nelson 63.12 142 P **P** **13 43 40.6 -0.3**
NNZ IAmb IAmb 13 44 03.7
comp=Z,127nm,1.6s
THZ Tophouse 63.16 143 P **P** **13 43 40.9 -0.3**
THZ IAmb IAmb 13 44 29.0
comp=Z,149nm,2.0s
BRZS Berezniki 63.18 324⇑*i*P **P** **13 43 41.9 +0.7**
comp=Z,161nm,0.8s,baz=324
BRZS Berezniki 63.18 324*c i*P **P** **13 43 41.9 +0.7**
BRZS pmax pmax
comp=Z,161nm,0.8s
LBZ Lake Benmore 63.25 147 P **P** **13 43 41.7 0.0**
LBZ IAmb IAmb 13 44 14.2
comp=Z,164nm,1.6s
RPZ Rata Peaks 63.30 146 P **P** **13 43 41.8 -0.3**
RPZ IAmb IAmb 13 44 32.4
comp=Z,62nm,1.2s
LTZ Lake Taylor 63.41 144 P **P** **13 43 42.5 -0.3**
TUWZ Tuamarina 63.59 142 P **P** **13 43 43.6 -0.3**
URZ Urewera 63.85 138 LR LR 14 08 54.7
comp=Z,254nm,21.7s,baz=356,slow=33
BKZ Black Stump Fm 63.93 139 P **P** **13 43 46.2 -0.1**
KHZ Kahutara 63.93 143 P **P** **13 43 46.1 -0.1**
TIXI Tiksi 65.69 1 P **P** **13 43 57.3 +0.2**
comp=Z,25nm,0.6s,baz=205,slow=4.3,SNR=30
TIXI Tiksi 65.69 1*c i*P **P** **13 43 56.4 -0.7**
TIXI pmax pmax
comp=Z,38nm,0.8s
TIXI Tiksi 65.69 1 P **P** **13 43 55.8 -1.3**
TIXI IAmb IAmb 13 44 30.3
comp=Z,62nm,1.1s
BVA0 Borovoye Array 65.75 326 *i* P **P** **13 43 58.2 +0.4**
BVAR Borovoye Array 65.75 326 P **P** **13 43 58.7 +0.9**
comp=Z,183nm,0.8s,baz=122,slow=7.7,SNR=525
BRVK Borovoye 65.82 326 P **P** **13 43 59.0 +0.7**
BRVK P **P** **13 43 59.0 +0.7**
BRVK Borovoye 65.82 326*c i*P **P** **13 43 58.8 +0.5**
BRVK pmax pmax
comp=Z,438nm,1.1s
BRVK Borovoye 65.82 326 P **P** **13 43 58.9 +0.7**
HRA Herat 66.02 305 P **P** **13 43 59.9 -0.4**
ATKA Atka Island 66.50 35 P **P** **13 44 03.1 +0.5**
ATKA IAmb IAmb 13 44 06.1
comp=Z,79nm,0.6s
JLN Jalan Bani Buh 67.18 291 P **P** **13 44 08.1 +0.6**
BILL Bilibino 67.37 15 *i* P **P** **13 44 06.6 -1.3**
BILL *i* 13 44 32.0
BILL *i* 13 46 34.7
BILL pmax pmax
comp=Z,40nm,1.6s
BILL Bilibino 67.37 15 P **P** **13 44 06.5 -1.4**
BILL IAmb IAmb 13 46 03.7
comp=Z,30nm,0.4s
WBK Wadi Bani Khal 67.61 292 P **P** **13 44 11.0 +0.7**
SNR=6.6

WSAR Wadi Sarin 67.96 293 P **P** **13 44 11.9 -0.6**
comp=Z,16nm,0.5s,baz=145,slow=5.0,SNR=24
WSAR Wadi Sarin 67.96 293 P **P** **13 44 12.4 0.0**
SNR=8.3
JMDO Jabal Madar 68.40 292 P **P** **13 44 15.4 +0.1**
SNR=7.1
JMDO P **P** **13 44 15.4 +0.1**
SNR=7.1
BIDO Bidbid 68.43 293 P **P** **13 44 15.8 +0.4**
SNR=14
NRIK Noril'sk 68.44 346 P **P** **13 44 14.7 +0.1**
comp=Z,19nm,0.7s,baz=132,slow=5.7,SNR=29
NRIK LR LR 14 16 59.8
comp=Z,135nm,21.1s,baz=148,slow=38
MHTO MHTO 68.47 290 P **P** **13 44 15.4 -0.3**
SNR=7.2
SMDO Samad 68.48 292 P **P** **13 44 15.9 +0.1**
SNR=5.8
DQM DQM 68.85 289 P **P** **13 44 18.6 +0.6**
SNR=7.9
HOQ Hoqain 69.19 293 P **P** **13 44 20.3 +0.2**
SNR=13
NIKH Nikolski High 69.82 35 P **P** **13 44 25.2 +1.8**
NIKH IAmb IAmb 13 46 17.9
comp=Z,253nm,1.6s
GEYT Alibeck 69.87 308 P **P** **13 44 25.3 +1.2**
comp=Z,139nm,0.9s,baz=129,slow=4.0,SNR=260
GEYT PP **PP** **13 47 02.2 +2.3**
comp=Z,10.0nm,1.2s,baz=96,slow=5.8,SNR=2.3
GEYT LR LR 14 19 33.2
comp=Z,279nm,20.6s,baz=215,slow=40
GEYT Alibeck 69.87 308 P **P** **13 44 24.6 +0.5**
GYA0 ALIBECK ARRAY 69.87 308 P **P** **13 44 24.9 +0.8**
GYA0B ALIBECK ARRAY 69.87 308 P **P** **13 44 24.9 +0.8**
ARQ Araqi 69.90 293 P **P** **13 44 25.1 +0.6**
SNR=6.5
SOHO SOHO 69.92 293 *i* P **P** **13 44 24.2 -0.4**
SNR=11
MDH Madha 70.19 295 P **P** **13 44 25.6 -0.6**
BANOM Banah 70.22 295 *i* P **P** **13 44 26.0 -0.4**
SNR=6.2
BANOM Banah 70.22 295 P **P** **13 44 27.3 +0.8**
UOSS Minazif 70.26 294 P **P** **13 44 25.3 -1.4**
UOSS Minazif 70.26 294 P **P** **13 44 27.3 +0.7**
UOSS Minazif 70.26 294 P **P** **13 44 26.4 -0.2**
UOSS IAmb IAmb 13 44 50.0
comp=Z,90nm,1.4s
HATD Hatta, Dubai 70.32 294 *i* P **P** **13 44 26.9 -0.1**
SNR=8.8
HATD Hatta, Dubai 70.32 294 P **P** **13 44 27.4 +0.3**
MSFE Esma-Masafi 70.32 295 *i* P **P** **13 44 27.1 0.0**
SNR=6.5
SHME Shamm 70.37 295 *i* P **P** **13 44 27.5 +0.1**
SNR=7.1
ASHO Ashiyiah 70.38 294 *i* P **P** **13 44 27.4 -0.1**
SNR=16
ASHO Ashiyiah 70.38 294 P **P** **13 44 28.0 +0.6**
SNR=6.0
ALNE Al Ain 70.63 293 *i* P **P** **13 44 29.8 +0.8**
SNR=16
SHAO Shalim 70.64 287 P **P** **13 44 29.9 +0.8**
AB31 Akbulak array 70.75 320 *i* P **P** **13 44 29.6 +0.5**
ABKAR Akbulak array 70.75 320 P **P** **13 44 29.2 0.0**
ABKAR Akbulak array 70.75 320 P **P** **13 44 29.4 +0.3**
ABKAR IAmb IAmb 13 44 31.2
comp=Z,139nm,0.8s
NAZ Nazwa, Dubai 70.75 294 *i* P **P** **13 44 29.3 -0.4**
SNR=7.7
DMTO DMTO 71.28 287 P **P** **13 44 33.4 +0.5**
AJN Ajban 71.35 294 *i* P **P** **13 44 33.1 -0.1**
SNR=6.1
AJN Ajban 71.35 294 P **P** **13 44 33.9 +0.6**
SNR=6.4
AJN P **P** **13 44 33.9 +0.6**
SNR=6.4
UNV Unalaska Valle 71.42 35 P **P** **13 44 33.8 +0.7**
UNV IAmb IAmb 13 44 36.5
comp=Z,58nm,0.8s
AKUT Akutan 71.92 35 P **P** **13 44 37.2 +1.2**
AKTO Aktyubinsk 72.23 321 P **P** **13 44 37.5 -0.5**
MSEY Mahe Island 72.32 263 P **P** **13 44 38.0 -1.3**
MSEY Mahe Island 72.32 263 P **P** **13 44 36.2 -3.1**
MSEY pmax pmax
comp=Z,44nm,1.0s
MSEY Mahe Island 72.32 263 P **P** **13 44 36.2 -3.1**
SOCY Socotra 72.34 281 P **P** **13 44 38.4 -1.1**
SVE Sverdlovsk 72.34 328*d i*P **P** **13 44 39.3 +0.7**
SVE *eS* **S** **13 53 53.6 -0.2**
SVE pmax pmax
comp=Z,364nm,1.3s
WHFO Wadi Hawf 72.40 287 P **P** **13 44 38.9 -0.8**
ABTO Aybut 72.86 286 P **P** **13 44 42.4 -0.1**
CASY Casey 73.00 187 P **P** **13 44 42.9 +0.7**
CASY IAmb IAmb 13 44 44.8
comp=Z,87nm,1.1s
ARU Arti 73.34 327*c i*P **P** **13 44 44.4 0.0**
ARU 13 45 00.3
ARU *PP **pP** **13 45 09.8 +1.3**
ARU 13 47 25.7
ARU S **SKiKP** **13 54 06.4 +0.4**
ARU 13 54 34.9
ARU pmax pmax
comp=Z,201nm,0.9s
ARU MLR MLR
comp=Z,500nm,24.0s
ARU Arti 73.34 327 P **P** **13 44 44.5 0.0**
FALS False Pass 73.43 34 P **P** **13 44 45.8 +0.8**
FALS IAmb IAmb 13 45 15.8
comp=Z,77nm,0.8s
SDPT Sand Point 75.19 34 P **P** **13 44 56.7 +1.5**
SDPT IAmb IAmb 13 44 58.3
comp=Z,65nm,0.7s
RDOG Red Dog Mine 77.13 21 P **P** **13 45 07.5 +1.5**
RDOG IAmb IAmb 13 45 10.3
comp=Z,76nm,1.3s
CHIR Chirikof Islan 77.98 34 P **P** **13 45 12.4 +1.5**
AKT Akhty 78.19 311 *eP* **P** **13 45 13.5 +1.0**
AKT *e* 13 45 21.6
AKT *e**PP **pP** **13 45 37.9 +0.6**
AKT pmax pmax
comp=Z,430nm,1.2s
MAK Makhachkala 78.42 313 *eP* **P** **13 45 12.3 -1.3**
MAK *e**PP **pP** **13 45 36.5 -1.9**
MAK *e* 13 48 10.8
MAK *eS* **S** **13 55 00.9 -0.6**
MAK *e**SS **sS** **13 55 43.9 -1.6**
MAK pmax pmax
comp=Z,446nm,1.7s
SVW2 Sparrevohn 78.72 29 P **P** **13 45 15.9 +1.0**
TTA Tatalina 78.80 27 P **P** **13 45 16.6 +1.2**
TTA Tatalina 78.80 27 P **P** **13 45 16.6 +1.2**
OHAK Old Harbor 79.42 33 P **P** **13 45 19.9 +1.2**
OHAK IAmb IAmb 13 45 22.2
comp=Z,265nm,1.9s
GROC Groznyy 79.68 313 *eP* **P** **13 45 21.2 +0.7**
GROC *e* 13 45 28.7
GROC *eS* **S** **13 55 16.3 +1.4**
GROC pmax pmax
comp=Z,269nm,1.0s
KDAK Kodiak Island 79.85 32 P **P** **13 45 21.5 +0.4**
KDAK pmax pmax
comp=Z,65nm,0.7s
KDAK Kodiak Island 79.85 32 P **P** **13 45 21.5 +0.4**
KDAK IAmb IAmb 13 45 24.9
comp=Z,65nm,0.7s
IMAR Indian Mountai 80.21 24 P **P** **13 45 23.2 +0.3**
TBLG Delisi 80.44 311 P **P** **13 45 26.0 +1.3**
TBLG Delisi 80.44 311 P **P** **13 45 25.2 +0.5**
TBLG pmax pmax
comp=Z,211nm,0.7s
TBLG Delisi 80.44 311 P **P** **13 45 25.2 +0.5**
PPLA Purkeypile 80.53 27 P **P** **13 45 25.2 +0.3**
SKT Skwentna 80.75 28 P **P** **13 45 26.0 +0.1**
TASB TASBURUN-IGDIR 80.80 309 P **P** **13 45 28.5 +1.8**
PRGR Permogore 80.81 331⇓*i*P **P** **13 45 26.8 +0.7**
PRGR *eS* S 13 55 35.9 +10
PRGR pmax pmax
comp=Z,94nm,0.8s
BRLK Bradley Lake 80.89 30 P **P** **13 45 26.2 -0.5**
BRLK IAmb IAmb 13 45 29.5
comp=Z,96nm,1.3s
CLDR Caldiran 81.06 309 P **P** **13 45 30.4 +2.1**
ZEI Tsey 81.06 312 *eP* **P** **13 45 26.1 -2.1**
ZEI pmax pmax
comp=Z,109nm,0.6s

SUA Susitna One 81.08 29 P **P** **13 45 27.5 -0.3**
SUA IAmb IAmb 13 45 31.2
comp=Z,81nm,0.9s
BPAW Bear Paw Mtn. 81.17 26 P **P** **13 45 28.3 +0.2**
BPAW IAmb IAmb 13 45 32.1
comp=Z,65nm,0.8s
CUKT Cukurca 81.32 307 P **P** **13 45 26.5 -3.1**
AKH Akhalkalaki 81.37 311⇑P **P** **13 45 31.8 +2.0**
AKH Akhalkalaki 81.37 311 P **P** **13 45 31.9 +2.0**
AKH Akhalkalaki 81.37 311 P **P** **13 45 31.0 +1.1**
AKH pmax pmax
comp=Z,337nm,1.2s
AKH Akhalkalaki 81.37 311 P **P** **13 45 31.0 +1.1**
CUT Chulitna 81.37 28 P **P** **13 45 30.0 +0.9**
baz=266
TRF Thorofare Moun 81.43 27 P **P** **13 45 29.9 +0.2**
VANB Van 81.47 308 P **P** **13 45 31.9 +1.5**
O22K Cooper Landing 81.52 30 P **P** **13 45 31.0 +1.0**
baz=267
SEW Seward 81.63 30 P **P** **13 45 31.4 +0.9**
SEW IAmb IAmb 13 45 33.8
comp=Z,101nm,1.4s
GOF Gofitskoye 81.69 315⇑*eP* **P** **13 45 29.1 -2.1**
GOF pmax pmax
comp=Z,151nm,0.8s
COLD Coldfoot 81.75 23 P **P** **13 45 33.0 +1.9**
baz=266
COLD Coldfoot 81.75 23 P **P** **13 45 32.0 +0.9**
AGRB Hanur-Agry 81.77 309 P **P** **13 45 34.2 +2.2**
AKDM Akdamar-Van 81.80 308 P **P** **13 45 32.9 +0.7**
KBZ Khabaz 81.80 313 P **P** **13 45 32.5 +0.7**
comp=Z,35nm,0.8s,baz=86,slow=4.6,SNR=83
KBZ LR LR 14 28 23.5
comp=Z,149nm,18.5s,baz=76,slow=40
KBZ Khabaz 81.80 313*c i*P **P** **13 45 32.3 +0.5**
KBZ pmax pmax
comp=Z,158nm,1.5s
PMR Palmer 81.86 29 P **P** **13 45 31.7 0.0**
PMR pmax pmax
comp=Z,49nm,0.8s
PMR Palmer 81.86 29 P **P** **13 45 31.7 0.0**
PMR IAmb IAmb 13 45 34.8
comp=Z,49nm,0.8s
KIV Kislovodsk 81.95 313 P **P** **13 45 33.1 +0.4**
KIV Kislovodsk 81.95 313 *eP* **P** **13 45 33.3 +0.6**
KIV *e* 13 48 41.3
KIV *eS* **S** **13 55 39.6 +0.9**
KIV pmax pmax
comp=Z,345nm,1.0s
KIV pmax pmax
comp=Z,589nm,3.8s
KIV MLR MLR
comp=Z,610nm,19.0s
KIV Kislovodsk 81.95 313 P **P** **13 45 32.8 +0.1**
KIV IAmb IAmb 13 45 35.8
comp=Z,100nm,0.8s
NEA2 Nenana 82.04 26 P **P** **13 45 34.7 +2.0**
baz=267
MCK McKinley 82.06 27 P **P** **13 45 32.6 -0.2**
MCK pmax pmax
comp=Z,93nm,0.8s
MCK McKinley 82.06 27 P **P** **13 45 32.5 -0.2**
MCK IAmb IAmb 13 45 36.1
comp=Z,92nm,0.8s
RND Reindeer 82.08 27 P **P** **13 45 31.9 -1.0**
RND pmax pmax
comp=Z,85nm,1.2s
RND Reindeer 82.08 27 P **P** **13 45 31.9 -1.0**
RND IAmb IAmb 13 45 36.0
comp=Z,84nm,1.2s
TOLK Toolik Lake Re 82.09 22 P **P** **13 45 34.7 +1.8**
baz=266
TOLK Toolik Lake Re 82.09 22 P **P** **13 45 33.1 +0.2**
MLAZ Malazgirt-MUS 82.12 309 P **P** **13 45 32.7 -1.1**
KNK Knik Glacier 82.18 29 P **P** **13 45 33.5 0.0**
KNK IAmb IAmb 13 45 37.2
comp=Z,75nm,0.9s
SENK Senkaya-Erzuru 82.24 310 P **P** **13 45 36.7 +2.2**
SIRT Sirnak 82.24 307 P **P** **13 45 35.8 +1.4**
SML Sawmill 82.25 28 P **P** **13 45 33.9 0.0**
SML IAmb IAmb 13 45 37.5
comp=Z,83nm,0.9s
MDM Murphy Dome 82.42 25 P **P** **13 45 34.5 -0.2**
MDM IAmb IAmb 13 45 39.1
comp=Z,114nm,1.6s
ABPO Ambohimpanom 82.42 250 P **P** **13 45 35.4 -0.3**
ABPO pmax pmax
comp=Z,72nm,0.9s
ABPO Ambohimpanom 82.42 250 P **P** **13 45 35.4 -0.3**
ABPO IAmb IAmb 13 45 38.6
comp=Z,72nm,0.9s
WRH Wood River Hil 82.46 26 P **P** **13 45 34.5 -0.3**
WRH IAmb IAmb 13 45 38.0
comp=Z,75nm,1.2s
GURO Guroymak-BITLI 82.54 308 P **P** **13 45 37.9 +1.9**
VRH Novokhopyorsk 82.57 321 *eP* **P** **13 45 35.9 +0.3**
VRH pmax pmax
comp=Z,230nm,0.8s
TCOL CIGO, UAF Yank 82.57 25 P **P** **13 45 36.0 +0.7**
baz=268,SNR=10
COLA College 82.58 25⇓*eP* **P** **13 45 35.6 +0.2**
COLA pmax pmax
comp=Z,21nm,0.8s
COLA College 82.58 25 P **P** **13 45 35.0 -0.4**
CCB Clear Creek Bu 82.59 26 P **P** **13 45 35.0 -0.4**
KOPR Koprukoy-ERZUR 82.64 309 P **P** **13 45 36.2 -0.3**
BATM Batumi 82.72 311⇓P **P** **13 45 37.8 +1.2**
BATM Batumi 82.72 311 P **P** **13 45 36.8 +0.1**
SCM Sheep Creek Mo 82.73 28 P **P** **13 45 37.0 +0.6**
SCM pmax pmax
comp=Z,97nm,1.0s
SCM Sheep Creek Mo 82.73 28 P **P** **13 45 37.0 +0.6**
SCM IAmb IAmb 13 45 40.2
comp=Z,97nm,1.0s
POKR Poker Plat Res 82.76 25 P **P** **13 45 38.5 +2.1**
baz=268,SNR=8.8
GLI Glacier Island 82.82 29 P **P** **13 45 36.4 -0.4**
GLI IAmb IAmb 13 45 40.4
comp=Z,161nm,1.5s
HDA Harding Lake 82.95 26 P **P** **13 45 37.3 -0.1**
baz=269,SNR=34
HDA Harding Lake 82.95 26 P **P** **13 45 37.4 -0.1**
HDA IAmb IAmb 13 45 39.9
comp=Z,41nm,0.7s
VRTB Varto-Mus 82.97 309 P **P** **13 45 40.7 +2.5**
IL31 82.98 26 P **P** **13 45 37.2 -0.3**
ILAR Eielson Array 82.98 26 P **P** **13 45 36.9 -0.6**
comp=Z,13nm,0.6s,baz=251,slow=4.6,SNR=89
ILAR PKKPbc **PKKPbc** **14 04 00.2 -1.9**
comp=Z,0.8nm,0.9s,baz=80,slow=1.0,SNR=5.9
ILAR LR LR 14 20 36.2
comp=Z,92nm,20.9s,baz=261,slow=34
ILAR Eielson Array 82.98 26 P **P** **13 45 36.4 -1.2**
SVAN Silvan-Diyarba 83.20 308 P **P** **13 45 40.9 +1.6**
M24K Tolsona, Glenn 83.28 28 P **P** **13 45 40.6 +1.4**
baz=270
KLU Klutina 83.39 29 P **P** **13 45 40.7 +0.9**
KLU IAmb IAmb 13 45 43.7
comp=Z,37nm,0.6s
CHOM Cayeli-Rize 83.43 311 P **P** **13 45 41.8 +1.4**
BNGB Bingl 83.58 308 P **P** **13 45 43.2 +1.9**
FOMA Nahampoana Res 83.60 244 P **P** **13 45 42.8 +1.3**
SNR=9.1
FOMA Nahampoana Res 83.60 244 P **P** **13 45 41.4 0.0**
PAX Paxson 83.60 27 P **P** **13 45 40.9 0.0**
PAX pmax pmax
comp=Z,112nm,1.6s
PAX Paxson 83.60 27 P **P** **13 45 40.9 0.0**
PAX IAmb IAmb 13 45 44.8
comp=Z,112nm,1.6s
KLMR Klimovskoe 83.73 331*c i*P **P** **13 45 41.4 +0.1**
KLMR *e**PP **pP** **13 46 06.3 +0.1**
KLMR *eS* **S** **13 55 54.9 -0.9**
KLMR pmax pmax
comp=Z,266nm,1.0s
KLMR Klimovskoe 83.73 331⇑*i*P **P** **13 45 41.5 +0.1**
KLMR *i* P **P** **13 45 41.5 +0.1**
KLMR *i* P **P** **13 45 41.5 +0.1**
KLMR AMP 13 45 43.1
comp=Z,266nm,1.0s
KLMR *e*pP **pP** **13 46 06.3 +0.1**
KLMR *e*PP **PP** **13 48 48.4 -7.0**
KLMR *eS* **S** **13 55 55.0 -0.9**
KLMR *eS* **S** **13 55 55.0 -0.9**

KLMR LQ LQ 14 17 36.1
KLMR LQ LQ 14 17 36.1
KLMR LR LR 14 20 40.3
MAZI Mazidag 83.83 307 P **P** **13 45 43.7 +1.1**
RIDG Independent Ri 83.87 27 P **P** **13 45 41.9 -0.3**
RIDG IAmb IAmb 13 45 45.7
comp=Z,72nm,1.1s
VORD Divnogorie 84.10 321 *eP* **P** **13 45 43.7 +0.2**
VORD pmax pmax
comp=Z,230nm,1.1s
VORR Voronezh 84.13 321 *eP* **P** **13 45 43.0 -0.6**
VORR pmax pmax
comp=Z,750nm,1.2s
VSR Storozhevoye 84.17 321 *eP* **P** **13 45 44.0 +0.1**
VSR pmax pmax
comp=Z,300nm,1.2s
KTUT Trabzon 84.19 311 ⇑P **P** **13 45 44.9 +0.7**
KTUT Trabzon 84.19 311 P **P** **13 45 42.9 -1.3**
DOT Dot Lake 84.22 27 P **P** **13 45 43.4 -0.5**
SCRK Sand Creek 84.25 26 P **P** **13 45 44.2 +0.1**
baz=272
LPSR Galich'ya Gora 84.27 322 *eP* **P** **13 45 44.8 +0.5**
LPSR pmax pmax
comp=Z,300nm,0.9s
ERZN Erzincan 84.29 309 P **P** **13 45 44.7 -0.2**
TMCR Tamitsa 84.34 334 *eP* **P** **13 45 44.3 -0.1**
TMCR pmax pmax
comp=Z,77nm,0.5s
MENT Mentasta 84.40 27 P **P** **13 45 44.5 -0.3**
GLB Gilahina Butte 84.41 29 P **P** **13 45 45.3 +0.3**
GLB IAmb IAmb 13 46 18.0
comp=Z,100nm,1.2s
PTK Pertek 84.59 308 P **P** **13 45 48.4 +1.9**
SVRC Sivrice-ELAZID 84.68 308 P **P** **13 45 48.6 +1.6**
CRQM Cirque 84.76 30 P **P** **13 45 48.2 +1.3**
CRQM IAmb IAmb 13 46 20.0
comp=Z,87nm,1.0s
MOS Moscow 84.90 325 *eP* **P** **13 45 44.7 -2.7**
MOS *eS* **S** **13 56 03.3 -4.4**
MOS pmax pmax
comp=Z,458nm,1.7s
MOS pmax pmax
comp=Z,800nm,2.0s
TGL Tana Glacier 84.92 30 P **P** **13 45 48.3 +0.7**
TGL IAmb IAmb 13 47 46.2
comp=Z,56nm,0.5s
ESPY Espiye-Giresun 84.98 310 P **P** **13 45 45.4 -2.8**
TEND Ethiopian Broa 85.04 281 *eP* **P** **13 45 49.5 +0.4**
K27K Chicken 85.09 26 P **P** **13 45 50.3 +2.1**
baz=273
URFA Urfa 85.12 307 P **P** **13 45 50.6 +1.5**
BALM Baldy 85.14 29 P **P** **13 45 48.8 +0.1**
BALM IAmb IAmb 13 46 21.3
comp=Z,59nm,1.2s
MALT Malatya 85.38 308 P **P** **13 45 52.1 +1.7**
PPT Papeete 85.39 108 LR LR 14 18 11.1
comp=Z,239nm,21.4s,baz=307,slow=32
ARPR Arapgir-MALATY 85.39 309 P **P** **13 45 52.6 +2.1**
PPT2 Papeete2 85.40 108 *eS* **S** **13 56 10.7 -3.4**
comp=Z,520nm,25.8s
PPT2 Papeete2 85.40 108 *e*LR LR 14 12 52.4
comp=Z,2μm,29.8s,baz=294
EGAK Eagle 85.44 25 P **P** **13 45 50.5 +0.5**
BARN Barnard Glacie 85.47 29 P **P** **13 45 50.3 -0.2**
BARN IAmb IAmb 13 46 23.4
comp=Z,62nm,1.1s
VNDA Vanda 85.51 173 P **P** **13 45 50.9 +0.9**
comp=Z,4.6nm,0.8s,baz=320,slow=6.8,SNR=18
VNDA LR LR 14 24 19.6
comp=Z,212nm,20.2s,baz=333,slow=36
VNDA Vanda 85.51 173 P **P** **13 45 50.2 +0.2**
LVZ Lovozero 85.52 338⇑ *eP* **P** **13 45 49.6 -0.7**
LVZ pmax pmax
comp=Z,38nm,1.0s
LVZ Lovozero 85.52 338 P **P** **13 45 49.2 -1.1**
LVZ IAmb IAmb 13 45 58.0
comp=Z,120nm,1.4s
OBN Obninsk 85.53 325 ⇓P **P** **13 45 50.6 +0.1**
OBN Obninsk 85.53 325*c i*P **P** **13 45 50.5 -0.1**
OBN *i* *PP **pP** **13 46 13.8 -1.7**
OBN *i* S S 13 56 02.8 -11
OBN *i* SS **SS** **14 01 49.6 -1.8**
OBN pmax pmax
comp=Z,286nm,1.2s
OBN MLR MLR
comp=Z,484nm,23.0s
OBN Obninsk 85.53 325 P **P** **13 45 49.7 -0.9**
ANN Anapa 85.68 314*c i*P **P** **13 45 51.5 0.0**
ANN *e**PP **pP** **13 46 17.4 +0.7**
ANN *e* 13 56 06.7
ANN pmax pmax
comp=N,89nm,0.8s
ANN pmax pmax
comp=Z,375nm,0.8s
ANN pmax pmax
comp=E,72nm,0.9s
ANN MLR MLR
comp=Z,598nm,23.0s
MAW Mawson 85.91 200 P **P** **13 45 53.0 +0.8**
comp=Z,20nm,1.0s,baz=62,slow=5.8,SNR=25
MAW Mawson 85.91 200 P **P** **13 45 52.9 +0.8**
baz=86,SNR=19
MAW Mawson 85.91 200 P **P** **13 45 52.4 +0.3**
MAW pmax pmax
comp=Z,11nm,1.3s
MAW Mawson 85.91 200 P **P** **13 45 52.4 +0.3**
APA Apatity 86.02 337⇑ *i*P **P** **13 45 51.1 -1.7**
APA pmax pmax
comp=Z,38nm,1.0s
APA MLR MLR
comp=Z,400nm,12.0s
DAWY Dawson 86.26 26 P **P** **13 45 53.7 -0.4**
TBI Tubuai 86.28 114 *eS* **S** **13 56 18.5 -4.0**
comp=Z,414nm,29.8s
TBI *eS*S **SS** **14 02 07.4 +3.2**
comp=Z,278nm,35.8s
TBI Tubuai 86.28 114 *e*LR LR 14 13 24.0
comp=Z,1μm,32.0s,baz=288
GAZ Gaziantep 86.42 307 P **P** **13 45 55.7 +0.2**
PMOR Pomariorio Ree 86.67 105 *eT* T 15 21 32.7
comp=Z,3.4nm,0.3s
EPYK Eagle Plains 87.11 24 P **P** **13 45 58.9 +0.7**
baz=278
EPYK Eagle Plains 87.11 24 P **P** **13 45 58.9 +0.7**
HYT Haines Junctio 87.51 29 P **P** **13 46 01.0 +0.7**
RCY Rachaya 87.87 303 *eP* **P** **13 46 03.8 +1.2**
SHBL Chebaa 87.96 303 *eP* **P** **13 46 04.4 +1.3**
BHL Bhannes 87.98 304 *eP* **P** **13 46 04.0 +0.8**
INK Inuvik 88.01 22 P **P** **13 46 02.7 +0.4**
comp=Z,5.5nm,0.6s,baz=310,slow=1.9,SNR=17
SIM Simferopol' 88.02 315*c i*P **P** **13 46 01.9 -1.0**
SIM pmax pmax
comp=Z,27nm,0.2s
DQRL Deir Qamar 88.07 304 *eP* **P** **13 46 04.9 +1.3**
PUL Pulkovo 88.38 330*ce*P **P** **13 46 05.1 +0.9**
PUL pmax pmax
comp=Z,127nm,0.6s
BZK Bozkurt 88.43 312 ⇑P **P** **13 46 05.1 +0.2**
SPA0 Spitsbergen Ar 88.45 349 P **P** **13 46 04.1 -0.2**
SPA0 IAmb IAmb 13 46 35.3
comp=Z,65nm,1.3s
SPA0 Spitsbergen Ar 88.45 349 *eP* **P** **13 46 05.2 +0.9**
ARCES ARCESS Array B 88.57 340 P **P** **13 46 04.5 -0.5**
comp=Z,24nm,0.8s,baz=85,slow=6.1,SNR=51
ARCES LR LR 14 29 45.8
comp=Z,272nm,19.5s,baz=108,slow=38
ARCES ARCESS Array B 88.57 340 P **P** **13 46 04.1 -0.9**
ARCES ARCESS Array B 88.57 340 P **P** **13 46 04.1 -0.9**
ARE0 ARCESS Array S 88.57 340 P **P** **13 46 02.9 -2.1**
ARE0 ARCESS Array S 88.57 340 *eP* **P** **13 46 04.6 -0.4**
HAMF Hammerfest 88.91 341 *eP* **P** **13 46 07.1 +0.5**
KBS Kingsbay 88.95 350 *eP* **P** **13 46 07.1 +0.4**
BR131 Keskin Array S 88.96 310 P **P** **13 46 07.5 -0.2**
SNR=30
BR131 Keskin Array S 88.96 310*c i*P **P** **13 46 07.0 -0.7**
BR131 Keskin Array S 88.96 310 P **P** **13 46 06.5 -1.2**
BR131 IAmb IAmb 13 46 14.3
comp=Z,27nm,0.8s
BRTR Keskin Array B 88.96 310 P **P** **13 46 07.2 -0.5**
comp=Z,18nm,0.8s,baz=119,slow=4.2,SNR=92
BRTR PP **PP** **13 49 40.5 +2.0**
comp=Z,3.6nm,0.8s,baz=99,slow=5.4,SNR=4.4
BRTR LR LR 14 31 38.0
comp=Z,108nm,21.8s,baz=62,slow=39
BRTR Keskin Array B 88.96 310 P **P** **13 46 06.8 -0.8**

HSPB Hornsund (broa 89.06 348 *eP* **P** **13 46 06.3 -0.8**
HSPB Hornsund (broa 89.06 348 *eP* **P** **13 46 08.3 +1.2**
BR231 Keskin MP Arra 89.61 310 P **P** **13 46 10.6 -0.1**
BR231 IAmb IAmb 13 46 16.7
comp=Z,44nm,1.1s
CSS Mathiatis 89.77 305 P **P** **13 46 10.8 -0.6**
CSS IAmb IAmb 13 46 14.3
comp=Z,48nm,0.7s
KMBO Kilima Mbogo 90.00 269 P **P** **13 46 14.4 +1.2**
comp=Z,45nm,1.1s,baz=60,slow=5.7,SNR=59
KMBO LR LR 14 27 09.3
comp=Z,137nm,19.2s,baz=90,slow=36
KMBO Kilima Mbogo 90.00 269 P **P** **13 46 13.9 +0.7**
KMBO Kilima Mbogo 90.00 269 P **P** **13 46 13.8 +0.7**
KMBO Kilima Mbogo 90.00 269 P **P** **13 46 12.3 -0.8**
KMBO pmax pmax
comp=Z,168nm,1.4s
KMBO Kilima Mbogo 90.00 269 P **P** **13 46 12.3 -0.8**
FIA1 FINESS Array S 90.12 332 P **P** **13 46 12.3 -0.1**
FIA1 IAmb IAmb 13 46 16.5
comp=Z,68nm,1.1s
FINES FINESS Array B 90.13 332 P **P** **13 46 12.1 -0.3**
comp=Z,21nm,0.5s,baz=62,slow=5.5,SNR=78
FINES FINESS Array B 90.13 332 P **P** **13 46 11.7 -0.7**
VSU Vasula 90.44 329 *eP* **P** **13 46 14.2 +0.3**
AKASG Malin Array Be 90.48 321 P **P** **13 46 14.1 -0.2**
comp=Z,15nm,0.6s,baz=64,slow=4.6,SNR=74
AKASG PP **PP** **13 49 53.3 +3.4**
comp=Z,3.4nm,0.8s,baz=68,slow=7.8,SNR=4.7
AKASG LR LR 14 30 48.7
comp=Z,282nm,20.7s,baz=65,slow=38
AKASG Malin Array Be 90.48 321 P **P** **13 46 13.3 -1.0**
AKASG 13 49 53.3
AKASG pmax pmax
comp=Z,40nm,1.2s
AKASG Malin Array Be 90.48 321 P **P** **13 46 13.3 -1.0**
AKBB Malin Array Si 90.48 321⇓ *e*P **P** **13 46 14.2 -0.1**
AKBB Malin Array Si 90.48 321 P **P** **13 46 13.2 -1.0**
AKBB IAmb IAmb 13 46 15.1
comp=Z,90nm,1.3s
MICGM Minsk 90.60 325⇓ *eP* **P** **13 46 15.0 +0.2**
MICGM PM 13 46 16.0
comp=Z,0.7nm,0.5s
MNK Minsk 90.60 325⇓ *e*P **P** **13 46 15.0 +0.2**
MNK pmax pmax
comp=Z,710nm,0.5s
MDUB Mudurnu 90.72 311 P **P** **13 46 14.2 -1.6**
TRO Tromso 90.76 341 *eP* **P** **13 46 15.0 -0.2**
C36M Paulatuk 91.05 20 P **P** **13 46 16.1 -0.4**
baz=290
C36M Paulatuk 91.05 20 P **P** **13 46 16.2 -0.4**
C36M IAmb IAmb 13 46 19.5
comp=Z,48nm,1.4s
IDID Didziasalis 91.08 326 *eP* **P** **13 46 17.6 +0.7**
IZAR Zarasai 91.27 326 *eP* **P** **13 46 14.4 +0.9**
ISAL Salakas 91.37 326 *eP* **P** **13 46 19.2 +0.9**
KIS Kishinev 91.38 317 *eP* **P** **13 46 17.0 -1.6**
comp=Z,150nm,5.9s
KIS Kishinev 91.38 317 *eP* **P** **13 46 17.0 -1.6**
KIS *e* 13 58 22.0
KIS pmax pmax
comp=Z,150nm,5.9s
KIS MLR MLR
comp=Z,300nm,23.0s
MILM Milestii Mici 91.40 317 ⇑P **P** **13 46 18.7 +0.1**
SORM Soroca 91.49 319 ⇑P **P** **13 46 18.5 -0.5**
ISP Isparta 91.63 308 P **P** **13 46 18.6 -1.5**
ISP pmax pmax
comp=Z,71nm,1.1s
ISP Isparta 91.63 308 P **P** **13 46 18.6 -1.5**
ISP IAmb IAmb 13 46 22.3
comp=Z,71nm,1.1s
TLCR 91.70 316 ⇑P **P** **13 46 20.4 +0.3**
JURR Jurilovca 91.73 315 ⇑P **P** **13 46 21.2 +1.0**
TOPG Topolog 92.06 315 ⇓P **P** **13 46 22.3 +0.5**
MANR Mangalia 92.10 314 ⇑P **P** **13 46 22.9 +1.0**
TIRR Tirgusor 92.11 315 ⇑P **P** **13 46 21.9 -0.2**
TIRR Tirgusor 92.11 315 P **P** **13 46 21.1 -0.9**
TIRR pmax pmax
comp=Z,108nm,0.9s
TIRR Tirgusor 92.11 315 P **P** **13 46 21.1 -0.9**
TIRR Tirgusor 92.11 315 *i* P **P** **13 46 21.8 -0.2**
VASR Vaslui 92.14 317 ⇓P **P** **13 46 23.0 +0.9**
MFTR Murfatlar 92.15 315 ⇑P **P** **13 46 23.0 +0.8**
CFR Carcaliu 92.17 316 ⇑P **P** **13 46 22.1 -0.2**
ISK Istanbul-Kandi 92.23 311 P **P** **13 46 22.1 -0.5**
ELL Elmali 92.28 307 P **P** **13 46 21.8 -1.3**
ELL pmax pmax
comp=Z,183nm,1.1s
ELL Elmali 92.28 307 P **P** **13 46 21.8 -1.3**
TLBR Topalu 92.35 315 ⇑P **P** **13 46 23.7 +0.6**
HARR Harsova 92.41 315 ⇑P **P** **13 46 24.1 +0.7**
TUDR 92.42 316 ⇓P **P** **13 46 24.6 +1.2**
PABE Paberze 92.58 326 *eP* **P** **13 46 24.2 +0.3**
STEI Steigen 92.62 339 *eP* **P** **13 46 24.0 +0.1**
PETR Petresti 92.70 316 ⇑P **P** **13 46 25.6 +0.9**
ODBI Odobesti 92.81 316 ⇑P **P** **13 46 26.5 +1.3**
FAUS Fauske 92.81 339 *eP* **P** **13 46 24.8 +0.1**
AMRR Amara 92.84 315 ⇓P **P** **13 46 26.8 +1.5**
TESR Tescani 92.94 317 ⇓P **P** **13 46 26.1 +0.3**
FETY Fethiye 92.95 307 P **P** **13 46 25.4 -0.7**
KULA Kula-Manisa 92.97 309 P **P** **13 46 25.9 -0.3**
VRI Vrincioaia 93.01 317 ⇓P **P** **13 46 26.9 +0.7**
PRAR RASCA 93.05 318 ⇑P **P** **13 46 26.8 +0.5**
PRD Provadia 93.06 314 *i* P **P** **13 46 26.5 +0.1**
PLOR Plostina 93.07 317 ⇓P **P** **13 46 27.3 +0.8**
BISRR Bisoca 93.09 316 ⇓P **P** **13 46 27.8 +1.2**
LOF Lofoten 93.13 340 *eP* **P** **13 46 27.2 +1.0**
BIZ Bicaz 93.22 318 ⇓P **P** **13 46 28.0 +0.9**
ISR Istrita 93.29 316 ⇑P **P** **13 46 27.2 -0.3**
SUW Suwalki 93.39 325 *eP* **P** **13 46 27.1 -0.6**
SUW Suwalki 93.39 325 P **P** **13 46 26.8 -0.9**
SUW pmax pmax
comp=Z,116nm,1.0s
SUW Suwalki 93.39 325 P **P** **13 46 26.8 -0.9**
NEHR Nehoiu 93.40 316 ⇑P **P** **13 46 29.1 +1.1**
YER Yerkesik 93.50 308 P **P** **13 46 28.5 -0.2**
TAOE Nuku Hiva Isla 93.56 98 *e*LR LR 14 16 37.3
comp=Z,2μm,27.4s,baz=274
SULR 93.58 315 ⇑P **P** **13 46 29.4 +0.6**
OZUR 93.61 317 ⇑P **P** **13 46 30.2 +1.2**
MLR Muntele Rosu 93.63 316 ⇑P **P** **13 46 30.1 +1.0**
MLR Muntele Rosu 93.63 316 P **P** **13 46 28.2 -1.0**
MLR pmax pmax
comp=Z,76nm,1.2s
MLR Muntele Rosu 93.63 316 P **P** **13 46 28.2 -1.0**
MLR IAmb IAmb 13 46 35.9
comp=Z,76nm,1.2s
RAZG Razgrad 93.63 314 ⇑P **P** **13 46 29.5 +0.4**
SECR 93.64 316 ⇑P **P** **13 46 30.6 +1.5**
BURAR Bucovina Array 93.66 318 ⇓P **P** **13 46 30.2 +0.9**
BURAR Bucovina Array 93.66 318 P **P** **13 46 28.3 -0.9**
BUR08 Bucovina Ar. S 93.67 318 P **P** **13 46 28.5 -0.7**
BUR08 IAmb IAmb 13 46 37.8
comp=Z,23nm,0.9s
ARG Arkhangelos 93.78 307 P **P** **13 46 30.2 +0.3**
SGRR Singureni 93.87 315 ⇑P **P** **13 46 31.1 +0.9**
DOPR Dopca 93.91 317 ⇑P **P** **13 46 30.7 +0.3**
LVV L'vov 93.92 321 *eP* **P** **13 46 28.3 -1.9**
LVV *e* 13 56 54.1
LVV *eS* **S** **13 57 26.9 -5.0**
LVV pmax pmax
comp=Z,90nm,1.4s
KONS Konsvik 93.95 338 *eP* **P** **13 46 31.2 +1.3**
SZH Strazhica 94.10 314 *i* P **P** **13 46 31.2 0.0**
DAT Datca 94.13 307 P **P** **13 46 29.9 -1.7**
BLCB Balcova 94.24 309 P **P** **13 46 31.1 -0.9**
VOIR 94.25 316 ⇓P **P** **13 46 32.1 +0.1**
BODT Bodrum 94.28 308 P **P** **13 46 31.7 -0.5**
ARCR ARCALIA 94.35 318 ⇓P **P** **13 46 33.3 +1.0**
COPA Copaceanca 94.42 315 ⇑P **P** **13 46 32.7 +0.1**
ENEZ Enez 94.46 312 P **P** **13 46 32.0 -0.9**
ALN Alexandroupoli 94.50 312 P **P** **13 46 31.2 -1.9**
HUMR Humele 94.50 315 ⇑P **P** **13 46 33.3 +0.2**
SMG Samos 94.53 308 P **P** **13 46 33.1 -0.2**
ARR Arges 94.56 316 ⇓P **P** **13 46 34.1 +0.7**
SYO Syowa Base 94.58 201⇓ *e*P **P** **13 46 32.0 -0.7**
SYO Syowa Base 94.58 201⇑ *i*PcP **PcP** **13 46 33.0 -0.1**
SYO Syowa Base 94.58 201⇑ *ep*P pP 13 46 54.0 -3.7
SYO Syowa Base 94.58 201⇓ *es*P sP 13 47 02.0 -5.9
PRK Paraskevi 94.66 310 P **P** **13 46 33.5 -0.4**
KARP Karpathos 94.67 306 P **P** **13 46 33.0 -1.1**

BMR Baia Mare 94.78 319 ⇓P **P** **13 46 35.1 +0.9**
KDZ Kurdzhali 94.81 313 *i* P **P** **13 46 34.0 -0.5**
RDO Rodhopi 94.83 312 P **P** **13 46 32.8 -1.8**
CJR Cluj-Napoca 94.94 318 ⇑P **P** **13 46 35.5 +0.4**
SMTH Samothraki Isl 94.97 311 P **P** **13 46 33.8 -1.5**
SIGR SIGRI 94.99 310 P **P** **13 46 31.9 -3.5**
VLAD Vladila 95.03 315 ⇓P **P** **13 46 36.5 +1.1**
LOT Lotru 95.13 317 ⇑P **P** **13 46 36.8 +0.8**
NSS Namsos 95.22 337 *eP* **P** **13 46 35.2 -0.6**
KOLS Kolonicke sedl 95.25 320 *eP* **P** **13 46 36.9 +0.5**
KOLS pmax pmax
comp=Z,15nm,1.0s
KOLS Kolonicke sedl 95.25 320 *eP* **P** **13 46 36.9 +0.5**
TRPA Tarpa 95.29 319 ⇑P **P** **13 46 36.6 0.0**
UZH Uzhgorod 95.32 320⇑ *e*P **P** **13 46 37.3 +0.6**
UZH *e**PP **pP** **13 47 01.8 0.0**
UZH *e* 13 50 27.5
UZH *e*PPP PPP 13 52 35.9
UZH *e* 13 57 09.2
UZH *e*S **S** **13 57 41.0 -3.1**
UZH *e*SS **SS** **14 04 07.7 -5.2**
UZH *e*SSS SSS 14 07 58.8
UZH pmax pmax
comp=Z,15nm,1.0s
BEL Belsk 95.38 323 *eP* **P** **13 46 37.2 +0.4**
AMGA Amorgos Island 95.43 308 P **P** **13 46 41.4 +3.9**
PGB Panagyurishte 95.52 314 *i* P **P** **13 46 37.4 -0.4**
THAS Thassos island 95.55 312 P **P** **13 46 36.9 -1.0**
DEV Deva 95.61 317 ⇑P **P** **13 46 38.9 +0.9**
KAVA Kavala 95.62 312 P **P** **13 46 37.7 -0.5**
MPEP Malo Peshtene 95.64 315 *i* P **P** **13 46 38.4 +0.1**
SRE Strehaia 95.71 316 ⇑P **P** **13 46 39.9 +1.4**
CRVS Cervenica-Dubn 95.78 320 *eP* **P** **13 46 39.5 +0.7**
CRVS pmax pmax
comp=Z,98nm,1.1s
CRVS Cervenica-Dubn 95.78 320 *eP* **P** **13 46 39.5 +0.7**
PUNG Punghina 95.99 316 ⇑P **P** **13 46 40.5 +0.7**
NVR Nevrokopi 96.02 313 P **P** **13 46 39.0 -1.1**
MMB Musomiste 96.06 313 *i* P **P** **13 46 39.4 -0.9**
OUR Ouranopolis 96.16 312 P **P** **13 46 39.7 -1.0**
VTS Vitosha 96.18 314 ⇑P **P** **13 46 40.7 -0.2**
VTS Vitosha 96.18 314 P **P** **13 46 40.2 -0.7**
VTS pmax pmax
comp=Z,22nm,1.0s
VTS Vitosha 96.18 314 P **P** **13 46 40.2 -0.7**
VTS IAmb IAmb 13 46 47.3
comp=Z,22nm,1.0s
VTS Vitosha 96.18 314 *i* P **P** **13 46 40.6 -0.3**
HERR Herculane 96.20 316 ⇑P **P** **13 46 41.3 +0.5**
SRS Serrai 96.27 312 P **P** **13 46 38.8 -2.4**
SIRR Siria 96.35 318 ⇓P **P** **13 46 42.2 +0.8**
NIE Niedzica 96.37 321 *eP* **P** **13 46 42.2 +0.8**
MBAR Mbarara 96.43 270 P **P** **13 46 42.6 0.0**
comp=Z,3.3nm,0.4s,baz=29,slow=6.7,SNR=5.8
MBAR Mbarara 96.43 270⇓ *i*P **P** **13 46 42.5 -0.2**
MBAR pmax pmax
comp=Z,17nm,1.5s
MBAR Mbarara 96.43 270 IAmb IAmb 13 46 44.0
comp=Z,28nm,1.4s
OJC Ojcow 96.44 322 *eP* **P** **13 46 41.9 +0.1**
OJC Ojcow 96.44 322 P **P** **13 46 41.7 -0.1**
OJC pmax pmax
comp=Z,34nm,1.1s
OJC Ojcow 96.44 322 P **P** **13 46 41.7 -0.1**
OJC IAmb IAmb 13 46 43.4
comp=Z,34nm,1.1s
KYMI Kymi, Euboea I 96.45 310 P **P** **13 46 39.6 -2.4**
KKB Krupnik 96.46 313 *i* P **P** **13 46 41.3 -0.8**
AOS Alonnisos 96.50 310 P **P** **13 46 40.1 -2.1**
SOH Sokhos 96.51 312 P **P** **13 46 40.4 -2.0**
KECS Kecovo 96.52 320 *eP* **P** **13 46 42.8 +0.7**
KECS pmax pmax
comp=Z,10.0nm,0.8s
KECS Kecovo 96.52 320 *eP* **P** **13 46 42.8 +0.7**
PLG Polygyros 96.55 312 P **P** **13 46 41.3 -1.2**
BZS Buzias 96.55 317 ⇑P **P** **13 46 42.4 +0.1**
MDVR Moldovita 96.71 316 ⇑P **P** **13 46 43.1 -0.1**
HORT Hortiatis 96.75 312 P **P** **13 46 42.0 -1.5**
NC405 NORSAR Array S 96.78 334 P **P** **13 46 42.9 -0.2**
ATHU Athens Univers 96.84 309 P **P** **13 46 41.5 -2.3**
VLY Voula,Athens 96.86 309 P **P** **13 46 41.1 -2.8**
NC303 NORSAR Array S 96.89 334 P **P** **13 46 42.2 -1.3**
LANS Liptovska Anna 96.97 321 *eP* **P** **13 46 45.4 +1.2**
LANS pmax pmax
comp=Z,9.0nm,1.3s
LANS Liptovska Anna 96.97 321 *eP* **P** **13 46 45.4 +1.2**
XOR Xorichti 96.97 311 P **P** **13 46 40.6 -3.8**
NC602 NORSAR Array S 97.02 333 *eP* Pdif 13 46 44.3 +0.1
NB2 NORSAR Subarra 97.04 334 P **P** **13 46 43.4 -0.8**
comp=Z,15nm,0.8s,baz=66,slow=4.6
NB2 NORSAR Subarra 97.04 334 P **P** **13 46 43.4 -0.8**
baz=66,slow=4.6
NOA NORSAR Array B 97.04 334 P **P** **13 46 43.4 -0.8**
comp=Z,7.0nm,0.7s,baz=66,slow=4.5,SNR=17
NOA PP **PP** **13 50 38.5 -2.3**
comp=Z,1.5nm,0.7s,baz=67,slow=7.7,SNR=3.8
NOA LR LR 14 34 23.5
comp=Z,232nm,21.6s,baz=65,slow=38
PSZ Piszkesteto 97.06 320 ⇑P **P** **13 46 44.4 -0.3**
PSZ Piszkesteto 97.06 320 P **P** **13 46 43.2 -1.5**
PSZ pmax pmax
comp=Z,21nm,1.2s
PSZ Piszkesteto 97.06 320 P **P** **13 46 43.2 -1.5**
PSZ IAmb IAmb 13 46 46.0
comp=Z,21nm,1.2s
VAM Vamos 97.07 307 P **P** **13 46 43.1 -1.8**
NC204 NORSAR Array S 97.13 334 P **P** **13 46 43.8 -0.9**
IMMV Iera Moni Meta 97.23 307 P **P** **13 46 44.9 -0.8**
NAO01 NORSAR Array S 97.27 334 P **P** **13 46 44.1 -1.1**
LIT Litokhoron 97.32 312 P **P** **13 46 44.0 -2.0**
DID Didima 97.36 309 P **P** **13 46 42.6 -3.7**
YKA Yellowknife Ar 97.37 24 P Pdif 13 46 47.1 +1.4
comp=Z,1.9nm,0.8s,baz=299,slow=4.5,SNR=3.7
YKA LR LR 14 28 27.3
comp=Z,97nm,22.0s,baz=0.0,slow=34
DOMB Dombas 97.50 335 *eP* **P** **13 46 45.7 -0.7**
AXAR Agios Charalam 97.52 310 P **P** **13 46 43.6 -3.3**
VYHS Vyhne 97.56 320 *eP* Pdif 13 46 47.3 +0.4
VYHS pmax pmax
comp=Z,15nm,1.4s
VYHS Vyhne 97.56 320 *eP* Pdif 13 46 47.3 +0.4
OKC Ostrava-Krasne 97.58 322 *eP* Pdif 13 46 47.8 +0.9
OKC Ostrava-Krasne 97.58 322 *eP* Pdif 13 46 47.8 +0.9
OKC *ex* x 13 46 52.7
ANKY Antikythira Is 97.68 307 P **P** **13 46 45.3 -2.4**
AGG Agios Georgios 97.70 311 P **P** **13 46 43.9 -3.9**
AGG Agios Georgios 97.70 311 P **P** **13 46 46.2 -1.6**
AGG pmax pmax
comp=Z,21nm,0.9s
AGG Agios Georgios 97.70 311 P **P** **13 46 46.1 -1.6**
AGG IAmb IAmb 13 46 47.0
comp=Z,21nm,0.9s
OSL Oslo 97.74 333 *eP* Pdif 13 46 47.7 +0.4
VLI Veliai 97.78 308 P P 13 46 39.3 -8.8
THL Klokotos Trika 97.81 311 P **P** **13 46 45.4 -2.7**
FRGS Fruska Gora 97.90 317⇑ *i*P **P** **13 46 48.3 -0.2**
MORC Moravsky Berou 97.97 322 ⇑P **P** **13 46 48.0 -0.7**
MORC Moravsky Berou 97.97 322⇑ *i*PDIFF Pdif 13 46 49.0 +0.3
MORC Moravsky Berou 97.97 322 P **P** **13 46 48.4 -0.3**
MORC pmax pmax
comp=Z,18nm,1.1s
MORC Moravsky Berou 97.97 322 P **P** **13 46 48.4 -0.3**
MORC IAmb IAmb 13 46 50.6
comp=Z,18nm,1.1s
TRIZ Trizonia 98.06 310 P **P** **13 46 47.3 -2.0**
SERG Sergoula 98.06 310 P **P** **13 46 47.1 -2.2**
VLX Vlachokerasia 98.06 309 P **P** **13 46 47.5 -2.0**
KLV Kalavryta, Ach 98.08 310 P **P** **13 46 47.1 -2.4**
DIVS Divibare 98.08 316⇑ *i*P **P** **13 46 48.8 -0.6**
DIVS Divibare 98.08 316 P **P** **13 46 48.1 -1.3**
DIVS IAmb IAmb 13 46 50.7
comp=Z,20nm,0.9s
ANX Ano Chora 98.12 310 P **P** **13 46 48.0 -1.7**
EVR Evrytania 98.12 311 P **P** **13 46 48.7 -1.0**
JAVC Velka Javorina 98.18 321⇑ *i*PDIFF Pdif 13 46 51.2 +1.5
AKN Aaknes 98.29 336 *e*Pdif Pdif 13 46 50.7 +0.9
KRLC Kraliky 98.33 322 *eP* Pdif 13 46 50.9 +0.5
KRLC Kraliky 98.33 322 *eP* Pdif 13 46 50.9 +0.5
KRLC *ex* x 13 46 57.3
KSP Ksiaz 98.37 323 *eP* Pdif 13 46 51.1 +0.7
KONO Kongsberg 98.38 333 *e*Pdif **P** **13 46 49.3 -0.9**
MORH Mrgy, Hungar 98.38 318⇑ *i*P **P** **13 46 50.2 -0.3**

PVO Paravola 98.41 310 P P 13 46 48.8 -2.1
DRO Drossia 98.44 310 P P 13 46 50.4 -0.6
ITM Ithomi 98.46 309 P P 13 46 49.8 -1.4
SKAR Skarslia 98.47 334 ePdif Pdif 13 46 51.4 +0.6
OSTC Ostas 98.51 323 eP Pdif 13 46 52.6 +1.5
DPC Dobruska-Polom 98.52 323 eP Pdif 13 46 52.3 +1.1
DPC e 13 47 20.9
DPC Dobruska-Polom 98.52 323 eP Pdif 13 46 52.3 +1.1
DPC ex x 13 47 20.9
BBLS Lazići 98.55 316 ⇑iP Pdif 13 46 51.7 +0.2
MODS Modra-Piesok 98.58 321 eP P 13 46 51.2 -0.3
MODS Modra-Piesok 98.58 321 ePDIFF P 13 46 51.2 -0.3
CHVC Chvalec 98.60 323 eP Pdif 13 46 52.2 +0.7
CHVC ex x 13 46 57.8
RUDO Rudo 98.64 316 eP Pdif 13 46 52.1 +0.2
UPC Upice 98.65 323 eP Pdif 13 46 52.8 +1.1
UPC Upice 98.65 323 eP Pdif 13 46 52.8 +1.1
PYL PYLOS 98.67 309 P P 13 46 50.4 -1.7
VRAC Vranov 98.70 322 ⇑P Pdif 13 46 52.7 +0.7
VRAC Vranov 98.70 322 ⇑iPDIFF Pdif 13 46 52.9 +0.9
D03D Eldon 98.80 40 Pdiff Pdif 13 46 53.3 +0.9
baz=289
KRUC Moravsky 98.91 321 ⇑iPDIFF Pdif 13 46 53.5 +0.6
PDG Podgorica 99.06 314 ⇑P Pdif 13 46 53.0 -0.7
PDG Podgorica 99.06 314 ⇑iP Pdif 13 46 52.8 -0.9
PDG Podgorica 99.06 314 Pdif 13 46 52.3 -1.4
PDG IAmb IAmb 13 46 54.5
comp=Z,25nm,0.9s
IGT Igoumenitsa 99.08 311 P Pdif 13 46 51.3 -2.5
UPM Unac-Piva 99.09 315 eP Pdif 13 46 54.3 +0.2
FSK Fiskardo 99.18 310 P Pdif 13 46 53.0 -1.3
DRME Dracevica, Mon 99.18 314 ⇑iP Pdif 13 46 53.8 -0.5
RUE Ruedersdorf 99.23 325 eP Pdif 13 46 54.5 +0.3
TREC Trest 99.39 322 eP Pdif 13 46 55.9 +0.9
TREC Trest 99.39 322 eP Pdif 13 46 55.9 +0.9
KEK Kerkira 99.42 312 P Pdif 13 46 53.9 -1.5
BRY Bratogost 99.43 315 eP Pdif 13 46 55.5 0.0
PVCC Panska Ves 99.50 323 eP Pdif 13 47 03.0 +7.5
PVCC Panska Ves 99.50 323 eP Pdif 13 47 03.0 +7.5
GOPC GO Pecny, Ondr 99.59 323 eP Pdif 13 46 56.5 +0.6
GOPC GO Pecny, Ondr 99.59 323 eP Pdif 13 46 56.5 +0.6
GOPC ex x 13 47 01.5
CONA Conrad Observa 99.63 321 ePdiff Pdif 13 46 56.5 +0.2
comp=Z,8.5nm,1.4s
CONA ePP PP 13 51 01.6 +0.5
comp=Z,14nm,1.2s
PRU Pruhonice 99.72 323 eP Pdif 13 46 56.4 0.0
PRU Pruhonice 99.72 323 eP Pdif 13 46 56.4 0.0
PRU ex x 13 47 01.9
BRG Berggiesshubel 99.75 324 i P Pdif 13 46 56.7 +0.2
comp=Z,30nm,1.3s
BRG i 13 47 03.1
comp=Z,25nm,1.1s
BRG e 13 47 21.9
comp=Z,20nm,1.4s
BRG e 13 51 06.0
BRG e 13 57 52.0
BLY Banja Luka 99.81 317 eP Pdif 13 46 57.1 +0.1
ARSA Arzberg 100.07 320 ePdiff Pdif 13 46 58.4 +0.3
comp=Z,6.7nm,1.2s
MATP Matopo 100.11 250 P Pdif 13 46 59.2 +0.2
comp=Z,41nm,1.1s,baz=88,slow=4.4,SNR=50
MATP PKiKP PKiKP 13 51 27.9 +1.6
comp=Z,1.6nm,0.9s,baz=81,slow=3.6,SNR=1.5
CLL Collm 100.13 324 i Pdif Pdif 13 46 57.8 -0.4
comp=Z,24nm,1.4s
CLL i 13 47 03.9
comp=Z,26nm,1.3s
CLL i (pPdif) 13 47 22.7
CLL ePP PP 13 51 00.0 -4.6
CLL eSKSac SKSac 13 57 30.0 +2.1
CLL eSKKSac SKKSac 13 58 01.0 -0.8
CLL eSdif Sdif 13 58 20.0 -4.9
CLL eSdiff sS 13 59 09.0 -0.3
CLL ePS PS 14 00 06.0 -0.3
CLL eSPS 14 00 36.0
CLL ePPS PPS 14 00 54.0
CLL eSS SS 14 05 18.0 -2.1
CLL e 14 07 12.0
CLL eSSS SSS 14 09 12.0
CLL ePPPrev 14 11 24.0
CLL eSSSS 14 12 30.0
CLL Collm 100.13 324 i P Pdif 13 46 57.8 -0.4
CLL e 13 57 30.0
CLL eS Sdif 13 58 20.0 -4.9
CLL pmax pmax
comp=Z,24nm,1.4s
LSZ Lusaka 100.14 256 P Pdif 13 46 58.7 -0.5
comp=Z,35nm,1.0s,baz=178,slow=1.1,SNR=4.7
LSZ Lusaka 100.14 256 P Pdif 13 46 59.2 0.0
LSZ Lusaka 100.14 256 Pdif 13 46 58.0 -1.2
PBCC Pribram 100.16 323 eP Pdif 13 46 59.0 +0.6
PBCC ex x 13 47 03.7
GCIS Gornji Cirnik 100.48 319 ePdiff Pdif 13 47 00.2 +0.3
GCIS ePP PP 13 51 10.6 +3.1
PERS Pernice 100.55 319 ePP PKiKP 13 51 11.1 -15
SOKA Soboth 100.59 320 ePdiff Pdif 13 47 00.6 +0.1
comp=Z,7.5nm,1.2s
SOKA ePP PP 13 51 09.7 +1.4
comp=Z,26nm,1.6s
CRES Cresnjev 100.60 319 ⇑iP Pdif 13 46 59.8 -0.7
KHC Kasperske Hory 100.61 322 ⇓iP Pdif 13 47 01.7 +1.2
KHC pmax pmax
comp=Z,29nm,1.7s
KHC Kasperske Hory 100.61 322 eP Pdif 13 47 01.0 +0.5
KHC ex x 13 47 06.6
KHC ex x 13 50 09.0
KHC ex x 13 51 06.5
GERES GERESS Array B 100.65 322 P Pdif 13 47 00.9 +0.2
comp=Z,6.0nm,0.9s,baz=64,slow=6.1,SNR=43
GERES PP PP 13 51 10.0 +1.3
comp=Z,4.0nm,1.1s,baz=69,slow=5.6,SNR=6.0
GERES PKiKP PKiKP 13 51 27.0 +0.5
comp=Z,0.5nm,0.6s,baz=75,slow=5.4,SNR=1.3
GERES GERESS Array B 100.65 322 P Pdif 13 47 01.0 +0.2
GERES GERESS Array B 100.65 322 Pdif 13 47 00.5 -0.2
MOA Molln 100.66 321 ePdiff Pdif 13 47 01.2 +0.5
comp=Z,21nm,1.1s,SNR=10
BOJS Bojanci 100.85 318 i Pdiff Pdif 13 47 02.2 +0.6
OBKA Obir 100.96 319 ePdiff Pdif 13 47 02.0 -0.2
comp=Z,11nm,1.3s
VISS Visnje 101.02 319 ePdiff Pdif 13 47 02.3 0.0
VISS ePP PP 13 51 14.6 +3.1
GBRS Gornja Briga 101.13 318 i Pdiff Pdif 13 47 03.4 +0.5
LJU Ljubljana 101.14 319 ePdiff Pdif 13 47 03.1 +0.2
LJU ePP PP 13 51 15.3 +2.9
LJU Ljubljana 101.14 319 ⇑iP Pdif 13 47 02.0 -0.9
CEY Cerknica 101.31 319 ⇑iP Pdif 13 47 03.6 -0.1
KBA Koelnbreinsper 101.52 320 ePdiff Pdif 13 47 04.4 -0.4
comp=Z,6.6nm,0.9s
TIP Timpagrande 101.83 312 ⇓P Pdif 13 47 06.3 +0.1
TIP Timpagrande 101.83 312 Pdif Pdif 13 47 05.7 -0.5
ABTA Abfaltersbach 102.18 320 ePdiff Pdif 13 47 07.1 -0.5
comp=Z,11nm,1.2s
ABTA ePP PP 13 51 22.5 +2.2
comp=Z,10nm,1.2s
CIMO Cimolais 102.39 320 Pdif Pdif 13 47 07.9 -0.6
WTTA Wattenberg 102.53 321 ePdiff Pdif 13 47 09.1 -0.2
comp=Z,11nm,0.8s,SNR=5.9
WATA Walderalm 102.54 321 ePdiff Pdif 13 47 08.8 -0.5
comp=Z,7.0nm,0.8s,SNR=5.2
SQTA Sankt Quirin 102.82 321 ePdiff Pdif 13 47 10.6 +0.1
comp=Z,8.0nm,0.8s
MOTA Moosalm 102.83 321 ePdiff Pdif 13 47 10.1 -0.5
comp=Z,8.0nm,0.8s
MOTA ePP PP 13 51 24.7 -0.6
comp=Z,14nm,1.3s
LBTB Lobatse 102.91 246 Pdiff Pdif 13 47 10.3 -1.0
comp=Z,3.4nm,0.8s,baz=246,slow=17,SNR=3.4
FETA Feichten 103.20 321 ePdiff Pdif 13 47 12.2 0.0
comp=Z,12nm,1.1s
FETA ePKiKP PKiKP 13 51 30.2 -1.1
comp=Z,11nm,1.3s
BOSA Boshof 103.22 242 Pdiff Pdif 13 47 14.1 +1.4
comp=Z,1.9nm,0.6s,baz=162,slow=1.9,SNR=3.0
NVAR Mina Array Bea 105.16 48 Pdiff Pdif 13 47 22.7 +1.5
comp=Z,0.8nm,0.7s,baz=279,slow=6.4,SNR=6.1
NVAR PP PP 13 51 42.4 -0.6
comp=Z,3.3nm,0.9s,baz=278,slow=7.8,SNR=8.5
NVAR PKKPbc PKKPbc 14 03 03.3 +0.5
comp=Z,1.4nm,0.7s,baz=140,slow=4.7,SNR=13
NVAR PKKPab PKKPab 14 03 20.6 -0.1
comp=Z,2.5nm,0.7s,baz=126,slow=4.7,SNR=13

HLID Hailey 105.93 42 PKiKP PKiKP 13 51 38.7 +2.3
baz=295
CWC Cottonwood Cre 106.02 50 PKiKP PKiKP 13 51 43.3 +6.5
baz=290
SNAA Sanae 107.40 195 Pdiff Pdif 13 47 31.6 +1.4
comp=Z,0.9nm,0.7s,baz=344,slow=2.3,SNR=3.1
SNAA PP PP 13 51 58.4 +0.1
comp=Z,2.0nm,0.9s,baz=122,slow=7.8,SNR=5.8
KEST Kesra 108.54 311 PP PP 13 52 08.6 +1.0
comp=Z,12nm,1.0s,baz=357,slow=4.1,SNR=6.9
VNA2 Neumayer--Watz 109.01 194 PKiKP PKiKP 13 51 42.0 +0.9
VNA3 Neumayer Olymp 109.34 194 PKiKP PKiKP 13 51 48.0 +6.3
PDAR Pinedale Array 109.46 41 PP PP 13 52 12.7 -1.5
comp=Z,0.8nm,0.7s,baz=264,slow=1.5,SNR=4.6
PDAR PKKPbc PKKPbc 14 02 48.7 -1.0
comp=Z,1.1nm,0.8s,baz=137,slow=3.2,SNR=5.5
PDAR PKKPab PKKPab 14 02 59.6 -2.0
comp=Z,4.9nm,0.8s,baz=114,slow=6.6,SNR=24
TSUM Tsumeb 110.37 252 Pdiff Pdif 13 47 46.5 +1.9
comp=Z,1.2nm,0.6s,baz=84,slow=12,SNR=2.2
O20A White River Ci 111.58 43 PKiKP PKiKP 13 51 48.9 +1.8
baz=298
MVCO Mesa Verde 112.76 46 PKiKP PKiKP 13 51 51.5 +2.0
baz=297
ISCO Idaho Springs 113.50 42 PKiKP PKiKP 13 51 51.9 +0.9
baz=300
S22A 4UR Ranch, Cre 113.68 44 P PKiKP 13 51 53.4 +2.0
baz=299
SDCO Great Sand Dun 114.60 44 P PKPdf 13 51 54.4 +1.3
baz=300
ANMO Albuquerque 115.27 47 P PKPdf 13 51 56.5 +2.1
baz=298
T25A Trinidad 115.66 44 P PKPdf 13 51 56.8 +1.7
baz=300
ESDC Sonseca Array 116.09 320 PKP PKiKP 13 51 56.5 +0.8
comp=Z,0.9nm,0.7s,baz=34,slow=1.4,SNR=8.7
ESDC PP PP 13 53 02.4 +1.2
comp=Z,3.5nm,0.9s,baz=46,slow=6.6,SNR=7.8
EYMN Ely 116.55 28 P PKiKP 13 51 56.9 +0.7
baz=316
ECSD EROS Data Cent 116.78 34 P PKiKP 13 51 57.4 +0.7
baz=310
ECSD EROS Data Cent 116.78 34 PKPdf PKPdf 13 51 55.9 -0.9
MVO Moncorvo 117.15 323 ePKPdf PKiKP 13 51 59.0 +1.3
BGNE Belgrade 117.34 37 P PKPdf 13 51 57.7 -0.2
baz=307
PGAV Gavieira, Arco 117.41 324 ePKPdf PKiKP 13 51 59.5 +1.3
PGAV Gavieira, Arco 117.41 324 i PP PP 13 53 19.3 +9.1
MNTX Cornudas Mount 117.56 50 P PKiKP 13 51 59.9 +1.3
baz=297,SNR=5.3
MTE Manteigas 117.92 322 ePKPdf PKiKP 13 52 00.8 +1.6
MTE Manteigas 117.92 322 ePP PP 13 53 15.5 +1.7
PVIS Viseu 117.95 323 ePKPdf PKiKP 13 52 00.7 +1.5
PCBR Castelo Branco 118.22 322 ePKPdf PKiKP 13 52 01.2 +1.5
SCHQ Schefferville 118.38 9 PKP PKiKP 13 52 00.8 +1.3
comp=Z,2.0nm,0.3s,baz=36,slow=2.4,SNR=9.1
MSTX Muleshoe 118.40 46 P PKiKP 13 52 01.6 +1.3
baz=300
PMRV Marv??o 118.41 321 ePKPdf PKiKP 13 52 01.5 +1.4
PMRV Marv??o 118.41 321 ePP PP 13 53 18.5 +1.4
PCAS Casmilo, Conde 118.72 322 ePKPdf PKiKP 13 52 00.7 +0.1
COWI Conover 119.00 28 PKPdf 13 52 00.1 -0.9
G40A Rib Lake 119.09 29 PKPdf 13 52 00.5 -0.7
PMTG Montargil 119.14 321 ePKPdf PKiKP 13 52 02.5 +1.0
PMTG Montargil 119.14 321 ePP PP 13 53 23.4 +1.3
PSBE So Bento 119.22 322 ePKPdf PKiKP 13 52 03.2 +1.5
PSBE So Bento 119.22 322 ePP PP 13 53 27.8 +5.1
EVO Evora 119.33 321 ePKPdf PKiKP 13 52 02.9 +1.0
PBEJ Beja 119.53 320 ePKPdf PKiKP 13 52 03.4 +1.1
KSU1 Kansas State U 119.67 38 P PKiKP 13 52 03.7 +1.1
baz=308
KSU1 Kansas State U 119.67 38 PKPdf PKPdf 13 52 01.2 -1.2
E43A Lone Tree Farm 119.77 27 PKiKP PKiKP 13 52 02.9 +0.5
PVAQ Izqueiros 119.80 319 ePKPdf PKiKP 13 52 04.5 +1.7
SCIA State Center 119.87 34 P PKiKP 13 52 03.6 +0.7
baz=312
PCVE Castro Verde 119.88 320 ePKPdf PKiKP 13 52 04.4 +1.4
PNCL Nicolau / Gran 119.90 321 ePKPdf PKiKP 13 52 04.2 +1.2
TX31 Lajitas Ar. Si 119.95 51 PKPdf PKPdf 13 52 02.3 -1.1
TX32 Lajitas Array 119.95 51 PKPdf PKPdf 13 52 03.4 0.0
TXAR Lajitas Array 119.95 51 PKP PKiKP 13 52 04.8 +1.3
comp=Z,0.9nm,0.6s,baz=240,slow=0.7,SNR=17
TXAR PKKPbc PKKPbc 14 02 12.8 -0.3
comp=Z,1.3nm,0.7s,baz=136,slow=6.1,SNR=16
TXAR Lajitas Array 119.95 51 PKPdf PKiKP 13 52 03.8 +0.3
MORF Marmelete 120.46 320 ePKPdf PKiKP 13 52 05.8 +1.6
MATQ Matagami 120.54 18 P PKiKP 13 52 04.4 +0.5
baz=331
D46A Sault St. Mari 120.63 24 P PKiKP 13 52 05.4 +1.2
baz=323,SNR=6.9
PFVI Vila Bisbo 120.68 320 ePKPdf PKiKP 13 52 06.2 +1.7
JFWS Jewell Farm 120.76 31 P PKiKP 13 52 05.0 +0.4
baz=315
JFWS Jewell Farm 120.76 31 PKIKP PKPdf 13 52 04.4 -0.1
JFWS Jewell Farm 120.76 31 PKPdf PKPdf 13 52 04.3 -0.1
WMOK Wichita Mounta 120.80 44 P PKiKP 13 52 05.9 +1.0
baz=304
L40A Anamosa 120.85 33 PKPdf 13 52 04.2 -0.5
D47A Chapleau 120.87 24 P PKiKP 13 52 05.5 +0.8
baz=324
T35A Sooner Cattle 121.05 40 PKPdf PKPdf 13 52 05.0 -0.2
P38A Dawn 121.19 36 PKPdf 13 52 05.3 0.0
D48A Paudash Townsh 121.28 23 P PKiKP 13 52 06.1 +0.7
baz=326
ABTX Abilene, Hawle 121.34 46 P PKiKP 13 52 07.4 +1.3
baz=302
LSQQ Lebel-sur-Quev 121.36 18 P PKiKP 13 52 05.6 +0.1
baz=332
CHGQ Chibougamau 121.36 16 P PKiKP 13 52 06.2 +0.7
baz=335
L42A Oliver, Polo 121.71 32 PKPdf 13 52 05.7 -0.6
E48A Lockeyer 121.72 23 P PKiKP 13 52 07.3 +1.0
baz=325,SNR=6.5
W35A Tecumseh 121.86 42 PKPdf 13 52 06.7 -0.1
D50A G1974 Best Tow 122.03 21 P PKiKP 13 52 07.7 +0.8
baz=328,SNR=8.2
VLDQ Val d'Or 122.04 19 PKPdf PKPdf 13 52 06.5 -0.2
F48A Evansville 122.07 24 P PKiKP 13 52 08.0 +1.0
baz=324,SNR=6.2
P40A Paris 122.12 35 PKPdf PKiKP 13 52 07.9 +0.6
TUL1 Leonard 122.12 41 P PKiKP 13 52 08.6 +1.2
baz=307
D51A Lot 18 Range I 122.26 21 P PKiKP 13 52 07.6 +0.2
baz=328
E50A Wahnapitae 122.32 23 P PKiKP 13 52 08.7 +1.2
baz=327
JCT Junction City 122.33 48 P PKiKP 13 52 09.4 +1.4
baz=301
F49A Sandfield 122.35 24 P PKiKP 13 52 08.4 +0.8
baz=325,SNR=6.1
S39A Bolivar 122.57 38 PKPdf PKPdf 13 52 08.1 0.0
E51A G1948 Merrick 122.69 22 P PKiKP 13 52 08.8 +0.5
baz=328,SNR=7.2
D52A ZEK Kipawa Sen 122.70 21 P PKiKP 13 52 08.2 0.0
baz=329,SNR=8.9
U38A Gravette 122.70 39 PKPdf PKiKP 13 52 08.8 +0.3
R40A Maddies Statio 122.81 36 PKPdf PKiKP 13 52 09.2 +0.5
D53A Lac Vacive, Po 122.85 20 P PKiKP 13 52 09.2 +0.7
baz=330,SNR=5.9
D53A Lac Vacive, Po 122.85 20 PKPdf PKiKP 13 52 08.8 +0.2
HDIL Hopedale 122.94 33 P PKiKP 13 52 09.6 +0.7
baz=315
HDIL Hopedale 122.94 33 PKiKP 13 52 08.9 +0.1
F51A Arnstein 123.04 22 P PKiKP 13 52 09.7 +0.7
baz=327
HHAR Hobbs 123.08 39 PKPdf 13 52 09.2 +0.1
D54A Lac Fusel, La 123.14 19 P PKiKP 13 52 09.1 0.0
baz=331,SNR=5.6
X37A Clayton 123.19 42 PKPdf 13 52 09.0 -0.3
E52A Matawa 123.20 21 P PKiKP 13 52 09.4 +0.2
baz=329
WHTX Lake Whitney, 123.24 46 P PKiKP 13 52 11.2 +1.4
baz=304
WHTX Lake Whitney, 123.24 46 PKPdf PKiKP 13 52 10.0 +0.2
E53A Dumoine, Ponti 123.47 20 P PKiKP 13 52 10.2 +0.4
baz=330,SNR=8.2
CCM Cathedral Cave 123.57 36 P PKiKP 13 52 10.9 +0.6
baz=312
CCM Cathedral Cave 123.57 36 PKIKP PKiKP 13 52 10.3 +0.1
CCM Cathedral Cave 123.57 36 PKPdf PKiKP 13 52 10.2 +0.1
E54A Lac Daplat, Po 123.59 20 P PKPdf 13 52 09.8 +0.1
baz=331,SNR=6.0
D55A Sainte-Anne-du 123.63 18 P PKiKP 13 52 10.5 +0.4
baz=333,SNR=6.2
ALGO Algonquin Park 123.70 21 P PKPdf 13 52 09.9 -0.1
baz=330,SNR=6.0

U40A Yellville 123.71 39 P PKiKP 13 52 11.0 +0.4
baz=310,SNR=20
U40A Yellville 123.71 39 PKiKP 13 52 10.5 -0.1
833A Chaparral WMA, 123.72 50 P PKiKP 13 52 12.1 +1.3
baz=300
D56A ZEC Mazanza, M 123.83 18 P PKiKP 13 52 10.8 +0.3
baz=334,SNR=7.4
W39A Magazine 123.85 40 P PKiKP 13 52 11.3 +0.4
baz=308,SNR=8.1
W39A Magazine 123.85 40 PKPdf PKPdf 13 52 10.4 -0.2
E55A Montcerf-Lytto 123.95 19 P PKiKP 13 52 11.0 +0.3
baz=332
D57A Chemin Vers le 124.12 17 P PKiKP 13 52 11.7 +0.6
baz=334,SNR=5.8
G54A Lake Saint Pet 124.17 21 P PKPdf 13 52 10.7 -0.2
baz=329,SNR=6.5
E56A St. Veronique 124.19 18 P PKiKP 13 52 11.1 -0.1
baz=333,SNR=5.7
SFIN Lafayette 124.22 31 P PKPdf 13 52 10.8 -0.4
baz=318
SFIN Lafayette 124.22 31 PKPdf PKPdf 13 52 10.6 -0.6
SADO Sadowa 124.31 22 PKPdf 13 52 10.9 -0.3
D58A Chemin du LacG 124.34 16 P PKiKP 13 52 12.0 +0.6
baz=336,SNR=7.7
T42A Van Buren 124.34 37 PKiKP 13 52 12.0 +0.2
L48A N Adams 124.36 28 PKiKP 13 52 11.9 +0.2
I51A Listowel 124.38 24 P PKiKP 13 52 11.7 0.0
baz=325
MIAR Mount Ida 124.39 41 P PKiKP 13 52 13.2 +1.2
baz=308,SNR=16
MIAR Mount Ida 124.39 41 PKIKP PKPdf 13 52 11.7 +0.1
MIAR Mount Ida 124.39 41 PKPdf PKPdf 13 52 11.7 +0.1
F55A Otter Lake 124.40 20 P PKiKP 13 52 11.6 -0.1
baz=331
FCAR Ozark Folk Cen 124.46 39 PKPdf 13 52 11.4 -0.4
N47A Urbana 124.56 30 PKPdf 13 52 11.4 -0.4
E57A Chemin Saint G 124.59 18 P PKiKP 13 52 12.9 +0.8
baz=334,SNR=11
H53A Bobcaygeon 124.69 22 P PKiKP 13 52 12.9 +0.6
baz=328
WHAR Wooly Hollow 124.74 39 PKPdf 13 52 11.2 -1.1
G55A Calabogie 124.78 20 P PKiKP 13 52 13.0 +0.7
baz=331
PLVO Plevna 124.84 21 PKiKP 13 52 12.7 +0.2
W41B Gary Mavity, V 124.84 39 P PKiKP 13 52 12.9 0.0
baz=310
W41B Gary Mavity, V 124.84 39 PKPdf 13 52 12.5 0.0
E58A La Victoria 124.88 17 P PKiKP 13 52 13.3 +0.8
baz=335,SNR=6.1
LCAR Lake Charles 124.94 38 PKPdf 13 52 12.7 +0.1
F57A Harrington 124.95 19 P PKiKP 13 52 12.9 +0.1
baz=333
ORIO Orleans, Innes 125.01 19 P PKiKP 13 52 13.4 +0.5
baz=332,SNR=5.9
ORIO Orleans, Innes 125.01 19 PKiKP 13 52 13.0 +0.1
DELO Deloro Mine 125.10 21 PKPdf PKiKP 13 52 13.2 +0.1
H55A Tweed 125.22 21 P PKPdf 13 52 12.8 -0.1
baz=330
N49A Columbus Grove 125.27 29 PKiKP 13 52 13.5 0.0
I55A Frankford 125.33 22 P PKiKP 13 52 13.6 0.0
baz=329
D62A Allapoint, All 125.34 14 P PKiKP 13 52 13.7 +0.3
baz=340
G57A Newington 125.49 19 P PKiKP 13 52 14.4 +0.6
baz=333
H56A Elgin 125.51 20 P PKPdf 13 52 13.5 0.0
baz=331
E61A Lac Etchemin 125.59 15 P PKiKP 13 52 14.5 +0.4
baz=338,SNR=11
F60A Warwick 125.63 16 P PKiKP 13 52 14.6 +0.5
baz=336,SNR=6.2
G58A Ormstown 125.75 18 P PKiKP 13 52 14.5 +0.2
baz=334
O49A Covington 125.76 30 PKiKP 13 52 14.8 +0.3
P48A Milroy 125.76 31 PKPdf 13 52 14.0 -0.1
PECO Prince Edward 125.83 21 PKPdf PKiKP 13 52 14.7 +0.2
F61A St Evariste 125.89 16 P PKiKP 13 52 15.3 +0.7
baz=338
H57A Richville 125.92 20 P PKPdf 13 52 14.3 0.0
baz=332,SNR=6.6
PQI Presque Isle 125.96 13 PKiKP 13 52 15.1 +0.4
LONY Lake Ozonia 126.05 19 P PKiKP 13 52 15.5 +0.5
baz=333
LONY Lake Ozonia 126.05 19 PKiKP 13 52 15.3 +0.3
P49A Miami Univ. Ec 126.07 30 P PKiKP 13 52 15.6 +0.5
baz=320
P49A Miami Univ. Ec 126.07 30 PKPdf 13 52 14.6 -0.1
J55A Hilton 126.09 22 P PKiKP 13 52 15.6 +0.5
baz=329,SNR=5.8
J55A Hilton 126.09 22 PKiKP 13 52 15.0 0.0
E63A Oxbow 126.10 13 P PKiKP 13 52 14.9 -0.1
baz=341
E63A Oxbow 126.10 13 PKPdf PKiKP 13 52 15.2 +0.2
MOQ Mont Orford 126.14 17 PKiKP 13 52 15.6 +0.4
FRNY Flat Rock 126.18 18 PKPdf PKiKP 13 52 15.1 -0.1
WCI Wyandotte Cave 126.22 33 P PKiKP 13 52 16.2 +0.8
baz=317
WCI Wyandotte Cave 126.22 33 PKIKP PKiKP 13 52 15.4 -0.1
WCI Wyandotte Cave 126.22 33 PKPdf PKiKP 13 52 15.4 -0.1
F62A Pittston Farm, 126.22 15 P PKiKP 13 52 15.5 +0.3
baz=339
E64A Bridgewater 126.24 13 P PKiKP 13 52 15.7 +0.4
baz=342
I57A Carthage 126.30 20 P PKiKP 13 52 15.9 +0.5
baz=332,SNR=6.9
H59A Cadyville 126.31 18 P PKPdf 13 52 15.0 -0.1
baz=334,SNR=5.5
H58A Gabriels 126.36 19 P PKiKP 13 52 16.3 +0.7
baz=333,SNR=8.7
L54A Sinclairville 126.38 24 P PKiKP 13 52 16.3 +0.6
baz=327
ACSO Alum Creek Sta 126.38 28 P PKiKP 13 52 16.4 +0.6
baz=322,SNR=6.9
ACSO Alum Creek Sta 126.38 28 PKiKP 13 52 16.1 +0.4
G61A St-Isidore-de- 126.38 16 P PKPdf 13 52 15.3 +0.1
baz=337
J56A Wolcott 126.44 22 P PKiKP 13 52 15.7 0.0
baz=330,SNR=6.0
J56A Wolcott 126.44 22 PKiKP 13 52 15.9 +0.1
K55A Perry 126.46 23 P PKiKP 13 52 15.8 -0.1
baz=328
M53A WI Miller and 126.46 26 P PKiKP 13 52 15.9 0.0
baz=325
MMNY Mt. Morris Dam 126.52 23 PKiKP 13 52 16.0 0.0
N52A McGinn's Farm, 126.52 27 P PKiKP 13 52 16.6 +0.6
baz=324,SNR=5.5
F63A Nahmakanta, Br 126.62 14 P PKiKP 13 52 16.7 +0.6
baz=340
O51A Pataskala 126.62 28 P PKiKP 13 52 16.7 +0.4
baz=322,SNR=6.4
J57A Williamstown 126.64 21 P PKiKP 13 52 16.7 +0.5
baz=331,SNR=7.2
F64A Sherman 126.65 13 P PKiKP 13 52 16.4 +0.3
baz=341
H60A Morristown 126.70 18 P PKiKP 13 52 16.6 +0.3
baz=335
G62A West of Eustis 126.71 16 P PKiKP 13 52 16.9 +0.6
baz=338
W45A Hickory Valley 126.74 37 PKPdf 13 52 16.2 +0.1
I58A Old Forge 126.75 20 P PKPdf 13 52 15.9 -0.1
baz=332,SNR=6.7
NCB Newcomb 126.75 19 PKPdf 13 52 16.1 +0.1
K56A Middlesex 126.77 22 P PKiKP 13 52 16.6 +0.1
baz=329
R49A Shelbyville 126.77 32 PKPdf 13 52 16.0 -0.1
L55A Hinsdale 126.77 24 P PKiKP 13 52 16.9 +0.3
baz=328,SNR=5.1
M54A Oil Creek Stat 126.83 25 P PKPdf 13 52 16.2 0.0
baz=326,SNR=7.6
M54A Oil Creek Stat 126.83 25 PKPdf 13 52 16.1 0.0
WVT Waverly 126.87 35 P PKiKP 13 52 17.4 +0.6
baz=315
WVT Waverly 126.87 35 PKIKP PKPdf 13 52 16.6 +0.2
WVT Waverly 126.87 35 PKPdf PKPdf 13 52 16.6 +0.2
P51A Williamsport 126.92 29 P PKiKP 13 52 16.7 -0.1
baz=321
P51A Williamsport 126.92 29 PKPdf 13 52 16.4 0.0
J58A Remsen 126.93 20 P PKiKP 13 52 17.2 +0.4
baz=332,SNR=10
J58A Remsen 126.93 20 PKPdf 13 52 16.4 +0.1
H61A Lyndonville 126.95 17 P PKiKP 13 52 17.7 +1.0
baz=336,SNR=5.9
PKME Peaks-Kenny Pk 126.98 14 P PKiKP 13 52 17.1 +0.3
baz=339
O52A Adamsville 127.01 28 P PKiKP 13 52 17.2 +0.2
baz=323,SNR=7.8

O52A	Adamsville	127.01	28		PKPdf	13 52 16.4	-0.1
I59A	Olmsteadville	127.02	19	P	PKiKP	13 52 17.2	+0.2
	baz=334,SNR=8.6						
K57A	Scipio Center	127.04	22	P	PKiKP	13 52 17.4	+0.3
	baz=330,SNR=8.2						
G63A	Kingsbury	127.04	15	P	PKiKP	13 52 17.6	+0.7
	baz=339						
J59A	Piesco	127.11	20	P	PKiKP	13 52 17.7	+0.6
	baz=333,SNR=16						
J59A	Piesco	127.11	20		PKPdf	13 52 16.5	-0.2
G64A	Maxfield	127.13	14	P	PKiKP	13 52 17.7	+0.7
	baz=340						
Q51A	Peebles	127.14	30		PKPdf	13 52 17.0	+0.2
N54A	Moraine State	127.15	26	P	PKiKP	13 52 17.3	0.0
	baz=325						
N54A	Moraine State	127.15	26		PKiKP	13 52 17.3	0.0
L56A	Greenwood	127.16	23	P	PKiKP	13 52 17.4	+0.1
	baz=329						
L56A	Greenwood	127.16	23		PKiKP	13 52 17.2	-0.2
I60A	Shoreham	127.16	18	P	PKiKP	13 52 17.5	+0.4
	baz=334,SNR=6.4						
O53A	New Philadelph	127.18	27	P	PKiKP	13 52 17.9	+0.6
	baz=324,SNR=5.7						
O53A	New Philadelph	127.18	27		PKiKP	13 52 17.4	+0.1
R50A	Paris	127.22	31		PKPdf	13 52 16.6	-0.4
LBNH	Lisbon	127.22	17	P	PKiKP	13 52 17.4	0.0
	baz=336						
LBNH	Lisbon	127.22	17	PKiKP	PKPdf	13 52 16.8	0.0
LBNH	Lisbon	127.22	17	PKPdf	PKPdf	13 52 16.8	0.0
M55A	Ridgway	127.24	24	P	PKiKP	13 52 17.8	+0.3
	baz=327,SNR=5.3						
P52A	Corning	127.25	28	P	PKiKP	13 52 17.5	0.0
	baz=322,SNR=8.0						
P52A	Corning	127.25	28		PKPdf	13 52 16.4	-0.6
K58A	Earlville	127.33	21	P	PKiKP	13 52 18.2	+0.6
	baz=331,SNR=8.1						
I61A	Oroboro, Fairl	127.41	18	P	PKiKP	13 52 18.6	+0.9
	baz=336						
G65A	Princeton	127.45	13	P	PKiKP	13 52 17.9	+0.2
	baz=342						
M56A	Emporium	127.47	24	P	PKiKP	13 52 17.7	-0.2
	baz=328,SNR=6.1						
M56A	Emporium	127.47	24		PKPdf	13 52 16.7	-0.7
PLAL	Pickwick Lake	127.53	37	PKPdf	PKPdf	13 52 16.9	-0.8
L57A	Andrews Acres	127.55	22	P	PKiKP	13 52 18.4	+0.3
	baz=329,SNR=5.6						
H64A	Troy	127.58	15	P	PKiKP	13 52 18.5	+0.5
	baz=339						
K59A	Cooperstown	127.60	20	P	PKiKP	13 52 18.2	0.0
	baz=332						
O54A	Avella	127.61	27	P	PKiKP	13 52 18.9	+0.7
	baz=325,SNR=7.3						
J60A	Lant Hill Farm	127.66	19	P	PKiKP	13 52 19.1	+0.9
	baz=334						
BINY	Binghamton	127.70	22	P	PKiKP	13 52 18.6	+0.3
	baz=330,SNR=6.5						
BINY	Binghamton	127.70	22	PKPdf	PKPdf	13 52 17.7	-0.1
P53A	Whipple	127.71	28	P	PKiKP	13 52 18.9	+0.4
	baz=323,SNR=9.7						
P53A	Whipple	127.71	28		PKPdf	13 52 16.7	-1.2
Q52A	Bidwell	127.72	29	P	PKiKP	13 52 18.7	+0.2
	baz=322						
N55A	Marion Center	127.72	25	P	PKiKP	13 52 18.3	-0.2
	baz=326						
V48A	Smith Brothers	127.73	35		PKPdf	13 52 16.6	-1.4
U49A	Red Boiling Sp	127.76	34		PKPdf	13 52 17.4	-0.7
H65A	Eastbrook	127.77	14	P	PKiKP	13 52 19.1	+0.7
	baz=341						
I63A	Otisfield	127.78	16	P	PKPdf	13 52 17.0	-0.9
	baz=338						
J61A	Chester	127.84	18	P	PKiKP	13 52 18.8	+0.2
	baz=335						
L58A	Harry Jones Me	127.88	22	P	PKiKP	13 52 19.2	+0.5
	baz=331,SNR=6.3						
N56A	West Decatur	127.90	24	P	PKiKP	13 52 19.3	+0.5
	baz=327						
H66A	Whiting	127.90	13	P	PKiKP	13 52 19.0	+0.4
	baz=342						
M57A	Sunshine Farm,	128.01	23	P	PKiKP	13 52 19.5	+0.6
	baz=329,SNR=6.7						
M57A	Sunshine Farm,	128.01	23		PKiKP	13 52 19.0	0.0
P54A	Burton	128.04	27	P	PKiKP	13 52 19.3	+0.2
	baz=324						
L59A	Walton	128.05	21	P	PKiKP	13 52 19.1	0.0
	baz=332						
O55A	Ligonier	128.06	26	P	PKiKP	13 52 19.6	+0.4
	baz=326						
S51A	Beattyville	128.08	31		PKPdf	13 52 18.3	-0.3
Q53A	Leroy	128.15	28	P	PKiKP	13 52 19.5	+0.1
	baz=323						
J62A	Henniker	128.18	18	P	PKiKP	13 52 19.4	+0.2
	baz=336						
K61A	Williamstown	128.22	19	P	PKiKP	13 52 19.8	+0.4
	baz=334,SNR=6.5						
M58A	Price's Panora	128.24	23	P	PKiKP	13 52 19.6	+0.1
	baz=330						
SSPA	Standing Stone	128.30	24	P	PKiKP	13 52 19.7	+0.1
	baz=328						
SSPA	Standing Stone	128.30	24		PKPdf	13 52 19.2	+0.2
O56A	Blue Knob Stat	128.33	25	P	PKiKP	13 52 20.2	+0.5
	baz=327,SNR=5.1						
O56A	Blue Knob Stat	128.33	25		PKPdf	13 52 19.2	+0.2
N57A	Milroy	128.34	24	P	PKiKP	13 52 20.2	+0.5
	baz=328						
J63A	Strafford	128.34	17	P	PKiKP	13 52 20.4	+0.9
	baz=337						
R53A	Hurricane	128.36	29	P	PKiKP	13 52 20.4	+0.6
	baz=322						
R53A	Hurricane	128.36	29		PKiKP	13 52 19.9	+0.1
Q54A	Coxs Mills	128.38	28	P	PKiKP	13 52 20.3	+0.5
	baz=324						
Q54A	Coxs Mills	128.38	28		PKiKP	13 52 19.5	-0.3
P55A	Reedsville	128.41	27	P	PKiKP	13 52 20.2	+0.3
	baz=325						
M59A	Waymart	128.47	22	P	PKiKP	13 52 20.5	+0.6
	baz=331,SNR=6.4						
146A	Union	128.50	40		PKPdf	13 52 19.6	0.0
X48A	Hartselle	128.50	36	PKPdf	PKPdf	13 52 19.3	-0.2
L60A	Shokan	128.51	20	P	PKPdf	13 52 19.6	+0.3
	baz=332						
L61A	Hillsdale 1, H	128.56	20	P	PKiKP	13 52 20.1	0.0
	baz=333						
K62A	Royalston	128.56	18	P	PKiKP	13 52 20.5	+0.5
	baz=335						
N58A	Sunbury	128.59	23	P	PKiKP	13 52 20.1	-0.1
	baz=329,SNR=6.0						
N58A	Sunbury	128.59	23	PKPdf	PKPdf	13 52 18.7	-0.8
L61B	Northampton	128.61	19	P	PKiKP	13 52 20.3	+0.1
	baz=334						
Q55A	Buckhannon	128.71	27	P	PKiKP	13 52 20.7	+0.1
	baz=324,SNR=6.7						
K63A	Dunstable	128.75	18	P	PKiKP	13 52 21.0	+0.6
	baz=336						
O57A	Amberson	128.76	24	P	PKiKP	13 52 20.7	+0.1
	baz=328,SNR=5.8						
S53A	Williamson	128.79	30	P	PKiKP	13 52 20.7	0.0
	baz=322						
P56A	Dayton Farm, R	128.84	26	P	PKiKP	13 52 20.7	0.0
	baz=326						
N59A	State Game Lan	128.89	22	P	PKiKP	13 52 20.6	-0.2
	baz=330						
HRV	Adam Dziewonsk	128.91	18	P	PKiKP	13 52 21.3	+0.5
	baz=336						
TZTN	Tazewell	128.93	32	P	PKiKP	13 52 21.7	+0.7
	baz=319						
R54A	Victor	128.94	29	P	PKiKP	13 52 21.2	+0.2
	baz=323						
M60A	Port Jervis	128.95	21	P	PKiKP	13 52 20.8	0.0
	baz=332						
W50A	Signal Mountai	128.97	34		PKPdf	13 52 19.7	-0.7
V51A	Loudon	129.06	33		PKPdf	13 52 20.3	-0.2
Q56A	Snyder Ridge,	129.07	26	P	PKiKP	13 52 21.0	-0.2
	baz=326						
Q56A	Snyder Ridge,	129.07	26		PKPdf	13 52 19.5	-1.0
S54A	Dingess, Beckl	129.09	29	P	PKiKP	13 52 21.8	+0.4
	baz=322						
O58A	Lewisberry	129.12	24	P	PKiKP	13 52 21.4	+0.1
	baz=329						
T53A	Wise	129.12	31	P	PKiKP	13 52 21.4	0.0
	baz=321						
ODNJ	Ogdensburg	129.18	21		PKPdf	13 52 20.7	+0.1
N60A	Cedar Hill Far	129.18	22	P	PKiKP	13 52 21.7	+0.4
	baz=331						
P57A	Homestead Farm	129.22	25	P	PKiKP	13 52 21.5	+0.1
	baz=327						
O59A	Robesonia	129.25	23	P	PKiKP	13 52 22.3	+0.8
	baz=330						

M61A	Granite Spring	129.27	20	P	PKiKP	13 52 21.5	0.0
	baz=333						
R55A	Marlinton	129.27	28	P	PKPdf	13 52 21.0	0.0
	baz=324						
R55A	Marlinton	129.27	28		PKPdf	13 52 20.1	-0.9
Q57A	Strasburg	129.42	26	P	PKPdf	13 52 21.0	-0.2
	baz=326						
BRYW	Bryant College	129.45	18	PKPdf	PKPdf	13 52 20.8	-0.4
TKL	Tuckaleechee C	129.48	33	PKiKP	PKPdf	13 52 20.5	-0.9
TKL	Tuckaleechee C	129.48	33	PKPdf	PKPdf	13 52 20.4	-0.9
PAL	Palisades	129.49	21	P	PKiKP	13 52 22.2	+0.3
	baz=332						
R56A	Bull Pasture M	129.50	27	P	PKiKP	13 52 22.5	+0.3
	baz=325						
P58A	Pank, Wackersv	129.51	25	P	PKiKP	13 52 22.3	+0.3
	baz=328						
LRAL	Lakeview Retre	129.51	38	P	PKiKP	13 52 22.3	+0.1
	baz=314						
LRAL	Lakeview Retre	129.51	38	PKPdf	PKPdf	13 52 20.1	-1.3
T54A	Tazewell	129.54	30	P	PKPdf	13 52 20.7	-0.8
	baz=322						
O60A	Telford	129.55	22	P	PKiKP	13 52 22.1	+0.1
	baz=330						
P59A	Jarrettsville	129.76	24	P	PKiKP	13 52 22.4	-0.1
	baz=329						
Q58A	Fox Den Farm,	129.81	25	P	PKiKP	13 52 23.1	+0.4
	baz=327						
T55A	Pulaski	129.89	29	P	PKiKP	13 52 22.7	-0.2
	baz=323						
R57A	Stanardsville	129.98	26	P	PKiKP	13 52 23.1	+0.1
	baz=326						
V53A	Saluda	129.99	32		PKPdf	13 52 21.7	-0.7
BLA	Blacksburg	129.99	29	P	PKPdf	13 52 21.5	-0.8
	baz=323						
BLA	Blacksburg	129.99	29	PKiKP	PKPdf	13 52 21.5	-0.8
BLA	Blacksburg	129.99	29		PKPdf	13 52 21.5	-0.8
R58A	Rapidan	130.21	26	P	PKiKP	13 52 24.3	+0.8
	baz=326						
S57A	Dark Hollow, R	130.23	27	P	PKiKP	13 52 24.6	+1.1
	baz=325						
U55A	TA2, Sparta	130.25	30	P	PKiKP	13 52 23.3	-0.4
	baz=322						
T56A	Rocky Mt	130.32	29	P	PKiKP	13 52 23.6	-0.2
	baz=324						
V54A	Nebo	130.35	31	P	PKPdf	13 52 23.0	-0.1
	baz=321						
Z51A	Franklin	130.41	36		PKPdf	13 52 21.8	-1.4
KIC	Kosan Boka	130.45	283	*e*PKIKP	PKiKP	13 52 25.0	+0.4
	comp=Z,63nm,1.0s						
DBIC	Dimbokro	130.49	284	PKP	PKiKP	13 52 24.8	+0.2
	comp=Z,13nm,0.6s,baz=65,slow=2.3,SNR=19						
DBIC				SKPbc	SKPab	13 55 39.7	+1.2
	comp=Z,17nm,0.9s,baz=56,slow=5.3,SNR=7.6						
DBIC	Dimbokro	130.49	284		PKPdf	13 52 22.9	-0.9
DBIC				SKPbc	SKPab	13 55 39.5	+1.0
R58B	Mineral	130.54	26	P	PKiKP	13 52 24.5	+0.3
	baz=326						
TIC	Toumodi	130.66	284	*e*PKIKP	PKiKP	13 52 24.7	-0.3
V55A	Taylorsville	130.67	31	P	PKPdf	13 52 24.0	+0.4
	baz=322						
V55A	Taylorsville	130.67	31		PKPdf	13 52 23.0	-0.6
T57A	Hurt	130.71	28	S	SKPab	13 55 39.8	+1.0
	baz=324,SNR=5.2						
BRAL	Brewton	130.75	39	P	PKiKP	13 52 27.0	+2.3
	baz=313						
S58A	Poland Farm, P	130.76	26	P	PKiKP	13 52 24.9	+0.3
	baz=326						
S58A	Poland Farm, P	130.76	26		PKPdf	13 52 23.3	-0.4
LIC	Lamto	130.76	283	*e*PKIKP	PKiKP	13 52 25.5	+0.3
	comp=Z,108nm,1.3s						
W54A	Cherokee Point	130.76	32	P	PKiKP	13 52 25.1	+0.4
	baz=320						
W54A				S	SKPab	13 55 40.8	+1.7
	baz=320,SNR=8.5						
V56A	Mocksville	131.06	30	P	PKiKP	13 52 25.6	+0.3
	baz=322						
X54A	Belton	131.07	33	P	PKiKP	13 52 27.0	+1.7
	baz=320						
T58A	Grand View Acr	131.09	27	P	PKiKP	13 52 25.5	+0.2
	baz=325						
U57A	Blanch	131.13	29	P	PKiKP	13 52 24.9	-0.5
	baz=324						
KMSC	Kings Mountain	131.16	31	P	PKiKP	13 52 26.0	+0.5
	baz=321						
GOGA	Godfrey	131.32	35	P	PKiKP	13 52 26.8	+0.9
	baz=318						
V57A	Coltrane Farms	131.36	29	P	PKiKP	13 52 25.6	-0.2
	baz=323						
T59A	Double "B" Far	131.51	27	P	PKiKP	13 52 26.3	+0.2
	baz=326						
X55A	Gracelyn & Ava	131.52	32	P	PKiKP	13 52 27.5	+1.3
	baz=320						
U58A	Oxford	131.53	28	P	PKiKP	13 52 26.1	-0.1
	baz=325						
W56A	Indian Trail	131.55	31	P	PKiKP	13 52 27.1	+0.8
	baz=322						
V58A	Windy Hill, Pi	131.75	29	P	PKiKP	13 52 27.5	+0.9
	baz=324						
Y55A	Saluda	131.81	33	P	PKiKP	13 52 27.8	+1.0
	baz=320						
X56A	White Oak	131.82	32	P	PKiKP	13 52 27.6	+0.8
	baz=321						
W57A	Gilead	131.83	30	P	PKPdf	13 52 25.8	0.0
	baz=323						
352A	Blakely	131.85	38		PKPdf	13 52 25.4	-0.5
U59A	Littleton	131.91	27	P	PKPdf	13 52 26.0	+0.1
	baz=326						
V59A	Middlesex	132.19	28	P	PKiKP	13 52 27.8	+0.3
	baz=325						
W58A	Raeford	132.31	30	P	PKPdf	13 52 26.2	-0.5
	baz=323						
Z57A	Bowman	132.92	32	P	PKiKP	13 52 29.4	+0.3
	baz=321						
PLCA	Paso Flores	141.86	158	PKhKP	PKPpre	13 52 41.6	
	comp=Z,4.1nm,0.7s,baz=278,slow=2.4,SNR=7.5						
PLCA	Paso Flores	141.86	158	PKiKP	PKPdf	13 52 42.9	-1.4
PLCA	Paso Flores	141.86	158	PKPdf	PKPdf	13 52 42.9	-1.4
LC01	Cunco	142.91	155		PKPdf	13 52 45.1	-1.0
ACON	Acoyapa	143.29	61		PKPbc	13 52 44.7	0.0
JTS	Las Juntas de	144.22	63	PKP	PKPdf	13 52 49.5	+0.5
	comp=Z,17nm,0.9s,baz=358,slow=1.9,SNR=2.4						
JTS	Las Juntas de	144.22	63	PKPdf	PKPab	13 52 46.7	-0.4
BI02	San Fabin de	145.05	154		PKPbc	13 52 48.2	-1.3
BO02	Sierra Bellavi	146.82	152	PKPbc	PKPab	13 52 56.3	0.0
BO01	Tunca	147.01	152	PKPdf	PKPdf	13 52 52.5	-0.7
MT02	Curacav	147.91	150		PKiKP	13 52 59.0	-0.7
MT05	Renca	147.99	151	PKPbc	PKPbc	13 52 56.9	-1.3
PEL	Peldehue	148.22	151	PKiKP	PKPdf	13 52 56.7	+1.3
PEL	Peldehue	148.22	151		PKPdf	13 52 56.7	+1.3
BCIP	Isla Barro Col	149.23	61	*e*P	PKPbc	13 53 02.2	+0.4
BCIP	Isla Barro Col	149.23	61	PKP2	PKPbc	13 53 01.1	-0.7
BCIP	Isla Barro Col	149.23	61		PKPbc	13 53 01.1	-0.7
CO03	El Pedregal	150.07	148		PKPbc	13 53 03.9	+0.3
ZON	Zonda	150.49	152	PKiKP	PKPbc	13 53 04.2	-0.3
ZON	Zonda	150.49	152		PKPbc	13 53 04.2	-0.3
GO04	Tololo Observa	150.53	147		PKPbc	13 53 04.6	-0.3
AC05	El Transito	151.86	146		PKiKP	13 53 08.1	-0.1
SJCC	San Jacinto, C	152.79	55	*e*P	PKPdf	13 53 02.4	-0.6
PDPR	Patillas Dam,	152.92	28		PKPbc	13 53 09.5	-0.7
MOTC	Monteria, Cord	152.99	58	*e*P	PKPdf	13 53 03.8	+0.6
OTAV	Otavalo	153.74	77	*e*P	PKPdf	13 53 08.7	+3.8
CBOC	Ciudad Bolivar	154.11	64	*e*P	PKPdf	13 53 07.9	+2.8
SMLC	San Martn de	154.31	56	*e*P	PKPdf	13 53 03.3	-1.8
ZARC	Zaragoza, Cauc	154.34	59	*e*P	PKPdf	13 53 05.4	+0.2
YOTC	Yotoco, Valle	154.58	68	*e*P	PKPdf	13 53 06.4	+0.7
ATAH	Atahualpa	154.60	94	PKP	PKPdf	13 53 06.7	+0.6
	comp=Z,4.3nm,0.7s,baz=191,slow=14,SNR=5.6						
GUY2C	Guyana, Caldas	154.96	64	*e*P	PKPdf	13 53 05.3	-1.3
PTBC	PUERTO BERRIO	155.16	61	*e*P	PKPdf	13 53 06.2	-0.1
NORC	Norcasia	155.26	63	*e*P	PKPab	13 53 33.9	+2.0
TOLC	Tolima	155.28	66	*e*P	PKPdf	13 53 13.8	+6.9
ORTC	Ortega, Tolima	155.62	67	*e*P	PKPdf	13 53 07.6	+0.6
PRAC	Prado	156.02	67	*e*P	PKPdf	13 53 06.5	-1.0
ROSC	El Rosal	156.07	64	PKP	PKPdf	13 53 08.9	+0.9
	comp=Z,4.4nm,0.3s,baz=102,slow=21,SNR=6.4						
BARC	Barichara	156.23	59	*e*P	PKPab	13 53 37.7	+1.4
RUSC	La Rusia	156.66	60	*e*P	PKPdf	13 53 08.1	-0.8
CHIC	Chingaza	156.69	64	*e*P	PKPdf	13 53 09.3	+0.5
VILC	Villavicencio,	156.94	65	*e*P	PKPab	13 53 33.0	-6.2
SDV	Santo Domingo	156.99	50	PKP	PKPdf	13 53 09.6	+0.7
	comp=Z,12nm,0.4s,baz=222,slow=1.2,SNR=7.7						
SDV				PKPab	PKPab	13 53 39.0	-0.4
	comp=Z,8.1nm,0.3s,baz=17,slow=3.3,SNR=3.9						
LPAZ	La Paz	161.82	126	PKP	PKPdf	13 53 16.3	+1.4
	comp=Z,3.4nm,0.8s,baz=330,slow=1.6,SNR=13						

RCBR	Riachuelo	163.13	269	PKPab	PKPab	13 54 06.6	+0.4
	comp=Z,69nm,1.0s,baz=78,slow=5.7,SNR=10						
RCBR	Riachuelo	163.13	269	PKP2	PKPab	13 54 05.4	-0.8
RCBR	Riachuelo	163.13	269		PKPab	13 54 05.4	-0.8
SIV	San Ignacio	167.14	142	PKP	PKPdf	13 53 20.5	+1.6
	comp=Z,6.9nm,1.0s,baz=232,slow=1.5,SNR=20						
MDP	Montagnes des	169.07	359	PKPab	PKPab	13 54 32.6	+0.8
	comp=Z,5.7nm,0.9s,baz=108,slow=3.6,SNR=1.6						
BDFB	Brasilia	169.21	206	PKP	PKPdf	13 53 20.5	+0.1
	comp=Z,2.4nm,0.6s,baz=190,slow=3.3,SNR=4.4						
BDFB				PKPab	PKPab	13 54 33.8	+1.1
	comp=Z,13nm,1.1s,baz=158,slow=3.0,SNR=6.2						

ANF ***10*** *13:39:31.2±0.4,37.°33N×115.°02W,h1km,ML3.0/18,Error ellipse: s-maj=3.8km s-min=2.6km az=89.0*
REN ***10*** *13:39:32.4±1.5,37.°30N±0.°04×115.°07W±0.°03,h5km±7km, ML3.0/11,Error ellipse: s-maj=5.3km s-min=2.9km az=168.0*

ISC 10 13:39:31.8±0.8,37.°32N±0.°02×115.°06W±0.°02,h10km,n64, σ0.92/81,Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHPR	Sheep Range	0.82	186		Pg	13 39 47.4	-0.3
ICU	Indian Springs	0.92	101		Pb	13 39 50.1	+0.1
ICU					Sb	13 40 02.8	+0.3
TPNV	Topopah Spring	1.02	249	P	Pg	13 39 51.4	-0.1
	baz=69,SNR=366						
TPNV				S	Sn	13 40 06.9	+0.1
	baz=69						
TPNV	Topopah Spring	1.02	249	Pg	Pg	13 39 51.6	+0.1
TPNV				Sg	Sg	13 40 03.7	-1.1
R11A	Troy Canyon, C	1.10	338	P	Pg	13 39 52.8	-0.3
	baz=159,SNR=671						
R11A				S	Sb	13 40 08.3	+0.6
	baz=159						
R11A	Troy Canyon, C	1.10	338	Pg	Pg	13 39 52.8	-0.3
WTNK	Soaring Height	1.13	178		Pn	13 39 53.9	+0.1
CCUT	Cedar City	1.37	80	Pn	Pg	13 39 58.6	+0.5
LCMT	Little Creek M	1.48	102		Pg	13 39 59.7	-0.6
PSUT	Pine Spring	1.54	38	Pn	Pb	13 40 00.6	0.0
FMT	Funeral Mounta	1.54	244		Pb	13 40 00.3	-0.2
SZCU	Shurtz Canyon	1.59	80		Pb	13 40 01.8	+0.2
FURC	Furnace Creek,	1.68	240	P	Pb	13 40 02.3	-0.5
	baz=60,SNR=91						
FURC				S	Sg	13 40 25.2	-0.7
	baz=60						
SHOC	Shoshone, Teco	1.73	215	Pg	Pg	13 40 04.7	-0.2
	baz=34						
SHOC				S	Sg	13 40 26.5	-0.8
	baz=34						
KNB	Kanab	1.81	99		Pb	13 40 04.4	-0.8
TUQ	Turquoise Moun	2.01	201	Pn	Pn	13 40 06.7	+0.7
	baz=20,SNR=33						
TUQ				Pg	Pg	13 40 09.8	-0.6
	baz=20						
TUQ				Sb	Sg	13 40 35.8	-0.6
	baz=20						
PKCU	Pink Cliffs	2.19	86	Pn	Pb	13 40 10.9	-0.9
MPMC	Manual Prospec	2.33	238	Pn	Pn	13 40 11.0	+0.6
	baz=57,SNR=33						
MPMC				Pb	Pb	13 40 15.0	+1.1
	baz=57						
MPMC				Sb	Sg	13 40 45.4	-1.2
	baz=57						
MTPU	Mount Pierson	2.39	72	Pn	Pn	13 40 12.6	+1.2
U15A	North Rim	2.39	111		Pb	13 40 13.3	-1.9
W13A	Hualapai Mount	2.42	156		Pn	13 40 12.0	+0.4
TCRU	Three Creeks R	2.43	57	Pn	Pn	13 40 13.6	+1.7
GSC	Goldstone, Bar	2.46	215	Pg	Pg	13 40 18.1	-0.9
	baz=35,SNR=26						
GSC	Goldstone, Bar	2.46	215	Pn	Pn	13 40 11.8	-0.3
TIN	Tinemaha, Big	2.54	265	Sb	Sg	13 40 53.7	+0.1
	baz=84						
POCCA	Poleta Canyon	2.57	272		Pn	13 40 14.5	+0.8
MSU	Marysvale	2.57	62	Pn	Pn	13 40 13.9	+0.2
GMRC	Granite Mounta	2.58	191	Pn	Pn	13 40 14.2	+0.4
	baz=11						
GMRC				Pg	Pg	13 40 21.0	-0.3
	baz=11,SNR=22						
GMRC				Sb	Sg	13 40 53.1	-1.6
	baz=11						
MLNR	Milner Canyon	2.63	277		Pn	13 40 15.4	+0.9
BONR	Boundary Peak	2.65	285		Pn	13 40 15.9	+1.0
NV11	Mina Array Sit	2.69	295	Pn	Pn	13 40 15.5	+0.2
HEC	Hector,Ludlow	2.69	203	Pg	Pg	13 40 22.6	-0.9
	baz=22,SNR=7.3						
HEC				Sb	Sg	13 40 57.6	-0.8
	baz=22						
NVAR	Mina Array Bea	2.79	294	Pn	Pn	13 40 15.8	-1.0
BENR	Benton	2.82	279		Pn	13 40 18.3	+1.1
LHV	Little Huntoon	2.88	290		Pn	13 40 19.2	+1.4
KVN	Kaiserville	2.95	307	Pn	Pn	13 40 19.5	+0.6
MLAC	Mammoth, Mammo	3.02	277	Sb	Sg	13 41 08.3	-0.5
	baz=95						
RYN	Ryan	3.03	297	Pn	Pn	13 40 20.3	+0.2
OMMB	Old Mammoth Mi	3.15	276	Pn	Pn	13 40 22.4	+0.6
IRM	Iron Mountain	3.16	181	Pg	Pg	13 40 31.9	-0.5
	baz=1.1,SNR=9.6						
IRM				Sb	Sg	13 41 12.0	-1.4
	baz=1.1						
ISA	Isabella, Lake	3.21	240	Pn	Pn	13 40 21.8	-0.6
MDPB	Devils Postpil	3

TUWZ	Tuamarina	12.87	211	Pn	Pn	14 23 24.2	-0.3
THZ	Tophouse	13.60	212	Pn	Pn	14 23 36.7	+2.1
KHZ	Kahutara	13.85	209	Pn	Pn	14 23 35.3	-2.6
LTZ	Lake Taylor	14.69	211	Pn	Pn	14 23 50.4	+0.9
OXZ	Oxford	15.23	211	Pn	Pn	14 23 55.3	-1.4
OXZ				IAmb	IAmb	14 24 00.6	
	comp=Z,23nm,0.7s						
RPZ	Rata Peaks	15.97	212	Pn	Pn	14 24 05.4	-1.0
	comp=Z,0.5nm,0.3s,baz=177,slow=19,SNR=1.1						
RPZ				Sn	Sn	14 26 52.4	-11
	comp=Z,0.4nm,0.3s,baz=76,slow=21,SNR=1.1						
RPZ	Rata Peaks	15.97	212	IAmb	IAmb	14 24 11.9	
	comp=Z,128nm,1.9s						
DZM	Mont Dzumac	16.79	297	LR	LR	14 28 53.1	
	comp=Z,196nm,21.4s,baz=40,slow=30						
ODZ	Otahua Downs	17.20	210	Pn	Pn	14 24 22.6	+0.6
ODZ				IAmb	IAmb	14 24 52.8	
	comp=Z,96nm,1.9s						
CTA	Charters Tower	34.36	279	P	P	14 27 11.7	+2.8
	comp=Z,1.7nm,0.4s,baz=102,slow=9.3,SNR=1.4						
CTAO	Charters Tower	34.36	279	P	P	14 27 10.6	+1.7
STKA	Stephens Creek	34.95	257	P	P	14 27 16.9	+3.0
	comp=Z,5.5nm,0.8s,baz=98,slow=8.8,SNR=7.8						
STKA	Stephens Creek	34.95	257	IAmb	IAmb	14 27 17.8	
	comp=Z,1.7nm,0.8s						
RABL	Rabaul	38.92	306	P	P	14 27 46.2	-1.6
BBOO	Buckleboo	39.42	254	P	P	14 27 51.9	0.0
AS31	Alice Springs	43.63	267	P	P	14 28 27.2	+0.7
ASAR	Alice Springs	43.63	267	P	P	14 28 27.6	+1.1
	comp=Z,0.9nm,0.7s,baz=105,slow=7.2,SNR=16						
ASAR				PcP	PcP	14 30 14.1	+0.2
	comp=Z,1.0nm,1.1s,baz=119,slow=3.4,SNR=3.4						
WR0	Warramunga Arr	44.45	272	P	P	14 28 33.6	+0.4
WR0				IAmb	IAmb	14 29 07.4	
	comp=Z,12nm,1.4s						
WB2	Warramunga Arr	44.62	272	P	P	14 28 34.5	-0.1
WB2				IAmb	IAmb	14 28 44.5	
	comp=Z,5.4nm,0.8s						
WRAB	Tennant Creek	44.63	272	P	P	14 28 34.8	+0.2
WRA	Warramunga Arr	44.64	272	P	P	14 28 35.1	+0.5
	comp=Z,4.4nm,0.8s,baz=111,slow=8.0,SNR=40						
WRA	Warramunga Arr	44.64	272	P	P	14 28 35.0	+0.5
WB0	Warramunga Arr	44.66	272	P	P	14 28 35.4	+0.6
WB0				IAmb	IAmb	14 28 36.7	
	comp=Z,7.0nm,0.8s						
PSA00	Pilbara Seismi	56.47	263	P	P	14 30 02.0	-2.0
QSPA	South Pole Qui	59.50	180	P	P	14 30 26.0	+1.3
NVAR	Mina Array Bea	88.04	42	P	P	14 33 12.7	+0.4
	comp=Z,0.7nm,0.9s,baz=228,slow=8.5,SNR=5.2						
MKAR	Makanchi Array	118.32	310	PKP	PKPdf	14 39 07.5	-1.5
	comp=Z,0.2nm,0.7s,baz=63,slow=0.3,SNR=2.1						
FINES	FINESS Array B	145.53	340	PKPbc	PKPdf	14 39 59.0	-0.3
	comp=Z,4.9nm,0.7s,baz=27,slow=2.7,SNR=19						
FINES	FINESS Array B	145.53	340	PKPdf	PKPdf	14 39 58.9	-0.4
KBZ	Khabaz	145.67	304	PKPbc	PKPab	14 40 00.9	+0.1
	comp=Z,1.3nm,0.5s,baz=105,slow=23,SNR=4.4						
AKASG	Malin Array Be	151.79	323	PKPbc	PKPbc	14 40 15.4	-0.8
	comp=Z,1.0nm,0.6s,baz=48,slow=2.6,SNR=1.7						
BRTR	Keskin Array B	153.17	298	PKPbc	PKiKP	14 40 20.1	+0.1
	comp=Z,0.2nm,0.3s,baz=102,slow=6.1,SNR=2.5						

*IDC **10** 14:35:05.2±1.6, 18°34S×178°09W, h537km±17km, mb3.7/15, mb1 3.9/17, mb1mx3.8/25, mbtmp4.6/17, Error ellipse: s-maj=18.2km s-min=11.8km az=146.0*

*NEIC **10** 14:35:06.8±1.0, 18°4S±0°1×178°1W±0°1, h560km±6km, mb4.5/134, Error ellipse: s-maj=16.1km s-min=13.0km az=149.0*

ISC 10 14:35:06.0±0.4, 18°40S±0°07×178°00W±0°06, h557km, n179, σ1°17/187, mb4.5/77, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.81	279	P	P	14 36 28.9	+1.8
AFI	Afiamalu	7.46	54	P	P	14 36 56.5	-2.4
	16nm,0.3s,baz=128,slow=1.2,SNR=17						
AFI				S	S	14 38 24.7	-6.6
	3.8nm,0.3s,baz=34,slow=23,SNR=2.0						
AFI	Afiamalu	7.46	54		P	14 36 56.8	-2.1
NIUE	Niue	7.68	96	P	P	14 37 00.6	-0.3
SANVU	Saraoutou	14.46	279	P	P	14 38 09.8	-0.1
DZM	Mont Dzumac	15.04	253	P	P	14 38 15.3	-0.7
	2.2nm,0.3s,baz=77,slow=23,SNR=14						
DZM	Mont Dzumac	15.04	253	P	P	14 38 14.7	-1.2
KNTN	Kanton	16.71	22	P	P	14 38 30.8	-1.1
OUZ	Omahuta	18.34	202	P	P	14 38 47.1	+0.6
URZ	Urewera	20.24	191	P	P	14 39 00.9	-2.8
	1.7nm,0.3s,baz=126,slow=12,SNR=1.4						
URZ	Urewera	20.24	191	P	P	14 39 00.8	-3.0
URZ				IAmb	IAmb	14 39 37.1	
	comp=Z,20nm,1.1s						
TARA	Tarawa	21.57	335	P	P	14 39 13.6	-2.4
HNR	Honiara	23.16	290	P	P	14 39 29.4	-0.9
	comp=Z,22nm,0.7s,baz=113,slow=13,SNR=2.3						
NNZ	Nelson	23.91	196	P	P	14 39 35.1	-1.5
CMWZ	Cape Campbell	24.20	194	P	P	14 39 38.7	-0.4
BSWZ	Blackbirch Sta	24.25	195	P	P	14 39 39.1	-0.5
THZ	Tophouse	24.55	197	P	P	14 39 41.4	-0.8
KHZ	Kahutara	25.00	195	P	P	14 39 44.1	-2.0
LTZ	Lake Taylor	25.67	197	P	P	14 39 49.9	-2.2
PPTF	Pamatai, Papee	27.05	93	P	P	14 40 05.2	+0.6
FOZ	Fox Glacier	27.08	200	P	P	14 40 03.8	-0.7
LBZ	Lake Benmore	27.74	198	P	P	14 40 08.5	-1.7
WKZ	Wanaka	28.50	200	P	P	14 40 15.4	-1.4
MLZ	Mavora Lakes	29.27	200	P	P	14 40 23.6	0.0
EIDS	Eidsvold	29.46	251	P	P	14 40 24.7	-0.9
EIDS				IAmb	IAmb	14 40 26.3	
	comp=Z,15nm,0.7s						
WHZ	Wether Hill Ro	29.79	200	P	P	14 40 27.4	-0.7
ARMA	Armidale	30.03	241	P	P	14 40 31.2	+0.7
ARMA				IAmb	IAmb	14 40 32.2	
	comp=Z,9.3nm,0.8s						
KRVT	Keravat (AS076	32.47	292	P	P	14 40 50.5	-0.9
	comp=Z,18nm,0.6s,baz=259,slow=5.7,SNR=6.7						
CAN	Canberra	33.72	233	P	P	14 41 02.1	+0.4
CAN				IAmb	IAmb	14 41 03.2	
	comp=Z,30nm,1.1s						
CTAO	Charters Tower	33.75	261	P	P	14 41 02.2	+0.1
PMG	Port Moresby	34.92	280	P	P	14 41 12.3	+0.3
TOO	Toolangi	37.16	231	P	P	14 41 30.2	0.0
COEN	Coen	37.49	271	P	P	14 41 33.4	+0.2
COEN				IAmb	IAmb	14 41 34.6	
	comp=Z,27nm,0.8s						
TAOE	Nuku Hiva Isla	37.92	81	P	P	14 41 37.5	+0.7
STKA	Stephens Creek	38.73	242	P	P	14 41 43.9	+0.8
	comp=Z,21nm,0.8s,baz=94,slow=9.9,SNR=36						
STKA	Stephens Creek	38.73	242	P	P	14 41 43.4	+0.4
STKA				IAmb	IAmb	14 41 44.8	
	comp=Z,5.4nm,0.9s						
WAKE	Wake Island	40.37	337	P	P	14 41 57.7	+1.5
BBOO	Buckleboo	43.51	242	P	P	14 42 21.0	+0.1
BBOO				IAmb	IAmb	14 42 21.8	
	comp=Z,29nm,0.8s						
KHLU	Kahalu`u	43.55	31	P	P	14 42 22.5	+1.1
GENI	Genyem	43.87	286	P	P	14 42 24.2	+0.3
	comp=Z,60nm,0.5s						
WR0	Warramunga Arr	44.73	260	P	P	14 42 29.3	-1.2
WR0				IAmb	IAmb	14 42 30.9	
	comp=Z,44nm,1.7s						
WB0	Warramunga Arr	44.89	260	P	P	14 42 30.7	-1.0
WB0				IAmb	IAmb	14 42 31.9	
	comp=Z,24nm,0.6s						
WB2	Warramunga Arr	44.91	260	P	P	14 42 31.0	-0.8
WB2				IAmb	IAmb	14 42 32.1	
	comp=Z,25nm,0.6s						
WRAB	Tennant Creek	44.91	260	P	P	14 42 31.0	-0.8
WRAB				IAmb	IAmb	14 42 32.1	
	comp=Z,20nm,0.6s						
WRA	Warramunga Arr	44.92	260	P	P	14 42 31.1	-0.8
	comp=Z,18nm,0.6s,baz=98,slow=6.7,SNR=466						
WRA				PcP	PcP	14 44 00.8	-0.7
	comp=Z,2.0nm,0.6s,baz=93,slow=3.3,SNR=4.3						
WRA	Warramunga Arr	44.92	260	P	P	14 42 30.9	-1.1
AS31	Alice Springs	45.03	255	P	P	14 42 32.1	-0.6
AS31				IAmb	IAmb	14 42 33.9	
	comp=Z,20nm,0.5s						
ASAR	Alice Springs	45.03	255	P	P	14 42 32.8	0.0
	comp=Z,54nm,0.6s,baz=88,slow=9.0,SNR=939						
ASAR				PcP	PcP	14 44 01.4	-0.4
	comp=Z,2.1nm,0.4s,baz=106,slow=3.8,SNR=5.5						
ASAR				ScP	ScP	14 47 02.6	+1.1
	comp=Z,0.6nm,0.8s,baz=94,slow=4.0,SNR=3.7						
ASAR				S	S	14 48 28.6	-2.9
	comp=Z,0.9nm,1.0s,baz=82,slow=18,SNR=4.9						
ASAR	Alice Springs	45.03	255	P	P	14 42 32.0	-0.8
ASAR					PcP	14 44 01.4	-0.4
SMPI	Sarmi	45.44	286	P	P	14 42 33.1	-2.9
	comp=Z,23nm,1.6s						
MTN	Manton Dam	49.17	269	P	P	14 43 03.3	-0.6
MTN				IAmb	IAmb	14 43 04.1	
	comp=Z,19nm,0.7s						
FORT	Forrest	50.15	245	P	P	14 43 10.2	-0.6
FORT				IAmb	IAmb	14 43 11.0	
	comp=Z,28nm,0.6s						
KNRA	Kununurra	50.82	265	P	P	14 43 15.6	-0.4
KNRA				IAmb	IAmb	14 43 16.6	
	comp=Z,27nm,0.7s						
FAKI	Fak Fak	51.05	281	P	P	14 43 17.7	0.0
FAKI				IAmb	IAmb	14 43 36.9	
	comp=Z,56nm,1.2s						
FITZ	Fitzroy Crossi	53.33	261	P	P	14 43 33.9	-0.1
FITZ				IAmb	IAmb	14 43 34.5	
	comp=Z,6.4nm,0.7s						
SOEI	Soe	56.46	270	P	P	14 43 56.0	+0.1
SOEI				IAmb	IAmb	14 43 58.3	
	comp=Z,48nm,0.6s						
TNTI	Ternate	56.95	283		P	14 43 58.9	-0.4
TNTI				IAmb	IAmb	14 44 00.4	
	comp=Z,21nm,0.9s						
PSA00	Pilbara Seismi	58.16	256		P	14 44 06.5	-0.8
PSA00				IAmb	IAmb	14 44 07.4	
	comp=Z,14nm,0.6s						
PSA00	Pilbara Seismi	58.16	256	P	P	14 44 06.2	-1.1
PSA00				IAmb	IAmb	14 44 09.1	
	comp=Z,12nm,0.8s						
MMRI	Maumere	58.69	271	P	P	14 44 10.5	-0.5
MMRI				IAmb	IAmb	14 44 29.4	
	comp=Z,93nm,1.3s						
NWAO	Narrogin (SRO)	59.32	242	P	P	14 44 15.0	+0.1
NWAO				IAmb	IAmb	14 44 38.1	
	comp=Z,88nm,1.7s						
VNDA	Vanda	59.99	185	P	P	14 44 19.9	+1.3
	comp=Z,0.5nm,0.5s,baz=3.5,slow=6.5,SNR=7.4						
VNDA	Vanda	59.99	185	P	P	14 44 19.5	+0.9
MORW	Morawa	60.64	247	P	P	14 44 23.2	-0.5
MORW				IAmb	IAmb	14 46 01.7	
	comp=Z,52nm,1.8s						
GIRL	Giralia	63.12	253	P	P	14 44 41.1	+1.1
CASY	Casey	65.85	205	P	P	14 44 56.0	-0.4
CASY				IAmb	IAmb	14 47 15.4	
	comp=Z,15nm,1.7s						
JAGI	Jajag, Banyuwa	66.41	269	P	P	14 44 59.6	-1.3
MJAR	Matsushiro Arr	68.53	323	P	P	14 45 13.2	0.0
	comp=Z,2.9nm,0.5s,baz=172,slow=5.5,SNR=8.7						
MJAR	Matsushiro Arr	68.53	323	P	P	14 45 13.3	0.0
MAJO	Matsushiro	68.53	323	P	P	14 45 13.5	+0.2
MAJO				IAmb	IAmb	14 47 24.6	
	comp=Z,98nm,2.0s						
MAT	Matsushiro	68.53	323	P	P	14 45 13.6	+0.3
MAT				eS	S	14 53 32.6	+0.7
MJB9	Matsu-Tunnel	68.53	323	P	P	14 45 13.6	+0.2
MJB9				IAmb	IAmb	14 47 24.5	
	comp=Z,101nm,2.0s						
KKM	Kota Kinabalu	69.23	284	P	P	14 45 17.7	-0.4
KKM				IAmb	IAmb	14 45 20.6	
	comp=Z,8.4nm,0.8s						
UGM	Wanagama	70.01	268	P	P	14 45 22.8	+0.1
JNU	Nakatsue	70.76	316	P	P	14 45 26.7	0.0
JNU				IAmb	IAmb	14 46 24.5	
	comp=Z,51nm,1.4s						
SMY	Shemya	71.16	355	P	P	14 45 29.6	+1.1
SBUM	Sibu	71.66	279	P	P	14 45 32.5	+0.1
TWG	Pinlang	72.26	302	P	P	14 45 34.5	-1.1
YULB	Yu-li	72.36	303	P	P	14 45 35.5	-0.7
YULB				IAmb	IAmb	14 46 09.9	
	comp=Z,75nm,1.9s						
SSLB	Suanglung	72.83	303	P	P	14 45 38.3	-0.6
SSLB				IAmb	IAmb	14 46 42.7	
	comp=Z,77nm,1.8s						
TPUB	Ta-pu	72.85	302	P	P	14 45 38.2	-0.9
KSM	Kuching	73.13	277	P	P	14 45 41.5	+0.7
KSM				IAmb	IAmb	14 45 42.6	
	comp=Z,21nm,0.9s						
PEA0B	Petropavlovsk-	74.25	345	P	P	14 45 46.9	+0.6
PETK	Petropavlovsk-	74.25	345	P	P	14 45 47.1	+0.8
	comp=Z,4.1nm,0.8s,baz=97,slow=9.0,SNR=8.3						
PETK	Petropavlovsk-	74.25	345	P	P	14 45 46.9	+0.6
KSRS	Korea Array	75.32	318	P	P	14 45 53.6	+0.9
	comp=Z,1.1nm,0.8s,baz=138,slow=7.4,SNR=2.8						
PMPB	Monarch Peak	76.62	44	P	P	14 46 01.7	+1.7
PMPB				IAmb	IAmb	14 47 17.1	
	comp=Z,65nm,1.9s						
KMRM	Mail Ridge	77.14	40	P	P	14 46 04.6	+1.8
KMRM				IAmb	IAmb	14 46 29.4	
	comp=Z,87nm,1.6s						
CBX	Cerro Bola	77.37	50	P	P	14 46 05.8	+1.6
MWC	Mount Wilson	77.39	47	P	P	14 46 05.5	+1.1
MWC				IAmb	IAmb	14 46 06.3	
	comp=Z,6.4nm,0.7s						
ESJX	Sierra Juarez	77.73	50	P	P	14 46 07.8	+1.5
ISA	Isabella, Lake	77.88	46	P	P	14 46 08.1	+1.3
CMB	Columbia Colle	77.93	43	P	P	14 46 07.8	+0.7
RMX	La Rumorosa	77.94	50	P	P	14 46 08.6	+1.3
RMX				IAmb	IAmb	14 46 10.0	
	comp=Z,7.8nm,0.9s						
AFDM	Forest Hills D	78.08	42	P	P	14 46 08.8	+1.0
ORV	Oroville	78.11	41	P	P	14 46 09.1	+1.3
OHAK	Old Harbor	78.12	13	P	P	14 46 08.1	+0.7
PFO	Pinyon Flats O	78.19	49	P	P	14 46 09.5	+0.9
XPFO	Pion Flat	78.19	49	P	P	14 46 09.5	+0.8
MNAI	Manna	78.25	269	P	P	14 46 09.4	+0.2
NJ2	Nanjing	78.55	309	eP	P	14 46 11.7	+1.4
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MDPB	Devils Postpil	78.56	44	P	P	14 46 11.3	+0.6
MDPB				IAmb	IAmb	14 46 12.9	
	comp=Z,6.8nm,0.7s						
OMMB	Old Mammoth Mi	78.60	44	P	P	14 46 11.6	+0.7
YBH	Yreka Blue Hor	78.66	39	P	P	14 46 12.4	+1.5
WAKR	Walker	78.81	43	P	P	14 46 12.9	+1.0
WAKR				IAmb	IAmb	14 46 14.4	
	comp=Z,9.1nm,0.8s						
PNTR	Pine Nut	79.04	42	P	P	14 46 14.5	+1.4
PNTR				IAmb	IAmb	14 46 15.6	
	comp=Z,14nm,0.8s						
GLA	Glamis	79.08	50	P	P	14 46 14.7	+1.4
RYN	Ryan	79.48	43	P	P	14 46 16.2	+0.8
NVAR	Mina Array Bea	79.51	44	P	P	14 46 16.9	+1.3
	comp=Z,4.2nm,0.7s,baz=224,slow=8.9,SNR=46						
NVAR	Mina Array Bea	79.51	44	P	P	14 46 16.7	+1.0
PAHR	Pah Rah Range	79.53	42	P	P	14 46 16.4	+0.8
NV11	Mina Array Sit	79.61	44	P	P	14 46 17.2	+1.1
KVN	Kaiserville	79.99	43	P	P	14 46 18.8	+0.8
TPNV	Topopah Spring	80.08	46	P	P	14 46 19.6	+1.0
MOD	Modoc Plateau	80.21	40	P	P	14 46 19.6	+0.5
MOD				IAmb	IAmb	14 46 21.3	
	comp=Z,6.1nm,0.7s						
K05A	Summer Lake	80.34	39	P	P	14 46 21.1	+1.3
K05A				IAmb	IAmb	14 46 22.5	
	comp=Z,10nm,0.9s						
SHPR	Sheep Range	80.60	47	P	P	14 46 22.5	+1.2
Y14A	Wickenburg	80.84	50	P	P	14 46 23.6	+1.2
PINE	Pine Mountain	80.94	38	P	P	14 46 24.2	+1.3
PINE				IAmb	IAmb	14 46 25.6	
	comp=Z,10nm,0.9s						
R11A	Troy Canyon, C	81.27	45	P	P	14 46 25.7	+1.0
WVOR	Wild Horse Val	81.53	40	P	P	14 46 27.0	+1.1
WVOR				IAmb	IAmb	14 46 28.2	
	comp=Z,8.5nm,1.0s						
TUC	Tucson	81.70	52	P	P	14 46 28.5	+1.5
TUC				IAmb	IAmb	14 46 30.1	
	comp=Z,7.2nm,0.9s						
I07A	Izee	81.95	38	P	P	14 46 29.2	+1.2
I07A				IAmb	IAmb	14 46 30.4	
	comp=Z,6.2nm,0.8s						
J08A	Circle Bar Ran	82.15	39	P	P	14 46 29.9	+0.9
J08A				IAmb	IAmb	14 46 31.3	
	comp=Z,7.4nm,1.1s						
LCMT	Little Creek M	82.18	47	P	P	14 46 30.2	+0.9
X16A	Lo Mia Camp, P	82.20	50	P	P	14 46 30.8	+1.3
CCUT	Cedar City	82.37	46	P	P	14 46 31.7	+1.3
D05A	Enumclaw	82.38	35	P	P	14 46 31.0	+1.1
D05A				IAmb	IAmb	14 46 33.2	
	comp=Z,34nm,1.5s						
319A	Douglas	82.41	54	P	P	14 46 32.6	+2.0
319A				IAmb	IAmb	14 46 33.9	
	comp=Z,15nm,1.1s						
PSUT	Pine Spring	82.53	45	P	P	14 46 31.9	+0.8
U15A	North Rim	82.56	48	P	P	14 46 32.7	+1.3
U15A				IAmb	IAmb	14 46 34.2	
	comp=Z,11nm,0.8s						
SZCU	Shurtz Canyon	82.58	47	P	P	14 46 32.7	+1.2
ELK	Elko	82.75	43	P	P	14 46 33.2	+0.9
G08A	Pilot Rock	82.96	38	P	P	14 46 34.0	+0.9
G08A				IAmb	IAmb	14 46 35.2	
	comp=Z,12nm,1.4s						
HAWA	Hanford	83.27	36	P	P	14 46 35.2	+0.8
HAWA				IAmb	IAmb	14 46 36.2	
	comp=Z,5.3nm,0.9s						
MTPU	Mount Pierson	83.42	46	P	P	14 46 37.5	+1.7
MAW	Mawson	83.53	200	P	P	14 46 35.4	0.0
	comp=Z,1.6nm,0.8s,baz=45,slow=5.7,SNR=3.3						
MFID	Camas Ranch	83.80	40	P	P	14 46 37.9	+0.7
F10A	Beach Ranch, E	84.35	38	P	P	14 46 40.2	+0.3
F10A				IAmb	IAmb	14 46 41.5	
	comp=Z,6.3nm,0.9s						
B08A	Colville Reser	84.52	35	P	P	14 46 40.6	+0.1
B08A				IAmb	IAmb	14 46 41.9	
	comp=Z,4.6nm,0.9s						
TMUT	Trail Mountain	84.70	46	P	P	14 46 42.4	+0.4
HLID	Hailey	84.75	41	P	P	14 46 42.8	+0.8
PV21	Cone Mtn., Par	85.89	47	P	P	14 46 48.4	+0.7
PV21				IAmb	IAmb	14 46 49.7	
	comp=Z,3.5nm,0.9s						
TX31	Lajitas Ar. Si	85.93	57	P	P	14 46 49.1	+1.2
TX31				IAmb	IAmb	14 46 51.1	
	comp=Z,26nm,0.9s						
TX32	Lajitas Array	85.93	57	P	P	14 46 49.1	+1.2
TX32				IAmb	IAmb	14 46 51.1	
	comp=Z,9.0nm,0.9s						
TXAR	Lajitas Array	85.93	57	P	P	14 46 50.0	+2.1
	comp=Z,5.9nm,0.8s,baz=220,slow=6.1,SNR=66						
TXAR	Lajitas Array	85.93	57	P	P	14 46 49.4	+1.5
ILAR	Eielson Array	86.28	13	P	P	14 46 48.4	-0.2
	comp=Z,0.5nm,0.7s,baz=222,slow=4.8,SNR=5.9						
MCMT	McKenzie Canyo	86.36	40	P	P	14 46 50.6	+0.8
DLMT	Dillon	86.79	40	P	P	14 46 52.6	+1.0
DLMT				IAmb	IAmb	14 46 54.0	
	comp=Z,4.3nm,0.9s						
FXWY	Fox Creek	86.91	42	P	P	14 46 53.5	+1.1
S22A	4UR Ranch, Cre	87.04	49	P	P	14 46 53.6	+0.4
IMW	Indian Meadow	87.09	42	P	P	14 46 54.3	+1.0
IMW				IAmb	IAmb	14 46 55.8	
	comp=Z,6.0nm,0.9s						
YHB	Horse Butte	87.35	41	P	P	14 46 54.8	+0.4
YHL	Hebgen Lake	87.40	41	P	P	14 46 56.0	+1.2
PD31	Pinedale Array	87.44	43	P	P	14 46 55.5	+0.6
PDAR	Pinedale Array	87.44	43	P	P	14 46 55.7	+0.8
	comp=Z,1.4nm,0.7s,baz=205,slow=3.1,SNR=14						
PDAR	Pinedale Array	87.44	43	P	P	14 46 55.2	+0.3
BOZ	Bozeman (W)	87.49	40	P	P	14 46 56.2	+1.2
HHC	Hu-ho-hao-te	87.89	314	eP	P	14 46 57.5	+0.6
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,12µm,7.1s						
YNE	Yellowstone No	88.21	41	P	P	14 47 00.0	+1.6
MSTX	Muleshoe	88.47	54	P	P	14 47 00.4	+0.6
MSTX				IAmb	IAmb	14 47 01.6	
	comp=Z,4.7nm,0.9s						
CMAR	Chiang Mai Arr	89.41	290	P	P	14 47 06.1	+1.8
	comp=Z,2.4nm,0.8s,baz=119,slow=3.0,SNR=14						
CMAR	Chiang Mai Arr	89.41	290	P	P	14 47 05.0	+0.7
VNA3	Neumayer Olymp	90.23	176	P	P	14 47 07.0	-0.1
ABTX	Abilene, Hawle	90.38	56	P	P	14 47 09.0	+0.5
ABTX				IAmb	IAmb	14 47 11.2	
	comp=Z,9.9nm,1.1s						
VNA2	Neumayer--Watz	90.67	177	P	P	14 47 08.5	-0.6
	baz=183,slow=4.8						
VNA1	Neumayer--Stat	90.90	177	P	P	14 47 10.5	+0.3
LZH	Lanzhou	91.49	308	eP	P	14 47 15.4	+1.6
LZH				PP	PP	14 51 01.8	-0.3
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
LZH				pmax	pmax		
	comp=Z,62nm,5.0s						
R32A	Long Quarter,	93.19	51	P	P	14 47 21.9	+0.6
MKAR	Makanchi Array	109.75	314	PKiKP	PKiKP	14 52 33.2	-0.8
	comp=Z,0.3nm,0.5s,baz=175,slow=2.4,SNR=4.7						
BURAR	Bucovina Array	145.23	332		PKPdf	14 53 41.1	+0.5
BR131	Keskin Array S	145.40	315		PKPdf	14 53 41.6	+0.4
BRTR	Keskin Array B	145.40	315	PKPbc	PKPbc	14 53 42.4	-0.2
	comp=Z,1.4nm,0.7s,baz=119,slow=3.3,SNR=8.7						
BRTR	Keskin Array B	145.40	315		PKPdf	14 53 41.5	+0.2
CLL	Collm	146.02	348	i PKPbc	PKPbc	14 53 44.2	+0.5
	comp=Z,5.0nm,0.6s						
VYHS	Vyhne	147.01	339	ePKP	PKPbc	14 53 47.2	+0.7
GERES	GERESS Array B	148.18	345	PKPbc	PKiKP	14 53 50.3	-0.6
	comp=Z,0.8nm,0.6s,baz=20,slow=4.3,SNR=6.5						
DIVS	Divibare	150.25	333		PKPbc	14 53 54.9	+0.1

**IDC 10 14:42:36.7±5.5, 1°72N×99°84E, h0km, mb3.4/3, mb1 3.6

comp=Z,2.1nm,0.8s,baz=134,slow=6.1,SNR=7.7
SONM Songino Array 67.68 328 P **P** **15 13 54.6 +0.9**
YAK Yakutsk 70.46 349 P **P** **15 14 11.3 +0.8**
VNDA Vanda 71.35 178 P **P** **15 14 14.7 -1.1**
comp=Z,0.4nm,1.0s,baz=309,slow=6.5,SNR=2.4
MKAR Makanchi Array 81.57 319 P **P** **15 15 15.0 +0.7**
comp=Z,1.0nm,1.0s,baz=133,slow=5.1,SNR=4.5
IMAR Indian Mountai 81.71 19 P **P** **15 15 15.5 +1.0**
ZALV Zalesovo Beam 82.49 326 P **P** **15 15 18.9 0.0**
comp=Z,0.5nm,0.4s,baz=111,slow=7.9,SNR=2.3
ZALV Zalesovo Beam 82.49 326 P **P** **15 15 17.8 -1.0**
IL31 83.45 22 P **P** **15 15 23.3 -0.2**
ILAR Eielson Array 83.45 22 P **P** **15 15 23.1 -0.5**
comp=Z,1.8nm,0.9s,baz=257,slow=4.7,SNR=13
ILAR Eielson Array 83.45 22 P **P** **15 15 23.3 -0.3**
BCAR Beaver Creek A 84.66 25 P **P** **15 15 30.8 +0.9**
EGAK Eagle 85.64 23 P **P** **15 15 36.0 +1.3**

IDC ***10*** *15:16:39.5±0.9, 35°.90N×69°.39E, h0km, mb3.8/11, mb1 3.9/17, mb1mx3.7/42, mbtmp3.8/17, ML3.6/6, MS3.1/9, Ms1 3.1/9, ms1mx2.8/50, Error ellipse: s-maj=17.5km s-min=16.7km az=13.0*
NEIC ***10*** *15:16:44.0±3.0, 36°.07N±0°.05×69°.16E±0°.08, h20km±4km, mb4.5/17, Error ellipse: s-maj=9.3km s-min=6.8km az=109.0*
MOS ***10*** *15:16:45.2±1.4, 36°.16N×69°.25E, h53km, mb4.2/7, Error ellipse: s-maj=10.2km s-min=5.4km az=78.3*
NNC ***10*** *15:16:45.5±1.6, 36°.53N×69°.05E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=16.6km s-min=8.4km az=159.0*

ISC 10 15:16:45.5±0.5, 36°.11N±0°.05×69°.16E±0°.04, h35km, n150, σ2s 10/142, mb4.2/27, MS2.9/7, 13C-11D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.57**	**184**	PN		**Pn**	**15 17 11.7**	**+0.6**
KBL	**Kabul**	**1.57**	**184**			**Pn**	**15 17 11.7**	**+0.6**
CHGR	**Chuyangaron**	**2.54**	**360**	Pn		**Pn**	**15 17 26.2**	**+1.7**
GAR	**Garm**	**3.03**	**17**	Pn		**Pn**	**15 17 32.6**	**+1.5**
CEP	**Cherat**	**3.21**	**134**	P		**Pn**	**15 17 36.7**	**+3.1**
THW	**Thamme Wali**	**3.93**	**146**	P		**Pn**	**15 17 45.7**	**+2.2**
BTK	**Batken**	**4.16**	**18**	PN		**Pn**	**15 17 49.4**	**+2.8**
BTK	**Batken**	**4.16**	**18**			**Pn**	**15 17 49.4**	**+2.8**
NIL	**Nilore**	**4.16**	**125**	PN		**Pn**	**15 17 49.5**	**+2.9**
NIL	**Nilore**	**4.16**	**125**	Pn		**Pn**	**15 17 49.5**	**+2.9**
CHCP	**Chirah Chowk**	**4.17**	**125**	P		**Pn**	**15 17 49.3**	**+2.6**
JMU	**Jammu**	**5.83**	**124**	*e*P		Pn	15 18 21.5	+12
JMU				*e*S		Sn	15 19 02.0	-13
KSH	**Kashi**	**6.38**	**56**	P		**Pn**	**15 18 15.0**	**-2.1**
THN	**Thein Dam**	**6.55**	**122**	*e*P		Pn	15 18 30.0	+11
THN				*e*S		**Sn**	**15 19 36.5**	**+3.7**
AML	**Almayashu** SNR=61	**6.97**	**29**	P		**Pn**	**15 18 26.5**	**+1.0**
DHRM	**DHARAMSHALA**	**7.06**	**121**	*e*P		**Pn**	**15 18 27.9**	**+1.3**
DHRM				IAmb		IAmb	15 18 38.5	
	comp=Z,63nm,0.6s							
DHRM				*e*S		**Sn**	**15 19 47.9**	**+2.2**
DHRM				IAML			15 19 57.9	
	comp=E,265nm,0.5s							
DHRM				IAML			15 19 59.1	
	comp=N,217nm,0.3s							
KK31	**Karatay Array**	**7.06**	**8**	Pn		**Pn**	**15 18 24.6**	**-1.9**
	comp=N,5.7nm,0.4s,baz=199,slow=16,SNR=108							
KK31				⇑Sn		**Sn**	**15 19 43.9**	**-1.6**
	comp=N,9.2nm,0.5s							
KK31				⇓Lg		Lg	15 20 18.2	
	comp=N,28nm,0.7s							
KK31	**Karatay Array**	**7.06**	**8**	*i* PN		**Pn**	**15 18 27.5**	**+1.1**
KK31	**Karatay Array**	**7.06**	**8**	Pn		**Pn**	**15 18 26.8**	**+0.4**
KKAR	**Karatay Array**	**7.06**	**8**	PN		**Pn**	**15 18 27.4**	**+1.0**
KKAR	**Karatay Array**	**7.06**	**8**			**Pn**	**15 18 27.1**	**+0.6**
KKAR	**Karatay Array**	**7.06**	**8**	Pn		**Pn**	**15 18 27.4**	**+1.0**
UCH	**Uchtor** SNR=23	**7.39**	**33**	P		**Pn**	**15 18 32.4**	**+1.1**
EKS2	**Erkin-Say** SNR=12	**7.46**	**27**	P		**Pn**	**15 18 33.1**	**+1.2**
KZA	**Kyzart** SNR=16	**7.61**	**37**	P		**Pn**	**15 18 35.4**	**+1.1**
AAK	**Ala-Archa**	**7.72**	**31**	Pn		**Pn**	**15 18 35.5**	**-0.1**
	comp=N,2.5nm,0.3s,baz=213,slow=8.1,SNR=23							
AAK				Sn		**Sn**	**15 20 04.8**	**+3.0**
	comp=N,0.1nm,0.3s,baz=122,slow=20,SNR=1.3							
AAK				LR		LR	15 21 57.5	
	comp=N,109nm,19.0s,baz=189,slow=41							
AAK	**Ala-Archa** SNR=11	**7.72**	**31**	P		Pn	15 18 41.0	+5.4
AAK	**Ala-Archa**	**7.72**	**31**	⇑Pn		**Pn**	**15 18 35.2**	**-0.4**
	comp=N,16nm,0.6s							
AAK				⇑Sn		**Sn**	**15 19 59.1**	**-2.7**
	comp=N,25nm,0.7s							
AAK	**Ala-Archa**	**7.72**	**31**	*de*P		**Pn**	**15 18 37.9**	**+2.4**
AAK				pmax		pmax		
	comp=Z,20nm,0.8s							
AAK	**Ala-Archa**	**7.72**	**31**	Pn		**Pn**	**15 18 36.8**	**+1.2**
FRU1	**Bishkek**	**7.92**	**31**	P		**Pn**	**15 18 39.4**	**+1.2**
FRU1	**Bishkek**	**7.92**	**31**	Pn		**Pn**	**15 18 39.4**	**+1.2**
CHMS	**Chumysh** SNR=22	**8.12**	**30**	P		**Pn**	**15 18 41.9**	**+0.9**
USP	**Ospenovka** SNR=9.3	**8.25**	**28**	P		**Pn**	**15 18 43.2**	**+0.5**
SMLA	**Simla**	**8.32**	**124**	*e*P		**Pn**	**15 18 44.3**	**+0.7**
SMLA				IAmb		IAmb	15 18 46.4	
	comp=Z,20nm,0.5s							
SMLA				*e*S		**Sn**	**15 20 15.3**	**-1.1**
SMLA				IAML			15 20 18.7	
	comp=N,98nm,0.2s							
SMLA				IAML			15 20 19.7	
	comp=E,108nm,0.7s							
TKM2	**Tokmak 2** SNR=16	**8.43**	**34**	P		**Pn**	**15 18 46.0**	**+0.7**
TKM2	**Tokmak 2**	**8.43**	**34**	⇑Pn		**Pn**	**15 18 45.5**	**+0.2**
	comp=E,5.9nm,0.5s							
TKM2				⇑Sn		**Sn**	**15 20 18.8**	**-0.5**
	comp=E,6.3nm,0.6s							
TKM2	**Tokmak 2**	**8.43**	**34**	P		**Pn**	**15 18 45.5**	**+0.2**
KDJ	**Kajisay**	**8.66**	**44**	P		**Pn**	**15 18 49.0**	**+0.6**
KDJ	**Kajisay**	**8.66**	**44**			**Pn**	**15 18 49.0**	**+0.6**
TARG	**Taragay, Kyrgy**	**8.77**	**48**	Pn		**Pn**	**15 18 48.4**	**-1.7**
GEYT	**Alibeck**	**9.02**	**285**	Pn		**Pn**	**15 18 52.6**	**-0.7**
	comp=E,2.7nm,0.3s,baz=108,slow=9.5,SNR=22							
GEYT				Sn		**Sn**	**15 20 33.2**	**-0.4**
	comp=E,1.9nm,0.3s,baz=118,slow=19,SNR=12							
GEYT	**Alibeck**	**9.02**	**285**	Pn		**Pn**	**15 18 52.2**	**-1.0**
GYA0	**ALIBECK ARRAY**	**9.02**	**285**	P		**Pn**	**15 18 53.0**	**-0.3**
GYA0B	**ALIBECK ARRAY**	**9.02**	**285**	⇑Pn		**Pn**	**15 18 53.1**	**-0.2**
GYA0B				⇓Sn		**Sn**	**15 20 36.8**	**+3.2**
GYA0B	**ALIBECK ARRAY**	**9.02**	**285**	Pn		**Pn**	**15 18 52.2**	**-1.0**
MDOK	**Medeo**	**9.31**	**38**	⇑Pn		**Pn**	**15 18 58.8**	**+1.5**
	comp=E,13nm,0.9s							
DDI	**Dehra Dun**	**9.42**	**125**	*e*P		Pn	15 18 46.3	-13
DDI				*e*S		**Sn**	**15 20 43.6**	**0.0**
PRZ	**Przheval'sk**	**9.58**	**46**	P		**Pn**	**15 19 02.4**	**+1.3**
PRZ	**Przheval'sk**	**9.58**	**46**	Pn		**Pn**	**15 19 02.4**	**+1.3**
SONA	**Sohna**	**10.31**	**137**	*e*S		**Sn**	**15 20 58.5**	**-6.8**
PDGK	**Podgornoye**	**10.73**	**45**	⇓Pn		**Pn**	**15 19 15.6**	**-1.2**
	comp=E,6.8nm,0.7s							
PDGK	**Podgornoye**	**10.73**	**45**	P		**Pn**	**15 19 15.6**	**-1.2**
PYUN	**Piuthan**	**14.17**	**120**	*e*P		**Pn**	**15 20 00.8**	**-3.2**
	comp=E,30nm,0.4s							
MAKZ	**Makanchi**	**14.36**	**38**	⇓Pn		**Pn**	**15 20 06.8**	**+0.7**
	comp=E,4.1nm,0.7s							
MAKZ	**Makanchi**	**14.36**	**38**	P		**Pn**	**15 20 07.0**	**+0.8**
MAKZ	**Makanchi**	**14.36**	**38**	Pn		**Pn**	**15 20 03.7**	**-2.4**
MK31	**Makanchi Array**	**14.50**	**39**	⇓Pn		**Pn**	**15 20 09.2**	**+1.0**
	comp=E,1.0nm,0.6s,baz=223,slow=15,SNR=10.0							
MK31	**Makanchi Array**	**14.50**	**39**	P		**Pn**	**15 20 05.4**	**-2.8**
MK31	**Makanchi Array**	**14.50**	**39**	Pn		**Pn**	**15 20 05.4**	**-2.8**
MKAR	**Makanchi Array**	**14.50**	**39**	Pn		**Pn**	**15 20 05.0**	**-3.2**
	comp=E,0.1nm,0.3s,baz=227,slow=16,SNR=7.0							
MKAR	**Makanchi Array**	**14.50**	**39**	*i* P		**Pn**	**15 20 06.4**	**-1.8**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**14.50**	**39**			**Pn**	**15 20 05.3**	**-2.8**
DANN	**Dangsing**	**14.57**	**118**	*e*P		**Pn**	**15 20 06.1**	**-3.3**
	comp=Z,13nm,0.3s							
AB31	**Akbulak array**	**14.77**	**336**	⇑Pn		**Pn**	**15 20 09.6**	**-2.1**
	comp=Z,4.3nm,0.4s,baz=152,slow=12,SNR=55							
AB31				⇑Sn		**Sn**	**15 22 48.1**	**-5.9**
	comp=Z,3.1nm,0.6s,baz=155,slow=24,SNR=3.9							
AB31	**Akbulak array**	**14.77**	**336**	*e*P		**Pn**	**15 20 09.6**	**-2.1**
ABKAR	**Akbulak array**	**14.77**	**336**	Pn		**Pn**	**15 20 08.8**	**-2.9**
KOLN	**Koldanda**	**14.80**	**120**	*e*P		**Pn**	**15 20 09.9**	**-2.6**
	comp=Z,17nm,0.5s							
GKN	**Gorkha**	**15.40**	**117**	*e*P		**Pn**	**15 20 16.9**	**-3.4**
	comp=Z,30nm,0.4s							
DMN	**Daman**	**15.96**	**118**	*e*P		**Pn**	**15 20 24.3**	**-3.4**
	comp=Z,11nm,0.3s							
KKN	**Kakani**	**15.98**	**117**	*e*P		**Pn**	**15 20 25.1**	**-2.9**
KURBB	**Kurchatov Arra**	**16.01**	**22**	Pn		**Pn**	**15 20 25.1**	**-2.8**
	comp=Z,0.0nm,0.3s,baz=213,slow=12,SNR=4.0							
KURK	**Kurchatov**	**16.12**	**22**	⇑*e*P		**Pn**	**15 20 29.4**	**+0.1**
KURK				pmax		pmax		
	comp=Z,5.0nm,1.0s							
KURK	**Kurchatov**	**16.12**	**22**	Pn		**Pn**	**15 20 28.5**	**-0.7**
WMQ	**Urumqi**	**16.14**	**56**	*e*P		**Pn**	**15 20 28.9**	**-0.8**
WMQ				pP		P	15 20 32.8	+0.1
WMQ				pmax		pmax		
	comp=Z,24nm,0.7s							
WMQ				pmax		pmax		
	comp=E,88nm,4.7s							
PKI	**Pulchoki**	**16.20**	**117**	*e*P		**Pn**	**15 20 27.3**	**-3.6**
	comp=Z,18nm,0.5s							
AKTO	**Aktyubinsk**	**16.43**	**334**	Pn		**Pn**	**15 20 31.7**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=133,slow=14,SNR=9.0							
AKTO				Sn		**Sn**	**15 23 29.8**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=184,slow=19,SNR=1.9							
AKTO				LR		LR	15 27 38.4	
	comp=Z,46nm,21.4s,baz=130,slow=40							
AKTO	**Aktyubinsk**	**16.43**	**334**	⇓Pn		**Pn**	**15 20 33.5**	**+0.2**
	comp=Z,7.1nm,1.1s							
AKTO				⇓Sn		**Sn**	**15 23 29.3**	**-5.1**
	comp=Z,4.7nm,0.8s							
AKTO	**Aktyubinsk**	**16.43**	**334**	P		**Pn**	**15 20 33.5**	**+0.2**
JIRN	**Jiri**	**16.72**	**115**	*e*P		**Pn**	**15 20 35.5**	**-2.0**
	comp=Z,44nm,0.4s							
BVA0	**Borovoye Array**	**16.94**	**3**	Pn		**Pn**	**15 20 39.4**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=178,slow=12,SNR=19							
BVA0	**Borovoye Array**	**16.94**	**3**	*i* P		**Pn**	**15 20 39.4**	**-0.2**
BVAR	**Borovoye Array**	**16.94**	**3**	Pn		**Pn**	**15 20 37.9**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=178,slow=9.9,SNR=9.6							
BVAR				LR		LR	15 27 59.5	
	comp=E,84nm,19.7s,baz=181,slow=40							
BRVK	**Borovoye**	**16.97**	**2**	⇓Pn		**Pn**	**15 20 38.1**	**-1.9**
	comp=Z,3.9nm,0.7s							
BRVK	**Borovoye**	**16.97**	**2**	P		**Pn**	**15 20 37.8**	**-2.2**
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.8s							
BRVK	**Borovoye**	**16.97**	**2**			**Pn**	**15 20 37.8**	**-2.2**
RAMN	**Ramite**	**17.43**	**117**	*e*P		**Pn**	**15 20 43.3**	**-2.9**
	comp=Z,34nm,0.5s							
TAPN	**Taplejung**	**18.01**	**114**	*e*P		**Pn**	**15 20 52.2**	**-1.2**
	comp=Z,52nm,0.6s							
ODAN	**Odare**	**18.05**	**116**	*e*P		**Pn**	**15 20 52.0**	**-1.9**
	comp=Z,54nm,0.6s							
LSA	**Lhasa**	**19.52**	**103**	P		**P**	**15 21 07.4**	**-3.0**
LSA				pmax		pmax		
	comp=Z,9.0nm,0.7s							
LSA	**Lhasa**	**19.52**	**103**	P		**P**	**15 21 07.3**	**-3.0**
LSA				IAmb		IAmb	15 21 21.9	
	comp=Z,9.1nm,0.7s							
HYB	**Hyderabad**	**20.40**	**153**	*i* P		Pn	15 21 24.5	+2.8
ZAA0	**Zalesovo Array**	**20.91**	**27**	P		**P**	**15 21 23.9**	**-0.8**
ZALV	**Zalesovo Beam**	**20.91**	**27**	P		**P**	**15 21 23.7**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=217,slow=10,SNR=12							
ZALV				LR		LR	15 30 19.1	
	comp=Z,109nm,18.6s,baz=188,slow=39							
ZALV	**Zalesovo Beam**	**20.91**	**27**	*i* P		**P**	**15 21 24.3**	**-0.5**
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.3s							
ZALV	**Zalesovo Beam**	**20.91**	**27**	P		**P**	**15 21 23.9**	**-0.9**
KBZ	**Khabaz**	**21.47**	**299**	LR		LR	15 31 37.6	
	comp=Z,48nm,20.4s,baz=226,slow=41							
KBZ	**Khabaz**	**21.47**	**299**	⇑*e*P		P	15 21 44.6	+14
KBZ				pmax		pmax		
	comp=Z,5.0nm,1.5s							
SVE	**Sverdlovsk**	**21.51**	**347**	*e*P		**P**	**15 21 37.0**	**+5.8**
SVE				pmax		pmax		
	comp=Z,13nm,1.3s							
ARU	**Arti**	**21.56**	**344**	P		**P**	**15 21 36.2**	**+4.5**
	comp=Z,0.6nm,0.5s,baz=137,slow=19,SNR=1.6							
ARU	**Arti**	**21.56**	**344**	*d* iP		P	15 21 39.4	+7.7
ARU							15 22 07.4	
ARU				S		Sn	15 25 34.6	-3.3
ARU				SS		SnSn	15 26 15.4	+22
ARU				pmax		pmax		
	comp=Z,8.0nm,1.3s							
KVAR	**Kislovodsk Arr**	**21.66**	**299**	LR		LR	15 31 58.8	
	comp=Z,36nm,21.7s,baz=58,slow=42							
KIV	**Kislovodsk**	**21.67**	**299**	*e*P		P	15 21 43.5	+10
KIV				pmax		pmax		
	comp=Z,16nm,1.0s							
SHL	**Shillong**	**22.11**	**112**	P		**P**	**15 21 37.7**	**-0.4**
SHL				pmax		pmax		
	comp=Z,29nm,0.6s							
SHL	**Shillong**	**22.11**	**112**	P		**P**	**15 21 37.7**	**-0.4**
GTA	**Gaotai**	**24.40**	**73**	pmax		pmax		
	comp=Z,2.0nm,1.0s							
GAZ	**Gaziantep**	**25.60**	**282**	P		**P**	**15 22 10.7**	**-0.9**
GAZ				IAmb		IAmb	15 22 22.6	
	comp=Z,5.3nm,0.8s							
KIRV	**Kirov**	**25.97**	**336**	LR		LR	15 32 26.8	
	comp=Z,24nm,19.7s,baz=328,slow=36							
LZH	**Lanzhou**	**27.94**	**80**	*e*P		**P**	**15 22 34.9**	**+2.1**
LZH				pmax		pmax		
	comp=Z,20nm,1.0s							
LZH				pmax		pmax		
	comp=Z,100nm,5.5s							
LZH				LR		LR		
	comp=Z,280nm,13.0s							
LZH				LR		LR		
	comp=Z,280nm,13.2s							
LZH				LR		LR		
	comp=Z,330nm,15.3s							
BRTR	**Keskin Array B**	**28.14**	**288**	P		**P**	**15 22 35.3**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=121,slow=12,SNR=3.4							
BRTR				LR		LR	15 36 04.0	
	comp=Z,28nm,19.1s,baz=258,slow=41							
BRTR	**Keskin Array B**	**28.14**	**288**	*ce*P		P	15 22 44.7	+10
CD2	**Chengdu**	**29.21**	**90**	*e*P		**P**	**15 22 44.0**	**0.0**
CHTO	**Chiang Mai**	**31.37**	**115**	P		**P**	**15 23 05.2**	**+2.1**
CHTO				pmax		pmax		
	comp=Z,10.0nm,1.7s							
CHTO	**Chiang Mai**	**31.37**	**115**	P		**P**	**15 23 05.2**	**+2.1**
CHTO				IAmb		IAmb	15 24 09.9	
	comp=Z,10nm,1.6s							
CMAR	**Chiang Mai Arr**	**31.60**	**116**	P		**P**	**15 23 02.0**	**-3.1**
	comp=Z,0.6nm,0.7s,baz=44,slow=32,SNR=2.7							
AKASG	**Malin Array Be**	**32.04**	**310**	P		**P**	**15 23 10.6**	**+2.0**
	comp=Z,0.3nm,0.4s,baz=87,slow=8.0,SNR=4.4							
AKASG	**Malin Array Be**	**32.04**	**310**	IAmb		IAmb	15 23 18.8	
	comp=Z,0.9nm,0.8s							
HHC	**Hu-ho-hao-te**	**33.29**	**69**	*e*P		**P**	**15 23 22.4**	**+2.5**
HHC				pmax		pmax		
	comp=Z,16nm,0.9s							
HHC				pmax		pmax		
	comp=Z,110nm,6.3s							
KOLS	**Kolonicke sedl**	**36.29**	**306**	*e*P		P	15 23 52.3	+6.8
KOLS	**Kolonicke sedl**	**36.29**	**306**	*e*P		P	15 23 52.3	+6.8
FINES	**FINESS Array B**	**36.99**	**327**	P		**P**	**15 23 52.6**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=115,slow=9.0,SNR=3.3							
FINES	**FINESS Array B**	**36.99**	**327**	P		**P**	**15 23 51.6**	**+0.3**
VYHS	**Vyhne**	**38.56**	**305**	*e*P		P	15 24 11.9	+7.2
VYHS	**Vyhne**	**38.56**	**305**	*e*P		P	15 24 11.9	+7.2
NJ2	**Nanjing**	**41.00**	**81**	*e*P		**P**	**15 24 26.4**	**+1.2**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
GERES	**GERESS Array B**	**41.95**	**306**	LR		LR	15 45 59.2	
	comp=Z,33nm,19.6s,baz=270,slow=42							
KHC	**Kasperske Hory**	**42.01**	**306**	⇓*e*P		P	15 24 39.8	+6.5
KHC				pmax		pmax		
	comp=Z,13nm,1.8s							
KHC	**Kasperske Hory**	**42.01**	**306**	*e*pP		pP	15 24 43.0	-0.9
NB2	**NORSAR Subarra**	**43.80**	**323**	P		**P**	**15 24 48.6**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**43.80**	**323**	P		**P**	**15 24 48.4**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=99,slow=8.1,SNR=4.9							
TIXI	**Tiksi**	**46.69**	**22**	⇑*e*P		**P**	**15 25 09.0**	**-1.4**
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.1s							
ESDC	**Sonseca Array**	**56.32**	**297**	P		**P**	**15 26 24.4**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=32,slow=7.5,SNR=4.7							
COLD	**Coldfoot**	**72.74**	**15**	P		**P**	**15 28 11.0**	**+1.3**
COLD				IAmb		IAmb	15 29 38.7	
	comp=Z,19nm,1.9s							
IMAR	**Indian Mountai**	**72.99**	**17**	P		**P**	**15 28 11.5**	**+0.4**
LBTB	**Lobatse**	**73.40**	**221**	P		**P**	**15 28 14.6**	**+0.4**
LBTB				pmax		pmax		
	comp=Z,51nm,2.0s							
LBTB	**Lobatse**	**73.40**	**221**	P		**P**	**15 28 14.6**	**+0.4**
C36M	**Paulatuk**	**74.40**	**5**	P		**P**	**15 28 20.2**	**+0.8**
INK	**Inuvik**	**74.52**	**9**	P		**P**	**15 28 20.6**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=322,slow=3.8,SNR=3.9							
INK	**Inuvik**	**74.52**	**9**	P		**P**	**15 28 22.4**	**+2.4**
INK				IAmb		IAmb	15 29 22.9	
	comp=Z,7.0nm,1.4s							
BPAW	**Bear Paw Mtn.**	**75.21**	**17**	P		**P**	**15 28 27.2**	**+3.0**
BPAW				IAmb		IAmb	15 28 29.6	
	comp=Z,8.8nm,1.2s							
ILAR	**Eielson Array**	**75.55**	**15**	P		**P**	**15 28 26.3**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=306,slow=4.5,SNR=9.2							
ILAR	**Eielson Array**	**75.55**	**15**	P		**P**	**15 28 26.0**	**-0.1**
ILAR	**Eielson Array**	**75.55**	**15**	P		**P**	**15 28 26.0**	**-0.1**
PPLA	**Purkeypile**	**75.93**	**18**	P		**P**	**15 28 29.4**	**+1.0**
MCK	**McKinley**	**76.00**	**16**	P		**P**	**15 28 29.2**	**+0.5**
MCK				pmax		pmax		
	comp=Z,27nm,1.8s							
MCK	**McKinley**	**76.00**	**16**	P		**P**	**15 28 29.2**	**+0.5**
BCAR	**Beaver Creek A**	**78.11**	**14**	P		**P**	**15 28 42.3**	**+1.7**
WRA	**Warramunga Arr**	**83.06**	**121**	P		**P**	**15 29 05.7**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=326,slow=4.7,SNR=5.4							
WRA	**Warramunga Arr**	**83.06**	**121**	*i* P		**P**	**15 29 06.4**	**-1.3**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**85.26**	**124**	P		**P**	**15 29 17.1**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=310,slow=4.7,SNR=9.8							

IDC ***10*** *15:36:27.8±2.0, 1°.69N×89°.44E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.4/35, mbtmp3.6/5, ML3.8/2, Error ellipse: s-maj=54.9km s-min=27.5km az=58.0*
NEIC ***10*** *15:36:29.4±0.3, 1°.6N±0°.2×89°.3E±0°.1, h15km±6km, mb4.4/6, Error ellipse: s-maj=34.7km s-min=8.4km az=206.0*

ISC 10 15:36:27.9±1.2, 1°.6N±0°.2×89°.2E±0°.1, h10km, n12, σ1s 67/10, mb3.8/5, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.16**	**304**	Pn		**Pn**	**15 38 56.4**	**+2.4**
	0.4nm,0.3s,baz=113,slow=13,SNR=1.4							
PALK				Sn		**Sn**	**15 40 44.7**	**-3.4**
	0.5nm,0.3s,baz=135,slow=20,SNR=2.2							
CMAR	**Chiang Mai Arr**	**19.26**	**29**	P		**P**	**15 40 52.3**	**-0.5**
	0.2nm,0.3s,baz=209,slow=14,SNR=4.9							
CISI	**Cisompet, Garu**	**20.69**	**116**	P		**P**	**15 41 07.3**	**-1.2**
H01W3	**Cape Leeuwin H** baz=324,slow=76,SNR=5.0	**43.19**	**150**	T		T	16 30 17.5	
H01W2	**Cape Leeuwin H** baz=324,slow=76,SNR=3.6	**43.20**	**150**	T		T	16 30 21.9	
H01W1	**Cape Leeuwin H** baz=324,slow=76,SNR=4.7	**43.21**	**150**	T		T	16 30 20.0	
SONM	**Songino Array**	**48.37**	**15**	P		**P**	**15 45 10.8**	**+0.7**
	0.7nm,0.7s,baz=190,slow=5.9,SNR=3.4							
WB0	**Warramunga Arr**	**49.16**	**118**	P		**P**	**15 45 16.2**	**-0.3**
WB0				IAmb		IAmb	15 46 45.8	
	comp=Z,29nm,1.9s							
WRA	**Warramunga Arr**	**49.17**	**118**	P		**P**	**15 45 16.4**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=295,slow=8.8,SNR=6.6							
WB2	**Warramunga Arr**	**49.18**	**118**	P		**P**	**15 45 16.6**	**0.0**
ASAR	**Alice Springs**	**50.20**	**123**	P		**P**	**15 45 24.6**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=297,slow=7.2,SNR=7.7							
AS31	**Alice Springs**	**50.20**	**123**	P		**P**	**15 45 24.2**	**-0.1**
AS31				IAmb		IAmb	15 46 33.3	
	comp=Z,1.3nm,1.2s							

IDC 10 15:37:26.1±4.0, 30°.82N×140°.46E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/34, mbtmp3.5/3, ML2.4/1, Error ellipse: s-maj=248.5km s-min=33.1km az=81.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.00**	**342**	Pn		Pn	15 38 56.0	-0.2
	0.1nm,0.3s,baz=160,slow

BOD max
comp=N,425nm,0.3s
BOD max
comp=N,972nm,0.7s
BOD Bodaibo 1.81 2⇑ *i*PN **Pn 15 49 16.1 +0.6**
BOD *e* 15 49 38.1
BOD pmax pmax
comp=Z,427nm,0.3s
BOD smax smax
comp=E,788nm,0.2s
YLYR Ulyunkhan 1.93 235⇓ *i*Pn **Pn 15 49 19.0 +1.8**
YLYR ⇓ *i*Pg **Pb 15 49 19.6 +0.1**
YLYR *e*Sg **Sg 15 49 46.1 -0.1**
YLYR *e* 15 49 49.3
YLYR Pmax
comp=E,249nm,0.3s
YLYR Smax
comp=E,655nm,0.3s
YLYR Ulyunkhan 1.93 235 *e*PN **Pb 15 49 19.6 +0.1**
YLYR *e* 15 49 45.6
YLYR pmax pmax
comp=Z,268nm,0.3s
YLYR smax smax
comp=E,663nm,0.3s
NIZ Nizh Angarsk 2.46 266 *e*Pn **Pn 15 49 26.4 +2.0**
NIZ *e*Pg **Pb 15 49 28.1 -0.4**
NIZ *e*Sg **Sb 15 50 01.6 +2.8**
NIZ *e* 15 50 05.9
NIZ Pmax
comp=E,58nm,0.5s
NIZ Smax
comp=E,820nm,0.6s
NIZ Nizh Angarsk 2.46 266 *e*PN **Pn 15 49 26.7 +2.3**
NIZ *e* 15 49 30.3
NIZ *e*S **Sb 15 49 57.5 -1.3**
NIZ *e* 15 50 02.4
NIZ pmax pmax
comp=Z,51nm,0.8s
NIZ smax smax
comp=N,756nm,0.7s
CRS Chara 2.59 68⇓ *i*Pn **Pn 15 49 27.0 +0.7**
CRS *e*Pg **Pb 15 49 30.9 +0.1**
CRS *e*Sg **Sg 15 50 04.8 -2.7**
CRS Pmax
comp=N,869nm,0.6s
CRS Smax
comp=N,612nm,1.0s
CRS Chara 2.59 68 *e*PN **Pn 15 49 26.7 +0.4**
CRS *e* 15 49 30.9
CRS *e* 15 50 04.3
CRS pmax pmax
comp=Z,263nm,0.8s
CRS smax smax
comp=E,463nm,1.0s
SYVR Suvo 3.26 225 *e*Pn **Pn 15 49 36.8 +1.3**
SYVR *e*Pg **Pb 15 49 43.2 +0.9**
SYVR *e* 15 50 24.4
SYVR *e*Sg **Sg 15 50 27.2 -1.8**
SYVR Pmax
comp=E,80nm,0.7s
SYVR Smax
comp=E,478nm,1.3s
SYVR Suvo 3.26 225 *e*PN **Pn 15 49 37.1 +1.6**
SYVR *e* 15 49 42.0
SYVR *e* 15 50 27.0
SYVR pmax pmax
comp=Z,80nm,0.7s
SYVR smax smax
comp=N,488nm,1.3s
KHNR Khani 3.50 73 *e*Pn **Pn 15 49 39.8 +1.0**
KHNR *e*Pg **Pb 15 49 47.1 +0.7**
KHNR *e*Sg **Sb 15 50 31.9 +3.0**
KHNR *e* 15 50 38.9
TUP Tupik 3.83 112⇓ *i*Pn **Pn 15 49 43.9 +0.6**
TUP *e* 15 49 45.6
TUP *e*Pg **Pb 15 49 53.3 +1.4**
TUP *e*Sn **Sn 15 50 27.9 -0.4**
TUP *e*Sg **Sg 15 50 43.7 -3.4**
TUP *e* 15 50 48.1
TUP Pmax
comp=N,44nm,0.4s
TUP max
comp=N,607nm,0.8s
TUP Tupik 3.83 112⇓ *i*PN **Pn 15 49 44.1 +0.8**
TUP *e* 15 49 53.3
TUP *e*S **Sn 15 50 28.1 -0.2**
TUP *e* 15 50 43.5
TUP pmax pmax
comp=Z,44nm,0.3s
TUP smax smax
comp=E,607nm,0.8s
CIT Chita 4.01 183 *e*Pg **Pb 15 49 57.2 +2.1**
CIT *e* 15 50 46.1
CIT *e*Sg **Sg 15 50 50.0 -3.1**
CIT Pmax
comp=E,48nm,0.3s
CIT Smax
comp=E,371nm,0.7s
CIT Chita 4.01 183 *e*PN **Pn 15 49 46.4 +0.6**
CIT *e* 15 49 57.8
CIT *e*S **Sn 15 50 34.7 +1.8**
CIT *e* 15 50 49.0
CIT pmax pmax
comp=Z,63nm,0.8s
CIT smax smax
comp=E,371nm,0.7s
OGRR Ongureny 4.34 239 *e*Pn **Pn 15 49 53.1 +2.7**
OGRR *e*Pg **Pb 15 50 02.9 +2.2**
OGRR *e* 15 50 32.1
OGRR *e*Sg **Sg 15 51 00.2 -3.5**
OGRR Pmax
comp=E,70nm,1.1s
OGRR Smax
comp=E,148nm,1.1s
OGRR Ongureny 4.34 239 *e*PN **Pn 15 49 50.7 +0.3**
OGRR *e* 15 50 02.4
OGRR *e* 15 50 59.1
OGRR pmax pmax
comp=Z,80nm,2.0s
OGRR smax smax
comp=E,147nm,1.3s
YKLR Yuktali 4.37 79 *e*Pn **Pn 15 49 51.2 +0.5**
YKLR *e*Pg **Pb 15 50 02.0 +0.9**
YKLR *e*Sg **Sb 15 50 58.6 +4.8**
YKLR *e* 15 51 07.2
KELR Kotokel 4.71 228 *e* **Pb 15 50 03.6 -3.3**
KELR *e*Sg **Sg 15 51 12.0 -3.3**
TRG Tyrgan 5.48 237 *e*Pn **Pn 15 50 07.5 +1.5**
TRG *e* 15 50 13.3
TRG *e*Pg **Pb 15 50 23.5 +3.4**
TRG *e* 15 51 30.0
TRG *e*Sg **Sg 15 51 35.3 -4.8**
TRG Pmax
comp=E,11nm,0.9s
TRG Smax
comp=E,72nm,0.7s
FFNB Fofonovo 5.78 229 *e* **Pb 15 50 26.0 +0.8**
FFNB *e* 15 50 37.6
FFNB Sg **Sg 15 51 45.3 -4.4**
FFNB *e* 15 51 50.3
KAB Kabansk 5.83 230 Sg **Sg 15 51 48.0 -3.2**
KAB Smax
comp=E,467nm,0.9s
STDB Stepnoy Dvoret 5.87 232 *e* **Sn 15 51 11.1 -7.4**
STDB *e*Sg **Sg 15 51 48.3 -4.2**
HRMR Khuramsha 6.01 226 *e*Pn **Pn 15 50 14.8 +1.5**
HRMR *e* 15 50 15.5
HRMR *e*Pg **Pb 15 50 32.1 +3.0**
HRMR *e* 15 51 32.6
HRMR *e*Sg **Sg 15 51 52.3 -4.9**
HRMR *e* 15 51 58.0
HRMR Pmax
comp=E,34nm,0.6s
HRMR max
comp=E,442nm,0.9s
IENR Iengra 6.14 84 Sg **Sg 15 51 53.2 -8.2**
CLNS Chul'man 6.17 78 *e*Pg **Pb 15 50 35.4 +3.7**
CLNS *e* 15 51 29.0
CLNS *e* 15 51 45.5
CLNS *e*Sg **Sg 15 51 55.2 -6.9**
BGT Bolshoye Golou 6.38 235 *e* **Sn 15 51 35.8 +4.5**
BGT *e*Sg **Sg 15 52 04.3 -4.8**
BGT *e* 15 52 19.9
BGT Smax
comp=E,76nm,1.2s
KPC Khapcheranga 6.39 189 *e*Pn **Pn 15 50 18.6 +0.1**
KPC *e*Pg Pb 15 50 40.6 +5.0
KPC *e*Sg **Sg 15 52 03.6 -5.8**
KPC Pmax
comp=E,8.0nm,0.6s
KPC Smax
comp=E,189nm,1.4s
KPC Khapcheranga 6.39 189 *e*PN **Pn 15 50 18.6 +0.1**
KPC *e* 15 50 39.5
KPC *e*S **Sn 15 51 29.8 -1.8**
KPC *e* 15 52 03.2
KPC pmax pmax
comp=Z,5.0nm,0.4s
KPC smax smax
comp=E,189nm,1.4s
LSTR Listvyanka 6.77 236 *e* 15 52 00.0
LSTR *e*Sg **Sg 15 52 15.8 -5.6**
LSTR Smax
comp=E,74nm,1.4s
IRK Irkutsk 6.80 240 Sg **Sg 15 52 15.7 -6.6**
IRK *e* 15 52 19.0
IRK max
comp=E,143nm,0.9s
IRK Irkutsk 6.80 240 *e*PG **Pb 15 50 46.9 +4.5**
IRK *e* 15 52 15.0
IRK pmax pmax
comp=Z,37nm,0.2s
IRK smax smax
comp=E,147nm,0.7s
IVK Ivanovka 7.01 237 *e* Sn 15 51 33.4 -13
IVK *e* 15 52 13.0
IVK *e*Sg **Sg 15 52 23.5 -5.5**
IVK Smax
comp=E,66nm,1.7s
TLY Talaya 7.45 239 Pg **Pb 15 50 55.2 +1.6**
comp=E,0.0nm,0.3s,baz=359,slow=10.0,SNR=2.5
TLY Lg Lg 15 52 33.6
comp=E,0.0nm,0.3s,baz=222,slow=21,SNR=2.7
TLY LR LR 15 53 47.2
comp=E,43nm,18.3s,baz=160,slow=40
TLY Talaya 7.45 239 *e* Pb 15 50 44.8 -8.8
TLY Pg Pg 15 50 59.3 -7.6
TLY *e* 15 52 02.0
TLY *e*Sg **Sg 15 52 35.6 -7.6**
TLY Pmax
comp=E,7.0nm,0.9s
TLY Smax
comp=E,39nm,1.3s
TLY Talaya 7.45 239⇑ *e*PN **Pn 15 50 32.9 -0.1**
HIA Hailar 7.64 150⇑ *e*PN **Pn 15 50 33.7 -2.0**
HIA pmax pmax
comp=Z,2.0nm,1.0s
ARS Arshan 7.90 243 *e* Pn 15 50 50.9 +12
ARS *e*Pg Pb 15 51 07.4 +6.1
ARS Sg Sg 15 52 49.6 -8.1
ARS *e* 15 52 54.6
ARS Pmax
comp=Z,13nm,0.6s
ARS max
comp=Z,167nm,0.8s
ZAK Zakamensk 8.50 233 *e*Pn **Pn 15 50 51.2 +3.7**
ZAK *e* 15 53 04.8
ZAK *e*Sg **Sg 15 53 09.7 -7.2**
ZAK max
comp=Z,3.0nm,0.4s
ZAK Smax
comp=Z,27nm,1.5s
ZAK Zakamensk 8.50 233 *e*PG Pg 15 51 17.6 -9.4
ZAK *e* 15 53 10.9
ZAK pmax pmax
comp=Z,6.0nm,0.8s
ZAK smax smax
comp=E,27nm,1.3s
MOY Mondy 8.78 246 *e*Pn **Pn 15 50 53.3 +2.0**
MOY *e* 15 51 18.7
MOY *e* 15 52 23.0
MOY *e*Sg Sg 15 53 17.7 -8.0
MOY max
comp=E,15nm,0.4s
MOY Smax
comp=E,81nm,1.4s
ORL Orlik 8.94 253 *e*Pn **Pn 15 50 55.2 +1.7**
ORL *e* 15 51 07.2
ORL *e*Sn **Sn 15 52 33.5 -0.7**
ORL *e*Sg Sg 15 53 21.7 -9.2
ORL max
comp=E,8.0nm,1.3s
ORL Smax
comp=E,42nm,1.5s
ORL Orlik 8.94 253 *e*P **Pn 15 50 55.7 +2.2**
ORL *e*S **Sn 15 52 33.7 -0.5**
ORL pmax pmax
comp=Z,7.0nm,0.6s
ORL smax smax
comp=N,46nm,1.3s
ULN Ulaanbaatar 9.19 210⇑ *e*P **Pn 15 50 56.6 -0.3**
SONM Songino Array 9.40 212 Pg Pn 15 51 37.1 +37
comp=N,0.4nm,0.3s,baz=24,slow=15,SNR=3.6
SONM Lg Lg 15 53 41.1
comp=N,1.6nm,0.3s,baz=28,slow=29,SNR=14
YAK Yakutsk 10.11 47⇓ *e*P **Pn 15 51 06.9 -2.5**
YAK pmax pmax
comp=Z,2.0nm,0.9s
TDJR Todzha 11.02 258 *e*Sg Sn 15 54 25.1 +60
TDJR *e* 15 54 33.1
KLR Kul'dur 12.79 115 Pn **Pn 15 51 47.7 +1.7**
comp=Z,0.2nm,0.3s,baz=314,slow=17,SNR=2.1
KLR Lg Lg 15 55 25.7
comp=Z,0.3nm,0.3s,baz=34,slow=13,SNR=7.1
KLR Kul'dur 12.79 115⇑ *e*P **Pn 15 51 43.8 -2.2**
TIXI Tiksi 16.93 16⇓ *e*P **Pn 15 52 39.7 -1.2**
TIXI pmax pmax
comp=Z,6.0nm,1.1s
DGZ Jazzator, Alta 17.11 259⇑ *e*P **P 15 52 44.9 -0.3**
DGZ pmax pmax
comp=Z,1.0nm,1.8s
NRIK Noril'sk 17.78 329 Pn **Pn 15 52 51.8 +0.3**
comp=Z,0.5nm,0.3s,baz=117,slow=14,SNR=2.5
NRIK Sn Sn 15 55 55.1 -14
comp=Z,0.2nm,0.3s,baz=138,slow=12,SNR=2.3
KURK Kurchatov 21.53 271⇑ *e*P **P 15 53 32.6 -0.7**
KURK pmax pmax
comp=Z,6.0nm,1.5s
MKAR Makanchi Array 21.59 258 P **P 15 53 36.7 +2.7**
comp=Z,0.4nm,0.5s,baz=61,slow=11,SNR=7.8
MKAR Makanchi Array 21.59 258 *ce*P **P 15 53 37.4 +3.4**
KURBB Kurchatov Arra 21.63 270 P **P 15 53 36.9 +2.6**
comp=Z,0.7nm,0.5s,baz=66,slow=12,SNR=6.0
BVAR Borovoye Array 25.11 282 P **P 15 54 10.1 +1.1**
comp=Z,0.4nm,0.7s,baz=64,slow=10,SNR=2.5
AKASG Malin Array Be 47.79 301 *ce*P **P 15 57 20.5 -0.8**
WRA Warramunga Arr 77.62 160 P **P 16 00 43.1 +2.6**
comp=Z,0.3nm,0.8s,baz=356,slow=6.6,SNR=1.6

*NEIC **10** 15:49:59.8±2.4,31.42°S±0.06°×67.84°W±0.05°,h93km±6km, mb4.3/7, Error ellipse: s-maj=10.2km s-min=2.7km az=148.0*
*SJA **10** 15:50:00.7±0.6,31.39°S×68.12°W,h110km±2km, ML4.0, MW3.9*
*IDC **10** 15:50:01.7±0.6,31.38°S×68.03°W,h104km±5km, mb3.4/6, mb1 3.7/10, mb1mx3.6/36, mbtmp3.8/10, MS2.8/1, Ms1 2.8/1, ms1mx2.5/10, Error ellipse: s-maj=29.4km s-min=15.2km az=85.0*

ISC 10 15:50:00.9±0.5,31.32S±0.04×68.09W±0.04,h103km±4km, n108,σ1°73/129,mb3.5/7,6C-5D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.33**	**269**	⇓ *i*P	**Pn**	**15 50 17.3**	**+1.2**
RTLL				*i* S	**Sn**	**15 50 28.7**	**+1.4**
RTLL	**Cerro Villicun**	**0.33**	**269**	*i* P	**Pn**	**15 50 17.3**	**+1.2**
RTLL				IAML		15 50 17.6	
	comp=Z,5μm,0.3s						
RTLL				*e*S	**Sn**	**15 50 29.4**	**+2.0**
ZON	**Zonda**	**0.55**	**246**		**Pn**	**15 50 18.4**	**+1.0**
ZON				Sn	**Sn**	**15 50 30.2**	**+0.4**
ZON	**Zonda**	**0.55**	**246**	*i* P	**Pn**	**15 50 18.5**	**+1.0**
ZON				*e*S	**Sn**	**15 50 31.5**	**+1.7**
ZON				IAML		15 50 31.9	
	comp=Z,2μm,0.3s						
RTCV	**Cerro Valdivia**	**0.66**	**215**	*i* P	**Pn**	**15 50 19.1**	**+0.8**
RTCV				*e*S	**Sn**	**15 50 32.2**	**+0.8**
RTLS	**Leoncito**	**1.13**	**245**	*i* P	**Pn**	**15 50 24.7**	**+1.4**
RTLS				IAML		15 50 45.3	
	comp=Z,1μm,0.2s						
ACAN	**Cantantal**	**1.22**	**141**	*i* P	**Pn**	**15 50 25.2**	**+1.1**
ACAN				*e*S	**Sn**	**15 50 42.6**	**+1.0**
ASAL	**Salagasta**	**1.41**	**206**	*i* P	**Pn**	**15 50 27.0**	**+0.6**
AUSP	**Uspallata**	**1.42**	**230**	*i* P	**Pn**	**15 50 27.6**	**+0.9**
AUSP				*e*S	**Sn**	**15 50 47.1**	**+1.0**
ACDV	**Cuesta del Vie**	**1.45**	**322**	*i* P	**Pn**	**15 50 28.7**	**+1.9**
APLL	**PUNTA DE LOS L**	**1.63**	**56**	*i* P	**Pn**	**15 50 31.0**	**+2.0**
AROD	**Rodeo**	**1.65**	**314**	*i* P	**Pn**	**15 50 31.8**	**+2.3**
ARCO	**CERRO ARCO**	**1.68**	**205**	*i* P	**Pn**	**15 50 30.3**	**+0.7**
ARCO				IAML		15 50 54.1	
	comp=Z,2μm,0.3s						
AAGR	**Agrelo**	**1.87**	**199**	*i* P	**Pn**	**15 50 32.8**	**+0.8**
CO01	**Juntas del Tor**	**2.18**	**307⇑**	*i*P	**Pn**	**15 50 39.1**	**+2.9**
CO01				*i* S	**Sn**	**15 51 06.5**	**+3.3**
CO01				IAML		15 51 08.2	
	comp=E,895nm,0.5s						
CO01	**Juntas del Tor**	**2.18**	**307**		**Pn**	**15 50 39.0**	**+2.9**
CO03	**El Pedregal**	**2.28**	**282⇑**	*i*P	**Pn**	**15 50 39.5**	**+2.2**
CO03				*i* S	**Sn**	**15 51 07.6**	**+2.5**
CO03	**El Pedregal**	**2.28**	**282**		**Pn**	**15 50 39.5**	**+2.2**
MRA	**San Martin**	**2.30**	**119**	*i* P	**Pn**	**15 50 38.7**	**+1.2**
CO02	**Combarbal**	**2.49**	**272⇑**	*i*P	**Pn**	**15 50 41.7**	**+1.6**
CO02				*i* S	**Sn**	**15 51 11.8**	**+1.6**
CO02	**Combarbal**	**2.49**	**272**		**Pn**	**15 50 41.6**	**+1.5**
VA03	**San Esteban**	**2.54**	**235**	*e*P	**Pn**	**15 50 41.7**	**+1.2**
VA03				IAML		15 51 15.9	
	comp=E,820nm,0.5s						
VA03	**San Esteban**	**2.54**	**235**		**Pn**	**15 50 41.8**	**+1.2**
GO04	**Tololo Observa**	**2.60**	**295**	*e*P	**Pn**	**15 50 43.3**	**+1.7**
GO04				*i* S	**Sn**	**15 51 14.9**	**+2.1**
GO04	**Tololo Observa**	**2.60**	**295**	Pn	**Pn**	**15 50 43.2**	**+1.6**
PEL	**Peldehue**	**2.85**	**230**	*e*P	**Pn**	**15 50 45.3**	**+0.5**
PEL				IAML		15 51 26.5	
	comp=N,325nm,0.6s						
PEL	**Peldehue**	**2.85**	**230**	Pn	**Pn**	**15 50 45.4**	**+0.7**
PEL	**Peldehue**	**2.85**	**230**	*i* P	**Pn**	**15 50 46.1**	**+1.4**
CLCH	**Cerro Calan**	**2.92**	**224**	*e*P	**Pn**	**15 50 46.9**	**+1.2**
CLCH				*i* S	**Sn**	**15 51 20.8**	**+0.4**
CLCH				IAML		15 51 25.7	
	comp=E,485nm,0.6s						
ROCH	**El Roble**	**2.97**	**236⇓**	*i*P	**Pn**	**15 50 46.5**	**0.0**
ROCH				IAML		15 51 26.7	
	comp=N,651nm,0.5s						
MT03	**Universidad Ad**	**2.98**	**223⇓**	*i*P	**Pn**	**15 50 47.4**	**+0.9**
MT03				*i* S	**Sn**	**15 51 23.0**	**+1.4**
MT03				IAML		15 51 27.7	
	comp=E,849nm,0.1s						
ROC1	**El Roble**	**2.98**	**236**		**Pn**	**15 50 46.7**	**+0.1**
ROC1	**El Roble**	**2.98**	**236**	*i* P	**Pn**	**15 50 47.2**	**+0.6**
MT05	**Renca**	**3.04**	**227**	*e*P	**Pn**	**15 50 48.4**	**+1.0**
MT05				*i* S	**Sn**	**15 51 24.5**	**+1.3**
MT05				IAML		15 51 26.0	
	comp=E,1μm,0.3s						
MT05	**Renca**	**3.04**	**227**	Pn	**Pn**	**15 50 48.4**	**+1.0**
LMEL	**Las Melosas**	**3.08**	**215⇓**	*i*P	**Pn**	**15 50 49.2**	**+1.2**
LMEL				IAML		15 51 36.0	
	comp=N,270nm,0.2s						
AC05	**El Transito**	**3.12**	**322⇑**	*i*P	**Pn**	**15 50 51.1**	**+2.8**
AC05	**El Transito**	**3.12**	**322**	Pn	**Pn**	**15 50 51.0**	**+2.6**
MT02	**Curacav**	**3.22**	**232⇑**	*i*P	**Pn**	**15 50 49.5**	**-0.2**
MT02				IAML		15 51 30.9	
	comp=E,201nm,0.5s						
MT02	**Curacav**	**3.22**	**232**		**Pn**	**15 50 49.3**	**-0.4**
VA01	**Torpederas**	**3.46**	**240**	*e*P	**Pn**	**15 50 51.9**	**-0.9**
VA01	**Torpederas**	**3.46**	**240**	Pn	**Pn**	**15 50 52.2**	**-0.6**
CYA	**Choya**	**3.49**	**35**	*i* P	**Pn**	**15 50 55.0**	**+1.6**
CYA				IAML		15 51 53.8	
	comp=Z,370nm,0.5s						
LAMA	**Las Malvinas**	**3.72**	**194**	*i* P	**Pn**	**15 50 56.3**	**-0.1**
BO01	**Tunca**	**3.96**	**219**	Pn	**Pn**	**15 50 58.6**	**-1.0**
AC04	**Llanos de Chal**	**4.04**	**319**	Pn	**Pn**	**15 51 01.6**	**+0.9**
BO02	**Sierra Bellavi**	**4.13**	**212**	⇓ *i*P	**Pn**	**15 51 02.3**	**+0.4**
BO02				*i* S	**Sn**	**15 51 50.0**	**+0.7**
BO02	**Sierra Bellavi**	**4.13**	**212**	Pn	**Pn**	**15 51 02.1**	**+0.2**
GO03	**Copiap**	**4.16**	**333⇑**	*i*P	**Pn**	**15 51 03.9**	**+1.6**
GO03				*i* S	**Sn**	**15 51 50.9**	**+0.9**
GO03	**Copiap**	**4.16**	**333**		**Pn**	**15 51 03.6**	**+1.3**
GO03	**Copiap**	**4.16**	**333**	*i* P	**Pn**	**15 51 04.0**	**+1.6**
PUMA	**Malargue**	**4.32**	**195**	*i* P	**Pn**	**15 51 04.4**	**0.0**
AC02	**Maricunga**	**4.56**	**348**	Pn	**Pn**	**15 51 10.9**	**+2.7**
EDS3	**Malargue**	**4.57**	**193**	*i* P	**Pn**	**15 51 07.9**	**0.0**
GO05	**Huala**	**4.89**	**220**		**Pn**	**15 51 09.2**	**-2.9**
GO05	**Huala**	**4.89**	**220**	*i* P	**Pn**	**15 51 09.5**	**-2.6**
FSA	**Cafayete**	**5.51**	**20**	*i* P	**Pn**	**15 51 22.9**	**+2.1**
AC01	**Pan de Azucar**	**5.61**	**336**	Pn	**Pn**	**15 51 22.3**	**+0.5**
BI02	**San Fabin de**	**5.95**	**206**	Pn	**Pn**	**15 51 25.0**	**-1.5**
GO02	**Mina Guanaco**	**6.28**	**347**	Pn	**Pn**	**15 51 32.1**	**+0.9**
BI03	**Tigo**	**6.86**	**215**	Pn	**Pn**	**15 51 34.3**	**-4.5**
PB14	**IPOC Station P**	**6.98**	**342**	Pn	**Pn**	**15 51 40.6**	**-0.2**
PB14	**IPOC Station P**	**6.98**	**342**	*i* P	**Pn**	**15 51 42.2**	**+1.4**
AZAP	**Zapla**	**7.56**	**21**	*i* P	**Pn**	**15 51 50.5**	**+1.9**
PB10	**IPOC Station P**	**8.08**	**344**	Pn	**Pn**	**15 51 54.1**	**-1.4**
PB10	**IPOC Station P**	**8.08**	**344**	*i* P	**Pn**	**15 51 54.4**	**-1.1**
LO01	**Olunco**	**8.17**	**201**	Pn	**Pn**	**15 51 54.2**	**-2.4**
PB15	**IPOC Station P**	**8.17**	**351**		**Pn**	**15 51 56.8**	**-0.2**
PB06	**IPOC Station P**	**8.68**	**351**		**Pn**	**15 52 03.2**	**-0.6**
LVC	**Limon Verde**	**8.71**	**355**	P	**Pn**	**15 52 04.6**	**+0.2**
	comp=Z,9.6nm,0.3s,baz=188,slow=8.2,SNR=86						
LVC				*e*S	**Sn**	**15 53 38.8**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=247,slow=23,SNR=1.6						
LVC				LR	LR	15 55 44.4	
	comp=Z,62nm,21.9s,baz=226,slow=39						
LVC	**Limon Verde**	**8.71**	**355**	Pn	**Pn**	**15 52 04.1**	**-0.3**
PB04	**IPOC Station P**	**9.14**	**348**		**Pn**	**15 52 08.1**	**-2.0**
PB09	**IPOC Station P**	**9.54**	**354**		**Pn**	**15 52 14.9**	**-0.7**
PLCA	**Paso Flores**	**9.60**	**191**	P	**Pn**	**15 52 14.6**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=11,slow=9.4,SNR=6.0						
PLCA	**Paso Flores**	**9.60**	**191**	Pn	**Pn**	**15 52 14.5**	**-1.6**
PB07	**IPOC Station P**	**9.69**	**350**		**Pn**	**15 52 14.9**	**-2.7**
PB01	**IPOC Station P**	**10.31**	**353**		**Pn**	**15 52 23.5**	**-2.4**
PATCX	**Punta Patache**	**10.62**	**349**	Pn	**Pn**	**15 52 26.6**	**-3.5**
CPUP	**Villa Florida**	**10.67**	**65**	P	**Pn**	**15 52 29.1**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=3.6						
CPUP	**Villa Florida**	**10.67**	**65**	Pn	**Pn**	**15 52 25.9**	**-4.7**
TA01	**Diego Aracena**	**10.87**	**350**	Pn	**Pn**	**15 52 29.6**	**-3.8**
PB08	**IPOC Station P**	**11.18**	**355**		**Pn**	**15 52 35.8**	**-2.1**
PB11	**IPOC Station P**	**11.60**	**353**	Pn	**Pn**	**15 52 39.9**	**-3.4**
GO01	**Chusmiza**	**11.65**	**355**		**Pn**	**15 52 41.7**	**-2.6**
PSGCX	**Pisagua**	**11.82**	**351**	Pn	**Pn**	**15 52 41.9**	**-4.3**
MNMC	**Minye Minye**	**12.21**	**353**		**Pn**	**15 52 48.0**	**-3.6**
PB12	**IPOC Station P**	**12.81**	**350**	Pn	**Pn**	**15 52 55.8**	**-3.6**
PB16	**IPOC Station P**	**12.99**	**354**		**Pn**	**15 53 00.6**	**-1.6**
LPAZ	**La Paz**	**14.97**	**360**	P	**P**	**15 53 29.4**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=181,slow=6.7,SNR=16						
LPAZ	**La Paz**	**14.97**	**360**		**Pn**	**15 53 28.9**	**+1.2**
SIV	**San Ignacio**	**16.55**	**24**	P	**P**	**15 53 47.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=230,slow=11,SNR=4.9						
SAML	**Samuel**	**22.73**	**13**	P	**P**	**15 54 55.5**	**+1.2**
SAML				IAmb	IAmb	15 54 59.4	
	comp=Z,16nm,1.9s						
RUSC	**La Rusia**	**37.31**	**352**	P	**P**	**15 57 05.0**	**+1.2**
SNAA	**Sanae**	**52.84**	**159**	P	**P**	**15 59 05.6**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=336,slow=5.9,SNR=3.5						
SNAA				sP	**sP**	**15 59 42.6**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=276,slow=9.5,SNR=6.4						
SNAA	**Sanae**	**52.84**	**159**	IAmb	IAmb	15 59 43.2	
	comp=Z,3.6nm,0.9s						
VNDA	**Vanda**	**67.35**	**190**	P	**P**	**16 00 46.0**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=148,slow=9.5,SNR=1.7						
TXAR	**Lajitas Array**	**69.17**	**327**	P	**P**	**16 00 57.9**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=148,slow=7.6,SNR=8.0						
TXAR				sP	**sP**	**16 01 33.9**	**+0.1**
	comp=Z,0.1nm,0.6s,baz=128,slow=5.8,SNR=1.6						
TXAR	**Lajitas Array**	**69.17**	**327**	P	**P**	**16 00 57.0**	**+0.7**
TX31	**Lajitas Ar. Si**	**69.17**	**327**	P	**P**	**16 00 57.4**	**+1.0**
MAW	**Mawson**	**74.76**	**163**	P	**P**	**16 01 29.6**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=193,slow=8.8,SNR=4.2						
PDAR	**Pinedale Array**	**82.98**	**331**	P	**P**	**16 02 15.6**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=133,slow=6.6,SNR=3.0						
NVAR	**Mina Array Bea**	**83.69**	**323**	P	**P**	**16 02 20.2**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=149,slow=3.9,SNR=3.2						
ASAR	**Alice Springs**	**121.40**	**204**	PKP	**PKPdf**	**16 08 41.8**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=136,slow=1.7,SNR=12						
WRA	**Warramunga Arr**	**124.67**	**206**	PKP	**PKPdf**	**16 08 48.4**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=156,slow=1.7,SNR=30						
ZALV	**Zalesovo Beam**	**150.18**	**33**	PKPbc	**PKiKP**	**16 09 40.0**	**0.0**
	comp=Z,1.7nm,0.4s,baz=289,slow=3.4,SNR=10						
ZALV				pPKPbc	**pPKPbc**	**16 10 08.8**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=298,slow=2.6,SNR=5.6						

ZALV	**Zalesovo Beam**	**150.18**	**33**			**PKPbc**	**16 09 39.2**	**0.0**
MK31	**Makanchi Array**	**152.50**	**47**			**PKiKP**	**16 09 44.9**	**-0.2**
MKAR	**Makanchi Array**	**152.50**	**47**	PKPbc		**PKiKP**	**16 09 45.4**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=290,slow=2.1,SNR=10							
MKAR				PKPab		**PKPab**	**16 09 56.3**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=290,slow=3.6,SNR=4.8							
MKAR				pPKPbc		**pPKPbc**	**16 10 14.1**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=290,slow=2.5,SNR=3.8							

IDC 10 15:52:32.5±1.6, 2.77S×126.71E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/45, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=34.8km s-min=27.6km az=70.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.92**	**68**	Pn	Pn	15 53 48.8	+0.9
	1.8nm,0.3s,baz=287,slow=18,SNR=9.6						
SIJI				Sn	Sn	15 54 46.5	+0.9
	0.8nm,0.3s,baz=182,slow=24,SNR=1.7						
WRA	**Warramunga Arr**	**18.62**	**157**	P	P	15 56 51.2	-0.6
	0.1nm,0.3s,baz=338,slow=12,SNR=2.0						
ASAR	**Alice Springs**	**21.91**	**162**	P	P	15 57 27.6	0.0
	0.4nm,0.4s,baz=347,slow=12,SNR=6.8						
MKAR	**Makanchi Array**	**62.92**	**327**	P	P	16 03 00.7	-0.1
	0.4nm,0.8s,baz=140,slow=7.7,SNR=4.4						

*UCR **10** 15:57:39.0±1.3, 9.62N×84.89W, h4km±3km, MD4.0, mb4.4(NEIC)*

*IDC **10** 15:57:39.9±1.5, 10.50N×84.38W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/36, mbtmp3.9/7, MS3.3/3, Ms1 3.4/3, ms1mx2.9/25, Error ellipse: s-maj=37.2km s-min=8.7km az=150.0*

*NEIC **10** 15:57:42.8±1.6, 9.83N±0.08×84.76W±0.06, h39km±7km, mb4.4/62, Md4.3(UCR), Error ellipse: s-maj=13.4km s-min=3.3km az=213.0*

ISC 10 15:57:38.9±1.3, 9.76N±0.05×84.78W±0.04, h13km±8km, n123, σ1s27/128, mb4.3/36, MS3.3/3, 3C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRA1	**San Ramn**	**0.44**	**42**	ǁ *i* P	**Pn**	**15 57 51.3**	**+0.2**
JTS	**Las Juntas de**	**0.56**	**342**	Pg	**Pn**	**15 57 52.0**	**-0.6**
	baz=171,slow=17						
JTS				Lg	Lg	15 57 59.8	
	635nm,0.3s,baz=12,slow=20,SNR=16						
JTS	**Las Juntas de**	**0.56**	**342**		**Sb**	**15 57 59.5**	**+0.9**
CASO	**Castillo**	**0.68**	**4**	*i* P	**Pn**	**15 57 55.0**	**+0.7**
HDC	**Heredia**	**0.70**	**69**	ǁ *i* P	**Pn**	**15 57 55.9**	**+1.2**
HDC	**Heredia**	**0.70**	**69**		**Pn**	**15 57 55.7**	**+1.1**
HDC					**Sb**	**15 57 59.8**	**-3.0**
ARE1	**Arenal 1**	**0.70**	**5**	*i* P	**Pn**	**15 57 55.8**	**+1.2**
ARE1				*eS*	**Sn**	**15 58 09.4**	**+4.0**
FORC	**Fortuna**	**0.72**	**9**	*i* P	**Pn**	**15 57 55.8**	**+1.0**
FORC				*i* S	**Sn**	**15 58 09.2**	**+3.5**
CEDE	**Laguna Cedeo**	**0.73**	**6**	*i* P	**Pn**	**15 57 56.3**	**+1.3**
SJS	**Escuela Geolog**	**0.74**	**76**	ǁ *i* P	**Pn**	**15 57 56.2**	**+1.0**
LCR2	**La Lucha 2**	**0.77**	**91**	ǁ *i* P	**Pn**	**15 57 56.0**	**+0.3**
GUAI	**GUAI**	**0.88**	**306**	*i* P	**Pg**	**15 57 56.4**	**+0.3**
GUAI				*i* S	**Sn**	**15 58 10.3**	**+0.6**
ACAL	**Aguas Claras**	**0.91**	**344**	*i* P	**Pn**	**15 57 58.2**	**+0.7**
PTEN	**Parque Tenorio**	**0.98**	**348**	*i* P	**Pn**	**15 57 59.5**	**+1.1**
HORNC	**Hornillas**	**1.03**	**338**	*i* P	**Pn**	**15 57 59.7**	**+0.6**
EDDO	**Dominical**	**1.03**	**119**	*eP*	**Pb**	**15 57 58.9**	**+0.2**
GUAB	**Guayabo de Bag**	**1.04**	**335**	ǁ *i* P	**Pn**	**15 57 59.9**	**+0.5**
LIM1	**Limonal**	**1.05**	**334**	*i* P	**Pn**	**15 57 59.8**	**+0.4**
LIM1				*i* S	**Sn**	**15 58 16.4**	**+2.6**
GPS2	**Hotel Rincn d**	**1.14**	**331**	*i* P	**Pn**	**15 58 01.3**	**+0.7**
GPS3	**Bodega del ICE**	**1.15**	**330**	*i* P	**Pn**	**15 58 01.6**	**+0.8**
GPS1	**Guardaparques**	**1.16**	**331**	*i* P	**Pn**	**15 58 01.5**	**+0.6**
LAPC	**Finca la Perla**	**1.19**	**328**	*i* P	**Pg**	**15 58 01.7**	**-0.2**
BUEV	**Buena Vista**	**1.21**	**329**	⇑ *i* P	**Pg**	**15 58 02.4**	**+0.1**
GBS3	**Finca Las Img**	**1.22**	**327**	*i* P	**Pg**	**15 58 02.1**	**-0.3**
GBS3				*i* S	**Sn**	**15 58 21.1**	**+3.1**
GB1A	**Borinquen Arri**	**1.22**	**330**	*i* P	**Pg**	**15 58 02.1**	**-0.4**
GB1A				*eP*	**Pn**	**15 58 02.6**	**+0.8**
GB1A				*eS*	**Sn**	**15 58 20.6**	**+2.4**
BUAI	**Buenos Aires**	**1.24**	**334**	*i* P	**Pg**	**15 58 02.9**	**+0.1**
BUAI				*i* S	**Sn**	**15 58 21.3**	**+2.7**
EDLM	**Las Mercedes**	**1.27**	**112**	*eP*	**Pn**	**15 58 03.0**	**+0.6**
EDPN	**Palmar Norte**	**1.52**	**121**	*eP*	**Pn**	**15 58 06.5**	**+0.6**
EDBA	**Buenos Aires**	**1.60**	**111**	*eS*	**Sg**	**15 58 32.0**	**+1.6**
ACON	**Acoyapa**	**2.23**	**350**	ǁ *eP*	**Pb**	**15 58 17.9**	**-1.3**
ACON	**Acoyapa**	**2.23**	**350**	Pn	**Pb**	**15 58 17.6**	**-1.5**
ESPN	**Las Esperanzas**	**2.47**	**11**	*eP*	**Pb**	**15 58 21.7**	**-1.5**
ESPN	**Las Esperanzas**	**2.47**	**11**	Pn	**Pb**	**15 58 21.2**	**-2.0**
BOAB	**BOACO BROADBAN**	**2.81**	**342**	Pn	**Pn**	**15 58 25.1**	**+1.4**
MATN	**Matagalpa**	**3.35**	**341**	⇑ *eP*	**Pn**	**15 58 33.0**	**+1.9**
MATN	**Matagalpa**	**3.35**	**341**	Pn	**Pn**	**15 58 32.7**	**+1.6**
ESTN	**Estel**	**3.67**	**335**	*eP*	**Pn**	**15 58 37.3**	**+1.8**
ESTN	**Estel**	**3.67**	**335**	Pn	**Pn**	**15 58 36.2**	**+0.6**
BCIP	**Isla Barro Col**	**4.91**	**96**	Pn	**Pn**	**15 58 54.9**	**+2.4**
MTO3	**Montecristo**	**6.43**	**316**	Pn	**Pn**	**15 59 16.2**	**+2.6**
LGNH	**Logne**	**14.66**	**52**	Pn	**Pn**	**16 01 06.6**	**+0.4**
344A	**Westbrook Farm**	**22.29**	**346**	P	**P**	**16 02 35.7**	**-0.3**
344A				IAmb	IAmb	16 02 40.1	
	comp=Z,19nm,0.9s						
152A	**Waverly Hall**	**22.80**	**0**	P	**P**	**16 02 43.3**	**+1.8**
152A				IAmb	IAmb	16 02 45.2	
	comp=Z,7.5nm,0.7s						
LRAL	**Lakeview Retre**	**23.26**	**355**	P	**P**	**16 02 46.8**	**+0.7**
LRAL				IAmb	IAmb	16 02 48.3	
	comp=Z,6.0nm,0.7s						
Z47A	**Carrollton**	**23.53**	**353**	P	**P**	**16 02 49.1**	**+0.3**
Z47A				IAmb	IAmb	16 02 59.6	
	comp=Z,8.4nm,0.8s						
GOGA	**Godfrey**	**23.57**	**3**	P	**P**	**16 02 50.1**	**+0.8**
Y52A	**Lilburn**	**24.00**	**1**	P	**P**	**16 02 53.5**	**0.0**
Y52A				IAmb	IAmb	16 02 56.9	
	comp=Z,12nm,0.8s						
Y49A	**Blount Mountai**	**24.04**	**357**	P	**P**	**16 02 54.0**	**+0.3**
Y49A				IAmb	IAmb	16 02 57.3	
	comp=Z,5.5nm,0.7s						
435B	**Jarrell**	**24.08**	**332**	P	**P**	**16 02 53.1**	**-1.1**
435B				IAmb	IAmb	16 02 55.5	
	comp=Z,10nm,0.7s						
237A	**Washetta, Mont**	**24.38**	**337**	P	**P**	**16 02 56.6**	**-0.3**
237A				IAmb	IAmb	16 03 00.2	
	comp=Z,13nm,0.8s						
HODGE	**Hodges**	**24.47**	**5**	P	**P**	**16 02 58.2**	**+0.4**
HODGE				IAmb	IAmb	16 02 59.2	
	comp=Z,5.6nm,0.6s						
JSC	**Jenkinsville**	**24.62**	**7**	P	**P**	**16 02 59.9**	**+0.8**
X48A	**Hartselle**	**24.67**	**356**	P	**P**	**16 03 00.6**	**+1.1**
BIRD	**Birdtown, Kers**	**25.09**	**8**	P	**P**	**16 03 05.7**	**+2.4**
BIRD				IAmb	IAmb	16 03 25.5	
	comp=Z,17nm,1.5s						
BG3	**Lake Jocassee**	**25.18**	**4**	P	**P**	**16 03 05.2**	**+1.0**
CPCT	**Cooper Cave**	**25.58**	**0**	P	**P**	**16 03 07.8**	**0.0**
CPCT				IAmb	IAmb	16 03 12.5	
	comp=Z,6.3nm,0.8s						
MIAR	**Mount Ida**	**25.96**	**343**	P	**P**	**16 03 12.4**	**+1.2**
MIAR				IAmb	IAmb	16 03 13.3	
	comp=Z,6.2nm,0.6s						
TXAR	**Lajitas Array**	**26.31**	**320**	P	**P**	**16 03 14.3**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=141,slow=11,SNR=8.1						
TXAR				PcP	**PcP**	**16 06 43.4**	**+2.6**
	comp=Z,0.4nm,0.9s,baz=142,slow=4.6,SNR=2.6						
TX31	**Lajitas Ar. Si**	**26.31**	**320**	P	**P**	**16 03 14.6**	**0.0**
TX31				IAmb	IAmb	16 03 28.2	
	comp=Z,8.9nm,1.1s						
LCAR	**Lake Charles**	**26.83**	**349**	P	**P**	**16 03 18.6**	**-0.4**
LCAR				IAmb	IAmb	16 03 55.7	
	comp=Z,12nm,1.7s						
T42A	**Van Buren**	**27.75**	**349**	P	**P**	**16 03 27.2**	**-0.1**
T42A				IAmb	IAmb	16 03 59.5	
	comp=Z,22nm,2.0s						
S51A	**Beattyville**	**27.78**	**2**	P	**P**	**16 03 27.9**	**+0.3**
S51A				IAmb	IAmb	16 03 28.6	
	comp=Z,19nm,1.5s						
Q51A	**Peebles**	**29.18**	**2**	P	**P**	**16 03 39.8**	**-0.3**
O44A	**Mansfield**	**30.45**	**354**	P	**P**	**16 03 49.3**	**-2.0**
LPAZ	**La Paz**	**30.68**	**147**	LR	LR	16 17 00.9	
	comp=Z,71nm,21.1s,baz=264,slow=37						
N49A	**Columbus Grove**	**31.05**	**1**	P	**P**	**16 03 56.0**	**-0.5**
BNM	**Barren Site**	**31.48**	**324**	P	**P**	**16 04 01.1**	**+0.3**
LENM	**Lemitar**	**31.69**	**323**	P	**P**	**16 04 03.6**	**+1.0**
ANMO	**Albuquerque**	**31.95**	**325**	P	**P**	**16 04 05.7**	**+0.9**
N59A	**State Game Lan**	**32.05**	**13**	P	**P**	**16 04 07.0**	**+1.6**
N59A				IAmb	IAmb	16 04 07.0	
	comp=Z,5.1nm,1.0s						
SDCO	**Great Sand Dun**	**33.54**	**329**	P	**P**	**16 04 18.5**	**-0.3**
X16A	**Lo Mia Camp, P**	**34.62**	**319**	P	**P**	**16 04 29.1**	**+1.0**
X16A				IAmb	IAmb	16 04 30.0	
	comp=Z,3.0nm,0.7s						
SADO	**Sadowa**	**35.23**	**7**	P	**P**	**16 04 32.3**	**-0.7**
Y14A	**Wickenburg**	**35.35**	**317**	P	**P**	**16 04 35.2**	**+0.9**
Y14A				IAmb	IAmb	16 04 36.4	
	comp=Z,2.8nm,0.6s						
PV13	**Radium Mtn., P**	**35.59**	**327**	P	**P**	**16 04 36.8**	**+0.3**
PV03	**Paradox Valley**	**35.67**	**327**	P	**P**	**16 04 36.9**	**-0.3**
PV03				IAmb	IAmb	16 04 37.7	
	comp=Z,2.7nm,0.6s						
PV12	**Saucer Basin,**	**35.69**	**327**	P	**P**	**16 04 37.0**	**-0.4**
PV18	**Skein Mesa, Pa**	**35.70**	**327**	P	**P**	**16 04 37.1**	**-0.3**
PV11	**David Mesa, Pa**	**35.72**	**327**	P	**P**	**16 04 37.1**	**-0.5**
PV16	**Nyswonger Mesa**	**35.75**	**327**	P	**P**	**16 04 37.4**	**-0.4**
PV16				IAmb	IAmb	16 04 46.8	
	comp=Z,9.5nm,1.6s						
PV17	**East Wray Mesa**	**35.75**	**327**	P	**P**	**16 04 37.6**	**-0.2**
PV19	**Morning Glory**	**35.78**	**327**	P	**P**	**16 04 37.9**	**-0.3**
PV19				IAmb	IAmb	16 04 38.5	
	comp=Z,4.1nm,0.7s						
PV20	**West Nyswonger**	**35.80**	**327**	P	**P**	**16 04 37.9**	**-0.4**
PV20				IAmb	IAmb	16 04 38.6	
	comp=Z,3.4nm,0.6s						
PV22	**Blue Mesa, Par**	**35.84**	**327**	P	**P**	**16 04 38.9**	**+0.2**
PV14	**Lion Creek, Pa**	**35.85**	**327**	P	**P**	**16 04 38.6**	**-0.1**
PV14				IAmb	IAmb	16 04 59.9	
	comp=Z,11nm,1.7s						
PV10	**Paradox Valley**	**35.86**	**327**	P	**P**	**16 04 38.3**	**-0.6**
E43A	**Lone Tree Farm**	**36.54**	**357**	P	**P**	**16 04 42.6**	**-1.7**
E43A				IAmb	IAmb	16 04 43.2	
	comp=Z,4.8nm,0.7s						
PKCU	**Pink Cliffs**	**37.10**	**322**	P	**P**	**16 04 50.3**	**+0.8**
KNB	**Kanab**	**37.13**	**321**	P	**P**	**16 04 50.7**	**+1.0**
SRU	**San Rafael Swe**	**37.20**	**326**	P	**P**	**16 04 49.2**	**-0.9**
MTPU	**Mount Pierson**	**37.41**	**323**	P	**P**	**16 04 52.2**	**-0.1**
P17A	**Butcher Ranch,**	**37.57**	**326**	P	**P**	**16 04 53.2**	**-0.1**
D53A	**Lac Vacive, Po**	**37.68**	**8**	P	**P**	**16 04 53.2**	**-0.7**
MSU	**Marysvale**	**37.72**	**324**	P	**P**	**16 04 56.4**	**+1.7**
PSUT	**Pine Spring**	**38.73**	**322**	P	**P**	**16 05 03.5**	**+0.3**
TPNV	**Topopah Spring**	**39.26**	**319**	P	**P**	**16 05 08.0**	**+0.4**
PDAR	**Pinedale Array**	**39.38**	**331**	P	**P**	**16 05 07.5**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=137,slow=11,SNR=2.9						
PDAR				PcP	**PcP**	**16 07 17.3**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=184,slow=5.1,SNR=1.8						
HWUT	**Hardware Ranch**	**39.53**	**328**	P	**P**	**16 05 09.3**	**-0.5**
HWUT				IAmb	IAmb	16 05 10.2	
	comp=Z,4.2nm,0.9s						
R11A	**Troy Canyon, C**	**39.67**	**321**	P	**P**	**16 05 11.7**	**+0.7**
ELK	**Elko**	**40.97**	**324**	P	**P**	**16 05 21.4**	**-0.4**
PAGB	**Antelope Grade**	**41.32**	**314**	P	**P**	**16 05 26.3**	**+1.8**
NV11	**Mina Array Sit**	**41.35**	**319**	P	**P**	**16 05 26.0**	**+1.2**
NV11				IAmb	IAmb	16 05 27.4	
	comp=Z,5.8nm,1.1s						
ULM	**Lac du Bonnet**	**41.41**	**349**	P	**P**	**16 05 23.6**	**-1.3**
	comp=Z,2.1nm,0.4s,baz=214,slow=15,SNR=1.8						
NVAR	**Mina Array Bea**	**41.44**	**319**	P	**P**	**16 05 26.5**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=133,slow=6.8,SNR=21						
NVAR				PcP	**PcP**	**16 07 25.0**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=141,slow=4.4,SNR=2.7						
KVN	**Kaiserville**	**41.67**	**320**	P	**P**	**16 05 27.6**	**+0.1**
WAKR	**Walker**	**42.22**	**318**	P	**P**	**16 05 33.7**	**+1.6**
WAKR				IAmb	IAmb	16 05 35.1	
	comp=Z,6.7nm,1.2s						
HLID	**Hailey**	**42.40**	**328**	P	**P**	**16 05 33.3**	**-0.1**
H03N2	**Juan Fernandez**	**43.31**	**173**	T	T	16 51 49.9	
	baz=351,slow=76,SNR=7.4						
H03N1	**Juan Fernandez**	**43.32**	**173**	T	T	16 51 50.9	
	baz=351,slow=76,SNR=8.2						
H03N3	**Juan Fernandez**	**43.33**	**173**	T	T	16 51 49.1	
	baz=351,slow=76,SNR=8.2						
WVOR	**Wild Horse Val**	**44.01**	**324**	P	**P**	**16 05 45.9**	**-0.5**
WVOR				IAmb	IAmb	16 05 47.1	
	comp=Z,3.9nm,0.8s						
SCHQ	**Schefferville**	**47.17**	**14**	P	**P**	**16 06 09.2**	**-1.8**
	comp=Z,3.2nm,0.7s,baz=198,slow=13,SNR=7.7						
SCHQ				LR	LR	16 26 27.1	
	comp=Z,64nm,19.1s,baz=149,slow=37						
SCHQ	**Schefferville**	**47.17**	**14**	P	**P**	**16 06 09.5**	**-1.5**
H04A	**Detroit Lake**	**47.43**	**324**	P	**P**	**16 06 13.0**	**-0.3**
YKA	**Yellowknife Ar**	**56.90**	**344**	P	**P**	**16 07 20.1**	**-3.2**
	comp=Z,0.9nm,0.7s,baz=173,slow=5.2,SNR=2.8						
ESDC	**Sonseca Array**	**76.80**	**51**	P	**P**	**16 09 30.1**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=286,slow=5.5,SNR=5.8						
NOA	**NORSAR Array B**	**84.44**	**29**	LR	LR	16 46 33.3	
	comp=Z,7.1nm,18.6s,baz=305,slow=35						
ASAR	**Alice Springs**	**140.60**	**245**	PKhKP	PKPpre	16 17 08.9	
	comp=Z,0.2nm,0.8s,baz=119,slow=2.4,SNR=4.4						
ASAR	**Alice Springs**	**140.60**	**245**		**PKPdf**	**16 17 08.0**	**-1.1**
WRA	**Warramunga Arr**	**140.94**	**250**	PKhKP	PKPpre	16 17 09.8	
	comp=Z,0.3nm,0.7s,baz=100,slow=3.5,SNR=1.8						
WRA	**Warramunga Arr**	**140.94**	**250**		**PKPdf**	**16 17 08.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**151.73**	**353**	PKPbc	**PKPbc**	**16 17 34.2**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=331,slow=3.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**151.73**	**353**		**PKPbc**	**16 17 32.9**	**-1.4**

*IDC **10** 16:10:57.0±2.7, 57.09N×155.87W, h43km±24km, mb3.8/21, mb1 3.9/23, mb1mx3.8/50, mbtmp4.0/23, ML3.6/2, MS3.3/7, Ms1 3.3/7, ms1mx2.9/50, Error ellipse: s-maj=20.1km s-min=13.1km az=34.0*

*AEIC **10** 16:10:57±2.4, 56.97N±0.03×155.62W±0.06, h14km±3km, ML4.0/74, mb4.5/89(NEIC), Error ellipse: s-maj=4.7km s-min=3.9km az=87.0*

*NEIC **10** 16:10:59.1±2.7, 56.98N±0.03×155.58W±0.06, h64km±5km, Error ellipse: s-maj=5.1km s-min=4.0km az=68.0*

ISC 10 16:10:59.4±0.8, 57.01N±0.04×155.65W±0.04, h66km±7km, n244, σ1s33/242, mb4.3/60, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLK4	**Peulik 4**	**0.73**	**329**		Pn	16 11 14.6	+0.1
PLK3	**Peulik 3**	**0.76**	**334**		**Pn**	**16 11 14.6**	**-0.1**
PLK3					**Sn**	**16 11 27.0**	**+1.0**
PLK2	**Peulik 2**	**0.84**	**335**		**Pn**	**16 11 15.9**	**+0.2**
SII	**Sitkinak Islan**	**0.93**	**119**		**Pn**	**16 11 13.8**	**-2.9**
SII	**Sitkinak Islan**	**0.93**	**119**		**Sn**	**16 11 30.2**	**+0.6**
PLK1	**Peulik 1**	**0.95**	**327**		**Pn**	**16 11 17.3**	**+0.3**
KJL	**Kejulik**	**1.05**	**2**		**Pn**	**16 11 18.1**	**-0.2**
CAHL	**Cahill**	**1.06**	**10**		**Pn**	**16 11 18.1**	**-0.4**
PLK5	**Peulik 5**	**1.19**	**327**		**Pn**	**16 11 20.6**	**+0.5**
CHIR	**Chirikof Islan**	**1.19**	**179**	Pn	**Pn**	**16 11 17.0**	**-3.1**
CHIR	**Chirikof Islan**	**1.19**	**179**		**Sn**	**16 11 36.7**	**+1.1**
ANCK	**Angle Creek**	**1.19**	**4**		**Pn**	**16 11 20.1**	**-0.2**
ACHA	**Angle Creek He**	**1.22**	**8**		**Pn**	**16 11 20.1**	**-0.4**
ACHA					**Sn**	**16 11 36.9**	**+0.6**
KABU	**Katmai Buttres**	**1.28**	**9**		**Pn**	**16 11 21.5**	**+0.2**
KABU					**Sn**	**16 11 38.6**	**+0.8**
OHAK	**Old Harbor**	**1.31**	**80**		**Pn**	**16 11 19.5**	**-2.1**
OHAK					**Sn**	**16 11 38.7**	**+0.5**
KELA	**Mount Kelaz**	**1.43**	**358**		**Pn**	**16 11 23.3**	**-0.1**
KAWH	**Katmai**	**1.45**	**18**		**Sn**	**16 11 42.7**	**+0.9**
KAHG	**Katmai Hook Gl**	**1.60**	**21**		**Pn**	**16 11 25.9**	**+0.3**
KAHC	**Katmai Hardscr**	**1.68**	**12**		**Pn**	**16 11 26.8**	**+0.1**
KDAK	**Kodiak Island**	**1.83**	**64**	P	**Pn**	**16 11 27.0**	**-1.6**
	74nm,0.3s,baz=222,slow=6.0,SNR=1034						
KDAK				LR	LR	16 11 50.6	
	comp=Z,49nm,21.3s,baz=231,slow=28						
KDAK				S	**Sn**	**16 11 55.8**	**+5.0**
	132nm,0.3s,baz=330,slow=20,SNR=10						
KDAK	**Kodiak Island**	**1.83**	**64**		**Pn**	**16 11 27.1**	**-1.5**
VNFG	**Fog Glacier, M**	**2.27**	**253**		**Pn**	**16 11 34.7**	**0.0**
AUJK	**Augustine Jueg**	**2.63**	**26**		**Pn**	**16 11 40.2**	**+0.8**
AUQ	**Augustine Qik'**	**2.63**	**26**		**Pn**	**16 11 40.1**	**+0.6**
CNBA	**Chernabura Isl**	**3.12**	**227**	Pn	**Pn**	**16 11 43.6**	**-2.4**
CNBA	**Chernabura Isl**	**3.12**	**227**		**Sn**	**16 12 22.3**	**+0.2**
SDPT	**Sand Point**	**3.17**	**240**		**Pn**	**16 11 46.1**	**-0.7**
SDPT					**Sn**	**16 12 22.9**	**-0.4**
HOM	**Homer**	**3.39**	**37**		**Pn**	**16 11 49.6**	**-0.1**
HOM					**Sn**	**16 12 29.3**	**+0.5**
BRLK	**Bradley Lake**	**3.73**	**40**		**Pn**	**16 11 53.5**	**-0.9**
BRSE	**Bradley Lake S**	**3.77**	**41**		**Pn**	**16 11 54.2**	**-0.8**
RDSO	**Redoubt South**	**3.77**	**22**		**Sn**	**16 12 38.4**	**+0.2**
RSO	**Redoubt South**	**3.78**	**22**		**Pn**	**16 11 55.2**	**0.0**
RDWB	**Redoubt West**	**3.78**	**22**		**Pn**	**16 11 55.1**	**-0.1**
RDWB					**Sn**	**16 12 38.1**	**-0.4**
BLHA	**Black Hill**	**3.80**	**253**		**Pn**	**16 11 54.5**	**-0.9**
PS4A	**Pavlof South-4**	**3.85**	**247**		**Pn**	**16 11 55.7**	**-0.4**
HAG	**Hague Volcano**	**3.89**	**247**		**Pn**	**16 11 56.3**	**-0.3**
DFR	**Drift River**	**3.91**	**22**		**Pn**	**16 11 57.7**	**+0.7**
SVW2	**Sparrevohn**	**4.10**	**0**	Pn	**Pn**	**16 11 59.3**	**-0.2**
SEW	**Seward**	**4.49**	**44**		**Pn**	**16 12 03.1**	**-1.6**
SLKM	**Skilak Lake**	**4.50**	**37**		**Pn**	**16 12 04.4**	**-0.6**
SPU	**Mount Spurr**	**4.58**	**22**	Pn	**Pn**	**16 12 05.7**	**-0.3**
FALS	**False Pass**	**4.87**	**247**		Pn	16 12 09.6	-0.4
STLK	**Strandline Lak**	**4.91**	**22**		**Pn**	**16 12 10.2**	**-0.4**
SUA	**Susitna One**	**5.13**	**27**		**Pn**	**16 12 13.3**	**-0.3**
PWL	**Port Wells**	**5.41**	**41**		**Pn**	**16 12 15.9**	**-1.4**
SKT	**Skwentna**	**5.41**	**21**	Pn	**Pn**	**16 12 18.2**	**+0.9**
PMR	**Palmer**	**5.68**	**33**		**Pn**	**16 12 19.5**	**-1.4**
KNK	**Knik Glacier**	**5.75**	**37**		**Pn**	**16 12 21.5**	**-0.6**
HIN	**Hinchinbrook I**	**5.85**	**51**	Pn	**Pn**	**16 12 22.1**	**-1.3**
GHO	**Glory Hole Cre**	**5.88**	**33**		**Pn**	**16 12 23.0**	**-0.8**
GLI	**Glacier Island**	**5.88**	**45**		**Pn**	**16 12 21.8**	**-2.0**
TTA	**Tatalina**	**5.94**	**358**	Pn	**Pn**	**16 12 24.6**	**-0.1**
FID	**Port Fidalgo**	**6.05**	**48**		**Pn**	**16 12 23.8**	**-2.4**
SML	**Sawmill**	**6.09**	**35**		**Pn**	**16 12 25.5**	**-1.1**
PPLA	**Purkeypile**	**6.15**	**15**		**Pn**	**16 12 26.6**	**-1.0**
EYAK	**Cordova Ski Ar**	**6.25**	**51**		**Pn**	**16 12 27.2**	**-1.6**
AKUT	**Akutan**	**6.42**	**248**	Pn	Pn	16 12 31.5	+0.4
SCM	**Sheep Creek Mo**	**6.43**	**38**		**Pn**	**16 12 30.4**	**-1.0**
KAIM	**Kayak Island**	**6.58**	**59**	Pn	**Pn**	**16 12 32.5**	**-0.8**
RAGM	**Ragged Mountai**	**6.64**	**55**	Pn	**Pn**	**16 12 32.7**	**-1.6**
GOAT	**Goat Mountain**	**6.71**	**53**		**Pn**	**16 12 33.3**	**-1.8**
KLU	**Klutina**	**6.71**	**44**		**Pn**	**16 12 33.6**	**-1.6**
WAT7	**Susitna Watana**	**6.76**	**27**		**Pn**	**16 12 34.9**	**-1.1**
WAT1	**Susitna Watana**	**6.84**	**28**		**Pn**	**16 12 35.9**	**-1.0**
WAT6	**Susitna Watana**	**6.86**	**32**		**Pn**	**16 12 36.6**	**-0.7**
WAT2	**Susitna Watana**	**6.94**	**28**		**Pn**	**16 12 37.5**	**-0.9**
UNV	**Unalaska Vale**	**6.94**	**247**	Pn	Pn	16 12 37.9	-0.4
TRF	**Thorofare Moun**	**6.99**	**20**	Pn	**Pn**	**16 12 39.0**	**0.0**
BERG	**Berg Lake**	**7.09**	**56**		**Pn**	**16 12 38.2**	**-2.1**
RND	**Reindeer**	**7.25**	**25**		**Pn**	**16 12 42.1**	**-0.4**
DHY	**Denali Highway**	**7.35**	**31**		**Pn**	**16 12 42.8**	**-1.3**
BPAW	**Bear Paw Mtn.**	**7.47**	**16**	Pn	**Pn**	**16 12 45.5**	**-0.1**
CRQM	**Cirque**	**7.49**	**55**	Pn	**Pn**	**16 12 44.5**	**-1.4**
MCK	**McKinley**	**7.51**	**23**	Pn	**Pn**	**16 12 46.2**	**+0.1**
GLB	**Gilahina Butte**	**7.52**	**49**		**Pn**	**16 12 44.8**	**-1.4**
VRDI	**Verde Repeater**	**7.56**	**51**		**Pn**	**16 12 46.0**	**-0.9**
TGL	**Tana Glacier**	**7.63**	**55**	Pn	**Pn**	**16 12 46.4**	**-1.4**
ISLE	**Juniper Island**	**7.79**	**57

GSC	Goldstone, Bar	33.89	113	P	P	16 17 37.5 +1.8
Q16A	Castle Valley	34.08	103	P	P	16 17 39.4 +1.9
MTPU	Mount Pierson	34.19	105	P	P	16 17 40.4 +1.8
RWWY	Rawlins	34.26	95	P	P	16 17 40.0 +1.0
SRU	San Rafael Swe	34.29	102	P	P	16 17 40.8 +1.6
RSSD	Black Hills	34.37	89	P	P	16 17 40.9 +1.0
RSSD				IAmb	IAmb	16 17 41.9
	comp=Z,3.4nm,0.7s					
LCMT	Little Creek M	34.40	107	P	P	16 17 41.4 +1.2
O20A	White River Ci	34.78	98	P	P	16 17 44.8 +1.3
PV21	Cone Mtn., Par	35.52	101	P	P	16 17 51.2 +1.3
PV21				IAmb	IAmb	16 18 11.8
	comp=Z,4.8nm,0.7s					
W13A	Hualapai Mount	35.54	110	P	P	16 17 51.3 +1.3
PV23	Carpenter Ridg	35.58	101	P	P	16 17 51.6 +1.2
PV23				IAmb	IAmb	16 18 12.9
	comp=Z,8.7nm,1.0s					
PV22	Blue Mesa, Par	35.64	101	P	P	16 17 52.0 +1.1
PV22				IAmb	IAmb	16 18 13.5
	comp=Z,12nm,1.3s					
PV04	Paradox Valley	35.68	101	P	P	16 17 52.4 +1.2
PV04				IAmb	IAmb	16 18 17.6
	comp=Z,9.5nm,1.2s					
PV17	East Wray Mesa	35.73	101	P	P	16 17 52.6 +1.0
PV17				IAmb	IAmb	16 18 14.8
	comp=Z,4.6nm,0.9s					
PV16	Nyswonger Mesa	35.73	101	P	P	16 17 52.7 +1.0
PV16				IAmb	IAmb	16 17 53.9
	comp=Z,11nm,1.5s					
PV11	David Mesa, Pa	35.77	101	P	P	16 17 53.2 +1.3
PV11				IAmb	IAmb	16 18 15.1
	comp=Z,13nm,1.2s					
PV18	Skein Mesa, Pa	35.78	101	P	P	16 17 53.4 +1.2
PV18				IAmb	IAmb	16 18 14.7
	comp=Z,13nm,1.5s					
PV07	Paradox Valley	35.78	101	P	P	16 17 53.2 +1.1
PV07				IAmb	IAmb	16 18 18.5
	comp=Z,5.3nm,0.9s					
PV12	Saucer Basin,	35.79	101	P	P	16 17 53.3 +1.1
PV12				IAmb	IAmb	16 18 15.2
	comp=Z,6.0nm,1.0s					
PV03	Paradox Valley	35.81	101	P	P	16 17 53.3 +0.9
PV03				IAmb	IAmb	16 18 15.3
	comp=Z,4.9nm,1.0s					
PV13	Radium Mtn., P	35.90	101	P	P	16 17 54.1 +1.0
PV13				IAmb	IAmb	16 18 16.2
	comp=Z,7.9nm,1.0s					
PV02	Paradox Valley	35.91	101	P	P	16 17 54.2 +1.0
PV02				IAmb	IAmb	16 18 15.7
	comp=Z,4.7nm,0.9s					
PV15	Paradox Valley	35.94	101	P	P	16 17 54.3 +0.8
PV15				IAmb	IAmb	16 18 21.9
	comp=Z,8.3nm,0.8s					
PV01	Paradox Valley	36.05	101	P	P	16 17 55.4 +1.0
PV01				IAmb	IAmb	16 18 18.1
	comp=Z,4.7nm,0.7s					
BAR	Barrett	36.05	116	P	P	16 17 55.2 +1.0
BAR				IAmb	IAmb	16 18 45.0
	comp=Z,16nm,1.9s					
YAK	Yakutsk	36.25	310	P	P	16 17 54.4 -1.1
	comp=Z,1.2nm,0.3s,baz=23,slow=0.8,SNR=2.9					
CBX	Cerro Bola	36.35	116	P	P	16 17 58.6 +1.7
X16A	Lo Mia Camp, P	37.33	108	P	P	16 18 07.1 +1.8
SPX	San Pedro Mart	37.98	116	P	P	16 18 12.6 +1.6
SDCO	Great Sand Dun	37.99	99	P	P	16 18 12.3 +1.4
214A	Organ Pipe Nat	38.57	112	P	P	16 18 16.1 +0.5
BNM	Barren Site	40.07	103	P	P	16 18 29.7 +1.4
121A	Cookes Peak, D	40.71	106	P	P	16 18 35.5 +2.1
319A	Douglas	40.84	109	P	P	16 18 36.0 +1.5
MNTX	Cornudas Mount	42.63	105	P	P	16 18 50.5 +1.5
P38A	Dawn	43.17	86	P	P	16 18 53.4 +0.1
P38A				IAmb	IAmb	16 19 18.6
	comp=Z,9.2nm,0.9s					
P40A	Paris	44.05	85	P	P	16 18 59.9 -0.3
P40A				IAmb	IAmb	16 19 00.8
	comp=Z,5.1nm,0.8s					
TX31	Lajitas Ar. Si	45.40	105	P	P	16 19 11.8 +0.5
TX32	Lajitas Array	45.40	105	P	P	16 19 11.7 +0.5
TXAR	Lajitas Array	45.40	105	P	P	16 19 11.6 +0.4
	comp=Z,1.2nm,0.8s,baz=311,slow=5.9,SNR=14					
NRIK	Noril'sk	45.97	334	P	P	16 19 12.9 -2.2
	comp=Z,2.5nm,0.5s,baz=95,slow=3.4,SNR=5.2					
ERPA	Erie	48.69	74	P	P	16 19 36.0 -0.6
WVT	Waverly	48.81	85	P	P	16 19 37.8 +0.2
WVT				IAmb	IAmb	16 20 01.4
	comp=Z,4.2nm,0.8s					
PLAL	Pickwick Lake	49.52	86	P	P	16 19 43.2 +0.1
CLTN	Cedars of Leba	49.65	84	P	P	16 19 44.3 +0.3
CLTN				IAmb	IAmb	16 19 45.4
	comp=Z,5.8nm,0.9s					
MOQ	Mont Orford	50.39	65	P	P	16 19 52.4 +2.8
ARCES	ARCESS Array B	53.75	359	P	P	16 20 13.6 -0.5
	comp=Z,1.1nm,0.7s,baz=36,slow=9.3,SNR=1.2					
SONM	Songino Array	55.42	306	P	P	16 20 25.6 -1.1
	comp=Z,1.2nm,0.7s,baz=54,slow=6.5,SNR=5.5					
SONM	Songino Array	55.42	306	P	P	16 20 26.2 -0.4
ZALV	Zalesovo Beam	58.95	323	P	P	16 20 50.1 -1.1
	comp=Z,0.7nm,0.4s,baz=47,slow=2.8,SNR=5.7					
ZALV				LR	LR	16 48 37.4
	comp=Z,39nm,18.3s,baz=78,slow=38					
ZALV	Zalesovo Beam	58.95	323	P	P	16 20 50.3 -0.9
NC204	NORSAR Array S	61.57	7	P	P	16 21 08.8 -0.3
NC303	NORSAR Array S	61.66	7	P	P	16 21 10.3 +0.7
NC405	NORSAR Array S	61.80	7	P	P	16 21 10.7 +0.1
NB000	NORSAR Array S	61.81	7	P	P	16 21 12.1 +1.4
NB201	NORSAR Array S	61.83	7	P	P	16 21 11.7 +0.9
NB2	NORSAR Subarra	61.84	7	P	P	16 21 11.0 +0.1
	comp=Z,1.5nm,0.6s,baz=352,slow=6.9					
NOA	NORSAR Array B	61.84	7	P	P	16 21 10.6 -0.3
	comp=Z,2.2nm,0.7s,baz=352,slow=6.8,SNR=12					
FIA1	FINESS Array S	61.88	359	P	P	16 21 10.9 -0.2
FINES	FINESS Array B	61.88	359	P	P	16 21 09.8 -1.3
	comp=Z,1.9nm,0.7s,baz=360,slow=8.9,SNR=12					
FINES	FINESS Array B	61.88	359	P	P	16 21 10.6 -0.4
NAO01	NORSAR Array S	62.01	7	P	P	16 21 11.9 -0.1
ARU	Arti	63.59	340	P	P	16 21 22.1 -0.5
KURK	Kurchatov	63.70	325	P	P	16 21 23.1 -0.3
KURK				IAmb	IAmb	16 22 16.2
	comp=Z,4.1nm,1.2s					
BRVK	Borovoye	64.04	331	P	P	16 21 25.4 -0.1
BVAR	Borovoye Array	64.04	331	LR	LR	16 52 19.7
	comp=Z,33nm,18.6s,baz=65,slow=39					
MK31	Makanchi Array	65.88	320	P	P	16 21 37.0 -0.6
MK31				IAmb	IAmb	16 22 28.3
	comp=Z,4.7nm,1.9s					
MKAR	Makanchi Array	65.88	320	P	P	16 21 37.0 -0.6
	comp=Z,0.3nm,0.5s,baz=39,slow=7.4,SNR=6.3					
MKAR	Makanchi Array	65.88	320	P	P	16 21 37.0 -0.6
MAKZ	Makanchi	65.97	321	P	P	16 21 37.6 -0.6
MAKZ				IAmb	IAmb	16 21 38.5
	comp=Z,3.7nm,1.4s					
AKTO	Aktyubinsk	69.37	338	LR	LR	16 53 46.6
	comp=Z,23nm,21.9s,baz=134,slow=37					
ABKAR	Akbulak array	70.07	336	P	P	16 22 03.5 -0.3
AFI	Afiamalu	71.92	196	P	P	16 22 14.3 -1.0
	comp=Z,17nm,0.7s,baz=290,slow=12,SNR=2.6					
AKASG	Malin Array Be	72.58	357	P	P	16 22 17.2 -1.7
	comp=Z,0.8nm,0.3s,baz=8.3,slow=6.0,SNR=8.1					
AKBB	Malin Array Si	72.58	357	P	P	16 22 17.0 -1.9
AKBB				IAmb	IAmb	16 22 19.3
	comp=Z,5.2nm,1.0s					
KKAR	Karatay Array	73.00	326	P	P	16 22 20.8 -0.7
KKAR	Karatay Array	73.00	326	P	P	16 22 21.7 +0.2
KKAR				IAmb	IAmb	16 22 22.6
	comp=Z,3.4nm,0.8s					
GERES	GERESS Array B	74.14	7	P	P	16 22 29.1 +0.9
	comp=Z,0.5nm,0.6s,baz=329,slow=5.0,SNR=5.0					
GERES	GERESS Array B	74.14	7	P	P	16 22 28.8 +0.5
KIV	Kislovodsk	78.23	347	P	P	16 22 51.8 +0.2
KIV				IAmb	IAmb	16 22 52.6
	comp=Z,4.1nm,0.8s					
KBZ	Khabaz	78.43	346	P	P	16 22 52.3 -0.1
	comp=Z,2.4nm,0.8s,baz=342,slow=2.2,SNR=5.6					
ESDC	Sonseca Array	80.76	22	P	P	16 23 05.6 +0.3
	comp=Z,0.2nm,0.3s,baz=32,slow=37,SNR=4.6					
GEYT	Alibeck	81.21	334	P	P	16 23 08.3 +0.6
	comp=Z,1.3nm,0.7s,baz=338,slow=11,SNR=4.3					
GEYT	Alibeck	81.21	334	IAmb	IAmb	16 23 09.5
	comp=Z,1.6nm,0.9s					
CMAR	Chiang Mai Arr	82.79	293	P	P	16 23 16.1 -0.1
	comp=Z,2.1nm,0.8s,baz=6.0,slow=5.5,SNR=21					
CMAR	Chiang Mai Arr	82.79	293	P	P	16 23 15.8 -0.4
BRTR	Keskin Array B	83.31	353	P	P	16 23 19.2 +0.5
	comp=Z,1.5nm,0.9s,baz=27,slow=1.4,SNR=7.1					

NEIC ***10*** *16:19:17.1±1.6,9.°87S×0.°09×119.°79E±0.°07,h57km±15km, mb4.1/4,Error ellipse: s-maj=13.6km s-min=9.4km az=201.0*

IDC ***10*** *16:19:17.5±3.1,9.°75S×119.°83E,h45km±37km, mb3.1/1, mb1 3.8/6, mb1mx3.5/28, mbtmp3.8/6, ML3.6/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/16,Error ellipse: s-maj=36.1km s-min=12.8km az=54.0*

DJA ***10*** *16:19:19.8±0.3, 10°S±5°×12°0E±°, h25km±5km, M4.0/9, mb4.3/2, MLv3.8/9*

ISC 10 16:19:17.1±0.8, 9°.85S±0.°06×119°.85E±0.°04, h50km, n31, σ2s52/34, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	Waingapu	0.47	68	P	Pn	16 19 29.9	+1.8
WBSI	Waikabubak, Su	0.50	294	P	Pn	16 19 30.5	+2.1
WBSI				S	Sn	16 19 39.9	+3.4
BASI	Baing, Sumba	0.80	117	P	Pn	16 19 35.4	+3.1
BASI				S	Sn	16 19 47.9	+4.6
EDFI	Ende, Flores	2.12	59	P	Pn	16 19 50.2	0.0
PLAI	Plampang	2.29	296	P	Pn	16 19 54.8	+2.4
MMRI	Maumere	2.65	63		Pn	16 19 57.9	+0.5
TWSI	Taliwang, Sumb	3.13	290	P	Pn	16 20 09.1	+5.1
BATI	Baumata	3.77	96	P	Pn	16 20 15.3	+2.5
	8.8nm,0.3s,baz=269,slow=4.1,SNR=22						
BATI				S	Sn	16 20 57.5	+1.5
	6.4nm,0.3s,baz=217,slow=20,SNR=14						
BATI	Baumata	3.77	96	P	Pn	16 20 15.7	+2.9
SOEI	Soe	4.35	89	P	Pn	16 20 24.2	+3.3
SOEI	Soe	4.35	89	Pn	Pn	16 20 23.5	+2.6
KAPI	Kappang	4.80	359	P	Pn	16 20 26.8	-0.1
	7.2nm,0.3s,baz=184,slow=6.6,SNR=40						
KAPI				S	Sn	16 21 19.4	-1.9
	1.9nm,0.3s,baz=214,slow=24,SNR=1.7						
KAPI	Kappang	4.80	359	Pn	Pn	16 20 27.4	+0.5
BNSI	Bone	5.42	3	P	Pn	16 20 39.6	+4.2
	0.1nm24nm,0.7s						
JAGI	Jajag, Banyuwa	5.79	283	Pn	Pn	16 20 39.1	-1.5
SPSI	Sidrap Palu	5.84	359	P	Pn	16 20 43.8	+2.5
FITZ	Fitzroy Crossi	9.94	146	P	Pn	16 21 37.8	+0.4
	0.2nm,0.3s,baz=326,slow=13,SNR=13						
FITZ				S	Sn	16 23 22.6	-5.0
	1.3nm,0.3s,baz=192,slow=19,SNR=13						
FITZ	Fitzroy Crossi	9.94	146		Pn	16 21 36.8	-0.6
KNRA	Kununurra	10.44	125	Pn	Pn	16 21 44.6	+0.3
PSA00	Pilbara Seismi	11.66	180	Pn	Pn	16 22 01.0	+0.1
PSA00	Pilbara Seismi	11.66	180	Pn	Pn	16 22 00.6	-0.3
GIRL	Giralia	13.81	202	Pn	Pn	16 22 31.1	+0.8
WB0	Warramunga Arr	17.16	127		Pn	16 23 13.4	-0.1
WB0				IAmb	IAmb	16 23 52.7	
	comp=Z,24nm,1.7s						
WRA	Warramunga Arr	17.21	127	P	Pn	16 23 14.0	-0.2
	comp=Z,0.2nm,0.3s,baz=303,slow=14,SNR=7.9						
WRA				S	Sn	16 26 12.1	-13
	comp=Z,0.2nm,0.3s,baz=292,slow=24,SNR=5.6						
WRA	Warramunga Arr	17.21	127	IAmb	IAmb	16 23 19.2	
	comp=Z,0.3nm,1.3s						
WB2	Warramunga Arr	17.22	127		Pn	16 23 14.0	-0.3
WB2				IAmb	IAmb	16 23 19.1	
	comp=Z,24nm,1.7s						
WR0	Warramunga Arr	17.38	127	P	Pn	16 23 16.6	+0.4
WR0				IAmb	IAmb	16 23 25.9	
	comp=Z,44nm,1.9s						
ASAR	Alice Springs	19.21	137	P	Pn	16 23 40.4	+2.0
	comp=Z,0.1nm,0.3s,baz=309,slow=8.8,SNR=11						
ASAR				S	S	16 27 05.5	-6.7
	comp=Z,0.1nm,0.3s,baz=310,slow=22,SNR=6.5						
TGY	Tagaytay City	23.82	3	LR	LR	16 35 21.3	
	comp=Z,63nm,19.2s,baz=196,slow=41						
MKAR	Makanchi Array	65.59	333	P	P	16 29 55.7	-0.1
	comp=Z,0.3nm,0.7s,baz=143,slow=5.0,SNR=2.7						
MKAR	Makanchi Array	65.59	333	P	P	16 29 55.0	-0.9

IDC ***10*** *16:42:14.9±5.7,36.°39N×71.°09E,h82km±53km, mb1 3.6/7, mb1mx3.1/43, mbtmp3.9/7, ML3.7/7, Error ellipse: s-maj=63.1km s-min=20.7km az=152.0*

NNC ***10*** *16:42:24.7±3.8,37.°19N×71.°14E,h0km, mb4.5, mpv4.1, Error ellipse: s-maj=29.7km s-min=27.8km az=151.0*

ISC 10 16:42:15.8±0.9, 36°.39N±0.°06×71°.09E±0.°07, h100km, n21, σ2s22/29, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	Thein Dam	5.50	135	eP	Pn	16 43 38.0	+2.8
THN				eS	Sn	16 44 37.0	-0.1
DHRM	DHARAMSHALA	5.97	132	eP	Pn	16 43 43.0	+1.2
DHRM				IAmb	IAmb	16 43 44.3	
	comp=Z,44nm,0.5s						
DHRM				eS	Sn	16 44 46.6	-2.3
DHRM				IAML		16 44 49.7	
	comp=N,184nm,0.4s						
DHRM				IAML		16 44 50.5	
	comp=E,162nm,0.9s						
AML	Almayashu	6.08	19	P	Pn	16 43 45.1	+1.7
	SNR=48						
UCH	Uchtor	6.40	23	P	Pn	16 43 49.9	+2.0
	SNR=31						
KZA	Kyzart	6.53	28	P	Pn	16 43 51.4	+1.8
	SNR=6.9						
EKS2	Erkin-Say	6.60	18	P	Pn	16 43 54.4	+4.2
	SNR=9.7						
KK31	Karatay Array	6.72	356	⇑Pn	Pn	16 43 53.5	+1.8
	comp=E,14nm,0.4s,baz=181,slow=13,SNR=328						
KK31				⇓Sn	Sn	16 45 03.8	-3.0
	comp=E,4.3nm,0.3s,baz=186,slow=24,SNR=6.9						
AAK	Ala-Archa	6.77	22	P	Pn	16 43 53.1	+0.5
	comp=E,4.6nm,0.3s,baz=181,slow=9.2,SNR=15						
AAK				S	Sn	16 45 06.4	-1.8
	comp=E,1.9nm,0.3s,baz=105,slow=20,SNR=12						
AAK	Ala-Archa	6.77	22	P	Pn	16 43 56.4	+3.8
	SNR=9.6						
AAK	Ala-Archa	6.77	22	⇑Pn	Pn	16 43 56.0	+3.4
	comp=E,8.2nm,0.5s						
AAK				⇓Sn	Sn	16 45 06.0	-2.2
	comp=E,18nm,0.6s						
CHMS	Chumysh	7.17	22	P	Pn	16 44 00.6	+2.6
	SNR=9.1						
SMLA	Simla	7.29	134	eP	Pn	16 43 59.5	-0.1
SMLA				eS	Sn	16 45 17.6	-3.1
SMLA				IAML		16 45 20.0	
	comp=N,47nm,0.0s						
SMLA				IAML		16 45 21.5	
	comp=E,44nm,0.0s						
USP	Ospenovka	7.35	20	P	Pn	16 44 02.2	+1.8
	SNR=7.2						
TKM2	Tokmak 2	7.39	27	P	Pn	16 44 04.0	+3.0
	SNR=18						
TKM2	Tokmak 2	7.39	27	⇑Pn	Pn	16 44 03.6	+2.5
	comp=E,5.3nm,0.5s						
TKM2				⇑Sn	Sn	16 45 21.6	-1.8
	comp=E,5.0nm,0.5s						
GEYT	Alibeck	10.47	282	P	Pn	16 44 42.0	-0.8
	comp=E,0.7nm,0.3s,baz=108,slow=12,SNR=6.8						
GEYT				S	Sn	16 46 37.7	-0.5
	comp=E,1.6nm,0.3s,baz=91,slow=15,SNR=4.8						
MKAR	Makanchi Array	13.34	35	P	Pn	16 45 20.9	-0.1
	comp=E,0.1nm,0.3s,baz=222,slow=14,SNR=11						
KURBB	Kurchatov Arra	15.20	18	P	P	16 45 46.8	-0.7
	comp=E,0.1nm,0.3s,baz=207,slow=11,SNR=7.2						
BVAR	Borovoye Array	16.64	359	P	P	16 46 03.6	+0.2
	comp=E,0.3nm,0.3s,baz=167,slow=13,SNR=7.9						
AKTO	Aktyubinsk	16.91	330	P	P	16 46 06.5	+0.1
	comp=E,0.4nm,0.3s,baz=132,slow=12,SNR=4.5						
ZALV	Zalesovo Beam	19.98	24	P	P	16 46 40.0	+0.1
	comp=E,0.8nm,0.3s,baz=215,slow=11,SNR=14						

JMA ***10*** *16:46:44.8±0.3, 33.°45N×137.°23E, h423km, M2.8*

IDC ***10*** *16:46:47.9±5.6, 35.°38N×135.°34E, h441km±242km, mb2.6/3, mb1 2.7/4, mb1mx2.4/49, mbtmp3.2/4, Error ellipse: s-maj=499.5km s-min=25.1km az=57.0*

ISC 10 16:46:51.5±1.3, 34°.1N±0.°2×137°.1E±0.°2, h400km, n10, σ1s40/9, mb2.9/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIE	Ise	0.38	310	P	Pn	16 47 38.7	-2.3
JNY	Yasuok	1.38	28	P	Pn	16 47 43.1	-1.0
JYTA	Yamagatataniai	1.47	350	P	Pn	16 47 44.2	-0.2
JOD2	Odawara 2	2.01	56	P	Pn	16 47 46.5	-1.0
JHU	Hanno	2.50	46	P	Pn	16 47 49.9	-0.8
MJAR	Matsushiro Arr	2.57	21	P	Pn	16 47 51.6	+0.3
	0.1nm,0.3s,baz=201,slow=9.1,SNR=9.7						
JAG	Ashikaga	3.00	40	P	Pn	16 47 53.6	-1.0
MKAR	Makanchi Array	42.72	304	P	P	16 53 49.4	-22
	0.3nm,0.5s,baz=90,slow=6.1,SNR=4.3						
WRA	Warramunga Arr	53.85	183	P	P	16 55 36.0	+0.8
	0.2nm,0.3s,baz=360,slow=7.7,SNR=6.8						
ASAR	Alice Springs	57.57	183	P	P	16 56 02.5	+1.4
	0.1nm,0.3s,baz=357,slow=5.7,SNR=5.7						

IDC ***10*** *16:58:09.9±1.0, 7.°58N×136.°83E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/39, mbtmp3.9/9, ML3.6/1, MS3.3/10, Ms1 3.3/10, ms1mx3.0/39, Error ellipse: s-maj=46.6km s-min=18.5km az=83.0*

NEIC ***10*** *16:58:19.1±0.8, 7.°51N±0.°10×137.°1E±0.°2, h88km±4km, mb4.4/13, Error ellipse: s-maj=25.4km s-min=13.3km az=76.0*

ISC 10 16:58:12.9±0.6, 7°.57N±0.°08×136°.9E±0.°2, h22km, n32, σ0s88/24, mb4.3/12, MS3.0/7, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	Jayapura	10.72	159	Pn	Pn	17 00 46.8	+1.6
	0.5nm,0.3s,baz=286,slow=7.9,SNR=7.4						
JAY				Sn	Sn	17 02 44.6	0.0
	0.5nm,0.3s,baz=46,slow=17,SNR=1.9						
JAY				LR	LR	17 03 12.8	
	comp=Z,104nm,20.8s,baz=324,slow=28						
KRVT	Keravat (AS076	19.17	127	LR	LR	17 08 46.1	
	comp=Z,100nm,19.0s,baz=275,slow=33						
PMG	Port Moresby	19.73	149	LR	LR	17 09 18.6	
	comp=Z,136nm,18.8s,baz=294,slow=34						
KKM	Kota Kinabalu	20.57	267	P	P	17 02 51.3	+0.7
JNU	Nakatsue	26.03	348	LR	LR	17 13 55.6	
	comp=Z,37nm,18.6s,baz=202,slow=36						
WB2	Warramunga Arr	27.45	185	P	P	17 03 57.2	-0.2
WB2				IAmb	IAmb	17 04 28.5	
	comp=Z,26nm,1.8s						
WRA	Warramunga Arr	27.45	185	P	P	17 03 57.2	-0.3
	comp=Z,0.4nm,0.7s,baz=3.1,slow=10.0,SNR=2.0						
WRA	Warramunga Arr	27.45	185	IAmb	IAmb	17 04 03.5	
	comp=Z,0.3nm,1.5s						
HNR	Honiara	28.52	126	LR	LR	17 13 45.4	
	comp=Z,71nm,21.4s,baz=150,slow=33						
MJAR	Matsushiro Arr	26.86	2	P	P	17 04 08.9	-1.0
	comp=Z,1.9nm,0.9s,baz=165,slow=10,SNR=2.5						
MJAR				LR	LR	17 13 51.2	
	comp=Z,36nm,19.3s,baz=185,slow=33						
KSRS	Korea Array	30.84	346	LR	LR	17 16 32.8	
	comp=Z,30nm,20.1s,baz=242,slow=36						
ASAR	Alice Springs	31.18	185	P	P	17 04 30.6	+0.1
	comp=Z,0.3nm,0.8s,baz=17,slow=12,SNR=5.2						
USA0B	Ussuriysk Arra	36.74	354	P	P	17 05 18.6	+0.1
GIRL	Giralia	37.33	216	P	P	17 05 23.2	-0.6
CMAR	Chiang Mai Arr	38.43	290	LR	LR	17 21 25.0	
	comp=Z,22nm,19.5s,baz=165,slow=36						
STKA	Stephens Creek	39.48	174	LR	LR	17 22 15.2	
	comp=Z,186nm,18.6s,baz=356,slow=37						
SONM	Songino Array	47.75	333	P	P	17 06 49.6	+1.1
	comp=Z,1.3nm,0.9s,baz=145,slow=5.4,SNR=4.8						
SONM	Songino Array	47.75	333	IAmb	IAmb	17 06 50.8	
	comp=Z,1.3nm,0.9s						
PETK	Petropavlovsk-	48.47	17	P	P	17 06 53.4	-0.3
	comp=Z,3.5nm,0.9s,baz=255,slow=4.3,SNR=2.9						
CMWZ	Cape Campbell	59.80	148	P	P	17 08 14.2	-2.3
MK31	Makanchi Array	60.67	320	P	P	17 08 22.3	-0.2
MKAR	Makanchi Array	60.67	320	P	P	17 08 23.1	+0.5
	comp=Z,2.7nm,0.8s,baz=106,slow=8.9,SNR=29						
MKAR	Makanchi Array	60.67	320	P	P	17 08 22.5	0.0
MAKZ	Makanchi	60.88	320	P	P	17 08 23.9	0.0
MAKZ				IAmb	IAmb	17 08 25.4	
	comp=Z,2.7nm,0.8s						
ZAA0	Zalesovo Array	62.23	328	P	P	17 08 32.5	-0.4
ZAA0				IAmb	IAmb	17 08 33.5	
	comp=Z,2.1nm,0.7s						
ZALV	Zalesovo Beam	62.23	328	P	P	17 08 32.9	+0.1
	comp=Z,1.5nm,0.6s,baz=116,slow=6.9,SNR=8.1						
ZALV				LR	LR	17 34 09.6	
	comp=Z,35nm,21.5s,baz=152,slow=35						
ZALV	Zalesovo Beam	62.23	328	P	P	17 08 32.1	-0.8
NIL	Nilore	63.93	304	P	P	17 08 44.3	-0.3
KURK	Kurchatov	64.37	323	P	P	17 08 46.8	-0.3
BRVK	Borovoye	70.00	324	P	P	17 09 22.5	-0.3
BRVK				IAmb	IAmb	17 09 23.9	
	comp=Z,3.6nm,0.8s						
ABKAR	Akbulak array	75.78	319	P	P	17 09 56.5	-0.6
ILAR	Eielson Array	77.33	25	P	P	17 10 07.5	+1.9
	comp=Z,0.4nm,0.8s,baz=238,slow=5.2,SNR=2.6						

IDC ***10*** *17:13:44.5±1.4, 18.°71S×177.°76W, h543km±16km, mb3.6/17, mb1 3.8/20, mb1mx3.6/40, mbtmp4.6/20, Error ellipse: s-maj=18.2km s-min=10.4km az=147.0*

NEIC ***10*** *17:13:45.4±1.9, 18.°63S±0.°07×177.°8W±0.°1, h565km±6km, mb4.5/43, Error ellipse: s-maj=15.4km s-min=9.1km az=70.0*

ISC 10 17:13:44.1±0.5, 18°.76S±0.°09×177°.70W±0.°08, h550km, n71, σ1s44/79, mb4.4/37, Fiji Islands region

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

FORT	**Forrest**	**50.26**	**245**	P	**P**	**17 21 49.6**	**-0.7**
FORT				IAmb	IAmb	17 21 50.5		
	comp=Z,21nm,0.8s							
KNRA	**Kununurra**	**51.08**	**265**	P	**P**	**17 21 56.3**	**-0.1**
KNRA				IAmb	IAmb	17 21 57.0		
	comp=Z,24nm,0.8s							
FAKI	**Fak Fak**	**51.41**	**282**	P	**P**	**17 21 56.6**	**-2.2**
FITZ	**Fitzroy Crossi**	**53.56**	**261**	P	**P**	**17 22 14.5**	**+0.3**
	comp=Z,2.6nm,0.3s,baz=125,slow=4.1,SNR=50							
FITZ	**Fitzroy Crossi**	**53.56**	**261**	P	**P**	**17 22 14.4**	**+0.3**
SOEI	**Soe**	**56.75**	**270**	P	**P**	**17 22 36.8**	**+0.2**
SOEI				IAmb	IAmb	17 22 38.8		
	comp=Z,37nm,0.8s							
BATI	**Baumata**	**57.20**	**270**	P	**P**	**17 22 41.1**	**+1.5**
	comp=Z,16nm,0.6s,baz=138,slow=0.6,SNR=4.3							
PSA00	**Pilbara Seismi**	**58.35**	**256**	P	**P**	**17 22 46.3**	**-1.0**
PSA00				IAmb	IAmb	17 22 47.7		
	comp=Z,13nm,1.1s							
NWAO	**Narrogin (SRO)**	**59.41**	**242**	P	**P**	**17 22 53.3**	**-0.9**
VNDA	**Vanda**	**59.66**	**185**	P	**P**	**17 22 56.3**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=21,slow=4.6,SNR=7.1							
GIRL	**Giralia**	**63.30**	**254**	P	**P**	**17 23 20.5**	**+0.7**
GIRL				IAmb	IAmb	17 23 27.1		
	comp=Z,16nm,1.0s							
JAGI	**Jajag, Banyuwa**	**66.69**	**269**	P	**P**	**17 23 38.9**	**-2.4**
JAGI				IAmb	IAmb	17 23 55.2		
	comp=Z,21nm,1.0s							
MJAR	**Matsushiro Arr**	**68.99**	**323**	P	**P**	**17 23 54.3**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=163,slow=6.8,SNR=1.5							
MJAR	**Matsushiro Arr**	**68.99**	**323**	P	**P**	**17 23 53.3**	**-1.5**
KKM	**Kota Kinabalu**	**69.60**	**284**	P	**P**	**17 23 59.4**	**+0.4**
KKM				IAmb	IAmb	17 24 16.4		
	comp=Z,8.0nm,1.0s							
UGM	**Wanagama**	**70.29**	**268**	P	**P**	**17 24 03.0**	**0.0**
ADK	**Adak**	**70.34**	**1**	P	**P**	**17 24 01.6**	**-0.8**
ADK				IAmb	IAmb	17 24 12.6		
	comp=Z,21nm,0.9s							
QSPA	**South Pole Qui**	**71.30**	**180**	P	**P**	**17 24 09.2**	**+1.1**
YOJ	**Yonaguni jima**	**71.98**	**305**	P	**P**	**17 24 10.2**	**-2.4**
UNV	**Unalaska Valle**	**72.94**	**7**	P	**P**	**17 24 16.3**	**-1.2**
UNV				IAmb	IAmb	17 24 18.9		
	comp=Z,22nm,1.2s							
TPUB	**Ta-pu**	**73.28**	**302**	P	**P**	**17 24 17.7**	**-2.4**
TPUB				IAmb	IAmb	17 24 36.4		
	comp=Z,9.2nm,1.0s							
YHNB	**Yeheng**	**73.37**	**304**	P	**P**	**17 24 18.7**	**-2.0**
KSM	**Kuching**	**73.46**	**277**	P	**P**	**17 24 20.6**	**-0.8**
KSM				IAmb	IAmb	17 24 23.0		
	comp=Z,7.2nm,0.9s							
PETK	**Petropavlovsk-**	**74.67**	**345**	P	**P**	**17 24 28.2**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=128,slow=5.6,SNR=6.5							
PETK	**Petropavlovsk-**	**74.67**	**345**	P	**P**	**17 24 26.7**	**-0.6**
YBH	**Yreka Blue Hor**	**78.76**	**39**	P	**P**	**17 24 51.7**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=179,slow=4.8,SNR=5.4							
YBH	**Yreka Blue Hor**	**78.76**	**39**	P	**P**	**17 24 50.7**	**+0.6**
PNTR	**Pine Nut**	**79.11**	**42**	P	**P**	**17 24 52.7**	**+0.5**
NVAR	**Mina Array Bea**	**79.57**	**43**	P	**P**	**17 24 55.9**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=220,slow=8.8,SNR=14							
PINE	**Pine Mountain**	**81.04**	**38**	P	**P**	**17 25 02.9**	**+0.7**
U15A	**North Rim**	**82.58**	**48**	P	**P**	**17 25 10.1**	**-0.2**
G08A	**Pilot Rock**	**83.07**	**37**	P	**P**	**17 25 12.9**	**+0.6**
MAW	**Mawson**	**83.29**	**200**	P	**P**	**17 25 13.7**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=343,slow=15,SNR=2.7							
TRF	**Thorofare Moun**	**84.69**	**12**	P	**P**	**17 25 18.7**	**-1.2**
TRF				IAmb	IAmb	17 25 20.6		
	comp=Z,5.0nm,0.6s							
RND	**Reindeer**	**84.94**	**13**	P	**P**	**17 25 21.5**	**+0.5**
RND				IAmb	IAmb	17 25 22.0		
	comp=Z,5.6nm,0.8s							
TXAR	**Lajitas Array**	**85.88**	**57**	P	**P**	**17 25 28.4**	**+2.1**
	comp=Z,1.9nm,0.7s,baz=219,slow=6.4,SNR=24							
TXAR	**Lajitas Array**	**85.88**	**57**	P	**P**	**17 25 28.7**	**+2.3**
CCB	**Clear Creek Bu**	**86.26**	**12**	P	**P**	**17 25 26.5**	**-0.7**
CCB				IAmb	IAmb	17 25 27.2		
	comp=Z,3.7nm,0.5s							
ILAR	**Eielson Array**	**86.56**	**13**	P	**P**	**17 25 28.1**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=220,slow=4.5,SNR=14							
ILAR	**Eielson Array**	**86.56**	**13**	P	**P**	**17 25 27.9**	**-0.8**
PDAR	**Pinedale Array**	**87.50**	**43**	P	**P**	**17 25 34.6**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=213,slow=4.4,SNR=5.9							
CMAR	**Chiang Mai Arr**	**89.80**	**289**	P	**P**	**17 25 45.5**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=129,slow=2.7,SNR=6.9							
EKA	**Eskdalemuir Ar**	**143.25**	**5**	PKhKP	PKPpre	17 32 13.3		
	comp=Z,0.4nm,0.4s,baz=332,slow=2.8,SNR=4.1							
BRTR	**Keskin Array B**	**145.85**	**314**	PKPbc	**PKPbc**	**17 32 22.9**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=67,slow=4.8,SNR=2.3							
MBAR	**Mbarara**	**146.08**	**239**	PKPbc	**PKPbc**	**17 32 25.0**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=180,slow=2.0,SNR=2.2							

*IDC **10** 17:23:47.6±1.3,34°.56N×26°.70E,h0km,mb4.0/13, mb1 4.0/20,mb1mx3.9/47,mbtmp3.9/20,ML3.6/7,MS3.1/4, Ms1 3.1/4,ms1mx2.7/43,Error ellipse: s-maj=29.0km s-min=12.6km az=15.0*
*NIC **10** 17:23:48.6±0.0,34°.30N×26°.52E,h15km±31km,Ml4.0/3*
*HLW **10** 17:23:48.5,34°.57N×26°.70E,h10km±11km,Md4.0,Ml4.2*
*DDA **10** 17:23:48.5,34°.59N×26°.70E,h7km±6km,MW3.8*
*THE **10** 17:23:51.5,34°.57N×26°.56E,h0km±1km,ML3.2/5,Error ellipse: s-maj=2.6km s-min=0.9km az=165.0*
*GII **10** 17:23:51.2±0.0,34°.14N×26°.88E,h10km,MD3.4/3*
*ATH **10** 17:23:52.4,34°.63N×26°.60E,h28km±1km,ML3.3/9,Error ellipse: s-maj=4.3km s-min=1.7km az=3.0*
*ISK **10** 17:23:55.0,34°.89N×26°.59E,h18km,ML3.6/14*

ISC 10 17:23:49.2±1.3,34°.45N±0°.04×26°.69E±0°.03,h15km±8km, n141,σ1§89/172,mb4.0/13,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.77**	**330**	P	**Pg**	**17 24 03.6**	**-0.6**
ZKR				S	**Sg**	**17 24 13.6**	**-0.7**
	3µm,0.5s						
ZKR	**Zakros**	**0.77**	**330**	P	**Pg**	**17 24 03.8**	**-0.3**
ZKR				S	**Sg**	**17 24 13.6**	**-0.7**
ZKR				AML	AML	17 24 29.2	
	comp=E,7868µm,0.6s						
ZKR				AML	AML	17 24 35.3	
	comp=N,4106µm,0.7s						
ZKR	**Zakros**	**0.77**	**330**	PG	**Pg**	**17 24 03.6**	**-0.6**
ZKR				SG	**Sg**	**17 24 08.9**	**-5.4**
STIA	**Sitia Lasithi**	**0.90**	**327**	P	**Pb**	**17 24 06.6**	**+0.1**
STIA				S	**Sb**	**17 24 18.1**	**-0.2**
KARP	**Karpathos**	**1.17**	**19**	P	**Pg**	**17 24 12.5**	**+0.8**
KARP				S	**Sg**	**17 24 29.3**	**+2.4**
	comp=N,2µm,1.1s						
KARP	**Karpathos**	**1.17**	**19**	P	**Pg**	**17 24 12.1**	**+0.4**
KARP				AML	AML	17 24 39.7	
	comp=E,2849µm,1.0s						
KARP				AML	AML	17 24 44.3	
	comp=N,3773µm,1.0s						
KARP	**Karpathos**	**1.17**	**19**	PG	**Pb**	**17 24 11.4**	**+0.3**
KARP	**Karpathos**	**1.17**	**19**	P	**Pg**	**17 24 12.6**	**+0.9**
KARP				AML	AML	17 24 39.2	
	comp=N,2.5nm,1.2s						
KARP				AML	AML	17 24 43.4	
	comp=N,3.9nm,0.9s						
NPS	**Neapolis**	**1.20**	**313**	P	**Pb**	**17 24 12.1**	**+0.4**
NPS				S	**Sb**	**17 24 27.8**	**+0.8**
	comp=N,3µm,0.8s						
NPS	**Neapolis**	**1.20**	**313**	P	**Pb**	**17 24 12.0**	**+0.4**
NPS				S	**Sb**	**17 24 26.9**	**-0.1**
NPS				AML	AML	17 24 45.4	
	comp=N,2862µm,0.7s						
NPS				AML	AML	17 24 45.6	
	comp=E,3778µm,0.5s						
LAST	**Lasithi**	**1.22**	**306**	P	**Pn**	**17 24 11.4**	**-0.5**
LAST				S	**Sb**	**17 24 27.8**	**+0.1**
	comp=E,910nm,0.6s						
LAST	**Lasithi**	**1.22**	**306**	P	**Pn**	**17 24 11.8**	**0.0**
LAST				S	**Sb**	**17 24 28.2**	**+0.5**
LAST				AML	AML	17 24 33.6	
	comp=N,4686µm,0.7s						
LAST				AML	AML	17 24 45.8	
	comp=E,2786µm,0.7s						
HRKL	**Herakleio**	**1.56**	**304**	PN	**Pg**	**17 24 19.3**	**+0.1**
SIVA	**Sivas**	**1.65**	**291**	P	**Pb**	**17 24 20.5**	**+1.2**
SIVA				AML	AML	17 25 02.3	
	comp=E,3866µm,0.7s						
SIVA				AML	AML	17 25 02.8	
	comp=N,3274µm,0.8s						
IDI	**Anoyia**	**1.70**	**300**	Pn	**Pb**	**17 24 19.9**	**-0.3**
	comp=N,11nm,0.3s,baz=130,slow=12,SNR=48						
IDI				Sn	**Sb**	**17 24 41.6**	**+0.2**
	comp=N,29nm,0.3s,baz=90,slow=20,SNR=11						
IDI	**Anoyia**	**1.70**	**300**	P	**Pn**	**17 24 18.7**	**+0.3**
IDI				S	**Sn**	**17 24 41.0**	**+1.1**
	comp=N,438nm,0.9s						
IDI	**Anoyia**	**1.70**	**300**	P	**Pb**	**17 24 21.3**	**+1.1**
IDI				S	**Sn**	**17 24 40.8**	**+0.9**
IDI				AML	AML	17 24 46.2	
	comp=N,1055µm,0.6s						
IDI				AML	AML	17 25 01.9	
	comp=E,942µm,0.6s						
IDI	**Anoyia**	**1.70**	**300**	PN	**Pb**	**17 24 21.3**	**+1.1**
IDI				SN	**Sn**	**17 24 39.8**	**-0.1**
ARG	**Arkhangelos**	**2.12**	**33**	P	**Pb**	**17 24 27.6**	**+0.2**
ARG				AML	AML	17 25 20.8	
	comp=N,757µm,0.9s						
ARG				AML	AML	17 25 23.1	
	comp=E,689µm,1.0s						
ARG	**Arkhangelos**	**2.12**	**33**	PN	**Pb**	**17 24 26.8**	**-0.6**
ARG	**Arkhangelos**	**2.12**	**33**	P	**Pb**	**17 24 27.4**	**+0.1**
SANT	**Santorini**	**2.17**	**333**	PN	**Pb**	**17 24 25.2**	**+0.4**
GVDS	**Gavdos**	**2.18**	**281**	PN	**Pb**	**17 24 29.6**	**+1.3**
THR6	**Thira Island,**	**2.18**	**331**	P	**Pn**	**17 24 25.7**	**+0.8**
GVD	**Gavdhos**	**2.18**	**281**	P	**Pb**	**17 24 28.5**	**+0.2**
GVD				AML	AML	17 25 10.5	
	comp=E,2052µm,0.6s						
GVD				AML	AML	17 25 14.6	
	comp=N,1022µm,0.5s						
GVD	**Gavdhos**	**2.18**	**281**	PN	**Pb**	**17 24 29.5**	**+1.2**
THR3	**Thira Island,**	**2.22**	**332**	P	**Pn**	**17 24 26.5**	**+1.0**
THT2	**Imerovigli**	**2.23**	**333**	PN	**Pn**	**17 24 26.8**	**+1.0**
THR5	**Thira Island,**	**2.25**	**331**	P	**Pn**	**17 24 26.5**	**+0.6**
VAM	**Vamos**	**2.25**	**296**	P	**Pb**	**17 24 29.0**	**-0.6**
VAM				AML	AML	17 25 21.2	
	comp=N,1114µm,0.7s						
VAM				AML	AML	17 25 23.4	
	comp=E,955µm,1.0s						
DAT	**Datca**	**2.39**	**17**	P	**Pn**	**17 24 29.4**	**+1.4**
DAT				S	**Sn**	**17 24 58.8**	**+1.7**
DAT	**Datca**	**2.39**	**17**	PN	**Pn**	**17 24 29.4**	**+1.4**
IMMV	**Iera Moni Meta**	**2.44**	**295**	P	**Pb**	**17 24 31.7**	**-1.1**
IMMV	**Iera Moni Meta**	**2.44**	**295**	PN	**Pb**	**17 24 32.1**	**-0.7**
AMGA	**Amorgos Island**	**2.46**	**345**	P	**Pn**	**17 24 29.8**	**+0.9**
IOSP	**Ios island**	**2.54**	**334**	P	**Pn**	**17 24 31.2**	**+1.3**
IOSP	**Ios island**	**2.54**	**334**	P	**Pn**	**17 24 30.9**	**+1.0**
KNDR	**Palaiochora Ch**	**2.59**	**288**	PN	**Pb**	**17 24 35.4**	**+0.1**
TURN	**Turunc**	**2.65**	**28**	PN	**Pn**	**17 24 33.7**	**-0.9**
TURN	**Turunc**	**2.65**	**28**	*i* P	**Pn**	**17 24 32.0**	**-2.6**
APE	**Apeiranthos**	**2.78**	**341**	P	**Pn**	**17 24 34.2**	**+1.0**
APE	**Apeiranthos**	**2.78**	**341**	PN	**Pn**	**17 24 33.9**	**+0.6**
APE	**Apeiranthos**	**2.78**	**341**	P	**Pn**	**17 24 34.1**	**+0.8**
DALY	**Dalyan (Mula)**	**2.86**	**34**	PN	**Pn**	**17 24 36.9**	**+2.6**
FETY	**Fethiye**	**2.93**	**41**	P	**Pn**	**17 24 37.5**	**+2.2**
FETY	**Fethiye**	**2.93**	**41**	PN	**Pn**	**17 24 37.7**	**+2.4**
AKAS	**Kas**	**2.98**	**52**	*i* P	**Pn**	**17 24 38.3**	**+2.2**
YER	**Yerkesik**	**2.98**	**25**	PN	**Pn**	**17 24 38.2**	**+2.2**
ANKY	**Antikythira Is**	**3.11**	**298**	P	**Pn**	**17 24 40.2**	**+2.4**
SLUM	**Salum**	**3.20**	**203**	P	**Pn**	**17 24 40.5**	**+1.6**
	baz=203						
AYDN	**Tasoluk**	**3.35**	**16**	*i* P	**Pn**	**17 24 42.0**	**+0.9**
KTHA	**Kythira Island**	**3.47**	**302**	P	**Pn**	**17 24 43.9**	**+1.2**
KTHA	**Kythira Island**	**3.47**	**302**	PN	**Pn**	**17 24 45.2**	**+2.5**
ELL	**Elmali**	**3.49**	**48**	PN	**Pn**	**17 24 46.4**	**+3.3**
ELL	**Elmali**	**3.49**	**48**	P	**Pn**	**17 24 46.1**	**+3.0**
TAVA	**DENIZLI_Tavas**	**3.51**	**30**	*i* P	**Pn**	**17 24 45.1**	**+1.8**
AKUM	**Antalya-Kumluc**	**3.53**	**57**	*i* P	**Pn**	**17 24 45.2**	**+1.7**
DGB	**zmir**	**3.60**	**2**	*i* P	**Pn**	**17 24 40.6**	**-3.9**
GOLH	**Golhisar**	**3.63**	**39**	*i* P	**Pn**	**17 24 48.2**	**+3.1**
VLI	**Veliai**	**3.80**	**308**	P	**Pn**	**17 24 48.0**	**+0.7**
VLI	**Veliai**	**3.80**	**308**	P	**Pn**	**17 24 48.2**	**+0.9**
KORT	**Korkueli**	**3.92**	**48**	PN	**Pn**	**17 24 52.7**	**+3.7**
KORT	**Korkueli**	**3.92**	**48**	*i* P	**Pn**	**17 24 51.0**	**+2.0**
OSC1	**CSNet OBS 1**	**3.93**	**103**	P	**Pn**	**17 24 50.1**	**+1.1**
OSC1				S	**Sn**	**17 25 39.0**	**+4.1**
CHOS	**Chios island**	**3.96**	**353**	P	**Pn**	**17 24 50.6**	**+1.0**
CHOS	**Chios island**	**3.96**	**353**	PN	**Pn**	**17 24 49.9**	**+0.3**
DID	**Didima**	**4.14**	**318**	P	**Pn**	**17 24 53.1**	**+1.1**
DION	**Dionisos Attik**	**4.25**	**329**	P	**Pn**	**17 24 54.6**	**+1.2**
PTL	**Penteli**	**4.26**	**328**	P	**Pn**	**17 24 55.4**	**+1.8**
MANT	**Manisa**	**4.31**	**20**	*i* P	**Pn**	**17 24 55.5**	**+1.0**
BCK	**Bucak**	**4.37**	**45**	PN	**Pn**	**17 24 58.5**	**+3.4**
USAK	**Uak-Merkez**	**4.65**	**23**	*i* P	**Pn**	**17 25 00.1**	**+1.0**
VIL2	**Platees**	**4.66**	**325**	P	**Pn**	**17 24 59.4**	**+0.3**
AKMS	**Akamas**	**4.69**	**81**	P	**Pn**	**17 25 02.0**	**+2.5**
AKMS				AML	AML	17 25 54.8	
	comp=E,0.5nm,0.4s						
AKMS				AML	AML	17 25 54.9	
	comp=E,0.3nm,0.3s						
KEPZ	**Antalya-Kepez**	**4.69**	**57**	*i* P	**Pn**	**17 25 02.1**	**+2.5**
KEPZ				*i* S	**Sn**	**17 25 51.0**	**-2.8**
KEPZ				IAML		17 26 01.0	
	comp=N,25nm,0.7s						
KEPZ				IAML		17 26 15.0	
	comp=E,24nm,0.7s						
TRIP	**Tripoli**	**4.72**	**312**	P	**Pn**	**17 25 01.4**	**+1.5**
ITM	**Ithomi**	**4.73**	**307**	PN	**Pn**	**17 25 02.5**	**+2.4**
OSC2	**CSNet OBS 4**	**4.85**	**105**	P	**Pn**	**17 25 04.0**	**+2.4**
OSC2				S	**Sn**	**17 26 01.5**	**+4.0**
ALFC	**Alefka**	**4.92**	**80**	P	**Pn**	**17 25 05.0**	**+2.4**
ALFC				AML	AML	17 26 02.1	
	comp=E,0.4nm,0.4s						
ALFC				AML	AML	17 26 02.6	
	comp=E,0.5nm,0.4s						
GAZI	**Gazipasa**	**4.94**	**67**	*i* P	**Pn**	**17 25 02.8**	**-0.1**
GAZI				*i* S	**Sn**	**17 25 53.1**	**-6.7**
GAZI				IAML		17 26 00.0	
	comp=N,39nm,0.5s						
GAZI				IAML		17 26 05.0	
	comp=E,46nm,0.4s						
GUR	**Goura**	**4.95**	**316**	P	**Pn**	**17 25 04.4**	**+1.3**
SZAC	**Souni**	**5.12**	**85**	P	**Pn**	**17 25 08.4**	**+2.9**
SWA2		**5.29**	**192**	P	**Pn**	**17 25 09.8**	**+2.1**
	baz=192						
SWA2				S	**Sn**	**17 26 07.9**	**-0.6**
	baz=192						
ASGA	**Asgata**	**5.42**	**85**	P	**Pn**	**17 25 12.0**	**+2.4**
CSS	**Mathiatis**	**5.50**	**83**	*i* P	**Pn**	**17 25 07.8**	**-2.8**
CSS	**Mathiatis**	**5.50**	**83**	Pn	**Pn**	**17 25 11.7**	**+1.1**
CSS	**Mathiatis**	**5.50**	**83**	P	**Pn**	**17 25 12.3**	**+1.7**
ERMK	**Ermenek**	**5.53**	**65**	*i* P	**Pn**	**17 25 12.3**	**+1.1**
KMER	**Konya-Meram**	**5.67**	**53**	*i* P	**Pn**	**17 25 16.1**	**+3.0**
MVOU	**Mavrovouni**	**5.75**	**82**	P	**Pn**	**17 25 16.4**	**+2.4**
AGG	**Agios Georgios**	**5.75**	**324**	*i* P	**Pn**	**17 25 16.4**	**+2.3**
GULN	**MERSIN_Gulnar**	**5.87**	**71**	*i* P	**Pn**	**17 25 14.6**	**-1.1**
HSAF	**As Saff**	**6.34**	**138**	S	**Sn**	**17 26 32.9**	**-1.6**
	baz=138						
HSAF				AMP		17 26 00.0	
	baz=138						
SUZ	**Suez**	**6.95**	**130**	P	**Pn**	**17 25 31.3**	**+0.8**
	baz=130						
DED	**Mersin**	**7.06**	**67**	*i* P	**Pn**	**17 25 31.8**	**-0.3**
GULE	**Gulek**	**7.15**	**64**	*i* P	**Pn**	**17 25 36.8**	**+3.3**
OFRI	**`Ofer**	**7.17**	**102**	Pn	**Pn**	**17 25 33.5**	**0.0**
OFRI				Sn	**Sn**	**17 26 52.4**	**-2.3**
SLTI	**Sal'it**	**7.33**	**105**	Pn	**Pn**	**17 25 34.6**	**-1.2**
SLTI				Sn	**Sn**	**17 26 57.1**	**-1.6**
KZIT	**Kziot**	**7.40**	**116**	Pn	**Pn**	**17 25 35.6**	**-1.1**
KZIT				Sn	**Sn**	**17 26 56.9**	**-3.5**
MMA0B	**Mount Meron ar**	**7.40**	**99**	Pn	**Pn**	**17 25 36.6**	**-0.2**
MMA0B				Sn	**Sn**	**17 26 59.3**	**-1.3**
MMAI	**Mount Meron Ar**	**7.40**	**99**	Pn	**Pn**	**17 25 37.4**	**+0.6**
	comp=E,2.2nm,0.3s,baz=282,slow=11,SNR=10						
MMAI				Sn	**Sn**	**17 27 01.6**	**+1.0**
	comp=E,4.9nm,0.3s,baz=271,slow=16,SNR=5.7						
HFRF	**Wahat Farafira**	**7.41**	**169**	P	**Pn**	**17 25 38.2**	**+1.4**
	baz=169						
AMAZ	**Amatzia**	**7.50**	**111**	Pn	**Pn**	**17 25 38.0**	**-0.1**
AMAZ				Sn	**Sn**	**17 26 59.6**	**-3.3**
GEM	**Giv'at Ha'Em**	**7.57**	**97**	Pn	**Pn**	**17 25 39.7**	**+0.6**
GEM				Sn	**Sn**	**17 27 02.6**	**-2.1**
MMLI	**Mount Malkishu**	**7.57**	**103**	Pn	**Pn**	**17 25 38.2**	**-0.9**
MMLI				Sn	**Sn**	**17 27 02.1**	**-2.6**
NATI	**Neve Ativ**	**7.62**	**96**	Pn	**Pn**	**17 25 39.9**	**+0.2**
NATI				Sn	**Sn**	**17 27 04.4**	**-1.5**
BRTR	**Keskin Array B**	**7.66**	**45**	Pn	**Pn**	**17 25 39.5**	**-0.8**
	comp=E,0.2nm,0.3s,baz=221,slow=14,SNR=11						
BRTR				LR	LR	17 29 46.1	
	comp=E,192nm,19.0s,baz=209,slow=47						
QRNJ	**Al-Qirein**	**7.73**	**103**	Pn	**Pn**	**17 25 40.7**	**-0.5**
YTIR	**Yattir**	**7.73**	**111**	Pn	**Pn**	**17 25 40.9**	**-0.4**
YTIR				Sn	**Sn**	**17 27 06.4**	**-2.2**
DSI	**Dead Sea**	**7.85**	**109**	Sn	**Sn**	**17 27 09.1**	**-2.3**
KRMI	**Paran Flat**	**8.06**	**120**	Pn	**Pn**	**17 25 45.5**	**-0.3**
KRMI				Sn	**Sn**	**17 27 11.9**	**-4.8**
DAMI2	**DAM2**	**8.06**	**111**	Sn	**Sn**	**17 27 13.3**	**-3.3**
PRNI	**Paran**	**8.13**	**118**	Pn	**Pn**	**17 25 46.1**	**-0.7**
PRNI				Sn	**Sn**	**17 27 15.0**	**-3.5**
ZFRI	**Zfri**	**8.15**	**116**	Pn	**Pn**	**17 25 46.1**	**-1.0**
ZFRI				Sn	**Sn**	**17 27 14.6**	**-4.4**
HRFI	**Mount Harif**	**8.33**	**120**	Sn	**Sn**	**17 27 19.7**	**-3.6**
EIL	**Elat**	**8.48**	**122**	Pn	**Pn**	**17 25 51.3**	**-0.2**
	comp=E,1.0nm,0.3s,baz=227,slow=1.8,SNR=23						
EIL				Sn	**Sn**	**17 27 22.6**	**-4.3**
	comp=E,0.9nm,0.3s,baz=258,slow=20,SNR=4.4						
HBST	**Basata**	**8.60**	**125**	P	**Pn**	**17 25 54.5**	**+1.2**
	baz=125						
ASF	**Jabal al Asfar**	**8.84**	**102**	Sn	**Sn**	**17 27 34.8**	**-1.2**
	comp=E,0.3nm,0.3s,baz=246,slow=10.0,SNR=2.7						
GTR	**Jabal at Tayr**	**9.52**	**158**	P	**Pn**	**17 26 07.6**	**+1.8**
	baz=158						
VAE	**Valguarnera**	**10.40**	**290**	Pn	**Pn**	**17 26 19.9**	**+2.1**
	comp=E,0.4nm,0.3s,baz=102,slow=20,SNR=1.8						
MLR	**Muntele Rosu**	**11.04**	**357**	LR	LR	17 30 21.0	
	comp=E,53nm,21.6s,baz=124,slow=36						
KBZ	**Khabaz**	**15.61**	**49**	Pn	**P**	**17 27 32.5**	**-0.3**
	comp=E,0.1nm,0.3s,baz=230,slow=9.5,SNR=7.1						
AKASG	**Malin Array Be**	**16.35**	**6**	Pn	**Pn**	**17 27 37.3**	**-0.8**
	comp=E,1.5nm,0.3s,baz=192,slow=11,SNR=4.7						
GERES	**GERESS Array B**	**17.31**	**330**	P	**Pn**	**17 27 49.5**	**-0.9**
	comp=E,0.1nm,0.3s,baz=150,slow=11,SNR=6.8						
GERES				LR	LR	17 36 10.7	
	comp=E,48nm,18.2s,baz=115,slow=43						
DAVOX	**Davos/Dischmat**	**17.69**	**319**	P	**P**	**17 27 58.5**	**+2.5**
	comp=E,0.1nm,0.3s,baz=180,slow=20,SNR=2.2						
ESDC	**Sonseca Array**	**24.94**	**291**	P	**P**	**17 29 11.4**	**-0.5**
	comp=E,0.5nm,0.5s,baz=79,slow=9.5,SNR=7.3						
GEYT	**Alibeck**	**25.54**	**73**	P	**P**	**17 29 18.2**	**+0.7**
	comp=E,2.5nm,0.5s,baz=309,slow=9.4,SNR=8.3						
FINES	**FINESS Array B**	**27.02**	**359**	P	**P**	**17 29 29.0**	**-1.4**
	comp=E,2.2nm,0.9s,baz=204,slow=4.2,SNR=6.6						
KLMR	**Klimovskoe**	**27.70**	**14**	*e*	**P**	**17 29 34.8**	**-1.7**
KLMR				AMP		17 29 48.2	
	comp=Z,10.0nm,1.4s						
AKTO	**Aktyubinsk**	**27.83**	**45**	P	**P**	**17 29 38.9**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=258,slow=13,SNR=4.0						
NB2	**NORSAR Subarra**	**28.42**	**344**	P	**P**	**17 29 41.0**	**-2.0**
	comp=Z,8.9nm,2.0s,baz=156,slow=10						
NOA	**NORSAR Array B**	**28.42**	**344**	P	**P**	**17 29 41.0**	**-2.0**
	comp=Z,1.2nm,1.0s,baz=166,slow=9.2,SNR=2.7						
EKA	**Eskdalemuir Ar**	**29.35**	**325**	P	**P**	**17 29 51.2**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=134,slow=12,SNR=2.7						
ARCES	**ARCESS Array B**	**35.15**	**359**	P	**P**	**17 30 40.4**	**-1.5**
	comp=Z,1.2nm,0.6s,baz=178,slow=9.0,SNR=14						
AAK	**Ala-Archa**	**37.85**	**63**	LR	LR	17 48 51.8	
	comp=Z,55nm,18.9s,baz=151,slow=40						
MKAR	**Makanchi Array**	**43.12**	**56**	P	**P**	**17 31 50.5**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=273,slow=6.1,SNR=14						
ZALV	**Zalesovo Beam**	**44.60**	**46**	P	**P**	**17 32 01.5**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=265,slow=8.9,SNR=7.3						
SONM	**Songino Array**	**58.97**	**51**	P	**P**	**17 33 48.3**	**

comp=Z,7.7nm,1.1s
MKAR Makanchi Array 46.94 323 P P 17 44 52.6 -0.4
comp=Z,0.4nm,0.8s,baz=106,slow=7.9,SNR=4.5
MKAR Makanchi Array 46.94 323 P P 17 44 51.7 -1.3
EIDS Eidsvold 47.94 144 P P 17 45 00.3 -0.6
EIDS IAmb IAmb 17 45 17.7
comp=Z,3.7nm,1.1s
BBOO Buckleboo 48.24 165 P P 17 45 01.9 -1.2
STKA Stephens Creek 49.07 158 P P 17 45 06.3 -3.2
SANVU Saraoutou 52.91 122 P P 17 45 39.5 +0.8

*DJA **10** 17:38:14.6±1.5,3°N±7°×12°6E±°, h38km±49km, M4.1/8, mb4.3/4, mmB4.8/1, MLv4.0/8, Mw(mB)4.1/1*
*MAN **10** 17:38:29.3, 3.77N×125.14E, h6km, MS3.9*
ISC 10 17:38:14.5±1.3, 2.75N±0.06×126.5E±0.1, h63km, n9, σ3§48/12, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.17**	**155**	P	**Pn**	**17 38 48.7**	**+0.4**
TNTI				S	**Sn**	**17 39 13.8**	**-0.3**
KMSI	**Cibinong**	**3.28**	**229**	P	**Pn**	**17 39 04.2**	**+0.7**
GTOI	**Gorontalo**	**4.03**	**239**	P	**Pn**	**17 39 13.8**	**+0.1**
SKMP	**Bagumbayan, Su**	**4.20**	**333**	*e*P	**Pn**	**17 39 16.2**	**+0.1**
KCP	**Kidapawan**	**4.44**	**342**‖	*e*P	**Pn**	**17 39 22.0**	**+2.5**
KCP				*i* S	**Sn**	**17 40 14.8**	**+4.9**
LUWI	**Luwuk**	**5.27**	**224**	P	**Pn**	**17 39 33.4**	**+2.7**
	0.4nm106nm,0.9s						
BUKP	**Musuan**	**5.28**	**345**	*e*P	**Pn**	**17 39 33.3**	**+2.5**
BUKP				*e*S	**Sn**	**17 40 22.7**	**-7.7**
PAGZ	**Pagadian**	**5.91**	**329**	*e*P	**Pn**	**17 39 37.9**	**-1.6**
NLAI	**Namlea**	**5.99**	**174**	P	**Pn**	**17 39 39.1**	**-1.4**
	0.1nm843nm22nm,0.8s						

*IDC **10** 18:05:29.3±2.3, 43.48N×105.30W, h0km, mb3.8/6, mb1 3.9/11, mb1mx3.6/49, mbtmp3.7/11, ML3.2/5, Error ellipse: s-maj=69.2km s-min=10.6km az=148.0*
*NEIC **10** 18:05:31.5±1.6, 43.72N±0.04×105.27W±0.06, h0km±2km, ML3.6/53, Error ellipse: s-maj=7.8km s-min=6.2km az=306.0*
ISC 10 18:05:30.8±0.8, 43.73N±0.06×105.26W±0.06, h0km, n55, σ1§08/53, mb4.0/6, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.97**	**66**	Pg	**Pb**	**18 05 50.0**	**-0.6**
K22A	**Casper**	**1.42**	**221**		**Pn**	**18 05 56.0**	**-2.0**
K22A				IAML		18 06 19.1	
	comp=E,578nm,0.8s						
K22A				IAML		18 06 20.9	
	comp=N,932nm,0.3s						
PHWY	**Pilot Hill**	**2.43**	**183**		**Pn**	**18 06 12.4**	**+0.4**
RWWY	**Rawlins**	**2.49**	**216**		**Pn**	**18 06 14.1**	**+1.2**
RWWY				IAML		18 06 48.4	
	comp=N,462nm,0.9s						
N23A	**Red Feather La**	**2.88**	**190**	Pn	**Pn**	**18 06 19.2**	**+1.0**
N23A				IAML		18 07 00.1	
	comp=E,141nm,0.8s						
N23A				IAML		18 07 01.6	
	comp=N,182nm,0.7s						
LAO	**LASA Array**	**3.04**	**347**		**Pn**	**18 06 20.6**	**+0.5**
RLMT	**Red Lodge**	**3.19**	**297**		**Pn**	**18 06 22.7**	**+0.3**
RLMT				IAML		18 07 12.1	
	comp=N,108nm,0.3s						
RLMT				IAML		18 07 16.4	
	comp=N,142nm,0.6s						
PD31	**Pinedale Array**	**3.28**	**254**		**Pn**	**18 06 24.1**	**+0.4**
PDAR	**Pinedale Array**	**3.28**	**254**	Pn	**Pn**	**18 06 24.0**	**+0.3**
	comp=N,2.0nm,0.3s,baz=74,slow=13,SNR=33						
PDAR				Lg	Lg	18 07 08.1	
	comp=N,12nm,0.3s,baz=70,slow=29,SNR=12						
BW06	**Boulder Array**	**3.28**	**254**		**Pn**	**18 06 24.1**	**+0.4**
BW06				IAML		18 07 12.1	
	comp=N,106nm,0.7s						
BW06				IAML		18 07 15.0	
	comp=E,80nm,0.9s						
YNE	**Yellowstone No**	**3.63**	**292**		**Pn**	**18 06 28.7**	**+0.1**
YMP	**Mirror Lake Pl**	**3.66**	**288**		**Pn**	**18 06 29.5**	**+0.5**
OGNE	**Ogallala**	**3.67**	**138**	Pn	**Pn**	**18 06 30.0**	**+1.0**
OGNE				IAML		18 07 37.0	
	comp=E,155nm,0.6s						
OGNE				IAML		18 07 38.6	
	comp=E,186nm,0.7s						
GCMT	**Greycliff**	**3.75**	**305**		**Pn**	**18 06 30.8**	**+0.7**
LKWY	**Lake**	**3.79**	**285**	Pn	**Pn**	**18 06 31.7**	**+1.0**
LKWY				IAML		18 06 58.4	
	comp=E,95nm,0.6s						
LOHW	**Long Hollow**	**3.88**	**270**		**Pn**	**18 06 33.0**	**+1.2**
ISCO	**Idaho Springs**	**3.94**	**184**	Pn	**Pn**	**18 06 33.9**	**+1.1**
FLWY	**Flagg Ranch**	**3.94**	**277**		**Pn**	**18 06 33.9**	**+1.1**
FLWY				IAML		18 07 46.6	
	comp=E,77nm,1.2s						
FLWY				IAML		18 07 53.0	
	comp=E,58nm,1.4s						
YPP	**Pitchstone Pla**	**4.03**	**280**		**Pn**	**18 06 35.0**	**+0.9**
IMW	**Indian Meadow**	**4.11**	**274**	Pn	**Pn**	**18 06 37.1**	**+2.0**
IMW				IAML		18 07 48.5	
	comp=E,54nm,0.7s						
IMW				IAML		18 07 56.5	
	comp=E,63nm,0.7s						
TPAW	**Teton Pass**	**4.14**	**269**	Pn	**Pn**	**18 06 35.1**	**-0.4**
TPAW				IAML		18 07 51.7	
	comp=E,51nm,0.7s						
FXWY	**Fox Creek**	**4.18**	**271**	Pn	**Pn**	**18 06 37.4**	**+1.3**
O20A	**White River Ci**	**4.22**	**213**		**Pn**	**18 06 36.8**	**+0.2**
O20A				IAML		18 07 50.7	
	comp=E,67nm,0.8s						
O20A				IAML		18 08 05.7	
	comp=N,74nm,1.1s						
E28A	**Huff**	**4.31**	**47**		**Pn**	**18 06 39.0**	**+1.5**
SUSD	**Miller**	**4.60**	**79**	Pn	**Pn**	**18 06 40.3**	**-1.3**
DGMT	**Dagmar**	**4.80**	**9**	Pn	**Pn**	**18 06 46.8**	**+2.5**
BOZ	**Bozeman (W)**	**4.91**	**295**		**Pn**	**18 06 45.9**	**-0.1**
BOZ				IAML		18 08 04.2	
	comp=N,27nm,0.7s						
BOZ				IAML		18 08 07.6	
	comp=N,33nm,1.0s						
HWUT	**Hardware Ranch**	**5.11**	**248**	Pn	**Pn**	**18 06 49.1**	**+0.4**
HWUT				IAML		18 08 22.9	
	comp=N,44nm,0.8s						
HWUT				IAML		18 08 27.4	
	comp=N,46nm,0.9s						
TCUT	**Toone Canyon**	**5.24**	**242**		**Pn**	**18 06 51.0**	**+0.4**
EGMT	**Eagleton**	**5.32**	**325**	Pn	**Pn**	**18 06 51.6**	**+0.1**
HRY	**Holter Researc**	**5.51**	**305**		**Pn**	**18 06 55.4**	**+1.1**
JLU	**Jordanelle**	**5.56**	**238**		**Pn**	**18 06 52.8**	**-2.2**
PV22	**Blue Mesa, Par**	**5.83**	**208**		**Pn**	**18 06 59.7**	**+1.0**
SPUT	**South Promonto**	**5.83**	**248**	Pn	**Pn**	**18 06 59.5**	**+0.8**
PV07	**Paradox Valley**	**5.87**	**207**		**Pn**	**18 07 00.3**	**+1.0**
SDCO	**Great Sand Dun**	**5.98**	**182**		**Pn**	**18 07 00.9**	**+0.1**
PV20	**West Nyswonger**	**6.07**	**209**		**Pn**	**18 07 03.1**	**+1.1**
SRU	**San Rafael Swe**	**6.08**	**222**	Pn	**Pn**	**18 07 02.6**	**+0.5**
ECSD	**EROS Data Cent**	**6.27**	**87**	Pn	**Pn**	**18 07 05.9**	**+1.4**
Q16A	**Castle Valley**	**6.55**	**225**		**Pn**	**18 07 08.8**	**+0.3**
DUG	**Dugway, Tooele**	**6.64**	**240**	Pn	**Pn**	**18 07 09.1**	**-0.7**
MTPU	**Mount Pierson**	**7.73**	**225**	Pn	**Pn**	**18 07 25.6**	**+0.7**
ELK	**Elko**	**7.98**	**251**	Pn	**Pn**	**18 07 27.8**	**-0.5**
	comp=N,0.2nm,0.3s,baz=74,slow=16,SNR=4.4						
ELK				Lg	Lg	18 09 38.1	
	comp=N,0.1nm,0.3s,baz=183,slow=18,SNR=3.1						
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**Pn**	**18 07 43.6**	**-0.3**
	comp=N,1.4nm,0.3s,baz=225,slow=12,SNR=4.9						
ULM				Lg	Lg	18 10 15.6	
	comp=N,0.7nm,0.3s,baz=128,slow=19,SNR=1.8						
B35A	**Bob, Littlefor**	**9.26**	**56**	Pn	**Pn**	**18 07 45.7**	**+0.2**
I56US	**NEWPORT INFRAS**	**9.42**	**303**	*i*		18 58 40.0	
	baz=117,slow=314,SNR=6.6						
NVAR	**Mina Array Bea**	**11.17**	**246**	Pn	**Pn**	**18 08 12.0**	**+0.1**
	comp=N,0.1nm,0.3s,baz=60,slow=11,SNR=3.7						
YBH	**Yreka Blue Hor**	**12.98**	**267**	Pn	**Pn**	**18 08 39.9**	**+3.3**
	comp=N,0.1nm,0.3s,baz=105,slow=8.3,SNR=3.2						
TXAR	**Lajitas Array**	**14.42**	**174**	Lg	Lg	18 12 44.7	
	comp=N,0.0nm,0.3s,baz=358,slow=24,SNR=1.7						
ILAR	**Eielson Array**	**31.28**	**327**	P	**P**	**18 11 52.5**	**+0.4**
	comp=N,0.2nm,0.8s,baz=116,slow=10,SNR=2.2						
ARCES	**ARCESS Array B**	**61.42**	**18**	P	**P**	**18 15 47.4**	**-0.9**
	comp=N,3.8nm,0.9s,baz=336,slow=6.5,SNR=4.7						
FINES	**FINESS Array B**	**68.04**	**23**	P	**P**	**18 16 31.1**	**-0.4**
	comp=N,1.2nm,0.8s,baz=310,slow=6.7,SNR=4.8						
ZALV	**Zalesovo Beam**	**82.31**	**354**	P	**P**	**18 17 53.4**	**-0.6**
	comp=N,0.7nm,0.5s,baz=358,slow=6.4,SNR=4.6						
BVAR	**Borovoye Array**	**83.55**	**3**	P	**P**	**18 18 00.4**	**-0.1**
	comp=N,0.3nm,0.5s,baz=356,slow=5.9,SNR=4.1						
MKAR	**Makanchi Array**	**89.61**	**355**	P	**P**	**18 18 30.1**	**-0.2**
	comp=N,0.7nm,0.8s,baz=25,slow=4.8,SNR=8.3						

KRSC 10 18:21:33.0±1.3, 48.50N×156.25E, h30km±19km, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.19**	**358**	*e*P	Pn	18 22 09.1	+1.9
SKR				*e*S	Sn	18 22 34.8	+1.6
PAU	**Pauzhetka**	**2.99**	**7**	*e*P	Pn	18 22 21.6	+3.4
PAU				*e*S	Sb	18 22 57.4	-4.2
KDTR	**Khodutka, Kamc**	**3.51**	**19**	*e*P	Pn	18 22 29.6	+4.2
KDTR				*e*S	Sb	18 23 11.3	-5.3
MTVR	**Mutnovka**	**4.17**	**16**	*e*P	Pn	18 22 39.8	+5.2
MTVR				*e*S	Sn	18 23 28.6	+6.2
RUS	**Russkaya**	**4.19**	**19**	*e*P	Pn	18 22 38.6	+3.9
RUS				*e*S	Sn	18 23 27.2	+4.6
GRL	**Gorelyy**	**4.22**	**15**	*e*P	Pn	18 22 40.1	+4.9
GRL				*e*S	Sn	18 23 28.7	+5.2
PET	**Petropavlovsk**	**4.78**	**18**	*e*S	Sn	18 23 43.2	+6.2
DALK	**Dalny**	**4.81**	**18**	*e*P	Pn	18 22 46.4	+3.3
KRX	**Arik**	**5.09**	**16**	*e*P	Pn	18 22 52.1	+4.8
SPN	**Mys Shipunski**	**5.19**	**26**	*e*P	Pn	18 22 53.8	+5.4
SPN				*e*S	Sn	18 23 52.1	+5.0

*AEIC **10** 18:27:38.6±2.9, 51.19N±0.08×172.75W±0.07, h22km±4km, ML4.4/41, mb5.0/139(NEIC), Error ellipse: s-maj=11.4km s-min=6.5km az=185.0*
*NEIC **10** 18:27:39.8±2.4, 51.25N±0.05×172.76W±0.06, h25km±4km, Error ellipse: s-maj=8.0km s-min=4.5km az=215.0*
*MOS **10** 18:27:39.6±0.9, 51.53N×172.88W, h27km, mb5.3/45, MS4.5/7, Error ellipse: s-maj=7.8km s-min=4.8km az=104.7*
*BJI **10** 18:27:39.4±0.0, 51.95N×173.44W, h10km, mB5.2/46, mb5.0/66, Ms4.8/37, Ms7 4.5/36*
*GCMT **10** 18:27:42.6±0.6, 51.37N±0.03×172.86W±0.06, h23km±1km, MW5.0/68, Moment Tensor Solution. s32,c40; s68,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.30±.25; $M_{\theta\theta}$-2.98±.17; $M_{\phi\phi}$-0.32±.14; $M_{r\theta}$1.92±.23; $M_{\theta\phi}$-0.29±.10; $M_{r\phi}$0.29±.26; Best double couple: M_o3.70500×10^{16} NP1:ϕs83.00000°, δ29.00000°, λ92.00000°. NP2: ϕs83.00000°, δ61.00000°, λ89.00000°. Principal axes: T 3.8500, Plg74.0000°, Azm350.0000°; N -0.2930, Plg1.0000°, Azm83.0000°; P -3.5600, Plg16.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **10** 18:27:43.8±0.8, 51.58N×172.94W, h41km±6km, mb4.4/36, mb1 4.5/38, mb1mx4.5/44, mbtmp4.6/38, ML3.9/2, MS4.2/10, Ms1 4.2/10, ms1mx3.9/43 Error ellipse: s-maj=15.4km s-min=8.7km az=175.0*
ISC 10 18:27:41.7±0.7, 51.48N±0.06×172.87W±0.03, h29km±4km, h29km:pP-P, n795, σ0§96/749, mb5.0/182, MS4.5/42, 56C-25D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.10**	**312**		**Pn**	**18 28 00.8**	**-0.3**
ATKA	**Atka Island**	**1.10**	**312**		**Sb**	**18 28 21.6**	**+5.7**
KOFP	**Korovin Flat P**	**1.10**	**317**		**Pb**	**18 28 01.9**	**-0.2**
KOSE	**Korovin Southe**	**1.14**	**320**		**Pb**	**18 28 02.8**	**+0.1**
KOKL	**Mount Kliuchef**	**1.18**	**316**		**Pb**	**18 28 03.1**	**-0.4**
KOWE	**Korovin West**	**1.23**	**317**		**Pb**	**18 28 03.2**	**-1.1**
KOWE					**Sb**	**18 28 24.4**	**+4.5**
GSMY	**Great Sitkin M**	**2.06**	**287**		**Pn**	**18 28 14.3**	**-0.1**
GSTR	**Great Sitkin T**	**2.08**	**289**		**Pn**	**18 28 16.3**	**+1.7**
GSTD	**Great Sitkin T**	**2.12**	**287**		**Pn**	**18 28 15.1**	**-0.1**
GSTD					LR	18 28 44.5	
ADAG	**Mount Adagdak**	**2.38**	**284**		**Pn**	**18 28 19.2**	**+0.5**
ADK	**Adak**	**2.41**	**281**	P	**Pn**	**18 28 18.9**	**-0.2**
ADK	**Adak**	**2.41**	**281**	Pn	**Pn**	**18 28 18.9**	**-0.2**
KIKV	**Kanaga Island**	**2.71**	**280**		**Pn**	**18 28 23.6**	**+0.4**
KICM	**Kanaga Island**	**2.73**	**281**		**Pn**	**18 28 24.4**	**+0.9**
KIMD	**Kanaga Island**	**2.74**	**278**		**Pn**	**18 28 23.4**	**-0.2**
NIKH	**Nikolski High**	**2.89**	**57**	Pn	**Pn**	**18 28 25.5**	**-0.1**
NIKH	**Nikolski High**	**2.89**	**57**		**Sn**	**18 29 00.1**	**+0.7**
TAPA	**Tanaga Point A**	**3.10**	**278**		**Pn**	**18 28 29.1**	**+0.5**
TAFP	**Tanaga Falls P**	**3.21**	**280**		**Pn**	**18 28 30.8**	**+0.7**
TASE	**Tanaga Southea**	**3.24**	**278**		**Pn**	**18 28 31.3**	**+0.8**
OKSP	**Okmok Steeple**	**3.32**	**56**		**Pn**	**18 28 32.1**	**+0.4**
OKCE	**Okmok Cone E**	**3.48**	**54**		**Pn**	**18 28 34.6**	**+0.7**
OKNC	**Okmok New Cone**	**3.51**	**54**		**Pn**	**18 28 35.0**	**+0.7**
OKFG	**Magazine Ridge**	**3.60**	**56**		**Pn**	**18 28 36.4**	**+0.9**
GAEA	**Gareloi East**	**3.67**	**277**		**Pn**	**18 28 36.4**	**-0.1**
GALAA	**Gareloi Lava P**	**3.69**	**277**		**Pn**	**18 28 35.8**	**-0.9**
MAPS	**Pakushin South**	**4.30**	**55**		**Pn**	**18 28 45.5**	**+0.4**
MREP	**Makushin Rep't**	**4.40**	**56**		**Pn**	**18 28 47.5**	**+0.9**
MSW	**Makushin Switc**	**4.43**	**54**		**Pn**	**18 28 47.9**	**+0.9**
MNAT	**Makushin Natee**	**4.47**	**55**		**Pn**	**18 28 48.7**	**+1.3**
UNV	**Unalaska Valle**	**4.54**	**56**	Pn	**Pn**	**18 28 50.0**	**+1.6**
CERAA	**Semis' Rag'd T**	**4.65**	**278**		**Pn**	**18 28 50.4**	**+0.4**
CESW	**Semis' Southwe**	**4.73**	**278**		**Pn**	**18 28 51.2**	**+0.2**
AMKA	**Amchitka**	**4.90**	**272**		**Pn**	**18 28 52.9**	**-0.4**
AKGG	**Akutan Green G**	**4.98**	**54**		**Pn**	**18 28 55.7**	**+1.2**
AKUT	**Akutan**	**5.06**	**56**	Pn	**Pn**	**18 28 59.2**	**+3.7**
LSPA	**Little Sitkin**	**5.34**	**278**		**Pn**	**18 29 00.1**	**+0.7**
SPIA	**Saint Paul Isl**	**5.91**	**14**	Pn	Pn	18 29 10.8	+3.6
CNBA	**Chernabura Isl**	**8.65**	**62**	Pn	**Pn**	**18 29 45.0**	**+0.2**
OHAK	**Old Harbor**	**12.77**	**56**		**Pn**	**18 30 40.9**	**-0.1**
KDAK	**Kodiak Island**	**13.31**	**54**	P	**Pn**	**18 30 48.4**	**0.0**
	1.0nm,0.3s,baz=318,slow=12,SNR=5.2						
SVW2	**Sparrevohn**	**13.55**	**38**	Pn	P	18 30 55.5	-5.1
SEW	**Seward**	**15.67**	**47**	Pn	**Pn**	**18 31 18.8**	**-1.4**
SEW				IAmb	IAmb	18 31 46.8	
	comp=Z,147nm,1.6s						
O22K	**Cooper Landing**	**15.70**	**46**	P	**P**	**18 31 23.4**	**-0.9**
	baz=245						
PPLA	**Purkeypile**	**15.92**	**36**		**P**	**18 31 26.6**	**-0.3**
GHO	**Glory Hole Cre**	**16.62**	**42**	P	**P**	**18 31 32.9**	**-1.6**
KNK	**Knik Glacier**	**16.66**	**44**	P	**P**	**18 31 34.3**	**-0.7**
SML	**Sawmill**	**16.89**	**43**	P	**P**	**18 31 36.4**	**-1.1**
TRF	**Thorofare Moun**	**16.95**	**36**	P	**P**	**18 31 38.1**	**-0.2**
BPAW	**Bear Paw Mtn.**	**17.08**	**34**		**P**	**18 31 40.5**	**+0.9**
SCM	**Sheep Creek Mo**	**17.32**	**43**	P	**P**	**18 31 41.7**	**-0.7**
SCM				pmax	pmax		
	comp=Z,49nm,0.8s						
SCM	**Sheep Creek Mo**	**17.32**	**43**	P	**P**	**18 31 41.7**	**-0.7**
SCM				IAmb	IAmb	18 31 58.4	
	comp=Z,49nm,0.8s						
RND	**Reindeer**	**17.46**	**38**	P	**P**	**18 31 42.6**	**-1.3**
RND				pmax	pmax		
	comp=Z,29nm,1.0s						
RND	**Reindeer**	**17.46**	**38**	P	**P**	**18 31 42.6**	**-1.3**
IMAR	**Indian Mountai**	**17.48**	**27**	P	**P**	**18 31 46.0**	**+2.0**
MCK	**McKinley**	**17.61**	**37**	P	**P**	**18 31 44.9**	**-0.5**
MCK				pmax	pmax		
	comp=Z,65nm,1.3s						
MCK	**McKinley**	**17.61**	**37**		**P**	**18 31 44.9**	**-0.5**
KLU	**Klutina**	**17.80**	**45**	P	**Pn**	**18 31 46.7**	**-0.4**
RAGM	**Ragged Mountai**	**18.01**	**49**	P	**P**	**18 31 51.5**	**+1.7**
PEA0B	**Petropavlovsk-**	**18.02**	**287**‖	*e*P	**Pn**	**18 31 49.9**	**+0.1**
PETK	**Petropavlovsk-**	**18.02**	**287**	P	**Pn**	**18 31 50.3**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=91,slow=14,SNR=19						
PETK				LR	LR	18 38 09.8	
	comp=Z,490nm,20.9s,baz=88,slow=35						
PETK	**Petropavlovsk-**	**18.02**	**287**	P	**P**	**18 31 51.1**	**+1.1**
PETK	**Petropavlovsk-**	**18.02**	**287**	P	**P**	**18 31 51.1**	**+1.1**
NEA2	**Nenana**	**18.04**	**34**	P	**Pn**	**18 31 48.6**	**-1.4**
	baz=235,SNR=13						
WRH	**Wood River Hil**	**18.32**	**35**	P	**Pn**	**18 31 51.8**	**-1.5**
CCB	**Clear Creek Bu**	**18.52**	**35**	P	**P**	**18 31 54.0**	**-1.5**
MDM	**Murphy Dome**	**18.55**	**34**	P	**P**	**18 31 55.0**	**-0.8**
PAX	**Paxson**	**18.60**	**41**	P	**Pn**	**18 31 56.4**	**-0.4**
PAX				pmax	pmax		
	comp=Z,21nm,0.9s						
PAX	**Paxson**	**18.60**	**41**	P	**Pn**	**18 31 56.4**	**-0.4**
TCOL	**CIGO, UAF Yank**	**18.63**	**34**	P	**P**	**18 31 55.6**	**-1.0**
	baz=236						
COLA	**College**	**18.63**	**34**‖	*e*P	**P**	**18 31 55.3**	**-1.3**
HDA	**Harding Lake**	**18.71**	**36**	P	**P**	**18 31 56.0**	**-1.5**
	baz=238,SNR=20						
GLB	**Gilahina Butte**	**18.73**	**47**	P	**P**	**18 31 57.1**	**-0.8**
VRDI	**Verde Repeater**	**18.83**	**47**	P	**P**	**18 31 58.5**	**-0.5**
CRQM	**Cirque**	**18.84**	**49**	P	**P**	**18 31 58.8**	**-0.4**
CRQM				IAmb	IAmb	18 32 23.1	
	comp=Z,49nm,0.8s						
POKR	**Poker Plat Res**	**18.92**	**34**	P	**Pn**	**18 31 59.3**	**-1.2**
	baz=236						
IL31		**18.92**	**35**	P	**P**	**18 31 58.7**	**-1.1**
ILAR	**Eielson Array**	**18.92**	**35**	P	**P**	**18 31 57.3**	**-2.5**
	comp=Z,1.7nm,0.3s,baz=236,slow=9.0,SNR=70						
ILAR				LR	LR	18 40 04.2	
	comp=Z,752nm,18.6s,baz=242,slow=39						
ILAR	**Eielson Array**	**18.92**	**35**	P	**Pn**	**18 31 59.5**	**-1.1**
ILAR	**Eielson Array**	**18.92**	**35**	P	**Pn**	**18 31 59.5**	**-1.1**
COLD	**Coldfoot**	**19.37**	**27**	P	**Pn**	**18 32 06.5**	**+0.6**
	baz=227,SNR=65						
COLD	**Coldfoot**	**19.37**	**27**	IAmb	IAmb	18 32 07.9	
	comp=Z,71nm,1.1s						
BILL	**Bilibino**	**19.47**	**336**	*d* *i*P	**P**	**18 32 05.6**	**-0.2**
BILL				pmax	pmax		
	comp=Z,37nm,1.1s						
BILL				MLR	MLR		
	comp=Z,826nm,16.0s						
BARN	**Barnard Glacie**	**19.62**	**49**	IAmb	IAmb	18 32 30.7	
	comp=Z,39nm,0.9s						
SCRK	**Sand Creek**	**19.64**	**39**	P	**P**	**18 32 06.2**	**-1.6**
	baz=244,SNR=27						
TABL	**Table Mountain**	**19.71**	**51**	IAmb	IAmb	18 32 17.3	
	comp=Z,48nm,0.6s						
CTGM	**Chitina Glacie**	**19.75**	**49**	IAmb	IAmb	18 32 18.2	
	comp=Z,68nm,0.8s						
PCA	**Pinnacle**	**20.07**	**52**	IAmb	IAmb	18 32 23.5	
	comp=Z,94nm,0.8s						
BCAR	**Beaver Creek A**	**20.18**	**43**	P	Pn	18 32 15.4	-0.2
K27K	**Chicken**	**20.42**	**40**	P	**P**	**18 32 15.4**	**-0.8**
	baz=247,SNR=24						
TOLK	**Toolik Lake Re**	**20.53**	**24**	P	Pn	18 32 18.4	-1.2
	baz=225						
EGAK	**Eagle**	**21.09**	**39**	P	**P**	**18 32 23.4**	**0.0**
EGAK				IAmb	IAmb	18 32 42.7	
	comp=Z,79nm,0.7s						
DAWY	**Dawson**	**21.53**	**41**	P	**P**	**18 32 26.7**	**-1.6**
HYT	**Haines Junctio**	**21.55**	**51**	P	**P**	**18 32 29.3**	**+0.8**
HYT				IAmb	IAmb	18 32 46.6	
	comp=Z,30nm,0.7s						
MA2	**Magadan**	**21.87**	**306**	P	**P**	**18 32 32.9**	**+1.0**
	comp=Z,15nm,0.8s,baz=101,slow=9.7,SNR=9.1						
MA2				LR	LR	18 40 59.6	
	comp=Z,672nm,18.1s,baz=106,slow=36						
MA2	**Magadan**	**21.87**	**306**‖	*e*P	**P**	**18 32 29.9**	**-1.9**
MA2				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MA2	**Magadan**	**21.87**	**306**	P	**P**	**18 32 31.4**	**-0.5**
BESE	**Bessie Mountai**	**22.66**	**57**	P	**P**	**18 32 41.6**	**+1.2**
BESE				IAmb	IAmb	18 33 24.7	
	comp=Z,51nm,1.0s						
WHY	**Whitehorse**	**22.80**	**51**	P	**P**	**18 32 42.7**	**+0.8**
WHY				IAmb	IAmb	18 33 03.0	
	comp=Z,33nm,0.9s						
EPYK	**Eagle Plains**	**23.41**	**37**	P	**P**	**18 32 46.4**	**-1.5**
	baz=248,SNR=27						
EPYK	**Eagle Plains**	**23.41**	**37**	P	**P**	**18 32 46.9**	**-1.0**
EPYK				IAmb	IAmb	18 32 49.1	
	comp=Z,56nm,0.9s						
DLBC	**Dease Lake**	**25.20**	**57**	P	**P**	**18 33 06.2**	**+1.7**
	comp=Z,22nm,0.8s,baz=280,slow=9.9,SNR=32						
DLBC				LR	LR	18 43 55.8	
	comp=Z,701nm,19.5s,baz=294,slow=39						
INK	**Inuvik**	**25.28**	**33**	P	**P**	**18 33 04.7**	**-0.4**
	comp=Z,52nm,0.6s,baz=230,slow=10.0,SNR=98						
INK	**Inuvik**	**25.28**	**33**	P	**P**	**18 33 04.8**	**-0.3**
INK				pmax	pmax		
	comp=Z,56nm,0.7s						
INK	**Inuvik**	**25.28**	**33**	P	**P**	**18 33 04.8**	**-0.3**
KUR	**Kuril'sk**	**26.58**	**272**	*de*P	**P**	**18 33 17.1**	**+0.1**
BBB	**Bella Bella**	**27.34**	**71**	P	**P**	**18 33 23.8**	**0.0**
	comp=Z,16nm,1.0s,baz=326,slow=3.6,SNR=3.3						
TYV	**Tymovskoe**	**27.57**	**286**	*e*P	**P**	**18 33 26.1**	**+0.2**
TYV				*e*S	**S**	**18 37 59.4**	**-5.8**
TYV				pmax	pmax		
	comp=Z,11nm,1.1s						
TYV				pmax	pmax		
	comp=Z,200nm,5.7s						
TYV				smax	smax		
	comp=N,300nm,5.4s						
C36M	**Paulatuk**	**28.87**	**34**	P	**P**	**18 33 36.8**	**-0.5**
	baz=257						
YSS	**Yuzh-Sakhalins**	**28.99**	**279**	*e*P	**P**	**18 33 39.1**	**+0.5**
YSS				*e*		18 33 51.0	
YSS				*e*S	**S**	**18 38

H11N2 **WAKE ISLAND Hy** 35.45 214 T T 19 12 51.7
baz=21,slow=75,SNR=22
H11N3 **WAKE ISLAND Hy** 35.46 214 T T 19 12 52.3
baz=21,slow=75,SNR=21
H11N1 **WAKE ISLAND Hy** 35.47 214 T T 19 12 53.6
baz=21,slow=75,SNR=26
ZEA **Zeya** 35.50 298 *e*P **P** **18 34 33.8 -1.7**
ZEA pmax pmax
comp=E,21nm,0.8s
ZEA pmax pmax
comp=Z,41nm,1.0s
ZEA MLR MLR
comp=Z,800nm,18.0s
ZEA MLR MLR
comp=E,500nm,17.0s
N02D **Trinity Center** 35.61 87 P **P** **18 34 38.5 +1.9**
baz=305
M04C **Macdoel** 35.69 85 P **P** **18 34 39.3 +1.9**
baz=304
O02D **Mt. Diablo Mer** 36.01 88 P **P** **18 34 40.0 -0.1**
baz=306
O03E **Paynes Creek** 36.56 87 P **P** **18 34 45.8 +1.0**
baz=305
MOD **Modoc Plateau** 36.58 84 P **P** **18 34 43.9 -1.2**
MOD IAmb IAmb 18 35 00.1
comp=Z,16nm,1.1s
H11S1 **WAKE ISLAND Hy** 36.65 214 T T 19 14 09.6
baz=20,slow=75,SNR=34
H11S2 **WAKE ISLAND Hy** 36.66 214 T T 19 14 10.8
baz=20,slow=75,SNR=26
H11S3 **WAKE ISLAND Hy** 36.67 214 T T 19 14 10.8
baz=20,slow=75,SNR=13
USA0B **Ussuriysk Arra** 36.95 281⇓ *e*P **P** **18 34 46.7 -1.2**
USRK **Ussuriysk Ar.** 36.95 281 P **P** **18 34 47.5 -0.4**
comp=Z,9.4nm,0.8s,baz=49,slow=8.4,SNR=9.1
USRK LR LR 18 49 36.6
comp=Z,347nm,20.7s,baz=55,slow=36
USRK **Ussuriysk Ar.** 36.95 281 P **P** **18 34 47.9 0.0**
USRK **Ussuriysk Ar.** 36.95 281 P **P** **18 34 47.9 0.0**
MAJO **Matsushiro** 37.48 266⇓ *e*P **P** **18 34 53.3 +0.7**
MAJO pmax pmax
comp=Z,19nm,1.0s
MAJO **Matsushiro** 37.48 266 P **P** **18 34 52.9 +0.3**
MAJO IAmb IAmb 18 34 57.8
comp=Z,28nm,1.1s
MAT **Matsushiro** 37.48 266 P **P** **18 34 53.0 +0.4**
MAT *e*S **S** **18 40 41.6 +2.2**
MJAR **Matsushiro Arr** 37.48 266 P **P** **18 34 52.8 +0.1**
comp=Z,6.6nm,0.8s,baz=42,slow=6.4,SNR=11
MJAR LR LR 18 48 42.2
comp=Z,263nm,21.8s,baz=85,slow=34
MJAR **Matsushiro Arr** 37.48 266 P **P** **18 34 52.1 -0.5**
MJAR pmax pmax
comp=Z,16nm,1.5s
MJAR **Matsushiro Arr** 37.48 266 P **P** **18 34 52.1 -0.5**
VLA **Vladivostok** 37.58 279⇓ *e*P **P** **18 34 51.8 -1.5**
VLA pmax pmax
comp=Z,34nm,0.8s
MSO **Missoula** 37.91 73 P **P** **18 34 56.9 +0.6**
baz=300
HLID **Hailey** 39.31 78 P **P** **18 35 09.0 +0.8**
baz=303
EGMT **Eagleton** 39.81 69 P **P** **18 35 12.6 +0.6**
baz=300,SNR=9.4
EGMT **Eagleton** 39.81 69 P **P** **18 35 11.9 -0.2**
EGMT IAmb IAmb 18 35 43.9
comp=Z,26nm,0.8s
NVAR **Mina Array Bea** 39.84 87 P **P** **18 35 14.2 +1.6**
comp=Z,2.8nm,0.8s,baz=294,slow=8.3,SNR=16
NVAR PcP **PcP** **18 37 19.2 +1.1**
comp=Z,0.5nm,0.5s,baz=346,slow=1.9,SNR=1.3
NVAR ScP **ScP** **18 41 03.7 -1.0**
comp=Z,0.2nm,0.3s,baz=250,slow=2.6,SNR=3.6
BOZ **Bozeman (W)** 39.92 74 P **P** **18 35 13.5 +0.4**
baz=302,SNR=8.4
PKM **Mcpherson Peak** 41.12 93 P **P** **18 35 23.9 +0.7**
baz=311
CN2 **Changchun** 41.15 284 *e*P **P** **18 35 22.7 -0.4**
CN2 *e*S **S** **18 41 35.6 +1.4**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.4s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,600nm,17.0s
H17A **Grant Village** 41.19 75 P **P** **18 35 25.9 +2.1**
baz=303
CWC **Cottonwood Cre** 41.21 89 P **P** **18 35 25.2 +1.3**
baz=309
ISA **Isabella, Lake** 41.46 91 P **P** **18 35 26.6 +0.7**
baz=310
RLMT **Red Lodge** 41.59 73 P **P** **18 35 28.2 +1.2**
baz=303,SNR=7.5
R11A **Troy Canyon, C** 41.59 85 P **P** **18 35 28.0 +1.0**
baz=308,SNR=5.6
REDW **Red Top Meadow** 41.59 76 P P 18 35 22.1 -4.9
REDW IAmb IAmb 18 36 05.0
comp=Z,20nm,1.4s
HIA **Hailar** 41.66 295 *c i*P **P** **18 35 26.3 -1.0**
HIA pmax pmax
comp=Z,28nm,1.0s
HIA **Hailar** 41.66 295 P **P** **18 35 24.4 -2.9**
HIA IAmb IAmb 18 35 27.4
comp=Z,25nm,0.8s
MPMC **Manual Prospec** 41.83 89 P **P** **18 35 29.3 +0.3**
baz=310
FURC **Furnace Creek,** 41.96 88 P **P** **18 35 30.4 +0.6**
baz=309
TPNV **Topopah Spring** 42.04 87 P **P** **18 35 31.6 +1.0**
baz=309,SNR=13
DUG **Dugway, Tooele** 42.20 81 P **P** **18 35 33.0 +1.0**
baz=306
DUG **Dugway, Tooele** 42.20 81 P **P** **18 35 29.3 -2.6**
DUG pmax pmax
comp=Z,13nm,1.0s
DUG **Dugway, Tooele** 42.20 81 P **P** **18 35 29.3 -2.6**
EDW2 **Edwards Air Fo** 42.27 91 P **P** **18 35 33.1 +0.7**
baz=311
LAO **LASA Array** 42.55 69 P **P** **18 35 35.8 +1.2**
baz=302
SHOC **Shoshone, Teco** 42.69 89 P **P** **18 35 37.0 +1.3**
baz=310
BW06 **Boulder Array** 42.71 76 P **P** **18 35 36.6 +0.5**
baz=305,SNR=13
BW06 **Boulder Array** 42.71 76 IAmb IAmb 18 35 50.5
comp=Z,13nm,0.9s
PDAR **Pinedale Array** 42.71 76 P **P** **18 35 36.6 +0.4**
comp=Z,2.7nm,0.6s,baz=309,slow=3.2,SNR=25
PDAR **Pinedale Array** 42.71 76 P **P** **18 35 36.1 -0.1**
GSC **Goldstone, Bar** 42.74 90 P **P** **18 35 37.4 +1.2**
baz=310,SNR=11
DGMT **Dagmar** 42.80 66 P **P** **18 35 37.1 +0.6**
baz=301
BFSC **Mount Baldy Ra** 42.89 92 P **P** **18 35 38.7 +1.1**
baz=311
TUQ **Turquoise Moun** 43.20 89 P **P** **18 35 41.2 +1.1**
baz=310
HEC **Hector,Ludlow** 43.34 90 P **P** **18 35 42.1 +1.0**
baz=311
KSRS **Korea Array** 43.34 275 P **P** **18 35 41.4 +0.4**
comp=Z,4.2nm,0.9s,baz=54,slow=8.2,SNR=7.7
KSRS LR LR 18 53 18.3
comp=Z,136nm,20.4s,baz=58,slow=35
GMRC **Granite Mounta** 43.79 89 P **P** **18 35 45.7 +0.9**
baz=311
PFO **Pinyon Flats O** 44.05 91 P **P** **18 35 47.4 +0.5**
comp=Z,2.4nm,0.7s,baz=311,slow=6.9,SNR=7.2
PFO **Pinyon Flats O** 44.05 91 P **P** **18 35 47.3 +0.4**
baz=312
PFO **Pinyon Flats O** 44.05 91 P **P** **18 35 43.2 -3.8**
PFO pmax pmax
comp=Z,12nm,1.2s
PFO **Pinyon Flats O** 44.05 91 P **P** **18 35 43.2 -3.8**
XPFO **Pion Flat** 44.06 91 P **P** **18 35 43.2 -3.8**
TPFO **Pinon Flats** 44.06 91 P **P** **18 35 47.3 +0.3**
baz=312
BELC **Belle Mtn. Jos** 44.09 91 P **P** **18 35 47.6 +0.3**
baz=311,SNR=7.1
109C **Camp Elliot, M** 44.13 93 P **P** **18 35 48.5 +1.1**
baz=312
JNU **Nakatsue** 44.28 268 P **P** **18 35 48.9 +0.2**
comp=Z,30nm,0.9s,baz=87,slow=2.3,SNR=8.3
TJN **Taejon** 44.36 274⇑ *e*P **P** **18 35 50.1 +0.9**

IRM **Iron Mountain** 44.52 90 P **P** **18 35 51.3 +0.8**
baz=311
MONP2 **Monument Peak** 44.56 92 P **P** **18 35 51.6 +0.6**
baz=312
BC3 **Big Chuckawall** 44.66 90 P **P** **18 35 51.9 +0.1**
baz=312
IKP **In-Ko-Pah, Jac** 44.91 92 P **P** **18 35 54.5 +0.8**
baz=312
O20A **White River Ci** 45.05 78 P **P** **18 35 55.5 +0.6**
baz=307
RSSD **Black Hills** 45.25 71 P **P** **18 35 56.7 +0.2**
baz=305
GLA **Glamis** 45.45 91 P **P** **18 35 58.5 +0.5**
baz=312
WUAZ **Wupatki** 45.99 85 P **P** **18 36 03.2 +0.8**
baz=310
N23A **Red Feather La** 46.00 76 P **P** **18 36 01.7 -0.7**
baz=307
PV15 **Paradox Valley** 46.00 80 IAmb IAmb 18 36 16.6
comp=Z,16nm,1.0s
NRIK **Noril'sk** 46.16 331 P **P** **18 36 02.3 -0.7**
comp=Z,2.5nm,0.7s,baz=46,slow=11,SNR=2.0
DL2 **Dalian** 46.34 281 P **P** **18 36 04.9 +0.1**
DL2 pmax pmax
comp=Z,31nm,1.1s
ULM **Lac du Bonnet** 46.48 60 P **P** **18 36 05.2 -0.6**
comp=Z,4.9nm,0.6s,baz=328,slow=10,SNR=3.6
ULM **Lac du Bonnet** 46.48 60⇑ *e*P **P** **18 36 06.9 +1.1**
MVCO **Mesa Verde** 46.70 82 P **P** **18 36 08.1 +0.1**
baz=309
ISCO **Idaho Springs** 46.86 77 P **P** **18 36 09.6 +0.3**
baz=308
W18A **Petrified Fore** 47.27 85 P **P** **18 36 11.5 -0.9**
baz=311
S22A **4UR Ranch, Cre** 47.39 80 P **P** **18 36 14.5 +1.1**
baz=309
AGMN **Agaiz Nation** 47.56 62 P **P** **18 36 14.2 -0.1**
baz=304,SNR=9.0
SUSD **Miller** 48.04 68 P **P** **18 36 18.2 +0.1**
baz=306
SDCO **Great Sand Dun** 48.21 79 P **P** **18 36 19.7 -0.1**
baz=309
IRK **Irkutsk** 48.46 305 *e*P **P** **18 36 21.0 -0.2**
IRK pmax pmax
comp=Z,45nm,1.1s
TUC **Tucson** 48.47 88 P **P** **18 36 22.5 +0.9**
baz=313
TUC **Tucson** 48.47 88 P P 18 36 17.2 -4.4
TUC pmax pmax
comp=Z,9.0nm,1.0s
TUC **Tucson** 48.47 88 P P 18 36 17.2 -4.4
TUC IAmb IAmb 18 37 01.7
comp=Z,8.9nm,1.0s
B35A **Bob, Littlefor** 48.70 61 P **P** **18 36 22.9 -0.2**
B35A IAmb IAmb 18 36 51.3
comp=Z,12nm,0.9s
BJI **Beijing** 48.95 286 P **P** **18 36 25.8 +0.7**
BJI pmax pmax
comp=Z,15nm,0.8s
BJI LR LR
comp=Z,380nm,18.2s
BJI LR LR
comp=Z,220nm,20.6s
BJI LR LR
comp=Z,370nm,22.1s
TLY **Talaya** 49.10 305 *e*P **P** **18 36 26.0 -0.1**
TLY *e*S S 18 43 39.8 +11
TLY pmax pmax
comp=Z,56nm,1.0s
TLY MLR MLR
comp=Z,956nm,16.0s
T25A **Trinidad** 49.26 79 P **P** **18 36 28.9 +1.1**
baz=310
ANMO **Albuquerque** 49.42 82 P **P** **18 36 30.0 +1.0**
baz=311
ANMO **Albuquerque** 49.42 82⇓ *e*P **P** **18 36 29.7 +0.7**
ANMO pmax pmax
comp=Z,7.0nm,1.7s
ULN **Ulaanbaatar** 49.50 299 *c i*P **P** **18 36 29.1 -0.3**
ULN pmax pmax
comp=Z,29nm,1.0s
ULN **Ulaanbaatar** 49.50 299 P **P** **18 36 27.7 -1.7**
ULN IAmb IAmb 18 36 30.3
comp=Z,23nm,0.9s
ECSD **EROS Data Cent** 49.81 67 P **P** **18 36 31.0 -0.6**
baz=308,SNR=12
ECSD **EROS Data Cent** 49.81 67 IAmb IAmb 18 36 32.0
comp=Z,11nm,0.9s
KBS **Kingsbay** 49.82 359 *ce*P **P** **18 36 31.5 +0.2**
KBS pmax pmax
comp=Z,11nm,1.0s
SONM **Songino Array** 49.87 300 P **P** **18 36 32.5 +0.2**
comp=Z,14nm,0.8s,baz=52,slow=8.7,SNR=48
SONM ScP **ScP** **18 41 45.1 -0.6**
comp=Z,1.0nm,0.8s,baz=106,slow=5.3,SNR=3.9
SONM LR LR 18 59 02.2
comp=Z,564nm,18.9s,baz=58,slow=38
SONM **Songino Array** 49.87 300 P **P** **18 36 32.4 +0.2**
SONM pmax pmax
comp=Z,13nm,0.8s
SONM **Songino Array** 49.87 300 P **P** **18 36 32.4 +0.2**
ZAK **Zakamensk** 50.03 304 *e*P **P** **18 36 32.0 -1.4**
ZAK *e* 18 37 52.3
ZAK pmax pmax
comp=Z,22nm,1.2s
ZAK pmax pmax
comp=Z,6.0nm,1.3s
EYMN **Ely** 50.16 60 P **P** **18 36 33.9 -0.3**
baz=306
121A **Cookes Peak, D** 50.19 86 P **P** **18 36 35.5 +0.6**
baz=313
F36A **Milaca** 50.28 63 IAmb IAmb 18 36 35.8
comp=Z,7.7nm,0.8s
BGNE **Belgrade** 50.35 70 P **P** **18 36 36.2 +0.4**
baz=309
MOY **Mondy** 50.45 306 *e*P **P** **18 36 36.8 +0.3**
MOY pmax pmax
comp=Z,26nm,1.3s
SPA0 **Spitsbergen Ar** 50.48 358 P **P** **18 36 34.2 -2.0**
SPA0 IAmb IAmb 18 36 37.5
comp=Z,24nm,1.1s
SPITS **Spitsbergen Ar** 50.48 358 P **P** **18 36 36.1 -0.2**
comp=Z,14nm,0.9s,baz=58,slow=9.9,SNR=6.3
DAG **Danmarks Havn** 50.97 7 *i*P **P** **18 36 39.0 -0.9**
comp=Z,27nm,1.1s
DAG **Danmarks Havn** 50.97 7 *i*P **P** **18 36 39.0 -0.9**
DAG pmax pmax
comp=Z,27nm,1.1s
SPMN **Marine on St.** 51.07 63 P **P** **18 36 41.0 -0.2**
baz=308
HHC **Hu-ho-hao-te** 51.20 289 *e*P **P** **18 36 44.4 +2.1**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,130nm,6.1s
HHC LR LR
comp=Z,200nm,17.8s
HHC LR LR
comp=Z,270nm,12.9s
HHC LR LR
comp=Z,220nm,13.4s
SUMG **Summit** 52.25 16 *i*P **P** **18 36 50.4 +0.4**
comp=Z,105nm,1.3s
SUMG **Summit** 52.25 16 *i*P **P** **18 36 50.4 +0.4**
SUMG pmax pmax
comp=Z,110nm,1.3s
MNTX **Cornudas Mount** 52.26 85 P **P** **18 36 50.7 +0.5**
baz=313
BTO **Baotou** 52.26 290 *e*P **P** **18 36 50.4 +0.2**
MSTX **Muleshoe** 52.34 81 P **P** **18 36 51.5 +0.5**
baz=312
AMTX **Amarillo** 52.41 79 P **P** **18 36 51.8 +0.5**
baz=312
NJ2 **Nanjing** 52.51 276 *e*P **P** **18 36 52.4 +0.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
KSU1 **Kansas State U** 52.72 72 P **P** **18 36 53.3 -0.2**
baz=310
E43A **Lone Tree Farm** 53.54 59 IAmb IAmb 18 37 17.9
comp=Z,15nm,0.8s
JFWS **Jewell Farm** 53.95 64 P **P** **18 37 01.7 -0.9**
baz=310
I42A **Draeger Farm,** 54.08 63 IAmb IAmb 18 37 04.1
comp=Z,12nm,0.8s
P38A **Dawn** 54.19 69 IAmb IAmb 18 37 10.9
comp=Z,17nm,0.7s
WMOK **Wichita Mounta** 54.28 77 P **P** **18 37 05.0 0.0**
baz=312,SNR=11
WMOK **Wichita Mounta** 54.28 77 IAmb IAmb 18 37 12.7
comp=Z,7.3nm,0.8s
D46A **Sault St. Mari** 54.79 57 P **P** **18 37 08.6 +0.1**
baz=310
TX32 **Lajitas Array** 54.95 86 IAmb IAmb 18 37 49.0
comp=Z,10nm,0.9s
TXAR **Lajitas Array** 54.95 86 P **P** **18 37 10.4 +0.3**
comp=Z,3.1nm,0.7s,baz=296,slow=5.2,SNR=56
D47A **Chapleau** 55.17 56 P **P** **18 37 11.3 0.0**
baz=310
ABTX **Abilene, Hawle** 55.18 80 P **P** **18 37 12.1 +0.5**
baz=313
TUL1 **Leonard** 55.31 74 P **P** **18 37 13.6 +1.2**
baz=312
E47A **Iron Bridge** 55.47 57 P **P** **18 37 13.2 -0.2**
baz=311
D48A **Paudash Townsh** 55.76 56 P **P** **18 37 15.7 +0.2**
baz=311,SNR=5.1
R40A **Maddies Statio** 55.81 70 IAmb IAmb 18 37 21.7
comp=Z,11nm,0.7s
D49A **Beulah Townshi** 55.93 55 P **P** **18 37 17.0 +0.3**
baz=311
E48A **Lockeyer** 56.03 56 P **P** **18 37 17.8 +0.4**
baz=311
HDIL **Hopedale** 56.03 66 P **P** **18 37 17.1 -0.5**
baz=312,SNR=5.3
MATQ **Matagami** 56.15 51 P **P** **18 37 17.5 -0.7**
baz=312
F48A **Evansville** 56.22 57 P **P** **18 37 19.1 +0.3**
baz=311
WHN **Wuhan** 56.34 278 P **P** **18 37 20.3 +0.5**
JCT **Junction City** 56.56 82 P **P** **18 37 21.2 -0.3**
baz=314
CCM **Cathedral Cave** 56.57 69 P **P** **18 37 18.8 -2.6**
baz=312
CCM **Cathedral Cave** 56.57 69 P **P** **18 37 21.5 +0.1**
CCM pmax pmax
comp=Z,8.0nm,0.8s
CCM **Cathedral Cave** 56.57 69 P **P** **18 37 21.5 +0.1**
CCM IAmb IAmb 18 37 28.0
comp=Z,7.7nm,0.8s
F49A **Sandfield** 56.57 57 P **P** **18 37 21.5 +0.2**
baz=312
ZALV **Zalesovo Beam** 56.59 316 P **P** **18 37 20.2 -1.2**
comp=Z,1.7nm,0.6s,baz=37,slow=7.6,SNR=8.6
ZALV PcP **PcP** **18 38 18.1 +0.7**
comp=Z,3.7nm,0.8s,baz=46,slow=4.2,SNR=6.2
ZALV LR LR 19 03 40.5
comp=Z,287nm,18.2s,baz=50,slow=38
ZALV **Zalesovo Beam** 56.59 316 P **P** **18 37 20.8 -0.5**
U40A **Yellville** 56.76 72 P **P** **18 37 21.4 -1.5**
baz=313
D50A **G1974 Best Tow** 56.77 55 P **P** **18 37 22.8 +0.1**
baz=312
E50A **Wahnapitae** 56.81 56 P **P** **18 37 22.7 -0.3**
baz=312
LSQQ **Lebel-sur-Quev** 56.94 51 P **P** **18 37 22.9 -0.9**
baz=312
WHTX **Lake Whitney,** 56.96 79 P **P** **18 37 23.9 -0.4**
baz=314
W39A **Magazine** 56.99 74 P **P** **18 37 24.0 -0.4**
baz=313
SSLB **Suanglung** 57.02 267 P **P** **18 37 24.3 -0.5**
D51A **Lot 18 Range I** 57.06 54 P **P** **18 37 24.7 -0.1**
baz=312
XAN **Xi'an** 57.26 285 P **P** **18 37 26.2 -0.2**
XAN pmax pmax
comp=Z,24nm,1.0s
XAN pmax pmax
comp=Z,120nm,3.5s
XAN LR LR
comp=Z,1μm,15.7s
XAN LR LR
comp=Z,540nm,15.0s
XAN LR LR
comp=Z,2μm,16.1s
T42A **Van Buren** 57.35 70 IAmb IAmb 18 37 32.4
comp=Z,7.5nm,0.7s
E51A **G1948 Merrick** 57.38 55 P **P** **18 37 26.8 -0.2**
baz=312,SNR=5.8
SFIN **Lafayette** 57.40 65 P **P** **18 37 26.7 -0.5**
baz=312,SNR=7.7
SCHQ **Schefferville** 57.55 41 P **P** **18 37 28.1 0.0**
comp=Z,10nm,0.8s,baz=311,slow=8.0,SNR=8.2
SCHQ **Schefferville** 57.55 41 IAmb IAmb 18 37 38.8
comp=Z,16nm,0.9s
MIAR **Mount Ida** 57.56 74 P **P** **18 37 28.6 +0.1**
baz=313,SNR=12
F51A **Arnstein** 57.57 56 P **P** **18 37 27.7 -0.6**
baz=312,SNR=6.5
CHGQ **Chibougamau** 57.62 49 P **P** **18 37 28.1 -0.6**
baz=313
D52A **ZEK Kipawa Sen** 57.63 54 P **P** **18 37 28.9 +0.1**
baz=313
D53A **Lac Vacive, Po** 57.92 53 P **P** **18 37 30.4 -0.4**
baz=313
W41B **Gary Mavity, V** 57.93 73 P **P** **18 37 30.1 -0.9**
baz=313
W41B **Gary Mavity, V** 57.93 73 IAmb IAmb 18 37 46.8
comp=Z,16nm,0.9s
E52A **Mattawa** 57.97 55 P **P** **18 37 30.9 -0.3**
baz=313
X40A **Basin Creek Fa** 58.05 74 P **P** **18 37 31.4 -0.5**
baz=314
DGZ **Jazzator, Alta** 58.33 311 *ce*P **P** **18 37 33.8 0.0**
DGZ pmax pmax
comp=Z,16nm,1.1s
E53A **Dumoine, Ponti** 58.41 54 P **P** **18 37 33.5 -0.8**
baz=313
I51A **Listowel** 58.42 58 P **P** **18 37 34.4 0.0**
baz=313
ALGO **Algonquin Park** 58.51 55 P **P** **18 37 35.1 +0.2**
baz=313
ARCES **ARCESS Array B** 58.55 353 P **P** **18 37 33.9 -1.0**
comp=Z,4.2nm,0.6s,baz=31,slow=5.3,SNR=18
ARCES PcP **PcP** **18 38 25.2 +0.2**
comp=Z,8.7nm,0.8s,baz=28,slow=5.5,SNR=9.1
ARCES **ARCESS Array B** 58.55 353 P **P** **18 37 34.2 -0.7**
E54A **Lac Daplat, Po** 58.62 54 P **P** **18 37 35.8 +0.2**
baz=313
G54A **Lake Saint Pet** 58.87 55 P **P** **18 37 36.8 -0.7**
baz=313
LZH **Lanzhou** 58.88 290 ⇑P **P** **18 37 38.8 +0.9**
LZH pP pP 18 37 46.4 +1.0
LZH sP pwP 18 37 50.7 -0.4
LZH PP **PP** **18 39 48.1 +0.2**
LZH pmax pmax
comp=Z,28nm,1.4s
LZH pmax pmax
comp=Z,120nm,5.0s
LZH LR LR
comp=Z,300nm,14.6s
LZH LR LR
comp=Z,390nm,15.2s
LZH LR LR
comp=Z,460nm,18.0s
GTA **Gaotai** 58.93 295 ⇑P **P** **18 37 37.9 -0.2**
GTA pP pP 18 37 44.7 -0.9
GTA sP sP 18 37 47.6 -0.9
GTA S **S** **18 45 37.3 -5.0**
GTA SS **SS** **18 49 32.5 -3.0**
GTA pmax pmax
comp=Z,27nm,1.0s
GTA pmax pmax
comp=Z,140nm,7.6s
GTA LR LR
comp=Z,380nm,17.5s
GTA LR LR
comp=Z,440nm,17.8s
GTA LR LR
comp=Z,450nm,17.1s
D55A **Sainte-Anne-du** 59.07 52 P **P** **18 37 38.8 0.0**
baz=314,SNR=6.6
LVZ **Lovozero** 59.17 348 P **P** **18 37 38.8 -0.5**
LVZ pmax pmax
comp=Z,30nm,0.9s
LVZ **Lovozero** 59.17 348 P **P** **18 37 38.8 -0.5**
H53A **Bobcaygeon** 59.18 56 P **P** **18 37 40.0 +0.4**
baz=314
P49A **Miami Univ. Ec** 59.31 64 P **P** **18 37 39.7 -1.0**
baz=314,SNR=5.4
WCI **Wyandotte Cave** 59.32 66 P **P** **18 37 40.4 -0.2**
baz=314
WCI **Wyandotte Cave** 59.32 66 P **P** **18 37 39.7 -1.0**
WCI pmax pmax
comp=Z,21nm,0.8s

WCI	Wyandotte Cave	59.32	66	P	P	18 37 39.7	-1.0	
D56A	ZEC Mazanza, M	59.40	52	P	P	18 37 41.6	+0.4	
	baz=314							
E56A	St. Veronique	59.62	52	P	P	18 37 42.7	+0.1	
	baz=314							
N51A	Ashland	59.66	61	P	P	18 37 42.0	-1.0	
	baz=314							
G55A	Calabogie	59.67	54	P	P	18 37 43.5	+0.5	
	baz=314							
D57A	Chemin Vers le	59.85	51	P	P	18 37 44.2	-0.1	
	baz=314							
WVT	Waverly	59.88	69	P	P	18 37 44.5	-0.1	
	baz=314							
WVT	Waverly	59.88	69	P	P	18 37 43.6	-0.9	
WVT				pmax	pmax			
	comp=Z,11nm,0.8s							
WVT	Waverly	59.88	69	P	P	18 37 43.6	-0.9	
WVT				lAmb	lAmb	18 37 51.8		
	comp=Z,11nm,0.8s							
I55A	Frankford	59.89	56	P	P	18 37 44.6	+0.1	
	baz=314							
H55A	Tweed	59.92	55	P	P	18 37 45.3	+0.6	
	baz=314							
O51A	Pataskala	60.07	62	P	P	18 37 45.5	-0.4	
	baz=314							
OXF	Oxford	60.07	71	P	P	18 37 46.2	+0.3	
	baz=314							
N52A	McGinn's Farm,	60.12	61	P	P	18 37 45.4	-0.7	
	baz=314							
E57A	Chemin Saint G	60.15	52	P	P	18 37 45.8	-0.5	
	baz=315,SNR=6.7							
M53A	WI Miller and	60.23	60	P	P	18 37 47.2	+0.3	
	baz=314							
D58A	Chemin du LacG	60.28	51	P	P	18 37 46.8	-0.4	
	baz=315,SNR=5.5							
H56A	Elgin	60.36	55	P	P	18 37 48.3	+0.6	
	baz=314							
L54A	Sinclairville	60.41	58	P	P	18 37 48.7	+0.5	
	baz=314							
K54A	Basiliko Farm,	60.48	58	P	P	18 37 49.1	+0.4	
	baz=314							
O52A	Adamsville	60.52	62	P	P	18 37 48.7	-0.2	
	baz=314,SNR=6.2							
E58A	La Victoria	60.60	52	P	P	18 37 49.3	0.0	
	baz=315							
G57A	Newington	60.65	54	P	P	18 37 49.8	+0.2	
	baz=315							
K55A	Perry	60.73	57	P	P	18 37 50.8	+0.5	
	baz=315							
M54A	Oil Creek Stat	60.73	59	P	P	18 37 50.1	-0.2	
	baz=314							
O53A	New Philadelph	60.77	61	P	P	18 37 50.5	0.0	
	baz=314							
U49A	Red Boiling Sp	60.80	67	lAmb	lAmb	18 37 52.4		
	comp=Z,6.7nm,0.8s							
H57A	Richville	60.90	54	P	P	18 37 52.1	+0.7	
	baz=315							
L55A	Hinsdale	60.91	58	P	P	18 37 50.9	-0.7	
	baz=315							
N54A	Moraine State	60.94	60	P	P	18 37 51.7	-0.1	
	baz=314							
T50A	Nancy	60.99	66	lAmb	lAmb	18 38 04.0		
	comp=Z,10nm,1.0s							
Q52A	Bidwell	61.08	63	P	P	18 37 52.5	-0.2	
	baz=315							
G58A	Ormstown	61.08	53	P	P	18 37 51.9	-0.7	
	baz=315							
ZSN	Zaisan	61.12	311⇑	*i*P	P	18 37 53.1	+0.1	
	comp=Z,20nm,0.9s,baz=311							
ZSN	Zaisan	61.12	311	*c i*P	P	18 37 53.0	+0.1	
ZSN				pmax	pmax			
	comp=Z,20nm,0.9s							
I57A	Carthage	61.13	55	P	P	18 37 53.9	+1.0	
	baz=315							
K56A	Middlesex	61.14	57	P	P	18 37 52.7	-0.4	
	baz=315							
LONY	Lake Ozonia	61.19	54	P	P	18 37 53.3	-0.1	
	baz=315							
LONY	Lake Ozonia	61.19	54	lAmb	lAmb	18 38 11.3		
	comp=Z,11nm,1.0s							
P53A	Whipple	61.20	62	P	P	18 37 53.8	+0.2	
	baz=315,SNR=5.9							
P53A	Whipple	61.20	62	lAmb	lAmb	18 37 54.1		
	comp=Z,14nm,0.8s							
F59A	Saint Guilaume	61.21	52	P	P	18 37 53.5	0.0	
	baz=316							
M55A	Ridgway	61.24	59	P	P	18 37 54.1	+0.3	
	baz=315,SNR=7.6							
S51A	Beattyville	61.26	65	lAmb	lAmb	18 37 54.7		
	comp=Z,12nm,0.7s							
O54A	Avella	61.27	61	P	P	18 37 54.0	0.0	
	baz=315,SNR=6.5							
J57A	Williamstown	61.33	56	P	P	18 37 55.0	+0.7	
	baz=315							
D60A	Saint Jean D'O	61.36	50	P	P	18 37 54.2	-0.2	
	baz=316							
L56A	Greenwood	61.41	58	P	P	18 37 55.3	+0.3	
	baz=315,SNR=6.0							
E60A	Ste Agathe de	61.49	51	P	P	18 37 55.1	-0.3	
	baz=316,SNR=5.4							
D61A	St Aubert, Com	61.50	49	P	P	18 37 55.5	+0.1	
	baz=316,SNR=7.1							
F60A	Warwick	61.54	51	P	P	18 37 55.2	-0.5	
	baz=316							
K57A	Scipio Center	61.54	56	P	P	18 37 56.6	+0.8	
	baz=315							
H58A	Gabriels	61.54	54	P	P	18 37 54.9	-0.9	
	baz=315							
M56A	Emporium	61.54	58	P	P	18 37 56.3	+0.4	
	baz=315							
G59A	Clarenceville	61.57	53	P	P	18 37 55.9	0.0	
	baz=316							
KURK	Kurchatov	61.57	317	*c i*P	P	18 37 55.4	-0.4	
KURK				pmax	pmax			
	comp=Z,36nm,0.8s							
KURK	Kurchatov	61.57	317	P	P	18 37 55.9	+0.1	
Q53A	Leroy	61.57	63	P	P	18 37 56.3	+0.2	
	baz=315,SNR=8.0							
N55A	Marion Center	61.60	59	P	P	18 37 56.5	+0.2	
	baz=315							
P54A	Burton	61.62	61	P	P	18 37 56.6	+0.2	
	baz=315,SNR=10							
H59A	Cadyville	61.62	53	P	P	18 37 55.7	-0.6	
	baz=316,SNR=5.3							
I58A	Old Forge	61.65	55	P	P	18 37 57.0	+0.4	
	baz=315							
R53A	Hurricane	61.70	63	P	P	18 37 56.4	-0.6	
	baz=315,SNR=6.0							
J58A	Remsen	61.73	55	P	P	18 37 57.9	+0.8	
	baz=315,SNR=7.0							
O55A	Ligonier	61.84	60	P	P	18 37 57.5	-0.4	
	baz=315							
Q54A	Coxs Mills	61.86	62	P	P	18 37 58.3	+0.2	
	baz=315,SNR=5.6							
N56A	West Decatur	61.88	59	P	P	18 37 58.4	+0.3	
	baz=315,SNR=5.4							
L57A	Andrews Acres	61.88	57	P	P	18 37 58.8	+0.7	
	baz=315,SNR=6.1							
E61A	Lac Etchemin	61.91	50	P	P	18 37 57.8	-0.5	
	baz=316							
MCWV	Mont Chateau	61.93	61	P	P	18 37 58.6	+0.1	
	baz=315							
K58A	Earlville	61.97	56	P	P	18 37 59.3	+0.6	
	baz=315							
G60A	Masonville	61.97	52	P	P	18 37 58.8	+0.1	
	baz=316							
F61A	St Evariste	62.00	51	P	P	18 37 58.5	-0.4	
	baz=316,SNR=6.8							
P55A	Reedsville	62.05	61	P	P	18 37 58.9	-0.4	
	baz=315,SNR=5.8							
J59A	Piesco	62.05	55	P	P	18 37 58.9	-0.3	
	baz=316							
J59A	Piesco	62.05	55	lAmb	lAmb	18 38 07.5		
	comp=Z,16nm,1.2s							
TZTN	Tazewell	62.06	66	P	P	18 37 59.2	-0.2	
	baz=315							
S53A	Williamson	62.06	64	P	P	18 37 59.6	+0.2	
	baz=315							
D62A	Allapoint, All	62.12	49	P	P	18 38 00.1	+0.5	
	baz=317,SNR=9.2							
I59A	Olmsteadville	62.14	54	P	P	18 38 00.0	+0.2	
	baz=316							
H60A	Morristown	62.18	53	P	P	18 37 59.4	-0.6	
	baz=316							
BINY	Binghamton	62.19	57	P	P	18 38 01.0	+0.8	
	baz=316							
BINY	Binghamton	62.19	57	P	P	18 37 58.8	-1.4	
O56A	Blue Knob Stat	62.19	60	P	P	18 38 00.2	-0.1	
	baz=315,SNR=5.3							
M57A	Sunshine Farm,	62.20	58	P	P	18 38 00.6	+0.3	
	baz=315							
E62A	Clayton Lake	62.23	49	P	P	18 38 00.5	+0.1	
	baz=317							
E62A	Clayton Lake	62.23	49	lAmb	lAmb	18 38 01.6		
	comp=Z,17nm,1.1s							
G61A	St-Isidore-de-	62.24	51	P	P	18 38 00.3	-0.1	
	baz=316							
Q55A	Buckhannon	62.27	62	P	P	18 38 01.6	+0.8	
	baz=315,SNR=9.0							
SSPA	Standing Stone	62.30	59	P	P	18 38 01.0	0.0	
	baz=315							
SSPA	Standing Stone	62.30	59	P	P	18 38 00.9	0.0	
T53A	Wise	62.32	65	P	P	18 38 01.3	+0.1	
	baz=315,SNR=8.4							
WMQ	Urumqi	62.34	306	*e*P	P	18 38 02.1	+0.8	
WMQ				pP	sP	18 38 12.2	+0.5	
WMQ				sP	pwP	18 38 14.8	+0.3	
WMQ				pmax	pmax			
	comp=Z,33nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,68nm,4.5s							
WMQ				LR	LR			
	comp=Z,380nm,18.7s							
WMQ				LR	LR			
	comp=Z,310nm,18.1s							
WMQ				LR	LR			
	comp=Z,370nm,18.7s							
R54A	Victor	62.34	63	P	P	18 38 01.5	+0.2	
	baz=315,SNR=14							
K59A	Cooperstown	62.37	55	P	P	18 38 02.2	+0.8	
	baz=316							
L58A	Harry Jones Me	62.37	57	P	P	18 38 02.0	+0.6	
	baz=316,SNR=6.1							
N57A	Milroy	62.39	59	P	P	18 38 01.8	+0.3	
	baz=316							
S54A	Dingess, Beckl	62.43	63	P	P	18 38 02.2	+0.3	
	baz=315,SNR=14							
V52A	Sevierville	62.53	66	lAmb	lAmb	18 38 09.7		
	comp=Z,15nm,0.8s							
M58A	Price's Panora	62.53	57	P	P	18 38 02.7	+0.2	
	baz=316							
LRAL	Lakeview Retre	62.53	71	P	P	18 38 04.2	+1.6	
	baz=316							
F62A	Pittston Farm,	62.55	50	P	P	18 38 02.8	+0.3	
	baz=317,SNR=5.3							
H61A	Lyndonville	62.58	52	P	P	18 38 03.0	+0.2	
	baz=316							
P56A	Dayton Farm, R	62.59	60	P	P	18 38 03.5	+0.6	
	baz=316,SNR=9.4							
D63A	Stockholm	62.60	48	P	P	18 38 03.0	+0.2	
	baz=317,SNR=5.8							
L59A	Walton	62.69	56	P	P	18 38 04.4	+0.8	
	baz=316,SNR=5.8							
Q56A	Snyder Ridge,	62.73	61	P	P	18 38 04.1	+0.3	
	baz=316							
O57A	Amberson	62.73	59	P	P	18 38 04.2	+0.4	
	baz=316,SNR=9.6							
R55A	Marlinton	62.75	62	P	P	18 38 04.2	+0.1	
	baz=316							
J60A	Lant Hill Farm	62.76	54	P	P	18 38 04.4	+0.5	
	baz=316,SNR=6.2							
G62A	West of Eustis	62.77	51	P	P	18 38 04.5	+0.5	
	baz=317,SNR=7.1							
N58A	Sunbury	62.78	58	P	P	18 38 04.5	+0.4	
	baz=316,SNR=5.2							
LBNH	Lisbon	62.79	53	P	P	18 38 04.4	+0.2	
	baz=316							
T54A	Tazewell	62.81	64	P	P	18 38 05.1	+0.6	
	baz=316,SNR=11							
MK31	Makanchi Array	62.81	312	*i* P	P	18 38 03.5	-0.8	
MK31	Makanchi Array	62.81	312	lAmb	lAmb	18 38 04.7		
	comp=Z,15nm,0.9s							
MKAR	Makanchi Array	62.81	312	P	P	18 38 03.5	-0.7	
	comp=Z,14nm,0.8s,baz=54,slow=6.2,SNR=123							
MKAR				pP	pwP	18 38 16.7	-0.9	
	comp=Z,5.6nm,0.8s,baz=52,slow=9.8,SNR=6.0							
MKAR				LR	LR	19 07 29.6		
	comp=Z,268nm,18.1s,baz=38,slow=38							
MKAR	Makanchi Array	62.81	312	P	P	18 38 03.9	-0.4	
I61A	Oroboro, Fairl	62.88	53	P	P	18 38 04.3	-0.4	
	baz=316							
E63A	Ozan	62.90	49	P	P	18 38 04.8	0.0	
	baz=317,SNR=6.4							
S55A	Lewisburg	62.90	63	P	P	18 38 05.5	+0.5	
	baz=316,SNR=9.9							
PQI	Presque Isle	62.91	48	lAmb	lAmb	18 38 21.3		
	comp=Z,22nm,1.3s							
H62A	Milan	62.93	52	P	P	18 38 04.8	-0.3	
	baz=317,SNR=10							
MAKZ	Makanchi	62.95	312	P	P	18 38 04.7	-0.5	
MAKZ				pmax	pmax			
	comp=Z,18nm,1.1s							
MAKZ	Makanchi	62.95	312	P	P	18 38 04.7	-0.5	
MAKZ				lAmb	lAmb	18 38 05.6		
	comp=Z,18nm,1.1s							
M59A	Waymart	62.95	57	P	P	18 38 05.5	+0.2	
	baz=316							
P57A	Homestead Farm	63.05	60	P	P	18 38 06.1	+0.2	
	baz=316							
U54A	Nelsons Funny	63.05	65	P	P	18 38 06.5	+0.4	
	baz=316,SNR=6.1							
R56A	Bull Pasture M	63.06	62	P	P	18 38 06.4	+0.2	
	baz=316,SNR=5.8							
F63A	Nahmakanta, Br	63.10	50	P	P	18 38 05.7	-0.6	
	baz=317,SNR=5.2							
F63A	Nahmakanta, Br	63.10	50	lAmb	lAmb	18 38 07.6		
	comp=Z,17nm,1.0s							
J61A	Chester	63.13	54	P	P	18 38 06.9	+0.5	
	baz=316							
BVA0	Borovoye Array	63.13	323	*i* P	P	18 38 06.3	0.0	
PRGR	Permogore	63.14	341	*e*P	P	18 38 04.8	-1.3	
PRGR				pmax	pmax			
	comp=Z,17nm,0.9s							
BRVK	Borovoye	63.15	323	P	P	18 38 05.9	-0.5	
BRVK				pmax	pmax			
	comp=Z,36nm,1.1s							
BRVK	Borovoye	63.15	323	P	P	18 38 05.9	-0.5	
Q57A	Strasburg	63.15	60	P	P	18 38 06.3	-0.3	
	baz=316							
O58A	Lewisberry	63.18	59	P	P	18 38 07.1	+0.3	
	baz=316,SNR=5.7							
E64A	Bridgewater	63.18	48	P	P	18 38 06.1	-0.6	
	baz=316,SNR=13							
T55A	Pulaski	63.21	63	P	P	18 38 07.7	+0.6	
	baz=316,SNR=8.3							
N59A	State Game Lan	63.22	57	P	P	18 38 07.8	+0.7	
	baz=316,SNR=6.0							
N59A	State Game Lan	63.22	57	lAmb	lAmb	18 38 11.3		
	comp=Z,15nm,1.1s							
K61A	Williamstown	63.26	55	P	P	18 38 06.1	-1.1	
	baz=316							
L60A	Shokan	63.26	56	P	P	18 38 08.0	+0.7	
	baz=316,SNR=5.7							
G63A	Kingsbury	63.29	50	P	P	18 38 07.6	+0.1	
	baz=317							
PKME	Peaks-Kenny Pk	63.33	50	P	P	18 38 08.5	+0.8	
	baz=317							
F64A	Sherman	63.34	49	P	P	18 38 07.9	+0.2	
	baz=318,SNR=6.7							
F64A	Sherman	63.34	49	lAmb	lAmb	18 38 09.1		
	comp=Z,16nm,0.9s							
BLA	Blacksburg	63.35	63	P	P	18 38 08.4	+0.4	
	baz=316,SNR=8.5							
BATG	Bathurst New B	63.36	47	P	P	18 38 07.3	-0.6	
SVE	Sverdlovsk	63.42	330	*e*P	P	18 38 08.5	+0.4	
SVE				pmax	pmax			
	comp=Z,17nm,1.2s							
P58A	Pank, Wackersv	63.43	59	P	P	18 38 08.2	-0.2	
	baz=316							
O59A	Robesonia	63.44	58	P	P	18 38 09.1	+0.6	
	baz=316,SNR=5.5							
L61A	Hillsdale 1, H	63.45	55	P	P	18 38 09.3	+0.7	
	baz=316							
S56A	Natural Bridge	63.49	62	P	P	18 38 09.6	+0.7	
	baz=316,SNR=7.0							
U55A	TA2, Sparta	63.50	64	P	P	18 38 09.2	+0.1	
	baz=316,SNR=7.0							
V54A	Nebo	63.51	65	P	P	18 38 09.3	+0.2	
	baz=316,SNR=6.2							
M60A	Port Jervis	63.53	56	P	P	18 38 09.8	+0.7	
	baz=316,SNR=8.7							
J62A	Henniker	63.59	53	P	P	18 38 09.7	+0.3	
	baz=317							
I63A	Otisfield	63.60	52	P	P	18 38 10.0	+0.5	
	baz=317							
G64A	Maxfield	63.60	50	P	P	18 38 09.5	+0.1	
	baz=318							
N60A	Cedar Hill Far	63.61	57	P	P	18 38 10.2	+0.6	
	baz=316							
Q58A	Fox Den Farm,	63.62	60	P	P	18 38 09.5	-0.2	
	baz=316,SNR=5.8							
R57A	Stanardsville	63.62	61	P	P	18 38 10.1	+0.4	
	baz=316,SNR=8.0							
T56A	Rocky Mt	63.70	63	P	P	18 38 10.7	+0.4	
	baz=316,SNR=5.2							
L61B	Northampton	63.71	54	P	P	18 38 10.6	+0.3	
	baz=317							
S57A	Dark Hollow, R	63.77	62	P	P	18 38 11.6	+0.9	
	baz=316,SNR=5.8							
K62A	Royalston	63.78	54	P	P	18 38 10.6	-0.2	
	baz=317							
K62A	Royalston	63.78	54	lAmb	lAmb	18 38 12.5		
	comp=Z,18nm,0.9s							
P59A	Jarrettsville	63.81	59	P	P	18 38 11.5	+0.6	
	baz=316							
H64A	Troy	63.83	51	P	P	18 38 11.0	+0.1	
	baz=318							
O60A	Telford	63.84	58	P	P	18 38 11.6	+0.4	
	baz=316							
W54A	Cherokee Point	63.87	66	P	P	18 38 11.6	+0.1	
	baz=316,SNR=5.3							
V55A	Taylorsville	63.87	65	P	P	18 38 11.8	+0.4	
	baz=316,SNR=5.8							
R58A	Rapidan	63.90	61	P	P	18 38 11.5	-0.1	
	baz=316							
GYA	Guiyang	63.98	280	⇓P	P	18 38 12.6	+0.2	
GYA				pP	pP	18 38 18.6	-1.3	
GYA				pmax	pmax			
	comp=Z,8.0nm,1.1s							
M61A	Granite Spring	63.98	56	P	P	18 38 12.9	+0.9	
	baz=317							
U56A	King	63.99	64	P	P	18 38 12.5	+0.3	
	baz=316							
K63A	Dunstable	64.12	53	P	P	18 38 13.9	+1.0	
	baz=317							
X54A	Belton	64.15	67	P	P	18 38 13.6	+0.4	
	baz=316,SNR=8.5							
T57A	Hurt	64.15	63	P	P	18 38 13.8	+0.6	
	baz=316,SNR=6.5							
T57A	Hurt	64.15	63	lAmb	lAmb	18 38 14.5		
	comp=Z,15nm,0.8s							
G65A	Princeton	64.21	49	P	P	18 38 13.4	-0.1	
	baz=318							
R58B	Mineral	64.21	61	P	P	18 38 14.5	+0.8	
	baz=316							
R58B	Mineral	64.21	61	lAmb	lAmb	18 38 15.4		
	comp=Z,11nm,0.9s							
H65A	Eastbrook	64.25	50	P	P	18 38 14.1	+0.3	
	baz=318							
V56A	Mocksville	64.31	64	P	P	18 38 14.6	+0.3	
	baz=316,SNR=7.2							
KMSC	Kings Mountain	64.32	65	P	P	18 38 14.5	+0.1	
	baz=316,SNR=13							
GOGA	Godfrey	64.33	68	P	P	18 38 13.7	-0.8	
	baz=316							
GOGA	Godfrey	64.33	68	lAmb	lAmb	18 38 29.7		
	comp=Z,15nm,0.9s							
M62A	Hamden	64.34	55	P	P	18 38 14.0	-0.3	
	baz=317							
S58A	Poland Farm, P	64.37	61	P	P	18 38 15.2	+0.6	
	baz=316,SNR=6.1							
ARU	Arti	64.39	331	*c i*P	P	18 38 14.2	-0.2	
ARU						18 38 47.7		
ARU						18 40 33.8		
ARU				S	S	18 46 52.3	+1.6	
ARU				SS	SS	18 50 59.2	-0.6	
ARU				pmax	pmax			
	comp=Z,25nm,1.2s							
ARU				MLR	MLR			
	comp=Z,587nm,17.0s							
ARU	Arti	64.39	331	P	P	18 38 14.3	-0.2	
ARU				lAmb	lAmb	18 38 15.2		
	comp=Z,23nm,1.1s							
HODGE	Hodges	64.44	67	lAmb	lAmb	18 38 22.3		
	comp=Z,15nm,0.8s							
U57A	Blanch	64.51	63	P	P	18 38 16.0	+0.4	
	baz=316,SNR=6.4							
T58A	Grand View Acr	64.59	62	P	P	18 38 16.1	0.0	
	baz=316,SNR=7.6							
BRZS	Berezniki	64.61	319⇑	*i*P	P	18 38 15.5	-0.6	
	comp=Z,16nm,0.9s,baz=320							
BRZS				LR	LR	19 08 43.2		
	comp=Z,151nm,14.8s,baz=320							
BRZS	Berezniki	64.61	319	*c i*P	P	18 38 15.4	-0.6	
BRZS				pmax	pmax			
	comp=Z,16nm,0.9s							
BRZS				MLR	MLR			
	comp=Z,151nm,15.0s							
X55A	Gracelyn & Ava	64.63	66	P	P	18 38 16.6	+0.2	
	baz=316,SNR=9.9							
H66A	Whiting	64.63	49	P	P	18 38 16.1	-0.1	
	baz=316							
V57A	Coltrane Farms	64.66	64	P	P	18 38 16.5	-0.1	
	baz=316							
S59A	Mechanicsville	64.68	61	P	P	18 38 16.6	0.0	
	baz=317							
W56A	Indian Trail	64.75	65	P	P	18 38 17.2	0.0	
	baz=316							
Y55A	Saluda	64.88	67	P	P	18 38 18.0	-0.1	
	baz=316,SNR=6.6							
X56A	White Oak	64.96	66	P	P	18 38 18.7	+0.2	
	baz=317,SNR=7.1							
JSC	Jenkinsville	64.98	66	lAmb	lAmb	18 38 19.9		
	comp=Z,29nm,1.6s							
U58A	Oxford	64.98	63	P	P	18 38 19.0	+0.3	
	baz=317							
KLMR	Klimovskoe	65.04	343	*e*P	P	18 38 16.5	-2.1	
KLMR				pmax	pmax			
	comp=Z,12nm,1.1s							
KLMR	Klimovskoe	65.04	343	*e*P	P	18 38 16.6	-2.1	
KLMR				AMP		18 38 19.3		
	comp=Z,12nm,1.1s							
W57A	Gilead	65.07	64	P	P	18 38 19.4	+0.2	
	baz=317,SNR=7.5							
V58A	Windy Hill, Pi	65.10	63	P	P	18 38 20.0	+0.6	
	baz=317							
T59A	Double "B" Far	65.11	62	P	P	18 38 20.2	+0.8	
	baz=317,SNR=6.8							
BIRD	Birdtown, Kers	65.17	65	P	P	18 38 18.4	-1.5	
BIRD				lAmb	lAmb	18 38 21.1		
	comp=Z,16nm,0.8s							
U59A	Littleton	65.43	62	P	P	18 38 22.1	+0.6	
	baz=317							
X57A	Johnson Farm,	65.51	65	P	P	18 38 22.4	+0.3	
	baz=317							
W58A	Raeford	65.59	64	P	P	18 38 23.1	+0.4	
	baz=317							
V59A	Middlesex	65.61	63	P	P	18 38 23.3	+0.6	
	baz=317,SNR=6.7							
Z56A	Williston	65.61	67	P	P	18 38 23.1	+0.3	
	baz=317							
Y57A	Sumter	65.67	66	P	P	18 38 23.7	+0.6	
	baz=317							
U60A	Pendleton	65.69	62	P	P	18 38 24.0	+0.8	
	baz=317							
TDK	Taldyqorghan	65.95	313	*e*P	P	18 38 25.0	+0.1	
	comp=Z,44nm,1.0s,baz=313							
TDK				*e*S	S	18 47 10.8	+0.6	
	baz=313							
TDK				LR	LR	19 07 16.9		
	comp=Z,173nm,14.4s,baz=313							
TDK	Taldyqorghan	65.95	313	*e*P	P	18 38 24.9	+0.1	
TDK				*e*S	S	18 47 10.8	+0.6	
TDK				pmax	pmax			
	comp=Z,44nm,1.0s							
TDK				MLR	MLR			
	comp=Z,173nm,14.0s							
Z57A	Bowman	66.01	66	P	P	18 38 25.8	+0.4	
	baz=317,SNR=5.8							
TAOE	Nuku Hiva Isla	66.38	144	*e*LR	LR	18 58 28.7		
	comp=Z,574nm,33.4s							
FINES	FINESS Array B	66.41	350	P	P	18 38 26.1	-1.3	
	comp=Z,7.5nm,0.9s,baz=34,slow=7.1,SNR=14							
FINES	FINESS Array B	66.41	350	*i* P	P	18 38 27.2	-0.3	
FINES				pmax	pmax			
	comp=Z,8.0nm,0.9s							
FINES	FINESS Array B	66.41	350	P	P

SHLS	Shalkode	66.86 311	⇑	*i*	P	P	18 38 30.1	-0.8
	comp=Z,43nm,1.0s,baz=310							
SHLS	Shalkode	66.86 311	*c*	*i*	P	P	18 38 30.0	-0.8
SHLS					pmax	pmax		
	comp=Z,43nm,1.0s							
Y60A	Bolivia	66.91 64			P	P	18 38 31.0	0.0
	baz=318							
KPKS	Kokpek	66.99 311	⇑	*i*	P	P	18 38 32.0	+0.4
	comp=Z,18nm,0.7s,baz=312							
KPKS	Kokpek	66.99 311	*c*	*i*	P	P	18 38 32.0	+0.4
KPKS					pmax	pmax		
	comp=Z,17nm,0.7s							
UZB	Uzynbulak	67.08 311	⇑	*i*	P	P	18 38 32.5	+0.2
	comp=Z,19nm,1.6s,baz=311							
UZB	Uzynbulak	67.08 311	*c*	*i*	P	P	18 38 32.4	+0.2
UZB					pmax	pmax		
	comp=Z,19nm,1.6s							
SMPI	Sarmi	67.18 234			P	P	18 38 33.5	+0.6
	comp=Z,23nm,0.7s							
KMI	Kunming	67.36 282	⇑		P	P	18 38 37.0	+2.6
KMI					pmax	pmax		
	comp=Z,15nm,1.0s							
SATY	Saty	67.44 311	⇑	*i*	P	P	18 38 35.1	+0.5
	comp=Z,20nm,1.7s,baz=311							
SATY	Saty	67.44 311	*c*	*i*	P	P	18 38 35.0	+0.5
SATY					pmax	pmax		
	comp=Z,19nm,1.7s							
SATY	Saty	67.44 311	*c*	*i*	P	P	18 38 35.0	+0.5
SATY					pmax	pmax		
	comp=Z,19nm,1.7s							
CHKK	Chushkaly	67.48 313		*e*	P	P	18 38 34.0	-0.6
	baz=313							
CHKK	Chushkaly	67.48 313		*e*	P	P	18 38 34.0	-0.6
KUU	Kurty	67.75 313	⇑	*i*	P	P	18 38 35.6	-0.8
	comp=Z,25nm,1.3s,baz=313							
KUU	Kurty	67.75 313	*c*	*i*	P	P	18 38 35.5	-0.8
KUU					pmax	pmax		
	comp=Z,25nm,1.3s							
NB2	NORSAR Subarra	67.78 358			P	P	18 38 35.8	-0.5
	comp=Z,1.8nm,0.7s,baz=1.2,slow=6.5							
NOA	NORSAR Array B	67.78 358			P		18 38 35.8	-0.5
	comp=Z,4.7nm,0.9s,baz=1.5,slow=6.3,SNR=10							
NOA					pP	pwP	18 38 47.8	-2.0
	comp=Z,2.6nm,0.8s,baz=1.4,slow=6.2,SNR=5.5							
BTLS	Baital	67.89 315	⇑	*i*	P	P	18 38 37.1	0.0
	comp=Z,13nm,0.9s,baz=315							
BTLS	Baital	67.89 315	*c*	*i*	P	P	18 38 37.1	0.0
BTLS					pmax	pmax		
	comp=Z,13nm,0.9s							
MDOK	Medeo	67.99 312		*i*	P	P	18 38 38.1	+0.1
	baz=312							
MDOK					LR	LR	19 08 36.9	
	comp=Z,132nm,14.0s,baz=312							
MDOK	Medeo	67.99 312		*i*	P	P	18 38 38.1	+0.1
MDOK					MLR	MLR		
	comp=Z,132nm,14.0s							
AAA	Alma-Ata	68.02 312	⇑	*i*	P	P	18 38 38.4	+0.3
	comp=Z,20nm,1.0s,baz=312							
AAA					LR	LR	19 08 35.5	
	comp=Z,195nm,18.2s,baz=312							
AAA	Alma-Ata	68.02 312	*c*	*i*	P	P	18 38 38.3	+0.2
AAA					pmax	pmax		
	comp=Z,20nm,1.0s							
AAA					MLR	MLR		
	comp=Z,195nm,18.0s							
TNSS	Tian-Shan	68.13 312		*e*	P	P	18 38 39.3	0.0
	baz=312							
TNSS	Tian-Shan	68.13 312		*e*	P	P	18 38 39.2	0.0
MTBS	Maitube	68.30 313		*e*	P	P	18 38 40.1	+0.2
	baz=313							
MTBS	Maitube	68.30 313		*e*	P	P	18 38 40.1	+0.2
TARG	Taragay, Kyrgy	68.74 311			IAmb	IAmb	18 38 44.8	
	comp=Z,25nm,1.4s							
TKM2	Tokmak 2	68.85 313			P	P	18 38 44.0	+0.6
	SNR=23							
TKM2	Tokmak 2	68.85 313			P	P	18 38 43.8	+0.4
USP	Ospenovka	69.08 314			P	P	18 38 45.4	+0.8
	SNR=44							
CHMS	Chumysh	69.17 313			P	P	18 38 45.9	+0.7
	SNR=18							
VSU	Vasula	69.26 349		*e*	P	P	18 38 45.4	0.0
VSU	Vasula	69.26 349	*d*	*i*	P	P	18 38 45.2	-0.2
VSU					pmax	pmax		
	comp=Z,80nm,1.0s							
KBK	Karagaybulak	69.35 313			P	P	18 38 47.3	+0.8
	SNR=22							
SLVN	Son La	69.45 279			P	P	18 38 46.2	-1.1
AAK	Ala-Archa	69.57 313			P	P	18 38 48.2	+0.4
	SNR=27							
AAK	Ala-Archa	69.57 313	*c*	*e*	P	P	18 38 48.3	+0.4
AAK					pmax	pmax		
	comp=Z,53nm,0.9s							
AAK	Ala-Archa	69.57 313			P	P	18 38 48.8	+1.0
AKTO	Aktyubinsk	69.66 328			P	P	18 38 48.0	-0.1
KZA	Kyzart	69.67 313			P	P	18 38 49.7	+0.9
	SNR=16							
EKS2	Erkin-Say	69.88 314			P	P	18 38 50.5	+0.8
	SNR=51							
UCH	Uchtor	69.89 313			P	P	18 38 50.9	+0.7
	SNR=18							
AB31	Akbulak array	70.01 326		*i*	P	P	18 38 50.4	+0.2
ABKAR	Akbulak array	70.01 326			P	P	18 38 50.5	+0.2
AML	Almayashu	70.33 314			P	P	18 38 54.0	+1.1
	SNR=33							
DZA	Taraz	70.78 316	⇑	*i*	P	P	18 38 55.1	0.0
	comp=Z,7.6nm,1.0s,baz=316							
DZA	Taraz	70.78 316	*c*	*i*	P	P	18 38 55.1	0.0
DZA					pmax	pmax		
	comp=Z,8.0nm,1.0s							
LSA	Lhasa	70.85 294			P	P	18 38 57.6	+1.3
LSA					pmax	pmax		
	comp=Z,120nm,0.8s							
KK31	Karatay Array	70.97 316		*i*	P	P	18 38 56.0	-0.2
KKAR	Karatay Array	70.97 316			P	P	18 38 56.5	+0.2
KKAR	Karatay Array	70.97 316			P	P	18 38 56.5	+0.2
KKAR	Karatay Array	70.97 316			IAmb	IAmb	18 38 57.3	
	comp=Z,25nm,1.0s							
OBN	Obninsk	70.99 343		*i*	P	P	18 38 54.2	-1.8
OBN				*i*			18 39 14.6	
OBN				*i*	S	SKiKP	18 48 40.0	+4.9
OBN					pmax	pmax		
	comp=Z,16nm,0.9s							
OBN					MLR	MLR		
	comp=Z,255nm,18.0s							
KSH	Kashi	71.34 310			P	P	18 39 02.7	+4.0
KSH					ScS	SKiKP	18 49 01.0	+25
KSH					pmax	pmax		
	comp=Z,58nm,0.9s							
PPT2	Papeete2	71.73 157		*e*	S	S	18 48 19.9	+0.9
	comp=Z,89nm,32.2s							
PPT2	Papeete2	71.73 157		*e*	LR	LR	19 00 59.8	
	comp=Z,304nm,26.2s							
IUG	Iuzhnay	71.95 316	⇑	*i*	P	P	18 39 02.9	+0.6
	comp=Z,20nm,1.1s,baz=316							
IUG	Iuzhnay	71.95 316	*c*	*i*	P	P	18 39 02.9	+0.6
IUG					pmax	pmax		
	comp=Z,20nm,1.1s							
IZAR	Zarasai	71.97 349		*e*	P	P	18 39 02.3	+0.3
ISAL	Salakas	72.16 349		*e*	P	P	18 39 02.8	-0.3
IDID	Didziasalis	72.33 348		*e*	P	P	18 39 03.8	-0.4
PABE	Paberze	72.47 350		*e*	P	P	18 39 04.7	-0.3
LPSR	Galich'ya Gora	72.89 340		*e*	P	P	18 39 06.7	-0.8
LPSR					pmax	pmax		
	comp=Z,20nm,1.4s							
VRH	Novokhopyorsk	73.58 338		*e*	P	P	18 39 10.5	-1.1
VRH					pmax	pmax		
	comp=Z,20nm,0.6s							
VSR	Storozhevoye	74.14 340		*e*	P	P	18 39 14.7	-0.2
VSR					pmax	pmax		
	comp=Z,60nm,1.4s							
VORD	Divnogorie	74.35 340		*e*	P	P	18 39 15.4	-0.7
VORD					pmax	pmax		
	comp=Z,20nm,0.6s							
TAPN	Taplejung	74.60 294		*e*	P	P	18 39 18.6	+0.2
	comp=Z,33nm,0.7s							
CMAR	Chiang Mai Arr	74.67 280			P	P	18 39 18.6	+0.1
	comp=Z,5.0nm,0.9s,baz=22,slow=6.6,SNR=21							
CMAR	Chiang Mai Arr	74.67 280			P	P	18 39 18.8	+0.2
ODAN	Odare	75.16 294		*e*	P	P	18 39 22.0	+0.5
	comp=Z,43nm,1.1s							
JIRN	Jiri	75.22 296		*e*	P	P	18 39 22.9	+0.8
	comp=Z,121nm,0.8s							
DZM	Mont Dzumac	75.45 200		*e*	LR	LR	19 02 49.7	
	comp=Z,199nm,19.6s							
RAMN	Ramite	75.54 295		*e*	P	P	18 39 24.2	+0.5
	comp=Z,68nm,0.8s							

KKN	Kakani	75.63 296		*e*	P	P	18 39 24.6	+0.4
MPSI	Mapaga	75.72 252			P	P	18 39 23.6	-0.9
	comp=Z,18nm,1.0s							
PKI	Pulchoki	75.73 296		*e*	P	P	18 39 25.1	+0.2
	comp=Z,46nm,1.0s							
GKN	Gorkha	75.83 297		*e*	P	P	18 39 25.6	+0.3
DMN	Daman	75.87 296		*e*	P	P	18 39 26.0	+0.4
	comp=Z,54nm,1.1s							
DANN	Dangsing	76.05 298		*e*	P	P	18 39 27.4	+0.7
	comp=Z,106nm,0.7s							
AKASG	Malin Array Be	76.48 346			P	P	18 39 27.4	-0.9
	comp=Z,6.7nm,0.6s,baz=16,slow=5.8,SNR=22							
AKASG	Malin Array Be	76.48 346			P	P	18 39 26.0	-2.4
AKASG					pmax	pmax		
	comp=Z,4.0nm,0.8s							
AKASG	Malin Array Be	76.48 346			P	P	18 39 25.9	-2.4
AKBB	Malin Array Si	76.48 346			P	P	18 39 27.4	-1.0
AKBB					pmax	pmax		
	comp=Z,22nm,1.2s							
AKBB	Malin Array Si	76.48 346			P	P	18 39 27.4	-1.0
AKBB					IAmb	IAmb	18 39 28.3	
	comp=Z,22nm,1.2s							
KOLN	Koldanda	76.58 298		*e*	P	P	18 39 29.9	+0.3
	comp=Z,50nm,1.1s							
PYUN	Piuthan	76.66 298		*e*	P	P	18 39 30.5	+0.4
	comp=Z,53nm,0.9s							
TBI	Tubuai	77.30 158		*e*	S	S	18 49 21.8	+0.9
	comp=Z,94nm,32.5s							
TBI	Tubuai	77.30 158		*e*	LR	LR	19 03 34.6	
	comp=Z,199nm,24.8s							
NIL	Nilore	77.34 309			P	P	18 39 33.3	-0.3
NIL					pmax	pmax		
	comp=Z,118nm,1.4s							
NIL	Nilore	77.34 309			P	P	18 39 33.3	-0.3
CLL	Collm	77.47 356		*i*	P	P	18 39 33.8	-0.1
	comp=Z,11nm,0.8s							
CLL	Collm	77.47 356		*i*	P	P	18 39 33.8	-0.1
CLL					*e*		18 39 37.0	
CLL					pmax	pmax		
	comp=Z,11nm,0.8s							
BRG	Berggjesshubel	77.86 356	⇓	*i*	P	P	18 39 36.4	+0.3
	comp=Z,13nm,1.1s							
	comp=Z,2μm,17.0s							
	comp=N,1μm,16.8s							
	comp=E,1μm,16.8s							
CHVC	Chvalec	78.03 354		*e*	P	P	18 39 37.4	+0.3
CHVC					AMS	AMS	19 44 20.0	
	comp=E,2μm,15.8s							
OSTC	Ostas	78.05 354		*e*	P	P	18 39 37.0	-0.2
OSTC					AMS	AMS	19 44 30.0	
	comp=E,2μm,15.4s							
UPC	Upice	78.11 354		*e*	P	P	18 39 37.5	0.0
UPC					MLR	MLR		
	comp=Z,2μm,16.4s							
UPC	Upice	78.11 354		*e*	P	P	18 39 37.5	0.0
UPC					AMS	AMS	19 42 10.0	
	comp=Z,2μm,16.4s							
PVCC	Panska Ves	78.17 355		*e*	P	P	18 39 38.2	+0.3
PVCC					MLR	MLR		
	comp=Z,2μm,16.8s							
PVCC	Panska Ves	78.17 355		*e*	P	P	18 39 38.2	+0.3
PVCC					AMS	AMS	19 40 20.0	
	comp=Z,2μm,16.8s							
MOX	Moxa	78.18 357		*e*	L	L	19 38 03.4	
	comp=Z,2μm,18.5s							
DPC	Dobruska-Polom	78.25 354		*e*	P	P	18 39 38.5	+0.2
DPC					*e*		18 39 52.2	
DPC					MLR	MLR		
	comp=Z,2μm,17.0s							
DPC	Dobruska-Polom	78.25 354		*e*	P	P	18 39 38.5	+0.2
DPC					*ex*	x	18 39 52.2	
DPC					AMS	AMS	19 44 20.0	
	comp=Z,2μm,17.0s							
KRLC	Kraliky	78.49 354		*e*	P	P	18 39 39.9	+0.2
KRLC					MLR	MLR		
	comp=Z,1μm,15.1s							
KRLC	Kraliky	78.49 354		*e*	P	P	18 39 39.9	+0.2
KRLC					AMS	AMS	19 43 20.0	
	comp=Z,1μm,15.1s							
NKC	Novy Kostel	78.56 357		*e*	P	P	18 39 40.8	+0.7
NKC					MLR	MLR		
	comp=Z,2μm,16.7s							
NKC	Novy Kostel	78.56 357		*e*	P	P	18 39 40.8	+0.7
NKC					AMS	AMS	19 40 50.0	
	comp=Z,2μm,16.7s							
OKC	Ostrava-Krasne	78.63 353		*e*	P	P	18 39 40.4	0.0
OKC	Ostrava-Krasne	78.63 353		*e*	P	P	18 39 40.4	0.0
PRA	Prague	78.64 355			AMS	AMS	19 39 40.0	
	comp=Z,1μm,16.7s							
PRU	Pruhonice	78.71 355		*e*	P	P	18 39 41.0	+0.2
PRU				*e*			18 39 55.5	
PRU					MLR	MLR		
	comp=Z,2μm,17.6s							
PRU	Pruhonice	78.71 355		*e*	P	P	18 39 41.0	+0.2
PRU				*es*	P	pwP	18 39 55.5	+1.1
PRU					AMS	AMS	19 39 50.0	
	comp=Z,2μm,17.6s							
MORC	Moravsky Berou	78.73 353	⇑	*e*	P	P	18 39 41.3	+0.3
MORC	Moravsky Berou	78.73 353		*e*	P	P	18 39 41.1	+0.1
GOPC	GO Pecny, Ondr	78.78 355		*e*	P	P	18 39 41.3	+0.1
GOPC					MLR	MLR		
	comp=Z,2μm,17.0s							
GOPC	GO Pecny, Ondr	78.78 355		*e*	P	P	18 39 41.3	+0.1
GOPC					AMS	AMS	19 39 50.0	
	comp=Z,2μm,17.0s							
GOF	Gofitskoye	78.96 335	⇑	*i*	P	P	18 39 42.5	+0.2
GOF					pmax	pmax		
	comp=Z,90nm,1.1s							
PBCC	Pribram	79.04 355		*e*	P	P	18 39 42.7	0.0
SORM	Soroca	79.11 346	⇑	*e*	P	P	18 39 42.4	-0.7
KOLS	Kolonicke sedl	79.13 350		*e*	P	P	18 39 43.5	+0.3
KOLS					pmax	pmax		
	comp=Z,5.0nm,0.9s							
KOLS	Kolonicke sedl	79.13 350		*e*	P	P	18 39 43.5	+0.3
GRA1	Grafenberg Arr	79.15 357			IAmb	IAmb	18 39 44.7	
	comp=Z,15nm,0.7s							
GRF	Grafenberg Arr	79.15 357		*e*	P	P	18 39 43.9	+0.7
	comp=Z,18nm,0.7s,baz=2.6,slow=4.9							
GRF				*e*	L	L	19 40 00.2	
	comp=Z,3μm,19.1s							
LANS	Liptovska Anna	79.20 352		*e*	P	P	18 39 44.6	+1.0
LANS					pmax	pmax		
	comp=Z,11nm,1.3s							
LANS	Liptovska Anna	79.20 352		*e*	P	P	18 39 44.6	+1.0
VRAC	Vranov	79.27 354	⇑	*e*	P	P	18 39 44.6	+0.7
VRAC	Vranov	79.27 354		*e*	P	P	18 39 44.2	+0.3
TREC	Trest	79.35 354		*e*	P	P	18 39 44.6	+0.2
TREC					MLR	MLR		
	comp=Z,3μm,16.4s							
TREC	Trest	79.35 354		*e*	P	P	18 39 44.6	+0.2
TREC					AMS	AMS	19 40 30.0	
	comp=Z,3μm,16.4s							
KRUC	Moravsky	79.53 354		*e*	P	P	18 39 45.6	+0.3
KHC	Kasperske Hory	79.62 356	*c*	*i*	P	P	18 39 46.4	+0.5
KHC					pmax	pmax		
	comp=Z,28nm,1.3s							
KHC	Kasperske Hory	79.62 356		*e*	P	P	18 39 46.1	+0.2
KHC				*es*	P	pwP	18 39 58.8	-0.6
KHC					AMS	AMS	19 40 50.0	
	comp=Z,2μm,18.0s							
JAVC	Velka Javorina	79.64 353		*e*	P	P	18 39 47.3	+1.3
TRPA	Tarpa	79.89 350	⇑	*e*	P	P	18 39 47.6	+0.3
GERES	GERESS Array B	79.90 356			P	P	18 39 47.9	+0.4
	comp=Z,3.0nm,0.7s,baz=21,slow=4.9,SNR=34							
GERES					pP	pwP	18 40 00.0	-1.0
	comp=Z,1.8nm,0.8s,baz=22,slow=4.4,SNR=5.2							
GERES	GERESS Array B	79.90 356			P	P	18 39 47.5	+0.1
VYHS	Vyhne	79.90 352		*e*	P	P	18 39 47.5	+0.1
VYHS					pmax	pmax		
	comp=Z,9.0nm,1.2s							
VYHS	Vyhne	79.90 352		*e*	P	P	18 39 47.5	+0.1
BURAR	Bucovina Array	80.07 348	⇑	*e*	P	P	18 39 48.6	+0.1
BURAR	Bucovina Array	80.07 348		*e*	P	P	18 39 48.6	+0.1
KIV	Kislovodsk	80.08 335		*e*	P	P	18 39 48.5	0.0
KIV					pmax	pmax		
	comp=Z,55nm,1.1s							
MODS	Modra-Piesok	80.15 353		*e*	P	P	18 39 48.5	-0.2
MODS					pmax	pmax		
	comp=Z,16nm,1.3s							
MODS	Modra-Piesok	80.15 353		*e*	P	P	18 39 48.5	-0.2
MILM	Milestii Mici	80.22 345	⇓	*e*	P	P	18 39 48.8	-0.3
KBZ	Khabaz	80.23 335			P	P	18 39 49.7	+0.5
	comp=Z,8.0nm,0.8s,baz=34,slow=3.1,SNR=14							
PSZ	Piszkesteto	80.38 351	⇓		P	P	18 39 50.9	+0.8
GEYT	Alibeck	80.42 321			P	P	18 39 50.9	+0.5

	comp=Z,13nm,1.0s,baz=324,slow=3.8,SNR=30							
BIZ	Bicaz	80.61 347	⇓		P	P	18 39 51.8	+0.5
CONA	Conrad Observa	80.69 354		*e*	P	P	18 39 52.3	+0.6
	comp=Z,9.2nm,0.9s,SNR=5.6							
ARCR	ARCALIA	80.70 348	⇑		P	P	18 39 53.1	+1.4
ZEI	Tsey	80.83 333		*e*	P	P	18 39 52.1	-0.6
ZEI					pmax	pmax		
	comp=Z,8.0nm,0.4s							
MOA	Molln	80.86 355		*e*	P	P	18 39 52.8	+0.2
	comp=Z,2.9nm,0.8s							
AKT	Akhty	80.90 330		*e*	P	P	18 39 53.5	+0.5
AKT				*e*			18 40 00.4	
AKT					pmax	pmax		
	comp=Z,37nm,1.1s							
TESR	Tescani	80.95 346	⇓		P	P	18 39 53.0	0.0
ARSA	Arzberg	81.39 354		*e*	P	P	18 39 56.1	+0.7
	comp=Z,6.0nm,1.0s							
OZUR		81.48 347	⇓		P	P	18 39 56.9	+1.0
WATA	Walderalm	81.49 357		*e*	P	P	18 39 56.1	+0.1
	comp=Z,10nm,1.4s							
MOTA	Moosalm	81.50 357		*e*	P	P	18 39 56.5	+0.3
	comp=Z,8.0nm,1.1s							
WTTA	Wattenberg	81.56 357		*e*PcP	P	P	18 39 57.2	+0.7
	comp=Z,7.4nm,0.7s							
PLOR	Plostina	81.60 346	⇓		P	P	18 39 57.1	+0.5
SQTA	Sankt Quirin	81.62 357		*e*PcP	P	P	18 39 57.4	+0.7
	comp=Z,9.1nm,0.9s							
DOPR	Dopca	81.67 347	⇓		P	P	18 39 57.7	+0.9
KBA	Koelnbreinsper	81.68 356		*e*PcP	P	P	18 39 58.0	+0.9
	comp=Z,17nm,0.8s,SNR=9.1							
FETA	Feichten	81.83 358		*e*PcP	P	P	18 39 58.5	+0.6
	comp=Z,13nm,1.1s,SNR=5.6							
SIRR	Siria	81.83 350	⇓		P	P	18 39 59.1	+1.3
TLCR		81.91 345	⇑		P	P	18 39 58.9	+0.9
SOKA	Soboth	81.99 355		*i*	P	P	18 39 58.9	+0.3
	comp=Z,16nm,1.3s,SNR=7.7							
PERS	Pernice	82.02 354		*e*	P	P	18 39 59.2	+0.4
CFR	Carcaliu	82.03 345	⇓		P	P	18 39 59.2	+0.5
ABTA	Abfaltersbach	82.04 356		*i*	P	P	18 39 59.0	0.0
	comp=Z,5.0nm,1.2s							
MLR	Muntele Rosu	82.05 347	⇑		P	P	18 40 00.3	+1.2
MLR	Muntele Rosu	82.05 347			IAmb	IAmb	18 40 02.0	
	comp=Z,12nm,1.1s							
GROS	Grobnik	82.17 354		*e*	P	P	18 39 59.7	+0.1
OBKA	Obir	82.18 355		*e*PcP	P	P	18 40 00.2	+0.5
FUORN	Ofenpass-Fuorn	82.24 358			IAmb	IAmb	18 40 02.4	
	comp=Z,17nm,1.4s							
TOPG	Topolog	82.28 345	⇑		P	P	18 40 00.5	+0.5
TUE	Stuetta	82.41 358			IAmb	IAmb	18 40 03.0	
	comp=Z,9.2nm,0.8s							
BZS	Buzias	82.48 350	⇓		P	P	18 40 01.2	+0.1
HARR	Harsova	82.53 345	⇓		P	P	18 40 02.1	+0.8
TIRR	Tirgusor	82.68 345	⇓		P	P	18 40 03.0	+0.9
TIRR	Tirgusor	82.68 345		*e*	P	P	18 40 02.5	+0.3
HERR	Herculane	83.11 349	⇑		P	P	18 40 04.3	-0.1
SGRR	Singureni	83.29 346	⇑		P	P	18 40 05.4	+0.1
MDVR	Moldovita	83.29 350	⇓		P	P	18 40 05.4	0.0
NEF	NEVSHA	84.03 345		*e*	P	P	18 40 09.8	+0.6
PRD	Provadia	84.07 345		*e*	P	P	18 40 10.2	+0.9
DIVS	Divibare	84.15 351			IAmb	IAmb	18 40 10.8	
	comp=Z,8.0nm,1.3s							
SZH	Strazhica	84.23 346		*e*	P	P	18 40 10.1	-0.1
WB0	Warramunga Arr	84.59 229			P	P	18 40 10.9	-1.2
WB0					IAmb	IAmb	18 40 33.6	
	comp=Z,18nm,1.4s							
WRAB	Tennant Creek	84.75 229	⇓	*e*	P	P	18 40 11.6	-1.4
WRAB					pmax	pmax		
	comp=Z,19nm,1.7s							
WRA	Warramunga Arr	84.77 229			P	P	18 40 12.2	-0.8
	comp=Z,1.9nm,0.7s,baz=31,slow=5.9,SNR=12							
WRA	Warramunga Arr	84.77 229		*i*	P	P	18 40 12.1	-0.9
WRA					pmax	pmax		
	comp=Z,2.0nm,0.7s							
WRA	Warramunga Arr	84.77 229			P	P	18 40 10.8	-2.3
VTS	Vitosha	85.24 348	⇓	*e*	P	P	18 40 15.8	+0.3
VTS	Vitosha	85.24 348		*e*	P	P	18 40 15.2	-0.3
RZN	Rozhen	85.96 347		*e*	P	P	18 40 19.4	+0.3
PGAV	Gavieira, Arco	85.97 11		*e*LR	LR		19 26 55.4	
	comp=Z,μm,20.0s							
KKB	Krupnik	86.00 348		*e*	P	P	18 40 19.6	+0.5
SKO	Skopje	86.10 349		*i*	P	P	18 40 20.7	+1.1
MMB	Musomiste	86.19 348		*e*	P	P	18 40 20.9	+0.8
BR131	Keskin Array S	86.27 340		*d*	*i*	P	18 40 20.9	+0.3
BRTR	Keskin Array B	86.27 340			P	P	18 40 21.1	+0.4
	comp=Z,7.4nm,1.0s,baz=52,slow=2.1,SNR=30							
STIP	Stip	86.28 349		*i*	P	P	18 40 20.4	-0.1
PBRG	Braganca	86.31 10		*e*	P	P	18 40 20.8	+0.1
	comp=Z,33nm,1.5s							
VAY	Valandovo	86.60 348		*i*	P	P	18 40 23.2	+1.2
MVO	Moncorvo	86.91 11		*e*	P	P	18 40 23.4	-0.2
MVO	Moncorvo	86.91 11		*e*	LR	LR	19 27 29.4	
	comp=Z,2μm,16.0s							
OHR	Ohrid	87.02 350		*i*	P	P	18 40 24.2	+0.1
PVIS	Viseu	87.25 11		*e*	P	P	18 40 25.2	-0.1
FITZ	Fitzroy Crossi	87.54 237			P	P	18 40 25.6	-1.0
MTE	Manteigas	87.61 11		*e*	P	P	18 40 26.8	-0.2
	comp=Z,44nm,1.6s							
MTE	Manteigas	87.61 11		*e*	LR	LR	19 27 40.0	
	comp=Z,1μm,16.0s							
PCBR	Castelo Branco	88.17 11		*e*	P	P	18 40 29.5	-0.1
	comp=Z,29nm,1.8s							
ASAR	Alice Springs	88.18 227			P	P	18 40 29.8	+0.1
	comp=Z,5.5nm,0.7s,baz=33,slow=4.8,SNR=80							
ASAR	Alice Springs	88.18 227			P	P	18 40 29.9	+0.2
ASAR	Alice Springs	88.18 227			P	P	18 40 29.9	+0.2
PSBE	So Bento	88.32 12		*e*	P	P	18 40 30.4	0.0
	comp=Z,47nm,1.6s							
PMRV	Marv??o	88.58 11		*e*	P	P	18 40 32.1	+0.5
	comp=

Azm75.0000°; N 0.3309, Plg62.0000°, Azm304.0000°; P -1.6685, Plg19.0000°, Azm172.0000°;

*NEIC **10** 18:46:18.0±2.6, 27.68N±0.05×111.63W±0.05, h10km±1km, mb5.0/60,Ms_20 5.3/346,Mwb5.4/14,Mww5.5, Md5.3/23(MEX),Mwc5.5(GCMT) Error ellipse: s-maj=10.0km s-min=5.8km az=144.0*

*ANF **10** 18:46:19.9±0.6, 27.71N×111.66W, h10km, ML5.5/2, Error ellipse: s-maj=9.1km s-min=4.5km az=31.0*

*GCMT **10** 18:46:19.8±0.1, 27.76N±0.01×111.59W±0.01, h15km, MW5.5/146, Moment Tensor Solution. s125,c199; s146,c293; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr=0.22±.02; Mθθ=1.73±.02; Mφφ 1.95±.02; Mrθ=0.05±.05; Mθφ=0.66±.02; Mφr=0.01±.05; Best double couple: Mo1.95500×10^17 NP1:φs305.00000°,δ89.00000°, λ-179.00000°. NP2:φs215.00000°,δ89.00000°, λ-1.00000°. Principal axes: T 2.0640, Plg0.0000°, Azm260.0000°; N -0.2190, Plg88.0000°, Azm353.0000°; P -1.8460, Plg2.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **10** 18:46:21,27.78N×111.55W,h18km,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.29; Mθθ-1.90; Mφφ.2.18; Mrθ=0.18; Mφθ-0.75; Mφr=0.44; Fault plane solution: Mo2.24000×10^17 NP1:φs305.00000°, δ78.00000°,λ180.00000°. NP2:φs35.00000°,δ90.00000°, λ12.00000°. Principal axes: T 2.3769, Plg9.0000°, Azm260.0000°; N -0.3076, Plg78.0000°, Azm35.0000°; P -2.0693, Plg8.0000°, Azm169.0000°;*

*NEIC **10** 18:46:23,27.65N×111.62W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.17; Mθθ-1.72; Mφφ 1.90; Mrθ=0.41; Mφθ-0.63; Mφr0.16; Fault plane solution: Mo1.97000×10^17 NP1:φs35.00000°, δ77.00000°,λ-4.00000°. NP2:φs126.00000°,δ86.00000°, λ-166.00000°. Principal axes: T 2.0292, Plg6.0000°, Azm260.0000°; N -0.1161, Plg76.0000°, Azm144.0000°; P -1.9131, Plg12.0000°, Azm351.0000°;*

ISC 10 18:46:18.8±0.8, 27.58N±0.03×111.49W±0.02, h10km±4km, n695,σ2s22/493, mb4.9/59, MS5.3/203, 9C-6D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.63**	**60**	*eP*			**Pg**	**18 46 29.2**	**-1.7**
GUYB				*eS*			**Sg**	**18 46 38.7**	**-0.6**
GUYB	**Guaymas**	**0.63**	**60**	⇑*eP*			**Pg**	**18 46 29.3**	**-1.7**
GUYB				*eS*			**Sg**	**18 46 38.9**	**-0.4**
SRIG	**Santa Rosalia**	**0.72**	**249**	*eP*			**Pg**	**18 46 28.5**	**-4.2**
SRIG				*i* S			**Sg**	**18 46 38.5**	**-3.5**
SRIG	**Santa Rosalia**	**0.72**	**249**	Pg			**Pg**	**18 46 28.4**	**-4.3**
SRIG							**Sg**	**18 46 39.1**	**-3.0**
SRIG	**Santa Rosalia**	**0.72**	**249**	*eP*			**Pg**	**18 46 28.5**	**-4.2**
SRIG				*eS*			**Sg**	**18 46 38.1**	**-4.0**
HSIG		**1.51**	**18**	*eP*			**Pn**	**18 46 42.7**	**-3.3**
HSIG				*eS*			**Sn**	**18 47 02.2**	**-3.5**
HSIG		**1.51**	**18**	Pn			Pn	18 46 39.9	-6.1
HSIG		**1.51**	**18**				**Sn**	**18 47 02.2**	**-3.5**
HSIG		**1.51**	**18**	*eP*			**Pn**	**18 46 41.5**	**-4.4**
HSIG				*eS*			**Sn**	**18 47 03.0**	**-2.7**
TSIG	**Topolobambo**	**2.95**	**131**	*eP*			**Pn**	**18 47 05.4**	**-0.3**
TSIG				*eS*			**Sn**	**18 47 39.7**	**-1.5**
BAHB	**Baha de los**	**2.98**	**323**	⇑*eP*			Pn	18 46 49.3	-17
BAHB				*eS*			Sn	18 47 17.6	-24
NZIG	**Nacozari, Sono**	**3.26**	**31**	*eP*			**Pn**	**18 47 06.7**	**-3.4**
NZIG				*i* S			**Sn**	**18 47 46.9**	**-2.2**
LPIG	**La Paz**	**3.62**	**163**	Pn			**Pn**	**18 47 15.2**	**+0.2**
	11nm,0.3s,baz=0.0,slow=8.1,SNR=16								
LPIG				Sn			**Sb**	**18 48 04.2**	**-2.8**
	9.1nm,0.3s,baz=348,slow=19,SNR=6.3								
LPIG				LR			LR	18 48 36.6	
	comp=Z,30μm,19.5s,baz=274,slow=37								
LPIG	**La Paz**	**3.62**	**163**	*i* P			Pn	18 47 09.5	-5.5
LPIG				*eS*			Sn	18 47 49.3	-8.5
LPIG	**La Paz**	**3.62**	**163**				Pn	18 47 09.5	-5.5
LPIG							Sn	18 47 49.3	-8.5
SLBS	**Sierra La Lagu**	**4.12**	**160**	*eP*			Pn	18 47 16.1	-5.8
SLBS	**Sierra La Lagu**	**4.12**	**160**	Pn			**Pn**	**18 47 23.1**	**+1.1**
CGIG		**4.14**	**47**	*eP*			**Pn**	**18 47 20.3**	**-1.9**
CGIG		**4.14**	**47**				**Pn**	**18 47 20.3**	**-1.9**
319A	**Douglas**	**4.24**	**26**				**Pn**	**18 47 20.6**	**-3.0**
PIX	**Pinacate**	**4.32**	**337**	Pn			Pn	18 47 19.7	-4.9
214A	**Organ Pipe Nat**	**4.51**	**346**	P			Pn	18 47 22.0	-5.3
	baz=166,SNR=85								
214A				Sb			**Sb**	**18 48 33.8**	**+1.2**
	baz=166								
214A	**Organ Pipe Nat**	**4.51**	**346**	*eP*			Pn	18 47 22.2	-5.0
214A	**Organ Pipe Nat**	**4.51**	**346**	Pn			**Pn**	**18 47 23.3**	**-4.0**
TUC	**Tucson**	**4.75**	**7**	Pn			**Pn**	**18 47 26.6**	**-4.0**
	baz=189								
TUC				Pg			**Pg**	**18 47 48.4**	**-1.5**
	baz=189								
TUC				Sb			**Sb**	**18 48 44.0**	**+4.4**
	baz=189								
TUC	**Tucson**	**4.75**	**7**	P			**Pn**	**18 47 26.8**	**-3.8**
TUC	**Tucson**	**4.75**	**7**	*eP*			**Pn**	**18 47 26.4**	**-4.2**
TUC	**Tucson**	**4.75**	**7**	Pn			**Pn**	**18 47 26.8**	**-3.8**
SPX	**San Pedro Mart**	**4.89**	**316**				**Pn**	**18 47 31.2**	**-1.5**
SPIG	**San Pedro Mart**	**4.90**	**316**	*eP*			**Pn**	**18 47 31.7**	**-1.2**
SPIG				*eS*			**Sn**	**18 48 33.3**	**+3.5**
SPIG	**San Pedro Mart**	**4.90**	**316**				**Pn**	**18 47 31.7**	**-1.2**
SPIG							**Sn**	**18 48 33.3**	**+3.5**
HPIG		**5.22**	**96**	*eP*			**Pn**	**18 47 36.7**	**-0.5**
HPIG				*i* S			**Sn**	**18 48 32.1**	**-5.4**
HPIG		**5.22**	**96**	Pn			**Pn**	**18 47 36.8**	**-0.3**
BCIG	**La Boquilla**	**5.39**	**89**	*eP*			**Pn**	**18 47 35.8**	**-3.7**
113A	**Mohawk Valley,**	**5.53**	**340**				**Pn**	**18 47 37.4**	**-3.9**
CPBX	**Cerro Prieto**	**5.85**	**326**	IAML				18 53 14.7	
	comp=E,4μm,5.2s								
CPBX				⇑*e*				18 53 14.7	
CPBX				⇓*e*				18 53 17.0	
CPBX				IAML				18 53 17.0	
	comp=N,3μm,3.9s								
ESJX	**Sierra Juarez**	**5.87**	**320**				**Pn**	**18 47 45.2**	**-0.9**
121A	**Cookes Peak, D**	**5.89**	**32**	P			**Pn**	**18 47 43.6**	**-2.6**
	baz=215,SNR=19								
121A				Sb			**Sg**	**18 49 19.8**	**-8.0**
	baz=215								
121A	**Cookes Peak, D**	**5.89**	**32**	*eP*			**Pn**	**18 47 44.8**	**-1.5**
121A	**Cookes Peak, D**	**5.89**	**32**				**Pn**	**18 47 45.1**	**-1.1**
PDIG	**Papasquiaro**	**6.02**	**113**	*eP*			**Pn**	**18 47 49.3**	**+1.1**
GLA	**Glamis**	**6.17**	**333**	P			**Pn**	**18 47 45.8**	**-4.3**
	baz=152,SNR=46								
GLA	**Glamis**	**6.17**	**333**	P			**Pn**	**18 47 45.8**	**-4.3**
GLA	**Glamis**	**6.17**	**333**				**Pn**	**18 47 45.8**	**-4.3**
RMX	**La Rumorosa**	**6.39**	**323**				**Pn**	**18 47 50.7**	**-2.5**
IKP	**In-Ko-Pah, Jac**	**6.45**	**323**	P			**Pn**	**18 47 51.6**	**-2.2**
	baz=141,SNR=16								
Y14A	**Wickenburg**	**6.47**	**349**				**Pn**	**18 47 51.1**	**-3.1**
CBX	**Cerro Bola**	**6.51**	**318**	Pn			**Pn**	**18 47 56.1**	**+1.3**
MNTX	**Cornudas Mount**	**6.71**	**51**	Pn			**Pn**	**18 47 56.0**	**-1.4**
	baz=235,SNR=40								
MNTX				Pg			Pg	18 48 23.0	-4.4
	baz=235								
MNTX				Sb			**Sg**	**18 49 46.8**	**-7.5**
	baz=235								
MNTX	**Cornudas Mount**	**6.71**	**51**	*eP*			**Pn**	**18 47 55.7**	**-1.8**
BAR	**Barrett**	**6.78**	**320**				**Pn**	**18 47 58.3**	**-0.1**
MONP2	**Monument Peak**	**6.80**	**322**	P			**Pn**	**18 47 56.2**	**-2.6**
	baz=140,SNR=18								
X16A	**Lo Mia Camp, P**	**6.82**	**0**				**Pn**	**18 47 56.3**	**-2.7**
BC3	**Big Chuckawall**	**6.95**	**332**	P			**Pn**	**18 47 57.4**	**-3.5**
	baz=150,SNR=24								
PDMCI	**Parker Dam, Lak**	**7.08**	**342**	P			**Pn**	**18 47 59.8**	**-2.6**
	baz=161,SNR=21								
TX31	**Lajitas Ar. Si**	**7.10**	**74**				**Pn**	**18 48 02.7**	**-0.2**
TX32	**Lajitas Array**	**7.10**	**74**				**Pn**	**18 48 01.5**	**-1.4**
TXAR	**Lajitas Array**	**7.10**	**74**	Pn			**Pn**	**18 48 01.9**	**-1.0**
	comp=N,2.6nm,0.3s,baz=251,slow=13,SNR=63								
TXAR				Sn			**Sn**	**18 49 23.3**	**-0.4**
	comp=N,4.7nm,0.3s,baz=264,slow=24,SNR=4.2								
TXAR				Lg		Lg		18 50 01.4	
	comp=N,29nm,0.3s,baz=248,slow=28,SNR=9.5								
TXAR	**Lajitas Array**	**7.10**	**74**	P			**Pn**	**18 48 02.9**	**0.0**
TXAR	**Lajitas Array**	**7.10**	**74**				**Pn**	**18 48 02.9**	**0.0**
IRM	**Iron Mountain**	**7.27**	**335**	P			**Pn**	**18 48 01.4**	**-3.8**
	baz=154,SNR=16								
XPFO	**Pion Flat**	**7.38**	**326**				**Pn**	**18 48 07.2**	**+0.5**
PFO	**Pinyon Flats O**	**7.38**	**326**	Pn			**Pn**	**18 48 04.7**	**-2.1**
	comp=N,0.3nm,0.3s,baz=145,slow=13,SNR=5.3								
PFO				Lg		Lg		18 50 13.3	
	comp=N,0.6nm,0.3s,baz=138,slow=4.4,SNR=9.7								
PFO				LR		LR		18 50 43.5	
	comp=N,20μm,20.1s,baz=145,slow=37								
PFO	**Pinyon Flats O**	**7.38**	**326**	P			**Pn**	**18 48 06.2**	**-0.6**
	baz=144,SNR=8.7								
PFO				Sg			**Sg**	**18 50 18.5**	**+2.8**
	baz=144								
PFO	**Pinyon Flats O**	**7.38**	**326**	⇓*eP*			**Pn**	**18 48 03.5**	**-3.3**
PFO				pmax		pmax			
	comp=Z,9.0nm,1.5s								
PFO	**Pinyon Flats O**	**7.38**	**326**				**Pn**	**18 48 06.4**	**-0.4**
BELC	**Belle Mtn. Jos**	**7.48**	**330**	P			**Pn**	**18 48 04.6**	**-3.5**
	baz=148,SNR=30								
BELC				Sg			**Sg**	**18 50 24.0**	**+5.0**
	baz=148								
Y22D	**IRIS PASSCAL I**	**7.57**	**30**	Sb			**Sb**	**18 50 08.5**	**+7.8**
	baz=213								
NEE2	**Needles Airpor**	**7.65**	**340**	P			**Pn**	**18 48 07.7**	**-2.6**
	baz=159								
W18A	**Petrified Fore**	**7.66**	**11**	P			**Pn**	**18 48 10.3**	**-0.4**
	baz=193,SNR=5.4								
W18A				Sb			**Sb**	**18 50 10.4**	**+7.1**
	baz=193								
GDL2	**Guadalupe Moun**	**7.71**	**52**				**Pn**	**18 48 10.9**	**-0.3**
BNM	**Barren Site**	**7.77**	**31**	Pn			**Pn**	**18 48 13.9**	**+1.7**
W13A	**Hualapai Mount**	**7.77**	**345**	Pn			**Pn**	**18 48 09.5**	**-2.7**
WUAZ	**Wupatki**	**7.91**	**1**	P			**Pn**	**18 48 13.1**	**-1.0**
	baz=182,SNR=21								
WUAZ				Sb			Sb	18 50 20.3	+10
	baz=182								
WUAZ	**Wupatki**	**7.91**	**1**	Pn			**Pn**	**18 48 14.3**	**+0.2**
GMRC	**Granite Mounta**	**8.02**	**335**	P			**Pn**	**18 48 12.9**	**-2.6**
	baz=153,SNR=22								
ANMO	**Albuquerque**	**8.51**	**29**	Pn			**Pn**	**18 48 22.3**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=212,slow=10,SNR=17								
ANMO				Lg		Lg		18 50 40.6	
	comp=Z,5.3nm,0.3s,baz=295,slow=19,SNR=3.1								
ANMO	**Albuquerque**	**8.51**	**29**	P			**Pn**	**18 48 22.9**	**+0.6**
	baz=312								
ANMO	**Albuquerque**	**8.51**	**29**	⇑*eP*			**Pn**	**18 48 22.4**	**+0.1**
ANMO				pmax		pmax			
	comp=Z,2.0nm,0.8s								
TUQ	**Turquoise Moun**	**8.70**	**335**	P			**Pn**	**18 48 24.5**	**-0.3**
	baz=154,SNR=9.3								
GSC	**Goldstone, Bar**	**8.94**	**331**	P			**Pn**	**18 48 26.9**	**-1.2**
	baz=148								
GSC	**Goldstone, Bar**	**8.94**	**331**	P			**Pn**	**18 48 24.4**	**-3.6**
GSC	**Goldstone, Bar**	**8.94**	**331**				**Pn**	**18 48 24.4**	**-3.6**
EDW2	**Edwards Air Fo**	**9.16**	**324**	P			**Pn**	**18 48 33.5**	**+2.4**
	baz=141								
SHPR	**Sheep Range**	**9.43**	**342**	Pn			**Pn**	**18 48 30.5**	**-4.4**
MSTX	**Muleshoe**	**9.83**	**48**	P			**Pn**	**18 48 41.1**	**+0.8**
	baz=232								
MPMC	**Manual Prospec**	**9.87**	**330**	P			**Pn**	**18 48 40.4**	**-0.5**
	baz=148,SNR=13								
MVCO	**Mesa Verde**	**9.93**	**14**	P			**Pn**	**18 48 40.7**	**-1.1**
	baz=196,SNR=19								
AAIG	**Aguscalientes**	**9.98**	**122**	*eP*			**Pn**	**18 48 39.5**	**-3.1**
ISA	**Isabella, Lake**	**10.02**	**325**	P			**Pn**	**18 48 42.5**	**-0.3**
ISA	**Isabella, Lake**	**10.02**	**325**				**Pn**	**18 48 42.5**	**-0.3**
CCUT	**Cedar City**	**10.07**	**351**	Pn			**Pn**	**18 48 44.5**	**+0.8**
TPNV	**Topopah Spring**	**10.17**	**338**	P			**Pn**	**18 48 43.5**	**-1.5**
	baz=156,SNR=18								
TPNV	**Topopah Spring**	**10.17**	**338**	P			**Pn**	**18 48 44.1**	**-1.0**
TPNV	**Topopah Spring**	**10.17**	**338**				**Pn**	**18 48 44.1**	**-1.0**
CWC	**Cottonwood Cre**	**10.45**	**329**	P			**Pn**	**18 48 50.3**	**+1.4**
	baz=146								
JCT	**Junction City**	**10.63**	**71**	P			**Pn**	**18 48 54.2**	**+3.0**
	baz=258								
JCT	**Junction City**	**10.63**	**71**	*i* P			**Pn**	**18 48 50.0**	**-1.2**
833A	**Chaparral WMA,**	**10.72**	**83**	*i* P			**Pn**	**18 48 53.3**	**+0.9**
	baz=269,SNR=6.8								
833A	**Chaparral WMA,**	**10.72**	**83**				**Pn**	**18 48 53.9**	**+1.5**
S22A	**4UR Ranch, Cre**	**10.87**	**20**	P			Pn	18 49 01.1	+6.4
	baz=203								
AMTX	**Amarillo**	**11.11**	**47**	P			**Pn**	**18 48 59.0**	**+1.2**
	baz=232								
T25A	**Trinidad**	**11.25**	**30**	P			**Pn**	**18 49 03.7**	**+3.9**
	baz=215								
R11A	**Troy Canyon, C**	**11.28**	**343**	P			**Pn**	**18 48 59.0**	**-1.2**
	baz=162,SNR=18								
R11A	**Troy Canyon, C**	**11.28**	**343**				**Pn**	**18 48 58.8**	**-1.4**
SDCO	**Great Sand Dun**	**11.32**	**25**	P			**Pn**	**18 49 03.5**	**+2.6**
	baz=209								
ABTX	**Abilene, Hawle**	**11.42**	**61**	P			**Pn**	**18 49 02.4**	**+0.3**
	baz=247,SNR=28								
ABTX	**Abilene, Hawle**	**11.42**	**61**				**Pn**	**18 49 02.3**	**+0.3**
RPIG	**Rio Verde**	**11.89**	**116**	*eP*			Pn	18 48 55.9	-13
GTIG	**Gomez Farias**	**12.01**	**109**	*eP*			**Pn**	**18 49 06.4**	**-3.8**
735A	**Kenedy**	**12.13**	**81**				**Pn**	**18 49 09.7**	**-2.1**
NVAR	**Mina Array Bea**	**12.23**	**334**	Pn			**Pn**	**18 49 14.4**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=156,slow=15,SNR=15								
NVAR				Lg		Lg		18 52 41.4	
	comp=Z,0.2nm,0.3s,baz=152,slow=33,SNR=1.3								
NVAR				LR		LR		18 53 36.2	
	comp=Z,6μm,20.3s,baz=148,slow=36								
DUG	**Dugway, Tooele**	**12.63**	**355**	P			**Pn**	**18 49 20.3**	**+1.6**
	baz=175,SNR=26								
O20A	**White River Ci**	**12.81**	**11**	P			**Pn**	**18 49 22.5**	**+1.4**
	baz=194,SNR=10.0								
WHTX	**Lake Whitney,**	**12.95**	**67**	P			**Pn**	**18 49 23.2**	**+0.3**
	baz=254,SNR=12								
WMOK	**Wichita Mounta**	**13.00**	**54**	P			**Pn**	**18 49 23.2**	**-0.4**
	baz=241,SNR=24								
WMOK	**Wichita Mounta**	**13.00**	**54**	P			**Pn**	**18 49 24.7**	**+1.0**
WMOK	**Wichita Mounta**	**13.00**	**54**				**Pn**	**18 49 24.7**	**+1.0**
ELK	**Elko**	**13.49**	**348**	Pn			**Pn**	**18 49 30.5**	**0.0**
	comp=Z,0.3nm,0.3s,baz=183,slow=10.0,SNR=15								
ELK				Lg		Lg		18 53 14.3	
	comp=Z,0.1nm,0.3s,baz=218,slow=18,SNR=1.4								
KSCO	**Kaye Shedlock'**	**13.59**	**31**	P			**P**	**18 49 37.7**	**-3.2**
	baz=216								
HKT	**Hockley**	**13.93**	**77**	P			**Pn**	**18 49 39.1**	**+2.8**
HKT	**Hockley**	**13.93**	**77**				**Pn**	**18 49 39.1**	**+2.8**
N23A	**Red Feather La**	**14.04**	**18**	P			**P**	**18 49 44.6**	**-1.4**
	baz=201,SNR=10								
N23A	**Red Feather La**	**14.04**	**18**	Pn			**P**	**18 49 44.5**	**-1.5**
BW06	**Boulder Array**	**15.23**	**5**	P			**P**	**18 49 59.3**	**+0.1**
	baz=187								
PDAR	**Pinedale Array**	**15.23**	**5**	Pn			**Pn**	**18 49 55.2**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=183,slow=10,SNR=11								
PDAR				Lg		Lg		18 54 07.7	
	comp=Z,0.1nm,0.3s,baz=167,slow=24,SNR=1.6								
PDAR				LR		LR		18 56 03.1	
	comp=Z,21μm,18.1s,baz=191,slow=39								
O03E	**Paynes Creek**	**15.28**	**329**	P			**Pn**	**18 49 56.3**	**+1.5**
	baz=143,SNR=24								
K22A	**Casper**	**15.57**	**14**	P			**P**	**18 50 03.0**	**+0.2**
	baz=197								
TUL1	**Leonard**	**15.71**	**54**	P			**Pn**	**18 49 59.2**	**-1.1**
	baz=243								
HLID	**Hailey**	**16.12**	**352**	P			**P**	**18 50 06.8**	**-2.2**
	baz=171,SNR=22								
IMW	**Indian Meadow**	**16.29**	**1**	P			**P**	**18 50 09.6**	**-1.4**
IMW							IAmb	IAmb	18 50 27.6
	comp=Z,100nm,1.2s								
M04C	**Macdoel**	**16.51**	**332**	P			**P**	**18 50 13.3**	**0.0**
	baz=146,SNR=25								
MIAR	**Mount Ida**	**16.83**	**61**	P			**P**	**18 50 16.8**	**+0.1**
	baz=251,SNR=12								
MIAR	**Mount Ida**	**16.83**	**61**	P			**P**	**18 50 16.2**	**-0.5**
MIAR				pmax		pmax			
	comp=Z,49nm,1.2s								
MIAR	**Mount Ida**	**16.83**	**61**	P			**P**	**18 50 16.2**	**-0.5**
YBH	**Yreka Blue Hor**	**16.85**	**330**	Pn			**P**	**18 50 16.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=89,slow=11,SNR=4.9								
YBH				LR		LR		18 56 28.6	
	comp=Z,7μm,19.6s,baz=174,slow=36								
W39A	**Magazine**	**16.90**	**59**	P			**Pn**	**18 50 15.3**	**-0.2**
	baz=248,SNR=17								
KSU1	**Kansas State U**	**16.90**	**43**	P			**P**	**18 50 17.0**	**-0.4**
	baz=232								
K05A	**Summer Lake**	**16.94**	**336**	P			**Pn**	**18 50 13.4**	**-2.6**
K05A							IAmb	IAmb	18 50 30.9
	comp=Z,200nm,1.3s								
L04D	**Klamath Falls**	**17.06**	**332**	P			**P**	**18 50 18.8**	**-0.6**
	baz=146								
Z41A	**Richland Creek**	**17.07**	**66**	P			**Pn**	**18 50 17.9**	**+0.3**
	baz=256								
J05D	**Fort Rock, OR**	**17.55**	**336**	P			**P**	**18 50 25.5**	**+0.7**
	baz=150,SNR=40								
RSSD	**Black Hills**	**17.56**	**18**	P			**P**	**18 50 27.0**	**+2.0**
	baz=203								
RLMT	**Red Lodge**	**17.60**	**5**	P			**P**	**18 50 26.6**	**+1.3**
	baz=187								
BGNE	**Belgrade**	**17.61**	**35**	P			**P**	**18 50 29.7**	**+4.4**
	baz=223,SNR=5.4								
I07A	**Izee**	**17.69**	**341**	P			**P**	**18 50 26.7**	**+0.4**
BOZ	**Bozeman (W)**	**17.98**	**360**	P			**P**	**18 50 32.0**	**+2.5**
	baz=180,SNR=14								
K02D	**Willamette Mer**	**18.04**	**330**	P			**P**	**18 50 30.5**	**+0.4**
	baz=143								
U40A	**Yellville**	**18.05**	**56**	P			**Pn**	**18 50 29.6**	**-0.1**
	baz=246,SNR=28								
W41B	**Gary Mavity, V**	**18.07**	**60**	P			**Pn**	**18 50 29.1**	**-0.9**
	baz=251,SNR=20								
S39A	**Bolivar**	**18.29**	**52**	IAmb			IAmb	18 50 39.8	
	comp=Z,136nm,1.1s								
I05D	**Terrebonne, OR**	**18.50**	**337**	P			**Pn**	**18 50 37.2**	**+1.9**
	baz=152								
CMIG	**Matias Romero**	**18.55**	**121**	P			**Pn**	**18 50 38.0**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=316,slow=11,SNR=23								
CMIG				LR		LR		18 56 58.5	
	comp=Z,8μm,18.4s,baz=276,slow=34								
H04D	**Lebanon**	**19.17**	**335**	P			**P**	**18 50 42.2**	**-0.2**
	baz=148								
I02D	**Swisshome**	**19.26**	**332**	P			**Pn**	**18 50 44.8**	**+0.5**
	baz=145								
G05D	**Wamic, OR**	**19.29**	**339**	P			**Pn**	**18 50 46.7**	**+1.9**
	baz=153								
MSO	**Missoula**	**19.31**	**355**	P			**Pn**	**18 50 46.6**	**+1.5**
	baz=174								
LAO	**LASA Array**	**19.52**	**11**	P			**Pn**	**18 50 48.6**	**+1.1**
	baz=194								
CCM	**Cathedral Cave**	**19.92**	**53**	P			**Pn**	**18 50 53.2**	**+0.8**
	baz=245								
CCM	**Cathedral Cave**	**19.92**	**53**	P			**Pn**	**18 50 53.0**	**+0.6**
CCM				pmax		pmax			
	comp=Z,40nm,1.0s								
CCM	**Cathedral Cave**	**19.92**	**53**	P			**Pn**	**18 50 53.0**	**+0.6**
G03D	**McMinnville, O**	**19.95**	**335**	P			**Pn**	**18 50 51.3**	**-1.3**
	baz=148								
ECSD	**EROS Data Cent**	**20.09**	**33**	P			**P**	**18 50 52.2**	**-0.4**
	baz=222,SNR=12								
ECSD	**EROS Data Cent**	**20.09**	**33**	P			**P**	**18 50 51.7**	**-0.9**
OXF	**Oxford**	**20.12**	**64**	P			Pn	18 50 54.8	+0.1
	baz=256								
OXF	**Oxford**	**20.12**	**64**	IAMs_20			IAMs_20	18 59 11.3	
	comp=Z,13μm,18.0s								
JTMT	**Jette**	**20.25**	**355**	IAMs_20			IAMs_20	18 59 00.4	
	comp=Z,12μm,18.0s								
EGMT	**Eagleton**	**20.45**	**3**	P			**P**	**18 50 55.9**	**-0.6**
	baz=185,SNR=8.0								
EGMT	**Eagleton**	**20.45**	**3**	P			**P**	**18 50 54.4**	**-2.1**
EGMT				IAmb			IAmb	18 51 07.1	
	comp=Z,77nm,1.2s								
EGMT				IAMs_20			IAMs_20	18 58 46.2	
	comp=Z,10μm,21.0s								
SCIA	**State Center**	**20.67**	**42**	P			Pn	18 51 02.0	+0.9
	baz=232,SNR=9.4								
LON	**Longmire**	**20.79**	**340**	P			**P**	**18 50 57.7**	**-2.5**
LON				pmax		pmax			
	comp=Z,81nm,1.4s								
LON	**Longmire**	**20.79**	**340**	P			**P**	**18 50 57.7**	**-2.5**
LON				IAmb			IAmb	18 51 16.4	
	comp=Z,81nm,1.4s								
E04D	**Cinebar**	**20.86**	**338**	P			Pn	18 51 03.6	+0.3
	baz=152								
NEW	**Newport**	**21.11**	**350**	P			**P**	**18 51 02.3**	**-1.2**
	baz=166,SNR=36								
NEW	**Newport**	**21.11**	**350**	P			**P**	**18 51 01.4**	**-2.2**
NEW				pmax		pmax			
	comp=Z,65nm,1.2s								
NEW				MLR		MLR			
	comp=Z,15μm,18.0s								
NEW	**Newport**	**21.11**	**350**	P			**P**	**18 51 01.4**	**-2.2**
NEW				IAmb			IAmb	18 51 15.0	
	comp=Z,65nm

Sta	Name	Dist	Az	Phase	Phase	Time	Res
ULM				IAmb	IAmb	18 51 57.4	
	comp=Z,39nm,1.2s						
EYMN	Ely	25.61	32	P	P	18 51 50.0	+1.7
	baz=225,SNR=9.6						
EYMN	Ely	25.61	32	P	P	18 51 47.9	-0.4
EYMN				IAmb	IAmb	18 51 53.8	
	comp=Z,34nm,1.1s						
X54A	Belton	25.83	67	P	P	18 51 52.6	+2.2
	baz=263,SNR=8.6						
W54A	Cherokee Point	26.06	66	P	P	18 51 54.1	+1.7
	baz=262						
T53A	Wise	26.13	62	P	P	18 51 55.6	+2.5
	baz=258,SNR=13						
Y55A	Saluda	26.18	69	P	P	18 51 54.7	+1.1
	baz=264						
TGUH	Tegucigalpa,Un	26.26	116	IAMs_20	IAMs_20	19 01 30.7	
	comp=Z,5µm,19.0s						
V54A	Nebo	26.36	65	P	P	18 51 57.2	+2.0
	baz=260						
P51A	Williamsport	26.39	56	P	P	18 51 56.7	+1.3
	baz=252,SNR=7.0						
P51A	Williamsport	26.39	56	IAMs_20	IAMs_20	19 02 35.7	
	comp=Z,13µm,18.0s						
X55A	Gracelyn & Ava	26.43	68	P	P	18 51 56.9	+1.1
	baz=263,SNR=13						
D41A	Chassel	26.49	37	IAMs_20	IAMs_20	19 02 08.6	
	comp=Z,6µm,19.0s						
DWPF	Disney Wildern	26.55	82	IAMs_20	IAMs_20	19 04 16.9	
	comp=Z,7µm,19.0s						
U54A	Nelsons Funny	26.59	63	P	P	18 51 58.2	+0.8
	baz=259						
U54A	Nelsons Funny	26.59	63	IAMs_20	IAMs_20	19 02 46.0	
	comp=Z,12µm,22.0s						
ACSO	Alum Creek Sta	26.69	54	P	P	18 52 03.0	+4.9
	baz=251,SNR=5.9						
KMSC	Kings Mountain	26.76	66	P	P	18 52 00.2	+1.5
	baz=262						
KMSC	Kings Mountain	26.76	66	P	P	18 51 58.2	-0.6
KMSC				IAmb	IAmb	18 52 15.3	
	comp=Z,20nm,0.9s						
Q52A	Bidwell	26.83	57	P	P	18 52 00.8	+1.4
	baz=254,SNR=6.4						
T54A	Tazewell	26.89	62	P	P	18 52 00.3	+0.2
	baz=258,SNR=11						
R53A	Hurricane	26.90	59	P	P	18 52 02.0	+2.0
	baz=256						
X56A	White Oak	26.92	68	P	P	18 52 04.5	+4.3
	baz=264						
E43A	Lone Tree Farm	26.93	39	IAmb	IAmb	18 52 14.9	
	comp=Z,32nm,0.9s						
V55A	Taylorsville	26.96	65	P	P	18 52 02.2	+1.6
	baz=261						
V55A	Taylorsville	26.96	65	IAmb	IAmb	18 52 16.9	
	comp=Z,27nm,0.8s						
Z57A	Bowman	27.09	70	P	P	18 52 03.4	+1.7
	baz=266						
P52A	Corning	27.12	56	P	P	18 52 02.2	+0.2
	baz=253						
P52A	Corning	27.12	56	IAMs_20	IAMs_20	19 02 59.0	
	comp=Z,11µm,18.0s						
U55A	TA2, Sparta	27.20	63	P	P	18 52 03.4	+0.6
	baz=260						
S54A	Dingess, Beckl	27.26	60	P	P	18 52 03.7	+0.4
	baz=257						
S54A	Dingess, Beckl	27.26	60	IAMs_20	IAMs_20	19 02 39.4	
	comp=Z,8µm,19.0s						
W56A	Indian Trail	27.37	66	P	P	18 52 04.5	+0.2
	baz=263						
O52A	Adamsville	27.48	55	P	P	18 52 08.7	+3.5
	baz=252,SNR=6.7						
NHSC	New Hope	27.52	71	IAMs_20	IAMs_20	19 03 54.6	
	comp=Z,13µm,21.0s						
T55A	Pulaski	27.53	62	P	P	18 52 07.1	+1.3
	baz=259						
ESTN	Estel	27.53	117	IAMs_20	IAMs_20	19 02 34.3	
	comp=Z,5µm,19.0s						
V56A	Mocksville	27.53	65	P	P	18 52 07.7	+2.0
	baz=262						
BBB	Bella Bella	27.55	338	LR	LR	19 02 52.4	
	comp=Z,4µm,19.2s,baz=162,slow=36						
R54A	Victor	27.59	60	P	P	18 52 06.6	+0.3
	baz=257						
P53A	Whipple	27.63	57	P	P	18 52 07.9	+1.3
	baz=254,SNR=6.7						
P53A	Whipple	27.63	57	IAMs_20	IAMs_20	19 03 15.5	
	comp=Z,10µm,20.0s						
BLA	Blacksburg	27.83	62	P	P	18 52 10.7	+2.3
	baz=259						
W57A	Gilead	27.85	66	P	P	18 52 09.9	+1.4
	baz=263						
W57A	Gilead	27.85	66	IAMs_20	IAMs_20	19 03 31.1	
	comp=Z,8µm,21.0s						
S55A	Lewisburg	27.88	61	P	P	18 52 09.3	+0.4
	baz=258						
Q54A	Coxs Mills	27.91	58	P	P	18 52 09.7	+0.6
	baz=255,SNR=7.1						
O53A	New Philadelph	27.98	55	IAMs_20	IAMs_20	19 03 23.7	
	comp=Z,11µm,18.0s						
V57A	Coltrane Farms	28.12	65	P	P	18 52 12.1	+1.1
	baz=262						
R55A	Marlinton	28.29	60	P	P	18 52 11.6	-0.9
	baz=257						
R55A	Marlinton	28.29	60	IAmb	IAmb	18 52 30.8	
	comp=Z,29nm,0.9s						
R55A				IAMs_20	IAMs_20	19 04 02.1	
	comp=Z,11µm,19.0s						
M52A	Chesterland	28.29	53	IAMs_20	IAMs_20	19 02 06.7	
	comp=Z,5µm,18.0s						
P54A	Burton	28.34	57	P	P	18 52 14.0	+1.1
	baz=255,SNR=10						
N53A	Lisbon	28.42	54	IAmb	IAmb	18 52 18.6	
	comp=Z,21nm,1.1s						
N53A				IAMs_20	IAMs_20	19 03 38.3	
	comp=Z,10µm,18.0s						
Q55A	Buckhannon	28.48	58	P	P	18 52 14.2	0.0
	baz=256,SNR=13						
O54A	Avella	28.57	56	P	P	18 52 16.3	+1.3
	baz=254,SNR=8.5						
T57A	Hurt	28.71	63	IAMs_20	IAMs_20	19 04 01.6	
	comp=Z,13µm,22.0s						
M53A	WI Miller and	28.74	53	P	P	18 52 17.2	+0.8
	baz=251						
M53A	WI Miller and	28.74	53	IAmb	IAmb	18 52 29.0	
	comp=Z,20nm,0.8s						
M53A				IAMs_20	IAMs_20	19 03 30.6	
	comp=Z,7µm,18.0s						
P55A	Reedsville	28.80	57	P	P	18 52 20.0	+2.9
	baz=255,SNR=6.7						
MCWV	Mont Chateau	28.82	57	IAMs_20	IAMs_20	19 04 03.1	
	comp=Z,6µm,19.0s						
R56A	Bull Pasture M	28.86	60	P	P	18 52 18.2	+0.6
	baz=258						
S57A	Dark Hollow, R	29.08	61	IAMs_20	IAMs_20	19 04 12.3	
	comp=Z,12µm,22.0s						
N54A	Moraine State	29.08	54	P	P	18 52 20.4	+0.9
	baz=253,SNR=6.6						
Q56A	Snyder Ridge,	29.17	59	P	P	18 52 20.8	+0.5
	baz=257						
Y60A	Bolivia	29.20	69	IAMs_20	IAMs_20	19 04 42.2	
	comp=Z,12µm,20.0s						
V59A	Middlesex	29.34	65	P	P	18 52 22.1	+0.2
	baz=263						
O55A	Ligonier	29.37	56	P	P	18 52 21.8	-0.3
	baz=255,SNR=8.5						
M54A	Oil Creek Stat	29.48	54	P	P	18 52 22.7	-0.3
	baz=252						
P56A	Dayton Farm, R	29.54	58	P	P	18 52 23.5	-0.1
	baz=256						
D47A	Chapleau	29.54	41	P	P	18 52 22.8	-0.7
	baz=239						
CNNC	Cliffs of the	29.57	67	IAMs_20	IAMs_20	19 04 33.7	
	comp=Z,8µm,22.0s						
Q57A	Strasburg	29.75	59	P	P	18 52 27.1	+1.6
	baz=258						
N55A	Marion Center	29.76	55	P	P	18 52 26.3	+0.8
	baz=254,SNR=7.5						
S58A	Poland Farm, P	29.76	62	IAMs_20	IAMs_20	19 04 07.3	
	comp=Z,5µm,18.0s						
O56A	Blue Knob Stat	29.93	56	P	P	18 52 27.1	0.0
	baz=255						
O56A	Blue Knob Stat	29.93	56	IAmb	IAmb	18 52 32.1	
	comp=Z,30nm,1.2s						
O56A				IAMs_20	IAMs_20	19 04 35.4	
	comp=Z,9µm,20.0s						
R58B	Mineral	29.95	61	IAMs_20	IAMs_20	19 03 47.4	
	comp=Z,4µm,19.0s						
T59A	Double "B" Far	30.05	63	IAMs_20	IAMs_20	19 04 25.1	
	comp=Z,6µm,22.0s						

Sta	Name	Dist	Az	Phase	Phase	Time	Res
M55A	Ridgway	30.11	54	P	P	18 52 28.8	+0.2
	baz=253						
M55A	Ridgway	30.11	54	IAmb	IAmb	18 52 38.1	
	comp=Z,17nm,1.0s						
M55A				IAMs_20	IAMs_20	19 04 14.0	
	comp=Z,8µm,19.0s						
P57A	Homestead Farm	30.16	58	P	P	18 52 28.7	-0.3
	baz=257,SNR=5.1						
P57A	Homestead Farm	30.16	58	IAmb	IAmb	18 52 34.7	
	comp=Z,31nm,1.1s						
P57A				IAMs_20	IAMs_20	19 05 06.5	
	comp=Z,10µm,20.0s						
Q58A	Fox Den Farm,	30.29	59	P	P	18 52 29.2	-1.0
	baz=258						
N56A	West Decatur	30.30	55	P	P	18 52 31.0	+0.7
	baz=255,SNR=9.1						
JTS	Las Juntas de	30.32	119	LR	LR	19 04 34.1	
	comp=Z,5µm,20.9s,baz=14,slow=36						
JTS	Las Juntas de	30.32	119⇓	eP	P	18 52 30.4	-0.3
JTS				pmax	pmax		
	comp=Z,16nm,1.9s						
JTS	Las Juntas de	30.32	119	IAMs_20	IAMs_20	19 04 21.3	
	comp=Z,4µm,20.0s						
D48A	Paudash Townsh	30.36	42	P	P	18 52 31.2	+0.4
	baz=241						
CBN	Corbin Frederi	30.39	61	IAMs_20	IAMs_20	19 04 52.9	
	comp=Z,9µm,22.0s						
SSPA	Standing Stone	30.52	56	P	P	18 52 32.1	-0.1
	baz=255						
SSPA	Standing Stone	30.52	56	P	P	18 52 31.7	-0.6
SSPA				IAmb	IAmb	18 52 40.2	
	comp=Z,27nm,0.9s						
M56A	Emporium	30.54	54	P	P	18 52 32.3	-0.1
	baz=254						
M56A	Emporium	30.54	54	IAmb	IAmb	18 52 37.1	
	comp=Z,17nm,1.0s						
M56A				IAMs_20	IAMs_20	19 04 56.3	
	comp=Z,9µm,18.0s						
L55A	Hinsdale	30.56	53	P	P	18 52 35.0	+2.3
	baz=252,SNR=5.6						
O57A	Amberson	30.61	57	P	P	18 52 34.9	+1.9
	baz=256,SNR=6.8						
E50A	Wahnapitae	30.65	44	P	P	18 52 35.4	+2.0
	baz=243						
P58A	Pank, Wackersv	30.69	58	P	P	18 52 33.6	-0.1
	baz=258						
T60A	Surry	30.72	63	IAMs_20	IAMs_20	19 05 13.9	
	comp=Z,9µm,22.0s						
N57A	Milroy	30.80	56	P	P	18 52 34.5	-0.2
	baz=256,SNR=9.3						
SADO	Sadowa	30.97	48	P	P	18 52 35.8	-0.4
	comp=Z,6.3nm,0.9s,baz=294,slow=7.1,SNR=4.8						
K55A	Perry	30.99	52	P	P	18 52 37.8	+1.4
	baz=252						
O58A	Lewisberry	31.12	57	P	P	18 52 36.1	-1.4
	baz=257,SNR=6.9						
L56A	Greenwood	31.17	53	P	P	18 52 36.8	-1.2
	baz=253,SNR=8.4						
V62A	Hyde County Ai	31.17	66	IAMs_20	IAMs_20	19 05 32.0	
	comp=Z,8µm,19.0s						
M57A	Sunshine Farm,	31.26	55	P	P	18 52 38.3	-0.4
	baz=255,SNR=5.6						
M57A	Sunshine Farm,	31.26	55	IAMs_20	IAMs_20	19 05 18.5	
	comp=Z,8µm,19.0s						
H53A	Bobcaygeon	31.27	48	P	P	18 52 41.1	+2.3
	baz=248,SNR=7.9						
J55A	Hilton	31.33	51	P	P	18 52 40.9	+1.5
	baz=251,SNR=5.4						
J55A	Hilton	31.33	51	IAMs_20	IAMs_20	19 04 36.1	
	comp=Z,5µm,20.0s						
P59A	Jarrettsville	31.38	58	P	P	18 52 39.1	-0.7
	baz=258						
N58A	Sunbury	31.44	56	P	P	18 52 39.0	-1.3
	baz=256						
E51A	G1948 Merrick	31.47	44	P	P	18 52 42.0	+1.4
	baz=244						
K56A	Middlesex	31.50	52	P	P	18 52 42.2	+1.3
	baz=253						
D50A	G1974 Best Tow	31.54	43	P	P	18 52 41.9	+0.7
	baz=243						
L57A	Andrews Acres	31.64	54	P	P	18 52 41.5	-0.7
	baz=254,SNR=6.2						
O59A	Robesonia	31.71	57	P	P	18 52 44.3	+1.6
	baz=258						
I55A	Frankford	31.74	49	P	P	18 52 45.4	+2.4
	baz=250,SNR=7.9						
M58A	Price's Panora	31.75	55	P	P	18 52 43.4	+0.3
	baz=256,SNR=8.7						
E52A	Mattawa	31.89	45	P	P	18 52 44.9	+0.6
	baz=246,SNR=9.7						
G54A	Lake Saint Pet	31.90	47	P	P	18 52 44.2	-0.2
	baz=248,SNR=8.8						
J56A	Wolcott	32.00	52	P	P	18 52 45.1	-0.1
	baz=252						
P60A	Greenville	32.02	58	P	P	18 52 46.1	+0.7
	baz=259						
K57A	Scipio Center	32.08	53	P	P	18 52 47.3	+1.4
	baz=254						
ALGO	Algonquin Park	32.14	46	P	P	18 52 46.3	-0.1
	baz=247,SNR=6.5						
N59A	State Game Lan	32.15	56	P	P	18 52 46.1	-0.5
	baz=257						
H55A	Tweed	32.20	49	P	P	18 52 47.6	+0.7
	baz=250,SNR=5.9						
O60A	Telford	32.29	57	P	P	18 52 46.8	-1.0
	baz=258,SNR=13						
BINY	Binghamton	32.31	54	P	P	18 52 47.8	-0.3
	baz=255,SNR=5.9						
BINY	Binghamton	32.31	54	IAMs_20	IAMs_20	19 04 11.2	
	comp=Z,4µm,18.0s						
D52A	ZEK Kipawa Sen	32.33	44	P	P	18 52 48.3	+0.2
	baz=245,SNR=9.4						
L58A	Harry Jones Me	32.37	54	P	P	18 52 48.2	-0.3
	baz=255,SNR=6.7						
M59A	Waymart	32.55	55	P	P	18 52 50.1	0.0
	baz=256,SNR=6.3						
E53A	Dumoine, Ponti	32.56	46	P	P	18 52 49.5	-0.6
	baz=247,SNR=6.4						
N60A	Cedar Hill Far	32.64	57	P	P	18 52 50.0	-0.8
	baz=258,SNR=16						
J57A	Williamstown	32.64	52	P	P	18 52 51.2	+0.3
	baz=253,SNR=8.9						
K58A	Earlville	32.70	53	P	P	18 52 51.3	-0.1
	baz=254,SNR=12						
K58A	Earlville	32.70	53	IAMs_20	IAMs_20	19 07 14.5	
	comp=Z,6µm,20.0s						
D53A	Lac Vacive, Po	32.82	45	P	P	18 52 53.1	+0.8
	baz=246,SNR=19						
H56A	Elgin	32.83	49	P	P	18 52 54.4	+1.9
	baz=251						
E54A	Lac Daplat, Po	32.88	46	P	P	18 52 54.1	+1.1
	baz=247						
L59A	Walton	32.99	54	P	P	18 52 53.3	-0.7
	baz=256,SNR=11						
I57A	Carthage	33.03	51	P	P	18 52 55.3	+1.0
	baz=252,SNR=6.2						
M60A	Port Jervis	33.09	56	P	P	18 52 54.9	+0.1
	baz=257,SNR=6.7						
J58A	Remsen	33.12	52	P	P	18 52 54.9	-0.2
	baz=254,SNR=6.9						
K59A	Cooperstown	33.27	53	P	P	18 52 57.0	+0.6
	baz=255,SNR=6.1						
H57A	Richville	33.38	50	P	P	18 52 58.8	+1.6
	baz=252,SNR=7.4						
I58A	Old Forge	33.44	52	P	P	18 52 59.1	+1.2
	baz=254,SNR=15						
D54A	Lac Fusel, La	33.50	45	P	P	18 52 59.3	+1.0
	baz=247,SNR=7.2						
L60A	Shokan	33.53	55	P	P	18 52 59.4	+0.8
	baz=257						
PAL	Palisades	33.55	57	P	P	18 52 59.2	+0.4
	baz=258						
ORIO	Orleans, Innes	33.62	48	P	P	18 53 01.9	+2.6
	baz=250						
J59A	Piesco	33.70	52	P	P	18 53 00.6	+0.5
	baz=254,SNR=10						
G57A	Newington	33.85	49	P	P	18 53 03.2	+1.8
	baz=252						
LONY	Lake Ozonia	33.98	50	P	P	18 53 03.2	+0.6
	baz=253,SNR=11						
MATQ	Matagami	34.04	40	P	P	18 53 03.8	+0.8
	baz=242						
L61A	Hillsdale 1, H	34.06	55	P	P	18 53 04.9	+1.7
	baz=257						
LSQQ	Lebel-sur-Quev	34.10	42	P	P	18 53 04.5	+1.0
	baz=244						
H58A	Gabriels	34.19	51	P	P	18 53 06.1	+1.7
	baz=253						

Sta	Name	Dist	Az	Phase	Phase	Time	Res
D55A	Sainte-Anne-du	34.20	46	P	P	18 53 05.9	+1.6
	baz=248,SNR=13						
I59A	Olmsteadville	34.23	52	P	P	18 53 05.3	+0.5
	baz=254,SNR=9.0						
E56A	St. Veronique	34.30	47	P	P	18 53 06.2	+0.8
	baz=250						
K61A	Williamstown	34.38	54	P	P	18 53 07.9	+1.9
	baz=257						
M62A	Hamden	34.38	56	P	P	18 53 09.5	+3.4
	baz=259						
J60A	Lant Hill Farm	34.41	53	P	P	18 53 07.1	+0.9
	baz=256,SNR=5.2						
G58A	Ormstown	34.49	49	P	P	18 53 08.9	+2.0
	baz=252,SNR=6.7						
H59A	Cadyville	34.59	50	P	P	18 53 08.5	+0.7
	baz=254,SNR=7.5						
JIS	Juneau Island	34.61	339	IAMs_20	IAMs_20	19 09 41.8	
	comp=Z,5µm,18.0s						
I60A	Shoreham	34.65	52	P	P	18 53 11.2	+2.9
	baz=255,SNR=8.3						
D56A	ZEC Mazanza, M	34.66	46	P	P	18 53 09.4	+0.9
	baz=249						
L61B	Northampton	34.75	54	P	P	18 53 10.9	+1.7
	baz=258						
E57A	Chemin Saint G	34.84	47	P	P	18 53 09.9	0.0
	baz=251,SNR=5.0						
YKA	Yellowknife Ar	34.97	357	P	P	18 53 10.3	-0.5
	comp=Z,1.4nm,0.8s,baz=174,slow=7.8,SNR=2.7						
YKA				LR	LR	19 08 35.0	
	comp=Z,5µm,21.3s,baz=0.0,slow=38						
M63A	Gales Ferry	35.00	56	P	P	18 53 11.5	+0.1
	baz=260						
J61A	Chester	35.05	53	P	P	18 53 15.5	+3.7
	baz=256						
G59A	Clarenceville	35.06	50	P	P	18 53 14.9	+3.0
	baz=253,SNR=6.1						
K62A	Royalston	35.12	54	IAMs_20	IAMs_20	19 05 57.5	
	comp=Z,5µm,20.0s						
D57A	Chemin Vers le	35.21	46	P	P	18 53 14.4	+1.2
	baz=250,SNR=5.3						
H60A	Morristown	35.25	51	P	P	18 53 14.8	+1.3
	baz=255,SNR=12						
E58A	La Victoria	35.39	48	P	P	18 53 16.7	+2.0
	baz=252						
BRYW	Bryant College	35.47	56	IAMs_20	IAMs_20	19 07 58.5	
	comp=Z,9µm,21.0s						
J62A	Henniker	35.54	53	P	P	18 53 15.7	-0.4
	baz=257						
F59A	Saint Guilaume	35.56	49	P	P	18 53 19.3	+3.1
	baz=253						
HRV	Adam Dziewonsk	35.57	55	P	P	18 53 18.0	+1.7
	baz=258						
HRV	Adam Dziewonsk	35.57	55	P	P	18 53 16.8	+0.5
HRV				pmax	pmax		
	comp=Z,30nm,1.1s						
HRV				MLR	MLR		
	comp=Z,6µm,21.0s						
HRV	Adam Dziewonsk	35.57	55	P	P	18 53 16.8	+0.5
HRV				IAmb	IAmb	18 53 21.9	
	comp=Z,30nm,1.1s						
HRV	Adam Dziewonsk	35.57	55	IAMs_20	IAMs_20	19 07 24.6	
	comp=Z,6µm,21.0s						
K63A	Dunstable	35.63	54	P	P	18 53 19.1	+2.3
	baz=258						
G60A	Masonville	35.65	50	P	P	18 53 19.8	+2.8
	baz=254,SNR=6.2						
LBNH	Lisbon	35.70	52	P	P	18 53 21.8	+4.3
	baz=256,SNR=7.9						
LBNH	Lisbon	35.70	52	IAMs_20	IAMs_20	19 06 29.8	
	comp=Z,4µm,21.0s						
WES	Weston	35.72	55	IAMs_20	IAMs_20	19 06 16.5	
	comp=Z,5µm,18.0s						
H61A	Lyndonville	35.78	51	P	P	18 53 19.0	+0.9
	baz=255,SNR=10						
BCX	Boston College	35.82	55	IAMs_20	IAMs_20	19 06 21.2	
	comp=Z,4µm,20.0s						
D58A	Chemin du LacG	35.88	47	P	P	18 53 21.2	+2.3
	baz=251,SNR=5.9						
CHGQ	Chibougamau	36.00	42	P	P	18 53 21.1	+1.1
	baz=246						
I62A	Tamworth	36.03	52	P	P	18 53 23.4	+3.2
	baz=257,SNR=6.7						
I62A	Tamworth	36.03	52	IAMs_20	IAMs_20	19 06 54.5	
	comp=Z,3µm,18.0s						
J63A	Strafford	36.08	54	P	P	18 53 22.0	+1.4
	baz=258						
F60A	Warwick	36.15	49	P	P	18 53 24.1	+2.9
	baz=254,SNR=5.6						
G61A	St-Isidore-de-	36.24	50	P	P	18 53 24.1	+2.0
	baz=255						
H62A	Milan	36.32	51	P	P	18 53 25.7	+3.0
	baz=256						
E60A	Ste Agathe de	36.60	48	P	P	18 53 27.0	+2.0
	baz=253						
I63A	Otisfield	36.60	52	P	P	18 53 29.4	+4.3
	baz=257,SNR=6.1						
F61A	St Evariste	36.79	49	P	P	18 53 29.5	+2.8
	baz=254,SNR=5.2						
G62A	West of Eustis	36.91	50	P	P	18 53 28.3	+0.5
	baz=256						
H63A	New Sharon	37.12	52	P	P	18 53 34.4	+5.0
	baz=257,SNR=7.2						
I64A	Boothbay	37.24	53	P	P	18 53 34.2	+3.7
	baz=258						
E61A	Lac Etchemin	37.25	49	P	P	18 53 33.8	+3.2
	baz=254						
WVL	Waterville	37.36	52	IAMs_20	IAMs_20	19 09 35.5	
	comp=Z,6µm,20.0s						
F62A	Pittston Farm,	37.46	50	P	P	18 53 35.5	+3.1
	baz=256						
G63A	Kingsbury	37.51	51	P	P	18 53 35.8	+3.0
	baz=257,SNR=6.0						
D61A	St Aubert, Com	37.67	47	P	P	18 53 35.7	+1.6
	baz=254						
H64A	Troy	37.68	52	P	P	18 53 36.7	+2.4
	baz=258						
PKME	Peaks-Kenny Pk	37.77	51	P	P	18 53 37.0	+2.0
	baz=257						
PKME	Peaks-Kenny Pk	37.77	51	IAMs_20	IAMs_20	19 08 58.4	
	comp=Z,7µm,18.0s						
E62A	Clayton Lake	37.95	49	P	P	18 53 37.7	+1.2
	baz=255						
F63A	Nahmakanta, Br	38.00	50	P	P	18 53 38.5	+1.6
	baz=256						
F63A	Nahmakanta, Br	38.00	50	IAMs_20	IAMs_20	19 07 46.4	
	comp=Z,5µm,20.0s						
G64A	Maxfield	38.14	51	P	P	18 53 41.3	+3.2
	baz=257						
H65A	Eastbrook	38.37	52	P	P	18 53 43.2	+3.1
	baz=259						
D62A	Allapoint, All	38.38	48	P	P	18 53 42.8	+2.7
	baz=255						
D62A	Allapoint, All	38.38	48	IAMs_20	IAMs_20	19 09 33.3	
	comp=Z,5µm,18.0s						
TABL	Table Mountain	38.52	337	IAMs_20	IAMs_20	19 10 46.2	
	comp=Z,3µm,19.0s						
F64A	Sherman	38.55	50	P	P	18 53 44.2	+2.7
	baz=257						
MOTC	Monteria, Cord	38.63	112	eP	P	18 53 38.1	-4.4
E63A	Oxbow	38.63	49	P	P	18 53 43.3	+1.1
	baz=256,SNR=14						
E63A	Oxbow	38.63	49	IAMs_20	IAMs_20	19 08 46.1	
	comp=Z,6µm,19.0s						
YAH	Yahtse	38.67	336	IAMs_20	IAMs_20	19 10 48.3	
	comp=Z,3µm,18.0s						
PQI	Presque Isle	38.96	49	IAMs_20	IAMs_20	19 09 34.8	
	comp=Z,4µm,21.0s						
E64A	Bridgewater	39.03	49	P	P	18 53 48.7	+3.1
	baz=257,SNR=5.4						
H66A	Whiting	39.04	52	P	P	18 53 48.6	+2.9
	baz=259,SNR=5.0						
BALM	Baldy	39.36	337	IAMs_20	IAMs_20	19 10 43.4	
	comp=Z,3µm,18.0s						
DR12	Loma Pena Alta	39.53	94	P	P	18 53 48.5	-1.7
MCARA	McCarthy VSAT	39.84	337	IAMs_20	IAMs_20	19 11 46.1	
	comp=Z,3µm,19.0s						
VRDI	Verde Repeater	39.88	336	IAMs_20	IAMs_20	19 11 00.2	
	comp=Z,3µm,19.0s						
SMLC	San Martn de	39.93	111	eP	P	18 53 54.8	+1.3
CBOC	Ciudad Bolivar	40.02	116	eP	P	18 53 57.5	+3.1
GLB	Gilahina Butte	40.15	337	IAMs_20	IAMs_20	19 11 07.4	
	comp=Z,3µm,18.0s						
BATG	Bathurst New B	40.41	48	P	P	18 53 54.5	-2.6
BATG				IAmb	IAmb	18 54 10.4	
	comp=Z,35nm,1.2s						
BBSR	BB Station	40.56	72	IAMs_20	IAMs_20	19 11 35.2	
	comp=Z,4µm,19.0s						
OCAC	Ocana	40.86	111	eP	P	18 54 03.9	+2.6

PTBC **PUERTO BERRIO,** 40.87 114 *e*P P 18 54 02.3 +1.0
GUY2C **Guyana, Caldas** 40.91 116 *e*P P 18 54 03.5 +1.4
POHA **Pohakuloa** 40.91 269 IAMs_20 IAMs_20 19 05 32.9
comp=Z,4µm,22.0s
NORC **Norcasia** 41.11 115 *e*P P 18 54 07.7 +4.4
KHLU **Kahalu`u** 41.29 269 IAMs_20 IAMs_20 19 05 55.8
comp=Z,4µm,20.0s
ANIL **Santa Ana** 41.32 117 *e*P P 18 54 12.7 +7.3
TOLC **Tolima** 41.33 117 *e*P P 18 54 08.7 +3.3
K27K **Chicken** 41.41 340 P P 18 54 05.7 +0.6
baz=137
BBAC **Balboa, Cauca** 41.45 122 *e*P P 18 54 06.6 +0.3
SPBC **San Pablo de B** 41.70 115 *e*P P 18 54 08.7 +0.6
EGAK **Eagle** 41.70 341 P P 18 54 04.8 -2.7
EGAK IAMs_20 IAMs_20 19 11 07.5
comp=Z,3µm,21.0s
OTAV **Otavalo** 41.75 125 *e*P P 18 54 10.7 +1.6
OTAV **Otavalo** 41.75 125 *e*P P 18 54 06.9 -2.1
DOT **Dot Lake** 41.76 339 P P 18 54 06.7 -1.3
ORTC **Ortega, Tolima** 41.80 118 *e*P P 18 54 11.0 +2.1
EPYK **Eagle Plains** 41.83 345 P P 18 54 09.1 +0.6
baz=146
EPYK **Eagle Plains** 41.83 345 IAMs_20 IAMs_20 19 13 51.8
comp=Z,5µm,19.0s
PAMC **Pamplona, Colo** 41.86 111 *e*P P 18 54 11.4 +1.4
BARC **Barichara** 41.88 113 *e*P P 18 54 10.4 +0.5
SCRK **Sand Creek** 41.97 339 P P 18 54 09.8 0.0
baz=135
ROSC **El Rosal** 41.97 116 P P 18 54 14.2 +3.4
comp=Z,7.3nm,0.5s,baz=20,slow=7.3,SNR=9.9
ROSC LR LR 19 14 09.6
comp=Z,2µm,18.2s,baz=331,slow=40
ROSC **El Rosal** 41.97 116 *e*P P 18 54 15.4 +4.7
ROSC **El Rosal** 41.97 116 IAmb IAmb 18 54 33.7
comp=Z,40nm,1.1s
SCHQ **Schefferville** 42.19 37 P P 18 54 10.5 -1.1
comp=Z,10nm,0.8s,baz=265,slow=9.9,SNR=6.9
SCHQ LR LR 19 12 25.7
comp=Z,6µm,20.9s,baz=252,slow=37
SCHQ **Schefferville** 42.19 37 P P 18 54 11.3 -0.3
SCHQ IAmb IAmb 18 54 24.7
comp=Z,39nm,1.2s
PRAC **Prado** 42.20 118 *e*P P 18 54 05.7 -6.5
RUSC **La Rusia** 42.36 113 *e*P P 18 54 15.2 +1.2
CHIC **Chingaza** 42.57 116 *e*P P 18 54 18.3 +2.7
INK **Inuvik** 42.83 348 P P 18 54 16.4 -0.2
comp=Z,4.3nm,1.1s,baz=138,slow=8.2,SNR=5.8
ILAR **Eielson Array** 43.43 339 P P 18 54 20.7 -0.8
comp=Z,2.1nm,0.8s,baz=154,slow=6.9,SNR=19
ILAR LR LR 19 13 25.6
comp=Z,2µm,18.2s,baz=142,slow=38
ILAR **Eielson Array** 43.43 339 P P 18 54 19.0 -2.6
ILAR **Eielson Array** 43.43 339 P P 18 54 19.0 -2.6
MCK **McKinley** 43.45 337 IAMs_20 IAMs_20 19 12 48.5
comp=Z,3µm,18.0s
WRH **Wood River Hil** 43.63 338 IAMs_20 IAMs_20 19 13 32.3
comp=Z,3µm,18.0s
TRF **Thorofare Moun** 43.76 336 IAMs_20 IAMs_20 19 14 02.7
comp=Z,3µm,18.0s
COLA **College** 43.81 339⇑ *e*P P 18 54 24.4 -0.1
COLA pmax pmax
comp=Z,14nm,1.6s
BWN **Browne** 43.90 337 IAMs_20 IAMs_20 19 13 36.1
comp=Z,3µm,20.0s
NEA2 **Nenana** 44.03 338 P P 18 54 28.1 +1.7
baz=129
PPLA **Purkeypile** 44.14 335 P P 18 54 26.0 -1.4
PTLC **Puerto Leguiza** 44.51 122 *e*P P 18 54 36.4 +5.6
SVW2 **Sparrevohn** 44.58 331 P P 18 54 29.4 -1.5
TAOE **Nuku Hiva Isla** 45.63 222 *e*LR LR 19 07 18.7
comp=Z,4µm,25.3s
COLD **Coldfoot** 46.06 340 P P 18 54 43.0 +0.5
baz=130
IMAR **Indian Mountai** 46.44 338 P P 18 54 43.0 -2.5
TOLK **Toolik Lake Re** 46.81 342 IAMs_20 IAMs_20 19 14 44.3
comp=Z,3µm,20.0s
RES **Resolute Bay** 47.93 6 IAMs_20 IAMs_20 19 15 21.3
comp=Z,5µm,21.0s
SVB **Belmont** 48.86 96 IAMs_20 IAMs_20 19 16 17.3
comp=Z,2µm,18.0s
BBGH **Gun Hill** 50.41 96 IAMs_20 IAMs_20 19 18 20.3
comp=Z,2µm,21.0s
RDOG **Red Dog Mine** 50.59 338 IAMs_20 IAMs_20 19 19 41.4
comp=Z,2µm,19.0s
CZSB **Cruzeiro do Su** 51.38 127 *e*P P 18 55 25.3 +1.3
NNA **Nana** 51.72 135⇑ *e*P P 18 55 24.2 -2.4
NNA pmax pmax
comp=Z,21nm,1.1s
IVI **Ivigtut** 53.42 33 IAMs_20 IAMs_20 19 18 24.7
comp=Z,3µm,18.0s
ILULI **Ilulissat** 54.07 23 IAMs_20 IAMs_20 19 19 08.0
comp=Z,4µm,20.0s
NRS **Narsarsuaq** 54.73 33 IAMs_20 IAMs_20 19 19 38.5
comp=Z,3µm,20.0s
ETMB **Extrema** 57.48 124 *e*P P 18 56 08.9 +0.5
MACA **Manacapuru-AM** 57.66 114 *e*P P 18 56 11.2 +1.4
ALE **Alert** 57.80 7 IAMs_20 IAMs_20 19 19 08.2
comp=Z,3µm,18.0s
PPT **Papeete** 58.11 224 LR LR 19 14 39.1
comp=Z,2µm,19.4s,baz=28,slow=29
PPT2 **Papeete2** 58.13 224 *e*S S 19 04 08.5 -6.0
comp=Z,1µm,24.8s
PPT2 *e*LQ LQ 19 10 40.6
comp=Z,2µm,24.8s
PPT2 *e*LR LR 19 13 08.2
comp=Z,3µm,24.2s,baz=28
ANGG **Ammassalik, Gr** 58.57 28 IAMs_20 IAMs_20 19 22 55.3
comp=Z,2µm,20.0s
SUMG **Summit** 58.86 20 *i* P P 18 56 26.2 +8.5
SUMG **Summit** 58.86 20 *e*P P 18 56 26.2 +8.5
SAML **Samuel** 59.19 121 *e*P P 18 56 19.9 -0.5
LPAZ **La Paz** 60.56 131 P P 18 56 31.3 +0.8
comp=Z,5.0nm,1.1s,baz=332,slow=3.8,SNR=6.7
LPAZ LR LR 19 21 18.5
comp=Z,848nm,21.5s,baz=330,slow=35
LPAZ **La Paz** 60.56 131 *e*P P 18 56 31.5 +1.0
BILL **Bilibino** 61.85 335 *i* P P 18 56 34.5 -3.3
BILL *i* 18 58 51.6
BILL pmax pmax
comp=Z,6.0nm,1.2s
BILL MLR MLR
comp=Z,2µm,17.0s
MALB **Monte Alegre** 62.26 108 *e*P P 18 56 41.7 +0.4
TBI **Tubuai** 62.51 220 *e*S S 19 05 02.4 -7.9
comp=Z,501nm,26.0s
TBI *e*LQ LQ 19 12 32.8
comp=Z,2µm,35.8s
TBI *e*LR LR 19 15 08.0
comp=Z,2µm,26.0s,baz=33
VILB **Vilhena** 63.98 122 *e*P P 18 56 53.9 +1.1
DAG **Danmarks Havn** 64.02 15 *i* P P 18 57 00.4 +8.3
comp=Z,7.0nm,1.1s
DAG **Danmarks Havn** 64.02 15 *e*P P 18 57 00.4 +8.3
DAG pmax pmax
comp=Z,7.0nm,1.1s
NPGB **Novo Progresso** 64.22 114 *e*P P 18 56 55.5 +1.2
LVC **Limon Verde** 64.66 136 *e*P P 18 57 00.1 +2.6
BORG **Borgarnes** 65.48 28 IAMs_20 IAMs_20 19 21 53.1
comp=Z,2µm,18.0s
CLDB **Colider** 66.10 117 *e*P P 18 57 09.0 +2.5
PTLB **Pontes e Lacer** 66.36 124 *e*P P 18 57 10.3 +2.2
H03N2 **Juan Fernandez** 68.10 151 T T 20 11 38.7
baz=331,slow=77,SNR=79
H03N1 **Juan Fernandez** 68.11 151 T T 20 11 39.8
baz=331,slow=77,SNR=137
H03N3 **Juan Fernandez** 68.12 151 T T 20 11 46.8
baz=331,slow=77,SNR=84
PRPB **Parauapebas** 68.31 110 *e*P P 18 57 23.3 +2.7
PEA0B **Petropavlovsk-** 68.91 320⇑ *e*P P 18 57 21.9 -1.9
PETK **Petropavlovsk-** 68.91 320 P P 18 57 23.8 0.0
comp=Z,6.7nm,1.1s,baz=81,slow=7.6,SNR=4.5
PETK LR LR 19 22 02.6
comp=Z,250nm,21.6s,baz=64,slow=31
KBS **Kingsbay** 69.06 10 IAMs_20 IAMs_20 19 28 16.4
comp=Z,2µm,19.0s
SALV **Santo Antonio** 69.22 122 *e*P P 18 57 27.7 +1.5
CMLA **Cha da Macela** 70.71 57 IAMs_20 IAMs_20 19 28 20.7
comp=Z,2µm,19.0s
SMTB **Santa Maria do** 71.61 111 *e*P P 18 57 43.4 +2.4
AQDB **Aquidauana** 72.08 125 *e*P P 18 57 46.8 +3.3
ARAG **Araguaiana, MT** 72.08 119 *e*P P 18 57 47.6 +4.0
PEXB **Peixe** 72.80 114 *e*P P 18 57 52.0 +4.0
CPUP **Villa Florida** 74.74 131 P P 18 58 00.7 +1.7
comp=Z,16nm,1.1s,baz=316,slow=6.6,SNR=15
CPUP **Villa Florida** 74.74 131 *e*P P 18 58 02.6 +3.6

BDFB **Brasilia** 75.02 117 P P 18 58 03.4 +2.3
comp=Z,8.5nm,1.1s,baz=316,slow=10.0,SNR=7.0
BDFB LR LR 19 32 49.8
comp=Z,847nm,19.0s,baz=303,slow=37
BDFB **Brasilia** 75.02 117 IAMs_20 IAMs_20 19 32 38.8
comp=Z,1µm,19.0s
ITRB **Iturama** 75.56 122 *e*P P 18 58 07.1 +3.1
SDBA **SAO DESIDERIO** 75.74 112 *e*P P 18 58 09.5 +4.3
LC01 **Cunco** 75.78 149 IAMs_20 IAMs_20 19 24 13.3
comp=Z,1µm,18.0s
IPMB **Ipameri, GO** 76.20 119 *e*P P 18 58 11.9 +4.2
TARA **Tarawa** 76.61 264 IAMs_20 IAMs_20 19 32 55.9
comp=Z,2µm,18.0s
ESK **Eskdalemuir** 77.37 34 IAMs_20 IAMs_20 19 33 10.9
comp=Z,2µm,21.0s
JANB **Januaria** 77.66 114 *e*P P 18 58 20.6 +4.6
PLCA **Paso Flores** 77.87 149 P P 18 58 17.9 +1.2
comp=Z,9.9nm,1.0s,baz=332,slow=8.0,SNR=5.5
PLCA LR LR 19 25 41.1
comp=Z,1µm,20.2s,baz=331,slow=30
PLCA **Paso Flores** 77.87 149 *e*P P 18 58 21.8 +5.2
YAK **Yakutsk** 78.21 335 *e*P P 18 58 17.0 -1.3
YAK pmax pmax
comp=Z,7.0nm,1.0s
YAK MLR MLR
comp=Z,660nm,19.0s
YAK MLR MLR
comp=N,438nm,15.0s
YAK MLR MLR
comp=E,342nm,15.0s
YAK **Yakutsk** 78.21 335 IAMs_20 IAMs_20 19 33 26.3
comp=Z,929nm,20.0s
ARCES **ARCESS Array B** 78.30 14 P P 18 58 19.9 +1.2
comp=Z,5.3nm,1.0s,baz=310,slow=5.8,SNR=4.2
ARCES LR LR 19 34 31.2
comp=Z,1µm,18.2s,baz=334,slow=37
KEV **Kevo** 78.44 14 IAMs_20 IAMs_20 19 32 54.3
comp=Z,2µm,20.0s
MC01 **Montes Claros** 78.85 115 *e*P P 18 58 27.1 +4.5
PMOZ **Porto Moniz, M** 78.90 59 A A 18 58 46.6
comp=Z,100nm,2.6s
PMOZ **Porto Moniz, M** 78.90 59 *e*LR LR 19 24 11.9
comp=Z,800nm,18.0s
YSS **Yuzh-Sakhalins** 80.19 318 *e*P P 18 58 32.7 +3.3
NB2 **NORSAR Subarra** 80.28 25 P P 18 58 30.3 +0.6
comp=Z,50nm,2.5s,baz=308,slow=5.3
NB2 **NORSAR Subarra** 80.28 25 P P 18 58 30.3 +0.6
baz=308,slow=5.3
NOA **NORSAR Array B** 80.28 25 P P 18 58 30.1 +0.4
comp=Z,0.9nm,0.8s,baz=311,slow=5.3,SNR=3.0
KONO **Kongsberg** 80.56 26 IAMs_20 IAMs_20 19 33 21.5
comp=Z,2µm,18.0s
PGAV **Gavieira, Arco** 81.06 47 *e*LR LR 19 27 42.4
comp=Z,2µm,20.0s
LVZ **Lovozero** 81.53 12 IAMs_20 IAMs_20 19 35 46.7
comp=Z,1µm,19.0s
GRNR **Gornyy** 81.73 324⇓ *i* P P 18 58 21.9 -16
GRNR pmax pmax
comp=N,6.0nm,0.8s
GRNR pmax pmax
comp=Z,3.0nm,0.8s
GRNR MLR MLR
comp=E,340nm,18.0s
COI **Coimbra** 81.81 49 IAMs_20 IAMs_20 19 33 37.6
comp=Z,2µm,19.0s
PSBE **So Bento** 81.89 50 *e*P P 18 58 39.0 +0.3
comp=Z,60nm,1.8s
MVO **Moncorvo** 82.26 48 *e*P P 18 58 48.4 +7.7
comp=Z,33nm,1.6s
MVO **Moncorvo** 82.26 48 *e*LR LR 19 27 55.6
comp=Z,2µm,16.0s
MTE **Manteigas** 82.30 48 *e*P P 18 58 44.9 +4.0
comp=Z,42nm,1.6s
MTE **Manteigas** 82.30 48 *e*LR LR 19 28 24.3
comp=Z,1µm,16.0s
MTE **Manteigas** 82.30 48 IAMs_20 IAMs_20 19 32 31.4
comp=Z,1µm,20.0s
NRIK **Noril'sk** 82.37 353 LR LR 19 36 40.5
comp=Z,2µm,19.9s,baz=32,slow=37
BSFB **Barra de Sao F** 82.48 116 *e*P P 18 58 47.8 +5.9
PMTG **Montargil** 82.50 50 *e*P P 18 58 43.5 +1.7
comp=Z,35nm,1.5s
PNCL **Nicolau / Gran** 82.76 51 *e*P P 18 58 44.9 +1.7
comp=Z,27nm,1.7s
PMRV **Marv??o** 82.88 49 *e*P P 18 58 47.6 +3.7
comp=Z,29nm,1.7s
PMRV **Marv??o** 82.88 49 *e*LR LR 19 27 19.7
comp=Z,2µm,18.0s
PTEO **Sao Teotonio** 82.90 51 *e*P P 18 58 44.9 +1.0
comp=Z,47nm,1.8s
PVAQ **Vaqueiros** 83.67 51 *e*P P 18 58 51.6 +3.7
comp=Z,45nm,1.7s
PVAQ **Vaqueiros** 83.67 51 *e*LR LR 19 27 04.5
comp=Z,2µm,20.0s
PAB **San Pablo** 84.85 48 IAMs_20 IAMs_20 19 36 02.7
comp=Z,1µm,20.0s
FINES **FINESS Array B** 84.89 19 P P 18 58 52.6 -1.0
comp=Z,4.5nm,1.0s,baz=338,slow=4.1,SNR=6.2
FINES LR LR 19 37 17.0
comp=Z,2µm,18.1s,baz=322,slow=36
ESDC **Sonseca Array** 85.03 48 P P 18 58 55.2 +0.3
comp=Z,0.7nm,0.9s,baz=310,slow=5.8,SNR=3.5
ESDC LR LR 19 34 35.8
comp=Z,1µm,19.9s,baz=275,slow=34
ES06 **SONSECA Array** 85.04 48 IAMs_20 IAMs_20 19 34 15.4
comp=Z,1µm,19.0s
ES08 **SONSECA Array** 85.05 48 IAMs_20 IAMs_20 19 34 14.6
comp=Z,1µm,19.0s
ES02 **SONSECA Array** 85.05 48 IAMs_20 IAMs_20 19 32 52.7
comp=Z,1µm,21.0s
ES03 **SONSECA Array** 85.06 48 IAMs_20 IAMs_20 19 34 15.9
comp=Z,1µm,19.0s
ES19 **SONSECA Array** 85.06 48 IAMs_20 IAMs_20 19 32 54.0
comp=Z,1µm,21.0s
ES09 **SONSECA Array** 85.07 48 IAMs_20 IAMs_20 19 34 15.3
comp=Z,1µm,20.0s
RGN **Rugen** 85.46 29 IAMs_20 IAMs_20 19 42 59.4
comp=Z,2µm,19.0s
CLL **Collm** 87.53 31 *e*P P 18 59 08.0 +1.1
CLL *i* (sP) **pwP** 18 59 13.3 +3.5
comp=Z,16nm,1.6s
CLL *e*S S 19 09 48.0 -0.2
CLL *e*PS PnS 19 10 48.0 -0.3
CLL *e*SS SS 19 15 24.0 -8.4
CLL *e*SSS SSS 19 19 06.0
CLL *e*SSSS 19 22 12.0
CLL Lm MLR 19 41 00.0
comp=Z,2µm,18.2s
CLL **Collm** 87.53 31 *e*P P 18 59 08.0 +1.1
CLL *i* 18 59 13.3
CLL *e*S S 19 09 48.0 -0.2
CLL MLR MLR
comp=Z,2µm,18.2s
CLL **Collm** 87.53 31 IAMs_20 IAMs_20 19 40 58.5
comp=Z,2µm,18.0s
SENIN **Lac Senin/Sane** 87.92 37 IAMs_20 IAMs_20 19 37 37.6
comp=Z,2µm,21.0s
CART **Cartagena** 88.11 48 IAMs_20 IAMs_20 19 39 26.2
comp=Z,2µm,18.0s
MJAR **Matsushiro Arr** 88.57 311 LR LR 19 32 29.4
comp=Z,376nm,21.6s,baz=100,slow=31
KLMR **Klimovskoe** 88.77 14 *e*P P 18 59 10.4 -2.1
KLMR pmax pmax
comp=Z,13nm,1.4s
KLMR **Klimovskoe** 88.77 14 *e*P P 18 59 10.5 -2.1
KLMR AMP 18 59 26.6
comp=Z,13nm,1.4s
KLMR LQ LQ 19 28 55.3
KLMR LQ LQ 19 28 55.3
KLMR LR LR 19 35 20.9
PRGR **Permogore** 89.19 11 *e*P P 18 59 10.1 -4.4
PRGR pmax pmax
comp=Z,10.0nm,1.0s
GERES **GERESS Array B** 89.55 33 LR LR 19 39 23.1
comp=Z,2µm,19.7s,baz=298,slow=36
HIA **Hailar** 90.92 329 IAMs_20 IAMs_20 19 46 34.8
comp=Z,696nm,19.0s
VLC **Villacollemand** 91.01 38 IAMs_20 IAMs_20 19 40 38.3
comp=Z,1µm,18.0s
VYHS **Vyhne** 92.19 30 *e*P P 18 59 27.3 -1.5
VYHS **Vyhne** 92.19 30 *e*P P 18 59 27.3 -1.5
MXZ **Matakaoa Point** 92.33 228 IAMs_20 IAMs_20 19 31 06.3
comp=Z,2µm,21.0s
KWP **Kalwaria Pacla** 93.01 28 IAMs_20 IAMs_20 19 45 25.8
comp=Z,1µm,19.0s
HNR **Honiara** 93.04 261 IAMs_20 IAMs_20 19 31 03.8
comp=Z,2µm,21.0s

OBN **Obninsk** 93.20 18 *i* P P 18 59 33.7 +0.5
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,2µm,18.0s
DZM **Mont Dzumac** 93.35 247 *e*LR LR 19 29 25.9
comp=Z,1µm,22.1s
VSL **Villasalto** 93.47 42 IAMs_20 IAMs_20 19 44 13.2
comp=Z,1µm,18.0s
AKASG **Malin Array Be** 94.67 24 P P 18 59 39.2 -0.9
comp=Z,0.6nm,0.5s,baz=322,slow=4.2,SNR=5.6
AKASG LR LR 19 43 08.3
comp=Z,1µm,19.0s,baz=335,slow=36
AKASG **Malin Array Be** 94.67 24 *i* P P 18 59 40.5 +0.4
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG **Malin Array Be** 94.67 24 IAmb IAmb 18 59 42.1
comp=Z,1.0nm,1.0s
TLY **Talaya** 95.25 339 IAMs_20 IAMs_20 19 48 17.9
comp=Z,721nm,18.0s
BFZ **Birch Farm** 95.36 227 IAMs_20 IAMs_20 19 35 38.5
comp=Z,2µm,20.0s
JNU **Nakatsue** 95.45 312 LR LR 19 37 21.2
comp=Z,218nm,20.4s,baz=61,slow=32
KEST **Kesra** 95.88 45 LR LR 19 41 30.7
comp=Z,1µm,19.5s,baz=268,slow=35
ARU **Arti** 95.90 6 P P 18 59 43.4 -2.2
ARU 19 03 35.3
ARU S SKSac 19 10 19.5 -2.5
ARU SS SS 19 17 27.0 -4.9
ARU MLR MLR
comp=Z,1µm,16.0s
ARU **Arti** 95.90 6 IAMs_20 IAMs_20 19 44 16.8
comp=Z,986nm,18.0s
DIVS **Divibare** 95.98 33 IAMs_20 IAMs_20 19 43 39.2
comp=Z,1µm,19.0s
ULN **Ulaanbaatar** 97.30 335⇓ *e*P P 18 59 49.4 -2.9
ULN pmax pmax
comp=Z,4.0nm,1.4s
ULN **Ulaanbaatar** 97.30 335 IAMs_20 IAMs_20 19 51 05.1
comp=Z,1µm,18.0s
SONM **Songino Array** 97.57 335 LR LR 19 46 50.9
comp=Z,510nm,18.9s,baz=25,slow=37
ZAA0 **Zalesovo Array** 97.59 350 IAMs_20 IAMs_20 19 45 47.3
comp=Z,954nm,21.0s
ZALV **Zalesovo Beam** 97.59 350 LR LR 19 46 52.2
comp=Z,755nm,21.3s,baz=5.0,slow=37
MLR **Muntele Rosu** 97.61 29 IAMs_20 IAMs_20 19 45 40.8
comp=Z,1µm,19.0s
QRZ **Quartz Range** 97.86 228 IAMs_20 IAMs_20 19 36 02.6
comp=Z,1µm,20.0s
TIP **Timpagrande** 97.89 38 IAMs_20 IAMs_20 19 49 42.5
comp=Z,1µm,18.0s
TIR **Tirane** 97.96 35 IAMs_20 IAMs_20 19 43 16.8
comp=Z,814nm,19.0s
CEL **Celeste** 98.06 39 IAMs_20 IAMs_20 19 46 05.2
comp=Z,992nm,19.0s
BJT **Baijiatuan** 99.45 325 IAMs_20 IAMs_20 19 53 26.8
comp=Z,682nm,18.0s
BRVK **Borovoye** 99.69 359⇓ *e*P **Pdif** 19 00 03.3 +0.6
BRVK pmax pmax
comp=Z,1.0nm,0.8s
BRVK **Borovoye** 99.69 359 IAMs_20 IAMs_20 19 47 23.9
comp=Z,1µm,21.0s
HHC **Hu-ho-hao-te** 101.07 328 *e*P **Pdif** 19 00 07.1 -2.2
TAM **Tamanrasset** 101.22 57 IAMs_20 IAMs_20 19 45 36.8
comp=Z,1µm,20.0s
KURK **Kurchatov** 101.54 353 IAMs_20 IAMs_20 19 49 10.6
comp=Z,1µm,20.0s
SANT **Santorini** 104.57 35 IAMs_20 IAMs_20 19 53 47.8
comp=Z,921nm,19.0s
MKAR **Makanchi Array** 104.93 350 Pdiff **Pdif** 19 00 28.6 +2.3
comp=Z,0.2nm,0.7s,baz=38,slow=2.6,SNR=1.7
MKAR PKKP **PKKPdf** 19 16 17.5 -0.5
comp=Z,0.3nm,0.9s,baz=204,slow=1.4,SNR=2.5
MAKZ **Makanchi** 104.97 350 IAMs_20 IAMs_20 19 56 28.4
comp=Z,992nm,18.0s
KIV **Kislovodsk** 104.98 19 IAMs_20 IAMs_20 19 46 38.8
comp=Z,934nm,20.0s
IDI **Anoyia** 105.12 36 IAMs_20 IAMs_20 19 55 23.5
comp=Z,698nm,18.0s
ISP **Isparta** 105.83 30 IAMs_20 IAMs_20 19 50 14.9
comp=Z,1µm,20.0s
KARP **Karpathos** 106.07 34 IAMs_20 IAMs_20 19 50 48.4
comp=Z,946nm,19.0s
WMQ **Urumqi** 106.80 346 IAMs_20 IAMs_20 19 54 25.3
comp=Z,987nm,19.0s
XAN **Xi'an** 107.74 326 IAMs_20 IAMs_20 19 58 00.2
comp=Z,918nm,18.0s
CSS **Mathiatis** 109.46 30 IAMs_20 IAMs_20 19 54 31.6
comp=Z,612nm,20.0s
PRZ **Przheval'sk** 109.69 352 IAMs_20 IAMs_20 19 56 25.7
comp=Z,1µm,20.0s
FRU1 **Bishkek** 109.73 355 IAMs_20 IAMs_20 19 54 12.6
comp=Z,1µm,20.0s
AAK **Ala-Archa** 109.91 355 IAMs_20 IAMs_20 19 54 26.4
comp=Z,1µm,20.0s
ENH **Enshi** 110.41 323 IAMs_20 IAMs_20 20 01 19.0
comp=Z,726nm,20.0s
KSH **Kashi** 112.89 354 *e*PKP **PKiKP** 19 04 55.5 -0.9
KSH PP **PP** 19 05 49.2 +6.0
KSH LR LR
comp=Z,980nm,15.9s
KSH LR LR
comp=Z,900nm,14.5s
KSH LR LR
comp=Z,2µm,21.4s
FAKI **Fak Fak** 114.56 280 IAMs_20 IAMs_20 19 42 42.7
comp=Z,986nm,22.0s
KMI **Kunming** 118.09 325 IAMs_20 IAMs_20 20 05 52.3
comp=Z,469nm,20.0s
KBL **Kabul** 118.21 360 IAMs_20 IAMs_20 20 01 06.2
comp=Z,1µm,19.0s
QIZ **Qiongzhong** 118.77 315 PKP **PKPdf** 19 05 05.9 -2.1
QIZ PP **PP** 19 06 21.4 -4.0
QIZ SS SS 19 22 39.4 -4.6
QIZ LR LR
comp=Z,370nm,13.3s
QIZ LR LR
comp=Z,420nm,13.5s
QIZ LR LR
comp=Z,420nm,14.5s
QIZ **Qiongzhong** 118.77 315 IAMs_20 IAMs_20 20 06 49.5
comp=Z,474nm,19.0s
NIL **Nilore** 118.94 355 IAMs_20 IAMs_20 20 01 58.3
comp=Z,998nm,20.0s
LSA **Lhasa** 119.06 337 IAMs_20 IAMs_20 20 03 48.2
comp=Z,541nm,20.0s
WB7 **Warramunga Arr** 119.80 262 IAMs_20 IAMs_20 19 58 15.7
comp=Z,966nm,20.0s
WB6 **Warramunga Arr** 119.82 262 IAMs_20 IAMs_20 19 49 54.3
comp=Z,541nm,18.0s
WC2 **Warramunga Arr** 119.85 262 IAMs_20 IAMs_20 19 51 05.0
comp=Z,1µm,22.0s
WB1 **Warramunga Ar.** 119.88 262 IAMs_20 IAMs_20 20 03 20.6
comp=Z,443nm,18.0s
WRA **Warramunga Arr** 119.88 262 PKP **PKPdf** 19 05 08.7 -1.4
comp=Z,0.9nm,0.7s,baz=65,slow=2.1,SNR=6.8
WRA **Warramunga Arr** 119.88 262 PKIKP **PKPdf** 19 05 08.6 -1.5
SLVN **Son La** 120.53 321 IAMs_20 IAMs_20 20 06 05.6
comp=Z,632nm,19.0s
ASAR **Alice Springs** 121.52 258 PKP **PKPdf** 19 05 11.2 -1.9
comp=Z,1.0nm,0.8s,baz=86,slow=2.2,SNR=7.4
ASAR PKKPab **PKKPab** 19 15 14.8 +1.6
comp=Z,0.6nm,1.0s,baz=225,slow=4.6,SNR=4.1
ASAR **Alice Springs** 121.52 258 PKIKP **PKPdf** 19 05 11.6 -1.6
ASAR **Alice Springs** 121.52 258 **PKPdf** 19 05 11.6 -1.6
KKM **Kota Kinabalu** 123.09 299 IAMs_20 IAMs_20 19 55 44.1
comp=Z,587nm,20.0s
CMAR **Chiang Mai Arr** 125.56 324 PKP **PKiKP** 19 05 21.5 0.0
comp=Z,1.4nm,0.9s,baz=358,slow=4.1,SNR=6.8
UOSS **Minazif** 126.45 14 IAMs_20 IAMs_20 20 05 51.4
comp=Z,698nm,21.0s
KSM **Kuching** 130.53 299 IAMs_20 IAMs_20 20 04 33.2
comp=Z,595nm,20.0s
TSUM **Tsumeb** 132.79 91 IAMs_20 IAMs_20 20 03 12.2
comp=Z,645nm,19.0s
FURI **Furi** 133.64 43 IAMs_20 IAMs_20 20 08 09.2
comp=Z,900nm,19.0s
ATD **Arta Tunnel** 133.84 36 IAMs_20 IAMs_20 20 09 34.3
comp=Z,592nm,19.0s
SYO **Syowa Base** 135.20 166⇑ *e*Pdiff **Pdif** 19 02 39.1 -0.9
BKNI **Bangkinang** 138.23 306 IAMs_20 IAMs_20 20 14 56.5
comp=Z,534nm,20.0s
LSZ **Lusaka** 140.69 80 PKhKP PKPpre 19 05 44.4
comp=Z,1.1nm,0.3s,baz=348,slow=3.1,SNR=1.3
LSZ **Lusaka** 140.69 80 PKIKP **PKPdf** 19 05 44.4 -5.2

LSZ					MLR	MLR				
	comp=Z,800nm,21.0s									
LSZ	**Lusaka**	**140.69**	**80**		IAMs_20	IAMs_20	20 08 07.1			
	comp=Z,805nm,21.0s									
LBTB	**Lobatse**	**141.58**	**96**		PKP	**PKPdf**	**19 05 50.4**	**-0.6**		
	comp=Z,6.1nm,0.9s,baz=285,slow=3.2,SNR=5.8									
MATP	**Matopo**	**142.88**	**88**		PKP	**PKPdf**	**19 05 52.0**	**-1.4**		
	comp=Z,2.6nm,1.0s,baz=21,slow=0.6,SNR=5.3									

IDC 10 19:14:26.0±2.1, 2°.02N×127°.06E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/33, mbtmp3.5/4, Error ellipse: s-maj=121.7km s-min=26.7km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.04**	**184**	P	P	19 19 01.4	+0.7
	1.6nm,0.9s,baz=5.2,slow=11,SNR=1.6						
WRA	**Warramunga Arr**	**22.96**	**162**	P	P	19 19 31.6	-0.6
	0.9nm,0.4s,baz=340,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.38**	**166**	P	P	19 20 04.4	+0.2
	0.6nm,0.8s,baz=343,slow=9.1,SNR=14						
MKAR	**Makanchi Array**	**59.15**	**326**	P	P	19 24 28.5	0.0
	0.2nm,0.6s,baz=123,slow=7.4,SNR=2.5						

DDA 10 19:18:04.1, 37°.83N×29°.17E, h12km, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVA	**DENIZLI_Tavas**	**0.41**	**209**	*i* P	Pb	19 18 13.0	-0.4
TAVA				*i* S	Sb	19 18 19.4	-0.3
GOLH	**Golhisar**	**0.67**	**152**	*i* P	Pg	19 18 17.1	-0.1
BRDR	**BURDUR-Merkez**	**0.72**	**100**	*i* P	Pn	19 18 20.6	+0.4
BRDR				*i* S	Sb	19 18 28.9	+0.3
MANT	**Manisa**	**0.81**	**324**	*i* P	Pg	19 18 18.8	-1.1
MANT				*i* S	Sg	19 18 30.4	-0.2
USAK	**Uak-Merkez**	**0.89**	**353**	*i* P	Pg	19 18 21.1	-0.3
AYDN	**Tasoluk**	**1.03**	**261**	*i* P	Pn	19 18 24.7	+0.3
AYDN				*i* S	Sn	19 18 38.5	-0.4
AYDN					IAML	19 19 01.0	
	comp=E,8.9nm,1.9s						

ROM 10 19:18:43.0±0.2, 43°.310N±0°.004×12°.525E±0°.007, h6km±1km, ML0.6/3, 1C-1D, Error ellipse: s-maj=0.7km s-min=0.1km az=67.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MURB	**Monte Urbino**	**0.05**	**181**	P	Pg	19 18 44.2	-0.1
MURB				S	Sg	19 18 45.6	+0.2
MURB				AML	AML		
	comp=E,198μm,0.2s						
MURB				AML	AML		
	comp=N,193μm,0.2s						
ATFO	**Monte Foce - G**	**0.07**	**31**	P	Pg	19 18 44.6	0.0
ATFO				S	Sg	19 18 46.0	+0.2
ATFO				AML	AML		
	comp=E,74μm,0.6s						
ATFO				AML	AML		
	comp=N,69μm,0.4s						
ATVO	**AVT- Monte Val**	**0.11**	**310**	P	Pg	19 18 45.5	+0.1
ATVO				S	Sg	19 18 48.0	+0.9
ATVO				AML	AML		
	comp=E,31μm,0.2s						
ATVO				AML	AML		
	comp=N,31μm,1.1s						
ATCC	**AVT- Casa Cast**	**0.15**	**146**	P	Pg	19 18 46.4	+0.4
ATCC				S	Sg	19 18 49.4	+1.4
ATPI	**Pietralunga -**	**0.17**	**328**	⇓P	Pg	19 18 46.8	+0.4
ATPI				S	Sg	19 18 49.8	+1.1
PIEI	**Pieia**	**0.23**	**2**	⇑P	Pg	19 18 47.8	+0.3
PIEI				S	Sg	19 18 52.2	+1.8
PIEI				AML	AML		
	comp=E,15μm,0.2s						
PIEI				AML	AML		
	comp=N,15μm,0.3s						
ASSB	**Assisi San Ben**	**0.28**	**160**	AML	AML		
	comp=N,14μm,0.9s						
ASSB				AML	AML		
	comp=E,13μm,1.6s						
CARD	**Cardoso**	**1.65**	**296**	P	Pg	19 19 14.6	+0.1
CARD				AML	AML		
	comp=N,87μm,0.8s						
CARD				AML	AML		
	comp=E,73μm,0.8s						
PLMA	**Palmaria, Port**	**2.08**	**292**	P	Pb	19 19 21.3	+0.3

ISK 10 19:19:00.1, 37°.12N×27°.54E, h15km±1km, ML1.7/4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BODT	**Bodrum**	**0.19**	**254**	PG	Pg	19 19 04.9	+0.2
BODT				SG	Sb	19 19 08.6	-0.3
DAT	**Datca**	**0.39**	**176**	PG	Pb	19 19 08.4	-0.3
DAT				SG	Sb	19 19 14.4	-0.1
YER	**Yerkesik**	**0.59**	**88**	PG	Pb	19 19 12.1	-0.1
GCAM	**G?zelcaml?**	**0.63**	**337**	PG	Pb	19 19 13.1	+0.3

*ECX **10** 19:34:48.1±0.9, 31°.25N×115°.66W, h2km±3km, MD2.0, ML2.2*
*MEX **10** 19:34:48.3±0.7, 31°.28N×115°.33W, h13km±10km, MD3.5*
ISC 10 19:34:46.6±0.9, 31°.25N±0°.03×115°.55W±0°.04, h25km±7km, n18, σ1°59/35, 4C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.21**	**161**	*i* P	**Pb**	**19 34 53.6**	**+0.9**
SPIG				*i* S	**Sb**	**19 34 57.5**	**+0.6**
SPIG	**San Pedro Mart**	**0.21**	**161**	*e*P	**Pb**	**19 34 53.2**	**+0.5**
SPIG				*e*S	**Sb**	**19 34 57.4**	**+0.5**
SPX	**San Pedro Mart**	**0.22**	**162**	*e*P	**Pb**	**19 34 53.0**	**+0.2**
SPX				*i* S	**Sb**	**19 34 57.5**	**+0.3**
SPX	**San Pedro Mart**	**0.22**	**162**	⇓*i*P	**Pb**	**19 34 53.5**	**+0.7**
SPX				*e*S	**Sb**	**19 34 57.4**	**+0.3**
SPX				IAML		19 34 58.1	
	comp=E,539nm,0.1s						
SPX				⇑*e*		19 34 58.1	
SPX				IAML		19 34 58.7	
	comp=N,540nm,0.1s						
SPX				*e*		19 34 58.7	
VTX	**Valle De La Tr**	**0.25**	**305**	*i* P	**Pb**	**19 34 51.2**	**-1.7**
VTX				*i* S	**Sb**	**19 34 54.1**	**-3.2**
ECBX	**El Chinero**	**0.48**	**62**	⇑P	**Pn**	**19 34 58.9**	**+1.1**
ECBX				*e*S	Sn	19 35 07.2	+1.7
SVX	**San Vicente**	**0.61**	**278**	*e*P	**Pb**	**19 34 57.9**	**-0.8**
SVX				*e*S	**Sb**	**19 35 04.8**	**-2.0**
SJX	**San Joaquin**	**0.62**	**326**	⇓*i*P	**Pn**	**19 35 02.8**	**+3.0**
SJX				*e*S	**Sn**	**19 35 13.1**	**+4.0**
SFX	**San Felipe**	**0.63**	**109**	*e*P	**Pn**	**19 35 00.9**	**+0.9**
SFX				*e*S	**Sn**	**19 35 10.9**	**+1.6**
SFX				IAML		19 35 12.9	
	comp=N,78nm,0.3s						
SFX				*e*		19 35 12.9	
SFX				IAML		19 35 12.9	
	comp=E,110nm,0.2s						
SFX				⇑*e*		19 35 12.9	
SQX	**San Quintin**	**0.73**	**203**	*e*P	**Pb**	**19 34 59.8**	**-0.8**
SQX				*e*S	**Sb**	**19 35 09.0**	**-1.1**
MBIG	**Mexicali**	**1.19**	**14**	*i* P	**Pn**	**19 35 06.7**	**-0.9**
MBIG				*i* S	**Sb**	**19 35 20.6**	**-2.9**
RMX	**La Rumorosa**	**1.42**	**342**	*e*P	**Pb**	**19 35 12.3**	**-0.2**
RMX				*e*S	**Sb**	**19 35 29.3**	**-1.1**
CBX	**Cerro Bola**	**1.43**	**318**	*e*P	**Pb**	**19 35 12.4**	**-0.1**
CBX				*e*S	**Sn**	**19 35 29.8**	**+0.8**
CBX	**Cerro Bola**	**1.43**	**318**	*e*P	**Pb**	**19 35 12.7**	**+0.1**
CBX				*e*S	**Sb**	**19 35 30.3**	**-0.1**
CBX				IAML		19 35 32.2	
	comp=N,38nm,0.3s						
CBX				⇑*e*		19 35 32.2	
IKP	**In-Ko-Pah, Jac**	**1.48**	**341**	*e*P	**Pb**	**19 35 14.2**	**+0.8**
IKP				*e*S	**Sb**	**19 35 33.0**	**+1.1**
TJIG	**Tijuana**	**1.52**	**321**	*i* P	**Pn**	**19 35 12.3**	**+0.1**
TJIG				*e*S	**Sn**	**19 35 31.8**	**+0.5**
BAR	**Barrett**	**1.72**	**326**	*e*P	**Pb**	**19 35 17.3**	**-0.2**
BAR				*e*S	**Sb**	**19 35 39.2**	**+0.5**
HSIG		**4.56**	**118**	*i* P	**Pn**	**19 35 52.6**	**-1.4**
HSIG				*e*S	**Sn**	**19 36 42.9**	**-3.3**

*MEX **10** 19:35:59.2±0.3, 27°.80N×111°.66W, h12km±6km, MD3.5*
*IDC **10** 19:35:59.4±4.8, 27°.61N×111°.40W, h0km, mb1 3.5/3, mb1mx3.4/40, mbtmp3.0/3, ML3.7/3, Error ellipse: s-maj=65.3km s-min=17.8km az=16.0*
ISC 10 19:35:57.4±1.0, 27°.8N±0°.1×111°.59W±0°.08, h10km, n7, σ2°76/9, 1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUYB	**Guaymas**	**0.65**	**77**	*e*P	**Pn**	**19 36 10.9**	**-1.8**
GUYB				*e*S	**Sn**	**19 36 20.2**	**-2.9**
SRIG	**Santa Rosalia**	**0.72**	**233**	⇓*e*P	**Pg**	**19 36 10.8**	**-0.4**
	baz=47,slow=6.5						
SRIG				*i* S	**Sg**	**19 36 19.9**	**-0.8**
NZIG	**Nacozari, Sono**	**3.16**	**34**	*e*P	**Pn**	**19 36 45.8**	**-1.6**
NZIG				*e*S	**Sn**	**19 37 22.7**	**-2.6**
TXAR	**Lajitas Array**	**7.15**	**75**	Pn	**Pn**	**19 37 44.0**	**+1.9**
	0.4nm,0.3s,baz=253,slow=14,SNR=18						
TXAR				Sn	**Sn**	**19 39 04.6**	**+1.1**
	0.3nm,0.3s,baz=257,slow=22,SNR=1.7						
TXAR				Lg	Lg	19 39 40.5	
	0.7nm,0.3s,baz=255,slow=28,SNR=2.2						
ANMO	**Albuquerque**	**8.41**	**30**	Lg	Lg	19 40 23.3	
	0.3nm,0.3s,baz=244,slow=2.8,SNR=3.3						
NVAR	**Mina Array Bea**	**12.04**	**334**	Pn	Pn	19 38 57.2	+7.9
	0.1nm,0.3s,baz=153,slow=14,SNR=1.4						
PDAR	**Pinedale Array**	**15.07**	**6**	Pn	**P**	**19 39 40.4**	**+4.4**
	0.1nm,0.3s,baz=176,slow=14,SNR=1.9						

IDC 10 19:45:15.1±5.4, 29°.41S×177°.59W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/22, mbtmp3.5/2, Error ellipse: s-maj=276.2km s-min=83.5km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.52**	**266**	P	P	19 53 20.3	-0.4
	0.4nm,0.8s,baz=107,slow=7.0,SNR=1.5						
WRA	**Warramunga Arr**	**44.42**	**271**	P	P	19 53 28.1	+0.1
	0.5nm,0.5s,baz=111,slow=7.8,SNR=5.8						
FINES	**FINESS Array B**	**144.34**	**341**	PKP	PKPdf	20 04 51.8	-0.7
	1.1nm,0.8s,baz=48,slow=2.1,SNR=1.6						

*CNRM **10** 20:01:41.8±1.2, 36°.23N×4°.58W, h82km±21km, Error ellipse: s-maj=9.2km s-min=6.2km az=98.0*
*SFS **10** 20:01:44.0, 36°.22N×4°.58W, h73km, ML2.6, ALBORAN W.*
*INMG **10** 20:01:44.4±1.7, 36°.28N×4°.63W, h73km±5km, ML2.1, Error ellipse: s-maj=3.6km s-min=3.4km az=163.0*
*MDD **10** 20:01:44.2±0.6, 36°.20N×4°.60W, h70km±5km, mb2.9/28, Error ellipse: s-maj=5.9km s-min=3.5km az=163.0, PRXIMO*
ISC 10 20:01:41.9±1.2, 36°.23N±0°.03×4°.59W±0°.02, h86km±7km, n71, σ1°95/130, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMIJ	**Mijas**	**0.37**	**337**	P	**Pn**	**20 01 55.7**	**+0.3**
	12nm,0.1s,SNR=160						
EMIJ				S	**Sn**	**20 02 04.6**	**-0.8**
	39nm,0.1s,SNR=11						
EMAL	**Malaga-Limoner**	**0.55**	**14**	P	**Pn**	**20 01 56.9**	**+0.2**
EMAL				S	**Sn**	**20 02 06.5**	**-1.2**
EMAL	**Malaga-Limoner**	**0.55**	**14**	*e*P	**Pn**	**20 01 56.9**	**+0.2**
EMAL				*e*S	**Sn**	**20 02 06.5**	**-1.2**
CEU	**Ceuta**	**0.71**	**243**	P	**Pn**	**20 01 58.3**	**+0.1**
CEU				S	**Sn**	**20 02 07.7**	**-2.7**
CEU	**Ceuta**	**0.71**	**243**	*e*P	**Pn**	**20 01 58.3**	**+0.1**
CEU				*e*S	**Sn**	**20 02 07.7**	**-2.7**
ECEU	**Ceuta**	**0.72**	**243**	P	**Pn**	**20 01 59.4**	**+1.1**
	3.3nm,0.1s,SNR=5.0						
ECEU				S	**Sn**	**20 02 10.5**	**+0.1**
	9.7nm,0.1s						
SMIR	**Smir Dam**	**0.84**	**230**	P	**Pn**	**20 01 59.3**	**-0.2**
SMIR				S	**Sn**	**20 02 12.9**	**+0.2**
EGOR	**Sierra Gorda,**	**0.96**	**24**	P	**Pn**	**20 02 03.0**	**+1.8**
	1.4nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**20 02 17.3**	**+1.9**
	15nm,0.3s,SNR=7.9						
ELGU	**Los Guajares,**	**1.01**	**50**	P	**Pn**	**20 02 01.6**	**+0.1**
	2.9nm,0.0s,SNR=7.9						
ELGU				S	**Sn**	**20 02 14.8**	**-1.4**
	35nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.20**	**303**	P	**Pn**	**20 02 05.5**	**+1.7**
	0.8nm,0.1s,SNR=7.1						
ESPR				S	**Sn**	**20 02 21.8**	**+1.5**
	14nm,0.3s,SNR=9.6						
CHEFC	**Chefchaouen**	**1.27**	**209**	P	**Pn**	**20 02 06.7**	**+1.9**
CHEFC				S	**Sn**	**20 02 24.4**	**+2.5**
EALB	**Alboran**	**1.29**	**102**	S	**Sn**	**20 02 20.5**	**-1.7**
	4.4nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.34**	**43**	P	**Pn**	**20 02 07.9**	**+2.2**
	1.1nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**20 02 25.3**	**+1.7**
	3.6nm,0.2s,SNR=6.6						
EBER	**Berja**	**1.52**	**63**	P	**Pn**	**20 02 08.6**	**+0.6**
	1.7nm,0.1s,SNR=19						
EBER				S	**Sn**	**20 02 27.2**	**-0.5**
	6.5nm,0.2s						
GOG	**Mont Gurugu**	**1.64**	**127**	P	**Pn**	**20 02 10.5**	**+1.1**
GOG				S	**Sn**	**20 02 27.8**	**-2.4**
HORN	**Hornachuelos**	**1.70**	**342**	P	**Pn**	**20 02 10.1**	**0.0**
HORN				S	**Sn**	**20 02 31.6**	**+0.1**
AKLM	**AKL**	**1.81**	**161**	P	**Pn**	**20 02 11.8**	**+0.1**
AKLM				S	**Sn**	**20 02 30.7**	**-3.5**
EADA	**Adamuz**	**1.94**	**0**	P	**Pn**	**20 02 14.9**	**+1.7**
	1.0nm,0.1s,SNR=18						
EADA				S	**Sn**	**20 02 37.3**	**+0.2**
	8.2nm,0.1s,SNR=21						
ECAB	**El Cabril**	**1.96**	**341**	P	**Pn**	**20 02 14.7**	**+1.1**
	0.3nm,0.1s,SNR=9.8						
ECAB				S	**Sn**	**20 02 36.5**	**-1.0**
	5.8nm,0.2s,SNR=23						
EQES	**Quesada**	**1.99**	**37**	P	**Pn**	**20 02 15.8**	**+1.8**
	1.3nm,0.1s,SNR=16						
EQES				S	**Sn**	**20 02 38.5**	**+0.1**
	8.9nm,0.3s						
ENIJ	**Nijar**	**2.06**	**68**	P	**Pn**	**20 02 16.1**	**+1.3**
	1.6nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**20 02 39.0**	**-0.8**
	5.9nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.27**	**313**	P	**Pn**	**20 02 18.9**	**+1.3**
	0.7nm,0.1s,SNR=14						
EMIN				S	**Sn**	**20 02 43.7**	**-1.1**
	3.0nm,0.1s,SNR=11						
SESP	**Santiago Espad**	**2.50**	**40**	P	**Pn**	**20 02 22.7**	**+1.9**
	1.4nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**20 02 50.8**	**+0.2**
	2.6nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**2.50**	**40**	P	**Pn**	**20 02 20.8**	**0.0**
SESP				S	**Sn**	**20 02 49.5**	**-1.1**
JBK	**JBK**	**2.51**	**138**	P	**Pn**	**20 02 20.9**	**0.0**
JBK				S	**Sn**	**20 02 50.4**	**-0.5**
EGRO	**El Granado**	**2.66**	**300**	P	**Pn**	**20 02 24.5**	**+1.7**
	0.8nm,0.0s,SNR=7.9						
EGRO				S	**Sn**	**20 02 53.0**	**-1.1**
	4.9nm,0.1s,SNR=5.3						
PBAR	**Barrancos**	**2.76**	**316**	S	**Sn**	**20 02 55.7**	**-0.8**
PBAR	**Barrancos**	**2.76**	**316**	*e*S	**Sn**	**20 02 55.7**	**-0.8**
PVAQ	**Vaqueiros**	**2.77**	**296**	P	**Pn**	**20 02 26.1**	**+1.8**
PVAQ				S	**Sn**	**20 02 56.0**	**-0.8**
	7.3nm,0.1s						
PVAQ	**Vaqueiros**	**2.77**	**296**	*e*P	**Pn**	**20 02 26.1**	**+1.8**
PVAQ				*e*S	**Sn**	**20 02 56.0**	**-0.8**
PVAQ				A	A	20 02 57.1	
	7.3nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.87**	**292**	P	**Pn**	**20 02 27.3**	**+1.7**
PBDV				S	**Sn**	**20 02 58.5**	**-0.7**
	4.5nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.87**	**292**	*e*P	**Pn**	**20 02 27.3**	**+1.7**
PBDV				*e*S	**Sn**	**20 02 58.5**	**-0.7**
PBDV				A	A	20 03 01.4	
	4.5nm,0.2s						
PCVE	**Castro Verde**	**3.10**	**298**	S	**Sn**	**20 03 03.2**	**-1.6**
PCVE	**Castro Verde**	**3.10**	**298**	*e*S	**Sn**	**20 03 03.2**	**-1.6**
PBEJ	**Beja**	**3.17**	**305**	S	**Sn**	**20 03 05.5**	**-1.1**
	0.9nm,0.1s						
PBEJ	**Beja**	**3.17**	**305**	*e*S	**Sn**	**20 03 05.5**	**-1.1**
PBEJ				A	A	20 03 07.0	
	1.9nm,0.1s						
ZHG	**ZHG**	**3.25**	**212**	P	**Pn**	**20 02 31.5**	**+0.8**
ZHG				S	**Sn**	**20 03 08.2**	**-0.3**
PAB	**San Pablo**	**3.32**	**3**	P	**Pn**	**20 02 33.4**	**+1.6**
	0.2nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**20 03 07.9**	**-2.3**
	1.6nm,0.1s,SNR=7.9						
MD31	**MD31**	**3.35**	**182**	P	**Pn**	**20 02 34.4**	**+2.2**
MD31				S	**Sn**	**20 03 10.5**	**-0.6**
MDT	**Midelt**	**3.40**	**180**	P	**Pn**	**20 02 33.8**	**+0.8**
MDT				S	**Sn**	**20 03 13.9**	**+1.6**
ETOB	**Tobarra**	**3.42**	**44**	P	**Pn**	**20 02 34.7**	**+1.6**
	2.0nm,0.1s,SNR=22						
ETOB				S	**Sn**	**20 03 10.8**	**-1.8**
	2.7nm,0.3s						
ESDC	**Sonseca Array**	**3.48**	**8**	P	**Pn**	**20 02 35.6**	**+1.8**
	0.6nm,0.1s,baz=188,slow=12,SNR=7.9						
ESDC				S	**Sn**	**20 03 12.9**	**-1.1**
	1.9nm,0.7s,baz=192,slow=22,SNR=11						
PFVI	**Vila Bisbo**	**3.52**	**286**	P	**Pn**	**20 02 35.3**	**+0.9**
	1.0nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**20 03 13.7**	**-1.3**
	3.5nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.52**	**286**	S	**Sn**	**20 03 08.4**	**-6.6**
EVO	**Evora**	**3.57**	**311**	P	**Pn**	**20 02 36.9**	**+1.9**
EVO				S	**Sn**	**20 03 14.5**	**-1.6**
EVO	**Evora**	**3.57**	**311**	*e*P	**Pn**	**20 02 36.9**	**+1.9**
EVO				*e*S	**Sn**	**20 03 14.5**	**-1.6**
EVO	**Evora**	**3.57**	**311**	*e*P	**Pn**	**20 02 36.9**	**+1.9**
EVO				*e*S	**Sn**	**20 03 14.8**	**-1.3**
PNCL	**Nicolau / Gran**	**3.67**	**302**	P	**Pn**	**20 02 38.4**	**+2.1**
PNCL				S	**Sn**	**20 03 16.7**	**-1.8**
	2.2nm,0.3s						
PNCL	**Nicolau / Gran**	**3.67**	**302**	*e*P	**Pn**	**20 02 38.4**	**+2.1**
PNCL				*e*S	**Sn**	**20 03 16.7**	**-1.8**
PNCL				A	A	20 03 18.2	
	2.2nm,0.3s						
PMRV	**Marv??o**	**3.89**	**326**	P	**Pn**	**20 02 41.4**	**+2.0**
PMRV				S	**Sn**	**20 03 22.5**	**-1.5**
	1.3nm,0.2s						
PMRV	**Marv??o**	**3.89**	**326**	*e*P	**Pn**	**20 02 41.4**	**+2.0**
PMRV				*e*S	**Sn**	**20 03 22.5**	**-1.5**
PMRV				A	A	20 03 24.7	
	1.3nm,0.2s						
EPLA	**Plasencia**	**4.01**	**343**	P	**Pn**	**20 02 42.8**	**+1.8**
	0.1nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**20 03 24.9**	**-1.9**
	1.7nm,0.2s,SNR=7.5						
PMTG	**Montargil**	**4.05**	**316**	P	**Pn**	**20 02 43.9**	**+2.4**
PMTG				S	**Sn**	**20 03 26.2**	**-1.5**
PMTG	**Montargil**	**4.05**	**316**	*e*P	**Pn**	**20 02 43.9**	**+2.4**
PMTG				*e*S	**Sn**	**20 03 26.2**	**-1.5**
UCM	**Universidad Co**	**4.21**	**14**	P	**Pn**	**20 02 44.6**	**+0.8**
UCM				S	**Sn**	**20 03 30.0**	**-1.8**
UCM	**Universidad Co**	**4.21**	**14**	*e*P	**Pn**	**20 02 44.6**	**+0.8**
UCM				*e*S	**Sn**	**20 03 30.0**	**-1.8**
PMAFR	**Mafra**	**4.62**	**308**	P	**Pn**	**20 02 51.7**	**+2.4**
	0.1nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**20 03 39.8**	**-1.8**
	5.8nm,0.3s,SNR=6.1						
PMAFR	**Mafra**	**4.62**	**308**	*e*S	**Sn**	**20 03 40.0**	**-1.6**
ETOR	**Torete**	**5.00**	**23**	P	**Pn**	**20 02 56.2**	**+1.7**
	14nm,0.1s,SNR=16						
ETOR				S	**Sn**	**20 03 47.1**	**-3.9**
	9.5nm,0.4s						
EMOS	**Mosqueruela**	**5.25**	**37**	P	**Pn**	**20 02 59.9**	**+1.9**
	0.2nm,0.1s,SNR=4.0						
EMOS				S	**Sn**	**20 03 54.5**	**-2.8**
	3.0nm,0.5s,SNR=7.9						
MVO	**Moncorvo**	**5.29**	**340**	P	**Pn**	**20 03 00.2**	**+1.8**
	1.2nm,0.1s,SNR=9.1						
MVO				S	**Sn**	**20 03 55.1**	**-2.9**
	5.9nm,0.5s						
MVO	**Moncorvo**	**5.29**	**340**	*e*P	**Pn**	**20 03 00.6**	**+2.2**
MVO				*e*S	**Sn**	**20 03 55.2**	**-2.9**
ECAL	**Calabor**	**5.95**	**344**	P	**Pn**	**20 03 08.8**	**+1.3**
	0.5nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**20 04 11.7**	**-2.4**
	4.0nm,0.4s,SNR=7.9						
PCAB	**Cabril**	**6.09**	**335**	S	**Sn**	**20 04 14.3**	**-3.4**
	3.8nm,0.2s						
PCAB	**Cabril**	**6.09**	**335**	*e*S	**Sn**	**20 04 14.3**	**-3.4**
PCAB				A	A	20 04 15.9	
	7.5nm,0.2s						
ELOB	**Lobios**	**6.25**	**335**	P	**Pn**	**20 03 13.1**	**+1.6**
	0.1nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**20 04 18.5**	**-3.0**
	4.1nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**7.05**	**7**	P	**Pn**	**20 03 25.6**	**+3.1**
	0.0nm,0.1s,SNR=7.9						
ELAN				S	**Sn**	**20 04 37.5**	**-3.6**
	4.5nm,0.6s,SNR=7.9						
EARI	**Arriondas**	**7.08**	**356**	P	**Pn**	**20 03 26.5**	**+3.6**
	0.0nm,0.1s,SNR=7.9						
EARI				S	**Sn**	**20 04 38.0**	**-3.8**
	9.6nm,1.2s,SNR=7.9						
EPON	**Pontenova**	**7.36**	**345**	S	**Sn**	**20 04 44.8**	**-3.8**
	4.7nm,0.9s,SNR=7.9						
EALK	**Alkurruntz**	**7.38**	**18**	P	**Pn**	**20 03 30.6**	**+3.7**
	0.1nm,0.1s,SNR=7.9						
EALK				S	**Sn**	**20 04 46.8**	**-2.3**
	6.6nm,0.8s,SNR=7.9						
ATE	**Arette**	**7.48**	**22**	P	**Pn**	**20 03 31.3**	**+3.0**
	0.2nm,0.1s,SNR=7.9						
ATE				S	**Sn**	**20 04 48.2**	**-3.2**
	2.7nm,0.6s,SNR=7.9						

*MOS **10** 20:05:37.4±0.0, 41°.83N×46°.66E, h19km, MPVA3.6*
*TIF **10** 20:05:38.7, 42°.01N×46°.57E, h13km±2km*
*DRS **10** 20:05:41.6±0.0, 41°.83N×46°.60E, h20km*
ISC 10 20:05:38.6±1.1, 41°.84N±0°.03×46°.66E±0°.03, h13km±8km, n17, σ1°33/32, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGD	**Lagodekhi**	**0.31**	**270**	P	**Pg**	**20 05 45.4**	**+0.4**
LGD				S	**Sg**	**20 05 50.0**	**+0.7**
DDFL	**Dedoflistskaro**	**0.56**	**226**	P	**Pn**	**20 05 52.1**	**-0.4**
DDFL				S	**

s-min=14.0km az=25.0
*NNC **10** 20:32:55.0±2.3, 45°.64N×90°.43E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=17.9km s-min=16.8km az=17.0*
*ASRS **10** 20:33:06.7±0.7, 46°.3N×9°.0E±°, h16km±5km, MLh4.5/8, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*

ISC 10 20:32:55.2±0.7, 45.84N±0.04×90.48E±0.04, h10km, n40, σ2s35/67, mb3.6/9, 5C-13D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.83**	**225**	*e*Pn		**Pn**	**Pn**	**20 33 42.3**	**+1.8**
WMQ					Sn		**Sb**	**20 34 20.0**	**-0.6**
WMQ					smax		smax		
	comp=N,320nm,0.7s								
WMQ					smax		smax		
	comp=E,360nm,0.5s								
DGZ	**Jazzator, Alta**	**4.38**	**333**	Pn		**Pb**	**Pb**	**20 34 07.8**	**-4.5**
DGZ				Pg		**Pg**	**Pg**	**20 34 19.3**	**+0.3**
DGZ				Sg		**Sg**	**Sg**	**20 35 16.2**	**+0.5**
CUR	**Chagan-Uzun**	**4.50**	**342**	Pg		**Pg**	**Pg**	**20 34 22.0**	**+0.7**
CUR				Sg		**Sg**	**Sg**	**20 35 20.0**	**+0.4**
AKAR	**Aktash**	**4.88**	**338**	Pn		Pb	Pb	20 34 15.4	-5.3
AKAR				Pg		**Pg**	**Pg**	**20 34 27.0**	**-1.5**
AKAR				Sg		**Sg**	**Sg**	**20 35 31.2**	**-0.5**
CHBI	**Chibit, Altay**	**4.90**	**337**	Pn		Pb	Pb	20 34 15.7	-5.5
CHBI				Pg		**Pg**	**Pg**	**20 34 27.3**	**-1.7**
CHBI				Sg		**Sg**	**Sg**	**20 35 33.0**	**+0.5**
ULGR	**Ulagan, Altay**	**5.07**	**342**	Pn		Pn	Pn	20 34 17.4	+6.0
ULGR				Pg		**Pg**	**Pg**	**20 34 31.4**	**-0.9**
ULGR				Sg		**Sg**	**Sg**	**20 35 37.3**	**-0.7**
TUNR	**Tungur**	**5.14**	**329**	Pn		Pn	Pn	20 34 17.8	+5.5
TUNR				Pg		**Pg**	**Pg**	**20 34 32.7**	**-1.0**
TUNR				Sg		**Sg**	**Sg**	**20 35 40.5**	**+0.2**
MK31	**Makanchi Array**	**5.75**	**282**	Pn		**Pn**	**Pn**	**20 34 21.9**	**+1.3**
	4.0nm,0.6s,baz=96,slow=15,SNR=31								
MK31				⇓Pg		**Pg**	**Pg**	**20 34 41.3**	**-4.0**
	11nm,0.6s,baz=91,slow=19,SNR=8.8								
MK31				Sn		**Sn**	**Sn**	**20 35 31.0**	**+4.3**
	9.9nm,0.5s,baz=88,slow=25,SNR=6.3								
MK31				⇑Lg		Lg	Lg	20 35 59.8	
	23nm,0.6s,baz=81,slow=35,SNR=6.6								
MKAR	**Makanchi Array**	**5.75**	**282**	Pn		**Pn**	**Pn**	**20 34 22.1**	**+1.4**
	0.7nm,0.3s,baz=96,slow=15,SNR=26								
MKAR				Pg		**Pb**	**Pb**	**20 34 35.3**	**-0.4**
	1.8nm,0.3s,baz=98,slow=16,SNR=12								
MKAR				Sn		**Sn**	**Sn**	**20 35 29.9**	**+3.2**
	3.0nm,0.3s,baz=90,slow=25,SNR=4.3								
MKAR				Lg		Lg	Lg	20 35 59.2	
	6.5nm,0.3s,baz=114,slow=32,SNR=2.9								
MKAR	**Makanchi Array**	**5.75**	**282**	Pg		**Pg**	**Pg**	**20 34 41.9**	**-3.5**
MKAR				Sg		**Sg**	**Sg**	**20 35 58.0**	**-1.9**
MAKZ	**Makanchi**	**5.97**	**282**	⇓Pn		**Pn**	**Pn**	**20 34 24.7**	**+1.1**
	1.7nm,0.4s								
MAKZ				⇓Pg		**Pb**	**Pb**	**20 34 43.2**	**+3.9**
	6.7nm,0.5s								
MAKZ				⇓Sn		**Sn**	**Sn**	**20 35 35.9**	**+3.9**
	5.2nm,0.4s								
MAKZ				⇓Lg		Lg	Lg	20 36 03.6	
	25nm,0.5s								
ARTR	**Artybash**	**6.33**	**342**	Pn		Pn	Pn	20 34 34.5	+6.0
ARTR				Pg		**Pg**	**Pg**	**20 34 54.1**	**-2.2**
ARTR				Sg		**Sg**	**Sg**	**20 36 16.3**	**-1.8**
UKR	**Ust'-Kan**	**6.36**	**325**	Pn		**Pn**	**Pn**	**20 34 33.4**	**+4.3**
UKR				Pg		Pb	Pb	20 34 50.9	+4.9
UKR				Sg		**Sg**	**Sg**	**20 36 14.2**	**-5.1**
DJO	**Djoy, Khakassi**	**6.96**	**4**	Pg		**Pg**	**Pg**	**20 35 06.7**	**-1.8**
DJO				Sg		**Sg**	**Sg**	**20 36 33.1**	**-5.5**
DJOS	**Djoyskaya Sosn**	**6.99**	**5**	Pg		**Pg**	**Pg**	**20 35 08.5**	**-0.4**
DJOS				Sg		**Sg**	**Sg**	**20 36 36.5**	**-2.8**
ARDR	**Aradan**	**7.02**	**15**	Pn		**Pn**	**Pn**	**20 34 42.2**	**+4.2**
ARDR				Pg		Pb	Pb	20 35 02.8	+5.7
ARDR				Sg		**Sg**	**Sg**	**20 36 40.2**	**-0.1**
CERR	**Cheremushki**	**7.05**	**5**	Pg		**Pg**	**Pg**	**20 35 10.7**	**+0.6**
CERR				Sg		**Sg**	**Sg**	**20 36 39.4**	**-1.8**
TBTR	**Tabat**	**7.10**	**1**	Pg		**Pg**	**Pg**	**20 35 06.9**	**-4.2**
TBTR				Sg		**Sg**	**Sg**	**20 36 41.4**	**-1.5**
TASR	**Tashtagol**	**7.13**	**347**	Pg		**Pg**	**Pg**	**20 35 10.5**	**-1.2**
TASR				Sg		**Sg**	**Sg**	**20 36 40.6**	**-3.4**
PDGK	**Podgornoye**	**8.24**	**256**	⇓Pn		**Pn**	**Pn**	**20 34 55.5**	**+0.7**
	8.8nm,0.5s								
PDGK				⇑Sn		**Sn**	**Sn**	**20 36 28.2**	**+0.1**
	36nm,0.9s								
PDGK				⇑Lg		Lg	Lg	20 37 15.1	
	20nm,0.8s								
ZALV	**Zalesovo Beam**	**8.90**	**338**	Pn		**Pn**	**Pn**	**20 35 06.0**	**+2.2**
	0.3nm,0.3s,baz=161,slow=14,SNR=6.9								
ZALV				Sn		**Sn**	**Sn**	**20 36 45.5**	**+1.5**
	0.3nm,0.3s,baz=168,slow=22,SNR=1.8								
ZALV				Lg		Lg	Lg	20 37 38.6	
	0.9nm,0.3s,baz=160,slow=28,SNR=3.7								
KURK	**Kurchatov**	**9.29**	**306**	⇑Pn		**Pn**	**Pn**	**20 35 08.7**	**-0.4**
	3.7nm,0.6s								
KURK				⇓Sn		**Sn**	**Sn**	**20 36 58.5**	**+4.9**
	7.3nm,0.7s								
KURK				⇓Lg		Lg	Lg	20 37 50.4	
	41nm,0.8s								
KURBB	**Kurchatov Arra**	**9.30**	**305**	Pn		**Pn**	**Pn**	**20 35 09.1**	**-0.2**
	0.3nm,0.3s,baz=111,slow=14,SNR=10								
KURBB				Lg		Lg	Lg	20 37 50.4	
	0.4nm,0.3s,baz=112,slow=29,SNR=4.7								
GTA	**Gaotai**	**9.41**	**130**	*e*P		**Pn**	**Pn**	**20 35 10.0**	**-0.9**
GTA				pP				20 35 13.3	
GTA				sP				20 35 16.1	
GTA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
GTA				smax		smax			
	comp=N,13nm,1.1s								
GTA				smax		smax			
	comp=E,12nm,1.1s								
MDOK	**Medeo**	**9.97**	**259**	⇓Pn		**Pn**	**Pn**	**20 35 19.8**	**+1.2**
	6.0nm,1.0s								
MDOK				⇓Sn		**Sn**	**Sn**	**20 37 09.2**	**-1.2**
	5.7nm,0.5s								
MDOK				⇓Lg		Lg	Lg	20 38 05.8	
	9.0nm,0.8s								
TLY	**Talaya**	**10.46**	**51**	LR		LR	LR	20 39 07.4	
	comp=Z,108nm,19.9s,baz=256,slow=36								
TKM2	**Tokmak 2**	**11.05**	**260**	⇓Pn		**Pn**	**Pn**	**20 35 34.4**	**+1.0**
	4.1nm,1.2s								
TKM2				⇓Sn		**Sn**	**Sn**	**20 37 35.9**	**-1.2**
	3.5nm,0.7s								
TKM2				⇑Lg		Lg	Lg	20 38 43.9	
	4.1nm,0.7s								
SONM	**Songino Array**	**11.08**	**74**	Lg		Lg	Lg	20 38 38.6	
	0.1nm,0.3s,baz=266,slow=34,SNR=8.5								
BVAR	**Borovoye Array**	**14.89**	**306**	Pn		**Pn**	**Pn**	**20 36 24.9**	**-0.7**
	0.4nm,0.3s,baz=98,slow=13,SNR=17								
BVAR				Sn		**Sn**	**Sn**	**20 39 05.7**	**-4.8**
	0.2nm,0.3s,baz=103,slow=25,SNR=3.3								
BVAR				Lg		Lg	Lg	20 40 43.0	
	0.1nm,0.3s,baz=116,slow=33,SNR=1.4								
ARU	**Arti**	**22.45**	**310**	P		**P**	**P**	**20 37 56.2**	**+2.0**
	0.7nm,0.4s,baz=140,slow=6.4,SNR=6.0								
FINES	**FINESS Array B**	**39.45**	**317**	P		**P**	**P**	**20 40 26.2**	**+1.1**
	2.1nm,0.7s,baz=78,slow=7.5,SNR=11								
AKASG	**Malin Array Be**	**40.04**	**300**	P		**P**	**P**	**20 40 30.6**	**+0.5**
	0.3nm,0.2s,baz=77,slow=9.7,SNR=2.5								
BRTR	**Keskin Array B**	**41.41**	**283**	P		**P**	**P**	**20 40 43.6**	**+1.9**
	0.4nm,0.7s,baz=64,slow=9.8,SNR=2.7								
NB2	**NORSAR Subarra**	**46.53**	**319**	P		**P**	**P**	**20 41 23.1**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=68,slow=7.9								
NOA	**NORSAR Array B**	**46.53**	**319**	P		**P**	**P**	**20 41 23.4**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=72,slow=7.0,SNR=7.5								
ILAR	**Eielson Array**	**61.02**	**24**	P		**P**	**P**	**20 43 08.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=325,slow=4.3,SNR=4.1								
ESDC	**Sonseca Array**	**65.61**	**302**	P		**P**	**P**	**20 43 40.2**	**+0.9**
	comp=Z,0.8nm,1.0s,baz=50,slow=5.5,SNR=2.4								
WRA	**Warramunga Arr**	**76.60**	**138**	P		**P**	**P**	**20 44 44.5**	**-1.4**
	comp=Z,0.6nm,0.9s,baz=341,slow=7.9,SNR=1.1								
ASAR	**Alice Springs**	**79.62**	**140**	P		**P**	**P**	**20 45 01.1**	**-1.6**
	comp=Z,0.4nm,0.8s,baz=340,slow=5.0,SNR=2.5								
LPAZ	**La Paz**	**145.53**	**322**	PKPbc		**PKPdf**	**PKPdf**	**20 52 33.2**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=22,slow=2.9,SNR=3.9								

UCR 10 20:37:39.3±1.6, 10.05N×83.26W, h11km±2km, MD4.1, 4C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CVTR	**Volcan Turrial**	**0.49**	**266**	⇓*e*P			Pg	20 37 48.9	-0.2
RGM0	**Gandoca**	**0.79**	**126**	⇓*e*P			Pg	20 37 53.7	-0.9
LCR2	**La Lucha 2**	**0.80**	**247**	⇓*i*P			Pg	20 37 53.9	-0.8
LCR2				*e*S			Sg	20 38 05.4	+0.2
EDLM	**Las Mercedes**	**0.83**	**203**	*e*P			Pg	20 37 54.5	-1.0
EDLM				*e*S			Sg	20 38 06.7	+0.3
HDC	**Heredia**	**0.84**	**267**	*e*P			Pg	20 37 54.5	-1.2
HDC				*e*S			Sg	20 38 06.9	+0.2
EDBA	**Buenos Aires**	**0.89**	**181**	⇑*e*P			Pg	20 37 55.5	-0.9
EDBA				*e*S			Sb	20 38 08.3	-0.3
EDDO	**Dominical**	**0.99**	**217**	*e*P			Pg	20 37 58.4	-0.1
EDPN	**Palmar Norte**	**1.10**	**190**	⇑*e*P			Pb	20 38 00.2	-0.2
SRA1	**San Ramn**	**1.20**	**272**	*e*P			Pb	20 38 00.0	-2.2
EDSV	**San Vito**	**1.26**	**167**	*e*P			Pn	20 38 02.6	-0.3
BRU2	**Volcan**	**1.37**	**156**	⇑*i*P			Pn	20 38 02.6	-1.9
FORC	**Fortuna**	**1.45**	**287**	*i* S			Sn	20 38 24.1	-0.5
CEDE	**Laguna Cedeo**	**1.49**	**287**	*i* P			Pn	20 38 04.6	-1.4
ARE1	**Arenal 1**	**1.49**	**286**	*e*P			Pn	20 38 05.2	-0.9
CASO	**Castillo**	**1.50**	**285**	*i* P			Pn	20 38 05.0	-1.3
CASO				*i* S			Sn	20 38 25.5	-0.4
PIRO	**Carate, Puerto**	**1.64**	**183**	*e*P			Pn	20 38 07.9	-0.2
PTEN	**Parque Tenorio**	**1.82**	**291**	*i* P			Pn	20 38 09.5	-1.2
PTEN				*i* S			Sn	20 38 34.5	+0.7
ACAL	**Aguas Claras**	**1.84**	**288**	*i* P			Pn	20 38 10.2	-0.7
ACAL				*i* S			Sn	20 38 35.0	+0.7
CUI	**Cuipilapa**	**1.97**	**288**	*e*P			Pn	20 38 12.3	-0.4
CUI				*e*S			Sn	20 38 38.4	+0.9
HORNC	**Hornillas**	**2.00**	**289**	*i* P			Pn	20 38 12.8	-0.3
HORNC				*i* S			Sn	20 38 39.1	+0.9
COLC	**Colonia**	**2.01**	**288**	*i* P			Pn	20 38 13.4	+0.2
GUAB	**Guayabo de Bag**	**2.05**	**289**	*i* P			Pn	20 38 14.3	+0.5
LIM1	**Limonal**	**2.06**	**288**	*i* P			Pn	20 38 13.7	-0.4
LIM1				*i* S			Sn	20 38 41.1	+1.3
GPS2	**Hotel Rincn d**	**2.17**	**289**	*i* P			Pn	20 38 15.8	+0.3
GPS1	**Guardaparques**	**2.18**	**289**	*i* S			Sb	20 38 44.4	-1.5
GUAI	**GUAI**	**2.23**	**276**	*i* P			Pn	20 38 16.7	+0.5
GB1A	**Boringuen Arri**	**2.24**	**290**	*i* P			Pn	20 38 16.0	-0.4
LAPC	**Finca la Perla**	**2.25**	**289**	*i* P			Pn	20 38 17.5	+0.9
GBS3	**Finca Las Img**	**2.28**	**289**	*i* P			Pn	20 38 17.5	+0.5
ESPN	**Las Esperanzas**	**2.36**	**334**	*e*P			Pn	20 38 17.4	-0.6

*ASRS **10** 21:09:25.0±0.5, 54°.2N×8°.6E±°, h4km±1km, MLv3.4/30, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
*NNC **10** 21:09:25.1±1.4, 54°.27N×86°.14E, h0km, mb3.7, mpv3.1, Error ellipse: s-maj=15.2km s-min=7.1km az=168.0, Suspected Mining explosion.*

ISC 10 21:09:26.6±0.8, 54.23N±0.03×86.09E±0.03, h0km, n31, σ1s36/61, 10C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SALR	**Pechorkino, Sa**	**0.29**	**310**	P			**Pg**	**21 09 31.5**	**-0.7**
SALR				S			**Sg**	**21 09 37.1**	**+1.2**
POMOR	**Pomortsevo, Ku**	**0.31**	**56**	P			**Pg**	**21 09 31.5**	**-1.1**
POMOR				S			**Sg**	**21 09 37.3**	**+0.7**
ZAA0	**Zalesovo Array**	**0.80**	**250**	⇑P			**Pg**	**21 09 41.0**	**-0.9**
	0.9nm,0.3s								
ZAA0				⇑S			**Sg**	**21 09 53.1**	**+0.9**
	16nm,0.6s								
ELT	**Eltsovka**	**0.98**	**175**	Pg			**Pg**	**21 09 43.7**	**-1.5**
ELT				S			**Sg**	**21 09 57.7**	**-0.2**
ELT				Sg			**Sb**	**21 09 57.9**	**-1.8**
KEM	**Kemerovo**	**1.11**	**0**	Pg			**Pg**	**21 09 46.3**	**-1.6**
KEM				Sg			**Sg**	**21 10 02.0**	**-0.4**
KHAR	**Kharino, NSO,**	**1.51**	**286**	P			**Pn**	**21 09 55.0**	**+0.2**
KHAR				Sg			**Sn**	**21 10 16.0**	**+0.9**
NVSII	**Novosibirsk**	**1.77**	**291**	P			**Pn**	**21 09 58.1**	**0.0**
NVSII				S			**Sn**	**21 10 21.8**	**+0.2**
NVS	**Novosibirsk**	**1.77**	**291**	P			**Pn**	**21 09 58.4**	**0.0**
NVS				S			**Sn**	**21 10 21.8**	**+0.2**
TASR	**Tashtagol**	**1.82**	**143**	P			**Pn**	**21 09 57.8**	**-1.4**
TASR				S			**Sn**	**21 10 21.3**	**-1.7**
ALXA	**Alekseevka, NS**	**2.16**	**290**	P			**Pn**	**21 10 04.6**	**+0.9**
ALXA				Sg			**Sb**	**21 10 34.6**	**+0.8**
SHRR	**Shira**	**2.40**	**82**	P			**Pn**	**21 10 07.0**	**-0.1**
SHRR				Sg			**Sn**	**21 10 38.7**	**+1.6**
ARTR	**Artybash**	**2.54**	**163**	P			**Pn**	**21 10 09.7**	**+0.6**
ARTR				Sg			**Sn**	**21 10 41.9**	**+1.2**
TBTR	**Tabat**	**3.06**	**113**	P			**Pn**	**21 10 15.4**	**-0.7**
TBTR				Sg			**Sn**	**21 10 54.9**	**+1.6**
DJO	**Djoy, Khakassi**	**3.39**	**113**	P			**Pn**	**21 10 20.8**	**0.0**
UKR	**Ust'-Kan**	**3.40**	**194**	P			**Pn**	**21 10 21.6**	**+0.7**
UKR				S			**Sn**	**21 11 03.3**	**+1.4**
CERR	**Cheremushki**	**3.47**	**111**	P			**Pn**	**21 10 24.2**	**+2.5**
CERR				S			**Sn**	**21 11 04.7**	**+1.3**
DJOS	**Djoyskaya Sosn**	**3.48**	**112**	P			**Pn**	**21 10 23.0**	**+1.0**
ULGR	**Ulagan, Altay**	**3.79**	**162**	P			**Pn**	**21 10 26.8**	**+0.5**
ULGR				S			**Sn**	**21 11 12.7**	**+1.0**
CHBI	**Chibit, Altay**	**4.02**	**167**	P			**Pn**	**21 10 29.7**	**+0.2**
CHBI				S			**Sn**	**21 11 17.6**	**+0.3**
AKAR	**Aktash**	**4.03**	**166**	P			**Pn**	**21 10 32.5**	**+2.9**
AKAR				S			**Sn**	**21 11 18.7**	**+1.1**
CUR	**Chagan-Uzun**	**4.37**	**160**	P			**Pn**	**21 10 35.7**	**+1.5**
CUR				S			**Sn**	**21 11 28.7**	**+2.8**
DGZ	**Jazzator, Alta**	**4.61**	**169**	P			**Pn**	**21 10 38.9**	**+1.2**
DGZ				S			**Sn**	**21 11 33.8**	**+1.8**
KURK	**Kurchatov**	**5.76**	**235**	P			**Pn**	**21 10 55.2**	**+1.9**
KURK				S			**Sn**	**21 12 00.4**	**+0.4**
KURK	**Kurchatov**	**5.76**	**235**	⇓Pn			**Pn**	**21 10 54.9**	**+1.7**
	1.8nm,0.6s								
KURK				⇑Sn			**Sn**	**21 12 01.1**	**+1.1**
	1.7nm,0.6s								
KURK				⇑Lg			Lg	21 12 30.5	
	7.7nm,0.6s								
KURBB	**Kurchatov Arra**	**5.87**	**235**	⇑Pn			**Pn**	**21 10 56.0**	**+1.3**
	1.7nm,0.2s								
KURBB				⇑Sn			**Sn**	**21 12 03.1**	**+0.5**
	6.9nm,0.7s								
KURBB				⇑Lg			Lg	21 12 32.9	
	10nm,0.5s								
MK31	**Makanchi Array**	**7.83**	**200**	⇑Pn			**Pn**	**21 11 22.8**	**+1.1**
	0.2nm,0.2s,baz=24,slow=12,SNR=62								
MK31				⇑Sn			**Sn**	**21 12 49.2**	**-1.7**
	1.1nm,0.5s,baz=24,slow=26,SNR=5.1								
MK31				⇓Lg			Lg	21 13 36.2	
	1.9nm,0.6s,baz=25,slow=31,SNR=5.3								
MKAR	**Makanchi Array**	**7.83**	**200**	P			**Pn**	**21 11 21.9**	**+0.2**
MKAR				S			**Sn**	**21 12 49.6**	**-1.4**
MAKZ	**Makanchi**	**7.88**	**201**	P			**Pn**	**21 11 22.4**	**0.0**
MAKZ				S			**Sn**	**21 12 49.9**	**-2.3**
MAKZ	**Makanchi**	**7.88**	**201**	⇓Pn			**Pn**	**21 11 23.4**	**+1.0**
	1.1nm,0.6s								
MAKZ				⇓Sn			**Sn**	**21 12 51.0**	**-1.2**
	1.2nm,0.5s								
MAKZ				⇓Lg			Lg	21 13 36.8	
	5.0nm,0.8s								
BVA0	**Borovoye Array**	**9.41**	**269**	⇓Pn			**Pn**	**21 11 41.0**	**-2.2**
	1.8nm,0.8s,baz=82,slow=14,SNR=7.0								
BVA0				⇓Sn			**Sn**	**21 13 31.1**	**+1.4**
	1.7nm,0.5s,baz=68,slow=25,SNR=10								
BRVK	**Borovoye**	**9.46**	**269**	⇑Pn			**Pn**	**21 11 40.5**	**-3.5**
	2.4nm,1.0s								
BRVK				⇓Sn			**Sn**	**21 13 31.6**	**+0.7**
	1.9nm,0.5s								

*NEIC **10** 21:14:50.5±0.8, 9°.52S±0°.08×124°.15E±0°.09, h105km±8km, mb4.3/12, Error ellipse: s-maj=13.6km s-min=10.1km az=54.0*
*IDC **10** 21:14:51.4±2.9, 9°.45S×124°.13E, h86km±33km, mb3.5/3, mb1 3.8/7, mb1mx3.5/38, mbtmp4.0/7, Error ellipse: s-maj=68.1km s-min=21.4km az=51.0*
*DJA **10** 21:14:52.4±0.6, 9°.S±4°×12°.4E±°, h57km±15km, M4.3/9, mb4.8/2, MLv4.1/9*

ISC 10 21:14:49.3±0.6, 9.59S±0.06×124.06E±0.06, h100km, n40, σ2s24/48, mb4.1/8, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.27**	**128**	P			**Pn**	**21 15 06.1**	**+2.2**
BATI	**Baumata**	**0.72**	**212**	P			**Pn**	**21 15 10.2**	**+3.1**
	198nm,0.3s,baz=40,slow=3.9,SNR=90								
BATI				S			**Sn**	**21 15 23.9**	**+3.6**
	248nm,0.3s,baz=90,slow=20,SNR=10								
BATI	**Baumata**	**0.72**	**212**	P			**Pn**	**21 15 09.9**	**+2.9**
MMRI	**Maumere**	**2.03**	**298**	P			**Pn**	**21 15 21.6**	**-0.7**
MMRI				S			**Sn**	**21 15 43.9**	**-3.6**
EDFI	**Ende, Flores**	**2.48**	**290**	P			**Pn**	**21 15 27.7**	**-0.6**
EDFI				S			**Sn**	**21 15 54.1**	**-4.1**
BASI	**Baing, Sumba**	**3.48**	**259**	P			**Pn**	**21 15 39.6**	**-1.9**
BASI				S			**Sn**	**21 16 22.0**	**+0.1**
WSI	**Waingapu**	**3.71**	**269**	P			Pn	21 15 49.7	+5.2
WBSI	**Waikabubak, Su**	**4.60**	**269**	P			**Pn**	**21 15 56.5**	**-0.2**
WBSI				S			**Sn**	**21 16 45.4**	**-3.6**
KAPI	**Kappang**	**6.24**	**317**	P			**Pn**	**21 16 20.4**	**+1.5**
	0.9nm,0.3s,baz=138,slow=9.2,SNR=4.7								
PLAI	**Plampang**	**6.25**	**276**	P			**Pn**	**21 16 19.1**	**+0.1**
	0.4nm68nm,0.5s								
BNSI	**Bone**	**6.48**	**323**	P			**Pn**	**21 16 23.3**	**+1.2**
KNRA	**Kununurra**	**7.59**	**143**				**Pn**	**21 16 37.6**	**+0.3**
KNRA					Sn		**Sn**	**21 16 02.2**	**+0.4**
MTN	**Manton Dam**	**7.66**	**116**	Pn			**Pn**	**21 16 38.5**	**+0.3**
MTN					Sn		**Sn**	**21 16 05.0**	**+1.6**
FITZ	**Fitzroy Crossi**	**8.60**	**170**	P			**Pn**	**21 16 54.9**	**+3.9**
	2.4nm,0.3s,baz=356,slow=12,SNR=102								
FITZ				S			**Sn**	**21 18 24.8**	**-1.4**
	6.9nm,0.3s,baz=248,slow=19,SNR=18								
FITZ	**Fitzroy Crossi**	**8.60**	**170**	Pn			**Pn**	**21 16 53.0**	**+2.1**
FITZ							**Sn**	**21 18 26.7**	**+0.6**
WB0	**Warramunga Arr**	**14.22**	**137**	Pn			**P**	**21 18 07.3**	**-3.2**
WRA	**Warramunga Arr**	**14.30**	**137**	P			**P**	**21 18 09.1**	**-2.3**
	1.1nm,0.3s,baz=314,slow=13,SNR=44								
WRA				S			**Sn**	**21 20 39.3**	**-5.6**
	1.3nm,0.3s,baz=306,slow=23,SNR=10								
WRA	**Warramunga Arr**	**14.30**	**137**	Pn			**Pn**	**21 18 07.8**	**+0.6**
WB2	**Warramunga Arr**	**14.31**	**137**	Pn			**Pn**	**21 18 08.1**	**+0.8**
WR0	**Warramunga Arr**	**14.45**	**137**	Pn			**P**	**21 18 10.1**	**-2.9**
AS31	**Alice Springs**	**16.87**	**147**				**P**	**21 18 40.5**	**+0.7**
ASAR	**Alice Springs**	**16.87**	**147**	P			**P**	**21 18 44.8**	**+4.9**
	1.1nm,0.3s,baz=324,slow=12,SNR=89								
ASAR				S			**Sn**	**21 21 43.4**	**-3.4**
	0.6nm,0.3s,baz=318,slow=22,SNR=12								
ASAR	**Alice Springs**	**16.87**	**147**				**P**	**21 18 40.5**	**+0.7**
ASAR					Sn		**Sn**	**21 21 44.6**	**-2.2**
KKM	**Kota Kinabalu**	**17.39**	**333**	P			**Pn**	**21 18 45.9**	**+0.1**
MORW	**Morawa**	**20.78**	**200**	P			Pn	21 19 25.3	-0.6
MORW					IAmb		IAmb	21 19 45.1	
	comp=Z,5.9nm,1.1s								
KULM	**Kulim**	**27.61**	**301**	P			**P**	**21 20 28.8**	**+1.2**
KULM					IAmb		IAmb	21 20 46.3	
	comp=Z,11nm,1.1s								
CM31	**Chiang Mai Arr**	**37.30**	**318**	P			**P**	**21 21 51.2**	**-0.7**
CM31					IAmb		IAmb	21 21 55.4	
	comp=Z,4.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**37.30**	**318**	P			**P**	**21 21 54.7**	**+2.8**
	comp=Z,0.3nm,0.4s,baz=143,slow=6.7,SNR=4.9								
CMAR	**Chiang Mai Arr**	**37.30**	**318**	P			**P**	**21 21 53.0**	**+1.1**
CHTO	**Chiang Mai**	**37.55**	**319**	P			**P**	**21 21 54.8**	**+0.7**
CHTO					IAmb		IAmb	21 21 58.1	
	comp=Z,1.7nm,1.1s								
PBA	**Port Blair**	**37.61**	**303**	P			P	21 21 55.8	+1.1
LHI	**Lord Howe Isla**	**39.11**	**129**	P			**P**	**21 22 07.5

H11N2	**WAKE ISLAND Hy**	**26.61**	**116**	T	T	22 23 41.1			
	baz=310								
H11N1	**WAKE ISLAND Hy**	**26.61**	**116**	T	T	22 23 38.9			
	baz=310								
H11N3	**WAKE ISLAND Hy**	**26.63**	**116**	T	T	22 23 46.0			
	baz=310								
H11S3	**WAKE ISLAND Hy**	**27.22**	**118**	T	T	22 24 41.5			
	baz=314								
H11S1	**WAKE ISLAND Hy**	**27.22**	**118**	T	T	22 24 54.4			
	baz=314								
H11S2	**WAKE ISLAND Hy**	**27.23**	**118**	T	T	22 24 44.5			
	baz=314								
SONM	**Songino Array**	**29.68**	**308**	P	**P**	**21 56 07.0**	**+0.6**		
	0.1nm,0.3s,baz=91,slow=7.2,SNR=1.8								
MKAR	**Makanchi Array**	**45.89**	**305**	P	**P**	**21 58 23.3**	**+0.3**		
	0.4nm,0.7s,baz=90,slow=7.2,SNR=3.8								
KURBB	**Kurchatov Arra**	**48.02**	**310**	P	**P**	**21 58 40.3**	**+0.9**		
	0.3nm,0.5s,baz=81,slow=7.5,SNR=4.5								
WRA	**Warramunga Arr**	**54.02**	**188**	P	**P**	**21 59 24.8**	**-0.1**		
	0.3nm,0.5s,baz=5.0,slow=7.5,SNR=1.7								

IDC ***10*** *21:50:05.6±9.3,36˚.14N×71˚.27E,h79km±35km,mb3.4/4, mb1 3.4/10,mb1mx3.2/55,mbtmp3.7/10,Error ellipse: s-maj=150.5km s-min=29.3km az=158.0*

NNC ***10*** *21:50:12.2±4.9,37˚.02N×70˚.92E,h0km,mb4.3,mpv3.9, Error ellipse: s-maj=39.1km s-min=36.7km az=132.0*

ISC 10 21:50:11.4±2.1,36.7N±0.2×70.8E±0.1,h100km,n21, σ1§21/26,mb3.9/3,3C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.90**	**21**	P	**Pn**	**21 51 36.7**	**+0.1**
	SNR=28						
UCH	**Uchtor**	**6.25**	**26**	P	**Pn**	**21 51 41.1**	**-0.3**
	SNR=14						
KZA	**Kyzart**	**6.40**	**31**	P	**Pn**	**21 51 42.6**	**-0.8**
	SNR=6.3						
EKS2	**Erkin-Say**	**6.41**	**20**	P	**Pn**	**21 51 43.8**	**+0.5**
	SNR=15						
KK31	**Karatay Array**	**6.44**	**358**	Pn	**Pn**	**21 51 44.5**	**+0.8**
	3.1nm,0.2s,baz=195,slow=14,SNR=108						
KK31				⇑Sn	**Sn**	**21 52 54.6**	**-1.0**
	2.9nm,0.2s,baz=189,slow=26,SNR=9.1						
AAK	**Ala-Archa**	**6.60**	**24**	P	**Pn**	**21 51 46.1**	**+0.1**
	4.9nm,0.3s,baz=186,slow=8.0,SNR=16						
AAK				S	**Sn**	**21 52 59.9**	**0.0**
	1.8nm,0.3s,baz=143,slow=20,SNR=9.2						
AAK	**Ala-Archa**	**6.60**	**24**	P	**Pn**	**21 51 46.4**	**+0.3**
	SNR=9.5						
AAK	**Ala-Archa**	**6.60**	**24**	⇓Pn	**Pn**	**21 51 45.5**	**-0.5**
	6.1nm,0.3s						
AAK				⇑Sn	**Sn**	**21 52 59.7**	**-0.1**
	9.8nm,0.7s						
CHMS	**Chumysh**	**7.01**	**24**	P	**Pn**	**21 51 51.6**	**+0.2**
	SNR=12						
USP	**Ospenovka**	**7.17**	**22**	P	**Pn**	**21 51 53.8**	**+0.1**
	SNR=16						
TKM2	**Tokmak 2**	**7.25**	**29**	P	**Pn**	**21 51 54.2**	**-0.6**
	SNR=7.1						
TKM2	**Tokmak 2**	**7.25**	**29**	⇑Pn	**Pn**	**21 51 54.0**	**-0.8**
	3.2nm,0.6s						
TKM2				⇓Sn	**Sn**	**21 53 15.0**	**-0.6**
	3.9nm,0.7s						
GEYT	**Alibeck**	**10.21**	**281**	P	**Pn**	**21 52 35.1**	**+0.2**
	0.3nm,0.3s,baz=103,slow=12,SNR=1.8						
GEYT				S	**Sn**	**21 54 24.1**	**-3.4**
	0.5nm,0.3s,baz=100,slow=24,SNR=2.9						
MKAR	**Makanchi Array**	**13.24**	**37**	P	**Pn**	**21 53 13.1**	**-2.3**
	0.0nm,0.3s,baz=223,slow=14,SNR=3.3						
KURBB	**Kurchatov Arra**	**15.02**	**19**	P	**Pn**	**21 53 38.5**	**+0.4**
	0.1nm,0.3s,baz=207,slow=10,SNR=6.3						
BVAR	**Borovoye Array**	**16.37**	**359**	P	**P**	**21 53 56.3**	**+0.2**
	0.3nm,0.3s,baz=168,slow=15,SNR=2.6						
AKTO	**Aktyubinsk**	**16.57**	**330**	P	**P**	**21 53 59.5**	**+1.1**
	0.2nm,0.3s,baz=140,slow=14,SNR=3.6						
ZALV	**Zalesovo Beam**	**19.83**	**25**	P	**P**	**21 54 32.3**	**-1.7**
	0.8nm,0.3s,baz=212,slow=10,SNR=8.0						
FINES	**FINESS Array B**	**37.27**	**326**	P	**P**	**21 57 15.0**	**+1.8**
	1.3nm,0.9s,baz=120,slow=8.2,SNR=3.5						
ARCES	**ARCESS Array B**	**40.94**	**338**	P	**P**	**21 57 45.7**	**+2.0**
	2.2nm,0.8s,baz=114,slow=9.0,SNR=3.7						
NOA	**NORSAR Array B**	**44.17**	**323**	P	**P**	**21 58 10.8**	**+0.8**
	0.5nm,0.7s,baz=98,slow=7.7,SNR=2.2						

IDC ***10*** *22:16:31.1±2.7,21˚.68N×143˚.51E,h216km±25km, mb3.4/15,mb1 3.5/17,mb1mx3.4/39,mbtmp4.0/17,Error ellipse: s-maj=21.9km s-min=13.5km az=87.0*

ISC 10 22:16:29.4±0.8,21˚.67N±0˚.10×143˚.5E±0˚.2,h200km,n18, σ1§02/20,mb3.9/14,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.54**	**347**	P	**Pn**	**22 17 51.4**	**+0.8**
	16nm,0.3s,baz=180,slow=19,SNR=5.3						
JCJ				S	**Sn**	**22 18 52.9**	**-2.0**
	10nm,0.3s,baz=287,slow=19,SNR=1.9						
MJAR	**Matsushiro Arr**	**15.52**	**344**	P	**Pn**	**22 19 58.7**	**+0.8**
	0.1nm,0.3s,baz=158,slow=9.4,SNR=2.6						
KSRS	**Korea Array**	**20.73**	**323**	P	**P**	**22 20 56.1**	**+1.7**
	3.1nm,0.7s,baz=150,slow=8.9,SNR=12						
ASAJ	**Asahikawa**	**22.39**	**358**	P	**P**	**22 21 13.1**	**+1.9**
	6.8nm,0.6s,baz=229,slow=19,SNR=2.0						
KLR	**Kul'dur**	**29.05**	**344**	P	**P**	**22 22 10.6**	**-0.3**
	3.5nm,0.6s,baz=160,slow=8.2,SNR=11						
SONM	**Songino Array**	**39.56**	**320**	P	**P**	**22 23 41.5**	**+0.3**
	0.5nm,0.4s,baz=113,slow=5.7,SNR=2.9						
WRA	**Warramunga Arr**	**42.33**	**193**	P	**P**	**22 24 03.5**	**-0.3**
	0.2nm,0.4s,baz=9.2,slow=7.7,SNR=9.6						
ASAR	**Alice Springs**	**46.03**	**192**	P	**P**	**22 24 32.7**	**-0.5**
	0.2nm,0.3s,baz=16,slow=7.0,SNR=2.1						
ZALV	**Zalesovo Beam**	**54.43**	**322**	P	**P**	**22 25 35.2**	**-0.5**
	1.3nm,0.5s,baz=101,slow=7.7,SNR=5.8						
MKAR	**Makanchi Array**	**54.95**	**313**	P	**P**	**22 25 39.9**	**+0.1**
	0.2nm,0.4s,baz=86,slow=9.0,SNR=7.3						
MKAR				PcP	**PcP**	**22 26 38.9**	**-0.1**
	0.3nm,0.5s,baz=95,slow=4.8,SNR=6.2						
NRIK	**Noril'sk**	**58.13**	**340**	P	**P**	**22 26 00.8**	**-0.8**
	3.2nm,0.6s,baz=127,slow=5.1,SNR=2.8						
ILAR	**Eielson Array**	**61.91**	**27**	P	**P**	**22 26 26.6**	**-0.8**
	0.8nm,0.7s,baz=255,slow=4.7,SNR=6.2						
INK	**Inuvik**	**67.46**	**24**	P	**P**	**22 27 03.0**	**-0.2**
	1.6nm,0.6s,baz=270,slow=6.1,SNR=4.3						
YKA	**Yellowknife Ar**	**76.33**	**28**	P	**P**	**22 27 56.2**	**+0.2**
	1.5nm,0.4s,baz=292,slow=5.8,SNR=8.0						
ARCES	**ARCESS Array B**	**79.05**	**342**	P	**P**	**22 28 10.0**	**-1.0**
	1.9nm,0.9s,baz=74,slow=8.9,SNR=5.4						
NVAR	**Mina Array Bea**	**82.91**	**52**	P	**P**	**22 28 32.7**	**+0.5**
	0.4nm,0.7s,baz=290,slow=5.3,SNR=3.0						
FINES	**FINESS Array B**	**83.34**	**335**	P	**P**	**22 28 32.3**	**-1.3**
	0.8nm,0.3s,baz=70,slow=4.5,SNR=19						
PLCA	**Paso Flores**	**145.50**	**131**	PKPbc	**PKPdf**	**22 35 44.6**	**+0.8**
	1.2nm,0.4s,baz=246,slow=1.7,SNR=8.6						

JMA ***10*** *22:26:45.0±0.4,33˚.84N×141˚.65E,h16km,M3.4*

IDC ***10*** *22:26:51.3±3.9,33˚.37N×140˚.03E,h0km,mb3.4/2, mb1 3.5/3,mb1mx3.3/27,mbtmp3.3/3,ML2.3/1,Error ellipse: s-maj=144.4km s-min=27.5km az=73.0*

ISC 10 22:26:49.1±1.9,34˚.0N±0˚.1×141˚.5E±0˚.2,h24km,n11, σ0§91/14,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.83**	**326**	P	**Pb**	**22 27 03.2**	**-1.4**
BSO1				*eS*	**Sn**	**22 27 16.4**	**+0.3**
BSO2	**Boso 2**	**1.02**	**321**	*eS*	**Sn**	**22 27 21.8**	**+0.7**
BSO3	**Boso 3**	**1.19**	**315**	P	**Pn**	**22 27 09.5**	**-0.6**
BSO4	**Boso 4**	**1.43**	**316**	P	**Pn**	**22 27 13.2**	**-0.2**
JKUC	**kamogawauchiur**	**1.63**	**318**	P	**Pn**	**22 27 15.8**	**-0.5**
KTJ3	**Kamata3**	**2.26**	**296**	P	**Pn**	**22 27 24.0**	**-1.0**
JAG	**Ashikaga**	**2.99**	**326**	P	**Pn**	**22 27 34.8**	**-0.3**
MJAR	**Matsushiro Arr**	**3.75**	**314**	Pn	**Pn**	**22 27 46.3**	**+0.8**
	0.3nm,0.3s,baz=151,slow=10,SNR=10						
MJAR				Sn	**Sn**	**22 28 29.0**	**+0.1**
	0.2nm,0.3s,baz=142,slow=20,SNR=5.3						
MAT	**Matsushiro**	**3.75**	**314**	P	**Pn**	**22 27 46.8**	**+1.3**
MAT				*eS*	**Sn**	**22 28 30.4**	**+1.5**
MKAR	**Makanchi Array**	**45.89**	**305**	P	**P**	**22 35 10.2**	**+0.6**
	0.2nm,0.6s,baz=95,slow=8.0,SNR=2.3						
WRA	**Warramunga Arr**	**54.04**	**188**	P	**P**	**22 36 11.8**	**+0.1**
	0.4nm,0.7s,baz=2.6,slow=7.5,SNR=2.0						

BJI ***10*** *22:39:33.1±0.0,27˚.78N×142˚.70E,h11km,mB5.2/64, mb4.9/76,Ms5.1/75,Ms7 4.9/72*

IDC ***10*** *22:39:33.1±0.4,27˚.73N×142˚.81E,h0km,mb4.9/38, mb1 5.0/42,mb1mx4.9/46,mbtmp4.9/42,ML3.7/4,MS4.6/34, Ms1 4.6/34,ms1mx4.5/43,Error ellipse: s-maj=12.1km s-min=10.3km az=109.0*

NIED ***10*** *22:39:34.7,27˚.86N×142˚.97E,h41km,MW5.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr4.27; Mθθ0.24; Mϕϕ-4.51; Mrθ-0.80; Mθϕ-1.17; Mϕr6.68; Fault plane solution: M₀8.12000×10¹⁶ NP1: φs357.00000°,δ74.00000°,λ79.00000°. NP2: φs210.00000°,δ19.00000°,λ122.00000°.*

JMA ***10*** *22:39:34.7±0.1,27˚.86N×142˚.97E,h41km,M4.9*

MOS ***10*** *22:39:36.1±0.9,27˚.79N×142˚.75E,h29km,mb5.4/56, MS4.7/16,Error ellipse: s-maj=7.7km s-min=3.8km az=117.7*

GCMT ***10*** *22:39:37.5±0.2,27˚.68N±0˚.01×142˚.96E±0˚.01,h12km, MW5.1/141,Moment Tensor Solution. s79,c117; s141,c244; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.92±.14; Mθθ-0.11±.09; Mϕϕ-4.81±.10; Mrθ0.56±.27; Mθϕ-1.52±.07; Mϕr3.34±.28; Best double couple: M₀6.11400×10¹⁶ NP1:φs201.00000°,δ28.00000°, λ97.00000°. NP2:φs12.00000°,δ62.00000°,λ86.00000°. Principal axes: T 5.9570, Plg73.0000°, Azm273.0000°; N 0.3160, Plg4.0000°, Azm14.0000°; P -6.2710, Plg17.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***10*** *22:39:37.5±1.2,27˚.82N±0˚.05×142˚.82E±0˚.08,h31km±1km, mb5.1/306 Error ellipse: s-maj=10.4km s-min=6.3km az=110.0*

ISC 10 22:39:37.0±0.4,27˚.81N±0˚.03×142˚.78E±0˚.04,h21km±3km, n693,σ1§59/656,mb5.1/263,MS4.8/86,76C-29D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.88**	**217**	P	**Pb**	**22 39 52.9**	**-0.7**
CBIJ				*eS*	**Sn**	**22 40 06.0**	**-0.4**
JCJ	**Chichijima**	**0.88**	**217**	Pn	**Pb**	**22 39 53.4**	**-0.3**
	912nm,0.3s,baz=13,slow=3.9,SNR=223						
JCJ				Sn	**Sb**	**22 40 04.7**	**-0.3**
	2µm,0.3s,baz=107,slow=19,SNR=9.7						
JCJ	**Chichijima**	**0.88**	**217**		**Pb**	**22 39 53.6**	**-0.1**
JCJ					**Sn**	**22 40 06.3**	**-0.1**
JHH2	**Haha-jima-NKT2**	**1.29**	**205**	P	**Pn**	**22 39 58.5**	**-1.3**
JHH2				S	**Sn**	**22 40 16.1**	**-0.3**
JHJ	**Hachijo jima 2**	**5.89**	**335**	Pn	**Pn**	**22 41 05.5**	**+2.4**
	11nm,0.3s,baz=106,slow=18,SNR=1.6						
JHJ				Sn	**Sn**	**22 42 07.3**	**-2.7**
	40nm,0.3s,baz=239,slow=19,SNR=2.3						
JHJ				LR	LR	22 43 12.3	
	comp=Z,6µm,18.5s,baz=160,slow=37						
BSO3	**Boso 3**	**7.24**	**345**	P	**Pn**	**22 41 20.9**	**-0.5**
BSO4	**Boso 4**	**7.46**	**344**	P	**Pn**	**22 41 25.4**	**+0.8**
JOD2	**Odawara 2**	**8.07**	**338**	P	**Pn**	**22 41 33.4**	**+0.3**
JHU	**Hanno**	**8.55**	**341**	P	**Pn**	**22 41 39.0**	**-0.7**
JHU				*eS*	**Sn**	**22 43 12.2**	**-3.4**
MJAR	**Matsushiro Arr**	**9.53**	**337**	Pn	**Pn**	**22 41 52.8**	**-0.3**
	0.6nm,0.3s,baz=158,slow=9.9,SNR=36						
MJAR				Sn	**Sn**	**22 43 34.5**	**-5.1**
	0.2nm,0.3s,baz=130,slow=29,SNR=1.7						
MJAR				LR	LR	22 45 28.4	
	comp=Z,3µm,18.3s,baz=160,slow=37						
MJAR	**Matsushiro Arr**	**9.53**	**337**	P	**Pn**	**22 41 52.1**	**-1.0**
MJAR						22 43 38.7	
MJAR	**Matsushiro Arr**	**9.53**	**337**		**Pn**	**22 41 52.1**	**-1.0**
MJAR					**Sn**	**22 43 38.7**	**-0.9**
MAJO	**Matsushiro**	**9.53**	**337**	*de*P	**Pn**	**22 41 52.9**	**-0.2**
MAJO	**Matsushiro**	**9.53**	**337**	Pn	**Pn**	**22 41 52.4**	**-0.7**
MAT	**Matsushiro**	**9.53**	**337**	P	**Pn**	**22 41 52.8**	**-0.3**
MAT				*eS*	**Sn**	**22 43 38.2**	**-1.4**
MJB9	**Matsu-Tunnel**	**9.54**	**337**	Pn	**Pn**	**22 41 52.5**	**-0.6**
JNU	**Nakatsue**	**11.55**	**300**	Pn	**Pn**	**22 42 23.8**	**+3.0**
	0.5nm,0.3s,baz=75,slow=20,SNR=5.0						
JNU				LR	LR	22 46 19.0	
	comp=Z,3µm,20.9s,baz=108,slow=35						
JNU	**Nakatsue**	**11.55**	**300**	Pn	**Pn**	**22 42 20.3**	**-0.5**
GUMO	**Guam**	**14.28**	**172**	LR	LR	22 47 48.5	
	comp=Z,2µm,19.2s,baz=354,slow=35						
TJN	**Taejon**	**15.60**	**307**	⇑*eP*	**Pn**	**22 43 17.5**	**+1.9**
KSRS	**Korea Array**	**15.77**	**311**	Pn	**Pn**	**22 43 17.6**	**-0.3**
	0.0nm,0.3s,baz=114,slow=12,SNR=5.6						
KSRS				LR	LR	22 49 19.2	
	comp=Z,3µm,18.2s,baz=120,slow=37						
KSAR	**Wonju Array Be**	**15.79**	**311**	P	**P**	**22 43 21.5**	**-0.3**
KSAR	**Wonju Array Be**	**15.79**	**311**	P	**P**	**22 43 21.5**	**-0.3**
KS19	**Wonju Array Si**	**15.83**	**311**	P	**Pn**	**22 43 17.8**	**-0.9**
JKA	**Kamikawa-asahi**	**16.28**	**360**		**Pn**	**22 43 21.9**	**-2.4**
ASAJ	**Asahikawa**	**16.28**	**360**	Pn	**Pn**	**22 43 21.9**	**-2.5**
	1.7nm,0.3s,baz=187,slow=6.7,SNR=7.9						
ASAJ				LR	LR	22 50 43.9	
	comp=Z,1µm,20.9s,baz=190,slow=41						
INCN	**Inchon**	**16.65**	**309**	P	**Pn**	**22 43 29.4**	**+0.2**
INCN				pmax	pmax		
	comp=Z,39nm,0.7s						
INCN	**Inchon**	**16.65**	**309**	P	**Pn**	**22 43 29.4**	**+0.2**
VLA	**Vladivostok**	**17.64**	**333**	⇑*iP*	**P**	**22 43 44.4**	**+2.1**
VLA				pmax	pmax		
	comp=Z,217nm,1.1s						
KUR	**Kuril'sk**	**17.86**	**12**	P	**P**	**22 43 45.3**	**+0.6**
KUR				MLR	MLR		
	comp=N,741nm,10.0s						
KUR				MLR	MLR		
	comp=E,3µm,10.0s						
KUR				MLR	MLR		
	comp=Z,1µm,10.0s						
USA0B	**Ussuriysk Arra**	**18.51**	**335**	⇑*eP*	**Pn**	**22 43 52.0**	**-0.2**
USA0B	**Ussuriysk Arra**	**18.51**	**335**	P	**P**	**22 43 51.6**	**-0.3**
USRK	**Ussuriysk Ar.**	**18.51**	**335**	P	**P**	**22 43 50.3**	**-1.6**
	baz=157,slow=13,SNR=20						
USRK				LR	LR	22 50 36.8	
	comp=Z,1µm,18.2s,baz=139,slow=36						
USRK	**Ussuriysk Ar.**	**18.51**	**335**	P	**P**	**22 43 51.7**	**-0.2**
SSE	**Sheshan**	**19.08**	**285**	P	**Pn**	**22 43 59.3**	**+0.1**
SSE				S	**Sn**	**22 47 31.8**	**-0.6**
SSE				pmax	pmax		
	comp=Z,18nm,0.8s						
SSE				pmax	pmax		
	comp=Z,340nm,4.2s						
SSE				LR	LR		
	comp=Z,720nm,14.9s						
SSE				LR	LR		
	comp=Z,870nm,15.5s						
SSE				LR	LR		
	comp=Z,880nm,16.5s						
YSS	**Yuzh-Sakhalins**	**19.11**	**360**	*eP*	**P**	**22 43 58.0**	**-0.5**
YSS				*eS*	**Sn**	**22 47 26.4**	**-6.5**
YSS				pmax	pmax		
	comp=Z,1µm,3.4s						
YSS				pmax	pmax		
	comp=Z,50nm,1.3s						
YSS				MLR	MLR		
	comp=Z,2µm,17.0s						
YSS				MLR	MLR		
	comp=N,2µm,12.0s						
YSS	**Yuzh-Sakhalins**	**19.11**	**360**		**P**	**22 43 57.3**	**-1.2**
YHNB	**Yeheng**	**19.45**	**266**	P	**P**	**22 44 01.9**	**-0.6**
YHNB				IAmb	IAmb	22 44 08.8	
	comp=Z,72nm,0.8s						
MDJ	**Mudanjiang**	**19.82**	**331**	P	**Pn**	**22 44 07.7**	**-0.2**
MDJ				pmax	pmax		
	comp=Z,53nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,1µm,6.0s						
MDJ				LR	LR		
	comp=Z,3µm,16.2s						
MDJ				LR	LR		
	comp=Z,3µm,17.1s						
MDJ				LR	LR		
	comp=Z,4µm,17.0s						
MDJ	**Mudanjiang**	**19.82**	**331**	P	**P**	**22 44 05.7**	**-0.6**
YULB	**Yu-li**	**19.86**	**262**	P	**P**	**22 44 06.8**	**0.0**
SSLB	**Suanglung**	**20.05**	**263**	P	**P**	**22 44 09.5**	**+0.6**
SSLB				IAmb	IAmb	22 44 24.0	
	comp=Z,173nm,1.1s						
TWG	**Pinlang**	**20.23**	**261**	P	**P**	**22 44 10.2**	**-0.7**
TPUB	**Ta-pu**	**20.47**	**262**		**P**	**22 44 13.0**	**-0.5**
TPUB				IAmb	IAmb	22 44 24.5	
	comp=Z,142nm,1.1s						
DL2	**Dalian**	**20.80**	**308**	P	Pn	22 44 19.7	+0.3
DL2				PP	**PnPn**	**22 44 40.0**	**+4.7**
DL2				S	Sn	22 48 11.0	-2.6
DL2				pmax	pmax		
	comp=Z,30nm,1.3s						
DL2				pmax	pmax		
	comp=Z,280nm,6.3s						
DL2				LR	LR		
	comp=Z,2µm,15.5s						
DL2				LR	LR		
	comp=Z,3µm,16.3s						
DL2				LR	LR		
	comp=Z,3µm,15.9s						
SNY	**Shenyang**	**21.01**	**317**	⇑P	**P**	**22 44 18.5**	**-0.7**
SNY				S	**S**	**22 48 09.5**	**-2.7**
SNY				pmax	pmax		
	comp=Z,22nm,2.2s						
SNY				pmax	pmax		
	comp=Z,580nm,8.4s						
SNY				LR	LR		
	comp=Z,2µm,12.9s						
SNY				LR	LR		
	comp=Z,2µm,13.5s						
SNY				LR	LR		
	comp=Z,2µm,12.6s						
NJ2	**Nanjing**	**21.15**	**287**	*e*P	**P**	**22 44 19.5**	**-1.3**
NJ2				pP	**pP**	**22 44 23.9**	**-2.0**
NJ2				S	**S**	**22 48 13.7**	**-1.5**
NJ2				pmax	pmax		
	comp=Z,45nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,690nm,4.9s						
NJ2				LR	LR		
	comp=Z,2µm,17.2s						
NJ2				LR	LR		
	comp=Z,1µm,15.3s						
NJ2				LR	LR		
	comp=Z,2µm,16.2s						
CN2	**Changchun**	**21.20**	**323**	*e*P	**P**	**22 44 21.4**	**+0.2**
CN2				*e*S	**S**	**22 48 12.7**	**-3.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CN2				pmax	pmax		
	comp=Z,500nm,4.0s						
CN2				LR	LR		
	comp=Z,5µm,16.0s						
CN2				LR	LR		
	comp=Z,5µm,16.0s						
CN2				LR	LR		
	comp=Z,5µm,17.0s						
QZH	**Quanzhou**	**21.85**	**268**	⇑*iP*	**P**	**22 44 26.4**	**-1.9**
QZH				S	**S**	**22 48 28.5**	**-0.5**
QZH				LR	LR		
	comp=Z,1µm,16.1s						
QZH				LR	LR		
	comp=Z,1µm,15.2s						
QZH				LR	LR		
	comp=Z,2µm,13.7s						
KLR	**Kul'dur**	**23.02**	**341**	P	**P**	**22 44 39.6**	**-1.0**
	comp=Z,23nm,0.9s,baz=144,slow=9.1,SNR=44						
KLR				LR	LR	22 53 09.3	
	comp=Z,1µm,18.1s,baz=158,slow=35						
KLR	**Kul'dur**	**23.02**	**341**	*ce*P	**P**	**22 44 41.4**	**+0.8**
KLR				pmax	pmax		
	comp=Z,43nm,1.1s						
TYV	**Tymovskoe**	**23.03**	**360**	*e*P	**P**	**22 44 41.2**	**+0.6**
TYV				*e*S	**S**	**22 48 52.7**	**+2.6**
TYV				pmax	pmax		
	comp=Z,300nm,2.4s						
TYV				pmax	pmax		
	comp=Z,27nm,1.3s						
TYV				smax	smax		
	comp=E,2µm,9.0s						
TYV				MLR	MLR		
	comp=E,2µm,16.0s						
TYV				MLR	MLR		
	comp=Z,800nm,19.0s						
TIA	**Tai'an**	**23.26**	**298**	P	**P**	**22 44 41.0**	**-2.2**
TIA				pmax	pmax		
	comp=Z,16nm,0.8s						
GRNR	**Gornyy**	**23.44**	**350**	⇑*iP*	**P**	**22 44 44.9**	**+0.1**
GRNR				*e*		22 44 51.8	
GRNR				*eS*	**S**	**22 48 58.6**	**+1.7**
GRNR				pmax	pmax		
	comp=N,10.0nm,1.2s						
GRNR				pmax	pmax		
	comp=Z,20nm,1.1s						
GRNR				smax	smax		
	comp=Z,5.0nm,0.4s						
GRNR				MLR	MLR		
	comp=E,450nm,10.0s						
GRNR				MLR	MLR		
	comp=N,560nm,20.0s						
GRNR				MLR	MLR		
	comp=Z,760nm,14.0s						
H11N2	**WAKE ISLAND Hy**	**23.46**	**105**	T	T	23 08 57.2	
	baz=297,slow=74,SNR=26						
H11N1	**WAKE ISLAND Hy**	**23.46**	**105**	T	T	23 09 01.3	
	baz=297,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	**23.48**	**105**	T	T	23 09 09.7	
	baz=297,slow=74,SNR=23						
H11S3	**WAKE ISLAND Hy**	**23.82**	**108**	T	T	23 09 54.3	
	baz=296,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hy**	**23.82**	**108**	T	T	23 10 01.8	
	baz=296,slow=74,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**23.84**	**108**	T	T	23 10 02.8	
	baz=296,slow=74,SNR=6.7						
TGY	**Tagaytay City**	**24.48**	**241**	P	**P**	**22 44 55.1**	**+0.1**
	comp=Z,348nm,0.5s,baz=76,slow=4.2,SNR=8.1						
WHN	**Wuhan**	**24.95**	**283**	⇓P	**P**	**22 44 58.4**	**-0.6**
WHN				S	**S**	**22 49 27.0**	**+5.5**
WHN				pmax	pmax		
	comp=Z,160nm,1.1s						
WHN				pmax	pmax		
	comp=Z,1µm,3.6s						
WHN				LR	LR		
	comp=Z,6µm,17.3s						
WHN				LR	LR		
	comp=Z,8µm,16.6s						
WHN				LR	LR		
	comp=Z,6µm,15.1s						
BJT	**Baijiatuao**	**25.12**	**306**	P	**P**	**22 45 00.1**	**-0.4**
BJT				pmax	pmax		
	comp=Z,16nm,0.9s						
BJT	**Baijiatuao**	**25.12**	**306**	P	**P**	**22 45 00.1**	**-0.4**
BJI	**Beijing**	**25.12**	**306**	P	**P**	**22 44 58.4**	**-2.1**
BJI				S	**S**	**22 49 23.8**	**-0.4**
BJI				pmax	pmax		
	comp=Z,13nm,1.3s						
BJ

HHC S **S** **22 50 22.6 +1.5**
HHC pmax pmax
comp=N,23nm,0.9s
HHC pmax pmax
comp=N,370nm,7.3s
HHC LR LR
comp=N,1µm,15.3s
HHC LR LR
comp=N,1µm,18.6s
HHC LR LR
comp=N,1µm,18.8s
ENH **Enshi** **29.15 283** P **P** **22 45 35.6 -1.3**
ENH IAmb IAmb 22 45 41.7
comp=Z,30nm,0.7s
XAN **Xi'an** **29.61 291** P **P** **22 45 39.4 -1.5**
XAN pP pP 22 45 43.3 -3.0
XAN S **S** **22 50 34.4 -0.9**
XAN pmax pmax
comp=Z,33nm,1.2s
XAN pmax pmax
comp=Z,360nm,3.5s
XAN LR LR
comp=Z,2µm,14.4s
XAN LR LR
comp=Z,2µm,15.1s
XAN LR LR
comp=Z,4µm,16.0s
XAN **Xi'an** **29.61 291** P **P** **22 45 40.0 -1.0**
XAN pmax pmax
comp=Z,27nm,0.9s
XAN **Xi'an** **29.61 291** P **P** **22 45 40.0 -1.0**
XAN IAmb IAmb 22 45 42.2
comp=Z,27nm,0.9s
SMPI **Sarmi** **29.88 188** P P 22 45 57.2 +14
QIZ **Qiongzhong** **31.38 261** P **P** **22 45 56.6 0.0**
QIZ S **S** **22 51 04.0 +0.9**
QIZ sS **sS** **22 51 13.2 +0.6**
QIZ pmax pmax
comp=Z,18nm,1.2s
QIZ pmax pmax
comp=Z,340nm,3.9s
QIZ LR LR
comp=Z,640nm,12.4s
QIZ LR LR
comp=Z,980nm,15.3s
QIZ LR LR
comp=Z,1µm,16.7s
GYA **Guiyang** **32.10 276** ⇓P **P** **22 46 02.1 -0.9**
GYA pP sP 22 46 10.0 -1.0
GYA sP pwP 22 46 12.9 +0.4
GYA S **S** **22 51 14.0 -0.5**
GYA pmax pmax
comp=Z,26nm,1.1s
GYA pmax pmax
comp=Z,210nm,5.1s
GYA LR LR
comp=Z,2µm,16.3s
GYA LR LR
comp=Z,2µm,16.8s
GYA LR LR
comp=Z,2µm,16.9s
MA2 **Magadan** **32.23 8** P **P** **22 46 03.0 -0.7**
MA2 pmax pmax
comp=Z,20nm,1.0s
MA2 **Magadan** **32.23 8** P **P** **22 46 03.0 -0.7**
MA2 IAmb IAmb 22 46 07.2
comp=Z,20nm,1.0s
MYLDM **Lahad Datu** **32.24 230** P **P** **22 46 04.1 0.0**
MYLDM IAmb IAmb 22 46 19.3
comp=Z,20nm,0.9s
CIT **Chita** **32.59 326** *e*P **P** **22 46 07.0 0.0**
CIT *e* 22 46 17.1
CIT *e* 22 46 22.4
CIT *e* 22 47 10.6
CIT pmax pmax
comp=Z,194nm,2.7s
GTOI **Gorontalo** **33.00 218** P **P** **22 46 11.1 +0.3**
comp=Z,28nm,1.2s
KKM **Kota Kinabalu** **33.23 234** P **P** **22 46 12.5 -0.5**
KKM IAmb IAmb 22 46 27.7
comp=Z,44nm,1.1s
LZH **Lanzhou** **33.88 294** ⇑P **P** **22 46 16.8 -1.7**
LZH pP pP 22 46 23.4 -0.5
LZH sP pwP 22 46 28.1 +0.2
LZH S **S** **22 51 47.5 +5.5**
LZH pmax pmax
comp=Z,37nm,1.3s
LZH pmax pmax
comp=Z,200nm,5.3s
LZH LR LR
comp=Z,2µm,15.7s
LZH LR LR
comp=Z,2µm,16.3s
LZH LR LR
comp=Z,2µm,16.8s
SPMM **Sapulut** **33.98 232** P **P** **22 46 19.0 -0.4**
ULN **Ulaanbaatar** **34.18 316** *ce*P **P** **22 46 20.5 -0.5**
ULN pmax pmax
comp=Z,32nm,1.3s
ULN **Ulaanbaatar** **34.18 316** P **P** **22 46 20.2 -0.8**
ULN IAmb IAmb 22 46 38.7
comp=Z,22nm,1.0s
LUWI **Luwuk** **34.53 217** P P 22 46 31.3 +7.2
LUWI **Luwuk** **34.53 217** P **P** **22 46 23.4 -0.7**
SONM **Songino Array** **34.58 315** P **P** **22 46 24.0 -0.4**
comp=Z,8.5nm,0.7s,baz=124,slow=8.1,SNR=39
SONM LR LR 23 01 14.4
comp=Z,1µm,19.0s,baz=110,slow=38
SONM **Songino Array** **34.58 315** P **P** **22 46 22.9 -1.5**
SONM pmax pmax
comp=Z,10.0nm,0.9s
SONM **Songino Array** **34.58 315** P **P** **22 46 22.9 -1.5**
MPSI **Mapaga** **35.03 223** P **P** **22 46 31.0 +2.5**
comp=Z,948nmcomp=Z,24nm,1.0s
YAK **Yakutsk** **35.32 349** P **P** **22 46 30.0 -0.4**
comp=Z,4.2nm,0.3s,baz=130,slow=1.7,SNR=5.4
YAK **Yakutsk** **35.32 349** P **P** **22 46 29.8 -0.6**
YAK pmax pmax
comp=Z,22nm,0.6s
YAK **Yakutsk** **35.32 349** P **P** **22 46 29.8 -0.6**
YAK IAmb IAmb 22 46 40.3
comp=Z,22nm,0.6s
SLVN **Son La** **35.83 268** P **P** **22 46 35.0 -0.4**
SLVN IAmb IAmb 22 46 37.4
comp=Z,26nm,1.0s
KMI **Kunming** **35.84 275** ⇑P **P** **22 46 35.2 -0.4**
KMI pP sP 22 46 43.8 +0.2
KMI PP **PnPn** **22 47 55.4 -0.5**
KMI PcP **PcP** **22 49 03.3 +0.3**
KMI S **S** **22 52 07.3 -5.2**
KMI SS **SnSn** **22 54 31.5 -4.3**
KMI pmax pmax
comp=Z,34nm,0.9s
KMI pmax pmax
comp=Z,350nm,10.2s
KMI LR LR
comp=Z,960nm,16.9s
KMI LR LR
comp=Z,1µm,18.3s
KMI LR LR
comp=Z,1µm,16.7s
KMI **Kunming** **35.84 275** P **P** **22 46 35.4 -0.2**
KMI pmax pmax
comp=Z,48nm,1.2s
KMI **Kunming** **35.84 275** P **P** **22 46 35.4 -0.2**
BOD **Bodaibo** **36.15 334** *e*P **P** **22 46 37.8 +0.2**
BOD pmax pmax
comp=Z,32nm,1.6s
PMG **Port Moresby** **37.23 173** ⇑*e*P **P** **22 46 47.4 +0.1**
PMG pmax pmax
comp=Z,48nm,1.3s
GTA **Gaotai** **37.29 299** ⇑P **P** **22 46 46.4 -1.4**
GTA pP pP 22 46 53.2 0.0
GTA sP sP 22 46 56.0 +0.2
GTA PP **PP** **22 48 17.1 +4.2**
GTA PcP **PcP** **22 49 08.2 +1.2**
GTA S **S** **22 52 32.7 -1.6**
GTA sS sS 22 52 46.5 +2.8
GTA ScP **ScP** **22 52 53.2 +0.2**
GTA SS **SnSn** **22 55 06.6 -3.9**
GTA pmax pmax
comp=Z,15nm,1.2s
GTA pmax pmax
comp=Z,220nm,6.8s
GTA LR LR
comp=Z,1µm,14.0s
GTA LR LR
comp=Z,2µm,14.3s
GTA LR LR
comp=Z,2µm,14.9s
ZAK **Zakamensk** **37.43 318** *e*P **P** **22 46 48.5 -0.3**
ZAK pmax pmax
comp=Z,35nm,1.1s
IRK **Irkutsk** **37.61 321** *e*P **P** **22 46 50.4 +0.2**
IRK pmax pmax
comp=Z,140nm,3.2s
TLY **Talaya** **37.73 320** P **P** **22 46 52.0 +0.7**
comp=Z,15nm,0.8s,baz=152,slow=6.5,SNR=23
TLY **Talaya** **37.73 320** *c* i*P **P** **22 46 51.9 +0.7**
TLY *e* 22 48 20.0
TLY *eS* **S** **22 52 44.6 +4.2**
TLY pmax pmax
comp=Z,143nm,1.2s
TLY MLR MLR
comp=Z,9µm,17.0s
TLY **Talaya** **37.73 320** P **P** **22 46 50.7 -0.5**
TLY IAmb IAmb 22 47 02.3
comp=Z,35nm,1.0s
SBUM **Sibu** **38.57 235** P **P** **22 46 58.4 -0.3**
SBUM **Sibu** **38.57 235** P **P** **22 46 59.0 +0.3**
SPSI **Sidrap Palu** **38.60 219** P **P** **22 46 58.2 -0.6**
comp=Z,610nmcomp=Z,43nm,1.0s
BNSI **Bone** **38.77 218** P **P** **22 47 02.6 +2.3**
comp=Z,830nmcomp=Z,59nm,1.1s
MTKI **Muara Teweh, K** **39.17 228** P **P** **22 47 07.8 +4.2**
MOY **Mondy** **39.25 319** *e*P **P** **22 47 04.5 +0.4**
MOY pmax pmax
comp=Z,65nm,3.7s
KAPI **Kappang** **39.48 218** P **P** **22 47 05.9 -0.3**
KAPI pmax pmax
comp=Z,28nm,1.0s
KAPI **Kappang** **39.48 218** P **P** **22 47 05.9 -0.3**
KAPI IAmb IAmb 22 47 08.2
comp=Z,28nm,1.0s
KSM **Kuching** **40.63 236** P **P** **22 47 16.0 +0.2**
CHTO **Chiang Mai** **41.06 267** P **P** **22 47 18.5 -0.9**
CHTO pmax pmax
comp=Z,12nm,1.0s
CHTO **Chiang Mai** **41.06 267** P **P** **22 47 18.5 -0.9**
CMAR **Chiang Mai Arr** **41.19 267** P **P** **22 47 19.9 -0.6**
comp=Z,3.1nm,0.8s,baz=58,slow=7.1,SNR=17
CMAR PcP **PcP** **22 49 20.6 +1.1**
comp=Z,4.2nm,1.0s,baz=75,slow=3.8,SNR=7.2
CMAR LR LR 23 05 02.9
comp=Z,483nm,18.8s,baz=120,slow=37
CMAR **Chiang Mai Arr** **41.19 267** *ce*P **P** **22 47 20.2 -0.3**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR **Chiang Mai Arr** **41.19 267** P **P** **22 47 19.7 -0.8**
CMAR **PcP** **22 49 18.8 -0.6**
SOEI **Soe** **41.42 208** P **P** **22 47 21.6 -0.8**
SOEI IAmb IAmb 22 47 40.6
comp=Z,46nm,0.9s
COEN **Coen** **41.52 179** P **P** **22 47 22.5 -0.5**
COEN IAmb IAmb 22 47 25.5
comp=Z,52nm,1.1s
MTN **Manton Dam** **41.95 197** P **P** **22 47 25.6 -1.0**
BILL **Bilibino** **42.65 13** *i* P **P** **22 47 34.4 +2.7**
BILL *i* 22 47 44.3
BILL pmax pmax
comp=Z,15nm,1.1s
BILL MLR MLR
comp=Z,448nm,18.0s
TIXI **Tiksi** **44.56 354** P **P** **22 47 47.0 -0.1**
comp=Z,6.8nm,0.6s,baz=159,slow=5.9,SNR=8.5
TIXI **Tiksi** **44.56 354** ⇓*e*P **P** **22 47 47.3 +0.3**
TIXI pmax pmax
comp=Z,22nm,1.7s
TIXI **Tiksi** **44.56 354** P **P** **22 47 46.8 -0.2**
SHL **Shillong** **45.27 279** P **P** **22 47 52.5 -1.1**
SHL pmax pmax
comp=Z,33nm,1.0s
SHL **Shillong** **45.27 279** P **P** **22 47 52.5 -1.1**
SHL IAmb IAmb 22 48 05.4
comp=Z,33nm,1.0s
KNRA **Kununurra** **45.31 199** P **P** **22 47 52.0 -1.6**
MYKOM **Kota Tinggi** **45.32 242** P **P** **22 47 54.0 +0.2**
KULM **Kulim** **45.84 249** P **P** **22 47 56.8 -1.1**
KULM IAmb IAmb 22 47 59.2
comp=Z,32nm,0.9s
KULM **Kulim** **45.84 249** P **P** **22 47 58.0 +0.1**
IPM **Ipoh** **45.98 247** P **P** **22 47 58.3 -0.9**
IPM IAmb IAmb 22 47 59.7
comp=Z,30nm,0.9s
IPM **Ipoh** **45.98 247** P **P** **22 47 59.0 -0.1**
WMQ **Urumqi** **46.59 305** *e*P **P** **22 48 03.7 0.0**
WMQ pP pP 22 48 09.5 +0.3
WMQ sP pwP 22 48 14.6 +1.5
WMQ S **S** **22 54 51.0 -0.5**
WMQ ScS **ScS** **22 57 54.2 -3.4**
WMQ pmax pmax
comp=Z,37nm,1.3s
WMQ pmax pmax
comp=Z,240nm,7.5s
WMQ LR LR
comp=Z,760nm,16.1s
WMQ LR LR
comp=Z,590nm,19.9s
WMQ LR LR
comp=Z,680nm,19.9s
DGZ **Jazzator, Alta** **47.16 313** *c* i*P **P** **22 48 08.4 +0.3**
DGZ pmax pmax
comp=Z,54nm,1.0s
WB0 **Warramunga Arr** **47.98 191** P **P** **22 48 13.2 -1.3**
WR0 **Warramunga Arr** **48.15 190** P **P** **22 48 14.4 -1.4**
WRAB **Tennant Creek** **48.15 191** *c* i*P **P** **22 48 14.1 -1.7**
WRAB pmax pmax
comp=Z,111nm,1.3s
WRAB **Tennant Creek** **48.15 191** P **P** **22 48 14.6 -1.2**
WB2 **Warramunga Arr** **48.16 191** P **P** **22 48 14.3 -1.6**
WRA **Warramunga Arr** **48.16 191** P **P** **22 48 14.1 -1.8**
comp=Z,37nm,0.6s,baz=12,slow=8.5,SNR=145
WRA S **S** **22 55 08.0 -6.0**
comp=Z,5.7nm,1.1s,baz=11,slow=14,SNR=5.9
WRA LR LR 23 07 06.3
comp=Z,957nm,21.7s,baz=25,slow=34
WRA **Warramunga Arr** **48.16 191** P **P** **22 48 14.4 -1.6**
WRA pmax pmax
comp=Z,6.0nm,1.0s
WRA **Warramunga Arr** **48.16 191** P **P** **22 48 14.3 -1.6**
TAPN **Taplejung** **48.45 283** *e*P **P** **22 48 19.0 +0.4**
comp=Z,15nm,0.5s
FITZ **Fitzroy Crossi** **48.56 202** P **P** **22 48 18.2 -0.8**
ZSN **Zaisan** **48.69 310** ⇑i*P **P** **22 48 19.7 -0.1**
comp=Z,31nm,1.5s,baz=310
ZSN LR LR 23 09 07.7
comp=Z,1µm,13.8s,baz=310
ZSN **Zaisan** **48.69 310** *c* i*P **P** **22 48 19.7 -0.1**
ZSN pmax pmax
comp=Z,31nm,1.5s
ZSN MLR MLR
comp=Z,1µm,14.0s
SDPT **Sand Point** **48.83 39** P **P** **22 48 20.1 -0.5**
ODAN **Odare** **48.85 282** *e*P **P** **22 48 20.9 -0.7**
comp=Z,56nm,0.8s
SDSI **Sungai Dareh** **48.90 241** P **P** **22 48 21.5 -0.3**
comp=Z,18nm,1.1s
ANM **Nome** **49.09 27** P **P** **22 48 22.7 +0.1**
ANM pmax pmax
comp=Z,29nm,0.9s
ANM **Nome** **49.09 27** P **P** **22 48 22.7 +0.1**
ANM IAmb IAmb 22 48 31.5
comp=Z,30nm,0.9s
MDSI **Maura Dua** **49.15 235** P **P** **22 48 22.6 -1.0**
comp=Z,1µmcomp=Z,108nm,1.1s
CNBA **Chernabura Isl** **49.24 40** P **P** **22 48 23.3 -0.5**
MNSI **Mandailing Nat** **49.30 245** P **P** **22 48 24.2 -0.6**
comp=Z,44nm,1.0s
ZAA0 **Zalesovo Array** **49.30 319** P **P** **22 48 24.7 +0.3**
ZALV **Zalesovo Beam** **49.30 319** P **P** **22 48 24.0 -0.4**
comp=Z,37nm,0.9s,baz=100,slow=6.3,SNR=106
ZALV PcP **PcP** **22 49 46.7 -0.2**
comp=Z,5.6nm,0.7s,baz=111,slow=3.3,SNR=2.7
ZALV LR LR 23 09 55.2
comp=Z,1µm,18.5s,baz=94,slow=37
RAMN **Ramite** **49.51 283** *e*P **P** **22 48 26.1 -0.6**
comp=Z,54nm,0.9s
KRJI **Kerinci** **49.60 240** P **P** **22 48 29.4 +2.1**
comp=Z,4µmcomp=Z,224nm,0.8s
JIRN **Jiri** **49.69 284** *e*P **P** **22 48 28.2 0.0**
comp=Z,68nm,0.6s
KSI **Kapahiang** **49.76 238** P **P** **22 48 29.8 +1.4**
comp=Z,12µmcomp=Z,56nm,1.1s
PKI **Pulchoki** **50.38 284** *e*P **P** **22 48 32.2 -1.2**
comp=Z,81nm,1.3s
MK31 **Makanchi Array** **50.43 309** P **P** **22 48 33.2 +0.1**
MK31 pmax pmax
comp=Z,20nm,1.0s
MK31 **Makanchi Array** **50.43 309** P **P** **22 48 33.2 +0.1**
MK31 IAmb IAmb 22 48 34.1
comp=Z,20nm,1.0s
MKAR **Makanchi Array** **50.43 309** P **P** **22 48 32.5 -0.6**
comp=Z,16nm,0.8s,baz=94,slow=9.5,SNR=100
MKAR PcP **PcP** **22 49 50.7 -0.6**
comp=Z,4.9nm,0.9s,baz=105,slow=5.4,SNR=1.9
MKAR LR LR 23 10 51.3
comp=Z,1µm,18.7s,baz=88,slow=37
KKN **Kakani** **50.44 284** *e*P **P** **22 48 33.0 -0.7**
comp=Z,68nm,1.0s
GSI **Gunungsitoli** **50.62 247** P **P** **22 48 34.8 -0.1**
DMN **Daman** **50.63 284** *e*P **P** **22 48 34.4 -0.8**
comp=Z,54nm,1.0s
MAKZ **Makanchi** **50.65 309** P **P** **22 48 34.3 -0.5**
MAKZ pmax pmax
comp=Z,23nm,1.1s
MAKZ **Makanchi** **50.65 309** P **P** **22 48 34.3 -0.5**
MAKZ IAmb IAmb 22 48 38.9
comp=Z,23nm,1.1s
GKN **Gorkha** **50.94 285** *e*P **P** **22 48 36.6 -0.8**
comp=Z,220nm,1.4s
DANN **Dangsing** **51.60 285** *e*P **P** **22 48 42.2 -0.3**
comp=Z,212nm,1.0s
AS31 **Alice Springs** **51.88 190** P **P** **22 48 42.5 -1.6**
ASAR **Alice Springs** **51.88 190** P **P** **22 48 42.1 -2.0**
comp=Z,7.3nm,0.9s,baz=9.5,slow=7.5,SNR=30
ASAR LR LR 23 09 10.5
comp=Z,1µm,21.6s,baz=6.5,slow=34
ASAR **Alice Springs** **51.88 190** P **P** **22 48 42.4 -1.8**
ASAR **Alice Springs** **51.88 190** P **P** **22 48 42.4 -1.8**
KOLN **Koldanda** **51.89 285** *e*P **P** **22 48 43.8 -0.7**
comp=Z,135nm,1.2s
NRIK **Noril'sk** **52.18 338** P **P** **22 48 45.5 -0.4**
comp=Z,8.8nm,0.7s,baz=114,slow=10.0,SNR=5.6
NRIK LR LR 23 12 03.3
comp=Z,1µm,18.1s,baz=118,slow=37
PYUN **Piuthan** **52.32 285** *e*P **P** **22 48 47.3 -0.5**
comp=Z,57nm,0.6s
SVW2 **Sparrevohn** **52.41 33** P **P** **22 48 47.9 +0.2**
SVW2 IAmb IAmb 22 48 51.5
comp=Z,36nm,1.2s
SHLS **Shalkode** **52.60 305** ⇑i*P **P** **22 48 46.5 -3.0**
comp=Z,28nm,1.5s,baz=305
SHLS LR LR 23 11 31.9
comp=Z,245nm,15.1s,baz=305
SHLS **Shalkode** **52.60 305** *c* i*P **P** **22 48 46.5 -3.0**
SHLS pmax pmax
comp=Z,28nm,1.5s
SHLS MLR MLR
comp=Z,245nm,15.0s
KURK **Kurchatov** **52.87 314** *ce*P **P** **22 48 50.8 -0.4**
KURK pmax pmax
comp=Z,106nm,1.0s
KURK **Kurchatov** **52.87 314** P **P** **22 48 51.1 -0.1**
UZB **Uzynbulak** **52.92 305** ⇑i*P **P** **22 48 51.0 -1.0**
comp=Z,44nm,2.7s,baz=305
UZB *eS* **S** **22 56 18.8 -1.4**
baz=305
UZB LR LR 23 11 58.6
comp=Z,170nm,14.4s,baz=305
UZB **Uzynbulak** **52.92 305** *c* i*P **P** **22 48 51.0 -1.0**
UZB *eS* **S** **22 56 18.8 -1.4**
UZB pmax pmax
comp=Z,44nm,2.7s
UZB MLR MLR
comp=Z,170nm,14.0s
KURBB **Kurchatov Arra** **52.92 314** P **P** **22 48 51.4 -0.2**
comp=Z,58nm,1.0s,baz=92,slow=7.2,SNR=326
KPKS **Kokpek** **53.14 305** ⇑i*P **P** **22 48 52.9 -0.6**
comp=Z,69nm,3.1s,baz=305
KPKS *eS* **S** **22 56 21.9 -1.1**
baz=305
KPKS LR LR 23 11 42.9
comp=Z,383nm,14.0s,baz=305
KPKS **Kokpek** **53.14 305** *c* i*P **P** **22 48 52.8 -0.6**
KPKS *eS* **S** **22 56 21.9 -1.1**
KPKS pmax pmax
comp=Z,69nm,3.1s
KPKS MLR MLR
comp=Z,383nm,14.0s
TDK **Taldyqorghan** **53.21 307** *i* P **P** **22 48 53.7 -0.2**
comp=Z,176nm,3.3s,baz=307
TDK *eS* **S** **22 56 23.3 -0.5**
baz=307
TDK LR LR 23 11 44.9
comp=Z,878nm,13.2s,baz=307
TDK **Taldyqorghan** **53.21 307** *i* P **P** **22 48 53.7 -0.2**
TDK *eS* **S** **22 56 23.3 -0.5**
TDK pmax pmax
comp=Z,177nm,3.3s
TDK MLR MLR
comp=Z,878nm,13.0s
SATY **Saty** **53.38 305** ⇑i*P **P** **22 48 55.0 -0.4**
comp=Z,38nm,3.0s,baz=305
SATY LR LR 23 12 16.5
comp=Z,206nm,16.8s,baz=305
SATY **Saty** **53.38 305** *c* i*P **P** **22 48 54.9 -0.4**
SATY pmax pmax
comp=Z,38nm,3.0s
SATY MLR MLR
comp=Z,206nm,17.0s
SATY **Saty** **53.38 305** *c* i*P **P** **22 48 54.9 -0.4**
SATY pmax pmax
comp=Z,38nm,3.0s
SATY MLR MLR
comp=Z,206nm,17.0s
PRZ **Przheval'sk** **53.45 304** P **P** **22 48 56.1 +0.2**
PRZ pmax pmax
comp=Z,57nm,1.0s
PRZ **Przheval'sk** **53.45 304** P **P** **22 48 56.1 +0.2**
EIDS **Eidsvold** **53.47 171** P **P** **22 48 56.2 +0.4**
KDAK **Kodiak Island** **53.48 37** P **P** **22 48 55.1 -0.5**
comp=Z,23nm,1.0s,baz=298,slow=4.6,SNR=10
KDAK **Kodiak Island** **53.48 37** P **P** **22 48 55.1 -0.5**
PSA00 **Pilbara Seismi** **53.86 207** P **P** **22 48 58.4 -0.3**
PSA00 IAmb IAmb 22 49 10.7
comp=Z,16nm,0.9s
TARG **Taragay, Kyrgy** **53.97 303** IAmb IAmb 22 49 00.6
comp=Z,32nm,1.1s
IMAR **Indian Mountai** **54.17 27** P **P** **22 49 00.1 -0.5**
PPLA **Purkeypile** **54.28 31** P **P** **22 49 01.5 -0.1**
PPLA IAmb IAmb 22 49 06.4
comp=Z,36nm,1.2s
CHKK **Chushkaly** **54.33 306** *e*P **P** **22 49 01.7 -0.4**
baz=306
CHKK **Chushkaly** **54.33 306** *e*P **P** **22 49 01.6 -0.4**
MDOK **Medeo** **54.36 305** *i* P **P** **22 49 02.5 0.0**
baz=305
MDOK *eS* **S** **22 56 39.3 -0.4**
baz=305
MDOK LR LR 23 12 30.9
comp=Z,615nm,12.4s,baz=305
MDOK **Medeo** **54.36 305** *i* P **P** **22 49 02.5 0.0**
MDOK *eS* **S** **22 56 39.2 -0.4**
MDOK MLR MLR
comp=Z,615nm,12.0s
KDJ **Kajisay** **54.38 304** P **P** **22 49 02.4 -0.3**
KDJ pmax pmax
comp=Z,17nm,1.1s
KDJ **Kajisay** **54.38 304** P **P** **22 49 02.4 -0.3**
KDJ IAmb IAmb 22 49 09.2
comp=Z,17nm,1.1s
TNSS **Tian-Shan** **54.45 305** *e*P **P** **22 49 03.6 +0.2**
baz=305
TNSS **Tian-Shan** **54.45 305** *e*P **P** **22 49 03.6 +0.2**
AAA **Alma-Ata** **54.45 305** ⇑i*P **P** **22 49 03.3 +0.3**
comp=Z,34nm,1.1s,baz=305
AAA LR LR 23 12 39.8
comp=Z,512nm,15.2s,baz=305
AAA **Alma-Ata** **54.45 305** *c* i*P **P** **22 49 03.3 +0.3**
AAA pmax pmax
comp=Z,34nm,1.1s
AAA MLR MLR
comp=Z,512nm,15.0s
SKT **Skwentna** **54.46 32** P **P** **22 49 02.3 -0.4**
SKT IAmb IAmb 22 49 13.6
comp=Z,29nm,1.2s

DZM Mont Dzumac 54.60 153 LR LR 23 09 58.2
comp=Z,783nm,21.0s,baz=36,slow=34
DZM Mont Dzumac 54.60 153 *e*S **S** **22 56 50.0 +7.0**
comp=Z,261nm,25.4s
DZM *e*LR LR 23 04 51.6
comp=Z,1µm,22.7s
DZM Mont Dzumac 54.60 153 P **P** **22 49 03.3 -1.0**
DZM IAmb IAmb 22 49 15.9
comp=Z,30nm,1.0s
SUA Susitna One 54.77 33 P **P** **22 49 05.1 0.0**
KUU Kurty 54.79 306⇑ *i*P **P** **22 49 04.9 -0.6**
comp=Z,63nm,1.2s,baz=306
KUU LR LR 23 12 52.2
comp=Z,298nm,15.5s,baz=306
KUU Kurty 54.79 306 *c i*P **P** **22 49 04.8 -0.6**
KUU pmax pmax
comp=Z,63nm,1.2s
KUU MLR MLR
comp=Z,298nm,15.0s
MTBS Maitube 54.81 305 *e*P **P** **22 49 06.0 +0.2**
baz=305
MTBS Maitube 54.81 305 *e*P **P** **22 49 05.9 +0.2**
BPAW Bear Paw Mtn. 54.99 29 IAmb IAmb 22 49 19.2
comp=Z,20nm,1.2s
ULHL Ulahol 55.06 304 P **P** **22 49 08.2 +0.5**
SNR=6.3
TRF Thorofare Moun 55.22 30 IAmb IAmb 22 49 19.4
comp=Z,34nm,1.2s
TKM2 Tokmak 2 55.45 305 P **P** **22 49 10.6 +0.1**
SNR=14
PMR Palmer 55.56 33 IAmb IAmb 22 49 21.1
comp=Z,36nm,1.2s
KSH Kashi 55.67 301 P **P** **22 49 15.5 +3.5**
KSH sP pwP 22 49 27.6 +6.1
KSH S **S** **22 57 03.8 +6.5**
KSH pmax pmax
comp=Z,26nm,1.2s
KSH pmax pmax
comp=Z,160nm,4.7s
KSH LR LR
comp=Z,860nm,14.6s
KSH LR LR
comp=Z,970nm,14.4s
KSH LR LR
comp=Z,760nm,13.6s
COLD Coldfoot 55.80 26 P **P** **22 49 13.6 +1.3**
baz=260
KZA Kyzart 55.81 304 P **P** **22 49 14.3 +1.0**
SNR=12
MCK McKinley 55.85 30 IAmb IAmb 22 49 15.6
comp=Z,30nm,1.2s
RND Reindeer 55.85 30 IAmb IAmb 22 49 15.3
comp=Z,30nm,1.2s
KNK Knik Glacier 55.86 33 IAmb IAmb 22 49 27.4
comp=Z,29nm,1.1s
NEA2 Nenana 55.89 29 P **P** **22 49 13.0 0.0**
baz=263
SML Sawmill 55.95 32 IAmb IAmb 22 49 16.3
comp=Z,28nm,1.0s
KBK Karagaybulak 55.95 304 P **P** **22 49 14.7 +0.6**
SNR=19
CHMS Chumysh 56.05 305 P **P** **22 49 14.9 +0.4**
SNR=12
USP Ospenovka 56.20 305 P **P** **22 49 15.9 +0.3**
SNR=8.9
TOLK Toolik Lake Re 56.28 24 P **P** **22 49 18.0 +2.2**
baz=260
MDM Murphy Dome 56.28 29 IAmb IAmb 22 49 20.2
comp=Z,24nm,1.1s
BTLS Baital 56.29 307⇑ *i*P **P** **22 49 15.9 -0.3**
comp=Z,41nm,2.6s,baz=307
BTLS LR LR 23 13 27.9
comp=Z,221nm,15.0s,baz=307
BTLS Baital 56.29 307 *c i*P **P** **22 49 15.8 -0.3**
BTLS pmax pmax
comp=Z,41nm,2.6s
BTLS MLR MLR
comp=Z,221nm,15.0s
AAK Ala-Archa 56.29 304 P **P** **22 49 15.6 -0.8**
comp=Z,3.7nm,0.5s,baz=95,slow=5.3,SNR=15
AAK Ala-Archa 56.29 304 *c i*P **P** **22 49 16.2 -0.2**
AAK pmax pmax
comp=Z,18nm,1.7s
AAK Ala-Archa 56.29 304 P **P** **22 49 15.5 -0.9**
UCH Uchtor 56.34 304 P **P** **22 49 17.7 +0.6**
SNR=20
SCM Sheep Creek Mo 56.43 32 P **P** **22 49 15.7 -1.3**
SCM pmax pmax
comp=Z,38nm,0.9s
SCM Sheep Creek Mo 56.43 32 P **P** **22 49 15.7 -1.3**
CCB Clear Creek Bu 56.43 29 P **P** **22 49 15.3 -1.6**
COLA College 56.44 29⇑ *i*P **P** **22 49 18.8 +2.0**
COLA pmax pmax
comp=Z,17nm,1.5s
POKR Poker Plat Res 56.64 28 P **P** **22 49 20.1 +1.8**
baz=264
BRZS Berezniki 56.70 313⇑ *i*P **P** **22 49 19.1 +0.1**
comp=Z,105nm,1.2s,baz=313
BRZS LR LR 23 13 53.3
comp=Z,352nm,14.1s,baz=313
BRZS Berezniki 56.70 313 *c i*P **P** **22 49 19.1 +0.1**
BRZS pmax pmax
comp=Z,105nm,1.2s
BRZS MLR MLR
comp=Z,352nm,14.0s
HDA Harding Lake 56.78 29 P **P** **22 49 18.9 -0.5**
baz=265
HDA Harding Lake 56.78 29 P **P** **22 49 18.3 -1.0**
EKS2 Erkin-Say 56.81 305 P **P** **22 49 19.9 -0.2**
SNR=11
IL31 56.84 29 P **P** **22 49 18.7 -1.0**
IL31 IAmb IAmb 22 49 27.5
comp=Z,24nm,1.1s
ILAR Eielson Array 56.84 29 P **P** **22 49 18.4 -1.3**
comp=Z,18nm,1.1s,baz=257,slow=5.8,SNR=36
ILAR LR LR 23 14 06.9
comp=Z,242nm,19.2s,baz=276,slow=36
ILAR Eielson Array 56.84 29 P **P** **22 49 18.9 -0.9**
ILAR Eielson Array 56.84 29 P **P** **22 49 18.9 -0.9**
AML Almayashu 56.95 304 P **P** **22 49 21.9 +0.4**
SNR=29
KLU Klutina 57.09 33 IAmb IAmb 22 49 36.7
comp=Z,22nm,1.2s
RIDG Independent Ri 57.66 30 IAmb IAmb 22 49 36.7
comp=Z,30nm,1.2s
BVAR Borovoye Array 57.88 317 P **P** **22 49 27.5 +0.2**
comp=Z,27nm,0.6s,baz=94,slow=7.7,SNR=230
BRVK Borovoye 57.94 317 *c i*P **P** **22 49 28.0 +0.3**
BRVK pmax pmax
comp=Z,153nm,2.5s
BRVK Borovoye 57.94 317 P **P** **22 49 27.1 -0.7**
DOT Dot Lake 58.01 30 IAmb IAmb 22 49 31.0
comp=Z,27nm,1.2s
SCRK Sand Creek 58.05 30 P **P** **22 49 28.6 +0.1**
baz=268
GLB Gilahina Butte 58.10 33 IAmb IAmb 22 49 40.4
comp=Z,30nm,1.2s
VRDI Verde Repeater 58.27 33 IAmb IAmb 22 49 46.6
comp=Z,19nm,1.2s
MCARA McCarthy VSAT 58.48 33 IAmb IAmb 22 49 48.9
comp=Z,26nm,1.0s
DZA Taraz 58.55 305⇑ *i*P **P** **22 49 32.1 -0.1**
comp=Z,8.0nm,1.3s,baz=305
DZA LR LR 23 15 37.7
comp=Z,130nm,13.7s,baz=305
DZA Taraz 58.55 305 *c i*P **P** **22 49 32.0 -0.1**
DZA pmax pmax
comp=Z,8.0nm,1.3s
DZA MLR MLR
comp=Z,130nm,14.0s
BALM Baldy 58.81 33 IAmb IAmb 22 49 45.0
comp=Z,17nm,1.1s
K27K Chicken 58.90 30 P **P** **22 49 34.9 +0.8**
baz=270
BCAR Beaver Creek A 59.03 31 P **P** **22 49 34.7 -0.5**
NIL Nilore 59.05 294 P **P** **22 49 34.8 -1.0**
NIL pmax pmax
comp=Z,35nm,0.9s
NIL Nilore 59.05 294 P **P** **22 49 34.8 -1.0**
KKAR Karatay Array 59.10 306 P **P** **22 49 34.9 -1.1**
KKAR Karatay Array 59.10 306 P **P** **22 49 34.9 -1.1**
KKAR Karatay Array 59.10 306 IAmb IAmb 22 49 43.2
comp=Z,28nm,0.9s
BARN Barnard Glacie 59.15 33 IAmb IAmb 22 49 48.4
comp=Z,13nm,1.0s
STKA Stephens Creek 59.36 181 P **P** **22 49 35.2 -2.5**
comp=Z,14nm,0.9s,baz=348,slow=7.9,SNR=15
STKA LR LR 23 14 58.1
comp=Z,446nm,20.6s,baz=1.7,slow=36
HYB Hyderabad 59.62 275 *i*P **P** **22 49 38.0 -1.9**
IUG luzhnay 59.63 305⇑ *i*P **P** **22 49 39.9 +0.1**
comp=Z,48nm,1.4s,baz=305
IUG *e*S **S** **22 57 48.6 -0.5**
baz=305
IUG luzhnay 59.63 305 *c i*P **P** **22 49 39.8 +0.1**
IUG *e*S **S** **22 57 48.6 -0.5**
IUG pmax pmax
comp=Z,48nm,1.4s
DAWY Dawson 60.08 30 IAmb IAmb 22 49 55.1
comp=Z,15nm,1.1s
EPYK Eagle Plains 61.08 27 P **P** **22 49 50.6 +1.4**
baz=273
HYT Haines Junctio 61.19 33 IAmb IAmb 22 50 04.1
comp=Z,12nm,1.0s
INK Inuvik 62.16 25 P **P** **22 49 56.7 +0.3**
comp=Z,9.5nm,0.9s,baz=297,slow=6.5,SNR=14
INK Inuvik 62.16 25 P **P** **22 49 56.0 -0.4**
KBL Kabul 62.18 296 P **P** **22 49 56.4 -1.0**
KBL pmax pmax
comp=Z,22nm,1.1s
KBL Kabul 62.18 296 P **P** **22 49 56.4 -1.0**
KBL IAmb IAmb 22 49 57.5
comp=Z,22nm,1.1s
WHY Whitehorse 62.48 33 IAmb IAmb 22 50 04.0
comp=Z,16nm,1.1s
SVE Sverdlovsk 62.99 322 *e*P **P** **22 50 02.5 +0.4**
SVE *e*S **S** **22 58 31.7 +0.6**
SVE pmax pmax
comp=Z,37nm,0.8s
SVE MLR MLR
comp=Z,827nm,18.0s
ARU Arti 64.19 322 P **P** **22 50 09.0 -1.1**
comp=Z,28nm,0.9s,baz=96,slow=3.1,SNR=50
ARU Arti 64.19 322 *c i*P **P** **22 50 10.0 0.0**
ARU 22 50 44.1
ARU 22 52 28.6
ARU S **S** **22 58 46.0 -0.1**
ARU 22 59 59.4
ARU SS **SS** **23 02 51.8 -3.1**
ARU pmax pmax
comp=Z,68nm,0.8s
ARU MLR MLR
comp=Z,907nm,15.0s
ARU Arti 64.19 322 P **P** **22 50 09.3 -0.7**
ABKAR Akbulak array 64.98 314 P **P** **22 50 15.0 -0.3**
TOO Toolangi 65.08 178 P **P** **22 50 15.7 -0.3**
TOO pmax pmax
comp=Z,34nm,1.2s
TOO Toolangi 65.08 178 P **P** **22 50 15.7 -0.3**
DLBC Dease Lake 65.33 35 IAmb IAmb 22 50 21.6
comp=Z,14nm,1.1s
C36M Paulatuk 65.38 23 P **P** **22 50 17.4 -0.1**
baz=283
AKTO Aktyubinsk 65.89 316 P **P** **22 50 20.4 -0.8**
comp=Z,29nm,0.7s,baz=89,slow=8.1,SNR=63
KIRV Kirov 68.40 326 P **P** **22 50 37.2 +0.3**
comp=Z,44nm,0.8s,baz=332,slow=1.6,SNR=18
PRGR Permogore 69.20 330 *e*P **P** **22 50 41.8 -0.1**
PRGR *e* 22 51 11.5
PRGR pmax pmax
comp=Z,31nm,0.8s
GEYT Alibeck 69.56 303 P **P** **22 50 44.8 +0.2**
comp=Z,12nm,1.0s,baz=46,slow=4.3,SNR=32
GEYT LR LR 23 24 04.8
comp=Z,484nm,18.0s,baz=35,slow=38
GEYT Alibeck 69.56 303 P **P** **22 50 43.8 -0.8**
GYA0B ALIBECK ARRAY 69.56 303 IAmb IAmb 22 50 46.4
comp=Z,25nm,1.1s
SPITS Spitsbergen Ar 69.78 350 P **P** **22 50 46.0 +0.8**
comp=Z,8.5nm,0.9s,baz=70,slow=6.0,SNR=4.3
HSPB Hosund (broa 70.69 349 *e*P **P** **22 50 51.6 +0.7**
LVZ Lovozero 71.02 338⇓ *e*P **P** **22 50 53.1 +0.1**
LVZ pmax pmax
comp=Z,16nm,1.2s
RES Resolute Bay 71.25 14 P **P** **22 50 55.0 +0.8**
comp=Z,18nm,1.1s,baz=299,slow=4.1,SNR=3.1
RES Resolute Bay 71.25 14 P **P** **22 50 55.0 +0.8**
RES Resolute Bay 71.25 14 IAmb IAmb 22 50 57.9
comp=Z,21nm,1.1s
YKA Yellowknife Ar 71.27 29 P **P** **22 50 54.6 +0.1**
comp=Z,13nm,0.8s,baz=296,slow=5.8,SNR=18
YKA LR LR 23 23 42.0
comp=Z,140nm,19.4s,baz=0.0,slow=37
TMCR Tamitsa 71.44 333 *e*P **P** **22 50 55.4 -0.1**
TMCR pmax pmax
comp=Z,7.0nm,0.5s
APA Apatity 71.59 338⇑ *i*P **P** **22 50 56.0 -0.4**
APA *i*S **S** **23 00 10.0 -4.3**
APA pmax pmax
comp=Z,15nm,0.9s
APA MLR MLR
comp=Z,600nm,13.0s
NLWA Neilton Lookou 72.22 45 IAmb IAmb 22 51 04.7
comp=Z,16nm,0.9s
KLMR Klimovskoe 72.23 330 *e*P **P** **22 50 59.4 -1.0**
KLMR *e* 22 53 39.5
KLMR *e*S **S** **23 00 19.4 -2.3**
KLMR *e*SS **SS** **23 04 57.7 -1.1**
KLMR pmax pmax
comp=Z,51nm,1.3s
KLMR Klimovskoe 72.23 330 *e*P **P** **22 50 59.4 -1.0**
KLMR AMP 22 51 08.1
comp=Z,51nm,1.3s
KLMR *e*PP **PP** **22 53 39.5 -1.0**
KLMR *e*S **S** **23 00 19.5 -2.3**
KLMR *e*S **S** **23 00 19.5 -2.3**
KLMR *e*SS **SS** **23 04 57.8 -1.1**
KLMR *e*SS **SS** **23 04 57.8 -1.1**
KLMR LQ LQ 23 16 55.8
KLMR LQ LQ 23 16 55.8
KLMR LR LR 23 22 23.9
D03D Eldon 72.66 45 P **P** **22 51 04.2 +1.0**
baz=292
E03A Lebam 72.74 46 P **P** **22 51 03.0 -0.7**
E03A IAmb IAmb 22 51 07.4
comp=Z,27nm,0.9s
ARCES ARCESS Array B 73.05 341 P **P** **22 51 05.2 +0.1**
comp=Z,13nm,0.9s,baz=74,slow=6.7,SNR=17
ARCES LR LR 23 27 25.5
comp=Z,271nm,18.3s,baz=60,slow=39
E04D Cinebar 73.37 46 P **P** **22 51 08.2 +0.8**
baz=293
J01E Myrtle Point 73.79 50 P **P** **22 51 11.0 +1.0**
baz=293
I03D Drain, OR 73.97 49 P **P** **22 51 11.7 +0.7**
baz=293
H04D Lebanon 74.05 48 P **P** **22 51 12.1 +0.7**
baz=293
K02D Willamette Mer 74.16 50 P **P** **22 51 11.8 -0.4**
baz=293
L02E Cave Junction 74.41 50 P **P** **22 51 13.5 -0.1**
baz=293
I04A Tendick Farm, 74.56 48 P **P** **22 51 14.9 +0.4**
baz=294
B08A Colville Reser 74.65 43 IAmb IAmb 22 51 18.1
comp=Z,24nm,0.9s
J04D Umpqua Nationa 74.98 49 P **P** **22 51 17.7 +0.5**
baz=294
DAG Danmarks Havn 75.04 356 *i*P **P** **22 51 16.0 -0.6**
comp=Z,11nm,1.1s
DAG Danmarks Havn 75.04 356 *i*P **P** **22 51 16.0 -0.6**
DAG pmax pmax
comp=Z,11nm,1.1s
I05D Terrebonne, OR 75.05 48 P **P** **22 51 18.9 +1.5**
baz=294
E07A Sunnyside 75.08 45 P **P** **22 51 16.6 -0.8**
E07A IAmb IAmb 22 51 21.0
comp=Z,20nm,0.9s
YBH Yreka Blue Hor 75.19 51 P **P** **22 51 18.5 +0.2**
comp=Z,9.0nm,0.8s,baz=289,slow=2.3,SNR=14
YBH Yreka Blue Hor 75.19 51 IAmb IAmb 22 51 21.9
comp=Z,14nm,0.9s
MAK Makhachkala 75.21 311 *e*P **P** **22 51 16.4 -1.8**
MAK *e* 22 54 05.0
MAK *e*S **S** **23 00 53.6 -2.4**
MAK *e*SSS SSS 23 09 05.3
MAK pmax pmax
comp=Z,79nm,1.1s
MAK MLR MLR
comp=Z,2µm,16.0s
M02C Callahan 75.23 51 P **P** **22 51 20.5 +2.0**
baz=294
L04D Klamath Falls 75.27 50 P **P** **22 51 19.1 +0.3**
baz=294
VRH Novokhopyorsk 75.30 320 *e*P **P** **22 51 18.8 +0.3**
VRH pmax pmax
comp=Z,30nm,0.8s
VRH MLR MLR
comp=Z,2µm,17.0s
F07A Phinny Hill Vi 75.31 46 IAmb IAmb 22 51 22.3
comp=Z,18nm,1.0s
HAWA Hanford 75.35 45 IAmb IAmb 22 51 22.4
comp=Z,13nm,0.9s
MOS Moscow 75.42 326 *e*P **P** **22 51 17.6 -1.5**
MOS *e* 22 54 05.2
MOS pmax pmax
comp=Z,83nm,1.6s
MOS pmax pmax
comp=Z,100nm,1.9s
MOS MLR MLR
comp=N,1µm,17.0s
MOS MLR MLR
comp=E,1µm,17.0s
MOS MLR MLR
comp=Z,1µm,17.0s
D08A Wollman Farm, 75.45 44 IAmb IAmb 22 51 22.7
comp=Z,24nm,1.0s
N02D Trinity Center 75.50 51 P **P** **22 51 21.4 +1.3**
baz=294
C09A Chrisman Ranch 75.53 43 IAmb IAmb 22 51 23.1
comp=Z,20nm,0.9s
J05D Fort Rock, OR 75.55 49 P **P** **22 51 20.9 +0.6**
baz=294
E08A Dider Farm, El 75.61 45 IAmb IAmb 22 51 23.8
comp=Z,16nm,1.0s
AKT Akhty 75.66 309 *e*P **P** **22 51 21.1 +0.1**
AKT *e* 22 51 31.4
AKT pmax pmax
comp=Z,35nm,0.7s
M04C Macdoel 75.77 50 P **P** **22 51 21.6 0.0**
baz=294
O02D Mt. Diablo Mer 75.78 52 P **P** **22 51 22.5 +0.8**
baz=294
UOSS Minazif 75.96 291 P **P** **22 51 21.5 -1.3**
UOSS IAmb IAmb 22 51 39.4
comp=Z,26nm,1.1s
NEW Newport 76.03 43 P **P** **22 51 23.2 +0.3**
baz=296
NEW Newport 76.03 43 IAmb IAmb 22 51 26.1
comp=Z,22nm,0.8s
E09A Wood Farm, Sta 76.17 45 IAmb IAmb 22 51 27.1
comp=Z,26nm,0.9s
G08A Pilot Rock 76.18 46 IAmb IAmb 22 51 27.3
comp=Z,16nm,1.0s
LPSR Galich'ya Gora 76.21 322 *e*P **P** **22 51 23.1 -0.6**
LPSR pmax pmax
comp=Z,30nm,1.0s
LPSR MLR MLR
comp=Z,920nm,18.0s
GROC Groznyy 76.24 312 *e*P **P** **22 51 23.6 -0.5**
GROC *e* 22 51 37.4
GROC *e*S **S** **23 01 07.1 -0.4**
GROC pmax pmax
comp=Z,36nm,1.0s
OBN Obninsk 76.25 325 *i*P **P** **22 51 23.9 0.0**
OBN *i* 22 51 33.2
OBN *i* 22 54 14.4
OBN *i*S **S** **23 01 02.4 -4.6**
OBN *i*SS **SS** **23 06 04.2 +4.1**
OBN pmax pmax
comp=Z,36nm,1.1s
OBN MLR MLR
comp=Z,2µm,16.0s
OBN Obninsk 76.25 325 P **P** **22 51 23.1 -0.7**
O03E Paynes Creek 76.41 52 P **P** **22 51 25.0 -0.2**
baz=295
VSR Storozhevoye 76.72 321 *e*P **P** **22 51 29.6 +2.9**
VSR pmax pmax
comp=Z,30nm,0.9s
VORD Divnogorie 76.77 321 *e*P **P** **22 51 27.8 +0.9**
VORD pmax pmax
comp=Z,20nm,1.1s
ORV Oroville 76.94 52 IAmb IAmb 22 51 30.9
comp=Z,16nm,1.1s
GOF Gofitskoye 77.22 314⇑ *i*P **P** **22 51 30.1 +0.5**
GOF pmax pmax
comp=Z,32nm,1.0s
J08A Circle Bar Ran 77.34 48 IAmb IAmb 22 51 34.0
comp=Z,21nm,0.9s
BMO Blue Mountains 77.43 46 IAmb IAmb 22 51 34.2
comp=Z,20nm,0.8s
FIA1 FINESS Array S 77.54 334 IAmb IAmb 22 51 38.8
comp=Z,27nm,1.1s
FINES FINESS Array B 77.54 334 P **P** **22 51 30.9 -0.1**
comp=Z,7.8nm,0.5s,baz=75,slow=4.9,SNR=40
FINES LR LR 23 28 38.9
comp=Z,249nm,21.9s,baz=42,slow=38
FINES FINESS Array B 77.54 334 *i*P **P** **22 51 30.8 -0.3**
FINES pmax pmax
comp=Z,8.0nm,0.5s
FINES FINESS Array B 77.54 334 P **P** **22 51 30.5 -0.5**
WALA Waterton Lakes 77.56 41 IAmb IAmb 22 51 35.3
comp=Z,23nm,0.8s
ZEI Tsey 77.68 312 *e*P **P** **22 51 32.0 -0.5**
ZEI pmax pmax
comp=Z,17nm,0.6s
KBZ Khabaz 77.91 313 P **P** **22 51 33.9 +0.4**
comp=Z,39nm,0.9s,baz=153,slow=2.9,SNR=30
KBZ LR LR 23 29 45.8
comp=Z,413nm,18.0s,baz=58,slow=39
KIV Kislovodsk 77.94 313 *e*P **P** **22 51 34.3 +0.5**
KIV *e*S **S** **23 01 26.1 -0.1**
KIV pmax pmax
comp=Z,69nm,1.0s
KIV pmax pmax
comp=Z,360nm,4.3s
KIV MLR MLR
comp=Z,2µm,19.0s
KIV Kislovodsk 77.94 313 P **P** **22 51 32.4 -1.4**
PAHR Pah Rah Range 78.34 51 IAmb IAmb 22 51 39.2
comp=Z,19nm,1.1s
CMB Columbia Colle 78.38 53 IAmb IAmb 22 51 39.3
comp=Z,21nm,0.9s
PNTR Pine Nut 78.47 52 IAmb IAmb 22 51 40.3
comp=Z,18nm,0.8s
AKH Akhalkalaki 78.57 311⇑ P **P** **22 51 38.7 +1.3**
MSO Missoula 78.60 43 P **P** **22 51 37.9 +0.5**
baz=298,SNR=5.6
VSU Vasula 79.03 331 *e*P **P** **22 51 39.8 +0.4**
VSU Vasula 79.03 331 *c i*P **P** **22 51 39.5 +0.2**
VSU pmax pmax
comp=Z,86nm,0.9s
MFID Camas Ranch 79.03 47 IAmb IAmb 22 51 43.3
comp=Z,32nm,0.9s
RYN Ryan 79.42 52 IAmb IAmb 22 51 45.4
comp=Z,16nm,1.0s
PAGB Antelope Grade 79.50 55 IAmb IAmb 22 51 45.8
comp=Z,22nm,0.9s
PPT Papeete 79.50 116 LR LR 23 20 06.1
comp=Z,376nm,19.1s,baz=331,slow=31
PPT2 Papeete2 79.51 116 *e*LR LR 23 16 25.4
comp=Z,561nm,22.2s,baz=298
KVN Kaiserville 79.53 51 IAmb IAmb 22 51 45.9
comp=Z,22nm,1.1s
NVAR Mina Array Bea 79.67 52 P **P** **22 51 43.1 -0.4**
comp=Z,7.7nm,0.7s,baz=284,slow=5.9,SNR=34
NVAR LR LR 23 26 06.6
comp=Z,317nm,18.1s,baz=272,slow=35
NVAR Mina Array Bea 79.67 52 P **P** **22 51 42.4 -1.1**
BATM Batumi 79.68 312⇑ P **P** **22 51 43.9 +0.7**
NV11 Mina Array Sit 79.77 52 P **P** **22 51 42.1 -1.9**
HLID Hailey 79.87 46 P **P** **22 51 44.6 +0.2**
baz=299,SNR=19
HLID Hailey 79.87 46 P **P** **22 51 43.2 -1.2**
SUMG Summit 79.88 0 *i*P **P** **22 51 45.3 +1.0**
comp=Z,71nm,1.2s
SUMG Summit 79.88 0 P **P** **22 51 42.3 -2.0**
SUMG pmax pmax
comp=Z,16nm,0.9s
SUMG Summit 79.88 0 P **P** **22 51 42.3 -2.0**
SUMG IAmb IAmb 22 51 48.9
comp=Z,16nm,0.9s
HRY Holter Researc 79.92 42 P **P** **22 51 43.2 -1.5**
LRM Limekiln Ridge 79.99 43 P **P** **22 51 43.6 -1.6**
DLMT Dillon 80.13 44 IAmb IAmb 22 51 49.7
comp=Z,17nm,1.0s
PKM Mcpherson Peak 80.19 56 P **P** **22 51 46.2 -0.3**
baz=297
EGMT Eagleton 80.48 40 P **P** **22 51 47.6 0.0**

baz=301,SNR=6.8
EGMT Eagleton 80.48 40 IAmb IAmb 22 51 50.8
comp=Z,28nm,1.1s
BOZ Bozeman (W) 80.60 43 P **P** **22 51 48.9 +0.5**
baz=300,SNR=13
BOZ Bozeman (W) 80.60 43 IAmb IAmb 22 51 51.7
comp=Z,11nm,0.8s
CWC Cottonwood Cre 80.74 54 P **P** **22 51 48.5 -0.8**
baz=298
ARVC Arvin 80.80 55 P **P** **22 51 49.0 -0.4**
baz=297
ISA Isabella, Lake 80.81 55 P **P** **22 51 48.5 -1.1**
baz=298
MICGM Minsk 80.83 328 *e*P **P** **22 51 48.0 -1.1**
MICGM *e*LR LR 23 30 32.0
MNK Minsk 80.83 328 *e*P **P** **22 51 48.0 -1.1**
IZAR Zarasai 80.85 329 *e*P **P** **22 51 50.2 +1.0**
ANN Anapa 80.85 316 *e*P **P** **22 51 49.2 -0.3**
ANN *e* 22 51 57.0
ANN *e*S **S** **23 01 56.4 -0.3**
ANN pmax pmax
comp=Z,53nm,1.2s
FFC Flin Flon 80.86 32 P **P** **22 51 48.5 -0.8**
FFC pmax pmax
comp=Z,33nm,0.9s
FFC Flin Flon 80.86 32 P **P** **22 51 48.5 -0.8**
IDID Didziasalis 80.88 329 *e*P **P** **22 51 50.2 +0.8**
ISAL Salakas 81.01 329 *e*P **P** **22 51 50.9 +0.7**
MPMC Manual Prospec 81.34 54 P **P** **22 51 52.3 -0.2**
baz=298,SNR=6.3
SCO Scoresbysund 81.38 355 *i* P **P** **22 51 54.4 +2.6**
comp=Z,42nm,1.2s
SCO pmax pmax
comp=Z,42nm,1.2s
LRMC Laurel Mtn Rad 81.47 54 P **P** **22 51 53.3 +0.2**
baz=298
EDW2 Edwards Air Fo 81.53 55 P **P** **22 51 53.4 +0.1**
baz=298,SNR=6.9
R11A Troy Canyon, C 81.59 51 P **P** **22 51 53.5 -0.3**
baz=299,SNR=35
R11A Troy Canyon, C 81.59 51 IAmb IAmb 22 51 57.0
comp=Z,17nm,1.1s
FURC Furnace Creek, 81.59 53 P **P** **22 51 53.4 -0.2**
baz=298
TPNV Topopah Spring 81.80 53 P **P** **22 51 54.5 -0.4**
baz=298,SNR=15
TPNV Topopah Spring 81.80 53 IAmb IAmb 22 51 57.8
comp=Z,13nm,0.8s
H17A Grant Village 81.86 44 P **P** **22 51 57.9 +2.7**
baz=301,SNR=14
H17A Grant Village 81.86 44 IAmb IAmb 22 52 00.7
comp=Z,33nm,1.1s
IMW Indian Meadow 81.89 45 IAmb IAmb 22 51 59.5
comp=Z,20nm,0.9s
FLWY Flagg Ranch 81.94 44 IAmb IAmb 22 52 00.1
comp=Z,24nm,0.9s
FXWY Fox Creek 81.97 45 IAmb IAmb 22 51 59.8
comp=Z,17nm,1.1s
PABE Paberze 82.03 330 *e*P **P** **22 51 56.0 +0.5**
TPAW Teton Pass 82.09 45 IAmb IAmb 22 51 59.4
comp=Z,15nm,0.8s
GSC Goldstone, Bar 82.19 54 P **P** **22 51 56.9 0.0**
baz=298,SNR=6.4
GSC Goldstone, Bar 82.19 54 IAmb IAmb 22 51 59.8
comp=Z,18nm,1.1s
RLMT Red Lodge 82.28 43 P **P** **22 51 58.5 +1.2**
baz=302,SNR=18
RLMT Red Lodge 82.28 43 IAmb IAmb 22 52 01.2
comp=Z,19nm,0.8s
AKASG Malin Array Be 82.36 324 P **P** **22 51 56.4 -0.9**
comp=Z,6.1nm,0.7s,baz=46,slow=5.5,SNR=18
AKASG LR LR 23 31 05.5
comp=Z,1μm,18.4s,baz=55,slow=38
AKASG Malin Array Be 82.36 324 P **P** **22 51 56.2 -1.1**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 82.36 324 P **P** **22 51 56.2 -1.1**
AKBB Malin Array Si 82.36 324 *c i*P **P** **22 51 56.7 -0.6**
AKBB Malin Array Si 82.36 324 IAmb IAmb 22 52 02.4
comp=Z,12nm,0.8s
AHID Auburn Hatcher 82.37 46 IAmb IAmb 22 52 01.2
comp=Z,19nm,1.0s
DUG Dugway, Tooele 82.56 48 P **P** **22 51 58.9 +0.1**
baz=300,SNR=29
DUG Dugway, Tooele 82.56 48 IAmb IAmb 22 52 02.1
comp=Z,26nm,1.0s
PBUR Paburge 82.59 331 *e*P **P** **22 51 58.7 +0.3**
HWUT Hardware Ranch 82.66 47 IAmb IAmb 22 52 02.9
comp=Z,23nm,0.9s
TBI Tubuai 82.80 121 *e*LR LR 23 17 55.6
comp=Z,765nm,28.2s,baz=305
TAOE Nuku Hiva Isla 82.83 104 *e*LR LR 23 17 56.4
comp=Z,577nm,26.2s
NB2 NORSAR Subarra 83.15 338 P **P** **22 52 00.8 -0.5**
comp=Z,40nm,1.7s,baz=41,slow=5.3
NB2 NORSAR Subarra 83.15 338 P **P** **22 52 00.8 -0.5**
baz=41,slow=5.3
NOA NORSAR Array B 83.15 338 P **P** **22 52 00.7 -0.6**
comp=Z,5.8nm,0.9s,baz=41,slow=5.0,SNR=12
NOA PP **PP** **22 55 11.3 -0.5**
comp=Z,1.5nm,0.9s,baz=45,slow=8.4,SNR=3.3
NOA LR LR 23 32 57.7
comp=Z,228nm,18.3s,baz=30,slow=38
LAO LASA Array 83.22 40 P **P** **22 52 02.5 +0.5**
baz=304
PFO Pinyon Flats O 83.24 56 P **P** **22 52 02.2 -0.2**
baz=299,SNR=6.8
PFO Pinyon Flats O 83.24 56⇑*e*P **P** **22 52 01.8 -0.7**
PFO pmax pmax
comp=Z,19nm,1.0s
PFO Pinyon Flats O 83.24 56 P **P** **22 52 00.3 -2.1**
PFO IAmb IAmb 22 52 05.2
comp=Z,16nm,1.1s
XPFO Pion Flat 83.25 56 P **P** **22 51 59.9 -2.6**
XPFO IAmb IAmb 22 52 05.2
comp=Z,18nm,1.1s
GMRC Granite Mounta 83.26 54 P **P** **22 52 02.2 -0.4**
baz=299,SNR=6.8
SUW Suwalki 83.32 329 *e*P **P** **22 52 01.3 -0.9**
BW06 Boulder Array 83.34 45 P **P** **22 52 02.4 -0.5**
baz=302,SNR=12
PDAR Pinedale Array 83.34 45 P **P** **22 52 02.5 -0.4**
comp=Z,7.5nm,0.9s,baz=270,slow=3.0,SNR=27
PDAR LR LR 23 24 51.0
comp=Z,369nm,20.5s,baz=310,slow=33
PDAR Pinedale Array 83.34 45 P **P** **22 52 01.4 -1.6**
DGMT Dagmar 83.35 38 P **P** **22 52 03.5 +0.9**
baz=305
DGMT Dagmar 83.35 38 IAmb IAmb 22 52 05.5
comp=Z,20nm,0.9s
BELC Belle Mtn. Jos 83.39 55 P **P** **22 52 02.7 -0.6**
baz=299,SNR=6.8
MONP2 Monument Peak 83.62 56 P **P** **22 52 03.0 -1.5**
baz=299
DIKM Dikmen 83.84 314 ⇑P **P** **22 52 06.6 +1.4**
IRM Iron Mountain 83.94 55 P **P** **22 52 06.0 +0.1**
baz=299,SNR=5.4
BC3 Big Chuckawall 83.96 55 P **P** **22 52 05.9 -0.1**
baz=299,SNR=5.8
IKP In-Ko-Pah, Jac 83.97 56 P **P** **22 52 06.3 +0.1**
baz=299
SORM Soroca 84.31 322 ⇓P **P** **22 52 06.8 -0.6**
PDMCI Parker Dam,Lak 84.58 54 P **P** **22 52 11.2 +2.1**
baz=300
GLA Glamis 84.71 55 P **P** **22 52 10.9 +1.0**
baz=300
MILM Milestii Mici 84.77 321 ⇓P **P** **22 52 09.4 -0.4**
U15A North Rim 84.82 51 IAmb IAmb 22 52 14.0
comp=Z,9.7nm,1.0s
ILGA Ilgaz 85.14 314 IAmb IAmb 22 52 24.6
comp=Z,21nm,1.1s
K22A Casper 85.28 44 P **P** **22 52 13.0 +0.4**
baz=304
VASR Vaslui 85.50 321 ⇓P **P** **22 52 13.9 +0.5**
LVV L'vov 85.55 325 *e*P **P** **22 52 11.8 -1.9**
LVV *e*S **S** **23 02 38.8 -5.5**
LVV MLR MLR
comp=Z,2μm,18.0s
O20A White River Ci 85.58 47 P **P** **22 52 14.5 +0.2**
baz=303,SNR=8.8
O20A White River Ci 85.58 47 IAmb IAmb 22 52 17.2
comp=Z,17nm,0.9s
Y14A Wickenburg 85.58 54 IAmb IAmb 22 52 17.4
comp=Z,17nm,1.0s
BR131 Keskin Array S 85.91 313 *de*P **P** **22 52 16.3 +0.5**
BR131 Keskin Array S 85.91 313 IAmb IAmb 22 52 27.3
comp=Z,13nm,1.1s
BRTR Keskin Array B 85.91 313 P **P** **22 52 15.8 0.0**
comp=Z,6.1nm,0.8s,baz=102,slow=3.2,SNR=31
BRTR LR LR 23 33 38.2
comp=Z,154nm,21.7s,baz=30,slow=38
BRTR Keskin Array B 85.91 313 P **P** **22 52 14.4 -1.5**
WUAZ Wupatki 85.93 52 P **P** **22 52 16.2 +0.1**
baz=301,SNR=8.2
WUAZ Wupatki 85.93 52 IAmb IAmb 22 52 19.3
comp=Z,15nm,0.9s
RSSD Black Hills 85.94 42 P **P** **22 52 14.1 -1.9**
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 85.94 42 P **P** **22 52 14.1 -1.9**
PV22 Blue Mesa, Par 86.09 48 IAmb IAmb 22 52 19.9
comp=Z,13nm,1.1s
CFR Carcaliu 86.17 320 ⇓P **P** **22 52 17.2 +0.4**
PV03 Paradox Valley 86.20 48 IAmb IAmb 22 52 20.3
comp=Z,21nm,1.0s
TESR Tescani 86.21 322 ⇓P **P** **22 52 16.8 -0.2**
TOPG Topolog 86.21 320 ⇑P **P** **22 52 17.5 +0.5**
BIZ Bicaz 86.25 322 ⇓P **P** **22 52 17.5 +0.4**
PV13 Radium Mtn., P 86.27 49 IAmb IAmb 22 52 20.6
comp=Z,16nm,0.8s
PV02 Paradox Valley 86.30 48 IAmb IAmb 22 52 20.8
comp=Z,14nm,0.9s
BURAR Bucovina Array 86.31 323 ⇓P **P** **22 52 17.5 -0.1**
BURAR Bucovina Array 86.31 323 P **P** **22 52 16.7 -0.9**
KWP Kalwaria Pacla 86.33 326 *e*P **P** **22 52 17.4 -0.2**
PV01 Paradox Valley 86.45 48 IAmb IAmb 22 52 21.4
comp=Z,12nm,0.8s
VRI Vrincioaia 86.55 321 ⇓P **P** **22 52 18.7 0.0**
ULM Lac du Bonnet 86.56 33 P **P** **22 52 18.4 -0.2**
comp=Z,5.2nm,0.8s,baz=315,slow=6.4,SNR=3.2
ULM LR LR 23 31 34.2
comp=Z,180nm,19.7s,baz=298,slow=36
ULM Lac du Bonnet 86.56 33⇑*e*P **P** **22 52 20.3 +1.7**
TLBR Topalu 86.60 319 ⇑P **P** **22 52 19.2 +0.3**
PLOR Plostina 86.61 321 ⇓P **P** **22 52 20.0 +1.0**
N23A Red Feather La 86.62 45 P **P** **22 52 19.9 +0.4**
baz=304
214A Organ Pipe Nat 86.73 56 P **P** **22 52 20.0 +0.1**
baz=301
214A Organ Pipe Nat 86.73 56 IAmb IAmb 22 52 23.2
comp=Z,15nm,0.9s
BISRR Bisoca 86.75 321 ⇑P **P** **22 52 20.8 +1.0**
OZUR 86.94 322 ⇓P **P** **22 52 21.2 +0.6**
MVCO Mesa Verde 87.00 49 P **P** **22 52 21.4 0.0**
baz=303
MVCO Mesa Verde 87.00 49 IAmb IAmb 22 52 24.3
comp=Z,9.9nm,1.1s
KOLS Kolonicke sedl 87.00 325 *e*P **P** **22 52 21.0 +0.2**
KOLS pmax pmax
comp=Z,9.0nm,1.3s
KOLS Kolonicke sedl 87.00 325 *e*P **P** **22 52 21.0 +0.2**
KOLS Kolonicke sedl 87.00 325 *e*S **S** **23 02 55.4 -3.1**
KOLS *e*SS **SS** **23 08 48.8 +8.5**
KOLS *e*L L 23 34 46.8
ISR Istrita 87.11 321 ⇓P **P** **22 52 21.7 +0.2**
UZH Uzhgorod 87.19 325 *e*P **P** **22 52 23.6 +1.9**
UZH *e* 22 52 37.2
UZH *e*S **S** **23 03 01.3 +1.1**
UZH *e*PS **PnS** **23 04 07.1 +6.1**
UZH MLR MLR
comp=N,160nm,18.0s
UZH MLR MLR
comp=E,260nm,18.0s
UZH MLR MLR
comp=Z,130nm,18.0s
MLR Muntele Rosu 87.22 321 ⇓P **P** **22 52 22.1 0.0**
DOPR Dopca 87.23 322 ⇓P **P** **22 52 22.3 +0.2**
OJC Ojcow 87.37 327 IAmb IAmb 22 52 29.8
comp=Z,14nm,1.1s
TRPA Tarpa 87.38 325 ⇑P **P** **22 52 23.3 +0.6**
CRVS Cervenica-Dubn 87.43 326 *e*P **P** **22 52 23.5 +0.6**
CRVS pmax pmax
comp=Z,33nm,1.3s
CRVS Cervenica-Dubn 87.43 326 *e*P **P** **22 52 23.5 +0.6**
CRVS Cervenica-Dubn 87.43 326 *e*S **S** **23 03 04.1 +1.5**
CRVS *e*L L 23 35 19.2
ISCO Idaho Springs 87.45 46 P **P** **22 52 24.9 +1.4**
baz=304
NIE Niedzica 87.66 327 *e*P **P** **22 52 22.1 -1.9**
CJR Cluj-Napoca 87.73 323 ⇑P **P** **22 52 24.5 +0.1**
VOIR 87.75 321 ⇑P **P** **22 52 25.2 +0.6**
S22A 4UR Ranch, Cre 87.81 48 P **P** **22 52 25.7 +0.3**
baz=304
AGMN Agassiz Nation 87.85 35 P **P** **22 52 25.2 +0.3**
baz=311
TUC Tucson 88.02 54 P **P** **22 52 26.6 +0.4**
baz=302
TUC Tucson 88.02 54 P **P** **22 52 24.7 -1.5**
TUC pmax pmax
comp=Z,9.0nm,1.2s
TUC Tucson 88.02 54 P **P** **22 52 24.7 -1.5**
TUC IAmb IAmb 22 52 29.6
comp=Z,9.4nm,1.1s
ARR Arges 88.02 322 ⇑P **P** **22 52 26.5 +0.6**
LANS Liptovska Anna 88.25 327 *e*P **P** **22 52 28.0 +1.1**
LANS pmax pmax
comp=Z,13nm,1.6s
LANS Liptovska Anna 88.25 327 *e*P **P** **22 52 28.0 +1.1**
OKC Ostrava-Krasne 88.41 328 *e*P **P** **22 52 26.6 -1.0**
OKC Ostrava-Krasne 88.41 328 *e*P **P** **22 52 26.6 -1.0**
KSP Ksiaz 88.57 329 *e*P **P** **22 52 27.9 -0.4**
SZH Strazhica 88.58 319 *e*P **PP** **22 55 58.0 +1.7**
MORC Moravsky Berou 88.74 328 ⇓P **P** **22 52 29.4 +0.2**
MORC Moravsky Berou 88.74 328 *e*P **P** **22 52 32.0 +2.8**
OSTC Ostas 88.81 329 *e*P **P** **22 52 29.5 0.0**
OSTC *ex* x 22 52 34.5
OSTC AMS AMS 23 36 40.0
comp=Z,1μm,15.5s
CHVC Chvalec 88.86 329 *e*P **P** **22 52 29.2 -0.5**
CHVC AMS AMS 23 36 40.0
comp=Z,1μm,14.4s
PSZ Piszkesteto 88.86 326 ⇓P **P** **22 52 29.5 -0.3**
PSZ Piszkesteto 88.86 326 IAmb IAmb 22 52 42.5
comp=Z,9.5nm,1.0s
KRLC Kraliky 88.89 329 *e*P **P** **22 52 30.0 +0.1**
KRLC MLR MLR
comp=Z,1μm,17.1s
KRLC Kraliky 88.89 329 *e*P **P** **22 52 30.0 +0.1**
KRLC AMS AMS 23 36 10.0
comp=Z,1μm,17.1s
DPC Dobruska-Polom 88.91 329 *e*P **P** **22 52 29.8 -0.1**
DPC MLR MLR
comp=Z,1μm,14.4s
DPC Dobruska-Polom 88.91 329 *e*P **P** **22 52 29.8 -0.1**
DPC AMS AMS 23 36 40.0
comp=Z,1μm,14.4s
UPC Upice 88.94 329 *e*P **P** **22 52 30.1 +0.1**
UPC MLR MLR
comp=Z,2μm,15.1s
UPC Upice 88.94 329 *e*P **P** **22 52 30.1 +0.1**
UPC AMS AMS 23 36 40.0
comp=Z,2μm,15.1s
VYHS Vyhne 89.00 327 *e*P **P** **22 52 30.2 -0.2**
VYHS pmax pmax
comp=Z,45nm,1.9s
VYHS Vyhne 89.00 327 *e*P **P** **22 52 30.2 -0.2**
VYHS Vyhne 89.00 327 *e*S S 23 03 06.5 -11
VYHS *e*SS **SS** **23 09 15.9 +6.5**
VLAD Vladila 89.00 321 ⇓P **P** **22 52 30.1 -0.3**
SIRR Siria 89.05 324 ⇓P **P** **22 52 30.1 -0.6**
SRE Strehaia 89.25 322 ⇓P **P** **22 52 31.9 +0.3**
JAVC Velka Javorina 89.31 327 *e*P **P** **22 52 32.7 +0.8**
BZS Buzias 89.50 323 ⇑P **P** **22 52 32.4 -0.3**
VRAC Vranov 89.51 328 ⇓P **P** **22 52 33.0 +0.2**
VRAC Vranov 89.51 328 *e*P **P** **22 52 32.6 -0.2**
PVCC Panska Ves 89.57 330 AMS AMS 23 37 20.0
comp=Z,600nm,15.2s
BAIL Bailesti 89.58 321 ⇑P **P** **22 52 34.3 +1.2**
BRG Berggiesshubel 89.60 330 *e*P **P** **22 52 32.6 -0.5**
comp=Z,10nm,1.3s
BRG *e* 22 56 07.0
BRG *e* 23 03 08.0
ANMO Albuquerque 89.62 50 P **P** **22 52 35.5 +1.7**
baz=304
ANMO Albuquerque 89.62 50⇓*e*P **P** **22 52 34.4 +0.6**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
ANMO Albuquerque 89.62 50 P **P** **22 52 31.8 -2.0**
CLL Collm 89.69 331 *e*P **P** **22 52 32.0 -1.5**
comp=Z,9.0nm,1.0s
CLL *e*PP **PP** **22 56 01.0 -3.8**
CLL *e*SKSac **SKSac** **23 02 58.0 -4.9**
CLL *e*S **ScS** **23 03 29.0 +0.8**
CLL *e*PS **PS** **23 04 35.0 +3.8**
CLL *e*SS **SS** **23 09 20.0 +1.0**
CLL *e* 23 14 48.0
CLL *e*SSSS 23 16 06.0
CLL LmH 23 29 00.0
comp=N,500nm,20.4s
CLL LmH 23 29 00.0
comp=E,600nm,20.7s
CLL Collm 89.69 331 *e*P **P** **22 52 32.0 -1.5**
CLL *e* 22 56 01.0
CLL *e* 23 02 58.0
CLL *e*S **ScS** **23 03 29.0 +0.8**
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 89.69 331 IAmb IAmb 22 52 43.7
comp=Z,8.3nm,1.0s
KRUC Moravsky 89.78 328 *e*P **P** **22 52 33.5 -0.5**
MODS Modra-Piesok 89.84 327 *e*P **P** **22 52 32.6 -1.7**
MODS pmax pmax
comp=Z,18nm,1.3s
MODS Modra-Piesok 89.84 327 *e*P **P** **22 52 32.6 -1.7**
MODS Modra-Piesok 89.84 327 *e*S S 23 03 12.1 -13
MODS *e*SS **SS** **23 09 27.6 +6.1**
MODS *e*L L 23 37 20.3
GOPC GO Pecny, Ondr 89.91 329 AMS AMS 23 37 20.0
comp=Z,1μm,14.2s
PRA Prague 89.96 330 AMS AMS 23 37 20.0
comp=Z,500nm,14.5s
PRU Pruhonice 89.97 330 *e*P **P** **22 52 34.7 -0.2**
PRU MLR MLR
comp=Z,1μm,14.3s
PRU Pruhonice 89.97 330 *e*P **P** **22 52 34.7 -0.2**
PRU AMS AMS 23 37 10.0
comp=Z,1μm,14.3s
MDVR Moldovita 89.99 322 ⇓P **P** **22 52 34.6 -0.5**
PLD Plovdiv 90.02 319 *e*P **PP** **22 56 08.4 +0.7**
TREC Trest 90.03 329 *e*P **P** **22 52 35.2 0.0**
TREC MLR MLR
comp=Z,1μm,15.5s
TREC Trest 90.03 329 *e*P **P** **22 52 35.2 0.0**
TREC AMS AMS 23 36 40.0
comp=Z,1μm,15.5s
121A Cookes Peak, D 90.04 53 P **P** **22 52 35.8 0.0**
baz=303
EYMN Ely 90.24 33 P **P** **22 52 36.7 +0.5**
baz=314
EYMN Ely 90.24 33 IAmb IAmb 22 52 44.9
comp=Z,11nm,1.1s
ECSD EROS Data Cent 90.42 39 P **P** **22 52 37.2 +0.1**
baz=310
ECSD EROS Data Cent 90.42 39 IAmb IAmb 22 52 45.6
comp=Z,8.3nm,1.0s
PBCC Pribram 90.43 330 *e*P **P** **22 52 36.8 -0.3**
PBCC *ex* x 22 52 47.2
VTS Vitosha 90.54 320 ⇓P **P** **22 52 37.7 -0.2**
VTS Vitosha 90.54 320 *e*P **PP** **22 56 13.2 +1.1**
MORH Mrgy, Hungar 90.64 325⇑*i*P **P** **22 52 35.8 -2.3**
NKC Novy Kostel 90.72 331 AMS AMS 23 38 50.0
comp=Z,700nm,13.6s
FRGS Fruska Gora 90.75 324⇑*i*P **P** **22 52 36.5 -2.2**
CONA Conrad Observa 90.83 327 *e*PcP **P** **22 52 38.9 -0.1**
comp=Z,20nm,1.6s
MMB Musomiste 90.91 319 *e*P **PP** **22 56 16.6 +1.7**
KHC Kasperske Hory 91.02 329⇓*e*P **P** **22 52 39.2 -0.7**
KHC pmax pmax
comp=Z,13nm,0.9s
KHC Kasperske Hory 91.02 329 *e*P **P** **22 52 39.2 -0.7**
KHC *ep*P **pwP** **22 52 49.1 -1.4**
KHC *ex* x 22 53 05.0
KHC *e*PP **PP** **22 56 19.0 +3.5**
KHC AMS AMS 23 38 00.0
comp=Z,2μm,14.9s
E38A The Farm, Brul 91.14 34 IAmb IAmb 22 52 42.8
comp=Z,7.8nm,0.8s
GERES GERESS Array B 91.17 329 P **P** **22 52 39.4 -1.3**
comp=Z,2.5nm,0.7s,baz=46,slow=3.9,SNR=13
GERES LR LR 23 37 45.4
comp=Z,618nm,18.5s,baz=59,slow=38
GERES GERESS Array B 91.17 329 P **P** **22 52 39.1 -1.6**
TEKS Tekeris 91.31 323⇑*i*P **P** **22 52 44.7 +3.5**
DIVS Divibare 91.36 323⇑*i*P **P** **22 52 40.3 -1.3**
SPMN Marine on St. 91.46 36 P **P** **22 52 41.9 0.0**
baz=313
SPMN Marine on St. 91.46 36 IAmb IAmb 22 52 45.2
comp=Z,10nm,0.8s
ARSA Arzberg 91.47 327 *e*PcP **P** **22 52 41.2 -0.8**
comp=Z,13nm,1.1s
MOA Molln 91.64 328 *e*PcP **P** **22 52 41.6 -1.1**
comp=Z,8.0nm,1.1s
GRA1 Grafenberg Arr 91.65 331 IAmb IAmb 22 52 45.4
comp=Z,14nm,1.0s
STIP Stip 91.73 320 *i* P **P** **22 52 45.2 +2.0**
VAY Valandovo 91.75 319 *i* P P 22 52 53.1 +10
BBLS Lazići 91.83 323⇑*i*P **P** **22 52 42.7 -1.1**
SKO Skopje 91.97 320 *i* P **P** **22 52 48.0 +3.7**
PERS Pernice 92.10 327 *e*P **P** **22 52 43.9 -1.1**
SOKA Soboth 92.11 327 *e*PcP **P** **22 52 44.2 -0.8**
comp=Z,14nm,1.1s,SNR=8.3
MNTX Cornudas Mount 92.19 52 P **P** **22 52 45.6 +0.1**
baz=305
MNTX Cornudas Mount 92.19 52 IAmb IAmb 22 52 48.9
comp=Z,7.5nm,0.9s
BLY Banja Luka 92.40 325⇑*i*P **P** **22 52 44.7 -1.5**
OBKA Obir 92.47 327 *e*PcP **P** **22 52 45.8 -0.8**
comp=Z,3.3nm,0.9s
CRES Cresnjev 92.51 326⇑*i*P **P** **22 52 43.7 -3.1**
KBA Koelnbreinsper 92.63 328 *e*P **P** **22 52 43.2 -4.3**
comp=Z,4.8nm,0.8s
G40A Rob Lake 92.76 34 IAmb IAmb 22 52 51.1
comp=Z,8.6nm,0.8s
LJU Ljubljana 92.81 327⇑*i*P **P** **22 52 46.1 -2.0**
MYKA Terra Mystica 92.81 328 *e*PcP **P** **22 52 46.8 -1.4**
comp=Z,5.4nm,0.9s
VISS Visnje 92.83 326 *e*P **P** **22 52 46.9 -1.3**
BOJS Bojanci 92.84 326 *e*P **P** **22 52 47.3 -1.0**
AMTX Amarillo 92.85 48 P **P** **22 52 48.9 +0.3**
baz=307
PDG Podgorica 92.88 322 ⇑P **P** **22 52 48.2 -0.2**
PDG Podgorica 92.88 322⇑*i*P **P** **22 52 47.2 -1.3**
OHR Ohrid 92.90 320 *i* P **P** **22 52 51.5 +2.8**
CEY Cerknica 93.08 327⇑*i*P **P** **22 52 47.9 -1.5**
ZOU Zoufplan 93.18 328 IAmb IAmb 22 52 58.7
comp=Z,12nm,1.0s
WATA Walderalm 93.25 329 *e*PcP **P** **22 52 50.0 -0.3**
comp=Z,2.8nm,0.9s
ABTA Abfaltersbach 93.26 328 *e*PcP **P** **22 52 48.5 -1.8**
comp=Z,7.1nm,1.1s
HCY Herceg Novi 93.28 322⇑*i*P P 22 53 00.7 +10
KSU1 Kansas State U 93.41 42 P **P** **22 52 51.7 +0.7**
baz=310
RETA Reutte 93.50 330 *e*PcP **P** **22 52 50.5 -0.9**
comp=Z,8.6nm,1.3s
STAL STALIGIAL 93.52 328 IAmb IAmb 22 53 04.8
comp=Z,10nm,0.9s
SCHQ Schefferville 93.85 17 LR LR 23 37 37.9
comp=Z,98nm,21.1s,baz=338,slow=37
FETA Feichten 93.87 329 *e*PcP **P** **22 52 52.0 -1.2**
comp=Z,6.7nm,1.2s
BFO Black Forest 93.92 331 P **P** **22 52 50.7 -2.5**
BFO pmax pmax
comp=Z,9.0nm,1.0s
BFO Black Forest 93.92 331 P **P** **22 52 50.7 -2.5**
BFO IAmb IAmb 22 52 53.4
comp=Z,8.7nm,1.0s
DAVA Damuels 94.05 330 *e*PcP **P** **22 52 52.9 -1.1**
comp=Z,8.0nm,1.0s
CTI Castel Tesino 94.18 328 IAmb IAmb 22 53 06.2
comp=Z,6.6nm,1.2s
FUORN Ofenpass-Fuorn 94.38 329 IAmb IAmb 22 52 56.3
comp=Z,11nm,0.9s
D46A Sault St. Mari 94.48 30 P **P** **22 52 54.7 -1.0**
baz=320
TX32 Lajitas Array 94.76 53 IAmb IAmb 22 53 01.1
comp=Z,8.2nm,1.1s
TXAR Lajitas Array 94.76 53 P **P** **22 52 57.8 +0.3**
comp=Z,3.9nm,0.8s,baz=298,slow=2.7,SNR=22
TXAR LR LR 23 37 46.9
comp=Z,160nm,18.0s,baz=0.0,slow=37
TXAR Lajitas Array 94.76 53 P **P** **22 52 55.8 -1.7**
WMOK Wichita Mounta 94.83 47 P **P** **22 52 57.5 -0.2**
baz=309
WMOK Wichita Mounta 94.83 47 IAmb IAmb 22 53 00.7

comp=Z,6.7nm,0.9s
P38A Dawn 94.86 40 IAmb IAmb 22 53 01.2
comp=Z,8.4nm,0.7s
T35A Sooner Cattle 94.88 44 IAmb IAmb 22 53 05.7
comp=Z,7.0nm,1.0s
TUE Stuetta 94.91 330 IAmb IAmb 22 53 01.2
comp=Z,9.4nm,1.0s
D49A Beulah Townshi 95.34 28 P **P 22 53 01.2 +1.5**
baz=322
ABTX Abilene, Hawle 95.57 49 IAmb IAmb 22 53 09.3
comp=Z,7.6nm,1.1s
U38A Gravette 96.48 43 IAmb IAmb 22 53 07.6
comp=Z,7.1nm,1.0s
R40A Maddies Statio 96.49 40 IAmb IAmb 22 53 06.9
comp=Z,3.9nm,0.8s
CCM Cathedral Cave 97.24 40 P Pdif 22 53 09.7 +1.1
baz=314
CCM Cathedral Cave 97.24 40 P **P 22 53 07.2 -1.3**
CCM pmax pmax
comp=Z,3.0nm,0.8s
CCM Cathedral Cave 97.24 40 P **P 22 53 07.2 -1.3**
U40A Yellville 97.46 42 P **P 22 53 09.2 -0.4**
baz=312
U40A Yellville 97.46 42 IAmb IAmb 22 53 16.8
comp=Z,5.0nm,0.8s
D57A Chemin Vers le 98.50 24 P Pdif 22 53 16.2 +2.2
baz=328
ESDC Sonseca Array 106.06 334 PP **PP 22 58 11.3 +0.9**
comp=Z,1.2nm,1.0s,baz=12,slow=7.6,SNR=4.4
SYO Syowa Base 120.38 204⇑*e*X **PKiKP 22 58 31.3 +5.3**
SNAA Sanae 132.18 194 PKPdf **PKPdf 22 58 48.6 +0.1**
VNA2 Neumayer--Watz 133.70 193 PKPdf **PKiKP 22 58 52.2 -0.4**
VNA3 Neumayer Olymp 133.88 192 PKPdf **PKPdf 22 58 51.2 -0.5**
PB12 IPOC Station P 148.31 80 PKPdf **PKPdf 22 59 17.6 -1.5**
PB16 IPOC Station P 148.91 79 PKPdf **PKPdf 22 59 17.6 -3.1**
SAML Samuel 149.16 58 PKIKP **PKPdf 22 59 18.4 -2.1**
SAML Samuel 149.16 58 PKPdf **PKPdf 22 59 18.4 -2.1**
LC01 Cunco 149.18 120 PKPbc PKPdf 22 59 24.4 +0.3
LPAZ La Paz 149.23 75 PKPbc **PKPdf 22 59 23.0 +1.7**
comp=Z,12nm,0.9s,baz=279,slow=3.8,SNR=28
LPAZ La Paz 149.23 75 PKPdf **PKPdf 22 59 17.9 -3.4**
PLCA Paso Flores 149.78 124 PKPbc **PKPbc 22 59 25.5 -0.1**
comp=Z,4.4nm,0.8s,baz=276,slow=2.6,SNR=6.4
PLCA Paso Flores 149.78 124 PKPbc 22 59 24.4 -1.2
BI02 San Fabin de 150.00 116 PKPbc 22 59 25.3 -1.0
CPUP Villa Florida 162.03 90 PKPab **PKPab 23 00 22.4 -1.3**
comp=Z,3.0nm,0.8s,baz=261,slow=10,SNR=4.9
BDFB Brasilia 164.29 42 PKPab **PKPab 23 00 34.6 +0.8**
comp=Z,3.7nm,0.9s,baz=302,slow=3.4,SNR=3.9

TAP 10 22:44:06.6, 23.65N×121.39E, h13km±1km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EGFH	**Guangfu**	**0.04**	**63**	P		Pg	22 44 09.7	+0.6
	baz=62							
EGFH				S		Sg	22 44 11.5	+0.7
	baz=62							
ESL	**Shilin**	**0.17**	**14**	*i* P		Pb	22 44 11.3	-0.3
	baz=16							
ESL				*e*S		Sg	22 44 13.6	+0.2
	baz=16							
VWDT	**VWDT**	**0.25**	**294**	*e*S		Sb	22 44 17.3	+0.1
	baz=294							
YULB	**Yu-li**	**0.27**	**198**	P		Pb	22 44 13.2	-0.1
	baz=198							
YULB				*e*S		Sb	22 44 17.3	-0.6
	baz=198							
EYUL	**Yuli**	**0.31**	**192**	*e*P		Pb	22 44 13.9	-0.1
	baz=192							
EYUL				*e*S		Sb	22 44 19.2	+0.2
	baz=192							
TWF1	**Yuli**	**0.31**	**196**	P		Pb	22 44 13.9	-0.1
	baz=194							
TWF1				*e*S		Sb	22 44 18.5	-0.4
	baz=194							

*IDC **10** 22:55:16.2±0.5, 16.80S×172.16W, h0km, mb4.5/19, mb1 4.7/21, mb1mx4.6/40, mbtmp4.5/21, ML4.1/2, MS4.0/11, Ms1 4.0/11, ms1mx3.7/35, Error ellipse: s-maj=19.8km s-min=13.7km az=131.0*
*NEIC **10** 22:55:20.2±1.0, 16.82S±0.06×172.02W±0.07, h32km±4km, mb4.7/107, Error ellipse: s-maj=9.6km s-min=8.5km az=70.0*
ISC 10 22:55:18.3±0.3, 16.79S±0.05×171.91W±0.06, h20km, n239, σ1.957/202, mb4.7/63, MS4.1/12, 21C-18D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.87**	**3**	Pn		**Pn**	**22 56 03.9**	**+0.9**
	57nm,0.3s,baz=170,slow=12,SNR=60							
AFI				Sn		**Sn**	**22 56 34.4**	**-2.6**
	294nm,0.3s,baz=206,slow=23,SNR=9.8							
AFI				LR		LR	22 57 10.4	
	comp=Z,1μm,21.6s,baz=180,slow=39							
AFI	**Afiamalu**	**2.87**	**3**	Pn		**Pn**	**22 56 04.3**	**+1.3**
AFI						**Sn**	**22 56 35.4**	**-1.5**
NIUE	**Niue**	**2.95**	**141**	Pn		**Pn**	**22 56 05.3**	**+1.2**
MSVF	**Nonsavu**	**9.64**	**263**	Pn		**Pn**	**22 57 35.8**	**-0.3**
RAR	**Rarotonga**	**12.29**	**113**	Pn		**Pn**	**22 58 13.5**	**+1.3**
	5.4nm,0.3s,baz=262,slow=9.1,SNR=22							
RAR				Sn		**Sn**	**23 00 21.0**	**-7.7**
	0.8nm,0.3s,baz=43,slow=19,SNR=1.5							
RAR				LR		LR	23 01 52.2	
	comp=Z,364nm,21.3s,baz=285,slow=32							
RAR	**Rarotonga**	**12.29**	**113**	Pn		**Pn**	**22 58 13.9**	**+1.7**
RAR						**Sn**	**23 00 28.1**	**-0.6**
DZM	**Mont Dzumac**	**21.07**	**252**	P		**P**	**23 00 00.0**	**-1.5**
	9.0nm,0.6s,baz=78,slow=20,SNR=10							
DZM	**Mont Dzumac**	**21.07**	**252**	*e*P		**P**	**23 00 05.2**	**+3.6**
	101nm,1.2s							
DZM	**Mont Dzumac**	**21.07**	**252**	P		**P**	**22 59 59.3**	**-2.2**
PPT2	**Papeete2**	**21.35**	**95**	*e*S		**S**	**23 03 59.4**	**-1.5**
	257nm,22.9s							
PPT2				*e*LR		LR	23 05 11.3	
	comp=Z,698nm,24.2s							
TBI	**Tubuai**	**22.05**	**111**	*e*S		**S**	**23 04 13.3**	**-1.2**
	298nm,27.0s							
TBI				*e*LR		LR	23 05 22.0	
	comp=Z,805nm,27.0s							
GRZ	**Great Barrier**	**22.40**	**208**	P		**P**	**23 00 18.2**	**+2.6**
MXZ	**Matakaoa Point**	**22.42**	**201**	P		P	23 00 22.4	+6.7
OUZ	**Omahuta**	**22.46**	**212**	P		**P**	**23 00 14.9**	**-1.3**
OUZ				IAmb		IAmb	23 00 18.4	
	comp=Z,38nm,0.9s							
WMGZ	**Waiomatatini S**	**22.62**	**200**	P		P	23 00 25.3	+7.4
WCZ	**Waipu Caves**	**22.66**	**210**	P		**P**	**23 00 20.5**	**+2.2**
KUZ	**Kuaotunu**	**22.70**	**206**	P		**P**	**23 00 21.8**	**+3.0**
HAZ	**Te Kaha**	**22.78**	**201**	P		**P**	**23 00 22.5**	**+3.0**
HAZ				S		**S**	**23 04 29.6**	**+2.2**
PUZ	**Puketiti**	**22.90**	**200**	P		**P**	**23 00 25.9**	**+5.0**
RUGZ	**Raukumara Rang**	**23.00**	**201**	P		**P**	**23 00 26.4**	**+4.4**
MBAZ	**Motutapu North**	**23.08**	**208**	P		**P**	**23 00 26.1**	**+3.4**
TWGZ	**Tauwhareparae**	**23.09**	**201**	P		P	23 00 29.8	+7.0
CNGZ	**Carnagh Statio**	**23.29**	**200**	P		P	23 00 32.5	+7.7
MWZ	**Matawai**	**23.38**	**201**	P		P	23 00 32.3	+6.5
MWZ				S		**S**	**23 04 36.4**	**-1.4**
AWAZ	**Awhitu Peninsu**	**23.44**	**208**	P		**P**	**23 00 28.4**	**+2.1**
URZ	**Urewera**	**23.46**	**202**	P		**P**	**23 00 28.4**	**+1.9**
	comp=Z,54nm,0.6s,baz=66,slow=3.3,SNR=30							
URZ				S		**S**	**23 04 34.6**	**-4.4**
	comp=Z,5.8nm,0.6s,baz=29,slow=18,SNR=2.2							
URZ	**Urewera**	**23.46**	**202**	P		**P**	**23 00 29.7**	**+3.2**
URZ				S		**S**	**23 04 35.5**	**-3.5**
URZ	**Urewera**	**23.46**	**202**	P		**P**	**23 00 25.9**	**-0.7**
RAGZ	**Rawiri**	**23.57**	**201**	P		**P**	**23 00 33.2**	**+5.6**
TOZ	**Tahuroa Road**	**23.63**	**206**	P		**P**	**23 00 32.7**	**+4.6**
MUGZ	**Murupara**	**23.78**	**202**	P		**P**	**23 00 34.8**	**+5.2**
RAHZ	**Arahi**	**24.06**	**201**	P		**P**	**23 00 31.5**	**-0.7**
BKZ	**Black Stump Fm**	**24.49**	**202**	P		**P**	**23 00 36.2**	**-0.1**
BKZ				IAmb		IAmb	23 00 46.0	
	comp=Z,36nm,0.9s							
HNR	**Honiara**	**28.35**	**281**	LR		LR	23 11 20.7	
	comp=Z,761nm,18.6s,baz=110,slow=34							
RPZ	**Rata Peaks**	**30.48**	**205**	P		P	23 01 36.7	+6.9
	comp=Z,23nm,0.6s,baz=28,slow=7.8,SNR=12							
RPZ	**Rata Peaks**	**30.48**	**205**	P		**P**	**23 01 28.6**	**-1.2**
TAOE	**Nuku Hiva Isla**	**31.92**	**80**	*e*LR		LR	23 10 00.1	
	comp=Z,476nm,25.3s							
H11S2	**WAKE ISLAND Hy**	**40.89**	**328**	T		T	23 45 52.2	
	baz=146,slow=76							
H11S3	**WAKE ISLAND Hy**	**40.90**	**328**	T		T	23 45 50.7	
	baz=146,slow=76							
H11S1	**WAKE ISLAND Hy**	**40.91**	**328**	T		T	23 46 18.6	
	baz=146,slow=76							
H11N3	**WAKE ISLAND Hy**	**41.83**	**329**	T		T	23 46 57.3	
	baz=147,slow=75							
H11N1	**WAKE ISLAND Hy**	**41.83**	**329**	T		T	23 46 56.7	
	baz=147							
H11N2	**WAKE ISLAND Hy**	**41.84**	**329**	T		T	23 46 59.6	
	baz=147,slow=75							
STKA	**Stephens Creek**	**44.61**	**241**	P		**P**	**23 03 28.5**	**-1.0**
	comp=Z,5.5nm,0.9s,baz=100,slow=12,SNR=6.8							
STKA	**Stephens Creek**	**44.61**	**241**	P		**P**	**23 03 29.0**	**-0.5**
WB0	**Warramunga Arr**	**50.91**	**258**	P		**P**	**23 04 16.6**	**-1.9**
WB0				IAmb		IAmb	23 04 18.2	
	comp=Z,7.7nm,0.8s							
WRA	**Warramunga Arr**	**50.94**	**258**	P		**P**	**23 04 16.8**	**-2.0**
	comp=Z,3.6nm,0.6s,baz=97,slow=7.1,SNR=30							
WRA				LR		LR	23 23 52.1	
	comp=Z,314nm,21.4s,baz=15,slow=34							
WRA	**Warramunga Arr**	**50.94**	**258**	P		**P**	**23 04 16.9**	**-1.8**
AS31	**Alice Springs**	**51.06**	**253**	P		**P**	**23 04 18.6**	**-1.0**
ASAR	**Alice Springs**	**51.06**	**253**	P		**P**	**23 04 17.9**	**-1.8**
	comp=Z,7.5nm,0.7s,baz=87,slow=8.3,SNR=65							
ASAR	**Alice Springs**	**51.06**	**253**	P		**P**	**23 04 17.5**	**-2.2**
FITZ	**Fitzroy Crossi**	**59.34**	**259**	P		**P**	**23 05 19.0**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=100,slow=6.1,SNR=1.7							
FITZ	**Fitzroy Crossi**	**59.34**	**259**	P		**P**	**23 05 19.0**	**-0.4**
FITZ				IAmb		IAmb	23 05 24.2	
	comp=Z,5.9nm,1.1s							
VNDA	**Vanda**	**62.15**	**186**	P		**P**	**23 05 39.0**	**+1.3**
	comp=Z,3.7nm,1.0s,baz=4.4,slow=6.5,SNR=14							
VNDA	**Vanda**	**62.15**	**186**	P		**P**	**23 05 38.5**	**+0.9**
VNDA				IAmb		IAmb	23 05 50.0	
	comp=Z,6.6nm,1.1s							
MJAR	**Matsushiro Arr**	**70.92**	**319**	P		**P**	**23 06 34.9**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=166,slow=6.5,SNR=4.7							
MJAR				LR		LR	23 33 36.2	
	comp=Z,34nm,20.4s,baz=220,slow=32							
ESJX	**Sierra Juarez**	**72.29**	**48**	P		**P**	**23 06 43.7**	**+0.9**
ESJX				IAmb		IAmb	23 06 57.9	
	comp=Z,13nm,1.2s							
ISA	**Isabella, Lake**	**72.66**	**43**	P		**P**	**23 06 44.5**	**-0.3**
ISA				IAmb		IAmb	23 06 59.7	
	comp=Z,7.9nm,1.1s							
PFO	**Pinyon Flats O**	**72.83**	**46**	P		**P**	**23 06 46.9**	**+0.9**
PFO				IAmb		IAmb	23 07 01.2	
	comp=Z,7.8nm,1.1s							
XPFO	**Pion Flat**	**72.83**	**46**	P		**P**	**23 06 46.8**	**+0.8**
XPFO				IAmb		IAmb	23 07 01.2	
	comp=Z,7.7nm,1.1s							
CMB	**Columbia Colle**	**72.87**	**40**	P		**P**	**23 06 46.2**	**+0.2**
CMB				IAmb		IAmb	23 07 00.6	
	comp=Z,9.0nm,1.1s							
QSPA	**South Pole Qui**	**73.26**	**180**	P		**P**	**23 06 48.1**	**+0.1**
OMMB	**Old Mammoth Mi**	**73.48**	**41**	P		**P**	**23 06 50.1**	**+0.1**
GSC	**Goldstone, Bar**	**73.55**	**44**	P		**P**	**23 06 50.5**	**+0.3**
GSC				IAmb		IAmb	23 07 04.0	
	comp=Z,4.7nm,0.7s							
JNU	**Nakatsue**	**73.79**	**313**	LR		LR	23 33 19.8	
	comp=Z,102nm,18.6s,baz=141,slow=31							
PNTR	**Pine Nut**	**74.01**	**40**	P		**P**	**23 06 53.6**	**+0.7**
PNTR				IAmb		IAmb	23 07 07.6	
	comp=Z,14nm,1.1s							
113A	**Mohawk Valley,**	**74.25**	**48**	P		**P**	**23 06 54.0**	**-0.2**
113A				IAmb		IAmb	23 06 57.7	
	comp=Z,5.6nm,0.9s							
PETK	**Petropavlovsk-**	**74.39**	**342**	P		**P**	**23 06 55.5**	**+0.9**
	comp=Z,7.3nm,0.9s,baz=121,slow=11,SNR=6.8							
PETK	**Petropavlovsk-**	**74.39**	**342**	P		**P**	**23 06 54.6**	**+0.1**
RYN	**Ryan**	**74.39**	**41**	P		**P**	**23 06 56.2**	**+1.1**
RYN				IAmb		IAmb	23 07 09.7	
	comp=Z,8.4nm,1.1s							
NVAR	**Mina Array Bea**	**74.41**	**41**	P		**P**	**23 06 58.0**	**+2.8**
	comp=Z,3.7nm,0.8s,baz=224,slow=9.8,SNR=26							
NVAR	**Mina Array Bea**	**74.41**	**41**	P		**P**	**23 06 56.1**	**+0.9**
NV11	**Mina Array Sit**	**74.51**	**41**	P		**P**	**23 06 56.6**	**+0.8**
NV11				IAmb		IAmb	23 07 10.4	
	comp=Z,14nm,1.1s							
214A	**Organ Pipe Nat**	**74.51**	**49**	P		**P**	**23 06 56.6**	**+0.8**
214A				IAmb		IAmb	23 06 59.4	
	comp=Z,7.0nm,0.9s							
TPNV	**Topopah Spring**	**74.86**	**43**	P		**P**	**23 06 58.2**	**+0.3**
TPNV				IAmb		IAmb	23 07 12.6	
	comp=Z,5.8nm,0.9s							
KVN	**Kaiserville**	**74.91**	**41**	P		**P**	**23 06 58.1**	**0.0**
SHPR	**Sheep Range**	**75.33**	**44**	P		**P**	**23 07 01.4**	**+0.8**
SHPR				IAmb		IAmb	23 07 14.9	
	comp=Z,6.0nm,1.0s							
MOD	**Modoc Plateau**	**75.34**	**37**	P		**P**	**23 07 01.1**	**+0.7**
MOD				IAmb		IAmb	23 07 15.0	
	comp=Z,9.1nm,0.9s							
Y14A	**Wickenburg**	**75.42**	**47**	IAmb		IAmb	23 07 15.8	
	comp=Z,10.0nm,1.0s							
K05A	**Summer Lake**	**75.52**	**36**	P		**P**	**23 07 02.2**	**+0.6**
TUC	**Tucson**	**76.17**	**50**	P		**P**	**23 07 06.4**	**+1.0**
TUC				IAmb		IAmb	23 07 20.5	
	comp=Z,9.9nm,1.0s							
I07A	**Izee**	**77.16**	**36**	IAmb		IAmb	23 07 25.3	
	comp=Z,7.5nm,1.1s							
J08A	**Circle Bar Ran**	**77.30**	**37**	IAmb		IAmb	23 07 26.0	
	comp=Z,8.4nm,1.1s							
KSRS	**Korea Array**	**78.15**	**315**	P		**P**	**23 07 18.6**	**+2.4**
	comp=Z,2.7nm,0.9s,baz=116,slow=5.9,SNR=7.1							
KSRS				LR		LR	23 37 23.4	
	comp=Z,40nm,20.5s,baz=125,slow=32							
KSAR	**Wonju Array Be**	**78.17**	**315**	P		**P**	**23 07 16.3**	**-0.1**
G08A	**Pilot Rock**	**78.22**	**35**	P		**P**	**23 07 17.8**	**+1.2**
G08A						**pP**	**23 07 19.3**	**-1.9**
G08A				IAmb		IAmb	23 07 20.1	
	comp=Z,7.1nm,1.0s							
121A	**Cookes Peak, D**	**78.49**	**51**	IAmb		IAmb	23 07 33.2	
	comp=Z,7.1nm,1.1s							
USRK	**Ussuriysk Ar.**	**79.35**	**323**	LR		LR	23 37 27.5	
	comp=Z,27nm,20.0s,baz=174,slow=32							
F10A	**Beach Ranch, E**	**79.60**	**35**	IAmb		IAmb	23 07 27.0	
	comp=Z,5.4nm,0.8s							
SUA	**Susitna One**	**79.80**	**10**	IAmb		IAmb	23 07 27.3	
	comp=Z,8.5nm,0.8s							
MNTX	**Cornudas Mount**	**79.91**	**53**	IAmb		IAmb	23 07 29.6	
	comp=Z,5.3nm,0.9s							
PMR	**Palmer**	**80.20**	**11**	IAmb		IAmb	23 07 29.2	
	comp=Z,17nm,1.2s							
TX32	**Lajitas Array**	**80.20**	**55**	IAmb		IAmb	23 07 43.1	
	comp=Z,8.9nm,1.1s							
TXAR	**Lajitas Array**	**80.20**	**55**	P		**P**	**23 07 30.4**	**+2.6**
	comp=Z,4.6nm,1.0s,baz=223,slow=6.8,SNR=27							
TXAR	**Lajitas Array**	**80.20**	**55**	P		**P**	**23 07 28.6**	**+0.8**
TTA	**Tatalina**	**80.43**	**7**	IAmb		IAmb	23 07 31.4	
	comp=Z,13nm,1.1s							
PV12	**Saucer Basin,**	**80.58**	**45**	IAmb		IAmb	23 07 44.8	
	comp=Z,8.0nm,1.1s							
ANMO	**Albuquerque**	**80.60**	**49**	P		**P**	**23 07 30.6**	**+0.6**
PV01	**Paradox Valley**	**80.65**	**46**	IAmb		IAmb	23 07 45.7	
	comp=Z,9.4nm,1.1s							
S22A	**4UR Ranch, Cre**	**81.66**	**47**	IAmb		IAmb	23 07 51.7	
	comp=Z,8.2nm,1.1s							
TRF	**Thorofare Moun**	**81.74**	**10**	IAmb		IAmb	23 07 36.7	
	comp=Z,11nm,0.9s							
REDW	**Red Top Meadow**	**81.85**	**40**	IAmb		IAmb	23 07 40.0	
	comp=Z,6.2nm,1.1s							
HYT	**Haines Junctio**	**82.13**	**16**	IAmb		IAmb	23 07 40.6	
	comp=Z,10nm,1.2s							
PMSA	**Palmer Station**	**82.33**	**156**	LR		LR	23 38 53.0	
	comp=Z,180nm,18.9s,baz=281,slow=32							
FLWY	**Flagg Ranch**	**82.33**	**40**	IAmb		IAmb	23 07 42.9	
	comp=Z,13nm,1.1s							
PDAR	**Pinedale Array**	**82.35**	**41**	P		**P**	**23 07 40.9**	**+1.8**
	comp=Z,2.0nm,0.9s,baz=224,slow=4.1,SNR=15							
PDAR	**Pinedale Array**	**82.35**	**41**	P		**P**	**23 07 40.1**	**+1.0**
BOZ	**Bozeman (W)**	**82.59**	**38**	IAmb		IAmb	23 07 43.6	
	comp=Z,9.5nm,1.1s							
MSTX	**Muleshoe**	**82.88**	**51**	IAmb		IAmb	23 07 44.9	
	comp=Z,6.5nm,0.8s							
BCAR	**Beaver Creek A**	**83.01**	**13**	P		**P**	**23 07 43.1**	**+1.3**
HDA	**Harding Lake**	**83.19**	**11**	IAmb		IAmb	23 07 44.8	
	comp=Z,9.0nm,0.8s							
COLA	**College**	**83.46**	**10**	P		**P**	**23 07 44.6**	**+0.6**
IL31		**83.53**	**11**	IAmb		IAmb	23 07 46.0	
	comp=Z,4.8nm,0.8s							
ILAR	**Eielson Array**	**83.53**	**11**	P		**P**	**23 07 45.4**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=224,slow=5.9,SNR=31							
ILAR	**Eielson Array**	**83.53**	**11**	P		**P**	**23 07 44.8**	**+0.4**
IMAR	**Indian Mountai**	**83.65**	**7**	P		**P**	**23 07 46.0**	**+1.0**
RLMT	**Red Lodge**	**83.75**	**39**	IAmb		IAmb	23 07 49.9	
	comp=Z,5.9nm,0.9s							
EGAK	**Eagle**	**84.64**	**13**	IAmb		IAmb	23 07 52.8	
	comp=Z,7.1nm,1.0s							
MAW	**Mawson**	**86.94**	**198**	P		**P**	**23 08 01.8**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=121,slow=7.4,SNR=6.3							
MAW				LR		LR	23 48 30.9	
	comp=Z,64nm,18.9s,baz=60,slow=37							
MAW	**Mawson**	**86.94**	**198**	P		**P**	**23 08 01.0**	**-0.6**
PLCA	**Paso Flores**	**87.52**	**132**	P		**P**	**23 08 06.8**	**+1.7**
	comp=Z,2.2nm,0.8s,baz=292,slow=5.5,SNR=3.7							
INK	**Inuvik**	**89.27**	**13**	IAmb		IAmb	23 08 14.2	
	comp=Z,3.8nm,0.8s							
SYO	**Syowa Base**	**91.52**	**191**⇑	*e*P		**P**	**23 08 21.3**	**-1.8**
SYO	**Syowa Base**	**91.52**	**191**⇑	*e*pP		pP	23 08 32.3	+4.4
ULM	**Lac du Bonnet**	**94.11**	**39**	P		**P**	**23 08 38.2**	**+2.9**
	comp=Z,5.0nm,0.7s,baz=248,slow=5.4,SNR=3.0							
ULM				LR		LR	23 45 08.1	
	comp=Z,176nm,19.4s,baz=281,slow=32							
CMAR	**Chiang Mai Arr**	**94.41**	**288**	P		**P**	**23 08 37.4**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=72,slow=3.7,SNR=4.2							
CMAR	**Chiang Mai Arr**	**94.41**	**288**	P		**P**	**23 08 36.7**	**-0.8**
SONM	**Songino Array**	**96.83**	**318**	P		**P**	**23 08 47.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=95,slow=6.2,SNR=2.6							
SONM	**Songino Array**	**96.83**	**318**	P		**P**	**23 08 47.9**	**-0.1**
ZALV	**Zalesovo Beam**	**111.20**	**322**	PKiKP		**PKiKP**	**23 13 49.9**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=50,slow=2.5,SNR=2.6							
MKAR	**Makanchi Array**	**112.82**	**314**	PKiKP		**PKiKP**	**23 13 53.5**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=66,slow=4.1,SNR=6.4							
BRVK	**Borovoye**	**119.91**	**322**			**PKiKP**	**23 14 07.5**	**+0.3**
KBL	**Kabul**	**122.09**	**301**	PKPdf		**PKiKP**	**23 14 14.3**	**-0.1**
ABKAR	**Akbulak array**	**127.20**	**320**	PKPdf		**PKiKP**	**23 14 21.6**	**-0.2**
GEYT	**Alibeck**	**131.48**	**306**	PKP		**PKiKP**	**23 14 30.0**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=9.9,slow=3.4,SNR=4.0							
GEYT	**Alibeck**	**131.48**	**306**	PKPdf		**PKPdf**	**23 14 29.5**	**-0.4**
FINES	**FINESS Array B**	**133.59**	**348**	PKP		**PKPdf**	**23 14 31.6**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=34,slow=3.5,SNR=4.3							
FINES	**FINESS Array B**	**133.59**	**348**			**PKPdf**	**23 14 32.4**	**-0.6**
AKASG	**Malin Array Be**	**142.16**	**338**	PKP		**PKPdf**	**23 14 47.5**	**-1.6**
	comp=Z,3.0nm,0.4s,baz=26,slow=3.0,SNR=2.1							
CLL	**Collm**	**145.34**	**355**⇑	*i* PKPbc		**PKPab**	**23 14 55.1**	**+0.5**
	comp=Z,11nm,0.8s							
CLL	**Collm**	**145.34**	**355**			**PKPab**	**23 14 54.6**	**0.0**
OJC	**Ojcow**	**145.34**	**347**	*e*PKP		**PKPab**	**23 14 55.4**	**+0.7**
OJC	**Ojcow**	**145.34**	**347**			**PKPab**	**23 14 55.3**	**+0.7**
KSP	**Ksiaz**	**145.40**	**351**	*e*PKP		**PKPab**	**23 14 55.8**	**+1.0**
BRG	**Berggiesshubel**	**145.68**	**353**	*e*PKP		**PKPab**	**23 14 56.1**	**+0.2**
	comp=Z,14nm,1.1s							
	comp=Z,740nm,15.7s							
	comp=N,620nm,13.8s							
	comp=E,360nm,13.8s							
CHVC	**Chvalec**	**145.68**	**351**	*e*PKP		**PKPab**	**23 14 57.2**	**+1.3**
OSTC	**Ostas**	**145.69**	**351**	*e*PKP		**PKPab**	**23 14 56.8**	**+0.8**
UPC	**Upice**	**145.77**	**351**	*e*PKP		**PKPab**	**23 14 57.2**	**+1.0**
DPC	**Dobruska-Polom**	**145.87**	**351**	*e*PKP		**PKPab**	**23 14 57.4**	**+0.7**
KOLS	**Kolonicke sedl**	**145.92**	**343**	*e*PKP		**PKPab**	**23 14 57.8**	**+0.9**
ATD	**Arta Tunnel**	**145.93**	**266**			**PKPdf**	**23 14 56.0**	**-0.8**
PVCC	**Panska Ves**	**145.94**	**353**	*e*PKP		**PKPab**	**23 14 57.3**	**+0.4**
VASR	**Vaslui**	**146.04**	**335**	⇑P		**PKPab**	**23 14 58.1**	**+0.8**
OKC	**Ostrava-Krasne**	**146.05**	**348**	*e*PKP		**PKPab**	**23 14 58.0**	**+0.7**
KRLC	**Kraliky**	**146.06**	**350**	*e*PKP		**PKPab**	**23 14 57.9**	**+0.5**
CRVS	**Cervenica-Dubn**	**146.17**	**344**	*e*PKP		**PKiKP**	**23 14 59.3**	**-1.1**
KMBO	**Kilima Mbogo**	**146.18**	**241**	PKPbc		**PKiKP**	**23 15 00.1**	**-1.6**
	comp=E,3.2nm,0.9s,baz=33,slow=3.2,SNR=8.7							
KMBO	**Kilima Mbogo**	**146.18**	**241**	PKPdf		**PKPdf**	**23 14 56.4**	**-1.1**
BURAR	**Bucovina Array**	**146.18**	**339**			**PKPdf**	**23 14 56.2**	**-0.1**
MORC	**Moravsky Berou**	**146.22**	**349**	⇑P		**PKPab**	**23 14 58.5**	**+0.5**
MORC	**Moravsky Berou**	**146.22**	**349**	PKPdf		**PKPbc**	**23 14 56.9**	**-0.5**
PRA	**Prague**	**146.41**	**353**	*e*PKP		**PKPab**	**23 14 59.2**	**+0.6**

comp=E,1.4nm,0.9s,baz=334,slow=5.0,SNR=9.5

ESDC	**Sonseca Array**	**154.90**	**22**		**PKiKP**	**23 15 19.1**	**+0.3**
PVAQ	**Vaqueiros**	**155.18**	**31**	A	A	23 50 06.6	
	comp=E,303nm,18.0s						
PBDV	**Barranco-do-Ve**	**155.19**	**32**	*e*PKPdf	**PKPdf**	**23 15 15.6**	**+5.1**

*IDC **10** 23:04:19.7±1.4, 0.˚83N×146.˚31E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/33, mbtmp3.8/7, ML3.0/1, Error ellipse: s-maj=51.3km s-min=20.4km az=110.0*
*NEIC **10** 23:04:20.4±2.8, 1.˚05N±0.˚09×145.˚97E±0.˚10, h10km±1km, mb4.8/20, Error ellipse: s-maj=20.1km s-min=8.9km az=310.0*

ISC 10 23:04:20.6±0.6, 1.˚0N±0.˚1×145.˚97E±0.˚09, h10km, n29, σ1s73/28, mb4.4/16, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.30**	**237**	Pn		**Pn**	**23 05 55.5**	**+1.8**
	0.3nm,0.3s,baz=63,slow=16,SNR=1.0							
JAY				Sn		**Sn**	**23 07 02.6**	**-3.1**
	0.2nm,0.3s,baz=202,slow=19,SNR=1.9							
PATS	**Pohnpei**	**13.62**	**64**	Pn		**Pn**	**23 07 32.0**	**-2.1**
WB2	**Warramunga Arr**	**23.70**	**208**	P		**P**	**23 09 33.8**	**+1.0**
WB2				IAmb		IAmb	23 09 34.4	
	comp=Z,5.8nm,0.7s							
WRA	**Warramunga Arr**	**23.70**	**208**	P		**P**	**23 09 33.7**	**+0.8**
	comp=Z,1.9nm,0.4s,baz=31,slow=11,SNR=18							
WRA	**Warramunga Arr**	**23.70**	**208**	IAmb		IAmb	23 09 36.2	
	comp=Z,0.2nm,0.9s							
KNRA	**Kununurra**	**23.72**	**225**	P		**P**	**23 09 32.6**	**-0.4**
KNRA				IAmb		IAmb	23 09 35.3	
	comp=Z,11nm,0.9s							
KAPI	**Kappang**	**26.85**	**257**	P		**P**	**23 09 59.9**	**-1.8**
KAPI				IAmb		IAmb	23 10 04.2	
	comp=Z,14nm,1.1s							
TARA	**Tarawa**	**26.95**	**89**	P		**P**	**23 10 03.6**	**+1.0**
AS31	**Alice Springs**	**27.14**	**205**	P		**P**	**23 10 04.7**	**+0.4**
ASAR	**Alice Springs**	**27.15**	**205**	P		**P**	**23 10 06.1**	**+1.8**
	comp=Z,2.2nm,0.9s,baz=34,slow=9.3,SNR=14							
ASAR	**Alice Springs**	**27.15**	**205**	P		**P**	**23 10 05.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**27.55**	**226**	P		**P**	**23 10 11.4**	**+3.5**
	comp=Z,1.3nm,0.6s,baz=24,slow=10.0,SNR=1.6							
FITZ	**Fitzroy Crossi**	**27.55**	**226**	P		**P**	**23 10 08.6**	**+0.7**
MYLDM	**Lahad Datu**	**27.74**	**279**	P		**P**	**23 10 08.2**	**-1.5**
MYLDM				IAmb		IAmb	23 10 26.4	
	comp=Z,3.9nm,0.8s							
FORT	**Forrest**	**35.87**	**207**	P		**P**	**23 11 21.4**	**+0.5**
FORT				IAmb		IAmb	23 11 22.5	
	comp=Z,21nm,0.9s							
ERM	**Erimo**	**40.95**	**357**	P		**P**	**23 12 04.2**	**+0.8**
SRIT	**Nakonsritamara**	**46.78**	**281**	P		**P**	**23 12 50.0**	**-0.8**
GSI	**Gunungsitoli**	**48.38**	**271**	P		**P**	**23 13 03.1**	**-0.2**
GSI				IAmb		IAmb	23 13 05.6	
	comp=Z,23nm,1.0s							
URZ	**Urewera**	**48.44**	**147**	P		**P**	**23 13 02.7**	**-0.6**
URZ				IAmb		IAmb	23 13 19.9	
	comp=Z,8.7nm,1.1s							
MXZ	**Matakaoa Point**	**48.61**	**145**	P		**P**	**23 13 04.5**	**-0.1**
MXZ				IAmb		IAmb	23 13 04.8	
	comp=Z,33nm,1.0s							
CHTO	**Chiang Mai**	**49.39**	**294**	P		**P**	**23 13 08.4**	**-2.5**
SONM	**Songino Array**	**57.89**	**330**	P		**P**	**23 14 15.8**	**+2.8**
	comp=Z,0.5nm,0.6s,baz=147,slow=8.4,SNR=2.7							
SONM	**Songino Array**	**57.89**	**330**	IAmb		IAmb	23 14 24.0	
	comp=Z,1.6nm,0.9s							
MKAR	**Makanchi Array**	**71.53**	**320**	P		**P**	**23 15 44.3**	**+2.3**
	comp=Z,0.2nm,0.4s,baz=113,slow=5.6,SNR=2.5							
MID	**Middleton Isla**	**77.97**	**29**	P		**P**	**23 16 18.9**	**0.0**
MLY	**Manley**	**78.12**	**23**	P		**P**	**23 16 17.8**	**-1.9**
MLY				IAmb		IAmb	23 16 34.7	
	comp=Z,12nm,0.6s							
BWN	**Browne**	**78.28**	**24**	P		**P**	**23 16 20.8**	**+0.3**
BWN				IAmb		IAmb	23 16 30.5	
	comp=Z,32nm,1.0s							
MCK	**McKinley**	**78.33**	**24**	P		**P**	**23 16 18.4**	**-2.5**
ILAR	**Eielson Array**	**79.54**	**24**	P		**P**	**23 16 26.9**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=256,slow=5.8,SNR=6.2							

UCR 10 23:06:14.7±1.3, 9.˚64N×84.˚87W, h17km±6km, MD3.8, 1C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LAFE	**Finca La Fe, P**	**0.17**	**346**	⇓*i*P		Pb	23 06 19.4	-0.1
LAFE				*e*S		Sb	23 06 23.1	+0.4
CASO	**Castillo**	**0.80**	**10**	*i*P		Pb	23 06 29.3	-1.0
CASO				*i*S		Sb	23 06 40.6	-0.2
HDC	**Heredia**	**0.83**	**64**	⇓*e*P		Pb	23 06 30.3	-0.4
HDC				*e*S		Sg	23 06 41.9	+0.1
HDC3	**Heredia 3**	**0.83**	**64**	*e*P		Pb	23 06 30.3	-0.5
ARE1	**Arenal 1**	**0.83**	**10**	⇓*e*P		Pb	23 06 30.1	-0.7
ARE1				*e*S		Sg	23 06 42.1	+0.1
FORC	**Fortuna**	**0.85**	**13**	*i*P		Pb	23 06 30.1	-0.9
CEDE	**Laguna Cedeo**	**0.86**	**11**	*i*P		Pb	23 06 30.5	-0.7
LCR2	**La Lucha 2**	**0.86**	**83**	⇓*e*P		Pb	23 06 30.3	-1.1
LCR2				*e*S		Sb	23 06 42.1	-0.5
GUAI	**GUAI**	**0.89**	**315**	*i*P		Pb	23 06 30.6	-1.1
GUAI				*i*S		Sb	23 06 43.4	0.0
ORTG	**Ortega, Santa**	**0.93**	**321**	⇑*e*P		Pb	23 06 31.6	-0.8
RIMA	**Rio Macho**	**1.00**	**83**	*e*P		Pb	23 06 32.4	-1.4
RIMA				*e*S		Sb	23 06 46.7	0.0
ACAL	**Aguas Claras**	**1.00**	**351**	*i*P		Pb	23 06 32.5	-1.3
CUI	**Cuipilapa**	**1.05**	**344**	⇓*e*P		Pb	23 06 33.1	-1.4
CUI				*i*S		Sg	23 06 49.0	0.0
COLC	**Colonia**	**1.07**	**342**	*i*P		Pb	23 06 33.5	-1.4
COLC				*i*S		Sg	23 06 49.3	-0.3
CDM	**Cerro de Muert**	**1.09**	**94**	*e*P		Pb	23 06 34.6	-0.9
CDM				*e*S		Sn	23 06 51.5	+0.8
HORNC	**Hornillas**	**1.11**	**344**	*i*P		Pb	23 06 33.9	-1.6
HORNC				*i*S		Sg	23 06 50.8	0.0
LIM1	**Limonal**	**1.12**	**340**	*i*P		Pb	23 06 34.7	-0.9
LIM1				*i*S		Sb	23 06 50.3	+0.3
GUAB	**Guayabo de Bag**	**1.12**	**342**	*i*P		Pb	23 06 34.6	-1.1
COVE	**Coope Vega, Sa**	**1.17**	**23**	*e*P		Pn	23 06 35.0	-1.3
LAPC	**Finca la Perla**	**1.25**	**334**	*i*P		Pn	23 06 36.0	-1.5
LAPC				*i*S		Sb	23 06 53.5	-0.3
BUEV	**Buena Vista**	**1.27**	**335**	*e*P		Pn	23 06 36.5	-1.3
GBS3	**Finca Las Img**	**1.27**	**333**	*i*P		Pn	23 06 36.8	-1.0
GBS3				*i*S		Sb	23 06 54.2	-0.3
GB1A	**Borinquen Arri**	**1.28**	**336**	*i*P		Pn	23 06 37.0	-1.0
GB1A				*e*S		Sn	23 06 55.2	+0.3
HZTE	**Horizontes, Gu**	**1.29**	**326**	*e*P		Pn	23 06 37.3	-0.7
HZTE				*e*S		Sg	23 06 55.6	-0.7
BUAI	**Buenos Aires**	**1.31**	**340**	*i*P		Pn	23 06 38.0	-0.3

IDC 10 23:15:49.9±1.8, 0.˚09N×146.˚09E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/39, mbtmp3.5/3, MS3.6/1, Ms1 3.8/1, ms1mx3.0/16, Error ellipse: s-maj=126.2km s-min=29.8km az=116.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.00**	**209**	P		P	23 20 56.6	+0.1
	1.2nm,0.6s,baz=31,slow=11,SNR=11							
ASAR	**Alice Springs**	**26.42**	**206**	P		P	23 21 29.3	+0.8
	0.4nm,0.8s,baz=32,slow=9.3,SNR=3.2							
CMAR	**Chiang Mai Arr**	**49.76**	**294**	LR		LR	23 46 26.8	
	comp=Z,60nm,20.1s,baz=95,slow=37							
ILAR	**Eielson Array**	**80.28**	**24**	P		P	23 28 01.9	-0.5
	0.2nm,0.5s,baz=247,slow=5.9,SNR=1.5							

*SOME **10** 23:44:15.4, 40.˚00N×76.˚15E, h10km*
*NNC **10** 23:44:18.5±1.8, 40.˚10N×76.˚20E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=12.2km s-min=9.4km az=169.0*
*KRNET **10** 23:44:22.4±0.1, 40.˚14N×75.˚96E, mb3.2*

ISC 10 23:44:21.8±1.8, 40.˚17N±0.˚08×75.˚85E±0.˚03, h10km, n68, σ2s28/103, 23C-17D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KZA	**Kyzart**	**1.96**	**347**	⇓*i*P		**Pb**	**23 44 58.0**	**+0.1**
	baz=45							
KZA				⇓*i*S		**Sb**	**23 45 23.7**	**+1.1**
	baz=45							
KZA	**Kyzart**	**1.96**	**347**	P		**Pb**	**23 44 58.2**	**+0.3**
	SNR=16							
ARLS	**Aral**	**2.05**	**326**	⇑*i*P		**Pg**	**23 44 59.5**	**-1.6**
	baz=25							
ARLS				⇑*i*S		**Sb**	**23 45 26.3**	**+1.5**
	baz=25							
ULHL	**Ulahol**	**2.10**	**8**	⇓*e*P		**Pb**	**23 44 59.4**	**-0.7**
	baz=6.0							
ULHL				⇓*i*S		**Sb**	**23 45 26.1**	**-0.2**
	baz=6.0							
ULHL	**Ulahol**	**2.10**	**8**	P		**Pb**	**23 45 00.1**	**0.0**
	SNR=37							
TARG	**Taragay, Kyrgy**	**2.15**	**43**	⇓*e*P		**Pb**	**23 44 59.1**	**-2.1**
	baz=41							
TARG				⇓*i*S		**Sn**	**23 45 26.3**	**+1.1**
	baz=41							
KDJ	**Kajisay**	**2.21**	**27**	⇑*i*P		**Pn**	**23 44 59.7**	**+1.0**
	baz=25							
KDJ				⇑*i*S		**Sn**	**23 45 27.9**	**+1.8**
	baz=25							
UCH	**Uchtor**	**2.29**	**334**	⇑*i*P		**Pb**	**23 45 02.7**	**-0.8**
	baz=33							
UCH				⇑*i*S		**Sb**	**23 45 32.0**	**-0.1**
	baz=33							
UCH	**Uchtor**	**2.29**	**334**	P		**Pg**	**23 45 04.9**	**-0.9**
	SNR=60							
AML	**Almayashu**	**2.55**	**321**	⇑*i*P		**Pb**	**23 45 06.5**	**-1.4**
	baz=20							
AML				⇑*i*S		**Sb**	**23 45 38.2**	**-1.2**
	baz=20							
AML	**Almayashu**	**2.55**	**321**	P		**Pb**	**23 45 07.2**	**-0.7**
	SNR=18							
KBK	**Karagaybulak**	**2.58**	**345**	⇓*i*P		**Pb**	**23 45 06.5**	**-1.7**
	baz=43							
KBK				⇓*i*S		**Sb**	**23 45 38.2**	**-1.9**
	baz=43							
KBK	**Karagaybulak**	**2.58**	**345**	P		**Pg**	**23 45 09.9**	**-1.3**
	SNR=23							
AAK	**Ala-Archa**	**2.67**	**338**	⇑*i*P		**Pb**	**23 45 08.0**	**-1.8**
	baz=37							
AAK				⇑*i*S		**Sb**	**23 45 40.9**	**-1.8**
	baz=37							
AAK	**Ala-Archa**	**2.67**	**338**	P		**Pg**	**23 45 11.6**	**-1.4**
	SNR=9.6							
AAK	**Ala-Archa**	**2.67**	**338**	⇑Pg		**Pg**	**23 45 11.3**	**-1.7**
	14nm,0.8s							
AAK				⇑Lg		Lg	23 45 47.1	
	18nm,0.5s							
TKM2	**Tokmak 2**	**2.76**	**356**	⇑*i*P		**Pb**	**23 45 08.7**	**-2.6**
	baz=54							
TKM2				⇑*i*S		**Sn**	**23 45 42.2**	**+2.4**
	baz=54							
TKM2	**Tokmak 2**	**2.76**	**356**	P		**Pb**	**23 45 09.9**	**-1.5**
	SNR=27							
TKM2	**Tokmak 2**	**2.76**	**356**	⇓Pn		**Pb**	**23 45 09.8**	**-1.5**
	6.8nm,0.3s							
TKM2				⇑Lg		Lg	23 45 48.8	
	17nm,0.5s							
KST	**Kastek**	**2.88**	**2**	*e*P		**Pb**	**23 45 11.6**	**-1.7**
	9.3nm,0.4s							
KST				*e*S		**Sg**	**23 45 53.5**	**-0.7**
	20nm,0.5s							
KST	**Kastek**	**2.88**	**2**	Pg		**Pb**	**23 45 11.6**	**-1.7**
	9.3nm,0.4s							
KST				Lg		Lg	23 45 53.5	
	20nm,0.5s							
IZV	**Izvestkoviy**	**2.92**	**11**	*e*P		**Pb**	**23 45 12.2**	**-2.0**
	5.4nm,0.3s							
IZV				*e*S		**Sg**	**23 45 54.6**	**-1.2**
	25nm,0.4s							
IZV	**Izvestkoviy**	**2.92**	**11**	Pg		**Pb**	**23 45 12.2**	**-2.0**
	5.4nm,0.3s							
IZV				Lg		Lg	23 45 54.6	
	25nm,0.4s							
EKS2	**Erkin-Say**	**2.94**	**329**	⇓*e*P		**Pb**	**23 45 11.8**	**-2.6**
	baz=28							
EKS2				⇓*i*S		**Sn**	**23 45 47.2**	**+3.1**
	baz=28							
EKS2	**Erkin-Say**	**2.94**	**329**	P		**Pb**	**23 45 13.4**	**-0.9**
	SNR=6.2							
CHMS	**Chumysh**	**2.95**	**344**	⇓*i*P		**Pb**	**23 45 11.7**	**-2.7**
	baz=43							
CHMS				⇓*i*S		**Sn**	**23 45 47.0**	**+2.8**
	baz=43							
ANVS	**Anan'yevo**	**2.95**	**27**	⇑*i*P		**Pn**	**23 45 10.4**	**+1.5**
	baz=25							
ANVS				⇑*i*S		**Sn**	**23 45 45.6**	**+1.1**
	baz=25							
TNSS	**Tian-Shan**	**2.98**	**16**	*e*P		**Pb**	**23 45 12.7**	**-2.7**
	10nm,0.6s							
TNSS				*e*S		**Sb**	**23 45 55.4**	**+3.4**
	14nm,0.4s							
TNSS	**Tian-Shan**	**2.98**	**16**	Pg		**Pb**	**23 45 12.7**	**-2.7**
	10nm,0.6s							
TNSS				Lg		Lg	23 45 55.4	
	14nm,0.4s							
MTBS	**Maitube**	**2.99**	**8**	*e*P		**Pb**	**23 45 13.1**	**-2.2**
	7.6nm,0.3s							
MTBS				*e*S		**Sb**	**23 45 55.9**	**+4.0**
	23nm,0.7s							
MTBS	**Maitube**	**2.99**	**8**	Pg		**Pb**	**23 45 13.1**	**-2.2**
	7.6nm,0.3s							
MTBS				Lg		Lg	23 45 55.9	
	23nm,0.7s							
PRZ	**Przheval'sk**	**3.01**	**39**	⇑*i*P		**Pn**	**23 45 11.1**	**+1.4**
	baz=37							
PRZ				⇑*i*S		**Sn**	**23 45 46.8**	**+0.8**
	baz=37							
DGS	**Degeres**	**3.07**	**359**	*e*P		**Pb**	**23 45 14.7**	**-1.9**
	7.1nm,0.4s							
DGS				*e*S		**Sg**	**23 45 59.0**	**-1.5**
	16nm,0.6s							
DGS	**Degeres**	**3.07**	**359**	Pg		**Pb**	**23 45 14.7**	**-1.9**
	7.1nm,0.4s							
DGS				Lg		Lg	23 45 59.0	
	16nm,0.6s							
MDOK	**Medeo**	**3.13**	**16**	*e*P		**Pb**	**23 45 14.8**	**-2.8**
	2.6nm,0.4s							
MDOK				*e*S		**Sb**	**23 45 59.0**	**+3.2**
	15nm,0.5s							
MDOK	**Medeo**	**3.13**	**16**	⇓Pg		**Pb**	**23 45 17.4**	**-0.2**
	6.3nm,0.6s							
MDOK				⇑Lg		Lg	23 45 59.3	
	34nm,1.2s							
MDOK	**Medeo**	**3.13**	**16**	Pg		**Pb**	**23 45 14.8**	**-2.8**
	2.6nm,0.4s							
MDOK				Lg		Lg	23 45 59.0	
	15nm,0.5s							
AAA	**Alma-Ata**	**3.14**	**14**	*e*P		**Pb**	**23 45 14.7**	**-3.1**
	12nm,0.2s							
AAA				*e*S		**Sb**	**23 45 58.9**	**+2.6**
	26nm,0.1s							
AAA	**Alma-Ata**	**3.14**	**14**	Pg		**Pb**	**23 45 14.7**	**-3.1**
	12nm,0.2s							
AAA				Lg		Lg	23 45 58.9	
	26nm,0.1s							
KOTS	**Kotyrbulak**	**3.21**	**17**	*e*P		**Pb**	**23 45 15.9**	**-3.1**
	10nm,0.5s							
KOTS				*e*S		**Sb**	**23 46 01.1**	**+2.9**
	104nm,0.5s							
KOTS	**Kotyrbulak**	**3.21**	**17**	Pg		**Pb**	**23 45 15.9**	**-3.1**
	10nm,0.5s							
KOTS				Lg		Lg	23 46 01.1	
	104nm,0.5s							
MRKS	**Merke**	**3.24**	**323**	*e*P		**Pb**	**23 45 18.8**	**-0.7**
	8.6nm,0.4s							
MRKS				*e*S		**Sg**	**23 46 06.0**	**0.0**
	16nm,0.4s							
MRKS	**Merke**	**3.24**	**323**	Pg		**Pb**	**23 45 18.8**	**-0.7**
	8.6nm,0.4s							
MRKS				Lg		Lg	23 46 06.0	
	16nm,0.4s							
USP	**Ospenovka**	**3.26**	**342**	⇑*e*P		**Pb**	**23 45 16.0**	**-3.8**
	baz=41							
USP				⇑*i*S		**Sn**	**23 45 54.4**	**+2.5**
	baz=41							
SATY	**Saty**	**3.47**	**33**	*e*P		**Pb**	**23 45 19.4**	**-4.0**
	2.1nm,0.3s							
SATY				*e*S		**Sb**	**23 46 06.8**	**+1.2**
	15nm,0.5s							
SATY	**Saty**	**3.47**	**33**	Pg		**Pb**	**23 45 19.4**	**-4.0**
	2.1nm,0.3s							
SATY				Lg		Lg	23 46 06.9	
	15nm,0.5s							
KRBS	**Karabastau**	**3.53**	**358**	*e*P		**Pb**	**23 45 23.3**	**-1.1**
	7.4nm,0.3s							
KRBS				*e*S		**Sg**	**23 46 13.7**	**-1.5**
	4.6nm,0.5s							
KRBS	**Karabastau**	**3.53**	**358**	Pg		**Pb**	**23 45 23.3**	**-1.1**
	7.4nm,0.3s							
KRBS				Lg		Lg	23 46 13.7	
	4.6nm,0.5s							
KTBS	**Karatobe**	**3.60**	**10**	*e*P		**Pb**	**23 45 24.0**	**-1.6**
	4.8nm,0.3s							
KTBS				*e*S		**Sg**	**23 46 14.8**	**-2.5**
	40nm,0.4s							
KTBS	**Karatobe**	**3.60**	**10**	Pg		**Pb**	**23 45 24.0**	**-1.6**
	4.8nm,0.3s							
KTBS				Lg		Lg	23 46 14.8	
	40nm,0.4s							
KUU	**Kurty**	**3.74**	**5**	*e*P		**Pb**	**23 45 26.5**	**-1.5**
	6.1nm,0.4s							
KUU				*e*S		**Sg**	**23 46 19.0**	**-3.0**
	41nm,0.7s							
KUU	**Kurty**	**3.74**	**5**	Pg		**Pb**	**23 45 26.5**	**-1.5**
	6.1nm,0.4s							
KUU				Lg		Lg	23 46 19.0	
	41nm,0.7s							
CHKK	**Chushkaly**	**3.78**	**13**	*e*P		**Pb**	**23 45 27.1**	**-1.6**
	2.4nm,0.6s							
CHKK				*e*S		**Sg**	**23 46 20.1**	**-3.2**
	14nm,0.3s							
CHKK	**Chushkaly**	**3.78**	**13**	Pg		**Pb**	**23 45 27.1**	**-1.6**
	2.4nm,0.6s							
CHKK				Lg		Lg	23 46 20.1	
	14nm,0.3s							
UZB	**Uzynbulak**	**3.81**	**38**	*e*P		**Pn**	**23 45 24.2**	**+3.4**
	0.7nm,0.3s							
UZB				*e*S		**Sb**	**23 46 15.1**	**-0.4**
	9.0nm,0.7s							
UZB	**Uzynbulak**	**3.81**	**38**	Pg		**Pn**	**23 45 24.2**	**+3.4**
	0.7nm,0.3s							
UZB				Lg		Lg	23 46 15.1	
	9.0nm,0.7s							
KPKS	**Kokpek**	**3.92**	**32**	*e*P		**Pb**	**23 45 26.9**	**-4.2**
	3.0nm,0.2s							
KPKS				*e*S		**Sb**	**23 46 19.9**	**+1.3**
	36nm,0.5s							
SHLS	**Shalkode**	**4.03**	**41**	*e*P		**Pb**	**23 45 32.4**	**-0.6**
	3.9nm,0.3s							
SHLS				*e*S		**Sg**	**23 46 29.0**	**-2.3**
	17nm,0.7s							
SHLS	**Shalkode**	**4.03**	**41**	Pg		**Pb**	**23 45 32.4**	**-0.6**
	3.9nm,0.3s							
SHLS				Lg		Lg	23 46 29.0	
	17nm,0.7s							
PDGK	**Podgornoye**	**4.17**	**40**	Pg		**Pb**	**23 45 31.2**	**-4.2**
	1.4nm,0.5s							
PDGK				Lg		Lg	23 46 27.0	
	6.1nm,0.6s							
PDGK	**Podgornoye**	**4.17**	**40**	⇓Pg		**Pb**	**23 45 33.0**	**-2.4**
	2.8nm,0.8s							
PDGK				⇓Lg		Lg	23 46 29.4	
	7.1nm,0.6s							
ARXS	**Arharly**	**4.30**	**19**	*e*P		**Pb**	**23 45 36.4**	**-1.2**
	3.8nm,0.4s							
ARXS				*e*S		**Sg**	**23 46 36.0**	**-4.0**
	10nm,0.5s							
ARXS	**Arharly**	**4.30**	**19**	Pg		**Pb**	**23 45 36.4**	**-1.2**
	3.8nm,0.4s							
ARXS				Lg		Lg	23 46 36.0	
	10nm,0.5s							
KTMS	**Ketmen**	**4.70**	**44**	*e*P		**Pb**	**23 45 41.6**	**-2.8**
	0.3nm,0.1s							
KTMS				*e*S		**Sb**	**23 46 45.0**	**+3.9**
	3.4nm,0.5s							
KTMS	**Ketmen**	**4.70**	**44**	Pg		**Pb**	**23 45 41.6**	**-2.8**
	0.3nm,0.1s							
KTMS				Lg		Lg	23 46 44.9	
	3.4nm,0.5s							
KK31	**Karatay Array**	**4.96**	**308**	⇓Pg		**Pg**	**23 45 55.2**	**-1.5**
	0.5nm,0.3s,baz=131,slow=18,SNR=5.2							
KK31				⇑Lg		Lg	23 47 01.0	
	1.3nm,0.4s,baz=131,slow=29,SNR=5.7							
DJR	**Jarkent**	**5.09**	**34**	*e*P		**Pb**	**23 45 49.3**	**-1.7**
	0.4nm,0.1s							
DJR				*e*S		**Sb**	**23 46 58.3**	**+6.1**
	2.9nm,0.4s							
DJR	**Jarkent**	**5.09**	**34**	Pg		**Pb**	**23 45 49.3**	**-1.7**
	0.4nm,0.1s							
DJR				Lg		Lg	23 46 58.3	
	2.9nm,0.4s							

IDC 10 23:45:17.9±3.4, 22.˚61N×144.˚64E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/27, mbtmp3.6/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/40, Error ellipse: s-maj=150.6km s-min=34.1km az=82.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**14.96**	**340**	LR		LR	23 54 28.9	
	comp=Z,61nm,18.7s,baz=225,slow=37							
WRA	**Warramunga Arr**	**43.47**	**194**	P		P	23 53 22.9	-0.1
	0.3nm,0.3s,baz=16,slow=9.4,SNR=6.8							
MKAR	**Makanchi Array**	**55.09**	**312**	P		P	23 54 51.7	0.0
	0.2nm,0.5s,baz=94,slow=7.9,SNR=1.9							
ELK	**Elko**	**82.81**	**49**	LR		LR	00 32 37.6	
	comp=Z,32nm,18.6s,baz=114,slow=34							
FINES	**FINESS Array B**	**82.94**	**335**	P		P	23 57 44.3	-0.1
	1.1nm,0.9s,baz=69,slow=7.9,SNR=3.9							

*NEIC **10** 23:50:51.6±1.9, 7.˚54S±0.˚08×128.˚82E±0.˚07, h134km±9km, mb4.0/19, Error ellipse: s-maj=11.3km s-min=10.5km az=203.0*
*IDC **10** 23:50:51.1±5.9, 7.˚30S×128.˚73E, h103km±53km, mb3.6/5, mb1 3.6/7, mb1mx3.4/29, mbtmp3.9/7, Error ellipse: s-maj=133.6km s-min=19.4km az=65.0*
*DJA **10** 23:50:54.8±0.4, 8.˚5S±3.˚×12.˚9E±.˚, h62km±25km, M4.5/7, mb4.2/7, mB5.3/1, MLv4.6/6, Mw(mB)4.7/1*

ISC 10 23:50:52.7±0.5, 7.˚57S±0.˚05×128.˚77E±0.˚06, h131km, n48, σ1s81/55, mb3.9/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.54**	**99**	Pn		**Pn**	**23 51 33.0**	**-0.4**
SOEI	**Soe**	**4.95**	**244**	P		**Pn**	**23 52 08.1**	**+2.7**
SOEI				S		**Sn**	**23 53 02.2**	**+0.3**
SOEI	**Soe**	**4.95**	**244**

PSAA1				IAmb	IAmb	23 54 49.6	
	comp=Z,6.8nm,0.8s						
PSAB1	**Pilbara Seismi**	**16.38**	**211**		**P**	**23 54 35.4**	**-0.2**
PSAB3	**Pilbara Seismi**	**16.39**	**211**		**P**	**23 54 34.9**	**-0.8**
PSAB3				IAmb	IAmb	23 54 50.2	
	comp=Z,11nm,1.0s						
PSAC3	**Pilbara Seismi**	**16.42**	**211**	P	**P**	**23 54 35.6**	**-0.5**
PSAC3				IAmb	IAmb	23 54 52.2	
	comp=Z,11nm,1.1s						
PSAD3	**Pilbara Seismi**	**16.46**	**211**	P	**P**	**23 54 35.9**	**-0.6**
PSAD3				IAmb	IAmb	23 54 54.5	
	comp=Z,7.2nm,0.9s						
AS31	**Alice Springs**	**16.75**	**163**	P	**Pn**	**23 54 38.7**	**-0.9**
ASAR	**Alice Springs**	**16.75**	**163**	P	**P**	**23 54 44.2**	**+4.6**
	comp=Z,0.4nm,0.3s,baz=341,slow=11,SNR=35						
ASAR				S	**Sn**	**23 57 44.8**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=329,slow=23,SNR=2.1						
ASAR	**Alice Springs**	**16.75**	**163**	P	**Pn**	**23 54 37.9**	**-1.8**
BBOO	**Buckleboo**	**26.01**	**166**	P	**P**	**23 56 13.2**	**-0.4**
BBOO				IAmb	IAmb	23 56 14.7	
	comp=Z,5.6nm,1.1s						
STKA	**Stephens Creek**	**26.98**	**155**	P	**P**	**23 56 25.7**	**+3.5**
	comp=Z,1.7nm,0.5s,baz=319,slow=13,SNR=5.0						
STKA	**Stephens Creek**	**26.98**	**155**	P	**P**	**23 56 20.5**	**-1.8**
SONM	**Songino Array**	**58.60**	**343**	P	**P**	**00 00 35.4**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=157,slow=7.3,SNR=3.1						
MKAR	**Makanchi Array**	**68.04**	**328**	P	**P**	**00 01 38.2**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=120,slow=7.2,SNR=15						
ZALV	**Zalesovo Beam**	**71.56**	**334**	P	**P**	**00 01 58.8**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=140,slow=7.4,SNR=1.8						
ZALV	**Zalesovo Beam**	**71.56**	**334**	P	**P**	**00 01 57.4**	**-2.0**
VNDA	**Vanda**	**72.04**	**173**	P	**P**	**00 02 04.6**	**+2.7**
	comp=Z,0.4nm,0.7s,baz=328,slow=9.8,SNR=2.2						
VNDA	**Vanda**	**72.04**	**173**	P	**P**	**00 02 02.5**	**+0.5**
KURK	**Kurchatov**	**72.37**	**329**	P	**P**	**00 02 02.8**	**-1.5**
KURK				IAmb	IAmb	00 02 05.5	
	comp=Z,2.4nm,1.1s						
ABKAR	**Akbulak array**	**82.20**	**322**	P	**P**	**00 02 58.1**	**-1.0**
LPAZ	**La Paz**	**150.99**	**145**	PKPbc	**PKiKP**	**00 10 34.2**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=201,slow=4.7,SNR=5.6						
LPAZ				PKPab	**PKPab**	**00 10 42.0**	**+2.4**
	comp=Z,1.0nm,0.6s,baz=155,slow=2.3,SNR=5.6						

*JMA **10** 23:51:03.3±0.1,24°.88N×122°.32E,h4km,M2.4*
*TAP **10** 23:51:03.5,24°.90N×122°.38E,h11km,ML2.6,D*
ISC 10 23:51:03.4±1.1,24°.85N±0°.03×122°.35E±0°.02,h13km±10km,
n31,σ0s51/53,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.36**	**295**	*i* P	**Pg**	**23 51 10.6**	**-0.2**
	baz=286						
TWB1				S	**Sg**	**23 51 15.2**	**-0.5**
	baz=286						
TIPB	**Shuangxi**	**0.49**	**284**	P	**Pg**	**23 51 13.1**	**0.0**
	baz=277						
TIPB				S	**Sb**	**23 51 20.9**	**-0.2**
	baz=277						
TWC	**Suao**	**0.52**	**242**	*e*S	**Sb**	**23 51 22.6**	**+0.8**
	baz=238						
NWF	**Wu-fen Shan**	**0.56**	**293**	P	**Pg**	**23 51 14.4**	**0.0**
	baz=287						
NWF				*e*S	**Sg**	**23 51 22.5**	**+0.6**
	baz=287						
WFSB	**Wu-fen Shan**	**0.56**	**293**	*e*P	**Pb**	**23 51 15.1**	**-0.1**
	baz=287						
WFSB				*e*S	**Sg**	**23 51 22.5**	**+0.5**
	baz=287						
ENAH	**Nanao**	**0.64**	**231**	*e*S	**Sb**	**23 51 25.9**	**+0.7**
	baz=228						
TWE	**Neicheng**	**0.64**	**258**	*e*P	**Pg**	**23 51 15.9**	**+0.1**
	baz=253						
JYNG	**Yonagunijimaku**	**0.67**	**127**	P	**Pb**	**23 51 17.2**	**+0.2**
JYNG				S	**Sn**	**23 51 27.1**	**-1.9**
ENA	**Nanau**	**0.70**	**233**	*e*S	**Sb**	**23 51 27.2**	**+0.2**
	baz=230						
YOJ	**Yonaguni jima**	**0.71**	**123**	P	**Pb**	**23 51 17.9**	**+0.2**
YOJ				*e*S	**Sb**	**23 51 27.8**	**+0.4**
ENTT	**Nioudou**	**0.75**	**254**	*e*P	**Pb**	**23 51 18.4**	**+0.1**
	baz=250						
ENTT				*e*S	**Sb**	**23 51 29.2**	**+0.8**
	baz=250						
YM01	**YM01**	**0.77**	**292**	*e*P	**Pg**	**23 51 17.9**	**-0.4**
	baz=288						
YM08	**YM08**	**0.77**	**296**	*e*P	**Pg**	**23 51 18.1**	**-0.3**
	baz=291						
YM08				*e*S	**Sg**	**23 51 28.3**	**-0.2**
	baz=291						
YM11	**YM11**	**0.77**	**294**	*e*P	**Pb**	**23 51 18.6**	**-0.2**
	baz=289						
YM11				*e*S	**Sg**	**23 51 28.9**	**+0.3**
	baz=289						
NWLT	**Wulai**	**0.78**	**265**	*e*P	**Pb**	**23 51 18.9**	**+0.1**
	baz=261						
YM05	**YM05**	**0.78**	**294**	*e*P	**Pg**	**23 51 18.3**	**-0.3**
	baz=289						
YM05				*e*S	**Sg**	**23 51 29.0**	**+0.2**
	baz=289						
YM10	**YM10**	**0.78**	**293**	*e*P	**Pg**	**23 51 18.4**	**-0.2**
	baz=288						
YM10				*e*S	**Sg**	**23 51 29.0**	**+0.2**
	baz=288						
NDT	**Datong Townshi**	**0.80**	**252**	*e*P	**Pb**	**23 51 19.8**	**+0.5**
	baz=249						
NDT				*e*S	**Sb**	**23 51 31.3**	**+1.2**
	baz=249						
PCYT	**Pengchaiyu**	**0.81**	**342**	*e*P	**Pb**	**23 51 19.3**	**-0.2**
	baz=339						
YHNB	**Yeheng**	**0.91**	**259**	*e*P	**Pg**	**23 51 20.5**	**-0.4**
	baz=255						
YHNB				*e*S	**Sb**	**23 51 33.6**	**+0.6**
	baz=255						
NSK	**Sanguang**	**0.92**	**259**	*e*P	**Pg**	**23 51 20.8**	**-0.5**
	baz=256						
NACB	**Ninganchiao**	**0.97**	**226**	*e*P	**Pg**	**23 51 21.8**	**-0.3**
	baz=224						
NACB				*e*S	**Sg**	**23 51 33.5**	**-1.2**
	baz=224						
NNSB	**Datong**	**0.98**	**245**	*e*P	**Pb**	**23 51 22.7**	**+0.4**
	baz=242						
NNSB				*e*S	**Sg**	**23 51 35.3**	**+0.1**
	baz=242						
NNSH	**Datong**	**0.98**	**245**	*e*P	**Pb**	**23 51 22.4**	**0.0**
	baz=242						
NNSH				*e*S	**Sg**	**23 51 35.3**	**+0.1**
	baz=242						
ETLH	**Xiulin Townshi**	**1.02**	**231**	*e*P	**Pg**	**23 51 22.6**	**-0.6**
	baz=229						
ETLH				*e*S	**Sg**	**23 51 36.5**	**-0.1**
	baz=229						
FUSS	**Fushou**	**1.18**	**239**	*e*P	**Pg**	**23 51 26.1**	**0.0**
	baz=237						
FUSS				*e*S	**Sb**	**23 51 41.0**	**-0.1**
	baz=237						
WHF	**Hehuan Shan**	**1.22**	**235**	*e*P	**Pb**	**23 51 26.3**	**-0.2**
	baz=233						
WHF				*e*S	**Sb**	**23 51 42.2**	**-0.1**
	baz=233						
TDCB	**Techi**	**1.24**	**241**	*e*P	**Pg**	**23 51 27.7**	**+0.4**
	baz=239						
TDCB				*e*S	**Sn**	**23 51 43.9**	**+0.6**
	baz=239						
CHGB	**Renai**	**1.33**	**234**	*e*P	**Pg**	**23 51 28.7**	**-0.4**
	baz=232						
CHGB				*e*S	**Sb**	**23 51 45.6**	**+0.1**
	baz=232						
IRIF	**Iriomote-Funau**	**1.36**	**112**	P	**Pg**	**23 51 29.7**	**+0.2**
IRIF				*e*S	**Sg**	**23 51 47.8**	**+0.7**
SSLB	**Suanglung**	**1.66**	**231**	*e*P	**Pb**	**23 51 34.1**	**+0.2**
	baz=229						

*KRNET **11** 00:04:44.5±0.1,39°.30N×77°.22E,mb3.5*
*SOME **11** 00:04:48.6,39°.68N×77°.08E,h10km*
*NNC **11** 00:04:50.5±0.9,39°.72N×77°.07E,h0km,mb4.2,mpv3.8,*
Error ellipse: s-maj=6.0km s-min=4.9km az=162.0
ISC 11 00:04:54.0±1.7,39°.92N±0°.08×76°.98E±0°.03,h10km,n68,
σ1s98/101,14C-13D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.91**	**19**	⇓*e*P	**Pn**	**00 05 26.9**	**-0.2**
	baz=10.0						
TARG				⇓*i*S	**Sg**	**00 05 58.1**	**+2.5**
	baz=10.0						
KDJ	**Kajisay**	**2.21**	**4**	⇑*i*P	**Pb**	**00 05 32.2**	**-2.1**
	baz=60						
KDJ				⇑*i*S	**Sg**	**00 06 06.3**	**+1.0**
	baz=60						
ULHL	**Ulahol**	**2.39**	**347**	⇑*i*P	**Pb**	**00 05 34.9**	**-2.4**
	baz=46						
ULHL				⇑*i*S	**Sg**	**00 06 11.7**	**+0.8**
	baz=46						
ULHL	**Ulahol**	**2.39**	**347**	P	**Pb**	**00 05 37.3**	**-0.1**
	SNR=14						
KZA	**Kyzart**	**2.52**	**329**	⇓*i*P	**Pn**	**00 05 36.6**	**+1.1**
	baz=32						
KZA				⇓*i*S	**Sg**	**00 06 14.5**	**-0.7**
	baz=32						
KZA	**Kyzart**	**2.52**	**329**	P	**Pb**	**00 05 37.1**	**-2.6**
	SNR=28						
PRZ	**Przheval'sk**	**2.78**	**22**	⇓*i*P	**Pn**	**00 05 38.5**	**-0.3**
	baz=16						
PRZ				⇓*e*S	**Sb**	**00 06 18.0**	**0.0**
	baz=16						
ARLS	**Aral**	**2.80**	**315**	⇓*i*P	**Pn**	**00 05 39.8**	**+0.8**
	baz=20						
ARLS				⇓*i*S	**Sb**	**00 06 19.9**	**+1.3**
	baz=20						
UCH	**Uchtor**	**2.97**	**322**	⇑*i*P	**Pn**	**00 05 42.8**	**+1.2**
	baz=26						
UCH				⇑*i*S	**Sb**	**00 06 24.6**	**+0.8**
	baz=26						
UCH	**Uchtor**	**2.97**	**322**	P	**Pn**	**00 05 42.2**	**+0.5**
	SNR=11						
TNSS	**Tian-Shan**	**3.12**	**360**	*e*P	**Pg**	**00 05 52.2**	**-1.6**
	29nm,0.6s						
TNSS				*e*S	**Sg**	**00 06 38.1**	**+3.9**
	28nm,0.6s						
TNSS	**Tian-Shan**	**3.12**	**360**	Pg	**Pg**	**00 05 52.2**	**-1.6**
	29nm,0.6s						
TNSS				Lg	Lg	00 06 38.1	
	28nm,0.6s						
IZV	**Izvestkoviy**	**3.13**	**355**	*e*P	**Pb**	**00 05 51.0**	**+1.2**
	14nm,0.4s						
IZV				*e*S	**Sg**	**00 06 36.1**	**+1.6**
	44nm,0.5s						
IZV	**Izvestkoviy**	**3.13**	**355**	Pg	**Pb**	**00 05 51.0**	**+1.2**
	14nm,0.4s						
IZV				Lg	Lg	00 06 36.7	
	44nm,0.5s						
KBK	**Karagaybulak**	**3.14**	**331**	⇓*i*P	**Pn**	**00 05 45.3**	**+1.6**
	baz=34						
KBK				⇓*i*S	**Sb**	**00 06 29.0**	**+0.7**
	baz=34						
TKM2	**Tokmak 2**	**3.18**	**341**	⇓*e*P	**Pn**	**00 05 46.0**	**+1.7**
	baz=42						
TKM2				⇓*e*S	**Sb**	**00 06 30.3**	**+0.8**
	baz=42						
TKM2	**Tokmak 2**	**3.18**	**341**	P	**Pb**	**00 05 47.4**	**-3.3**
	SNR=9.6						
TKM2	**Tokmak 2**	**3.18**	**341**	Pn	**Pn**	**00 05 46.1**	**+1.9**
TKM2				Lg	Lg	00 06 36.3	
KST	**Kastek**	**3.21**	**347**	*e*P	**Pg**	**00 05 53.1**	**-2.6**
	15nm,0.6s						
KST				*e*S	**Sg**	**00 06 39.9**	**+2.6**
	27nm,0.6s						
KST	**Kastek**	**3.21**	**347**	Pg	**Pg**	**00 05 53.1**	**-2.6**
	15nm,0.6s						
KST				Lg	Lg	00 06 39.9	
	27nm,0.6s						
MTBS	**Maitube**	**3.24**	**353**	*e*P	**Pb**	**00 05 53.3**	**+1.6**
	7.9nm,0.4s						
MTBS				*e*S	**Sg**	**00 06 39.9**	**+1.9**
	14nm,0.3s						
MTBS	**Maitube**	**3.24**	**353**	Pg	**Pb**	**00 05 53.3**	**+1.6**
	7.9nm,0.4s						
MTBS				Lg	Lg	00 06 39.9	
	14nm,0.3s						
MDOK	**Medeo**	**3.24**	**1**	*e*P	**Pb**	**00 05 53.1**	**+1.3**
	15nm,0.6s						
MDOK				*e*S	**Sg**	**00 06 39.9**	**+1.7**
	21nm,0.8s						
MDOK	**Medeo**	**3.24**	**1**	Pg	**Pb**	**00 05 53.4**	**+1.6**
MDOK				Lg	Lg	00 06 39.7	
MDOK	**Medeo**	**3.24**	**1**	Pg	**Pb**	**00 05 53.1**	**+1.3**
	15nm,0.6s						
MDOK				Lg	Lg	00 06 39.9	
	21nm,0.8s						
AAA	**Alma-Ata**	**3.29**	**359**	*e*P	**Pg**	**00 05 55.7**	**-1.3**
	12nm,0.2s						
AAA				*e*S	**Sg**	**00 06 44.0**	**+4.3**
	19nm,0.3s						
AAA	**Alma-Ata**	**3.29**	**359**	Pg	**Pg**	**00 05 55.7**	**-1.3**
	12nm,0.2s						
AAA				Lg	Lg	00 06 44.0	
	19nm,0.3s						
KNDC	**Almaty**	**3.30**	**360**	Pg	**Pg**	**00 05 54.6**	**-2.6**
KNDC				Lg	Lg	00 06 42.0	
AAK	**Ala-Archa**	**3.30**	**326**	⇑*i*P	**Pn**	**00 05 47.5**	**+1.6**
	baz=29						
AAK				⇑*i*S	**Sb**	**00 06 32.8**	**-0.3**
	baz=29						
AAK	**Ala-Archa**	**3.30**	**326**	Pg	**Pg**	**00 05 54.9**	**-2.4**
AAK				Lg	Lg	00 06 40.7	
KOTS	**Kotyrbulak**	**3.31**	**2**	*e*P	**Pb**	**00 05 54.0**	**+1.0**
	30nm,0.4s						
KOTS				*e*S	**Sg**	**00 06 41.0**	**+0.5**
	111nm,0.6s						
KOTS	**Kotyrbulak**	**3.31**	**2**	Pg	**Pb**	**00 05 54.0**	**+1.0**
	30nm,0.4s						
KOTS				Lg	Lg	00 06 42.5	
	111nm,0.6s						
SATY	**Saty**	**3.32**	**18**	*e*P	**Pg**	**00 05 55.3**	**-2.3**
	19nm,0.5s						
SATY				*e*S	**Sg**	**00 06 43.2**	**+2.7**
	29nm,0.7s						
SATY	**Saty**	**3.32**	**18**	Pg	**Pg**	**00 05 55.3**	**-2.3**
	19nm,0.5s						
SATY				Lg	Lg	00 06 43.2	
	29nm,0.7s						
AML	**Almayashu**	**3.33**	**313**	⇑*i*P	**Pn**	**00 05 47.3**	**+0.8**
	baz=18						
AML				⇑*i*S	**Sb**	**00 06 32.3**	**-1.8**
	baz=18						
AML	**Almayashu**	**3.33**	**313**	P	**Pn**	**00 05 46.1**	**-0.4**
	SNR=10						
DGS	**Degeres**	**3.44**	**345**	*e*P	**Pg**	**00 05 57.3**	**-2.7**
	9.5nm,0.7s						
DGS				*e*S	**Sg**	**00 06 46.8**	**+2.1**
	45nm,0.6s						
DGS	**Degeres**	**3.44**	**345**	Pg	**Pb**	**00 05 56.8**	**+1.7**
	9.5nm,0.7s						
DGS				Lg	Lg	00 06 46.8	
	45nm,0.6s						
CHMS	**Chumysh**	**3.50**	**332**	P	**Sg**	**00 06 49.2**	**+2.6**
	SNR=5.3						
UZB	**Uzynbulak**	**3.57**	**25**	*e*P	**Pb**	**00 05 58.5**	**+1.1**
	14nm,0.5s						
UZB				*e*S	**Sg**	**00 06 48.8**	**+0.1**
	29nm,0.7s						
UZB	**Uzynbulak**	**3.57**	**25**	Pg	**Pb**	**00 05 58.5**	**+1.1**
	14nm,0.5s						
UZB				Lg	Lg	00 06 48.8	
	29nm,0.7s						
EKS2	**Erkin-Say**	**3.65**	**320**	⇑*i*P	**Pn**	**00 05 51.6**	**+0.9**
	baz=23						
EKS2				⇑*i*S	**Sb**	**00 06 40.6**	**-2.6**
	baz=23						
SHLS	**Shalkode**	**3.73**	**29**	*e*P	**Pg**	**00 06 03.4**	**-2.2**
	23nm,0.6s						
SHLS				*e*S	**Sg**	**00 06 57.0**	**+3.1**
	54nm,0.6s						
SHLS	**Shalkode**	**3.73**	**29**	Pg	**Pg**	**00 06 03.4**	**-2.2**
	23nm,0.6s						
SHLS				Lg	Lg	00 06 57.1	
	54nm,0.6s						
KPKS	**Kokpek**	**3.77**	**19**	*e*P	**Pb**	**00 06 01.1**	**+0.4**
	21nm,0.5s						
KPKS				*e*S	**Sg**	**00 06 53.0**	**-2.0**
	44nm,0.5s						
KTBS	**Karatobe**	**3.80**	**357**	*e*P	**Pb**	**00 06 03.2**	**+2.1**
	6.2nm,0.6s						
KTBS				*e*S	**Sg**	**00 06 57.0**	**+1.1**
	45nm,0.8s						
KTBS	**Karatobe**	**3.80**	**357**	Pg	**Pb**	**00 06 03.2**	**+2.1**
	6.2nm,0.6s						
KTBS				Lg	Lg	00 06 57.6	
	45nm,0.8s						
PDGK	**Podgornoye**	**3.89**	**28**	Pg	**Pb**	**00 06 04.2**	**+1.3**
	6.6nm,0.5s						
PDGK				Lg	Lg	00 06 58.7	
	21nm,0.8s						
PDGK	**Podgornoye**	**3.89**	**28**	⇑Pn	**Pn**	**00 05 53.4**	**-0.6**
	11nm,0.6s						
PDGK				⇑Lg	Lg	00 06 59.4	
	51nm,0.8s						
KRBS	**Karabastau**	**3.90**	**346**	*e*P	**Pb**	**00 06 03.8**	**+0.9**
	4.3nm,0.5s						
KRBS				*e*S	**Sg**	**00 06 57.9**	**-1.4**
	8.1nm,0.5s						
CHKK	**Chushkaly**	**3.93**	**0**	*e*P	**Pg**	**00 06 06.1**	**-3.2**
	9.6nm,0.5s						
CHKK				*e*S	**Sg**	**00 07 01.9**	**+1.5**
	16nm,0.4s						
CHKK	**Chushkaly**	**3.93**	**0**	Pg	**Pb**	**00 06 05.5**	**+2.0**
	9.6nm,0.5s						
CHKK				Lg	Lg	00 07 01.9	
	16nm,0.4s						
MRKS	**Merke**	**4.00**	**316**	*e*P	**Pb**	**00 06 05.7**	**+1.1**
	16nm,0.4s						
MRKS				*e*S	**Sg**	**00 07 01.0**	**-1.3**
	26nm,0.4s						
MRKS	**Merke**	**4.00**	**316**	Pg	**Pb**	**00 06 06.3**	**+1.7**
	16nm,0.4s						
MRKS				Lg	Lg	00 07 01.2	
	26nm,0.4s						
KUU	**Kurty**	**4.00**	**353**	*e*P	**Pb**	**00 06 06.3**	**+1.7**
	9.1nm,0.8s						
KUU				*e*S	**Sg**	**00 07 02.6**	**+0.1**
	33nm,0.7s						
KUU	**Kurty**	**4.00**	**353**	Pg	**Pb**	**00 06 06.3**	**+1.7**
	9.1nm,0.8s						
KUU				Lg	Lg	00 07 02.6	
	33nm,0.7s						
KTMS	**Ketmen**	**4.33**	**34**	*e*P	**Pb**	**00 06 12.0**	**+1.6**
	2.7nm,0.3s						
KTMS				*e*S	**Sg**	**00 07 12.1**	**-1.2**
	22nm,0.6s						
KTMS	**Ketmen**	**4.33**	**34**	Pg	**Pb**	**00 06 12.0**	**+1.6**
	2.7nm,0.3s						
KTMS				Lg	Lg	00 07 12.1	
	22nm,0.6s						
ARXS	**Arharly**	**4.34**	**8**	*e*P	**Pg**	**00 06 13.5**	**-3.6**
	23nm,0.7s						
ARXS				*e*S	**Sg**	**00 07 14.6**	**+1.3**
	13nm,0.6s						
ARXS	**Arharly**	**4.34**	**8**	Pg	**Pg**	**00 06 13.5**	**-3.6**
	23nm,0.7s						
ARXS				Lg	Lg	00 07 14.6	
	13nm,0.6s						
DJR	**Jarkent**	**4.88**	**24**	*e*P	**Pb**	**00 06 21.9**	**+2.2**
	7.2nm,0.4s						
DJR				*e*S	**Sg**	**00 07 29.6**	**-1.1**
	8.5nm,0.5s						
DJR	**Jarkent**	**4.88**	**24**	Pg	**Pb**	**00 06 21.9**	**+2.2**
	7.2nm,0.4s						
DJR				Lg	Lg	00 07 29.6	
	8.5nm,0.5s						
TDK	**Taldyqorghan**	**5.19**	**11**	*e*P	**Pb**	**00 06 28.3**	**+3.4**
	25nm,0.3s						
TDK				*e*S	**Sg**	**00 07 40.4**	**-0.2**
	28nm,0.5s						
TDK	**Taldyqorghan**	**5.19**	**11**	Pg	**Pg**	**00 06 29.2**	**-4.2**
	25nm,0.3s						
TDK				Lg	Lg	00 07 40.6	
	28nm,0.5s						
IUG	**Iuzhnay**	**5.71**	**295**	*e*P	**Pb**	**00 06 37.4**	**+3.6**
	8.6nm,0.5s						
IUG				*e*S	**Sg**	**00 07 55.4**	**-1.8**
	17nm,0.7s						
IUG	**Iuzhnay**	**5.71**	**295**	Pg	**Pb**	**00 06 37.4**	**+3.6**
	8.6nm,0.5s						
IUG				Lg	Lg	00 07 55.4	
	17nm,0.7s						
KK31	**Karatay Array**	**5.81**	**305**	Pg	**Pb**	**00 06 37.5**	**+2.1**
	1.6nm,0.5s,baz=135,slow=16,SNR=11						
KK31				Lg	Lg	00 07 58.3	
	6.3nm,0.6s,baz=124,slow=28,SNR=5.6						
MK31	**Makanchi Array**	**7.88**	**28**	⇓Lg	Lg	00 09 03.2	
	1.1nm,0.7s,baz=208,slow=28,SNR=3.5						

*NEIC **11** 00:07:58.0±2.1,16°.29N±0°.04×98°.28W±0°.04,h16km±4km,*
Error ellipse: s-maj=6.8km s-min=5.4km az=205.0
*MEX **11** 00:07:59.0±0.4,16°.20N×98°.25W,h34km±10km,MD4.2*
ISC 11 00:07:54.3±1.4,16°.15N±0°.04×98°.32W±0°.04,h6km±9km,
n125,σ1s65/140,mb4.2/35,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**37**	*e*P	**Pg**	**00 08 01.0**	**+0.7**
PNIG				*i* S	**Sg**	**00 08 05.3**	**+1.0**
PNIG	**Pinotepa**	**0.30**	**37**		**Pg**	**00 08 01.0**	**+0.7**
PNIG					**Sg**	**00 08 05.3**	**+1.0**
YOIG	**Yosondua**	**1.02**	**46**	*i* P	**Pb**	**00 08 14.1**	**-0.4**
YOIG				*i* S	**Sg**	**00 08 25.6**	**-1.6**
PEIG	**Puerto Escondi**	**1.14**	**98**	*e*P	**Pg**	**00 08 15.8**	**-0.3**
PEIG				*e*S	**Sg**	**00 08 29.3**	**-1.5**
TLIG	**Tlapa**	**1.42**	**350**	*e*P	**Pn**	**00 08 20.1**	**-0.7**
TLIG				*i* S	**Sb**	**00 08 36.8**	**-3.0**
TLIG	**Tlapa**	**1.42**	**350**		**Pn**	**00 08 20.1**	**-0.7**
TLIG					**Sb**	**00 08 38.4**	**-1.4**
HLIG	**Huajuapan de L**	**1.74**	**16**	*i* P	**Pn**	**00 08 24.1**	**-1.1**
HLIG				*i* S	**Sn**	**00 08 44.1**	**-3.7**
FTIG	**Fresnillo de T**	**1.76**	**6**	*e*P	**Pn**	**00 08 25.2**	**-0.2**
FTIG				*e*S	**Sn**	**00 08 45.1**	**-3.0**
VHO	**Vista Hermosa**	**1.77**	**59**	*i* P	**Pn**	**00 08 25.7**	**0.0**
VHO				*e*S	**Sn**	**00 08 47.6**	**-1.1**
CAIG	**El Cayaco**	**2.07**	**296**	*e*P	**Pn**	**00 08 27.6**	**-2.0**
CAIG				*i* S	**Sn**	**00 08 52.8**	**-2.9**
CAIG	**El Cayaco**	**2.07**	**296**		**Pn**	**00 08 27.7**	**-1.9**
HUIG	**Huatulco**	**2.16**	**100**	*e*P	**Pn**	**00 08 30.4**	**-0.4**
HUIG				*i* S	**Sn**	**00 08 54.8**	**-3.1**
HUIG	**Huatulco**	**2.16**	**100**		**Pn**	**00 08 30.5**	**-0.3**
HUIG					**Sb**	**00 09 00.2**	**-0.6**
TOIG	**Toxpalan**	**2.27**	**32**	*e*P	**Pn**	**00 08 31.7**	**-0.8**
PLIG	**Platanillo**	**2.50**	**333**	*e*P	**Pn**	**00 08 35.9**	**+0.3**
PLIG				*i* S	**Sn**	**00 09 04.4**	**-2.1**
PLIG	**Platanillo**	**2.50**	**333**		**Pn**	**00 08 36.7**	**+1.1**
PLIG					**Sn**	**00 09 06.2**	**-0.2**
ARIG	**Puente Sto Nin**	**2.87**	**318**	*e*P	**Pn**	**00 08 40.8**	**+0.2**
ARIG				*e*S	**Sn**	**00 09 14.2**	**-1.3**
ARIG	**Puente Sto Nin**	**2.87**	**318**		**Pn**	**00 08 44.6**	**+4.0**
AMVM	**AMECAMECA**	**3.00**	**351**	*e*P	**Pn**	**00 08 42.1**	**-0.5**
AMVM	**AMECAMECA**	**3.00**	**351**		**Pg**	**00 08 51.1**	**-0.7**
MAVM	**Malinalco, Edo**	**3.01**	**338**	*i* P	**Pn**	**00 08 43.4**	**+0.7**
MAVM	**Malinalco, Edo**	**3.01**	**338**		**Pb**	**00 08 49.8**	**+1.3**
UNM	**Universidad Na**	**3.27**	**346**	Pn	**Pn**	**00 08 46.8**	**+0.5**
ZIIG	**Zihuatanejo**	**3.34**	**296**	*i* P	**Pn**	**00 08 47.3**	**+0.2**
ZIIG				*i* S	**Sn**	**00 09 25.6**	**-1.5**
ZIIG	**Zihuatanejo**	**3.34**	**296**		**Pn**	**00

W18A Petrified Fore 21.48 334 P P 00 12 45.4 +1.5
SPX San Pedro Mart 21.55 316 P P 00 12 46.5 +1.7
SPX IAmb IAmb 00 12 49.6
comp=Z,8.6nm,1.1s
T25A Trinidad 21.59 347 P P 00 12 46.9 +1.8
T25A IAmb IAmb 00 12 52.2
comp=Z,26nm,1.6s
113A Mohawk Valley, 21.67 323 P P 00 12 46.6 +1.0
X16A Lo Mia Camp, P 21.68 329 P P 00 12 47.0 +1.0
X16A IAmb IAmb 00 12 54.9
comp=Z,7.2nm,1.0s
GOGA Godfrey 21.80 35 P P 00 12 48.3 +1.2
GOGA IAmb IAmb 00 13 33.1
comp=Z,34nm,1.9s
WVT Waverly 21.98 23 P P 00 12 47.7 -1.3
WVT IAmb IAmb 00 12 52.8
comp=Z,11nm,1.4s
SWET Sewanee 21.98 28 P P 00 12 49.3 +0.2
SWET IAmb IAmb 00 12 54.0
comp=Z,6.3nm,0.9s
V48A Smith Brothers 22.04 26 P P 00 12 50.2 +0.5
V48A IAmb IAmb 00 12 55.4
comp=Z,8.5nm,1.2s
Y14A Wickenburg 22.11 326 P P 00 12 52.6 +2.1
Y14A IAmb IAmb 00 12 55.3
comp=Z,13nm,1.6s
W50A Signal Mountai 22.26 29 P P 00 12 52.8 +0.7
W50A IAmb IAmb 00 12 54.1
comp=Z,23nm,1.6s
WUAZ Wupatki 22.54 331 P P 00 12 56.9 +1.7
WUAZ IAmb IAmb 00 13 01.3
comp=Z,7.6nm,1.1s
MVCO Mesa Verde 22.83 339 P P 00 13 00.3 +2.0
MVCO IAmb IAmb 00 13 04.0
comp=Z,19nm,1.6s
HODGE Hodges 23.08 36 P P 00 13 01.2 +0.5
HODGE IAmb IAmb 00 13 02.8
comp=Z,9.3nm,1.4s
U49A Red Boiling Sp 23.14 26 P P 00 13 02.7 +1.4
U49A IAmb IAmb 00 13 06.4
comp=Z,7.0nm,1.1s
V51A Loudon 23.20 30 P P 00 13 02.1 +0.1
W13A Hualapai Mount 23.46 326 P P 00 13 05.4 +0.5
Q24A Divide 23.50 347 P P 00 13 04.4 -0.9
PV01 Paradox Valley 23.69 340 P P 00 13 07.8 +0.8
PV01 IAmb IAmb 00 13 52.1
comp=Z,17nm,1.9s
U15A North Rim 23.71 331 P P 00 13 10.2 +2.9
PAULI Pauline 23.76 35 P P 00 13 07.5 0.0
PAULI IAmb IAmb 00 13 09.8
comp=Z,16nm,1.4s
PV13 Radium Mtn., P 23.80 339 P P 00 13 09.0 +0.9
109C Camp Elliot, M 23.81 318 P P 00 13 07.4 -0.6
109C IAmb IAmb 00 13 11.4
comp=Z,8.6nm,1.0s
PV02 Paradox Valley 23.81 339 P P 00 13 07.1 -1.1
PV02 IAmb IAmb 00 13 10.9
comp=Z,6.7nm,1.2s
PV15 Paradox Valley 23.85 340 P P 00 13 10.4 +1.8
PFO Pinyon Flats O 23.87 320 P P 00 13 10.6 +1.9
PV03 Paradox Valley 23.89 339 P P 00 13 10.4 +1.4
PV03 IAmb IAmb 00 13 14.6
comp=Z,9.2nm,1.6s
PV18 Skein Mesa, Pa 23.91 339 P P 00 13 10.4 +1.3
PV18 IAmb IAmb 00 13 36.1
comp=Z,6.0nm,1.2s
PV12 Saucer Basin, 23.93 339 P P 00 13 10.6 +1.2
PV12 IAmb IAmb 00 13 12.2
comp=Z,16nm,1.5s
PV07 Paradox Valley 23.99 340 P P 00 13 11.8 +1.8
PV07 IAmb IAmb 00 13 13.5
comp=Z,4.7nm,1.0s
Y57A Sumter 24.02 39 P P 00 13 11.4 +1.5
Y57A IAmb IAmb 00 14 04.2
comp=Z,8.1nm,0.7s
PV04 Paradox Valley 24.04 339 P P 00 13 12.1 +1.8
PV04 IAmb IAmb 00 14 01.0
comp=Z,25nm,1.9s
Q44A Meyer Farm, Va 24.09 18 P P 00 13 11.4 +0.8
PV22 Blue Mesa, Par 24.12 340 P P 00 13 12.0 +0.8
PV22 IAmb IAmb 00 13 58.8
comp=Z,14nm,1.8s
PV23 Carpenter Ridg 24.12 339 P P 00 13 13.0 +1.7
PV23 IAmb IAmb 00 13 30.7
comp=Z,17nm,1.7s
TZTN Tazewell 24.18 30 P P 00 13 12.9 +1.4
ISCO Idaho Springs 24.41 346 P P 00 13 15.9 +2.0
ISCO IAmb IAmb 00 13 17.2
comp=Z,3.5nm,0.8s
U54A Nelsons Funny 25.03 33 P P 00 13 21.5 +2.2
W57A Gilead 25.04 37 P P 00 13 21.9 +2.6
S51A Beattyville 25.05 28 P P 00 13 21.8 +2.5
S51A IAmb IAmb 00 13 26.8
comp=Z,8.3nm,1.1s
SHPR Sheep Range 25.20 327 P P 00 13 22.7 +1.8
SHPR IAmb IAmb 00 13 26.1
comp=Z,4.6nm,1.2s
GSC Goldstone, Bar 25.24 323 P P 00 13 23.1 +1.9
GSC IAmb IAmb 00 13 26.7
comp=Z,4.4nm,1.1s
SRU San Rafael Swe 25.25 337 P P 00 13 23.4 +2.0
Q16A Castle Valley 25.33 336 P P 00 13 23.5 +1.4
MSU Marysvale 25.39 334 P P 00 13 24.4 +1.7
PHWY Pilot Hill 25.81 348 P P 00 13 27.3 +0.7
PHWY IAmb IAmb 00 13 31.3
comp=Z,17nm,1.9s
DUG Dugway, Tooele 27.07 335 P P 00 13 39.3 +1.5
BGU Big Grassy Mou 27.78 336 P P 00 13 45.1 +0.9
SPUT South Promonto 27.89 337 P P 00 13 46.6 +1.5
BW06 Boulder Array 28.22 342 P P 00 13 50.7 +2.5
BW06 IAmb IAmb 00 13 58.0
comp=Z,10nm,1.9s
PD31 Pinedale Array 28.22 342 P P 00 13 49.1 +0.9
PD31 IAmb IAmb 00 13 58.0
comp=Z,7.6nm,1.9s
PDAR Pinedale Array 28.22 342 P P 00 13 50.1 +1.9
NVAR Mina Array Bea 28.30 326 P P 00 13 51.2 +2.3
SAO San Andreas Ge 29.02 319 P P 00 13 55.4 +0.3
REDW Red Top Meadow 29.15 341 P P 00 13 57.0 +0.5
REDW IAmb IAmb 00 13 59.2
comp=Z,4.5nm,1.2s
ORV Oroville 30.87 324 P P 00 14 11.3 -0.1
ORV IAmb IAmb 00 15 04.1
comp=Z,11nm,1.9s
PDPR Patillas Dam, 30.91 82 P P 00 14 10.4 -1.6
MTP Monte Pirata 31.35 82 P P 00 14 16.8 +0.9
DLMT Dillon 31.50 341 P P 00 14 18.9 +1.8
DLMT IAmb IAmb 00 14 21.7
comp=Z,5.5nm,1.2s
K05A Summer Lake 32.78 328 P P 00 14 30.3 +1.9
SKI Saint Kitts 34.06 83 P P 00 14 41.6 +1.9
BBGH Gun Hill 37.58 89 P P 00 15 07.8 -2.1
FCC Fort Churchill 42.66 3 P P 00 15 51.0 -0.4
PTCN Pitcairn Islan 51.36 218 P P 00 17 00.0 +0.1
TRF Thorofare Moun 59.14 336 P P 00 17 56.8 +1.1
PPLA Purkeypile 59.65 335 P P 00 18 01.4 +2.1

KLM ***11*** *00:09:40.0, 7.53S×120.64E, h623km, mb5.0*
NEIC ***11*** *00:09:40.5±1.5, 7.42S±0.07×120.62E±0.06, h598km±6km, mb4.4/58, Error ellipse: s-maj=11.0km s-min=6.3km az=148.0*
DJA ***11*** *00:09:40.7±0.2, 8.3S±3.3×12.1E±°, h587km±3km, M4.5/19, mB4.9/9, mb4.6/18, MLv4.9/19, Mw(mB)4.2/9*
IDC ***11*** *00:09:41.2±0.5, 7.41S×120.70E, h608km±6km, mb3.5/22, mb1 3.6/26, mb1mx3.5/46, mbtmp4.5/26, Error ellipse: s-maj=13.4km s-min=5.8km az=61.0*

ISC 11 00:09:40.2±0.4, 7.47S±0.05×120.64E±0.05, h598km±5km, n275, σ1s85/257, mb4.4/46, 2C, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
EDFI	Ende, Flores	1.64	141	P	P	00 10 52.5	-0.7
EDFI				S	S	00 11 48.2	-4.3
MMRI	Maumere	1.96	126	P	P	00 10 53.8	-0.4
MMRI				S	S	00 11 51.4	-3.0
MMRI	Maumere	1.96	126	P	P	00 10 54.1	-0.1
MMRI				S	S	00 11 52.7	-1.6
WSI	Waingapu	2.21	189	P	P	00 10 55.9	+0.7
WBSI	Waikabubak, Su	2.48	210	P	P	00 10 56.7	+0.1
WBSI				S	S	00 11 57.2	-1.5
KAPI	Kappang	2.60	340	P	P	00 10 59.5	+2.4
	67nm,0.3s,baz=163,slow=2.9,SNR=192						
KAPI				S	S	00 12 01.5	+1.9
	baz=184,slow=23,SNR=8.2						
BASI	Baing, Sumba	2.73	181	P	P	00 10 59.3	+1.5
BASI				S	S	00 12 00.2	-0.7
BNSI	Bone	3.10	350	P	P	00 11 01.9	+2.0
PLAI	Plampang	3.14	244	P	P	00 11 00.4	+0.4
PLAI				S	S	00 12 03.1	-2.0
SPSI	Sidrap Palu	3.59	346	P	P	00 11 04.7	+1.8
TWSI	Taliwang, Sumb	3.93	251	P	P	00 11 05.3	+0.2
TWSI				S	S	00 12 11.8	-2.4
BATI	Baumata	4.04	133	P	P	00 11 07.0	+1.2
	301nm,0.3s,baz=326,slow=2.0,SNR=182						
BATI				S	S	00 12 10.6	-5.0
	37nm,0.3s,baz=206,slow=4.9,SNR=8.4						
BATI	Baumata	4.04	133	P	P	00 11 07.0	+1.2
BATI				S	S	00 12 14.2	-1.5
SOEI	Soe	4.24	123	P	P	00 11 08.2	+0.8
SOEI				S	S	00 12 17.4	-1.1
SOEI	Soe	4.24	123	P	P	00 11 08.3	+0.9
SOEI				S	S	00 12 14.1	-4.5
SRBI	Singaraja	5.41	263	P	P	00 11 16.1	-0.2
	0.5nm141nm,0.9s						
SRBI				S	S	00 12 37.7	+2.9
	0.5nm141nm,0.9s						
DNP	Denpasar	5.51	257	P	P	00 11 17.7	+0.6
KBKI	Kotabaru	6.08	313	P	P	00 11 23.4	+1.3
	0.1nm14nm,0.5s						
JAGI	Jajag, Banyuwa	6.50	261	P	P	00 11 24.6	-1.1
	1.2nm4μm180nm,1.1s						
JAGI	Jajag, Banyuwa	6.50	261	P	P	00 11 24.6	-1.1
JAGI				S	S	00 12 46.7	-5.2
LUWI	Luwuk	6.73	18	P	P	00 11 26.9	-0.9
BBKI	Banjar Baru	7.01	304	P	P	00 11 31.9	+1.5
	0.4nm28nm,0.6s						
BBKI				S	S	00 13 03.5	+3.1
	0.4nm28nm,0.6s						
NLAI	Namlea	7.68	57	P	P	00 11 38.0	+1.5
	0.4nm3μm99nm,0.6s						
NLAI				S	S	00 13 12.3	+0.5
	0.4nm3μm99nm,0.6s						
MPSI	Mapaga	7.79	355	P	P	00 11 39.0	+1.4
	1.1nm3μm299nm,0.9s						
GRJI	Gresik	8.12	273	P	P	00 11 41.1	+0.5
GTOI	Gorontalo	8.39	16	P	P	00 11 44.5	+1.2
	707mm68nm,0.7s						
MTKI	Muara Teweh, K	8.65	318	P	P	00 11 47.0	+1.2
	4μm76nm,0.7s						
WOJI	Wonogiri, Jawa	9.64	267	P	P	00 11 54.6	-0.8
	48nm,0.7s						
UGM	Wanagama	10.04	267	P	P	00 11 59.5	+0.1
	274nm,2.4s						
UGM	Wanagama	10.04	267	P	P	00 11 59.3	-0.1
KNRA	Kununurra	11.39	136	P	P	00 12 13.3	+0.5
MTN	Manton Dam	11.62	118	P	P	00 12 15.5	+0.3
FITZ	Fitzroy Crossi	11.63	156	P	P	00 12 15.9	+0.7
	6.9nm,0.3s,baz=350,slow=9.5,SNR=168						
FITZ				S	S	00 14 23.0	+0.4
	baz=46,slow=22,SNR=7.2						
FAKI	Fak Fak	12.41	69	P	P	00 12 22.0	-1.2
	40nm,0.7s						
FAKI	Fak Fak	12.41	69	P	P	00 12 22.5	-0.7
SIJI	Sorong	12.46	59	P	P	00 12 23.5	-0.2
	5.0nm,0.3s,baz=330,slow=11,SNR=5.5						
CISI	Cisompet, Garu	12.72	269	P	P	00 12 25.0	-1.3
MYLDM	Lahad Datu	12.75	350	P	P	00 12 27.4	+0.8
SBUM	Sibu	12.95	319	P	P	00 12 29.9	+1.2
SBUM	Sibu	12.95	319	P	P	00 12 30.0	+1.4
CNJI	Cibinong	13.40	270	P	P	00 12 32.9	-0.3
	145nm,1.4s						
KSM	Kuching	13.61	310	P	P	00 12 35.8	+0.4
PSA00	Pilbara Seismi	14.04	183	P	P	00 12 39.9	+0.4
PSA00	Pilbara Seismi	14.04	183	P	P	00 12 39.5	0.0
KKM	Kota Kinabalu	14.13	342	P	P	00 12 40.3	-0.3
GIRL	Giralia	16.30	202	P	P	00 13 02.6	+2.3
GIRL				IAmb	IAmb	00 13 13.8	
	comp=Z,25nm,1.1s						
WB0	Warramunga Arr	18.09	134	P	P	00 13 18.1	+1.3
WB0				S	S	00 16 13.1	+0.4
WRA	Warramunga Arr	18.17	134	P	P	00 13 18.8	+1.3
	comp=Z,2.0nm,0.3s,baz=313,slow=11,SNR=50						
WRA				S	S	00 16 12.2	-1.6
	comp=Z,0.5nm,0.3s,baz=307,slow=16,SNR=9.3						
WRA	Warramunga Arr	18.17	134	P	P	00 13 19.5	+2.0
WB2	Warramunga Arr	18.18	134	P	P	00 13 19.0	+1.4
WR0	Warramunga Arr	18.32	134	P	P	00 13 20.4	+1.5
AS31	Alice Springs	20.52	143	P	P	00 13 40.2	+1.3
ASAR	Alice Springs	20.52	143	P	P	00 13 40.0	+1.1
	comp=Z,3.2nm,0.5s,baz=321,slow=8.6,SNR=34						
ASAR				S	S	00 16 49.8	-1.6
	comp=Z,2.3nm,0.6s,baz=334,slow=21,SNR=5.7						
ASAR				PcP	PcP	00 17 23.1	+0.1
	comp=Z,2.1nm,0.4s,baz=319,slow=1.6,SNR=7.6						
ASAR				ScP	ScP	00 20 02.9	-1.0
	comp=Z,1.1nm,0.6s,baz=336,slow=1.7,SNR=5.0						
ASAR	Alice Springs	20.52	143	P	P	00 13 40.4	+1.6
JAY	Jayapura	20.58	77	P	P	00 13 39.3	-0.1
	comp=Z,5.0nm,0.6s,baz=246,slow=9.8,SNR=4.8						
MORW	Morawa	21.91	191	P	P	00 13 51.9	+0.7
MORW				IAmb	IAmb	00 13 52.3	
	comp=Z,5.1nm,0.6s						
COEN	Coen	23.05	108	P	P	00 14 01.9	+0.4
COEN				IAmb	IAmb	00 14 03.1	
	comp=Z,12nm,1.0s						
KULM	Kulim	23.64	302	P	P	00 14 06.3	-0.3
KULM				IAmb	IAmb	00 14 07.2	
	comp=Z,8.7nm,0.7s						
RPSI	Rantau Prapat	23.91	294	P	P	00 14 09.5	+0.4
FORT	Forrest	24.20	164	P	P	00 14 12.5	+1.1
GSI	Gunungsitoli	24.61	290	P	P	00 14 14.6	-0.7
NWAO	Narrogin (SRO)	25.52	187	P	P	00 14 24.2	+1.2
	comp=Z,7.5nm,0.5s,baz=32,slow=8.2,SNR=7.5						
NWAO	Narrogin (SRO)	25.52	187	P	P	00 14 24.0	+1.0
NWAO				IAmb	IAmb	00 14 27.2	
	comp=Z,12nm,1.1s						
NWAO	Narrogin (SRO)	25.52	187	IAmb	IAmb	00 14 27.2	
	comp=Z,8.8nm,1.0s						
PMG	Port Moresby	26.30	96	P	P	00 14 31.2	+1.1
	comp=Z,9.3nm,0.3s,baz=202,slow=5.9,SNR=2.4						
CTA	Charters Tower	27.80	119	P	P	00 14 44.6	+1.4
	comp=Z,4.6nm,0.7s,baz=281,slow=11,SNR=4.1						
CTAO	Charters Tower	27.80	119	P	P	00 14 44.1	+0.9
CTAO				IAmb	IAmb	00 14 54.7	
	comp=Z,15nm,1.1s						
BBOO	Buckleboo	28.99	152	P	P	00 14 54.3	+1.0
BBOO				IAmb	IAmb	00 15 07.3	
	comp=Z,13nm,1.1s						
YULB	Yu-li	30.68	1	P	P	00 15 07.1	-0.9
YULB				IAmb	IAmb	00 15 08.4	
	comp=Z,6.9nm,0.8s						
STKA	Stephens Creek	31.16	144	P	P	00 15 13.3	+1.4
	comp=Z,2.4nm,0.3s,baz=319,slow=8.3,SNR=15						
STKA				PcP	PcP	00 17 47.9	0.0
	comp=Z,3.2nm,0.4s,baz=4.7,slow=2.8,SNR=5.5						
STKA				S	S	00 19 36.8	-0.2
	comp=Z,3.0nm,0.7s,baz=146,slow=18,SNR=4.3						
STKA	Stephens Creek	31.16	144	P	P	00 15 13.5	+1.6
YHNB	Yeheng	31.95	1	P	P	00 15 18.0	-0.8
SLVN	Son La	33.01	330	P	P	00 15 27.7	0.0
SLVN				IAmb	IAmb	00 15 29.8	
	comp=Z,9.3nm,0.8s						
CMAR	Chiang Mai Arr	33.50	321	P	P	00 15 32.5	+0.7
	comp=Z,10nm,0.7s,baz=147,slow=6.4,SNR=40						
CMAR				ScP	ScP	00 20 44.4	+1.1
	comp=Z,2.3nm,0.7s,baz=167,slow=3.0,SNR=13						
CMAR	Chiang Mai Arr	33.50	321	P	P	00 15 32.2	+0.3
CMAR					ScP	00 20 44.5	+1.1
CHTO	Chiang Mai	33.77	321	P	P	00 15 34.8	+0.7
EIDS	Eidsvold	34.06	125	P	P	00 15 36.9	+0.5
KMI	Kunming	36.79	332	⇑P	P	00 16 01.1	+1.9
KMI				pmax	pmax		
	comp=Z,14nm,1.0s						
TOO	Toolangi	37.49	147	P	P	00 16 04.8	+0.2
TOO				IAmb	IAmb	00 16 11.5	
	comp=Z,14nm,1.1s						
CAN	Canberra	38.01	141	P	P	00 16 10.1	+1.3
CAN				IAmb	IAmb	00 16 29.6	
	comp=Z,15nm,1.1s						
CD2	Chengdu	41.45	338	P	P	00 16 36.4	+0.1
CD2				pmax	pmax		
	comp=Z,70nm,0.7s						
PALK	Pallekele	42.44	289	P	P	00 16 44.0	-0.3
	comp=Z,5.0nm,0.5s,baz=186,slow=6.9,SNR=4.5						
PALK	Pallekele	42.44	289	IAmb	IAmb	00 16 49.5	
	comp=Z,11nm,1.0s						
XAN	Xi'an	42.75	346	P	P	00 16 46.0	-0.4
XAN				pmax	pmax		
	comp=Z,14μm,0.8s						
XAN	Xi'an	42.75	346	IAmb	IAmb	00 16 46.6	
	comp=Z,16nm,0.8s						
SHL	Shillong	43.14	321	P	P	00 16 49.4	-0.3
TEZP	TEZPUR	43.33	322	eP	P	00 16 50.0	-1.0
KSRS	Korea Array	45.21	8	P	P	00 17 04.5	-0.6
	comp=Z,1.8nm,0.6s,baz=191,slow=7.5,SNR=6.9						
SANVU	Saraoutou	46.24	104	P	P	00 17 13.9	+0.5
LSA	Lhasa	46.58	324	P	P	00 17 17.2	+0.9
LSA				pmax	pmax		
	comp=Z,150nm,0.8s						
LSA	Lhasa	46.58	324	P	P	00 17 16.6	+0.3
ODAN	Odare	46.94	318	eP	P	00 17 18.7	-0.1
	comp=Z,18nm,0.4s						
TAPN	Taplejung	47.06	319	eP	P	00 17 20.0	+0.3
	comp=Z,76nm,0.5s						
RAMN	Ramite	47.53	317	eP	P	00 17 23.7	+0.5
	comp=Z,66nm,0.5s						
JIRN	Jiri	48.27	318	eP	P	00 17 28.8	0.0
	comp=Z,65nm,0.6s						
PKI	Pulchoki	48.73	317	eP	P	00 17 31.8	-0.4
	comp=Z,50nm,0.5s						
KKN	Kakani	48.96	317	eP	P	00 17 33.5	-0.3
	comp=Z,24nm,0.4s						
DMN	Daman	48.97	317	eP	P	00 17 33.7	-0.1
GKN	Gorkha	49.54	317	eP	P	00 17 37.7	-0.2
KOLN	Koldanda	50.10	316	eP	P	00 17 41.8	-0.3
	comp=Z,52nm,0.5s						
DANN	Dangsing	50.35	317	eP	P	00 17 43.9	-0.1
	comp=Z,222nm,0.5s						
GTA	Gaotai	50.48	339	⇑P	P	00 17 45.3	+0.8
GTA				pmax	pmax		
	comp=Z,14nm,0.8s						
GTA				pmax	pmax		
	comp=Z,120nm,7.9s						
GTA				LR	LR		
	comp=N,80nm,17.8s						
GTA				LR	LR		
	comp=E,110nm,15.6s						
GTA				LR	LR		
	comp=Z,95nm,19.4s						
PYUN	Piuthan	50.72	316	eP	P	00 17 46.6	0.0
	comp=Z,93nm,0.4s						
USA0B	Ussuriysk Arra	52.45	10	P	P	00 17 57.8	-0.6
USA0B				IAmb	IAmb	00 18 09.2	
	comp=Z,10nm,1.1s						
USRK	Ussuriysk Ar.	52.45	10	P	P	00 17 58.2	-0.2
	comp=Z,2.4nm,0.4s,baz=202,slow=6.6,SNR=6.8						
MCQ	Macquarie Isla	56.03	154	P	P	00 18 21.9	-1.4
SONM	Songino Array	56.49	349	P	P	00 18 26.8	+0.1
	comp=Z,3.3nm,0.5s,baz=169,slow=8.6,SNR=18						
SMLA	Simla	56.59	315	eP	P	00 18 26.6	-1.0
RPZ	Rata Peaks	56.83	138	P	P	00 18 29.7	+0.6
RPZ				IAmb	IAmb	00 18 46.1	
	comp=Z,19nm,1.0s						
KLR	Kul'dur	57.30	9	P	P	00 18 31.4	-0.7
	comp=Z,0.7nm,0.4s,baz=142,slow=22,SNR=1.8						
THZ	Tophouse	57.33	135	P	P	00 18 33.0	+0.4
THZ				IAmb	IAmb	00 18 47.0	
	comp=Z,37nm,1.2s						
NNZ	Nelson	57.47	135	P	P	00 18 31.8	-1.7
DHRM	DHARAMSHALA	57.84	316	eP	P	00 18 35.8	-0.5
KHZ	Kahutara	58.01	136	P	P	00 18 37.2	+0.2
KHZ				IAmb	IAmb	00 18 56.8	
	comp=Z,24nm,1.2s						
PLWZ	Palliser	58.92	134	P	P	00 18 43.3	+0.1
BKZ	Black Stump Fm	59.07	131	P	P	00 18 45.2	+0.9
CASY	Casey	59.13	185	P	P	00 18 44.9	+0.8
URZ	Urewera	59.28	130	P	P	00 18 45.6	0.0
	baz=256,slow=6.0						
URZ	Urewera	59.28	130	IAmb	IAmb	00 18 48.8	
	comp=Z,9.2nm,0.8s						
MXZ	Matakaoa Point	60.01	129	P	P	00 18 51.1	+0.6
MXZ				IAmb	IAmb	00 19 05.9	
	comp=Z,44nm,1.2s						
NIL	Nilore	60.74	315	P	P	00 18 54.9	-0.5
KDJ	Kajisay	63.32	325	P	P	00 19 12.2	+0.1
MK31	Makanchi Array	63.87	332	P	P	00 19 15.6	+0.3
MK31				IAmb	IAmb	00 19 16.4	
	comp=Z,6.7nm,0.8s						
MKAR	Makanchi Array	63.87	332	P	P	00 19 15.7	+0.4
	comp=Z,7.7nm,0.5s,baz=143,slow=7.2,SNR=121						
MKAR	Makanchi Array	63.87	332	P	P	00 19 15.3	0.0
MAKZ	Makanchi	64.03	331	P	P	00 19 16.4	+0.2
KBL	Kabul	64.18	314	P	P	00 19 17.7	-0.1
KBL				IAmb	IAmb	00 19 18.3	
	comp=Z,15nm,0.7s						
AAK	Ala-Archa	65.18	324	P	P	00 19 24.5	+0.7
AAK				IAmb	IAmb	00 19 24.8	
	comp=Z,6.4nm,0.5s						
GAR	Garm	65.65	319	P	P	00 19 26.9	+0.1
GAR				IAmb	IAmb	00 19 28.5	
	comp=Z,10nm,0.8s						
CHGR	Chuyangaron	66.23	318	P	P	00 19 30.3	0.0
CHGR				IAmb	IAmb	00 19 30.3	
	comp=Z,10nm,0.6s						
KKAR	Karatay Array	67.81	323	P	P	00 19 39.5	-0.3
PEA0B	Petropavlovsk-	68.04	23	P	P	00 19 40.9	0.0
PEA0B				IAmb	IAmb	00 19 48.2	
	comp=Z,11nm,1.1s						
PETK	Petropavlovsk-	68.04	23	P	P	00 19 42.0	+1.1
	comp=Z,2.3nm,0.6s,baz=140,slow=0.4,SNR=8.3						
PETK	Petropavlovsk-	68.04	23	P	P	00 19 41.9	+0.9
ZAA0	Zalesovo Array	68.22	338	IAmb	IAmb	00 19 41.5	
	comp=Z,6.6nm,0.5s						
ZALV	Zalesovo Beam	68.22	338	P	P	00 19 41.1	-0.8
	comp=Z,6.2nm,0.4s,baz=137,slow=4.7,SNR=35						
ZALV				S	S	00 27 50.6	-5.3
	comp=Z,0.3nm,0.5s,baz=127,slow=9.5,SNR=4.5						
KURBB	Kurchatov Arra	68.35	333	P	P	00 19 42.8	0.0
	comp=Z,2.8nm,0.4s,baz=137,slow=5.1,SNR=44						
KURK	Kurchatov	68.37	333	P	P	00 19 42.8	-0.1
KURK	Kurchatov	68.37	333	IAmb	IAmb	00 19 43.7	
	comp=Z,6.4nm,0.5s						
UOSS	Minazif	70.47	300	P	P	00 19 56.0	-0.1
MAW	Mawson	71.22	200	P	P	00 20 00.0	+0.5
	comp=Z,0.8nm,0.4s,baz=64,slow=7.9,SNR=2.8						
VNDA	Vanda	73.24	171	P	P	00 20 12.1	+1.0
	comp=Z,2.8nm,0.6s,baz=319,slow=6.0,SNR=41						
VNDA	Vanda	73.24	171	P	P	00 20 12.0	+1.0
GEYT	Alibeck	73.58	313	P	P	00 20 14.4	+0.7
	comp=Z,1.1nm,0.5s,baz=201,slow=7.5,SNR=5.1						
GEYT	Alibeck	73.58	313	IAmb	IAmb	00 20 15.3	
	comp=Z,2.1nm,1.1s						
BVAR	Borovoye Array	73.74	331	P	P	00 20 14.0	-0.3
	comp=Z,1.0nm,0.5s,baz=125,slow=7.5,SNR=7.1						
BRVK	Borovoye	73.81	331	P	P	00 20 14.4	-0.3
ABKAR	Akbulak array	77.27	324	P	P	00 20 33.3	-0.6
QSPA	South Pole Qui	82.51	180	P	P	00 21 00.7	-0.4
	comp=Z,2.2nm,0.5s,baz=252,slow=0.5,SNR=14						
QSPA	South Pole Qui	82.51	180	P	P	00 21 01.1	0.0
KBZ	Khabaz	86.35	315	P	P	00 21 20.2	+0.2
	comp=Z,1.2nm,0.9s,baz=204,slow=3.8,SNR=3.8						
TTA	Tatalina	93.57	27	P	P	00 21 54.2	+1.1
SCHQ	Schefferville	132.39	6	SKPbc	SKPbc	00 30 19.2	+0.1
	comp=Z,3.7nm,0.9s,baz=134,slow=2.5,SNR=4.0						
TXAR	Ujitas Array	133.04	57	PKP	PKiKP	00 27 51.0	+0.3
	comp=Z,0.4nm,0.7s,baz=211,slow=1.9,SNR=4.7						
TXAR				SKPbc	SKPbc	00 30 20.9	-1.3
	comp=Z,0.1nm,0.4s,baz=248,slow=4.8,SNR=2.6						
S39A	Bolivar	136.98	41		PKiKP	00 27 57.7	-0.7
D57A	Chemin Vers le	138.68	15	P	PKPdf	00 27 50.3	-8.9
	baz=338						
E58A	La Victoria	139.43	15	P	PKPdf	00 27 53.1	-7.4
	baz=339						
F59A	Saint Guilaume	140.04	15

N53A	Lisbon baz=324	141.68	27	P	PKPdf	00 28 00.8	-4.0
J59A	Piesco baz=335	141.76	18	P	PKPdf	00 28 01.6	-3.3
O52A	Adamsville baz=322	141.78	28	P	PKPdf	00 28 00.8	-4.2
M55A	Ridgway baz=328	142.01	24	P	PKPdf	00 27 59.7	-5.7
P52A	Corning baz=322	142.01	29	P	PKPdf	00 28 00.0	-5.4
K58A	Earlville baz=333	142.03	20	P	PKPdf	00 28 01.9	-3.5
H65A	Eastbrook baz=346	142.12	10	P	PKiKP	00 28 07.9	-0.7
H66A	Whiting baz=347	142.19	9	P	PKiKP	00 28 08.4	-0.4
O54A	Avella baz=324	142.39	27	P	PKPdf	00 28 00.3	-5.8
BINY	Binghamton baz=332	142.42	20	P	PKPdf	00 28 03.6	-2.5
P53A	Whipple baz=322	142.48	28	P	PKPdf	00 28 00.6	-5.7
L58A	Harry Jones Me baz=332	142.60	20	P	PKPdf	00 28 04.3	-2.1
N56A	West Decatur baz=328	142.66	24	P	PKPdf	00 28 04.4	-2.2
J62A	Henniker baz=339	142.74	15	P	PKPdf	00 28 05.1	-1.4
L59A	Walton baz=334	142.74	19	P	PKPdf	00 28 04.6	-2.1
M57A	Sunshine Farm, baz=330,SNR=5.1	142.76	22	P	PKPdf	00 28 04.5	-2.2
P54A	Burton baz=324,SNR=7.4	142.81	27	P	PKPdf	00 28 04.9	-2.0
O55A	Ligonier baz=326	142.84	26	P	PKPdf	00 28 04.4	-2.4
K61A	Williamstown baz=337	142.86	17	P	PKPdf	00 28 05.7	-1.1
J63A	Strafford baz=341	142.88	14	P	PKPdf	00 28 05.4	-1.4
Q53A	Leroy baz=322	142.91	29	P	PKPdf	00 28 05.0	-2.0
M58A	Price's Panora baz=331	142.98	22	P	PKPdf	00 28 05.1	-2.0
MCWV	Mont Chateau baz=325	143.05	27	P	PKPbc	00 28 05.7	+0.2
SSPA	Standing Stone baz=328	143.07	24	P	PKPbc	00 28 05.6	+0.1
Z47A	Carrollton	143.09	42		PKPbc	00 28 06.0	+0.1
N57A	Milroy baz=329,SNR=6.5	143.10	23	P	PKPab	00 28 05.2	0.0
O56A	Blue Knob Stat baz=327	143.10	25	P	PKPbc	00 28 05.8	+0.1
Q54A	Coxs Mills baz=323,SNR=8.1	143.14	28	P	PKPbc	00 28 05.8	0.0
K62A	Royalston baz=338	143.16	16	P	PKPbc	00 28 06.4	+0.7
P55A	Reedsville baz=325,SNR=6.7	143.19	27	P	PKPbc	00 28 05.8	-0.2
L60A	Shokan baz=335	143.19	19	P	PKPbc	00 28 06.3	+0.4
M59A	Waymart baz=333	143.19	20	P	PKPbc	00 28 06.3	+0.3
L61A	Hillsdale 1, H baz=336	143.21	18	P	PKPbc	00 28 06.3	+0.3
L61B	Northampton baz=338	143.23	17	P	PKPbc	00 28 06.4	+0.4
K63A	Dunstable baz=340	143.32	15	P	PKPbc	00 28 06.7	+0.5
N58A	Sunbury baz=330,SNR=6.0	143.35	22	P	PKPbc	00 28 06.3	-0.1
HRV	Adam Dziewonsk baz=340	143.48	15	P	PKPdf	00 28 07.3	-0.6
Q55A	Buckhannon baz=324,SNR=7.4	143.49	28	P	PKPbc	00 28 07.0	+0.1
S53A	Williamson baz=320	143.52	31	P	PKPab	00 28 06.7	-0.3
O57A	Amberson baz=329	143.53	24	P	PKPab	00 28 06.8	0.0
TZTN	Tazewell baz=317,SNR=8.4	143.61	34	P	PKPbc	00 28 07.5	+0.1
P56A	Dayton Farm, R baz=326,SNR=8.6	143.62	26	P	PKPbc	00 28 07.3	0.0
N59A	State Game Lan baz=332,SNR=23	143.63	21	P	PKPbc	00 28 07.5	+0.2
M60A	Port Jervis baz=334	143.66	20	P	PKPbc	00 28 07.6	+0.3
R54A	Victor baz=322,SNR=5.4	143.70	29	P	PKPbc	00 28 07.2	-0.4
T53A	Wise baz=319	143.84	32	P	PKPab	00 28 08.4	+0.2
S54A	Dingess, Beckl baz=321,SNR=9.4	143.84	30	P	PKPbc	00 28 08.0	0.0
Q56A	Snyder Ridge, baz=325	143.85	27	P	PKPab	00 28 08.1	0.0
ODNJ	Ogdensburg	143.88	20		PKPab	00 28 08.3	+0.2
O58A	Lewisberry baz=330	143.89	23	P	PKPab	00 28 08.3	0.0
LRAL	Lakeview Retre baz=309	143.90	41	P	PKPab	00 28 08.7	+0.1
LRAL	Lakeview Retre	143.90	41		PKPab	00 28 08.5	0.0
N60A	Cedar Hill Far baz=333,SNR=6.1	143.90	20	P	PKPbc	00 28 08.1	0.0
M61A	Granite Spring baz=335	143.95	19	P	PKPdf	00 28 08.6	-0.1
O59A	Robesonia baz=331	144.00	22	P	PKPdf	00 28 08.9	0.0
R55A	Marlinton baz=323	144.04	28	P	PKPdf	00 28 09.2	+0.1
TKL	Tuckaleechee C	144.12	35		PKPab	00 28 09.3	0.0
PAL	Palisades baz=335	144.18	19	P	PKPab	00 28 09.7	+0.4
Q57A	Strasburg baz=327	144.20	26	P	PKPbc	00 28 09.0	0.0
S55A	Lewisburg baz=322	144.26	29	P	PKPbc	00 28 09.3	0.0
R56A	Bull Pasture M baz=325	144.27	27	P	PKPbc	00 28 09.2	-0.3
P58A	Pank, Wackersv baz=329	144.28	24	P	PKPbc	00 28 09.1	-0.1
T54A	Tazewell baz=320,SNR=6.8	144.28	31	P	PKPbc	00 28 09.4	-0.1
N61A	South Mountain baz=334	144.28	20	P	PKPab	00 28 10.2	+0.5
O60A	Telford baz=332	144.28	21	P	PKPdf	00 28 09.3	0.0
P59A	Jarrettsville baz=330	144.52	23	P	PKPab	00 28 10.3	-0.3
U54A	Nelsons Funny baz=319,SNR=5.7	144.56	32	P	PKPdf	00 28 10.1	+0.1
Q58A	Fox Den Farm, baz=328	144.59	25	P	PKPbc	00 28 10.4	+0.1
AC02	Maricunga	144.60	165		PKPab	00 28 12.7	+0.8
T55A	Pulaski baz=322	144.64	30	P	PKPbc	00 28 10.5	0.0
P60A	Greenville baz=332	144.65	22	P	PKPab	00 28 10.7	-0.4
BLA	Blacksburg baz=322	144.74	30	P	PKPdf	00 28 10.3	0.0
R57A	Stanardsville baz=326	144.76	27	P	PKPbc	00 28 11.1	+0.3
U55A	TA2, Sparta baz=320,SNR=6.2	144.98	31	P	PKPbc	00 28 11.4	-0.2
BRAL	Brewton baz=307	145.00	44	P	PKPab	00 28 13.0	+0.2
250A	Grady	145.04	42		PKPbc	00 28 12.2	+0.3
V54A	Nebo baz=318,SNR=5.8	145.05	33	P	PKPbc	00 28 11.8	+0.1
T56A	Rocky Mt baz=322	145.08	30	P	PKPbc	00 28 11.8	0.0
V55A	Taylorsville baz=320	145.39	32	P	PKPbc	00 28 13.0	+0.3
W54A	Cherokee Point baz=318	145.43	34	P	PKPbc	00 28 13.2	+0.4
U56A	King baz=321	145.44	31	P	PKPbc	00 28 12.9	+0.1
T57A	Hurt baz=324	145.48	29	P	PKPbc	00 28 12.8	-0.1
X54A	Belton baz=317,SNR=7.5	145.72	35	P	PKPbc	00 28 14.1	+0.4
V56A	Mocksville baz=321	145.80	31	P	PKPbc	00 28 13.8	-0.1
KMSC	Kings Mountain baz=319	145.86	33	P	PKPbc	00 28 14.3	+0.2
T58A	Grand View Acr baz=325	145.86	28	P	PKPbc	00 28 14.1	0.0
GOGA	Godfrey baz=314	145.88	38	P	PKPbc	00 28 14.8	+0.6
U57A	Blanch baz=323	145.89	29	P	PKPbc	00 28 14.6	+0.5
GO02	Mina Guanaco	146.07	163		PKPbc	00 28 16.3	+1.0
V57A	Coltrane Farms baz=322	146.10	31	P	PKPbc	00 28 14.8	0.0
X55A	Gracelyn & Ava baz=318	146.19	34	P	PKPbc	00 28 15.5	+0.5
W56A	Indian Trail baz=320	146.27	32	P	PKPbc	00 28 15.5	+0.3
T59A	Double "B" Far baz=326	146.29	27	P	PKPbc	00 28 15.5	+0.3
U58A	Oxford baz=324	146.30	29	P	PKPbc	00 28 15.5	+0.2
CPUP	Villa Florida comp=Z,4.1nm,0.7s,baz=166,slow=2.9,SNR=12	146.34	183	PKPbc	PKPbc	00 28 16.2	+0.6
Y55A	Saluda baz=317	146.46	35	P	PKPbc	00 28 16.2	+0.4
V58A	Windy Hill, Pi baz=323	146.51	30	P	PKPbc	00 28 16.0	+0.2
X56A	White Oak baz=319	146.51	34	P	PKPbc	00 28 16.1	+0.2
W57A	Gilead baz=321	146.56	32	P	PKPbc	00 28 16.0	0.0
U60A	Pendleton baz=326	146.88	27	P	PKPbc	00 28 17.1	+0.3
W58A	Raeford baz=322	147.06	31	P	PKPbc	00 28 17.6	+0.3
TIGA	Tifton baz=312	147.14	40	P	PKPbc	00 28 18.3	+0.7
V60A	Jim Taylor Roa baz=326	147.41	28	P	PKPbc	00 28 18.5	+0.3
Z58A	St. Stephen baz=319	148.05	34	P	PKiKP	00 28 20.8	-0.3
MNMC	Minye Minye	151.70	159		PKiKP	00 28 30.2	+0.8
BDFB	Brasilia comp=Z,1.8nm,0.7s,baz=208,slow=15,SNR=2.1	154.43	206	PKPab	PKPab	00 28 52.3	0.0
LPAZ	La Paz comp=Z,0.9nm,0.8s,baz=151,slow=4.3,SNR=3.9	154.85	160	PKP	PKPdf	00 28 27.7	+0.4
LPAZ				PKPab	PKPab	00 28 55.9	+1.2
LPAZ	La Paz comp=Z,2.3nm,0.6s,baz=202,slow=4.9,SNR=11	154.85	160		PKPab	00 28 55.5	+0.9

IDC 11 00:18:06.5±3.4, 9.73S×159.74E, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.6/34, mbtmp3.7/3, Error ellipse: s-maj=201.9km s-min=12.3km az=134.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 2µm,0.3s,baz=185,slow=12,SNR=482	**0.36**	**36**	Pn	Pn	00 18 19.4	+0.3
HNR				Sn	Sb	00 18 26.2	+4.2
WRA	4µm,0.3s,baz=117,slow=19,SNR=16 **Warramunga Arr** 1.3nm,0.8s,baz=72,slow=10,SNR=7.2	**26.53**	**245**	P	P	00 23 46.0	-0.2
ASAR	**Alice Springs** 0.2nm,0.5s,baz=64,slow=9.6,SNR=2.0	**28.29**	**237**	P	P	00 24 01.4	-0.7
H11S2	**WAKE ISLAND Hy 28.87** baz=194,slow=76,SNR=20		**14**	T	T	00 53 00.2	
H11S3	**WAKE ISLAND Hy 28.87** baz=194,slow=76,SNR=13		**14**	T	T	00 52 59.1	
H11S1	**WAKE ISLAND Hy 28.88** baz=194,slow=76,SNR=7.4		**14**	T	T	00 52 56.7	
H11N1	**WAKE ISLAND Hy 30.09** baz=194,slow=76,SNR=10		**14**	T	T	00 54 25.9	
H11N3	**WAKE ISLAND Hy 30.10** baz=194,slow=76,SNR=8.2		**14**	T	T	00 54 25.0	
H11N2	**WAKE ISLAND Hy 30.11** baz=194,slow=76,SNR=13		**14**	T	T	00 54 26.1	
ILAR	**Eielson Array** 0.7nm,0.4s,baz=246,slow=4.7,SNR=5.6	**84.24**	**20**	P	P	00 30 40.6	+0.9

*NEIC **11** 00:22:53.9±1.8, 37.32N±0.03×115.08W±0.04, h1km±8km, Error ellipse: s-maj=5.2km s-min=3.5km az=217.0*
*REN **11** 00:22:54.3±1.2, 37.33N±0.02×115.08W±0.04, h8km±6km, ML2.6/14, Error ellipse: s-maj=5.4km s-min=1.6km az=119.0*
*ANF **11** 00:22:55.0±0.4, 37.36N×115.21W, h3km±4km, ML2.5/13, Error ellipse: s-maj=4.3km s-min=2.4km az=86.0*

ISC 11 00:22:54.1±1.0, 37.33N±0.02×115.07W±0.02, h8km±9km, n48, σ0.99/58, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRN	**Pahroc Range**	**0.08**	**9**	Pg	Pg	00 22 56.7	+0.4
SHPR	**Sheep Range**	**0.82**	**185**	Pg	Pg	00 23 09.3	-0.7
ICU	**Indian Springs**	**0.93**	**101**		Pg	00 23 11.9	0.0
TPNV	**Topopah Spring** baz=67,SNR=80	**1.02**	**248**	P	Pg	00 23 12.9	-0.8
TPNV				S	Sg	00 23 26.0	-0.9
TPNV	baz=67 **Topopah Spring**	**1.02**	**248**		Pg	00 23 13.9	+0.2
R11A	**Troy Canyon, C** baz=158	**1.10**	**338**	P	Pg	00 23 14.7	-0.4
R11A				S	Sb	00 23 29.9	-0.1
R11A	baz=158 **Troy Canyon, C**	**1.10**	**338**		Pg	00 23 14.8	-0.4
WTNK	**Soaring Height**	**1.14**	**178**		Pn	00 23 16.9	+0.6
CCUT	**Cedar City**	**1.37**	**80**	Pn	Pb	00 23 20.3	+0.1
LCMT	**Little Creek M**	**1.49**	**102**		Pn	00 23 21.8	+0.5
FMT	**Funeral Mounta**	**1.54**	**244**		Pn	00 23 22.2	+0.3
PSUT	**Pine Spring**	**1.54**	**38**		Pn	00 23 22.5	+0.5
SZCU	**Shurtz Canyon**	**1.60**	**80**		Pb	00 23 24.6	+0.7
FURC	**Furnace Creek,** baz=58,SNR=20	**1.68**	**240**	P	Pn	00 23 24.4	+0.7
FURC				Sb	Sg	00 23 47.3	-0.7
SHOC	baz=58 **Shoshone, Teco** baz=34,SNR=16	**1.73**	**215**	Pb	Pb	00 23 26.5	+0.5
SHOC				S	Sb	00 23 48.7	+0.8
KNB	baz=34 **Kanab**	**1.82**	**99**		Pb	00 23 28.1	+0.4
TPH	**Tonopah**	**1.86**	**294**		Pn	00 23 26.5	0.0
TMO	**Tin Mountain**	**1.94**	**255**		Pn	00 23 27.7	+0.2
TUQ	**Turquoise Moun** baz=20,SNR=18	**2.01**	**200**	Pb	Pb	00 23 31.6	+0.7
TUQ				S	Sb	00 23 56.7	+0.5
PKCU	baz=20 **Pink Cliffs**	**2.20**	**86**		Pg	00 23 35.8	-0.4
MPMC	**Manual Prospec** baz=56	**2.32**	**238**	P	Pn	00 23 32.7	-0.1
MPMC				Sb	Sb	00 24 06.8	+1.5
MTPU	baz=56 **Mount Pierson**	**2.39**	**72**		Pb	00 23 39.0	+1.3
U15A	**North Rim**	**2.40**	**111**		Pb	00 23 38.1	+0.5
W13A	**Hualapai Mount**	**2.42**	**156**	Pn	Pn	00 23 34.3	+0.1
TCRU	**Three Creeks R**	**2.43**	**58**		Pn	00 23 34.4	0.0
GSC	**Goldstone, Bar** baz=34	**2.46**	**215**	Pb	Pb	00 23 39.7	+1.1
GSC	**Goldstone, Bar**	**2.46**	**215**	Pg	Pg	00 23 40.2	-1.1
MSU	**Marysvale**	**2.57**	**62**	Pg	Pg	00 23 43.7	+0.3
NEE2	**Needles Airpor** baz=352	**2.58**	**172**	Pb	Pg	00 23 42.9	-0.6
NEE2				Sb	Sg	00 24 18.0	+1.0
GMRC	baz=352 **Granite Mounta** baz=10	**2.58**	**191**	Pb	Pg	00 23 42.6	-1.0
NV11	**Mina Array Sit**	**2.68**	**295**		Pn	00 23 37.0	-0.6
HEC	**Hector,Ludlow** baz=22	**2.70**	**203**	Pb	Pb	00 23 44.3	+1.6
HEC				Sb	Sg	00 24 19.4	-1.3
NVAR	baz=22 **Mina Array Bea**	**2.79**	**294**		Pn	00 23 39.2	0.0
BENR	**Benton**	**2.81**	**279**		Pn	00 23 40.8	+1.1
LHV	**Little Huntoon**	**2.88**	**290**		Pn	00 23 41.0	+0.8
KVN	**Kaiserville**	**2.94**	**307**		Pn	00 23 41.9	+0.6
RYN	**Ryan**	**3.02**	**296**		Pn	00 23 42.4	0.0
RYN				Pg	Pg	00 23 51.2	-0.8
IRM	**Iron Mountain** baz=1.0	**3.17**	**181**	Sb	Sg	00 24 34.8	-0.9
DUG	**Dugway, Tooele** baz=212	**3.36**	**31**	Pb	Pg	00 23 56.6	-1.9
DUG				Sb	Sg	00 24 40.5	-1.5
DUG	baz=212 **Dugway, Tooele**	**3.36**	**31**		Pg	00 23 57.1	-1.4
BELC	**Belle Mtn. Jos** baz=12	**3.41**	**193**	Sb	Sg	00 24 41.6	-1.9
ELK	**Elko**	**3.41**	**358**		Pg	00 23 58.3	-1.1
WUAZ	**Wupatki**	**3.48**	**120**	Pg	Pb	00 23 58.3	+2.2
PFO	**Pinyon Flats O**	**3.88**	**197**	Pg	Pg	00 24 06.7	-1.7
XPFO	**Pion Flat**	**3.88**	**197**	Pg	Pg	00 24 06.8	-1.6
BGU	**Big Grassy Mou**	**3.92**	**23**	Pg	Pg	00 24 08.8	-0.4
SRU	**San Rafael Swe**	**4.00**	**62**	Pg	Pg	00 24 09.4	-1.2
X16A	**Lo Mia Camp, P**	**4.14**	**134**		Pg	00 24 11.3	-2.0

*ISK **11** 00:25:28.7, 38.42N×22.56E, h13km, ML3.0/10*
*IDC **11** 00:25:28.1±5.1, 38.66N×22.53E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.3/32, mbtmp3.3/4, ML2.9/1, Error ellipse: s-maj=191.5km s-min=29.9km az=176.0*
*DDA **11** 00:25:29.8, 38.61N×22.90E, h7km±2km, ML2.7*
*ATH **11** 00:25:29.0, 38.41N×22.50E, h19km±1km, ML3.1/26, Error ellipse: s-maj=1.2km s-min=0.5km az=21.0*
*THE **11** 00:25:29.4, 38.41N×22.48E, h12km, ML3.3/13, Error ellipse: s-maj=0.6km s-min=0.3km az=311.0*

ISC 11 00:25:29.3±0.7, 38.42N±0.02×22.52E±0.01, h15km±4km, n123, σ0.90/167, 5C-9D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSF	**Desfina**	**0.01**	**122**	P	Pg	00 25 31.8	-0.2
DSF				S	Sg	00 25 33.5	-0.3
DSF	64µm,0.2s **Desfina**	**0.01**	**122**	P	Pg	00 25 31.8	-0.2
DSF				AML	AML	00 25 33.6	
DSF				S	Sg	00 25 33.6	-0.3
DSF				AML	AML	00 25 33.7	
DLFA	**Delphi**	**0.06**	**346**	P	Pg	00 25 32.2	-0.1
DLFA				S	Sg	00 25 34.2	-0.1
DLFA	comp=N,47732µm,0.3s			AML	AML	00 25 34.3	
DLFA	comp=E,91595µm,0.3s			AML	AML	00 25 34.5	
PROD	**Prodromos**	**0.34**	**117**	P	Pg	00 25 36.3	0.0
PROD	comp=E,5µm,0.2s			S	Sb	00 25 42.1	-0.2
PROD	**Prodromos**	**0.34**	**117**	P	Pg	00 25 36.3	0.0
PROD				S	Sb	00 25 42.4	0.0
PROD	comp=E,11652µm,0.2s			AML	AML	00 25 43.2	
PROD	comp=N,9980µm,0.2s			AML	AML	00 25 44.8	
TRIZ	**Trizonia**	**0.35**	**262**	P	Pg	00 25 35.9	-0.5
TRIZ	comp=N,6µm,0.3s			S	Sg	00 25 41.0	-0.4
TRIZ	**Trizonia**	**0.35**	**262**	P	Pg	00 25 36.0	-0.5
TRIZ				S	Sg	00 25 41.9	+0.5
SERG	**Sergoula**	**0.36**	**270**	P	Pg	00 25 36.1	-0.5
SERG	comp=N,7µm,0.2s			S	Sg	00 25 41.7	0.0
SERG	**Sergoula**	**0.36**	**270**	P	Pg	00 25 36.2	-0.5
SERG				S	Sg	00 25 42.2	+0.5
SERG	comp=N,16299µm,0.3s			AML	AML	00 25 43.5	
SERG	comp=E,11324µm,0.2s			AML	AML	00 25 44.7	
AXAR	**Agios Charalam**	**0.37**	**18**	P	Pb	00 25 37.0	-0.5
AXAR	comp=E,22µm,0.4s			S	Sb	00 25 43.0	-0.1
AXAR	**Agios Charalam**	**0.37**	**18**	P	Pb	00 25 37.0	-0.5
AXAR				S	Sb	00 25 43.4	+0.3
AXAR				AML	AML	00 25 45.1	
AXAR	comp=E,43530µm,0.4s			AML	AML	00 25 47.8	
LKR	comp=N,43511µm,0.4s **Lokris**	**0.45**	**58**	P	Pg	00 25 38.0	-0.2
LKR				S	Sb	00 25 45.4	+0.1
LKR	comp=N,7µm,0.2s **Lokris**	**0.45**	**58**	P	Pg	00 25 38.0	-0.2
LKR				S	Sb	00 25 45.2	-0.1
LKR				AML	AML	00 25 46.9	
LKR	comp=N,10752µm,0.2s			AML	AML	00 25 47.6	
KLV	comp=E,15000µm,0.2s **Kalavryta, Ach**	**0.47**	**218**	P	Pg	00 25 37.9	-0.8
KLV				S	Sg	00 25 44.5	-0.6
EFP	comp=E,1µm,0.4s **Efpalio**	**0.48**	**271**	P	Pg	00 25 38.1	-0.7
EFP				S	Sg	00 25 44.9	-0.4
EFP	comp=E,3µm,0.4s **Efpalio**	**0.48**	**271**	P	Pg	00 25 38.1	-0.7
EFP				S	Sb	00 25 46.0	-0.2
EFP				AML	AML	00 25 47.2	
EFP	comp=E,5256µm,0.2s			AML	AML	00 25 48.0	
ANX	comp=N,7000µm,0.3s **Ano Chora**	**0.50**	**291**	P	Pg	00 25 38.8	-0.4
ANX	comp=N,5µm,0.2s			S	Sg	00 25 46.0	+0.1
ANX	**Ano Chora**	**0.50**	**291**	P	Pg	00 25 38.9	-0.3
ANX				S	Sb	00 25 46.7	-0.3
ANX				AML	AML	00 25 48.8	
ANX	comp=E,9367µm,0.2s			AML	AML	00 25 51.4	
GUR	comp=N,11034µm,0.3s **Goura**	**0.50**	**196**	P	Pg	00 25 38.8	-0.4
GUR				S	Sg	00 25 45.6	-0.4
GUR	comp=N,4µm,0.5s **Goura**	**0.50**	**196**	P	Pg	00 25 38.8	-0.4
GUR				S	Sg	00 25 45.5	-0.4
GUR				AML	AML	00 25 47.0	
GUR	comp=N,8910µm,0.5s			AML	AML	00 25 50.9	
LTK	comp=E,6749µm,0.3s **Loutraki**	**0.53**	**138**	P	Pg	00 25 39.6	-0.2
LTK				S	Sb	00 25 47.9	+0.1
LTK	comp=E,2µm,0.6s **Loutraki**	**0.53**	**138**	P	Pg	00 25 39.7	-0.1
LTK				AML	AML	00 25 52.2	
LTK	comp=E,4293µm,0.5s			AML	AML	00 25 52.4	
LOUT	comp=N,4787µm,0.4s **Loutraki**	**0.56**	**140**	P	Pg	00 25 40.2	-0.1
LOUT	**Loutraki**	**0.56**	**140**	P	Pg	00 25 40.3	-0.1
LOUT				AML	AML	00 25 51.5	
LOUT	comp=N,956µm,0.4s			AML	AML	00 25 55.9	
AGG	comp=E,742µm,0.3s **Agios Georgios**	**0.62**	**347**	P	Pg	00 25 41.0	-0.4
AGG	**Agios Georgios**	**0.62**	**347**	P	Pg	00 25 41.1	-0.4
AGG				S	Sb	00 25 50.8	+0.3
AGG				AML	AML	00 25 53.5	
AGG	comp=E,4292µm,0.2s			AML	AML	00 25 56.1	
AGG	comp=N,4164µm,0.8s **Agios Georgios**	**0.62**	**347**	PG	Pg	00 25 41.1	-0.4
AGG				SG	Sb	00 25 50.6	+0.2
AGG	**Agios Georgios**	**0.62**	**347**	*i* P	Pg	00 25 40.7	-0.8
AGG				*i* S	Sb	00 25 50.7	+0.3
VIL2	**Platees**	**0.63**	**109**	P	Pb	00 25 42.1	+0.1
VIL2				S	Sn	00 25 53.0	-0.4
VIL2				AML	AML	00 25 56.3	
VIL2	comp=E,6343µm,0.6s			AML	AML	00 25 57.4	
MAKR	comp=N,4000µm,0.3s **Makrakomi, Fth**	**0.67**	**333**	P	Pg	00 25 41.9	-0.5
MAKR	**Makrakomi, Fth**	**0.67**	**333**	P	Pb	00 25 42.6	-0.1
MAKR				S	Sb	00 25 52.1	+0.4
MAKR				AML	AML	00 25 57.4	
MAKR	comp=E,6537µm,0.3s			AML	AML	00 25 58.3	
VILL	comp=N,5840µm,0.5s **Villia**	**0.68**	**112**	P	Pg	00 25 42.3	-0.2
VILL				S	Sb	00 25 53.1	+1.1
EVR	comp=N,3µm,0.6s **Evrytania**	**0.74**	**312**	P	Pg	00 25 43.0	-0.8
EVR	**Evrytania**	**0.74**	**312**	P	Pg	00 25 43.2	-0.7
DRO	**Drossia**	**0.79**	**234**	P	Pg	00 25 43.7	-0.8
DRO				S	Sg	00 25 54.9	0.0
DRO	comp=N,1µm,0.3s **Drossia**	**0.79**	**234**	P	Pg	00 25 43.8	-0.8
DRO				AML	AML	00 25 59.0	
DRO	comp=E,2142µm,0.3s			AML	AML	00 25 59.9	
PVO	comp=N,2984µm,0.3s **Paravola**	**0.80**	**285**	P	Pg	00 25 44.4	-0.5
PVO	**Paravola**	**0.80**	**285**	P	Pb	00 25 44.9	-0.1
PVO				AML	AML	00 26 00.3	
PVO	comp=N,1247µm,0.5s			AML	AML	00 26 01.6	
MRKA	comp=E,1408µm,0.3s **Markates**	**0.89**	**71**	P	Pg	00 25 45.7	-0.9
MRKA				S	Sn	00 25 59.3	-0.7
MRKA				AML	AML	00 26 03.0	
MRKA	comp=E,1339µm,0.3s			AML	AML	00 26 03.9	
	comp=N,1990µm,0.3s						

RLS	Riolos of Patr	0.90	247	P		Pg	00 25 45.9	-0.8
RLS	Riolos of Patr	0.90	247	P		Pg	00 25 46.0	-0.7
RLS				AML	AML		00 26 04.2	
	comp=E,875μm,0.4s							
RLS				AML	AML		00 26 06.0	
	comp=N,998μm,0.3s							
TRIP	Tripoli	0.91	192	P		Pg	00 25 46.4	-0.6
AXS	Araxos	0.92	257	P		Pg	00 25 46.6	-0.5
AXS				AML	AML		00 26 02.4	
	comp=N,658μm,0.4s							
AXS				AML	AML		00 26 07.8	
	comp=E,644μm,0.4s							
VOL3	Nea Ionia, Vol	1.01	19	P		Pb	00 25 46.3	-2.2
ATH	Athens Observa	1.05	115	P		Pn	00 25 49.5	+0.1
ATH	Athens Observa	1.05	115	P		Pn	00 25 49.4	+0.1
ATH				S		Sn	00 26 04.2	+0.5
ATH				AML	AML		00 26 05.0	
	comp=N,3250μm,0.4s							
ATH				AML	AML		00 26 07.4	
	comp=E,3939μm,0.4s							
NEO	Neokhori	1.05	32	P		Pg	00 25 49.1	-0.4
NEO	Neokhori	1.05	32	P		Pg	00 25 49.1	-0.4
NEO				S		Sn	00 26 04.1	+0.3
VLX	Vlachokerasia	1.05	186	P		Pb	00 25 48.4	-0.8
VLX	Vlachokerasia	1.05	186	P		Pb	00 25 48.6	-0.7
VLX				AML	AML		00 26 11.2	
	comp=N,2553μm,0.4s							
VLX				AML	AML		00 26 16.4	
	comp=E,2201μm,0.6s							
SKIA	Skiathos	1.05	45	P		Pn	00 25 49.3	-0.2
DID	Didima	1.07	148	P		Pb	00 25 49.4	-0.2
DID	Didima	1.07	148	P		Pb	00 25 49.4	-0.2
XOR	Xorichti	1.08	29	P		Pb	00 25 49.4	-0.4
AMT	Artemida-Makis	1.09	216	P		Pb	00 25 49.5	-0.3
AMT	Artemida-Makis	1.09	216	P		Pb	00 25 49.7	-0.2
ATHU	Athens Univers	1.10	114	P		Pn	00 25 50.2	+0.1
ATHU	Athens Univers	1.10	114	P		Pn	00 25 50.1	+0.1
ATHU				S		Sn	00 26 04.7	-0.3
ATHU				AML	AML		00 26 06.0	
	comp=E,726μm,0.4s							
ATHU				AML	AML		00 26 09.1	
	comp=N,1706μm,0.4s							
PTL	Penteli	1.12	109	P		Pn	00 25 50.5	0.0
PTL				S		Sn	00 26 06.6	+0.9
PTL				AML	AML		00 26 11.1	
	comp=E,1964μm,0.5s							
PTL				AML	AML		00 26 11.9	
	comp=N,2300μm,0.5s							
VLY	Voula,Athens	1.16	119	P		Pg	00 25 51.3	-0.3
VLY	Voula,Athens	1.16	119	P		Pg	00 25 51.2	-0.3
DION	Dionisos Attik	1.17	106	P		Pg	00 25 51.8	0.0
DION				S		Sn	00 26 08.1	+1.3
DION				AML	AML		00 26 11.2	
	comp=E,4746μm,0.4s							
DION				AML	AML		00 26 11.9	
	comp=N,5680μm,0.4s							
THL	Klokotos Trika	1.21	341	P		Pb	00 25 52.0	+0.1
THL				S		Sn	00 26 09.2	+1.4
THL				AML	AML		00 26 13.5	
	comp=E,715μm,0.4s							
THL				AML	AML		00 26 15.5	
	comp=N,453μm,0.4s							
LRSO	Larissa Observ	1.26	356	P		Pg	00 25 53.1	-0.4
ALNA	Alonissos	1.28	55	P		Pb	00 25 53.1	0.0
YDRA	Hydra	1.30	145	P		Pg	00 25 54.2	-0.2
AOS	Alonnisos	1.30	54	P		Pn	00 25 52.8	-0.2
AOS	Alonnisos	1.30	54	PN		Pn	00 25 52.5	-0.5
AOS				SN		Sb	00 26 09.9	-0.2
ITM	Ithomi	1.32	201	P		Pn	00 25 53.4	+0.2
ITM	Ithomi	1.32	201	PN		Pb	00 25 53.7	-0.1
EVGI	Lefkada island	1.47	279	P		Pb	00 25 56.6	+0.2
FSK	Fiskardo	1.53	272	P		Pn	00 25 56.9	+0.8
VLS	Valsamata	1.53	262	P		Pn	00 25 56.8	+0.7
VLMS	Volimes, Zakyn	1.56	260	P		Pb	00 25 57.6	-0.2
KARY	Karystos	1.56	104	P		Pb	00 25 57.3	-0.6
KARY				AML	AML		00 26 24.9	
	comp=N,718μm,0.4s							
KARY				AML	AML		00 26 27.4	
	comp=E,391μm,0.6s							
KEF5	Kardakata, Kep	1.61	266	P		Pb	00 25 58.4	-0.4
PYL	PYLOS	1.64	202	P		Pb	00 25 58.7	-0.5
KEF4	Livadi, Kephal	1.65	265	P		Pb	00 25 59.0	-0.4
LIT	Litokhoron	1.68	359	*i* P		Pn	00 25 58.3	+0.1
LIT				*i* S		Sn	00 26 16.1	-3.4
VLI	Veliai	1.73	169	P		Pn	00 25 58.9	+0.1
KZN	Kozani	1.97	343	P		Pn	00 26 03.4	+1.1
KTHA	Kythira Island	2.20	168	PN		Pn	00 26 05.9	+0.6
HORT	Hortiatis	2.22	12	PN		Pn	00 26 05.8	+0.1
OUR	Ouranopolis	2.23	30	PN		Pn	00 26 05.9	+0.3
SIGR	SIGRI	2.73	72	PN		Pn	00 26 12.9	+0.4
APE	Apeiranthos	2.74	118	‖P		Pb	00 26 17.2	-0.9
APE				‖S		Sb	00 26 53.3	+1.8
APE	Apeiranthos	2.74	118	PN		Pn	00 26 13.3	+0.5
APE	Apeiranthos	2.74	118	*i* P		Pn	00 26 14.8	+2.0
APE				*i* S		Sn	00 26 42.7	-3.0
CHOS	Chios island	2.78	90	PN		Pn	00 26 13.9	+0.6
VAY	Valandovo	2.90	1	*i* Pn		Pn	00 26 15.0	+0.1
OHR	Ohrid	3.00	334	*i* Pn		Pg	00 26 26.6	-0.1
GADA	Gvkgeada	3.17	55	PN		Pn	00 26 19.3	+0.7
URLA	Izmir	3.21	90	PN		Pn	00 26 19.8	+0.6
URLA	Izmir	3.21	90	*i* P		Pn	00 26 19.0	-0.1
URLA				*i* S		Sn	00 26 36.1	-21
URLA				IAML			00 26 59.0	
	comp=N,26nm,1.4s							
STIP	Stip	3.28	356	*i* Pn		Pn	00 26 22.4	+2.2
MMB	Musomiste	3.30	16	*i* P		Pn	00 26 20.9	+0.4
MMB				*i* S		Sn	00 26 58.1	-1.4
BAYC	CANAKKALE_Bayr	3.41	66	*i* P		Pn	00 26 21.8	-0.1
KKB	Krupnik	3.47	7	*e*P		Pn	00 26 23.8	+1.0
KKB				*e*S		Sn	00 27 02.6	-1.1
DKL	Dikili	3.49	78	PN		Pn	00 26 24.0	+0.9
RDO	Rodhopi	3.58	40	PN		Pn	00 26 25.4	+1.1
SKO	Skopje	3.65	347	*i* Pn		Pn	00 26 27.8	+2.6
GELI	Tayfur-Gelibol	3.65	56	PN		Pn	00 26 25.7	+0.5
RZN	Rozhen	3.68	27	*i* P		Pn	00 26 26.3	+0.5
RZN				*i* S		Sn	00 27 07.2	-1.7
ALN	Alexandroupoli	3.68	47	PN		Pn	00 26 26.7	+1.1
ALN	Alexandroupoli	3.68	47	*i* P		Pn	00 26 25.7	0.0
KDZ	Kurdzhali	3.92	34	PN		Pn	00 26 27.8	-1.2
PLD	Plovdiv	4.05	24	PN		Pn	00 26 32.0	+1.4
VTS	Vitosha	4.23	7	‖P		Pn	00 26 34.6	+1.3
VTS				‖S		Sn	00 27 24.0	+1.4
VTS	Vitosha	4.23	7	*e*P		Pn	00 26 34.5	+1.1
TIP	Timpagrande	4.56	281	‖P		Pn	00 26 40.6	+2.7
TIP				‖S		Sn	00 27 31.5	+1.0
PDG	Podgorica	4.72	329	‖P		Pn	00 26 41.3	+1.5
DURS	Dursunbey	4.79	74	*i* P		Pn	00 26 42.5	+1.6
MATE	Matera	5.01	298	‖P		Pn	00 26 46.1	+2.2
BLKB	Belogradchik	5.20	1	‖S		Sn	00 27 46.6	+0.3
HERR	Herculane	6.46	359	‖P		Pn	00 27 04.7	+0.9
VOIR		7.26	14	‖P		Pn	00 27 16.6	+1.7
MLR	Muntele Rosu	7.51	19	‖P		Pn	00 27 20.4	+2.0
PLOR	Plostina	8.04	21	‖P		Pn	00 27 26.5	+1.1
VRI	Vrincioaia	8.07	21	‖P		Pn	00 27 28.5	+2.6
BRTR	Keskin Array B	8.75	78	Pn		Pn	00 27 38.0	+2.5
	comp=N,0.1nm,0.3s,baz=256,slow=12,SNR=5.6							
ESDC	Sonseca Array	20.58	282	P		P	00 30 08.3	+0.6
	comp=N,0.4nm,0.8s,baz=76,slow=11,SNR=3.1							
MKAR	Makanchi Array	43.84	59	P		P	00 33 34.3	-0.4
	comp=N,0.2nm,0.5s,baz=282,slow=6.8,SNR=2.8							
ZALV	Zalesovo Beam	44.36	48	P		P	00 33 38.5	-0.2
	comp=N,0.6nm,0.4s,baz=265,slow=8.9,SNR=3.8							

IDC ***11*** *01:09:37.0±0.6, 16°.18N×98°.24W, h0km, mb4.5/20, mb1 4.7/22, mb1mx4.5/38, mbtmp4.5/22, ML3.8/2, MS4.1/22, Ms1 4.1/22, ms1mx3.9/33, Error ellipse: s-maj=17.9km s-min=10.8km az=52.0*

MEX ***11*** *01:09:38.0±0.7, 16°.12N×98°.36W, h5km, MD4.9*

GCMT ***11*** *01:09:39.6±0.4, 16°.38N±0°.02×98°.29W±0°.03, h22km±1km, MW4.8/67, Moment Tensor Solution. s15,c16; s67,c85; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.77±.15; Mθθ1.26±.10; Mϕϕ-0.48±.08; Mrθ-0.02±.15; Mrϕ1.24±.07; Mθϕ-0.99±.17; Best double couple: M₀1.92900×10¹⁶ NP1:ϕ₁281.00000°,δ54.00000°,λ-24.00000°. NP2: ϕ₂25.00000°,δ71.00000°,λ-142.00000°. Principal axes: T 1.9910, Plg11.0000°, Azm150.0000°; N -0.1260, Plg48.0000°, Azm48.0000°; P -1.8670, Plg40.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular*

moment-rate function

NEIC ***11*** *01:09:40.4±1.3, 16°.32N±0°.05×98°.18W±0°.05, h18km±4km*

Error ellipse: s-maj=8.2km s-min=6.3km az=224.0

ISC 11 01:09:37.2±0.8, 16°.22N±0°.03×98°.31W±0°.02, h4km±5km, n707, σ1§04/724, mb4.8/95, MS4.0/20, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
PNIG	Pinotepa	0.25	45	eP	Pg	01 09 42.4	+0.3
PNIG				*i* S	Sg	01 09 47.3	+2.0
PNIG	Pinotepa	0.25	45		Pg	01 09 42.5	+0.3
PNIG					Sg	01 09 47.3	+2.0
CRIG	Cruz Grande	0.94	303	*e*P	Pg	01 09 53.6	-1.6
CRIG				*e*S	Sg	01 10 06.1	-1.4
YOIG	Yosondua	0.97	49	*e*P	Pb	01 09 55.7	-1.2
YOIG				*i* S	Sn	01 10 10.0	-2.4
PEIG	Puerto Escondi	1.14	101	*e*P	Pg	01 09 57.1	-2.0
PEIG				*i* S	Sb	01 10 12.8	-2.0
TXIG	Tlaxiaco	1.16	27	*e*P	Pb	01 09 58.6	-1.4
TXIG				*i* S	Sn	01 10 14.8	-2.1
TLIG	Tlapa	1.36	350	*e*P	Pg	01 10 01.6	-1.7
TLIG				*i* S	Sg	01 10 19.9	-1.2
TLIG	Tlapa	1.36	350		Pg	01 10 01.9	-1.5
TLIG				Sg	Sg	01 10 19.6	-1.5
HMTT	Tlapaneco	1.59	351	*e*P	Pn	01 10 04.8	-1.5
HMTT				*i* S	Sn	01 10 25.6	-1.8
ACP2	Acapulco	1.65	294	*e*P	Pn	01 10 03.9	-3.1
ACP2				*i* S	Sn	01 10 24.6	-4.0
HLIG	Huajuapan de L	1.68	17	*e*P	Pn	01 10 06.1	-1.5
HLIG				*e*S	Sg	01 10 28.9	-2.3
VHO	Vista Hermosa	1.74	60	*e*P	Pn	01 10 07.2	-1.2
VHO				*i* S	Sn	01 10 29.1	-2.1
PANG	Puerto Angel	1.85	107	*e*P	Pn	01 10 07.4	-2.4
PANG				*i* S	Sn	01 10 30.3	-3.3
CAIG	El Cayaco	2.05	294	*e*P	Pn	01 10 09.5	-3.0
CAIG				*i* S	Sn	01 10 35.5	-3.0
TOIG	Toxpalan	2.22	32	*e*P	Pn	01 10 14.3	-0.7
TOIG				*i* S	Sn	01 10 41.7	-1.2
TPIG	Tehuac#an	2.37	22	*i* P	Pn	01 10 16.0	-1.1
TPIG				*i* S	Sn	01 10 46.0	-0.8
TPIG	Tehuac#an	2.37	22		Pb	01 10 18.4	-2.3
PLIG	Platanillo	2.44	332	*e*P	Pn	01 10 17.4	-0.6
PLIG				*e*S	Sn	01 10 46.7	-1.8
PLIG	Platanillo	2.44	332		Pb	01 10 21.3	-0.8
YAIG	Yautepec	2.73	345	*e*P	Pn	01 10 21.4	-0.6
YAIG				*e*S	Sn	01 10 54.6	-1.0
YAIG	Yautepec	2.73	345		Pb	01 10 25.3	-1.5
PHPU	Puebla	2.82	3	*i* P	Pb	01 10 27.0	-1.3
PPM	Popocatepetl	2.85	354	*e*P	Pn	01 10 24.5	+0.4
PPM				*e*S	Sb	01 11 03.8	-0.7
AMVM	AMECAMECA	2.94	351	*e*P	Pn	01 10 24.1	-0.9
AMVM				*i* S	Sn	01 11 00.8	-0.1
MAVM	Malinalco, Edo	2.95	338	*e*P	Pn	01 10 23.4	-1.7
MAVM				*e*S	Sn	01 11 00.1	-1.1
UNM	Universidad Na	3.20	345		Pn	01 10 28.5	-0.2
UNM				Sn	Sn	01 11 06.2	-1.3
CVM	Colonia del Va	3.25	345	*e*P	Pn	01 10 28.0	-1.1
CVM				*i* S	Sn	01 11 07.5	-0.8
TOVM	TOLUCA	3.32	337	*e*P	Pn	01 10 29.0	-1.2
TOVM				*i* S	Sn	01 11 09.3	-1.1
ZIIG	Zihuatanejo	3.32	295	*e*P	Pn	01 10 28.5	-1.5
ZIIG				*e*S	Sn	01 11 01.1	-2.9
ZIIG	Zihuatanejo	3.32	295		Pn	01 10 32.5	+2.5
ZIIG					Sn	01 11 14.1	+4.1
CMIG	Matias Romero 14nm,0.3s,baz=248,slow=12,SNR=125	3.40	75	Pn	Pn	01 10 29.4	-1.7
CMIG				Lg	Lg	01 11 25.1	
	436nm,0.3s,baz=24,slow=19,SNR=7.1						
CMIG	Matias Romero	3.40	75	*e*P	Pn	01 10 30.4	-0.7
CMIG				*e*S	Sn	01 11 10.6	-1.3
CMIG	Matias Romero	3.40	75		Pn	01 10 30.4	-0.7
CMIG					Sn	01 11 07.6	-4.3
PTVM	Pico Tres Padr	3.44	347	*e*P	Pn	01 10 31.3	-0.7
AZVM	Cuida Lopez Ma	3.48	345	*e*P	Pn	01 10 31.7	-0.8
AZVM				*e*S	Sn	01 11 14.0	-0.2
VTVM	Tizayuca	3.56	353	*e*P	Pn	01 10 33.5	-0.2
VTVM				*i* S	Sn	01 11 16.1	-0.3
ZUVM	ZUMPANGO	3.66	349	*e*P	Pn	01 10 35.1	+0.1
ZUVM				*e*S	Sn	01 11 19.3	+0.4
ATVM	ATLACOMULCO	3.81	338	*e*P	Pn	01 10 37.2	+0.1
ATVM				*e*S	Sn	01 11 21.3	-1.3
LVIG	Laguna Verde	3.93	27	*e*P	Pn	01 10 38.1	-0.2
LVIG	Laguna Verde	3.93	27		Pn	01 10 38.1	-0.2
ACIG	Acambay	4.03	339	*e*P	Pn	01 10 39.7	-0.3
ACIG				*i* S	Sn	01 11 26.9	-0.8
TUIG	Tuzandepetl	4.13	64	*e*P	Pn	01 10 39.2	-2.0
TUIG	Tuzandepetl	4.13	64		Pn	01 10 39.2	-2.0
MOIG	Morelia	4.40	322	*e*P	Pn	01 10 43.9	-1.2
MOIG				*e*S	Sn	01 11 38.8	+1.9
MOIG	Morelia	4.40	322		Pn	01 10 46.6	+1.6
TGIG		5.01	83	*e*P	Pn	01 10 52.7	-0.6
TGIG		5.01	83		Pn	01 10 52.7	-0.6
MMIG	Aquila	5.23	294	*i* P	Pn	01 10 55.7	-0.6
MMIG	Aquila	5.23	294		Pn	01 10 55.7	-0.6
CCIG	Comitan	5.93	89		Pn	01 11 06.8	+0.7
RTAL	Retalhuleu	6.60	104		Pn	01 11 17.2	+2.1
HUEH	Huehuetenango	6.62	97	Pn	Pn	01 11 15.4	-0.1
ZAIG	Zacatecas	7.65	329	Pn	Pn	01 11 31.0	+1.1
PETF	Flores	8.13	84	Pn	Pn	01 11 34.9	-1.2
ESQI	Esquipulas	8.81	100	Pn	Pn	01 11 48.3	+2.7
MTO3	Montecristo	8.82	101	Pn	Pn	01 11 46.7	+0.8
TEIG	Tepich	10.34	66	Pn	Pn	01 12 05.6	-0.8
TGUH	Tegucigalpa,Un	10.87	100	Pn	Pn	01 12 14.7	+0.8
ESTN	Estel	11.96	103	Pn	Pn	01 12 29.1	+0.3
833A	Chaparral WMA, baz=174	12.09	355	P	Pn	01 12 30.9	+0.5
833A	Chaparral WMA,	12.09	355	Pn	Pn	01 12 31.5	+1.1
H06E1	SOCORRO T-PHAS SNR=69	12.30	284	T	T	01 24 41.1	
H06S1	SOCORRO T SNR=12	12.32	284	T	T	01 24 51.4	
H06N1	SOCORRO T-PHAS SNR=43	12.37	284	T	T	01 24 44.5	
MATN	Matagalpa	12.43	104		Pn	01 12 36.0	+0.8
735A	Kenedy	12.59	2	Pn	Pn	01 12 38.2	+1.0
HPIG		12.67	329	Pn	Pn	01 12 39.4	+0.9
BOAB	BOACO BROADBAN	12.81	105	Pn	Pn	01 12 40.0	-0.3
SLBS	Sierra La Lagu	13.22	306	Pn	Pn	01 12 46.4	+0.5
ACON	Acoyapa	13.43	107		Pn	01 12 48.3	-0.4
LPIG	La Paz comp=Z,1μm,18.7s,baz=118,slow=35	13.72	307	LR	LR	01 17 42.8	
TX31	Lajitas Ar. Si	13.96	340	Pn	Pn	01 12 55.9	-0.1
TX32	Lajitas Array	13.96	340	Pn	Pn	01 12 56.3	+0.4
TXAR	Lajitas Array 0.1nm,0.3s,baz=158,slow=15,SNR=18	13.96	340	Pn	Pn	01 12 57.4	+1.5
TXAR				Lg	Lg	01 17 03.7	
	0.1nm,0.3s,baz=163,slow=31,SNR=2.5						
TXAR				LR	LR	01 18 44.4	
	comp=Z,2μm,18.8s,baz=0.0,slow=39						
TXAR	Lajitas Array	13.96	340		Pn	01 12 56.8	+0.9
ESPN	Las Esperanzas	14.16	105	Pn	Pn	01 12 59.9	+1.1
JCT	Junction City baz=174	14.26	355	P	Pn	01 13 01.2	+1.1
JCT	Junction City	14.26	355	Pn	Pn	01 13 00.2	+0.1
JTS	Las Juntas de 1.5nm,0.3s,baz=26,slow=17,SNR=10	14.27	113	Pn	Pn	01 13 02.5	+2.2
JTS				LR	LR	01 17 37.3	
	comp=Z,364nm,18.7s,baz=14,slow=34						
JTS	Las Juntas de	14.27	113	Pn	Pn	01 13 02.1	+1.8
435B	Jarrell baz=182	14.52	2	P	Pn	01 13 03.9	+0.4
435B	Jarrell	14.52	2		Pn	01 13 03.2	-0.3
HDC	Heredia	15.14	112		P	01 13 14.7	-2.8
WHTX	Lake Whitney, baz=183,SNR=10	15.72	3	P	Pn	01 13 19.6	-0.1
WHTX	Lake Whitney,	15.72	3	Pn	Pn	01 13 20.5	+0.8
WHTX				IAmb	IAmb	01 13 28.0	
	comp=Z,39nm,0.8s						
NATX	Nacogdoches baz=192	15.83	11	P	Pn	01 13 20.0	-1.0
NATX	Nacogdoches	15.83	11	Pn	Pn	01 13 20.4	-0.6
NATX				IAmb	IAmb	01 13 27.8	
	comp=Z,74nm,1.2s						
237A	Washetta, Mont	15.88	8		Pn	01 13 21.3	-0.4
237A				IAmb	IAmb	01 13 29.5	
	comp=Z,75nm,0.9s						
ABTX	Abilene, Hawle baz=175,SNR=18	16.38	356	P	Pn	01 13 27.2	-1.0
ABTX	Abilene, Hawle	16.38	356		Pn	01 13 28.3	+0.1
ABTX				IAmb	IAmb	01 13 37.2	
	comp=Z,72nm,1.0s						
344A	Westbrook Farm	16.67	23	P	Pn	01 13 30.5	-1.3
MNTX	Cornudas Mount baz=155,SNR=19	16.70	339	P	Pn	01 13 32.4	+0.1
MNTX	Cornudas Mount	16.70	339		Pn	01 13 32.3	+0.1
CLNB	Carlsbad	16.76	343	Pn	Pn	01 13 33.5	+0.5
GDL2	Guadalupe Moun	16.84	342		P	01 13 35.3	-1.0
Z35A	Perchaven, San	17.07	3		Pn	01 13 36.8	-0.1
HSIG		17.26	320		Pn	01 13 40.3	+1.0
VBMS	Vicksburg baz=205	17.43	23	P	Pn	01 13 41.1	-0.3
Z41A	Richland Creek baz=197	17.68	15	P	Pn	01 13 42.3	-2.2
WLAR	White Oak Lake	18.02	14	P	P	01 13 49.2	+0.1
BRAL	Brewton baz=217	18.09	33	P	Pn	01 13 47.7	-1.8
319A	Douglas	18.10	328		P	01 13 50.6	+0.3
319A				IAmb	IAmb	01 13 53.2	
	comp=Z,47nm,0.8s						
MSTX	Muleshoe baz=166,SNR=12	18.13	348	P	Pn	01 13 48.7	-1.4
MSTX	Muleshoe	18.13	348	Pn	Pn	01 13 49.0	-1.2
121A	Cookes Peak, D baz=150,SNR=32	18.38	334	P	P	01 13 54.1	+0.8
121A	Cookes Peak, D	18.38	334		P	01 13 54.1	+0.8
WMOK	Wichita Mounta baz=178,SNR=10	18.45	359	P	Pn	01 13 52.6	-1.4
WMOK	Wichita Mounta	18.45	359	P	Pn	01 13 52.4	-1.6
MIAR	Mount Ida baz=194,SNR=26	18.74	12	P	P	01 13 55.9	-1.2
MIAR	Mount Ida	18.74	12	P	P	01 13 56.4	-0.7
AMTX	Amarillo baz=170	18.83	351	P	P	01 13 57.9	-0.4
AMTX	Amarillo	18.83	351	P	P	01 13 57.7	-0.6
X40A	Basin Creek Fa baz=196	18.85	14	P	P	01 13 56.4	-1.9
061Z	Ochoppi	18.85	57	P	P	01 13 57.8	-0.6
FNO	Franklin	18.98	2	P	P	01 13 59.2	-0.6
UALR	University of	19.24	15		P	01 14 02.0	-0.6
BCIP	Isla Barro Col	19.33	109	*e*P	P	01 14 02.2	-1.5
W39A	Magazine baz=193	19.33	11	P	P	01 14 02.8	-0.8
W39A	Magazine	19.33	11	P	Pn	01 14 04.1	-0.5
Y22D	IRIS PASSCAL I baz=154	19.40	338	P	P	01 14 04.1	-0.4
X43A	Marvell baz=202	19.41	19	P	P	01 14 03.3	-1.2
OK029	Liberty Lake	19.52	2	P	P	01 14 05.9	+0.2
OK029				IAmb	IAmb	01 14 22.6	
	comp=Z,27nm,0.8s						
TUC	Tucson baz=142	19.62	327	P	Pn	01 14 08.7	+0.5
TUC	Tucson	19.62	327	P	P	01 14 07.5	+0.6
LRAL	Lakeview Retre baz=214,SNR=8.4	19.63	29	P	P	01 14 05.5	-1.4
LRAL	Lakeview Retre	19.63	29	P	P	01 14 06.5	-0.3
W41B	Gary Mavity, V baz=197	19.64	15	P	Pn	01 14 07.7	-0.6
TUL1	Leonard baz=187,SNR=16	19.74	6	P	Pn	01 14 08.6	-0.9
TUL1	Leonard	19.74	6	P	P	01 14 08.2	+0.1
TUL1				IAmb	IAmb	01 14 13.3	
	comp=Z,47nm,0.9s						
OXF	Oxford baz=206	19.90	22	P	P	01 14 09.1	-0.7
ANMO	Albuquerque comp=Z,17nm,0.9s,baz=150,slow=12,SNR=54	20.03	340	P	Pn	01 14 13.0	-0.2
ANMO				Lg	Lg	01 20 19.0	
	comp=Z,0.3nm,0.3s,baz=260,slow=18,SNR=7.8						
ANMO				LR	LR	01 22 30.5	
	comp=Z,2μm,19.9s,baz=155,slow=38						
ANMO	Albuquerque baz=156	20.03	340	P	P	01 14 11.7	+0.2
ANMO	Albuquerque	20.03	340	P	Pn	01 14 12.7	-0.5
U32A	Winter Ranch,	20.09	358	P	P	01 14 12.1	+0.2
U32A				IAmb	IAmb	01 14 27.2	
	comp=Z,44nm,0.9s						
TIGA	Tifton baz=224	20.24	39	P	P	01 14 13.1	-0.4
FCAR	Ozark Folk Cen	20.36	15	P	P	01 14 14.3	-0.5
HHAR	Hobbs	20.36	10	P	P	01 14 14.5	-0.3
214A	Organ Pipe Nat baz=136,SNR=19	20.48	323	P	Pn	01 14 17.7	-0.6
214A	Organ Pipe Nat	20.48	323	P	P	01 14 17.5	+1.3
214A				IAmb	IAmb	01 14 22.7	
	comp=Z,46nm,1.1s						
152A	Waverly Hall	20.49	34	P	P	01 14 16.2	-0.1
152A				IAmb	IAmb	01 14 35.6	
	comp=Z,58nm,1.4s						
Y49A	Blount Mountai	20.58	29	P	P	01 14 16.5	-0.7
PIX	Pinacate	20.58	321	P	P	01 14 18.8	+1.5
U40A	Yellville baz=195,SNR=32	20.64	13	P	P	01 14 17.5	-0.4
T35A	Sooner Cattle	20.68	4	P	P	01 14 17.7	-0.6
T35A				IAmb	IAmb	01 14 32.4	
	comp=Z,28nm,0.7s						
LCAR	Lake Charles	20.78	17	P	Pn	01 14 20.3	-1.4
PLAL	Pickwick Lake	20.82	24	P	P	01

baz=228
S22A 4UR Ranch, Cre 22.73 342 P P 01 14 41.0 +0.4
baz=158,SNR=29
S22A 4UR Ranch, Cre 22.73 342 P P 01 14 41.0 +0.4
S22A IAmb IAmb 01 15 00.1
comp=Z,42nm,1.4s
MVCO Mesa Verde 22.77 339 P P 01 14 41.0 0.0
baz=154,SNR=47
MVCO Mesa Verde 22.77 339 P P 01 14 41.3 +0.2
MVCO IAmb IAmb 01 14 55.7
comp=Z,22nm,0.8s
CCX Cicese 22.83 316 P P 01 14 43.3 +1.9
CCX IAmb IAmb 01 14 49.5
comp=Z,19nm,0.9s
S44A Carbondale 22.84 19 P P 01 14 41.2 -0.3
S44A IAmb IAmb 01 14 45.5
comp=Z,29nm,1.1s
KSU1 Kansas State U 22.85 3 P P 01 14 40.9 -0.6
baz=184
KSU1 Kansas State U 22.85 3 P P 01 14 41.5 -0.1
Z56A Williston 22.90 39 P P 01 14 40.5 -1.6
baz=226,SNR=5.3
Z56A Williston 22.90 39 P P 01 14 41.4 -0.7
PDMCI Parker Dam,Lak 22.95 325 P P 01 14 42.9 +0.3
baz=138,SNR=16
IKP In-Ko-Pah, Jac 22.97 319 P P 01 14 44.6 +1.6
baz=131,SNR=5.7
SWSC Sam W. Stewart 22.97 320 P P 01 14 44.5 +1.6
baz=132,SNR=10.0
KSCO Kaye Shedlock' 23.02 351 P P 01 14 43.3 -0.2
baz=169,SNR=8.1
KSCO Kaye Shedlock' 23.02 351 P P 01 14 43.9 +0.4
KSCO IAmb IAmb 01 14 51.4
comp=Z,34nm,1.0s
HODGE Hodges 23.02 36 P P 01 14 42.4 -1.0
HODGE IAmb IAmb 01 14 43.6
comp=Z,23nm,0.8s
Y55A Saluda 23.04 37 P P 01 14 42.5 -1.1
baz=224,SNR=16
U49A Red Boiling Sp 23.08 26 P P 01 14 43.8 -0.2
CBX Cerro Bola 23.11 317 P P 01 14 46.5 +2.0
X54A Belton 23.19 35 P P 01 14 44.4 -0.8
baz=222,SNR=11
158A Hollywood 23.23 42 P P 01 14 44.6 -0.9
baz=229
TKX Tecate 23.23 318 P P 01 14 46.8 +1.1
BC3 Big Chuckawall 23.24 321 P P 01 14 46.4 +0.6
baz=134,SNR=27
Y56A Pelion 23.26 38 P P 01 14 44.3 -1.6
baz=225
Z57A Bowman 23.28 40 P P 01 14 45.0 -1.1
baz=227,SNR=7.9
TKL Tuckaleechee C 23.31 31 P P 01 14 46.1 -0.2
comp=Z,15nm,1.1s,baz=191,slow=8.0,SNR=10.0
MONP2 Monument Peak 23.33 319 P P 01 14 47.7 +0.9
baz=131,SNR=12
BAR Barrett 23.35 318 P P 01 14 47.8 +1.0
IRM Iron Mountain 23.42 323 P P 01 14 48.8 +1.3
baz=135,SNR=22
Q24A Divide 23.44 347 P P 01 14 47.6 -0.4
baz=163,SNR=6.8
Q24A Divide 23.44 347 P P 01 14 48.7 +0.7
Q24A IAmb IAmb 01 14 50.6
comp=Z,23nm,1.1s
DBBC Dabeiba 23.48 110 eP P 01 14 49.2 +0.9
NHSC New Hope 23.48 41 P P 01 14 47.6 -0.5
baz=228,SNR=9.9
NHSC New Hope 23.48 41 P P 01 14 48.2 +0.1
X55A Gracelyn & Ava 23.55 36 P P 01 14 47.7 -1.1
baz=223,SNR=18
NEE2 Needles Airpor 23.56 325 P P 01 14 48.4 -0.5
baz=137
U15A North Rim 23.66 331 P P 01 14 51.2 +1.1
U15A IAmb IAmb 01 14 55.1
comp=Z,31nm,1.1s
W54A Cherokee Point 23.70 35 P P 01 14 50.3 +0.1
baz=221,SNR=17
PAULI Pauline 23.70 36 P P 01 14 49.9 -0.4
PAULI IAmb IAmb 01 14 53.2
comp=Z,22nm,0.9s
109C Camp Elliot, M 23.76 318 P P 01 14 51.4 +0.5
baz=130
109C Camp Elliot, M 23.76 318 P P 01 14 51.8 +1.0
109C IAmb IAmb 01 14 52.8
comp=Z,18nm,1.1s
UREC San Jos de Ur 23.80 108 eP P 01 14 52.0 +0.6
V53A Saluda 23.80 33 P P 01 14 51.1 -0.2
V53A IAmb IAmb 01 15 05.7
comp=Z,19nm,1.1s
BELC Belle Mtn. Jos 23.81 321 P P 01 14 52.5 +1.0
baz=134,SNR=19
PFO Pinyon Flats O 23.83 320 P P 01 14 52.7 +1.0
comp=Z,9.2nm,1.0s,baz=121,slow=9.1,SNR=15
PFO LR LR 01 24 55.1
comp=Z,372nm,20.4s,baz=145,slow=38
PFO Pinyon Flats O 23.83 320 P P 01 14 53.0 +1.4
baz=132,SNR=8.2
PFO Pinyon Flats O 23.83 320 P P 01 14 52.8 +1.2
PFO IAmb IAmb 01 14 55.6
comp=Z,17nm,1.1s
Z58A St. Stephen 23.86 41 P P 01 14 51.4 -0.4
baz=229
PV11 David Mesa, Pa 23.88 339 P P 01 14 52.5 +0.3
PV11 IAmb IAmb 01 15 02.1
comp=Z,34nm,1.2s
X56A White Oak 23.91 37 P P 01 14 52.1 -0.2
baz=224,SNR=15
T50A Nancy 23.92 27 P P 01 14 52.0 -0.3
T50A IAmb IAmb 01 14 56.0
comp=Z,27nm,1.1s
Y57A Sumter 23.96 39 P P 01 14 51.8 -1.0
baz=226
Y57A Sumter 23.96 39 P P 01 14 52.3 -0.4
Y57A IAmb IAmb 01 14 53.9
comp=Z,33nm,1.1s
Q44A Meyer Farm, Va 24.03 18 P P 01 14 54.1 +0.8
Q44A IAmb IAmb 01 15 06.4
comp=Z,14nm,0.7s
TZTN Tazewell 24.12 30 P P 01 14 54.1 -0.2
baz=216,SNR=14
TZTN Tazewell 24.12 30 P P 01 14 53.9 -0.4
TZTN IAmb IAmb 01 15 02.2
comp=Z,25nm,1.1s
Z59A Georgetown, SC 24.14 42 P P 01 14 54.9 +0.4
baz=230
CBOC Ciudad Bolivar 24.16 113 eP P 01 14 55.8 +0.8
OLIL Olney 24.16 20 P P 01 14 54.9 +0.3
OLIL IAmb IAmb 01 14 56.9
comp=Z,34nm,1.1s
GMRC Granite Mounta 24.16 323 P P 01 14 56.3 +1.5
baz=136,SNR=29
KMSC Kings Mountain 24.21 36 P P 01 14 54.8 -0.2
baz=223,SNR=8.8
KMSC Kings Mountain 24.21 36 P P 01 14 54.6 -0.5
KMSC IAmb IAmb 01 15 01.8
comp=Z,20nm,1.0s
MURC Murrieta 24.28 319 P P 01 14 57.3 +1.5
baz=131,SNR=6.3
V54A Nebo 24.34 34 P P 01 14 55.7 -0.6
baz=221,SNR=15
ISCO Idaho Springs 24.34 346 P P 01 14 57.1 +0.5
baz=163,SNR=52
ISCO Idaho Springs 24.34 346 P P 01 14 56.5 -0.1
WCI Wyandotte Cave 24.35 23 P P 01 14 55.9 -0.4
baz=209
WCI Wyandotte Cave 24.35 23 P P 01 14 56.0 -0.4
BIRD Birdtown, Kers 24.36 38 P P 01 14 56.3 -0.1
PLMC San Jos del P 24.37 115 eP P 01 14 55.6 -1.2
KNB Kanab 24.38 331 P P 01 14 58.1 +1.2
HELC Santa Helena 24.44 111 eP P 01 14 58.6 +0.8
X57A Johnson Farm, 24.45 39 P P 01 14 57.2 0.0
baz=226
ZARC Zaragoza, Cauc 24.51 108 eP P 01 14 59.6 +1.6
BBRC Big Bear Solar 24.55 320 P P 01 14 59.4 +0.9
baz=132
HEC Hector,Ludlow 24.59 322 P P 01 15 00.4 +1.8
baz=134,SNR=11
W56A Indian Trail 24.63 37 P P 01 14 58.8 -0.1
baz=224,SNR=13
N35A Tabor 24.67 5 P P 01 14 59.6 +0.5
N35A IAmb IAmb 01 15 14.5
comp=Z,30nm,1.1s
SCI2 San Clemente I 24.77 316 P P 01 15 01.2 +1.1
baz=127,SNR=6.0
SMLC San Martn de 24.77 104 eP P 01 15 01.6 +1.3
YOTC Yotoco, Valle 24.77 117 eP P 01 15 02.2 +1.7

TUQ Turquoise Moun 24.78 324 P P 01 15 01.4 +1.0
baz=136,SNR=20
V55A Taylorsville 24.79 35 P P 01 15 01.1 +0.7
baz=222,SNR=11
V55A Taylorsville 24.79 35 P P 01 15 00.6 +0.2
R49A Shelbyville 24.85 25 P P 01 14 59.8 -1.0
R49A IAmb IAmb 01 15 04.0
comp=Z,26nm,1.1s
N38A Joes South For 24.88 9 P P 01 15 01.2 +0.1
Y59A Loris 24.88 41 P P 01 15 01.1 -0.1
baz=229
CIS Catalina Islan 24.94 317 P P 01 15 02.7 +0.9
baz=128
T53A Wise 24.97 31 P P 01 15 01.1 -0.9
baz=218
X58A Rowland 24.97 39 P P 01 15 00.2 -1.7
baz=227
U54A Nelsons Funny 24.97 33 P P 01 15 01.3 -0.8
baz=220,SNR=7.4
U54A Nelsons Funny 24.97 33 P P 01 15 01.8 -0.2
SZCU Shurtz Canyon 24.98 331 P P 01 15 03.5 +1.2
W57A Gilead 24.98 38 P P 01 15 01.7 -0.4
baz=225,SNR=19
BFSC Mount Baldy Ra 24.99 319 P P 01 15 03.2 +0.9
baz=131,SNR=9.3
GUY2C Guyana, Caldas 25.02 113 eP P 01 15 02.8 -0.3
FMP Fort Macarthur 25.05 318 P P 01 15 03.7 +1.0
baz=129
BBAC Balboa, Cauca 25.08 122 eP P 01 15 01.9 -1.5
BGNE Belgrade 25.11 0 P P 01 15 03.1 -0.1
baz=180
SHPR Sheep Range 25.15 327 P P 01 15 04.8 +1.1
SHPR IAmb IAmb 01 15 07.7
comp=Z,21nm,1.1s
V56A Mocksville 25.16 36 P P 01 15 03.6 -0.1
baz=223
GSC Goldstone, Bar 25.19 322 P P 01 15 05.1 +1.0
baz=134,SNR=20
OTAV Otavalo 25.22 127 eP P 01 15 06.4 +1.5
OTAV Otavalo 25.22 127 P P 01 15 06.0 +1.1
OTAV IAmb IAmb 01 15 11.2
comp=Z,19nm,1.0s
OTAV Otavalo 25.22 127 eP P 01 15 05.8 +1.0
MWC Mount Wilson 25.23 319 P P 01 15 04.7 +0.2
MWC IAmb IAmb 01 15 22.9
comp=Z,25nm,1.1s
N41A Harden Midland 25.25 13 P P 01 15 03.8 -0.6
N41A IAmb IAmb 01 15 22.1
comp=Z,17nm,0.8s
P46A Rosedale 25.25 20 P P 01 15 04.6 +0.1
P46A IAmb IAmb 01 15 08.3
comp=Z,20nm,0.9s
PTBC PUERTO BERRIO, 25.26 110 eP P 01 15 06.9 +2.1
NORC Norcasia 25.30 112 eP P 01 15 07.0 +1.8
SHOC Shoshone, Teco 25.31 324 P P 01 15 05.8 +0.7
baz=136
Y60A Bolivia 25.31 42 P P 01 15 05.1 0.0
baz=230
ANIL Santa Ana 25.33 115 eP P 01 15 08.2 +2.5
W58A Raeford 25.34 39 P P 01 15 05.2 -0.2
baz=227,SNR=13
O20A White River Ci 25.35 342 P P 01 15 06.7 +1.1
baz=157,SNR=43
TOLC Tolima 25.36 115 eP P 01 15 09.1 +3.1
U55A TA2, Sparta 25.37 34 P P 01 15 04.3 -1.4
baz=221,SNR=12
DECC Green Verdugo 25.42 319 P P 01 15 07.0 +0.9
baz=130
X59A McDuffie Farm, 25.43 40 P P 01 15 05.6 -0.5
baz=229
N23A Red Feather La 25.46 346 P P 01 15 07.1 +0.4
baz=162,SNR=34
HDIL Hopedale 25.49 16 P P 01 15 07.0 +0.4
baz=200
T54A Tazewell 25.51 32 P P 01 15 06.1 -0.9
baz=220,SNR=5.4
SNCC San Nicolas Is 25.58 315 P P 01 15 08.3 +0.8
baz=126
PCON Cinco Dias 25.61 120 eP P 01 15 08.0 -0.6
U56A King 25.61 35 P P 01 15 07.8 -0.1
baz=223,SNR=11
EDW2 Edwards Air Fo 25.62 320 P P 01 15 08.0 0.0
baz=131,SNR=10
V57A Coltrane Farms 25.63 37 P P 01 15 08.0 0.0
baz=225,SNR=20
MARP Paez Belalcaza 25.70 119 eP P 01 15 11.8 +2.8
BRRC Barranca, Sant 25.71 108 eP P 01 15 10.1 +1.2
L34A Svendsen Farm, 25.72 3 P P 01 15 09.1 +0.4
L34A IAmb IAmb 01 15 12.7
comp=Z,21nm,0.8s
S53A Williamson 25.72 31 P P 01 15 07.7 -1.1
baz=218
ORTC Ortega, Tolima 25.75 116 eP P 01 15 11.4 +2.1
ORTC eP sP 01 15 12.0 +1.2
X60A Albert Glenn T 25.83 41 P P 01 15 09.1 -0.7
baz=230
LRMC Laurel Mtn Rad 25.83 322 P P 01 15 10.9 +1.0
baz=133,SNR=9.8
SDDR Presa de Saban 25.90 80 P P 01 15 11.0 +0.4
SDDR IAmb IAmb 01 15 24.1
comp=Z,22nm,0.9s
URIC Uribia, Colomb 25.92 97 P P 01 15 10.6 -0.2
W59A Clinton 25.92 40 P P 01 15 10.6 0.0
baz=228
V58A Windy Hill, Pi 25.95 38 P P 01 15 11.0 +0.2
baz=226,SNR=16
T55A Pulaski 25.97 33 P P 01 15 10.5 -0.6
baz=221,SNR=8.5
SFIN Lafayette 25.98 20 P P 01 15 10.8 -0.3
baz=205
SCIA State Center 25.98 9 P P 01 15 11.3 +0.3
baz=191
SPBC San Pablo de B 25.98 111 eP P 01 15 10.2 -1.2
FURC Furnace Creek, 26.05 324 P P 01 15 12.8 +1.1
baz=136,SNR=7.1
TPNV Topopah Spring 26.06 326 P P 01 15 13.1 +1.1
baz=138,SNR=27
TPNV Topopah Spring 26.06 326 P P 01 15 12.8 +0.8
TPNV IAmb IAmb 01 15 17.3
comp=Z,22nm,1.0s
P49A Miami Univ. Ec 26.09 24 P P 01 15 10.8 -1.3
baz=211,SNR=14
SCZ2 Santa Cruz Isl 26.10 317 P P 01 15 13.1 +0.8
baz=127
MPMC Manual Prospec 26.11 323 P P 01 15 13.2 +0.6
baz=134,SNR=18
ROSC El Rosal 26.12 113 P P 01 15 17.1 +4.1
comp=Z,31nm,1.2s,baz=30,slow=8.2,SNR=15
ROSC El Rosal 26.12 113 eP P 01 15 16.5 +3.5
ROSC El Rosal 26.12 113 P P 01 15 15.6 +2.6
PRAC Prado 26.16 116 eP P 01 15 12.1 -0.9
S54A Dingess, Beckl 26.21 32 P P 01 15 13.2 -0.1
baz=219
BETC Betania 26.22 118 eP P 01 15 15.6 +2.0
BLA Blacksburg 26.23 34 P P 01 15 14.3 +0.8
baz=222,SNR=8.2
BLA Blacksburg 26.23 34 P P 01 15 13.5 0.0
BLA IAmb IAmb 01 15 32.0
comp=Z,16nm,0.8s
Q51A Peebles 26.24 27 P P 01 15 12.4 -1.0
U57A Blanch 26.26 36 P P 01 15 14.6 +1.0
baz=225,SNR=7.2
ARVC Arvin 26.30 320 P P 01 15 14.1 +0.1
baz=130
W60A Pink Hill 26.30 41 P P 01 15 13.7 -0.3
baz=229
T56A Rocky Mt 26.30 35 P P 01 15 14.6 +0.5
baz=222,SNR=11
CNNC Cliffs of the 26.31 40 P P 01 15 13.8 -0.3
baz=229
R53A Hurricane 26.31 30 P P 01 15 14.1 0.0
baz=217
BARC Barichara 26.39 108 eP P 01 15 17.2 +1.8
SBC Santa Barbara 26.43 317 P P 01 15 15.7 +0.5
baz=128
ISA Isabella, Lake 26.43 321 P P 01 15 16.4 +1.0
baz=132
ISA Isabella, Lake 26.43 321 P P 01 15 16.2 +0.9
SC01 Santiago de lo 26.44 79 P P 01 15 15.7 +0.2
V59A Middlesex 26.45 39 P P 01 15 14.9 -0.4
baz=228,SNR=20
L40A Anamosa 26.47 12 P P 01 15 15.2 -0.3
L40A IAmb IAmb 01 15 17.9
comp=Z,27nm,1.1s
CVER Cruz Verde, Cu 26.48 113 eP P 01 15 19.3 +2.9
PAMC Pamplona, Colo 26.55 106 eP P 01 15 19.1 +2.0

S55A Lewisburg 26.61 33 P P 01 15 16.4 -0.4
baz=221
FLOC Florencia 26.64 121 P P 01 15 19.0 +1.7
Q52A Bidwell 26.67 29 P P 01 15 17.3 -0.1
baz=216,SNR=6.0
R54A Victor 26.67 32 P P 01 15 17.5 +0.1
baz=219
U58A Oxford 26.69 37 P P 01 15 17.4 -0.2
baz=226,SNR=24
T57A Hurt 26.71 36 P P 01 15 18.1 +0.4
baz=224,SNR=17
CWC Cottonwood Cre 26.72 323 P P 01 15 18.5 +0.4
baz=134
CHIC Chingaza 26.74 113 eP P 01 15 16.2 -2.4
P51A Williamsport 26.74 27 P P 01 15 17.3 -0.6
baz=214
RUSC La Rusia 26.77 110 eP P 01 15 16.3 -2.7
RUSC La Rusia 26.77 110 P P 01 15 19.5 +0.5
PKM Mcpherson Peak 26.77 318 P P 01 15 19.0 +0.5
baz=128
R11A Troy Canyon, C 26.77 329 P P 01 15 19.7 +1.2
baz=141,SNR=15
W61A Ground Anchor 26.84 41 P P 01 15 18.3 -0.6
baz=230
JLU Jordanelle 26.84 337 P P 01 15 19.4 +0.2
VES Vestal, Richgr 26.92 320 P P 01 15 20.9 +1.3
baz=131,SNR=20
Q53A Leroy 26.93 30 P P 01 15 19.4 -0.3
baz=218
DUG Dugway, Tooele 27.02 335 P P 01 15 20.9 +0.2
baz=148,SNR=23
S56A Natural Bridge 27.03 34 P P 01 15 20.3 -0.3
baz=222
V60A Jim Taylor Roa 27.04 40 P P 01 15 19.6 -1.1
baz=229
T58A Grand View Acr 27.08 37 P P 01 15 21.1 +0.1
baz=225,SNR=21
U59A Littleton 27.11 38 P P 01 15 20.1 -1.2
baz=227
SMMC Simmler 27.15 319 P P 01 15 23.6 +1.8
baz=129,SNR=5.9
R55A Marlinton 27.19 33 P P 01 15 22.9 +0.8
baz=221,SNR=7.0
K22A Casper 27.27 347 P P 01 15 23.3 +0.4
baz=162,SNR=9.7
P52A Corning 27.27 28 P P 01 15 21.7 -1.1
baz=215
P52A Corning 27.27 28 P P 01 15 23.0 +0.3
P52A IAmb IAmb 01 15 27.2
comp=Z,15nm,0.9s
Q54A Coxs Mills 27.37 31 P P 01 15 23.4 -0.2
baz=219,SNR=7.5
L44A Lake County Fo 27.37 17 P P 01 15 23.8 +0.1
baz=202
ACSO Alum Creek Sta 27.39 26 P P 01 15 23.8 0.0
baz=213
S57A Dark Hollow, R 27.43 35 P P 01 15 24.2 +0.1
baz=223,SNR=7.5
ECSD EROS Data Cent 27.47 3 P P 01 15 24.8 +0.4
baz=183
O51A Pataskala 27.48 27 P P 01 15 24.4 -0.3
baz=214
V61A Roper 27.48 41 P P 01 15 24.0 -0.7
baz=230
JFWS Jewell Farm 27.49 13 P P 01 15 24.2 -0.5
baz=197,SNR=5.9
JFWS Jewell Farm 27.49 13 P P 01 15 23.9 -0.8
JFWS IAmb IAmb 01 15 27.4
comp=Z,15nm,0.8s
P53A Whipple 27.50 29 P P 01 15 23.7 -1.1
baz=217
U60A Pendleton 27.57 39 P P 01 15 24.9 -0.5
baz=228,SNR=9.7
PAGB Antelope Grade 27.57 319 P P 01 15 26.5 +0.9
R56A Bull Pasture M 27.66 33 P P 01 15 25.3 -1.0
baz=222
T59A Double "B" Far 27.67 38 P P 01 15 25.6 -0.7
baz=227,SNR=7.0
T59A Double "B" Far 27.67 38 P P 01 15 26.3 0.0
BGU Big Grassy Mou 27.73 336 P P 01 15 27.3 +0.3
TAMC Tame, Arauca 27.73 107 eP P 01 15 29.5 +2.4
Q55A Buckhannon 27.75 32 P P 01 15 27.6 +0.5
baz=220
O52A Adamsville 27.80 28 P P 01 15 27.1 -0.4
baz=215
O52A Adamsville 27.80 28 P P 01 15 27.7 +0.2
O52A IAmb IAmb 01 15 31.9
comp=Z,29nm,1.4s
S58A Poland Farm, P 27.82 36 P P 01 15 27.3 -0.4
baz=225
U61A Possum Corner 27.91 40 P P 01 15 28.6 +0.1
baz=230
SDV Santo Domingo 27.96 102 P P 01 15 30.7 +1.3
comp=Z,19nm,0.6s,baz=286,slow=7.4,SNR=4.9
SDV Santo Domingo 27.96 102 P P 01 15 29.8 +0.4
P54A Burton 28.02 30 P P 01 15 28.5 -1.0
baz=218
I37A Lemond, Waseca 28.02 8 P P 01 15 29.3 -0.2
I37A IAmb IAmb 01 15 33.1
comp=Z,21nm,1.1s
R57A Stanardsville 28.05 35 P P 01 15 28.9 -0.8
baz=224
OMMB Old Mammoth Mi 28.07 323 P P 01 15 31.3 +1.1
OMMB IAmb IAmb 01 15 33.3
comp=Z,24nm,1.4s
BW06 Boulder Array 28.16 342 P P 01 15 31.1 +0.1
baz=156,SNR=24
PD31 Pinedale Array 28.16 342 P P 01 15 31.4 +0.5
PDAR Pinedale Array 28.16 342 P P 01 15 31.9 +0.9
comp=Z,3.8nm,0.7s,baz=140,slow=10,SNR=38
PDAR LR LR 01 27 31.7
comp=Z,657nm,21.9s,baz=164,slow=38
PDAR Pinedale Array 28.16 342 P P 01 15 30.9 0.0
R58B Mineral 28.17 36 P P 01 15 30.4 -0.4
baz=225
NV11 Mina Array Sit 28.17 326 P P 01 15 32.4 +1.4
NV11 IAmb IAmb 01 15 34.3
comp=Z,25nm,1.1s
O53A New Philadelph 28.19 28 P P 01 15 30.8 -0.2
baz=216
PMPB Monarch Peak 28.23 319 P P 01 15 31.8 +0.4
PMPB IAmb IAmb 01 15 42.1
comp=Z,18nm,1.1s
RSSD Black Hills 28.24 351 P P 01 15 31.2 -0.4
baz=168
Q56A Snyder Ridge, 28.24 33 P P 01 15 30.9 -0.6
baz=221
NVAR Mina Array Bea 28.25 325 P P 01 15 34.1 +2.3
comp=Z,14nm,1.1s,baz=148,slow=9.3,SNR=61
NVAR LR LR 01 27 14.6
comp=Z,423nm,18.3s,baz=134,slow=37
NVAR Mina Array Bea 28.25 325 P P 01 15 33.4 +1.6
R58A Rapidan 28.33 35 P P 01 15 31.8 -0.5
baz=224,SNR=6.6
S59A Mechanicsville 28.36 37 P P 01 15 31.1 -1.4
baz=226
N52A McGinn's Farm, 28.43 27 P P 01 15 33.2 +0.1
baz=215
ELK Elko 28.51 332 P P 01 15 36.0 +2.0
comp=Z,3.8nm,0.9s,baz=159,slow=4.7,SNR=12
ELK LR LR 01 28 29.3
comp=Z,1μm,19.6s,baz=163,slow=40
RYN Ryan 28.52 325 P P 01 15 36.1 +2.0
RYN IAmb IAmb 01 15 41.9
comp=Z,11nm,1.2s
O54A Avella 28.52 30 P P 01 15 34.5 +0.6
baz=218
AHID Auburn Hatcher 28.64 340 P P 01 15 35.5 +0.3
Q57A Strasburg 28.64 34 P P 01 15 35.7 +0.6
baz=223
S60A Water View 28.69 38 P P 01 15 36.0 +0.5
baz=227
GUVC San Jose del G 28.70 116 eP P 01 15 35.8 0.0
R59A King George, V 28.76 36 P P 01 15 36.4 +0.3
baz=226
P56A Dayton Farm, R 28.77 32 P P 01 15 36.7 +0.6
baz=221
N53A Lisbon 28.80 28 P P 01 15 36.8 +0.4
baz=216
Q58A Fox Den Farm, 28.97 35 P P 01 15 38.4 +0.5
baz=224
O55A Ligonier 29.06 31 P P 01 15 39.3 +0.6
baz=220
REDW Red Top Meadow 29.09 341 P P 01 15 40.6 +1.4
REDW IAmb IAmb 01 15 41.5
comp=Z,14nm,1.1s
CMB Columbia Colle 29.16 322 P P 01 15 40.7 +1.1

P57A **Homestead Farm** 29.18 33 P P 01 15 40.5 +0.7
baz=223

TPAW **Teton Pass** 29.24 341 P P 01 15 40.0 -0.6
TPAW IAmb IAmb 01 15 56.4
comp=Z,13nm,1.1s

LOHW **Long Hollow** 29.24 342 P P 01 15 41.5 +0.9
LOHW IAmb IAmb 01 15 42.9
comp=Z,12nm,0.9s

SPMN **Marine on St.** 29.29 8 P P 01 15 41.2 +0.5
baz=191

SPMN **Marine on St.** 29.29 8 P P 01 15 40.7 0.0
SPMN IAmb IAmb 01 15 45.2
comp=Z,16nm,1.1s

N54A **Moraine State** 29.32 29 P P 01 15 41.2 +0.1
baz=218

M53A **WI Miller and** 29.38 28 P P 01 15 41.9 +0.3
baz=216

O56A **Blue Knob Stat** 29.48 32 P P 01 15 42.6 +0.2
baz=221

P58A **Pank, Wackersv** 29.57 34 P P 01 15 42.2 -1.0
baz=224

N55A **Marion Center** 29.66 31 P P 01 15 42.5 -1.5
baz=220

G40A **Rib Lake** 29.76 12 P P 01 15 44.3 -0.5
G40A IAmb IAmb 01 15 47.8
comp=Z,10.0nm,1.1s

H17A **Grant Village** 29.95 342 P P 01 15 47.8 +0.9
baz=156

SSPA **Standing Stone** 30.09 32 P P 01 15 47.9 0.0
baz=222

SSPA **Standing Stone** 30.09 32 P P 01 15 48.1 +0.2
SSPA IAmb IAmb 01 15 52.2
comp=Z,22nm,1.1s

N56A **West Decatur** 30.10 31 P P 01 15 47.0 -0.9
baz=221

P59A **Jarrettsville** 30.12 35 P P 01 15 48.1 0.0
baz=225

RLMT **Red Lodge** 30.26 345 P P 01 15 49.1 -0.4
baz=159,SNR=11

RLMT **Red Lodge** 30.26 345 P P 01 15 50.4 +0.9
RLMT IAmb IAmb 01 15 52.9
comp=Z,7.8nm,0.8s

M55A **Ridgway** 30.29 30 P P 01 15 49.4 -0.2
baz=219

E28A **Huff** 30.34 357 P P 01 15 50.7 +0.7

N57A **Milroy** 30.36 32 P P 01 15 49.7 -0.5
baz=222

ATAH **Atahualpa** 30.45 138 P P 01 15 53.1 +1.4
comp=Z,10nm,0.8s,baz=330,slow=10,SNR=6.2

HLID **Hailey** 30.51 337 P P 01 15 52.2 +0.5
baz=148,SNR=9.5

HLID **Hailey** 30.51 337 P P 01 15 52.6 +0.9

YHL **Hebgen Lake** 30.54 342 P P 01 15 53.2 +1.0

M56A **Emporium** 30.58 31 P P 01 15 51.4 -0.8
baz=220

O59A **Robesonia** 30.75 34 P P 01 15 53.4 -0.3
baz=225

N58A **Sunbury** 30.85 33 P P 01 15 54.9 +0.3
baz=223

L55A **Hinsdale** 31.00 29 P P 01 15 55.1 -0.8
baz=219

CBYP **Canovanas** 31.04 81 P P 01 15 56.2 -0.3

LAO **LASA Array** 31.09 349 P P 01 15 57.5 +0.8
baz=165

P61A **Hammonton** 31.09 37 P P 01 15 56.7 +0.1
baz=228

I51A **Listowel** 31.18 25 P P 01 15 57.3 -0.1
baz=213

O60A **Telford** 31.18 35 P P 01 15 57.7 +0.2
baz=226

BOZ **Bozeman (W)** 31.35 342 P P 01 15 59.9 +0.8
baz=155,SNR=13

BOZ **Bozeman (W)** 31.35 342 P P 01 16 00.3 +1.2
BOZ IAmb IAmb 01 16 02.5
comp=Z,7.6nm,1.0s

M58A **Price`s Panora** 31.37 33 P P 01 15 58.6 -0.5
baz=223

L56A **Greenwood** 31.38 30 P P 01 15 59.5 +0.2
baz=221

WVOR **Wild Horse Val** 31.40 330 P P 01 16 00.9 +1.3
WVOR IAmb IAmb 01 16 12.5
comp=Z,11nm,1.1s

N59A **State Game Lan** 31.40 34 P P 01 15 59.4 -0.1
baz=225

O03E **Paynes Creek** 31.49 324 P P 01 16 01.4 +1.1
baz=133

K55A **Perry** 31.59 29 P P 01 16 00.8 -0.3
baz=219

L57A **Andrews Acres** 31.63 31 P P 01 16 01.4 0.0
baz=222

N60A **Cedar Hill Far** 31.73 35 P P 01 16 02.3 0.0
baz=226

J54A **Appleton** 31.75 28 P P 01 16 02.2 -0.3
baz=218

LRM **Limekiln Ridge** 31.80 341 P P 01 16 04.7 +1.5

K56A **Middlesex** 31.92 30 P P 01 16 02.6 -1.4
baz=220

M59A **Waymart** 32.03 33 P P 01 16 04.8 -0.2
baz=224

AGMN **Agassiz Nation** 32.06 3 P P 01 16 05.0 -0.1
baz=184,SNR=6.1

J55A **Hilton** 32.12 29 P P 01 16 05.7 0.0
baz=219

EYMN **Ely** 32.14 9 P P 01 16 06.4 +0.6
baz=192

L58A **Harry Jones Me** 32.17 32 P P 01 16 06.4 +0.2
baz=223

BINY **Binghamton** 32.21 32 P P 01 16 06.7 +0.2
baz=223

B35A **Bob, Littlefor** 32.28 6 IAmb IAmb 01 16 08.8
comp=Z,10.0nm,1.1s

M60A **Port Jervis** 32.31 34 P P 01 16 07.4 0.0
baz=226

F48A **Evansville** 32.31 21 P P 01 16 07.7 +0.3
baz=209

K57A **Scipio Center** 32.34 31 P P 01 16 07.9 +0.2
baz=222

F49A **Sandfield** 32.46 21 P P 01 16 08.2 -0.4
baz=210

PAL **Palisades** 32.48 36 P P 01 16 09.3 +0.4
baz=227

DGMT **Dagmar** 32.53 353 P P 01 16 10.4 +1.2
baz=169

M04C **Macdoel** 32.54 326 P P 01 16 10.5 +1.0
baz=134

J56A **Wolcott** 32.58 30 P P 01 16 09.7 -0.1
baz=220

E47A **Iron Bridge** 32.65 19 P P 01 16 10.6 +0.3
baz=207

L59A **Walton** 32.69 33 P P 01 16 09.7 -1.1
baz=224

BMO **Blue Mountains** 32.73 335 P P 01 16 11.3 +0.1

SADO **Sadowa** 32.74 26 P P 01 16 09.7 -1.4
comp=Z,2.5nm,0.5s,baz=248,slow=6.7,SNR=1.9

M61A **Granite Spring** 32.77 35 P P 01 16 10.3 -1.1
baz=227

K58A **Earlville** 32.79 32 P P 01 16 10.6 -1.1
baz=223

D46A **Sault St. Mari** 32.80 18 P P 01 16 11.9 +0.2
baz=206

H53A **Bobcaygeon** 32.81 26 P P 01 16 11.5 -0.3
baz=216

I55A **Frankford** 32.93 28 P P 01 16 13.1 +0.4
baz=218

L60A **Shokan** 32.98 34 P P 01 16 13.6 +0.3
baz=226

E48A **Lockeyer** 33.04 21 P P 01 16 14.2 +0.5
baz=209

EGMT **Eagleton** 33.09 346 P P 01 16 15.2 +0.9
baz=159

L04D **Klamath Falls** 33.09 326 P P 01 16 14.9 +0.5
baz=134

J57A **Williamstown** 33.10 30 P P 01 16 14.6 +0.3
baz=222

J57A **Williamstown** 33.10 30 P P 01 16 15.1 +0.9

MSO **Missoula** 33.17 340 P P 01 16 15.4 +0.4
baz=152,SNR=5.1

MSO **Missoula** 33.17 340 P P 01 16 15.5 +0.4

K59A **Cooperstown** 33.21 32 P P 01 16 14.3 -1.0
baz=224

KSCT **Kent School, K** 33.21 35 P P 01 16 14.7 -0.6

F51A **Arnstein** 33.38 24 P P 01 16 16.9 +0.2
baz=213

H55A **Tweed** 33.41 28 P P 01 16 15.9 -1.1
baz=219

J58A **Remsen** 33.41 31 P P 01 16 16.9 -0.2
baz=223

L61A **Hillsdale 1, H** 33.49 34 P P 01 16 17.1 -0.5
baz=227

E50A **Wahnapitae** 33.49 22 P P 01 16 17.0 -0.6
baz=212

I57A **Carthage** 33.65 30 P P 01 16 19.1 0.0
baz=222

D48A **Paudash Townsh** 33.76 20 P P 01 16 20.1 0.0
baz=209

M63A **Gales Ferry** 33.80 37 P P 01 16 20.8 +0.4
baz=230

I58A **Old Forge** 33.81 31 P P 01 16 20.2 -0.3
baz=223

H56A **Elgin** 33.86 29 P P 01 16 21.3 +0.4
baz=220

L62A **Suffield** 33.87 35 P P 01 16 21.7 +0.7
baz=228

J59A **Piesco** 33.88 32 P P 01 16 21.2 0.0
baz=224

K61A **Williamstown** 33.97 34 P P 01 16 21.4 -0.5
baz=226,SNR=8.3

D49A **Beulah Townshi** 34.00 21 P P 01 16 22.5 +0.4
baz=210

ULM **Lac du Bonnet** 34.01 3 P P 01 16 21.8 -0.3
comp=Z,2.8nm,0.5s,baz=169,slow=7.7,SNR=3.3

ULM LR LR 01 31 37.4
comp=Z,166nm,18.5s,baz=164,slow=39

E51A **G1948 Merrick** 34.05 23 P P 01 16 23.0 +0.4
baz=213

I05D **Terrebonne, OR** 34.13 330 P P 01 16 23.0 -0.4
baz=138

L61B **Northampton** 34.14 35 P P 01 16 23.2 -0.1
baz=228

ALGO **Algonquin Park** 34.15 25 P P 01 16 23.7 +0.3
baz=216

H57A **Richville** 34.17 30 P P 01 16 22.6 -1.0
baz=222

I04A **Tendick Farm,** 34.26 328 P P 01 16 25.4 +0.9
baz=136

M64A **Tiverton** 34.38 37 P P 01 16 26.0 +0.6
baz=231

I59A **Olmsteadville** 34.44 32 P P 01 16 26.4 +0.5
baz=224

D50A **G1974 Best Tow** 34.45 22 P P 01 16 26.4 +0.5
baz=212

D51A **Lot 18 Range I** 34.56 23 P P 01 16 27.1 +0.2
baz=213

J01E **Myrtle Point** 34.61 326 P P 01 16 29.2 +1.8
baz=133

E53A **Dumoine, Ponti** 34.65 25 P P 01 16 27.9 +0.2
baz=216

I03D **Drain, OR** 34.67 327 P P 01 16 29.2 +1.2
baz=134

LONY **Lake Ozonia** 34.68 30 P P 01 16 28.2 +0.2
baz=223

H58A **Gabriels** 34.73 31 P P 01 16 28.9 +0.4
baz=223

CZSB **Cruzeiro do Su** 34.77 131 eP P 01 16 31.0 +1.9

I60A **Shoreham** 34.77 32 P P 01 16 29.5 +0.7
baz=225

HRV **Adam Dziewonsk** 34.80 36 P P 01 16 29.5 +0.4
baz=229

J61A **Chester** 34.81 34 P P 01 16 29.9 +0.7
baz=227

D52A **ZEC Kipawa Sen** 34.83 24 P P 01 16 29.3 0.0
baz=215

L64A **Middleborough** 34.84 37 P P 01 16 29.3 -0.1
baz=231

E54A **Lac Daplat, Po** 34.89 26 P P 01 16 30.8 +1.0
baz=217

K63A **Dunstable** 34.93 35 P P 01 16 31.5 +1.3
baz=229

H04D **Lebanon** 34.95 329 P P 01 16 31.6 +1.3
baz=136

J62A **Henniker** 35.13 35 P P 01 16 32.6 +0.7
baz=228,SNR=6.2

H59A **Cadyville** 35.14 31 P P 01 16 32.5 +0.5
baz=224

WALA **Waterton Lakes** 35.14 342 P P 01 16 32.9 +0.8
WALA IAmb IAmb 01 16 36.2
comp=Z,15nm,1.1s

I02D **Swisshome** 35.22 327 P P 01 16 34.1 +1.4
baz=134

F05D **White Salmon** 35.35 332 P P 01 16 35.0 +1.2
baz=139,SNR=9.7

I61A **Oroboro, Fairl** 35.39 33 P P 01 16 35.3 +1.1
baz=227

NEW **Newport** 35.50 338 P P 01 16 35.2 +0.1
baz=148

NEW **Newport** 35.50 338 P P 01 16 34.7 -0.4

D54A **Lac Fusel, La** 35.68 26 P P 01 16 36.0 -0.7
baz=217

G59A **Clarenceville** 35.70 31 P P 01 16 36.1 -0.7
baz=224

G03D **McMinnville, O** 35.70 329 P P 01 16 37.8 +0.9
baz=136

LBNH **Lisbon** 35.75 33 P P 01 16 37.4 +0.1
baz=227

I62A **Tamworth** 35.82 34 P P 01 16 38.5 +0.7
baz=228,SNR=6.1

E56A **St. Veronique** 35.91 28 P P 01 16 38.0 -0.6
baz=220

H61A **Lyndonville** 35.95 33 P P 01 16 39.5 +0.4
baz=226

LTY **Liberty** 36.06 334 P P 01 16 40.3 +0.3
LTY IAmb IAmb 01 16 43.0
comp=Z,17nm,1.0s

D55A **Sainte-Anne-du** 36.08 27 P P 01 16 40.1 0.0
baz=219

G60A **Masonville** 36.14 32 P P 01 16 40.5 -0.1
baz=225

E57A **Chemin Saint G** 36.21 29 P P 01 16 41.5 +0.3
baz=222

I63A **Otisfield** 36.35 34 P P 01 16 42.9 +0.6
baz=229

E04D **Cinebar** 36.36 331 P P 01 16 43.5 +1.0
baz=138

H62A **Milan** 36.39 33 P P 01 16 42.5 -0.2
baz=227

B08A **Colville Reser** 36.40 336 P P 01 16 43.4 +0.5

D56A **ZEC Mazanza, M** 36.42 27 P P 01 16 43.4 +0.4
baz=220

F59A **Saint Guilaume** 36.45 30 P P 01 16 43.7 +0.5
baz=224

D05A **Enumclaw** 36.58 333 P P 01 16 45.2 +1.0

E58A **La Victoria** 36.59 29 P P 01 16 45.5 +1.1
baz=223

D57A **Chemin Vers le** 36.78 28 P P 01 16 46.4 +0.3
baz=221

F60A **Warwick** 36.94 31 P P 01 16 48.1 +0.7
baz=225

LSQQ **Lebel-sur-Quev** 37.09 23 P P 01 16 48.2 -0.4
baz=215

G62A **West of Eustis** 37.15 33 P P 01 16 50.5 +1.3
baz=228

D58A **Chemin du LacG** 37.30 29 P P 01 16 51.2 +0.7
baz=223

D03D **Eldon** 37.33 332 P P 01 16 51.4 +0.8
baz=138,SNR=6.2

MATQ **Matagami** 37.42 22 P P 01 16 51.2 -0.2
baz=214

F61A **St Evariste** 37.42 32 P P 01 16 52.4 +0.9
baz=226

B05A **Bryant** 37.45 334 P P 01 16 51.3 -0.4
baz=140

E60A **Ste Agathe de** 37.47 31 P P 01 16 50.8 -1.1
baz=225

H64A **Troy** 37.47 35 P P 01 16 50.5 -1.4
baz=230

G63A **Kingsbury** 37.56 34 P P 01 16 51.9 -0.8
baz=229

NLWA **Neilton Lookou** 37.58 331 P P 01 16 54.7 +1.9

PKME **Peaks-Kenny Pk** 37.84 34 P P 01 16 54.6 -0.3
baz=229

F62A **Pittston Farm,** 37.90 33 P P 01 16 57.2 +1.7
baz=228

H65A **Eastbrook** 38.04 35 P P 01 16 56.6 -0.2
baz=231

A04D **Lummi Island** 38.06 334 P P 01 16 57.3 +0.5
baz=140

G64A **Maxfield** 38.12 34 P P 01 16 57.5 +0.1
baz=230

F63A **Nahmakanta, Br** 38.22 34 P P 01 16 58.6 +0.3
baz=229

FFC **Flin Flon** 38.53 357 P P 01 17 00.7 -0.1
FFC IAmb IAmb 01 17 04.2
comp=Z,24nm,1.1s

E62A **Clayton Lake** 38.61 32 P P 01 17 00.6 -1.0
baz=228

H66A **Whiting** 38.62 36 P P 01 17 02.5 +0.9
baz=232

F64A **Sherman** 38.73 34 P P 01 17 02.1 -0.4
baz=230

G65A **Princeton** 38.74 35 P P 01 17 04.3 +1.7
baz=232

CHGQ **Chibougamau** 38.79 25 P P 01 17 03.3 +0.2
baz=218

E63A **Oxbow** 39.05 33 P P 01 17 05.8 +0.6
baz=229

D62A **Allapoint, All** 39.16 32 P P 01 17 07.3 +1.2
baz=228

D62A **Allapoint, All** 39.16 32 P P 01 17 06.1 0.0
D62A IAmb IAmb 01 17 11.7
comp=Z,18nm,1.1s

E64A **Bridgewater** 39.36 34 P P 01 17 09.0 +1.2
baz=230

D63A **Stockholm** 39.62 33 P P 01 17 11.9 +2.0
baz=229

ETMB **Extrema** 40.97 127 eP P 01 17 21.2 -0.3

MACA **Manacapuru-AM** 41.88 114 eP P 01 17 28.6 -0.5

SAML **Samuel** 42.83 123 P P 01 17 35.0 -1.7

SAML **Samuel** 42.83 123 eP P 01 17 35.5 -1.2

LPAZ **La Paz** 43.93 136 P P 01 17 45.9 -0.4
comp=Z,4.2nm,0.9s,baz=330,slow=8.1,SNR=12

LPAZ LR LR 01 35 03.3
comp=Z,258nm,18.6s,baz=310,slow=35

LPAZ **La Paz** 43.93 136 P P 01 17 46.3 0.0

LPAZ **La Paz** 43.93 136 eP P 01 17 47.0 +0.7

PB16 **IPOC Station P** 44.53 139 P P 01 17 51.4 +0.3
PB16 IAmb IAmb 01 17 55.2
comp=Z,14nm,0.8s

MNMC **Minye Minye** 45.08 140 P P 01 17 55.3 +0.3
MNMC IAmb IAmb 01 17 59.0
comp=Z,15nm,1.1s

PB11 **IPOC Station P** 45.52 141 P P 01 17 58.5 +0.1

SCHQ **Schefferville** 45.54 25 LR LR 01 40 01.1
comp=Z,129nm,18.1s,baz=262,slow=40

GO01 **Chusmiza** 45.73 140 P P 01 18 01.1 +0.7
GO01 IAmb IAmb 01 18 04.8
comp=Z,10nm,1.1s

TA01 **Diego Aracena** 45.82 142 P P 01 18 01.6 +1.0

PB01 **IPOC Station P** 46.59 142 P P 01 18 07.3 +0.5
PB01 IAmb IAmb 01 18 09.7
comp=Z,4.6nm,0.8s

MALB **Monte Alegre** 47.06 108 eP P 01 18 10.2 -0.3

PB09 **IPOC Station P** 47.32 142 P P 01 18 13.7 +1.2

VILB **Vilhena** 47.54 125 eP P 01 18 13.8 -0.4

YKA **Yellowknife Ar** 47.63 350 P P 01 18 14.5 +0.3
comp=Z,3.9nm,0.9s,baz=156,slow=7.4,SNR=8.0

YKA LR LR 01 38 40.3
comp=Z,126nm,20.4s,baz=0.0,slow=37

LVC **Limon Verde** 48.14 142 P P 01 18 19.9 +0.8
LVC IAmb IAmb 01 18 26.0
comp=Z,6.8nm,1.1s

LVC **Limon Verde** 48.14 142 eP P 01 18 19.6 +0.4

DLBC **Dease Lake** 48.25 338 P P 01 18 20.4 +1.1

TAOE **Nuku Hiva Isla** 48.32 242 eT T 02 09 39.8
comp=Z,58nm,0.2s

NPGB **Novo Progresso** 48.39 115 eP P 01 18 19.2 -1.6

MCPB **Macapa, AP** 48.51 105 eP P 01 18 21.5 -0.3

PTLB **Pontes e Lacer** 49.85 127 eP P 01 18 31.8 -0.2

AC02 **Maricunga** 51.33 146 P P 01 18 44.6 +1.0
AC02 IAmb IAmb 01 18 48.0
comp=Z,14nm,1.1s

SALV **Santo Antonio** 52.79 125 eP P 01 18 53.4 -0.7

PRPB **Parauapebas** 52.89 111 eP P 01 18 54.9 0.0

BCAR **Beaver Creek A** 55.63 338 P P 01 19 14.8 +0.6

ARAG **Araguaiana, MT** 55.79 122 eP P 01 19 15.1 -0.8

SMTB **Santa Maria do** 56.04 113 eP P 01 19 18.1 +0.3

K27K **Chicken** 56.31 339 P P 01 19 21.0 +2.0
baz=127

KLU **Klutina** 56.34 335 P P 01 19 20.0 +0.7
KLU IAmb IAmb 01 19 24.0
comp=Z,8.8nm,1.0s

EGAK **Eagle** 56.46 340 P P 01 19 20.2 +0.2
EGAK IAmb IAmb 01 19 24.0
comp=Z,9.2nm,1.1s

INK **Inuvik** 56.67 345 P P 01 19 21.2 -0.2

DOT **Dot Lake** 56.80 338 P P 01 19 23.0 +0.5

ROSB **Rosrio** 56.80 105 eP P 01 19 23.3 0.0

PEXB **Peixe** 56.91 117 eP P 01 19 23.8 -0.1

SCRK **Sand Creek** 56.96 338 P P 01 19 23.8 +0.1
baz=125,SNR=12

GHO **Glory Hole Cre** 57.72 334 P P 01 19 29.7 +0.6

CPUP **Villa Florida** 58.10 136 P P 01 19 30.5 -1.6
comp=Z,4.9nm,1.0s,baz=328,slow=9.0,SNR=7.8

CPUP LR LR 01 44 23.5
comp=Z,121nm,19.4s,baz=331,slow=36

CPUP **Villa Florida** 58.10 136 P P 01 19 31.2 -0.9
CPUP IAmb IAmb 01 19 33.9
comp=Z,8.7nm,1.1s

CPUP **Villa Florida** 58.10 136 eP P 01 19 31.2 -0.9

HDA **Harding Lake** 58.28 337 P P 01 19 33.5 +0.6
baz=122

SUA **Susitna One** 58.35 333 P P 01 19 34.3 +0.7

IL31 58.45 338 P P 01 19 34.9 +0.9

ILAR **Eielson Array** 58.45 338 P P 01 19 34.8 +0.7
comp=Z,13nm,1.1s,baz=143,slow=4.0,SNR=41

ILAR LR LR 01 46 47.7
comp=Z,431nm,18.2s,baz=127,slow=38

ILAR **Eielson Array** 58.45 338 P P 01 19 34.3 +0.2

BI02 **San Fabin de** 58.46 155 P P 01 19 36.2 +1.6

RND **Reindeer** 58.49 336 P P 01 19 35.3 +0.9

MCK **McKinley** 58.69 336 P P 01 19 36.4 +0.6

POKR **Poker Plat Res** 58.84 338 P P 01 19 36.8 +0.1
baz=122

COLA **College** 58.86 338 P P 01 19 37.7 +0.9

BDFB **Brasilia** 58.88 120 P P 01 19 37.7 -0.1
comp=Z,9.5nm,0.7s,baz=285,slow=8.3,SNR=19

BDFB **Brasilia** 58.88 120 P P 01 19 37.4 -0.5

ITRB **Iturama** 59.12 125 eP P 01 19 39.9 +0.5

NEA2 **Nenana** 59.16 337 P P 01 19 38.5 -0.5
baz=120,SNR=10

SDBA **SAO DESIDERIO** 59.99 115 eP P 01 19 45.5 0.0

PPT2 **Papeete2** 60.66 239 eLR LR 01 37 41.0
comp=Z,74nm,23.0s

COLD **Coldfoot** 60.89 339 P P 01 19 50.8 -0.1
baz=120,SNR=5.8

COLD **Coldfoot** 60.89 339 P P 01 19 52.0 +1.1
COLD IAmb IAmb 01 19 55.8
comp=Z,9.6nm,1.2s

TOLK **Toolik Lake Re** 61.41 341 P P 01 19 55.5 +1.1
baz=121

IMAR **Indian Mountai** 61.56 337 P P 01 19 55.2 -0.1

JANB **Januaria** 61.71 117 eP P 01 19 57.1 -0.1

ITAB **Concordia** 62.23 133 eP P 01 20 00.4 0.0

PLCA **Paso Flores** 62.25 156 P P 01 20 00.5 +0.1
comp=Z,5.9nm,1.0s,baz=325,slow=7.8,SNR=6.0

PLCA LR LR 01 41 39.5
comp=Z,123nm,18.4s,baz=316,slow=31

PLCA **Paso Flores** 62.25 156 P P 01 20 01.2 +0.8

PLCA **Paso Flores** 62.25 156 eP P 01 20 01.5 +1.1

MC01 **Montes Claros** 62.80 119 eP P 01 20 05.1 +0.5

VAO **Valinhos** 63.57 127 eP P 01 20 09.9 +0.3

TBI **Tubuai** 63.61 233 eT T 02 28 47.0
comp=Z,32nm,0.2s

PLTB **Pedras Altas** 64.14 138 eP P 01 20 12.8 -0.3

GDU01 **Guandu, BA** 65.22 114 eP P 01 20 20.6 +0.1

SUMG **Summit** 65.80 17 i P P 01 20 25.5 +1.8
comp=Z,56nm,1.2s

SUMG **Summit** 65.80 17 P P 01 20 23.8 0.0
SUMG IAmb IAmb 01 20 26.2
comp=Z,8.1nm,1.0s

BSFB **Barra de Sao F** 66.40 119 eP P 01 20 28.2 +0.2

DAG **Danmarks Havn** 71.95 14 i P P 01 21 03.0 +1.5
comp=Z,11nm,1.1s

BILL **Bilibino** 77.11 337 P P 01 21 32.1 +0.4

ESDC **Sonseca Array** 83.09 51 P P 01 22 04.4 -0.2
comp=Z,2.0nm,1.1s,baz=298,slow=4.9,SNR=7.1

ESDC LR LR 01 55 16.5
comp=Z,26nm,21.8s,baz=275,slow=33

ESDC **Sonseca Array** 83.09 51 P P 01 22 04.1 -0.5

NOA **NORSAR Array B** 85.06 27 P P 01 22 14.1 -0.1
comp=Z,2.4nm,1.1s,baz=286,slow=16,SNR=3.7

NOA LR LR 01 59 25.1
comp=Z,36nm,21.5s,baz=330,slow=35

PETK **Petropavlovsk-** 85.33 324 P P 01 22 16.3 +0.7
comp=Z,7.0nm,1.0s,baz=70,slow=16,SNR=4.8

ARCES **ARCESS Array B** 85.89 17 LR LR 02 02 44.2
comp=Z,69nm,19.5s,baz=294,slow=37

FINES **FINESS Array B** 90.99 23 P P 01 22 43.5 +1.1
comp=Z,1.5nm,0.9s,baz=347,slow=7.8,SNR=3.9

FINES LR LR 02 04 40.9
comp=Z,58nm,21.8s,baz=312,slow=36

DBIC	**Dimbokro**	**91.46**	**83**	LR	LR	02 02 04.7		
	comp=Z,26nm,20.5s,baz=278,slow=34							
GERES	**GERESS Array B**	**91.69**	**38**	LR	LR	02 06 21.2		
	comp=Z,63nm,18.1s,baz=288,slow=37							
NRIK	**Noril'sk**	**94.57**	**358**	LR	LR	02 08 01.0		
	comp=Z,77nm,21.6s,baz=32,slow=37							
VYHS	**Vyhne**	**94.84**	**36**	*e*P	P	01 22 48.2	-12	
KLMR	**Klimovskoe**	**96.12**	**19**	*e*P	**P**	**01 23 05.4**	**-0.7**	
KLMR				AMP		01 23 08.3		
	comp=Z,15nm,1.5s							
STKA	**Stephens Creek**	**123.76**	**242**	PKP	**PKPdf**	**01 28 36.6**	**-0.3**	
	comp=Z,2.9nm,0.8s,baz=46,slow=2.0,SNR=4.8							
LZH	**Lanzhou**	**123.92**	**338**	*e*PKP	**PKPdf**	**01 28 36.4**	**-1.1**	
LZH				pPKP	sPKPdf	01 28 47.5	+8.4	
LZH				sPKP		01 28 51.4		
WRA	**Warramunga Arr**	**129.97**	**257**	PKP	**PKPdf**	**01 28 49.1**	**-0.1**	
	comp=Z,6.0nm,1.1s,baz=84,slow=2.5,SNR=12							
ASAR	**Alice Springs**	**130.58**	**253**	PKP	**PKPdf**	**01 28 50.4**	**+0.1**	
	comp=Z,2.5nm,0.9s,baz=116,slow=2.2,SNR=12							
CMAR	**Chiang Mai Arr**	**141.58**	**333**	PKP	**PKiKP**	**01 29 13.2**	**-0.5**	
	comp=Z,0.6nm,0.3s,baz=0.4,slow=2.5,SNR=5.7							
CMAR	**Chiang Mai Arr**	**141.58**	**333**		**PKPdf**	**01 29 09.8**	**-1.0**	

*NEIC **11** 01:45:16.9±1.3, 15°.39S±0°.06×167°.60E±0°.07, h117km±4km, mb4.5/32, Error ellipse: s-maj=10.8km s-min=6.9km az=135.0*
*IDC **11** 01:45:17.6±0.8, 15°.37S×167°.55E, h120km±6km, mb4.1/18, mb1 4.2/20, mb1mx4.1/36, mbtmp4.5/20, MS3.4/6, Ms1 3.4/6, ms1mx3.0/34, Error ellipse: s-maj=15.7km s-min=10.8km az=91.0*

ISC 11 01:45:17.7±0.4, 15°.38S±0°.05×167°.56E±0°.08, h124km, n98, σ1§35/104, mb4.4/29, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.35**	**258**	Pn	**Pn**	**01 45 33.9**	**-1.3**
SANVU				Sn	**Sn**	**01 45 46.9**	**-1.7**
DZM	**Mont Dzumac**	**6.74**	**189**	P	**Pn**	**01 46 53.8**	**-0.4**
	34nm,0.3s,baz=46,slow=19,SNR=132						
DZM				S	**Sn**	**01 48 10.5**	**+0.7**
	14nm,0.3s,baz=131,slow=23,SNR=3.5						
DZM				LR	LR	01 48 52.7	
	comp=Z,232nm,19.2s,baz=29,slow=32						
DZM	**Mont Dzumac**	**6.74**	**189**	*e*Pn	**Pn**	**01 46 54.6**	**+0.3**
	99nm,0.2s						
DZM				*e*Sn	**Sn**	**01 48 10.4**	**+0.7**
	84nm,0.3s						
DZM	**Mont Dzumac**	**6.74**	**189**	Pn	**Pn**	**01 46 54.4**	**+0.1**
DZM				Sn	**Sn**	**01 48 09.1**	**-0.7**
HNR	**Honiara**	**9.49**	**308**	P	**Pn**	**01 47 32.2**	**+0.9**
	39nm,0.3s,baz=275,slow=5.7,SNR=14						
HNR				S	**Sn**	**01 49 16.6**	**+0.2**
	20nm,0.3s,baz=216,slow=16,SNR=1.9						
HNR				LR	LR	01 50 59.5	
	comp=Z,220nm,19.5s,baz=134,slow=36						
HNR	**Honiara**	**9.49**	**308**		**Pn**	**01 47 31.7**	**+0.4**
HNR				Sn	**Sn**	**01 49 17.4**	**+1.1**
EIDS	**Eidsvold**	**18.35**	**235**		**Pn**	**01 49 24.4**	**+0.2**
EIDS				IAmb	IAmb	01 49 25.6	
	comp=Z,13nm,0.9s						
KRVT	**Keravat (AS076**	**18.83**	**304**	LR	LR	01 56 03.4	
	comp=Z,99nm,19.6s,baz=122,slow=34						
CTA	**Charters Tower**	**20.82**	**254**	P	**P**	**01 49 50.6**	**+1.1**
	comp=Z,4.4nm,0.8s,baz=113,slow=14,SNR=3.8						
CTAO	**Charters Tower**	**20.82**	**254**	P	**P**	**01 49 47.9**	**-1.6**
ARMA	**Armidale**	**20.93**	**222**	P	**P**	**01 49 49.0**	**-1.7**
COEN	**Coen**	**23.63**	**270**	P	**P**	**01 50 18.2**	**+0.4**
COEN				IAmb	IAmb	01 50 19.6	
	comp=Z,18nm,1.1s						
URZ	**Urewera**	**24.30**	**161**	P	**P**	**01 50 24.3**	**+0.7**
	comp=Z,28nm,0.9s,baz=6.7,slow=6.0,SNR=8.8						
URZ	**Urewera**	**24.30**	**161**	P	**P**	**01 50 23.8**	**+0.2**
BKZ	**Black Stump Fm**	**24.96**	**163**	P	**P**	**01 50 29.9**	**+0.2**
BKZ				IAmb	IAmb	01 50 33.8	
	comp=Z,19nm,0.8s						
RPZ	**Rata Peaks**	**28.40**	**175**	LR	LR	02 00 46.8	
	comp=Z,120nm,20.2s,baz=281,slow=33						
STKA	**Stephens Creek**	**28.80**	**231**	P	**P**	**01 51 04.9**	**+0.8**
	comp=Z,3.7nm,0.8s,baz=40,slow=9.2,SNR=7.3						
STKA				PcP	**PcP**	**01 54 10.5**	**-0.5**
	comp=Z,4.2nm,0.8s,baz=70,slow=5.4,SNR=5.4						
STKA				ScP	**ScP**	**01 57 43.3**	**+2.2**
	comp=Z,1.8nm,0.8s,baz=101,slow=3.9,SNR=3.7						
STKA	**Stephens Creek**	**28.80**	**231**	P	**P**	**01 51 04.8**	**+0.7**
RAR	**Rarotonga**	**31.52**	**106**	LR	LR	02 02 30.0	
	comp=Z,39nm,19.6s,baz=214,slow=33						
WB0	**Warramunga Arr**	**31.89**	**257**	P	**P**	**01 51 30.1**	**-1.3**
WB0				IAmb	IAmb	01 51 30.6	
	comp=Z,3.9nm,0.8s						
WB2	**Warramunga Arr**	**31.94**	**257**	P	**P**	**01 51 30.9**	**-1.0**
WB2				IAmb	IAmb	01 51 47.1	
	comp=Z,5.5nm,1.1s						
WRA	**Warramunga Arr**	**31.95**	**257**	P	**P**	**01 51 30.4**	**-1.6**
	comp=Z,2.3nm,0.9s,baz=87,slow=8.3,SNR=6.9						
WRA				ScP	**ScP**	**01 57 54.2**	**+2.5**
	comp=Z,1.0nm,0.8s,baz=88,slow=3.6,SNR=4.9						
WRA	**Warramunga Arr**	**31.95**	**257**	P	**P**	**01 51 30.7**	**-1.3**
AS31	**Alice Springs**	**32.71**	**250**	P	**P**	**01 51 37.8**	**-0.9**
ASAR	**Alice Springs**	**32.71**	**250**	P	**P**	**01 51 37.9**	**-0.8**
	comp=Z,4.9nm,0.6s,baz=79,slow=8.8,SNR=50						
ASAR				pP	**pP**	**01 52 05.0**	**-0.5**
	comp=Z,3.8nm,0.9s,baz=79,slow=9.1,SNR=3.2						
ASAR				ScP	**ScP**	**01 57 56.6**	**+2.4**
	comp=Z,2.1nm,0.8s,baz=74,slow=3.5,SNR=13						
ASAR	**Alice Springs**	**32.71**	**250**	P	**P**	**01 51 37.8**	**-0.9**
ASAR					**ScP**	**01 57 56.1**	**+1.9**
BBOO	**Buckleboo**	**33.41**	**233**	P	**P**	**01 51 45.0**	**+0.5**
BBOO				IAmb	IAmb	01 51 46.2	
	comp=Z,12nm,0.9s						
FORT	**Forrest**	**39.22**	**240**	P	**P**	**01 52 33.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**40.18**	**260**	P	**P**	**01 52 41.4**	**-0.7**
	comp=Z,2.7nm,0.5s,baz=68,slow=8.6,SNR=23						
FITZ				pP	**pP**	**01 53 08.9**	**-1.1**
	comp=Z,8.8nm,0.9s,baz=118,slow=4.7,SNR=5.5						
FITZ	**Fitzroy Crossi**	**40.18**	**260**	P	**P**	**01 52 41.9**	**-0.2**
FITZ				IAmb	IAmb	01 52 55.4	
	comp=Z,11nm,1.1s						
PPT2	**Papeete2**	**41.10**	**99**	*e*LR	LR	02 04 34.0	
	comp=Z,124nm,28.8s						
PPT	**Papeete**	**41.10**	**99**	LR	LR	02 08 26.7	
	comp=Z,83nm,19.2s,baz=248,slow=34						
PSA00	**Pilbara Seismi**	**45.54**	**255**	P	**P**	**01 53 25.6**	**+0.3**
PSA00				IAmb	IAmb	01 53 35.0	
	comp=Z,13nm,1.1s						
MORW	**Morawa**	**49.24**	**245**	P	**P**	**01 53 53.7**	**-0.2**
MORW				IAmb	IAmb	01 53 54.4	
	comp=Z,6.7nm,0.7s						
MJAR	**Matsushiro Arr**	**58.60**	**332**	P	**P**	**01 55 00.4**	**-1.3**
	comp=Z,1.7nm,0.5s,baz=180,slow=7.5,SNR=4.6						
JNU	**Nakatsue**	**59.61**	**324**	P	**P**	**01 55 08.3**	**-0.4**
VNDA	**Vanda**	**62.23**	**181**	P	**P**	**01 55 26.1**	**+0.4**
	comp=Z,4.2nm,0.9s,baz=1.4,slow=6.0,SNR=20						
VNDA	**Vanda**	**62.23**	**181**	P	**P**	**01 55 26.1**	**+0.4**
VNDA				IAmb	IAmb	01 55 28.1	
	comp=Z,8.1nm,1.0s						
CASY	**Casey**	**63.04**	**202**	P	**P**	**01 55 30.9**	**-0.3**
CASY				IAmb	IAmb	01 55 31.8	
	comp=Z,5.3nm,0.9s						
KSRS	**Korea Array**	**64.43**	**326**	P	**P**	**01 55 41.1**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=126,slow=9.5,SNR=3.4						
USRK	**Ussuriysk Ar.**	**67.58**	**333**	P	**P**	**01 56 01.7**	**+0.9**
	comp=Z,3.9nm,0.7s,baz=152,slow=7.2,SNR=8.7						
PETK	**Petropavlovsk-**	**68.73**	**354**	P	**P**	**01 56 08.3**	**+0.5**
	comp=Z,5.1nm,0.8s,baz=142,slow=8.1,SNR=6.1						
PETK	**Petropavlovsk-**	**68.73**	**354**	P	**P**	**01 56 08.0**	**+0.2**
ENH	**Enshi**	**71.99**	**309**	P	**P**	**01 56 28.3**	**+0.1**
ENH				IAmb	IAmb	01 56 28.9	
	comp=Z,10.0nm,0.7s						
XAN	**Xi'an**	**74.33**	**313**	P	**P**	**01 56 42.3**	**+0.4**
XAN				IAmb	IAmb	01 56 43.2	
	comp=Z,6.8nm,0.8s						
QSPA	**South Pole Qui**	**74.66**	**180**	P	**P**	**01 56 43.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**75.47**	**294**	P	**P**	**01 56 50.2**	**+1.5**
	comp=Z,1.3nm,0.4s,baz=125,slow=3.7,SNR=9.9						
CMAR				pP	**pP**	**01 57 20.9**	**+1.2**
	comp=Z,2.7nm,0.9s,baz=128,slow=3.9,SNR=1.9						
CMAR	**Chiang Mai Arr**	**75.47**	**294**	P	**P**	**01 56 49.5**	**+0.8**
MAW	**Mawson**	**81.39**	**202**	P	**P**	**01 57 20.6**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=118,slow=6.6,SNR=5.7						
MAW	**Mawson**	**81.39**	**202**	P	**P**	**01 57 20.8**	**+0.5**
YAK	**Yakutsk**	**82.73**	**343**	P	**P**	**01 57 27.4**	**+0.3**
ULN	**Ulaanbaatar**	**82.82**	**324**	P	**P**	**01 57 28.8**	**+0.5**
ULN				IAmb	IAmb	01 57 30.0	
	comp=Z,13nm,1.0s						
SONM	**Songino Array**	**83.18**	**324**	P	**P**	**01 57 30.9**	**+0.8**
	comp=Z,4.3nm,0.8s,baz=142,slow=6.2,SNR=19						
SONM	**Songino Array**	**83.18**	**324**	P	**P**	**01 57 30.4**	**+0.3**
SHL	**Shillong**	**84.12**	**298**	P	**P**	**01 57 35.3**	**-0.2**
RND	**Reindeer**	**85.46**	**18**	P	**P**	**01 57 40.7**	**-0.4**
IMAR	**Indian Mountai**	**86.11**	**15**	P	**P**	**01 57 44.5**	**+0.3**
LSA	**Lhasa**	**86.14**	**302**	P	**P**	**01 57 45.7**	**-0.1**
LSA				IAmb	IAmb	01 57 47.8	
	comp=Z,4.1nm,0.7s						
IL31		**87.05**	**18**	P	**P**	**01 57 48.4**	**-0.3**
IL31				IAmb	IAmb	01 57 49.4	
	comp=Z,2.2nm,0.7s						
ILAR	**Eielson Array**	**87.05**	**18**	P	**P**	**01 57 47.4**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=230,slow=4.3,SNR=18						
ILAR				pP	**pP**	**01 58 20.9**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=238,slow=5.8,SNR=4.1						
NVAR	**Mina Array Bea**	**87.48**	**49**	P	**P**	**01 57 52.1**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=232,slow=8.2,SNR=3.9						
NVAR	**Mina Array Bea**	**87.48**	**49**	P	**P**	**01 57 51.5**	**-0.2**
EGAK	**Eagle**	**88.83**	**20**	P	**P**	**01 57 58.4**	**+1.2**
SNAA	**Sanae**	**92.92**	**183**	P	**P**	**01 58 15.3**	**-1.2**
SNAA	**Sanae**	**92.92**	**183**	P	**P**	**01 58 15.4**	**-1.0**
VNA3	**Neumayer Olymp**	**93.58**	**181**	P	**P**	**01 58 18.3**	**-1.1**
VNA2	**Neumayer--Watz**	**93.85**	**182**	P	**P**	**01 58 19.9**	**-0.7**
	baz=179,slow=4.0						
VNA1	**Neumayer--Stat**	**94.14**	**181**	P	**P**	**01 58 21.2**	**-0.8**
MKAR	**Makanchi Array**	**97.86**	**316**	P	Pdif	01 58 40.0	+0.7
	comp=Z,1.6nm,0.8s,baz=99,slow=5.9,SNR=12						
MKAR	**Makanchi Array**	**97.86**	**316**	P	Pdif	01 58 39.8	+0.5
ZALV	**Zalesovo Beam**	**98.08**	**324**	P	**P**	**01 58 39.5**	**-0.5**
	comp=Z,3.1nm,0.7s,baz=114,slow=4.5,SNR=9.7						
ZALV	**Zalesovo Beam**	**98.08**	**324**	P	**P**	**01 58 39.1**	**-0.9**
ARCES	**ARCESS Array B**	**120.94**	**345**	PKP	**PKPdf**	**02 03 54.5**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=66,slow=1.4,SNR=17						
BOSA	**Boshof**	**123.06**	**220**	PKP	**PKPdf**	**02 03 59.4**	**-1.0**
	comp=Z,2.7nm,0.9s,baz=291,slow=3.3,SNR=3.6						
BOSA	**Boshof**	**123.06**	**220**		**PKPdf**	**02 04 00.3**	**-0.1**
FINES	**FINESS Array B**	**126.42**	**338**	PKP	**PKPdf**	**02 04 05.7**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=57,slow=7.0,SNR=6.2						
FINES	**FINESS Array B**	**126.42**	**338**		**PKPdf**	**02 04 05.4**	**-0.1**
KMBO	**Kilima Mbogo**	**128.23**	**256**	PKP	**PKiKP**	**02 04 12.6**	**+1.2**
	comp=Z,2.1nm,0.9s,baz=38,slow=8.4,SNR=4.6						
AKASG	**Malin Array Be**	**131.42**	**326**	PKP	**PKPdf**	**02 04 15.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=47,slow=1.6,SNR=5.0						
AKASG	**Malin Array Be**	**131.42**	**326**		**PKPdf**	**02 04 15.9**	**+0.6**
BRTR	**Keskin Array B**	**133.14**	**310**	PKP	**PKPdf**	**02 04 19.0**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=127,slow=3.8,SNR=5.1						
BRTR	**Keskin Array B**	**133.14**	**310**		**PKPdf**	**02 04 19.1**	**-0.1**
GERES	**GERESS Array B**	**140.34**	**333**	PKP	**PKPdf**	**02 04 32.3**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=48,slow=6.1,SNR=3.5						
GERES	**GERESS Array B**	**140.34**	**333**		**PKPdf**	**02 04 32.2**	**0.0**
SOKA	**Soboth**	**141.29**	**329**	*i* PKPdf	**PKPdf**	**02 04 30.0**	**-4.0**
	comp=Z,3.4nm,1.4s						
OBKA	**Obir**	**141.65**	**330**	*i* PKPdf	**PKPdf**	**02 04 30.7**	**-3.9**
	comp=Z,3.3nm,1.4s						
KBA	**Koelnbreinsper**	**141.81**	**331**	*i* PKPdf	**PKPdf**	**02 04 34.0**	**-1.0**
	comp=Z,4.5nm,1.3s						
MYKA	**Terra Mystica**	**142.00**	**331**	*i* PKPdf	**PKPdf**	**02 04 32.7**	**-2.4**
	comp=Z,3.2nm,1.3s						
WATA	**Walderalm**	**142.42**	**333**	*i* PKiKP	**PKiKP**	**02 04 39.5**	**+0.4**
	comp=Z,6.2nm,1.3s						
ABTA	**Abfaltersbach**	**142.44**	**332**	*i* PKPdf	**PKPdf**	**02 04 31.3**	**-4.7**
	comp=Z,4.3nm,1.3s						
WTTA	**Wattenberg**	**142.45**	**333**	*i* PKPdf	**PKPdf**	**02 04 31.0**	**-5.1**
	comp=Z,3.0nm,1.1s						
MOTA	**Moosalm**	**142.62**	**333**	*i* PKPdf	**PKPdf**	**02 04 32.9**	**-3.5**
	comp=Z,4.1nm,1.0s						
RETA	**Reutte**	**142.65**	**334**	*i* PKPdf	**PKPdf**	**02 04 36.0**	**-0.3**
	comp=Z,3.6nm,1.3s						
SQTA	**Sankt Quirin**	**142.67**	**333**	*i* PKPdf	**PKPdf**	**02 04 32.8**	**-3.6**
	comp=Z,3.7nm,1.1s						
FETA	**Fehrbten**	**143.03**	**333**	*i* PKPdf	PKPbc	02 04 34.5	+0.3
	comp=Z,6.9nm,1.0s						
DAVA	**Damuels**	**143.18**	**334**	*i* PKPdf	PKPbc	02 04 34.6	-0.1
	comp=Z,3.2nm,0.6s						
KEST	**Kesra**	**151.88**	**320**	PKPbc	**PKiKP**	**02 04 59.0**	**+0.1**
	comp=Z,4.8nm,0.7s,baz=102,slow=1.1,SNR=8.7						
ESDC	**Sonseca Array**	**154.68**	**345**	PKPab	**PKPab**	**02 05 19.7**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=20,slow=3.8,SNR=6.9						

*NEIC **11** 02:03:53.1±0.7, 28°.05S±0°.1×177°.3W±0°.2, h63km±8km, mb4.2/9, Error ellipse: s-maj=31.2km s-min=13.5km az=112.0*
*IDC **11** 02:03:53.9±4.3, 28°.07S×177°.26W, h68km±35km, mb3.6/3, mb1 3.8/3, mb1mx3.4/25, mbtmp3.9/3, Error ellipse: s-maj=43.9km s-min=39.6km az=157.0*

ISC 11 02:03:51.9±0.9, 28°.03S±0°.10×177°.3W±0°.2, h50km, n31, σ1§69/28, mb3.9/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.33**	**203**	P	**Pn**	**02 04 16.3**	**+2.3**
	632nm,0.3s,baz=76,slow=7.9,SNR=43						
RAO				S	**Sn**	**02 04 33.1**	**+2.5**
	2µm,0.3s,baz=294,slow=22,SNR=32						
RAO	**Raoul Island**	**1.33**	**203**		**Sn**	**02 04 32.9**	**+2.3**
URZ	**Urewera**	**11.22**	**103**	S	**Sn**	**02 08 26.6**	**-6.7**
	0.8nm,0.3s,baz=186,slow=22,SNR=1.5						
AS31	**Alice Springs**	**43.89**	**264**	P	**P**	**02 11 54.8**	**+1.0**
ASAR	**Alice Springs**	**43.89**	**264**	P	**P**	**02 11 54.4**	**+0.6**
	0.9nm,0.6s,baz=98,slow=6.6,SNR=10						
WR0	**Warramunga Arr**	**44.48**	**269**	P	**P**	**02 11 59.1**	**+0.6**
WR0				IAmb	IAmb	02 12 16.6	
	comp=Z,5.5nm,1.3s						
WB2	**Warramunga Arr**	**44.66**	**269**	P	**P**	**02 12 00.5**	**+0.6**
WRA	**Warramunga Arr**	**44.67**	**269**	P	**P**	**02 12 00.5**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=109,slow=6.3,SNR=20						
WRA	**Warramunga Arr**	**44.67**	**269**	P	**P**	**02 12 00.1**	**+0.1**
WB0	**Warramunga Arr**	**44.68**	**270**	P	**P**	**02 12 00.2**	**+0.1**
WB0				IAmb	IAmb	02 12 01.9	
	comp=Z,7.8nm,1.2s						
VNDA	**Vanda**	**50.50**	**186**	P	**P**	**02 12 43.4**	**-1.0**
VNDA				IAmb	IAmb	02 13 02.9	
	comp=Z,1.5nm,1.2s						
QSPA	**South Pole Qui**	**62.07**	**180**	P	**P**	**02 14 08.5**	**+1.3**
MAW	**Mawson**	**74.73**	**200**	P	**P**	**02 15 26.2**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=121,slow=5.9,SNR=2.1						
MAW	**Mawson**	**74.73**	**200**	P	**P**	**02 15 25.9**	**-0.1**
SNAA	**Sanae**	**80.50**	**178**	P	**P**	**02 15 58.4**	**+0.2**
SNAA	**Sanae**	**80.50**	**178**	P	**P**	**02 15 58.2**	**0.0**
SNAA				IAmb	IAmb	02 16 02.3	
	comp=Z,3.9nm,1.3s						
VNA3	**Neumayer Olymp**	**80.62**	**176**	P	**P**	**02 15 58.8**	**0.0**
VNA2	**Neumayer--Watz**	**81.06**	**177**	P	**P**	**02 16 01.6**	**+0.4**
	baz=180,slow=4.6						
H03S2	**Juan Fernandez**	**81.27**	**124**	T	T	03 45 56.2	
	baz=240,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**81.28**	**124**	T	T	03 45 57.4	
	baz=240,slow=74,SNR=10						
H03S3	**Juan Fernandez**	**81.29**	**124**	T	T	03 46 01.8	
	baz=240,slow=74,SNR=12						
VNA1	**Neumayer--Stat**	**81.29**	**176**	P	**P**	**02 16 02.9**	**+0.6**
MKAR	**Makanchi Array**	**116.70**	**311**	PKP	**PKPdf**	**02 22 29.5**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=86,slow=2.0,SNR=2.1						
MKAR	**Makanchi Array**	**116.70**	**311**		**PKPdf**	**02 22 29.3**	**-1.1**
FINES	**FINESS Array B**	**143.12**	**341**	PKhKP	PKPpre	02 23 15.9	
	comp=Z,1.7nm,0.7s,baz=48,slow=2.8,SNR=8.0						
NB2	**NORSAR Subarra**	**146.50**	**352**	PKP	**PKPbc**	**02 23 26.5**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=12,slow=3.0						
NOA	**NORSAR Array B**	**146.50**	**352**	PKPbc	**PKPbc**	**02 23 26.5**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=12,slow=4.4,SNR=4.3						
AKASG	**Malin Array Be**	**149.74**	**326**	PKPbc	**PKPbc**	**02 23 35.0**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=44,slow=3.2,SNR=6.2						
AKASG	**Malin Array Be**	**149.74**	**326**		**PKPbc**	**02 23 35.3**	**-0.5**
BRTR	**Keskin Array B**	**151.92**	**303**	PKPbc	**PKiKP**	**02 23 41.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=132,slow=3.7,SNR=2.4						
BRTR	**Keskin Array B**	**151.92**	**303**		**PKPbc**	**02 23 41.2**	**-0.3**

TUN 11 02:07:22.4, 36°.40N×8°.30E, h34km±1km, MD3.1, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHAT	**Ghardimaou**	**0.10**	**2**	*i* P	Pb	02 07 29.6	+1.2
GHAT	**Ghardimaou**	**0.10**	**2**	*i* P	Pb	02 07 29.6	+1.2
BLIT	**Baltah**	**0.61**	**59**	*i* P	Pb	02 07 37.6	+2.8
BLIT	**Baltah**	**0.61**	**59**	*i* P	Pb	02 07 37.5	+2.7
KRIT	**Krib**	**0.63**	**95**	*i* P	Pb	02 07 37.6	+2.5
KRIT	**Krib**	**0.63**	**95**	*i* P	Pb	02 07 37.9	+2.7
CMAH	**Djebel Manchou**	**0.74**	**288**	P	Pb	02 07 43.7	+6.6
THTN	**Thala**	**0.90**	**159**	*i* P	Sb	02 07 52.8	+1.5
THTN	**Thala**	**0.90**	**159**	*i* P	Sb	02 07 52.8	+1.5
TAMR	**Tamra**	**0.92**	**45**	*i* P	Pb	02 07 43.6	+3.8
TROT	**Trozza**	**1.35**	**128**	*i* P	Pb	02 07 52.2	+5.0
KCHT	**Kechabta**	**1.50**	**61**	*i* P	Pb	02 07 56.3	+6.6
BTHT	**Jabal bu Thady**	**2.05**	**128**	*i* P	Pb	02 08 06.7	+7.7

UCR 11 02:13:00.3±1.3, 9°.64N×84°.87W, h21km±2km, MD3.8, 1C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRA1	**San Ramn**	**0.58**	**41**	*i* P	Pb	02 13 11.3	-0.8
SRA1				*e*S	Sb	02 13 20.6	+0.6
CASO	**Castillo**	**0.80**	**10**	*i* P	Pb	02 13 14.9	-0.6
GRZA	**Playa Garza**	**0.80**	**290**	⇑*e*P	Pb	02 13 15.7	+0.2
GRZA				*e*S	Sn	02 13 27.9	+0.3
ARE1	**Arenal 1**	**0.83**	**11**	*i* P	Pb	02 13 15.8	-0.1
ARE1				*e*S	Sn	02 13 28.1	-0.3
HDC	**Heredia**	**0.83**	**65**	*e*P	Pb	02 13 15.5	-0.6
HDC				*e*S	Sb	02 13 27.4	+0.6
HDC3	**Heredia 3**	**0.83**	**65**	*e*P	Pb	02 13 15.8	-0.3
HDC3				*e*S	Sb	02 13 27.6	+0.7
FORC	**Fortuna**	**0.84**	**14**	*i* P	Pb	02 13 15.8	-0.5
FORC				*i* S	Sb	02 13 27.2	0.0
CEDE	**Laguna Cedeo**	**0.85**	**11**	*i* P	Pb	02 13 16.2	-0.3
LCR2	**La Lucha 2**	**0.86**	**83**	⇓*e*P	Pb	02 13 15.9	-0.8
LCR2				*e*S	Sb	02 13 28.2	+0.3
GUAI	**GUAI**	**0.89**	**315**	*i* P	Pb	02 13 16.3	-0.7
ORTG	**Ortega, Santa**	**0.92**	**321**	*e*P	Pb	02 13 17.1	-0.5
ACAL	**Aguas Claras**	**1.00**	**351**	*i* P	Pb	02 13 18.2	-0.8
RIMA	**Río Macho**	**1.00**	**83**	⇓*e*P	Pb	02 13 18.1	-0.9
RIMA				*e*S	Sn	02 13 32.4	-0.5
CUI	**Cuipilapa**	**1.05**	**344**	⇓*e*P	Pb	02 13 18.8	-1.0
CUI				*i* S	Sn	02 13 34.7	+0.8
COLC	**Colonia**	**1.07**	**342**	*i* P	Pn	02 13 19.1	-1.0
PTEN	**Parque Tenorio**	**1.07**	**354**	*i* P	Pn	02 13 19.4	-0.7
CDM	**Cerro de Muert**	**1.10**	**95**	*e*P	Pn	02 13 20.5	-0.3
CDM				*e*S	Sn	02 13 36.6	+1.0
HORNC	**Hornillas**	**1.10**	**344**	*i* P	Pn	02 13 19.6	-1.0
LIM1	**Limonal**	**1.11**	**340**	*i* P	Pn	02 13 19.8	-0.9
LIM1				*i* S	Sn	02 13 35.9	+0.5
GUAB	**Guayabo de Bag**	**1.11**	**342**	*i* P	Pn	02 13 20.1	-0.8
GUAB				*i* S	Sn	02 13 36.8	+1.3
CVTR	**Volcan Turrial**	**1.16**	**71**	*e*P	Pn	02 13 21.6	-0.1
COVE	**Coope Vega, Sa**	**1.17**	**23**	⇓*e*P	Pn	02 13 20.8	-0.6
GPS2	**Hotel Rincn d**	**1.20**	**337**	*i* P	Pn	02 13 21.4	-0.5
GPS3	**Bodega del ICE**	**1.21**	**336**	*i* P	Pn	02 13 21.4	-0.6
**PEZ

	0.6nm,0.3s									
AB31	**Akbulak array**	**14.91**	**331**	⇑S		**Sn**		**02 39 11.3**	**-4.1**
	0.9nm,0.6s									
AKTO	**Aktyubinsk**	**16.60**	**330**	⇑P		**P**		**02 36 56.5**	**+3.5**
	1.2nm,0.6s									
ZALV	**Zalesovo Beam**	**19.92**	**25**	P		**P**		**02 37 26.9**	**-2.3**
	0.5nm,0.3s,baz=228,slow=11,SNR=5.9									
FINES	**FINESS Array B**	**37.29**	**326**	P		**P**		**02 40 08.9**	**+1.2**
	1.3nm,0.7s,baz=96,slow=8.5,SNR=2.9									
ARCES	**ARCESS Array B**	**40.98**	**338**	P		**P**		**02 40 38.9**	**+0.6**
	1.7nm,0.9s,baz=94,slow=8.6,SNR=5.7									

ISN ***11*** *02:35:37.8±1.1,32.75N×46.55E,h7km±9km,ML2.5*
TEH ***11*** *02:35:38.5,32.77N×46.61E,h10km,ML2.8*
ISC 11 02:35:38.8±1.0,32.78N±0.05×46.59E±0.05,h13km,n12,
σ0.50/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
IBDR	**Badra**	**0.64**	**301**	*e*Pg		**Pg**	**02 35 51.0**	**-0.3**
IBDR				*e*Sg		**Sg**	**02 35 59.0**	**-0.8**
IBDR				AML		AML	02 36 30.2	
	comp=E,247nm,0.6s							
IBDR				AML		AML	02 36 32.3	
	comp=N,257nm,0.6s							
IKFM	**Kafar-mosalman**	**1.29**	**55**	*e*Pg		**Pn**	**02 36 02.8**	**+0.3**
IKFM				*e*			02 36 27.8	
KCHF	**Cheshme Sefid,**	**1.54**	**14**	*e*			02 36 09.7	
KCHF				*e*Pg		**Pb**	**02 36 07.8**	**+0.5**
IGHG	**Ghaleghazi**	**1.54**	**359**	*e*			02 36 34.1	
IGHG				*e*Pn		**Pg**	**02 36 08.2**	**-0.3**
IKOM	**Komasi**	**1.59**	**29**	*e*			02 36 36.2	
IKOM				*e*Pn		**Pb**	**02 36 08.5**	**+0.3**
KER	**Kermanshah**	**1.66**	**16**	*e*			02 36 12.0	
KER				*e*Pn		**Pb**	**02 36 09.5**	**+0.1**
IDOB	**Doab**	**1.67**	**53**	*e*			02 36 39.1	
IDOB				*e*Pn		**Pb**	**02 36 09.4**	**-0.1**
IKMR	**Kamar-syah**	**1.67**	**64**	*e*			02 36 37.5	
IKMR				*e*Pn		**Pb**	**02 36 09.6**	**+0.1**
IVIS	**Veis**	**1.75**	**7**	*e*Pn		**Pb**	**02 36 10.7**	**-0.2**
IVIS				*e*			02 36 42.3	
NSR	**Nassriya**	**1.81**	**192**	*e*Pn		**Pn**	**02 36 10.0**	**+0.3**
NSR				*e*Sn		**Sb**	**02 36 34.0**	**-0.3**
BHD	**Baghdad**	**1.92**	**285**	*e*Pn		**Pn**	**02 36 12.0**	**+0.9**
BHD				*e*Sn		**Sb**	**02 36 38.0**	**+0.6**
IDHR	**Dehrash**	**1.92**	**355**	*e*Pn		**Pb**	**02 36 13.3**	**-0.5**
IDHR				*e*			02 36 42.8	

ASRS ***11*** *02:40:50.8±0.2,51.1N×9.0E±?,h10km,MLh3.5/16,*
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/iasp91 confirmed
NNC ***11*** *02:40:57.0±1.6,51.16N×89.36E,h0km,mb3.5,mpv3.1,*
Error ellipse: s-maj=15.1km s-min=8.2km az=95.0
ISC 11 02:40:55.1±0.8,51.13N±0.03×89.73E±0.03,h10km,n31,
σ2.33/65,6C-6D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ULGR	**Ulagan, Altay**	**1.23**	**246**	Pg		**Pb**	**02 41 17.2**	**-1.3**
ULGR				Sg		**Sg**	**02 41 34.2**	**-0.5**
CUR	**Chagan-Uzun**	**1.35**	**221**	Pg		**Pn**	**02 41 19.2**	**-1.0**
CUR				Sg		**Sg**	**02 41 37.8**	**-0.8**
AKAR	**Aktash**	**1.57**	**240**	Pg		**Pn**	**02 41 23.2**	**+0.1**
AKAR				Sg		**Sb**	**02 41 44.6**	**-0.9**
CHBI	**Chibit, Altay**	**1.63**	**241**	Pg		**Pb**	**02 41 24.6**	**-0.7**
CHBI				Sg		**Sg**	**02 41 48.0**	**+0.3**
ARTR	**Artybash**	**1.67**	**295**	Pg		**Pn**	**02 41 24.9**	**+0.5**
ARTR				Sg		**Sb**	**02 41 47.5**	**+0.4**
DJO	**Djoy, Khakassi**	**1.89**	**28**	Pg		**Pn**	**02 41 26.0**	**-1.6**
DJO				Sg		**Sn**	**02 41 49.5**	**-1.9**
TBTR	**Tabat**	**1.90**	**18**	Pg		**Pn**	**02 41 26.3**	**-1.4**
TBTR				Sg		**Sn**	**02 41 49.5**	**-2.2**
DJOS	**Djoyskaya Sosn**	**1.96**	**31**	Pg		**Pn**	**02 41 27.1**	**-1.4**
DJOS				Sg		**Sn**	**02 41 52.0**	**-1.1**
TASR	**Tashtagol**	**2.00**	**326**	Pg		**Pn**	**02 41 29.4**	**+0.5**
TASR				Sg		**Sb**	**02 41 57.0**	**+0.6**
CERR	**Cheremushki**	**2.02**	**30**	Pg		**Pn**	**02 41 28.5**	**-0.7**
CERR				Sg		**Sn**	**02 41 54.0**	**-0.5**
DGZ	**Jazzator, Alta**	**2.05**	**227**	Pg		**Pb**	**02 41 32.0**	**-0.5**
DGZ				Sg		**Sg**	**02 42 00.0**	**-1.0**
TUNR	**Tungur**	**2.37**	**247**	Pg		**Pb**	**02 41 38.7**	**+0.8**
TUNR				Sg		**Sg**	**02 42 10.0**	**-1.2**
ARDR	**Aradan**	**2.72**	**56**	Pg		**Pn**	**02 41 40.1**	**+1.2**
ARDR				Sg		**Sn**	**02 42 15.0**	**+3.2**
ELT	**Eltsovka**	**3.03**	**316**	P		**Pn**	**02 41 43.3**	**+0.2**
ELT				Pg		**Pb**	**02 41 46.9**	**-2.2**
ELT				Sg		**Sb**	**02 42 27.4**	**+1.3**
UKR	**Ust'-Kan**	**3.14**	**268**	Pg		**Pb**	**02 41 51.9**	**+0.9**
UKR				Sg		**Sg**	**02 42 34.5**	**-1.3**
SHRR	**Shira**	**3.38**	**4**	P		**Pn**	**02 41 48.0**	**0.0**
SHRR				Pg		**Pb**	**02 41 53.2**	**-1.8**
SHRR				Sg		**Sb**	**02 42 35.5**	**-0.7**
POMOR	**Pomortsevo, Ku**	**3.82**	**331**	Pg		**Pb**	**02 42 02.5**	**0.0**
POMOR				Sg		**Sb**	**02 42 53.5**	**+4.7**
SALR	**Pechorkino, Sa**	**4.10**	**325**	P		**Pn**	**02 41 59.4**	**+1.6**
SALR				Pg		**Pb**	**02 42 08.1**	**+0.7**
SALR				Sg		**Sb**	**02 43 00.8**	**+3.9**
ZAA0	**Zalesovo Array**	**4.12**	**315**	⇑Pn		**Pn**	**02 41 59.2**	**+1.2**
	0.3nm,0.4s							
ZAA0				⇓Pg		**Pb**	**02 42 08.0**	**+0.4**
	0.8nm,0.6s							
ZAA0				⇑Lg		Lg	02 43 01.1	
	4.8nm,0.7s							
TDJR	**Todzha**	**4.16**	**70**	Pg		**Pb**	**02 42 07.0**	**-1.4**
TDJR				Sg		**Sb**	**02 42 59.4**	**+0.8**
NVSII	**Novosibirsk**	**5.40**	**316**	Pg		**Pb**	**02 42 31.7**	**+2.2**
NVSII				Sg		**Sb**	**02 43 41.3**	**+7.0**
NVS	**Novosibirsk**	**5.41**	**316**	Pg		**Pb**	**02 42 33.2**	**+3.7**
NVS				Sg		**Sb**	**02 43 40.7**	**+6.3**
NHES	**Novosibirsk, N**	**5.53**	**315**	Pg		**Sb**	**02 43 28.6**	**-3.7**
ORL	**Orlik**	**6.41**	**73**	Pg		**Pb**	**02 42 48.1**	**+1.4**
ORL				Sg		**Sb**	**02 44 08.8**	**+5.5**
MK31	**Makanchi Array**	**6.54**	**231**	Pn		**Pn**	**02 42 32.9**	**+1.6**
	1.6nm,0.5s,baz=56,slow=13,SNR=30							
MK31				⇑Pg		Pg	02 42 54.2	-6.1
	1.5nm,0.5s,baz=52,slow=14,SNR=5.7							
MK31				⇓Lg		Lg	02 44 20.4	
	6.2nm,0.6s,baz=50,slow=31,SNR=9.6							
MKAR	**Makanchi Array**	**6.54**	**231**	P		**Pn**	**02 42 32.8**	**+1.4**
MKAR				Pg		**Pg**	**02 42 57.8**	**-2.5**
MKAR				S		**Sn**	**02 43 46.4**	**+0.4**
MKAR				Sg		**Sg**	**02 44 23.2**	**-1.8**
MAKZ	**Makanchi**	**6.69**	**233**	P		**Pn**	**02 42 33.5**	**+0.2**
MAKZ				Pg		**Pg**	**02 42 59.1**	**-4.0**
MAKZ				Sg		**Sg**	**02 44 25.9**	**-3.8**
MAKZ	**Makanchi**	**6.69**	**233**	⇑Pn		**Pn**	**02 42 33.3**	**-0.1**
	1.6nm,0.8s							
MAKZ				⇓Pg		**Pb**	**02 42 54.5**	**+3.1**
	3.6nm,1.1s							
MAKZ				⇓Lg		Lg	02 44 24.1	
	5.1nm,0.7s							
KURK	**Kurchatov**	**7.04**	**271**	P		**Pn**	**02 42 38.2**	**+0.1**
KURK				S		**Sn**	**02 43 57.3**	**-0.8**
KURK				Sg		**Sg**	**02 44 35.0**	**-5.8**
KURK	**Kurchatov**	**7.04**	**271**	⇑Pn		**Pn**	**02 42 38.5**	**+0.4**
	4.1nm,0.9s							
KURK				⇓Sn		**Sn**	**02 43 57.5**	**-0.6**
	4.7nm,0.7s							
KURK				⇓Lg		Lg	02 44 33.4	
	19nm,0.7s							
OTUK	**Ortayu**	**11.63**	**262**	⇑Lg		Lg	02 47 00.1	
	7.7nm,1.1s							

BJI ***11*** *02:41:44.4±0.0,15.16N×145.89E,h118km,mB5.0/23,*
mb4.8/38
NEIC ***11*** *02:41:48.2±1.3,15.17N±0.05×145.57E±0.06,*
h124km±4km,mb4.9/156,Error ellipse: s-maj=9.7km
s-min=6.3km az=119.0
IDC ***11*** *02:41:48.1±1.4,15.24N×145.64E,h124km±12km,*
mb4.3/37,mb1 4.5/38,mb1mx4.4/49,mbtmp4.7/38,MS3.3/8,
Ms1 3.3/8,ms1mx3.0/40,Error ellipse: s-maj=13.5km
s-min=7.9km az=85.0
ISC 11 02:41:47.8±0.5,15.19N±0.04×145.61E±0.06,h121km±4km,
n349,σ0.95/354,mb4.8/115,1D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ANA2	**Anatahan**	**1.15**	**5**	Pn		**Pn**	**02 42 12.8**	**+1.3**
ANA2						**Sn**	**02 42 29.1**	**-0.3**
GUMO	**Guam**	**1.75**	**204**	P		**Pn**	**02 42 18.1**	**0.0**
	280nm,0.3s,baz=93,slow=3.2,SNR=103							
GUMO				S		**Sn**	**02 42 39.6**	**-1.8**
	878nm,0.3s,baz=356,slow=21,SNR=12							
GUMO	**Guam**	**1.75**	**204**	Pn		**Pn**	**02 42 18.2**	**0.0**
GUMO				Sn		**Sn**	**02 42 40.2**	**-1.2**
PATS	**Pohnpei**	**14.97**	**122**	Pn		**Pn**	**02 45 13.7**	**+0.4**
JAY	**Jayapura**	**18.25**	**196**	P		**Pn**	**02 45 54.4**	**+1.0**
	1.5nm,0.3s,baz=346,slow=9.5,SNR=7.2							
JAY	**Jayapura**	**18.25**	**196**	P		**Pn**	**02 45 56.0**	**+2.6**
	20nm,1.3s							
SMPI	**Sarmi**	**18.38**	**202**	P		**Pn**	**02 45 56.3**	**+1.4**
	33nm,0.7s							
GENI	**Genyem**	**18.47**	**197**	P		**Pn**	**02 45 57.6**	**+1.6**
	56nm,1.1s							
H11S3	**WAKE ISLAND Hy**	**20.44**	**78**	T		T	03 07 50.9	
	baz=267,slow=74,SNR=52							
H11S1	**WAKE ISLAND Hy**	**20.45**	**78**	T		T	03 07 50.9	
	baz=267,slow=74,SNR=42							
H11S2	**WAKE ISLAND Hy**	**20.45**	**78**	T		T	03 07 03.4	
	baz=267,SNR=32							
H11N1	**WAKE ISLAND Hy**	**20.79**	**74**	T		T	03 07 19.6	
	baz=263,slow=75,SNR=0.7							
H11N2	**WAKE ISLAND Hy**	**20.80**	**74**	T		T	03 07 20.1	
	baz=263,slow=75,SNR=1.6							
H11N3	**WAKE ISLAND Hy**	**20.81**	**74**	T		T	03 07 43.0	
	baz=263,slow=75,SNR=28							
SIJI	**Sorong**	**21.35**	**223**	P		**P**	**02 46 26.8**	**+1.2**
	52nm,0.5s,baz=30,slow=14,SNR=11							
SIJI				LR		LR	02 54 24.1	
	comp=Z,63nm,19.4s,baz=250,slow=35							
MJAR	**Matsushiro Arr**	**22.27**	**344**	P		**P**	**02 46 34.9**	**0.0**
	2.9nm,0.6s,baz=167,slow=10,SNR=5.8							
MJAR				LR		LR	02 54 29.1	
	comp=Z,40nm,21.6s,baz=200,slow=34							
MJAR	**Matsushiro Arr**	**22.27**	**344**	P		**P**	**02 46 35.3**	**+0.3**
MAT	**Matsushiro**	**22.27**	**344**	P		**P**	**02 46 35.7**	**+0.7**
JNU	**Nakatsue**	**22.30**	**326**	P		**P**	**02 46 36.5**	**+1.2**
	9.1nm,0.5s,baz=186,slow=6.0,SNR=6.4							
JNU	**Nakatsue**	**22.30**	**326**	P		**P**	**02 46 35.8**	**+0.4**
FAKI	**Fak Fak**	**22.33**	**217**	P		**P**	**02 46 35.7**	**-0.1**
FAKI						IAmb	02 46 37.5	
	comp=Z,75nm,1.2s							
TGY	**Tagaytay City**	**23.90**	**271**	P		**P**	**02 46 52.0**	**+1.4**
	comp=Z,283nm,0.3s,baz=131,slow=24,SNR=5.1							
YULB	**Yu-li**	**24.33**	**293**	P		**P**	**02 46 55.2**	**+0.9**
YULB						IAmb	IAmb	02 46 58.4
	comp=Z,24nm,0.8s							
PMG	**Port Moresby**	**24.48**	**176**	P		**P**	**02 46 55.7**	**0.0**
	comp=Z,13nm,0.5s,baz=30,slow=6.5,SNR=3.9							
PMG	**Port Moresby**	**24.48**	**176**	P		**P**	**02 46 55.8**	**0.0**
PMG						IAmb	IAmb	02 46 59.2
	comp=Z,20nm,0.7s							
YHNB	**Yeheng**	**24.62**	**296**	P		**P**	**02 46 56.9**	**-0.3**
SSLB	**Suanglung**	**24.74**	**294**	P		**P**	**02 46 57.8**	**-0.3**
SSLB						IAmb	IAmb	02 47 01.9
	comp=Z,40nm,0.9s							
KSRS	**Korea Array**	**27.16**	**328**	P		**P**	**02 47 19.6**	**-0.1**
	comp=Z,8.9nm,0.7s,baz=146,slow=9.8,SNR=23							
KSRS				LR		LR	02 57 05.1	
	comp=Z,47nm,19.0s,baz=223,slow=34							
KSAR	**Wonju Array Be**	**27.18**	**328**	P		**P**	**02 47 19.7**	**-0.2**
KS19	**Wonju Array Si**	**27.23**	**328**	P		**P**	**02 47 20.1**	**-0.3**
KS19						IAmb	IAmb	02 47 24.4
	comp=Z,19nm,1.0s							
LUWI	**Luwuk**	**27.75**	**236**	P		**P**	**02 47 27.7**	**+2.4**
	comp=Z,8μmcomp=Z,101nm,0.5s							
MYLDM	**Lahad Datu**	**28.44**	**252**	P		**P**	**02 47 32.8**	**+1.4**
COEN	**Coen**	**29.06**	**185**	P		**P**	**02 47 37.2**	**+0.4**
NJ2	**Nanjing**	**29.59**	**309**	*e*P		**P**	**02 47 41.6**	**+0.2**
NJ2						pmax	pmax	
	comp=Z,5.0nm,0.5s							
KKM	**Kota Kinabalu**	**30.25**	**256**	P		**P**	**02 47 48.0**	**+0.4**
KKM						IAmb	IAmb	02 47 49.5
	comp=Z,16nm,0.6s							
USRK	**Ussuriysk Ar.**	**31.15**	**341**	P		**P**	**02 47 55.7**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=163,slow=8.1,SNR=6.0							
USRK	**Ussuriysk Ar.**	**31.15**	**341**	P		**P**	**02 47 55.4**	**+0.4**
MTN	**Manton Dam**	**31.32**	**208**	P		**P**	**02 47 55.7**	**-1.1**
MTN						IAmb	IAmb	02 47 57.1
	comp=Z,19nm,0.6s							
CN2	**Changchun**	**33.30**	**333**	*e*P		**P**	**02 48 15.5**	**+1.7**
KNRA	**Kununurra**	**34.89**	**209**	P		**P**	**02 48 27.3**	**-0.6**
KNRA						IAmb	IAmb	02 48 27.7
	comp=Z,14nm,0.7s							
CTAO	**Charters Tower**	**35.06**	**179**	P		**P**	**02 48 28.9**	**-0.4**
SBUM	**Sibu**	**35.27**	**252**	P		**P**	**02 48 30.7**	**-0.5**
KLR	**Kul'dur**	**35.80**	**344**	P		**P**	**02 48 34.1**	**-1.1**
	comp=Z,3.8nm,0.7s,baz=134,slow=9.9,SNR=13							
KLR				PcP		**PcP**		**02 50 59.5**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=175,slow=8.4,SNR=4.2							
ENH	**Enshi**	**36.36**	**301**	P		**P**	**02 48 40.8**	**+0.4**
ENH						IAmb	IAmb	02 48 42.0
	comp=Z,10nm,0.9s							
WB0	**Warramunga Arr**	**36.45**	**198**	P		**P**	**02 48 40.5**	**-0.6**
WR0	**Warramunga Arr**	**36.59**	**198**	P		**P**	**02 48 41.4**	**-0.8**
WR0						IAmb	IAmb	02 48 42.8
	comp=Z,22nm,0.7s							
WRAB	**Tennant Creek**	**36.62**	**198**	P		**P**	**02 48 42.1**	**-0.5**
WB2	**Warramunga Arr**	**36.62**	**198**	P		**P**	**02 48 41.8**	**-0.8**
WRA	**Warramunga Arr**	**36.63**	**198**	P		**P**	**02 48 42.2**	**-0.4**
	comp=Z,28nm,0.7s,baz=18,slow=9.6,SNR=112							
WRA				ScP		**ScP**		**02 54 37.1**	**-1.8**
	comp=Z,2.3nm,0.8s,baz=12,slow=3.8,SNR=7.7							
WRA	**Warramunga Arr**	**36.63**	**198**	P		**P**	**02 48 41.5**	**-1.2**
SANVU	**Saraoutou**	**37.17**	**144**	P		**P**	**02 48 47.7**	**+0.5**
GYA	**Guiyang**	**37.95**	**294**	⇓P		**P**	**02 48 56.7**	**+2.7**
GYA						pmax	pmax	
	comp=Z,18nm,1.5s							
FITZ	**Fitzroy Crossi**	**38.49**	**211**	P		**P**	**02 48 58.2**	**-0.2**
	comp=Z,7.0nm,0.6s,baz=17,slow=5.0,SNR=24							
FITZ	**Fitzroy Crossi**	**38.49**	**211**	P		**P**	**02 48 58.1**	**-0.2**
FITZ						IAmb	IAmb	02 48 59.6
	comp=Z,13nm,0.9s							
PETK	**Petropavlovsk-**	**39.02**	**12**	P		**P**	**02 49 01.9**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=188,slow=9.0,SNR=4.8							
PETK				PcP		**PcP**		**02 51 08.9**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=150,slow=5.6,SNR=2.1							
PETK	**Petropavlovsk-**	**39.02**	**12**	P		**P**	**02 49 02.5**	**+0.1**
HHC	**Hu-ho-hao-te**	**39.06**	**318**	*e*P		**P**	**02 49 03.9**	**+0.9**
HHC						pmax	pmax	
	comp=Z,25nm,0.9s							
HHC						pmax	pmax	
	comp=Z,130nm,5.6s							
SLVN	**Son La**	**39.99**	**285**	P		**P**	**02 49 11.8**	**+0.9**
SLVN						IAmb	IAmb	02 49 14.4
	comp=Z,27nm,1.3s							
HIA	**Hailar**	**40.02**	**334**	P		**P**	**02 49 10.8**	**0.0**
AS31	**Alice Springs**	**40.28**	**197**	P		**P**	**02 49 12.8**	**-0.3**
ASAR	**Alice Springs**	**40.28**	**197**	P		**P**	**02 49 12.9**	**-0.3**
	comp=Z,6.0nm,0.6s,baz=18,slow=8.5,SNR=84							
ASAR				ScP		**ScP**		**02 54 51.0**	**-1.8**
	comp=Z,1.6nm,0.9s,baz=25,slow=3.9,SNR=8.0							
ASAR	**Alice Springs**	**40.28**	**197**	P		**P**	**02 49 12.5**	**-0.6**
ASAR						**ScP**	**02 54 51.2**	**-1.6**
EIDS	**Eidsvold**	**40.66**	**172**	P		**P**	**02 49 16.5**	**+0.3**
CD2	**Chengdu**	**41.31**	**300**	P		**P**	**02 49 22.5**	**+0.9**
CD2						pmax	pmax	
	comp=Z,30nm,1.0s							
DZM	**Mont Dzumac**	**42.29**	**151**	P		**P**	**02 49 30.9**	**+1.3**
	comp=Z,6.0nm,0.5s,baz=286,slow=21,SNR=7.5							
DZM				PcP		**PcP**		**02 51 23.0**	**+1.6**
	comp=Z,7.3nm,1.1s,baz=170,slow=23,SNR=1.8							
DZM	**Mont Dzumac**	**42.29**	**151**	P		**P**	**02 49 30.3**	**+0.7**
DZM						IAmb	IAmb	02 49 32.9
	comp=Z,28nm,1.3s							
LZH	**Lanzhou**	**42.61**	**307**	*e*P		**P**	**02 49 34.2**	**+1.9**
LZH						pP	pP	02 49 58.1 -0.7
LZH						sP	sP	02 50 13.2 +1.1
LZH						PP	**PP**	**02 51 11.3** **-2.2**
LZH						pmax	pmax	
	comp=Z,30nm,1.2s							
LZH						pmax	pmax	
	comp=Z,120nm,4.9s							
SMY	**Shemya**	**43.72**	**25**	P		**P**	**02 49 41.9**	**+1.3**
PSAC2	**Pilbara Seismi**	**44.39**	**215**	P		**P**	**02 49 46.4**	**-0.1**
PSAC2						IAmb	IAmb	02 49 46.8
	comp=Z,15nm,0.7s							
MA2	**Magadan**	**44.48**	**4**	P		**P**	**02 49 45.5**	**-1.1**
MA2						IAmb	IAmb	02 49 46.5
	comp=Z,11nm,0.6s							
CHTO	**Chiang Mai**	**44.68**	**282**	P		**P**	**02 49 49.0**	**+0.1**
CM31	**Chiang Mai Arr**	**44.70**	**281**	P		**P**	**02 49 49.8**	**+0.8**
CM31						IAmb	IAmb	02 49 51.7
	comp=Z,19nm,0.9s							
CMAR	**Chiang Mai Arr**	**44.70**	**281**	P		**P**	**02 49 50.5**	**+1.5**
	comp=Z,8.1nm,0.7s,baz=78,slow=6.1,SNR=44							
CMAR				LR		LR	03 06 06.0	
	comp=Z,24nm,21.8s,baz=95,slow=33							
CMAR	**Chiang Mai Arr**	**44.70**	**281**	P		**P**	**02 49 49.9**	**+0.9**
KULM	**Kulim**	**45.24**	**262**	P		**P**	**02 49 54.2**	**+0.9**
KULM				IAmb		IAmb	02 49 55.9	
	comp=Z,16nm,0.8s							
ULN	**Ulaanbaatar**	**45.50**	**324**	P		**P**	**02 49 55.8**	**+0.6**
ARMA	**Armidale**	**45.71**	**173**	P		**P**	**02 49 57.9**	**+1.0**
KNTN	**Kanton**	**45.85**	**109**	P		**P**	**02 49 58.3**	**+0.2**
SONM	**Songino Array**	**45.86**	**324**	P		**P**	**02 49 58.8**	**+0.8**
	comp=Z,4.1nm,0.7s,baz=138,slow=9.3,SNR=13							
SONM				PcP		**PcP**		**02 51 32.7**	**-0.6**
	comp=Z,2.8nm,0.6s,baz=129,slow=4.2,SNR=5.1							
SONM	**Songino Array**	**45.86**	**324**	P		**P**	**02 49 58.8**	**+0.8**
GTA	**Gaotai**	**46.68**	**310**	*e*P		**P**	**02 50 05.8**	**+1.3**
GTA				pP		pwP	02 50 34.4	-1.6
GTA				sP		sP	02 50 49.2	+4.6
GTA				PcP		**PcP**	**02 51 36.9**	**+0.6**
GTA				SS		SS	03 00 05.3	-7.4
GTA				pmax		pmax		
	comp=Z,5.0nm,1.1s							
GTA				pmax		pmax		
	comp=Z,95nm,8.1s							
GTA				LR		LR		
	comp=Z,94nm,16.5s							
GTA				LR		LR		
	comp=Z,180nm,18.1s							
GTA				LR		LR		
	comp=Z,83nm,17.8s							
STKA	**Stephens Creek**	**46.95**	**185**	P		**P**	**02 50 06.3**	**-0.2**
	comp=Z,2.5nm,0.4s,baz=9.8,slow=7.1,SNR=8.8							
STKA	**Stephens Creek**	**46.95**	**185**	P		**P**	**02 50 06.9**	**+0.5**
ADK	**Adak**	**47.33**	**31**	P		**P**	**02 50 09.9**	**+0.7**
ADK				IAmb		IAmb	02 50 15.5	
	comp=Z,22nm,1.0s							
RPSI	**Rantau Prapat**	**47.64**	**260**	P		**P**	**02 50 12.8**	**+0.7**
GSTR	**Great Sitkin T**	**47.77**	**31**	P		**P**	**02 50 14.4**	**+1.8**
BBOO	**Buckleboo**	**48.59**	**191**	P		**P**	**02 50 19.2**	**+0.1**
ATKA	**Atka Island**	**48.77**	**32**	P		**P**	**02 50 21.1**	**+0.9**
GSI	**Gunungsitoli**	**49.36**	**258**	P		**P**	**02 50 25.8**	**+0.4**
CAN	**Canberra**	**50.33**	**176**	P		**P**	**02 50 33.5**	**+1.2**
CAN				IAmb		IAmb	02 50 37.1	
	comp=Z,10nm,0.9s							
AFI	**Afiamalu**	**51.11**	**122**	P		**P**	**02 50 38.4**	**-0.1**
SHL	**Shillong**	**51.12**	**291**	P		**P**	**02 50 38.8**	**0.0**
LSA	**Lhasa**	**51.93**	**296**	P		**P**	**02 50 46.0**	**+0.9**
MORW	**Morawa**	**52.46**	**213**	P		**P**	**02 50 47.4**	**-0.9**
TOO	**Toolangi**	**52.48**	**180**	P		**P**	**02 50 49.4**	**+1.1**
TOO				IAmb		IAmb	02 51 00.9	
	comp=Z,14nm,1.1s							
SPIA	**Saint Paul Isl**	**53.44**	**28**	P		**P**	**02 50 56.0**	**+1.0**
UNV	**Unalaska Valle**	**53.60**	**33**	P		**P**	**02 50 56.5**	**+0.2**
UNV				IAmb		IAmb	02 51 00.8	
	comp=Z,30nm,1.2s							
TAPN	**Taplejung**	**54.88**	**293**	*e*P		**P**	**02 51 07.5**	**+1.1**
	comp=Z,20nm,0.4s							
NWAO	**Narrogin (SRO)**	**55.00**	**209**	P		**P**	**02 51 05.9**	**-0.8**
ODAN	**Odare**	**55.16**	**292**	*e*P		**P**	**02 51 08.7**	**+0.3**
	comp=Z,28nm,0.6s							
FALS	**False Pass**	**55.67**	**33**	P		**P**	**02 51 11.8**	**+0.6**
RAMN	**Ramite**	**55.87**	**292**	*e*P		**P**	**02 51 13.9**	**+0.5**
	comp=Z,11nm,0.4s							
JIRN	**Jiri**	**56.23**	**293**	*e*P		**P**	**02 51 16.8**	**+0.7**
	comp=Z,44nm,0.5s							
WMQ	**Urumqi**	**56.58**	**313**	*e*P		**P**	**02 51 20.3**	**+2.3**
WMQ				pmax		pmax		
	comp=Z,16nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,120nm,3.9s							
WMQ	**Urumqi**	**56.58**	**313**	P		**P**	**02 51 18.2**	**+0.3**
PKI	**Pulcho

COLD Coldfoot 66.20 23 P **P** 02 52 22.5 +0.3
baz=252
COLD Coldfoot 66.20 23 P **P** 02 52 22.5 +0.3
AML Almayashu 66.61 310 P **P** 02 52 26.8 +0.9
SNR=9.1
POKR Poker Plat Res 66.68 25 P **P** 02 52 25.1 -0.2
baz=255
HDA Harding Lake 66.71 26 P **P** 02 52 24.9 -0.6
baz=256
IL31 66.82 26 P **P** 02 52 24.8 -1.3
IL31 IAmb IAmb 02 52 25.7
comp=Z,15nm,1.3s
ILAR Eielson Array 66.82 26 P **P** 02 52 24.6 -1.7
comp=Z,5.2nm,0.5s,baz=248,slow=5.9,SNR=112
PAX Paxson 67.03 28 P **P** 02 52 27.6 0.0
PAX IAmb IAmb 02 52 28.4
comp=Z,9.8nm,0.8s
NIL Nilore 67.19 300 P **P** 02 52 29.9 +0.7
RIDG Independent Ri 67.46 27 P **P** 02 52 30.1 -0.3
RIDG IAmb IAmb 02 52 30.9
comp=Z,14nm,1.1s
CRQM Cirque 67.72 30 P **P** 02 52 32.5 +0.4
CRQM IAmb IAmb 02 52 33.4
comp=Z,19nm,0.7s
MCARA McCarthy VSAT 67.87 30 P **P** 02 52 33.4 +0.5
MCARA IAmb IAmb 02 52 34.5
comp=Z,21nm,1.0s
SCRK Sand Creek 67.88 27 P **P** 02 52 32.6 -0.5
baz=259
YAH Yahtse 68.34 31 P **P** 02 52 36.5 +0.4
BCAR Beaver Creek A 68.70 28 P **P** 02 52 38.0 -0.1
K27K Chicken 68.72 27 P **P** 02 52 38.5 +0.4
baz=261
BTK Batken 68.82 307 P **P** 02 52 39.0 -0.3
BTK IAmb IAmb 02 52 40.7
comp=Z,6.0nm,0.6s
KK31 Karatay Array 68.95 311 P **P** 02 52 40.0 0.0
KK31 IAmb IAmb 02 52 42.0
comp=Z,12nm,0.8s
KKAR Karatay Array 68.95 311 P **P** 02 52 40.0 0.0
KKAR Karatay Array 68.95 311 P **P** 02 52 40.0 0.0
KKAR IAmb IAmb 02 52 42.0
comp=Z,12nm,0.8s
BVAR Borovoye Array 69.13 321 P **P** 02 52 40.8 -0.1
comp=Z,8.6nm,0.3s,baz=105,slow=7.8,SNR=49
BRVK Borovoye 69.19 321 P **P** 02 52 41.4 +0.2
BRVK IAmb IAmb 02 52 43.1
comp=Z,25nm,1.3s
EGAK Eagle 69.23 26 P **P** 02 52 41.4 +0.1
GAR Garm 69.26 306 P **P** 02 52 42.2 +0.1
DAWY Dawson 69.89 27 P **P** 02 52 45.6 +0.2
CHGR Chuyangaron 70.18 306 P **P** 02 52 47.9 +0.1
HYT Haines Junctio 70.47 30 P **P** 02 52 50.2 +1.1
KBL Kabul 70.61 302 P **P** 02 52 50.5 -0.1
KBL IAmb IAmb 02 52 51.7
comp=Z,10nm,0.6s
EPYK Eagle Plains 71.25 25 P **P** 02 52 53.5 -0.1
baz=265
EPYK Eagle Plains 71.25 25 P **P** 02 52 53.6 0.0
EPYK IAmb IAmb 02 52 53.9
comp=Z,6.7nm,0.6s
INK Inuvik 72.62 23 P **P** 02 53 01.1 -0.5
comp=Z,8.2nm,0.7s,baz=273,slow=6.0,SNR=18
INK Inuvik 72.62 23 P **P** 02 53 01.3 -0.4
INK IAmb IAmb 02 53 02.7
comp=Z,8.8nm,0.7s
DLBC Dease Lake 74.26 33 P **P** 02 53 12.6 +1.0
DLBC IAmb IAmb 02 53 13.4
comp=Z,16nm,0.7s
A36M Sachs Harbour 75.41 19 P **P** 02 53 17.3 -0.5
baz=274
ABKAR Akbulak array 75.85 318 P **P** 02 53 20.1 -0.7
ARU Arti 75.87 325 P **P** 02 53 20.7 -0.1
comp=Z,6.3nm,0.5s,baz=109,slow=3.5,SNR=23
ARU Arti 75.87 325 P **P** 02 53 20.4 -0.3
ARU IAmb IAmb 02 53 22.1
comp=Z,18nm,0.6s
BBB Bella Bella 75.89 39 LR LR 03 19 27.8
comp=Z,22nm,20.8s,baz=237,slow=30
C36M Paulatuk 76.02 21 P **P** 02 53 20.6 -0.7
baz=276
HRA Herat 76.20 302 P **P** 02 53 23.3 0.0
AKTO Aktyubinsk 76.93 319 P **P** 02 53 26.5 -0.4
comp=Z,2.4nm,0.5s,baz=98,slow=8.3,SNR=13
GEYT Alibeck 78.89 306 P **P** 02 53 38.8 +0.8
comp=Z,4.3nm,0.5s,baz=54,slow=2.6,SNR=15
GEYT Alibeck 78.89 306 P **P** 02 53 37.8 -0.2
GYA0B ALIBECK ARRAY 78.89 306 P **P** 02 53 37.7 -0.3
GYA0B IAmb IAmb 02 53 39.4
comp=Z,9.0nm,0.7s
PGC Sidney 79.37 42 P **P** 02 53 40.5 +0.1
PGC IAmb IAmb 02 53 42.9
comp=Z,34nm,1.4s
D03D Eldon 79.83 43 P **P** 02 53 44.3 +1.5
baz=281
A04D Lummi Island 79.84 42 P **P** 02 53 44.4 +1.5
baz=281
B05A Bryant 80.33 43 P **P** 02 53 46.6 +1.0
baz=282
E04D Cinebar 80.37 44 P **P** 02 53 46.8 +1.0
baz=282
KIRV Kirov 80.38 328 P **P** 02 53 45.5 0.0
comp=Z,23nm,0.6s,baz=75,slow=1.3,SNR=11
I03D Drain, OR 80.41 47 P **P** 02 53 47.4 +1.3
baz=282
L02E Cave Junction 80.55 49 P **P** 02 53 47.6 +0.8
baz=282
H04D Lebanon 80.67 46 P **P** 02 53 48.3 +0.8
baz=282
I04A Tendick Farm, 81.06 47 P **P** 02 53 49.6 0.0
baz=282
YKA Yellowknife Ar 81.12 28 P **P** 02 53 48.7 -0.7
comp=Z,3.0nm,0.6s,baz=287,slow=5.2,SNR=32
YKA pP **pP** 02 54 17.6 -2.2
comp=Z,1.5nm,0.5s,baz=286,slow=5.0,SNR=4.7
M02C Callahan 81.25 50 P **P** 02 53 51.8 +1.1
baz=282
F05D White Salmon 81.27 45 P **P** 02 53 51.8 +1.2
baz=283
YBH Yreka Blue Hor 81.29 49 LR LR 03 24 43.4
comp=Z,16nm,18.9s,baz=292,slow=32
J04D Umpqua Nationa 81.39 48 P **P** 02 53 52.4 +0.8
baz=283
N02D Trinity Center 81.45 50 P **P** 02 53 53.0 +1.2
baz=263
L04D Klamath Falls 81.48 49 P **P** 02 53 52.8 +0.8
baz=283
LTY Liberty 81.49 43 P **P** 02 53 51.9 +0.1
O02D Mt. Diablo Mer 81.57 51 P **P** 02 53 53.5 +1.1
baz=283
WDC Whiskeytown Da 81.66 50 P **P** 02 53 54.2 +1.4
I05D Terrebonne, OR 81.69 46 P **P** 02 53 54.0 +1.1
baz=283
M04C Macdoel 81.91 49 P **P** 02 53 55.4 +1.1
baz=283
J05D Fort Rock, OR 82.00 47 P **P** 02 53 55.8 +1.0
baz=283
PINE Pine Mountain 82.10 47 P **P** 02 53 56.5 +1.2
B08A Colville Reser 82.11 42 P **P** 02 53 55.3 +0.3
B08A IAmb IAmb 02 53 56.4
comp=Z,14nm,0.8s
O03E Paynes Creek 82.28 50 P **P** 02 53 56.9 +0.8
baz=283
K05A Summer Lake 82.38 48 P **P** 02 53 57.8 +1.1
K05A IAmb IAmb 02 53 58.9
comp=Z,15nm,0.9s
MOD Modoc Plateau 83.00 49 P **P** 02 54 00.3 +0.4
I07A Izee 83.03 46 P **P** 02 54 00.0 0.0
AFDM Forest Hills D 83.22 52 P **P** 02 54 01.6 +0.7
NEW Newport 83.56 42 P **P** 02 54 02.9 +0.4
baz=286,SNR=11
NEW Newport 83.56 42 P **P** 02 54 03.1 +0.5
NEW IAmb IAmb 02 54 03.8
comp=Z,9.7nm,0.8s
WVOR Wild Horse Val 84.06 48 P **P** 02 54 04.7 -0.6
BMO Blue Mountains 84.36 45 P **P** 02 54 07.0 +0.2
BMO IAmb IAmb 02 54 08.8
comp=Z,12nm,0.9s
KLMR Klimovskoe 84.49 332 *e*P **P** 02 54 04.7 -2.2
KLMR AMP 02 54 06.3
comp=Z,20nm,1.0s
PKM Mcpherson Peak 85.13 55 P **P** 02 54 11.7 +0.8
baz=285
RYN Ryan 85.15 51 P **P** 02 54 11.3 +0.4
CASY Casey 85.32 193 P **P** 02 54 10.9 +0.2
NVAR Mina Array Bea 85.37 52 P **P** 02 54 13.1 +1.1
comp=Z,6.1nm,0.6s,baz=267,slow=5.6,SNR=68
NVAR pP **pP** 02 54 41.3 -1.3
comp=Z,1.3nm,0.5s,baz=272,slow=5.6,SNR=3.8
JTMT Jette 85.54 42 P **P** 02 54 12.7 +0.1
JTMT IAmb IAmb 02 54 13.8
comp=Z,9.0nm,0.9s
MFID Camas Ranch 85.78 46 P **P** 02 54 14.4 +0.6
MFID IAmb IAmb 02 54 15.6
comp=Z,19nm,0.9s
ARCES ARCESS Array B 85.79 342 P **P** 02 54 11.9 -1.4
comp=Z,2.9nm,0.5s,baz=54,slow=5.6,SNR=27
ARCES PKKPbc **PKKPbc** 03 12 12.8 -3.7
comp=Z,3.2nm,1.0s,baz=237,slow=2.9,SNR=5.6
MSO Missoula 86.04 43 P **P** 02 54 14.8 -0.2
baz=288
CWC Cottonwood Cre 86.08 53 P **P** 02 54 16.1 +0.6
baz=286
EDW2 Edwards Air Fo 86.57 55 P **P** 02 54 18.5 +0.6
baz=286
MPMC Manual Prospec 86.64 54 P **P** 02 54 19.2 +0.8
baz=286,SNR=14
HLID Hailey 86.72 46 P **P** 02 54 19.4 +0.8
baz=288,SNR=31
HLID Hailey 86.72 46 P **P** 02 54 19.1 +0.6
HLID IAmb IAmb 02 54 20.2
comp=Z,12nm,0.8s
ELK Elko 86.98 49 P **P** 02 54 20.6 +0.7
ELK IAmb IAmb 02 54 21.8
comp=Z,15nm,0.8s
FURC Furnace Creek, 87.01 53 P **P** 02 54 20.3 +0.5
baz=287
LRM Limekiln Ridge 87.34 43 P **P** 02 54 21.7 +0.1
TPNV Topopah Spring 87.34 53 P **P** 02 54 22.5 +0.8
baz=287,SNR=17
TPNV Topopah Spring 87.34 53 P **P** 02 54 22.4 +0.7
TPNV IAmb IAmb 02 54 23.5
comp=Z,9.4nm,0.8s
GSC Goldstone, Bar 87.39 54 P **P** 02 54 23.0 +1.2
baz=287,SNR=7.7
GSC Goldstone, Bar 87.39 54 P **P** 02 54 22.8 +0.9
R11A Troy Canyon, C 87.44 51 P **P** 02 54 23.0 +0.9
baz=287,SNR=13
R11A Troy Canyon, C 87.44 51 P **P** 02 54 22.8 +0.7
MURC Murrieta 87.56 56 P **P** 02 54 23.3 +0.7
baz=287
SHOC Shoshone, Teco 87.63 54 P **P** 02 54 23.6 +0.7
baz=287
109C Camp Elliot, M 87.84 57 P **P** 02 54 24.7 +0.8
baz=287
HEC Hector,Ludlow 87.89 55 P **P** 02 54 25.0 +0.8
baz=287,SNR=9.1
BOZ Bozeman (W) 87.95 43 P **P** 02 54 24.9 +0.5
baz=290
TUQ Turquoise Moun 88.04 54 P **P** 02 54 26.0 +1.0
baz=287,SNR=8.7
PFO Pinyon Flats O 88.15 56 P **P** 02 54 26.2 +0.7
baz=287,SNR=5.4
PFO Pinyon Flats O 88.15 56 P **P** 02 54 25.8 +0.3
PFO IAmb IAmb 02 54 27.9
comp=Z,10nm,1.2s
XPFO Pion Flat 88.15 56 P **P** 02 54 25.5 0.0
XPFO IAmb IAmb 02 54 27.9
comp=Z,9.6nm,1.2s
TPFO Pinon Flats 88.15 56 P **P** 02 54 26.1 +0.5
baz=287
SHPR Sheep Range 88.31 53 P **P** 02 54 27.2 +0.9
SHPR IAmb IAmb 02 54 28.5
comp=Z,8.1nm,0.8s
EGMT Eagleton 88.33 41 P **P** 02 54 27.0 +1.0
baz=291
QLMT Earthquake Lak 88.34 44 P **P** 02 54 27.1 +0.7
MONP2 Monument Peak 88.39 56 P **P** 02 54 27.6 +0.9
baz=287,SNR=7.2
BELC Belle Mtn. Jos 88.40 55 P **P** 02 54 27.5 +0.8
baz=287,SNR=8.4
GMRC Granite Mounta 88.44 54 P **P** 02 54 28.0 +1.1
baz=287,SNR=14
KBZ Kbaz 88.55 315 P **P** 02 54 25.6 -1.3
comp=Z,5.7nm,0.8s,baz=182,slow=3.3,SNR=11
KIV Kislovodsk 88.62 315 P **P** 02 54 26.6 -0.9
KIV IAmb IAmb 02 54 27.9
comp=Z,12nm,1.1s
PSUT Pine Spring 88.68 50 P **P** 02 54 28.4 +0.4
IKP In-Ko-Pah, Jac 88.71 57 P **P** 02 54 29.2 +1.1
baz=287
SWSC Sam W. Stewart 88.87 56 P **P** 02 54 29.7 +0.9
baz=287
AKH Akhalkalaki 88.91 313 P **P** 02 54 27.9 -1.1
AKH IAmb IAmb 02 54 29.1
comp=Z,5.9nm,0.5s
DUG Dugway, Tooele 88.91 49 P **P** 02 54 29.8 +0.8
baz=289,SNR=33
BC3 Big Chuckawall 88.94 55 P **P** 02 54 30.0 +0.8
baz=288,SNR=8.7
ESJX Sierra Juarez 89.03 57 P **P** 02 54 30.6 +0.9
IRM Iron Mountain 89.03 55 P **P** 02 54 30.5 +1.0
baz=288,SNR=9.2
H17A Grant Village 89.07 44 P **P** 02 54 31.1 +1.3
baz=290
FLWY Flagg Ranch 89.09 44 P **P** 02 54 31.0 +1.1
FLWY IAmb IAmb 02 54 32.1
comp=Z,9.2nm,0.7s
LOHW Long Hollow 89.32 45 P **P** 02 54 31.8 +0.8
GLA Glamis 89.62 56 P **P** 02 54 33.6 +1.3
baz=288
GLA Glamis 89.62 56 P **P** 02 54 33.5 +1.2
GLA IAmb IAmb 02 54 34.5
comp=Z,12nm,0.7s
RLMT Red Lodge 89.68 43 P **P** 02 54 33.8 +1.2
baz=291
PDMCI Parker Dam,Lak 89.78 55 P **P** 02 54 34.4 +1.4
baz=288
FIA1 FINESS Array S 90.02 335 P **P** 02 54 31.4 -2.1
FIA1 IAmb IAmb 02 54 32.1
comp=Z,13nm,0.8s
FINES FINESS Array B 90.02 335 P **P** 02 54 31.4 -2.1
comp=Z,9.3nm,0.6s,baz=61,slow=5.2,SNR=41
ARTV Artvin 90.09 313 P **P** 02 54 33.6 -1.0
BW06 Boulder Array 90.33 45 P **P** 02 54 35.7 0.0
baz=291
PD31 Pinedale Array 90.33 45 P **P** 02 54 35.8 0.0
PDAR Pinedale Array 90.33 45 P **P** 02 54 35.9 +0.2
comp=Z,2.0nm,0.5s,baz=250,slow=2.2,SNR=20
PDAR Pinedale Array 90.33 45 P **P** 02 54 35.4 -0.3
U15A North Rim 90.53 52 P **P** 02 54 37.8 +1.0
U15A IAmb IAmb 02 54 39.1
comp=Z,7.0nm,0.8s
Y14A Wickenburg 90.79 55 P **P** 02 54 38.8 +1.0
LAO LASA Array 91.05 41 P **P** 02 54 39.1 +0.4
baz=294
RDMU Red Mountain 91.11 47 P **P** 02 54 39.8 +0.4
WUAZ Wupatki 91.53 53 P **P** 02 54 42.4 +1.1
baz=290
WUAZ Wupatki 91.53 53 P **P** 02 54 42.4 +1.1
WUAZ IAmb IAmb 02 54 43.6
comp=Z,8.7nm,0.8s
214A Organ Pipe Nat 91.58 56 P **P** 02 54 42.9 +1.4
baz=289
214A Organ Pipe Nat 91.58 56 P **P** 02 54 42.4 +0.9
214A IAmb IAmb 02 54 43.9
comp=Z,11nm,0.8s
O20A White River Ci 92.22 47 P **P** 02 54 44.7 +0.2
baz=292
O20A White River Ci 92.22 47 P **P** 02 54 44.6 +0.2
O20A IAmb IAmb 02 54 45.6
comp=Z,9.1nm,0.8s
MARD Mardin 92.29 310 P **P** 02 54 43.0 -1.7
MARD IAmb IAmb 02 54 44.0
comp=Z,6.3nm,1.0s
RWWY Rawlins 92.35 46 P **P** 02 54 45.3 +0.1
RWWY IAmb IAmb 02 54 45.9
comp=Z,8.6nm,1.0s
PV11 David Mesa, Pa 92.44 49 P **P** 02 54 45.3 -0.2
K22A Casper 92.45 45 P **P** 02 54 46.0 +0.6
baz=293
W18A Petrified Fore 92.93 53 P **P** 02 54 48.8 +1.0
baz=291
VNDA Vanda 93.01 177 P **P** 02 54 48.1 +1.2
comp=Z,1.0nm,0.7s,baz=302,slow=7.1,SNR=8.3
VNDA Vanda 93.01 177 P **P** 02 54 48.0 +1.2
TUC Tucson 93.08 56 P **P** 02 54 49.7 +1.3
baz=290
TUC Tucson 93.08 56 P **P** 02 54 49.5 +1.0
TUC IAmb IAmb 02 54 50.9
comp=Z,3.4nm,0.8s
MVCO Mesa Verde 93.11 50 P **P** 02 54 49.2 +0.6
baz=292
RSSD Black Hills 93.51 43 P **P** 02 54 50.1 -0.3
baz=295
RSSD Black Hills 93.51 43 P **P** 02 54 50.2 -0.1
RSSD IAmb IAmb 02 54 50.9
comp=Z,5.5nm,0.6s
N23A Red Feather La 93.54 46 P **P** 02 54 51.5 +0.9
baz=294
N23A Red Feather La 93.54 46 P **P** 02 54 50.8 +0.1
HSIG 94.06 59 P **P** 02 54 53.7 +0.8
HSIG IAmb IAmb 02 54 54.9
comp=Z,4.0nm,0.7s
S22A 4UR Ranch, Cre 94.14 49 P **P** 02 54 54.0 +0.6
baz=293
S22A 4UR Ranch, Cre 94.14 49 P **P** 02 54 54.2 +0.7
ISCO Idaho Springs 94.21 47 P **P** 02 54 54.6 +0.8
baz=294
SDCO Great Sand Dun 95.11 49 P **P** 02 54 58.2 +0.3
baz=294
ANMO Albuquerque 95.49 52 P **P** 02 55 00.2 +0.6
baz=293
NB2 NORSAR Subarra 95.81 340 P **P** 02 54 57.7 -2.6
comp=Z,0.6nm,0.6s,baz=46,slow=4.8
NOA NORSAR Array B 95.81 340 P **P** 02 54 58.4 -1.9
comp=Z,1.5nm,0.9s,baz=46,slow=4.5,SNR=4.7
NOA LR LR 03 39 41.2
comp=Z,14nm,19.1s,baz=45,slow=36
BR131 Keskin Array S 96.48 314 P **P** 02 55 01.9 -1.9
BR131 IAmb IAmb 02 55 02.8
comp=Z,3.9nm,0.8s
BRTR Keskin Array B 96.48 314 P **P** 02 55 02.0 -1.9
comp=Z,3.4nm,0.8s,baz=84,slow=3.9,SNR=21
BRTR Keskin Array B 96.48 314 P **P** 02 55 01.7 -2.2
AGMN Agassiz Nation 96.55 36 P **P** 02 55 02.4 -1.4
baz=302
MNTX Cornudas Mount 97.58 54 P Pdif 02 55 09.4 +0.5
baz=293
BURAR Bucovina Array 97.98 324 P **P** 02 55 09.1 -1.3
MMAI Mount Meron Ar 97.99 307 LR LR 03 45 39.2
comp=Z,28nm,18.8s,baz=10.0,slow=39
TXAR Lajitas Array 99.87 56 P **Pdif** 02 55 20.6 +1.4
comp=Z,0.2nm,0.5s,baz=278,slow=3.5,SNR=3.8
SSPA Standing Stone 111.35 34 P **PKiKP** 03 00 08.7 +0.9
baz=315
T54A Tazewell 111.63 39 P **PKiKP** 03 00 09.0 +0.5
baz=310
E64A Bridgewater 111.68 24 P **PKiKP** 03 00 09.7 +1.5
baz=325
Q56A Snyder Ridge, 111.73 36 P **PKiKP** 03 00 09.4 +0.8
baz=313
BLA Blacksburg 112.23 38 P **PKiKP** 03 00 09.3 -0.4
baz=312
O58A Lewisberry 112.23 34 P **PKiKP** 03 00 09.7 +0.2
baz=315
O59A Robesonia 112.50 33 P **PKiKP** 03 00 10.0 -0.1
baz=316
SNAA Sanae 120.48 191 PKPdf **PKPdf** 03 00 23.5 -1.0
VNA2 Neumayer--Watz 121.92 190 PKPdf **PKPdf** 03 00 26.8 -0.4
VNA3 Neumayer Olymp 122.01 189 PKPdf **PKPdf** 03 00 26.5 -0.8
TORD Torodi Ar. Bea 134.53 306 SKPbc **SKPbc** 03 04 10.0 -1.8
comp=Z,1.2nm,0.7s,baz=36,slow=2.0,SNR=6.6
PLCA Paso Flores 139.60 136 PKP **PKPdf** 03 01 01.9 +0.3
comp=Z,1.0nm,0.7s,baz=243,slow=6.8,SNR=3.2
DBIC Dimbokro 143.55 304 PKhKP PKPpre 03 01 05.9
comp=Z,9.9nm,0.8s,baz=16,slow=3.5,SNR=17
KIC Kosan Boka 143.65 304 *e*PKP1 PKPab 03 01 05.9 -0.4
comp=Z,7.4nm,0.4s
TIC Toumodi 143.70 305 *e*PKP1 PKPab 03 01 05.8 -0.7
LIC Lamto 143.96 304 *e*PKP1 **PKPab** 03 01 06.9 -0.6
comp=Z,53nm,0.5s
LPAZ La Paz 147.52 97 PKP **PKPdf** 03 01 17.2 +0.5
comp=Z,7.0nm,0.6s,baz=318,slow=2.9,SNR=27
LPAZ PKPbc **PKiKP** 03 01 20.7 -0.8
comp=Z,7.0nm,0.6s,baz=306,slow=2.2,SNR=47

ISK ***11*** *02:53:09.9, 35.39N×29.53E, h21km, ML2.5/11*
DDA ***11*** *02:53:12.1, 35.60N×29.57E, h52km±3km, ML2.0*
NIC ***11*** *02:53:13.0±0.0, 35.46N×29.59E, h42km±18km, Ml2.7/4*
ISC 11 02:53:10.7±1.4, **35.47N**±0.04×**29.52E**±0.03, **h24**km±15km,
n37,σ1**s59**/49, **2C-1D**, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.77**	**5**	PG		**Pn**	**02 53 26.9**	**+0.7**
AKAS	**Kas**	**0.77**	**5**	*i* P		**Pb**	**02 53 26.0**	**+0.5**
AKUM	**Antalya-Kumluc**	**1.08**	**38**	*i* P		**Pn**	**02 53 30.8**	**+0.4**
AKUM				*i* S		**Sb**	**02 53 43.6**	**-0.9**
FETY	**Fethiye**	**1.22**	**343**	PN		**Pb**	**02 53 33.6**	**+0.5**
FETY	**Fethiye**	**1.22**	**343**	*i* P		**Pn**	**02 53 32.8**	**+0.4**
FETY				*i* S		**Sn**	**02 53 48.4**	**+0.2**
ELL	**Elmali**	**1.32**	**14**	PN		**Pb**	**02 53 34.9**	**0.0**
DALY	**Dalyan (Mula)**	**1.52**	**333**	*i* P		Pb	02 53 43.2	+5.0
TURN	**Turunc**	**1.67**	**322**	PN		**Pb**	**02 53 39.7**	**+0.3**
GOLH	**Golhisar**	**1.77**	**1**	*i* P		Pb	02 53 53.2	+11
KARP	**Karpathos**	**1.93**	**273**	PN		**Pn**	**02 53 42.7**	**+0.6**
KARP	**Karpathos**	**1.93**	**273**	P		**Pb**	**02 53 44.2**	**-1.0**
KARP				S		**Sb**	**02 54 08.9**	**0.0**
DAT	**Datca**	**2.02**	**309**	PN		**Pn**	**02 53 44.6**	**+1.2**
DAT				SN		**Sn**	**02 54 09.8**	**+1.9**
DAT	**Datca**	**2.02**	**309**	*i* P		**Pn**	**02 53 44.5**	**+1.2**
DAT				*i* S		**Sn**	**02 54 08.2**	**+0.3**
TAVA	**DENIZLI_Tavas**	**2.05**	**346**	*i* P		**Pb**	**02 53 48.4**	**+1.0**
TAVA				*i* S		**Sn**	**02 54 08.0**	**-0.8**
KEPZ	**Antalya-Kepez**	**2.21**	**49**	*i* P		**Pn**	**02 53 42.2**	**-3.8**
AKMS	**Akamas**	**2.34**	**100**	⇑P		**Pn**	**02 53 48.8**	**+1.0**
AKMS				S		**Sn**	**02 54 17.1**	**+1.2**
AKMS				AML	AML		02 54 22.1	
	0.1nm,0.9s							
AKMS				AML	AML		02 54 22.1	
	0.1nm,0.9s							
AKMS				AML	AML		02 54 32.3	
	0.1nm,1.2s							
AKMS				AML	AML		02 54 32.3	
	0.1nm,1.2s							
BODT	**Bodrum**	**2.39**	**312**	PN		**Pn**	**02 53 49.9**	**+1.4**
GAZI	**Gazipasa**	**2.39**	**71**	*i* P		**Pn**	**02 53 49.3**	**+0.8**
GAZI				*i* S		**Sn**	**02 54 13.1**	**-4.1**
GAZI				IAML			02 54 19.0	
	comp=N,10nm,0.6s							
OSC1	**CSNet OBS 1**	**2.44**	**143**	S		**Sn**	**02 54 17.8**	**-0.3**
ALFC	**Alefka**	**2.54**	**96**	⇑P		**Pn**	**02 53 51.3**	**+0.8**
ALFC				S		**Sn**	**02 54 21.0**	**+0.4**
ALFC				AML	AML		02 54 22.2	
	comp=N,0.1nm,0.8s							
ALFC				AML	AML		02 54 22.2	
	comp=N,0.1nm,0.8s							
ALFC				AML	AML		02 54 22.5	
	comp=N,0.1nm,1.1s							
ALFC				AML	AML		02 54 22.5	
	comp=N,0.1nm,1.1s							
AYDN	**Tasoluk**	**2.56**	**329**	*i* P		**Pn**	**02 53 53.0**	**+2.2**
AYDN				*i* S		**Sn**	**02 54 19.8**	**-1.5**
AYDN				IAML			02 54 27.0	
	comp=N,6.9nm,0.3s							
NATA	**Nata**	**2.59**	**104**	P		**Pn**	**02 53 52.4**	**+1.2**
NATA				S		**Sn**	**02 54 21.7**	**-0.3**
NATA				AML	AML		02 54 21.9	
	comp=N,0.2nm,0.7s							
NATA				AML	AML		02 54 21.9	
	comp=N,0.2nm,0.7s							
NATA				AML	AML		02 54 29.2	
	comp=N,0.2nm,1.0s							
NATA				AML	AML		02 54 29.2	
	comp=N,0.2nm,1.0s							
LEF	**Lefka**	**2.78**	**96**	PN		**Pn**	**02 53 53.8**	**+0.1**
LEF	**Lefka**	**2.78**	**96**	*i* P		**Pn**	**02 53 54.3**	**+0.5**
SZAC	**Souni**	**2.84**	**104**	⇓P		**Pn**	**02 53 55.8**	**+1.1**
ERMK	**Ermenek**	**2.99**	**66**	*i* P		**Pn**	**02 53 59.0**	**+2.2**
TEKE	**Tekeli-Mersin**	**3.00**	**76**	PN		**Pn**	**02 53 57.9**	**+1.2**
ASGA	**Asgata**	**3.13**	**101**	P		**Pn**	**02 53 59.6**	**+1.0**
ASGA				AML	AML		02 54 35.0	
	comp=N,0.1nm,0.7s							
ASGA				AML	AML		02 54 35.0	
	comp=N,0.1nm,0.7s							
ASGA				S		**Sn**	**02 54 35.8**	**+0.6**
ASGA				AML	AML		02 54 45.1	
	comp=N,0.1nm,0.6s							
ASGA				AML	AML		02 54 45.1	
	comp=N,0.1nm,0.6s							
DOGA	**KONYA_Doganhis**	**3.15**	**33**	*i* P		**Pn**	**02 54 01.3**	**+2.3**
DOGA				*i* S		**Sn**	**02 54 38.9**	**+3.0**
CSS	**Mathiatis**	**3.16**	**98**	P		**Pn**	**02 54 00.9**	**+1.8**
OSC2	**CSNet OBS 4**	**3.29**	**136**	P		**Pn**	**02 54 02.1**	**+1.3**
OSC2				S		**Sn**	**02 54 40.5**	**+1.2**
KONT	**Konya--Tatoy**	**3.36**	**42**	PN		**Pn**	**02 54 03.9**	**+2.1**

KONT	**Konya--Tatoy**	**3.36**	**42**	*i* P	**Pn**	**02 54 04.0**	**+2.2**
MVOU	**Mavrovouni**	**3.39**	**96**	P	**Pn**	**02 54 03.4**	**+1.2**
IKL	**Isikli**	**3.47**	**76**	PN	**Pn**	**02 54 04.7**	**+1.5**
KIZT	**Kizilcal**	**3.89**	**28**	PN	**Pn**	**02 54 10.9**	**+1.7**
VYHS	**Vyhne**	**15.23**	**332**	*e*PN	**Pn**	**02 56 40.8**	**-3.4**

IDC 11 02:59:30.0±13.0, 8.12S×129.09E, h152km±97km, mb3.5/1, mb1 3.7/3, mb1mx3.7/25, mbtmp4.1/3, Error ellipse: s-maj=104.5km s-min=86.6km az=84.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.81**	**157**	P	Pn	03 02 25.3	-1.5
	0.9nm,0.3s,baz=341,slow=13,SNR=31						
WRA				S	Sn	03 04 50.6	+2.0
	2.1nm,0.3s,baz=333,slow=22,SNR=18						
ASAR	**Alice Springs**	**16.14**	**164**	P	P	03 03 10.3	+1.5
	0.9nm,0.3s,baz=341,slow=11,SNR=72						
ASAR				S	S	03 06 06.8	-1.1
	0.2nm,0.3s,baz=342,slow=20,SNR=4.0						
STKA	**Stephens Creek**	**26.35**	**155**	P	P	03 04 51.9	-0.1
	0.5nm,0.3s,baz=326,slow=11,SNR=1.9						

IDC 11 03:07:37.7±1.2, 29.05S×61.18E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/44, mbtmp3.7/6, MS3.7/2, Ms1 3.6/2, ms1mx2.9/47, Error ellipse: s-maj=44.1km s-min=28.8km az=50.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**23.81**	**29**	T	T	03 37 32.7	
	baz=204,slow=76,SNR=8.8						
H08S2	**Diego Garcia H**	**23.81**	**29**	T	T	03 37 33.2	
	baz=204,slow=76,SNR=5.6						
H08S3	**Diego Garcia H**	**23.83**	**29**	T	T	03 37 34.2	
	baz=204,slow=76,SNR=8.8						
MAW	**Mawson**	**38.59**	**179**	LR	LR	03 28 25.0	
	comp=Z,50nm,18.3s,baz=55,slow=32						
H01W2	**Cape Leeuwin H**	**44.87**	**112**	T	T	04 03 41.6	
	baz=262,slow=75,SNR=7.2						
H01W3	**Cape Leeuwin H**	**44.87**	**112**	T	T	04 03 42.0	
	baz=262,slow=75,SNR=6.5						
H01W1	**Cape Leeuwin H**	**44.88**	**112**	T	T	04 03 42.9	
	baz=262,slow=75,SNR=6.7						
VNDA	**Vanda**	**64.13**	**166**	P	P	03 18 14.2	+0.9
	0.7nm,0.9s,baz=278,slow=5.1,SNR=3.6						
ASAR	**Alice Springs**	**64.45**	**104**	P	P	03 18 16.1	-0.3
	0.7nm,0.6s,baz=243,slow=6.2,SNR=10						
WRA	**Warramunga Arr**	**66.27**	**100**	P	P	03 18 27.4	-0.8
	0.7nm,0.8s,baz=247,slow=5.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**71.11**	**297**	P	P	03 18 57.4	-0.9
	0.3nm,0.7s,baz=114,slow=3.9,SNR=1.6						
MKAR	**Makanchi Array**	**77.87**	**15**	P	P	03 19 37.3	+0.4
	0.6nm,0.7s,baz=191,slow=4.3,SNR=6.6						
ZALV	**Zalesovo Beam**	**85.16**	**14**	P	P	03 20 16.1	+0.8
	1.4nm,0.7s,baz=208,slow=5.0,SNR=6.2						
SONM	**Songino Array**	**86.64**	**29**	LR	LR	03 59 11.0	
	comp=Z,68nm,18.4s,baz=104,slow=36						

IDC 11 03:21:12.0±1.3, 5.21S×151.12E, h0km, mb3.8/2, mb1 4.2/2, mb1mx3.5/40, mbtmp3.9/2, MS3.9/1, Ms1 3.8/1, ms1mx2.8/30, Error ellipse: s-maj=121.7km s-min=17.0km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.28**	**45**	Pn	Pn	03 21 37.6	+0.5
	219nm,0.3s,baz=212,slow=1.0,SNR=71						
KRVT				LR	LR	03 21 47.2	
	comp=Z,75nm,19.9s,baz=116,slow=28						
KRVT				Sn	Sn	03 21 55.8	+0.8
	356nm,0.3s,baz=330,slow=23,SNR=63						
WRA	**Warramunga Arr**	**21.93**	**227**	P	P	03 26 08.4	+1.1
	2.2nm,0.8s,baz=53,slow=9.6,SNR=10.0						
ASAR	**Alice Springs**	**24.73**	**220**	P	P	03 26 35.4	-0.1
	3.3nm,0.7s,baz=55,slow=9.2,SNR=35						
MAW	**Mawson**	**84.55**	**203**	LR	LR	04 08 53.6	
	comp=Z,55nm,18.9s,baz=60,slow=34						
TORD	**Torodi Ar. Bea**	**148.83**	**287**	PKPbc	PKPbc	03 41 00.8	-1.9
	0.5nm,0.8s,baz=75,slow=2.8,SNR=2.4						

IDC 11 03:22:37.0±50.0, 16.55S×175.58W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/38, mbtmp4.2/3, Error ellipse: s-maj=948.4km s-min=173.4km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.65**	**240**	P	P	03 30 27.7	+0.4
	0.9nm,0.3s,baz=76,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**47.55**	**258**	P	P	03 31 14.5	-0.2
	0.7nm,0.5s,baz=95,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**47.77**	**253**	P	P	03 31 15.8	-0.5
	7.8nm,0.6s,baz=88,slow=8.4,SNR=119						

*IDC **11** 03:29:22.4±1.2, 39.19N×20.63E, h0km, mb3.5/6, mb1 3.6/10, mb1mx3.5/42, mbtmp3.4/10, ML3.3/3, Error ellipse: s-maj=23.8km s-min=17.6km az=51.0*
*ATH **11** 03:29:24.0, 39.21N×20.63E, h13km±1km, ML3.2/24, Error ellipse: s-maj=1.4km s-min=0.5km az=257.0*
*THE **11** 03:29:24.2, 39.20N×20.57E, h3km±1km, ML3.1/11, Error ellipse: s-maj=1.5km s-min=0.3km az=258.0*
*BEO **11** 03:29:31.2±0.5, 39.71N×20.38E, h0km, ML3.1/15*
*SOF **11** 03:29:33.5, 39.59N×21.16E, h18km, MD3.3*
ISC 11 03:29:24.1±0.9, 39.20N±0.01×20.56E±0.02, h13km±7km, n167, σ1s79/214, mb3.6/6, 6C-16D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.38**	**168**	P	**Pg**	**03 29 31.8**	**0.0**
TSLK				S	**Sg**	**03 29 37.1**	**+0.2**
	3µm,0.6s						
TSLK	**Tsoukalades, L**	**0.38**	**168**	P	**Pg**	**03 29 31.8**	**0.0**
TSLK				S	**Sb**	**03 29 37.3**	**-1.1**
TSLK				AML	AML	03 29 49.2	
	comp=E,5075µm,0.5s						
TSLK				AML	AML	03 29 52.3	
	comp=N,7985µm,0.7s						
IGT	**Igoumenitsa**	**0.38**	**333**	P	**Pg**	**03 29 31.8**	**0.0**
IGT				S	**Sg**	**03 29 37.1**	**+0.2**
	comp=N,5µm,0.4s						
IGT	**Igoumenitsa**	**0.38**	**333**	P	**Pg**	**03 29 31.2**	**-0.6**
IGT				S	**Sg**	**03 29 37.9**	**+0.9**
IGT				AML	AML	03 29 43.5	
	comp=E,11517µm,0.5s						
IGT				AML	AML	03 29 43.5	
	comp=N,7388µm,0.5s						
LKD2	**Lefkada island**	**0.41**	**169**	P	**Pg**	**03 29 32.0**	**-0.4**
LKD2				S	**Sb**	**03 29 38.5**	**-1.0**
	comp=N,3µm,0.5s						
LKD2	**Lefkada island**	**0.41**	**169**	P	**Pg**	**03 29 32.2**	**-0.2**
LKD2				S	**Sb**	**03 29 38.9**	**-0.6**
LKD2				AML	AML	03 29 47.6	
	comp=E,4488µm,0.4s						
LKD2				AML	AML	03 29 50.1	
	comp=N,6493µm,0.5s						
JAN	**Janina**	**0.51**	**26**	P	**Pg**	**03 29 33.5**	**-0.8**
JAN				S	**Sb**	**03 29 41.4**	**-1.0**
	comp=N,4µm,0.4s						
JAN	**Janina**	**0.51**	**26**	P	**Pg**	**03 29 33.6**	**-0.6**
JAN				S	**Sg**	**03 29 40.4**	**-0.8**
JAN				AML	AML	03 29 44.4	
	comp=E,6662µm,0.3s						
JAN				AML	AML	03 29 46.3	
	comp=N,7637µm,0.4s						
MGNA	**Meganis**	**0.57**	**161**	P	**Pg**	**03 29 33.0**	**-0.9**
MGNA				S	**Sb**	**03 29 43.8**	**-0.1**
MGNA				AML	AML	03 29 46.0	
	comp=N,2413µm,0.4s						
MGNA				AML	AML	03 29 46.3	
	comp=E,2822µm,0.4s						
EVGI	**Lefkada island**	**0.58**	**172**	P	**Pg**	**03 29 34.9**	**-0.6**
EVGI				S	**Sb**	**03 29 43.7**	**-0.5**
	comp=E,645nm,0.3s						
EVGI	**Lefkada island**	**0.58**	**172**	P	**Pg**	**03 29 34.9**	**-0.6**
EVGI				S	**Sg**	**03 29 43.2**	**+0.1**
KASA	**Kassiopi**	**0.73**	**319**	P	**Pg**	**03 29 37.7**	**-0.6**
KASA				AML	AML	03 29 55.7	
	comp=E,8607µm,0.5s						
KASA				AML	AML	03 29 55.8	
	comp=N,4925µm,0.5s						
FSK	**Fiskardo**	**0.74**	**180**	P	**Pg**	**03 29 37.9**	**-0.5**
FSK				S	**Sb**	**03 29 49.0**	**+0.3**
	comp=N,950nm,0.5s						
FSK	**Fiskardo**	**0.74**	**180**	P	**Pg**	**03 29 37.5**	**-0.9**
FSK				S	**Sb**	**03 29 49.7**	**+1.0**
FSK				AML	AML	03 29 54.8	
	comp=E,2513µm,0.3s						
FSK				AML	AML	03 29 56.0	
	comp=N,1286µm,0.3s						
KEK	**Kerkira**	**0.78**	**312**	P	**Pg**	**03 29 38.8**	**-0.5**
KEK				S	**Sg**	**03 29 50.3**	**+0.7**
	comp=N,5µm,0.5s						
KEK	**Kerkira**	**0.78**	**312**	P	**Pg**	**03 29 39.1**	**-0.2**
KEK				S	**Sb**	**03 29 51.9**	**+1.8**
KEK				AML	AML	03 29 56.7	
	comp=E,13177µm,0.4s						
KEK				AML	AML	03 29 56.7	
	comp=N,6086µm,0.7s						
SRN	**Sarande**	**0.81**	**328**	P	**Pg**	**03 29 39.1**	**-0.7**
SRN				S	**Sb**	**03 29 51.3**	**+0.5**
	comp=N,1µm,0.9s						
KEF5	**Kardakata, Kep**	**0.92**	**184**	P	**Pb**	**03 29 41.8**	**-0.1**
KEF5				S	**Sg**	**03 29 53.8**	**-0.1**
PVO	**Paravola**	**0.95**	**127**	P	**Pb**	**03 29 41.8**	**-0.6**
PVO				S	**Sn**	**03 29 56.0**	**-0.6**
	comp=N,2µm,0.9s						
PVO	**Paravola**	**0.95**	**127**	P	**Pb**	**03 29 41.8**	**-0.6**
PVO				S	**Sg**	**03 29 53.6**	**-1.4**
PVO				AML	AML	03 29 59.8	
	comp=E,3732µm,0.6s						
PVO				AML	AML	03 30 10.8	
	comp=N,3231µm,0.6s						
KPRO	**Kipourio**	**0.98**	**39**	P	**Pb**	**03 29 42.4**	**-0.6**
KPRO	**Kipourio**	**0.98**	**39**	P	**Pg**	**03 29 41.7**	**-1.4**
KPRO				AML	AML	03 30 03.6	
	comp=N,4555µm,0.7s						
KPRO				AML	AML	03 30 05.8	
	comp=E,4828µm,0.5s						
KEF3	**Kipouria, Keph**	**1.00**	**189**	P	**Pn**	**03 29 44.3**	**+0.4**
EVR	**Evrytania**	**1.01**	**106**	P	**Pn**	**03 29 43.4**	**-0.7**
EVR				S	**Sn**	**03 29 57.9**	**-0.3**
	comp=E,938nm,0.7s						
EVR	**Evrytania**	**1.01**	**106**	P	**Pb**	**03 29 43.0**	**-0.6**
EVR				AML	AML	03 30 04.9	
	comp=N,2057µm,0.8s						
EVR				AML	AML	03 30 06.0	
	comp=E,1814µm,0.4s						
VLS	**Valsamata**	**1.02**	**179**	P	**Pg**	**03 29 43.1**	**-0.6**
VLS				S	**Sn**	**03 29 58.4**	**+0.2**
	comp=E,1µm,0.5s						
VLS	**Valsamata**	**1.02**	**179**	P	**Pg**	**03 29 43.2**	**-0.6**
VLS				S	**Sn**	**03 29 58.0**	**-0.2**
VLS				AML	AML	03 30 02.4	
	comp=E,2432µm,0.4s						
VLS				AML	AML	03 30 02.5	
	comp=N,3033µm,0.5s						
ARGA	**Argostoli. Kep**	**1.02**	**183**	P	**Pn**	**03 29 44.5**	**+0.5**
ARGA				S	**Sn**	**03 29 59.0**	**+0.8**
PENT	**Pentalofos**	**1.09**	**24**	P	**Pg**	**03 29 44.4**	**-0.8**
PENT				S	**Sb**	**03 29 58.8**	**-0.3**
PENT				AML	AML	03 30 04.2	
	comp=E,1363µm,0.5s						
PENT				AML	AML	03 30 08.1	
	comp=N,1557µm,0.7s						
AXS	**Araxos**	**1.19**	**147**	P	**Pb**	**03 29 45.5**	**-0.9**
AXS				S	**Sn**	**03 30 02.5**	**+0.1**
AXS				AML	AML	03 30 13.3	
	comp=E,1591µm,0.8s						
AXS				AML	AML	03 30 13.4	
	comp=N,1130µm,0.5s						
THL	**Klokotos Trika**	**1.19**	**71**	P	**Pg**	**03 29 45.4**	**-1.6**
THL	**Klokotos Trika**	**1.19**	**71**	P	**Pg**	**03 29 45.1**	**-1.9**
ANX	**Ano Chora**	**1.22**	**119**	P	**Pn**	**03 29 47.1**	**+0.1**
ANX	**Ano Chora**	**1.22**	**119**	P	**Pb**	**03 29 46.5**	**-0.6**
ANX				AML	AML	03 30 11.1	
	comp=N,4748µm,0.8s						
ANX				AML	AML	03 30 11.9	
	comp=E,3843µm,0.5s						
MAKR	**Makrakomi, Fth**	**1.24**	**98**	P	**Pn**	**03 29 46.9**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.24**	**98**	P	**Pb**	**03 29 46.7**	**-0.6**
MAKR				S	**Sn**	**03 30 03.2**	**-0.5**
MAKR				AML	AML	03 30 11.8	
	comp=N,3703µm,0.9s						
MAKR				AML	AML	03 30 13.3	
	comp=E,5808µm,0.5s						
NEST	**Nestorio**	**1.27**	**17**	P	**Pb**	**03 29 47.9**	**-0.1**
NEST	**Nestorio**	**1.27**	**17**	P	**Pb**	**03 29 48.0**	**-0.1**
EFP	**Efpalio**	**1.30**	**126**	P	**Pn**	**03 29 47.7**	**-0.3**
EFP	**Efpalio**	**1.30**	**126**	P	**Pn**	**03 29 47.5**	**-0.5**
VLMS	**Volimes, Zakyn**	**1.32**	**176**	P	**Pn**	**03 29 47.9**	**-0.4**
RLS	**Riolos of Patr**	**1.34**	**148**	P	**Pn**	**03 29 48.4**	**-0.1**
RLS	**Riolos of Patr**	**1.34**	**148**	P	**Pn**	**03 29 48.3**	**-0.2**
AGG	**Agios Georgios**	**1.39**	**97**	P	**Pb**	**03 29 49.3**	**-0.7**
AGG	**Agios Georgios**	**1.39**	**97**	P	**Pb**	**03 29 49.1**	**-0.8**
AGG				S	**Sg**	**03 30 08.1**	**-0.8**
AGG				AML	AML	03 30 16.9	
	comp=E,1383µm,0.7s						
AGG				AML	AML	03 30 18.6	
	comp=N,2235µm,0.5s						
SERG	**Sergoula**	**1.41**	**123**	P	**Pg**	**03 29 50.2**	**-1.0**
SERG	**Sergoula**	**1.41**	**123**	P	**Pg**	**03 29 49.9**	**-1.3**
SERG				S	**Sg**	**03 30 08.2**	**-1.4**
SERG				AML	AML	03 30 22.0	
	comp=N,1315µm,0.9s						
SERG				AML	AML	03 30 22.9	
	comp=E,1545µm,0.6s						
TRIZ	**Trizonia**	**1.45**	**125**	P	**Pg**	**03 29 50.8**	**-1.1**
TRIZ	**Trizonia**	**1.45**	**125**	P	**Pb**	**03 29 50.4**	**-0.4**
KZN	**Kozani**	**1.45**	**40**	P	**Pg**	**03 29 51.0**	**-1.0**
KZN	**Kozani**	**1.45**	**40**	P	**Pb**	**03 29 50.7**	**-0.3**
KZN				AML	AML	03 30 18.1	
	comp=N,3179µm,0.6s						
KZN				AML	AML	03 30 18.4	
	comp=E,1797µm,0.5s						
LAKA	**Lakka**	**1.47**	**130**	P	**Pg**	**03 29 51.1**	**-1.2**
DRO	**Drossia**	**1.54**	**144**	P	**Pb**	**03 29 52.0**	**-0.4**
DRO				AML	AML	03 30 25.9	
	comp=N,1764µm,0.5s						
DRO				AML	AML	03 30 31.2	
	comp=E,934µm,1.2s						
DSF	**Desfina**	**1.73**	**116**	P	**Pg**	**03 29 56.0**	**-1.3**
DSF				AML	AML	03 30 23.8	
	comp=N,839µm,0.5s						
DSF				AML	AML	03 30 26.5	
	comp=E,670µm,0.6s						
LIT	**Litokhoron**	**1.74**	**58**	P	**Pb**	**03 29 55.3**	**-0.7**
VOL3	**Nea Ionia, Vol**	**1.85**	**84**	P	**Pn**	**03 29 55.7**	**+0.2**
GUR	**Goura**	**1.88**	**131**	P	**Pb**	**03 29 57.8**	**-0.6**
AMT	**Artemida-Makis**	**1.89**	**151**	P	**Pb**	**03 29 58.4**	**-0.1**
OHR	**Ohrid**	**1.92**	**5**	*i* Pn	**Pb**	**03 29 58.2**	**-0.8**
LKR	**Lokris**	**1.98**	**105**	P	**Pb**	**03 29 59.0**	**-1.0**
XOR	**Xorichti**	**2.05**	**84**	P	**Pb**	**03 29 59.6**	**-1.7**
PROD	**Prodromos**	**2.06**	**116**	P	**Pb**	**03 30 00.5**	**-0.9**
PROD				AML	AML	03 30 35.5	
	comp=E,651µm,0.8s						
PROD				AML	AML	03 30 39.1	
	comp=N,635µm,0.9s						
NEO	**Neokhori**	**2.07**	**86**	P	**Pn**	**03 29 59.2**	**+0.6**
TRIP	**Tripoli**	**2.14**	**141**	P	**Pb**	**03 30 02.2**	**-0.6**
TRIP				AML	AML	03 30 47.4	
	comp=N,436µm,1.3s						
TRIP				AML	AML	03 30 54.4	
	comp=E,477µm,0.7s						
TIR	**Tirane**	**2.21**	**346**	*e*Pn	**Pn**	**03 30 01.6**	**+1.1**
TIR				*e*Sn	**Sn**	**03 30 23.4**	**-4.3**
TIR	**Tirane**	**2.21**	**346**	||P	**Pb**	**03 30 02.7**	**-1.3**
LTK	**Loutraki**	**2.22**	**121**	P	**Pb**	**03 30 02.0**	**-2.1**
SKIA	**Skiathos**	**2.26**	**90**	P	**Pb**	**03 30 03.0**	**-1.8**
ITM	**Ithomi**	**2.28**	**151**	P	**Pb**	**03 30 04.0**	**-1.2**
VLX	**Viachokerasia**	**2.32**	**141**	P	**Pb**	**03 30 04.5**	**-1.3**
VIL2	**Platees**	**2.34**	**114**	P	**Pb**	**03 30 04.8**	**-1.3**
VIL2				AML	AML	03 30 52.9	
	comp=N,488µm,1.4s						
VIL2				AML	AML	03 30 56.9	
	comp=E,783µm,0.9s						
HORT	**Hortiatis**	**2.41**	**54**	P	**Pn**	**03 30 03.8**	**+0.6**
PYL	**PYLOS**	**2.48**	**157**	P	**Pn**	**03 30 05.9**	**+1.7**
PLG	**Polygyros**	**2.52**	**61**	P	**Pn**	**03 30 05.9**	**+1.2**
AOS	**Alonnisos**	**2.58**	**90**	P	**Pn**	**03 30 06.5**	**+1.0**
VAY	**Valandovo**	**2.62**	**35**	*e*Pn	**Pb**	**03 30 10.3**	**-0.6**
VAY				*e*Sg	**Sb**	**03 30 44.2**	**+1.2**
VAY	**Valandovo**	**2.62**	**35**	*i* Pn	**Pn**	**03 30 06.4**	**+0.3**
DID	**Didima**	**2.70**	**128**	P	**Pn**	**03 30 08.6**	**+1.4**
STIP	**Stip**	**2.79**	**26**	*i* Pn	**Pb**	**03 30 12.3**	**-1.5**
PTL	**Penteli**	**2.83**	**113**	P	**Pn**	**03 30 10.8**	**+1.7**
SKO	**Skopje**	**2.85**	**13**	*e*Pn	**Pn**	**03 30 11.6**	**+2.3**
SKO				*e*Sg	**Sb**	**03 30 47.4**	**-2.3**
SKO	**Skopje**	**2.85**	**13**	*i* Pn	**Pn**	**03 30 12.0**	**+2.7**
DION	**Dionisos Attik**	**2.87**	**112**	P	**Pn**	**03 30 10.7**	**+1.1**
VLY	**Voula,Athens**	**2.87**	**117**	P	**Pn**	**03 30 10.3**	**+0.7**
TIP	**Timpagrande**	**2.95**	**271**	||P	**Pn**	**03 30 11.6**	**+0.9**
TIP				||S	**Sn**	**03 30 44.3**	**-1.8**
VLI	**Veliai**	**3.11**	**142**	P	**Pn**	**03 30 14.1**	**+1.3**
DRME	**Dracevica, Mon**	**3.17**	**341**	||*i* Pn	**Pn**	**03 30 14.5**	**+0.9**
KKB	**Krupnik**	**3.29**	**35**	*i* P	**Pn**	**03 30 17.8**	**+2.5**
MATE	**Matera**	**3.30**	**297**	||P	**Pn**	**03 30 16.6**	**+1.2**
MATE				||S	**Sn**	**03 30 52.1**	**-2.3**
NVR	**Nevrokopi**	**3.32**	**49**	P	**Pn**	**03 30 17.8**	**+2.0**
PDG	**Podgorica**	**3.38**	**343**	*e*Pn	**Pn**	**03 30 17.4**	**+0.9**
PDG				*e*Sg	**Sn**	**03 31 00.6**	**+4.2**
PDG	**Podgorica**	**3.38**	**343**	||P	**Pn**	**03 30 17.2**	**+0.7**
PDG				||S	**Sn**	**03 30 55.4**	**-1.1**
PDG	**Podgorica**	**3.38**	**343**	||*i* Pn	**Pn**	**03 30 17.2**	**+0.7**
MMB	**Musomiste**	**3.40**	**44**	*i* P	**Pn**	**03 30 18.9**	**+2.0**
KAVA	**Kavala**	**3.53**	**58**	P	**Pn**	**03 30 19.7**	**+1.2**
KTHA	**Kythira Island**	**3.54**	**145**	P	**Pn**	**03 30 21.6**	**+2.8**
BOSS	**Bosilegrad**	**3.60**	**23**	*e*Pn	**Pn**	**03 30 21.6**	**+1.9**
BOSS				*e*Sn	**Sn**	**03 31 01.0**	**-1.1**
HCY	**Herceg Novi**	**3.61**	**335**	*e*Pn	**Pn**	**03 30 18.7**	**-1.0**
LIA	**Limnos Island**	**3.64**	**77**	P	**Pn**	**03 30 21.6**	**+1.5**
BARS	**Barje**	**3.74**	**14**	*e*Pn	**Pn**	**03 30 23.4**	**+1.9**
BARS				*e*Sg	**Sb**	**03 31 14.8**	**-0.4**
TREB	**Trebinje**	**3.89**	**335**	*e*Pn	**Pn**	**03 30 24.8**	**+1.2**
TREB				*e*Sn	**Sn**	**03 31 06.2**	**-3.0**
TREB	**Trebinje**	**3.89**	**335**	*e*Pn	**Pn**	**03 30 23.2**	**-0.4**
DBRK	**Dubrovnik**	**3.92**	**333**	*e*Pn	**Pn**	**03 30 23.9**	**-0.1**
DBRK				Sn	**Sn**	**03 31 08.5**	**-1.3**
ANKY	**Antikythira Is**	**3.98**	**146**	P	**Pn**	**03 30 26.7**	**+2.0**
VTS	**Vitosha**	**3.98**	**30**	*e*Pn	**Pn**	**03 30 27.8**	**+2.9**
VTS				*e*Sn	**Sn**	**03 31 10.5**	**-0.9**
VTS	**Vitosha**	**3.98**	**30**	||P	**Pn**	**03 30 27.7**	**+2.8**
VTS				||S	**Sn**	**03 31 15.9**	**+4.5**
VTS	**Vitosha**	**3.98**	**30**	*i* P	**Pn**	**03 30 27.5**	**+2.6**
BRY	**Bratogost**	**4.00**	**338**	*e*Pn	**Pn**	**03 30 24.8**	**-0.5**
RZN	**Rozhen**	**4.03**	**51**	*i* P	**Pn**	**03 30 27.8**	**+2.1**
SMTH	**Samothraki Isl**	**4.04**	**70**	P	**Pn**	**03 30 27.2**	**+1.6**
SELS	**Selova**	**4.04**	**6**	*e*Pn	**Pn**	**03 30 26.6**	**+0.9**
SJES	**Sjenica**	**4.08**	**354**	*e*Pn	**Pn**	**03 30 28.1**	**+1.7**
SJES				*e*Sn	**Sn**	**03 31 09.9**	**-4.1**
UPM	**Unac-Piva**	**4.19**	**343**	*e*Pn	**Pn**	**03 30 28.7**	**+0.8**
ZAPS	**Zavoj**	**4.36**	**20**	*e*Pn	**Pn**	**03 30 32.9**	**+2.8**
ZAPS				*e*Sn	**Sn**	**03 31 17.9**	**-2.9**
RUDO	**Rudo**	**4.51**	**349**	*e*Pn	**Pn**	**03 30 30.6**	**-1.5**
BOVS	**Bovan**	**4.52**	**11**	*e*Pn	**Pn**	**03 30 34.5**	**+2.3**
GRUS	**Gruza**	**4.69**	**1**	*e*Pn	**Pn**	**03 30 36.7**	**+2.1**
BLKB	**Belogradchik**	**4.70**	**19**	||S	**Sn**	**03 31 31.5**	**+2.4**
BBLS	**Lazići**	**4.75**	**350**	*e*Pn	**Pn**	**03 30 39.5**	**+4.1**
ZAGS	**Zajecar**	**4.78**	**15**	*e*Pn	**Pn**	**03 30 38.7**	**+2.9**
MAKA	**Makarska**	**4.88**	**328**	*e*Pn	**Pn**	**03 30 36.0**	**-1.2**
MAKA				Sn	**Sn**	**03 31 31.2**	**-2.2**
DIVS	**Divibare**	**4.92**	**355**	*e*Pn	**Pn**	**03 30 38.2**	**+0.5**
DIVS				*e*Sn	**Sn**	**03 31 30.2**	**-4.3**
DIVS	**Divibare**	**4.92**	**355**	||*i* Pn	**Pn**	**03 30 38.0**	**+0.3**
TRUS	**Trudelj**	**5.03**	**359**	*e*Pn	**Pn**	**03 30 40.1**	**+0.9**
HVAR	**Hvar**	**5.04**	**323**	*e*Pn	**Pn**	**03 30 38.1**	**-1.3**
HVAR				Sn	**Sn**	**03 31 33.1**	**-4.4**
IDI	**Anoyia**	**5.21**	**137**	Pn	**Pn**	**03 30 41.3**	**-0.5**
	comp=E,0.7nm,0.3s,baz=298,slow=9.2,SNR=6.1						
IDI				Sn	**Sn**	**03 31 40.5**	**-1.3**
	comp=E,1.1nm,0.3s,baz=260,slow=17,SNR=1.7						
MGRS	**Mrkonjic Grad**	**5.83**	**335**	*e*Pn	Pb	03 31 00.5	-5.0
FRGS	**Fruska Gora**	**5.98**	**355**	*e*Pn	**Pn**	**03 30 52.2**	**-0.1**
FRGS	**Fruska Gora**	**5.98**	**355**	||*i* Pn	**Pn**	**03 30 52.4**	**+0.1**
BLY	**Banja Luka**	**6.09**	**337**	*e*Pn	**Pn**	**03 30 54.8**	**+1.0**
BLY				*e*Sn	**Sn**	**03 31 58.0**	**-5.3**
BLY	**Banja Luka**	**6.09**	**337**	*e*Pn	**Pn**	**03 30 51.6**	**-2.2**
AQU	**L'Aquila**	**6.28**	**302**	*e*Pn	Pn	03 30 46.7	-10
BZS	**Buzias**	**6.46**	**7**	*e*Pn	**Pn**	**03 31 00.2**	**+1.3**
BZS				*e*Sn	**Sn**	**03 32 09.5**	**-3.0**
BZS	**Buzias**	**6.46**	**7**	||P	**Pn**	**03 31 01.4**	**+2.5**
NVLJ	**Novalja**	**6.84**	**323**	*e*Pn	**Pn**	**03 31 04.3**	**+0.3**
NVLJ				Sn	**Sn**	**03 32 17.6**	**-4.1**
VOIR		**7.07**	**27**	||P	**Pn**	**03 31 11.5**	**+4.2**
MORH	**Mrgy, Hungar**	**7.16**	**349**	*e*Pn	**Pn**	**03 31 08.4**	**0.0**
MLR	**Muntele Rosu**	**7.45**	**31**	Pn	**Pn**	**03 31 17.3**	**+4.7**
	comp=E,0.6nm,0.3s,baz=174,slow=15,SNR=18						
MLR				Sn	**S

JOKE				eS		Sg	03 42 23.8	+1.3
JAMN	**Amaminishikomi**	**0.87**	**73**	P		Pb	03 42 15.0	-1.7
JAMN				eS		Sb	03 42 28.4	+0.3
JYRO	**Yoronjima**	**0.98**	**169**	P		Pb	03 42 17.6	-1.0
JYRO				eS		Sg	03 42 33.0	+1.4
JIH	**Iheya**	**0.98**	**194**	P		Pb	03 42 16.4	-2.2
JIH				S		Sb	03 42 30.8	-0.6
JOW	**Kunigami**	**1.15**	**178**	P		Pn	03 42 19.9	-1.7
JOW				S		Sb	03 42 36.3	-0.1
JAM	**Amami Oshima**	**1.28**	**70**	P		Pn	03 42 22.3	-1.0
JTAJ	**Takarajima**	**1.44**	**36**	P		Pn	03 42 23.1	-2.4
JNTH	**Nagotoyohara**	**1.48**	**187**	P		Pn	03 42 24.9	-1.1
JNTH				S		Sn	03 42 44.9	-0.3
JZK	**Kikaishima**	**1.57**	**78**	P		Pn	03 42 27.1	-0.2
JAGN	**Aguni-jima**	**1.65**	**213**	P		Pn	03 42 26.9	-1.5
JJT3	**Tamagusuku3**	**1.88**	**192**	P		Pn	03 42 31.4	-0.2
JNU	**Nakatsue**	**5.60**	**23**	Pn		Pn	03 43 27.1	+4.3
	2.4nm,0.3s,baz=200,slow=8.2,SNR=27							
JNU	**Nakatsue**	**5.60**	**23**			Pn	03 43 27.2	+4.5
YHNB	**Yeheng**	**6.99**	**243**	Pn		Pn	03 43 46.5	+4.6
SSLB	**Suanglung**	**7.78**	**239**	Pn		Pn	03 43 54.9	+2.2
TPUB	**Ta-pu**	**8.30**	**237**	Pn		Pn	03 44 02.3	+2.4
KSRS	**Korea Array**	**9.44**	**358**	Pn		Pn	03 44 20.1	+4.7
	0.2nm,0.3s,baz=182,slow=13,SNR=2.7							
KSRS				LR		LR	03 48 02.9	
	comp=Z,421nm,18.1s,baz=177,slow=38							
MJAR	**Matsushiro Arr**	**11.99**	**42**	LR		LR	03 50 03.1	
	comp=Z,112nm,18.5s,baz=215,slow=39							
JCJ	**Chichijima**	**12.41**	**91**	LR		LR	03 49 24.6	
	comp=Z,182nm,20.0s,baz=116,slow=35							
BJT	**Baijiatuau**	**15.60**	**323**			**P**	**03 45 42.4**	**-1.1**
USRK	**Ussuriysk Ar.**	**16.45**	**10**	Pn		**P**	**03 45 55.7**	**+2.8**
	baz=202,slow=9.8,SNR=5.7							
USRK				LR		LR	03 51 52.1	
	comp=Z,67nm,20.4s,baz=172,slow=36							
USRK	**Ussuriysk Ar.**	**16.45**	**10**	P		**P**	**03 45 55.2**	**+2.3**
XAN	**Xi'an**	**17.61**	**295**			**Pn**	**03 46 04.2**	**-0.7**
ULN	**Ulaanbaatar**	**25.79**	**326**	P		**P**	**03 47 30.2**	**-0.3**
ULN				IAmb		IAmb	03 47 36.7	
	comp=Z,9.6nm,1.4s							
SONM	**Songino Array**	**26.10**	**325**	P		**P**	**03 47 32.3**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=142,slow=11,SNR=9.5							
SONM	**Songino Array**	**26.10**	**325**	P		**P**	**03 47 32.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**28.48**	**257**	LR		LR	04 00 52.9	
	comp=Z,196nm,19.2s,baz=232,slow=40							
PETK	**Petropavlovsk-**	**33.21**	**33**	LR		LR	04 02 21.9	
	comp=Z,50nm,18.0s,baz=237,slow=36							
PETK	**Petropavlovsk-**	**33.21**	**33**	P		**P**	**03 48 35.4**	**-0.7**
MK31	**Makanchi Array**	**40.39**	**310**	P		**P**	**03 49 35.5**	**-1.8**
MKAR	**Makanchi Array**	**40.39**	**310**	P		**P**	**03 49 35.9**	**-1.5**
	comp=Z,1.7nm,0.7s,baz=99,slow=10,SNR=14							
MKAR	**Makanchi Array**	**40.39**	**310**	P		**P**	**03 49 36.2**	**-1.2**
MAKZ	**Makanchi**	**40.60**	**310**	P		**P**	**03 49 36.6**	**-2.6**
MAKZ				IAmb		IAmb	03 49 39.2	
	comp=Z,5.7nm,1.4s							
ZALV	**Zalesovo Beam**	**40.87**	**322**	LR		LR	04 08 03.7	
	comp=Z,51nm,20.9s,baz=110,slow=38							
ZALV	**Zalesovo Beam**	**40.87**	**322**	P		**P**	**03 49 41.7**	**+0.6**
KNRA	**Kununurra**	**43.41**	**179**	P		**P**	**03 50 03.4**	**+1.2**
KURK	**Kurchatov**	**43.56**	**315**	P		**P**	**03 50 02.0**	**-1.2**
KURK				IAmb		IAmb	03 50 07.5	
	comp=Z,6.4nm,1.4s							
KURBB	**Kurchatov Arra**	**43.60**	**315**	P		**P**	**03 50 02.3**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=108,slow=8.5,SNR=6.0							
FITZ	**Fitzroy Crossi**	**45.88**	**183**	LR		LR	04 08 10.2	
	comp=Z,57nm,19.6s,baz=342,slow=34							
FITZ	**Fitzroy Crossi**	**45.88**	**183**	P		**P**	**03 50 22.9**	**+0.9**
WB0	**Warramunga Arr**	**47.85**	**172**	P		**P**	**03 50 38.5**	**+1.1**
WB0				IAmb		IAmb	03 50 40.1	
	comp=Z,4.6nm,0.8s							
WRA	**Warramunga Arr**	**48.01**	**172**	P		**P**	**03 50 37.8**	**-0.9**
	comp=Z,2.3nm,0.7s,baz=353,slow=8.2,SNR=19							
WRA	**Warramunga Arr**	**48.01**	**172**	P		**P**	**03 50 40.0**	**+1.4**
KK31	**Karatay Array**	**48.42**	**304**	P		**P**	**03 50 39.9**	**-1.7**
KK31				IAmb		IAmb	03 50 40.8	
	comp=Z,3.7nm,1.4s							
KKAR	**Karatay Array**	**48.42**	**304**	P		**P**	**03 50 39.6**	**-2.1**
GAR	**Garm**	**48.81**	**299**	P		**P**	**03 50 42.9**	**-2.0**
PALK	**Pallekele**	**49.38**	**255**	LR		LR	04 13 50.5	
	comp=Z,88nm,20.9s,baz=218,slow=39							
ASAR	**Alice Springs**	**51.65**	**173**	P		**P**	**03 51 08.1**	**+1.8**
	comp=Z,2.0nm,1.0s,baz=56,slow=13,SNR=12							
ASAR	**Alice Springs**	**51.65**	**173**	P		**P**	**03 51 07.1**	**+0.8**
ABKAR	**Akbulak array**	**55.46**	**312**	P		**P**	**03 51 33.1**	**-0.9**
GEYT	**Alibeck**	**58.43**	**299**	P		**P**	**03 51 55.7**	**+0.4**
IMAR	**Indian Mountai**	**59.92**	**28**	P		**P**	**03 52 07.6**	**+2.4**
STKA	**Stephens Creek**	**60.88**	**167**	P		**P**	**03 52 12.9**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=344,slow=8.7,SNR=6.4							
STKA	**Stephens Creek**	**60.88**	**167**	P		**P**	**03 52 12.7**	**+0.7**
STKA				IAmb		IAmb	03 52 20.6	
	comp=Z,1.8nm,1.4s							
ILAR	**Eielson Array**	**62.89**	**29**	P		**P**	**03 52 27.1**	**+1.9**
	comp=Z,0.4nm,0.9s,baz=304,slow=6.4,SNR=2.5							
KBZ	**Khabaz**	**68.06**	**309**	LR		LR	04 24 32.4	
	comp=Z,34nm,20.1s,baz=138,slow=38							
ARCES	**ARCESS Array B**	**68.38**	**338**	LR		LR	04 29 13.9	
	comp=Z,50nm,18.1s,baz=94,slow=42							
FINES	**FINESS Array B**	**71.34**	**330**	LR		LR	04 28 09.0	
	comp=Z,82nm,19.2s,baz=74,slow=39							
YKA	**Yellowknife Ar**	**76.93**	**25**	LR		LR	04 31 27.4	
	comp=Z,36nm,18.0s,baz=0.0,slow=38							
NOA	**NORSAR Array B**	**77.74**	**334**	LR		LR	04 31 22.6	
	comp=Z,41nm,19.1s,baz=85,slow=38							
GERES	**GERESS Array B**	**83.81**	**323**	LR		LR	04 33 55.5	
	comp=Z,54nm,18.4s,baz=68,slow=37							
DAVOX	**Davos/Dischmat**	**87.11**	**323**	LR		LR	04 36 07.2	
	comp=Z,39nm,21.9s,baz=61,slow=37							

*IDC **11** 03:46:11.9±2.4,2.05N×124.64E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.4/36,mbtmp3.6/3, Error ellipse: s-maj=311.2km s-min=25.7km az=64.0*
*DJA **11** 03:46:40.3±0.7,1.1N±5.1×12.4E±°,h255km±7km,M3.7/9, MLv3.7/9*

ISC 11 03:46:39.6±1.2,1.3N±0.1×124.13E±0.07,h250km,n10, σ1ᵍ73/12,mb3.3/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.73**	**192**	P	**Pn**	**03 47 15.5**	**+2.1**
GTOI	**Gorontalo**	**1.29**	**240**	P	**Pn**	**03 47 18.3**	**+1.8**
GTOI				S	**S**	**03 47 47.5**	**+2.0**
LUWI	**Luwuk**	**2.69**	**210**	S	**S**	**03 48 06.6**	**-1.1**
TNTI	**Ternate**	**3.28**	**99**	P	**Pn**	**03 47 36.0**	**+0.8**
TNTI				S	S	03 48 10.4	-8.7
SANI	**Sanana**	**3.80**	**151**	P	**Pn**	**03 47 41.8**	**+0.6**
SANI				S	**S**	**03 48 27.8**	**-2.2**
LBMI	**Labuha**	**3.88**	**120**	P	**Pn**	**03 47 43.1**	**+1.1**
MPSI	**Mapaga**	**4.34**	**257**	P	**Pn**	**03 47 47.1**	**-0.4**
WRA	**Warramunga Arr**	**23.36**	**155**	P	**P**	**03 51 26.9**	**+0.8**
	1.5nm,0.4s,baz=335,slow=9.9,SNR=20							
ASAR	**Alice Springs**	**26.57**	**160**	P	**P**	**03 51 56.1**	**+1.1**
	0.2nm,0.5s,baz=339,slow=7.4,SNR=1.3							
MKAR	**Makanchi Array**	**58.13**	**327**	P	**P**	**03 56 05.2**	**-2.1**
	0.3nm,0.4s,baz=123,slow=9.1,SNR=5.4							

*VAO **11** 03:55:27.5±0.6,7.98S×74.74W,h120km±5km,mb3.9*
*IDC **11** 03:55:31.0±1.9,7.97S×74.37W,h134km±22km,mb3.7/5, mb1 3.7/9,mb1mx3.4/32,mbtmp4.1/9, Error ellipse: s-maj=21.7km s-min=14.2km az=56.0*
*NEIC **11** 03:55:32.0±2.4,8.01S±0.04×74.33W±0.08,h139km±10km, mb4.0/8,Error ellipse: s-maj=12.5km s-min=3.5km az=68.0*

ISC 11 03:55:32.7±0.6,8.02S±0.06×74.43W±0.05,h151km,n50, σ1ᵍ42/54,mb3.9/7,Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**1.73**	**81**	eS	**Sn**	**03 56 27.7**	**-1.8**
ATAH	**Atahualpa**	**4.03**	**282**	P	**Pn**	**03 56 33.8**	**0.0**
	15nm,0.3s,baz=55,slow=2.6,SNR=159						
ATAH				S	**Sn**	**03 57 19.8**	**-1.3**
	47nm,0.3s,baz=50,slow=21,SNR=22						
NNA	**Nana**	**4.60**	**211**	P	**Pn**	**03 56 41.2**	**+0.2**
	4.4nm,0.3s,baz=4.6,slow=2.1,SNR=15						
NNA				S	**Sn**	**03 57 32.3**	**-2.0**
	34nm,0.3s,baz=144,slow=21,SNR=23						
ETMB	**Extrema**	**8.31**	**103**	eP	**Pn**	**03 57 29.7**	**-0.7**
OTAV	**Otavalo**	**9.13**	**334**	Pn	**Pn**	**03 57 43.4**	**+1.7**
OTAV	**Otavalo**	**9.13**	**334**	eP	Pn	03 57 34.1	-7.5
FLOC	**Florencia**	**9.62**	**353**	Pn	**Pn**	**03 57 47.5**	**-0.2**
LPAZ	**La Paz**	**10.27**	**144**	P	**Pn**	**03 57 56.4**	**-0.5**
	0.5nm,0.3s,baz=317,slow=7.5,SNR=25						
LPAZ	**La Paz**	**10.27**	**144**		**Pn**	**03 57 55.5**	**-1.4**
LPAZ	**La Paz**	**10.27**	**144**	eP	**Pn**	**03 57 54.9**	**-1.9**
SAML	**Samuel**	**11.16**	**96**		**Pn**	**03 58 06.5**	**-1.6**
SAML	**Samuel**	**11.16**	**96**	eP	**Pn**	**03 58 07.1**	**-1.0**
PB16	**IPOC Station P**	**11.32**	**155**	Pn	**Pn**	**03 58 11.6**	**+0.9**
MNMC	**Minye Minye**	**12.00**	**157**	Pn	**Pn**	**03 58 19.7**	**+0.4**
PSGCX	**Pisagua**	**12.24**	**160**	Pn	**Pn**	**03 58 22.6**	**+0.3**
PB11	**IPOC Station P**	**12.56**	**159**	Pn	**Pn**	**03 58 25.5**	**-0.9**
GO01	**Chusmiza**	**12.64**	**157**	Pn	**Pn**	**03 58 28.8**	**+1.0**
PB07	**IPOC Station P**	**14.31**	**163**	Pn	**Pn**	**03 58 47.2**	**-1.6**
VILB	**Vilhena**	**14.82**	**111**	eP	**Pn**	**03 58 54.8**	**-0.3**
SIV	**San Ignacio**	**15.27**	**122**	P	**Pn**	**03 59 00.7**	**+0.1**
	0.3nm,0.3s,baz=295,slow=12,SNR=13						
SIV				S	**Sn**	**04 01 47.0**	**-3.6**
	0.1nm,0.3s,baz=40,slow=17,SNR=5.3						
LVC	**Limon Verde**	**15.45**	**161**	P	**Pn**	**03 59 03.6**	**+0.6**
LVC				IAmb	IAmb	03 59 08.9	
	comp=Z,15nm,1.4s						
LVC	**Limon Verde**	**15.45**	**161**	eP	**Pn**	**03 59 01.0**	**-2.1**
PTGA	**Pitinga**	**16.13**	**64**	P	**P**	**03 59 12.5**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=259,slow=23,SNR=20						
PTLB	**Pontes e Lacer**	**16.69**	**118**	eP	**Pn**	**03 59 17.4**	**-0.4**
PTLB				eS	**Sn**	**04 02 27.2**	**+2.8**
CLDB	**Colider**	**18.60**	**100**	eP	**P**	**03 59 38.0**	**-0.6**
NPGB	**Novo Progresso**	**18.93**	**88**	eP	**P**	**03 59 42.6**	**+0.4**
ITTB	**Itaituba**	**18.93**	**80**	eP	**Pn**	**03 59 43.1**	**-1.5**
AC02	**Maricunga**	**19.38**	**166**	P	**P**	**03 59 48.1**	**+0.6**
SALV	**Santo Antonio**	**19.92**	**115**	eP	**P**	**03 59 53.7**	**+0.8**
ARAG	**Araguaiana, MT**	**23.40**	**111**	eP	**P**	**04 00 28.5**	**+0.2**
MCPB	**Macapa, AP**	**23.56**	**72**	eP	**P**	**04 00 30.2**	**+0.4**
CPUP	**Villa Florida**	**24.41**	**140**	P	**P**	**04 00 36.4**	**-0.9**
	comp=Z,3.0nm,1.0s,baz=326,slow=11,SNR=8.8						
CPUP	**Villa Florida**	**24.41**	**140**	P	**P**	**04 00 36.7**	**-0.6**
CPUP				IAmb	IAmb	04 00 37.6	
	comp=Z,3.9nm,0.8s						
CPUP	**Villa Florida**	**24.41**	**140**	eP	**P**	**04 00 37.2**	**-0.1**
PRPB	**Parauapebas**	**24.49**	**87**	eP	**P**	**04 00 38.6**	**+0.4**
SMTB	**Santa Maria do**	**26.56**	**94**	eP	**P**	**04 00 57.4**	**+0.5**
PTGB	**Pitanga**	**27.06**	**130**	eP	**P**	**04 01 00.9**	**-0.4**
IPMB	**Ipameri, GO**	**27.36**	**114**	eP	**P**	**04 01 04.0**	**-0.1**
TIJ01	**Guaruva-PR**	**29.72**	**128**	eP	**P**	**04 01 24.7**	**-0.3**
TIJ01				eS	**S**	**04 06 15.1**	**+4.9**
PLCA	**Paso Flores**	**32.76**	**175**	P	**P**	**04 01 52.9**	**+1.5**
	comp=Z,2.2nm,1.0s,baz=356,slow=11,SNR=3.3						
PLCA	**Paso Flores**	**32.76**	**175**	P	**P**	**04 01 51.9**	**+0.5**
PLCA	**Paso Flores**	**32.76**	**175**	eP	**P**	**04 01 48.8**	**-2.6**
DBIC	**Dimbokro**	**70.89**	**80**	P	**P**	**04 06 33.5**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=242,slow=5.3,SNR=8.9						
DBIC	**Dimbokro**	**70.89**	**80**	P	**P**	**04 06 33.1**	**-0.9**
SNAA	**Sanae**	**76.68**	**162**	P	**P**	**04 07 07.8**	**+1.1**
SNAA				IAmb	IAmb	04 07 08.3	
	comp=Z,1.2nm,0.6s						
TOA0	**Torodi Ar. Sit**	**78.46**	**75**	P	**P**	**04 07 15.6**	**-2.1**
TOA0				IAmb	IAmb	04 07 17.9	
	comp=Z,5.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**78.46**	**75**	P	**P**	**04 07 16.7**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=286,slow=6.6,SNR=13						
TORD	**Torodi Ar. Bea**	**78.46**	**75**	P	**P**	**04 07 16.8**	**-0.8**
QSPA	**South Pole Qui**	**82.09**	**180**	P	**P**	**04 07 37.1**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=170,slow=1.9,SNR=10						
QSPA	**South Pole Qui**	**82.09**	**180**	P	**P**	**04 07 37.4**	**+1.2**
QSPA				IAmb	IAmb	04 07 54.8	
	comp=Z,4.6nm,1.2s						

*ATH **11** 04:06:31.5,36.63N×26.39E,h35km±6km,ML2.6/3,Error ellipse: s-maj=7.6km s-min=1.5km az=1.0*
*DDA **11** 04:06:39.9,36.48N×27.06E,h7km±2km,ML1.8*
*ISK **11** 04:06:39.8,36.44N×27.10E,h4km,ML2.2/8*
*THE **11** 04:06:39.9,36.43N×27.11E,h2km±2km,ML2.2/1,Error ellipse: s-maj=2.0km s-min=0.4km az=274.0*

ISC 11 04:06:32.4±1.1,36.56N±0.05×26.42E±0.03,h32km±11km, n25,σ2ᵍ66/41,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMGA	**Amorgos Island**	**0.50**	**303**	P	**Pb**	**04 06 41.8**	**-1.2**
AMGA				AML	AML	04 06 46.4	
	comp=E,490μm,0.2s						
AMGA				AML	AML	04 06 46.6	
	comp=N,706μm,0.1s						
NISR	**Nisiros**	**0.57**	**85**	P	**Pb**	**04 06 43.8**	**-0.3**
NISR				S	**Sb**	**04 06 46.6**	**-5.4**
NISR	**Nisiros**	**0.57**	**85**	P	**Pb**	**04 06 43.7**	**-0.3**
NISR				AML	AML	04 06 47.3	
	comp=N,4599μm,0.1s						
NISR				AML	AML	04 06 47.4	
	comp=E,9021μm,0.2s						
BODT	**Bodrum**	**0.87**	**55**	P	**Pb**	**04 06 52.6**	**+3.5**
BODT				S	**Sb**	**04 07 03.0**	**+2.6**
BODT	**Bodrum**	**0.87**	**55**	PG	**Pb**	**04 06 52.9**	**+3.8**
BODT				SG	**Sb**	**04 07 02.6**	**+2.2**
APE	**Apeiranthos**	**0.88**	**306**	P	**Pn**	**04 06 48.2**	**-0.4**
APE				S	**Sn**	**04 06 58.9**	**-1.4**
IOSP	**Ios island**	**0.93**	**281**	P	**Pn**	**04 06 49.0**	**-0.1**
IOSP				S	**Sn**	**04 07 00.7**	**-0.7**
DAT	**Datca**	**0.94**	**79**	P	**Pn**	**04 06 49.5**	**-0.1**
DAT				S	**Sn**	**04 06 56.9**	**-5.1**
DAT	**Datca**	**0.94**	**79**	PG	**Pn**	**04 06 49.8**	**+0.2**
DAT				SG	**Sn**	**04 06 57.3**	**-4.7**
DAT	**Datca**	**0.94**	**79**	*i* P	**Pn**	**04 06 49.6**	**+0.1**
DAT				*i* S	**Sn**	**04 06 56.4**	**-5.6**
KARP	**Karpathos**	**1.17**	**149**	P	**Pb**	**04 06 57.1**	**+3.0**
KARP				S	**Sn**	**04 07 10.3**	**+2.7**
SMG	**Samos**	**1.19**	**16**	P	**Pn**	**04 06 52.8**	**-0.1**
ARG	**Arkhangelos**	**1.42**	**103**	P	**Pn**	**04 06 56.4**	**+0.5**
ARG				S	**Sn**	**04 07 09.1**	**-4.4**
	comp=E,158nm,0.2s						
ARG	**Arkhangelos**	**1.42**	**103**	P	**Pn**	**04 06 57.2**	**+1.2**
ARG				AML	AML	04 07 11.2	
	comp=N,272μm,0.2s						
ARG				AML	AML	04 07 12.3	
	comp=E,349μm,0.3s						
ARG	**Arkhangelos**	**1.42**	**103**	PG	**Pn**	**04 06 57.1**	**+1.2**
ARG				SG	**Sn**	**04 07 09.7**	**-3.8**
TURN	**Turunc**	**1.48**	**81**	PG	**Pn**	**04 06 59.3**	**-1.6**
TURN	**Turunc**	**1.48**	**81**	*i* P	**Pn**	**04 06 58.4**	**-2.5**
TURN				*i* S	Sn	04 07 13.4	-9.0
TURN				IAML		04 07 16.0	
	comp=E,25nm,0.9s						
TURN				IAML		04 07 17.0	
	comp=N,24nm,0.3s						
YER	**Yerkesik**	**1.60**	**68**	PN	**Pb**	**04 07 03.1**	**+1.8**
YER				SN	**Sn**	**04 07 19.6**	**+1.5**
AYDN	**Tasoluk**	**1.60**	**46**	*i* P	**Pb**	**04 07 06.0**	**+4.6**
AYDN				IAML		04 07 18.0	
	comp=N,10.0nm,1.6s						
AYDN				*i* S	**Sb**	**04 07 22.7**	**+1.5**
DALY	**Dalyan (Mula)**	**1.81**	**81**	PN	**Pb**	**04 07 05.4**	**+0.5**
DALY				SN	**Sn**	**04 07 24.3**	**+1.1**
DALY	**Dalyan (Mula)**	**1.81**	**81**	*i* P	**Pb**	**04 07 05.1**	**+0.3**
DALY				*i* S	**Sn**	**04 07 22.5**	**-0.8**
DALY				IAML		04 07 34.0	
	comp=N,16nm,1.4s						
FETY	**Fethiye**	**2.14**	**87**	PN	**Pb**	**04 07 09.9**	**-0.6**
FETY	**Fethiye**	**2.14**	**87**	*i* P	**Pb**	**04 07 09.5**	**-1.0**
FETY				*i* S	**Sn**	**04 07 31.6**	**+0.1**
TAVA	**DENIZLI_Tavas**	**2.19**	**65**	*i* P	**Pb**	**04 07 10.9**	**-0.5**
AKAS	**Kas**	**2.59**	**96**	PN	**Pn**	**04 07 16.0**	**+3.8**

*SJA **11** 04:22:27.9±0.7,33.56S×72.20W,h10km±4km,ML4.3, MW4.2*
*NEIC **11** 04:22:30.8,33.59S×72.05W,h27km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.23; Mθθ0.01; Mθφ-1.24; Mrθ0.39; Mθθ0.15; Mθf-1.30; Fault plane solution: M0 1.84000×10¹⁵ NP1:φ1165.81000°, δ68.85000°, λ84.47000°. NP2:φ20.82000°, δ21.83000°, λ103.98000°. Principal axes: T 1.8380, Plg66.0000°, Azm66.0000°; N 0.0102, Plg5.0000°, Azm168.0000°; P -1.8482, Plg24.0000°, Azm260.0000°;*
*GUC **11** 04:22:30.9±0.7,33.62S×72.05W,h27km±12km,ML4.3*
*NEIC **11** 04:22:31.1±1.8,33.58S±0.03×72.06W±0.05,h27km±1km, Error ellipse: s-maj=7.3km s-min=3.9km az=300.0*
*IDC **11** 04:22:33.1±3.5,33.60S×71.79W,h38km±29km,mb3.8/9, mb1 4.0/13,mb1mx3.8/29,mbtmp4.0/13,ML4.0/4,MS3.5/5, Ms1 3.5/5,ms1mx3.2/24,Error ellipse: s-maj=27.2km s-min=17.0km az=95.0*
*VAO **11** 04:22:35.0±0.7,33.60S×71.48W,h41km±7km,mb4.3*

ISC 11 04:22:28.7±1.4,33.58S±0.02×72.07W±0.04,h10km±8km, n150,σ1ᵍ46/172,mb4.5/19,4C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.66**	**33**	*e*P	**Pn**	**04 22 43.7**	**-0.3**
VA01				*i* S	**Sn**	**04 22 53.1**	**-1.2**
VA01				IAML		04 22 55.0	
	comp=E,10μm,0.5s						
VA01	**Torpederas**	**0.66**	**33**		**Pn**	**04 22 43.6**	**-0.3**
VA01					**Sn**	**04 22 53.0**	**-1.3**
MT02	**Curacav**	**0.84**	**68**	*e*P	**Pn**	**04 22 46.4**	**-0.2**
MT02				*i* S	**Sn**	**04 22 57.1**	**-1.8**
MT02				IAML		04 22 58.3	
	comp=E,8μm,0.3s						
MT02	**Curacav**	**0.84**	**68**		**Pn**	**04 22 46.4**	**-0.2**
MT02				Sn	**Sn**	**04 22 57.2**	**-1.8**
ROC1	**El Roble**	**1.07**	**56**		**Pn**	**04 22 50.2**	**+0.3**
ROC1				Sn	**Sn**	**04 23 04.9**	**0.0**
ROC1	**El Roble**	**1.07**	**56**	*e*P	**Pn**	**04 22 50.2**	**+0.3**
ROC1				*e*S	**Sn**	**04 23 06.0**	**+1.1**
ROCH	**El Roble**	**1.07**	**56**	*e*P	**Pn**	**04 22 50.2**	**+0.3**
ROCH				*i* S	**Sn**	**04 23 04.6**	**-0.3**
ROCH				IAML		04 23 11.9	
	comp=N,8μm,0.4s						
MT05	**Renca**	**1.13**	**81**	*e*P	**Pn**	**04 22 50.6**	**0.0**
MT05				*i* S	**Sn**	**04 23 05.5**	**-0.6**
MT05				IAML		04 23 13.0	
	comp=E,11μm,0.3s						
MT05	**Renca**	**1.13**	**81**		**Pn**	**04 22 50.4**	**-0.1**
MT05				Sn	**Sn**	**04 23 05.9**	**-0.2**
BO01	**Tunca**	**1.15**	**135**	↓*i*P	**Pb**	**04 22 50.4**	**-0.3**
BO01				*i* S	**Sn**	**04 23 05.2**	**-1.4**
BO01	**Tunca**	**1.15**	**135**		**Pb**	**04 22 50.5**	**-0.3**
BO01				Sn	**Sn**	**04 23 05.7**	**-1.0**
PEL	**Peldehue**	**1.23**	**70**	*e*P	**Pg**	**04 22 53.1**	**+0.6**
PEL				*i* S	**Sn**	**04 23 09.3**	**+0.5**
PEL				IAML		04 23 16.6	
	comp=N,13μm,0.4s						
PEL	**Peldehue**	**1.23**	**70**		**Pg**	**04 22 52.7**	**+0.3**
PEL				Sn	**Sn**	**04 23 09.0**	**+0.2**
PEL	**Peldehue**	**1.23**	**70**	*e*P	**Pg**	**04 22 53.9**	**+1.5**
PEL				*e*S	**Sn**	**04 23 12.0**	**+3.2**
FSR	**Penalolen**	**1.29**	**86**	↑*i*P	**Pg**	**04 22 54.5**	**+1.0**
CLCH	**Cerro Calan**	**1.29**	**82**	↓*i*P	**Pg**	**04 22 53.4**	**-0.1**
CLCH				IAML		04 23 16.7	
	comp=N,12μm,0.5s						
MT03	**Universidad Ad**	**1.30**	**87**	*e*P	**Pg**	**04 22 53.5**	**-0.3**
MT03				*i* S	**Sg**	**04 23 10.8**	**+0.2**
MT03				IAML		04 23 16.6	
	comp=E,9μm,0.2s						
GO05	**Huala**	**1.43**	**175**	*e*P	**Pn**	**04 22 55.0**	**+0.3**
GO05				*i* S	**Sn**	**04 23 12.6**	**-1.1**
GO05				IAML		04 23 19.5	
	comp=N,8μm,0.3s						
GO05	**Huala**	**1.43**	**175**		**Pn**	**04 22 55.1**	**+0.3**
GO05				Sn	**Sn**	**04 23 12.4**	**-1.3**
GO05	**Huala**	**1.43**	**175**	*e*P	**Pn**	**04 22 55.1**	**+0.4**
GO05				*e*S	**Sn**	**04 23 15.5**	**+0.7**
VA03	**San Esteban**	**1.51**	**58**	*e*P	**Pb**	**04 22 56.9**	**+0.1**
VA03				*i* S	**Sg**	**04 23 17.1**	**-0.2**
VA03				IAML		04 23 23.6	
	comp=N,14μm,0.6s						
VA03	**San Esteban**	**1.51**	**58**		**Pb**	**04 22 56.8**	**0.0**
VA03				Sn	**Sg**	**04 23 16.9**	**-0.4**
LMEL	**Las Melosas**	**1.58**	**100**	*e*P	**Pb**	**04 22 57.4**	**-0.6**
LMEL				*i* S	**Sg**	**04 23 17.6**	**-1.9**
LMEL				IAML		04 23 23.3	
	comp=N,8μm,0.2s						
BO02	**Sierra Bellavi**	**1.61**	**139**	*e*P	**Pb**	**04 22 57.9**	**-0.7**
BO02				*i* S	**Sb**	**04

CYA				IAML			04 25 55.8	
	comp=Z,70nm,0.8s							
AC01	**Pan de Azucar**	**7.51**	**10**			**Pn**	**04 24 16.5**	**-1.8**
LVC	**Limon Verde**	**11.28**	**15**	Pn		**Pn**	**04 25 11.6**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=135,slow=10.0,SNR=1.6							
LVC				LR		LR	04 29 40.4	
	comp=Z,234nm,21.6s,baz=206,slow=38							
LVC	**Limon Verde**	**11.28**	**15**			**Pn**	**04 25 12.3**	**+2.0**
LVC	**Limon Verde**	**11.28**	**15**	*eP*		**Pn**	**04 25 12.7**	**+2.5**
PB11	**IPOC Station P**	**13.93**	**9**	Pn		**Pn**	**04 25 46.1**	**-0.2**
GO01	**Chusmiza**	**14.09**	**11**			**Pn**	**04 25 48.2**	**-0.6**
MNMC	**Minye Minye**	**14.56**	**9**			**Pn**	**04 25 55.3**	**+0.2**
CPUP	**Villa Florida**	**14.67**	**64**	Pn		**Pn**	**04 25 55.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=227,slow=12,SNR=7.3							
CPUP				LR		LR	04 31 34.6	
	comp=Z,150nm,18.6s,baz=234,slow=37							
CPUP	**Villa Florida**	**14.67**	**64**	Pn		**Pn**	**04 25 56.5**	**+0.3**
CPUP	**Villa Florida**	**14.67**	**64**	*eP*		**Pn**	**04 25 54.8**	**-1.4**
PB16	**IPOC Station P**	**15.35**	**9**			**Pn**	**04 26 07.1**	**+1.1**
PLTB	**Pedras Altas**	**15.66**	**88**	*eP*		**Pn**	**04 26 04.0**	**-5.4**
LPAZ	**La Paz**	**17.58**	**13**	P		**Pn**	**04 26 35.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=189,slow=7.1,SNR=23							
LPAZ	**La Paz**	**17.58**	**13**	Pn		**Pn**	**04 26 34.1**	**-0.3**
LPAZ	**La Paz**	**17.58**	**13**	*eP*		**Pn**	**04 26 35.6**	**+1.2**
ITAB	**Concordia**	**18.31**	**75**	*eP*		**Pn**	**04 26 41.1**	**-1.7**
PTGB	**Pitanga**	**19.55**	**68**	*eP*		**P**	**04 26 56.0**	**-0.7**
SIV	**San Ignacio**	**20.13**	**32**	P		**P**	**04 27 02.3**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=212,slow=9.6,SNR=15							
SIV				LR		LR	04 36 05.1	
	comp=Z,201nm,18.7s,baz=242,slow=40							
EFI	**East Falkland**	**20.75**	**155**	P		**P**	**04 27 08.3**	**-1.0**
PTLB	**Pontes e Lacer**	**21.51**	**36**	*eP*		**P**	**04 27 17.8**	**+0.1**
PCMB	**Pacaembu**	**21.91**	**62**	*eP*		**P**	**04 27 19.7**	**-2.4**
FRTB	**Fartura**	**22.21**	**69**	*eP*		**P**	**04 27 23.1**	**-2.3**
SALV	**Santo Antonio**	**22.98**	**44**	*eP*		**P**	**04 27 31.9**	**-1.7**
VILB	**Vilhena**	**23.21**	**31**	*eP*		**P**	**04 27 35.7**	**-0.2**
PET01	**Itanhaem-SP**	**23.54**	**73**	*eP*		**P**	**04 27 37.7**	**-1.5**
ITRB	**Iturama**	**23.75**	**60**	*eP*		**P**	**04 27 40.3**	**-1.0**
SPB	**Sao Paulo**	**23.76**	**72**	P		**P**	**04 27 40.8**	**-0.5**
SPB				IAmb		IAmb	04 27 41.9	
	comp=Z,21nm,0.8s							
ETMB	**Extrema**	**24.25**	**14**	*eP*		**P**	**04 27 46.8**	**+0.9**
BB19B	**Bebedouro**	**24.28**	**65**	*eP*		**P**	**04 27 45.5**	**-0.8**
VAO	**Valinhos**	**24.43**	**71**	*eP*		**P**	**04 27 43.4**	**-4.3**
ARAG	**Araguaiana, MT**	**25.52**	**51**	*eP*		**P**	**04 27 56.6**	**-0.9**
CZSB	**Cruzeiro do Su**	**25.73**	**359**	*eP*		**P**	**04 28 03.0**	**+3.7**
SAML	**Samuel**	**25.84**	**20**	P		**P**	**04 28 00.1**	**-0.3**
SAML				IAmb		IAmb	04 28 03.3	
	comp=Z,7.3nm,0.8s							
SAML	**Samuel**	**25.84**	**20**	*eP*		**P**	**04 28 00.7**	**+0.3**
CLDB	**Colider**	**27.08**	**37**	*eP*		**P**	**04 28 11.3**	**-0.3**
BSCB	**Bom Sucesso**	**27.21**	**70**	*eP*		**P**	**04 28 11.7**	**-1.1**
BDFB	**Brasilia**	**28.12**	**56**	P		**P**	**04 28 19.8**	**-1.2**
	comp=Z,1.9nm,0.4s,baz=221,slow=8.3,SNR=6.8							
BDFB				LR		LR	04 40 53.8	
	comp=Z,220nm,18.3s,baz=268,slow=39							
BDFB	**Brasilia**	**28.12**	**56**	P		**P**	**04 28 19.8**	**-1.2**
BDFB				IAmb		IAmb	04 28 20.6	
	comp=Z,15nm,1.4s							
MC01	**Montes Claros**	**30.36**	**63**	*eP*		**P**	**04 28 39.8**	**-1.1**
PEXB	**Peixe**	**30.46**	**51**	*eP*		**P**	**04 28 40.7**	**-1.0**
NPGB	**Novo Progresso**	**30.60**	**34**	*eP*		**P**	**04 28 41.6**	**-1.4**
SJMB	**Sao Joao De Ma**	**31.29**	**70**	*eP*		**P**	**04 28 48.0**	**-1.0**
SDBA	**SAO DESIDERIO**	**32.52**	**56**	*eP*		**P**	**04 28 58.7**	**-1.2**
SMTB	**Santa Maria do**	**33.37**	**48**	*eP*		**P**	**04 29 06.4**	**-0.9**
RUSC	**La Rusia**	**39.27**	**358**	P		**P**	**04 29 59.5**	**+1.3**
TOSP	**Speyside**	**45.96**	**16**	P		**P**	**04 30 52.6**	**+0.7**
VNA3	**Neumayer Olymp**	**49.76**	**158**	P		**P**	**04 31 22.1**	**+1.2**
VNA1	**Neumayer--Stat**	**50.07**	**157**	P		**P**	**04 31 25.1**	**+2.0**
VNA2	**Neumayer--Watz**	**50.41**	**157**	P		**P**	**04 31 26.3**	**+0.5**
	baz=292,slow=9.3							
SNAA	**Sanae**	**51.98**	**158**	P		**P**	**04 31 38.5**	**+0.8**
SNAA	**Sanae**	**51.98**	**158**	P		**P**	**04 31 38.5**	**+0.8**
SNAA				IAmb		IAmb	04 31 51.0	
	comp=Z,5.3nm,0.9s							
QSPA	**South Pole Qui**	**56.66**	**180**	P		**P**	**04 32 12.1**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=173,slow=2.3,SNR=6.6							
QSPA	**South Pole Qui**	**56.66**	**180**	P		**P**	**04 32 12.9**	**+1.0**
TX32	**Lajitas Array**	**69.36**	**331**	P		**P**	**04 33 37.4**	**+0.9**
TXAR	**Lajitas Array**	**69.36**	**331**	P		**P**	**04 33 37.7**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=159,slow=9.8,SNR=11							
TXAR	**Lajitas Array**	**69.36**	**331**	P		**P**	**04 33 37.4**	**+0.8**
V55A	**Taylorsville**	**69.60**	**352**	P		**P**	**04 33 37.9**	**+0.1**
V55A				IAmb		IAmb	04 33 38.4	
	comp=Z,10nm,1.4s							
PLAL	**Pickwick Lake**	**69.83**	**346**	P		**P**	**04 33 39.3**	**+0.1**
PLAL				IAmb		IAmb	04 33 40.1	
	comp=Z,2.6nm,0.7s							
V52A	**Sevierville**	**69.90**	**350**	P		**P**	**04 33 39.4**	**-0.3**
V52A				IAmb		IAmb	04 33 42.5	
	comp=Z,10nm,1.4s							
V48A	**Smith Brothers**	**70.33**	**347**	P		**P**	**04 33 42.1**	**-0.1**
U54A	**Nelsons Funny**	**70.33**	**352**	P		**P**	**04 33 41.5**	**-0.8**
U54A				IAmb		IAmb	04 33 43.1	
	comp=Z,6.0nm,0.8s							
WVT	**Waverly**	**70.89**	**347**	P		**P**	**04 33 45.9**	**+0.1**
WHAR	**Wooly Hollow**	**71.08**	**343**	P		**P**	**04 33 47.2**	**+0.3**
WHAR				IAmb		IAmb	04 33 55.5	
	comp=Z,6.6nm,1.2s							
W39A	**Magazine**	**71.38**	**341**	P		**P**	**04 33 49.8**	**+1.1**
W39A				IAmb		IAmb	04 33 50.6	
	comp=Z,4.7nm,0.8s							
LCAR	**Lake Charles**	**71.55**	**344**	P		**P**	**04 33 49.9**	**+0.2**
LCAR				IAmb		IAmb	04 33 50.6	
	comp=Z,4.7nm,0.6s							
FCAR	**Ozark Folk Cen**	**71.61**	**343**	P		**P**	**04 33 50.4**	**+0.3**
FCAR				IAmb		IAmb	04 33 50.6	
	comp=Z,2.5nm,0.6s							
MAW	**Mawson**	**73.59**	**164**	P		**P**	**04 34 01.2**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=220,slow=8.6,SNR=8.7							
MAW	**Mawson**	**73.59**	**164**	P		**P**	**04 34 01.8**	**+0.3**
DBIC	**Dimbokro**	**75.07**	**71**	P		**P**	**04 34 09.6**	**-1.5**
	comp=Z,2.1nm,0.6s,baz=203,slow=6.3,SNR=7.6							
DBIC	**Dimbokro**	**75.07**	**71**	P		**P**	**04 34 10.5**	**-0.5**
PDAR	**Pinedale Array**	**83.38**	**333**	P		**P**	**04 34 56.6**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=152,slow=4.0,SNR=2.5							
NVAR	**Mina Array Bea**	**83.52**	**325**	P		**P**	**04 34 58.3**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=116,slow=3.1,SNR=2.2							
TORD	**Torodi Ar. Bea**	**84.09**	**70**	P		**P**	**04 34 59.5**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=285,slow=6.0,SNR=18							
WRA	**Warramunga Arr**	**121.12**	**209**	PKP		**PKPdf**	**04 41 21.4**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=156,slow=1.7,SNR=4.8							
H11S2	**WAKE ISLAND Hyl**	**25.75**	**269**	T		T	07 00 23.4	
	baz=118,slow=74,SNR=12							
H11S1	**WAKE ISLAND Hyl**	**25.76**	**269**	T		T	07 00 23.2	
	baz=118,slow=74,SNR=10							
H11S3	**WAKE ISLAND Hyl**	**25.77**	**269**	T		T	07 00 23.5	
	baz=118,slow=74,SNR=13							
H11N3	**WAKE ISLAND Hyl**	**26.15**	**271**	T		T	07 00 36.0	
	baz=151,slow=74,SNR=6.2							
H11N2	**WAKE ISLAND Hyl**	**26.17**	**271**	T		T	07 00 43.7	
	baz=123,slow=74,SNR=20							
ZALV	**Zalesovo Beam**	**153.88**	**32**	PKPbc		**PKPbc**	**04 42 27.9**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=272,slow=2.6,SNR=8.8							
ZALV				PKPab		**PKPab**	**04 42 40.7**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=298,slow=3.2,SNR=4.3							
MKAR	**Makanchi Array**	**156.50**	**48**	PKPab		**PKPab**	**04 42 52.2**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=294,slow=3.6,SNR=7.0							
MKAR	**Makanchi Array**	**156.50**	**48**	PKPdf		**PKPdf**	**04 42 22.2**	**-1.3**
MKAR						**PKPab**	**04 42 51.6**	**-0.8**
LZH	**Lanzhou**	**175.81**	**52**	*e*PKP		**PKPdf**	**04 42 39.2**	**0.0**
LZH				pPKP		sPKPdf	04 42 47.1	+3.5
LZH				sPKP			04 42 51.7	

*ISK **11** 04:22:43.9, 39.48N×36.68E, h5km, ML3.9/33*
*DDA **11** 04:22:44.6, 39.45N×36.67E, h13km, MW3.9*
*IDC **11** 04:22:45.2±1.0, 39.54N×36.63E, h0km, mb3.7/9, mb1 3.7/15, mb1mx3.6/40, mbtmp3.6/15, ML3.5/6, MS3.4/2, Ms1 3.4/2, ms1mx2.5/49, Error ellipse: s-maj=22.1km s-min=10.3km az=166.0*

ISC 11 04:22:44.9±1.1, 39.49N±0.02×36.67E±0.02, h1km±8km, n101, σ0.86/128, mb3.7/8, 5C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CUALT	**Altinyayla-SIV**	**0.22**	**164**	*i* P	**Pg**	**04 22**	**49.4**	**+0.2**
CUALT				*i* S	**Sg**	**04 22**	**52.5**	**+0.4**
CUSAR	**Sarkisla-SIVAS**	**0.34**	**258**	*i* P	**Pg**	**04 22**	**51.7**	**+0.3**
CUSAR				*i* S	**Sg**	**04 22**	**57.1**	**+1.4**
SVSK	**Karacayir**	**0.50**	**30**	PG	**Pg**	**04 22**	**54.9**	**+0.5**
SVSK				SG	**Sb**	**04 23**	**02.8**	**-1.4**
SCER	**sogukcermik**	**0.51**	**43**	*i* P	**Pg**	**04 22**	**55.2**	**+0.5**
SCER				*i* S	**Sb**	**04 23**	**03.1**	**-1.8**
CUKAN	**kangal_SIVAS**	**0.64**	**105**	*i* P	**Pg**	**04 22**	**56.9**	**-0.3**
CUKAN				*i* S	**Sg**	**04 23**	**06.4**	**+1.0**
CUKAN				IAML		04 23 07.0		
	comp=N,6μm,0.4s							
CUKAN				IAML		04 23 08.0		
	comp=E,5μm,0.2s							
TOKT	**Tokat**	**0.84**	**353**	PG	**Pg**	**04 23**	**00.8**	**-0.1**
TOKT				SG	**Sb**	**04 23**	**13.6**	**-0.5**
TOKA	**Tokat**	**0.85**	**350**	*i* P	**Pg**	**04 23**	**01.1**	**0.0**
CUGUR	**Gurin_SVAS**	**0.90**	**148**	*i* P	**Pg**	**04 23**	**01.3**	**-0.7**
CUGUR				*i* S	**Sb**	**04 23**	**15.0**	**-0.9**
CUGUR				IAML		04 23 15.0		
	comp=N,8μm,0.7s							
CUGUR				IAML		04 23 16.0		
	comp=E,27μm,0.5s							
BNN	**Bunyan**	**0.90**	**226**	PG	**Pg**	**04 23**	**02.5**	**+0.3**
BNN				SG	**Sb**	**04 23**	**15.5**	**-0.6**
CUZAR	**Zara_SIVAS**	**0.94**	**64**	*i* P	**Pg**	**04 23**	**02.9**	**0.0**
CUZAR				*i* S	**Sb**	**04 23**	**17.4**	**+0.3**
CUZAR				IAML		04 23 22.0		
	comp=N,3μm,0.4s							
CUZAR				IAML		04 23 22.0		
	comp=E,3μm,0.5s							
GUNE	**Kayseri**	**1.00**	**235**	*i* P	**Pb**	**04 23**	**04.6**	**-0.5**
GUNE				*i* S	**Sn**	**04 23**	**21.7**	**+0.6**
GUNE				IAML		04 23 35.0		
	comp=N,3μm,0.7s							
RSDY	**Resadiye-TOKAT**	**1.04**	**29**	PG	**Pg**	**04 23**	**05.1**	**+0.3**
YOZ	**Yozgat**	**1.06**	**279**	PG	**Pg**	**04 23**	**04.6**	**-0.5**
SARI	**SarD1z-Kayseri**	**1.10**	**190**	PN	**Pg**	**04 23**	**06.0**	**+0.1**
SIRC	**Yozgat**	**1.19**	**263**	*i* P	**Pg**	**04 23**	**06.3**	**-1.4**
SIRC				*i* S	**Sb**	**04 23**	**24.3**	**0.0**
ERBA	**Erbaa**	**1.19**	**3**	*i* P	**Pg**	**04 23**	**07.9**	**+0.1**
ERBA				*i* S	**Sn**	**04 23**	**26.1**	**+0.3**
ARPR	**Arapgir-MALATY**	**1.35**	**106**	PN	**Pg**	**04 23**	**10.4**	**-0.4**
SUSE	**Susehri**	**1.38**	**58**	*i* P	**Pg**	**04 23**	**10.3**	**-1.0**
SUSE				*i* S	**Sn**	**04 23**	**31.0**	**+0.5**
SUSE				IAML		04 23 35.0		
	comp=N,1μm,0.3s							
SUSE				IAML		04 23 36.0		
	comp=E,2μm,0.5s							
KEMA	**Kemaliye**	**1.43**	**98**	*i* P	**Pn**	**04 23**	**10.7**	**-1.4**
KEMA				*i* S	**Sn**	**04 23**	**31.4**	**-0.2**
KEMA				IAML		04 23 35.0		
	comp=N,2μm,0.8s							
KUPE	**Kupecik-Ladik(**	**1.47**	**341**	PN	**Pg**	**04 23**	**12.8**	**-0.2**
KUPE				SN	**Sn**	**04 23**	**33.6**	**+1.1**
COAL	**Corum-Alaca**	**1.51**	**301**	*i* P	**Pn**	**04 23**	**12.8**	**-0.4**
COAL				*i* S	**Sg**	**04 23**	**32.7**	**-0.6**
COAL				IAML		04 23 46.0		
	comp=E,1μm,0.7s							
GULF	**Gulfidan-Ladik**	**1.55**	**337**	PN	**Pn**	**04 23**	**13.9**	**+0.2**
AVNS	**Nevsehir-Avano**	**1.57**	**245**	*i* P	**Pb**	**04 23**	**14.5**	**-0.4**
AVNS				*i* S	**Sg**	**04 23**	**36.4**	**+1.0**
AVNS				IAML		04 23 48.0		
	comp=E,2μm,0.7s							
AVNS				IAML		04 23 48.0		
	comp=N,1μm,0.5s							
SAIM	**ADANA**	**1.58**	**197**	*i* P	**Pn**	**04 23**	**14.3**	**+0.2**
SAIM				*i* S	**Sg**	**04 23**	**35.7**	**+0.1**
KAYA	**Kayacik-Havza(**	**1.62**	**334**	PN	**Pn**	**04 23**	**14.9**	**+0.2**
REFA	**Refahiye_ERZN**	**1.62**	**93**	*i* P	**Pg**	**04 23**	**15.9**	**-0.1**
REFA				*i* S	**Sg**	**04 23**	**39.5**	**+2.4**
KVT	**Kavak**	**1.66**	**343**	PN	**Pn**	**04 23**	**15.5**	**+0.2**
CORM	**Corum**	**1.72**	**294**	PN	**Pn**	**04 23**	**16.5**	**+0.4**
YAHY	**KAYSERI_Yahyal**	**1.73**	**217**	*i* P	**Pn**	**04 23**	**16.6**	**+0.4**
YAHY				*i* S	**Sg**	**04 23**	**41.0**	**+0.7**
ORDU	**Ordu-Boztepe**	**1.75**	**31**	*i* P	**Pb**	**04 23**	**17.4**	**-0.6**
ORDU				*i* S	**Sg**	**04 23**	**41.0**	**-0.3**
CDAG	**Cicekdag**	**1.78**	**275**	*i* P	**Pn**	**04 23**	**17.3**	**+0.3**
CDAG				*i* S	**Sg**	**04 23**	**41.6**	**-0.5**
CDAG				IAML		04 23 46.0		
	comp=N,1μm,0.3s							
CDAG				IAML		04 23 48.0		
	comp=E,1μm,0.6s							
MALT	**Malatya**	**1.80**	**130**	PN	**Pn**	**04 23**	**17.3**	**0.0**
CTAK	**Corum_Osmancik**	**1.85**	**309**	*i* P	**Pb**	**04 23**	**19.3**	**-0.4**
CTAK				*i* S	**Sg**	**04 23**	**45.2**	**+0.9**
SAMS	**Samsun-Alacam**	**1.91**	**349**	*i* P	**Pn**	**04 23**	**18.9**	**+0.3**
ANDN	**Andirin**	**1.92**	**188**	*i* P	**Pn**	**04 23**	**19.2**	**+0.3**
KMRS	**Kahramanmaras**	**1.99**	**175**	PN	**Pn**	**04 23**	**19.9**	**+0.2**
ELZG	**Elazig**	**2.06**	**118**	*i* P	**Pn**	**04 23**	**21.8**	**+1.0**
ELZG				*i* S	**Sg**	**04 23**	**51.2**	**+0.2**
ELZG				IAML		04 23 56.0		
	comp=N,1μm,0.4s							
ELZG				IAML		04 23 56.0		
	comp=E,2μm,0.7s							
KELT	**Kelkit**	**2.10**	**71**	*i* P	**Pn**	**04 23**	**22.5**	**+1.1**
KELT				*i* S	**Sn**	**04 23**	**48.5**	**+0.2**
KOZT	**Kozan**	**2.11**	**199**	PN	**Pn**	**04 23**	**21.7**	**+0.3**
ESPY	**Espiye-Giresun**	**2.12**	**47**	PN	**Pn**	**04 23**	**22.0**	**+0.4**
KIRS	**Kırehir-Merke**	**2.17**	**261**	*i* P	**Pn**	**04 23**	**23.4**	**+1.2**
KIRS				*i* S	**Sn**	**04 23**	**50.8**	**+1.0**
DELI	**KIRIKKALE**	**2.18**	**284**	*i* P	**Pn**	**04 23**	**22.8**	**+0.4**
DELI				*i* S	**Sn**	**04 23**	**50.4**	**+0.2**
DELI				IAML		04 24 01.0		
	comp=N,628nm,0.6s							
PTK	**Pertek**	**2.20**	**105**	PN	**Pn**	**04 23**	**22.9**	**+0.1**
GZT	**Gaziantep**	**2.24**	**161**	*i* P	**Pb**	**04 23**	**26.3**	**0.0**
GZT				*i* S	**Sg**	**04 23**	**57.0**	**+0.1**
GZT				IAML		04 24 00.0		
	comp=N,682nm,0.8s							
CMRD	**Camardi-Nigde**	**2.25**	**216**	PN	**Pn**	**04 23**	**23.8**	**+0.4**
TNCL	**Tunceli-Merkez**	**2.26**	**99**	*i* P	**Pn**	**04 23**	**24.8**	**+1.2**
TNCL				*i* S	**Sb**	**04 23**	**54.0**	**-1.0**
TNCL				IAML		04 24 02.0		
	comp=E,592nm,0.6s							
TNCL				IAML		04 24 04.0		
	comp=N,717nm,0.7s							
YAYX	**Yaylak**	**2.29**	**257**	PN	**Pn**	**04 23**	**24.9**	**+1.0**
SVRC	**Sivrice-ELAZID**	**2.33**	**118**	PN	**Pn**	**04 23**	**25.3**	**+0.7**
EUZM	**Uzumlu**	**2.35**	**84**	*i* P	**Pb**	**04 23**	**27.2**	**-0.9**
GAZ	**Gaziantep**	**2.35**	**169**	PN	**Pn**	**04 23**	**25.5**	**+0.7**
KAGI	**orum-Kargı**	**2.35**	**315**	*i* P	**Pn**	**04 23**	**25.9**	**+1.2**
BRTR	**Keskin Array B**	**2.35**	**277**	Pn	**Pn**	**04 23**	**25.4**	**+0.6**
	comp=N,14nm,0.3s,baz=106,slow=16,SNR=245							
BRTR				Lg	Lg	04 23 57.5		
	comp=N,20nm,0.3s,baz=110,slow=26,SNR=18							
ERZN	**Erzincan**	**2.36**	**87**	PN	**Pn**	**04 23**	**25.4**	**+0.4**
DIKM	**Dikmen**	**2.41**	**334**	⇑P	**Pn**	**04 23**	**26.7**	**+1.2**
DIKM				⇑S	**Sb**	**04 23**	**58.1**	**-1.2**
DIKM	**Dikmen**	**2.41**	**334**	PN	**Pn**	**04 23**	**26.4**	**+0.9**
SERE	**Sereflikochisa**	**2.47**	**258**	PN	**Pn**	**04 23**	**27.1**	**+0.6**
KARA	**Karaisali**	**2.56**	**210**	PN	**Pn**	**04 23**	**28.2**	**+0.6**
CANT	**Cankiri**	**2.59**	**296**	PN	**Pn**	**04 23**	**28.9**	**+0.8**
URFA	**Urfa**	**2.65**	**140**	PN	**Pn**	**04 23**	**29.4**	**+0.5**
SNOP	**Sinop**	**2.76**	**337**	PN	**Pn**	**04 23**	**31.2**	**+0.9**
SULT	**Sultanhani-AKS**	**2.78**	**243**	PN	**Pn**	**04 23**	**31.4**	**+0.7**
AFSR	**Afar-Bala (An**	**2.79**	**270**	PN	**Pn**	**04 23**	**31.6**	**+0.8**
KTUT	**Trabzon**	**2.80**	**57**	⇓S	**Sb**	**04 24**	**12.6**	**+2.0**
KTUT	**Trabzon**	**2.80**	**57**	PN	**Pn**	**04 23**	**31.9**	**+1.0**
KOPT	**Kop Dagi**	**3.00**	**79**	*i* P	**Pb**	**04 23**	**38.0**	**-1.3**
YEDI	**Yedisu-Bingol**	**3.00**	**90**	PN	**Pn**	**04 23**	**34.4**	**+0.7**
LOD	**Lodumlu**	**3.04**	**279**	PN	**Pn**	**04 23**	**35.4**	**+1.1**
CHBY	**Cihanbeyli**	**3.08**	**254**	PN	**Pn**	**04 23**	**35.8**	**+1.0**
BNGB	**Bingl**	**3.15**	**98**	PN	**Pn**	**04 23**	**36.7**	**+0.9**
BZK	**Bozkurt**	**3.19**	**321**	⇓P	**Pn**	**04 23**	**38.2**	**+1.9**
BZK	**Bozkurt**	**3.19**	**321**	PN	**Pn**	**04 23**	**37.4**	**+1.1**
KBZ	**Khabaz**	**6.30**	**46**	Pn	**Pn**	**04 24**	**21.3**	**+2.4**
	comp=N,0.2nm,0.3s,baz=144,slow=5.5,SNR=2.2							
MMAI	**Mount Meron Ar**	**6.54**	**189**	Pn	**Pn**	**04 24**	**23.8**	**+1.4**
	comp=N,0.3nm,0.3s,baz=19,slow=11,SNR=3.9							
TIRR	**Tirgusor**	**7.90**	**312**	⇑P	**Pn**	**04 24**	**41.1**	**+0.2**
TOPG	**Topolog**	**8.18**	**314**	⇓P	**Pn**	**04 24**	**44.6**	**-0.1**
CFR	**Carcaliu**	**8.50**	**315**	⇓P	**Pn**	**04 24**	**48.7**	**-0.4**
VRI	**Vrincioaia**	**9.70**	**314**	⇑P	**Pn**	**04 25**	**06.0**	**+0.4**
VOIR		**10.44**	**308**	⇑P	**Pn**	**04 25**	**16.2**	**+0.5**
VTS	**Vitosha**	**10.62**	**291**	⇓P	**Pn**	**04 25**	**17.5**	**-0.8**
AKASG	**Malin Array Be**	**12.38**	**337**	Pn	**Pn**	**04 25**	**41.3**	**-0.8**
	comp=N,0.4nm,0.3s,baz=146,slow=13,SNR=1.9							
CONA	**Conrad Observa**	**17.21**	**306**	*i* Pn	**Pn**	**04 26**	**45.3**	**-1.3**
	comp=N,3.9nm,1.1s							
KBA	**Koelnbreinsper**	**18.55**	**302**	*i* Pn	**P**	**04 27**	**02.0**	**-1.2**
	comp=N,3.5nm,1.1s							
AKTO	**Aktyubinsk**	**18.58**	**47**	P	**P**	**04 27**	**03.2**	**-0.1**
	comp=N,0.5nm,0.3s,baz=253,slow=10,SNR=3.8							
GERES	**GERESS Array B**	**18.89**	**307**	P	**Pn**	**04 27**	**07.8**	**+0.6**
	comp=N,0.1nm,0.3s,baz=110,slow=12,SNR=4.0							
WTTA	**Wattenberg**	**19.73**	**301**	*i* P	**P**	**04 27**	**13.7**	**-2.4**
	comp=N,6.8nm,1.4s							
SQTA	**Sankt Quirin**	**20.00**	**301**	*i* pP	**P**	**04 27**	**18.5**	**-0.5**
	comp=N,2.0nm,0.5s							
MOTA	**Moosalm**	**20.10**	**301**	*i* P	**P**	**04 27**	**18.9**	**-1.2**
	comp=N,8.8nm,1.3s							
FETA	**Feichten**	**20.28**	**300**	*i* P	**P**	**04 27**	**20.8**	**-1.2**
	comp=N,6.1nm,1.3s							
RETA	**Reutte**	**20.36**	**302**	*i* pP	**P**	**04 27**	**23.0**	**+0.1**
	comp=N,8.6nm,1.0s							
DAVOX	**Davos/Dischmat**	**20.80**	**299**	P	Pn	04 27 29.1		-0.9
	comp=N,3.9nm,1.0s,baz=78,slow=7.2,SNR=4.9							
DAVA	**Damuels**	**20.90**	**301**	*i* pP	**P**	**04 27**	**29.3**	**+0.5**
	comp=N,18nm,1.6s							
KEST	**Kesra**	**21.94**	**269**	P	**P**	**04 27**	**40.9**	**+0.9**
	comp=N,4.0nm,0.8s,baz=311,slow=4.4,SNR=4.4							
ARU	**Arti**	**22.25**	**33**	P	**P**	**04 27**	**43.9**	**+0.9**
	comp=N,2.0nm,0.2s,baz=154,slow=14,SNR=4.5							
FINES	**FINESS Array B**	**22.93**	**347**	P	**P**	**04 27**	**49.6**	**-0.6**
	comp=N,1.5nm,0.9s,baz=210,slow=6.6,SNR=3.4							
BVAR	**Borovoye Array**	**26.67**	**48**	P	**P**	**04 28**	**24.2**	**-1.0**
	comp=N,0.2nm,0.3s,baz=292,slow=9.2,SNR=1.7							
NOA	**NORSAR Array B**	**26.70**	**332**	LR	LR	04 40 09.4		
	comp=N,23nm,19.1s,baz=60,slow=39							
ESDC	**Sonseca Array**	**31.13**	**284**	P	**P**	**04 29**	**04.6**	**-0.5**
	comp=N,1.1nm,0.9s,baz=74,slow=10,SNR=5.7							
MKAR	**Makanchi Array**	**33.69**	**62**	P	**P**	**04 29**	**28.1**	**+0.7**
	comp=N,0.5nm,0.7s,baz=342,slow=5.6,SNR=5.5							
TORD	**Torodi Ar. Bea**	**40.46**	**239**	P	**P**	**04 30**	**26.5**	**+1.2**
	comp=N,0.8nm,0.9s,baz=43,slow=7.8,SNR=3.6							
KSRS	**Korea Array**	**68.28**	**59**	P	**P**	**04 33**	**47.4**	**-0.1**
	comp=N,1.0nm,0.5s,baz=303,slow=6.8,SNR=2.4							
MDP	**Montagnes des**	**86.26**	**273**	LR	LR	05 10 29.1		
	comp=N,81nm,20.7s

HELC					*e*S		**Sb**	**04 37 04.6**	**-0.5**
HELC					*i*			04 37 08.1	
	comp=Z,4.8nm,0.4s								
HELC	**Santa Helena**	**2.04**	**122**		*e*P		**Pn**	**04 36 37.4**	**+0.6**
HELC					*e*S		**Sn**	**04 37 02.6**	**+0.3**
ZARC	**Zaragoza, Cauc**	**2.39**	**85**		*e*P		**Pn**	**04 36 42.5**	**+1.1**
ZARC					*e*S		**Sn**	**04 37 10.6**	**0.0**
ZARC					*i*			04 37 17.3	
	comp=Z,7.1nm,0.5s								
GUY2C	**Guyana, Caldas**	**2.79**	**137**		*e*P		**Pn**	**04 36 48.5**	**+1.2**
GUY2C					*e*S		**Sn**	**04 37 21.6**	**+0.5**
GUY2C					*i*			04 37 24.6	
	comp=Z,3.3nm,0.7s								
PTBC	**PUERTO BERRIO,**	**2.88**	**105**		*e*P		**Pn**	**04 36 49.5**	**+1.3**
AZU	**Azuero**	**3.03**	**280**		*e*P		**Pn**	**04 36 50.2**	**+0.1**
AZU					*e*S		**Sn**	**04 37 26.2**	**0.0**

IDC ***11*** *04:36:14.1±1.1, 10.˚70S×164.˚74E, h0km, mb3.8/8, mb1 4.1/10, mb1mx3.9/39, mbtmp4.0/10, ML4.8/2, MS3.4/10, Ms1 3.4/10, ms1mx3.1/41, Error ellipse: s-maj=26.9km s-min=23.0km az=142.0*

NEIC ***11*** *04:36:20.5±1.8, 10.˚86S±0.˚09×164.˚7E±0.˚1, h35km±2km, mb4.3/8, Error ellipse: s-maj=22.9km s-min=8.2km az=52.0*

ISC 11 04:36:19.8±0.8,**10.˚8S**±0.˚1×**164.˚72E**±0.˚09,**h35**km,**n36, σ1§41/25, mb4.0**/10,**MS3.5**/6,**Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**4.89**	**286**	Pn		**Pn**	**04 37 30.6**	**-0.3**
	96nm,0.3s,baz=155,slow=8.8,SNR=7.0							
HNR				Sn		**Sn**	**04 38 30.3**	**+4.0**
	63nm,0.3s,baz=184,slow=15,SNR=2.5							
HNR				LR		LR	04 39 31.1	
	comp=Z,573nm,19.9s,baz=89,slow=40							
HNR	**Honiara**	**4.89**	**286**			**Pn**	**04 37 31.3**	**+0.4**
HNR				Sn		**Sn**	**04 38 23.8**	**-2.5**
SANVU	**Saraoutou**	**5.22**	**153**	Pn		**Pn**	**04 37 35.2**	**-0.3**
DZM	**Mont Dzumac**	**11.34**	**172**	Pn		**Pn**	**04 38 59.5**	**0.0**
	2.9nm,0.3s,baz=327,slow=23,SNR=27							
DZM				LR		LR	04 42 16.4	
	comp=Z,86nm,18.5s,baz=31,slow=32							
DZM	**Mont Dzumac**	**11.34**	**172**			**Pn**	**04 39 00.1**	**+0.5**
KRVT	**Keravat (AS076**	**14.13**	**296**	LR		LR	04 45 22.9	
	comp=Z,162nm,19.8s,baz=138,slow=39							
PMG	**Port Moresby**	**17.35**	**273**	LR		LR	04 46 59.1	
	comp=Z,147nm,19.0s,baz=138,slow=37							
EIDS	**Eidsvold**	**19.43**	**220**	P		**Pn**	**04 40 44.0**	**-0.7**
CTA	**Charters Tower**	**20.04**	**240**	P		**P**	**04 40 50.1**	**0.0**
	3.8nm,0.9s,baz=43,slow=18,SNR=2.0							
CTAO	**Charters Tower**	**20.04**	**240**	P		**P**	**04 40 50.4**	**+0.3**
CTAO				IAmb		IAmb	04 40 54.0	
	comp=Z,14nm,1.2s							
AFI	**Afiamalu**	**23.16**	**100**	LR		LR	04 48 28.6	
	comp=Z,145nm,18.8s,baz=274,slow=32							
JAY	**Jayapura**	**25.21**	**287**	LR		LR	04 52 27.6	
	comp=Z,58nm,18.4s,baz=4.0,slow=39							
H11S2	**WAKE ISLAND Hy**	**29.16**	**4**	T		T	05 12 33.1	
	baz=184,slow=76,SNR=55							
H11S3	**WAKE ISLAND Hy**	**29.16**	**4**	T		T	05 12 33.4	
	baz=184,slow=76,SNR=73							
H11S1	**WAKE ISLAND Hy**	**29.17**	**4**	T		T	05 12 34.3	
	baz=184,slow=76,SNR=79							
STKA	**Stephens Creek**	**29.95**	**222**	P		**P**	**04 42 25.3**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=47,slow=7.7,SNR=3.1							
STKA	**Stephens Creek**	**29.95**	**222**	P		**P**	**04 42 24.0**	**-0.8**
BKZ	**Black Stump Fm**	**30.15**	**162**	P		**P**	**04 42 27.0**	**+0.4**
H11N1	**WAKE ISLAND Hy**	**30.38**	**4**	T		T	05 14 05.2	
	baz=184,slow=76,SNR=38							
H11N3	**WAKE ISLAND Hy**	**30.39**	**4**	T		T	05 14 05.5	
	baz=184,slow=76,SNR=32							
H11N2	**WAKE ISLAND Hy**	**30.40**	**4**	T		T	05 14 06.6	
	baz=184,slow=76,SNR=28							
WB0	**Warramunga Arr**	**30.55**	**249**	P		**P**	**04 42 29.0**	**-1.3**
WB2	**Warramunga Arr**	**30.62**	**249**	P		**P**	**04 42 29.3**	**-1.6**
WB2				IAmb		IAmb	04 42 44.9	
	comp=Z,9.1nm,1.2s							
WRA	**Warramunga Arr**	**30.63**	**249**	P		**P**	**04 42 29.4**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=78,slow=9.2,SNR=5.1							
WRA				LR		LR	04 55 22.6	
	comp=Z,78nm,18.6s,baz=250,slow=37							
ASAR	**Alice Springs**	**32.02**	**242**	P		**P**	**04 42 41.5**	**-1.8**
	comp=Z,0.6nm,0.4s,baz=62,slow=10,SNR=13							
VNDA	**Vanda**	**66.74**	**181**	P		**P**	**04 47 08.2**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=357,slow=6.1,SNR=7.0							
MA2	**Magadan**	**71.02**	**353**	LR		LR	05 15 59.3	
	comp=Z,28nm,18.2s,baz=216,slow=34							
QSPA	**South Pole Qui**	**79.22**	**180**	P		**P**	**04 48 22.1**	**+0.9**
QSPA				IAmb		IAmb	04 48 29.9	
	comp=Z,3.5nm,1.2s							
ILAR	**Eielson Array**	**83.59**	**19**	P		**P**	**04 48 42.7**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=233,slow=4.1,SNR=4.2							
ILAR	**Eielson Array**	**83.59**	**19**	P		**P**	**04 48 45.0**	**+0.9**
NVAR	**Mina Array Bea**	**86.63**	**50**	P		**P**	**04 48 59.3**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=224,slow=6.2,SNR=2.3							
ELK	**Elko**	**89.53**	**48**	LR		LR	05 25 03.7	
	comp=Z,25nm,18.3s,baz=290,slow=33							
LPIG	**La Paz**	**89.81**	**66**	LR		LR	05 23 27.3	
	comp=Z,17nm,18.8s,baz=212,slow=32							
MK31	**Makanchi Array**	**92.65**	**317**	P		**P**	**04 49 29.4**	**+1.2**
MK31				IAmb		IAmb	04 49 40.7	
	comp=Z,1.3nm,1.1s							
MKAR	**Makanchi Array**	**92.65**	**317**	P		**P**	**04 49 29.2**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=118,slow=2.7,SNR=6.9							
MKAR	**Makanchi Array**	**92.65**	**317**	P		**P**	**04 49 28.7**	**+0.6**

UCR ***11*** *04:41:16.2±1.3, 8.˚02N×82.˚59W, h13km±8km, MD3.5*

UPA ***11*** *04:41:18.0±1.4, 8.˚12N×82.˚62W, h20km±11km, MW4.0*

ISC 11 04:41:15.7±1.5,**8.˚03N**±0.˚06×**82.˚62W**±0.˚03,**h12**km±10km, **n23,σ0§88/40,4C-3D,Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BAGA3	**Bagala, Chiriq**	**0.45**	**12**	*e*P		**Pb**	**04 41 25.9**	**+0.3**
BAGA3				*e*S		**Sb**	**04 41 31.8**	**-0.5**
CDITO	**Canoe**	**0.60**	**335**	⇑*i*P		**Pg**	**04 41 28.1**	**+0.7**
CDITO				*e*S		**Sb**	**04 41 37.0**	**+0.3**
BCO2	**Palmira**	**0.69**	**7**	⇓*i*P		**Pg**	**04 41 29.9**	**+0.7**
BCO2				*e*S		**Sb**	**04 41 39.6**	**0.0**
PSOM3	**Paja de Sombre**	**0.72**	**24**	*e*P		**Pg**	**04 41 29.8**	**+0.2**
PSOM3				*e*S		**Sg**	**04 41 39.1**	**0.0**
BRU2	**Volcan**	**0.77**	**355**	*i*P		**Pg**	**04 41 31.0**	**+0.3**
BRU2				*e*S		**Sb**	**04 41 41.7**	**0.0**
BRU2	**Volcan**	**0.77**	**355**	⇓*e*P		**Pg**	**04 41 30.9**	**+0.3**
BRU2				*e*S		**Sb**	**04 41 41.8**	**+0.2**
BC3P	**Paso Ancho**	**0.79**	**1**	*e*P		**Pg**	**04 41 31.1**	**+0.2**
BC3P				*e*S		**Sg**	**04 41 39.3**	**-2.0**
PIRO	**Carate, Puerto**	**0.80**	**298**	*e*P		**Pb**	**04 41 31.2**	**-0.4**
PIRO				*e*S		**Sb**	**04 41 41.9**	**-0.6**
PIRO	**Carate, Puerto**	**0.80**	**298**	⇑*e*P		**Pb**	**04 41 31.1**	**-0.6**
PTJ1	**Puerto Jimnez**	**0.84**	**307**	⇓*i*P		**Pb**	**04 41 32.5**	**+0.2**
EDSV	**San Vito**	**0.86**	**336**	*e*P		**Pb**	**04 41 32.8**	**0.0**
EDSV				*e*S		**Sg**	**04 41 45.0**	**+1.3**
RIOS	**Rincon, Osa**	**1.11**	**307**	*e*P		**Pb**	**04 41 35.7**	**-1.2**
RIOS				*e*S		**Sb**	**04 41 51.6**	**+0.2**
EDPN	**Palmar Norte**	**1.25**	**318**	*e*P		**Pn**	**04 41 38.5**	**-0.5**
EDPN				*e*S		**Sn**	**04 41 55.7**	**-0.1**
EDBA	**Buenos Aires**	**1.30**	**330**	*e*P		**Pn**	**04 41 39.7**	**-0.2**
EDBA				*e*S		**Sb**	**04 41 56.8**	**-0.1**
GMAL	**Guarumal, Vera**	**1.40**	**101**	*e*P		**Pn**	**04 41 41.4**	**+0.3**
GMAL				*e*S		**Sb**	**04 42 00.8**	**+1.1**
GMAL	**Guarumal, Vera**	**1.40**	**101**	*e*P		**Pn**	**04 41 37.9**	**-3.2**
PEZE	**Perez Zeledon,**	**1.71**	**322**	⇑*e*P		**Pn**	**04 41 45.9**	**+0.4**
PEZE				*e*S		**Sb**	**04 42 08.8**	**+0.1**
CACAO	**El Cacao, Vera**	**1.87**	**111**	*e*P		**Pn**	**04 41 47.9**	**+0.3**
CACAO				*e*S		**Sn**	**04 42 11.8**	**+0.7**
CDM	**Cerro de Muert**	**1.89**	**323**	⇑*e*P		**Pn**	**04 41 48.1**	**-0.2**
RIMA	**Rio Macho**	**2.12**	**325**	*e*P		**Pn**	**04 41 51.5**	**+0.2**
LCR2	**La Lucha 2**	**2.19**	**321**	*e*P		**Pn**	**04 41 52.4**	**+0.2**
PNME	**Penonome**	**2.31**	**78**	*e*P		**Pb**	**04 41 56.3**	**-1.1**
PNME				*e*S		**Sn**	**04 42 21.6**	**-0.6**
AZU	**Azuero**	**2.33**	**96**	*e*P		**Pn**	**04 41 55.5**	**+1.5**
AZU				*e*S		**Sn**	**04 42 23.7**	**+1.1**

SJA ***11*** *04:49:06.6±0.6, 23.˚90S×66.˚83W, h219km±3km, ML5.2, MW4.9*

NEIC ***11*** *04:49:07.3±1.6, 23.˚91S±0.˚06×66.˚74W±0.˚08, h197km±5km, mb5.0/185, Mww5.0, Md4.8(SJA), Error ellipse: s-maj=10.4km s-min=8.2km az=87.0*

VAO ***11*** *04:49:07.6±0.3, 23.˚85S×66.˚77W, h211km±3km, mb4.9*

BJI ***11*** *04:49:08.0±0.0, 23.˚90S×66.˚70W, h190km, mB5.3/8*

GUC ***11*** *04:49:08.7±0.5, 23.˚89S×67.˚30W, h234km±8km, MW4.8*

IDC ***11*** *04:49:08.7±0.5, 23.˚84S×66.˚75W, h206km±4km, mb4.4/16, mb1 4.5/23, mb1mx4.5/25, mbtmp4.9/23, Error ellipse: s-maj=10.2km s-min=7.6km az=41.0*

NEIC ***11*** *04:49:11, 23.˚90S×66.˚75W, h190km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=2.70; Mθθ=0.20; Mϕϕ2.90; Mrθ=0.72; Mθϕ=0.58; Mϕr=1.64; Fault plane solution: M₀3.38000×10¹⁶ NP1:ϕ₁=208.00000°, δ34.00000°, λ=-60.00000°. NP2:ϕ₂=353.00000°, δ61.00000°, λ=-108.00000°. Principal axes: T 3.3895, Plg14.0000°, Azm96.0000°; N -0.0182, Plg16.0000°, Azm2.0000°; P -3.3714, Plg68.0000°, Azm226.0000°;*

GCMT ***11*** *04:49:12.3±0.3, 24.˚03S±0.˚02×66.˚97W±0.˚02, h211km±2km, MW5.0/103, Moment Tensor Solution. s37,c41; s103,c138; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=3.57±.11; Mθθ-0.12±.14; Mϕϕ3.69±.17; Mrθ0.57±.10; Mθϕ1.36±.14; Mϕr-2.08±.12; Best double couple: M₀4.43400×10¹⁶ NP1:ϕ₁=215.00000°, δ35.00000°, λ=-61.00000°. NP2:ϕ₂1.00000°, δ60.00000°, λ=-109.00000°. Principal axes: T 4.5410, Plg13.0000°, Azm105.0000°; N -0.2210, Plg16.0000°, Azm11.0000°; P -4.3260, Plg69.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 04:49:07.8±0.5,**23.˚90S**±0.˚03×**66.˚83W**±0.˚03,**h203**km±4km, **n799,σ1§06/852,mb4.9**/109,**17C-1D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SLA	**San Lorenzo**	**1.46**	**124**	⇓*i*P		**Pn**	**04 49 42.8**	**+1.2**
SLA				*i* S		**S**	**04 50 08.7**	**+1.1**
SLA	**San Lorenzo**	**1.46**	**124**	*e*P		**Pn**	**04 49 42.7**	**+1.0**
SLA				*e*S		**S**	**04 50 08.8**	**+1.2**
AZAP	**Zapla**	**1.64**	**102**	*e*P		**Pn**	**04 49 44.0**	**+0.6**
AZAP				*e*S		**S**	**04 50 11.7**	**+1.2**
AZAP				IAML			04 50 14.5	
	comp=Z,5μm,1.2s							
YJA	**Yavi**	**2.10**	**36**	*e*P		**Pn**	**04 49 49.1**	**+0.9**
YJA				*e*S		**S**	**04 50 20.7**	**+1.8**
ASTB	**Santa Barbara**	**2.17**	**92**	*e*P		**Pn**	**04 49 49.1**	**+0.5**
LVC	**Limon Verde**	**2.30**	**303**	P		**Pn**	**04 49 51.2**	**+1.0**
	comp=Z,592nm,0.3s,baz=129,slow=6.6,SNR=4315							
LVC				S		**S**	**04 50 23.4**	**+0.9**
	comp=Z,1μm,0.3s,baz=259,slow=21,SNR=50							
LVC	**Limon Verde**	**2.30**	**303**	⇑*i*P		**Pn**	**04 49 51.1**	**+1.0**
LVC				*i* S		**S**	**04 50 23.6**	**+1.1**
LVC	**Limon Verde**	**2.30**	**303**	*e*P		**Pn**	**04 49 51.2**	**+1.0**
LVC				*e*S		**S**	**04 50 24.0**	**+1.4**
LVC	**Limon Verde**	**2.30**	**303**	*e*P		**Pn**	**04 49 51.2**	**+1.0**
LVC				*e*S		**S**	**04 50 23.6**	**+1.1**
LVC				IAML			04 50 27.9	
	comp=Z,4μm,0.8s							
FSA	**Cafayete**	**2.33**	**161**	*e*P		**Pn**	**04 49 50.6**	**+0.3**
FSA				*e*S		**S**	**04 50 23.7**	**+0.7**
PB15	**IPOC Station P**	**2.52**	**285**	⇑*i*P		**Pn**	**04 49 53.2**	**+0.8**
PB15				*i* S		**S**	**04 50 26.6**	**+0.1**
PB15	**IPOC Station P**	**2.52**	**285**			**Pn**	**04 49 53.0**	**+0.6**
PB15				Sn		**S**	**04 50 26.5**	**+0.1**
PB15	**IPOC Station P**	**2.52**	**285**	*e*P		**Pn**	**04 49 53.2**	**+0.8**
PB15				*e*S		**S**	**04 50 26.9**	**+0.5**
ALOL	**LOMAS DE OLMED**	**2.61**	**89**	*e*P		**Pn**	**04 49 49.4**	**-3.8**
PB06	**IPOC Station P**	**2.79**	**295**	⇑*i*P		**Pn**	**04 49 56.0**	**+0.6**
PB06				*i* S		**S**	**04 50 31.6**	**-0.3**
PB06	**IPOC Station P**	**2.79**	**295**			**Pn**	**04 49 56.0**	**+0.6**
PB06				Sn		**S**	**04 50 31.5**	**-0.3**
PB06	**IPOC Station P**	**2.79**	**295**	*e*P		**Pn**	**04 49 55.8**	**+0.5**
PB06				*e*S		**S**	**04 50 31.6**	**-0.3**
PB06				IAML			04 50 34.5	
	comp=Z,7μm,0.4s							
GO02	**Mina Guanaco**	**2.81**	**243**	*e*P		**Pn**	**04 49 56.2**	**+0.4**
GO02				*i* S		**S**	**04 50 32.6**	**0.0**
GO02	**Mina Guanaco**	**2.81**	**243**	Pn		**Pn**	**04 49 56.2**	**+0.4**
GO02				Sn		**S**	**04 50 32.6**	**0.0**
PB09	**IPOC Station P**	**3.05**	**313**	⇑*i*P		**Pn**	**04 49 59.5**	**+1.0**
PB09				*i* S		**S**	**04 50 38.4**	**+1.0**
PB09	**IPOC Station P**	**3.05**	**313**			**Pn**	**04 49 59.5**	**+1.0**
PB09				Sn		**S**	**04 50 37.8**	**+0.3**
PB09	**IPOC Station P**	**3.05**	**313**	*e*P		**Pn**	**04 49 59.4**	**+0.9**
PB09				*e*S		**S**	**04 50 38.5**	**+1.0**
PB09				IAML			04 50 40.4	
	comp=Z,7μm,0.8s							
AHML	**Horco Molle**	**3.18**	**155**	*e*P		**Pn**	**04 49 59.8**	**+0.1**
AHML				*e*S		**S**	**04 50 39.4**	**-0.5**
PB03	**IPOC Station P**	**3.26**	**304**	⇑*i*P		**Pn**	**04 50 01.2**	**+0.3**
PB03				*i* S		**S**	**04 50 40.6**	**-1.3**
PB03	**IPOC Station P**	**3.26**	**304**	*e*P		**Pn**	**04 50 01.2**	**+0.3**
PB03				*e*S		**S**	**04 50 40.8**	**-1.0**
PB03				IAML			04 50 45.1	
	comp=Z,11μm,0.3s							
PB05	**IPOC Station P**	**3.27**	**288**	⇑*i*P		**Pn**	**04 50 01.0**	**0.0**
PB05				*i* S		**S**	**04 50 40.3**	**-1.6**
PB05	**IPOC Station P**	**3.27**	**288**	*e*P		**Pn**	**04 50 01.0**	**0.0**
PB05				*e*S		**S**	**04 50 41.2**	**-0.7**
PB05				IAML			04 50 44.3	
	comp=Z,4μm,0.3s							
PB14	**IPOC Station P**	**3.34**	**257**	⇑*i*P		**Pn**	**04 50 02.0**	**-0.1**
PB14				*i* S		**S**	**04 50 41.8**	**-2.0**
PB14	**IPOC Station P**	**3.34**	**257**	Pn		**Pn**	**04 50 01.9**	**-0.1**
PB14				Sn		**S**	**04 50 42.0**	**-1.8**
PB14	**IPOC Station P**	**3.34**	**257**	*e*P		**Pn**	**04 50 02.1**	**+0.1**
PB14				*e*S		**S**	**04 50 43.7**	**-0.1**
PB14				IAML			04 50 45.6	
	comp=Z,6μm,0.4s							
PB04	**IPOC Station P**	**3.43**	**296**	⇑*i*P		**Pn**	**04 50 03.1**	**+0.1**
PB04				*i* S		**S**	**04 50 44.2**	**-1.3**
PB04	**IPOC Station P**	**3.43**	**296**			**Pn**	**04 50 03.1**	**+0.1**
PB04	**IPOC Station P**	**3.43**	**296**	*e*P		**Pn**	**04 50 03.1**	**+0.1**
PB04				*e*S		**S**	**04 50 44.6**	**-0.9**
PB04				IAML			04 50 46.3	
	comp=Z,6μm,0.4s							
PB10	**IPOC Station P**	**3.44**	**276**	⇑*i*P		**Pn**	**04 50 03.1**	**+0.2**
PB10				*i* S		**S**	**04 50 43.9**	**-1.4**
PB10	**IPOC Station P**	**3.44**	**276**	Pn		**Pn**	**04 50 02.9**	**+0.1**
PB10	**IPOC Station P**	**3.44**	**276**	*e*P		**Pn**	**04 50 03.1**	**+0.2**
PB10				*e*S		**S**	**04 50 44.4**	**-0.9**
PB10				IAML			04 50 48.9	
	comp=Z,4μm,0.4s							
PB07	**IPOC Station P**	**3.55**	**307**	⇑*i*P		**Pn**	**04 50 04.6**	**0.0**
PB07				*i* S		**S**	**04 50 46.3**	**-2.0**
PB07	**IPOC Station P**	**3.55**	**307**			**Pn**	**04 50 04.5**	**0.0**
PB07	**IPOC Station P**	**3.55**	**307**	*e*P		**Pn**	**04 50 04.5**	**0.0**
PB07				*e*S		**S**	**04 50 47.1**	**-1.1**
PB07				IAML			04 50 50.0	
	comp=Z,4μm,0.4s							
AC02	**Maricunga**	**3.59**	**215**	⇑*i*P		**Pn**	**04 50 05.6**	**+0.4**
AC02				*i* S		**S**	**04 50 49.8**	**+0.2**
AC02	**Maricunga**	**3.59**	**215**	Pn		**Pn**	**04 50 05.5**	**+0.3**
PB01	**IPOC Station P**	**3.76**	**319**	⇑*i*P		**Pn**	**04 50 06.8**	**-0.2**
PB01				*i* S		**S**	**04 50 51.1**	**-1.6**
PB01	**IPOC Station P**	**3.76**	**319**			**Pn**	**04 50 06.7**	**-0.2**
AC01	**Pan de Azucar**	**4.09**	**236**	⇑*i*P		**Pn**	**04 50 09.7**	**-1.2**
AC01				*i* S		**S**	**04 50 56.5**	**-3.4**
AC01	**Pan de Azucar**	**4.09**	**236**	Pn		**Pn**	**04 50 09.7**	**-1.2**
PB08	**IPOC Station P**	**4.32**	**330**	⇑*i*P		**Pn**	**04 50 14.7**	**+0.5**
PB08				*i* S		**S**	**04 51 05.5**	**-0.2**
PB08	**IPOC Station P**	**4.32**	**330**			**Pn**	**04 50 14.7**	**+0.5**
PATCX	**Punta Patache**	**4.34**	**314**	*i* P		**Pn**	**04 50 13.0**	**-1.2**
PATCX				*e*S		**S**	**04 51 02.4**	**-3.3**
PATCX	**Punta Patache**	**4.34**	**314**			**Pn**	**04 50 12.9**	**-1.2**
TA01	**Diego Aracena**	**4.54**	**316**	⇑*i*P		**Pn**	**04 50 15.0**	**-1.6**
TA01				*e*S		**S**	**04 51 06.9**	**-3.3**
TA01	**Diego Aracena**	**4.54**	**316**	Pn		**Pn**	**04 50 15.0**	**-1.6**
CYA	**Choya**	**4.62**	**169**	*e*P		**Pn**	**04 50 17.5**	**0.0**
CYA				*e*S		**S**	**04 51 11.8**	**-0.2**
TA02	**Huaiquique**	**4.73**	**319**	*e*P		**Pn**	**04 50 17.1**	**-1.9**
GO01	**Chusmiza**	**4.75**	**332**			**Pn**	**04 50 19.4**	**-0.2**
GO03	**Copiap**	**4.79**	**219**	*i* P		**Pn**	**04 50 18.1**	**-1.6**
GO03	**Copiap**	**4.79**	**219**			**Pn**	**04 50 18.2**	**-1.5**
PB11	**IPOC Station P**	**4.88**	**327**	Pn		**Pn**	**04 50 19.7**	**-1.4**
VCA	**Vinchina**	**4.97**	**194**	*e*P		**Pn**	**04 50 23.2**	**+1.1**
PSGCX	**Pisagua**	**5.26**	**324**			**Pn**	**04 50 23.9**	**-1.9**
MNMC	**Minye Minye**	**5.40**	**331**			**Pn**	**04 50 26.8**	**-0.9**
ACLC	**CERRO LA CRUZ**	**5.51**	**181**	*e*P		**Pn**	**04 50 28.4**	**-0.5**
ACLC				*e*S		**S**	**04 51 30.1**	**-2.7**
AC04	**Llanos de Chal**	**5.74**	**221**	Pn		**Pn**	**04 50 29.8**	**-2.0**
AC05	**El Transito**	**5.81**	**211**	Pn		**Pn**	**04 50 31.4**	**-1.4**

PB16	**IPOC Station P**	**6.07**	**335**			**Pn**	**04 50 36.2**	**-0.5**
LCO	**Las Campanas**	**6.16**	**213**	Pn		**Pn**	**04 50 35.6**	**-1.8**
PB12	**IPOC Station P**	**6.19**	**328**	Pn		**Pn**	**04 50 35.9**	**-1.9**
AP01	**Chacalluta**	**6.40**	**329**	Pn		**Pn**	**04 50 39.6**	**-0.8**
APLL	**PUNTA DE LOS L**	**6.48**	**178**	*e*P		**Pn**	**04 50 41.0**	**-0.4**
ACDV	**Cuesta del Vie**	**6.57**	**198**	*e*P		**Pn**	**04 50 42.8**	**+0.1**
ACDV				*e*S		**S**	**04 51 58.0**	**+0.2**
AROD	**Rodeo**	**6.67**	**200**	*e*P		**Pn**	**04 50 44.1**	**0.0**
CO01	**Juntas del Tor**	**6.72**	**205**			**Pn**	**04 50 44.2**	**-0.5**
ACCO	**Cerro Coronel**	**6.96**	**196**	*e*P		**Pn**	**04 50 47.8**	**0.0**
ACCO				*e*S		**S**	**04 52 04.6**	**-2.4**
ACCO				IAML			04 52 06.9	
	comp=Z,191nm,0.4s							
GO04	**Tololo Observa**	**7.18**	**209**	Pn		**Pn**	**04 50 48.0**	**-2.6**
LPAZ	**La Paz**	**7.67**	**351**	P		**Pn**	**04 50 57.7**	**+0.2**
	comp=Z,14nm,0.3s,baz=172,slow=7.8,SNR=371							
LPAZ				S		**S**	**04 52 21.0**	**-3.5**
	comp=Z,2.3nm,0.3s,baz=228,slow=23,SNR=1.4							
LPAZ	**La Paz**	**7.67**	**351**	Pn		**Pn**	**04 50 57.5**	**+0.1**
LPAZ	**La Paz**	**7.67**	**351**	*e*P		**Pn**	**04 50 57.7**	**+0.2**
LPAZ				*e*S		**S**	**04 52 23.1**	**-1.4**
CO03	**El Pedregal**	**7.72**	**206**			**Pn**	**04 50 55.1**	**-2.3**
ZON	**Zonda**	**7.79**	**192**	Pn		**Pn**	**04 50 57.5**	**-0.9**
RTCV	**Cerro Valdivia**	**8.08**	**190**	*e*P		**Pn**	**04 51 00.3**	**-1.8**
RTCV				IAML			04 52 33.0	
	comp=Z,87nm,0.4s							
CO02	**Combarbal**	**8.16**	**206**			**Pn**	**04 51 00.7**	**-2.6**
CPUP	**Villa Florida**	**8.94**	**108**	P		**Pn**	**04 51 11.7**	**-1.7**
	comp=Z,6.1nm,0.3s,baz=286,slow=11,SNR=281							
CPUP	**Villa Florida**	**8.94**	**108**	Pn		**Pn**	**04 51 11.4**	**-1.9**
CPUP	**Villa Florida**	**8.94**	**108**	*e*P		**Pn**	**04 51 11.9**	**-1.5**
VA03	**San Esteban**	**9.42**	**200**			**Pn**	**04 51 18.8**	**-0.8**
SIV	**San Ignacio**	**9.55**	**36**	P		**Pn**	**04 51 19.5**	**-1.8**
	comp=Z,7.2nm,0.3s,baz=228,slow=11,SNR=233							
SIV				S		**S**	04 52 54.7	-14
	comp=Z,1.5nm,0.3s,baz=224,slow=16,SNR=3.6							
ROC1	**El Roble**	**9.77**	**201**			**Pn**	**04 51 23.2**	**-1.0**
PEL	**Peldehue**	**9.82**	**199**	Pn		**Pn**	**04 51 23.6**	**-1.0**
MT05	**Renca**	**10.06**	**199**	Pn		**Pn**	**04 51 26.3**	**-1.5**
MT02	**Curacav**	**10.06**	**201**			**Pn**	**04 51 24.4**	**-3.5**
PTLB	**Pontes e Lacer**	**11.09**	**42**	*e*P		**Pn**	**04 51 39.6**	**-1.6**
PTLB				*e*S		**S**	**04 53 44.0**	**-0.8**
BO01	**Tunca**	**11.10**	**199**	Pn		**Pn**	**04 51 37.6**	**-3.5**
BO02	**Sierra Bellavi**	**11.39**	**197**	Pn		**Pn**	**04 51 43.1**	**-1.8**
GO05	**Huala**	**11.93**	**201**			**Pn**	**04 51 50.4**	**-1.3**
VILB	**Vilhena**	**12.57**	**31**	*e*P		**Pn**	**

comp=Z,45nm,1.2s
PMSA Palmer Station 40.91 178 P **P** **04 56 31.1 +1.2**
comp=Z,15nm,0.7s,baz=2.9,slow=6.9,SNR=13
PMSA Palmer Station 40.91 178 P **P** **04 56 30.7 +0.8**
PMSA IAmb IAmb 04 56 31.6
comp=Z,25nm,0.8s
PMSA Palmer Station 40.91 178 eP **P** **04 56 29.7 -0.2**
MATN Matagalpa 41.09 331 P **P** **04 56 33.0 +0.9**
MATN IAmb IAmb 04 56 35.1
comp=Z,28nm,0.8s
ESTN Estel 41.44 331 P **P** **04 56 35.8 +0.9**
ESTN IAmb IAmb 04 56 37.7
comp=Z,30nm,0.7s
MPR Mayaguez 41.85 360 P **P** **04 56 36.6 -1.5**
BANI BANI 42.17 355 P **P** **04 56 40.3 -0.5**
TGUH Tegucigalpa,Un 42.69 330 P **P** **04 56 45.5 +0.4**
TGUH IAmb IAmb 04 56 47.3
comp=Z,45nm,0.9s
MTO3 Montecristo 43.98 328 P **P** **04 56 56.3 +0.9**
MTO3 IAmb IAmb 04 56 57.9
comp=Z,37nm,0.9s
PETF Flores 46.39 329 P **P** **04 57 15.4 +1.3**
CCIG Comitan 46.97 326 P **P** **04 57 19.5 +0.6**
TEIG Tepich 48.58 333 P **P** **04 57 30.8 -0.1**
TEIG IAmb IAmb 04 57 32.0
comp=Z,27nm,0.7s
TLIG Tlapa 51.55 320 P **P** **04 57 55.0 +1.5**
DWPF Disney Wildern 53.59 344 P **P** **04 58 08.5 +0.4**
baz=163
DWPF Disney Wildern 53.59 344 P **P** **04 58 08.5 +0.4**
DWPF IAmb IAmb 04 58 09.6
comp=Z,41nm,1.0s
MOIG Morelia 54.75 319 P **P** **04 58 17.9 +1.0**
MOIG IAmb IAmb 04 58 20.0
comp=Z,51nm,1.1s
VNA3 Neumayer Olymp 57.20 161 P **P** **04 58 34.3 +0.9**
TIGA Tifton 57.32 343 P **P** **04 58 34.7 +0.2**
baz=162
VNA1 Neumayer--Stat 57.39 160 P **P** **04 58 35.9 +1.3**
352A Blakely 57.73 342 P **P** **04 58 37.4 0.0**
158A Hollywood 57.74 347 P **P** **04 58 38.6 +1.1**
baz=166
VNA2 Neumayer--Watz 57.76 160 P **P** **04 58 38.2 +0.9**
baz=286,slow=8.1
157A Early Branch 57.86 346 P **P** **04 58 39.0 +0.7**
baz=165
ZAIG Zacatecas 57.95 320 P **P** **04 58 41.2 +1.7**
ZAIG IAmb IAmb 04 58 42.9
comp=Z,28nm,1.0s
Z59A Georgetown, SC 58.05 348 P **P** **04 58 41.1 +1.5**
baz=166
BRAL Brewton 58.08 340 P **P** **04 58 40.2 +0.3**
baz=158,SNR=9.5
BRAL Brewton 58.08 340 P **P** **04 58 40.1 +0.2**
NHSC New Hope 58.10 347 P **P** **04 58 41.1 +1.1**
baz=166,SNR=7.4
Z58A St. Stephen 58.24 347 P **P** **04 58 41.7 +0.7**
baz=166,SNR=6.8
154A Montrose 58.30 344 P **P** **04 58 41.5 +0.1**
Z57A Bowman 58.39 346 P **P** **04 58 42.6 +0.6**
baz=165
Z56A Williston 58.57 346 P **P** **04 58 43.8 +0.5**
baz=164
250A Grady 58.59 341 P **P** **04 58 43.0 -0.4**
250A IAmb IAmb 04 58 44.2
comp=Z,39nm,0.9s
Y60A Bolivia 58.59 349 P **P** **04 58 43.8 +0.4**
baz=168
Y59A Loris 58.70 348 P **P** **04 58 44.5 +0.4**
baz=167
Y58A Scranton 58.77 348 P **P** **04 58 45.1 +0.6**
baz=166
152A Waverly Hall 58.78 342 P **P** **04 58 44.5 -0.3**
152A IAmb IAmb 04 58 45.5
comp=Z,27nm,1.1s
Y56A Pelion 59.00 346 P **P** **04 58 46.4 +0.2**
baz=164
Y57A Sumter 59.02 347 P **P** **04 58 46.9 +0.6**
baz=166
Y57A Sumter 59.02 347 P **P** **04 58 46.6 +0.3**
Y57A IAmb IAmb 04 58 47.9
comp=Z,52nm,1.1s
X60A Albert Glenn T 59.11 349 P **P** **04 58 47.2 +0.3**
baz=168
GOGA Godfrey 59.15 344 P **P** **04 58 47.1 -0.1**
baz=162,SNR=9.3
GOGA Godfrey 59.15 344 P **P** **04 58 47.1 -0.1**
X59A McDuffie Farm, 59.21 349 P **P** **04 58 47.9 +0.3**
baz=167
KVTX Kingsville 59.28 328 P **P** **04 58 48.5 +0.3**
KVTX IAmb IAmb 04 58 51.2
comp=Z,59nm,1.2s
X58A Rowland 59.33 348 P **P** **04 58 48.9 +0.5**
baz=167,SNR=6.5
X57A Johnson Farm, 59.39 347 P **P** **04 58 49.3 +0.4**
baz=166
SNAA Sanae 59.40 161 P **P** **04 58 49.3 +0.7**
SNAA Sanae 59.40 161 P **P** **04 58 49.0 +0.4**
SNAA IAmb IAmb 04 58 50.3
comp=Z,62nm,1.4s
JSC Jenkinsville 59.46 346 P **P** **04 58 49.6 +0.3**
Z51A Franklin 59.52 342 P **P** **04 58 49.2 -0.5**
Z51A IAmb IAmb 04 58 50.7
comp=Z,23nm,1.1s
W60A Pink Hill 59.53 350 P **P** **04 58 50.1 +0.4**
baz=168
W61A Ground Anchor 59.54 350 P **P** **04 58 50.1 +0.2**
baz=169
344A Westbrook Farm 59.60 336 P **P** **04 58 50.4 0.0**
344A IAmb IAmb 04 58 52.0
comp=Z,32nm,1.0s
X56A White Oak 59.62 346 P **P** **04 58 50.8 +0.5**
baz=165,SNR=14
X55A Gracelyn & Ava 59.73 346 P **P** **04 58 51.5 +0.4**
baz=164,SNR=15
Y52A Lilburn 59.74 343 P **P** **04 58 51.1 -0.2**
Y52A IAmb IAmb 04 58 52.1
comp=Z,25nm,0.9s
CNNC Cliffs of the 59.74 350 P **P** **04 58 51.5 +0.3**
baz=168
V62A Hyde County Ai 59.76 351 P **P** **04 58 52.6 +1.2**
baz=170
W58A Raeford 59.77 348 P **P** **04 58 51.8 +0.5**
baz=167,SNR=11
W59A Clinton 59.77 349 P **P** **04 58 51.8 +0.4**
baz=168
LRAL Lakeview Retre 59.79 340 P **P** **04 58 51.3 -0.3**
baz=159,SNR=22
LRAL Lakeview Retre 59.79 340 P **P** **04 58 51.3 -0.3**
LRAL IAmb IAmb 04 58 52.3
comp=Z,32nm,1.1s
441A DeRidder 59.93 334 P **P** **04 58 53.6 +1.1**
X54A Belton 59.97 345 P **P** **04 58 53.3 +0.4**
baz=164,SNR=8.2
W57A Gilead 60.04 348 P **P** **04 58 53.4 +0.1**
baz=166,SNR=7.2
W57A Gilead 60.04 348 P **P** **04 58 53.3 +0.1**
W57A IAmb IAmb 04 58 54.7
comp=Z,23nm,0.8s
V61A Roper 60.08 351 P **P** **04 58 53.6 +0.1**
baz=170
342A Flagon Creek P 60.14 335 P **P** **04 58 54.9 +0.9**
W56A Indian Trail 60.14 347 P **P** **04 58 54.3 +0.3**
baz=165,SNR=8.0
V60A Jim Taylor Roa 60.15 350 P **P** **04 58 54.3 +0.3**
baz=169
VBMS Vicksburg 60.22 337 P **P** **04 58 54.7 +0.2**
baz=155
VBMS Vicksburg 60.22 337 P **P** **04 58 54.4 -0.2**
VBMS IAmb IAmb 04 58 55.8
comp=Z,60nm,1.4s
Z47A Carrollton 60.28 340 P **P** **04 58 54.5 -0.4**
Z47A IAmb IAmb 04 58 55.6
comp=Z,32nm,0.8s
KMSC Kings Mountain 60.31 346 P **P** **04 58 55.4 +0.3**
baz=165,SNR=9.8
KMSC Kings Mountain 60.31 346 P **P** **04 58 55.3 +0.3**
KMSC IAmb IAmb 04 58 56.7
comp=Z,20nm,0.9s
V59A Middlesex 60.31 349 P **P** **04 58 55.4 +0.3**
baz=168,SNR=6.3
735A Kenedy 60.33 329 P **P** **04 58 56.0 +0.7**
735A IAmb IAmb 04 58 57.7
comp=Z,45nm,1.1s
HKT Hockley 60.35 331 P **P** **04 58 56.1 +0.6**
W54A Cherokee Point 60.44 346 P **P** **04 58 56.6 +0.6**
baz=164,SNR=13
V58A Windy Hill, Pi 60.49 349 P **P** **04 58 56.5 +0.1**
baz=167
BG3 Lake Jocassee 60.53 345 P **P** **04 58 56.9 +0.3**
833A Chaparral WMA, 60.66 327 P **P** **04 58 58.8 +1.1**
baz=146,SNR=13
833A Chaparral WMA, 60.66 327 P **P** **04 58 58.6 +1.0**
V57A Coltrane Farms 60.71 348 P **P** **04 58 58.0 +0.2**
baz=166
V56A Mocksville 60.77 347 P **P** **04 58 58.9 +0.7**
baz=166,SNR=16
FPAL Fort Paine 60.79 342 P **P** **04 58 58.2 -0.2**
U59A Littleton 60.81 350 P **P** **04 58 58.7 +0.3**
baz=168
U60A Pendleton 60.83 350 P **P** **04 58 58.7 +0.2**
baz=169
V55A Taylorsville 60.96 347 P **P** **04 59 00.1 +0.5**
baz=165,SNR=13
143A Socs Landing, 60.98 336 P **P** **04 58 59.7 +0.1**
U58A Oxford 60.98 349 P **P** **04 59 00.0 +0.4**
baz=168
V54A Nebo 61.05 346 P **P** **04 59 00.4 +0.2**
baz=164,SNR=11
X48A Hartselle 61.12 341 P **P** **04 59 00.6 0.0**
U57A Blanch 61.16 348 P **P** **04 59 01.1 +0.3**
baz=167,SNR=6.5
U56A King 61.27 348 P **P** **04 59 02.3 +0.8**
baz=166
CPCT Cooper Cave 61.36 344 P **P** **04 59 01.9 -0.3**
TKL Tuckaleechee C 61.37 344 P **P** **04 59 01.9 -0.3**
TKL IAmb IAmb 04 59 03.0
comp=Z,22nm,1.1s
Y45A Yeager Farm, C 61.38 339 P **P** **04 59 02.1 -0.2**
T59A Double "B" Far 61.38 350 P **P** **04 59 02.5 +0.2**
baz=169
NATX Nacogdoches 61.41 333 P **P** **04 59 03.9 +1.3**
baz=151
NATX Nacogdoches 61.41 333 P **P** **04 59 02.8 +0.2**
NATX IAmb IAmb 04 59 05.1
comp=Z,37nm,0.9s
T60A Surry 61.42 351 P **P** **04 59 04.5 +2.0**
baz=170
T58A Grand View Acr 61.51 349 P **P** **04 59 03.6 +0.4**
baz=168
SWET Sewanee 61.52 342 P **P** **04 59 03.2 0.0**
U55A TA2, Sparta 61.56 347 P **P** **04 59 03.9 +0.4**
baz=165,SNR=5.6
V51A Loudon 61.65 344 P **P** **04 59 03.8 -0.3**
T57A Hurt 61.69 349 P **P** **04 59 04.8 +0.4**
baz=167
U54A Nelsons Funny 61.74 346 P **P** **04 59 05.0 +0.2**
baz=164,SNR=8.9
U54A Nelsons Funny 61.74 346 P **P** **04 59 04.8 0.0**
U54A IAmb IAmb 04 59 06.0
comp=Z,30nm,0.9s
435B Jarrell 61.85 330 P **P** **04 59 06.2 +0.7**
baz=148
T56A Rocky Mt 61.86 348 P **P** **04 59 06.2 +0.7**
baz=166
OXF Oxford 61.92 339 P **P** **04 59 05.1 -0.8**
baz=156,SNR=6.7
OXF Oxford 61.92 339 P **P** **04 59 05.2 -0.7**
PLAL Pickwick Lake 61.93 340 P **P** **04 59 05.0 -0.9**
PLAL IAmb IAmb 04 59 06.3
comp=Z,33nm,1.0s
S60A Water View 61.97 351 P **P** **04 59 06.4 +0.2**
baz=170
Z41A Richland Creek 61.99 335 P **P** **04 59 07.1 +0.7**
baz=153
T55A Pulaski 62.10 347 P **P** **04 59 07.8 +0.7**
baz=166,SNR=7.5
237A Washetta, Mont 62.11 332 P **P** **04 59 07.9 +0.7**
237A IAmb IAmb 04 59 09.6
comp=Z,33nm,0.8s
BLA Blacksburg 62.12 348 P **P** **04 59 08.0 +0.8**
baz=166
TZTN Tazewell 62.15 345 P **P** **04 59 07.1 -0.4**
baz=163
TZTN Tazewell 62.15 345 P **P** **04 59 07.0 -0.5**
CCAR Cane Creek 62.20 337 P **P** **04 59 08.3 +0.5**
T54A Tazewell 62.20 347 P **P** **04 59 07.9 0.0**
baz=165,SNR=6.4
T53A Wise 62.34 346 P **P** **04 59 08.6 -0.2**
baz=164,SNR=7.6
R58B Mineral 62.40 350 P **P** **04 59 09.4 +0.4**
baz=168,SNR=5.2
X43A Marvell 62.42 338 P **P** **04 59 09.7 +0.5**
baz=155,SNR=7.7
X43A Marvell 62.42 338 P **P** **04 59 09.8 +0.5**
CLTN Cedars of Leba 62.45 342 P **P** **04 59 09.1 -0.3**
CLTN IAmb IAmb 04 59 10.1
comp=Z,23nm,0.8s
WLAR White Oak Lake 62.49 335 P **P** **04 59 10.5 +0.7**
JCT Junction City 62.64 328 P **P** **04 59 11.5 +0.6**
baz=146,SNR=22
JCT Junction City 62.64 328 P **P** **04 59 11.5 +0.6**
S55A Lewisburg 62.67 348 P **P** **04 59 11.6 +0.6**
baz=166,SNR=6.1
R58A Rapidan 62.75 350 P **P** **04 59 11.9 +0.5**
baz=168
WHTX Lake Whitney, 62.82 331 P **P** **04 59 12.5 +0.5**
baz=148,SNR=7.3
WHTX Lake Whitney, 62.82 331 P **P** **04 59 12.3 +0.3**
WHTX IAmb IAmb 04 59 13.6
comp=Z,23nm,1.0s
R57A Stanardsville 62.83 350 P **P** **04 59 12.6 +0.7**
baz=168
S54A Dingess, Beckl 62.86 347 P **P** **04 59 12.4 +0.2**
baz=165,SNR=11
WVT Waverly 62.92 341 P **P** **04 59 12.0 -0.5**
baz=158
WVT Waverly 62.92 341 P **P** **04 59 12.0 -0.5**
S53A Williamson 62.92 346 P **P** **04 59 12.5 -0.1**
baz=164
HPIG 62.94 321 P **P** **04 59 14.2 +1.1**
R55A Marlinton 63.10 348 P **P** **04 59 14.6 +0.9**
baz=166,SNR=5.5
R55A Marlinton 63.10 348 P **P** **04 59 14.3 +0.6**
R55A IAmb IAmb 04 59 15.3
comp=Z,28nm,1.4s
X40A Basin Creek Fa 63.10 336 P **P** **04 59 13.7 0.0**
baz=153,SNR=5.8
X40A Basin Creek Fa 63.10 336 P **P** **04 59 13.8 0.0**
Q60A Greensboro 63.14 352 P **P** **04 59 14.5 +0.7**
baz=171
SLBS Sierra La Lagu 63.15 315 P **P** **04 59 15.7 +1.3**
SLBS IAmb IAmb 04 59 18.1
comp=Z,22nm,1.1s
R54A Victor 63.17 348 P **P** **04 59 14.5 +0.4**
baz=165,SNR=6.6
UALR University of 63.18 337 P **P** **04 59 14.1 -0.1**
UALR IAmb IAmb 04 59 14.7
comp=Z,13nm,0.8s
LPAR Lepanto 63.21 339 P **P** **04 59 14.6 +0.1**
Q58A Fox Den Farm, 63.33 351 P **P** **04 59 15.6 +0.4**
baz=169
LNXT Lenox 63.40 340 P **P** **04 59 15.4 -0.3**
MIAR Mount Ida 63.43 335 P **P** **04 59 16.2 +0.3**
baz=153,SNR=20
W41B Gary Mavity, V 63.50 337 P **P** **04 59 16.3 0.0**
baz=154,SNR=9.2
T47A Sharon Grove 63.51 342 P **P** **04 59 15.9 -0.4**
R53A Hurricane 63.51 347 P **P** **04 59 16.3 -0.1**
baz=164
PEBM Pemiscott Bayo 63.53 339 P **P** **04 59 15.8 -0.8**
Q57A Strasburg 63.53 350 P **P** **04 59 17.4 +0.9**
baz=168
WHAR Wooly Hollow 63.62 337 P **P** **04 59 16.9 -0.2**
WHAR IAmb IAmb 04 59 18.1
comp=Z,12nm,0.8s
Q56A Snyder Ridge, 63.67 349 P **P** **04 59 18.3 +0.8**
baz=167
P61A Hammonton 63.68 353 P **P** **04 59 18.0 +0.7**
baz=172
TXAR Lajitas Array 63.69 324 P **P** **04 59 18.8 +0.9**
comp=Z,5.4nm,0.7s,baz=152,slow=8.5,SNR=73
TXAR Lajitas Array 63.69 324 P **P** **04 59 18.3 +0.5**
TX31 Lajitas Ar. Si 63.69 324 P **P** **04 59 18.4 +0.6**
TX31 IAmb IAmb 04 59 19.4
comp=Z,20nm,0.8s
HICK Hickman 63.73 340 P **P** **04 59 17.5 -0.3**
PENMO Penman 63.77 340 P **P** **04 59 18.4 +0.3**
Q55A Buckhannon 63.78 349 P **P** **04 59 19.1 +0.9**
baz=166
P58A Pank, Wackersv 63.81 351 P **P** **04 59 18.8 +0.5**
baz=169
P59A Jarrettsville 63.81 352 P **P** **04 59 19.1 +0.8**
baz=170,SNR=5.1
P60A Greenville 63.91 352 P **P** **04 59 19.2 +0.3**
baz=171
P57A Homestead Farm 63.91 350 P **P** **04 59 19.8 +0.8**
baz=169
Q54A Coxs Mills 63.91 348 P **P** **04 59 18.8 -0.1**
baz=166
LCAR Lake Charles 63.92 338 P **P** **04 59 18.6 -0.4**
LCAR IAmb IAmb 04 59 19.8
comp=Z,21nm,1.1s
Q53A Leroy 63.93 347 P **P** **04 59 19.2 +0.1**
baz=165,SNR=6.9
HENM Henderson Moun 63.96 340 P **P** **04 59 19.1 -0.2**
PARMO Parma 64.00 340 P **P** **04 59 19.9 +0.3**
P56A Dayton Farm, R 64.06 350 P **P** **04 59 20.8 +0.9**
baz=168
O61A Allentown 64.06 353 P **P** **04 59 20.6 +0.7**
baz=172
W39A Magazine 64.08 336 P **P** **04 59 20.9 +0.8**
baz=153,SNR=27
FCAR Ozark Folk Cen 64.10 337 P **P** **04 59 19.8 -0.5**
FCAR IAmb IAmb 04 59 20.9
comp=Z,20nm,1.0s
X37A Clayton 64.17 334 P **P** **04 59 21.2 +0.5**
X37A IAmb IAmb 04 59 22.8
comp=Z,41nm,1.1s
Q52A Bidwell 64.18 347 P **P** **04 59 20.6 -0.1**
baz=164
P55A Reedsville 64.23 349 P **P** **04 59 21.8 +0.7**
baz=167
ABTX Abilene, Hawle 64.34 330 P **P** **04 59 22.4 +0.5**
baz=147,SNR=6.7
ABTX Abilene, Hawle 64.34 330 P **P** **04 59 22.6 +0.6**
ABTX IAmb IAmb 04 59 23.6
comp=Z,49nm,1.4s
O58A Lewisberry 64.38 351 P **P** **04 59 22.7 +0.7**
baz=170
O60A Telford 64.38 353 P **P** **04 59 22.5 +0.6**
baz=171
MCWV Mont Chateau 64.38 349 P **P** **04 59 22.7 +0.7**
baz=167
P54A Burton 64.44 348 P **P** **04 59 22.8 +0.4**
baz=166,SNR=5.6
WCI Wyandotte Cave 64.44 343 P **P** **04 59 21.8 -0.6**
baz=160
WCI Wyandotte Cave 64.44 343 P **P** **04 59 21.6 -0.8**
WCI IAmb IAmb 04 59 22.1
comp=Z,20nm,0.7s
O59A Robesonia 64.47 352 P **P** **04 59 22.9 +0.4**
baz=170
P53A Whipple 64.51 348 P **P** **04 59 23.1 +0.2**
baz=165,SNR=7.8
O57A Amberson 64.57 351 P **P** **04 59 23.9 +0.7**
baz=169
N61A South Mountain 64.69 354 P **P** **04 59 24.6 +0.7**
baz=172
O56A Blue Knob Stat 64.77 350 P **P** **04 59 25.1 +0.5**
baz=168
U40A Yellville 64.78 337 P **P** **04 59 24.6 0.0**
baz=154,SNR=15
N62A Caumsett State 64.79 354 P **P** **04 59 25.1 +0.5**
baz=173
S44A Carbondale 64.79 340 P **P** **04 59 24.0 -0.7**
S44A IAmb IAmb 04 59 25.2
comp=Z,32nm,1.2s
P52A Corning 64.80 347 P **P** **04 59 24.3 -0.4**
baz=164,SNR=7.1
O55A Ligonier 64.83 349 P **P** **04 59 25.1 +0.2**
baz=167
P51A Williamsport 64.85 346 P **P** **04 59 24.6 -0.4**
baz=164
N60A Cedar Hill Far 64.89 353 P **P** **04 59 25.7 +0.5**
baz=172
PAL Palisades 64.91 354 P **P** **04 59 25.2 -0.1**
baz=173
O54A Avella 64.99 349 P **P** **04 59 26.1 +0.2**
baz=166
N59A State Game Lan 65.02 353 P **P** **04 59 26.8 +0.7**
baz=171
WSPT Westport, CT 65.02 355 P **P** **04 59 26.6 +0.6**
WSPT IAmb IAmb 04 59 27.5
comp=Z,15nm,0.9s
SSPA Standing Stone 65.02 351 P **P** **04 59 26.4 +0.3**
baz=169
N58A Sunbury 65.06 352 P **P** **04 59 26.9 +0.5**
baz=170
N58A Sunbury 65.06 352 P **P** **04 59 26.8 +0.5**
N57A Milroy 65.09 351 P **P** **04 59 26.9 +0.3**
baz=169,SNR=5.2
HHAR Hobbs 65.11 336 P **P** **04 59 26.8 0.0**
HHAR IAmb IAmb 04 59 28.0
comp=Z,31nm,0.8s
M63A Gales Ferry 65.15 356 P **P** **04 59 27.2 +0.3**
baz=175
M61A Granite Spring 65.19 354 P **P** **04 59 27.5 +0.3**
baz=173
X34A Smith Ranch, M 65.20 332 P **P** **04 59 28.0 +0.6**
X34A IAmb IAmb 04 59 29.1
comp=Z,40nm,1.2s
O52A Adamsville 65.20 347 P **P** **04 59 27.1 -0.2**
baz=165
O53A New Philadelph 65.21 348 P **P** **04 59 27.3 0.0**
baz=166
M62A Hamden 65.25 355 P **P** **04 59 28.3 +0.7**
baz=174,SNR=6.0
P49A Miami Univ. Ec 65.28 345 P **P** **04 59 27.1 -0.7**
baz=162,SNR=8.3
M60A Port Jervis 65.29 354 P **P** **04 59 28.3 +0.4**
baz=172
N55A Marion Center 65.33 350 P **P** **04 59 28.8 +0.6**
baz=168,SNR=7.1
N56A West Decatur 65.36 350 P **P** **04 59 28.8 +0.5**
baz=168
O51A Pataskala 65.39 347 P **P** **04 59 28.2 -0.3**
baz=164
U38A Gravette 65.41 336 P **P** **04 59 28.5 -0.2**
TUL1 Leonard 65.49 334 P **P** **04 59 29.4 +0.2**
baz=151,SNR=13
TUL1 Leonard 65.49 334 P **P** **04 59 29.4 +0.2**
TUL1 IAmb IAmb 04 59 30.7
comp=Z,45nm,1.2s
M58A Price's Panora 65.55 352 P **P** **04 59 30.4 +0.9**
baz=170,SNR=8.9
ACSO Alum Creek Sta 65.55 346 P **P** **04 59 29.3 -0.2**
baz=164
L63A North Scituate 65.58 356 P **P** **04 59 30.2 +0.6**
baz=175,SNR=20
M59A Waymart 65.59 353 P **P** **04 59 30.6 +0.8**
baz=171,SNR=17
M57A Sunshine Farm, 65.60 351 P **P** **04 59 30.7 +0.9**
baz=170
L64A Middleborough 65.61 357 P **P** **04 59 30.3 +0.5**
baz=176,SNR=6.7
BRYW Bryant College 65.63 356 P **P** **04 59 30.5 +0.5**
BRYW IAmb IAmb 04 59 31.6
comp=Z,44nm,0.9s
KSPA Keystone Colle 65.65 353 P **P** **04 59 30.3 +0.1**
KSPA IAmb IAmb 04 59 31.4
comp=Z,14nm,0.8s
N54A Moraine State 65.68 349 P **P** **04 59 30.9 +0.6**
baz=167
N53A Lisbon 65.68 348 P **P** **04 59 30.6 +0.3**
baz=166
WMOK Wichita Mounta 65.73 331 P **P** **04 59 31.1 +0.2**
baz=148,SNR=7.9
WMOK Wichita Mounta 65.73 331 P **P** **04 59 30.4 -0.4**
CCM Cathedral Cave 65.75 339 P **P** **04 59 30.9 0.0**
baz=156
CCM Cathedral Cave 65.75 339 P **P** **04 59 30.6 -0.3**
N52A McGinn's Farm, 65.84 348 P **P** **04 59 31.2 -0.2**
baz=165
M56A Emporium 65.89 351 P **P** **04 59 32.1 +0.4**
baz=169
L60A Shokan 65.91 354 P **P** **04 59 32.8 +1.0**
baz=172,SNR=12
M55A Ridgway 65.97 350 P **P** **04 59 32.7 +0.4**
baz=168
L61A Hillsdale 1, H 66.05 355 P **P** **04 59 33.2 +0.5**
baz=173
N51A Ashland 66.08 347 P **P** **04 59 32.6 -0.3**
baz=164
S39A Bolivar 66.14 337 P **P** **04 59 33.6 +0.3**
L58A Harry Jones Me 66.14 353 P **P** **04 59 34.2 +0.9**
baz=171,SNR=16
M54A Oil Creek Stat 66.15 349 P **P** **04 59 33.5 +0.1**
baz=167

L59A	Walton	66.19	353	P	P	04 59 34.6	+0.9
	baz=172,SNR=14						
HRV	Adam Dziewonsk	66.21	356	P	P	04 59 34.4	+0.7
	baz=175						
L57A	Andrews Acres	66.22	352	P	P	04 59 34.5	+0.7
	baz=170						
L61B	Northampton	66.23	355	P	P	04 59 34.3	+0.4
	baz=174,SNR=7.9						
M53A	Wl Miller and	66.26	349	P	P	04 59 34.1	+0.1
	baz=166						
BINY	Binghamton	66.31	353	P	P	04 59 35.1	+0.7
	baz=171,SNR=12						
BINY	Binghamton	66.31	353	P	P	04 59 34.5	+0.1
BINY				IAmb	IAmb	04 59 36.3	
	comp=Z,36nm,1.1s						
QSPA	South Pole Qui	66.31	180	P	P	04 59 35.3	+1.0
R40A	Maddies Statio	66.31	338	P	P	04 59 34.1	-0.3
K63A	Dunstable	66.39	356	P	P	04 59 35.4	+0.6
	baz=175						
K62A	Royalston	66.42	356	P	P	04 59 35.5	+0.5
	baz=174,SNR=5.9						
K62A	Royalston	66.42	356	P	P	04 59 35.4	+0.4
L56A	Greenwood	66.45	351	P	P	04 59 35.7	+0.4
	baz=169,SNR=7.6						
MNTX	Cornudas Mount	66.45	325	P	P	04 59 35.6	+0.1
	baz=142,SNR=30						
MNTX	Cornudas Mount	66.45	325	P	P	04 59 35.8	+0.3
MNTX				IAmb	IAmb	04 59 36.8	
	comp=Z,19nm,0.9s						
M52A	Chesterland	66.48	348	P	P	04 59 35.6	+0.2
	baz=166						
K61A	Williamstown	66.50	355	P	P	04 59 36.2	+0.7
	baz=174,SNR=6.2						
TRY	Troy	66.59	355	P	P	04 59 37.1	+1.0
TRY				IAmb	IAmb	04 59 38.2	
	comp=Z,33nm,0.9s						
L55A	Hinsdale	66.62	351	P	P	04 59 36.8	+0.4
	baz=168						
T35A	Sooner Cattle	66.65	334	P	P	04 59 37.2	+0.6
T35A				IAmb	IAmb	04 59 38.9	
	comp=Z,32nm,1.0s						
SFIN	Lafayette	66.67	343	P	P	04 59 35.4	-1.3
	baz=160,SNR=5.6						
L53A	Girard	66.69	349	P	P	04 59 36.9	+0.2
	baz=167						
K59A	Cooperstown	66.75	354	P	P	04 59 38.0	+0.8
	baz=172,SNR=19						
ERPA	Erie	66.80	349	P	P	04 59 37.6	+0.2
	baz=167						
L54A	Sinclairville	66.80	350	P	P	04 59 38.0	+0.6
	baz=168						
K58A	Earlville	66.82	353	P	P	04 59 38.3	+0.7
	baz=171,SNR=12						
K57A	Scipio Center	66.89	352	P	P	04 59 38.3	+0.2
	baz=170,SNR=6.3						
MSTX	Muleshoe	66.94	328	P	P	04 59 39.1	+0.5
	baz=144,SNR=30						
MSTX	Muleshoe	66.94	328	P	P	04 59 38.9	+0.3
J62A	Henniker	66.95	356	P	P	04 59 39.0	+0.7
	baz=175,SNR=5.8						
J63A	Strafford	66.96	357	P	P	04 59 38.8	+0.4
	baz=176						
K56A	Middlesex	66.97	352	P	P	04 59 38.8	+0.3
	baz=170,SNR=6.0						
K54A	Basiliko Farm,	67.07	351	P	P	04 59 39.7	+0.5
	baz=168						
J60A	Lant Hill Farm	67.08	355	P	P	04 59 39.9	+0.7
	baz=173						
K55A	Perry	67.10	351	P	P	04 59 39.7	+0.4
	baz=169,SNR=5.1						
J61A	Chester	67.12	355	P	P	04 59 40.3	+0.9
	baz=174						
AMTX	Amarillo	67.16	329	P	P	04 59 40.4	+0.4
	baz=146						
AMTX	Amarillo	67.16	329	P	P	04 59 39.9	-0.1
SRIG	Santa Rosalia	67.19	317	P	P	04 59 41.0	+0.8
LIC	Lamto	67.26	72	*e*PKP1	P	04 59 40.8	-0.1
	comp=Z,16nm,0.5s						
J58A	Remsen	67.37	353	P	P	04 59 41.5	+0.4
	baz=172						
J59A	Piesco	67.40	354	P	P	04 59 41.9	+0.7
	baz=172,SNR=15						
HDIL	Hopedale	67.45	342	P	P	04 59 40.8	-0.7
	baz=158,SNR=8.7						
HDIL	Hopedale	67.45	342	P	P	04 59 40.8	-0.7
HDIL				IAmb	IAmb	04 59 41.7	
	comp=Z,25nm,0.7s						
TIC	Toumodi	67.47	71	*e*PKP1	P	04 59 40.8	-1.5
J56A	Wolcott	67.47	352	P	P	04 59 41.7	+0.1
	baz=170,SNR=10.0						
J56A	Wolcott	67.47	352	P	P	04 59 41.4	-0.2
J56A				IAmb	IAmb	04 59 42.7	
	comp=Z,23nm,0.7s						
J57A	Williamstown	67.50	353	P	P	04 59 42.3	+0.5
	baz=171						
J57A	Williamstown	67.50	353	P	P	04 59 41.7	-0.1
J57A				IAmb	IAmb	04 59 43.3	
	comp=Z,25nm,1.2s						
I64A	Boothbay	67.53	358	P	P	04 59 42.9	+0.9
	baz=177						
I62A	Tamworth	67.56	356	P	P	04 59 42.9	+0.7
	baz=176						
KIC	Kosan Boka	67.57	72	*e*PKP1	P	04 59 41.8	-1.1
	comp=Z,27nm,0.7s						
J55A	Hilton	67.59	351	P	P	04 59 42.5	+0.2
	baz=169						
HSIG		67.60	319	P	P	04 59 43.8	+1.0
HSIG				IAmb	IAmb	04 59 45.6	
	comp=Z,36nm,1.1s						
DBIC	Dimbokro	67.62	71	P	P	04 59 42.2	-1.0
	comp=Z,9.0nm,0.7s,baz=204,slow=3.7,SNR=16						
DBIC	Dimbokro	67.62	71	P	P	04 59 42.0	-1.2
I58A	Old Forge	67.67	354	P	P	04 59 43.4	+0.5
	baz=172,SNR=8.6						
I60A	Shoreham	67.67	355	P	P	04 59 43.4	+0.6
	baz=174,SNR=5.4						
I59A	Olmsteadville	67.67	354	P	P	04 59 43.3	+0.4
	baz=173,SNR=6.9						
I61A	Oroboro, Fairl	67.68	356	P	P	04 59 43.9	+1.0
	baz=175,SNR=7.0						
I63A	Otisfield	67.70	357	P	P	04 59 44.1	+1.1
	baz=176,SNR=5.9						
J54A	Appleton	67.72	351	P	P	04 59 43.3	+0.2
	baz=168						
P38A	Dawn	67.94	338	P	P	04 59 44.5	-0.1
LBNH	Lisbon	67.96	356	P	P	04 59 45.6	+1.0
	baz=175						
LBNH	Lisbon	67.96	356	P	P	04 59 45.5	+0.8
I57A	Carthage	67.99	353	P	P	04 59 45.3	+0.5
	baz=171,SNR=6.6						
N41A	Harden Midland	68.05	341	P	P	04 59 44.8	-0.5
PECO	Prince Edward	68.14	352	P	P	04 59 46.0	+0.2
PECO				IAmb	IAmb	04 59 47.2	
	comp=Z,27nm,1.2s						
H64A	Troy	68.24	358	P	P	04 59 46.9	+0.6
	baz=178						
H62A	Milan	68.25	357	P	P	04 59 47.4	+0.9
	baz=176						
H61A	Lyndonville	68.26	356	P	P	04 59 47.4	+0.9
	baz=175,SNR=6.0						
H65A	Eastbrook	68.27	359	P	P	04 59 47.2	+0.7
	baz=178,SNR=8.2						
EMMW	East Machias	68.28	360	P	P	04 59 47.1	+0.5
EMMW				IAmb	IAmb	04 59 48.1	
	comp=Z,19nm,0.9s						
H58A	Gabriels	68.31	354	P	P	04 59 47.4	+0.5
	baz=173,SNR=5.7						
H66A	Whiting	68.35	360	P	P	04 59 47.6	+0.6
	baz=179,SNR=7.7						
121A	Cookes Peak, D	68.39	323	P	P	04 59 49.8	+2.0
	baz=140,SNR=12						
121A	Cookes Peak, D	68.39	323	P	P	04 59 49.5	+1.7
121A				IAmb	IAmb	04 59 51.0	
	comp=Z,35nm,1.0s						
H57A	Richville	68.48	353	P	P	04 59 48.2	+0.4
	baz=172						
H59A	Cadyville	68.50	355	P	P	04 59 48.6	+0.6
	baz=173						
I55A	Frankford	68.50	352	P	P	04 59 48.3	+0.3
	baz=169,SNR=8.1						
LONY	Lake Ozonia	68.55	354	P	P	04 59 48.8	+0.5
	baz=172,SNR=5.9						
KSU1	Kansas State U	68.59	335	P	P	04 59 48.7	0.0
	baz=151						
I51A	Listowel	68.62	349	P	P	04 59 48.6	-0.1
	baz=166,SNR=5.7						
GGN	Saint George	68.68	360	P	P	04 59 49.7	+0.7
GGN				IAmb	IAmb	04 59 50.7	
	comp=Z,20nm,0.9s						
H56A	Elgin	68.70	353	P	P	04 59 49.5	+0.3
	baz=171,SNR=5.2						
G63A	Kingsbury	68.72	358	P	P	04 59 50.0	+0.6
	baz=177						
G65A	Princeton	68.77	359	P	P	04 59 50.2	+0.7
	baz=179,SNR=7.1						
H55A	Tweed	68.77	352	P	P	04 59 50.0	+0.3
	baz=170						
R32A	Long Quarter,	68.83	334	P	P	04 59 50.7	+0.5
R32A				IAmb	IAmb	04 59 52.1	
	comp=Z,47nm,0.9s						
G64A	Maxfield	68.84	359	P	P	04 59 50.5	+0.5
	baz=178,SNR=7.4						
G60A	Masonville	68.84	356	P	P	04 59 50.9	+0.7
	baz=174						
G62A	West of Eustis	68.86	357	P	P	04 59 51.1	+0.8
	baz=176,SNR=7.8						
PKME	Peaks-Kenny Pk	68.86	358	P	P	04 59 50.8	+0.6
	baz=178,SNR=5.8						
N38A	Joes South For	68.89	339	P	P	04 59 50.2	-0.3
N38A				IAmb	IAmb	04 59 51.1	
	comp=Z,46nm,1.0s						
G61A	St-Isidore-de-	68.98	356	P	P	04 59 51.7	+0.7
	baz=175						
H53A	Boboaygeon	68.98	351	P	P	04 59 51.0	0.0
	baz=168,SNR=5.3						
G57A	Newington	69.07	354	P	P	04 59 51.9	+0.5
	baz=172						
GBN	Guysborough	69.14	4	P	P	04 59 51.7	-0.2
F63A	Nahmakanta, Br	69.30	358	P	P	04 59 53.5	+0.6
	baz=178						
L40A	Anamosa	69.40	341	P	P	04 59 53.1	-0.5
G55A	Calabogie	69.41	353	P	P	04 59 53.9	+0.4
	baz=170						
F64A	Sherman	69.44	359	P	P	04 59 54.3	+0.6
	baz=178,SNR=13						
ORIO	Orleans, Innes	69.47	353	P	P	04 59 54.0	+0.1
	baz=172						
F62A	Pittston Farm,	69.52	358	P	P	04 59 54.9	+0.6
	baz=177						
F62A	Pittston Farm,	69.52	358	P	P	04 59 54.5	+0.3
ANMO	Albuquerque	69.55	326	P	P	04 59 56.6	+1.7
	baz=142						
ANMO	Albuquerque	69.55	326	P	P	04 59 56.1	+1.2
ANMO				IAmb	IAmb	04 59 57.7	
	comp=Z,18nm,0.9s						
CBKS	Cedar Bluff	69.58	333	P	P	04 59 55.9	+1.1
	baz=148,SNR=21						
F60A	Warwick	69.69	356	P	P	04 59 55.4	+0.2
	baz=175						
G54A	Lake Saint Pet	69.72	352	P	P	04 59 55.6	+0.1
	baz=169,SNR=6.0						
N35A	Tabor	69.77	337	P	P	04 59 55.8	-0.1
SCIA	State Center	69.88	339	P	P	04 59 56.5	0.0
	baz=154,SNR=7.7						
JFWS	Jewell Farm	69.90	342	P	P	04 59 56.6	0.0
	baz=157,SNR=14						
TUC	Tucson	69.90	321	P	P	04 59 58.8	+1.8
	baz=138						
TUC	Tucson	69.90	321	P	P	04 59 58.4	+1.4
TUC				IAmb	IAmb	04 59 59.9	
	comp=Z,21nm,1.1s						
E64A	Bridgewater	69.99	359	P	P	04 59 57.5	+0.5
	baz=179,SNR=7.6						
E63A	Oxbow	70.00	359	P	P	04 59 57.9	+0.7
	baz=178,SNR=5.4						
E60A	Ste Agathe de	70.06	357	P	P	04 59 57.9	+0.4
	baz=175						
E61A	Lac Etchemin	70.07	357	P	P	04 59 58.0	+0.3
	baz=176						
E58A	La Victoria	70.18	355	P	P	04 59 58.4	+0.2
	baz=174						
E62A	Clayton Lake	70.22	358	P	P	04 59 59.3	+0.8
	baz=177,SNR=10						
ALGO	Algonquin Park	70.26	352	P	P	04 59 58.6	-0.1
	baz=169,SNR=5.8						
T25A	Trinidad	70.28	329	P	P	05 00 01.0	+1.7
	baz=144,SNR=18						
T25A	Trinidad	70.28	329	P	P	05 00 00.2	+0.9
T25A				IAmb	IAmb	05 00 02.1	
	comp=Z,92nm,1.8s						
E57A	Chemin Saint G	70.29	355	P	P	04 59 59.1	+0.1
	baz=173						
GLMI	Gerling	70.29	347	P	P	04 59 58.8	-0.2
	baz=163						
E56A	St. Veronique	70.50	354	P	P	05 00 00.4	+0.2
	baz=172						
F51A	Arnstein	70.50	350	P	P	05 00 00.2	0.0
	baz=167						
E55A	Montcerf-Lytto	70.52	353	P	P	05 00 00.5	+0.2
	baz=171						
D60A	Saint Jean D'O	70.57	357	P	P	05 00 01.1	+0.6
	baz=176						
D63A	Stockholm	70.61	359	P	P	05 00 01.5	+0.7
	baz=179,SNR=7.2						
E54A	Lac Daplat, Po	70.62	352	P	P	05 00 00.9	0.0
	baz=170						
E53A	Dumoine, Ponti	70.63	352	P	P	05 00 01.1	+0.1
	baz=169						
E52A	Mattawa	70.67	351	P	P	05 00 01.0	-0.2
	baz=168						
D62A	Allapoint, All	70.67	358	P	P	05 00 01.8	+0.6
	baz=178,SNR=11						
F49A	Sandfield	70.69	349	P	P	05 00 01.1	-0.2
	baz=165,SNR=10						
D59A	Saint-Raymond	70.72	356	P	P	05 00 01.6	+0.1
	baz=175						
214A	Organ Pipe Nat	70.83	320	P	P	05 00 04.9	+2.3
	baz=136						
D61A	St Aubert, Com	70.83	358	P	P	05 00 02.7	+0.6
	baz=177						
BATG	Bathurst New B	70.84	1	P	P	05 00 02.7	+0.5
BATG				IAmb	IAmb	05 00 03.7	
	comp=Z,21nm,1.1s						
F48A	Evansville	70.86	348	P	P	05 00 02.2	-0.2
	baz=165,SNR=8.3						
D57A	Chemin Vers le	70.87	355	P	P	05 00 02.9	+0.5
	baz=173,SNR=7.7						
D58A	Chemin du LacG	70.87	356	P	P	05 00 02.9	+0.5
	baz=174,SNR=9.9						
D56A	ZEC Mazanza, M	70.97	354	P	P	05 00 03.3	+0.2
	baz=172						
KSCO	Kaye Shedlock'	70.98	331	P	P	05 00 04.9	+1.4
	baz=146,SNR=10						
D55A	Sainte-Anne-du	71.01	354	P	P	05 00 03.5	+0.2
	baz=172						
E51A	G1948 Merrick	71.03	351	P	P	05 00 03.4	0.0
	baz=168						
E50A	Wahnapitae	71.11	350	P	P	05 00 03.8	0.0
	baz=166						
LATQ	La Tuque	71.15	356	P	P	05 00 04.3	+0.2
	baz=174						
BGNE	Belgrade	71.17	336	P	P	05 00 05.2	+0.8
	baz=150,SNR=41						
BGNE	Belgrade	71.17	336	P	P	05 00 05.2	+0.8
D54A	Lac Fusel, La	71.27	353	P	P	05 00 04.4	-0.4
	baz=170						
SDCO	Great Sand Dun	71.28	328	P	P	05 00 07.1	+1.6
	baz=143,SNR=28						
SDCO	Great Sand Dun	71.28	328	P	P	05 00 06.6	+1.1
SDCO				IAmb	IAmb	05 00 08.3	
	comp=Z,70nm,1.8s						
D52A	ZEK Kipawa Sen	71.31	352	P	P	05 00 05.4	+0.3
	baz=169						
D53A	Lac Vacive, Po	71.32	352	P	P	05 00 05.2	+0.1
	baz=169,SNR=5.9						
W18A	Petrified Fore	71.40	324	P	P	05 00 07.9	+1.8
	baz=139,SNR=11						
SFX	San Felipe	71.41	318	P	P	05 00 06.8	+0.8
SFX				IAmb	IAmb	05 00 08.8	
	comp=Z,21nm,0.9s						
E48A	Lockeyer	71.41	349	P	P	05 00 05.7	0.0
	baz=165,SNR=7.3						
D51A	Lot 18 Range I	71.56	351	P	P	05 00 06.5	0.0
	baz=168						
E47A	Iron Bridge	71.59	348	P	P	05 00 06.6	-0.1
	baz=164,SNR=7.4						
D50A	G1974 Best Tow	71.70	351	P	P	05 00 07.3	-0.1
	baz=167,SNR=5.2						
E46A	Sault Ste Mari	71.70	347	P	P	05 00 06.8	-0.6
S22A	4UR Ranch, Cre	71.93	328	P	P	05 00 10.9	+1.5
	baz=142,SNR=12						
S22A	4UR Ranch, Cre	71.93	328	P	P	05 00 10.3	+1.0
D48A	Paudash Townsh	72.02	349	P	P	05 00 09.0	-0.3
	baz=166						
D49A	Beulah Townshi	72.04	350	P	P	05 00 09.4	0.0
	baz=166,SNR=6.0						
Q24A	Divide	72.09	329	P	P	05 00 11.9	+1.6
	baz=143,SNR=16						
D47A	Chapleau	72.14	348	P	P	05 00 09.5	-0.5
	baz=164						
D46A	Sault St. Mari	72.15	348	P	P	05 00 09.7	-0.4
	baz=163						
MVCO	Mesa Verde	72.35	326	P	P	05 00 13.4	+1.6
	baz=140,SNR=15						
MVCO	Mesa Verde	72.35	326	P	P	05 00 13.1	+1.3
MVCO				IAmb	IAmb	05 00 14.6	
	comp=Z,81nm,1.7s						
Y14A	Wickenburg	72.36	321	P	P	05 00 13.3	+1.6
WUAZ	Wupatki	72.59	323	P	P	05 00 15.3	+2.1
	baz=138,SNR=22						
ECSD	EROS Data Cent	72.64	338	P	P	05 00 13.2	+0.2
	baz=152,SNR=35						
SPMN	Marine on St.	72.75	341	P	P	05 00 13.4	-0.2
	baz=155,SNR=10.0						
ESJX	Sierra Juarez	72.75	318	P	P	05 00 15.9	+1.7
ISCO	Idaho Springs	72.97	330	P	P	05 00 17.0	+1.5
	baz=143,SNR=17						
ISCO	Idaho Springs	72.97	330	P	P	05 00 16.2	+0.7
PV01	Paradox Valley	73.09	327	P	P	05 00 17.4	+1.2
PV01				IAmb	IAmb	05 00 19.2	
	comp=Z,47nm,1.6s						
LSQQ	Lebel-sur-Quev	73.19	353	P	P	05 00 16.2	+0.1
	baz=170						
RMX	La Rumorosa	73.25	318	P	P	05 00 18.3	+1.2
PDMCI	Parker Dam,Lak	73.28	321	P	P	05 00 18.7	+1.7
	baz=135						
IKP	In-Ko-Pah, Jac	73.30	318	P	P	05 00 19.3	+2.1
	baz=134,SNR=9.4						
SWSC	Sam W. Stewart	73.31	319	P	P	05 00 18.9	+1.7
	baz=134						
CBX	Cerro Bola	73.41	318	P	P	05 00 19.6	+1.6
SYO	Syowa Base	73.59	159	*i*P	P	05 00 17.8	-0.5
SYO	Syowa Base	73.59	159	*i*PcP	PcP	05 00 29.8	-3.3
BC3	Big Chuckawall	73.60	319	P	P	05 00 20.9	+1.8
	baz=134,SNR=20						
MONP2	Monument Peak	73.65	318	P	P	05 00 21.4	+1.9
	baz=134,SNR=12						
BAR	Barrett	73.66	318	P	P	05 00 20.8	+1.5
BAR				IAmb	IAmb	05 00 22.2	
	comp=Z,21nm,0.9s						
IRM	Iron Mountain	73.76	320	P	P	05 00 21.8	+2.0
	baz=135,SNR=13						
CHGQ	Chibougamau	73.78	355	P	P	05 00 19.6	0.0
	baz=173						
MATQ	Matagami	73.95	353	P	P	05 00 20.3	-0.2
	baz=170						
N23A	Red Feather La	74.00	330	P	P	05 00 23.1	+1.7
	baz=143,SNR=15						
SUSD	Miller	74.09	337	P	P	05 00 21.9	+0.4
	baz=150,SNR=7.9						
BELC	Belle Mtn. Jos	74.16	319	P	P	05 00 24.3	+2.0
	baz=134,SNR=13						
PFO	Pinyon Flats O	74.17	319	P	P	05 00 24.3	+1.9
	baz=134,SNR=11						
PFO	Pinyon Flats O	74.17	319	P	P	05 00 23.5	+1.1
O20A	White River Ci	74.48	328	P	P	05 00 25.9	+1.8
	baz=141,SNR=18						
GMRC	Granite Mounta	74.50	320	P	P	05 00 26.4	+2.1
	baz=134,SNR=26						
MURC	Murrieta	74.61	318	P	P	05 00 26.8	+2.0
	baz=133,SNR=6.0						
LCMT	Little Creek M	74.71	323	P	P	05 00 26.9	+1.4
VNDA	Vanda	74.83	190	P	P	05 00 26.1	+0.8
	comp=Z,6.7nm,1.0s,baz=132,slow=4.5,SNR=32						
VNDA	Vanda	74.83	190	P	P	05 00 26.7	+1.3
EYMN	Ely	74.87	343	P	P	05 00 25.7	-0.2
	baz=157,SNR=9.5						
EYMN	Ely	74.87	343	P	P	05 00 25.7	-0.2
BBRC	Big Bear Solar	74.89	319	P	P	05 00 28.9	+2.2
	baz=133						
HEC	Hector,Ludlow	74.94	320	P	P	05 00 29.0	+2.3
	baz=134						
SCI2	San Clemente I	75.03	317	P	P	05 00 28.9	+1.7
	baz=132						
TUQ	Turquoise Moun	75.11	320	P	P	05 00 29.7	+1.9
	baz=134,SNR=13						
CIS	Catalina Islan	75.23	317	P	P	05 00 30.2	+1.9
	baz=132						
BFSC	Mount Baldy Ra	75.33	318	P	P	05 00 30.7	+1.7
	baz=133,SNR=5.9						
FMP	Fort Macarthur	75.36	318	P	P	05 00 31.1	+2.1
	baz=132						
SHPR	Sheep Range	75.42	322	P	P	05 00 31.1	+1.5
GSC	Goldstone, Bar	75.54	320	P	P	05 00 32.2	+2.1
	baz=134,SNR=13						
GSC	Goldstone, Bar	75.54	320	P	P	05 00 31.8	+1.7
GSC				IAmb	IAmb	05 00 33.4	
	comp=Z,26nm,1.3s						
SHOC	Shoshone, Teco	75.64	320	P	P	05 00 32.7	+2.0
	baz=134						
K22A	Casper	75.66	331	P	P	05 00 32.5	+1.7
	baz=143,SNR=13						
K22A	Casper	75.66	331	P	P	05 00 31.7	+0.9
K22A				IAmb	IAmb	05 00 33.6	
	comp=Z,31nm,1.1s						
DECC	Green Verdugo	75.75	318	P	P	05 00 33.4	+2.1
	baz=132						
RSSD	Black Hills	75.79	333	P	P	05 00 32.8	+1.3
	baz=145						
SNCC	San Nicolas Is	75.82	317	P	P	05 00 33.1	+1.5
	baz=131						
EDW2	Edwards Air Fo	75.96	319	P	P	05 00 33.9	+1.4
	baz=133,SNR=8.5						
LRMC	Laurel Mtn Rad	76.18	319	P	P	05 00 35.7	+1.9
	baz=133						
OSI	Osito Audit: C	76.23	318	P	P	05 00 35.6	+1.6
	baz=132						
TPNV	Topopah Spring	76.36	321	P	P	05 00 37.1	+2.3
	baz=134,SNR=21						
FURC	Furnace Creek,	76.38	321	P	P	05 00 36.8	+2.1
	baz=134,SNR=15						
SCZ2	Santa Cruz Isl	76.38	317	P	P	05 00 36.4	+1.6
	baz=132						
TOA0	Torodi Ar. Sit	76.39	69	P	P	05 00 34.2	-1.0
TOA0				IAmb	IAmb	05 00 37.0	
	comp=Z,16nm,0.7s						
TORD	Torodi Ar. Bea	76.39	69	P	P	05 00 34.6	-0.7
	comp=Z,14nm,0.6s,baz=256,slow=5.3,SNR=118						
TORD				pP	pP	05 01 25.7	+0.8
	comp=Z,7.3nm,0.8s,baz=257,slow=5.6,SNR=4.7						
TORD	Torodi Ar. Bea	76.39	69	P	P	05 00 34.3	-0.9
AGMN	Agassiz Nation	76.44	341	P	P	05 00 35.1	+0.3
	baz=153,SNR=14						
AGMN	Agassiz Nation	76.44	341	P	P	05 00 34.9	+0.1
AGMN				IAmb	IAmb	05 00 36.0	
	comp=Z,24nm,0.8s						
MPMC	Manual Prospec	76.46	320	P	P	05 00 37.1	+1.7
	baz=133,SNR=12						
ISA	Isabella, Lake	76.78	319	P	P	05 00 39.1	+2.0
	baz=133,SNR=16						
ISA	Isabella, Lake	76.78	319	P	P	05 00 38.8	+1.7
DUG	Dugway, Tooele	76.81	326	P	P	05 00 39.1	+1.8
	baz=138,SNR=13						
R11A	Troy Canyon, C	76.97	323	P	P	05 00 40.4	+2.2
	baz=135,SNR=23						
CWC	Cottonwood Cre	77.07	320	P	P	05 00 40.8	+2.0
	baz=133						
PKM	Mcpherson Peak	77.08	318	P	P	05 00 40.8	+1.9
	baz=132,SNR=10						
BW06	Boulder Array	77.14	329	P	P	05 00 40.1	+1.0
	baz=140,SNR=11						
PD31	Pinedale Array	77.14	329	P	P	05 00 39.9	+0.7
PDAR	Pinedale Array	77.14	329	P	P	05 00 40.1	+1.0
	comp=Z,2.5nm,0.5s,baz=133,slow=7.8,SNR=38						
PDAR	Pinedale Array	77.14	329	P	P	05 00 39.8	+0.6
MDND	Maddock	77.25	338	P	P	05 00

ELK	Elko	78.48	325	P		P	05 00 47.5 +0.9
NVAR	Mina Array Bea	78.56	321	P		P	05 00 48.7 +1.6
	comp=Z,3.2nm,0.7s,baz=153,slow=6.3,SNR=26						
NVAR	Mina Array Bea	78.56	321	P		P	05 00 48.4 +1.3
LAO	LASA Array	78.77	334	P		P	05 00 49.0 +1.2
	baz=144,SNR=9.4						
RLMT	Red Lodge	78.83	331	P		P	05 00 49.8 +1.4
	baz=141,SNR=21						
H17A	Grant Village	78.86	330	P		P	05 00 51.1 +2.5
	baz=140,SNR=7.0						
OUZM	OUZ	79.24	49	P		P	05 00 53.1 +2.3
	SNR=6.8						
DGMT	Dagmar	79.43	336	P		P	05 00 52.9 +1.6
	baz=146,SNR=8.8						
CMB	Columbia Colle	79.50	320	P		P	05 00 52.8 +0.8
ZGR	Zagora	79.58	51	P		P	05 00 54.0 +1.3
	SNR=6.4						
PAHR	Pah Rah Range	80.04	322	P		P	05 00 56.6 +1.7
PAHR				IAmb		IAmb	05 00 58.0
	comp=Z,33nm,1.0s						
HLID	Hailey	80.09	327	P		P	05 00 57.2 +2.1
	baz=137,SNR=53						
BOZ	Bozeman (W)	80.26	330	P		P	05 00 57.3 +1.3
	baz=139,SNR=9.4						
BOZ	Bozeman (W)	80.26	330	P		P	05 00 57.1 +1.1
BOSA	Boshof	80.64	117	P		P	05 00 58.9 +0.4
	comp=Z,3.0nm,0.3s,baz=246,slow=4.3,SNR=27						
BOSA	Boshof	80.64	117	P		P	05 00 58.4 -0.2
EGMT	Eagleton	81.30	332	P		P	05 01 02.1 +0.8
	baz=141,SNR=15						
ARF	Arif	81.32	50	P		P	05 01 03.0 +1.2
	SNR=6.6						
MAW	Mawson	81.49	163	P		P	05 01 03.1 +1.1
	comp=Z,23nm,0.8s,baz=209,slow=5.8,SNR=77						
MAW	Mawson	81.49	163	P		P	05 01 02.8 +0.8
CZD	Col de Zad	81.67	48	P		P	05 01 06.0 +2.1
	SNR=11						
O03E	Paynes Creek	81.82	321	P		P	05 01 04.5 +0.3
	baz=131,SNR=6.9						
MSO	Missoula	82.25	329	P		P	05 01 07.8 +1.4
	baz=137,SNR=9.3						
PBDV	Barranco-do-Ve	82.27	44	eP		P	05 01 08.1 +1.5
	comp=Z,37nm,1.5s						
LBTB	Lobatse	82.28	114	P		P	05 01 07.4 +0.2
LBTB				IAmb		IAmb	05 01 09.0
	comp=Z,59nm,1.8s						
O02D	Mt. Diablo Mer	82.32	320	P		P	05 01 07.7 +0.8
	baz=130						
N02D	Trinity Center	82.78	321	P		P	05 01 09.5 +0.3
	baz=130						
PBEJ	Beja	82.79	43	eP		P	05 01 10.3 +1.1
M04C	Macdoel	82.81	322	P		P	05 01 10.6 +1.1
	baz=131,SNR=5.3						
EVO	Evora	83.00	43	eP		P	05 01 13.0 +2.7
M02C	Callahan	83.14	321	P		P	05 01 11.8 +0.8
	baz=130						
PMTG	Montargil	83.20	42	eP		P	05 01 12.2 +0.9
	comp=Z,25nm,2.0s						
L04D	Klamath Falls	83.36	322	P		P	05 01 13.1 +0.9
	baz=131						
J05D	Fort Rock, OR	83.47	323	P		P	05 01 14.2 +1.4
	baz=132,SNR=7.5						
J04D	Umpqua Nationa	83.92	323	P		P	05 01 16.3 +1.2
	baz=131						
PMRV	Marv??o	83.94	42	A		A	05 01 13.7
	comp=Z,19nm,1.7s						
PMRV	Marv??o	83.94	42	eP		P	05 01 14.2 -0.9
L02E	Cave Junction	84.06	321	P		P	05 01 16.9 +1.3
	baz=130						
TAM	Tamanrasset	84.21	62	P		P	05 01 17.2 +0.3
I05D	Terrebonne, OR	84.22	324	P		P	05 01 18.0 +1.6
	baz=132,SNR=6.1						
MTE	Manteigas	84.44	41	eP		P	05 01 16.7 -0.9
	comp=Z,28nm,1.2s						
K02D	Willamette Mer	84.44	322	P		P	05 01 19.0 +1.4
	baz=130						
I04A	Tendick Farm,	84.44	323	P		P	05 01 18.4 +0.8
	baz=131						
NEW	Newport	84.78	329	P		P	05 01 19.3 +0.2
	baz=135,SNR=10						
G05D	Wamic, OR	84.81	325	P		P	05 01 20.8 +1.5
	baz=132						
PVRL	Vila Real	84.87	40	eP		P	05 01 19.7 0.0
I03D	Drain, OR	84.90	323	P		P	05 01 21.3 +1.6
	baz=130						
PCAB	Cabril	84.95	40	eP		P	05 01 20.8 +0.7
	comp=Z,46nm,2.0s						
H04D	Lebanon	85.10	324	P		P	05 01 22.1 +1.4
	baz=130						
MVO	Moncorvo	85.21	41	eP		P	05 01 22.1 +0.6
	comp=Z,26nm,2.1s						
F05D	White Salmon	85.31	325	P		P	05 01 23.6 +1.8
	baz=132						
I02D	Swisshome	85.44	323	P		P	05 01 23.9 +1.6
	baz=130						
PBRG	Braganca	85.77	41	eP		P	05 01 25.2 +1.0
	comp=Z,29nm,1.6s						
G03D	McMinnville, O	85.83	324	P		P	05 01 25.6 +1.3
	baz=130						
PAB	San Pablo	85.90	43	P		P	05 01 25.5 +0.6
PAB				IAmb		IAmb	05 01 26.7
	comp=Z,16nm,0.9s						
LON	Longmire	86.06	326	P		P	05 01 25.7 +0.2
ESDC	Sonseca Array	86.21	43	P		P	05 01 27.3 +0.9
	comp=Z,4.6nm,0.8s,baz=238,slow=4.6,SNR=29						
ESDC				pP		pP	05 02 18.0 +0.5
	comp=Z,2.4nm,1.0s,baz=252,slow=4.4,SNR=4.7						
ESDC	Sonseca Array	86.21	43	P		P	05 01 26.4 0.0
ESBB	Sonseca Array	86.22	43	P		P	05 01 26.5 0.0
E04D	Cinebar	86.33	325	P		P	05 01 28.4 +1.6
	baz=131						
D04E	Lakebay	86.84	326	P		P	05 01 30.8 +1.7
	baz=131						
B05A	Bryant	87.21	327	P		P	05 01 31.2 +0.3
	baz=131,SNR=10.0						
D03D	Eldon	87.24	326	P		P	05 01 32.2 +1.1
	baz=130,SNR=5.6						
A04D	Lummi Island	87.81	327	P		P	05 01 34.8 +1.1
	baz=131						
PGC	Sidney	88.14	326	P		P	05 01 36.3 +1.0
PGC				IAmb		IAmb	05 01 37.6
	comp=Z,26nm,0.9s						
LSZ	Lusaka	88.38	106	P		P	05 01 37.9 +0.4
LSZ				IAmb		IAmb	05 01 40.6
	comp=Z,15nm,1.1s						
CASY	Casey	90.09	179	P		P	05 01 45.1 +0.8
CASY				IAmb		IAmb	05 01 46.9
	comp=Z,26nm,0.8s						
KEST	Kesra	93.22	52	P		P	05 01 59.8 +0.4
	comp=Z,3.4nm,0.9s,baz=89,slow=2.9,SNR=3.5						
YKA	Yellowknife Ar	94.08	340	P		P	05 02 03.0 +0.5
	comp=Z,9.4nm,0.7s,baz=136,slow=4.5,SNR=43						
YKA				pP		pP	05 02 55.3 +1.2
	comp=Z,1.2nm,0.8s,baz=128,slow=4.0,SNR=2.0						
FUORN	Ofenpass-Fuorn	98.68	43	P		Pdif	05 02 24.8 +0.7
FUORN				IAmb		IAmb	05 02 38.9
	comp=Z,6.9nm,1.2s						
GERES	GERESS Array B	101.71	42	P		Pdif	05 02 36.3 -1.0
	comp=Z,1.3nm,0.7s,baz=231,slow=0.9,SNR=5.2						
EPYK	Eagle Plains	103.99	337	P		Pdif	05 02 48.3 +1.3
	baz=118						
ILAR	Eielson Array	107.23	334	PP		PP	05 07 33.4 +2.3
	comp=Z,0.9nm,0.9s,baz=132,slow=5.9,SNR=4.4						
CAPN	Captain Cook N	107.85	329	P		PKiKP	05 07 10.0 -0.4
	baz=107						
COLD	Coldfoot	109.26	336	P		PKiKP	05 07 13.1 +0.2
	baz=106						
AKASG	Malin Array Be	111.86	43	PKiKP		PKiKP	05 07 17.7 -0.5
	comp=Z,0.4nm,0.3s,baz=262,slow=2.9,SNR=6.1						
AKASG				PP		PP	05 08 01.8 -3.0
	comp=Z,0.7nm,0.4s,baz=288,slow=6.4,SNR=4.5						
FINES	FINESS Array B	112.06	31	PKKPbc		PKKPbc	05 18 10.5 -2.0
	comp=Z,2.7nm,1.1s,baz=64,slow=4.4,SNR=4.2						
A21K	Barrow	112.35	340	P		PKiKP	05 07 20.6 +1.9
	baz=98						
BRTR	Keskin Array B	112.62	55	PKiKP		PKiKP	05 07 20.5 +0.2
	comp=Z,0.7nm,0.7s,baz=79,slow=2.6,SNR=5.6						
ARCES	ARCESS Array B	112.97	22	PKKPbc		PKKPbc	05 18 06.6 -3.1
	comp=Z,0.7nm,0.3s,baz=87,slow=3.9,SNR=16						
KLMR	Klimovskoe	118.51	32	ePKPdf		PKPdf	05 07 29.2 -1.5
KLMR				AMP			05 07 32.4
	comp=Z,10.0nm,1.0s						
KBZ	Khabaz	120.09	52	PKP		PKiKP	05 07 34.9 +0.5
	comp=Z,3.3nm,0.8s,baz=166,slow=3.1,SNR=6.0						
ASAR	Alice Springs	128.61	205	PKP		PKPdf	05 07 51.5 +0.1
	comp=Z,12nm,0.8s,baz=146,slow=2.2,SNR=79						
AS31	Alice Springs	128.62	205	PKPdf		PKPdf	05 07 51.1 -0.3
WB2	Warramunga Arr	131.78	207	PKPdf		PKPdf	05 07 57.7 +0.2
WRA	Warramunga Arr	131.79	207	PKhKP		PKPpre	05 07 47.7
	comp=Z,0.3nm,0.4s,baz=228,slow=1.4,SNR=6.8						
WRA				PKP		PKPdf	05 07 57.9 +0.4
	comp=Z,4.5nm,0.3s,baz=164,slow=1.6,SNR=60						
WRA				SKPbc		SKPbc	05 11 04.3 0.0
	comp=Z,2.9nm,0.8s,baz=157,slow=3.6,SNR=12						
WRA	Warramunga Arr	131.79	207			PKPdf	05 07 57.7 +0.1
WB0	Warramunga Arr	131.92	207	PKPdf		PKPdf	05 07 58.2 +0.4
PETK	Petropavlovsk-	135.62	323	PKhKP		PKPpre	05 07 55.2
	comp=Z,1.2nm,0.5s,baz=220,slow=11,SNR=4.1						
PETK				PKP		PKiKP	05 08 04.8 -0.4
	comp=Z,6.5nm,0.8s,baz=93,slow=6.4,SNR=9.9						
ZALV	Zalesovo Beam	143.23	28	PKP		PKPbc	05 08 15.2 +0.2
	comp=Z,11nm,0.5s,baz=301,slow=4.4,SNR=78						
ZALV	Zalesovo Beam	143.23	28			PKPbc	05 08 15.1 +0.1
KSH	Kashi	145.01	55	PKP		PKPab	05 08 21.2 0.0
MKAR	Makanchi Array	146.35	40	PKPbc		PKPbc	05 08 23.9 -0.7
	comp=Z,28nm,0.6s,baz=326,slow=2.3,SNR=140						
MKAR				pPKPbc		pPKPab	05 09 18.7 +0.4
	comp=Z,14nm,0.9s,baz=298,slow=2.6,SNR=6.6						
MKAR	Makanchi Array	146.35	40	PKPdf		PKPdf	05 08 23.2 +0.1
ASAJ	Asahikawa	148.61	317	PKPbc		PKPbc	05 08 30.9 +0.2
	comp=Z,36nm,1.0s,baz=350,slow=5.6,SNR=3.7						
KLR	Kul'dur	150.80	335	PKPbc		PKiKP	05 08 36.3 -0.2
	comp=Z,24nm,0.7s,baz=43,slow=2.8,SNR=54						
WMQ	Urumqi	151.17	40	ePKPbc		PKPdf	05 08 30.7 -0.3
WMQ				AMB		AMB	
	comp=Z,80nm,5.1s						
TLY	Talaya	151.31	12	PKPbc		PKPbc	05 08 36.5 -0.5
	comp=Z,8.1nm,0.5s,baz=262,slow=10,SNR=3.2						
TLY	Talaya	151.31	12			PKPbc	05 08 35.8 -1.2
USRK	Ussuriysk Ar.	154.55	327	PKPbc		PKiKP	05 08 45.2 +0.8
	comp=Z,4.9nm,0.7s,baz=56,slow=1.5,SNR=7.3						
USRK	Ussuriysk Ar.	154.55	327			PKiKP	05 08 44.6 +0.2
MJAR	Matsushiro Arr	155.04	306	PKPbc		PKPdf	05 08 46.5 +10
	comp=Z,4.1nm,0.7s,baz=71,slow=1.2,SNR=4.2						
MJAR				PKPab		PKPab	05 09 03.2 +1.0
	comp=Z,5.3nm,0.7s,baz=101,slow=0.8,SNR=6.9						
SONM	Songino Array	155.51	11	PKP		PKPdf	05 08 37.4 +0.3
	comp=Z,3.0nm,0.9s,baz=287,slow=0.8,SNR=14						
SONM				PKPab		PKPab	05 09 04.0 +0.1
	comp=Z,5.3nm,0.7s,baz=318,slow=4.2,SNR=14						
GTA	Gaotai	160.84	33	PKP		PKPdf	05 08 45.2 +1.3
GTA				PKPab		PKPab	05 09 28.0 +0.7
GTA				pPKP		pPKPdf	05 09 33.9 -4.3
GTA				sPKP			05 09 55.3
GTA				LR		LR	
	comp=Z,96nm,16.8s						
GTA				LR		LR	
	comp=Z,120nm,17.1s						
GTA				LR		LR	
	comp=Z,100nm,18.1s						
KSRS	Korea Array	161.50	320	PKP		PKPdf	05 08 43.6 -0.8
	comp=Z,1.8nm,0.8s,baz=158,slow=1.2,SNR=8.9						
KSRS				PKPab		PKPab	05 09 30.5 +0.5
	comp=Z,0.7nm,0.4s,baz=25,slow=3.3,SNR=6.0						
HHC	Hu-ho-hao-te	163.04	4	ePKP		PKPdf	05 08 44.6 -1.4
LZH	Lanzhou	165.42	31	ePKP		PKPdf	05 08 50.3 +1.9
CMAR	Chiang Mai Arr	165.67	109	PKP		PKPdf	05 08 49.0 +0.1
	comp=Z,1.8nm,0.9s,baz=256,slow=2.2,SNR=13						
CMAR				PKPab		PKPab	05 09 49.2 +0.2
	comp=Z,2.2nm,0.8s,baz=250,slow=5.4,SNR=7.3						
XAN	Xi'an	169.23	19	PKP		PKPdf	05 08 51.9 +0.9
NJ2	Nanjing	170.45	330	ePKP		PKPdf	05 08 51.7 0.0

RSNC 11 05:02:53.4±1.2, 7.45N×73.23W, h132km±6km, ML3.1, Mw3.7, 4C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PAMC	Pamplona, Colo	0.54	102	i⇑P		Pn 05 03 13.4	-0.1
PAMC				eS		Sn 05 03 28.6	-0.1
PAMC				i		05 03 31.3	
	comp=Z,262nm,0.3s						
BRRC	Barranca, Sant	0.59	235	i⇓P		Pn 05 03 13.2	0.0
BRRC				eS		Sn 05 03 28.4	+0.2
BRRC				i		05 03 28.9	
	comp=Z,433nm,0.1s						
BARC	Barichara	0.85	177	i⇑P		Pn 05 03 15.1	-0.4
BARC				eS		Sn 05 03 31.5	-0.7
BARC				i		05 03 32.7	
	comp=Z,609nm,0.2s						
PTBC	PUERTO BERRIO,	1.52	233	i⇓eP		Pn 05 03 21.3	-0.6
PTBC				eS		Sn 05 03 43.1	-0.5
PTBC				i		05 03 46.3	
	comp=Z,129nm,0.2s						
RUSC	La Rusia	1.56	175	eP		Pn 05 03 21.8	-1.0
RUSC				eS		Sn 05 03 44.5	-0.7
RUSC				i		05 03 45.4	
	comp=Z,66nm,0.3s						
SMLC	San Martn de	1.58	328	eP		Pn 05 03 22.1	-0.4
SMLC				eS		Sn 05 03 43.8	-1.1
SMLC				i		05 03 45.3	
	comp=Z,239nm,0.1s						
ZARC	Zaragoza, Cauc	1.62	272	i⇑P		Pn 05 03 23.3	+0.3
ZARC				eS		Sn 05 03 46.0	+0.4
ZARC				i		05 03 51.1	
	comp=Z,163nm,0.3s						
TAMC	Tame, Arauca	1.75	125	i⇑P		Pn 05 03 24.0	-0.5
TAMC				eS		Sn 05 03 47.8	-0.6
TAMC				i		05 03 48.7	
	comp=Z,108nm,0.2s						
SPBC	San Pablo de B	1.97	205	eP		Pn 05 03 26.5	-0.8
SPBC				eS		Sn 05 03 53.0	-0.2
SPBC				i		05 03 59.1	
	comp=Z,130nm,0.3s						
UREC	San Jos de Ur	2.30	278	eP		Pn 05 03 30.6	-0.7
UREC				eS		Sn 05 03 58.4	-1.9
UREC				i		05 04 04.6	
	comp=Z,70nm,0.1s						
NORC	Norcasia	2.48	221	eP		Pn 05 03 33.5	-0.1
NORC				eS		Sn 05 04 04.2	-0.3
NORC				i		05 04 10.3	
	comp=Z,56nm,0.2s						
ARGC	Ariguani, Magd	2.59	337	eP		Pn 05 03 37.7	+2.8
HELC	Santa Helena	2.60	241	eP		Pn 05 03 35.7	+0.3
HELC				eS		Sn 05 04 06.8	-0.8
HELC				i		05 04 18.3	
	comp=Z,40nm,0.3s						
CTAB	Cerro Tablazo,	2.61	202	eP		Pn 05 03 37.6	+2.0
ROSC	El Rosal	2.81	203	eP		Pn 05 03 39.2	+1.2
ROSC				eS		Sn 05 04 15.3	+2.9
ROSC				i		05 04 19.9	
	comp=Z,67nm,0.4s						
CHIC	Chingaza	2.85	190	eP		Pn 05 03 38.4	-0.2
DBBC	Dabeiba	2.99	262	eP		Pn 05 03 40.1	+0.1
CVER	Cruz Verde, Cu	3.03	196	eP		Pn 05 03 43.3	+2.3
GUY2C	Guyana, Caldas	3.07	224	eP		Pn 05 03 42.6	+1.2
GUY2C				eS		Sn 05 04 22.5	+4.1
GUY2C				i		05 04 30.6	
	comp=Z,48nm,0.6s						
SJCC	San Jacinto, C	3.10	322	eP		Pn 05 03 41.0	-0.5
CBOC	Ciudad Bolivar	3.18	240	eP		Pn 05 03 43.2	+0.6
VILC	Villavicencio,	3.35	188	eP		Pn 05 03 45.1	+0.3
TOLC	Tolima	3.53	216	eP		Pn 05 03 48.2	+0.9
ANIL	Santa Ana	3.65	216	eP		Pn 05 03 50.7	+1.8
SMRC	Santa Marta, M	3.82	345	eP		Pn 05 03 50.5	-0.3
ORTC	Ortega, Tolima	4.05	210	eP		Pn 05 03 53.5	-0.4
PRAC	Prado	4.06	204	eP		Pn 05 03 54.1	-0.1
PRAC				eS		Sn 05 04 39.8	-1.4
PRAC				i		05 04 53.0	
	comp=Z,29nm,0.3s						
CAPC	Capurgana	4.25	286	eP		Pn 05 03 54.7	-1.8
URIC	Uribia, Colomb	4.40	16	eP		Pn 05 03 56.4	-2.1
YOTC	Yotoco, Valle	4.63	222	eP		Pn 05 04 01.1	-0.7
MACC	Macarena, Meta	5.31	187	eP		Pn 05 04 08.2	-2.5
FLOC	Florencia	6.31	203	eP		Pn 05 04 24.1	-0.1
BBAC	Balboa, Cauca	6.72	217	eP		Pn 05 04 29.9	+0.1

WEL 11 05:11:59.6, 45°S, 2°×16°E, h99km, 3km, M4.5/32, MLv4.5/32, Error ellipse: s-maj=0.0km s-min=0.0km az=68.2

IDC 11 05:12:01.8±1.0, 44.70S×167.77E, h119km±6km, mb3.1/2, mb1 3.5/3, mb1mx3.3/27, mbtmp3.7/3, MS2.4/1, Ms1 2.4/1, ms1mx2.4/10, Error ellipse: s-maj=39.9km s-min=9.7km az=170.0

ISC 11 05:11:59.8±0.7, 44.97S±0.05×167.65E±0.06, h105km±5km, n58, σ1s81/63, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
MSZ	Milford Sound	0.36	34	P		Pn 05 12 15.1	-0.1
MSZ				S		Sn 05 12 26.1	-0.5
MLZ	Mavora Lakes	0.52	140	P		Pn 05 12 16.2	0.0
MLZ				S		Sn 05 12 28.4	-0.1
WHZ	Wether Hill Ro	0.95	167	P		Pn 05 12 19.8	-0.2
WHZ				S		Sn 05 12 34.4	-0.8
WKZ	Wanaka	0.98	82	P		Pn 05 12 21.6	+1.2
WKZ				S		Sn 05 12 37.0	+1.1
JCZ	Jackson Bay	1.21	43	P		Pn 05 12 23.1	+0.1
JCZ				S		Sn 05 12 39.5	-0.9
PYZ	Puysegur Point	1.38	209	P		Pn 05 12 24.1	-0.6
PYZ				S		Sn 05 12 41.5	-2.2
TUZ	Tuapeka	1.71	126	P		Pn 05 12 29.8	+1.0
APZ	The Paps	1.88	173	P		Pn 05 12 30.7	-0.3
SYZ	Scrubby Hill	1.88	147	P		Pn 05 12 31.5	+0.5
LBZ	Lake Benmore	1.90	73	P		Pn 05 12 31.4	+0.2
FOZ	Fox Glacier	2.12	48	P		Pn 05 12 33.7	-0.3
ODZ	Otahua Downs	2.13	93	P		Pn 05 12 34.6	+0.5
HHSZ	Highcliff Hill	2.27	115	P		Pn 05 12 37.2	+1.2
RPZ	Rata Peaks	2.75	64	P		Pn 05 12 41.7	-0.6
	80nm,0.3s,baz=222,slow=5.5,SNR=369						
RPZ				S		Sn 05 13 13.9	-1.0
	182nm,0.3s,baz=332,slow=20,SNR=38						
RPZ				LR		LR 05 13 57.5	
	comp=Z,85nm,21.4s,baz=263,slow=45						
RPZ	Rata Peaks	2.75	64	P		Pn 05 12 41.7	-0.6
WVZ	Waitaha Valley	2.92	51	P		Pn 05 12 43.1	-1.4
MHCZ	Mount Hutt	3.16	64	P		Pn 05 12 48.4	+0.6
WACZ	Wakanui South	3.17	73	P		Pn 05 12 47.4	-0.5
INZ	Inchbonnie	3.55	52	P		Pn 05 12 52.3	-0.6
OXZ	Oxford	3.56	64	P		Pn 05 12 51.8	-1.3
MQZ	McQueen's Vall	3.81	72	P		Pn 05 12 55.5	-0.8
AKCZ	Akaroa Harbour	3.92	76	P		Pn 05 12 57.5	-0.5
LTZ	Lake Taylor	3.99	58	P		Pn 05 12 57.7	-1.3
AMCZ	Amberley	4.03	65	P		Pn 05 12 58.5	-0.8
OKCZ	Okains Bay	4.08	74	P		Pn 05 13 00.5	+0.5
GVZ	Greta Valley S	4.37	65	P		Pn 05 13 03.0	-1.1
DSZ	Dennistoun Nort	4.42	45	P		Pn 05 13 03.9	-0.9
KHZ	Kahutara	4.97	61	P		Pn 05 13 10.9	-1.3
THZ	Tophouse	5.00	52	P		Pn 05 13 11.0	-1.5
QRZ	Quartz Range	5.48	43	P		Pn 05 13 19.1	+0.1
BSWZ	Blackbirch Sta	5.58	57	P		Pn 05 13 22.7	+2.2
NNZ	Nelson	5.63	50	P		Pn 05 13 20.6	-0.4
DUWZ	D'Urville Isla	6.21	50	P		Pn 05 13 32.5	+3.6
MRZ	Mangatainoka R	7.25	56	P		Pn 05 13 41.4	-1.6
VRZ	Vera Road	7.88	45	P		Pn 05 13 53.2	+1.6
FWVZ	Far West T-bar	8.19	49	P		Pn 05 14 00.3	+4.3
WTVZ	West Tongariro	8.31	48	P		Pn 05 14 01.8	+4.3
URZ	Urewera	9.75	50	S		Sn 05 15 55.7	-8.8
	1.0nm,0.3s,baz=44,slow=17,SNR=2.2						
WCZ	Waipu Caves	10.36	32	P		Pn 05 14 26.5	+1.3
OUZ	Omahuta	10.75	27	P		Pn 05 14 31.8	+1.3
ASAR	Alice Springs	34.68	296	P		P 05 18 40.3	+0.9
	0.3nm,0.5s,baz=127,slow=7.1,SNR=4.4						
ASAR				pP		pP 05 19 05.0	+3.1
	0.4nm,0.5s,baz=128,slow=7.2,SNR=2.0						
ASAR				PcP		PcP 05 21 10.9	-0.2
	0.5nm,0.6s,baz=127,slow=4.2,SNR=4.6						
WRA	Warramunga Arr	37.16	301	P		P 05 19 00.5	-0.1
	0.5nm,0.6s,baz=138,slow=7.6,SNR=7.7						
WRA				pP		pP 05 19 25.7	+2.4
	1.5nm,0.9s,baz=142,slow=9.3,SNR=5.8						
WRA				PcP		PcP 05 21 18.0	-0.6
	0.6nm,0.7s,baz=146,slow=2.8,SNR=5.6						
H01W1	Cape Leeuwin H	41.56	265	T		T 06 03 30.0	
	baz=121,slow=75,SNR=25						
H01W2	Cape Leeuwin H	41.57	265	T		T 06 03 30.9	
	baz=121,slow=75,SNR=28						
H01W3	Cape Leeuwin H	41.58	265	T		T 06 03 31.3	
	baz=121,slow=75,SNR=30						
SNAA	Sanae	63.47	183	P		P 05 22 19.2	+1.2
VNA3	Neumayer Olymp	64.08	181	P		P 05 22 22.6	+0.6
VNA2	Neumayer--Watz	64.36	182	P		P 05 22 25.0	+1.2
	baz=162,slow=4.2						
VNA1	Neumayer--Stat	64.66	182	P		P 05 22 27.1	+1.4
H08S2	Diego Garcia H	88.29	261	T		T 07 02 20.8	
	baz=134,slow=76,SNR=54						
H08S1	Diego Carcia H	88.30	261	T		T 07 02 21.8	
	baz=134,slow=76,SNR=52						
H08S3	Diego Garcia H	88.31	261	T		T 07 02 22.1	
	baz=134,slow=76,SNR=46						
DBIC	Dimbokro	141.29	192	PKhKP		PKPpre 05 31 13.0	
	3.7nm,0.8s,baz=194,slow=7.6,SNR=3.7						
BRTR	Keskin Array B	145.97	278	PKPbc		PKPbc 05 31 27.2	+0.2
	1.5nm,0.8s,baz=141,slow=5.5,SNR=8.9						
BRTR				pPKPbc		pPKPab 05 31 58.5	+2.8
	0.9nm,0.7s,baz=134,slow=3.6,SNR=4.0						
TORD	Torodi Ar. Bea	146.10	205	PKPbc		PKPdf 05 31 27.6	+0.8
	4.8nm,0.6s,baz=151,slow=2.0,SNR=11						
ARCES	ARCESS Array B	148.92	335	PKPbc		PKPbc 05 31 34.0	0.0
	1.8nm,0.8s,baz=46,slow=3.5,SNR=6.5						
ARCES				pPKPbc		pPKPab 05 32 06.5	+0.7
	3.2nm,0.9s,baz=46,slow=3.5,SNR=2.6						
AKASG

comp=Z,0.5nm,0.4s,baz=112,slow=7.1,SNR=9.3
MKAR Makanchi Array 54.76 324 P P 05 30 19.0 -0.4

WEL 11 05:30:57.5, 43.5S±0.8 × 172.8E±0.7, h17km, M3.2/22, ML3.7/6, MLv3.2/22, Error ellipse: s-maj=0.0km s-min=0.0km az=37.5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.27**	**200**	P	Pb	05 31 04.5	+0.5
MQZ				S	Sb	05 31 08.8	+0.4
AMCZ	**Amberley**	**0.29**	**340**	P	Pb	05 31 04.7	+0.4
AMCZ				S	Sb	05 31 09.3	+0.5
OKCZ	**Okains Bay**	**0.34**	**144**	P	Pb	05 31 05.9	+0.7
OKCZ				S	Sb	05 31 11.1	+0.8
AKCZ	**Akaroa Harbour**	**0.43**	**168**	P	Pb	05 31 07.5	+0.8
GVZ	**Greta Valley S**	**0.52**	**21**	P	Pb	05 31 08.9	+0.7
GVZ				S	Sb	05 31 16.5	+1.1
OXZ	**Oxford**	**0.56**	**283**	P	Pb	05 31 09.6	+0.8
OXZ				S	Sb	05 31 17.8	+1.2
LTZ	**Lake Taylor**	**0.77**	**330**	P	Pn	05 31 13.5	-0.1
LTZ				S	Sn	05 31 24.2	-0.6
WACZ	**Wakanui South**	**0.84**	**234**	P	Pn	05 31 15.2	+0.6
WACZ				S	Sn	05 31 27.4	+0.7
MHCZ	**Mount Hutt**	**0.89**	**264**	P	Pn	05 31 16.9	+1.5
KHZ	**Kahutara**	**1.17**	**28**	P	Pn	05 31 18.9	-0.2
KHZ				S	Sg	05 31 35.5	+0.1
INZ	**Inchbonnie**	**1.22**	**306**	P	Pg	05 31 21.7	+0.7
RPZ	**Rata Peaks**	**1.29**	**258**	P	Pb	05 31 21.3	0.0
WVZ	**Waitaha Valley**	**1.54**	**283**	P	Pg	05 31 27.3	+0.2
THZ	**Tophouse**	**1.69**	**3**	P	Pn	05 31 26.7	+0.4
DSZ	**Denniston Nort**	**1.85**	**337**	P	Pn	05 31 29.6	+1.1
BSWZ	**Blackbirch Sta**	**1.91**	**25**	P	Pn	05 31 29.9	+0.5
LBZ	**Lake Benmore**	**2.10**	**243**	P	Pb	05 31 34.4	-0.8
FOZ	**Fox Glacier**	**2.16**	**267**	P	Pb	05 31 35.2	-1.0
TUWZ	**Tuamarina**	**2.19**	**23**	P	Pn	05 31 33.5	+0.3
ODZ	**Otahua Downs**	**2.21**	**223**	P	Pn	05 31 34.1	+0.6
NNZ	**Nelson**	**2.27**	**11**	P	Pn	05 31 35.4	+1.1
TCW	**Tory Channel**	**2.50**	**27**	P	Pn	05 31 37.9	+0.5
QRZ	**Quartz Range**	**2.63**	**356**	P	Pn	05 31 41.0	+1.8
MSWZ	**Moikau Station**	**2.73**	**43**	P	Pn	05 31 40.0	-0.6
EAZ	**Earnscleugh**	**3.06**	**233**	P	Pn	05 31 45.5	+0.3
OGWZ	**Otaki Gorge**	**3.17**	**35**	P	Pn	05 31 46.4	-0.3
MRZ	**Mangatainoka R**	**3.48**	**38**	P	Pn	05 31 50.3	-0.6
VRZ	**Vera Road**	**4.57**	**20**	P	Pn	05 32 08.3	+2.4
FWVZ	**Far West T-bar**	**4.68**	**27**	P	Pn	05 32 09.3	+1.7
APZ	**The Paps**	**4.79**	**223**	P	Pn	05 32 10.0	+1.1

*IDC **11** 05:53:31.9±0.8, 48.97N × 28.10W, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.9/44, mbtmp3.9/15, MS3.4/23, Ms1 3.4/23, ms1mx3.3/52, Error ellipse: s-maj=25.2km s-min=14.9km az=5.0*
*NEIC **11** 05:53:32.9±1.0, 48.8N±0.1 × 28.1W±0.2, h10km±1km, mb4.5/75, Error ellipse: s-maj=23.3km s-min=16.8km az=176.0*

ISC 11 05:53:33.2±0.6, 48.9N±0.1 × 28.09W±0.07, h10km, n120, σ0.67/104, mb4.5/46, MS3.4/21, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**16.32**	**10**	LR	LR	06 01 55.5	
	comp=Z,55nm,21.0s,baz=293,slow=31						
PAB	**San Pablo**	**19.34**	**110**	P	**P**	**05 57 57.4**	**-1.2**
ESDC	**Sonseca Array**	**19.50**	**109**	P	**P**	**05 58 00.4**	**0.0**
	baz=303,slow=8.5,SNR=15						
ESDC				LR	LR	06 03 53.3	
	comp=Z,117nm,20.6s,baz=290,slow=32						
ESDC	**Sonseca Array**	**19.50**	**109**	P	**P**	**05 58 00.2**	**-0.2**
SCHQ	**Schefferville**	**24.43**	**299**	LR	LR	06 06 52.0	
	comp=Z,108nm,19.3s,baz=88,slow=33						
NOA	**NORSAR Array B**	**25.21**	**46**	LR	LR	06 07 52.7	
	comp=Z,44nm,19.4s,baz=270,slow=34						
DAVOX	**Davos/Dischmat**	**25.40**	**80**	P	**P**	**05 59 01.4**	**+0.6**
	1.3nm,0.3s,baz=306,slow=13,SNR=5.2						
CLL	**Collm**	**26.23**	**69**	*e*P	**P**	**05 59 09.0**	**+0.9**
FRB	**Frobisher Bay**	**26.35**	**319**	LR	LR	06 07 24.1	
	comp=Z,49nm,18.0s,baz=82,slow=32						
F64A	**Sherman**	**27.21**	**279**	P	**P**	**05 59 17.5**	**+0.5**
GERES	**GERESS Array B**	**27.25**	**74**	P	**P**	**05 59 18.3**	**+0.9**
	0.5nm,0.6s,baz=271,slow=6.3,SNR=6.2						
GERES				LR	LR	06 09 47.8	
	comp=Z,129nm,18.3s,baz=282,slow=36						
GERES	**GERESS Array B**	**27.25**	**74**	P	**P**	**05 59 17.5**	**+0.1**
D62A	**Allapoint, All**	**27.25**	**282**	P	**P**	**05 59 16.8**	**-0.5**
ZOU	**Zoufplan**	**27.49**	**79**	P	**P**	**05 59 18.4**	**-1.3**
G62A	**West of Eustis**	**28.88**	**279**	P	**P**	**05 59 31.4**	**-0.5**
G62A				IAmb	IAmb	05 59 31.7	
	comp=Z,9.0nm,1.2s						
VRAC	**Vranov**	**28.94**	**72**	LR	LR	06 10 32.2	
	comp=Z,84nm,18.9s,baz=286,slow=35						
MORC	**Moravsky Berou**	**29.41**	**71**	P	**P**	**05 59 37.0**	**+0.5**
VLDQ	**Val d'Or**	**32.27**	**288**	P	**P**	**06 00 03.2**	**+1.5**
VLDQ				IAmb	IAmb	06 00 03.5	
	comp=Z,5.3nm,0.9s						
FINES	**FINESS Array B**	**32.39**	**47**	P	**P**	**06 00 01.2**	**-1.4**
	comp=Z,2.5nm,0.8s,baz=254,slow=6.9,SNR=5.2						
FINES				LR	LR	06 11 45.9	
	comp=Z,31nm,19.8s,baz=289,slow=34						
FINES	**FINESS Array B**	**32.39**	**47**	P	**P**	**06 00 03.0**	**+0.3**
ARCES	**ARCESS Array B**	**32.77**	**32**	P	**P**	**06 00 03.6**	**-2.3**
	comp=Z,4.3nm,1.0s,baz=258,slow=5.7,SNR=7.0						
DELO	**Deloro Mine**	**33.77**	**282**	P	**P**	**06 00 14.9**	**0.0**
SADO	**Sadowa**	**34.64**	**283**	P	**P**	**06 00 22.4**	**0.0**
SADO				IAmb	IAmb	06 00 23.3	
	comp=Z,10nm,0.9s						
BUR08	**Bucovina Ar. S**	**34.89**	**71**	P	**P**	**06 00 25.6**	**+0.8**
BURAR	**Bucovina Array**	**34.92**	**71**	P	**P**	**06 00 26.0**	**+1.1**
AKASG	**Malin Array Be**	**36.26**	**65**	P	**P**	**06 00 36.0**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=286,slow=8.6,SNR=7.5						
AKASG				LR	LR	06 15 36.5	
	comp=Z,74nm,19.6s,baz=15,slow=37						
E46A	**Sault Ste Mari**	**37.25**	**288**	P	**P**	**06 00 45.0**	**+0.2**
E43A	**Lone Tree Farm**	**38.92**	**289**	P	**P**	**06 00 59.0**	**+0.1**
D41A	**Chassel**	**39.60**	**291**	P	**P**	**06 01 05.0**	**+0.5**
D41A				IAmb	IAmb	06 01 05.2	
	comp=Z,7.9nm,0.8s						
COWI	**Conover**	**40.38**	**290**	P	**P**	**06 01 11.5**	**+0.4**
COWI				IAmb	IAmb	06 01 11.7	
	comp=Z,8.1nm,1.0s						
EYMN	**Ely**	**41.00**	**294**	P	**P**	**06 01 16.4**	**+0.2**
I42A	**Draeger Farm,**	**41.27**	**287**	P	**P**	**06 01 18.8**	**+0.4**
I42A				IAmb	IAmb	06 01 19.2	
	comp=Z,6.5nm,0.7s						
G40A	**Rib Lake**	**41.42**	**289**	P	**P**	**06 01 20.3**	**+0.6**
G40A				IAmb	IAmb	06 01 20.6	
	comp=Z,6.8nm,0.8s						
H05N1	**Guadeloupe/Mar**	**42.13**	**231**	T	T	06 45 50.7	
	SNR=5.2						
T50A	**Nancy**	**42.27**	**276**	P	**P**	**06 01 27.1**	**+0.4**
ULM	**Lac du Bonnet**	**42.60**	**299**	LR	LR	06 17 00.0	
	comp=Z,51nm,19.8s,baz=75,slow=33						
SPMN	**Marine on St.**	**43.06**	**291**	P	**P**	**06 01 32.8**	**-0.1**
SPMN				IAmb	IAmb	06 01 33.8	
	comp=Z,6.5nm,0.7s						
TOA0	**Torodi Ar. Sit**	**43.28**	**135**	P	**P**	**06 01 34.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**43.28**	**135**	P	**P**	**06 01 34.5**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=333,slow=8.4						
TORD	**Torodi Ar. Bea**	**43.28**	**135**	P	**P**	**06 01 34.1**	**-0.9**
L40A	**Anamosa**	**43.66**	**286**	P	**P**	**06 01 38.0**	**+0.2**
L40A				IAmb	IAmb	06 01 39.0	
	comp=Z,12nm,0.8s						
BRTR	**Keskin Array B**	**44.00**	**78**	P	**P**	**06 01 41.9**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=297,slow=8.2,SNR=7.8						
BRTR				LR	LR	06 19 43.3	
	comp=Z,25nm,20.5s,baz=319,slow=36						
BRTR	**Keskin Array B**	**44.00**	**78**	P	**P**	**06 01 41.6**	**+0.8**
V48A	**Smith Brothers**	**44.31**	**275**	P	**P**	**06 01 43.4**	**+0.2**
V48A				IAmb	IAmb	06 01 44.4	
	comp=Z,4.9nm,0.9s						
K38A	**Parkersburg**	**44.34**	**287**	P	**P**	**06 01 43.5**	**+0.3**
S44A	**Carbondale**	**44.78**	**279**	P	**P**	**06 01 47.1**	**+0.2**
P40A	**Paris**	**45.55**	**283**	P	**P**	**06 01 52.9**	**-0.1**
P40A				IAmb	IAmb	06 01 53.5	
	comp=Z,8.5nm,1.1s						
PLAL	**Pickwick Lake**	**45.59**	**275**	P	**P**	**06 01 53.0**	**-0.4**
PLAL				IAmb	IAmb	06 01 54.0	
	comp=Z,6.4nm,1.0s						
CCM	**Cathedral Cave**	**45.86**	**281**	P	**P**	**06 01 55.6**	**+0.1**
ECSD	**EROS Data Cent**	**46.17**	**291**	P	**P**	**06 01 58.0**	**+0.2**
ECSD				IAmb	IAmb	06 01 58.9	
	comp=Z,4.9nm,0.8s						
250A	**Grady**	**46.24**	**271**	P	**P**	**06 01 59.1**	**+0.7**
T42A	**Van Buren**	**46.35**	**280**	P	**P**	**06 01 58.9**	**-0.5**
R40A	**Maddies Statio**	**46.39**	**282**	P	**P**	**06 01 59.3**	**-0.3**
R40A				IAmb	IAmb	06 02 00.0	
	comp=Z,8.4nm,1.1s						
DBIC	**Dimbokro**	**46.42**	**147**	LR	LR	06 19 26.4	
	comp=Z,59nm,19.7s,baz=330,slow=33						
Z47A	**Carrollton**	**46.67**	**274**	P	**P**	**06 02 01.7**	**-0.1**
LPAR	**Lepanto**	**46.68**	**278**	P	**P**	**06 02 01.6**	**-0.3**
YKA	**Yellowknife Ar**	**46.86**	**321**	LR	LR	06 18 46.1	
	comp=Z,39nm,20.2s,baz=0.0,slow=32						
LCAR	**Lake Charles**	**46.96**	**279**	P	**P**	**06 02 03.5**	**-0.6**
LCAR				IAmb	IAmb	06 02 04.0	
	comp=Z,3.5nm,1.0s						
S39A	**Bolivar**	**47.42**	**282**	P	**P**	**06 02 07.2**	**-0.5**
KBZ	**Khabaz**	**47.68**	**68**	LR	LR	06 21 40.7	
	comp=Z,33nm,21.0s,baz=1.0,slow=35						
FCAR	**Ozark Folk Cen**	**47.70**	**279**	P	**P**	**06 02 09.4**	**-0.5**
FCAR				IAmb	IAmb	06 02 09.9	
	comp=Z,4.2nm,0.9s						
U40A	**Yellville**	**47.90**	**280**	P	**P**	**06 02 10.9**	**-0.5**
WHAR	**Wooly Hollow**	**48.16**	**279**	P	**P**	**06 02 12.7**	**-0.8**
W41B	**Gary Mavity, V**	**48.21**	**279**	P	**P**	**06 02 12.6**	**-1.2**
W41B				IAmb	IAmb	06 02 13.8	
	comp=Z,5.7nm,0.8s						
X40A	**Basin Creek Fa**	**49.01**	**278**	P	**P**	**06 02 18.8**	**-1.2**
X40A				IAmb	IAmb	06 02 19.9	
	comp=Z,4.9nm,0.8s						
MIAR	**Mount Ida**	**49.46**	**279**	P	**P**	**06 02 22.6**	**-0.8**
ARU	**Arti**	**49.77**	**47**	LR	LR	06 22 54.5	
	comp=Z,61nm,18.2s,baz=356,slow=36						
AKTO	**Aktyubinsk**	**52.69**	**53**	LR	LR	06 25 01.8	
	comp=Z,29nm,18.8s,baz=280,slow=36						
YNE	**Yellowstone No**	**53.48**	**299**	P	**P**	**06 02 53.7**	**0.0**
N23A	**Red Feather La**	**53.48**	**293**	P	**P**	**06 02 54.7**	**+0.8**
N23A				IAmb	IAmb	06 02 55.4	
	comp=Z,6.9nm,0.9s						
HRY	**Holter Researc**	**53.53**	**302**	P	**P**	**06 02 53.7**	**-0.2**
WHTX	**Lake Whitney,**	**53.58**	**279**	P	**P**	**06 02 53.8**	**-0.5**
BOZ	**Bozeman (W)**	**54.06**	**300**	P	**P**	**06 02 57.7**	**-0.1**
ABKAR	**Akbulak array**	**54.39**	**54**	P	**P**	**06 02 59.9**	**-0.1**
BW06	**Boulder Array**	**54.53**	**297**	P	**P**	**06 03 00.3**	**-1.1**
PD31	**Pinedale Array**	**54.53**	**297**	P	**P**	**06 03 00.4**	**-1.0**
PDAR	**Pinedale Array**	**54.53**	**297**	P	**P**	**06 03 00.5**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=56,slow=7.4,SNR=12						
PDAR				LR	LR	06 23 36.3	
	comp=Z,58nm,18.7s,baz=52,slow=33						
PDAR	**Pinedale Array**	**54.53**	**297**	P	**P**	**06 03 00.3**	**-1.1**
ABTX	**Abilene, Hawle**	**54.60**	**281**	P	**P**	**06 03 01.5**	**-0.3**
ABTX				IAmb	IAmb	06 03 02.4	
	comp=Z,6.5nm,0.9s						
T25A	**Trinidad**	**54.81**	**288**	P	**P**	**06 03 03.2**	**-0.3**
T25A				IAmb	IAmb	06 03 05.2	
	comp=Z,7.4nm,1.1s						
FXWY	**Fox Creek**	**54.87**	**298**	P	**P**	**06 03 03.6**	**-0.3**
REDW	**Red Top Meadow**	**54.94**	**298**	P	**P**	**06 03 04.5**	**+0.1**
REDW				IAmb	IAmb	06 03 05.8	
	comp=Z,4.3nm,1.1s						
MSTX	**Muleshoe**	**55.76**	**284**	P	**P**	**06 03 09.8**	**-0.5**
RDMU	**Red Mountain**	**55.87**	**294**	P	**P**	**06 03 10.8**	**-0.3**
HWUT	**Hardware Ranch**	**56.42**	**297**	P	**P**	**06 03 14.6**	**-0.4**
HWUT				IAmb	IAmb	06 03 22.4	
	comp=Z,3.7nm,0.9s						
PV04	**Paradox Valley**	**56.82**	**292**	P	**P**	**06 03 16.7**	**-1.2**
PV04				IAmb	IAmb	06 03 19.1	
	comp=Z,6.4nm,1.0s						
PV11	**David Mesa, Pa**	**56.86**	**292**	P	**P**	**06 03 17.9**	**-0.2**
PV11				IAmb	IAmb	06 03 21.6	
	comp=Z,6.2nm,0.9s						
PV16	**Nyswonger Mesa**	**56.88**	**292**	P	**P**	**06 03 18.5**	**+0.2**
PV16				IAmb	IAmb	06 03 26.5	
	comp=Z,6.5nm,1.0s						
PV17	**East Wray Mesa**	**56.92**	**292**	P	**P**	**06 03 19.1**	**+0.4**
PV17				IAmb	IAmb	06 03 26.8	
	comp=Z,7.1nm,1.0s						
ILAR	**Eielson Array**	**57.16**	**333**	P	**P**	**06 03 20.4**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=45,slow=5.6,SNR=9.2						
Q16A	**Castle Valley**	**57.87**	**294**	P	**P**	**06 03 25.3**	**+0.1**
DUG	**Dugway, Tooele**	**58.04**	**296**	P	**P**	**06 03 26.0**	**-0.4**
IMAR	**Indian Mountai**	**58.15**	**337**	P	**P**	**06 03 26.2**	**-0.3**
MTPU	**Mount Pierson**	**59.04**	**294**	P	**P**	**06 03 33.5**	**-0.1**
TX31	**Lajitas Ar. Si**	**59.36**	**281**	P	**P**	**06 03 35.5**	**-0.1**
TX32	**Lajitas Array**	**59.36**	**281**	P	**P**	**06 03 35.5**	**-0.2**
TX32				IAmb	IAmb	06 03 37.9	
	comp=Z,3.1nm,0.8s						
TXAR	**Lajitas Array**	**59.36**	**281**	P	**P**	**06 03 35.6**	**0.0**
	comp=Z,1.9nm,0.7s,baz=68,slow=6.8,SNR=30						
TXAR				LR	LR	06 27 56.7	
	comp=Z,71nm,21.4s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	**59.36**	**281**	P	**P**	**06 03 35.3**	**-0.3**
PSUT	**Pine Spring**	**59.73**	**295**	P	**P**	**06 03 38.5**	**+0.3**
SZCU	**Shurtz Canyon**	**59.87**	**294**	P	**P**	**06 03 39.4**	**+0.2**
CCUT	**Cedar City**	**60.07**	**294**	P	**P**	**06 03 40.6**	**0.0**
KNB	**Kanab**	**60.09**	**293**	P	**P**	**06 03 40.9**	**+0.3**
KVN	**Kaiserville**	**61.89**	**298**	P	**P**	**06 03 52.6**	**-0.3**
KVN				IAmb	IAmb	06 04 00.6	
	comp=Z,2.8nm,1.0s						
NVAR	**Mina Array Bea**	**62.42**	**298**	P	**P**	**06 03 56.1**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=44,slow=8.0,SNR=2.0						
KURK	**Kurchatov**	**62.67**	**43**	P	**P**	**06 03 58.1**	**+0.4**
KURK				IAmb	IAmb	06 03 58.7	
	comp=Z,3.8nm,1.1s						
ZALV	**Zalesovo Beam**	**63.01**	**38**	P	**P**	**06 03 59.8**	**0.0**
	comp=Z,0.4nm,0.4s,baz=327,slow=4.3,SNR=1.6						
ZALV				LR	LR	06 32 25.1	
	comp=Z,29nm,18.1s,baz=356,slow=37						
GSC	**Goldstone, Bar**	**63.63**	**294**	P	**P**	**06 04 05.1**	**+0.7**
GSC				IAmb	IAmb	06 04 13.1	
	comp=Z,4.1nm,0.8s						
KKAR	**Karatay Array**	**63.96**	**54**	P	**P**	**06 04 06.8**	**+0.5**
MK31	**Makanchi Array**	**67.19**	**44**	P	**P**	**06 04 26.8**	**-0.4**
MK31				IAmb	IAmb	06 04 28.3	
	comp=Z,2.1nm,0.8s						
MKAR	**Makanchi Array**	**67.19**	**44**	P	**P**	**06 04 27.5**	**+0.3**
	comp=Z,3.2nm,0.9s,baz=320,slow=6.0,SNR=22						
MKAR				LR	LR	06 33 00.9	
	comp=Z,47nm,18.4s,baz=171,slow=35						
SIV	**San Ignacio**	**70.91**	**214**	LR	LR	06 31 07.9	
	comp=Z,41nm,18.5s,baz=98,slow=32						
LPAZ	**La Paz**	**73.97**	**220**	LR	LR	06 33 53.3	
	comp=Z,28nm,20.1s,baz=142,slow=33						
NNA	**Nana**	**74.28**	**230**	LR	LR	06 36 50.7	
	comp=Z,18nm,18.4s,baz=336,slow=35						
SONM	**Songino Array**	**75.92**	**30**	P	**P**	**06 05 20.5**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=346,slow=11,SNR=3.5						
SONM	**Songino Array**	**75.92**	**30**	IAmb	IAmb	06 05 29.5	
	comp=Z,1.1nm,1.0s						
WRA	**Warramunga Arr**	**147.87**	**32**	PKPbc	**PKPbc**	**06 13 17.4**	**-1.1**
	comp=Z,2.7nm,1.1s,baz=323,slow=2.8,SNR=5.4						
WRA	**Warramunga Arr**	**147.87**	**32**		**PKPbc**	**06 13 17.6**	**-0.9**
VNDA	**Vanda**	**150.99**	**184**	PKPbc	**PKiKP**	**06 13 26.8**	**+1.6**
	comp=Z,1.6nm,1.1s,baz=266,slow=3.9,SNR=4.9						
ASAR	**Alice Springs**	**151.10**	**36**	PKPbc	**PKPbc**	**06 13 26.1**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=346,slow=2.0,SNR=27						
ASAR	**Alice Springs**	**151.10**	**36**		**PKPbc**	**06 13 25.6**	**-1.0**

*IDC **11** 07:07:51.7±3.1, 54.34N × 87.54E, h0km, mb1 2.8/2, mb1mx2.8/35, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.6km s-min=19.7km az=43.0*
*NNC **11** 07:07:53.2±2.2, 54.37N × 87.31E, h0km, mb3.4, mpv2.7, Error ellipse: s-maj=34.2km s-min=10.6km az=173.0, Suspected Mining explosion.*

ISC 11 07:07:52.5±4.0, 54.5N±0.2 × 87.3E±0.1, h0km, n7, σ0.41/8, 4C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**251**	*i*		07 17 02.0	
	baz=78,slow=306,SNR=1.7						
ZAA0	**Zalesovo Array**	**1.54**	**251**	⇑P	**Pn**	**07 08 21.0**	**-0.2**
	0.2nm,0.1s						
ZAA0				⇓S	**Sg**	**07 08 41.8**	**-0.2**
	1.1nm,0.3s						
ZAA0				⇑Rg	Rg	07 08 50.4	
ZALV	**Zalesovo Beam**	**1.54**	**251**	Pn	**Pn**	**07 08 20.9**	**-0.3**
	2.4nm,0.3s,baz=78,slow=15,SNR=21						
ZALV				Lg	Lg	07 08 44.2	
	3.0nm,0.3s,baz=74,slow=27,SNR=10						
ZALV				Rg	Rg	07 08 54.0	
	1.5nm,0.3s,baz=84,slow=27,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.59**	**238**	Pn	**Pn**	**07 09 30.8**	**+0.2**
	0.1nm,0.3s,baz=54,slow=13,SNR=4.8						
KURBB				Lg	Lg	07 11 22.5	
	0.0nm,0.3s,baz=47,slow=25,SNR=3.1						
KURBB	**Kurchatov Arra**	**6.59**	**238**	⇑Pn	**Pn**	**07 09 31.3**	**+0.7**
	3.2nm,1.1s						
KURBB				⇓Sn	**Sn**	**07 10 46.4**	**+0.2**
	1.5nm,0.7s						
KURBB				⇑Lg	Lg	07 11 21.2	
	2.2nm,0.8s						
MK31	**Makanchi Array**	**8.32**	**204**	Pn	**Pn**	**07 09 54.4**	**0.0**
	0.1nm,0.2s,baz=28,slow=14,SNR=6.6						
MKAR	**Makanchi Array**	**8.32**	**204**	Pn	**Pn**	**07 09 54.1**	**-0.2**
	0.1nm,0.3s,baz=28,slow=14,SNR=6.0						
MKAR				Lg	Lg	07 12 15.6	
	0.0nm,0.3s,baz=28,slow=33,SNR=7.3						

TAP 11 07:11:12.8, 23.13N × 120.84E, h5km, ML2.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STYT	**Tauyuan**	**0.08**	**295**	*i* P	Pg	07 11 14.9	+0.3
	baz=296						
STYT				*i* S	Sg	07 11 16.3	+0.3
	baz=296						
ELDTW	**Lidau**	**0.17**	**69**	P	Pg	07 11 17.2	+0.9
	baz=71						
ELDTW				S	Sg	07 11 19.7	+1.2
	baz=71						
SLGT	**Liugui**	**0.22**	**233**	P	Pg	07 11 18.0	+0.9
	baz=227						
SLGT				S	Sg	07 11 21.5	+1.5
	baz=227						
WTP	**Ta-pu**	**0.24**	**300**	P	Pg	07 11 18.4	+1.0
	baz=300						
WTP				S	Sg	07 11 22.5	+1.9
	baz=300						
SGST	**Jiashian**	**0.24**	**259**	*e*P	Pg	07 11 17.6	+0.1
	baz=258						
SGST				S	Sg	07 11 21.7	+1.1
	baz=258						
TPUB	**Ta-pu**	**0.26**	**312**	P	Pg	07 11 18.8	+1.0
	baz=311						
TPUB				S	Sb	07 11 23.0	-1.7
	baz=311						
CHN1	**Nanshi**	**0.29**	**281**	P	Pb	07 11 19.5	-1.0
	baz=281						
CHN1				S	Sb	07 11 24.6	-1.1
	baz=281						
SNST	**Tainan City**	**0.33**	**286**	*e*P	Pb	07 11 20.9	-0.2
	baz=281						
SNST				*e*S	Sb	07 11 27.4	+0.6
	baz=281						
LONT	**Longtian**	**0.35**	**129**	P	Pb	07 11 20.6	-0.8
	baz=126						
LONT				S	Sb	07 11 25.8	-1.4
	baz=126						
TWK	**Hsinying**	**0.35**	**293**	*e*P	Pb	07 11 21.0	-0.6
	baz=293						
TWK				*e*S	Sb	07 11 26.5	-1.0
	baz=293						
TWG	**Pinlang**	**0.37**	**145**	P	Pb	07 11 21.2	-0.7
	baz=145						
TWG				*e*S	Sb	07 11 26.6	-1.3
	baz=145						
YUS	**Yu-Shan**	**0.38**	**16**	P	Pg	07 11 20.4	+0.2
	baz=17						
TWGBT	**Beinan**	**0.38**	**144**	P	Pb	07 11 21.3	-0.7
	baz=145						
TWGBT				S	Sb	07 11 26.7	-1.5
	baz=145						
ALS	**Alishan**	**0.38**	**355**	P	Pg	07 11 20.9	+0.6
	baz=356						
ALS				*e*S	Sb	07 11 27.5	-1.1
	baz=356						
SCST	**Cishan**	**0.40**	**233**	P	Pb	07 11 21.6	-0.7
	baz=233						
SCST				*e*S	Sb	07 11 29.3	+0.6
	baz=233						
SSD	**Sandimen**	**0.42**	**207**	P	Pg	07 11 21.6	+0.6
	baz=207						
SSD				*e*S	Sg	07 11 26.7	+0.2
	baz=207						
EDH	**Donghe**	**0.45**	**110**	*e*P	Pb	07 11 22.7	-0.6
	baz=117						
EDH				*e*S	Sb	07 11 30.4	+0.1
	baz=117						
TSMG	**Majia**	**0.46**	**203**	P	Pg	07 11 22.0	+0.5
	baz=204						
TSMG				S	Sg	07 11 27.6	+0.1
	baz=204						
TWF1	**Yuli**	**0.48**	**62**	P	Pb	07 11 22.8	-0.8
	baz=63						
TWF1				*e*S	Sg	07 11 28.8	+0.6
	baz=63						
CHKT	**Chengkung**	**0.48**	**93**	*e*P	Pb	07 11 24.2	+0.5
	baz=93						
CHKT				*e*S	Sb	07 11 31.4	+0.2
	baz=93			

SMLT	**Sun Moon Lake**	**0.76**	**4**	*e*P		Pb	07 11 28.6	+0.2
	baz=13								
SMLT				S		Sn	07 11 40.8	-1.3
	baz=13								
WNT	**Mingjian**	**0.76**	**349**	*e*P		Pb	07 11 29.2	+0.7
	baz=333								
WNT				S		Sn	07 11 41.2	-0.9
	baz=333								
WSF	**Szhu**	**0.76**	**312**	*e*P		Pb	07 11 28.6	+0.1
	baz=311								
WSF				*e*S		Sn	07 11 40.9	-1.2
	baz=311								
TYC	**Yuchr**	**0.77**	**1**	*e*P		Pg	07 11 28.1	+0.5
	baz=10.0								
TYC				*e*S		Sb	07 11 40.0	+0.5
	baz=10.0								
SCZT	**Fangliau**	**0.78**	**195**	P		Pg	07 11 27.9	+0.2
	baz=206								
SCZT				*e*S		Sb	07 11 40.1	+0.5
	baz=206								
ESL	**Shilin**	**0.87**	**38**	*e*P		Pb	07 11 30.8	+0.4
	baz=46								
ESL				*e*S		Sb	07 11 42.1	-0.4
	baz=46								
WLCH	**Liuqiu**	**0.88**	**209**	*e*P		Pn	07 11 34.6	+2.8
	baz=209								
WLCH				*e*S		Sn	07 11 50.8	+5.8
	baz=209								
SLIU	**Shizi**	**0.91**	**182**	*e*P		Pg	07 11 30.4	+0.3
	baz=177								
SLIU				*e*S		Sn	07 11 46.3	+0.7
	baz=177								
CHGB	**Renai**	**0.98**	**18**	*e*P		Pg	07 11 31.8	+0.2
	baz=18								
CHGB				*e*S		Sb	07 11 46.2	+0.5
	baz=18								
TCU	**Taichung**	**1.03**	**352**	*e*S		Sn	07 11 47.9	-0.8
	baz=336								
WHF	**Hehuan Shan**	**1.09**	**21**	*e*P		Pg	07 11 33.4	-0.2
	baz=36								
WHF				*e*S		Sb	07 11 49.7	+0.7
	baz=36								
WHP	**Taichung City**	**1.15**	**5**	*e*P		Pg	07 11 34.8	0.0
	baz=13								
WHP				*e*S		Sn	07 11 52.8	+1.0
	baz=13								
TDCB	**Techi**	**1.16**	**15**	*e*P		Pn	07 11 35.9	+0.1
	baz=2.0								
TWT	**Tachien**	**1.16**	**15**	*e*P		Pn	07 11 35.7	-0.1
	baz=2.0								
FUSS	**Fushou**	**1.18**	**18**	*e*P		Pn	07 11 36.8	+0.7
	baz=33								
FUSS				*e*S		Sn	07 11 53.4	+0.8
	baz=33								
PHUB	**P'eng-hu**	**1.23**	**289**	*e*S		Sb	07 11 52.9	+0.3
	baz=287								
NACB	**Ninganchiao**	**1.25**	**33**	*e*P		Pg	07 11 36.8	0.0
	baz=35								
NACB				*e*S		Sg	07 11 52.8	-0.2
	baz=35								
LAY	**Lan-yu**	**1.27**	**149**	*e*S		Sg	07 11 52.4	-1.1
	baz=149								
PTSB	**Yuanli**	**1.32**	**355**	*e*S		Sn	07 11 57.9	+2.0
	baz=357								
NNSH	**Datong**	**1.39**	**21**	P		Pb	07 11 39.2	-0.1
	baz=32								
NNS	**Nan Shan**	**1.40**	**20**	P		Pg	07 11 40.2	+0.7
	baz=25								
NSTT	**Nanjuang**	**1.50**	**6**	*e*P		Pg	07 11 41.7	0.0
	baz=353								
NSTT				*e*S		Sg	07 12 03.2	+2.1
	baz=353								

NNC 11 07:27:30.8±0.3, 50°01N×78°81E, h0km, mb3.6, mpv3.3, 21C-8D, Error ellipse: s-maj=7.0km s-min=1.8km az=74.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
KUR07	**Kurchatov Arra**	**0.60**	**342**	⇓P		Pg	07	27	42.4	+0.1
KUR07				⇑S		Sg	07	27	51.2	+1.1
KUR06	**Kurchatov Arra**	**0.62**	**343**	⇓P		Pg	07	27	42.7	+0.1
KUR06				⇑S		Sg	07	27	51.7	+1.1
KUR14	**Kurchatov Arra**	**0.62**	**347**	⇑P		Pg	07	27	42.8	+0.2
KUR14				⇓S		Sg	07	27	51.4	+0.8
KUR15	**Kurchatov Arra**	**0.63**	**345**	⇓P		Pg	07	27	42.9	+0.1
KUR15				⇓S		Sg	07	27	52.1	+1.3
KURBB	**Kurchatov Arra**	**0.64**	**344**	⇑P		Pg	07	27	43.1	+0.1
	32nm,0.3s									
KURBB				⇑S		Sg	07	27	52.5	+1.4
	77nm,0.5s									
KUR16	**Kurchatov Arra**	**0.65**	**342**	⇑P		Pg	07	27	43.1	0.0
KUR16				⇑S		Sg	07	27	52.0	+0.5
KUR05	**Kurchatov Arra**	**0.65**	**344**	⇑P		Pg	07	27	43.4	+0.1
KUR05				⇑S		Sg	07	27	52.4	+0.7
KUR17	**Kurchatov Arra**	**0.66**	**341**	⇑P		Pg	07	27	43.3	0.0
KUR17				⇓S		Sg	07	27	52.0	+0.2
KUR04	**Kurchatov Arra**	**0.67**	**345**	⇓P		Pg	07	27	43.7	0.0
KUR04				⇑S		Sg	07	27	52.8	+0.5
MAKZ	**Makanchi**	**3.84**	**145**	⇑Pn		Pn	07	28	31.4	+0.3
	1.0nm,0.5s									
MAKZ				⇑Pg		Pb	07	28	40.8	+1.4
	2.1nm,0.5s									
MAKZ				⇑Lg		Lg	07	29	33.1	
	12nm,0.5s									
BRZS	**Berezniki**	**3.96**	**272**	Pg		Pn	07	28	32.8	+0.1
	5.7nm,0.3s									
BRZS				Lg		Lg	07	29	19.4	
	5.6nm,0.4s									
MK31	**Makanchi Array**	**3.97**	**143**	⇑Pn		Pn	07	28	34.8	+1.9
	1.9nm,0.1s,baz=112,slow=34,SNR=42									
MK31				⇑Pg		Pg	07	28	44.4	-2.4
	1.1nm,0.3s,baz=323,slow=13,SNR=18									
MK31				Lg		Lg	07	29	37.0	
	10nm,0.4s,baz=337,slow=27,SNR=17									
OTUK	**Ortayu**	**4.60**	**250**	Pg		Pn	07	28	42.4	+0.8
	3.0nm,0.1s									
OTUK				Lg		Lg	07	29	36.3	
	2.2nm,0.5s									
OTUK	**Ortayu**	**4.60**	**250**	⇑Pn		Pn	07	28	42.7	+1.1
	2.1nm,0.4s									
OTUK				⇓Pg		Pb	07	28	54.3	+1.9
	0.7nm,0.3s									
OTUK				⇑Lg		Lg	07	29	58.2	
	4.1nm,0.6s									
KAPS	**Kapalarasan**	**4.75**	**175**	Pg		Pb	07	28	56.7	+1.9
	1.2nm,0.3s									
KAPS				Lg		Lg	07	30	00.9	
	12nm,0.5s									
ZSN	**Zaisan**	**4.76**	**120**	Pg		Pb	07	28	57.5	+2.5
	7.6nm,0.2s									
ZSN				Lg		Lg	07	30	01.6	
	13nm,0.5s									
BVA0	**Borovoye Array**	**6.06**	**303**	⇑Pn		Pn	07	29	02.3	+0.8
	1.7nm,1.1s,baz=111,slow=15,SNR=4.4									
BVA0				⇑Sn		Sn	07	30	13.0	+1.4
	1.2nm,0.6s,baz=106,slow=28,SNR=4.3									
BVA0				⇑Lg		Lg	07	30	42.4	
	2.1nm,0.6s									

IPEC 11 07:42:45.1±0.4, 51°47N×16°19E, h2km±2km, ML2.9/3, Error ellipse: s-maj=4.0km s-min=1.8km az=58.0
BGR 11 07:42:45.6±0.5, 51°45N×16°11E, h1km, ML3.0/11, Error ellipse: s-maj=7.8km s-min=3.3km az=21.0
PRU 11 07:42:46.3±0.0, 51°43N×16°09E, h0km
VIE 11 07:42:46.4±0.5, 51°35N×15°91E, h0km, mb2.7/7, ml3.0/7, Error ellipse: s-maj=3.5km s-min=2.2km az=8.0 82 km WNW of Wroclaw Suspected Mining induced.
IDC 11 07:42:46.0±0.8, 51°46N×16°08E, h0km, mb3.5/1, mb1 3.5/7, mb1mx3.3/44, mbtmp3.4/7, ML3.2/6, Error ellipse: s-maj=15.0km s-min=7.4km az=119.0

ISC 11 07:42:43.6±0.7, 51°53N±0°03×16°08E±0°02, h0km, n60, σ1§23/113, Poland

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
KSP	**Ksiaz**	**0.70**	**169**	*e*Pg		**Pg**	**07**	**42**	**57.6**	**+0.4**
KSP				*e*Sg		**Sg**	**07**	**43**	**06.5**	**+0.2**
KSP	**Ksiaz**	**0.70**	**169**	*i* Pg		**Pg**	**07**	**42**	**57.5**	**+0.4**
KSP				*e*Sg		**Sg**	**07**	**43**	**06.1**	**-0.2**
CHVC	**Chvalec**	**0.95**	**181**	*e*PG		**Pg**	**07**	**43**	**02.0**	**+0.3**
CHVC				*e*SG		**Sg**	**07**	**43**	**14.1**	**+0.1**
	comp=Z,1μm,1.8s									
OSTC	**Ostas**	**0.98**	**175**	*e*PG		**Pg**	**07**	**43**	**02.9**	**+0.5**
OSTC				*e*SG		**Sg**	**07**	**43**	**15.0**	**-0.1**
	comp=Z,725nm,1.4s									
UPC	**Upice**	**1.03**	**182**	*e*PG		**Pg**	**07**	**43**	**03.7**	**+0.4**
UPC				*e*SG		**Sg**	**07**	**43**	**16.0**	**-0.6**
	comp=Z,225nm,0.5s									
DPC	**Dobruska-Polom**	**1.20**	**172**	*e*Pg		**Pg**	**07**	**43**	**06.5**	**0.0**
DPC				*e*Sg		**Sg**	**07**	**43**	**21.1**	**-0.9**
DPC	**Dobruska-Polom**	**1.20**	**172**	*e*PG		**Pg**	**07**	**43**	**06.1**	**-0.4**
DPC				*e*SG		**Sg**	**07**	**43**	**20.7**	**-1.3**
	comp=Z,108nm,0.7s									
PVCC	**Panska Ves**	**1.39**	**224**	*e*PG		**Pb**	**07**	**43**	**10.7**	**+0.3**
PVCC				*e*SG		**Sn**	**07**	**43**	**29.6**	**+0.4**
	comp=Z,270nm,0.6s									
BRG	**Berggiesshubel**	**1.50**	**245**	*e*Pn		**Pn**	**07**	**43**	**12.0**	**+0.3**
BRG				*e*Pg		**Pg**	**07**	**43**	**13.4**	**+1.1**
BRG				*e*Sg		**Sn**	**07**	**43**	**32.8**	**+0.9**
KRLC	**Kraliky**	**1.53**	**163**	*e*PG		**Pn**	**07**	**43**	**11.8**	**-0.4**
KRLC				*e*SG		**Sg**	**07**	**43**	**31.1**	**-1.5**
	comp=Z,241nm,0.9s									
PRA	**Prague**	**1.80**	**216**	*e*PG		**Pg**	**07**	**43**	**18.2**	**+0.1**
PRA				*e*SG		**Sg**	**07**	**43**	**41.7**	**+0.3**
	comp=Z,32nm,0.6s									
GOPC	**GO Pecny, Ondr**	**1.82**	**207**	*e*PG		**Pb**	**07**	**43**	**18.0**	**+0.3**
GOPC				*e*SG		**Sg**	**07**	**43**	**41.9**	**-0.1**
	comp=Z,136nm,1.3s									
FBE	**Freiberg**	**1.82**	**251**	*e*Sg		**Sg**	**07**	**43**	**42.5**	**+0.5**
PRU	**Pruhonice**	**1.83**	**213**	*e*PG		**Pb**	**07**	**43**	**17.9**	**0.0**
PRU				*e*SG		**Sb**	**07**	**43**	**41.7**	**+0.3**
	comp=Z,85nm,0.8s									
CLL	**Collm**	**1.94**	**265**	*e*Pn		**Pn**	**07**	**43**	**18.5**	**+0.6**
CLL				*e*Pg		**Pg**	**07**	**43**	**21.0**	**+0.3**
CLL				*e*Sg		**Sg**	**07**	**43**	**47.2**	**+1.3**
CLL	**Collm**	**1.94**	**265**	*i* Pn		**Pn**	**07**	**43**	**18.4**	**+0.6**
CLL				*e*Pg		**Pg**	**07**	**43**	**21.0**	**+0.3**
CLL				*i*			07	43	25.2	
CLL				*i*			07	43	35.9	
CLL				*e*Sg		**Sg**	**07**	**43**	**47.0**	**+1.1**
	comp=Z,55nm,0.8s									
MORC	**Moravsky Berou**	**1.99**	**151**	*e*Pn		**Pn**	**07**	**43**	**18.4**	**-0.3**
MORC				*e*Sg		**Sn**	**07**	**43**	**44.0**	**-0.2**
MORC	**Moravsky Berou**	**1.99**	**151**	*e*PN		**Pn**	**07**	**43**	**18.3**	**-0.3**
MORC				*e*SG		**Sn**	**07**	**43**	**44.7**	**+0.5**
MORC	**Moravsky Berou**	**1.99**	**151**	*e*Pn		**Pn**	**07**	**43**	**18.3**	**-0.3**
	baz=334									
MORC				*e*Sg		**Sn**	**07**	**43**	**44.6**	**+0.4**
	comp=Z,61nm,0.6s,baz=334									
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*Sg		**Sb**	**07**	**43**	**51.0**	**+0.4**
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*PG		**Pb**	**07**	**43**	**23.9**	**+0.5**
OKC				*e*SG		**Sb**	**07**	**43**	**50.6**	**0.0**
	comp=Z,3μm,0.8s									
VRAC	**Vranov**	**2.25**	**171**	Pn		**Pn**	**07**	**43**	**23.4**	**+1.3**
	comp=Z,3.3nm,0.3s,baz=353,slow=16,SNR=10									
VRAC				Lg		Lg	07	43	54.0	
	comp=Z,2.8nm,0.3s,baz=329,slow=6.3,SNR=3.8									
VRAC	**Vranov**	**2.25**	**171**	*e*PN		**Pn**	**07**	**43**	**22.4**	**+0.3**
VRAC				*e*SG		**Sb**	**07**	**43**	**53.3**	**-0.3**
VRAC	**Vranov**	**2.25**	**171**	*e*Pn		**Pn**	**07**	**43**	**22.4**	**+0.3**
	baz=353									
VRAC				*e*Sg		**Sb**	**07**	**43**	**53.2**	**-0.3**
	comp=Z,78nm,0.8s,baz=353									
TREC	**Trest**	**2.27**	**190**	*e*PG		**Pg**	**07**	**43**	**26.5**	**-0.7**
TREC				*e*SG		**Sb**	**07**	**43**	**54.9**	**+0.7**
	comp=Z,44nm,0.6s									
PBCC	**Pribram**	**2.28**	**216**	*e*PG		**Pg**	**07**	**43**	**26.6**	**-0.6**
PBCC				*e*SG		**Sg**	**07**	**43**	**56.2**	**-0.5**
KRUC	**Moravsky**	**2.48**	**175**	*e*PN		**Pn**	**07**	**43**	**25.7**	**+0.4**
KRUC				*e*PG		**Pb**	**07**	**43**	**29.1**	**0.0**
KRUC				*e*SG		**Sb**	**07**	**44**	**00.6**	**+0.4**
KRUC	**Moravsky**	**2.48**	**175**	*e*Pn		**Pn**	**07**	**43**	**25.6**	**+0.3**
	baz=357									
KRUC	**Moravsky**	**2.48**	**175**	*e*Pg		**Pb**	**07**	**43**	**29.1**	**0.0**
	baz=357									
KRUC				*e*Sg		**Sb**	**07**	**44**	**00.5**	**+0.4**
	comp=Z,45nm,0.5s,baz=357									
TANN	**Tannenbergstha**	**2.54**	**245**	*e*Sg		**Sg**	**07**	**44**	**06.6**	**+1.3**
WERD	**Werda**	**2.62**	**247**	*e*Pg		**Pg**	**07**	**43**	**35.3**	**+1.5**
NKC	**Novy Kostel**	**2.64**	**242**	*e*PN		**Pn**	**07**	**43**	**28.7**	**+1.2**
NKC				*e*PG		**Pg**	**07**	**43**	**33.7**	**-0.5**
NKC				*e*SG		**Sg**	**07**	**44**	**09.9**	**+1.5**
	comp=Z,76nm,0.6s									
OJC	**Ojcow**	**2.70**	**118**	*e*Sg		**Sg**	**07**	**44**	**11.2**	**+0.8**
OJC	**Ojcow**	**2.70**	**118**	*e*Pn		**Pn**	**07**	**43**	**26.8**	**-1.4**
OJC				*e*Pg		**Pg**	**07**	**43**	**35.9**	**+0.6**
OJC				*e*Sg		**Sg**	**07**	**44**	**11.1**	**+0.8**
JAVC	**Velka Javorina**	**2.87**	**158**	*e*PN		**Pn**	**07**	**43**	**31.8**	**+1.2**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN		**Pn**	**07**	**43**	**32.1**	**+1.2**
KHC				*e*PG		**Pg**	**07**	**43**	**37.7**	**-1.3**
KHC				*e*SN		**Sn**	**07**	**44**	**06.5**	**+0.1**
KHC				*e*SG		**Sg**	**07**	**44**	**16.4**	**0.0**
	comp=Z,30nm,0.5s									
MOX	**Moxa**	**2.95**	**254**	*e*Sg		**Sg**	**07**	**44**	**21.5**	**+3.2**
ROTZ	**Rotzenmuhle**	**3.03**	**236**	*e*Pn		**Pn**	**07**	**43**	**33.8**	**+1.0**
ROTZ				*e*Pg		**Pg**	**07**	**43**	**44.1**	**-1.1**
GEC2	**GERESS Array S**	**3.09**	**210**	*e*Pn		**Pn**	**07**	**43**	**34.9**	**+1.1**
GEC2				*e*Pg		**Pb**	**07**	**43**	**41.2**	**+1.7**
GEC2				*e*Sg		**Sg**	**07**	**44**	**22.2**	**-0.8**
GERES	**GERESS Array B**	**3.09**	**210**	Pn		**Pn**	**07**	**43**	**34.9**	**+1.1**
	comp=Z,1.6nm,0.3s,baz=30,slow=12,SNR=27									
GERES				Pg		**Pg**	**07**	**43**	**42.0**	**-0.9**
	comp=Z,4.6nm,0.3s,baz=34,slow=14,SNR=44									
GERES				Lg		Lg	07	44	22.8	
	comp=Z,4.4nm,0.3s,baz=27,slow=26,SNR=5.6									
WET	**Wettzell**	**3.15**	**222**	*e*Pn		**Pn**	**07**	**43**	**34.9**	**+0.4**
LANS	**Liptovska Anna**	**3.23**	**136**	*e*PG		**Pg**	**07**	**43**	**47.3**	**+1.9**
LANS				*e*SG		**Sg**	**07**	**44**	**27.3**	**+0.1**
MODS	**Modra-Piesok**	**3.26**	**166**	*e*PG		**Pb**	**07**	**43**	**44.1**	**+1.8**
MODS				*e*SG		**Sb**	**07**	**44**	**24.9**	**+2.4**
NIE	**Niedzica**	**3.43**	**126**	*e*P		**Pg**	**07**	**43**	**48.9**	**-0.4**
NIE				*e*S		**Sg**	**07**	**44**	**33.4**	**-0.3**
VYHS	**Vyhne**	**3.52**	**149**	*e*PG		**Pg**	**07**	**43**	**50.0**	**-1.1**
VYHS				*e*SG		**Sb**	**07**	**44**	**30.4**	**+0.2**
CONA	**Conrad Observa**	**3.61**	**182**	*i* Pn		**Pn**	**07**	**43**	**41.8**	**+0.9**
	comp=Z,3.0nm,0.3s,SNR=4.7									
CONA				*i* Sg		**Sg**	**07**	**44**	**40.3**	**+0.7**
	comp=Z,34nm,0.5s									
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P		**Pn**	**07**	**43**	**42.1**	**+0.7**
BSD				*i* S		**Sn**	**07**	**44**	**23.8**	**-1.3**
BSD	**Bornholm Skovb**	**3.65**	**349**	*e*		**Pn**	**07**	**43**	**41.5**	**+0.1**
	baz=188,slow=12									
BSD				*i* P		Pb	07	43	42.2	-6.8
BSD				*i* S		**Sn**	**07**	**44**	**23.9**	**-1.2**
BSD				IAML			07	44	33.5	
	comp=Z,3.8nm,0.4s									
MOA	**Molln**	**3.87**	**198**	*i* Pn		**Pn**	**07**	**43**	**45.4**	**+1.1**
	comp=Z,2.1nm,0.4s									
MOA				*i* Sg		**Sg**	**07**	**44**	**47.2**	**-0.7**
	comp=Z,18nm,0.4s									
KECS	**Kecovo**	**4.17**	**135**	*e*SG		**Sg**	**07**	**44**	**56.9**	**-0.7**
ARSA	**Arzberg**	**4.30**	**185**	*i* Pn		**Pn**	**07**	**43**	**51.9**	**+1.6**
	comp=Z,1.5nm,0.2s									
ARSA				*i* Sg		**Sg**	**07**	**45**	**02.3**	**+0.6**
	comp=Z,19nm,0.8s									
CRVS	**Cervenica-Dubn**	**4.35**	**125**	*e*PG		**Pg**	**07**	**44**	**11.4**	**+4.5**
KOLS	**Kolonicke sedl**	**4.75**	**121**	*e*PG		**Pg**	**07**	**44**	**16.0**	**+1.3**
KOLS				*e*SG		**Sg**	**07**	**45**	**19.1**	**+2.9**
KBA	**Koelnbreinsper**	**4.80**	**203**	*i* Pn		**Pn**	**07**	**43**	**58.5**	**+1.2**
	comp=Z,2.9nm,0.5s									
KBA				*i* Sg		**Sb**	**07**	**45**	**03.6**	**-3.5**
	comp=Z,11nm,0.8s									
WTTA	**Wattenberg**	**5.16**	**216**	*i* Pn		**Pn**	**07**	**44**	**01.4**	**-0.9**
	comp=Z,2.0nm,0.3s									
WTTA				*i* Sg		**Sg**	**07**	**45**	**29.8**	**+0.4**
	comp=Z,11nm,0.7s									
DAVOX	**Davos/Dischmat**	**6.26**	**223**	Pn		**Pn**	**07**	**44**	**18.0**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=36,slow=17,SNR=1.7									
DAVOX				Lg		Lg	07	46	02.8	
	comp=Z,0.4nm,0.3s,baz=212,slow=18,SNR=2.4									
AKASG	**Malin Array Be**	**8.32**	**91**	Pn		**Pn**	**07**	**44**	**44.1**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=278,slow=12,SNR=5.5									
FINES	**FINESS Array B**	**11.35**	**25**	Pn		**Pn**	**07**	**45**	**26.1**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=209,slow=13,SNR=8.8									
FINES				Sn		**Sn**	**07**	**47**	**28.4**	**-5.8**
	comp=Z,0.3nm,0.3s,baz=211,slow=19,SNR=5.0									
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn		**P**	**07**	**47**	**00.0**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=193,slow=12,SNR=11									
BVAR	**Borovoye Array**	**32.60**	**66**	P		**P**	**07**	**49**	**18.1**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=303,slow=8.4,SNR=1.9									

IDC 11 07:44:39.1±1.3, 6°12S×143°18E, h0km, mb4.1/6, mb1 4.4/8, mb1mx4.0/28, mbtmp4.2/8, ML4.1/2, MS3.3/4, Ms1 3.3/4, ms1mx3.0/23, Error ellipse: s-maj=41.6km s-min=20.3km az=93.0
NEIC 11 07:44:40.3±2.6, 6°33S±0°07×143°0E±0°1, h10km±1km, mb4.2/13, Error ellipse: s-maj=20.0km s-min=8.4km az=58.0

ISC 11 07:44:43.9±0.7, 6°37S±0°06×142°99E±0°10, h35km, n28, σ1§68/30, mb4.1/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
JAY	**Jayapura**	**4.46**	**329**	Pn		**Pn**	**07**	**45**	**47.5**	**-1.6**
	7.3nm,0.3s,baz=188,slow=9.2,SNR=16									
JAY				Sn		**Sn**	**07**	**46**	**42.2**	**+2.4**
	4.3nm,0.3s,baz=278,slow=14,SNR=6.4									
JAY				LR		LR	07	47	18.9	
	comp=Z,180nm,18.4s,baz=20,slow=37									
PMG	**Port Moresby**	**5.11**	**126**	Pn		**Pn**	**07**	**45**	**57.5**	**-0.5**
COEN	**Coen**	**7.54**	**179**	Pn		**Pn**	**07**	**46**	**31.1**	**-0.4**
KRVT	**Keravat (AS076**	**9.22**	**78**	LR		LR	07	50	47.9	
	comp=Z,223nm,18.3s,baz=266,slow=41									
MTN	**Manton Dam**	**13.34**	**240**			**Pn**	**07**	**47**	**49.2**	**-1.7**
WB0	**Warramunga Arr**	**15.72**	**211**			**P**	**07**	**48**	**27.2**	**+0.7**
WB0				IAmb		IAmb	07	48	44.5	
	comp=Z,13nm,1.1s									
WR0	**Warramunga Arr**	**15.81**	**211**	Pn		**Pn**	**07**	**48**	**24.2**	**+0.3**
WR0				IAmb		IAmb	07	48	38.4	
	comp=Z,11nm,0.8s									
WRAB	**Tennant Creek**	**15.88**	**211**	Pn		**Pn**	**07**	**48**	**24.4**	**-0.5**
WRAB				IAmb		IAmb	07	48	40.4	
	comp=Z,12nm,0.8s									
WB2	**Warramunga Arr**	**15.89**	**211**	Pn		**Pn**	**07**	**48**	**24.7**	**-0.3**
WRA	**Warramunga Arr**	**15.90**	**211**	Pn		**Pn**	**07**	**48**	**24.0**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=27,slow=13,SNR=19									
WRA				Sn		**Sn**	**07**	**51**	**15.6**	**-4.7**
	comp=Z,0.4nm,0.3s,baz=32,slow=24,SNR=2.8									
WRA				Lg		Lg	07	53	11.6	
	comp=Z,0.3nm,0.3s,baz=26,slow=28,SNR=4.2									
WRA				LR		LR	07	55	54.3	
	comp=Z,133nm,19.5s,baz=350,slow=42									
KNRA	**Kununurra**	**16.74**	**235**			**Pn**	**07**	**48**	**34.8**	**-1.1**
AS31	**Alice Springs**	**19.29**	**206**	P		**Pn**	**07**	**49**	**07.9**	**+0.8**
ASAR	**Alice Springs**	**19.29**	**206**	P		**Pn**	**07**	**49**	**09.8**	**+2.6**
	comp=Z,0.8nm,0.3s,baz=36,slow=9.5,SNR=45									
ASAR				S		**S**	**07**	**52**	**44.7**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=26,slow=26,SNR=4.4									
ASAR				Lg		Lg	07	55	00.3	
	comp=Z,0.0nm,0.3s,baz=22,slow=30,SNR=4.2									
ASAR				LR		LR	07	55	39.2	
	comp=Z,142nm,20.9s,baz=20,slow=34									
ASAR	**Alice Springs**	**19.29**	**206**	P		**Pn**	**07**	**49**	**08.2**	**+1.0**
EIDS	**Eidsvold**	**20.41**	**159**	P		**P**	**07**	**49**	**16.7**	**-1.4**
EIDS				IAmb		IAmb	07	49	27.7	
	comp=Z,18nm,1.3s									
FITZ	**Fitzroy Crossi**	**20.55**	**234**	P		**P**	**07**	**49**	**20.9**	**+1.3**
	comp=Z,8.6nm,0.5s,baz=66,slow=8.0,SNR=13									
FITZ	**Fitzroy Crossi**	**20.55**	**234**	P		**P**	**07**	**49**	**19.6**	**-0.1**
STKA	**Stephens Creek**	**25.41**	**183**	P		**P**	**07**	**50**	**11.3**	**+3.0**
	comp=Z,3.7nm,1.0s,baz=8.5,slow=9.0,SNR=5.9									
BBOO	**Buckleboo**	**27.09**	**193**	P		**P**	**07**	**50**	**25.4**	**+2.0**
KSRS	**Korea Array**	**45.81**	**343**	P		**P**	**07**	**53**	**00.6**	**-1.8**
	comp=Z,1.9nm,0.8s,baz=168,slow=9.0,SNR=6.5								

baz=25
CHMS Chumysh 2.44 26⇑*e*P Pn 07 49 53.2 +1.4
baz=25
CHMS ⇑*i*S Sn 07 50 24.0 +2.3
baz=25
CHMS Chumysh 2.44 26 P Pb 07 49 56.1 +0.3
SNR=25
USP Ospenovka 2.61 19⇑*e*P Pn 07 49 55.2 +1.0
baz=18
USP ⇑*e*S Sn 07 50 28.0 +2.1
baz=18
USP Ospenovka 2.61 19 P Pb 07 49 59.1 +0.3
SNR=16
ULHL Ulahol 2.63 56⇑*i*P Pn 07 49 55.2 +0.7
baz=55
ULHL ⇑*i*S Sn 07 50 28.0 +1.4
baz=55
ULHL Ulahol 2.63 56 P Pg 07 50 01.4 -0.9
SNR=6.0
TKM2 Tokmak 2 2.71 38⇓*i*P Pn 07 49 56.8 +1.1
baz=37
TKM2 ⇓*i*S Sn 07 50 30.6 +1.9
baz=37
TKM2 Tokmak 2 2.71 38 P Pn 07 49 56.9 +1.1
SNR=21
TKM2 Tokmak 2 2.71 38 ⇑Pn Pn 07 49 56.6 +0.8
6.9nm,0.3s
TKM2 ⇓Lg Lg 07 50 35.0
66nm,0.6s
IUG luzhnay 2.80 300 *e*P Pb 07 50 01.8 -0.3
6.2nm,0.2s
IUG *e*S Sg 07 50 39.5 -2.5
289nm,0.5s
IUG luzhnay 2.80 300 Pg Pb 07 50 01.8 -0.3
6.2nm,0.2s
IUG Lg Lg 07 50 39.4
289nm,0.5s
GAR Garm 2.93 233⇓*e*P Pn 07 50 00.2 +1.6
baz=34
GAR ⇓*i*S Sb 07 50 37.2 -2.9
baz=34
KST Kastek 2.98 41 *e*P Pb 07 50 04.8 -0.4
KST *e*S Sb 07 50 44.3 +2.6
KST Kastek 2.98 41 Pg Pb 07 50 04.8 -0.4
KST Lg Lg 07 50 44.3
DGS Degeres 3.04 36 *e*P Pb 07 50 06.4 +0.2
25nm,0.5s
DGS *e*S Sg 07 50 47.4 -2.3
75nm,0.5s
DGS Degeres 3.04 36 Pg Pb 07 50 06.4 +0.2
25nm,0.5s
DGS Lg Lg 07 50 47.4
75nm,0.5s
KK31 Karatay Array 3.10 319 Pn Pn 07 50 02.6 +1.8
10nm,0.6s,baz=152,slow=17,SNR=41
KK31 ⇑Lg Lg 07 50 50.9
29nm,0.5s,baz=138,slow=28,SNR=5.3
KDJ Kajisay 3.19 64⇑*e*P Pn 07 50 03.1 +0.8
baz=64
KDJ ⇑*i*S Sn 07 50 42.2 +1.7
baz=64
MTBS Maitube 3.28 44 *e*P Pb 07 50 10.2 -0.1
5.8nm,0.2s
MTBS *e*S Sb 07 50 54.0 +3.7
63nm,0.3s
MTBS Maitube 3.28 44 Pg Pb 07 50 10.2 -0.1
5.8nm,0.2s
MTBS Lg Lg 07 50 54.0
63nm,0.3s
KRBS Karabastau 3.38 31 *e*P Pb 07 50 12.2 +0.4
11nm,0.4s
KRBS *e*S Sb 07 50 56.8 +3.8
30nm,0.5s
KRBS Karabastau 3.38 31 Pg Pb 07 50 12.2 +0.4
11nm,0.4s
KRBS Lg Lg 07 50 56.8
30nm,0.5s
TNSS Tian-Shan 3.51 49 *e*P Pb 07 50 14.9 +0.6
11nm,0.4s
TNSS *e*S Sg 07 51 01.5 -3.1
70nm,0.4s
TNSS Tian-Shan 3.51 49 Pg Pb 07 50 14.9 +0.6
11nm,0.4s
TNSS Lg Lg 07 51 01.5
70nm,0.4s
TARG Taragay, Kyrgy 3.51 73⇑*i*P Pn 07 50 07.6 +0.7
baz=73
TARG ⇑*e*S Sn 07 50 49.5 +0.9
baz=73
MDOK Medeo 3.65 49 *e*P Pb 07 50 16.7 +0.2
4.6nm,0.3s
MDOK *e*S Sg 07 51 05.0 -3.9
39nm,0.5s
MDOK Medeo 3.65 49 ⇓Pn Pn 07 50 08.1 -0.4
8.8nm,0.4s
MDOK ⇑Lg Lg 07 51 06.3
98nm,0.9s
MDOK Medeo 3.65 49 Pg Pb 07 50 16.7 +0.2
4.6nm,0.3s
MDOK Lg Lg 07 51 05.0
39nm,0.5s
KOTS Kotyrbulak 3.73 48 *e*P Pb 07 50 18.9 +1.1
13nm,0.4s
KOTS *e*S Sg 07 51 08.4 -3.1
99nm,0.6s
KOTS Kotyrbulak 3.73 48 Pg Pb 07 50 18.9 +1.1
13nm,0.4s
KOTS Lg Lg 07 51 08.4
99nm,0.6s
ANVS Anan'yevo 3.81 57⇑*i*P Pn 07 50 11.7 +1.0
baz=57
ANVS ⇑*i*S Sn 07 50 56.5 +0.8
baz=57
KUU Kurty 3.81 35 *e*P Pb 07 50 19.3 0.0
7.0nm,0.4s
KUU *e*S Sb 07 51 09.4 +3.9
93nm,0.5s
KUU Kurty 3.81 35 Pg Pb 07 50 19.3 0.0
7.0nm,0.4s
KUU Lg Lg 07 51 09.4
93nm,0.5s
KTBS Karatobe 3.83 40 *e*P Pb 07 50 20.5 +0.9
5.8nm,0.5s
KTBS *e*S Sg 07 51 11.1 -3.8
86nm,0.5s
KTBS Karatobe 3.83 40 Pg Pb 07 50 20.5 +0.9
5.8nm,0.5s
KTBS Lg Lg 07 51 11.1
86nm,0.5s
CHKK Chushkaly 4.08 41 *e*P Pb 07 50 24.7 +0.9
4.0nm,0.6s
CHKK *e*S Sg 07 51 18.7 -4.3
50nm,0.5s
CHKK Chushkaly 4.08 41 Pg Pb 07 50 24.7 +0.9
4.0nm,0.6s
CHKK Lg Lg 07 51 18.7
50nm,0.5s
BTLS Baital 4.26 7 *e*P Pb 07 50 28.2 +1.3
9.6nm,0.3s
BTLS *e*S Sg 07 51 24.4 -4.3
19nm,0.4s
BTLS Baital 4.26 7 Pg Pb 07 50 28.2 +1.3
9.6nm,0.3s
BTLS Lg Lg 07 51 24.4
19nm,0.4s
SATY Saty 4.42 58 *e*P Pb 07 50 30.0 +0.4
1.3nm,0.1s
SATY *e*S Sb 07 51 27.8 +4.9
26nm,0.3s
SATY Saty 4.42 58 Pg Pb 07 50 30.0 +0.4
1.3nm,0.1s
SATY Lg Lg 07 51 27.8
26nm,0.3s
ZHN Zhinishke 4.49 57 *e*P Pb 07 50 32.5 +1.7
3.4nm,0.1s
ZHN *e*S Sg 07 51 31.9 -4.0
21nm,0.3s
ZHN Zhinishke 4.49 57 Pg Pb 07 50 32.6 +1.7
3.4nm,0.1s
ZHN Lg Lg 07 51 31.9
21nm,0.3s
KPKS Kokpek 4.80 55 *e*P Pb 07 50 37.5 +1.4
5.8nm,0.3s
KPKS *e*S Sg 07 51 40.6 -5.2
52nm,0.4s
UZB Uzynbulak 4.86 59 *e*P Pb 07 50 38.1 +1.0
1.8nm,0.3s
UZB *e*S Sg 07 51 41.6 -6.1
18nm,0.4s
UZB Uzynbulak 4.86 59 Pg Pb 07 50 38.1 +1.0
1.8nm,0.3s
UZB Lg Lg 07 51 41.6
18nm,0.4s
SHLS Shalkode 5.15 61 *e*P Pg 07 50 48.5 -2.0
5.1nm,0.2s
SHLS *e*S Sg 07 51 59.5 +2.3
40nm,0.7s
SHLS Shalkode 5.15 61 Pg Pg 07 50 48.5 -2.0
5.1nm,0.2s
SHLS Lg Lg 07 51 59.5
40nm,0.7s
PDGK Podgornoye 5.24 59 ⇑Lg Lg 07 51 54.8
29nm,0.8s
OTUK Ortayu 7.47 355 ⇓Pg Pg 07 51 28.9 -5.9
1.8nm,0.8s
OTUK ⇑Lg Lg 07 53 08.0
11nm,0.7s
MK31 Makanchi Array 8.82 44 ⇓Pn Pn 07 51 22.0 +2.5
0.5nm,0.5s
MK31 ⇑Sn Sn 07 53 02.4 +3.5
0.5nm,0.4s
MK31 ⇓Lg Lg 07 53 51.0
3.0nm,0.8s

MEX 11 08:28:07.2±1.5,28°.08N×111°.86W,h16km±37km,MD3.7
ECX 11 08:28:08.9±1.3,27°.70N×111°.65W,h20km±28km,MD3.6
ISC 11 08:28:03.9±1.3,27°.95N±0°.07×111°.79W±0°.06,h10km,n6,
σ3⇕40/10,2C,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia** baz=23,slow=6.5	**0.74**	**213**	⇑*e*P		**Pn**	**08 28 20.9**	**+0.4**
SRIG				*i* S		**Sb**	**08 28 29.9**	**+0.7**
SRIG	**Santa Rosalia**	**0.74**	**213**	⇑*e*P		**Pn**	**08 28 20.4**	**-0.1**
SRIG				*e*S		**Sb**	**08 28 30.0**	**+0.8**
GUYB	**Guaymas**	**0.81**	**93**	*e*P		**Pn**	**08 28 20.8**	**-0.6**
GUYB				*i* S		**Sn**	**08 28 30.9**	**-2.6**
GUYB	**Guaymas**	**0.81**	**93**	*e*P		**Pn**	**08 28 21.1**	**-0.3**
GUYB				*e*S		**Sn**	**08 28 31.4**	**-2.1**
HSIG		**1.30**	**34**	*e*P		Pg	08 28 33.9	+5.0
HSIG				*e*S		**Sn**	**08 28 53.0**	**+7.4**
BAHB	**Baha de los**	**2.52**	**322**	*e*P		**Pn**	**08 28 41.4**	**-3.6**

UPA 11 08:30:03.0±2.2,8°.79N×82°.96W,h10km±5km,MW3.8
UCR 11 08:30:03.5±1.2,8°.74N×83°.02W,h25km±2km,MD3.5
ISC 11 08:30:03.6±0.9,8.76N±0°.03×82°.98W±0°.02,h24km±5km,
n35,σ1⇕07/60,11C-3D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EDSV	**San Vito**	**0.06**	**10**	⇑*i*P		**Pb**	**08 30 07.9**	**-0.2**
EDSV				*e*S		**Sb**	**08 30 12.0**	**+0.8**
MLIR3	**Monte Lirio, C**	**0.16**	**78**	*i* P		**Pb**	**08 30 08.7**	**-0.2**
MLIR3				*e*S		**Sb**	**08 30 11.1**	**-1.4**
CDITO	**Canoas**	**0.21**	**149**	⇑*i*P		**Pb**	**08 30 09.1**	**-0.4**
CDITO				*e*S		**Sb**	**08 30 13.9**	**+0.5**
BRU2	**Volcan**	**0.29**	**83**	⇑*i*P		**Pb**	**08 30 09.9**	**-0.7**
BRU2				*e*S		**Sb**	**08 30 15.1**	**-0.3**
BC3P	**Paso Ancho**	**0.37**	**81**	*e*P		**Pb**	**08 30 11.0**	**-0.9**
BC3P				*e*S		**Sb**	**08 30 16.7**	**-0.8**
PTJ1	**Puerto Jimnez**	**0.39**	**235**	*e*P		**Pb**	**08 30 11.8**	**-0.1**
PTJ1				*e*S		**Sb**	**08 30 17.9**	**+0.3**
PTJ1	**Puerto Jimnez**	**0.39**	**235**	*e*P		**Pb**	**08 30 11.8**	**-0.1**
BCO2	**Palmira**	**0.45**	**95**	⇑*i*P		**Pb**	**08 30 12.4**	**-0.8**
BCO2				*e*S		**Sb**	**08 30 19.1**	**-0.5**
EDBA	**Buenos Aires**	**0.49**	**324**	⇑*i*P		**Pb**	**08 30 13.6**	**-0.2**
EDBA				*e*S		**Sb**	**08 30 21.4**	**+0.7**
PIRO	**Carate, Puerto**	**0.50**	**225**	⇓*i*P		**Pb**	**08 30 13.3**	**-0.4**
PIRO				*e*S		**Sn**	**08 30 23.6**	**+0.6**
PIRO	**Carate, Puerto**	**0.50**	**225**	⇓*i*P		**Pb**	**08 30 13.3**	**-0.4**
EDPN	**Palmar Norte**	**0.51**	**293**	⇑*e*P		**Pb**	**08 30 13.1**	**-0.9**
EDPN				*e*S		**Sb**	**08 30 20.9**	**-0.1**
RIOS	**Rincon, Osa**	**0.53**	**264**	⇓*i*P		**Pb**	**08 30 13.1**	**-1.2**
RIOS				*e*S		**Sb**	**08 30 20.9**	**-0.7**
BAGA3	**Bagala, Chiriq**	**0.54**	**123**	*e*P		**Pb**	**08 30 14.1**	**-0.4**
PSOM3	**Paja de Sombre**	**0.66**	**96**	*e*P		**Pb**	**08 30 15.2**	**-1.3**
PSOM3				*e*S		**Sb**	**08 30 24.2**	**-1.1**
CHIR3	**Chiriqui UPA,**	**0.74**	**119**	*e*P		**Pb**	**08 30 16.9**	**-1.0**
CHIR3				*e*S		**Sb**	**08 30 27.6**	**0.0**
EDLM	**Las Mercedes**	**0.79**	**311**	⇑*e*P		**Pb**	**08 30 17.6**	**-1.2**
EDLM				*e*S		**Sb**	**08 30 29.6**	**+0.4**
RGM0	**Gandoca**	**0.91**	**24**	*e*P		**Pn**	**08 30 20.8**	**-0.1**
PEZE	**Perez Zeledon,**	**0.93**	**312**	⇑*e*P		**Pb**	**08 30 19.4**	**-1.7**
BATAN	**Batan**	**1.39**	**344**	*e*P		**Pn**	**08 30 27.6**	**+0.1**
BATAN				*e*S		**Sb**	**08 30 46.5**	**+0.3**
LCR2	**La Lucha 2**	**1.40**	**314**	⇑*e*P		**Pn**	**08 30 26.8**	**-1.1**
CVTR	**Volcan Turrial**	**1.47**	**329**	⇑*i*P		**Pn**	**08 30 28.7**	**-0.3**
CVTR				*e*S		**Sb**	**08 30 49.7**	**+0.7**
SJS	**Escuela Geolog**	**1.58**	**318**	*e*P		**Pn**	**08 30 30.0**	**-0.2**
SJS				*e*S		**Sn**	**08 30 50.2**	**+0.2**
HDC	**Heredia**	**1.67**	**318**	*e*P		**Pn**	**08 30 31.6**	**+0.2**
HDC				*e*S		**Sn**	**08 30 52.2**	**+0.1**
HDC	**Heredia**	**1.67**	**318**	*e*P		**Pn**	**08 30 31.4**	**-0.1**
SRA1	**San Ramn**	**1.98**	**312**	*e*P		**Pn**	**08 30 35.5**	**-0.3**
GMAL	**Guarumal, Vera**	**1.99**	**120**	⇑*i*P		**Pn**	**08 30 35.2**	**-0.6**
GMAL				*e*S		**Sn**	**08 30 59.4**	**-0.7**
JTS	**Las Juntas de**	**2.47**	**308**	*e*P		**Pn**	**08 30 42.9**	**+0.5**
JTS				*e*S		**Sn**	**08 31 13.3**	**+1.4**
JTS	**Las Juntas de**	**2.47**	**308**	*e*P		**Pn**	**08 30 42.9**	**+0.5**
CACAO	**El Cacao, Vera**	**2.53**	**124**	*e*P		**Pn**	**08 30 44.7**	**+1.6**
CACAO				*e*S		**Sb**	**08 31 16.9**	**-2.2**
PNME	**Penonome**	**2.64**	**96**	*e*P		**Pb**	**08 30 52.7**	**+2.4**
PNME				*e*S		**Sb**	**08 31 19.7**	**-2.6**
VTON	**El Valle, Cocl**	**2.84**	**93**	*e*P		**Pb**	**08 30 57.5**	**+3.8**
VTON				*e*S		**Sb**	**08 31 26.2**	**-2.0**
AZU	**Azuero**	**2.85**	**110**	*e*P		**Pn**	**08 30 48.3**	**+0.7**
AZU				*e*S		**Sn**	**08 31 21.4**	**+0.3**
BCIP	**Isla Barro Col**	**3.13**	**82**	*e*P		**Pn**	**08 30 52.0**	**+0.5**
BCIP				*e*S		**Sn**	**08 31 27.7**	**-0.5**
BCIP	**Isla Barro Col**	**3.13**	**82**	*e*P		**Pn**	**08 30 52.2**	**+0.7**

JMA 11 08:33:11.8±0.1,23°.88N×122°.73E,h50km±5km,M2.4
TAP 11 08:33:14.1,23°.78N×122°.65E,h62km±2km,ML2.8,D
ISC 11 08:33:09.4±1.2,23°.72N±0°.03×122°.78E±0°.02,h12km±9km,
n53,σ1⇕63/72,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.75**	**12**	P		**Pg**	**08 33 24.2**	**+0.3**
JYNG				S		**Sg**	**08 33 33.2**	**-0.5**
YOJ	**Yonaguni jima**	**0.77**	**16**	P		**Pg**	**08 33 24.8**	**+0.5**
YOJ				*e*S		**Sg**	**08 33 33.9**	**-0.6**
HATJ	**Hateruma jima**	**1.00**	**70**	P		**Pg**	**08 33 29.7**	**+1.0**
HATJ				S		**Sg**	**08 33 42.7**	**+0.9**
IRIF	**Iriomote-Funau**	**1.07**	**55**	P		**Pg**	**08 33 29.9**	**-0.1**
IRIF				*e*S		**Sg**	**08 33 43.2**	**-0.7**
TWD	**Chiawan** baz=288	**1.14**	**289**	P		**Pg**	**08 33 32.1**	**+0.8**
TWD				S		**Sg**	**08 33 44.3**	**-1.8**
ENAH	**Nanao** baz=311	**1.14**	**310**	*e*P		**Pg**	**08 33 33.0**	**+1.6**
ENAH				*e*S		**Sg**	**08 33 46.7**	**+0.4**
NACB	**Ninganchiao** baz=293	**1.17**	**293**	*e*P		Pg	08 33 31.5	-0.5
NACB				*e*S		**Sg**	**08 33 45.4**	**-1.8**
ENA	**Nanau** baz=315	**1.18**	**307**	*e*P		**Pg**	**08 33 33.2**	**+1.0**
ENA				*e*S		**Sg**	**08 33 46.7**	**-0.8**
TWC	**Suao** baz=313	**1.23**	**317**	*e*P		**Pg**	**08 33 34.4**	**+1.4**
TWC				*e*S		**Sg**	**08 33 48.6**	**-0.3**
ESL	**Shilin** baz=267	**1.23**	**275**	*e*P		Pg	08 33 32.4	-0.7
JKRS	**Kuro-shima**	**1.24**	**65**	P		**Pg**	**08 33 33.4**	**+0.1**
JKRS				S		**Sg**	**08 33 49.1**	**-0.3**
HGSD	**Ruisui** baz=256	**1.26**	**260**	⇓P		**Pg**	**08 33 33.7**	**+0.1**
HGSD				S		**Sg**	**08 33 49.0**	**-1.0**
ETLH	**Xiulin Townshi** baz=292	**1.28**	**293**	P		Pg	08 33 33.8	-0.3
ETLH				*e*S		**Sg**	**08 33 48.8**	**-1.9**
EHY	**Hungye** baz=258	**1.35**	**261**	*e*P		Pn	08 33 35.1	+1.0
EHY				*e*S		**Sg**	**08 33 52.0**	**-0.9**
EGS	baz=329	**1.36**	**326**	*e*P		**Pn**	**08 33 35.6**	**+1.4**
EYUL	**Yuli** baz=244	**1.39**	**255**	*e*P		**Pn**	**08 33 35.9**	**+1.3**
YULB	**Yu-li** baz=247	**1.39**	**257**	P		**Pn**	**08 33 36.1**	**+1.3**
YULB				*e*S		**Sg**	**08 33 52.5**	**-1.8**
JIJ	**Ishigaki jima**	**1.41**	**63**	P		Pn	08 33 35.0	+0.1
JIJ				*e*S		**Sg**	**08 33 52.0**	**-2.7**
TWE	**Neicheng** baz=317	**1.42**	**315**	*e*P		**Pn**	**08 33 36.8**	**+1.7**
TWE				*e*S		**Sb**	**08 33 53.6**	**-0.4**
NTC	**Toucheng** baz=325	**1.42**	**323**	*e*P		**Pn**	**08 33 37.3**	**+2.1**
NTC				*e*S		**Sb**	**08 33 54.3**	**+0.3**
ENTT	**Nioudou** baz=311	**1.44**	**310**	*e*P		**Pn**	**08 33 37.1**	**+1.8**
ENTT				*e*S		**Sb**	**08 33 53.2**	**-1.3**
WHF	**Hehuan Shan** baz=287	**1.45**	**287**	P		Pn	08 33 36.4	+0.6
WHF				S		**Sg**	**08 33 53.4**	**-2.7**
NDT	**Datong Townshi** baz=309	**1.45**	**308**	*e*P		**Pn**	**08 33 37.5**	**+2.0**
NDT				*e*S		**Sb**	**08 33 53.5**	**-1.3**
NNSB	**Datong** baz=300	**1.46**	**299**	P		Pn	08 33 36.2	+0.5
NNSB				*e*S		**Sg**	**08 33 53.2**	**-3.1**
NNSH	**Datong** baz=299	**1.46**	**299**	*e*P		Pn	08 33 35.2	-0.5
NNS	**Nan Shan** baz=300	**1.47**	**300**	*e*P		**Pn**	**08 33 37.1**	**+1.2**
NNS				S		**Sb**	**08 33 53.6**	**-1.9**
FUSS	**Fushou** baz=291	**1.50**	**291**	*e*P		Pn	08 33 37.1	+0.7
FUSS				*e*S		**Sb**	**08 33 54.9**	**-1.5**
VWDT	**VWDT** baz=263	**1.50**	**272**	P		**Pn**	**08 33 37.3**	**+1.2**
CHGB	**Renai** baz=282	**1.50**	**283**	*e*P		Pn	08 33 36.5	+0.1
CHGB				*e*S		**Sb**	**08 33 54.4**	**-2.2**
TIPB	**Shuangxi** baz=328	**1.52**	**325**	*e*P		**Pn**	**08 33 37.9**	**+1.4**
TIPB				*e*S		**Sn**	**08 33 55.3**	**-1.0**
EDH	**Donghe** baz=233	**1.54**	**242**	*e*P		**Pn**	**08 33 38.4**	**+1.6**
EDH				*e*S		**Sn**	**08 33 56.0**	**-0.8**
NWLT	**Wulai** baz=314	**1.57**	**313**	*e*P		**Pn**	**08 33 39.9**	**+2.7**
NWLT				*e*S		**Sn**	**08 33 58.3**	**+0.8**
TDCB	**Techi** baz=289	**1.57**	**290**	*e*P		Pn	08 33 38.2	+0.9
LDUT	**Ludao** baz=224	**1.59**	**229**	*e*P		**Pn**	**08 33 38.8**	**+1.4**
YHNB	**Yeheng** baz=308	**1.59**	**307**	P		Pn	08 33 38.2	+0.7
YHNB				*e*S		**Sn**	**08 33 56.3**	**-1.8**
NSK	**Sanguang** baz=308	**1.61**	**307**	*e*P		Pn	08 33 38.5	+0.7
NSK				*e*S		Sn	08 33 56.0	-2.5
NWF	**Wu-fen Shan** baz=328	**1.62**	**326**	*e*P		**Pn**	**08 33 39.9**	**+1.9**
WFSB	**Wu-fen Shan** baz=328	**1.62**	**326**	*e*P		**Pn**	**08 33 39.6**	**+1.8**
JISG	**Ishigakijimahi**	**1.65**	**58**	P		Pn	08 33 36.6	-1.6
JISG				S		**Sn**	**08 33 56.9**	**-2.5**
SSLB	**Suanglung** baz=271	**1.67**	**273**	*e*P		**Pn**	**08 33 40.9**	**+2.3**
ELDTW	**Lidau** baz=249	**1.70**	**252**	*e*P		**Pn**	**08 33 40.2**	**+1.1**
ELDTW				*e*S		**Sn**	**08 33 59.5**	**-1.3**
SMLT	**Sun Moon Lake** baz=268	**1.73**	**276**	*e*P		**Pn**	**08 33 41.0**	**+1.6**
WHP	**Taichung City** baz=283	**1.76**	**289**	*e*P		**Pn**	**08 33 42.2**	**+2.3**
TYC	**Yuchr** baz=275	**1.77**	**276**	*e*P		**Pn**	**08 33 42.0**	**+2.2**
TWGBT	**Beinan** baz=232	**1.80**	**240**	*e*P		**Pn**	**08 33 41.7**	**+1.4**
TWGBT				*e*S		**Sn**	**08 34 03.2**	**+0.2**
TWG	**Pinlang** baz=232	**1.80**	**241**	*e*P		Pn	08 33 41.1	+0.7
TWG				*e*S		**Sn**	**08 34 03.1**	**-0.1**
ALS	**Alishan** baz=256	**1.82**	**264**	*e*P		**Pn**	**08 33 42.9**	**+2.1**
CHN5	**Tsauling** baz=265	**1.93**	**267**	*e*P		Pn	08 33 42.8	+0.7
STYT	**Tauyuan** baz=247	**1.93**	**254**	*e*P		**Pn**	**08 33 44.3**	**+2.1**
STYT				*e*S		**Sn**	**08 34 06.6**	**+0.1**
JTJ	**Tarama**	**1.98**	**62**	P		**Pn**	**08 33 43.9**	**+1.0**
JTJ				*e*S		**Sn**	**08 34 07.0**	**-0.7**
WTP	**Ta-pu** baz=255	**2.04**	**257**	*e*P		**Pn**	**08 33 46.5**	**+2.8**
WTP				*e*S		**Sn**	**08 34 09.9**	**+0.8**
SLGT	**Liugui** baz=243	**2.08**	**250**	*e*P		**Pn**	**08 33 47.2**	**+2.9**
CHN1	**Nanshi** baz=253	**2.13**	**256**	*e*P		**Pn**	**08 33 48.2**	**+3.3**

NEIC 11 08:42:58.5±2.2,8°.02S±0°.07×109°.32E±0°.04,h106km±6km,
mb4.3/25,Error ellipse: s-maj=10.3km s-min=5.7km
az=182.0
IDC 11 08:42:59.0±1.3,7°.98S×109°.35E,h111km±11km,mb3.9/15,
mb1 4.0/17,mb1mx3.8/37,mbtmp4.2/17,Error ellipse:
s-maj=19.8km s-min=10.3km az=51.0
ISC 11 08:42:57.8±0.4,8.08S±0°.07×109.31E±0°.05,h100km,n53,
σ1⇕30/53,mb4.2/21,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.21**	**82**	Pn		**Pn**	**08 43 19.3**	**-1.3**
UGM				Sn		**Sn**	**08 43 37.2**	**-0.6**
SMRI	**Semarang**	**1.52**	**48**			**Pn**	**08 43 25.5**	**+1.2**
SMRI				Sn		**Sn**	**08 43 46.9**	**+2.5**
CISI	**Cisompet, Garu**	**1.57**	**289**	Pn		**Pn**	**08 43 22.7**	**-2.3**
LEM	**Lembang** 43nm,0.3s,baz=70,slow=12,SNR=15	**2.09**	**306**	P		**Pn**	**08 43 33.1**	**+1.4**
LEM	31nm,0.3s,baz=329,slow=21,SNR=6.0			S		**Sn**	**08 43 59.8**	**+2.1**
JAGI	**Jajag, Banyuwa**	**4.81**	**95**	Pn		**Pn**	**08 44 07.9**	**0.0**
MNAI	**Manna**	**7.32**	**300**	Pn		**Pn**	**08 44 42.7**	**+0.6**
PSA00	**Pilbara Seismi**	**16.83**	**144**	Pn		**Pn**	**08 46 44.9**	**-2.5**
PSA00	comp=Z,22nm,1.2s			IAmb		IAmb	08 47 02.3	
FITZ	**Fitzroy Crossi** comp=Z,0.3nm,0.3s,baz=298,slow=5.9,SNR=8.3	**18.75**	**124**	P		**P**	**08 47 09.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.75**	**124**	P		**P**	**08 47 09.9**	**+0.9**
KNRA	**Kununurra**	**20.46**	**113**	P		**P**	**08 47 28.4**	**+0.8**
KNRA	comp=Z,34nm,1.4s			IAmb		IAmb	08 47 31.7	
MORW	**Morawa**	**21.82**	**164**	P		**P**	**08 47 44.1**	**+2.1**
MORW	comp=Z,23nm,1.4s			IAmb		IAmb	08 47 44.4	
MTN	**Manton Dam**	**21.97**	**104**	P		**P**	**08 47 44.1**	**+0.4**
MTN	comp=Z,37nm,1.4s			IAmb		IAmb	08 47 56.4	
FAKI	**Fak Fak**	**23.39**	**79**	P		**P**	**08 47 56.4**	**-1.6**
WB0	**Warramunga Arr**	**26.93**	**118**	P		**P**	**08 48 29.5**	**-0.5**
WB0				IAmb		IAmb	08 48 41.9	

	comp=Z,12nm,1.5s							
WRA	**Warramunga Arr**	**26.95**	**119**	P		**P**	08 48 30.2	**+0.1**
	comp=Z,1.1nm,0.4s,baz=288,slow=9.7,SNR=19							
WRA	**Warramunga Arr**	**26.95**	**119**	IAmb		IAmb	08 48 31.9	
	comp=Z,0.1nm,0.8s							
WRAB	**Tennant Creek**	**26.95**	**119**	P		**P**	**08 48 28.3**	**-1.9**
WRAB				IAmb		IAmb	08 48 38.8	
	comp=Z,8.1nm,1.1s							
WB2	**Warramunga Arr**	**26.96**	**119**	P		**P**	**08 48 28.2**	**-2.0**
WB2				IAmb		IAmb	08 48 32.4	
	comp=Z,9.5nm,1.3s							
WR0	**Warramunga Arr**	**27.13**	**118**	P		**P**	**08 48 32.9**	**+1.2**
AS31	**Alice Springs**	**28.20**	**126**	P		**P**	**08 48 42.4**	**+1.1**
ASAR	**Alice Springs**	**28.20**	**126**	P		**P**	**08 48 41.8**	**+0.5**
	comp=Z,2.1nm,0.4s,baz=306,slow=9.4,SNR=50							
ASAR				PcP		**PcP**	**08 51 52.8**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=303,slow=2.2,SNR=5.4							
ASAR				ScP		**ScP**	**08 55 24.9**	**0.0**
	comp=Z,0.8nm,0.8s,baz=305,slow=2.5,SNR=6.7							
FORT	**Forrest**	**28.59**	**145**	P		**P**	**08 48 45.1**	**+0.5**
COEN	**Coen**	**33.72**	**103**	P		**P**	**08 49 30.8**	**+0.9**
BBOO	**Buckleboo**	**34.92**	**139**	P		**P**	**08 49 39.9**	**-0.2**
H08S2	**Diego Garcia H**	**36.47**	**268**	T		T	09 28 04.1	
	baz=93,slow=76,SNR=38							
H08S3	**Diego Garcia H**	**36.48**	**268**	T		T	09 28 04.6	
	baz=93,slow=76,SNR=40							
H08S1	**Diego Carcia H**	**36.49**	**268**	T		T	09 28 05.7	
	baz=93,slow=76,SNR=30							
STKA	**Stephens Creek**	**38.23**	**133**	P		**P**	**08 50 09.3**	**+1.1**
	comp=Z,4.3nm,0.4s,baz=312,slow=7.7,SNR=20							
STKA	**Stephens Creek**	**38.23**	**133**	P		**P**	**08 50 09.4**	**+1.2**
MJAR	**Matsushiro Arr**	**52.02**	**30**	P		**P**	**08 51 55.7**	**-1.5**
	comp=Z,2.4nm,0.9s,baz=221,slow=6.5,SNR=2.9							
SONM	**Songino Array**	**55.73**	**358**	P		**P**	**08 52 24.1**	**0.0**
	comp=Z,0.5nm,0.5s,baz=170,slow=7.4,SNR=3.7							
SONM				PcP		**PcP**	**08 53 22.5**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=186,slow=4.7,SNR=4.5							
SONM	**Songino Array**	**55.73**	**358**	IAmb		IAmb	08 52 25.4	
	comp=Z,0.7nm,0.6s							
MK31	**Makanchi Array**	**59.69**	**339**	P		**P**	**08 52 50.7**	**-1.1**
MK31				IAmb		IAmb	08 52 54.4	
	comp=Z,2.7nm,1.4s							
MKAR	**Makanchi Array**	**59.69**	**339**	P		**P**	**08 52 50.5**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=150,slow=7.5,SNR=15							
MKAR				PcP		**PcP**	**08 53 38.0**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=122,slow=6.3,SNR=3.5							
ZALV	**Zalesovo Beam**	**65.16**	**344**	P		**P**	**08 53 27.1**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=157,slow=6.1,SNR=4.0							
MAW	**Mawson**	**67.02**	**198**	P		**P**	**08 53 40.1**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=64,slow=4.7,SNR=12							
ABKAR	**Akbulak array**	**71.52**	**328**	P		**P**	**08 54 07.2**	**-0.6**
VNDA	**Vanda**	**74.50**	**170**	P		**P**	**08 54 26.0**	**+1.1**
	comp=Z,0.9nm,0.4s,baz=318,slow=7.4,SNR=17							
VNDA	**Vanda**	**74.50**	**170**	P		**P**	**08 54 26.0**	**+1.1**
KBZ	**Khabaz**	**78.99**	**317**	P		**P**	**08 54 51.3**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=197,slow=9.2,SNR=3.8							
BOSA	**Boshof**	**80.99**	**242**	P		**P**	**08 55 02.3**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=98,slow=3.2,SNR=5.8							
BOSA	**Boshof**	**80.99**	**242**	IAmb		IAmb	08 55 08.9	
	comp=Z,19nm,1.4s							
QSPA	**South Pole Qui**	**81.92**	**180**	P		**P**	**08 55 06.3**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=140,slow=2.8,SNR=21							
QSPA	**South Pole Qui**	**81.92**	**180**	IAmb		IAmb	08 55 23.7	
	comp=Z,3.9nm,1.4s							
BR131	**Keskin Array S**	**84.25**	**311**	P		**P**	**08 55 18.8**	**0.0**
BR131				IAmb		IAmb	08 55 19.6	
	comp=Z,4.2nm,0.9s							
BRTR	**Keskin Array B**	**84.25**	**311**	P		**P**	**08 55 18.6**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=131,slow=6.8,SNR=16							
BRTR	**Keskin Array B**	**84.25**	**311**	P		**P**	**08 55 17.7**	**-1.1**
KARP	**Karpathos**	**88.31**	**306**	P		**P**	**08 55 38.4**	**-0.2**
SNAA	**Sanae**	**89.18**	**197**	P		**P**	**08 55 43.7**	**+1.7**
AKASG	**Malin Array Be**	**89.96**	**321**	P		**P**	**08 55 44.4**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=95,slow=4.7,SNR=3.2							
ARCES	**ARCESS Array B**	**95.34**	**339**	P		**P**	**08 56 10.3**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=72,slow=5.2,SNR=4.3							
TXAR	**Lajitas Array**	**142.50**	**51**	PKP		**PKPdf**	**09 02 17.1**	**-2.7**
	comp=Z,0.2nm,0.4s,baz=211,slow=2.0,SNR=11							
TXAR	**Lajitas Array**	**142.50**	**51**			**PKPdf**	**09 02 16.5**	**-3.3**

*AEIC **11** 08:46:55.4±2.1,64.°57N±0.°03×152.°48W±0.°07,h11km±4km, ML3.9,mb4.2/9(NEIC),Mwr3.9/29(NEIC),Error ellipse: s-maj=4.8km s-min=4.3km az=220.0*

*IDC **11** 08:46:55.0±1.1,64.°98N×152.°72W,h0km,mb3.7/5, mb1 4.0/9,mb1mx3.7/41,mbtmp3.8/9,ML3.2/4,MS3.2/8, Ms1 3.2/8,ms1mx2.8/53,Error ellipse: s-maj=24.5km s-min=12.4km az=179.0*

*NEIC **11** 08:46:55.5±1.9,64.°57N±0.°03×152.°47W±0.°07,h11km±5km, Error ellipse: s-maj=4.5km s-min=4.0km az=84.0*

*NEIC **11** 08:46:56.3,64.°56N×152.°39W,h7km,Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=0.60; Mθθ=6.35; Mφφ 6.95; Mrθ=2.04; Mθφ=-6.05; Mrφ=0.64; Fault plane solution: Mo9.26000×10^14^ NP1:◊s203.01000°, δ79.61000°,λ-9.34000°. NP2:◊s294.70000°,δ80.81000°, λ-169.48000°. Principal axes: T 9.2926, Plg1.0000°, Azm69.0000°; N -0.0705, Plg76.0000°, Azm335.0000°; P -9.2221, Plg14.0000°, Azm159.0000°;*

ISC 11 08:46:55.4±0.6,64.°59N±0.°03×152.°54W±0.°03,h10km, n108,σ1°09/101,mb4.1/9,MS3.1/5,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHUM	**Lake Minchumin**	**0.72**	**172**		**Pg**	**08 47 08.6**	**-0.6**
CHUM					**Sg**	**08 47 17.7**	**-0.9**
BPAW	**Bear Paw Mtn.**	**0.84**	**125**		**Pg**	**08 47 10.8**	**-0.7**
BPAW	**Bear Paw Mtn.**	**0.84**	**125**		**Sg**	**08 47 21.6**	**-0.8**
MLY	**Manley**	**0.89**	**59**	Pg	**Pg**	**08 47 12.1**	**-0.5**
MLY	**Manley**	**0.89**	**59**		**Sg**	**08 47 25.1**	**+1.0**
CAST	**Castle Rocks**	**1.19**	**170**		**Pb**	**08 47 16.9**	**-1.2**
BWN	**Browne**	**1.40**	**106**	Pn	**Pn**	**08 47 21.3**	**+0.2**
BWN				Sn	**Sn**	**08 47 40.8**	**+1.2**
IM03		**1.49**	**341**		**Pn**	**08 47 22.5**	**+0.4**
IMAR	**Indian Mountai**	**1.49**	**341**		**Pn**	**08 47 22.6**	**+0.4**
NEA2	**Nenana**	**1.50**	**88**		**Pn**	**08 47 21.4**	**-1.0**
NEA2					**Sn**	**08 47 41.8**	**-0.2**
TRF	**Thorofare Moun**	**1.52**	**138**		**Pn**	**08 47 22.2**	**-0.5**
TRF	**Thorofare Moun**	**1.52**	**138**		**Sn**	**08 47 42.1**	**-0.5**
PPLA	**Purkeypile**	**1.71**	**175**	Pn	**Pn**	**08 47 24.7**	**-0.7**
PPLA	**Purkeypile**	**1.71**	**175**		**Sn**	**08 47 48.4**	**+1.1**
PS06	**TAPS Pump Stn6**	**1.74**	**42**		**Pn**	**08 47 25.5**	**-0.1**
MCK	**McKinley**	**1.80**	**117**	Pn	**Pn**	**08 47 26.1**	**-0.4**
MCK				Sn	**Sn**	**08 47 47.2**	**-2.2**
MDM	**Murphy Dome**	**1.89**	**77**		**Pn**	**08 47 26.6**	**-1.1**
WRH	**Wood River Hil**	**1.93**	**92**	Pn	**Pn**	**08 47 27.3**	**-1.0**
WRH	**Wood River Hil**	**1.93**	**92**		**Sn**	**08 47 51.2**	**-1.3**
PS07	**TAPS Pump Stn7**	**1.95**	**66**		**Pn**	**08 47 28.1**	**-0.5**
RND	**Reindeer**	**2.02**	**125**		**Pn**	**08 47 29.1**	**-0.4**
COLA	**College**	**2.03**	**80**		**Pn**	**08 47 29.3**	**-0.4**
CCB	**Clear Creek Bu**	**2.04**	**86**		**Pn**	**08 47 28.6**	**-1.2**
POKR	**Poker Plat Res**	**2.25**	**74**		**Pn**	**08 47 31.7**	**-0.9**
POKR					LR	08 48 00.2	
TTA	**Tatalina**	**2.27**	**224**	Pn	**Pn**	**08 47 32.3**	**-0.7**
TTA	**Tatalina**	**2.27**	**224**		**Sn**	**08 48 00.8**	**-0.2**
TT01	**Tatalina**	**2.29**	**224**		**Pn**	**08 47 32.2**	**-1.0**
PS05	**TAPS Pump Stn5**	**2.36**	**18**		**Pn**	**08 47 34.9**	**+0.7**
WAT2	**Susitna Watana**	**2.40**	**131**		**Pn**	**08 47 35.2**	**+0.3**
WAT7	**Susitna Watana**	**2.41**	**135**		**Pn**	**08 47 35.1**	**+0.1**
HDA	**Harding Lake**	**2.43**	**92**		**Pn**	**08 47 34.1**	**-1.0**
IL31		**2.44**	**83**		**Pn**	**08 47 34.4**	**-0.9**
ILAR	**Eielson Array**	**2.44**	**83**	Pn	**Pn**	**08 47 34.0**	**-1.3**
	3.4nm,0.3s,baz=270,slow=13,SNR=317						
ILAR				Pg	**Pb**	**08 47 40.7**	**+1.4**
	93nm,0.3s,baz=255,slow=16,SNR=132						
ILAR				Lg	Lg	08 48 11.5	
	103nm,0.3s,baz=260,slow=31,SNR=7.9						
ILAR	**Eielson Array**	**2.44**	**83**		**Pn**	**08 47 34.0**	**-1.3**
WAT1	**Susitna Watana**	**2.51**	**133**		**Pn**	**08 47 36.4**	**+0.2**
SKT	**Skwentna**	**2.66**	**170**		**Pn**	**08 47 38.1**	**-0.2**
DHY	**Denali Highway**	**2.75**	**121**		**Pn**	**08 47 40.4**	**+0.7**
COLD	**Coldfoot**	**2.82**	**19**	Pn	**Pn**	**08 47 41.3**	**+0.8**
STLK	**Strandline Lak**	**3.12**	**174**		**Pn**	**08 47 44.6**	**-0.1**
SUA	**Susitna One**	**3.24**	**165**		**Pn**	**08 47 45.2**	**-1.2**
SUA	**Susitna One**	**3.24**	**165**		**Sn**	**08 48 28.1**	**+3.0**
GHO	**Glory Hole Cre**	**3.27**	**148**		**Pn**	**08 47 47.1**	**+0.3**
SPCG	**Spurr Capps Gl**	**3.32**	**176**		**Pn**	**08 47 47.8**	**+0.3**
SML	**Sawmill**	**3.38**	**144**		**Pn**	**08 47 48.0**	**-0.3**
PMR	**Palmer**	**3.39**	**151**	Pn	**Pn**	**08 47 48.4**	**+0.2**
PAX	**Paxson**	**3.54**	**114**		**Pn**	**08 47 51.4**	**+0.9**
SCM	**Sheep Creek Mo**	**3.64**	**137**		**Pn**	**08 47 51.4**	**-0.5**
KNK	**Knik Glacier**	**3.69**	**148**		**Pn**	**08 47 54.1**	**+1.5**
SVW2	**Sparrevohn**	**3.77**	**203**		**Pn**	**08 47 53.4**	**-0.3**
SCRK	**Sand Creek**	**3.78**	**96**		**Pn**	**08 47 52.4**	**-1.5**
DOT	**Dot Lake**	**3.84**	**100**	Pn	**Pn**	**08 47 53.4**	**-1.1**
RSO	**Redoubt South**	**4.15**	**181**		**Pn**	**08 47 57.4**	**-1.6**
PWL	**Port Wells**	**4.22**	**151**		**Pn**	**08 48 00.8**	**+1.1**
SLKM	**Skilak Lake**	**4.24**	**164**		**Pn**	**08 47 60.0**	**-0.1**
TOLK	**Toolik Lake Re**	**4.24**	**15**		**Pn**	**08 47 58.7**	**-1.3**
BM03	**Burnt Mountain**	**4.31**	**45**		**Pn**	**08 48 00.8**	**-0.2**
KLU	**Klutina**	**4.33**	**133**		**Pn**	**08 48 02.8**	**+1.5**
GLI	**Glacier Island**	**4.49**	**144**		**Pn**	**08 48 03.2**	**-0.2**
K27K	**Chicken**	**4.59**	**92**		**Pn**	**08 48 04.1**	**-0.7**
SEW	**Seward**	**4.73**	**161**	Pn	**Pn**	**08 48 08.6**	**+1.9**
FID	**Port Fidalgo**	**4.76**	**141**		**Pn**	**08 48 08.4**	**+1.2**
EGAK	**Eagle**	**4.89**	**83**		**Pn**	**08 48 08.1**	**-0.8**
BRLK	**Bradley Lake**	**4.91**	**170**	Pn	**Pn**	**08 48 09.4**	**+0.2**
BC03		**5.00**	**103**		**Pn**	**08 48 09.0**	**-1.4**
BCAR	**Beaver Creek A**	**5.00**	**103**		Pn	08 48 08.7	-1.9
HIN	**Hinchinbrook I**	**5.05**	**144**	Pn	**Pn**	**08 48 11.2**	**0.0**
GLB	**Gilahina Butte**	**5.08**	**124**	Pn	**Pn**	**08 48 13.0**	**+1.4**
EYAK	**Cordova Ski Ar**	**5.13**	**139**	Pn	**Pn**	**08 48 13.1**	**+0.9**
MCARA	**McCarthy VSAT**	**5.40**	**122**	Pn	**Pn**	**08 48 17.8**	**+1.8**
RDOG	**Red Dog Mine**	**5.43**	**314**		**Pn**	**08 48 16.5**	**+0.2**
ANM	**Nome**	**5.53**	**276**	Pn	**Pn**	**08 48 19.6**	**+1.9**
DAWY	**Dawson**	**5.74**	**89**		**Pn**	**08 48 20.4**	**-0.3**
CRQM	**Cirque**	**5.79**	**127**	Pn	**Pn**	**08 48 20.4**	**-1.1**
BALM	**Baldy**	**5.88**	**123**		**Pn**	**08 48 22.4**	**-0.2**
BARN	**Barnard Glacie**	**6.11**	**120**	Pn	**Pn**	**08 48 26.7**	**+0.7**
ISLE	**Juniper Island**	**6.18**	**126**	Pn	**Pn**	**08 48 27.6**	**+0.9**
CTGM	**Chitina Glacie**	**6.30**	**120**	Pn	**Pn**	**08 48 27.4**	**-0.9**
EPYK	**Eagle Plains**	**6.82**	**68**		**Pn**	**08 48 34.8**	**-0.7**
KDAK	**Kodiak Island**	**6.83**	**180**	Pn	**Pn**	**08 48 38.2**	**+2.6**
	0.3nm,0.3s,baz=25,slow=14,SNR=2.3						
OHAK	**Old Harbor**	**7.40**	**183**	Pn	**Pn**	**08 48 45.3**	**+1.9**
INK	**Inuvik**	**8.46**	**55**	Pn	**Pn**	**08 48 57.6**	**-0.2**
	0.6nm,0.3s,baz=242,slow=18,SNR=18						
INK				Sn	**Sn**	**08 50 31.8**	**-1.4**
	0.3nm,0.3s,baz=14,slow=6.9,SNR=2.7						
INK				LR	LR	08 52 43.8	
	comp=Z,154nm,19.5s,baz=302,slow=42						
INK	**Inuvik**	**8.46**	**55**		**Pn**	**08 48 57.1**	**-0.7**
C36M	**Paulatuk**	**12.04**	**54**	Pn	**Pn**	**08 49 45.9**	**-0.8**
DLBC	**Dease Lake**	**12.34**	**110**	Lg	Lg	08 53 30.4	
	0.1nm,0.3s,baz=227,slow=27,SNR=7.1						
YKA	**Yellowknife Ar**	**16.86**	**80**	Pn	**Pn**	**08 50 51.4**	**+0.2**
	0.1nm,0.3s,baz=297,slow=10,SNR=4.8						
YKA				LR	LR	08 58 01.9	
	comp=Z,92nm,18.2s,baz=0.0,slow=40						
BBB	**Bella Bella**	**17.69**	**123**	LR	LR	08 57 14.5	
	comp=Z,63nm,18.9s,baz=357,slow=34						
PETK	**Petropavlovsk-**	**27.40**	**269**	LR	LR	09 04 08.8	
	comp=Z,38nm,18.3s,baz=51,slow=38						
YBH	**Yreka Blue Hor**	**28.55**	**129**	LR	LR	09 02 26.2	
	comp=Z,51nm,19.7s,baz=313,slow=32						
YMR	**Madison River**	**30.42**	**111**	P	**P**	**08 53 08.4**	**+0.5**
YNE	**Yellowstone No**	**30.53**	**109**	P	**P**	**08 53 10.7**	**+1.8**
IMW	**Indian Meadow**	**31.07**	**112**	P	P	08 53 11.8	-1.9
IMW				IAmb	IAmb	08 53 19.6	
	comp=Z,3.0nm,0.8s						
LOHW	**Long Hollow**	**31.44**	**111**	P	P	08 53 14.5	-2.4
LOHW				IAmb	IAmb	08 53 23.3	
	comp=Z,5.2nm,1.4s						
SNOW	**Snow King Moun**	**31.50**	**112**	P	P	08 53 14.4	-3.1
SNOW				IAmb	IAmb	08 53 23.5	
	comp=Z,2.2nm,0.8s						
BW06	**Boulder Array**	**32.57**	**111**	P	P	08 53 24.4	-2.4
BW06				IAmb	IAmb	08 53 31.5	
	comp=Z,2.4nm,0.9s						
PD31	**Pinedale Array**	**32.57**	**111**	P	P	08 53 24.2	-2.5
PD31				IAmb	IAmb	08 53 31.5	
	comp=Z,2.2nm,0.9s						
PDAR	**Pinedale Array**	**32.57**	**111**	P	**P**	**08 53 28.9**	**+2.2**
	comp=Z,1.9nm,0.9s,baz=330,slow=5.5,SNR=14						
PDAR				LR	LR	09 07 57.0	
	comp=Z,32nm,21.3s,baz=348,slow=38						
PDAR	**Pinedale Array**	**32.57**	**111**	P	P	08 53 24.6	-2.1
NVAR	**Mina Array Bea**	**33.01**	**126**	P	**P**	**08 53 32.5**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=314,slow=7.8,SNR=5.2						
NVAR	**Mina Array Bea**	**33.01**	**126**	P	**P**	**08 53 31.1**	**+0.4**
SDCO	**Great Sand Dun**	**38.46**	**111**	P	**P**	**08 54 16.7**	**-0.8**
USRK	**Ussuriysk Ar.**	**45.20**	**281**	P	**P**	**08 55 12.0**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=71,slow=15,SNR=2.0						
USRK	**Ussuriysk Ar.**	**45.20**	**281**	P	**P**	**08 55 11.1**	**-1.0**
TXAR	**Lajitas Array**	**46.57**	**115**	P	**P**	**08 55 25.9**	**+2.7**
	comp=Z,0.3nm,0.7s,baz=329,slow=6.0,SNR=4.6						
TXAR	**Lajitas Array**	**46.57**	**115**	P	**P**	**08 55 23.4**	**+0.2**
KSRS	**Korea Array**	**52.51**	**279**	LR	LR	09 17 34.1	
	comp=Z,21nm,22.0s,baz=210,slow=35						
ZALV	**Zalesovo Beam**	**53.83**	**322**	P	P	08 56 15.9	-2.0
	comp=Z,0.6nm,0.4s,baz=59,slow=6.9,SNR=1.6						
ZALV				LR	LR	09 23 26.1	
	comp=Z,44nm,19.1s,baz=56,slow=41						
ZALV	**Zalesovo Beam**	**53.83**	**322**	P	**P**	**08 56 16.2**	**-1.6**
MDUB	**Mudurnu**	**75.24**	**357**	P	**P**	**08 58 38.0**	**-0.1**

NNC 11 08:59:08.7±1.6,54.°45N×86.°28E,h0km,mb3.6,mpv2.2, 5C-3D,Error ellipse: s-maj=24.2km s-min=8.7km az=156.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.00**	**240**	⇑P	Pg	08 59 27.6	-0.2
	0.1nm,0.3s						
ZAA0				⇓S	Sb	08 59 41.7	-0.8
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**6.09**	**234**	⇑Pn	Pn	09 00 41.5	+1.7
	1.2nm,0.5s						
KURBB				⇑Sn	Sn	09 01 51.2	+1.1
	2.4nm,0.8s						
KURBB				⇑Lg	Lg	09 02 20.6	
	3.0nm,0.8s						
MK31	**Makanchi Array**	**8.07**	**200**	⇓Pn	Pn	09 01 07.9	+0.7
	baz=30,slow=13,SNR=14						
MK31				⇑Sn	Sn	09 02 39.8	+0.8
	0.2nm,0.5s						
MK31				⇓Lg	Lg	09 03 24.8	
	1.8nm,0.9s						

*DRS **11** 09:12:44.2±0.0,43.°68N×44.°95E,h11km*
*NORS **11** 09:12:51.7±0.0,43.°55N×45.°65E,h23km,MPVA3.8*
*TIF **11** 09:12:52.2,43.°58N×45.°43E,h9km±2km*

ISC 11 09:12:56.4±1.1,43.°48N±0.°05×45.°45E±0.°03,h22km±9km, n18,σ1°49/37,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.58**	**295**	*e*Pg	**Pb**	**09 13 06.0**	**-1.9**
TRKR				*e*Sg	**Sb**	**09 13 16.4**	**+0.7**
KMGR	**Komgaron**	**0.60**	**226**	*e*Pg	**Pb**	**09 13 07.7**	**-0.6**
KMGR				*e*Sg	**Sn**	**09 13 18.8**	**+0.1**
VLKR	**Vladikavkaz**	**0.71**	**233**	*e*Pg	**Pb**	**09 13 09.3**	**-0.8**
VLKR				*e*Pg	**Pn**	**09 13 09.4**	**-1.8**
VLKR				*e*Sg	**Sn**	**09 13 22.4**	**+1.0**
VLKR				*e*Sg	**Sb**	**09 13 22.6**	**+3.1**
PRTR	**Priterechnaya**	**0.89**	**288**	*e*Pg	**Pb**	**09 13 12.4**	**-0.7**
PRTR				*e*Sg	**Sn**	**09 13 27.1**	**+1.3**
STDR	**Stavd-Durt**	**1.02**	**264**	*e*Pg	**Pn**	**09 13 15.2**	**-0.1**
STDR				*e*Sg	**Sn**	**09 13 32.0**	**+3.1**
PNSH	**Pansheti**	**1.04**	**216**	P	**Pn**	**09 13 13.9**	**-1.9**
PNSH				S	**Sn**	**09 13 29.9**	**+0.2**
KORR	**Kora**	**1.08**	**249**	*e*Pg	**Pn**	**09 13 15.8**	**-0.5**
KORR				*e*Sg	**Sn**	**09 13 33.3**	**+2.7**
DBC	**Dubki**	**1.10**	**114**	*e*Pg	**Pn**	**09 13 15.4**	**-1.2**
DBC				*e*Sg	**Sn**	**09 13 32.1**	**+0.9**
LSNR	**Lesken**	**1.20**	**261**	*e*Pg	**Pn**	**09 13 17.6**	**-0.3**
LSNR				*e*Sg	**Sb**	**09 13 36.2**	**+2.6**
UNCR	**Uncukul**	**1.24**	**127**	*e*Pg	**Pn**	**09 13 18.0**	**-0.4**
UNCR				*e*Sg	**Sb**	**09 13 35.5**	**+0.8**
ZEI	**Tsey**	**1.33**	**239**	*e*Pg	**Pn**	**09 13 18.4**	**-1.4**
ZEI				*e*Sg	**Sb**	**09 13 37.7**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.49**	**248**	*e*Pg	**Pn**	**09 13 20.7**	**-1.2**
DIGR				*e*Sg	**Sb**	**09 13 41.2**	**-0.7**
GNBR	**Gunib**	**1.55**	**134**	*e*Pg	**Pb**	**09 13 24.2**	**-0.2**
GNBR				*e*Sg	**Sb**	**09 13 45.4**	**+1.7**
ONI	**Oni**	**1.71**	**240**	P	**Pn**	**09 13 25.3**	**+0.4**
ONI				S	**Sb**	**09 13 48.5**	**+0.2**
LGD	**Lagodekhi**	**1.74**	**160**	P	**Pb**	**09 13 26.1**	**-1.5**
LGD				S	**Sb**	**09 13 51.3**	**+2.2**
DGRG	**David-gareji**	**2.03**	**182**	P	**Pb**	**09 13 30.8**	**-1.7**
DGRG				S	**Sb**	**09 13 59.1**	**+1.8**
DDFL	**Dedoflistskaro**	**2.09**	**166**	P	**Pb**	**09 13 33.1**	**-0.5**
KZRT	**Kazreti**	**2.23**	**201**	P	**Pn**	**09 13 32.2**	**+0.2**
KZRT				S	**Sb**	**09 14 02.2**	**-1.0**

*NNC **11** 09:15:26.8±1.7,53.°60N×87.°89E,h0km,mb3.2,mpv2.8, Error ellipse: s-maj=16.0km s-min=9.4km az=57.0, Suspected Mining explosion.*

*IDC **11** 09:15:26.8±3.0,53.°56N×87.°93E,h0km,mb1 3.3/2, mb1mx3.1/58,mbtmp3.3/2,ML3.1/2,Error ellipse: s-maj=29.0km s-min=17.7km az=54.0*

ISC 11 09:15:28.8±5.3,53.°65N±0.°2×87.°6E±0.°3,h0km,n8,σ0°60/8, 7C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**282**	*i*		09 27 08.9	
	baz=98,slow=306,SNR=2.2						
ZAA0	**Zalesovo Array**	**1.67**	**282**	⇑Pn	**Pn**	**09 15 59.6**	**+0.3**
	0.5nm,0.3s						
ZAA0				⇑Lg	Lg	09 16 25.9	
	1.4nm,0.3s						
ZALV	**Zalesovo Beam**	**1.67**	**282**	Pn	**Pb**	**09 15 59.9**	**-0.5**
	3.6nm,0.3s,baz=105,slow=14,SNR=28						
ZALV				Lg	Lg	09 16 27.1	
	5.5nm,0.3s,baz=105,slow=22,SNR=6.1						
KURK	**Kurchatov**	**6.24**	**246**	⇓Pn	**Pn**	**09 17 02.7**	**+0.8**
	0.7nm,0.4s						
KURK				⇑Lg	Lg	09 18 50.3	
	4.6nm,0.8s						
KURBB	**Kurchatov Arra**	**6.33**	**245**	Pn	**Pn**	**09 17 03.5**	**+0.2**
	0.3nm,0.3s,baz=64,slow=15,SNR=16						
KURBB				Lg	Lg	09 18 53.1	
	0.1nm,0.3s,baz=63,slow=32,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.33**	**245**	⇑Pn	**Pn**	**09 17 04.0**	**+0.8**
	2.2nm,0.3s						
MK31	**Makanchi Array**	**7.63**	**209**	⇑Pn	**Pn**	**09 17 21.2**	**+0.1**
	0.1nm,0.3s,baz=28,slow=13,SNR=10.0						
MK31				⇑Sn	**Sn**	**09 18 48.0**	**-0.3**
	0.8nm,0.7s						
MK31				⇑Lg	Lg	09 19 33.1	
	2.2nm,0.9s,baz=32,slow=30,SNR=4.4						
MKAR	**Makanchi Array**	**7.63**	**209**	Pn	**Pn**	**09 17 21.5**	**+0.3**
	0.4nm,0.3s,baz=30,slow=14,SNR=8.1						
MKAR				Lg	Lg	09 19 29.3	
	0.2nm,0.3s,baz=28,slow=30,SNR=6.7						

*BYKL **11** 09:37:05.5±0.2,54.°84N×111.°83E,h18km±3km*

*IDC **11** 09:37:11.9±4.2,54.°71N×110.°96E,h0km,mb3.6/1, mb1 3.3/4,mb1mx3.2/36,mbtmp3.3/4,ML2.9/3,Error ellipse: s-maj=51.3km s-min=28.5km az=108.0*

ISC 11 09:37:04.2±1.1,54.°81N±0.°03×111.°88E±0.°02,h3km±10km, n38,σ2°63/78,6C-1D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.42**	**279**	⇑*i*Pg	**Pg**	**09 37 13.1**	**+0.8**

CRS				*e*Pg		**Pb**	**09 38 19.5**	**+1.4**
CRS				*e*Sg		**Sg**	**09 39 14.3**	**-3.6**
CRS				*e*			09 39 18.7	
CRS				Pmax				
	43nm,1.1s							
CRS				max				
	245nm,1.1s							
KAB	**Kabansk**	**4.17**	**231**	*e*Sn		**Sn**	**09 38 56.6**	**-1.4**
KAB				*e*Sg		**Sg**	**09 39 14.1**	**-4.0**
KAB				Smax				
	491nm,1.3s							
STDB	**Stepnoy Dvoret**	**4.22**	**233**	*e*		Pg	09 39 00.0	+35
STDB				*e*Sg		**Sg**	**09 39 16.6**	**-3.2**
HRMR	**Khuramsha**	**4.35**	**225**	*e*Pn		**Pn**	**09 38 12.4**	**+1.2**
HRMR				Pg		**Pb**	**09 38 24.2**	**+2.9**
HRMR				*e*Sg		**Sg**	**09 39 21.1**	**-2.7**
HRMR				Pmax				
	46nm,0.4s							
HRMR				Smax				
	323nm,0.4s							
TUP	**Tupik**	**4.71**	**91**	*e*Pn		**Pn**	**09 38 16.8**	**+0.6**
TUP				*e*			09 38 21.7	
TUP				*e*			09 38 28.6	
TUP				*e*Sn		**Sn**	**09 39 08.8**	**-2.5**
TUP				*e*Sg		**Sg**	**09 39 32.8**	**-2.5**
TUP				max				
	24nm,0.3s							
TUP				Smax				
	312nm,0.8s							
BGT	**Bolshoye Golou**	**4.76**	**237**	*e*Pn		**Pn**	**09 38 16.0**	**-0.8**
BGT				*e*Pg		**Pb**	**09 38 30.3**	**+2.1**
BGT				*e*			09 39 26.2	
BGT				*e*Sg		**Sg**	**09 39 31.8**	**-5.1**
BGT				Pmax				
	11nm,0.1s							
BGT				Smax				
	69nm,1.0s							
KHNR	**Khani**	**5.03**	**62**	*e*		**Pb**	**09 38 36.7**	**+3.9**
KHNR				*e*			09 39 16.9	
KHNR				*e*			09 39 31.5	
KHNR				*e*Sg		**Sg**	**09 39 41.3**	**-4.3**
KPC	**Khapcheranga**	**5.12**	**176**	*e*Pn		**Pn**	**09 38 23.1**	**+1.2**
KPC				*e*			09 38 27.6	
KPC				*e*			09 38 35.6	
KPC				*e*			09 39 29.1	
KPC				*e*Sg		**Sg**	**09 39 45.1**	**-3.5**
KPC				max				
	11nm,0.4s							
KPC				Smax				
	257nm,1.0s							
LSTR	**Listvyanka**	**5.15**	**238**	*e*		Pn	09 38 26.8	+4.6
LSTR				*e*			09 38 35.0	
LSTR				*e*			09 39 12.1	
LSTR				*e*			09 39 37.1	
LSTR				Sg		**Sg**	**09 39 45.2**	**-4.2**
LSTR				*e*			09 39 47.7	
LSTR				max				
	38nm,0.8s							
IVK	**Ivanovka**	**5.40**	**239**	*e*Pn		**Pn**	**09 38 26.5**	**+0.9**
IVK				*e*			09 38 36.0	
IVK				*e*Pg		**Pb**	**09 38 42.1**	**+3.0**
IVK				*e*			09 39 49.3	
IVK				*e*Sg		**Sg**	**09 39 51.6**	**-5.8**
IVK				Pmax				
	4.0nm,0.4s							
IVK				Smax				
	58nm,1.0s							
YKLR	**Yuktali**	**5.81**	**68**	*e*		**Pn**	**09 38 31.4**	**+0.2**
YKLR				*e*			09 38 46.6	
YKLR				Pg		**Pb**	**09 38 50.0**	**+3.9**
YKLR				*e*Sg		**Sg**	**09 40 06.9**	**-3.7**
TLY	**Talaya**	**5.85**	**241**	Pg		**Pb**	**09 38 43.8**	**-3.0**
	0.0nm,0.3s,baz=53,slow=20,SNR=2.0							
TLY				Lg		Lg	09 40 02.9	
	0.1nm,0.3s,baz=156,slow=13,SNR=11							
TLY	**Talaya**	**5.85**	**241**	*e*		**Pn**	**09 38 35.3**	**+3.4**
TLY				*e*			09 38 43.6	
TLY				*e*Pg		**Pb**	**09 38 50.1**	**+3.2**
TLY				Sg		**Sg**	**09 40 06.3**	**-5.7**
TLY				Pmax				
	4.0nm,0.3s							
TLY				Smax				
	33nm,0.9s							
ZAK	**Zakamensk**	**6.86**	**233**	*e*Sg		**Sg**	**09 40 39.0**	**-5.4**
ZAK				Smax				
	21nm,0.9s							
MOY	**Mondy**	**7.25**	**249**	*e*Pn		**Pn**	**09 38 50.8**	**-0.3**
MOY				*e*			09 38 56.1	
MOY				*e*Pg		**Pb**	**09 39 13.9**	**+3.2**
MOY				*e*			09 40 13.1	
MOY				*e*			09 40 27.0	
MOY				*e*Sg		Sg	09 40 47.4	-9.5
MOY				*e*			09 41 01.0	
MOY				Pmax				
	5.0nm,0.4s							
MOY				max				
	58nm,1.1s							
IENR	**Iengra**	**7.50**	**74**	*e*Sg		Sb	09 40 58.4	+14
ORL	**Orlik**	**7.52**	**257**	*e*Pn		**Pn**	**09 38 55.4**	**+0.6**
ORL				*e*			09 39 00.6	
ORL				*e*			09 39 12.8	
ORL				*e*Sn		**Sn**	**09 40 14.0**	**-6.6**
ORL				*e*			09 40 19.3	
ORL				*e*Sg		Sb	09 40 57.3	+12
ORL				*e*			09 41 21.2	
ORL				max				
	5.0nm,0.5s							
ORL				Smax				
	51nm,1.0s							
CLNS	**Chul'man**	**7.61**	**69**	*e*			09 40 51.1	
CLNS				*e*Sg		Sb	09 41 02.2	+15
SONM	**Songino Array**	**7.78**	**208**	Pn		**Pn**	**09 39 01.6**	**+3.2**
	0.8nm,0.3s,baz=15,slow=14,SNR=6.3							
SONM				Lg		Lg	09 41 10.9	
	1.8nm,0.3s,baz=22,slow=30,SNR=11							
TDJR	**Todzha**	**9.69**	**262**	*e*		Pn	09 39 47.7	+23
TDJR				*e*			09 42 01.2	
TDJR				*e*Sg		Sn	09 42 03.0	+49
ZALV	**Zalesovo Beam**	**15.76**	**278**	Pn		**Pn**	**09 40 46.4**	**-0.4**
	0.1nm,0.3s,baz=13,SNR=1.4							
MKAR	**Makanchi Array**	**20.23**	**259**	P		Pn	09 41 40.6	-1.5
	0.0nm,0.3s,baz=64,slow=13,SNR=1.6							
BVAR	**Borovoye Array**	**24.25**	**283**	P		**P**	**09 42 27.3**	**+5.2**
	0.6nm,0.3s,baz=60,slow=8.5,SNR=2.7							

ISC 11 09:39:40.3±1.8, 45°02'N±0'05×17°0'E±0'2, h3km±24km, n8, σ1§13/15, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.30**	**155**	*e*Pg	**Pg**	**09 39 45.6**	**-0.4**
BLY				*e*Sg	**Sg**	**09 39 50.4**	**+0.5**
MOSL	**Moslavina**	**0.62**	**343**	*e*Pg	**Pb**	**09 39 52.4**	**-1.4**
MOSL				Sg	**Sb**	**09 40 03.0**	**+0.1**
KALN	**Kalnik**	**1.18**	**341**	Sg	**Sn**	**09 40 22.3**	**+2.0**
MORI	**Morici**	**1.48**	**219**	*e*Pn	**Pn**	**09 40 07.9**	**+0.1**
MORI				Sg	**Sn**	**09 40 28.2**	**+0.5**
RICI	**Ricice**	**1.53**	**177**	*e*Pn	**Pg**	**09 40 09.5**	**0.0**
RICI				Sg	**Sg**	**09 40 31.4**	**+2.1**
NVLJ	**Novalja**	**1.59**	**254**	*e*Pg	**Pn**	**09 40 09.9**	**+0.7**
NVLJ				Sg	**Sn**	**09 40 29.9**	**-0.4**
ZIRJ	**Zirje**	**1.68**	**216**	*e*Pn	**Pn**	**09 40 09.8**	**-0.8**
ZIRJ				Sg	**Sn**	**09 40 31.5**	**-1.1**
DUGI	**Dugi Otok**	**1.73**	**234**	*e*Pn	**Pn**	**09 40 11.3**	**0.0**
DUGI				Sn	**Sn**	**09 40 34.6**	**+0.7**

*JMA **11** 09:56:23.1±0.1, 24°.73N×122°.82E, h19km±1km, M1.7*
*TAP **11** 09:56:23.1, 24°.82N×122°.82E, h15km±1km, ML2.5, D*
ISC 11 09:56:21.1±1.3, 24°.83N±0°.06×122°.84E±0°.02, h4km±10km, n33, σ0§58/63, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.39**	**166**	P	**Pg**	**09 56 29.5**	**+0.8**
JYNG				S	**Sg**	**09 56 34.0**	**+0.3**
YOJ	**Yonaguni jima**	**0.40**	**157**	P	**Pb**	**09 56 29.8**	**-1.0**
YOJ				S	**Sg**	**09 56 34.6**	**+0.6**
TWB1	**Santiao Chiao**	**0.79**	**283**	P	**Pb**	**09 56 38.1**	**+0.7**
	baz=271						
TWB1				*e*S	**Sb**	**09 56 48.9**	**+0.3**
	baz=271						
EGS		**0.82**	**271**	P	**Pb**	**09 56 38.7**	**+0.6**
	baz=272						
TWC	**Suao**	**0.93**	**256**	*i* P	**Pb**	**09 56 39.7**	**-0.1**
	baz=257						
TWC				*i* S	**Sg**	**09 56 51.2**	**+0.2**
	baz=257						
TIPB	**Shuangxi**	**0.93**	**279**	*i* P	**Pb**	**09 56 40.0**	**+0.2**
	baz=279						
TIPB				*e*S	**Sb**	**09 56 51.9**	**-0.7**
	baz=279						
IRIF	**Iriomote-Funau**	**0.95**	**121**	P	**Pb**	**09 56 39.9**	**-0.3**
IRIF				*e*S	**Sb**	**09 56 52.4**	**-0.7**
ENAH	**Nanao**	**1.01**	**248**	*e*P	**Pb**	**09 56 41.1**	**-0.1**
	baz=249						
ENAH				S	**Sb**	**09 56 54.2**	**-0.6**
	baz=249						
TWE	**Neicheng**	**1.07**	**264**	*i* P	**Pb**	**09 56 42.3**	**+0.1**
	baz=265						
TWE				*i* S	**Sb**	**09 56 56.8**	**+0.2**
	baz=265						
ENA	**Nanau**	**1.08**	**248**	*e*P	**Pb**	**09 56 42.5**	**+0.2**
	baz=237						
ENA				S	**Sg**	**09 56 55.3**	**-0.4**
	baz=237						
HATJ	**Hateruma jima**	**1.17**	**131**	P	**Pg**	**09 56 43.6**	**0.0**
HATJ				*e*S	**Sg**	**09 56 58.6**	**-0.2**
ENTT	**Nioudou**	**1.17**	**261**	*i* P	**Pn**	**09 56 44.8**	**+0.4**
	baz=262						
ENTT				*i* S	**Sb**	**09 56 59.6**	**0.0**
	baz=262						
NWLT	**Wulai**	**1.22**	**268**	P	**Pg**	**09 56 43.3**	**-1.2**
	baz=268						
NWLT				*i* S	**Sg**	**09 57 00.1**	**-0.1**
	baz=268						
JKRS	**Kuro-shima**	**1.22**	**119**	P	**Pb**	**09 56 44.7**	**-0.1**
JKRS				S	**Sg**	**09 57 00.2**	**-0.1**
NDT	**Datong Townshi**	**1.23**	**260**	*i* P	**Pn**	**09 56 45.5**	**+0.4**
	baz=260						
NDT				*i* S	**Sb**	**09 57 01.1**	**0.0**
	baz=260						
JIJ	**Ishigaki jima**	**1.27**	**111**	P	**Pn**	**09 56 45.8**	**0.0**
JIJ				*e*S	**Sg**	**09 57 02.0**	**-0.1**
NACB	**Ninganchiao**	**1.31**	**240**	P	**Pg**	**09 56 45.9**	**-0.3**
	baz=241						
NACB				S	**Sg**	**09 57 02.3**	**-0.9**
	baz=241						
YHNB	**Yeheng**	**1.34**	**263**	P	**Pn**	**09 56 46.8**	**+0.1**
	baz=264						
YHNB				S	**Sg**	**09 57 03.4**	**-0.9**
	baz=264						
NSK	**Sanguang**	**1.35**	**264**	*i* P	**Pb**	**09 56 47.5**	**+0.4**
	baz=264						
NSK				*i* S	**Sg**	**09 57 03.8**	**-0.9**
	baz=264						
ETLH	**Xiulin Townshi**	**1.38**	**244**	P	**Pg**	**09 56 47.6**	**-0.1**
	baz=254						
ETLH				*e*S	**Sn**	**09 57 06.3**	**+0.2**
	baz=254						
NNSB	**Datong**	**1.38**	**253**	P	**Pb**	**09 56 47.6**	**0.0**
	baz=254						
NNSB				S	**Sg**	**09 57 05.5**	**-0.2**
	baz=254						
NNSH	**Datong**	**1.38**	**253**	*i* P	**Pb**	**09 56 47.8**	**+0.1**
	baz=254						
NNSH				*i* S	**Sg**	**09 57 04.9**	**-0.7**
	baz=254						
NNS	**Nan Shan**	**1.39**	**254**	*i* P	**Pb**	**09 56 47.9**	**+0.1**
	baz=254						
NNS				*i* S	**Sg**	**09 57 05.2**	**-0.6**
	baz=254						
WHF	**Hehuan Shan**	**1.59**	**245**	*i* P	**Pg**	**09 56 51.5**	**-0.1**
	baz=246						
WHF				*i* S	**Sn**	**09 57 11.4**	**-0.2**
	baz=246						
LIOB	**Emei**	**1.67**	**264**	P	**Pg**	**09 56 53.5**	**+0.4**
	baz=265						
LIOB				*e*S	**Sb**	**09 57 13.6**	**-0.2**
	baz=265						
NSTT	**Nanjuang**	**1.68**	**264**	*e*P	**Pb**	**09 56 52.4**	**-0.3**
	baz=264						
NSTT				*e*S	**Sn**	**09 57 13.4**	**0.0**
	baz=264						
CHGB	**Renai**	**1.70**	**244**	P	**Pb**	**09 56 53.3**	**+0.2**
	baz=245						
CHGB				S	**Sn**	**09 57 14.3**	**+0.2**
	baz=245						
WHP	**Taichung City**	**1.81**	**253**	*i* P	**Pg**	**09 56 55.8**	**-0.1**
	baz=254						
WHP				S	**Sn**	**09 57 17.3**	**+0.6**
	baz=254						
HGSD	**Ruisui**	**1.86**	**224**	*e*P	**Pn**	**09 56 53.6**	**-0.1**
	baz=227						
VWDT	**VWDT**	**1.88**	**236**	*e*P	**Pb**	**09 56 55.5**	**-0.6**
	baz=237						
VWDT				*e*S	**Sn**	**09 57 17.9**	**-0.5**
	baz=237						
SSLB	**Suanglung**	**2.01**	**239**	*e*P	**Pn**	**09 56 57.0**	**+1.1**
	baz=241						
SSLB				*e*S	**Sn**	**09 57 20.2**	**-1.3**
	baz=241						
YULB	**Yu-li**	**2.01**	**225**	*e*S	**Sn**	**09 57 20.9**	**-0.6**
	baz=244						
SLGT	**Liugui**	**2.71**	**228**	*e*P	**Pn**	**09 57 07.8**	**+2.2**
	baz=231						
SLGT				*e*S	**Sn**	**09 57 39.6**	**+0.7**
	baz=231						

IDC 11 10:00:37.8±2.1, 27°.64N×136°.42E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.4/44, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=39.6km s-min=33.6km az=140.0, West of Bonin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.16**	**95**	Pn	Pn	10 01 56.5	+0.1
	9.4nm,0.3s,baz=289,slow=22,SNR=6.2						
JCJ				Sn	Sn	10 02 57.6	+1.0
	13nm,0.3s,baz=275,slow=20,SNR=2.8						
USRK	**Ussuriysk Ar.**	**16.90**	**349**	Pn	Pn	10 04 35.7	-0.1
	baz=155,slow=8.5,SNR=6.5						
WRA	**Warramunga Arr**	**47.34**	**183**	P	P	10 09 13.9	+0.3
	0.4nm,0.3s,baz=2.0,slow=7.9,SNR=24						
ASAR	**Alice Springs**	**51.07**	**183**	P	P	10 09 41.4	-0.7
	0.2nm,0.4s,baz=8.2,slow=8.4,SNR=4.9						

*GCG **11** 10:01:55.4±0.4, 13°.43N×90°.00W, h38km±124km, MD3.7*
*SNET **11** 10:01:55.2±0.9, 13°.53N×89°.98W, h61km±6km, ML3.3*
ISC 11 10:01:56.3±1.9, 13°.5N±0°.1×89°.95W±0°.06, h58km±15km, n20, σ0§69/33, 2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.46**	**44**	*e*P	**Pn**	**10 02 07.4**	**-0.5**
CEVE				*e*S	**Sn**	**10 02 16.7**	**+0.4**
RTR	**El Retiro**	**0.49**	**37**	*e*P	**Pn**	**10 02 07.8**	**-0.4**
JAYA	**Jayaque - finc**	**0.51**	**72**	*e*P	**Pn**	**10 02 07.9**	**-0.5**
JAYA				*e*S	**Sn**	**10 02 17.4**	**+0.3**
LALI	**Alcalda de L**	**0.61**	**91**	*e*P	**Pn**	**10 02 08.6**	**-0.7**
LALI				*e*S	**Sn**	**10 02 19.0**	**+0.2**
CEDA	**San Andres**	**0.62**	**61**	*e*P	**Pn**	**10 02 08.9**	**-0.6**
CEDA				*e*S	**Sn**	**10 02 20.1**	**+1.1**
CEDA				IAML		10 02 24.9	
	comp=Z,1μm,0.3s						
BOQS	**Boqueron**	**0.69**	**70**	*e*P	**Pn**	**10 02 10.0**	**-0.6**
SNET	**Serv Nac Est T**	**0.72**	**75**	*e*P	**Pn**	**10 02 10.4**	**-0.4**
SNET				*e*S	**Sn**	**10 02 22.0**	**+0.6**
SNET				IAML		10 02 22.9	
	comp=Z,2μm,0.3s						
UEES	**Universidad Ev**	**0.72**	**73**	*e*S	**Sn**	**10 02 22.1**	**+0.6**
TACO	**Tacachico**	**0.74**	**51**	*i*P	**Pn**	**10 02 10.0**	**-1.0**
TACO				*e*S	**Sn**	**10 02 21.7**	**-0.1**
OPAM	**Oficina de Pla**	**0.76**	**74**	*e*P	**Pn**	**10 02 11.1**	**-0.1**
OPAM				*e*S	**Sn**	**10 02 23.2**	**+1.1**
OPAM				IAML		10 02 25.1	
	comp=Z,1μm,0.2s						
IXG	**Ixpaco**	**0.82**	**325**	*e*P	**Pn**	**10 02 11.5**	**-0.6**
LFU	**La Fuente**	**0.85**	**73**	*e*P	**Pn**	**10 02 12.1**	**-0.3**
LFRS	**El Faro**	**0.87**	**82**	*e*P	**Pn**	**10 02 12.3**	**-0.4**
LFRS				*e*S	**Sn**	**10 02 25.1**	**+0.3**
PAVA	**Las Pavas**	**1.01**	**78**	*e*S	**Sn**	**10 02 28.6**	**+0.7**
MTO3	**Montecristo**	**1.06**	**33**	*i* P	**Pn**	**10 02 14.2**	**-1.1**
MTO3				IAML		10 02 30.0	
	comp=Z,190nm,0.3s						
PCG	**Pacaya**	**1.09**	**324**	*e*P	**Pn**	**10 02 15.2**	**-0.5**
PCG				*e*S	**Sn**	**10 02 29.9**	**-0.2**
NBG	**Las Nubes**	**1.15**	**340**	*e*P	**Pn**	**10 02 16.7**	**+0.2**
NBG				*e*S	**Sn**	**10 02 33.0**	**+1.6**
ESQI	**Esquipulas**	**1.21**	**29**	*i*P	**Pn**	**10 02 16.4**	**-0.7**
ESQI				*e*S	**Sn**	**10 02 32.8**	**+0.2**
FUG	**Fuego 3**	**1.28**	**318**	*e*P	**Pn**	**10 02 17.7**	**-0.5**
FUG				*e*S	**Sn**	**10 02 35.0**	**+0.5**
COEB	**Comit de Eme**	**1.38**	**90**	*e*P	**Pn**	**10 02 19.0**	**-0.5**
COEB				*e*S	**Sn**	**10 02 37.8**	**+1.0**

*IDC **11** 10:07:32.3±0.4, 29°.69S×176°.13W, h0km, mb4.9/21, mb1 5.0/21, mb1mx4.9/25, mbtmp4.8/21, MS4.8/18, Ms1 4.8/18, ms1mx4.7/26, Error ellipse: s-maj=17.1km s-min=14.9km az=61.0*
*BJI **11** 10:07:33.1±0.0, 29°.70S×176°.00W, h8km, mB5.8/21, mb5.3/34, Ms5.3/15, Ms7 5.1/11*
*NEIC **11** 10:07:33.3±2.0, 29°.97S±0°.06×176°.10W±0°.04, h10km±1km, mb5.4/163, Ms_20 5.3/595, Mwc5.5(GCMT), Error ellipse: s-maj=12.3km s-min=4.0km az=27.0*
*MOS **11** 10:07:36.5±1.4, 29°.72S×176°.20W, h33km, mb5.3/28, MS5.0/5, Error ellipse: s-maj=10.7km s-min=9.2km az=124.9*
*GCMT **11** 10:07:37.3±0.1, 29°.81S±0°.01×175°.84W, h12km, MW5.5/145, Moment Tensor Solution. s124,c225; s145,c306; Duration: 1§3 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.89±.03; $M_{\theta\theta}$-0.15±.02; $M_{\phi\phi}$2.04±.02; $M_{r\theta}$-0.35±.05; $M_{\theta\phi}$0.49±.02; $M_{\phi r}$-0.05±.04; Best double couple: $M_0$2.05300×10^{17} NP1:ϕ_s181.00000°, δ44.00000°, λ-106.00000°. NP2:ϕ_s23.00000°, δ48.00000°, λ-75.00000°. Principal axes: T 2.1480, Plg2.0000°, Azm102.0000°; N -0.1930, Plg11.0000°, Azm193.0000°; P -1.9570, Plg79.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **11** 10:07:38, 29°.77S×175°.84W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.04; $M_{\theta\theta}$-0.19; $M_{\phi\phi}$2.23; $M_{r\theta}$-0.28; $M_{\theta\phi}$0.56; $M_{\phi r}$-0.40; Fault plane solution: $M_0$2.27000×10^{17} NP1:ϕ_s186.00000°, δ40.00000°, λ-99.00000°. NP2:ϕ_s18.00000°, δ51.00000°, λ-83.00000°. Principal axes: T 2.3975, Plg6.0000°, Azm103.0000°; N -0.2930, Plg6.0000°, Azm193.0000°; P -2.1044, Plg82.0000°, Azm328.0000°;*

ISC 11 10:07:32.6±0.3, 29°.97S±0°.04×175°.99W±0°.05, h10km, n588, σ1§81/275, mb5.4/85, MS5.3/305, 14C-3D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.82**	**292**	P	**Pb**	**10 08 05.2**	**-0.8**
GLKZ				S	**Sb**	**10 08 28.4**	**-0.5**
RAO	**Raoul Island**	**1.82**	**293**	P	**Pb**	**10 08 05.3**	**-0.7**
RAO						10 08 26.3	
RAO	**Raoul Island**	**1.82**	**293**		**Pb**	**10 08 05.3**	**-0.7**
RIZ	**Raoul Island**	**1.83**	**293**	P	**Pb**	**10 08 05.2**	**-1.1**
RIZ				S	**Sb**	**10 08 28.2**	**-1.1**
MXZ	**Matakaoa Point**	**8.93**	**211**	P	**Pn**	**10 09 39.6**	**-2.0**
MXZ	**Matakaoa Point**	**8.93**	**211**	Pn	**Pn**	**10 09 41.9**	**+0.2**
WMGZ	**Waiomatatini S**	**9.10**	**209**	P	**Pn**	**10 09 41.7**	**-2.3**
HAZ	**Te Kaha**	**9.33**	**212**	P	**Pn**	**10 09 46.5**	**-0.6**
HAZ				S	**Sn**	**10 11 30.9**	**-1.1**
PUZ	**Puketiti**	**9.38**	**209**	P	**Pn**	**10 09 46.8**	**-1.1**
PUZ				S	**Sn**	**10 11 32.1**	**-1.3**
RUGZ	**Raukumara Rang**	**9.55**	**212**	P	**Pn**	**10 09 49.3**	**-0.9**
RUGZ				S	**Sn**	**10 11 34.1**	**-3.5**
TWGZ	**Tauwhareparae**	**9.59**	**210**	P	**Pn**	**10 09 49.4**	**-1.3**
TWGZ				S	**Sn**	**10 11 36.1**	**-2.4**
KUZ	**Kuaotunu**	**9.68**	**224**	P	**Pn**	**10 09 55.3**	**+3.5**
CNGZ	**Carnagh Statio**	**9.75**	**208**	P	**Pn**	**10 09 51.1**	**-1.8**
CNGZ				S	**Sn**	**10 11 37.5**	**-5.0**
TKGZ	**Te Karaka**	**9.87**	**209**	P	**Pn**	**10 09 53.0**	**-1.5**
TKGZ				S	**Sn**	**10 11 40.5**	**-4.7**
MWZ	**Matawai**	**9.92**	**211**	P	**Pn**	**10 09 52.8**	**-2.5**
MWZ				S	**Sn**	**10 11 42.3**	**-4.3**
URZ	**Urewera**	**10.05**	**213**	P	**Pn**	**10 09 54.1**	**-2.9**
URZ				S	**Sn**	**10 11 44.3**	**-5.4**
URZ	**Urewera**	**10.05**	**213**		**Pn**	**10 09 54.2**	**-2.7**
WCZ	**Waipu Caves**	**10.06**	**231**	P	Pn	10 10 01.3	+4.1
RIGZ	**Rimuhau**	**10.12**	**209**	P	**Pn**	**10 09 56.7**	**-1.3**
RIGZ				S	**Sn**	**10 11 47.6**	**-4.2**
OUZ	**Omahuta**	**10.22**	**236**	P	Pn	10 10 03.7	+4.4
OUZ	**Omahuta**	**10.22**	**236**		Pn	10 10 03.4	+4.1
PRGZ	**Paritu Road**	**10.26**	**208**	P	**Pn**	**10 09 57.1**	**-2.8**
PRGZ				S	**Sn**	**10 11 48.8**	**-6.2**
SNGZ	**Shannon Statio**	**10.37**	**210**	P	**Pn**	**10 10 00.0**	**-1.4**
SNGZ				S	**Sn**	**10 11 55.0**	**-2.7**
RRRZ	**Republican Roa**	**10.40**	**215**	S	**Sn**	**10 11 57.4**	**-1.0**
KNZ	**Kokohu**	**10.43**	**208**	P	**Pn**	**10 09 58.7**	**-3.4**
KNZ				S	**Sn**	**10 11 52.4**	**-6.7**
RAHZ	**Arahi**	**10.59**	**211**	P	**Pn**	**10 10 04.3**	**-0.2**
RAHZ				S	**Sn**	**10 11 59.4**	**-3.8**
MTHZ	**Maungataniwha**	**10.65**	**212**	P	**Pn**	**10 10 03.9**	**-1.3**
ALRZ	**Allen Road**	**10.66**	**214**	P	**Pn**	**10 10 05.1**	**-0.3**
WHHZ	**Waihua**	**10.66**	**210**	P	**Pn**	**10 10 05.7**	**+0.4**
WHHZ				S	**Sn**	**10 12 01.8**	**-3.0**
ARHZ	**Aropaoanui**	**10.92**	**210**	P	**Pn**	**10 10 06.0**	**-2.9**
BKZ	**Black Stump Fm**	**11.06**	**212**		**Pn**	**10 10 11.3**	**+0.3**
NIUE	**Niue**	**12.16**	**28**	P	Pn	10 10 20.1	-5.9
	baz=12,SNR=5.4						
NIUE				S	Sn	10 12 19.3	-22
	baz=12						
NIUE	**Niue**	**12.16**	**28**		Pn	10 10 19.4	-6.6
BFZ	**Birch Farm**	**12.42**	**209**		**Pn**	**10 10 27.3**	**-2.1**
MSVF	**Nonsavu**	**13.34**	**335**	P	**Pn**	**10 10 41.6**	**-0.5**
MSVF	**Nonsavu**	**13.34**	**335**	Pn	**Pn**	**10 10 41.6**	**-0.5**
MSWZ	**Moikau Station**	**13.45**	**209**		**Pn**	**10 10 42.9**	**-0.6**
PLWZ	**Palliser**	**13.57**	**209**	Pn	**Pn**	**10 10 44.3**	**-0.9**
SNZO	**South Karori**	**13.60**	**211**	Pn	**Pn**	**10 10 42.6**	**-2.9**
BHW	**Baring Head**	**13.60**	**211**	Pn	**Pn**	**10 10 42.7**	**-2.9**
TUWZ	**Tuamarina**	**14.04**	**213**		**Pn**	**10 10 50.0**	**-1.6**
NNZ	**Nelson**	**14.15**	**215**	Pn	**Pn**	**10 10 54.6**	**+1.5**
CMWZ	**Cape Campbell**	**14.17**	**211**	Pn	**Pn**	**10 10 55.1**	**+1.7**
BSWZ	**Blackbirch Sta**	**14.30**	**212**	Pn	**Pn**	**10 10 55.1**	**0.0**
QRZ	**Quartz Range**	**14.30**	**218**	Pn	**Pn**	**10 10 56.4**	**+1.3**
THZ	**Tophouse**	**14.80**	**214**		**Pn**	**10 11 01.4**	**-0.5**
KHZ	**Kahutara**	**15.01**	**211**		**Pn**	**10 11 02.4**	**-2.3**
LTZ	**Lake Taylor**	**15.88**	**213**	Pn	**Pn**	**10 11 15.5**	**-0.7**
OXZ	**Oxford**	**16.41**	**212**	Pn	**Pn**	**10 11 20.6**	**

PPT2 eLR LR 10 19 31.6
comp=Z,5µm,31.5s,baz=231
PPT2 Papeete2 27.06 69 *e*T T 10 39 03.1
comp=Z,5.6nm,0.3s
PPT Papeete 27.07 69 P P **10 13 20.0 +4.5**
TIAR Tiarei 27.26 69 *e*P P **10 13 18.7 +1.5**
comp=Z,20nm,0.8s
KNTN Kanton 27.35 9 P P **10 13 18.7 +0.8**
KNTN IAmb IAmb 10 13 45.1
comp=Z,79nm,0.8s
ARMA Armidale 27.94 261 P P **10 13 25.7 +2.4**
EIDS Eidsvold 29.46 271 P P **10 13 37.3 +0.6**
baz=30,SNR=4.2
EIDS Eidsvold 29.46 271 P P **10 13 37.8 +1.1**
CAN Canberra 29.86 250 P P **10 13 41.5 +1.3**
CAN pmax pmax
comp=Z,43nm,1.3s
CAN Canberra 29.86 250 P P **10 13 41.5 +1.3**
RMQ Roma 31.18 268 P P **10 13 53.0 +1.0**
baz=31,SNR=7.7
TOO Toolangi 32.73 246 P P **10 14 06.7 +1.2**
baz=33,SNR=4.6
TOO Toolangi 32.73 246 P P **10 14 06.6 +1.1**
TOO pmax pmax
comp=Z,40nm,1.3s
TOO Toolangi 32.73 246 P P **10 14 06.6 +1.1**
CMSA Cobar Meteorol 32.85 257 P P **10 14 07.9 +1.2**
baz=33,SNR=17
QLP Quilpie 35.07 266 P P **10 14 25.1 -0.8**
baz=35,SNR=4.5
CTAO Charters Tower 35.46 277 P P **10 14 29.4 +0.1**
CTAO pmax pmax
comp=Z,145nm,1.9s
CTAO MLR MLR
comp=Z,4µm,18.0s
CTAO Charters Tower 35.46 277 P P **10 14 29.4 +0.1**
CTAO IAmb IAmb 10 14 32.9
comp=Z,145nm,1.9s
CTAO Charters Tower 35.46 277 IAMs_20 IAMs_20 10 28 51.2
comp=Z,4µm,18.0s
STKA Stephens Creek 36.27 256 P P **10 14 35.2 -0.9**
baz=36,SNR=12
STKA Stephens Creek 36.27 256 P P **10 14 36.9 +0.7**
MTSU Mount Surprise 37.93 279 P P **10 14 50.7 +0.3**
baz=38,SNR=6.6
HTT Hallett 38.29 253 P P **10 14 54.1 +0.8**
baz=39,SNR=24
BBOO Buckleboo 40.76 253 P P **10 15 13.8 -0.1**
baz=41,SNR=18
BBOO Buckleboo 40.76 253 P P **10 15 14.1 +0.2**
BBOO IAMs_20 IAMs_20 10 33 09.2
comp=Z,3µm,19.0s
COEN Coen 40.84 284 P P **10 15 15.5 +0.7**
baz=41,SNR=5.5
COEN Coen 40.84 284 IAMs_20 IAMs_20 10 31 59.6
comp=Z,3µm,18.0s
QIS Mount Isa 41.02 273 P P **10 15 16.9 +0.7**
baz=41,SNR=3.3
PATS Pohnpei 44.14 322 P P **10 15 41.5 0.0**
baz=44,SNR=3.5
PATS Pohnpei 44.14 322 P P **10 15 41.8 +0.3**
PATS IAmb IAmb 10 16 39.1
comp=Z,172nm,2.0s
AS31 Alice Springs 44.87 266 P P **10 15 47.5 0.0**
ASAR Alice Springs 44.87 266 P P **10 15 46.6 -0.8**
ASAR Alice Springs 44.87 266 P P **10 15 46.6 -0.8**
WR0 Warramunga Arr 45.64 271 IAmb IAmb 10 16 07.2
comp=Z,41nm,1.2s
WR8 Warramunga Arr 45.68 271 IAMs_20 IAMs_20 10 34 13.9
comp=Z,2µm,18.0s
WR6 Warramunga Arr 45.72 271 IAMs_20 IAMs_20 10 34 24.0
comp=Z,3µm,21.0s
WR5 Warramunga Arr 45.74 271 IAMs_20 IAMs_20 10 35 25.5
comp=Z,2µm,18.0s
WB1 Warramunga Ar. 45.81 271 IAMs_20 IAMs_20 10 35 27.4
comp=Z,2µm,18.0s
WB2 Warramunga Arr 45.81 271 IAmb IAmb 10 16 09.1
comp=Z,38nm,0.8s
WB3 Warramunga Arr 45.82 271 IAMs_20 IAMs_20 10 37 10.5
comp=Z,3µm,18.0s
WRAB Tennant Creek 45.82 271 *ce*P P **10 15 53.6 -1.4**
WRAB pmax pmax
comp=Z,50nm,1.7s
WRAB Tennant Creek 45.82 271 P P **10 15 54.1 -0.8**
WRAB IAmb IAmb 10 16 08.5
comp=Z,46nm,1.1s
WRA Warramunga Arr 45.82 271 P P **10 15 54.0 -1.0**
WB0 Warramunga Arr 45.84 271 IAmb IAmb 10 16 09.3
comp=Z,32nm,0.8s
FORT Forrest 47.84 254 P P **10 16 10.4 -0.2**
baz=48,SNR=26
FORT Forrest 47.84 254 P P **10 16 10.8 +0.2**
VNDA Vanda 48.70 186 P P **10 16 18.5 +1.8**
VNDA pmax pmax
comp=Z,68nm,1.9s
VNDA Vanda 48.70 186 P P **10 16 18.4 +1.8**
VNDA IAmb IAmb 10 16 25.9
comp=Z,68nm,1.9s
WRKA Warakurna 49.26 262 P P **10 16 20.4 -1.4**
baz=50,SNR=37
KDU Kakadu 50.56 278 P P **10 16 31.2 -0.4**
baz=51,SNR=5.9
SMPI Sarmi 51.16 294 P P **10 16 33.6 -2.5**
KNRA Kununurra 52.41 273 P P **10 16 46.0 +0.5**
baz=53,SNR=9.7
KNRA Kununurra 52.41 273 P P **10 16 45.7 +0.2**
KMBL Kambalda 52.81 252 P P **10 16 47.7 -0.6**
baz=53,SNR=14
HPAH Hawaii Prepara 53.42 24 P P **10 16 54.0 +1.2**
HPAH IAmb IAmb 10 17 08.6
comp=Z,60nm,0.9s
KIP Kipapa 53.95 21 *ce*P P **10 16 54.3 -2.3**
KIP pmax pmax
comp=Z,113nm,1.7s
KIP Kipapa 53.95 21 P P **10 16 58.3 +1.7**
FITZ Fitzroy Crossi 54.10 269 P P **10 16 57.1 -0.8**
baz=54,SNR=5.0
KLBR Kellerberrin 56.13 250 P P **10 17 11.2 -1.3**
baz=56,SNR=8.1
CASY Casey 56.33 208 P P **10 17 15.4 +2.2**
CASY IAmb IAmb 10 17 19.8
comp=Z,30nm,0.8s
MEEK Meekatharra 56.97 256 P P **10 17 18.6 0.0**
baz=57,SNR=4.2
GUMO Guam 57.42 313 P P **10 17 20.2 -1.5**
GUMO pmax pmax
comp=Z,109nm,0.8s
GUMO Guam 57.42 313 P P **10 17 20.2 -1.5**
PSAA3 Pilbara Seismi 57.73 262 IAMs_20 IAMs_20 10 43 31.0
comp=Z,3µm,18.0s
PSA00 Pilbara Seismi 57.74 262 P P **10 17 24.0 0.0**
PSA00 IAmb IAmb 10 18 19.8
comp=Z,94nm,1.9s
PSA00 IAMs_20 IAMs_20 10 43 31.3
comp=Z,3µm,18.0s
PSAB1 Pilbara Seismi 57.77 262 IAMs_20 IAMs_20 10 43 40.9
comp=Z,3µm,18.0s
PSAD1 Pilbara Seismi 57.80 262 IAMs_20 IAMs_20 10 43 24.9
comp=Z,3µm,18.0s
MBWA Marble Bar 58.00 263 IAMs_20 IAMs_20 10 43 55.1
comp=Z,3µm,18.0s
MORW Morawa 58.32 252 P P **10 17 27.7 -0.3**
baz=58,SNR=24
MORW Morawa 58.32 252 P P **10 17 27.7 -0.3**
SOEI Soe 59.02 277 IAMs_20 IAMs_20 10 42 09.6
comp=Z,2µm,20.0s
QSPA South Pole Qui 60.14 180 P P **10 17 43.9 +3.8**
QSPA IAmb IAmb 10 17 45.6
comp=Z,44nm,0.9s
QSPA South Pole Qui 60.14 180 IAMs_20 IAMs_20 10 39 32.5
comp=Z,2µm,20.0s
MMRI Maumere 61.31 277 IAMs_20 IAMs_20 10 46 13.3
comp=Z,2µm,18.0s
GIRL Giralia 62.13 259 P P **10 17 55.1 +0.9**
baz=62,SNR=3.7
GIRL Giralia 62.13 259 P P **10 17 55.2 +1.0**
MAW Mawson 73.31 200 P P **10 19 04.1 +0.2**
baz=74,SNR=8.9
KSM Kuching 76.66 280 P P **10 19 24.5 +0.4**
SNAA Sanae 78.53 178 P P **10 19 35.7 +1.9**
SNAA Sanae 78.53 178 *ce*P P **10 19 34.9 +1.1**
SNAA pmax pmax
comp=Z,106nm,1.3s
SNAA Sanae 78.53 178 P P **10 19 35.6 +1.9**
VNA3 Neumayer Olymp 78.61 176 P P **10 19 35.9 +1.8**
MAJO Matsushiro 78.90 324 *i* P P **10 19 34.0 -2.1**
MAJO pmax pmax
comp=Z,10.0nm,0.9s
VNA2 Neumayer--Watz 79.06 176 P P **10 19 38.8 +2.2**
baz=169,slow=3.8
VNA1 Neumayer--Stat 79.28 176 P P **10 19 39.9 +2.1**
NVL N'lazarevskaya 79.39 183 *e*P P **10 19 37.8 -0.6**
NVL *e*S S **10 29 33.6 -5.3**
NVL pmax pmax
comp=Z,9.0nm,0.7s
LL01 San Ignacio de 79.47 133 IAMs_20 IAMs_20 10 56 44.7
comp=Z,1µm,18.0s
YULB Yu-li 80.25 304 P P **10 19 43.7 -0.1**
JNU Nakatsue 80.41 317 P P **10 19 44.6 +0.2**
JNU IAmb IAmb 10 19 48.0
comp=Z,111nm,1.8s
TPUB Ta-pu 80.67 304 IAmb IAmb 10 19 46.2
comp=Z,34nm,1.0s
SSLB Suanglung 80.74 304 P P **10 19 45.7 -0.8**
SSLB IAmb IAmb 10 19 51.0
comp=Z,29nm,0.9s
YUK Yuzh-Kuril'sk 81.49 333 *e*P P **10 19 48.8 -1.1**
YUK *e* 10 22 55.1
YUK *e*PPP PPP 10 24 46.0
YUK *e*S **S** **10 29 58.4 -2.9**
YUK *e*SS **SS** **10 35 13.6 -5.2**
YUK *e*SSS SSS 10 38 41.4
YUK pmax pmax
comp=Z,472nm,2.5s
YUK MLR MLR
comp=Z,238nm,17.0s
KUR Kuril'sk 81.75 335 P P **10 19 51.6 +0.4**
KUR *e* 10 19 58.5
KUR MLR MLR
comp=Z,1µm,22.0s
SLBS Sierra La Lagu 82.85 58 P P **10 19 59.5 +1.9**
SRIG Santa Rosalia 83.42 53 IAMs_20 IAMs_20 10 53 50.8
comp=Z,1µm,19.0s
TJX Tijuana 83.55 47 IAMs_20 IAMs_20 10 59 25.8
comp=Z,986nm,19.0s
SPX San Pedro Mart 83.60 49 P P **10 20 02.3 +0.6**
SPX IAmb IAmb 10 20 03.9
comp=Z,62nm,2.0s
SPX IAMs_20 IAMs_20 10 53 54.5
comp=Z,1µm,18.0s
GO05 Huala 83.64 127 IAMs_20 IAMs_20 10 55 44.8
comp=Z,1µm,19.0s
CBX Cerro Bola 83.66 47 IAmb IAmb 10 20 04.8
comp=Z,32nm,1.7s
109C Camp Elliot, M 83.76 46 IAMs_20 IAMs_20 10 54 25.5
comp=Z,1µm,19.0s
PAGB Antelope Grade 83.77 43 P P **10 20 03.7 +1.7**
PAGB IAMs_20 IAMs_20 10 54 05.6
comp=Z,1µm,18.0s
PMPB Monarch Peak 83.79 42 P P **10 20 03.0 +0.8**
SAO San Andreas Ge 83.80 41 IAmb IAmb 10 20 05.4
comp=Z,80nm,1.9s
BAR Barrett 83.90 47 IAMs_20 IAMs_20 10 55 03.1
comp=Z,1µm,18.0s
ESJX Sierra Juarez 83.92 48 IAmb IAmb 10 20 06.5
comp=Z,68nm,1.7s
ESJX IAMs_20 IAMs_20 10 54 03.7
comp=Z,1µm,19.0s
OSI Osito Audit: C 83.92 44 IAMs_20 IAMs_20 10 56 15.6
comp=Z,952nm,18.0s
PASC Pasadena Art C 83.95 45 IAMs_20 IAMs_20 10 53 09.4
comp=Z,943nm,19.0s
SFX San Felipe 84.00 49 IAMs_20 IAMs_20 10 53 14.0
comp=Z,1µm,21.0s
SKR Severo-Kuril's 84.01 343 *e*P P **10 20 03.4 +0.7**
SKR pmax pmax
comp=Z,200nm,6.8s
SKR MLR MLR
comp=Z,400nm,20.0s
MWC Mount Wilson 84.06 45 IAMs_20 IAMs_20 10 52 16.4
comp=Z,972nm,18.0s
HOPS Hopland Field 84.48 39 P P **10 20 07.1 +1.6**
PFO Pinyon Flats O 84.65 46 *i* P P **10 20 07.3 +0.6**
PFO pmax pmax
comp=Z,29nm,1.5s
PFO Pinyon Flats O 84.65 46 P P **10 20 08.2 +1.5**
PFO Pinyon Flats O 84.65 46 IAMs_20 IAMs_20 10 51 47.9
comp=Z,1µm,19.0s
XPFO Pion Flat 84.65 46 P P **10 20 08.2 +1.5**
XPFO Pion Flat 84.65 46 IAMs_20 IAMs_20 10 59 23.9
comp=Z,1µm,18.0s
TJN Taejon 84.75 317 *i* P P **10 20 06.3 -0.6**
ISA Isabella, Lake 84.78 44 IAMs_20 IAMs_20 10 56 47.3
comp=Z,994nm,18.0s
VA01 Torpederas 84.90 125 IAMs_20 IAMs_20 10 58 12.4
comp=Z,2µm,20.0s
KMRM Mail Ridge 85.02 37 IAmb IAmb 10 20 14.7
comp=Z,29nm,0.8s
YSS Yuzh-Sakhalins 85.13 333 *e*P P **10 20 10.7 +2.1**
JCC Jacoby Creek, 85.29 37 IAMs_20 IAMs_20 10 56 30.4
comp=Z,1µm,19.0s
CMB Columbia Colle 85.29 41 IAmb IAmb 10 20 12.6
comp=Z,97nm,2.0s
GLA Glamis 85.32 48 IAMs_20 IAMs_20 10 54 56.7
comp=Z,1µm,19.0s
HSIG 85.37 53 IAmb IAmb 10 20 13.0
comp=Z,30nm,1.1s
HSIG IAMs_20 IAMs_20 10 55 47.3
comp=Z,847nm,18.0s
KHMM Horse Mountain 85.48 37 IAMs_20 IAMs_20 10 57 01.6
comp=Z,2µm,18.0s
GSC Goldstone, Bar 85.55 45 IAMs_20 IAMs_20 10 53 13.7
comp=Z,1µm,20.0s
AFDM Forest Hills D 85.60 40 P P **10 20 11.8 +0.6**
AFDM IAmb IAmb 10 20 14.0
comp=Z,70nm,1.8s
ORV Oroville 85.73 39 IAmb IAmb 10 20 14.7
comp=Z,33nm,1.4s
ORV IAMs_20 IAMs_20 10 56 12.3
comp=Z,1µm,18.0s
MDPB Devils Postpil 85.76 42 IAmb IAmb 10 20 15.5
comp=Z,28nm,1.3s
MDPB IAMs_20 IAMs_20 10 55 46.3
comp=Z,2µm,18.0s
OMMB Old Mammoth Mi 85.80 42 IAmb IAmb 10 20 15.7
comp=Z,79nm,1.8s
113A Mohawk Valley, 85.82 48 IAMs_20 IAMs_20 10 55 47.0
comp=Z,1µm,19.0s
PEA0B Petropavlovsk- 85.85 344 *ce*P P **10 20 10.2 -1.8**
PEA0B Petropavlovsk- 85.85 344 P P **10 20 13.3 +1.3**
KRMB Red Mountain 85.86 36 IAMs_20 IAMs_20 10 56 37.6
comp=Z,1µm,18.0s
WDC Whiskeytown Da 85.90 38 IAMs_20 IAMs_20 10 56 44.7
comp=Z,1µm,18.0s
214A Organ Pipe Nat 85.93 50 IAMs_20 IAMs_20 10 54 15.0
comp=Z,998nm,19.0s
WAKR Walker 86.16 41 IAMs_20 IAMs_20 10 56 24.6
comp=Z,2µm,18.0s
KBO Bosley Butte 86.20 36 IAMs_20 IAMs_20 10 57 05.6
comp=Z,1µm,18.0s
PNTR Pine Nut 86.47 40 IAmb IAmb 10 20 21.6
comp=Z,29nm,1.0s
VCNR Virginia City 86.58 40 IAmb IAmb 10 20 19.2
comp=Z,30nm,1.3s
YBH Yreka Blue Hor 86.64 37 P P **10 20 17.4 +1.1**
YBH pmax pmax
comp=Z,82nm,2.0s
YBH MLR MLR
comp=Z,800nm,19.0s
YBH Yreka Blue Hor 86.64 37 P P **10 20 17.4 +1.1**
YBH IAmb IAmb 10 20 18.5
comp=Z,82nm,2.0s
NVAR Mina Array Bea 86.75 42 P P **10 20 18.0 +0.8**
RYN Ryan 86.76 41 IAmb IAmb 10 20 20.1
comp=Z,75nm,1.8s
RYN IAMs_20 IAMs_20 10 56 37.7
comp=Z,2µm,18.0s
NV11 Mina Array Sit 86.84 42 IAmb IAmb 10 20 20.5
comp=Z,80nm,1.8s
NV11 IAMs_20 IAMs_20 10 56 21.8
comp=Z,2µm,18.0s
KULM Kulim 86.88 278 P P **10 20 19.4 +1.3**
TPNV Topopah Spring 86.97 44 IAMs_20 IAMs_20 10 58 07.4
comp=Z,968nm,18.0s
Y14A Wickenburg 87.05 48 IAMs_20 IAMs_20 10 56 34.7
comp=Z,2µm,18.0s
PSI Prapat 87.12 275 P P **10 20 19.4 0.0**
W13A Hualapai Mount 87.23 47 IAMs_20 IAMs_20 10 57 22.3
comp=Z,913nm,18.0s
KVN Kaiserville 87.29 41 IAmb IAmb 10 20 22.5
comp=Z,36nm,1.5s
KVN IAMs_20 IAMs_20 10 56 37.6
comp=Z,1µm,19.0s
TUC Tucson 87.49 50 P P **10 20 22.8 +2.1**
TUC pmax pmax
comp=Z,60nm,1.4s
TUC MLR MLR
comp=Z,800nm,18.0s
TUC Tucson 87.49 50 P P **10 20 22.8 +2.1**
TUC Tucson 87.49 50 IAMs_20 IAMs_20 10 58 09.5
comp=Z,814nm,18.0s
USRK Usuriysk Ar. 87.78 325 P P **10 20 23.3 +1.7**
ZAIG Zacatecas 87.87 62 IAmb IAmb 10 20 25.5
comp=Z,53nm,2.0s
ZAIG IAMs_20 IAMs_20 10 54 25.8
comp=Z,1µm,18.0s
319A Douglas 87.94 52 IAMs_20 IAMs_20 10 57 29.4
comp=Z,1µm,18.0s
PRN Pahroc Range 88.00 44 IAMs_20 IAMs_20 10 58 40.5
comp=Z,1µm,19.0s
MOD Modoc Plateau 88.03 38 IAmb IAmb 10 20 28.0
comp=Z,16nm,1.1s
MOD IAMs_20 IAMs_20 10 58 06.0
comp=Z,2µm,18.0s
AC05 El Transito 88.15 122 IAMs_20 IAMs_20 10 52 55.8
comp=Z,1µm,20.0s
K05A Summer Lake 88.29 37 IAMs_20 IAMs_20 10 54 31.9
comp=Z,1µm,20.0s
R11A Troy Canyon, C 88.29 43 IAmb IAmb 10 20 26.5
comp=Z,30nm,1.9s
R11A IAMs_20 IAMs_20 10 56 46.2
comp=Z,1µm,18.0s
X16A Lo Mia Camp, P 88.36 48 IAmb IAmb 10 20 28.9
comp=Z,62nm,1.5s
X16A IAMs_20 IAMs_20 10 57 17.4
comp=Z,1µm,19.0s
COR Corvallis 88.39 35 IAMs_20 IAMs_20 10 52 35.3
comp=Z,1µm,20.0s
UNM Universidad Na 88.66 67 IAMs_20 IAMs_20 10 53 30.9
comp=Z,923nm,18.0s
H04A Detroit Lake 89.01 35 IAMs_20 IAMs_20 10 58 46.9
comp=Z,1µm,18.0s
U15A North Rim 89.07 46 IAmb IAmb 10 20 32.2
comp=Z,42nm,1.1s
WUAZ Wupatki 89.08 47 IAMs_20 IAMs_20 10 57 07.5
comp=Z,976nm,19.0s
WVOR Wild Horse Val 89.29 39 IAmb IAmb 10 20 31.9
comp=Z,78nm,1.9s
121A Cookes Peak, D 89.65 52 IAMs_20 IAMs_20 10 58 42.7
comp=Z,1µm,18.0s
E03A Lebam 89.68 33 IAMs_20 IAMs_20 10 59 57.5
comp=Z,878nm,19.0s
F04A Amboy 89.79 34 IAMs_20 IAMs_20 10 59 59.4
comp=Z,842nm,19.0s
W18A Petrified Fore 89.90 49 IAMs_20 IAMs_20 10 58 15.1
comp=Z,847nm,18.0s
I07A Izee 89.96 37 IAmb IAmb 10 20 35.1
comp=Z,65nm,1.7s
I07A IAMs_20 IAMs_20 10 59 51.1
comp=Z,957nm,18.0s
EPT El Paso 90.08 53 IAMs_20 IAMs_20 10 55 51.2
comp=Z,953nm,18.0s
NLWA Neilton Lookou 90.16 32 IAmb IAmb 10 20 36.3
comp=Z,33nm,1.2s
NLWA IAMs_20 IAMs_20 11 04 21.0
comp=Z,1µm,18.0s
TX32 Lajitas Array 90.70 56 IAmb IAmb 10 20 39.0
comp=Z,55nm,1.6s
TXAR Lajitas Array 90.70 56 P P **10 20 36.3 +0.4**
TXAR Lajitas Array 90.70 56 P P **10 20 36.3 +0.4**
MNTX Cornudas Mount 90.82 54 IAmb IAmb 10 20 39.2
comp=Z,19nm,1.3s
F07A Phinny Hill Vi 91.00 35 IAMs_20 IAMs_20 11 04 26.5
comp=Z,1µm,18.0s
G08A Pilot Rock 91.07 36 IAmb IAmb 10 20 40.1
comp=Z,50nm,1.4s
DUG Dugway, Tooele 91.12 43 IAMs_20 IAMs_20 10 57 52.2
comp=Z,834nm,19.0s
Y22D IRIS PASSCAL I 91.14 51 IAMs_20 IAMs_20 11 00 14.1
comp=Z,988nm,18.0s
MFID Camas Ranch 91.48 39 IAMs_20 IAMs_20 10 59 30.4
comp=Z,840nm,18.0s
E07A Sunnyside 91.50 35 IAMs_20 IAMs_20 11 00 49.6
comp=Z,1µm,18.0s
TMUT Trail Mountain 91.53 45 P P **10 20 40.7 +0.9**
HAWA Hanford 91.54 35 P P **10 20 40.5 +1.3**
HAWA IAMs_20 IAMs_20 11 00 33.8
comp=Z,1µm,18.0s
KLR Kul'dur 91.56 329 *ce*P P **10 20 38.9 -0.3**
KLR pmax pmax
comp=Z,7.0nm,1.8s
LTY Liberty 91.58 34 IAmb IAmb 10 20 42.1
comp=Z,49nm,1.5s
BMO Blue Mountains 91.64 37 IAmb IAmb 10 20 42.3
comp=Z,26nm,1.4s
BMO IAMs_20 IAMs_20 11 00 58.5
comp=Z,1µm,18.0s
E08A Dider Farm, El 91.85 35 IAMs_20 IAMs_20 11 01 01.9
comp=Z,1µm,18.0s
BBB Bella Bella 91.91 27 IAMs_20 IAMs_20 10 54 54.1
comp=Z,844nm,20.0s
MVCO Mesa Verde 91.95 48 IAMs_20 IAMs_20 10 59 32.5
comp=Z,1µm,18.0s
ANMO Albuquerque 91.96 50 *ce*P P **10 20 42.2 +0.5**
ANMO pmax pmax
comp=Z,20nm,1.6s
ANMO Albuquerque 91.96 50 P P **10 20 42.8 +1.1**
ANMO IAmb IAmb 10 20 47.7
comp=Z,42nm,1.8s
ANMO Albuquerque 91.96 50 IAMs_20 IAMs_20 10 57 53.7
comp=Z,918nm,18.0s
B06A Marblemount 92.08 33 IAMs_20 IAMs_20 11 05 00.9
comp=Z,849nm,18.0s
PV17 East Wray Mesa 92.30 46 IAmb IAmb 10 20 46.0
comp=Z,18nm,1.4s
D08A Wollman Farm, 92.30 35 IAMs_20 IAMs_20 11 01 07.0
comp=Z,1µm,18.0s
PV18 Skein Mesa, Pa 92.31 47 IAMs_20 IAMs_20 11 00 01.9
comp=Z,1µm,21.0s
PV13 Radium Mtn., P 92.32 47 IAmb IAmb 10 20 48.1
comp=Z,40nm,1.8s
PV13 IAMs_20 IAMs_20 11 00 44.0
comp=Z,1µm,20.0s
E09A Wood Farm, Sta 92.32 36 IAmb IAmb 10 20 45.3
comp=Z,32nm,1.3s
PV16 Nyswonger Mesa 92.35 46 IAMs_20 IAMs_20 11 03 37.8
comp=Z,1µm,21.0s
HLID Hailey 92.36 40 IAMs_20 IAMs_20 11 03 51.6
comp=Z,979nm,18.0s
PV03 Paradox Valley 92.36 47 IAMs_20 IAMs_20 11 00 28.1
comp=Z,898nm,18.0s
PV11 David Mesa, Pa 92.37 47 IAmb IAmb 10 20 46.4
comp=Z,37nm,1.7s
PV12 Saucer Basin, 92.42 47 IAmb IAmb 10 20 45.6
comp=Z,65nm,2.0s
PV12 IAMs_20 IAMs_20 10 59 58.8
comp=Z,1µm,18.0s
F10A Beach Ranch, E 92.43 37 IAmb IAmb 10 21 06.1
comp=Z,17nm,0.8s
F10A IAMs_20 IAMs_20 11 01 09.4
comp=Z,810nm,19.0s
PV07 Paradox Valley 92.59 47 P P **10 20 46.1 +1.5**
HWUT Hardware Ranch 92.75 43 IAmb IAmb 10 20 58.3
comp=Z,42nm,2.0s
HWUT IAMs_20 IAMs_20 11 00 14.1
comp=Z,1µm,18.0s
B08A Colville Reser 93.00 34 IAmb IAmb 10 20 48.1
comp=Z,40nm,2.0s
PB01 IPOC Station P 93.03 116 IAMs_20 IAMs_20 10 54 57.3
comp=Z,1µm,21.0s
C09A Chrisman Ranch 93.13 35 IAMs_20 IAMs_20 11 01 30.9
comp=Z,1µm,18.0s
HIN Hinchinbrook I 93.23 14 IAMs_20 IAMs_20 10 55 47.3
comp=Z,880nm,20.0s
833A Chaparral WMA, 93.28 59 IAMs_20 IAMs_20 10 58 49.2
comp=Z,880nm,18.0s
S22A 4UR Ranch, Cre 93.34 48 IAmb IAmb 10 20 51.3
comp=Z,19nm,1.5s
S22A IAMs_20 IAMs_20 11 00 10.2
comp=Z,944nm,18.0s
EYAK Cordova Ski Ar 93.53 14 IAMs_20 IAMs_20 11 06 09.2
comp=Z,801nm,18.0s
FID Port Fidalgo 93.56 14 IAMs_20 IAMs_20 11 06 29.7
comp=Z,747nm,18.0s
PB11 IPOC Station P 93.60 115 P P **10 20 51.1 +1.3**
PB11 IAmb IAmb 10 20 52.7
comp=Z,12nm,0.8s
RAGM Ragged Mountai 93.62 15 IAMs_20 IAMs_20 11 06 08.6
comp=Z,1µm,18.0s
MSTX Muleshoe 93.91 53 IAMs_20 IAMs_20 10 58 22.6
comp=Z,916nm,18.0s

SNET	**Serv Nac Est T**	**93.97**	**77**	IAMs_20	IAMs_20	10 55 25.9			
	comp=Z,966nm,18.0s								
MNMC	**Minye Minye**	**94.00**	**115**	P	**P**	**10 20 53.2**	**+1.5**		
NEW	**Newport**	**94.02**	**35**	IAMs_20	IAMs_20	11 02 25.3			
	comp=Z,1µm,18.0s								
SDCO	**Great Sand Dun**	**94.20**	**49**	IAMs_20	IAMs_20	11 00 46.0			
	comp=Z,706nm,18.0s								
REDW	**Red Top Meadow**	**94.24**	**42**	IAmb	IAmb	10 20 54.7			
REDW				IAMs_20	IAMs_20	11 01 37.7			
	comp=Z,1µm,18.0s								
TPAW	**Teton Pass**	**94.27**	**41**	IAmb	IAmb	10 21 06.7			
TPAW				IAMs_20	IAMs_20	11 01 18.3			
	comp=Z,1µm,18.0s								
FXWY	**Fox Creek**	**94.31**	**41**	IAmb	IAmb	10 20 55.4			
	comp=Z,44nm,1.9s								
ISLE	**Juniper Island**	**94.36**	**16**	IAMs_20	IAMs_20	11 06 11.0			
	comp=Z,739nm,18.0s								
SNOW	**Snow King Moun**	**94.36**	**42**	IAmb	IAmb	10 20 55.5			
	comp=Z,16nm,1.1s								
SNOW				IAMs_20	IAMs_20	11 01 40.8			
	comp=Z,1µm,18.0s								
DLMT	**Dillon**	**94.50**	**39**	IAmb	IAmb	10 20 55.9			
	comp=Z,15nm,1.2s								
DLMT				IAMs_20	IAMs_20	10 56 40.5			
	comp=Z,879nm,21.0s								
IMW	**Indian Meadow**	**94.52**	**41**	IAmb	IAmb	10 20 56.2			
	comp=Z,16nm,1.3s								
IMW				IAMs_20	IAMs_20	11 01 37.0			
	comp=Z,1µm,18.0s								
LOHW	**Long Hollow**	**94.54**	**41**	IAmb	IAmb	10 20 56.1			
	comp=Z,21nm,1.4s								
LOHW				IAMs_20	IAMs_20	11 01 37.5			
	comp=Z,1µm,18.0s								
T25A	**Trinidad**	**94.57**	**50**	IAmb	IAmb	10 20 56.1			
	comp=Z,17nm,1.4s								
BW06	**Boulder Array**	**94.64**	**43**	IAMs_20	IAMs_20	11 01 35.1			
	comp=Z,1µm,18.0s								
PDAR	**Pinedale Array**	**94.64**	**43**	P	**P**	**10 20 53.9**	**0.0**		
MSO	**Missoula**	**94.71**	**37**	IAMs_20	IAMs_20	11 02 36.8			
	comp=Z,1µm,18.0s								
735A	**Kenedy**	**94.75**	**59**	IAMs_20	IAMs_20	10 59 22.0			
	comp=Z,859nm,18.0s								
FLWY	**Flagg Ranch**	**94.77**	**41**	IAmb	IAmb	10 20 57.6			
	comp=Z,18nm,1.1s								
FLWY				IAMs_20	IAMs_20	11 01 53.7			
	comp=Z,1µm,18.0s								
H17A	**Grant Village**	**95.03**	**41**	IAMs_20	IAMs_20	10 56 08.6			
	comp=Z,1µm,20.0s								
CHTO	**Chiang Mai**	**95.08**	**289**	P	**P**	**10 20 58.9**	**+2.7**		
JTMT	**Jette**	**95.12**	**37**	IAMs_20	IAMs_20	11 06 25.6			
	comp=Z,720nm,18.0s								
Q24A	**Divide**	**95.12**	**48**	IAMs_20	IAMs_20	11 01 38.3			
	comp=Z,1µm,18.0s								
AMTX	**Amarillo**	**95.17**	**53**	IAMs_20	IAMs_20	10 59 19.8			
	comp=Z,931nm,20.0s								
BOZ	**Bozeman (W)**	**95.18**	**39**	IAmb	IAmb	10 20 59.0			
	comp=Z,12nm,1.1s								
XAN	**Xi'an**	**95.25**	**306**	IAMs_20	IAMs_20	10 55 22.2			
	comp=Z,920nm,19.0s								
TRF	**Thorofare Moun**	**95.32**	**11**	IAMs_20	IAMs_20	10 57 37.1			
	comp=Z,1µm,20.0s								
RWWY	**Rawlins**	**95.40**	**45**	IAMs_20	IAMs_20	10 58 56.5			
	comp=Z,923nm,18.0s								
RND	**Reindeer**	**95.53**	**12**	IAmb	IAmb	10 20 58.4			
	comp=Z,12nm,1.2s								
BWN	**Browne**	**96.12**	**11**	IAMs_20	IAMs_20	10 57 50.3			
	comp=Z,836nm,20.0s								
RLMT	**Red Lodge**	**96.22**	**41**	IAMs_20	IAMs_20	11 02 41.8			
	comp=Z,1µm,18.0s								
K22A	**Casper**	**96.37**	**44**	IAMs_20	IAMs_20	11 00 28.2			
	comp=Z,1µm,18.0s								
CCB	**Clear Creek Bu**	**96.85**	**12**	IAmb	IAmb	10 24 42.6			
	comp=Z,20nm,1.7s								
COLA	**College**	**97.05**	**12**	*i* P	**P**	**10 21 03.3**	**-0.7**		
COLA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
MDM	**Murphy Dome**	**97.06**	**12**	IAmb	IAmb	10 21 08.6			
	comp=Z,9.5nm,1.2s								
WMOK	**Wichita Mounta**	**97.11**	**54**	IAMs_20	IAMs_20	11 03 26.3			
	comp=Z,772nm,18.0s								
IL31		**97.13**	**12**	IAmb	IAmb	10 21 09.0			
	comp=Z,15nm,1.6s								
IMAR	**Indian Mountai**	**97.17**	**9**	P	**P**	**10 21 05.2**	**+0.6**		
X34A	**Smith Ranch, M**	**97.71**	**55**	IAMs_20	IAMs_20	11 03 02.1			
	comp=Z,1µm,18.0s								
U32A	**Winter Ranch,**	**97.81**	**53**	IAMs_20	IAMs_20	11 04 02.7			
	comp=Z,1µm,18.0s								
OKCFA	**Oklahoma City**	**98.39**	**54**	IAMs_20	IAMs_20	11 01 17.2			
	comp=Z,884nm,18.0s								
OK025	**Westminster Rd**	**98.56**	**54**	IAMs_20	IAMs_20	11 01 40.6			
	comp=Z,930nm,18.0s								
NATX	**Nacogdoches**	**98.57**	**58**	IAMs_20	IAMs_20	11 03 21.0			
	comp=Z,1µm,18.0s								
CBKS	**Cedar Bluff**	**98.58**	**50**	IAMs_20	IAMs_20	11 02 53.0			
	comp=Z,867nm,18.0s								
OK029	**Liberty Lake**	**98.58**	**54**	IAMs_20	IAMs_20	11 01 58.3			
	comp=Z,854nm,20.0s								
BILL	**Bilibino**	**98.61**	**353**	*e*P	**P**	**10 21 10.6**	**-0.4**		
BILL				*e*PPP	PPP	10 27 17.4			
BILL				pmax	pmax				
	comp=Z,4.0nm,1.0s								
RSSD	**Black Hills**	**98.70**	**44**	P	Pdif	10 21 13.3	+1.0		
RSSD	**Black Hills**	**98.70**	**44**	IAMs_20	IAMs_20	11 08 24.8			
	comp=Z,1µm,18.0s								
LAO	**LASA Array**	**98.86**	**41**	IAMs_20	IAMs_20	11 08 11.7			
	comp=Z,722nm,18.0s								
R32A	**Long Quarter,**	**99.06**	**51**	IAMs_20	IAMs_20	11 01 49.9			
	comp=Z,693nm,19.0s								
441A	**DeRidder**	**99.17**	**60**	IAMs_20	IAMs_20	11 06 08.0			
	comp=Z,649nm,18.0s								
T35A	**Sooner Cattle**	**99.81**	**53**	IAMs_20	IAMs_20	11 02 07.6			
	comp=Z,846nm,19.0s								
TUL1	**Leonard**	**99.81**	**54**	IAMs_20	IAMs_20	11 04 36.7			
	comp=Z,1µm,18.0s								
Z41A	**Richland Creek**	**100.67**	**58**	IAMs_20	IAMs_20	11 04 37.6			
	comp=Z,827nm,18.0s								
MIAR	**Mount Ida**	**100.72**	**56**	IAMs_20	IAMs_20	11 03 38.0			
	comp=Z,803nm,19.0s								
545A	**Edgard**	**100.87**	**62**	IAMs_20	IAMs_20	11 07 27.2			
	comp=Z,859nm,18.0s								
DGMT	**Dagmar**	**100.99**	**40**	IAMs_20	IAMs_20	11 07 46.0			
	comp=Z,915nm,18.0s								
U38A	**Gravette**	**101.06**	**54**	IAMs_20	IAMs_20	11 02 42.8			
	comp=Z,946nm,18.0s								
K31A	**O'Neill**	**101.18**	**47**	IAMs_20	IAMs_20	11 05 03.6			
	comp=Z,1µm,18.0s								
X40A	**Basin Creek Fa**	**101.23**	**57**	IAMs_20	IAMs_20	11 04 10.5			
	comp=Z,1µm,18.0s								
344A	**Westbrook Farm**	**101.35**	**60**	IAMs_20	IAMs_20	11 07 04.9			
	comp=Z,794nm,19.0s								
143A	**Socs Landing,**	**101.44**	**59**	IAMs_20	IAMs_20	11 05 04.1			
	comp=Z,955nm,18.0s								
UALR	**University of**	**101.72**	**57**	IAMs_20	IAMs_20	11 05 34.6			
	comp=Z,1µm,18.0s								
W41B	**Gary Mavity, V**	**101.98**	**56**	IAMs_20	IAMs_20	11 05 51.4			
	comp=Z,1µm,18.0s								
E28A	**Huff**	**102.00**	**43**	IAMs_20	IAMs_20	11 06 36.1			
	comp=Z,1µm,18.0s								
N35A	**Tabor**	**102.33**	**50**	IAMs_20	IAMs_20	11 04 53.3			
	comp=Z,861nm,18.0s								
S39A	**Bolivar**	**102.40**	**54**	IAMs_20	IAMs_20	11 06 00.4			
	comp=Z,1µm,18.0s								
ROSC	**El Rosal**	**102.51**	**92**	IAMs_20	IAMs_20	11 01 44.8			
	comp=Z,686nm,18.0s								
INK	**Inuvik**	**102.91**	**15**	IAMs_20	IAMs_20	11 02 57.1			
	comp=Z,721nm,20.0s								
ECSD	**EROS Data Cent**	**103.09**	**47**	IAMs_20	IAMs_20	11 06 31.1			
	comp=Z,1µm,18.0s								
P38A	**Dawn**	**103.17**	**52**	IAMs_20	IAMs_20	11 04 19.5			
	comp=Z,813nm,18.0s								
MDND	**Maddock**	**103.29**	**42**	IAMs_20	IAMs_20	11 07 08.0			
	comp=Z,1µm,18.0s								
N38A	**Joes South For**	**103.91**	**51**	IAMs_20	IAMs_20	11 06 19.1			
	comp=Z,887nm,18.0s								
CCM	**Cathedral Cave**	**104.03**	**54**	IAMs_20	IAMs_20	11 04 51.4			
	comp=Z,911nm,18.0s								
Z47A	**Carrollton**	**104.15**	**60**	IAMs_20	IAMs_20	11 06 47.0			
	comp=Z,922nm,18.0s								
F33A	**5 Mile Ranch,**	**104.30**	**45**	IAMs_20	IAMs_20	11 01 35.9			
	comp=Z,746nm,20.0s								
LNXT	**Lenox**	**104.40**	**57**	IAMs_20	IAMs_20	11 07 22.4			
	comp=Z,955nm,18.0s								
HALT	**Halls**	**104.42**	**57**	IAMs_20	IAMs_20	11 10 33.1			
	comp=Z,709nm,18.0s								
SCIA	**State Center**	**104.44**	**50**	IAMs_20	IAMs_20	11 11 28.0			
	comp=Z,788nm,18.0s								
D32A	**Dogwood Acres,**	**104.47**	**44**	IAMs_20	IAMs_20	11 05 57.5			
	comp=Z,804nm,20.0s								
LRAL	**Lakeview Retre**	**104.89**	**60**	IAMs_20	IAMs_20	11 08 50.5			
	comp=Z,738nm,18.0s								
K38A	**Parkersburg**	**105.07**	**49**	IAMs_20	IAMs_20	11 07 22.6			
	comp=Z,902nm,18.0s								
PALK	**Pallekele**	**105.11**	**270**	IAMs_20	IAMs_20	11 14 25.8			
	comp=Z,716nm,21.0s								
I37A	**Lemond, Waseca**	**105.28**	**48**	IAMs_20	IAMs_20	11 11 40.0			
	comp=Z,872nm,18.0s								
FFC	**Flin Flon**	**105.44**	**35**	IAMs_20	IAMs_20	11 03 27.5			
	comp=Z,770nm,19.0s								
N41A	**Harden Midland**	**105.49**	**52**	IAMs_20	IAMs_20	11 05 32.9			
	comp=Z,740nm,18.0s								
AGMN	**Agassiz Nation**	**105.70**	**43**	IAMs_20	IAMs_20	11 08 50.0			
	comp=Z,1µm,19.0s								
L40A	**Anamosa**	**105.83**	**50**	IAMs_20	IAMs_20	11 08 11.0			
	comp=Z,862nm,18.0s								
P43A	**Skaggs, Pawnee**	**105.94**	**53**	IAMs_20	IAMs_20	11 08 24.9			
	comp=Z,1µm,18.0s								
Q44A	**Meyer Farm, Va**	**105.97**	**54**	IAMs_20	IAMs_20	11 06 11.9			
	comp=Z,1µm,18.0s								
F36A	**Milaca**	**106.03**	**46**	IAMs_20	IAMs_20	11 07 13.8			
	comp=Z,1µm,18.0s								
SPMN	**Marine on St.**	**106.20**	**47**	IAMs_20	IAMs_20	11 08 59.3			
	comp=Z,780nm,18.0s								
Z51A	**Franklin**	**106.39**	**61**	IAMs_20	IAMs_20	11 08 02.2			
	comp=Z,672nm,18.0s								
HDIL	**Hopedale**	**106.49**	**52**	IAMs_20	IAMs_20	11 10 35.5			
	comp=Z,642nm,18.0s								
ULM	**Lac du Bonnet**	**106.59**	**41**	IAMs_20	IAMs_20	11 13 33.3			
	comp=Z,1µm,18.0s								
CLTN	**Cedars of Leba**	**106.70**	**58**	IAMs_20	IAMs_20	11 06 54.4			
	comp=Z,1µm,18.0s								
JFWS	**Jewell Farm**	**106.85**	**50**	IAMs_20	IAMs_20	11 11 07.9			
	comp=Z,963nm,18.0s								
L42A	**Oliver, Polo**	**106.85**	**51**	IAMs_20	IAMs_20	11 08 17.0			
	comp=Z,947nm,18.0s								
O44A	**Mansfield**	**106.89**	**53**	IAMs_20	IAMs_20	11 08 46.1			
	comp=Z,740nm,18.0s								
B35A	**Bob, Littlefor**	**107.01**	**44**	IAMs_20	IAMs_20	11 12 36.5			
	comp=Z,974nm,18.0s								
I40A	**Norwalk**	**107.03**	**49**	IAMs_20	IAMs_20	11 08 00.4			
	comp=Z,610nm,18.0s								
U49A	**Red Boiling Sp**	**107.28**	**58**	IAMs_20	IAMs_20	11 13 04.7			
	comp=Z,777nm,18.0s								
SPB	**Sao Paulo**	**107.36**	**131**	IAMs_20	IAMs_20	11 12 35.6			
	comp=Z,621nm,18.0s								
Y52A	**Lilburn**	**107.46**	**61**	IAMs_20	IAMs_20	11 09 52.6			
	comp=Z,580nm,18.0s								
060A	**Indiantown**	**107.50**	**69**	IAMs_20	IAMs_20	11 14 40.0			
	comp=Z,672nm,21.0s								
P46A	**Rosedale**	**107.55**	**54**	IAMs_20	IAMs_20	11 07 01.6			
	comp=Z,1µm,18.0s								
GOGA	**Godfrey**	**107.72**	**61**	IAMs_20	IAMs_20	11 09 13.6			
	comp=Z,590nm,18.0s								
G40A	**Rib Lake**	**107.88**	**48**	IAMs_20	IAMs_20	11 09 37.8			
	comp=Z,713nm,18.0s								
SFIN	**Lafayette**	**107.94**	**53**	IAMs_20	IAMs_20	11 06 33.9			
	comp=Z,762nm,19.0s								
HQIL	**Hanson Quary C**	**108.00**	**52**	IAMs_20	IAMs_20	11 07 27.4			
	comp=Z,646nm,19.0s								
K43A	**Burlington**	**108.05**	**51**	IAMs_20	IAMs_20	11 09 21.5			
	comp=Z,842nm,18.0s								
W52A	**Murphy**	**108.07**	**60**	IAMs_20	IAMs_20	11 10 07.6			
	comp=Z,1µm,18.0s								
L44A	**Lake County Fo**	**108.11**	**51**	IAMs_20	IAMs_20	11 09 48.4			
	comp=Z,1µm,18.0s								
I42A	**Draeger Farm,**	**108.14**	**49**	IAMs_20	IAMs_20	11 11 49.1			
	comp=Z,748nm,18.0s								
EYMN	**Ely**	**108.18**	**45**	IAMs_20	IAMs_20	11 05 12.7			
	comp=Z,782nm,20.0s								
BG3	**Lac Jocassee**	**108.77**	**60**	IAMs_20	IAMs_20	11 10 16.3			
	comp=Z,586nm,18.0s								
COWI	**Conover**	**108.90**	**47**	IAMs_20	IAMs_20	11 05 21.8			
	comp=Z,644nm,19.0s								
HODGE	**Hodges**	**108.97**	**61**	IAMs_20	IAMs_20	11 09 56.7			
	comp=Z,557nm,18.0s								
N47A	**Urbana**	**109.12**	**53**	IAMs_20	IAMs_20	11 11 14.0			
	comp=Z,1µm,18.0s								
H43A	**Windswept, Lux**	**109.13**	**49**	IAMs_20	IAMs_20	11 08 57.2			
	comp=Z,647nm,18.0s								
L46A	**Eue Claire**	**109.15**	**52**	IAMs_20	IAMs_20	11 12 14.8			
	comp=Z,799nm,18.0s								
S51A	**Beattyville**	**109.33**	**57**	IAMs_20	IAMs_20	11 08 59.1			
	comp=Z,891nm,18.0s								
F42A	**Maple Grove Fa**	**109.40**	**48**	IAMs_20	IAMs_20	11 10 25.3			
	comp=Z,1µm,18.0s								
D41A	**Chassel**	**109.64**	**46**	IAMs_20	IAMs_20	11 10 00.4			
	comp=Z,1µm,19.0s								
I45A	**Fountain**	**109.98**	**50**	IAMs_20	IAMs_20	11 13 02.6			
	comp=Z,857nm,18.0s								
KMSC	**Kings Mountain**	**110.03**	**60**	IAMs_20	IAMs_20	11 10 32.8			
	comp=Z,857nm,18.0s								
Q51A	**Peebles**	**110.06**	**56**	IAMs_20	IAMs_20	11 09 44.1			
	comp=Z,1µm,18.0s								
N49A	**Columbus Grove**	**110.19**	**54**	IAMs_20	IAMs_20	11 08 59.4			
	comp=Z,916nm,19.0s								
L48A	**N Adams**	**110.40**	**53**	IAMs_20	IAMs_20	11 09 30.0			
	comp=Z,626nm,18.0s								
P51A	**Williamsport**	**110.43**	**56**	IAMs_20	IAMs_20	11 08 05.1			
	comp=Z,1µm,19.0s								
J47A	**Sunmer**	**110.62**	**51**	IAMs_20	IAMs_20	11 15 51.8			
	comp=Z,797nm,18.0s								
G45A	**Suttons Bay**	**110.74**	**49**	IAMs_20	IAMs_20	11 13 13.7			
	comp=Z,820nm,18.0s								
W57A	**Gilead**	**111.05**	**61**	IAMs_20	IAMs_20	11 11 58.8			
	comp=Z,642nm,18.0s								
S54A	**Dingess, Beckl**	**111.07**	**58**	IAMs_20	IAMs_20	11 11 18.0			
	comp=Z,539nm,18.0s								
AAM	**Ann Arbor**	**111.07**	**53**	IAMs_20	IAMs_20	11 12 40.7			
	comp=Z,744nm,18.0s								
P52A	**Corning**	**111.16**	**56**	IAMs_20	IAMs_20	11 08 37.2			
	comp=Z,1µm,19.0s								
M50A	**Fremont**	**111.17**	**54**	IAMs_20	IAMs_20	11 12 44.3			
	comp=Z,928nm,18.0s								
GLMI	**Grayling**	**111.35**	**50**	IAMs_20	IAMs_20	11 10 07.8			
	comp=Z,671nm,18.0s								
Y59A	**Loris**	**111.47**	**62**	IAMs_20	IAMs_20	11 11 22.8			
	comp=Z,566nm,19.0s								
K50A	**Casco**	**111.95**	**52**	IAMs_20	IAMs_20	11 13 18.1			
	comp=Z,736nm,18.0s								
Y60A	**Bolivia**	**111.98**	**63**	IAMs_20	IAMs_20	11 11 58.3			
	comp=Z,629nm,18.0s								
R55A	**Marlinton**	**112.12**	**58**	IAMs_20	IAMs_20	11 12 28.8			
	comp=Z,656nm,18.0s								
I49A	**Point Hope**	**112.23**	**51**	IAMs_20	IAMs_20	11 09 29.3			
	comp=Z,708nm,20.0s								
CNNC	**Cliffs of the**	**112.68**	**61**	IAMs_20	IAMs_20	11 13 01.9			
	comp=Z,860nm,18.0s								
S57A	**Dark Hollow, R**	**112.79**	**59**	IAMs_20	IAMs_20	11 11 08.7			
	comp=Z,843nm,18.0s								
MCWV	**Mont Chateau**	**112.81**	**56**	IAMs_20	IAMs_20	11 11 48.0			
	comp=Z,672nm,18.0s								
V60A	**Jim Taylor Roa**	**113.35**	**61**	IAMs_20	IAMs_20	11 12 52.6			
	comp=Z,1µm,18.0s								
S58A	**Pond Farm, P**	**113.41**	**59**	IAMs_20	IAMs_20	11 12 04.0			
	comp=Z,941nm,18.0s								
ERPA	**Erie**	**113.56**	**54**	IAMs_20	IAMs_20	11 10 45.6			
	comp=Z,1µm,18.0s								
R58B	**Mineral**	**113.66**	**59**	IAMs_20	IAMs_20	11 12 02.6			
	comp=Z,884nm,18.0s								
P57A	**Homestead Farm**	**114.08**	**57**	IAMs_20	IAMs_20	11 12 28.7			
	comp=Z,1µm,18.0s								
CBN	**Corbin Frederi**	**114.12**	**59**	IAMs_20	IAMs_20	11 11 41.7			
	comp=Z,756nm,18.0s								
V62A	**Hyde County Ai**	**114.27**	**62**	IAMs_20	IAMs_20	11 13 52.1			
	comp=Z,921nm,18.0s								
MEDO	**Medina**	**114.97**	**53**	IAMs_20	IAMs_20	11 14 19.9			
	comp=Z,536nm,18.0s								
SADO	**Sadowa**	**115.00**	**51**	IAMs_20	IAMs_20	11 15 59.6			
	comp=Z,578nm,18.0s								
J55A	**Hilton**	**115.44**	**53**	IAMs_20	IAMs_20	11 15 15.4			
	comp=Z,670nm,18.0s								
Q60A	**Greensboro**	**115.51**	**58**	IAMs_20	IAMs_20	11 17 19.6			
	comp=Z,602nm,18.0s								
R61A	**Willards**	**115.67**	**59**	IAMs_20	IAMs_20	11 13 23.8			
	comp=Z,828nm,18.0s								
P60A	**Greenville**	**115.92**	**57**	IAMs_20	IAMs_20	11 14 01.4			
	comp=Z,795nm,18.0s								
DELO	**Deloro Mine**	**115.96**	**52**	IAMs_20	IAMs_20	11 12 05.0			
	comp=Z,870nm,19.0s								
PSUB	**Penn St. - Bra**	**116.09**	**57**	IAMs_20	IAMs_20	11 12 58.0			
	comp=Z,779nm,18.0s								
J56A	**Wolcott**	**116.11**	**53**	IAMs_20	IAMs_20	11 13 00.2			
	comp=Z,931nm,18.0s								
DGZ	**Jazzator, Alta**	**116.26**	**314**	*i* PKIKP	**PKPdf**	**10 26 15.1**	**-1.0**		
RES	**Resolute Bay**	**116.32**	**17**	IAMs_20	IAMs_20	11 19 14.7			
	comp=Z,592nm,19.0s								
PLVO	**Plevna**	**116.48**	**51**	IAMs_20	IAMs_20	11 13 32.8			
	comp=Z,505nm,18.0s								
P61A	**Hammonton**	**116.50**	**58**	IAMs_20	IAMs_20	11 14 27.7			
	comp=Z,565nm,18.0s								
J57A	**Williamstown**	**116.75**	**53**	IAMs_20	IAMs_20	11 13 28.1			
	comp=Z,834nm,18.0s								
VLDQ	**Val d'Or**	**117.08**	**48**	IAMs_20	IAMs_20	11 18 36.8			
	comp=Z,793nm,18.0s								
J58A	**Remsen**	**117.23**	**54**	IAMs_20	IAMs_20	11 13 50.9			
	comp=Z,1µm,18.0s								
ZSN	**Zaisan**	**117.30**	**311**	*e*PKIKP	**PKiKP**	**10 26 18.8**	**+0.8**		
ZSN				pmax	pmax				
	comp=Z,2.0nm,1.0s								
LONY	**Lake Ozonia**	**118.07**	**52**	IAMs_20	IAMs_20	11 16 20.9			
	comp=Z,649nm,18.0s								
NCB	**Newcomb**	**118.14**	**53**	IAMs_20	IAMs_20	11 14 11.0			
	comp=Z,753nm,18.0s								
FRNY	**Flat Rock**	**118.81**	**52**	IAMs_20	IAMs_20	11 17 34.5			
	comp=Z,858nm,18.0s								
MKAR	**Makanchi Array**	**118.83**	**310**	*c i*PKIKP	**PKPdf**	**10 26 21.0**	**0.0**		
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
MKAR	**Makanchi Array**	**118.83**	**310**		**PKPdf**	**10 26 20.7**	**-0.3**		
ZALV	**Zalesovo Beam**	**118.87**	**318**		**PKPdf**	**10 26 20.4**	**-0.4**		
MAKZ	**Makanchi**	**119.04**	**310**	PKIKP	**PKPdf**	**10 26 21.2**	**-0.2**		
MAKZ	**Makanchi**	**119.04**	**310**	PKPdf	**PKPdf**	**10 26 21.2**	**-0.2**		
VT1	**Waterbury**	**119.26**	**53**	IAMs_20	IAMs_20	11 14 43.4			
	comp=Z,980nm,18.0s								
LBNH	**Lisbon**	**119.81**	**53**	IAMs_20	IAMs_20	11 15 03.1			
	comp=Z,870nm,18.0s								
SHLS	**Shalkode**	**119.88**	**305**	*e*PKIKP	**PKPdf**	**10 26 22.8**	**-0.5**		
SHLS				pmax	pmax				
	comp=Z,6.0nm,1.9s								
I62A	**Tamworth**	**120.14**	**54**	IAMs_20	IAMs_20	11 15 12.8			
	comp=Z,956nm,18.0s								
UZB	**Uzynbulak**	**120.19**	**305**	*de*PKIKP	**PKPdf**	**10 26 24.1**	**+0.2**		
UZB				pmax	pmax				
	comp=Z,20nm,2.4s								
H62A	**Milan**	**120.43**	**53**	IAMs_20	IAMs_20	11 17 20.4			
	comp=Z,850nm,18.0s								
KPKS	**Kokpek**	**120.51**	**305**	*e*PKIKP	**PKPdf**	**10 26 24.7**	**+0.3**		
KPKS				pmax	pmax				
	comp=Z,27nm,2.0s								
SATY	**Saty**	**120.61**	**305**	*e*PKIKP	**PKiKP**	**10 26 25.1**	**+0.3**		
SATY				pmax	pmax				
	comp=Z,3.0nm,1.2s								
SATY	**Saty**	**120.61**	**305**	*e*PKIKP	**PKiKP**	**10 26 25.1**	**+0.3**		
SATY				pmax	pmax				
	comp=Z,3.0nm,1.2s								
G62A	**West of Eustis**	**121.00**	**53**	IAMs_20	IAMs_20	11 22 41.6			
	comp=Z,519nm,18.0s								
WVL	**Waterville**	**121.47**	**54**	IAMs_20	IAMs_20	11 15 54.9			
	comp=Z,830nm,18.0s								
F62A	**Pittston Farm,**	**121.54**	**52**	IAMs_20	IAMs_20	11 14 45.6			
	comp=Z,879nm,19.0s								
MDOK	**Medeo**	**121.60**	**305**	*e*PKIKP	**PKiKP**	**10 26 27.0**	**+0.2**		
PKME	**Peaks-Kenny Pk**	**121.87**	**53**	IAMs_20	IAMs_20	11 19 34.5			
	comp=Z,865nm,18.0s								
E62A	**Clayton Lake**	**121.98**	**51**	IAMs_20	IAMs_20	11 15 27.4			
	comp=Z,808nm,19.0s								
KURK	**Kurchatov**	**122.01**	**314**	*c i*PKIKP	**PKPdf**	**10 26 27.1**	**+0.2**		
KURK				pmax	pmax				
	comp=Z,16nm,1.3s								
KURK	**Kurchatov**	**122.01**	**314**	PKPdf	**PKPdf**	**10 26 26.9**	**0.0**		
F63A	**Nahmakanta, Br**	**122.09**

VORR				pmax	pmax				
	comp=Z,500nm,2.0s								
AKH	Akhalkalaki	146.23	301		PKP2	PKPab	10 27 14.9	+0.7	
AKH	Akhalkalaki	146.23	301		PKPbc	PKPab	10 27 14.9	+0.7	
KBZ	Khabaz	146.30	305	*c*	*i* PKP2	PKPab	10 27 14.5	+0.4	
VSR	Storozhevoye	146.37	319		*e*PKP2	PKPbc	10 27 13.7	+0.4	
VSR					pmax	pmax			
	comp=Z,70nm,0.8s								
KIV	Kislovodsk	146.41	305		*i* PKP2	PKPbc	10 27 14.3	+0.5	
KIV					pmax	pmax			
	comp=Z,55nm,1.0s								
TBLU	Trondheim	146.46	355		*e*PKPdf	PKPdf	10 27 10.7	-1.1	
AKN	Aaknes	147.72	357		*e*PKPab	PKPab	10 27 20.5	+1.4	
DOMB	Dombas	147.75	356		*e*PKPab	PKPab	10 27 20.1	+0.8	
NB2	NORSAR Subarra	148.56	353		PKP	PKPbc	10 27 18.9	-0.2	
	comp=Z,222nm,2.5s,baz=10,slow=3.2								
NB2	NORSAR Subarra	148.56	353		PKPab	PKPbc	10 27 18.9	-0.2	
	baz=10,slow=3.2								
NC602	NORSAR Array S	148.82	353			PKPbc	10 27 18.9	-0.8	
NC602	NORSAR Array S	148.82	353		*e*PKPdf	PKPdf	10 27 17.6	+1.8	
SUE	Sulen	148.91	359		*e*PKPab	PKPab	10 27 23.9	+0.1	
SKAR	Skarslia	149.15	356		*e*PKPdf	PKPdf	10 27 17.5	+1.0	
ANN	Anapa	149.84	309		*i* PKP2	PKPbc	10 27 23.2	+0.5	
ANN					pmax	pmax			
	comp=Z,138nm,2.1s								
ODD1	Odda	150.01	357		*e*PKPdf	PKPdf	10 27 18.9	+1.0	
MNK	Minsk	150.06	332	⇑	*e*PKP2	PKiKP	10 27 25.0	+1.2	
MNK					pmax	pmax			
	comp=Z,310nm,2.0s								
KONO	Kongsberg	150.08	354	*c*	*i* PKP2	PKiKP	10 27 23.8	+0.1	
KONO					pmax	pmax			
	comp=Z,74nm,2.5s								
AKBB	Malin Array Si	151.98	325	*c*	*i* PKIKP	PKPbc	10 27 27.9	+0.3	
CSS	Mathiatis	154.81	289		IAMs_20	IAMs_20	11 44 25.4		
	comp=Z,321nm,18.0s								
LIC	Lamto	154.89	158		*e*PKP1	PKiKP	10 27 36.3	+1.2	
	comp=Z,13nm,0.8s								
KIC	Kosan Boka	155.11	159		*e*PKP1	PKPdf	10 27 36.8	+10	
	comp=Z,10.0nm,0.8s								
TIC	Toumodi	155.29	158		*e*PKP1	PKPdf	10 27 37.2	+10	
KWP	Kalwaria Pacla	155.79	329		IAMs_20	IAMs_20	11 48 13.2		
	comp=Z,577nm,18.0s								
TIRR	Tirgusor	155.89	314		IAMs_20	IAMs_20	11 29 58.3		
	comp=Z,691nm,21.0s								
BURAR	Bucovina Array	155.97	323		PKiKP	PKPdf	10 27 27.7	+0.7	
ISP	Isparta	156.69	297		IAMs_20	IAMs_20	11 46 39.9		
	comp=Z,342nm,19.0s								
UZH	Uzhgorod	156.71	328		*e*PKP2	PKPab	10 27 51.2	-5.9	
MLR	Muntele Rosu	156.85	318		IAMs_20	IAMs_20	11 54 45.9		
	comp=Z,339nm,20.0s								
OSTC	Ostas	157.48	339		*e*PKPAB	PKPab	10 28 03.1	+2.7	
UPC	Upice	157.59	340		AMS	AMS	11 48 30.0		
	comp=Z,300nm,18.1s								
DPC	Dobruska-Polom	157.63	339		*e*PKP2	PKPab	10 28 02.5	+1.5	
DPC					MLR	MLR			
	comp=Z,300nm,20.4s								
DPC	Dobruska-Polom	157.63	339		*e*PKPAB	PKPab	10 28 02.5	+1.5	
DPC					AMS	AMS	11 49 00.0		
	comp=Z,300nm,20.4s								
CLL	Collm	157.65	345		*e*PKIKP	PKPdf	10 27 30.0	+1.1	
CLL					pmax	pmax			
	comp=Z,54nm,2.1s								
CLL	Collm	157.65	345		IAMs_20	IAMs_20	11 30 02.6		
	comp=Z,342nm,20.0s								
MORC	Moravsky Berou	157.72	336		IAMs_20	IAMs_20	11 54 59.4		
	comp=Z,370nm,18.0s								
PSZ	Piszkesteto	158.31	330		IAMs_20	IAMs_20	11 42 56.7		
	comp=Z,366nm,20.0s								
GOPC	GO Pecny, Ondr	158.47	341		AMS	AMS	11 51 40.0		
	comp=Z,400nm,17.7s								
PRU	Pruhonice	158.48	341		AMS	AMS	11 47 10.0		
	comp=Z,300nm,17.0s								
NKC	Novy Kostel	158.78	345		AMS	AMS	11 51 40.0		
	comp=Z,600nm,18.3s								
KHC	Kasperske Hory	159.52	342		*e*PKIKP	PKPdf	10 27 32.0	+0.8	
KHC					*e*		10 28 09.8		
KHC					MLR	MLR			
	comp=Z,500nm,16.4s								
KHC	Kasperske Hory	159.52	342		*e*PKPDF	PKPdf	10 27 32.0	+0.8	
KHC					*e*PKPAB	PKPab	10 28 09.8	+0.5	
KHC					AMS	AMS	11 50 50.0		
	comp=Z,500nm,16.4s								
GRA1	Grafenberg Arr	159.56	346		IAMs_20	IAMs_20	11 51 11.0		
	comp=Z,472nm,18.0s								
GEC2	GERESS Array S	159.75	341		IAMs_20	IAMs_20	11 51 42.1		
	comp=Z,436nm,18.0s								
CONA	Conrad Observa	159.88	336		*i* PKPab	PKPab	10 28 11.9	+1.0	
	comp=Z,17nm,1.4s								
VTS	Vitosha	160.07	315		PKP2	PKPab	10 28 14.0	+1.9	
VTS	Vitosha	160.07	315		PKPab	PKPab	10 28 14.0	+1.9	
MOA	Molln	160.47	339		*i* PKPab	PKPab	10 28 14.7	+1.2	
	comp=Z,20nm,1.9s								
ARSA	Arzberg	160.58	336		*i* PKPab	PKPab	10 28 14.3	+0.4	
	comp=Z,4.3nm,0.9s								
SOKA	Soboth	161.24	336		*i* PKPab	PKPab	10 28 17.3	+0.4	
	comp=Z,16nm,1.5s								
KBA	Koelnbreinsper	161.44	340		*i* PKPab	PKPab	10 28 18.5	+0.7	
	comp=Z,17nm,1.8s								
WATA	Walderalm	161.70	343		*i* PKPab	PKPab	10 28 18.6	-0.3	
	comp=Z,25nm,2.1s								
RETA	Reutte	161.75	345		*i* PKPab	PKPab	10 28 20.1	+1.1	
	comp=Z,4.9nm,1.1s								
WTTA	Wattenberg	161.75	343		*i* PKPab	PKPab	10 28 19.9	+0.7	
	comp=Z,18nm,1.6s								
MYKA	Terra Mystica	161.75	338		*i* PKPab	PKPab	10 28 19.1	0.0	
	comp=Z,6.9nm,1.0s								
MOTA	Moosalm	161.80	344		*i* PKPab	PKPab	10 28 19.1	-0.2	
	comp=Z,13nm,1.4s								
SQTA	Sankt Quirin	161.89	344		*i* PKPdf	PKPdf	10 27 34.8	+0.8	
	comp=Z,2.4nm,0.7s								
ABTA	Abfaltersbach	161.99	341		*i* PKPab	PKPab	10 28 20.8	+0.6	
	comp=Z,7.1nm,1.3s								
DAVA	Damuels	162.12	347		*i* PKPab	PKPab	10 28 20.4	-0.4	
	comp=Z,3.7nm,0.7s								
FETA	Feichten	162.19	345		*i* PKPdf	PKPdf	10 27 34.7	+0.4	
	comp=Z,7.1nm,1.4s								

*NIC **11** 10:39:23.8±0.0,36.°60N×30.°56E,h2km±2km,Ml3.7/2*
*GII **11** 10:39:25.9±0.0,36.°75N×30.°58E,h2km*
*DDA **11** 10:39:25.9,36.°76N×30.°52E,h24km±2km,MW3.8*
*ISK **11** 10:39:25.4,36.°71N×30.°55E,h5km,ML3.6/50*
*IDC **11** 10:39:25.1±0.8,36.°77N×30.°60E,h0km,mb3.8/12,*
mb1 3.9/18,mb1mx3.8/48,mbtmp3.8/18,ML3.7/6,MS2.8/2,
Ms1 2.8/2,ms1mx2.6/38,Error ellipse: s-maj=15.1km
s-min=14.6km az=162.0
*THE **11** 10:39:26.4,36.°63N×31.°00E,h26km±36km,ML4.0/1,Error*
ellipse: s-maj=37.3km s-min=2.8km az=96.0

ISC 11 10:39:26.6±0.9,36.72N±0.02×30.57E±0.02,h9km±6km,
n146,σ1§39/172,mb3.8/12,10C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KEMT	Kemer-ANTALYA	0.12	187			PG	Pg	10 39 29.0	-0.4
ANTB	Antalya	0.19	20			PG	Pg	10 39 30.3	-0.2
KORT	Korkueli	0.33	327			PG	Pg	10 39 32.5	-0.7
KORT	Korkueli	0.33	327	*i*	P	Pg	Pg	10 39 32.3	-0.9
KORT					S	Sg	Sg	10 39 37.6	0.0
KORT					IAML			10 39 40.0	
	comp=E,15μm,0.3s								
KORT					IAML			10 39 44.0	
	comp=N,11μm,0.5s								
AKUM	Antalya-Kumluc	0.44	205	*i*	P	Pg	Pg	10 39 35.0	-0.2
AKUM					S	Sb	Sb	10 39 43.9	+0.7
AKUM					IAML			10 39 45.0	
	comp=E,8μm,0.3s								
AKUM					IAML			10 39 45.0	
	comp=N,6μm,0.4s								
ELL	Elmali	0.54	273		PG	Pg	Pg	10 39 35.2	-1.9
ELL	Elmali	0.54	273		P	Pg	Pg	10 39 35.1	-1.9
ELL					S	Sg	Sg	10 39 44.0	-0.1
DEMR	Demre-Antalya	0.72	228		PG	Pg	Pg	10 39 39.3	-1.3
BCK	Bucak	0.74	1		PG	Pg	Pg	10 39 39.7	-1.1
KEPZ	Antalya-Kepez	0.84	78	*i*	P	Pg	Pg	10 39 42.4	-0.5
KEPZ					S	Sn	Sn	10 39 56.4	-0.9
KEPZ					IAML			10 40 01.0	
	comp=E,580nm,0.6s								
AKAS	Kas	0.92	238		PG	Pg	Pg	10 39 42.7	-1.7
AKAS	Kas	0.92	238	*i*	P	Pg	Pg	10 39 42.2	-2.1
AKAS					S	Sg	Sg	10 39 56.8	+0.4
AKAS					IAML			10 40 05.0	
	comp=N,1μm,0.3s								
AKAS					IAML			10 40 05.0	
	comp=E,2μm,0.6s								
GOLH	Golhisar	0.96	303	*i*	P	Pg		10 39 44.1	-1.0
GOLH					S	Sn		10 40 01.5	+1.3
GOLH					IAML			10 40 11.0	
	comp=N,1μm,0.7s								
BRDR	BURDUR-Merkez	1.05	337	*i*	P	Pg		10 39 45.8	-1.1
BRDR					S	Sn		10 40 01.6	-1.0
BRDR					IAML			10 40 07.0	
	comp=E,1μm,0.5s								
BRDR					IAML			10 40 07.0	
	comp=N,1μm,0.5s								
FETY	Fethiye	1.20	266		PN	Pg		10 39 48.1	-1.6
FETY	Fethiye	1.20	266	*i*	P	Pg		10 39 48.0	-1.6
FETY					S	Sn		10 40 06.6	+0.5
FETY					IAML			10 40 11.0	
	comp=E,489nm,0.5s								
FETY					IAML			10 40 11.0	
	comp=N,412nm,0.4s								
SEYD	Seydisehir-KON	1.22	56		PN	Pn		10 39 49.7	-0.3
BASM	Basmaki-Afyon	1.27	341		PN	Pn		10 39 50.4	-0.2
BAGO	Egridir - ISPA	1.28	8	*i*	P	Pg		10 39 49.3	-1.9
BAGO					S	Sn		10 40 11.7	+3.7
BAGO					IAML			10 40 15.0	
	comp=E,343nm,0.4s								
GAZI	Gazipasa	1.49	109		PN	Pn		10 39 53.6	+0.1
GAZI	Gazipasa	1.49	109	*i*	P	Pn		10 39 50.8	-2.8
GAZI					S	Sg		10 40 18.8	+4.4
GAZI					IAML			10 40 27.0	
	comp=N,247nm,0.4s								
GAZI					IAML			10 40 30.0	
	comp=E,344nm,0.6s								
TAVA	DENIZLI_Tavas	1.52	300	*i*	P	Pn		10 39 54.0	-0.1
TAVA					S	Sg		10 40 15.0	-0.6
TAVA					IAML			10 40 17.0	
	comp=N,344nm,0.8s								
TAVA					IAML			10 40 20.0	
	comp=E,327nm,0.5s								
DALY	Dalyan (Mula)	1.54	274		PN	Pn		10 39 54.1	-0.2
DALY	Dalyan (Mula)	1.54	274	*i*	P	Pb		10 39 54.8	-0.6
DALY					S	Sg		10 40 17.6	+1.3
DALY					IAML			10 40 20.0	
	comp=N,614nm,0.4s								
DALY					IAML			10 40 27.0	
	comp=E,699nm,0.8s								
KZIL	AFYON_Kizioren	1.57	347	*i*	P	Pb		10 39 54.8	-1.1
KZIL					S	Sg		10 40 20.5	+3.3
KZIL					IAML			10 40 26.0	
	comp=E,624nm,0.6s								
KZIL					IAML			10 40 27.0	
	comp=N,364nm,0.9s								
DOGA	KONYA_Doganhis	1.63	32	*i*	P	Pn		10 39 55.2	-0.5
DOGA					S	Sg		10 40 21.5	+2.4
DOGA					IAML			10 40 25.0	
	comp=N,438nm,0.5s								
DOGA					IAML			10 40 25.0	
	comp=E,411nm,0.5s								
KMER	Konya-Meram	1.77	53	*i*	P	Pn		10 39 57.5	-0.1
SHUT	Suhut-Afyon	1.83	359		PN	Pn		10 39 58.6	+0.3
TURN	Turunc	1.87	272		PN	Pg		10 39 58.9	+1.8
TURN	Turunc	1.87	272	*i*	P	Pg		10 40 00.3	+3.2
TURN					S	Sg		10 40 23.3	+5.6
TURN					IAML			10 40 28.0	
	comp=N,324nm,0.5s								
TURN					IAML			10 40 33.0	
	comp=E,185nm,0.4s								
KONT	Konya--Tatoy	1.88	49		PN	Pb		10 39 59.4	-1.7
KONT	Konya--Tatoy	1.88	49	*i*	P	Pn		10 39 59.0	+0.1
YER	Yerkesik	1.88	283		P	Pb		10 40 00.8	-0.4
YER					S	Sg		10 40 27.3	+0.2
YER	Yerkesik	1.88	283		PN	Pn		10 39 58.9	-0.1
BOLV	Bolvadin	2.01	8	*i*	P	Pn		10 40 00.8	-0.1
BOLV					S	Sg		10 40 30.2	-1.2
ARG	Arkhangelos	2.04	256		P	Pn		10 40 01.8	+0.7
ARG	Arkhangelos	2.04	256		PN	Pn		10 40 01.1	0.0
LADK	Ladik-KONYA	2.05	43		PN	Pn		10 40 01.3	-0.1
TEKE	Tekeli-Mersin	2.13	105		PN	Pn		10 40 02.9	+0.5
KDHN	Kadinhani	2.17	34	*i*	P	Pn		10 40 02.3	-0.8
AKMS	Akamas	2.22	139		P	Pn		10 40 00.4	-3.3
AKMS					AML	AML		10 40 44.1	
	comp=E,1.8nm,0.4s								
AKMS					AML	AML		10 40 47.5	
	comp=E,1.4nm,0.8s								
ALFC	Alefka	2.27	133		P	Pn		10 40 00.4	-4.0
ALFC					AML	AML		10 40 42.5	
	comp=E,1.4nm,0.4s								
ALFC					AML	AML		10 40 42.7	
	comp=E,1.1nm,0.4s								
TEVE	Tevekalti-Mers	2.33	96		PN	Pn		10 40 05.7	+0.5
KULA	Kula-Manisa	2.35	320		P	Pn		10 40 05.5	+0.1
KULA	Kula-Manisa	2.35	320		PN	Pn		10 40 05.7	+0.3
YORU	Yoruktepe-Mers	2.35	103		PN	Pn		10 40 06.1	+0.6
KIZT	Kizilcal	2.39	25		PN	Pn		10 40 06.6	+0.5
AKDN	Akdeniz- Kıbrı	2.41	126		PN	Pn		10 40 06.8	+0.6
DAT	Datca	2.41	271		P	Pn		10 40 07.9	+1.6
DAT					S	Sb		10 40 38.9	-1.1
DAT	Datca	2.41	271		PN	Pn		10 40 06.6	+0.3
DAT	Datca	2.41	271	*i*	P	Pn		10 40 07.4	+1.1
DAT					S	Sb		10 40 39.4	-0.6
DAT					IAML			10 40 42.0	
	comp=N,134nm,0.4s								
DAT					IAML			10 40 48.0	
	comp=E,127nm,0.6s								
TEPK	Tepekoy-MERSIN	2.45	101		PN	Pn		10 40 07.4	+0.6
AKKU	Akkuyu-Mersin	2.47	102		PN	Pn		10 40 07.9	+0.9
AKK2	Akkuyu-Mersin	2.47	103		PN	Pn		10 40 07.7	+0.7
LEF	Lefka	2.47	130	⇑	P	Pn		10 40 06.5	-0.5
LEF	Lefka	2.47	130		PN	Pn		10 40 07.6	+0.6
GEDZ	Gediz	2.49	339		PN	Pn		10 40 07.9	+0.4
YESI	Yesilovacik-Me	2.53	101		PN	Pn		10 40 08.6	+0.8
IKL	Isikli	2.55	100		PN	Pn		10 40 09.0	+0.8
TISA	Tisan-Mersin	2.56	102		PN	Pn		10 40 09.2	+0.8
KARG	Kargicak-Mersi	2.58	101		PN	Pn		10 40 09.4	+0.5
CHBY	Cihanbeyli	2.61	44		PN	Pn		10 40 09.6	+0.5
BODT	Bodrum	2.64	278		P	Pn		10 40 11.0	+1.6
BODT					S	Sb		10 40 44.5	-2.1
BODT	Bodrum	2.64	278		PN	Pn		10 40 09.7	+0.3
CIFT	Cifteler, Eski	2.66	8		PN	Pn		10 40 10.5	+0.7
SILI	Silifke-Mersin	2.72	97		PN	Pn		10 40 11.4	+0.9
SLFK	Silifke-Mersin	2.73	96		PN	Pn		10 40 11.6	+0.9
SULT	Sultanhani-AKS	2.77	57		PN	Pn		10 40 11.6	+0.4
LFK	Lefkose	2.80	120		PN	Pn		10 40 12.3	+0.7
GCAM	G?zelcaml?	2.84	291		PN	Pn		10 40 12.6	+0.5
CSS	Mathiatis	2.85	127		PN	Pn		10 40 12.9	+0.6
CSS	Mathiatis	2.85	127		Pn	Pn		10 40 12.1	-0.2
CSS	Mathiatis	2.85	127		P	Pn		10 40 09.2	-3.1
TVSB	Tavsanli	2.86	342		PN	Pn		10 40 13.1	+0.6
KIZK	Mersin	2.88	94		PN	Pn		10 40 13.6	+0.9
KERG	Konya-Eregli	2.92	75	*i*	P	Pn		10 40 11.6	-1.8
KARP	Karpathos	3.00	248		P	Pn		10 40 15.1	+0.7
KARP	Karpathos	3.00	248		PN	Pn		10 40 15.2	+0.8
MVOU	Mavrovouni	3.01	124		P	Pn		10 40 11.9	-2.6
KKUL	Konya-Kulu	3.07	36	*i*	P	Pn		10 40 14.9	-0.5
SMG	Samos	3.14	289		P	Pn		10 40 17.0	+0.7
EREN	Erenkoy	3.15	111		PN	Pn		10 40 17.4	+1.1
MERS	Mersin	3.17	86		PN	Pn		10 40 17.8	+1.0
AKSY	AKSARAY - Alti	3.18	52	*i*	P	Pn		10 40 15.5	-1.4
AUBOZ	BOZOYUK	3.21	353		PN	Pn		10 40 18.1	+0.8
AUMIH	MIHALICIK	3.22	13		PN	Pn		10 40 18.8	+1.3
SERE	Sereflikochisa	3.25	46		PN	Pn		10 40 18.5	+0.7
BLCB	Balcova	3.26	302		PN	Pn		10 40 18.7	+0.8
SRCK	Saricakaya, Es	3.31	1		PN	Pn		10 40 20.0	+1.3
CAVI	Cavuskoy	3.52	351		PN	Pn		10 40 22.7	+1.2
URLA	Izmir	3.56	299		PN	Pn		10 40 23.1	+1.0
BALB	Balikesir	3.60	325		PN	Pn		10 40 23.9	+1.3
KARA	Karaisali	3.63	80		PN	Pn		10 40 24.2	+1.2
CMRD	Camardi-Nigde	3.65	74		PN	Pn		10 40 24.9	+1.5
GULT	Gulveren	3.70	359		PN	Pn		10 40 25.5	+1.4
ADVT	Abdulvahap	3.76	350		PN	Pn		10 40 26.4	+1.6
YUVA	Yuva-Kibriscik	3.77	13		PN	Pn		10 40 26.6	+1.6
MDUB	Mudurnu	3.77	7		PN	Pn		10 40 26.4	+1.3
BRTR	Keskin Array B	3.85	38		Pn	Pn		10 40 25.0	-1.1
	comp=E,1.5nm,0.3s,baz=356,slow=10,SNR=23								
BRTR						Sn	Sn	10 41 09.9	-1.6
	comp=E,2.4nm,0.3s,baz=205,slow=24,SNR=2.4								
BRTR						LR	LR	10 42 10.3	
	comp=E,101nm,20.5s,baz=170,slow=44								
KRTS	Karatas	3.86	91		PN	Pn		10 40 27.1	+0.9
ZKR	Zakros	3.88	247		P	Pn		10 40 26.3	-0.2
ZKR					S	Sn		10 41 14.3	+2.1
	comp=E,340nm,0.7s								
KCTX	Karacabey (Bur	3.94	334		PN	Pn		10 40 28.9	+1.6
CHOS	Chios island	3.96	296		PN	Pn		10 40 28.5	+0.9
TRML	Termal-Yalova	4.03	345		PN	Pn		10 40 29.9	+1.4
APE	Apeiranthos	4.06	276	⇑	P	Pn		10 40 30.1	+1.1
APE				⇑	S	Sn		10 41 18.4	+1.8
YURE	YUREGIR	4.06	87		PN	Pn		10 40 30.5	+1.5
TSVK	Tesvikiye-Yalo	4.07	344		PN	Pn		10 40 30.6	+1.6
SANT	Santorini	4.13	267	⇓	P	Pn		10 40 30.7	+0.7
LAST	Lasithi	4.42	251		P	Pn		10 40 34.3	+0.4
IDI	Anoyia	4.83	254		Pn	Pn		10 40 39.2	-0.3
	comp=E,4.4nm,0.3s,baz=359,slow=9.2,SNR=28								
IDI					Sn	Sn		10 41 32.6	-2.9
	comp=E,3.8nm,0.3s,baz=348,slow=20,SNR=2.9								
IDI	Anoyia	4.83	254		P	Pn		10 40 39.4	-0.1
IDI	Anoyia	4.83	254	⇑	P	Pn		10 40 39.7	+0.2
MMAI	Mount Meron Ar	5.42	132		Pn	Pn		10 40 46.8	-1.0
	comp=E,3.9nm,0.3s,baz=318,slow=12,SNR=7.5								
MMAI					Sn	Sn		10 41 49.0	-1.4
	comp=E,0.8nm,0.3s,baz=314,slow=17,SNR=1.3								
GEM	Giv'at Ha'Em	5.45	129		Pn	Pn		10 40 48.3	+0.2
NATI	Neve Ativ	5.47	128		Pn	Pn		10 40 48.6	+0.4
IMMV	Iera Moni Meta	5.49	259		P	Pn		10 40 50.7	+2.2
QRNJ	Al-Qirein	6.02	135		Pn	Pn		10 40 56.0	+0.2
HMDT	Nahal Hemdat	6.05	136		Pn	Pn		10 40 56.6	+0.3
HMDT					Sn	Sn		10 42 08.8	+3.2
DSI	Dead Sea	6.50	141		Pn	Pn		10 41 02.3	-0.2
ASF	Jabal al Asfar	6.92	129		Pn	Pn		10 41 09.5	+1.2
	comp=E,0.3nm,0.3s,baz=348,slow=19,SNR=2.3								
ASF					Sn	Sn		10 42 29.9	+2.7
	comp=E,0.3nm,0.3s,baz=325,slow=12,SNR=1.3								
ELND	Elena	7.17	331	⇑	P	Pn		10 41 12.6	+0.9
PRNI	Paran	7.35	149		Pn	Pn		10 41 13.9	-0.3
TIRR	Tirgusor	7.90	349	⇑	P	Pn		10 41 22.2	+0.6
EIL	Elat	7.93	151		Pn	Pn		10 41 21.7	-0.4
	comp=E,1.1nm,0.3s,baz=19,slow=6.5,SNR=8.3								
EIL	Elat	7.93	151		Pn	Pn		10 41 21.2	-0.9
ZIMR		7.99	332	⇑	P	Pn		10 41 29.2	+6.3
TOPG	Topolog	8.31	349	⇑	P	Pn		10 41 28.2	+0.9
MLR	Muntele Rosu	9.43	340		Pn	Pn		10 41 41.9	-0.8
	comp=E,0.4nm,0.3s,baz=142,slow=17,SNR=2.4								
MLR					LR	LR		10 45 23.2	
	comp=E,78nm,18.2s,baz=282,slow=38								
MLR	Muntele Rosu	9.43	340	⇑	P	Pn		10 41 43.6	+0.9
VRI	Vrincioaia	9.58	344	⇑	P	Pn		10 41 45.0	+0.3
VOIR		9.65	336	⇓	P	Pn		10 41 44.0	-1.7
AKASG	Malin Array Be	14.01	356		Pn	P		10 42 53.4	+0.2
	comp=E,1.0nm,0.3s,baz=167,slow=10.0,SNR=5.0								
GERES	GERESS Array B	17.28	320		P	P		10 43 32.5	+2.9
	comp=E,0.0nm,0.3s,baz=126,slow=12,SNR=2.2								
AKTO	Aktyubinsk	23.98	46		P	P		10 44 41.2	-0.1
	comp=E,0.6nm,0.3s,baz=249,slow=12,SNR=1.8								
FINES	FINESS Array B	24.91	355		P	P		10 44 49.4	-0.2
	comp=E,1.3nm,0.6s,baz=157,slow=12,SNR=6.7								
ESDC	Sonseca Array	27.20	287		P	P		10 45 10.1	-0.6
	comp=E,0.8nm,0.9s,baz=87,slow=8.2,SNR=2.4								
NB2	NORSAR Subarra	27.25	339		P	P		10 45 12.9	+2.0
	comp=Z,0.6nm,0.6s,baz=145,slow=10								
NOA	NORSAR Array B	27.25	339		P	P		10 45 11.6	+0.7
	comp=Z,0.5nm,0.7s,baz=145,slow=9.5,SNR=4.0								
WSAR	Wadi Sarin	27.65	111		P	P		10 45 14.3	-0.5
	comp=Z,3.9nm,0.9s,baz=59,slow=6.3,SNR=4.0								
ARCES	ARCESS Array B	32.99	357		P	P		10 46 01.4	-0.1
	comp=Z,1.4nm,0.6s,baz=163,slow=8.9,SNR=11								
TORD	Torodi Ar. Bea	34.93	235		P	P		10 46 19.0	+0.1
	comp=Z,

comp=E,160nm,1.2s
CD2 LR LR
comp=N,5µm,4.8s
CD2 LR LR
comp=E,5µm,8.8s
CD2 LR LR
comp=Z,4µm,5.9s
XAN Xi'an 8.30 93 P **Pn** 10 52 05.0 -0.6
XAN S **Sn** 10 53 39.6 +0.2
XAN pmax pmax
comp=Z,33nm,1.1s
XAN pmax pmax
comp=Z,110nm,3.5s
XAN LR LR
comp=Z,1µm,8.3s
XAN LR LR
comp=Z,920nm,4.4s
XAN LR LR
comp=Z,1µm,19.2s
XAN Xi'an 8.30 93 P **Pn** 10 52 04.7 -0.9
XAN Xi'an 8.30 93 Pn **Pn** 10 52 04.7 -0.9
LSA Lhasa 8.34 234 P **Pn** 10 52 11.2 +4.7
LSA LR LR
comp=Z,2µm,6.4s
LSA LR LR
comp=Z,4µm,7.8s
LSA Lhasa 8.34 234 P **Pn** 10 52 07.6 +1.1
LSA Lhasa 8.34 234 **Pn** 10 52 07.6 +1.1
ENH Enshi 10.01 114 **Pn** 10 52 29.9 +0.8
KMI Kunming 10.24 160⇓ *e*P Pn 10 52 38.2 +5.9
KMI sP 10 52 47.0
KMI S **Sn** 10 54 30.2 +2.9
KMI sS 10 54 34.6
KMI pmax pmax
comp=Z,41nm,4.5s
KMI LR LR
comp=Z,690nm,6.6s
KMI LR LR
comp=Z,600nm,7.9s
KMI LR LR
comp=Z,490nm,4.7s
BTO Baotou 10.50 54 *e*P **Pn** 10 52 36.0 +0.2
GYA Guiyang 10.69 139 ⇓P **Pn** 10 52 38.5 +0.1
GYA PP **PnPn** 10 52 47.4 +1.3
GYA S **Sn** 10 54 39.7 +1.5
GYA sS 10 54 48.7
GYA pmax pmax
comp=Z,19nm,1.1s
GYA LR LR
comp=Z,440nm,7.3s
GYA LR LR
comp=Z,460nm,5.4s
GYA LR LR
comp=Z,420nm,7.9s
SHL Shillong 11.07 215 P **Pn** 10 52 43.1 -0.5
SHL Shillong 11.07 215 Pn **Pn** 10 52 43.1 -0.5
HHC Hu-ho-hao-te 11.65 55 *e*P **Pn** 10 52 52.3 +0.8
HHC S **Sn** 10 54 55.9 -5.7
HHC pmax pmax
comp=Z,49nm,0.8s
HHC pmax pmax
comp=Z,180nm,3.8s
HHC LR LR
comp=Z,520nm,6.2s
HHC LR LR
comp=Z,430nm,6.6s
TAPN Taplejung 12.16 235 *e*P **Pn** 10 52 59.1 +0.4
comp=Z,35nm,0.7s
WMQ Urumqi 12.47 319 *e*P Pn 10 53 00.9 -1.8
WMQ sP 10 53 08.1
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ pmax pmax
comp=Z,130nm,4.3s
WMQ smax smax
comp=N,32nm,1.3s
WMQ smax smax
comp=E,23nm,1.1s
WMQ LR LR
comp=N,610nm,14.7s
WMQ LR LR
comp=E,490nm,13.9s
WMQ LR LR
comp=Z,310nm,11.9s
ODAN Odare 12.70 234 *e*P **Pn** 10 53 05.7 -0.3
comp=Z,103nm,0.8s
GUN Gumba 13.11 242 *e*P **Pn** 10 53 11.3 -0.3
comp=Z,53nm,0.7s
RAMN Ramite 13.18 237 *e*P **Pn** 10 53 11.4 -1.1
comp=Z,35nm,0.9s
PKI Pulchoki 13.64 242 *e*P Pn 10 53 17.1 -1.8
comp=Z,68nm,1.1s
WHN Wuhan 13.68 104 P Pn 10 53 13.6 -5.6
WHN S **Sn** 10 55 45.6 -5.6
WHN LR LR
comp=N,3µm,11.1s
WHN LR LR
comp=E,2µm,8.1s
WHN LR LR
comp=Z,1µm,13.4s
DMN Daman 13.84 242 *e*P Pn 10 53 19.6 -2.0
GKN Gorkha 13.97 245 *e*P Pn 10 53 20.6 -2.6
comp=Z,100nm,1.1s
SONM Songino Array 14.13 21 Pn **Pn** 10 53 26.0 +0.7
comp=Z,0.3nm,0.3s,baz=206,slow=13,SNR=20
SONM Lg Lg 10 57 33.5
baz=211,slow=28,SNR=3.5
SONM Songino Array 14.13 21 P **Pn** 10 53 25.4 +0.1
SONM Songino Array 14.13 21 **Pn** 10 53 25.4 +0.1
ULN Ulaanbaatar 14.36 23*ce*P **Pn** 10 53 27.5 -1.0
ULN pmax pmax
comp=Z,11nm,1.7s
ULN Ulaanbaatar 14.36 23 Pn **Pn** 10 53 28.4 -0.1
DANN Dangsing 14.44 248 *e*P Pn 10 53 27.9 -2.0
comp=Z,140nm,0.7s
KOLN Koldanda 14.87 246 *e*P Pn 10 53 32.7 -2.9
comp=Z,60nm,0.8s
PYUN Piuthan 15.16 248 *e*P **Pn** 10 53 36.8 -2.7
comp=Z,187nm,1.0s
ZAK Zakamensk 15.85 10 *e*P **Pn** 10 53 48.0 -0.3
ZAK pmax pmax
comp=Z,6.0nm,1.1s
CHTO Chiang Mai 15.97 180 P **Pn** 10 53 51.3 +1.4
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 15.97 180 P **Pn** 10 53 51.3 +1.4
CM31 Chiang Mai Arr 16.32 180 Pn **Pn** 10 53 53.3 -1.1
CMAR Chiang Mai Arr 16.32 180 Pn **Pn** 10 53 53.8 -0.7
comp=Z,0.1nm,0.3s,baz=354,slow=12,SNR=7.9
CMAR Chiang Mai Arr 16.32 180 P **Pn** 10 53 55.9 +1.5
ZSN Zaisan 16.41 324 *e*P **Pn** 10 53 56.3 +0.7
baz=324
ZSN Zaisan 16.41 324 *e*P **Pn** 10 53 56.2 +0.7
NJ2 Nanjing 16.87 94 *e*P **Pn** 10 54 01.0 -0.3
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
MOY Mondy 16.88 4 *e*P **Pn** 10 54 04.6 +3.1
MOY pmax pmax
comp=Z,50nm,1.7s
DGZ Jazzator, Alta 17.07 334 *i*P **Pn** 10 54 05.8 +1.8
DGZ pmax pmax
comp=Z,12nm,0.9s
TLY Talaya 17.17 10 *i*P **Pn** 10 54 05.8 +0.8
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY Talaya 17.17 10 **Pn** 10 54 05.2 +0.3
MK31 Makanchi Array 17.30 319 P **Pn** 10 54 07.4 +0.7
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 17.30 319 P **Pn** 10 54 07.4 +0.7
MKAR Makanchi Array 17.30 319 Pn **Pn** 10 54 03.9 -2.8
comp=Z,0.1nm,0.3s,baz=122,slow=7.2,SNR=4.1
MKAR S Sn 10 57 07.1 -12
comp=Z,0.0nm,0.3s,baz=135,slow=20,SNR=1.9
MKAR Makanchi Array 17.30 319 P **Pn** 10 54 07.3 +0.6
MKAR Makanchi Array 17.30 319 P **Pn** 10 54 07.3 +0.6
MAKZ Makanchi 17.48 318 P **Pn** 10 54 09.9 +1.0
MAKZ pmax pmax
comp=Z,10.0nm,0.9s
MAKZ Makanchi 17.48 318 P **Pn** 10 54 09.9 +1.0
PRZ Przheval'sk 17.72 302 P **Pn** 10 54 11.9 -0.2
PRZ pmax pmax
comp=Z,30nm,1.4s
PRZ Przheval'sk 17.72 302 **Pn** 10 54 11.9 -0.2
KPKS Kokpek 17.87 305 *e*P **Pn** 10 54 14.5 +0.6
comp=Z,7.9nm,1.0s,baz=304
KPKS Kokpek 17.87 305 *e*P **Pn** 10 54 14.4 +0.6
KPKS pmax pmax
comp=Z,8.0nm,1.0s
TARG Taragay, Kyrgy 17.92 299 P **Pn** 10 54 15.7 +0.9
KDJ Kajisay 18.48 300 P **P** 10 54 21.8 +0.5
KDJ pmax pmax
comp=Z,14nm,1.1s
KDJ Kajisay 18.48 300 P **P** 10 54 21.8 +0.5
QIZ Qiongzhong 18.50 146 P **P** 10 54 18.5 -3.0
QIZ S **Sn** 10 57 48.3 -0.1
QIZ pmax pmax
comp=Z,22nm,1.5s
QIZ LR LR
comp=Z,280nm,8.8s
QIZ LR LR
comp=Z,400nm,11.4s
QIZ LR LR
comp=Z,270nm,6.7s
KSH Kashi 18.85 291 *e*P **Pn** 10 54 31.4 +5.5
MDOK Medeo 18.88 303 *e*P **P** 10 54 26.2 +0.5
baz=302
MDOK Medeo 18.88 303 *e*P **P** 10 54 26.2 +0.5
TNSS Tian-Shan 18.91 302 *e*P **P** 10 54 26.7 +0.3
baz=302
TNSS Tian-Shan 18.91 302 *e*P **P** 10 54 26.6 +0.3
AAA Alma-Ata 18.99 303 *e*P **P** 10 54 27.4 +0.6
baz=302
AAA Alma-Ata 18.99 303 *e*P **P** 10 54 27.4 +0.6
CHKK Chushkaly 19.15 305 *e*P **P** 10 54 29.1 +0.5
baz=304
CHKK Chushkaly 19.15 305 *e*P **P** 10 54 29.0 +0.5
KUU Kurty 19.61 304 *e*P **P** 10 54 34.2 +0.6
comp=Z,8.1nm,1.0s,baz=304
KUU Kurty 19.61 304 *e*P **P** 10 54 34.1 +0.6
KUU pmax pmax
comp=Z,8.0nm,1.0s
TKM2 Tokmak 2 19.82 301 P **P** 10 54 37.6 +1.6
SNR=14
KZA Kyzart 19.86 298 P **P** 10 54 38.9 +2.3
SNR=15
UCH Uchtor 20.42 298 P **P** 10 54 45.1 +2.3
SNR=30
AAK Ala-Archa 20.53 300 P **P** 10 54 45.5 +1.7
comp=Z,2.2nm,0.3s,baz=97,slow=6.2,SNR=8.1
AAK Ala-Archa 20.53 300 P **P** 10 54 44.2 +0.5
AAK pmax pmax
comp=Z,18nm,1.3s
AAK Ala-Archa 20.53 300 P **P** 10 54 44.2 +0.5
USP Ospenovka 20.69 301 P **P** 10 54 46.9 +1.6
SNR=8.2
AML Almayashu 21.00 298 P **P** 10 54 50.9 +1.9
SNR=14
EKS2 Erkin-Say 21.05 299 P **P** 10 54 54.6 +5.2
SNR=11
NIL Nilore 21.24 274 P **P** 10 54 50.9 -0.4
NIL pmax pmax
comp=Z,28nm,1.0s
NIL Nilore 21.24 274 P **P** 10 54 50.9 -0.4
NIL IAmb IAmb 10 54 56.9
comp=Z,28nm,0.9s
ZAA0 Zalesovo Array 21.52 337 P **P** 10 54 53.5 -0.5
ZAA0 IAmb IAmb 10 54 57.6
comp=Z,31nm,0.9s
ZALV Zalesovo Beam 21.52 337 P **P** 10 54 53.4 -0.6
comp=Z,28nm,0.9s,baz=135,slow=12,SNR=27
ZALV Zalesovo Beam 21.52 337 P **P** 10 54 53.7 -0.4
BTLS Baital 21.54 306 *e*P **P** 10 54 54.5 +0.1
comp=Z,3.6nm,0.9s,baz=306
BTLS Baital 21.54 306 *e*P **P** 10 54 54.5 +0.1
BTLS pmax pmax
comp=Z,4.0nm,0.9s
KURBB Kurchatov Arra 21.64 323 P **P** 10 54 55.0 -0.4
comp=Z,10.0nm,0.7s,baz=131,slow=9.3,SNR=28
KURBB PcP **PcP** 10 58 55.9 -0.8
comp=Z,0.2nm,0.2s,baz=117,slow=1.6,SNR=4.6
KURK Kurchatov 21.65 323*ce*P **P** 10 54 54.7 -0.8
KURK pmax pmax
comp=Z,10.0nm,0.6s
KURK Kurchatov 21.65 323 P **P** 10 54 54.4 -1.1
KURK Kurchatov 21.65 323 **PcP** 10 58 55.9 -0.8
BTK Batken 22.86 291 P **P** 10 55 09.3 +0.6
BTK pmax pmax
comp=Z,20nm,1.3s
BTK Batken 22.86 291 P **P** 10 55 09.2 +0.6
BTK IAmb IAmb 10 55 12.9
comp=Z,20nm,1.3s
DZA Taraz 22.86 299 *e*P **P** 10 55 09.0 +0.4
baz=299
DZA Taraz 22.86 299 *e*P **P** 10 55 09.0 +0.4
TJN Taejon 23.14 78*ce*P **P** 10 55 10.2 -1.3
GAR Garm 23.20 289 P **P** 10 55 11.9 -0.2
GAR IAmb IAmb 10 55 15.8
comp=Z,58nm,1.1s
KK31 Karatay Array 23.49 299 P **P** 10 55 15.2 +0.2
KK31 pmax pmax
comp=Z,13nm,1.4s
KK31 Karatay Array 23.49 299 P **P** 10 55 15.2 +0.2
KKAR Karatay Array 23.49 299 P **P** 10 55 14.6 -0.4
KKAR pmax pmax
comp=Z,13nm,1.4s
KKAR Karatay Array 23.49 299 P **P** 10 55 14.7 -0.3
KKAR Karatay Array 23.49 299 P **P** 10 55 14.6 -0.4
KKAR IAmb IAmb 10 55 19.6
comp=Z,12nm,1.4s
KSAR Wonju Array Be 23.50 75 P **P** 10 55 13.8 -1.2
KSAR Wonju Array Be 23.50 75 P **P** 10 55 13.8 -1.2
KSRS Korea Array 23.52 75 P **P** 10 55 15.1 -0.3
comp=Z,7.0nm,0.9s,baz=271,slow=8.8,SNR=20
IUG luzhnay 23.68 297 *e*P **P** 10 55 17.2 +0.2
comp=Z,11nm,1.0s,baz=296
IUG luzhnay 23.68 297 *e*P **P** 10 55 17.2 +0.2
IUG pmax pmax
comp=Z,11nm,1.0s
CHGR Chuyangaron 24.10 288 P **P** 10 55 21.2 +0.3
BRZS Berezniki 24.41 316 *e*P **P** 10 55 23.4 -0.3
comp=Z,4.4nm,0.8s,baz=316
BRZS Berezniki 24.41 316 *e*P **P** 10 55 23.3 -0.3
BRZS pmax pmax
comp=Z,4.0nm,0.8s
KBL Kabul 24.53 278 P **P** 10 55 25.3 +0.2
KBL pmax pmax
comp=Z,27nm,1.4s
KBL Kabul 24.53 278 P **P** 10 55 25.3 +0.2
KBL IAmb IAmb 10 55 31.3
comp=Z,27nm,1.4s
JNU Nakatsue 26.50 85 P **P** 10 55 45.6 +2.8
comp=Z,7.7nm,0.9s,baz=0.5,slow=4.6,SNR=3.7
JNU LR LR 11 06 24.0
comp=Z,246nm,18.2s,baz=251,slow=37
JNU Nakatsue 26.50 85 P **P** 10 55 44.9 +2.1
JNU IAmb IAmb 10 55 55.3
comp=Z,25nm,1.3s
USRK Ussuriysk Ar. 27.01 60 P **P** 10 55 49.9 +2.8
comp=Z,1.8nm,0.6s,baz=250,slow=4.3,SNR=2.8
USRK Ussuriysk Ar. 27.01 60 P **P** 10 55 47.4 +0.2
USRK Ussuriysk Ar. 27.01 60 P **P** 10 55 47.4 +0.2
BVAR Borovoye Array 27.15 321 P **P** 10 55 50.0 +1.6
comp=Z,2.4nm,0.8s,baz=108,slow=9.5,SNR=7.5
BVAR PcP **PcP** 10 59 07.8 -0.8
comp=Z,1.1nm,0.5s,baz=100,slow=4.5,SNR=4.3
BRVK Borovoye 27.23 321*ce*P **P** 10 55 48.7 -0.3
BRVK pmax pmax
comp=Z,7.0nm,1.3s
BRVK Borovoye 27.23 321 P **P** 10 55 48.8 -0.3
KLR Kul'dur 28.05 49 P **P** 10 55 55.9 -0.5
comp=Z,4.6nm,0.9s,baz=272,slow=10,SNR=6.1
KLR PcP **PcP** 10 59 11.4 +0.5
comp=Z,0.5nm,0.5s,baz=15,slow=22,SNR=3.8
KLR Kul'dur 28.05 49*ce*P **P** 10 55 55.1 -1.3
KLR pmax pmax
comp=Z,7.0nm,1.1s
MJAR Matsushiro Arr 31.81 75 LR LR 11 09 16.5
comp=Z,109nm,21.7s,baz=275,slow=36
ABKAR Akbulak array 31.94 309 P **P** 10 56 30.1 -0.7
GEYT Alibeck 32.81 288 P **P** 10 56 40.5 +1.9
comp=Z,7.3nm,0.9s,baz=90,slow=5.9,SNR=10
GEYT Alibeck 32.81 288 P **P** 10 56 38.2 -0.5
GYA0B ALIBECK ARRAY 32.81 288 P **P** 10 56 39.5 +0.8
GYA0B IAmb IAmb 10 56 43.1
comp=Z,14nm,1.1s
YAK Yakutsk 33.40 26 *i*P **P** 10 56 42.2 -1.3
YAK pmax pmax
comp=Z,5.0nm,0.8s
SVE Sverdlovsk 33.90 322 *e*P **P** 10 56 49.2 +1.3
SVE pmax pmax
comp=Z,19nm,1.3s
SBUM Sibu 34.53 156 P **P** 10 56 52.9 -0.8
SBUM IAmb IAmb 10 56 56.7
comp=Z,7.3nm,0.8s
ASAJ Asahikawa 34.61 61 LR LR 11 10 29.4
comp=Z,195nm,19.2s,baz=336,slow=36
MYLDM Lahad Datu 34.63 144 P **P** 10 56 54.4 -0.2
MYLDM IAmb IAmb 10 56 58.5
comp=Z,19nm,0.8s
ARU Arti 34.80 321*c i*P **P** 10 56 56.2 +0.5
ARU 10 58 09.6
ARU S **S** 11 02 27.7 +1.6
ARU SS **SnSn** 11 04 41.5 +2.0
ARU pmax pmax
comp=Z,17nm,1.1s
ARU Arti 34.80 321 P **P** 10 56 55.6 -0.2
ARU IAmb IAmb 10 56 57.2
comp=Z,12nm,0.9s
NRIK Noril'sk 35.12 353 P **P** 10 56 58.3 0.0
comp=Z,16nm,0.8s,baz=145,slow=5.6,SNR=12
NRIK Noril'sk 35.12 353⇓ *e*P **P** 10 56 57.9 -0.4
NRIK pmax pmax
comp=Z,20nm,1.0s
DAV Davao City (W) 36.96 132 LR LR 11 11 26.1
comp=Z,162nm,18.1s,baz=169,slow=35
TIXI Tiksi 40.07 14 *i*P **P** 10 57 38.6 -1.5
TIXI pmax pmax
comp=Z,7.0nm,1.1s
KIRV Kirov 40.16 322⇑ *e*P **P** 10 57 40.5 -0.5
GTOI Gorontalo 40.79 141 P **P** 10 57 47.5 +0.8
PRGR Permogore 42.73 326 *e*P **P** 10 58 01.6 -0.5
PRGR pmax pmax
comp=Z,19nm,1.0s
AKH Akhalkalaki 43.46 296 P **P** 10 58 09.6 +1.0
AKH pmax pmax
comp=Z,16nm,0.9s
AKH Akhalkalaki 43.46 296 P **P** 10 58 09.6 +1.0
AKH IAmb IAmb 10 58 13.1
comp=Z,16nm,0.9s
KBZ Khabaz 43.53 299 P **P** 10 58 08.7 -0.1
comp=Z,3.2nm,0.7s,baz=36,slow=0.7,SNR=7.0
KBZ Khabaz 43.53 299*ce*P **P** 10 58 09.2 +0.4
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 43.65 300 *e*P P 10 58 07.5 -2.4
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,73nm,16.0s
PETK Petropavlovsk- 44.70 47 P **P** 10 58 16.6 -1.5
comp=Z,4.1nm,0.8s,baz=202,slow=6.4,SNR=7.0
KLMR Klimovskoe 45.50 324 *e*P **P** 10 58 23.3 -1.0
KLMR pmax pmax
comp=Z,30nm,0.9s
KLMR Klimovskoe 45.50 324 *e*P **P** 10 58 23.3 -1.0
KLMR AMP 10 58 27.1
comp=Z,30nm,0.9s
MOS Moscow 46.17 317 *e*P P 10 58 28.2 -1.5
MOS pmax pmax
comp=Z,52nm,0.9s
OBN Obninsk 46.78 316 *e*P **P** 10 58 34.9 +0.5
OBN *e* 11 00 22.3
OBN *e*PPP PPP 11 01 06.5
OBN pmax pmax
comp=Z,14nm,0.5s
BILL Bilibino 49.75 27 *e*P P 10 58 55.4 -1.8
BILL *e*PPP PPP 11 01 48.1
BILL pmax pmax
comp=Z,7.0nm,1.1s
ILGA Ilgaz 50.73 298 P P 10 59 03.9 -1.4
ILGA IAmb IAmb 10 59 08.8
comp=Z,15nm,1.1s
BR131 Keskin Array S 51.15 296 *e*P **P** 10 59 08.2 -0.2
BR131 Keskin Array S 51.15 296 P **P** 10 59 08.0 -0.4
BR131 IAmb IAmb 10 59 12.0
comp=Z,5.6nm,0.8s
BRTR Keskin Array B 51.15 296 P **P** 10 59 08.8 +0.3
comp=Z,5.7nm,0.8s,baz=96,slow=7.6,SNR=21
BRTR Keskin Array B 51.15 296 P **P** 10 59 08.0 -0.4
SGF Sodankyl 51.63 332 P **P** 10 59 12.1 +0.7
SGF pmax pmax
comp=Z,13nm,0.9s
AKASG Malin Array Be 51.65 310 P **P** 10 59 11.3 -0.5
comp=Z,0.9nm,0.5s,baz=70,slow=6.8,SNR=5.9
AKASG Malin Array Be 51.65 310 P **P** 10 59 11.3 -0.5
AKASG pmax pmax
comp=Z,3.0nm,1.5s
AKASG Malin Array Be 51.65 310 IAmb IAmb 10 59 14.4
comp=Z,2.9nm,1.4s
AKBB Malin Array Si 51.65 310*ce*P P 10 59 10.3 -1.5
KIEV Kiev 51.66 310 P P 10 59 10.0 -1.9
OUL Oulu 51.91 329 P **P** 10 59 13.7 +0.2
OUL pmax pmax
comp=Z,16nm,1.0s
VSU Vasula 51.97 321 *i*P **P** 10 59 13.3 -0.7
VSU pmax pmax
comp=Z,48nm,1.0s
FIA1 FINESS Array S 52.02 324 P **P** 10 59 13.5 -0.9
FIA1 IAmb IAmb 10 59 16.8
comp=Z,12nm,1.2s
FINES FINESS Array B 52.02 324 P **P** 10 59 14.6 +0.2
comp=Z,6.0nm,0.9s,baz=96,slow=7.7,SNR=9.6
FINES FINESS Array B 52.02 324 P **P** 10 59 14.1 -0.3
ARCES ARCESS Array B 52.05 335 P **P** 10 59 14.3 -0.2
comp=Z,3.9nm,0.9s,baz=90,slow=8.5,SNR=6.6
MDUB Mudurnu 52.73 297 P **P** 10 59 19.5 -0.7
KMPD K-Podol'skiy 53.86 308 P **P** 10 59 27.0 -1.1
VRI Vrincioaia 54.36 305⇑ P **P** 10 59 31.6 -0.3
VRI Vrincioaia 54.36 305⇑ P **P** 10 59 31.6 -0.3
PLOR Plostina 54.42 305⇑ P **P** 10 59 33.7 +1.3
PLOR Plostina 54.42 305⇑ P **P** 10 59 33.7 +1.3
ISR Istrita 54.69 304 P **P** 10 59 36.3 +1.9
ISR pmax pmax
comp=Z,24nm,1.1s
BURAR Bucovina Array 54.90 307 P P 10 59 34.1 -1.8
MLR Muntele Rosu 54.99 305⇑ P **P** 10 59 37.2 +0.6
MLR Muntele Rosu 54.99 305⇑ P **P** 10 59 37.2 +0.6
MLR Muntele Rosu 54.99 305 P **P** 10 59 37.4 +0.8
MLR IAmb IAmb 10 59 42.6
comp=Z,7.1nm,0.9s
VOIR 55.61 305⇑ P **P** 10 59 41.0 -0.1
VOIR 55.61 305⇑ P **P** 10 59 41.0 -0.1
NIE Niedzica 57.54 311 P **P** 10 59 55.9 +1.2
NIE pmax pmax
comp=Z,3.0nm,0.9s
OJC Ojcow 57.61 312 IAmb IAmb 10 59 58.1
comp=Z,8.0nm,0.8s
FITZ Fitzroy Crossi 58.46 150 P **P** 11 00 00.5 -0.8
comp=Z,6.6nm,1.1s,baz=321,slow=13,SNR=3.3
VYHS Vyhne 58.74 310 *e*P **P** 11 00 04.1 +1.0
VYHS pmax pmax
comp=Z,11nm,1.5s
VYHS Vyhne 58.74 310 *e*P **P** 11 00 04.1 +1.0
MORC Moravsky Berou 59.13 312⇑ P **P** 11 00 06.0 +0.2
MORC Moravsky Berou 59.13 312⇑ P **P** 11 00 06.0 +0.2
MORC Moravsky Berou 59.13 312 IAmb IAmb 11 00 08.9
comp=Z,5.2nm,1.0s
NB2 NORSAR Subarra 59.14 325 P **P** 11 00 04.8 -0.9
comp=Z,1.6nm,0.6s,baz=73,slow=6.9
NOA NORSAR Array B 59.14 325 P **P** 11 00 05.1 -0.6
comp=Z,2.3nm,0.7s,baz=74,slow=7.0,SNR=9.3
DPC Dobruska-Polom 59.69 313 *e*P **P** 11 00 10.6 +0.9
DPC Dobruska-Polom 59.69 313 *e*P **P** 11 00 10.6 +0.9
CONA Conrad Observa 60.80 310 *i*pP **P** 11 00 17.8 +0.4
comp=Z,6.1nm,0.9s
PRU Pruhonice 60.89 313 P **P** 11 00 18.9 +1.1
PRU pmax pmax
comp=Z,2.0nm,0.6s
BRG Berggiesshubel 60.94 314 P **P** 11 00 18.7 +0.6
BRG pmax pmax
comp=Z,6.0nm,1.0s
ARSA Arzberg 61.26 309 *i*P **P** 11 00 20.2 -0.2
comp=Z,3.2nm,1.0s
CLL Collm 61.34 314 *e*P **P** 11 00 20.0 -0.8
comp=Z,6.0nm,0.7s
CLL Collm 61.34 314 *e*P **P** 11 00 20.0 -0.8
CLL pmax pmax
comp=Z,6.0nm,0.7s
SOKA Soboth 61.78 309 *i*pP **P** 11 00 24.0 0.0
comp=Z,8.2nm,1.5s
KHC Kasperske Hory 61.79 312 *e*P **P** 11 00 25.0 +1.1
KHC Kasperske Hory 61.79 312 *e*P **P** 11 00 25.0 +1.1
GEC2 GERESS Array S 61.82 312 P **P** 11 00 25.4 +1.2
GEC2 IAmb IAmb 11 00 27.2
comp=Z,5.1nm,1.0s
GERES GERESS Array B 61.82 312 P **P** 11 00 24.3 +0.1

comp=Z,2.2nm,0.9s,baz=72,slow=5.7,SNR=14

GERES GERESS Array B 61.82 312 P **P** **11 00 23.7 -0.5**
GERES GERESS Array B 61.82 312 P **P** **11 00 23.7 -0.5**
MOA Molln 61.83 310 *i* pP **P** **11 00 25.0 +0.7**
comp=Z,3.2nm,0.7s
KBA Koelnbreinsper 62.70 310 *i* sP **P** **11 00 32.5 +2.2**
comp=Z,3.3nm,1.3s
ABTA Abfaltersbach 63.36 310 *i* pP **P** **11 00 35.7 +1.1**
comp=Z,5.5nm,1.1s
STAL STALIGIAL 63.43 309 IAmb IAmb 11 00 36.6
comp=Z,6.7nm,1.0s
CIMO Cimolais 63.58 309 P **P** **11 00 35.1 -0.9**
CIMO IAmb IAmb 11 00 36.0
comp=Z,10nm,1.4s
WTTA Wattenberg 63.70 311 *i* P **P** **11 00 36.3 -0.6**
comp=Z,7.3nm,1.0s
WATA Walderalm 63.71 311 *i* pP **P** **11 00 36.9 -0.1**
comp=Z,5.0nm,0.9s
WB0 Warramunga Arr 63.92 143 P **P** **11 00 37.6 -0.7**
SQTA Sankt Quirin 63.99 311 *i* P **P** **11 00 38.0 -0.7**
comp=Z,4.9nm,0.7s
MOTA Moosalm 64.00 311 *i* pP **P** **11 00 38.7 -0.1**
comp=Z,8.5nm,1.3s
WRAB Tennant Creek 64.04 143 *ce*P **P** **11 00 38.1 -1.0**
WRAB pmax pmax
comp=Z,25nm,1.3s
WRAB Tennant Creek 64.04 143 P **P** **11 00 38.4 -0.7**
WRA Warramunga Arr 64.04 143 P **P** **11 00 38.2 -0.9**
comp=Z,11nm,0.9s,baz=337,slow=7.1,SNR=44
WRA Warramunga Arr 64.04 143 P **P** **11 00 38.2 -0.9**
RETA Reutte 64.16 311 *i* pP **P** **11 00 40.3 +0.5**
comp=Z,1.9nm,0.5s
WR0 Warramunga Arr 64.16 143 IAmb IAmb 11 00 40.0
comp=Z,6.9nm,0.8s
FETA Feichten 64.37 311 *i* P **P** **11 00 40.7 -0.6**
comp=Z,11nm,1.1s
CEL Celeste 64.57 300 P **P** **11 00 42.1 -0.5**
FUORN Ofenpass-Fuorn 64.83 310 IAmb IAmb 11 00 46.9
comp=Z,7.4nm,1.1s
IMAR Indian Mountai 65.25 25 P **P** **11 00 45.6 -0.9**
COLD Coldfoot 65.81 24 IAmb IAmb 11 00 51.0
comp=Z,6.2nm,1.0s
CDF Champ du Feu 65.89 313 *e*P **P** **11 00 50.5 -0.6**
CDF pmax pmax
comp=Z,13nm,1.3s
AS31 Alice Springs 66.99 145 P **P** **11 00 57.8 -0.4**
ASAR Alice Springs 66.99 145 P **P** **11 00 57.5 -0.7**
comp=Z,7.6nm,1.0s,baz=330,slow=6.3,SNR=59
ASAR PcP **PcP** **11 01 25.4 -1.2**
comp=Z,0.8nm,0.7s,baz=332,slow=4.2,SNR=4.6
SVW2 Sparrevohn 67.02 31 P **P** **11 00 58.7 +0.7**
SVW2 IAmb IAmb 11 00 59.1
comp=Z,9.0nm,1.0s
PPLA Purkeypile 67.44 28 P **P** **11 01 01.2 +0.4**
LPG La Plagne 67.52 310 *e*P **P** **11 01 01.7 0.0**
LPG pmax pmax
comp=Z,9.0nm,0.9s
LPL La Plagne 67.52 311 *e*P **P** **11 01 01.7 0.0**
LPL pmax pmax
comp=Z,11nm,1.0s
KMBO Kilima Mbogo 67.72 252 P **P** **11 01 05.0 +1.6**
comp=Z,0.6nm,0.4s,baz=11,slow=11,SNR=3.7
KMBO Kilima Mbogo 67.72 252 P **P** **11 01 03.6 +0.2**
KMBO pmax pmax
comp=Z,5.0nm,1.1s
KMBO Kilima Mbogo 67.72 252 P **P** **11 01 03.6 +0.2**
KMBO IAmb IAmb 11 01 06.1
comp=Z,4.6nm,1.1s
MDM Murphy Dome 67.74 25 IAmb IAmb 11 01 04.2
comp=Z,6.1nm,1.0s
BWN Browne 67.75 26 P **P** **11 01 03.3 +0.8**
SBF Sospel 67.83 309 *e*P **P** **11 01 04.2 +0.7**
SBF pmax pmax
comp=Z,17nm,0.9s
MBDF Montbardon 67.86 310 *e*P **P** **11 01 07.4 +3.7**
MBDF pmax pmax
comp=Z,8.0nm,1.2s
COLA College 67.92 25 *i* P **P** **11 01 02.8 -0.7**
COLA pmax pmax
comp=Z,11nm,1.0s
COLA College 67.92 25 P **P** **11 01 03.3 -0.3**
CCB Clear Creek Bu 68.07 25 IAmb IAmb 11 01 04.6
comp=Z,4.7nm,1.2s
MCK McKinley 68.20 26 IAmb IAmb 11 01 05.4
comp=Z,10.0nm,1.2s
IL31 68.32 25 IAmb IAmb 11 01 06.3
comp=Z,5.6nm,1.0s
ILAR Eielson Array 68.32 25 P **P** **11 01 05.0 -1.0**
comp=Z,3.4nm,0.8s,baz=288,slow=5.3,SNR=28
ILAR Eielson Array 68.32 25 P **P** **11 01 04.7 -1.4**
ILAR Eielson Array 68.32 25 P **P** **11 01 04.7 -1.4**
ORIF Oris-en-Rattie 68.33 310 *e*P **P** **11 01 10.1 +3.5**
ORIF pmax pmax
comp=Z,9.0nm,1.1s
SMF Signal de Mont 68.77 313 *e*P P 11 01 07.7 -1.5
SMF pmax pmax
comp=Z,23nm,1.2s
SUMG Summit 68.90 347 P **P** **11 01 09.5 -0.5**
SUMG pmax pmax
comp=Z,15nm,1.1s
SUMG Summit 68.90 347 P **P** **11 01 09.5 -0.5**
AVF Avril sur Loir 69.00 313 *e*P **P** **11 01 10.0 -0.6**
AVF pmax pmax
comp=Z,14nm,1.2s
GHO Glory Hole Cre 69.33 28 IAmb IAmb 11 01 15.4
comp=Z,8.5nm,0.8s
SML Sawmill 69.54 28 P **P** **11 01 13.5 -0.3**
RIDG Independent Ri 69.65 25 P **P** **11 01 13.7 -0.8**
RIDG IAmb IAmb 11 01 14.2
comp=Z,11nm,1.0s
INK Inuvik 70.02 18 P **P** **11 01 16.4 -0.1**
comp=Z,3.3nm,0.8s,baz=328,slow=9.9,SNR=5.5
INK Inuvik 70.02 18 IAmb IAmb 11 01 17.1
comp=Z,4.5nm,0.9s
GRR Gorron 70.68 316 *e*P **P** **11 01 20.4 -0.5**
GRR pmax pmax
comp=Z,38nm,1.2s
CAF Calviac 70.70 312 *e*P **P** **11 01 23.5 +2.3**
CAF pmax pmax
comp=Z,7.0nm,1.0s
RJF Les Rejaudoux 70.84 312 *e*P **P** **11 01 23.4 +1.4**
RJF pmax pmax
comp=Z,17nm,1.3s
BCAR Beaver Creek A 71.15 25 P **P** **11 01 23.5 -0.1**
DAWY Dawson 71.28 23 P **P** **11 01 24.2 -0.2**
DAWY IAmb IAmb 11 01 24.8
comp=Z,5.2nm,1.0s
SGMF Saint Gilles 71.72 316 *e*P P 11 01 25.1 -2.1
SGMF pmax pmax
comp=Z,131nm,2.0s
ROSF Rostrenen 72.08 317 *e*P **P** **11 01 29.3 -0.1**
ROSF pmax pmax
comp=Z,59nm,1.2s
HYT Haines Junctio 74.16 25 IAmb IAmb 11 01 43.4
comp=Z,20nm,1.3s
ESDC Sonseca Array 77.28 310 P **P** **11 01 59.7 -0.1**
comp=Z,2.6nm,0.8s,baz=48,slow=5.6,SNR=14
ESDC Sonseca Array 77.28 310 P **P** **11 01 59.7 -0.1**
STKA Stephens Creek 77.55 144 P **P** **11 02 00.8 -0.3**
comp=Z,2.2nm,0.8s,baz=335,slow=11,SNR=4.7
YKA Yellowknife Ar 79.31 15 P **P** **11 02 09.9 -0.6**
comp=Z,3.4nm,1.0s,baz=330,slow=5.0,SNR=7.3
B08A Colville Reser 90.40 24 P **P** **11 03 06.8 +0.1**
B08A IAmb IAmb 11 03 08.2
comp=Z,6.1nm,1.1s
LTY Liberty 90.88 26 P **P** **11 03 09.1 +0.1**
LTY IAmb IAmb 11 03 10.2
comp=Z,5.2nm,1.1s
C09A Chrisman Ranch 91.24 24 P **P** **11 03 11.1 +0.5**
C09A IAmb IAmb 11 03 12.4
comp=Z,6.7nm,1.1s
NVAR Mina Array Bea 99.34 29 P **Pdif** **11 03 47.8 -0.2**
comp=Z,0.3nm,0.7s,baz=328,slow=6.6,SNR=2.5
BDFB Brasilia 144.73 294 PKP **PKPab** **11 09 40.8 -0.8**
comp=Z,2.6nm,0.5s,baz=30,slow=21,SNR=4.5
LPAZ La Paz 158.18 325 PKP **PKPdf** **11 10 04.0 +0.2**
comp=Z,1.7nm,1.1s,baz=32,slow=1.9,SNR=3.7
LPAZ PKPab **PKPab** **11 10 35.9 -1.4**
comp=Z,0.7nm,0.6s,baz=21,slow=10,SNR=4.5

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*IDC **11** 11:09:00.6±0.5, 17.°65S×172.°96W, h0km, mb4.7/15, mb1 4.9/16, mb1mx4.8/25, mbtmp4.7/16, ML3.6/1, MS4.6/23, Ms1 4.6/23, ms1mx4.6/27, Error ellipse: s-maj=21.5km s-min=12.1km az=121.0*

*BJI **11** 11:09:01.1±0.0, 17.°83S×172.°47W, h14km, mB5.7/22, mb5.1/30, Ms5.3/15, Ms7 5.1/7*
*BGR **11** 11:09:07.9±0.0, 18.°59S×172.°82W, h33km*
*GCMT **11** 11:09:07.2±0.1, 17.°74S±0.°01×172.°33W±0.°01, h16km, MW5.2/137, Moment Tensor Solution. s74,c97; s137,c230; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.70±.02; Mθθ-0.09±.01; Mϕϕ-0.61±.01; Mrθ0.00±.03; Mθϕ-0.18±.01; Mϕr0.35±.03; Best double couple: M0 0.77200×10^17 NP1:ϕ204.00000°, δ32.00000°, λ102.00000°. NP2:ϕ10.00000°, δ58.00000°, λ83.00000°. Principal axes: T 0.7930, Plg75.0000°, Azm259.0000°; N -0.0420, Plg6.0000°, Azm14.0000°; P -0.7500, Plg13.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **11** 11:09:08.2±1.7, 17.°72S±0.°07×172.°8W±0.°1, h50km±4km, mb5.0/177 Error ellipse: s-maj=16.9km s-min=4.5km az=125.0*

ISC 11 11:09:03.4±0.3, 17.°74S±0.°07×172.°79W±0.°07, h10km, n414, σ1°92/357, mb5.0/103, **MS4.9**/40, **23C-3D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.02**	**116**	P		Pn	11 09 43.1	-8.3
NIUE	baz=2.7,SNR=32			S		Sn	11 10 14.4	-13
	baz=2.7							
NIUE	**Niue**	**3.02**	**116**			Pn	11 09 43.9	-7.4
AFI	**Afiamalu**	**3.94**	**14**	Pn		Pn	11 09 57.3	-6.6
AFI	26nm,0.3s,baz=204,slow=1.2,SNR=40			Sn		Sn	11 10 38.8	-11
	58nm,0.3s,baz=144,slow=18,SNR=7.3							
AFI	**Afiamalu**	**3.94**	**14**			Pn	11 09 56.6	-7.4
MSVF	**Nonsavu**	**8.73**	**269**	Pn		**Pn**	**11 11 13.4**	**+3.5**
RAO	**Raoul Island**	**12.38**	**201**	LR		LR	11 16 04.5	
	comp=Z,313nm,20.0s,baz=32,slow=34							
RAR	**Rarotonga**	**12.75**	**108**	Pn		Pn	11 11 56.7	-8.1
RAR	4.3nm,0.3s,baz=232,slow=7.8,SNR=7.1			Sn		Sn	11 14 05.4	-22
	0.3nm,0.3s,baz=41,slow=20,SNR=1.5							
RAR				LR		LR	11 16 27.1	
	comp=Z,3μm,19.3s,baz=294,slow=34							
RAR	**Rarotonga**	**12.75**	**108**			Pn	11 11 55.8	-9.0
DZM	**Mont Dzumac**	**19.99**	**254**	P		**P**	**11 13 34.6**	**-1.7**
DZM	0.2nm,0.3s,baz=96,slow=19,SNR=3.1			LR		LR	11 20 54.6	
	comp=Z,1μm,18.2s,baz=87,slow=36							
DZM	**Mont Dzumac**	**19.99**	**254**	*e*P		**P**	**11 13 37.4**	**+1.1**
DZM	80nm,1.6s			*e*LQ		LQ	11 18 08.4	
DZM	7μm,25.6s			*e*LR		LR	11 18 54.5	
	comp=Z,3μm,26.0s							
DZM	**Mont Dzumac**	**19.99**	**254**	P		**P**	**11 13 38.3**	**+2.0**
OUZ	**Omahuta**	**21.21**	**212**	P		**P**	**11 13 49.6**	**+0.3**
OUZ	comp=Z,91nm,1.2s			IAmb		IAmb	11 13 50.6	
PPT2	**Papeete2**	**22.12**	**93**	*e*LQ		LQ	11 18 07.4	
PPT2	comp=Z,2μm,26.0s			*e*LR		LR	11 18 47.3	
	comp=Z,4μm,27.8s,baz=258							
PPT	**Papeete**	**22.12**	**93**	LR		LR	11 20 54.8	
	comp=Z,3μm,18.0s,baz=248,slow=32							
URZ	**Urewera**	**22.27**	**201**	P		**P**	**11 14 00.8**	**+0.2**
URZ	comp=Z,162nm,0.9s,baz=301,slow=3.0,SNR=33			S		**S**	**11 18 05.9**	**+0.3**
	comp=Z,12nm,0.8s,baz=102,slow=20,SNR=2.9							
URZ	**Urewera**	**22.27**	**201**	P		**P**	**11 14 01.2**	**+0.6**
TBI	**Tubuai**	**22.53**	**108**	*e*LQ		LQ	11 18 17.3	
TBI	comp=Z,976nm,23.8s			*e*LR		LR	11 19 05.1	
	comp=Z,4μm,30.8s,baz=288							
BKZ	**Black Stump Fm**	**23.30**	**201**	P		**P**	**11 14 11.7**	**+0.2**
BKZ	comp=Z,63nm,1.1s			IAmb		IAmb	11 14 18.8	
HIZ	**Hauiti**	**23.34**	**205**	P		**P**	**11 14 14.5**	**+2.6**
BFZ	**Birch Farm**	**24.74**	**200**	P		**P**	**11 14 26.6**	**+1.6**
TUWZ	**Tuamarina**	**26.21**	**203**	P		**P**	**11 14 39.0**	**+0.7**
THZ	**Tophouse**	**26.89**	**204**	P		**P**	**11 14 44.8**	**+0.2**
OXZ	**Oxford**	**28.56**	**204**	P		**P**	**11 14 59.4**	**-0.1**
RPZ	**Rata Peaks**	**29.27**	**204**	P		**P**	**11 15 09.3**	**+3.6**
	comp=Z,38nm,0.9s,baz=304,slow=2.7,SNR=4.2							
RPZ	**Rata Peaks**	**29.27**	**204**	P		**P**	**11 15 05.0**	**-0.7**
TAOE	**Nuku Hiva Isla**	**32.93**	**79**	*e*S		S	11 20 35.6	-21
TAOE	comp=Z,2μm,40.0s			*e*LR		LR	11 23 55.8	
	comp=Z,1μm,25.8s							
CTAO	**Charters Tower**	**38.75**	**260**	P		**P**	**11 16 26.9**	**-1.3**
CTAO	comp=Z,13nm,0.8s			IAmb		IAmb	11 16 30.0	
CMSA	**Cobar Meteorol**	**39.92**	**242**	P		**P**	**11 16 35.8**	**-2.1**
QLP	baz=40,SNR=6.6 **Quilpie**	**40.60**	**250**	P		P	11 16 41.3	-2.3
TOO	baz=41,SNR=6.3 **Toolangi**	**41.48**	**233**	P		**P**	**11 16 49.9**	**-0.9**
COEN	baz=42,SNR=3.7 **Coen**	**42.46**	**269**	P		**P**	**11 16 57.3**	**-1.6**
	baz=43,SNR=4.2							
COEN	**Coen**	**42.46**	**269**	P		**P**	**11 16 58.8**	**-0.1**
COEN	comp=Z,50nm,1.4s			IAmb		IAmb	11 17 31.4	
STKA	**Stephens Creek**	**43.42**	**242**	P		P	11 17 03.8	-2.8
STKA	comp=Z,8.7nm,0.9s,baz=87,slow=9.4,SNR=14			LR		LR	11 34 13.3	
	comp=Z,768nm,19.7s,baz=75,slow=35							
STKA	**Stephens Creek**	**43.42**	**242**	P		**P**	**11 17 04.8**	**-1.7**
	baz=44,SNR=10							
STKA	**Stephens Creek**	**43.42**	**242**	P		**P**	**11 17 05.2**	**-1.4**
HTT	**Hallett**	**45.86**	**240**	P		**P**	**11 17 24.5**	**-1.6**
	baz=46,SNR=4.4							
BBOO	**Buckleboo**	**48.18**	**242**	P		P	11 17 41.8	-2.4
	baz=48,SNR=7.3							
BBOO	**Buckleboo**	**48.18**	**242**	P		**P**	**11 17 42.0**	**-2.2**
BBOO	comp=Z,14nm,0.8s			IAmb		IAmb	11 17 46.2	
WR0	**Warramunga Arr**	**49.73**	**259**	P		P	11 17 53.2	-3.1
WR0	comp=Z,29nm,1.6s			IAmb		IAmb	11 17 55.8	
WB0	**Warramunga Arr**	**49.89**	**259**	IAmb		IAmb	11 17 59.2	
	comp=Z,9.5nm,0.6s							
WRAB	**Tennant Creek**	**49.91**	**259**	P		P	11 17 54.8	-2.8
WRA	**Warramunga Arr**	**49.92**	**259**	P		P	11 17 54.0	-3.7
WRA	comp=Z,6.2nm,0.5s,baz=98,slow=6.6,SNR=127			LR		LR	11 38 55.3	
	comp=Z,1μm,19.5s,baz=95,slow=36							
WRA	**Warramunga Arr**	**49.92**	**259**	P		P	11 17 54.9	-2.8
AS31	**Alice Springs**	**49.98**	**254**	P		P	11 17 56.0	-2.2
AS31	comp=Z,13nm,0.7s			IAmb		IAmb	11 18 00.5	
ASAR	**Alice Springs**	**49.98**	**254**	P		P	11 17 55.6	-2.5
ASAR	comp=Z,56nm,0.8s,baz=90,slow=8.6,SNR=256			LR		LR	11 36 20.5	
	comp=Z,378nm,21.9s,baz=90,slow=33							
ASAR	**Alice Springs**	**49.98**	**254**	P		P	11 17 55.8	-2.4
FORT	**Forrest**	**54.91**	**245**	P		**P**	**11 18 33.0**	**-1.6**
	baz=55,SNR=9.1							
WRKA	**Warakurna**	**54.98**	**252**	P		**P**	**11 18 33.6**	**-1.7**
	baz=55,SNR=49							
KNRA	**Kununurra**	**55.82**	**263**	P		**P**	**11 18 39.9**	**-1.4**
	baz=56,SNR=6.8							
FITZ	**Fitzroy Crossi**	**58.33**	**259**	P		**P**	**11 18 57.5**	**-1.6**
	baz=59,SNR=7.3							
VNDA	**Vanda**	**61.12**	**186**	P		**P**	**11 19 17.6**	**+0.3**
VNDA	comp=Z,4.7nm,1.0s,baz=9.2,slow=6.5,SNR=20			LR		LR	11 42 20.4	
	comp=Z,277nm,19.4s,baz=22,slow=33							
VNDA	**Vanda**	**61.12**	**186**	P		**P**	**11 19 18.0**	**+0.6**
VNDA	comp=Z,15nm,1.3s			IAmb		IAmb	11 19 29.1	
PSA00	**Pilbara Seismi**	**63.12**	**254**	P		**P**	**11 19 30.7**	**-1.1**
MEEK	**Meekatharra**	**63.49**	**249**	P		**P**	**11 19 32.1**	**-2.0**
	baz=64,SNR=3.7							
MORW	**Morawa**	**65.44**	**246**	P		**P**	**11 19 45.2**	**-1.7**
	baz=66,SNR=3.9							
CASY	**Casey**	**68.54**	**205**	P		**P**	**11 20 05.9**	**0.0**
CASY	comp=Z,27nm,1.2s			IAmb		IAmb	11 20 08.1	
MPSI	**Mapaga**	**68.54**	**278**	P		P	11 20 03.6	-3.2
	comp=Z,1μmcomp=Z,29nm,1.1s							
MJAR	**Matsushiro Arr**	**71.10**	**320**	P		**P**	**11 20 21.4**	**-0.7**
MJAR	comp=Z,3.8nm,1.0s,baz=171,slow=5.4,SNR=5.0			LR		LR	11 47 24.7	
	comp=Z,232nm,21.0s,baz=130,slow=32							

MAT Matsushiro 71.10 320 P **P** **11 20 21.0 -1.1**
MAT *e*S **S** **11 29 34.8 -4.0**
BBKI Banjar Baru 72.16 272 P P 11 20 35.2 +6.2
QSPA South Pole Qui 72.31 180 P **P** **11 20 28.6 -0.6**
QSPA IAmb IAmb 11 20 31.2
comp=Z,26nm,1.2s
PKM Mcpherson Peak 72.59 43 P **P** **11 20 32.7 +1.4**
baz=233
SAO San Andreas Ge 72.69 41 IAmb IAmb 11 20 33.3
comp=Z,16nm,1.1s
ARVC Arvin 73.38 44 P **P** **11 20 36.5 +0.7**
baz=233
KMRM Mail Ridge 73.55 37 IAmb IAmb 11 20 38.8
comp=Z,30nm,1.1s
ESJX Sierra Juarez 73.56 48 P **P** **11 20 36.1 -1.0**
ESJX IAmb IAmb 11 20 39.5
comp=Z,26nm,1.9s
MURC Murrieta 73.58 46 P **P** **11 20 36.7 -0.3**
baz=235
VES Vestal, Richgr 73.63 43 P **P** **11 20 37.8 +0.6**
baz=233
BFSC Mount Baldy Ra 73.64 45 P **P** **11 20 36.6 -0.9**
baz=234
MONP2 Monument Peak 73.72 47 P **P** **11 20 37.6 -0.4**
baz=236
EDW2 Edwards Air Fo 73.78 44 P **P** **11 20 36.8 -1.5**
baz=234,SNR=8.9
IKP In-Ko-Pah, Jac 73.80 47 P **P** **11 20 38.3 -0.1**
baz=236
ISA Isabella, Lake 73.93 43 P **P** **11 20 38.9 -0.1**
baz=234
O02D Mt. Diablo Mer 74.06 38 P **P** **11 20 40.2 +0.5**
baz=229
PFO Pinyon Flats O 74.10 46 P **P** **11 20 39.7 -0.4**
baz=236
PFO Pinyon Flats O 74.10 46 P **P** **11 20 39.7 -0.4**
XPFO Pion Flat 74.10 46 P **P** **11 20 40.2 +0.1**
LRMC Laurel Mtn Rad 74.34 44 P **P** **11 20 41.0 -0.6**
baz=234
AFDM Forest Hills D 74.35 40 P **P** **11 20 40.3 -1.1**
WDC Whiskeytown Da 74.46 37 P **P** **11 20 41.3 -0.7**
WDC IAmb IAmb 11 20 44.4
comp=Z,21nm,1.5s
N02D Trinity Center 74.62 37 P **P** **11 20 43.1 +0.1**
baz=229
BELC Belle Mtn. Jos 74.63 46 P **P** **11 20 42.6 -0.7**
baz=236,SNR=6.8
CWC Cottonwood Cre 74.64 43 P **P** **11 20 43.1 -0.3**
baz=234
O03E Paynes Creek 74.71 38 P **P** **11 20 43.4 -0.1**
baz=230
OMMB Old Mammoth Mi 74.75 42 P **P** **11 20 44.0 -0.1**
MPMC Manual Prospec 74.81 44 P **P** **11 20 43.9 -0.4**
baz=234,SNR=11
M02C Callahan 74.81 37 P **P** **11 20 43.8 -0.3**
baz=229
BC3 Big Chuckawall 74.82 47 P **P** **11 20 43.8 -0.6**
baz=236
GSC Goldstone, Bar 74.82 45 P **P** **11 20 43.5 -0.8**
baz=235,SNR=5.9
HEC Hector,Ludlow 74.87 45 P **P** **11 20 44.0 -0.6**
baz=235,SNR=6.2
L02E Cave Junction 74.90 36 P **P** **11 20 43.3 -1.2**
baz=228
GLA Glamis 74.92 48 P **P** **11 20 45.0 +0.2**
baz=237
WAKR Walker 75.02 41 P **P** **11 20 45.1 -0.4**
WAKR IAmb IAmb 11 21 10.3
comp=Z,32nm,1.8s
PETK Petropavlovsk- 75.03 342 P **P** **11 20 43.9 -1.0**
comp=Z,4.0nm,1.0s,baz=91,slow=9.7,SNR=5.1
PETK LR LR 11 51 49.1
comp=Z,251nm,18.9s,baz=185,slow=34
PETK Petropavlovsk- 75.03 342 P **P** **11 20 44.3 -0.7**
YBH Yreka Blue Hor 75.12 36 IAmb IAmb 11 21 14.1
comp=Z,17nm,1.3s
K02D Willamette Mer 75.22 35 P **P** **11 20 45.0 -1.4**
baz=228
PNTR Pine Nut 75.28 40 P **P** **11 20 46.4 -0.6**
PNTR IAmb IAmb 11 20 48.5
comp=Z,18nm,1.3s
GMRC Granite Mounta 75.30 46 P **P** **11 20 46.6 -0.6**
baz=236
IRM Iron Mountain 75.31 46 P **P** **11 20 46.5 -0.6**
baz=236,SNR=7.7
VCNR Virginia City 75.37 40 P **P** **11 20 47.0 -0.6**
VCNR IAmb IAmb 11 20 49.8
comp=Z,24nm,1.6s
J01E Myrtle Point 75.39 35 P **P** **11 20 47.5 +0.3**
baz=228
FURC Furnace Creek, 75.45 44 P **P** **11 20 47.4 -0.4**
baz=235
TUQ Turquoise Moun 75.49 45 P **P** **11 20 47.4 -0.8**
baz=235
113A Mohawk Valley, 75.52 48 P **P** **11 20 47.0 -1.3**
113A IAmb IAmb 11 21 11.1
comp=Z,23nm,1.6s
M04C Macdoel 75.64 37 P **P** **11 20 48.7 -0.2**
baz=230
L04D Klamath Falls 75.66 36 P **P** **11 20 49.0 0.0**
baz=229
RYN Ryan 75.66 41 IAmb IAmb 11 20 59.5
comp=Z,35nm,1.9s
NVAR Mina Array Bea 75.68 41 P **P** **11 20 47.7 -1.6**
comp=Z,5.9nm,1.0s,baz=227,slow=8.9,SNR=26
NVAR Mina Array Bea 75.68 41 P **P** **11 20 48.3 -1.1**
214A Organ Pipe Nat 75.77 49 P **P** **11 20 48.6 -1.2**
baz=238
NV11 Mina Array Sit 75.78 41 IAmb IAmb 11 20 51.3
comp=Z,15nm,1.1s
PDMCI Parker Dam,Lak 76.08 47 P **P** **11 20 50.7 -0.8**
baz=237
TPNV Topopah Spring 76.14 44 P **P** **11 20 50.5 -1.4**
baz=235,SNR=6.1
KVN Kaiserville 76.18 41 P **P** **11 20 51.4 -0.8**
J04D Umpqua Nationa 76.44 36 P **P** **11 20 53.3 -0.2**
baz=229
SHPR Sheep Range 76.60 44 IAmb IAmb 11 21 19.4
comp=Z,27nm,1.8s
I04A Tendick Farm, 76.63 35 P **P** **11 20 54.5 +0.2**
baz=229
W13A Hualapai Mount 76.69 46 P **P** **11 20 55.0 -0.2**
K05A Summer Lake 76.79 37 IAmb IAmb 11 21 26.7
comp=Z,23nm,1.3s
J05D Fort Rock, OR 76.95 36 P **P** **11 20 55.8 -0.6**
baz=230
R11A Troy Canyon, C 77.37 43 P **P** **11 20 57.5 -1.4**
baz=235,SNR=7.2
R11A Troy Canyon, C 77.37 43 P **P** **11 20 58.2 -0.6**
R11A IAmb IAmb 11 21 23.5
comp=Z,18nm,1.8s
TUC Tucson 77.43 50 P **P** **11 20 58.5 -0.7**
baz=240
TUC Tucson 77.43 50 P **P** **11 20 59.2 0.0**
TUC IAmb IAmb 11 21 01.1
comp=Z,12nm,1.2s
PINE Pine Mountain 77.44 36 IAmb IAmb 11 21 01.1
comp=Z,27nm,1.2s
I05D Terrebonne, OR 77.57 35 P **P** **11 20 58.8 -0.9**
baz=230
WVOR Wild Horse Val 77.91 38 IAmb IAmb 11 21 03.2
comp=Z,14nm,1.2s
KSM Kuching 77.98 275 P **P** **11 21 02.3 -0.3**
X16A Lo Mia Camp, P 78.03 48 P **P** **11 21 01.9 -0.7**
319A Douglas 78.07 51 IAmb IAmb 11 21 04.8
comp=Z,14nm,1.1s
LCMT Little Creek M 78.17 45 P **P** **11 21 03.5 +0.3**
KSRS Korea Array 78.23 316 P **P** **11 21 04.9 +1.5**
comp=Z,7.4nm,1.0s,baz=133,slow=6.1,SNR=22
KSRS LR LR 11 51 27.8
comp=Z,208nm,20.3s,baz=122,slow=33
KSAR Wonju Array Be 78.25 316 P **P** **11 21 03.7 +0.2**
I07A Izee 78.43 36 IAmb IAmb 11 21 15.1
comp=Z,17nm,1.4s
J08A Circle Bar Ran 78.57 37 P **P** **11 21 04.7 -0.6**
J08A IAmb IAmb 11 21 15.7
comp=Z,21nm,1.4s
SZCU Shurtz Canyon 78.59 44 P **P** **11 21 06.1 +0.4**
PSUT Pine Spring 78.59 43 P P **11 21 04.1 -1.6**
USRK Ussuriysk Ar. 79.60 323 P P 11 21 06.4 -4.3
comp=Z,1.2nm,0.7s,baz=117,slow=12,SNR=1.4
USRK LR LR 11 50 55.7
comp=Z,266nm,20.7s,baz=131,slow=32
121A Cookes Peak, D 79.75 51 P **P** **11 21 10.8 -1.2**
baz=241
121A Cookes Peak, D 79.75 51 P **P** **11 21 11.4 -0.7**
B05A Bryant 79.75 32 P **P** **11 21 10.8 -0.6**

baz=228
LTY **Liberty** 79.82 33 IAmb IAmb 11 21 14.2
comp=Z,37nm,2.0s
DUG **Dugway, Tooele** 80.18 42 P P **11 21 12.9 -1.4**
baz=237,SNR=5.4
F10A **Beach Ranch, E** 80.86 36 P P **11 21 16.3 -1.4**
HLID **Hailey** 81.07 39 P P **11 21 16.9 -2.0**
baz=235,SNR=14
CTU **Camp Tracy** 81.13 42 P P **11 21 19.1 -0.3**
MNTX **Cornudas Mount** 81.16 53 P P **11 21 18.9 -0.6**
baz=243
MNTX **Cornudas Mount** 81.16 53 IAmb IAmb 11 21 23.0
comp=Z,17nm,1.4s
B08A **Colville Reser** 81.21 33 IAmb IAmb 11 21 20.2
comp=Z,18nm,1.4s
KNK **Knik Glacier** 81.25 12 P P **11 21 19.1 -0.2**
KNK IAmb IAmb 11 21 48.3
comp=Z,38nm,1.4s
PMR **Palmer** 81.29 11 IAmb IAmb 11 21 20.6
comp=Z,24nm,1.2s
BNM **Barren Site** 81.36 50 P P **11 21 19.4 -1.5**
C09A **Chrisman Ranch** 81.42 34 P P **11 21 19.6 -0.8**
TX31 **Lajitas Ar. Si** 81.44 56 P P **11 21 20.5 -0.7**
TX32 **Lajitas Array** 81.44 56 P P **11 21 21.1 0.0**
TX32 IAmb IAmb 11 21 24.2
comp=Z,36nm,1.8s
TXAR **Lajitas Array** 81.44 56 P P **11 21 20.3 -0.9**
comp=Z,2.4nm,1.1s,baz=215,slow=5.7,SNR=17
TXAR LR LR 11 52 02.4
comp=Z,363nm,18.1s,baz=0.0,slow=32
TXAR **Lajitas Array** 81.44 56 P P **11 21 20.1 -1.0**
PV05 **Paradox Valley** 81.53 46 P P **11 21 21.9 +0.3**
PV19 **Morning Glory** 81.72 46 P P **11 21 22.3 -0.3**
PV19 IAmb IAmb 11 21 26.0
comp=Z,20nm,1.4s
PV17 **East Wray Mesa** 81.73 46 P P **11 21 22.5 -0.2**
PV17 IAmb IAmb 11 21 54.6
comp=Z,39nm,1.7s
PV14 **Lion Creek, Pa** 81.73 45 IAmb IAmb 11 21 57.9
comp=Z,15nm,1.3s
HWUT **Hardware Ranch** 81.74 42 P P **11 21 22.8 +0.2**
PV18 **Skein Mesa, Pa** 81.74 46 P P **11 21 22.9 +0.2**
PV20 **West Nyswonger** 81.75 45 P P **11 21 22.4 -0.4**
PV20 IAmb IAmb 11 22 24.9
comp=Z,32nm,1.9s
PV13 **Radium Mtn., P** 81.76 46 P P **11 21 22.0 -0.8**
PV13 IAmb IAmb 11 21 48.7
comp=Z,21nm,1.4s
PV16 **Nyswonger Mesa** 81.77 46 P P **11 21 22.7 -0.2**
PV03 **Paradox Valley** 81.79 46 P P **11 21 23.3 +0.3**
PV03 IAmb IAmb 11 21 55.5
comp=Z,22nm,1.6s
PV11 **David Mesa, Pa** 81.80 46 P P **11 21 23.7 +0.7**
PV11 IAmb IAmb 11 21 24.7
comp=Z,23nm,1.4s
PV04 **Paradox Valley** 81.82 45 P P **11 21 23.7 +0.6**
PV04 IAmb IAmb 11 21 54.5
comp=Z,17nm,1.4s
PV02 **Paradox Valley** 81.84 46 IAmb IAmb 11 21 25.8
comp=Z,32nm,1.8s
CUT **Chulitna** 81.84 10 P P **11 21 21.9 -0.5**
baz=202
PV12 **Saucer Basin,** 81.85 46 IAmb IAmb 11 21 58.5
comp=Z,28nm,1.4s
SCM **Sheep Creek Mo** 81.86 12 IAmb IAmb 11 21 23.8
comp=Z,30nm,1.2s
ANMO **Albuquerque** 81.86 49 P P **11 21 22.4 -1.0**
baz=242
ANMO **Albuquerque** 81.86 49 P P **11 21 22.8 -0.6**
PV01 **Paradox Valley** 81.92 46 P P **11 21 22.4 -1.2**
NJ2 **Nanjing** 82.04 307 *e*P P **11 21 25.6 +1.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
BCYI **Bear Canyon** 82.09 39 P P **11 21 24.0 -0.4**
NEW **Newport** 82.31 34 P P **11 21 24.4 -0.9**
baz=232
AHID **Auburn Hatcher** 82.65 41 IAmb IAmb 11 21 29.7
comp=Z,29nm,1.8s
MCMT **McKenzie Canyo** 82.71 38 P P **11 21 26.9 -0.7**
S22A **4UR Ranch, Cre** 82.93 47 P P **11 21 28.6 -0.4**
baz=241
S22A **4UR Ranch, Cre** 82.93 47 IAmb IAmb 11 21 31.2
comp=Z,13nm,1.1s
RND **Reindeer** 83.02 11 P P **11 21 27.5 -1.1**
REDW **Red Top Meadow** 83.12 40 IAmb IAmb 11 21 53.3
comp=Z,30nm,1.5s
TPAW **Teton Pass** 83.13 40 IAmb IAmb 11 21 39.4
comp=Z,19nm,1.4s
O20A **White River Ci** 83.14 44 P P **11 21 29.4 -0.6**
baz=240
O20A **White River Ci** 83.14 44 P P **11 21 28.9 -1.1**
DLMT **Dillon** 83.16 38 P P **11 21 29.1 -0.8**
DLMT IAmb IAmb 11 21 59.8
comp=Z,31nm,1.8s
FXWY **Fox Creek** 83.16 40 IAmb IAmb 11 21 41.4
comp=Z,23nm,1.6s
MSO **Missoula** 83.21 36 P P **11 21 29.0 -1.0**
baz=235,SNR=5.1
MSO **Missoula** 83.21 36 IAmb IAmb 11 21 30.9
comp=Z,24nm,1.6s
SNOW **Snow King Moun** 83.24 40 P P **11 21 29.9 -0.6**
SNOW IAmb IAmb 11 21 32.1
comp=Z,22nm,1.3s
CN2 **Changchun** 83.25 320 *e*P P **11 21 30.8 +0.7**
HYT **Haines Junctio** 83.28 17 IAmb IAmb 11 21 32.1
comp=Z,25nm,1.2s
IMW **Indian Meadow** 83.36 40 IAmb IAmb 11 21 33.6
comp=Z,26nm,1.6s
LRM **Limekiln Ridge** 83.50 38 P P **11 21 31.1 -0.6**
QLMT **Earthquake Lak** 83.56 39 P P **11 21 31.5 -0.5**
MENT **Mentasta** 83.59 13 IAmb IAmb 11 21 33.3
comp=Z,15nm,1.2s
FLWY **Flagg Ranch** 83.60 40 P P **11 21 31.5 -0.7**
FLWY IAmb IAmb 11 21 34.2
comp=Z,21nm,1.2s
BW06 **Boulder Array** 83.62 41 P P **11 21 30.8 -1.6**
baz=239,SNR=8.5
BW06 **Boulder Array** 83.62 41 P P **11 21 30.8 -1.6**
PD31 **Pinedale Array** 83.62 41 P P **11 21 30.5 -1.9**
PDAR **Pinedale Array** 83.62 41 P P **11 21 31.1 -1.3**
comp=Z,3.0nm,1.0s,baz=208,slow=2.9,SNR=19
PDAR LR LR 11 54 35.1
comp=Z,503nm,18.4s,baz=269,slow=33
PDAR **Pinedale Array** 83.62 41 P P **11 21 30.7 -1.7**
YPP **Pitchstone Pla** 83.64 40 P P **11 21 33.2 +0.7**
H17A **Grant Village** 83.84 40 P P **11 21 33.1 -0.4**
baz=238
H17A **Grant Village** 83.84 40 P P **11 21 33.5 0.0**
BOZ **Bozeman (W)** 83.86 38 P P **11 21 32.4 -1.0**
baz=237,SNR=14
BOZ **Bozeman (W)** 83.86 38 P P **11 21 32.5 -1.0**
BOZ IAmb IAmb 11 21 35.1
comp=Z,26nm,1.5s
SDCO **Great Sand Dun** 83.86 47 P P **11 21 33.2 -0.6**
baz=242
LKWY **Lake** 84.04 40 P P **11 21 33.0 -1.5**
LKWY IAmb IAmb 11 21 52.1
comp=Z,15nm,1.1s
RIDG **Independent Ri** 84.08 12 IAmb IAmb 11 21 35.5
comp=Z,19nm,1.2s
NEA2 **Nenana** 84.08 10 P P **11 21 33.8 -0.1**
baz=203
BCAR **Beaver Creek A** 84.13 14 P P **11 21 32.3 -1.9**
MSTX **Muleshoe** 84.14 52 P P **11 21 34.8 -0.3**
baz=244
DOT **Dot Lake** 84.15 12 IAmb IAmb 11 21 35.9
comp=Z,24nm,1.2s
HDA **Harding Lake** 84.28 11 P P **11 21 33.7 -1.3**
baz=205,SNR=11
HDA **Harding Lake** 84.28 11 P P **11 21 33.6 -1.3**
HDA IAmb IAmb 11 21 36.2
comp=Z,27nm,1.2s
QIZ **Qiongzhong** 84.32 292 P P **11 21 35.0 -1.2**
QIZ pP **pwP** **11 21 47.5 +3.3**
QIZ S **S** **11 31 59.6 -2.8**
QIZ sS **ScS** **11 32 16.6 +2.2**
QIZ LR LR
comp=Z,240nm,8.0s
QIZ LR LR
comp=Z,240nm,9.4s
HRY **Holter Researc** 84.34 37 P P **11 21 34.6 -1.2**
T25A **Trinidad** 84.35 48 P P **11 21 35.1 -1.1**
baz=243
SCRK **Sand Creek** 84.46 12 P P **11 21 35.0 -1.0**
baz=208,SNR=8.1
TCOL **CIGO, UAF Yank** 84.54 10 P P **11 21 34.9 -1.4**
baz=204,SNR=11
COLA **College** 84.55 10 P P **11 21 35.0 -1.3**
ILAR **Eielson Array** 84.62 11 P P **11 21 35.0 -1.7**
comp=Z,3.1nm,0.8s,baz=211,slow=5.8,SNR=26
ILAR LR LR 11 54 55.7
comp=Z,408nm,19.8s,baz=203,slow=33
ILAR **Eielson Array** 84.62 11 P P 11 21 34.5 -2.2
Q24A **Divide** 84.67 46 P P **11 21 37.2 -0.7**
Q24A IAmb IAmb 11 21 40.5
comp=Z,25nm,1.4s
IMAR **Indian Mountai** 84.70 8 P P **11 21 36.2 -0.8**
ISCO **Idaho Springs** 84.74 45 P P **11 21 37.7 -0.6**
baz=242
POKR **Poker Flat Res** 84.84 10 P P **11 21 36.5 -1.3**
baz=204,SNR=7.6
K27K **Chicken** 84.91 13 P P **11 21 38.4 +0.3**
baz=209
RLMT **Red Lodge** 85.02 40 P P **11 21 38.9 -0.5**
baz=239
RLMT **Red Lodge** 85.02 40 IAmb IAmb 11 21 41.1
comp=Z,14nm,1.4s
N23A **Red Feather La** 85.04 44 P P **11 21 39.5 -0.1**
baz=242
N23A **Red Feather La** 85.04 44 IAmb IAmb 11 22 10.5
comp=Z,36nm,1.9s
GCMT **Greycliff** 85.12 39 P P **11 21 40.1 +0.2**
TIA **Tai'an** 85.16 310 P P **11 21 40.3 +0.2**
TIA pmax pmax
comp=Z,7.0nm,1.0s
AMTX **Amarillo** 85.34 51 P P **11 21 40.2 -1.0**
baz=245
AMTX **Amarillo** 85.34 51 IAmb IAmb 11 21 42.4
comp=Z,15nm,1.2s
K22A **Casper** 85.50 43 P P **11 21 41.3 -0.5**
baz=241
K22A **Casper** 85.50 43 IAmb IAmb 11 21 43.0
comp=Z,21nm,1.6s
MAW **Mawson** 85.77 198 P P **11 21 42.1 -0.4**
comp=Z,3.5nm,1.0s,baz=161,slow=3.6,SNR=6.6
MAW LR LR 11 59 34.8
comp=Z,831nm,18.5s,baz=88,slow=35
MAW **Mawson** 85.77 198 P P 11 21 37.3 -5.2
baz=86,SNR=7.9
ABTX **Abilene, Hawle** 85.95 54 P P **11 21 43.8 -0.3**
baz=246
ABTX **Abilene, Hawle** 85.95 54 P P **11 21 44.1 0.0**
EGMT **Eagleton** 86.24 37 P P **11 21 44.4 -0.8**
baz=238
COLD **Coldfoot** 86.36 9 P P **11 21 45.2 -0.1**
baz=202
COLD **Coldfoot** 86.36 9 IAmb IAmb 11 21 47.8
comp=Z,19nm,1.3s
WMOK **Wichita Mounta** 87.46 52 P P **11 21 51.0 -0.4**
baz=246
BJI **Beijing** 87.50 313 P P **11 21 52.1 +0.7**
BJI S S **11 32 31.1 -1.6**
BJI pmax pmax
comp=Z,15nm,1.4s
BJI LR LR
comp=Z,440nm,5.3s
BJI LR LR
comp=Z,340nm,4.5s
PLCA **Paso Flores** 87.52 132 P P **11 21 51.3 -0.6**
comp=Z,4.7nm,1.0s,baz=246,slow=1.4,SNR=5.2
PLCA LR LR 11 54 14.2
comp=Z,605nm,18.1s,baz=300,slow=31
LAO **LASA Array** 87.64 39 P P **11 21 52.7 +0.7**
baz=241
RSSD **Black Hills** 87.79 42 P P **11 21 52.9 -0.2**
baz=243
EPYK **Eagle Plains** 88.09 14 P P **11 21 53.8 0.0**
baz=214
ENH **Enshi** 88.66 302 P P **11 21 57.6 +0.3**
W35A **Tecumseh** 89.06 53 P P **11 22 00.3 +1.3**
GYA **Guiyang** 89.65 298 ⇑P P **11 22 05.0 +2.9**
GYA pP pwP 11 22 14.1 +3.9
GYA pmax pmax
comp=Z,15nm,0.8s
DGMT **Dagmar** 89.69 38 P P **11 22 01.7 0.0**
baz=242
SYO **Syowa Base** 90.43 191 ⇑*e*P P **11 22 03.0 -1.8**
XAN **Xi'an** 90.47 306 P P **11 22 06.3 +0.6**
XAN pP pwP 11 22 17.1 +3.4
XAN pmax pmax
comp=Z,15nm,2.3s
XAN pmax pmax
comp=Z,290nm,5.9s
VNA3 **Neumayer Olymp** 90.48 175 P P **11 22 04.0 -1.1**
SNAA **Sanae** 90.55 177 P P **11 22 04.3 -1.2**
SNAA **Sanae** 90.55 177 P P **11 22 04.8 -0.7**
SNAA IAmb IAmb 11 22 06.7
comp=Z,11nm,1.1s
VNA2 **Neumayer--Watz** 90.98 175 P P **11 22 05.2 -2.2**
HHC **Hu-ho-hao-te** 91.04 313 *e*P P **11 22 09.1 +0.8**
HHC SKS **SKSac** **11 32 41.1 +0.5**
HHC S S **11 33 06.8 +0.6**
HHC sS ScS 11 33 17.4 +8.0
HHC pmax pmax
comp=Z,33nm,1.3s
HHC pmax pmax
comp=Z,230nm,5.8s
HHC LR LR
comp=Z,350nm,16.7s
HHC LR LR
comp=Z,430nm,17.6s
JTS **Las Juntas de** 91.05 80 P P **11 22 09.5 +0.7**
VNA1 **Neumayer--Stat** 91.18 175 P P **11 22 07.9 -0.3**
MIAR **Mount Ida** 91.36 54 P P **11 22 09.9 +0.2**
baz=249
W39A **Magazine** 91.43 54 P P **11 22 10.5 +0.4**
baz=249
YKA **Yellowknife Ar** 92.01 23 P P 11 22 09.6 -2.5
comp=Z,2.8nm,1.0s,baz=240,slow=4.0,SNR=5.3
YKA LR LR 11 58 44.0
comp=Z,319nm,19.0s,baz=0.0,slow=32
MDND **Maddock** 92.19 40 P P **11 22 13.4 +0.1**
baz=246
ECSD **EROS Data Cent** 92.50 45 P P **11 22 15.0 +0.2**
baz=248
U40A **Yellville** 92.54 53 P P **11 22 15.7 +0.5**
baz=250
KMI **Kunming** 92.56 295 ⇑P P **11 22 16.3 +0.5**
KMI pmax pmax
comp=Z,11nm,1.8s
KMI LR LR
comp=Z,260nm,36.3s
W41B **Gary Mavity, V** 92.60 54 P P **11 22 16.2 +0.7**
baz=250
WHAR **Wooly Hollow** 92.61 54 P P **11 22 16.3 +0.7**
FCAR **Ozark Folk Cen** 92.94 53 IAmb IAmb 11 22 19.2
comp=Z,11nm,1.3s
R40A **Maddies Statio** 93.64 51 IAmb IAmb 11 22 21.3
comp=Z,12nm,1.3s
CMAR **Chiang Mai Arr** 93.90 288 P P **11 22 23.2 +1.4**
comp=Z,1.0nm,0.4s,baz=77,slow=2.5,SNR=8.0
CMAR LR LR 12 01 39.3
comp=Z,246nm,20.3s,baz=166,slow=34
CMAR **Chiang Mai Arr** 93.90 288 P P **11 22 21.9 0.0**
T42A **Van Buren** 94.10 53 P P **11 22 22.5 +0.1**
T42A IAmb IAmb 11 22 32.9
comp=Z,5.4nm,1.1s
AGMN **Agassiz Nation** 94.68 41 P P **11 22 23.9 -0.9**
baz=249
LZH **Lanzhou** 95.07 306 *e*P P **11 22 29.7 +2.6**
LZH pmax pmax
comp=Z,19nm,1.1s
LZH pmax pmax
comp=Z,77nm,4.9s
LZH LR LR
comp=Z,170nm,17.0s
LZH LR LR
comp=Z,180nm,17.3s
ULM **Lac du Bonnet** 95.38 39 P P **11 22 26.6 -1.3**
comp=Z,1.4nm,0.3s,baz=204,slow=4.0,SNR=3.0
ULM LR LR 12 02 26.8
comp=Z,936nm,18.2s,baz=250,slow=34
SONM **Songino Array** 96.97 318 LR LR 12 02 49.4
comp=Z,145nm,19.4s,baz=72,slow=33
LPAZ **La Paz** 98.47 110 LR LR 11 58 35.5
comp=Z,325nm,19.3s,baz=271,slow=30
GTA **Gaotai** 99.09 308 *e*P **Pdif** **11 22 45.2 +0.1**
GTA pP sP 11 22 52.7 +5.2
GTA sP pwP 11 22 55.7 +2.5
GTA SKS **SKSac** **11 33 18.4 -5.4**
GTA S **S** **11 34 11.0 -5.5**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,130nm,7.1s
GTA LR LR
comp=Z,240nm,19.4s
GTA LR LR
comp=Z,2μm,18.7s
GTA LR LR
comp=Z,310nm,18.4s
ROSC **El Rosal** 99.51 88 LR LR 12 01 06.2
comp=Z,119nm,18.1s,baz=175,slow=31
R56A **Bull Pasture M** 103.39 54 P **Pdif** **11 23 04.3 +0.1**
baz=258
D49A **Beulah Townshi** 103.77 44 P **Pdif** **11 23 05.8 +0.2**
baz=259
Q57A **Strasburg** 104.28 53 P **Pdif** **11 23 07.3 -0.7**
baz=259
G54A **Lake Saint Pet** 105.66 47 P **PKiKP** **11 27 26.5 -0.6**
baz=261
KSH **Kashi** 117.32 306 *e*PKP **PKPdf** **11 27 51.4 +1.8**
KSH PP **PP** **11 29 08.3 +7.5**
KSH AMB AMB
comp=Z,100nm,6.8s
KSH LR LR
comp=Z,480nm,10.4s
KSH LR LR
comp=Z,490nm,10.6s
BRVK **Borovoye** 120.13 322 PKPdf **PKPdf** **11 27 54.0 -0.4**
KKAR **Karatay Array** 121.32 310 **PKPdf** **11 27 56.3 -0.7**
ARCES **ARCESS Array B** 127.00 352 PKP **PKPdf** **11 28 06.2 -1.0**
comp=Z,4.2nm,0.9s,baz=350,slow=2.7,SNR=9.7
KLMR **Klimovskoe** 131.18 340 *e*PKPdf **PKPdf** **11 28 14.3 -0.9**
KLMR AMP 11 28 17.6
comp=Z,20nm,1.5s
GEYT **Alibeck** 131.35 305 PKP **PKPdf** **11 28 14.9 -1.5**
comp=Z,1.8nm,0.4s,baz=186,slow=13,SNR=1.5
FINES **FINESS Array B** 134.34 347 PKP **PKPdf** **11 28 19.6 -1.5**
comp=Z,3.2nm,0.9s,baz=114,slow=2.3,SNR=4.4
NOA **NORSAR Array B** 136.66 357 PKP **PKPdf** **11 28 23.2 -2.4**
comp=Z,2.1nm,1.1s,baz=14,slow=4.1,SNR=2.6
AKASG **Malin Array Be** 142.71 337 PKP **PKPdf** **11 28 33.9 -2.9**
comp=Z,3.1nm,1.0s,baz=24,slow=2.2,SNR=6.7
AKASG **Malin Array Be** 142.71 337 **PKPdf** **11 28 34.8 -2.0**
KMBO **Kilima Mbogo** 144.98 241 PKP **PKPab** **11 28 43.2 +1.7**
comp=Z,11nm,0.9s,baz=65,slow=4.8,SNR=16
IBBN **Ibbenburen** 145.51 359 *e*PKPbc **PKPdf** **11 28 40.8 -0.9**
baz=7.4,slow=2.7
ASSE **Asse, Remlinge** 145.58 356 *e*PKPbc **PKPdf** **11 28 41.3 -0.4**
baz=7.4,slow=2.7
CLZ **Clausthal** 145.89 357 *e*PKPbc **PKPdf** **11 28 42.7 +0.3**
baz=7.4,slow=2.7
OJC **Ojcow** 146.06 345 *e*PKP **PKPdf** **11 28 43.3 +0.6**
KSP **Ksiaz** 146.19 350 *e*PKP **PKPdf** **11 28 44.0 +1.1**
CLL **Collm** 146.20 353 ⇑*i*PKPbc **PKPdf** **11 28 43.2 +0.3**
comp=Z,101nm,1.2s
CLL *i* pPKPdf **PKiKP** **11 28 53.9 +6.8**
comp=Z,80nm,1.4s
CLL *e*pPKiKP pPKiKP 11 29 01.0 +12
CLL Lm MLR 12 37 00.0
comp=Z,400nm,18.4s
CLL **Collm** 146.20 353 *e*PKPbc **PKPdf** **11 28 43.1 +0.2**
baz=7.4,slow=2.7
GTTG **Gottingen** 146.20 357 *e*PKPbc **PKPdf** **11 28 43.6 +0.7**
baz=7.4,slow=2.7
CHVC **Chvalec** 146.48 350 *e*PKP **PKPdf** **11 28 45.2 +1.7**
OSTC **Ostas** 146.48 350 *e*PKP **PKPdf** **11 28 45.3 +1.9**
OSTC AMS AMS 12 32 30.0
comp=Z,300nm,17.0s
BRG **Berggiesshubel** 146.51 352 *e*PKPbc **PKPdf** **11 28 44.1 +0.7**
baz=7.4,slow=2.7
FBE **Freiberg** 146.54 353 *e*PKPbc **PKPdf** **11 28 45.0 +1.5**
baz=7.4,slow=2.7
UPC **Upice** 146.56 350 *e*PKP **PKPdf** **11 28 45.3 +1.7**
UPC AMS AMS 12 32 20.0
comp=Z,300nm,21.6s
KOLS **Kolonicke sedl** 146.57 342 *e*PKP **PKPdf** **11 28 46.4 +2.8**
DPC **Dobruska-Polom** 146.66 349 *e*PKP **PKPdf** **11 28 45.7 +1.9**
DPC AMS AMS 12 33 50.0
comp=Z,300nm,16.0s
NIE **Niedzica** 146.68 344 *e*PKP **PKPdf** **11 28 45.9 +2.1**
BUR08 **Bucovina Ar. S** 146.73 338 **PKPdf** **11 28 45.6 +1.6**
BURAR **Bucovina Array** 146.75 338 ⇑P **PKPdf** **11 28 46.2 +2.1**
BURAR **Bucovina Array** 146.75 338 **PKPdf** **11 28 45.0 +0.8**
PVCC **Panska Ves** 146.77 351 *e*PKP **PKPdf** **11 28 45.8 +1.9**
PVCC AMS AMS 12 44 20.0
comp=Z,300nm,17.9s
OKC **Ostrava-Krasne** 146.79 347 *e*PKP **PKPdf** **11 28 46.4 +2.4**
CRVS **Cervenica-Dubn** 146.84 343 *e*PKP **PKPdf** **11 28 46.6 +2.5**
KRLC **Kraliky** 146.84 349 *e*PKP **PKPdf** **11 28 46.1 +2.0**
KRLC AMS AMS 12 30 40.0
comp=Z,200nm,17.8s
MORC **Moravsky Berou** 146.98 348 ⇑P **PKPdf** **11 28 47.1 +2.7**
MORC **Moravsky Berou** 146.98 348 *e*PKP **PKPdf** **11 28 45.8 +1.5**
MORC **Moravsky Berou** 146.98 348 **PKPdf** **11 28 46.0 +1.6**
MOX **Moxa** 146.99 355 *e*PKPbc **PKPdf** **11 28 45.3 +1.0**
baz=7.4,slow=2.7
TESR **Tescani** 147.11 335 ⇑P **PKPdf** **11 28 46.4 +1.8**
LANS **Liptovska Anna** 147.13 345 *e*PKP **PKPbc** **11 28 49.0 +2.2**
TANN **Tannenbergstha** 147.13 354 *e*PKPbc **PKPdf** **11 28 46.4 +1.8**
baz=7.4,slow=2.7
GHRR 147.16 334 ⇑P **PKPdf** **11 28 47.8 +3.1**
TRPA **Tarpa** 147.21 341 ⇓P **PKPdf** **11 28 44.8 +0.1**
BSTI **Sart Tilman** 147.21 2 PKiKP **PKPdf** **11 28 47.9 +3.3**
PRA **Prague** 147.23 351 AMS AMS 12 42 20.0
comp=Z,200nm,17.4s
WERN **Wernitzgruen** 147.27 354 *e*PKPbc **PKPdf** **11 28 47.0 +2.1**
baz=7.4,slow=2.7
PRU **Pruhonice** 147.30 351 *e*PKP **PKPdf** **11 28 47.2 +2.4**
PRU AMS AMS 12 38 30.0
comp=Z,400nm,19.7s
GAZ **Gaziantep** 147.30 312 **PKPdf** **11 28 46.6 +1.3**
NKC **Novy Kostel** 147.32 354 AMS AMS 12 39 50.0
comp=Z,300nm,15.5s
GOPC **GO Pecny, Ondr** 147.33 351 *e*PKP **PKPdf** **11 28 48.0 +3.1**
GOPC AMS AMS 12 38 40.0
comp=Z,400nm,15.3s
BGES **Gesves** 147.39 3 PKPdf **PKPdf** **11 28 46.4 +1.5**
BHOU **Houvegnez** 147.45 1 PKiKP **PKPdf** **11 28 48.1 +3.1**
ILGA **Ilgaz** 147.48 321 **PKPdf** **11 28 48.0 +2.3**
CFR **Carcaliu** 147.54 332 ⇑P **PKPdf** **11 28 47.5 +2.1**
TNS **Taunus Mts** 147.58 359 *e*PKPbc **PKPdf** **11 28 47.7 +2.4**
baz=7.4,slow=2.7
MANZ **Manzenberg** 147.59 354 *e*PKPbc **PKPdf** **11 28 47.9 +2.6**
baz=7.4,slow=2.7
VRI **Vrincioaia** 147.60 334 ⇑P **PKPdf** **11 28 48.6 +3.1**
VRAC **Vranov** 147.61 349 ⇑P **PKPdf** **11 28 45.6 +0.2**
VRAC **Vranov** 147.61 349 *e*PKP **PKPdf** **11 28 48.3 +2.9**
PLOR **Plostina** 147.65 334 ⇑P **PKPdf** **11 28 46.6 +1.1**
DOU **Dourbes** 147.66 3 PKiKP **PKPdf** **11 28 49.3 +3.9**
TOPG **Topolog** 147.66 331 ⇑P **PKPdf** **11 28 46.0 +0.4**
ROTZ **Rotzenmuhle** 147.80 354 *e*PKPbc **PKPdf** **11 28 48.1 +2.5**
baz=7.4,slow=2.7
JAVC **Velka Javorina** 147.82 347 *e*PKP **PKPdf** **11 28 48.7 +2.9**
TREC **Trest** 147.82 350 AMS AMS 12 36 30.0
comp=Z,300nm,16.8s
KRUC **Moravsky** 147.88 349 *e*PKP **PKPdf** **11 28 47.8 +2.0**
VYHS **Vyhne** 147.90 345 *e*PKP **PKPdf** **11 28 49.1 +3.2**
TIRR **Tirgusor** 147.96 331 ⇑P **PKPdf** **11 28 45.6 -0.5**
GRA1 **Grafenberg Arr** 147.97 355 **PKPdf** **11 28 49.5 +3.6**
GRF **Grafenberg Arr** 147.97 355 *e*PKPbc **PKPdf** **11 28 49.0 +3.1**
baz=7.4,slow=2.7
HARR **Harsova** 148.00 332 ⇑P **PKPdf** **11 28 49.7 +3.6**
DOPR **Dopca** 148.06 336 ⇑P **PKPdf** **11 28 49.6 +3.4**
WLF **Walferdange** 148.15 1 PKPdf **PKPdf** **11 28 49.4 +3.2**
WLF **Walferdange** 148.15 1 *e*PKPbc **PKPdf** **11 28 49.6 +3.3**
baz=7.4,slow=2.7
PSZ **Piszkesteto** 148.16 344 ⇑P **PKPdf** **11 28 48.8 +2.4**
MLR **Muntele Rosu** 148.23 335 ⇓P **PKPdf** **11 28 50.2 +3.5**
MLR **Muntele Rosu** 148.23 335 **PKPdf** **11 28 48.0 +1.3**
KHC **Kasperske Hory** 148.27 352 *e*PKP **PKPdf** **11 28 49.4 +2.9**
KHC AMS AMS 12 43 30.0
comp=Z,200nm,16.8s
BR131 **Keskin Array S** 148.32 319 **PKPdf** **11 28 46.0 -1.1**
BRTR **Keskin Array B** 148.32 319 PKPbc **PKPdf** **11 28 47.2 +0.2**
comp=Z,5.2nm,1.0s,baz=90,slow=0.4,SNR=13
BRTR **Keskin Array B** 148.32 319 **PKPdf** **11 28 45.5 -1.5**
WET **Wettzell** 148.34 353 *e*PKPbc **PKPdf** **11 28 49.3 +2.7**
baz=7.4,slow=2.7
MODS **Modra-Piesok** 148.36 347 *e*PKP **PKPdf** **11 28 50.4 +3.7**
GEC2 **GERESS Array S** 148.53 352 *e*PKPbc **PKPdf** **11 28 49.6 +2.5**
baz=7.4,slow=2.7
GERES **GERESS Array B** 148.53 352 PKPbc **PKPdf** **11 28 48.3 +1.3**
comp=Z,6.3nm,1.0s,baz=50,slow=2.3,SNR=23
GERES **GERESS Array B** 148.53 352 **PKPdf** **11 28 47.5 +0.5**
ARR **Arges** 148.85 336 ⇑P **PKPdf** **11 28 51.8 +4.2**

CONA	**Conrad Observa**	**149.07**	**349**	*i* PKPbc	**PKPdf**	**11**	**28**	**49.9 +2.0**
	comp=Z,28nm,1.1s,SNR=8.4							
SIRR	**Siria**	**149.13**	**340**	⇑P	**PKPdf**	**11**	**28**	**52.0 +4.0**
MDUB	**Mudurnu**	**149.33**	**323**	PKPbc	**PKPdf**	**11**	**28**	**51.5 +2.9**
MOA	**Molln**	**149.42**	**351**	*i* PKiKP	**PKPdf**	**11**	**28**	**51.9 +3.5**
	comp=Z,10nm,1.2s							
BFO	**Black Forest**	**149.48**	**359**	*e*PKPbc	**PKPdf**	**11**	**28**	**52.5 +4.0**
	baz=7.4,slow=2.7							
BFO	**Black Forest**	**149.48**	**359**		**PKPdf**	**11**	**28**	**52.6 +4.1**
BZS	**Buzias**	**149.72**	**340**	⇑P	**PKPdf**	**11**	**28**	**52.2 +3.4**
RJOB	**Jochberg**	**149.74**	**353**	*e*PKPbc	**PKPdf**	**11**	**28**	**51.8 +2.9**
	baz=7.4,slow=2.7							
ARSA	**Arzberg**	**149.79**	**349**	*i* PKiKP	**PKPdf**	**11**	**28**	**53.2 +4.2**
	comp=Z,14nm,1.3s							
UBR	**Ueberruh**	**150.05**	**356**	*e*PKPbc	**PKPdf**	**11**	**28**	**53.7 +4.2**
	baz=7.4,slow=2.7							
HERR	**Herculane**	**150.09**	**338**	⇓P	**PKPdf**	**11**	**28**	**54.1 +4.6**
RETA	**Reutte**	**150.19**	**355**	*i* PKiKP	**PKPdf**	**11**	**28**	**54.1 +4.5**
	comp=Z,25nm,1.5s							
WATA	**Walderalm**	**150.27**	**354**	*i* PKiKP	**PKPdf**	**11**	**28**	**54.5 +4.6**
	comp=Z,18nm,1.2s							
MOTA	**Moosalm**	**150.31**	**355**	*i* PKiKP	**PKPdf**	**11**	**28**	**54.7 +4.8**
	comp=Z,18nm,1.1s							
KBA	**Koelnbreinsper**	**150.31**	**352**	*i* PKiKP	**PKPdf**	**11**	**28**	**54.3 +4.3**
	comp=Z,13nm,1.4s							
WTTA	**Wattenberg**	**150.34**	**354**	*i* PKiKP	**PKPdf**	**11**	**28**	**54.0 +4.0**
	comp=Z,37nm,1.8s,SNR=7.4							
SQTA	**Sankt Quirin**	**150.42**	**354**	*i* PKiKP	**PKPdf**	**11**	**28**	**55.0 +4.8**
	comp=Z,19nm,1.0s							
MDVR	**Moldovita**	**150.43**	**339**	⇑P	**PKPbc**	**11**	**28**	**55.6 +0.3**
SOKA	**Soboth**	**150.43**	**349**	*i* PKiKP	**PKPdf**	**11**	**28**	**54.7 +4.6**
	comp=Z,21nm,1.4s							
PERS	**Pernice**	**150.46**	**349**	*i* PKPbc	**PKPdf**	**11**	**28**	**54.5 +4.4**
DAVA	**Damuels**	**150.46**	**356**	*i* PKiKP	**PKPdf**	**11**	**28**	**55.4 +5.2**
	comp=Z,22nm,1.0s							
MBAR	**Mbarara**	**150.53**	**234**		**PKPdf**	**11**	**28**	**53.3 +1.9**
FETA	**Feichten**	**150.66**	**355**	*i* PKiKP	**PKPdf**	**11**	**28**	**55.2 +4.6**
	comp=Z,28nm,1.1s,SNR=9.4							
OBKA	**Obir**	**150.68**	**350**	*i* PKiKP	**PKPdf**	**11**	**28**	**55.2 +4.7**
	comp=Z,4.6nm,1.0s							
MYKA	**Terra Mystica**	**150.71**	**351**	*i* PKiKP	**PKPdf**	**11**	**28**	**55.1 +4.6**
	comp=Z,15nm,1.2s							
ABTA	**Abfaltersbach**	**150.75**	**353**	*i* PKiKP	**PKPdf**	**11**	**28**	**55.5 +4.9**
	comp=Z,36nm,1.2s,SNR=10							
CSS	**Mathiatis**	**151.12**	**312**		**PKPbc**	**11**	**28**	**57.3 +0.1**
BOJS	**Bojanci**	**151.52**	**348**	*i* PKPbc	**PKPdf**	**11**	**28**	**57.3 +5.6**
CTI	**Castel Tesino**	**151.54**	**354**	PKPdf	**PKPdf**	**11**	**28**	**52.4 +0.6**
PDG	**Podgorica**	**153.34**	**340**	⇑P	**PKPbc**	**11**	**29**	**02.8 +0.8**
ESDC	**Sonseca Array**	**156.09**	**22**	PKP	**PKPdf**	**11**	**28**	**58.8 +0.4**
	comp=Z,0.6nm,1.0s,baz=343,slow=2.2,SNR=1.9							
ESDC				PKPab	**PKPab**	**11**	**29**	**25.4 -0.4**
	comp=Z,1.8nm,1.1s,baz=326,slow=5.8,SNR=4.7							
TIP	**Timpagrande**	**157.08**	**341**	⇑P	**PKPdf**	**11**	**28**	**59.1 -0.7**
TORD	**Torodi Ar. Bea**	**172.99**	**130**	PKP	**PKPdf**	**11**	**29**	**12.0 -1.8**
	comp=Z,2.6nm,1.1s,baz=282,slow=1.0,SNR=7.6							
TORD				PKPab	**PKPab**	**11**	**30**	**40.4 -0.2**
	comp=Z,4.3nm,0.9s,baz=261,slow=4.9,SNR=13							

*IDC **11** 11:32:34.3±2.1, 15.00S×173.74W, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/24, mbtmp3.6/5, MS3.2/1, Ms1 3.2/1, ms1mx2.9/32, Error ellipse: s-maj=127.3km s-min=27.0km az=152.0*

ISC 11 11:32:31.1±4.3, 15.4S±0.9×173.0W±0.8, h10km, n13, σ0s18/6, mb3.5/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.86**	**38**	Pn	**Pb**	**11 33 05.3**	**0.0**
	15nm,0.3s,baz=237,slow=2.3,SNR=28						
AFI				Sn	**Sn**	**11 33 26.8**	**0.0**
	37nm,0.3s,baz=147,slow=22,SNR=8.1						
AFI				LR	LR	11 33 40.2	
	comp=Z,477nm,18.7s,baz=224,slow=30						
H11S2	**WAKE ISLAND Hy**	**39.16**	**329**	T	T	12 21 00.0	
	baz=149,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**39.17**	**329**	T	T	12 21 01.0	
	baz=149,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**39.18**	**329**	T	T	12 20 52.5	
	baz=149,slow=76,SNR=29						
H11N3	**WAKE ISLAND Hy**	**40.10**	**330**	T	T	12 22 14.7	
	baz=150,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**40.11**	**330**	T	T	12 22 12.2	
	baz=150,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy**	**40.12**	**330**	T	T	12 22 42.7	
	baz=150,slow=76,SNR=17						
WRA	**Warramunga Arr**	**50.25**	**257**	P	**P**	**11 41 28.2 +0.2**	
	0.6nm,1.1s,baz=93,slow=7.0,SNR=6.3						
ASAR	**Alice Springs**	**50.51**	**252**	P	**P**	**11 41 29.8 -0.2**	
	2.3nm,0.7s,baz=87,slow=7.9,SNR=24						
NVAR	**Mina Array Bea**	**74.04**	**42**	P	P	11 44 14.1 +6.6	
	0.3nm,0.7s,baz=230,slow=5.6,SNR=2.4						
TXAR	**Lajitas Array**	**80.26**	**56**	P	P	11 44 49.0 +6.5	
	0.3nm,0.9s,baz=248,slow=7.3,SNR=1.6						
SONM	**Songino Array**	**95.11**	**318**	P	**P**	**11 45 54.5 -0.1**	
	0.4nm,0.5s,baz=95,slow=6.6,SNR=2.3						
BRTR	**Keskin Array B**	**146.40**	**321**	PKPbc	**PKiKP**	**11 52 16.0 +0.1**	
	0.6nm,0.7s,baz=157,slow=4.1,SNR=2.9						

*IDC **11** 11:42:32.4±6.3, 31.25S×179.99W, h429km±65km, mb2.9/2, mb1 3.2/3, mb1mx2.9/21, mbtmp3.9/3, Error ellipse: s-maj=71.4km s-min=32.6km az=20.0*

ISC 11 11:42:27.2±1.6, 30.97S±0.10×179.9W±0.3, h377km, n19, σ2s48/21, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.68**	**198**	P	**P**	**11 44 21.7 +2.9**	
	1.8nm,0.3s,baz=280,slow=3.1,SNR=24						
URZ				S	**S**	**11 45 48.6 +0.1**	
	4.5nm,0.3s,baz=246,slow=23,SNR=21						
SNGZ	**Shannon Statio**	**8.12**	**196**	P	**S**	**11 46 01.0 +3.0**	
WHHZ	**Waihua**	**8.43**	**196**	P	**S**	**11 46 06.0 +1.5**	
NMHZ	**Naumai**	**8.55**	**198**	P	**S**	**11 46 09.2 +1.9**	
KWHZ	**Kaweka Forest**	**8.96**	**199**	P	**S**	**11 46 17.0 +0.9**	
CKHZ	**Cape Kidnapper**	**9.02**	**195**	P	**S**	**11 46 15.5 -1.7**	
KRHZ	**Kereru**	**9.18**	**199**	P	**S**	**11 46 18.7 -2.0**	
KAHZ	**Kahuranaki**	**9.19**	**196**	P	**S**	**11 46 17.4 -3.6**	
PXZ	**Pawanui**	**9.42**	**196**	P	**S**	**11 46 22.6 -3.2**	
PNHZ	**Pukenui**	**9.48**	**199**	P	**S**	**11 46 25.4 -1.7**	
WPHZ	**Waipukurau**	**9.56**	**197**	P	**S**	**11 46 28.3 -0.3**	
TSZ	**Takapari Road**	**9.68**	**199**	P	**S**	**11 46 28.1 -3.3**	
PRHZ	**Porangahau**	**9.70**	**196**	P	**S**	**11 46 25.3 -6.4**	
ASAR	**Alice Springs**	**41.48**	**268**	P	**P**	**11 49 39.5 +0.2**	
	0.3nm,0.4s,baz=105,slow=7.6,SNR=10						
ASAR				PcP	**PcP**	**11 51 28.6 -0.2**	
	0.2nm,0.5s,baz=122,slow=3.6,SNR=4.9						
WRA	**Warramunga Arr**	**42.53**	**274**	P	**P**	**11 49 47.5 0.0**	
	0.8nm,0.3s,baz=111,slow=8.0,SNR=30						
MKAR	**Makanchi Array**	**116.92**	**310**	PKP	**PKPdf**	**12 00 26.7 -0.6**	
	0.2nm,0.5s,baz=107,slow=1.5,SNR=2.5						
KBZ	**Khabaz**	**144.09**	**303**	PKP	**PKPdf**	**12 01 17.7 -0.6**	
	1.6nm,0.6s,baz=44,slow=2.6,SNR=3.8						
FINES	**FINESS Array B**	**145.11**	**338**	PKPbc	**PKPdf**	**12 01 19.0 -0.5**	
	2.9nm,0.6s,baz=63,slow=4.4,SNR=11						
BRTR	**Keskin Array B**	**151.45**	**297**	PKPbc	**PKPbc**	**12 01 36.7 -0.5**	
	0.8nm,0.5s,baz=139,slow=4.5,SNR=4.8						

*IDC **11** 12:06:36.8±1.5, 0.71N×146.38E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/55, mbtmp3.8/8, ML3.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/36, Error ellipse: s-maj=53.8km s-min=20.5km az=109.0*

*NEIC **11** 12:06:39.1±1.2, 0.66N±0.09×146.31E±0.09, h15km±4km, mb4.2/7, Error ellipse: s-maj=14.1km s-min=12.7km az=139.0*

ISC 11 12:06:38.3±0.8, 0.6N±0.1×146.24E±0.09, h10km, n15, σ1s61/15, mb3.8/10, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**6.35**	**241**	Pn	**Pn**	**12 08 12.9 +0.9**	
	0.4nm,0.3s,baz=130,slow=16,SNR=2.0						
JAY				Sn	**Sn**	**12 09 20.9 -3.8**	
	0.5nm,0.3s,baz=316,slow=14,SNR=1.2						
JAY				LR	LR	12 10 19.6	
	comp=Z,147nm,19.8s,baz=354,slow=34						
RABL	**Rabaul**	**7.60**	**129**	Pn	**Pn**	**12 08 28.8 -0.4**	
PATS	**Pohnpei**	**13.53**	**63**	Pn	**Pn**	**12 09 49.5 -0.9**	
WB0	**Warramunga Arr**	**23.35**	**209**	P	**P**	**12 11 47.6 +0.6**	
WB0					IAmb	IAmb	12 11 56.8
	comp=Z,9.6nm,1.2s						
WR0	**Warramunga Arr**	**23.44**	**209**	P	**P**	**12 11 49.3 +1.3**	
WR0					IAmb	IAmb	12 11 56.8
	comp=Z,12nm,1.5s						
WRAB	**Tennant Creek**	**23.51**	**209**	P	**P**	**12 11 50.1 +1.4**	
WB2	**Warramunga Arr**	**23.52**	**209**	P	**P**	**12 11 49.7 +0.9**	
WB2					IAmb	IAmb	12 11 52.0
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**23.53**	**209**	P	**P**	**12 11 50.4 +1.6**	
	comp=Z,1.6nm,0.7s,baz=32,slow=10,SNR=11						
ASAR	**Alice Springs**	**26.95**	**206**	P	**P**	**12 12 22.1 +1.9**	
	comp=Z,0.9nm,0.9s,baz=31,slow=7.1,SNR=6.4						
FITZ	**Fitzroy Crossi**	**27.50**	**226**	P	**P**	**12 12 26.5 +1.4**	
	comp=Z,1.9nm,0.9s,baz=42,slow=14,SNR=1.7						
SONM	**Songino Array**	**58.33**	**330**	P	**P**	**12 16 34.9 +1.2**	
	comp=Z,0.8nm,0.9s,baz=156,slow=7.8,SNR=3.7						
SONM	**Songino Array**	**58.33**	**330**	IAmb	IAmb	12 16 35.4	
	comp=Z,1.3nm,1.2s						
MKAR	**Makanchi Array**	**71.98**	**320**	P	**P**	**12 18 02.3 +0.1**	
	comp=Z,0.5nm,0.7s,baz=121,slow=5.7,SNR=3.1						
ZALV	**Zalesovo Beam**	**73.06**	**327**	P	**P**	**12 18 08.1 -0.4**	
	comp=Z,0.9nm,0.4s,baz=116,slow=9.8,SNR=2.0						
ILAR	**Eielson Array**	**79.75**	**24**	P	**P**	**12 18 45.4 -0.9**	
	comp=Z,0.5nm,0.7s,baz=244,slow=6.5,SNR=6.4						

*IDC **11** 12:10:39.5±0.9, 15.57N×94.48W, h0km, mb4.0/15, mb1 4.3/16, mb1mx4.1/46, mbtmp4.0/16, ML4.2/1, MS3.8/5, Ms1 3.8/5, ms1mx3.4/31, Error ellipse: s-maj=24.1km s-min=14.5km az=67.0*

*MEX **11** 12:10:43.7±1.0, 15.41N×94.77W, h17km±11km, MD4.5*

*NEIC **11** 12:10:44.7±2.8, 15.45N±0.07×94.70W±0.04, h34km±5km, mb4.3/113, Md4.5/19(MEX), Error ellipse: s-maj=10.2km s-min=4.9km az=183.0*

ISC 11 12:10:43.0±0.8, 15.45N±0.05×94.78W±0.03, h27km±5km, n190, σ1s44/166, mb4.3/44, MS3.7/4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.32**	**284**	*e*P	Pn	12 11 04.5	-1.3
HUIG				*e*S	**Sn**	**12 11 19.6**	**-3.0**
HUIG	**Huatulco**	**1.32**	**284**		Pn	12 11 04.5	-1.3
HUIG					**Sn**	**12 11 19.6**	**-3.0**
PCIG		**1.52**	**80**	*e*P	**Pn**	**12 11 06.8**	**-1.7**
PCIG				*e*S	**Sn**	**12 11 24.3**	**-3.2**
PCIG		**1.52**	**80**		**Pn**	**12 11 06.8**	**-1.7**
PCIG					**Sn**	**12 11 24.3**	**-3.2**
CMIG	**Matias Romero**	**1.64**	**356**	Pn	**Pn**	**12 11 08.8**	**-1.3**
	469nm,0.3s,baz=163,slow=11,SNR=4605						
CMIG				Sn	**Sn**	**12 11 27.7**	**-2.7**
	740nm,0.3s,baz=145,slow=16,SNR=17						
CMIG				LR	LR	12 11 58.0	
	comp=Z,1μm,20.1s,baz=192,slow=50						
CMIG	**Matias Romero**	**1.64**	**356**	*e*P	**Pn**	**12 11 08.9**	**-1.3**
CMIG				*i* S	**Sn**	**12 11 28.4**	**-1.9**
PANG	**Puerto Angel**	**1.65**	**278**	*e*P	Pn	12 11 08.8	-1.4
PANG				*i* S	**Sn**	**12 11 27.8**	**-2.8**
PANG	**Puerto Angel**	**1.65**	**278**		Pn	12 11 08.8	-1.4
TGIG		**2.07**	**50**	*e*P	**Pn**	**12 11 15.7**	**-0.4**
TGIG				*e*S	**Sn**	**12 11 40.0**	**-1.0**
TGIG		**2.07**	**50**		**Pn**	**12 11 15.7**	**-0.4**
TGIG					**Sn**	**12 11 40.0**	**-1.0**
TGBT	**Tuxtla Gutierr**	**2.09**	**51**	*e*P	**Pn**	**12 11 15.9**	**-0.4**
TGBT				*e*S	**Sn**	**12 11 40.0**	**-1.5**
TGBT	**Tuxtla Gutierr**	**2.09**	**51**		**Pn**	**12 11 15.9**	**-0.4**
TGBT					**Sn**	**12 11 41.4**	**-0.1**
PEIG	**Puerto Escondi**	**2.35**	**284**	*e*P	**Pn**	**12 11 19.1**	**-0.9**
PEIG				*i* S	**Sn**	**12 11 47.0**	**-0.9**
VHO	**Vista Hermosa**	**2.48**	**311**	*e*P	**Pn**	**12 11 23.4**	**+1.5**
VHO				*e*S	**Sn**	**12 11 46.7**	**-4.7**
CCIG	**Comitan**	**2.67**	**72**		**Pn**	**12 11 24.1**	**-0.4**
RTAL	**Retalhuleu**	**3.12**	**107**		**Pn**	**12 11 29.9**	**-0.6**
HUEH	**Huehuetenango**	**3.16**	**92**		**Pn**	**12 11 32.3**	**+1.1**
TLIG	**Tlapa**	**4.20**	**301**	Pn	**Pn**	**12 11 47.4**	**+1.9**
ESQI	**Esquipulas**	**5.33**	**99**		**Pn**	**12 12 02.4**	**+1.4**
MTO3	**Montecristo**	**5.34**	**101**		**Pn**	**12 12 02.2**	**+0.9**
MATN	**Matagalpa**	**8.94**	**105**		**Pn**	**12 12 52.2**	**+1.7**
JTS	**Las Juntas de**	**10.86**	**117**	Pn	**Pn**	**12 13 16.7**	**-0.1**
	0.3nm,0.3s,baz=339,slow=17,SNR=1.6						
833A	**Chaparral WMA,**	**13.51**	**342**	P	**Pn**	**12 13 54.8**	**+1.8**
	baz=160,SNR=12						
833A	**Chaparral WMA,**	**13.51**	**342**	Pn	**Pn**	**12 13 54.3**	**+1.3**
435B	**Jarrell**	**15.48**	**351**	P	**Pn**	**12 14 20.2**	**+0.6**
	baz=169						
435B	**Jarrell**	**15.48**	**351**		**Pn**	**12 14 21.8**	**+2.1**
JCT	**Junction City**	**15.66**	**344**	P	**Pn**	**12 14 22.7**	**+0.7**
	baz=161						
JCT	**Junction City**	**15.66**	**344**		**Pn**	**12 14 22.2**	**+0.3**
JCT				IAmb	IAmb	12 14 37.8	
	comp=Z,27nm,0.7s						
TX31	**Lajitas Ar. Si**	**16.07**	**331**	P	**P**	**12 14 30.1**	**-0.4**
TX31				IAmb	IAmb	12 14 43.3	
	comp=Z,22nm,1.1s						
TX32	**Lajitas Array**	**16.07**	**331**		**Pn**	**12 14 29.2**	**+1.8**
TXAR	**Lajitas Array**	**16.07**	**331**	Pn	**P**	**12 14 30.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=154,slow=13,SNR=25						
TXAR	**Lajitas Array**	**16.07**	**331**	P	**P**	**12 14 30.0**	**-0.5**
WHTX	**Lake Whitney,**	**16.65**	**352**	P	**Pn**	**12 14 35.3**	**+0.8**
	baz=171						
WHTX	**Lake Whitney,**	**16.65**	**352**	P	**P**	**12 14 36.6**	**-0.1**
LPIG	**La Paz**	**16.95**	**303**	LR	LR	12 20 29.6	
	comp=Z,244nm,18.5s,baz=134,slow=34						
ABTX	**Abilene, Hawle**	**17.66**	**346**	P	**Pn**	**12 14 47.6**	**+0.4**
	baz=164,SNR=12						
ABTX	**Abilene, Hawle**	**17.66**	**346**	P	**Pn**	**12 14 48.0**	**+0.7**
ABTX				IAmb	IAmb	12 14 53.4	
	comp=Z,25nm,0.8s						
Z38A	**Mt. Pleasant**	**17.74**	**359**		**Pn**	**12 14 48.3**	**+0.2**
Z38A				IAmb	IAmb	12 15 01.7	
	comp=Z,20nm,0.8s						
Z35A	**Perchaven, San**	**17.95**	**353**		**Pn**	**12 14 51.3**	**+0.6**
Z35A				IAmb	IAmb	12 15 06.2	
	comp=Z,28nm,1.0s						
352A	**Blakely**	**18.32**	**28**	IAmb	IAmb	12 14 57.5	
	comp=Z,25nm,0.8s						
GDL2	**Guadalupe Moun**	**18.82**	**334**	P	**Pn**	**12 15 02.5**	**+0.9**
MNTX	**Cornudas Mount**	**18.85**	**331**	P	**Pn**	**12 15 02.1**	**+0.3**
	baz=146						
MNTX	**Cornudas Mount**	**18.85**	**331**	P	**P**	**12 15 01.7**	**+0.6**
MIAR	**Mount Ida**	**19.05**	**3**	P	**P**	**12 15 02.9**	**-0.3**
	baz=183						
X37A	**Clayton**	**19.07**	**358**	IAmb	IAmb	12 15 13.1	
	comp=Z,16nm,0.7s						
X34A	**Smith Ranch, M**	**19.27**	**352**	P	**Pn**	**12 15 07.5**	**+0.7**
WMOK	**Wichita Mounta**	**19.55**	**350**	P	**P**	**12 15 07.8**	**-0.9**
	baz=168,SNR=9.1						
WMOK	**Wichita Mounta**	**19.55**	**350**		**P**	**12 15 08.6**	**-0.1**
W39A	**Magazine**	**19.69**	**2**	P	**P**	**12 15 09.7**	**-0.5**
	baz=182						
W39A	**Magazine**	**19.69**	**2**		**P**	**12 15 09.8**	**-0.5**
W39A				IAmb	IAmb	12 15 26.9	
	comp=Z,7.7nm,0.6s						
W35A	**Tecumseh**	**19.71**	**355**	P	**P**	**12 15 10.7**	**+0.2**
W41B	**Gary Mavity, V**	**19.77**	**6**	P	**P**	**12 15 10.7**	**-0.4**
	baz=187						
W41B	**Gary Mavity, V**	**19.77**	**6**	P	**P**	**12 15 12.0**	**+0.9**
MSTX	**Muleshoe**	**19.81**	**340**	P	**P**	**12 15 12.4**	**+0.8**
	baz=156						
MSTX	**Muleshoe**	**19.81**	**340**	IAmb	IAmb	12 15 16.5	
	comp=Z,14nm,1.0s						
FNO	**Franklin**	**19.87**	**354**	P	**P**	**12 15 12.7**	**+0.5**
WHAR	**Wooly Hollow**	**19.89**	**6**	P	**P**	**12 15 12.4**	**+0.1**
WHAR					IAmb	IAmb	12 15 24.5
	comp=Z,19nm,1.4s						
OK025	**Westminster Rd**	**20.18**	**354**	P	**P**	**12 15 15.3**	**-0.3**
BCOK	**Bluff Creek, N**	**20.29**	**353**	P	**P**	**12 15 16.6**	**-0.2**
AMTX	**Amarillo**	**20.33**	**343**	P	**P**	**12 15 17.7**	**+0.4**
	baz=160						
AMTX	**Amarillo**	**20.33**	**343**		**P**	**12 15 18.3**	**+1.0**
TUL1	**Leonard**	**20.40**	**358**	P	**P**	**12 15 17.6**	**-0.3**
TUL1					IAmb	IAmb	12 15 21.1
	comp=Z,10nm,0.8s						
OK029	**Liberty Lake**	**20.41**	**354**	P	**P**	**12 15 18.1**	**+0.1**
FCAR	**Ozark Folk Cen**	**20.50**	**6**	P	**P**	**12 15 20.2**	**+1.2**
GOGA	**Godfrey**	**20.61**	**28**	P	Pn	12 15 22.0	-0.6
	baz=212						
GOGA	**Godfrey**	**20.61**	**28**	P	Pn	12 15 22.5	-0.1
GOGA					IAmb	IAmb	12 15 36.2
	comp=Z,6.9nm,0.7s						
QUOK	**Quay**	**20.71**	**356**		**P**	**12 15 21.3**	**0.0**
QUOK					IAmb	IAmb	12 15 25.4
	comp=Z,21nm,0.9s						
121A	**Cookes Peak, D**	**20.72**	**327**	P	Pn	12 15 24.0	-0.1
	baz=142,SNR=17						
121A	**Cookes Peak, D**	**20.72**	**327**	IAmb	IAmb	12 15 26.1	
	comp=Z,19nm,1.0s						
CBOC	**Ciudad Bolivar**	**20.73**	**115**	*e*P	**P**	**12 15 22.5**	**+0.5**
HHAR	**Hobbs**	**20.76**	**2**	P	**P**	**12 15 22.3**	**+0.4**
HHAR					IAmb	IAmb	12 15 27.1
	comp=Z,6.6nm,0.7s						
LCAR	**Lake Charles**	**20.79**	**8**	P	Pn	12 15 24.3	-0.4
U40A	**Yellville**	**20.89**	**4**	P	**P**	**12 15 22.4**	**-1.0**
	baz=185,SNR=8.4						
U40A	**Yellville**	**20.89**	**4**	IAmb	IAmb	12 15 41.9	
	comp=Z,12nm,0.9s						
U38A	**Gravette**	**20.91**	**1**	IAmb	IAmb	12 15 35.0	
	comp=Z,12nm,1.2s						
SMLC	**San Martn de**	**21.28**	**106**	*e*P	**P**	**12 15 26.3**	**-1.3**
YOTC	**Yotoco, Valle**	**21.42**	**120**	*e*P	**P**	**12 15 31.6**	**+2.3**
W50A	**Signal Mountai**	**21.43**	**22**	IAmb	IAmb	12 15 37.6	
	comp=Z,10nm,0.9s						
T35A	**Sooner Cattle**	**21.44**	**356**	P	**P**	**12 15 28.7**	**-0.5**
T35A					IAmb	IAmb	12 15 48.0
	comp=Z,11nm,0.8s						
BNM	**Barren Site**	**21.47**	**332**		**P**	**12 15 31.6**	**+1.8**
WVT	**Waverly**	**21.51**	**15**	P	**P**	**12 15 30.5**	**+0.5**
	baz=198						
WVT	**Waverly**	**21.51**	**15**		**P**	**12 15 32.2**	**+2.3**
GUY2C	**Guyana, Caldas**	**21.61**	**116**	*e*P	**P**	**12 15 32.2**	**+0.5**
KAN13	**South Haven SW**	**21.61**	**354**	P	**P**	**12 15 32.4**	**+1.3**
BBAC	**Balboa, Cauca**	**21.83**	**126**	*e*P	**P**	**12 15 33.8**	**0.0**
HODGE	**Hodges**	**21.84**	**29**	P	**P**	**12 15 36.5**	**+2.9**
HODGE					IAmb	IAmb	12 15 37.4	
	comp=Z,18nm,1.4s						
NORC	**Norcasia**	**21.88**	**115**	*e*P	**P**	**12 15 35.0**	**+0.9**
CLTN	**Cedars of Leba**	**21.90**	**19**		pP	12 15 43.5	+2.1
TOLC	**Tolima**	**21.96**	**117**	*e*P	**P**	**12 15 36.3**	**+1.0**
ANMO	**Albuquerque**	**22.07**	**334**	P	**P**	**12 15 37.8**	**+1.6**
	comp=Z,2.8nm,0.8s,baz=151,slow=13,SNR=9.6						
ANMO	**Albuquerque**	**22.07**	**334**	P	**P**	**12 15 38.0**	**+1.8**
	baz=148						
ANMO	**Albuquerque**	**22.07**	**334**	P	**P**	**12 15 37.9**	**+1.6**
S39A	**Bolivar**	**22.19**	**3**	P	**P**	**12 15 36.6**	**-0.7**
TUC	**Tucson**	**22.22**	**322**	P	**P**	**12 15 39.3**	**+1.6**
	baz=135						
TUC	**Tucson**	**22.22**	**322**	P	**P**	**12 15 39.9**	**+2.2**
TUC					IAmb	IAmb	12 15 42.9
	comp=Z,8.8nm,0.9s						
ORTC	**Ortega, Tolima**	**22.38**	**119**	*e*P	**P**	**12 15 39.9**	**+0.4**
TKL	**Tuckaleechee C**	**22.41**	**24**	P	**P**	**12 15 37.0**	**-2.6**
	comp=Z,0.7nm,0.3s,baz=246,slow=20,SNR=1.8						
TKL				S	**S**	**12 19 43.9**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=76,slow=19,SNR=1.3						
TKL	**Tuckaleechee C**	**22.41**	**24**	P	**P**	**12 15 39.8**	**+0.2**
TKL					**pP**	**12 15 44.1**	**-2.7**
U49A	**Red Boiling Sp**	**22.46**	**19**	P	**P**	**12 15 42.5**	**+2.4**
U49A					IAmb	IAmb	12 15 47.4
	comp=Z,9.4nm,1.0s						
T47A	**Sharon Grove**	**22.51**	**16**		pP	12 15 49.8	+1.8
ROSC	**El Rosal**	**22.70**	**116**	P	**P**	**12 15 46.4**	**+3.1**
	comp=Z,6.8nm,0.4s,baz=357,slow=21,SNR=6.0						
ROSC	**El Rosal**	**22.70**	**116**	IAmb	IAmb	12 15 47.1	
	comp=Z,25nm,1.1s						
R40A	**Maddies Statio**	**22.86**	**5**	P	**P**	**12 15 43.7**	**-0.7**
R32A	**Long Quarter,**	**23.15**	**352**	P	**P**	**12 15 49.2**	**+1.9**
T25A	**Trinidad**	**23.24**	**340**	P	**P**	**12 15 49.8**	**+1.3

HLID	**Hailey**	**32.65**	**333**	IAmb	IAmb	12 17 15.7
	comp=Z,3.1nm,0.8s					
AGMN	**Agassiz Nation**	**32.77**	**359**	P	**P**	**12 17 13.0 -0.8**
	baz=178					
AGMN	**Agassiz Nation**	**32.77**	**359**	P	**P**	**12 17 15.2 +1.4**
BOZ	**Bozeman (W)**	**33.23**	**338**	P	**P**	**12 17 19.0 +0.9**
	baz=149					
DLMT	**Dillon**	**33.39**	**337**	IAmb	IAmb	12 17 22.0
	comp=Z,6.3nm,0.9s					
WVOR	**Wild Horse Val**	**33.82**	**327**	P	**P**	**12 17 25.1 +2.0**
WVOR				IAmb	IAmb	12 17 25.6
	comp=Z,3.1nm,1.0s					
J08A	**Circle Bar Ran**	**34.40**	**329**	P	**P**	**12 17 30.1 +1.9**
ULM	**Lac du Bonnet**	**34.72**	**359**	P	**P**	**12 17 29.1 -1.6**
	comp=Z,4.6nm,0.9s,baz=198,slow=6.4,SNR=2.3					
EGMT	**Eagleton**	**34.76**	**342**	P	**P**	**12 17 31.5 +0.3**
	baz=154					
MSO	**Missoula**	**35.13**	**337**	P	**P**	**12 17 35.3 +0.9**
	baz=146					
MSO	**Missoula**	**35.13**	**337**	IAmb	IAmb	12 17 45.8
	comp=Z,10nm,1.5s					
PTGA	**Pitinga**	**37.97**	**112**	P	**P**	**12 17 58.5 -0.4**
	comp=Z,1.5nm,0.8s,baz=252,slow=20,SNR=1.7					
PTGA	**Pitinga**	**37.97**	**112**	IAmb	IAmb	12 18 09.0
	comp=Z,4.6nm,0.9s					
LPAZ	**La Paz**	**41.06**	**139**	P	**P**	**12 18 25.2 -0.1**
	comp=Z,0.7nm,0.7s,baz=277,slow=8.1,SNR=2.2					
LPAZ				LR	LR	12 34 47.2
	comp=Z,95nm,18.9s,baz=340,slow=35					
LPAZ	**La Paz**	**41.06**	**139**	IAmb	IAmb	12 18 30.2
	comp=Z,3.2nm,1.4s					
SCHQ	**Schefferville**	**44.87**	**23**	LR	LR	12 39 30.9
	comp=Z,99nm,19.2s,baz=258,slow=39					
YKA	**Yellowknife Ar**	**49.03**	**348**	P	**P**	**12 19 26.4 -1.0**
	comp=Z,2.6nm,0.8s,baz=154,slow=7.0,SNR=5.4					
DLBC	**Dease Lake**	**50.26**	**337**	P	**P**	**12 19 37.6 +0.7**
	comp=Z,2.4nm,0.9s,baz=178,slow=7.6,SNR=3.3					
K27K	**Chicken**	**58.29**	**338**	P	**P**	**12 20 35.5 +0.3**
	baz=124					
INK	**Inuvik**	**58.31**	**344**	P	**P**	**12 20 35.3 +0.1**
	comp=Z,2.2nm,0.6s,baz=108,slow=4.4,SNR=5.6					
INK	**Inuvik**	**58.31**	**344**	IAmb	IAmb	12 20 45.5
	comp=Z,3.2nm,0.8s					
SCRK	**Sand Creek**	**58.97**	**337**	P	**P**	**12 20 40.2 +0.1**
	baz=121					
PLCA	**Paso Flores**	**60.25**	**159**	P	**P**	**12 20 49.0 -0.1**
	comp=Z,2.9nm,1.0s,baz=359,slow=12,SNR=4.5					
PLCA	**Paso Flores**	**60.25**	**159**	IAmb	IAmb	12 20 55.1
	comp=Z,6.9nm,1.2s					
ILAR	**Eielson Array**	**60.47**	**337**	P	**P**	**12 20 50.4 +0.1**
	comp=Z,1.9nm,0.9s,baz=142,slow=4.2,SNR=16					
ILAR	**Eielson Array**	**60.47**	**337**	P	**P**	**12 20 50.1 -0.1**
TCOL	**CIGO, UAF Yank**	**60.88**	**337**	P	**P**	**12 20 53.4 +0.4**
	baz=118					
COLD	**Coldfoot**	**62.82**	**339**	P	**P**	**12 21 06.6 +0.6**
	baz=117					
EKA	**Eskdalemuir Ar**	**78.36**	**36**	P	**P**	**12 22 40.0 -1.0**
	comp=Z,0.5nm,0.3s,baz=273,slow=4.8,SNR=2.0					
ESDC	**Sonseca Array**	**80.92**	**51**	P	**P**	**12 22 55.1 -0.2**
	comp=Z,3.2nm,0.9s,baz=296,slow=4.4,SNR=14					
GERES	**GERESS Array B**	**90.18**	**39**	P	**P**	**12 23 40.0 -1.2**
	comp=Z,0.2nm,0.3s,baz=274,slow=4.6,SNR=2.6					
LZH	**Lanzhou**	**125.80**	**341**	*e*PKP	**PKPdf**	**12 29 42.5 -0.6**
LZH				pPKP	pPKPdf	12 29 53.6 +1.7
LZH				sPKP		12 29 56.8

*SOME **11** 12:11:48.0, 43°.63N×89°.22E, h0km*
*NNC **11** 12:12:21.4±2.4, 43°.53N×87°.62E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=21.4km s-min=13.0km az=143.0*
ISC 11 12:12:00.9±4.7**, 43°.5N**±0°.2×**90°.8E**±0°.2**, h10**km**, n9,**
σ4^{S}28/10, 5C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**5.76**	**316**	*e*P		**Pn**	**12 13 21.7**	**-4.7**
	2.4nm,0.1s							
ZSN				*e*S		**Sn**	**12 14 32.4**	**-0.2**
	12nm,0.3s							
ZSN	**Zaisan**	**5.76**	**316**	Pg		**Pg**	**12 13 54.5**	**+3.3**
	4.2nm,0.2s							
ZSN				Lg		Lg	12 14 32.2	
	12nm,0.3s							
MK31	**Makanchi Array**	**6.86**	**302**	⇓Pn		**Pn**	**12 13 38.0**	**-3.5**
	0.5nm,0.4s,baz=128,slow=14,SNR=11							
MK31				⇑Lg		Lg	12 14 58.1	
	2.0nm,0.6s,baz=129,slow=28,SNR=7.5							
MAKZ	**Makanchi**	**7.06**	**301**	⇑Pn		**Pn**	**12 13 40.3**	**-4.0**
	1.7nm,0.5s							
MAKZ				⇑Lg		Lg	12 15 04.8	
	4.1nm,0.8s							
DJR	**Jarkent**	**7.97**	**280**	*e*P		**Pn**	**12 13 54.3**	**-2.6**
	0.9nm,0.3s							
DJR				*e*S		**Sn**	**12 15 21.7**	**-5.4**
	5.4nm,0.3s							
DJR	**Jarkent**	**7.97**	**280**	Pg		**Pb**	**12 14 23.8**	**+4.7**
	0.8nm,0.2s							
DJR				Lg		Lg	12 15 22.7	
	5.4nm,0.3s							
PDGK	**Podgornoye**	**8.21**	**273**	⇑Pn		Pn	12 13 49.1	-11
	3.4nm,1.1s							
PDGK				⇑Sn		Sn	12 15 01.2	-32
	7.0nm,0.8s							
PDGK				⇓Lg		Lg	12 15 28.5	
	9.4nm,0.8s							
KAPS	**Kapalarasan**	**8.37**	**287**	*e*P		**Pn**	**12 14 01.5**	**-0.8**
	0.5nm,0.5s							
KAPS				*e*S		**Sn**	**12 15 34.1**	**-2.8**
	4.2nm,0.6s							
KAPS	**Kapalarasan**	**8.37**	**287**	Pg		Pg	12 14 28.2	-13
	0.6nm,0.4s							
KAPS				Lg		Lg	12 15 29.8	
	4.2nm,0.6s							

*ISK **11** 12:15:52.0, 38°.08N×42°.72E, h8km, ML2.5/7*
*DDA **11** 12:15:52.0, 38°.09N×42°.66E, h7km±1km, ML2.0*
ISC 11 12:15:52.5±1.0**, 38°.10N**±0°.03×**42°.70E**±0°.03**, h11**km±10km**, n14,** σ0^{S}**76/22, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AKDM	**Akdamar-Van**	**0.32**	**44**	PG		**Pg**	**12 15 58.9**	**0.0**
AKDM				SG		**Sg**	**12 16 03.9**	**+0.7**
GEVA	**Gevas**	**0.35**	**53**	*i* P		**Pg**	**12 15 59.5**	**-0.1**
GEVA				*i* S		**Sg**	**12 16 05.2**	**+0.9**
GEVA				IAML			12 16 06.0	
	comp=N,993nm,0.3s							
BLIS	**Bitlis-Merkez**	**0.56**	**304**	*i* P		**Pg**	**12 16 02.8**	**-0.5**
BLIS				*i* S		**Sg**	**12 16 10.7**	**0.0**
BLIS				IAML			12 16 12.0	
	comp=N,159nm,0.4s							
SIRT	**Sirnak**	**0.63**	**199**	PG		**Pg**	**12 16 04.3**	**-0.5**
SIRT				SG		**Sb**	**12 16 13.9**	**-0.7**
SIRN	**Sırnak**	**0.65**	**201**	*i* P		**Pb**	**12 16 06.1**	**+0.3**
SIRN				*i* S		**Sb**	**12 16 14.0**	**-0.8**
SIRN				IAML			12 16 19.0	
	comp=N,133nm,0.7s							
GURO	**Guroymak-BITLI**	**0.69**	**311**	PG		**Pb**	**12 16 06.3**	**-0.4**
VANB	**Van**	**0.73**	**47**	PG		**Pg**	**12 16 05.3**	**-1.4**
HAKT	**HAKKARI**	**0.96**	**124**	*i* P		**Pg**	**12 16 10.7**	**-0.4**
HAKT				*i* S		**Sn**	**12 16 25.3**	**-0.8**
HAKT				IAML			12 16 29.0	
	comp=N,17nm,0.3s							
CUKT	**Cukurca**	**1.12**	**140**	PN		**Pg**	**12 16 13.3**	**-0.6**
MUSM	**Mu-Merkez**	**1.12**	**304**	*i* P		**Pg**	**12 16 13.0**	**-1.1**
MUSM				*i* S		**Sb**	**12 16 28.6**	**-0.1**
MUSM				IAML			12 16 36.0	
	comp=N,20nm,0.6s							
BTMN	**Batman**	**1.15**	**260**	*i* P		**Pn**	**12 16 15.4**	**+0.8**
BTMN				IAML			12 16 34.0	
	comp=N,44nm,0.4s							
SVAN	**Silvan-Diyarba**	**1.19**	**273**	PN		**Pn**	**12 16 15.5**	**+0.4**
SVAN				SN		**Sn**	**12 16 32.5**	**+1.3**
AGRB	**Hanur-Agry**	**1.49**	**9**	PN		**Pb**	**12 16 20.1**	**-0.2**
MAZI	**Mazidag**	**1.90**	**251**	PN		**Pn**	**12 16 25.7**	**+0.8**

*NDI **11** 12:17:11.8±4.1, 33°.49N×88°.31E, h15km±999km, ML3.6, MS3.9, mb4.2(NEIC)*
*IDC **11** 12:17:11.6±0.7, 32°.96N×87°.82E, h0km, mb3.9/22, mb1 4.1/25, mb1mx4.0/72, mbtmp3.9/25, ML3.6/3, MS3.7/11, Ms1 3.7/11, ms1mx3.4/43, Error ellipse: s-maj=20.2km s-min=13.1km az=25.0*
*BJI **11** 12:17:12.5±0.0, 33°.39N×88°.00E, h7km, mB4.6/7, mb4.5/21, ML4.3/1, Ms4.0/18, Ms7 4.0/8*
*NEIC **11** 12:17:13.4±2.2, 33°.05N±0°.09×87°.8E±0°.1, h10km±1km, mb4.2/15, Error ellipse: s-maj=18.6km s-min=11.4km az=227.0*
*MOS **11** 12:17:16.1±1.2, 33°.00N×87°.80E, h47km, mb4.4/14, Error ellipse: s-maj=9.7km s-min=6.3km az=117.0*
ISC 11 12:17:17.4±0.4**, 33°.15N**±0°.06×**87°.78E**±0°.04**, h35**km**, n119,**
σ2^{S}24/116, mb4.0/29, MS3.5/10, 4C-1D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.48**	**139**	Pn		**Pn**	**12 18 25.9**	**+2.6**
LSA				*s*max		*s*max		
	comp=N,410nm,0.9s							
LSA				*s*max		*s*max		
	comp=E,430nm,0.8s							
LSA	**Lhasa**	**4.48**	**139**	P		**Pn**	**12 18 21.5**	**-1.8**
LSA	**Lhasa**	**4.48**	**139**	Pn		**Pn**	**12 18 21.5**	**-1.8**
GUN	**Gumba**	**5.47**	**198**	*e*P		**Pn**	**12 18 38.5**	**+1.8**
JIRN	**Jiri**	**5.64**	**194**	*e*P		**Pn**	**12 18 42.0**	**+3.0**
	229nm,0.8s							
TAPN	**Taplejung**	**5.78**	**181**	*e*P		**Pn**	**12 18 43.9**	**+3.0**
	414nm,0.4s							
TAPN	**Taplejung**	**5.78**	**181**	*e*P		**Pn**	**12 18 44.4**	**+3.5**
	428nm,0.4s							
GKN	**Gorkha**	**5.80**	**209**	*e*P		**Pn**	**12 18 43.8**	**+2.8**
	47nm,0.4s							
GTK	**Tadong**	**5.85**	**173**	*e*P		**Pn**	**12 18 42.2**	**+0.4**
DANN	**Dangsing**	**5.90**	**217**	*e*P		**Pn**	**12 18 45.4**	**+2.8**
PKI	**Pulchokí**	**5.92**	**201**	*e*P		**Pn**	**12 18 45.3**	**+2.4**
	140nm,1.0s							
DMN	**Daman**	**5.98**	**203**	*e*P		**Pn**	**12 18 47.0**	**+3.3**
	46nm,0.4s							
RAMN	**Ramite**	**6.26**	**190**	*e*P		**Pn**	**12 18 49.4**	**+1.9**
	98nm,0.5s							
ODAN	**Odare**	**6.27**	**183**	*e*P		**Pn**	**12 18 49.8**	**+2.1**
	259nm,0.5s							
KOLN	**Koldanda**	**6.46**	**215**	*e*P		**Pn**	**12 18 52.1**	**+1.9**
	26nm,0.5s							
PYUN	**Piuthan**	**6.50**	**221**	*e*P		**Pn**	**12 18 52.8**	**+2.0**
	91nm,0.5s							
GUWA	**GUWAHATI**	**7.72**	**153**	*e*P		**Pn**	**12 19 06.6**	**-0.7**
TEZP	**TEZPUR**	**7.83**	**145**	*e*P		**Pn**	**12 19 06.4**	**-2.4**
TEZP				IAMs_20		IAMs_20	12 22 14.7	
	comp=Z,2μm,8.6s							
ITAN	**ITANAGAR**	**7.89**	**138**	*e*P		Pn	12 19 02.7	-6.9
ITAN				IAMs_20		IAMs_20	12 22 19.4	
	comp=Z,3μm,7.8s							
SHL	**Shillong**	**8.36**	**154**	P		**Pn**	**12 19 15.0**	**-1.2**
SHL	**Shillong**	**8.36**	**154**	Pn		**Pn**	**12 19 14.9**	**-1.2**
SMLA	**Simla**	**9.22**	**260**	*e*P		**Pn**	**12 19 28.5**	**+0.7**
SMLA				IAMs_20		IAMs_20	12 23 12.1	
	comp=E,947nm,5.9s							
SMLA				IAMs_20		IAMs_20	12 23 14.7	
	comp=N,565nm,7.8s							
BOK	**Bokaro**	**9.46**	**191**	*e*P		**Pn**	**12 19 31.8**	**+0.5**
DHRM	**DHARAMSHALA**	**9.71**	**268**	*e*P		**Pn**	**12 19 38.5**	**+3.6**
DHRM				IAML			12 21 37.8	
	comp=E,12nm,0.0s							
DHRM				IAML			12 22 12.9	
	comp=N,21nm,1.4s							
DHRM				IAMs_20		IAMs_20	12 23 28.5	
	comp=Z,980nm,10.7s							
WMQ	**Urumqi**	**10.66**	**360**	*e*P		**Pn**	**12 19 46.3**	**-1.3**
GTA	**Gaotai**	**11.55**	**54**	*e*P		**Pn**	**12 20 03.5**	**+3.7**
GTA				pP			12 20 07.5	
GTA				sP			12 20 10.7	
GTA				S		Sn	12 22 17.7	+10
GTA				SS		**SnSn**	**12 22 31.6**	**+12**
GTA				*s*max		*s*max		
	comp=Z,3.0nm,1.3s							
GTA				*s*max		*s*max		
	comp=Z,92nm,6.3s							
GTA				LR		LR		
	comp=N,1μm,16.5s							
GTA				LR		LR		
	comp=E,1μm,16.5s							
GTA				LR		LR		
	comp=Z,410nm,17.5s							
NIL	**Nilore**	**12.15**	**276**	P		**Pn**	**12 20 05.7**	**-2.3**
NIL	**Nilore**	**12.15**	**276**	Pn		**Pn**	**12 20 05.7**	**-2.3**
CD2	**Chengdu**	**13.74**	**95**	*e*P		**Pn**	**12 20 27.1**	**-2.7**
CD2				LR		LR		
	comp=Z,570nm,8.0s							
CD2				LR		LR		
	comp=Z,460nm,7.5s							
CD2				LR		LR		
	comp=Z,580nm,8.8s							
AAK	**Ala-Archa**	**14.12**	**316**	Pn		**Pn**	**12 20 37.0**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=249,slow=8.6,SNR=1.4							
AAK	**Ala-Archa**	**14.12**	**316**	P		**Pn**	**12 20 37.0**	**+2.0**
MK31	**Makanchi Array**	**14.26**	**345**	P		**Pn**	**12 20 34.0**	**-2.7**
MK31	**Makanchi Array**	**14.26**	**345**	Pn		**Pn**	**12 20 34.0**	**-2.7**
MKAR	**Makanchi Array**	**14.26**	**345**	Pn		**Pn**	**12 20 33.4**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=150,slow=15,SNR=19							
MKAR				*s*n		**S**	**12 23 25.9**	**-7.4**
	comp=Z,0.1nm,0.3s,baz=157,slow=26,SNR=1.4							
MKAR				LR		LR	12 26 57.8	
	comp=Z,371nm,18.0s,baz=158,slow=41							
MKAR	**Makanchi Array**	**14.26**	**345**	P		**Pn**	**12 20 35.6**	**-1.1**
MKAR							12 23 25.9	
MKAR	**Makanchi Array**	**14.26**	**345**			**Pn**	**12 20 35.6**	**-1.1**
BTK	**Batken**	**15.26**	**302**	P		**Pn**	**12 20 48.7**	**-1.5**
BTK				*p*max		*p*max		
	comp=Z,20nm,0.7s							
BTK	**Batken**	**15.26**	**302**			**Pn**	**12 20 48.7**	**-1.5**
KMI	**Kunming**	**15.31**	**118**	⇑P		**Pn**	**12 20 53.4**	**+2.3**
KMI				*p*max		*p*max		
	comp=Z,16nm,1.0s							
KMI				*p*max		*p*max		
	comp=Z,110nm,5.4s							
KMI				LR		LR		
	comp=Z,480nm,13.1s							
KBL	**Kabul**	**15.63**	**280**	P		**Pn**	**12 20 54.3**	**-0.9**
KBL				*p*max		*p*max		
	comp=Z,15nm,0.9s							
KBL	**Kabul**	**15.63**	**280**			**Pn**	**12 20 54.3**	**-0.9**
KBL				IAmb		IAmb	12 21 01.6	
	comp=Z,15nm,0.9s							
CHGR	**Chuyangaron**	**16.05**	**295**			**Pn**	**12 20 59.6**	**-0.9**
DGZ	**Jazzator, Alta**	**16.54**	**359**	*i* P		**Pn**	**12 21 02.9**	**-3.8**
KKAR	**Karatay Array**	**16.81**	**311**	P		**Pn**	**12 21 10.4**	**+0.5**
KKAR	**Karatay Array**	**16.81**	**311**	P		**Pn**	**12 21 10.4**	**+0.5**
CHTO	**Chiang Mai**	**17.43**	**142**	P		**Pn**	**12 21 16.5**	**-1.3**
CHTO				*p*max		*p*max		
	comp=Z,5.0nm,0.9s							
CHTO	**Chiang Mai**	**17.43**	**142**	P		**Pn**	**12 21 16.5**	**-1.3**
XAN	**Xi'an**	**17.64**	**81**	P		**Pn**	**12 21 18.0**	**-2.4**
XAN				pP		P	12 21 23.2	+2.1
XAN				*p*max		*p*max		
	comp=Z,7.0nm,0.9s							
XAN	**Xi'an**	**17.64**	**81**	P		**Pn**	**12 21 18.8**	**-1.6**
XAN				*p*max		*p*max		
	comp=Z,16nm,1.3s							
XAN	**Xi'an**	**17.64**	**81**	P		**Pn**	**12 21 18.8**	**-1.6**
XAN				IAmb		IAmb	12 21 27.9	
	comp=Z,16nm,1.3s							
GYA	**Guiyang**	**17.68**	**107**	⇓P		**Pn**	**12 21 18.8**	**-2.2**
GYA				S		**Sn**	**12 24 37.7**	**+0.6**
GYA				*p*max		*p*max		
	comp=Z,13nm,0.9s							
GYA				LR		LR		
	comp=Z,190nm,7.9s							
GYA				LR		LR		
	comp=Z,200nm,8.7s							
CMAR	**Chiang Mai Arr**	**17.73**	**143**	P		**Pn**	**12 21 18.4**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=321,slow=12,SNR=9.4							
CMAR				LR		LR	12 28 52.0	
	comp=Z,183nm,18.9s,baz=9.5,slow=40							
CMAR	**Chiang Mai Arr**	**17.73**	**143**	P		**Pn**	**12 21 18.8**	**-2.7**
CMAR	**Chiang Mai Arr**	**17.73**	**143**			**Pn**	**12 21 18.8**	**-2.7**
ENH	**Enshi**	**18.69**	**93**	P		**P**	**12 21 31.3**	**-1.4**
ENH				IAmb		IAmb	12 21 36.7	
	comp=Z,14nm,0.7s							
KURBB	**Kurchatov Arra**	**18.75**	**341**	P		**P**	**12 21 31.1**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=154,slow=12,SNR=42							
KURK	**Kurchatov**	**18.81**	**342**	*c*eP		**P**	**12 21 31.2**	**-2.5**
KURK				*p*max		*p*max		
	comp=Z,31nm,1.7s							
KURK	**Kurchatov**	**18.81**	**342**			**P**	**12 21 31.7**	**-2.0**
KURK				IAmb		IAmb	12 21 35.1	
	comp=Z,12nm,0.8s							
SONM	**Songino Array**	**20.31**	**38**	P		**P**	**12 21 49.5**	**-0.8**
	comp=Z,3.5nm,0.7s,baz=230,slow=11,SNR=22							
SONM	**Songino Array**	**20.31**	**38**	P		**P**	**12 21 51.2**	**+0.8**
SONM				*p*max		*p*max		
	comp=Z,4.0nm,1.0s							
SONM	**Songino Array**	**20.31**	**38**	P		**P**	**12 21 51.2**	**+0.8**
ZAK	**Zakamensk**	**20.67**	**29**	*e*P		**P**	**12 21 54.7**	**+0.5**
ZAK				*p*max		*p*max		
	comp=Z,10.0nm,0.9s							
ULN	**Ulaanbaatar**	**20.68**	**39**	*i* P		**P**	**12 21 53.7**	**-0.7**
ULN				*p*max		*p*max		
	comp=Z,14nm,0.9s							
ULN	**Ulaanbaatar**	**20.68**	**39**			**P**	**12 21 55.0**	**+0.7**
ULN				IAmb		IAmb	12 21 56.4	
	comp=Z,16nm,0.8s							
MOY	**Mondy**	**20.86**	**24**	*e*P		Pn	12 21 57.9	-1.0
MOY				*p*max		*p*max		
	comp=Z,39nm,1.6s							
ZAA0	**Zalesovo Array**	**20.90**	**355**	P		**P**	**12 21 57.0**	**+0.5**
ZALV	**Zalesovo Beam**	**20.90**	**355**	P		**P**	**12 21 54.7**	**-1.8**
	comp=Z,2.2nm,0.6s,baz=178,slow=10,SNR=9.1							
ZALV				LR		LR	12 30 30.0	
	comp=Z,122nm,18.8s,baz=98,slow=38							
ZALV	**Zalesovo Beam**	**20.90**	**355**	*i* P		**P**	**12 21 56.5**	**0.0**
ZALV				*p*max		*p*max		
	comp=Z,3.0nm,0.6s							
ZALV	**Zalesovo Beam**	**20.90**	**355**	P		**P**	**12 21 56.5**	**0.0**
HRA	**Herat**	**21.25**	**280**	P		**P**	**12 22 00.6**	**-0.1**
HRA				IAmb		IAmb	12 22 06.1	
	comp=Z,6.8nm,0.8s							
TLY	**Talaya**	**21.83**	**27**	LR		LR	12 30 56.7	
	comp=Z,151nm,19.1s,baz=234,slow=38							
TLY	**Talaya**	**21.83**	**27**	*i* P		**P**	**12 22 07.8**	**+1.3**
TLY				*p*max		*p*max		
	comp=Z,6.0nm,0.9s							
WHN	**Wuhan**	**22.70**	**89**	P		**P**	**12 22 17.1**	**+1.1**
WHN				S		**S**	**12 26 25.7**	**+3.6**
WHN				*p*max		*p*max		
	comp=Z,38nm,1.0s							
WHN				LR		LR		
	comp=Z,340nm,4.8s							
WHN				LR		LR		
	comp=Z,1μm,5.6s							
BVAR	**Borovoye Array**	**23.46**	**333**	P		**P**	**12 22 24.5**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=154,slow=17,SNR=2.3							
BRVK	**Borovoye**	**23.53**	**333**	*i* P		**P**	**12 22 24.2**	**0.0**
BRVK				*p*max		*p*max		
	comp=Z,4.0nm,1.0s							
QIZ	**Qiongzhong**	**24.23**	**120**	P		**P**	**12 22 29.3**	**-1.7**
QIZ				S		**S**	**12 26 50.8**	**+3.5**
QIZ				LR		LR		
	comp=Z,200nm,12.0s							
QIZ				LR		LR		
	comp=Z,200nm,9.6s							
GEYT	**Alibeck**	**24.55**	**290**	P		**P**	**12 22 35.4**	**+1.5**
	comp=Z,2.8nm,0.6s,baz=116,slow=6.8,SNR=6.2							
GEYT				LR		LR	12 34 06.4	
	comp=Z,147nm,18.6s,baz=115,slow=41							
GEYT	**Alibeck**	**24.55**	**290**	P		**P**	**12 22 33.2**	**-0.6**
ABKAR	**Akbulak array**	**26.21**	**316**	P		**P**	**12 22 48.6**	**-0.1**
PALK	**Pallekele**	**26.57**	**196**	LR		LR	12 33 14.7	
	comp=Z,126nm,18.1s,baz=116,slow=36							
WSAR	**Wadi Sarin**	**27.44**	**256**	LR		LR	12 35 15.9	
	comp=Z,101nm,18.2s,baz=103,slow=40							
AKTO	**Aktyubinsk**	**27.86**	**317**	P		**P**	**12 23 03.3**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=68,slow=5.4,SNR=1.6							
KSRS	**Korea Array**	**32.87**	**71**	P		**P**	**12 23 45.6**	**-2.3**
	comp=Z,2.6nm,0.7s,baz=274,slow=9.4,SNR=11							
TGY	**Tagaytay City**	**35.59**	**114**	LR		LR	12 39 23.6	
	comp=Z,77nm,18.5s,baz=3.5,slow=38							
USRK	**Ussuriysk Ar.**	**35.85**	**59**	P		**P**	**12 24 13.7**	**0.0**
	comp=Z,1.1nm,0.5s,baz=260,slow=8.6,SNR=2.3							
KLR	**Kul'dur**	**36.22**	**50**	P		**P**	**12 24 18.4**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=288,slow=9.6,SNR=3.0							
NRIK	**Noril'sk**	**36.24**	**360**	P		**P**	**12 24 17.0**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=135,slow=2.9,SNR=2.0							
NRIK				LR		LR	12 40 18.9	
	comp=Z,232nm,18.1s,baz=194,slow=38							
NRIK	**Noril'sk**	**36.24**	**360**	*i* P		**P**	**12 24 16.7**	**0.0**
NRIK				*p*max		*p*max		
	comp=Z,5.0nm,1.0s							
KIV	**Kislovodsk**	**36.47**	**301**	*i* P		**P**	**12 24 19.9**	**+0.8**
KIV				*p*max		*p*max		
	comp=Z,3.0nm,0.9s							
MAJO	**Matsushiro**	**41.15**	**71**	P		**P**	**12 24 58.9**	**+0.6**
MJAR	**Matsushiro Arr**	**41.15**	**71**	P		**P**	**12 24 58.6**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=276,slow=10,SNR=4.4							
OBN	**Obninsk**	**41.64**	**318**	*e*P		**P**	**12 25 01.5**	**-0.5**
OBN				*e*			12 26 40.3	
OBN				*p*max		*p*max		
	comp=Z,9.0nm,0.4s							
BRTR	**Keskin Array B**	**43.49**	**295**	P		**P**	**12 25 17.2**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=112,slow=8.1,SNR=7.9							
BRTR	**Keskin Array B**	**43.49**	**295**	*c*eP		**P**	**12 25 18.3**	**+0.8**
BRTR				*p*max		*p*max		
	comp=Z,2.0nm,0.8s							
AKASG	**Malin Array Be**	**45.71**	**311**	P		**P**	**12 25 35.5**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=87,slow=6.0,SNR=6.6							
AKBB	**Malin Array Si**	**45.71**	**311**	*c*eP		**P**	**12 25 36.2**	**+1.4**
FINES	**FINESS Array B**	**48.06**	**325**	P		**P**	**12 25 54.2**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=116,slow=8.7,SNR=5.6							

	baz=76,slow=12								
NOR				*i*	P	Pb	12 19 43.6	-5.6	
NOR				*e*	S	**Sn**	**12 20 20.0**	**-1.9**	
NOR					IAML		12 20 27.3		
	comp=Z,1.1nm,0.3s								
KBS	**Kingsbay**	**5.35**	**159**	*e*	P	**Pn**	**12 20 08.2**	**-0.9**	
KBS				*e*	S	**Sn**	**12 21 06.3**	**-4.4**	
KBS	**Kingsbay**	**5.35**	**159**	*e*	P	**Pn**	**12 20 09.9**	**+0.8**	
KBS				*e*	S	**Sn**	**12 21 07.9**	**-2.8**	
KBS					IAML		12 21 12.7		
	comp=Z,6.8nm,0.5s								
KBS	**Kingsbay**	**5.35**	**159**	*i*		**Pn**	**12 20 08.2**	**-0.9**	
KBS				*e*			12 21 07.5		
SPA0	**Spitsbergen Ar**	**6.28**	**152**	*e*	P	**Pn**	**12 20 23.7**	**+1.8**	
SPA0				*e*	S	**Sn**	**12 21 31.1**	**-2.4**	
SPA0	**Spitsbergen Ar**	**6.28**	**152**	*e*	P	**Pn**	**12 20 24.1**	**+2.2**	
SPITS	**Spitsbergen Ar**	**6.28**	**152**	Pn		**Pn**	**12 20 24.2**	**+2.3**	
	baz=5.1,slow=10,SNR=13								
SPITS					Sn	**Sn**	**12 21 32.7**	**-0.8**	
	baz=22,slow=16,SNR=1.3								
ZFI2	**Zemlya Franca-**	**6.63**	**94**	⇓ *i*	P	**Pn**	**12 20 26.6**	**0.0**	
ZFI2				*e*	S	**Sn**	**12 21 35.4**	**-6.6**	
	comp=Z,30nm,0.4s								
ARCES	**ARCESS Array B**	**15.29**	**148**	Pn		**Pn**	**12 22 26.2**	**+1.4**	
	comp=Z,0.2nm,0.3s,baz=1,9,slow=11,SNR=4.7								
RES	**Resolute Bay**	**17.16**	**297**	LR		LR	12 29 13.5		
	comp=Z,165nm,18.4s,baz=352,slow=37								
INK	**Inuvik**	**26.41**	**324**	P		**P**	**12 24 23.4**	**-2.0**	
	comp=Z,2.4nm,0.7s,baz=14,slow=7.4,SNR=4.6								
ILAR	**Eielson Array**	**30.64**	**334**	P		**P**	**12 25 01.7**	**-1.5**	
	comp=Z,0.7nm,0.9s,baz=5.0,slow=6.4,SNR=6.8								
KURBB	**Kurchatov Arra**	**38.55**	**96**	P		**P**	**12 26 14.8**	**+3.2**	
	comp=Z,0.4nm,0.8s,baz=354,slow=7.9,SNR=2.9								
SONM	**Songino Array**	**44.16**	**69**	P		**P**	**12 26 59.6**	**+1.8**	
	comp=Z,0.5nm,0.7s,baz=336,slow=3.3,SNR=5.2								
TXAR	**Lajitas Array**	**62.60**	**289**	P		**P**	**12 29 13.3**	**0.0**	
	comp=Z,0.3nm,0.8s,baz=350,slow=4.6,SNR=2.6								

RSPR 11 12:21:24.9, 18°.39N×67°.26W, h23km±1km, MD2.7/15, 17C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.16**	**62**	⇑ *e*	P	Pb	12 21 29.4	-0.5
AGPR	**Aguadilla, PR**	**0.16**	**62**	*e*	S	Sb	12 21 33.3	0.0
AGPR	**Aguadilla, PR**	**0.16**	**62**			Pb	12 21 29.4	-0.5
AGPR						Sb	12 21 33.3	0.0
MPR	**Mayaguez**	**0.21**	**147**	Pg		Pb	12 21 30.4	-0.2
LSP	**Las Mesas**	**0.27**	**142**	⇑ *e*	P	Pb	12 21 31.0	-0.4
LSP	**Las Mesas**	**0.27**	**142**	*e*	S	Sb	12 21 35.7	-0.1
LSP	**Las Mesas**	**0.27**	**142**			Pb	12 21 31.0	-0.4
LSP						Sb	12 21 35.7	-0.1
CRPR	**Cabo Rojo, PR**	**0.41**	**159**	⇑ *e*	P	Pb	12 21 32.6	-0.9
CRPR	**Cabo Rojo, PR**	**0.41**	**159**	*e*	S	Sb	12 21 38.8	-0.6
CRPR	**Cabo Rojo, PR**	**0.41**	**159**			Pb	12 21 32.6	-0.9
CRPR						Sb	12 21 38.8	-0.6
MLPR	**Magueyes Islan**	**0.47**	**154**	⇑ *e*	P	Pb	12 21 32.6	-1.9
MLPR	**Magueyes Islan**	**0.47**	**154**	*e*	S	Sb	12 21 39.1	-1.9
MLPR	**Magueyes Islan**	**0.47**	**154**			Pb	12 21 32.6	-1.9
MLPR						Sb	12 21 39.1	-1.9
AOPR	**Arecibo Observ**	**0.48**	**95**	⇑ *e*	P	Pb	12 21 33.5	-1.3
AOPR	**Arecibo Observ**	**0.48**	**95**	*e*	S	Sb	12 21 40.4	-1.2
AOPR	**Arecibo Observ**	**0.48**	**95**			Pb	12 21 33.5	-1.3
AOPR						Sb	12 21 40.4	-1.2
UUPR	**Utuado, UPR, P**	**0.53**	**105**			Pb	12 21 34.2	-1.4
UUPR						Sb	12 21 41.5	-1.5
GBPR	**Guanica, Bosqu**	**0.55**	**138**	⇑ *e*	P	Pb	12 21 34.7	-1.2
GBPR	**Guanica, Bosqu**	**0.55**	**138**	*e*	S	Sb	12 21 42.6	-0.8
GBPR	**Guanica, Bosqu**	**0.55**	**138**			Pb	12 21 34.7	-1.2
GBPR						Sb	12 21 42.6	-0.8
EMPR	**Esperanza - Ma**	**0.70**	**83**	⇑ *e*	P	Pb	12 21 37.3	-1.2
EMPR	**Esperanza - Ma**	**0.70**	**83**	*e*	S	Sb	12 21 46.8	-0.9
EMPR	**Esperanza - Ma**	**0.70**	**83**			Pb	12 21 37.3	-1.2
EMPR						Pn	12 21 46.8	+7.4
OBIP	**Obispado Ponce**	**0.71**	**119**	⇑ *e*	P	Pb	12 21 37.1	-1.6
OBIP	**Obispado Ponce**	**0.71**	**119**	*e*	S	Sb	12 21 46.8	-1.3
OBIP	**Obispado Ponce**	**0.71**	**119**			Pb	12 21 37.1	-1.6
OBIP						Sb	12 21 46.8	-1.3
CELP	**Cerrillos**	**0.72**	**116**	⇑ *e*	P	Pb	12 21 37.2	-1.6
CELP	**Cerrillos**	**0.72**	**116**	*e*	S	Sb	12 21 46.9	-1.4
CELP	**Cerrillos**	**0.72**	**116**			Pb	12 21 37.2	-1.6
CELP						Sb	12 21 46.9	-1.4
PCDR	**Punta Cana, DR**	**1.07**	**277**	⇑ *e*	P	Pn	12 21 43.9	-0.6
PCDR	**Punta Cana, DR**	**1.07**	**277**	*e*	S	Sn	12 22 00.4	+1.8
PCDR	**Punta Cana, DR**	**1.07**	**277**			Pn	12 21 43.9	-0.6
PCDR						Sn	12 22 00.4	+1.8
GCPR	**Guaynabo City**	**1.12**	**94**	⇑ *e*	P	Pn	12 21 43.5	-1.7
GCPR	**Guaynabo City**	**1.12**	**94**	*e*	S	Sb	12 21 57.0	-2.8
GCPR	**Guaynabo City**	**1.12**	**94**			Pn	12 21 43.5	-1.7
GCPR						Sb	12 21 57.0	-2.8
IGPR	**InterUniversit**	**1.18**	**111**	⇑ *e*	P	Pn	12 21 44.4	-1.5
IGPR	**InterUniversit**	**1.18**	**111**	*e*	S	Sn	12 21 59.2	-2.1
PDPR	**Patillas Dam,**	**1.24**	**107**	Pn		Pn	12 21 45.5	-1.3
CBYP	**Canovanas**	**1.34**	**95**	⇑ *e*	P	Pn	12 21 46.6	-1.7
CBYP	**Canovanas**	**1.34**	**95**	*e*	S	Sn	12 22 02.6	-2.8
CBYP	**Canovanas**	**1.34**	**95**			Pn	12 21 46.6	-1.7
CBYP						Sn	12 22 02.6	-2.8
HUMP	**Col San Antoni**	**1.36**	**100**	⇑ *e*	P	Pn	12 21 47.2	-1.3
HUMP	**Col San Antoni**	**1.36**	**100**	*e*	S	Sn	12 22 04.0	-2.0
HUMP	**Col San Antoni**	**1.36**	**100**			Pn	12 21 47.2	-1.3
HUMP						Sn	12 22 04.0	-2.0
MTP	**Monte Pirata**	**1.65**	**100**	⇑ *e*	P	Pn	12 21 51.5	-1.0
MTP	**Monte Pirata**	**1.65**	**100**	*e*	S	Sn	12 22 10.2	-2.8
MTP	**Monte Pirata**	**1.65**	**100**			Pn	12 21 51.5	-1.0
MTP						Sn	12 22 10.2	-2.8
CUPR	**Culebra, Puert**	**1.88**	**92**	⇑ *e*	P	Pn	12 21 53.8	-1.9
CUPR	**Culebra, Puert**	**1.88**	**92**	*e*	S	Sn	12 22 15.4	-3.3
CUPR	**Culebra, Puert**	**1.88**	**92**			Pn	12 21 53.8	-1.9
CUPR						Sn	12 22 15.4	-3.3
STVI	**Saint Thomas**	**2.19**	**91**	⇑ *e*	P	Pn	12 21 59.0	-0.9
STVI	**Saint Thomas**	**2.19**	**91**	*e*	S	Sn	12 22 23.2	-3.2
STVI	**Saint Thomas**	**2.19**	**91**			Pn	12 21 59.0	-0.9
STVI						Sn	12 22 23.2	-3.2

ISK 11 12:27:43.1, 38°.10N×42°.70E, h1km, ML2.8/7
DDA 11 12:27:43.5, 38°.10N×42°.67E, h7km±1km, ML2.3
ISC 11 12:27:43.7±1.2, 38°.09N±0°.03×42°.69E±0°.03, h5km±13km, n14, σ0s64/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GEVA	**Gevas**	**0.37**	**53**	*i*	P	**Pg**	**12 27 50.7**	**-0.1**
GEVA				*i*	S	**Sg**	**12 27 56.4**	**+0.7**
BLIS	**Bitlis-Merkez**	**0.55**	**306**	*i*	P	**Pg**	**12 27 54.4**	**0.0**
BLIS				*i*	S	**Sg**	**12 28 02.3**	**+0.7**
SIRT	**Sirnak**	**0.62**	**198**	PG		**Pb**	**12 27 56.2**	**-0.9**
SIRT				SG		**Sb**	**12 28 06.2**	**+0.1**
SIRN	**Sirnak**	**0.63**	**200**	*i*	P	**Pb**	**12 27 56.5**	**-0.7**
SIRN				*i*	S	**Sb**	**12 28 05.8**	**-0.7**
SIRN				IAML			12 28 11.0	
	comp=N,467nm,0.7s							
GURO	**Guroymak-BITLI**	**0.69**	**312**	PG		**Pg**	**12 27 57.0**	**+0.1**
GURO				SG		**Sb**	**12 28 08.2**	**+0.1**
VANB	**Van**	**0.75**	**48**	PG		**Pg**	**12 27 57.7**	**-0.3**
HAKT	**HAKKARI**	**0.97**	**123**	*i*	P	**Pg**	**12 28 02.4**	**+0.1**
HAKT				*i*	S	**Sb**	**12 28 16.8**	**+0.5**
HAKT				IAML			12 28 20.0	
	comp=N,61nm,0.4s							
CUKT	**Cukurca**	**1.12**	**139**	PN		**Pb**	**12 28 05.4**	**-0.1**
VMUR	**Van-Muradiye**	**1.13**	**38**	*i*	P	**Pg**	**12 28 04.0**	**-1.4**
VMUR				*i*	S	**Sb**	**12 28 21.2**	**+0.3**
VMUR				IAML			12 28 30.0	
	comp=E,87nm,0.9s							
SVAN	**Silvan-Diyarba**	**1.18**	**273**	PN		**Pn**	**12 28 06.8**	**0.0**
SVAN				SN		**Sn**	**12 28 24.1**	**+0.9**
TUTA	**Tutak**	**1.31**	**4**	*i*	P	**Pg**	**12 28 08.3**	**-0.6**
CLDR	**Caldiran**	**1.43**	**42**	PN		**Pg**	**12 28 10.8**	**-0.2**
AGRB	**Hanur-Agry**	**1.50**	**9**	PN		**Pg**	**12 28 11.9**	**-0.5**
AGRB				SN		**Sg**	**12 28 32.8**	**+0.9**
BNGB	**Bingl**	**1.81**	**300**	PN		**Pb**	**12 28 16.7**	**-0.7**

IDC 11 12:29:34.6±7.7, 7°.79S×127°.70E, h159km±84km, mb3.3/2, mb1 3.4/5, mb1mx3.1/29, mbtmp3.8/5, Error ellipse: s-maj=80.9km s-min=23.6km az=37.0
ISC 11 12:29:33.4±1.4, 7°.95S±0°.10×127°.9E±0°.1, h150km, n6, σ2s93/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**4.78**	**242**	P		**Pn**	**12 30 44.9**	**+1.0**
	70nm,0.3s,baz=109,slow=1.7,SNR=38							
BATI					S	**Sn**	**12 31 37.8**	**-1.0**
	13nm,0.3s,baz=68,slow=23,SNR=7.6							
FITZ	**Fitzroy Crossi**	**10.33**	**192**	P		**Pn**	**12 31 59.7**	**+1.9**
	0.5nm,0.3s,baz=18,slow=11,SNR=15							
FITZ					S	**Sn**	**12 33 49.9**	**-2.4**
	1.7nm,0.3s,baz=327,slow=19,SNR=8.8							
WRA	**Warramunga Arr**	**13.44**	**153**	P		**Pn**	**12 32 40.7**	**+2.4**
	0.4nm,0.3s,baz=330,slow=12,SNR=28							
WRA					S	**Sn**	**12 35 03.7**	**-3.4**
	2.3nm,0.3s,baz=334,slow=22,SNR=16							
ASAR	**Alice Springs**	**16.64**	**161**	P		**Pn**	**12 33 23.0**	**+4.9**
	0.4nm,0.3s,baz=338,slow=11,SNR=30							
ASAR					S	**S**	**12 36 21.4**	**-1.7**
	0.5nm,0.3s,baz=329,slow=22,SNR=10							
MKAR	**Makanchi Array**	**67.92**	**328**	P		**P**	**12 40 14.5**	**-1.4**
	0.4nm,0.6s,baz=124,slow=7.6,SNR=4.2							
ZALV	**Zalesovo Beam**	**71.54**	**335**	P		**P**	**12 40 36.5**	**-1.3**
	0.4nm,0.3s,baz=147,slow=6.4,SNR=1.8							

IDC 11 12:44:59.3±0.5, 17°.61N×82°.39W, h0km, mb4.0/16, mb1 4.3/20, mb1mx4.2/38, mbtmp4.1/20, ML4.2/4, MS3.4/10, Ms1 3.4/10, ms1mx3.2/34, Error ellipse: s-maj=18.6km s-min=14.3km az=48.0
NEIC 11 12:45:01.4±2.0, 17°.64N±0°.06×82°.45W±0°.07, h15km±3km, mb4.4/112, Error ellipse: s-maj=10.3km s-min=8.5km az=118.0
ISC 11 12:45:01.3±0.4, 17°.65N±0°.05×82°.38W±0°.06, h10km, n311, σ1s48/269, mb4.3/35, MS3.4/7, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
FSCY	**Frank Sound, G**	**2.01**	**34**	Pn		**Pn**	**12 45 34.2**	**-1.1**
LCCY	**Blossom Villag**	**2.96**	**47**	Pn		**Pn**	**12 45 48.1**	**-0.3**
CBCY	**The Bluff, Cay**	**3.24**	**50**	Pn		**Pn**	**12 45 51.3**	**-0.9**
PRVC	**Isla de Provid**	**4.36**	**167**	*e*	P	**Pg**	**12 46 26.3**	**+1.4**
MTDJ	**Mount Denham**	**4.65**	**82**	Pn		**Pn**	**12 46 11.4**	**-0.3**
PCJ	**Portland Cotta**	**4.98**	**88**	*i*	P	**Pn**	**12 46 15.9**	**-0.3**
STH	**Stony Hill**	**5.32**	**85**	*i*	P	**Pn**	**12 46 22.3**	**+1.4**
STH				*i*	S	**Sn**	**12 47 20.0**	**-2.4**
HOJ	**Hope**	**5.38**	**85**	*i*	P	**Pn**	**12 46 22.2**	**+0.6**
GWJ	**Greenwich**	**5.40**	**85**	*i*	P	**Pn**	**12 46 22.3**	**+0.2**
ESPN	**Las Esperanzas**	**5.73**	**199**	Pn		**Pn**	**12 46 25.6**	**-0.9**
MATN	**Matagalpa**	**5.81**	**217**			**Pn**	**12 46 26.9**	**-0.8**
TGUH	**Tegucigalpa,Un**	**5.91**	**233**	*e*	P	Pn	12 46 26.7	-2.4
TGUH	**Tegucigalpa,Un**	**5.91**	**233**		Pn	**Pn**	**12 46 27.0**	**-2.2**
ACON	**Acoyapa**	**6.26**	**206**			**Pn**	**12 46 32.9**	**-0.9**
GTBY	**Guantanamo Bay**	**7.25**	**71**	Pn		**Pn**	**12 46 48.2**	**+0.8**
MTO3	**Montecristo**	**7.45**	**245**			**Pn**	**12 46 48.9**	**-1.5**
JTS	**Las Juntas de**	**7.73**	**199**	Pn		**Pn**	**12 46 54.1**	**+0.1**
	4.5nm,0.3s,baz=73,slow=11,SNR=14							
JTS					Pg	Pb	12 47 23.1	+7.6
	1.3nm,0.3s,baz=345,slow=8.9,SNR=4.4							
JTS					Lg	Lg	12 49 02.7	
	1.4nm,0.3s,baz=255,slow=19,SNR=1.0							
JTS	**Las Juntas de**	**7.73**	**199**	Pn		**Pn**	**12 46 53.5**	**-0.6**
061Z	**Ochoppi**	**8.29**	**9**			**Pn**	**12 47 01.4**	**-0.3**
060A	**Indiantown**	**9.53**	**11**			**Pn**	**12 47 18.8**	**+0.1**
SJCC	**San Jacinto, C**	**10.40**	**137**	*e*	P	**Pn**	**12 47 29.7**	**-1.1**
DWPF	**Disney Wildern**	**10.45**	**5**	P		Pn	12 47 29.5	-1.7
	baz=185							
DWPF	**Disney Wildern**	**10.45**	**5**			Pn	12 47 30.0	-1.3
SDDR	**Presa de Saban**	**10.62**	**81**	Pn		**Pn**	**12 47 35.1**	**+1.4**
MOTC	**Monteria, Cord**	**10.97**	**143**	*e*	P	**Pn**	**12 47 37.4**	**-1.1**
ARGC	**Ariguani, Magd**	**11.06**	**133**	*e*	P	**Pn**	**12 47 38.9**	**-0.9**
656A	**Willston**	**11.67**	**359**			Pn	12 47 46.6	-1.3
UREC	**San Jos de Ur**	**11.89**	**145**	*e*	P	**Pn**	**12 47 49.4**	**-1.7**
SMLC	**San Martn de**	**11.95**	**136**	*e*	P	Pn	12 47 49.5	-2.3
CMIG	**Matias Romero**	**11.95**	**269**	Pn		Pn	12 47 49.8	-2.1
	0.4nm,0.3s,baz=72,slow=11,SNR=2.3							
CMIG					Sn	Sn	12 49 50.0	-15
	0.2nm,0.3s,baz=120,slow=20,SNR=1.0							
CMIG					LR	LR	12 52 34.5	
	comp=Z,214nm,18.6s,baz=92,slow=38							
DR12	**Loma Pena Alta**	**12.40**	**83**			**Pn**	**12 47 56.9**	**-1.3**
ZARC	**Zaragoza, Cauc**	**12.48**	**143**	*e*	P	**Pn**	**12 47 57.3**	**-1.8**
553A	**Crawfordville**	**12.62**	**352**	Pn		**Pn**	**12 48 00.1**	**-0.9**
CBOC	**Ciudad Bolivar**	**13.27**	**151**	*e*	P	Pn	12 48 06.7	-3.3
451A	**Vernon**	**13.27**	**347**			**Pn**	**12 48 08.6**	**-1.2**
PTBC	**PUERTO BERRIO,**	**13.48**	**144**	*e*	P	**Pn**	**12 48 11.4**	**-1.4**
TIGA	**Tifton**	**13.77**	**356**	P		Pn	12 48 14.6	-2.1
	baz=175							
352A	**Blakely**	**13.96**	**351**			Pn	12 48 17.6	-1.7
NORC	**Norcasia**	**14.08**	**148**	*e*	P	**Pn**	**12 48 22.2**	**+1.2**
GUY2C	**Guyana, Caldas**	**14.13**	**150**	*e*	P	**Pn**	**12 48 24.6**	**+2.5**
BARC	**Barichara**	**14.19**	**140**	*e*	P	**Pn**	**12 48 22.2**	**-0.5**
SDV	**Santo Domingo**	**14.37**	**126**	Pn		**Pn**	**12 48 24.3**	**-0.8**
	7.2nm,0.3s,baz=180,slow=20,SNR=1.6							
AGPR	**Aguadilla, PR**	**14.54**	**84**	Pn		**Pn**	**12 48 29.1**	**+1.8**
250A	**Grady**	**14.69**	**347**	Pn		**Pn**	**12 48 29.0**	**-0.3**
TOLC	**Tolima**	**14.71**	**151**	*e*	P	**Pn**	**12 48 29.2**	**-0.8**
RUSC	**La Rusia**	**14.80**	**141**	*e*	P	Pn	12 48 26.2	-5.1
ROSC	**El Rosal**	**14.98**	**147**	LR		LR	12 54 46.3	
	comp=Z,180nm,18.9s,baz=292,slow=39							
152A	**Waverly Hall**	**15.10**	**352**			**Pn**	**12 48 32.1**	**-2.7**
CHIC	**Chingaza**	**15.46**	**146**	*e*	P	**Pn**	**12 48 40.5**	**+0.4**
NHSC	**New Hope**	**15.52**	**7**	P		**Pn**	**12 48 37.1**	**-3.1**
	baz=188							
Z56A	**Williston**	**15.64**	**3**	P		**Pn**	**12 48 39.0**	**-2.8**
	baz=184							
PRAC	**Prado**	**15.68**	**151**	*e*	P	**Pn**	**12 48 42.5**	**0.0**
GOGA	**Godfrey**	**15.72**	**357**	P		**Pn**	**12 48 39.9**	**-3.0**
	baz=176,SNR=10							
GOGA	**Godfrey**	**15.72**	**357**	Pn		**Pn**	**12 48 41.4**	**-1.6**
GOGA				IAmb		IAmb	12 48 43.7	
	comp=Z,12nm,0.5s							
Z58A	**St. Stephen**	**15.79**	**8**	P		**Pn**	**12 48 41.1**	**-2.7**
	baz=189							
Z51A	**Franklin**	**15.80**	**351**	Pn		**Pn**	**12 48 43.3**	**-0.7**
LRAL	**Lakeview Retre**	**15.87**	**346**	P		**Pn**	**12 48 42.5**	**-2.4**
	baz=164							
LRAL	**Lakeview Retre**	**15.87**	**346**			**Pn**	**12 48 43.5**	**-1.4**
Y52A	**Lilburn**	**16.22**	**355**	IAmb		IAmb	12 48 57.5	
	comp=Z,21nm,0.9s							
PCON	**Cinco Dias**	**16.32**	**158**	*e*	P	**Pn**	**12 48 52.1**	**+0.8**
BBAC	**Balboa, Cauca**	**16.33**	**161**	*e*	P	**Pn**	**12 48 54.9**	**+3.8**
Y49A	**Blount Mountai**	**16.54**	**348**	IAmb		IAmb	12 49 10.2	
	comp=Z,15nm,0.6s							
JSC	**Jenkinsville**	**16.59**	**3**	Pn		**Pn**	**12 48 51.8**	**-2.3**
X55A	**Gracelyn & Ava**	**16.77**	**2**	P		**Pn**	**12 48 53.0**	**-3.3**
	baz=183							
X56A	**White Oak**	**16.82**	**4**	P		**Pn**	**12 48 53.7**	**-3.2**
	baz=185,SNR=5.8							
X54A	**Belton**	**16.83**	**0**	P		**Pn**	**12 48 54.6**	**-2.5**
	baz=180							
X57A	**Johnson Farm,**	**16.87**	**7**	P		**Pn**	**12 48 55.1**	**-2.5**
	baz=188							
BIRD	**Birdtown, Kers**	**17.01**	**5**	IAmb		IAmb	12 49 00.4	
	comp=Z,17nm,0.8s							
FPAL	**Fort Paine**	**17.07**	**351**	IAmb		IAmb	12 49 11.8	
	comp=Z,25nm,0.9s							
X48A	**Hartselle**	**17.25**	**347**	P		**Pn**	**12 49 02.5**	**+0.2**
X48A				IAmb		IAmb	12 49 08.9	
	comp=Z,18nm,0.7s							
BG3	**Lake Jocassee**	**17.28**	**358**			**Pn**	**12 49 01.9**	**-0.9**
BG3				IAmb		IAmb	12 49 04.0	
	comp=Z,29nm,1.2s							
W54A	**Cherokee Point**	**17.37**	**1**	P		**Pn**	**12 49 01.7**	**-2.1**
	baz=181,SNR=7.3							
KMSC	**Kings Mountain**	**17.45**	**3**	P		**Pn**	**12 49 02.7**	**-2.1**
	baz=184							
KMSC	**Kings Mountain**	**17.45**	**3**			**Pn**	**12 49 02.7**	**-2.1**
W56A	**Indian Trail**	**17.49**	**5**	P		**Pn**	**12 49 03.9**	**-1.5**
	baz=186,SNR=5.7							
W58A	**Raeford**	**17.53**	**9**	P		**Pn**	**12 49 04.0**	**-1.8**
	baz=190							
W57A	**Gilead**	**17.56**	**6**	P		**Pn**	**12 49 03.9**	**-2.4**
	baz=188							
W57A	**Gilead**	**17.56**	**6**	P		**Pn**	**12 49 03.7**	**-2.6**
W57A				IAmb		IAmb	12 49 06.7	
	comp=Z,33nm,1.1s							
SWET	**Sewanee**	**17.78**	**350**	IAmb		IAmb	12 49 10.2	
	comp=Z,16nm,0.7s							
CPCT	**Cooper Cave**	**17.83**	**354**	IAmb		IAmb	12 49 21.3	
	comp=Z,22nm,0.7s							
V53A	**Saluda**	**17.95**	**359**	IAmb		IAmb	12 49 12.2	
	comp=Z,30nm,0.9s							
TKL	**Tuckaleechee C**	**17.98**	**356**	P		**Pn**	**12 49 09.4**	**-2.0**
	comp=Z,4.1nm,0.3s,baz=167,slow=6.3,SNR=25							
TKL					S	Sn	12 52 16.8	-15
	comp=Z,0.2nm,0.3s,baz=117,slow=14,SNR=1.3							
TKL					LR	LR	12 56 39.4	
	comp=Z,102nm,18.9s,baz=175,slow=39							
TKL	**Tuckaleechee C**	**17.98**	**356**	IAmb		IAmb	12 49 15.3	
	comp=Z,12nm,0.5s							
PLAL	**Pickwick Lake**	**17.99**	**345**	IAmb		IAmb	12 49 13.1	
	comp=Z,35nm,1.4s							
V54A	**Nebo**	**18.06**	**1**	P		**Pn**	**12 49 11.1**	**-1.3**
	baz=182,SNR=8.4							
V52A	**Sevierville**	**18.15**	**357**	P		**Pn**	**12 49 12.8**	**-0.8**
V55A	**Taylorsville**	**18.16**	**3**	P		**Pn**	**12 49 12.5**	**-1.2**
	baz=184,SNR=6.5							
V55A	**Taylorsville**	**18.16**	**3**	P		**Pn**	**12 49 12.4**	**-1.3**
V55A				IAmb		IAmb	12 49 14.4	
	comp=Z,25nm,1.1s							
V56A	**Mocksville**	**18.16**	**5**	P		**Pn**	**12 49 12.6**	**-1.1**
	baz=186,SNR=8.6							
V51A	**Loudon**	**18.17**	**355**	IAmb		IAmb	12 49 17.4	
	comp=Z,22nm,1.1s							
V58A	**Windy Hill, Pi**	**18.30**	**8**	P		**Pn**	**12 49 13.7**	**-1.7**
	baz=190							
V57A	**Coltrane Farms**	**18.31**	**7**	P		**Pn**	**12 49 14.1**	**-1.5**
	baz=188							
V59A	**Middlesex**	**18.41**	**11**	P		**P**	**12 49 15.2**	**-1.5**
	baz=193							
V48A	**Smith Brothers**	**18.45**	**349**	IAmb		IAmb	12 49 20.7	
	comp=Z,23nm,0.8s							
V60A	**Jim Taylor Roa**	**18.61**	**13**	P		**P**	**12 49 17.2**	**-1.6**
	baz=196							
U56A	**King**	**18.71**	**5**	P		**P**	**12 49 19.3**	**-0.7**
	baz=186							
U54A	**Nelsons Funny**	**18.80**	**1**	P		**P**	**12 49 20.7**	**-0.4**
	baz=182							
U54A	**Nelsons Funny**	**18.80**	**1**	P		**P**	**12 49 21.1**	**0.0**
U54A				IAmb		IAmb	12 49 22.3	
	comp=Z,16nm,0.8s							
U55A	**TA2, Sparta**	**18.82**	**3**	P		**P**	**12 49 21.1**	**-0.2**
	baz=184							
TZTN	**Tazewell**	**18.85**	**357**	P		**P**	**12 49 20.9**	**-0.7**
	baz=177							
TZTN	**Tazewell**	**18.85**	**357**	P		**P**	**12 49 20.1**	**-1.5**
U57A	**Blanch**	**18.90**	**8**	P		**P**	**12 49 21.8**	**-0.3**
	baz=189							
833A	**Chaparral WMA,**	**18.90**	**307**	IAmb		IAmb	12 49 39.8	
	comp=Z,19nm,0.9s							
U58A	**Oxford**	**18.98**	**10**	P		**P**	**12 49 22.4**	**-0.5**
	baz=191							
WVT	**Waverly**	**19.03**	**346**	P		**P**	**12 49 23.3**	**-0.2**
	baz=164							
WVT	**Waverly**	**19.03**	**346**	P		**P**	**12 49 22.6**	**-0.9**
WVT				IAmb		IAmb	12 49 25.2	
	comp=Z,22nm,0.9s							
X40A	**Basin Creek Fa**	**19.20**	**333**	P		**P**	**12 49 24.3**	**-1.0**
	baz=148				

	comp=Z,14nm,0.7s							
P49A	**Miami Univ. Ec**	21.90	355	P		P	12 49 54.9	+0.3
	baz=174							
P52A	**Corning**	21.91	1	P		P	12 49 55.0	+0.3
	baz=181							
P54A	**Burton**	21.94	4	P		P	12 49 55.9	+0.8
	baz=185							
P58A	**Pank, Wackersv**	22.20	10	P		P	12 49 57.9	0.0
	baz=193							
R40A	**Maddies Static**	22.31	339	IAmb		IAmb	12 50 08.9	
	comp=Z,13nm,0.9s							
O52A	**Adamsville**	22.39	1	P		P	12 50 00.0	+0.1
	baz=182							
O51A	**Pataskala**	22.42	360	P		P	12 50 00.2	0.0
	baz=180							
WMOK	**Wichita Mounta**	22.44	322	P		P	12 50 00.2	-0.4
	baz=135							
P59A	**Jarrettsville**	22.48	12	P		P	12 50 00.9	0.0
	baz=195							
ACSO	**Alum Creek Sta**	22.51	359	P		P	12 50 01.6	+0.5
	baz=179							
O53A	**New Philadelph**	22.54	2	P		P	12 50 02.2	+0.7
	baz=183							
O55A	**Ligonier**	22.64	6	P		P	12 50 02.2	-0.3
	baz=188							
TXAR	**Lajitas Array**	22.68	305	P		P	12 50 02.2	-1.1
	comp=Z,2.1nm,0.8s,baz=125,slow=10,SNR=19							
TXAR				PcP		PcP	12 53 55.4	-0.4
	comp=Z,0.5nm,0.9s,baz=120,slow=5.4,SNR=3.6							
TX31	**Lajitas Ar. Si**	22.68	305	P		P	12 50 01.9	-1.4
TX31				IAmb		IAmb	12 50 18.7	
	comp=Z,13nm,1.0s							
O56A	**Blue Knob Stat**	22.78	8	IAmb		IAmb	12 50 11.3	
	comp=Z,11nm,0.8s							
SFIN	**Lafayette**	23.01	351	P		P	12 50 07.1	+0.6
	baz=169							
N53A	**Lisbon**	23.11	3	P		P	12 50 08.8	+1.2
	baz=184							
SSPA	**Standing Stone**	23.23	9	P		P	12 50 09.5	+0.8
	baz=191							
SSPA	**Standing Stone**	23.23	9	IAmb		IAmb	12 50 30.9	
	comp=Z,20nm,1.3s							
N55A	**Marion Center**	23.24	7	P		P	12 50 09.5	+0.7
	baz=188							
N47A	**Urbana**	23.33	354	P		P	12 50 08.6	-1.1
P40A	**Paris**	23.36	341	P		P	12 50 09.2	-0.9
P40A				IAmb		IAmb	12 50 18.8	
	comp=Z,10nm,0.7s							
M53A	**WI Miller and**	23.75	3	P		P	12 50 14.7	+0.9
	baz=184							
M54A	**Oil Creek Stat**	23.89	5	P		P	12 50 16.6	+1.3
	baz=186							
M55A	**Ridgway**	23.94	7	P		P	12 50 17.0	+1.3
	baz=189							
P38A	**Dawn**	23.94	338	IAmb		IAmb	12 50 19.8	
	comp=Z,9.6nm,0.8s							
N60A	**Cedar Hill Far**	23.98	14	P		P	12 50 17.3	+1.3
	baz=197							
M56A	**Emporium**	24.02	8	P		P	12 50 17.9	+1.4
	baz=190							
M57A	**Sunshine Farm,**	24.04	10	P		P	12 50 18.0	+1.5
	baz=192							
M58A	**Price's Panora**	24.18	11	P		P	12 50 20.1	+2.2
	baz=194							
L53A	**Girard**	24.29	4	P		P	12 50 20.5	+1.6
	baz=185							
AMTX	**Amarillo**	24.30	319	P		P	12 50 19.6	+0.4
	baz=130							
M60A	**Port Jervis**	24.52	14	P		P	12 50 22.0	+1.0
	baz=198							
M59A	**Waymart**	24.55	13	P		P	12 50 22.2	+1.0
	baz=196							
L55A	**Hinsdale**	24.68	7	P		P	12 50 24.0	+1.5
	baz=189							
M61A	**Granite Spring**	24.71	16	P		P	12 50 23.4	+0.6
	baz=200							
L57A	**Andrews Acres**	24.73	10	P		P	12 50 23.8	+0.9
	baz=193							
L56A	**Greenwood**	24.75	9	P		P	12 50 24.7	+1.6
	baz=191							
L44A	**Lake County Fo**	24.90	350	P		P	12 50 24.9	+0.5
	baz=168							
ATAH	**Atahualpa**	24.94	171	P		P	12 50 29.0	+3.5
	comp=Z,6.3nm,1.0s,baz=25,slow=11,SNR=3.6							
ATAH				LR		LR	12 59 38.4	
	comp=Z,63nm,21.3s,baz=35,slow=35							
L58A	**Harry Jones Me**	24.95	12	P		P	12 50 26.5	+1.6
	baz=195							
BINY	**Binghamton**	25.07	11	P		P	12 50 27.5	+1.5
	baz=195							
M62A	**Hamden**	25.07	17	P		P	12 50 27.8	+1.9
	baz=202							
MNTX	**Cornudas Mount**	25.08	308	P		P	12 50 25.3	-0.8
	baz=119,SNR=10							
MNTX	**Cornudas Mount**	25.08	308	P		P	12 50 25.6	-0.6
MNTX				IAmb		IAmb	12 50 29.8	
	comp=Z,5.9nm,0.8s							
L60A	**Shokan**	25.24	14	P		P	12 50 29.8	+2.3
	baz=199							
L59A	**Walton**	25.25	13	P		P	12 50 30.1	+2.4
	baz=197							
L59A	**Walton**	25.25	13	IAmb		IAmb	12 50 34.6	
	comp=Z,11nm,1.1s							
K55A	**Perry**	25.27	7	P		P	12 50 30.2	+2.4
	baz=190							
K56A	**Middlesex**	25.34	9	P		P	12 50 30.4	+2.0
	baz=191							
K57A	**Scipio Center**	25.49	10	P		P	12 50 32.1	+2.3
	baz=193							
L61A	**Hillsdale 1, H**	25.60	15	P		P	12 50 33.8	+3.1
	baz=200							
K58A	**Earlville**	25.68	11	P		P	12 50 34.2	+2.6
	baz=195							
L63A	**North Scituate**	25.84	19	P		P	12 50 35.2	+2.3
	baz=204							
CBKS	**Cedar Bluff**	25.96	328	P		P	12 50 35.8	+1.7
	baz=140							
J56A	**Wolcott**	25.97	9	P		P	12 50 35.6	+1.5
	baz=192							
JFWS	**Jewell Farm**	26.06	347	P		P	12 50 36.7	+1.8
	baz=163							
JFWS	**Jewell Farm**	26.06	347	P		P	12 50 35.0	+0.1
I51A	**Listowel**	26.10	2	P		P	12 50 37.3	+2.0
	baz=183							
I58A	**Old Forge**	26.70	12	P		P	12 50 42.6	+1.8
	baz=196							
I55A	**Frankford**	26.78	8	P		P	12 50 44.2	+2.8
	baz=190							
I57A	**Carthage**	26.81	11	P		P	12 50 44.2	+2.4
	baz=194							
LPIG	**La Paz**	26.84	289	LR		LR	13 03 07.1	
	comp=Z,39nm,19.2s,baz=50,slow=40							
H53A	**Bobcaygeon**	27.03	6	P		P	12 50 47.0	+3.3
	baz=188							
I59A	**Olmsteadville**	27.04	14	P		P	12 50 46.6	+2.9
	baz=198							
SADO	**Sadowa**	27.17	5	P		P	12 50 44.4	-0.5
	comp=Z,1.9nm,0.4s,baz=253,slow=14,SNR=1.7							
SADO				LR		LR	13 01 05.2	
	comp=Z,85nm,18.2s,baz=200,slow=36							
SADO	**Sadowa**	27.17	5	IAmb		IAmb	12 50 55.0	
	comp=Z,11nm,1.1s							
ANMO	**Albuquerque**	27.50	313	P		P	12 50 48.4	+0.2
	comp=Z,1.1nm,0.9s,baz=152,slow=8.6,SNR=3.2							
ANMO				PcP		PcP	12 54 06.3	-0.2
	comp=Z,1.5nm,0.8s,baz=109,slow=4.5,SNR=4.0							
ANMO	**Albuquerque**	27.50	313	IAmb		IAmb	12 50 51.8	
	comp=Z,2.6nm,1.2s							
KSCO	**Kaye Shedlock'**	27.64	324	P		P	12 50 51.4	+2.0
	baz=135							
G54A	**Lake Saint Pet**	27.90	6	P		P	12 50 54.3	+2.8
	baz=189							
LBNH	**Lisbon**	27.93	16	P		P	12 50 54.3	+2.5
	baz=202							
I63A	**Otisfield**	28.14	18	P		P	12 50 56.3	+2.7
	baz=204							
F51A	**Arnstein**	28.27	4	P		P	12 50 57.3	+2.5
	baz=185							
SDCO	**Great Sand Dun**	28.50	319	P		P	12 50 58.2	+0.9
	baz=128							
E50A	**Wahnapitae**	28.72	2	P		P	12 51 00.8	+2.1
	baz=183							
E47A	**Iron Bridge**	28.73	359	P		P	12 51 00.9	+2.0
	baz=178							
E48A	**Lockeyer**	28.75	0	P		P	12 51 02.3	+3.2
	baz=181							
E54A	**Lac Daplat, Po**	29.02	7	P		P	12 51 04.3	+2.9
	baz=190							
F59A	**Saint Guilaume**	29.23	14	P		P	12 51 05.0	+1.7
	baz=199							
S22A	**4UR Ranch, Cre**	29.33	318	P		P	12 51 05.7	+1.0
	baz=126							
D52A	**ZEK Kipawa Sen**	29.43	6	P		P	12 51 06.4	+1.4
	baz=188							
D48A	**Paudash Townsh**	29.45	1	P		P	12 51 07.0	+1.8
	baz=181							
E57A	**Chemin Saint G**	29.48	12	P		P	12 51 07.6	+2.0
	baz=196							
D49A	**Beulah Townshi**	29.55	1	P		P	12 51 07.8	+1.6
	baz=182							
PKME	**Peaks-Kenny Pk**	29.63	19	P		P	12 51 08.9	+2.1
	baz=206							
D55A	**Sainte-Anne-du**	29.84	10	P		P	12 51 10.5	+1.9
	baz=193							
ISCO	**Idaho Springs**	29.87	322	P		P	12 51 10.1	+0.7
	baz=131							
NNA	**Nana**	29.95	169	LR		LR	13 04 26.1	
	comp=Z,53nm,19.3s,baz=5.0,slow=39							
D56A	**ZEC Mazanza, M**	29.98	10	P		P	12 51 12.7	+2.7
	baz=195							
D58A	**Chemin du LacG**	30.39	13	P		P	12 51 15.6	+2.0
	baz=198							
E62A	**Clayton Lake**	30.79	17	P		P	12 51 18.1	+1.1
	baz=205							
WUAZ	**Wupatki**	31.28	310	P		P	12 51 21.6	-0.1
	baz=117							
SAML	**Samuel**	32.53	143	P		P	12 51 31.5	-1.2
SAML				IAmb		IAmb	12 51 32.7	
	comp=Z,5.1nm,1.0s							
PD31	**Pinedale Array**	34.05	323	P		P	12 51 46.5	+0.5
PD31				IAmb		IAmb	12 51 50.8	
	comp=Z,5.0nm,1.4s							
PDAR	**Pinedale Array**	34.05	323	P		P	12 51 45.8	-0.2
	comp=Z,0.5nm,0.4s,baz=123,slow=11,SNR=8.4							
PDAR				PcP		PcP	12 54 21.6	-2.1
	comp=Z,1.1nm,0.8s,baz=119,slow=5.2,SNR=4.5							
PDAR	**Pinedale Array**	34.05	323	P		P	12 51 45.1	-1.0
BW06	**Boulder Array**	34.05	323	P		P	12 51 46.5	+0.5
	baz=129							
BW06	**Boulder Array**	34.05	323	P		P	12 51 46.0	-0.1
DUG	**Dugway, Tooele**	34.56	317	P		P	12 51 50.7	+0.2
	baz=122							
REDW	**Red Top Meadow**	35.16	323	P		P	12 51 55.0	-0.7
REDW				IAmb		IAmb	12 52 01.7	
	comp=Z,6.9nm,1.1s							
GSC	**Goldstone, Bar**	35.24	307	P		P	12 51 55.9	-0.4
	baz=111							
RLMT	**Red Lodge**	35.42	326	P		P	12 51 57.2	-0.7
	baz=132							
TPNV	**Topopah Spring**	35.45	310	P		P	12 51 58.1	0.0
	baz=114							
TPNV	**Topopah Spring**	35.45	310	IAmb		IAmb	12 52 11.0	
	comp=Z,6.1nm,1.1s							
IMW	**Indian Meadow**	35.55	324	IAmb		IAmb	12 52 03.3	
	comp=Z,2.7nm,0.7s							
R11A	**Troy Canyon, C**	35.56	312	P		P	12 51 59.1	0.0
	baz=116							
EDW2	**Edwards Air Fo**	36.02	305	P		P	12 52 02.2	-0.7
	baz=109							
ELK	**Elko**	36.44	316	P		P	12 52 07.0	+0.3
	comp=Z,1.5nm,0.8s,baz=117,slow=9.3,SNR=7.6							
ELK	**Elko**	36.44	316	P		P	12 52 06.1	-0.5
LPAZ	**La Paz**	36.53	157	P		P	12 52 07.2	-0.8
	comp=Z,0.5nm,0.4s,baz=324,slow=8.7,SNR=2.5							
LPAZ	**La Paz**	36.53	157	P		P	12 52 06.7	-1.3
CWC	**Cottonwood Cre**	36.62	308	P		P	12 52 07.8	-0.3
	baz=111							
BOZ	**Bozeman (W)**	36.99	325	P		P	12 52 11.6	+0.4
	baz=129							
HLID	**Hailey**	37.39	321	P		P	12 52 14.5	-0.1
	baz=124							
NV11	**Mina Array Sit**	37.43	311	P		P	12 52 14.7	-0.3
NVAR	**Mina Array Bea**	37.53	311	P		P	12 52 16.5	+0.5
	comp=Z,1.7nm,0.9s,baz=114,slow=9.5,SNR=8.5							
NVAR				PcP		PcP	12 54 34.5	+0.5
	comp=Z,1.3nm,0.7s,baz=132,slow=4.1,SNR=7.8							
NVAR	**Mina Array Bea**	37.53	311	P		P	12 52 16.4	+0.4
MNMC	**Minye Minye**	38.65	160	P		P	12 52 26.5	+0.9
MSO	**Missoula**	39.02	325	P		P	12 52 27.8	-0.4
	baz=128							
GO01	**Chusmiza**	39.28	160	P		P	12 52 32.2	+1.2
MOD	**Modoc Plateau**	40.36	315	IAmb		IAmb	12 52 53.4	
	comp=Z,9.8nm,1.4s							
F10A	**Beach Ranch, E**	40.38	322	P		P	12 52 39.1	-0.5
NEW	**Newport**	41.60	325	P		P	12 52 49.6	0.0
	baz=125							
NEW	**Newport**	41.60	325	P		P	12 52 49.5	-0.1
NEW				IAmb		IAmb	12 52 53.5	
	comp=Z,6.2nm,0.8s							
CPUP	**Villa Florida**	50.04	150	P		P	12 53 52.1	-4.2
	comp=Z,2.6nm,0.8s,baz=342,slow=10,SNR=6.4							
CPUP	**Villa Florida**	50.04	150	IAmb		IAmb	12 53 54.1	
	comp=Z,4.5nm,1.0s							
PLCA	**Paso Flores**	59.12	170	P		P	12 55 00.8	-1.3
	comp=Z,2.9nm,0.7s,baz=13,slow=7.7,SNR=6.7							
INK	**Inuvik**	59.86	340	P		P	12 55 09.2	+2.4
	comp=Z,2.4nm,1.0s,baz=101,slow=6.9,SNR=2.9							
INK	**Inuvik**	59.86	340	IAmb		IAmb	12 55 11.5	
	comp=Z,7.7nm,1.4s							
ILAR	**Eielson Array**	63.37	334	P		P	12 55 29.9	-0.7
	comp=Z,1.0nm,0.7s,baz=106,slow=4.4,SNR=9.9							
ILAR				LR		LR	13 23 11.1	
	comp=Z,34nm,19.3s,baz=94,slow=36							
ILAR	**Eielson Array**	63.37	334	P		P	12 55 29.6	-1.0
ESDC	**Sonseca Array**	70.16	53	P		P	12 56 14.7	+0.2
	comp=Z,4.0nm,0.8s,baz=285,slow=6.4,SNR=23							
ESDC				LR		LR	13 22 10.2	
	comp=Z,48nm,18.7s,baz=150,slow=32							
DBIC	**Dimbokro**	76.15	87	P		P	12 56 49.5	-0.8
	comp=Z,3.5nm,0.8s,baz=282,slow=5.1,SNR=3.7							
DBIC	**Dimbokro**	76.15	87	IAmb		IAmb	12 56 51.1	
	comp=Z,6.0nm,0.9s							
NOA	**NORSAR Array B**	76.46	30	P		P	12 56 51.5	+0.3
	comp=Z,0.7nm,0.6s,baz=283,slow=5.5,SNR=3.3							
NOA				LR		LR	13 26 26.9	
	comp=Z,18nm,21.1s,baz=210,slow=32							
ARCES	**ARCESS Array B**	79.68	20	P		P	12 57 09.4	+0.6
	comp=Z,0.8nm,0.6s,baz=308,slow=5.9,SNR=4.0							
TORD	**Torodi Ar. Bea**	80.56	79	P		P	12 57 14.3	-0.3
	comp=Z,1.6nm,0.8s,baz=301,slow=5.7,SNR=9.2							
GERES	**GERESS Array B**	80.82	42	P		P	12 57 16.0	+0.5
	comp=Z,0.4nm,0.7s,baz=251,slow=4.1,SNR=5.8							
FINES	**FINESS Array B**	83.15	27	P		P	12 57 27.1	-0.3
	comp=Z,3.1nm,1.0s,baz=300,slow=3.1,SNR=3.7							
KSRS	**Korea Array**	118.21	333	PKP		PKPdf	13 03 47.5	-1.7
	comp=Z,0.9nm,0.7s,baz=333,slow=1.4,SNR=3.4							
MAW	**Mawson**	125.35	164	PKP		PKPdf	13 04 00.9	-1.0
	comp=Z,1.2nm,0.8s,baz=302,slow=8.5,SNR=3.5							
LZH	**Lanzhou**	126.23	354	*e*PKP		PKPdf	13 03 57.1	-7.8
LZH				pPKP		PKiKP	13 04 08.8	+3.4
LZH				sPKP			13 04 14.8	
CMAR	**Chiang Mai Arr**	144.09	358	PKP		PKPab	13 04 37.6	+1.9
	comp=Z,1.3nm,0.5s,baz=335,slow=4.0,SNR=3.8							
WRA	**Warramunga Arr**	145.21	260	PKPbc		PKPbc	13 04 38.8	-1.0
	comp=Z,6.1nm,0.7s,baz=86,slow=3.5,SNR=40							
WRA	**Warramunga Arr**	145.21	260			PKPbc	13 04 37.7	-2.0
ASAR	**Alice Springs**	145.59	254	PKPbc		PKPdf	13 04 39.5	-1.3
	comp=Z,5.4nm,0.8s,baz=104,slow=3.4,SNR=39							
ASAR	**Alice Springs**	145.59	254			PKPdf	13 04 38.2	-2.5

IDC ***11*** *13:05:34.4±1.4, 1°.78N×95°.52E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.7/37, mbtmp3.9/8, ML3.8/2, MS3.3/2, Ms1 3.4/2, ms1mx2.8/40, Error ellipse: s-maj=48.2km s-min=18.6km az=62.0*

DJA ***11*** *13:05:37.8±1.0, 2°.N±4°×9°.6E±1°.0, h10km, M4.3/13, mB5.7/2, mb4.7/7, MLv4.1/13, Mw(mB)5.2/2*

NEIC ***11*** *13:05:38.7±0.9, 1°.85N±0°.05×95°.6E±0°.1, h28km±5km, mb4.3/10, Error ellipse: s-maj=20.7km s-min=4.2km az=74.0*

ISC 11 13:05:40.0±0.8, 1°.88N±0°.06×95°.72E±0°.0, h35km, n47, σ0s.84/42, mb3.9/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	1.94	107	P		**Pn**	13 06 11.4	+0.9
GSI	**Gunungsitoli**	1.94	107	Pn		**Pn**	13 06 11.4	+0.9
TPTI		2.00	47	P		**Pn**	13 06 11.9	+0.6
MLSI	**Meulaboh, Aceh**	2.47	16	P		**Pn**	13 06 17.2	-0.6
PBSI	**Pulau Batu**	3.20	127	P		**Pn**	13 06 28.3	+0.5
PBSI				S		**Sn**	13 07 03.8	-0.9
RPSI	**Rantau Prapat**	3.30	76			**Pn**	13 06 30.7	+1.5
RPSI						**Sn**	13 07 05.9	-1.4
RPSI	**Rantau Prapat**	3.30	76	Pn		**Pn**	13 06 31.0	+1.8
PSI	**Prapat**	3.33	74	Pn		**Pn**	13 06 30.7	+1.0
	1.3nm,0.3s,baz=183,slow=1.6,SNR=1.9							
PSI				Sn		**Sn**	13 07 05.9	-2.3
	2.4nm,0.3s,baz=360,slow=9.2,SNR=4.6							
MNSI	**Mandailing Nat**	4.01	106	P		**Pn**	13 06 40.5	+1.6
SISI	**Saibi**	4.64	133	P		**Pn**	13 06 47.5	-0.1
PDSI	**Padang**	5.49	120	P		**Pn**	13 06 59.7	+0.3
	0.1nm9.8nm,0.6s							
IPM	**Ipoh**	5.90	64	Pn		**Pn**	13 07 04.5	-0.4
KULM	**Kulim**	5.98	55			**Pn**	13 07 06.7	+0.7
SDSI	**Sungai Dareh**	6.36	116	P		**Pn**	13 07 12.5	+1.3
	0.4nm17nm,0.6s							
KRJI	**Kerinci**	6.96	124	P		**Pn**	13 07 20.4	+0.7
	1.4nm15μm256nm,0.7s							
MNAI	**Manna**	9.52	131	Pn		**Pn**	13 07 54.4	-0.3
MDSI	**Maura Dua**	10.55	127	P		**Pn**	13 08 08.7	-0.2
CMAR	**Chiang Mai Arr**	16.78	11	Pn		**Pn**	13 09 31.1	-1.3
	0.5nm,0.3s,baz=203,slow=11,SNR=8.8							
CMAR				LR		LR	13 15 41.9	
	comp=Z,124nm,18.9s,baz=210,slow=36							
CHTO	**Chiang Mai**	17.13	10	P		**P**	13 09 38.3	+0.1
H08S2	**Diego Garcia H**	25.03	248	T		T	13 37 12.0	
	baz=67,slow=75,SNR=101							
H08S3	**Diego Garcia H**	25.03	248	T		T	13 37 14.3	
	baz=67,slow=75,SNR=116							
H08S1	**Diego Carcia H**	25.04	248	T		T	13 37 13.2	
	baz=67,slow=75,SNR=96							
TGY	**Tagaytay City**	27.73	63	LR		LR	13 21 59.9	
	comp=Z,46nm,19.6s,baz=38,slow=35							
WHN	**Wuhan**	33.54	30	P		P	13 12 09.9	-6.6
H01W3	**Cape Leeuwin H**	40.44	156	T		T	13 56 55.4	
	baz=332,slow=76,SNR=21							
H01W2	**Cape Leeuwin H**	40.45	156	T		T	13 56 56.4	
	baz=332,slow=76,SNR=12							
H01W1	**Cape Leeuwin H**	40.46	156	T		T	13 57 14.2	
	baz=332,slow=76,SNR=11							
WB0	**Warramunga Arr**	43.62	121	P		**P**	13 13 41.6	+0.2
WB0				IAmb		IAmb	13 15 03.5	
	comp=Z,9.4nm,1.3s							
WRA	**Warramunga Arr**	43.65	122	P		**P**	13 13 41.7	+0.1
	comp=Z,2.0nm,0.8s,baz=300,slow=9.0,SNR=23							
WRA	**Warramunga Arr**	43.65	122	IAmb		IAmb	13 13 43.1	
	comp=Z,0.2nm,1.0s							
WRAB	**Tennant Creek**	43.65	122	P		**P**	13 13 42.3	+0.6
WB2	**Warramunga Arr**	43.66	122	P		**P**	13 13 41.9	+0.3
WR0	**Warramunga Arr**	43.83	122	P		**P**	13 13 43.4	+0.4
WR0				IAmb		IAmb	13 13 46.0	
	comp=Z,14nm,1.6s							
ASAR	**Alice Springs**	44.98	127	P		**P**	13 13 52.5	+0.3
	comp=Z,1.3nm,0.8s,baz=297,slow=7.8,SNR=22							
ASAR				PcP		PcP	13 15 33.0	-0.1
	comp=Z,0.3nm,0.6s,baz=304,slow=3.1,SNR=5.1							
ASAR	**Alice Springs**	44.98	127	P		**P**	13 13 52.2	-0.1
ASAR						PcP	13 15 32.9	-0.2
AS31	**Alice Springs**	44.98	127	P		**P**	13 13 52.1	-0.2
MK31	**Makanchi Array**	46.24	347	P		**P**	13 14 01.7	-0.1
MK31				IAmb		IAmb	13 14 14.9	
	comp=Z,2.3nm,1.0s							
MKAR	**Makanchi Array**	46.24	347	P		**P**	13 14 02.3	+0.4
	comp=Z,0.9nm,0.6s,baz=165,slow=8.8,SNR=9.9							
MKAR	**Makanchi Array**	46.24	347	P		**P**	13 14 01.5	-0.4
SONM	**Songino Array**	46.70	10	P		**P**	13 14 05.9	+0.4
	comp=Z,0.9nm,0.7s,baz=194,slow=8.5,SNR=3.9							
KKAR	**Karatay Array**	46.81	335	P		**P**	13 14 07.0	+0.7
ZALV	**Zalesovo Beam**	52.67	352	P		**P**	13 14 51.0	+0.3
	comp=Z,0.7nm,0.5s,baz=183,slow=7.2,SNR=5.3							
ZALV	**Zalesovo Beam**	52.67	352	P		**P**	13 14 50.0	-0.7
STKA	**Stephens Creek**	54.91	132	P		**P**	13 15 08.2	+0.7
	comp=Z,1.7nm,0.5s,baz=305,slow=7.0,SNR=7.3							
STKA	**Stephens Creek**	54.91	132	IAmb		IAmb	13 16 40.4	
	comp=Z,7.1nm,1.9s							
ABKAR	**Akbulak array**	56.23	333	P		**P**	13 15 16.3	-0.3
CPUP	**Villa Florida**	144.48	224	PKP		**PKPab**	13 25 11.4	-0.4
	comp=Z,3.0nm,0.7s,baz=75,slow=4.3,SNR=7.7							

ISK ***11*** *13:25:31.7, 40°.70N×42°.41E, h6km, ML3.0/8*

TIF ***11*** *13:25:31.9, 40°.56N×42°.41E, h18km±1km*

DDA ***11*** *13:25:32.4, 40°.62N×42°.50E, h7km±2km, ML2.7*

ISC 11 13:25:32.7±1.0, 40°.62N±0°.02×42°.45E±0°.02, h10km±8km, n31, σ0s.94/54, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SENK	**Senkaya-Erzuru**	0.10	232	PG		**Pg**	13 25 35.4	0.0
KARS	**Kars**	0.48	89	PG		**Pg**	13 25 42.3	+0.3
KARS				SG		**Sb**	13 25 49.9	-0.5
DDEM	**Demirkent**	0.60	297	*i* P		**Pb**	13 25 45.0	-0.3
DDEM				*i* S		**Sb**	13 25 53.6	-0.2
DDEM				IAML			13 25 56.0	
	comp=N,2μm,0.4s							
DDEM				IAML			13 25 57.0	
	comp=E,1μm,0.3s							
DAGI	**Agillar**	0.61	318	*i* P		**Pb**	13 25 45.1	-0.5
DAGI				*i* S		**Sb**	13 25 54.0	-0.3
DAGI				IAML			13 25 56.0	
	comp=N,303nm,0.6s							
DAGI				IAML			13 25 56.0	

ONI	**Oni**	**2.10**	**21**	P	**Pb**	**13 26 10.1**	**-0.9**
ONI				S	**Sb**	**13 26 37.1**	**-0.1**
AKDM	**Akdamar-Van**	**2.33**	**170**	PN	**Pb**	**13 26 12.7**	**-2.1**
DGRG	**David-gareji**	**2.36**	**68**	P	**Pb**	**13 26 14.7**	**-0.6**
DGRG				S	**Sb**	**13 26 45.0**	**+0.5**

*IDC **11** 13:27:08.4±3.2, 15°.91S×177°.76E, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/41, mbtmp3.7/4, MS3.5/2, Ms1 3.5/2, ms1mx2.9/39, Error ellipse: s-maj=182.9km s-min=28.2km az=148.0*

*NEIC **11** 13:27:08.2±2.6, 16°.5S±0°.1×178°.3E±0°.2, h11km±5km, mb4.1/3, Error ellipse: s-maj=32.0km s-min=10.7km az=117.0*

ISC 11 13:27:08.7±1.1, **16°.5S**±0°.2×**178°.2E**±0°.2, **h10**km, **n14, s19/54/9, mb3.8/5, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.28**	**188**	Pn	**Pn**	**13 27 32.2**	**-0.6**
DZM	**Mont Dzumac**	**12.45**	**241**	LR	LR	13 34 28.8	
	comp=Z,181nm,18.3s,baz=58,slow=36						
RAR	**Rarotonga**	**21.35**	**106**	LR	LR	13 39 36.9	
	comp=Z,143nm,19.3s,baz=278,slow=34						
H11S2	**WAKE ISLAND Hy**	**36.53**	**341**	T	T	14 12 32.9	
	baz=162,slow=76,SNR=9.0						
H11S3	**WAKE ISLAND Hy**	**36.54**	**341**	T	T	14 12 33.3	
	baz=162,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**36.55**	**341**	T	T	14 12 34.5	
	baz=162,slow=76,SNR=13						
STKA	**Stephens Creek**	**36.58**	**238**	P	**P**	**13 34 16.9**	**+1.9**
STKA				IAmb	IAmb	13 34 17.7	
	comp=Z,5.4nm,1.9s						
BBOO	**Buckleboo**	**41.35**	**239**	P	**P**	**13 34 56.7**	**+1.7**
WRA	**Warramunga Arr**	**41.75**	**258**	P	**P**	**13 34 57.3**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=92,slow=8.8,SNR=1.9						
ASAR	**Alice Springs**	**42.12**	**253**	P	**P**	**13 35 00.3**	**-1.2**
	comp=Z,1.9nm,0.9s,baz=80,slow=8.7,SNR=14						
ASAR	**Alice Springs**	**42.12**	**253**	P	**P**	**13 34 59.9**	**-1.6**
NVAR	**Mina Array Bea**	**80.65**	**45**	P	**P**	**13 39 23.5**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=235,slow=7.2,SNR=3.7						
NVAR	**Mina Array Bea**	**80.65**	**45**	P	**P**	**13 39 22.3**	**0.0**
ILAR	**Eielson Array**	**85.24**	**14**	P	**P**	**13 39 44.4**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=224,slow=6.3,SNR=6.5						

*KRNET **11** 13:28:28.6±0.1, 42°.17N×78°.18E, h15km, mb3.2*

*NNC **11** 13:28:29.8±0.4, 42°.27N×78°.18E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=3.3km s-min=1.4km az=171.0*

*SOME **11** 13:28:29.0, 42°.18N×78°.17E, h20km*

ISC 11 13:28:29.6±1.1, **42°.21N**±0°.03×**78°.09E**±0°.02, **h6**km±9km, **n85, s171/151, 34C-21D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.36**	**40**	⇑*i*P	**Pg**	**13 28 35.7**	**-1.0**
	baz=30						
PRZ				⇑*i*S	**Sg**	**13 28 40.9**	**-0.6**
	baz=30						
TARG	**Taragay, Kyrgy**	**0.52**	**204**	⇓*i*P	**Pg**	**13 28 38.4**	**-1.3**
	baz=12						
TARG				⇓*i*S	**Sg**	**13 28 45.5**	**-1.0**
	baz=12						
ANVS	**Anan'yevo**	**0.65**	**332**	⇓*i*P	**Pg**	**13 28 42.6**	**+0.4**
	baz=29						
ANVS				⇓*i*S	**Sb**	**13 28 52.6**	**-0.5**
	baz=29						
KDJ	**Kajisay**	**0.68**	**264**	⇑*e*P	**Pg**	**13 28 42.8**	**+0.1**
	baz=67						
KDJ				⇑*i*S	**Sg**	**13 28 52.8**	**+1.3**
	baz=67						
SATY	**Saty**	**0.88**	**15**	*e*P	**Pb**	**13 28 45.2**	**-2.3**
	6.9nm,0.2s						
SATY				*e*S	**Sb**	**13 28 56.7**	**-3.0**
	62nm,0.1s						
SATY	**Saty**	**0.88**	**15**	P	**Pb**	**13 28 45.2**	**-2.3**
	6.9nm,0.2s						
SATY				S	**Sb**	**13 28 56.7**	**-3.0**
	62nm,0.1s						
ZHN	**Zhinishke**	**0.99**	**15**	*e*P	**Pb**	**13 28 47.5**	**-1.9**
	baz=11						
ZHN				*e*S	**Sb**	**13 29 00.6**	**-2.2**
	baz=11						
ZHN	**Zhinishke**	**0.99**	**15**	*e*P	**Pb**	**13 28 47.5**	**-1.9**
	29nm,0.1s						
ZHN				*e*S	**Sb**	**13 29 00.6**	**-2.2**
	35nm,0.2s						
ZHN	**Zhinishke**	**0.99**	**15**	P	**Pb**	**13 28 47.5**	**-1.9**
	29nm,0.1s						
ZHN				S	**Sb**	**13 29 00.6**	**-2.2**
	35nm,0.2s						
UZB	**Uzynbulak**	**1.17**	**36**	⇓*e*P	**Pb**	**13 28 50.1**	**-2.3**
	baz=32						
UZB				⇓*e*S	**Sb**	**13 29 05.0**	**-2.9**
	baz=32						
UZB	**Uzynbulak**	**1.17**	**36**	⇓*e*P	**Pb**	**13 28 50.0**	**-2.3**
	3.5nm,0.2s						
UZB				*e*S	**Sb**	**13 29 04.9**	**-2.9**
	24nm,0.1s						
UZB	**Uzynbulak**	**1.17**	**36**	P	**Pb**	**13 28 50.1**	**-2.3**
	3.5nm,0.2s						
UZB				S	**Sb**	**13 29 04.9**	**-2.9**
	24nm,0.1s						
TNSS	**Tian-Shan**	**1.18**	**315**	⇑*e*P	**Pb**	**13 28 52.2**	**-0.5**
	baz=14						
TNSS				⇑*e*S	**Sn**	**13 29 08.9**	**-0.9**
	baz=14						
TNSS	**Tian-Shan**	**1.18**	**315**	⇑*e*P	**Pb**	**13 28 52.2**	**-0.5**
	23nm,0.1s						
TNSS				*e*S	**Sn**	**13 29 08.9**	**-0.9**
	90nm,0.3s						
TNSS	**Tian-Shan**	**1.18**	**315**	P	**Pb**	**13 28 52.2**	**-0.5**
	23nm,0.1s						
TNSS				S	**Sn**	**13 29 08.9**	**-0.9**
	90nm,0.3s						
MDOK	**Medeo**	**1.23**	**322**	⇓*e*P	**Pb**	**13 28 52.8**	**-0.6**
	baz=20						
MDOK				⇓*e*S	**Sn**	**13 29 09.6**	**-0.9**
	baz=20						
MDOK	**Medeo**	**1.23**	**322**	⇓*e*P	**Pb**	**13 28 52.8**	**-0.6**
	9.9nm,0.3s						
MDOK				*e*S	**Sn**	**13 29 09.6**	**-0.9**
	26nm,0.4s						
MDOK	**Medeo**	**1.23**	**322**	⇑P	**Pn**	**13 28 52.3**	**-1.2**
	6.5nm,0.5s						
MDOK				⇑S	**Sn**	**13 29 09.6**	**-0.9**
	16nm,0.3s						
MDOK	**Medeo**	**1.23**	**322**	Pg	**Pb**	**13 28 52.6**	**-0.7**
	9.9nm,0.3s						
MDOK				Lg	Lg	13 29 09.6	
	26nm,0.4s						
KOTS	**Kotyrbulak**	**1.25**	**325**	*e*P	**Pb**	**13 28 53.3**	**-0.5**
	baz=24						
KOTS				*e*S	**Sg**	**13 29 10.6**	**+0.7**
	baz=24						
KOTS	**Kotyrbulak**	**1.25**	**325**	*e*P	**Pb**	**13 28 53.3**	**-0.5**
	16nm,0.1s						
KOTS				*e*S	**Sg**	**13 29 10.7**	**+0.7**
	62nm,0.3s						
KOTS	**Kotyrbulak**	**1.25**	**325**	P	**Pb**	**13 28 53.3**	**-0.5**
	16nm,0.1s						
KOTS				S	**Sg**	**13 29 10.7**	**+0.7**
	62nm,0.3s						
AAA	**Alma-Ata**	**1.32**	**320**	*e*P	**Pg**	**13 28 55.0**	**0.0**
	84nm,0.2s						
AAA				*e*S	**Sg**	**13 29 13.7**	**+1.5**
	101nm,0.2s						
AAA	**Alma-Ata**	**1.32**	**320**	P	**Pg**	**13 28 55.0**	**0.0**
	84nm,0.2s						
AAA				S	**Sg**	**13 29 13.7**	**+1.5**
	101nm,0.2s						
KPKS	**Kokpek**	**1.33**	**19**	*e*P	**Pb**	**13 28 53.5**	**-1.7**
	baz=16						
KPKS				*e*S	**Sb**	**13 29 10.7**	**-1.8**
	baz=16						
KPKS	**Kokpek**	**1.33**	**19**	*e*P	**Pb**	**13 28 53.5**	**-1.7**
	14nm,0.2s						
KPKS				*e*S	**Sb**	**13 29 10.7**	**-1.8**
	35nm,0.2s						
IZV	**Izvestkoviy**	**1.37**	**308**	*e*P	**Pb**	**13 28 55.5**	**-0.3**
	baz=7.0						
IZV				*e*S	**Sg**	**13 29 14.8**	**+1.2**
	baz=7.0						
IZV	**Izvestkoviy**	**1.37**	**308**	*e*P	**Pb**	**13 28 55.5**	**-0.3**
	40nm,0.2s						
IZV				*e*S	**Sg**	**13 29 14.8**	**+1.2**
	149nm,0.3s						
IZV	**Izvestkoviy**	**1.37**	**308**	P	**Pb**	**13 28 55.5**	**-0.3**
	40nm,0.2s						
IZV				S	**Sg**	**13 29 14.8**	**+1.2**
	149nm,0.3s						
ULHL	**Ulahol**	**1.37**	**272**	⇓*i*P	**Pb**	**13 28 55.1**	**-0.7**
	baz=73						
ULHL				⇓*i*S	**Sg**	**13 29 14.6**	**+0.9**
	baz=73						
ULHL	**Ulahol**	**1.37**	**272**	P	**Pb**	**13 28 55.5**	**-0.3**
	SNR=17						
SHLS	**Shalkode**	**1.39**	**46**	*e*P	**Pg**	**13 28 58.7**	**+2.4**
	baz=51						
SHLS				*e*S	**Sg**	**13 29 20.2**	**+5.9**
	baz=51						
SHLS	**Shalkode**	**1.39**	**46**	*e*P	**Pg**	**13 28 58.7**	**+2.4**
	24nm,0.1s						
SHLS				*e*S	**Sg**	**13 29 20.2**	**+5.9**
	72nm,0.2s						
SHLS	**Shalkode**	**1.39**	**46**	P	**Pg**	**13 28 58.9**	**+2.6**
	24nm,0.1s						
SHLS				S	**Sg**	**13 29 20.2**	**+5.9**
	61nm,0.3s						
PDGK	**Podgornoye**	**1.53**	**42**	P	**Pb**	**13 28 56.4**	**-2.1**
	5.3nm,0.1s						
PDGK				S	**Sb**	**13 29 15.8**	**-2.3**
	14nm,0.3s						
PDGK	**Podgornoye**	**1.53**	**42**	⇑P	**Pb**	**13 28 56.3**	**-2.1**
	3.7nm,0.2s						
PDGK				⇑S	**Sb**	**13 29 15.8**	**-2.3**
	15nm,0.5s						
MTBS	**Maitube**	**1.53**	**308**	*e*P	**Pb**	**13 28 58.5**	**0.0**
	baz=7.0						
MTBS				*e*S	**Sg**	**13 29 19.7**	**+0.8**
	baz=7.0						
MTBS	**Maitube**	**1.53**	**308**	*e*P	**Pb**	**13 28 58.5**	**0.0**
	22nm,0.2s						
MTBS				*e*S	**Sg**	**13 29 19.7**	**+0.8**
	70nm,0.4s						
MTBS	**Maitube**	**1.53**	**308**	P	**Pb**	**13 28 58.5**	**0.0**
	22nm,0.2s						
MTBS				S	**Sg**	**13 29 19.7**	**+0.8**
	70nm,0.4s						
KST	**Kastek**	**1.78**	**299**	*e*P	**Pb**	**13 29 02.6**	**-0.1**
	baz=99						
KST				*e*S	**Sg**	**13 29 26.9**	**+0.1**
	baz=99						
KST	**Kastek**	**1.78**	**299**	*e*P	**Pb**	**13 29 02.6**	**-0.1**
	17nm,0.2s						
KST				*e*S	**Sg**	**13 29 26.8**	**+0.1**
	97nm,0.6s						
KST	**Kastek**	**1.78**	**299**	P	**Pb**	**13 29 02.6**	**-0.1**
	17nm,0.2s						
KST				S	**Sg**	**13 29 26.8**	**+0.1**
	97nm,0.6s						
KTBS	**Karatobe**	**1.82**	**326**	*e*P	**Pb**	**13 29 03.5**	**0.0**
	4.4nm,0.2s						
KTBS				*e*S	**Sg**	**13 29 28.1**	**-0.2**
	95nm,0.6s						
KTBS	**Karatobe**	**1.82**	**326**	P	**Pb**	**13 29 03.5**	**0.0**
	4.4nm,0.2s						
KTBS				S	**Sg**	**13 29 28.1**	**-0.2**
	95nm,0.6s						
CHKK	**Chushkaly**	**1.83**	**334**	*e*P	**Pb**	**13 29 03.5**	**-0.1**
	baz=33						
CHKK				*e*S	**Sg**	**13 29 28.1**	**-0.4**
	baz=33						
CHKK	**Chushkaly**	**1.83**	**334**	*e*P	**Pb**	**13 29 03.5**	**-0.1**
	4.6nm,0.2s						
CHKK				*e*S	**Sg**	**13 29 28.2**	**-0.4**
	88nm,0.3s						
CHKK	**Chushkaly**	**1.83**	**334**	P	**Pb**	**13 29 03.5**	**-0.1**
	4.6nm,0.2s						
CHKK				S	**Sg**	**13 29 28.2**	**-0.4**
	88nm,0.3s						
TKM2	**Tokmak 2**	**1.97**	**292**	⇑*i*P	**Pb**	**13 29 05.5**	**-0.6**
	baz=92						
TKM2				⇑*i*S	**Sb**	**13 29 32.1**	**+1.1**
	baz=92						
TKM2	**Tokmak 2**	**1.97**	**292**	P	**Pb**	**13 29 06.0**	**-0.1**
	SNR=19						
TKM2	**Tokmak 2**	**1.97**	**292**	⇑Pn	**Pb**	**13 29 06.2**	**+0.1**
	5.0nm,0.3s						
TKM2				⇑Sn	**Sb**	**13 29 32.3**	**+1.3**
	51nm,0.7s						
DGS	**Degeres**	**2.00**	**302**	*e*P	**Pb**	**13 29 06.6**	**+0.2**
	7.0nm,0.2s						
DGS				*e*S	**Sg**	**13 29 33.6**	**-0.1**
	41nm,0.4s						
DGS	**Degeres**	**2.00**	**302**	Pg	**Pb**	**13 29 06.6**	**+0.2**
	7.0nm,0.2s						
DGS				Lg	Lg	13 29 33.6	
	41nm,0.4s						
ARXS	**Arharly**	**2.02**	**355**	*e*P	**Pb**	**13 29 06.0**	**-0.7**
	49nm,0.4s						
ARXS				*e*S	**Sg**	**13 29 32.9**	**-1.5**
	47nm,0.4s						
ARXS	**Arharly**	**2.02**	**355**	Pg	**Pb**	**13 29 06.0**	**-0.7**
	49nm,0.4s						
ARXS				Lg	Lg	13 29 32.9	
	47nm,0.4s						
KTMS	**Ketmen**	**2.08**	**53**	*e*P	**Pb**	**13 29 06.2**	**-1.7**
	3.1nm,0.1s						
KTMS				*e*S	**Sb**	**13 29 32.6**	**-1.4**
	20nm,0.2s						
KTMS	**Ketmen**	**2.08**	**53**	Pg	**Pb**	**13 29 06.2**	**-1.7**
	3.1nm,0.1s						
KTMS				Lg	Lg	13 29 32.6	
	20nm,0.2s						
KZA	**Kyzart**	**2.11**	**267**	⇑*i*P	**Pb**	**13 29 07.0**	**-1.6**
	baz=68						
KZA				⇑*i*S	**Sb**	**13 29 35.3**	**0.0**
	baz=68						
KZA	**Kyzart**	**2.11**	**267**	P	**Pb**	**13 29 09.1**	**+0.5**
	SNR=22						
KUU	**Kurty**	**2.12**	**323**	*e*P	**Pb**	**13 29 08.4**	**0.0**
	3.9nm,0.3s						
KUU				*e*S	**Sg**	**13 29 37.0**	**-0.6**
	36nm,0.4s						
KUU	**Kurty**	**2.12**	**323**	Pg	**Pb**	**13 29 08.4**	**0.0**
	3.9nm,0.3s						
KUU				Lg	Lg	13 29 37.0	
	36nm,0.4s						
KRBS	**Karabastau**	**2.31**	**311**	*e*P	**Pb**	**13 29 11.8**	**0.0**
	12nm,0.4s						
KRBS				*e*S	**Sb**	**13 29 42.7**	**+2.0**
	22nm,0.5s						
KRBS	**Karabastau**	**2.31**	**311**	Pg	**Pb**	**13 29 11.8**	**0.0**
	12nm,0.4s						
KRBS				Lg	Lg	13 29 42.7	
	22nm,0.5s						
KBK	**Karagaybulak**	**2.37**	**282**	⇑*e*P	**Pb**	**13 29 10.6**	**-2.2**
	baz=82						
KBK				⇑*i*S	**Sb**	**13 29 41.5**	**-0.8**
	baz=82						
KBK	**Karagaybulak**	**2.37**	**282**	P	**Pb**	**13 29 13.1**	**+0.3**
	SNR=8.1						
DJR	**Jarkent**	**2.46**	**30**	*e*P	**Pb**	**13 29 12.8**	**-1.5**
	14nm,0.2s						
DJR				*e*S	**Sb**	**13 29 44.4**	**-0.6**
	45nm,0.4s						
DJR	**Jarkent**	**2.46**	**30**	Pg	**Pb**	**13 29 12.8**	**-1.5**
	14nm,0.2s						
DJR				Lg	Lg	13 29 44.4	
	45nm,0.4s						
CHMS	**Chumysh**	**2.59**	**289**	⇓*e*P	**Pn**	**13 29 13.4**	**+1.3**
	baz=89						
CHMS				⇓*i*S	**Sb**	**13 29 46.4**	**-2.1**
	baz=89						
FRU1	**Bishkek**	**2.63**	**284**	⇓*i*P	**Pb**	**13 29 14.2**	**-2.9**
	baz=85						
FRU1				⇓*i*S	**Sb**	**13 29 47.6**	**-2.1**
	baz=85						
UCH	**Uchtor**	**2.65**	**272**	⇓*i*P	**Pn**	**13 29 14.6**	**+1.2**
	baz=72						
UCH				⇓*i*S	**Sb**	**13 29 48.5**	**-2.4**
	baz=72						
UCH	**Uchtor**	**2.65**	**272**	P	**Pb**	**13 29 17.8**	**-0.1**
	SNR=8.0						
AAK	**Ala-Archa**	**2.69**	**280**	⇑*i*P	**Pn**	**13 29 15.1**	**+1.4**
	baz=81						
AAK				⇑*i*S	**Sb**	**13 29 49.2**	**-2.6**
	baz=81						
AAK	**Ala-Archa**	**2.69**	**280**	⇑Pg	**Pb**	**13 29 19.0**	**+0.7**
	4.9nm,0.6s						
AAK				⇓Lg	Lg	13 29 55.1	
	11nm,0.3s						
TDK	**Taldyqorghan**	**2.80**	**5**	*e*P	**Pb**	**13 29 19.7**	**-0.5**
	56nm,0.2s						
TDK				*e*S	**Sb**	**13 29 56.0**	**+1.3**
	62nm,0.3s						
TDK	**Taldyqorghan**	**2.80**	**5**	Pg	**Pb**	**13 29 19.7**	**-0.5**
	56nm,0.2s						
TDK				Lg	Lg	13 29 56.0	
	62nm,0.3s						
ARLS	**Aral**	**2.82**	**264**	⇑*i*P	**Pn**	**13 29 16.8**	**+1.3**
	baz=65						
ARLS				⇑*i*S	**Sn**	**13 29 51.8**	**+1.8**
	baz=65						
USP	**Ospenovka**	**2.85**	**293**	⇑*e*P	**Pn**	**13 29 17.3**	**+1.6**
	baz=93						
USP				⇑*i*S	**Sb**	**13 29 53.2**	**-2.8**
	baz=93						
EKS2	**Erkin-Say**	**3.22**	**280**	⇑*i*P	**Pn**	**13 29 22.6**	**+1.7**
	baz=80						
EKS2				⇑*i*S	**Sn**	**13 30 01.8**	**+2.1**
	baz=80						
AML	**Almayashu**	**3.27**	**270**	⇑*i*P	**Pn**	**13 29 23.2**	**+1.4**
	baz=71						
AML				⇑*i*S	**Sn**	**13 30 03.0**	**+1.8**
	baz=71						
MRKS	**Merke**	**3.63**	**280**	*e*P	**Pb**	**13 29 36.1**	**+1.7**
	7.0nm,0.4s						
MRKS				*e*S	**Sg**	**13 30 23.9**	**-2.5**
	5.0nm,0.4s						
MRKS	**Merke**	**3.63**	**280**	Pg	**Pb**	**13 29 36.1**	**+1.7**
	7.0nm,0.4s						
MRKS				Lg	Lg	13 30 23.9	
	5.0nm,0.4s						
BTLS	**Baital**	**4.08**	**315**	*e*P	**Pb**	**13 29 44.2**	**+2.4**
	1.3nm,0.4s						
BTLS				*e*S	**Sg**	**13 30 37.7**	**-2.9**
	6.8nm,0.5s						
BTLS	**Baital**	**4.08**	**315**	Pg	**Pb**	**13 29 44.2**	**+2.4**
	1.3nm,0.4s						
BTLS				Lg	Lg	13 30 37.7	
	6.8nm,0.5s						
MK31	**Makanchi Array**	**5.48**	**32**	⇓Pn	**Pn**	**13 29 52.5**	**+0.6**
	1.0nm,0.4s,baz=218,slow=17,SNR=11						
MK31				⇑Lg	Lg	13 31 20.7	
	1.1nm,0.6s						
KK31	**Karatay Array**	**5.66**	**282**	⇑Pg	**Pg**	**13 30 14.7**	**-3.3**
	0.3nm,0.3s,baz=97,slow=12,SNR=4.5						
KK31				⇓Sn	**Sn**	**13 31 03.1**	**+3.5**
	0.3nm,0.3s						
KK31				⇑Lg	Lg	13 31 31.8	
	0.7nm,0.3s,baz=96,slow=26,SNR=5.0						
OTUK	**Ortayu**	**7.27**	**328**	⇑Lg	Lg	13 32 19.6	
	2.0nm,0.6s						

*GUC **11** 13:32:10.7±1.9, 41°.44S×85°.99W, h10km, mb5.0*

*IDC **11** 13:32:14.3±0.7, 41°.12S×85°.93W, h0km, mb4.1/14, mb1 4.3/15, mb1mx4.3/34, mbtmp4.1/15, ML4.0/1, MS4.8/19, Ms1 4.8/19, ms1mx4.8/22, Error ellipse: s-maj=22.0km s-min=16.3km az=99.0*

*GCMT **11** 13:32:18.2±0.1, 41°.40S±0°.01×86°.08W±0°.01, h15km, MW5.6/157, Moment Tensor Solution. s143,c271; s157,c313; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr~0.08±.03; Mθθ 0.70±.03; Mθφ~0.62±.03; Mrθ 0.79±.10; Mθφ~3.22±.03; Mφr~1.04±.09; Best double couple: Mo3.51400×10^17 NP1:φs83.00000°, δ73.00000°, λ171.00000°. NP2:φs175.00000°, δ81.00000°, λ17.00000°. Principal axes: T 3.7470, Plg18.0000°, Azm40.0000°; N -0.4670, Plg71.0000°, Azm201.0000°; P -3.2800, Plg6.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **11** 13:32:18, 41°.40S×86°.09W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr~0.17; Mθθ 0.71; Mθφ~0.54; Mrθ 0.27; Mθφ~3.48; Mφr~0.21; Fault plane solution: Mo3.55000×10^17 NP1:φs175.00000°, δ86.00000°, λ3.00000°. NP2:φs85.00000°, δ87.00000°, λ176.00000°. Principal axes: T 3.6527, Plg5.0000°, Azm40.0000°; N -0.2049, Plg85.0000°, Azm222.0000°; P -3.4478, Plg0.0000°, Azm130.0000°;*

*BJI **11** 13:32:19.0±0.0, 41°.30S×85°.50W, h10km, mB5.2/7, Ms5.4/7, Ms7 5.2/8*

*NEIC **11** 13:32:20.1, 41°.36S×84°.96W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 0.15; Mθθ 0.60; Mθφ~0.75; Mrθ~0.22; Mθφ~3.13; Mφr~0.90; Fault plane solution: Mo3.33000×10^17 NP1:φs353.53000°, δ86.24000°, λ-14.78000°. NP2:φs84.52000°, δ75.25000°, λ-176.12000°. Principal axes: T 3.1768, Plg8.0000°, Azm40.0000°; N 0.2948, Plg75.0000°, Azm160.0000°; P -3.4716, Plg13.0000°, Azm308.0000°;*

*NEIC **11** 13:32:20.2±1.6, 41°.3S±0°.1×85°.0W±0°.2, h10km±1km, mb5.0/96, Ms_20 5.0/257, Mwb5.6/26, Mww5.5, Mwc5.6(GCMT) Error ellipse: s-maj=25.0km s-min=17.9km az=297.0*

*NEIC **11** 13:32:22, 40°.72S×86°.31W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr~0.58; Mθθ 0.54; Mθφ 0.04; Mrθ 1.33; Mθφ~1.88; Mφr 0.44; Fault plane solution: Mo2.41000×10^17 NP1:φs171.00000°, δ54.00000°, λ-15.00000°. NP2:φs271.00000°, δ78.00000°, λ-143.00000°. Principal axes: T 2.3842, Plg15.0000°, Azm37.0000°; N 0.0579, Plg51.0000°, Azm287.0000°; P -2.4421, Plg34.0000°, Azm137.0000°;*

ISC 11 13:32:20.2±0.5, **41°.06S**±0°.09×**85°.45W**±0°.06, **h10**km, **n386, s237/241, mb5.0/50, MS5.0/150, 1D, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**8.88**	**38**	Pn	**Pn**	**13 34 26.1**	**-2.2**
	baz=243,slow=8.1,SNR=132						
H03S2				T	T	13 44 13.4	
	baz=212,slow=73,SNR=1779						
H03S1	**Juan Fernandez**	**8.88**	**38**	Pn	**Pn**	**13 34 26.1**	**-2.3**
	baz=243,slow=8.1,SNR=128						
H03S1				T	T	13 44 17.7	
	baz=212,slow=73,SNR=1580						
H03S3	**Juan Fernandez**	**8.90**	**38**	Pn	**Pn**	**13 34 26.8**	**-1.8**
	baz=243,slow=8.1,SNR=103						
H03S3				T	T	13 44 17.0	
	baz=212,slow=73,SNR=2600						
VA04	**Juan Fernndez**	**9.09**	**38**	Pn	Pn	13 34 27.0	-4.4
H03N3	**Juan Fernandez**	**9.20**	**36**	Pn	Pn	13 34 29.3	-3.4
	baz=182,slow=24,SNR=207						
H03N3				T	T	13 44 42.7	
	baz=199,slow=71,SNR=509						
H03N2	**Juan Fernandez**	**9.21**	**36**	Pn	Pn	13 34 29.1	-3.7
	baz=182,slow=24,SNR=565						
H03N2				T	T	13 44 28.4	
	baz=199,slow=71,SNR=235						
H03N1	**Juan Fernandez**	**9.22**	**36**	Pn	Pn	13 34 29.3	-3.7
	baz=182,slow=24,SNR=300						
H03N1				T	T	13 44 46.1	
	baz=199,slow=71,SNR=212						
BI03	**Tigo**	**10.55**	**70**	*e*P	**Pn**	**13 34 49.0**	**-2.5**
BI03				*e*S	**Sn**	**13 36 53.7**	**+4.0**
BI03	**Tigo**	**10.55**	**70**		**Pn**	**13 34 48.9**	**-2.6**
LC01	**Cunco**	**10.64**	**83**	Pn	**Pn**	**13 34 52.6**	**-0.1**
PLCA	**Paso Flores**	**11.29**	**93**	Pn	**Pn**	**13 35 03.8**	**+2.2**
	0.2nm,0.3s,baz=276,slow=11,SNR=7.0						
PLCA				Sn	**Sn**	**13 37 14.4**	**+6.7**
	0.1nm,0.3s,baz=36,slow=23,SNR=3.0						
PLCA				LR	LR	13 38 35.9	
	comp=Z,9μm,19.5s,baz=264,slow=33						
PLCA	**Paso Flores**	**11.29**	**93**	*e*P	**Pn**	**13 35 04.8**	**+3.2**
BI02	**San Fabin de**	**11.89**	**73**	*e*P	**Pn**	**13 35 07.8**	**-2.1**
BI02	**San Fabin de**	**11.89**	**73**	Pn	**Pn**	**13 35 06.9**	**-3.

CO02 IAmb IAmb 13 35 58.4
comp=Z,186nm,1.4s
CO02 Combarbal 15.25 54 Pn 13 35 53.4 -2.2
CO03 El Pedregal 15.69 54 Pn 13 35 59.9 -1.6
GO04 Tololo Observa 16.10 52 *eP* **Pn 13 36 04.8 -2.0**
GO04 IAmb IAmb 13 36 31.0
comp=Z,111nm,1.1s
GO04 Tololo Observa 16.10 52 Pn **Pn 13 36 05.6 -1.2**
GO04 IAmb IAmb 13 36 26.8
comp=Z,87nm,1.0s
ZON Zonda 16.50 60 P **Pn 13 36 12.9 +1.1**
ZON IAmb IAmb 13 36 19.1
comp=Z,177nm,1.7s
CO01 Juntas del Tor 16.66 53 P **Pn 13 36 14.3 +0.2**
AC04 Llanos de Chal 17.42 47 Pn **Pn 13 36 21.4 -1.9**
GO03 Copiap 18.36 48 Pn 13 36 32.5 -2.4
AC01 Pan de Azucar 19.30 44 P **P 13 36 44.4 -1.0**
AC02 Maricunga 19.57 49 P 13 36 46.7 -2.1
AC02 IAmb IAmb 13 36 54.7
comp=Z,216nm,2.0s
GO02 Mina Guanaco 20.63 45 P **P 13 36 58.6 -1.6**
GO02 IAMs_20 IAMs_20 13 42 50.8
comp=Z,6µm,19.0s
PB14 IPOC Station P 20.65 42 P **P 13 36 59.2 -1.2**
PB14 IAmb IAmb 13 37 06.6
comp=Z,112nm,1.4s
PB14 IAMs_20 IAMs_20 13 42 36.8
comp=Z,8µm,21.0s
PB10 IPOC Station P 21.50 40 P **P 13 37 08.0 -1.3**
PB10 IAMs_20 IAMs_20 13 43 00.9
comp=Z,8µm,21.0s
EFI East Falkland 21.55 129 P P 13 37 02.8 -6.7
PB15 IPOC Station P 22.30 42 P **P 13 37 15.5 -2.5**
PB15 IAmb IAmb 13 37 24.9
comp=Z,83nm,1.3s
PB15 IAMs_20 IAMs_20 13 43 37.5
comp=Z,7µm,20.0s
LPA La Plata 22.49 83 *eP* P 13 37 13.6 -6.1
LPA pPP 13 37 40.8
LPA S **S 13 41 21.4 -5.1**
LPA PSP PSP 13 41 30.6
LPA SS **SnSn 13 41 50.0 -4.8**
LPA SSS SSS 13 42 08.8
PB06 IPOC Station P 22.66 41 P **P 13 37 20.1 -1.8**
PB06 IAmb IAmb 13 37 45.6
comp=Z,123nm,1.8s
PB06 IAMs_20 IAMs_20 13 43 47.5
comp=Z,5µm,20.0s
PB04 IPOC Station P 22.70 39 IAMs_20 IAMs_20 13 43 36.7
comp=Z,7µm,22.0s
LVC Limon Verde 23.08 42 P **P 13 37 24.6 -1.8**
comp=Z,3.1nm,0.5s,baz=211,slow=11,SNR=8.2
LVC LR LR 13 44 23.9
comp=Z,6µm,19.6s,baz=236,slow=31
LVC Limon Verde 23.08 42 P **P 13 37 24.7 -1.7**
LVC Limon Verde 23.08 42 IAMs_20 IAMs_20 13 44 03.1
comp=Z,7µm,20.0s
LVC Limon Verde 23.08 42 *eP* P 13 37 19.8 -6.6
PB07 IPOC Station P 23.34 39 P **P 13 37 26.4 -2.5**
PB07 IAmb IAmb 13 37 32.9
comp=Z,54nm,1.5s
PB07 IAMs_20 IAMs_20 13 44 13.8
comp=Z,5µm,19.0s
PB09 IPOC Station P 23.59 40 P **P 13 37 29.4 -2.0**
PB09 IAmb IAmb 13 38 14.4
comp=Z,61nm,1.4s
PB09 IAMs_20 IAMs_20 13 44 15.2
comp=Z,5µm,20.0s
PATCX Punta Patache 24.00 37 IAMs_20 IAMs_20 13 44 23.6
comp=Z,4µm,19.0s
PB01 IPOC Station P 24.12 39 P **P 13 37 34.5 -1.8**
PB01 IAmb IAmb 13 37 54.1
comp=Z,71nm,1.5s
PB01 IAMs_20 IAMs_20 13 44 29.4
comp=Z,5µm,20.0s
TA01 Diego Aracena 24.21 37 IAMs_20 IAMs_20 13 44 19.2
comp=Z,8µm,22.0s
PB08 IPOC Station P 25.05 39 P **P 13 37 41.9 -3.2**
PB08 IAMs_20 IAMs_20 13 44 59.2
comp=Z,5µm,20.0s
PSGCX Pisagua 25.08 36 P **P 13 37 42.7 -2.3**
PSGCX IAmb IAmb 13 38 01.8
comp=Z,42nm,1.6s
PSGCX IAMs_20 IAMs_20 13 45 03.5
comp=Z,5µm,20.0s
PB11 IPOC Station P 25.14 37 P **P 13 37 43.5 -2.2**
PB11 IAMs_20 IAMs_20 13 44 58.0
comp=Z,4µm,19.0s
GO01 Chusmiza 25.44 38 P **P 13 37 46.9 -1.8**
GO01 IAMs_20 IAMs_20 13 45 09.6
comp=Z,5µm,20.0s
MNMC Minye Minye 25.72 37 P **P 13 37 48.4 -2.7**
MNMC IAMs_20 IAMs_20 13 45 15.4
comp=Z,5µm,20.0s
PB12 IPOC Station P 25.86 35 IAMs_20 IAMs_20 13 45 26.4
comp=Z,6µm,20.0s
AP01 Chacalluta 26.07 34 IAMs_20 IAMs_20 13 45 32.0
comp=Z,6µm,20.0s
PB16 IPOC Station P 26.46 36 P **P 13 37 55.9 -2.2**
PB16 IAmb IAmb 13 38 12.9
comp=Z,32nm,1.4s
PB16 IAMs_20 IAMs_20 13 45 40.1
comp=Z,5µm,20.0s
PLTB Pedras Altas 27.13 80 *eP* **P 13 38 05.2 +1.7**
CPUP Villa Florida 27.48 66 P **P 13 38 03.7 -2.9**
comp=Z,4.7nm,0.9s,baz=258,slow=6.3,SNR=7.1
CPUP LR LR 13 48 31.2
comp=Z,8µm,19.3s,baz=238,slow=35
CPUP Villa Florida 27.48 66 P **P 13 38 04.0 -2.6**
CPUP Villa Florida 27.48 66 *eP* **P 13 38 04.4 -2.2**
LPAZ La Paz 28.87 36 P **P 13 38 17.9 -1.8**
comp=Z,1.9nm,0.6s,baz=158,slow=9.8,SNR=10
LPAZ LR LR 13 47 55.9
comp=Z,2µm,18.8s,baz=189,slow=32
LPAZ La Paz 28.87 36 P P 13 38 16.2 -3.6
LPAZ IAmb IAmb 13 38 22.1
comp=Z,53nm,1.9s
NNA Nana 29.93 17 LR LR 13 47 34.3
comp=Z,3µm,19.0s,baz=188,slow=31
CNLB Canela 30.42 78 *eP* **P 13 38 35.0 +2.2**
ITAB Concordia 30.63 74 *eP* **P 13 38 35.8 +1.2**
PTGB Pitanga 32.19 70 *eP* **P 13 38 48.3 -0.1**
SIV San Ignacio 32.69 47 P **P 13 38 50.8 -2.1**
comp=Z,4.8nm,1.0s,baz=244,slow=10,SNR=5.9
SIV LR LR 13 52 00.4
comp=Z,2µm,19.6s,baz=208,slow=36
SIV San Ignacio 32.69 47 P **P 13 38 50.8 -2.1**
TRCB Terra Rica 33.01 67 *eP* **P 13 38 54.1 -1.5**
PTLB Pontes e Lacer 34.22 49 *eP* **P 13 39 03.8 -2.3**
ATAH Atahualpa 34.36 12 P P 13 39 05.1 -2.7
comp=Z,1.6nm,0.4s,baz=102,slow=20,SNR=1.2
ATAH Atahualpa 34.36 12 P P 13 39 05.1 -2.7
PCMB Pacaembu 34.75 67 *eP* **P 13 39 09.9 -0.9**
ETMB Extrema 35.46 34 *eP* P 13 39 14.3 -2.5
VILB Vilhena 35.66 46 *eP* P 13 39 16.2 -2.4
SALV Santo Antonio 35.92 54 *eP* **P 13 39 19.1 -1.7**
ITRB Iturama 36.65 65 *eP* **P 13 39 25.9 -1.2**
VAO Valinhos 36.90 73 *eP* **P 13 39 29.5 +0.2**
BB19B Bebedouro 37.02 69 *eP* **P 13 39 30.2 0.0**
SAML Samuel 37.58 38 P P 13 39 29.9 -5.1
SAML Samuel 37.58 38 IAMs_20 IAMs_20 13 53 10.3
comp=Z,2µm,21.0s
IPMB Ipameri, GO 39.31 65 *eP* **P 13 39 49.4 -0.2**
BSCB Bom Sucesso 39.74 72 *eP* **P 13 39 53.4 +0.2**
CLDB Colider 39.81 49 *eP* P 13 39 51.0 -2.8
OTAV Otavalo 41.60 11 P **P 13 40 08.8 -0.2**
OTAV Otavalo 41.60 11 *eP* **P 13 40 07.7 -1.2**
NPGB Novo Progresso 43.19 47 *eP* P 13 40 18.6 -2.8
PEXB Peixe 43.46 59 *eP* **P 13 40 23.0 -0.6**
SJMB Sao Joao De Ma 43.79 73 *eP* **P 13 40 27.3 +1.0**
BSFB Barra de Sao F 43.96 73 *eP* **P 13 40 29.3 +1.7**
RIB01 Linhares ES 43.98 74 *eP* **P 13 40 29.2 +1.5**
JANB Januaria 44.02 66 *eP* **P 13 40 28.9 +0.8**
SDBA SAO DESIDERIO 45.49 63 *eP* **P 13 40 40.2 +0.3**
SMTB Santa Maria do 46.36 57 *eP* **P 13 40 44.5 -2.2**
ROSC El Rosal 46.80 15 LR LR 13 58 13.1
comp=Z,5µm,21.5s,baz=204,slow=33
PRPB Parauapebas 47.08 52 *eP* **P 13 40 50.6 -1.8**
VNA3 Neumayer Olymp 47.21 155 P P 13 40 47.9 -4.8
VNA1 Neumayer--Stat 47.71 154 P P 13 40 53.0 -3.6
VNA2 Neumayer--Watz 47.98 154 P P 13 40 54.0 -4.6
baz=267,slow=8.9
QSPA South Pole Qui 49.17 180 P P 13 41 03.5 -4.6
comp=Z,1.9nm,1.0s,baz=172,slow=4.8,SNR=3.7
QSPA LR LR 13 58 09.7
comp=Z,860nm,20.5s,baz=138,slow=32
QSPA South Pole Qui 49.17 180 P P 13 41 04.7 -3.5
QSPA IAmb IAmb 13 42 37.8
comp=Z,25nm,1.5s
QSPA South Pole Qui 49.17 180 IAMs_20 IAMs_20 13 57 50.0
comp=Z,1µm,18.0s
SNAA Sanae 49.34 156 P P 13 41 04.5 -4.8
SNAA Sanae 49.34 156 P P 13 41 04.4 -4.8
comp=Z,4.6nm,0.9s,baz=271,slow=4.6,SNR=12
SNAA Sanae 49.34 156 P P 13 41 05.4 -3.9
SNAA IAmb IAmb 13 41 18.1
comp=Z,17nm,1.0s
MCPB Macapa, AP 50.55 45 *eP* **P 13 41 18.4 -0.6**
HDC Heredia 50.82 2 IAMs_20 IAMs_20 13 57 08.6
comp=Z,1µm,19.0s
SDV Santo Domingo 51.54 19 IAMs_20 IAMs_20 14 00 39.3
comp=Z,2µm,21.0s
ESPN Las Esperanzas 53.00 1 IAMs_20 IAMs_20 14 00 12.3
comp=Z,1µm,18.0s
BOAB BOACO BROADBAND 53.24 360 IAMs_20 IAMs_20 13 59 05.0
comp=Z,2µm,20.0s
CRIN San Cristobal 53.51 358 IAMs_20 IAMs_20 13 59 01.3
comp=Z,1µm,21.0s
TGUH Tegucigalpa,Un 54.86 358 IAMs_20 IAMs_20 14 00 15.4
comp=Z,1µm,20.0s
VNDA Vanda 54.88 194 P P 13 41 45.8 -4.4
comp=Z,2.0nm,1.1s,baz=156,slow=1.6,SNR=3.4
VNDA LR LR 14 00 09.6
comp=Z,1µm,21.3s,baz=122,slow=31
VNDA Vanda 54.88 194 P **P 13 41 49.2 -1.1**
HATO Hato, Curacao 55.12 20 IAMs_20 IAMs_20 14 05 42.2
comp=Z,1µm,20.0s
MTO3 Montecristo 55.30 355 IAMs_20 IAMs_20 13 59 45.3
comp=Z,1µm,21.0s
TBI Tubuai 55.78 268 *eS* S 13 49 32.9 -12
comp=Z,484nm,29.8s
TBI *eLQ* LQ 13 55 42.0
comp=Z,926nm,32.8s
TBI *eLR* LR 13 57 39.0
comp=Z,944nm,28.0s,baz=138
HUEH Huehuetenango 56.37 353 IAMs_20 IAMs_20 14 02 44.1
comp=Z,922nm,18.0s
TAOE Nuku Hiva Isla 57.87 288 *eS* S 13 50 08.8 -3.6
comp=Z,820nm,26.4s
TAOE comp=Z,3µm,32.0s *eLQ* LQ 13 56 35.2
TAOE *eLR* LR 13 59 04.3
comp=Z,1µm,26.9s,baz=141
PPT2 Papeete2 59.25 273 *eS* S 13 50 25.8 -4.5
comp=Z,515nm,26.8s
PPT2 *eLQ* LQ 13 57 10.8
comp=Z,2µm,29.2s
PPT2 *eLR* LR 13 59 25.0
comp=Z,2µm,28.8s,baz=130
PPT Papeete 59.26 273 LR LR 14 01 50.0
comp=Z,179nm,21.9s,baz=121,slow=30
FDF Fort de France 59.90 27 IAMs_20 IAMs_20 14 09 43.3
comp=Z,1µm,22.0s
SDDR Presa de Saban 61.17 15 IAMs_20 IAMs_20 14 07 24.2
comp=Z,897nm,22.0s
GTBY Guantanamo Bay 61.43 11 P **P 13 42 36.2 -0.4**
SC01 Santiago de lo 61.71 16 IAMs_20 IAMs_20 14 06 29.6
comp=Z,1µm,22.0s
SMRT St. Maarten 62.37 24 IAMs_20 IAMs_20 14 09 48.3
comp=Z,1µm,20.0s
ANWB Willy Bob 62.42 26 IAMs_20 IAMs_20 14 08 24.4
comp=Z,1µm,22.0s
SYO Syowa Base 63.00 161 *juX* P 13 42 38.0 -8.7
GRTK Grand Turk 63.66 15 IAMs_20 IAMs_20 14 08 53.3
comp=Z,872nm,20.0s
ZAIG Zacatecas 65.47 343 P **P 13 43 04.9 +1.2**
ZAIG IAmb IAmb 13 43 14.0
comp=Z,9.2nm,1.0s
MAW Mawson 69.03 168 P P 13 43 20.6 -4.9
comp=Z,2.8nm,0.9s,baz=141,slow=7.4,SNR=3.2
MAW LR LR 14 13 07.6
comp=Z,570nm,18.2s,baz=209,slow=36
MAW Mawson 69.03 168 P **P 13 43 25.6 +0.2**
656A Willston 70.13 3 IAMs_20 IAMs_20 14 10 14.9
comp=Z,704nm,20.0s
TXAR Lajitas Array 72.05 343 P P 13 43 37.9 -6.4
comp=Z,0.7nm,0.7s,baz=145,slow=4.6,SNR=4.6
TXAR LR LR 14 10 10.0
comp=Z,522nm,18.6s,baz=0.0,slow=32
TXAR Lajitas Array 72.05 343 P P 13 43 37.9 -6.4
TIGA Tifton 72.16 2 IAMs_20 IAMs_20 14 11 19.9
comp=Z,640nm,20.0s
CASY Casey 72.28 187 IAMs_20 IAMs_20 14 10 09.7
comp=Z,1µm,22.0s
255A Hazlehurst 72.68 3 IAMs_20 IAMs_20 14 11 52.4
comp=Z,693nm,19.0s
154A Montrose 73.34 2 IAMs_20 IAMs_20 14 10 34.1
comp=Z,721nm,22.0s
152A Waverly Hall 73.37 1 IAMs_20 IAMs_20 14 09 51.1
comp=Z,690nm,22.0s
GOGA Godfrey 74.13 2 P **P 13 43 56.8 +0.3**
GOGA IAmb IAmb 13 44 07.8
comp=Z,27nm,1.1s
GOGA Godfrey 74.13 2 IAMs_20 IAMs_20 14 12 29.0
comp=Z,580nm,20.0s
ABTX Abilene, Hawle 74.48 348 P **P 13 44 00.7 +2.1**
ABTX IAmb IAmb 13 44 02.0
comp=Z,14nm,0.8s
Y52A Lilburn 74.57 1 P **P 13 44 00.9 +1.8**
Y52A IAMs_20 IAMs_20 14 10 26.8
comp=Z,767nm,22.0s
MNTX Cornudas Mount 74.70 342 P **P 13 44 01.3 +1.4**
HODGE Hodges 74.98 3 P **P 13 44 03.2 +1.8**
Y60A Bolivia 74.99 6 IAMs_20 IAMs_20 14 12 22.2
comp=Z,747nm,21.0s
JSC Jenkinsville 75.07 4 P **P 13 44 03.3 +1.4**
JSC IAmb IAmb 13 44 13.2
comp=Z,21nm,1.3s
X48A Hartselle 75.16 359 P **P 13 44 04.6 +2.2**
X48A IAmb IAmb 13 44 13.7
comp=Z,18nm,0.9s
X55A Gracelyn & Ava 75.24 3 P **P 13 44 04.7 +1.8**
baz=183
X54A Belton 75.29 3 P **P 13 44 05.8 +2.6**
baz=182
X56A White Oak 75.29 4 P **P 13 44 05.4 +2.2**
baz=183
319A Douglas 75.37 339 P **P 13 44 05.9 +2.1**
PAULI Pauline 75.59 3 P **P 13 44 06.4 +1.5**
PAULI IAMs_20 IAMs_20 14 14 07.4
comp=Z,658nm,19.0s
PLAL Pickwick Lake 75.71 358 P **P 13 44 06.6 +1.0**
PLAL IAmb IAmb 13 44 16.2
comp=Z,17nm,1.1s
BG3 Lake Jocassee 75.72 2 P **P 13 44 07.1 +1.4**
BG3 IAmb IAmb 13 44 17.2
comp=Z,18nm,1.1s
W52A Murphy 75.80 1 P **P 13 44 07.6 +1.4**
W52A IAMs_20 IAMs_20 14 13 33.3
comp=Z,591nm,21.0s
W54A Cherokee Point 75.83 3 P **P 13 44 08.7 +2.4**
baz=183
W50A Signal Mountai 75.89 0 P **P 13 44 08.0 +1.4**
SWET Sewanee 75.91 360 P **P 13 44 08.5 +1.7**
W45A Hickory Valley 75.92 357 P **P 13 44 08.6 +1.8**
KMSC Kings Mountain 75.93 3 P **P 13 44 09.2 +2.4**
baz=183
KMSC Kings Mountain 75.93 3 P **P 13 44 07.8 +1.0**
KMSC IAmb IAmb 13 44 18.4
comp=Z,25nm,1.1s
KMSC IAMs_20 IAMs_20 14 13 32.3
comp=Z,591nm,20.0s
W58A Raeford 75.93 5 P **P 13 44 08.7 +1.9**
baz=184
W57A Gilead 76.01 5 P **P 13 44 09.6 +2.4**
baz=184
W57A Gilead 76.01 5 P **P 13 44 08.3 +1.0**
W57A IAmb IAmb 13 44 18.4
comp=Z,20nm,1.0s
W41B Gary Mavity, V 76.12 354 P **P 13 44 10.2 +2.3**
baz=174
W41B Gary Mavity, V 76.12 354 P P 13 44 10.0 +2.1
CPCT Cooper Cave 76.14 1 P P 13 44 09.2 +1.2
CPCT IAMs_20 IAMs_20 14 11 26.6
comp=Z,632nm,21.0s
X34A Smith Ranch, M 76.15 350 P **P 13 44 08.5 +0.4**
X34A IAmb IAmb 13 44 16.3
comp=Z,19nm,1.0s
MSTX Muleshoe 76.35 345 P **P 13 44 11.1 +1.7**
MSTX IAmb IAmb 13 44 20.0
comp=Z,18nm,1.0s
TKL Tuckaleechee C 76.36 1 P **P 13 44 11.4 +2.1**
TKL IAmb IAmb 13 44 26.2
comp=Z,14nm,1.1s
TKL IAMs_20 IAMs_20 14 16 00.2
comp=Z,541nm,18.0s
V53A Saluda 76.40 2 P **P 13 44 11.1 +1.5**
V53A IAmb IAmb 13 44 20.6
comp=Z,12nm,0.9s
V53A IAMs_20 IAMs_20 14 14 17.0
comp=Z,709nm,19.0s
V48A Smith Brothers 76.44 359 P **P 13 44 09.2 -0.6**
V48A IAmb IAmb 13 44 20.7
comp=Z,18nm,1.1s
V51A Loudon 76.50 1 P **P 13 44 09.7 -0.4**
V51A IAmb IAmb 13 44 21.1
comp=Z,17nm,1.1s
V51A IAMs_20 IAMs_20 14 11 37.9
comp=Z,779nm,21.0s
V54A Nebo 76.53 3 P **P 13 44 13.8 +3.5**
baz=182
V52A Sevierville 76.55 2 IAMs_20 IAMs_20 14 12 14.2
comp=Z,584nm,21.0s
V56A Mocksville 76.63 4 P **P 13 44 13.6 +2.7**
baz=183
V55A Taylorsville 76.64 4 P **P 13 44 13.2 +2.4**
baz=183
TUC Tucson 76.66 338 P **P 13 44 14.3 +3.1**
baz=160
V58A Windy Hill, Pi 76.70 5 P **P 13 44 13.3 +2.1**
baz=184
V58A Windy Hill, Pi 76.70 5 P **P 13 44 12.5 +1.3**
V58A IAmb IAmb 13 44 21.5
comp=Z,18nm,1.1s
V59A Middlesex 76.74 6 P **P 13 44 14.3 +2.9**
baz=185
V57A Coltrane Farms 76.75 5 P **P 13 44 14.8 +3.3**
baz=184
CLTN Cedars of Leba 76.78 359 P **P 13 44 13.2 +1.5**
FCAR Ozark Folk Cen 76.82 354 P **P 13 44 13.7 +1.8**
WVT Waverly 76.85 358 P **P 13 44 13.1 +1.0**
WVT IAmb IAmb 13 44 22.7
comp=Z,21nm,1.3s
214A Organ Pipe Nat 76.92 336 P **P 13 44 14.0 +1.4**
214A IAmb IAmb 13 44 41.0
comp=Z,17nm,1.6s
U49A Red Boiling Sp 77.20 360 P **P 13 44 14.9 +0.9**
TZTN Tazewell 77.25 2 IAMs_20 IAMs_20 14 12 46.7
comp=Z,607nm,20.0s
U54A Nelsons Funny 77.28 3 IAMs_20 IAMs_20 14 14 25.2
comp=Z,653nm,20.0s
U55A TA2, Sparta 77.30 4 P **P 13 44 16.5 +1.9**
baz=183
U57A Blanch 77.32 5 P **P 13 44 16.2 +1.5**
baz=184
BNM Barren Site 77.34 342 P **P 13 44 15.9 +0.8**
U40A Yellville 77.34 354 P **P 13 44 17.5 +2.7**
baz=174
LENM Lemitar 77.44 342 P **P 13 44 17.0 +1.4**
T47A Sharon Grove 77.69 359 P **P 13 44 18.4 +1.7**
T50A Nancy 77.71 1 IAMs_20 IAMs_20 14 12 15.0
comp=Z,655nm,22.0s
T54A Tazewell 77.83 3 P **P 13 44 20.1 +2.5**
baz=183
T42A Van Buren 77.89 355 P **P 13 44 19.4 +1.5**
T42A IAmb IAmb 13 44 28.3
comp=Z,12nm,1.2s
T58A Grand View Acr 77.89 6 P **P 13 44 20.1 +2.3**
baz=185
T57A Hurt 77.89 5 P **P 13 44 20.3 +2.5**
baz=184
T55A Pulaski 77.92 4 P **P 13 44 19.8 +1.7**
baz=183
ESJX Sierra Juarez 77.97 334 P **P 13 44 19.1 +0.4**
BLA Blacksburg 78.03 4 IAMs_20 IAMs_20 14 16 58.0
comp=Z,598nm,22.0s
ANMO Albuquerque 78.07 342 P P 13 44 14.1 -5.0
comp=Z,2.4nm,0.9s,baz=143,slow=11,SNR=4.1
T35A Sooner Cattle 78.26 351 P **P 13 44 20.1 +0.2**
T35A IAmb IAmb 13 44 33.1
comp=Z,27nm,1.1s
S51A Beattyville 78.34 2 P **P 13 44 20.0 -0.3**
S51A IAmb IAmb 13 44 31.7
comp=Z,19nm,0.9s
S51A IAMs_20 IAMs_20 14 13 19.6
comp=Z,603nm,22.0s
GLA Glamis 78.57 335 P **P 13 44 24.0 +2.2**
S54A Dingess, Beckl 78.58 3 IAMs_20 IAMs_20 14 16 55.5
comp=Z,571nm,18.0s
S55A Lewisburg 78.59 4 P **P 13 44 23.4 +1.7**
baz=183
S58A Poland Farm, P 78.59 6 P **P 13 44 24.3 +2.7**
baz=185
IKP In-Ko-Pah, Jac 78.61 334 P **P 13 44 24.9 +2.9**
baz=157
MONP2 Monument Peak 78.94 334 P **P 13 44 26.7 +2.7**
baz=156
R53A Hurricane 79.08 3 IAMs_20 IAMs_20 14 14 11.9
comp=Z,636nm,20.0s
R55A Marlinton 79.12 4 P **P 13 44 27.3 +2.6**
baz=184
R57A Stanardsville 79.23 6 P **P 13 44 27.7 +2.4**
baz=185
R56A Bull Pasture M 79.28 5 P **P 13 44 28.4 +2.8**
baz=184
BC3 Big Chuckawall 79.32 335 P **P 13 44 28.8 +2.8**
baz=157
PDMCI Parker Dam,Lak 79.51 336 P **P 13 44 30.2 +3.4**
baz=158
PFO Pinyon Flats O 79.61 334 P P 13 44 23.2 -4.4
comp=Z,1.3nm,0.7s,baz=138,slow=14,SNR=1.5
PFO Pinyon Flats O 79.61 334 P P 13 44 23.2 -4.4
PFO Pinyon Flats O 79.61 334 IAmb IAmb 13 44 31.3
comp=Z,4.8nm,1.1s
Q53A Leroy 79.62 3 P **P 13 44 29.7 +2.3**
baz=183
IRM Iron Mountain 79.69 335 P **P 13 44 31.2 +3.3**
baz=158
Q51A Peebles 79.73 2 IAMs_20 IAMs_20 14 13 39.4
comp=Z,678nm,22.0s
T25A Trinidad 79.74 345 P **P 13 44 31.5 +3.2**
baz=165
T25A Trinidad 79.74 345 P **P 13 44 29.9 +1.6**
T25A IAmb IAmb 13 44 42.4
comp=Z,20nm,1.2s
BELC Belle Mtn. Jos 79.82 335 P **P 13 44 32.0 +3.3**
baz=157
P48A Milroy 80.14 0 IAMs_20 IAMs_20 14 16 12.5
comp=Z,586nm,21.0s
P51A Williamsport 80.19 2 P **P 13 44 32.8 +2.4**
baz=182
P51A Williamsport 80.19 2 P **P 13 44 32.1 +1.7**
P51A IAMs_20 IAMs_20 14 14 38.6
comp=Z,698nm,22.0s
P49A Miami Univ. Ec 80.22 1 IAMs_20 IAMs_20 14 13 54.5
comp=Z,655nm,21.0s
P53A Whipple 80.25 3 P **P 13 44 33.4 +2.7**
baz=183
P52A Corning 80.37 3 P **P 13 44 33.3 +1.9**
baz=182
P52A Corning 80.37 3 P **P 13 44 32.2 +0.9**
P52A IAMs_20 IAMs_20 14 16 31.2
comp=Z,609nm,20.0s
P54A Burton 80.41 4 P **P 13 44 33.7 +2.1**
baz=183
GMRC Granite Mounta 80.43 335 P **P 13 44 35.3 +3.3**
baz=157
KSU1 Kansas State U 80.43 351 P **P 13 44 35.3 +3.6**
baz=171
P58A Pank, Wackersv 80.52 6 P **P 13 44 34.3 +2.2**
baz=186
SDCO Great Sand Dun 80.55 344 P **P 13 44 35.5 +2.7**
baz=165
BFSC Mount Baldy Ra 80.58 333 P **P 13 44 35.6 +2.7**
baz=156
S22A 4UR Ranch, Cre 80.83 343 P **P 13 44 37.0 +2.7**
baz=164
O51A Pataskala 80.87 2 P **P 13 44 35.4 +1.4**
baz=182
ACSO Alum Creek Sta 80.94 2 IAMs_20 IAMs_20 14 15 00.4
comp=Z,699nm,21.0s
O54A Avella 81.00 4 IAMs_20 IAMs_20 14 17 36.4
comp=Z,553nm,20.0s
O53A New Philadelph 81.02 3 IAMs_20 IAMs_20 14 16 07.3
comp=Z,556nm,20.0s
PSUB Penn St. - Bra 81.12 8 P **P 13 44 37.0 +1.6**
PSUB IAmb IAmb 13 44 46.4
comp=Z,18nm,0.8s

O60A	Telford	81.51	8	P	P	13 44 39.5	+2.1		
	baz=187								
N49A	Columbus Grove	81.61	1	IAMs_20	IAMs_20	14 14 48.2			
	comp=Z,578nm,20.0s								
N51A	Ashland	81.65	2	IAMs_20	IAMs_20	14 19 21.9			
	comp=Z,579nm,20.0s								
KNB	Kanab	81.65	338	P	P	13 44 39.0	+0.5		
Q24A	Divide	81.65	345	P	P	13 44 41.7	+3.1		
	baz=165								
N55A	Marion Center	81.67	5	P	P	13 44 40.1	+1.8		
	baz=184								
N54A	Moraine State	81.79	4	P	P	13 44 41.9	+3.0		
	baz=184								
PV16	Nyswonger Mesa	81.85	342	IAMs_20	IAMs_20	14 16 16.6			
	comp=Z,505nm,20.0s								
N58A	Sunbury	81.91	7	P	P	13 44 38.3	-1.2		
N58A				IAmb	IAmb	13 44 50.1			
	comp=Z,20nm,1.3s								
N61A	South Mountain	82.06	9	P	P	13 44 43.0	+2.7		
	baz=188								
N60A	Cedar Hill Far	82.09	8	P	P	13 44 42.9	+2.5		
	baz=188								
M50A	Fremont	82.11	2	IAMs_20	IAMs_20	14 17 27.4			
	comp=Z,622nm,20.0s								
ISA	Isabella, Lake	82.16	333	P	P	13 44 44.4	+3.3		
	baz=155								
M53A	WI Miller and	82.23	4	IAMs_20	IAMs_20	14 18 14.3			
	comp=Z,509nm,19.0s								
SZCU	Shurtz Canyon	82.27	338	P	P	13 44 42.9	+1.2		
M52A	Chesterland	82.30	3	IAMs_20	IAMs_20	14 18 08.2			
	comp=Z,510nm,20.0s								
WSPT	Westport, CT	82.59	9	IAMs_20	IAMs_20	14 19 25.6			
	comp=Z,717nm,22.0s								
YLE	Yale	82.78	9	IAMs_20	IAMs_20	14 20 29.6			
	comp=Z,729nm,20.0s								
AAM	Ann Arbor	83.00	1	IAMs_20	IAMs_20	14 16 15.8			
	comp=Z,790nm,22.0s								
L59A	Walton	83.40	8	P	P	13 44 48.0	+0.6		
	baz=188								
QUA2	Belchertown	83.80	10	IAMs_20	IAMs_20	14 20 54.6			
	comp=Z,487nm,20.0s								
TRY	Troy	84.09	9	IAMs_20	IAMs_20	14 20 11.4			
	comp=Z,694nm,22.0s								
NV11	Mina Array Sit	84.57	335	P	P	13 44 53.6	0.0		
NV11				IAmb	IAmb	13 46 12.2			
	comp=Z,13nm,1.6s								
NVAR	Mina Array Bea	84.61	335	P	P	13 44 49.3	-4.5		
	comp=Z,0.7nm,0.8s,baz=190,slow=4.6,SNR=2.9								
NVAR				LR	LR	14 14 16.9			
	comp=Z,169nm,19.0s,baz=146,slow=30								
NVAR	Mina Array Bea	84.61	335	P	P	13 44 49.3	-4.5		
I49A	Point Hope	84.65	2	IAMs_20	IAMs_20	14 16 32.6			
	comp=Z,617nm,22.0s								
I58A	Old Forge	84.89	8	P	P	13 44 55.9	+1.0		
	baz=188								
CMB	Columbia Colle	84.95	333	P	P	13 44 57.5	+2.2		
CMB				IAmb	IAmb	13 45 42.3			
	comp=Z,20nm,1.9s								
I37A	Lemond, Waseca	85.00	354	IAMs_20	IAMs_20	14 18 43.9			
	comp=Z,508nm,22.0s								
ECSD	EROS Data Cent	85.01	352	P	P	13 44 57.5	+2.1		
	baz=171								
I57A	Carthage	85.07	7	P	P	13 44 57.6	+1.8		
	baz=187								
K22A	Casper	85.48	345	P	P	13 45 00.9	+2.9		
	baz=164								
GLMI	Grayling	85.51	1	IAMs_20	IAMs_20	14 19 28.4			
	comp=Z,700nm,20.0s								
BOSA	Boshof	85.60	124	LR	LR	14 18 13.5			
	comp=Z,749nm,19.9s,baz=225,slow=32								
SADO	Sadowa	85.64	5	IAMs_20	IAMs_20	14 19 10.1			
	comp=Z,470nm,20.0s								
PNTR	Pine Nut	85.64	334	P	P	13 45 00.9	+2.0		
H58A	Gabriels	85.70	8	P	P	13 45 00.8	+1.9		
	baz=188								
LONY	Lake Ozonia	85.86	8	IAMs_20	IAMs_20	14 21 24.3			
	comp=Z,512nm,22.0s								
H59A	Cadyville	85.97	8	P	P	13 45 01.8	+1.6		
	baz=188								
G40A	Rib Lake	86.05	357	P	P	13 45 02.4	+1.8		
G40A				IAmb	IAmb	13 45 11.9			
	comp=Z,19nm,1.4s								
H62A	Milan	86.21	10	IAMs_20	IAMs_20	14 22 22.4			
	comp=Z,624nm,21.0s								
BW06	Boulder Array	86.24	342	P	P	13 45 04.5	+2.6		
	baz=162								
PDAR	Pinedale Array	86.24	342	P	P	13 44 58.4	-3.4		
	comp=Z,0.8nm,0.8s,baz=152,slow=6.7,SNR=3.9								
PDAR				LR	LR	14 17 49.4			
	comp=Z,228nm,19.4s,baz=167,slow=32								
WVL	Waterville	86.42	11	IAMs_20	IAMs_20	14 19 52.5			
	comp=Z,510nm,22.0s								
H65A	Eastbrook	86.76	12	P	P	13 45 06.4	+2.4		
	baz=192								
G61A	St-Isidore-de-	86.86	10	P	P	13 45 07.2	+2.6		
	baz=190								
G62A	West of Eustis	86.93	10	P	P	13 45 05.7	+0.8		
	baz=191								
G62A	West of Eustis	86.93	10	IAMs_20	IAMs_20	14 22 31.3			
	comp=Z,653nm,20.0s								
G63A	Kingsbury	86.96	11	P	P	13 45 05.8	+0.8		
	baz=192								
F33A	5 Mile Ranch,	87.06	352	IAMs_20	IAMs_20	14 20 19.9			
	comp=Z,452nm,20.0s								
PKME	Peaks-Kenny Pk	87.15	11	IAMs_20	IAMs_20	14 20 24.0			
	comp=Z,546nm,22.0s								
E47A	Iron Bridge	87.16	2	P	P	13 45 06.9	+1.0		
	baz=181								
DBIC	Dimbokro	87.29	79	LR	LR	14 24 00.2			
	comp=Z,427nm,18.1s,baz=208,slow=35								
G65A	Princeton	87.36	13	IAMs_20	IAMs_20	14 20 00.3			
	comp=Z,644nm,22.0s								
D46A	Sault St. Mari	87.58	1	P	P	13 45 09.9	+1.9		
	baz=181								
F63A	Nahmakanta, Br	87.61	11	P	P	13 45 09.6	+1.5		
F63A				IAMs_20	IAMs_20	14 20 37.1			
	comp=Z,550nm,22.0s								
F62A	Pittston Farm,	87.67	11	P	P	13 45 11.0	+2.5		
	baz=191								
F62A	Pittston Farm,	87.67	11	P	P	13 45 10.0	+1.5		
F62A				IAMs_20	IAMs_20	14 20 09.9			
	comp=Z,619nm,22.0s								
D47A	Chapleau	87.76	2	P	P	13 45 10.4	+1.5		
	baz=181								
F64A	Sherman	87.88	12	IAMs_20	IAMs_20	14 24 39.2			
	comp=Z,491nm,21.0s								
HLID	Hailey	88.19	339	P	P	13 45 14.4	+3.1		
	baz=158								
HLID	Hailey	88.19	339	P	P	13 45 13.8	+2.6		
HLID				IAmb	IAmb	13 45 28.3			
	comp=Z,7.7nm,1.1s								
E63A	Oxbow	88.42	12	P	P	13 45 14.1	+2.1		
	baz=192								
E63A	Oxbow	88.42	12	IAMs_20	IAMs_20	14 20 49.4			
	comp=Z,578nm,22.0s								
E62A	Clayton Lake	88.45	11	P	P	13 45 14.6	+2.5		
	baz=192								
E62A	Clayton Lake	88.45	11	IAMs_20	IAMs_20	14 21 05.3			
	comp=Z,650nm,22.0s								
YHH	Holmes Hill	88.45	342	P	P	13 45 15.4	+2.8		
DZM	Mont Dzumac	88.48	242	*e*S	S	13 55 52.3	-7.1		
	comp=Z,287nm,31.6s								
DZM	Mont Dzumac	88.48	242	*e*LQ	LQ	14 09 28.0			
	comp=Z,1μm,26.7s								
DZM				*e*LR	LR	14 13 09.8			
	comp=Z,2μm,30.3s								
D58A	Chemin du LacG	88.48	9	P	P	13 45 15.1	+2.8		
	baz=189								
YHL	Hebgen Lake	88.59	342	P	P	13 45 15.9	+2.7		
PQI	Presque Isle	88.72	12	IAMs_20	IAMs_20	14 20 56.4			
	comp=Z,619nm,22.0s								
LATQ	La Tuque	88.78	9	IAMs_20	IAMs_20	14 16 08.6			
	comp=Z,537nm,22.0s								
D62A	Allapoint, All	88.97	11	IAMs_20	IAMs_20	14 21 30.0			
	comp=Z,578nm,22.0s								
MCMT	McKenzie Canyo	88.97	341	P	P	13 45 17.7	+2.8		
DLMT	Dillon	89.41	341	P	P	13 45 19.8	+2.9		
BATG	Bathurst New B	89.63	13	IAMs_20	IAMs_20	14 21 10.2			
	comp=Z,622nm,22.0s								
LRM	Limekiln Ridge	89.81	341	P	P	13 45 21.6	+2.7		
J05D	Fort Rock, OR	89.95	335	P	P	13 45 22.4	+2.9		
	baz=154								
PINE	Pine Mountain	90.31	335	P	P	13 45 24.3	+3.1		
PINE				IAmb	IAmb	13 45 25.5			
	comp=Z,11nm,0.9s								
ULM	Lac du Bonnet	91.39	353	LR	LR	14 23 39.6			
	comp=Z,305nm,20.3s,baz=165,slow=34								
STKA	Stephens Creek	95.42	219	LR	LR	14 19 59.9			
	comp=Z,454nm,20.6s,baz=166,slow=30								
SCHQ	Schefferville	96.84	11	LR	LR	14 26 44.1			
	comp=Z,444nm,21.9s,baz=198,slow=34								
TAM	Tamanrasset	105.30	73	IAMs_20	IAMs_20	14 35 09.6			
	comp=Z,512nm,20.0s								
PVAQ	Vaqueiros	105.54	54	IAMs_20	IAMs_20	14 31 28.3			
	comp=Z,567nm,22.0s								
PAB	San Pablo	108.94	54	IAMs_20	IAMs_20	14 35 32.3			
	comp=Z,512nm,19.0s								
WB4	Warramunga Arr	108.98	220	IAMs_20	IAMs_20	14 46 05.9			
	comp=Z,503nm,20.0s								
WB6	Warramunga Arr	109.01	220	IAMs_20	IAMs_20	14 35 44.9			
	comp=Z,544nm,19.0s								
MBAR	Mbarara	109.08	108	IAMs_20	IAMs_20	14 30 22.0			
	comp=Z,564nm,22.0s								
CART	Cartagena	109.84	57	IAMs_20	IAMs_20	14 34 03.5			
	comp=Z,426nm,22.0s								
KNK	Knik Glacier	114.12	332	IAMs_20	IAMs_20	14 28 54.3			
	comp=Z,427nm,21.0s								
INK	Inuvik	114.81	342	IAMs_20	IAMs_20	14 34 57.1			
	comp=Z,450nm,20.0s								
ILAR	Eielson Array	115.87	335	PKP	PKPdf	13 50 57.8	-4.1		
	comp=Z,0.2nm,0.6s,baz=152,slow=4.1,SNR=1.7								
ILAR	Eielson Array	115.87	335		PKPdf	13 50 57.8	-4.1		
VSL	Villasalto	117.63	60	IAMs_20	IAMs_20	14 42 49.3			
	comp=Z,411nm,19.0s								
BNI	Bardonecchia	118.78	54	IAMs_20	IAMs_20	14 41 35.8			
	comp=Z,520nm,21.0s								
MSSA	Maissana	120.17	56	IAMs_20	IAMs_20	14 42 14.3			
	comp=Z,453nm,19.0s								
VLC	Villacollemand	120.64	56	IAMs_20	IAMs_20	14 39 22.6			
	comp=Z,371nm,21.0s								
EUNU	Eureka	120.86	360	IAMs_20	IAMs_20	14 52 06.1			
	comp=Z,316nm,19.0s								
OSSC	Osservatorio P	120.88	57	IAMs_20	IAMs_20	14 42 10.7			
	comp=Z,402nm,20.0s								
PRMA	PARMA	120.89	56	IAMs_20	IAMs_20	14 39 43.2			
	comp=Z,493nm,21.0s								
FURI	Furi	121.32	107	IAMs_20	IAMs_20	14 42 01.5			
	comp=Z,476nm,20.0s								
PAOL	Paolisi	121.83	61	IAMs_20	IAMs_20	14 41 03.3			
	comp=Z,444nm,20.0s								
CTI	Castel Tesino	122.32	55	IAMs_20	IAMs_20	14 42 24.3			
	comp=Z,444nm,20.0s								
GRA1	Grafenberg Arr	123.69	51	IAMs_20	IAMs_20	14 42 12.1			
	comp=Z,473nm,21.0s								
GEC2	GERESS Array S	124.80	53	IAMs_20	IAMs_20	14 48 31.3			
	comp=Z,421nm,19.0s								
CLL	Collm	125.39	50	*e*PP	PP	13 53 07.0	-5.0		
CLL				*e*		13 54 30.0			
CLL				*e*PS	PS	14 03 10.0	-2.6		
CLL				*e*PPS	PPS	14 04 42.0			
CLL				*e*SS	SS	14 10 06.0	-4.3		
CLL				*e*PSPS		14 10 42.0			
CLL				*e*SSS	SSS	14 14 48.0			
CLL				Lm	MLR	14 42 00.0			
	comp=N,300nm,21.7s								
CLL				Lm	MLR	14 42 00.0			
	comp=E,400nm,20.3s								
CLL				Lm	MLR	14 42 00.0			
	comp=Z,600nm,21.1s								
ATD	Arta Tunnel	126.10	108	IAMs_20	IAMs_20	14 43 57.2			
	comp=Z,318nm,22.0s								
IDI	Anoyia	126.25	72	IAMs_20	IAMs_20	14 47 12.6			
	comp=Z,441nm,22.0s								
DIVS	Divisare	126.79	60	IAMs_20	IAMs_20	14 50 17.7			
	comp=Z,349nm,19.0s								
MORC	Moravsky Berou	127.48	53	IAMs_20	IAMs_20	14 48 59.1			
	comp=Z,264nm,20.0s								
BRTR	Keskin Array B	134.43	71	PKP	PKPdf	13 51 35.6	-2.9		
	comp=Z,0.3nm,0.3s,baz=177,slow=5.8,SNR=1.7								
BRTR	Keskin Array B	134.43	71		PKPdf	13 51 35.6	-2.8		
AKBB	Malin Array Si	134.89	55	IAMs_20	IAMs_20	14 50 42.9			
	comp=Z,377nm,21.0s								
KSM	Kuching	138.09	204	IAMs_20	IAMs_20	14 40 35.1			
	comp=Z,344nm,19.0s								
KLMR	Klimovskoe	141.51	40	*e*	PKPdf	13 51 48.4	-2.1		
KLMR				AMP		13 52 02.7			
	comp=Z,20nm,1.4s								
MJAR	Matsushiro Arr	145.94	277	PKPbc	PKPdf	13 51 52.3	-6.9		
	comp=Z,1.2nm,0.8s,baz=177,slow=3.3,SNR=2.7								
MJAR	Matsushiro Arr	145.94	277		PKPdf	13 51 52.2	-6.9		
YAK	Yakutsk	150.30	327		PKPdf	13 52 08.4	+3.0		
GEYT	Alibeck	151.84	84	PKPbc	PKPdf	13 52 13.9	+5.3		
	comp=Z,1.9nm,0.6s,baz=242,slow=6.1,SNR=3.9								
GEYT	Alibeck	151.84	84		PKPdf	13 52 13.9	+5.3		
HRA	Hel	153.69	94	IAMs_20	IAMs_20	15 08 54.9			
	comp=Z,310nm,20.0s								
QIZ	Qiongzhong	154.44	215	PKPbc	PKPdf	13 52 11.7	-1.2		
QIZ				AMB	AMB				
	comp=Z,110nm,6.1s								
QIZ				LR	LR				
	comp=Z,150nm,8.4s								
QIZ				LR	LR				
	comp=Z,180nm,5.5s								
QIZ				LR	LR				
	comp=Z,250nm,13.1s								
CN2	Changchun	157.10	287	*e*PKP	PKPdf	13 52 12.6	-3.1		
NJ2	Nanjing	158.56	253	*e*PKP	PKPdf	13 52 18.5	+0.6		
ZALV	Zalesovo Beam	165.55	24	PKP	PKPdf	13 52 20.3	-4.0		
	comp=Z,0.8nm,0.8s,baz=301,slow=6.2,SNR=1.9								
ZALV				PKPab	PKPab	13 53 19.6	-3.3		
	comp=Z,0.6nm,0.5s,baz=302,slow=3.2,SNR=1.7								
ZALV	Zalesovo Beam	165.55	24		PKPab	13 53 19.6	-3.3		
HHC	Hu-ho-hao-te	167.13	275	*e*PKP	PKPdf	13 52 21.8	-4.3		
HHC				LR	LR				
	comp=Z,510nm,19.7s								
HHC				LR	LR				
	comp=Z,520nm,21.8s								
HHC				LR	LR				
	comp=Z,540nm,21.5s								
LZH	Lanzhou	171.19	239	*e*PKP	PKPdf	13 52 25.1	-3.7		
LZH				LR	LR				
	comp=Z,400nm,17.4s								
LZH				LR	LR				
	comp=Z,280nm,18.0s								
LZH				LR	LR				
	comp=Z,380nm,20.1s								
WMQ	Urumqi	174.23	59	*e*PKP	PKPdf	13 52 29.6	-0.1		
WMQ				AMB	AMB				
	comp=Z,130nm,4.3s								
WMQ				LR	LR				
	comp=Z,280nm,20.7s								
WMQ				LR	LR				
	comp=Z,290nm,26.7s								
WMQ				LR	LR				
	comp=Z,530nm,26.7s								
GTA	Gaotai	175.65	249	*e*PKP	PKPdf	13 52 36.9	+6.5		
GTA				PP	PP	13 58 11.8	+10		

GCG ***11*** *13:35:30.0±0.8, 13°.74N×93°.68W, h32km±999km, MD4.5*
IDC ***11*** *13:35:34.5±1.0, 14°.40N×92°.73W, h0km, mb4.2/11, mb1 4.5/13, mb1mx4.3/36, mbtmp4.3/13, ML4.3/2, MS3.6/5, Ms1 3.6/5, ms1mx3.3/30, Error ellipse: s-maj=46.6km s-min=16.3km az=50.0*
NEIC ***11*** *13:35:36.4±2.0, 14°.30N±0°.04×93°.07W±0°.05, h10km±1km, mb4.6/175, Md4.8/24(MEX), Error ellipse: s-maj=7.9km s-min=6.8km az=91.0*
MEX ***11*** *13:35:39.5±1.1, 14°.31N×93°.19W, h16km±21km, MD4.8*
ISC 11 13:35:35.9±1.9, 14°.31N±0°.05×93°.10W±0°.04, h11km±12km, n400, σ1°36/405, mb4.6/70, MS3.6/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THIG		1.01	54	*i* P		Pn	13 35 56.1	+0.1
THIG				*i* S		Sb	13 36 09.1	+0.4
THIG		1.01	54			Pn	13 35 56.1	+0.1
THIG						Sn	13 36 09.9	-0.3
RTAL	Retalhuleu	1.38	81			Pb	13 36 01.7	-0.1
PCIG		1.39	355	*e*P		Pn	13 36 00.4	-0.9
PCIG				*i* S		Sg	13 36 16.7	-4.2
PCIG		1.39	355			Pn	13 36 00.4	-0.9
PCIG						Pb	13 36 11.5	+10
HUEH	Huehuetenango	1.85	57	Pn		Pb	13 36 09.7	-0.2
CCIG	Comitan	2.17	25			Pb	13 36 15.2	-0.2
FUG	Fuego 3	2.20	86	*e*P		Pn	13 36 13.4	+0.9
PCG	Pacaya	2.42	88	*e*P		Pn	13 36 17.4	+1.7
PCG				*e*S		Sg	13 36 53.8	-0.1
IXG	Ixpaco	2.59	93	*e*P		Pn	13 36 18.8	+0.9
NBG	Las Nubes	2.69	84	*e*P		Pb	13 36 22.6	-1.6
NBG				*e*S		Sg	13 37 00.7	-1.6
HUIG	Huatulco	3.25	297	*e*P		Pn	13 36 25.3	-1.5
HUIG				*i* S		Sn	13 37 03.4	-2.1
CMIG	Matias Romero	3.25	328	*e*P		Pn	13 36 27.1	+0.1
	42nm,0.3s,baz=146,slow=13,SNR=291							
CMIG						Sn	13 37 06.1	+0.5
	70nm,0.3s,baz=114,slow=13,SNR=5.6							
CMIG						Lg	13 37 15.1	
	100nm,0.3s,baz=87,slow=17,SNR=4.7							
CMIG						LR	13 37 22.0	
	comp=Z,284nm,20.8s,baz=322,slow=32							
CMIG	Matias Romero	3.25	328	*e*P		Pn	13 36 27.6	+0.7
CMIG	Matias Romero	3.25	328			Pn	13 36 27.6	+0.7
MRL	Marmol	3.40	77	*e*P		Pn	13 36 31.4	+2.3
MRL				*e*S		Sb	13 37 19.9	+2.1
MTO3	Montecristo	3.63	88	Pn		Pn	13 36 32.3	0.0
ESQI	Esquipulas	3.65	86	Pn		Pn	13 36 32.7	+0.2
SNET	Serv Nac Est T	3.81	99	Pn		Pn	13 36 37.4	+2.7
PETF	Flores	4.06	50	Pn		Pn	13 36 40.1	+2.2
PEIG	Puerto Escondi	4.25	294	*e*P		Pn	13 36 39.8	-0.8
PEIG				*i* S		Sn	13 37 27.5	-2.8
PEIG				*i* S		Sb	13 37 28.4	-14
VHO	Vista Hermosa	4.45	309	*e*P		Pn	13 36 42.5	-1.0
VHO				*i* S		Sn	13 37 34.1	-1.3
YOIG	Yosondua	4.97	301	*e*P		Pn	13 36 50.6	-0.2
YOIG				*i* S		Sn	13 37 46.4	-2.1
PNIG	Pinotepa	5.27	294	*e*P		Pn	13 36 54.2	-0.4
PNIG				*i* S		Sn	13 37 53.2	-2.2
PNIG	Pinotepa	5.27	294			Pn	13 36 54.2	-0.4
PNIG						Sb	13 38 17.5	+6.1
TOIG	Toxpalan	5.35	315	*e*P		Pn	13 36 57.8	+1.9
TOIG				*i* S		Sn	13 38 01.6	+4.0
TXIG	Tlaxiaco	5.36	304	*e*P		Pn	13 36 55.9	-0.2
TXIG				*i* S		Sn	13 37 54.8	-3.3
TGUH	Tegucigalpa,Un	5.66	92	Pn		Pn	13 37 01.4	+1.2
HLIG	Huajuapan de L	5.71	308	*e*P		Pn	13 37 03.9	+3.0
HLIG				*e*S		Sn	13 38 05.8	-0.9
TLIG	Tlapa	6.17	302	*e*P		Pn	13 37 01.9	-5.3
TLIG				*i* S		Sn	13 38 16.9	-0.9
TLIG	Tlapa	6.17	302	Pn		Pn	13 37 09.4	+2.2
ESTN	Estel	6.66	100	Pn		Pn	13 37 14.6	+0.8
MATN	Matagalpa	7.11	100			Pn	13 37 20.7	+0.6
ACON	Acoyapa	8.07	106			Pn	13 37 32.5	-0.7
ESPN	Las Esperanzas	8.83	103	Pn		Pn	13 37 42.9	-0.6
JTS	Las Juntas de	8.91	116	Pn		Pn	13 37 47.4	+2.7
	0.8nm,0.3s,baz=358,slow=7.4,SNR=4.1							
JTS						Lg	13 39 58.1	
	baz=336,slow=13,SNR=4.4							
MOIG	Morelia	9.40	306			Pn	13 37 52.5	+0.9
ZAIG	Zacatecas	12.30	315	Pn		Pn	13 38 31.8	+0.4
833A	Chaparral WMA,	15.12	338	P		Pn	13 39 11.0	+1.5
	baz=155							
833A	Chaparral WMA,	15.12	338	Pn		Pn	13 39 11.6	+2.0
833A				IAmb		IAmb	13 39 21.6	
	comp=Z,36nm,0.9s							
MTDJ	Mount Denham	15.45	73	P		P	13 39 19.4	+0.9
061Z	Ochoppi	16.22	43			Pn	13 39 23.7	-0.1
435B	Jarrell	16.91	347	P		Pn	13 39 33.6	+1.0
	baz=164							
JCT	Junction City	17.24	340	P		P	13 39 38.1	-0.1
	baz=157							
JCT	Junction City	17.24	340			Pn	13 39 38.0	+1.2
H06E1	SOCORRO T-PHAS	17.65	287	T		T	13 57 33.5	
	SNR=33							
TXAR	Lajitas Array	17.86	329	P		P	13 39 47.5	+2.2
	comp=Z,0.2nm,0.3s,baz=149,slow=10.0,SNR=37							
TXAR	Lajitas Array	17.86	329	P		P	13 39 47.0	+1.7
TX31	Lajitas Ar. Si	17.86	329			P	13 39 47.0	+1.7
TX31				IAmb		IAmb	13 40 01.3	
	comp=Z,46nm,0.9s							
TX32	Lajitas Array	17.86	329			P	13 39 47.1	+1.8
MOTC	Monteria, Cord	17.94	106	*e*P		P	13 39 47.6	+1.5
WHTX	Lake Whitney,	18.05	348	P		P	13 39 48.0	+0.9
	baz=166							
SJCC	San Jacinto, C	18.06	102	*e*P		P	13 39 52.2	+4.7
DBBC	Dabeiba	18.11	112	*e*P		P	13 39 49.3	+1.3
ZARC	Zaragoza, Cauc	19.15	109	*e*P		Pn	13 40 02.2	+1.9
TIGA	Tifton	19.15	26	P		P	13 39 59.2	-0.2
	baz=209							
ABTX	Abilene, Hawle	19.18	343	P		Pn	13 40 01.8	+1.2
	baz=160							
ABTX	Abilene, Hawle	19.18	343	P		Pn	13 40 01.4	+0.8
WLAR	White Oak Lake	19.29	360	P		Pn	13 40 02.5	+0.6
WLAR				IAmb		IAmb	13 40 26.2	
	comp=Z,25nm,0.7s							
SMLC	San Martn de	19.43	104	*e*P		Pn	13 40 06.4	+2.7
GUY2C	Guyana, Caldas	19.66	116	*e*P		Pn	13 40 07.8	+0.9
152A	Waverly Hall	19.81	21	P		P	13 40 07.1	+0.6
152A				IAmb		IAmb	13 40 13.4	
	comp=Z,60nm,1.7s							
NORC	Norcasia	19.94	114	*e*P		P	13 40 09.4	+1.3
TOLC	Tolima	20.01	117	*e*P		Pn	13 40 10.6	-0.3
MIAR	Mount Ida	20.15	359	P		P	13 40 10.9	+0.6
	baz=178,SNR=20							
MIAR	Mount Ida	20.15	359	P		P	13 40 10.1	-0.2
MIAR				IAmb		IAmb	13 40

AMTX Amarillo 21.90 341 P P 13 40 29.6 +0.4
baz=157
AMTX Amarillo 21.90 341 P P 13 40 29.6 +0.4
U40A Yellville 21.96 1 P P 13 40 29.6 -0.1
baz=180,SNR=10
U40A Yellville 21.96 1 P P 13 40 29.9 +0.2
Z57A Bowman 22.01 29 P P 13 40 30.2 -0.1
baz=214
QUOK Quay 22.01 352 P P 13 40 30.4 +0.1
QUOK IAmb IAmb 13 40 32.7
comp=Z,20nm,0.7s
U38A Gravette 22.07 357 P P 13 40 31.8 +0.9
NHSC New Hope 22.10 30 P P 13 40 32.3 +1.1
BANI BANI 22.20 76 P P 13 40 31.7 -0.8
WVT Waverly 22.24 11 P P 13 40 32.7 0.0
baz=193
WVT Waverly 22.24 11 P P 13 40 32.5 -0.2
TAMC Tame, Arauca 22.36 108 eP P 13 40 36.1 +1.8
X54A Belton 22.36 24 P P 13 40 33.7 -0.4
baz=208
CROK Carrier 22.53 350 P P 13 40 36.9 +1.0
BG3 Lake Jocassee 22.55 22 P P 13 40 35.9 -0.2
121A Cookes Peak, D 22.55 326 P P 13 40 38.2 +1.9
baz=140,SNR=31
121A Cookes Peak, D 22.55 326 P P 13 40 38.4 +2.1
319A Douglas 22.55 322 P P 13 40 38.2 +1.9
319A IAmb IAmb 13 40 46.6
comp=Z,25nm,1.1s
X55A Gracelyn & Ava 22.59 25 P P 13 40 35.9 -0.7
baz=210
T42A Van Buren 22.70 4 P P 13 40 36.7 -1.0
T35A Sooner Cattle 22.72 353 P P 13 40 37.7 -0.2
T35A IAmb IAmb 13 41 23.1
comp=Z,14nm,0.8s
TKL Tuckaleechee C 22.85 20 P P 13 40 38.9 -0.4
TKL IAmb IAmb 13 40 58.2
comp=Z,20nm,1.1s
X56A White Oak 22.87 26 P P 13 40 38.3 -1.1
baz=211
W54A Cherokee Point 22.91 24 P P 13 40 38.7 -1.2
baz=208
KAN13 South Haven SW 22.95 351 P P 13 40 39.8 -0.4
U49A Red Boiling Sp 23.06 15 P P 13 40 41.6 +0.1
KAN10 Anthony SW Sta 23.15 350 P P 13 40 42.7 +0.3
V53A Saluda 23.19 22 P P 13 40 42.4 -0.4
V53A IAmb IAmb 13 41 18.3
comp=Z,18nm,1.1s
T47A Sharon Grove 23.21 12 P P 13 40 42.8 -0.1
T47A IAmb IAmb 13 41 08.5
comp=Z,16nm,0.9s
BNM Barren Site 23.24 331 P P 13 40 45.8 +2.2
S39A Bolivar 23.29 360 P P 13 40 43.3 -0.4
S39A IAmb IAmb 13 40 44.7
comp=Z,19nm,0.7s
KMSC Kings Mountain 23.30 25 P P 13 40 43.2 -0.6
baz=210
KMSC Kings Mountain 23.30 25 P P 13 40 43.1 -0.8
KMSC IAmb IAmb 13 40 58.6
comp=Z,21nm,1.3s
KAN12 Harper NE Stat 23.31 350 P P 13 40 43.8 -0.1
LENM Lemitar 23.42 330 P P 13 40 46.7 +1.4
W56A Indian Trail 23.61 26 P P 13 40 45.8 -1.1
baz=211
V54A Nebo 23.61 23 P P 13 40 45.7 -1.3
baz=208
CCM Cathedral Cave 23.71 4 P P 13 40 47.0 -0.9
baz=184
CCM Cathedral Cave 23.71 4 P P 13 40 46.2 -1.7
CCM IAmb IAmb 13 40 48.2
comp=Z,14nm,0.8s
TZTN Tazewell 23.73 19 P P 13 40 47.6 -0.6
baz=203
ANMO Albuquerque 23.82 332 P P 13 40 50.3 +1.2
comp=Z,5.1nm,0.8s,baz=150,slow=12,SNR=16
ANMO Albuquerque 23.82 332 P P 13 40 50.1 +0.9
baz=146
ANMO Albuquerque 23.82 332 P P 13 40 50.4 +1.2
W57A Gilead 23.88 27 P P 13 40 47.6 -2.0
baz=213
R40A Maddies Statio 23.90 2 P P 13 40 48.4 -1.3
R40A IAmb IAmb 13 40 51.4
comp=Z,14nm,0.9s
V55A Taylorsville 23.96 24 P P 13 40 48.8 -1.5
baz=209
V55A Taylorsville 23.96 24 P P 13 40 49.5 -0.8
V55A IAmb IAmb 13 41 17.3
comp=Z,22nm,1.4s
TUC Tucson 24.12 321 P P 13 40 53.2 +1.3
baz=133
TUC Tucson 24.12 321 P P 13 40 53.9 +2.0
TUC IAmb IAmb 13 40 56.0
comp=Z,14nm,0.9s
W58A Raeford 24.12 29 P P 13 40 49.2 -2.6
baz=214
V56A Mocksville 24.22 26 P P 13 40 50.7 -2.0
baz=211
U54A Nelsons Funny 24.31 23 P P 13 40 52.9 -0.8
baz=207
R32A Long Quarter, 24.53 349 P P 13 40 56.1 +0.5
V57A Coltrane Farms 24.59 27 P P 13 40 54.4 -1.7
baz=212,SNR=5.7
U55A TA2, Sparta 24.59 24 P P 13 40 55.2 -1.0
baz=209
V58A Windy Hill, Pi 24.81 28 P P 13 40 56.5 -1.6
baz=214,SNR=6.0
V58A Windy Hill, Pi 24.81 28 P P 13 40 56.7 -1.3
V58A IAmb IAmb 13 40 57.7
comp=Z,20nm,0.9s
T25A Trinidad 24.87 338 P P 13 40 59.5 +0.6
baz=153,SNR=19
T25A Trinidad 24.87 338 P P 13 41 00.4 +1.5
KSU1 Kansas State U 24.89 354 P P 13 40 58.4 -0.4
baz=172
KSU1 Kansas State U 24.89 354 P P 13 40 58.0 -0.8
CBKS Cedar Bluff 25.10 348 P P 13 41 00.0 -0.7
baz=164
CBKS Cedar Bluff 25.10 348 P P 13 41 00.4 -0.4
P40A Paris 25.14 2 P P 13 40 59.6 -1.4
P40A IAmb IAmb 13 41 01.3
comp=Z,15nm,0.8s
214A Organ Pipe Nat 25.16 318 P P 13 41 03.0 +1.6
baz=129
V59A Middlesex 25.19 29 P P 13 40 59.7 -1.8
baz=216
P38A Dawn 25.22 359 P P 13 41 01.2 -0.6
U57A Blanch 25.24 27 P P 13 41 00.3 -1.6
baz=212
T57A Hurt 25.75 26 P P 13 41 06.2 -0.5
baz=212
SDCO Great Sand Dun 25.81 337 P P 13 41 08.9 +1.4
baz=151,SNR=20
SDCO Great Sand Dun 25.81 337 P P 13 41 09.0 +1.5
SDCO IAmb IAmb 13 41 10.7
comp=Z,16nm,1.2s
U59A Littleton 25.88 29 P P 13 41 06.6 -1.1
baz=216
X16A Lo Mia Camp, P 25.99 324 P P 13 41 11.0 +2.0
KSCO Kaye Shedlock' 26.00 343 P P 13 41 09.7 +0.6
baz=158
KSCO Kaye Shedlock' 26.00 343 P P 13 41 10.3 +1.2
T58A Grand View Acr 26.02 27 P P 13 41 07.9 -1.2
baz=214
113A Mohawk Valley, 26.30 318 P P 13 41 13.9 +2.3
S22A 4UR Ranch, Cre 26.34 335 P P 13 41 13.6 +1.3
baz=148,SNR=14
S22A 4UR Ranch, Cre 26.34 335 P P 13 41 14.2 +1.9
N38A Joes South For 26.39 360 P P 13 41 11.3 -1.1
CBYP Canovanas 26.44 78 P P 13 41 12.7 -0.4
CBYP IAmb IAmb 13 41 37.4
comp=Z,25nm,1.2s
T59A Double "B" Far 26.49 29 P P 13 41 11.3 -2.0
baz=215
T59A Double "B" Far 26.49 29 P P 13 41 11.2 -2.1
T59A IAmb IAmb 13 41 12.5
comp=Z,12nm,0.8s
Y14A Wickenburg 26.59 321 P P 13 41 15.8 +1.5
Y14A IAmb IAmb 13 41 29.2
comp=Z,23nm,1.9s
MVCO Mesa Verde 26.61 332 P P 13 41 15.5 +0.7
baz=144
MVCO Mesa Verde 26.61 332 P P 13 41 16.2 +1.5
MVCO IAmb IAmb 13 41 20.8
comp=Z,11nm,0.9s
WUAZ Wupatki 26.75 325 P P 13 41 16.9 +1.0
baz=137
Q54A Coxs Mills 26.86 22 P P 13 41 15.9 -0.7
baz=207
GLA Glamis 27.17 317 P P 13 41 20.9 +1.3
baz=128
R58A Rapidan 27.38 26 P P 13 41 20.6 -0.7
baz=213
PV01 Paradox Valley 27.41 333 P P 13 41 23.3 +1.4
PV01 IAmb IAmb 13 41 25.4
comp=Z,14nm,1.3s
PDMCI Parker Dam,Lak 27.53 320 P P 13 41 23.0 +0.3
baz=131
PV13 Radium Mtn., P 27.54 332 P P 13 41 22.3 -0.7
PV13 IAmb IAmb 13 41 35.3
comp=Z,10.0nm,1.1s
PV15 Paradox Valley 27.54 333 P P 13 41 23.2 +0.1
PV15 IAmb IAmb 13 41 34.0
comp=Z,13nm,1.1s
PV02 Paradox Valley 27.54 333 P P 13 41 23.8 +0.7
PV02 IAmb IAmb 13 41 33.9
comp=Z,20nm,1.5s
PV03 Paradox Valley 27.63 333 P P 13 41 23.7 -0.1
PV03 IAmb IAmb 13 42 15.9
comp=Z,9.8nm,1.1s
PV18 Skein Mesa, Pa 27.65 332 P P 13 41 23.8 -0.2
PV18 IAmb IAmb 13 42 08.7
comp=Z,9.1nm,1.1s
PV12 Saucer Basin, 27.66 333 P P 13 41 25.9 +1.8
ISCO Idaho Springs 27.67 339 P P 13 41 25.2 +1.0
baz=153
ISCO Idaho Springs 27.67 339 P P 13 41 23.6 -0.7
ISCO IAmb IAmb 13 41 35.9
comp=Z,22nm,1.9s
PV11 David Mesa, Pa 27.68 333 P P 13 41 23.8 -0.4
PV11 IAmb IAmb 13 41 34.9
comp=Z,13nm,1.0s
PV07 Paradox Valley 27.69 333 P P 13 41 25.8 +1.5
PV07 IAmb IAmb 13 41 30.7
comp=Z,8.9nm,0.8s
PV17 East Wray Mesa 27.70 332 P P 13 41 25.9 +1.5
PV17 IAmb IAmb 13 42 11.9
comp=Z,13nm,1.1s
PV16 Nyswonger Mesa 27.70 333 P P 13 41 25.2 +0.7
PV16 IAmb IAmb 13 41 36.0
comp=Z,13nm,1.2s
PV19 Morning Glory 27.73 332 P P 13 41 26.2 +1.5
PV19 IAmb IAmb 13 41 36.2
comp=Z,24nm,1.5s
PV20 West Nyswonger 27.75 333 P P 13 41 25.9 +1.0
PV20 IAmb IAmb 13 41 36.2
comp=Z,28nm,1.7s
PV04 Paradox Valley 27.77 333 P P 13 41 26.9 +1.8
PV04 IAmb IAmb 13 41 30.8
comp=Z,14nm,0.8s
IKP In-Ko-Pah, Jac 27.80 315 P P 13 41 26.9 +1.6
baz=125
PV14 Lion Creek, Pa 27.80 332 P P 13 41 26.9 +1.4
PV14 IAmb IAmb 13 41 31.4
comp=Z,7.9nm,0.9s
PV22 Blue Mesa, Par 27.83 333 P P 13 41 27.3 +1.7
PV22 IAmb IAmb 13 41 31.8
comp=Z,13nm,1.0s
PV23 Carpenter Ridg 27.86 333 P P 13 41 27.5 +1.5
W13A Hualapai Mount 27.91 322 P P 13 41 28.0 +1.7
U15A North Rim 27.92 326 P P 13 41 28.0 +1.4
BC3 Big Chuckawall 27.96 317 P P 13 41 27.8 +1.1
baz=128,SNR=8.2
IRM Iron Mountain 28.07 319 P P 13 41 28.7 +1.1
baz=129
P57A Homestead Farm 28.38 25 P P 13 41 29.4 -0.8
baz=212
BELC Belle Mtn. Jos 28.53 317 P P 13 41 33.0 +1.2
baz=128
PFO Pinyon Flats O 28.60 316 P P 13 41 33.3 +0.9
baz=126
JFWS Jewell Farm 28.61 4 P P 13 41 32.3 +0.1
baz=185
KNB Kanab 28.64 326 P P 13 41 34.5 +1.6
GMRC Granite Mounta 28.80 319 P P 13 41 35.5 +1.3
baz=129
LCMT Little Creek M 28.87 325 P P 13 41 36.1 +1.3
O20A White River Ci 28.95 336 P P 13 41 36.5 +0.9
baz=148
O20A White River Ci 28.95 336 P P 13 41 36.6 +1.0
O20A IAmb IAmb 13 41 40.2
comp=Z,9.8nm,1.1s
MTPU Mount Pierson 29.07 328 P P 13 41 37.8 +0.9
SRU San Rafael Swe 29.09 331 P P 13 41 38.2 +1.4
SZCU Shurtz Canyon 29.21 326 P P 13 41 40.2 +2.3
Q16A Castle Valley 29.24 330 P P 13 41 40.3 +2.1
TUQ Turquoise Moun 29.38 320 P P 13 41 40.4 +1.0
baz=130
SSPA Standing Stone 29.41 24 P P 13 41 38.5 -0.8
baz=211
ECSD EROS Data Cent 29.48 355 P P 13 41 40.2 +0.2
baz=173
ECSD EROS Data Cent 29.48 355 P P 13 41 39.4 -0.6
TMUT Trail Mountain 29.56 331 P P 13 41 42.4 +1.3
BFSC Mount Baldy Ra 29.77 316 P P 13 41 44.5 +1.7
baz=125
RWWY Rawlins 29.90 339 P P 13 41 46.0 +1.9
RWWY IAmb IAmb 13 41 47.2
comp=Z,12nm,0.9s
PSUT Pine Spring 30.31 327 P P 13 41 49.2 +1.6
EDW2 Edwards Air Fo 30.37 317 P P 13 41 49.2 +1.2
baz=126
K22A Casper 30.52 340 P P 13 41 49.4 0.0
baz=153
K22A Casper 30.52 340 P P 13 41 50.2 +0.8
K22A IAmb IAmb 13 41 53.4
comp=Z,7.0nm,0.9s
L55A Hinsdale 30.54 22 P P 13 41 49.1 -0.3
baz=209
TPNV Topopah Spring 30.56 322 P P 13 41 51.4 +1.5
baz=131
TPNV Topopah Spring 30.56 322 P P 13 41 52.0 +2.2
M58A Price's Panora 30.60 25 P P 13 41 48.9 -1.0
baz=213
MPMC Manual Prospec 30.76 319 P P 13 41 52.7 +1.1
baz=128
N60A Cedar Hill Far 30.77 27 P P 13 41 50.9 -0.5
baz=216
L57A Andrews Acres 30.98 24 P P 13 41 52.8 -0.4
baz=212
SCZ2 Santa Cruz Isl 30.99 314 P P 13 41 54.3 +0.8
baz=122
DUG Duway, Tooele 31.03 330 P P 13 41 54.4 +0.5
baz=140
R11A Troy Canyon, C 31.13 324 P P 13 41 55.2 +0.3
baz=134,SNR=5.2
RSSD Black Hills 31.14 345 P P 13 41 54.8 -0.2
baz=159
CWC Cottonwood Cre 31.37 319 P P 13 41 56.8 -0.2
baz=128
K56A Middlesex 31.39 23 P P 13 41 55.5 -1.4
baz=210
BINY Binghamton 31.49 25 P P 13 41 56.1 -1.7
baz=213
HWUT Hardware Ranch 31.57 333 P P 13 41 59.5 +0.8
BGU Big Grassy Mou 31.70 331 P P 13 42 01.2 +1.4
BW06 Boulder Array 31.70 337 P P 13 41 59.3 -0.6
baz=148
BW06 Boulder Array 31.70 337 P P 13 42 00.2 +0.3
PD31 Pinedale Array 31.70 337 P P 13 42 00.0 +0.1
PDAR Pinedale Array 31.70 337 P P 13 42 00.2 +0.3
comp=Z,1.1nm,0.5s,baz=138,slow=14,SNR=7.0
PDAR LR LR 13 56 01.5
comp=Z,90nm,19.0s,baz=165,slow=39
M61A Granite Spring 31.73 28 P P 13 41 58.2 -1.6
baz=217
SPUT South Promonto 31.73 332 P P 13 42 01.3 +1.2
L59A Walton 31.87 26 P P 13 41 60.0 -1.2
baz=214
J56A Wolcott 32.06 23 P P 13 42 01.9 -0.9
baz=210
K58A Earlville 32.10 25 P P 13 42 00.7 -2.4
baz=213
AHID Auburn Hatcher 32.32 335 P P 13 42 06.4 +1.1
ELK Elko 32.66 328 P P 13 42 09.9 +1.6
OMMB Old Mammoth Mi 32.67 320 P P 13 42 10.4 +1.8
OMMB IAmb IAmb 13 42 12.1
comp=Z,19nm,2.0s
NV11 Mina Array Sit 32.68 322 P P 13 42 10.2 +1.8
NV11 IAmb IAmb 13 42 12.3
comp=Z,8.7nm,0.9s
REDW Red Top Meadow 32.72 336 P P 13 42 09.9 +1.1
MDPB Devils Postpil 32.73 320 P P 13 42 10.9 +1.9
J58A Remsen 32.74 24 P P 13 42 06.6 -2.1
baz=213
SNOW Snow King Moun 32.76 336 P P 13 42 10.0 +0.8
NVAR Mina Array Bea 32.76 322 P P 13 42 12.3 +3.1
comp=Z,5.9nm,0.7s,baz=136,slow=8.5,SNR=59
NVAR Mina Array Bea 32.76 322 P P 13 42 11.2 +1.9
E28A Huff 32.79 350 P P 13 42 09.1 0.0
LOHW Long Hollow 32.83 336 P P 13 42 10.9 +1.2
TPAW Teton Pass 32.86 336 P P 13 42 10.5 +0.4
FXWY Fox Creek 33.02 336 P P 13 42 12.2 +0.8
FXWY IAmb IAmb 13 42 16.2
comp=Z,4.8nm,0.8s
RYN Ryan 33.02 322 P P 13 42 13.2 +1.7
K61A Williamstown 33.03 27 P P 13 42 09.2 -2.1
baz=217
KVN Kaiserville 33.05 323 P P 13 42 13.6 +1.8
KVN IAmb IAmb 13 42 15.2
comp=Z,7.2nm,1.1s
I58A Old Forge 33.14 24 P P 13 42 10.2 -2.1
baz=213
J59A Piesco 33.15 25 P P 13 42 10.3 -2.0
baz=214
IMW Indian Meadow 33.20 336 P P 13 42 13.8 +0.8
IMW IAmb IAmb 13 42 23.1
comp=Z,15nm,1.4s
FLWY Flagg Ranch 33.26 337 P P 13 42 14.6 +1.1
FLWY IAmb IAmb 13 42 18.4
comp=Z,6.4nm,0.8s
G54A Lake Saint Pet 33.49 19 P P 13 42 13.9 -1.4
baz=207
WAKR Walker 33.50 321 P P 13 42 18.0 +2.4
WAKR IAmb IAmb 13 42 26.9
comp=Z,8.2nm,1.4s
EYMN Ely 33.56 2 P P 13 42 15.0 -0.9
baz=182
L64A Middleborough 33.61 31 P P 13 42 14.4 -1.8
baz=221
RLMT Red Lodge 33.63 339 P P 13 42 16.2 -0.6
baz=150
RLMT Red Lodge 33.63 339 P P 13 42 17.4 +0.6
I59A Olmsteadville 33.68 25 P P 13 42 15.8 -1.2
baz=215
YNE Yellowstone No 33.79 338 P P 13 42 19.0 +0.8
YHH Holmes Hill 33.92 337 P P 13 42 20.8 +1.4
I60A Shoreham 33.96 26 P P 13 42 17.6 -1.8
baz=216
PNTR Pine Nut 33.96 322 P P 13 42 22.1 +2.4
PNTR IAmb IAmb 13 42 23.4
comp=Z,5.4nm,0.8s
AGMN Agassiz Nation 33.97 357 P P 13 42 18.5 -0.9
baz=175
YHB Horse Butte 34.02 337 P P 13 42 21.4 +1.3
H58A Gabriels 34.06 25 P P 13 42 17.9 -2.4
baz=214
LONY Lake Ozonia 34.07 24 P P 13 42 18.3 -2.0
baz=213
YHL Hebgen Lake 34.09 337 P P 13 42 22.5 +1.6
PAHR Pah Rah Range 34.23 323 P P 13 42 23.8 +1.9
GCMT Greycliff 34.35 339 P P 13 42 23.6 +0.7
HLID Hailey 34.40 332 P P 13 42 23.5 +0.1
baz=141,SNR=7.8
HLID Hailey 34.40 332 P P 13 42 24.4 +1.0
BCYI Bear Canyon 34.55 334 P P 13 42 26.5 +1.8
MCMT McKenzie Canyo 34.73 335 P P 13 42 28.4 +2.0
BOZ Bozeman (W) 34.89 337 P P 13 42 28.0 +0.4
baz=147,SNR=6.3
BOZ Bozeman (W) 34.89 337 P P 13 42 28.6 +1.0
DLMT Dillon 35.07 336 P P 13 42 30.6 +1.4
DLMT IAmb IAmb 13 42 32.4
comp=Z,11nm,1.0s
G60A Masonville 35.38 26 P P 13 42 29.8 -1.9
baz=216
LRM Limekiln Ridge 35.40 336 P P 13 42 33.1 +1.0
E56A St. Veronique 35.53 22 P P 13 42 30.8 -2.1
baz=211
WVOR Wild Horse Val 35.64 327 P P 13 42 34.9 +0.8
WVOR IAmb IAmb 13 42 37.0
comp=Z,8.5nm,1.1s
D55A Sainte-Anne-du 35.79 21 P P 13 42 32.7 -2.4
baz=210
HRY Holter Researc 35.91 338 P P 13 42 37.4 +1.1
ULM Lac du Bonnet 35.91 357 LR LR 13 59 28.3
comp=Z,96nm,20.3s,baz=181,slow=40
E58A La Victoria 36.04 24 P P 13 42 35.1 -2.1
baz=214
MOD Modoc Plateau 36.19 325 P P 13 42 39.7 +0.9
J08A Circle Bar Ran 36.21 328 P P 13 42 39.8 +0.9
J08A IAmb IAmb 13 42 41.8
comp=Z,12nm,0.8s
F60A Warwick 36.24 25 P P 13 42 36.6 -2.4
baz=216
EGMT Eagleton 36.34 341 P P 13 42 38.9 -1.1
baz=152,SNR=5.9
EGMT Eagleton 36.34 341 P P 13 42 40.5 +0.5
D57A Chemin Vers le 36.35 22 P P 13 42 37.8 -2.1
baz=212
H64A Troy 36.41 29 P P 13 42 37.8 -2.7
baz=221
MSO Missoula 36.81 336 P P 13 42 43.5 -0.5
baz=145,SNR=5.1
MSO Missoula 36.81 336 P P 13 42 44.6 +0.6
H65A Eastbrook 36.92 30 P P 13 42 42.6 -2.2
baz=222
M04C Macdoel 36.99 323 P P 13 42 44.8 -0.8
baz=129
G64A Maxfield 37.09 29 P P 13 42 44.1 -2.2
baz=221
F63A Nahmakanta, Br 37.27 28 P P 13 42 45.3 -2.5
baz=220
F10A Beach Ranch, E 37.53 332 P P 13 42 50.4 +0.3
F10A IAmb IAmb 13 42 56.8
comp=Z,11nm,0.8s
MATQ Matagami 37.55 16 P P 13 42 48.6 -1.5
baz=205
G65A Princeton 37.62 30 P P 13 42 49.2 -1.5
baz=223
J05D Fort Rock, OR 37.62 326 P P 13 42 50.9 -0.1
baz=131
E62A Clayton Lake 37.79 27 P P 13 42 50.3 -1.8
baz=219
D61A St Aubert, Com 37.96 26 P P 13 42 51.9 -1.6
baz=218
E63A Oxbow 38.12 28 P P 13 42 53.0 -1.9
baz=221
D62A Allapoint, All 38.35 27 P P 13 42 55.6 -1.2
baz=219
E64A Bridgewater 38.39 28 P P 13 42 55.6 -1.6
baz=222
I04A Tendick Farm, 38.60 325 P P 13 42 58.9 -0.2
baz=130
D63A Stockholm 38.73 28 P P 13 42 58.3 -1.8
baz=221
G05D Wamic, OR 38.98 328 P P 13 43 02.9 +0.6
baz=133
H04A Detroit Lake 39.06 327 P P 13 43 03.9 +0.9
H04A IAmb IAmb 13 43 05.2
comp=Z,12nm,1.0s
LPAZ La Paz 39.15 140 P P 13 43 03.2 -1.4
comp=Z,0.9nm,0.7s,baz=316,slow=13,SNR=2.2
NEW Newport 39.25 335 P P 13 43 04.6 0.0
baz=141
F05D White Salmon 39.50 329 P P 13 43 07.4 +0.8
baz=133
I02D Swisshome 39.60 325 P P 13 43 08.3 +0.9
baz=129
LTY Liberty 40.08 331 P P 13 43 12.7 +1.2
A04D Lummi Island 42.08 331 P P 13 43 28.9 +1.1
baz=134
SIV San Ignacio 43.69 132 P P 13 43 40.7 -0.6
comp=Z,2.4nm,0.6s,baz=320,slow=9.3,SNR=8.3
SCHQ Schefferville 45.31 21 LR LR 14 04 03.4
comp=Z,259nm,19.0s,baz=194,slow=38
YKA Yellowknife Ar 50.48 347 P P 13 44 34.0 +0.4
comp=Z,12nm,0.7s,baz=152,slow=7.0,SNR=34
DLBC Dease Lake 51.94 336 LR LR 14 08 24.1
comp=Z,54nm,19.8s,baz=145,slow=38
DLBC Dease Lake 51.94 336 P P 13 44 46.5 +1.7
C36M Paulatuk 58.36 348 P P 13 45 30.9 +0.1
baz=144
BCAR Beaver Creek A 59.33 337 P P 13 45 38.5 +0.8
EPYK Eagle Plains 59.49 341 P P 13 45 37.3 -1.5
baz=129
INK Inuvik 59.84 344 P P 13 45 41.2 +0.1
K27K Chicken 59.95 337 P P 13 45 42.6 +0.6
baz=122
EGAK Eagle 60.03 338 P P 13 45 42.6 +0.1
EGAK IAmb IAmb 13 45 43.7

	comp=Z,5.2nm,1.0s							
RES	**Resolute Bay**	**60.38**	**359**	P	**P**	13 45 44.2	**-0.5**	
DOT	**Dot Lake**	**60.51**	**337**	P	**P**	13 45 46.5	**+0.7**	
SCRK	**Sand Creek**	**60.65**	**337**	P	**P**	13 45 47.0	**+0.1**	
	baz=120							
PAX	**Paxson**	**60.73**	**335**	P	**P**	13 45 47.8	**+0.3**	
PAX				IAmb	IAmb	13 45 49.2		
	comp=Z,5.9nm,0.8s							
A36M	**Sachs Harbour**	**60.74**	**349**	P	**P**	13 45 47.5	**+0.3**	
	baz=144							
RIDG	**Independent Ri**	**60.86**	**336**	P	**P**	13 45 49.0	**+0.7**	
GHO	**Glory Hole Cre**	**61.64**	**333**	P	**P**	13 45 54.7	**+1.1**	
HDA	**Harding Lake**	**61.99**	**337**	P	**P**	13 45 56.4	**+0.6**	
	baz=117							
HDA	**Harding Lake**	**61.99**	**337**	P	**P**	13 45 55.6	**-0.3**	
HDA				IAmb	IAmb	13 46 02.0		
	comp=Z,5.0nm,0.9s							
IL31		**62.14**	**337**	P	**P**	13 45 57.0	**+0.2**	
ILAR	**Eielson Array**	**62.14**	**337**	P	**P**	13 45 57.4	**+0.5**	
	comp=Z,4.3nm,0.9s,baz=137,slow=4.8,SNR=30							
ILAR	**Eielson Array**	**62.14**	**337**	P	**P**	13 45 56.7	**-0.1**	
RND	**Reindeer**	**62.30**	**335**	P	**P**	13 45 58.7	**+0.7**	
CCB	**Clear Creek Bu**	**62.43**	**337**	P	**P**	13 45 58.9	**+0.1**	
POKR	**Poker Plat Res**	**62.50**	**337**	P	**P**	13 45 59.9	**+0.6**	
	baz=117							
TCOL	**CIGO, UAF Yank**	**62.55**	**337**	P	**P**	13 46 00.2	**+0.7**	
	baz=117							
SPU	**Mount Spurr**	**62.80**	**332**	P	**P**	13 46 01.7	**+0.3**	
SKT	**Skwentna**	**62.86**	**333**	P	**P**	13 46 02.1	**+0.4**	
RSO	**Redoubt South**	**62.87**	**331**	P	**P**	13 46 02.1	**+0.1**	
BWN	**Browne**	**62.87**	**336**	P	**P**	13 46 02.3	**+0.6**	
BPAW	**Bear Paw Mtn.**	**63.45**	**335**	P	**P**	13 46 05.8	**+0.2**	
COLD	**Coldfoot**	**64.45**	**339**	P	**P**	13 46 12.7	**+0.6**	
	baz=115							
COLD	**Coldfoot**	**64.45**	**339**	P	**P**	13 46 13.2	**+1.1**	
COLD				IAmb	IAmb	13 46 14.1		
	comp=Z,5.1nm,1.0s							
TOLK	**Toolik Lake Re**	**64.87**	**340**	P	**P**	13 46 15.4	**+0.5**	
	baz=117							
IMAR	**Indian Mountai**	**65.25**	**337**	P	**P**	13 46 16.7	**-0.6**	
EUNU	**Eureka**	**65.84**	**1**	P	**P**	13 46 20.9	**-0.2**	
ESDC	**Sonseca Array**	**80.36**	**52**	P	**P**	13 47 45.3	**-2.3**	
	comp=Z,1.5nm,0.8s,baz=290,slow=5.3,SNR=9.2							
NOA	**NORSAR Array B**	**84.38**	**28**	P	**P**	13 48 07.3	**-0.9**	
	comp=Z,1.1nm,0.8s,baz=290,slow=4.8,SNR=2.9							
GERES	**GERESS Array B**	**90.04**	**39**	P	**P**	13 48 36.2	**+0.2**	
	comp=Z,0.6nm,0.8s,baz=276,slow=9.5,SNR=4.0							
GERES	**GERESS Array B**	**90.04**	**39**	P	**P**	13 48 35.4	**-0.6**	
FINES	**FINESS Array B**	**90.67**	**25**	P	**P**	13 48 37.7	**-0.7**	
	comp=Z,2.6nm,0.9s,baz=298,slow=3.0,SNR=2.1							
GTA	**Gaotai**	**125.22**	**348**	*e*PKP	**PKPdf**	13 54 37.8	**+0.5**	
GTA				sPKP		13 54 52.1		
LZH	**Lanzhou**	**127.38**	**343**	*e*PKP	**PKPdf**	13 54 39.4	**-2.1**	
LZH				pPKP	PKiKP	13 54 50.1	+8.0	
LZH				sPKP		13 54 52.6		
WRA	**Warramunga Arr**	**134.43**	**256**	PKP	**PKPdf**	13 54 54.5	**-0.6**	
	comp=Z,0.6nm,0.6s,baz=87,slow=1.9,SNR=10							
ASAR	**Alice Springs**	**134.76**	**251**	PKP	**PKPdf**	13 54 54.7	**-0.9**	
	comp=Z,0.5nm,0.8s,baz=82,slow=2.1,SNR=4.3							
CMAR	**Chiang Mai Arr**	**145.34**	**340**	PKPbc	**PKPbc**	13 55 14.6	**0.0**	
	comp=Z,5.9nm,0.8s,baz=328,slow=3.2,SNR=9.4							

*IDC **11** 13:51:01.7±0.7,39.42S×75.19W,h0km,mb3.9/9,*
mb1 4.1/11,mb1mx4.1/22,mbtmpg3.9/11,ML4.0/2,MS2.8/1,
Ms1 2.8/1,ms1mx2.7/23,Error ellipse: s-maj=24.4km
s-min=17.7km az=91.0
*GUC **11** 13:51:02.4±0.5,39.34S×75.21W,h25km,ML4.3*
*NEIC **11** 13:51:03.5±1.8,39.29S±0.06×75.1W±0.1,h19km±4km,*
mb4.5/20,Error ellipse: s-maj=13.2km s-min=8.9km
az=81.0

ISC 11 13:51:06.2±0.5,39°25S±0.05×75°12W±0.06,h35km,n76,
σ1s46/76,mb4.1/14,4C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BI04	**Isla Mocha**	**1.28**	**49**	*e*P		**Pn**	**13 51 26.3**	**-1.3**
BI04				*i* S		**Sn**	**13 51 43.3**	**-0.2**
BI04				IAML			13 51 45.4	
	comp=N,4μm,0.6s							
LC01	**Cunco**	**2.55**	**83↑**	*i*P		**Pn**	**13 51 44.4**	**-0.6**
LC01				*i* S		**Sn**	**13 52 15.3**	**+0.5**
LC01				IAML			13 52 16.6	
	comp=N,3μm,0.4s							
LAJA	**Laja**	**2.73**	**45**	*e*P		**Pn**	**13 51 46.5**	**-1.1**
LAJA				*e*S		**Sn**	**13 52 18.5**	**-0.8**
BI03	**Tigo**	**2.92**	**35↑**	*i*P		**Pn**	**13 51 49.2**	**-0.9**
BI03				*e*S		**Sn**	**13 52 25.0**	**+1.0**
BI03				IAML			13 52 27.7	
	comp=N,1μm,0.1s							
BI03	**Tigo**	**2.92**	**35**	Pn		**Pn**	**13 51 48.7**	**-1.4**
LL01	**San Ignacio de**	**3.74**	**148**	Pn		**Pn**	**13 51 59.0**	**-2.4**
PLCA	**Paso Flores**	**3.81**	**114**	Pn		**Pn**	**13 52 01.9**	**-0.5**
	comp=N,1.5nm,0.3s,baz=303,slow=11,SNR=36							
PLCA				Sn		**Sn**	**13 52 48.2**	**+2.2**
	comp=N,13nm,0.3s,baz=33,slow=23,SNR=11							
PLCA				LR		LR	13 53 11.3	
	comp=N,140nm,21.4s,baz=338,slow=34							
PLCA	**Paso Flores**	**3.81**	**114**	*e*P		Pn	13 52 18.9	+17
PLCA	**Paso Flores**	**3.81**	**114**			**Pn**	**13 52 01.7**	**-0.7**
BI02	**San Fabin de**	**3.99**	**51**	*e*P		**Pn**	**13 52 04.4**	**-0.6**
BI02				*i* S		**Sn**	**13 52 51.5**	**+0.9**
BI02	**San Fabin de**	**3.99**	**51**	Pn		**Pn**	**13 52 04.2**	**-0.7**
GO05	**Huala**	**4.95**	**32↑**	*i*P		**Pn**	**13 52 17.2**	**-0.8**
GO05				*i* S		**Sn**	**13 53 13.8**	**-0.1**
GO05	**Huala**	**4.95**	**32**	Pn		**Pn**	**13 52 17.2**	**-0.8**
BO02	**Sierra Bellavi**	**5.65**	**39↑**	*i*P		**Pn**	**13 52 26.9**	**-0.8**
BO02				*i* S		**Sn**	**13 53 32.3**	**+1.0**
BO02	**Sierra Bellavi**	**5.65**	**39**	Pn		**Pn**	**13 52 26.6**	**-1.1**
BO01	**Tunca**	**5.83**	**35**	Pn		**Pn**	**13 52 29.0**	**-1.2**
H03S1	**Juan Fernandez**	**6.20**	**329**	T		T	13 59 59.3	
	baz=144,slow=73,SNR=10							
H03S2	**Juan Fernandez**	**6.21**	**329**	T		T	13 59 51.4	
	baz=144,slow=73,SNR=9.0							
H03S3	**Juan Fernandez**	**6.22**	**329**	Pn		**Pn**	**13 52 35.7**	**+0.5**
H03S3				T		T	14 00 08.3	
	baz=144,slow=73,SNR=8.8							
VA04	**Juan Fernndez**	**6.35**	**331**	Pn		**Pn**	**13 52 36.3**	**-0.9**
H03N3	**Juan Fernandez**	**6.55**	**331**	Pn		**Pn**	**13 52 40.2**	**+0.5**
	SNR=41							
H03N1	**Juan Fernandez**	**6.56**	**331**	Pn		**Pn**	**13 52 40.1**	**+0.2**
	SNR=39							
H03N2	**Juan Fernandez**	**6.57**	**331**	Pn		**Pn**	**13 52 40.3**	**+0.4**
	SNR=31							
MT02	**Curacav**	**6.79**	**29**	Pn		**Pn**	**13 52 41.6**	**-1.7**
MT05	**Renca**	**6.84**	**32**	Pn		**Pn**	**13 52 42.5**	**-1.5**
PEL	**Peldehue**	**7.07**	**32**	Pn		**Pn**	**13 52 46.5**	**-0.8**
ROC1	**El Roble**	**7.09**	**29**	Pn		**Pn**	**13 52 46.7**	**-1.0**
VA03	**San Esteban**	**7.46**	**31**	Pn		**Pn**	**13 52 51.3**	**-1.3**
CO02	**Combarbal**	**8.71**	**24**	Pn		**Pn**	**13 53 08.6**	**-1.2**
CO03	**El Pedregal**	**9.15**	**25**	Pn		**Pn**	**13 53 15.1**	**-0.7**
ZON	**Zonda**	**9.31**	**36**	Pn		**Pn**	**13 53 16.5**	**-1.5**
GO04	**Tololo Observa**	**9.73**	**23**	Pn		**Pn**	**13 53 23.1**	**-0.8**
CO01	**Juntas del Tor**	**10.14**	**26**	Pn		**Pn**	**13 53 29.0**	**-0.4**
LCO	**Las Campanas**	**10.85**	**21**	Pn		**Pn**	**13 53 35.6**	**-3.6**
AC05	**El Transito**	**11.14**	**23**	Pn		**Pn**	**13 53 41.7**	**-1.4**
GO02	**Mina Guanaco**	**14.80**	**20**	Pn		**Pn**	**13 54 30.2**	**-3.1**
PB10	**IPOC Station P**	**16.17**	**15**	Pn		**Pn**	**13 54 48.8**	**-1.9**
PB10				IAmb		IAmb	13 54 51.1	
	comp=Z,29nm,1.0s							
CPUP	**Villa Florida**	**19.70**	**54**	P		**Pn**	**13 55 34.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=242,slow=9.4,SNR=14							
CPUP	**Villa Florida**	**19.70**	**54**	P		**P**	**13 55 31.4**	**-1.1**
PB11	**IPOC Station P**	**19.99**	**15**	P		**P**	**13 55 33.2**	**-2.7**
LPAZ	**La Paz**	**23.68**	**17**	P		**P**	**13 56 18.4**	**+3.1**
	comp=Z,2.5nm,0.8s,baz=221,slow=1.6,SNR=8.4							
LPAZ	**La Paz**	**23.68**	**17**	P		**P**	**13 56 13.4**	**-1.9**
LPAZ				IAmb		IAmb	13 56 27.9	
	comp=Z,23nm,2.0s							
SIV	**San Ignacio**	**26.24**	**32**	P		**P**	**13 56 39.2**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=234,slow=7.3,SNR=11							
RUSC	**La Rusia**	**44.96**	**3**	P		**P**	**13 59 17.6**	**-0.8**
SNAA	**Sanae**	**47.73**	**156**	P		**P**	**13 59 37.7**	**-1.5**
SNAA				IAmb		IAmb	13 59 39.8	
	comp=Z,4.6nm,1.1s							
URIC	**Uribia, Colomb**	**50.77**	**4**	P		**P**	**14 00 02.4**	**-0.4**
QSPA	**South Pole Qui**	**50.99**	**180**	P		**P**	**14 00 04.3**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=140,slow=2.4,SNR=14							
QSPA	**South Pole Qui**	**50.99**	**180**	P		**P**	**14 00 03.7**	**-0.5**
TGUH	**Tegucigalpa,Un**	**54.23**	**345**	P		**P**	**14 00 27.7**	**-1.0**
VNDA	**Vanda**	**58.46**	**192**	P		**P**	**14 00 58.5**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=221,slow=5.5,SNR=1.9							
MAW	**Mawson**	**68.84**	**164**	P		**P**	**14 02 05.7**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=310,slow=11,SNR=4.1							
MAW	**Mawson**	**68.84**	**164**	P		**P**	**14 02 05.2**	**-1.2**
TXAR	**Lajitas Array**	**73.24**	**334**	P		**P**	**14 02 36.0**	**+2.3**
	comp=Z,1.2nm,0.6s,baz=156,slow=8.7,SNR=21							
TXAR	**Lajitas Array**	**73.24**	**334**	P		**P**	**14 02 36.0**	**+2.3**
TX31	**Lajitas Ar. Si**	**73.24**	**334**	P		**P**	**14 02 36.1**	**+2.4**
TX32	**Lajitas Array**	**73.24**	**334**	P		**P**	**14 02 36.0**	**+2.3**
TX32				IAmb		IAmb	14 04 09.5	
	comp=Z,9.0nm,1.9s							
237A	**Washetta, Mont**	**73.45**	**342**	P		**P**	**14 02 35.7**	**+1.0**
CASY	**Casey**	**74.71**	**182**	P		**P**	**14 02 41.9**	**+0.2**
CASY				IAmb		IAmb	14 05 23.2	
	comp=Z,23nm,1.9s							
X40A	**Basin Creek Fa**	**75.18**	**345**	P		**P**	**14 02 43.5**	**-1.3**
X40A				IAmb		IAmb	14 05 09.8	
	comp=Z,3.4nm,0.9s							
U61A	**Possum Corner**	**75.22**	**359**	P		**P**	**14 02 44.4**	**-0.6**
DBIC	**Dimbokro**	**79.18**	**72**	P		**P**	**14 03 11.3**	**+3.6**
	comp=Z,1.2nm,0.5s,baz=205,slow=6.7,SNR=1.5							
ECSD	**EROS Data Cent**	**84.86**	**345**	P		**P**	**14 03 38.7**	**+1.9**
NVAR	**Mina Array Bea**	**86.87**	**327**	P		**P**	**14 03 48.9**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=191,slow=4.4,SNR=2.9							
HWUT	**Hardware Ranch**	**87.05**	**334**	P		**P**	**14 03 49.6**	**+1.7**
HWUT				IAmb		IAmb	14 03 51.2	
	comp=Z,4.0nm,0.8s							
PDAR	**Pinedale Array**	**87.41**	**335**	P		**P**	**14 03 51.3**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=145,slow=5.4,SNR=4.4							
PDAR	**Pinedale Array**	**87.41**	**335**	P		**P**	**14 03 51.5**	**+1.8**
PMOZ	**Porto Moniz, M**	**89.59**	**46**	*e*LR		LR	14 18 46.6	
	comp=Z,646nm,22.0s							
PVAQ	**Vaqueiros**	**98.26**	**48**	*e*LR		LR	14 22 40.9	
PMRV	**Marv??o**	**99.83**	**47**	*e*LR		LR	14 23 42.4	
	comp=Z,426nm,20.0s							
MTE	**Manteigas**	**100.41**	**46**	*e*LR		LR	14 23 38.6	
	comp=Z,885nm,20.0s							
PGAV	**Gavieira, Arco**	**101.08**	**44**	*e*LR		LR	14 24 04.0	
	comp=Z,802nm,22.0s							
MVO	**Moncorvo**	**101.22**	**46**	*e*LR		LR	14 24 01.6	
	comp=Z,729nm,20.0s							
WRA	**Warramunga Arr**	**114.98**	**211**	PKP		**PKiKP**	**14 09 42.7**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=157,slow=1.5,SNR=4.7							
GERES	**GERESS Array B**	**117.55**	**48**	PKP		**PKiKP**	**14 09 48.7**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=186,slow=1.2,SNR=5.5							
MKAR	**Makanchi Array**	**161.89**	**58**	PKP		**PKPdf**	**14 11 03.9**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=232,slow=1.6,SNR=2.7							
MKAR				PKPab		**PKPab**	**14 11 49.2**	**0.0**
	comp=Z,0.1nm,100.0s,baz=283,slow=4.5,SNR=6.1							
MKAR	**Makanchi Array**	**161.89**	**58**			**PKPdf**	**14 11 03.4**	**+0.3**

*IDC **11** 13:52:59.8±4.9,26.32N×130.52E,h0km,mb3.6/5,*
mb1 3.7/5,mb1mx3.5/38,mbtmp3.6/5,Error ellipse:
s-maj=263.7km s-min=23.6km az=66.0
*JMA **11** 13:53:04.1±0.1,25.93N×129.59E,h46km,M3.9*
*NIED **11** 13:53:04.1,25.93N×129.59E,h46km,MW4.0,Moment*
Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm;
Mrr-5.66; Mθθ3.37; Mφφ2.28; Mrθ-2.71; Mθφ4.60; Mφr-6.65;
Fault plane solution: Mo9.82000×10¹⁴ NP1:ϕs28.00000°,
δ70.00000°,λ-108.00000°. NP2:ϕs252.00000°,
δ27.00000°,λ-49.00000°.

ISC 11 13:53:06.0±0.9,25°93N±0.05×129°59E±0.03,h35km,n20,
σ1s64/35,mb3.7/5,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JMZ	**Minamidaito 2**	**1.48**	**94**	P		**Pn**	**13 53 28.7**	**-1.4**
JMZ				*e*S		**Sn**	**13 53 45.4**	**-2.8**
JOW	**Kunigami**	**1.48**	**308**	P		**Pn**	**13 53 29.1**	**-1.1**
JOW				*e*S		**Sn**	**13 53 46.5**	**-1.8**
JYRO	**Yoronjima**	**1.49**	**317**	P		**Pn**	**13 53 29.3**	**-1.0**
JYRO				S		**Sn**	**13 53 46.1**	**-2.4**
JNTH	**Nagotoyohara**	**1.52**	**293**	P		**Pn**	**13 53 29.4**	**-1.3**
JNTH				S		**Sn**	**13 53 47.7**	**-1.6**
JKDJ	**Kitadaitoujima**	**1.54**	**89**	P		**Pn**	**13 53 29.7**	**-1.3**
JKDJ				S		**Sn**	**13 53 47.8**	**-1.9**
JJT3	**Tamagusuku3**	**1.64**	**278**	P		**Pn**	**13 53 31.7**	**-0.6**
JJT3				S		**Sn**	**13 53 50.9**	**-1.2**
JOKE	**Okinoerabujima**	**1.69**	**328**	P		**Pn**	**13 53 32.3**	**-0.7**
JOKE				S		**Sn**	**13 53 52.5**	**-1.0**
JIH	**Iheya**	**1.82**	**307**	P		**Pn**	**13 53 34.0**	**-0.8**
JIH				S		**Sn**	**13 53 54.4**	**-2.3**
JTK	**Tokunoshima**	**1.93**	**343**	P		**Pn**	**13 53 35.8**	**-0.6**
JTK				*e*S		**Sn**	**13 53 57.8**	**-1.6**
JAGN	**Aguni-jima**	**2.20**	**288**	P		**Pn**	**13 53 39.4**	**-0.7**
JAGN				S		**Sn**	**13 54 04.0**	**-2.1**
JAMN	**Amaminishikomi**	**2.33**	**351**	P		**Pn**	**13 53 41.3**	**-0.5**
JAMN				*e*S		**Sn**	**13 54 08.1**	**-1.2**
JZK	**Kikaishima**	**2.40**	**8**	P		**Pn**	**13 53 43.1**	**+0.3**
JZK				S		**Sn**	**13 54 10.4**	**-0.5**
JAM	**Amami Oshima**	**2.47**	**0**	P		**Pn**	**13 53 42.9**	**-0.8**
JAM				*e*S		**Sn**	**13 54 10.0**	**-2.7**
JKE	**Kume jima 2**	**2.55**	**279**	P		**Pn**	**13 53 43.3**	**-1.5**
JKE				S		**Sn**	**13 54 11.7**	**-2.9**
JTAJ	**Takarajima**	**3.23**	**354**	P		**Pn**	**13 53 53.5**	**-0.7**
JTAJ				S		**Sn**	**13 54 28.8**	**-2.6**
MKAR	**Makanchi Array**	**42.64**	**312**	P		**P**	**14 01 01.2**	**+2.1**
	1.0nm,0.7s,baz=101,slow=9.2,SNR=8.8							
ZALV	**Zalesovo Beam**	**43.22**	**323**	P		**P**	**14 01 04.1**	**+0.5**
	1.3nm,0.6s,baz=117,slow=9.0,SNR=5.0							
WRA	**Warramunga Arr**	**45.83**	**174**	P		**P**	**14 01 25.2**	**+0.4**
	0.6nm,0.9s,baz=354,slow=8.3,SNR=3.2							
ASAR	**Alice Springs**	**49.48**	**175**	P		**P**	**14 01 55.1**	**+2.0**
	0.1nm,0.5s,baz=4.4,slow=13,SNR=4.9							
BRTR	**Keskin Array B**	**78.18**	**308**	P		**P**	**14 05 03.4**	**+1.3**
	0.6nm,0.6s,baz=62,slow=6.7,SNR=3.9							

KRSC 11 13:54:00.4±1.6,48°88N×156°74E,h33km±16km,ML3.7,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**1.85**	**348**	*e*P		Pn	13 54 31.1	+1.3
SKR				*e*S		Sb	13 54 54.2	-2.2
ALID	**Alaid**	**2.14**	**339**	*e*P		Pn	13 54 35.0	+1.2
ALID				*e*S		Sn	13 55 00.7	+1.4
PAU	**Pauzhetka**	**2.59**	**1**	*e*P		Pn	13 54 42.8	+2.8
PAU				*e*S		Sn	13 55 13.9	+3.6
KDTR	**Khodutka, Kamc**	**3.06**	**16**	*e*P		Pn	13 54 50.0	+3.7
KDTR				*e*S		Sb	13 55 26.4	-4.6
MIPR	**Malaya Ipel'ka**	**3.41**	**0**	*e*P		Pn	13 54 54.5	+3.4
ASAK	**Asacha**	**3.59**	**11**	*e*P		Pn	13 54 58.1	+4.4
MTVR	**Mutnovka**	**3.73**	**14**	*e*P		Pn	13 55 00.2	+4.5
MTVR				*e*S		Sn	13 55 43.6	+5.2
RUS	**Russkaya**	**3.74**	**17**	*e*P		Pn	13 54 59.4	+3.8
GRL	**Gorelyy**	**3.78**	**12**	*e*P		Pn	13 55 00.9	+4.6
GRL				*e*S		Sb	13 55 46.2	-5.5
KRMR	**Karymshinskiy**	**4.06**	**12**	*e*P		Pn	13 55 05.0	+5.0
KRMR				*e*S		Sb	13 55 53.4	-6.2
PET	**Petropavlovsk**	**4.33**	**16**	*e*P		Pn	13 55 08.0	+4.3
PET				*e*S		Sn	13 55 58.3	+5.3
DALK	**Dalny**	**4.35**	**16**	*e*P		Pn	13 55 08.4	+4.3
DALK				*e*S		Sn	13 55 58.3	+4.7
UGLR	**Uglovaya**	**4.53**	**16**	*e*P		Pn	13 55 11.6	+4.9
AVH	**Avacha**	**4.57**	**15**	*e*P		Pn	13 55 12.4	+5.2
KOK	**Koryaka**	**4.58**	**14**	*e*P		Pn	13 55 13.0	+5.6
SMAR	**Somma**	**4.58**	**16**	*e*P		Pn	13 55 13.4	+5.9
KRER	**Koryakskii**	**4.61**	**15**	*e*P		Pn	13 55 12.4	+4.5
KRX	**Arik**	**4.65**	**14**	*e*P		Pn	13 55 13.5	+5.2
SPN	**Mys Shipunski**	**4.71**	**25**	*e*P		Pn	13 55 13.5	+4.5
SPN				*e*S		Sn	13 56 07.2	+4.8
KZV	**Kizimen**	**6.62**	**18**	*e*P		Pn	13 55 41.3	+5.9
KBTR	**Krutoberegovo**	**8.22**	**24**	*e*P		Pn	13 56 00.7	+3.5

*AEIC **11** 13:54:54±1.9,51.57N±0.08×172.92W±0.08,h25km±5km,*
Error ellipse: s-maj=11.6km s-min=6.9km az=183.0
*NEIC **11** 13:54:55.6±1.2,51.75N±0.09×173.05W±0.08,h46km±8km,*
mb4.1/17,ML3.4(AEIC),Error ellipse: s-maj=12.7km
s-min=7.4km az=188.0
*IDC **11** 13:54:55.4±1.0,51.72N×173.00W,h44km±9km,mb3.3/6,*
mb1 3.6/7,mb1mx3.4/42,mbtmp3.6/7,ML3.9/1,Error
ellipse: s-maj=36.5km s-min=19.8km az=162.0

ISC 11 13:54:55.9±0.8,51.7N±0.1×173.01W±0.04,h50km,n42,
σ0s76/42,mb3.6/9,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KOFP	**Korovin Flat P**	**0.86**	**309**			**Pn**	**13 55 11.7**	**-0.1**
KOFP						**Sn**	**13 55 24.6**	**+1.2**
ATKA	**Atka Island**	**0.87**	**303**			**Pn**	**13 55 10.8**	**-1.0**
ATKA						**Sn**	**13 55 22.3**	**-1.2**
KOSE	**Korovin Southe**	**0.89**	**314**			**Pn**	**13 55 12.2**	**+0.2**
GSMY	**Great Sitkin M**	**1.91**	**281**			**Pn**	**13 55 25.6**	**-0.4**
GSTD	**Great Sitkin T**	**1.97**	**281**			**Pn**	**13 55 26.1**	**-0.7**
GSTD						**Sn**	**13 55 52.1**	**+1.8**
ADAG	**Mount Adagdak**	**2.24**	**278**			**Pn**	**13 55 30.6**	**+0.2**
ADK	**Adak**	**2.28**	**275**			**Pn**	**13 55 30.2**	**-0.8**
KIKV	**Kanaga Island**	**2.58**	**275**			**Pn**	**13 55 34.9**	**-0.2**
NIKH	**Nikolski High**	**2.84**	**62**			**Pn**	**13 55 37.0**	**-1.6**
TASE	**Tanaga Southea**	**3.12**	**274**			**Pn**	**13 55 43.0**	**+0.5**
OKWE	**Okmok W'ng Wal**	**3.39**	**57**			**Pn**	**13 55 46.7**	**+0.4**
UNV	**Unalaska Valle**	**4.48**	**59**	Pn		**Pn**	**13 56 01.4**	**+0.3**
AKUT	**Akutan**	**5.00**	**58**	Pn		**Pn**	**13 56 09.8**	**+1.6**
SDPT	**Sand Point**	**8.30**	**59**	Pn		**Pn**	**13 56 54.1**	**+0.7**
SCM	**Sheep Creek Mo**	**17.20**	**44**			**P**	**13 58 52.5**	**-0.9**
SCM				IAmb		IAmb	13 59 50.8	
	comp=Z,32nm,1.5s							
PET	**Petropavlovsk**	**17.30**	**285**	P		**P**	**13 58 53.9**	**-0.5**
RND	**Reindeer**	**17.32**	**38**	P		**P**	**13 58 54.8**	**+0.2**
RND				IAmb		IAmb	13 58 57.5	
	comp=Z,37nm,1.9s							
CCB	**Clear Creek Bu**	**18.37**	**36**	P		**P**	**13 59 05.5**	**-0.6**
MDM	**Murphy Dome**	**18.39**	**34**	P		**Pn**	**13 59 06.2**	**-0.6**
HDA	**Harding Lake**	**18.56**	**37**	P		**Pn**	**13 59 08.7**	**-0.1**
IL31		**18.77**	**36**	P		**Pn**	**13 59 10.6**	**-0.7**
ILAR	**Eielson Array**	**18.77**	**36**	P		**Pn**	**13 59 10.7**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=230,slow=9.6,SNR=20							
TGL	**Tana Glacier**	**18.89**	**50**	P		**P**	**13 59 11.7**	**-0.2**
RIDG	**Independent Ri**	**19.05**	**40**	P		**P**	**13 59 13.5**	**-0.1**
RIDG				IAmb		IAmb	13 59 34.5	
	comp=Z,6.8nm,0.9s							
ISLE	**Juniper Island**	**19.08**	**50**	P		**P**	**13 59 12.6**	**-1.5**
ISLE				IAmb		IAmb	13 59 31.1	
	comp=Z,16nm,0.7s							
MESA	**MESA**	**19.17**	**52**	P		**P**	**13 59 14.3**	**-0.9**
DOT	**Dot Lake**	**19.33**	**41**	P		**P**	**13 59 16.7**	**0.0**
DOT				IAmb		IAmb	13 59 53.0	
	comp=Z,7.3nm,1.3s							
BARN	**Barnard Glacie**	**19.52**	**49**	P		**P**	**13 59 19.0**	**+0.1**
EGAK	**Eagle**	**20.95**	**39**	P		**P**	**13 59 34.0**	**-0.2**
EGAK				IAmb		IAmb	13 59 51.4	
	comp=Z,33nm,2.0s							
BESE	**Bessie Mountai**	**22.60**	**57**	P		**P**	**13 59 52.5**	**+0.6**
BESE				IAmb		IAmb	14 00 23.6	
	comp=Z,22nm,1.4s							
INK	**Inuvik**	**25.12**	**34**	P		**P**	**14 00 15.5**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=240,slow=9.3,SNR=11							
INK	**Inuvik**	**25.12**	**34**	IAmb		IAmb	14 00 39.4	

SSLB	**Suanglung**	**4.50**	**251**		**Pn**	**14 11 39.3**	**+1.4**
TWG	**Pinlang**	**4.84**	**240**	Pn	**Pn**	**14 11 41.6**	**-0.9**
TPUB	**Ta-pu**	**4.97**	**247**		**Pn**	**14 11 46.0**	**+1.6**
JNU	**Nakatsue**	**9.03**	**29**	Pn	**Pn**	**14 12 41.8**	**+1.7**
	0.2nm,0.3s,baz=162,slow=14,SNR=2.0						
KSRS	**Korea Array**	**12.26**	**9**	Pn	**Pn**	**14 13 23.8**	**-0.5**
	baz=182,slow=15,SNR=2.1						
YAK	**Yakutsk**	**36.80**	**3**	P	**P**	**14 17 35.3**	**-1.7**
YAK				IAmb	IAmb	14 18 04.0	
	comp=Z,4.3nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**38.43**	**90**	T	T	14 58 18.9	
	baz=283,slow=75,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**38.43**	**90**	T	T	14 58 23.4	
	baz=283,slow=75,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**38.45**	**90**	T	T	14 58 20.1	
	baz=283,slow=75,SNR=5.3						
MKAR	**Makanchi Array**	**40.41**	**313**	P	**P**	**14 18 07.9**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=115,slow=7.4,SNR=2.7						
ZALV	**Zalesovo Beam**	**41.57**	**324**	P	**P**	**14 18 15.8**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=122,slow=10,SNR=3.7						
ZALV	**Zalesovo Beam**	**41.57**	**324**	P	**P**	**14 18 16.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**43.16**	**180**	P	**P**	**14 18 30.4**	**+0.1**
	comp=Z,3.8nm,1.0s,baz=351,slow=11,SNR=2.5						
FITZ	**Fitzroy Crossi**	**43.16**	**180**	IAmb	IAmb	14 19 43.3	
	comp=Z,11nm,1.4s						
KURK	**Kurchatov**	**43.88**	**318**	P	**P**	**14 18 36.1**	**+0.3**
KURBB	**Kurchatov Arra**	**43.91**	**318**	P	**P**	**14 18 36.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=107,slow=8.9,SNR=1.1						
WB0	**Warramunga Arr**	**45.62**	**168**	P	**P**	**14 18 50.5**	**+0.5**
WB0				IAmb	IAmb	14 18 50.7	
	comp=Z,14nm,1.6s						
WRA	**Warramunga Arr**	**45.78**	**169**	P	**P**	**14 18 52.0**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=351,slow=7.8,SNR=8.0						
WRA	**Warramunga Arr**	**45.78**	**169**	IAmb	IAmb	14 18 52.8	
	comp=Z,0.2nm,0.8s						
WR0	**Warramunga Arr**	**45.84**	**168**	P	**P**	**14 18 52.2**	**+0.5**
WR0				IAmb	IAmb	14 20 20.4	
	comp=Z,16nm,1.6s						
PSA00	**Pilbara Seismi**	**46.95**	**187**	P	**P**	**14 19 01.3**	**+0.9**
ASAR	**Alice Springs**	**49.35**	**170**	P	**P**	**14 19 19.9**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=355,slow=7.4,SNR=25						
ASAR				PcP	**PcP**	**14 20 42.2**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=347,slow=3.6,SNR=7.7						
ABKAR	**Akbulak array**	**55.55**	**314**	P	**P**	**14 20 04.7**	**0.0**
STKA	**Stephens Creek**	**58.89**	**164**	P	**P**	**14 20 28.6**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=335,slow=4.0,SNR=3.8						
IMAR	**Indian Mountai**	**63.37**	**27**	P	**P**	**14 20 58.8**	**+0.4**
ILAR	**Eielson Array**	**66.35**	**28**	P	**P**	**14 21 17.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=242,slow=4.3,SNR=6.4						
ARCES	**ARCESS Array B**	**69.98**	**338**	P	**P**	**14 21 40.0**	**-0.5**
	comp=Z,2.6nm,1.0s,baz=75,slow=10,SNR=2.0						
DLBC	**Dease Lake**	**75.90**	**32**	P	**P**	**14 22 15.3**	**-0.6**
YKA	**Yellowknife Ar**	**80.33**	**24**	P	**P**	**14 22 40.7**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=300,slow=4.8,SNR=2.3						

*IDC **11** 14:14:29.9±1.0,26°.47N×142°.41E,h0km,mb4.1/10, mb1 4.2/14,mb1mx3.9/49,mbtmp4.1/14,ML3.5/4,MS3.1/1, Ms1 3.1/1,ms1mx2.5/39,Error ellipse: s-maj=46.8km s-min=12.3km az=83.0*
*JMA **11** 14:14:32.3±0.1,26°.50N×142°.65E,h46km,M4.0*
*NEIC **11** 14:14:34.5±1.7,26°52.N±0°.08×142°.4E±0°.2,h33km±7km, mb4.7/16,Error ellipse: s-maj=25.7km s-min=11.3km az=83.0*

ISC 11 14:14:34.1±0.7,**26°55N**±0°.06×**142°57E**±0°.09,**h31**km,**n52,** σ1**°00/49,mb4.4**/16,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHH2	**Haha-jima-NKT2**	**0.36**	**284**	P		**Pb**	**14 14 42.6**	**+0.1**
JHH2				*e*S		**Sn**	**14 14 49.7**	**+0.4**
JCJ	**Chichijima**	**0.65**	**328**	Pn		**Pn**	**14 14 46.3**	**-0.8**
	476nm,0.3s,baz=101,slow=21,SNR=70							
JCJ				Sn		**Sb**	**14 14 56.7**	**+0.9**
	438nm,0.3s,baz=97,slow=23,SNR=7.9							
JCJ				LR		LR	14 15 07.6	
	comp=Z,446nm,18.8s,baz=106,slow=58							
JCJ	**Chichijima**	**0.65**	**328**			**Pn**	**14 14 46.1**	**-1.0**
CBIJ	**Chichi jima**	**0.65**	**328**	P		**Pn**	**14 14 46.2**	**-0.9**
CBIJ				*e*S		**Sb**	**14 14 57.0**	**+1.2**
JHJ2	**Mitsune**	**6.97**	**341**	Pn		**Pn**	**14 16 14.2**	**+0.2**
JHJ	**Hachijo jima 2**	**6.98**	**340**	Pn		**Pn**	**14 16 12.9**	**-1.3**
	2.2nm,0.3s,baz=6.6,slow=21,SNR=1.4							
JHJ				Sn		**Sn**	**14 17 31.1**	**-1.5**
	4.2nm,0.3s,baz=249,slow=21,SNR=1.5							
JHU	**Hanno**	**9.69**	**344**	P		**Pn**	**14 16 51.0**	**-0.4**
JYT	**Yasato**	**9.86**	**349**	P		**Pn**	**14 16 53.8**	**+0.1**
JAG	**Ashikaga**	**10.20**	**346**	P		**Pn**	**14 16 57.0**	**-1.3**
JAG				*e*S		**Sn**	**14 18 48.2**	**-3.5**
MJAR	**Matsushiro Arr**	**10.63**	**341**	Pn		**Pn**	**14 17 04.7**	**+0.4**
	0.2nm,0.3s,baz=161,slow=12,SNR=8.7							
MJAR	**Matsushiro Arr**	**10.63**	**341**			**Pn**	**14 17 03.6**	**-0.7**
MAJO	**Matsushiro**	**10.64**	**341**	Pn		**Pn**	**14 17 04.8**	**+0.5**
MJB9	**Matsu-Tunnel**	**10.64**	**341**	Pn		**Pn**	**14 17 04.7**	**+0.3**
JNU	**Nakatsue**	**12.07**	**306**	LR		LR	14 21 46.9	
	comp=Z,82nm,19.6s,baz=125,slow=36							
KSRS	**Korea Array**	**16.49**	**315**	Pn		**Pn**	**14 18 23.8**	**+0.8**
	0.2nm,0.3s,baz=120,slow=9.8,SNR=2.9							
JKA	**Kamikawa-asahi**	**17.53**	**0**	P		**P**	**14 18 37.7**	**+0.8**
ASAJ	**Asahikawa**	**17.53**	**0**	P		**P**	**14 18 37.7**	**+0.8**
	0.4nm,0.3s,baz=216,slow=2.3,SNR=3.5							
H11N2	**WAKE ISLAND Hy**	**23.36**	**102**	T		T	14 43 51.2	
	baz=292,slow=75,SNR=5.1							
H11N1	**WAKE ISLAND Hy**	**23.36**	**102**	T		T	14 43 55.6	
	baz=292,slow=75,SNR=5.8							
H11N3	**WAKE ISLAND Hy**	**23.37**	**102**	T		T	14 43 51.5	
	baz=292,slow=75,SNR=6.5							
H11S3	**WAKE ISLAND Hy**	**23.65**	**105**	T		T	14 44 08.1	
	baz=294,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**23.66**	**105**	T		T	14 44 03.9	
	baz=294,slow=75,SNR=14							
H11S2	**WAKE ISLAND Hy**	**23.67**	**105**	T		T	14 44 06.0	
	baz=294,slow=75,SNR=8.1							
KLR	**Kul'dur**	**24.15**	**343**	P		**P**	**14 19 49.4**	**+2.1**
	8.5nm,0.7s,baz=156,slow=8.6,SNR=18							
PEA0B	**Petropavlovsk-**	**28.84**	**19**	P		**P**	**14 20 29.4**	**-0.1**
PETK	**Petropavlovsk-**	**28.84**	**19**	P		**P**	**14 20 29.0**	**-0.5**
MTN	**Manton Dam**	**40.70**	**197**	P		**P**	**14 22 10.9**	**-1.1**
MTN				IAmb		IAmb	14 22 11.2	
	comp=Z,15nm,1.1s							
WB0	**Warramunga Arr**	**46.72**	**191**	P		**P**	**14 22 59.6**	**-0.7**
WB0				IAmb		IAmb	14 23 08.6	
	comp=Z,6.7nm,0.9s							
WR0	**Warramunga Arr**	**46.88**	**190**	P		**P**	**14 23 01.0**	**-0.5**
WRAB	**Tennant Creek**	**46.88**	**191**	P		**P**	**14 23 00.8**	**-0.8**
WRAB				IAmb		IAmb	14 23 11.7	
	comp=Z,7.7nm,0.8s							
WB2	**Warramunga Arr**	**46.89**	**191**	P		**P**	**14 23 01.1**	**-0.6**
WB2				IAmb		IAmb	14 23 10.5	
	comp=Z,9.6nm,0.8s							
WRA	**Warramunga Arr**	**46.90**	**191**	P		**P**	**14 23 01.2**	**-0.5**
	comp=Z,2.8nm,0.5s,baz=12,slow=8.6,SNR=30							
WRA	**Warramunga Arr**	**46.90**	**191**	P		**P**	**14 23 00.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**47.32**	**202**	P		**P**	**14 23 04.5**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=1.4,slow=8.9,SNR=3.8							
FITZ	**Fitzroy Crossi**	**47.32**	**202**	P		**P**	**14 23 04.1**	**-0.9**
RPSI	**Rantau Prapat**	**48.06**	**248**	P		**P**	**14 23 10.6**	**-0.4**
RPSI				IAmb		IAmb	14 24 24.7	
	comp=Z,14nm,1.3s							
ZALV	**Zalesovo Beam**	**50.13**	**319**	P		**P**	**14 23 26.3**	**+0.1**
ASAR	**Alice Springs**	**50.62**	**190**	P		**P**	**14 23 29.6**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=4.8,slow=5.4,SNR=7.5							
MKAR	**Makanchi Array**	**51.09**	**310**	P		**P**	**14 23 34.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=93,slow=7.3,SNR=4.3							
FORT	**Forrest**	**58.67**	**195**	P		**P**	**14 24 27.7**	**-0.8**
KKAR	**Karatay Array**	**59.68**	**306**	P		**P**	**14 24 35.5**	**-0.2**
INK	**Inuvik**	**63.38**	**24**	P		**P**	**14 25 01.4**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=247,slow=5.5,SNR=1.7							
INK	**Inuvik**	**63.38**	**24**	IAmb		IAmb	14 26 58.5	
	comp=Z,8.3nm,1.6s							
NWAO	**Narrogin (SRO)**	**63.87**	**204**	P		**P**	**14 25 03.7**	**0.0**
ARU	**Arti**	**65.07**	**322**	P		**P**	**14 25 11.6**	**+0.2**
ARU				IAmb		IAmb	14 25 12.2	
	comp=Z,5.7nm,0.6s							
ABKAR	**Akbulak array**	**65.72**	**315**	P		**P**	**14 25 15.0**	**-0.7**
ARCES	**ARCESS Array B**	**74.17**	**341**	P		**P**	**14 26 08.8**	**+1.6**
	comp=Z,2.7nm,0.7s,baz=78,slow=7.8,SNR=7.6							
ARE0	**ARCESS Array S**	**74.17**	**341**	P		**P**	**14 26 09.1**	**+1.8**
FIA1	**FINESS Array S**	**78.59**	**334**	P		**P**	**14 26 32.8**	**+0.4**
FINES	**FINESS Array B**	**78.59**	**334**	P		**P**	**14 26 32.9**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=72,slow=5.1,SNR=19							
KBZ	**Khabaz**	**78.63**	**313**	P		**P**	**14 26 33.1**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=177,slow=9.6,SNR=4.6							
NOA	**NORSAR Array B**	**84.25**	**338**	P		**P**	**14 27 01.9**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=43,slow=4.8,SNR=3.4							

IDC 11 14:16:06.2±2.0,**0°.44S**×**126°.86E,h0**km,**mb3.4**/3, **mb1 3.6**/3,**mb1mx3.3**/40,**mbtmp3.4**/3,**Error ellipse: s-maj=175.8km s-min=25.9km az=66.0,Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**20.72**	**160**	P		P	14 20 47.8	-0.6
	0.3nm,0.5s,baz=338,slow=12,SNR=2.7							
ASAR	**Alice Springs**	**24.08**	**164**	P		P	14 21 23.9	+0.4
	0.8nm,0.8s,baz=345,slow=11,SNR=6.1							
MKAR	**Makanchi Array**	**61.06**	**327**	P		P	14 26 21.8	-0.1
	0.4nm,0.3s,baz=122,slow=8.4,SNR=9.6							

*LDG **11** 14:24:29.2±0.1,44°.56N×6°.49E,h4km,Md1.3/2,Ml1.5/6, Error ellipse: s-maj=1.5km s-min=1.0km az=70.0*
STR 11 14:24:28.8±0.4,**45°N**±4°×°±,**h10**km±9km,**MLv1.0/4, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary,France**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OGAG	**Argentiere**	**0.10**	**140**	Pg		Pg	14 24 34.4	+2.9
OGAG				Sg		Sg	14 24 37.8	+4.4
MBDF	**Montbardon**	**0.30**	**49**	*e*Pg		Pg	14 24 34.8	-0.1
MBDF				*e*Sg		Sg	14 24 38.5	-0.5
	13nm,0.5s							
MBDF	**Montbardon**	**0.30**	**49**	*e*Pg		Pg	14 24 35.0	+0.1
MBDF				*e*Sg		Sg	14 24 38.5	-0.5
	4.0nm,0.2s							
ISO	**Isola**	**0.55**	**129**	Pg		Pg	14 24 39.5	0.0
ISO				Sg		Sg	14 24 46.6	-0.1
ORIF	**Oris-en-Rattie**	**0.57**	**314**	*e*Pg		Pg	14 24 39.9	+0.1
ORIF				*e*Sg		Sg	14 24 46.9	-0.4
	5.2nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.57**	**314**	*e*Pg		Pg	14 24 40.1	+0.3
ORIF				*e*Sg		Sg	14 24 47.9	+0.6
	4.7nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.57**	**314**	Pg		Pg	14 24 40.1	+0.3
ORIF				Sg		Sg	14 24 47.0	-0.3
GDM	**Grand'Maison**	**0.72**	**340**	Pg		Pg	14 24 42.9	+0.2
GDM				Sg		Sg	14 24 52.0	-0.1
SMRF	**Simiane la Rot**	**0.84**	**229**	*e*Pg		Pb	14 24 45.8	+0.4
SMRF				*e*Sg		Sb	14 24 57.3	+0.5
	1.1nm,0.3s							
SMRF	**Simiane la Rot**	**0.84**	**229**	*e*Pg		Pn	14 24 47.1	+0.4
SMRF				*e*Sg		Sn	14 24 58.8	-0.3
	0.8nm,0.2s							
CALF	**Calern**	**0.85**	**156**	Pg		Pn	14 24 46.8	0.0
SBF	**Sospel**	**0.97**	**133**	*e*Pg		Pg	14 24 47.2	-0.2
SBF				*e*Sg		Sb	14 25 00.6	+0.1
	2.3nm,0.3s							
SBF	**Sospel**	**0.97**	**133**	*e*Pg		Pn	14 24 48.2	-0.3
SBF				*e*Sg		Sb	14 25 00.6	+0.1
	0.8nm,0.2s							
FRF	**La Foret Royal**	**0.98**	**172**	*e*Pg		Pn	14 24 48.3	-0.2
FRF				*e*Sg		Sb	14 25 01.3	+0.6
	1.8nm,0.3s							
FRF	**La Foret Royal**	**0.98**	**172**	*e*Pg		Pn	14 24 49.0	+0.5
FRF				*e*Sg		Sn	14 25 02.1	-0.3
	1.0nm,0.2s							
LPG	**La Plagne**	**0.99**	**12**	*e*Pg		Pg	14 24 47.5	-0.4
LPG				*e*Sg		Sg	14 24 59.8	-1.0
	1.3nm,0.3s							
LPG	**La Plagne**	**0.99**	**12**	*e*Pg		Pg	14 24 48.0	+0.1
LPG				*e*Sg		Sg	14 25 00.4	-0.4
	1.9nm,0.3s							
LMR	**La Mourre**	**1.20**	**178**	*e*Pg		Pg	14 24 52.2	+0.5
LMR				*e*Sg		Sn	14 25 08.1	+0.4
	0.6nm,0.2s							
LMR	**La Mourre**	**1.20**	**178**	*e*Pg		Pg	14 24 53.3	+1.6
LMR				*e*Sg		Sn	14 25 09.1	+1.4
	0.9nm,0.2s							
VIVF	**Saint-Julien-l**	**1.31**	**285**	*e*Pg		Pg	14 24 54.0	0.0
VIVF				*e*Sg		Sg	14 25 11.3	+0.3
	1.6nm,0.4s							
VIVF	**Saint-Julien-l**	**1.31**	**285**	*e*Pg		Pg	14 24 55.2	+1.2
VIVF				*e*Sg		Sg	14 25 13.2	+2.2
	0.2nm,0.1s							

*IDC **11** 14:37:13.1±0.7,56°.39S×26°.82W,h91km±6km,mb4.2/13, mb1 4.3/15,mb1mx4.2/26,mbtmp4.6/15,MS3.7/1, Ms1 3.5/1,ms1mx2.9/20,Error ellipse: s-maj=15.9km s-min=13.6km az=101.0*
*NEIC **11** 14:37:14.7±1.1,56°.4S±0°.1×26°.9W±0°.2,h109km±5km, mb4.7/38,Error ellipse: s-maj=17.1km s-min=13.5km az=207.0*

ISC 11 14:37:13.8±0.4,**56°.43S**±0°.08×**26°.90W**±0°.07,**h101**km,**n84,** σ0°**.71/87,mb4.7**/19,**1C,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	**Hope Point**	**5.88**	**287**	Pn		**Pn**	**14 38 39.0**	**+0.6**
VNA1	**Neumayer--Stat**	**16.38**	**158**	P		**Pn**	**14 40 57.8**	**+0.5**
VNA3	**Neumayer Olymp**	**16.58**	**160**	P		**Pn**	**14 40 58.2**	**-1.6**
VNA2	**Neumayer--Watz**	**16.78**	**158**	P		**Pn**	**14 41 02.1**	**-0.1**
	baz=330,slow=12							
SNAA	**Sanae**	**18.33**	**156**	P		**P**	**14 41 19.0**	**-0.8**
SNAA	**Sanae**	**18.33**	**156**	P		**P**	**14 41 19.3**	**-0.6**
	1.5nm,0.3s,baz=299,slow=9.8,SNR=79							
SNAA	**Sanae**	**18.33**	**156**	P		**P**	**14 41 19.0**	**-0.8**
EFI	**East Falkland**	**18.80**	**271**	P		**P**	**14 41 24.9**	**-0.2**
PMSA	**Palmer Station**	**19.78**	**230**	P		**Pn**	**14 41 37.4**	**-0.6**
	2.5nm,0.3s,baz=62,slow=5.9,SNR=14							
PMSA	**Palmer Station**	**19.78**	**230**	P		**P**	**14 41 36.7**	**+1.2**
PMSA				IAmb		IAmb	14 41 41.5	
	comp=Z,36nm,0.8s							
SYO	**Syowa Base**	**31.19**	**140**	*e*P		**P**	**14 43 21.4**	**-1.4**
QSPA	**South Pole Qui**	**33.82**	**180**	P		**P**	**14 43 46.5**	**+0.5**
	comp=Z,17nm,0.6s,baz=207,slow=2.1,SNR=239							
QSPA	**South Pole Qui**	**33.82**	**180**	P		**P**	**14 43 46.2**	**+0.2**
CPUP	**Villa Florida**	**37.18**	**311**	P		**P**	**14 44 14.6**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=138,slow=8.8,SNR=4.0							
CPUP	**Villa Florida**	**37.18**	**311**	P		**P**	**14 44 14.9**	**-0.1**
CPUP				IAmb		IAmb	14 44 33.8	
	comp=Z,19nm,1.7s							
MT02	**Curacav**	**38.06**	**289**	P		**P**	**14 44 20.8**	**-1.5**
ZON	**Zonda**	**38.13**	**293**	P		**P**	**14 44 21.3**	**-1.7**
ROC1	**El Roble**	**38.22**	**289**	P		**P**	**14 44 23.6**	**-0.3**
CO02	**Combarbal**	**39.60**	**291**	P		**P**	**14 44 34.1**	**-1.2**
MAW	**Mawson**	**39.75**	**143**	P		**P**	**14 44 36.1**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=226,slow=7.2,SNR=7.1							
MAW	**Mawson**	**39.75**	**143**	P		**P**	**14 44 36.2**	**+0.3**
CO01	**Juntas del Tor**	**40.11**	**293**	P		**P**	**14 44 39.8**	**+0.1**
SUR	**Sutherland**	**40.59**	**74**	P		**P**	**14 44 44.4**	**+0.9**
	comp=Z,6.0nm,0.9s,baz=223,slow=11,SNR=2.4							
AC05	**El Transito**	**41.12**	**294**	P		**P**	**14 44 47.5**	**-0.5**
AC04	**Llanos de Chal**	**42.05**	**293**	P		**P**	**14 44 54.0**	**-1.2**
GO02	**Mina Guanaco**	**43.81**	**297**	P		**P**	**14 45 09.4**	**-0.4**
LVC	**Limon Verde**	**45.63**	**300**	P		**P**	**14 45 25.0**	**+0.6**
LVC				IAmb		IAmb	14 45 27.1	
	comp=Z,9.3nm,0.7s							
BOSA	**Boshof**	**45.91**	**75**	P		**P**	**14 45 25.8**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=210,slow=7.4,SNR=5.4							
BOSA				LR		LR	15 02 11.6	
	comp=Z,75nm,19.0s,baz=266,slow=33							
BOSA	**Boshof**	**45.91**	**75**	P		**P**	**14 45 26.0**	**-0.3**
BOSA				IAmb		IAmb	14 46 01.9	
	comp=Z,28nm,1.6s							
VNDA	**Vanda**	**46.20**	**183**	P		**P**	**14 45 28.9**	**+1.0**
	comp=Z,7.2nm,0.8s,baz=188,slow=5.7,SNR=38							
VNDA	**Vanda**	**46.20**	**183**	P		**P**	**14 45 28.4**	**+0.6**
VNDA				IAmb		IAmb	14 45 31.3	
	comp=Z,8.0nm,0.8s							
PB09	**IPOC Station P**	**46.48**	**300**	P		**P**	**14 45 31.5**	**+0.7**
PB07	**IPOC Station P**	**46.85**	**300**	P		**P**	**14 45 33.5**	**-0.3**
PB01	**IPOC Station P**	**47.24**	**301**	P		**P**	**14 45 37.0**	**+0.3**
PB01				IAmb		IAmb	14 45 37.8	
	comp=Z,11nm,0.7s							
PB08	**IPOC Station P**	**47.86**	**302**	P		**P**	**14 45 42.4**	**+0.6**
GO01	**Chusmiza**	**48.28**	**302**	P		**P**	**14 45 45.4**	**+0.2**
GO01				IAmb		IAmb	14 45 46.4	
	comp=Z,12nm,0.8s							
PB11	**IPOC Station P**	**48.42**	**301**	P		**P**	**14 45 45.9**	**0.0**
PB11				IAmb		IAmb	14 45 47.0	
	comp=Z,24nm,1.5s							
PSGCX	**Pisagua**	**48.78**	**301**	P		**P**	**14 45 48.3**	**-0.3**
MNMC	**Minye Minye**	**48.94**	**302**	P		**P**	**14 45 50.2**	**+0.3**
LBTB	**Lobatse**	**48.97**	**73**	P		**P**	**14 45 50.0**	**+0.1**
	comp=Z,5.8nm,0.7s,baz=207,slow=9.5,SNR=8.7							
LBTB	**Lobatse**	**48.97**	**73**	P		**P**	**14 45 49.9**	**-0.1**
LBTB				IAmb		IAmb	14 46 41.4	
	comp=Z,10nm,0.7s							
PB16	**IPOC Station P**	**49.58**	**302**	P		**P**	**14 45 55.1**	**-0.2**
PB16				IAmb		IAmb	14 47 49.1	
	comp=Z,23nm,1.9s							
PB12	**IPOC Station P**	**49.73**	**301**	P		**P**	**14 45 55.8**	**0.0**
TSUM	**Tsumeb**	**49.73**	**60**	P		**P**	**14 45 56.0**	**+0.2**
	comp=Z,4.6nm,0.7s,baz=206,slow=8.3,SNR=8.4							
TSUM	**Tsumeb**	**49.73**	**60**	P		**P**	**14 45 55.8**	**-0.1**
TSUM				IAmb		IAmb	14 45 57.1	
	comp=Z,5.4nm,0.8s							
LPAZ	**La Paz**	**50.73**	**305**	P		**P**	**14 46 04.6**	**+0.7**
	comp=Z,11nm,0.5s,baz=122,slow=5.0,SNR=48							
LPAZ	**La Paz**	**50.73**	**305**	P		**P**	**14 46 04.3**	**+0.4**
CASY	**Casey**	**53.50**	**160**	P		**P**	**14 46 23.2**	**+0.1**
SAML	**Samuel**	**55.18**	**315**	P		**P**	**14 46 35.6**	**-0.4**
LSZ	**Lusaka**	**58.36**	**68**	P		**P**	**14 46 58.4**	**-0.2**
LSZ				IAmb		IAmb	14 46 59.5	
	comp=Z,7.9nm,0.8s							
DBIC	**Dimbokro**	**65.44**	**24**	P		**P**	**14 47 44.8**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=194,slow=6.7,SNR=4.5							
DBIC	**Dimbokro**	**65.44**	**24**	P		**P**	**14 47 46.0**	**+0.3**
RUSC	**La Rusia**	**72.67**	**311**	P		**P**	**14 48 31.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**73.31**	**29**	P		**P**	**14 48 34.5**	**+0.4**
	comp=Z,5.2nm,0.7s,baz=200,slow=6.4							
TORD				pP		**pP**	**14 48 59.6**	**+0.7**
	comp=Z,3.4nm,0.6s,baz=202,slow=6.1,SNR=3.5							
MTO3	**Montecristo**	**87.51**	**301**	P		**P**	**14 49 49.8**	**-0.6**
STKA	**Stephens Creek**	**91.50**	**170**	P		**P**	**14 50 09.9**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=174,slow=11,SNR=7.4							
ASAR	**Alice Springs**	**98.58**	**162**	P		**P**	**14 50 40.4**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=180,slow=4.1,SNR=22							
WRA	**Warramunga Arr**	**102.30**	**162**	P		**Pdif**	**14 50 58.1**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=194,slow=4.2,SNR=5.6							
FINES	**FINESS Array B**	**124.64**	**28**	PKP		**PKPdf**	**14 56 00.1**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=228,slow=1.7,SNR=3.4							
ARCES	**ARCESS Array B**	**131.24**	**22**	PKP		**PKPdf**	**14 56 12.6**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=191,slow=0.9,SNR=5.4							
YKA	**Yellowknife Ar**	**136.56**	**318**	PKP		**PKPdf**	**14 56 22.4**	**0.0**
	comp=Z,1.2nm,0.6s,baz=127,slow=2.3,SNR=7.9							
LZH	**Lanzhou**	**141.38**	**101**	*e*PKP		**PKPdf**	**14 56 33.2**	**+0.9**
LZH				pPKP		pPKPdf	14 56 56.9	-2.2
LZH				sPKP			14 57 11.0	
LZH				LR		LR		
	comp=N,300nm,16.7s							
LZH				LR		LR		
	comp=E,260nm,17.3s							
LZH				LR		LR		
	comp=Z,360nm,20.1s							
GTA	**Gaotai**	**141.54**	**93**	*e*PKP		**PKiKP**	**14 56 36.0**	**+0.7**
INK	**Inuvik**	**146.20**	**320**	PKPdf		**PKPbc**	**14 56 40.4**	**-0.3**
EPYK	**Eagle Plains**	**146.81**	**316**	PKPdf		**PKPbc**	**14 56 42.4**

MPSI	**Mapaga**	**6.19**	**269**	P		**Pn**	**15 15 54.9**	**-1.2**
	0.1nm16nm,0.9s							
KCP	**Kidapawan**	**6.55**	**351**	⇓*e*P		**Pn**	**15 16 04.8**	**+3.6**
FAKI	**Fak Fak**	**7.03**	**119**	Pn		**Pn**	**15 16 09.6**	**+1.8**
BNSI	**Bone**	**7.70**	**231**	P		**Pn**	**15 16 18.4**	**+1.5**
	0.1nm16nm,0.9s							
SPSI	**Sidrap Palu**	**7.71**	**235**	P		**Pn**	**15 16 18.5**	**+1.5**
	0.1nm40nm,0.7s							
MYLDM	**Lahad Datu**	**8.89**	**302**			**Pn**	**15 16 34.0**	**+0.9**
EDFI	**Ende, Flores**	**10.17**	**205**	P		**Pn**	**15 16 51.5**	**+0.6**
	7.0nm,1.0s							
SOEI	**Soe**	**10.34**	**190**	Pn		**Pn**	**15 16 55.1**	**+1.9**
KKM	**Kota Kinabalu**	**11.29**	**299**	Pn		**Pn**	**15 17 07.9**	**+1.8**
MTN	**Manton Dam**	**14.17**	**159**	Pn		**Pn**	**15 17 45.3**	**-0.1**
KSM	**Kuching**	**15.80**	**274**	Pn		**Pn**	**15 18 08.5**	**+1.6**
KSM				IAmb		IAmb	15 18 12.7	
	comp=Z,30nm,0.9s							
KNRA	**Kununurra**	**16.29**	**171**	P		**P**	**15 18 15.5**	**+0.1**
KNRA				IAmb		IAmb	15 18 26.2	
	comp=Z,54nm,1.8s							
FITZ	**Fitzroy Crossi**	**18.48**	**181**	P		**P**	**15 18 38.7**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=9.1,slow=8.5,SNR=7.6							
FITZ	**Fitzroy Crossi**	**18.48**	**181**	P		**P**	**15 18 38.9**	**-0.8**
WB0	**Warramunga Arr**	**21.72**	**158**	P		**P**	**15 19 13.3**	**-1.6**
WB0				IAmb		IAmb	15 19 18.0	
	comp=Z,16nm,1.0s							
WRAB	**Tennant Creek**	**21.86**	**159**	P		**P**	**15 19 14.9**	**-1.5**
WRA	**Warramunga Arr**	**21.86**	**159**	P		**P**	**15 19 14.8**	**-1.6**
	comp=Z,8.1nm,0.8s,baz=340,slow=11,SNR=41							
WRA				PcP		**PcP**	**15 23 14.4**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=310,slow=2.0,SNR=1.9							
WRA	**Warramunga Arr**	**21.86**	**159**	P		**P**	**15 19 14.1**	**-2.3**
WB2	**Warramunga Arr**	**21.87**	**159**	P		**P**	**15 19 15.0**	**-1.5**
WB2				IAmb		IAmb	15 19 19.8	
	comp=Z,11nm,0.8s							
WR0	**Warramunga Arr**	**21.95**	**158**	P		**P**	**15 19 15.9**	**-1.5**
WR0				IAmb		IAmb	15 19 21.3	
	comp=Z,20nm,1.3s							
AS31	**Alice Springs**	**25.19**	**163**	P		**P**	**15 19 48.4**	**-0.5**
ASAR	**Alice Springs**	**25.19**	**163**	P		**P**	**15 19 48.9**	**0.0**
	comp=Z,3.1nm,0.5s,baz=343,slow=8.1,SNR=63							
ASAR				PcP		**PcP**	**15 23 22.1**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=353,slow=2.1,SNR=8.8							
ASAR	**Alice Springs**	**25.19**	**163**	P		**P**	**15 19 48.7**	**-0.2**
FORT	**Forrest**	**31.16**	**177**	P		**P**	**15 20 41.3**	**-0.8**
WHN	**Wuhan**	**31.90**	**341**	P		**P**	**15 20 44.3**	**-4.2**
BBOO	**Buckleboo**	**34.44**	**165**	P		**P**	**15 21 10.1**	**-0.6**
STKA	**Stephens Creek**	**35.39**	**157**	P		**P**	**15 21 18.6**	**-0.3**
	comp=Z,3.1nm,0.4s,baz=347,slow=7.8,SNR=19							
STKA				PcP		**PcP**	**15 23 48.0**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=351,slow=8.0,SNR=4.4							
STKA	**Stephens Creek**	**35.39**	**157**	P		**P**	**15 21 18.1**	**-0.9**
KSAR	**Wonju Array Be**	**36.80**	**2**	P		**P**	**15 21 29.6**	**-1.3**
KSRS	**Korea Array**	**36.82**	**2**	P		**P**	**15 21 29.0**	**-2.0**
	comp=Z,6.9nm,0.9s,baz=122,slow=36,SNR=6.0							
KS19	**Wonju Array Si**	**36.86**	**2**	P		**P**	**15 21 30.6**	**-0.8**
MJAR	**Matsushiro Arr**	**37.59**	**16**	P		**P**	**15 21 37.1**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=187,slow=10,SNR=2.4							
LZH	**Lanzhou**	**41.00**	**332**	*e*P		**P**	**15 22 06.1**	**-0.2**
LZH				pP		pwP	15 22 20.0	-0.8
LZH				sP		sP	15 22 30.5	+8.0
LZH				PP		**PnPn**	**15 23 51.7**	**+5.6**
LZH				pmax		pmax		
	comp=Z,16nm,1.0s							
LZH				pmax		pmax		
	comp=Z,80nm,5.4s							
LZH				LR		LR		
	comp=N,150nm,13.6s							
LZH				LR		LR		
	comp=E,250nm,14.6s							
LZH				LR		LR		
	comp=Z,260nm,16.2s							
HHC	**Hu-ho-hao-te**	**42.27**	**344**	*e*P		**P**	**15 22 13.6**	**-3.0**
HHC				pmax		pmax		
	comp=Z,16nm,0.9s							
HHC				pmax		pmax		
	comp=Z,290nm,4.9s							
USRK	**Ussuriysk Ar.**	**43.83**	**6**	P		**P**	**15 22 30.3**	**+1.3**
	comp=Z,1.9nm,0.6s,baz=191,slow=5.2,SNR=4.7							
SONM	**Songino Array**	**50.16**	**343**	P		**P**	**15 23 18.6**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=157,slow=9.3,SNR=4.8							
SONM	**Songino Array**	**50.16**	**343**	IAmb		IAmb	15 23 20.8	
	comp=Z,1.0nm,0.7s							
WMQ	**Urumqi**	**55.02**	**327**	*e*P		**P**	**15 23 55.5**	**+1.0**
PETK	**Petropavlovsk-**	**58.65**	**22**	P		**P**	**15 24 21.1**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=185,slow=5.4,SNR=7.8							
MK31	**Makanchi Array**	**59.86**	**327**	P		**P**	**15 24 26.4**	**-2.1**
MK31				IAmb		IAmb	15 24 31.3	
	comp=Z,2.9nm,0.8s							
MKAR	**Makanchi Array**	**59.86**	**327**	P		**P**	**15 24 26.8**	**-1.7**
	comp=Z,1.9nm,0.5s,baz=128,slow=8.6,SNR=20							
MKAR	**Makanchi Array**	**59.86**	**327**	P		**P**	**15 24 26.4**	**-2.1**
MAKZ	**Makanchi**	**60.04**	**327**	P		**P**	**15 24 28.9**	**-0.8**
ZALV	**Zalesovo Beam**	**63.18**	**334**	P		**P**	**15 24 49.6**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=121,slow=4.8,SNR=5.6							
ZALV	**Zalesovo Beam**	**63.18**	**334**	P		**P**	**15 24 49.2**	**-1.4**
KURK	**Kurchatov**	**64.13**	**329**	P		**P**	**15 24 55.2**	**-1.8**
KKAR	**Karatay Array**	**65.17**	**318**	P		**P**	**15 25 02.7**	**-1.3**
ABKAR	**Akbulak array**	**74.25**	**321**	P		**P**	**15 25 58.4**	**-1.3**
AKTO	**Aktyubinsk**	**75.79**	**322**	P		**P**	**15 26 09.6**	**+1.0**
	comp=Z,1.8nm,0.4s,baz=110,slow=6.7,SNR=9.1							
VNDA	**Vanda**	**80.32**	**173**	P		**P**	**15 26 33.1**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=312,slow=6.0,SNR=10							
BRTR	**Keskin Array B**	**91.57**	**310**	P		**P**	**15 27 31.6**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=64,slow=3.3,SNR=2.6							

*CNRM **11** 15:17:32.6±0.7,36°.71N×7°.27W,h51^{km}±49^{km},Error ellipse: s-maj=7.1km s-min=5.1km az=170.0*
*INMG **11** 15:17:32.5±1.1,36°.72N×7°.22W,h20^{km}±2^{km},MD2.8, ML2.7,Error ellipse: s-maj=2.5km s-min=1.6km az=49.0*
*IGIL **11** 15:17:32.6,36°.71N×7°.22W,h21^{km},ML3.1*
*MDD **11** 15:17:33.0±0.5,36°.80N×7°.17W,h23^{km}±2^{km},mbLg3.0/7, Error ellipse: s-maj=5.5km s-min=2.7km az=29.0,PRXIMO*
*SFS **11** 15:17:33.0,36°.80N×7°.20W,h40^{km},ML2.8,GOLFO DE CADIZ*

ISC 11 15:17:32.2±1.2,36°.80N±0°.03×7°.16W±0°.02,h35^{km},n95, σ1^{s}32/163,1C-8D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVAQ	**Vaqueiros**	**0.75**	**324**	Pg	**Pn**	**15 17 47.0**	**+0.7**
PVAQ				Lg	Lg	15 17 57.0	
	276nm,0.5s						
PVAQ	**Vaqueiros**	**0.75**	**324**	⇓*i*P	**Pn**	**15 17 47.0**	**+0.7**
PVAQ				*e*S	**Sn**	**15 17 57.0**	**+0.5**
PVAQ				A	A	15 17 57.5	
	276nm,0.5s						
PBDV	**Barranco-do-Ve**	**0.76**	**306**	Pg	**Pn**	**15 17 46.9**	**+0.4**
PBDV				Lg	Lg	15 17 56.8	
	134nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.76**	**306**	*e*P	**Pn**	**15 17 46.9**	**+0.4**
PBDV				*e*S	**Sn**	**15 17 56.8**	**0.0**
PBDV				A	A	15 17 58.6	
	134nm,0.2s						
EGRO	**El Granado**	**0.78**	**341**	⇓Pg	**Pn**	**15 17 47.6**	**+0.8**
	102nm,0.1s,SNR=18						
EGRO				Lg	Lg	15 17 58.1	
	182nm,0.1s						
EMIN	**Mina Concepcio**	**1.04**	**22**	⇓Pn	**Pn**	**15 17 51.0**	**+0.6**
	4.4nm,0.1s,SNR=18						
EMIN				Sn	**Sn**	**15 18 03.9**	**+0.2**
	47nm,0.1s,SNR=25						
EMIN				Lg	Lg	15 18 05.6	
	83nm,0.1s,SNR=7.9						
ESPR	**Espera**	**1.05**	**86**	⇓Pn	**Pn**	**15 17 51.3**	**+0.9**
	24nm,0.1s,SNR=18						
ESPR				Sn	**Sn**	**15 18 04.7**	**+0.9**
	455nm,0.2s,SNR=13						
PCVE	**Castro Verde**	**1.09**	**320**	Pn	**Pn**	**15 17 51.6**	**+0.6**
PCVE				Sn	**Sn**	**15 18 06.0**	**+1.2**
	65nm,0.3s						
PCVE	**Castro Verde**	**1.09**	**320**	*e*P	**Pn**	**15 17 51.6**	**+0.6**
PCVE				*e*S	**Sn**	**15 18 06.0**	**+1.2**
PCVE				A	A	15 18 10.0	
	65nm,0.3s						
MORF	**Marmelete**	**1.29**	**293**	*e*P	**Pn**	**15 17 54.0**	**+0.1**
MORF				*e*S	**Sn**	**15 18 09.4**	**-0.6**
MORF				AML	AML	15 18 11.0	
	comp=E,244nm,0.2s						
MORF	**Marmelete**	**1.29**	**293**	Pn	**Pn**	**15 17 54.0**	**+0.1**
MORF				Sn	**Sn**	**15 18 09.4**	**-0.6**
	comp=E,244nm,0.2s						
MORF	**Marmelete**	**1.29**	**293**	*e*P	**Pn**	**15 17 54.0**	**+0.1**
MORF				*e*S	**Sn**	**15 18 09.9**	**-0.1**
MORF				A	A	15 18 10.8	
	comp=E,184nm,0.1s						
PBEJ	**Beja**	**1.35**	**336**	Pn	**Pn**	**15 17 55.3**	**+0.7**
PBEJ				Sn	**Sn**	**15 18 12.1**	**+0.9**
	comp=E,31nm,0.4s						
PBEJ	**Beja**	**1.35**	**336**	*e*P	**Pn**	**15 17 55.3**	**+0.7**
PBEJ				*e*S	**Sn**	**15 18 12.1**	**+0.9**
PBEJ				A	A	15 18 17.2	
	comp=E,61nm,0.4s						
PFVI	**Vila Bisbo**	**1.37**	**285**	Pn	**Pn**	**15 17 55.0**	**+0.1**
	comp=E,9.8nm,0.1s,SNR=11						
PFVI				Sn	**Sn**	**15 18 10.9**	**-1.0**
	comp=E,142nm,0.1s,SNR=6.2						
PFVI	**Vila Bisbo**	**1.37**	**285**	P	**Pn**	**15 17 55.0**	**+0.1**
PFVI				S	**Sn**	**15 18 10.9**	**-1.0**
PFVI	**Vila Bisbo**	**1.37**	**285**	*e*P	**Pn**	**15 17 55.0**	**+0.1**
PFVI				*e*S	**Sn**	**15 18 11.2**	**-0.7**
PFVI				A	A	15 18 12.2	
	comp=E,86nm,0.1s						
PBAR	**Barrancos**	**1.38**	**4**	Pn	**Pn**	**15 17 56.0**	**+1.0**
PBAR				Sn	**Sn**	**15 18 14.3**	**+2.3**
	comp=E,117nm,0.1s						
PBAR	**Barrancos**	**1.38**	**4**	*e*P	**Pn**	**15 17 56.0**	**+1.0**
PBAR				*e*S	**Sn**	**15 18 14.3**	**+2.3**
PBAR				A	A	15 18 18.6	
	comp=E,117nm,0.1s						
EJIF	**Jimena Fronter**	**1.41**	**104**	Pn	**Pn**	**15 17 57.0**	**+1.7**
	comp=E,173nm,0.1s,SNR=7.9						
EJIF				Sn	**Sn**	**15 18 12.7**	**0.0**
	SNR=7.9						
EJIF				Lg	Lg	15 18 15.9	
	comp=E,535nm,0.0s,SNR=7.9						
PTEO	**Sao Teotonio**	**1.45**	**301**	Pn	**Pn**	**15 17 56.8**	**+0.8**
PTEO				Sn	**Sn**	**15 18 14.1**	**+0.3**
	comp=E,24nm,0.4s						
PTEO	**Sao Teotonio**	**1.45**	**301**	*e*P	**Pn**	**15 17 56.8**	**+0.8**
PTEO				*e*S	**Sn**	**15 18 14.1**	**+0.3**
PTEO				A	A	15 18 20.7	
	comp=E,48nm,0.4s						
ECEU	**Ceuta**	**1.70**	**121**	⇑Pn	**Pn**	**15 18 00.8**	**+1.4**
	comp=E,22nm,0.1s,SNR=18						
ECEU				Sn	**Sn**	**15 18 20.5**	**+0.6**
	comp=E,8.2nm,0.3s,SNR=5.0						
CEU	**Ceuta**	**1.70**	**121**	Pn	**Pn**	**15 18 01.3**	**+1.9**
CEU				Sn	**Sn**	**15 18 19.6**	**-0.3**
CEU	**Ceuta**	**1.70**	**121**	⇓*i*P	**Pn**	**15 18 01.3**	**+1.9**
CEU				*e*S	**Sn**	**15 18 19.6**	**-0.3**
PNCL	**Nicolau / Gran**	**1.70**	**321**	Pn	**Pn**	**15 18 00.2**	**+0.8**
PNCL				Sn	**Sn**	**15 18 20.9**	**+0.9**
	comp=E,42nm,0.2s						
PNCL	**Nicolau / Gran**	**1.70**	**321**	⇓*e*P	**Pn**	**15 18 00.2**	**+0.8**
PNCL				*e*S	**Sn**	**15 18 20.9**	**+0.9**
PNCL				A	A	15 18 31.2	
	comp=E,42nm,0.2s						
SMIR	**Smir Dam**	**1.82**	**127**	P	**Pn**	**15 18 02.2**	**+1.2**
SMIR				S	**Sn**	**15 18 23.7**	**+0.9**
HORN	**Hornachuelos**	**1.84**	**55**	P	**Pn**	**15 18 04.4**	**+3.0**
HORN				S	**Sn**	**15 18 28.0**	**+4.6**
EVO	**Evora**	**1.86**	**339**	Pn	**Pn**	**15 18 02.5**	**+0.9**
EVO				Lg	Lg	15 18 26.8	
EVO	**Evora**	**1.86**	**339**	⇓*i*P	**Pn**	**15 18 02.5**	**+0.9**
EVO				*e*S	**Sn**	**15 18 24.7**	**+0.9**
EVO	**Evora**	**1.86**	**339**	*e*P	**Pn**	**15 18 02.5**	**+0.9**
EVO				*e*S	**Sn**	**15 18 26.8**	**+3.0**
ECAB	**El Cabril**	**1.88**	**47**	Pn	**Pn**	**15 18 02.5**	**+0.5**
	comp=E,1.5nm,0.1s,SNR=19						
ECAB				Sn	**Sn**	**15 18 24.4**	**-0.1**
	comp=E,11nm,0.1s,SNR=16						
ECAB				Lg	Lg	15 18 30.0	
	comp=E,30nm,0.1s,SNR=5.0						
EMIJ	**Mijas**	**1.94**	**96**	Pn	**Pn**	**15 18 03.9**	**+1.3**
	comp=E,0.4nm,0.1s,SNR=5.6						
EMIJ				Sn	**Sn**	**15 18 26.3**	**+0.5**
	comp=E,3.6nm,0.2s,SNR=7.3						
EMAL	**Malaga-Limoner**	**2.19**	**90**	Sn	**Sn**	**15 18 32.9**	**+0.8**
EMAL	**Malaga-Limoner**	**2.19**	**90**	*e*S	**Sn**	**15 18 32.9**	**+0.8**
RSA	**Sarsar**	**2.20**	**150**	P	**Pn**	**15 18 06.4**	**+0.1**
CHEFC	**Chefchaouen**	**2.24**	**138**	P	**Pn**	**15 18 08.1**	**+1.2**
PMTG	**Montargil**	**2.42**	**340**	Pn	**Pn**	**15 18 10.1**	**+0.8**
PMTG				Sn	**Sn**	**15 18 38.5**	**+0.9**
PMTG				Lg	Lg	15 18 49.0	
	comp=E,37nm,0.3s						
PMTG	**Montargil**	**2.42**	**340**	*e*Pn	**Pn**	**15 18 10.1**	**+0.8**
PMTG				*e*Sn	**Sn**	**15 18 38.5**	**+0.9**
PMTG				*e*Sg		15 18 49.0	
PMTG				A	A	15 18 55.0	
	comp=E,37nm,0.3s						
EGOR	**Sierra Gorda,**	**2.46**	**82**	Pn	**Pn**	**15 18 11.4**	**+1.3**
	comp=E,0.3nm,0.1s,SNR=7.9						
EGOR				Sn	**Sn**	**15 18 40.2**	**+1.2**
	comp=E,11nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**2.47**	**56**	Pn	**Pn**	**15 18 11.2**	**+1.2**
	comp=E,0.8nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**15 18 37.8**	**-1.1**
	comp=E,0.1nm,0.1s,SNR=7.9						
EADA				Lg	Lg	15 18 47.7	
	comp=E,12nm,0.1s,SNR=7.5						
PMRV	**Marv??o**	**2.63**	**356**	Pn	**Pn**	**15 18 13.1**	**+0.9**
PMRV				Sn	**Sn**	**15 18 43.8**	**+0.9**
	comp=E,20nm,0.4s						
PMRV	**Marv??o**	**2.63**	**356**	⇓*e*P	**Pn**	**15 18 13.1**	**+0.9**
PMRV				*e*Sn	**Sn**	**15 18 43.8**	**+0.9**
PMRV				A	A	15 19 07.4	
	comp=E,20nm,0.4s						
PMAFR	**Mafra**	**2.73**	**323**	Pn	**Pn**	**15 18 14.8**	**+1.2**
	comp=E,19nm,0.1s,SNR=28						
PMAFR				Sn	**Sn**	**15 18 46.1**	**+0.7**
	comp=E,19nm,0.1s,SNR=6.1						
PMAFR	**Mafra**	**2.73**	**323**	*e*Pn	**Pn**	**15 18 14.8**	**+1.2**
PMAFR				*e*Sn	**Sn**	**15 18 45.1**	**-0.2**
PMAFR				A	A	15 18 47.7	
	comp=E,42nm,0.2s						
ELGU	**Los Guajares,**	**2.84**	**88**	Pn	**Pn**	**15 18 17.6**	**+2.5**
	comp=E,1.8nm,0.1s,SNR=7.9						
ELGU				Sn	**Sn**	**15 18 49.2**	**+1.1**
	comp=E,11nm,0.2s,SNR=7.9						
PSBE	**So Bento**	**3.00**	**335**	*e*Pn	**Pn**	**15 18 18.5**	**+1.2**
PSBE				*e*Sn	**Sn**	**15 18 52.1**	**0.0**
PSBE				A	A	15 19 09.6	
	comp=E,14nm,0.5s						
EQUE	**Quentar**	**3.01**	**81**	Sn	**Sn**	**15 18 52.0**	**-0.4**
	comp=E,1.8nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.05**	**355**	Pn	**Pn**	**15 18 18.9**	**+1.0**
PCBR				Sn	**Sn**	**15 18 53.1**	**0.0**
	comp=E,5.2nm,0.4s						
PCBR	**Castelo Branco**	**3.05**	**355**	*e*Pn	**Pn**	**15 18 18.9**	**+1.0**
PCBR				*e*Sn	**Sn**	**15 18 53.1**	**0.0**
PCBR				A	A	15 18 55.0	
	comp=E,10nm,0.4s						
PALE	**Palemas**	**3.05**	**120**	P	**Pn**	**15 18 17.7**	**-0.4**
GORA	**Gorafe**	**3.36**	**77**	Sn	**Sn**	**15 19 01.4**	**+0.3**
	comp=E,7.6nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**3.37**	**14**	Pn	**Pn**	**15 18 22.9**	**+0.5**
	comp=E,1.5nm,0.1s,SNR=14						
EPLA				Sn	**Sn**	**15 18 59.8**	**-1.3**
	comp=E,4.1nm,0.1s,SNR=6.9						
EPLA				Lg	Lg	15 19 15.3	
	comp=E,10.0nm,0.2s,SNR=5.0						
ZHG	**ZHG**	**3.37**	**173**	P	**Pn**	**15 18 22.3**	**-0.2**
EQES	**Quesada**	**3.41**	**72**	Pn	**Pn**	**15 18 23.7**	**+0.7**
	comp=E,2.5nm,0.1s,SNR=12						
EQES				Sn	**Sn**	**15 19 01.6**	**-0.8**
	comp=E,5.7nm,0.2s,SNR=6.2						
PCAS	**Casmilo, Conde**	**3.41**	**343**	Pn	**Pn**	**15 18 23.4**	**+0.4**
PCAS				Sn	**Sn**	**15 19 02.2**	**0.0**
	comp=E,5.3nm,0.3s						
PCAS	**Casmilo, Conde**	**3.41**	**343**	*e*Pn	**Pn**	**15 18 23.4**	**+0.4**
PCAS				*e*Sn	**Sn**	**15 19 02.2**	**0.0**
PCAS				A	A	15 19 03.9	
	comp=E,5.3nm,0.3s						
EBER	**Berja**	**3.43**	**87**	Pn	**Pn**	**15 18 25.1**	**+1.8**
	comp=E,0.2nm,0.1s,SNR=7.9						
EBER				Sn	**Sn**	**15 19 02.4**	**-0.5**
	comp=E,1.1nm,0.1s,SNR=7.9						
EALB	**Alboran**	**3.44**	**103**	Sn	**Sn**	**15 19 01.4**	**-1.4**
	comp=E,3.7nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**3.53**	**38**	Pn	**Pn**	**15 18 25.4**	**+0.8**
	comp=E,0.8nm,0.1s,SNR=7.9						
PAB				Sn	**Sn**	**15 19 02.2**	**-2.9**
	comp=E,2.4nm,0.1s,SNR=7.9						
PAB				Lg	Lg	15 19 20.2	
	comp=E,10.0nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**3.61**	**355**	Pn	**Pn**	**15 18 26.4**	**+0.7**
MTE				Sn	**Sn**	**15 19 07.3**	**+0.2**
	comp=E,8.9nm,0.4s						
MTE	**Manteigas**	**3.61**	**355**	*e*Pn	**Pn**	**15 18 26.4**	**+0.7**
MTE				*e*Sn	**Sn**	**15 19 07.3**	**+0.2**
MTE				A	A	15 19 33.4	
	comp=E,18nm,0.4s						
ESDC	**Sonseca Array**	**3.82**	**40**	Pn	**Pn**	**15 18 29.6**	**+1.0**
	comp=E,0.4nm,0.1s,SNR=7.9						
ESDC				Sn	**Sn**	**15 19 09.1**	**-3.1**
	comp=E,1.5nm,0.1s,SNR=7.9						
ESDC				Lg	Lg	15 19 27.2	
	comp=E,4.5nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**3.90**	**69**	Pn	**Pn**	**15 18 30.6**	**+0.8**
	comp=E,1.6nm,0.1s,SNR=7.9						
SESP				Sn	**Sn**	**15 19 12.3**	**-2.2**
	comp=E,4.7nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**3.90**	**69**	P	**Pn**	**15 18 30.2**	**+0.4**
PVIS	**Viseu**	**3.95**	**352**	Pn	**Pn**	**15 18 31.1**	**+0.7**
PVIS				Sn	**Sn**	**15 19 15.0**	**-0.6**
	comp=E,2.7nm,0.1s						
PVIS	**Viseu**	**3.95**	**352**	*e*Pn	**Pn**	**15 18 31.1**	**+0.7**
PVIS				*e*Sn	**Sn**	**15 19 15.0**	**-0.6**
PVIS				A	A	15 19 17.8	
	comp=E,5.4nm,0.1s						
CZD	**Col de Zad**	**4.14**	**155**	P	**Pn**	**15 18 33.3**	**0.0**
MVO	**Moncorvo**	**4.36**	**1**	Pn	**Pn**	**15 18 36.6**	**+0.6**
	comp=E,6.5nm,0.1s,SNR=19						
MVO				Sn	**Sn**	**15 19 23.3**	**-2.3**
	comp=E,6.8nm,0.1s,SNR=7.7						
MVO	**Moncorvo**	**4.36**	**1**	*e*Pn	**Pn**	**15 18 36.7**	**+0.6**
MVO				*e*Sn	**Sn**	**15 19 24.6**	**-1.0**
MVO				A	A	15 19 25.7	
	comp=E,11nm,0.2s						
MD31	**MD31**	**4.39**	**153**	P	**Pn**	**15 18 36.0**	**-0.5**
JBK	**JBK**	**4.48**	**122**	P	**Pn**	**15 18 37.8**	**-0.1**
PVRL	**Vila Real**	**4.49**	**355**	Sn	**Sn**	**15 19 27.9**	**-0.9**
PVRL	**Vila Real**	**4.49**	**355**	*e*Sn	**Sn**	**15 19 27.9**	**-0.9**
MDT	**Midelt**	**4.50**	**151**	P	**Pn**	**15 18 37.4**	**-0.5**
GUD	**Guadarrama**	**4.50**	**31**	Pn	**Pn**	**15 18 39.0**	**+0.9**
	comp=E,0.5nm,0.1s,SNR=6.8						
GUD				Sn	**Sn**	**15 19 26.2**	**-3.1**
	comp=E,1.2nm,0.1s,SNR=7.1						
GUD				Lg	Lg	15 19 49.8	
	comp=E,6.5nm,0.3s,SNR=5.0						
ETOB	**Tobarra**	**4.82**	**66**	Pn	**Pn**	**15 18 42.3**	**0.0**
	comp=E,1.1nm,0.1s,SNR=21						
ETOB				Sn	**Sn**	**15 19 33.6**	**-3.3**
	comp=E,4.6nm,0.1s,SNR=9.6						
EMUR	**La Murta**	**4.83**	**76**	Sn	**Sn**	**15 19 35.3**	**-1.9**
	comp=E,0.5nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**4.95**	**352**	Sn	**Sn**	**15 19 38.6**	**-1.5**
PCAB	**Cabril**	**4.95**	**352**	*e*Sn	**Sn**	**15 19 38.6**	**-1.5**
PBRG	**Braganca**	**5.01**	**4**	Pn	**Pn**	**15 18 45.7**	**+0.8**
PBRG				Sn	**Sn**	**15 19 40.5**	**-1.1**
	comp=E,2.9nm,0.4s						
PBRG	**Braganca**	**5.01**	**4**	*e*Pn	**Pn**	**15 18 45.7**	**+0.8**
PBRG				*e*Sn	**Sn**	**15 19 40.5**	**-1.1**
PBRG				A	A	15 20 16.5	
	comp=E,5.8nm,0.4s						
ELOB	**Lobios**	**5.11**	**352**	Pn	**Pn**	**15 18 46.9**	**+0.5**
	comp=E,1.7nm,0.1s,SNR=7.5						
ELOB				Sn	**Sn**	**15 19 41.5**	**-2.6**
	comp=E,1.1nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.15**	**4**	Pn	**Pn**	**15 18 47.5**	**+0.6**
	comp=E,1.4nm,0.1s,SNR=8.0						
ECAL				Sn	**Sn**	**15 19 43.2**	**-1.9**
	comp=E,3.5nm,0.2s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.23**	**351**	Pn	**Pn**	**15 18 48.6**	**+0.6**
PGAV				Sn	**Sn**	**15 19 45.8**	**-1.3**
	comp=E,5.2nm,0.8s						
PGAV	**Gavieira, Arco**	**5.23**	**351**	*e*Pn	**Pn**	**15 18 48.6**	**+0.6**
PGAV				*e*Sn	**Sn**	**15 19 45.8**	**-1.3**
PGAV				A	A	15 20 31.3	
	comp=E,5.2nm,0.8s						
EZAM	**Zamans**	**5.47**	**348**	Pn	**Pn**	**15 18 52.0**	**+0.7**
	comp=E,1.3nm,0.1s

DRO	**Drossia**	**1.45**	**62**	P	**Pn**	**15 23 15.1**	**+0.6**
DRO				S	**Sn**	**15 23 35.9**	**+2.0**
	comp=E,1μm,0.6s						
DRO	**Drossia**	**1.45**	**62**	P	**Pn**	**15 23 14.6**	**+0.1**
DRO				S	**Sg**	**15 23 32.9**	**-1.0**
DRO				AML	AML	15 23 49.3	
	comp=N,1756μm,0.5s						
DRO				AML	AML	15 23 49.8	
	comp=E,1053μm,0.7s						
ITM	**Ithomi**	**1.47**	**94**	P	**Pn**	**15 23 15.5**	**+0.8**
ITM				S	**Sn**	**15 23 36.8**	**+2.3**
	comp=E,835nm,2.2s						
ITM	**Ithomi**	**1.47**	**94**	P	**Pn**	**15 23 15.1**	**+0.3**
ITM				AML	AML	15 23 47.6	
	comp=N,1286μm,0.6s						
ITM				AML	AML	15 23 54.8	
	comp=E,1284μm,0.8s						
ITM	**Ithomi**	**1.47**	**94**	*e*P	**Pg**	**15 23 16.5**	**+0.9**
MGNA	**Meganis**	**1.48**	**22**	P	**Pn**	**15 23 14.9**	**+0.1**
LKD2	**Lefkada island**	**1.57**	**16**	P	**Pn**	**15 23 17.2**	**+1.1**
LKD2				S	**Sb**	**15 23 39.4**	**+2.2**
	comp=E,1μm,1.1s						
LKD2	**Lefkada island**	**1.57**	**16**	P	**Pn**	**15 23 16.9**	**+0.8**
LKD2				S	**Sn**	**15 23 38.3**	**+1.4**
LKD2				AML	AML	15 23 46.7	
	comp=E,1916μm,0.6s						
LKD2				AML	AML	15 23 49.2	
	comp=N,3102μm,0.7s						
PVO	**Paravola**	**1.75**	**40**	P	**Pn**	**15 23 20.2**	**+1.7**
PVO	**Paravola**	**1.75**	**40**	P	**Pn**	**15 23 20.0**	**+1.5**
PVO				S	**Sn**	**15 23 41.8**	**+0.6**
PVO				AML	AML	15 23 54.0	
	comp=E,2887μm,0.9s						
PVO				AML	AML	15 23 54.7	
	comp=N,2108μm,0.7s						
TRIP	**Tripoli**	**1.75**	**81**	P	**Pn**	**15 23 20.2**	**+1.5**
TRIP	**Tripoli**	**1.75**	**81**	P	**Pn**	**15 23 20.3**	**+1.6**
TRIP				AML	AML	15 23 57.7	
	comp=N,1052μm,0.9s						
TRIP				AML	AML	15 24 06.7	
	comp=E,947μm,0.9s						
KLV	**Kalavryta, Ach**	**1.80**	**65**	P	**Pn**	**15 23 20.1**	**+0.7**
EFP	**Efpalio**	**1.83**	**51**	P	**Pn**	**15 23 21.3**	**+1.6**
TRIZ	**Trizonia**	**1.91**	**55**	P	**Pn**	**15 23 22.2**	**+1.5**
SERG	**Sergoula**	**1.92**	**54**	P	**Pn**	**15 23 22.4**	**+1.4**
ANX	**Ano Chora**	**1.95**	**47**	P	**Pn**	**15 23 23.0**	**+1.6**
DSF	**Desfina**	**2.23**	**59**	P	**Pn**	**15 23 27.0**	**+1.7**
IGT	**Igoumenitsa**	**2.25**	**5**	P	**Pn**	**15 23 26.8**	**+1.3**
LTK	**Loutraki**	**2.40**	**71**	P	**Pn**	**15 23 28.1**	**+0.6**
KEK	**Kerkira**	**2.43**	**355**	P	**Pn**	**15 23 29.3**	**+1.3**
KEK				S	**Sn**	**15 24 01.5**	**+3.3**
	comp=E,610nm,1.2s						
AGG	**Agios Georgios**	**2.48**	**45**	P	**Pn**	**15 23 29.8**	**+1.2**
AGG	**Agios Georgios**	**2.48**	**45**	*e*P	**Pn**	**15 23 28.3**	**-0.3**
DID	**Didima**	**2.52**	**84**	P	**Pn**	**15 23 29.6**	**+0.5**
KTHA	**Kythira Island**	**2.60**	**112**	*e*P	**Pn**	**15 23 32.5**	**+2.2**
THL	**Klokotos Trika**	**2.73**	**33**	P	**Pn**	**15 23 33.5**	**+1.4**
TIP	**Timpagrande**	**3.23**	**307**	⇓P	**Pn**	**15 23 41.3**	**+2.3**
RODP	**Rodopos**	**3.42**	**119**	*e*P	**Pn**	**15 23 44.2**	**+2.6**
AOS	**Alonnisos**	**3.53**	**57**	*e*P	**Pn**	**15 23 43.8**	**+0.8**
KNDR	**Palaiochora Ch**	**3.56**	**124**	P	**Pn**	**15 23 45.3**	**+1.9**
IMMV	**Iera Moni Meta**	**3.63**	**119**	*e*P	**Pn**	**15 23 47.2**	**+2.8**
OHR	**Ohrid**	**3.86**	**8**	*i* Pn	**Pg**	**15 24 00.2**	**-1.1**
GVDS	**Gavdos**	**4.05**	**126**	*e*P	**Pn**	**15 23 52.7**	**+2.4**
HORT	**Hortiatis**	**4.05**	**34**	*e*P	**Pn**	**15 23 49.8**	**-0.5**
GVD	**Gavdhos**	**4.06**	**126**	*e*P	**Pn**	**15 23 52.9**	**+2.6**
MATE	**Matera**	**4.27**	**323**	⇑P	**Pn**	**15 23 54.6**	**+1.4**
OUR	**Ouranopolis**	**4.30**	**44**	*e*P	**Pn**	**15 23 54.0**	**+0.4**
APE	**Apeiranthos**	**4.35**	**91**	⇑P	**Pn**	**15 23 58.9**	**+4.5**
APE	**Apeiranthos**	**4.35**	**91**	*e*P	**Pn**	**15 23 57.3**	**+2.9**
IDI	**Anoyia**	**4.36**	**116**	Pn	**Pn**	**15 23 56.2**	**+1.7**
	comp=E,0.5nm,0.3s,baz=72,slow=2.0,SNR=2.0						
IDI				Sn	**Sn**	**15 24 43.9**	**-1.9**
	comp=E,1.1nm,0.3s,baz=90,slow=21,SNR=2.2						
IDI	**Anoyia**	**4.36**	**116**	⇑P	**Pb**	**15 24 02.4**	**-2.3**
IDI	**Anoyia**	**4.36**	**116**	*e*P	**Pn**	**15 23 57.8**	**+3.3**
SANT	**Santorini**	**4.40**	**100**	P	**Pn**	**15 23 58.4**	**+3.3**
VAY	**Valandovo**	**4.46**	**25**	*i* Pn	**Pn**	**15 23 55.6**	**-0.2**
STIP	**Stip**	**4.69**	**20**	*i* Pn	**Pn**	**15 24 01.2**	**+2.2**
CHOS	**Chios island**	**4.85**	**75**	*e*P	**Pn**	**15 24 04.1**	**+2.9**
KKB	**Krupnik**	**5.13**	**26**	*e*P	**Pn**	**15 24 06.0**	**+1.0**
MMB	**Musomiste**	**5.14**	**32**	*e*P	**Pn**	**15 24 05.7**	**+0.5**
PDG	**Podgorica**	**5.18**	**353**	⇑P	**Pn**	**15 24 05.9**	**+0.3**
VTS	**Vitosha**	**5.85**	**23**	⇑P	**Pn**	**15 24 15.2**	**+0.1**
VTS	**Vitosha**	**5.85**	**23**	*e*P	**Pn**	**15 24 15.7**	**+0.7**
MDVR	**Moldovita**	**7.59**	**9**	⇑P	**Pn**	**15 24 39.5**	**+0.6**
HERR	**Herculane**	**7.79**	**12**	⇑P	**Pn**	**15 24 41.1**	**-0.4**
BZS	**Buzias**	**8.40**	**7**	⇓P	**Pn**	**15 24 49.7**	**-0.2**
KEST	**Kesra**	**8.79**	**263**	LR	LR	15 28 32.9	
	comp=E,67nm,21.4s,baz=262,slow=40						
VOIR		**8.95**	**23**	⇓P	**Pn**	**15 24 58.4**	**+0.8**
ICOR	**Ion Corvin**	**8.99**	**38**	⇓P	**Pn**	**15 24 59.0**	**+1.0**
MLR	**Muntele Rosu**	**9.30**	**26**	Pn	**Pn**	**15 25 04.4**	**+2.0**
	comp=E,0.3nm,0.3s,baz=209,slow=1.9,SNR=5.3						
MLR	**Muntele Rosu**	**9.30**	**26**	⇑P	**Pn**	**15 25 03.4**	**+1.0**
HARR	**Harsova**	**9.47**	**36**	⇑P	**Pn**	**15 25 05.0**	**+0.4**
PLOR	**Plostina**	**9.87**	**28**	⇓P	**Pn**	**15 25 10.1**	**0.0**
VRI	**Vrincioaia**	**9.91**	**28**	⇓P	**Pn**	**15 25 11.3**	**+0.7**
BURAR	**Bucovina Array**	**10.99**	**18**	⇓P	**Pn**	**15 25 26.4**	**+0.9**
VYHS	**Vyhne**	**11.24**	**356**	*e*PN	**Pn**	**15 25 28.5**	**-0.3**
VYHS				*e*SN	Sn	15 27 22.0	-13
DAVOX	**Davos/Dischmat**	**12.14**	**325**	Pn	**Pn**	**15 25 44.1**	**+2.8**
	comp=E,0.2nm,0.3s,baz=155,slow=18,SNR=5.0						
DAVOX				Sn	**Sn**	**15 27 51.1**	**-6.0**
	comp=E,0.4nm,0.3s,baz=157,slow=20,SNR=1.9						
GERES	**GERESS Array B**	**12.45**	**340**	Pn	**Pn**	**15 25 45.1**	**-0.4**
	comp=E,0.1nm,0.3s,baz=157,slow=13,SNR=2.1						
GERES				Sn	Sn	15 27 56.2	-8.5
	comp=E,0.2nm,0.3s,baz=154,slow=25,SNR=6.2						
KHC	**Kasperske Hory**	**12.75**	**340**	*e*P	**Pn**	**15 25 47.5**	**-2.0**
EIL	**Elat**	**14.53**	**117**	Pn	**Pn**	**15 26 13.4**	**-0.5**
	comp=E,0.4nm,0.3s,baz=219,slow=6.5,SNR=1.9						
NB2	**NORSAR Subarra**	**24.43**	**350**	P	**P**	**15 28 13.2**	**+6.3**
	comp=Z,6.8nm,1.4s,baz=158,slow=9.3						
NOA	**NORSAR Array B**	**24.43**	**350**	P	**P**	**15 28 05.9**	**-1.1**
	comp=Z,1.9nm,1.1s,baz=108,slow=20,SNR=1.8						
FINES	**FINESS Array B**	**24.47**	**7**	P	**P**	**15 28 06.2**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=169,slow=9.8,SNR=1.0						
ARCES	**ARCESS Array B**	**32.44**	**4**	P	**P**	**15 29 18.7**	**+0.4**
	comp=Z,3.1nm,1.0s,baz=12,slow=19,SNR=3.8						
MKAR	**Makanchi Array**	**46.06**	**58**	P	**P**	**15 31 10.5**	**-1.8**
	comp=Z,0.1nm,0.5s,baz=289,slow=6.0,SNR=1.9						
ZALV	**Zalesovo Beam**	**46.54**	**47**	P	**P**	**15 31 14.5**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=286,slow=5.8,SNR=2.4						

*IDC **11** 15:27:02.3±3.2, 10.°02N×125.°86E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/36, mbtmp3.4/3, Error ellipse: s-maj=251.1km s-min=27.4km az=65.0*
*MAN **11** 15:27:06.5, 10.°04N×126.°12E, h1km, MS3.3*
ISC 11 15:27:09.7±1.4, 10.°11N±0.°07×126.°13E±0.°09, h54km, n19, σ2.°95/20, mb3.5/3, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**1.25**	**271**	*e*P	**Pn**	**15 27 30.0**	**-0.9**
MSLP				*e*S	**Sn**	**15 27 49.0**	**+2.3**
OCLP	**Ormoc**	**1.77**	**302**	*e*P	**Pn**	**15 27 39.0**	**+1.1**
LLP	**Lapu-Lapu**	**2.14**	**276**	*e*P	**Pn**	**15 27 44.5**	**+1.5**
LLP				*e*S	**Sn**	**15 28 13.0**	**+4.6**
TBP	**Tagbilaran**	**2.27**	**260**	⇓*i*P	**Pn**	**15 27 46.6**	**+1.8**
BUKP	**Musuan**	**2.45**	**206**	*e*P	**Pn**	**15 27 47.8**	**+0.4**
BUKP				*e*S	**Sn**	**15 28 19.2**	**+3.1**
KCP	**Kidapawan**	**3.25**	**199**	⇓*i*P	**Pn**	**15 28 01.0**	**+2.8**
KCP				*i* S	**Sn**	**15 28 40.0**	**+4.3**
CNOP	**Candoni, Negro**	**3.45**	**266**	*e*P	**Pn**	**15 28 01.4**	**+0.5**
CNOP				*e*S	**Sn**	**15 28 39.6**	**-1.0**
GUIM	**Jordan**	**3.52**	**279**	*e*P	**Pn**	**15 28 00.3**	**-1.6**
PAGZ	**Pagadian**	**3.52**	**231**	*e*P	**Pn**	**15 28 02.7**	**+0.8**
PAGZ				*e*S	**Sn**	**15 28 34.9**	**-7.5**
DDMP	**Don Marcelino,**	**4.00**	**186**	*e*P	**Pn**	**15 28 09.5**	**+1.0**
DDMP				*e*S	**Sn**	**15 28 50.2**	**-3.9**
WRA	**Warramunga Arr**	**30.93**	**165**	P	**P**	**15 33 21.4**	**-0.3**
	0.1nm,0.4s,baz=344,slow=9.2,SNR=1.3						
ASAR	**Alice Springs**	**34.42**	**167**	P	**P**	**15 33 51.1**	**-0.9**
	0.3nm,0.4s,baz=352,slow=6.8,SNR=18						
H11S3	**WAKE ISLAND Hy 40.10**	**73**		T	T	16 17 36.3	
	baz=261,slow=74,SNR=8.1						
H11S1	**WAKE ISLAND Hy 40.11**	**73**		T	T	16 17 36.0	
	baz=261,slow=74,SNR=4.6						
H11S2	**WAKE ISLAND Hy 40.12**	**73**		T	T	16 17 37.7	
	baz=261,slow=74,SNR=4.0						
H11N1	**WAKE ISLAND Hy 40.44**	**72**		T	T	16 18 03.6	
	baz=263,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy 40.44**	**71**		T	T	16 18 03.2	
	baz=263,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy 40.45**	**72**		T	T	16 18 02.5	
	baz=263,slow=75,SNR=15						
MKAR	**Makanchi Array**	**52.07**	**323**	P	**P**	**15 36 13.4**	**-0.8**
	0.5nm,0.8s,baz=120,slow=8.5,SNR=5.6						

*IDC **11** 15:39:16.0±3.2, 26.°44N×142.°49E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/32, mbtmp3.7/3, Error ellipse: s-maj=173.4km s-min=15.6km az=78.0*
*NEIC **11** 15:39:18.7±1.8, 26.°39N±0.°08×142.°5E±0.°2, h20km±6km, mb4.5/7, Error ellipse: s-maj=20.5km s-min=10.7km az=72.0*
ISC 11 15:39:20.2±0.9, 26.°41N±0.°09×142.°5E±0.°2, h31km, n15, σ1.°14/13, mb4.0/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**0.72**	**341**	Pn	**Pn**	**15 39 33.0**	**-1.3**
	69nm,0.3s,baz=259,slow=23,SNR=22						
JCJ				Sn	**Sn**	**15 39 46.3**	**+2.0**
	117nm,0.3s,baz=89,slow=23,SNR=7.7						
JCJ	**Chichijima**	**0.72**	**341**	Pg	**Pn**	**15 39 32.7**	**-1.6**
TATO	**Taipei**	**18.95**	**270**		**Pn**	**15 43 40.1**	**+0.4**
H11S3	**WAKE ISLAND Hy 23.72**	**104**		T	T	16 08 53.4	
	baz=294,slow=74,SNR=7.4						
H11S1	**WAKE ISLAND Hy 23.72**	**104**		T	T	16 08 56.2	
	baz=294,slow=74,SNR=5.6						
H11S2	**WAKE ISLAND Hy 23.73**	**104**		T	T	16 08 55.0	
	baz=294,slow=74,SNR=6.8						
AMKA	**Amchitka**	**37.39**	**38**	P	**P**	**15 46 30.4**	**+0.3**
WB2	**Warramunga Arr**	**46.74**	**190**	P	**P**	**15 47 47.8**	**+1.1**
WB2				IAmb	IAmb	15 48 06.2	
	comp=Z,17nm,1.6s						
WRA	**Warramunga Arr**	**46.74**	**191**	P	**P**	**15 47 47.8**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=11,slow=8.6,SNR=7.1						
LHMI	**Lhok Sumawe**	**48.24**	**252**	P	**P**	**15 47 57.6**	**-0.9**
AS31	**Alice Springs**	**50.46**	**190**	P	**P**	**15 48 15.1**	**-0.2**
AS31				IAmb	IAmb	15 48 55.3	
	comp=Z,1.2nm,1.2s						
ASAR	**Alice Springs**	**50.47**	**190**	P	**P**	**15 48 15.3**	**0.0**
	comp=Z,0.4nm,1.0s,baz=8.5,slow=6.9,SNR=1.8						
WRH	**Wood River Hil**	**57.65**	**29**	P	**P**	**15 49 07.3**	**0.0**
WRH				IAmb	IAmb	15 50 15.9	
	comp=Z,8.5nm,1.2s						
TOLK	**Toolik Lake Re**	**57.67**	**24**	P	**P**	**15 49 06.7**	**-0.7**
FINES	**FINESS Array B**	**78.66**	**334**	P	**P**	**15 51 19.8**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=64,slow=6.3,SNR=3.8						

*IDC **11** 15:59:42.0±2.0, 26.°47N×142.°32E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/44, mbtmp3.7/5, MS3.1/2, Ms1 3.1/2, ms1mx2.4/49, Error ellipse: s-maj=110.8km s-min=13.7km az=85.0*
*NEIC **11** 15:59:46.1±1.0, 26.°4N±0.°1×142.°4E±0.°5, h30km±10km, mb4.7/8, Error ellipse: s-maj=61.1km s-min=8.8km az=77.0*
ISC 11 15:59:46.4±2.0, 26.°48N±0.°10×142.°3E±0.°6, h31km, n24, σ0.°64/17, mb4.2/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**0.63**	**348**	Pn	**Pb**	**15 59 58.4**	**-0.7**
	207nm,0.3s,baz=269,slow=21,SNR=46						
JCJ				Sn	**Sn**	**16 00 08.4**	**+0.1**
	171nm,0.3s,baz=284,slow=23,SNR=6.5						
JCJ	**Chichijima**	**0.63**	**348**		**Pb**	**15 59 58.2**	**-0.9**
KSRS	**Korea Array**	**16.39**	**315**	LR	LR	16 09 18.1	
	comp=Z,26nm,20.3s,baz=205,slow=35						
H11N2	**WAKE ISLAND Hy 23.55**	**101**		T	T	16 29 11.2	
	baz=292,slow=75,SNR=3.7						
H11N1	**WAKE ISLAND Hy 23.55**	**101**		T	T	16 28 59.9	
	baz=292,slow=75,SNR=4.3						
H11N3	**WAKE ISLAND Hy 23.56**	**101**		T	T	16 29 01.2	
	baz=292,slow=75,SNR=3.9						
H11S3	**WAKE ISLAND Hy 23.83**	**104**		T	T	16 29 15.8	
	baz=294,slow=75,SNR=8.7						
H11S1	**WAKE ISLAND Hy 23.84**	**104**		T	T	16 29 16.2	
	baz=294,slow=75,SNR=9.8						
H11S2	**WAKE ISLAND Hy 23.85**	**104**		T	T	16 29 17.0	
	baz=294,slow=75,SNR=10						
KLR	**Kul'dur**	**24.16**	**343**	P	**P**	**16 05 01.0**	**+1.3**
	1.8nm,0.5s,baz=150,slow=7.5,SNR=5.4						
SONM	**Songino Array**	**35.25**	**317**	LR	LR	16 20 01.4	
	comp=Z,70nm,18.1s,baz=208,slow=35						
MTN	**Manton Dam**	**40.57**	**197**	P	**P**	**16 07 22.6**	**-0.6**
MTN				IAmb	IAmb	16 07 40.3	
	comp=Z,22nm,1.2s						
WB0	**Warramunga Arr**	**46.61**	**190**	P	**P**	**16 08 11.8**	**0.0**
WR0	**Warramunga Arr**	**46.78**	**190**	P	**P**	**16 08 13.0**	**-0.1**
WR0				IAmb	IAmb	16 08 59.2	
	comp=Z,16nm,1.6s						
WB2	**Warramunga Arr**	**46.79**	**190**	P	**P**	**16 08 13.0**	**-0.2**
WB2				IAmb	IAmb	16 08 20.6	
	comp=Z,8.9nm,1.2s						
WRA	**Warramunga Arr**	**46.79**	**190**	P	**P**	**16 08 13.4**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=11,slow=8.6,SNR=20						
WRA	**Warramunga Arr**	**46.79**	**190**	P	**P**	**16 08 12.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**47.18**	**202**	P	**P**	**16 08 16.6**	**+0.3**
FITZ				IAmb	IAmb	16 08 20.0	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**50.51**	**190**	P	**P**	**16 08 41.1**	**-0.7**
ASAR	**Alice Springs**	**50.51**	**190**	P	**P**	**16 08 41.3**	**-0.5**
	comp=Z,0.2nm,0.8s,baz=5.4,slow=5.9,SNR=7.6						
MKAR	**Makanchi Array**	**50.97**	**310**	P	**P**	**16 08 45.5**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=88,slow=10,SNR=2.2						
KKAR	**Karatay Array**	**59.56**	**306**	P	**P**	**16 09 46.6**	**-0.4**
KKAR	**Karatay Array**	**59.56**	**306**	P	**P**	**16 09 46.7**	**-0.4**
KKAR				IAmb	IAmb	16 11 56.3	
	comp=Z,3.4nm,1.4s						
FINES	**FINESS Array B**	**78.56**	**334**	P	**P**	**16 11 45.2**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=67,slow=5.9,SNR=9.2						

IDC 11 16:02:53.1±61.0, 22.°23S×179.°31W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/40, mbtmp4.0/3, Error ellipse: s-maj=1096.0km s-min=156.5km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.95**	**246**	P	P	16 09 56.1	+0.5
	1.8nm,0.9s,baz=72,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**42.96**	**259**	P	P	16 10 53.5	-0.7
	1.1nm,0.5s,baz=94,slow=7.9,SNR=46						
WRA	**Warramunga Arr**	**43.18**	**264**	P	P	16 10 56.1	0.0
	1.0nm,0.3s,baz=102,slow=8.4,SNR=68						

*JMA **11** 16:38:02.9±0.1, 23.°81N×122.°10E, h26km±3km, M2.4*
*TAP **11** 16:38:03.7, 23.°83N×122.°08E, h38km, ML2.9, C*
ISC 11 16:38:03.1±1.0, 23.°81N±0.°02×122.°09E±0.°02, h31km±10km, n85, σ0.°50/124, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.47**	**291**	*i* P	**Pb**	**16 38 13.5**	**+0.3**
	baz=283						
TWD	**Chiawan**	**0.53**	**301**	P	**Pb**	**16 38 13.8**	**-0.2**
	baz=291						
TWD				*i* S	**Sb**	**16 38 21.6**	**+0.2**
	baz=291						
NACB	**Ninganchiao**	**0.58**	**309**	P	**Pb**	**16 38 14.5**	**-0.4**
	baz=302						
NACB				S	**Sb**	**16 38 22.6**	**-0.3**
	baz=302						
ESL	**Shilin**	**0.60**	**271**	⇓P	**Pb**	**16 38 14.9**	**-0.3**
	baz=261						
ESL				S	**Sb**	**16 38 23.5**	**0.0**
	baz=261						
EGFH	**Guangfu**	**0.62**	**257**	*e*P	**Pb**	**16 38 15.6**	**0.0**
	baz=248						
ETLH	**Xiulin Townshi**	**0.68**	**306**	*e*P	**Pn**	**16 38 16.1**	**-0.5**
	baz=304						
ETLH				*e*S	**Sb**	**16 38 25.5**	**-0.4**
	baz=304						
HGSD	**Ruisui**	**0.69**	**243**	*i* P	**Pn**	**16 38 16.5**	**-0.1**
	baz=241						
ENAH	**Nanao**	**0.69**	**338**	*e*P	**Pb**	**16 38 16.8**	**+0.1**
	baz=337						
ENA	**Nanau**	**0.69**	**333**	P	**Pn**	**16 38 16.5**	**-0.2**
	baz=321						
ENA				*e*S	**Sb**	**16 38 26.1**	**0.0**
	baz=321						
EHY	**Hungye**	**0.77**	**247**	*i* P	**Pn**	**16 38 17.8**	**+0.1**
	baz=237						
WHF	**Hehuan Shan**	**0.82**	**294**	P	**Pn**	**16 38 18.5**	**-0.4**
	baz=285						
WHF				*e*S	**Sn**	**16 38 29.6**	**-0.6**
	baz=285						
TWC	**Suao**	**0.83**	**345**	P	**Pn**	**16 38 18.7**	**+0.2**
	baz=354						
TWC				*e*S	**Sb**	**16 38 29.9**	**+0.1**
	baz=354						
YULB	**Yu-li**	**0.83**	**241**	*e*P	**Pn**	**16 38 19.0**	**+0.3**
	baz=252						
YULB				*i* S	**Sn**	**16 38 30.1**	**+0.2**
	baz=252						
TWF1	**Yuli**	**0.86**	**238**	P	**Pn**	**16 38 19.3**	**+0.3**
	baz=229						
VWDT	**VWDT**	**0.87**	**267**	*e*P	**Pb**	**16 38 19.7**	**0.0**
	baz=265						
VWDT				*e*S	**Sb**	**16 38 31.3**	**+0.3**
	baz=265						
CHGB	**Renai**	**0.87**	**287**	P	**Pn**	**16 38 19.4**	**0.0**
	baz=285						
CHGB				*e*S	**Sn**	**16 38 31.4**	**+0.2**
	baz=285						
FUSS	**Fushou**	**0.89**	**300**	*i* P	**Pn**	**16 38 19.7**	**+0.1**
	baz=298						
FUSS				*e*S	**Sn**	**16 38 31.4**	**-0.1**
	baz=298						
NNSB	**Datong**	**0.89**	**314**	P	**Pn**	**16 38 19.6**	**0.0**
	baz=312						
NNSB				*e*S	**Sb**	**16 38 31.7**	**-0.1**
	baz=312						
NNSH	**Datong**	**0.89**	**314**	P	**Pn**	**16 38 19.6**	**0.0**
	baz=312						
NNSH				S	**Sn**	**16 38 31.4**	**-0.1**
	baz=312						
NNS	**Nan Shan**	**0.91**	**314**	*i* P	**Pn**	**16 38 19.9**	**+0.1**
	baz=313						
NNS				*e*S	**Sn**	**16 38 31.9**	**0.0**
	baz=313						
TWT	**Tachien**	**0.94**	**298**	*i* P	**Pb**	**16 38 20.9**	**-0.1**
	baz=296						
TWT				*i* S	**Sn**	**16 38 33.2**	**+0.3**
	baz=296						
FULB	**Fuli**	**0.95**	**230**	*e*P	**Pn**	**16 38 20.4**	**+0.1**
	baz=218						
FULB				*e*S	**Sn**	**16 38 32.6**	**-0.1**
	baz=218						
NDT	**Datong Townshi**	**0.95**	**327**	*e*P	**Pn**	**16 38 20.7**	**+0.4**
	baz=325						
NDT				S	**Sb**	**16 38 33.2**	**-0.1**
	baz=325						
ENTT	**Nioudou**	**0.96**	**330**	P	**Pn**	**16 38 20.6**	**+0.2**
	baz=330						
ENTT				*i* S	**Sb**	**16 38 33.2**	**-0.3**
	baz=330						
TDCB	**Techi**	**0.96**	**298**	*e*P	**Pn**	**16 38 20.9**	**+0.4**
	baz=296						
TDCB				*e*S	**Sn**	**16 38 33.1**	**0.0**
	baz=296						
CHKT	**Chengkung**	**0.97**	**223**	*e*P	**Pn**	**16 38 20.2**	**-0.3**
	baz=213						
TWE	**Neicheng**	**0.99**	**337**	P	**Pn**	**16 38 21.1**	**+0.4**
	baz=337						
TWE				*i* S	**Sb**	**16 38 34.0**	**-0.4**
	baz=337						
JYNG	**Yonagunijimaku**	**1.01**	**51**	P	**Pn**	**16 38 21.5**	**+0.4**
JYNG				*e*S	**Sb**	**16 38 34.6**	**-0.4**
SSLB	**Suanglung**	**1.04**	**269**	*e*P	**Pn**	**16 38 22.0**	**+0.5**
	baz=268						
EGS		**1.04**	**352**	*e*P	**Pb**	**16 38 22.9**	**+0.4**
	baz=4.0						
YOJ	**Yonaguni jima**	**1.06**	**52**	P	**Pn**	**16 38 22.1**	**+0.3**
YOJ				*e*S	**Sn**	**16 38 35.6**	**0.0**
NTC	**Toucheng**	**1.07**	**347**	*e*P	**Pb**	**16 38 22.7**	**-0.3**
	baz=357						
YHNB	**Yeheng**	**1.08**	**323**	*e*P	**Pn**	**16 38 22.4**	**+0.3**
	baz=322						
SMLT	**Sun Moon Lake**	**1.09**	**274**	*e*P	**Pn**	**16 38 23.1**	**+0.8**
	baz=265						
NSK	**Sanguang**	**1.09**	**322**	*e*P	**Pn**	**16 38 22.5**	**+0.3**
	baz=310						
NSK				*e*S	**Sn**	**16 38 36.4**	**0.0**
	baz=310						
NWLT	**Wulai**	**1.10**	**331**	*e*P	**Pn**	**16 38 22.9**	**+0.5**
	baz=330						
NWLT				*e*S	**Sn**	**16 38 36.9**	**+0.3**
	baz=330						
TYC	**Yuchr**	**1.13**	**275**	*e*P	**Pn**	**16 38 23.5**	**+0.8**
	baz=274						
WHP	**Taichung City**

	baz=246							
WTK	**Tuku**	**1.56**	**266**	*e*P		**Pb**	**16 38 31.1**	**-0.2**
	baz=265							
TWK	**Hsinying**	**1.56**	**250**	*e*P		**Pb**	**16 38 31.6**	**+0.1**
	baz=249							
IRIF	**Iriomote-Funau**	**1.59**	**70**	P		**Pn**	**16 38 29.5**	**+0.5**
IRIF				S		**Sn**	**16 38 49.1**	**+0.6**
HATJ	**Hateruma jima**	**1.59**	**81**	P		**Pn**	**16 38 29.5**	**+0.5**
HATJ				*e*S		**Sn**	**16 38 48.8**	**+0.3**
SSD	**Sandimen**	**1.71**	**232**	*e*P		**Pb**	**16 38 34.3**	**+0.5**
	baz=224							
ICHU	**Yijhu**	**1.72**	**255**	*e*P		**Pb**	**16 38 33.1**	**-0.9**
	baz=254							
TSMG	**Majia**	**1.72**	**231**	*e*P		**Pb**	**16 38 33.3**	**-0.7**
	baz=223							
SCST	**Cishan**	**1.73**	**238**	*e*P		**Pb**	**16 38 34.2**	**+0.1**
	baz=227							
MASBT	**Mashibuluo**	**1.79**	**229**	*e*P		**Pn**	**16 38 33.4**	**+1.6**
	baz=221							
JKRS	**Kuro-shima**	**1.81**	**76**	P		**Pn**	**16 38 33.0**	**+1.0**
JKRS				*e*S		**Sn**	**16 38 55.2**	**+1.3**
EAST	**Anshuo**	**1.82**	**219**	*e*P		**Pn**	**16 38 33.8**	**+1.5**
	baz=218							
JIJ	**Ishigaki jima**	**1.96**	**73**	P		**Pn**	**16 38 34.2**	**+0.1**
JIJ				S		**Sn**	**16 38 56.4**	**-1.2**
JISG	**Ishigakijimahi**	**2.17**	**69**	P		**Pn**	**16 38 36.9**	**-0.1**
JISG				*e*S		**Sn**	**16 39 01.7**	**-1.2**
JTJ	**Tarama**	**2.53**	**70**	P		**Pn**	**16 38 42.1**	**+0.2**
JTJ				*e*S		**Sn**	**16 39 10.9**	**-0.7**
JIKM	**Ikemajima**	**3.09**	**68**	P		**Pn**	**16 38 50.8**	**+1.2**
JIKM				S		**Sn**	**16 39 25.5**	**0.0**
JMJ2	**Miyako jima3**	**3.10**	**72**	P		**Pn**	**16 38 50.4**	**+0.6**
JMJ2				*e*S		**Sn**	**16 39 24.9**	**-0.9**

*IDC **11** 16:41:38.3±0.8,5°.42S×150°.85E,h121km±10km,mb3.5/9, mb1 3.6/10,mb1mx3.4/40,mbtmp3.9/10,MS3.8/1, Ms1 3.8/1,ms1mx2.6/25,Error ellipse: s-maj=22.8km s-min=9.1km az=123.0*
*NEIC **11** 16:41:38.1±1.3,5.4S±0.1°×150.9E±0.1°,h124km±10km, mb4.4/12, Error ellipse: s-maj=22.7km s-min=9.8km az=129.0*

ISC 11 16:41:36.6±0.6,**5.31S**±0.09×**150.7E**±0.1,**h100**km,**n27,** σ1s**67**/25,**mb3.9**/10,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.64**	**52**	P		**Pn**	**16 42 06.9**	**+2.3**
	32nm,0.3s,baz=117,slow=0.6,SNR=65							
KRVT				S		**Sn**	**16 42 29.2**	**+3.4**
	34nm,0.3s,baz=99,slow=23,SNR=11							
RABL	**Rabaul**	**1.81**	**52**	Pn		**Pn**	**16 42 08.6**	**+1.7**
PMG	**Port Moresby**	**5.39**	**221**	P		**Pn**	**16 42 57.2**	**+2.5**
	11nm,0.3s,baz=48,slow=4.1,SNR=32							
PMG				S		**Sn**	**16 43 56.9**	**+1.4**
	22nm,0.3s,baz=198,slow=21,SNR=17							
COEN	**Coen**	**11.36**	**220**	Pn		**Pn**	**16 44 18.1**	**+2.3**
EIDS	**Eidsvold**	**19.95**	**179**	P		**P**	**16 46 00.3**	**-0.4**
EIDS				IAmb		IAmb	16 46 03.8	
	comp=Z,21nm,1.6s							
WRA	**Warramunga Arr**	**21.58**	**226**	P		**P**	**16 46 20.2**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=51,slow=11,SNR=4.0							
DZM	**Mont Dzumac**	**22.56**	**139**	P		**P**	**16 46 27.0**	**-1.7**
	comp=Z,2.9nm,0.6s,baz=306,slow=8.7,SNR=5.9							
DZM	**Mont Dzumac**	**22.56**	**139**	IAmb		IAmb	16 47 07.3	
	comp=Z,18nm,1.3s							
KNRA	**Kununurra**	**23.90**	**243**	P		**P**	**16 46 41.1**	**-0.2**
KNRA				IAmb		IAmb	16 46 48.1	
	comp=Z,21nm,1.0s							
AS31	**Alice Springs**	**24.40**	**220**	P		**P**	**16 46 46.0**	**+0.1**
ASAR	**Alice Springs**	**24.41**	**220**	P		**P**	**16 46 46.3**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=53,slow=9.3,SNR=29							
FITZ	**Fitzroy Crossi**	**27.60**	**240**	P		**P**	**16 47 14.7**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=56,slow=11,SNR=2.0							
STKA	**Stephens Creek**	**27.78**	**197**	P		**P**	**16 47 15.1**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=32,slow=8.8,SNR=3.9							
STKA	**Stephens Creek**	**27.78**	**197**	IAmb		IAmb	16 47 22.4	
	comp=Z,4.4nm,1.6s							
PSA00	**Pilbara Seismi**	**33.99**	**239**	P		**P**	**16 48 10.2**	**-0.8**
JNU	**Nakatsue**	**42.61**	**335**	P		**P**	**16 49 24.2**	**+1.1**
	comp=Z,9.5nm,0.7s,baz=219,slow=1.0,SNR=10							
JNU	**Nakatsue**	**42.61**	**335**	IAmb		IAmb	16 49 24.9	
	comp=Z,10nm,0.8s							
CISI	**Cisompet, Garu**	**42.69**	**265**	P		**P**	**16 49 24.3**	**+0.2**
KSRS	**Korea Array**	**47.56**	**335**	P		**P**	**16 50 03.2**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=156,slow=7.2,SNR=6.7							
RAR	**Rarotonga**	**50.47**	**113**	LR		LR	17 09 10.0	
	comp=Z,89nm,18.9s,baz=136,slow=33							
PEA0B	**Petropavlovsk-**	**58.50**	**5**	P		**P**	**16 51 21.6**	**-0.6**
PETK	**Petropavlovsk-**	**58.50**	**5**	P		**P**	**16 51 21.3**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=160,slow=6.5,SNR=8.6							
GSTR	**Great Sitkin T**	**63.80**	**22**	P		**P**	**16 51 56.0**	**-2.1**
ATKA	**Atka Island**	**64.59**	**23**	P		**P**	**16 52 00.5**	**-2.7**
OHAK	**Old Harbor**	**76.95**	**28**	P		**P**	**16 53 16.6**	**-1.3**
RSO	**Redoubt South**	**78.91**	**25**	P		**P**	**16 53 27.5**	**-1.5**
MKAR	**Makanchi Array**	**79.36**	**319**	P		**P**	**16 53 31.6**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=124,slow=4.1,SNR=2.0							

*IDC **11** 16:42:59.3±2.1,6°.58S×129°.90E,h138km±24km,mb3.2/2, mb1 3.4/7,mb1mx3.2/48,mbtmp3.8/7,Error ellipse: s-maj=28.4km s-min=18.3km az=109.0*

ISC 11 16:42:58.0±0.9,**6.67S**±0.06×**130.1E**±0.1,**h146**km,**n7,** σ3s**39**/12,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**5.88**	**12**	P		**Pn**	**16 44 23.6**	**+0.5**
	2.7nm,0.3s,baz=177,slow=18,SNR=22							
SIJI				S		**Sn**	**16 45 24.8**	**-4.9**
	2.7nm,0.3s,baz=222,slow=23,SNR=12							
BATI	**Baumata**	**7.27**	**241**	P		**Pn**	**16 44 42.6**	**+1.0**
	3.6nm,0.3s,baz=90,slow=14,SNR=6.7							
BATI				S		**Sn**	**16 46 01.4**	**-1.5**
	3.8nm,0.3s,baz=202,slow=22,SNR=7.0							
FITZ	**Fitzroy Crossi**	**12.16**	**201**	P		**Pn**	**16 45 47.8**	**+1.3**
	0.4nm,0.3s,baz=47,slow=12,SNR=34							
FITZ				S		**Sn**	**16 47 54.4**	**-6.5**
	0.3nm,0.3s,baz=336,slow=18,SNR=5.0							
WRA	**Warramunga Arr**	**13.82**	**163**	P		**Pn**	**16 46 09.5**	**+1.6**
	0.4nm,0.3s,baz=339,slow=13,SNR=20							
WRA				S		**Sn**	**16 48 37.8**	**-3.2**
	0.5nm,0.3s,baz=2.3,slow=22,SNR=4.8							
ASAR	**Alice Springs**	**17.29**	**168**	P		**Pn**	**16 46 54.7**	**+4.0**
	0.3nm,0.3s,baz=341,slow=9.7,SNR=9.4							
ASAR				S		**Sn**	**16 50 04.3**	**0.0**
	0.1nm,0.3s,baz=358,slow=28,SNR=4.7							
SONM	**Songino Array**	**58.16**	**341**	P		**P**	**16 52 37.0**	**+0.4**
	0.3nm,0.4s,baz=144,slow=7.3,SNR=1.4							
MKAR	**Makanchi Array**	**68.00**	**327**	P		**P**	**16 53 42.9**	**+1.5**
	0.2nm,0.5s,baz=127,slow=8.3,SNR=3.7							

IDC 11 16:48:54.5±1.4,**3.62S**×**139.41E**,**h0**km,**mb3.3**/2, **mb1 3.9**/4,**mb1mx3.6**/32,**mbtmp3.7**/4,**ML4.1**/2,**Error ellipse: s-maj=45.0km s-min=18.9km az=127.0,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**1.70**	**50**	Pn		Pn	16 49 26.0	+0.6
	28nm,0.3s,baz=226,slow=13,SNR=170							
JAY				Sn		Sn	16 49 47.2	-0.7
	36nm,0.3s,baz=60,slow=23,SNR=6.7							
WRA	**Warramunga Arr**	**16.96**	**197**	Pn		Pn	16 52 53.0	-0.4
	0.6nm,0.3s,baz=18,slow=12,SNR=16							
WRA				Sn		Sn	16 55 54.1	-8.5
	0.1nm,0.3s,baz=14,slow=24,SNR=2.4							
FITZ	**Fitzroy Crossi**	**19.72**	**222**	P		P	16 53 25.9	+0.1
	0.5nm,0.3s,baz=41,slow=9.4,SNR=13							
FITZ				S		S	16 56 53.8	-15
	0.1nm,0.3s,baz=249,slow=19,SNR=1.9							
ASAR	**Alice Springs**	**20.62**	**194**	P		P	16 53 35.6	0.0
	1.9nm,0.7s,baz=17,slow=9.3,SNR=18							
MKAR	**Makanchi Array**	**70.94**	**322**	P		P	17 00 13.8	0.0
	0.1nm,0.4s,baz=114,slow=7.1,SNR=1.7							

*IPEC **11** 16:51:09.4±0.2,51°.50N×16°.19E,h1km,ML2.1/3,Error ellipse: s-maj=1.6km s-min=0.8km az=36.0*
*PRU **11** 16:51:10.9±0.0,51°.45N×16°.09E,h0km*
*VIE **11** 16:51:11.1±0.9,51°.37N×15°.99E,h0km,mb2.2/3,ml2.6/4, Error ellipse: s-maj=8.8km s-min=4.8km az=32.0 78 km WNW of Wroclaw Suspected Mining induced.*

ISC 11 16:51:10.5±1.1,**51.43N**±0.05×**16.08E**±0.03,**h0**km,**n25,** σ0s**64**/56,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.60**	**167**	*i* Pg		**Pg**	**16 51 22.6**	**+0.7**
KSP				*e*Sg		**Sg**	**16 51 31.1**	**+1.4**
CHVC	**Chvalec**	**0.84**	**181**	*e*PG		**Pb**	**16 51 27.4**	**-0.6**
CHVC				*e*SG		**Sb**	**16 51 39.2**	**-0.6**
	comp=Z,25nm,0.3s							
OSTC	**Ostas**	**0.88**	**174**	*e*PG		**Pb**	**16 51 28.0**	**-0.6**
OSTC				*e*SG		**Sb**	**16 51 40.1**	**-0.7**
	comp=Z,24nm,0.4s							
UPC	**Upice**	**0.92**	**183**	*e*PG		**Pb**	**16 51 28.8**	**-0.5**
UPC				*e*SG		**Sb**	**16 51 41.4**	**-0.7**
DPC	**Dobruska-Polom**	**1.09**	**172**	*e*PG		**Pg**	**16 51 31.4**	**+0.1**
DPC				*e*SG		**Sb**	**16 51 46.5**	**-0.5**
	comp=Z,20nm,0.4s							
PVCC	**Panska Ves**	**1.31**	**227**	*e*PG		**Pn**	**16 51 36.4**	**+0.4**
PVCC				*e*SG		**Sn**	**16 51 54.4**	**+0.2**
	comp=Z,94nm,0.3s							
KRLC	**Kraliky**	**1.43**	**161**	*e*PG		**Pn**	**16 51 37.6**	**-0.1**
KRLC				*e*SG		**Sb**	**16 51 56.8**	**+0.1**
	comp=Z,33nm,0.5s							
GOPC	**GO Pecny, Ondr**	**1.72**	**209**	*e*PN		**Pn**	**16 51 41.4**	**-0.3**
GOPC				*e*PG		**Pb**	**16 51 42.6**	**-0.4**
GOPC				*e*SG		**Sg**	**16 52 06.5**	**+0.7**
	comp=Z,13nm,0.6s							
PRU	**Pruhonice**	**1.74**	**215**	*e*PN		**Pn**	**16 51 41.6**	**-0.3**
PRU				*e*PG		**Pb**	**16 51 43.1**	**-0.2**
PRU				*e*SG		**Sg**	**16 52 06.7**	**+0.4**
	comp=Z,20nm,0.5s							
MORC	**Moravsky Berou**	**1.90**	**150**	*e*PN		**Pn**	**16 51 43.3**	**-0.9**
MORC				*e*SG		**Sn**	**16 52 09.6**	**+0.8**
MORC	**Moravsky Berou**	**1.90**	**150**	*e*Pn		**Pn**	**16 51 43.2**	**-0.9**
	baz=334							
MORC				*e*Sg		**Sn**	**16 52 09.5**	**+0.8**
	15nm,0.3s,baz=334							
CLL	**Collm**	**1.93**	**268**	*e*Pn		**Pn**	**16 51 44.0**	**-0.5**
CLL				*e*Pg		**Pb**	**16 51 46.0**	**-0.5**
CLL				*i*			16 51 50.0	
CLL				*i*			16 52 01.6	
CLL				*e*Sg		**Sg**	**16 52 12.0**	**-0.4**
	comp=Z,12nm,0.4s							
OKC	**Ostrava-Krasne**	**2.07**	**140**	*e*PG		**Pb**	**16 51 48.6**	**-0.2**
OKC				*e*SG		**Sb**	**16 52 15.5**	**+0.4**
	comp=Z,370nm,0.5s							
VRAC	**Vranov**	**2.15**	**171**	*e*PN		**Pn**	**16 51 47.7**	**+0.2**
VRAC				*e*SG		**Sb**	**16 52 17.9**	**+0.5**
VRAC	**Vranov**	**2.15**	**171**	*e*Pn		**Pn**	**16 51 47.6**	**+0.1**
	baz=353							
VRAC				*e*Sg		**Sb**	**16 52 17.8**	**+0.4**
	comp=Z,9.3nm,0.3s,baz=353							
KRUC	**Moravsky**	**2.38**	**175**	*e*PN		**Pn**	**16 51 50.9**	**+0.2**
KRUC				*e*SG		**Sg**	**16 52 26.1**	**-0.7**
KRUC	**Moravsky**	**2.38**	**175**	*e*Pn		**Pn**	**16 51 50.9**	**+0.2**
	baz=357							
KRUC				*e*Sg		**Sg**	**16 52 26.0**	**-0.7**
	comp=Z,5.4nm,0.2s,baz=357							
NKC	**Novy Kostel**	**2.59**	**244**	*e*PN		**Pn**	**16 51 53.7**	**0.0**
NKC				*e*PG		**Pg**	**16 52 00.0**	**-0.1**
NKC				*e*SG		**Sg**	**16 52 34.5**	**+0.8**
	comp=Z,23nm,0.3s							
OJC	**Ojcow**	**2.65**	**116**	*e*Pn		**Pn**	**16 51 53.6**	**-0.9**
OJC				*e*Pg		**Pg**	**16 52 01.8**	**+0.5**
OJC				*e*Sg		**Sg**	**16 52 36.3**	**+0.7**
KHC	**Kasperske Hory**	**2.80**	**216**	*e*PN		**Pn**	**16 51 56.9**	**+0.3**
KHC				*e*PG		**Pb**	**16 52 02.4**	**+1.0**
KHC				*e*SN		**Sn**	**16 52 31.0**	**-0.1**
KHC				*e*SG		**Sg**	**16 52 41.1**	**+0.6**
	comp=Z,9.1nm,0.5s							
MODS	**Modra-Piesok**	**3.15**	**165**	*e*PG		**Pg**	**16 52 10.0**	**-0.9**
MODS				*e*SG		**Sg**	**16 52 49.8**	**-2.0**
VYHS	**Vyhne**	**3.44**	**148**	*e*PG		**Pg**	**16 52 15.7**	**-0.6**
VYHS				*e*SG		**Sg**	**16 53 00.9**	**+0.1**
CONA	**Conrad Observa**	**3.51**	**182**	*i* Pn		**Pn**	**16 52 06.9**	**+0.6**
	comp=Z,0.4nm,0.2s							
CONA				Sg		**Sg**	**16 53 03.4**	**+0.3**
	comp=Z,4.8nm,0.3s							
MOA	**Molln**	**3.77**	**199**	*e*Pn		**Pn**	**16 52 10.0**	**+0.1**
	comp=Z,0.6nm,0.1s							
MOA				Sg		**Sg**	**16 53 11.2**	**-0.3**
	comp=Z,6.1nm,0.3s							
KOLS	**Kolonicke sedl**	**4.70**	**120**	*e*PG		**Pg**	**16 52 41.3**	**+0.8**

KRSC 11 17:11:09.2±1.6,**55.41N**×**159.68E**,**h237**km±14km,**ML3.7, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TUMR	**Tumrok**	**0.29**	**115**	*e*P		Pn	17 11 42.1	+1.8
KZV	**Kizimen**	**0.46**	**130**	*e*P		Pn	17 11 42.3	+1.6
TUMD	**Tumrok D**	**0.46**	**116**	*e*P		Pn	17 11 42.0	+1.5
KMNR	**Kamenistaya**	**0.47**	**42**	*e*P		Pn	17 11 41.8	+1.2
KPT	**Kopyto**	**0.64**	**28**	*e*P		Pn	17 11 41.9	+0.8
KOZ	**Kozyrevsk**	**0.66**	**9**	*e*P		Pn	17 11 41.9	+0.8
KIRR	**Kirishev**	**0.66**	**34**	*e*P		Pn	17 11 42.3	+1.0
KIRR				*e*S		S	17 12 07.4	+0.8
BZWR	**Bezymyannyi-We**	**0.72**	**39**	*e*P		Pn	17 11 42.4	+0.8
ZLN	**Zelenaya**	**0.88**	**46**	*e*P		Pn	17 11 44.2	+1.9
LGNR	**Loginova**	**0.88**	**40**	*e*P		Pn	17 11 44.4	+1.9
SRDR	**Sredinnyy**	**0.91**	**1**	*e*P		Pn	17 11 42.9	+0.5
SRDR				*e*S		S	17 12 08.5	0.0
CIRR	**Tsirk**	**0.93**	**40**	*e*P		Pn	17 11 42.3	-0.3
KRSR	**Krestovskiy**	**0.95**	**31**	*e*P		Pn	17 11 42.9	+0.2
KLY	**Klyuchi**	**1.06**	**31**	*e*P		Pn	17 11 44.6	+1.5
KLY				*e*S		S	17 12 11.6	+1.8
KII	**Karymskiy**	**1.38**	**186**	*e*P		Pn	17 11 46.7	+1.2
BDR	**Baidarnaya**	**1.44**	**36**	*e*P		Pn	17 11 46.9	+1.0
BDR				*e*S		S	17 12 15.3	+0.6
SRKR	**Sorokina**	**1.50**	**33**	*e*P		Pn	17 11 47.4	+1.1
SMKR	**Semkarok**	**1.55**	**40**	*e*P		Pn	17 11 48.0	+1.3
SMKR				*e*S		S	17 12 17.3	+1.2
KBG	**Krutoberegovo**	**1.90**	**62**	*e*P		Pn	17 11 50.3	+0.7
KBG				*e*S		S	17 12 21.4	+0.1
KBTR	**Krutoberegovo**	**1.94**	**64**	*e*P		Pn	17 11 50.6	+0.6
KBTR				*e*S		S	17 12 21.9	-0.1
KRX	**Arik**	**2.14**	**197**	*e*P		Pn	17 11 53.7	+1.6
KRER	**Koryakskii**	**2.18**	**195**	*e*P		Pn	17 11 54.5	+1.9
SDLR	**Sedlovina**	**2.19**	**193**	*e*P		Pn	17 11 53.8	+1.2
KOK	**Koryaka**	**2.21**	**197**	*e*P		Pn	17 11 54.3	+1.6
SMAR	**Somma**	**2.21**	**194**	*e*P		Pn	17 11 54.3	+1.4
AVH	**Avacha**	**2.22**	**195**	*e*P		Pn	17 11 54.7	+1.9
NLC	**Nalytchevo**	**2.25**	**185**	*e*P		Pn	17 11 53.6	+0.6
NLC				*e*S		S	17 12 27.4	+0.1
UGLR	**Uglovaya**	**2.26**	**193**	*e*P		Pn	17 11 54.7	+1.4
SPN	**Mys Shipunski**	**2.32**	**175**	*i* P		Pn	17 11 53.5	-0.3
SPN				*e*S		S	17 12 27.0	-1.7
DALK	**Dalny**	**2.44**	**193**	*e*P		Pn	17 11 55.7	+0.7
DALK				*e*S		S	17 12 30.7	-0.1
PET	**Petropavlovsk**	**2.46**	**195**	*e*P		Pn	17 11 56.1	+0.9
PET				*e*S		S	17 12 31.7	+0.5
KRMR	**Karymshinskiy**	**2.74**	**200**	*e*P		Pn	17 11 59.0	+0.9
KRMR				*e*S		S	17 12 36.5	+0.1
APC	**Apacha**	**2.90**	**212**	*e*P		Pn	17 12 01.1	+1.3
APC				*e*S		S	17 12 40.2	+0.7
GRL	**Gorelyy**	**3.02**	**199**	*e*P		Pn	17 12 02.5	+1.3
RUS	**Russkaya**	**3.06**	**194**	*e*P		Pn	17 12 01.5	-0.1
RUS				*e*S		S	17 12 40.9	-1.8
MTVR	**Mutnovka**	**3.06**	**197**	*e*P		Pn	17 12 03.0	+1.2
MTVR				*e*S		S	17 12 43.7	+0.6
ASAK	**Asacha**	**3.21**	**200**	*e*P		Pn	17 12 04.6	+1.2
BKI	**Bering**	**3.60**	**91**	*e*P		Pn	17 12 09.3	+1.7
BKI				*e*S		S	17 12 54.7	+1.0
KDTR	**Khodutka, Kamc**	**3.73**	**196**	*e*P		Pn	17 12 08.5	-0.7
KDTR				*e*S		S	17 12 53.2	-3.4
SKR	**Severo-Kuril's**	**5.20**	**206**	*e*S		S	17 13 27.8	-1.0

*IDC **11** 17:21:10.5±2.5,6°.67S×131°.57E,h47km±32km,mb3.2/1, mb1 4.4/5,mb1mx3.6/36,mbtmp4.4/5,ML4.3/5,Error ellipse: s-maj=47.9km s-min=24.4km az=90.0*

ISC 11 17:21:08.2±1.0,**6.69S**±0.06×**131.7E**±0.1,**h42**km,**n6,** σ3s**13**/11,**Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**5.80**	**355**	P		**Pn**	**17 22 32.8**	**+0.9**
	9.2nm,0.3s,baz=122,slow=4.1,SNR=35							
SIJI				S		**Sn**	**17 23 32.1**	**-5.0**
	5.7nm,0.3s,baz=234,slow=23,SNR=13							
BATI	**Baumata**	**8.70**	**246**	P		**Pn**	**17 23 14.1**	**+2.4**
	7.8nm,0.3s,baz=110,slow=1.9,SNR=16							
BATI				S		**Sn**	**17 24 47.0**	**-1.6**
	4.0nm,0.3s,baz=288,slow=20,SNR=1.8							
FITZ	**Fitzroy Crossi**	**12.80**	**207**	P		**Pn**	**17 24 09.1**	**+1.5**
	1.5nm,0.3s,baz=29,slow=14,SNR=50							
FITZ				S		**Sn**	**17 26 25.1**	**-3.7**
	2.1nm,0.3s,baz=192,slow=18,SNR=8.2							
WRA	**Warramunga Arr**	**13.41**	**169**	P		**Pn**	**17 24 18.2**	**+2.1**
	1.1nm,0.3s,baz=344,slow=14,SNR=24							
WRA				S		**Sn**	**17 26 41.5**	**-2.4**
	1.5nm,0.3s,baz=356,slow=23,SNR=8.3							
ASAR	**Alice Springs**	**17.01**	**173**	P		**Pn**	**17 25 04.9**	**+1.7**
	0.6nm,0.3s,baz=352,slow=14,SNR=36							
ASAR				S		**Sn**	**17 28 07.7**	**-3.6**
	0.3nm,0.3s,baz=358,slow=29,SNR=5.0							
MKAR	**Makanchi Array**	**68.92**	**326**	P		**P**	**17 32 10.1**	**+1.2**
	0.2nm,0.5s,baz=109,slow=6.9,SNR=2.8							

*ATH **11** 17:27:05.2,38°.20N×20°.41E,h10km±1km,ML3.0/9,Error ellipse: s-maj=1.7km s-min=1.0km az=254.0*
*THE **11** 17:27:05.2,38°.22N×20°.37E,h6km,ML3.1/10,Error ellipse: s-maj=1.2km s-min=0.6km az=76.0*

ISC 11 17:27:04.0±0.9,**38.21N**±0.03×**20.31E**±0.04,**h14**km±4km, **n43,**σ1s**14**/67,**Greece**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KEF3	**Kipouria, Keph**	**0.03**	**96**	P		**Pg**	**17 27 07.2**	**+0.6**
KEF3				S		**Sg**	**17 27 08.6**	**+0.2**
ARGA	**Argostoli. Kep**	**0.14**	**102**	P		**Pg**	**17 27 07.5**	**-0.2**
ARGA				S		**Sg**	**17 27 09.1**	**-1.0**
ARG2	**Argostoli**	**0.15**	**101**	P		**Pg**	**17 27 07.6**	**-0.2**
ARG2				S		**Sg**	**17 27 09.4**	**-0.9**
	86µm,0.2s							
KEF5	**Kardakata, Kep**	**0.15**	**61**	P		**Pg**	**17 27 07.8**	**0.0**
KEF5				S		**Sg**	**17 27 09.4**	**-1.0**
VLS	**Valsamata**	**0.23**	**97**	P		**Pg**	**17 27 08.7**	**-0.4**
VLS				S		**Sg**	**17 27 11.3**	**-1.1**
	11µm,0.1s							
VLS	**Valsamata**	**0.23**	**97**	P		**Pg**	**17 27 08.7**	**-0.4**
VLS				S		**Sg**	**17 27 11.1**	**-1.4**
VLS				AML		AML	17 27 11.5	
	comp=E,23696µm,0.1s							
VLS				AML		AML	17 27 14.9	
	comp=N,21435µm,0.2s							
VSK1	**VASILIKIADES**	**0.29**	**45**	P		**Pg**	**17 27 09.2**	**-0.9**
VSK1				S		**Sg**	**17 27 13.2**	**-1.0**
	comp=N,21µm,0.4s							
FSK	**Fiskardo**	**0.32**	**39**	P		**Pg**	**17 27 10.9**	**+0.2**
FSK				S		**Sg**	**17 27 15.0**	**-0.3**
	comp=N,6µm,0.1s							
FSK	**Fiskardo**	**0.32**	**39**	P		**Pg**	**17 27 10.9**	**+0.2**
FSK				S		**Sg**	**17 27 15.1**	**-0.1**
FSK				AML		AML	17 27 16.1	
	comp=E,16332µm,0.1s							
FSK				AML		AML	17 27 16.2	
	comp=N,6384µm,0.1s							
VLMS	**Volimes, Zakyn**	**0.43**	**139**	P		**Pg**	**17 27 13.0**	**+0.3**
VLMS				S		**Sg**	**17 27 18.6**	**0.0**
VLMS				AML		AML	17 27 19.9	
	comp=E,6275µm,0.3s							
VLMS				AML		AML	17 27 24.1	
	comp=N,10722µm,0.3s							
EVGI	**Lefkada island**	**0.50**	**34**	P		**Pg**	**17 27 14.2**	**+0.3**
EVGI				S		**Sb**	**17 27 21.7**	**0.0**
MGNA	**Meganis**	**0.59**	**40**	P		**Pg**	**17 27 15.6**	**0.0**
MGNA				S		**Sg**	**17 27 23.3**	**-0.1**
MGNA				AML		AML	17 27 24.4	
	comp=N,5059µm,0.2s							
MGNA				AML		AML	17 27 24.8	
	comp=E,6485µm,0.3s							
LKD2	**Lefkada island**	**0.64**	**25**	P		**Pg**	**17 27 16.9**	**+0.2**
LKD2	**Lefkada island**	**0.64**	**25**	P		**Pg**	**17 27 17.1**	**+0.5**
TSLK	**Tsoukalades, L**	**0.68**	**24**	P		**Pg**	**17 27 17.5**	**+0.3**
TSLK				S	

ISN ***11*** *17:34:58.0±0.3,32.°93N×46.°26E,h15km,ML2.8*
TEH ***11*** *17:34:59.2,32.°93N×46.°22E,h10km,ML2.7*
ISC 11 17:34:57.7±2.6,32.°8N±0.°1×46.°21E±0.°05,h10km,n7,
σ1§24/10,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.36**	**319**	*e*Pg	**Pg**	**17 35 05.0**	**+0.2**
	baz=124						
IBDR				*e*Sg	**Sg**	**17 35 10.0**	**+0.5**
IBDR				AML	AML	17 35 17.4	
	comp=E,730nm,0.6s						
IBDR				AML	AML	17 35 22.5	
	comp=N,821nm,0.2s						
IGHG	**Ghaleghazi**	**1.51**	**11**	*e*Pn	**Pg**	**17 35 25.8**	**-1.0**
IGHG				*e*Sg	**Sg**	**17 35 47.8**	**+1.4**
IGHG				*e*		17 35 52.5	
IKFM	**Kafar-mosalman**	**1.53**	**63**	*e*Pn	**Pg**	**17 35 27.4**	**+0.3**
IKFM				*e*Sg	**Sg**	**17 35 49.2**	**+2.2**
IKFM				*e*		17 35 49.9	
IKOM	**Komasi**	**1.72**	**39**	*e*Pn	**Pg**	**17 35 29.7**	**-0.9**
IDHR	**Dehrash**	**1.86**	**4**	*e*Pn	**Pb**	**17 35 31.9**	**0.0**
IDHR				*e*		17 35 60.0	
IKMR	**Kamar-syah**	**1.94**	**69**	*e*Pn	**Pg**	**17 35 34.3**	**-0.6**
IKMR				*e*		17 36 04.5	
IBZA	**Bozab**	**2.13**	**40**	*e*Pn	**Pb**	**17 35 35.3**	**-1.2**
IBZA				*e*		17 35 40.5	

IDC ***11*** *17:35:40.5±2.2,40.°96N×112.°84W,h0km,mb1 2.3/1,*
mb1mx2.3/44,mbtmp1.9/1,ML2.9/1,Error ellipse:
s-maj=49.2km s-min=5.4km az=160.0
NEIC ***11*** *17:35:42.4±2.2,40.°98N±0.°03×112.°73W±0.°03,h0km±2km,*
ML2.0/46,Error ellipse: s-maj=5.6km s-min=3.1km
az=42.0
ISC 11 17:35:40.6±1.0,41.°08N±0.°03×112.°74W±0.°04,h0km,n30,
σ1§66/28,Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGU	**Big Grassy Mou**	**0.27**	**234**	Pg	**Pg**	**17 35 47.1**	**+1.3**
SPUT	**South Promonto**	**0.31**	**44**		**Pb**	**17 35 49.9**	**+0.7**
HVU	**Hansel Valley**	**0.70**	**358**	Pg	**Pb**	**17 35 55.5**	**-0.3**
CTU	**Camp Tracy**	**0.85**	**117**		**Pn**	**17 36 00.8**	**+0.9**
DUG	**Dugway, Tooele**	**0.89**	**184**		**Pn**	**17 36 00.5**	**0.0**
DUG				IAML		17 36 23.2	
	40nm,0.5s						
TCUT	**Toone Canyon**	**1.01**	**88**		**Pn**	**17 36 04.2**	**+1.9**
HWUT	**Hardware Ranch**	**1.03**	**59**		**Pn**	**17 36 03.6**	**+1.1**
JLU	**Jordanelle**	**1.09**	**116**		**Pn**	**17 36 04.4**	**+1.0**
NLU	**North Lily Min**	**1.24**	**156**	Pg	**Pg**	**17 36 03.8**	**-0.6**
ELK	**Elko**	**1.92**	**261**	Pg	**Pn**	**17 36 15.4**	**+0.6**
	1.7nm,0.3s,baz=82,slow=9.3,SNR=31						
ELK				Lg	Lg	17 36 38.4	
	3.5nm,0.3s,baz=309,slow=15,SNR=11						
ELK	**Elko**	**1.92**	**261**	Pn	**Pn**	**17 36 15.1**	**+0.2**
AHID	**Auburn Hatcher**	**2.08**	**36**	Pn	**Pn**	**17 36 17.9**	**+0.9**
AHID				IAML		17 36 56.9	
	comp=E,12nm,1.4s						
AHID				IAML		17 37 01.0	
	comp=N,16nm,1.4s						
TMUT	**Trail Mountain**	**2.14**	**146**	Pn	**Pn**	**17 36 17.4**	**-0.4**
SRU	**San Rafael Swe**	**2.60**	**139**		**Pn**	**17 36 25.4**	**+1.3**
MSU	**Marysvale**	**2.60**	**170**		**Pn**	**17 36 27.6**	**-0.7**
PSUT	**Pine Spring**	**2.69**	**199**	Pn	**Pn**	**17 36 26.5**	**+1.2**
HLID	**Hailey**	**2.77**	**334**	Pn	**Pn**	**17 36 28.3**	**+1.9**
HLID				IAML		17 37 13.9	
	comp=N,3.7nm,2.5s						
HLID				IAML		17 37 21.9	
	comp=N,4.5nm,3.6s						
BW06	**Boulder Array**	**2.91**	**54**	Pn	**Pb**	**17 36 31.5**	**-2.0**
BW06				IAML		17 37 23.6	
	comp=E,4.9nm,1.7s						
PD31	**Pinedale Array**	**2.91**	**54**	Pn	**Pb**	**17 36 32.9**	**-0.6**
PDAR	**Pinedale Array**	**2.91**	**54**	Pn	**Pb**	**17 36 31.6**	**-1.9**
	comp=E,0.2nm,0.3s,baz=241,slow=13,SNR=2.8						
PDAR				Pg	**Pg**	**17 36 36.5**	**+0.2**
	comp=E,1.1nm,0.3s,baz=233,slow=14,SNR=12						
PDAR				Lg	Lg	17 37 16.6	
	comp=E,1.2nm,0.3s,baz=225,slow=23,SNR=8.2						
PDAR	**Pinedale Array**	**2.91**	**54**		**Pn**	**17 36 30.8**	**+2.4**
IMW	**Indian Meadow**	**3.11**	**25**	Pn	**Pb**	**17 36 36.1**	**-0.8**
IMW				IAML		17 37 28.8	
	comp=E,5.7nm,0.5s						
BCYI	**Bear Canyon**	**3.26**	**352**	Pn	**Pb**	**17 36 37.3**	**-2.2**
MFID	**Camas Ranch**	**3.27**	**316**	Pn	**Pn**	**17 36 35.1**	**+1.9**
MFID				IAML		17 37 27.9	
	comp=E,5.0nm,0.4s						
MFID				IAML		17 37 32.8	
	comp=E,4.5nm,0.4s						
R11A	**Troy Canyon, C**	**3.50**	**220**		**Pb**	**17 36 43.1**	**-0.5**
R11A				IAML		17 37 08.2	
	comp=N,2.7nm,4.9s						
R11A				IAML		17 37 27.9	
	comp=E,3.9nm,4.8s						
MCMT	**McKenzie Canyo**	**3.74**	**359**		**Pb**	**17 36 44.1**	**-3.6**
YHL	**Hebgen Lake**	**3.93**	**16**		**Pb**	**17 36 47.1**	**-3.9**
I56US	**NEWPORT INFRAS**	**7.83**	**338**	*i*		18 18 58.2	
	baz=160,slow=312,SNR=4.9						
I57US	**PINON FLAT INF**	**8.03**	**203**	*i*		18 28 35.0	
	baz=18,slow=304,SNR=2.7						
I53US	**FAIRBANKS INFR**	**31.13**	**332**	*i*		20 45 40.0	
	baz=125,slow=319,SNR=1.5						

ATH ***11*** *17:47:15.7,39.°64N×23.°03E,h16km±4km,ML3.0/17,Error*
ellipse: s-maj=4.4km s-min=0.8km az=154.0
ISK ***11*** *17:47:15.5,39.°66N×23.°00E,h20km,ML3.4/2*
THE ***11*** *17:47:16.1,39.°65N×23.°02E,h5km±1km,ML3.0/10,Error*
ellipse: s-maj=1.1km s-min=0.3km az=50.0
IDC ***11*** *17:47:16.4±2.1,39.°68N×23.°21E,h0km,mb3.3/3,*
mb1 3.6/5,mb1mx3.4/34,mbtmp3.4/5,ML3.4/2,MS2.8/2,
Ms1 2.8/2,ms1mx2.2/28,Error ellipse: s-maj=29.7km
s-min=25.6km az=159.0
ISC 11 17:47:16.0±0.9,39.°65N±0.°02×23.°02E±0.°02,h12km±7km,
n70,σ0§63/91,12C-3D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOL3	**Nea Ionia, Vol**	**0.28**	**193**	P	**Pb**	**17 47 23.9**	**+0.9**
XOR	**Xorichti**	**0.31**	**155**	P	**Pg**	**17 47 22.0**	**-0.3**
XOR				S	**Sg**	**17 47 27.1**	**+0.5**
	5µm,0.3s						
XOR	**Xorichti**	**0.31**	**155**	P	**Pg**	**17 47 22.0**	**-0.3**
XOR				S	**Sg**	**17 47 26.7**	**+0.1**
XOR				AML	AML	17 47 33.1	
	comp=E,7264µm,0.3s						
XOR				AML	AML	17 47 33.5	
	comp=N,13346µm,0.4s						
NEO	**Neokhori**	**0.38**	**155**	P	**Pg**	**17 47 23.3**	**-0.2**
NEO				S	**Sg**	**17 47 28.6**	**0.0**
	comp=N,5µm,0.3s						
NEO	**Neokhori**	**0.38**	**155**	P	**Pg**	**17 47 23.2**	**-0.2**
NEO				S	**Sg**	**17 47 28.5**	**0.0**
NEO				AML	AML	17 47 34.1	
	comp=N,11084µm,0.2s						
NEO				AML	AML	17 47 34.3	
	comp=E,11756µm,0.2s						
SKIA	**Skiathos**	**0.59**	**144**	P	**Pg**	**17 47 27.3**	**-0.2**
SKIA				S	**Sg**	**17 47 36.0**	**+0.6**
	comp=E,2µm,0.5s						
SKIA	**Skiathos**	**0.59**	**144**	P	**Pg**	**17 47 27.7**	**+0.1**
SKIA				S	**Sg**	**17 47 35.6**	**+0.2**
SKIA				AML	AML	17 47 38.9	
	comp=N,5488µm,0.5s						
SKIA				AML	AML	17 47 39.3	
	comp=E,4255µm,0.3s						
LIT	**Litokhoron**	**0.61**	**318**	P	**Pg**	**17 47 27.7**	**-0.1**
LIT				S	**Sg**	**17 47 36.4**	**+0.5**
	comp=E,3µm,0.3s						
LIT	**Litokhoron**	**0.61**	**318**	P	**Pg**	**17 47 27.7**	**-0.1**
LIT				AML	AML	17 47 37.8	
	comp=N,3947µm,0.2s						
LIT				AML	AML	17 47 42.8	
	comp=E,6523µm,0.4s						
THL	**Klokotos Trika**	**0.78**	**264**	P	**Pg**	**17 47 30.4**	**-0.7**
THL				S	**Sg**	**17 47 41.8**	**+0.5**
	comp=E,2µm,0.5s						
THL	**Klokotos Trika**	**0.78**	**264**	P	**Pg**	**17 47 30.4**	**-0.7**
THL				S	**Sg**	**17 47 41.6**	**+0.2**
THL				AML	AML	17 47 45.8	
	comp=E,2352µm,0.4s						
THL				AML	AML	17 47 46.9	
	comp=N,4550µm,0.6s						
PLG	**Polygyros**	**0.79**	**24**	P	**Pb**	**17 47 31.5**	**-0.3**
PLG				S	**Sb**	**17 47 42.5**	**0.0**
	comp=N,1µm,0.3s						
PLG	**Polygyros**	**0.79**	**24**	P	**Pg**	**17 47 31.3**	**0.0**
PLG				AML	AML	17 47 45.2	
	comp=E,2305µm,0.3s						
PLG				AML	AML	17 47 48.9	
	comp=N,2957µm,0.6s						
AOS	**Alonnisos**	**0.82**	**125**	P	**Pb**	**17 47 31.3**	**-0.9**
AOS				S	**Sg**	**17 47 43.4**	**+0.9**
	comp=N,860nm,0.8s						
AOS	**Alonnisos**	**0.82**	**125**	P	**Pb**	**17 47 31.7**	**-0.5**
AOS				S	**Sb**	**17 47 42.4**	**-0.8**
AOS				AML	AML	17 47 44.2	
	comp=N,1891µm,0.6s						
AOS				AML	AML	17 47 46.4	
	comp=E,1290µm,0.3s						
AOS	**Alonnisos**	**0.82**	**125**	PG	**Pb**	**17 47 32.0**	**-0.2**
AOS				SG	**Sn**	**17 47 44.2**	**-1.3**
AGG	**Agios Georgios**	**0.82**	**221**	P	**Pb**	**17 47 31.5**	**-0.7**
AGG				S	**Sg**	**17 47 43.4**	**+0.7**
	comp=E,980nm,0.5s						
AGG	**Agios Georgios**	**0.82**	**221**	P	**Pb**	**17 47 31.5**	**-0.7**
AGG				S	**Sb**	**17 47 42.8**	**-0.5**
AGG				AML	AML	17 47 49.6	
	comp=N,1910µm,0.6s						
AGG				AML	AML	17 47 50.0	
	comp=E,1827µm,0.4s						
AGG	**Agios Georgios**	**0.82**	**221**	PG	**Pb**	**17 47 31.6**	**-0.7**
AGG				SG	**Sg**	**17 47 44.1**	**+1.4**
HORT	**Hortiatis**	**0.95**	**4**	P	**Pb**	**17 47 34.0**	**-0.4**
HORT				S	**Sn**	**17 47 47.7**	**-1.1**
	comp=E,542nm,0.5s						
HORT	**Hortiatis**	**0.95**	**4**	P	**Pb**	**17 47 34.0**	**-0.4**
HORT				AML	AML	17 47 49.5	
	comp=E,1242µm,0.3s						
HORT				AML	AML	17 47 49.9	
	comp=N,1002µm,0.3s						
HORT	**Hortiatis**	**0.95**	**4**	PG	**Pb**	**17 47 34.1**	**-0.4**
HORT				SG	**Sn**	**17 47 47.6**	**-1.2**
LKR	**Lokris**	**1.00**	**181**	P	**Pb**	**17 47 35.0**	**-0.2**
LKR	**Lokris**	**1.00**	**181**	P	**Pb**	**17 47 34.2**	**-1.0**
LKR				AML	AML	17 47 52.8	
	comp=E,911µm,0.2s						
LKR				AML	AML	17 47 54.1	
	comp=N,1269µm,0.5s						
OUR	**Ouranopolis**	**1.01**	**47**	P	**Pb**	**17 47 35.0**	**-0.3**
OUR				S	**Sn**	**17 47 49.4**	**-0.6**
	comp=N,1µm,0.4s						
OUR	**Ouranopolis**	**1.01**	**47**	P	**Pb**	**17 47 35.1**	**-0.2**
OUR				AML	AML	17 47 51.8	
	comp=N,2197µm,0.3s						
OUR				AML	AML	17 47 57.1	
	comp=E,1821µm,0.4s						
KTI	**Kastanea**	**1.02**	**317**	P	**Pb**	**17 47 35.3**	**-0.3**
KZN	**Kozani**	**1.16**	**305**	P	**Pb**	**17 47 38.0**	**-0.1**
KZN	**Kozani**	**1.16**	**305**	P	**Pg**	**17 47 38.3**	**0.0**
KZN				AML	AML	17 47 56.8	
	comp=N,1224µm,0.5s						
KZN				AML	AML	17 47 59.4	
	comp=E,1745µm,0.4s						
EVR	**Evrytania**	**1.19**	**232**	P	**Pb**	**17 47 38.7**	**+0.1**
EVR	**Evrytania**	**1.19**	**232**	P	**Pb**	**17 47 38.7**	**+0.1**
EVR				AML	AML	17 48 03.1	
	comp=E,677µm,0.8s						
EVR				AML	AML	17 48 04.1	
	comp=N,931µm,0.8s						
SOH	**Sokhos**	**1.20**	**12**	P	**Pb**	**17 47 38.3**	**-0.4**
SOH	**Sokhos**	**1.20**	**12**	P	**Pb**	**17 47 38.2**	**-0.4**
SOH				S	**Sn**	**17 47 54.1**	**-0.8**
SOH				AML	AML	17 47 57.8	
	comp=E,2778µm,0.7s						
SOH				AML	AML	17 48 00.4	
	comp=N,1594µm,0.5s						
DSF	**Desfina**	**1.30**	**197**	P	**Pn**	**17 47 39.2**	**-0.8**
DSF	**Desfina**	**1.30**	**197**	P	**Pn**	**17 47 39.5**	**-0.5**
DSF				AML	AML	17 48 00.8	
	comp=N,730µm,0.2s						
DSF				AML	AML	17 48 02.6	
	comp=E,728µm,0.8s						
KYMI	**Kymi, Euboea I**	**1.32**	**140**	P	**Pn**	**17 47 39.9**	**-0.3**
KYMI	**Kymi, Euboea I**	**1.32**	**140**	P	**Pn**	**17 47 39.7**	**-0.6**
KYMI				AML	AML	17 47 56.7	
	comp=N,345µm,0.5s						
KYMI				AML	AML	17 47 57.6	
	comp=E,369µm,0.4s						
ANX	**Ano Chora**	**1.36**	**219**	P	**Pb**	**17 47 41.3**	**-0.1**
ANX	**Ano Chora**	**1.36**	**219**	P	**Pb**	**17 47 41.4**	**0.0**
ANX				AML	AML	17 48 11.4	
	comp=N,1016µm,0.8s						
ANX				AML	AML	17 48 14.2	
	comp=E,763µm,0.8s						
SERG	**Sergoula**	**1.45**	**212**	P	**Pb**	**17 47 42.4**	**-0.5**
TRIZ	**Trizonia**	**1.48**	**210**	P	**Pb**	**17 47 42.9**	**-0.5**
VILL	**Villia**	**1.50**	**171**	P	**Pn**	**17 47 42.8**	**0.0**
SRS	**Serrai**	**1.53**	**16**	P	**Pn**	**17 47 43.0**	**-0.2**
LOUT	**Loutraki**	**1.66**	**181**	P	**Pn**	**17 47 45.4**	**+0.5**
VAY	**Valandovo**	**1.70**	**349**	↑*i* Pn	**Pn**	**17 47 45.9**	**+0.3**
VLY	**Voula,Athens**	**1.89**	**161**	P	**Pn**	**17 47 46.9**	**+0.7**
MMB	**Musomiste**	**2.01**	**15**	*e*P	**Pn**	**17 47 50.3**	**+0.5**
STIP	**Stip**	**2.14**	**343**	↓*i* Pn	**Pn**	**17 47 52.1**	**+0.6**
KKB	**Krupnik**	**2.21**	**1**	*e*P	**Pn**	**17 47 52.9**	**+0.3**
OHR	**Ohrid**	**2.24**	**311**	↓*i* Pn	**Pb**	**17 47 54.5**	**-1.9**
SKO	**Skopje**	**2.61**	**333**	*i* Pn	**Pn**	**17 47 57.5**	**-0.6**
VTS	**Vitosha**	**2.97**	**3**	↓P	**Pn**	**17 48 02.9**	**-0.1**
VTS				↑S	**Sn**	**17 48 38.3**	**-0.4**
VTS	**Vitosha**	**2.97**	**3**	*e*P	**Pn**	**17 48 03.0**	**-0.1**
DIM	**Dimitrovgrad**	**3.06**	**38**	*e*P	**Pn**	**17 48 05.0**	**+0.8**
ELND	**Elena**	**3.92**	**32**	↑P	**Pn**	**17 48 15.4**	**-0.6**
ELND				↑S	**Sn**	**17 49 02.0**	**0.0**
PDG	**Podgorica**	**3.98**	**315**	↑P	**Pn**	**17 48 16.3**	**-0.5**
PDG				↑S	**Sn**	**17 49 03.5**	**+0.1**
BLKB	**Belogradchik**	**3.98**	**356**	↑S	**Sn**	**17 49 03.1**	**-0.4**
TIP	**Timpagrande**	**4.87**	**266**	↑P	**Pn**	**17 48 29.4**	**+0.2**
TIP				S	**Sn**	**17 49 25.7**	**+0.2**
MATE	**Matera**	**4.94**	**284**	↑P	**Pn**	**17 48 30.0**	**0.0**
MDVR	**Moldovita**	**5.22**	**350**	↑P	**Pn**	**17 48 33.1**	**-0.8**
MLR	**Muntele Rosu**	**6.22**	**19**	Pn	**Pn**	**17 48 49.0**	**+1.3**
	comp=E,0.7nm,0.3s,baz=184,slow=13,SNR=6.3						
MLR				Lg	Lg	17 50 34.2	
	comp=E,0.1nm,0.3s,baz=147,slow=16,SNR=3.2						
MLR	**Muntele Rosu**	**6.22**	**19**	↑P	**Pn**	**17 48 47.6**	**-0.2**
VRI	**Vrincioaia**	**6.78**	**22**	↑P	**Pn**	**17 48 54.6**	**-0.8**
BRTR	**Keskin Array B**	**8.19**	**86**	Pn	**Pn**	**17 49 16.6**	**+1.8**
	comp=E,0.2nm,0.3s,baz=269,slow=13,SNR=7.3						
DAVOX	**Davos/Dischmat**	**11.94**	**311**	LR	LR	17 55 27.2	
	comp=E,36nm,19.5s,baz=238,slow=41						
ESDC	**Sonseca Array**	**20.75**	**279**	P	Pn	17 52 01.3	+2.3
	comp=E,0.3nm,0.6s,baz=66,slow=10.0,SNR=4.1						
NB2	**NORSAR Subarra**	**22.63**	**345**	P	**P**	**17 52 17.3**	**+0.7**
	comp=Z,4.3nm,0.8s,baz=153,slow=11						
NOA	**NORSAR Array B**	**22.63**	**345**	P	**P**	**17 52 17.6**	**+1.0**
	comp=Z,2.1nm,0.8s,baz=153,slow=11,SNR=4.0						
ARU	**Arti**	**28.66**	**42**	LR	LR	18 06 51.9	
	comp=Z,24nm,19.1s,baz=98,slow=41						
MKAR	**Makanchi Array**	**42.87**	**60**	P	**P**	**17 55 14.8**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=265,slow=6.9,SNR=4.4						

NEIC ***11*** *18:10:00.9±2.4,20.°74S±0.°09×177.°6W±0.°1,h476km±7km,*
mb4.5/38,Error ellipse: s-maj=20.2km s-min=13.6km
az=91.0
IDC ***11*** *18:10:01.2±2.1,20.°83S×177.°71W,h471km±23km,*
mb3.8/12,mb1 3.9/15,mb1mx3.5/44,mbtmp4.6/15,Error
ellipse: s-maj=20.0km s-min=12.8km az=116.0
ISC 11 18:09:59.3±0.5,20.°74S±0.°06×177.°67W±0.°09,h450km,
n84,σ1§93/85,mb4.4/29,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.03**	**306**	P	P	18 11 29.6	+5.4
RAO	**Raoul Island**	**8.48**	**182**	P	**P**	**18 11 57.7**	**-2.1**
	95nm,0.3s,baz=253,slow=22,SNR=4.7						
RAO				S	**S**	**18 13 40.1**	**+1.3**
	75nm,0.3s,baz=64,slow=24,SNR=3.2						
AFI	**Afiamalu**	**8.81**	**41**	P	**P**	**18 12 05.5**	**+1.7**
	6.0nm,0.3s,baz=137,slow=5.2,SNR=5.6						
AFI				S	**S**	**18 13 43.5**	**-2.4**
	2.0nm,0.3s,baz=196,slow=7.4,SNR=2.0						
FUNA	**Funafuti**	**12.51**	**346**	P	**P**	**18 12 46.6**	**+2.7**
DZM	**Mont Dzumac**	**14.86**	**262**	P	**P**	**18 13 09.8**	**+0.6**
	0.2nm,0.3s,baz=113,slow=17,SNR=2.5						
PUZ	**Puketiti**	**17.63**	**191**	P	**P**	**18 13 43.0**	**+4.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGZ	**Tauwhareparae**	**17.78**	**191**	P	**P**	**18 13 45.1**	**+5.4**
KMRZ	**Kaimai**	**17.93**	**197**	P	P	18 13 49.1	+7.8
URZ	**Urewera**	**18.04**	**193**	P	**P**	**18 13 43.1**	**+0.8**
	1.1nm,0.3s,baz=194,slow=18,SNR=1.6						
URZ				S	**S**	**18 16 42.5**	**-2.6**
	0.5nm,0.3s,baz=208,slow=23,SNR=1.3						
URZ	**Urewera**	**18.04**	**193**	P	**P**	**18 13 44.9**	**+2.7**
URZ	**Urewera**	**18.04**	**193**	P	**P**	**18 13 43.0**	**+0.8**
BKZ	**Black Stump Fm**	**19.04**	**194**	P	**P**	**18 13 54.1**	**+2.3**
BKZ	**Black Stump Fm**	**19.04**	**194**	P	**P**	**18 13 51.4**	**-0.5**
BKZ				IAmb	IAmb	18 14 14.7	
	comp=Z,19nm,1.2s						
KWHZ	**Kaweka Forest**	**19.30**	**194**	P	**P**	**18 13 56.9**	**+2.7**
BHHZ	**Black Hill Sta**	**19.45**	**195**	P	**P**	**18 13 56.4**	**+0.8**
TSZ	**Takapari Road**	**20.02**	**194**	P	**P**	**18 14 04.5**	**+3.7**
ANWZ	**Angora Road**	**20.29**	**193**	P	**P**	**18 14 07.0**	**+3.9**
BFZ	**Birch Farm**	**20.55**	**193**	P	**P**	**18 14 09.0**	**+3.4**
MRZ	**Mangatainoka R**	**20.68**	**195**	P	**P**	**18 14 10.4**	**+3.7**
BHW	**Baring Head**	**21.56**	**195**	P	**P**	**18 14 17.7**	**+3.1**
PLWZ	**Palliser**	**21.62**	**195**	P	**P**	**18 14 19.6**	**+4.3**
NNZ	**Nelson**	**21.79**	**198**	P	**P**	**18 14 20.5**	**+3.8**
TUWZ	**Tuamarina**	**21.82**	**197**	P	**P**	**18 14 15.5**	**-1.6**
KHZ	**Kahutara**	**22.85**	**197**	P	**P**	**18 14 27.4**	**+1.0**
LTZ	**Lake Taylor**	**23.55**	**199**		**P**	**18 14 25.6**	**-7.1**
RPZ	**Rata Peaks**	**24.77**	**200**	P	**P**	**18 14 43.7**	**+0.1**
	comp=Z,31nm,1.2s,baz=50,slow=7.9,SNR=3.1						
EIDS	**Eidsvold**	**29.09**	**255**	P	**P**	**18 15 22.2**	**+0.3**
EIDS				IAmb	IAmb	18 15 23.1	
	comp=Z,19nm,1.4s						
ARMA	**Armidale**	**29.25**	**245**	P	**P**	**18 15 23.3**	**0.0**
ARMA				IAmb	IAmb	18 15 26.0	
	comp=Z,25nm,1.3s						
CTA	**Charters Tower**	**33.78**	**265**	P	**P**	**18 16 02.3**	**-0.1**
	comp=Z,4.4nm,0.4s,baz=89,slow=11,SNR=25						
CTAO	**Charters Tower**	**33.78**	**265**	P	**P**	**18 16 01.6**	**-0.8**
CTAO				IAmb	IAmb	18 16 03.7	
	comp=Z,26nm,1.3s						
TOO	**Toolangi**	**36.01**	**234**	P	**P**	**18 16 22.1**	**+1.2**
TOO				IAmb	IAmb	18 16 22.6	
	comp=Z,14nm,0.8s						
STKA	**Stephens Creek**	**37.97**	**244**	P	**P**	**18 16 37.5**	**+0.3**
	comp=Z,12nm,0.7s,baz=89,slow=10,SNR=24						
STKA	**Stephens Creek**	**37.97**	**244**	P	**P**	**18 16 37.3**	**+0.1**
BBOO	**Buckleboo**	**42.72**	**244**	P	**P**	**18 17 14.8**	**-0.7**
BBOO				IAmb	IAmb	18 17 16.5	
	comp=Z,28nm,1.0s						
JAY	**Jayapura**	**44.42**	**289**	P	**P**	**18 17 28.9**	**-0.2**
	comp=Z,15nm,0.8s,baz=118,slow=7.2,SNR=4.4						
JAY	**Jayapura**	**44.42**	**289**	P	**P**	**18 17 28.4**	**-0.6**
	comp=Z,12nm,0.8s						
WR0	**Warramunga Arr**	**44.69**	**262**	P	**P**	**18 17 30.1**	**-1.0**
AS31	**Alice Springs**	**44.77**	**257**	P	**P**	**18 17 31.0**	**-0.7**
ASAR	**Alice Springs**	**44.77**	**257**	P	**P**	**18 17 31.2**	**-0.4**
	comp=Z,16nm,0.8s,baz=100,slow=7.7,SNR=161						
ASAR				PcP	**PcP**	**18 19 03.7**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=98,slow=3.5,SNR=7.4						
ASAR	**Alice Springs**	**44.77**	**257**	P	**P**	**18 17 30.9**	**-0.8**
WB0	**Warramunga Arr**	**44.86**	**262**	P	**P**	**18 17 31.4**	**-1.0**
WB2	**Warramunga Arr**	**44.87**	**262**	P	**P**	**18 17 31.5**	**-1.0**
WRAB	**Tennant Creek**	**44.87**	**262**	P	**P**	**18 17 31.7**	**-0.8**
WRAB				IAmb	IAmb	18 17 32.4	
	comp=Z,12nm,1.0s						
WRA	**Warramunga Arr**	**44.88**	**262**	P	**P**	**18 17 31.4**	**-1.1**
	comp=Z,3.2nm,0.8s,baz=96,slow=7.7,SNR=133						
WRA	**Warramunga Arr**	**44.88**	**262**	P	**P**	**18 17 31.0**	**-1.5**
MTN	**Manton Dam**	**49.48**	**271**	P	**P**	**18 18 06.5**	**-1.0**
MTN				IAmb	IAmb	18 18 35.5	
	comp=Z,34nm,1.3s						
FORT	**Forrest**	**49.49**	**247**	P	**P**	**18 18 06.7**	**-0.6**
KNRA	**Kununurra**	**50.96**	**266**	P	**P**	**18 18 16.8**	**-1.5**
KNRA				IAmb	IAmb	18 18 19.6	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.31**	**262**	P	**P**	**18 18 35.1**	**-0.2**
	comp=Z,8.1nm,1.0s,baz=98,slow=4.3,SNR=18						
FITZ	**Fitzroy Crossi**	**53.31**	**262**	P	**P**	**18 18 34.8**	**-0.5**
FITZ				IAmb	IAmb	18 18 36.1	
	comp=Z,30nm,1.5s						
SOEI	**Soe**	**56.82**	**272**	P	**P**	**18 18 59.9**	**-0.4**
PSA00	**Pilbara Seismi**	**57.92**	**257**		**P**	**18 19 06.8**	**-0.8**
NWAO	**Narrogin (SRO)**	**58.54**	**243**	P	**P**	**18 19 11.4**	**-0.2**
NWAO				IAmb	IAmb	18 19 17.1	
	comp=Z,40nm,1.4s						
MORW	**Morawa**	**60.03**	**248**	P	**P**	**18 19 21.3**	**-0.4**
MORW				IAmb	IAmb	18 19 22.0	
	comp=Z,15nm,1.1s						
GIRL	**Giralia**	**62.79**	**255**	P	**P**	**18 19 40.7**	**+0.8**
CASY	**Casey**	**63.88**	**205**	P	**P**	**18 19 47.0**	**+0.8**
MYLDM	**Lahad Datu**	**67.70**	**285**	P	**P**	**18 20 11.6**	**+0.5**
MYLDM		

13nm,0.3s,baz=248,slow=2.2,SNR=9.1
HNR S **Sn** **18 16 36.0 +3.6**
25nm,0.3s,baz=317,slow=23,SNR=11
HNR LR LR 18 17 41.0
comp=Z,395nm,18.6s,baz=286,slow=37
HNR Honiara 5.83 122 Pn Pn 18 15 24.9 -2.0
PMG Port Moresby 8.30 248 P **Pn 18 15 59.1 -1.4**
8.4nm,0.3s,baz=55,slow=7.2,SNR=28
PMG S **Sn** **18 17 33.8 +1.2**
2.8nm,0.3s,baz=73,slow=22,SNR=4.3
PMG LR LR 18 19 03.9
comp=Z,359nm,21.5s,baz=60,slow=36
PMG Port Moresby 8.30 248 Pn Pn 18 15 56.9 -3.6
PATS Pohnpei 13.51 14 Pn Pn 18 17 07.9 -2.5
CTA Charters Tower 16.07 211 P **P 18 17 43.5 -1.0**
0.2nm,0.3s,baz=31,slow=16,SNR=2.2
DZM Mont Dzumac 19.18 146 P **Pn 18 18 20.3 -0.6**
2.1nm,0.3s,baz=309,slow=9.3,SNR=22
DZM Mont Dzumac 19.18 146 *e*P **Pn 18 18 19.0 -1.8**
40nm,0.7s
DZM *e*LR LR 18 22 57.2
comp=Z,281nm,27.9s
DZM Mont Dzumac 19.18 146 P **Pn 18 18 18.8 -2.1**
DZM IAmb IAmb 18 18 21.1
comp=Z,28nm,0.8s
WR0 Warramunga Arr 24.01 234 P 18 19 08.9 +0.3
WR0 IAmb IAmb 18 19 10.5
comp=Z,34nm,1.1s
WB0 Warramunga Arr 24.03 234 P 18 19 09.0 +0.3
WB0 IAmb IAmb 18 19 10.6
comp=Z,40nm,1.2s
WRAB Tennant Creek 24.15 234 P **P 18 19 10.3 +0.5**
WB2 Warramunga Arr 24.15 234 P 18 19 10.7 +0.8
WB2 IAmb IAmb 18 19 11.8
comp=Z,45nm,1.4s
WRA Warramunga Arr 24.16 234 P **P 18 19 10.5 +0.5**
comp=Z,12nm,0.6s,baz=57,slow=9.6,SNR=22
WRA PcP **PcP 18 22 49.7 +1.1**
comp=Z,1.0nm,0.5s,baz=60,slow=2.7,SNR=7.2
WRA Warramunga Arr 24.16 234 P **P 18 19 09.7 -0.2**
WRA **PcP 18 22 49.6 +1.1**
MTN Manton Dam 24.35 253 P **P 18 19 12.0 +0.3**
MTN IAmb IAmb 18 19 13.8
comp=Z,22nm,0.9s
ASAR Alice Springs 26.58 227 P **P 18 19 31.6 -0.3**
comp=Z,3.9nm,0.7s,baz=59,slow=8.5,SNR=21
ASAR PcP **PcP 18 22 54.8 +0.8**
comp=Z,1.6nm,0.6s,baz=80,slow=2.3,SNR=9.0
ASAR LR LR 18 29 37.8
comp=Z,144nm,19.7s,baz=34,slow=35
ASAR Alice Springs 26.58 227 P **P 18 19 31.0 -0.9**
ASAR **PcP 18 22 54.3 +0.3**
H11S3 WAKE ISLAND Hy 27.25 25 T T 18 47 50.2
baz=205,slow=76,SNR=36
H11S2 WAKE ISLAND Hy 27.25 25 T T 18 47 48.3
baz=205,slow=76,SNR=26
H11S1 WAKE ISLAND Hy 27.27 25 T T 18 47 46.4
baz=205,slow=76,SNR=28
KNRA Kununurra 27.30 248 P **P 18 19 37.9 -0.4**
STKA Stephens Creek 28.31 204 P **P 18 19 47.2 0.0**
comp=Z,2.3nm,0.6s,baz=10.0,slow=8.4,SNR=5.8
STKA LR LR 18 30 54.7
comp=Z,156nm,19.2s,baz=18,slow=36
STKA Stephens Creek 28.31 204 P **P 18 19 47.1 -0.1**
H11N1 WAKE ISLAND Hy 28.43 24 T T 18 49 26.3
baz=204,slow=76,SNR=6.5
H11N3 WAKE ISLAND Hy 28.44 24 T T 18 49 26.0
baz=204,slow=76,SNR=10
H11N2 WAKE ISLAND Hy 28.44 24 T T 18 49 30.0
baz=204,slow=76,SNR=5.2
FITZ Fitzroy Crossi 30.89 245 P **P 18 20 09.8 -0.2**
comp=Z,9.6nm,0.8s,baz=76,slow=5.7,SNR=14
FITZ Fitzroy Crossi 30.89 245 P **P 18 20 10.2 +0.1**
KMSI Cibinong 31.66 281 P P 18 20 18.5 +1.5
comp=Z,83nm,0.7s
EDFI Ende, Flores 33.05 264 P **P 18 20 29.4 +0.1**
comp=Z,32nm,1.0s
WSI Waingapu 34.47 262 P P 18 20 43.1 +1.7
comp=Z,5umcomp=Z,197nm,1.1s
WBSI Waikabubak, Su 35.36 262 P P 18 20 51.5 +2.4
comp=Z,40nm,0.9s
MPSI Mapaga 35.61 279 P **P 18 20 51.5 +0.3**
comp=Z,16nm,0.8s
URZ Urewera 37.60 151 P **P 18 21 08.8 +1.0**
comp=Z,11nm,0.8s,baz=349,slow=5.2,SNR=1.6
URZ Urewera 37.60 151 P **P 18 21 08.5 +0.6**
URZ IAmb IAmb 18 21 14.9
comp=Z,24nm,1.0s
BKZ Black Stump Fm 38.03 152 P **P 18 21 11.7 +0.1**
THZ Tophouse 38.73 158 P **P 18 21 17.4 0.0**
TUWZ Tuamarina 38.83 157 P **P 18 21 18.7 +0.6**
BFZ Birch Farm 39.15 154 P **P 18 21 20.9 +0.1**
LTZ Lake Taylor 39.40 160 P **P 18 21 23.0 +0.2**
OXZ Oxford 39.80 160 P **P 18 21 26.3 +0.1**
RPZ Rata Peaks 39.83 162 P **P 18 21 27.2 +0.8**
comp=Z,14nm,0.9s,baz=180,slow=2.6,SNR=5.5
RPZ Rata Peaks 39.83 162 P **P 18 21 27.3 +0.8**
MQZ McQueen's Vall 40.34 160 P **P 18 21 30.8 +0.2**
KKM Kota Kinabalu 40.57 287 P **P 18 21 33.9 +0.8**
KKM IAmb IAmb 18 21 34.7
comp=Z,22nm,0.9s
MORW Morawa 43.11 234 P **P 18 21 53.5 0.0**
MORW IAmb IAmb 18 21 54.4
comp=Z,10nm,0.9s
NWAO Narrogin (SRO) 43.90 228 P **P 18 22 00.0 +0.3**
NWAO IAmb IAmb 18 22 00.2
comp=Z,25nm,1.1s
SSLB Suanglung 44.69 313 P **P 18 22 07.0 +0.9**
SSLB IAmb IAmb 18 22 10.3
comp=Z,12nm,1.0s
KSM Kuching 45.24 278 P **P 18 22 11.0 +0.4**
KSM IAmb IAmb 18 22 12.5
comp=Z,11nm,0.7s
JNU Nakatsue 45.41 331 LR LR 18 38 52.0
comp=Z,26nm,21.5s,baz=188,slow=33
JNU Nakatsue 45.41 331 P **P 18 22 12.2 +0.5**
JNU IAmb IAmb 18 22 34.0
comp=Z,20nm,1.4s
CISI Cisompet, Garu 46.79 266 P **P 18 22 23.3 +0.4**
KSRS Korea Array 50.34 332 P **P 18 22 49.8 +0.2**
comp=Z,2.8nm,0.9s,baz=148,slow=8.1,SNR=10
KSRS LR LR 18 44 16.7
comp=Z,9.8nm,18.2s,baz=130,slow=36
MYKOM Kota Tinggi 51.65 277 P **P 18 23 00.8 +0.9**
MYKOM IAmb IAmb 18 23 01.5
comp=Z,15nm,0.9s
IPM Ipoh 54.90 280 P **P 18 23 23.8 +0.1**
IPM IAmb IAmb 18 23 25.4
comp=Z,9.1nm,0.7s
TBI Tubuai 55.98 114 *e*LR LR 18 40 10.7
comp=Z,118nm,30.8s
PETK Petropavlovsk- 59.26 2 P P 18 23 55.8 +2.1
comp=Z,6.2nm,0.6s,baz=170,slow=9.0,SNR=8.9
PETK LR LR 18 47 47.5
comp=Z,27nm,20.2s,baz=241,slow=34
PETK Petropavlovsk- 59.26 2 P P 18 23 55.3 +1.6
CM31 Chiang Mai Arr 60.46 295 P P 18 24 04.4 +1.7
CMAR Chiang Mai Arr 60.46 295 P P 18 24 04.5 +1.9
comp=Z,14nm,0.8s,baz=120,slow=5.0,SNR=69
CMAR LR LR 18 51 35.3
comp=Z,102nm,18.7s,baz=215,slow=37
CMAR Chiang Mai Arr 60.46 295 P P 18 24 04.1 +1.4
CMAR pP pP 18 24 19.2 -7.9
CHTO Chiang Mai 60.58 296 P P 18 24 04.8 +1.4
CHTO IAmb IAmb 18 24 05.9
comp=Z,9.4nm,0.9s
CASY Casey 67.20 198 P **P 18 24 46.3 +0.3**
ULN Ulaanbaatar 68.43 328 P P 18 24 55.4 +1.2
SONM Songino Array 68.76 327 P P 18 24 57.2 +1.0
comp=Z,4.3nm,0.8s,baz=136,slow=5.7,SNR=22
SONM Songino Array 68.76 327 P **P 18 24 57.2 +1.0**
LSA Lhasa 70.87 304 P P 18 25 11.0 +1.1
VNDA Vanda 71.24 178 P P 18 25 12.1 +1.4
comp=Z,1.6nm,0.7s,baz=320,slow=6.3,SNR=14
VNDA Vanda 71.24 178 P P 18 25 12.0 +1.3
IMAR Indian Mountai 81.12 19 P P 18 26 08.4 +1.6
IMAR pP pP 18 26 24.1 -8.9
ILAR Eielson Array 82.78 22 P **P 18 26 15.7 +0.1**
comp=Z,0.8nm,0.6s,baz=250,slow=5.6,SNR=6.1
ILAR LR LR 18 57 49.5
comp=Z,60nm,20.8s,baz=254,slow=32
ILAR Eielson Array 82.78 22 P **P 18 26 15.1 -0.5**
ILAR pP pP 18 26 31.8 -10
MK31 Makanchi Array 82.88 319 P **P 18 26 16.9 +0.4**
MK31 IAmb IAmb 18 26 18.5
comp=Z,5.6nm,0.8s
MK31 pP pP 18 26 32.6 -10
MKAR Makanchi Array 82.88 319 P **P 18 26 17.3 +0.8**
comp=Z,6.6nm,0.7s,baz=103,slow=5.3,SNR=79
MKAR Makanchi Array 82.88 319 P **P 18 26 16.6 +0.1**
MKAR pP pP 18 26 33.3 -9.2
MAKZ Makanchi 83.09 319 P **P 18 26 18.0 +0.4**
MAKZ IAmb IAmb 18 26 19.5
comp=Z,9.1nm,0.8s
MAKZ pP pP 18 26 34.0 -10
DOT Dot Lake 83.28 23 P **P 18 26 19.2 +1.0**
ZAA0 Zalesovo Array 83.61 326 P **P 18 26 19.3 -0.7**
ZALV Zalesovo Beam 83.61 326 P **P 18 26 19.9 -0.1**
comp=Z,3.6nm,0.6s,baz=113,slow=6.1,SNR=20
ZALV Zalesovo Beam 83.61 326 P **P 18 26 19.1 -0.9**
QSPA South Pole Qui 83.64 180 P **P 18 26 21.1 +0.9**
QSPA IAmb IAmb 18 26 22.3
comp=Z,9.8nm,0.9s
HYT Haines Junctio 84.81 27 P P 18 26 28.1 +2.0
HYT IAmb IAmb 18 26 45.1
comp=Z,6.6nm,0.9s
MAW Mawson 84.99 203 P P 18 26 28.0 +1.3
comp=Z,6.7nm,0.6s,baz=90,slow=6.1,SNR=33
MAW Mawson 84.99 203 P **P 18 26 27.9 +1.1**
KDJ Kajisay 85.22 313 P P 18 26 30.0 +1.3
KDJ IAmb IAmb 18 26 31.1
comp=Z,5.5nm,0.8s
KURK Kurchatov 86.29 322 P **P 18 26 33.5 +0.1**
KURBB Kurchatov Arra 86.32 322 P **P 18 26 34.0 +0.3**
comp=Z,0.9nm,0.6s,baz=100,slow=4.8,SNR=4.6
BBB Bella Bella 87.02 37 LR LR 18 58 46.6
comp=Z,32nm,20.5s,baz=265,slow=31
EPYK Eagle Plains 87.27 22 P **P 18 26 38.6 +0.7**
EPYK IAmb IAmb 18 26 56.6
comp=Z,11nm,1.1s
NVAR Mina Array Bea 91.35 52 P P 18 26 59.8 +1.8
comp=Z,1.6nm,0.7s,baz=256,slow=6.0,SNR=12
NVAR Mina Array Bea 91.35 52 P P 18 26 59.6 +1.6
NV11 Mina Array Sit 91.46 52 P P 18 27 00.7 +2.2
NV11 IAmb IAmb 18 27 02.5
comp=Z,5.7nm,1.4s
KVN Kaiserville 91.58 51 P P 18 27 00.8 +1.7
KVN IAmb IAmb 18 27 01.9
comp=Z,2.7nm,0.8s
BVAR Bovoye Array 91.75 323 P **P 18 26 58.6 -0.7**
comp=Z,1.3nm,0.7s,baz=86,slow=6.2
RPN Rapa Nui 92.21 117 LR LR 19 02 55.7
comp=Z,24nm,19.8s,baz=186,slow=32
SYO Syowa Base 92.93 199⇑ *e*P **P 18 27 04.6 +0.2**
YKA Yellowknife Ar 95.78 28 P **P 18 27 18.1 +0.6**
comp=Z,1.7nm,0.8s,baz=266,slow=4.7,SNR=6.7
LPIG La Paz 96.87 67 LR LR 19 03 20.4
comp=Z,34nm,19.4s,baz=220,slow=30
EGMT Eagleton 98.21 42 P Pdif 18 27 31.4 +2.4
PDAR Pinedale Array 98.29 48 LR LR 19 07 21.0
comp=Z,24nm,19.0s,baz=297,slow=32
GERES GERESS Array B 126.47 329 PKP **PKiKP** **18 32 54.7 -0.2**
comp=Z,1.0nm,0.8s,baz=50,slow=2.1,SNR=6.5
GERES GERESS Array B 126.47 329 **PKiKP** **18 32 54.9 0.0**
TORD Torodi Ar. Bea 152.81 286 PKPbc **PKiKP** **18 33 49.2 -0.3**
comp=Z,2.5nm,0.8s,baz=72,slow=2.0,SNR=13

*SOME **11** 18:30:26.4,53.00N×85.98E,h0km*
*ASRS **11** 18:30:32.0±0.1,54.2N±0.8×86.1E±0.9,h1km,MLh3.3/13,*
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/iasp91 confirmed
*NNC **11** 18:30:32.7±1.7,54.29N×86.16E,h0km,mb3.8,mpv3.1,*
Error ellipse: s-maj=18.9km s-min=8.0km az=168.0,
Suspected Mining explosion.

ISC 11 18:30:33.0±0.7,54.22N±0.02×86.21E±0.02,h0km,n29,
σ1§40/57,8C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POMOR	**Pomortsevo, Ku**	**0.26**	**45**	Pg	**Pb**	**18 30 39.7**	**-1.0**
POMOR				Sg	**Sb**	**18 30 45.1**	**-0.6**
SALR	**Pechorkino, Sa**	**0.35**	**304**	Pg	**Pg**	**18 30 39.4**	**-0.4**
SALR				Sg	**Sg**	**18 30 44.3**	**-0.1**
ZAA0	**Zalesovo Array**	**0.86**	**252**	⇑P	**Pg**	**18 30 49.1**	**-0.4**
	0.4nm,0.2s						
ZAA0				⇓S	**Sg**	**18 31 00.9**	**+0.2**
	4.1nm,0.2s						
ZAA0				⇓Rg	Rg	18 31 05.6	
ELT	**Eltsovka**	**0.96**	**179**	Pg	**Pb**	**18 30 52.8**	**+0.2**
ELT				Sg	**Sb**	**18 31 06.2**	**+0.4**
KEM	**Kemerovo**	**1.13**	**357**	Pg	**Pb**	**18 30 55.0**	**-0.3**
KEM				Sg	**Sg**	**18 31 09.8**	**+0.6**
KHAR	**Kharino, NSO,**	**1.58**	**285**	Pg	**Pn**	**18 31 02.3**	**0.0**
KHAR				Sg	**Sn**	**18 31 23.1**	**-0.3**
TASR	**Tashtagol**	**1.77**	**145**	Pg	**Pg**	**18 31 06.5**	**-0.5**
TASR				Sg	**Sg**	**18 31 31.5**	**+1.6**
NVSII	**Novosibirsk**	**1.84**	**291**	Pg	**Pn**	**18 31 06.4**	**+0.5**
NVSII				Sg	**Sb**	**18 31 30.7**	**-0.3**
NVS	**Novosibirsk**	**1.84**	**291**	Pg	**Pn**	**18 31 06.4**	**+0.5**
NVS				Sg	**Sn**	**18 31 30.4**	**+0.6**
NHES	**Novosibirsk, N**	**1.98**	**290**	Pg	**Pb**	**18 31 09.4**	**-0.5**
NHES				Sg	**Sg**	**18 31 35.9**	**-0.7**
BSTK	**Bystrovka, Nov**	**2.10**	**281**	Pg	**Pb**	**18 31 11.6**	**-0.4**
BSTK				Sg	**Sb**	**18 31 39.0**	**+0.3**
ALXA	**Alekseevka, NS**	**2.23**	**290**	Pg	**Pb**	**18 31 14.2**	**+0.1**
ALXA				Sg	**Sb**	**18 31 42.4**	**+0.2**
SHRR	**Shira**	**2.33**	**82**	Pg	**Pb**	**18 31 15.7**	**-0.2**
SHRR				Sg	**Sg**	**18 31 47.6**	**-0.3**
ARTR	**Artybash**	**2.51**	**165**	Pg	**Pb**	**18 31 19.6**	**+0.6**
ARTR				Sg	**Sg**	**18 31 52.8**	**-1.0**
TBTR	**Tabat**	**2.99**	**114**	Pg	**Pg**	**18 31 29.6**	**-0.6**
TBTR				Sg	**Sg**	**18 32 07.5**	**-1.4**
ABNR	**Abakan**	**3.13**	**97**	Pg	**Pg**	**18 31 33.1**	**+0.2**
ABNR				Sg	**Sg**	**18 32 14.0**	**+0.5**
DJO	**Djoy, Khakassi**	**3.32**	**114**	Pg	**Pg**	**18 31 35.9**	**-0.7**
DJO				Sg	**Sg**	**18 32 21.7**	**+2.0**
UKR	**Ust'-Kan**	**3.40**	**195**	Pn	**Pn**	**18 31 30.1**	**+2.7**
UKR				Sg	**Sg**	**18 32 21.0**	**-1.3**
ULGR	**Ulagan, Altay**	**3.76**	**163**	Pg	**Pg**	**18 31 44.7**	**-0.4**
ULGR				Sg	**Sg**	**18 32 35.5**	**+1.7**
CHBI	**Chibit, Altay**	**4.00**	**168**	Pg	**Pg**	**18 31 47.7**	**-1.8**
CHBI				Sg	**Sg**	**18 32 41.8**	**+0.5**
AKAR	**Aktash**	**4.00**	**167**	Pg	**Pg**	**18 31 47.2**	**-2.5**
AKAR				Sg	**Sg**	**18 32 41.1**	**-0.5**
CUR	**Chagan-Uzun**	**4.33**	**161**	Pg	**Pg**	**18 31 54.2**	**-1.8**
CUR				Sg	**Sg**	**18 32 52.5**	**+0.3**
DGZ	**Jazzator, Alta**	**4.59**	**170**	Pg	**Pg**	**18 31 59.6**	**-1.4**
DGZ				Sg	**Sg**	**18 32 59.8**	**-0.6**
ARDR	**Aradan**	**4.63**	**108**	Sg	**Sg**	**18 33 04.1**	**+2.6**
KURK	**Kurchatov**	**5.81**	**236**	Pn	**Pn**	**18 32 02.3**	**+1.9**
KURK				Sg	**Sg**	**18 33 40.3**	**+0.7**
KURK	**Kurchatov**	**5.81**	**236**	⇓Pn	**Pn**	**18 32 01.9**	**+1.4**
	2.8nm,0.6s						
KURK				⇑Sn	**Sn**	**18 33 09.8**	**+2.0**
	2.9nm,1.1s						
KURK				⇑Lg	Lg	18 33 37.4	
	2.8nm,0.4s						
ZSN	**Zaisan**	**6.83**	**188**	*e*P	**Pn**	**18 32 12.3**	**-2.2**
	1.5nm,0.5s						
ZSN				*e*S	**Sn**	**18 33 27.4**	**-5.5**
	3.9nm,0.5s						
MK31	**Makanchi Array**	**7.84**	**200**	⇑Pn	**Pn**	**18 32 30.3**	**+2.0**
	0.9nm,0.3s,baz=25,slow=12,SNR=64						
MK31				⇑Sn	**Sn**	**18 33 58.1**	**+0.3**
	0.4nm,0.4s,baz=155,slow=40,SNR=6.4						
MK31				⇑Lg	Lg	18 34 42.6	
	6.1nm,1.1s,baz=23,slow=27,SNR=8.8						
MAKZ	**Makanchi**	**7.89**	**202**	⇓Pn	**Pn**	**18 32 31.2**	**+2.2**
	1.2nm,0.6s						
MAKZ				⇑Sn	**Sn**	**18 34 00.3**	**+1.3**
	1.0nm,0.6s						
MAKZ				⇑Lg	Lg	18 34 44.4	
	4.3nm,1.1s						

*JMA **11** 18:35:54.9,23.20N×120.85E,h0km*
*ASIES **11** 18:35:54.9,23.21N×120.83E,h11km,MW3.3*
*TAP **11** 18:35:55.3,23.18N×120.83E,h6km,ML3.6,C*

ISC 11 18:35:55.7±0.8,23.19N±0.01×120.84E±0.01,h9km±6km,
n121,σ0§84/186,15C-13D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STYT	**Tauyuan**	**0.08**	**251**	⇑*i*P	**Pg**	**18 35 57.4**	**-0.5**
	baz=249						
STYT				*i* S	**Sg**	**18 35 58.6**	**-0.8**
	baz=249						
ELDTW	**Lidau**	**0.17**	**90**	⇓*i*P	**Pg**	**18 35 59.7**	**+0.4**
	baz=90						
ELDTW				S	**Sg**	**18 36 02.3**	**+0.6**
	baz=90						
WTP	**Ta-pu**	**0.21**	**286**	⇓*i*P	**Pg**	**18 36 00.4**	**+0.3**
	baz=287						
WTP				*e*S	**Sg**	**18 36 03.8**	**+0.7**
	baz=287						
TPUB	**Ta-pu**	**0.22**	**300**	⇓*i*P	**Pg**	**18 36 00.6**	**+0.4**
	baz=302						
TPUB				S	**Sg**	**18 36 04.2**	**+0.9**
	baz=302						
SGST	**Jiashian**	**0.26**	**246**	⇑*i*P	**Pg**	**18 36 00.3**	**-0.5**
	baz=244						
SGST				*i* S	**Sg**	**18 36 04.3**	**0.0**
	baz=244						
SLGT	**Liugui**	**0.26**	**222**	⇑*i*P	**Pg**	**18 36 01.2**	**+0.3**
	baz=215						
SLGT				S	**Sg**	**18 36 05.3**	**+0.9**
	baz=215						
CHN1	**Nanshi**	**0.28**	**269**	⇓*i*P	**Pg**	**18 36 02.1**	**+0.7**
	baz=270						
CHN1				S	**Sb**	**18 36 06.7**	**-1.2**
	baz=270						
SNST	**Tainan City**	**0.32**	**276**	⇓*i*P	**Pb**	**18 36 02.8**	**-0.7**
	baz=276						
SNST				*e*S	**Sb**	**18 36 07.6**	**-1.2**
	baz=276						
ALS	**Alishan**	**0.32**	**355**	⇑*i*P	**Pg**	**18 36 02.4**	**+0.3**
	baz=356						
ALS				S	**Sg**	**18 36 07.6**	**+1.1**
	baz=356						
TWK	**Hsinying**	**0.33**	**284**	⇓*i*P	**Pg**	**18 36 03.0**	**+0.8**
	baz=284						
TWK				S	**Sg**	**18 36 08.0**	**+1.4**
	baz=284						
LONT	**Longtian**	**0.39**	**136**	⇓*i*P	**Pg**	**18 36 03.8**	**+0.5**
	baz=132						
LONT				S	**Sb**	**18 36 09.5**	**-1.4**
	baz=132						
FULB	**Fuli**	**0.42**	**88**	⇓*i*P	**Pb**	**18 36 04.9**	**-0.4**
	baz=80						
FULB				S	**Sb**	**18 36 11.4**	**-0.4**
	baz=80						
TWG	**Pinlang**	**0.42**	**149**	⇓*i*P	**Pg**	**18 36 04.4**	**+0.5**
	baz=148						
TWG				*e*S	**Sg**	**18 36 10.4**	**+0.8**
	baz=148						
TWGBT	**Beinan**	**0.43**	**149**	⇓*i*P	**Pg**	**18 36 04.4**	**+0.3**
	baz=148						
TWGBT				S	**Sg**	**18 36 10.4**	**+0.7**
	baz=148						
CHN5	**Tsauling**	**0.43**	**340**	⇓*i*P	**Pg**	**18 36 04.7**	**+0.5**
	baz=340						
CHN5				*e*S	**Sb**	**18 36 11.6**	**-0.7**
	baz=340						
SCST	**Cishan**	**0.44**	**227**	*e*P	**Pb**	**18 36 05.0**	**-0.5**
	baz=225						
SCST				*e*S	**Sb**	**18 36 13.4**	**+1.1**
	baz=225						
CHN3	**Shinhua**	**0.45**	**256**	P	**Pb**	**18 36 06.6**	**+0.8**
	baz=255						
CHN3				*e*S	**Sb**	**18 36 15.4**	**+2.8**
	baz=255						
TWF1	**Yuli**	**0.45**	**69**	⇑*i*P	**Pg**	**18 36 05.0**	**+0.5**
	baz=71						
TWF1				S	**Sg**	**18 36 10.7**	**+0.3**
	baz=71						
YULB	**Yu-li**	**0.47**	**64**	⇑*i*P	**Pg**	**18 36 05.0**	**+0.2**
	baz=67						
YULB				S	**Sg**	**18 36 10.7**	**-0.3**
	baz=67						
SSD	**Sandimen**	**0.48**	**203**	⇑*i*P	**Pg**	**18 36 05.0**	**0.0**
	baz=195						
SSD				*e*S	**Sg**	**18 36 10.8**	**-0.5**
	baz=195						
CHY	**Chiayi**	**0.49**	**309**	*e*P	**Pb**	**18 36 06.2**	**-0.3**
	baz=310						
CHY				*e*S	**Sb**	**18 36 14.5**	**+0.7**
	baz=310						
CHKT	**Chengkung**	**0.49**	**100**	*e*P	**Pb**	**18 36 06.5**	**-0.1**
	baz=101						
CHKT				*e*S	**Sb**	**18 36 15.4**	**+1.5**
	baz=101						
WHYT	**Xinyi Township**	**0.51**	**2**	⇑*i*P	**Pg**	**18 36 05.9**	**+0.4**
	baz=9.0						
WHYT				*e*S	**Sb**	**18 36 13.9**	**-0.4**
	baz=9.0						
TSMG	**Majia**	**0.51**	**200**	⇑*i*P	**Pg**	**18 36 05.5**	**-0.1**
	baz=199						
TSMG				*e*S	**Sg**	**18 36 11.6**	**-0.7**
	baz=199						
TTN	**Taitung**	**0.52**	**147**	P	**Pb**	**18 36 06.7**	**-0.2**
	baz=145						
TTN				*e*S	**Sb**	**18 36 15.3**	**+0.8**
	baz=145						
ICHU	**Yijhu**	**0.54**	**289**	*e*P	**Pb**	**18 36 07.5**	**+0.1**
	baz=289						
ICHU				*e*S	**Sn**	**18 36 17.2**	**-1.6**
	baz=289						
EHY	**Hungye**	**0.55**	**54**	⇑*i*P	**Pg**	**18 36 06.4**	**+0.2**
	baz=63						
EHY				*e*S	**Sg**	**18 36 13.2**	**-0.2**
	baz=63						
WGK	**Gukeng**	**0.56**	**333**	⇓*i*P	**Pb**	**18 36 07.9**	**+0.3**
	baz=333						
WGK				*e*S	**Sn**	**18 36 17.9**	**-1.3**
	baz=333						
SGLT	**Jiouru**	**0.56**	**215**	*e*P	**Pb**	**18 36 07.7**	**+0.1**
	baz=204						
WDLH	**Douliu**	**0.57**	**331**	*e*P	**Pb**	**18 36 08.2**	**+0.3**
	baz=330						
WDLH				*e*S	**Sb**	**18 36 17.5**	**+1.4**
	baz=330						
WLGB	**Puzi**	**0.57**	**300**	*e*P	**Pb**	**18 36 08.0**	**+0.2**
	baz=300						
WLGB				*e*S	**Sn**	**18 36 18.0**	**-1.6**
	baz=300						
TAI1	**Yung-k'ang**	**0.58**	**255**	*e*P	**Pn**	**18 36 10.1**	**0.0**
	baz=270						
SCLT	**Jiali**	**0.59**	**269**	*e*P	**Pb**	**18 36 08.5**	**+0.2**
	baz=269						
SCLT				*e*S	**Sn**	**18 36 18.7**	**-1.4**
	baz=269						
CHN8	**Yiju**	**0.60**	**285**	*e*P	**Pb**	**18 36 08.3**	**0.0**
	baz=286						
ECL	**Taimali**	**0.60**	**170**	*i* P	**Pg**	**18 36 07.2**	**0.0**
	baz=168						
ECL				*e*S	**Sg**	**18 36 15.0**	**0.0**
	baz=168						
MASBT	**Mashibuluo**	**0.60**	**198**	⇑*i*P	**Pg**	**18 36 07.2**	**-0.2**
	baz=197						
MASBT				*e*S	**Sg**	**18 36 16.1**	**+0.8**
	baz=197						
SSLB	**Suanglung**	**0.61**	**10**	⇑*i*P	**Pg**	**18 36 07.3**	**-0.2**
	baz=15						
SSLB				*e*S	**Sg**	**18 36 15.8**	**+0.4**
	baz=15						
HGSD	**Ruisui**	**0.62**	**61**	P	**Pb**	**18 36 08.4**	**-0.2**
	baz=62						
HGSD				*e*S	**Sb**	**18 36 18.1**	**+0.7**
	baz=62						
VWDT	**VWDT**	**0.63**	**26**	⇑*i*P	**Pg**	**18 36 07.9**	**+0.1**
	baz=35						
SNJT	**Kaohsiung City**	**0.63**	**227**	*e*P	**Pn**	**18 36 10.9**	**+0.1**
	baz=221						
WJS	**Zhushan**	**0.64**	**351**	P	**Pb**	**18 36 09.4**	**+0.3**
	baz=351						
WJS				*e*S	**Sn**	**18 36 19.8**	**-1.5**
	baz=351						
WTK	**Tuku**	**0.65**	**320**	⇓P	**Pb**	**18 36 09.4**	**+0.3**
	baz=320						
WTK				*e*S	**Sb**	**18 36 19.1**	**+0.8**
	baz=320						
SMLT	**Sun Moon Lake**	**0.69**	**5**	⇑*i*P	**Pb**	**18 36 09.6**	**-0.5**
	baz=12						
SMLT				*e*S	**Sn**	**18 36 21.9**	**-0.9**
	baz=12						
WNT	**Mingjian**	**0.70**	**348**	*e*P	**Pb**	**18 36 10.7**	**+0.6**
	baz=348						
WNT				*e*S	**Sb**	**18 36 20.7**	**+0.8**
	baz=348						
TYC	**Yuchr**	**0.71**	**1**	⇑*i*P	**Pb**	**18 36 10.1**	**-0.2**
	baz=9.0						
TYC				*e*S	**Sn**	**18 36 22.2**	**-0.9**
	baz=9.0						
WSF	**Szhu**	**0.72**	**308**	P	**Pb**	**18 36 10.4**	**0.0**
	baz=308						
WSF				*e*S	**Sb**	**18 36 21.3**	**+0.8**
	baz=308						

EGFH	**Guangfu**	**0.72**	**48**	*eP*	**Pg**	**18 36 09.5**	**-0.1**
	baz=59						
EGFH				*eS*	**Sb**	**18 36 19.9**	**-0.6**
	baz=59						
SSPT	**Xinbi**	**0.74**	**200**	P	**Pb**	**18 36 10.4**	**-0.4**
	baz=196						
SSPT				*eS*	**Sb**	**18 36 20.7**	**-0.4**
	baz=196						
LDUT	**Ludao**	**0.78**	**131**	*eP*	**Pg**	**18 36 10.6**	**0.0**
	baz=131						
LDUT				*eS*	**Sn**	**18 36 22.8**	**-1.8**
	baz=131						
EAST	**Anshuo**	**0.80**	**179**	P	**Pg**	**18 36 11.3**	**+0.2**
	baz=172						
EAST				*eS*	**Sg**	**18 36 21.5**	**0.0**
	baz=172						
OWD	**Renai**	**0.82**	**22**	*eP*	**Pg**	**18 36 11.0**	**-0.5**
	baz=34						
ESL	**Shilin**	**0.83**	**41**	*eP*	**Pg**	**18 36 11.5**	**-0.1**
	baz=45						
ESL				*eS*	**Sn**	**18 36 24.4**	**-1.6**
	baz=45						
SCZT	**Fangliau**	**0.84**	**194**	P	**Pg**	**18 36 11.6**	**-0.1**
	baz=187						
WTCT	**Ta-ch'eng**	**0.84**	**323**	*eP*	**Pb**	**18 36 12.4**	**-0.1**
	baz=322						
WTCT				*eS*	**Sn**	**18 36 25.4**	**-1.0**
	baz=322						
CHGB	**Renai**	**0.92**	**19**	P	**Pg**	**18 36 12.9**	**-0.5**
	baz=31						
WCHH	**Zhanghua**	**0.92**	**344**	P	**Pn**	**18 36 14.5**	**-0.4**
	baz=343						
WCHH				*eS*	**Sn**	**18 36 28.3**	**+0.1**
	baz=343						
WLCH	**Liuqiu**	**0.94**	**207**	*eP*	**Pn**	**18 36 16.8**	**+1.8**
	baz=207						
TWP	**Hsiaoliuchiu**	**0.95**	**208**	*eP*	**Pn**	**18 36 17.7**	**+2.5**
	baz=207						
TCU	**Taichung**	**0.97**	**351**	*eP*	**Pn**	**18 36 15.1**	**-0.4**
	baz=335						
TCU				*eS*	**Sn**	**18 36 28.1**	**-1.2**
	baz=335						
SLIU	**Shizi**	**0.97**	**182**	P	**Pg**	**18 36 14.2**	**-0.1**
	baz=186						
WHF	**Hehuan Shan**	**1.03**	**22**	P	**Pg**	**18 36 15.0**	**-0.5**
	baz=33						
HWA	**Hwalien**	**1.05**	**42**	*eP*	**Pn**	**18 36 16.9**	**+0.2**
	baz=43						
WDGT	**Dungji**	**1.09**	**274**	P	**Pb**	**18 36 16.2**	**-0.4**
	baz=273						
WDGT				*eS*	**Sg**	**18 36 31.4**	**+0.7**
	baz=273						
WHP	**Taichung City**	**1.09**	**5**	*eP*	**Pn**	**18 36 17.2**	**0.0**
	baz=13						
WHP				*eS*	**Sn**	**18 36 34.9**	**+2.4**
	baz=13						
TDCB	**Techi**	**1.10**	**15**	*eP*	**Pb**	**18 36 15.9**	**-1.1**
	baz=4.0						
TWT	**Tachien**	**1.10**	**16**	*eP*	**Pn**	**18 36 17.2**	**-0.3**
	baz=4.0						
FUSS	**Fushou**	**1.12**	**19**	P	**Pb**	**18 36 16.4**	**-0.9**
	baz=4.0						
FUSS				*eS*	**Sn**	**18 36 33.8**	**+0.3**
	baz=4.0						
TWD	**Chiawan**	**1.13**	**38**	P	**Pn**	**18 36 17.5**	**-0.1**
	baz=42						
TWD				*eS*	**Sn**	**18 36 33.0**	**-0.3**
	baz=42						
TWQ1	**Liyutan**	**1.16**	**357**	*eP*	**Pg**	**18 36 18.6**	**+0.7**
	baz=356						
TWQ1				*eS*	**Sn**	**18 36 36.1**	**+2.1**
	baz=356						
WDJ	**Dajia District**	**1.17**	**351**	*eP*	**Pg**	**18 36 18.7**	**+0.5**
	baz=340						
ETLH	**Xiulin Townshi**	**1.17**	**30**	*eP*	**Pb**	**18 36 17.7**	**-0.5**
	baz=33						
HEN	**Hengchun**	**1.18**	**184**	P	**Pg**	**18 36 19.0**	**+0.7**
	baz=182						
NACB	**Ninganchiao**	**1.20**	**35**	*eP*	**Pn**	**18 36 18.3**	**-0.4**
	baz=37						
PHUB	**P'eng-hu**	**1.21**	**286**	*eP*	**Pn**	**18 36 17.4**	**-1.3**
	baz=285						
PHUB				*eS*	**Sb**	**18 36 34.2**	**-0.3**
	baz=285						
NSY	**Sanyi**	**1.22**	**357**	*eP*	**Pg**	**18 36 19.2**	**0.0**
	baz=359						
PNG	**Penghu**	**1.24**	**288**	*eP*	**Pn**	**18 36 18.4**	**-0.8**
	baz=273						
PNG				*eS*	**Sb**	**18 36 35.1**	**-0.2**
	baz=273						
TWK1	**Hengchun**	**1.24**	**181**	*eP*	**Pg**	**18 36 19.6**	**+0.1**
	baz=177						
TWKBT	**Hengchun**	**1.24**	**181**	*eP*	**Pn**	**18 36 19.0**	**-0.2**
	baz=177						
PTSB	**Yuanli**	**1.26**	**354**	*eP*	**Pg**	**18 36 20.6**	**+0.8**
	baz=343						
VCHM	**Qimei**	**1.30**	**271**	*eP*	**Pn**	**18 36 18.3**	**-1.7**
	baz=272						
LAY	**Lan-yu**	**1.32**	**150**	*eP*	**Pn**	**18 36 19.4**	**-1.0**
	baz=133						
NNSB	**Datong**	**1.33**	**22**	*eP*	**Pn**	**18 36 20.2**	**-0.4**
	baz=29						
NNSH	**Datong**	**1.33**	**22**	*eP*	**Pn**	**18 36 20.0**	**-0.6**
	baz=16						
NNSH				*eS*	**Sg**	**18 36 39.5**	**+0.9**
	baz=16						
NNS	**Nan Shan**	**1.34**	**21**	*eP*	**Pn**	**18 36 20.4**	**-0.3**
	baz=10.0						
NMLH	**Miaoli**	**1.34**	**358**	*eP*	**Pg**	**18 36 22.9**	**+1.4**
NSTT	**Nanjuang**	**1.44**	**6**	*eP*	**Pg**	**18 36 23.2**	**-0.2**
	baz=355						
LIOB	**Emei**	**1.46**	**6**	*eP*	**Pg**	**18 36 23.6**	**-0.1**
	baz=356						
NDT	**Datong Townshi**	**1.54**	**24**	*eP*	**Pb**	**18 36 24.1**	**-0.3**
	baz=36						
ENAH	**Nanao**	**1.54**	**35**	*eP*	**Pb**	**18 36 24.4**	**0.0**
	baz=38						
YHNB	**Yeheng**	**1.56**	**18**	*eP*	**Pb**	**18 36 24.4**	**-0.3**
	baz=7.0						
NSK	**Sanguang**	**1.56**	**18**	*eP*	**Pb**	**18 36 24.4**	**-0.3**
	baz=7.0						
ENTT	**Nioudou**	**1.59**	**25**	*eP*	**Pg**	**18 36 26.1**	**-0.1**
	baz=28						
SBCB	**Hsinchu**	**1.60**	**5**	*eP*	**Pg**	**18 36 26.6**	**+0.1**
	baz=347						
TWC	**Suao**	**1.69**	**33**	*eP*	**Pg**	**18 36 27.4**	**-0.7**
	baz=46						
NWLT	**Wulai**	**1.69**	**21**	*eP*	**Pg**	**18 36 27.7**	**-0.5**
	baz=11						
TWE	**Neicheng**	**1.70**	**26**	*eP*	**Pg**	**18 36 28.1**	**-0.2**
	baz=50						
NHDH	**Xindian Distri**	**1.88**	**19**	*eP*	**Pg**	**18 36 31.6**	**0.0**
	baz=32						
TWA	**Mucha**	**1.91**	**21**	*eP*	**Pb**	**18 36 31.1**	**+0.3**
	baz=3.0						
TWS1	**Kuangyinshan**	**1.98**	**15**	*eP*	**Pb**	**18 36 31.2**	**-0.7**
	baz=16						
TIPB	**Shuangxi**	**1.99**	**27**	*eP*	**Pb**	**18 36 32.4**	**+0.2**
	baz=45						
YM01	**YM01**	**2.06**	**19**	*eP*	**Pb**	**18 36 33.2**	**-0.1**
	baz=19						
NWF	**Wu-fen Shan**	**2.06**	**24**	*eP*	**Pg**	**18 36 35.3**	**0.0**
	baz=6.0						
WFSB	**Wu-fen Shan**	**2.06**	**24**	*eP*	**Pg**	**18 36 34.2**	**-1.1**
	baz=48						
YM10	**YM10**	**2.07**	**18**	*eP*	**Pn**	**18 36 31.0**	**+0.3**
	baz=19						
YM05	**YM05**	**2.08**	**19**	*eP*	**Pb**	**18 36 32.4**	**-1.2**
	baz=19						
YM11	**YM11**	**2.08**	**19**	*eP*	**Pb**	**18 36 32.7**	**-0.9**
	baz=19						
YM03	**YM03**	**2.08**	**18**	*eP*	**Pg**	**18 36 34.8**	**-0.9**
	baz=26						
ANP	**Anpu**	**2.08**	**17**	*eP*	**Pb**	**18 36 32.4**	**-1.4**
	baz=18						
TWB1	**Santiao Chiao**	**2.10**	**30**	*eP*	**Pb**	**18 36 33.6**	**-0.3**
	baz=47						
YM08	**YM08**	**2.11**	**19**	*eP*	**Pg**	**18 36 35.3**	**-0.8**
	baz=5.0						
VWUC	**VWUC**	**2.20**	**325**	*eP*	**Pn**	**18 36 31.7**	**-0.7**
	baz=326						
JYNG	**Yonaguni jima**	**2.30**	**56**	P	**Pb**	**18 36 35.6**	**-1.8**
JYNG				*eS*	**Sb**	**18 37 04.6**	**-1.4**
YOJ	**Yonaguni jima**	**2.36**	**57**	P	**Pn**	**18 36 35.5**	**+0.9**
YOJ				S	**Sn**	**18 37 05.0**	**+1.3**
PTTC	**Pingtan**	**2.50**	**337**	*eP*	**Pn**	**18 36 36.0**	**-0.6**
	baz=338						
HATJ	**Hateruma jima**	**2.85**	**72**	P	**Pn**	**18 36 42.4**	**+1.0**
HATJ				*eS*	**Sn**	**18 37 15.7**	**-0.3**
IRIF	**Iriomote-Funau**	**2.88**	**66**	P	**Pn**	**18 36 43.1**	**+1.3**
IRIF				*eS*	**Sn**	**18 37 18.3**	**+1.6**
JKRS	**Kuro-shima**	**3.09**	**70**	P	**Pn**	**18 36 46.0**	**+1.4**
JKRS				*eS*	**Sn**	**18 37 22.0**	**+0.3**
JIJ	**Ishigaki jima**	**3.25**	**68**	P	**Pn**	**18 36 48.1**	**+1.3**
JIJ				S	**Sn**	**18 37 24.9**	**-0.7**
MHZQ	**Yeshan**	**3.33**	**331**	*eP*	**Pn**	**18 36 48.0**	**-0.1**
	baz=331						
JISG	**Ishigakijimahi**	**3.47**	**66**	P	**Pn**	**18 36 50.4**	**+0.5**
JISG				*eS*	**Sn**	**18 37 30.0**	**-1.2**
JTJ	**Tarama**	**3.82**	**67**	P	**Pn**	**18 36 55.9**	**+1.2**
JTJ				*eS*	**Sn**	**18 37 41.8**	**+2.0**

KRSC 11 18:41:49.0±1.8, 49°.63N×155°.54E, h204km±20km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ALID	**Alaid**	**1.24**	**0**	*eP*		Pn	18 42 20.0	-1.0
KDTR	**Khodutka, Kamc**	**2.71**	**36**	*eP*		Pn	18 42 37.3	+1.9
KDTR				*eS*		S	18 43 12.9	+1.8
ASAK	**Asacha**	**3.13**	**28**	*eP*		Pn	18 42 42.8	+2.5
MTVR	**Mutnovka**	**3.31**	**29**	*eP*		Pn	18 42 44.2	+1.7
MTVR				*eS*		S	18 43 25.3	+1.4
GRL	**Gorelyy**	**3.33**	**28**	*eP*		Pn	18 42 44.0	+1.2
RUS	**Russkaya**	**3.38**	**33**	*eP*		Pn	18 42 44.9	+1.8
RUS				*eS*		S	18 43 26.4	+1.3
KRMR	**Karymshinskiy**	**3.59**	**26**	*eP*		Pn	18 42 46.8	+1.0
KRMR				*eS*		S	18 43 29.8	-0.1
DALK	**Dalny**	**3.96**	**29**	*eP*		Pn	18 42 52.4	+2.2
DALK				*eS*		S	18 43 39.4	+1.5
UGLR	**Uglovaya**	**4.13**	**29**	*eP*		Pn	18 42 54.5	+2.0
KOK	**Koryaka**	**4.14**	**27**	*eP*		Pn	18 42 54.6	+1.9
AVH	**Avacha**	**4.15**	**28**	*eP*		Pn	18 42 55.4	+2.7
SMAR	**Somma**	**4.17**	**28**	*eP*		Pn	18 42 55.2	+2.1
KRX	**Arik**	**4.21**	**26**	*eP*		Pn	18 42 55.5	+2.0
SDLR	**Sedlovina**	**4.21**	**29**	*eP*		Pn	18 42 54.9	+1.4
SPN	**Mys Shipunski**	**4.46**	**37**	*eP*		Pn	18 42 57.6	+1.0
SPN				*eS*		S	18 43 48.1	-1.3
TUMR	**Tumrok**	**6.32**	**25**	*eP*		Pn	18 43 22.2	+1.8
KBTR	**Krutoberegovo**	**7.92**	**31**	*eP*		Pn	18 43 41.3	+0.4

*IDC **11** 18:45:15.2±2.2, 20°.47S×177°.90W, h513km±25km, mb3.3/17, mb1 3.5/19, mb1mx3.4/50, mbtmp4.2/19, Error ellipse: s-maj=16.6km s-min=12.7km az=135.0*
*NEIC **11** 18:45:18.3±1.3, 20°.55S±0°.1×178°.0W±0°.1, h551km±5km, mb4.1/23, Error ellipse: s-maj=21.1km s-min=14.6km az=130.0*

ISC 11 18:45:16.4±0.5, 20°.46S±0°.10×177°.87W±0°.09, h534km, n63, σ1s07/62, mb3.9/26, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.71**	**304**	P		**P**	**18 46 43.7**	**+0.7**
AFI	**Afiamalu**	**8.73**	**43**	P		**P**	**18 47 18.0**	**-3.3**
	3.1nm,0.3s,baz=221,slow=11,SNR=2.9							
AFI				S		S	18 48 55.4	-8.3
	7.1nm,0.3s,baz=218,slow=24,SNR=3.2							
AFI	**Afiamalu**	**8.73**	**43**	P		**P**	**18 47 18.0**	**-3.3**
DZM	**Mont Dzumac**	**14.71**	**261**	P		**P**	**18 48 22.6**	**-0.6**
	1.4nm,0.3s,baz=85,slow=20,SNR=18							
CTA	**Charters Tower**	**33.62**	**264**	P		**P**	**18 51 13.0**	**+0.2**
	3.9nm,0.4s,baz=93,slow=11,SNR=13							
STKA	**Stephens Creek**	**37.91**	**244**	P		**P**	**18 51 48.1**	**-0.2**
	1.9nm,0.9s,baz=38,slow=10,SNR=3.2							
STKA	**Stephens Creek**	**37.91**	**244**	P		**P**	**18 51 48.0**	**-0.3**
MCQ	**Macquarie Isla**	**38.27**	**202**	P		**P**	**18 51 50.1**	**-0.6**
BBOO	**Buckleboo**	**42.67**	**243**	P		**P**	**18 52 24.9**	**-1.3**
WR0	**Warramunga Arr**	**44.54**	**262**	P		**P**	**18 52 40.4**	**-0.6**
WR0				IAmb		IAmb	18 52 55.2	
	comp=Z,12nm,1.4s							
AS31	**Alice Springs**	**44.65**	**257**	P		**P**	**18 52 41.7**	**-0.1**
ASAR	**Alice Springs**	**44.65**	**257**	P		**P**	**18 52 41.8**	**0.0**
	comp=Z,0.4nm,0.4s,baz=345,slow=28,SNR=5.8							
ASAR				PcP		**PcP**	**18 54 12.6**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=108,slow=3.9,SNR=6.5							
ASAR				S		**S**	**18 58 37.7**	**-1.6**
	comp=Z,0.4nm,0.9s,baz=203,slow=20,SNR=5.4							
ASAR	**Alice Springs**	**44.65**	**257**	P		**P**	**18 52 41.6**	**-0.1**
WB0	**Warramunga Arr**	**44.70**	**262**	P		**P**	**18 52 42.1**	**-0.2**
WB0				IAmb		IAmb	18 52 42.4	
	comp=Z,3.9nm,0.5s							
WB2	**Warramunga Arr**	**44.72**	**262**	P		**P**	**18 52 41.6**	**-0.7**
WB2				IAmb		IAmb	18 52 55.1	
	comp=Z,9.6nm,1.4s							
WRA	**Warramunga Arr**	**44.73**	**262**	P		**P**	**18 52 41.8**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=98,slow=8.6,SNR=9.2							
WRA				S		**S**	**18 58 39.8**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=104,slow=11,SNR=2.4							
WRA	**Warramunga Arr**	**44.73**	**262**	P		**P**	**18 52 41.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**53.15**	**262**	P		**P**	**18 53 44.8**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=74,slow=5.8,SNR=6.0							
FITZ	**Fitzroy Crossi**	**53.15**	**262**	P		**P**	**18 53 44.5**	**-0.3**
SOEI	**Soe**	**56.62**	**272**	P		**P**	**18 54 09.0**	**-0.2**
VNDA	**Vanda**	**57.96**	**185**	P		**P**	**18 54 17.9**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=16,slow=8.0,SNR=5.4							
VNDA	**Vanda**	**57.96**	**185**	P		**P**	**18 54 17.9**	**+0.7**
CASY	**Casey**	**64.05**	**205**	P		**P**	**18 54 57.2**	**-0.1**
CASY				IAmb		IAmb	18 54 57.6	
	comp=Z,2.1nm,0.6s							
JHJ2	**Mitsune**	**66.86**	**322**	P		**P**	**18 55 16.5**	**+1.1**
QSPA	**South Pole Qui**	**69.61**	**180**	P		**P**	**18 55 32.3**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=344,slow=0.7,SNR=25							
QSPA	**South Pole Qui**	**69.61**	**180**	P		**P**	**18 55 32.4**	**+0.6**
QSPA				IAmb		IAmb	18 55 33.2	
	comp=Z,3.7nm,0.8s							
KKM	**Kota Kinabalu**	**69.87**	**285**	P		**P**	**18 55 35.6**	**+1.4**
KKM				IAmb		IAmb	18 55 49.2	
	comp=Z,7.8nm,0.9s							
MJAR	**Matsushiro Arr**	**70.25**	**324**	P		**P**	**18 55 36.3**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=164,slow=6.3,SNR=9.0							
MJAR	**Matsushiro Arr**	**70.25**	**324**	P		**P**	**18 55 36.4**	**+0.5**
MAJO	**Matsushiro**	**70.25**	**324**	P		**P**	**18 55 35.6**	**-0.3**
MAJO				IAmb		IAmb	18 55 39.1	
	comp=Z,12nm,1.4s							
MJB9	**Matsu-Tunnel**	**70.25**	**324**	P		**P**	**18 55 35.6**	**-0.3**
MJB9				IAmb		IAmb	18 55 38.9	
	comp=Z,12nm,1.4s							
PETK	**Petropavlovsk-**	**76.26**	**345**	P		**P**	**18 56 10.3**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=142,slow=8.5,SNR=5.5							
PETK	**Petropavlovsk-**	**76.26**	**345**	P		**P**	**18 56 09.9**	**+0.1**
KSRS	**Korea Array**	**76.94**	**318**	P		**P**	**18 56 15.5**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=130,slow=6.7,SNR=4.6							
SPIA	**Saint Paul Isl**	**77.60**	**4**	P		**P**	**18 56 16.9**	**-0.1**
YBH	**Yreka Blue Hor**	**80.18**	**39**	P		**P**	**18 56 33.2**	**+2.0**
	comp=Z,2.0nm,0.6s,baz=170,slow=11,SNR=4.6							
YBH	**Yreka Blue Hor**	**80.18**	**39**	P		**P**	**18 56 33.1**	**+1.8**
NVAR	**Mina Array Bea**	**80.91**	**43**	P		**P**	**18 56 37.0**	**+1.7**
	comp=Z,1.2nm,0.8s,baz=228,slow=9.1,SNR=5.6							
NVAR	**Mina Array Bea**	**80.91**	**43**	P		**P**	**18 56 36.8**	**+1.5**
KVN	**Kaiserville**	**81.40**	**43**	P		**P**	**18 56 39.2**	**+1.4**
KVN				IAmb		IAmb	18 56 39.9	
	comp=Z,3.0nm,0.8s							
MAW	**Mawson**	**81.64**	**200**	P		**P**	**18 56 38.1**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=162,slow=3.2,SNR=2.0							
MAW	**Mawson**	**81.64**	**200**	P		**P**	**18 56 36.9**	**-1.4**
F10A	**Beach Ranch, E**	**85.90**	**38**	P		**P**	**18 57 00.0**	**+0.3**
F10A				IAmb		IAmb	18 57 02.0	
	comp=Z,5.4nm,0.9s							
TXAR	**Lajitas Array**	**86.93**	**57**	P		**P**	**18 57 07.0**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=223,slow=5.6,SNR=8.3							
TXAR	**Lajitas Array**	**86.93**	**57**	P		**P**	**18 57 06.5**	**+1.4**
ILAR	**Eielson Array**	**88.25**	**13**	P		**P**	**18 57 09.8**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=208,slow=4.7,SNR=4.3							
PDAR	**Pinedale Array**	**88.85**	**43**	P		**P**	**18 57 14.8**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=192,slow=3.3,SNR=9.3							
PDAR	**Pinedale Array**	**88.85**	**43**	P		**P**	**18 57 14.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**90.22**	**290**	P		**P**	**18 57 22.6**	**+2.1**
	comp=Z,0.9nm,0.7s,baz=125,slow=3.3,SNR=6.6							
CMAR	**Chiang Mai Arr**	**90.22**	**290**	P		**P**	**18 57 20.4**	**0.0**
Z38A	**Mt. Pleasant**	**95.30**	**57**			pP	18 59 44.9	+4.1
ARCES	**ARCESS Array B**	**128.90**	**350**	PKP		**PKPdf**	**19 03 22.0**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=355,slow=2.6,SNR=6.9							
ARCES	**ARCESS Array B**	**128.90**	**350**			**PKPdf**	**19 03 22.2**	**-0.5**
AKASG	**Malin Array Be**	**143.04**	**331**	PKhKP		PKPpre	19 03 46.6	
	comp=Z,3.0nm,0.6s,baz=42,slow=4.3,SNR=20							
AKASG	**Malin Array Be**	**143.04**	**331**			PKPpre	19 03 46.3	
AKBB	**Malin Array Si**	**143.04**	**331**			PKPpre	19 03 45.4	
EKA	**Eskdalemuir Ar**	**144.95**	**5**	PKP		**PKPdf**	**19 03 51.9**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=350,slow=2.2,SNR=3.7							
BRTR	**Keskin Array B**	**146.90**	**312**	PKPbc		**PKPbc**	**19 03 59.1**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=124,slow=4.2,SNR=6.5							
BRTR	**Keskin Array B**	**146.90**	**312**			**PKPdf**	**19 03 56.2**	**-0.2**
BURAR	**Bucovina Array**	**147.09**	**331**			**PKPbc**	**19 03 59.7**	**+0.3**
CLL	**Collm**	**148.05**	**347**			**PKPbc**	**19 04 02.1**	**+0.4**
GERES	**GERESS Array B**	**150.19**	**345**	PKPbc		**PKPbc**	**19 04 07.0**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=15,slow=2.1,SNR=9.3							
GERES	**GERESS Array B**	**150.19**	**345**			**PKPbc**	**19 04 07.2**	**+0.1**

*ISK **11** 18:48:12.5, 36°.27N×23°.39E, h13km, ML4.0/26*
*MOS **11** 18:48:13.5±1.0, 36°.18N×23°.22E, h82km, mb4.5/14, Error ellipse: s-maj=6.9km s-min=3.8km az=84.2*
*NEIC **11** 18:48:13.7±2.0, 36°.21N±0°.07×23°.27E±0°.07, h68km±6km, Error ellipse: s-maj=11.5km s-min=6.7km az=214.0*
*ATH **11** 18:48:14.0, 36°.19N×23°.34E, h54km±4km, ML4.1/18, Error ellipse: s-maj=4.6km s-min=1.2km az=234.0*
*IDC **11** 18:48:14.3±1.1, 36°.17N×23°.32E, h70km±10km, mb4.1/20, mb1 4.1/29, mb1mx3.9/59, mbtmp4.3/29, MS3.0/8, Ms1 3.0/8, ms1mx2.7/44, Error ellipse: s-maj=14.2km s-min=9.4km az=38.0*
*THE **11** 18:48:15.0, 36°.16N×23°.32E, h58km±1km, ML4.1/14, Error ellipse: s-maj=1.4km s-min=0.4km az=233.0*
*HLW **11** 18:48:16.9, 35°.75N×23°.91E, h10km±19km, Md4.5, Ml4.7*
*GII **11** 18:48:19.0±0.4, 36°.10N×24°.12E, h54km, MD3.7/1*
*DDA **11** 18:48:19.0, 36°.40N×23°.60E, h37km±243km, MW4.1*

ISC 11 18:48:12.8±0.5, 36°.21N±0°.03×23°.25E±0°.02, h58km±4km, n448, σ2s13/488, mb4.5/47, 28C-16D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KTHA	**Kythira Island**	**0.16**	**288**	P		**Pn**	**18 48 24.1**	**+2.2**
KTHA				S		**Sn**	**18 48 31.1**	**+2.6**
	65μm,0.5s							
KTHA	**Kythira Island**	**0.16**	**288**	P		**Pn**	**18 48 24.1**	**+2.2**
KTHA				AML		AML	18 48 31.7	
	comp=N,86252μm,0.4s							
KTHA				AML		AML	18 48 32.2	
ANKY	**Antikythira Is**	**0.34**	**173**	P		**Pn**	**18 48 24.8**	**+1.7**
ANKY				S		**Sn**	**18 48 32.0**	**+1.5**
	comp=N,40μm,0.5s							
ANKY	**Antikythira Is**	**0.34**	**173**	P		**Pn**	**18 48 24.8**	**+1.7**
ANKY				S		**Sn**	**18 48 30.9**	**+0.4**
ANKY				AML		AML	18 48 32.1	
	comp=E,98519μm,0.5s							
ANKY				AML		AML	18 48 32.2	
	comp=N,61652μm,0.4s							
MNVA	**Monemvasia**	**0.51**	**340**	P		**Pn**	**18 48 27.2**	**+2.5**
MNVA				AML		AML	18 48 37.0	
	comp=E,35147μm,0.4s							
MNVA				AML		AML	18 48 38.4	
	comp=N,13304μm,0.4s							
VLI	**Veliai**	**0.57**	**334**	P		**Pn**	**18 48 27.9**	**+2.4**
VLI				S		**Sn**	**18 48 38.0**	**+3.3**
	comp=N,14μm,0.4s							
VLI	**Veliai**	**0.57**	**334**	P		**Pn**	**18 48 27.8**	**+2.4**
VLI				S		**Sn**	**18 48 36.4**	**+1.7**
VLI				AML		AML	18 48 39.5	
	comp=N,29492μm,0.3s							
VLI				AML		AML	18 48 39.8	
	comp=E,27729μm,0.4s							
CHAN	**Chania**	**0.94**	**137**	P		**Pn**	**18 48 30.9**	**+0.9**
CHAN				S		**Sn**	**18 48 43.6**	**+1.0**
	comp=E,6μm,0.5s							
IMMV	**Iera Moni Meta**	**0.95**	**141**	P		**Pn**	**18 48 31.3**	**+1.1**
IMMV				S		**Sn**	**18 48 44.0**	**+1.1**
	comp=E,14μm,0.4s							
IMMV	**Iera Moni Meta**	**0.95**	**141**	P		**Pn**	**18 48 31.3**	**+1.1**
IMMV				S		**Sn**	**18 48 43.2**	**+0.3**
IMMV				AML		AML	18 48 50.7	
	comp=E,25726μm,0.4s							
IMMV				AML		AML	18 48 51.7	
	comp=N,29474μm,0.4s							
IMMV	**Iera Moni Meta**	**0.95**	**141**	PG		**Pn**	**18 48 31.3**	**+1.1**
KNDR	**Palaiochora Ch**	**1.03**	**160**	P		**Pn**	**18 48 32.1**	**+0.9**
KNDR				S		**Sn**	**18 48 45.5**	**+0.7**
	comp=N,8μm,0.4s							
KNDR	**Palaiochora Ch**	**1.03**	**160**	PG		**Pn**	**18 48 33.1**	**+1.9**
KNDR				SG		**Sn**	**18 48 48.2**	**+3.4**
MHLO	**Agia Marina, M**	**1.04**	**62**	P		**Pn**	**18 48 33.1**	**+1.7**
MHLO				S		**Sn**	**18 48 46.9**	**+1.8**
	comp=N,27μm,0.5s							
MHLO	**Agia Marina, M**	**1.04**	**62**	P		**Pn**	**18 48 33.1**	**+1.7**
MHLO				AML		AML	18 48 48.3	
	comp=E,39583μm,0.5s							
MHLO				AML		AML	18 48 48.5	
	comp=N,68743μm,0.5s							
MHLA	**Plaka, Milos

SIVA AML AML 18 49 15.5
comp=E,16312µm,0.5s
HRKL Herakleio 1.75 120 P **Pn** **18 48 42.0 +1.2**
HRKL Herakleio 1.75 120 PN **Pn** **18 48 42.1 +1.2**
THT2 Imerovigli 1.77 82 PN **Pn** **18 48 41.8 +0.7**
SANT Santorini 1.79 84 P **Pn** **18 48 42.9 +1.5**
SANT Santorini 1.79 84 ⇓P **Pn** **18 48 42.8 +1.5**
SANT ⇑S **Sn** **18 49 06.4 +3.3**
SANT Santorini 1.79 84 PN **Pn** **18 48 42.2 +0.8**
SANT Santorini 1.79 84 *i* P **Pn** **18 48 43.0 +1.5**
SANT *i* S **Sn** **18 49 00.8 -2.3**
SANT Santorini 1.79 84 Pn **Pn** **18 48 42.5 +1.1**
LOUT Loutraki 1.79 353 P **Pn** **18 48 44.4 +3.0**
LOUT S **Sn** **18 49 07.4 +4.3**
comp=E,3µm,0.5s
ATH Athens Observa 1.80 12 P **Pn** **18 48 44.1 +2.6**
ATH Athens Observa 1.80 12 P **Pn** **18 48 43.9 +2.4**
ATHU Athens Univers 1.81 13 P **Pn** **18 48 44.0 +2.3**
AMT Artemida-Makis 1.81 317 P **Pn** **18 48 44.8 +3.1**
AMT S **Sn** **18 49 07.6 +3.9**
comp=E,4µm,0.6s
AMT Artemida-Makis 1.81 317 P **Pn** **18 48 44.9 +3.1**
LTK Loutraki 1.83 353 P **Pn** **18 48 44.7 +2.8**
LTK S **Sn** **18 49 07.7 +3.7**
comp=E,3µm,0.4s
LTK Loutraki 1.83 353 P **Pn** **18 48 44.7 +2.8**
PTL Penteli 1.90 15 P **Pn** **18 48 45.4 +2.4**
DION Dionisos Attik 1.95 16 P **Pn** **18 48 45.9 +2.4**
VILL Villia 1.96 1 P **Pn** **18 48 46.2 +2.5**
APE Apeiranthos 2.02 64 P **Pn** **18 48 45.6 +0.9**
APE AML AML 18 49 18.3
comp=N,2139µm,0.3s
APE AML AML 18 49 24.2
comp=E,1875µm,0.4s
APE Apeiranthos 2.02 64 ⇓P **Pn** **18 48 46.4 +1.8**
APE ⇑S **Sn** **18 49 10.0 +1.2**
APE Apeiranthos 2.02 64 PN **Pn** **18 48 45.4 +0.8**
APE SN **Sn** **18 49 09.8 +1.0**
APE Apeiranthos 2.02 64 *i* P **Pn** **18 48 45.9 +1.3**
APE *i* S **Sn** **18 49 04.5 -4.3**
APE Apeiranthos 2.02 64 *i* P **Pn** **18 48 45.4 +0.8**
KLV Kalavryta, Ach 2.04 335 P **Pn** **18 48 48.2 +3.4**
KLV Kalavryta, Ach 2.04 335 P **Pn** **18 48 48.1 +3.4**
KLV AML AML 18 49 21.5
comp=N,2850µm,0.3s
KLV AML AML 18 49 23.6
comp=E,3190µm,0.6s
ANAF Anafi Island 2.04 85 P **Pn** **18 48 46.5 +1.7**
KARY Karystos 2.06 27 P **Pn** **18 48 47.3 +2.3**
PROD Prodromos 2.07 352 P **Pn** **18 48 47.8 +2.6**
LAST Lasithi 2.09 119 P **Pn** **18 48 46.5 +1.0**
DRO Drossia 2.14 325 P **Pn** **18 48 49.9 +3.8**
NPS Neapolis 2.14 115 P **Pn** **18 48 47.3 +0.9**
NPS Neapolis 2.14 115 P **Pn** **18 48 47.3 +1.2**
NPS AML AML 18 49 20.0
comp=N,6500µm,0.4s
NPS AML AML 18 49 23.4
comp=E,6150µm,0.5s
NPS Neapolis 2.14 115 P **Pn** **18 48 47.3 +1.2**
ZKR Zakros 2.65 113 P **Pn** **18 48 54.7 +1.7**
ZKR AML AML 18 49 32.0
comp=N,1511µm,0.4s
ZKR AML AML 18 49 34.0
comp=E,3338µm,0.7s
ZKR Zakros 2.65 113 PN **Pn** **18 48 55.3 +2.2**
AGG Agios Georgios 2.91 346 PN **Pn** **18 48 59.8 +3.2**
AGG Agios Georgios 2.91 346 *i* P **Pn** **18 49 00.1 +3.5**
AGG *i* S **Sn** **18 49 30.8 +0.4**
AGG IAML 18 49 45.0
comp=N,238nm,0.6s
AGG IAML 18 49 49.0
comp=E,292nm,0.3s
AGG Agios Georgios 2.91 346 P **Pn** **18 48 59.8 +3.2**
AGG Agios Georgios 2.91 346 Pn **Pn** **18 48 59.8 +3.2**
AOS Alonnisos 3.00 9 PN **Pn** **18 48 59.8 +1.9**
KOSK Kos Island 3.05 79 PN **Pn** **18 49 00.3 +1.7**
CHOS Chios Island 3.12 45 PN **Pn** **18 49 01.1 +1.5**
KARP Karpathos 3.24 101 PN **Pn** **18 49 03.3 +2.1**
KARP Karpathos 3.24 101 Pn **Pn** **18 49 02.6 +1.4**
BODT Bodrum 3.37 74 PN **Pn** **18 49 04.6 +1.6**
URLA Izmir 3.42 50 PN **Pn** **18 49 05.5 +1.7**
URLA Izmir 3.42 50 *i* P **Pn** **18 49 05.4 +1.7**
URLA *i* S **Sn** **18 49 36.3 -6.8**
URLA IAML 18 49 47.0
comp=N,116nm,0.5s
URLA IAML 18 49 48.0
comp=E,93nm,0.7s
URLA IAML 18 49 50.0
comp=Z,44nm,0.9s
DGB zmir 3.44 56 *i* P **Pn** **18 49 05.8 +2.0**
DGB *i* S Sn 18 49 35.6 -7.7
DGB IAML 18 49 46.0
comp=N,50nm,0.7s
DGB IAML 18 49 46.0
comp=E,44nm,0.9s
DGB IAML 18 50 28.0
comp=Z,26nm,0.9s
BDRM Kayabasi 3.48 74 *i* P **Pn** **18 49 06.0 +1.5**
BDRM *i* S Sn 18 49 32.7 -12
BDRM IAML 18 50 39.0
comp=E,132nm,2.0s
BDRM IAML 18 50 53.0
comp=Z,71nm,1.7s
GCAM G?zelcaml? 3.52 64 PN **Pn** **18 49 07.1 +2.1**
GCAM G?zelcaml? 3.52 64 *i* P **Pn** **18 49 07.6 +2.6**
GCAM *i* S **Sn** **18 49 39.3 -6.0**
GCAM IAML 18 49 52.0
comp=Z,39nm,0.7s
GCAM IAML 18 49 55.0
comp=E,106nm,0.5s
GCAM IAML 18 50 01.0
comp=N,78nm,0.6s
DAT Datca 3.52 80 PN **Pn** **18 49 06.9 +1.7**
SIGR SIGRI 3.64 34 PN **Pn** **18 49 08.6 +1.9**
BLCB Balcova 3.72 53 PN **Pn** **18 49 09.6 +1.8**
LIT Litokhoron 3.94 351 *i* P **Pn** **18 49 13.6 +2.9**
LIT *i* S **Sn** **18 49 54.9 -0.7**
LIT IAML 18 50 02.0
comp=E,116nm,0.3s
LIT IAML 18 50 14.0
comp=N,117nm,0.3s
LIT Litokhoron 3.94 351 P **Pn** **18 49 12.8 +2.1**
LIT Litokhoron 3.94 351 P **Pn** **18 49 12.8 +2.1**
ARG Arkhangelos 3.94 88 PN **Pn** **18 49 12.9 +2.1**
ARG Arkhangelos 3.94 88 P **Pn** **18 49 13.6 +2.8**
AYDN Tasoluk 3.98 67 *i* P **Pn** **18 49 14.5 +3.2**
AYDN *i* S Sn 18 49 46.4 -10
IGT Igoumenitsa 4.05 326 P **Pn** **18 49 13.7 +1.5**
TURN Turunc 4.06 80 PN **Pn** **18 49 14.6 -1.9**
TURN Turunc 4.06 80 *i* P **Pn** **18 49 17.1 +0.6**
TURN *i* S Sn 18 49 52.5 -13
DKL Dikili 4.07 44 PN **Pn** **18 49 14.7 +2.2**
ZEDA zmir-Bergama 4.10 47 *i* P **Pn** **18 49 15.3 +2.4**
ZEDA *i* S **Sn** **18 49 54.0 -5.7**
ZEDA IAML 18 50 06.0
comp=N,30nm,0.5s
ZEDA IAML 18 50 35.0
comp=E,23nm,1.1s
ZEDA IAML 18 51 07.0
comp=Z,23nm,1.7s
AYVA Ayvalik 4.12 40 *i* P **Pn** **18 49 15.2 +2.0**
AYVA IAML 18 50 03.0
comp=Z,36nm,1.4s
AYVA IAML 18 50 06.0
comp=N,43nm,0.8s
AYVA IAML 18 50 50.0
comp=E,39nm,0.8s
YER Yerkesik 4.15 76 PN **Pn** **18 49 15.8 +2.1**
OUR Ouranopolis 4.16 8 PN **Pn** **18 49 16.6 +2.8**
OUR Ouranopolis 4.16 8 P **Pn** **18 49 16.6 +2.8**
BOZC Bozcaada 4.25 30 PN **Pn** **18 49 16.8 +1.8**
BOZC Bozcaada 4.25 30 *i* P **Pn** **18 49 16.5 +1.5**
BOZC *i* S **Sn** **18 49 59.6 -3.7**
BOZC IAML 18 50 04.0
comp=Z,24nm,0.8s
BOZC IAML 18 50 06.0
comp=N,80nm,0.4s
BOZC IAML 18 50 06.0
comp=E,75nm,0.5s
EZN Ezine 4.35 33 PN **Pn** **18 49 18.0 +1.6**
EZN Ezine 4.35 33 P **Pn** **18 49 19.7 +3.3**
BAYC CANAKKALE_Bayr 4.39 35 *i* P **Pn** **18 49 18.5 +1.6**
BAYC *i* S Sn 18 49 59.9 -6.8
BAYC IAML 18 50 10.0
comp=N,17nm,0.3s
BAYC IAML 18 50 12.0
comp=E,18nm,0.4s
BAYC IAML 18 50 28.0
comp=Z,11nm,0.9s
HORT Hortiatis 4.39 358 PN **Pn** **18 49 19.3 +2.3**
DALY Dalyan (Mula) 4.39 80 PN **Pn** **18 49 19.4 +2.5**
GADA Gukgeada 4.49 27 PN **Pn** **18 49 20.2 +1.9**
SOH Sokhos 4.61 1 P **Pn** **18 49 23.6 +3.6**
TAVA DENIZLI_Tavas 4.71 73 *i* P Pn 18 49 25.9 +4.5
TAVA *i* S Sn 18 50 02.6 -12
FETY Fethiye 4.72 83 PN **Pn** **18 49 23.8 +2.3**
STEP BALIKESIR_Sava 4.75 47 *i* P **Pn** **18 49 23.9 +2.0**
STEP *i* S Sn 18 50 03.5 -12
STEP IAML 18 50 20.0
comp=Z,22nm,0.9s
STEP IAML 18 50 31.0
comp=N,36nm,0.6s
STEP IAML 18 50 39.0
comp=E,40nm,0.8s
MANT Manisa 4.80 60 *i* P **Pn** **18 49 25.8 +3.0**
MANT *i* S Sn 18 50 05.3 -12
GELI Tayfur-Gelibol 4.89 30 PN **Pn** **18 49 26.2 +2.4**
SRS Serrai 4.91 3 P **Pn** **18 49 28.6 +4.5**
SRS pmax pmax
comp=Z,27nm,0.8s
BALY Balya 4.94 43 *i* P **Pn** **18 49 26.5 +2.1**
BALY IAML 18 50 23.0
comp=Z,18nm,0.7s
BALY IAML 18 50 27.0
comp=E,18nm,0.5s
BALY IAML 18 50 51.0
comp=N,29nm,0.9s
SLUM Salum 4.98 160 P **Pn** **18 49 24.0 -1.0**
baz=165
SLUM AMP 18 50 00.0
baz=165
SLUM S Sn 18 50 11.4 -10
baz=165
LPK Lapseki 4.99 32 PN **Pn** **18 49 27.6 +2.5**
ENEZ Enez 5.06 26 PN **Pn** **18 49 28.5 +2.4**
AKAS Kas 5.14 88 PN **Pn** **18 49 29.9 +2.6**
AKAS Kas 5.14 88 *i* P **Pn** **18 49 29.7 +2.4**
AKAS *i* S **Sn** **18 50 23.3 -2.0**
AKAS IAML 18 50 33.0
comp=Z,47nm,0.7s
AKAS IAML 18 50 33.0
comp=E,68nm,0.5s
AKAS IAML 18 50 37.0
comp=N,122nm,0.7s
AKAS Kas 5.14 88 Pn **Pn** **18 49 28.4 +1.1**
VAY Valandovo 5.14 354 *i* Pn **Pn** **18 49 27.3 +0.2**
VAY Valandovo 5.14 354 P Pn 18 49 32.5 +5.4
VAY pmax pmax
comp=Z,20nm,0.7s
ALN Alexandroupoli 5.17 24 PN **Pn** **18 49 30.5 +2.9**
ALN Alexandroupoli 5.17 24 P **Pn** **18 49 29.2 +1.6**
ALN Alexandroupoli 5.17 24 Pn **Pn** **18 49 29.2 +1.6**
GOLH Golhisar 5.17 77 *i* P **Pn** **18 49 32.1 +4.4**
GOLH *i* S **Sn** **18 50 27.1 +0.9**
USAK Uak-Merkez 5.23 60 *i* P **Pn** **18 49 31.4 +3.0**
USAK IAML 18 50 45.0
comp=N,63nm,1.2s
USAK IAML 18 50 46.0
comp=E,6.5nm,0.8s
USAK IAML 18 51 50.0
comp=Z,14nm,1.1s
RDO Rodhopi 5.25 19 PN **Pn** **18 49 30.9 +2.3**
OHR Ohrid 5.26 339 *i* Pn **Pn** **18 49 30.9 +2.1**
OHR Ohrid 5.26 339 P **Pn** **18 49 31.7 +2.8**
OHR pmax pmax
comp=Z,33nm,0.7s
KNL Balıkesir 5.27 38 *i* P **Pn** **18 49 30.9 +1.9**
KNL IAML 18 50 35.0
comp=N,22nm,0.9s
KNL IAML 18 50 49.0
comp=E,27nm,0.8s
KNL IAML 18 50 49.0
comp=Z,20nm,0.8s
KESN Edirne-Kesan 5.34 29 *i* P **Pn** **18 49 32.3 +2.1**
KESN *i* S **Sn** **18 50 26.3 -4.3**
KESN IAML 18 50 35.0
comp=E,61nm,0.7s
KESN IAML 18 50 36.0
comp=N,38nm,0.5s
KESN IAML 18 50 48.0
comp=Z,17nm,1.2s
DURS Dursunbey 5.34 49 *i* P **Pn** **18 49 32.5 +2.4**
DURS IAML 18 50 26.0
comp=N,20nm,1.7s
DURS IAML 18 50 34.0
comp=Z,9.1nm,0.8s
DURS IAML 18 50 35.0
comp=E,31nm,0.5s
MMB Musomiste 5.39 4 *e*P **Pn** **18 49 34.2 +3.6**
ELL Elmali 5.39 82 P **Pn** **18 49 32.6 +1.8**
ELL Elmali 5.39 82 Pn **Pn** **18 49 32.6 +1.8**
SCTE Santa Cesarea 5.40 317 Pn **Pn** **18 49 31.5 +0.8**
STIP Stip 5.54 352 Pn **Pn** **18 49 36.2 +4.1**
RZN Rozhen 5.59 11 *e*P **Pn** **18 49 36.6 +3.1**
BRDR BURDUR-Merkez 5.65 73 *i* P **Pn** **18 49 38.5 +4.2**
KKB Krupnik 5.66 359 *e*P **Pn** **18 49 37.6 +3.4**
GDZ Gediz 5.72 58 *i* P **Pn** **18 49 38.1 +2.9**
AKUM Antalya-Kumluc 5.73 87 *i* P **Pn** **18 49 37.6 +2.4**
AKUM IAML 18 50 52.0
comp=N,46nm,0.7s
AKUM IAML 18 50 52.0
comp=E,69nm,1.1s
AKUM IAML 18 50 53.0
comp=Z,60nm,1.1s
KORT Korkueli 5.76 80 *i* P Pn 18 49 40.6 +4.7
TIR Tirane 5.78 334 ⇓P **Pn** **18 49 37.6 +1.7**
TIR ⇑S **Sn** **18 50 41.9 +1.1**
TIR Tirane 5.78 334 P **Pn** **18 49 37.3 +1.4**
TIR Tirane 5.78 334 Pn **Pn** **18 49 37.3 +1.4**
KZIL AFYON_Kizioren 5.87 68 *i* P Pn 18 49 41.9 +4.7
SKO Skopje 5.93 347 *i* Pn **Pn** **18 49 41.1 +3.1**
TIP Timpagrande 5.94 302 ⇑P **Pn** **18 49 38.9 +0.6**
TIP ⇑S **Sn** **18 50 43.8 -1.2**
TIP Timpagrande 5.94 302 Pn **Pn** **18 49 39.5 +1.2**
PLD Plovdiv 6.00 10 P **Pn** **18 49 43.1 +4.2**
PLD pmax pmax
comp=Z,2.0nm,0.6s
CEL Celeste 6.22 291 **18 49 42.1 +0.1**
KIRK Kırklareli 6.32 27 *i* P **Pn** **18 49 45.3 +2.0**
KIRK *i* S Sn 18 50 44.0 -10
KIRK IAML 18 50 56.0
comp=Z,4.8nm,1.3s
KIRK IAML 18 50 58.0
comp=N,5.0nm,0.7s
CGL1 Ceglie Messapi 6.35 316 ⇑*i*Pn **Pn** **18 49 44.0 +0.3**
CGL1 Sn **Sn** **18 50 50.9 -3.9**
TAR1 Taranto 6.37 314 ⇑*i*Pn **Pn** **18 49 44.6 +0.6**
TAR1 Sn **Sn** **18 50 51.7 -3.6**
VTS Vitosha 6.40 360 ⇑P **Pn** **18 49 47.5 +2.8**
VTS Vitosha 6.40 360 P **Pn** **18 49 49.0 +4.4**
VTS Vitosha 6.40 360 Pn **Pn** **18 49 49.0 +4.4**
VTS Vitosha 6.40 360 *e*P **Pn** **18 49 48.6 +4.0**
ULC Ulcinj 6.54 333 ⇓*i*Pn **Pn** **18 49 46.9 +0.5**
ULC *i* Sn **Sn** **18 50 57.4 -2.2**
BOLV Bolvadin 6.62 65 Pn **Pn** **18 49 47.5 0.0**
DRME Dracevica, Mon 6.76 333 ⇓*i*Pn **Pn** **18 49 50.0 +0.7**
DRME *i* Sn **Sn** **18 51 02.4 -2.4**
DRME Dracevica, Mon 6.76 333 *e*Pn **Pn** **18 49 49.7 +0.4**
KEPZ Antalya-Kepez 6.76 82 *i* P **Pn** **18 49 52.5 +3.1**
KEPZ *i* S **Sn** **18 51 03.1 -1.9**
KEPZ IAML 18 51 13.0
comp=N,29nm,0.8s
KEPZ IAML 18 51 14.0
comp=E,27nm,1.3s
KEPZ IAML 18 51 16.0
comp=Z,15nm,0.6s
MATE Matera 6.79 313 ⇓P **Pn** **18 49 50.3 +0.6**
MATE ⇑S Sn 18 51 00.2 -5.3
PVY Plav 6.87 339 ⇑*i*Pn **Pn** **18 49 51.7 +0.7**
PVY *i* Sn **Sn** **18 51 06.4 -1.4**
SG1 Sgolgore (BA) 6.92 314 ⇓*i*Pn **Pn** **18 49 52.4 +0.8**
SG1 Sn **Sn** **18 51 04.5 -4.5**
PDG Podgorica 6.95 335 ⇑P **Pn** **18 49 52.5 +0.6**
PDG Podgorica 6.95 335 *e*Pn **Pn** **18 49 52.5 +0.6**
PDG Podgorica 6.95 335 Pn **Pn** **18 49 52.2 +0.3**
TTG Podgorica 6.95 335 ⇑*i*Pn **Pn** **18 49 52.1 +0.3**
TTG *i* Sn **Sn** **18 51 07.4 -2.0**
BUM Brajici-Budva 6.96 332 ⇓*i*Pn **Pn** **18 49 51.9 -0.3**
BUM *i* Sn **Sn** **18 51 05.4 -4.6**
DOGA KONYA_Doganhis 6.98 72 *i* P Pn 18 49 57.4 +4.9
BAI Bari 6.99 316 ⇓*i*Pn **Pn** **18 49 53.1 +0.7**
BAI Sn **Sn** **18 51 06.7 -3.7**
WDD Wied Dalam 7.08 270 Pn **Pn** **18 49 52.9 -0.9**
IVA Berane 7.14 340 ⇓*i*Pn **Pn** **18 49 55.3 +0.6**
IVA *i* Sn **Sn** **18 51 10.8 -3.7**
CEME Cevo 7.17 333 ⇑*i*Pn **Pn** **18 49 54.8 -0.2**
CEME *i* Sn **Sn** **18 51 10.1 -4.9**
SWA2 7.19 164 P **Pn** **18 49 53.7 -1.5**
baz=168
SWA2 AMP 18 51 00.0
baz=168
SWA2 S Sn 18 51 05.8 -10
baz=168
VAE Valgurarnera 7.20 283 P **Pn** **18 49 58.0 +2.5**
comp=Z,5.8nm,0.3s,baz=42,slow=12,SNR=2.1
VAE S **Sn** **18 51 13.1 -2.8**
comp=Z,13nm,0.3s,baz=233,slow=13,SNR=5.3
KOME Kolasin 7.24 338 ⇑*i*Pn **Pn** **18 49 56.6 +0.6**
KOME *i* Sn **Sn** **18 51 11.9 -4.8**
HCY Herceg Novi 7.24 331 ⇑*i*Pn **Pn** **18 49 55.8 -0.2**
HCY *i* Sn Sn 18 51 11.4 -5.3
HCY Herceg Novi 7.24 331 *e*Pn **Pn** **18 49 55.2 -0.8**
GAZI Gazipasa 7.33 87 *i* P **Pn** **18 49 56.1 -1.1**
GAZI *i* S Sn 18 51 05.2 -14
NKME Niksic 7.35 334 ⇓*i*Pn **Pn** **18 49 57.4 0.0**
NKME *i* Sn **Sn** **18 51 14.5 -4.9**
NKY Niksic 7.37 335 ⇑*i*Pn **Pn** **18 49 58.0 +0.1**
NKY *i* Sn Sn 18 51 14.4 -5.7
KDHN Kadinhani 7.43 69 *i* P Pn 18 50 03.5 +4.9
TREB Trebinje 7.53 331 *e*Pn **Pn** **18 49 58.7 -1.1**
DBRK Dubrovnik 7.57 330 *e*Pn Pn 18 49 58.6 -1.8
DBRK Sn Sn 18 51 16.9 -7.8
BRY Bratogost 7.61 333 ⇑*i*Pn **Pn** **18 50 00.6 -0.6**
BRY *i* Sn Sn 18 51 19.9 -6.1
BRY Bratogost 7.61 333 *e*Pn **Pn** **18 50 01.0 -0.2**
NEF NEVSHA 7.70 22 *e*P **Pn** **18 50 04.3 +2.1**
PLE Pljevlja 7.71 339 ⇓*i*Pg **Pn** **18 50 03.0 +0.5**
PLE *i* Sg **Sn** **18 51 24.1 -4.3**
UPM Unac-Piva 7.75 336 ⇑*i*Pn **Pn** **18 50 03.3 +0.2**
UPM *i* Sn **Sn** **18 51 24.4 -5.0**
UPM Unac-Piva 7.75 336 *e*Pn **Pn** **18 50 03.9 +0.8**
RUDO Rudo 7.98 339 *e*Pn **Pn** **18 50 05.0 -1.1**
SGRT San Giovanni R 8.05 316 Pn **Pn** **18 50 06.7 -0.5**
CORL Corleone 8.13 285 **Pn** **18 50 09.0 +0.8**
CLTB Caltabellotta 8.16 283 Pn **Pn** **18 50 09.6 +1.0**
BBLS Lazići 8.20 340 *e*Pn **Pn** **18 50 08.5 -0.6**
DIVS Divibare 8.27 343 *e*Pn **Pn** **18 50 09.6 -0.5**
DIVS Divibare 8.27 343 Pn **Pn** **18 50 09.7 -0.4**
CSS Mathiatis 8.30 96 Pn **Pn** **18 50 07.8 -2.7**
CSS Mathiatis 8.30 96 Pn **Pn** **18 50 10.3 -0.3**
PAOL Paolisi 8.33 308 **Pn** **18 50 11.2 +0.2**
MAKA Makarska 8.55 328 *e*Pn **Pn** **18 50 12.8 -0.9**
MAKA Sn Sn 18 51 39.6 -9.0
MDVR Moldovita 8.65 353 ⇓P **Pn** **18 50 17.9 +2.7**
HVAR Hvar 8.71 325 *e*Pn **Pn** **18 50 14.2 -1.8**
HVAR Sn Sn 18 51 43.2 -10
TEKS Tekeris 8.80 342 *e*Pn **Pn** **18 50 17.2 -0.1**
BRTR Keskin Array B 8.92 64 P **Pn** **18 50 21.6 +2.5**
comp=Z,0.6nm,0.3s,baz=242,slow=11,SNR=30
BRTR LR LR 18 54 37.9
comp=Z,38nm,18.8s,baz=186,slow=43
BRTR Keskin Array B 8.92 64 P Pn 18 50 23.8 +4.7
BRTR Keskin Array B 8.92 64 Pn 18 50 23.8 +4.7
BR131 Keskin Array S 8.92 64 P **Pn** **18 50 23.4 +4.3**
BR131 Keskin Array S 8.92 64 Pn **Pn** **18 50 23.4 +4.3**
INTR Introdacqua 9.29 311 Pn **Pn** **18 50 26.1 +2.1**
FRGS Fruska Gora 9.32 345 *e*Pn **Pn** **18 50 23.0 -1.3**
VOIR 9.32 8 ⇑P **Pn** **18 50 27.5 +3.0**
VOIR 9.32 8 P **Pn** **18 50 28.3 +3.8**
VOIR pmax pmax
comp=Z,5.0nm,0.5s
MLR Muntele Rosu 9.50 12 P **Pn** **18 50 30.2 +3.2**
comp=Z,0.4nm,0.3s,baz=181,slow=6.9,SNR=6.1
MLR LR LR 18 54 10.9
comp=Z,50nm,20.6s,baz=126,slow=38
MLR Muntele Rosu 9.50 12 ⇑P **Pn** **18 50 30.1 +3.2**
MLR Muntele Rosu 9.50 12 P **Pn** **18 50 31.4 +4.5**
MLR Muntele Rosu 9.50 12 Pn **Pn** **18 50 31.4 +4.5**
KOT Kottamia 9.54 129 P **Pn** **18 50 25.8 -1.6**
baz=128
KOT AMP 18 52 00.0
baz=128
HHAG Hagoal 9.69 128 P **Pn** **18 50 29.1 -0.4**
baz=127
BLY Banja Luka 9.70 333 *e*Pn Pn 18 50 27.3 -2.3
GLL Jalalah 9.70 131 P **Pn** **18 50 27.7 -2.0**
baz=131
AQU L'Aquila 9.79 312 P **Pn** **18 50 31.6 +0.7**
AQU L'Aquila 9.79 312 *e*Pn **Pn** **18 50 31.6 +0.7**
AQU L'Aquila 9.79 312 Pn **Pn** **18 50 31.6 +0.7**
DOPR Dopca 9.88 9 ⇓P **Pn** **18 50 35.5 +2.4**
PLOR Plostina 9.97 14 ⇑P **Pn** **18 50 36.6 +3.2**
PLOR Plostina 9.97 14 P **Pn** **18 50 36.5 +3.2**
VRI Vrincioaia 10.00 14 ⇑P **Pn** **18 50 37.0 +3.3**
VRI Vrincioaia 10.00 14 P Pn 18 50 39.6 +5.9
VRI pmax pmax
comp=Z,8.0nm,1.1s
NBNS Bani Suef 10.16 136 P **Pn** **18 50 34.2 -1.7**
baz=136
SUZ Suez 10.24 126 P **Pn** **18 50 35.3 -1.7**
baz=125
NRCA Norcia 10.25 313 **Pn** **18 50 39.2 +2.1**
OFRI 'Ofer 10.33 107 Pn **Pn** **18 50 35.3 -3.0**
MMA0B Mount Meron ar 10.51 104 Pn **Pn** **18 50 37.8 -2.9**
MMAI Mount Meron Ar 10.51 104 P **Pn** **18 50 38.8 -1.9**
comp=Z,2.0nm,0.3s,baz=303,slow=12,SNR=11
MMAI S Sn 18 52 28.6 -8.3
comp=Z,11nm,0.3s,baz=303,slow=27,SNR=10
SLTI Sal'it 10.53 109 Pn **Pn** **18 50 38.3 -2.7**
MORH Mrgy, Hungar 10.58 342 *e*Pn **Pn** **18 50 40.7 -0.9**
TESR Tescani 10.61 13 ⇑P **Pn** **18 50 45.1 +3.2**
GEM Giv'at Ha'Em 10.64 103 Pn Pn 18 50 39.0 -3.5
NATI Neve Ativ 10.68 102 Pn **Pn** **18 50 39.9 -3.1**
NATI Sn Sn 18 52 30.5 -11
KZIT Kziot 10.69 116 Pn **Pn** **18 50 39.9 -3.3**
KZIT Sn Sn 18 52 32.7 -9.3
MMLI Mount Malkishu 10.74 107 Pn **Pn** **18 50 41.6 -2.3**
AMAZ Amatzia 10.76 112 Pn **Pn** **18 50 40.7 -3.4**
MURB Monte Urbino 10.85 314 **Pn** **18 50 46.9 +1.6**
HMDT Nahal Hemdat 10.90 108 Pn **Pn** **18 50 43.5 -2.5**
YTIR Yattir 10.99 113 Pn **Pn** **18 50 44.6 -2.7**
DSI Dead Sea 11.09 111 Pn **Pn** **18 50 45.9 -2.7**
CRES Cresnjev 11.27 331 *e*Pn Pn 18 50 49.1 -1.8
KEST Kesra 11.28 272 S Sn 18 52 49.0 -6.8
comp=Z,0.3nm,0.3s,baz=52,slow=18,SNR=7.0
GRB Gharib 11.30 132 P **Pn** **18 50 49.5 -2.0**
baz=132
GHAJ Ghor Haditha 11.35 112 Pn **Pn** **18 50 49.4 -2.8**
PRNI Paran 11.43 117 Pn **Pn** **18 50 50.3 -3.0**
VSL Villasalto 11.45 291 Pn **Pn** **18 50 52.3 -1.2**
KIS Kishinev 11.56 19 *e*P **Pn** **18 51 02.0 +7.1**
KIS *e*LR LR 18 58 34.0
comp=Z,150nm,6.0s
CEY Cerknica 11.62 328 *e*Pn **Pn** **18 50 55.3 -0.5**
HRFI Mount Harif 11.63 119 Pn **Pn** **18 50 53.4 -2.7**
EIL Elat 11.79 120 P **Pn** **18 50 56.6 -1.5**
comp=Z,1.2nm,0.3s,baz=297,slow=2.6,SNR=24
EIL S Sn 18 52 56.8 -11
comp=Z,3.9nm,0.3s,baz=352,slow=17,SNR=8.4
EIL Elat 11.79 120 Pn **Pn** **18 50 55.1 -3.0**
LJU Ljubljana 11.82 329 *e*Pn **Pn** **18 50 57.5 -1.0**
HDK1 Dakhla 11.86 152 P **Pn** **18 50 57.4 -1.9**
baz=153
TRI Trieste 11.89 326 P **Pn** **18 50 59.1 -0.3**
TRI Trieste 11.89 326 Pn **Pn** **18 50 59.1 -0.3**
HBST Basata 11.91 123 P **Pn** **18 50 58.4 -1.5**
baz=122
ASF Jabal al Asfar 11.99 106 P **Pn** **18 51 00.2 -0.9**
comp=Z,0.5nm,0.3s,baz=284,slow=4.3,SNR=3.2
ASF S **Sn** **18 53 07.8 -5.4**
comp=Z,0.6nm,0.3s,baz=324,slow=17,SNR=2.3
SOKA Soboth 12.14 332 *e*Pn **Pn** **18 51 01.9 -1.0**
comp=Z,3.1nm,0.3s,SNR=12
SOKA *e*Sn Sn 18 53 09.5 -7.1
comp=Z,6.0nm,1.0s
OBKA Obir 12.19 330 *e*Pn **Pn** **18 51 03.7 +0.1**
comp=Z,4.4nm,0.3s,SNR=6.7
OBKA *e*Sn Sn 18 53 11.5 -6.3
comp=Z,6.4nm,0.3s

ARSA	**Arzberg**	**12.45**	**335**	*e*Pn		**Pn**	**18 51 06.7**	**-0.4**
	comp=Z,1.7nm,0.2s								
PRED	**Cave del Predi**	**12.54**	**328**			**Pn**	**18 51 08.1**	**-0.4**
VLC	**Villacollemand**	**12.63**	**313**	Pn		**Pn**	**18 51 12.5**	**+2.8**
VYHS	**Vyhne**	**12.70**	**347**	*e*P		**Pn**	**18 51 13.2**	**+2.6**
VYHS				*e*			18 53 30.8		
VYHS	**Vyhne**	**12.70**	**347**	*e*P		**Pn**	**18 51 13.2**	**+2.6**
VYHS	**Vyhne**	**12.70**	**347**	*e*SN		**Sn**	**18 53 30.8**	**+0.5**
ZOU	**Zoufplan**	**12.89**	**326**	Pn		**Pn**	**18 51 11.8**	**-1.5**
CIMO	**Cimolais**	**12.95**	**325**	Pn		Pn	18 51 11.5	-2.4
KBA	**Koelnbreinsper**	**13.14**	**329**	*e*Sn		Sn	18 53 33.3	-7.8
	comp=Z,1.7nm,0.3s								
CTI	**Castel Tesino**	**13.14**	**322**	P		**Pn**	**18 51 16.2**	**-0.5**
CTI	**Castel Tesino**	**13.14**	**322**	Pn		**Pn**	**18 51 16.2**	**-0.5**
MSSA	**Maissana**	**13.24**	**312**	Pn		Pn	18 51 14.8	-3.1
ABTA	**Abfaltersbach**	**13.24**	**326**	*i* Pn		**Pn**	**18 51 17.5**	**-0.5**
	comp=Z,0.3nm,0.1s								
ABTA				*e*Sn		Sn	18 53 35.2	-8.4	
	comp=Z,3.8nm,0.4s								
MOA	**Molln**	**13.40**	**333**	*e*Pn		**Pn**	**18 51 21.0**	**+0.9**
	comp=Z,3.5nm,0.3s,SNR=9.4								
SALO	**Salr**	**13.44**	**318**	Pn		**Pn**	**18 51 21.4**	**+0.8**
KRUC	**Moravsky**	**13.80**	**341**	*e*PN		**P**	**18 51 34.4**	**+2.4**
VRAC	**Vranov**	**13.97**	**342**	LR		LR	18 58 05.1		
	comp=Z,58nm,20.6s,baz=175,slow=42								
VRAC	**Vranov**	**13.97**	**342**	*e*PN		**P**	**18 51 35.6**	**+1.6**
WTTA	**Wattenberg**	**14.03**	**326**	*e*Pn		**Pn**	**18 51 29.4**	**+0.7**
	comp=Z,4.8nm,0.4s,SNR=5.7								
WTTA					Sn	Sn	18 53 54.0	-8.8	
	comp=Z,6.7nm,0.6s								
WATA	**Walderalm**	**14.11**	**326**	*e*Pn		**Pn**	**18 51 30.3**	**+0.7**
	comp=Z,2.0nm,0.3s								
WATA				*e*Sn		Sn	18 53 57.6	-7.1	
	comp=Z,3.9nm,0.4s								
SQTA	**Sankt Quirin**	**14.19**	**325**	*i* Pn		**Pn**	**18 51 31.9**	**+1.1**
	comp=Z,5.0nm,0.4s								
SQTA				*e*Sn		Sn	18 53 59.0	-7.7	
	comp=Z,7.9nm,0.6s								
FUORN	**Ofenpass-Fuorn**	**14.24**	**321**	Pn		**Pn**	**18 51 33.0**	**+1.5**
FETA	**Feichten**	**14.28**	**323**	*e*Sn		Sn	18 54 01.8	-7.1	
	comp=Z,2.6nm,0.6s								
MOTA	**Moosalm**	**14.33**	**325**	*e*Pn		**Pn**	**18 51 34.2**	**+1.5**
	comp=Z,1.9nm,0.4s								
MOTA				*e*Sn		Sn	18 54 04.1	-6.0	
	comp=Z,4.1nm,0.5s								
GEC2	**GERESS Array S**	**14.45**	**334**	Pn		**Pn**	**18 51 35.3**	**+1.2**
GERES	**GERESS Array B**	**14.45**	**334**	P		**Pn**	**18 51 35.2**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=157,slow=13,SNR=20								
GERES					S	Sn	18 54 06.8	-5.9	
	comp=Z,0.3nm,0.3s,baz=149,slow=23,SNR=3.3								
GERES	**GERESS Array B**	**14.45**	**334**			**Pn**	**18 51 34.7**	**+0.6**
DAVOX	**Davos/Dischmat**	**14.54**	**321**	P		**Pn**	**18 51 35.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=145,slow=23,SNR=2.3								
DAVOX					S	Sn	18 54 09.5	-5.7	
	comp=Z,0.4nm,0.3s,baz=323,slow=20,SNR=3.5								
DAVOX					LR	LR	18 58 57.6		
	comp=Z,31nm,19.6s,baz=84,slow=44								
RETA	**Reutte**	**14.60**	**324**	*i* Pn		**Pn**	**18 51 37.7**	**+1.7**
	comp=Z,0.8nm,0.2s								
RETA				*e*Sn		Sn	18 54 09.4	-7.0	
	comp=Z,3.5nm,0.5s								
KRLC	**Kraliky**	**14.64**	**343**	*e*P		**P**	**18 51 42.5**	**+1.1**
KRLC	**Kraliky**	**14.64**	**343**	*e*PN		**P**	**18 51 42.5**	**+1.1**
KHC	**Kasperske Hory**	**14.73**	**334**	*e*P		**Pn**	**18 51 38.9**	**+1.2**
KHC				*e*			18 54 14.6		
KHC	**Kasperske Hory**	**14.73**	**334**	*e*PN		**Pn**	**18 51 38.9**	**+1.2**
KHC				*e*SN		**Sn**	**18 54 14.6**	**-5.0**
KHC	**Kasperske Hory**	**14.73**	**334**	P		**Pn**	**18 51 37.7**	**0.0**
DAVA	**Damuels**	**14.88**	**322**	*e*Pn		**Pn**	**18 51 41.1**	**+1.2**
	comp=Z,2.6nm,0.5s								
DAVA				*i* Sn		Sn	18 54 17.9	-5.6	
	comp=Z,1.8nm,0.3s								
WET	**Wettzell**	**14.99**	**333**	P		**P**	**18 51 48.0**	**+2.6**
DPC	**Dobruska-Polom**	**15.00**	**343**	*e*P		**P**	**18 51 46.3**	**+0.9**
DPC	**Dobruska-Polom**	**15.00**	**343**	*e*PN		**P**	**18 51 46.3**	**+0.9**
AKASG	**Malin Array Be**	**15.12**	**15**	P		**Pn**	**18 51 42.5**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=205,slow=12,SNR=11								
AKASG	**Malin Array Be**	**15.12**	**15**	P		**Pn**	**18 51 41.3**	**-1.4**
AKBB	**Malin Array Si**	**15.12**	**15**	*ce*P		**Pn**	**18 51 41.9**	**-0.7**
AKBB	**Malin Array Si**	**15.12**	**15**			**Pn**	**18 51 42.8**	**+0.2**
PRU	**Pruhonice**	**15.16**	**338**	*e*P		**P**	**18 51 48.8**	**+1.7**
PRU	**Pruhonice**	**15.16**	**338**	*e*PN		**P**	**18 51 48.8**	**+1.7**
CHVC	**Chvalec**	**15.29**	**342**	*e*PN		**P**	**18 51 51.4**	**+2.8**
ARTV	**Artvin**	**15.40**	**66**	Pn		**Pn**	**18 51 45.3**	**-1.3**
SENIN	**Lac Senin/Sane**	**15.68**	**315**	Pn		**Pn**	**18 51 49.5**	**-0.6**
GEVA	**Gevas**	**15.91**	**76**	Pn		**Pn**	**18 51 51.1**	**-2.0**
GEVA					IAmb	IAmb	18 52 05.9		
	comp=Z,14nm,0.5s								
GRF	**Grafenberg Arr**	**16.07**	**331**	P		**P**	**18 52 00.4**	**+3.1**
GRF					pmax	pmax			
	comp=Z,15nm,1.3s								
BRG	**Berggiesshubel**	**16.12**	**338**	P		**P**	**18 52 00.6**	**+2.8**
BRG					pmax	pmax			
	comp=Z,5.0nm,0.9s								
AKH	**Akhalkalaki**	**16.60**	**66**	P		**P**	**18 52 08.9**	**+5.5**
KIV	**Kislovodsk**	**16.74**	**57**	*e*P		**Pn**	**18 52 01.2**	**-2.2**
KIV					pmax	pmax			
	comp=Z,32nm,1.1s								
KIV	**Kislovodsk**	**16.74**	**57**			**Pn**	**18 52 01.0**	**-2.4**
CLL	**Collm**	**16.79**	**337**	*e*P		**Pn**	**18 52 07.0**	**+3.2**
CLL				*e*Pmax			18 52 09.0		
	comp=Z,6.0nm,1.1s								
CLL	**Collm**	**16.79**	**337**	*e*P		**Pn**	**18 52 07.0**	**+3.2**
KBZ	**Khabaz**	**16.81**	**57**	P		**Pn**	**18 52 05.8**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=228,slow=14,SNR=14								
KBZ	**Khabaz**	**16.81**	**57**	*i* P		**Pn**	**18 52 05.0**	**+0.9**
VORD	**Divnogorie**	**18.72**	**33**	*e*P		**P**	**18 52 27.9**	**+1.5**
VORD					pmax	pmax			
	comp=Z,7.0nm,0.7s								
VSR	**Storozhevoye**	**18.84**	**32**	*e*P		**P**	**18 52 28.2**	**+0.4**
VSR					pmax	pmax			
	comp=Z,9.0nm,0.6s								
BSD	**Bornholm Skovb**	**19.76**	**346**	*i* P		**P**	**18 52 38.2**	**+0.5**
BSD	**Bornholm Skovb**	**19.76**	**346**	*i* P		**P**	**18 52 38.2**	**+0.5**
LPSR	**Galich'ya Gora**	**19.78**	**29**	*e*P		**P**	**18 52 40.2**	**+2.2**
LPSR					pmax	pmax			
	comp=Z,20nm,0.8s								
VRH	**Novokhopyorsk**	**19.99**	**36**	*e*P		**P**	**18 52 41.0**	**+0.7**
VRH					pmax	pmax			
	comp=Z,20nm,0.7s								
OBN	**Obninsk**	**21.01**	**22**	P		**P**	**18 52 53.1**	**+1.9**
	comp=Z,5.4nm,0.4s,baz=352,slow=13,SNR=3.7								
OBN	**Obninsk**	**21.01**	**22**	*e*P		**P**	**18 52 50.2**	**-1.0**
OBN					pmax	pmax			
	comp=Z,9.0nm,0.8s								
OBN	**Obninsk**	**21.01**	**22**	P		**P**	**18 52 49.9**	**-1.3**
ESDC	**Sonseca Array**	**21.71**	**287**	P		**P**	**18 53 00.9**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=83,slow=12,SNR=6.5								
VSU	**Vasula**	**22.39**	**5**	*i* P		**P**	**18 53 05.6**	**-0.4**
VSU					pmax	pmax			
	comp=Z,42nm,1.2s								
MDT	**Midelt**	**23.17**	**270**	LR		LR	19 04 10.6		
	comp=Z,25nm,19.8s,baz=137,slow=41								
FINES	**FINESS Array B**	**25.32**	**3**	P		**P**	**18 53 33.7**	**0.0**
	comp=Z,0.7nm,0.3s,baz=176,slow=9.6,SNR=17								
FINES					PcP	**PcP**	**18 57 05.4**	**+0.4**	
	comp=Z,0.5nm,0.3s,baz=189,slow=2.6,SNR=3.7								
FINES	**FINESS Array B**	**25.32**	**3**	P		**P**	**18 53 33.9**	**+0.1**
FIA1	**FINESS Array S**	**25.32**	**3**	P		**P**	**18 53 33.9**	**+0.2**
FIA1					IAmb	IAmb	18 53 40.6		
	comp=Z,18nm,1.2s								
NC602	**NORSAR Array S**	**25.67**	**347**	P		**P**	**18 53 37.2**	**+0.3**
NAO01	**NORSAR Array S**	**25.89**	**346**	P		**P**	**18 53 38.4**	**-0.6**
NAO01					IAmb	IAmb	18 53 43.2		
	comp=Z,34nm,1.3s								
NB201	**NORSAR Array S**	**26.00**	**347**	P		**P**	**18 53 39.9**	**0.0**
NB2	**NORSAR Subarra**	**26.01**	**347**	P		**P**	**18 53 40.8**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=153,slow=9.3								
NOA	**NORSAR Array B**	**26.01**	**347**	P		**P**	**18 53 40.8**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=152,slow=9.5,SNR=7.6								
NOA					LR	LR	19 04 41.4		
	comp=Z,22nm,20.4s,baz=275,slow=38								
NBO00	**NORSAR Array S**	**26.08**	**346**	P		**P**	**18 53 41.6**	**+0.9**
NBO00					IAmb	IAmb	18 53 57.1		
	comp=Z,19nm,1.3s								
EKA	**Eskdalemuir Ar**	**26.29**	**325**	P		**P**	**18 53 44.0**	**+1.4**
	comp=Z,1.7nm,0.4s,baz=123,slow=8.6,SNR=11								
EKA	**Eskdalemuir Ar**	**26.29**	**325**	P		**P**	**18 53 44.0**	**+1.4**
NC204	**NORSAR Array S**	**26.31**	**346**	P		**P**	**18 53 43.0**	**+0.2**
DSB	**Dublin**	**26.80**	**319**	P		**P**	**18 53 46.8**	**-0.4**
GEYT	**Alibeck**	**27.78**	**76**	P		**P**	**18 53 56.8**	**+0.5**
	comp=Z,3.8nm,0.4s,baz=270,slow=8.9,SNR=12								
GEYT	**Alibeck**	**27.78**	**76**	P		**P**	**18 53 56.7**	**+0.5**
GYA0B	**ALIBECK ARRAY**	**27.78**	**76**	P		**P**	**18 53 55.9**	**-0.3**
TMCR	**Tamitsa**	**29.39**	**13**	*e*P		**P**	**18 54 08.1**	**-2.0**
TMCR					pmax	pmax			
	comp=Z,9.0nm,0.4s								
ABKAR	**Akbulak array**	**29.63**	**52**	P		**P**	**18 54 12.1**	**-0.4**
ARU	**Arti**	**31.17**	**38**	*d* iP		**P**	**18 54 25.6**	**-0.3**
ARU					S	**S**	**18 59 30.3**	**+2.8**
ARU					SS	**SnSn**	**19 01 10.7**	**-3.5**
ARU					pmax	pmax			
	comp=Z,3.0nm,0.7s								
ARU	**Arti**	**31.17**	**38**	P		**P**	**18 54 25.4**	**-0.5**
ARCES	**ARCESS Array B**	**33.41**	**1**	P		**P**	**18 54 45.1**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=195,slow=11,SNR=6.5								
ARCES	**ARCESS Array B**	**33.41**	**1**	P		**P**	**18 54 45.0**	**-0.4**
KK31	**Karatay Array**	**36.64**	**64**	P		**P**	**18 55 13.5**	**0.0**
KK31					pmax	pmax			
	comp=Z,7.0nm,0.5s								
KK31	**Karatay Array**	**36.64**	**64**	P		**P**	**18 55 13.5**	**0.0**
KK31					IAmb	IAmb	18 55 14.8		
	comp=Z,7.5nm,0.5s								
KKAR	**Karatay Array**	**36.64**	**64**	P		**P**	**18 55 13.4**	**-0.1**
KKAR					pmax	pmax			
	comp=Z,7.0nm,0.5s								
KKAR	**Karatay Array**	**36.64**	**64**	P		**P**	**18 55 13.4**	**-0.1**
KKAR	**Karatay Array**	**36.64**	**64**	P		**P**	**18 55 13.5**	**0.0**
KKAR					IAmb	IAmb	18 55 14.8		
	comp=Z,7.5nm,0.5s								
BRVK	**Borovoye**	**36.71**	**48**	P		**P**	**18 55 14.0**	**0.0**
BRVK					pmax	pmax			
	comp=Z,2.0nm,0.7s								
BRVK	**Borovoye**	**36.71**	**48**	P		**P**	**18 55 14.0**	**0.0**
BTK	**Batken**	**37.27**	**69**	P		**P**	**18 55 19.4**	**+0.4**
BTK					pmax	pmax			
	comp=Z,3.0nm,0.6s								
BTK	**Batken**	**37.27**	**69**	P		**P**	**18 55 19.4**	**+0.4**
BTK					IAmb	IAmb	18 55 36.8		
	comp=Z,2.5nm,0.6s								
DBIC	**Dimbokro**	**39.06**	**228**	P		**P**	**18 55 34.6**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=14,slow=11,SNR=5.0								
DBIC	**Dimbokro**	**39.06**	**228**	P		**P**	**18 55 34.4**	**+0.2**
DBIC					IAmb	IAmb	18 55 52.8		
	comp=Z,17nm,1.4s								
NIL	**Nilore**	**40.71**	**78**	P		**P**	**18 55 48.7**	**+0.9**
NIL					pmax	pmax			
	comp=Z,10.0nm,0.8s								
NIL	**Nilore**	**40.71**	**78**	P		**P**	**18 55 48.7**	**+0.9**
NIL					IAmb	IAmb	18 55 50.1		
	comp=Z,10nm,0.8s								
KDJ	**Kajisay**	**41.64**	**65**	P		**P**	**18 55 56.9**	**+1.4**
KDJ					pmax	pmax			
	comp=Z,4.0nm,0.9s								
KDJ	**Kajisay**	**41.64**	**65**	P		**P**	**18 55 56.9**	**+1.4**
KURK	**Kurchatov**	**41.74**	**52**	*ce*P		**P**	**18 55 55.2**	**-0.8**
KURK					pmax	pmax			
	comp=Z,6.0nm,1.3s								
KURK	**Kurchatov**	**41.74**	**52**	P		**P**	**18 55 55.8**	**-0.2**
KURK					IAmb	IAmb	18 55 56.5		
	comp=Z,4.2nm,0.8s								
SPA0	**Spitsbergen Ar**	**42.18**	**358**	P		**P**	**18 56 00.4**	**+1.2**
MAKZ	**Makanchi**	**44.29**	**57**	P		**P**	**18 56 16.5**	**-0.2**
MAKZ					pmax	pmax			
	comp=Z,3.0nm,0.7s								
MAKZ	**Makanchi**	**44.29**	**57**	P		**P**	**18 56 16.4**	**-0.2**
MAKZ					IAmb	IAmb	18 56 17.1		
	comp=Z,3.2nm,0.7s								
MK31	**Makanchi Array**	**44.50**	**57**	P		**P**	**18 56 18.5**	**+0.1**
MK31					pmax	pmax			
	comp=Z,6.0nm,0.8s								
MK31	**Makanchi Array**	**44.50**	**57**	P		**P**	**18 56 18.5**	**+0.1**
MK31					IAmb	IAmb	18 56 19.1		
	comp=Z,6.4nm,0.8s								
MKAR	**Makanchi Array**	**44.50**	**57**	P		**P**	**18 56 18.4**	**0.0**
	comp=Z,9.1nm,0.7s,baz=278,slow=6.8,SNR=116								
MKAR					PcP	**PcP**	**18 58 01.4**	**+0.6**	
	comp=Z,0.8nm,0.5s,baz=288,slow=2.6,SNR=2.6								
MKAR	**Makanchi Array**	**44.50**	**57**	*i* P		**P**	**18 56 18.3**	**-0.1**
MKAR					pmax	pmax			
	comp=Z,9.0nm,0.7s								
ZAA0	**Zalesovo Array**	**45.41**	**47**	P		**P**	**18 56 25.3**	**-0.1**
ZAA0					IAmb	IAmb	18 56 25.7		
	comp=Z,7.2nm,0.4s								
ZALV	**Zalesovo Beam**	**45.41**	**47**	P		**P**	**18 56 25.1**	**-0.4**
	comp=Z,6.4nm,0.3s,baz=271,slow=8.0,SNR=56								
ZALV	**Zalesovo Beam**	**45.41**	**47**	P		**P**	**18 56 24.7**	**-0.7**
DGZ	**Jazzator, Alta**	**47.47**	**52**	*i* P		**P**	**18 56 41.4**	**-0.4**
DGZ					pmax	pmax			
	comp=Z,3.0nm,0.8s								
NRIK	**Noril'sk**	**47.60**	**26**	*i* P		**P**	**18 56 42.0**	**-0.4**
NRIK					pmax	pmax			
	comp=Z,6.0nm,0.9s								
TLY	**Talaya**	**57.03**	**47**	*e*P		**P**	**18 57 52.7**	**+0.2**
TLY					pmax	pmax			
	comp=Z,6.0nm,0.6s								
SONM	**Songino Array**	**60.02**	**51**	P		**P**	**18 58 13.6**	**0.0**
	comp=Z,1.4nm,0.5s,baz=284,slow=7.3,SNR=13								
SONM					PcP	**PcP**	**18 59 00.2**	**+1.1**	
	comp=Z,1.3nm,0.8s,baz=271,slow=4.5,SNR=5.2								
SONM	**Songino Array**	**60.02**	**51**	P		**P**	**18 58 13.4**	**-0.2**
ULN	**Ulaanbaatar**	**60.42**	**50**	P		**P**	**18 58 16.6**	**+0.3**
ULN					pmax	pmax			
	comp=Z,3.0nm,0.8s								
ULN	**Ulaanbaatar**	**60.42**	**50**	P		**P**	**18 58 16.6**	**+0.3**
ULN					IAmb	IAmb	18 58 16.8		
	comp=Z,3.1nm,0.8s								
SCHQ	**Schefferville**	**61.38**	**319**	P		**P**	**18 58 23.9**	**+1.4**
	comp=Z,3.2nm,0.6s,baz=350,slow=6.1,SNR=2.7								
SCHQ	**Schefferville**	**61.38**	**319**	P		**P**	**18 58 23.2**	**+0.7**
SCHQ					IAmb	IAmb	18 58 32.5		
	comp=Z,2.8nm,0.8s								
DGAR	**Diego Garcia**	**63.34**	**123**	*i* P		**P**	**18 58 35.0**	**-1.0**
BOSA	**Boshof**	**64.50**	**178**	P		**P**	**18 58 43.6**	**+0.1**
	comp=Z,3.4nm,1.2s,baz=326,slow=7.3,SNR=1.9								
BOSA	**Boshof**	**64.50**	**178**	P		**P**	**18 58 43.4**	**-0.1**
BOSA					IAmb	IAmb	18 58 55.1		
	comp=Z,18nm,1.4s								
YAK	**Yakutsk**	**65.75**	**30**	*e*P		**P**	**18 58 49.8**	**-1.3**
YAK					pmax	pmax			
	comp=Z,4.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**67.99**	**83**	P		**P**	**18 59 05.7**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=299,slow=7.8,SNR=8.2								
CMAR	**Chiang Mai Arr**	**67.99**	**83**	*i* P		**P**	**18 59 06.0**	**-0.1**
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
BILL	**Bilibino**	**72.43**	**14**	*e*P		**P**	**18 59 32.4**	**0.0**
BILL				*e*			19 02 10.9		
BILL					pmax	pmax			
	comp=Z,8.0nm,1.1s								
SADO	**Sadowa**	**73.19**	**313**	P		**P**	**18 59 38.5**	**+1.1**
	comp=Z,2.7nm,0.4s,baz=63,slow=2.3,SNR=2.1								
KLR	**Kul'dur**	**73.98**	**40**	*i* P		**P**	**18 59 41.1**	**-0.8**
KLR					pmax	pmax			
	comp=Z,3.0nm,0.9s								
MA2	**Magadan**	**75.19**	**25**	*ce*P		**P**	**18 59 48.7**	**0.0**
MA2					pmax	pmax			
	comp=Z,8.0nm,1.3s								
YKA	**Yellowknife Ar**	**75.97**	**341**	P		**P**	**18 59 53.1**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=354,slow=3.5,SNR=6.1								
USRK	**Ussuriysk Ar.**	**77.19**	**44**	P		**P**	**19 00 00.2**	**-0.1**
	comp=Z,6.5nm,0.5s,baz=296,slow=4.0,SNR=18								
USRK	**Ussuriysk Ar.**	**77.19**	**44**	P		**P**	**19 00 00.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**77.19**	**44**	P		**P**	**19 00 00.4**	**+0.1**
KSAR	**Wonju Array Be**	**78.85**	**52**	P		**P**	**19 00 09.4**	**-0.3**
KSAR	**Wonju Array Be**	**78.85**	**52**	P		**P**	**19 00 09.4**	**-0.3**
KSRS	**Korea Array**	**78.87**	**52**	P		**P**	**19 00 09.9**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=313,slow=4.8,SNR=14								
KSRS					LR	LR	19 40 52.3		
	comp=Z,20nm,18.2s,baz=25,slow=40								
PETK	**Petropavlovsk-**	**82.66**	**26**	P		**P**	**19 00 28.8**	**-0.9**
	comp=Z,2.7nm,0.9s,baz=353,slow=4.5,SNR=6.2								
PETK	**Petropavlovsk-**	**82.66**	**26**	P		**P**	**19 00 28.6**	**-1.1**
ASAJ	**Asahikawa**	**82.96**	**39**	P		**P**	**19 00 31.5**	**+0.1**
	comp=Z,17nm,1.1s,baz=312,slow=4.3,SNR=10								
ASAJ	**Asahikawa**	**82.96**	**39**	P		**P**	**19 00 31.5**	**+0.1**
ASAJ					pmax	pmax			
	comp=Z,54nm,1.4s								
JKA	**Kamikawa-asahi**	**82.97**	**39**	P		**P**	**19 00 31.5**	**0.0**
MJAR	**Matsushiro Arr**	**85.77**	**47**	P		**P**	**19 00 46.1**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=312,slow=5.5,SNR=11								
MJAR	**Matsushiro Arr**	**85.77**	**47**	P		**P**	**19 00 45.6**	**-0.3**
NEW	**Newport**	**88.78**	**335**	P		**P**	**19 01 00.7**	**+0.5**
NEW					pmax	pmax			
	comp=Z,11nm,0.8s								
NEW	**Newport**	**88.78**	**335**	P		**P**	**19 01 00.7**	**+0.5**
PDAR	**Pinedale Array**	**90.39**	**327**	LR		LR	19 46 58.3		
	comp=Z,28nm,18.5s,baz=324,slow=39								
D08A	**Wollman Farm,**	**90.44**	**335**	P		**P**	**19 01 07.5**	**-0.4**
F10A	**Beach Ranch, E**	**90.78**	**334**	P		**P**	**19 01 10.1**	**+0.4**
F10A					IAmb	IAmb	19 01 11.5		
	comp=Z,5.2nm,0.9s								
HAWA	**Hanford**	**91.22**	**335**	P		**P**	**19 01 11.2**	**-0.4**
HAWA					IAmb	IAmb	19 01 19.6		
	comp=Z,4.0nm,0.8s								
WRA	**Warramunga Arr**	**118.24**	**95**	PKP		**PKPdf**	**19 06 52.8**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=311,slow=1.4,SNR=5.2								
ASAR	**Alice Springs**	**119.75**	**99**	PKP		**PKPdf**	**19 06 56.4**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=307,slow=1.6,SNR=14								
ASAR	**Alice Springs**	**119.75**	**99**			**PKPdf**	**19 06 55.9**	**-0.7**

NEIC ***11*** *18:52:16.9±1.2, 57.75°S±0.07°×147.7°W±0.7°, h10km±2km, mb4.6/6, Error ellipse: s-maj=27.7km s-min=12.0km az=100.0*

IDC ***11*** *18:52:16.2±1.7, 57.27°S×147.43°W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.8/34, mbtmp4.0/3, MS3.7/9, Ms1 3.7/9, ms1mx3.5/19, Error ellipse: s-maj=301.9km s-min=44.1km az=0.0*

ISC 11 18:52:16.8±1.3, 57.7°S±0.3°×147.1°W±0.2°, h10km, n44, σ0°74/20, mb4.2/5, MS3.8/11, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNDA	**Vanda**	**26.23**	**203**	LR		LR	19 05 57.5	
	comp=Z,106nm,18.2s,baz=96,slow=31							
VNDA	**Vanda**	**26.23**	**203**	P		**P**	**18 57 51.1**	**-0.3**
RPZ	**Rata Peaks**	**29.46**	**280**	LR		LR	19 08 49.5	
	comp=Z,150nm,18.1s,baz=197,slow=34							
URZ	**Urewera**	**30.37**	**294**	LR		LR	19 07 04.6	
	comp=Z,133nm,21.0s,baz=19,slow=30							
TBI	**Tubuai**	**34.39**	**356**	*e*LQ		LQ	19 06 16.7	
	610nm,34.0s							
TBI				*e*LR		LR	19 08 01.6	
	comp=Z,254nm,28.5s							
TBI	**Tubuai**	**34.39**	**356**	*e*T		T	19 35 08.1	
	7.5nm,0.2s							
PMSA	**Palmer Station**	**37.77**	**136**	P		**P**	**18 59 32.0**	**-0.4**
MEH	**Mehetia**	**39.80**	**358**	*e*T		T	19 41 53.3	
	14nm,0.3s							
TVO	**Taravao**	**39.92**	**357**	*e*T		T	19 42 02.4	
	1.2nm,0.3s							
PPT2	**Papeete2**	**40.12**	**356**	*e*LR		LR	19 10 37.2	
	comp=Z,289nm,28.2s							
TIAR	**Tiarei**	**40.14**	**357**	*e*T		T	19 42 19.4	
	3.0nm,0.3s							
VAH	**Vaihoa**	**42.42**	**359**	*e*T		T	19 45 09.7	
	12nm,0.3s							
VNA3	**Neumayer Olymp**	**47.87**	**163**	P		**P**	**19 00 54.8**	**+0.5**
SNAA	**Sanae**	**48.48**	**166**	P		**P**	**19 00 59.3**	**+0.2**
SNAA	**Sanae**	**48.48**	**166**	P		**P**	**19 00 59.0**	**-0.1**
SNAA					IAmb	IAmb	19 01 08.0	
	comp=Z,5.4nm,1.0s							
VNA2	**Neumayer--Watz**	**48.51**	**163**	P		**P**	**19 00 59.8**	**+0.6**
VNA1	**Neumayer--Stat**	**48.61**	**163**

	baz=292						
YM01	**YM01**	**0.89 291**	P		**Pg**	18 55 48.5	**-0.6**
	baz=289						
YM11	**YM11**	**0.89 292**	*e*P		**Pg**	18 55 49.8	**+0.6**
	baz=290						
NWLT	**Wulai**	**0.90 267**	*i* P		**Pg**	18 55 48.8	**-0.4**
	baz=265						
YM05	**YM05**	**0.90 292**	P		**Pg**	18 55 49.1	**-0.2**
	baz=290						
YM10	**YM10**	**0.90 291**	*e*P		**Pg**	18 55 49.3	**0.0**
	baz=289						
YM10			*e*S		**Sg**	18 56 00.6	**-0.5**
	baz=289						
NDT	**Datong Townshi**	**0.91 256**	*i* P		**Pg**	18 55 49.6	**0.0**
	baz=254						
NDT			*e*S		**Sb**	18 56 02.2	**-0.1**
	baz=254						
TWY	**Chenhua**	**0.92 299**	*e*P		**Pg**	18 55 49.6	**0.0**
	baz=297						
YM04	**YM04**	**0.92 291**	*e*P		**Pg**	18 55 49.6	**-0.1**
	baz=289						
YM03	**YM03**	**0.93 292**	P		**Pg**	18 55 49.7	**-0.1**
	baz=290						
ANP	**Anpu**	**0.95 292**	*e*P		**Pg**	18 55 50.2	**0.0**
	baz=290						
YHNB	**Yeheng**	**1.02 261**	*i* P		**Pg**	18 55 51.3	**-0.3**
	baz=260						
NSK	**Sanguang**	**1.04 262**	*i* P		**Pg**	18 55 51.4	**-0.6**
	baz=260						
NSK			*e*S		**Sg**	18 56 05.3	**-0.1**
	baz=260						
NACB	**Ninganchiao**	**1.04 231**	*e*P		**Pg**	18 55 51.6	**-0.4**
	baz=230						
NACB			*e*S		**Sn**	18 56 06.9	**-0.5**
	baz=230						
NNSH	**Datong**	**1.08 249**	P		**Pg**	18 55 52.2	**-0.5**
	baz=247						
NNSB	**Datong**	**1.08 249**	*i* P		**Pg**	18 55 52.3	**-0.5**
	baz=247						
NNSB			*e*S		**Sb**	18 56 07.5	**+0.3**
	baz=247						
NNS	**Nan Shan**	**1.08 249**	*e*P		**Pg**	18 55 52.6	**-0.2**
	baz=247						
NNS			S		**Sb**	18 56 07.2	**-0.1**
	baz=247						
TWD	**Chiawan**	**1.10 228**	*e*P		**Pb**	18 55 53.0	**-0.1**
	baz=226						
ETLH	**Xiulin Townshi**	**1.10 236**	P		**Pb**	18 55 53.0	**-0.4**
	baz=235						
ETLH			*e*S		**Sb**	18 56 08.6	**+0.7**
	baz=235						
HWA	**Hwalien**	**1.17 224**	*e*P		**Pb**	18 55 54.1	**-0.2**
	baz=222						
IRIF	**Iriomote-Funau**	**1.23 113**	P		**Pg**	18 55 55.6	**-0.1**
FUSS	**Fushou**	**1.27 243**	*e*P		**Pg**	18 55 55.9	**-0.5**
	baz=242						
WHF	**Hehuan Shan**	**1.30 239**	*e*P		**Pg**	18 55 56.3	**-0.8**
	baz=237						
WHF			S		**Sb**	18 56 13.8	**-0.1**
	baz=237						
TDCB	**Techi**	**1.34 245**	P		**Pg**	18 55 56.8	**-0.9**
	baz=243						
TDCB			S		**Sb**	18 56 14.8	**+0.2**
	baz=243						
LIOB	**Emei**	**1.35 263**	*e*P		**Pg**	18 55 57.6	**-0.3**
	baz=261						
NSTT	**Nanjuang**	**1.36 262**	*e*P		**Pb**	18 55 58.7	**+1.0**
	baz=260						
ESL	**Shilin**	**1.39 224**	*e*P		**Pb**	18 55 58.5	**+0.3**
	baz=222						
CHGB	**Renai**	**1.42 238**	*e*P		**Pg**	18 55 58.5	**-0.8**
	baz=236						
HATJ	**Hateruma jima**	**1.43 122**	*e*S		**Sg**	18 56 16.9	**-1.0**
EGFH	**Guangfu**	**1.51 220**	*e*P		**Pb**	18 55 59.9	**-0.2**
	baz=219						
WHP	**Taichung City**	**1.51 249**	*e*P		**Pb**	18 56 00.0	**-0.1**
	baz=248						
JIJ	**Ishigaki jima**	**1.58 107**	P		**Pb**	18 56 01.7	**+0.4**
VWDT	**VWDT**	**1.63 229**	*e*P		**Pb**	18 56 02.0	**-0.2**
	baz=228						
HGSD	**Ruisui**	**1.65 216**	*e*P		**Pn**	18 56 01.5	**+0.4**
	baz=215						
EHY	**Hungye**	**1.69 219**	*e*P		**Pn**	18 56 02.0	**+0.3**
	baz=218						
SMLT	**Sun Moon Lake**	**1.73 237**	*e*P		**Pb**	18 56 03.6	**-0.4**
	baz=236						
SSLB	**Suanglung**	**1.74 234**	*e*P		**Pb**	18 56 04.1	**0.0**
	baz=233						
TYC	**Yuchr**	**1.75 239**	*e*P		**Pb**	18 56 03.8	**-0.4**
	baz=237						
TWF1	**Yuli**	**1.83 217**	*e*P		**Pn**	18 56 03.9	**+0.3**
	baz=216						
ALS	**Alishan**	**2.02 230**	*e*P		**Pb**	18 56 08.6	**-0.5**
	baz=229						
CHN5	**Tsauling**	**2.06 234**	*e*P		**Pn**	18 56 08.3	**+1.5**
	baz=233						

*MAN **11** 18:56:17.4, 5.52N×127.09E, h143km, MS3.6*
*NEIC **11** 18:56:21.3±1.2, 5.55N±0.10×127.1E±0.2, h123km±4km, mb4.2/12, Error ellipse: s-maj=29.6km s-min=13.3km az=80.0*
*DJA **11** 18:56:24.8±1.1, 5.1N±15°×12°7E±°, h209km±26km, M4.2/7, mb4.1/3, mB4.2/1, MLv4.2/7, Mw(mB)3.3/1*
*IDC **11** 18:56:26.2±6.8, 5.50N×127.18E, h176km±69km, mb3.5/13, mb1 3.6/14, mb1mx3.4/42, mbtmp4.0/14, MS3.3/2, Ms1 3.3/2, ms1mx2.7/19, Error ellipse: s-maj=33.1km s-min=13.5km az=70.0*

ISC 11 18:56:23.1±0.6, 5.51N±0.05×126.94E±0.08, h150km, n44, σ2°88/49, mb4.0/18, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.35 296**		*e*P	**Pn**	**18 56 47.1**	**-4.1**
DDMP				*e*S	**Sn**	**18 57 10.0**	**-2.6**
MATI	**Mati**	**1.58 335**		*e*P	**Pn**	**18 56 48.8**	**-4.6**
MATI				*e*S	**Sn**	**18 57 08.6**	**-8.3**
KCP	**Kidapawan**	**2.36 309**		⇓*i*P	**Pn**	**18 57 01.5**	**-1.1**
KCP				*i* S	**Sn**	**18 57 30.6**	**-2.5**
SKMP	**Bagumbayan, Su**	**2.58 293**		*e*P	**Pn**	**18 57 01.9**	**-3.3**
SKMP				*e*S	**Sn**	**18 57 35.1**	**-2.6**
BUKP	**Musuan**	**3.00 322**		*e*P	Pn	18 57 05.3	-5.2
BUKP				*e*S	**Sn**	**18 57 44.3**	**-2.9**
PAGZ	**Pagadian**	**4.23 304**		*e*P	**Pn**	**18 57 23.7**	**-2.6**
PAGZ				*e*S	**Sn**	**18 58 07.4**	**-8.1**
TNTI	**Ternate**	**4.73 175**		P	**Pn**	**18 57 30.0**	**-2.9**
TNTI				S	**Sn**	**18 58 19.9**	**-7.5**
TNTI	**Ternate**	**4.73 175**		Pn	**Pn**	**18 57 30.4**	**-2.5**
CNOP	**Candoni, Negro**	**6.04 315**		*e*P	**Pn**	**18 57 46.9**	**-3.5**
GTOI	**Gorontalo**	**6.23 219**		P	**Pn**	**18 57 51.6**	**-1.3**
	0.1nm440nm22nm,0.5s						
GTOI				S	**Sn**	**18 58 58.9**	**-4.3**
	0.1nm440nm22nm,0.5s						
LUWI	**Luwuk**	**7.72 213**		P	**Pn**	**18 58 11.6**	**-1.2**
LUWI	**Luwuk**	**7.72 213**		Pn	**Pn**	**18 58 13.0**	**+0.2**
BATI	**Baumata**	**15.95 192**		P	**P**	**19 00 02.0**	**+2.1**
	1.0nm,0.3s,baz=0.0,slow=9.1,SNR=2.3						
FITZ	**Fitzroy Crossi**	**23.49 183**		P	**P**	**19 01 20.3**	**+0.8**
	2.5nm,0.8s,baz=0.6,slow=7.1,SNR=11						
FITZ	**Fitzroy Crossi**	**23.49 183**		IAmb	IAmb	19 01 37.0	
	comp=E,16nm,1.4s						
WRA	**Warramunga Arr**	**26.32 164**		P	**P**	**19 01 46.1**	**+1.1**
	comp=Z,0.9nm,0.4s,baz=344,slow=10,SNR=19						
WB2	**Warramunga Arr**	**26.32 164**		P	**P**	**19 01 46.9**	**+1.8**
WB2				IAmb	IAmb	19 02 44.8	
	comp=Z,20nm,1.6s						
ASAR	**Alice Springs**	**29.79 167**		P	**P**	**19 02 16.2**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=339,slow=7.3,SNR=18						
ASAR	**Alice Springs**	**29.79 167**		P	**P**	**19 02 15.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**30.19 298**		P	**P**	**19 02 21.4**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=102,slow=5.8,SNR=5.5						
CMAR	**Chiang Mai Arr**	**30.19 298**		P	**P**	**19 02 21.3**	**+1.7**
KSRS	**Korea Array**	**31.81 1**		P	**P**	**19 02 34.3**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=182,slow=9.9,SNR=3.1						
KSRS				LR	LR	19 19 55.4	
	comp=Z,22nm,18.5s,baz=245,slow=44						
NWAO	**Narrogin (SRO)**	**39.32 193**		P	**P**	**19 03 39.4**	**+1.8**
STKA	**Stephens Creek**	**39.72 160**		P	**P**	**19 03 38.7**	**-2.2**
	comp=Z,1.2nm,0.6s,baz=343,slow=11,SNR=2.1						
STKA	**Stephens Creek**	**39.72 160**		P	**P**	**19 03 41.1**	**+0.1**
SONM	**Songino Array**	**45.69 341**		P	**P**	**19 04 30.6**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=157,slow=9.0,SNR=5.5						
SONM	**Songino Array**	**45.69 341**		P	**P**	**19 04 30.7**	**+1.6**
PETK	**Petropavlovsk-**	**53.72 22**		P	**P**	**19 05 29.1**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=206,slow=5.9,SNR=2.7						
MK31	**Makanchi Array**	**56.23 324**		P	**P**	**19 05 49.2**	**+1.6**
MK31				IAmb	IAmb	19 05 50.6	
	comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	**56.23 324**		P	**P**	**19 05 49.4**	**+1.7**
	comp=Z,2.3nm,0.4s,baz=116,slow=7.5,SNR=64						
MKAR	**Makanchi Array**	**56.23 324**		P	**P**	**19 05 49.0**	**+1.4**
MAKZ	**Makanchi**	**56.42 324**		P	**P**	**19 05 50.7**	**+1.7**
MAKZ				IAmb	IAmb	19 05 51.3	
	comp=Z,2.4nm,0.9s						
ZALV	**Zalesovo Beam**	**59.11 332**		P	**P**	**19 06 08.3**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=126,slow=6.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**59.11 332**		P	**P**	**19 06 08.4**	**+0.8**
KURK	**Kurchatov**	**60.37 327**		P	**P**	**19 06 17.9**	**+1.6**
KK31	**Karatay Array**	**62.09 316**		P	**P**	**19 06 29.3**	**+1.3**
KK31				IAmb	IAmb	19 06 30.5	
	comp=Z,1.2nm,0.7s						
KKAR	**Karatay Array**	**62.09 316**		P	**P**	**19 06 29.1**	**+1.1**
KKAR	**Karatay Array**	**62.09 316**		P	**P**	**19 06 29.2**	**+1.1**
KKAR				IAmb	IAmb	19 06 30.6	
	comp=Z,1.2nm,0.7s						
AFI	**Afiamalu**	**63.79 108**		LR	LR	19 30 30.2	
	comp=Z,42nm,18.6s,baz=117,slow=32						
BRVK	**Borovoye**	**66.03 327**		P	**P**	**19 06 55.1**	**+1.6**
BRVK				IAmb	IAmb	19 06 57.1	
	comp=Z,2.8nm,0.7s						
ABKAR	**Akbulak array**	**70.92 320**			**P**	**19 07 25.2**	**+1.3**
AKTO	**Aktyubinsk**	**72.41 321**		P	**P**	**19 07 34.8**	**+1.9**
	comp=Z,2.0nm,0.6s,baz=91,slow=9.9,SNR=9.8						
ARCES	**ARCESS Array B**	**88.86 340**		P	**P**	**19 08 59.5**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=90,slow=7.3,SNR=6.1						
FINES	**FINESS Array B**	**90.37 332**		P	**P**	**19 09 07.7**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=128,slow=3.1,SNR=6.0						

*NEIC **11** 18:57:42.7±1.1, 41.08N±0.02×112.84W±0.05, h0km±2km, ML1.8/36, Error ellipse: s-maj=6.2km s-min=3.1km az=265.0*
*IDC **11** 18:57:42.6±1.5, 41.26N×112.93W, h0km, mb1 2.1/1, mb1mx2.1/35, mbtmp1.6/1, ML2.7/1, Error ellipse: s-maj=61.3km s-min=5.4km az=157.0*

ISC 11 18:57:40.5±1.0, 41.23N±0.03×112.84W±0.04, h0km, n27, σ0°99/25, Utah

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPUT	**South Promonto**	**0.31**	**76**		**Pb**	**18 57 49.9**	**+0.9**
BGU	**Big Grassy Mou**	**0.34**	**205**	Pg	**Pg**	**18 57 46.9**	**0.0**
HVU	**Hansel Valley**	**0.55**	**5**	Pg	**Pn**	**18 57 55.4**	**-0.4**
CTU	**Camp Tracy**	**0.99**	**123**		**Pb**	**18 57 60.0**	**-0.6**
HWUT	**Hardware Ranch**	**1.03**	**68**		**Pn**	**18 58 03.3**	**+0.9**
DUG	**Dugway, Tooele**	**1.04**	**179**		**Pg**	**18 57 59.6**	**-0.7**
DUG				IAML		18 58 19.2	
	30nm,0.4s						
DUG				IAML		18 58 21.7	
	26nm,0.5s						
TCUT	**Toone Canyon**	**1.09**	**96**		**Pn**	**18 58 03.9**	**+0.7**
JLU	**Jordanelle**	**1.23**	**120**		**Pb**	**18 58 04.6**	**-0.1**
NLU	**North Lily Min**	**1.40**	**155**	Pg	**Pg**	**18 58 06.9**	**-0.5**
MPU	**Maple Canyon**	**1.53**	**142**	Pn	**Pn**	**18 58 08.9**	**-0.2**
ELK	**Elko**	**1.88**	**256**	Pn	**Pb**	**18 58 15.2**	**-0.5**
	1.4nm,0.3s,baz=76,slow=8.9,SNR=17						
ELK				Lg	Lg	18 58 40.0	
	2.2nm,0.3s,baz=188,slow=23,SNR=12						
ELK	**Elko**	**1.88**	**256**	Pn	**Pn**	**18 58 15.1**	**+1.1**
ELK				IAML		18 58 43.3	
	7.4nm,0.4s						
TMUT	**Trail Mountain**	**2.30**	**147**	Pn	**Pn**	**18 58 20.0**	**0.0**
REDW	**Red Top Meadow**	**2.59**	**34**	Pn	**Pb**	**18 58 27.4**	**-0.6**
REDW				IAML		18 59 31.3	
	5.9nm,1.9s						
HLID	**Hailey**	**2.60**	**334**	Pn	**Pb**	**18 58 28.6**	**+0.5**
HLID				IAML		18 59 20.4	
	4.0nm,4.0s						
FXWY	**Fox Creek**	**2.75**	**29**	Pn	**Pb**	**18 58 29.7**	**-1.0**
FXWY				IAML		18 59 08.6	
	3.2nm,4.7s						
FXWY				IAML		18 59 51.2	
	3.2nm,3.0s						
MSU	**Marysvale**	**2.77**	**169**	Pn	**Pn**	**18 58 28.2**	**+1.9**
SRU	**San Rafael Swe**	**2.77**	**139**	Pn	**Pn**	**18 58 27.3**	**+1.0**
PSUT	**Pine Spring**	**2.81**	**196**		**Pn**	**18 58 27.0**	**+0.2**
PD31	**Pinedale Array**	**2.89**	**57**		**Pb**	**18 58 31.2**	**-1.8**
PDAR	**Pinedale Array**	**2.89**	**57**	Pn	**Pb**	**18 58 31.6**	**-1.5**
	0.1nm,0.3s,baz=235,slow=15,SNR=2.1						
PDAR				Pg	**Pg**	**18 58 36.8**	**+0.9**
	0.8nm,0.3s,baz=232,slow=14,SNR=14						
PDAR				Lg	Lg	18 59 15.9	
	0.9nm,0.3s,baz=224,slow=20,SNR=6.9						
PDAR	**Pinedale Array**	**2.89**	**57**		**Pb**	**18 58 31.4**	**-1.6**
IMW	**Indian Meadow**	**3.01**	**27**	Pn	**Pb**	**18 58 35.0**	**-0.2**
IMW				IAML		18 59 26.2	
	4.3nm,0.5s						
MCMT	**McKenzie Canyo**	**3.59**	**360**		**Pb**	**18 58 43.8**	**-1.3**
I56US	**NEWPORT INFRAS**	**7.66**	**338**	*i*		19 41 00.0	
	baz=158,slow=314,SNR=7.7						
I57US	**PINON FLAT INF**	**8.13**	**202**	*i*		19 47 25.0	
	baz=17,slow=311,SNR=4.7						
I53US	**FAIRBANKS INFR**	**30.96**	**332**	*i*		22 05 40.0	
	baz=126,slow=321,SNR=1.9						

IDC 11 19:14:08.6±1.9, 8.21S×125.24E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/21, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=178.2km s-min=32.0km az=59.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.62**	**144**	Pn	Pn	19 17 37.9	+1.0
	0.2nm,0.3s,baz=319,slow=13,SNR=10						
WRA					Sn	19 20 08.8	-11
	0.5nm,0.3s,baz=312,slow=24,SNR=9.6						
ASAR	**Alice Springs**	**17.47**	**153**	P	Pn	19 18 13.2	-0.8
	0.1nm,0.3s,baz=319,slow=11,SNR=8.5						
ASAR				S	Sn	19 21 12.6	-17
	0.1nm,0.3s,baz=313,slow=22,SNR=2.7						
MKAR	**Makanchi Array**	**66.75**	**329**	P	P	19 25 01.9	+0.1
	0.5nm,0.7s,baz=122,slow=6.7,SNR=4.9						

GUC 11 20:07:00.9±0.7, 23.06S×68.86W, h108km±3km, ML3.8, 11C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.45**	**354**	⇑*i*P	Pn	20 07 16.9	-0.7
LVC				*i* S	Sn	20 07 28.7	-1.5
PB15	**IPOC Station P**	**0.58**	**255**	⇑*i*P	Pn	20 07 18.2	-0.2
PB15				*i* S	Sn	20 07 31.0	-0.5
PB06	**IPOC Station P**	**0.74**	**298**	⇑*i*P	Pn	20 07 19.4	-0.2
PB06				*i* S	Sn	20 07 33.0	-0.7
PB06				IAML		20 07 33.6	
	comp=N,10μm,0.1s						
PB05	**IPOC Station P**	**1.25**	**279**	⇑*i*P	Pn	20 07 24.7	-0.2
PB05				*i* S	Sn	20 07 42.7	-0.2
PB05				IAML		20 07 44.0	
	comp=E,837nm,0.2s						
PB03	**IPOC Station P**	**1.30**	**320**	⇓*i*P	Pn	20 07 25.4	0.0
PB03				*i* S	Sn	20 07 43.5	-0.4
PB03				IAML		20 07 44.4	
	comp=E,3μm,0.3s						
PB09	**IPOC Station P**	**1.30**	**344**	⇓*i*P	Pn	20 07 26.0	+0.5
PB09				⇓*i*S	Sn	20 07 44.2	+0.3
PB09				IAML		20 07 45.3	
	comp=E,2μm,0.5s						
PB04	**IPOC Station P**	**1.39**	**301**	⇑*i*P	Pn	20 07 26.4	0.0
PB04				*i* S	Sn	20 07 45.5	-0.4
PB04				IAML		20 07 47.0	
	comp=N,2μm,0.2s						
PB10	**IPOC Station P**	**1.62**	**253**	⇑*e*P	Pn	20 07 29.0	-0.1
PB10				*i* S	Sn	20 07 50.2	-0.3
PB10				IAML		20 07 56.3	
	comp=E,368nm,0.4s						
PB07	**IPOC Station P**	**1.63**	**324**	⇑*i*P	Pn	20 07 29.7	+0.3
PB07				*e*S	Sn	20 07 50.5	-0.4
PB07				IAML		20 07 52.8	
	comp=E,2μm,0.5s						
PB01	**IPOC Station P**	**2.08**	**344**	⇓*i*P	Pn	20 07 35.0	0.0
PB01				*i* S	Sn	20 08 01.0	0.0
PB01				IAML		20 08 01.9	
	comp=E,818nm,0.3s						
PB14	**IPOC Station P**	**2.11**	**222**	⇑*e*P	Pn	20 07 35.9	+0.3
PB14				*i* S	Sn	20 08 02.4	+0.5
PB14				IAML		20 08 06.9	
	comp=E,328nm,0.1s						
GO02	**Mina Guanaco**	**2.20**	**198**	⇓*i*P	Pn	20 07 37.1	+0.4
GO02				*i* S	Sn	20 08 05.3	+1.3
GO02				IAML		20 08 08.2	
	comp=N,1μm,0.1s						
PATCX	**Punta Patache**	**2.53**	**331**	⇓*e*P	Pn	20 07 39.8	-0.9
PATCX				*i* S	Sn	20 08 10.6	-0.7
PATCX				IAML		20 08 20.9	
	comp=N,421nm,0.3s						
TA01	**Diego Aracena**	**2.77**	**333**	⇑*i*P	Pn	20 07 42.6	-1.2
TA01				*i* S	Sn	20 08 16.5	-0.3
PB08	**IPOC Station P**	**2.91**	**355**	⇓*i*P	Pn	20 07 46.0	-0.1
GO01	**Chusmiza**	**3.38**	**355**	*e*P	Pn	20 07 52.4	0.0
AC01	**Pan de Azucar**	**3.46**	**207**	⇑*i*P	Pn	20 07 52.4	-0.6
AC01				*i* S	Sn	20 08 30.8	-2.6
AC02	**Maricunga**	**3.77**	**184**	⇑*e*P	Pn	20 07 58.4	+0.8
AC02				*i* S	Sn	20 08 42.0	+0.5
AC02				IAML		20 08 51.8	
	comp=E,150nm,0.2s						

*SKHL **11** 20:47:56.4±0.3, 44.90N×151.38E, h38km±1km, mb4.2/1*
*JMA **11** 20:47:59.1±0.5, 45.09N×151.05E, h118km, M3.6*

ISC 11 20:48:00.3±4.6, 44.9N±0.1×151.1E±0.2, h35km, n14, σ1°85/19, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.33**	**280**	*e*P	**Pn**	**20 48 34.8**	**-1.2**
KUR				AMB	AMB	20 48 35.4	
	40nm,0.4s						
KUR				*e*S	**Sn**	**20 49 03.6**	**+0.3**
KUR				A	A	20 49 04.4	
	280nm,0.5s						
KUR				A	A	20 49 04.4	
	260nm,0.5s						
NEM2	**Nemuro 2**	**4.14**	**251**	P	**Pn**	**20 49 01.9**	**+0.9**
NEM2				*e*S	**Sn**	**20 49 50.3**	**+2.1**
JRA	**Rausu**	**4.39**	**260**	P	**Pn**	**20 49 05.2**	**+0.8**
JNK	**Nakash**	**4.77**	**257**	P	**Pn**	**20 49 10.3**	**+0.7**
JAK	**Akkeshi**	**4.99**	**250**	P	**Pn**	**20 49 13.5**	**+0.8**
JAK				*e*S	**Sn**	**20 50 12.1**	**+2.9**
JTKR	**Abashiri--Toko**	**5.23**	**263**	P	**Pn**	**20 49 15.9**	**-0.1**
JAR	**Ashorobuto**	**5.51**	**256**	P	**Pn**	**20 49 21.0**	**+1.1**
JOB	**Onbets**	**5.61**	**252**	*e*S	**Sn**	**20 50 25.7**	**+1.3**
JCH	**Churui**	**6.05**	**251**	P	**Pn**	**20 49 27.7**	**+0.5**
JCH				*e*S	**Sn**	**20 50 34.9**	**-0.2**
JNBK	**Urakawa-nobuka**	**6.60**	**250**	P	**Pn**	**20 49 35.3**	**+0.6**
JNBK				*e*S	**Sn**	**20 50 49.7**	**+1.1**
JKB	**Kayabe**	**7.92**	**251**	*e*S	**Sn**	**20 51 18.0**	**-3.2**
JANG	**Nango**	**8.38**	**241**	*e*S	**Sn**	**20 51 30.1**	**-2.4**
JTH	**Tanohata**	**8.43**	**237**	*e*S	**Sn**	**20 51 31.5**	**-2.2**
JTM	**Tenmabayashi**	**8.43**	**245**	*e*S	**Sn**	**20 51 30.2**	**-3.5**

*JMA **11** 20:51:16.4±0.2, 24.91N×123.37E, h22km, M3.0*
*IDC **11** 20:51:16.4±2.1, 24.49N×122.51E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/52, mbtmp3.6/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/51, Error ellipse: s-maj=199.5km s-min=23.1km az=66.0*

ISC 11 20:51:16.5±1.6, 24.88N±0.08×123.41E±0.04, h10km±10km, n15, σ0°53/21, mb3.5/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.55**	**221**	P	**Pg**	**20 51 27.1**	**-0.1**
YOJ				*e*S	**Sg**	**20 51 34.1**	**-0.3**
JYNG	**Yonagunijimaku**	**0.59**	**225**	P	**Pg**	**20 51 28.1**	**0.0**
JYNG				*e*S	**Sg**	**20 51 36.2**	**+0.3**
IRIF	**Iriomote-Funau**	**0.61**	**151**	P	**Pg**	**20 51 29.0**	**+0.6**
IRIF				S	**Sb**	**20 51 38.2**	**+0.2**
JKRS	**Kuro-shima**	**0.84**	**139**	P	**Pg**	**20 51 32.9**	**+0.2**
JKRS				S	**Sb**	**20 51 44.6**	**+0.1**
JIJ	**Ishigaki jima**	**0.84**	**127**	P	**Pg**	**20 51 32.5**	**-0.3**
JIJ				S	**Sg**	**20 51 43.4**	**-0.4**
JISG	**Ishigakijimahi**	**0.87**	**109**	P	**Pg**	**20 51 33.1**	**-0.2**
JISG				*e*S	**Sg**	**20 51 45.2**	**+0.5**
HATJ	**Hateruma jima**	**0.89**	**156**	P	**Pb**	**20 51 33.7**	**-0.4**
HATJ				*e*S	**Sb**	**20 51 46.2**	**+0.2**
JTJ	**Tarama**	**1.20**	**101**	P	**Pn**	**20 51 39.0**	**-0.4**
JIRB	**Irabujima**	**1.61**	**91**	S	**Sn**	**20 52 05.5**	**-0.2**
JMJ2	**Miyako jima3**	**1.75**	**94**	P	**Pn**	**20 51 47.5**	**+0.6**
MJAR	**Matsushiro Arr**	**17.22**	**44**	LR	LR	21 02 28.8	
	comp=Z,28nm,19.1s,baz=220,slow=37						
SONM	**Songino Array**	**26.58**	**334**	P	**P**	**20 56 56.4**	**+1.5**
	0.8nm,0.8s,baz=139,slow=7.2,SNR=4.3						
KURBB	**Kurchatov Arra**	**42.91**	**319**	P	**P**	**20 59 14.3**	**-0.9**
	0.2nm,0.3s,baz=115,slow=8.2,SNR=2.3						
WRA	**Warramunga Arr**	**45.80**	**166**	P	**P**	**20 59 38.6**	**0.0**
	0.8nm,0.7s,baz=347,slow=8.7,SNR=7.1						
ASAR	**Alice Springs**	**49.32**	**167**	P	**P**	**21 00 05.9**	**0.0**
	0.2nm,0.5s,baz=348,slow=6.9,SNR=6.6						

*MEX **11** 20:57:22.4±0.9, 14.65N×92.52W, h87km±11km, MD3.8*
*GCG **11** 20:57:27.5±0.5, 14.61N×92.25W, h71km±10km, MD3.8*

ISC 11 20:57:21.2±1.5, 14.47N±0.09×92.72W±0.06, h58km±22km, n11, σ1°55/20, 1C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.62**	**45**	*i* P	**Pn**	**20 57 34.5**	**0.0**
THIG				*i* S	**Sn**	**20 57

AFI **Afiamalu** 10.27 45 P P 21 02 36.5 -0.5
AFI S 21 04 30.0 -3.3
FUNA Funafuti 12.87 353 P P 21 03 01.9 -0.8
DZM Mont Dzumac 13.33 264 P P 21 03 07.6 +0.1
2.6nm,0.3s,baz=82,slow=18,SNR=26
DZM S S 21 05 25.6 -3.3
0.1nm,0.3s,baz=19,slow=9.7,SNR=4.5
DZM Mont Dzumac 13.33 264 *eP* P 21 03 07.6 +0.1
55nm,0.8s
DZM Mont Dzumac 13.33 264 P P 21 03 07.4 -0.1
KUZ Kuaotunu 15.93 195 P P 21 03 34.0 +2.5
WIAZ Waiheke Island 16.13 196 P P 21 03 36.4 +3.1
MXZ Matakaoa Point 16.27 187 P P 21 03 35.7 +1.0
KBAZ Karaka Road Bo 16.48 197 P P 21 03 39.8 +3.2
WMGZ Waiomatatini S 16.51 187 P P 21 03 37.1 +0.2
HAZ Te Kaha 16.53 188 P P 21 03 36.1 -0.9
PUZ Puketiti 16.78 187 P P 21 03 39.1 -0.2
OPRZ Ohinepanea 16.81 192 P P 21 03 42.2 +2.6
TWGZ Tauwhareparae 16.92 188 P P 21 03 41.0 +0.3
TOZ Tahuroa Road 16.93 194 P P 21 03 42.7 +2.0
URZ Urewera 17.12 190 P P 21 03 40.2 -2.2
17nm,0.3s,baz=265,slow=3.0,SNR=46
URZ S S 21 06 22.9 -8.0
5.1nm,0.3s,baz=54,slow=22,SNR=14
URZ Urewera 17.12 190 P P 21 03 40.3 -2.2
URZ Urewera 17.12 190 P P 21 03 41.3 -1.2
URZ IAmb IAmb 21 03 43.4
comp=Z,52nm,0.8s
MWZ Matawai 17.13 189 P P 21 03 41.6 -1.0
CNGZ Carnagh Statio 17.19 187 P P 21 03 43.6 +0.5
SNGZ Shannon Statio 17.60 189 P P 21 03 47.5 +0.6
BKZ Black Stump Fm 18.11 191 P P 21 03 50.0 -1.5
BKZ IAmb IAmb 21 03 58.3
comp=Z,18nm,0.8s
RAR Rarotonga 18.13 93 P P 21 03 52.5 +0.6
comp=Z,1.9nm,0.3s,baz=260,slow=7.7,SNR=7.4
RAR Rarotonga 18.13 93 P P 21 03 52.4 +0.5
RAR IAmb IAmb 21 03 53.8
comp=Z,77nm,0.9s
KNTN Kanton 19.88 23 P P 21 04 06.6 -1.2
THZ Tophouse 21.38 196 P P 21 04 20.6 -0.5
THZ IAmb IAmb 21 04 34.4
comp=Z,40nm,1.1s
HNR Honiara 23.29 297 P P 21 04 37.6 -0.7
comp=Z,117nm,0.6s,baz=356,slow=4.2,SNR=8.4
HNR Honiara 23.29 297 P P 21 04 38.0 -0.3
RPZ Rata Peaks 23.70 198 P P 21 04 41.3 -0.2
comp=Z,7.6nm,0.5s,baz=43,slow=1.3,SNR=9.7
RPZ Rata Peaks 23.70 198 P P 21 04 41.8 +0.3
RPZ IAmb IAmb 21 04 54.0
comp=Z,19nm,0.6s
TARA Tarawa 23.86 340 P P 21 04 42.8 -0.5
WHZ Wether Hill Ro 26.61 200 P P 21 05 07.7 +0.6
EIDS Eidsvold 27.51 256 P P 21 05 15.9 +0.6
baz=28,SNR=31
EIDS Eidsvold 27.51 256 P P 21 05 15.8 +0.5
ARMA Armidale 27.65 245 P P 21 05 18.6 +2.0
baz=28,SNR=12
ARMA Armidale 27.65 245 P P 21 05 17.6 +1.0
ARMA IAmb IAmb 21 05 19.1
comp=Z,22nm,0.8s
PPT2 Papeete2 28.19 88 *eP* P 21 05 22.0 +0.6
comp=Z,51nm,1.2s
PPT Papeete 28.19 87 P P 21 05 21.9 +0.5
comp=Z,50nm,0.7s,baz=176,slow=8.7,SNR=6.6
TIAR Tiarei 28.41 88 *eP* P 21 05 23.6 +0.4
comp=Z,21nm,0.8s
TVO Taravao 28.45 88 *eP* P 21 05 24.3 +0.7
comp=Z,19nm,0.7s
MGCD Mangrove Creek 28.77 240 P P 21 05 27.9 +1.8
baz=29,SNR=5.1
RMQ Roma 29.65 254 P P 21 05 35.5 +1.6
baz=30,SNR=29
PMOR Pomariorio Ree 30.40 83 *eP* P 21 05 40.4 +0.1
comp=Z,80nm,0.9s
VAH Vaihoa 30.58 84 *eP* P 21 05 41.7 -0.2
comp=Z,91nm,0.9s
CTA Charters Tower 32.27 266 P P 21 05 56.8 +0.6
comp=Z,80nm,0.5s,baz=93,slow=11,SNR=157
CTA ScP ScP 21 11 14.6 +1.7
comp=Z,6.2nm,0.9s,baz=135,slow=2.9,SNR=3.9
CTAO Charters Tower 32.27 266 P P 21 05 56.7 +0.4
RABL Rabaul 32.60 298 P P 21 05 59.5 +0.4
KRVT Keravat (AS076 32.65 297 P P 21 05 58.2 -1.3
comp=Z,92nm,0.7s,baz=349,slow=5.7,SNR=6.9
CMSA Cobar Meteorol 32.87 245 P P 21 06 02.0 +0.9
baz=33,SNR=44
QLP Quilpie 33.71 254 P P 21 06 08.7 +0.5
baz=34,SNR=34
MTSU Mount Surprise 34.41 269 P P 21 06 14.7 +0.5
baz=34,SNR=120
PMG Port Moresby 34.44 285 P P 21 06 14.3 -0.1
TOO Toolangi 34.45 234 P P 21 06 13.6 -0.7
PATS Pohnpei 35.66 319 P P 21 06 25.2 +0.7
baz=36,SNR=6.0
PATS Pohnpei 35.66 319 P P 21 06 24.4 -0.1
STKA Stephens Creek 36.38 245 P P 21 06 31.1 +1.0
comp=Z,22nm,0.8s,baz=92,slow=11,SNR=68
STKA S S 21 11 28.0 -1.9
comp=Z,4.3nm,0.8s,baz=154,slow=11,SNR=4.5
STKA Stephens Creek 36.38 245 P P 21 06 31.2 +1.0
baz=36,SNR=62
STKA Stephens Creek 36.38 245 P P 21 06 30.8 +0.6
COEN Coen 36.50 275 P P 21 06 32.2 +0.7
baz=36,SNR=65
COEN Coen 36.50 275 P P 21 06 32.2 +0.7
QIS Mount Isa 38.37 264 P P 21 06 46.3 -0.3
baz=38,SNR=21
HTT Hallett 38.80 243 P P 21 06 50.6 +0.6
baz=39,SNR=11
TAOE Nuku Hiva Isla 39.61 78 P P 21 06 56.8 +0.1
BBOO Buckleboo 41.13 244 P P 21 07 08.6 +0.2
baz=41,SNR=36
BBOO Buckleboo 41.13 244 P P 21 07 08.6 +0.2
BBOO IAmb IAmb 21 07 09.4
comp=Z,35nm,0.8s
WAKE Wake Island 42.70 340 P P 21 07 20.8 0.0
H11N3 WAKE ISLAND Hy 43.03 341 P P 21 07 22.9 -0.2
baz=177,slow=10,SNR=3.8
H11N1 WAKE ISLAND Hy 43.03 341 P P 21 07 23.1 0.0
baz=177,slow=10,SNR=3.4
H11N2 WAKE ISLAND Hy 43.05 341 P P 21 07 22.8 -0.4
baz=177,slow=10,SNR=4.6
WR0 Warramunga Arr 43.16 263 P P 21 07 23.8 -0.6
WR0 IAmb IAmb 21 07 24.8
comp=Z,32nm,0.9s
AS31 Alice Springs 43.20 258 P P 21 07 24.6 -0.2
AS31 IAmb IAmb 21 07 25.7
comp=Z,18nm,0.7s
ASAR Alice Springs 43.20 258 P P 21 07 24.9 +0.1
comp=Z,84nm,0.8s,baz=97,slow=7.8,SNR=907
ASAR ScP ScP 21 11 56.5 +1.9
comp=Z,7.1nm,0.8s,baz=108,slow=4.3,SNR=14
ASAR S S 21 13 06.0 -3.2
comp=Z,13nm,0.8s,baz=94,slow=16,SNR=32
ASAR ScS ScS 21 16 18.4 +0.6
comp=Z,4.2nm,0.9s,baz=58,slow=4.2,SNR=4.4
ASAR Alice Springs 43.20 258 P P 21 07 24.2 -0.6
ASAR ScP ScP 21 11 56.1 +1.5
JAY Jayapura 43.25 290 P P 21 07 25.3 +0.2
comp=Z,166nm,0.6s,baz=147,slow=3.8,SNR=126
JAY Jayapura 43.25 290 P P 21 07 25.4 +0.2
comp=Z,1µmcomp=Z,138nm,0.8s
WB0 Warramunga Arr 43.33 263 P P 21 07 25.2 -0.5
WB2 Warramunga Arr 43.34 263 P P 21 07 25.1 -0.7
WRAB Tennant Creek 43.34 263 P P 21 07 25.3 -0.6
WRA Warramunga Arr 43.35 263 P P 21 07 25.3 -0.6
comp=Z,63nm,0.7s,baz=97,slow=7.5,SNR=271
WRA ScP ScP 21 11 56.8 +1.6
comp=Z,5.0nm,0.9s,baz=92,slow=4.4,SNR=8.5
WRA S S 21 13 04.4 -6.9
comp=Z,3.1nm,0.8s,baz=97,slow=13,SNR=8.9
WRA ScS ScS 21 16 18.6 -0.2
comp=Z,4.7nm,1.2s,baz=93,slow=8.3,SNR=5.9
WRA Warramunga Arr 43.35 263 ScP 21 11 55.9 +0.7
GENI Genyem 43.68 290 P P 21 07 28.9 +0.4
comp=Z,3µmcomp=Z,219nm,0.9s
SMPI Sarmi 45.24 289 P P 21 07 40.5 0.0
comp=Z,58nm,1.0s
KDU Kakadu 46.83 273 P P 21 07 52.1 -0.3
baz=47,SNR=13
FORT Forrest 47.90 247 P P 21 08 00.1 0.0
baz=48,SNR=26
FORT Forrest 47.90 247 P P 21 07 60.0 -0.2
MTN Manton Dam 48.03 272 P P 21 08 01.0 -0.4
baz=48,SNR=6.7
MTN Manton Dam 48.03 272 P P 21 08 01.0 -0.4
WRKA Warakurna 48.12 255 P P 21 08 02.0 0.0
baz=48,SNR=186
KNRA Kununurra 49.46 267 P P 21 08 11.9 0.0
baz=50,SNR=17
KNRA Kununurra 49.46 267 P P 21 08 11.9 0.0
SAUI Saumlaki 49.47 278 P P 21 08 12.1 +0.1
GUMO Guam 49.49 311 P P 21 08 12.1 0.0
comp=Z,102nm,0.6s,baz=145,slow=4.6,SNR=6.9
GUMO Guam 49.49 311 P P 21 08 12.1 0.0
FAKI Fak Fak 50.59 284 P P 21 08 19.9 -0.3
FAKI IAmb IAmb 21 08 23.7
comp=Z,65nm,1.1s
FITZ Fitzroy Crossi 51.78 263 P P 21 08 28.9 +0.2
baz=52,SNR=57
FITZ Fitzroy Crossi 51.78 263 P P 21 08 28.9 +0.2
FITZ IAmb IAmb 21 08 29.4
comp=Z,18nm,0.7s
SIJI Sorong 52.36 286 P P 21 08 33.0 +0.1
comp=Z,317nm,0.7s,baz=99,slow=5.4,SNR=66
SOEI Soe 55.39 273 P P 21 08 55.5 +1.2
BATI Baumata 55.80 272 P P 21 08 58.2 +1.1
comp=Z,88nm,0.6s,baz=169,slow=2.3,SNR=25
PSA00 Pilbara Seismi 56.35 258 P P 21 09 00.3 -0.4
PSA00 IAmb IAmb 21 09 01.2
comp=Z,45nm,0.8s
MEEK Meekatharra 56.55 252 P P 21 09 01.3 -0.7
baz=57,SNR=14
TNTI Ternate 56.58 286 P P 21 09 02.3 -0.1
TNTI IAmb IAmb 21 09 03.3
comp=Z,103nm,0.9s
KLBR Kellerberrin 56.65 246 P P 21 09 02.6 0.0
baz=57,SNR=12
VNDA Vanda 56.94 185 P P 21 09 05.7 +2.0
comp=Z,8.6nm,0.5s,baz=357,slow=7.6,SNR=126
VNDA ScP ScP 21 12 53.2 +0.7
comp=Z,2.4nm,0.9s,baz=2.3,slow=4.7,SNR=3.6
VNDA Vanda 56.94 185 P P 21 09 05.8 +2.0
NWAO Narrogin (SRO) 56.95 244 P P 21 09 04.4 -0.2
BLDU Ballidu 57.65 247 P P 21 09 08.3 -1.1
baz=58,SNR=13
MUN Mundaring 57.91 245 P P 21 09 11.5 +0.4
baz=58,SNR=3.6
EDFI Ende, Flores 58.12 273 P P 21 09 12.6 -0.3
comp=Z,53nm,1.8s
MORW Morawa 58.44 248 P P 21 09 14.8 0.0
baz=58,SNR=7.2
MORW Morawa 58.44 248 P P 21 09 14.7 -0.1
MORW IAmb IAmb 21 09 15.5
comp=Z,40nm,1.3s
JCJ Chichijima 60.97 321 P P 21 09 31.2 -0.2
comp=Z,54nm,0.4s,baz=287,slow=23,SNR=6.0
JCJ Chichijima 60.97 321 P P 21 09 31.2 -0.2
JCJ IAmb IAmb 21 09 36.2
comp=Z,124nm,1.0s
BNSI Bone 61.12 277 P P 21 09 32.5 -0.2
comp=Z,54nm,0.7s
GIRL Giralia 61.21 255 P P 21 09 34.1 +1.0
baz=61,SNR=11
GIRL Giralia 61.21 255 P P 21 09 33.6 +0.4
KAPI Kappang 61.23 276 P P 21 09 32.6 -0.8
comp=Z,8.8nm,0.6s,baz=106,slow=5.8,SNR=5.0
KAPI Kappang 61.23 276 P P 21 09 32.8 -0.6
SPSI Sidrap Palu 61.60 277 P P 21 09 35.0 -0.8
comp=Z,40nm,1.0s
PLAI Plampang 61.74 271 P P 21 09 36.8 +0.1
comp=Z,110nm,1.0s
TWSI Taliwang, Sumb 62.60 271 P P 21 09 42.2 -0.1
comp=Z,61nm,0.9s
CASY Casey 62.68 205 P P 21 09 42.4 +0.6
CASY IAmb IAmb 21 09 43.5
comp=Z,39nm,1.1s
MPSI Mapaga 63.16 282 P P 21 09 45.6 -0.2
comp=Z,459nmcomp=Z,61nm,0.9s
JAGI Jajag, Banyuwa 65.23 270 P P 21 09 57.4 -1.5
JAGI IAmb IAmb 21 09 58.5
comp=Z,70nm,1.0s
MYLDM Lahad Datu 66.46 286 P P 21 10 08.2 +1.7
MYLDM IAmb IAmb 21 10 19.3
comp=Z,16nm,0.8s
JHJ2 Mitsune 66.81 323 P P 21 10 08.3 +0.1
JHJ Hashijima 2 66.83 323 P P 21 10 08.5 +0.1
comp=Z,120nm,0.6s,baz=235,slow=22,SNR=8.8
MTKI Muara Teweh, K 67.24 278 P P 21 10 10.9 -0.5
TGY Tagaytay City 68.49 296 P P 21 10 19.4 +0.5
comp=Z,117nm,0.3s,baz=65,slow=6.1,SNR=3.8
QSPA South Pole Qui 68.70 180 P P 21 10 20.6 +1.2
comp=Z,77nm,0.9s,baz=9.3,slow=0.8,SNR=331
QSPA South Pole Qui 68.70 180 P P 21 10 20.4 +1.0
UGM Wanagama 68.80 270 P P 21 10 20.6 -0.2
KKM Kota Kinabalu 68.88 286 P P 21 10 21.2 -0.1
KKM IAmb IAmb 21 10 22.5
comp=Z,28nm,0.8s
MJAR Matsushiro Arr 70.24 325 P P 21 10 28.4 -0.4
comp=Z,23nm,0.7s,baz=169,slow=5.9,SNR=48
MJAR Matsushiro Arr 70.24 325 P P 21 10 28.5 -0.4
MAJO Matsushiro 70.24 325 P P 21 10 28.6 -0.3
MAJO IAmb IAmb 21 10 29.6
comp=Z,25nm,0.8s
MAT Matsushiro 70.24 325 P P 21 10 28.5 -0.4
MJB9 Matsu-Tunnel 70.25 325 P P 21 10 28.6 -0.3
MJB9 IAmb IAmb 21 10 29.5
comp=Z,26nm,0.8s
SBUM Sibu 71.03 280 P P 21 10 33.9 -0.1
SBUM IAmb IAmb 21 10 35.6
comp=Z,17nm,1.1s
SBUM Sibu 71.03 280 P P 21 10 34.0 0.0
CISI Cisompet, Garu 71.45 269 P P 21 10 35.6 -0.9
CISI IAmb IAmb 21 10 53.4
comp=Z,52nm,0.9s
JNU Nakatsue 72.13 318 P P 21 10 39.9 -0.1
comp=Z,25nm,0.9s,baz=92,slow=5.5,SNR=13
JNU Nakatsue 72.13 318 P P 21 10 40.0 0.0
JNU IAmb IAmb 21 10 41.2
comp=Z,49nm,1.1s
YOJ Yonaguni jima 72.31 306 P P 21 10 40.9 -0.2
KSM Kuching 72.40 279 P P 21 10 42.1 +0.1
KSM IAmb IAmb 21 10 43.1
comp=Z,39nm,0.8s
KSM Kuching 72.40 279 P P 21 10 42.0 +0.1
AMKA Amchitka 72.45 359 P P 21 10 41.3 0.0
TWG Pinlang 72.89 304 P P 21 10 43.4 -1.1
ADK Adak 72.97 2 P P 21 10 43.8 -0.5
ADK IAmb IAmb 21 10 44.6
comp=Z,44nm,0.6s
TNG Tangerang 73.01 270 P P 21 10 49.9 +4.5
YULB Yu-li 73.03 304 P P 21 10 44.4 -0.9
YULB IAmb IAmb 21 10 45.1
comp=Z,19nm,0.6s
NACB Ninganchiao 73.22 305 P P 21 10 45.7 -0.6
NACB IAmb IAmb 21 10 46.7
comp=Z,68nm,0.9s
ATKA Atka Island 73.39 3 P P 21 10 46.0 -0.6
TPUB Ta-pu 73.49 304 P P 21 10 47.2 -0.7
SSLB Suanglung 73.50 304 P P 21 10 47.6 -0.4
SSLB IAmb IAmb 21 10 48.1
comp=Z,46nm,0.7s
JKA Kamikawa-asahi 73.95 332 P P 21 10 51.8 +1.7
JKA IAmb IAmb 21 10 52.8
comp=Z,36nm,0.8s
ASAJ Asahikawa 73.95 332 P P 21 10 51.2 +1.1
comp=Z,36nm,0.8s,baz=204,slow=7.7,SNR=14
NIKH Nikolski High 74.58 6 P P 21 10 53.1 -0.3
UNV Unalaska Vale 75.71 8 P P 21 10 58.6 -0.9
UNV IAmb IAmb 21 10 59.6
comp=Z,44nm,1.0s
MDSI Maura Dua 75.90 271 P P 21 11 00.5 -1.1
comp=Z,16nm,0.8s
KSRS Korea Array 76.79 319 P P 21 11 06.7 +0.8
comp=Z,7.1nm,1.0s,baz=139,slow=6.3,SNR=24
KSAR Wonju Array Be 76.80 319 P P 21 11 06.0 0.0
PEA0B Petropavlovsk- 76.83 346 P P 21 11 05.7 0.0
PEA0B IAmb IAmb 21 11 06.8
comp=Z,45nm,0.9s
PETK Petropavlovsk- 76.83 346 P P 21 11 05.6 -0.1
comp=Z,41nm,0.9s,baz=130,slow=7.9,SNR=61
PETK pP pP 21 13 11.0 +0.6
comp=Z,1.7nm,1.0s,baz=126,slow=2.0,SNR=2.3
KSI Kapahiang 77.67 271 P P 21 11 10.6 -0.7
comp=Z,53nm,0.8s
CNBA Chernabura Isl 77.73 11 P P 21 11 10.2 -0.4
CNBA IAmb IAmb 21 11 21.0
comp=Z,107nm,1.3s
DLV T Lat 78.28 288 P P 21 11 15.7 +1.0
DLV IAmb IAmb 21 11 16.7
comp=Z,35nm,0.8s
USA0B Ussuriysk Arra 79.05 327 P P 21 11 18.6 +0.8
USA0B IAmb IAmb 21 11 19.4
comp=Z,53nm,1.1s
USRK Ussuriysk Ar. 79.05 327 P P 21 11 18.9 +1.0
comp=Z,30nm,1.0s,baz=124,slow=3.4,SNR=34
USRK Ussuriysk Ar. 79.05 327 P P 21 11 18.7 +0.9
SBC Santa Barbara 79.24 46 P P 21 11 20.5 +1.5
baz=235
PKM Mcpherson Peak 79.42 46 P P 21 11 21.5 +1.2
baz=235
NJ2 Nanjing 79.56 310 *eP* P 21 11 22.0 +1.2
NJ2 pmax pmax
comp=Z,20nm,0.6s
SDSI Sungai Dareh 79.73 273 P P 21 11 20.9 -1.3
comp=Z,14nm,0.9s
MAW Mawson 80.35 200 P P 21 11 25.2 +0.9
comp=Z,7.2nm,0.6s,baz=143,slow=7.3,SNR=12
MURC Murrieta 80.49 48 P P 21 11 26.7 +1.0
baz=236
ESJX Sierra Juarez 80.51 50 P P 21 11 26.9 +0.9
BFSC Mount Baldy Ra 80.52 48 P P 21 11 26.7 +0.7
baz=236
BKNI Bangkinang 80.55 274 P P 21 11 25.8 -0.7
KHMM Horse Mountain 80.55 39 P P 21 11 26.9 +0.9
KHMM IAmb IAmb 21 11 27.8
comp=Z,24nm,1.3s
MONP2 Monument Peak 80.65 49 P P 21 11 27.9 +1.1
baz=237,SNR=6.2
EDW2 Edwards Air Fo 80.65 47 P P 21 11 27.5 +1.0
baz=236,SNR=6.5
O02D Mt. Diablo Mer 80.68 40 P P 21 11 28.3 +1.7
baz=232
IKP In-Ko-Pah, Jac 80.74 50 P P 21 11 28.1 +1.1
baz=237
ISA Isabella, Lake 80.77 46 P P 21 11 28.2 +1.1
baz=235,SNR=9.7
ISA Isabella, Lake 80.77 46 P P 21 11 27.8 +0.7
CMB Columbia Colle 80.88 43 P P 21 11 27.9 +0.3
PMSA Palmer Station 80.94 157 P P 21 11 28.4 +0.9
PMSA IAmb IAmb 21 11 29.4
comp=Z,38nm,0.8s
PFO Pinyon Flats O 81.01 49 P P 21 11 29.5 +1.0
baz=237
AFDM Forest Hills D 81.05 42 P P 21 11 29.2 +0.8
ORV Oroville 81.09 41 P P 21 11 29.0 +0.4
SWSC Sam W. Stewart 81.12 50 P P 21 11 30.1 +1.2
baz=237
N02D Trinity Center 81.22 40 P P 21 11 30.8 +1.4
baz=232,SNR=5.1
O03E Paynes Creek 81.35 41 P P 21 11 30.8 +0.7
baz=232,SNR=7.2
M02C Callahan 81.39 39 P P 21 11 31.9 +1.7
baz=232,SNR=7.5
L02E Cave Junction 81.43 38 P P 21 11 32.0 +1.7
baz=231
CWC Cottonwood Cre 81.47 46 P P 21 11 31.6 +0.8
baz=236
OMMB Old Mammoth Mi 81.53 44 P P 21 11 31.6 +0.3
BELC Belle Mtn. Jos 81.54 49 P P 21 11 32.3 +1.0
baz=237,SNR=5.5
MPMC Manual Prospec 81.65 46 P P 21 11 32.5 +0.7
baz=236,SNR=9.4
YBH Yreka Blue Hor 81.69 39 P P 21 11 33.5 +1.7
comp=Z,6.8nm,0.8s,baz=196,slow=0.7,SNR=14
YBH Yreka Blue Hor 81.69 39 P P 21 11 33.1 +1.4
GSC Goldstone, Bar 81.69 47 P P 21 11 32.8 +0.9
baz=236
GSC Goldstone, Bar 81.69 47 P P 21 11 32.0 +0.1
TIN Tinemaha, Big 81.72 45 P P 21 11 33.1 +1.1
baz=235
K02D Willamette Mer 81.74 38 P P 21 11 33.2 +1.3
baz=231
BC3 Big Chuckawall 81.74 49 P P 21 11 33.4 +1.2
baz=238
HEC Hector,Ludlow 81.76 48 P P 21 11 33.0 +0.8
baz=237,SNR=7.2
WAKR Walker 81.76 43 P P 21 11 33.3 +1.0
GLA Glamis 81.87 50 P P 21 11 34.1 +1.4
baz=238,SNR=6.3
GLA Glamis 81.87 50 P P 21 11 33.9 +1.1
GLA IAmb IAmb 21 11 35.4
comp=Z,15nm,0.9s
PNTR Pine Nut 82.00 43 P P 21 11 34.4 +0.9
PNTR IAmb IAmb 21 11 35.7
comp=Z,21nm,0.8s
MNSI Mandailing Nat 82.08 274 P P 21 11 33.4 -0.8
comp=Z,24nm,0.9s
IPM Ipoh 82.11 278 P P 21 11 34.7 +0.3
IPM IAmb IAmb 21 11 35.8
comp=Z,46nm,0.7s
IPM Ipoh 82.11 278 P P 21 11 35.0 +0.6
GMRC Granite Mounta 82.20 48 P P 21 11 35.0 +0.5
baz=237,SNR=5.6
IRM Iron Mountain 82.23 49 P P 21 11 35.8 +1.3
baz=238,SNR=6.7
L04D Klamath Falls 82.23 39 P P 21 11 35.2 +0.7
baz=232
M04C Macdoel 82.23 39 P P 21 11 35.6 +1.0
baz=232
FURC Furnace Creek, 82.30 46 P P 21 11 35.9 +1.2
baz=236
TUQ Turquoise Moun 82.37 47 P P 21 11 36.1 +0.8
baz=237,SNR=7.4
NVAR Mina Array Bea 82.45 44 P P 21 11 36.7 +0.9
comp=Z,4.3nm,0.8s,baz=227,slow=8.7,SNR=19
NVAR Mina Array Bea 82.45 44 P P 21 11 36.5 +0.7
113A Mohawk Valley, 82.48 51 P P 21 11 36.9 +1.1
I02D Swisshome 82.52 37 P P 21 11 36.7 +1.0
baz=231
NV11 Mina Array Sit 82.55 44 P P 21 11 36.7 +0.5
I03D Drain, OR 82.55 37 P P 21 11 37.3 +1.5
baz=231
HSIG 82.69 55 P P 21 11 37.8 +0.8
KLR Kul'dur 82.70 330 P P 21 11 37.2 +0.8
comp=Z,9.1nm,0.8s,baz=108,slow=2.0,SNR=18
214A Organ Pipe Nat 82.76 52 P P 21 11 38.5 +1.2
baz=239
J04D Umpqua Nationa 82.97 38 P P 21 11 39.5 +1.3
baz=232
TPNV Topopah Spring 82.97 46 P P 21 11 39.6 +1.2
baz=237
PDMCI Parker Dam,Lak 83.01 49 P P 21 11 39.5 +1.1
baz=238,SNR=6.6
TIA Tai'an 83.02 313 P P 21 11 38.8 +0.4
TIA pmax pmax
comp=Z,19nm,0.9s
I04A Tendick Farm, 83.14 38 P P 21 11 40.2 +1.3
baz=232
MOD Modoc Plateau 83.22 40 P P 21 11 40.0 +0.5
K05A Summer Lake 83.36 39 P P 21 11 40.7 +0.4
K05A IAmb IAmb 21 11 42.6
comp=Z,15nm,0.9s
RPSI Rantau Prapat 83.39 275 P P 21 11 40.3 -0.5
RPSI IAmb IAmb 21 11 41.2
comp=Z,24nm,0.9s
H04D Lebanon 83.41 37 P P 21 11 41.5 +1.4
baz=231
PSI Prapat 83.43 276 P P 21 11 40.6 -0.5
comp=Z,22nm,1.0s,baz=180,slow=4.4,SNR=10
J05D Fort Rock, OR 83.50 39 P P 21 11 42.2 +1.4
baz=233
PINE Pine Mountain 83.98 38 P P 21 11 44.5 +1.3
I05D Terrebonne, OR 84.08 38 P P 21 11 44.1 +0.6
baz=232
GSI Gunungsitoli 84.13 274 P P 21 11 45.6 +1.1
comp=Z,102nm,0.8s
GSI Gunungsitoli 84.13 274 P P 21 11 45.6 +1.1
R11A Troy Canyon, C 84.18 45 P P 21 11 44.8 +0.5
baz=237
MA2 Magadan 84.33 345 P P 21 11 43.9 -0.4
comp=Z,14nm,0.8s,baz=38,slow=5.6,SNR=3.1
MA2 Magadan 84.33 345 P P 21 11 44.0 -0.4
MA2 IAmb IAmb 21 11 44.8
comp=Z,30nm,1.1s
SVW2 Sparrevohn 84.37 11 P P 21 11 44.2 -0.3
TUC Tucson 84.42 52 P P 21 11 46.8 +1.3
baz=240
TUC Tucson 84.42 52 P P 21 11 46.6 +1.1
E04D Cinebar 84.77 35 P P 21 11 48.1 +1.4
baz=231
LCMT Little Creek M 85.04 47 P P 21 11 49.2 +0.7
319A Douglas 85.09 54 P P 21 11 50.0 +1.1
319A IAmb IAmb 21 11 51.7
comp=Z,21nm,0.9s
D03D Eldon 85.10 34 P P 21 11 49.8 +1.5
baz=231

J08A Circle Bar Ran 85.17 40 P P 21 11 49.8 +0.9
CCUT Cedar City 85.24 47 P P 21 11 50.2 +0.6
KNB Kanab 85.33 47 P P 21 11 50.9 +0.9
U15A North Rim 85.40 48 P P 21 11 51.2 +0.8
U15A IAmb IAmb 21 11 52.7
comp=Z,12nm,0.8s
PSUT Pine Spring 85.42 46 P P 21 11 50.6 +0.2
WUAZ Wupatki 85.58 49 P P 21 11 52.2 +1.0
baz=240
WUAZ Wupatki 85.58 49 P P 21 11 51.7 +0.5
ENH Enshi 85.58 305 P P 21 11 51.5 +0.3
ENH IAmb IAmb 21 11 52.9
comp=Z,46nm,0.9s
SYO Syowa Base 85.62 193 ⇓ iP P 21 11 48.6 -1.9
SYO Syowa Base 85.62 193 ⇓ iPcP P 21 11 50.0 -0.5
ELK Elko 85.70 43 P P 21 11 51.8 +0.1
BJT Baijiatuau 85.70 316 P P 21 11 51.7 +0.3
BJT IAmb IAmb 21 11 52.9
comp=Z,11nm,0.7s
BJI Beijing 85.71 316 P P 21 11 51.9 +0.5
BJI pmax pmax
comp=Z,14nm,0.7s
G08A Pilot Rock 86.01 38 P P 21 11 53.9 +1.0
G08A IAmb IAmb 21 11 54.8
comp=Z,16nm,1.5s
GYA Guiyang 86.09 300 ⇑P P 21 11 54.4 +0.7
GYA pmax pmax
comp=Z,11nm,1.2s
MTPU Mount Pierson 86.29 47 P P 21 11 55.8 +1.1
GHO Glory Hole Cre 86.34 14 P P 21 11 53.9 -0.1
GHO IAmb IAmb 21 11 54.8
comp=Z,34nm,0.7s
W18A Petrified Fore 86.55 50 P P 21 11 56.8 +1.0
baz=241
ZAIG Zacatecas 86.62 64 P P 21 11 56.8 +0.3
ZAIG IAmb IAmb 21 11 59.1
comp=Z,10nm,1.0s
BMO Blue Mountains 86.71 39 P P 21 11 56.5 +0.3
121A Cookes Peak, D 86.75 53 P P 21 11 58.0 +1.2
baz=242
121A Cookes Peak, D 86.75 53 P P 21 11 58.1 +1.3
MFID Camas Ranch 86.79 41 P P 21 11 57.3 +0.7
TIY Taiyuan 87.01 312 eP P 21 11 58.5 +0.8
TIY pmax pmax
comp=Z,24nm,0.4s
D08A Wollman Farm, 87.06 36 P P 21 11 58.7 +1.0
SNAA Sanae 87.17 179 P P 21 11 57.2 -0.7
SNAA Sanae 87.17 179 P P 21 11 57.2 -0.7
SNAA IAmb IAmb 21 11 58.4
comp=Z,15nm,1.3s
BALM Baldy 87.34 17 P P 21 11 59.2 +0.4
BALM IAmb IAmb 21 11 59.9
comp=Z,14nm,0.7s
VNA3 Neumayer Olymp 87.34 177 P P 21 11 58.2 -0.4
F10A Beach Ranch, E 87.39 38 P P 21 11 59.5 +0.2
F10A IAmb IAmb 21 12 00.7
comp=Z,9.7nm,0.8s
TMUT Trail Mountain 87.59 46 P P 21 12 01.8 +1.1
B08A Colville Reser 87.60 35 P P 21 12 00.4 +0.2
HLID Hailey 87.74 41 P P 21 12 02.3 +1.2
baz=238
HLID Hailey 87.74 41 P P 21 12 02.0 +0.9
XAN Xi'an 87.75 308 P P 21 12 02.0 +0.7
XAN pmax pmax
comp=Z,28nm,1.0s
XAN pmax pmax
comp=Z,97nm,4.6s
XAN Xi'an 87.75 308 P P 21 12 01.8 +0.5
XAN IAmb IAmb 21 12 03.1
comp=Z,21nm,0.9s
VNA2 Neumayer--Watz 87.77 177 P P 21 12 00.3 -0.3
SPUT South Promonto 87.79 44 P P 21 12 01.7 +0.3
RND Reindeer 87.80 13 P P 21 12 00.0 -0.8
RND IAmb IAmb 21 12 01.4
comp=Z,30nm,0.8s
SRU San Rafael Swe 87.96 46 P P 21 12 03.0 +0.7
VNA1 Neumayer--Stat 88.00 177 P P 21 12 01.4 -0.3
MNTX Cornudas Mount 88.19 55 P P 21 12 04.3 +1.0
baz=244
MNTX Cornudas Mount 88.19 55 P P 21 12 03.9 +0.5
MNTX IAmb IAmb 21 12 05.5
comp=Z,9.6nm,0.9s
TCUT Toone Canyon 88.37 44 P P 21 12 05.0 +0.8
TX31 Lajitas Ar. Si 88.49 58 P P 21 12 05.8 +0.9
TXAR Lajitas Array 88.49 58 P P 21 12 06.2 +1.3
comp=Z,8.4nm,0.8s,baz=219,slow=5.8,SNR=88
TXAR Lajitas Array 88.49 58 P P 21 12 05.7 +0.8
KMI Kunming 88.73 298 ⇓P P 21 12 07.6 +1.4
KMI pmax pmax
comp=Z,17nm,0.8s
KMI Kunming 88.73 298 P P 21 12 06.9 +0.7
KMI IAmb IAmb 21 12 08.1
comp=Z,16nm,1.0s
NEA2 Nenana 88.81 13 P P 21 12 06.1 +0.7
baz=208
ANMO Albuquerque 88.85 52 P P 21 12 07.0 +0.5
baz=243
ANMO Albuquerque 88.85 52 P P 21 12 06.7 +0.2
RIDG Independent Ri 88.99 15 P P 21 12 06.3 0.0
RIDG IAmb IAmb 21 12 07.2
comp=Z,9.9nm,0.9s
HDA Harding Lake 89.09 13 P P 21 12 07.2 +0.5
baz=210
HDA Harding Lake 89.09 13 P P 21 12 06.3 -0.4
HDA IAmb IAmb 21 12 07.0
comp=Z,8.1nm,0.6s
DOT Dot Lake 89.10 15 P P 21 12 06.5 -0.3
DOT IAmb IAmb 21 12 07.6
comp=Z,11nm,0.9s
CCB Clear Creek Bu 89.12 13 P P 21 12 05.9 -0.9
CCB IAmb IAmb 21 12 06.8
comp=Z,9.7nm,0.7s
HHC Hu-ho-hao-te 89.14 315 eP P 21 12 08.8 +1.2
HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,350nm,6.5s
BCAR Beaver Creek A 89.18 16 P P 21 12 07.0 -0.2
GDL2 Guadalupe Moun 89.19 55 P P 21 12 09.5 +1.4
IMAR Indian Mountai 89.21 10 P P 21 12 07.0 -0.2
MDM Murphy Dome 89.31 13 P P 21 12 06.8 -0.9
MDM IAmb IAmb 21 12 07.8
comp=Z,12nm,1.0s
CM31 Chiang Mai Arr 89.33 290 P P 21 12 10.1 +1.3
CM31 IAmb IAmb 21 12 11.5
comp=Z,23nm,0.8s
CMAR Chiang Mai Arr 89.33 290 P P 21 12 10.4 +1.6
comp=Z,16nm,0.8s,baz=132,slow=3.2,SNR=88
CMAR pP pP 21 14 18.4 +0.4
comp=Z,0.5nm,0.4s,baz=139,slow=29,SNR=1.6
CMAR PP PP 21 15 53.6 +2.2
comp=Z,1.5nm,0.9s,baz=139,slow=6.0,SNR=4.9
CMAR Chiang Mai Arr 89.33 290 P P 21 12 09.8 +0.9
MCMT McKenzie Canyo 89.36 41 P P 21 12 09.9 +1.2
SCRK Sand Creek 89.39 15 P P 21 12 09.5 +1.2
baz=212
AHID Auburn Hatcher 89.40 43 P P 21 12 09.5 +0.6
AHID IAmb IAmb 21 12 11.3
comp=Z,8.5nm,0.9s
IL31 89.42 13 P P 21 12 07.4 -0.8
IL31 IAmb IAmb 21 12 09.7
comp=Z,14nm,1.4s
ILAR Eielson Array 89.42 13 P P 21 12 07.5 -0.8
comp=Z,3.1nm,0.7s,baz=229,slow=5.5,SNR=16
ILAR pP pP 21 14 18.2 -0.3
comp=Z,0.3nm,0.4s,baz=135,slow=14,SNR=1.8
ILAR PP PP 21 15 47.6 -3.6
comp=Z,1.1nm,0.9s,baz=220,slow=6.7,SNR=2.4
ILAR Eielson Array 89.42 13 P P 21 12 07.3 -0.9
LC01 Cunco 89.45 132 P P 21 12 10.0 +0.9
CHTO Chiang Mai 89.46 290 P P 21 12 10.4 +0.9
CHTO IAmb IAmb 21 12 11.7
comp=Z,18nm,0.8s
PLCA Paso Flores 89.50 134 P P 21 12 10.7 +1.2
comp=Z,16nm,0.9s,baz=211,slow=5.0,SNR=22
PLCA Paso Flores 89.50 134 P P 21 12 10.8 +1.3
PLCA IAmb IAmb 21 12 11.6
comp=Z,14nm,0.8s
S22A 4UR Ranch, Cre 89.86 49 P P 21 12 11.9 +0.7
baz=243
S22A 4UR Ranch, Cre 89.86 49 P P 21 12 12.3 +1.1
FXWY Fox Creek 89.88 42 P P 21 12 12.3 +1.2
O20A White River Ci 89.99 46 P P 21 12 12.3 +0.6
baz=242
IMW Indian Meadow 90.06 42 P P 21 12 12.8 +0.7
IMW IAmb IAmb 21 12 14.0
comp=Z,6.4nm,1.1s
CD2 Chengdu 90.30 303 eP P 21 12 14.9 +1.8
PD31 Pinedale Array 90.39 44 P P 21 12 13.7 +0.1
PDAR Pinedale Array 90.39 44 P P 21 12 13.8 +0.3
comp=Z,2.3nm,0.8s,baz=220,slow=3.7,SNR=13
PDAR Pinedale Array 90.39 44 P P 21 12 13.6 +0.1
YHL Hebgen Lake 90.39 41 P P 21 12 15.0 +1.4
BOZ Bozeman (W) 90.50 40 P P 21 12 14.9 +1.1
baz=238
BOZ Bozeman (W) 90.50 40 P P 21 12 15.1 +1.2
DAWY Dawson 90.62 16 P P 21 12 13.8 0.0
DAWY IAmb IAmb 21 12 14.9
comp=Z,10nm,1.4s
EGAK Eagle 90.75 15 P P 21 12 14.5 +0.2
EGAK IAmb IAmb 21 12 14.8
comp=Z,4.8nm,0.8s
SDCO Great Sand Dun 90.80 50 P P 21 12 15.7 +0.1
baz=243
SDCO Great Sand Dun 90.80 50 P P 21 12 15.6 +0.1
BI02 San Fabin de 90.89 130 P P 21 12 16.5 +0.5
BI02 IAmb IAmb 21 12 17.9
comp=Z,20nm,0.8s
COLD Coldfoot 90.95 11 P P 21 12 16.7 +1.5
baz=207
EFI East Falkland 90.96 148 P P 21 12 16.5 +0.7
MSTX Muleshoe 91.16 54 P P 21 12 17.5 +0.4
baz=245
T25A Trinidad 91.31 50 P P 21 12 18.1 +0.3
baz=244
833A Chaparral WMA, 91.49 60 P P 21 12 18.7 0.0
baz=246
833A Chaparral WMA, 91.49 60 P P 21 12 19.1 +0.5
833A IAmb IAmb 21 12 20.2
comp=Z,9.2nm,0.8s
ISCO Idaho Springs 91.63 48 P P 21 12 20.1 +0.7
baz=243
N23A Red Feather La 91.90 47 P P 21 12 21.3 +0.7
baz=243
BO02 Sierra Bellavi 92.12 129 P P 21 12 21.7 +0.1
BO02 IAmb IAmb 21 12 22.9
comp=Z,12nm,0.7s
LZH Lanzhou 92.39 308 ⇑P P 21 12 24.0 +1.2
LZH pP pwP 21 14 35.2 -1.6
LZH sP sP 21 15 36.4 +4.4
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,110nm,5.4s
YAK Yakutsk 92.50 338 P P 21 12 21.7 -0.7
comp=Z,4.2nm,0.3s,baz=129,slow=1.0,SNR=6.8
YAK Yakutsk 92.50 338 P P 21 12 21.7 -0.7
ABTX Abilene, Hawle 93.00 56 P P 21 12 25.9 +0.4
baz=247
RSSD Black Hills 94.58 44 P P 21 12 33.4 +0.8
baz=245
LCO Las Campanas 94.85 124 P P 21 12 35.5 +1.1
SONM Songino Array 95.66 319 P P 21 12 36.7 -0.7
comp=Z,1.2nm,0.9s,baz=104,slow=3.9,SNR=6.1
SONM PP PP 21 16 44.7 +4.9
comp=Z,2.1nm,1.1s,baz=122,slow=6.5,SNR=6.0
SONM PKKPbc PKKPbc 21 29 25.6 -0.3
comp=Z,0.4nm,0.4s,baz=249,slow=3.0,SNR=5.4
SONM Songino Array 95.66 319 P P 21 12 36.6 -0.7
GTA Gaotai 96.64 310 ⇑P P 21 12 42.4 +0.5
GTA pP pwP 21 14 54.5 -1.7
GTA sP sP 21 15 52.9 +1.4
GTA S S 21 23 11.8 -0.1
GTA pmax pmax
comp=Z,4.0nm,1.5s
GTA pmax pmax
comp=Z,58nm,7.1s
C36M Paulatuk 98.62 17 P P 21 12 51.3 +1.4
baz=231
LPAZ La Paz 102.78 113 P Pdif 21 13 11.2 +0.8
comp=Z,1.1nm,0.8s,baz=169,slow=3.5,SNR=4.4
T55A Pulaski 109.10 57 P PKiKP 21 17 37.3 -0.3
baz=257
W57A Gilead 109.29 59 P PKiKP 21 17 37.9 0.0
baz=257
BLA Blacksburg 109.40 57 P PKiKP 21 17 38.0 -0.2
baz=258
ZALV Zalesovo Beam 110.45 321 PKiKP PKiKP 21 17 38.9 -0.7
comp=Z,0.4nm,0.5s,baz=48,slow=2.1,SNR=2.2
ZALV PP PP 21 18 27.5 -0.3
comp=Z,1.4nm,0.8s,baz=71,slow=6.4,SNR=4.2
N54A Moraine State 110.49 53 P PKiKP 21 17 38.5 -1.5
baz=259
U58A Oxford 110.70 58 P PKiKP 21 17 40.6 +0.1
baz=258
MKAR Makanchi Array 110.96 313 Pdiff Pdif 21 13 47.6 +2.3
comp=Z,0.5nm,0.7s,baz=132,slow=1.8,SNR=5.1
MKAR PKiKP PKiKP 21 17 39.6 -1.2
comp=Z,0.3nm,0.4s,baz=183,slow=1.7,SNR=6.7
MKAR PP PP 21 18 23.2 -8.5
comp=Z,1.0nm,1.0s,baz=99,slow=9.3,SNR=4.5
MKAR PKKPbc PKKPbc 21 28 39.9 -0.9
comp=Z,2.5nm,0.8s,baz=276,slow=3.5,SNR=22
MKAR PKKPab PKKPab 21 28 52.2 +0.8
comp=Z,1.6nm,0.9s,baz=278,slow=3.6,SNR=6.0
MKAR Makanchi Array 110.96 313 Pdif 21 13 46.9 +1.5
S58A Poland Farm, P 111.33 57 P PKiKP 21 17 41.6 -0.1
baz=259
D50A G1974 Best Tow 111.63 46 P PKiKP 21 17 42.2 +0.2
baz=262
W61A Ground Anchor 111.70 59 P PKiKP 21 17 43.0 +0.5
baz=259
Q58A Fox Den Farm, 111.86 55 P PKiKP 21 17 43.3 +0.6
baz=260
V61A Roper 112.14 59 P PKiKP 21 17 43.3 0.0
baz=259
UZB Uzynbulak 112.69 309 ePKiKP PKiKP 21 17 44.1 -0.3
baz=309
UZB ePP PP 21 18 43.2 -0.9
baz=309
SATY Saty 113.13 309 ePP PP 21 18 46.1 -1.0
baz=309
KURBB Kurchatov Arra 113.90 317 PKiKP PKiKP 21 17 44.6 -1.6
comp=Z,0.5nm,0.5s,baz=108,slow=2.1,SNR=6.3
KURBB PP PP 21 18 43.7 -8.3
comp=Z,1.7nm,1.1s,baz=97,slow=6.0,SNR=6.4
KUU Kurty 114.72 310 ePP PP 21 18 57.1 -0.9
baz=310
I63A Otisfield 117.77 51 P PKiKP 21 17 54.3 +0.3
baz=266
H64A Troy 118.78 50 P PKiKP 21 17 55.9 +0.1
baz=268
F63A Nahmakanta, Br 118.90 49 P PKiKP 21 17 56.2 +0.1
baz=268
D62A Allapoint, All 118.96 47 P PKPdf 21 17 55.9 -0.1
baz=269
BVAR Borovoye Array 119.00 320 PKP PKPdf 21 17 55.2 -0.8
comp=Z,1.5nm,0.4s,baz=112,slow=1.9,SNR=26
BVAR PP PP 21 19 21.9 -5.0
comp=Z,0.6nm,0.6s,baz=106,slow=7.9,SNR=4.3
G64A Maxfield 119.13 49 P PKPdf 21 17 55.9 -0.5
baz=268
IUG luzhnay 119.19 307 ePKP PKPdf 21 17 56.1 -0.8
baz=307
IUG ePP PP 21 19 27.6 -1.1
baz=307
G65A Princeton 119.97 49 P PKPdf 21 17 58.0 0.0
baz=269
SPITS Spitsbergen Ar 122.66 356 PKhKP PKPpre 21 17 53.6
comp=Z,2.8nm,0.5s,baz=337,slow=8.1,SNR=10
BOSA Boshof 124.97 206 PKP PKPdf 21 18 07.5 -0.9
comp=Z,3.0nm,0.8s,baz=179,slow=1.7,SNR=4.1
BOSA Boshof 124.97 206 PKPdf PKPdf 21 18 08.4 -0.1
ARU Arti 125.26 325 PKPdf PKPdf 21 18 07.5 -0.3
GEYT Alibeck 128.28 302 PP PP 21 20 26.9 -1.8
comp=Z,2.4nm,0.9s,baz=88,slow=3.3,SNR=5.7
ARCES ARCESS Array B 129.56 349 PKP PKPdf 21 18 15.4 -0.4
comp=Z,1.4nm,0.5s,baz=48,slow=1.7,SNR=17
ARCES pPKP pPKPdf 21 20 35.0 +0.4
comp=Z,4.5nm,1.0s,baz=35,slow=17,SNR=2.7
ARCES ARCESS Array B 129.56 349 PKPdf 21 18 15.2 -0.5
KLMR Klimovskoe 132.21 336 ePP PP 21 20 48.5 -4.0
KLMR AMP 21 20 52.2
comp=Z,24nm,1.4s
FINES FINESS Array B 136.27 343 PKhKP PKPpre 21 18 17.9
comp=Z,1.9nm,0.8s,baz=17,slow=2.6,SNR=5.7
FINES PKP PKPdf 21 18 29.4 +0.9
comp=Z,2.6nm,0.7s,baz=95,slow=4.2,SNR=11
FINES SKPbc SKPbc 21 21 04.5 -0.2
comp=Z,11nm,0.9s,baz=84,slow=4.3,SNR=13
FINES FINESS Array B 136.27 343 PKPdf 21 18 29.2 +0.7
TSUM Tsumeb 136.44 203 PKPdf 21 18 30.6 +0.3
KMBO Kilima Mbogo 137.92 242 SKPbc SKPbc 21 21 12.4 +1.0
comp=Z,4.9nm,1.1s,baz=196,slow=3.1,SNR=4.3
KBZ Khabaz 138.65 313 SKPbc SKPbc 21 21 12.4 +0.3
comp=Z,1.4nm,0.7s,baz=335,slow=6.8,SNR=4.5
NB2 NORSAR Subarra 139.70 352 PKP PKPpre 21 18 27.5
comp=Z,1.3nm,0.8s,baz=17,slow=2.6
NOA NORSAR Array B 139.70 352 PKhKP PKPpre 21 18 27.2
comp=Z,1.0nm,0.9s,baz=44,slow=5.6,SNR=4.5
NOA SKPbc SKPbc 21 21 14.4 -0.1
comp=Z,2.6nm,0.9s,baz=14,slow=4.3,SNR=3.9
SHEL Horse Pasture 142.35 170 PKPdf PKPdf 21 18 39.6 -1.4
AKASG Malin Array Be 143.20 330 PKhKP PKPpre 21 18 38.7
comp=Z,34nm,0.6s,baz=42,slow=4.2,SNR=145
AKASG SKPbc SKPbc 21 21 23.2 -0.3
comp=Z,7.7nm,0.9s,baz=44,slow=2.7,SNR=17
SUW Suwalki 143.23 338 ePKP PKPab 21 18 39.2 -0.3
SUW Suwalki 143.23 338 PKPdf PKPab 21 18 39.0 -0.5
MBAR Mbarara 143.48 237 PKPbc 21 18 42.5 +0.5
MUD Monsted U'grnd 144.42 352 i P PKPbc 21 18 43.5 +0.1
comp=Z,35nm,1.0s
BSD Bornholm Skovb 144.67 346 i P PKPdf 21 18 43.8 +0.1
comp=Z,35nm,0.9s
GAZ Gaziantep 144.78 305 PKPdf PKPbc 21 18 45.1 -0.2
SORM Soroca 145.33 327 ⇓P PKPbc 21 18 46.1 -0.3
GKP Gorka Klasztor 145.75 342 ePKP PKPbc 21 18 47.4 0.0
MILM Milestii Mici 145.86 325 ⇑P PKPdf 21 18 46.8 +0.8
ILGA Ilgaz 145.96 313 PKPbc 21 18 48.7 0.0
BR131 Keskin Array S 146.55 311 PKPbc 21 18 49.4 -0.9
BRTR Keskin Array B 146.55 311 PKPbc PKPbc 21 18 49.8 -0.5
comp=Z,6.0nm,0.6s,baz=132,slow=3.9,SNR=51
BRTR pPKPbc pPKPbc 21 21 06.3 0.0
comp=Z,1.0nm,0.8s,baz=121,slow=4.6,SNR=4.4
BRTR SKPbc SKPbc 21 21 31.0 -0.7
comp=Z,2.8nm,0.9s,baz=160,slow=3.9,SNR=4.9
VASR Vaslui 146.58 325 ⇑P PKPbc 21 18 50.0 +0.1
BSEG Bad Segeberg 146.69 350 ePKPbc PKPbc 21 18 50.1 +0.1
baz=16,slow=2.5
TLCR 146.92 322 ⇓P PKPbc 21 18 50.8 -0.1
BR231 Keskin MP Arra 147.11 311 PKPbc 21 18 51.8 0.0
JURR Jurilovca 147.13 322 ⇓P PKPbc 21 18 52.0 +0.5
GHRR 147.16 325 ⇑P PKPbc 21 18 51.7 +0.2
BUR08 Bucovina Ar. S 147.22 329 PKPbc 21 18 52.2 +0.4
BURAR Bucovina Array 147.23 329 PKPbc 21 18 51.9 +0.1
TESR Tescani 147.27 326 ⇓P PKPbc 21 18 51.3 -0.5
TOPG Topolog 147.35 322 ⇓P PKPbc 21 18 52.2 +0.2
OJC Ojcow 147.53 337 ePKP PKPbc 21 18 52.2 -0.2
OJC Ojcow 147.53 337 PKPbc 21 18 52.2 -0.2
TIRR Tirgusor 147.58 322 PKPbc 21 18 52.4 -0.3
KOLS Kolonicke sedl 147.59 333 ePKP PKPbc 21 18 53.2 +0.6
VRI Vrincioaia 147.65 325 ⇑P PKPbc 21 18 53.0 +0.2
PLOR Plostina 147.70 325 ⇑P PKPbc 21 18 52.7 -0.2
MDUB Mudurnu 147.93 313 PKPbc 21 18 53.4 -0.4
MDUB PKPab PKPab 21 18 59.5 +0.7
CRVS Cervenica-Dubn 147.95 334 ePKP PKPbc 21 18 54.1 +0.6
CRVS e 21 21 14.1
OZUR 147.99 326 ⇓P PKiKP 21 18 54.5 -0.5
NIE Niedzica 148.00 336 ePKP PKiKP 21 18 54.2 -0.6
ARCR ARCALIA 148.02 329 ⇑P PKPbc 21 18 54.0 +0.3
TRPA Tarpa 148.09 332 ⇑P PKPbc 21 18 53.5 -0.3
KSP Ksiaz 148.16 341 ePKP PKPbc 21 18 54.4 +0.5
ISP Istrita 148.23 324 ⇑P PKiKP 21 18 55.7 +0.2
MLR Muntele Rosu 148.31 325 ⇓P PKPbc 21 18 55.0 +0.3
MLR Muntele Rosu 148.31 325 PKPbc 21 18 54.3 -0.4
CSS Mathiatis 148.42 302 PKPbc 21 18 54.9 -0.2
CSS PKPab PKPab 21 19 00.9 +0.1
OKC Ostrava-Krasne 148.44 338 ePKPAB PKPab 21 19 00.8 +0.4
OSTC Ostas 148.44 341 ⇑ ePKP PKPbc 21 18 55.1 +0.5
OSTC ePKPAB PKPab 21 19 00.9 +0.5
OSTC epPKP pPKPab 21 21 19.6 +6.6
CHVC Chvalec 148.46 341 ⇑ ePKP PKPbc 21 18 55.2 +0.5
CHVC ePKPAB PKPab 21 19 01.1 +0.6
CHVC epPKP pPKPab 21 21 19.8 +6.7
LANS Liptovska Anna 148.54 336 ePKP PKiKP 21 18 56.2 +0.2
LANS e 21 19 02.1
SECR 148.54 325 ⇑P PKPbc 21 18 55.2 +0.2
DPC Dobruska-Polom 148.59 341 ⇑ ePKP PKiKP 21 18 55.6 -0.5
DPC ePKPAB PKPab 21 19 02.0 +0.9
DPC epPKP pPKPab 21 21 19.8 +6.2
CLL Collm 148.63 345 ePKPdf PKPdf 21 18 52.0 +1.5
CLL ⇓ iPKPbc PKPbc 21 18 55.0 0.0
comp=Z,21nm,1.2s
CLL i PKPab PKPab 21 19 00.8 -0.3
comp=Z,16nm,0.8s
CLL epPKPab pPKPab 21 21 16.0 +2.3
comp=Z,18nm,0.9s
CLL Collm 148.63 345 PKPbc 21 18 55.0 0.0
CLL PKPab PKPab 21 19 00.9 -0.2
KECS Kecovo 148.68 334 ePKP PKiKP 21 18 56.1 -0.2
KECS e 21 19 01.8
CLZ Clausthal 148.69 349 ePKPbc pPKPbc 21 21 21.8 +8.6
KRLC Kraliky 148.69 340 ⇑ ePKP PKPbc 21 18 55.6 +0.3
KRLC ePKPAB PKPab 21 19 02.0 +0.5
KRLC epPKP pPKPab 21 21 19.5 +5.6
MORC Moravsky Berou 148.70 339 ePKP PKPbc 21 18 55.2 -0.1
MORC e 21 19 01.8
MORC Moravsky Berou 148.70 339 PKPbc 21 18 55.0 -0.3
MORC PKPab PKPab 21 19 01.8 +0.3
BRG Berggiesshubel 148.80 344 ePKPbc PKPbc 21 18 55.6 +0.2
baz=16,slow=2.5
VOIR 148.81 326 ⇑P PKiKP 21 18 56.9 +0.2
FBE Freiberg 148.90 345 ePKPbc PKiKP 21 18 56.2 -0.4
baz=16,slow=2.5
FBE epPKPbc pPKPab 21 21 18.5 +3.8
VYHS Vyhne 149.31 336 ePKP PKPbc 21 18 57.1 +0.3
VYHS e 21 19 04.7
VYHS e 21 21 16.7
KOLL Kolacno 149.41 337 ePKP PKiKP 21 18 57.6 -0.1
KOLL e 21 19 05.0
VRAC Vranov 149.41 339 ePKP PKPbc 21 18 56.5 -0.5
VRAC e 21 19 04.7
JAVC Velka Javorina 149.43 338 ePKP PKiKP 21 18 58.4 +0.5
JAVC e 21 19 06.1
GOPC GO Pecny, Ondr 149.43 342 ⇑ ePKP PKPbc 21 18 57.2 +0.1
GOPC ePKPAB PKPab 21 19 04.9 +0.4
PRU Pruhonice 149.44 342 ⇑ ePKP PKPbc 21 18 57.1 +0.1
PRU ePKPAB PKPab 21 19 04.7 +0.2
PRU epPKP pPKPab 21 21 21.8 +4.9
HUMR Humele 149.46 325 ⇓P PKPbc 21 18 56.7 -0.6
LOT Lotru 149.46 327 ⇓P PKPbc 21 18 57.4 0.0
MOX Moxa 149.57 346 ePKPbc PKPbc 21 18 57.2 -0.2
baz=16,slow=2.5
DEV Deva 149.58 329 ⇑P PKPbc 21 18 57.7 +0.2
TANN Tannenbergstha 149.59 345 ePKPbc PKPbc 21 18 57.6 +0.1
baz=16,slow=2.5
PLN Plauen 149.59 346 ePKPbc PKPbc 21 18 57.4 0.0
baz=16,slow=2.5
GUNZ Gunzen 149.67 345 ePKPbc PKPbc 21 18 57.9 +0.2
baz=16,slow=2.5
KRUC Moravsky 149.69 339 ePKP PKPbc 21 18 57.6 -0.1
KRUC e 21 19 05.8
KRUC e 21 21 21.4
WERN Wernitzgruen 149.73 345 ePKPbc PKPbc 21 18 58.0 +0.2
baz=16,slow=2.5
NKC Novy Kostel 149.76 345 ⇑ ePKP PKPbc 21 18 58.1 +0.3
NKC ePKPAB PKPab 21 19 06.1 +0.2
SMOL Smolenice 149.81 338 ePKP PKPab 21 19 07.2 +1.1
SMOL e 21 21 23.7
PBCC Pribram 149.86 343 ⇑ ePKP PKPbc 21 18 58.1 0.0
PBCC ePKPAB PKPab 21 19 06.6 +0.3
MODS Modra-Piesok 149.98 338 ePKP PKPbc 21 18 58.2 -0.2
MODS e 21 19 06.8
MODS e 21 21 23.1
SRO2 Moca 150.09 336 ePKP PKPbc 21 18 58.2 -0.4
ROTZ Rotzenmuhle 150.25 345 ePKPbc PKPbc 21 18 59.0 0.0
baz=16,slow=2.5
BZS Buzias 150.39 330 ⇓P PKPbc 21 18 59.1 -0.3
ELL Elmali 150.43 308 PKPbc 21 18 59.6 -0.4
KHC Kasperske Hory 150.48 343 ⇑ ePKP PKPbc 21 18 59.6 0.0
KHC ePKPAB PKPab 21 19 08.9 -0.1
KHC epPKP pPKPab 21 21 20.7 -0.5
KHC Kasperske Hory 150.48 343 PKPbc 21 18 59.8 +0.2
KHC PKPab PKPab 21 19 09.5 +0.6
MEM Membach 150.53 353 PKiKP PKPbc 21 18 59.7 +0.2
GRA1 Grafenberg Arr 150.55 346 PKPab PKPab 21 19 09.2 0.0
TNS Taunus Mts 150.58 350 ePKPbc PKPbc 21 18 59.9 +0.1
baz=16,slow=2.5
GEC2 GERESS Array S 150.71 342 PKPbc 21 19 00.1 -0.1
GEC2 PKPab PKPab 21 19 09.9 0.0
GERES GERESS Array B 150.71 342 PKPbc PKPbc 21 18 60.0 -0.1
comp=Z,3.8nm,0.8s,baz=40,slow=2.3,SNR=32
GERES PKPab PKPab 21 19 10.0 0.0
comp=Z,2.1nm,0.7s,baz=34,slow=5.3,SNR=12

GERES				pPKPbc	**pPKPbc**	21 21 18.0	+0.2	
	comp=Z,0.2nm,0.3s,baz=262,slow=40,SNR=1.2							
GERES	**GERESS Array B**	**150.71**	**342**		**PKPbc**	21 18 59.8	-0.4	
GERES					**PKPab**	21 19 10.1	+0.1	
BCLA	**Clavier**	**150.79**	**354**	PKPab	**PKPab**	21 19 09.5	-0.7	
CONA	**Conrad Observa**	**150.85**	**339**	*e*PKiKP	**PKiKP**	21 19 00.7	-0.2	
	comp=Z,11nm,1.1s							
CONA				*i* PKPab	**PKPab**	21 19 11.5	+0.9	
	comp=Z,12nm,0.8s							
CONA				*ep*PKPab	**pPKPab**	21 21 26.3	+3.7	
	comp=Z,16nm,1.2s							
MDVR	**Moldovita**	**150.96**	**328**	‖P	**PKPbc**	21 19 00.4	-0.4	
DOU	**Dourbes**	**151.18**	**355**	PKiKP	**PKiKP**	21 19 01.3	0.0	
MOA	**Molln**	**151.44**	**341**	*i* PKPbc	**PKPbc**	21 19 01.4	-0.4	
	comp=Z,2.3nm,0.6s							
MOA				*i* PKPab	**PKPab**	21 19 13.6	+0.6	
	comp=Z,7.2nm,0.9s							
WLF	**Walferdange**	**151.45**	**353**	PKiKP	**PKiKP**	21 19 02.1	+0.2	
WLF	**Walferdange**	**151.45**	**353**	*ep*PKPbc	pPKPbc	21 21 22.9	+3.1	
ARSA	**Arzberg**	**151.56**	**339**	*i* PKPbc	**PKPbc**	21 19 01.1	-0.9	
	comp=Z,3.3nm,1.1s							
ARSA				*i* PKPab	**PKPab**	21 19 13.9	+0.4	
	comp=Z,6.9nm,1.2s							
ARSA				*ep*PKPab	**pPKPab**	21 21 26.9	+1.5	
	comp=Z,5.5nm,1.2s							
VTS	**Vitosha**	**151.67**	**324**	⇑P	**PKPbc**	21 19 02.1	-0.5	
SOKA	**Soboth**	**152.22**	**339**	*e*PKPbc	**PKPbc**	21 19 02.9	-0.7	
	comp=Z,4.5nm,1.0s							
SOKA				*e*PKPab	**PKPab**	21 19 16.5	0.0	
	comp=Z,11nm,1.1s,SNR=5.2							
SOKA				*ep*PKPab	**pPKPab**	21 21 28.7	+0.5	
	comp=Z,8.3nm,1.0s							
DIVS	**Divibare**	**152.30**	**329**		**PKPbc**	21 19 03.2	-0.6	
DIVS				PKPab	**PKPab**	21 19 16.4	-0.5	
KBA	**Koelnbreinsper**	**152.40**	**341**	*e*PKPbc	**PKPbc**	21 19 03.8	-0.3	
	comp=Z,3.2nm,0.8s							
KBA				*e*PKPab	**PKPab**	21 19 18.6	+1.3	
	comp=Z,6.1nm,0.7s							
KBA				*ep*PKPab	**pPKPab**	21 21 29.1	0.0	
	comp=Z,7.2nm,1.1s							
BFO	**Black Forest**	**152.43**	**349**	PKPab	**PKPab**	21 19 16.7	-0.5	
OBKA	**Obir**	**152.53**	**339**	*e*PKPbc	**PKPbc**	21 19 03.3	-1.0	
	comp=Z,1.8nm,1.0s							
OBKA				*e*PKPab	**PKPab**	21 19 17.3	-0.5	
	comp=Z,5.0nm,0.7s							
OBKA				*ep*PKPab	**pPKPab**	21 21 29.4	0.0	
	comp=Z,3.1nm,0.9s							
WATA	**Walderalm**	**152.66**	**344**	*i* PKPbc	**PKPbc**	21 19 04.4	-0.3	
	comp=Z,2.6nm,0.5s							
WATA				*e*PKPab	**PKPab**	21 19 18.6	+0.2	
	comp=Z,15nm,1.0s							
WATA				*ep*PKPab	**pPKPab**	21 21 30.3	+0.1	
	comp=Z,5.5nm,1.1s							
GCIS	**Gornji Cirnik**	**152.71**	**337**	*i* PKPbc	**PKPbc**	21 19 04.3	-0.2	
GCIS				*i* PKPab	**PKPab**	21 19 17.9	-0.5	
GCIS				*eP*	**pPKPab**	21 21 30.0	0.0	
WTTA	**Wattenberg**	**152.71**	**344**	*e*PKPbc	**PKPbc**	21 19 04.5	-0.3	
	comp=Z,2.8nm,0.5s							
WTTA				*i* PKPab	**PKPab**	21 19 18.5	-0.1	
	comp=Z,19nm,1.1s							
WTTA				*ep*PKPab	**pPKPab**	21 21 28.4	-2.1	
	comp=Z,9.1nm,1.0s							
MYKA	**Terra Mystica**	**152.72**	**340**	*e*PKPbc	**PKPbc**	21 19 03.6	-1.1	
	comp=Z,4.3nm,1.0s							
MYKA				*i* PKPab	**PKPab**	21 19 18.1	-0.4	
	comp=Z,6.2nm,0.6s							
MYKA				*ep*PKPab	**pPKPab**	21 21 29.2	-1.1	
	comp=Z,6.7nm,1.0s							
RETA	**Reutte**	**152.72**	**345**	*i* PKPab	**PKPab**	21 19 18.7	+0.2	
	comp=Z,10nm,1.2s							
MOTA	**Moosalm**	**152.77**	**345**	*e*PKiKP	**PKiKP**	21 19 05.4	+0.4	
	comp=Z,7.3nm,1.2s							
MOTA				*i* PKPab	**PKPab**	21 19 18.9	+0.1	
	comp=Z,13nm,1.2s							
MOTA				*ep*PKPab	**pPKPab**	21 21 29.7	-0.9	
	comp=Z,5.7nm,1.0s							
SQTA	**Sankt Quirin**	**152.86**	**344**	*i* PKPbc	**PKPbc**	21 19 04.8	-0.2	
	comp=Z,3.1nm,0.9s							
SQTA				*i* PKPab	**PKPab**	21 19 19.3	+0.1	
	comp=Z,8.4nm,1.1s							
STIP	**Stip**	**152.87**	**323**	*i* P	**PKPab**	21 19 18.7	-0.6	
VAY	**Valandovo**	**152.89**	**322**	*i* P	**PKPab**	21 19 19.8	+0.4	
PRED	**Cave del Predi**	**152.91**	**340**	PKPab	**PKPab**	21 19 18.5	-0.8	
ABTA	**Abfaltersbach**	**152.95**	**342**	*i* PKPbc	**PKPbc**	21 19 04.5	-0.6	
	comp=Z,5.4nm,0.6s							
ABTA				*e*PKPab	**PKPab**	21 19 19.1	-0.4	
	comp=Z,8.7nm,0.7s							
ABTA				*ep*PKPab	**pPKPab**	21 21 30.0	-1.3	
	comp=Z,10nm,0.9s							
ZOU	**Zoufplan**	**152.99**	**341**	PKPbc	**PKPbc**	21 19 04.6	-0.8	
ZOU					**PKPab**	21 19 18.5	-1.3	
SKO	**Skopje**	**153.09**	**324**	*i* P	**PKPab**	21 19 20.9	+0.7	
DAVA	**Damuels**	**153.12**	**346**	*e*PKPab	**PKPab**	21 19 20.2	-0.1	
	comp=Z,8.6nm,0.8s							
BOJS	**Bojanci**	**153.16**	**337**	*i* PKPbc	**PKPbc**	21 19 05.1	-0.5	
BOJS				*i* PKPab	**PKPab**	21 19 19.9	-0.4	
CIMO	**Cimolais**	**153.37**	**342**	PKPbc	**PKPbc**	21 19 05.0	-1.1	
CIMO					**PKPab**	21 19 20.9	-0.4	
FUORN	**Ofenpass-Fuorn**	**153.66**	**345**		**PKPbc**	21 19 06.3	-0.6	
FUORN				PKPab	**PKPab**	21 19 23.3	+0.5	
LIT	**Litokhoron**	**153.72**	**320**		**PKPab**	21 19 22.7	-0.3	
CTI	**Castel Tesino**	**153.83**	**343**	PKPab	**PKPab**	21 19 22.8	-0.6	
PDG	**Podgorica**	**153.90**	**328**	PKPab	**PKPab**	21 19 23.4	-0.2	
TUE	**Stuetta**	**154.01**	**346**	PKPab	**PKPab**	21 19 24.4	+0.2	
SENIN	**Lac Senin/Sane**	**154.51**	**349**	PKPab	**PKPab**	21 19 25.9	-0.5	
ITM	**Ithomi**	**155.82**	**315**	PKPab	**PKPab**	21 19 32.0	-0.2	
AQU	**L'Aquila**	**156.54**	**336**	PKPab	**PKPab**	21 19 35.2	+0.1	
INTR	**Introdacqua**	**156.64**	**335**	PKPab	**PKPab**	21 19 35.0	-0.6	
TIP	**Timpagrande**	**157.58**	**326**	PKPab	**PKPab**	21 19 39.5	-0.3	
ESDC	**Sonseca Array**	**161.31**	**11**	PKPab	**PKPab**	21 19 55.8	-0.2	
	comp=Z,2.8nm,1.0s,baz=342,slow=5.2,SNR=11							
ESDC	**Sonseca Array**	**161.31**	**11**		**PKPab**	21 19 54.4	-1.5	
KEST	**Kesra**	**163.84**	**334**	PKPab	**PKPab**	21 20 07.5	+0.2	
	comp=Z,8.4nm,0.8s,baz=300,slow=3.8,SNR=10							
LIC	**Lamto**	**163.93**	**159**	*e*PKIKP	**PKPdf**	21 19 10.0	-1.0	
	comp=Z,22nm,0.8s							
LIC	**Lamto**	**163.93**	**159**	*e*PKP2	**PKPab**	21 20 08.2	+0.3	
	comp=Z,61nm,1.0s							
KIC	**Kosan Boka**	**164.15**	**160**	*e*PKIKP	**PKPdf**	21 19 10.1	-1.1	
	comp=Z,19nm,0.9s							
KIC	**Kosan Boka**	**164.15**	**160**	*e*PKP2	**PKPab**	21 20 09.1	+0.2	
	comp=Z,106nm,1.2s							
TIC	**Toumodi**	**164.32**	**158**	*e*PKIKP	**PKPdf**	21 19 10.0	-1.4	
TIC	**Toumodi**	**164.32**	**158**	*e*PKP2	**PKPab**	21 20 10.0	+0.3	
DBIC	**Dimbokro**	**164.40**	**159**	PKP	**PKPdf**	21 19 10.4	-1.0	
	comp=Z,3.3nm,0.7s,baz=138,slow=1.4,SNR=5.0							
DBIC				PKPab	**PKPab**	21 20 10.6	+0.6	
	comp=Z,6.5nm,0.7s,baz=174,slow=5.5,SNR=18							
DBIC	**Dimbokro**	**164.40**	**159**		**PKPdf**	21 19 10.5	-0.9	
DBIC				PKPab	**PKPab**	21 20 10.7	+0.7	
TOA0	**Torodi Ar. Sit**	**171.77**	**186**	PKPab	**PKPab**	21 20 42.1	-0.4	
TORD	**Torodi Ar. Bea**	**171.77**	**186**	PKP	**PKPdf**	21 19 15.1	-1.2	
	comp=Z,2.3nm,0.8s,baz=242,slow=3.1							
TORD				PKPab	**PKPab**	21 20 41.9	-0.6	
	comp=Z,4.3nm,0.8s,baz=175,slow=3.9,SNR=16							
TORD	**Torodi Ar. Bea**	**171.77**	**186**		**PKPab**	21 20 42.4	-0.1	

*MAN **11** 21:23:27.1,6.06N×126.80E,h105km,MS3.6*
*IDC **11** 21:23:28.1±2.4,6.08N×126.93E,h81km±19km,mb3.3/4, mb1 3.6/5,mb1mx3.2/37,mbtmp3.8/5, Error ellipse: s-maj=59.5km s-min=12.2km az=54.0*

ISC 11 21:23:28.3±1.0,5.99N±0.07×126.79E±0.08,h79km±13km, n13,σ1§61/21,mb3.5/4,2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.08**	**276**	*eP*	**Pn**	21 23 48.4	+0.2
DDMP				*eS*	**Sn**	21 24 02.8	-0.4
MATI	**Mati**	**1.09**	**331**	*eP*	**Pn**	21 23 47.4	-0.9
MATI				*eS*	**Sn**	21 24 04.5	+1.2
DAV	**Davao City (W)**	**1.61**	**312**	P	**Pn**	21 23 55.2	+0.1
	200nm,0.3s,baz=206,slow=4.4,SNR=10						
DAV				S	**Sn**	21 24 16.7	+1.4
	75nm,0.3s,baz=259,slow=23,SNR=20						
KCP	**Kidapawan**	**1.97**	**301**	⇑*i*P	**Pn**	21 24 00.6	+0.7
KCP				*i* S	**Sn**	21 24 25.8	+2.0
BIP	**Bislig**	**2.28**	**346**	⇑*i*P	**Pn**	21 24 02.8	-1.2
BIP				*i* S	**Sn**	21 24 30.2	-1.0
SKMP	**Bagumbayan, Su**	**2.30**	**283**	*eP*	**Pn**	21 24 03.6	-0.5
SKMP				*eS*	**Sn**	21 24 26.7	-4.8
BUKP	**Musuan**	**2.54**	**318**	*eP*	**Pn**	21 24 08.8	+1.3
BUKP				*eS*	**Sn**	21 24 36.9	-0.6
PAGZ	**Pagadian**	**3.85**	**299**	*eP*	**Pn**	21 24 25.0	-0.2
SIJI	**Sorong**	**8.15**	**147**	P	**Pn**	21 25 25.3	+1.4
	2.2nm,0.3s,baz=158,slow=22,SNR=1.8						
SIJI				S	**Sn**	21 26 52.7	-1.8
	2.7nm,0.3s,baz=117,slow=22,SNR=2.0						
FITZ	**Fitzroy Crossi**	**23.96**	**183**	P	**P**	21 28 36.2	+0.8
	3.5nm,0.8s,baz=1.4,slow=7.9,SNR=9.4						
WRA	**Warramunga Arr**	**26.82**	**164**	P	**P**	21 29 00.8	-0.5
	0.2nm,0.3s,baz=343,slow=9.8,SNR=10						
ASAR	**Alice Springs**	**30.29**	**167**	P	**P**	21 29 33.0	+0.9
	0.5nm,0.9s,baz=342,slow=7.3,SNR=4.6						
MKAR	**Makanchi Array**	**55.75**	**324**	P	**P**	21 32 56.4	-0.6
	0.7nm,0.7s,baz=132,slow=7.0,SNR=8.5						

*IDC **11** 21:40:39.0±0.8,27.70N×143.07E,h0km,mb4.0/14, mb1 4.2/18,mb1mx4.0/53,mbtmp4.1/18,ML3.6/4,MS2.8/1, Ms1 2.8/1,ms1mx2.3/38,Error ellipse: s-maj=21.8km s-min=13.6km az=103.0*
*JMA **11** 21:40:41.8,27.90N×143.00E,h45km±4km,M4.3*
*NIED **11** 21:40:41.8,27.90N×143.00E,h45km,MW3.8,Moment Tensor Solution. s1 Moment tensor: Scale 10¹⁴Nm; Mrr3.04; Mθθ2.13; Mϕϕ-5.17; Mrθ1.78; Mθϕ0.92; Mϕr4.20; Fault plane solution: M06.41000×10¹⁴ NP1:φs20.00000°, δ72.00000°,λ118.00000°. NP2:φs140.00000°,δ32.00000°, λ34.00000°.*
*NEIC **11** 21:40:43.2±1.3,27.74N±0.05×143.0E±0.1,h27km±4km, mb4.5/32 Error ellipse: s-maj=15.2km s-min=6.4km az=106.0*

ISC 11 21:40:42.7±0.7,27.83N±0.05×142.99E±0.08,h22km,n89, σ1§60/101,mb4.4/33,MS4.0/3,2C,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.02**	**225**	P	**Pb**	21 41 00.9	-0.8
CBIJ				*eS*	**Sn**	21 41 14.9	-0.4
JCJ	**Chichijima**	**1.02**	**225**	Pn	**Pb**	21 41 01.1	-0.6
	153nm,0.3s,baz=8.3,slow=3.4,SNR=61						
JCJ				Sn	**Sn**	21 41 15.3	0.0
	192nm,0.3s,baz=265,slow=23,SNR=8.8						
JCJ	**Chichijima**	**1.02**	**225**		**Pb**	21 41 01.0	-0.6
JCJ				Sn	**Sb**	21 41 13.6	-1.1
JHH2	**Haha-jima-NKT2**	**1.39**	**212**	*eS*	**Sn**	21 41 24.3	-0.2
JHJ2	**Mitsune**	**5.94**	**333**	Pn	**Pn**	21 42 09.8	+0.6
JHJ2				Sn	**Sn**	21 43 16.0	-0.6
JHJ	**Hachijo jima 2**	**5.96**	**333**	Pn	**Pn**	21 42 10.9	+1.3
	9.4nm,0.3s,baz=69,slow=21,SNR=1.4						
JHJ				Sn	**Sn**	21 43 16.5	-0.6
	7.6nm,0.3s,baz=214,slow=19,SNR=1.8						
BSO1	**Boso 1**	**7.02**	**346**	P	**Pn**	21 42 23.5	-0.1
BSO1				*eS*	**Sn**	21 43 40.0	-2.5
BSO3	**Boso 3**	**7.27**	**344**	P	**Pn**	21 42 27.7	+0.4
BSO3				*eS*	**Sn**	21 43 48.7	-0.3
BSO4	**Boso 4**	**7.49**	**343**	*eS*	**Sn**	21 43 52.8	-1.9
JHU	**Hanno**	**8.60**	**339**	P	**Pn**	21 42 45.3	-0.5
JHU				*eS*	**Sn**	21 44 18.9	-3.2
JHO	**Hitachi**	**8.99**	**347**	P	**Pn**	21 42 49.9	-1.3
JHO				*eS*	**Sn**	21 44 25.2	-6.6
JAG	**Ashikaga**	**9.08**	**342**	P	**Pn**	21 42 52.2	-0.2
JAG				*eS*	**Sn**	21 44 29.2	-4.8
MJAR	**Matsushiro Arr**	**9.59**	**336**	Pn	**Pn**	21 42 59.9	+0.5
	0.5nm,0.3s,baz=167,slow=12,SNR=19						
MJAR				Sn	**Sn**	21 44 46.1	-0.3
	0.1nm,0.3s,baz=37,slow=18,SNR=2.0						
MJAR	**Matsushiro Arr**	**9.59**	**336**	Pn	**Pn**	21 42 59.0	-0.3
MAJO	**Matsushiro**	**9.59**	**336**	Pn	**Pn**	21 43 00.6	+1.2
MAT	**Matsushiro**	**9.59**	**336**	P	**Pn**	21 43 00.3	+0.9
MAT				*eS*	**Sn**	21 44 49.4	+3.0
MJB9	**Matsu-Tunnel**	**9.59**	**336**		**Pn**	21 43 00.4	+0.9
JNU	**Nakatsue**	**11.70**	**300**	Pn	**Pn**	21 43 31.1	+2.8
KSRS	**Korea Array**	**15.89**	**311**	Pn	**Pn**	21 44 26.3	+1.3
	0.5nm,0.3s,baz=120,slow=12,SNR=12						
KSRS				LR	LR	21 50 37.2	
	comp=Z,31nm,19.1s,baz=165,slow=37						
KSAR	**Wonju Array Be**	**15.91**	**311**	Pn	**P**	21 44 27.4	-1.3
JKA	**Kamikawa-asahi**	**16.26**	**359**	Pn	**Pn**	21 44 29.6	0.0
JKA				IAmb	IAmb	21 44 38.4	
	comp=Z,44nm,1.3s						
USA0B	**Ussuriysk Arra**	**18.57**	**334**	P	**Pn**	21 45 00.4	+2.0
USRK	**Ussuriysk Ar.**	**18.57**	**334**	P	**P**	21 44 58.1	0.0
	baz=146,slow=12,SNR=13						
USRK	**Ussuriysk Ar.**	**18.57**	**334**		**Pn**	21 45 00.1	+1.7
YHNB	**Yeheng**	**19.64**	**266**	P	**P**	21 45 10.3	+0.3
YHNB				IAmb	IAmb	21 45 13.3	
	comp=Z,12nm,0.7s						
YULB	**Yu-li**	**20.05**	**262**	P	**P**	21 45 14.9	+0.5
YULB				IAmb	IAmb	21 45 22.3	
	comp=Z,11nm,0.7s						
SSLB	**Suanglung**	**20.24**	**264**	P	**P**	21 45 17.2	+0.7
SSLB				IAmb	IAmb	21 45 22.1	
	comp=Z,11nm,0.6s						
CN2	**Changchun**	**21.30**	**323**	*eP*	**P**	21 45 31.0	+3.3
NJ2	**Nanjing**	**21.32**	**287**	*eP*	**P**	21 45 29.5	+1.4
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KLR	**Kul'dur**	**23.06**	**341**	P	**P**	21 45 47.7	+1.2
	comp=Z,0.8nm,0.4s,baz=108,slow=8.3,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**23.29**	**105**	T	T	22 09 53.9	
	baz=297,slow=74,SNR=6.3						
H11N1	**WAKE ISLAND Hy**	**23.29**	**105**	T	T	22 09 52.7	
	baz=297,slow=74,SNR=3.4						
H11N3	**WAKE ISLAND Hy**	**23.30**	**105**	T	T	22 09 53.3	
	baz=297,slow=74,SNR=5.6						
HHC	**Hu-ho-hao-te**	**28.85**	**305**	*eP*	**P**	21 46 39.8	+0.1
HHC				pmax	pmax		
	comp=Z,22nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,4.3s						
HHC				LR	LR		
	comp=N,240nm,8.8s						
HHC				LR	LR		
	comp=E,270nm,10.7s						
HHC				LR	LR		
	comp=Z,150nm,12.5s						
ENH	**Enshi**	**29.33**	**283**	P	**P**	21 46 43.3	-0.7
ENH				IAmb	IAmb	21 46 45.3	
	comp=Z,5.8nm,0.8s						
XAN	**Xi'an**	**29.78**	**291**	P	**P**	21 46 47.4	-0.5
XAN				IAmb	IAmb	21 46 48.2	
	comp=Z,4.2nm,0.6s						
LZH	**Lanzhou**	**34.04**	**294**	*eP*	**P**	21 47 27.4	+2.0
LZH				*pP*	*sP*	21 47 33.4	+0.5
LZH				*sP*	*pwP*	21 47 37.6	+1.3
LZH				PP	**PnPn**	21 48 32.0	-6.9
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,150nm,4.9s						
LZH				LR	LR		
	comp=N,260nm,13.1s						
LZH				LR	LR		
	comp=E,270nm,13.3s						
LZH				LR	LR		
	comp=Z,360nm,16.5s						
CD2	**Chengdu**	**34.21**	**285**	P	**P**	21 47 26.4	-0.4
CD2				pmax	pmax		
	comp=Z,40nm,0.6s						
ULN	**Ulaanbaatar**	**34.30**	**315**	P	**P**	21 47 27.5	0.0
SONM	**Songino Array**	**34.69**	**315**	P	**P**	21 47 30.3	-0.5
	comp=Z,0.7nm,0.4s,baz=121,slow=8.5,SNR=6.4						
SONM	**Songino Array**	**34.69**	**315**	P	**P**	21 47 31.0	+0.1
KMI	**Kunming**	**36.02**	**275**	⇑P	**P**	21 47 42.1	-0.6
KMI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GTA	**Gaotai**	**37.44**	**299**	⇑P	**P**	21 47 54.7	+0.2
GTA				pP	sP	21 48 03.0	+0.9
GTA				sP	pwP	21 48 07.3	+2.0
GTA				sS	sS	21 53 58.5	+6.9
GTA				SS	**SnSn**	21 56 16.9	-2.7
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,91nm,7.8s						
GTA				LR	LR		
	comp=N,58nm,20.6s						
GTA				LR	LR		
	comp=E,140nm,15.9s						
GTA				LR	LR		
	comp=Z,100nm,17.1s						
MTN	**Manton Dam**	**42.03**	**197**	P	**P**	21 48 31.9	-0.8
KNRA	**Kununurra**	**45.39**	**199**	P	**P**	21 48 58.9	-0.8
JAGI	**Jajag, Banyuwa**	**45.61**	**222**	P	**P**	21 49 00.2	-1.4
WMQ	**Urumqi**	**46.73**	**305**	*eP*	**P**	21 49 11.9	+1.7
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WB0	**Warramunga Arr**	**48.04**	**191**	P	**P**	21 49 19.4	-1.0
WB0				IAmb	IAmb	21 49 21.8	
	comp=Z,8.3nm,0.9s						
WR0	**Warramunga Arr**	**48.20**	**191**	P	**P**	21 49 20.7	-1.0
WR0				IAmb	IAmb	21 49 22.8	
	comp=Z,6.7nm,0.9s						
WB2	**Warramunga Arr**	**48.22**	**191**	P	**P**	21 49 21.0	-0.8
WRA	**Warramunga Arr**	**48.22**	**191**	P	**P**	21 49 20.9	-1.0
	comp=Z,11nm,1.0s,baz=12,slow=8.5,SNR=45						
WRA	**Warramunga Arr**	**48.22**	**191**	P	**P**	21 49 20.3	-1.5
FITZ	**Fitzroy Crossi**	**48.65**	**202**	P	**P**	21 49 24.1	-1.0
FITZ				IAmb	IAmb	21 49 25.8	
	comp=Z,7.0nm,1.1s						
ZAA0	**Zalesovo Array**	**49.41**	**319**	P	**P**	21 49 30.5	-0.1
ZAA0				IAmb	IAmb	21 49 32.7	
	comp=Z,2.4nm,0.7s						
ZALV	**Zalesovo Beam**	**49.41**	**319**	P	**P**	21 49 32.1	+1.4
	comp=Z,1.5nm,0.6s,baz=112,slow=9.3,SNR=8.3						
ZALV				PcP	**PcP**	21 50 53.1	+0.4
	comp=Z,0.8nm,0.4s,baz=117,slow=1.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**49.41**	**319**	P	**P**	21 49 31.2	+0.6
MK31	**Makanchi Array**	**50.57**	**309**	P	**P**	21 49 39.9	+0.3
MKAR	**Makanchi Array**	**50.57**	**309**	P	**P**	21 49 40.2	+0.6
	comp=Z,1.2nm,0.6s,baz=88,slow=7.9,SNR=17						
MKAR	**Makanchi Array**	**50.57**	**309**	P	**P**	21 49 39.9	+0.3
MAKZ	**Makanchi**	**50.78**	**309**	P	**P**	21 49 41.8	+0.6
AS31	**Alice Springs**	**51.94**	**191**	P	**P**	21 49 48.1	-1.9
ASAR	**Alice Springs**	**51.94**	**191**	P	**P**	21 49 48.2	-1.8
	comp=Z,0.9nm,0.5s,baz=7.3,slow=7.5,SNR=15						
ASAR	**Alice Springs**	**51.94**	**191**	P	**P**	21 49 48.4	-1.6
KURK	**Kurchatov**	**52.99**	**314**	P	**P**	21 49 58.3	+0.8
KURK				IAmb	IAmb	21 49 59.4	
	comp=Z,7.3nm,0.8s						
PSA00	**Pilbara Seismi**	**53.97**	**207**	P	**P**	21 50 04.1	-0.9
ILAR	**Eielson Array**	**56.73**	**29**	P	**P**	21 50 25.4	+1.0
	comp=Z,0.3nm,0.4s,baz=258,slow=6.2,SNR=4.2						
ILAR	**Eielson Array**	**56.73**	**29**	P	**P**	21 50 25.1	+0.7
BRVK	**Borovoye**	**58.05**	**317**	P	**P**	21 50 36.0	+2.0
BRVK				IAmb	IAmb	21 50 40.0	
	comp=Z,3.8nm,0.8s						
NIL	**Nilore**	**59.21**	**294**	P	**P**	21 50 42.2	-0.1
NIL				IAmb	IAmb	21 50 59.3	
	comp=Z,7.5nm,1.2s						
KK31	**Karatay Array**	**59.24**	**306**	P	**P**	21 50 43.3	+0.9
KK31				IAmb	IAmb	21 50 46.0	
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**59.24**	**306**	P	**P**	21 50 43.2	+0.7
KKAR				IAmb	IAmb	21 50 46.0	
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**59.24**	**306**	P	**P**	21 50 43.1	+0.7
KBL	**Kabul**	**62.34**	**296**	P	**P**	21 51 03.4	-0.5
KBL				IAmb	IAmb	21 51 21.9	
	comp=Z,3.6nm,1.1s						
ARU	**Arti**	**64.29**	**322**		**P**	21 51 16.5	+0.4
ABKAR	**Abkulak array**	**65.10**	**314**	P	**P**	21 51 22.2	+0.6
YKA	**Yellowknife Ar**	**71.16**	**29**	P	**P**	21 51 59.8	+0.4
	comp=Z,0.7nm,0.7s,baz=292,slow=5.7,SNR=4.3						
ARCES	**ARCESS Array B**	**73.09**	**341**	P	**P**	21 52 12.3	+1.6
	comp=Z,1.5nm,0.9s,baz=66,slow=9.0,SNR=4.4						
ARCES	**ARCESS Array B**	**73.09**	**341**	P	**P**	21 52 11.8	+1.0
FIA1	**FINESS Array S**	**77.61**	**334**	P	**P**	21 52 36.8	0.0
FINES	**FINESS Array B**	**77.61**	**334**	P	**P**	21 52 37.4	+0.5
	comp=Z,1.3nm,0.5s,baz=66,slow=5.9,SNR=14						
KBZ	**Khabaz**	**78.03**	**313**	P	**P**	21 52 39.7	+0.1
	comp=Z,1.9nm,0.7s,baz=74,slow=1.8,SNR=3.6						
AKASG	**Malin Array Be**	**82.45**	**324**	P	**P**	21 53 03.2	0.0
	comp=Z,0.4nm,0.2s,baz=54,slow=4.8,SNR=5.3						
BR131	**Keskin Array S**	**86.03**	**313**	P	**P**	21 53 23.5	+1.6

MJAR	**Matsushiro Arr**	**53.41**	**333**	P		**P**	**21 55 36.5**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=165,slow=8.3,SNR=4.7							
JNU	**Nakatsue**	**54.44**	**325**	P		**P**	**21 55 44.7**	**-0.2**
JNU				IAmb		IAmb	21 55 57.3	
	comp=Z,11nm,1.2s							
KSRS	**Korea Array**	**59.24**	**326**	P		**P**	**21 56 19.0**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=146,slow=7.2,SNR=7.4							
KSRS				LR		LR	22 20 44.0	
	comp=Z,18nm,19.1s,baz=215,slow=35							
USRK	**Ussuriysk Ar.**	**62.39**	**334**	P		**P**	**21 56 40.4**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=177,slow=6.8,SNR=5.2							
USRK	**Ussuriysk Ar.**	**62.39**	**334**	P		**P**	**21 56 39.9**	**-0.3**
PEA0B	**Petropavlovsk-**	**63.98**	**355**	P		**P**	**21 56 49.9**	**-0.6**
PETK	**Petropavlovsk-**	**63.98**	**355**	P		**P**	**21 56 50.6**	**+0.2**
	comp=Z,5.5nm,0.8s,baz=156,slow=9.2,SNR=14							
PETK				LR		LR	22 19 39.9	
	comp=Z,16nm,20.7s,baz=240,slow=31							
PETK	**Petropavlovsk-**	**63.98**	**355**	P		**P**	**21 56 50.2**	**-0.2**
KLR	**Kul'dur**	**66.54**	**337**	P		**P**	**21 57 07.6**	**+0.4**
	comp=Z,4.6nm,0.9s,baz=162,slow=5.0,SNR=6.5							
CMAR	**Chiang Mai Arr**	**71.29**	**294**	P		**P**	**21 57 37.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=127,slow=5.7,SNR=2.1							
CMAR	**Chiang Mai Arr**	**71.29**	**294**	P		**P**	**21 57 36.7**	**-0.6**
ULN	**Ulaanbaatar**	**77.65**	**324**	P		**P**	**21 58 13.8**	**-0.1**
ULN				IAmb		IAmb	21 58 15.2	
	comp=Z,7.9nm,1.0s							
YAK	**Yakutsk**	**77.66**	**344**	P		**P**	**21 58 13.2**	**-0.2**
SONM	**Songino Array**	**78.02**	**324**	P		**P**	**21 58 16.2**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=147,slow=7.3,SNR=12							
SONM	**Songino Array**	**78.02**	**324**	P		**P**	**21 58 15.4**	**-0.5**
QSPA	**South Pole Qui**	**79.18**	**180**	P		**P**	**21 58 22.5**	**+0.4**
QSPA				IAmb		IAmb	21 58 23.9	
	comp=Z,5.7nm,1.0s							
IMAR	**Indian Mountai**	**82.43**	**16**	P		**P**	**21 58 39.1**	**-0.1**
HDA	**Harding Lake**	**83.30**	**19**	P		**P**	**21 58 43.3**	**-0.4**
HDA				IAmb		IAmb	21 58 44.8	
	comp=Z,8.0nm,0.9s							
ILAR	**Eielson Array**	**83.56**	**19**	P		**P**	**21 58 44.5**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=234,slow=5.9,SNR=12							
ILAR				LR		LR	22 30 17.9	
	comp=Z,34nm,21.1s,baz=242,slow=32							
ILAR	**Eielson Array**	**83.56**	**19**	P		**P**	**21 58 44.6**	**-0.4**
BCAR	**Beaver Creek A**	**84.18**	**22**	P		**P**	**21 58 48.7**	**+0.4**
YBH	**Yreka Blue Hor**	**84.31**	**46**	P		**P**	**21 58 48.9**	**-0.7**
	comp=Z,4.3nm,0.9s,baz=227,slow=2.3,SNR=6.8							
YBH	**Yreka Blue Hor**	**84.31**	**46**	P		**P**	**21 58 49.9**	**+0.3**
YBH				IAmb		IAmb	21 58 50.7	
	comp=Z,3.8nm,0.8s							
EGAK	**Eagle**	**85.45**	**20**	P		**P**	**21 58 55.2**	**+0.6**
EGAK				IAmb		IAmb	21 58 55.7	
	comp=Z,6.6nm,1.0s							
K05A	**Summer Lake**	**85.92**	**45**	P		**P**	**21 58 57.8**	**+0.1**
K05A				IAmb		IAmb	21 59 01.8	
	comp=Z,12nm,1.2s							
NVAR	**Mina Array Bea**	**86.50**	**50**	P		**P**	**21 59 00.5**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=229,slow=8.4,SNR=7.0							
NVAR	**Mina Array Bea**	**86.50**	**50**	P		**P**	**21 59 00.2**	**-0.5**
NV11	**Mina Array Sit**	**86.61**	**50**	P		**P**	**21 59 00.9**	**-0.3**
WVOR	**Wild Horse Val**	**87.41**	**46**	IAmb		IAmb	21 59 06.9	
	comp=Z,5.6nm,1.3s							
PSUT	**Pine Spring**	**89.89**	**51**	P		**P**	**21 59 16.6**	**-0.3**
HLID	**Hailey**	**90.70**	**46**	P		**P**	**21 59 20.2**	**-0.2**
HLID				IAmb		IAmb	21 59 21.6	
	comp=Z,2.5nm,0.8s							
DLMT	**Dillon**	**92.39**	**44**	P		**P**	**21 59 27.9**	**-0.3**
MK31	**Makanchi Array**	**92.81**	**317**	P		**P**	**21 59 28.8**	**-1.2**
MK31				IAmb		IAmb	21 59 30.2	
	comp=Z,2.1nm,0.9s							
MKAR	**Makanchi Array**	**92.81**	**317**	P		**P**	**21 59 29.3**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=91,slow=6.7,SNR=18							
MKAR	**Makanchi Array**	**92.81**	**317**			**P**	**21 59 28.6**	**-1.4**
ZALV	**Zalesovo Beam**	**92.91**	**324**	P		**P**	**21 59 27.9**	**-2.3**
	comp=Z,0.4nm,0.4s,baz=99,slow=9.5,SNR=4.5							
ZALV	**Zalesovo Beam**	**92.91**	**324**	P		**P**	**21 59 28.1**	**-2.1**
MAKZ	**Makanchi**	**93.03**	**317**	P		**P**	**21 59 29.4**	**-1.6**
MAKZ				IAmb		IAmb	21 59 31.2	
	comp=Z,3.1nm,1.1s							
PDAR	**Pinedale Array**	**93.99**	**47**	P		**P**	**21 59 34.9**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=279,slow=1.7,SNR=4.6							
PDAR	**Pinedale Array**	**93.99**	**47**	P		**P**	**21 59 34.4**	**-1.4**
YKA	**Yellowknife Ar**	**95.15**	**27**	LR		LR	22 38 16.8	
	comp=Z,24nm,19.1s,baz=0.0,slow=33							
NRIK	**Noril'sk**	**95.64**	**340**	LR		LR	22 43 17.9	
	comp=Z,23nm,19.5s,baz=170,slow=36							
GERES	**GERESS Array B**	**135.15**	**333**	PKP		**PKPdf**	**22 05 37.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=35,slow=3.6,SNR=4.1							
ESDC	**Sonseca Array**	**149.62**	**343**	PKPbc		**PKPbc**	**22 06 06.5**	**-0.8**
	comp=Z,0.9nm,1.0s,baz=8.5,slow=3.0,SNR=5.3							

*SJA **11** 22:13:02.3±0.4, 36°.39S×72°.86W, h33km, ML4.0, MW4.1*
*NEIC **11** 22:13:07.9±2.0, 36°.38S±0°.01×72°.30W±0°.05, h50km±5km, mb4.3/14, ML4.4(GUC), Error ellipse: s-maj=5.4km s-min=1.9km az=79.0*
*GUC **11** 22:13:07.5±0.5, 36°.44S×72°.26W, h72km±4km, ML4.5*
*IDC **11** 22:13:11.4±3.4, 36°.43S×72°.27W, h77km±30km, mb3.6/9, mb1 3.8/11, mb1mx3.8/23, mbtmp3.9/11, MS3.2/3, Ms1 3.2/3, ms1mx2.9/23, Error ellipse: s-maj=29.1km s-min=19.6km az=89.0*

ISC 11 22:13:08.4±0.9, 36°.37S±0°.03×72°.37W±0°.04, h55km±8km, n90, σ1°39/110, mb4.3/12, 9C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BI03	**Tigo**	**0.71**	**228**	⇑*i*	P	**Pn**	**22 13 22.8**	**+0.3**
BI03				*e*	S	**Sn**	**22 13 33.9**	**+1.1**
BI03					IAML		22 13 36.5	
	comp=E,68μm,0.3s							
BI03	**Tigo**	**0.71**	**228**			**Pn**	**22 13 22.8**	**+0.3**
BI03					Sn	**Sn**	**22 13 33.5**	**+0.7**
BI02	**San Fabin de**	**0.93**	**109**	⇓*i*	P	**Pn**	**22 13 24.7**	**-0.8**
BI02				*i*	S	**Sn**	**22 13 36.2**	**-1.8**
BI02	**San Fabin de**	**0.93**	**109**			**Pn**	**22 13 24.6**	**-0.8**
BI02					Sn	**Sn**	**22 13 36.7**	**-1.3**
LAJA	**Laja**	**0.95**	**197**	⇑*i*	P	**Pn**	**22 13 26.3**	**+0.7**
LAJA				*i*	S	**Sn**	**22 13 39.5**	**+1.1**
GO05	**Huala**	**1.40**	**15**	⇑*i*	P	**Pn**	**22 13 32.0**	**+0.4**
GO05				*i*	S	**Sn**	**22 13 50.4**	**+1.3**
GO05	**Huala**	**1.40**	**15**			**Pn**	**22 13 31.7**	**+0.1**
GO05					Sn	**Sn**	**22 13 49.8**	**+0.7**
GO05	**Huala**	**1.40**	**15**	*i*	P	**Pn**	**22 13 32.0**	**+0.4**
GO05				*i*	S	**Sn**	**22 13 50.5**	**+1.4**
BO02	**Sierra Bellavi**	**2.04**	**40**	⇑*i*	P	**Pn**	**22 13 39.9**	**-0.4**
BO02				*i*	S	**Sn**	**22 14 04.0**	**-0.6**
BO02					IAML		22 14 13.3	
	comp=E,3μm,0.8s							
BO02	**Sierra Bellavi**	**2.04**	**40**			**Pn**	**22 13 40.1**	**-0.3**
BO01	**Tunca**	**2.23**	**28**	⇑*i*	P	**Pn**	**22 13 42.5**	**-0.4**
BO01				*i*	S	**Sn**	**22 14 08.7**	**-0.7**
BO01	**Tunca**	**2.23**	**28**			**Pn**	**22 13 42.6**	**-0.3**
EDS3	**Malargue**	**2.48**	**77**	*i*	P	**Pn**	**22 13 48.8**	**+2.3**
EDS3				*i*	S	**Sn**	**22 14 20.1**	**+4.4**
PUMA	**Malargue**	**2.52**	**71**	*i*	P	**Pn**	**22 13 49.1**	**+2.1**
LC01	**Cunco**	**2.56**	**171**	⇑*i*	P	**Pn**	**22 13 47.5**	**+0.1**
LC01				*i*	S	**Sn**	**22 14 14.2**	**-3.1**
LC01	**Cunco**	**2.56**	**171**		Pn	**Pn**	**22 13 47.7**	**+0.3**
LAMA	**Las Malvinas**	**2.94**	**62**	*i*	P	**Pn**	**22 13 54.4**	**+1.7**
LMEL	**Las Melosas**	**3.08**	**36**	⇑*i*	P	**Pn**	**22 13 55.2**	**+0.5**
LMEL				*i*	S	**Sn**	**22 14 29.5**	**-0.9**
LMEL					IAML		22 14 46.7	
	comp=N,503nm,0.2s							
MT03	**Universidad Ad**	**3.25**	**29**	⇑*e*	P	**Pn**	**22 13 56.4**	**-0.6**
MT03				*e*	S	**Sn**	**22 14 33.6**	**-0.8**
MT03					IAML		22 14 51.5	
	comp=N,752nm,0.7s							
MT05	**Renca**	**3.26**	**25**	*e*	P	**Pn**	**22 13 56.9**	**-0.2**
MT05				*e*	S	**Sn**	**22 14 33.9**	**-0.6**
MT05					IAML		22 15 03.2	
	comp=E,817nm,0.4s							
MT05	**Renca**	**3.26**	**25**				**22 13 57.0**	**-0.1**
MT02	**Curacav**	**3.26**	**18**	⇑*i*	P	**Pn**	**22 13 56.2**	**-0.8**
MT02				*e*	S	**Sn**	**22 14 34.1**	**-0.5**
MT02					IAML		22 14 53.2	
	comp=E,281nm,0.5s							
MT02	**Curacav**	**3.26**	**18**			**Pn**	**22 13 56.3**	**-0.8**
CLCH	**Cerro Calan**	**3.32**	**28**	*e*	P	**Pn**	**22 13 57.7**	**-0.3**
CLCH				*i*	S	**Sn**	**22 14 35.5**	**-0.8**
CLCH					IAML		22 14 57.1	
	comp=N,1μm,0.5s							
PEL	**Peldehue**	**3.50**	**24**	*e*	P	**Pn**	**22 14 00.5**	**+0.1**
PEL				*i*	S	**Sn**	**22 14 40.3**	**-0.3**
PEL					IAML		22 15 04.0	
	comp=E,823nm,0.7s							
PEL	**Peldehue**	**3.50**	**24**	Pn		**Pn**	**22 13 59.9**	**-0.5**
PEL	**Peldehue**	**3.50**	**24**	*i*	P	**Pn**	**22 14 00.3**	**0.0**
PEL				*i*	S	**Sn**	**22 14 49.2**	**+8.6**
ROC1	**El Roble**	**3.56**	**19**			**Pn**	**22 14 00.6**	**-0.8**
ROC1	**El Roble**	**3.56**	**19**	*i*	P	**Pn**	**22 14 01.1**	**-0.3**
ROC1				*i*	S	**Sn**	**22 14 42.2**	**-0.1**
ROCH	**El Roble**	**3.57**	**19**	⇓*i*	P	**Pn**	**22 14 01.1**	**-0.3**
ROCH				*i*	S	**Sn**	**22 14 42.1**	**-0.3**
ROCH					IAML		22 15 01.9	
	comp=E,803nm,0.5s							
VA03	**San Esteban**	**3.89**	**23**	*e*	P	**Pn**	**22 14 05.7**	**-0.1**
VA03				*e*	S	**Sn**	**22 14 50.7**	**+0.4**
VA03	**San Esteban**	**3.89**	**23**			**Pn**	**22 14 05.7**	**-0.1**
AAGR	**Agrelo**	**4.38**	**43**	*i*	P	**Pn**	**22 14 14.2**	**+1.7**
AAGR					IAML		22 15 44.7	
	comp=Z,68nm,1.0s							
ARCO	**CERRO ARCO**	**4.52**	**40**	*i*	P	**Pn**	**22 14 16.4**	**+2.0**
ARCO					IAML		22 15 38.4	
	comp=Z,58nm,1.3s							
PLCA	**Paso Flores**	**4.59**	**162**	P		**Pn**	**22 14 17.7**	**+2.4**
	comp=Z,2.8nm,0.3s,baz=327,slow=12,SNR=27							
PLCA					LR	LR	22 16 06.2	
	comp=Z,138nm,21.0s,baz=311,slow=39							
ASAL	**Salagasta**	**4.76**	**39**	*i*	P	**Pn**	**22 14 19.3**	**+1.6**
ASAL					IAML		22 15 46.6	
	comp=Z,55nm,1.1s							
AUSP	**Uspallata**	**4.81**	**32**	*i*	P	**Pn**	**22 14 19.8**	**+1.2**
RTLS	**Leoncito**	**5.22**	**30**	*i*	P	**Pn**	**22 14 25.4**	**+1.2**
RTLS					IAML		22 16 01.3	
	comp=Z,187nm,2.6s							
CO02	**Combarbal**	**5.27**	**13**			**Pn**	**22 14 24.1**	**-0.6**
RTCV	**Cerro Valdivia**	**5.50**	**36**	*i*	P	**Pn**	**22 14 27.9**	**+0.1**
RTCV					IAML		22 16 13.6	
	comp=Z,57nm,2.9s							
CO03	**El Pedregal**	**5.69**	**15**			**Pn**	**22 14 29.7**	**-0.7**
ZON	**Zonda**	**5.70**	**34**	Pn		**Pn**	**22 14 30.7**	**+0.1**
H03S1	**Juan Fernandez**	**5.92**	**293**	P		**Pn**	**22 14 33.7**	**+0.5**
	baz=78,slow=13,SNR=36							
H03S1					T	T	22 20 15.3	
	baz=113,slow=76,SNR=534							
H03S3	**Juan Fernandez**	**5.93**	**293**	P		**Pn**	**22 14 34.7**	**+1.3**
	baz=78,slow=13,SNR=26							
H03S3					T	T	22 20 16.6	
	baz=113,slow=76,SNR=842							
H03S2	**Juan Fernandez**	**5.94**	**293**	P		**Pn**	**22 14 32.4**	**-1.0**
	baz=78,slow=13,SNR=39							
H03S2					T	T	22 20 15.5	
	baz=113,slow=76,SNR=629							
VA04	**Juan Fernndez**	**5.96**	**295**	Pn		**Pn**	**22 14 34.2**	**+0.2**
RTLL	**Cerro Villicun**	**5.98**	**34**	*i*	P	**Pn**	**22 14 34.1**	**-0.3**
RTLL					IAML		22 15 59.7	
	comp=Z,49nm,0.6s							
LL01	**San Ignacio de**	**6.01**	**180**	Pn		**Pn**	**22 14 33.8**	**-0.8**
H03N1	**Juan Fernandez**	**6.11**	**297**	P		**Pn**	**22 14 36.5**	**+0.6**
	baz=273,slow=74,SNR=60							
H03N3	**Juan Fernandez**	**6.12**	**296**	P		**Pn**	**22 14 36.5**	**+0.5**
	baz=116,slow=74,SNR=33							
H03N2	**Juan Fernandez**	**6.13**	**297**	P		**Pn**	**22 14 36.5**	**+0.4**
GO04	**Tololo Observa**	**6.31**	**12**	Pn		**Pn**	**22 14 38.7**	**-0.5**
ACCO	**Cerro Coronel**	**6.39**	**27**	*i*	P	**Pn**	**22 14 39.8**	**-0.5**
ACCO				*i*	S	Sn	22 16 03.5	+12
ACCO					IAML		22 16 14.9	
	comp=Z,70nm,0.9s							
CO01	**Juntas del Tor**	**6.65**	**17**			**Pn**	**22 14 42.6**	**-1.1**
MRA	**San Martin**	**6.76**	**56**	*i*	P	**Pn**	**22 14 46.8**	**+1.7**
MRA					IAML		22 16 49.0	
	comp=Z,9.2nm,0.7s							
LCO	**Las Campanas**	**7.47**	**11**	Pn		**Pn**	**22 14 52.9**	**-2.0**
AC05	**El Transito**	**7.71**	**14**	Pn		**Pn**	**22 14 56.5**	**-1.7**
AC02	**Maricunga**	**9.89**	**17**	Pn		**Pn**	**22 15 27.5**	**-0.8**
AC01	**Pan de Azucar**	**10.30**	**9**	Pn		**Pn**	**22 15 31.8**	**-1.7**
CPUP	**Villa Florida**	**16.27**	**56**	P		**P**	**22 16 55.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=244,slow=8.3,SNR=3.6							
CPUP					LR	LR	22 23 47.2	
	comp=Z,100nm,21.9s,baz=242,slow=39							
CPUP	**Villa Florida**	**16.27**	**56**	P		**Pn**	**22 16 53.5**	**+0.3**
EFI	**East Falkland**	**18.39**	**151**			**Pn**	**22 17 19.2**	**0.0**
LPAZ	**La Paz**	**20.35**	**12**	P		Pn	22 17 43.0	-0.4
	comp=Z,2.2nm,0.7s,baz=201,slow=5.9,SNR=2.5							
LPAZ	**La Paz**	**20.35**	**12**	P		Pn	22 17 42.5	-0.9
LPAZ					IAmb	IAmb	22 17 57.5	
	comp=Z,4.9nm,0.8s							
PMSA	**Palmer Station**	**28.88**	**173**	P		**P**	**22 18 59.0**	**-2.5**
BDFB	**Brasilia**	**29.93**	**53**	P		**P**	**22 19 10.2**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=193,slow=11,SNR=2.1							
BDFB					LR	LR	22 32 22.2	
	comp=Z,74nm,18.2s,baz=280,slow=38							
BDFB	**Brasilia**	**29.93**	**53**	P		**P**	**22 19 09.3**	**-2.2**
BDFB					IAmb	IAmb	22 19 16.4	
	comp=Z,8.4nm,1.2s							
PAYG	**Puerto Ayora**	**39.21**	**331**	P		**P**	**22 20 30.2**	**-1.1**
VNA3	**Neumayer Olymp**	**47.28**	**157**	P		**P**	**22 21 37.4**	**+1.5**
SNAA	**Sanae**	**49.51**	**157**	P		**P**	**22 21 53.5**	**+0.5**
SNAA	**Sanae**	**49.51**	**157**	P		**P**	**22 21 53.3**	**+0.2**
SNAA					IAmb	IAmb	22 21 55.1	
	comp=Z,4.0nm,0.9s							
QSPA	**South Pole Qui**	**53.88**	**180**	P		**P**	**22 22 26.9**	**+1.1**
QSPA					IAmb	IAmb	22 22 28.5	
	comp=Z,4.8nm,1.1s							
VNDA	**Vanda**	**61.73**	**192**	P		**P**	**22 23 19.1**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=336,slow=12,SNR=1.8							
VNDA	**Vanda**	**61.73**	**192**	P		**P**	**22 23 21.8**	**+1.3**
VNDA					IAmb	IAmb	22 23 25.5	
	comp=Z,2.1nm,1.3s							
MAW	**Mawson**	**71.00**	**163**	P		**P**	**22 24 20.5**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=224,slow=12,SNR=4.1							
MAW	**Mawson**	**71.00**	**163**	P		**P**	**22 24 19.9**	**+0.2**
TX32	**Lajitas Array**	**71.67**	**331**	P		**P**	**22 24 24.0**	**-0.4**
TXAR	**Lajitas Array**	**71.67**	**331**	P		**P**	**22 24 25.3**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=167,slow=14,SNR=5.9							
TXAR	**Lajitas Array**	**71.67**	**331**	P		**P**	**22 24 23.9**	**-0.5**
LIC	**Lamto**	**75.79**	**71**	*e*	P	**P**	**22 24 48.6**	**-0.2**
	comp=Z,17nm,0.8s							
TIC	**Toumodi**	**76.06**	**71**	*e*	P	**P**	**22 24 50.2**	**-0.2**
KIC	**Kosan Boka**	**76.09**	**71**	*e*	P	**P**	**22 24 50.7**	**+0.2**
	comp=Z,13nm,0.7s							
DBIC	**Dimbokro**	**76.20**	**71**	P		**P**	**22 24 51.4**	**+0.2**
	comp=Z,3.4nm,0.6s,baz=184,slow=6.3,SNR=7.5							
DBIC	**Dimbokro**	**76.20**	**71**	P		**P**	**22 24 50.6**	**-0.5**
DBIC					IAmb	IAmb	22 24 51.8	
	comp=Z,4.9nm,0.8s							
BOSA	**Boshof**	**79.22**	**117**	P		**P**	**22 25 08.2**	**+0.2**
	comp=Z,3.7nm,0.8s,baz=216,slow=5.6,SNR=6.1							
BOSA	**Boshof**	**79.22**	**117**	P		**P**	**22 25 06.8**	**-1.2**
BOSA					IAmb	IAmb	22 25 09.1	
	comp=Z,5.6nm,0.9s							
NVAR	**Mina Array Bea**	**85.67**	**326**	P		**P**	**22 25 43.4**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=144,slow=7.7,SNR=1.9							
PDAR	**Pinedale Array**	**85.75**	**333**	P		**P**	**22 25 41.8**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=123,slow=3.3,SNR=2.4							
BVAR	**Borovoye Array**	**149.16**	**45**	PKPbc		**PKPbc**	**22 32 50.4**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=264,slow=4.2,SNR=7.0							
MKAR	**Makanchi Array**	**158.46**	**53**	PKPab		**PKPab**	**22 33 34.5**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=321,slow=2.0,SNR=3.6							

*ISK **11** 22:18:42.8, 40°.39N×25°.87E, h7km, ML2.7/16*
*ATH **11** 22:18:42.6, 40°.37N×25°.76E, h2km±6km, ML2.3/6, Error ellipse: s-maj=6.5km s-min=1.1km az=281.0*
*DDA **11** 22:18:43.5, 40°.31N×25°.98E, h6km±5km, ML2.8*
*THE **11** 22:18:43.0, 40°.38N×25°.87E, h1km±1km, ML2.2/7, Error ellipse: s-maj=1.5km s-min=0.6km az=327.0*

ISC 11 22:18:42.8±0.8, 40°.37N±0°.02×25°.86E±0°.02, h14km±6km, n54, σ1°06/78, 1C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GADA	**Gvkgeada**	**0.18**	**170**	P		**Pg**	**22 18 47.5**	**+0.4**
GADA				S		**Sg**	**22 18 50.4**	**+0.6**
GADA	**Gvkgeada**	**0.18**	**170**	PG		**Pg**	**22 18 47.4**	**+0.4**
GADA				SG		**Sg**	**22 18 50.6**	**+0.8**
GOKA	**anakkale-Gk**	**0.18**	**168**	*i*	P	**Pg**	**22 18 45.5**	**-1.5**
GOKA				*i*	S	**Sg**	**22 18 49.8**	**-0.1**
GOKA					IAML		22 18 51.0	
	comp=N,11μm,0.5s							
SMTH	**Samothraki Isl**	**0.27**	**293**	P		**Pg**	**22 18 48.2**	**-0.4**
SMTH				S		**Sg**	**22 18 53.1**	**+0.6**
	comp=N,595nm,0.1s							
SMTH	**Samothraki Isl**	**0.27**	**293**	P		**Pg**	**22 18 47.8**	**-0.8**
SMTH				S		**Sg**	**22 18 52.5**	**-0.1**
SMTH					AML	AML	22 18 53.7	
	comp=E,916μm,0.1s							
SMTH					AML	AML	22 18 54.3	
	comp=N,1542μm,0.3s							
ENEZ	**Enez**	**0.43**	**31**	P		**Pg**	**22 18 51.6**	**+0.2**
ENEZ				S		**Sb**	**22 18 57.9**	**-0.6**
ENEZ	**Enez**	**0.43**	**31**	PG		**Pg**	**22 18 51.3**	**-0.1**
ENEZ				SG		**Sb**	**22 18 58.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.47**	**86**	PG		**Pg**	**22 18 52.4**	**+0.3**
GELI				SG		**Sb**	**22 18 59.2**	**-0.4**
BOZC	**Bozcaada**	**0.54**	**164**	PG		**Pg**	**22 18 53.9**	**+0.4**
BOZC	**Bozcaada**	**0.54**	**164**	*i*	P	**Pg**	**22 18 53.6**	**+0.1**
BOZC				*i*	S	**Sg**	**22 18 59.8**	**-1.0**
BOZC					IAML		22 19 01.0	
	comp=E,310nm,0.5s							
ALN	**Alexandroupoli**	**0.55**	**15**	P		**Pg**	**22 18 53.5**	**-0.1**
ALN				S		**Sg**	**22 19 00.6**	**-0.3**
	comp=E,178nm,0.4s							
ALN	**Alexandroupoli**	**0.55**	**15**	P		**Pg**	**22 18 53.5**	**-0.1**
ALN				S		**Sg**	**22 19 00.6**	**-0.3**
ALN					AML	AML	22 19 01.4	
	comp=N,298μm,0.6s							
ALN					AML	AML	22 19 02.1	
	comp=E,411μm,0.3s							
ALN	**Alexandroupoli**	**0.55**	**15**	PG		**Pg**	**22 18 53.5**	**-0.1**
ALN				SG		**Sg**	**22 19 01.3**	**+0.4**
EZN	**Ezine**	**0.65**	**146**	P		**Pg**	**22 18 55.4**	**0.0**
EZN				S		**Sg**	**22 19 04.3**	**+0.3**
	comp=E,90nm,0.2s							
EZN	**Ezine**	**0.65**	**146**	PG		**Pg**	**22 18 55.4**	**0.0**
LIA	**Limnos Island**	**0.70**	**228**	P		**Pg**	**22 18 56.7**	**+0.3**
LIA				S		**Sb**	**22 19 07.5**	**+1.3**
	comp=E,175nm,0.5s							
LIA	**Limnos Island**	**0.70**	**228**	P		**Pg**	**22 18 54.8**	**-1.6**
LIA				S		**Sg**	**22 19 04.2**	**-1.4**
LIA					AML	AML	22 19 12.1	
	comp=N,502μm,0.4s							
LIA					AML	AML	22 19 12.9	
	comp=E,268μm,0.4s							
KESN	**Edirne-Kesan**	**0.78**	**53**	*i*	P	**Pb**	**22 18 59.0**	**+0.7**
KESN				*i*	S	**Sg**	**22 19 07.2**	**-1.0**
KESN					IAML		22 19 11.0	
	comp=N,392nm,0.4s							
KESN					IAML		22 19 11.0	
	comp=E,443nm,0.3s							
BAYC	**CANAKKALE_Bayr**	**0.82**	**140**	*i*	P	**Pg**	**22 18 58.4**	**-0.2**
BAYC				*i*	S	**Sg**	**22 19 07.6**	**-1.7**
RDO	**Rodhopi**	**0.82**	**343**	P		**Pg**	**22 18 58.2**	**-0.5**
RDO				S		**Sb**	**22 19 09.8**	**+0.2**
	comp=E,245nm,0.2s							
RDO	**Rodhopi**	**0.82**	**343**	P		**Pg**	**22 18 58.2**	**-0.5**
RDO				S		**Sb**	**22 19 09.8**	**+0.2**
RDO					AML	AML	22 19 14.5	
	comp=E,565μm,0.2s							
RDO					AML	AML	22 19 16.1	
	comp=N,406μm,0.2s							
RDO	**Rodhopi**	**0.82**	**343**	PG		**Pg**	**22 18 58.8**	**+0.1**
UKOP	**Uzunkopru-Edir**	**0.96**	**37**	PG		**Pg**	**22 19 01.2**	**-0.2**
MAR6	**Marsite Statio**	**1.12**	**72**	PN		**Pg**	**22 19 04.5**	**0.0**
SIGR	**SIGRI**	**1.15**	**180**	P		**Pb**	**22 19 04.8**	**+0.3**
SIGR				S		**Sb**	**22 19 20.2**	**+0.9**
	comp=N,428nm,0.5s							
SIGR	**SIGRI**	**1.15**	**180**	P		**Pb**	**

baz=188,slow=76,SNR=69
H11N2 WAKE ISLAND Hy 30.75 9 T T 22 59 02.3
baz=188,slow=76,SNR=33
FITZ Fitzroy Crossi 35.80 254 P **P** **22 27 38.6 -0.8**
KSRS Korea Array 57.62 328 LR LR 22 53 22.0
comp=Z,22nm,19.7s,baz=45,slow=34
VNDA Vanda 66.70 180 P **P** **22 31 30.6 +0.7**
comp=Z,0.9nm,0.6s,baz=342,slow=6.9,SNR=11
VNDA Vanda 66.70 180 P **P** **22 31 31.3 +1.4**
VNDA IAmb IAmb 22 31 45.5
comp=Z,4.3nm,1.4s
SONM Songino Array 76.28 325 P **P** **22 32 27.9 -0.3**
comp=Z,0.3nm,0.4s,baz=108,slow=7.7,SNR=2.2
QSPA South Pole Qui 79.19 180 P **P** **22 32 44.5 +0.3**
QSPA IAmb IAmb 22 32 53.5
comp=Z,5.1nm,1.4s

ATH ***11*** *22:22:15.0, 40˚.38N×25˚.93E, h30km±2km, ML2.7/4, Error ellipse: s-maj=3.6km s-min=1.3km az=311.0*
THE ***11*** *22:22:15.8, 40˚.37N×25˚.88E, h13km±1km, ML2.5/4, Error ellipse: s-maj=1.3km s-min=0.6km az=333.0*
DDA ***11*** *22:22:16.5, 40˚.33N×26˚.03E, h6km±2km, ML3.0*
ISC 11 22:22:15.6±0.8, 40˚.37N±0˚.02×25˚.92E±0˚.02, h18km±6km, n26, σ0§78/46, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOKA	**anakkale-Gk**	**0.18**	**183**	*i* P	**Pg**	**22 22 20.2**	**+0.1**
GOKA				IAML		22 22 23.0	
	comp=N,20μm,0.5s						
GADA	**Gvkgeada**	**0.18**	**185**	P	**Pg**	**22 22 20.1**	**0.0**
GADA				S	**Sg**	**22 22 23.0**	**-0.2**
SMTH	**Samothraki Isl**	**0.32**	**289**	P	**Pg**	**22 22 21.7**	**-0.7**
SMTH				S	**Sg**	**22 22 25.7**	**-1.3**
	comp=N,2μm,0.1s						
SMTH	**Samothraki Isl**	**0.32**	**289**	P	**Pg**	**22 22 22.3**	**0.0**
SMTH				S	**Sb**	**22 22 29.5**	**+2.0**
SMTH				AML	AML	22 22 31.6	
	comp=E,2405μm,0.1s						
SMTH				AML	AML	22 22 31.6	
	comp=N,3985μm,0.2s						
ENEZ	**Enez**	**0.41**	**26**	P	**Pg**	**22 22 24.0**	**0.0**
ENEZ				S	**Sb**	**22 22 31.0**	**+0.8**
BOZC	**Bozcaada**	**0.54**	**169**	*i* P	**Pg**	**22 22 26.3**	**+0.1**
BOZC				*i* S	**Sg**	**22 22 33.5**	**+0.1**
ALN	**Alexandroupoli**	**0.54**	**10**	P	**Pg**	**22 22 26.0**	**-0.3**
ALN				S	**Sg**	**22 22 33.3**	**-0.3**
	comp=N,295nm,0.5s						
ALN	**Alexandroupoli**	**0.54**	**10**	P	**Pg**	**22 22 26.0**	**-0.3**
ALN				S	**Sg**	**22 22 33.3**	**-0.3**
EZN	**Ezine**	**0.62**	**150**	P	**Pg**	**22 22 27.8**	**-0.1**
LIA	**Limnos Island**	**0.73**	**231**	P	**Pg**	**22 22 29.3**	**-0.7**
LIA				S	**Sg**	**22 22 40.0**	**+0.3**
	comp=N,370nm,0.3s						
LIA	**Limnos Island**	**0.73**	**231**	P	**Pg**	**22 22 29.3**	**-0.7**
LIA				S	**Sg**	**22 22 40.0**	**+0.3**
LIA				AML	AML	22 22 42.0	
	comp=N,954μm,0.5s						
LIA				AML	AML	22 22 46.1	
	comp=E,829μm,0.3s						
KESN	**Edirne-Kesan**	**0.74**	**51**	*i* P	**Pn**	**22 22 31.7**	**+0.2**
KESN				*i* S	**Sg**	**22 22 39.9**	**-0.1**
KESN				IAML		22 22 43.0	
	comp=N,622nm,0.4s						
KESN				IAML		22 22 44.0	
	comp=E,764nm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.79**	**142**	*i* P	**Pg**	**22 22 30.9**	**-0.1**
BAYC				*i* S	**Sg**	**22 22 40.9**	**-0.6**
RDO	**Rodhopi**	**0.83**	**340**	P	**Pg**	**22 22 31.3**	**-0.5**
THAS	**Thassos island**	**0.95**	**285**	P	**Pb**	**22 22 33.5**	**+0.1**
THAS	**Thassos island**	**0.95**	**285**	P	**Pb**	**22 22 33.5**	**+0.1**
EFSA	**Agios Efstrati**	**1.09**	**221**	P	**Pb**	**22 22 36.1**	**+0.2**
EFSA				S	**Sb**	**22 22 50.4**	**+0.6**
PRK	**Paraskevi**	**1.15**	**166**	P	**Pn**	**22 22 37.7**	**+0.9**
PRK				S	**Sg**	**22 22 53.0**	**0.0**
PRK	**Paraskevi**	**1.15**	**166**	P	**Pn**	**22 22 37.7**	**+0.9**
PRK				S	**Sg**	**22 22 53.0**	**0.0**
PRK				AML	AML	22 22 55.6	
	comp=N,474μm,0.2s						
PRK				AML	AML	22 22 56.8	
	comp=E,833μm,0.3s						
SIGR	**SIGRI**	**1.16**	**182**	P	**Pb**	**22 22 37.0**	**0.0**
SIGR				S	**Sb**	**22 22 52.2**	**+0.5**
	comp=E,780nm,0.5s						
SIGR	**SIGRI**	**1.16**	**182**	P	**Pb**	**22 22 37.0**	**0.0**
SIGR				S	**Sb**	**22 22 52.2**	**+0.5**
SIGR				AML	AML	22 22 55.0	
	comp=N,2238μm,0.5s						
SIGR				AML	AML	22 22 55.4	
	comp=E,805μm,0.4s						
AYVA	**Ayvalik**	**1.21**	**150**	*i* P	**Pn**	**22 22 38.2**	**+0.6**
AYVA				*i* S	**Sb**	**22 22 52.0**	**-1.3**
AYVA				IAML		22 22 57.0	
	comp=N,431nm,0.4s						
KNL	**Balıkesir**	**1.23**	**94**	*i* P	**Pn**	**22 22 38.4**	**+0.5**
KNL				*i* S	**Sb**	**22 22 54.5**	**+0.7**
KNL				IAML		22 22 59.0	
	comp=E,611nm,0.6s						
KNL				IAML		22 23 08.0	
	comp=N,365nm,0.6s						
BALY	**Balya**	**1.45**	**115**	*i* P	**Pb**	**22 22 42.6**	**+0.6**
BALY				*i* S	**Sn**	**22 22 59.3**	**-0.2**
BALY				IAML		22 23 04.0	
	comp=N,191nm,0.6s						
ZEDA	**zmir-Bergama**	**1.66**	**147**	*i* P	**Pn**	**22 22 44.9**	**+1.1**
ZEDA				*i* S	**Sn**	**22 23 01.5**	**-3.2**
STEP	**BALIKESIR_Sava**	**1.70**	**125**	*i* P	**Pb**	**22 22 46.3**	**-0.1**
STEP				IAML		22 23 22.0	
	comp=N,153nm,0.6s						

IDC ***11*** *22:23:05.0±1.7, 24˚.77N×123˚.42E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/44, mbtmp3.5/4, MS2.9/4, Ms1 2.9/4, ms1mx2.6/34, Error ellipse: s-maj=56.8km s-min=26.4km az=62.0*
JMA ***11*** *22:23:05.7±0.1, 24˚.91N×123˚.36E, h22km±4km, M3.3*
ISC 11 22:23:06.1±1.8, 24˚.87N±0˚.09×123˚.39E±0˚.04, h12km±12km, n19, σ0§64/24, mb3.4/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.53**	**221**	P	**Pg**	**22 23 16.4**	**-0.2**
YOJ				S	**Sg**	**22 23 23.5**	**-0.1**
JYNG	**Yonagunijimaku**	**0.58**	**224**	P	**Pg**	**22 23 17.2**	**-0.3**
JYNG				S	**Sg**	**22 23 25.4**	**+0.2**
IRIF	**Iriomote-Funau**	**0.61**	**150**	P	**Pg**	**22 23 18.3**	**+0.2**
IRIF				S	**Sg**	**22 23 27.2**	**+1.0**
JKRS	**Kuro-shima**	**0.84**	**138**	P	**Pb**	**22 23 22.2**	**-0.5**
JKRS				S	**Sg**	**22 23 34.4**	**+0.9**
JIJ	**Ishigaki jima**	**0.85**	**126**	P	**Pb**	**22 23 22.0**	**-0.8**
JIJ				S	**Sb**	**22 23 34.2**	**+0.1**
JISG	**Ishigakijimahi**	**0.88**	**108**	P	**Pb**	**22 23 22.5**	**-0.8**
JISG				S	**Sb**	**22 23 34.8**	**-0.2**
HATJ	**Hateruma jima**	**0.89**	**155**	P	**Pb**	**22 23 23.0**	**-0.5**
HATJ				S	**Sb**	**22 23 34.9**	**-0.4**
JTJ	**Tarama**	**1.21**	**101**	P	**Pn**	**22 23 28.3**	**-0.5**
JIRB	**Irabujima**	**1.62**	**91**	P	**Pn**	**22 23 34.2**	**-0.2**
JMJ2	**Miyako jima3**	**1.76**	**94**	P	**Pn**	**22 23 35.2**	**-1.2**
JMJ2				eS	**Sn**	**22 23 58.9**	**+0.1**
JOGS	**Gusukube**	**1.83**	**93**	P	**Pn**	**22 23 36.9**	**-0.5**
JOGS				eS	**Sn**	**22 24 00.2**	**-0.3**
KSRS	**Korea Array**	**13.13**	**16**	LR	LR	22 31 33.6	
	comp=Z,33nm,18.9s,baz=228,slow=38						
DAV	**Davao City (W)**	**17.82**	**173**	LR	LR	22 33 29.2	
	comp=Z,37nm,21.1s,baz=310,slow=35						
CMAR	**Chiang Mai Arr**	**23.58**	**259**	P	**P**	**22 28 17.7**	**+0.9**
	0.4nm,0.5s,baz=77,slow=8.4,SNR=2.1						
SONM	**Songino Array**	**26.58**	**334**	P	**P**	**22 28 45.2**	**+1.1**
	0.5nm,0.6s,baz=156,slow=7.4,SNR=5.3						
PETK	**Petropavlovsk-**	**38.18**	**33**	LR	LR	22 46 09.9	
	comp=Z,20nm,21.3s,baz=310,slow=36						
MA2	**Magadan**	**39.60**	**22**	LR	LR	22 48 14.7	
	comp=Z,34nm,18.6s,baz=119,slow=38						
WRA	**Warramunga Arr**	**45.80**	**166**	P	**P**	**22 31 27.9**	**0.0**
	1.4nm,0.8s,baz=348,slow=8.8,SNR=5.8						
ASAR	**Alice Springs**	**49.31**	**167**	P	**P**	**22 31 55.3**	**+0.1**
	0.2nm,0.5s,baz=348,slow=8.5,SNR=5.0						

MOS ***11*** *22:23:31.5±1.2, 40˚.41N×25˚.92E, h13km, mb4.1/5, Error ellipse: s-maj=6.4km s-min=3.4km az=92.7*

ATH ***11*** *22:23:31.4, 40˚.39N×25˚.88E, h27km±1km, ML3.5/10, Error ellipse: s-maj=1.9km s-min=0.9km az=35.0*
IDC ***11*** *22:23:31.5±1.1, 40˚.41N×25˚.94E, h0km, mb3.5/6, mb1 3.7/13, mb1mx3.5/53, mbtmp3.6/13, ML3.7/7, MS2.7/6, Ms1 2.7/6, ms1mx2.5/34, Error ellipse: s-maj=16.8km s-min=11.2km az=51.0*
ISK ***11*** *22:23:31.6, 40˚.37N×25˚.85E, h8km, ML4.0/22*
DDA ***11*** *22:23:32.8, 40˚.32N×26˚.02E, h9km±4km, MW4.1*
NEIC ***11*** *22:23:32.2±1.5, 40˚.36N±0˚.04×25˚.89E±0˚.02, h7km±7km, Error ellipse: s-maj=5.9km s-min=1.1km az=199.0*
THE ***11*** *22:23:32.4, 40˚.37N×25˚.89E, h9km, ML3.5/10, Error ellipse: s-maj=0.7km s-min=0.4km az=76.0*
ISC 11 22:23:32.5±0.7, 40˚.37N±0˚.02×25˚.89E±0˚.02, h16km±5km, n336, σ1§41/393, mb3.8/14, 31C-25D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.17**	**177**	P	**Pg**	**22 23 36.4**	**-0.5**
GADA				S	**Sg**	**22 23 39.1**	**-0.7**
	73μm,0.4s						
GADA	**Gvkgeada**	**0.17**	**177**	PG	**Pg**	**22 23 35.9**	**-1.0**
GADA				SG	**Sg**	**22 23 39.1**	**-0.7**
GOKA	**anakkale-Gk**	**0.18**	**175**	*i* P	**Pg**	**22 23 36.4**	**-0.4**
GOKA				*i* S	**Sg**	**22 23 39.7**	**-0.1**
GOKA				IAML		22 23 40.0	
	comp=E,14μm,0.5s						
SMTH	**Samothraki Isl**	**0.29**	**291**	P	**Pg**	**22 23 38.4**	**-0.4**
SMTH				S	**Sg**	**22 23 42.2**	**-0.9**
	comp=E,8μm,0.2s						
SMTH	**Samothraki Isl**	**0.29**	**291**	P	**Pg**	**22 23 38.4**	**-0.4**
SMTH				S	**Sg**	**22 23 42.6**	**-0.4**
SMTH				AML	AML	22 23 42.8	
	comp=N,16226μm,0.3s						
SMTH				AML	AML	22 23 42.9	
	comp=E,13606μm,0.1s						
ENEZ	**Enez**	**0.42**	**29**	P	**Pg**	**22 23 40.5**	**-0.6**
ENEZ				S	**Sg**	**22 23 46.7**	**-0.1**
ENEZ	**Enez**	**0.42**	**29**	PG	**Pg**	**22 23 40.4**	**-0.6**
GELI	**Tayfur-Gelibol**	**0.45**	**86**	PG	**Pg**	**22 23 41.3**	**-0.2**
GELI				SG	**Sg**	**22 23 48.4**	**+0.8**
BOZC	**Bozcaada**	**0.54**	**166**	PG	**Pb**	**22 23 42.7**	**-0.8**
BOZC				SG	**Sb**	**22 23 50.8**	**-0.2**
BOZC	**Bozcaada**	**0.54**	**166**	*i* P	**Pb**	**22 23 42.9**	**-0.6**
BOZC				*i* P	**Pg**	**22 23 43.0**	**-0.1**
BOZC				*i* S	**Sg**	**22 23 49.0**	**-1.4**
BOZC				*i* S	**Sb**	**22 23 49.3**	**-1.7**
BOZC				IAML		22 23 51.0	
	comp=N,4μm,0.7s						
BOZC				IAML		22 23 51.0	
	comp=E,8μm,0.5s						
BOZC				IAML		22 23 51.0	
	comp=N,4μm,0.7s						
BOZC				IAML		22 23 51.0	
	comp=E,7μm,0.5s						
ALN	**Alexandroupoli**	**0.54**	**13**	P	**Pg**	**22 23 42.4**	**-0.9**
ALN	**Alexandroupoli**	**0.54**	**13**	P	**Pg**	**22 23 42.7**	**-0.7**
ALN				S	**Sg**	**22 23 49.8**	**-0.8**
ALN				AML	AML	22 23 51.4	
	comp=E,7107μm,0.3s						
ALN				AML	AML	22 23 56.5	
	comp=N,8196μm,1.0s						
ALN	**Alexandroupoli**	**0.54**	**13**	PG	**Pg**	**22 23 42.4**	**-0.9**
ALN	**Alexandroupoli**	**0.54**	**13**	P	**Pg**	**22 23 42.6**	**-0.7**
ALN						22 23 50.5	
ALN	**Alexandroupoli**	**0.54**	**13**	Pg	**Pg**	**22 23 42.6**	**-0.7**
ALN				Sg	**Sg**	**22 23 50.5**	**-0.1**
EZN	**Ezine**	**0.64**	**148**	P	**Pb**	**22 23 44.5**	**-0.6**
EZN				S	**Sb**	**22 23 53.4**	**-0.4**
	comp=N,2μm,0.4s						
EZN	**Ezine**	**0.64**	**148**	PG	**Pb**	**22 23 44.5**	**-0.6**
EZN	**Ezine**	**0.64**	**148**	P	**Pb**	**22 23 44.5**	**-0.6**
LPK	**Lapseki**	**0.67**	**89**	PG	**Pg**	**22 23 45.1**	**-0.4**
LIA	**Limnos Island**	**0.71**	**229**	P	**Pb**	**22 23 46.3**	**-0.2**
LIA				S	**Sb**	**22 23 56.6**	**+0.5**
	comp=N,4μm,0.5s						
LIA	**Limnos Island**	**0.71**	**229**	P	**Pb**	**22 23 46.3**	**-0.2**
LIA				S	**Sb**	**22 23 56.5**	**+0.5**
LIA				AML	AML	22 23 57.7	
	comp=E,6034μm,0.6s						
LIA				AML	AML	22 24 01.2	
	comp=N,8457μm,0.4s						
KESN	**Edirne-Kesan**	**0.76**	**52**	*i* P	**Pg**	**22 23 46.0**	**-1.4**
KESN				*i* S	**Sg**	**22 23 55.8**	**-1.6**
KESN				IAML		22 24 00.0	
	comp=N,10μm,0.4s						
KESN				IAML		22 24 01.0	
	comp=E,13μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.80**	**141**	*i* P	**Pg**	**22 23 47.6**	**-0.5**
BAYC				*i* S	**Sg**	**22 23 56.4**	**-2.4**
RDO	**Rodhopi**	**0.82**	**341**	P	**Pg**	**22 23 47.7**	**-0.8**
RDO	**Rodhopi**	**0.82**	**341**	P	**Pg**	**22 23 47.7**	**-0.8**
RDO				S	**Sg**	**22 23 57.6**	**-1.8**
RDO				AML	AML	22 23 59.3	
	comp=E,6336μm,0.4s						
RDO				AML	AML	22 23 59.7	
	comp=N,5304μm,0.3s						
RDO	**Rodhopi**	**0.82**	**341**	PG	**Pg**	**22 23 47.6**	**-0.9**
THAS	**Thassos island**	**0.92**	**285**	P	**Pg**	**22 23 49.6**	**-0.8**
THAS				S	**Sb**	**22 24 02.9**	**+0.8**
	comp=N,2μm,0.3s						
THAS	**Thassos island**	**0.92**	**285**	P	**Pg**	**22 23 49.6**	**-0.8**
THAS				AML	AML	22 24 03.8	
	comp=N,4623μm,0.2s						
THAS				AML	AML	22 24 06.5	
	comp=E,3331μm,0.3s						
UKOP	**Uzunkopru-Edir**	**0.95**	**36**	PG	**Pg**	**22 23 50.5**	**-0.4**
UKOP				SG	**Sg**	**22 24 04.3**	**+1.0**
RKY	**Sarkoy-Tekirda**	**1.03**	**71**	PG	**Pg**	**22 23 52.3**	**-0.2**
MAR6	**Marsite Statio**	**1.10**	**72**	PN	**Pg**	**22 23 53.6**	**-0.2**
MAR3	**Marsite Statio**	**1.14**	**70**	PN	**Pg**	**22 23 54.0**	**-0.4**
MAR2	**Marsite Statio**	**1.14**	**72**	PN	**Pg**	**22 23 54.3**	**-0.2**
SIGR	**SIGRI**	**1.15**	**181**	P	**Pb**	**22 23 53.7**	**-0.3**
SIGR				S	**Sn**	**22 24 09.9**	**+0.6**
	comp=E,10μm,0.7s						
SIGR	**SIGRI**	**1.15**	**181**	P	**Pb**	**22 23 53.6**	**-0.3**
SIGR				S	**Sn**	**22 24 10.1**	**+0.8**
SIGR				AML	AML	22 24 11.7	
	comp=N,28753μm,0.4s						
SIGR				AML	AML	22 24 12.4	
	comp=E,11156μm,0.4s						
SIGR	**SIGRI**	**1.15**	**181**	PN	**Pn**	**22 23 54.2**	**+0.3**
MAR4	**Marsite Statio**	**1.16**	**68**	PN	**Pg**	**22 23 54.5**	**-0.3**
PRK	**Paraskevi**	**1.16**	**165**	P	**Pn**	**22 23 54.7**	**+0.7**
PRK				S	**Sb**	**22 24 09.4**	**+0.6**
PRK				AML	AML	22 24 12.6	
	comp=E,16494μm,0.6s						
PRK				AML	AML	22 24 21.6	
	comp=N,8546μm,0.6s						
PRK	**Paraskevi**	**1.16**	**165**	P	**Pn**	**22 23 55.6**	**+1.7**
KAVA	**Kavala**	**1.22**	**302**	P	**Pg**	**22 23 55.0**	**-1.0**
KAVA				S	**Sg**	**22 24 11.5**	**-0.5**
	comp=N,2μm,0.5s						
KAVA	**Kavala**	**1.22**	**302**	P	**Pg**	**22 23 55.0**	**-1.0**
KAVA				S	**Sg**	**22 24 10.5**	**-1.4**
KAVA				AML	AML	22 24 13.6	
	comp=N,3560μm,0.7s						
KAVA				AML	AML	22 24 14.3	
	comp=E,3203μm,0.4s						
AYVA	**Ayvalik**	**1.22**	**149**	*i* P	**Pb**	**22 23 55.1**	**-0.1**
AYVA				*i* S	**Sg**	**22 24 08.1**	**-4.0**
AYVA				IAML		22 24 14.0	
	comp=N,6μm,0.6s						
AYVA				IAML		22 24 14.0	
	comp=E,2μm,0.7s						
KNL	**Balıkesir**	**1.26**	**94**	*i* P	**Pg**	**22 23 55.5**	**-1.2**
KNL				*i* S	**Sg**	**22 24 11.8**	**-1.3**
KNL				IAML		22 24 15.0	
	comp=N,7μm,0.9s						
KDZ	**Kurdzhali**	**1.33**	**345**	PN	**Pn**	**22 23 56.6**	**+0.2**
KDZ	**Kurdzhali**	**1.33**	**345**	P	**Pn**	**22 23 57.0**	**+0.6**
KDZ	**Kurdzhali**	**1.33**	**345**	*i* P	**Pn**	**22 23 56.3**	**-0.1**
MAR9	**Marsite Statio**	**1.41**	**79**	PN	**Pn**	**22 23 57.8**	**+0.4**
GONE	**Gonen-Balikesi**	**1.41**	**102**	PN	**Pn**	**22 23 58.5**	**+1.0**
OUR	**Ouranopolis**	**1.46**	**269**	P	**Pn**	**22 23 57.4**	**-0.6**
OUR				S	**Sb**	**22 24 17.9**	**+0.5**
	comp=N,1μm,0.5s						
OUR	**Ouranopolis**	**1.46**	**269**	P	**Pn**	**22 23 57.4**	**-0.6**
OUR				AML	AML	22 24 21.5	
	comp=N,2208μm,0.6s						
OUR				AML	AML	22 24 22.0	
	comp=E,3198μm,0.4s						
OUR	**Ouranopolis**	**1.46**	**269**	P	**Pn**	**22 23 57.4**	**-0.6**
BALY	**Balya**	**1.47**	**115**	*i* P	**Pn**	**22 23 59.3**	**+1.0**
BALY				*i* S	**Sb**	**22 24 16.7**	**-1.1**
BALY				IAML		22 24 21.0	
	comp=N,4μm,0.6s						
BALY				IAML		22 24 21.0	
	comp=E,3μm,0.5s						
EDC	**Edincik**	**1.51**	**90**	PN	**Pn**	**22 23 59.8**	**+1.0**
DKL	**Dikili**	**1.51**	**148**	PN	**Pn**	**22 23 59.7**	**+0.9**
RZN	**Rozhen**	**1.59**	**326**	P	**Pn**	**22 24 00.8**	**+0.7**
RZN	**Rozhen**	**1.59**	**326**	*i* P	**Pn**	**22 24 00.4**	**+0.3**
CRLT	**Corlu**	**1.60**	**61**	PN	**Pn**	**22 24 00.9**	**+0.9**
EDRB	**Edirne**	**1.61**	**23**	PN	**Pn**	**22 24 00.9**	**+0.6**
ZEDA	**zmir-Bergama**	**1.67**	**146**	*i* P	**Pn**	**22 24 01.8**	**+0.8**
ZEDA				*i* S	**Sn**	**22 24 21.9**	**-0.2**
ZEDA				IAML		22 24 27.0	
	comp=E,849nm,0.4s						
ZEDA				IAML		22 24 29.0	
	comp=N,1μm,0.4s						
KIRK	**Kırklareli**	**1.68**	**32**	*i* P	**Pn**	**22 24 01.5**	**+0.3**
KIRK				*i* S	**Sn**	**22 24 20.0**	**-2.4**
KIRK				IAML		22 24 33.0	
	comp=N,465nm,0.5s						
BALB	**Balikesir**	**1.69**	**115**	PN	**Pn**	**22 24 02.2**	**+0.9**
DIM	**Dimitrovgrad**	**1.70**	**351**	P	**Pn**	**22 24 02.2**	**+0.7**
DIM	**Dimitrovgrad**	**1.70**	**351**	*i* P	**Pn**	**22 24 01.8**	**+0.3**
BOTS	**Marmara Eregli**	**1.71**	**68**	PN	**Pn**	**22 24 02.5**	**+1.0**
STEP	**BALIKESIR_Sava**	**1.72**	**124**	*i* P	**Pn**	**22 24 02.8**	**+1.1**
STEP				*i* S	**Sn**	**22 24 22.6**	**-0.7**
STEP				IAML		22 24 35.0	
	comp=N,3μm,0.8s						
STEP				IAML		22 24 41.0	
	comp=E,2μm,0.8s						
PHSR	**Pinarhisar**	**1.77**	**44**	PN	**Pn**	**22 24 03.2**	**+0.8**
SKY	**Skiros Island**	**1.81**	**215**	P	**Pn**	**22 24 02.8**	**-0.2**
SKY	**Skiros Island**	**1.81**	**215**	P	**Pn**	**22 24 02.8**	**-0.2**
NVR	**Nevrokopi**	**1.82**	**303**	P	**Pn**	**22 24 03.6**	**+0.5**
NVR				S	**Sn**	**22 24 27.0**	**+1.0**
	comp=E,768nm,0.7s						
NVR	**Nevrokopi**	**1.82**	**303**	P	**Pn**	**22 24 03.7**	**+0.5**
PLG	**Polygyros**	**1.87**	**271**	P	**Pn**	**22 24 03.7**	**-0.1**
PLG	**Polygyros**	**1.87**	**271**	P	**Pn**	**22 24 03.5**	**-0.2**
PLG				AML	AML	22 24 33.6	
	comp=E,1654μm,0.4s						
PLG				AML	AML	22 24 33.6	
	comp=N,1811μm,0.6s						
PLG	**Polygyros**	**1.87**	**271**	P	**Pn**	**22 24 03.7**	**-0.1**
KCTX	**Karacabey (Bur**	**1.89**	**92**	PN	**Pn**	**22 24 05.1**	**+1.0**
SRS	**Serrai**	**1.90**	**294**	P	**Pn**	**22 24 04.8**	**+0.6**
SRS	**Serrai**	**1.90**	**294**	P	**Pg**	**22 24 07.9**	**-1.0**
PLD	**Plovdiv**	**1.95**	**333**	P	**Pn**	**22 24 07.7**	**+0.1**
PLD	**Plovdiv**	**1.95**	**333**	*i* P	**Pn**	**22 24 06.6**	**+1.7**
AOS	**Alonnisos**	**1.96**	**233**	P	**Pn**	**22 24 04.3**	**-0.7**
SLVT	**Silivri**	**1.96**	**63**	PN	**Pn**	**22 24 06.2**	**+1.2**
CHOS	**Chios island**	**1.98**	**176**	P	**Pn**	**22 24 05.9**	**+0.5**
CHOS				S	**Sn**	**22 24 31.2**	**+1.3**
	comp=N,2μm,0.6s						
CHOS	**Chios island**	**1.98**	**176**	P	**Pn**	**22 24 05.8**	**+0.4**
SOH	**Sokhos**	**1.98**	**284**	P	**Pn**	**22 24 05.2**	**-0.2**
MMB	**Musomiste**	**2.04**	**307**	*i* P	**Pn**	**22 24 06.3**	**+0.1**
URLA	**Izmir**	**2.08**	**164**	*i* P	**Pn**	**22 24 07.0**	**+0.4**
URLA				*i* S	**Sn**	**22 24 30.9**	**-1.3**
URLA				IAML		22 24 40.0	
	comp=E,343nm,0.6s						
URLA				IAML		22 24 41.0	
	comp=N,510nm,0.8s						
AKHS	**Akhisar**	**2.10**	**134**	*i* P	**Pn**	**22 24 07.8**	**+0.8**
AKHS				*i* S	**Sn**	**22 24 32.2**	**-0.6**
AKHS				IAML		22 24 44.0	
	comp=E,281nm,0.6s						
DURS	**Dursunbey**	**2.13**	**110**	*i* P	**Pn**	**22 24 08.5**	**+1.1**
DURS				*i* S	**Sn**	**22 24 33.7**	**+0.1**
DURS				IAML		22 24 41.0	
	comp=N,1μm,0.5s						
DURS				IAML		22 24 42.0	
	comp=E,1μm,0.6s						
CTYL	**Yalikoy Yolu**	**2.13**	**58**	PN	**Pn**	**22 24 08.5**	**+1.2**
JMB	**Yambol**	**2.16**	**14**	P	**Pn**	**22 24 09.2**	**+1.4**
JMB	**Yambol**	**2.16**	**14**	*i* P	**Pn**	**22 24 07.9**	**+0.1**
CTKS	**Kestanelik-??a**	**2.17**	**66**	PN	**Pn**	**22 24 08.9**	**+1.0**
DST	**Dursunbey**	**2.23**	**109**	PN	**Pn**	**22 24 09.6**	**+0.8**
DST	**Dursunbey**	**2.23**	**109**	P	**Pb**	**22 24 12.5**	**+0.1**
ARMT	**Armutlu**	**2.28**	**84**	PN	**Pn**	**22 24 10.8**	**+1.4**
MDNY	**Mudanya-Bursa**	**2.29**	**89**	PN	**Pn**	**22 24 10.8**	**+1.3**
ORLT	**Orhaneli**	**2.33**	**97**	PN	**Pn**	**22 24 11.4**	**+1.3**
BGKT	**Bogazkoy**	**2.34**	**69**	PN	**Pn**	**22 24 10.9**	**+0.7**
DGB	**zmir**	**2.44**	**161**	*i* P	**Pn**	**22 24 12.1**	**+0.6**
DGB				*i* S	**Sn**	**22 24 43.0**	**+2.1**
DGB				IAML		22 24 54.0	
	comp=E,190nm,0.7s						
DGB				IAML		22 25 40.0	
	comp=N,166nm,3.6s						
TSVK	**Tesvikiye-Yalo**	**2.45**	**83**	PN	**Pn**	**22 24 13.6**	**+1.8**
ULDT	**Uludag**	**2.50**	**94**	*i* P	**Pn**	**22 24 13.8**	**+1.2**
ULDT				*i* S	**Sn**	**22 24 44.0**	**+1.3**
ULDT				IAML		22 24 54.0	
	comp=N,739nm,0.6s						
ULDT				IAML		22 25 00.0	
	comp=E,980nm,0.8s						
BUY	**Buyukada**	**2.51**	**78**	*i* P	**Pn**	**22 24 12.0**	**-0.5**
BUY				*i* S	**Sn**	**22 24 42.6**	**-0.1**
BUY				IAML		22 24 55.0	
	comp=N,608nm,0.5s						
BUY				IAML

comp=E,240nm,0.9s
KAND IAML 22 25 26.0
comp=N,259nm,0.6s
GEYV SAKARYA_Geyve 3.37 87 *i* P **Pn 22 24 25.8 +1.5**
GEYV *i* S **Sn 22 25 05.9 +2.0**
GEYV IAML 22 25 35.0
comp=N,299nm,1.1s
GEYV IAML 22 25 37.0
comp=E,226nm,0.6s
BORA Eskisehir 3.53 96 *i* P **Pn 22 24 29.3 +2.6**
BORA *i* S **Sb 22 25 21.4 +4.1**
BORA IAML 22 25 29.0
comp=E,93nm,0.4s
PSN Preselentsi 3.73 27 P **Pn 22 24 29.1 -0.2**
YER Yerkesik 3.73 149 P **Pn 22 24 30.8 +1.4**
TAVA DENIZLI_Tavas 3.73 140 *i* P **Pn 22 24 30.7 +1.2**
TAVA *i* S **Sg 22 25 32.6 +0.1**
AUKIR Kırka- Seyitga 3.74 105 *i* P **Pn 22 24 31.4 +1.9**
AUKIR *i* S **Sb 22 25 20.3 -2.9**
AUKIR IAML 22 25 50.0
comp=N,322nm,1.5s
AUKIR IAML 22 25 52.0
comp=E,323nm,1.6s
AFYO Afyonkarahisar 3.75 113 *i* P **Pn 22 24 31.1 +1.3**
AFYO *i* S **Sg 22 25 29.2 -3.9**
AFYO IAML 22 25 47.0
comp=N,374nm,0.9s
AFYO IAML 22 25 47.0
comp=E,562nm,0.9s
COPA Copaceanca 3.80 353 ⇑P **Pn 22 24 30.0 -0.3**
COPA Copaceanca 3.80 353 **Pn 22 24 30.0 -0.3**
SGRR Singureni 3.85 1 ⇓P **Pn 22 24 31.9 +0.9**
SGRR Singureni 3.85 1 **Pn 22 24 31.9 +0.9**
DAT Datca 3.87 159 *i* P **Pn 22 24 31.6 +0.3**
DAT *i* S **Sn 22 25 17.4 +1.0**
KZIL AFYON_Kizioren 3.91 121 *i* P **Pn 22 24 34.3 +2.3**
KZIL IAML 22 25 45.0
comp=E,88nm,1.0s
KZIL IAML 22 25 49.0
comp=N,54nm,0.6s
OHR Ohrid 3.94 283 *i* Pn **Pn 22 24 36.4 +4.1**
RASA Rasa 3.96 13 ⇑P **Pn 22 24 33.9 +1.5**
RASA Rasa 3.96 13 **Pn 22 24 33.9 +1.5**
MANR Mangalia 3.99 29 ⇓P **Pn 22 24 34.3 +1.4**
MANR Mangalia 3.99 29 **Pn 22 24 34.3 +1.4**
SANT Santorini 4.00 185 Pn **Pn 22 24 33.2 0.0**
ICOR Ion Corvin 4.01 20 ⇓P **Pn 22 24 35.8 +2.5**
ICOR Ion Corvin 4.01 20 **Pn 22 24 35.6 +2.5**
TURN Turunc 4.03 152 *i* P **Pn 22 24 34.6 +0.4**
MDUB Mudurnu 4.05 87 **Pn 22 24 34.7 +0.8**
DALY Dalyan (Mula) 4.15 148 *i* P **Pn 22 24 36.6 +1.5**
DALY IAML 22 25 59.0
comp=E,49nm,0.2s
LEHL Lehliu 4.16 9 ⇓P **Pn 22 24 36.4 +1.2**
LEHL Lehliu 4.16 9 **Pn 22 24 36.4 +1.2**
BRDR BURDUR-Merkez 4.20 128 *i* P **Pn 22 24 37.7 +1.8**
BRDR IAML 22 26 00.0
comp=N,58nm,0.6s
BRDR IAML 22 26 05.0
comp=E,51nm,1.7s
HUMR Humele 4.21 351 ⇓P **Pn 22 24 36.4 +0.4**
HUMR Humele 4.21 351 **Pn 22 24 36.4 +0.4**
GOLH Golhisar 4.24 136 *i* P **Pn 22 24 38.6 +2.2**
GOLH IAML 22 26 03.0
comp=N,67nm,1.0s
BOLV Bolvadin 4.25 111 Pn **Pn 22 24 38.8 +2.3**
MFTR Murfatlar 4.25 25 ⇓P **Pn 22 24 38.0 +1.5**
MFTR Murfatlar 4.25 25 **Pn 22 24 38.0 +1.5**
CVDA Cernavoda 4.27 21 ⇑P **Pn 22 24 39.0 +2.2**
CVDA Cernavoda 4.27 21 **Pn 22 24 39.0 +2.2**
AUMIH MIHALICIK 4.32 95 *i* P **Pn 22 24 39.0 +1.4**
AUMIH IAML 22 25 56.0
comp=N,162nm,0.6s
AUMIH IAML 22 25 57.0
comp=E,201nm,0.4s
ITM Ithomi 4.44 225 **Pn 22 24 40.1 +1.0**
TLBR Topalu 4.47 20 ⇓P **Pn 22 24 40.6 +1.1**
PUNG Punghina 4.48 332 ⇑P **Pn 22 24 38.9 -0.8**
PUNG Punghina 4.48 332 **Pn 22 24 38.9 -0.8**
FETY Fethiye 4.49 145 *i* P **Pn 22 24 41.9 +2.1**
TIRR Tirgusor 4.50 24 ⇓P **Pn 22 24 40.6 +0.8**
TIRR Tirgusor 4.50 24 P **Pn 22 24 40.6 +0.8**
TIRR Tirgusor 4.50 24 **Pn 22 24 40.0 +0.1**
TIRR Tirgusor 4.50 24 **Pn 22 24 40.6 +0.8**
STFAR Stefanesti-Arg 4.55 352 ⇑P **Pn 22 24 42.0 +1.4**
KIBS BOLU 4.55 87 *i* P **Pn 22 24 42.2 +1.4**
KIBS IAML 22 26 13.0
comp=N,82nm,0.7s
KIBS IAML 22 26 18.0
comp=E,93nm,0.8s
HARR Harsova 4.58 19 ⇑P **Pn 22 24 42.1 +1.1**
HARR Harsova 4.58 19 P **Pn 22 24 42.1 +1.1**
HARR Harsova 4.58 19 **Pn 22 24 42.1 +1.1**
PGOR Pogoanele 4.61 10 ⇑P **Pn 22 24 43.6 +2.2**
PGOR Pogoanele 4.61 10 **Pn 22 24 43.6 +2.2**
SECR 4.67 2 ⇓P **Pn 22 24 44.3 +2.0**
SECR 4.67 2 **Pn 22 24 44.3 +2.0**
TIR Tirane 4.67 284 P **Pn 22 24 44.6 +2.3**
TIR Tirane 4.67 284 Pn **Pn 22 24 44.6 +2.3**
BCAM Yenicaga 4.72 83 *i* P **Pn 22 24 44.2 +1.1**
BCAM *i* S **Sn 22 25 31.3 -6.3**
BCAM IAML 22 25 42.0
comp=E,47nm,0.7s
BCAM IAML 22 26 21.0
comp=N,31nm,1.2s
SRE Strehaia 4.73 336 ⇓P **Pn 22 24 43.0 0.0**
SRE Strehaia 4.73 336 P **Pn 22 24 43.1 0.0**
SRE Strehaia 4.73 336 **Pn 22 24 43.0 0.0**
ISR Istrita 4.77 6 P **Pn 22 24 47.4 +3.7**
ELL Elmali 4.79 138 P **Pn 22 24 47.0 +2.9**
ELL Elmali 4.79 138 **Pn 22 24 47.0 +2.9**
TOPG Topolog 4.87 21 ⇑P **Pn 22 24 45.3 +0.3**
MTUR Matau 4.89 353 ⇓P **Pn 22 24 46.5 +1.1**
MTUR Matau 4.89 353 P **Pn 22 24 46.5 +1.1**
MTUR Matau 4.89 353 **Pn 22 24 46.5 +1.1**
KARP Karpathos 4.92 168 Pn **Pn 22 24 46.1 +0.5**
JURR Jurilovca 4.92 26 ⇓P **Pn 22 24 45.8 +0.1**
BTIN Bartın 4.98 73 *i* P **Pn 22 24 45.8 -0.7**
BTIN IAML 22 26 17.0
comp=N,67nm,1.1s
BTIN IAML 22 26 20.0
comp=E,68nm,0.7s
DOGA KONYA_Doganhis 5.02 115 *i* P **Pn 22 24 49.4 +2.2**
DOGA IAML 22 25 51.0
comp=E,26nm,0.6s
DOGA IAML 22 26 28.0
comp=N,30nm,1.1s
CMDR Camlidere-ANKA 5.03 86 *i* P **Pn 22 24 48.3 +1.0**
CMDR *i* S Sn 22 25 38.4 -6.7
CMDR IAML 22 25 49.0
comp=N,104nm,1.0s
CMDR IAML 22 26 30.0
comp=E,88nm,1.4s
AKAS Kas 5.06 144 Pn **Pn 22 24 49.9 +2.2**
NEHR Nehoiu 5.07 3 ⇓P **Pn 22 24 49.2 +1.5**
GRER 5.07 9 ⇑P **Pn 22 24 49.2 +1.4**
GRER 5.07 9 **Pn 22 24 49.2 +1.4**
ARR Arges 5.08 350 ⇓P **Pn 22 24 47.7 -0.2**
ARR Arges 5.08 350 **Pn 22 24 47.7 -0.2**
CFR Carcaliu 5.09 18 ⇑P **Pn 22 24 48.0 +0.1**
CFR Carcaliu 5.09 18 P **Pn 22 24 48.0 +0.1**
CFR Carcaliu 5.09 18 **Pn 22 24 48.0 +0.1**
VOIR 5.11 353 ⇓P **Pn 22 24 48.0 -0.3**
VOIR 5.11 353 P **Pn 22 24 48.0 -0.3**
VOIR 5.11 353 **Pn 22 24 48.0 -0.3**
MLR Muntele Rosu 5.12 0 Pn **Pn 22 24 50.3 +1.7**
comp=E,4.3nm,0.3s,baz=199,slow=4.8,SNR=28
MLR Lg Lg 22 26 14.1
comp=E,1.6nm,0.3s,baz=260,slow=21,SNR=2.3
MLR Muntele Rosu 5.12 0 ⇓P **Pn 22 24 50.0 +1.4**
MLR Muntele Rosu 5.12 0 **Pn 22 24 49.7 +1.2**
IDI Anoyia 5.13 189 Pn **Pn 22 24 48.8 +0.1**
comp=E,0.3nm,0.3s,baz=35,slow=20,SNR=1.6
IDI Sn **Sn 22 25 46.5 -1.0**
comp=E,0.5nm,0.3s,baz=312,slow=21,SNR=2.2
IDI Anoyia 5.13 189 Pn **Pn 22 24 50.5 +1.8**
KDHN Kadınhani 5.16 109 *i* P **Pn 22 24 50.7 +1.6**
KDHN IAML 22 26 32.0
comp=N,20nm,0.9s
KDHN IAML 22 26 37.0
comp=E,35nm,2.0s
HERR Herculane 5.19 332 ⇓P **Pn 22 24 49.7 +0.4**
HERR Herculane 5.19 332 **Pn 22 24 49.7 +0.4**

TLCR 5.28 23 ⇓P **Pn 22 24 52.2 +1.6**
TLCR 5.28 23 P **Pn 22 24 52.2 +1.6**
TLCR 5.28 23 **Pn 22 24 52.2 +1.6**
BR231 Keskin MP Arra 5.31 93 **Pn 22 24 51.5 +0.4**
LOT Lotru 5.31 344 ⇑P **Pn 22 24 51.7 +0.5**
LOT Lotru 5.31 344 **Pn 22 24 51.7 +0.5**
PDG Podgorica 5.40 295 ⇑P **Pn 22 24 50.6 -1.6**
PDG Podgorica 5.40 295 **Pn 22 24 53.6 +1.3**
ODBI Odobesti 5.46 9 ⇓P **Pn 22 24 53.8 +0.7**
ODBI Odobesti 5.46 9 **Pn 22 24 53.8 +0.7**
PLOR Plostina 5.51 6 ⇑P **Pn 22 24 55.9 +2.1**
PLOR Plostina 5.51 6 P **Pn 22 24 55.9 +2.1**
PLOR Plostina 5.51 6 **Pn 22 24 55.9 +2.1**
VRI Vrincioaia 5.53 6 ⇑P **Pn 22 24 55.9 +1.8**
VRI Vrincioaia 5.53 6 P **Pn 22 24 55.9 +1.8**
VRI Vrincioaia 5.53 6 **Pn 22 24 55.9 +1.8**
DOPR Dopca 5.61 356 ⇓P **Pn 22 24 56.1 +0.9**
DOPR Dopca 5.61 356 **Pn 22 24 56.1 +0.9**
SCTE Santa Cesarea 5.69 269 Pn **Pn 22 24 58.3 +2.1**
VARL Varlezi 5.71 14 ⇑P **Pn 22 24 58.3 +1.8**
OZUR 5.73 359 ⇑P **Pn 22 24 58.6 +1.8**
OZUR 5.73 359 **Pn 22 24 58.6 +1.8**
DIVS Divibare 5.75 312 **Pn 22 24 57.4 +0.3**
MDB Medias 5.88 350 ⇑P **Pn 22 24 59.2 +0.4**
MDB Medias 5.88 350 P **Pn 22 24 59.2 +0.4**
MDB Medias 5.88 350 **Pn 22 24 59.2 +0.4**
DEV Deva 5.93 339 ⇑P **Pn 22 25 00.8 +1.2**
DEV Deva 5.93 339 P **Pn 22 25 00.8 +1.2**
DEV Deva 5.93 339 **Pn 22 25 00.8 +1.2**
BR131 Keskin Array S 5.98 94 *i* P **Pn 22 25 01.1 +0.7**
BR131 Keskin Array S 5.98 94 **Pn 22 25 01.0 +0.5**
BRTR Keskin Array B 5.98 94 Pn **Pn 22 25 01.8 +1.4**
comp=E,2.4nm,0.3s,baz=226,slow=26,SNR=65
BRTR Sn **Sn 22 26 08.8 +0.2**
comp=E,0.9nm,0.3s,baz=193,slow=16,SNR=3.2
BRTR Lg Lg 22 26 44.7
comp=E,0.4nm,0.3s,baz=281,slow=22,SNR=3.8
BRTR LR LR 22 28 05.2
comp=E,23nm,19.4s,baz=318,slow=46
BRTR Keskin Array B 5.98 94 **Pn 22 25 00.8 +0.3**
ILGA Ilgaz 5.99 81 Pn **Pn 22 25 02.4 +1.8**
BANR Banloc 6.11 327 ⇑P **Pn 22 25 02.3 +0.3**
BANR Banloc 6.11 327 **Pn 22 25 02.3 +0.3**
BZS Buzias 6.11 331 ⇓P **Pn 22 25 01.6 -0.5**
BZS Buzias 6.11 331 P **Pn 22 25 01.6 -0.5**
BZS Buzias 6.11 331 **Pn 22 25 01.6 -0.5**
TESR Tescani 6.17 5 ⇑P **Pn 22 25 04.3 +1.4**
TESR Tescani 6.17 5 **Pn 22 25 04.3 +1.4**
VASR Vaslui 6.42 12 ⇑P **Pn 22 25 06.5 +0.2**
CJR Cluj-Napoca 6.56 346 ⇓P **Pn 22 25 09.7 +1.5**
CJR Cluj-Napoca 6.56 346 P **Pn 22 25 09.7 +1.5**
CJR Cluj-Napoca 6.56 346 **Pn 22 25 09.7 +1.5**
SIRR Siria 6.66 334 ⇓P **Pn 22 25 08.5 -1.1**
SIRR Siria 6.66 334 **Pn 22 25 08.5 -1.1**
ARCR ARCALIA 6.81 351 ⇑P **Pn 22 25 12.9 +1.3**
ARCR ARCALIA 6.81 351 **Pn 22 25 12.9 +1.3**
MILM Milestii Mici 6.88 17 ⇑P **Pn 22 25 13.9 +1.3**
MILM Milestii Mici 6.88 17 **Pn 22 25 13.9 +1.3**
PRAR RASCA 7.00 2 ⇑P **Pn 22 25 15.9 +1.6**
PRAR RASCA 7.00 2 **Pn 22 25 15.9 +1.6**
SEV Sevastopol' 7.11 51 *e*P **Pn 22 25 14.8 -0.9**
SEV *e*S **Sn 22 26 30.9 -5.2**
TIP Timpagrande 7.13 263 ⇑P **Pn 22 25 14.6 -1.5**
TIP Timpagrande 7.13 263 **Pn 22 25 17.0 +0.9**
BURAR Bucovina Array 7.26 356 ⇓P **Pn 22 25 19.6 +1.6**
BURAR Bucovina Array 7.26 356 P **Pn 22 25 19.5 +1.6**
BURAR Bucovina Array 7.26 356 **Pn 22 25 18.8 +0.9**
BURAR Bucovina Array 7.26 356 **Pn 22 25 19.6 +1.6**
BUR08 Bucovina Ar. S 7.29 356 **Pn 22 25 18.9 +0.5**
BMR Baia Mare 7.51 348 ⇑P **Pn 22 25 21.3 +0.1**
BMR Baia Mare 7.51 348 P **Pn 22 25 21.3 +0.1**
BMR Baia Mare 7.51 348 **Pn 22 25 21.3 +0.1**
SIM Simferopol' 7.60 50 *e*P **Pn 22 25 21.3 -1.1**
SIM *e*S **Sn 22 26 43.1 -5.0**
ALU Alushta 7.62 53⇑ *e*P **Pn 22 25 22.0 -0.8**
SGRT San Giovanni R 7.79 284 Pn **Pn 22 25 26.2 +1.0**
SORM Soroca 7.96 12 ⇑P **Pn 22 25 27.1 -0.3**
SORM Soroca 7.96 12 P **Pn 22 25 27.1 -0.3**
SORM Soroca 7.96 12 **Pn 22 25 27.1 -0.3**
SUDU Sudak 8.10 53 *e*P **Pn 22 25 26.4 -2.8**
SUDU *e*S **Sn 22 26 54.7 -5.7**
LVV L'vov 9.54 353 *e*P Pn 22 25 59.3 +10
LVV MLR MLR
comp=N,140nm,10.0s
LVV MLR MLR
comp=E,100nm,10.0s
LVV MLR MLR
comp=Z,120nm,10.0s
VYHS Vyhne 9.56 331 *e*P **Pn 22 25 49.2 -0.1**
VYHS Vyhne 9.56 331 *e*PN **Pn 22 25 49.2 -0.1**
NIE Niedzica 9.88 338 P **Pn 22 25 57.0 +3.3**
NIE pmax pmax
comp=Z,2.0nm,2.9s
MMAI Mount Meron Ar 10.59 131 Pn **Pn 22 26 05.2 +1.7**
comp=Z,2.0nm,0.3s,baz=308,slow=12,SNR=12
MMAI LR LR 22 30 38.6
comp=Z,35nm,21.1s,baz=315,slow=40
AKASG Malin Array Be 10.60 12 Pn **Pn 22 26 02.0 -1.5**
comp=Z,0.8nm,0.3s,baz=197,slow=13,SNR=4.9
AKASG Sn **Sn 22 27 56.4 -5.3**
comp=Z,0.6nm,0.3s,baz=82,slow=27,SNR=1.3
AKASG Malin Array Be 10.60 12 *i* P **Pn 22 26 03.0 -0.5**
AKBB Malin Array Si 10.60 12 *i* P **Pn 22 26 03.5 0.0**
VRAC Vranov 11.10 327 LR LR 22 31 48.9
comp=Z,56nm,18.6s,baz=119,slow=45
ZOU Zoufplan 11.23 308 Pn **Pn 22 26 13.5 +1.0**
GERES GERESS Array B 12.12 318 Pn **Pn 22 26 25.7 +1.2**
comp=Z,0.1nm,0.3s,baz=135,slow=13,SNR=2.4
GERES LR LR 22 32 19.0
comp=Z,42nm,20.4s,baz=197,slow=44
KHC Kasperske Hory 12.37 319 *e*P Pn 22 26 35.0 +7.2
KHC Kasperske Hory 12.37 319 *e*P Pn 22 26 35.0 +7.2
EIL Elat 12.99 142 Pn **Pn 22 26 36.2 -0.1**
comp=Z,1.5nm,0.3s,baz=292,slow=3.8,SNR=13
SENIN Lac Senin/Sane 14.78 300 Pn **Pn 22 27 02.4 +1.5**
FINES FINESS Array B 21.11 0 P **P 22 28 17.6 +1.7**
comp=Z,2.6nm,0.8s,baz=167,slow=9.6,SNR=3.4
KLMR Klimovskoe 22.17 18 *e*P **P 22 28 25.7 -1.7**
KLMR pmax pmax
comp=Z,14nm,1.5s
KLMR Klimovskoe 22.17 18 *e*P **P 22 28 25.7 -1.7**
KLMR AMP 22 28 43.9
comp=Z,14nm,1.5s
NOA NORSAR Array B 22.58 341 P **P 22 28 32.1 +0.2**
comp=Z,0.9nm,0.6s,baz=143,slow=9.5,SNR=2.5
NOA LR LR 22 38 09.1
comp=Z,19nm,19.8s,baz=150,slow=39
NC303 NORSAR Array S 22.71 342 P **P 22 28 32.8 -0.4**
ESDC Sonseca Array 22.83 278 P **P 22 28 36.6 +1.9**
comp=Z,1.9nm,1.1s,baz=82,slow=9.2,SNR=3.9
ESDC LR LR 22 38 32.4
comp=Z,20nm,20.4s,baz=150,slow=39
GEYT Alibeck 25.04 85 P **P 22 28 57.3 +1.5**
GYA0B ALIBECK ARRAY 25.04 85 P **P 22 28 56.6 +0.8**
GYA0B IAmb IAmb 22 29 14.7
comp=Z,2.7nm,0.7s
ARU Arti 26.65 42*c* *i*P **P 22 29 09.9 -0.3**
ARU S **S 22 33 43.5 -1.0**
ARU pmax pmax
comp=Z,4.0nm,1.1s
KK31 Karatay Array 33.12 70 P **P 22 30 09.5 +1.8**
KK31 pmax pmax
comp=Z,1.0nm,0.6s
KK31 Karatay Array 33.12 70 P **P 22 30 09.5 +1.8**
KK31 IAmb IAmb 22 30 15.8
comp=Z,0.8nm,0.6s
KKAR Karatay Array 33.12 70 P **P 22 30 10.0 +2.4**
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 33.12 70 P **P 22 30 10.0 +2.4**
KKAR IAmb IAmb 22 30 15.8
comp=Z,0.8nm,0.6s
AAK Ala-Archa 36.08 70 *i* P **P 22 30 33.0 -0.4**
AAK pmax pmax
comp=Z,2.0nm,1.7s
AAK Ala-Archa 36.08 70 P **P 22 30 34.0 +0.5**
AAK IAmb IAmb 22 30 43.9
comp=Z,1.6nm,0.7s
KURBB Kurchatov Arra 37.57 56 P **P 22 30 47.0 +1.2**
comp=Z,0.6nm,1.0s,baz=287,slow=7.7,SNR=1.4
KURK Kurchatov 37.62 56 *i* P **P 22 30 47.2 +1.0**
KURK pmax pmax
comp=Z,4.0nm,1.7s

MK31 Makanchi Array 40.60 62 P **P 22 31 12.4 +1.1**
MK31 pmax pmax
comp=Z,1.0nm,1.3s
MK31 Makanchi Array 40.60 62 P **P 22 31 12.3 +1.1**
MKAR Makanchi Array 40.60 62 P **P 22 31 12.9 +1.6**
comp=Z,0.5nm,0.8s,baz=282,slow=6.1,SNR=5.3
ZALV Zalesovo Beam 41.11 50 P **P 22 31 16.7 +1.4**
comp=Z,1.1nm,0.8s,baz=310,slow=5.0,SNR=4.1
ZALV Zalesovo Beam 41.11 50 P **P 22 31 15.9 +0.6**

ANF **11** *22:27:15.7±0.4, 32°.69N×115°.75W, h18km±2km, ML2.6/12, ML2.6/12, Error ellipse: s-maj=3.4km s-min=1.7km az=164.0*
SCEDC **11** *22:27:16.1±0.3, 32°.63N×115°.75W, h1km, ML2.9*
ECX **11** *22:27:16.6±0.8, 32°.65N×115°.76W, h1km±2km, MD2.7, ML2.9, Fault plane solution: NP1:♔s 123.23000°, δ 75.52000°, λ -26.57000°.*
MEX **11** *22:27:17.1±0.6, 32°.81N×115°.71W, h17km±15km, MD3.7*
ISC 11 22:27:14.4±0.8, 32°.62N±0°.02×115°.73W±0°.02, h16km±5km, n39, σ1♔20/64, 11C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGL	**Mount Signal**	**0.03**	**2**	*i* S		**Sg**	**22 27 17.5**	**-1.6**
WESC	**Westside Schoo**	**0.14**	**358**	⇓ *e*P		**Pg**	**22 27 19.0**	**+0.9**
COK2	**Cook Ranch 2**	**0.23**	**360**	⇓ *i*P		**Pg**	**22 27 20.9**	**+1.4**
RMX	**La Rumorosa**	**0.30**	**266**	⇑ *i*P		**Pb**	**22 27 21.5**	**0.0**
RMX				*i* S		**Sg**	**22 27 25.2**	**0.0**
IKP	**In-Ko-Pah, Jac**	**0.32**	**275**	P		**Pb**	**22 27 22.4**	**+0.5**
	baz=91,SNR=342							
IKP				S		**Sb**	**22 27 26.5**	**-0.3**
	baz=91							
IKP	**In-Ko-Pah, Jac**	**0.32**	**275**	⇑ *i*P		**Pb**	**22 27 22.4**	**+0.5**
IKP				*e*S		**Sb**	**22 27 26.6**	**-0.3**
SWSC	**Sam W. Stewart**	**0.33**	**349**	P		**Pb**	**22 27 22.2**	**+0.4**
	baz=173,SNR=76							
SWSC				S		**Sb**	**22 27 25.9**	**-1.0**
	baz=173							
SWSC	**Sam W. Stewart**	**0.33**	**349**	*e*P		**Pb**	**22 27 22.2**	**+0.4**
CRR	**Carrizo Plain**	**0.33**	**322**	⇑ *i*P		**Pb**	**22 27 22.3**	**+0.4**
CRR				*i* S		**Sb**	**22 27 27.1**	**0.0**
CPBX	**Cerro Prieto**	**0.41**	**120**	*e*P		**Pn**	**22 27 25.3**	**-0.4**
CPBX				⇓ *e*			22 27 36.0	
CPBX				IAML			22 27 36.0	
	comp=E,4μm,0.2s							
MBIG	**Mexicali**	**0.50**	**116**	*e*P		**Pb**	**22 27 25.0**	**+0.3**
MBIG				*e*P		**Pn**	**22 27 26.5**	**-0.3**
MBIG				*i* S		**Sb**	**22 27 32.5**	**+0.8**
MBIG				*e*S		**Sn**	**22 27 33.7**	**-1.4**
CTLX	**Tlaxcala, TLX**	**0.51**	**107**	*e*P		**Pn**	**22 27 27.9**	**+0.9**
CBKC	**Canebrake**	**0.52**	**302**	⇑ *i*P		**Pn**	**22 27 26.1**	**-1.1**
COA	**Coachella**	**0.56**	**65**	⇑ *i*P		**Pn**	**22 27 27.5**	**-0.3**
MONP2	**Monument Peak**	**0.65**	**295**	P		**Pb**	**22 27 28.1**	**+0.7**
	baz=114,SNR=72							
MONP2				S		**Sb**	**22 27 36.1**	**-0.1**
	baz=114							
MONP2	**Monument Peak**	**0.65**	**295**	⇑ *i*P		**Pb**	**22 27 28.1**	**+0.7**
MONP2				*e*S		**Sb**	**22 27 36.2**	**-0.1**
TKX	**Tecate**	**0.75**	**266**	*e*P		**Pb**	**22 27 29.6**	**+0.6**
TKX				*e*S		**Sb**	**22 27 39.6**	**+0.6**
BAR	**Barrett**	**0.80**	**274**	⇑ *i*P		**Pn**	**22 27 30.9**	**-0.2**
TJIG	**Tijuana**	**0.82**	**257**	*i* P		**Pb**	**22 27 31.3**	**+1.0**
TJIG				*i* S		**Sb**	**22 27 41.9**	**+0.7**
TJIG	**Tijuana**	**0.82**	**257**	*e*P		**Pb**	**22 27 31.0**	**+0.6**
TJIG				*e*S		**Sb**	**22 27 41.7**	**+0.5**
CBX	**Cerro Bola**	**0.85**	**249**	*e*P		**Pb**	**22 27 31.9**	**+1.0**
CBX				*i* S		**Sb**	**22 27 43.4**	**+1.3**
CBX	**Cerro Bola**	**0.85**	**249**	⇑ *i*P		**Pn**	**22 27 32.1**	**+0.3**
CBX				*e*S		**Sb**	**22 27 43.4**	**+1.3**
CBX				IAML			22 27 46.3	
	comp=N,485nm,0.3s							
CBX				⇑ *e*			22 27 46.3	
CBX				IAML			22 27 46.9	
	comp=E,594nm,0.2s							
CBX				⇑ *e*			22 27 46.9	
GLA	**Glamis**	**0.87**	**60**	P		**Pn**	**22 27 32.0**	**0.0**
	baz=243,SNR=16							
GLA				S		**Sn**	**22 27 43.8**	**-0.6**
	baz=243							
GLA	**Glamis**	**0.87**	**60**	⇑ *e*P		**Pn**	**22 27 31.9**	**-0.1**
SJX	**San Joaquin**	**0.88**	**193**	*e*P		**Pg**	**22 27 28.6**	**-2.9**
SJX				*e*S		**Sg**	**22 27 37.8**	**-5.2**
OLP	**Otay Lakes Par**	**1.02**	**269**	*e*P		**Pn**	**22 27 34.6**	**+0.7**
SDRC	**San Diego Road**	**1.03**	**277**	*e*P		**Pn**	**22 27 34.9**	**+0.7**
BC3	**Big Chuckawall**	**1.05**	**12**	P		**Pn**	**22 27 34.7**	**+0.1**
	baz=194							
BC3				S		**Sn**	**22 27 47.9**	**-1.2**
	baz=194							
PFO	**Pinyon Flats O**	**1.16**	**328**	P		**Pn**	**22 27 36.3**	**+0.1**
	baz=148,SNR=17							
PFO				S		**Sb**	**22 27 50.8**	**-0.2**
	baz=148							
109C	**Camp Elliot, M**	**1.19**	**283**	P		**Pn**	**22 27 37.4**	**+1.0**
	baz=102,SNR=25							
109C				S		**Sb**	**22 27 52.6**	**+0.8**
	baz=102							
ECBX	**El Chinero**	**1.28**	**153**	*e*P		**Pb**	**22 27 39.3**	**+1.2**
ECBX				*e*S		**Sn**	**22 27 57.8**	**+3.3**
BELC	**Belle Mtn. Jos**	**1.39**	**351**	S		**Sn**	**22 27 57.3**	**-0.2**
	baz=171							
MURC	**Murrieta**	**1.57**	**309**	Pg		**Pg**	**22 27 44.7**	**+0.1**
	baz=128							
MURC				Sb		**Sg**	**22 28 04.0**	**-1.0**
	baz=128							
SPIG	**San Pedro Mart**	**1.59**	**172**	*e*P		**Pb**	**22 27 44.0**	**+0.5**
SPIG				*i* S		**Sn**	**22 28 04.2**	**+1.6**
SPX	**San Pedro Mart**	**1.60**	**172**	*i* P		**Pb**	**22 27 44.0**	**+0.2**
SPX				*i* S		**Sn**	**22 28 03.5**	**+0.7**
SFX	**San Felipe**	**1.75**	**155**	*e*P		**Pg**	**22 27 47.8**	**-0.1**
SFX				*e*S		**Sg**	**22 28 11.8**	**+1.1**
BFSC	**Mount Baldy Ra**	**2.28**	**315**	Sb		**Sg**	**22 28 25.2**	**-2.6**
	baz=135							
CIS	**Catalina Islan**	**2.39**	**290**	P		**Pn**	**22 27 53.8**	**+0.9**
	baz=108							
214A	**Organ Pipe Nat**	**2.56**	**104**	P		**Pn**	**22 27 56.1**	**+0.8**
	baz=286							

ATH **11** *22:29:09.5, 40°.39N×25°.85E, h21km±2km, ML2.5/8, Error ellipse: s-maj=2.5km s-min=0.8km az=331.0*
ISK **11** *22:29:09.5, 40°.37N×25°.87E, h9km, ML2.8/17*
THE **11** *22:29:10.1, 40°.38N×25°.86E, h7km±1km, ML2.5/9, Error ellipse: s-maj=1.4km s-min=0.6km az=71.0*
DDA **11** *22:29:10.0, 40°.35N×25°.94E, h7km±1km, ML3.0*
ISC 11 22:29:10.0±0.8, 40°.38N±0°.02×25°.87E±0°.02, h12km±6km, n60, σ0♔48/93, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GADA	**Gvkgeada**	**0.19**	**172**	P		**Pg**	**22 29 14.1**	**0.0**
GADA				S		**Sg**	**22 29 16.9**	**-0.1**
GADA	**Gvkgeada**	**0.19**	**172**	PG		**Pg**	**22 29 14.1**	**0.0**
GADA				SG		**Sg**	**22 29 17.1**	**+0.1**
GOKA	**anakkale-Gk**	**0.19**	**170**	*i* P		**Pg**	**22 29 14.0**	**-0.1**
GOKA				*i* S		**Sg**	**22 29 16.6**	**-0.3**
GOKA				IAML			22 29 17.0	
	comp=N,15μm,0.5s							
SMTH	**Samothraki Isl**	**0.27**	**291**	P		**Pg**	**22 29 15.6**	**-0.1**
SMTH				S		**Sg**	**22 29 19.7**	**+0.2**
	comp=N,925nm,0.1s							
SMTH	**Samothraki Isl**	**0.27**	**291**	P		**Pg**	**22 29 15.3**	**-0.3**
SMTH				S		**Sg**	**22 29 19.5**	**+0.1**
SMTH				AML	AML		22 29 24.5	
	comp=E,1512μm,0.1s							
SMTH				AML	AML		22 29 25.4	
	comp=N,2267μm,0.2s							
ENEZ	**Enez**	**0.42**	**31**	P		**Pg**	**22 29 18.2**	**-0.1**
ENEZ				S		**Sb**	**22 29 25.1**	**-0.6**
ENEZ	**Enez**	**0.42**	**31**	PG		**Pg**	**22 29 18.3**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.47**	**87**	PG		**Pg**	**22 29 18.9**	**-0.3**
GELI				SG		**Sg**	**22 29 26.1**	**+0.7**
ALN	**Alexandroupoli**	**0.54**	**15**	P		**Pg**	**22 29 20.2**	**-0.4**
ALN				S		**Sg**	**22 29 27.8**	**+0.1**
	comp=N,205nm,0.4s							
ALN	**Alexandroupoli**	**0.54**	**15**	P		**Pg**	**22 29 20.0**	**-0.6**
ALN				S		**Sg**	**22 29 27.5**	**-0.2**

ALN	**Alexandroupoli**	**0.54**	**15**	PG	**Pg**	**22 29 20.4**	**-0.2**
ALN				SG	**Sb**	**22 29 28.6**	**-0.5**
BOZC	**Bozcaada**	**0.55**	**165**	PG	**Pg**	**22 29 20.7**	**-0.1**
BOZC				SG	**Sg**	**22 29 28.2**	**+0.1**
BOZC	**Bozcaada**	**0.55**	**165**	*i* P	**Pg**	**22 29 20.5**	**-0.3**
BOZC				*i* S	**Sg**	**22 29 27.2**	**-0.9**
EZN	**Ezine**	**0.65**	**147**	P	**Pg**	**22 29 22.1**	**-0.6**
EZN	**Ezine**	**0.65**	**147**	PG	**Pg**	**22 29 22.3**	**-0.4**
LPK	**Lapseki**	**0.68**	**90**	PG	**Pg**	**22 29 23.0**	**-0.3**
LIA	**Limnos Island**	**0.71**	**228**	P	**Pb**	**22 29 24.2**	**0.0**
LIA				S	**Sg**	**22 29 33.5**	**+0.5**
	comp=E,400nm,0.5s						
LIA	**Limnos Island**	**0.71**	**228**	P	**Pg**	**22 29 23.0**	**-0.7**
LIA				S	**Sg**	**22 29 33.3**	**+0.3**
LIA				AML	AML	22 29 36.1	
	comp=E,791µm,0.5s						
LIA				AML	AML	22 29 38.6	
	comp=N,820µm,0.4s						
KESN	**Edirne-Kesan**	**0.77**	**54**	*i* P	**Pg**	**22 29 25.0**	**0.0**
KESN				*i* S	**Sg**	**22 29 34.6**	**-0.5**
KESN				IAML		22 29 39.0	
	comp=N,418nm,0.2s						
KESN				IAML		22 29 39.0	
	comp=E,570nm,0.2s						
RDO	**Rodhopi**	**0.81**	**342**	P	**Pg**	**22 29 25.3**	**-0.4**
RDO				S	**Sg**	**22 29 36.6**	**+0.3**
	comp=E,280nm,0.3s						
RDO	**Rodhopi**	**0.81**	**342**	P	**Pg**	**22 29 25.2**	**-0.4**
RDO				S	**Sg**	**22 29 36.0**	**-0.2**
RDO				AML	AML	22 29 36.8	
	comp=E,542µm,0.3s						
RDO				AML	AML	22 29 37.5	
	comp=N,575µm,0.3s						
RDO	**Rodhopi**	**0.81**	**342**	PG	**Pg**	**22 29 25.5**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**0.82**	**140**	*i* P	**Pg**	**22 29 25.3**	**-0.6**
BAYC				*i* S	**Sg**	**22 29 35.8**	**-0.8**
THAS	**Thassos island**	**0.90**	**285**	P	**Pg**	**22 29 27.1**	**-0.3**
THAS				S	**Sb**	**22 29 40.0**	**+0.4**
	comp=N,260nm,0.2s						
THAS	**Thassos island**	**0.90**	**285**	P	**Pg**	**22 29 27.1**	**-0.3**
THAS				S	**Sg**	**22 29 38.8**	**-0.5**
THAS				AML	AML	22 29 41.1	
	comp=N,460µm,0.2s						
THAS				AML	AML	22 29 41.8	
	comp=E,590µm,0.3s						
UKOP	**Uzunkopru-Edir**	**0.95**	**38**	PG	**Pg**	**22 29 28.3**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.05**	**72**	PG	**Pg**	**22 29 30.0**	**-0.2**
EFSA	**Agios Efstrati**	**1.07**	**219**	P	**Pg**	**22 29 30.6**	**-0.1**
EFSA				S	**Sb**	**22 29 45.2**	**+0.8**
MAR6	**Marsite Statio**	**1.12**	**72**	PN	**Pg**	**22 29 31.3**	**-0.2**
MAR3	**Marsite Statio**	**1.15**	**71**	PN	**Pb**	**22 29 31.9**	**+0.1**
MAR2	**Marsite Statio**	**1.15**	**72**	PN	**Pn**	**22 29 32.3**	**+0.4**
SIGR	**SIGRI**	**1.16**	**180**	P	**Pb**	**22 29 31.7**	**-0.3**
SIGR				S	**Sb**	**22 29 47.8**	**+0.8**
	comp=E,652nm,0.4s						
SIGR	**SIGRI**	**1.16**	**180**	P	**Pb**	**22 29 31.7**	**-0.3**
SIGR				S	**Sb**	**22 29 47.8**	**+0.8**
SIGR				AML	AML	22 29 49.2	
	comp=N,1818µm,0.5s						
SIGR				AML	AML	22 29 49.9	
	comp=E,833µm,0.3s						
SIGR	**SIGRI**	**1.16**	**180**	PN	**Pb**	**22 29 31.8**	**-0.3**
MAR4	**Marsite Statio**	**1.17**	**69**	PN	**Pb**	**22 29 32.3**	**+0.1**
PRK	**Paraskevi**	**1.17**	**164**	P	**Pn**	**22 29 32.6**	**+0.4**
PRK				S	**Sn**	**22 29 48.8**	**+0.8**
	comp=E,615nm,0.5s						
PRK	**Paraskevi**	**1.17**	**164**	P	**Pb**	**22 29 32.0**	**-0.1**
PRK				S	**Sn**	**22 29 48.5**	**+0.4**
PRK				AML	AML	22 29 50.1	
	comp=E,1081µm,0.6s						
PRK				AML	AML	22 29 51.9	
	comp=N,450µm,0.3s						
KAVA	**Kavala**	**1.20**	**302**	P	**Pb**	**22 29 32.2**	**-0.5**
KAVA				S	**Sb**	**22 29 48.3**	**+0.2**
	comp=N,268nm,0.3s						
KAVA	**Kavala**	**1.20**	**302**	P	**Pb**	**22 29 32.2**	**-0.5**
KAVA				S	**Sb**	**22 29 48.3**	**+0.2**
KAVA				AML	AML	22 29 50.9	
	comp=N,573µm,0.3s						
KAVA				AML	AML	22 29 51.1	
	comp=E,488µm,0.4s						
AYVA	**Ayvalik**	**1.24**	**149**	*i* P	**Pn**	**22 29 32.8**	**-0.3**
AYVA				*i* S	**Sb**	**22 29 49.4**	**+0.1**
AYVA				IAML		22 29 51.0	
	comp=N,331nm,0.6s						
AYVA				IAML		22 29 52.0	
	comp=E,181nm,0.7s						
KVLA	**Kavala**	**1.26**	**297**	P	**Pn**	**22 29 33.7**	**+0.3**
KVLA				S	**Sb**	**22 29 50.2**	**+0.5**
KNL	**Balıkesir**	**1.27**	**94**	*i* P	**Pn**	**22 29 33.1**	**-0.5**
KNL				*i* S	**Sb**	**22 29 50.0**	**-0.3**
KNL				IAML		22 29 53.0	
	comp=N,343nm,0.7s						
KNL				IAML		22 29 54.0	
	comp=E,505nm,0.7s						
KDZ	**Kurdzhali**	**1.32**	**345**	PN	**Pn**	**22 29 34.4**	**+0.2**
MAR9	**Marsite Statio**	**1.42**	**80**	PN	**Pn**	**22 29 35.9**	**+0.3**
GONE	**Gonen-Balikesi**	**1.43**	**103**	PN	**Pn**	**22 29 35.9**	**+0.1**
OUR	**Ouranopolis**	**1.44**	**269**	P	**Pn**	**22 29 35.4**	**-0.5**
OUR				S	**Sg**	**22 29 56.6**	**+0.3**
	comp=E,170nm,0.4s						
OUR	**Ouranopolis**	**1.44**	**269**	P	**Pn**	**22 29 35.3**	**-0.5**
OUR				S	**Sg**	**22 29 55.9**	**-0.4**
BALY	**Balya**	**1.49**	**115**	*i* P	**Pn**	**22 29 37.0**	**+0.4**
BALY				*i* S	**Sn**	**22 29 55.2**	**-0.8**
EDC	**Edincik**	**1.53**	**90**	PN	**Pn**	**22 29 37.7**	**+0.6**
DKL	**Dikili**	**1.53**	**148**	PN	**Pn**	**22 29 37.3**	**+0.2**
CRLT	**Corlu**	**1.61**	**61**	PN	**Pn**	**22 29 38.5**	**+0.3**
EDRB	**Edirne**	**1.61**	**24**	PN	**Pn**	**22 29 38.7**	**+0.4**
BALB	**Balikesir**	**1.71**	**115**	PN	**Pn**	**22 29 39.7**	**+0.1**
SLVT	**Silivri**	**1.97**	**64**	PN	**Pn**	**22 29 43.7**	**+0.5**
CHOS	**Chios island**	**1.99**	**176**	P	**Pn**	**22 29 43.3**	**-0.3**
CHOS	**Chios island**	**1.99**	**176**	P	**Pn**	**22 29 43.3**	**-0.3**
CTKS	**Kestanelik-??a**	**2.18**	**66**	PN	**Pn**	**22 29 46.7**	**+0.6**
ARMT	**Armutlu**	**2.29**	**84**	PN	**Pn**	**22 29 48.5**	**+0.8**
VAY	**Valandovo**	**2.67**	**292**	*i* Pn	**Sg**	**22 30 35.0**	**-0.8**
STIP	**Stip**	**3.08**	**297**	*i* Pn	**Sb**	**22 30 44.3**	**+2.1**

DDA 11 22:29:55.8, 40°28N×26°01E, *h*7km±3km, ML2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOKA	**anakkale-Gk**	**0.12**	**223**	*i* P	Pg	22 29 60.0	+1.7
GOKA				*i* S	Sg	22 30 01.4	+1.3
GOKA				IAML		22 30 07.0	
	comp=N,2µm,0.6s						
BOZC	**Bozcaada**	**0.43**	**176**	*i* P	Pg	22 30 04.7	+0.5
BOZC				*i* S	Sg	22 30 10.8	+0.9
BOZC				IAML		22 30 13.0	
	comp=E,203nm,0.5s						
BOZC				IAML		22 30 20.0	
	comp=N,148nm,0.2s						
BAYC	**CANAKKALE_Bayr**	**0.67**	**142**	*i* P	Pb	22 30 09.5	-0.4
BAYC				*i* S	Sb	22 30 19.0	-0.4
BAYC				IAML		22 30 36.0	
	comp=E,71nm,0.5s						
BAYC				IAML		22 30 38.0	
	comp=N,74nm,0.6s						
KESN	**Edirne-Kesan**	**0.75**	**43**	*i* P	Pg	22 30 10.2	0.0
KESN				*i* S	Sg	22 30 18.6	-1.4
KESN				IAML		22 30 22.0	
	comp=N,300nm,0.5s						
KESN				IAML		22 30 22.0	
	comp=E,415nm,0.3s						

*DDA **11** 22:30:19.3, 40°38N×25°96E, h7km±3km, ML3.4*
*ISK **11** 22:30:19.1, 40°33N×26°05E, h13km, ML3.1/10*
ISC 11 22:30:19.1±0.9, 40°38N±0°03×26°01E±0°04, h12km±9km, n35, σ1s13/41, 4C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOKA	**anakkale-Gk**	**0.20**	**202**	*i* P	**Pg**	**22 30 23.8**	**+0.4**
GOKA				*i* S	**Sg**	**22 30 26.7**	**+0.3**
GOKA				IAML		22 30 27.0	
	comp=N,25µm,0.6s						
GADA	**Gvkgeada**	**0.20**	**204**	PG	**Pg**	**22 30 23.8**	**+0.3**
GADA				SG	**Sg**	**22 30 26.8**	**+0.3**
BOZC	**Bozcaada**	**0.53**	**176**	PG	**Pg**	**22 30 29.5**	**-0.1**
BOZC				SG	**Sb**	**22 30 37.5**	**-0.6**
BOZC	**Bozcaada**	**0.53**	**176**	*i* P	**Pb**	**22 30 30.2**	**-0.3**
BOZC				*i* S	**Sg**	**22 30 35.6**	**-1.0**
LPK	**Lapseki**	**0.58**	**90**	PG	**Pg**	**22 30 30.4**	**0.0**
KESN	**Edirne-Kesan**	**0.68**	**48**	*i* P	**Pn**	**22 30 35.6**	**+0.6**
KESN				*i* S	**Sb**	**22 30 43.2**	**+0.4**
KESN				IAML		22 30 48.0	
	comp=E,1µm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.76**	**147**	*i* P	**Pb**	**22 30 34.9**	**+0.7**
BAYC				*i* S	**Sb**	**22 30 44.3**	**-0.2**
UKOP	**Uzunkopru-Edir**	**0.89**	**32**	PG	**Pb**	**22 30 36.9**	**+0.4**
MAR3	**Marsite Statio**	**1.05**	**69**	PG	**Pg**	**22 30 39.3**	**0.0**
MAR2	**Marsite Statio**	**1.05**	**71**	PG	**Pb**	**22 30 39.6**	**+0.3**
MAR4	**Marsite Statio**	**1.07**	**67**	PG	**Pg**	**22 30 39.6**	**-0.1**
KNL	**Balıkesir**	**1.17**	**95**	*i* P	**Pg**	**22 30 43.2**	**+1.7**
KNL				*i* S	**Sn**	**22 30 58.4**	**+1.3**
KNL				IAML		22 31 03.0	
	comp=N,861nm,0.9s						
KNL				IAML		22 31 03.0	
	comp=E,2µm,0.6s						
AYVA	**Ayvalik**	**1.19**	**153**	*i* P	**Pg**	**22 30 42.2**	**+0.2**
AYVA				*i* S	**Sg**	**22 30 57.1**	**-0.4**
AYVA				IAML		22 31 01.0	
	comp=N,665nm,0.7s						
MAR9	**Marsite Statio**	**1.32**	**79**	PN	**Pn**	**22 30 43.2**	**-0.1**
GONE	**Gonen-Balikesi**	**1.33**	**104**	PN	**Pn**	**22 30 43.1**	**-0.4**
EDC	**Edincik**	**1.42**	**91**	PN	**Pn**	**22 30 44.5**	**-0.3**
DKL	**Dikili**	**1.48**	**152**	PN	**Pn**	**22 30 45.0**	**-0.5**
CRLT	**Corlu**	**1.52**	**60**	PN	**Pn**	**22 30 46.2**	**+0.1**
EDRB	**Edirne**	**1.57**	**21**	PN	**Pn**	**22 30 47.6**	**+0.7**
BALB	**Balikesir**	**1.61**	**116**	PN	**Pn**	**22 30 46.8**	**-0.6**
PHSR	**Pinarhisar**	**1.70**	**42**	PN	**Pn**	**22 30 49.2**	**+0.6**
SLVT	**Silivri**	**1.88**	**62**	PN	**Pn**	**22 30 51.6**	**+0.5**
PLD	**Plovdiv**	**1.99**	**331**	PN	**Pn**	**22 30 54.0**	**+1.4**
RASA	**Rasa**	**3.93**	**12**	⇓P	**Pb**	**22 31 26.2**	**-2.1**
MFTR	**Murfatlar**	**4.20**	**24**	⇓P	**Pb**	**22 31 28.9**	**-4.1**
TLBR	**Topalu**	**4.43**	**19**	⇓P	**Pb**	**22 31 35.6**	**-1.2**
TIRR	**Tirgusor**	**4.45**	**23**	⇓P	**Pb**	**22 31 38.1**	**+0.9**
CFR	**Carcaliu**	**5.05**	**17**	⇓P	**Pb**	**22 31 44.3**	**-3.1**
ARR	**Arges**	**5.09**	**349**	⇓P	Pg	22 31 35.4	+0.2
VOIR		**5.11**	**352**	⇓P	**Pn**	**22 31 36.0**	**+0.5**
PLOR	**Plostina**	**5.49**	**5**	⇓P	**Pn**	**22 31 41.5**	**+0.7**
VRI	**Vrincioaia**	**5.51**	**5**	⇓P	Pg	22 31 42.9	-0.3
DOPR	**Dopca**	**5.61**	**356**	⇓P	**Pn**	**22 31 43.2**	**+0.8**
OZUR		**5.72**	**358**	⇓P	**Pn**	**22 31 44.7**	**+0.7**
TESR	**Tescani**	**6.15**	**4**	⇓P	**Pn**	**22 31 50.6**	**+0.8**

*ATH **11** 22:34:41.6, 40°37N×25°84E, h24km±2km, ML1.9/8, Error ellipse: s-maj=2.6km s-min=1.1km az=35.0*
*ISK **11** 22:34:41.9, 40°38N×25°89E, h4km, ML2.3/14*
*DDA **11** 22:34:43.6, 40°30N×26°01E, h7km±2km, ML2.5*
ISC 11 22:34:42.2±0.8, 40°37N±0°02×25°87E±0°02, h15km±6km, n42, σ0s91/62, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.18**	**173**	PG	**Pg**	**22 34 46.6**	**+0.1**
GADA				SG	**Sg**	**22 34 49.6**	**+0.2**
GOKA	**anakkale-Gk**	**0.18**	**171**	*i* P	**Pg**	**22 34 46.7**	**+0.1**
GOKA				*i* S	**Sg**	**22 34 49.5**	**+0.1**
GOKA				IAML		22 34 50.0	
	comp=N,4µm,0.4s						
SMTH	**Samothraki Isl**	**0.28**	**292**	P	**Pg**	**22 34 48.1**	**0.0**
SMTH				S	**Sg**	**22 34 51.4**	**-0.9**
SMTH				AML	AML	22 34 52.7	
	comp=E,785µm,0.1s						
SMTH				AML	AML	22 34 53.0	
	comp=N,872µm,0.1s						
ENEZ	**Enez**	**0.43**	**30**	PG	**Pg**	**22 34 50.7**	**-0.1**
ENEZ				SG	**Sb**	**22 34 57.1**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.46**	**86**	PG	**Pb**	**22 34 51.4**	**-0.6**
GELI				SG	**Sb**	**22 34 57.9**	**-0.7**
BOZC	**Bozcaada**	**0.54**	**165**	PG	**Pg**	**22 34 53.1**	**+0.2**
BOZC	**Bozcaada**	**0.54**	**165**	*i* P	**Pg**	**22 34 52.9**	**0.0**
BOZC				*i* S	**Sg**	**22 34 58.5**	**-1.7**
ALN	**Alexandroupoli**	**0.55**	**14**	P	**Pg**	**22 34 52.5**	**-0.5**
ALN				S	**Sg**	**22 34 59.7**	**-0.6**
ALN				AML	AML	22 35 01.2	
	comp=E,209µm,0.3s						
ALN				AML	AML	22 35 02.4	
	comp=N,108µm,0.3s						
ALN	**Alexandroupoli**	**0.55**	**14**	PG	**Pg**	**22 34 52.8**	**-0.2**
EZN	**Ezine**	**0.64**	**147**	PG	**Pg**	**22 34 54.2**	**-0.6**
LPK	**Lapseki**	**0.68**	**89**	PG	**Pg**	**22 34 54.8**	**-0.7**
LIA	**Limnos Island**	**0.71**	**229**	P	**Pg**	**22 34 55.6**	**-0.4**
LIA				S	**Sg**	**22 35 04.8**	**-0.5**
LIA				AML	AML	22 35 07.1	
	comp=E,139µm,0.3s						
LIA				AML	AML	22 35 11.2	
	comp=N,158µm,0.4s						
KESN	**Edirne-Kesan**	**0.77**	**53**	*i* P	**Pb**	**22 34 57.7**	**+0.3**
KESN				*i* S	**Sg**	**22 35 06.1**	**-1.3**
KESN				IAML		22 35 11.0	
	comp=E,202nm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.81**	**140**	*i* P	**Pg**	**22 34 57.5**	**-0.5**
BAYC				*i* S	**Sg**	**22 35 06.8**	**-1.9**
RDO	**Rodhopi**	**0.82**	**342**	P	**Pg**	**22 34 57.7**	**-0.4**
RDO				S	**Sg**	**22 35 08.2**	**-0.7**
RDO				AML	AML	22 35 09.9	
	comp=N,181µm,0.3s						
RDO				AML	AML	22 35 13.7	
	comp=E,236µm,0.2s						
RDO	**Rodhopi**	**0.82**	**342**	PG	**Pb**	**22 34 58.0**	**-0.1**
THAS	**Thassos island**	**0.91**	**286**	P	**Pg**	**22 34 58.7**	**-1.1**
THAS				S	**Sg**	**22 35 11.2**	**-0.6**
THAS				AML	AML	22 35 12.9	
	comp=N,140µm,0.2s						
THAS				AML	AML	22 35 13.9	
	comp=E,124µm,0.2s						
UKOP	**Uzunkopru-Edir**	**0.96**	**37**	PG	**Pb**	**22 35 00.6**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.05**	**72**	PG	**Pb**	**22 35 02.4**	**+0.4**
RKY				SG	**Sn**	**22 35 17.2**	**+0.6**
MAR6	**Marsite Statio**	**1.11**	**72**	PN	**Pn**	**22 35 03.6**	**+0.4**
MAR3	**Marsite Statio**	**1.15**	**70**	PN	**Pn**	**22 35 04.2**	**+0.5**
MAR3				SN	**Sn**	**22 35 20.7**	**+1.6**
MAR2	**Marsite Statio**	**1.15**	**72**	PN	**Pn**	**22 35 04.4**	**+0.7**
SIGR	**SIGRI**	**1.16**	**181**	P	**Pg**	**22 35 04.0**	**-0.5**
SIGR				S	**Sg**	**22 35 19.0**	**-0.5**
SIGR				AML	AML	22 35 21.7	
	comp=N,403µm,0.4s						
SIGR				AML	AML	22 35 24.0	
	comp=E,209µm,0.3s						
SIGR	**SIGRI**	**1.16**	**181**	PN	**Pn**	**22 35 04.5**	**+0.8**
PRK	**Paraskevi**	**1.16**	**164**	P	**Pb**	**22 35 04.4**	**+0.5**
PRK				S	**Sb**	**22 35 19.8**	**+1.1**
PRK				AML	AML	22 35 21.9	
	comp=E,143µm,0.4s						
PRK				AML	AML	22 35 22.8	
	comp=N,120µm,0.4s						
MAR4	**Marsite Statio**	**1.17**	**68**	PN	**Pn**	**22 35 05.2**	**+1.2**
KAVA	**Kavala**	**1.21**	**302**	P	**Pg**	**22 35 05.1**	**-0.3**
KAVA				S	**Sg**	**22 35 20.1**	**-1.1**
KAVA				AML	AML	22 35 23.3	
	comp=E,107µm,0.2s						
KAVA				AML	AML	22 35 24.8	
	comp=N,89µm,0.3s						
AYVA	**Ayvalik**	**1.23**	**149**	*i* P	**Pb**	**22 35 05.5**	**+0.4**
AYVA				*i* S	**Sg**	**22 35 18.3**	**-3.7**
AYVA				IAML		22 35 24.0	
	comp=N,80nm,0.7s						
KNL	**Balıkesir**	**1.27**	**94**	*i* P	**Pg**	**22 35 06.2**	**-0.5**
KNL				*i* S	**Sb**	**22 35 21.6**	**-0.3**
KNL				IAML		22 35 25.0	
	comp=E,112nm,0.6s						
KDZ	**Kurdzhali**	**1.33**	**345**	PN	**Pb**	**22 35 07.0**	**+0.3**
KDZ	**Kurdzhali**	**1.33**	**345**	*e*P	**Pn**	**22 35 06.4**	**+0.3**
MAR9	**Marsite Statio**	**1.42**	**79**	PN	**Pg**	**22 35 09.3**	**-0.2**
OUR	**Ouranopolis**	**1.44**	**269**	P	**Pn**	**22 35 07.6**	**-0.1**
BALY	**Balya**	**1.48**	**114**	*i* P	**Pg**	**22 35 09.9**	**-0.8**
BALY				*i* S	**Sn**	**22 35 27.6**	**+0.2**
EDC	**Edincik**	**1.52**	**90**	PN	**Pb**	**22 35 10.2**	**+0.1**
CRLT	**Corlu**	**1.61**	**61**	PN	**Pb**	**22 35 11.7**	**+0.2**
EDRB	**Edirne**	**1.62**	**24**	PN	**Pb**	**22 35 11.9**	**+0.2**
DIM	**Dimitrovgrad**	**1.70**	**352**	*e*P	**Pn**	**22 35 11.7**	**+0.5**
BALB	**Balikesir**	**1.71**	**115**	PN	**Pn**	**22 35 12.4**	**+1.1**
PLD	**Plovdiv**	**1.95**	**333**	PN	**Pn**	**22 35 16.5**	**+1.9**
CTKS	**Kestanelik-??a**	**2.18**	**66**	PN	**Pn**	**22 35 19.9**	**+2.1**
STIP	**Stip**	**3.09**	**297**	*i* Pn	**Pn**	**22 35 30.0**	**-0.3**

*JMA **11** 22:38:30.8±0.5, 31°97N×138°29E, h373km±5km, M3.3*
*IDC **11** 22:38:32.0±1.2, 32°12N×138°03E, h382km±11km,*
mb3.2/11, mb1 3.3/17, mb1mx3.0/50, mbtmp4.0/17, Error
ellipse: s-maj=23.4km s-min=20.5km az=21.0
ISC 11 22:38:31.7±0.8, 32°17N±0°08×138°13E±0°08, h380km, n30, σ1s37/36, mb3.5/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.69**	**55**	P	**Pn**	**22 39 25.8**	**+2.0**
	12nm,0.3s,baz=253,slow=22,SNR=2.2						
JHJ				S	**S**	**22 40 04.7**	**-1.2**
	9.7nm,0.3s,baz=336,slow=16,SNR=1.6						
JMKN	**Mikurajimanish**	**2.11**	**35**	P	**Pn**	**22 39 25.8**	**-0.6**
JTNC	**Tanabenakahech**	**2.68**	**309**	P	**Pn**	**22 39 31.3**	**+0.6**
JOD2	**Odawara 2**	**3.19**	**14**	*e*S	**S**	**22 40 26.6**	**+0.6**
BSO3	**Boso 3**	**3.29**	**36**	S	**S**	**22 40 26.6**	**-0.6**
BSO4	**Boso 4**	**3.36**	**33**	P	**Pn**	**22 39 36.9**	**+0.6**
BSO4				*e*S	**S**	**22 40 28.3**	**-0.3**
BSO1	**Boso 1**	**3.44**	**43**	S	**S**	**22 40 29.1**	**+0.1**
JHU	**Hanno**	**3.80**	**14**	P	**Pn**	**22 39 42.0**	**+1.6**
JRY	**Ryogami san**	**3.89**	**9**	P	**Pn**	**22 39 42.8**	**+1.4**
MJAR	**Matsushiro Arr**	**4.36**	**1**	P	**Pn**	**22 39 46.2**	**+0.2**
	0.1nm,0.3s,baz=176,slow=9.4,SNR=5.0						
MJAR				S	**S**	**22 40 44.7**	**-1.7**
	0.1nm,0.3s,baz=348,slow=3.0,SNR=2.1						
JAG	**Ashikaga**	**4.38**	**14**	P	**Pn**	**22 39 46.4**	**+0.2**
JAG				S	**S**	**22 40 43.3**	**-3.4**
JYT	**Yasato**	**4.39**	**22**	*e*S	**S**	**22 40 44.3**	**-2.5**
JTO	**Tosashimizu**	**4.55**	**280**	P	**Pn**	**22 39 48.2**	**+0.2**
JHO	**Hitachi**	**4.87**	**24**	P	**Pn**	**22 39 51.2**	**0.0**
JHO				S	**S**	**22 40 52.8**	**-3.0**
JCJ	**Chichijima**	**6.16**	**144**	P	**Pn**	**22 40 04.5**	**-1.0**
	11nm,0.3s,baz=263,slow=23,SNR=2.5						
JCJ				S	**S**	**22 41 18.4**	**-3.4**
	4.5nm,0.3s,baz=318,slow=23,SNR=1.9						
JNU	**Nakatsue**	**6.19**	**281**	P	**Pn**	**22 40 06.0**	**+0.3**
	0.7nm,0.3s,baz=117,slow=4.9,SNR=7.9						
KSRS	**Korea Array**	**9.91**	**305**	P	**Pn**	**22 40 49.0**	**+0.5**
	1.1nm,0.3s,baz=120,slow=11,SNR=17						
USRK	**Ussuriysk Ar.**	**12.94**	**340**	P	**P**	**22 41 23.5**	**+1.2**
	baz=150,slow=9.0,SNR=5.6						
KLR	**Kul'dur**	**17.70**	**346**	P	**P**	**22 42 13.4**	**-0.3**
	0.8nm,0.3s,baz=167,slow=9.3,SNR=14						
SONM	**Songino Array**	**28.66**	**312**	P	**P**	**22 43 54.8**	**-0.3**
	0.7nm,0.5s,baz=123,slow=8.9,SNR=7.1						
CMAR	**Chiang Mai Arr**	**37.75**	**258**	P	**P**	**22 45 12.5**	**-0.5**
	0.4nm,0.4s,baz=46,slow=7.7,SNR=1.1						
ZALV	**Zalesovo Beam**	**43.38**	**316**	P	**P**	**22 45 57.5**	**-0.5**
	0.7nm,0.4s,baz=86,slow=7.2,SNR=5.3						
MKAR	**Makanchi Array**	**44.59**	**306**	P	**P**	**22 46 07.2**	**-0.5**
	1.9nm,0.6s,baz=86,slow=10,SNR=21						
ARCES	**ARCESS Array B**	**67.59**	**339**	P	**P**	**22 48 48.8**	**+0.7**
	0.8nm,0.6s,baz=65,slow=8.6,SNR=6.3						
FINES	**FINESS Array B**	**71.84**	**332**	P	**P**	**22 49 14.0**	**+0.2**
	1.4nm,0.4s,baz=64,slow=4.6,SNR=22						
KBZ	**Khabaz**	**72.01**	**311**	P	**P**	**22 49 15.7**	**+0.5**
	1.6nm,0.7s,baz=79,slow=3.7,SNR=4.3						
AKASG	**Malin Array Be**	**76.46**	**322**	P	**P**	**22 49 40.2**	**-0.3**
	0.8nm,0.4s,baz=52,slow=5.6,SNR=6.3						
NOA	**NORSAR Array B**	**77.59**	**337**	P	**P**	**22 49 46.5**	**0.0**
	0.7nm,0.8s,baz=46,slow=5.8,SNR=1.4						
BRTR	**Keskin Array B**	**80.00**	**311**	P	**P**	**22 49 59.3**	**-0.8**
	0.7nm,0.7s,baz=79,slow=4.5,SNR=5.1						
PDAR	**Pinedale Array**	**83.03**	**43**	P	**P**	**22 50 17.8**	**+2.0**
	0.2nm,0.7s,baz=298,slow=1.9,SNR=1.9						

*ISK **11** 23:37:48.8, 40°37N×25°87E, h6km, ML2.3/13*
*DDA **11** 23:37:49.7, 40°32N×25°99E, h9km±3km, ML2.5*
*ATH **11** 23:37:49.2, 40°38N×25°85E, h13km±3km, ML1.9/9, Error ellipse: s-maj=3.6km s-min=1.0km az=317.0*
ISC 11 23:37:49.1±0.8, 40°37N±0°02×25°87E±0°02, h15km±6km, n46, σ0s96/69, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.18**	**174**	PG	**Pg**	**23 37 53.1**	**-0.4**
GADA				SG	**Sg**	**23 37 56.2**	**-0.1**
GOKA	**anakkale-Gk**	**0.18**	**172**	*i* P	**Pg**	**23 37 53.5**	**0.0**
GOKA				*i* S	**Sg**	**23 37 56.1**	**-0.2**
GOKA				IAML		23 37 57.0	
	comp=N,5µm,0.3s						
SMTH	**Samothraki Isl**	**0.28**	**291**	P	**Pg**	**23 37 55.1**	**0.0**
SMTH				S	**Sg**	**23 37 58.3**	**-0.8**
SMTH				AML	AML	23 37 59.2	
	comp=E,745µm,0.1s						
SMTH				AML	AML	23 37 59.5	
	comp=N,785µm,0.1s						
ENEZ	**Enez**

BALY				*i* S		**Sn**	**23 38 33.7**	**-0.7**
EDC	**Edincik**	**1.52**	**90**	PN		**Pn**	**23 38 17.1**	**+1.3**
RZN	**Rozhen**	**1.58**	**327**	*eP*		**Pb**	**23 38 18.5**	**+0.4**
CRLT	**Corlu**	**1.60**	**61**	PN		**Pn**	**23 38 18.3**	**+1.4**
EDRB	**Edirne**	**1.61**	**24**	PN		**Pn**	**23 38 18.3**	**+1.3**
ZEDA	**zmir-Bergama**	**1.68**	**146**	*i* P		**Pn**	**23 38 18.8**	**+0.8**
ZEDA				*i* S		**Sn**	**23 38 38.4**	**-0.9**
KIRK	**Kırklareli**	**1.69**	**33**	*i* P		**Pn**	**23 38 19.1**	**+1.1**
KIRK				*i* S		**Sn**	**23 38 35.8**	**-3.6**
DIM	**Dimitrovgrad**	**1.70**	**351**	*eP*		**Pn**	**23 38 19.7**	**+1.5**
BALB	**Balikesir**	**1.71**	**115**	PN		**Pn**	**23 38 19.3**	**+1.0**
STEP	**BALIKESIR_Sava**	**1.73**	**124**	*i* P		**Pn**	**23 38 19.9**	**+1.2**
STEP				*i* S		**Sn**	**23 38 38.7**	**-1.9**
NVR	**Nevrokopi**	**1.81**	**303**	P		**Pn**	**23 38 20.5**	**+0.7**
NVR				S		**Sb**	**23 38 46.0**	**+1.5**
NVR				AML	AML		23 38 49.3	
	comp=N,48μm,0.2s							
NVR				AML	AML		23 38 49.8	
	comp=E,59μm,0.4s							
SLVT	**Silivri**	**1.97**	**63**	PN		**Pn**	**23 38 23.5**	**+1.6**
DURS	**Dursunbey**	**2.14**	**110**	*i* P		**Pn**	**23 38 26.1**	**+1.7**
DURS				*i* S		**Sn**	**23 38 51.6**	**+0.9**
VAY	**Valandovo**	**2.68**	**292**	*i* Pn		**Pb**	**23 38 37.6**	**+0.9**
STIP	**Stip**	**3.09**	**297**	*i* Pn		**Pn**	**23 38 37.0**	**-0.3**

NEIC ***12*** *00:24:17.4±2.1,7.68S±0.10×117.24E±0.09,h299km±5km, mb4.0/20,Error ellipse: s-maj=14.4km s-min=11.8km az=204.0*

DJA ***12*** *00:24:18.3±0.6,8.8S±20.2×11.7E±.1,h288km±6km,M4.4/12, mb4.8/5,MLv4.2/12*

IDC ***12*** *00:24:19.2±2.0,7.63S×117.23E,h313km±22km,mb3.5/15, mb1 3.6/18,mb1mx3.4/49,mbtmp4.2/18,Error ellipse: s-maj=21.1km s-min=10.1km az=60.0*

ISC 12 00:24:18.2±0.4,**7.64S**±0.07×**117.33E**±0.06,**h306**km,**n73,** σ1**977/78,mb3.9/23,1C,Bali Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWSI	**Taliwang, Sumb**	**1.17**	**202**	P		**Pn**	**00 24 57.8**	**-2.3**
TWSI				S		**S**	**00 25 28.4**	**-5.0**
PLAI	**Plampang**	**1.26**	**159**	P		**Pn**	**00 24 58.1**	**-2.4**
PLAI				S		**S**	**00 25 29.5**	**-4.7**
SRBI	**Singaraja**	**2.14**	**258**	P		**Pn**	**00 25 05.5**	**-1.1**
SRBI				S		**S**	**00 25 41.4**	**-3.8**
DNP	**Denpasar**	**2.33**	**244**	P		**Pn**	**00 25 05.9**	**-2.3**
WBSI	**Waikabubak, Su**	**2.85**	**134**	P		**Pn**	**00 25 10.4**	**-2.5**
JAGI	**Jajag, Banyuwa**	**3.25**	**255**	P		**Pn**	**00 25 14.5**	**-2.3**
JAGI	**Jajag, Banyuwa**	**3.25**	**255**	Pn		**Pn**	**00 25 14.6**	**-2.2**
GMJI	**Gumukmas**	**3.89**	**260**	P		**Pn**	**00 25 21.8**	**-1.8**
BASI	**Baing, Sumba**	**4.11**	**129**	P		**Pn**	**00 25 24.0**	**-1.9**
EDFI	**Ende, Flores**	**4.46**	**105**	P		**Pn**	**00 25 28.2**	**-1.7**
NGJI	**Ngawi**	**5.82**	**272**	P		**Pn**	**00 25 45.3**	**-0.2**
	0.6nm65nm,1.1s							
WOJI	**Wonogiri, Jawa**	**6.35**	**268**	P		**Pn**	**00 25 51.1**	**-0.7**
	0.7nm228nm,0.7s							
UGM	**Wanagama**	**6.75**	**267**	P		**Pn**	**00 25 55.7**	**-1.0**
UGM	**Wanagama**	**6.75**	**267**	Pn		**Pn**	**00 25 54.6**	**-2.0**
BATI	**Baumata**	**6.76**	**113**	P		**Pn**	**00 25 59.2**	**+2.4**
	3.7nm,0.3s,baz=109,slow=20,SNR=2.3							
BATI				S		**S**	**00 27 09.9**	**-6.7**
	9.0nm,0.3s,baz=293,slow=1.3,SNR=2.7							
SMRI	**Semarang**	**6.85**	**274**	P		**Pn**	**00 25 59.7**	**+1.7**
SMRI	**Semarang**	**6.85**	**274**			**Pn**	**00 25 57.2**	**-0.8**
SOEI	**Soe**	**7.18**	**108**	Pn		**Pn**	**00 26 00.9**	**-1.1**
CISI	**Cisompet, Garu**	**9.43**	**270**	Pn		**Pn**	**00 26 28.3**	**-1.1**
LEM	**Lembang**	**9.66**	**274**	P		**Pn**	**00 26 32.4**	**-0.1**
	4.3nm,0.3s,baz=108,slow=20,SNR=5.5							
SBUM	**Sibu**	**11.24**	**333**	P		**P**	**00 26 53.6**	**+0.1**
KSM	**Kuching**	**11.45**	**322**	P		**Pn**	**00 26 54.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**13.17**	**143**	P		**P**	**00 27 15.4**	**+0.6**
	0.5nm,0.3s,baz=323,slow=10,SNR=15							
FITZ				S		**S**	**00 29 45.9**	**+5.4**
	0.3nm,0.3s,baz=149,slow=15,SNR=1.5							
FITZ	**Fitzroy Crossi**	**13.17**	**143**	P		**Pn**	**00 27 14.5**	**-0.3**
KNRA	**Kununurra**	**13.75**	**127**	P		**P**	**00 27 20.5**	**-0.8**
MTN	**Manton Dam**	**14.54**	**112**	P		**Pn**	**00 27 30.7**	**-0.3**
FAKI	**Fak Fak**	**15.58**	**73**	P		**Pn**	**00 27 43.0**	**-0.3**
WB0	**Warramunga Arr**	**20.47**	**128**	P		**P**	**00 28 33.6**	**-0.1**
WB0				IAmb		IAmb	00 28 34.8	
	comp=Z,8.9nm,1.3s							
WRA	**Warramunga Arr**	**20.53**	**128**	P		**P**	**00 28 34.7**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=276,slow=8.9,SNR=8.9							
WRA	**Warramunga Arr**	**20.53**	**128**	P		**P**	**00 28 33.7**	**-0.5**
WB2	**Warramunga Arr**	**20.54**	**128**	P		**P**	**00 28 33.4**	**-0.9**
WB2				IAmb		IAmb	00 28 47.9	
	comp=Z,13nm,1.3s							
WR0	**Warramunga Arr**	**20.70**	**128**	P		**P**	**00 28 36.3**	**+0.5**
AS31	**Alice Springs**	**22.51**	**137**	P		**P**	**00 28 53.9**	**+1.4**
ASAR	**Alice Springs**	**22.51**	**137**	P		**P**	**00 28 53.8**	**+1.2**
	comp=Z,2.6nm,0.6s,baz=310,slow=8.2,SNR=22							
ASAR	**Alice Springs**	**22.51**	**137**	P		**P**	**00 28 53.4**	**+0.9**
COEN	**Coen**	**26.14**	**106**	P		**P**	**00 29 25.3**	**0.0**
CMAR	**Chiang Mai Arr**	**31.65**	**325**	P		**P**	**00 30 14.3**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=152,slow=6.5,SNR=5.4							
CMAR	**Chiang Mai Arr**	**31.65**	**325**	P		**P**	**00 30 14.5**	**+0.8**
STKA	**Stephens Creek**	**33.05**	**140**	P		**P**	**00 30 26.7**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=307,slow=7.5,SNR=3.6							
STKA	**Stephens Creek**	**33.05**	**140**	P		**P**	**00 30 26.3**	**+0.6**
KMI	**Kunming**	**35.53**	**337**	⇑P		**P**	**00 30 48.9**	**+1.7**
KMI				pmax		pmax		
	comp=Z,7.0nm,0.6s							
SHL	**Shillong**	**41.26**	**324**	P		**P**	**00 31 33.9**	**-0.6**
SHL				IAmb		IAmb	00 31 35.1	
	comp=Z,9.2nm,0.7s							
KSAR	**Wonju Array Be**	**45.92**	**12**	P		**P**	**00 32 12.5**	**+1.4**
KSRS	**Korea Array**	**45.94**	**12**	P		**P**	**00 32 12.6**	**+1.4**
	comp=Z,2.4nm,0.8s,baz=194,slow=7.3,SNR=9.0							
MJAR	**Matsushiro Arr**	**48.12**	**23**	P		**P**	**00 32 27.6**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=202,slow=9.0,SNR=5.8							
GTA	**Gaotai**	**49.55**	**342**	*eP*		**P**	**00 32 40.3**	**+1.4**
GTA				pmax		pmax		
	comp=Z,9.0nm,0.8s							
USRK	**Ussuriysk Ar.**	**53.28**	**13**	P		**P**	**00 33 06.6**	**+0.5**
	comp=Z,4.2nm,0.7s,baz=192,slow=7.5,SNR=9.2							
USRK	**Ussuriysk Ar.**	**53.28**	**13**	P		**P**	**00 33 06.8**	**+0.8**
ULN	**Ulaanbaatar**	**56.01**	**352**	P		**P**	**00 33 25.8**	**+0.1**
ULN				IAmb		IAmb	00 33 27.1	
	comp=Z,4.2nm,0.7s							
SONM	**Songino Array**	**56.08**	**351**	P		**P**	**00 33 26.6**	**+0.5**
	comp=Z,7.6nm,0.7s,baz=170,slow=9.0,SNR=40							
SONM	**Songino Array**	**56.08**	**351**	P		**P**	**00 33 26.5**	**+0.3**
KLR	**Kul'dur**	**58.03**	**11**	P		**P**	**00 33 39.8**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=210,slow=4.7,SNR=4.2							
TLY	**Talaya**	**60.25**	**350**	P		**P**	**00 33 55.0**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=80,slow=9.3,SNR=3.6							
TLY	**Talaya**	**60.25**	**350**	P		**P**	**00 33 55.0**	**+0.4**
TLY				IAmb		IAmb	00 33 56.8	
	comp=Z,4.1nm,1.0s							
KDJ	**Kajisay**	**61.62**	**327**	P		**P**	**00 34 03.1**	**-1.1**
KDJ				IAmb		IAmb	00 34 22.1	
	comp=Z,3.4nm,1.0s							
KBL	**Kabul**	**61.97**	**316**	P		**P**	**00 34 04.9**	**-1.8**
MK31	**Makanchi Array**	**62.51**	**334**	P		**P**	**00 34 09.5**	**-0.3**
MKAR	**Makanchi Array**	**62.51**	**334**	P		**P**	**00 34 09.4**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=146,slow=7.6,SNR=22							
MKAR	**Makanchi Array**	**62.51**	**334**	P		**P**	**00 34 09.1**	**-0.7**
KKAR	**Karatay Array**	**65.99**	**324**	P		**P**	**00 34 31.6**	**-0.8**
KURBB	**Kurchatov Arra**	**67.03**	**334**	P		**P**	**00 34 37.8**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=144,slow=5.7,SNR=8.4							
KURK	**Kurchatov**	**67.06**	**334**	P		**P**	**00 34 38.3**	**-0.5**
KURK				IAmb		IAmb	00 34 39.7	
	comp=Z,1.7nm,0.8s							
ZAA0	**Zalesovo Array**	**67.20**	**340**	P		**P**	**00 34 38.6**	**-1.0**
ZAA0				IAmb		IAmb	00 34 39.3	
	comp=Z,2.7nm,0.7s							
ZALV	**Zalesovo Beam**	**67.20**	**340**	P		**P**	**00 34 38.7**	**-0.9**
	comp=Z,2.2nm,0.4s,baz=140,slow=4.8,SNR=6.4							
ZALV	**Zalesovo Beam**	**67.20**	**340**	P		**P**	**00 34 38.5**	**-1.2**
PETK	**Petropavlovsk-**	**69.52**	**25**	P		**P**	**00 34 55.0**	**+1.0**
	comp=Z,2.5nm,1.1s,baz=267,slow=2.5,SNR=3.3							
PETK	**Petropavlovsk-**	**69.52**	**25**	P		**P**	**00 34 55.3**	**+1.3**
BRVK	**Borovoye**	**72.40**	**332**	P		**P**	**00 35 10.9**	**-0.2**
BRVK				IAmb		IAmb	00 35 11.4	
	comp=Z,3.5nm,1.1s							
VNDA	**Vanda**	**73.58**	**171**	P		**P**	**00 35 18.9**	**+1.2**
	comp=Z,0.6nm,0.9s,baz=333,slow=8.0,SNR=2.4							
VNDA	**Vanda**	**73.58**	**171**	P		**P**	**00 35 18.7**	**+0.9**
ABKAR	**Akbulak array**	**75.51**	**325**	P		**P**	**00 35 28.3**	**-0.8**
SNAA	**Sanae**	**91.85**	**196**	P		**P**	**00 36 51.8**	**+0.3**
SNAA				IAmb		IAmb	00 36 55.3	
	comp=Z,3.1nm,1.5s							
CPUP	**Villa Florida**	**145.83**	**189**	PKPbc		**PKPbc**	**00 43 22.1**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=154,slow=2.6,SNR=6.3							

IDC ***12*** *00:24:58.7±1.1,47.65S×100.16E,h0km,mb4.0/8, mb1 4.1/8,mb1mx3.9/38,mbtmp4.0/8,MS3.8/7,Ms1 3.8/7, ms1mx3.4/24,Error ellipse: s-maj=37.5km s-min=17.7km az=119.0*

NEIC ***12*** *00:24:59.8±2.2,47.7S±0.1×100.4E±0.2,h10km±1km, mb4.3/10,Error ellipse: s-maj=29.6km s-min=19.5km az=298.0*

ISC 12 00:25:00.1±0.7,**47.7S**±0.1×**100.3E**±0.2,**h10**km,**n33,** σ1**21/23,mb4.2/10,MS3.8/7,Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H01W2	**Cape Leeuwin H**	**16.44**	**44**	T		T	00 45 51.3	
	baz=215,slow=74,SNR=521							
H01W1	**Cape Leeuwin H**	**16.45**	**44**	T		T	00 45 51.8	
	baz=215,slow=74,SNR=642							
H01W3	**Cape Leeuwin H**	**16.45**	**44**	T		T	00 45 47.9	
	baz=215,slow=74,SNR=679							
CASY	**Casey**	**19.41**	**168**	P		**P**	**00 29 26.1**	**+0.1**
GIRL	**Giralia**	**27.37**	**29**	P		**P**	**00 30 43.9**	**-1.5**
MAW	**Mawson**	**27.56**	**210**	P		**P**	**00 30 46.0**	**-0.8**
	0.5nm,0.3s,baz=13,slow=4.5,SNR=2.2							
MAW	**Mawson**	**27.56**	**210**	P		**P**	**00 30 45.9**	**-0.8**
STKA	**Stephens Creek**	**34.98**	**78**	P		**P**	**00 31 54.1**	**+1.7**
	1.9nm,0.6s,baz=267,slow=9.4,SNR=5.0							
STKA	**Stephens Creek**	**34.98**	**78**	P		**P**	**00 31 52.4**	**0.0**
STKA				IAmb		IAmb	00 32 01.6	
	comp=Z,2.2nm,1.2s							
ASAR	**Alice Springs**	**35.88**	**60**	P		**P**	**00 32 00.1**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=221,slow=8.7,SNR=6.9							
ASAR	**Alice Springs**	**35.88**	**60**	P		**P**	**00 32 00.7**	**+0.5**
VNDA	**Vanda**	**37.86**	**162**	P		**P**	**00 32 16.4**	**0.0**
	comp=Z,3.5nm,1.1s,baz=303,slow=6.7,SNR=13							
VNDA				LR		LR	00 46 37.9	
	comp=Z,136nm,18.7s,baz=280,slow=34							
VNDA	**Vanda**	**37.86**	**162**	P		**P**	**00 32 13.1**	**-3.3**
VNDA				IAmb		IAmb	00 32 22.1	
	comp=Z,8.5nm,1.5s							
WRA	**Warramunga Arr**	**39.04**	**57**	P		**P**	**00 32 26.7**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=221,slow=7.6,SNR=4.6							
WB2	**Warramunga Arr**	**39.05**	**57**	P		**P**	**00 32 25.8**	**-1.2**
WB2				IAmb		IAmb	00 32 38.9	
	comp=Z,8.3nm,1.1s							
WB0	**Warramunga Arr**	**39.21**	**57**	P		**P**	**00 32 27.1**	**-1.4**
WB0				IAmb		IAmb	00 32 33.4	
	comp=Z,21nm,1.6s							
QSPA	**South Pole Qui**	**42.45**	**180**	P		**P**	**00 32 55.4**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=306,slow=2.4,SNR=22							
QSPA	**South Pole Qui**	**42.45**	**180**	P		**P**	**00 32 56.0**	**+1.1**
QSPA				IAmb		IAmb	00 33 02.9	
	comp=Z,17nm,1.6s							
H08S2	**Diego Garcia H**	**46.38**	**320**	T		T	01 22 37.9	
	baz=154,slow=76,SNR=85							
H08S1	**Diego Garcia H**	**46.39**	**320**	T		T	01 22 41.4	
	baz=154,slow=76,SNR=72							
H08S3	**Diego Garcia H**	**46.40**	**320**	T		T	01 22 42.9	
	baz=154,slow=76,SNR=74							
SNAA	**Sanae**	**49.40**	**204**	Pdiff		**P**	**00 33 50.1**	**+0.7**
SNAA	**Sanae**	**49.40**	**204**	P		**P**	**00 33 49.5**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=135,slow=7.4,SNR=8.6							
SNAA				LR		LR	00 51 58.1	
	comp=Z,99nm,19.9s,baz=140,slow=33							
SNAA	**Sanae**	**49.40**	**204**	P		**P**	**00 33 49.1**	**-0.3**
SNAA				IAmb		IAmb	00 33 51.2	
	comp=Z,4.6nm,1.1s							
PALK	**Pallekele**	**57.40**	**337**	LR		LR	00 55 41.1	
	comp=Z,81nm,18.7s,baz=228,slow=32							
BOSA	**Boshof**	**59.70**	**260**	LR		LR	00 56 37.3	
	comp=Z,45nm,18.0s,baz=116,slow=32							
SUR	**Sutherland**	**60.18**	**254**	LR		LR	00 56 18.8	
	comp=Z,64nm,20.3s,baz=129,slow=31							
SUR	**Sutherland**	**60.18**	**254**	P		**P**	**00 35 08.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**65.85**	**359**	P		**P**	**00 35 45.5**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=198,slow=6.1,SNR=5.4							
CMAR				LR		LR	01 01 36.2	
	comp=Z,44nm,19.1s,baz=225,slow=33							
CMAR	**Chiang Mai Arr**	**65.85**	**359**	P		**P**	**00 35 45.6**	**+0.1**
PLCA	**Paso Flores**	**91.59**	**187**	LR		LR	01 18 15.2	
	comp=Z,63nm,18.4s,baz=138,slow=35							
NVAR	**Mina Array Bea**	**150.58**	**94**	PKPbc		**PKiKP**	**00 44 54.5**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=50,slow=41,SNR=2.1							
NVAR	**Mina Array Bea**	**150.58**	**94**	PKPdf		**PKPdf**	**00 44 48.2**	**+1.6**

DDA ***12*** *00:46:18.9,38.36N×26.75E,h7km±4km,ML3.2*

ATH ***12*** *00:46:18.5,38.32N×26.67E,h41km±1km,ML3.6/5,Error ellipse: s-maj=2.2km s-min=0.9km az=248.0*

THE ***12*** *00:46:20.1,38.34N×26.62E,h21km±1km,ML3.2/7,Error ellipse: s-maj=2.0km s-min=0.6km az=235.0*

ISC 12 00:46:18.2±1.0,**38.35N**±0.02×**26.73E**±0.02,**h18**km±3km, **n92,**σ0**98**/132,**10C-3D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URLA	**Izmir**	**0.10**	**274**	*i* P		**Pg**	**00 46 22.2**	**+0.1**
URLA				*i* S		**Sg**	**00 46 23.9**	**-0.8**
DGB	**zmir**	**0.32**	**158**	*i* P		**Pb**	**00 46 26.2**	**+0.7**
DGB				*i* S		**Sg**	**00 46 30.0**	**+0.1**
DGB				IAML			00 46 32.0	
	comp=E,3μm,0.2s							
CHOS	**Chios island**	**0.53**	**274**	P		**Pb**	**00 46 29.5**	**+0.5**
CHOS				S		**Sb**	**00 46 36.3**	**0.0**
	comp=E,4μm,0.3s							
CHOS	**Chios island**	**0.53**	**274**	P		**Pb**	**00 46 29.5**	**+0.5**
CHOS				S		**Sb**	**00 46 37.3**	**+1.0**
CHOS				AML	AML		00 46 40.7	
	comp=E,9396μm,0.3s							
CHOS				AML	AML		00 46 40.7	
	comp=N,8562μm,0.3s							
SMG	**Samos**	**0.65**	**172**	P		**Pb**	**00 46 31.9**	**+1.0**
SMG				S		**Sn**	**00 46 41.9**	**-0.4**
	comp=N,7μm,0.2s							
SMG	**Samos**	**0.65**	**172**	P		**Pb**	**00 46 32.0**	**+1.0**
SMG				S		**Sn**	**00 46 41.8**	**-0.4**
SMG				AML	AML		00 46 44.6	
	comp=E,11387μm,0.2s							
SMG				AML	AML		00 46 45.5	
	comp=N,14764μm,0.2s							
ZEDA	**zmir-Bergama**	**0.67**	**24**	*i* P		**Pg**	**00 46 31.1**	**-0.4**
ZEDA				*i* S		**Sb**	**00 46 41.6**	**+1.3**
ZEDA				IAML			00 46 44.0	
	comp=N,2μm,0.7s							
ZEDA				IAML			00 46 44.0	
	comp=E,3μm,0.5s							
ZEDA				IAML			00 46 45.0	
	comp=Z,1μm,0.4s							
GCAM	**G?zelcaml?**	**0.76**	**148**	*i* P		**Pn**	**00 46 34.2**	**+0.2**
GCAM				*i* S		**Sg**	**00 46 44.1**	**+0.7**
GCAM				IAML			00 46 48.0	
	comp=N,927nm,0.2s							
PSRA	**Psara**	**0.93**	**282**	P		**Pg**	**00 46 36.2**	**-0.2**
PSRA				S		**Sn**	**00 46 49.3**	**+0.1**
PSRA				AML	AML		00 46 50.3	
	comp=N,10317μm,0.3s							
PSRA				AML	AML		00 46 51.4	
	comp=E,8687μm,0.5s							
AYVA	**Ayvalik**	**0.95**	**358**	*i* P		**Pb**	**00 46 36.5**	**+0.3**
AYVA				*i* S		**Sb**	**00 46 48.3**	**-0.2**
AYVA				IAML			00 46 50.0	
	comp=E,885nm,0.6s							
AYVA				IAML			00 46 52.0	
	comp=Z,612nm,0.5s							
AYVA				IAML			00 46 52.0	
	comp=N,2μm,0.4s							
PRK	**Paraskevi**	**0.96**	**338**	P		**Pn**	**00 46 37.6**	**+0.8**
PRK				S		**Sn**	**00 46 50.5**	**+0.5**
	comp=N,7μm,0.5s							
PRK	**Paraskevi**	**0.96**	**338**	P		**Pn**	**00 46 37.5**	**+0.7**
PRK				S		**Sn**	**00 46 51.0**	**+1.0**
PRK				AML	AML		00 46 52.2	
	comp=N,9484μm,0.6s							
PRK				AML	AML		00 46 52.5	
	comp=E,16632μm,0.4s							
AKHS	**Akhisar**	**1.00**	**58**	*i* P		**Pb**	**00 46 37.6**	**+0.6**
AKHS				*i* S		**Sb**	**00 46 50.0**	**+0.2**
SIGR	**SIGRI**	**1.10**	**322**	P		**Pb**	**00 46 38.5**	**-0.1**
SIGR				S		**Sb**	**00 46 52.6**	**+0.1**
	comp=E,768nm,0.5s							
SIGR	**SIGRI**	**1.10**	**322**	P		**Pb**	**00 46 38.6**	**-0.1**
SIGR				S		**Sb**	**00 46 52.9**	**+0.3**
SIGR				AML	AML		00 46 55.5	
	comp=N,1698μm,0.6s							
SIGR				AML	AML		00 46 59.7	
	comp=E,1346μm,0.4s							
AYDN	**Tasoluk**	**1.14**	**127**	*i* P		**Pg**	**00 46 40.4**	**+0.1**
AYDN				*i* S		**Sb**	**00 46 53.0**	**-1.0**
AYDN				IAML			00 47 00.0	
	comp=E,527nm,0.3s							
STEP	**BALIKESIR_Sava**	**1.28**	**37**	*i* P		**Pn**	**00 46 41.4**	**+0.1**
STEP				*i* S		**Sb**	**00 46 56.8**	**-1.1**
STEP				IAML			00 47 05.0	
	comp=Z,403nm,0.6s							
STEP				IAML			00 47 07.0	
	comp=N,600nm,0.6s							
STEP				IAML			00 47 07.0	
	comp=E,589nm,0.3s							
BODT	**Bodrum**	**1.37**	**160**	P		**Pn**	**00 46 43.2**	**+0.8**
BODT				S		**Sg**	**00 47 02.0**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**1.39**	**354**	*i* P		**Pn**	**00 46 42.7**	**-0.1**
BAYC				*i* S		**Sn**	**00 46 58.8**	**-1.9**
BAYC				IAML			00 47 03.0	
	comp=E,491nm,0.4s							
BAYC				IAML			00 47 05.0	
	comp=N,321nm,0.2s							
MANT	**Manisa**	**1.44**	**84**	*i* P		**Pg**	**00 46 46.4**	**+0.2**
MANT				*i* S		**Sn**	**00 47 03.0**	**+0.8**
MANT				IAML			00 47 07.0	
	comp=E,398nm,0.5s							
MANT				IAML			00 47 08.0	
	comp=Z,277nm,0.4s							
TNSA	**Tinos**	**1.48**	**237**	P		**Pn**	**00 46 43.7**	**-0.2**
EZN	**Ezine**	**1.50**	**348**	P		**Pn**	**00 46 44.2**	**0.0**
EZN				S		**Sn**	**00 47 03.0**	**-0.4**
KULA	**Kula-Manisa**	**1.53**	**83**	P		**Pg**	**00 46 47.3**	**-0.4**
BALY	**Balya**	**1.55**	**26**	*i* P		**Pn**	**00 46 45.6**	**+0.7**
BALY				*i* S		**Sn**	**00 47 05.5**	**+0.9**
BALY				IAML			00 47 11.0	
	comp=N,610nm,0.3s							
BALY				IAML			00 47 11.0	
	comp=E,438nm,0.3s							
BOZC	**Bozcaada**	**1.58**	**341**	*i* P		**Pn**	**00 46 45.2**	**-0.1**
BOZC				*i* S		**Sn**	**00 47 03.5**	**-1.7**
BOZC				IAML			00 47 09.0	
	comp=N,443nm,0.4s							
BOZC				IAML			00 47 10.0	
	comp=E,440nm,0.3s							
APE	**Apeiranthos**	**1.59**	**217**	P		**Pn**	**00 46 45.3**	**-0.2**
APE				S		**Sn**	**00 47 04.8**	**-0.9**
	comp=E,230nm,0.3s							
APE	**Apeiranthos**	**1.59**	**217**	P		**Pn**	**00 46 45.3**	**-0.2**
APE	**Apeiranthos**	**1.59**	**217**	⇓P		**Pn**	**00 46 45.2**	**-0.4**
APE				⇓S		**Sg**	**00 47 11.6**	**+1.9**
AMGA	**Amorgos Island**	**1.66**	**204**	P		**Pn**	**00 46 46.1**	**-0.3**
AMGA	**Amorgos Island**	**1.66**	**204**	P		**Pn**	**00 46 46.1**	**-0.3**
YER	**Yerkesik**	**1.73**	**134**	P		**Pn**	**00 46 48.7**	**+1.3**
DAT	**Datca**	**1.76**	**157**	P		**Pn**	**00 46 48.5**	**+0.7**
DAT	**Datca**	**1.76**	**157**	*i* P		**Pn**	**00 46 48.6**	**+0.8**
DAT				*i* S		**Sn**	**00 47 07.3**	**-2.4**
USAK	**Uak-Merkez**	**1.83**	**78**	*i* P		**Pn**	**00 46 49.9**	**+1.1**
USAK				*i* S		**Sb**	**00 47 14.0**	**+0.2**
KARY	**Karystos**	**1.83**	**261**	P		**Pn**	**00 46 49.3**	**+0.5**
KARY				S		**Sn**	**00 47 10.1**	**-1.4**
	comp=E,18nm,0.6s							
KARY	**Karystos**	**1.83**	**261**	P		**Pn**	**00 46 49.2**	**+0.4**
DURS	**Dursunbey**	**1.85**	**47**	*i* P		**Pn**	**00 46 49.6**	**+0.5**
DURS				*i* S		**Sn**	**00 47 10.6**	**-1.3**
TAVA	**DENIZLI_Tavas**	**1.94**	**116**	*i* P		**Pn**	**00 46 52.1**	**+1.7**
TAVA				*i* S		**Sn**	**00 47 14.7**	**+0.4**
GOKA	**anakkale-Gk**	**1.94**	**341**	*i* P		**Pn**	**00 46 50.7**	**+0.4**
GOKA				*i* S		**Sn**	**00 47 12.3**	**-1.8**
G

δ79.00000°,λ112.00000°. Principal axes: T Plg51.0000°, Azm196.0000°; N Plg21.0000°, Azm77.0000°; P Plg31.0000°, Azm334.0000°;
JMA Felt I J1.
IDC **12** *00:47:24.0±1.0,34°.16N×140°.17E,h94km,7km,mb3.9/17, mb1 4.1/22,mb1mx3.9/39,mbtmp4.3/22,MS3.1/8, Ms1 3.2/8,ms1mx2.9/43 Error ellipse: s-maj=20.9km s-min=7.8km az=73.0*

ISC 12 00:47:22.9±0.7,34°.19N±0°.03×140°.22E±0°.05,h84km±6km, n181,σ1⇟30/195,mb4.6/58,16C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JMKN	**Mikurajimanish**	**0.60**	**241**	⇓P		**Pn**		**00 47 38.6**	**+0.6**
JMKN				eS		**Sn**		**00 47 50.0**	**+0.8**
BSO3	**Boso 3**	**0.66**	**21**	⇑P		**Pn**		**00 47 39.9**	**+1.7**
BSO3				eK				00 47 53.0	
BSO1	**Boso 1**	**0.78**	**53**	⇑P		**Pn**		**00 47 41.2**	**+2.0**
BSO1				eK				00 47 53.8	
JNIO	**Niijimaoohara**	**0.80**	**282**	P		**Pn**		**00 47 40.3**	**+0.3**
JNIO				eS		**Sn**		**00 47 53.5**	**+0.8**
BSO4	**Boso 4**	**0.80**	**7**	⇑P		**Pn**		**00 47 41.7**	**+1.8**
BSO4				eK				00 47 54.2	
JIM2	**Oshima 3**	**0.84**	**309**	⇑P		**Pn**		**00 47 40.7**	**+0.3**
JIM2				S		**Sn**		**00 47 53.7**	**+0.2**
JTHY	**Toshimahigashi**	**0.84**	**294**	P		**Pn**		**00 47 41.1**	**+0.7**
JTHY				eS		**Sn**		**00 47 54.9**	**+1.4**
JKO	**Kozu shima**	**0.90**	**270**	P		**Pn**		**00 47 41.5**	**+0.4**
JKO				eS		**Sn**		**00 47 55.0**	**+0.4**
JHJ2	**Mitsune**	**1.13**	**198**	⇓P		**Pn**		**00 47 45.1**	**+1.3**
JHJ2				eS		**Sn**		**00 47 59.9**	**+0.5**
JHJ2	**Mitsune**	**1.13**	**198**	Pn		**Pn**		**00 47 45.1**	**+1.3**
JHJ2				Sn		**Sn**		**00 48 01.4**	**+2.1**
JHJ	**Hachijo jima 2**	**1.13**	**199**	P		**Pn**		**00 47 45.2**	**+1.4**
	2μm,0.3s,baz=334,slow=19,SNR=988								
JHJ				S		**Sn**		**00 48 00.8**	**+1.4**
	2μm,0.3s,baz=281,slow=23,SNR=21								
JIZS	**Izushimoda**	**1.23**	**296**	⇑P		**Pn**		**00 47 45.5**	**+0.5**
JIZS				eS		**Sn**		**00 48 01.1**	**-0.5**
JOD2	**Odawara 2**	**1.42**	**319**	⇑P		**Pn**		**00 47 47.8**	**+0.4**
JOD2				S		**Sn**		**00 48 05.8**	**-0.1**
JFNN	**Fujinakano**	**1.61**	**309**	⇓P		**Pn**		**00 47 50.9**	**+1.0**
JFNN				eS		**Sn**		**00 48 11.1**	**+0.8**
JAOM	**Aogashimamukai**	**1.76**	**193**	P		**Pn**		**00 47 53.8**	**+1.9**
JAOM				eS		**Sn**		**00 48 16.4**	**+2.6**
SHZ3	**Shizuoka 3**	**1.88**	**298**	P		**Pn**		**00 47 54.5**	**+1.1**
SHZ3				eS		**Sn**		**00 48 18.0**	**+1.5**
JYN	**Shimob**	**1.90**	**314**	⇓P		**Pn**		**00 47 54.7**	**+1.0**
JYN				eS		**Sn**		**00 48 18.3**	**+1.2**
TK04	**Tokai 4**	**1.95**	**276**	⇓P		**Pn**		**00 47 55.5**	**+1.3**
TK04				eS		**Sn**		**00 48 18.5**	**+0.5**
MJAR	**Matsushiro Arr**	**2.87**	**326**	P		**Pn**		**00 48 07.1**	**+0.6**
	8.1nm,0.3s,baz=157,slow=12,SNR=312								
MJAR				S		**Sn**		**00 48 41.4**	**+1.3**
	5.6nm,0.3s,baz=302,slow=30,SNR=2.0								
MJAR	**Matsushiro Arr**	**2.87**	**326**	Pn		**Pn**		**00 48 04.4**	**-2.1**
MAJO	**Matsushiro**	**2.87**	**326**	P		**Pn**		**00 48 07.7**	**+1.1**
MAJO								00 48 39.5	
MAJO	**Matsushiro**	**2.87**	**326**	Pn		**Pn**		**00 48 07.7**	**+1.1**
MAJO				Sn		**Sn**		**00 48 39.5**	**-0.7**
MAT	**Matsushiro**	**2.87**	**326**	P		**Pn**		**00 48 07.8**	**+1.2**
MAT				S		**Sn**		**00 48 41.2**	**+1.1**
MJB9	**Matsu-Tunnel**	**2.87**	**326**			**Pn**		**00 48 07.7**	**+1.1**
JCJ	**Chichijima**	**7.27**	**166**	P		**Pn**		**00 49 05.7**	**-0.8**
	20nm,0.3s,baz=293,slow=23,SNR=7.4								
JCJ				S		**Sn**		**00 50 20.4**	**-7.1**
	18nm,0.3s,baz=267,slow=22,SNR=1.9								
JCJ	**Chichijima**	**7.27**	**166**	Pn		**Pn**		**00 49 03.9**	**-2.6**
JNU	**Nakatsue**	**7.86**	**265**	P		**Pn**		**00 49 15.9**	**+1.4**
	1.8nm,0.3s,baz=72,slow=9.7,SNR=14								
JNU	**Nakatsue**	**7.86**	**265**	Pn		**Pn**		**00 49 16.2**	**+1.6**
ERM	**Erimo**	**8.15**	**16**	P		**Pn**		**00 49 16.2**	**-2.1**
ERM	**Erimo**	**8.15**	**16**	Pn		**Pn**		**00 49 16.2**	**-2.1**
ASAJ	**Asahikawa**	**10.08**	**10**	P		**Pn**		**00 49 42.3**	**-2.5**
	1.5nm,0.3s,baz=71,slow=31,SNR=1.9								
ASAJ				S		Sn		00 51 19.4	-17
	2.2nm,0.3s,baz=141,slow=31,SNR=1.7								
ASAJ	**Asahikawa**	**10.08**	**10**	P		**Pn**		**00 49 41.8**	**-2.9**
JKA	**Kamikawa-asahi**	**10.08**	**10**			**Pn**		**00 49 41.8**	**-2.9**
KSRS	**Korea Array**	**10.50**	**292**	P		**Pn**		**00 49 53.0**	**+2.5**
	0.2nm,0.3s,baz=108,slow=14,SNR=31								
KSRS				LR		LR		00 54 15.7	
	comp=Z,47nm,18.3s,baz=120,slow=39								
KSAR	**Wonju Array Be**	**10.53**	**291**	P		**Pn**		**00 49 52.8**	**+1.9**
KSAR	**Wonju Array Be**	**10.53**	**291**	Pn		**Pn**		**00 49 52.8**	**+1.9**
KS19	**Wonju Array Si**	**10.56**	**292**			**Pn**		**00 49 53.6**	**+2.3**
TJN	**Taejon**	**10.73**	**285**	*ce*P		**Pn**		**00 49 51.5**	**-2.2**
USRK	**Ussuriysk Ar.**	**11.85**	**330**	P		**Pn**		**00 50 08.9**	**+0.1**
	baz=147,slow=10,SNR=6.7								
USRK				LR		LR		00 54 26.8	
	comp=Z,52nm,18.6s,baz=157,slow=36								
USRK	**Ussuriysk Ar.**	**11.85**	**330**	Pn		**Pn**		**00 50 08.3**	**-0.5**
YSS	**Yuzh-Sakhalins**	**12.89**	**8**	P		**Pn**		**00 50 21.8**	**-1.0**
YSS	**Yuzh-Sakhalins**	**12.89**	**8**	Pn		**Pn**		**00 50 21.8**	**-1.0**
MDJ	**Mudanjiang**	**13.25**	**325**	P		**Pn**		**00 50 27.1**	**-0.5**
MDJ					pmax	pmax			
	comp=Z,19nm,1.6s								
KLR	**Kul'dur**	**16.29**	**340**	P		**Pn**		**00 51 03.6**	**-2.7**
	2.2nm,0.3s,baz=157,slow=10.0,SNR=36								
KLR				LR		LR		00 56 24.8	
	comp=Z,57nm,21.0s,baz=118,slow=33								
KLR	**Kul'dur**	**16.29**	**340**	*i* P		**Pn**		**00 51 02.6**	**-3.8**
KLR					pmax	pmax			
	comp=Z,6.0nm,0.8s								
NJ2	**Nanjing**	**18.02**	**269**	*e*P		**P**		**00 51 27.5**	**+0.3**
NJ2					pmax	pmax			
	comp=Z,7.0nm,0.5s								
SKR	**Severo-Kuril's**	**20.16**	**30**	*e*P		Pn		00 51 52.6	-0.3
SKR					pmax	pmax			
	comp=Z,11nm,0.7s								
SKR					pmax	pmax			
	comp=Z,300nm,5.9s								
SKR					pmax	pmax			
	comp=Z,500nm,5.7s								
SKR					MLR	MLR			
	comp=Z,300nm,17.0s								
GUMO	**Guam**	**20.94**	**167**	LR		LR		00 58 31.3	
	comp=Z,46nm,21.9s,baz=199,slow=32								
HIA	**Hailar**	**21.36**	**321**	*i* P		**P**		**00 52 02.8**	**-0.5**
HIA					pmax	pmax			
	comp=Z,7.0nm,0.9s								
ZEA	**Zeya**	**21.59**	**339**	*e*P		**P**		**00 52 04.8**	**-0.8**
ZEA					pmax	pmax			
	comp=Z,100nm,0.7s								
HHC	**Hu-ho-hao-te**	**23.62**	**295**	*e*P		**P**		**00 52 28.0**	**+1.6**
HHC					pmax	pmax			
	comp=Z,20nm,0.8s								
HHC					pmax	pmax			
	comp=Z,140nm,4.1s								
HHC					LR	LR			
	comp=Z,230nm,11.8s								
HHC					LR	LR			
	comp=Z,190nm,11.4s								
HHC					LR	LR			
	comp=Z,100nm,11.0s								
XAN	**Xi'an**	**25.87**	**279**	P		**P**		**00 52 43.8**	**-3.0**
XAN					pmax	pmax			
	comp=Z,6.0nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**27.69**	**114**	T		T		01 22 17.9	
	baz=306,slow=75,SNR=334								
H11N1	**WAKE ISLAND Hy**	**27.70**	**115**	T		T		01 22 18.8	
	baz=306,slow=75,SNR=276								
H11N3	**WAKE ISLAND Hy**	**27.71**	**114**	T		T		01 22 19.7	
	baz=306,slow=75,SNR=225								
ULN	**Ulaanbaatar**	**28.27**	**309**	*ce*P		**P**		**00 53 07.5**	**-0.8**
ULN					pmax	pmax			
	comp=Z,11nm,2.5s								
ULN	**Ulaanbaatar**	**28.27**	**309**	P		**P**		**00 53 08.4**	**+0.1**
H11S3	**WAKE ISLAND Hy**	**28.29**	**117**	T		T		01 23 00.7	
	SNR=24								
H11S1	**WAKE ISLAND Hy**	**28.29**	**117**	T		T		01 23 40.6	
	baz=313,slow=74,SNR=27								
H11S2	**WAKE ISLAND Hy**	**28.30**	**117**	T		T		01 23 44.9	
	baz=17,slow=74,SNR=24								
SONM	**Songino Array**	**28.68**	**309**	P		**P**		**00 53 12.4**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=110,slow=9.5,SNR=8.5								
SONM				LR		LR		01 03 33.8	
	comp=Z,38nm,21.0s,baz=102,slow=34								
SONM	**Songino Array**	**28.68**	**309**	P		**P**		**00 53 11.9**	**0.0**
LZH	**Lanzhou**	**29.70**	**284**	*e*P		**P**		**00 53 21.0**	**-0.2**
LZH				pP		pP		00 53 40.6	+0.2
LZH				sP		sP		00 53 50.9	+0.7
LZH				*e*PP		**PnPn**		**00 54 21.3**	**+1.2**
LZH					pmax	pmax			
	comp=Z,23nm,1.2s								
LZH					pmax	pmax			
	comp=Z,110nm,5.0s								
LZH					LR	LR			
	comp=Z,450nm,13.0s								
LZH					LR	LR			
	comp=Z,460nm,13.2s								
LZH					LR	LR			
	comp=Z,630nm,16.3s								
TLY	**Talaya**	**31.55**	**315**	*i* P		**P**		**00 53 37.1**	**0.0**
TLY					pmax	pmax			
	comp=Z,11nm,1.0s								
TLY	**Talaya**	**31.55**	**315**	P		**P**		**00 53 37.7**	**+0.6**
TLY					IAmb	IAmb		00 53 38.8	
	comp=Z,9.7nm,0.8s								
GTA	**Gaotai**	**32.58**	**291**	*e*P		**P**		**00 53 46.9**	**+0.5**
GTA					pmax	pmax			
	comp=Z,3.0nm,0.7s								
GTA					pmax	pmax			
	comp=Z,97nm,6.4s								
GTA					LR	LR			
	comp=Z,80nm,17.1s								
GTA					LR	LR			
	comp=Z,92nm,16.8s								
GTA					LR	LR			
	comp=Z,74nm,16.8s								
CHTO	**Chiang Mai**	**39.70**	**258**	P		**P**		**00 54 45.9**	**-1.3**
CHTO					pmax	pmax			
	comp=Z,2.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**39.89**	**258**	P		**P**		**00 54 49.5**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=227,slow=25,SNR=4.1								
CMAR					LR	LR		01 14 04.4	
	comp=Z,35nm,19.0s,baz=185,slow=40								
WMQ	**Urumqi**	**41.32**	**300**	*e*P		**P**		**00 55 01.8**	**+1.5**
WMQ					pmax	pmax			
	comp=Z,14nm,0.9s								
WMQ					pmax	pmax			
	comp=Z,37nm,4.7s								
WMQ	**Urumqi**	**41.32**	**300**	P		**P**		**00 55 01.2**	**+0.9**
WMQ					pmax	pmax			
	comp=Z,9.0nm,0.8s								
WMQ	**Urumqi**	**41.32**	**300**	P		**P**		**00 55 01.2**	**+0.9**
WMQ					IAmb	IAmb		00 55 02.7	
	comp=Z,8.7nm,0.8s								
DGZ	**Jazzator, Alta**	**41.33**	**308**	*i* P		**P**		**00 54 59.9**	**-0.5**
DGZ					pmax	pmax			
	comp=Z,13nm,0.9s								
ZAA0	**Zalesovo Array**	**43.16**	**315**	P		**P**		**00 55 14.6**	**-0.5**
ZAA0					IAmb	IAmb		00 55 16.1	
	comp=Z,18nm,1.5s								
ZALV	**Zalesovo Beam**	**43.16**	**315**	P		**P**		**00 55 14.9**	**-0.2**
	comp=Z,8.3nm,1.0s,baz=97,slow=7.6,SNR=14								
ZALV					PcP	**PcP**		**00 57 02.1**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=113,slow=3.1,SNR=4.3								
ZALV	**Zalesovo Beam**	**43.16**	**315**	P		**P**		**00 55 14.3**	**-0.8**
MK31	**Makanchi Array**	**44.86**	**304**	P		**P**		**00 55 28.3**	**-0.5**
MK31					pmax	pmax			
	comp=Z,5.0nm,0.7s								
MK31	**Makanchi Array**	**44.86**	**304**	P		**P**		**00 55 28.3**	**-0.5**
MKAR	**Makanchi Array**	**44.86**	**304**	P		**P**		**00 55 28.4**	**-0.4**
	comp=Z,5.4nm,0.6s,baz=91,slow=10.0,SNR=74								
MKAR	**Makanchi Array**	**44.86**	**304**	*i* P		**P**		**00 55 28.3**	**-0.4**
MKAR					pmax	pmax			
	comp=Z,6.0nm,0.6s								
MAKZ	**Makanchi**	**45.08**	**304**	P		**P**		**00 55 30.0**	**-0.5**
MAKZ					pmax	pmax			
	comp=Z,5.0nm,0.8s								
MAKZ	**Makanchi**	**45.08**	**304**	P		**P**		**00 55 29.9**	**-0.5**
KURK	**Kurchatov**	**46.97**	**310**	*ce*P		**P**		**00 55 44.0**	**-1.2**
KURK					pmax	pmax			
	comp=Z,13nm,0.7s								
KURK	**Kurchatov**	**46.97**	**310**	P		**P**		**00 55 44.6**	**-0.6**
HNR	**Honiara**	**47.25**	**153**	P		**P**		**00 55 47.0**	**-0.7**
HNR					pmax	pmax			
	comp=Z,98nm,0.8s								
HNR	**Honiara**	**47.25**	**153**	P		**P**		**00 55 47.0**	**-0.7**
MTN	**Manton Dam**	**47.56**	**192**	P		**P**		**00 55 48.9**	**-1.2**
MTN					IAmb	IAmb		00 55 56.5	
	comp=Z,20nm,1.1s								
COEN	**Coen**	**47.96**	**176**	P		**P**		**00 55 53.5**	**+0.3**
TARG	**Taragay, Kyrgy**	**48.84**	**298**	P		**P**		**00 55 59.4**	**-0.9**
TARG					IAmb	IAmb		00 56 00.6	
	comp=Z,9.2nm,0.8s								
KDJ	**Kajisay**	**49.20**	**299**	P		**P**		**00 56 02.5**	**-0.3**
KDJ					pmax	pmax			
	comp=Z,5.0nm,0.6s								
KDJ	**Kajisay**	**49.20**	**299**	P		**P**		**00 56 02.5**	**-0.3**
KDJ					IAmb	IAmb		00 56 03.3	
	comp=Z,5.4nm,0.6s								
TKM2	**Tokmak 2**	**50.17**	**300**	P		**P**		**00 56 10.4**	**+0.2**
	SNR=14								
KZA	**Kyzart**	**50.61**	**299**	P		**P**		**00 56 14.5**	**+0.7**
	SNR=5.9								
KBK	**Karagaybulak**	**50.70**	**300**	P		**P**		**00 56 14.4**	**+0.3**
	SNR=10								
KNRA	**Kununurra**	**50.78**	**194**	P		**P**		**00 56 13.3**	**-1.3**
USP	**Ospenovka**	**50.88**	**301**	P		**P**		**00 56 15.1**	**-0.2**
	SNR=6.1								
FRU1	**Bishkek**	**50.89**	**300**	P		**P**		**00 56 15.2**	**-0.2**
FRU1					pmax	pmax			
	comp=Z,21nm,1.2s								
FRU1	**Bishkek**	**50.89**	**300**	P		**P**		**00 56 15.2**	**-0.2**
AAK	**Ala-Archa**	**51.03**	**300**	P		**P**		**00 56 16.3**	**-0.3**
AAK					pmax	pmax			
	comp=Z,6.0nm,0.7s								
AAK	**Ala-Archa**	**51.03**	**300**	P		**P**		**00 56 16.3**	**-0.3**
AAK					IAmb	IAmb		00 56 17.0	
	comp=Z,5.8nm,0.7s								
UCH	**Uchtor**	**51.11**	**300**	P		**P**		**00 56 17.6**	**+0.1**
	SNR=7.2								
AML	**Almayashu**	**51.72**	**300**	P		**P**		**00 56 22.4**	**+0.3**
	SNR=37								
BRVK	**Borovoye**	**51.86**	**314**	*ce*P		**P**		**00 56 21.7**	**-0.7**
BRVK					pmax	pmax			
	comp=Z,2.0nm,1.0s								
BRVK	**Borovoye**	**51.86**	**314**	P		**P**		**00 56 21.9**	**-0.4**
ILAR	**Eielson Array**	**52.42**	**31**	P		**P**		**00 56 26.7**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=279,slow=6.0,SNR=7.2								
ILAR	**Eielson Array**	**52.42**	**31**	P		**P**		**00 56 24.6**	**-1.8**
ARSB	**Arslanbob**	**52.45**	**299**	P		**P**		**00 56 27.0**	**-0.2**
ARSB					pmax	pmax			
	comp=Z,7.0nm,0.8s								
ARSB	**Arslanbob**	**52.45**	**299**	P		**P**		**00 56 26.9**	**-0.2**
ARSB					IAmb	IAmb		00 56 27.9	
	comp=Z,7.1nm,0.8s								
KK31	**Karatay Array**	**53.74**	**302**	P		**P**		**00 56 36.1**	**-0.4**
KK31					pmax	pmax			
	comp=Z,10.0nm,0.8s								
KK31	**Karatay Array**	**53.74**	**302**	P		**P**		**00 56 36.1**	**-0.4**
KK31					IAmb	IAmb		00 56 36.9	
	comp=Z,10nm,0.8s								
KKAR	**Karatay Array**	**53.74**	**302**	P		**P**		**00 56 36.1**	**-0.4**
KKAR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
KKAR	**Karatay Array**	**53.74**	**302**	P		**P**		**00 56 36.0**	**-0.4**
KKAR	**Karatay Array**	**53.74**	**302**	P		**P**		**00 56 36.1**	**-0.4**
KKAR					IAmb	IAmb		00 56 36.9	
	comp=Z,10nm,0.8s								
FITZ	**Fitzroy Crossi**	**53.82**	**197**	P		**P**		**00 56 36.6**	**-0.5**
FITZ					IAmb	IAmb		00 56 50.5	
	comp=Z,9.8nm,1.3s								
WB0	**Warramunga Arr**	**53.94**	**187**	P		**P**		**00 56 37.1**	**-0.9**
WRAB	**Tennant Creek**	**54.11**	**187**	*ce*P		**P**		**00 56 38.1**	**-1.1**
WRAB					pmax	pmax			
	comp=Z,22nm,2.5s								
WR0	**Warramunga Arr**	**54.12**	**187**	P		**P**		**00 56 38.5**	**-0.7**
WB2	**Warramunga Arr**	**54.12**	**187**	P		**P**		**00 56 38.6**	**-0.7**
WRA	**Warramunga Arr**	**54.12**	**187**	P		**P**		**00 56 38.5**	**-0.8**
	comp=Z,11nm,0.6s,baz=4.3,slow=7.6,SNR=87								
WRA	**Warramunga Arr**	**54.12**	**187**	*i* P		**P**		**00 56 38.5**	**-0.8**
WRA					pmax	pmax			
	comp=Z,10.0nm,0.5s								
WRA	**Warramunga Arr**	**54.12**	**187**	P		**P**		**00 56 38.1**	**-1.2**
AS31	**Alice Springs**	**57.85**	**187**	P		**P**		**00 57 05.3**	**-0.5**
AS31					IAmb	IAmb		00 57 07.4	
	comp=Z,2.8nm,0.6s								
ASAR	**Alice Springs**	**57.85**	**187**	P		**P**		**00 57 05.6**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=3.6,slow=5.2,SNR=21								
ASAR	**Alice Springs**	**57.85**	**187**	P		**P**		**00 57 05.1**	**-0.8**
ARU	**Arti**	**57.87**	**320**	*c i* P		**P**		**00 57 05.2**	**-0.5**
ARU								00 59 10.5	
ARU				S		**S**		**01 05 05.4**	**+6.7**
ARU				SS		**SS**		**01 08 49.9**	**-0.1**
ARU					pmax	pmax			
	comp=Z,5.0nm,0.8s								
ARU	**Arti**	**57.87**	**320**	P		**P**		**00 57 05.1**	**-0.6**
ARU					IAmb	IAmb		00 57 06.2	
	comp=Z,4.9nm,0.8s								
ABKAR	**Akbulak array**	**59.05**	**311**	P		**P**		**00 57 13.4**	**-0.7**
EIDS	**Eidsvold**	**60.12**	**169**	P		**P**		**00 57 21.7**	**+0.2**
EIDS					IAmb	IAmb		00 57 22.8	
	comp=Z,4.1nm,0.6s								
DZM	**Mont Dzumac**	**61.26**	**152**			**P**		**00 57 31.1**	**+1.6**
DZM					IAmb	IAmb		00 57 32.1	
	comp=Z,6.0nm,0.8s								
KIRV	**Kirov**	**61.94**	**324**	⇑*e*P		**P**		**00 57 32.9**	**-0.6**
PRGR	**Permogore**	**62.63**	**328**	*e*P		**P**		**00 57 37.1**	**-0.9**
PRGR					pmax	pmax			
	comp=Z,5.0nm,0.8s								
EUNU	**Eureka**	**63.13**	**8**	P		**P**		**00 57 42.1**	**+0.8**
GEYT	**Alibeck**	**64.38**	**300**	P		**P**		**00 57 48.4**	**-1.7**
	comp=Z,1.6nm,0.8s,baz=122,slow=1.9,SNR=4.7								
GEYT	**Alibeck**	**64.38**	**300**	P		**P**		**00 57 49.3**	**-0.7**
FORT	**Forrest**	**65.63**	**191**	P		**P**		**00 57 58.1**	**+0.1**
KLMR	**Klimovskoe**	**65.64**	**328**	*e*P		**P**		**00 57 56.8**	**-1.0**
KLMR					pmax	pmax			
	comp=Z,12nm,1.5s								
KLMR	**Klimovskoe**	**65.64**	**328**	*e*P		**P**		**00 57 56.8**	**-1.0**
KLMR					AMP			00 57 57.7	
	comp=Z,12nm,1.5s								
STKA	**Stephens Creek**	**65.73**	**179**	P		**P**		**00 57 58.8**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=337,slow=8.0,SNR=6.0								
STKA	**Stephens Creek**	**65.73**	**179**	P		**P**		**00 57 58.6**	**0.0**
ARCES	**ARCESS Array B**	**66.31**	**340**	P		**P**		**00 58 02.1**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=51,slow=7.9,SNR=4.5								
BBOO	**Buckleboo**	**66.76**	**184**	P		**P**		**00 58 05.5**	**+0.4**
BBOO					IAmb	IAmb		00 58 23.5	
	comp=Z,16nm,1.4s								
SGF	**Sodankyl**	**67.20**	**337**	P		**P**		**00 58 08.0**	**+0.4**
SGF					pmax	pmax			
	comp=Z,12nm,1.9s								
MSF	**Maaselka**	**67.22**	**335**	P		**P**		**00 58 08.0**	**+0.2**
MSF					pmax	pmax			
	comp=Z,11nm,2.2s								
SUF	**Sumiainen**	**70.08**	**333**	P		**P**		**00 58 25.6**	**0.0**
SUF					pmax	pmax			
	comp=Z,18nm,1.9s								
FIA1	**FINESS Array S**	**70.87**	**332**	P		**P**		**00 58 29.8**	**-0.7**
FIA1					IAmb	IAmb		00 58 38.2	
	comp=Z,19nm,1.4s								
FINES	**FINESS Array B**	**70.88**	**332**	P		**P**		**00 58 30.5**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=62,slow=6.8,SNR=16								
FINES	**FINESS Array B**	**70.88**	**332**	P		**P**		**00 58 30.3**	**-0.1**
VAF	**Ylistaro**	**71.15**	**335**	P		**P**		**00 58 34.8**	**+2.8**
VAF					pmax	pmax			
	comp=Z,28nm,1.8s								
KBZ	**Khabaz**	**72.02**	**311**	P		**P**		**00 58 38.4**	**+0.7**
	comp=Z,5.3nm,0.8s,baz=77,slow=3.7,SNR=13								
KBZ	**Khabaz**	**72.02**	**311**	*ce*P		**P**		**00 58 38.0**	**+0.4**
KBZ					pmax	pmax			
	comp=Z,6.0nm,0.9s								
KIV	**Kislovodsk**	**72.04**	**311**	*e*P		**P**		**00 58 37.8**	**-0.1**
KIV					pmax	pmax			
	comp=Z,27nm,1.1s								
KIV	**Kislovodsk**	**72.04**	**311**	P		**P**		**00 58 38.4**	**+0.5**
KIV					IAmb	IAmb		00 58 39.8	
	comp=Z,7.4nm,0.9s								
AKASG	**Malin Array Be**	**75.95**	**322**	P		**P**		**00 58 60.0**	**-0.4**
	comp=Z,2.5nm,0.5s,baz=50,slow=6.1,SNR=9.4								
AKASG	**Malin Array Be**	**75.95**	**322**	*i* P		**P**		**00 59 00.0**	**-0.4**
AKASG					pmax	pmax			
	comp=Z,3.0nm,0.5s								
AKASG	**Malin Array Be**	**75.95**	**322**	P		**P**		**00 58 59.7**	**-0.7**
AKBB	**Malin Array Si**	**75.95**	**322**	*ce*P		**P**		**00 58 59.4**	**-1.0**
AKBB	**Malin Array Si**	**75.95**	**322**	P		**P**		**00 58 59.8**	**-0.7**
NC405	**NORSAR Array S**	**76.21**	**337**	P		**P**		**00 59 01.4**	**-0.4**
NC204	**NORSAR Array S**	**76.39**	**337**	P		**P**		**00 59 01.9**	**-1.0**
NB2	**NORSAR Subarra**	**76.42**	**337**	P		**P**		**00 59 02.9**	**-0.1**
	comp=Z,6.7nm,1.0s,baz=43,slow=5.9								
NOA	**NORSAR Array B**	**76.42**	**337**	P		**P**		**00 59 03.0**	**0.0**
	comp=Z,1.6nm,0.7s,baz=42,slow=5.9,SNR=6.0								
NOA					LR	LR		01 36 05.9	
	comp=Z,12nm,18.3s,baz=90,slow=38

comp=N,231nm,0.3s
YOVA Hakkari_Yksek 1.47 76 *i* P Pb 01 08 01.3 -0.2
YOVA *i* S Sg 01 08 20.3 -0.5
TVAN Van 1.48 29 *i* P Pg 01 08 02.6 +0.8
TVAN *i* S Sn 01 08 21.9 +0.9
VANB Van 1.53 27 PN Pn 01 08 01.4 -0.3
MAZI Mazidag 1.65 278 PN Pn 01 08 03.3 0.0
MAZI SN Sn 01 08 25.8 +0.8
MUSM Mu-Merkez 1.67 333 *i* P Pn 01 08 03.7 0.0
MUSM *i* S Sn 01 08 23.9 -1.8
DIYA Diyarbakir 2.00 291 *i* P Pn 01 08 09.9 +1.7
DIYA *i* S Sn 01 08 32.8 -0.9
DIYA IAML 01 08 44.0
comp=E,103nm,0.3s
BNGL BINGOL 2.01 329 *i* P Pb 01 08 09.9 -0.9
BNGL *i* S Sn 01 08 34.0 -0.2
HANI Diyarbakir_Han 2.03 306 *i* P Pn 01 08 07.8 -0.7
HANI *i* S Sn 01 08 33.0 -1.4
VRTB Varto-Mus 2.08 337 PN Pn 01 08 10.7 +1.3
VRTB Varto-Mus 2.08 337 *i* P Pb 01 08 11.8 -0.2
VRTB *i* S Sb 01 08 36.8 -1.5
CLDR Caldiran 2.21 30 PN Pn 01 08 12.1 +1.0
BNGB Bingl 2.26 321 PN Pn 01 08 12.9 +1.1
KARO Karliova-Bingo 2.36 332 PN Pn 01 08 14.6 +1.4
AGRB Hanur-Agry 2.37 9 PN Pn 01 08 14.8 +1.5
YEDI Yedisu-Bingol 2.68 326 PN Pn 01 08 18.9 +1.4
SVRC Sivrice-ELAZIĞ 2.77 295 PN Pn 01 08 19.8 +1.0

MEX **12** *01:08:59.3±0.4,27.46N×111.46W,h10km±6km,MD3.5*
ECX **12** *01:08:59.2±0.7,27.60N×111.55W,h20km±15km,MD3.0*
ISC 12 01:08:58.3±1.2**,27.7N**±0.1×**111.57W**±0.07**,h10km,n6,**
σ0**39**/12**,1C,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.66**	**68**	*eP*	**Pg**	**01 09 10.8**	**-0.5**
GUYB				*i* S	**Sg**	**01 09 20.1**	**+0.2**
GUYB	**Guaymas**	**0.66**	**68**	*eP*	**Pg**	**01 09 10.7**	**-0.5**
GUYB				*i* S	**Sg**	**01 09 20.7**	**+0.8**
SRIG	**Santa Rosalia**	**0.68**	**241**	*i* P	**Pg**	**01 09 11.4**	**-0.2**
SRIG				*i* S	**Sg**	**01 09 20.6**	**+0.1**
SRIG	**Santa Rosalia**	**0.68**	**241**	⇑*i* P	**Pg**	**01 09 11.3**	**-0.2**
SRIG				*eS*	**Sg**	**01 09 20.7**	**+0.2**
HSIG		**1.47**	**22**	*i* P	**Pn**	**01 09 25.2**	**+0.3**
HSIG				*eS*	**Sn**	**01 09 43.9**	**-0.2**
HSIG		**1.47**	**22**	*eP*	**Pn**	**01 09 24.9**	**+0.1**
HSIG				*eS*	**Sn**	**01 09 44.1**	**-0.1**

BJI **12** *01:28:29.9±0.0,3.35S×151.60E,h392km,mB4.8/53, mb5.3/77*
IDC **12** *01:28:30.6±0.3,3.69S×151.31E,h386km±3km,mb4.7/31, mb1 4.8/35,mb1mx4.7/43,mbtmp5.4/35,Error ellipse: s-maj=8.4km s-min=6.2km az=108.0*
GCMT **12** *01:28:30.2±0.3,3.70S±0.03×151.25E±0.03,h398km±2km, MW5.2/85,Moment Tensor Solution. s85,c104; Duration: t↑0 Moment tensor: Scale 10^17^Nm; Mrr=0.54±.02; Mθθ0.47±.05; Mϕϕ0.07±.05; Mrθ0.01±.05; Mθϕ-0.38±.04; Mϕr-0.67±.04; Best double couple: M=0.91100×10^17^ NP1:ϕs96.00000°,δ37.00000°, λ-144.00000°. NP2:ϕs335.00000°,δ69.00000°, λ-59.00000°. Principal axes: T 0.8180, Plg19.0000°, Azm43.0000°; N 0.1850, Plg29.0000°, Azm143.0000°; P -1.0030, Plg55.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
NEIC **12** *01:28:31.2±0.7,3.68S±0.08×151.27E±0.09,h399km±4km, mb5.1/167 Error ellipse: s-maj=13.2km s-min=12.0km az=117.0*
MOS **12** *01:28:32.3±1.0,3.57S×151.14E,h408km,mb5.2/53,Error ellipse: s-maj=7.6km s-min=5.0km az=115.0*
DJA **12** *01:28:32.3±0.3,4.3S±2.2×15.1E±.1°,h403km±4km,M5.0/90, mb5.3/90,mB5.5/49,MLv5.2/2,Mw(mB)5.0/49,Mwp6.0/2*
ISC 12 01:28:30.5±0.3**,3.70S**±0.04×**151.32E**±0.04**,h392**km±3km**,**
h393km**:pP-P,n1082,**σ1**00**/1125**,mb5.1**/198**,69C-55D,**
New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.93**	**130**	P	**Pn**	**01 29 20.9**	**+0.4**
KRVT	382nm,0.3s,baz=145,slow=0.6,SNR=90			S	**S**	**01 29 59.0**	**-1.9**
RABL	**Rabaul**	**0.98**	**120**		**Pn**	**01 29 21.1**	**+0.3**
RABL	101nm,0.3s,baz=208,slow=23,SNR=5.0			S	**S**	**01 30 01.7**	**+0.5**
PMG	**Port Moresby**	**7.01**	**216**	P	**P**	**01 30 15.7**	**+0.8**
PMG	51nm,0.3s,baz=33,slow=5.7,SNR=88			S	**S**	**01 31 35.9**	**-2.9**
PMG	**Port Moresby**	**7.01**	**216**	*c* *i* P	**P**	**01 30 15.4**	**+0.5**
PMG	**Port Moresby**	**7.01**	**216**	Pn	**Pn**	**01 30 14.5**	**+0.3**
JAY	**Jayapura**	**10.66**	**276**	P	**Pn**	**01 30 57.0**	**+0.6**
JAY	baz=183,slow=22,SNR=1.2 7.0nm,0.3s,baz=94,slow=3.3,SNR=42			S	**S**	**01 32 56.7**	**+1.3**
JAY	**Jayapura**	**10.66**	**276**	P	**Pn**	**01 30 58.0**	**+1.6**
GENI	1.1nm,0.3s,baz=34,slow=21,SNR=7.3 **Genyem**	**11.19**	**275**	P	**Pn**	**01 31 03.9**	**+1.5**
MMPI	3µm265nm,0.8s **Merauke**	**11.86**	**246**	P	**Pn**	**01 31 10.6**	**+0.4**
PATS	**Pohnpei**	**12.58**	**34**	P	**Pn**	**01 31 18.2**	**-0.5**
PATS	baz=13,SNR=68 **Pohnpei**	**12.58**	**34**	P	**P**	**01 31 17.2**	**+0.2**
SMPI	**Sarmi**	**12.70**	**277**	P	**Pn**	**01 31 20.2**	**+0.1**
COEN	3µm203nm,0.9s **Coen**	**12.98**	**218**	P	**Pn**	**01 31 24.3**	**+1.0**
COEN	baz=13,SNR=135 **Coen**	**12.98**	**218**	P	**P**	**01 31 21.8**	**+0.4**
MTSU	**Mount Surprise**	**15.90**	**205**	P	**Pn**	**01 31 56.0**	**-0.5**
CTA	baz=16,SNR=30 **Charters Tower**	**17.02**	**196**	P	**Pn**	**01 32 07.5**	**-1.5**
CTA	6.7nm,0.3s,baz=17,slow=12,SNR=64			S	**S**	**01 35 05.7**	**+2.9**
CTAO	baz=227,slow=16,SNR=12 **Charters Tower**	**17.02**	**196**	P	**P**	**01 32 05.7**	**+0.6**
CTAO	comp=Z,92nm,0.8s			pmax	pmax		
CTAO	**Charters Tower**	**17.02**	**196**	P	**P**	**01 32 05.7**	**+0.6**
CTAO	comp=Z,92nm,0.8s			IAmb	IAmb	01 32 08.4	
GUMO	**Guam**	**18.33**	**340**	P	**P**	**01 32 19.1**	**+0.1**
GUMO	comp=Z,36nm,0.3s,baz=180,slow=6.2,SNR=15 **Guam**	**18.33**	**340**	P	**P**	**01 32 18.9**	**-0.2**
FAKI	**Fak Fak**	**19.05**	**272**	P	**P**	**01 32 27.2**	**+0.5**
FAKI	comp=Z,6µmcomp=Z,566nm,1.0s **Fak Fak**	**19.05**	**272**	P	**P**	**01 32 26.6**	**-0.1**
SIJI	**Sorong**	**20.23**	**278**	P	**P**	**01 32 38.0**	**+0.1**
QIS	comp=Z,575nm,0.9s,baz=66,slow=8.4,SNR=39 **Mount Isa**	**20.27**	**213**	P	**P**	**01 32 39.7**	**+1.5**
SAUI	baz=20,SNR=227 **Saumlaki**	**20.36**	**257**	P	**P**	**01 32 40.8**	**+1.8**
SAUI	comp=Z,1µm,0.9s **Saumlaki**	**20.36**	**257**	P	**P**	**01 32 39.0**	**0.0**
KWAJ	**Kwajalein Atol**	**20.45**	**53**	P	**P**	**01 32 40.1**	**+0.3**
KWAJ	comp=Z,407nm,1.0s			pmax	pmax		
KWAJ	**Kwajalein Atol**	**20.45**	**53**	P	**P**	**01 32 40.1**	**+0.3**
KDU	**Kakadu**	**20.66**	**243**	P	**P**	**01 32 41.8**	**0.0**
ANA2	baz=21,SNR=66 **Anatahan**	**20.67**	**345**	P	**P**	**01 32 41.5**	**-0.3**
BNDI	**Bandanaira**	**21.37**	**267**	P	**P**	**01 32 50.2**	**+2.0**
EIDS	comp=Z,9µmcomp=Z,347nm,0.6s **Eidsvold**	**21.55**	**181**	P	**P**	**01 32 51.5**	**+1.8**
EIDS	baz=22,SNR=9.8 **Eidsvold**	**21.55**	**181**	P	**P**	**01 32 50.3**	**+0.6**
EIDS	comp=Z,30nm,0.7s			IAmb	IAmb	01 32 53.2	
MTN	**Manton Dam**	**21.92**	**244**	P	**P**	**01 32 53.3**	**+0.1**
MTN	baz=22,SNR=11 **Manton Dam**	**21.92**	**244**	P	**P**	**01 32 53.3**	**+0.1**
MTN	comp=Z,50nm,0.8s			IAmb	IAmb	01 32 55.9	
MSAI	**Masohi**	**22.35**	**270**	P	**P**	**01 32 58.9**	**+1.8**
RMQ	comp=Z,1µmcomp=Z,45nm,0.7s **Roma**	**22.79**	**186**	P	**P**	**01 33 02.9**	**+1.9**
WB0	baz=23,SNR=6.7 **Warramunga Arr**	**22.97**	**225**	P	**P**	**01 33 02.9**	**+0.2**
WB0	comp=Z,79nm,0.8s			IAmb	IAmb	01 33 13.9	
WR0	**Warramunga Arr**	**23.00**	**224**	P	**P**	**01 33 03.2**	**+0.3**
WR0				IAmb	IAmb	01 33 14.2	
	comp=Z,81nm,1.1s						
AAI	**Ambon**	**23.07**	**269**	P	**P**	**01 33 04.4**	**+0.7**
AAI	comp=Z,208nm,1.2s			pmax	pmax		
WRAB	**Tennant Creek**	**23.11**	**224**	*ceP*	**P**	**01 33 04.9**	**+0.9**
WRAB	comp=Z,34nm,0.8s			pmax	pmax		
WRAB	**Tennant Creek**	**23.11**	**224**	P	**P**	**01 33 04.2**	**+0.2**
WRAB	comp=Z,77nm,0.7s			IAmb	IAmb	01 33 15.4	
WB2	**Warramunga Arr**	**23.12**	**224**	P	**P**	**01 33 04.8**	**+0.7**
WB2	baz=23 **Warramunga Arr**	**23.12**	**224**	P	**P**	**01 33 04.3**	**+0.3**
WRA	**Warramunga Arr**	**23.12**	**224**	P	**P**	**01 33 04.8**	**+0.7**
WRA	comp=Z,34nm,0.4s,baz=47,slow=9.6,SNR=200			S	**S**	**01 36 42.2**	**-3.9**
WRA	comp=Z,7.9nm,0.7s,baz=43,slow=17,SNR=2.2 **Warramunga Arr**	**23.12**	**224**	P	**P**	**01 33 03.8**	**-0.3**
DZM	**Mont Dzumac**	**23.43**	**142**	P	**P**	**01 33 08.2**	**+1.3**
DZM	comp=Z,8.4nm,0.5s,baz=281,slow=9.4,SNR=16			pP	PP	01 34 10.5	+0.2
DZM	comp=Z,24nm,0.9s,baz=4.8,slow=17,SNR=2.1 **Mont Dzumac**	**23.43**	**142**	P	**P**	**01 33 07.3**	**+0.4**
QLP	**Quilpie**	**23.74**	**196**	P	**P**	**01 33 11.1**	**+1.6**
LBMI	baz=24,SNR=9.4 **Labuha**	**23.99**	**277**	P	**P**	**01 33 13.9**	**+2.0**
NLAI	comp=Z,3µmcomp=Z,324nm,1.3s **Namlea**	**24.18**	**270**	P	**P**	**01 33 15.6**	**+2.0**
TNTI	comp=Z,124nm,0.6s **Ternate**	**24.34**	**280**	P	**P**	**01 33 15.9**	**+0.8**
TNTI	comp=Z,90nm,1.2s **Ternate**	**24.34**	**280**	P	**P**	**01 33 14.9**	**-0.2**
TNTI	comp=Z,150nm,1.1s			IAmb	IAmb	01 33 17.4	
KNRA	**Kununurra**	**25.18**	**240**	P	**P**	**01 33 23.6**	**+1.1**
KNRA	baz=25,SNR=6.5 **Kununurra**	**25.18**	**240**	P	**P**	**01 33 22.6**	**+0.1**
KNRA	comp=Z,40nm,0.9s			IAmb	IAmb	01 33 24.5	
SANI	**Sanana**	**25.35**	**273**	P	**P**	**01 33 29.9**	**+5.8**
AS31	**Alice Springs**	**26.02**	**219**	P	**P**	**01 33 30.2**	**+0.3**
AS31	comp=Z,23nm,0.5s			IAmb	IAmb	01 33 33.1	
ASAR	**Alice Springs**	**26.02**	**219**	P	**P**	**01 33 30.5**	**+0.5**
ASAR	comp=Z,29nm,0.4s,baz=51,slow=7.8,SNR=283			S	**S**	**01 37 29.5**	**-2.2**
ASAR	comp=Z,21nm,0.7s,baz=36,slow=17,SNR=10 **Alice Springs**	**26.02**	**219**	P	**P**	**01 33 30.2**	**+0.2**
ARMA	**Armidale**	**26.58**	**179**	P	**P**	**01 33 37.3**	**+2.4**
H11S3	baz=27,SNR=4.3 **WAKE ISLAND Hy**	**26.75**	**34**	P	**P**	**01 33 36.3**	**0.0**
H11S2	baz=227,slow=6.6,SNR=8.6 **WAKE ISLAND Hy**	**26.76**	**34**	P	**P**	**01 33 36.3**	**0.0**
H11S1	baz=227,slow=6.6,SNR=13 **WAKE ISLAND Hy**	**26.77**	**34**	P	**P**	**01 33 36.4**	**0.0**
WAKE	baz=227,slow=6.6,SNR=8.4 **Wake Island**	**27.37**	**33**	P	**P**	**01 33 42.0**	**+0.1**
WAKE	comp=Z,82nm,1.0s			IAmb	IAmb	01 33 42.6	
SOEI	**Soe**	**27.51**	**256**	P	**P**	**01 33 44.8**	**+1.4**
SOEI	comp=Z,104nm,1.0s **Soe**	**27.51**	**256**	P	**P**	**01 33 43.2**	**-0.2**
SOEI	comp=Z,108nm,1.1s			IAmb	IAmb	01 33 59.7	
KMSI	**Cibinong**	**27.65**	**278**	P	**P**	**01 33 45.8**	**+1.4**
BATI	comp=Z,479nm,0.7s **Baumata**	**28.18**	**255**	P	**P**	**01 33 50.4**	**+1.2**
BATI	comp=Z,89nm,0.5s,baz=192,slow=2.1,SNR=14 **Baumata**	**28.18**	**255**	P	**P**	**01 33 51.1**	**+1.9**
CMSA	comp=Z,1µmcomp=Z,91nm,0.7s **Cobar Meteorol**	**28.19**	**190**	P	**P**	**01 33 50.8**	**+1.8**
GTOI	baz=28,SNR=6.7 **Gorontalo**	**28.61**	**278**	P	**P**	**01 33 54.9**	**+1.9**
LUWI	comp=Z,2µmcomp=Z,253nm,0.8s **Luwuk**	**28.64**	**275**	P	**P**	**01 33 54.5**	**+1.3**
LUWI	comp=Z,10µmcomp=Z,309nm,0.8s **Luwuk**	**28.64**	**275**	P	**P**	**01 33 53.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**28.93**	**238**	P	**P**	**01 33 54.9**	**-0.8**
FITZ	comp=Z,54nm,0.6s,baz=51,slow=8.9,SNR=118			pP	**pP**	**01 35 07.1**	**0.0**
FITZ	comp=Z,48nm,0.9s,baz=72,slow=10.0,SNR=4.8			S	**S**	**01 38 11.8**	**-5.4**
FITZ	comp=Z,9.6nm,0.9s,baz=122,slow=16,SNR=2.3 **Fitzroy Crossi**	**28.93**	**238**	P	**P**	**01 33 55.0**	**-0.6**
FITZ	baz=29,SNR=88 **Fitzroy Crossi**	**28.93**	**238**	P	**P**	**01 33 55.8**	**+0.1**
FITZ	comp=Z,56nm,0.6s			IAmb	IAmb	01 33 57.0	
MGCD	**Mangrove Creek**	**29.36**	**180**	P	**P**	**01 34 01.5**	**+2.3**
STKA	baz=30,SNR=5.5 **Stephens Creek**	**29.48**	**197**	P	**P**	**01 34 01.7**	**+1.3**
STKA	comp=Z,24nm,0.7s,baz=9.4,slow=11,SNR=19 **Stephens Creek**	**29.48**	**197**	P	**P**	**01 34 01.4**	**+1.0**
STKA	baz=30,SNR=37 **Stephens Creek**	**29.48**	**197**	P	**P**	**01 34 00.8**	**+0.4**
EDFI	**Ende, Flores**	**29.86**	**259**	P	**P**	**01 34 03.5**	**-0.6**
WRKA	comp=Z,73nm,0.7s **Warakurna**	**30.67**	**224**	P	**P**	**01 34 10.7**	**-0.2**
BNSI	baz=31,SNR=621 **Bone**	**31.14**	**268**	P	**P**	**01 34 16.1**	**+1.1**
SPSI	comp=Z,2µmcomp=Z,165nm,1.0s **Sidrap Palu**	**31.48**	**268**	P	**P**	**01 34 18.5**	**+0.5**
KAPI	comp=Z,3µmcomp=Z,91nm,1.4s **Kappang**	**31.50**	**266**	P	**P**	**01 34 19.0**	**+0.9**
KAPI	comp=Z,56nm,0.5s,baz=92,slow=3.7,SNR=52 **Kappang**	**31.50**	**266**	P	**P**	**01 34 18.0**	**-0.2**
KAPI	comp=Z,77nm,0.7s			IAmb	IAmb	01 34 19.5	
CNB	**Canberra Magne**	**31.51**	**183**	P	**P**	**01 34 20.6**	**+2.5**
MPSI	baz=32,SNR=12 **Mapaga**	**31.65**	**277**	P	**P**	**01 34 18.9**	**-0.6**
HTT	comp=Z,4µmcomp=Z,307nm,0.7s **Hallett**	**31.77**	**200**	P	**P**	**01 34 21.4**	**+1.1**
WBSI	baz=32,SNR=49 **Waikabubak, Su**	**32.24**	**258**	P	**P**	**01 34 24.8**	**+0.2**
BBOO	comp=Z,2µmcomp=Z,159nm,0.8s **Buckleboo**	**32.29**	**205**	P	**P**	**01 34 25.3**	**+0.6**
BBOO	baz=32,SNR=28 **Buckleboo**	**32.29**	**205**	P	**P**	**01 34 25.4**	**+0.6**
PLAI	**Plampang**	**33.71**	**260**	P	**P**	**01 34 35.9**	**-1.3**
MYLDM	comp=Z,120nm,0.8s **Lahad Datu**	**33.95**	**285**	P	**P**	**01 34 39.0**	**-0.2**
MYLDM	comp=Z,93nm,1.0s			IAmb	IAmb	01 34 42.5	
ARPS	**Mount Arapiles**	**34.05**	**194**	P	**P**	**01 34 41.4**	**+1.7**
TOO	baz=34,SNR=26 **Toolangi**	**34.13**	**188**	P	**P**	**01 34 42.6**	**+2.1**
TOO	baz=34,SNR=4.4 **Toolangi**	**34.13**	**188**	P	**P**	**01 34 41.0**	**+0.5**
TOO	comp=Z,18nm,1.0s			pmax	pmax		
TOO	**Toolangi**	**34.13**	**188**	P	**P**	**01 34 41.0**	**+0.5**
TWSI	**Taliwang, Sumb**	**34.58**	**260**	P	**P**	**01 34 43.7**	**-0.9**
FORT	comp=Z,1µmcomp=Z,131nm,0.8s **Forrest**	**34.74**	**217**	P	**P**	**01 34 45.9**	**+0.2**
FORT	baz=35,SNR=110 **Forrest**	**34.74**	**217**	P	**P**	**01 34 45.9**	**+0.2**
TGY	**Tagaytay City**	**34.94**	**301**	P	**P**	**01 34 49.0**	**+1.4**
TGY	comp=Z,148nm,0.3s,baz=287,slow=2.7,SNR=4.9 **Tagaytay City**	**34.94**	**301**	P	**P**	**01 34 49.0**	**+1.4**
KBKI	**Kotabaru**	**35.08**	**270**	P	**P**	**01 34 49.8**	**+1.0**
PSA00	comp=Z,40nm,0.6s **Pilbara Seismi**	**35.34**	**237**	P	**P**	**01 34 51.0**	**0.0**
KKM	**Kota Kinabalu**	**36.36**	**285**	P	**P**	**01 34 59.4**	**-0.2**
KKM	comp=Z,130nm,0.8s			IAmb	IAmb	01 35 01.2	
BBKI	**Banjar Baru**	**36.40**	**269**	P	**P**	**01 35 01.8**	**+1.9**
MTKI	comp=Z,3µmcomp=Z,166nm,1.6s **Muara Teweh, K**	**36.49**	**273**	P	**P**	**01 35 01.2**	**+0.6**
JAGI	**Jajag, Banyuwa**	**37.24**	**261**	P	**P**	**01 35 05.5**	**-1.4**
JAGI	comp=Z,68nm,1.0s **Jajag, Banyuwa**	**37.24**	**261**	P	**P**	**01 35 06.6**	**-0.3**
JAGI	comp=Z,52nm,0.9s			IAmb	IAmb	01 35 10.6	
MEEK	**Meekatharra**	**38.72**	**231**	P	**P**	**01 35 18.6**	**-0.4**
MOO	baz=39,SNR=69 **Moorlands**	**38.75**	**185**	P	**P**	**01 35 21.5**	**+2.6**
KMBL	baz=39,SNR=6.2 **Kambalda**	**39.05**	**222**	P	**P**	**01 35 21.0**	**-0.6**
YOJ	baz=39,SNR=37 **Yonaguni jima**	**39.26**	**317**	P	**P**	**01 35 23.1**	**-0.2**
YOJ	comp=Z,304nm,0.8s			pmax	pmax		
YOJ	**Yonaguni jima**	**39.26**	**317**	P	**P**	**01 35 23.1**	**-0.2**
SBUM	**Sibu**	**39.55**	**278**	P	**P**	**01 35 25.6**	**-0.2**
SBUM	comp=Z,82nm,0.9s			IAmb	IAmb	01 35 28.8	
SBUM	**Sibu**	**39.55**	**278**	P	**P**	**01 35 28.0**	**+2.1**
TWG	**Pinlang**	**39.58**	**313**	P	**P**	**01 35 25.7**	**-0.3**
TWG	comp=Z,137nm,0.8s			IAmb	IAmb	01 35 30.6	
PBKI	**Pangkalan Bun**	**39.59**	**270**	P	**P**	**01 35 27.7**	**+1.5**
YULB	comp=Z,465nm,1.0s **Yu-li**	**39.77**	**314**	P	**P**	**01 35 27.3**	**-0.2**
NACB	**Ninganchiao**	**40.05**	**315**	P	**P**	**01 35 29.6**	**-0.2**
NACB	comp=Z,143nm,0.9s			IAmb	IAmb	01 35 32.0	
TPUB	**Ta-pu**	**40.20**	**313**	P	**P**	**01 35 30.8**	**-0.2**
TPUB	comp=Z,111nm,0.7s			IAmb	IAmb	01 35 31.6	
SSLB	**Suanglung**	**40.26**	**314**	P	**P**	**01 35 31.4**	**-0.1**
WOJI	**Wonogiri, Jawa**	**40.38**	**262**	P	**P**	**01 35 33.2**	**+0.6**
YHNB	comp=Z,105nm,0.9s **Yeheng**	**40.52**	**316**	P	**P**	**01 35 33.4**	**-0.3**
GIRL	**Giralia**	**40.53**	**239**	P	**P**	**01 35 34.9**	**+1.2**
TATO	baz=41,SNR=8.1 **Taipei**	**40.64**	**316**	P	**P**	**01 35 34.3**	**-0.2**
TATO	comp=Z,154nm,1.0s			IAmb	IAmb	01 35 36.2	
SMRI	**Semarang**	**40.82**	**264**	P	**P**	**01 35 36.8**	**+0.6**
SMRI	**Semarang**	**40.82**	**264**	P	**P**	**01 35 35.9**	**-0.3**
SMRI	comp=Z,98nm,1.0s			IAmb	IAmb	01 35 49.5	
KSM	**Kuching**	**41.31**	**276**	P	**P**	**01 35 39.9**	**-0.2**
KSM	**Kuching**	**41.31**	**276**	P	**P**	**01 35 41.0**	**+0.9**
JNU	**Nakatsue**	**41.42**	**334**	P	**P**	**01 35 41.1**	**+0.4**
JNU	comp=Z,199nm,0.7s,baz=126,slow=1.8,SNR=146			ScP	**ScP**	**01 40 43.2**	**+0.9**
JNU	comp=Z,3.5nm,0.5s,baz=144,slow=5.3,SNR=3.7 **Nakatsue**	**41.42**	**334**	P	**P**	**01 35 40.7**	**0.0**
JNU				ScP	**ScP**	**01 40 41.8**	**-0.5**
MJAR	**Matsushiro Arr**	**41.86**	**344**	P	**P**	**01 35 42.5**	**-1.7**
MJAR	comp=Z,14nm,0.8s,baz=173,slow=9.1,SNR=30			PcP	**PcP**	**01 37 32.1**	**+0.5**
MJAR	comp=Z,11nm,0.6s,baz=169,slow=3.8,SNR=11			ScP	**ScP**	**01 40 45.6**	**+1.7**
MJAR	comp=Z,3.7nm,0.6s,baz=182,slow=4.7,SNR=7.3 **Matsushiro Arr**	**41.86**	**344**	P	**P**	**01 35 41.7**	**-2.5**
MAJO	**Matsushiro**	**41.86**	**344**	*i* P	**P**	**01 35 42.5**	**-1.7**
MAJO	comp=Z,24nm,0.9s			pmax	pmax		
MAJO	**Matsushiro**	**41.86**	**344**	P	**P**	**01 35 43.0**	**-1.2**
MAJO				PcP	**PP**	**01 37 31.2**	**+0.1**
MAT	**Matsushiro**	**41.86**	**344**	P	**P**	**01 35 42.7**	**-1.5**
MAT				*eS*	**S**	**01 41 27.2**	**-5.1**
MORW	**Morawa**	**41.91**	**229**	P	**P**	**01 35 44.0**	**-0.7**
MORW	baz=42,SNR=15 **Morawa**	**41.91**	**229**	P	**P**	**01 35 44.1**	**-0.6**
KLBR	**Kellerberrin**	**42.01**	**225**	P	**P**	**01 35 44.5**	**-0.9**
BLDU	baz=42,SNR=13 **Balliduu**	**42.22**	**227**	P	**P**	**01 35 46.3**	**-0.8**
QZH	baz=42,SNR=45 **Quanzhou**	**42.67**	**314**	⇓*i* P	**P**	**01 35 51.9**	**+1.2**
QZH	comp=Z,210nm,0.6s			pmax	pmax		
NWAO	**Narrogin (SRO)**	**43.13**	**224**	P	**P**	**01 35 55.0**	**+0.7**
MUN	comp=Z,12nm,0.7s,baz=87,slow=6.8,SNR=3.6 **Mundaring**	**43.32**	**225**	P	**P**	**01 35 55.6**	**-0.2**
CISI	baz=43,SNR=6.1 **Cisompet, Garu**	**43.44**	**263**	P	**P**	**01 35 56.9**	**-0.2**
CISI	comp=Z,7µmcomp=Z,597nm,1.0s **Cisompet, Garu**	**43.44**	**263**	P	**P**	**01 35 56.9**	**-0.2**
TPI	**Tanjungpandan**	**43.60**	**270**	P	**P**	**01 35 59.8**	**+1.5**
LEM	comp=Z,2µmcomp=Z,167nm,1.1s **Lembang**	**43.61**	**264**	P	**P**	**01 35 58.9**	**+0.2**
CNJI	comp=Z,95nm,0.9s,baz=46,slow=8.7,SNR=9.8 **Cibinong**	**44.11**	**263**	P	**P**	**01 36 02.2**	**-0.1**
DBJI	comp=Z,5µmcomp=Z,637nm,1.0s **Dramaga**	**44.47**	**264**	P	**P**	**01 36 04.9**	**-0.2**
HKPS	comp=Z,72nm,0.7s **Hong Kong Po S**	**44.57**	**307**	P	**P**	**01 36 05.6**	**-0.2**
SKJI	**Sukabumi**	**44.67**	**264**	P	**P**	01 36 17.3	+11
PPBI	**Pangkal Pinang**	**45.14**	**271**	P	**P**	**01 36 11.5**	**+1.1**
DLV	**T Lat**	**45.33**	**291**	P	**P**	**01 36 11.6**	**-0.4**
TJN	**Taejon**	**45.72**	**333**	*ceP*	**P**	**01 36 15.0**	**+0.6**
KSRS	**Korea Array**	**46.36**	**334**	P	**P**	**01 36 20.0**	**+0.7**
KSRS	comp=Z,58nm,0.8s,baz=150,slow=8.7,SNR=154			PcP	**PcP**	**01 37 48.4**	**+1.4**
KSRS	comp=Z,8.2nm,0.7s,baz=175,slow=4.0,SNR=7.2			ScP	**ScP**	**01 41 04.3**	**+1.9**
KSAR	comp=Z,5.5nm,0.8s,baz=139,slow=5.5,SNR=8.8 **Wonju Array Be**	**46.37**	**334**	P	**P**	**01 36 19.5**	**+0.1**
KSAR	**Wonju Array Be**	**46.37**	**334**	P	**P**	**01 36 19.5**	**+0.1**
KS19	**Wonju Array Si**	**46.43**	**334**	P	**P**	**01 36 20.0**	**+0.1**
KS19	comp=Z,57nm,0.9s			IAmb	IAmb	01 36 21.1	
QIZ	**Qiongzhong**	**46.64**	**300**	P	**P**	**01 36 23.5**	**+1.7**
QIZ				S	**S**	**01 42 43.3**	**+2.2**
QIZ				sS	**sS**	**01 45 00.5**	**+0.3**
QIZ	comp=Z,72nm,0.9s			pmax	pmax		
QIZ	**Qiongzhong**	**46.64**	**300**	P	**P**	**01 36 21.7**	**-0.1**
QIZ	comp=Z,80nm,1.0s			IAmb	IAmb	01 36 24.5	
KASI	**Kota Agung**	**46.69**	**266**	P	**P**	**01 36 20.9**	**-1.4**
DSRI	comp=Z,2µmcomp=Z,194nm,0.9s **Dabo**	**46.81**	**273**	P	**P**	**01 36 24.3**	**+1.1**
INCN	comp=Z,74nm,1.1s **Inchon**	**46.96**	**333**	P	**P**	**01 36 24.0**	**0.0**
INCN	comp=Z,304nm,0.9s			pmax	pmax		
INCN	**Inchon**	**46.96**	**333**	P	**P**	**01 36 24.0**	**0.0**
MDSI	**Maura Dua**	**47.02**	**267**	P	**P**	**01 36 24.3**	**-0.5**
NJ2	comp=Z,9µmcomp=Z,1µmcomp=Z,111nm,1.2s **Nanjing**	**47.06**	**321**	⇓*i* P	**P**	**01 36 26.2**	**+1.4**
NJ2				PcP	**PcP**	**01 37 50.8**	**+1.1**
NJ2				PP	**sP**	**01 38 25.6**	**-1.3**
NJ2				ScP	**ScP**	**01 41 06.7**	**+1.2**
NJ2	comp=Z,38nm,0.8s			pmax	pmax		
LWLI	**Liwa**	**47.13**	**267**	P	**P**	**01 36 26.1**	**+0.3**
MYKOM	comp=Z,292nm,0.8s **Kota Tinggi**	**47.75**	**276**	P	**P**	**01 36 33.0**	**+2.6**
JKA	**Kamikawa-asahi**	**48.24**	**352**	P	**P**	**01 36 33.9**	**+0.3**
ASAJ	**Asahikawa**	**48.24**	**352**	P	**P**	**01 36 34.3**	**+0.7**
KRJI	comp=Z,36nm,0.7s,baz=194,slow=12,SNR=14 **Kerinci**	**49.81**	**270**	P	**P**	**01 36 46.6**	**+0.6**
SDSI	comp=Z,9µmcomp=Z,498nm,1.0s **Sungai Dareh**	**49.91**	**272**	P	**P**	**01 36 46.5**	**-0.1**
BKNI	comp=Z,2µmcomp=Z,187nm,1.0s **Bang

comp=Z,2µmcomp=Z,225nm,0.9s
ENH Enshi 52.33 313 P **P** **01 37 03.9 -0.2**
GYA Guiyang 52.55 307 ⇓P **P** **01 37 07.4 +1.5**
GYA PcP **PcP** **01 38 11.0 +0.7**
GYA pP pP 01 38 26.8 +1.0
GYA sP sP 01 39 08.4 -0.6
GYA S **S** **01 44 06.4 +4.0**
GYA sS sS 01 46 25.4 +0.5
GYA SS **SS** **01 47 46.0 -1.1**
GYA pmax pmax
comp=Z,59nm,0.9s
GYA pmax pmax
comp=Z,180nm,3.5s
SLVN Son La 52.67 300 P **P** **01 37 06.4 -0.4**
CN2 Changchun 52.70 337 *e*P **P** **01 37 06.4 -0.1**
CN2 PcP **PcP** **01 38 09.0 -1.3**
CN2 pmax pmax
comp=Z,30nm,0.8s
RPSI Rantau Prapat 52.74 276 P **P** **01 37 07.0 -0.4**
PSI Prapat 52.76 276 P **P** **01 37 07.0 -0.6**
PSI pmax pmax
comp=Z,24nm,0.9s
GSI Gunungsitoli 53.94 274 P **P** **01 37 15.4 -0.6**
comp=Z,258nm,1.2s
GSI Gunungsitoli 53.94 274 P **P** **01 37 13.8 -2.2**
BJT Baijiatuau 54.15 327 P **P** **01 37 16.6 -0.4**
BJT pmax pmax
comp=Z,23nm,0.7s
BJT Baijiatuau 54.15 327 P **P** **01 37 16.6 -0.4**
BJI Beijing 54.16 327 P **P** **01 37 17.6 +0.5**
BJI PcP **PcP** **01 38 16.7 +0.7**
BJI ScP **ScP** **01 41 37.0 +1.1**
BJI pmax pmax
comp=Z,21nm,0.9s
TIY Taiyuan 54.76 322 *e*P **P** **01 37 22.4 +0.9**
TIY pmax pmax
comp=Z,60nm,0.4s
XAN Xi'an 54.81 317 P **P** **01 37 22.2 +0.3**
XAN PcP **PcP** **01 38 20.8 +2.1**
XAN pP pP 01 38 39.5 -3.0
XAN PP **PP** **01 39 28.6 -1.2**
XAN S **S** **01 44 30.7 -1.3**
XAN ScS **ScS** **01 46 28.8 -1.3**
XAN SS **SS** **01 48 20.6 -1.7**
XAN pmax pmax
comp=Z,260nm,0.8s
XAN pmax pmax
comp=Z,510nm,4.0s
XAN Xi'an 54.81 317 P **P** **01 37 21.3 -0.6**
XAN pmax pmax
comp=Z,158nm,0.7s
XAN Xi'an 54.81 317 P **P** **01 37 21.3 -0.6**
LHMI Lhok Sumawe 55.03 279 P **P** **01 37 24.3 +0.6**
comp=Z,3µmcomp=Z,353nm,0.9s
LHMI Lhok Sumawe 55.03 279 P **P** **01 37 22.7 -1.0**
KMI Kunming 55.15 304 ⇓P **P** **01 37 26.5 +1.9**
KMI PcP **PcP** **01 38 21.6 +1.2**
KMI pP pP 01 38 44.2 -1.1
KMI sP PP 01 39 33.1 0.0
KMI pmax pmax
comp=Z,70nm,1.2s
KMI pmax pmax
comp=Z,160nm,3.5s
KLR Kul'dur 55.39 345*ce*P **P** **01 37 26.0 +0.4**
KLR pmax pmax
comp=Z,43nm,0.9s
MLSI Meulaboh, Aceh 55.43 278 P **P** **01 37 25.7 -0.9**
comp=Z,3µmcomp=Z,292nm,1.0s
CM31 Chiang Mai Arr 56.07 295 P **P** **01 37 30.2 -0.8**
CM31 lAmb lAmb 01 37 33.8
comp=Z,104nm,0.8s
CMAR Chiang Mai Arr 56.07 295 P **P** **01 37 32.8 +1.8**
comp=Z,67nm,0.8s,baz=115,slow=5.1,SNR=294
CMAR PcP **PcP** **01 38 24.9 +1.1**
comp=Z,7.5nm,0.7s,baz=118,slow=2.5,SNR=4.7
CMAR Chiang Mai Arr 56.07 295 P **P** **01 37 29.9 -1.1**
CMAR **PcP** **01 38 22.8 -1.1**
CHTO Chiang Mai 56.18 295 P **P** **01 37 33.1 +1.4**
CHTO Chiang Mai 56.18 295 P **P** **01 37 31.0 -0.8**
CHTO lAmb lAmb 01 37 34.8
comp=Z,60nm,1.1s
CHTO **PcP** **01 38 21.4 -2.9**
PET Petropavlovsk 56.85 5⇑ *e*P **P** **01 37 35.4 -0.3**
PET pmax pmax
comp=Z,53nm,0.8s
PET Petropavlovsk 56.85 5 P **P** **01 37 36.1 +0.4**
PET **PcP** **01 38 24.4 -1.8**
PEA0B Petropavlovsk- 56.85 5 P **P** **01 37 35.9 +0.2**
PEA0B pmax pmax
comp=Z,39nm,0.6s
PEA0B Petropavlovsk- 56.85 5 P **P** **01 37 35.9 +0.2**
PEA0B lAmb lAmb 01 37 37.2
comp=Z,39nm,0.6s
PETK Petropavlovsk- 56.85 5 P **P** **01 37 36.3 +0.6**
comp=Z,34nm,0.6s,baz=175,slow=8.1,SNR=107
PETK PcP **PcP** **01 38 26.6 +0.4**
comp=Z,14nm,0.8s,baz=134,slow=4.3,SNR=6.8
PETK ScP **ScP** **01 41 49.2 +1.8**
comp=Z,0.8nm,0.3s,baz=271,slow=4.3,SNR=8.4
PETK Petropavlovsk- 56.85 5 P **P** **01 37 35.8 0.0**
PETK **PcP** **01 38 24.8 -1.3**
CD2 Chengdu 56.90 311 ⇓ *i*P **P** **01 37 37.7 +1.1**
CD2 S **S** **01 45 00.9 +1.4**
CD2 pmax pmax
comp=Z,630nm,0.7s
CD2 pmax pmax
comp=Z,120nm,5.1s
POHA Pohakuloa 57.17 64 P **P** **01 37 38.3 -0.6**
HHC Hu-ho-hao-te 57.30 325 *e*P **P** **01 37 40.5 +1.3**
HHC S **S** **01 45 08.1 +3.7**
HHC pmax pmax
comp=Z,89nm,1.0s
HHC pmax pmax
comp=Z,210nm,5.3s
BTO Baotou 58.04 324 *e*P **P** **01 37 45.7 +1.4**
LZH Lanzhou 59.41 316 ⇓P **P** **01 37 55.6 +1.8**
LZH pP pP 01 39 19.2 +3.1
LZH sP sP 01 40 00.3 +1.6
LZH pmax pmax
comp=Z,180nm,1.3s
LZH pmax pmax
comp=Z,370nm,6.7s
HIA Hailar 59.43 337 *i*P **P** **01 37 53.8 +0.3**
HIA pmax pmax
comp=Z,44nm,0.8s
HIA Hailar 59.43 337 P **P** **01 37 53.4 -0.1**
HIA lAmb lAmb 01 37 55.2
comp=Z,64nm,0.7s
ZEA Zeya 60.67 344 *e*P **P** **01 38 00.5 -1.2**
ZEA pmax pmax
comp=Z,61nm,1.0s
MA2 Magadan 63.08 360 P **P** **01 38 17.6 +0.1**
MA2 pmax pmax
comp=Z,44nm,0.7s
MA2 Magadan 63.08 360 P **P** **01 38 17.6 +0.1**
MA2 lAmb lAmb 01 38 18.6
comp=Z,44nm,0.7s
GTA Gaotai 63.85 318 ⇓PcP **PcP** **01 38 24.6 +1.6**
GTA PcP **PcP** **01 38 56.7 +1.7**
GTA pP pP 01 39 50.0 +3.3
GTA sP sP 01 40 29.7 +0.8
GTA S **S** **01 46 29.3 +2.6**
GTA pmax pmax
comp=Z,84nm,0.8s
GTA pmax pmax
comp=Z,220nm,6.8s
ULN Ulaanbaatar 64.29 329*ce*P **P** **01 38 26.7 +1.0**
ULN pmax pmax
comp=Z,70nm,0.9s
ULN Ulaanbaatar 64.29 329 P **P** **01 38 25.4 -0.3**
SHL Shillong 64.48 300 P **P** **01 38 26.7 -0.7**
SHL pmax pmax
comp=Z,108nm,0.7s
SHL Shillong 64.48 300 P **P** **01 38 26.7 -0.7**
SONM Songino Array 64.61 328 P **P** **01 38 29.1 +1.4**
comp=Z,52nm,0.7s,baz=141,slow=4.9,SNR=165
SONM PcP **PcP** **01 38 58.5 +0.6**
comp=Z,12nm,0.5s,baz=143,slow=3.5,SNR=9.1
SONM ScP 01 42 22.6
comp=Z,2.9nm,0.8s,baz=153,slow=6.0,SNR=3.8
SONM PKPPKP **P'P'df** **02 07 15.1 +2.7**
comp=Z,0.4nm,0.4s,baz=319,slow=4.1,SNR=4.1
SONM Songino Array 64.61 328 P **P** **01 38 27.4 -0.3**
SONM **PcP** **01 38 57.4 -0.5**

LSA Lhasa 66.40 305 P **P** **01 38 41.2 +1.4**
LSA Lhasa 66.40 305 P **P** **01 38 38.9 -0.9**
LSA pmax pmax
comp=Z,52nm,0.7s
LSA Lhasa 66.40 305 P **P** **01 38 38.9 -0.9**
YAK Yakutsk 67.61 349 *e*P **P** **01 38 46.4 +0.3**
YAK *e* 01 39 08.3
YAK *e* 01 41 19.5
YAK *e*PPP PPP 01 43 03.0
YAK *e*S **S** **01 47 11.2 +0.6**
YAK *e* 01 48 05.5
YAK *e*SS **SS** **01 51 42.5 +1.8**
YAK *e*SSS SSS 01 54 49.5
YAK pmax pmax
comp=Z,113nm,1.2s
YAK pmax pmax
comp=N,43nm,1.1s
YAK pmax pmax
comp=E,14nm,1.2s
YAK pmax pmax
comp=Z,113nm,2.3s
YAK pmax pmax
comp=N,88nm,2.3s
YAK pmax pmax
comp=E,51nm,2.2s
YAK smax smax
comp=N,122nm,3.1s
YAK smax smax
comp=E,174nm,3.0s
YAK Yakutsk 67.61 349 P **P** **01 38 46.2 +0.2**
ZAK Zakamensk 67.79 329 *e*P **P** **01 38 48.7 +1.1**
ZAK pmax pmax
comp=Z,104nm,1.1s
BOD Bodaibo 68.24 340 *e*P **P** **01 38 50.0 -0.1**
BOD pmax pmax
comp=Z,44nm,1.3s
TLY Talaya 68.39 330 *e*P **P** **01 38 52.0 +0.8**
TLY pmax pmax
comp=Z,155nm,1.5s
TLY Talaya 68.39 330 P **P** **01 38 51.0 -0.2**
TLY lAmb lAmb 01 38 53.6
comp=Z,44nm,1.1s
TAPN Taplejung 68.57 301 *e*P **P** **01 38 54.2 +1.1**
comp=Z,201nm,0.7s
CASY Casey 68.64 196 P **P** **01 38 52.8 +0.5**
CASY lAmb lAmb 01 38 53.7
comp=Z,38nm,1.1s
ODAN Odare 68.71 301 *e*P **P** **01 38 55.0 +1.1**
comp=Z,346nm,0.7s
RAMN Ramite 69.42 300 *e*P **P** **01 38 59.0 +0.8**
comp=Z,58nm,0.6s
MOY Mondy 69.72 329 *e*P **P** **01 39 00.6 +1.3**
MOY pmax pmax
comp=Z,120nm,1.6s
JIRN Jiri 69.95 301 *e*P **P** **01 39 02.6 +1.0**
comp=Z,243nm,0.7s
PKI Pulchoki 70.60 301 *e*P **P** **01 39 06.0 +0.6**
comp=Z,113nm,0.6s
KKN Kakani 70.77 301 *e*P **P** **01 39 07.1 +0.8**
comp=Z,102nm,0.5s
DMN Daman 70.87 301 *e*P **P** **01 39 07.9 +0.9**
comp=Z,184nm,0.5s
PALK Pallekele 71.30 279 *i*P **P** **01 39 09.0 -0.5**
PALK pmax pmax
comp=Z,62nm,1.2s
PALK Pallekele 71.30 279 P **P** **01 39 08.8 -0.7**
PALK lAmb lAmb 01 39 11.2
comp=Z,37nm,0.8s
GKN Gorkha 71.37 301 *e*P **P** **01 39 10.6 +0.8**
comp=Z,188nm,0.6s
KOLN Koldanda 72.20 301 *e*P **P** **01 39 15.4 +0.6**
comp=Z,247nm,0.8s
DANN Dangsing 72.21 301 *e*P **P** **01 39 15.4 +0.5**
comp=Z,343nm,0.8s
BILL Bilibino 72.34 6⇓ *e*P **P** **01 39 15.1 +0.6**
BILL *e* 01 39 29.8
BILL *e**PP **pwP** **01 40 42.6 -0.9**
BILL *e* 01 42 07.9
BILL pmax pmax
comp=Z,33nm,0.9s
PYUN Piuthan 72.81 301 *e*P **P** **01 39 18.6 +0.3**
comp=Z,354nm,0.9s
WMQ Urumqi 73.93 318 *e*P **P** **01 39 25.7 +1.4**
WMQ pmax pmax
comp=Z,61nm,1.3s
WMQ pmax pmax
comp=Z,210nm,4.3s
VNDA Vanda 73.98 178 P **P** **01 39 24.9 +1.0**
comp=Z,13nm,0.8s,baz=332,slow=6.8,SNR=123
VNDA pP **pP** **01 40 52.3 +1.0**
comp=Z,1.9nm,0.9s,baz=336,slow=6.4,SNR=1.7
VNDA Vanda 73.98 178 P **P** **01 39 24.6 +0.8**
HYB Hyderabad 74.73 289 *i*P **P** **01 39 29.0 -0.3**
KDAK Kodiak Island 75.87 27 P **P** **01 39 35.5 +0.7**
comp=Z,9.5nm,0.7s,baz=220,slow=6.3,SNR=4.4
KDAK Kodiak Island 75.87 27 P **P** **01 39 35.1 +0.3**
DGZ Jazzator, Alta 76.32 323*di*P **P** **01 39 38.2 +0.5**
DGZ pmax pmax
comp=Z,84nm,1.1s
SVW2 Sparrevohn 76.40 24 P **P** **01 39 38.0 +0.2**
SVW2 lAmb lAmb 01 39 40.5
comp=Z,33nm,1.0s
ZSN Zaisan 77.08 320⇓ *i*P **P** **01 39 43.0 +1.1**
comp=Z,28nm,0.9s,baz=320
ZSN Zaisan 77.08 320*di*P **P** **01 39 42.9 +1.1**
ZSN pmax pmax
comp=Z,28nm,0.9s
TTA Tatalina 77.30 22 P **P** **01 39 42.9 +0.2**
TTA pmax pmax
comp=Z,22nm,1.0s
TTA Tatalina 77.30 22 P **P** **01 39 42.9 +0.2**
TTA lAmb lAmb 01 39 45.0
comp=Z,22nm,1.0s
RDOG Red Dog Mine 78.33 16 P **P** **01 39 48.5 +0.3**
RDOG lAmb lAmb 01 39 50.4
comp=Z,39nm,0.8s
H08S2 Diego Garcia H 78.45 263 P **P** **01 39 51.2 +1.6**
baz=42,slow=6.7,SNR=9.7
H08S3 Diego Garcia H 78.46 263 P **P** **01 39 51.1 +1.4**
baz=42,slow=6.7,SNR=7.3
H08S1 Diego Carcia H 78.47 263 P **P** **01 39 51.2 +1.5**
baz=42,slow=6.7,SNR=8.1
DGAR Diego Garcia 78.50 263*ce*P **P** **01 39 50.8 +0.6**
DGAR pmax pmax
comp=Z,201nm,1.7s
O22K Cooper Landing 78.51 26 P **P** **01 39 49.8 +0.5**
baz=241
SKT Skwentna 78.51 24 P **P** **01 39 49.0 -0.3**
MK31 Makanchi Array 78.53 319 *e*P **P** **01 39 50.3 +0.6**
MK31 Makanchi Array 78.53 319 P **P** **01 39 49.4 -0.3**
MK31 lAmb lAmb 01 39 51.7
comp=Z,68nm,1.1s
MKAR Makanchi Array 78.53 319 P **P** **01 39 50.6 +0.9**
comp=Z,30nm,0.6s,baz=101,slow=6.7,SNR=278
MKAR Makanchi Array 78.53 319 P **P** **01 39 49.5 -0.2**
MAKZ Makanchi 78.74 319 P **P** **01 39 51.0 +0.2**
MAKZ Makanchi 78.74 319 P **P** **01 39 50.6 -0.2**
CUT Chulitna 79.24 24 P **P** **01 39 53.1 -0.1**
baz=240
PMR Palmer 79.31 25 P **P** **01 39 53.8 +0.3**
PMR pmax pmax
comp=Z,12nm,0.7s
PMR Palmer 79.31 25 P **P** **01 39 53.8 +0.3**
SHLS Shalkode 79.41 315⇓ *i*P **P** **01 39 54.2 -0.5**
comp=Z,20nm,0.4s,baz=315
SHLS Shalkode 79.41 315*di*P **P** **01 39 54.2 -0.5**
SHLS pmax pmax
comp=Z,20nm,0.4s
ZAA0 Zalesovo Array 79.42 327 P **P** **01 39 54.3 0.0**
ZALV Zalesovo Beam 79.42 327 P **P** **01 39 54.2 -0.1**
comp=Z,71nm,0.6s,baz=109,slow=5.6,SNR=175
PDGK Podgornoye 79.44 315 P **P** **01 39 55.0 +0.2**
GHO Glory Hole Cre 79.48 25 P **P** **01 39 54.6 +0.1**
GHO lAmb lAmb 01 39 55.9
comp=Z,26nm,0.8s
KNK Knik Glacier 79.50 25 lAmb lAmb 01 39 57.0
comp=Z,29nm,1.1s
UZB Uzynbulak 79.72 315⇓ *i*P **P** **01 39 57.2 +0.9**
comp=Z,43nm,1.1s,baz=315
UZB Uzynbulak 79.72 315*di*P **P** **01 39 57.2 +0.9**
UZB pmax pmax
comp=Z,43nm,1.1s
TRF Thorofare Moun 79.76 23 lAmb lAmb 01 39 56.7
comp=Z,15nm,0.7s
GLI Glacier Island 79.84 26 lAmb lAmb 01 39 57.9
comp=Z,36nm,0.7s

IMAR Indian Mountai 79.85 20 P **P** **01 39 56.6 +0.2**
KPKS Kokpek 80.04 315⇓ *i*P **P** **01 39 58.8 +0.8**
comp=Z,56nm,1.3s,baz=315
KPKS Kokpek 80.04 315*di*P **P** **01 39 58.7 +0.8**
KPKS pmax pmax
comp=Z,56nm,1.3s
SATY Saty 80.13 315⇓ *i*P **P** **01 39 59.5 +1.0**
comp=Z,35nm,1.4s,baz=315
SATY Saty 80.13 315*di*P **P** **01 39 59.5 +1.0**
SATY pmax pmax
comp=Z,35nm,1.4s
SATY Saty 80.13 315*di*P **P** **01 39 59.5 +1.0**
SATY pmax pmax
comp=Z,35nm,1.4s
SCM Sheep Creek Mo 80.18 25 P **P** **01 39 58.4 +0.2**
SCM pmax pmax
comp=Z,24nm,0.8s
SCM Sheep Creek Mo 80.18 25 P **P** **01 39 58.4 +0.2**
SCM lAmb lAmb 01 40 00.0
comp=Z,24nm,0.8s
TARG Taragay, Kyrgy 80.24 313 P **P** **01 39 58.6 -0.9**
TARG lAmb lAmb 01 40 01.0
comp=Z,34nm,1.0s
RND Reindeer 80.30 23 P **P** **01 39 59.0 +0.1**
RND pmax pmax
comp=Z,41nm,0.7s
RND Reindeer 80.30 23 P **P** **01 39 59.0 +0.1**
RND lAmb lAmb 01 39 59.7
comp=Z,41nm,0.7s
MCK McKinley 80.43 23 P **P** **01 39 59.5 0.0**
MCK pmax pmax
comp=Z,56nm,0.8s
MCK McKinley 80.43 23 P **P** **01 39 59.5 0.0**
MCK lAmb lAmb 01 40 00.3
comp=Z,56nm,0.8s
KLU Klutina 80.62 26 P **P** **01 40 00.8 +0.2**
KLU lAmb lAmb 01 40 02.7
comp=Z,43nm,1.0s
TDK Taldyqorghan 80.62 317 *i*P **P** **01 40 02.0 +1.1**
comp=Z,46nm,0.4s,baz=317
TDK Taldyqorghan 80.62 317 *i*P **P** **01 40 02.0 +1.1**
TDK pmax pmax
comp=Z,46nm,0.4s
DHY Denali Highway 80.73 24 P **P** **01 40 01.3 +0.1**
DHY lAmb lAmb 01 40 02.8
comp=Z,21nm,0.8s
KDJ Kajisay 80.79 314 P **P** **01 40 01.4 -0.7**
KDJ pmax pmax
comp=Z,103nm,0.9s
KDJ Kajisay 80.79 314 P **P** **01 40 01.4 -0.7**
NEA2 Nenana 80.80 22 P **P** **01 40 01.1 -0.3**
baz=241
KSH Kashi 81.10 311 P **P** **01 40 06.6 +2.9**
KSH sP sP 01 42 17.9 +4.8
KSH pmax pmax
comp=Z,45nm,0.7s
WRH Wood River Hil 81.11 22 P **P** **01 40 02.9 -0.1**
WRH lAmb lAmb 01 40 03.6
comp=Z,34nm,1.0s
MDOK Medeo 81.12 315 *i*P **P** **01 40 04.9 +1.2**
baz=314
MDOK Medeo 81.12 315 *i*P **P** **01 40 04.9 +1.2**
TNSS Tian-Shan 81.17 314⇓ *i*P **P** **01 40 05.7 +1.4**
baz=314
TNSS Tian-Shan 81.17 314*di*P **P** **01 40 05.7 +1.4**
AAA Alma-Ata 81.23 315⇓ *i*P **P** **01 40 05.5 +1.3**
comp=Z,23nm,0.8s,baz=314
AAA Alma-Ata 81.23 315*di*P **P** **01 40 05.5 +1.3**
AAA pmax pmax
comp=Z,23nm,0.8s
MDM Murphy Dome 81.29 22 P **P** **01 40 03.9 0.0**
CCB Clear Creek Bu 81.30 22 P **P** **01 40 03.5 -0.5**
CCB lAmb lAmb 01 40 04.4
comp=Z,26nm,0.8s
CHKK Chushkaly 81.33 315⇓ *e*P **P** **01 40 04.9 +0.2**
baz=315
CHKK Chushkaly 81.33 315⇓ *e*P **P** **01 40 04.8 +0.2**
TCOL CIGO, UAF Yank 81.39 22 P **P** **01 40 04.2 -0.2**
baz=242
COLA College 81.39 22*di*P **P** **01 40 03.6 -0.8**
COLA pmax pmax
comp=Z,33nm,0.9s
COLA College 81.39 22 P **P** **01 40 04.9 +0.6**
COLA lAmb lAmb 01 40 04.9
comp=Z,42nm,0.8s
ULHL Ulahol 81.49 313 P **P** **01 40 07.1 +1.4**
SNR=25
HDA Harding Lake 81.52 23 P **P** **01 40 04.6 -0.5**
baz=243
HDA Harding Lake 81.52 23 P **P** **01 40 04.8 -0.3**
GLB Gilahina Butte 81.52 26 P **P** **01 40 05.8 +0.5**
GLB lAmb lAmb 01 40 07.0
comp=Z,23nm,0.8s
CRQM Cirque 81.55 27 P **P** **01 40 06.1 +0.5**
CRQM lAmb lAmb 01 40 12.3
comp=Z,22nm,0.6s
MTBS Maitube 81.56 314 *e*P **P** **01 40 06.7 +0.8**
baz=314
MTBS Maitube 81.56 314 *e*P **P** **01 40 06.7 +0.8**
VRDI Verde Repeater 81.59 26 P **P** **01 40 06.2 +0.3**
VRDI lAmb lAmb 01 40 07.5
comp=Z,27nm,1.0s
POKR Poker Plat Res 81.66 22 P **P** **01 40 05.4 -0.5**
baz=242
IL31 81.71 22 P **P** **01 40 05.3 -0.7**
IL31 lAmb lAmb 01 40 06.3
comp=Z,30nm,0.8s
ILAR Eielson Array 81.71 22 P **P** **01 40 05.3 -0.8**
comp=Z,24nm,0.7s,baz=251,slow=5.3,SNR=162
ILAR pP **pP** **01 41 34.6 0.0**
comp=Z,7.2nm,0.8s,baz=254,slow=5.4,SNR=6.0
ILAR Eielson Array 81.71 22 P **P** **01 40 05.5 -0.6**
ILAR Eielson Array 81.71 22 P **P** **01 40 05.5 -0.6**
COLD Coldfoot 81.72 20 P **P** **01 40 07.3 +1.2**
baz=239
COLD Coldfoot 81.72 20 P **P** **01 40 06.5 +0.5**
KUU Kurty 81.79 315⇓ *i*P **P** **01 40 07.9 +0.8**
comp=Z,75nm,0.7s,baz=315
KUU Kurty 81.79 315*di*P **P** **01 40 07.8 +0.8**
KUU pmax pmax
comp=Z,75nm,0.7s
MCARA McCarthy VSAT 81.84 26 P **P** **01 40 07.3 +0.5**
MCARA lAmb lAmb 01 40 08.9
comp=Z,20nm,0.7s
KURK Kurchatov 82.00 322 *i*P **P** **01 40 07.8 0.0**
KURK pmax pmax
comp=Z,98nm,1.2s
KURK Kurchatov 82.00 322 P **P** **01 40 07.8 0.0**
BALM Baldy 82.01 27 lAmb lAmb 01 40 09.7
comp=Z,20nm,0.6s
RIDG Independent Ri 82.05 24 lAmb lAmb 01 40 09.4
comp=Z,26nm,1.0s
TKM2 Tokmak 2 82.11 314 P **P** **01 40 10.1 +1.2**
SNR=84
TKM2 Tokmak 2 82.11 314 P **P** **01 40 09.6 +0.7**
NIL Nilore 82.14 305 P **P** **01 40 08.5 -0.5**
NIL pmax pmax
comp=Z,129nm,0.6s
NIL Nilore 82.14 305 P **P** **01 40 08.5 -0.5**
MENT Mentasta 82.17 25 lAmb lAmb 01 40 10.3
comp=Z,29nm,1.1s
KZA Kyzart 82.18 313 P **P** **01 40 11.6 +2.1**
SNR=62
DOT Dot Lake 82.33 24 lAmb lAmb 01 40 10.9
comp=Z,35nm,0.8s
BARN Barnard Glacie 82.33 27 lAmb lAmb 01 40 11.7
comp=Z,37nm,0.6s
TABL Table Mountain 82.33 28 lAmb lAmb 01 40 11.5
comp=Z,19nm,0.7s
CTGM Chitina Glacie 82.44 27 lAmb lAmb 01 40 12.2
comp=Z,27nm,0.6s
SCRK Sand Creek 82.49 24 P **P** **01 40 10.7 +0.4**
baz=246
KBK Karagaybulak 82.52 314 P **P** **01 40 12.2 +1.3**
SNR=24
PCA Pinnacle 82.62 28 lAmb lAmb 01 40 12.9
comp=Z,23nm,0.7s
TOLK Toolik Lake Re 82.64 18 P **P** **01 40 12.0 +1.1**
baz=240
TOLK Toolik Lake Re 82.64 18 lAmb lAmb 01 40 13.0
comp=Z,27nm,1.0s
CHMS Chumysh 82.73 314 P **P** **01 40 12.9 +1.1**
SNR=41
UCH Uchtor 82.74 313 P **P** **01 40 14.2 +1.7**
SNR=120
AAK Ala-Archa 82.84 314 P **P** **01 40 14.0 +1.4**

SNR=28
AAK Ala-Archa 82.84 314 P P 01 40 13.7 +1.1
AAK Ala-Archa 82.84 314 P P 01 40 12.1 -0.5
AAK IAmb IAmb 01 40 14.9
comp=Z,51nm,0.8s
BCAR Beaver Creek A 83.03 25 P P 01 40 13.5 +0.5
K27K Chicken 83.29 24 P P 01 40 15.7 +1.6
baz=247
AML Almayashu 83.32 313 P P 01 40 17.1 +1.8
SNR=19
EKS2 Erkin-Say 83.36 314 P P 01 40 16.8 +1.6
SNR=108
BTLS Baital 83.64 316⇓*i*P P 01 40 17.4 +1.0
comp=Z,58nm,1.0s,baz=316
BTLS Baital 83.64 316*d i*P P 01 40 17.3 +1.0
BTLS pmax pmax
comp=Z,58nm,1.0s
EGAK Eagle 83.94 23 IAmb IAmb 01 40 19.4
comp=Z,33nm,0.9s
DAWY Dawson 84.40 24 IAmb IAmb 01 40 22.1
comp=Z,18nm,0.8s
NRIK Noril'sk 84.45 341 P P 01 40 20.0 +0.2
comp=Z,58nm,0.5s,baz=105,slow=4.8,SNR=59
NRIK Noril'sk 84.45 341⇑*e*P P 01 40 19.9 +0.1
NRIK pmax pmax
comp=Z,58nm,1.0s
H02S1 DAWSON INLET T 84.72 36 P P 01 40 23.4 +1.9
SNR=9.0
DZA Taraz 85.17 313⇓*i*P P 01 40 25.0 +0.9
comp=Z,16nm,0.6s,baz=313
DZA Taraz 85.17 313*d i*P P 01 40 24.9 +0.9
DZA pmax pmax
comp=Z,16nm,0.6s
WHY Whitehorse 85.33 28 IAmb IAmb 01 40 26.8
comp=Z,20nm,0.8s
OTUK Ortayu 85.42 319 P P 01 40 25.1 0.0
BRZS Berezniki 85.53 321⇓*i*P P 01 40 25.3 -0.3
comp=Z,36nm,1.2s,baz=321
BRZS Berezniki 85.53 321*d i*P P 01 40 25.3 -0.3
BRZS pmax pmax
comp=Z,36nm,1.2s
WRAK Wrangell Islan 85.54 33 IAmb IAmb 01 40 28.0
comp=Z,24nm,0.9s
KBL Kabul 85.72 305 P P 01 40 26.4 -0.8
KBL Kabul 85.72 305 P P 01 40 26.4 -0.8
KBL IAmb IAmb 01 40 27.6
comp=Z,31nm,0.7s
KK31 Karatay Array 85.80 314 *i* P P 01 40 27.3 +0.2
KK31 Karatay Array 85.80 314 IAmb IAmb 01 40 28.2
comp=Z,22nm,0.7s
KKAR Karatay Array 85.80 314 P P 01 40 26.7 -0.4
KKAR Karatay Array 85.80 314 P P 01 40 26.7 -0.4
KKAR Karatay Array 85.80 314 IAmb IAmb 01 40 28.2
comp=Z,22nm,0.7s
IUG luzhnay 86.01 313⇓*i*P P 01 40 29.2 +0.9
comp=Z,19nm,0.8s,baz=312
IUG luzhnay 86.01 313*d i*P P 01 40 29.1 +0.9
IUG pmax pmax
comp=Z,19nm,0.8s
MAW Mawson 86.01 203 P P 01 40 27.7 +0.2
comp=Z,16nm,0.5s,baz=94,slow=6.2,SNR=54
MAW PKKP **PKKPbc 01 58 25.3 -3.0**
comp=Z,1.5nm,0.7s,baz=308,slow=5.2,SNR=4.0
MAW Mawson 86.01 203 P P 01 40 27.7 +0.2
baz=86,SNR=38
MAW Mawson 86.01 203 P P 01 40 28.1 +0.6
MAW pmax pmax
comp=Z,4.0nm,0.6s
MAW Mawson 86.01 203 P P 01 40 28.1 +0.6
EPYK Eagle Plains 86.22 23 P P 01 40 29.4 +0.8
baz=252
EPYK Eagle Plains 86.22 23 IAmb IAmb 01 40 30.5
comp=Z,46nm,0.9s
QSPA South Pole Qui 86.25 180 P P 01 40 29.4 +0.5
DLBC Dease Lake 87.21 31 IAmb IAmb 01 40 36.2
comp=Z,20nm,1.1s
BVA0 Borovoye Array 87.48 323 *i* P P 01 40 34.0 -0.8
BRVK Borovoye 87.55 323 P P 01 40 35.0 -0.2
BRVK pmax pmax
comp=Z,64nm,1.0s
BRVK Borovoye 87.55 323 P P 01 40 35.0 -0.2
INK Inuvik 87.96 21 P P 01 40 36.9 +0.1
comp=Z,20nm,1.0s,baz=291,slow=4.7,SNR=31
INK pP **pP 01 42 06.8 +0.1**
comp=Z,6.2nm,1.0s,baz=178,slow=3.8,SNR=5.1
INK Inuvik 87.96 21 IAmb IAmb 01 40 39.2
comp=Z,22nm,1.1s
J01E Myrtle Point 88.68 47 P P 01 40 41.5 +0.8
baz=264
L02E Cave Junction 88.81 48 P P 01 40 42.4 +1.0
baz=264
K02D Willamette Mer 88.82 47 P P 01 40 42.6 +1.2
baz=264
I03D Drain, OR 89.16 46 P P 01 40 43.6 +0.8
baz=264
O02D Mt. Diablo Mer 89.22 50 P P 01 40 44.8 +1.4
baz=265
M02C Callahan 89.29 49 P P 01 40 45.3 +1.6
baz=264
N02D Trinity Center 89.36 49 P P 01 40 45.4 +1.3
baz=265
D03D Eldon 89.72 43 P P 01 40 46.7 +1.2
baz=264
L04D Klamath Falls 89.78 48 P P 01 40 46.8 +0.8
baz=265
I04A Tendick Farm, 89.84 46 P P 01 40 47.1 +0.9
baz=265
D04E Lakebay 89.90 43 P P 01 40 47.5 +1.2
baz=264
E04D Cinebar 89.98 44 P P 01 40 47.9 +1.2
baz=265
O03E Paynes Creek 89.99 50 P P 01 40 47.5 +0.6
baz=265
M04C Macdoel 90.08 48 P P 01 40 48.4 +0.9
baz=265
B05A Bryant 90.46 42 P P 01 40 49.9 +1.1
baz=265
J05D Fort Rock, OR 90.65 47 P P 01 40 51.0 +1.0
baz=266
K05A Summer Lake 90.86 47 IAmb IAmb 01 40 53.2
comp=Z,12nm,0.9s
PKM Mcpherson Peak 91.16 55 P P 01 40 53.8 +1.1
baz=266
HRA Herat 91.30 304 IAmb IAmb 01 40 54.2
comp=Z,25nm,1.0s
A36M Sachs Harbour 91.46 18 P P 01 40 52.7 -0.2
baz=263
C36M Paulatuk 91.53 21 P P 01 40 53.2 -0.1
baz=264
C36M Paulatuk 91.53 21 IAmb IAmb 01 40 54.1
comp=Z,23nm,0.8s
ISA Isabella, Lake 92.30 55 P P 01 40 58.4 +0.6
baz=267
NVAR Mina Array Bea 92.57 52 P P 01 40 59.8 +0.6
comp=Z,3.1nm,0.8s,baz=260,slow=6.4,SNR=19
NVAR pP **pP 01 42 30.1 +0.8**
comp=Z,0.8nm,0.6s,baz=248,slow=5.9,SNR=2.9
NVAR Mina Array Bea 92.57 52 P P 01 40 58.8 -0.3
EDW2 Edwards Air Fo 92.66 55 P P 01 41 00.3 +0.9
baz=267
CWC Cottonwood Cre 92.66 54 P P 01 41 00.4 +0.9
baz=267
BFSC Mount Baldy Ra 92.91 56 P P 01 41 01.4 +0.8
baz=268
LRMC Laurel Mtn Rad 92.94 55 P P 01 41 01.9 +1.1
baz=268
MPMC Manual Prospec 93.12 54 P P 01 41 02.5 +0.8
baz=268
MURC Murrieta 93.26 57 P P 01 41 03.0 +0.8
baz=268
SVE Sverdlovsk 93.44 327 *e*P P 01 41 01.5 -0.9
SVE pmax pmax
comp=Z,20nm,0.8s
FURC Furnace Creek, 93.64 54 P P 01 41 04.8 +1.1
baz=268
GSC Goldstone, Bar 93.65 55 P P 01 41 04.6 +0.6
baz=268
ABKAR Akbulak array 93.67 319 P P 01 41 02.2 -1.4
NEW Newport 93.78 42 P P 01 41 05.2 +1.1
baz=269
PFO Pinyon Flats O 93.88 57 P P 01 41 05.8 +0.7
baz=268
PFO Pinyon Flats O 93.88 57 *i* P P 01 41 03.5 -1.6
PFO pmax pmax
comp=Z,7.0nm,1.0s
TPFO Pinon Flats 93.88 57 P P 01 41 06.2 +1.0
baz=268

MONP2 Monument Peak 93.89 57 P P 01 41 06.6 +1.3
baz=268
IKP In-Ko-Pah, Jac 94.14 58 P P 01 41 06.7 +0.4
baz=268
TPNV Topopah Spring 94.15 53 P P 01 41 07.0 +0.6
baz=268
SYO Syowa Base 94.20 200⇑*e*P P 01 41 03.8 -1.8
SYO Syowa Base 94.20 200⇑*i*P P 01 41 06.0 +0.4
SYO Syowa Base 94.20 200⇑*e*pP pP 01 42 38.5 +2.0
BELC Belle Mtn. Jos 94.27 56 P P 01 41 07.6 +0.7
baz=268
GMRC Granite Mounta 94.57 56 P P 01 41 09.2 +1.0
baz=269
ARU Arti 94.58 326*c i*P P 01 41 06.1 -1.5
ARU 01 44 58.8
ARU S **SKSac 01 51 02.3 -2.0**
ARU pmax pmax
comp=Z,30nm,0.8s
ARU Arti 94.58 326 P P 01 41 06.3 -1.3
R11A Troy Canyon, C 94.70 52 P P 01 41 09.8 +1.0
baz=269
GEYT Alibeck 94.78 308 P P 01 41 08.9 0.0
comp=Z,5.5nm,0.9s,baz=93,slow=3.1,SNR=12
GEYT PP **PP 01 45 03.4 -0.4**
comp=Z,11nm,1.2s,baz=117,slow=5.8,SNR=9.0
GEYT Alibeck 94.78 308 P P 01 41 08.4 -0.6
AKTO Aktyubinsk 94.93 320 *i* P P 01 41 07.4 -1.9
AKTO pmax pmax
comp=Z,17nm,0.9s
IRM Iron Mountain 94.98 56 P P 01 41 11.0 +0.9
baz=269
YKA Yellowknife Ar 95.15 28 P P 01 41 10.5 +0.5
comp=Z,5.3nm,0.7s,baz=275,slow=5.0,SNR=38
YKA pP **pP 01 42 40.3 -0.4**
comp=Z,4.2nm,0.9s,baz=275,slow=4.4,SNR=7.4
YKA PKiKP **PKiKP 01 45 49.0 +0.3**
comp=Z,0.6nm,0.6s,baz=287,slow=1.7,SNR=5.3
YKA PKKPbc **PKKPdf 01 58 01.1 -3.1**
comp=Z,1.0nm,0.8s,baz=97,slow=2.4,SNR=6.1
NEE2 Needles Airpor 95.43 56 P P 01 41 13.1 +1.1
baz=269
HLID Hailey 95.62 47 P P 01 41 13.5 +0.6
baz=270
WALA Waterton Lakes 95.91 41 P P 01 41 13.4 -0.6
Y14A Wickenburg 96.76 56 IAmb IAmb 01 41 28.9
comp=Z,5.1nm,0.3s
EGMT Eagleton 98.71 42 P P 01 41 26.7 +0.2
baz=274
BW06 Boulder Array 99.20 47 P Pdif 01 41 28.9 -0.1
PDAR Pinedale Array 99.20 47 P Pdif 01 41 28.9 -0.1
comp=Z,1.4nm,0.5s,baz=199,slow=2.0,SNR=6.3
PDAR Pinedale Array 99.20 47 Pdif 01 41 28.8 -0.3
PRGR Permogore 100.67 332 *e*P Pdif 01 41 32.7 -2.0
PRGR *e* 01 45 46.9
PRGR *e*S **SKSac 01 51 32.8 -2.0**
PRGR pmax pmax
comp=Z,19nm,0.9s
SDCO Great Sand Dun 102.68 52 P Pdif 01 41 45.2 +0.5
baz=275
SNAA Sanae 102.91 188 Pdiff Pdif 01 41 43.6 -1.0
TMCR Tamitsa 103.32 336 *e*P Pdif 01 41 44.4 -2.1
TMCR pmax pmax
comp=Z,19nm,0.5s
KLMR Klimovskoe 103.72 332 *e*P Pdif 01 41 44.8 -3.5
KLMR pmax pmax
comp=Z,21nm,1.2s
KLMR Klimovskoe 103.72 332 *e*Pdif Pdif 01 41 44.8 -3.5
KLMR AMP 01 41 48.6
comp=Z,21nm,1.2s
KLMR *e*PP **PKiKP 01 46 03.2 -0.9**
VNA3 Neumayer Olymp 104.16 186 Pdiff Pdif 01 41 49.8 -0.3
TXAR Lajitas Array 104.89 61 PKiKP PKiKP 01 46 07.5 +0.2
comp=Z,0.2nm,0.5s,baz=219,slow=3.2,SNR=3.8
TXAR PKKPbc **PKKPbc 01 57 37.5 +1.0**
comp=Z,0.7nm,0.8s,baz=109,slow=5.0,SNR=5.4
TXAR PKKP **PKKPab 01 57 55.9 +0.3**
comp=Z,2.8nm,1.0s,baz=116,slow=6.1,SNR=16
ARCES ARCESS Array B 105.39 343 Pdiff Pdif 01 41 54.4 -1.2
comp=Z,2.9nm,0.8s,baz=46,slow=5.2,SNR=8.5
ARCES PKiKP **PKiKP 01 46 07.2 +0.2**
comp=Z,4.4nm,0.7s,baz=86,slow=1.6,SNR=25
KIV Kislovodsk 105.94 315 *e*P Pdif 01 41 59.5 +0.8
KIV pmax pmax
comp=Z,15nm,1.1s
ECSD EROS Data Cent 108.42 45 P PKiKP 01 46 13.7 +0.3
baz=283
WMOK Wichita Mounta 108.43 55 P PKiKP 01 46 14.2 +0.5
baz=279
FINES FINESS Array B 109.44 335 Pdiff Pdif 01 42 12.4 -1.3
comp=Z,3.6nm,0.7s,baz=66,slow=5.1,SNR=18
FINES PKiKP **PKiKP 01 46 14.7 0.0**
comp=Z,3.2nm,0.7s,baz=114,slow=2.9,SNR=11
W39A Magazine 112.39 53 P PKiKP 01 46 21.1 0.0
baz=282
AKASG Malin Array Be 112.74 324*c i*PKiKP PKiKP 01 46 20.7 -0.6
comp=Z,6.6nm,0.6s,baz=57,slow=2.3,SNR=32
AKASG PP **PP 01 47 13.7 -1.8**
comp=Z,2.0nm,0.7s,baz=60,slow=7.0,SNR=5.1
AKBB Malin Array Si 112.74 324*c i*PKiKP PKiKP 01 46 20.5 -0.8
U40A Yellville 112.88 52 P PKiKP 01 46 22.3 +0.2
baz=283
BRTR Keskin Array B 113.47 312 Pdiff Pdif 01 42 31.7 -0.7
comp=Z,0.2nm,0.6s,baz=160,slow=27,SNR=3.6
BRTR PKiKP **PKiKP 01 46 22.9 -0.4**
comp=Z,3.2nm,0.6s,baz=127,slow=2.7,SNR=20
BRTR PP **PP 01 47 21.6 +0.3**
comp=Z,3.5nm,0.9s,baz=107,slow=6.6,SNR=6.6
W41B Gary Mavity, V 113.62 53 P PKiKP 01 46 23.6 +0.1
baz=283
CCM Cathedral Cave 113.73 50 P PKiKP 01 46 23.9 +0.3
baz=285
KMBO Kilima Mbogo 113.93 267 PKiKP PKiKP 01 46 26.6 +1.6
comp=Z,1.0nm,0.6s,baz=23,slow=4.3,SNR=5.1
SORM Soroca 114.29 322 ⇑P PKPdf 01 46 23.6 -0.7
SORM Soroca 114.29 322 ⇑PKiKP PKPdf 01 46 23.6 -0.7
MILM Milestii Mici 114.47 321 ⇓P PKPdf 01 46 24.3 -0.5
HDIL Hopedale 114.50 47 P PKiKP 01 46 25.4 +0.4
baz=287
L44A Lake County Fo 114.98 45 P PKPdf 01 46 26.0 +0.1
baz=289
MDUB Mudurnu 115.05 313 PKPdf 01 46 25.7 -0.5
TLCR 115.12 319 ⇑P PKiKP 01 46 26.4 +0.4
TLCR 115.12 319 ⇑PKiKP PKiKP 01 46 26.4 +0.4
LEF Lefka 115.22 307 ⇑P PKPdf 01 46 26.4 -0.2
JURR Jurilovca 115.23 318 ⇓P PKiKP 01 46 26.6 +0.3
NB2 NORSAR Subarra 115.38 340 PKPdf PKPdf 01 46 25.2 -1.0
comp=Z,2.2nm,0.7s,baz=44,slow=1.9
NOA NORSAR Array B 115.38 340 PKP PKPdf 01 46 25.5 -0.6
comp=Z,5.3nm,0.7s,baz=48,slow=1.8,SNR=26
TOPG Topolog 115.52 319 ⇑P PKPdf 01 46 26.2 -0.6
NB00 NORSAR Array S 115.53 340 PKiKP 01 46 26.5 +0.1
CFR Carcaliu 115.57 319 ⇑P PKPdf 01 46 26.6 -0.3
CFR Carcaliu 115.57 319 ⇑PKiKP PKPdf 01 46 26.6 -0.3
TIRR Tirgusor 115.65 318 ⇑P PKiKP 01 46 27.3 +0.2
TIRR Tirgusor 115.65 318 ⇑P PKiKP 01 46 27.3 +0.2
TIRR Tirgusor 115.65 318 ⇑PKiKP PKiKP 01 46 27.3 +0.2
MFTR Murfatlar 115.75 318 ⇑P PKiKP 01 46 27.5 +0.2
MANR Mangalia 115.77 317 ⇑P PKiKP 01 46 27.4 +0.1
D46A Sault St. Mari 115.83 39 P PKiKP 01 46 27.7 +0.3
baz=294
TLBR Topalu 115.86 318 ⇓P PKiKP 01 46 27.7 +0.3
HARR Harsova 115.89 319 ⇑P PKiKP 01 46 27.8 +0.2
HARR Harsova 115.89 319 ⇑PKiKP PKiKP 01 46 27.8 +0.2
TESR Tescani 116.00 321 ⇑P PKPdf 01 46 27.4 -0.4
PSN Preselentsi 116.09 317 *e*P PKiKP 01 46 28.3 +0.3
LVV L'vov 116.13 325 *e*PKiKP PKPdf 01 46 27.8 -0.1
SFIN Lafayette 116.15 46 P PKiKP 01 46 28.5 +0.4
baz=295
VRI Vrincioaia 116.21 320 ⇑P PKPdf 01 46 27.8 -0.4
VRI Vrincioaia 116.21 320 ⇑PKiKP PKPdf 01 46 27.8 -0.4
P46A Rosedale 116.31 47 PKPdf 01 46 28.4 -0.1
D47A Chapleau 116.34 38 P PKiKP 01 46 28.8 +0.4
baz=295
BUR08 Bucovina Ar. S 116.42 322 PKPdf 01 46 28.4 -0.3
BURAR Bucovina Array 116.42 322 ⇑P PKiKP 01 46 29.4 +0.8
BURAR Bucovina Array 116.42 322 ⇑PKiKP PKiKP 01 46 29.4 +0.8
BURAR Bucovina Array 116.42 322 PKPdf PKPdf 01 46 28.4 -0.3
E47A Iron Bridge 116.49 39 P PKPdf 01 46 28.4 -0.2
baz=295
ISR Istrita 116.63 319 ⇑P PKiKP 01 46 29.5 +0.4
ISR Istrita 116.63 319 ⇑PKiKP PKiKP 01 46 29.5 +0.4
NEHR Nehoiu 116.67 320 ⇑P PKiKP 01 46 29.4 +0.3
PRD Provadia 116.80 317 *e*P PKiKP 01 46 29.7 +0.4
NEF NEVSHA 116.86 317 *e*P PKiKP 01 46 29.8 +0.3

MLR Muntele Rosu 116.86 320 ⇑P PKPdf 01 46 29.0 -0.6
MLR Muntele Rosu 116.86 320 PKiKP PKPdf 01 46 29.3 -0.3
MLR Muntele Rosu 116.86 320 PKPdf PKPdf 01 46 29.3 -0.3
WVT Waverly 116.87 51 P PKPdf 01 46 29.1 -0.6
baz=286
SECR 116.97 319 ⇑P PKiKP 01 46 30.2 +0.5
DOPR Dopca 117.02 321 ⇑P PKiKP 01 46 30.3 +0.6
D48A Paudash Townsh 117.09 38 P PKPdf 01 46 29.7 -0.1
baz=296
F48A Evansville 117.17 39 P PKiKP 01 46 30.0 0.0
baz=295
E48A Lockeyer 117.17 39 P PKiKP 01 46 30.0 0.0
baz=296
RAZG Razgrad 117.26 318 ⇑P PKPdf 01 46 29.5 -0.8
BUC1 Bucharest 117.27 319 ⇑P PKiKP 01 46 34.4 +4.2
BUC1 Bucharest 117.27 319 ⇑PKiKP PKiKP 01 46 34.4 +4.2
D49A Beulah Townshi 117.32 38 P PKPdf 01 46 30.2 0.0
baz=297
WCI Wyandotte Cave 117.42 49 P PKPdf 01 46 30.6 -0.1
baz=288
BMR Baia Mare 117.44 323 ⇑P PKPdf 01 46 28.1 -2.4
BMR Baia Mare 117.44 323 ⇑PKiKP PKPdf 01 46 28.1 -2.4
VOIR 117.46 320 ⇑P PKPdf 01 46 30.7 0.0
VOIR 117.46 320 ⇑PKiKP PKPdf 01 46 30.7 0.0
F49A Sandfield 117.56 39 P PKPdf 01 46 30.6 -0.1
baz=296
KOLS Kolonicke sedl 117.56 325 *e*PKiKP PKiKP 01 46 31.6 +0.9
KOLS Kolonicke sedl 117.56 325 *e*PKP PKiKP 01 46 31.6 +0.9
UZH Uzhgorod 117.70 324 *e*PKiKP PKiKP 01 46 35.6 +4.7
ARR Arges 117.75 320 ⇑P PKiKP 01 46 31.6 +0.3
HUMR Humele 117.89 319 ⇑P PKPdf 01 46 31.1 -0.3
COPA Copaceanca 117.89 319 ⇑P PKPdf 01 46 31.0 -0.4
CRVS Cervenica-Dubn 118.04 325 *e*PKiKP PKiKP 01 46 32.2 +0.6
CRVS Cervenica-Dubn 118.04 325 *e*PKP PKiKP 01 46 32.2 +0.6
E50A Wahnapitae 118.08 38 P PKiKP 01 46 31.9 +0.1
baz=297
P49A Miami Univ. Ec 118.15 47 P PKPdf 01 46 32.0 -0.1
baz=290
LOT Lotru 118.27 321 ⇑P PKPdf 01 46 32.0 -0.3
MATQ Matagami 118.28 34 P PKPdf 01 46 31.4 -0.6
baz=301
D50A G1974 Best Tow 118.29 37 P PKPdf 01 46 31.9 -0.3
baz=298
OJC Ojcow 118.30 327 PKiKP PKPdf 01 46 32.0 0.0
OJC Ojcow 118.30 327 PKPdf PKPdf 01 46 32.0 0.0
LRAL Lakeview Retre 118.36 54 P PKPdf 01 46 32.4 -0.3
baz=285
LRAL Lakeview Retre 118.36 54 PKPdf 01 46 32.3 -0.3
DIM Dimitrovgrad 118.51 317 *e*P PKPdf 01 46 32.6 -0.1
ALN Alexandroupoli 118.59 315 PKiKP PKPdf 01 46 32.5 -0.4
ALN Alexandroupoli 118.59 315 PKPdf PKPdf 01 46 32.5 -0.4
D51A Lot 18 Range I 118.61 37 P PKPdf 01 46 32.6 -0.1
baz=298
DEV Deva 118.62 321 ⇑P PKiKP 01 46 32.8 0.0
DEV Deva 118.62 321 ⇑PKiKP PKiKP 01 46 32.8 0.0
KDZ Kurdzhali 118.75 316 *e*P PKPdf 01 46 32.8 -0.4
E51A G1948 Merrick 118.80 38 P PKPdf 01 46 32.8 -0.3
baz=298
F51A Arnstein 118.82 38 P PKPdf 01 46 33.0 -0.1
baz=298
RDO Rodhopi 118.86 316 P PKPdf 01 46 32.9 -0.5
LSQQ Lebel-sur-Quev 119.01 34 P PKPdf 01 46 33.0 -0.4
baz=302
LANS Liptovska Anna 119.04 326 *e*PKiKP PKiKP 01 46 35.1 +1.5
LANS Liptovska Anna 119.04 326 *e*PKP PKiKP 01 46 35.1 +1.5
I51A Listowel 119.06 41 P PKPdf 01 46 33.4 -0.3
baz=296
BOSA Boshof 119.07 234 PKP PKPdf 01 46 34.3 -0.1
comp=Z,1.7nm,0.5s,baz=102,slow=0.9,SNR=8.4
ACSO Alum Creek Sta 119.15 45 P PKPdf 01 46 33.5 -0.5
baz=292
SIRR Siria 119.20 322 ⇑P PKiKP 01 46 34.4 +0.4
RZN Rozhen 119.22 316 *e*P PKPdf 01 46 34.0 -0.3
D52A ZEK Kipawa Sen 119.24 37 P PKPdf 01 46 33.6 -0.3
baz=299
P51A Williamsport 119.37 46 P PKPdf 01 46 33.6 -0.8
baz=292
HERR Herculane 119.38 321 ⇑P PKPdf 01 46 34.0 -0.3
OKC Ostrava-Krasne 119.40 327 *e*PKiKP PKiKP 01 46 34.9 +0.7
OKC Ostrava-Krasne 119.40 327 *e*PKPDF PKiKP 01 46 34.9 +0.7
E52A Mattawa 119.42 38 P PKPdf 01 46 33.9 -0.4
baz=299
PSZ Piszkesteto 119.44 325 ⇓P PKPdf 01 46 34.3 -0.1
PSZ Piszkesteto 119.44 325 ⇓PKiKP PKPdf 01 46 34.3 -0.1
O51A Pataskala 119.45 45 P PKPdf 01 46 34.2 -0.4
baz=292
BZS Buzias 119.54 322 ⇑P PKPdf 01 46 34.4 -0.2
BZS Buzias 119.54 322 ⇑PKiKP PKPdf 01 46 34.4 -0.2
LIA Limnos Island 119.58 314 P PKPdf 01 46 33.9 -0.9
D53A Lac Vacive, Po 119.61 36 P PKPdf 01 46 34.4 -0.3
baz=300
VYHS Vyhne 119.74 326 *e*PKiKP PKiKP 01 46 35.0 0.0
VYHS Vyhne 119.74 326 *e*PKP PKiKP 01 46 35.0 0.0
MORC Moravsky Berou 119.76 327 ⇑P PKiKP 01 46 35.3 +0.3
MORC Moravsky Berou 119.76 327 *e*PKP PKiKP 01 46 35.3 +0.3
MORC Moravsky Berou 119.76 327 ⇑PKiKP PKiKP 01 46 35.3 +0.3
SADO Sadowa 119.84 39 PKP PKPdf 01 46 34.9 -0.3
comp=Z,9.5nm,0.7s,baz=351,slow=2.6,SNR=7.9
VTS Vitosha 119.84 318 ⇓P PKiKP 01 46 35.8 +0.3
VTS Vitosha 119.84 318 ⇓PKiKP PKiKP 01 46 35.8 +0.3
VTS Vitosha 119.84 318 *e*P PKPdf 01 46 35.4 0.0
MDVR Moldovita 119.87 321 ⇑P PKPdf 01 46 35.2 -0.1
MMB Musomiste 119.93 317 *e*P PKPdf 01 46 35.0 -0.5
NVR Nevrokopi 119.94 316 P PKPdf 01 46 34.9 -0.6
BANR Banloc 119.95 322 ⇑P PKiKP 01 46 36.1 +0.7
ALGO Algonquin Park 119.95 38 P PKPdf 01 46 35.0 -0.3
baz=299
CHGQ Chibougamau 119.97 32 P PKPdf 01 46 34.5 -0.8
baz=305,SNR=5.7
P52A Corning 119.98 46 P PKPdf 01 46 35.2 -0.4
baz=292
E53A Dumoine, Ponti 119.98 37 P PKPdf 01 46 35.2 -0.2
baz=300
KRLC Kraliky 120.00 328 *e*PKiKP PKiKP 01 46 35.8 +0.3
KRLC Kraliky 120.00 328 *e*PKPDF PKiKP 01 46 35.8 +0.3
O52A Adamsville 120.00 45 P PKPdf 01 46 35.4 -0.2
baz=293
OSTC Oatas 120.02 329 *e*PKPDF PKiKP 01 46 36.2 +0.7
TZTN Tezewell 120.03 50 P PKPdf 01 46 35.8 0.0
baz=290
CHVC Chvalec 120.08 329 *e*PKPDF PKiKP 01 46 36.1 +0.5
DPC Dobruska-Polom 120.08 328 *e*PKiKP PKiKP 01 46 36.2 +0.6
DPC Dobruska-Polom 120.08 328 *e*PKPDF PKiKP 01 46 36.2 +0.6
Q52A Bidwell 120.13 47 P PKPdf 01 46 35.5 -0.4
baz=292
UPC Upice 120.15 329 *e*PKiKP PKiKP 01 46 36.2 +0.5
UPC Upice 120.15 329 *e*PKPDF PKiKP 01 46 36.2 +0.5
TKL Tuckaleechee C 120.15 51 PKP PKPdf 01 46 35.9 -0.2
comp=Z,12nm,1.0s,baz=180,slow=5.2,SNR=10
D54A Lac Fusel, La 120.19 36 P PKPdf 01 46 35.1 -0.6
baz=301
JAVC Velka Javorina 120.20 326 *e*PKP PKiKP 01 46 37.4 +1.5
G54A Lake Saint Pet 120.20 38 P PKPdf 01 46 35.4 -0.5
baz=299
E54A Lac Daplat, Po 120.24 37 P PKPdf 01 46 35.4 -0.5
baz=300
KKB Krupnik 120.26 317 *e*P PKPdf 01 46 35.8 -0.3
H53A Bobcaygeon 120.28 39 P PKPdf 01 46 35.9 -0.1
baz=298
SRO2 Moca 120.38 325 *e*PKiKP PKPdf 01 46 35.4 -0.7
SRO2 Moca 120.38 325 *e*PKP PKPdf 01 46 35.4 -0.7
O53A New Philadelph 120.39 45 P PKiKP 01 46 36.5 0.0
baz=294
SRO Srobarova 120.40 325 *e*PKiKP PKiKP 01 46 36.4 +0.2
SRO Srobarova 120.40 325 *e*PKP PKiKP 01 46 36.4 +0.2
SCHQ Schefferville 120.42 24 PKP PKPdf 01 46 35.8 -0.2
comp=Z,7.2nm,0.7s,baz=22,slow=2.9,SNR=11
N53A Lisbon 120.43 44 P PKiKP 01 46 36.7 +0.1
baz=294
MBAR Mbarara 120.46 267 *i* PKiKP PKPdf 01 46 36.9 -0.6
MBAR Mbarara 120.46 267 PKPdf 01 46 36.2 -1.2
ERPA Erie 120.46 42 P PKiKP 01 46 36.6 +0.1
baz=296
SMOL Smolenice 120.52 326 *e*PKiKP PKiKP 01 46 37.2 +0.7
SMOL Smolenice 120.52 326 *e*PKP PKiKP 01 46 37.2 +0.7
VRAC Vranov 120.53 327 ⇑P PKiKP 01 46 37.2 +0.7
VRAC Vranov 120.53 327 *e*PKP PKiKP 01 46 36.7 +0.2
VRAC Vranov 120.53 327 ⇑PKiKP PKiKP 01 46 37.2 +0.7
P53A Whipple 120.56 46 P PKPdf 01 46 36.7 -0.1
baz=293,SNR=6.5
LSZ Lusaka 120.64 250 PKiKP PKPdf 01 46 36.5 -1.2
LSZ Lusaka 120.64 250 PKPdf PKPdf 01 46 36.5 -1.2
T53A Wise 120.65 49 P PKiKP 01 46 37.4 +0.2
baz=291

MODS	Modra-Piesok	120.68	326	*e*PKIKP	PKPdf	01 46 36.5	-0.2		
MODS	Modra-Piesok	120.68	326	*e*PKP	PKPdf	01 46 36.5	-0.2		
Q53A	Leroy baz=292	120.71	46	P	PKiKP	01 46 37.2	0.0		
KRUC	Moravsky	120.78	327	*e*PKP	PKiKP	01 46 37.1	+0.1		
AOS	Alonnisos	120.79	314	P	PKPdf	01 46 35.8	-1.4		
VAY	Valandovo	120.84	317	*i* P	PKPdf	01 46 36.5	-0.6		
FRGS	Fruska Gora	120.88	322	⇓*i*P	PKPdf	01 46 36.8	-0.4		
PVCC	Panska Ves	120.88	329	*e*PKIKP	PKiKP	01 46 37.5	+0.4		
PVCC	Panska Ves	120.88	329	*e*PKPDF	PKiKP	01 46 37.5	+0.4		
E55A	Montcerf-Lytto baz=301	120.90	36	P	PKPdf	01 46 36.6	-0.5		
STIP	Stip	120.94	317	*i* P	PKPdf	01 46 35.5	-1.9		
D55A	Sainte-Anne-du baz=302	120.95	36	P	PKPdf	01 46 36.8	-0.4		
BRG	Berggiesshubel comp=Z,20nm,0.9s	120.98	330	*i* PKP	PKiKP	01 46 37.7	+0.4		
BRG	Berggiesshubel BRG comp=Z,20nm,0.9s	120.98	330	*i* PKIKP pmax	PKiKP pmax	01 46 37.7	+0.4		
BRG	Berggiesshubel baz=50,slow=1.9	120.98	330	*e*PKPdf	PKiKP	01 46 37.6	+0.4		
O54A	Avella baz=294,SNR=6.4	121.00	45	P	PKiKP	01 46 38.0	+0.3		
MORH	Mrgy, Hungar	121.05	323	⇓*i*P	PKPdf	01 46 37.3	-0.1		
GOGA	Godfrey baz=288	121.10	53	P	PKiKP	01 46 38.1	0.0		
G55A	Calabogie baz=300	121.11	38	P	PKPdf	01 46 37.4	-0.2		
TREC	Trest	121.13	328	*e*PKIKP	PKiKP	01 46 38.3	+0.6		
TREC	Trest	121.13	328	*e*PKPDF	PKiKP	01 46 38.3	+0.6		
GOPC	GO Pecny, Ondr	121.14	329	*e*PKIKP	PKiKP	01 46 38.1	+0.4		
GOPC	GO Pecny, Ondr	121.14	329	*e*PKPDF	PKiKP	01 46 38.1	+0.4		
Q54A	Coxs Mills baz=293,SNR=7.1	121.16	46	P	PKPdf	01 46 37.9	0.0		
P54A	Burton baz=294	121.17	45	P	PKPdf	01 46 38.0	0.0		
H55A	Tweed baz=299	121.17	39	P	PKPdf	01 46 37.5	-0.2		
CLL	Collm comp=Z,22nm,0.7s	121.18	331	*i* PKPdf	PKiKP	01 46 37.9	+0.2		
CLL	Collm CLL comp=Z,22nm,0.7s	121.18	331	*i* PKIKP pmax	PKiKP pmax	01 46 37.9	+0.2		
CLL	Collm baz=50,slow=1.9	121.18	331	*e*PKPdf	PKiKP	01 46 37.6	0.0		
XOR	Xorichti	121.20	315	P	PKPdf	01 46 37.1	-0.9		
NEO	Neokhori	121.20	314	P	PKPdf	01 46 37.0	-1.0		
PRU	Pruhonice	121.22	329	*e*PKIKP	PKiKP	01 46 37.8	0.0		
PRU	Pruhonice	121.22	329	*e*PKPDF	PKiKP	01 46 37.8	0.0		
PRA	Prague	121.22	329	*e*PKIKP	PKiKP	01 46 38.3	+0.5		
PRA	Prague	121.22	329	*e*PKPDF	PKiKP	01 46 38.3	+0.5		
FBE	Freiberg baz=50,slow=1.9	121.25	330	*e*PKPdf	PKiKP	01 46 38.2	+0.3		
S54A	Dingess, Beckl baz=292	121.26	47	P	PKPdf	01 46 38.0	-0.2		
DIVS	Divibare	121.28	321	⇓*i*P	PKiKP	01 46 38.2	0.0		
SKO	Skopje	121.32	318	*i* P	PKPdf	01 46 38.1	0.0		
T54A	Tazewell baz=291	121.34	48	P	PKPdf	01 46 38.1	-0.3		
D56A	ZEC Mazanza, M baz=303,SNR=8.4	121.34	35	P	PKPdf	01 46 37.8	-0.2		
U54A	Nelsons Funny baz=291	121.35	49	P	PKPdf	01 46 38.3	-0.2		
TEKS	Tekeris	121.35	321	*e*P	PKiKP	01 46 38.8	+0.5		
R54A	Victor baz=292	121.35	47	P	PKPdf	01 46 38.1	-0.2		
LIT	Litokhoron	121.40	316	P	PKPdf	01 46 36.6	-1.8		
IDI	Anoyia	121.44	310	P	PKPdf	01 46 38.4	-0.2		
IDI	Anoyia	121.44	310	⇑P	PKiKP	01 46 39.4	+0.6		
E56A	St. Veronique baz=302	121.45	36	P	PKPdf	01 46 37.8	-0.4		
V54A	Nebo baz=290	121.51	50	P	PKPdf	01 46 38.7	+0.1		
PLCA	Paso Flores comp=Z,1.7nm,0.5s,baz=247,slow=5.8,SNR=9.1	121.54	143	PKP	PKiKP	01 46 39.0	+0.1		
W54A	Cherokee Point baz=290,SNR=5.1	121.56	51	P	PKiKP	01 46 39.2	+0.3		
TIGA	Tifton baz=287	121.58	55	P	PKiKP	01 46 39.3	+0.2		
MCWV	Mont Chateau baz=294	121.59	45	P	PKiKP	01 46 38.8	-0.1		
X54A	Belton baz=289	121.60	51	P	PKiKP	01 46 39.3	+0.2		
LKR	Lokris	121.62	314	P	PKPdf	01 46 37.6	-1.2		
P55A	Reedsville baz=294	121.67	45	P	PKPdf	01 46 38.6	-0.3		
PBCC	Pribram	121.68	329	*e*PKPDF	PKiKP	01 46 39.1	+0.3		
Q55A	Buckhannon baz=294,SNR=5.2	121.69	46	P	PKPdf	01 46 38.9	-0.1		
CONA	Conrad Observa comp=Z,15nm,0.6s,SNR=10	121.72	326	*i* PKiKP	PKiKP	01 46 39.1	+0.1		
H56A	Elgin baz=300	121.72	38	P	PKPdf	01 46 38.7	0.0		
O55A	Ligonier baz=295	121.74	44	P	PKPdf	01 46 39.0	0.0		
ORIO	Orleans, Innes baz=301	121.75	37	P	PKPdf	01 46 38.6	-0.2		
BBLS	Lazići	121.76	321	⇓*i*P	PKiKP	01 46 39.2	0.0		
D57A	Chemin Vers le baz=304,SNR=5.9	121.86	35	P	PKPdf	01 46 38.8	-0.2		
LTK	Loutraki	121.89	313	P	PKPdf	01 46 37.9	-1.4		
DID	Didima	121.89	312	P	PKPdf	01 46 38.3	-1.1		
RUDO	Rudo	121.90	320	*e*P	PKPdf	01 46 38.2	-1.0		
T55A	Pulaski baz=292	121.91	48	P	PKPdf	01 46 39.2	-0.2		
U55A	TA2, Sparta baz=292	121.94	49	P	PKiKP	01 46 39.7	-0.1		
R55A	Marlinton baz=293,SNR=8.1	121.95	46	P	PKiKP	01 46 39.6	-0.1		
AGG	Agios Georgios	121.95	314	P	PKPdf	01 46 38.8	-0.7		
M56A	Emporium baz=297,SNR=5.5	121.95	42	P	PKPdf	01 46 39.3	-0.1		
THL	Klokotos Trika	121.95	315	P	PKPdf	01 46 38.3	-1.1		
K56A	Middlesex baz=298	121.97	41	P	PKPdf	01 46 38.9	-0.4		
J56A	Wolcott baz=299	121.99	40	P	PKPdf	01 46 39.0	-0.3		
E57A	Chemin Saint G baz=303,SNR=8.5	122.04	36	P	PKPdf	01 46 39.2	-0.2		
V55A	Taylorsville baz=291,SNR=5.6	122.04	50	P	PKiKP	01 46 39.9	0.0		
DSF	Desfina	122.06	314	P	PKPdf	01 46 38.9	-0.8		
CLZ	Clausthal baz=50,slow=1.9	122.07	333	*e*PKPdf	PKiKP	01 46 40.1	+0.6		
L56A	Greenwood baz=298,SNR=6.2	122.07	41	P	PKPdf	01 46 39.4	-0.2		
IMMV	Iera Moni Meta	122.08	310	P	PKPdf	01 46 39.0	-0.8		
MAKR	Makrakomi, Fth	122.10	315	P	PKPdf	01 46 39.5	-0.2		
GUNZ	Gunzen baz=50,slow=1.9	122.10	330	*e*PKPdf	PKiKP	01 46 39.8	+0.2		
PLN	Plauen baz=50,slow=1.9	122.11	330	*e*PKPdf	PKiKP	01 46 39.6	0.0		
PHP	Peshkopia	122.11	318	P	PKPdf	01 46 39.5	-0.2		
NKC	Novy Kostel	122.13	330	*e*PKIKP	PKiKP	01 46 40.2	+0.6		
NKC	Novy Kostel	122.13	330	*e*PKPDF	PKiKP	01 46 40.2	+0.6		
WERN	Wernitzgruen baz=50,slow=1.9	122.13	330	*e*PKPdf	PKiKP	01 46 39.8	+0.2		
N56A	West Decatur baz=296,SNR=5.4	122.13	43	P	PKPdf	01 46 39.7	0.0		
OHR	Ohrid	122.13	317	*i* P	PKiKP	01 46 39.9	-0.1		
BLA	Blacksburg baz=292	122.14	48	P	PKPdf	01 46 39.8	-0.1		
X55A	Gracelyn & Ava baz=290,SNR=7.5	122.20	51	P	PKiKP	01 46 40.6	+0.4		
GVD	Gavdhos	122.21	309	P	PKPdf	01 46 39.9	-0.1		
RODP	Rodopos	122.21	310	P	PKiKP	01 46 40.7	+0.5		
O56A	Blue Knob Stat baz=296,SNR=5.2	122.23	44	P	PKPdf	01 46 40.1	+0.1		
KHC	Kasperske Hory KHC comp=Z,58nm,1.0s	122.24	329	*c i* PKIKP pmax	PKPdf pmax	01 46 39.8	+0.1		
KHC	Kasperske Hory	122.24	329	*e*PKPDF	PKiKP	01 46 40.0	+0.1		
G57A	Newington baz=302,SNR=7.4	122.24	37	P	PKPdf	01 46 39.4	-0.4		
KPRO	Kipourio	122.25	316	P	PKPdf	01 46 39.6	-0.4		
NEST	Nestorio	122.27	316	P	PKPdf	01 46 40.0	-0.1		
LATQ	La Tuque baz=305	122.28	34	P	PKPdf	01 46 39.5	-0.2		
ARSA	Arzberg comp=Z,7.6nm,0.9s	122.29	326	*i* PKiKP	PKPdf	01 46 39.6	-0.3		
Q56A	Snyder Ridge, baz=294	122.31	45	P	PKPdf	01 46 39.9	-0.2		
H57A	Richville baz=301	122.33	38	P	PKPdf	01 46 39.6	-0.3		
GEC2	GERESS Array S baz=50,slow=1.9	122.35	328	*e*PKPdf	PKiKP	01 46 40.1	-0.1		
GERES	GERESS Array B comp=Z,19nm,0.6s,baz=73,slow=1.8,SNR=193	122.35	328	PKP	PKiKP	01 46 40.3	+0.1		
GERES				pPKP	pPKPdf	01 48 14.6	-1.0		
	comp=Z,0.7nm,0.8s,baz=187,slow=28,SNR=1.8								
GERES	GERESS Array B	122.35	328	PKIKP	PKPdf	01 46 39.7	-0.3		
GERES	GERESS Array B	122.35	328	PKPdf	PKPdf	01 46 39.7	-0.3		
P56A	Dayton Farm, R baz=295	122.36	45	P	PKPdf	01 46 40.2	0.0		
EVR	Evrytania	122.37	315	P	PKPdf	01 46 40.4	+0.1		
GUR	Goura	122.38	313	P	PKPdf	01 46 39.8	-0.6		
KNDR	Palaiochora Ch	122.38	310	P	PKiKP	01 46 40.6	+0.1		
D58A	Chemin du LacG baz=305,SNR=6.8	122.39	34	P	PKPdf	01 46 39.6	-0.4		
SERG	Sergoula	122.39	314	P	PKPdf	01 46 39.6	-0.7		
UPM	Unac-Piva	122.40	320	*e*P	PKPdf	01 46 40.1	-0.3		
TRIZ	Trizonia	122.40	314	P	PKPdf	01 46 39.8	-0.5		
R56A	Bull Pasture M baz=294	122.41	46	P	PKPdf	01 46 40.2	-0.2		
ANX	Ano Chora	122.42	314	P	PKiKP	01 46 40.9	+0.2		
I57A	Carthage baz=300,SNR=5.6	122.43	39	P	PKPdf	01 46 39.7	-0.5		
MANZ	Manzenberg baz=50,slow=1.9	122.45	330	*e*PKPdf	PKiKP	01 46 40.5	+0.2		
K57A	Scipio Center baz=299	122.47	40	P	PKPdf	01 46 40.1	-0.2		
J57A	Williamstown baz=300	122.48	39	P	PKPdf	01 46 40.1	-0.1		
U56A	King baz=292	122.49	49	P	PKPdf	01 46 40.5	0.0		
T56A	Rocky Mt baz=293	122.50	48	P	PKPdf	01 46 40.4	-0.1		
EFP	Efpalio	122.50	314	P	PKPdf	01 46 39.9	-0.6		
SSPA	Standing Stone baz=296	122.53	43	P	PKPdf	01 46 40.5	0.0		
SSPA	Standing Stone	122.53	43	PKPdf	PKPdf	01 46 40.3	-0.2		
ROTZ	Rotzenmuhle baz=50,slow=1.9	122.54	330	*e*PKPdf	PKPdf	01 46 40.1	-0.1		
PDG	Podgorica	122.55	319	⇑P	PKPdf	01 46 39.9	-0.5		
PDG	Podgorica	122.55	319	⇓*i*P	PKPdf	01 46 40.0	-0.5		
E58A	La Victoria baz=304,SNR=5.6	122.57	35	P	PKPdf	01 46 40.2	-0.2		
VLX	Vlachokerasia	122.57	313	P	PKPdf	01 46 40.8	0.0		
S56A	Natural Bridge baz=293	122.59	47	P	PKPdf	01 46 40.7	0.0		
TRIP	Tripoli	122.59	313	P	PKiKP	01 46 41.0	0.0		
WET	Wettzell baz=50,slow=1.9	122.59	329	*e*PKPdf	PKiKP	01 46 40.6	0.0		
V56A	Mocksville baz=292	122.60	49	P	PKiKP	01 46 40.9	0.0		
L57A	Andrews Acres baz=298,SNR=8.4	122.61	41	P	PKPdf	01 46 40.7	+0.1		
MOA	Molln comp=Z,7.8nm,0.6s,SNR=6.1	122.64	327	*i* PKiKP	PKPdf	01 46 40.3	-0.2		
MCD	Coleburn Disti	122.64	344	*e*P	PKPdf	01 46 39.9	-0.2		
TIR	Tirane	122.65	318	⇑P	PKPdf	01 46 40.7	0.0		
TIR	Tirane	122.65	318	⇑PKIKP	PKPdf	01 46 40.7	0.0		
X56A	White Oak baz=290,SNR=5.2	122.66	51	P	PKiKP	01 46 41.4	+0.3		
BLY	Banja Luka	122.69	323	⇓*i*P	PKPdf	01 46 40.7	+0.1		
PVO	Paravola	122.69	314	P	PKiKP	01 46 41.3	+0.2		
N57A	Milroy baz=297,SNR=5.6	122.71	43	P	PKPdf	01 46 40.8	0.0		
DRME	Dracevica, Mon	122.71	319	*e*P	PKPdf	01 46 40.4	-0.4		
M57A	Sunshine Farm, baz=298,SNR=5.9	122.73	42	P	PKiKP	01 46 41.0	-0.1		
JAN	Janina	122.73	316	P	PKiKP	01 46 41.1	-0.1		
LONY	Lake Ozonia baz=302,SNR=6.2	122.74	38	P	PKPdf	01 46 40.7	-0.1		
GROS	Grobnik	122.75	325	*e*PKPdf	PKPdf	01 46 40.4	-0.4		
G58A	Ormstown baz=302,SNR=5.1	122.78	37	P	PKPdf	01 46 40.5	-0.3		
W56A	Indian Trail baz=291	122.78	50	P	PKPdf	01 46 41.1	-0.1		
BRY	Bratogost	122.78	320	⇓*i*P	PKPdf	01 46 40.6	-0.5		
DRO	Drossia	122.83	314	P	PKPdf	01 46 40.9	-0.3		
Q57A	Strasburg baz=295	122.86	45	P	PKPdf	01 46 41.2	0.0		
PERS	Pernice	122.87	325	*i* PKPdf	PKPdf	01 46 40.8	-0.2		
O57A	Amberson baz=296,SNR=6.1	122.89	43	P	PKPdf	01 46 41.2	0.0		
SOKA	Soboth comp=Z,20nm,1.0s,SNR=13	122.89	325	*i* PKiKP	PKPdf	01 46 40.9	-0.2		
MGRS	Mrkonjic Grad	122.92	322	*e*P	PKPdf	01 46 40.4	-0.8		
J58A	Remsen baz=300,SNR=8.1	122.95	39	P	PKPdf	01 46 41.2	0.0		
RLS	Riolos of Patr	122.96	314	P	PKiKP	01 46 42.0	+0.4		
I58A	Old Forge baz=301	122.98	39	P	PKPdf	01 46 41.1	-0.2		
ITM	Ithomi	122.98	313	P	PKPdf	01 46 41.1	-0.4		
TREB	Trebinje	123.00	320	*e*P	PKPdf	01 46 40.8	-0.5		
AMT	Artemida-Makis	123.00	313	P	PKPdf	01 46 41.4	-0.1		
S57A	Dark Hollow, R baz=294	123.00	47	P	PKPdf	01 46 41.1	-0.3		
K58A	Earlville baz=300,SNR=5.2	123.02	40	P	PKPdf	01 46 41.3	-0.1		
D59A	Saint-Raymond baz=306	123.02	34	P	PKPdf	01 46 41.1	-0.1		
HCY	Herceg Novi	123.03	320	*e*P	PKPdf	01 46 41.0	-0.4		
BIRD	Birdtown, Kers	123.05	51	PKPdf	PKPdf	01 46 41.2	-0.4		
BINY	Binghamton baz=299,SNR=5.3	123.08	41	P	PKiKP	01 46 41.7	-0.1		
BINY	Binghamton	123.08	41	PKPdf	PKPdf	01 46 41.2	-0.3		
T57A	Hurt baz=293	123.08	48	P	PKPdf	01 46 41.7	+0.1		
GRF	Grafenberg Arr baz=50,slow=1.9	123.08	330	*e*PKPdf	PKPdf	01 46 41.3	0.0		
R57A	Stanardsville baz=295	123.09	46	P	PKPdf	01 46 41.7	+0.1		
H58A	Gabriels baz=302,SNR=14	123.09	38	P	PKPdf	01 46 41.5	0.0		
V57A	Coltrane Farms baz=292	123.12	49	P	PKPdf	01 46 41.8	+0.1		
CRES	Cresnjev	123.13	324	⇓*i*P	PKPdf	01 46 41.5	0.0		
F59A	Saint Guilaume baz=304	123.14	36	P	PKPdf	01 46 41.4	0.0		
IGT	Igoumenitsa	123.14	316	P	PKPdf	01 46 40.7	-1.0		
M58A	Price's Panora baz=298,SNR=5.6	123.16	42	P	PKiKP	01 46 41.9	-0.1		
TSLK	Tsoukalades, L	123.22	315	P	PKiKP	01 46 42.4	+0.3		
W57A	Gilead baz=292,SNR=5.8	123.22	50	P	PKiKP	01 46 42.2	0.0		
PYL	PYLOS	123.23	312	P	PKPdf	01 46 40.6	-1.3		
N58A	Sunbury baz=298,SNR=7.5	123.23	42	P	PKPdf	01 46 41.9	+0.1		
LKD2	Lefkada island	123.24	315	P	PKiKP	01 46 42.2	0.0		
L58A	Harry Jones Me baz=299	123.24	41	P	PKPdf	01 46 41.9	0.0		
U57A	Blanch baz=293	123.24	48	P	PKPdf	01 46 42.0	0.0		
OBKA	Obir comp=Z,7.7nm,0.9s	123.26	326	*i* PKiKP	PKPdf	01 46 41.5	-0.3		
EVGI	Lefkada island	123.31	315	P	PKiKP	01 46 42.3	0.0		
G59A	Clarenceville baz=303	123.33	36	P	PKPdf	01 46 41.9	0.0		
J59A	Piesco baz=301,SNR=9.7	123.39	39	P	PKPdf	01 46 41.9	-0.2		
Q58A	Fox Den Farm, baz=296	123.42	45	P	PKPdf	01 46 42.3	+0.1		
O58A	Lewisberry baz=297,SNR=6.2	123.42	43	P	PKPdf	01 46 42.1	-0.1		
KEK	Kerkira	123.44	316	P	PKPdf	01 46 41.9	-0.3		
FSK	Fiskardo	123.44	315	P	PKPdf	01 46 42.0	-0.3		
P58A	Pank, Wackersv baz=296	123.44	44	P	PKiKP	01 46 42.4	-0.1		
R58A	Rapidan baz=295	123.46	46	P	PKPdf	01 46 42.2	-0.2		
KPL	Plockton	123.49	345	*e*P	PKiKP	01 46 42.2	+0.2		
RJOB	Jochberg baz=50,slow=1.9	123.50	328	*e*PKPdf	PKPdf	01 46 41.0	-1.2		
K59A	Cooperstown baz=300,SNR=5.7	123.52	40	P	PKPdf	01 46 42.2	-0.1		
LJU	Ljubljana LJU	123.54	325	*i* PKPdf *e*	PKiKP	01 46 42.6 01 46 49.9	0.0		
LJU	Ljubljana	123.54	325	⇓*i*P	PKiKP	01 46 42.5	0.0		
F60A	Warwick baz=305,SNR=9.4	123.56	35	P	PKPdf	01 46 42.2	-0.1		
D60A	Saint Jean D'O baz=306	123.58	34	P	PKPdf	01 46 42.1	-0.2		
KBA	Koelnbreinsper comp=Z,20nm,1.4s,SNR=9.6	123.60	327	*i* PKiKP	PKPdf	01 46 41.9	-0.7		
KBA	Koelnbreinsper	123.60	327	PKIKP	PKPdf	01 46 42.2	-0.4		
I59A	Olmsteadville baz=302,SNR=9.7	123.61	38	P	PKPdf	01 46 42.5	0.0		
E60A	Ste Agathe de baz=306,SNR=5.8	123.61	34	P	PKPdf	01 46 41.9	-0.4		
T58A	Grand View Acr baz=294	123.63	47	P	PKPdf	01 46 42.7	0.0		
V58A	Windy Hill, Pi baz=293	123.65	49	P	PKPdf	01 46 42.6	-0.1		
L59A	Walton baz=300	123.69	40	P	PKPdf	01 46 42.7	0.0		
R58B	Mineral baz=295	123.69	46	P	PKPdf	01 46 42.5	-0.2		
MYKA	Terra Mystica comp=Z,11nm,0.7s,SNR=6.6	123.70	326	*i* PKPdf	PKPdf	01 46 41.9	-0.8		
S58A	Poland Farm, P baz=295	123.71	46	P	PKiKP	01 46 43.2	+0.1		
M59A	Waymart baz=299,SNR=8.6	123.76	41	P	PKPdf	01 46 42.9	+0.1		
CEY	Cerknica	123.78	325	⇓*i*P	PKPdf	01 46 42.4	-0.3		
D61A	St Aubert, Com baz=307	123.81	33	P	PKPdf	01 46 42.7	0.0		
G60A	Masonville baz=304	123.83	36	P	PKPdf	01 46 43.0	+0.1		
N59A	State Game Lan baz=298,SNR=5.6	123.83	42	P	PKiKP	01 46 43.2	-0.1		
O59A	Robesonia baz=298	123.84	43	P	PKiKP	01 46 43.2	-0.1		
U58A	Oxford baz=293	123.84	48	P	PKPdf	01 46 43.2	+0.1		
W58A	Raeford baz=292	123.85	50	P	PKiKP	01 46 43.3	-0.1		
INVG	Invergeldie, C	123.86	344	*e*P	PKPdf	01 46 42.2	-0.3		
H60A	Morristown baz=304	123.91	37	P	PKPdf	01 46 43.1	+0.1		
I60A	Shoreham baz=302,SNR=18	123.94	38	P	PKiKP	01 46 43.6	+0.3		
ROBS	Robic	124.00	326	*i* PKPdf	PKPdf	01 46 42.5	-0.6		
Z58A	St. Stephen baz=290	124.01	52	P	PKiKP	01 46 44.0	+0.2		
F61A	St Evariste baz=306,SNR=8.0	124.10	35	P	PKiKP	01 46 43.8	+0.2		
E61A	Lac Etchemin baz=307,SNR=16	124.11	34	P	PKPdf	01 46 43.5	+0.1		
J60A	Lant Hill Farm baz=302	124.18	38	P	PKPdf	01 46 43.7	+0.1		
SCTE	Santa Cesarea	124.18	317	PKPdf	PKPdf	01 46 43.2	-0.4		
G61A	St-Isidore-de- baz=305	124.19	35	P	PKiKP	01 46 43.5	-0.1		
ABTA	Abfaltersbach comp=Z,28nm,0.8s,SNR=17	124.25	327	*i* PKiKP	PKPdf	01 46 43.0	-0.7		
N60A	Cedar Hill Far baz=299,SNR=5.7	124.30	42	P	PKPdf	01 46 43.7	-0.1		
DWPF	Disney Wildern baz=286	124.31	58	P	PKPdf	01 46 44.1	-0.1		
V59A	Middlesex baz=293	124.32	49	P	PKPdf	01 46 43.9	-0.2		
L60A	Shokan baz=301	124.32	40	P	PKPdf	01 46 44.0	+0.1		
T59A	Double "B" Far baz=295,SNR=5.1	124.34	47	P	PKiKP	01 46 44.3	-0.1		
O60A	Telford baz=298,SNR=8.1	124.36	42	P	PKPdf	01 46 44.1	+0.1		
LAWE	Loch Awe, Argy	124.38	344	*e*P	PKiKP	01 46 43.8	0.0		
H61A	Lyndonville baz=304,SNR=6.3	124.38	36	P	PKiKP	01 46 44.5	+0.3		
M60A	Port Jervis baz=300	124.39	41	P	PKPdf	01 46 44.1	0.0		
WATA	Walderalm comp=Z,38nm,1.2s,SNR=10	124.40	328	*i* PKiKP	PKPdf	01 46 43.9	-0.2		
WTTA	Wattenberg comp=Z,27nm,0.6s,SNR=16	124.41	328	*i* PKiKP	PKPdf	01 46 44.2	0.0		
WTTA	Wattenberg	124.41	328	PKIKP	PKiKP	01 46 44.3	-0.2		
U59A	Littleton baz=294	124.42	48	P	PKPdf	01 46 44.0	-0.2		
P60A	Greenville baz=298	124.44	43	P	PKPdf	01 46 44.2	0.0		
D62A	Allapoint, All baz=308,SNR=10	124.50	32	P	PKPdf	01 46 43.8	-0.2		
X59A	McDuffie Farm, baz=292	124.50	50	P	PKPdf	01 46 44.5	+0.1		
E62A	Clayton Lake baz=308,SNR=6.9	124.53	33	P	PKPdf	01 46 43.9	-0.2		
LBNH	Lisbon baz=304,SNR=5.4	124.55	37	P	PKiKP	01 46 44.8	+0.2		
I61A	Oroboro, Fairl baz=304,SNR=7.2	124.55	37	P	PKiKP	01 46 44.9	+0.3		
K61A	Williamstown baz=302,SNR=6.1	124.58	39	P	PKiKP	01 46 44.8	+0.1		
ESK	Eskdalemuir	124.58	343	*e*P	PKiKP	01 46 44.2	-0.1		
EDMD	Edmundbyers	124.61	342	*e*P	PKiKP	01 46 44.6	+0.2		
L61A	Hillsdale 1, H baz=301	124.64	40	P	PKiKP	01 46 44.7	-0.1		
MOTA	Moosalm comp=Z,43nm,0.8s,SNR=21	124.64	328	*i* PKiKP	PKPdf	01 46 44.4	-0.2		
J61A	Chester baz=303,SNR=7.0	124.66	38	P	PKiKP	01 46 45.0	+0.1		
SQTA	Sankt Quirin comp=Z,32nm,0.8s,SNR=15	124.67	328	*i* PKiKP	PKPdf	01 46 44.7	+0.1		
Q60A	Greensboro baz=297	124.67	44	P	PKiKP	01 46 45.1	+0.2		
F62A	Pittston Farm, baz=307,SNR=7.9	124.72	34	P	PKPdf	01 46 44.6	0.0		
RETA	Reutte comp=Z,9.1nm,0.6s,SNR=7.0	124.73	328	*i* PKiKP	PKPdf	01 46 44.3	-0.3		
G62A	West of Eustis baz=306,SNR=5.4	124.80	35	P	PKiKP	01 46 44.9	-0.2		
H62A	Milan baz=305	124.81	36	P	PKiKP	01 46 45.2	+0.1		
T60A	Surry baz=295

K63A **Dunstable** 125.65 38 P PKiKP 01 46 46.9 +0.1
baz=304
BMRD **Maredsous** 125.67 334 PKiKP PKiKP 01 46 46.8 +0.2
SNF **Seneffe** 125.72 335 PKiKP PKiKP 01 46 47.1 +0.4
HRV **Adam Dziewonsk** 125.73 38 P PKiKP 01 46 46.9 -0.1
baz=303
HRV **Adam Dziewonsk** 125.73 38 PKIKP PKPdf 01 46 46.3 -0.2
HRV **Adam Dziewonsk** 125.73 38 PKPdf PKPdf 01 46 46.3 -0.2
TIP **Timpagrande** 125.77 317 ⇑P PKiKP 01 46 47.7 +0.5
G64A **Maxfield** 125.79 34 P PKPdf 01 46 46.6 +0.1
baz=308,SNR=6.8
GIVF **Givet** 125.79 334 ePKIKP PKiKP 01 46 46.8 -0.1
GIVF pmax pmax
comp=Z,23nm,0.9s
CDF **Champ du Feu** 125.87 331 ePKIKP PKPdf 01 46 46.4 -0.4
CDF pmax pmax
comp=Z,9.0nm,0.9s
H64A **Troy** 125.89 35 P PKPdf 01 46 46.8 0.0
baz=307,SNR=6.7
L63A **North Scituate** 126.05 39 P PKiKP 01 46 47.5 -0.1
baz=303
I64A **Boothbay** 126.08 36 P PKiKP 01 46 47.6 0.0
baz=306
BAIF **Baives** 126.09 334 ePKIKP PKiKP 01 46 47.3 -0.1
BAIF pmax pmax
comp=Z,16nm,1.0s
CWF **Charnwood Fore** 126.14 340 eP PKPdf 01 46 47.1 +0.2
AQU **L'Aquila** 126.30 322 ⇓iP PKPdf 01 46 47.5 -0.2
H65A **Eastbrook** 126.41 34 P PKPdf 01 46 47.9 +0.1
baz=308,SNR=7.4
M64A **Tiverton** 126.47 39 P PKiKP 01 46 48.3 -0.2
baz=303
G65A **Princeton** 126.48 33 P PKPdf 01 46 48.0 +0.1
baz=309,SNR=10.0
HINF **Hinteralfeld** 126.49 331 ePKIKP PKPdf 01 46 47.7 -0.2
HINF pmax pmax
comp=Z,23nm,0.9s
L64A **Middleborough** 126.49 39 P PKiKP 01 46 48.4 -0.1
baz=304
WME **Myndd Eilian** 126.56 342 eP PKiKP 01 46 48.3 0.0
HAU **Haudompre** 126.60 331 ePKIKP PKPdf 01 46 48.1 0.0
HAU pmax pmax
comp=Z,23nm,0.7s
FOEL **Foel Wylfa** 126.64 341 eP PKiKP 01 46 48.9 +0.4
WLF1 **Llynfaes** 126.68 342 eP PKiKP 01 46 48.8 +0.3
LLW **Llanuwychllyn** 126.83 341 eP PKiKP 01 46 49.1 +0.3
HLM1 **Long Mynd** 126.85 341 eP PKiKP 01 46 49.1 +0.2
H66A **Whiting** 126.88 34 P PKPdf 01 46 48.8 +0.2
baz=309
SWN1 **Swindon** 127.32 339 eP PKiKP 01 46 50.4 +0.5
MCH1 **Michaelchurch** 127.33 340 eP PKiKP 01 46 49.9 +0.1
MONM **Monmouth** 127.39 340 eP PKiKP 01 46 49.9 -0.1
CABF **La Chapelle** 127.70 330 ePKIKP PKiKP 01 46 50.9 0.0
CABF pmax pmax
comp=Z,36nm,1.0s
LPL **La Plagne** 128.12 329 ePKIKP PKPdf 01 46 51.6 +0.3
LPL pmax pmax
comp=Z,9.0nm,0.6s
LPG **La Plagne** 128.13 329 ePKIKP PKiKP 01 46 51.8 -0.3
LPG pmax pmax
comp=Z,12nm,0.6s
LOR **Lormes** 128.30 332 ePKIKP PKPdf 01 46 49.2 -2.1
LOR pmax pmax
comp=Z,13nm,0.8s
SSF **Saint Saulge** 128.62 332 ePKIKP PKPdf 01 46 52.2 +0.3
SSF pmax pmax
comp=Z,22nm,1.0s
PGF **Pioggiola** 128.81 325 ePKIKP PKPdf 01 46 52.7 +0.1
PGF pmax pmax
comp=Z,30nm,0.8s
AVF **Avril sur Loir** 128.89 332 ePKIKP PKPdf 01 46 52.5 +0.1
AVF pmax pmax
comp=Z,12nm,1.1s
ORIF **Oris-en-Rattie** 128.97 329 ePKIKP PKPdf 01 46 53.1 +0.3
ORIF pmax pmax
comp=Z,12nm,0.6s
FLN **La Foliniere** 129.05 336 ePKIKP PKPdf 01 46 52.8 +0.1
FLN pmax pmax
comp=Z,11nm,0.6s
ATAH **Atahualpa** 129.24 102 PKP PKiKP 01 46 56.0 +0.7
comp=Z,9.6nm,0.8s,baz=185,slow=1.2,SNR=6.7
ATAH pPKP pPKPdf 01 48 31.4 +1.6
comp=Z,3.8nm,0.8s,baz=152,slow=10,SNR=2.3
ATAH SKPbc SKPbc 01 49 40.3 +1.7
comp=Z,14nm,0.9s,baz=74,slow=2.9,SNR=5.6
GRR **Gorron** 129.50 336 ePKIKP PKiKP 01 46 54.0 -0.3
GRR pmax pmax
comp=Z,42nm,1.1s
VIVF **Saint-Julien-l** 129.63 329 ePKIKP PKiKP 01 46 54.5 -0.3
VIVF pmax pmax
comp=Z,12nm,1.1s
LMR **La Mourre** 129.71 327 ePKIKP PKPdf 01 46 54.3 +0.2
LMR pmax pmax
comp=Z,16nm,0.8s
TCF **Toulx Ste Croi** 129.79 332 ePKIKP PKiKP 01 46 54.8 -0.3
TCF pmax pmax
comp=Z,18nm,0.8s
ROSF **Rostrenen** 130.48 338 ePKIKP PKPdf 01 46 55.0 -0.4
ROSF pmax pmax
comp=Z,74nm,1.4s
QUIF **Quistinic** 130.78 337 ePKIKP PKPdf 01 46 56.3 +0.3
QUIF pmax pmax
comp=Z,81nm,1.5s
CAF **Calviac** 130.87 331 ePKIKP PKiKP 01 46 57.4 +0.1
CAF pmax pmax
comp=Z,26nm,1.6s
KEST **Kesra** 132.59 317 PKP PKiKP 01 47 01.1 0.0
comp=Z,14nm,0.7s,baz=138,slow=0.1,SNR=30
KEST SKPbc SKPab 01 49 50.9 -0.6
comp=Z,7.6nm,0.9s,baz=9.0,slow=1.2,SNR=5.6
CBOC **Ciudad Bolivar** 132.80 85 eP PKPdf 01 47 00.7 -0.3
ANIL **Santa Ana** 133.40 87 eP PKPdf 01 46 58.6 -3.7
ORTC **Ortega, Tolima** 133.55 88 eP PKPdf 01 47 02.3 +0.1
ETSF **Etsaut** 133.65 331 ePKIKP PKPdf 01 46 58.6 -3.1
ETSF pmax pmax
comp=Z,13nm,0.6s
PRAC **Prado** 133.90 88 eP PKiKP 01 47 03.9 -0.4
ROSC **El Rosal** 134.48 87 PKP PKPdf 01 47 04.7 +0.3
comp=Z,7.6nm,0.4s,baz=63,slow=20,SNR=5.0
MACC **Macarena, Meta** 134.87 91 eP PKPdf 01 47 05.1 +0.4
CHIC **Chingaza** 135.07 87 eP PKPpre 01 47 01.6
BARC **Barichara** 135.60 84 eP PKPdf 01 47 06.9 +0.6
RUSC **La Rusia** 135.71 85 eP PKPpre 01 46 55.6
PAMC **Pamplona, Colo** 136.06 83 eP PKPdf 01 47 05.8 -1.7
LPAZ **La Paz** 136.24 118 PKhKP PKPpre 01 46 58.0
comp=Z,1.1nm,0.7s,baz=260,slow=7.5,SNR=5.9
LPAZ PKP PKPdf 01 47 08.4 +0.5
comp=Z,4.2nm,0.6s,baz=274,slow=3.9,SNR=15
LPAZ pPKP pPKPdf 01 48 43.7 +0.2
comp=Z,2.2nm,0.8s,baz=275,slow=0.7,SNR=3.7
LPAZ SKPbc SKiKP 01 50 05.6 -2.4
comp=Z,4.2nm,1.1s,baz=207,slow=1.9,SNR=4.8
PGAV **Gavieira, Arco** 137.75 337 ePKPdf PKPdf 01 47 10.0 +0.7
ESDC **Sonseca Array** 137.76 331 PKhKP PKPpre 01 46 59.9
comp=Z,1.1nm,0.8s,baz=38,slow=1.8,SNR=7.2
ESDC PKP PKPdf 01 47 09.7 +0.3
comp=Z,2.5nm,0.7s,baz=16,slow=2.5,SNR=15
ESDC PP PP 01 49 59.9 -0.6
comp=Z,7.0nm,0.9s,baz=28,slow=6.7,SNR=25
ESDC **Sonseca Array** 137.76 331 PKPdf 01 47 09.0 -0.4
PCAB **Cabril** 137.87 337 ePKPdf PKPdf 01 47 09.7 +0.2
MVO **Moncorvo** 137.93 335 ePKPdf PKiKP 01 47 11.0 -0.8
SDV **Santo Domingo** 138.01 81 PKP PKPdf 01 47 11.3 +0.6
comp=Z,25nm,0.7s,baz=243,slow=1.5,SNR=13
PVRL **Vila Real** 138.11 336 ePKPdf PKiKP 01 47 11.2 -0.9
PVIS **Viseu** 138.66 336 ePKPdf PKPdf 01 47 12.0 +1.0
MTE **Manteigas** 138.78 335 ePKPdf PKiKP 01 47 12.6 -0.9
PCBR **Castelo Branco** 139.22 335 ePKPdf PKiKP 01 47 13.3 -1.0
CPUP **Villa Florida** 139.26 139 PKhKP PKPpre 01 47 04.3
comp=Z,1.7nm,0.9s,baz=196,slow=2.8,SNR=3.7
CPUP PKP PKPdf 01 47 13.5 +1.0
comp=Z,3.2nm,0.8s,baz=35,slow=0.7,SNR=6.1
CPUP **Villa Florida** 139.26 139 PKiKP PKPdf 01 47 11.8 -0.6
CPUP **Villa Florida** 139.26 139 - PKPdf 01 47 11.8 -0.6
COI **Coimbra** 139.30 336 ePKPdf PKPdf 01 47 08.0 -4.1
PCAS **Casmilo, Conde** 139.47 336 ePKPdf PKPdf 01 47 13.6 +1.2
PMRV **Marv??o** 139.52 334 ePKPdf PKPdf 01 47 05.3 -7.3
PSBE **So Bento** 140.04 336 ePKPdf PKPdf 01 47 08.6 -4.9
PMTG **Montargil** 140.18 335 ePKPdf PKPdf 01 47 11.6 -2.1
EVO **Evora** 140.54 334 ePKPdf PKPdf 01 47 10.4 -4.0
PBEJ **Beja** 140.89 334 ePKPdf PKPdf 01 47 15.3 +0.2
PNCL **Nicolau / Gran** 141.11 334 ePKPdf PKPdf 01 47 10.5 -4.9
PTEO **Sao Teotonio** 141.67 334 ePKPdf PKPdf 01 47 13.1 -3.3
IFR **Ifrane** 143.08 326 *i* PKP PKPbc 01 47 17.3 +0.5
H07S1 **FLORES T-PHASE** 44.41 3 PKP PKPdf 01 47 22.1 +0.9
SNR=18
H07S1 **FLORES T-PHASE** 44.41 3 *e*PKP PKPbc 01 47 18.7 -2.0
AVE **Averroes** 144.47 328 *i* PKP PKPdf 01 47 22.0 +0.5
PGRA **Graciosa** 144.83 359 *e*PKP PKPdf 01 47 20.3 -1.6
PSCM **Serra do Cume** 145.13 358 *e*PKP PKPdf 01 47 20.1 -2.4
PMAN **Manadas** 145.22 359 *e*PKP PKPdf 01 47 19.6 -3.0
PSET **Sete Cidades** 145.93 356 *e*PKP PKPdf 01 47 22.2 -1.7
BART **Pico Bartolome** 145.93 355 *e*PKP PKPdf 01 47 22.3 -1.7
CMLA **Cha da Macela** 145.97 356 *e*PKP PKPdf 01 47 22.6 -1.4
CMLA **Cha da Macela** 145.97 356 PKP2 PKPab 01 47 26.2 -0.5
CMLA **Cha da Macela** 145.97 356 PKPab 01 47 26.2 -0.5
PDA **Ponta Delgada** 146.00 356 *e*PKP PKPdf 01 47 23.0 -1.0
FDF **Fort de France** 146.19 69 PKP2 PKPab 01 47 27.8 -0.5
FDF **Fort de France** 146.19 69 PKPab 01 47 27.8 -0.5
H05S1 **Guadeloupe/Mar** 146.56 69 PKPbc PKPbc 01 47 27.6 -0.1
PSMN **Pico do Norte,** 146.69 355 *e*PKP PKPdf 01 47 22.7 -2.5
SPB **Sao Paulo** 147.29 147 PKPbc 01 47 28.9 -0.6
TORD **Torodi Ar. Bea** 148.55 289 PKPbc PKPbc 01 47 33.0 0.0
TORD **Torodi Ar. Bea** 148.55 289 PKPbc 01 47 31.8 -1.1
BDFB **Brasilia** 152.88 136 PKP PKPdf 01 47 35.9 +0.3
comp=Z,2.2nm,0.8s,baz=209,slow=3.2,SNR=6.0
BDFB PKPbc PKiKP 01 47 43.5 +0.3
comp=Z,7.7nm,0.5s,baz=147,slow=1.4,SNR=14
BDFB pPKPbc pPKPbc 01 49 18.2 -0.5
comp=Z,4.6nm,0.8s,baz=87,slow=26,SNR=3.5
BDFB **Brasilia** 152.88 136 PKPdf PKPdf 01 47 32.2 -3.3
KIC **Kosan Boka** 156.00 277 *e*PKIKP PKPdf 01 47 50.0 +10
comp=Z,163nm,1.0s
DBIC **Dimbokro** 156.09 278 PKPbc PKPdf 01 47 49.2 +9.4
comp=Z,8.9nm,0.8s,baz=108,slow=2.4,SNR=8.0
DBIC PKPab PKPab 01 48 09.9 +0.2
comp=Z,45nm,0.9s,baz=71,slow=5.2,SNR=19
DBIC **Dimbokro** 156.09 278 PKP2 PKPab 01 48 08.4 -1.3
DBIC **Dimbokro** 156.09 278 PKPab PKPab 01 48 08.4 -1.3
TIC **Toumodi** 156.25 278 *e*PKIKP PKPdf 01 47 50.4 +10
LIC **Lamto** 156.30 277 *e*PKIKP PKPdf 01 47 50.0 +10
comp=Z,212nm,1.5s

DDA **12** *01:40:39.4,36°.17N×28°.41E,h7km±6km,ML1.7*
NIC **12** *01:40:39.7±0.0,36°.10N×28°.42E, h45km±2km, MI3.1/2*
ISK **12** *01:40:39.2,36°.18N×28°.35E, h53km±1km, ML2.1/9*
ISC 12 01:40:38.3±1.8,**36°.20N**±0°.03×**28°.44E**±0°.03,**h19**km±4km,
n25,σ**1°30/39,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.25**	**274**	PG		**Pn**	**01 40 48.2**	**+1.2**
ARG				SG		**Sn**	**01 40 54.7**	**+2.3**
ARG	**Arkhangelos**	**0.25**	**274**	P		**Pn**	**01 40 48.2**	**+1.2**
ARG				S		**Sn**	**01 40 54.7**	**+2.3**
TURN	**Turunc**	**0.59**	**345**	PG		**Pb**	**01 40 52.5**	**+0.9**
TURN				SG		**Sb**	**01 41 01.8**	**+1.2**
TURN	**Turunc**	**0.59**	**345**	*i* P		**Pb**	**01 40 52.4**	**+0.8**
TURN				*i* S		**Sg**	**01 41 00.3**	**-0.7**
TURN				IAML			01 41 05.0	
comp=E,39nm,0.2s								
DALY	**Dalyan (Mula)**	**0.64**	**16**	PG		**Pn**	**01 40 53.6**	**+1.2**
DALY	**Dalyan (Mula)**	**0.64**	**16**	*i* P		**Pn**	**01 40 53.4**	**+1.1**
DALY				*i* S		**Sn**	**01 41 02.2**	**+0.2**
DALY				IAML			01 41 05.0	
comp=E,40nm,1.1s								
FETY	**Fethiye**	**0.68**	**50**	PG		**Pn**	**01 40 54.2**	**+1.2**
FETY	**Fethiye**	**0.68**	**50**	*i* P		**Pn**	**01 40 53.7**	**+0.7**
FETY				*i* S		**Sn**	**01 41 02.9**	**-0.2**
DAT	**Datca**	**0.87**	**308**	PG		**Pb**	**01 40 55.1**	**+0.2**
DAT	**Datca**	**0.87**	**308**	*i* P		**Pb**	**01 40 55.1**	**+0.2**
DAT				*i* S		**Sb**	**01 41 04.6**	**-1.6**
DAT				IAML			01 41 08.0	
comp=N,31nm,0.2s								
DAT				IAML			01 41 09.0	
comp=E,25nm,0.2s								
YER	**Yerkesik**	**0.94**	**353**	PG		**Pn**	**01 40 57.1**	**+0.5**
AKAS	**Kas**	**0.95**	**88**	PG		**Pn**	**01 40 57.9**	**+1.2**
AKAS	**Kas**	**0.95**	**88**	*i* P		**Pn**	**01 40 57.9**	**+1.2**
AKAS				*i* S		**Sg**	**01 41 08.3**	**-1.0**
KARP	**Karpathos**	**1.22**	**238**	PN		**Pn**	**01 40 59.7**	**-0.7**
KARP	**Karpathos**	**1.22**	**238**	S		**Sb**	**01 41 15.3**	**-0.9**
ELL	**Elmali**	**1.31**	**65**	PN		**Pb**	**01 41 02.7**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.32**	**17**	*i* P		**Pb**	**01 41 02.7**	**+0.2**
TAVA				*i* S		**Sb**	**01 41 18.6**	**-0.6**
AYDN	**Tasoluk**	**1.52**	**343**	*i* P		**Pn**	**01 41 04.5**	**-0.1**
AYDN				*i* S		**Sn**	**01 41 19.0**	**-5.0**
AYDN				IAML			01 41 24.0	
comp=N,12nm,0.2s								
AKMS	**Akamas**	**3.39**	**109**	P		**Pn**	**01 41 30.3**	**+0.1**
AKMS				S		**Sn**	**01 42 09.1**	**-0.8**
AKMS				AML	AML		01 42 09.2	
comp=N,0.2nm,0.5s								
AKMS				AML	AML		01 42 09.2	
comp=N,0.2nm,0.5s								
AKMS				AML	AML		01 42 18.6	
comp=N,0.1nm,1.1s								
AKMS				AML	AML		01 42 18.6	
comp=N,0.1nm,1.1s								
ALFC	**Alefka**	**3.55**	**106**	P		**Pn**	**01 41 32.5**	**+0.1**
ALFC				AML	AML		01 42 12.6	
comp=N,0.1nm,0.8s								
ALFC				AML	AML		01 42 12.6	
comp=N,0.1nm,0.8s								
ALFC				S		**Sn**	**01 42 12.7**	**-1.1**
ALFC				AML	AML		01 42 15.5	
comp=N,0.1nm,0.4s								
ALFC				AML	AML		01 42 15.5	
comp=N,0.1nm,0.4s								
OSC1	**CSNet OBS 1**	**3.57**	**138**	S		**Sn**	**01 42 13.3**	**-0.9**
NATA	**Nata**	**3.66**	**112**	P		**Pn**	**01 41 34.3**	**+0.4**
NATA				S		**Sn**	**01 42 17.2**	**+0.6**
SZAC	**Souni**	**3.91**	**110**	P		**Pn**	**01 41 37.5**	**+0.2**
SZAC				S		**Sn**	**01 42 22.7**	**+0.1**
MVOU	**Mavrovouni**	**4.40**	**104**	P		**Pn**	**01 41 45.2**	**+1.2**
OSC2	**CSNet OBS 4**	**4.44**	**134**	S		**Sn**	**01 42 35.2**	**-0.5**

IDC **12** *01:43:24.4±0.8, 11°.91N×88°.96W,h0km, mb4.0/10, mb1 4.3/13,mb1mx4.0/33,mbtmp4.1/13, ML3.9/3, MS3.2/2, Ms1 3.3/2, ms1mx2.8/22, Error ellipse: s-maj=30.0km s-min=15.6km az=54.0*
INET **12** *01:43:26.0, 11°.79N×89°.21W,h30km, ML4.5*
SNET **12** *01:43:28.1±0.9, 11°.89N×89°.03W, h29km±69km, ML4.5*
NEIC **12** *01:43:29.5±0.6, 11°.88N±0°.07×88°.97W±0°.07, h38km±8km, mb4.3/62, Md4.3/10(MEX), Error ellipse: s-maj=11.4km s-min=7.1km az=222.0*
GCG **12** *01:43:29.6±0.8, 11°.94N×89°.58W, h0km±130km, MD4.3*
UCR **12** *01:43:30.0±1.2, 11°.97N×88°.93W, h35km±999km, ML4.3*
ISC 12 01:43:28.8±1.2,**11°.90N**±0°.05×**88°.99W**±0°.05,**h31**km±8km,
n151,σ**0°76/150,mb4.3/35,17C-6D,Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**1.47**	**16**	*i* P		**Pn**	**01 43 53.2**	**0.0**
ALJI				IAML			01 44 19.7	
comp=Z,3μm,0.2s								
ALJI	**Alcalda de J**	**1.47**	**16**	*i* P		**Pn**	**01 43 53.2**	**0.0**
ALJI				IAML			01 44 19.7	
comp=Z,3μm,0.2s								
JUCU	**Jucuarįn**	**1.53**	**28**	⇑eP		**Pn**	**01 43 53.7**	**-0.4**
JUCU	**Jucuarįn**	**1.53**	**28**	⇑eP		**Pn**	**01 43 53.7**	**-0.4**
JUCU				eS		**Sb**	**01 44 14.9**	**-0.7**
COEB	**Comit de Eme**	**1.65**	**16**	eP		**Pn**	**01 43 55.5**	**-0.3**
COEB				IAML			01 44 23.1	
comp=Z,3μm,0.2s								
COEB	**Comit de Eme**	**1.65**	**16**	eP		**Pn**	**01 43 55.5**	**-0.3**
COEB				IAML			01 44 23.1	
comp=Z,3μm,0.2s								
TECA	**Tecapa**	**1.65**	**17**	eP		**Pn**	**01 43 55.7**	**-0.2**
TECA	**Tecapa**	**1.65**	**17**	eP		**Pn**	**01 43 55.7**	**-0.2**
LCY	**Lacayo**	**1.66**	**24**	eP		**Pn**	**01 43 56.0**	**+0.1**
LCY	**Lacayo**	**1.66**	**24**	eP		**Pn**	**01 43 56.0**	**+0.1**
BLLM	**Bellamira**	**1.70**	**26**	⇓eP		**Pn**	**01 43 56.5**	**+0.1**
BLLM	**Bellamira**	**1.70**	**26**	⇓eP		**Pn**	**01 43 56.5**	**+0.1**
LFRS	**El Faro**	**1.71**	**358**	⇑eP		**Pn**	**01 43 56.2**	**-0.4**
LFRS	**El Faro**	**1.71**	**358**	⇑eP		**Pn**	**01 43 56.2**	**-0.4**
LCND	**La Caada**	**1.76**	**37**	⇓eP		**Pn**	**01 43 56.9**	**-0.3**
LCND	**La Caada**	**1.76**	**37**	⇓eP		**Pn**	**01 43 56.9**	**-0.3**
SNET	**Serv Nac Est T**	**1.79**	**353**	eP		**Pn**	**01 43 57.4**	**-0.3**
SNET				IAML			01 44 24.3	
comp=Z,3μm,0.2s								
SNET	**Serv Nac Est T**	**1.79**	**353**	eP		**Pn**	**01 43 57.4**	**-0.3**
SNET				IAML			01 44 24.3	
comp=Z,3μm,0.2s								
SNET	**Serv Nac Est T**	**1.79**	**353**			**Pn**	**01 43 57.4**	**-0.3**
SNET						Sn		**Sn**	**01 44 19.6**	**+0.2**
JAYA	**Jayaque - finc**	**1.80**	**346**	⇑eP		**Pn**	**01 43 57.4**	**-0.5**
JAYA				eS		**Sn**	**01 44 19.7**	**0.0**
JAYA				IAML			01 44 22.6	
comp=Z,9μm,0.2s								
JAYA	**Jayaque - finc**	**1.80**	**346**	⇑eP		**Pn**	**01 43 57.4**	**-0.5**
JAYA				eS		**Sn**	**01 44 19.7**	**0.0**
JAYA				IAML			01 44 22.6	
comp=Z,9μm,0.2s								
PAVA	**Las Pavas**	**1.80**	**2**	⇑eP		**Pn**	**01 43 57.6**	**-0.3**
PAVA	**Las Pavas**	**1.80**	**2**	⇑eP		**Pn**	**01 43 57.6**	**-0.3**
LBRS	**Las Brisas**	**1.82**	**358**	eP		**Pn**	**01 43 58.3**	**+0.1**
LBRS	**Las Brisas**	**1.82**	**358**	eP		**Pn**	**01 43 58.3**	**+0.1**
LFU	**La Fuente**	**1.84**	**356**	eP		**Pn**	**01 43 58.3**	**0.0**
LFU	**La Fuente**	**1.84**	**356**	eP		**Pn**	**01 43 58.3**	**0.0**
BOQS	**Boqueron**	**1.84**	**351**	⇑eP		**Pn**	**01 43 58.5**	**0.0**
BOQS	**Boqueron**	**1.84**	**351**	⇑eP		**Pn**	**01 43 58.5**	**0.0**
CEDA	**San Andres**	**1.93**	**348**	eP		**Pn**	**01 43 59.5**	**0.0**
CEDA				IAML			01 44 28.3	
comp=Z,6μm,0.4s								
CEDA	**San Andres**	**1.93**	**348**	eP		**Pn**	**01 43 59.5**	**0.0**
CEDA				IAML			01 44 28.3	
comp=Z,6μm,0.4s								
FAGO	**Alcalda de S**	**1.98**	**26**	⇑iP		**Pn**	**01 44 00.5**	**+0.2**
FAGO	**Alcalda de S**	**1.98**	**26**	⇑iP		**Pn**	**01 44 00.5**	**+0.2**
CEVE	**Cerro Verde**	**2.01**	**342**	⇓eP		**Pn**	**01 44 00.9**	**0.0**
SNJE	**San Jose**	**2.04**	**343**	eP		**Pn**	**01 44 01.2**	**-0.1**
SNJE	**San Jose**	**2.04**	**343**	eP		**Pn**	**01 44 01.2**	**-0.1**
CRIN	**San Cristobal**	**2.06**	**67**			**Pn**	**01 44 01.1**	**-0.2**
CRIN						Sn	**Sn**	**01 44 27.1**	**+1.1**
RTR	**El Retiro**	**2.08**	**342**	eP		**Pn**	**01 44 02.0**	**+0.2**
RTR	**El Retiro**	**2.08**	**342**	eP		**Pn**	**01 44 02.0**	**+0.2**
TACO	**Tacachico**	**2.08**	**350**	⇑iP		**Pn**	**01 44 01.8**	**+0.1**
TACO				eS		**Sn**	**01 44 27.1**	**+0.5**
TACO	**Tacachico**	**2.08**	**350**	⇑iP		**Pn**	**01 44 01.8**	**+0.1**
TACO				eS		**Sn**	**01 44 27.1**	**+0.5**
MTO3	**Montecristo**	**2.51**	**352**	⇑iP		**Pn**	**01 44 08.3**	**+0.6**
MTO3	**Montecristo**	**2.51**	**352**	⇑iP		**Pn**	**01 44 08.3**	**+0.6**
IXG	**Ixpaco**	**2.66**	**328**	⇓iP		**Pn**	**01 44 09.8**	**+0.1**
ESQI	**Esquipulas**	**2.66**	**353**	⇑iP		**Pn**	**01 44 10.7**	**+1.0**
ESQI	**Esquipulas**	**2.66**	**353**			**Pn**	**01 44 10.3**	**+0.6**
ESQI						Sn	**Sn**	**01 44 42.0**	**+1.0**
TGUH	**Tegucigalpa,Un**	**2.72**	**38**			Pn	**Pn**	**01 44 10.6**	**+0.1**
ESTN	**Estel**	**2.83**	**65**				**Pn**	**01 44 11.4**	**-0.5**
PCG	**Pacaya**	**2.93**	**328**	eS			**Sn**	**01 44 49.0**	**+1.1**
NBG	**Las Nubes**	**2.98**	**334**	eP			**Pn**	**01 44 16.3**	**+2.1**
NBG				eS			**Sn**	**01 44 51.3**	**+2.3**
FUG	**Fuego 3**	**3.10**	**325**	eP			**Pn**	**01 44 15.8**	**-0.1**
FUG				eS			**Sn**	**01 44 52.8**	**+0.7**
MATN	**Matagalpa**	**3.17**	**71**				**Pn**	**01 44 16.1**	**-0.5**
MRL	**Marmol**	**3.23**	**348**	eP			**Pn**	**01 44 21.0**	**+3.4**
BOAB	**BOACO BROADBAN**	**3.30**	**80**				**Pn**	**01 44 17.9**	**-0.5**
GBS3	**Finca Las Img**	**3.64**	**107**	*i* P			**Pn**	**01 44 23.9**	**+0.7**
LAPC	**Finca la Perla**	**3.67**	**108**	*i* P			**Pn**	**01 44 23.9**	**+0.4**
BUEV	**Buena Vista**	**3.68**	**107**	*i* P			**Pn**	**01 44 24.8**	**+1.0**
GB1A	**Borinquen Arri**	**3.69**	**107**	*i* P			**Pn**	**01 44 25.4**	**+1.6**
RTAL	**Retalhuleu**	**3.70**	**315**	Pn			**Pn**	**01 44 24.8**	**+0.9**
BUAI	**Buenos Aires**	**3.73**	**106**	*i* S			**Sn**	**01 45 06.9**	**-0.4**
GPS3	**Bodega del ICE**	**3.74**	**107**	*i* P			**Pn**	**01 44 25.3**	**+0.8**
ACON	**Acoyapa**	**3.74**	**89**				**Pn**	**01 44 24.1**	**+0.3**
GPS1	**Guardaparques**	**3.74**	**107**	*i* P			**Pn**	**01 44 25.4**	**+0.8**
GPS2	**Hotel Rincn d**	**3.75**	**107**	*i* P			**Pn**	**01 44 25.2**	**+0.5**
GUAI	**GUAI**	**3.78**	**115**	*i* P			**Pn**	**01 44 25.1**	**+0.1**
LIM1	**Limonal**	**3.86**	**108**	*i* P			**Pn**	**01 44 27.2**	**+1.0**
GUAB	**Guayabo de Bag**	**3.88**	**107**	*i* P			**Pn**	**01 44 28.1**	**+1.7**
COLC	**Colonia**	**3.92**	**108**	*i* P			**Pn**	**01 44 28.0**	**+1.1**
CUI	**Cuipilapa**	**3.95**	**108**	*i* P			**Pn**	**01 44 28.4**	**+1.0**
ACAL	**Aguas Claras**	**4.08**	**108**	*i* P			**Pn**	**01 44 29.8**	**+0.6**
HUEH	**Huehuetenango**	**4.18**	**325**				**Pn**	**01 44 31.4**	**+0.7**
JTS	**Las Juntas de**	**4.28**	**112**	Pn			**Pn**	**01 44 32.2**	**+0.3**
comp=Z,11nm,0.3s,baz=351,slow=23,SNR=53								
JTS						Sn	**Sn**	**01 45 21.3**	**+0.5**
comp=Z,30nm,0.3s,baz=267,slow=22,SNR=12								
JTS	**Las Juntas de**	**4.28**	**112**	eP			**Pn**	**01 44 32.1**	**+0.3**
JTS	**Las Juntas de**	**4.28**	**112**	Pn			**Pn**	**01 44 31.6**	**-0.3**
JTS							**Sn**	**01 45 19.8**	**-0.9**
ARE1	**Arenal 1**	**4.43**	**108**	eP			**Pn**	**01 44 34.9**	**+0.9**
CEDE	**Laguna Cedeo**	**4.44**	**108**	*i* P			**Pn**	**01 44 35.3**	**+1.2**
ESPN	**Las Esperanzas**	**4.60**	**86**	eP			**Pn**	**01 44 35.9**	**-0.4**
CCIG	**Comitan**	**5.32**	**325**				**Pn**	**01 44 47.0**	**+0.7**
LCR2	**La Lucha 2**	**5.35**	**113**	eP			**Pn**	**01 44 48.2**	**+1.4**
DRK0	**Durika**	**6.23**	**114**	eP			**Pn**	**01 44 59.8**	**+1.0**
PIRO	**Carate, Puerto**	**6.56**	**121**	eP			**Pn**	**01 45 04.8**	**+1.5**
CMIG	**Matias Romero**	**7.69**	**313**	Pn			**Pn**	**01 45 18.5**	**-0.3**
comp=Z,1.4nm,0.3s,baz=93,slow=8.5,SNR=12								
CMIG						Sn	**Sn**	**01 46 43.1**	**-1.8**
comp=Z,1.1nm,0.3s,baz=90,slow=20,SNR=2.0								
TEIG	**Tepich**	**8.30**	**5**	Pn			**Pn**	**01 45 27.9**	**+0.7**
comp=Z,1.2nm,0.3s,baz=140,slow=2.3,SNR=8.5								
TEIG	**Tepich**	**8.30**	**5**				**Pn**	**01 45 28.0**	**+0.8**
TLIG	**Tlapa**	**10.83**	**302**	Pn			**Pn**	**01 46 02.5**	**+0.6**
ZARC	**Zaragoza, Cauc**	**14.60**	**106**	eP			**P**	**01 47 01.5**	**+2.0**
YOTC	**Yotoco, Valle**	**14.79**	**121**	eP			**P**	**01 47 00.7**	**-0.9**
GUY2C

comp=Z,5.6nm,0.7s
SADO Sadowa 33.82 13 P **P** **01 50 08.3 +0.1**
comp=Z,3.1nm,0.6s,baz=188,slow=15,SNR=4.5
SADO Sadowa 33.82 13 IAmb IAmb 01 50 23.4
comp=Z,5.9nm,1.0s
PDAR Pinedale Array 35.56 334 P **P** **01 50 23.9 +0.3**
comp=Z,0.3nm,0.6s,baz=131,slow=12,SNR=2.0
PDAR PcP **PcP** **01 52 52.0 -0.2**
comp=Z,0.3nm,0.5s,baz=125,slow=7.4,SNR=4.2
PDAR Pinedale Array 35.56 334 P **P** **01 50 23.7 +0.1**
REDW Red Top Meadow 36.61 333 IAmb IAmb 01 50 38.9
comp=Z,3.7nm,0.8s
AGMN Agassiz Nation 36.73 352 IAmb IAmb 01 50 36.7
comp=Z,3.3nm,0.7s
NV11 Mina Array Sit 37.05 321 IAmb IAmb 01 50 39.8
comp=Z,4.3nm,0.9s
NVAR Mina Array Bea 37.14 320 P **P** **01 50 38.1 +1.0**
comp=Z,3.0nm,0.8s,baz=139,slow=8.6,SNR=18
NVAR PcP **PcP** **01 52 57.8 +0.7**
comp=Z,1.2nm,0.8s,baz=149,slow=3.2,SNR=5.5
NVAR Mina Array Bea 37.14 320 P **P** **01 50 37.2 +0.1**
MDPB Devils Postpil 37.16 319 P **P** **01 50 37.3 0.0**
MDPB IAmb IAmb 01 50 40.5
comp=Z,4.1nm,1.0s
KVN Kaiserville 37.40 321 P **P** **01 50 39.0 -0.2**
KVN IAmb IAmb 01 50 42.3
comp=Z,4.1nm,1.1s
YERR Yerington 38.06 320 IAmb IAmb 01 50 48.1
comp=Z,6.5nm,1.1s
J08A Circle Bar Ran 40.39 326 P **P** **01 51 04.4 +0.3**
J08A IAmb IAmb 01 51 07.3
comp=Z,5.5nm,1.2s
CPUP Villa Florida 48.91 141 LR LR 02 15 19.9
comp=Z,28nm,18.4s,baz=203,slow=39
YKA Yellowknife Ar 53.75 346 P **P** **01 52 46.8 -1.1**
comp=Z,1.8nm,0.9s,baz=140,slow=7.5,SNR=10
PLCA Paso Flores 55.08 163 P **P** **01 52 56.9 -1.1**
comp=Z,2.0nm,0.8s,baz=339,slow=5.6,SNR=3.6
PLCA Paso Flores 55.08 163 P **P** **01 52 57.8 -0.2**
PLCA IAmb IAmb 01 52 58.0
comp=Z,5.3nm,1.1s
BCAR Beaver Creek A 63.13 336 P **P** **01 53 54.0 +0.6**
RIM Rim 63.94 286 P **P** **01 53 58.3 -1.4**
ILAR Eielson Array 65.91 337 P **P** **01 54 11.7 +0.2**
comp=Z,2.5nm,0.9s,baz=130,slow=4.3,SNR=17
ESDC Sonseca Array 78.71 52 P **P** **01 55 28.4 -0.1**
comp=Z,1.2nm,0.9s,baz=289,slow=6.2,SNR=6.4
ESDC Sonseca Array 78.71 52 P **P** **01 55 28.2 -0.3**
NOA NORSAR Array B 84.57 29 LR LR 02 32 23.1
comp=Z,13nm,20.0s,baz=70,slow=35
CLL Collm 88.17 38 *e*P **P** **01 56 17.0 +0.2**
CLL *e*(pP) **pP** **01 56 25.0 0.0**
CMAR Chiang Mai Arr 148.83 345 PKPbc **PKPbc** **02 03 14.8 +0.5**
comp=Z,2.1nm,0.7s,baz=334,slow=3.3,SNR=13
CMAR Chiang Mai Arr 148.83 345 PKPdf **PKPdf** **02 03 09.4 -1.0**

ISK 12 01:44:46.6, 40.60N×29.18E, h5km, ML1.6/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRML	**Termal-Yalova**	**0.01**	**354**	PG	Pg	01 44 47.4	-0.2
TSVK	**Tesvikiye-Yalo**	**0.07**	**293**	PG	Pg	01 44 48.9	+0.7
TSVK				SG	Sg	01 44 50.2	+0.8
CFTB	**Yalova**	**0.12**	**55**	PG	Pg	01 44 49.5	+0.5
CFTB				SG	Sg	01 44 51.7	+1.1
GEMT	**Gemlik**	**0.16**	**176**	PG	Pg	01 44 50.4	+0.6
YLVL	**Yalova**	**0.18**	**57**	PG	Pg	01 44 51.3	+1.2
TUZL	**Tuzla-Istanbul**	**0.23**	**18**	PG	Pg	01 44 51.6	+0.6
ARMT	**Armutlu**	**0.24**	**262**	PG	Pg	01 44 51.9	+0.6
ARMT				SG	Sg	01 44 55.5	+1.0
MDNY	**Mudanya-Bursa**	**0.32**	**224**	PG	Pg	01 44 53.6	+0.8
MDNY				SG	Sg	01 44 57.9	+0.9
ADVT	**Abdulvahap**	**0.46**	**111**	PG	Pb	01 44 56.4	-0.8
ISK	**Istanbul-Kandi**	**0.48**	**349**	PG	Pg	01 44 56.0	+0.2
YKBL	**Yakuplu-Istanb**	**0.55**	**316**	PG	Pg	01 44 57.8	+0.6
KLYT	**Kilyos**	**0.66**	**351**	PG	Pg	01 44 59.9	+0.6
CTKS	**Kestanelik-??a**	**0.81**	**322**	PG	Pb	01 45 03.2	0.0
MAR9	**Marsite Statio**	**1.12**	**272**	PN	Pn	01 45 08.8	-0.1
TVSB	**Tavsanli**	**1.17**	**169**	PN	Pb	01 45 09.4	+0.1
BORA	**Eskisehir**	**1.21**	**126**	PN	Pn	01 45 10.3	0.0

PRU 12 01:49:58.7±0.0, 50.14N×19.07E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.47**	**80**	*e*Pg	Pg	01 50 07.4	-0.4
OJC				*e*Sg	Sg	01 50 13.6	-0.3
OKC	**Ostrava-Krasne**	**0.67**	**243**	*e*PG	Pg	01 50 10.3	-1.2
OKC				*e*SG	Sg	01 50 20.2	+0.1
comp=Z,43nm,0.7s							
LANS	**Liptovska Anna**	**1.02**	**165**	*e*PG	Pg	01 50 17.4	-0.9
LANS				*e*SG	Sg	01 50 30.6	-0.9
LANS				*e*LG	Lg	01 50 31.3	
MORC	**Moravsky Berou**	**1.05**	**250**	*e*PG	Pg	01 50 19.1	+0.3
MORC				*e*SG	Sg	01 50 32.9	+0.5
NIE	**Niedzica**	**1.08**	**132**	*e*Pg	Pg	01 50 18.9	-0.4
NIE				*e*Sg	Sg	01 50 33.9	+0.7
KRLC	**Kraliky**	**1.48**	**268**	*e*PG	Pn	01 50 25.8	-0.8
KRLC				*e*SG	Sg	01 50 45.5	-0.5
comp=Z,2.2nm,0.4s							
VYHS	**Vyhne**	**1.66**	**185**	*e*PN	Pn	01 50 27.3	-1.7
VYHS				*e*SN	Sn	01 50 49.8	-1.2
DPC	**Dobruska-Polom**	**1.78**	**278**	*e*SG	Sb	01 50 55.1	+0.1
comp=Z,1.9nm,0.6s							
OSTC	**Ostas**	**1.88**	**284**	*e*PG	Pb	01 50 33.0	-0.8
OSTC				*e*SG	Sg	01 50 59.1	+0.2

*NEIC **12** 02:36:55.8±0.8, 18.60N±0.05×103.79W±0.06, h35km±6km, Error ellipse: s-maj=9.7km s-min=5.0km az=52.0*
*MEX **12** 02:36:56.0±0.9, 18.78N×103.70W, h10km±4km, MD4.3*
*IDC **12** 02:36:59.3±3.2, 19.02N×103.48W, h64km±27km, mb3.3/9, mb1 3.7/12, mb1mx3.6/31, mbtmp3.8/12, ML4.2/3, MS3.5/11, Ms1 3.6/11, ms1mx3.5/16, Error ellipse: s-maj=35.8km s-min=18.8km az=40.0*
ISC 12 02:36:54.6±1.1, 18.72N±0.04×103.77W±0.05, h25km±8km, n124, σ1s60/101, mb4.2/22, MS3.5/7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COIG	**Colima**	**0.46**	**9**	*i*P	**Pb**	**02 37 03.0**	**-1.2**
COIG				*i*S	**Sb**	**02 37 09.1**	**-1.7**
R15V		**0.49**	**336**	*i*P	**Pb**	**02 37 04.3**	**-0.4**
R15V				*i*S	**Sb**	**02 37 11.2**	**-0.3**
R15V		**0.49**	**336**		**Pb**	**02 37 04.3**	**-0.4**
MMIG	**Aquila**	**0.59**	**137**	*i*P	**Pb**	**02 37 06.1**	**-0.2**
MMIG				*e*S	**Sb**	**02 37 14.4**	**+0.1**
MMIG	**Aquila**	**0.59**	**137**		**Pb**	**02 37 06.1**	**-0.2**
MMIG					**Sb**	**02 37 14.4**	**+0.1**
EZ5V		**0.77**	**12**	*i*P	**Pn**	**02 37 08.3**	**-1.8**
EZ5V				*e*S	**Sb**	**02 37 17.5**	**-2.2**
EZ5V		**0.77**	**12**		**Pn**	**02 37 08.3**	**-1.8**
ANIG	**Ahuacatlan**	**2.42**	**343**	*e*P	**Pn**	**02 37 34.0**	**+1.2**
ANIG				*e*S	**Sn**	**02 37 56.4**	**-5.4**
ANIG	**Ahuacatlan**	**2.42**	**343**		**Pn**	**02 37 34.1**	**+1.3**
ANIG					**Sn**	**02 38 04.5**	**+2.7**
ZIIG	**Zihuatanejo**	**2.46**	**116**	*i*P	**Pn**	**02 37 32.4**	**-0.7**
ZIIG	**Zihuatanejo**	**2.46**	**116**		**Pn**	**02 37 32.4**	**-0.7**
MOIG	**Morelia**	**2.62**	**68**	*e*P	**Pn**	**02 37 36.3**	**+0.7**
MOIG				*e*S	**Sn**	**02 38 08.9**	**+2.2**
MOIG	**Morelia**	**2.62**	**68**	Pn	**Pn**	**02 37 36.1**	**+0.6**
MOIG					**Sn**	**02 38 07.2**	**+0.5**
IGIG	**Irapuato, Guan**	**3.06**	**48**	*i*P	**Pn**	**02 37 38.2**	**-3.4**
IGIG				*e*S	**Sb**	**02 38 25.3**	**-0.3**
ARIG	**Puente Sto Nin**	**3.28**	**97**	*e*P	**Pn**	**02 37 44.8**	**+0.4**
ARIG				*i*S	**Sn**	**02 38 21.1**	**-1.5**
ARIG	**Puente Sto Nin**	**3.28**	**97**		**Pn**	**02 37 44.9**	**+0.5**
AAIG	**Aguscalientes**	**3.48**	**22**	*e*P	**Pn**	**02 37 47.9**	**+0.4**
AAIG				*i*S	**Sn**	**02 38 31.8**	**+3.8**
CAIG	**El Cayaco**	**3.73**	**116**	*e*P	**Pn**	**02 37 51.3**	**+0.7**
CAIG				*i*S	**Sn**	**02 38 32.8**	**-1.0**
ZAIG	**Zacatecas**	**4.18**	**15**	Pn	**Pn**	**02 37 58.0**	**+0.9**
UNM	**Universidad Na**	**4.39**	**81**	Pn	**Pn**	**02 38 00.8**	**+0.9**
TLIG	**Tlapa**	**5.08**	**102**	Pn	**Pn**	**02 38 09.6**	**+0.3**
MAIG	**Mazatlaan**	**5.09**	**331**	*i*P	**Pn**	**02 38 09.5**	**+0.2**
MAIG				*e*S	**Sn**	**02 39 07.2**	**-0.1**
MAIG	**Mazatlaan**	**5.09**	**331**		**Pn**	**02 38 09.5**	**+0.2**
H06E1	**SOCORRO T-PHAS** SNR=94	**6.78**	**272**	T	T	02 45 19.8	
H06N1	**SOCORRO T-PHAS**	**6.84**	**272**	T	T	02 45 21.2	
SNR=8.1							
SLBS	**Sierra La Lagu**	**7.59**	**312**	Pn	**Pn**	**02 38 45.0**	**+1.3**
LPIG	**La Paz**	**8.11**	**312**	P	**Pn**	**02 38 53.6**	**+2.9**
2.8nm,0.3s,baz=191,slow=1.7,SNR=1.3							
LPIG				LR	LR	02 41 41.2	
comp=Z,598nm,18.2s,baz=127,slow=35							
CMIG	**Matias Romero**	**8.61**	**99**	P	**Pn**	**02 38 58.9**	**+1.2**
4.0nm,0.3s,baz=286,slow=12,SNR=41							
CMIG				S	**Sn**	**02 40 31.7**	**-2.5**
1.4nm,0.3s,baz=124,slow=21,SNR=1.3							
CMIG				Lg	Lg	02 41 21.0	
6.1nm,0.3s,baz=19,slow=21,SNR=6.8							
CMIG				LR	LR	02 42 49.9	
comp=Z,204nm,20.0s,baz=274,slow=42							
833A	**Chaparral WMA,**	**10.37**	**22**	Pn	**Pn**	**02 39 23.8**	**+2.1**
TXAR	**Lajitas Array**	**10.56**	**0**	P	**Pn**	**02 39 28.2**	**+3.7**
0.2nm,0.3s,baz=168,slow=15,SNR=38							
TXAR				Lg	Lg	02 42 19.8	
0.2nm,0.3s,baz=184,slow=31,SNR=2.6							
TXAR				LR	LR	02 44 01.7	
comp=Z,204nm,18.3s,baz=0.0,slow=41							
TXAR	**Lajitas Array**	**10.56**	**0**	Pn	**Pn**	**02 39 26.2**	**+1.6**
TX31	**Lajitas Ar. Si**	**10.57**	**0**		**Pn**	**02 39 26.1**	**+1.6**
TX32	**Lajitas Array**	**10.57**	**0**		**Pn**	**02 39 26.8**	**+2.2**
CCIG	**Comitan**	**11.36**	**101**		**Pn**	**02 39 37.0**	**+1.4**
JCT	**Junction City**	**12.25**	**16**	Pn	**Pn**	**02 39 48.9**	**+1.4**
MNTX	**Cornudas Mount**	**13.00**	**354**	Pn	**Pn**	**02 39 59.5**	**+1.6**
435B	**Jarrell**	**13.25**	**24**		**Pn**	**02 40 02.5**	**+1.3**
GDL2	**Guadalupe Moun**	**13.43**	**358**	Pn	**Pn**	**02 40 05.3**	**+1.6**
319A	**Douglas**	**13.55**	**339**		**Pn**	**02 40 06.6**	**+1.3**
121A	**Cookes Peak, D**	**14.22**	**346**		**Pn**	**02 40 16.5**	**+1.9**
WHTX	**Lake Whitney,**	**14.39**	**22**	Pn	**Pn**	**02 40 18.9**	**+2.2**
MTO3	**Montecristo**	**14.47**	**105**	Pn	**Pn**	**02 40 17.5**	**-0.6**
TEIG	**Tepich**	**14.69**	**82**	P	**Pn**	**02 40 19.6**	**-1.3**
0.8nm,0.3s,baz=138,slow=4.4,SNR=2.7							
TEIG	**Tepich**	**14.69**	**82**		**Pn**	**02 40 21.6**	**+0.7**
TUC	**Tucson**	**14.93**	**336**	Pn	**Pn**	**02 40 25.8**	**+1.6**
BNM	**Barren Site**	**15.58**	**351**	Pn	**Pn**	**02 40 34.5**	**+1.7**
AMTX	**Amarillo**	**16.20**	**6**	IAmb	IAmb	02 40 58.9	
comp=Z,14nm,0.9s							
344A	**Westbrook Farm**	**17.30**	**40**	P	**Pn**	**02 40 56.1**	**+1.6**
X37A	**Clayton**	**17.48**	**24**	IAmb	IAmb	02 41 17.1	
comp=Z,15nm,1.1s							
WLAR	**White Oak Lake**	**17.69**	**30**	IAmb	IAmb	02 41 06.6	
comp=Z,25nm,1.0s							
143A	**Socs Landing,**	**17.81**	**36**	P	**P**	**02 41 02.5**	**+1.2**
WUAZ	**Wupatki**	**18.03**	**340**	Pn	**Pn**	**02 41 05.2**	**+1.6**
T25A	**Trinidad**	**18.36**	**358**	IAmb	IAmb	02 41 21.4	
comp=Z,15nm,1.0s							
TUL1	**Leonard**	**18.52**	**21**	IAmb	IAmb	02 41 29.6	
comp=Z,16nm,0.8s							
W39A	**Magazine**	**18.65**	**26**	IAmb	IAmb	02 41 26.7	
comp=Z,15nm,1.1s							
PFO	**Pinyon Flats O**	**18.67**	**325**	LR	LR	02 47 25.2	
comp=Z,116nm,21.9s,baz=143,slow=34							
WHAR	**Wooly Hollow**	**19.39**	**29**	IAmb	IAmb	02 41 31.0	
comp=Z,11nm,0.9s							
PV01	**Paradox Valley**	**19.79**	**349**	IAmb	IAmb	02 41 43.2	
comp=Z,12nm,1.1s							
PV13	**Radium Mtn., P**	**19.86**	**348**	IAmb	IAmb	02 41 39.0	
comp=Z,12nm,1.0s							
FCAR	**Ozark Folk Cen**	**19.96**	**29**	IAmb	IAmb	02 41 35.2	
comp=Z,7.7nm,0.7s							
PV03	**Paradox Valley**	**19.96**	**348**	IAmb	IAmb	02 41 45.4	
comp=Z,10nm,0.9s							
PV18	**Skein Mesa, Pa**	**19.96**	**348**	P	**P**	**02 41 26.4**	**+1.2**
PV18				IAmb	IAmb	02 41 40.7	
comp=Z,11nm,1.0s							
PV17	**East Wray Mesa**	**20.01**	**348**	IAmb	IAmb	02 41 41.2	
comp=Z,16nm,1.0s							
PV11	**David Mesa, Pa**	**20.01**	**348**	IAmb	IAmb	02 41 45.4	
comp=Z,16nm,1.1s							
PV16	**Nynger Mesa**	**20.03**	**348**	IAmb	IAmb	02 41 46.3	
comp=Z,20nm,1.2s							
U40A	**Yellville**	**20.03**	**27**	IAmb	IAmb	02 41 36.9	
comp=Z,7.5nm,0.8s							
JTS	**Las Juntas de**	**20.04**	**112**	LR	LR	02 48 20.5	
comp=Z,147nm,19.6s,baz=16,slow=34							
PV20	**West Nyswonger**	**20.07**	**348**	IAmb	IAmb	02 41 42.4	
comp=Z,15nm,0.9s							
PV07	**Paradox Valley**	**20.10**	**349**	P	**P**	**02 41 28.0**	**+1.3**
PV07				IAmb	IAmb	02 41 42.7	
comp=Z,9.2nm,1.0s							
PV04	**Paradox Valley**	**20.11**	**348**	IAmb	IAmb	02 41 47.3	
comp=Z,14nm,1.0s							
Z47A	**Carrollton**	**20.14**	**41**	P	**P**	**02 41 28.4**	**+1.5**
PV23	**Carpenter Ridg**	**20.18**	**348**	IAmb	IAmb	02 41 48.2	
comp=Z,15nm,0.9s							
PV21	**Cone Mtn., Par**	**20.28**	**348**	IAmb	IAmb	02 41 48.7	
comp=Z,9.3nm,0.9s							
CBKS	**Cedar Bluff**	**20.33**	**9**	P	**P**	**02 41 30.6**	**+1.6**
SHPR	**Sheep Range**	**20.36**	**333**	P	**P**	**02 41 30.6**	**+1.2**
LCAR	**Lake Charles**	**20.56**	**30**	P	**P**	**02 41 32.9**	**+1.5**
LCAR				IAmb	IAmb	02 41 52.3	
comp=Z,14nm,1.1s							
MTPU	**Mount Pierson**	**20.60**	**341**	P	**P**	**02 41 33.4**	**+1.1**
LRAL	**Lakeview Retre**	**20.72**	**43**	P	**P**	**02 41 34.5**	**+1.3**
LRAL				IAmb	IAmb	02 41 48.1	
comp=Z,5.8nm,0.7s							
MGMO	**Mountain Grove**	**20.95**	**26**	P	**P**	**02 41 37.5**	**+1.7**
MGMO				IAmb	IAmb	02 41 54.8	
comp=Z,9.8nm,0.9s							
S39A	**Bolivar**	**20.99**	**24**	IAmb	IAmb	02 41 52.8	
comp=Z,8.1nm,0.9s							
MSU	**Marysvale**	**21.04**	**341**	P	**P**	**02 41 38.0**	**+1.2**
ISCO	**Idaho Springs**	**21.07**	**356**	P	**P**	**02 41 39.1**	**+1.9**
TPNV	**Topopah Spring**	**21.21**	**331**	P	**P**	**02 41 39.8**	**+1.1**
KSU1	**Kansas State U**	**21.24**	**16**	P	**P**	**02 41 40.4**	**+1.6**
KSU1				IAmb	IAmb	02 41 53.1	
comp=Z,10nm,0.8s							
PLAL	**Pickwick Lake**	**21.36**	**38**	IAmb	IAmb	02 42 00.5	
comp=Z,13nm,1.1s							
T42A	**Van Buren**	**21.37**	**29**	IAmb	IAmb	02 41 53.7	
comp=Z,6.6nm,0.8s							
X48A	**Hartselle**	**21.61**	**40**	P	**P**	**02 41 44.1**	**+1.4**
X48A				IAmb	IAmb	02 41 57.3	
comp=Z,11nm,0.9s							
R40A	**Maddies Stadio**	**21.93**	**25**	IAmb	IAmb	02 41 59.3	
comp=Z,8.8nm,0.7s							
Z51A	**Franklin**	**22.09**	**45**	IAmb	IAmb	02 42 00.7	
comp=Z,10nm,0.9s							
CCM	**Cathedral Cave**	**22.15**	**27**	P	**P**	**02 41 50.0**	**+1.4**
CCM				IAmb	IAmb	02 42 09.4	
comp=Z,14nm,1.1s							
WVT	**Waverly**	**22.33**	**36**	P	**P**	**02 41 51.8**	**+1.4**
WVT				IAmb	IAmb	02 42 05.2	
comp=Z,13nm,1.1s							
P40A	**Paris**	**23.08**	**24**	IAmb	IAmb	02 42 09.1	
comp=Z,6.7nm,0.8s							
GOGA	**Godfrey**	**23.32**	**47**	P	**P**	**02 41 59.4**	**-1.4**
GOGA				IAmb	IAmb	02 42 11.0	
comp=Z,9.4nm,0.9s							
T47A	**Sharon Grove**	**23.35**	**35**	IAmb	IAmb	02 42 12.1	
comp=Z,8.9nm,1.1s							
NVAR	**Mina Array Bea**	**23.36**	**330**	P	**P**	**02 42 02.0**	**+0.6**
comp=Z,0.9nm,0.7s,baz=156,slow=11,SNR=8.7							
NVAR	**Mina Array Bea**	**23.36**	**330**	P	**P**	**02 42 02.5**	**+1.1**
TKL	**Tuckaleechee C**	**24.43**	**42**	P	**P**	**02 42 08.8**	**-2.5**
comp=Z,2.1nm,0.7s,baz=220,slow=17,SNR=2.5							
TKL				LR	LR	02 53 17.0	
comp=Z,63nm,20.4s,baz=226,slow=41							
TKL	**Tuckaleechee C**	**24.43**	**42**	P	**P**	**02 42 12.5**	**+1.1**
TKL				IAmb	IAmb	02 42 21.0	
comp=Z,5.4nm,0.8s							
PDAR	**Pinedale Array**	**24.47**	**350**	P	**P**	**02 42 10.2**	**-1.7**
comp=Z,0.2nm,0.5s,baz=265,slow=34,SNR=2.1							
PDAR				LR	LR	02 52 51.1	
comp=Z,296nm,18.7s,baz=183,slow=39							
PDAR	**Pinedale Array**	**24.47**	**350**	P	**P**	**02 42 12.7**	**+0.8**
WCI	**Wyandotte Cave**	**24.69**	**34**	P	**P**	**02 42 14.9**	**+1.2**
V53A	**Saluda**	**25.06**	**43**	IAmb	IAmb	02 42 31.7	
comp=Z,4.7nm,0.8s							
TPAW	**Teton Pass**	**25.43**	**348**	IAmb	IAmb	02 42 42.7	
comp=Z,5.4nm,1.1s							
YBH	**Yreka Blue Hor**	**28.05**	**329**	LR	LR	02 52 58.3	
comp=Z,22nm,21.2s,baz=174,slow=34							
ULM	**Lac du Bonnet**	**32.08**	**10**	LR	LR	02 56 05.3	
comp=Z,97nm,18.8s,baz=192,slow=36							
YKA	**Yellowknife Ar**	**44.38**	**353**	P	**P**	**02 45 00.3**	**-2.4**
comp=Z,0.3nm,0.7s,baz=172,slow=9.0,SNR=1.6							
YKA				LR	LR	03 04 54.1	
comp=Z,139nm,19.0s,baz=0.0,slow=38							
LPAZ	**La Paz**	**49.40**	**133**	P	**P**	**02 45 43.3**	**0.0**
comp=Z,1.1nm,0.8s,baz=256,slow=2.6,SNR=3.8							
LPAZ				LR	LR	03 04 29.5	
comp=Z,52nm,21.2s,baz=298,slow=33							
LPAZ	**La Paz**	**49.40**	**133**	P	**P**	**02 45 41.9**	**-1.4**
ILAR	**Eielson Array**	**54.22**	**339**	P	**P**	**02 46 16.7**	**-1.2**
comp=Z,0.2nm,0.7s,baz=132,slow=6.7,SNR=2.2							
ILAR	**Eielson Array**	**54.22**	**339**	P	**P**	**02 46 19.1**	**+1.2**
H03N2	**Juan Fernandez** baz=299,slow=74,SNR=44	**57.03**	**155**	T	T	03 48 24.3	
H03N1	**Juan Fernandez** baz=323,slow=74,SNR=83	**57.04**	**155**	T	T	03 48 24.3	
H03N3	**Juan Fernandez** SNR=76	**57.05**	**155**	T	T	03 48 24.3	
PETK	**Petropavlovsk-**	**80.22**	**323**	P	**P**	**02 49 03.1**	**+0.1**
comp=Z,1.4nm,0.7s,baz=86,slow=9.4,SNR=4.2							
PETK	**Petropavlovsk-**	**80.22**	**323**	P	**P**	**02 49 03.6**	**+0.6**
ESDC	**Sonseca Array**	**85.51**	**50**	P	**P**	**02 49 28.3**	**-2.5**
comp=Z,0.3nm,0.4s,baz=76,slow=39,SNR=2.6							
ESDC	**Sonseca Array**	**85.51**	**50**	P	**P**	**02 49 30.9**	**+0.1**
FINES	**FINESS Array B**	**90.69**	**22**	P	**P**	**02 49 52.8**	**-2.2**
comp=Z,1.7nm,0.9s,baz=254,slow=34,SNR=1.5							
FINES	**FINESS Array B**	**90.69**	**22**	P	**P**	**02 49 55.9**	**+0.9**
LZH	**Lanzhou**	**119.55**	**334**	*e*PKP	**PKPdf**	**02 55 42.7**	**-0.1**
LZH				pPKP	pPKPdf	02 55 54.2	+3.1
LZH				sPKP		02 55 58.0	
WRA	**Warramunga Arr**	**125.39**	**258**	PKP	**PKPdf**	**02 55 54.7**	**+0.5**
comp=Z,0.4nm,0.7s,baz=63,slow=1.8,SNR=1.8							
WRA	**Warramunga Arr**	**125.39**	**258**		PKPpre	02 55 53.3	
ASAR	**Alice Springs**	**126.30**	**254**	PKP	**PKPdf**	**02 55 55.5**	**-0.3**
comp=Z,0.3nm,0.6s,baz=116,slow=2.2,SNR=2.5							
ASAR	**Alice Springs**	**126.30**	**254**		**PKPdf**	**02 55 55.0**	**-0.9**

*IDC **12** 03:15:39.4±2.3, 35.03N×139.90E, h115km±12km, mb3.3/4, mb1 3.4/6, mb1mx3. 1/34, mbtmp3.6/6, MS3.5/2, Ms1 3.5/2, ms1mx2.6/26, Error ellipse: s-maj=51.8km s-min=6.4km az=70.0*
*JMA **12** 03:15:41.7±0.2, 34.88N×139.51E, h108km±2km, M3.0*
ISC 12 03:15:40.9±0.9, 34.93N±0.05×139.56E±0.06, h114km±6km, n29, σ1s20/30, mb3.7/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIM2	**Oshima 3**	**0.24**	**207**	P	**Pn**	**03 15 56.9**	**0.0**
JIM2				S	**Sn**	**03 16 08.9**	**0.0**
TATJ	**Tateyama 2**	**0.29**	**69**	P	**Pn**	**03 15 58.2**	**+1.2**
JOD2	**Odawara 2**	**0.51**	**310**	P	**Pn**	**03 15 58.4**	**+0.2**
JOD2				S	**Sn**	**03 16 11.1**	**-0.2**
JIZS	**Izushimoda**	**0.60**	**249**	P	**Pn**	**03 15 59.0**	**+0.2**
JIZS				S	**Sn**	**03 16 12.2**	**-0.1**
JFNN	**Fujinakano**	**0.77**	**290**	P	**Pn**	**03 16 00.7**	**+0.6**
JFNN				S	**Sn**	**03 16 14.9**	**+0.2**
BSO3	**Boso 3**	**0.79**	**99**	P	**Pn**	**03 16 01.6**	**+1.6**
JYN	**Shimob**	**1.01**	**304**	P	**Pn**	**03 16 03.2**	**+0.7**
JMKN	**Mikurajimanish**	**1.04**	**179**	P	**Pn**	**03 16 03.1**	**+0.4**
SHZ3	**Shizuoka 3**	**1.12**	**277**	P	**Pn**	**03 16 04.1**	**+0.5**
BSO1	**Boso 1**	**1.20**	**103**	P	**Pn**	**03 16 05.6**	**+1.8**
JRY	**Ryogami san**	**1.21**	**334**	P	**Pn**	**03 16 05.8**	**+1.2**
JRY				S	**Sn**	**03 16 24.0**	**+1.4**
JAG	**Ashikaga**	**1.49**	**357**	P	**Pn**	**03 16 08.6**	**+0.8**
TK02	**Tokai 2**	**1.79**	**237**	P	**Pn**	**03 16 11.8**	**+0.7**
JHJ	**Hachijo jima 2**	**1.82**	**174**	P	**Pn**	**03 16 12.8**	**+1.0**
50nm,0.3s,baz=318,slow=22,SNR=14							
JHJ				S	**Sn**	**03 16 36.0**	**+0.7**
84nm,0.3s,baz=92,slow=23,SNR=11							
JHJ2	**Mitsune**	**1.83**	**173**	P	**Pn**	**03 16 12.7**	**+0.8**
MJAR	**Matsushiro Arr**	**1.95**	**326**	P	**Pn**	**03 16 14.0**	**+0.7**
0.9nm,0.3s,baz=135,slow=12,SNR=29							
MJAR				S	**Sn**	**03 16 38.2**	**0.0**
1.7nm,0.3s,baz=271,slow=9.1,SNR=7.7							
MAT	**Matsushiro**	**1.95**	**326**	P	**Pn**	**03 16 14.1**	**+0.7**
MAT				S	**Sn**	**03 16 38.9**	**+0.7**
JNU	**Nakatsue**	**7.43**	**258**	P	**Pn**	**03 17 30.8**	**+4.1**
0.3nm,0.3s,baz=142,slow=19,SNR=1.4							
H11N2	**WAKE ISLAND Hy** baz=308,slow=75,SNR=16	**28.49**	**115**	T	T	03 51 14.9	
H11N1	**WAKE ISLAND Hy** baz=308,slow=75,SNR=16	**28.50**	**115**	T	T	03 51 13.3	
H11N3	**WAKE ISLAND Hy** baz=308,slow=75,SNR=16	**28.51**	**115**	T	T	03 51 14.1	
H11S3	**WAKE ISLAND Hy**	**29.11**	**117**	T	T	03

KZA ⇑*i*S **Sn** **03 21 53.3 +1.0**
baz=74 baz=74

TAP 12 03:32:47.4, 24.92N×121.80E, h95km, ML3.4, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIPB	**Shuangxi**	**0.06**	**21**	P	Pn	03 33 00.6	-0.1
TIPB	baz=21			S	Sn	03 33 11.1	+0.5
NTC	**Toucheng**	**0.07**	**159**	*e*P	Pn	03 33 00.5	-0.2
NTC	baz=159			*e*S	Sn	03 33 10.8	+0.3
EGS		**0.14**	**122**	*e*P	Pn	03 33 00.6	-0.2
NWF	baz=120 **Wu-fen Shan**	**0.15**	**352**	P	Pn	03 33 00.8	-0.1
NWF	baz=352			S	Sn	03 33 10.8	-0.3
WFSB	baz=352 **Wu-fen Shan**	**0.15**	**352**	*e*P	Pn	03 33 00.8	0.0
WFSB	baz=352			*e*S	Sn	03 33 10.3	-0.5
ILA	**Ilan**	**0.16**	**198**	*e*S	Sn	03 33 11.5	+0.7
TWB1	baz=195 **Santiao Chiao**	**0.19**	**62**	P	Pn	03 33 00.8	-0.1
TWB1	baz=63			S	Sn	03 33 10.5	-0.5
TWA	baz=63 **Mucha**	**0.21**	**287**	P	Pn	03 33 01.2	+0.2
TWA	baz=286			S	Sn	03 33 11.8	+0.7
TWE	baz=286 **Neicheng**	**0.23**	**212**	P	Pn	03 33 01.5	+0.5
TWE	baz=208			S	Sn	03 33 12.0	+0.7
NHDH	baz=208 **Xindian Distri**	**0.26**	**280**	P	Pn	03 33 01.4	+0.3
NHDH	baz=279			S	Sn	03 33 11.6	+0.2
TAP1	baz=279 **Taipei**	**0.28**	**295**	*e*P	Pn	03 33 01.5	+0.3
TAP1	baz=294			S	Sn	03 33 11.9	+0.4
TAP	baz=294 **Taipei**	**0.29**	**294**	*e*P	Pn	03 33 00.6	-0.8
TAP	baz=294			S	Sn	03 33 11.3	-0.4
YM01	**YM01**	**0.31**	**317**	P	Pn	03 33 01.7	+0.2
YM01	baz=316			S	Sn	03 33 12.1	+0.1
TWC	baz=316 **Suao**	**0.31**	**172**	P	Pn	03 33 01.6	+0.1
TWC	baz=170			*e*S	Sn	03 33 13.0	+1.1
YM10	baz=170 **YM10**	**0.32**	**317**	*e*P	Pn	03 33 01.7	+0.1
YM10	baz=316			S	Sn	03 33 12.1	0.0
YM11	baz=316 **YM11**	**0.32**	**320**	*e*P	Pn	03 33 01.9	+0.3
YM11	baz=319			*e*S	Sn	03 33 12.7	+0.5
YM05	baz=319 **YM05**	**0.33**	**319**	*e*P	Pn	03 33 01.5	-0.1
YM05	baz=318			S	Sn	03 33 12.5	+0.3
YM08	baz=318 **YM08**	**0.33**	**324**	*e*P	Pn	03 33 01.4	-0.2
YM08	baz=324			*e*S	Sn	03 33 11.8	-0.3
YM04	baz=324 **YM04**	**0.34**	**314**	P	Pn	03 33 01.8	+0.1
YM04	baz=313			S	Sn	03 33 12.1	-0.1
ENTT	baz=313 **Nioudou**	**0.35**	**218**	P	Pn	03 33 02.0	+0.3
ENTT	baz=216			*e*S	Sn	03 33 12.7	+0.3
YM03	baz=216 **YM03**	**0.35**	**317**	*e*P	Pn	03 33 02.0	+0.3
YM03	baz=317			*e*S	Sn	03 33 13.1	+0.6
ANP	baz=317 **Anpu**	**0.37**	**316**	*e*P	Pn	03 33 01.0	-0.9
ANP	baz=316			*e*S	Sn	03 33 13.2	+0.5
TWS1	**Kuangyinshan**	**0.39**	**297**	P	Pn	03 33 02.4	+0.5
TWS1	baz=297			S	Sn	03 33 13.8	+1.0
TWY	**Chenhua**	**0.40**	**333**	P	Pn	03 33 02.3	+0.3
TWY	baz=333			S	Sn	03 33 13.0	+0.2
NTST	**Danshui**	**0.40**	**307**	*e*P	Pn	03 33 02.4	+0.5
NTST	baz=307			S	Sn	03 33 13.5	+0.7
NDT	baz=307 **Datong Townshi**	**0.41**	**220**	P	Pn	03 33 02.3	+0.2
NDT	baz=219			S	Sn	03 33 12.4	-0.5
YHNB	baz=219 **Yeheng**	**0.46**	**238**	P	Pn	03 33 02.2	-0.2
YHNB	baz=237			*e*S	Sn	03 33 13.2	-0.5
ENAH	baz=237 **Nanao**	**0.47**	**179**	*e*P	Pn	03 33 03.3	+0.9
ENAH	baz=179			*e*S	Sn	03 33 15.1	+1.5
NSK	baz=179 **Sanguang**	**0.47**	**239**	*e*P	Pn	03 33 02.4	-0.1
NSK	baz=238			S	Sn	03 33 12.8	-0.9
ENA	baz=238 **Nanau**	**0.49**	**187**	*e*P	Pn	03 33 03.3	+0.7
ENA	baz=185			*e*S	Sn	03 33 14.9	+1.0
NCU	baz=185 **National Centr**	**0.56**	**275**	*e*P	Pn	03 33 03.5	+0.4
NCU	baz=274			S	Sn	03 33 15.6	+0.7
NCUH	baz=274 **Zhongli**	**0.56**	**275**	*e*P	Pn	03 33 03.5	+0.4
NCUH	baz=274			S	Sn	03 33 15.0	+0.1
NNS	baz=274 **Nan Shan**	**0.62**	**219**	*e*P	Pn	03 33 03.9	+0.1
NNS	baz=218			*e*S	Sn	03 33 16.9	+0.9
NNSB	baz=218 **Datong**	**0.62**	**218**	P	Pn	03 33 03.9	+0.1
NNSB	baz=218			*e*S	Sn	03 33 15.7	-0.3
NNSH	baz=218 **Datong**	**0.62**	**218**	*e*P	Pn	03 33 03.8	0.0
NNSH	baz=217			S	Sn	03 33 15.5	-0.5
NHW	baz=217 **Xinwu Township**	**0.69**	**277**	*e*P	Pn	03 33 04.6	+0.3
NHW	baz=277			*e*S	Sn	03 33 17.5	+0.7
PCYT	baz=277 **Pengchaiyu**	**0.75**	**19**	*e*P	Pn	03 33 05.0	+0.2
PCYT	baz=19			*e*S	Sn	03 33 18.7	+0.9
LIOB	baz=19 **Emei**	**0.77**	**249**	*e*P	Pn	03 33 05.2	+0.2
LIOB	baz=249			*e*S	Sn	03 33 18.1	-0.1
NACB	baz=249 **Ninganchiao**	**0.77**	**194**	*e*P	Pn	03 33 05.8	+0.8
NACB	baz=194			S	Sn	03 33 18.4	+0.3
ETLH	baz=194 **Xiulin Townshi**	**0.77**	**202**	*e*P	Pn	03 33 05.3	+0.2
ETLH	baz=202			*e*S	Sn	03 33 18.2	-0.1
NSTT	baz=202 **Nanjuang**	**0.78**	**249**	*e*P	Pn	03 33 05.2	+0.1
NSTT	baz=248			S	Sn	03 33 18.1	-0.3
	baz=248						

FUSS	**Fushou**	**0.84**	**217**	P	Pn	03 33 06.6	+0.6
FUSS	baz=217			*e*S	Sn	03 33 20.1	+0.2
TWD	baz=217 **Chiawan**	**0.86**	**193**	*e*P	Pn	03 33 06.6	+0.7
TWD	baz=192			*e*S	Sn	03 33 19.7	0.0
TWT	baz=192 **Tachien**	**0.88**	**221**	*e*P	Pn	03 33 07.0	+0.8
TWT	baz=221			S	Sn	03 33 21.5	+1.1
TDCB	baz=221 **Techi**	**0.89**	**222**	*e*P	Pn	03 33 06.9	+0.5
TDCB	baz=221			S	Sn	03 33 20.2	-0.4
WHF	baz=221 **Hehuan Shan**	**0.91**	**213**	*e*P	Pn	03 33 07.7	+0.7
WHF	baz=212			S	Sn	03 33 21.6	0.0
HWA	baz=212 **Hwalien**	**0.95**	**191**	*e*P	Pn	03 33 07.5	+0.5
NMLH	baz=190 **Miaoli**	**1.00**	**248**	*e*P	Pn	03 33 07.8	+0.4
NMLH	baz=247			*e*S	Sn	03 33 22.1	-0.4
WHP	baz=247 **Taichung City**	**1.01**	**231**	*e*P	Pn	03 33 08.2	+0.5
WHP	baz=230			*e*S	Sn	03 33 22.8	0.0
CHGB	baz=230 **Renai**	**1.03**	**214**	P	Pn	03 33 08.7	+0.7
CHGB	baz=213			*e*S	Sn	03 33 23.7	+0.3
TWQ1	baz=213 **Liyutan**	**1.10**	**239**	*e*S	Sn	03 33 24.6	+0.2
ESL	baz=238 **Shilin**	**1.15**	**197**	*e*P	Pn	03 33 10.2	+1.0
ESL	baz=196			*e*S	Sn	03 33 25.1	-0.4
WDJ	baz=196 **Dajia District**	**1.20**	**242**	*e*S	Sn	03 33 26.1	-0.5
VWDT	baz=241 **VWDT**	**1.31**	**208**	*e*P	Pn	03 33 12.3	+1.2
VWDT	baz=207			*e*S	Sn	03 33 30.1	+1.2
SMLT	baz=207 **Sun Moon Lake**	**1.32**	**219**	*e*P	Pn	03 33 11.6	+0.3
SMLT	baz=218			*e*S	Sn	03 33 30.2	+0.9
SSLB	baz=218 **Suanglung**	**1.37**	**215**	*e*P	Pn	03 33 12.1	+0.3
SSLB	baz=214			*e*S	Sn	03 33 30.9	+0.7
WNT	baz=214 **Mingjian**	**1.45**	**225**	*e*P	Pn	03 33 12.7	-0.1
WNT	baz=224			*e*S	Sn	03 33 32.6	+0.6
HGSD	baz=224 **Ruisui**	**1.46**	**194**	*e*P	Pn	03 33 13.9	+1.0
HGSD	baz=193			*e*S	Sn	03 33 32.7	+0.5
EHY	baz=193 **Hungye**	**1.47**	**197**	*e*P	Pn	03 33 13.8	+0.7
EHY	baz=197			*e*S	Sn	03 33 33.0	+0.5
YULB	baz=197 **Yu-li**	**1.59**	**197**	*e*P	Pn	03 33 15.5	+1.0
YULB	baz=196			*e*S	Sn	03 33 34.6	-0.5
CHN5	baz=196 **Tsauling**	**1.67**	**218**	*e*P	Pn	03 33 16.4	+0.7
CHN5	baz=217			*e*S	Sn	03 33 38.2	+1.2
ALS	baz=217 **Alishan**	**1.67**	**213**	*e*P	Pn	03 33 15.3	-0.6
ALS	baz=212			*e*S	Sn	03 33 37.7	+0.3
WDLH	baz=212 **Douliu**	**1.68**	**224**	*e*S	Sn	03 33 37.5	+0.4
FULB	baz=223 **Fuli**	**1.77**	**195**	*e*P	Pn	03 33 18.1	+1.2
FULB	baz=195			*e*S	Sn	03 33 39.7	+0.4
WTK	baz=195 **Tuku**	**1.78**	**227**	*e*P	Pn	03 33 18.1	+1.2
WTK	baz=226			*e*S	Sn	03 33 39.9	+0.5
ELDTW	**Lidau**	**1.87**	**203**	*e*P	Pn	03 33 18.8	+0.7
PTTC	baz=202 **Pingtan**	**1.93**	**288**	*e*P	Pn	03 33 18.4	-0.4
PTTC	baz=287			*e*S	Sn	03 33 42.4	-0.4
TPUB	baz=287 **Ta-pu**	**1.94**	**214**	*e*P	Pn	03 33 18.0	-1.0
TPUB	baz=213			*e*S	Sn	03 33 44.1	+1.0
WTP	baz=213 **Ta-pu**	**1.99**	**213**	*e*P	Pn	03 33 20.6	+0.9
WTP	baz=212			*e*S	Sn	03 33 44.8	+0.5
TWK	baz=212 **Hsinying**	**2.04**	**216**	*e*P	Pn	03 33 21.4	+1.1
TWK	baz=215			*e*S	Sn	03 33 46.5	+1.1
SNST	baz=215 **Tainan City**	**2.07**	**215**	*e*P	Pn	03 33 21.4	+0.7
SNST	baz=215			*e*S	Sn	03 33 46.5	+0.3
CHN1	baz=215 **Nanshi**	**2.08**	**214**	*e*P	Pn	03 33 21.2	+0.3
CHN1	baz=214			*e*S	Sn	03 33 46.6	+0.1
LONT	baz=214 **Longtian**	**2.10**	**197**	*e*S	Sn	03 33 47.7	+0.9
VWUC	baz=197 **VWUC**	**2.14**	**272**	*e*P	Pn	03 33 21.2	-0.3
VWUC	baz=271			*e*S	Sn	03 33 45.6	-2.1
LYJJ	baz=271 **Jianjiangzhen**	**2.46**	**312**	*e*P	Pn	03 33 25.4	-0.4
LYJJ	baz=311			*e*S	Sn	03 33 52.3	-2.8
XPSS	baz=311 **Dashiqiu**	**2.47**	**324**	*e*P	Pn	03 33 25.7	-0.3
XPSS	baz=324			*e*S	Sn	03 33 56.7	+1.2
MASBT	**Mashibuluo**	**2.54**	**205**	*e*P	Pn	03 33 27.9	+1.0
MASBT	baz=205			*e*S	Sn	03 33 57.9	+0.8
EAST	baz=205 **Anshuo**	**2.67**	**199**	*e*P	Pn	03 33 30.1	+1.4
EAST	baz=198			*e*S	Sn	03 34 01.0	+0.6
	baz=198						

NIED ***12*** *03:33:41.8, 24.00N×123.16E, h25km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-5.52; Mθθ-1.88; Mφφ7.40; Mrθ-3.22; Mφθ0.57; Mφr1.64; Fault plane solution: M₀7.60000×10¹⁴ NP1: φs157.00000°, δ58.00000°, λ-126.00000°. NP2: φs30.00000°, δ46.00000°, λ-47.00000°.*
JMA ***12*** *03:33:41.7±0.1, 24.00N×123.16E, h25km±3km, M3.9*
IDC ***12*** *03:33:46.9±6.4, 24.05N×123.12E, h65km±59km, mb3.5/10, mb1 3.7/11, mb1mx3.4/40, mbtmp3.8/11, ML3.6/1, MS2.7/3, Ms1 2.7/3, ms1mx2.6/25, Error ellipse: s-maj=37.8km s-min=17.5km az=72.0*

ISC 12 03:33:41.3±1.3, 23.99N±0.07×123.16E±0.05, h18km±4km, n26, σ0.75/25, mb3.7/10, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.49**	**343**	P	**Pb**	**03 33 51.5**	**+0.2**
YOJ				S	**Sg**	**03 33 57.9**	**0.0**
JYNG	**Yonagunijimaku**	**0.50**	**337**	P	**Pb**	**03 33 51.6**	**+0.1**
JYNG				S	**Sg**	**03 33 58.2**	**0.0**
HATJ	**Hateruma jima**	**0.59**	**83**	P	**Pb**	**03 33 53.0**	**0.0**
HATJ				S	**Sb**	**03 34 01.5**	**+0.5**
IRIF	**Iriomote-Funau**	**0.62**	**56**	P	**Pg**	**03 33 53.7**	**+0.1**
IRIF				S	**Sb**	**03 34 02.6**	**+0.8**
JKRS	**Kuro-shima**	**0.81**	**72**	P	**Pg**	**03 33 56.8**	**-0.3**
JKRS				S	**Sg**	**03 34 08.0**	**+0.1**
JJ	**Ishigaki jima**	**0.97**	**67**	P	**Pn**	**03 33 59.6**	**-0.3**
JJ				S	**Sb**	**03 34 11.3**	**-0.7**

JISG	**Ishigakijimahi**	**1.20**	**60**	P	**Pn**	**03 34 02.6**	**-0.6**
JISG				S	**Sb**	**03 34 18.4**	**-0.3**
JNU	**Nakatsue**	**11.34**	**35**	LR	LR	03 41 17.6	
KSRS	comp=Z,28nm,21.2s,baz=178,slow=40 **Korea Array**	**14.03**	**16**	P	**Pn**	**03 37 00.3**	**+1.3**
KSRS	0.3nm,0.3s,baz=196,slow=12,SNR=5.3			LR	LR	03 43 14.1	
MJAR	comp=Z,35nm,19.0s,baz=185,slow=41 **Matsushiro Arr**	**18.01**	**43**	LR	LR	03 45 49.2	
MKAR	comp=Z,31nm,18.8s,baz=210,slow=40 **Makanchi Array**	**39.74**	**315**	P	**P**	**03 41 13.1**	**+0.3**
H11N1	0.3nm,0.4s,baz=100,slow=8.8,SNR=5.7 **WAKE ISLAND Hy**	**40.69**	**87**	T	T	04 25 00.4	
H11N2	SNR=5.6 **WAKE ISLAND Hy**	**40.69**	**87**	T	T	04 24 59.8	
H11N3	**WAKE ISLAND Hy**	**40.71**	**87**	T	T	04 24 55.0	
H11S3	SNR=5.1 **WAKE ISLAND Hy**	**40.81**	**89**	T	T	04 24 55.2	
H11S1	baz=279,slow=74,SNR=4.4 **WAKE ISLAND Hy**	**40.82**	**89**	T	T	04 24 57.7	
H11S2	baz=279,slow=74,SNR=8.0 **WAKE ISLAND Hy**	**40.83**	**89**	T	T	04 24 58.8	
ZALV	baz=279,slow=74,SNR=5.3 **Zalesovo Beam**	**41.40**	**326**	P	**P**	**03 41 26.9**	**+0.6**
WRA	0.7nm,0.5s,baz=131,slow=4.4,SNR=2.4 **Warramunga Arr**	**45.00**	**165**	P	**P**	**03 41 56.2**	**+0.4**
ASAR	1.1nm,0.8s,baz=347,slow=9.3,SNR=4.6 **Alice Springs**	**48.51**	**167**	P	**P**	**03 42 24.2**	**+1.0**
STKA	0.5nm,0.6s,baz=349,slow=7.8,SNR=3.9 **Stephens Creek**	**58.28**	**162**	P	**P**	**03 43 35.3**	**+0.4**
ILAR	1.6nm,0.8s,baz=330,slow=8.5,SNR=2.9 **Eielson Array**	**68.55**	**27**	P	**P**	**03 44 43.3**	**+0.8**
FINES	0.2nm,0.5s,baz=38,slow=31,SNR=2.2 **FINESS Array B**	**72.52**	**330**	P	**P**	**03 45 05.2**	**-1.6**
NOA	0.7nm,0.5s,baz=47,slow=5.4,SNR=5.9 **NORSAR Array B**	**79.23**	**333**	P	**P**	**03 45 43.6**	**-1.6**
YKA	0.6nm,0.8s,baz=189,slow=19,SNR=2.4 **Yellowknife Ar**	**82.44**	**23**	P	**P**	**03 46 01.4**	**-0.7**
NVAR	1.3nm,0.7s,baz=308,slow=5.4,SNR=10.0 **Mina Array Bea**	**95.33**	**44**	P	**P**	**03 47 04.2**	**-0.6**
	0.1nm,0.5s,baz=300,slow=2.0,SNR=1.9						

IDC ***12*** *03:54:39.2±0.8, 36.94N×141.31E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.8/32, mbtmp3.8/12, ML3.6/2, Error ellipse: s-maj=23.8km s-min=16.9km az=97.0*
NIED ***12*** *03:54:41.2, 37.01N×141.38E, h29km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-4.54; Mθθ-0.09; Mφφ4.63; Mrθ0.32; Mφθ1.66; Mφr0.25; Fault plane solution: M₀4.87000×10¹⁴ NP1: φs201.00000°, δ47.00000°, λ-85.00000°. NP2: φs14.00000°, δ43.00000°, λ-95.00000°.*
JMA ***12*** *03:54:41.2±0.1, 37.01N×141.38E, h29km±1km, M3.7*
JMA Felt I J1.
NEIC ***12*** *03:54:44.0±1.5, 36.97N±0.04×141.4E±0.1, h47km±7km, mb4.2/6, Error ellipse: s-maj=12.6km s-min=5.3km az=98.0*

ISC 12 03:54:38.7±1.8, 36.95N±0.04×141.40E±0.05, h4km±10km, n53, σ1.9/41/59, mb3.9/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.51**	**288**	P	**Pb**	**03 54 50.8**	**+0.6**
ONAJ				S	**Sb**	**03 54 57.6**	**-0.4**
JFK	**Kawauchi**	**0.59**	**315**	P	**Pb**	**03 54 51.7**	**0.0**
JFK				S	**Sb**	**03 54 59.2**	**-1.2**
JFFD	**Fukushimafurud**	**0.69**	**282**	P	**Pb**	**03 54 53.8**	**+0.5**
JFFD				S	**Sb**	**03 55 02.6**	**-0.5**
JHO	**Hitachi**	**0.75**	**244**	P	**Pn**	**03 54 55.3**	**-0.7**
JHO				S	**Sn**	**03 55 05.8**	**-2.0**
JMST	**Minamisoumatoc**	**0.88**	**332**	P	**Pg**	**03 54 56.0**	**+0.5**
JMST				S	**Sg**	**03 55 06.9**	**-0.1**
JFT	**Otama**	**1.02**	**304**	P	**Pn**	**03 54 59.4**	**-0.4**
JFT				S	**Sb**	**03 55 12.3**	**-0.5**
JMM	**Marumori**	**1.04**	**332**	P	**Pg**	**03 54 58.8**	**+0.2**
JMM				S	**Sg**	**03 55 11.4**	**-0.7**
JFY	**Yanaizu**	**1.43**	**289**	P	**Pg**	**03 55 06.1**	**-0.1**
JFY				*e*S	**Sg**	**03 55 24.4**	**-0.3**
JIO	**Ouri**	**1.50**	**358**	P	**Pn**	**03 55 05.5**	**-0.9**
JIO				*e*S	**Sn**	**03 55 23.4**	**-3.0**
JOU	**Okura**	**1.53**	**338**	P	**Pn**	**03 55 06.9**	**+0.1**
JOU				*e*S	**Sn**	**03 55 25.9**	**-1.3**
MJAR	**Matsushiro Arr**	**2.60**	**262**	Pn	**Pn**	**03 55 23.2**	**+1.7**
MJAR	0.3nm,0.3s,baz=85,slow=15,SNR=21			Sn	**Sb**	**03 55 57.7**	**-0.3**
MJAR	0.7nm,0.3s,baz=147,slow=47,SNR=1.8 **Matsushiro Arr**	**2.60**	**262**		**Pn**	**03 55 23.0**	**+1.5**
MJAR					**Sn**	**03 55 53.7**	**+0.2**
MAJO	**Matsushiro**	**2.60**	**262**		**Pb**	**03 55 23.5**	**-2.3**
MAT	**Matsushiro**	**2.60**	**262**	P	**Pb**	**03 55 23.5**	**-2.3**
MAT				*e*S	**Sn**	**03 55 53.0**	**-0.5**
MJB9	**Matsu-Tunnel**	**2.60**	**262**		**Pn**	**03 55 23.3**	**+1.8**
JHJ2	**Mitsune**	**4.04**	**199**	Pn	**Pn**	**03 55 44.0**	**+2.8**
JHJ	**Hachijo jima 2**	**4.04**	**200**	Pn	**Pn**	**03 55 43.6**	**+2.3**
JHJ	12nm,0.3s,baz=62,slow=9.1,SNR=1.7			Sn	**Sn**	**03 56 28.6**	**-0.4**
ERM	7.4nm,0.3s,baz=65,slow=15,SNR=1.4 **Erimo**	**5.24**	**14**	Pn	**Pn**	**03 55 58.9**	**+1.2**
ASAJ	**Asahikawa**	**7.22**	**7**	Pn	**Pn**	**03 56 27.4**	**+2.5**
ASAJ	0.9nm,0.3s,baz=207,slow=28,SNR=1.6			Sn	**Sn**	**03 57 48.5**	**+1.2**
JKA	0.5nm,0.3s,baz=290,slow=24,SNR=1.6 **Kamikawa-asahi**	**7.22**	**7**		**Pn**	**03 56 27.2**	**+2.3**
JKA					**Sn**	**03 57 47.2**	**0.0**
KSRS	**Korea Array**	**10.77**	**277**	Pn	**Pn**	**03 57 17.9**	**+4.4**
SSLB	0.1nm,0.3s,baz=93,slow=14,SNR=7.7 **Suanglung**	**21.93**	**239**	P	**P**	**03 59 31.4**	**-1.7**
ULN	**Ulaanbaatar**	**27.40**	**304**	P	**P**	**04 00 23.2**	**-2.0**
ULN	comp=Z,2.2nm,0.6s			IAmb	IAmb	04 00 25.7	
SONM	**Songino Array**	**27.83**	**304**	P	**P**	**04 00 29.6**	**+0.5**
SONM	comp=Z,0.5nm,0.5s,baz=101,slow=7.5,SNR=2.2 **Songino Array**	**27.83**	**304**	P	**P**	**04 00 28.6**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**28.11**	**121**	T	T	04 30 01.5	
H11N1	baz=314,slow=75,SNR=89 **WAKE ISLAND Hy**	**28.12**	**121**	T	T	04 30 02.7	
H11N3	baz=314,slow=75,SNR=152 **WAKE ISLAND Hy**	**28.13**	**121**	T	T	04 30 03.4	
H11S1	baz=314,slow=75,SNR=99 **WAKE ISLAND Hy**	**28.82**	**123**	T	T	04 30 54.9	
H11S3	baz=315,slow=76,SNR=48 **WAKE ISLAND Hy**	**28.82**	**123**	T	T	04 30 55.2	
H11S2	baz=315,slow=76,SNR=44 **WAKE ISLAND Hy**	**28.84**	**123**	T	T	04 30 55.8	
AMKA	baz=315,slow=76,SNR=33 **Amchitka**	**30.39**	**50**	P	**P**	**04 00 49.4**	**-2.2**
ZALV	**Zalesovo Beam**	**41.97**	**312**	P	**P**	**04 02 30.4**	**0.0**
ZALV	comp=Z,1.7nm,0.6s,baz=79,slow=7.7,SNR=8.2 **Zalesovo Beam**	**41.97**	**312**	P	**P**	**04 02 30.3**	**-0.2**
MK31	**Makanchi Array**	**44.16**	**302**	P	**P**	**04 02 48.5**	**+0.2**
MKAR	**Makanchi Array**	**44.16**	**302**	P	**P**	**04 02 48.9**	**+0.6**
MKAR	comp=Z,1.3nm,0.7s,baz=86,slow=11,SNR=13 **Makanchi Array**	**44.16**	**302**	P	**P**	**04 02 47.9**	**-0.4**
KURK	**Kurchatov**	**45.98**	**308**	P	**P**	**04 03 03.1**	**+0.4**
KURK	comp=Z,3.6nm,0.8s			IAmb	IAmb	04 03 03.9	
ILAR	**Eielson Array**	**49.57**	**32**	P	**P**	**04 03 31.6**	**+1.2**
ILAR	comp=Z,1.0nm,0.8s,baz=261,slow=5.8,SNR=5.0 **Eielson Array**	**49.57**	**32**	P	**P**	**04 03 31.2**	**+0.8**
WRA	**Warramunga Arr**	**56.97**	**188**	P	**P**	**04 04 25.5**	**+0.2**
WRA	comp=Z,0.8nm,0.7s,baz=7.3,slow=7.4,SNR=8.4 **Warramunga Arr**	**56.97**	**188**	P	**P**	**04 04 25.6**	**+0.3**
ABKAR	**Akbulak array**	**57.99**	**310**		**P**	**04 04 32.9**	**+0.7**
ASAR	**Alice Springs**	**60.70**	**188**	P	**P**	**04 04 52.0**	**+0.8**
AKASG	comp=Z,0.5nm,0.7s,baz=356,slow=6.4,SNR=4.4 **Malin Array Be**	**74.36**	**322**	P	**P**	**04 06 18.2**	**+0.9**
PDAR	comp=Z,0.2nm,0.3s,baz=45,slow=6.9,SNR=2.1 **Pinedale Array**	**77.73**	**45**	P	**P**	**04 06 39.1**	**+2.1**
PDAR	comp=Z,0.5nm,0.6s,baz=291,slow=4.1,SNR=3.0 **Pinedale Array**	**77.73**	**45**	P	**P**	**04 06 36.4**	**-0.6**
ESDC	**Sonseca Array**	**97.36**	**334**	P	Pdif	04 08 14.2	+0.8
LPAZ	comp=Z,0.5nm,1.1s,baz=184,slow=40,SNR=1.9 **La Paz**	**146.74**	**60**	PKPbc	**PKiKP**	**04 14 25.2**	**-0.6**
LPAZ	comp=Z,0.8nm,0.7s,baz=121,slow=3.1,SNR=3.7 **La Paz**	**146.74**	**60**	PKPdf	**PKPdf**	**04 14 20.2**	**-1.2**
H03N2	**Juan Fernandez**	**147.02**	**96**	T	T	06 58 45.2	
H03N3	baz=291,slow=76,SNR=22 **Juan Fernandez**	**147.03**	**96**	T	T	06 58 46.6	
H03N1	baz=291,slow=76,SNR=25 **Juan Fernandez**	**147.04**	**96**	T	T	06 58 46.4	
	baz=291,slow=76,SNR=22						

IDC ***12*** *04:04:50.3±8.4, 35.61N×20.45E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.4/45, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=152.1km s-min=58.8km az=50.0*
ATH ***12*** *04:05:08.0, 36.91N×21.48E, h39km±1km, ML2.9/11, Error ellipse: s-maj=2.6km s-min=1.2km az=54.0*
THE ***12*** *04:05:10.6, 36.99N×21.52E, h28km, ML2.9/6, Error ellipse: s-maj=2.0km s-min=1.0km az=249.0*
ISC 12 04:05:07.7±1.1, 36.91N±0.04×21.41E±0.04, h34km±2km, n56, σ1§17/70, mb3.6/3, 5C-1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PYL	**PYLOS**	**0.27**	**94**	P		**Pn**	**04 05 15.6**	**+0.7**
PYL				S		**Sb**	**04 05 21.5**	**+1.2**
	7μm,0.2s							
PYL	**PYLOS**	**0.27**	**94**	P		**Pn**	**04 05 15.6**	**+0.7**
PYL				S		**Sb**	**04 05 20.6**	**+0.3**
PYL				AML		AML	04 05 21.9	
	comp=E,19738μm,0.3s							
PYL				AML		AML	04 05 22.4	
	comp=N,8359μm,0.2s							
ITM	**Ithomi**	**0.49**	**57**	P		**Pb**	**04 05 18.6**	**+0.3**
ITM				S		**Sb**	**04 05 25.6**	**0.0**
	comp=N,5μm,0.5s							
ITM	**Ithomi**	**0.49**	**57**	P		**Pb**	**04 05 18.5**	**+0.3**
ITM				S		**Sn**	**04 05 26.4**	**+0.6**
ITM				AML		AML	04 05 27.0	
	comp=N,7855μm,0.4s							
ITM				AML		AML	04 05 28.6	
	comp=E,13123μm,0.6s							
AMT	**Artemida-Makis**	**0.66**	**21**	P		**Pn**	**04 05 21.4**	**+0.7**
AMT				S		**Sn**	**04 05 30.4**	**+0.5**
	comp=E,2μm,0.6s							
AMT	**Artemida-Makis**	**0.66**	**21**	P		**Pn**	**04 05 21.5**	**+0.7**
AMT				S		**Sb**	**04 05 32.0**	**+1.9**
AMT				AML		AML	04 05 34.2	
	comp=E,2880μm,0.4s							
AMT				AML		AML	04 05 40.3	
	comp=N,3133μm,0.4s							
VLX	**Vlachokerasia**	**0.90**	**59**	P		**Pn**	**04 05 24.3**	**+0.2**
VLX	**Vlachokerasia**	**0.90**	**59**	P		**Pn**	**04 05 24.5**	**+0.5**
TRIP	**Tripoli**	**0.92**	**48**	P		**Pn**	**04 05 24.9**	**+0.6**
TRIP				S		**Sn**	**04 05 36.2**	**-0.2**
	comp=N,598nm,0.7s							
TRIP	**Tripoli**	**0.92**	**48**	P		**Pn**	**04 05 25.2**	**+0.8**
TRIP				S		**Sn**	**04 05 37.2**	**+0.7**
TRIP				AML		AML	04 05 44.2	
	comp=N,1098μm,0.4s							
TRIP				AML		AML	04 05 44.4	
	comp=E,1202μm,0.5s							
DRO	**Drossia**	**1.06**	**13**	P		**Pb**	**04 05 27.9**	**+0.2**
DRO	**Drossia**	**1.06**	**13**	P		**Pb**	**04 05 27.9**	**+0.2**
DRO				AML		AML	04 05 52.5	
	comp=E,1000μm,0.5s							
DRO				AML		AML	04 05 54.4	
	comp=N,1848μm,0.4s							
VLMS	**Volimes, Zakyn**	**1.13**	**329**	P		**Pn**	**04 05 28.4**	**+1.3**
VLMS				AML		AML	04 05 59.5	
	comp=E,847μm,0.4s							
VLMS				AML		AML	04 06 00.7	
	comp=N,1278μm,0.4s							
RLS	**Riolos of Patr**	**1.14**	**2**	P		**Pb**	**04 05 29.4**	**+0.4**
RLS	**Riolos of Patr**	**1.14**	**2**	P		**Pb**	**04 05 29.2**	**+0.2**
RLS				AML		AML	04 05 53.1	
	comp=N,754μm,0.4s							
RLS				AML		AML	04 05 57.9	
	comp=E,677μm,0.5s							
VLI	**Veliai**	**1.24**	**99**	P		**Pb**	**04 05 30.8**	**+0.1**
VLI				S		**Sn**	**04 05 46.0**	**+1.8**
	comp=E,335nm,0.4s							
VLI	**Veliai**	**1.24**	**99**	P		**Pb**	**04 05 30.8**	**+0.1**
VLI				S		**Sb**	**04 05 46.7**	**+0.3**
VLI				AML		AML	04 05 53.6	
	comp=N,731μm,0.6s							
VLI				AML		AML	04 05 55.4	
	comp=E,1324μm,0.5s							
GUR	**Goura**	**1.26**	**36**	P		**Pn**	**04 05 30.4**	**+1.3**
AXS	**Araxos**	**1.28**	**359**	P		**Pb**	**04 05 31.5**	**+0.2**
MNVA	**Monemvasia**	**1.33**	**99**	P		**Pn**	**04 05 31.4**	**+1.6**
VLS	**Valsamata**	**1.42**	**333**	P		**Pn**	**04 05 32.5**	**+1.4**
KTHA	**Kythira Island**	**1.48**	**116**	P		**Pb**	**04 05 34.7**	**0.0**
KTHA				S		**Sb**	**04 05 52.7**	**-0.6**
	comp=E,288nm,0.5s							
KTHA	**Kythira Island**	**1.48**	**116**	P		**Pn**	**04 05 34.2**	**+2.2**
KTHA				AML		AML	04 06 02.0	
	comp=E,650μm,0.4s							
KTHA				AML		AML	04 06 07.0	
	comp=N,511μm,0.5s							
TRIZ	**Trizonia**	**1.54**	**20**	P		**Pb**	**04 05 35.5**	**-0.2**
DID	**Didima**	**1.58**	**67**	P		**Pn**	**04 05 34.4**	**+1.1**
DID				AML		AML	04 06 04.3	
	comp=N,603μm,0.5s							
DID				AML		AML	04 06 06.8	
	comp=E,427μm,0.6s							
SERG	**Sergoula**	**1.58**	**19**	P		**Pb**	**04 05 35.9**	**-0.5**
LTK	**Loutraki**	**1.66**	**48**	P		**Pn**	**04 05 35.8**	**+1.4**
FSK	**Fiskardo**	**1.68**	**337**	P		**Pb**	**04 05 37.5**	**-0.5**
PVO	**Paravola**	**1.70**	**3**	P		**Pb**	**04 05 38.0**	**-0.5**
ANX	**Ano Chora**	**1.73**	**13**	P		**Pn**	**04 05 37.8**	**+2.4**
ANKY	**Antikythira Is**	**1.85**	**124**	P		**Pn**	**04 05 39.2**	**+2.2**
ANKY	**Antikythira Is**	**1.85**	**124**	P		**Pn**	**04 05 38.6**	**+1.6**
ANKY				AML		AML	04 06 02.0	
	comp=E,379μm,0.5s							
ANKY				AML		AML	04 06 02.6	
	comp=N,292μm,0.5s							
VIL2	**Platees**	**1.97**	**48**	P		**Pn**	**04 05 39.2**	**+0.6**
TSLK	**Tsoukalades, L**	**2.00**	**343**	P		**Pb**	**04 05 42.1**	**-1.4**
VLY	**Voula,Athens**	**2.12**	**63**	P		**Pn**	**04 05 41.0**	**+0.2**
AGG	**Agios Georgios**	**2.23**	**19**	P		**Pn**	**04 05 44.6**	**+2.3**
PTL	**Penteli**	**2.26**	**59**	P		**Pn**	**04 05 43.5**	**+0.8**
DION	**Dionisos Attik**	**2.32**	**59**	P		**Pn**	**04 05 44.1**	**+0.5**
MHLO	**Agia Marina, M**	**2.41**	**94**	P		**Pn**	**04 05 45.1**	**+0.3**
THL	**Klokotos Trika**	**2.69**	**10**	P		**Pn**	**04 05 50.6**	**+2.1**
KYMI	**Kymi, Euboea I**	**2.74**	**50**	P		**Pn**	**04 05 49.8**	**+0.5**
IGT	**Igoumenitsa**	**2.75**	**342**	P		**Pn**	**04 05 51.1**	**+1.7**
NEO	**Neokhori**	**2.79**	**30**	P		**Pn**	**04 05 51.1**	**+1.2**
XOR	**Xorichti**	**2.82**	**29**	P		**Pn**	**04 05 51.6**	**+1.2**
KPRO	**Kipourio**	**3.04**	**359**	P		**Pn**	**04 05 56.1**	**+2.7**
IOSP	**Ios island**	**3.12**	**92**	P		**Pn**	**04 05 55.1**	**+0.6**
IDI	**Anoyia**	**3.25**	**119**	P		**Pn**	**04 05 57.0**	**+0.6**
IDI	**Anoyia**	**3.25**	**119**	⇑P		**Pb**	**04 06 04.2**	**-0.6**
IDI				⇑S		**Sn**	**04 06 35.3**	**+1.3**
APE	**Apeiranthos**	**3.31**	**86**	P		**Pn**	**04 05 57.3**	**+0.3**
LAST	**Lasithi**	**3.73**	**117**	P		**Pn**	**04 06 03.6**	**+0.6**
TIP	**Timpagrande**	**4.31**	**303**	⇑P		**Pn**	**04 06 12.0**	**+1.1**
TIP				⇑S		**Sn**	**04 07 02.5**	**+2.5**
MATE	**Matera**	**5.24**	**317**	⇓P		**Pn**	**04 06 23.0**	**-0.5**
MATE				⇑S		**Sn**	**04 07 20.4**	**-2.3**
AKASG	**Malin Array Be**	**14.88**	**20**	Pn		**P**	**04 08 39.7**	**-1.0**
	comp=N,1.1nm,0.3s,baz=205,slow=8.1,SNR=4.2							
FINES	**FINESS Array B**	**24.73**	**5**	P		**P**	**04 10 25.4**	**-0.1**
	comp=N,2.4nm,0.9s,baz=177,slow=11,SNR=5.2							
KURBB	**Kurchatov Arra**	**42.43**	**52**	P		**P**	**04 12 57.6**	**-1.3**
	comp=N,0.6nm,0.5s,baz=276,slow=8.7,SNR=5.9							
MKAR	**Makanchi Array**	**45.37**	**57**	P		**P**	**04 13 21.2**	**-1.5**
	comp=N,0.3nm,0.4s,baz=272,slow=7.3,SNR=6.7							

BJI ***12*** *04:10:41.9±0.0, 55.40N×110.57E, h8km, mB4.5/18, mb4.4/20, Ms4.5/22, Ms7 4.2/21*
MOS ***12*** *04:10:44.4±1.0, 54.99N×110.24E, h7km, mb4.7/30, MS4.1/13, Error ellipse: s-maj=5.8km s-min=4.4km az=84.1*
MOS Felt (III) at Goudzhekit, Kichera, Severobaykal'sk.
IDC ***12*** *04:10:45.9±0.5, 55.02N×110.17E, h0km, mb4.2/20, mb1 4.4/27, mb1mx4.3/55, mbtmp4.3/27, ML4.1/7, MS3.7/15, Ms1 3.7/15, ms1mx3.5/32, Error ellipse: s-maj=12.2km s-min=10.8km az=155.0*
BYKL ***12*** *04:10:46.6±0.2, 54.97N×110.35E, Mw4.7/11(IEC), #STATIONS AAK ARU CHTO ENH ERM INCN KEV MAJO PET SSE WMQ FELT I=III-IV MSK at Ulyunkhan*
NEIC ***12*** *04:10:48.8±1.8, 54.90N±0.07×110.3E±0.1, h28km±5km, mb4.6/85, Error ellipse: s-maj=11.1km s-min=9.3km az=144.0*
ISC 12 04:10:48.8±0.9, 54.98N±0.02×110.32E±0.02, h27km±7km, n318, σ1§86/339, mb4.6/99, MS3.8/26, 32C-17D, Lake Baykal region

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

YLYR	**Ulyunkhan**	**0.50**	**102**	⇑*i*	Pg	**Pb**	**04 10 55.3**	**-3.9**
YLYR				*e*	Sg	**Sb**	**04 11 02.0**	**-4.1**
YLYR	**Ulyunkhan**	**0.50**	**102**	⇑*i*	PG	**Pb**	**04 10 55.2**	**-3.9**
YLYR				*e*	S	**Sb**	**04 11 02.2**	**-3.9**
NIZ	**Nizh Angarsk**	**0.91**	**331**	⇑*i*	Pg	**Pn**	**04 11 03.3**	**-2.5**
NIZ					Pmax		04 11 13.3	
	2μm,0.5s							
NIZ				*e*	Sg	**Sn**	**04 11 15.6**	**-2.5**
NIZ					Smax		04 11 16.6	
	15μm,0.1s							
NIZ				*e*	Sb	**Sb**	**04 11 20.0**	**+2.3**
NIZ	**Nizh Angarsk**	**0.91**	**331**	⇓*i*	PG	**Pn**	**04 11 03.5**	**-2.3**
NIZ				*e*			04 11 15.7	
NIZ					pmax	pmax		
	comp=Z,821nm,0.2s							
NIZ					smax	smax		
	comp=N,28μm,1.0s							
KMO	**Kumora**	**1.04**	**29**	⇑*i*	Pg	**Pn**	**04 11 04.5**	**-3.0**
KMO				*e*	Pb	**Pb**	**04 11 06.0**	**-2.1**
KMO					max		04 11 08.5	
	comp=N,2μm,0.6s							
KMO				*e*	Sg	**Sn**	**04 11 19.1**	**-2.1**
KMO					Smax		04 11 33.6	
	comp=N,14μm,1.1s							
KMO	**Kumora**	**1.04**	**29**	⇑*i*	PG	**Pn**	**04 11 04.6**	**-3.0**
KMO				*e*			04 11 18.1	
KMO					pmax	pmax		
	comp=Z,478nm,0.4s							
KMO					smax	smax		
	comp=N,4μm,0.9s							
SYVR	**Suvo**	**1.34**	**188**	⇓*i*	Pg	**Pn**	**04 11 10.7**	**-1.0**
SYVR				*e*	Pb	**Pb**	**04 11 12.4**	**-0.8**
SYVR					max		04 11 12.8	
	comp=N,6μm,0.3s							
SYVR				*e*			04 11 15.9	
SYVR				*e*	Sg	**Sb**	**04 11 28.8**	**-1.2**
SYVR					Smax		04 11 33.3	
	comp=N,34μm,0.6s							
SYVR	**Suvo**	**1.34**	**188**	⇓*i*	PG	**Pn**	**04 11 10.6**	**-1.1**
SYVR				*e*			04 11 29.4	
SYVR					pmax	pmax		
	comp=Z,6μm,0.7s							
SYVR					smax	smax		
	comp=N,5μm,0.4s							
YOA	**Uoyan**	**1.40**	**34**	*e*	Pg	**Pn**	**04 11 12.2**	**-0.4**
YOA					Pmax		04 11 18.8	
	comp=N,5μm,0.5s							
YOA				*e*	Sg	**Sn**	**04 11 30.9**	**+0.7**
YOA					Smax		04 11 43.4	
	comp=N,34μm,0.6s							
YOA	**Uoyan**	**1.40**	**34**	*e*	PG	**Pn**	**04 11 11.8**	**-0.8**
YOA				*i*			04 11 32.0	
YOA					pmax	pmax		
	comp=Z,780nm,0.2s							
YOA					smax	smax		
	comp=N,34μm,0.6s							
UKT	**Uakit**	**1.96**	**74**	⇑*i*	Pg	**Pn**	**04 11 21.3**	**+0.9**
UKT					Pmax		04 11 25.5	
	comp=N,5μm,1.1s							
UKT				*i*	Sg	**Sb**	**04 11 47.8**	**-0.2**
UKT					Smax		04 11 48.2	
	comp=N,16μm,0.7s							
UKT	**Uakit**	**1.96**	**74**	⇑*i*	PN	**Pn**	**04 11 21.3**	**+0.9**
UKT				*e*			04 11 47.2	
UKT					pmax	pmax		
	comp=Z,4μm,0.6s							
UKT					smax	smax		
	comp=N,20μm,0.9s							
OGRR	**Ongureny**	**2.08**	**231**	⇓*i*		**Pb**	**04 11 24.1**	**-1.8**
	comp=N,1μm,1.3s							
OGRR				⇓*i*			04 11 24.1	
	comp=N,1μm,1.3s							
OGRR				⇑*i*			04 11 24.1	
	comp=N,1μm,1.3s							
OGRR					max		04 11 29.4	
	comp=N,3μm,0.9s							
OGRR				*e*	Sg	**Sb**	**04 11 51.7**	**+0.4**
OGRR					Smax		04 11 53.5	
	comp=N,8μm,0.4s							
OGRR	**Ongureny**	**2.08**	**231**	⇑*i*	PN	**Pb**	**04 11 24.2**	**-1.7**
OGRR				*e*			04 11 51.7	
OGRR					pmax	pmax		
	comp=Z,3μm,1.1s							
OGRR					smax	smax		
	comp=N,2μm,1.3s							
SVKR	**Severomuysk**	**2.17**	**57**	*e*	PN	**Pn**	**04 11 25.3**	**+2.2**
SVKR				*e*			04 11 54.3	
SVKR					pmax	pmax		
	comp=Z,6μm,1.3s							
SVKR					smax	smax		
	comp=N,3μm,1.2s							
KELR	**Kotokel**	**2.59**	**212**	*e*	Pn	**Pn**	**04 11 29.4**	**+0.5**
KELR				*e*	Pg	**Pb**	**04 11 33.2**	**-1.3**
KELR				*e*			04 11 54.7	
KELR				*e*			04 11 57.2	
KELR				*e*			04 12 02.2	
KELR				*e*	Sg	**Sb**	**04 12 07.6**	**+1.7**
TRG	**Tyrgan**	**3.24**	**228**	*e*	Pn	**Pn**	**04 11 37.5**	**-0.3**
TRG				⇑*i*			04 11 38.6	
TRG				*e*	Pg	**Pb**	**04 11 44.2**	**-1.3**
TRG					Pmax		04 11 48.5	
	comp=N,772nm,1.0s							
TRG				*e*			04 12 18.4	
TRG				*e*	Sg	**Sb**	**04 12 25.9**	**+1.4**
TRG					Smax		04 12 38.2	
	comp=N,3μm,0.8s							
TRG	**Tyrgan**	**3.24**	**228**	⇑*i*	PN	**Pn**	**04 11 38.7**	**+0.9**
TRG				*e*			04 11 44.3	
TRG				*e*			04 12 25.9	
TRG					pmax	pmax		
	comp=Z,469nm,0.6s							
TRG					smax	smax		
	comp=N,2μm,0.3s							
NLYR	**Nelyaty**	**3.40**	**61**	⇓*i*	Pn	**Pn**	**04 11 40.4**	**+0.3**
NLYR				*e*			04 11 41.4	
NLYR				*e*	Pg	**Pb**	**04 11 46.4**	**-1.9**
NLYR				*e*	PgPg	**PnPn**	**04 11 48.7**	**+1.5**
NLYR					max		04 11 53.8	
	comp=N,1μm,0.6s							
NLYR				*e*			04 12 17.3	
NLYR				*e*	Sg	**Sb**	**04 12 31.8**	**+2.6**
NLYR					Smax		04 12 33.6	
	comp=N,11μm,1.1s							
NLYR				*e*			04 12 47.2	
NLYR	**Nelyaty**	**3.40**	**61**	*e*	PN	**Pn**	**04 11 40.6**	**+0.5**
NLYR				*e*			04 11 45.9	
NLYR				*e*			04 12 30.7	
NLYR					pmax	pmax		
	comp=Z,1μm,1.2s							
NLYR					smax	smax		
	comp=N,11μm,1.1s							
UUDB	**Ulan-Yde**	**3.50**	**208**	⇑*i*	Pn	**Pn**	**04 11 42.5**	**+1.0**
UUDB				*e*			04 11 45.6	
UUDB				*e*	Pg	**Pb**	**04 11 49.8**	**-0.2**
UUDB					Pmax		04 12 00.4	
	comp=N,616nm,0.5s							
UUDB				*e*	Sg	**Sb**	**04 12 35.9**	**+3.8**
UUDB					Smax		04 12 46.3	
	comp=N,5μm,1.2s							
BOD	**Bodaibo**	**3.50**	**34**	*e*	Pn	**Pn**	**04 11 41.6**	**+0.1**
BOD				*e*			04 11 45.4	
BOD					max		04 12 03.7	
	comp=N,342nm,0.6s							
BOD				*e*			04 12 16.0	
BOD				*e*			04 12 33.9	
BOD				*e*	Sg	**Sb**	**04 12 35.1**	**+3.0**
BOD					Smax		04 12 49.8	
	comp=N,2μm,1.2s							
BOD	**Bodaibo**	**3.50**	**34**	*e*	PN	**Pn**	**04 11 41.5**	**+0.1**
BOD				*e*			04 11 50.0	
BOD				*e*			04 12 33.3	
BOD					pmax	pmax		
	comp=Z,340nm,0.7s							
BOD					smax	smax		
	comp=N,2μm,1.2s							
CIT	**Chita**	**3.54**	**146**	*e*	Pg	**Pb**	**04 11 49.7**	**-1.0**
CIT					Pmax		04 11 53.4	
	comp=N,1μm,0.8s							
CIT				*e*			04 12 12.7	
CIT				*e*	Sg	**Sb**	**04 12 35.2**	**+2.0**
CIT				*e*			04 12 43.2	
CIT					max		04 12 44.6	
	comp=N,6μm,0.9s							
CIT	**Chita**	**3.54**	**146**	*e*	PN	**Pn**	**04 11 40.9**	**-1.1**
CIT				*e*			04 11 49.7	
CIT				*e*	S	**Sn**	**04 12 23.3**	**+0.3**
CIT				*e*			04 12 34.9	
CIT					pmax	pmax		
	comp=Z,1μm,1.1s							
CIT					smax	smax		
	comp=E,6μm,0.8s							
FFNB	**Fofonovo**	**3.62**	**217**	⇓*i*	Pn	**Pn**	**04 11 44.0**	**+0.9**
FFNB					Pg	**Pb**	**04 11 51.3**	**-0.8**
FFNB				*e*			04 12 13.5	
FFNB				*e*	Sg	**Sb**	**04 12 37.7**	**+2.1**
FFNB				*e*			04 12 45.0	
KAB	**Kabansk**	**3.66**	**218**	*e*		**Pb**	**04 11 49.2**	**-3.6**
KAB					Pg	Pn	04 11 51.2	+7.6
KAB					Pmax		04 11 59.2	
	comp=E,715nm,0.6s							
KAB				*e*			04 12 22.1	
KAB				*e*	Sg	**Sb**	**04 12 38.7**	**+2.0**
KAB				*e*			04 12 42.8	
KAB					max		04 13 07.3	
	comp=E,10μm,1.4s							
KAB	**Kabansk**	**3.66**	**218**	*e*	PN	**Pb**	**04 11 52.0**	**-0.8**
STDB	**Stepnoy Dvoret**	**3.67**	**221**	*e*	Pn	**Pn**	**04 11 44.2**	**+0.4**
STDB				*e*			04 11 48.3	
STDB				*e*	Pg	**Pb**	**04 11 53.4**	**+0.5**
STDB				*e*			04 12 28.9	
STDB				*e*	Sg	**Sb**	**04 12 40.4**	**+3.4**
BGT	**Bolshoye Golou**	**4.15**	**227**	*e*	Pn	**Pn**	**04 11 50.5**	**+0.1**
BGT				*e*	Pg	**Pb**	**04 11 59.9**	**-1.2**
BGT					Pmax		04 12 02.9	
	comp=E,367nm,0.8s							
BGT				*e*			04 12 28.5	
BGT					Sg	**Sb**	**04 12 55.8**	**+5.0**
BGT				*e*			04 13 01.1	
BGT					max		04 13 03.2	
	comp=E,3μm,0.8s							
IRK	**Irkutsk**	**4.53**	**235**	*e*	Pn	**Pn**	**04 11 55.8**	**+0.3**
IRK				*e*	Pg	**Pb**	**04 12 08.1**	**+0.6**
IRK					Pmax		04 12 13.6	
	comp=E,355nm,0.3s							
IRK				*e*			04 12 31.0	
IRK				*e*	Sg	**Sb**	**04 13 07.5**	**+6.0**
IRK					Smax		04 13 08.8	
	comp=E,5μm,1.2s							
IRK	**Irkutsk**	**4.53**	**235**	*e*	PN	**Pn**	**04 11 55.4**	**-0.1**
IRK				*e*			04 12 08.5	
IRK				*e*	S	**Sn**	**04 12 51.2**	**+4.0**
IRK				*e*			04 13 07.2	
IRK					pmax	pmax		
	comp=Z,565nm,0.4s							
IRK					smax	smax		
	comp=N,5μm,1.4s							
LSTR	**Listvyanka**	**4.53**	**229**	⇑*i*	Pn	**Pn**	**04 11 55.6**	**+0.1**
LSTR				*e*			04 12 01.3	
LSTR				*e*	Pg	**Pb**	**04 12 09.1**	**+1.6**
LSTR					Pmax		04 12 11.6	
	comp=N,198nm,0.7s							
LSTR				*e*	Sn	**Sn**	**04 12 47.7**	**+0.5**
LSTR				*e*	Sg	**Sb**	**04 13 07.2**	**+5.7**
LSTR					Smax		04 13 11.2	
	comp=N,4μm,2.1s							
IVK	**Ivanovka**	**4.76**	**230**	*e*	Pn	**Pn**	**04 11 58.7**	**0.0**
IVK				*e*			04 12 00.4	
IVK				*e*	Pg	**Pb**	**04 12 13.1**	**+1.7**
IVK					Pmax		04 12 24.2	
	comp=N,177nm,1.3s							
IVK				*e*	Sn	**Sn**	**04 12 52.2**	**-0.7**
IVK				*e*			04 13 09.0	
IVK				*e*	Sg	**Sb**	**04 13 14.2**	**+6.1**
IVK					Smax		04 13 15.3	
	comp=N,3μm,2.0s							
CRS	**Chara**	**4.87**	**63**	*e*	Pn	**Pn**	**04 12 00.8**	**+0.6**
CRS				*e*	Pg	**Pb**	**04 12 13.0**	**-0.3**
CRS					Pmax		04 12 19.0	
	comp=N,1μm,1.2s							
CRS				*e*			04 13 13.8	
CRS				*e*	Sg	**Sb**	**04 13 17.6**	**+6.3**
CRS					Smax		04 13 19.3	
	comp=N,5μm,1.4s							
TLY	**Talaya**	**5.19**	**233**		Pn	**Pn**	**04 12 04.6**	**0.0**
	comp=N,0.2nm,0.3s,baz=41,slow=9.5,SNR=33							
TLY					Pg	**Pb**	**04 12 20.3**	**+1.5**
	comp=N,0.3nm,0.3s,baz=41,slow=3.6,SNR=8.5							
TLY					Lg	Lg	04 13 24.9	
	comp=N,1.0nm,0.3s,baz=214,slow=19,SNR=5.2							
TLY					LR	LR	04 14 16.3	
	comp=N,864nm,19.0s,baz=44,slow=41							
TLY	**Talaya**	**5.19**	**233**	*e*	Pn	**Pn**	**04 12 04.2**	**-0.4**
TLY				*e*	Pg	**Pb**	**04 12 19.2**	**+0.5**
TLY					Pmax		04 12 22.4	
	comp=N,389nm,0.7s							
TLY				*e*			04 13 21.9	
TLY				*e*	Sg	**Sb**	**04 13 26.0**	**+5.5**
TLY					Smax		04 13 28.6	
	comp=N,2μm,0.9s							
TLY	**Talaya**	**5.19**	**233**	*e*	PN	**Pn**	**04 12 04.2**	**-0.4**
TLY				*e*			04 12 20.5	
TLY				*e*			04 13 26.0	
TLY					pmax	pmax		
	comp=Z,780nm,0.4s							
TLY	**Talaya**	**5.19**	**233**		Pn	**Pn**	**04 12 03.6**	**-1.0**
KPC	**Khapcheranga**	**5.44**	**166**	⇓*i*	Pn	**Pn**	**04 12 06.7**	**-1.4**
KPC				*e*			04 12 15.9	
KPC				*e*	Pg	**Pb**	**04 12 23.8**	**+0.8**
KPC					Pmax		04 12 29.3	
	comp=Z,196nm,0.7s							
KPC				*e*			04 13 17.4	
KPC				*e*	Sg	Sb	04 13 35.5	+7.8
KPC					Smax		04 13 40.8	
	comp=Z,2μm,0.9s							
KPC	**Khapcheranga**	**5.44**	**166**	*e*	PN	**Pn**	**04 12 06.9**	**-1.2**
KPC				*e*			04 12 21.2	
KPC				*e*			04 13 33.2	
KPC					pmax	pmax		
	comp=Z,194nm,0.7s							
KPC					smax	smax		
	comp=E,2μm,0.9s							
TUP	**Tupik**	**5.62**	**92**	⇓*i*	Pn	**Pn**	**04 12 09.7**	**-0.8**
TUP				*e*	Pg	**Pb**	**04 12 26.7**	**+0.7**
TUP					Pmax		04 12 30.6	
	comp=E,252nm,1.4s							
TUP				*e*	Sn	**Sn**	**04 13 12.6**	**-1.5**
TUP				*e*	Sg	**Sb**	**04 13 40.5**	**+7.6**
TUP					Smax		04 14 00.1	
	comp=E,4μm,1.0s							
TUP	**Tupik**	**5.62**	**92**	*e*	PN	**Pn**	**04 12 09.8**	**-0.8**
TUP				*e*			04 12 26.6	
TUP				*e*	S	**Sn**	**04 13 14.1**	**0.0**
TUP				*e*			04 13 40.2	
TUP					pmax	pmax		
	comp=Z,247nm,0.6s							
TUP					smax	smax		
	comp=N,5μm,0.9s							
KHNR	**Khani**	**5.77**	**66**	*e*	Sg	**Sb**	**04 13 44.8**	**+7.6**
ZAK	**Zakamensk**	**6.29**	**226**	*e*	PN	**Pn**	**04 12 20.7**	**+0.9**
ZAK				*e*			04 12 38.4	
ZAK				*e*			04 14 00.6	
ZAK					pmax	pmax		
	comp=Z,97nm,0.8s							
ZAK					smax	smax		

ORL e 04 12 41.2
ORL e 04 13 34.3
ORL e 04 13 42.7
ORL eSg Sb 04 14 14.5 +11
ORL Smax 04 14 17.6
comp=E,914nm,1.4s
ORL Orlik 6.69 253⇑ *i* PN **Pn** **04 12 26.3 +0.9**
ORL e 04 12 47.5
ORL e 04 14 15.0
ORL pmax pmax
comp=Z,520nm,1.1s
ORL smax smax
comp=N,999nm,1.7s
ULN Ulaanbaatar 7.41 197 *ce* PN **Pn** **04 12 36.8 +1.5**
ULN pmax pmax
comp=Z,10.0nm,0.7s
ULN Ulaanbaatar 7.41 197 Pn Pn **04 12 34.2 -1.1**
SONM Songino Array 7.56 200 Pn Pn **04 12 38.5 +1.2**
comp=Z,5.8nm,0.3s,baz=33,slow=12,SNR=43
SONM Sn **Sn** **04 14 01.4 -0.8**
comp=Z,6.2nm,0.3s,baz=17,slow=26,SNR=7.8
SONM Lg Lg 04 14 44.4
comp=Z,11nm,0.3s,baz=18,slow=25,SNR=3.9
SONM Songino Array 7.56 200 Pn **Pn** **04 12 36.2 -1.1**
HIA Hailar 8.14 131 PN **Pn** **04 12 42.9 -2.3**
HIA Hailar 8.14 131 Pn **Pn** **04 12 42.9 -2.3**
IENR Iengra 8.33 75 *e* Pn **Pn** **04 12 47.2 -0.5**
IENR *e* Pg **Pb** **04 13 15.2 +3.0**
IENR *e* 04 14 36.6
IENR *e* Sg Sb 04 15 03.5 +13
CLNS Chul'man 8.40 71 *e* 04 14 53.9
CLNS eSg Sb 04 15 07.1 +14
TDJR Todzha 8.82 259⇓ *i* Pn **Pn** **04 12 55.0 +0.5**
TDJR ⇑ *i* 04 13 02.0
TDJR Pg 04 13 25.7
TDJR *e* 04 14 46.8
TDJR eSg Sn 04 15 21.2 +48
KRAR Krasnoyarsk 9.95 283 *i* P **Pn** **04 13 05.9 -3.9**
ZEA Zeya 9.96 90 *e* P **Pn** **04 13 10.1 +0.1**
ZEA eS **Sn** **04 14 56.7 -4.1**
ZEA pmax pmax
comp=E,52nm,0.8s
ZEA pmax pmax
comp=Z,55nm,1.0s
ZEA smax smax
comp=E,60nm,0.7s
ZEA MLR MLR
comp=Z,3μm,6.0s
ZEA MLR MLR
comp=E,3μm,7.0s
ZEA MLR MLR
comp=N,2μm,4.0s
YAK Yakutsk 12.31 47 *i* P **Pn** **04 13 40.7 -1.3**
KLR Kul'dur 14.35 105 Pn **Pn** **04 14 09.3 -0.6**
comp=N,0.4nm,0.3s,baz=299,slow=13,SNR=7.8
KLR Lg Lg 04 18 19.5
comp=N,2.1nm,0.3s,baz=350,slow=10,SNR=7.3
KLR LR LR 04 20 17.3
comp=N,330nm,19.3s,baz=295,slow=40
KLR Kul'dur 14.35 105 *ce* P **Pn** **04 14 10.1 +0.2**
ZAA0 Zalesovo Array 14.84 276 Pn **Pn** **04 14 15.9 -0.6**
ZALV Zalesovo Beam 14.84 276 Pn **Pn** **04 14 15.5 -1.0**
comp=N,3.0nm,0.3s,baz=75,slow=10.0,SNR=333
ZALV Lg Lg 04 18 28.5
baz=92,slow=25,SNR=2.5
ZALV Zalesovo Beam 14.84 276 *i* P **Pn** **04 14 15.8 -0.7**
ZALV pmax pmax
comp=Z,143nm,0.8s
ZALV Zalesovo Beam 14.84 276 Pn **Pn** **04 14 15.9 -0.7**
CN2 Changchun 14.87 133 *e* P Pn 04 14 09.9 -7.1
CN2 LR LR
comp=N,920nm,9.8s
CN2 LR LR
comp=E,750nm,7.6s
DGZ Jazzator, Alta 14.92 259 *i* P **Pn** **04 14 17.6 -0.3**
MDJ Mudanjiang 16.14 122 Pn **Pn** **04 14 31.9 -1.7**
GTA Gaotai 17.10 209 *e* P **P** **04 14 48.0 +0.6**
GTA pP pP 04 14 52.0 -3.2
GTA sP sP 04 14 55.1 -3.7
GTA LR LR
comp=E,550nm,12.4s
GTA LR LR
comp=E,1μm,12.1s
GTA LR LR
comp=E,640nm,10.5s
ZSN Zaisan 17.56 255 *i* P **Pn** **04 14 49.9 -1.6**
baz=255
ZSN LR LR 04 20 54.6
comp=E,315nm,10.0s,baz=255
ZSN Zaisan 17.56 255 *i* P **Pn** **04 14 49.9 -1.6**
ZSN MLR MLR
comp=Z,315nm,10.0s
USA0B Ussuriysk Arra 17.64 119 *i* P **P** **04 14 56.6 +3.5**
USRK Ussuriysk Ar. 17.64 119 P **P** **04 14 54.7 +1.6**
baz=319,slow=8.4,SNR=7.6
USRK Lg Lg 04 19 58.6
baz=311,slow=26,SNR=9.0
USRK LR LR 04 22 19.7
comp=Z,256nm,19.2s,baz=305,slow=39
USRK Ussuriysk Ar. 17.64 119 **Pn** **04 14 51.3 -1.1**
NRIK Noril'sk 17.71 333 P **Pn** **04 14 51.9 -1.2**
comp=Z,1.4nm,0.3s,baz=132,slow=20,SNR=6.3
NRIK Noril'sk 17.71 333⇑ *e* P **Pn** **04 14 50.5 -2.6**
WMQ Urumqi 18.39 242 P **P** **04 14 59.8 -1.7**
WMQ pmax pmax
comp=Z,15nm,0.5s
WMQ Urumqi 18.39 242 P **P** **04 14 59.8 -1.7**
TIXI Tiksi 18.53 18 P **P** **04 15 03.5 +0.8**
TIXI pmax pmax
comp=Z,18nm,0.7s
TIXI Tiksi 18.53 18 P **P** **04 15 03.5 +0.8**
MK31 Makanchi Array 19.38 257 *i* P **P** **04 15 12.7 +0.4**
MK31 Makanchi Array 19.38 257 P **P** **04 15 10.8 -1.5**
MKAR Makanchi Array 19.38 257 P **P** **04 15 11.1 -1.2**
comp=Z,0.4nm,0.3s,baz=53,slow=8.3,SNR=24
MKAR Lg Lg 04 20 56.6
comp=Z,0.1nm,0.3s,baz=57,slow=30,SNR=2.8
MKAR LR LR 04 23 23.9
comp=Z,167nm,20.2s,baz=46,slow=39
MKAR Makanchi Array 19.38 257 P **P** **04 15 11.6 -0.7**
MKAR Makanchi Array 19.38 257 P **P** **04 15 11.6 -0.7**
KURK Kurchatov 19.51 271 *ce* P **P** **04 15 12.8 -0.9**
KURK pmax pmax
comp=Z,53nm,1.3s
KURK Kurchatov 19.51 271 P **P** **04 15 13.5 -0.2**
MAKZ Makanchi 19.55 257 P **P** **04 15 13.1 -1.1**
MAKZ Makanchi 19.55 257 P **P** **04 15 12.2 -2.0**
KURBB Kurchatov Arra 19.60 270 P **P** **04 15 13.7 -1.0**
comp=Z,0.6nm,0.3s,baz=65,slow=11,SNR=47
KURBB Lg Lg 04 21 00.0
comp=Z,0.0nm,0.3s,baz=97,slow=40,SNR=3.9
KURBB Kurchatov Arra 19.60 270 P **P** **04 15 14.5 -0.2**
INCN Inchon 20.73 141 P Pn 04 15 27.4 -2.2
INCN pmax pmax
comp=Z,51nm,1.0s
INCN Inchon 20.73 141 P Pn 04 15 27.4 -2.2
XAN Xi'an 20.96 183 P Pn 04 15 29.9 -2.4
XAN pP pP 04 15 35.9 -1.6
XAN S Sn 04 19 28.6 +0.4
XAN pmax pmax
comp=Z,10.0nm,1.1s
XAN pmax pmax
comp=Z,97nm,4.3s
XAN LR LR
comp=Z,850nm,10.6s
XAN LR LR
comp=Z,410nm,10.2s
XAN LR LR
comp=Z,950nm,10.8s
XAN Xi'an 20.96 183 P **P** **04 15 29.4 -0.2**
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN Xi'an 20.96 183 P **P** **04 15 29.4 -0.2**
KSAR Wonju Array Be 21.24 138 P **P** **04 15 32.0 -0.5**
KSAR Wonju Array Be 21.24 138 P **P** **04 15 32.0 -0.5**
KSRS Korea Array 21.24 138 P **P** **04 15 33.8 +1.3**
comp=Z,4.4nm,0.9s,baz=340,slow=11,SNR=6.4
KSRS Lg Lg 04 22 01.2
comp=Z,7.4nm,1.0s,baz=326,slow=29,SNR=6.0
KSRS LR LR 04 23 19.7
comp=Z,86nm,18.6s,baz=332,slow=35
YSS Yuzh-Sakhalins 21.79 98 *e* P **P** **04 15 36.2 -2.1**
YSS MLR MLR
comp=N,200nm,14.0s
YSS MLR MLR
comp=Z,700nm,14.0s
YSS MLR MLR
comp=E,700nm,11.0s
TJN Taejon 21.98 141 *ce* P **P** **04 15 40.6 +0.1**
MA2 Magadan 22.08 61 LR LR 04 24 30.3
comp=E,70nm,21.3s,baz=215,slow=37
TDK Taldyqorghan 22.63 257 *e* P **P** **04 15 46.7 -0.7**
baz=257
TDK LR LR 04 23 56.1
comp=E,776nm,11.6s,baz=257
TDK Taldyqorghan 22.63 257 *e* P **P** **04 15 46.6 -0.7**
TDK MLR MLR
comp=Z,776nm,12.0s
SHLS Shalkode 23.21 252 *e* P **P** **04 15 49.8 -3.8**
comp=Z,4.6nm,0.9s,baz=251
SHLS LR LR 04 24 02.9
comp=Z,50nm,11.1s,baz=251
SHLS Shalkode 23.21 252 *e* P **P** **04 15 49.8 -3.8**
SHLS pmax pmax
comp=Z,5.0nm,0.9s
SHLS MLR MLR
comp=Z,49nm,11.0s
BRZS Berezniki 23.26 273 *i* P **P** **04 15 52.4 -1.5**
comp=Z,10nm,1.1s,baz=273
BRZS LR LR 04 23 57.1
comp=Z,109nm,8.8s,baz=273
BRZS Berezniki 23.26 273 *i* P **P** **04 15 52.3 -1.5**
BRZS pmax pmax
comp=Z,10.0nm,1.1s
BRZS MLR MLR
comp=Z,109nm,9.0s
BVA0 Borovoye Array 23.33 282 *i* P **P** **04 15 52.9 -1.6**
BVAR Borovoye Array 23.33 282 P **P** **04 15 53.6 -0.9**
comp=Z,4.4nm,0.5s,baz=65,slow=8.4,SNR=16
BRVK Borovoye 23.38 282 *ce* P **P** **04 15 53.9 -1.1**
BRVK pmax pmax
comp=Z,21nm,1.3s
BRVK Borovoye 23.38 282 P **P** **04 15 54.1 -0.9**
ASAJ Asahikawa 23.38 104 LR LR 04 25 38.4
comp=Z,276nm,19.8s,baz=320,slow=38
KPKS Kokpek 23.44 254 *e* P **P** **04 15 54.5 -1.3**
comp=Z,3.1nm,0.7s,baz=253
KPKS LR LR 04 24 26.3
comp=Z,88nm,9.5s,baz=253
KPKS Kokpek 23.44 254 *e* P **P** **04 15 54.5 -1.3**
KPKS pmax pmax
comp=Z,3.0nm,0.7s
KPKS MLR MLR
comp=Z,88nm,10.0s
UZB Uzynbulak 23.46 253 *i* P **P** **04 15 54.8 -1.3**
comp=Z,3.4nm,1.1s,baz=252
UZB LR LR 04 24 56.9
comp=Z,131nm,10.8s,baz=252
UZB Uzynbulak 23.46 253 *i* P **P** **04 15 54.7 -1.3**
UZB pmax pmax
comp=Z,3.0nm,1.1s
UZB MLR MLR
comp=Z,131nm,11.0s
CHKK Chushkaly 24.14 256 *e* P **P** **04 16 01.1 -1.2**
baz=256
CHKK Chushkaly 24.14 256 *e* P **P** **04 16 01.1 -1.2**
KUU Kurty 24.48 257 *e* P **P** **04 16 04.1 -1.3**
baz=257
KUU LR LR 04 25 03.8
comp=Z,465nm,12.0s,baz=257
KUU Kurty 24.48 257 *e* P **P** **04 16 04.0 -1.3**
KUU MLR MLR
comp=Z,465nm,12.0s
CD2 Chengdu 24.51 194 *e* P **P** **04 16 10.8 +5.0**
MDOK Medeo 24.54 255 *e* P **P** **04 16 04.7 -1.5**
baz=255
MDOK LR LR 04 25 15.9
comp=Z,513nm,10.9s,baz=255
MDOK Medeo 24.54 255 *e* P **P** **04 16 04.7 -1.5**
MDOK MLR MLR
comp=Z,513nm,11.0s
AAA Alma-Ata 24.59 255 *e* P **P** **04 16 05.8 -0.7**
baz=255
AAA LR LR 04 25 16.9
comp=Z,361nm,10.6s,baz=255
AAA Alma-Ata 24.59 255 *e* P **P** **04 16 05.8 -0.7**
AAA MLR MLR
comp=Z,361nm,11.0s
BTLS Baital 25.07 262 *e* P **P** **04 16 09.9 -0.8**
baz=262
BTLS LR LR 04 25 07.6
comp=Z,95nm,10.2s,baz=262
BTLS Baital 25.07 262 *e* P **P** **04 16 09.9 -0.8**
BTLS MLR MLR
comp=Z,95nm,10.0s
FRU1 Bishkek 26.12 257 P **P** **04 16 19.7 -0.7**
FRU1 pmax pmax
comp=Z,27nm,0.6s
FRU1 Bishkek 26.12 257 P **P** **04 16 19.6 -0.7**
JNU Nakatsue 26.19 138 P **P** **04 16 24.7 +3.7**
comp=Z,12nm,1.0s,baz=52,slow=8.0,SNR=4.5
JNU Nakatsue 26.19 138 P **P** **04 16 19.4 -1.6**
JNU IAmb IAmb 04 16 29.5
comp=Z,23nm,1.1s
AAK Ala-Archa 26.31 257 LR LR 04 27 14.4
comp=Z,400nm,22.0s,baz=25,slow=38
AAK Ala-Archa 26.31 257 P **P** **04 16 21.4 -0.8**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 26.31 257 P **P** **04 16 21.4 -0.8**
MJAR Matsushiro Arr 26.53 122 LR LR 04 27 12.2
comp=Z,236nm,18.3s,baz=300,slow=37
SVE Sverdlovsk 27.42 294 *e* P P 04 16 46.8 +15
SVE pmax pmax
comp=Z,31nm,1.1s
SVE MLR MLR
comp=Z,739nm,14.0s
PETK Petropavlovsk- 27.47 74 P **P** **04 16 33.6 +1.2**
comp=Z,3.3nm,0.8s,baz=266,slow=4.2,SNR=2.1
PETK LR LR 04 28 11.4
comp=Z,236nm,18.7s,baz=263,slow=38
PETK Petropavlovsk- 27.47 74 P **P** **04 16 31.8 -0.6**
SKR Severo-Kuril's 27.61 80 *e* P P 04 16 25.5 -8.0
SKR *e* S **S** **04 21 13.2 0.0**
SKR pmax pmax
comp=Z,21nm,1.1s
SKR pmax pmax
comp=Z,300nm,5.4s
SKR MLR MLR
comp=Z,300nm,16.0s
KK31 Karatay Array 28.27 262 P **P** **04 16 39.1 -0.5**
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KK31 Karatay Array 28.27 262 P **P** **04 16 39.0 -0.5**
KKAR Karatay Array 28.27 262 P **P** **04 16 39.0 -0.6**
KKAR Karatay Array 28.27 262 P **P** **04 16 39.0 -0.6**
ARU Arti 28.64 294 P **P** **04 16 42.5 -0.2**
comp=Z,4.0nm,0.2s,baz=76,slow=8.9,SNR=4.0
ARU Arti 28.64 294 *d* P **P** **04 16 41.1 -1.6**
ARU 04 17 28.6
ARU S **S** **04 21 29.5 +0.2**
ARU pmax pmax
comp=Z,5.0nm,0.6s
ARU MLR MLR
comp=Z,601nm,14.0s
ARU Arti 28.64 294 P **P** **04 16 42.2 -0.4**
ARU IAmb IAmb 04 16 55.6
comp=Z,9.5nm,1.0s
AB31 Akbulak array 30.89 281 P **P** **04 17 02.4 -0.2**
ABKAR Akbulak array 30.89 281 P **P** **04 17 02.0 -0.6**
YHNB Yeheng 31.37 160 P **P** **04 17 06.1 -1.1**
AKTO Aktyubinsk 31.39 284 P **P** **04 17 06.4 -0.7**
KIRV Kirov 32.55 302⇑ *e* P **P** **04 17 16.0 -1.1**
PRGR Permogore 33.32 308 *e* P P 04 17 16.4 -7.4
KLMR Klimovskoe 36.35 309 *e* P **P** **04 17 48.7 -1.3**
KLMR pmax pmax
comp=Z,18nm,1.4s
KLMR Klimovskoe 36.35 309 *e* P **P** **04 17 48.7 -1.3**
KLMR AMP 04 17 58.2
comp=Z,18nm,1.4s
KLMR LQ LQ 04 29 35.5
KLMR LQ LQ 04 29 35.5
KLMR LR LR 04 32 57.0
CMAR Chiang Mai Arr 37.48 198 LR LR 04 33 15.6
comp=Z,22nm,21.6s,baz=235,slow=36
CMAR Chiang Mai Arr 37.48 198 *i* P **P** **04 17 57.0 -3.0**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 37.48 198 P **P** **04 17 58.8 -1.2**
ARCES ARCESS Array B 38.44 326 P **P** **04 18 07.7 +0.1**
comp=Z,3.0nm,0.8s,baz=62,slow=10,SNR=12
ARCES ARCESS Array B 38.44 326 P **P** **04 18 06.3 -1.3**
GEYT Alibeck 38.78 266 P **P** **04 18 12.3 +1.4**
comp=Z,2.0nm,0.8s,baz=172,slow=4.5,SNR=4.7
GEYT LR LR 04 35 26.1
comp=Z,118nm,20.9s,baz=25,slow=38
GEYT Alibeck 38.78 266 P **P** **04 18 10.3 -0.6**
OBN Obninsk 40.40 302⇑ *e* P **P** **04 18 21.9 -2.2**
OBN *e* 04 19 58.8
OBN eSS SS 04 28 33.0 +64
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN MLR MLR
comp=Z,396nm,16.0s
VSR Storozhevoye 41.20 295 *e* P **P** **04 18 29.7 -1.0**
VSR pmax pmax
comp=Z,10.0nm,0.6s
MAK Makhachkala 41.56 280 *e* P P 04 18 27.9 -5.9
MAK eS **S** **04 24 40.2 -7.6**
MAK pmax pmax
comp=Z,72nm,1.0s
MAK MLR MLR
comp=Z,358nm,12.0s
FINES FINESS Array B 41.89 314 P **P** **04 18 36.0 -0.2**
comp=Z,2.8nm,0.6s,baz=67,slow=15,SNR=8.5
FINES FINESS Array B 41.89 314 P **P** **04 18 36.0 -0.2**
FINES FINESS Array B 41.89 314 P **P** **04 18 34.7 -1.5**
KIV Kislovodsk 43.64 285 *e* P **P** **04 18 49.8 -1.0**
KIV pmax pmax
comp=Z,24nm,1.0s
IMAR Indian Mountai 43.85 36 P **P** **04 18 51.7 -0.4**
ANN Anapa 46.00 289 *e* P **P** **04 19 05.3 -4.1**
ANN *e* *PP pP 04 19 09.4 -8.6
ANN eS **S** **04 25 49.5 -3.0**
ANN pmax pmax
comp=Z,14nm,0.7s
COLA College 46.49 35 *i* P **P** **04 19 13.0 0.0**
COLA pmax pmax
comp=Z,5.0nm,1.0s
TRF Thorofare Moun 46.55 38 P **P** **04 19 13.9 +0.2**
TRF IAmb IAmb 04 19 25.6
comp=Z,7.5nm,1.1s
AKASG Malin Array Be 46.57 300 P **P** **04 19 13.6 -0.3**
comp=Z,3.2nm,0.6s,baz=46,slow=8.7,SNR=8.4
AKBB Malin Array Si 46.57 300 P **P** **04 19 14.2 +0.4**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 46.57 300 P **P** **04 19 14.2 +0.4**
AKBB IAmb IAmb 04 19 17.3
comp=Z,6.2nm,0.9s
KIEV Kiev 46.59 300 P **P** **04 19 13.0 -0.9**
WRH Wood River Hil 46.67 36 IAmb IAmb 04 19 23.4
comp=Z,5.3nm,1.0s
IL31 46.88 35 IAmb IAmb 04 19 21.2
comp=Z,7.5nm,0.9s
ILAR Eielson Array 46.88 35 P **P** **04 19 17.4 +1.3**
comp=Z,2.9nm,0.6s,baz=277,slow=4.7,SNR=27
ILAR LR LR 04 40 59.0
comp=Z,50nm,19.5s,baz=316,slow=39
ILAR Eielson Array 46.88 35 P **P** **04 19 17.7 +1.6**
ILAR Eielson Array 46.88 35 P **P** **04 19 17.7 +1.6**
HDA Harding Lake 47.09 35 IAmb IAmb 04 19 22.2
comp=Z,3.7nm,0.6s
NB2 NORSAR Subarra 47.97 320 P **P** **04 19 25.4 +0.7**
comp=Z,1.8nm,0.7s,baz=56,slow=7.9
NOA NORSAR Array B 47.97 320 P **P** **04 19 25.0 +0.3**
comp=Z,1.7nm,0.8s,baz=49,slow=7.2,SNR=3.7
NOA NORSAR Array B 47.97 320 P **P** **04 19 25.0 +0.3**
RIDG Independent Ri 48.23 35 IAmb IAmb 04 19 38.1
comp=Z,9.9nm,1.2s
INK Inuvik 48.39 27 P **P** **04 19 30.5 +2.8**
comp=Z,3.3nm,0.8s,baz=330,slow=10,SNR=8.7
INK Inuvik 48.39 27 IAmb IAmb 04 19 33.9
comp=Z,4.2nm,0.9s
EGAK Eagle 48.71 33 P **P** **04 19 31.2 +1.0**
EGAK IAmb IAmb 04 19 35.5
comp=Z,7.0nm,1.1s
KIS Kishinev 49.15 297 *e* P P 04 19 27.0 -6.8
KIS *e* LR LR 04 42 05.0
KMPD K-Podol'skiy 49.32 299 P **P** **04 19 35.0 -0.1**
BCAR Beaver Creek A 49.70 35 P **P** **04 19 38.8 +0.9**
BUR08 Bucovina Ar. S 50.56 299 P **P** **04 19 45.5 +0.8**
BUR08 IAmb IAmb 04 19 46.3
comp=Z,5.0nm,0.9s
BURAR Bucovina Array 50.58 299⇑ P **P** **04 19 45.3 +0.5**
BURAR Bucovina Array 50.58 299⇑ P **P** **04 19 45.3 +0.5**
BURAR Bucovina Array 50.58 299 P **P** **04 19 45.3 +0.5**
JURR Jurilovca 50.61 294⇓ P **P** **04 19 46.0 +1.1**
SCHL Schela 50.66 296⇓ P P 04 19 56.5 +11
CFR Carcaliu 50.72 295 P **P** **04 19 45.7 0.0**
CFR pmax pmax
comp=Z,4.0nm,1.3s
VRI Vrincioaia 50.98 297⇓ P **P** **04 19 48.8 +1.0**
VRI Vrincioaia 50.98 297⇓ P **P** **04 19 48.8 +1.0**
KOLS Kolonicke sedl 51.15 302 *e* P **P** **04 19 49.7 +0.7**
KOLS Kolonicke sedl 51.15 302 *e* P **P** **04 19 49.7 +0.7**
BRTR Keskin Array B 51.49 286 P **P** **04 19 52.6 +0.8**
comp=Z,3.4nm,0.9s,baz=64,slow=5.7,SNR=16
BRTR Keskin Array B 51.49 286 *i* P **P** **04 19 52.7 +0.8**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 51.49 286 P **P** **04 19 52.4 +0.5**
NIE Niedzica 51.78 304 P **P** **04 19 55.2 +1.5**
NIE pmax pmax
comp=Z,3.0nm,2.3s
VOIR 52.14 297⇓ P **P** **04 19 57.8 +1.3**
VOIR 52.14 297⇓ P **P** **04 19 57.8 +1.3**
MORC Moravsky Berou 52.84 306 *e* P **P** **04 20 01.6 0.0**
KRLC Kraliky 52.98 306 *e* P **P** **04 20 03.1 +0.4**
KRLC *e* 04 20 06.4
KRLC Kraliky 52.98 306 *e* P **P** **04 20 03.1 +0.4**
KRLC *ex* x 04 20 06.4
DPC Dobruska-Polom 53.01 307 *e* P **P** **04 20 03.8 +1.0**
DPC *e* 04 20 06.9
DPC Dobruska-Polom 53.01 307 *e* P **P** **04 20 03.8 +1.0**
DPC *ex* x 04 20 06.9
VYHS Vyhne 53.11 304 *e* P **P** **04 20 04.7 +1.1**
VYHS Vyhne 53.11 304 *e* P **P** **04 20 04.7 +1.1**
SIRR Síria 53.28 300⇑ P **P** **04 20 06.8 +2.0**
JAVC Velka Javorina 53.41 305 *e* P **P** **04 20 07.1 +1.2**
VRAC Vranov 53.61 306 *e* P **P** **04 20 08.0 +0.8**
BRG Berggiesshubel 53.72 309 P **P** **04 20 09.1 +1.1**
BRG pmax pmax
comp=Z,7.0nm,1.3s
BZS Buzias 53.75 300⇑ P **P** **04 20 09.8 +1.5**
BZS Buzias 53.75 300⇑ P **P** **04 20 09.8 +1.5**
CLL Collm 53.84 310 *e* P **P** **04 20 09.0 +0.2**
CLL Collm 53.84 310 *e* P **P** **04 20 09.0 +0.2**
HERR Herculane 53.87 298⇑ P **P** **04 20 10.1 +0.9**
KRUC Moravsky 53.87 306 *e* P **P** **04 20 10.1 +1.0**
KRUC Moravsky 53.87 306 P **P** **04 20 10.8 +1.7**
KRUC pmax pmax
comp=Z,9.0nm,1.4s
CONA Conrad Observa 54.92 305 *e* P **P** **04 20 19.2 +2.3**
comp=Z,9.3nm,1.6s
MOX Moxa 54.93 310 P **P** **04 20 18.0 +1.2**
MOX pmax pmax
comp=Z,13nm,2.1s
VTS Vitosha 55.04 296 P **P** **04 20 19.3 +1.4**
VTS pmax pmax
comp=Z,3.0nm,0.8s
VTS Vitosha 55.04 296 IAmb IAmb 04 20 22.4
comp=Z,5.4nm,1.1s
CSS Mathiatis 55.06 283 P **P** **04 20 18.6 +0.6**
KHC Kasperske Hory 55.13 307 *ce* P **P** **04 20 18.4 +0.1**
KHC pmax pmax
comp=Z,21nm,1.7s
KHC Kasperske Hory 55.13 307 *e* P **P** **04 20 19.2 +0.9**
KHC *ex* x 04 20 22.2
GEC2 GERESS Array S 55.28 307 IAmb IAmb 04 20 21.2
comp=Z,5.1nm,1.1s
GERES GERESS Array B 55.28 307 P **P** **04 20 20.1 +0.7**
comp=Z,1.4nm,0.8s,baz=40,slow=6.9,SNR=11
GERES GERESS Array B 55.28 307 P **P** **04 20 20.3 +0.9**
GERES GERESS Array B 55.28 307 P **P** **04 20 20.3 +0.9**
WET Wettzell 55.44 308 P **P** **04 20 21.8 +1.3**
WET pmax pmax
comp=Z,6.0nm,1.1s
ARSA Arzberg 55.57 305 *e* P **P** **04 20 23.8 +2.3**
comp=Z,2.8nm,0.7s
MOA Molln 55.73 306 *e* P **P** **04 20 24.5 +1.8**
comp=Z,10nm,1.4s
SRS Serrai 55.93 294 P **P** **04 20 25.5 +1.3**
SRS pmax pmax

	comp=Z,5.0nm,1.8s							
SOKA	**Soboth**	**56.22**	**304**	*eP*		**P**	**04 20 27.3**	**+1.1**
	comp=Z,9.7nm,1.4s							
OBKA	**Obir**	**56.57**	**305**	*eP*		**P**	**04 20 30.1**	**+1.4**
	comp=Z,8.5nm,0.6s							
KBA	**Koelnbreinsper**	**56.72**	**306**	*eP*		**P**	**04 20 31.5**	**+1.6**
	comp=Z,7.7nm,0.8s							
KBA	**Koelnbreinsper**	**56.72**	**306**	P		**P**	**04 20 32.0**	**+2.1**
KBA				pmax	pmax			
	comp=Z,9.0nm,1.2s							
MYKA	**Terra Mystica**	**56.91**	**305**	*eP*		**P**	**04 20 32.2**	**+1.1**
	comp=Z,8.4nm,1.0s							
PDG	**Podgorica**	**57.22**	**298**	⇑P		**P**	**04 20 32.5**	**-0.8**
WATA	**Walderalm**	**57.35**	**307**	*i* P		**P**	**04 20 36.3**	**+1.9**
	comp=Z,6.3nm,1.1s							
WTTA	**Wattenberg**	**57.38**	**307**	*eP*		**P**	**04 20 36.7**	**+2.1**
	comp=Z,8.2nm,1.2s							
MOTA	**Moosalm**	**57.56**	**307**	*eP*		**P**	**04 20 37.7**	**+1.9**
	comp=Z,13nm,1.2s							
SQTA	**Sankt Quirin**	**57.61**	**307**	*eP*		**P**	**04 20 38.2**	**+2.1**
	comp=Z,10nm,1.2s							
RETA	**Reutte**	**57.61**	**308**	*i* P		**P**	**04 20 36.7**	**+0.6**
	comp=Z,6.4nm,1.3s							
YKA	**Yellowknife Ar**	**57.71**	**23**	P		**P**	**04 20 37.0**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=332,slow=7.3,SNR=12							
YKA	**Yellowknife Ar**	**57.71**	**23**	*i* P		**P**	**04 20 39.2**	**+2.8**
YKA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
FETA	**Feichten**	**57.98**	**307**	*eP*		**P**	**04 20 39.4**	**+0.6**
	comp=Z,11nm,1.1s							
DAVA	**Damuels**	**58.16**	**308**	*i* P		**P**	**04 20 41.7**	**+1.6**
	comp=Z,10nm,1.9s							
NRCA	**Norcia**	**59.97**	**303**	P		**P**	**04 20 52.0**	**-0.5**
TIP	**Timpagrande**	**60.90**	**297**	P		**P**	**04 20 59.8**	**+0.8**
TIP				IAmb	IAmb		04 21 01.6	
	comp=Z,6.3nm,1.1s							
KEST	**Kesra**	**67.30**	**300**	LR		LR	04 54 25.0	
	comp=Z,62nm,18.1s,baz=250,slow=39							
B08A	**Colville Reser**	**68.90**	**33**	IAmb		IAmb	04 21 55.9	
	comp=Z,4.3nm,0.8s							
C09A	**Chrisman Ranch**	**69.73**	**33**	P		**P**	**04 21 56.8**	**+0.9**
C09A				IAmb	IAmb		04 22 00.8	
	comp=Z,5.8nm,0.8s							
ESDC	**Sonseca Array**	**70.32**	**312**	P		**P**	**04 22 01.1**	**+1.4**
	comp=Z,2.2nm,1.0s,baz=34,slow=4.5,SNR=6.2							
ESDC	**Sonseca Array**	**70.32**	**312**	P		**P**	**04 22 00.8**	**+1.1**
SCHQ	**Schefferville**	**70.52**	**358**	LR		LR	04 51 30.4	
	comp=Z,50nm,21.7s,baz=37,slow=35							
JTMT	**Jette**	**70.97**	**30**	P		**P**	**04 22 04.5**	**+0.9**
F10A	**Beach Ranch, E**	**71.68**	**33**	P		**P**	**04 22 09.1**	**+1.2**
F10A				IAmb	IAmb		04 22 14.9	
	comp=Z,8.1nm,0.8s							
MSO	**Missoula**	**71.90**	**30**	P		**P**	**04 22 09.2**	**-0.1**
MSO				IAmb	IAmb		04 22 14.2	
	comp=Z,6.7nm,1.1s							
BMO	**Blue Mountains**	**72.66**	**33**	P		**P**	**04 22 14.7**	**+0.9**
BMO				pmax	pmax			
	comp=Z,3.0nm,0.9s							
BMO	**Blue Mountains**	**72.66**	**33**	P		**P**	**04 22 14.7**	**+0.9**
DLMT	**Dillon**	**73.63**	**30**	IAmb		IAmb	04 22 26.3	
	comp=Z,5.8nm,0.8s							
MCMT	**McKenzie Canyo**	**74.04**	**30**	P		**P**	**04 22 22.8**	**+0.6**
YHL	**Hebgen Lake**	**74.50**	**29**	P		**P**	**04 22 25.5**	**+0.7**
YHB	**Horse Butte**	**74.59**	**29**	P		**P**	**04 22 26.0**	**+0.7**
YNE	**Yellowstone No**	**74.68**	**28**	P		**P**	**04 22 26.5**	**+0.7**
AGMN	**Agassiz Nation**	**74.76**	**18**	IAmb		IAmb	04 22 30.7	
	comp=Z,4.7nm,1.0s							
FXWY	**Fox Creek**	**75.66**	**30**	IAmb		IAmb	04 22 37.4	
	comp=Z,5.5nm,0.9s							
TPAW	**Teton Pass**	**75.81**	**30**	IAmb		IAmb	04 22 39.0	
	comp=Z,5.5nm,0.8s							
PDAR	**Pinedale Array**	**76.87**	**29**	P		**P**	**04 22 39.4**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=26,slow=3.5,SNR=17							
PDAR	**Pinedale Array**	**76.87**	**29**	P		**P**	**04 22 39.7**	**+1.3**
RSSD	**Black Hills**	**77.05**	**25**	P		**P**	**04 22 40.6**	**+1.3**
RSSD				pmax	pmax			
	comp=Z,5.0nm,0.7s							
RSSD	**Black Hills**	**77.05**	**25**	P		**P**	**04 22 40.6**	**+1.3**
RSSD				IAmb	IAmb		04 22 45.9	
	comp=Z,4.7nm,0.7s							
HWUT	**Hardware Ranch**	**77.37**	**31**	P		**P**	**04 22 41.6**	**+0.5**
WRA	**Warramunga Arr**	**77.39**	**157**	P		**P**	**04 22 41.5**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=347,slow=6.1,SNR=7.6							
WRA	**Warramunga Arr**	**77.39**	**157**	P		**P**	**04 22 41.7**	**+0.6**
WRA	**Warramunga Arr**	**77.39**	**157**	P		**P**	**04 22 41.7**	**+0.6**
WB2	**Warramunga Arr**	**77.40**	**157**	P		**P**	**04 22 41.0**	**-0.1**
WB2				IAmb	IAmb		04 22 47.7	
	comp=Z,7.0nm,0.9s							
KVN	**Kaiserville**	**77.59**	**37**	P		**P**	**04 22 42.3**	**-0.1**
KVN				pmax	pmax			
	comp=Z,1.0nm,0.9s							
KVN	**Kaiserville**	**77.59**	**37**	P		**P**	**04 22 42.3**	**-0.1**
NVAR	**Mina Array Bea**	**78.08**	**37**	P		**P**	**04 22 48.3**	**+3.1**
	comp=Z,0.6nm,0.7s,baz=347,slow=3.7,SNR=5.0							
NVAR	**Mina Array Bea**	**78.08**	**37**	P		**P**	**04 22 46.4**	**+1.3**
SPMN	**Marine on St.**	**78.26**	**16**	IAmb		IAmb	04 22 50.8	
	comp=Z,7.3nm,0.9s							
DUG	**Dugway, Tooele**	**78.28**	**32**	P		**P**	**04 22 49.3**	**+3.1**
DUG				pmax	pmax			
	comp=Z,4.0nm,0.8s							
PQI	**Presque Isle**	**78.71**	**359**	P		**P**	**04 22 49.8**	**+1.6**
PQI				IAmb	IAmb		04 22 53.4	
	comp=Z,11nm,1.0s							
E63A	**Oxbow**	**78.96**	**359**	P		**P**	**04 22 50.2**	**+0.6**
E63A				IAmb	IAmb		04 22 54.8	
	comp=Z,12nm,1.0s							
ECSD	**EROS Data Cent**	**79.02**	**20**	IAmb		IAmb	04 22 54.1	
	comp=Z,5.5nm,1.1s							
N23A	**Red Feather La**	**79.60**	**27**	P		**P**	**04 22 53.5**	**0.0**
N23A				IAmb	IAmb		04 23 00.4	
	comp=Z,5.7nm,0.9s							
O20A	**White River Ci**	**79.68**	**29**	P		**P**	**04 22 53.3**	**-0.6**
O20A				IAmb	IAmb		04 23 02.6	
	comp=Z,8.2nm,0.9s							
F63A	**Nahmakanta, Br**	**79.69**	**360**	P		**P**	**04 22 55.1**	**+1.6**
F63A				IAmb	IAmb		04 22 59.0	
	comp=Z,6.6nm,0.9s							
TAM	**Tamanrasset**	**79.69**	**295**	P		**P**	**04 22 56.4**	**+2.3**
TAM				pmax	pmax			
	comp=Z,2.0nm,1.4s							
L34A	**Svendsen Farm,**	**80.77**	**20**	P		**P**	**04 22 59.3**	**-0.2**
ASAR	**Alice Springs**	**80.90**	**158**	P		**P**	**04 23 00.6**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=350,slow=4.8,SNR=6.3							
ASAR	**Alice Springs**	**80.90**	**158**	P		**P**	**04 22 59.9**	**-0.3**
JFWS	**Jewell Farm**	**80.91**	**15**	IAmb		IAmb	04 23 03.9	
	comp=Z,8.5nm,0.9s							
PV15	**Paradox Valley**	**81.28**	**30**	P		**P**	**04 23 02.5**	**-0.1**
PV15				IAmb	IAmb		04 23 11.8	
	comp=Z,4.0nm,0.7s							
BINY	**Binghamton**	**83.04**	**5**	P		**P**	**04 23 11.0**	**-0.4**
P40A	**Paris**	**83.93**	**17**	IAmb		IAmb	04 23 20.1	
	comp=Z,7.1nm,1.1s							
R40A	**Maddies Statio**	**85.10**	**18**	IAmb		IAmb	04 23 26.1	
	comp=Z,3.7nm,0.8s							
S39A	**Bolivar**	**85.49**	**19**	IAmb		IAmb	04 23 31.5	
	comp=Z,5.1nm,0.8s							
U38A	**Gravette**	**86.50**	**20**	IAmb		IAmb	04 23 38.4	
	comp=Z,3.9nm,0.8s							
T42A	**Van Buren**	**86.53**	**17**	IAmb		IAmb	04 23 33.7	
	comp=Z,5.6nm,1.0s							
WMOK	**Wichita Mounta**	**87.21**	**24**	IAmb		IAmb	04 23 41.5	
	comp=Z,6.0nm,0.9s							
WVT	**Waverly**	**87.92**	**15**	P		**P**	**04 23 36.1**	**+0.3**
WVT				pmax	pmax			
	comp=Z,4.0nm,0.9s							
WVT	**Waverly**	**87.92**	**15**	P		**P**	**04 23 36.1**	**+0.3**
WVT				IAmb	IAmb		04 23 42.1	
	comp=Z,3.6nm,0.9s							

*IDC **12** 04:15:35.0±0.8, 10°.78N×125°.55E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/44, mbtmp4.0/10, Error ellipse: s-maj=43.1km s-min=18.0km az=74.0*
*MAN **12** 04:15:38.8, 10°.65N×125°.37E, h8km, mb4.6, ML3.5, MS3.4*
ISC 12 04:15:35.2±2.3, 10°.75N±0°.03×125°.51E±0°.06, h1km±15km, n27, σ1°16/29, mb4.2/10, 2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.89**	**227**	*eP*	**Pb**	**04 15 53.3**	**0.0**
MSLP				*eS*	**Sb**	**04 16 05.3**	**-0.4**
OCLP	**Ormoc**	**0.94**	**289**	*eP*	**Pb**	**04 15 54.9**	**+0.7**
OCLP				*eS*	**Sn**	**04 16 09.4**	**-0.1**
LLP	**Lapu-Lapu**	**1.58**	**254**	*eP*	**Pn**	**04 16 04.4**	**+0.1**
LLP				*eS*	**Sn**	**04 16 24.2**	**-1.2**
TBP	**Tagbilaran**	**1.94**	**237**	*eP*	**Pb**	**04 16 10.9**	**-0.3**
TBP				*eS*	Sn	04 16 19.9	-14
CNP	**Catarman**	**1.94**	**335**	*eP*	**Pb**	**04 16 10.4**	**-0.8**
CNP				*eS*	**Sg**	**04 16 37.9**	**+0.4**
BUKP	**Musuan**	**2.89**	**189**	*eP*	**Pn**	**04 16 24.0**	**+1.7**
BUKP				*eS*	**Sb**	**04 17 03.8**	**+0.5**
CNOP	**Candoni, Negro**	**2.97**	**252**	*eP*	**Pn**	**04 16 24.9**	**+1.5**
CNOP				*eS*	**Sb**	**04 17 05.1**	**-0.6**
PVCP	**Virac**	**3.13**	**335**	*eP*	**Pb**	**04 16 29.9**	**-1.6**
PVCP				*eS*	**Sb**	**04 17 11.2**	**+1.1**
KCP	**Kidapawan**	**3.74**	**186**	*eP*	**Pb**	**04 16 39.6**	**-2.5**
KCP				*i* S	**Sb**	**04 17 27.0**	**-1.0**
DDMP	**Don Marcelino,**	**4.62**	**178**	*eP*	**Pn**	**04 16 48.9**	**+2.8**
LQP	**Lukban**	**5.12**	**311**	*eP*	**Pb**	**04 17 04.0**	**-1.8**
WRA	**Warramunga Arr**	**31.71**	**164**	P	**P**	**04 21 59.6**	**-1.0**
	0.4nm,0.4s,baz=348,slow=9.2,SNR=2.3						
ASAR	**Alice Springs**	**35.17**	**167**	P	**P**	**04 22 31.8**	**+1.0**
	0.6nm,0.4s,baz=348,slow=6.7,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**40.50**	**74**	T	T	05 06 16.2	
	baz=264,slow=75,SNR=64						
H11S1	**WAKE ISLAND Hy**	**40.52**	**74**	T	T	05 06 19.9	
	baz=264,slow=75,SNR=25						
H11S2	**WAKE ISLAND Hy**	**40.52**	**74**	T	T	05 06 13.8	
	baz=264,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**40.82**	**72**	T	T	05 06 34.3	
	baz=265,slow=75,SNR=127						
H11N2	**WAKE ISLAND Hy**	**40.83**	**72**	T	T	05 06 36.7	
	baz=265,slow=75,SNR=72						
H11N3	**WAKE ISLAND Hy**	**40.83**	**72**	T	T	05 06 35.6	
	baz=265,slow=75,SNR=117						
STKA	**Stephens Creek**	**45.09**	**161**	P	**P**	**04 23 53.3**	**+0.3**
	2.0nm,0.6s,baz=354,slow=8.2,SNR=4.5						
PETK	**Petropavlovsk-**	**49.52**	**25**	P	**P**	**04 24 27.1**	**-0.1**
	1.1nm,0.5s,baz=298,slow=3.2,SNR=5.3						
MKAR	**Makanchi Array**	**51.20**	**323**	P	**P**	**04 24 40.6**	**+0.5**
	2.5nm,0.7s,baz=116,slow=8.2,SNR=8.7						
KURBB	**Kurchatov Arra**	**55.26**	**325**	P	**P**	**04 25 10.1**	**+0.2**
	1.7nm,0.6s,baz=124,slow=6.6,SNR=11						
ILAR	**Eielson Array**	**79.33**	**26**	P	**P**	**04 27 42.1**	**-0.2**
	0.7nm,0.7s,baz=238,slow=5.5,SNR=11						
ARCES	**ARCESS Array B**	**83.49**	**340**	P	**P**	**04 28 03.6**	**-0.7**
	1.3nm,0.8s,baz=66,slow=6.9,SNR=5.5						
FINES	**FINESS Array B**	**85.12**	**332**	P	**P**	**04 28 12.1**	**-0.6**
	3.4nm,1.0s,baz=88,slow=7.1,SNR=4.9						
YKA	**Yellowknife Ar**	**93.62**	**24**	P	**P**	**04 28 53.3**	**+0.3**
	0.6nm,0.8s,baz=322,slow=3.9,SNR=3.6						

*ANF **12** 05:06:28.8±0.1, 36°.14N×118°.06W, h10km±1km, ML2.9/27, Error ellipse: s-maj=0.9km s-min=0.7km az=139.0*
*NEIC **12** 05:06:29.4±1.3, 36°.145N±0°.010×118°.06W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=100.0*
*SCEDC **12** 05:06:29.4, 36°.14N×118°.06W, h2km, ML3.0, ML3.0, ML3.0*
*PAS **12** 05:06:29.3±1.0, 36°.143N±0°.010×118°.058W±0°.006, h0km±6km, ML3.0/71, Error ellipse: s-maj=1.5km s-min=0.5km az=198.0*
ISC 12 05:06:29.5±0.9, 36°.14N±0°.01×118°.05W±0°.01, h10km±7km, n105, σ0°76/154, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.16**	**99**		**Pg**	**05 06 32.8**	**-0.3**
WRVM	**Rose V. Centra**	**0.18**	**136**		**Pg**	**05 06 33.2**	**-0.3**
WRVM					**Sg**	**05 06 36.1**	**-0.1**
WLHM	**Little Horse**	**0.21**	**273**		**Pg**	**05 06 33.7**	**-0.5**
JRC2	**Joshua Ridge**	**0.25**	**129**		**Pg**	**05 06 34.5**	**-0.2**
JRC2					**Sg**	**05 06 38.4**	**+0.2**
WCSM	**Coso Springs S**	**0.26**	**117**		**Pg**	**05 06 34.6**	**-0.2**
WCSM					**Sg**	**05 06 38.4**	**+0.1**
WCHM	**Chimney Peak**	**0.26**	**185**		**Pg**	**05 06 34.4**	**-0.5**
WVPM	**Volcano Peak E**	**0.27**	**136**		**Pg**	**05 06 34.9**	**-0.2**
WVPM					**Sg**	**05 06 38.9**	**+0.2**
CWC	**Cottonwood Cre**	**0.30**	**355**	P	**Pg**	**05 06 35.1**	**-0.6**
	baz=176						
CWC				S	**Sg**	**05 06 39.1**	**-0.6**
	baz=176						
CWC	**Cottonwood Cre**	**0.30**	**355**		**Pg**	**05 06 35.1**	**-0.6**
CWC					**Sg**	**05 06 39.2**	**-0.6**
WNMM	**Nine Mile Cany**	**0.32**	**159**		**Pg**	**05 06 35.5**	**-0.4**
WNMM					**Sg**	**05 06 39.9**	**-0.2**
TOW	**Tower One**	**0.40**	**145**		**Pg**	**05 06 37.6**	**+0.1**
CGO	**Cerro Gordo**	**0.45**	**26**		**Pg**	**05 06 38.1**	**-0.4**
CGO					**Sg**	**05 06 44.8**	**+0.2**
MPMC	**Manual Prospec**	**0.46**	**100**	P	**Pg**	**05 06 38.3**	**-0.3**
	baz=281,SNR=302						
MPMC				S	**Sg**	**05 06 44.8**	**+0.1**
	baz=281						
MPMC	**Manual Prospec**	**0.46**	**100**		**Pg**	**05 06 38.3**	**-0.3**
WORM	**Onyx Ranch**	**0.47**	**200**		**Pg**	**05 06 38.3**	**-0.5**
WORM					**Sg**	**05 06 44.6**	**-0.4**
CLC	**China Lake**	**0.49**	**131**		**Pg**	**05 06 38.9**	**-0.2**
CLC					**Sg**	**05 06 45.7**	**+0.1**
WHFM	**Hanning Flat**	**0.51**	**209**		**Pg**	**05 06 39.0**	**-0.4**
WHFM					**Sg**	**05 06 46.0**	**-0.1**
SRTC	**Snort**	**0.51**	**151**		**Pg**	**05 06 39.6**	**+0.1**
SRTC					**Sb**	**05 06 47.5**	**-0.6**
WASM	**Alta Sierra Ca**	**0.58**	**226**		**Pg**	**05 06 40.4**	**-0.3**
WASM					**Sg**	**05 06 48.2**	**-0.1**
SPG2	**Springville 2**	**0.58**	**276**		**Pg**	**05 06 40.3**	**-0.5**
SPG2					**Sg**	**05 06 48.1**	**-0.5**
ISA	**Isabella, Lake**	**0.59**	**216**	P	**Pg**	**05 06 40.5**	**-0.4**
	baz=35,SNR=46						
ISA				S	**Sg**	**05 06 48.3**	**-0.4**
	baz=35						
ISA	**Isabella, Lake**	**0.59**	**216**		**Pg**	**05 06 40.6**	**-0.4**
ISA	**Isabella, Lake**	**0.59**	**216**		**Sg**	**05 06 48.4**	**-0.4**
WBSM	**Bird Springs**	**0.61**	**187**		**Pg**	**05 06 41.0**	**-0.4**
WBSM					**Sg**	**05 06 49.1**	**-0.2**
LRMC	**Laurel Mtn Rad**	**0.72**	**156**	P	**Pg**	**05 06 43.0**	**-0.5**
	baz=336,SNR=25						
LRMC				S	**Sg**	**05 06 52.9**	**-0.2**
	baz=336						
LRMC	**Laurel Mtn Rad**	**0.72**	**156**		**Pg**	**05 06 43.0**	**-0.5**
LRMC					**Sg**	**05 06 52.9**	**-0.2**
WOFM	**Oak Flat**	**0.81**	**222**		**Pg**	**05 06 44.7**	**-0.5**
CCCA	**Chr Cany lake**	**0.83**	**138**		**Pg**	**05 06 45.4**	**-0.1**
CCCA					**Sb**	**05 06 57.3**	**-0.1**
DTP	**Desert Tortois**	**0.89**	**169**		**Pg**	**05 06 46.0**	**-0.6**
DTP					**Sg**	**05 06 57.6**	**-0.6**
VES	**Vestal, Richgr**	**0.89**	**251**	P	**Pg**	**05 06 46.3**	**-0.4**
	baz=70,SNR=16						
VES				S	**Sg**	**05 06 57.9**	**-0.4**
	baz=70						
VES	**Vestal, Richgr**	**0.89**	**251**		**Pg**	**05 06 46.4**	**-0.4**
VES					**Sg**	**05 06 57.9**	**-0.4**
TIN	**Tinemaha, Big**	**0.92**	**351**	P	**Pg**	**05 06 46.9**	**-0.5**
	baz=171,SNR=20						
TIN				S	**Sg**	**05 06 59.6**	**+0.2**
	baz=171						
TIN	**Tinemaha, Big**	**0.92**	**351**		**Pg**	**05 06 46.6**	**-0.7**
QSM	**Queen of Sheba**	**0.97**	**100**		**Pg**	**05 06 47.7**	**-0.6**
RCTC	**Rector, Farmer**	**0.98**	**280**		**Pg**	**05 06 47.5**	**-0.9**
CCAC	**Calif City Air**	**0.99**	**178**		**Pg**	**05 06 47.8**	**-0.7**
CCAC					**Sg**	**05 07 01.2**	**-0.2**
FURC	**Furnace Creek,**	**1.01**	**71**	P	**Pg**	**05 06 48.7**	**-0.2**
	baz=252,SNR=117						
FURC				S	**Sg**	**05 07 02.5**	**+0.4**
	baz=252						
FURC	**Furnace Creek,**	**1.01**	**71**		**Pg**	**05 06 48.8**	**-0.2**
TEJ	**El Tejon**	**1.05**	**210**		**Pg**	**05 06 48.7**	**-1.0**
TEJ					**Sg**	**05 07 02.6**	**-0.7**
VOG	**Valley Oaks Go**	**1.09**	**280**	P	**Pg**	**05 06 49.8**	**-0.7**
	baz=99						
VOG				S	**Sg**	**05 07 04.6**	**-0.1**
	baz=99						
VOG	**Valley Oaks Go**	**1.09**	**280**		**Pg**	**05 06 49.9**	**-0.7**
VOG					**Sg**	**05 07 04.0**	**-0.8**
FMT	**Funeral Mounta**	**1.14**	**64**		**Pg**	**05 06 50.2**	**-1.1**
FMT					**Sg**	**05 07 05.6**	**-0.5**
ARVC	**Arvin**	**1.20**	**212**	P	**Pg**	**05 06 51.5**	**-1.0**
	baz=32,SNR=14						
ARVC				S	**Sg**	**05 07 07.5**	**-0.5**
	baz=32						
ARVC	**Arvin**	**1.20**	**212**		**Pg**	**05 06 51.8**	**-0.7**
ARVC					**Sg**	**05 07 07.5**	**-0.5**
EDW2	**Edwards Air Fo**	**1.26**	**178**	P	**Pg**	**05 06 52.4**	**-1.3**
	baz=358,SNR=50						
EDW2				S	**Sg**	**05 07 08.9**	**-1.1**
	baz=358						
EDW2	**Edwards Air Fo**	**1.26**	**178**		**Pg**	**05 06 52.4**	**-1.3**
EDW2					**Sg**	**05 07 09.0**	**-1.1**
TPO	**Tropico Hills**	**1.27**	**187**		**Pg**	**05 06 52.8**	**-1.1**
TPO					**Sg**	**05 07 09.8**	**-0.6**
GSC	**Goldstone, Bar**	**1.31**	**129**	P	**Pn**	**05 06 53.6**	**-0.4**
	baz=310,SNR=98						
GSC				S	**Sg**	**05 07 11.4**	**-0.4**
	baz=310						
GSC	**Goldstone, Bar**	**1.31**	**129**		**Pn**	**05 06 53.7**	**-0.4**
THC	**Tehachapi Micr**	**1.33**	**202**		**Pn**	**05 06 53.7**	**-0.6**
HYS	**Haystack Butte**	**1.33**	**163**		**Pn**	**05 06 53.7**	**-0.6**
HYS					**Sg**	**05 07 12.3**	**-0.1**
SHOC	**Shoshone, Teco**	**1.46**	**99**	P	**Pn**	**05 06 55.3**	**-0.7**
	baz=280,SNR=50						
SHOC				Sb	**Sg**	**05 07 16.5**	**+0.1**
	baz=280						
AMDNV	**Amargosa**	**1.46**	**77**		**Pn**	**05 06 56.0**	**0.0**
SBB	**Saddle Back Bu**	**1.46**	**173**		**Pn**	**05 06 56.2**	**+0.1**
LEOC	**Leona Valley**	**1.52**	**188**		**Pg**	**05 06 59.1**	**+0.4**
RRX	**Edison Barstow**	**1.53**	**146**	Pg	**Pb**	**05 06 58.5**	**+0.5**
	baz=326						
RRX				S	**Sn**	**05 07 17.1**	**+0.3**
	baz=326						
MLAC	**Mammoth, Mammo**	**1.61**	**337**	Pg	**Pb**	**05 06 59.5**	**-0.2**
	baz=157						
MLAC				Sb	**Sb**	**05 07 20.7**	**+0.5**
	baz=157						
MLAC	**Mammoth, Mammo**	**1.61**	**337**		**Pb**	**05 06 59.5**	**-0.2**
MLAC					**Sg**	**05 07 21.0**	**-0.5**
OSI	**Osito Audit: C**	**1.62**	**200**	Sb	**Sb**	**05 07 20.8**	**+0.7**
	baz=19						
OSI	**Osito Audit: C**	**1.62**	**200**	Pn	**Pn**	**05 06 59.0**	**+0.7**
CRGC	**Crocker Grade**	**1.63**	**237**		**Pb**	**05 06 59.6**	**-0.3**
BCW	**Bitter Crk WRg**	**1.64**	**223**		**Pn**	**05 06 59.2**	**+0.7**
QMMB	**Old Mammoth Mi**	**1.66**	**333**		**Pn**	**05 06 59.9**	**+0.9**
TPNV	**Topopah Spring**	**1.66**	**60**	P	**Pn**	**05 06 58.6**	**-0.3**
	baz=242						
TPNV				Sb	**Sb**	**05 07 22.3**	**+0.9**
	baz=242						
TPNV	**Topopah Spring**	**1.66**	**60**	Pn	**Pn**	**05 06 59.2**	**+0.4**
MCSM	**Casa Diablo Ho**	**1.66**	**336**		**Pb**	**05 07 00.3**	**-0.1**
CARC	**Carrizo Plain**	**1.68**	**241**		**Pb**	**05 07 00.3**	**-0.3**
MDPB	**Devils Postpil**	**1.70**	**331**		**Pb**	**05 07 00.7**	**-0.4**
SMMC	**Simmler**	**1.79**	**243**	Pb	**Pn**	**05 07 01.4**	**+0.9**
	baz=62						
SMMC				Sb	**Sb**	**05 07 25.4**	**+0.5**
	baz=62						
CHFC	**Chilao Flat St**	**1.80**	**179**		**Pb**	**05 07 03.5**	**+0.7**
PAGB	**Antelope Grade**	**1.83**	**258**		**Pn**	**05 07 02.2**	**+1.1**
TUQ	**Turquoise Moun**	**1.86**	**112**	P	**Pn**	**05 07 01.3**	**-0.4**
	baz=293,SNR=18						
TUQ				Sg	**Sg**	**05 07 30.8**	**+1.3**
	baz=293						
TUQ	**Turquoise Moun**	**1.86**	**112**		**Pn**	**05 07 01.5**	**-0.2**
DECC	**Green Verdugo**	**1.90**	**187**	Pg	**Pg**	**05 07 05.5**	**-0.5**
	baz=6.8						
DECC				Sb	**Sb**	**05 07 28.6**	**+0.5**
	baz=6.8						
PKM	**Mcpherson Peak**	**1.91**	**230**	Pb	**Pn**	**05 07 03.6**	**+1.3**
	baz=48						
PKM				Sb	**Sb**	**05 07 28.3**	**-0.2**
	baz=48						
BCH	**Branch Mountai**	**1.91**	**241**		**Pn**	**05 07 03.4**	**+1.1**
MWC	**Mount Wilson**	**1.91**	**180**		**Pn**	**05 07 03.1**	**+0.7**
HEC	**Hector,Ludlow**	**1.92**	**133**	P	**Pn**	**05 07 01.9**	**-0.4**
	baz=314						
HEC				Sb	**Sb**	**05 07 30.2**	**+1.5**
	baz=314						
BFSC	**Mount Baldy Ra**	**1.93**	**170**	Pb	**Pb**	**05 07 04.5**	**-0.3**
	baz=350						
BFSC				Sb	**Sb**	**05 07 30.1**	**+1.1**
	baz=350						
PASC	**Pasadena Art C**	**1.97**	**183**		**Pn**	**05 07 04.6**	**+1.6**
PSMM	**Smith Mountain**	**2.06**	**269**		**Pn**	**05 07 05.9**	**+1.6**
BBRC	**Big Bear Solar**	**2.09**	**153**	Sb	**Sg**	**05 07 36.1**	**-0.7**
	baz=334						
PMPB	**Monarch Peak**	**2.23**	**273**		**Pn**	**05 07 07.8**	**+1.2**
NV11	**Mina Array Sit**	**2.29**	**358**	Pn	**Pn**	**05 07 08.5**	**+1.0**
NVAR	**Mina Array Bea**	**2.29**	**355**	Pn	**Pn**	**05 07 08.7**	**+1.0**
**

MLPR	Magueyes Islan	2.35	139	‖	eP	Pn	06 42 38.2 -0.5
MLPR	Magueyes Islan	2.35	139			Pn	06 42 38.2 -0.5
OBIP	Obispado Ponce	2.59	131	⇑	eP	Pn	06 42 43.3 +1.2
OBIP	Obispado Ponce	2.59	131		eS	Sn	06 43 13.2 -0.5
OBIP	Obispado Ponce	2.59	131			Pn	06 42 43.3 +1.2
OBIP						Sn	06 43 13.2 -0.5
SDDR	Presa de Saban	2.59	253		Pn	Pn	06 42 42.8 +0.7
GRTK	Grand Turk	2.89	307		Pn	Pb	06 42 50.2 -1.6
MTP	Monte Pirata	3.38	119	‖	eP	Pn	06 42 54.7 +1.8
MTP	Monte Pirata	3.38	119		eS	Sn	06 43 33.0 -0.1
MTP	Monte Pirata	3.38	119			Pn	06 42 54.7 +1.8
MTP						Sn	06 43 33.0 -0.1
STVI	Saint Thomas	3.78	111		eS	Sn	06 43 42.9 -0.1
STVI	Saint Thomas	3.78	111			Sn	06 43 42.9 -0.1

PGC **12** *07:00:22.4±0.6,50˚.55N×130˚.45W,h10km,mb4.0, MLSn3.6/39,Mw4.5,214km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

OTT **12** *07:00:22.4±3.7,50˚.55N±0˚.05×130˚.45W±0˚.09,h10km±2km, Mwr4.5,mb4.2/26(NEIC),Error ellipse: s-maj=11.2km s-min=6.1km az=230.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=6.08; Mθθ1.29; Mϕϕ4.68; Mrθ-1.18; Mθϕ2.50; Mϕr-3.13;*

NEIC **12** *07:00:24.5±3.5,50˚.66N±0˚.06×130˚.26W±0˚.09,h17km±4km Error ellipse: s-maj=11.5km s-min=5.0km az=222.0*

IDC **12** *07:00:25.1±1.3,50˚.66N×129˚.92W,h0km,mb3.8/3, mb1 4.2/8,mb1mx3.7/48,mbtmp3.8/8,ML3.8/5,MS3.5/20, Ms1 3.5/20,ms1mx3.4/45,Error ellipse: s-maj=20.5km s-min=11.6km az=77.0*

ISC 12 07:00:25.3±3.9,**50˚66N**±0˚.05×**130˚20W**±0˚.05, **h16**km±27km,**n305,**σ1**963**/289,**mb4.2**/9,**MS3.6**/12, **Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.31**	**90**	Pn	**Pn**	**07 00 47.0**	**-2.0**
HOLB				Sn	**Sn**	**07 01 03.7**	**-2.4**
HOLB	**Holberg**	**1.31**	**90**	Pn	**Pn**	**07 00 47.0**	**-2.0**
HOLB				Sn	**Sn**	**07 01 03.7**	**-2.4**
BPBC	**Brooks Peninsu**	**1.63**	**107**	Pn	**Pn**	**07 00 50.3**	**-3.0**
BPBC	**Brooks Peninsu**	**1.63**	**107**	Pn	**Pn**	**07 00 50.3**	**-3.0**
PACB	**Port Alice, BC**	**1.74**	**96**	Pn	**Pn**	**07 00 52.5**	**-2.2**
PACB				Sn	**Sn**	**07 01 12.9**	**-3.6**
PACB	**Port Alice, BC**	**1.74**	**96**	Pn	**Pn**	**07 00 52.5**	**-2.2**
PACB				Sn	**Sn**	**07 01 12.9**	**-3.6**
PHC	**Port Hardy**	**1.76**	**87**	Pn	**Pn**	**07 00 53.4**	**-1.6**
PHC				Sn	**Sn**	**07 01 14.9**	**-2.1**
MAYB	**Maynard**	**1.95**	**96**	Pn	**Pn**	**07 00 55.9**	**-1.9**
MAYB	**Maynard**	**1.95**	**96**	Pn	**Pn**	**07 00 55.9**	**-1.9**
BBB	**Bella Bella**	**2.01**	**40**	Pn	**Pn**	**07 00 57.1**	**-1.3**
BBB	55nm,0.3s,baz=230,slow=14,SNR=549			Sn	**Sn**	**07 01 21.6**	**-1.6**
BBB	114nm,0.3s,baz=264,slow=19,SNR=6.8			LR	LR	07 01 40.0	
BBB	comp=Z,137nm,19.6s,baz=58,slow=40	**2.01**	**40**	Pn	**Pn**	**07 00 57.1**	**-1.3**
BBB				Sn	**Sn**	**07 01 21.9**	**-1.3**
BBB	**Bella Bella**	**2.01**	**40**		**Pn**	**07 00 57.2**	**-1.3**
BBB				Sn	**Sn**	**07 01 22.3**	**-0.8**
FHRB	**Fair Harbour**	**2.06**	**106**	Pn	**Pn**	**07 00 56.8**	**-2.3**
FHRB	**Fair Harbour**	**2.06**	**106**	Pn	**Pn**	**07 00 56.8**	**-2.3**
HG3B	**Hotspring**	**2.07**	**338**	Pn	**Pn**	**07 00 56.1**	**-3.2**
HG3B				Sn	**Sn**	**07 01 20.7**	**-4.0**
HG3B	**Hotspring**	**2.07**	**338**	Pn	**Pn**	**07 00 56.1**	**-3.2**
HG3B				Sn	**Sn**	**07 01 20.7**	**-4.0**
EDB	**Eliza Dome**	**2.12**	**111**	Pn	**Pn**	**07 00 57.1**	**-2.9**
TLCB	**Telegraph Cove**	**2.15**	**92**	Pn	**Pn**	**07 00 59.1**	**-1.2**
TLCB				Sn	**Sn**	**07 01 24.9**	**-1.6**
TLCB	**Telegraph Cove**	**2.15**	**92**	Pn	**Pn**	**07 00 59.1**	**-1.2**
TLCB				Sn	**Sn**	**07 01 24.9**	**-1.6**
BNB	**Barry Inlet**	**2.15**	**334**	Pn	**Pn**	**07 00 56.8**	**-3.7**
NTKA	**Nootka**	**2.54**	**113**	Pn	**Pn**	**07 01 03.0**	**-2.7**
HG1B	**Mitchell Dam**	**2.58**	**333**	Pn	**Pn**	**07 01 03.6**	**-2.6**
HG1B	**Mitchell Dam**	**2.58**	**333**	Pn	**Pn**	**07 01 03.6**	**-2.6**
ETB	**Estevan Point**	**2.69**	**117**	Pn	**Pn**	**07 01 05.2**	**-2.5**
GDR	**Gold River**	**2.82**	**107**	Pn	**Pn**	**07 01 07.4**	**-2.1**
BNAB	**Bonilla**	**2.85**	**355**	Pn	**Pn**	**07 01 07.7**	**-2.3**
BNAB	**Bonilla**	**2.85**	**355**	Pn	**Pn**	**07 01 07.7**	**-2.3**
DIB	**Dawson Inlet,**	**2.91**	**332**	Pn	**Pn**	**07 01 07.5**	**-3.3**
DIB	**Dawson Inlet,**	**2.91**	**332**	Pn	**Pn**	**07 01 07.8**	**-3.0**
H02S1	**DAWSON INLET T**	**2.91**	**332**	Pn	**Pn**	**07 01 07.5**	**-3.3**
NC89	**ODP889**	**2.95**	**131**	Pn	**Pn**	**07 01 09.0**	**-2.1**
NC89	**ODP889**	**2.95**	**131**	Pn	**Pn**	**07 01 09.0**	**-2.1**
H02N1	**VAN INLET T-PH**	**2.97**	**332**	Pn	**Pn**	**07 01 08.5**	**-3.3**
VIB	**Van Inlet**	**2.97**	**332**	Pn	**Pn**	**07 01 08.4**	**-3.4**
VIB				Sn	**Sn**	**07 01 43.4**	**-3.8**
SPLB	**Strathcona Par**	**3.02**	**103**	Pn	**Pn**	**07 01 10.9**	**-1.3**
SPLB	**Strathcona Par**	**3.02**	**103**	Pn	**Pn**	**07 01 10.9**	**-1.3**
TOFB	**Tofino**	**3.15**	**117**	Pn	**Pn**	**07 01 11.6**	**-2.5**
TOFB				Sn	**Sn**	**07 01 47.9**	**-3.5**
TOFB	**Tofino**	**3.15**	**117**	Pn	**Pn**	**07 01 11.6**	**-2.5**
TOFB				Sn	**Sn**	**07 01 47.9**	**-3.5**
CBB	**Campbell River**	**3.16**	**100**	Pn	**Pn**	**07 01 13.1**	**-1.2**
BTB	**Buttle Lake**	**3.24**	**110**	Pn	**Pn**	**07 01 13.6**	**-2.0**
MWAB	**Mount Washingt**	**3.28**	**104**	Pn	**Pn**	**07 01 14.6**	**-1.3**
MWAB	**Mount Washingt**	**3.28**	**104**	Pn	**Pn**	**07 01 14.6**	**-1.3**
B012	**Ucluelet**	**3.48**	**118**	Pn	**Pn**	**07 01 16.9**	**-1.7**
B012	**Ucluelet**	**3.48**	**118**	Pn	**Pn**	**07 01 16.9**	**-1.7**
OZB	**Mount Ozzard**	**3.49**	**117**	Pn	**Pn**	**07 01 16.3**	**-2.5**
MASB	**Masset**	**3.54**	**342**	Pn	**Pn**	**07 01 15.9**	**-3.6**
MASB	**Masset**	**3.54**	**342**	Pn	**Pn**	**07 01 15.9**	**-3.6**
RUBB	**Prince Rupert**	**3.67**	**359**	Pn	**Pn**	**07 01 19.8**	**-1.5**
RUBB	**Prince Rupert**	**3.67**	**359**	Pn	**Pn**	**07 01 19.8**	**-1.5**
BFSB	**Bamfield**	**3.76**	**117**	Pn	**Pn**	**07 01 20.3**	**-2.1**
B928	**Bamfield**	**3.76**	**117**	Pn	**Pn**	**07 01 20.8**	**-1.6**
B928	**Bamfield**	**3.76**	**117**	Pn	**Pn**	**07 01 20.8**	**-1.6**
B927	**Port Alberni**	**3.77**	**110**	Pn	**Pn**	**07 01 20.8**	**-1.7**
B927	**Port Alberni**	**3.77**	**110**	Pn	**Pn**	**07 01 20.8**	**-1.7**
TXB	**Texada**	**3.83**	**102**	Pn	**Pn**	**07 01 22.1**	**-1.4**
MGB	**Mount Grey**	**3.93**	**113**	Pn	**Pn**	**07 01 22.9**	**-2.1**
GHNB	**Nanoose**	**4.08**	**107**	Pn	**Pn**	**07 01 25.4**	**-1.5**
GHNB	**Nanoose**	**4.08**	**107**	Pn	**Pn**	**07 01 25.4**	**-1.5**
SHB	**Sechelt**	**4.20**	**102**	Pn	**Pn**	**07 01 27.6**	**-1.1**
YOUB	**Youbou, Lake C**	**4.23**	**112**	Pn	**Pn**	**07 01 27.4**	**-1.7**
YOUB	**Youbou, Lake C**	**4.23**	**112**	Pn	**Pn**	**07 01 27.4**	**-1.7**
NLLB	**Nanaimo Lost L**	**4.26**	**107**	Pn	**Pn**	**07 01 27.7**	**-1.6**
NLLB	**Nanaimo Lost L**	**4.26**	**107**	Pn	**Pn**	**07 01 27.7**	**-1.6**
PFB	**Port Renfrew**	**4.29**	**117**	Pn	**Pn**	**07 01 28.0**	**-1.7**
OCP	**Olym-Cheeka Pk**	**4.33**	**121**	Pn	**Pn**	**07 01 29.0**	**-1.4**
B926	**Mesachie Lake**	**4.34**	**113**	Pn	**Pn**	**07 01 29.5**	**-1.0**
B926	**Mesachie Lake**	**4.34**	**113**	Pn	**Pn**	**07 01 29.5**	**-1.0**
WPB	**Watts Point**	**4.60**	**100**	Pn	**Pn**	**07 01 33.6**	**-0.5**
BIB	**Bowen Island**	**4.62**	**103**	Pn	**Pn**	**07 01 33.7**	**-0.6**
GOBB	**Galiano Island**	**4.66**	**109**	Pn	**Pn**	**07 01 34.7**	**-0.1**
GOBB	**Galiano Island**	**4.66**	**109**	Pn	**Pn**	**07 01 34.7**	**-0.1**
OBC	**Olympics--Boni**	**4.78**	**121**	Pn	**Pn**	**07 01 36.6**	**-0.1**
SOKB	**Sooke**	**4.81**	**116**	Pn	**Pn**	**07 01 35.5**	**-1.4**
SOKB	**Sooke**	**4.81**	**116**	Pn	**Pn**	**07 01 35.5**	**-1.4**
B010	**North Saanich**	**4.82**	**112**	Pn	**Pn**	**07 01 35.9**	**-1.1**
B010	**North Saanich**	**4.82**	**112**	Pn	**Pn**	**07 01 35.9**	**-1.1**
PGC	**Sidney**	**4.82**	**112**	Pn	**Pn**	**07 01 36.2**	**-0.9**
PGC	**Sidney**	**4.82**	**112**	Pn	**Pn**	**07 01 35.8**	**-1.3**
B009	**North Saanich**	**4.82**	**112**	Pn	**Pn**	**07 01 36.1**	**-1.0**
B009	**North Saanich**	**4.82**	**112**	Pn	**Pn**	**07 01 36.1**	**-1.0**
B011	**North Saanich**	**4.82**	**112**	Pn	**Pn**	**07 01 36.1**	**-1.0**
B011	**North Saanich**	**4.82**	**112**	Pn	**Pn**	**07 01 36.1**	**-1.0**
SNB	**Saturna Island**	**4.93**	**110**	Pn	**Pn**	**07 01 38.8**	**+0.1**
STW	**Striped Peak**	**4.95**	**118**	Pn	**Pn**	**07 01 38.5**	**-0.3**
VGZ	**Gonzales**	**5.01**	**114**	Pn	**Pn**	**07 01 38.7**	**-0.9**
HNBB	**Haney**	**5.11**	**103**	Pn	**Pn**	**07 01 40.8**	**-0.2**
OSD	**Olympics--Snow**	**5.12**	**121**	Pn	**Pn**	**07 01 41.1**	**-0.2**
MCW	**Mount Constitu**	**5.18**	**110**	Pn	**Pn**	**07 01 41.8**	**-0.2**
A04D	**Lummi Island** baz=293,SNR=7.4	**5.24**	**109**	P	**Pn**	**07 01 43.4**	**+0.7**
FSB	**Fort Saint Jam**	**5.24**	**41**	Pn	**Pn**	**07 01 42.9**	**+0.1**
NLWA	**Neilton Lookou**	**5.29**	**126**	Pn	**Pn**	**07 01 43.0**	**-0.6**
BLN	**Blyn Mountain**	**5.42**	**117**	Pn	**Pn**	**07 01 44.5**	**-0.8**
VDB	**Vedder Mountai**	**5.49**	**104**	Pn	**Pn**	**07 01 46.2**	**0.0**
WISH	**Wishkah**	**5.53**	**127**	Pn	**Pn**	**07 01 46.3**	**-0.4**
WISH	**Wishkah**	**5.53**	**127**	Pn	**Pn**	**07 01 46.3**	**-0.4**
HDW	**Hoodsport**	**5.57**	**120**	Pn	**Pn**	**07 01 46.9**	**-0.6**
D03D	**Eldon** baz=305,SNR=5.3	**5.62**	**121**	P	**Pn**	**07 01 48.3**	**+0.2**
MBW	**Mount Baker**	**5.70**	**106**	Pn	**Pn**	**07 01 50.1**	**+0.8**
CMW	**Cultus Mountai**	**5.71**	**110**	Pn	**Pn**	**07 01 50.0**	**+0.5**
GNW	**Green Mountain**	**5.75**	**120**	Pn	**Pn**	**07 01 49.7**	**-0.1**
HOPB	**Hope**	**5.80**	**99**	Pn	**Pn**	**07 01 50.2**	**-0.3**
HOPB	**Hope**	**5.80**	**99**	Pn	**Pn**	**07 01 50.2**	**-0.3**
B05A	**Bryant** baz=296,SNR=54	**5.80**	**111**	P	**Pn**	**07 01 50.9**	**+0.3**
WRAK	**Wrangell Islan**	**5.91**	**348**		**Pn**	**07 01 50.5**	**-1.5**
JCW	**Jim Creek**	**5.93**	**111**	Pn	**Pn**	**07 01 52.4**	**0.0**
CPW	**Capitol Peak**	**5.94**	**126**	Pn	**Pn**	**07 01 52.3**	**-0.3**
E03A	**Lebam**	**6.02**	**131**	Pn	**Pn**	**07 01 53.0**	**-0.6**
B06A	**Marblemount**	**6.06**	**107**	Pn	**Pn**	**07 01 54.4**	**+0.4**
B06A	**Marblemount**	**6.06**	**107**		**Pn**	**07 01 54.5**	**+0.4**
RPW	**Rockport**	**6.07**	**108**	Pn	**Pn**	**07 01 54.2**	**0.0**
D05A	**Enumclaw**	**6.43**	**120**	Pn	**Pn**	**07 01 59.4**	**+0.3**
D05A	**Enumclaw**	**6.43**	**120**		**Pn**	**07 02 00.0**	**+0.9**
GPW	**Glacier Peak**	**6.44**	**110**	Pn	**Pn**	**07 02 00.4**	**+0.9**
E04D	**Cinebar** baz=310,SNR=6.3	**6.51**	**126**	P	**Pn**	**07 02 01.5**	**+1.2**
F04D	**Rainier, OR** baz=315	**6.62**	**131**	P	**Pn**	**07 02 03.6**	**+1.8**
FMW	**Mount Fremont**	**6.75**	**120**	Pn	**Pn**	**07 02 04.1**	**+0.3**
LON	**Longmire**	**6.79**	**122**	Pn	**Pn**	**07 02 05.1**	**+0.9**
LON	**Longmire**	**6.79**	**122**		**Pn**	**07 02 05.1**	**+0.9**
PNT	**Penticton**	**6.95**	**97**	Pn	**Pn**	**07 02 06.0**	**-0.4**
F04A	**Amboy**	**7.02**	**129**	Pn	**Pn**	**07 02 08.6**	**+1.3**
LTY	**Liberty**	**7.13**	**115**	Pn	**Pn**	**07 02 09.7**	**+0.7**
LTY	**Liberty**	**7.13**	**115**		**Pn**	**07 02 09.9**	**+1.0**
G03D	**McMinnville, O** baz=320	**7.17**	**137**	P	**Pn**	**07 02 11.4**	**+2.1**
BMBC	**Bull Mountain**	**7.24**	**39**	Pn	**Pn**	**07 02 10.6**	**+0.3**
BMBC	**Bull Mountain**	**7.24**	**39**	Pn	**Pn**	**07 02 10.6**	**+0.3**
B08A	**Colville Reser**	**7.44**	**104**	Pn	**Pn**	**07 02 13.1**	**+0.1**
B08A	**Colville Reser**	**7.44**	**104**	Pn	**Pn**	**07 02 13.1**	**+0.1**
F05D	**White Salmon** baz=311	**7.54**	**126**	P	**Pn**	**07 02 16.0**	**+1.6**
NBC4	**NorthernBC 4**	**7.62**	**45**	Pn	**Pn**	**07 02 16.3**	**+0.7**
NBC4	**NorthernBC 4**	**7.62**	**45**	Pn	**Pn**	**07 02 16.3**	**+0.7**
DLBC	**Dease Lake** 1.3nm,0.3s,baz=195,slow=15,SNR=23	**7.80**	**1**	Pn	**Pn**	**07 02 19.1**	**+1.2**
DLBC	0.7nm,0.3s,baz=316,slow=9.7,SNR=3.6			Sn	**Sn**	**07 03 48.9**	**+3.1**
DLBC	comp=Z,506nm,20.1s,baz=186,slow=37			LR	LR	07 05 10.8	
DLBC	**Dease Lake**	**7.80**	**1**	Pn	**Pn**	**07 02 18.8**	**+0.8**
DLBC	**Dease Lake**	**7.80**	**1**	Pn	**Pn**	**07 02 18.4**	**+0.5**
H04D	**Lebanon** baz=322	**7.94**	**138**	P	**Pn**	**07 02 22.4**	**+2.5**
E07A	**Sunnyside**	**7.99**	**117**	Pn	**Pn**	**07 02 21.2**	**+0.7**
G05D	**Wamic, OR** baz=314	**8.05**	**129**	P	**Pn**	**07 02 23.6**	**+2.1**
H04A	**Detroit Lake**	**8.06**	**135**	Pn	**Pn**	**07 02 23.2**	**+1.7**
NBC5	**NorthernBC 5**	**8.17**	**30**	Pn	**Pn**	**07 02 24.1**	**+1.0**
NBC5	**NorthernBC 5**	**8.17**	**30**	Pn	**Pn**	**07 02 24.1**	**+1.0**
D08A	**Wollman Farm,**	**8.26**	**112**	Pn	**Pn**	**07 02 23.9**	**-0.4**
HAWA	**Hanford**	**8.27**	**117**		**Pn**	**07 02 24.1**	**-0.3**
C09A	**Chrisman Ranch**	**8.31**	**106**	Pn	**Pn**	**07 02 25.4**	**+0.4**
C09A	**Chrisman Ranch**	**8.31**	**106**	Pn	**Pn**	**07 02 25.4**	**+0.4**
E08A	**Dider Farm, El**	**8.48**	**115**	Pn	**Pn**	**07 02 27.1**	**-0.2**
I05D	**Terrebonne, OR** baz=318	**8.71**	**133**	P	**Pn**	**07 02 32.8**	**+2.3**
NEW	**Newport** baz=290,SNR=6.3	**8.85**	**101**	P	**Pn**	**07 02 32.6**	**+0.2**
NEW	**Newport**	**8.85**	**101**	Pn	**Pn**	**07 02 32.7**	**+0.2**
E09A	**Wood Farm, Sta**	**9.00**	**113**		**Pn**	**07 02 34.3**	**-0.1**
G08A	**Pilot Rock**	**9.25**	**121**	Pn	**Pn**	**07 02 38.7**	**+0.7**
PINE	**Pine Mountain**	**9.31**	**134**	Pn	**Pn**	**07 02 41.5**	**+2.6**
J05D	**Fort Rock, OR** baz=322	**9.58**	**137**	P	**Pn**	**07 02 45.0**	**+2.5**
L02E	**Cave Junction** baz=333	**9.64**	**149**	P	**Pn**	07 02 46.9	+3.7
I07A	**Izee**	**9.79**	**128**		**Pn**	**07 02 46.7**	**+1.4**
F10A	**Beach Ranch, E**	**9.83**	**113**		**Pn**	**07 02 45.9**	**+0.1**
PRDA	**Priddis**	**10.08**	**83**	Pn	**Pn**	**07 02 49.4**	**0.0**
PRDA	**Priddis**	**10.08**	**83**	Pn	**Pn**	**07 02 49.4**	**0.0**
YBH	**Yreka Blue Hor** 0.1nm,0.3s,baz=333,slow=11,SNR=4.0	**10.32**	**147**	Pn	**Pn**	07 02 56.8	+4.2
YBH	comp=Z,232nm,18.3s,baz=328,slow=35			LR	LR	07 06 21.8	
WHY	**Whitehorse**	**10.36**	**347**	Pn	**Pn**	**07 02 52.8**	**-0.3**
WHY	**Whitehorse**	**10.36**	**347**		**Pn**	**07 02 53.2**	**+0.1**
BMO	**Blue Mountains**	**10.44**	**119**		**Pn**	**07 02 54.3**	**+0.1**
BSMT	**Bassoo Peak**	**10.46**	**100**	Pn	**Pn**	**07 02 54.5**	**-0.1**
BSMT	**Bassoo Peak**	**10.46**	**100**	Pn	**Pn**	**07 02 54.5**	**-0.1**
WALA	**Waterton Lakes**	**10.64**	**92**		**Pn**	**07 02 59.0**	**+2.0**
JTMT	**Jette**	**10.81**	**99**		**Pn**	**07 02 59.9**	**+0.5**
J08A	**Circle Bar Ran**	**10.83**	**128**		**Pn**	**07 02 60.0**	**+0.4**
HYT	**Haines Junctio**	**10.98**	**341**	Pn	**Pn**	**07 03 00.6**	**-1.0**
MSO	**Missoula** baz=295	**11.39**	**103**	P	**Pn**	**07 03 07.4**	**+0.1**
MSO	**Missoula**	**11.39**	**103**		**Pn**	**07 03 06.6**	**-0.7**
O02D	**Mt. Diablo Mer** baz=335	**11.70**	**151**	P	Pn	07 03 15.4	+4.0
MFID	**Camas Ranch**	**12.18**	**121**	Pn	**Pn**	**07 03 17.9**	**-0.1**
HRY	**Holter Researc**	**12.76**	**101**		**Pn**	**07 03 26.0**	**+0.1**
HLID	**Hailey** baz=308	**12.87**	**117**	P	**Pn**	**07 03 28.9**	**+1.3**
HLID	**Hailey**	**12.87**	**117**	Pn	**Pn**	**07 03 29.0**	**+1.5**
DLMT	**Dillon**	**12.91**	**107**	Pn	**Pn**	**07 03 27.1**	**-1.0**
BCYI	**Bear Canyon**	**13.00**	**113**		**Pn**	**07 03 29.2**	**-0.2**
MCMT	**McKenzie Canyo**	**13.04**	**110**		**Pn**	**07 03 30.4**	**+0.5**
BOZ	**Bozeman (W)** baz=298	**13.39**	**105**	P	**Pn**	**07 03 34.5**	**-0.1**
EGMT	**Eagleton** baz=288	**13.58**	**93**	P	**Pn**	**07 03 37.2**	**+0.1**
EGMT	**Eagleton**	**13.58**	**93**	Pn	**Pn**	**07 03 40.6**	**+3.5**
BCAR	**Beaver Creek A**	**13.92**	**338**	Pn	**Pn**	**07 03 38.5**	**-3.2**
YHL	**Hebgen Lake**	**14.03**	**107**		**Pn**	**07 03 43.9**	**+0.3**
YHB	**Horse Butte**	**14.08**	**107**		**Pn**	**07 03 44.5**	**+0.4**
YHH	**Holmes Hill**	**14.27**	**107**		**Pn**	**07 03 47.3**	**+0.6**
ELK	**Elko** comp=Z,139nm,19.1s,baz=322,slow=37	**14.38**	**128**	LR	LR	07 09 13.4	
ELK	**Elko**	**14.38**	**128**	P	**P**	**07 03 53.7**	**-1.4**
YPP	**Pitchstone Pla**	**14.57**	**109**		**Pn**	**07 03 50.9**	**0.0**
YKA	**Yellowknife Ar** 0.4nm,0.3s,baz=219,slow=13,SNR=20	**14.59**	**30**	Pn	**Pn**	**07 03 48.5**	**-2.2**
YKA	0.1nm,0.3s,baz=222,slow=24,SNR=6.2			Sn	Sn	07 06 22.7	-9.1
H17A	**Grant Village** baz=302	**14.64**	**108**	P	**Pn**	**07 03 52.7**	**+0.9**
H17A	**Grant Village**	**14.64**	**108**	P	**Pn**	**07 03 53.7**	**+1.9**
IMW	**Indian Meadow**	**14.70**	**110**	Pn	**Pn**	**07 03 52.9**	**+0.4**
FLWY	**Flagg Ranch**	**14.74**	**109**	P	**Pn**	**07 03 54.4**	**+1.3**
FXWY	**Fox Creek**	**14.79**	**111**	P	**Pn**	**07 03 55.1**	**+1.3**
K27K	**Chicken** baz=150	**14.82**	**339**	P	**P**	**07 03 56.4**	**-3.3**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=323,slow=12,SNR=6.2	**14.85**	**141**	Pn	**P**	**07 03 57.4**	**-3.0**
NVAR	**Mina Array Bea**	**14.85**	**141**	P	**P**	**07 03 58.8**	**-1.6**
KDAK	**Kodiak Island** comp=Z,290nm,21.1s,baz=132,slow=31	**14.86**	**307**	LR	LR	07 08 11.4	
REDW	**Red Top Meadow**	**15.05**	**112**	P	**P**	**07 04 00.9**	**-1.7**
REDW	comp=Z,11nm,0.8s			IAmb	IAmb	07 04 12.1	
LOHW	**Long Hollow**	**15.06**	**110**		**Pn**	**07 03 59.3**	**+1.9**
LOHW	comp=Z,5.8nm,0.8s			IAmb	IAmb	07 04 06.8	
RLMT	**Red Lodge** baz=299	**15.07**	**103**	P	**Pn**	**07 03 58.2**	**+0.6**
RLMT	**Red Lodge**	**15.07**	**103**		**Pn**	**07 03 59.2**	**+1.6**
SCRK	**Sand Creek** baz=146	**15.23**	**336**	P	**P**	**07 04 02.4**	**-1.9**
EGAK	**Eagle**	**15.28**	**342**		**P**	**07 04 03.1**	**-1.7**
HWUT	**Hardware Ranch**	**15.74**	**118**		**P**	**07 04 09.0**	**-1.2**
DUG	**Dugway, Tooele** baz=316	**16.03**	**124**	P	**P**	**07 04 11.8**	**-1.6**
R11A	**Troy Canyon, C** baz=324	**16.09**	**134**	P	**P**	**07 04 11.8**	**-2.4**
EPYK	**Eagle Plains** baz=166	**16.11**	**350**	P	**P**	**07 04 12.4**	**-1.5**
TCUT	**Toone Canyon**	**16.15**	**119**	P	**P**	**07 04 12.3**	**-2.5**
BW06	**Boulder Array** baz=306,SNR=7.1	**16.17**	**111**	P	**Pn**	**07 04 12.7**	**+0.8**
BW06	**Boulder Array**	**16.17**	**111**	P	**P**	**07 04 14.2**	**-0.9**
PD31	**Pinedale Array**	**16.17**	**111**	P	**P**	**07 04 14.0**	**-1.0**
PD31	comp=Z,28nm,1.9s			IAmb	IAmb	07 04 18.9	
PDAR	**Pinedale Array** comp=Z,0.1nm,0.3s,baz=311,slow=12,SNR=30	**16.17**	**111**	Pn	**P**	**07 04 14.1**	**-0.9**
PDAR	comp=Z,173nm,20.0s,baz=321,slow=37			LR	LR	07 10 23.9	
PDAR	**Pinedale Array**	**16.17**	**111**	P	**P**	**07 04 13.5**	**-1.5**
LAO	**LASA Array** baz=292,SNR=5.9	**16.30**	**95**	P	**Pn**	**07 04 12.7**	**-0.6**
LAO	**LASA Array**	**16.30**	**95**	P	**Pn**	**07 04 14.6**	**+1.2**
HDA	**Harding Lake** baz=140	**16.37**	**334**	P	**P**	**07 04 16.3**	**-0.6**
ILAR	**Eielson Array** comp=Z,0.1nm,0.3s,baz=145,slow=9.9,SNR=24	**16.63**	**335**	Pn	**P**	**07 04 22.4**	**+2.7**
ILAR				LR	LR	07 09 41.7	
ILAR	**Eielson Array** comp=Z,109nm,18.9s,baz=162,slow=33	**16.63**	**335**	P	**P**	**07 04 22.0**	**+2.3**
CWC	**Cottonwood Cre** baz=332	**16.68**	**144**	P	**P**	**07 04 20.5**	**0.0**
PSUT	**Pine Spring**	**16.76**	**130**		**P**	**07 04 23.7**	**+2.2**
TPNV	**Topopah Spring** baz=328,SNR=7.3	**16.96**	**139**	P	**P**	**07 04 24.0**	**+0.3**
DGMT	**Dagmar** baz=287	**16.98**	**87**	P	**P**	**07 04 23.2**	**-0.6**
DGMT	**Dagmar**	**16.98**	**87**		**P**	**07 04 23.9**	**+0.2**
FURC	**Furnace Creek,** baz=330	**17.12**	**141**	P	**P**	**07 04 26.7**	**+1.4**
NEA2	**Nenana** baz=136	**17.13**	**332**	P	**P**	**07 04 25.3**	**+0.1**
ISA	**Isabella, Lake** baz=334	**17.22**	**146**	P	**P**	**07 04 28.3**	**+1.7**
MPMC	**Manual Prospec** baz=331	**17.23**	**143**	P	**P**	**07 04 28.6**	**+1.8**
DHRN	**Dharma Camp**	**17.28**	**14**	Pn	**Pn**	**07 04 24.4**	**-1.1**
DHRN	**Dharma Camp**	**17.28**	**14**	Pn	**Pn**	**07 04 24.4**	**-1.1**
INK	**Inuvik** comp=Z,108nm,18.3s,baz=160,slow=39	**17.78**	**356**	LR	LR	07 11 60.0	
K22A	**Casper** baz=304	**18.06**	**107**	P	**P**	**07 04 36.3**	**+0.5**
GSC	**Goldstone, Bar** baz=331	**18.16**	**143**	P	**P**	**07 04 39.1**	**+2.2**
O20A	**White River Ci** baz=311	**18.60**	**116**	P	**Pn**	**07 04 43.1**	**+1.0**
HEC	**Hector,Ludlow** baz=331	**18.76**	**142**	P	**Pn**	**07 04 45.5**	**+1.6**
KUKN	**Kugluktuk,NWT**	**18.77**	**18**	Pn	**Pn**	**07 04 43.9**	**+0.2**
KUKN	**Kugluktuk,NWT**	**18.77**	**18**		**Pn**	**07 04 43.9**	**+0.2**
BFSC	**Mount Baldy Ra** baz=334	**18.79**	**146**	P	**Pn**	**07 04 46.0**	**+1.6**
RSSD	**Black Hills** baz=299	**18.82**	**100**	P	**P**	**07 04 43.6**	**-0.7**
RSSD	**Black Hills**	**18.82**	**100**		**Pn**	**07 04 45.5**	**+0.7**
RSSD	comp=Z,28nm,1.9s			IAmb	IAmb	07 04 56.6	
C36M	**Paulatuk** baz=192	**18.98**	**7**	P	**Pn**	**07 04 46.0**	**-0.2**
BBRC	**Big Bear Solar** baz=333	**19.04**	**144**	P	**Pn**	**07 04 49.4**	**+1.9**
COLD	**Coldfoot** baz=140	**19.39**	**336**	P	**Pn**	**07 04 53.0**	**+1.7**
PV22	**Blue Mesa, Par**	**19.39**	**120**	P	**Pn**	**07 04 52.2**	**+0.5**
PV22	comp=Z,7.6nm,0.8s			IAmb	IAmb	07 05 02.8	
N23A	**Red Feather La** baz=308	**19.45**	**111**	P	**Pn**	**07 04 52.3**	**-0.2**
IMAR	**Indian Mountai**	**19.52**	**331**	P	**Pn**	**07 04 53.1**	**+0.4**
BELC	**Belle Mtn. Jos** baz=332	**19.62**	**143**	P	**Pn**	**07 04 55.3**	**+0.9**
PFO	**Pinyon Flats O** comp=Z,121nm,19.4s,baz=318,slow=38	**19.79**	**144**	LR	LR	07 12 59.9	
MDND	**Maddock** baz=289,SNR=9.1	**20.10**	**86**	P	**P**	**07 04 58.5**	**+0.6**
ISCO	**Idaho Springs**	**20.34**	**113**	Pn	Pn	07 05 03.7	+0.7
ISCO	comp=Z,17nm,1.9s			IAmb	IAmb

comp=Z,17nm,18.1s,baz=112,slow=37
HHC Hu-ho-hao-te 74.09 316 *e*P **P 07 12 03.2 +2.8**
HHC pmax pmax
comp=Z,23nm,1.1s
HHC pmax pmax
comp=Z,78nm,6.5s
MKAR Makanchi Array 78.96 338 P **P 07 12 30.5 +2.7**
comp=Z,0.5nm,0.8s,baz=26,slow=4.0,SNR=4.3
MKAR LR LR 07 53 24.8
comp=Z,36nm,18.5s,baz=87,slow=40
WMQ Urumqi 80.29 333 *e*P P 07 12 39.7 +4.6
LPAZ La Paz 85.91 122 LR LR 07 55 49.1
comp=Z,48nm,18.0s,baz=147,slow=39
JAY Jayapura 91.35 268 LR LR 07 47 51.7
comp=Z,40nm,20.9s,baz=284,slow=31

IDC 12 07:08:50.4±7.8, 6°38S×147°41E, h76km±53km, mb3.8/3, mb1 3.9/5, mb1mx3.4/37, mbtmp4.0/5, ML4.1/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/35, Error ellipse: s-maj=71.9km s-min=48.7km az=63.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.02**	**185**	P	Pn	07 09 34.8	-1.1
	8.1nm,0.3s,baz=354,slow=8.8,SNR=12						
PMG				S	Sn	07 10 12.1	+1.0
	11nm,0.3s,baz=231,slow=23,SNR=8.2						
PMG				LR	LR	07 11 21.0	
	comp=Z,112nm,18.1s,baz=52,slow=50						
WRA	**Warramunga Arr**	**18.52**	**222**	P	P	07 13 00.2	-0.7
	0.6nm,0.3s,baz=49,slow=11,SNR=24						
ASAR	**Alice Springs**	**21.55**	**216**	P	P	07 13 33.5	-0.2
	2.7nm,0.5s,baz=51,slow=8.9,SNR=60						
FITZ	**Fitzroy Crossi**	**24.22**	**239**	P	P	07 14 00.4	+0.2
	5.7nm,0.6s,baz=73,slow=6.8,SNR=18						
STKA	**Stephens Creek**	**25.95**	**191**	P	P	07 14 16.1	+0.4
	2.7nm,1.0s,baz=15,slow=12,SNR=3.0						
STKA				LR	LR	07 24 47.3	
	comp=Z,44nm,18.1s,baz=21,slow=37						

*IDC **12** 07:18:33.9±0.9, 35°.80N×137°.07E, h271km±8km, mb2.9/3, mb1 3.1/6, mb1mx2.9/48, mbtmp3.7/6, Error ellipse: s-maj=23.0km s-min=20.0km az=112.0*
*JMA **12** 07:18:34.1±0.2, 35°.88N×137°.07E, h274km±2km, M3.0*
ISC 12 07:18:34.2±0.8, 35°.90N±0°.07×137°.04E±0°.06, h272km±7km, n22, σ0°73/31, mb3.1/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	**Yamagatataniai**	**0.39**	**219**	P	**Pn**	**07 19 09.5**	**+0.2**
JYTA				S	**S**	**07 19 36.3**	**-0.8**
MAT	**Matsushiro**	**1.15**	**55**	P	**Pn**	**07 19 12.6**	**+0.3**
MAT				S	**S**	**07 19 42.6**	**+0.1**
MAT	**Matsushiro**	**1.15**	**55**	P	**Pn**	**07 19 12.6**	**+0.3**
MAT				*e*S	**S**	**07 19 42.9**	**+0.4**
MJAR	**Matsushiro Arr**	**1.15**	**55**	P	**Pn**	**07 19 10.3**	**-2.0**
	0.9nm,0.3s,baz=239,slow=7.6,SNR=39						
MJAR				S	**S**	**07 19 43.1**	**+0.6**
	0.1nm,0.3s,baz=238,slow=14,SNR=8.0						
JYN	**Shimob**	**1.29**	**107**	P	**Pn**	**07 19 13.0**	**-0.3**
JWT	**Wachi**	**1.47**	**246**	P	**Pn**	**07 19 14.6**	**+0.3**
JWT				S	**S**	**07 19 45.5**	**-0.6**
JRY	**Ryogami san**	**1.52**	**85**	P	**Pn**	**07 19 14.8**	**+0.1**
JRY				*e*S	**S**	**07 19 46.9**	**+0.1**
JIE	**Ise**	**1.52**	**190**	P	**Pn**	**07 19 15.2**	**+0.4**
JIE				S	**S**	**07 19 47.2**	**+0.2**
JOD2	**Odawara 2**	**1.79**	**110**	P	**Pn**	**07 19 17.1**	**+0.3**
JOD2				S	**S**	**07 19 51.0**	**+0.5**
JAG	**Ashikaga**	**2.03**	**74**	P	**Pn**	**07 19 18.1**	**-0.6**
TK02	**Tokai 2**	**2.03**	**163**	P	**Pn**	**07 19 19.0**	**+0.4**
JWY	**Kouya**	**2.05**	**216**	P	**Pn**	**07 19 19.3**	**+0.3**
JWY				*e*S	**S**	**07 19 54.1**	**-0.5**
TTO1	**TONANKAI O.B.S**	**2.28**	**185**	P	**Pn**	**07 19 21.7**	**+1.0**
JSD	**Sado**	**2.35**	**24**	P	**Pn**	**07 19 22.2**	**+0.7**
JTNC	**Tanabenakahech**	**2.38**	**210**	P	**Pn**	**07 19 21.9**	**-0.1**
JHS	**Saijyo**	**3.32**	**256**	P	**Pn**	**07 19 31.5**	**0.0**
JNU	**Nakatsue**	**5.79**	**243**	P	**Pn**	**07 20 00.8**	**+0.5**
	1.6nm,0.3s,baz=47,slow=5.4,SNR=11						
USRK	**Usuriysk Ar.**	**9.15**	**337**	P	**Pn**	**07 20 43.1**	**+1.4**
	baz=165,slow=13,SNR=7.4						
KLR	**Kul'dur**	**13.88**	**345**	P	**Pn**	**07 21 39.1**	**-0.8**
	0.4nm,0.3s,baz=149,slow=12,SNR=6.1						
PETK	**Petropavlovsk-**	**22.52**	**34**	P	**P**	**07 23 11.8**	**+0.9**
	1.6nm,0.8s,baz=222,slow=1.9,SNR=3.5						
MKAR	**Makanchi Array**	**41.74**	**303**	P	**P**	**07 25 57.4**	**+0.4**
	0.5nm,0.6s,baz=91,slow=9.4,SNR=7.1						
WRA	**Warramunga Arr**	**55.59**	**183**	P	**P**	**07 27 40.8**	**-1.2**
	0.2nm,0.3s,baz=356,slow=7.5,SNR=2.0						

NEIC 12 07:47:43.5±1.4, 20°.16N±0°.05×155°.19W±0°.07, h23km±9km, ML4.0/44, Error ellipse: s-maj=11.6km s-min=4.8km az=58.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAH	**Hawaii Prepara**	**0.49**	**255**		Pn	07 47 55.9	+0.6
POHA	**Pohakuloa**	**0.51**	**219**		Pn	07 47 56.0	+0.3
POHA					Sb	07 48 02.2	+1.1
HMH	**Humu'ula Sheep**	**0.62**	**207**		Pn	07 47 57.6	+0.5
HMH					Sb	07 48 05.0	+0.8
HMH				IAML		07 48 05.3	
	comp=E,11μm,0.4s						
HMH				IAML		07 48 05.6	
	comp=N,8μm,0.4s						
MLH	**Mauna Loa**	**0.69**	**196**		Pn	07 47 58.4	+0.3
MLH				Sn	Sb	07 48 05.8	-0.3
MLH				IAML		07 48 06.4	
	comp=E,10μm,0.4s						
MLH				IAML		07 48 06.5	
	comp=N,8μm,0.2s						
RSD	**Rainshed**	**0.69**	**187**		Pn	07 47 58.6	+0.5
RSD				Sn	Sb	07 48 05.6	-0.7
MLOA	**Mauna Loa Obse**	**0.72**	**211**		Pn	07 47 59.0	+0.4
SBLHI	**Steaming Bluff**	**0.73**	**186**		Pn	07 47 58.7	+0.1
SBLHI				Sn	Sb	07 48 06.5	-0.8
SBLHI				IAML		07 48 12.5	
	comp=N,6μm,0.3s						
UWB	**Uwekahuna B**	**0.73**	**187**		Pn	07 47 58.7	0.0
UWB				Sn	Sb	07 48 06.3	-1.0
UWE	**Uwekahuna**	**0.74**	**188**		Pn	07 47 58.8	+0.1
UWE				Sn	Sb	07 48 06.9	-0.6
OBL	**Observatory Le**	**0.74**	**187**		Pn	07 47 58.8	+0.1
OBL				Sn	Sb	07 48 06.9	-0.7
BYL	**Byron's Ledge**	**0.74**	**185**		Pn	07 47 58.9	+0.1
BYL				Sn	Sb	07 48 06.7	-1.0
BYL				IAML		07 48 08.9	
	comp=N,4μm,0.4s						
BYL				IAML		07 48 11.5	
	comp=E,5μm,0.4s						
NPH	**North Pit**	**0.75**	**187**		Pn	07 47 58.7	-0.2
NPH				Sn	Sb	07 48 06.6	-1.1
NPH				IAML		07 48 07.1	
	comp=N,3μm,0.4s						
WRMHI	**West Rim**	**0.75**	**188**		Pn	07 47 58.8	-0.1
WRMHI				Sn	Sb	07 48 07.1	-0.9
WRMHI				IAML		07 48 11.1	
	comp=N,7μm,0.4s						
WRMHI				IAML		07 48 14.5	
	comp=E,10μm,0.4s						
KKO	**Keanakako`i**	**0.76**	**185**		Pn	07 47 59.0	0.0
KKO				Sn	Sb	07 48 07.3	-0.8
KKO				IAML		07 48 07.9	
	comp=E,5μm,0.2s						
KKO				IAML		07 48 08.3	
	comp=N,6μm,0.3s						
RIM	**Rim**	**0.76**	**186**		Pn	07 47 59.0	0.0
RIM				Sn	Sb	07 48 07.5	-0.7
RIM				IAML		07 48 09.6	
	comp=N,4μm,0.4s						
NPOC	**North of Pu'u**	**0.76**	**174**		Pn	07 47 59.4	+0.4
NPOC				Sn	Sb	07 48 07.8	-0.4
HUH	**Hualalai**	**0.77**	**232**		Pn	07 47 59.5	+0.2
HUH				IAML		07 48 19.2	
	comp=N,7μm,0.4s						
SDHHI	**Sand Hill**	**0.77**	**187**		Pn	07 47 59.1	-0.1
SDHHI				Sn	Sb	07 48 07.0	-1.4
SDHHI				IAML		07 48 08.2	
	comp=E,10μm,0.3s						
MWH	**Moku'aweowe**	**0.77**	**210**		Pn	07 47 59.3	-0.2
MWH				Sn	Sb	07 48 07.9	-1.0
MWH				IAML		07 48 13.6	
	comp=E,4μm,0.4s						
AIN	**Ainahou**	**0.82**	**198**		Pn	07 47 59.9	0.0
AIN				Sn	Sb	07 48 09.0	-1.0
HLP	**Hilina Pali**	**0.86**	**187**		Pn	07 48 00.3	-0.1
HLP				Sn	Sb	07 48 09.4	-1.7
HLP				IAML		07 48 10.0	
	comp=N,6μm,0.1s						
HLP				IAML		07 48 10.1	
	comp=E,5μm,0.1s						
KHLU	**Kahalu`u**	**0.87**	**230**		Pb	07 48 00.1	+0.1
KKH	**Kailua Kona**	**0.93**	**238**		Pb	07 48 00.8	-0.1
KHU	**Kahuku**	**0.99**	**204**		Pb	07 48 01.8	-0.3
HLK	**Haleakala**	**1.16**	**301**		Pb	07 48 05.1	0.0
KHLH	**Kahului Airpor**	**1.37**	**303**		Pb	07 48 08.5	0.0
HON	**Honolulu**	**2.88**	**294**	Pn	Pn	07 48 28.1	+0.1
HON				IAML		07 49 01.8	
	comp=E,590nm,0.5s						
HON				IAML		07 49 02.1	
	comp=N,520nm,0.5s						
KIP	**Kipapa**	**2.93**	**296**		Pn	07 48 28.6	-0.1
OPA	**Opana**	**3.04**	**301**	Pn	Pn	07 48 30.6	+0.3
KEKH	**Kekaha**	**4.60**	**294**	Pn	Pn	07 48 51.5	-0.2
MIDW	**Midway**	**21.74**	**296**	P	P	07 52 35.2	+1.8

*IDC **12** 08:10:44.2±7.8, 55°.01N×110°.38E, h0km, mb3.3/1, mb1 3.6/5, mb1mx3.3/54, mbtmp3.6/5, ML3.2/4, Error ellipse: s-maj=106.4km s-min=32.3km az=82.0*
*BYKL **12** 08:10:46.1±0.2, 54°.96N×110°.32E*
ISC 12 08:10:44.8±0.6, 55°.01N±0°.03×110°.34E±0°.03, h10km, n39, σ3§18/80, 4C-4D, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.49**	**105**	⇑*i*Pg	**Pg**	**08 10 54.9**	**+0.5**
YLYR				*e*Sg	**Sg**	**08 11 01.6**	**+0.7**
YLYR				*e*		08 11 06.5	
KMO	**Kumora**	**1.01**	**29**	*e*Pg	**Pn**	**08 11 05.0**	**-0.1**
KMO				*e*Sg	**Sb**	**08 11 18.2**	**+0.4**
KMO				Pmax			
	234nm,0.3s						
KMO				Smax			
	768nm,0.9s						
SYVR	**Suvo**	**1.37**	**188**	⇓*i*Pg	**Pn**	**08 11 10.3**	**+0.4**
SYVR				*e*Sg	**Sn**	**08 11 28.6**	**+0.5**
SYVR				*e*		08 11 32.3	
SYVR				Pmax			
	299nm,0.6s						
SYVR				max			
	2μm,0.7s						
YOA	**Uoyan**	**1.38**	**34**	*e*Pg	**Pg**	**08 11 12.1**	**+0.9**
YOA				*e*Sg	**Sg**	**08 11 30.8**	**+1.7**
YOA				*e*		08 11 34.5	
YOA				Pmax			
	357nm,0.2s						
YOA				max			
	3μm,0.6s						
UKT	**Uakit**	**1.94**	**74**	⇓*i*Pg	**Pb**	**08 11 20.4**	**0.0**
UKT				⇑*i*		08 11 20.9	
UKT				*i* Sg	**Sg**	**08 11 47.1**	**-0.2**
UKT				max			
	287nm,0.8s						
UKT				Smax			
	2μm,0.6s						
OGRR	**Ongureny**	**2.11**	**231**	⇑*i*Pg	**Pb**	**08 11 23.7**	**+0.6**
OGRR				*e*		08 11 28.3	
OGRR				*e*Sg	**Sb**	**08 11 51.1**	**+1.8**
OGRR				*e*		08 11 52.9	
OGRR				max			
	212nm,0.9s						
OGRR				max			
	682nm,0.7s						
SVKR	**Severomuysk**	**2.14**	**57**	*e*Pn	**Pn**	**08 11 21.7**	**+1.0**
SVKR				*e*Pg	**Pg**	**08 11 25.0**	**-0.9**
SVKR				*e*Sg	**Sg**	**08 11 54.9**	**+1.3**
SVKR				*e*		08 11 58.1	
SVKR				Pmax			
	406nm,0.6s						
SVKR				Smax			
	3μm,0.6s						
KELR	**Kotokel**	**2.62**	**212**	*e*Pn	**Pn**	**08 11 27.8**	**+0.7**
KELR				*e*Pg	**Pb**	**08 11 31.4**	**-0.4**
KELR				*e*		08 11 58.9	
KELR				*e*Sg	**Sb**	**08 12 06.3**	**+2.3**
KELR				*e*		08 12 10.4	
TRG	**Tyrgan**	**3.26**	**228**	⇓*i*Pn	**Pn**	**08 11 38.4**	**+2.4**
TRG				*e*Pg	**Pb**	**08 11 43.4**	**+0.6**
TRG				*e*PgPg	**Pg**	**08 11 47.7**	**+0.4**
TRG				*e*Sn	**Sn**	**08 12 13.4**	**-1.5**
TRG				*e*Sg	**Sb**	**08 12 25.6**	**+3.1**
TRG				max			
	63nm,0.8s						
TRG				Smax			
	255nm,1.1s						
NLYR	**Nelyaty**	**3.38**	**62**	*e*Pn	**Pn**	**08 11 39.8**	**+2.2**
NLYR				*e*		08 11 43.1	
NLYR				*e*Pg	**Pg**	**08 11 47.1**	**-2.4**
NLYR				*e*		08 12 19.8	
NLYR				*e*Sg	**Sg**	**08 12 31.6**	**-1.6**
NLYR				*e*		08 12 38.2	
NLYR				Pmax			
	46nm,0.7s						
NLYR				max			
	814nm,1.2s						
BOD	**Bodaibo**	**3.48**	**34**	*e*Pn	**Pn**	**08 11 40.3**	**+1.4**
BOD				*e*		08 11 44.9	
BOD				*e*Sn	**Sn**	**08 12 21.6**	**+1.5**
BOD				*e*Sg	**Sg**	**08 12 33.5**	**-2.9**
BOD				max			
	17nm,0.4s						
BOD				Smax			
	130nm,1.0s						
UUDB	**Ulan-Yde**	**3.53**	**208**	*e*Pn	**Pn**	**08 11 42.1**	**+2.4**
UUDB				*e*Pg	**Pb**	**08 11 49.3**	**+2.0**
UUDB				*e*		08 11 53.5	
UUDB				*e*Sg	**Sb**	**08 12 34.0**	**+3.8**
UUDB				*e*		08 12 43.2	
UUDB				max			
	45nm,0.7s						
UUDB				max			
	302nm,0.9s						
CIT	**Chita**	**3.55**	**146**	*e*	**Pn**	**08 11 43.7**	**+3.7**
CIT				*e*Sg	**Sb**	**08 12 34.0**	**+3.1**
CIT				*e*		08 12 38.5	
CIT				max			
	245nm,0.2s						
FFNB	**Fofonovo**	**3.65**	**217**	*e*Pn	**Pn**	**08 11 43.4**	**+2.0**
FFNB				*e*Sg	**Sb**	**08 12 37.0**	**+3.3**
KAB	**Kabansk**	**3.69**	**218**	*e*Sg	**Sb**	**08 12 38.1**	**+3.3**
KAB				*e*		08 12 47.4	
KAB				max			
	656nm,1.1s						
STDB	**Stepnoy Dvoret**	**3.70**	**221**	*e*	Pg	08 12 25.3	+30
STDB				Sg	**Sb**	**08 12 37.9**	**+2.8**
STDB				*e*		08 12 45.9	
HRMR	**Khuramsha**	**3.94**	**212**	*e*Pn	**Pn**	**08 11 47.2**	**+1.8**
HRMR				*e*		08 11 50.3	
HRMR				*e*Pg	**Pb**	**08 11 56.3**	**+1.9**
HRMR				*e*		08 12 00.3	
HRMR				*e*Sg	**Sg**	**08 12 48.2**	**-3.2**
HRMR				max			
	97nm,0.6s						
HRMR				Smax			
	454nm,0.8s						
BGT	**Bolshoye Golou**	**4.18**	**227**	*e*Pn	**Pn**	**08 11 50.9**	**+2.3**
BGT				*e*Pg	**Pb**	**08 12 00.9**	**+2.5**
BGT				*e*		08 12 09.6	
BGT				*e*Sn	**Sn**	**08 12 38.9**	**+1.5**
BGT				*e*Sg	**Sg**	**08 12 55.3**	**-3.6**
BGT				*e*		08 13 08.5	
BGT				Pmax			
	29nm,0.7s						
BGT				Smax			
	186nm,0.7s						
IRK	**Irkutsk**	**4.55**	**235**	*e*Sg	**Sg**	**08 13 07.1**	**-3.7**
IRK				Smax			
	419nm,1.2s						
LSTR	**Listvyanka**	**4.55**	**229**	*e*Pn	**Pn**	**08 11 54.5**	**+0.8**
LSTR				*e*Pg	**Pb**	**08 12 06.3**	**+1.6**
LSTR				*e*		08 13 01.7	
LSTR				*e*Sg	**Sg**	**08 13 06.3**	**-4.5**
LSTR				Pmax			
	8.0nm,0.7s						
LSTR				Smax			
	215nm,1.7s						
IVK	**Ivanovka**	**4.78**	**230**	*e*Pn	**Pn**	**08 11 57.8**	**+0.9**
IVK				Pg	**Pb**	**08 12 10.6**	**+1.9**
IVK				*e*		08 12 55.2	
IVK				*e*Sg	**Sb**	**08 13 12.0**	**+5.8**
IVK				Pmax			
	13nm,0.7s						
IVK				Smax			
	172nm,1.3s						
CRS	**Chara**	**4.84**	**64**	*e*Pn	**Pn**	**08 11 59.0**	**+1.2**
CRS				*e*Pg	**Pb**	**08 12 12.9**	**+3.2**
CRS				*e*		08 12 45.1	
CRS				*e*Sg	**Sg**	**08 13 17.2**	**-3.0**
CRS				Pmax			
	100nm,1.4s						
CRS				Smax			
	245nm,1.3s						
TLY	**Talaya**	**5.21**	**233**	Pg	**Pb**	**08 12 19.1**	**+3.1**
	0.1nm,0.3s,baz=336,slow=4.2,SNR=13						
TLY				Lg	Lg	08 13 23.8	
	0.0nm,0.3s,baz=91,slow=19,SNR=3.4						
TLY	**Talaya**	**5.21**	**233**	*e*	**Pn**	**08 11 58.9**	**-3.9**
TLY				*e*Pg	**Pb**	**08 12 18.8**	**+2.8**
TLY				*e*		08 13 21.3	
TLY				*e*Sg	**Sg**	**08 13 26.2**	**-5.8**
TLY				Pmax			
	23nm,0.6s						
TLY				Smax			
	134nm,1.0s						
KPC	**Khapcheranga**	**5.46**	**166**	*e*Pn	**Pn**	**08 12 06.4**	**+0.2**
KPC				Pg	**Pb**	**08 12 23.6**	**+3.4**
KPC				*e*Sg	**Sg**	**08 13 33.8**	**-6.1**
KPC				Pmax			
	13nm,0.5s						
KPC				Smax			
	142nm,1.1s						
TUP	**Tupik**	**5.61**	**92**	⇓*i*Pn	**Pn**	**08 12 09.3**	**+1.1**
TUP				*e*		08 12 23.2	
TUP				*e*		08 13 20.7	
TUP				*e*Sg	**Sg**	**08 13 40.4**	**-4.2**
TUP				max			
	7.0nm,0.8s						
TUP				Smax			
	282nm,0.9s						
KHNR	**Khani**	**5.75**	**67**	*e*		08 13 41.9	
KHNR				*e*Sg	**Sg**	**08 13 44.7**	**-4.4**
ZAK	**Zakamensk**	**6.31**	**226**	*e*Pn	**Pn**	**08 12 21.7**	**+3.7**
ZAK				*e*		08 12 45.1	
ZAK				*e*Sg	**Sg**	**08 14 00.4**	**-6.9**
ZAK				*e*		08 14 02.4	
ZAK				*e*		08 14 05.2	
ZAK				max			
	3.0nm,0.1s						
ZAK				max			
	55nm,1.1s						
MOY	**Mondy**	**6.52**	**243**	*e*Pn	**Pn**	**08 12 23.9**	**+3.1**
MOY				*e*		08 12 38.6	
MOY				*e*		08 13 36.7	
MOY				*e*Sg	**Sg**	**08 14 06.9**	**-7.0**
MOY				max			
	33nm,1.1s						
MOY				Smax			
	177nm,1.2s						
YKLR	**Yuktali**	**6.58**	**71**	*e*	**Pg**	**08 12 50.4**	**-0.2**
YKLR				*e*		08 14 08.1	
YKLR				*e*Sg	**Sg**	**08 14 11.4**	**-4.3**
ORL	**Orlik**	**6.71**	**253**	⇑*i*Pn	**Pn**	**08 12 25.9**	**+2.4**
ORL				*e*		08 13 42.5	
ORL				*e*Sg	**Sg**	**08 14 11.5**	**-8.6**
ORL				max			
	28nm,1.1s						
ORL				Smax			
	86nm,1.3s						
SONM	**Songino Array**	**7.59**	**201**	Pn	**Pn**	**08 12 38.2**	**+2.7**
	0.3nm,0.3s,baz=20,slow=18,SNR=2.0						
SONM				Lg	Lg	08 14 45.5	
	1.9nm,0.3s,baz=20,slow=26,SNR=9.5						
IENR	**Iengra**	**8.31**	**76**	*e*		08 14 34.2	
IENR				*e*		08 14 46.7	
IENR				*e*Sg	**Sg**	**08 15 03.2**	**-8.1**
CLNS	**Chul'man**	**8.38**	**71**	*e*		08 14 48.3	
CLNS				*e*		08 14 58.5	
CLNS				*e*Sg	**Sg**	**08 15 06.5**	**-6.9**
TDJR	**Todzha**	**8.84**	**259**	*e*	Pn	08 13 01.6	+9.0
TDJR				*e*		08 14 22.0	
TDJR				*e*Sg	Sg	08 15 18.5	-10
ZALV	**Zalesovo Beam**	**14.85**	**276**	Pn	**Pn**	**08 14 15.9**	**+1.3**
	0.4nm,0.3s,baz=74,slow=10,SNR=29						
MKAR	**Makanchi Array**	**19.40**	**257**	P	**Pn**	**08 15 12.9**	**+1.0**
	0.1nm,0.3s,baz=52,slow=9.3,SNR=4.9						
KURBB	**Kurchatov Arra**	**19.62**	**270**	P	**Pn**	**08 15 14.3**	**-0.2**
	0.1nm,0.3s,baz=66,slow=11,SNR=13						
BVAR	**Borovoye Array**	**23.34**	**282**	P	**P**	**08 15 52.9**	**0.0**
	0.3nm,0.3s,baz=73,slow=15,SNR=2.5						

*NEIC **12** 08:11:55.7±2.4, 6°.75S±0°.07×155°.7E±0°.1, h35km±1km, mb4.5/8, Error ellipse: s-maj=21.9km s-min=9.9km az=109.0*
*IDC **12** 08:11:58.9±1.1, 6°.41S×155°.14E, h51km±5km, mb3.7/8, mb1 3.9/8, mb1mx3.6/43, mbtmp3.9/8, MS3.2/8, Ms1 3.3/8, ms1mx3.0/32, Error ellipse: s-maj=36.5km s-min=17.0km az=138.0*
ISC 12 08:11:57.7±0.8, 6°.7S±0°.1×155°.4E±0°.1, h50km, n37, σ1§40/37, mb4.4/15, MS3.2/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.05**	**307**	Pn	**Pn**	**08 12 59.8**	**+2.5**
HNR	**Honiara**	**5.27**	**122**	LR	LR	08 15 38.6	
	comp=Z,182nm,20.5s,baz=288,slow=39						
PMG	**Port Moresby**	**8.62**	**251**	P	**Pn**	**08 14 00.6**	**+0.7**
	13nm,0.3s,baz=56,slow=6.6,SNR=21						
PMG				S	**Sn**	**08 15 34.0**	**-1.9**
	3.8nm,0.3s,baz=238,slow=23,SNR=4.6						
PMG				LR	LR	08 17 04.7	
	comp=Z,214nm,18.6s,baz=50,slow=36						
PMG	**Port Moresby**	**8.62**	**251**	Pn	**Pn**	**08 14 00.9**	**+0.9**
PATS	**Pohnpei**	**13.70**	**12**	Pn	**Pn**	**08 15 08.6**	**-0.8**
COEN	**Coen**	**14.06**	**238**	Pn	**Pn**	**08 15 15.6**	**+1.4**
WR0	**Warramunga Arr**	**24.20**	**235**	P	**P**	**08 17 10.9**	**+1.1**
WR0				IAmb	IAmb	08 17 11.7	
	comp=Z,18nm,1.1s						
WB0	**Warramunga Arr**	**24.23**	**235**	P	**P**	**08 17 10.7**	**+0.6**
WB0				IAmb	IAmb	08 17 11.8	
	comp=Z,16nm,1.3s						
WB2	**Warramunga Arr**	**24.35**	**235**	P	**P**	**08 17 11.9**	**+0.8**
WB2				IAmb	IAmb	08 17 13.0	
	comp=Z,17nm,1.2s						
WRA	**Warramunga Arr**	**24.36**	**235**	P	**P**	**08 17 12.3**	**+1.0**
	comp=Z,2.9nm,0.6s,baz=58,slow=9.7,SNR=21						
WRA				PcP	**PcP**	**08 20 51.2**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=65,slow=2.7,SNR=1.7						
WRA				pPcP		08 21 06.2	
	comp=Z,0.4nm,0.4s,baz=57,slow=2.4,SNR=6.9						
WRA	**Warramunga Arr**	**24.36**	**235**	P	**P**	**08 17 11.6**	**+0.4**
ASAR	**Alice Springs**	**26.72**	**228**	P	**P**	**08 17 33.0**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=56,slow=7.7,SNR=6.8						
ASAR	**Alice Springs**	**26.72**	**228**	P	**P**	**08 17 33.4**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**27.34**	**24**	T	T	08 45 55.2	
	baz=205,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**27.35**	**24**	T	T	08 46 06.9	
	baz=205,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy**	**27.36**	**24**	T	T	08 45 52.3	
	baz=205,slow=76,SNR=15						
STKA	**Stephens Creek**	**28.23**	**205**	LR	LR	08 28 21.3	
	comp=Z,92nm,21.1s,baz=26,slow=35						
STKA	**Stephens Creek**	**28.23**	**205**	P	**P**	**08 17 46.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**31.18**	**246**	P	**P**	**08 18 12.6**	**+0.4**
FITZ					IAmb	IAmb	08 18 17.8
	comp=Z,8.5nm,1.3s						
KSRS	**Korea Array**	**50.83**	**332**	LR	LR	08 41 02.6	
	comp=Z,14nm,19.0s,baz=135,slow=34

CMAR				LR	LR	08 46 03.1	
	comp=Z,17nm,20.9s,baz=235,slow=34						
CMAR	**Chiang Mai Arr**	**61.01**	**295**	P	**P**	**08 22 05.3**	**-1.3**
SONM	**Songino Array**	**69.27**	**327**	P	**P**	**08 22 59.3**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=152,slow=4.6,SNR=2.6						
SONM				pP	**pP**	**08 23 13.7**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=123,slow=5.3,SNR=3.7						
SONM	**Songino Array**	**69.27**	**327**	P	**P**	**08 22 57.9**	**-1.9**
ILAR	**Eielson Array**	**82.90**	**21**	P	**P**	**08 24 18.1**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=233,slow=5.4,SNR=5.0						
ILAR				pP	**pP**	**08 24 32.4**	**+1.0**
	comp=Z,0.8nm,1.0s,baz=300,slow=4.9,SNR=4.3						
ILAR	**Eielson Array**	**82.90**	**21**	P	**P**	**08 24 16.6**	**-0.2**
MKAR	**Makanchi Array**	**83.42**	**319**	P	**P**	**08 24 18.4**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=104,slow=5.1,SNR=5.4						
MKAR				pP	**pP**	**08 24 33.7**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=98,slow=5.7,SNR=23						
ZALV	**Zalesovo Beam**	**84.13**	**326**	P	**P**	**08 24 21.5**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=104,slow=4.6,SNR=2.2						
ZALV				pP	**pP**	**08 24 35.8**	**-2.0**
	comp=Z,3.8nm,0.8s,baz=113,slow=6.9,SNR=4.5						
ZALV	**Zalesovo Beam**	**84.13**	**326**	P	**P**	**08 24 20.9**	**-2.4**
KURBB	**Kurchatov Arra**	**86.85**	**322**	pP	pP	08 24 49.9	-1.6
	comp=Z,0.6nm,0.5s,baz=100,slow=4.6,SNR=5.3						
BVAR	**Borovoye Array**	**92.27**	**323**	pP	pP	08 25 15.0	-2.1
	comp=Z,1.0nm,0.5s,baz=104,slow=6.3,SNR=3.9						
YKA	**Yellowknife Ar**	**95.83**	**28**	P	**P**	**08 25 19.9**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=264,slow=5.1,SNR=4.1						
YKA				pP	**sP**	**08 25 35.5**	**-3.3**
	comp=Z,1.2nm,0.8s,baz=264,slow=4.6,SNR=5.2						
YKA				LR	LR	09 10 14.2	
	comp=Z,7.9nm,18.0s,baz=0.0,slow=36						
PDAR	**Pinedale Array**	**98.16**	**48**	LR	LR	09 07 07.0	
	comp=Z,24nm,18.1s,baz=296,slow=34						
TORD	**Torodi Ar. Bea**	**153.34**	**286**	PKPbc	**PKiKP**	**08 31 50.4**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=88,slow=2.5,SNR=5.0						
TORD				pPKPbc	**pPKPbc**	**08 32 06.1**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=81,slow=1.3,SNR=7.7						
TORD	**Torodi Ar. Bea**	**153.34**	**286**	PKPbc	**PKiKP**	**08 31 50.6**	**-1.0**

IDC 12 08:56:16.5±1.3, 4°86S×151°25E, h88km±29km, mb3.2/2, mb1 3.5/2, mb1mx3.0/33, mbtmp3.5/2, Error ellipse: s-maj=53.3km s-min=33.4km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KRVT	**Keravat (AS076**	**0.95**	**54**	P		Pn	08 56 35.8	+0.3
	183nm,0.3s,baz=232,slow=1.2,SNR=109							
KRVT				LR		LR	08 56 42.2	
	comp=Z,112nm,18.1s,baz=185,slow=27							
KRVT				S		Sn	08 56 50.2	+0.5
	406nm,0.3s,baz=278,slow=18,SNR=24							
WRA	**Warramunga Arr**	**22.27**	**226**	P		P	09 01 06.8	+0.2
	1.4nm,0.9s,baz=50,slow=10.0,SNR=7.6							
ASAR	**Alice Springs**	**25.09**	**220**	P		P	09 01 32.7	-0.5
	0.4nm,0.4s,baz=55,slow=8.8,SNR=9.6							
TORD	**Torodi Ar. Bea**	**148.86**	**287**	PKPbc		PKPbc	09 15 54.8	-0.3
	0.0nm,0.3s,baz=2.9,slow=2.9,SNR=1.6							

IDC 12 09:08:31.0±3.4, 54°53N×86°98E, h0km, mb1 3.0/2, mb1mx2.9/42, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=32.4km s-min=20.5km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**246**	*i*			09 16 50.0	
	baz=65,slow=315,SNR=3.1							
ZALV	**Zalesovo Beam**	**1.39**	**246**	Pg		Pn	09 08 55.4	-2.3
	1.4nm,0.3s,baz=67,slow=17,SNR=8.3							
ZALV				Lg		Lg	09 09 15.6	
	1.1nm,0.3s,baz=65,slow=24,SNR=3.8							
KURBB	**Kurchatov Arra**	**6.46**	**236**	Pn		Pn	09 10 08.1	+0.7
	0.1nm,0.3s,baz=53,slow=14,SNR=11							
MKAR	**Makanchi Array**	**8.29**	**203**	Pn		Pn	09 10 33.7	+1.2
	0.1nm,0.3s,baz=27,slow=14,SNR=5.9							

NNC 12 09:30:55.1±3.5, 54°28N×86°93E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=36.5km s-min=23.7km az=160.0, Suspected Mining explosion.
IDC 12 09:30:55.1±3.0, 54°43N×86°56E, h0km, mb1 3.2/2, mb1mx3.0/39, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=25.7km s-min=17.4km az=39.0
ISC 12 09:30:54.6±4.8, 54°4N±0°2×86°7E±0°2, h0km, n7, σ1s45/9, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**248**	*i*			09 39 00.0	
	baz=61,slow=303,SNR=2.0							
ZALV	**Zalesovo Beam**	**1.23**	**248**	Pg		**Pg**	**09 31 16.2**	**-1.9**
	1.8nm,0.3s,baz=56,slow=15,SNR=13							
ZALV				Lg		Lg	09 31 32.1	
	1.2nm,0.3s,baz=64,slow=25,SNR=4.4							
KURK	**Kurchatov**	**6.18**	**236**	⇑Pn		**Pn**	**09 32 27.9**	**+0.8**
	1.3nm,0.6s							
KURK				⇓Sn		**Sn**	**09 33 40.5**	**+2.1**
	1.1nm,0.6s							
KURK				⇓Lg		Lg	09 34 14.2	
	9.3nm,1.1s							
KURBB	**Kurchatov Arra**	**6.29**	**236**	Pn		**Pn**	**09 32 29.1**	**+0.6**
	0.2nm,0.3s,baz=53,slow=14,SNR=14							
KURBB				Lg		Lg	09 34 12.3	
	0.0nm,0.3s,baz=45,slow=29,SNR=3.1							
KURBB	**Kurchatov Arra**	**6.29**	**236**	⇓Pn		**Pn**	**09 32 29.1**	**+0.6**
	2.5nm,0.6s							
KURBB				⇑Sn		**Sn**	**09 33 42.0**	**+1.0**
	2.3nm,0.6s							
KURBB				⇑Lg		Lg	09 34 21.3	
	7.5nm,0.8s							
MK31	**Makanchi Array**	**8.14**	**202**	Pn		**Pn**	**09 32 54.9**	**+0.9**
	0.1nm,0.3s,baz=25,slow=13,SNR=12							
MK31				⇑Sn		**Sn**	**09 34 25.6**	**-1.0**
	0.5nm,0.5s,baz=26,slow=25,SNR=2.8							
MK31				⇓Lg		Lg	09 35 09.9	
	3.7nm,0.9s,baz=28,slow=31,SNR=4.0							
MKAR	**Makanchi Array**	**8.14**	**202**	Pn		**Pn**	**09 32 54.7**	**+0.8**
	0.4nm,0.3s,baz=23,slow=13,SNR=14							
MKAR				Lg		Lg	09 35 10.6	
	0.1nm,0.3s,baz=25,slow=32,SNR=2.3							

IDC 12 09:50:26.3±1.4, 13°52S×170°28E, h618km±16km, mb3.4/11, mb1 3.7/12, mb1mx3.4/29, mbtmp4.4/12, Error ellipse: s-maj=19.0km s-min=13.9km az=136.0
NEIC 12 09:50:28.4±1.4, 13°7S±0°1×170°2E±0°1, h640km±7km, mb4.3/82, Error ellipse: s-maj=20.1km s-min=16.5km az=103.0
ISC 12 09:50:27.7±0.9, 13°58S±0°09×170°20E±0°10, h631km±10km, n127, σ0s91/137, mb4.2/48, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSVF	**Nonsavu**	**8.62**	**120**	P		**P**	**09 52 34.2**	**+0.2**
DZM	**Mont Dzumac**	**9.17**	**202**	P		**P**	**09 52 39.7**	**+0.5**
	2.8nm,0.3s,baz=44,slow=19,SNR=28							
DZM				S		**S**	**09 54 28.5**	**+1.5**
	baz=339,slow=12,SNR=3.4							
DZM	**Mont Dzumac**	**9.17**	**202**	P		**P**	**09 52 39.0**	**-0.2**
EIDS	**Eidsvold**	**21.47**	**234**	P		**P**	**09 54 31.9**	**-1.3**
	baz=25,SNR=5.2							
EIDS	**Eidsvold**	**21.47**	**234**	P		**P**	**09 54 33.5**	**+0.3**
EIDS				IAmb	IAmb		09 54 34.1	
	comp=Z,12nm,1.2s							
PATS	**Pohnpei**	**23.47**	**329**	P		**P**	**09 54 52.0**	**+0.9**
RMQ	**Roma**	**23.84**	**234**	P		**P**	**09 54 55.4**	**+1.2**
	baz=27,SNR=12							
ARMA	**Armidale**	**23.96**	**223**	P		**P**	**09 54 56.3**	**+0.9**
	baz=27,SNR=15							
ARMA	**Armidale**	**23.96**	**223**	P		**P**	**09 54 56.4**	**+0.9**
ARMA				IAmb	IAmb		09 54 56.6	
	comp=Z,8.6nm,0.5s							
URZ	**Urewera**	**25.33**	**167**	P		**P**	**09 55 05.9**	**-1.2**
	comp=Z,10nm,0.6s,baz=245,slow=3.7,SNR=14							
URZ	**Urewera**	**25.33**	**167**	P		**P**	**09 55 06.0**	**-1.2**
BKZ	**Black Stump Fm**	**26.08**	**169**	P		**P**	**09 55 12.1**	**-1.8**
MGCD	**Mangrove Creek**	**26.16**	**218**	P		**P**	**09 55 15.6**	**+1.1**
	baz=30,SNR=5.3							
QRZ	**Quartz Range**	**27.22**	**176**	P		**P**	**09 55 24.4**	**+0.7**
BFZ	**Birch Farm**	**27.51**	**170**	P		**P**	**09 55 23.9**	**-2.3**
NNZ	**Nelson**	**27.67**	**175**	P		**P**	**09 55 27.2**	**-0.3**
SNZO	**South Karori**	**27.91**	**173**	P		**P**	**09 55 27.7**	**-1.8**
TUWZ	**Tuamarina**	**27.94**	**174**	P		**P**	**09 55 28.7**	**-1.1**
BHW	**Baring Head**	**28.02**	**173**	P		**P**	**09 55 28.7**	**-1.9**
MSWZ	**Moikau Station**	**28.08**	**172**	P		**P**	**09 55 29.6**	**-1.6**
THZ	**Tophouse**	**28.18**	**176**	P		**P**	**09 55 31.8**	**-0.2**
BSWZ	**Blackbirch Sta**	**28.21**	**174**	P		**P**	**09 55 32.6**	**+0.4**
PLWZ	**Palliser**	**28.23**	**172**	P		**P**	**09 55 30.6**	**-1.9**
CNB	**Canberra Magne**	**28.66**	**217**	P		**P**	**09 55 37.0**	**+0.7**
	baz=32,SNR=35							
CMSA	**Cobar Meteorol**	**28.72**	**227**	P		**P**	**09 55 37.0**	**+0.2**
	baz=32,SNR=19							
CAN	**Canberra**	**28.88**	**218**	P		**P**	**09 55 39.0**	**+0.8**
CAN				IAmb	IAmb		09 55 53.1	
	comp=Z,33nm,1.4s							
KHZ	**Kahutara**	**28.88**	**175**	P		**P**	**09 55 36.3**	**-1.6**
LTZ	**Lake Taylor**	**29.15**	**177**	P		**P**	**09 55 39.6**	**-0.8**
OXZ	**Oxford**	**29.68**	**177**	P		**P**	**09 55 44.4**	**-0.5**
RPZ	**Rata Peaks**	**30.04**	**179**	P		**P**	**09 55 46.8**	**-1.1**
MQZ	**McQueen's Vall**	**30.09**	**176**	P		**P**	**09 55 47.9**	**-0.5**
LBZ	**Lake Benmore**	**30.70**	**180**	P		**P**	**09 55 54.0**	**+0.5**
LBZ				IAmb	IAmb		09 56 06.2	
	comp=Z,22nm,1.1s							
WKZ	**Wanaka**	**31.16**	**182**	P		**P**	**09 55 56.6**	**-0.9**
MLZ	**Mavora Lakes**	**31.73**	**183**	P		**P**	**09 56 02.0**	**-0.3**
DCZ	**Deep Cove**	**31.88**	**184**	P		**P**	**09 56 03.4**	**-0.1**
DCZ				IAmb	IAmb		09 56 19.7	
	comp=Z,23nm,1.1s							
STKA	**Stephens Creek**	**31.90**	**230**	P		**P**	**09 56 04.8**	**+0.8**
	comp=Z,7.4nm,0.4s,baz=60,slow=8.6,SNR=63							
STKA				PcP		**PcP**	**09 58 34.6**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=73,slow=7.2,SNR=3.0							
STKA				ScP		**ScP**	**10 01 20.3**	**+1.1**
	comp=Z,1.7nm,0.5s,baz=50,slow=4.0,SNR=6.8							
STKA	**Stephens Creek**	**31.90**	**230**	P		**P**	**09 56 04.8**	**+0.8**
	baz=35,SNR=46							
STKA	**Stephens Creek**	**31.90**	**230**	P		**P**	**09 56 04.2**	**+0.2**
STKA						**PcP**	**09 58 34.8**	**+0.4**
STKA						**ScP**	**10 01 19.7**	**+0.5**
WHZ	**Wether Hill Ro**	**32.26**	**183**	P		**P**	**09 56 06.3**	**-0.5**
TOO	**Toolangi**	**32.48**	**218**	P		**P**	**09 56 09.7**	**+0.9**
	baz=36,SNR=6.7							
TOO	**Toolangi**	**32.48**	**218**	P		**P**	**09 56 09.5**	**+0.7**
HTT	**Hallett**	**34.62**	**230**	P		**P**	**09 56 27.4**	**+0.6**
	baz=38,SNR=5.4							
WB0	**Warramunga Arr**	**34.80**	**255**	P		**P**	**09 56 28.1**	**-0.3**
WB2	**Warramunga Arr**	**34.85**	**255**	P		**P**	**09 56 28.7**	**-0.1**
WB2				IAmb	IAmb		09 56 43.8	
	comp=Z,11nm,1.5s							
WRA	**Warramunga Arr**	**34.86**	**255**	P		**P**	**09 56 28.6**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=82,slow=6.8,SNR=15							
WRA				PcP		**PcP**	**09 58 43.4**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=88,slow=3.6,SNR=6.2							
WRA				ScP		**ScP**	**10 01 31.8**	**+1.7**
	comp=Z,1.0nm,0.9s,baz=88,slow=3.9,SNR=6.1							
WRA	**Warramunga Arr**	**34.86**	**255**	P		**P**	**09 56 27.3**	**-1.6**
WRA						**PcP**	**09 58 43.3**	**+0.1**
TAU	**Tasmania Unive**	**35.26**	**210**	P		**P**	**09 56 32.3**	**+0.5**
AS31	**Alice Springs**	**35.73**	**248**	P		**P**	**09 56 36.1**	**+0.1**
AS31				IAmb	IAmb		09 56 36.4	
	comp=Z,2.0nm,0.3s							
ASAR	**Alice Springs**	**35.73**	**248**	P		**P**	**09 56 35.9**	**-0.2**
	comp=Z,2.6nm,0.3s,baz=77,slow=9.5,SNR=58							
ASAR				PcP		**PcP**	**09 58 45.5**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=111,slow=2.9,SNR=8.9							
ASAR				S		**S**	**10 01 27.6**	**-2.7**
	comp=Z,1.7nm,0.6s,baz=81,slow=15,SNR=16							
ASAR				ScP		**ScP**	**10 01 34.4**	**+1.2**
	comp=Z,2.2nm,0.7s,baz=82,slow=3.7,SNR=18							
ASAR	**Alice Springs**	**35.73**	**248**	P		**P**	**09 56 35.9**	**-0.2**
ASAR						**PcP**	**09 58 45.8**	**0.0**
BBOO	**Buckleboo**	**36.52**	**233**	P		**P**	**09 56 42.8**	**+0.4**
	baz=40,SNR=25							
BBOO	**Buckleboo**	**36.52**	**233**	P		**P**	**09 56 42.9**	**+0.6**
BBOO				IAmb	IAmb		09 56 43.4	
	comp=Z,14nm,0.8s							
KNRA	**Kununurra**	**40.10**	**262**	P		**P**	**09 57 11.4**	**+0.1**
KNRA				IAmb	IAmb		09 57 24.8	
	comp=Z,42nm,1.4s							
WRKA	**Warakurna**	**41.00**	**247**	P		**P**	**09 57 15.7**	**-2.6**
	baz=44,SNR=13							
MJAR	**Matsushiro Arr**	**58.27**	**330**	P		**P**	**09 59 23.8**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=159,slow=6.8,SNR=6.3							
MJAR	**Matsushiro Arr**	**58.27**	**330**	P		**P**	**09 59 24.3**	**+0.3**
QSPA	**South Pole Qui**	**76.44**	**180**	P		**P**	**10 01 13.6**	**-0.4**
KCPM	**Cahto Peak**	**81.13**	**46**	P		**P**	**10 01 40.1**	**+0.8**
KCPM				IAmb	IAmb		10 01 40.7	
	comp=Z,7.4nm,0.6s							
HOPS	**Hopland Field**	**81.19**	**46**	P		**P**	**10 01 39.4**	**0.0**
HOPS				IAmb	IAmb		10 01 49.4	
	comp=Z,12nm,1.4s							
KMRM	**Mail Ridge**	**81.28**	**45**	P		**P**	**10 01 40.6**	**+0.6**
KMRM				IAmb	IAmb		10 01 41.7	
	comp=Z,7.0nm,0.8s							
JCC	**Jacoby Creek,**	**81.32**	**44**	P		**P**	**10 01 41.1**	**+1.1**
JCC				IAmb	IAmb		10 01 46.9	
	comp=Z,24nm,1.2s							
SAO	**San Andreas Ge**	**81.43**	**49**	P		**P**	**10 01 41.9**	**+1.1**
ORV	**Oroville**	**82.53**	**46**	P		**P**	**10 01 46.7**	**+0.4**
DIB	**Dawson Inlet,**	**82.56**	**31**	P		**P**	**10 01 46.4**	**+0.4**
DIB				IAmb	IAmb		10 01 56.7	
	comp=Z,21nm,1.3s							
AFDM	**Forest Hills D**	**82.66**	**47**	P		**P**	**10 01 47.2**	**+0.3**
AFDM				IAmb	IAmb		10 01 47.9	
	comp=Z,4.7nm,0.9s							
CMB	**Columbia Colle**	**82.72**	**48**	P		**P**	**10 01 47.0**	**-0.3**
RND	**Reindeer**	**82.98**	**17**	P		**P**	**10 01 48.3**	**+0.3**
RND				IAmb	IAmb		10 02 00.5	
	comp=Z,4.0nm,0.7s							
ISA	**Isabella, Lake**	**83.22**	**51**	P		**P**	**10 01 49.4**	**-0.5**
MDPB	**Devils Postpil**	**83.51**	**49**	P		**P**	**10 01 51.9**	**+0.4**
MDPB				IAmb	IAmb		10 01 52.6	
	comp=Z,4.8nm,0.8s							
OMMB	**Old Mammoth Mi**	**83.56**	**49**	P		**P**	**10 01 52.0**	**+0.3**
BCPM	**Bancas Point**	**83.58**	**23**	P		**P**	**10 01 52.0**	**+1.1**
BCPM				IAmb	IAmb		10 02 00.6	
	comp=Z,7.4nm,0.6s							
WAKR	**Walker**	**83.59**	**48**	P		**P**	**10 01 52.5**	**+0.7**
WAKR				IAmb	IAmb		10 01 53.3	
	comp=Z,5.1nm,1.0s							
PNTR	**Pine Nut**	**83.70**	**47**	P		**P**	**10 01 53.0**	**+0.7**
PNTR				IAmb	IAmb		10 01 53.6	
	comp=Z,4.2nm,0.8s							
VCNR	**Virginia City**	**83.74**	**47**	P		**P**	**10 01 52.9**	**+0.4**
IMAR	**Indian Mountai**	**83.75**	**14**	P		**P**	**10 01 51.7**	**+0.1**
MAW	**Mawson**	**84.00**	**202**	P		**P**	**10 01 53.8**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=99,slow=8.1,SNR=4.5							
MAW	**Mawson**	**84.00**	**202**	P		**P**	**10 01 53.4**	**+0.5**
PFO	**Pinyon Flats O**	**84.03**	**54**	P		**P**	**10 01 54.1**	**+0.2**
XPFO	**Pion Flat**	**84.03**	**54**	P		**P**	**10 01 54.0**	**+0.1**
PAHR	**Pah Rah Range**	**84.09**	**47**	P		**P**	**10 01 54.2**	**+0.1**
K05A	**Summer Lake**	**84.25**	**44**	P		**P**	**10 01 55.2**	**+0.3**
K05A				IAmb	IAmb		10 01 56.3	
	comp=Z,4.4nm,0.8s							
RYN	**Ryan**	**84.30**	**48**	P		**P**	**10 01 55.3**	**+0.2**
RYN				IAmb	IAmb		10 01 56.3	
	comp=Z,3.4nm,0.8s							
MOD	**Modoc Plateau**	**84.32**	**45**	P		**P**	**10 01 55.7**	**+0.5**
NVAR	**Mina Array Bea**	**84.38**	**48**	P		**P**	**10 01 55.9**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=230,slow=7.8,SNR=20							
NVAR	**Mina Array Bea**	**84.38**	**48**	P		**P**	**10 01 56.1**	**+0.5**
NV11	**Mina Array Sit**	**84.49**	**48**	P		**P**	**10 01 56.4**	**+0.3**
NV11				IAmb	IAmb		10 01 57.3	
	comp=Z,5.3nm,1.1s							
IL31		**84.58**	**17**	P		**P**	**10 01 55.6**	**-0.1**
ILAR	**Eielson Array**	**84.58**	**17**	P		**P**	**10 01 54.1**	**-1.6**
	comp=Z,1.7nm,0.5s,baz=235,slow=5.2,SNR=21							
ILAR	**Eielson Array**	**84.58**	**17**	P		**P**	**10 01 53.7**	**-2.0**
PINE	**Pine Mountain**	**84.66**	**43**	P		**P**	**10 01 57.2**	**+0.4**
KVN	**Kaiserville**	**84.76**	**48**	P		**P**	**10 01 57.4**	**0.0**
TPNV	**Topopah Spring**	**85.36**	**50**	P		**P**	**10 02 00.8**	**+0.4**
TPNV				IAmb	IAmb		10 02 01.6	
	comp=Z,3.9nm,0.9s							
WVOR	**Wild Horse Val**	**85.67**	**45**	P		**P**	**10 02 02.3**	**+0.7**
WVOR				IAmb	IAmb		10 02 04.1	
	comp=Z,9.3nm,1.5s							
SHPR	**Sheep Range**	**86.03**	**51**	P		**P**	**10 02 02.8**	**-0.7**
SHPR				IAmb	IAmb		10 02 05.2	
	comp=Z,5.8nm,1.1s							
R11A	**Troy Canyon, C**	**86.34**	**49**	P		**P**	**10 02 03.5**	**-1.5**
ELK	**Elko**	**87.42**	**47**	P		**P**	**10 02 09.8**	**-0.3**
ELK				IAmb	IAmb		10 02 11.3	
	comp=Z,6.0nm,1.3s							
BMO	**Blue Mountains**	**87.48**	**43**	P		**P**	**10 02 09.8**	**-0.2**
BMO				IAmb	IAmb		10 02 10.9	
	comp=Z,3.6nm,1.1s							
B08A	**Colville Reser**	**87.54**	**39**	P		**P**	**10 02 09.5**	**-0.6**
B08A				IAmb	IAmb		10 02 11.0	
	comp=Z,3.6nm,1.0s							
LCMT	**Little Creek M**	**87.65**	**51**	P		**P**	**10 02 10.4**	**-0.6**
PSUT	**Pine Spring**	**87.69**	**50**	P		**P**	**10 02 11.4**	**+0.1**
CCUT	**Cedar City**	**87.73**	**51**	P		**P**	**10 02 12.7**	**+1.2**
F10A	**Beach Ranch, E**	**87.95**	**42**	P		**P**	**10 02 11.5**	**-0.7**
F10A				IAmb	IAmb		10 02 13.0	
	comp=Z,5.6nm,0.8s							
MFID	**Camas Ranch**	**87.95**	**44**	P		**P**	**10 02 12.6**	**+0.3**
MFID				IAmb	IAmb		10 02 13.5	
	comp=Z,3.3nm,0.9s							
KNB	**Kanab**	**87.97**	**51**	P		**P**	**10 02 13.7**	**+1.1**
U15A	**North Rim**	**88.19**	**52**	P		**P**	**10 02 14.2**	**+0.4**
U15A				IAmb	IAmb		10 02 15.6	
	comp=Z,7.5nm,0.7s							
X16A	**Lo Mia Camp, P**	**88.23**	**54**	P		**P**	**10 02 15.1**	**+1.2**
X16A				IAmb	IAmb		10 02 15.7	
	comp=Z,5.1nm,0.9s							
WUAZ	**Wupatki**	**88.62**	**53**	P		**P**	**10 02 15.8**	**+0.1**
WUAZ				IAmb	IAmb		10 02 17.3	
	comp=Z,6.5nm,0.9s							
MTPU	**Mount Pierson**	**88.77**	**50**	P		**P**	**10 02 17.9**	**+1.3**
NEW	**Newport**	**88.86**	**40**	P		**P**	**10 02 16.0**	**-0.4**
NEW				IAmb	IAmb		10 02 17.0	
	comp=Z,2.5nm,0.8s							
W18A	**Petrified Fore**	**89.78**	**54**	P		**P**	**10 02 20.4**	**-0.7**
W18A				IAmb	IAmb		10 02 22.4	
	comp=Z,3.1nm,0.8s							
TCUT	**Toone Canyon**	**90.29**	**48**	P		**P**	**10 02 24.2**	**+0.8**
PDAR	**Pinedale Array**	**92.09**	**47**	P		**P**	**10 02 30.9**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=258,slow=3.3,SNR=6.2							
PDAR	**Pinedale Array**	**92.09**	**47**	P		**P**	**10 02 31.1**	**-0.5**
TX31	**Lajitas Ar. Si**	**93.24**	**61**	P		**P**	**10 02 37.0**	**0.0**
TX31				IAmb	IAmb		10 02 40.1	
	comp=Z,6.2nm,1.4s							
TXAR	**Lajitas Array**	**93.24**	**61**	P		**P**	**10 02 37.2**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=227,slow=5.3,SNR=17							
TXAR	**Lajitas Array**	**93.24**	**61**	P		**P**	**10 02 36.7**	**-0.3**
YKA	**Yellowknife Ar**	**95.24**	**27**	P		**P**	**10 02 44.3**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=253,slow=4.1,SNR=6.0							
ARCES	**ARCESS Array B**	**119.84**	**346**	PKP		**PKPdf**	**10 08 06.2**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=67,slow=1.7,SNR=40							
ARCES	**ARCESS Array B**	**119.84**	**346**			**PKPdf**	**10 08 06.0**	**-1.2**
FINES	**FINESS Array B**	**125.68**	**340**	PKP		**PKPdf**	**10 08 17.3**	**-1.2**
	comp=Z,2.8nm,0.9s,baz=129,slow=0.2,SNR=7.9							
NB2	**NORSAR Subarra**	**130.21**	**347**	PKP		**SKPab**	**10 10 54.5**	**+1.3**
	comp=Z,3.4nm,0.8s,baz=23,slow=3.4							
NOA	**NORSAR Array B**	**130.21**	**347**	SKPbc		**SKPab**	**10 10 54.3**	**+1.0**
	comp=Z,3.4nm,0.9s,baz=27,slow=2.9,SNR=4.9							
FUORN	**Ofenpass-Fuorn**	**143.00**	**337**			**PKPdf**	**10 08 49.9**	**-1.6**
ITM	**Ithomi**	**143.22**	**315**			PKPab	10 08 49.5	-0.7
TUE	**Stuetta**	**143.47**	**338**			PKPab	10 08 51.1	-0.1
TIP	**Timpagrande**	**145.37**	**322**	PKPbc		**PKPdf**	**10 08 55.8**	**+0.2**
BNI	**Bardonecchia**	**145.64**	**339**			**PKPbc**	**10 08 58.1**	**+0.4**

ATH 12 09:57:00.8, 38°66N×24°66E, h27km, ML2.5/15, Error ellipse: s-maj=1.6km s-min=0.9km az=292.0
THE 12 09:57:02.3, 38°67N×24°65E, h14km, ML2.4/8, Error ellipse: s-maj=0.9km s-min=0.5km az=267.0
ISC 12 09:57:01.8±0.9, 38°66N±0°02×24°66E±0°02, h17km±7km, n36, σ0s55/60, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKY	**Skiros Island**	**0.23**	**339**	P		**Pg**	**09 57

LIA	**Limnos Island**	**1.30 18**	P	**Pn**	**09 57 24.6**	**-0.6**
LIA			S	**Sb**	**09 57 42.2**	**-0.1**
	comp=N,75nm,0.4s					
LIA	**Limnos Island**	**1.30 18**	P	**Pn**	**09 57 24.7**	**-0.6**
XOR	**Xorichti**	**1.34 302**	P	**Pn**	**09 57 26.1**	**+0.3**
XOR			S	**Sb**	**09 57 43.5**	**0.0**
	comp=N,92nm,0.3s					
XOR	**Xorichti**	**1.34 302**	P	**Pn**	**09 57 25.4**	**-0.4**
XOR			S	**Sb**	**09 57 43.5**	**0.0**
XOR			AML	AML	09 57 48.6	
	comp=E,155µm,0.4s					
XOR			AML	AML	09 57 48.6	
	comp=N,225µm,0.3s					
LTK	**Loutraki**	**1.48 245**	P	**Pn**	**09 57 27.6**	**0.0**
LTK			S	**Sn**	**09 57 46.5**	**0.0**
LTK			AML	AML	09 57 53.8	
	comp=E,439µm,0.5s					
LTK			AML	AML	09 57 55.5	
	comp=N,294µm,0.4s					
LOUT	**Loutraki**	**1.48 244**	P	**Pn**	**09 57 27.4**	**-0.3**
DID	**Didima**	**1.61 225**	P	**Pn**	**09 57 28.8**	**-0.6**
DID			AML	AML	09 57 55.5	
	comp=N,89µm,0.5s					
DID			AML	AML	09 57 56.6	
	comp=E,114µm,0.4s					
APE	**Apeiranthos**	**1.73 156**	P	**Pn**	**09 57 32.2**	**+1.0**
OUR	**Ouranopolis**	**1.75 343**	P	**Pn**	**09 57 31.1**	**-0.3**
SMTH	**Samothraki Isl**	**1.93 20**	P	**Pn**	**09 57 33.0**	**-0.8**
THAS	**Thassos island**	**1.95 1**	P	**Pn**	**09 57 33.1**	**-0.9**
GUR	**Goura**	**1.96 249**	P	**Pn**	**09 57 34.1**	**-0.2**
TRIZ	**Trizonia**	**2.05 263**	P	**Pn**	**09 57 35.8**	**+0.3**
SERG	**Sergoula**	**2.06 264**	P	**Pn**	**09 57 35.9**	**+0.3**

*IDC **12** 10:08:06.4±3.1,5.°13S×128.°29E,h0km,mb3.5/1,*
mb1 3.9/3,mb1mx3.5/23,mbtmp3.7/3,ML3.8/2,MS3.3/1,
Ms1 3.5/1,ms1mx2.8/17,Error ellipse: s-maj=327.0km
s-min=31.1km az=67.0
*NEIC **12** 10:08:22.9±2.4,5.°23S±0.°08×129.°2E±0.°1,h167km±12km,*
mb4.3/5,Error ellipse: s-maj=21.4km s-min=10.8km
az=75.0
ISC 12 10:08:28.1±1.9,5.°6S±0.°1×130.°1E±0.°3,h150km,n13,
σ0s60/12,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**3.40**	**39**	Pn	**Pn**	**10 09 21.0**	**+0.4**
FAKI				Sn	**Sn**	**10 10 01.0**	**-0.3**
KNRA	**Kununurra**	**10.11**	**187**	Pn	**Pn**	**10 10 49.7**	**0.0**
KNRA				Sn	**Sn**	**10 12 42.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**13.18**	**199**	Pn	Pn	10 11 25.3	-4.4
WB0	**Warramunga Arr**	**14.70**	**164**	P	**P**	**10 11 50.6**	**-0.5**
WRA	**Warramunga Arr**	**14.85**	**164**	Pn	**Pn**	**10 11 51.0**	**+0.3**
	0.2nm,0.3s,baz=335,slow=13,SNR=22						
WRA				Sn	**Sn**	**10 14 35.7**	**0.0**
	0.2nm,0.3s,baz=135,slow=13,SNR=2.2						
WRA	**Warramunga Arr**	**14.85**	**164**	IAmb	IAmb	10 11 55.5	
	comp=Z,0.1nm,0.8s						
WB2	**Warramunga Arr**	**14.85**	**164**	P	**P**	**10 11 52.5**	**-0.3**
WB2				IAmb	IAmb	10 12 26.0	
	comp=Z,22nm,1.8s						
WR0	**Warramunga Arr**	**14.92**	**164**	P	**P**	**10 11 53.9**	**+0.4**
WR0				IAmb	IAmb	10 12 05.5	
	comp=Z,31nm,1.8s						
AS31	**Alice Springs**	**18.34**	**169**	P	**Pn**	**10 12 32.2**	**-0.8**
ASAR	**Alice Springs**	**18.34**	**169**	P	**Pn**	**10 12 32.2**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=349,slow=11,SNR=63						
ASAR	**Alice Springs**	**18.34**	**169**	P	**P**	**10 12 32.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**38.93**	**309**	LR	LR	10 32 14.0	
	comp=Z,39nm,18.5s,baz=312,slow=39						
MKAR	**Makanchi Array**	**67.12**	**326**	P	P	10 18 53.2	-12
	comp=Z,0.2nm,0.4s,baz=126,slow=7.3,SNR=2.2						

*ISK **12** 10:31:43.8,37.°02N×27.°42E,h7km,ML2.6/10*
*DDA **12** 10:31:44.0,37.°01N×27.°42E,h9km,ML2.2*
ISC 12 10:31:44.1±0.9,37.°02N±0.°03×27.°47E±0.°03,h9km±6km,
n21,σ1s96/35,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.05**	**332**	*i* P	**Pg**	**10 31 46.2**	**+0.3**
BDRM				*i* S	**Sg**	**10 31 47.4**	**+0.1**
BDRM				IAML		10 31 48.0	
	comp=E,4µm,0.1s						
BODT	**Bodrum**	**0.14**	**287**	PG	**Pg**	**10 31 46.4**	**-0.7**
BODT				SG	**Sg**	**10 31 49.0**	**-0.2**
DAT	**Datca**	**0.31**	**164**	PG	**Pg**	**10 31 50.2**	**+0.1**
DAT	**Datca**	**0.31**	**164**	*i* P	**Pg**	**10 31 50.3**	**+0.1**
DAT				*i* S	**Sg**	**10 31 55.5**	**+1.2**
YER	**Yerkesik**	**0.66**	**80**	PG	**Pg**	**10 31 57.8**	**+1.0**
TURN	**Turunc**	**0.67**	**112**	PG	**Pg**	**10 31 57.7**	**-4.0**
TURN				SG	**Sg**	**10 32 08.0**	**-5.7**
TURN	**Turunc**	**0.67**	**112**	*i* P	**Pg**	**10 31 57.7**	**-4.0**
TURN				*i* S	**Sg**	**10 32 09.0**	**-4.7**
TURN				IAML		10 32 10.0	
	comp=N,199nm,0.4s						
TURN				IAML		10 32 10.0	
	comp=E,192nm,0.2s						
GCAM	**G?zelcaml?**	**0.70**	**344**	PG	**Pg**	**10 31 57.5**	**-0.1**
GCAM	**G?zelcaml?**	**0.70**	**344**	*i* P	**Pg**	**10 31 57.8**	**+0.2**
GCAM				*i* S	**Sb**	**10 32 08.6**	**+0.2**
GCAM				IAML		10 32 11.0	
	comp=N,100nm,0.2s						
GCAM				IAML		10 32 11.0	
	comp=E,142nm,0.8s						
AYDN	**Tasoluk**	**0.71**	**27**	*i* P	**Pg**	**10 31 58.3**	**+0.4**
AYDN				*i* S	**Sg**	**10 32 08.3**	**+1.1**
AYDN				IAML		10 32 09.0	
	comp=N,103nm,0.3s						
AYDN				IAML		10 32 09.0	
	comp=E,108nm,0.4s						
ARG	**Arkhangelos**	**0.96**	**147**	PG	**Pb**	**10 32 02.9**	**0.0**
ARG				SG	**Sb**	**10 32 17.0**	**+1.2**
DALY	**Dalyan (Mula)**	**0.97**	**102**	PG	**Pb**	**10 32 03.7**	**+0.7**
DALY				SG	**Sn**	**10 32 17.9**	**+0.1**
DALY	**Dalyan (Mula)**	**0.97**	**102**	*i* P	**Pb**	**10 32 03.5**	**+0.5**
DALY				*i* S	**Sn**	**10 32 18.0**	**+0.3**
DALY				IAML		10 32 21.0	
	comp=N,51nm,0.6s						
DGB	**zmir**	**1.13**	**336**	*i* P	**Pg**	**10 32 05.2**	**-0.6**
DGB				IAML		10 32 21.0	
	comp=E,44nm,0.6s						
DGB				*i* S	**Sn**	**10 32 21.0**	**-0.7**
DGB				IAML		10 32 23.0	
	comp=N,43nm,0.6s						
TAVA	**DENIZLI_Tavas**	**1.23**	**69**	*i* P	**Pg**	**10 32 09.3**	**+1.5**
TAVA				*i* S	**Sn**	**10 32 26.3**	**+1.9**
FETY	**Fethiye**	**1.35**	**106**	PN	**Pg**	**10 32 10.7**	**+0.7**
FETY	**Fethiye**	**1.35**	**106**	*i* P	**Pg**	**10 32 13.8**	**+3.9**
FETY				*i* S	**Sg**	**10 32 29.4**	**+1.9**
URLA	**Izmir**	**1.50**	**333**	PN	**Pb**	**10 32 11.9**	**-0.3**
URLA	**Izmir**	**1.50**	**333**	*i* P	**Pb**	**10 32 12.1**	**-0.2**
URLA				*i* S	**Sg**	**10 32 32.0**	**-0.5**
URLA				IAML		10 32 44.0	
	comp=N,22nm,1.2s						
APE	**Apeiranthos**	**1.55**	**272**	PN	**Pn**	**10 32 11.5**	**-0.5**
AKAS	**Kas**	**1.89**	**114**	PN	**Pn**	**10 32 16.9**	**+0.2**

*IDC **12** 10:42:15.0±1.4,31.°95N×104.°85E,h0km,mb3.5/4,*
mb1 3.7/5,mb1mx3.5/32,mbtmp3.6/5,ML3.8/1,Error
ellipse: s-maj=72.5km s-min=23.3km az=60.0
*BJI **12** 10:42:17.5±0.0,31.°60N×103.°98E,h26km,ML3.5/11*
ISC 12 10:42:18.0±0.8,31.°55N±0.°04×103.°82E±0.°06,h14km,n10,
σ2s28/17,mb3.7/4,1D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.64**	**185**	⇓Pg	**Pn**	**10 42 31.3**	**-1.4**
CD2				Sg	**Sn**	**10 42 41.3**	**-1.4**
CD2				smax	smax		
	comp=N,1µm,0.6s						
CD2				smax	smax		
	comp=E,920nm,0.8s						
LZH	**Lanzhou**	**4.53**	**0**	*e*Pg	**Pb**	**10 43 37.1**	**-0.3**
LZH				Sg	**Sb**	**10 44 35.0**	**+3.1**
LZH				smax	smax		
	comp=N,52nm,1.2s						
LZH				smax	smax		
	comp=E,68nm,1.1s						
XAN	**Xi'an**	**4.96**	**59**	Pn	**Pn**	**10 43 31.3**	**-0.9**
XAN				Pg	**Pb**	**10 43 46.9**	**+2.2**
XAN				Sn	**Sn**	**10 44 24.5**	**-4.9**
XAN				Sg	**Sb**	**10 44 45.0**	**+0.7**
XAN				smax	smax		
	comp=N,160nm,0.7s						
XAN				smax	smax		
	comp=E,190nm,0.9s						
GYA	**Guiyang**	**5.65**	**153**	Pg	**Pg**	**10 44 09.9**	**+3.7**
GYA				Sn	**Sb**	**10 45 02.2**	**-1.9**
GYA				Sg	**Sg**	**10 45 20.0**	**+0.6**
GYA				smax	smax		
	comp=N,39nm,0.6s						
GYA				smax	smax		
	comp=E,20nm,0.8s						
CMAR	**Chiang Mai Arr**	**13.76**	**200**	Pn	**P**	**10 45 41.8**	**+0.5**
	comp=E,0.2nm,0.3s,baz=5.9,slow=9.5,SNR=10						
WMQ	**Urumqi**	**17.65**	**318**	*e*P	**P**	**10 46 23.6**	**-0.9**
MKAR	**Makanchi Array**	**22.49**	**319**	P	**P**	**10 47 18.9**	**+1.9**
	comp=E,0.9nm,0.8s,baz=125,slow=12,SNR=4.7						
ZALV	**Zalesovo Beam**	**26.22**	**334**	P	**P**	**10 47 52.1**	**-0.2**
	comp=E,1.1nm,0.6s,baz=133,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**58.98**	**146**	P	**P**	**10 52 15.2**	**-2.1**
	comp=E,0.7nm,1.0s,baz=338,slow=7.7,SNR=2.8						
ASAR	**Alice Springs**	**62.00**	**149**	P	**P**	**10 52 36.2**	**-1.7**
	comp=E,0.4nm,0.8s,baz=330,slow=6.5,SNR=2.3						

WEL 12 10:43:26.0±0.5,33.°S±6.°×18.°0W±1.°3,h326km±6km,
M4.2/34,mB4.7/19,MLv5.0/34,Mw(mB)4.0/19,Error
ellipse: s-maj=0.0km s-min=0.0km az=110.7,South of
Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.63**	**26**	P	Pn	10 44 27.8	-2.1
GLKZ				S	Sn	10 45 13.7	-7.4
MXZ	**Matakaoa Point**	**5.25**	**197**	P	Pn	10 44 51.4	+4.2
MXZ				S	S	10 45 55.5	+2.6
WMGZ	**Waiomatatini S**	**5.47**	**196**	P	Pn	10 44 52.2	+2.4
WMGZ				S	S	10 46 00.5	+3.1
HAZ	**Te Kaha**	**5.58**	**201**	P	Pn	10 44 53.5	+2.5
HAZ				S	S	10 46 00.1	+0.4
KUZ	**Kuaotunu**	**5.62**	**221**	P	Pn	10 44 53.9	+2.5
PUZ	**Puketiti**	**5.75**	**196**	P	Pn	10 44 54.2	+1.2
PUZ				S	S	10 46 04.2	+0.9
RUGZ	**Raukumara Rang**	**5.80**	**201**	P	Pn	10 44 51.5	-2.2
RUGZ				S	S	10 46 03.8	-0.9
WCZ	**Waipu Caves**	**5.96**	**234**	P	Pn	10 44 56.7	+1.3
OPRZ	**Ohinepanea**	**6.09**	**209**	P	Pn	10 44 58.2	+1.2
OUZ	**Omahuta**	**6.15**	**243**	P	Pn	10 44 56.8	-1.0
MWZ	**Matawai**	**6.19**	**200**	P	Pn	10 44 59.1	+0.9
MWZ				S	S	10 46 13.4	+0.7
TKGZ	**Te Karaka**	**6.20**	**198**	S	S	10 46 12.8	0.0
URZ	**Urewera**	**6.25**	**203**	P	Pn	10 44 58.7	-0.1
URZ				S	S	10 46 15.5	+1.5
RAGZ	**Rawiri**	**6.37**	**201**	P	Pn	10 45 00.2	-0.1
RIGZ	**Rimuhau**	**6.47**	**198**	P	Pn	10 45 04.3	+2.8
MUGZ	**Murupara**	**6.56**	**205**	P	Pn	10 45 05.4	+2.8
MUGZ				S	S	10 46 19.7	-1.1
RTZ	**Ruatahuna**	**6.62**	**203**	P	Pn	10 45 05.9	+2.6
RTZ				S	S	10 46 21.6	-0.4
HSRZ	**Hossack Road**	**6.62**	**209**	P	Pn	10 45 07.7	+4.5
SNGZ	**Shannon Statio**	**6.66**	**200**	P	Pn	10 45 06.0	+2.3
SNGZ				S	S	10 46 24.0	+1.2
PRRZ	**Plateau Road**	**6.72**	**207**	P	Pn	10 45 07.8	+3.4
ALRZ	**Allen Road**	**6.80**	**207**	P	Pn	10 45 08.1	+2.7
WPRZ	**Whakapapatarin**	**6.83**	**208**	P	Pn	10 45 09.3	+3.6
RAHZ	**Arahi**	**6.86**	**201**	P	Pn	10 45 09.0	+2.9
RAHZ				S	S	10 46 26.3	-0.9
TLZ	**Tolley Road**	**6.94**	**212**	P	Pn	10 45 11.8	+4.8
KUTZ	**Kaahu Road**	**6.94**	**210**	P	Pn	10 45 11.0	+3.9
NMHZ	**Naumai**	**7.11**	**202**	P	Pn	10 45 09.0	-0.1
NMHZ				S	S	10 46 32.0	-0.7
WTVZ	**West Tongariro**	**7.57**	**209**	P	Pn	10 45 16.6	+2.0
BHHZ	**Black Hill Sta**	**7.71**	**205**	P	Pn	10 45 16.9	+0.6
KRHZ	**Kereru**	**7.75**	**203**	P	Pn	10 45 17.6	+0.9
KRHZ				S	S	10 46 43.5	-3.1
MOVZ	**Moawhango**	**7.76**	**207**	P	Pn	10 45 17.4	+0.5
MOVZ				S	S	10 46 44.5	-2.5
PKVZ	**Pokaka**	**7.82**	**209**	P	Pn	10 45 18.9	+1.3
VRZ	**Vera Road**	**7.94**	**213**	P	Pn	10 45 21.8	+2.8
PXZ	**Pawanui**	**7.95**	**199**	P	Pn	10 45 19.6	+0.5
PXZ				S	S	10 46 47.5	-3.6
PNHZ	**Pukenui**	**8.05**	**203**	P	Pn	10 45 19.7	-0.6
PNHZ				S	S	10 46 49.0	-4.3
WPHZ	**Waipukurau**	**8.11**	**201**	P	Pn	10 45 22.2	+1.2
PRHZ	**Porangahau**	**8.24**	**200**	P	Pn	10 45 24.0	+1.5
TSZ	**Takapari Road**	**8.26**	**204**	P	Pn	10 45 23.3	+0.4
TSZ				S	S	10 46 54.3	-3.6
WAZ	**Wanganui**	**8.36**	**209**	P	Pn	10 45 25.0	+1.0
WAZ				S	S	10 47 00.0	-0.1
DVHZ	**Dannevirke**	**8.41**	**202**	P	Pn	10 45 25.3	+0.6
DVHZ				S	S	10 46 59.0	-2.3
POWZ	**Post Office Ro**	**8.62**	**204**	P	Pn	10 45 27.8	+0.7
POWZ				S	S	10 47 02.4	-3.5
PRWZ	**Pori Road**	**8.70**	**202**	P	Pn	10 45 29.1	+1.0
BFZ	**Birch Farm**	**8.73**	**201**	P	Pn	10 45 28.0	-0.5
MRZ	**Mangatainoka R**	**8.93**	**204**	P	Pn	10 45 30.4	-0.5
TIWZ	**Tintock**	**8.93**	**202**	P	Pn	10 45 30.7	-0.2
CPWZ	**Castlepoint**	**8.96**	**200**	P	Pn	10 45 33.0	-1.7
HOWZ	**Holdsworth Sta**	**9.16**	**203**	P	Pn	10 45 33.0	-0.7
OGWZ	**Otaki Gorge**	**9.21**	**205**	P	Pn	10 45 32.4	-1.8
TMWZ	**Te Maipa**	**9.23**	**201**	P	Pn	10 45 35.5	+0.9
KIW	**Kapiti Island**	**9.34**	**206**	P	Pn	10 45 35.1	-0.7
TRWZ	**Traveller**	**9.56**	**201**	P	Pn	10 45 39.1	+0.6
DUWZ	**D'Urville Isla**	**9.68**	**210**	P	Pn	10 45 38.3	-1.7
MSWZ	**Moikau Station**	**9.71**	**203**	P	Pn	10 45 39.8	-0.6
BHW	**Baring Head**	**9.83**	**204**	P	Pn	10 45 40.7	-1.1
PLWZ	**Palliser**	**9.85**	**203**	P	Pn	10 45 41.5	-0.6
TCW	**Tory Channel**	**9.88**	**207**	P	Pn	10 45 40.9	-1.5
TUWZ	**Tuamarina**	**10.20**	**208**	P	Pn	10 45 44.0	-2.2
NNZ	**Nelson**	**10.25**	**211**	P	Pn	10 45 44.7	-2.2
QRZ	**Quartz Range**	**10.33**	**215**	P	Pn	10 45 45.8	-2.0
BSWZ	**Blackbirch Sta**	**10.47**	**207**	P	Pn	10 45 48.9	-0.7
THZ	**Tophouse**	**10.90**	**210**	P	Pn	10 45 52.4	-2.5
KHZ	**Kahutara**	**11.20**	**207**	P	Pn	10 45 56.1	-2.2
DSZ	**Dennistun Nort**	**11.39**	**214**	P	Pn	10 45 58.8	-1.9
GVZ	**Greta Valley S**	**11.86**	**207**	P	Pn	10 46 05.4	-0.9
LTZ	**Lake Taylor**	**12.01**	**209**	P	Pn	10 46 06.0	-2.1
INZ	**Inchbonnie**	**12.32**	**212**	P	Pn	10 46 10.2	-1.6
MQZ	**McQueen's Vall**	**12.64**	**206**	P	Pn	10 46 14.3	-1.2
RPZ	**Rata Peaks**	**13.29**	**210**	P	P	10 46 21.8	-1.0

VIE 12 10:50:24.7±0.9,47.°80N×14.°14E,h0km,mb0.3/1,ml1.4/2,
Error ellipse: s-maj=5.8km s-min=2.0km az=25.0 3 km
SSW of Klaus Mining explosion.,Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOA	**Molln**	**0.10**	**59**	*i* Pg	Pg	10 50 26.3	-0.3
	7.3nm,0.1s						
MOA				*e*Sg	Sg	10 50 28.3	+0.4
	14nm,0.1s						
CONA	**Conrad Observa**	**1.17**	**83**	Pg	Pb	10 50 47.6	-0.1
	1.1nm,0.2s						
CONA				*e*Sg	Sb	10 51 03.6	+0.1
	3.5nm,0.3s						

*BUC **12** 10:53:00.7±0.5,44.°49N×22.°54E,h7km±2km,ml1.5/3,*
Error ellipse: s-maj=3.1km s-min=1.9km az=167.0
BEO 12 10:52:58.8±0.5,44.°15N×22.°21E,h0km,ML1.5/7,8C-4D,
Mining explosion.,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAGS	**Zajecar**	**0.34**	**177**	*e*Pg	Pg	10 53 05.1	-0.2
ZAGS				*e*Sg	Sg	10 53 09.0	-0.4
BOVS	**Bovan**	**0.63**	**215**	*e*Sg	Sg	10 53 18.9	-0.2
MDVR	**Moldovita**	**0.72**	**331**	⇑P	Pg	10 53 13.4	+0.7
MDVR				⇓S	Sg	10 53 22.7	+0.7
MDVR	**Moldovita**	**0.72**	**331**	⇑P	Pg	10 53 13.4	+0.7
MDVR				⇓S	Sg	10 53 22.7	+0.7
HERR	**Herculane**	**0.74**	**11**	S	Pg	10 53 14.5	+1.5
ZAPS	**Zavoj**	**0.93**	**161**	*e*Pg	Pg	10 53 16.1	-0.5
ZAPS				*e*Sg	Sg	10 53 27.8	-0.9
GRUS	**Gruza**	**1.11**	**257**	*e*Pg	Pg	10 53 20.1	0.0
GRUS				*e*Sg	Sb	10 53 35.3	-0.6
SELS	**Selova**	**1.22**	**221**	*e*Pg	Pg	10 53 20.5	-1.7
SELS				*e*Sg	Sg	10 53 37.6	-0.5
TRUS	**Trudelj**	**1.30**	**274**	*e*Sg	Sg	10 53 39.4	-1.1
BARS	**Barje**	**1.37**	**192**	*e*Pg	Pg	10 53 23.6	-1.4
BARS				*e*Sg	Sg	10 53 41.7	-1.0
BZS	**Buzias**	**1.52**	**344**	*e*Sg	Sg	10 53 46.5	-1.2
BZS	**Buzias**	**1.52**	**344**	⇑P	Pn	10 53 25.4	-1.9
BZS				⇑S	Sg	10 53 43.5	-4.2
BZS	**Buzias**	**1.52**	**344**	⇑P	Pn	10 53 25.4	-1.9
BZS				⇑S	Sg	10 53 43.5	-4.2
DIVS	**Divibare**	**1.60**	**269**	*e*Pg	Pn	10 53 27.2	-1.2
DIVS				*e*Sg	Sn	10 53 49.4	-0.4
BOSS	**Bosilegrad**	**1.67**	**173**	*e*Pg	Pn	10 53 29.0	-0.3
BOSS				*e*Sg	Sb	10 53 51.8	-0.2
LOT	**Lotru**	**1.71**	**40**	⇓P	Pn	10 53 25.6	-4.3
LOT				⇑S	Sn	10 53 43.4	-9.1
LOT	**Lotru**	**1.71**	**40**	⇓P	Pn	10 53 25.6	-4.3
LOT				⇑S	Sn	10 53 43.4	-9.1
SJES	**Sjenica**	**1.85**	**242**	*e*Sg	Sn	10 53 56.5	+0.4

*IDC **12** 11:06:50.4±2.2,20.°41S×177.°21W,h253km±22km,*
mb3.7/12,mb1 4.0/14,mb1mx3.9/23,mbtmp4.4/14,Error
ellipse: s-maj=18.8km s-min=11.9km az=127.0
*NEIC **12** 11:06:53.0±2.6,20.°50S±0.°08×176.°93W±0.°09,*
h290km±5km,mb4.5/75,Error ellipse: s-maj=13.1km
s-min=10.6km az=116.0
ISC 12 11:06:53.9±0.3,20.°66S±0.°05×176.°92W±0.°06,h297km,
n172,σ1s42/189,mb4.5/50,11C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.57**	**301**	Pn	**Pn**	**11 08 18.9**	**+0.7**
NIUE	**Niue**	**6.77**	**78**	Pn	**Pn**	**11 08 32.7**	**+0.2**
NIUE					**S**	**11 09 49.7**	**-2.4**
AFI	**Afiamalu**	**8.32**	**37**	P	Pn	11 08 46.7	-4.9
	5.2nm,0.3s,baz=31,slow=11,SNR=12						
AFI				S	S	11 10 13.4	-14
	31nm,0.3s,baz=64,slow=19,SNR=11						
AFI	**Afiamalu**	**8.32**	**37**	Pn	Pn	11 08 47.1	-4.5
AFI					S	11 10 16.9	-10
RIZ	**Raoul Island**	**8.59**	**186**	P	**Pn**	**11 08 54.9**	**+0.2**
RIZ				S	**S**	**11 10 34.1**	**+1.3**
RAO	**Raoul Island**	**8.60**	**186**	P	**Pn**	**11 08 54.5**	**-0.3**
	55nm,0.3s,baz=52,slow=9.6,SNR=6.0						
RAO				S	**S**	**11 10 30.5**	**-2.4**
	39nm,0.3s,baz=147,slow=22,SNR=2.2						
RAO	**Raoul Island**	**8.60**	**186**		**Pn**	**11 08 54.5**	**-0.3**
RAO				S	**S**	**11 10 33.8**	**+0.9**
GLKZ	**Green Lake**	**8.61**	**186**	P	**Pn**	**11 08 54.9**	**0.0**
GLKZ				S	**S**	**11 10 33.4**	**+0.2**
DZM	**Mont Dzumac**	**15.56**	**262**	P	**Pn**	**11 10 19.9**	**+0.7**
	10.0nm,0.3s,baz=79,slow=20,SNR=80						
DZM	**Mont Dzumac**	**15.56**	**262**	P	**Pn**	**11 10 19.6**	**+0.4**
OUZ	**Omahuta**	**16.73**	**208**	P	**Pn**	**11 10 32.2**	**-0.4**
OUZ	**Omahuta**	**16.73**	**208**	P	**Pn**	**11 10 31.6**	**-1.0**
OUZ				IAmb	IAmb	11 10 33.1	
	comp=Z,26nm,1.1s						
GRZ	**Great Barrier**	**16.90**	**202**	P	**Pn**	**11 10 34.4**	**-0.2**
WCZ	**Waipu Caves**	**17.04**	**205**	P	**Pn**	**11 10 35.6**	**-0.6**
KUZ	**Kuaotunu**	**17.26**	**200**	P	**Pn**	**11 10 38.1**	**-0.7**
MXZ	**Matakaoa Point**	**17.34**	**193**	P	**P**	**11 10 37.3**	**+0.6**
MXZ	**Matakaoa Point**	**17.34**	**193**	P	**P**	**11 10 37.2**	**+0.6**
WIAZ	**Waiheke Island**	**17.50**	**202**	P	**Pn**	**11 10 42.3**	**+0.7**
MBAZ	**Motutapu North**	**17.57**	**202**	P	**Pn**	**11 10 43.0**	**+0.6**
WMGZ	**Waiomatatini S**	**17.57**	**192**	P	**Pn**	**11 10 42.0**	**-0.4**
WMGZ				S	**S**	**11 13 43.0**	**-2.9**
HAZ	**Te Kaha**	**17.64**	**194**	P	**P**	**11 10 40.3**	**+0.5**
HAZ				S	**S**	**11 13 43.8**	**-3.6**
ETAZ	**East Tamaki Re**	**17.72**	**202**	P	**Pn**	**11 10 44.5**	**+0.3**
PUZ	**Puketiti**	**17.84**	**192**	P	**P**	**11 10 41.1**	**-0.9**
PUZ				S	**S**	**11 13 45.4**	**-6.0**
RUGZ	**Raukumara Rang**	**17.87**	**194**	P	**P**	**11 10 42.7**	**+0.3**
RUGZ				S	**S**	**11 13 47.0**	**-5.0**
TWGZ	**Tauwhareparae**	**18.00**	**193**	P	**P**	**11 10 43.6**	**-0.2**
TWGZ				S	**S**	**11 13 54.2**	**-0.3**
OPRZ	**Ohinepanea**	**18.03**	**197**	P	**Pn**	**11 10 47.3**	**-0.2**
TOZ	**Tahuroa Road**	**18.24**	**200**	P	**Pn**	**11 10 48.2**	**-1.7**
MWZ	**Matawai**	**18.25**	**194**	P	**P**	**11 10 45.5**	**-0.9**
MWZ				S	**S**	**11 13 56.5**	**-3.0**
URZ	**Urewera**	**18.28**	**195**	P	**P**	**11 10 46.3**	**-0.4**
	comp=Z,9.5nm,0.3s,baz=266,slow=3.8,SNR=41						
URZ				S	**S**	**11 13 57.4**	**-2.4**
	comp=Z,1.7nm,0.3s,baz=112,slow=14,SNR=2.3						
URZ	**Urewera**	**18.28**	**195**	P	**P**	**11 10 46.1**	**-0.5**
URZ				S	**S**	**11 13 56.2**	**-3.7**
URZ	**Urewera**	**18.28**	**195**	P	**P**	**11 10 46.1**	**-0.5**
URZ				S	**S**	**11 14 01.0**	**+1.2**
TKGZ	**Te Karaka**	**18.28**	**193**	P	**P**	**11 10 46.2**	**-0.5**
TKGZ				S	**S**	**11 13

AS31 IAmb IAmb 11 14 44.3
comp=Z,10nm,0.5s
ASAR Alice Springs 45.46 257 P **P** **11 14 43.5 -0.9**
comp=Z,36nm,0.6s,baz=98,slow=8.2,SNR=563
ASAR PcP **PcP** **11 16 17.6 -0.3**
comp=Z,1.6nm,0.5s,baz=104,slow=5.5,SNR=4.6
ASAR Alice Springs 45.46 257 P **P** **11 14 43.3 -1.1**
WB0 Warramunga Arr 45.56 262 P **P** **11 14 43.8 -1.4**
WB0 IAmb IAmb 11 14 44.5
comp=Z,26nm,0.6s
WB2 Warramunga Arr 45.57 262 P **P** **11 14 44.0 -1.2**
WB2 IAmb IAmb 11 14 44.7
comp=Z,20nm,0.8s
WRAB Tennant Creek 45.57 262 P **P** **11 14 44.0 -1.2**
WRAB IAmb IAmb 11 14 44.6
comp=Z,19nm,0.9s
WRA Warramunga Arr 45.58 262 P **P** **11 14 43.8 -1.5**
comp=Z,14nm,0.6s,baz=97,slow=6.8,SNR=174
WRA Warramunga Arr 45.58 262 P **P** **11 14 43.6 -1.7**
FORT Forrest 50.16 247 P **P** **11 15 18.6 -1.4**
FORT IAmb IAmb 11 15 36.6
comp=Z,24nm,0.9s
MTN Manton Dam 50.17 270 P **P** **11 15 19.3 -1.0**
MTN IAmb IAmb 11 15 19.8
comp=Z,36nm,1.1s
KNRA Kununurra 51.66 266 P **P** **11 15 30.7 -0.6**
FAKI Fak Fak 52.52 283 P **P** **11 15 35.9 -1.8**
FITZ Fitzroy Crossi 54.01 262 P **P** **11 15 48.0 -0.4**
SOEI Soe 57.51 271 P **P** **11 16 15.4 +2.0**
comp=Z,119nm,0.6s
SOEI Soe 57.51 271 P **P** **11 16 13.9 +0.5**
VNDA Vanda 57.84 185 P **P** **11 16 17.8 +3.3**
comp=Z,0.3nm,0.5s,baz=354,slow=7.4,SNR=5.7
VNDA Vanda 57.84 185 P **P** **11 16 18.2 +3.8**
PSA00 Pilbara Seismi 58.61 257 P **P** **11 16 19.1 -1.7**
PSA00 IAmb IAmb 11 16 21.0
comp=Z,22nm,1.1s
MORW Morawa 60.70 248 P **P** **11 16 33.0 -1.8**
MORW IAmb IAmb 11 16 38.3
comp=Z,14nm,1.2s
LUWI Luwuk 61.96 280 P **P** **11 16 43.6 +0.3**
GIRL Giralia 63.48 254 P **P** **11 16 53.8 +0.6**
JAGI Jajag, Banyuwa 67.39 269 P **P** **11 17 17.6 -0.7**
MYLDM Lahad Datu 68.35 285 P **P** **11 17 26.2 +2.0**
MYLDM IAmb IAmb 11 17 43.6
comp=Z,14nm,0.9s
QSPA South Pole Qui 69.41 180 P **P** **11 17 31.3 +1.4**
QSPA IAmb IAmb 11 17 33.6
comp=Z,4.1nm,0.8s
KKM Kota Kinabalu 70.78 284 P **P** **11 17 39.5 +0.4**
KKM IAmb IAmb 11 17 40.1
comp=Z,15nm,0.7s
MJAR Matsushiro Arr 70.94 323 P **P** **11 17 38.6 -0.9**
comp=Z,3.4nm,0.5s,baz=163,slow=5.9,SNR=9.2
MJAR Matsushiro Arr 70.94 323 P **P** **11 17 36.2 -3.3**
JNU Nakatsue 73.09 316 P **P** **11 17 52.4 +0.1**
JNU IAmb IAmb 11 17 53.3
comp=Z,9.2nm,0.9s
PEA0B Petropavlovsk- 76.69 345 P **P** **11 18 12.3 0.0**
PETK Petropavlovsk- 76.69 345 P **P** **11 18 11.4 -0.9**
comp=Z,1.5nm,0.6s,baz=120,slow=7.9,SNR=8.2
PETK Petropavlovsk- 76.69 345 P **P** **11 18 12.1 -0.1**
KSRS Korea Array 77.68 318 P **P** **11 18 18.4 +0.3**
comp=Z,0.9nm,0.7s,baz=118,slow=6.4,SNR=4.9
AFDM Forest Hills D 79.09 41 P **P** **11 18 24.8 -1.0**
USRK Usuriysk Ar. 79.67 325 P P 11 18 23.8 -5.0
WAKR Walker 79.78 42 P **P** **11 18 30.2 +0.5**
PNTR Pine Nut 80.03 42 P **P** **11 18 31.4 +0.3**
PNTR IAmb IAmb 11 18 34.7
comp=Z,4.4nm,0.7s
YERR Yerington 80.19 42 P **P** **11 18 31.8 -0.1**
NVAR Mina Array Bea 80.45 43 P **P** **11 18 35.0 +1.7**
comp=Z,0.8nm,0.7s,baz=223,slow=9.0,SNR=7.6
NVAR Mina Array Bea 80.45 43 P **P** **11 18 32.6 -0.8**
MYKOM Kota Tinggi 80.56 276 P **P** **11 18 33.7 -0.5**
NJ2 Nanjing 80.76 309 *e*P **P** **11 18 35.1 +0.3**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
Y14A Wickenburg 81.53 49 P **P** **11 18 36.5 -2.4**
X16A Lo Mia Camp, P 82.88 49 P **P** **11 18 44.2 -1.8**
CCUT Cedar City 83.19 46 P **P** **11 18 50.0 +2.4**
J08A Circle Bar Ran 83.26 39 P **P** **11 18 49.1 +1.5**
U15A North Rim 83.33 47 P **P** **11 18 50.0 +1.6**
G08A Pilot Rock 84.14 37 P **P** **11 18 54.1 +2.1**
IPM Ipoh 84.15 277 P **P** **11 18 52.7 0.0**
KULM Kulim 84.79 278 P **P** **11 18 55.5 -0.4**
KULM IAmb IAmb 11 18 58.5
comp=Z,8.6nm,0.8s
TTA Tatalina 84.94 9 P **P** **11 18 56.1 +0.6**
PMR Palmer 84.95 13 P **P** **11 18 55.1 -0.4**
PMR IAmb IAmb 11 19 03.6
comp=Z,3.6nm,0.9s
H03S2 Juan Fernandez 85.07 124 T T 12 52 10.3
baz=247,slow=74,SNR=11
H03S1 Juan Fernandez 85.08 124 T T 12 52 10.6
baz=247,slow=74,SNR=11
H03S3 Juan Fernandez 85.08 124 T T 12 52 13.5
baz=247,slow=74,SNR=6.1
GHO Glory Hole Cre 85.15 13 P **P** **11 18 56.4 -0.2**
GHO IAmb IAmb 11 18 57.3
comp=Z,11nm,0.8s
F10A Beach Ranch, E 85.52 37 P **P** **11 19 00.2 +1.4**
MNTX Cornudas Mount 86.03 54 P **P** **11 19 01.3 -0.2**
TX31 Lajitas Ar. Si 86.30 57 P **P** **11 19 02.0 -1.0**
TX31 IAmb IAmb 11 19 06.3
comp=Z,4.6nm,0.9s
TXAR Lajitas Array 86.30 57 P **P** **11 19 06.2 +3.2**
comp=Z,1.4nm,0.9s,baz=219,slow=6.7,SNR=16
TXAR Lajitas Array 86.30 57 P **P** **11 19 02.8 -0.2**
RND Reindeer 86.64 12 P **P** **11 19 03.7 -0.1**
RND IAmb IAmb 11 19 04.6
comp=Z,6.3nm,0.8s
SYO Syowa Base 86.79 192⇑*e*P **P** **11 19 04.0 -0.5**
SYO Syowa Base 86.79 192⇑*e*P **P** **11 19 07.1 +2.6**
SNAA Sanae 87.82 178 P **P** **11 19 10.6 +1.1**
VNA3 Neumayer Olymp 87.91 176 P **P** **11 19 11.4 +1.5**
CCB Clear Creek Bu 87.96 12 P **P** **11 19 09.6 -0.3**
ILAR Eielson Array 88.25 12 P **P** **11 19 10.7 -0.6**
comp=Z,0.6nm,0.3s,baz=225,slow=5.3,SNR=22
ILAR Eielson Array 88.25 12 P **P** **11 19 10.1 -1.2**
VNA2 Neumayer--Watz 88.36 177 P **P** **11 19 13.8 +1.8**
PDAR Pinedale Array 88.39 43 P **P** **11 19 14.2 +1.4**
comp=Z,0.2nm,0.4s,baz=247,slow=1.9,SNR=2.8
BOZ Bozeman (W) 88.57 40 P **P** **11 19 14.6 +1.2**
HHC Hu-ho-hao-te 90.19 314 *e*P **P** **11 19 21.7 +0.6**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,86nm,4.9s
KMI Kunming 90.32 297 ⇑P **P** **11 19 22.9 +0.7**
CMAR Chiang Mai Arr 91.12 289 P **P** **11 19 25.4 -0.4**
comp=Z,2.3nm,0.6s,baz=125,slow=3.0,SNR=12
CMAR Chiang Mai Arr 91.12 289 P **P** **11 19 26.1 +0.4**
CHTO Chiang Mai 91.25 290 P **P** **11 19 26.2 -0.2**
CHTO IAmb IAmb 11 19 27.8
comp=Z,6.2nm,0.6s
LZH Lanzhou 93.67 307 ⇑P **P** **11 19 38.0 +0.7**
LZH pP pP 11 20 42.6 -4.8
LZH sP pwP 11 21 00.9 +10
LZH PP **PP** **11 23 29.3 +2.2**
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,73nm,9.2s
MKAR Makanchi Array 112.04 313 PKiKP **PKiKP** **11 24 52.6 -1.4**
comp=Z,0.3nm,0.6s,baz=201,slow=1.0,SNR=4.7
ARCES ARCESS Array B 129.26 350 PKP **PKPdf** **11 25 26.4 +0.1**
comp=Z,1.1nm,0.5s,baz=18,slow=1.5,SNR=9.2
ARCES ARCESS Array B 129.26 350 PKPdf **PKPdf** **11 25 26.7 +0.4**
FINES FINESS Array B 136.21 344 PKP **PKPdf** **11 25 37.8 -1.7**
comp=Z,0.9nm,0.5s,baz=60,slow=3.7,SNR=5.4
FINES FINESS Array B 136.21 344 PKPdf **PKPdf** **11 25 36.2 -3.4**
AKASG Malin Array Be 143.64 332 PKhKP PKPpre 11 25 49.7
comp=Z,2.1nm,0.5s,baz=42,slow=4.3,SNR=12
BUR08 Bucovina Ar. S 147.68 332 **PKPbc** **11 26 03.7 0.0**
BURAR Bucovina Array 147.69 332 **PKPbc** **11 26 02.9 -0.8**
BRTR Keskin Array B 147.69 313 PKPbc **PKPbc** **11 26 03.0 -1.0**
comp=Z,1.3nm,0.5s,baz=107,slow=4.1,SNR=4.9
BRTR Keskin Array B 147.69 313 **PKPbc** **11 26 03.2 -0.9**
OSTC Ostas 148.41 344⇑*e*PKP **PKPbc** **11 26 06.0 +0.6**
CLL Collm 148.44 348 *i* PKPdf **PKPdf** **11 26 02.4 +0.9**
comp=Z,3.0nm,0.6s
CLL ⇑*i*PKPbc **PKPbc** **11 26 05.2 -0.2**
comp=Z,9.0nm,0.6s
CLL *i* PKPab **PKPab** **11 26 10.4 +0.8**
CLL Collm 148.44 348 **PKPbc** **11 26 05.4 0.0**
DPC Dobruska-Polom 148.57 344⇑*e*PKP **PKPbc** **11 26 05.9 +0.1**
BRG Berggiesshubel 148.66 347 *e*PKP **PKPbc** **11 26 05.8 -0.1**
comp=Z,5.3nm,0.6s
KRLC Kraliky 148.70 343⇑*e*PKP **PKPbc** **11 26 06.4 +0.3**
PRU Pruhonice 149.35 345⇑*e*PKP **PKPbc** **11 26 07.8 +0.1**
GOPC GO Pecny, Ondr 149.36 345⇑*e*PKP **PKPbc** **11 26 07.3 -0.5**
KHC Kasperske Hory 150.38 346⇑*e*PKP **PKPbc** **11 26 10.0 -0.2**
KHC Kasperske Hory 150.38 346 **PKPbc** **11 26 10.2 0.0**
GERES GERESS Array B 150.62 346 PKPbc **PKPbc** **11 26 10.9 0.0**
comp=Z,2.2nm,0.6s,baz=11,slow=2.7,SNR=17
GERES GERESS Array B 150.62 346 **PKPbc** **11 26 10.6 -0.3**
FUORN Ofenpass-Fuorn 153.45 349 PKPdf **PKPdf** **11 26 07.0 -2.6**
FUORN **PKPbc** **11 26 16.0 -1.5**
FUORN PKPab **PKPab** **11 26 28.1 -2.8**
TORD Torodi Ar. Bea 172.41 170 PKPdf **PKPdf** **11 26 28.1 -0.1**
TORD **PKPab** **11 27 55.9 +1.6**

BJI ***12*** *11:35:15.0±0.0,51.75N×179.17E,h97km,mB5.0/14, mb4.7/16*
NEIC ***12*** *11:35:20.3±1.9,51.8N±0.1×178.6E±0.1,h99km±5km, mb4.8/253,ML4.4/17(AEIC),Error ellipse: s-maj=15.0km s-min=9.6km az=170.0*
IDC ***12*** *11:35:21.1±0.9,51.95N×178.58E,h103km±6km, mb4.0/21, mb1 4.2/23,mb1mx4.0/38,mbtmp4.3/23,MS3.3/6, Ms1 3.3/6,ms1mx2.9/33,Error ellipse: s-maj=18.3km s-min=9.1km az=162.0*
AEIC ***12*** *11:35:27.7±4.3,51.90N±0.09×179.1E±0.2,h62km±6km, Error ellipse: s-maj=15.0km s-min=10.9km az=125.0*

ISC 12 11:35:20.6±0.4,51.84N±0.09×178.61E±0.04,h100km, n503,σ1ϑ03/470,mb4.8/125,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CETU	**Semis' Tuman**	**0.56**	**77**		**Pn**	**11 35 37.4**	**+0.6**
CESW	**Semis' Southwe**	**0.59**	**84**		**Pn**	**11 35 37.2**	**+0.1**
CEAP	**Semis' Anvil P**	**0.62**	**75**		**Pn**	**11 35 37.9**	**+0.6**
AMKA	**Amchitka**	**0.64**	**137**	Pn	**Pn**	**11 35 37.5**	**+0.1**
AMKA				Sn	**Sn**	**11 35 49.6**	**-0.3**
ADK	**Adak**	**2.92**	**87**	Pn	**Pn**	**11 36 05.5**	**+0.3**
ADK				Sn	**Sn**	**11 36 39.8**	**+0.3**
ATKA	**Atka Island**	**4.46**	**83**	Pn	**Pn**	**11 36 27.1**	**+1.3**
ATKA	**Atka Island**	**4.46**	**83**		**Sn**	**11 37 15.5**	**-1.1**
KOKL	**Mount Kliuchef**	**4.46**	**81**		**Pn**	**11 36 27.6**	**+1.7**
KOFP	**Korovin Flat P**	**4.52**	**82**		**Pn**	**11 36 28.5**	**+1.7**
NIKH	**Nikolski High**	**7.75**	**77**	Pn	**Pn**	**11 37 12.2**	**+1.6**
OKSP	**Okmok Steeple**	**8.11**	**75**		**Pn**	**11 37 17.6**	**+2.2**
OKCE	**Okmok Cone E**	**8.20**	**74**		**Pn**	**11 37 19.6**	**+2.9**
SPIA	**Saint Paul Isl**	**8.40**	**46**	Pn	**Pn**	**11 37 22.4**	**+3.2**
MAPS	**Pakushin South**	**8.97**	**72**		**Pn**	**11 37 28.9**	**+1.8**
MSW	**Makushin Switc**	**9.08**	**71**		**Pn**	**11 37 30.7**	**+2.2**
MREP	**Makushin Rep't**	**9.09**	**72**		**Pn**	**11 37 30.4**	**+1.7**
MNAT	**Makushin Natee**	**9.13**	**71**		**Pn**	**11 37 31.6**	**+2.3**
UNV	**Unalaska Valle**	**9.23**	**72**	Pn	**Pn**	**11 37 32.2**	**+1.6**
AKUT	**Akutan**	**9.70**	**70**	Pn	**Pn**	**11 37 38.7**	**+1.7**
FALS	**False Pass**	**11.16**	**67**	Pn	**Pn**	**11 37 57.7**	**+1.0**
PET	**Petropavlovsk**	**12.23**	**283**	Pn	**Pn**	**11 38 09.5**	**-1.6**
PEA0B	**Petropavlovsk-**	**12.81**	**284**	Pn	**Pn**	**11 38 17.5**	**-1.2**
PETK	**Petropavlovsk-**	**12.81**	**284**	P	**Pn**	**11 38 17.7**	**-1.0**
	0.9nm,0.3s,baz=95,slow=16,SNR=18						
PETK				S	Sn	11 40 31.1	-8.2
	0.3nm,0.3s,baz=94,slow=20,SNR=1.2						
PETK				LR	LR	11 42 51.5	
	comp=Z,48nm,19.5s,baz=67,slow=35						
PETK	**Petropavlovsk-**	**12.81**	**284**	Pn	**Pn**	**11 38 17.9**	**-0.8**
SDPT	**Sand Point**	**12.90**	**66**	Pn	**Pn**	**11 38 19.1**	**-0.7**
CNBA	**Chernabura Isl**	**13.35**	**69**	Pn	**Pn**	**11 38 23.5**	**-2.3**
CHIR	**Chirikof Islan**	**15.69**	**65**	Pn	**Pn**	**11 38 53.2**	**-2.4**
SII	**Sitkinak Islan**	**16.55**	**63**	Pn	**Pn**	**11 39 05.9**	**-0.4**
SII				IAmb	IAmb	11 39 12.4	
	comp=Z,90nm,1.3s						
SVW2	**Sparrevohn**	**16.89**	**47**	P	**Pn**	**11 39 10.7**	**+0.1**
OHAK	**Old Harbor**	**17.10**	**61**	P	**Pn**	**11 39 10.7**	**-2.4**
TTA	**Tatalina**	**17.48**	**41**	P	**P**	**11 39 19.1**	**+1.7**
KDAK	**Kodiak Island**	**17.55**	**59**	P	**P**	**11 39 16.2**	**-1.9**
	comp=Z,3.2nm,0.3s,baz=189,slow=2.8,SNR=38						
KDAK	**Kodiak Island**	**17.55**	**59**	P	**P**	**11 39 15.7**	**-2.4**
KDAK				IAmb	IAmb	11 39 19.0	
	comp=Z,31nm,0.8s						
RSO	**Redoubt South**	**18.00**	**50**	P	**P**	**11 39 25.6**	**+2.3**
RDOG	**Red Dog Mine**	**18.57**	**22**	P	**P**	**11 39 29.2**	**0.0**
RDOG				IAmb	IAmb	11 39 36.6	
	comp=Z,29nm,0.8s						
BRLK	**Bradley Lake**	**18.75**	**53**	P	**P**	**11 39 32.0**	**+0.7**
CAPN	**Captain Cook N**	**18.84**	**50**	P	**P**	**11 39 33.1**	**+0.8**
	baz=255						
SKT	**Skwentna**	**19.02**	**46**	P	**P**	**11 39 36.7**	**+2.4**
SKT				IAmb	IAmb	11 39 38.6	
	comp=Z,36nm,0.9s						
PPLA	**Purkeypile**	**19.05**	**43**	P	**P**	**11 39 37.5**	**+2.8**
PPLA				IAmb	IAmb	11 39 41.7	
	comp=Z,34nm,0.8s						
SUA	**Susitna One**	**19.22**	**48**	P	**P**	**11 39 38.5**	**+1.9**
SUA				IAmb	IAmb	11 39 39.8	
	comp=Z,24nm,0.7s						
O22K	**Cooper Landing**	**19.46**	**51**	P	**P**	**11 39 39.4**	**+0.3**
	baz=258,SNR=11						
SEW	**Seward**	**19.52**	**52**	P	**P**	**11 39 39.6**	**0.0**
SEW				IAmb	IAmb	11 39 44.4	
	comp=Z,57nm,1.0s						
IMAR	**Indian Mountai**	**19.86**	**34**	P	**P**	**11 39 44.2**	**+0.9**
PMR	**Palmer**	**20.00**	**48**	P	**P**	**11 39 45.0**	**+0.1**
BPAW	**Bear Paw Mtn.**	**20.02**	**40**	P	**P**	**11 39 46.7**	**+1.6**
BPAW				IAmb	IAmb	11 39 50.0	
	comp=Z,31nm,1.0s						
TRF	**Thorofare Moun**	**20.06**	**43**	P	**P**	**11 39 47.0**	**+1.3**
TRF				IAmb	IAmb	11 39 49.6	
	comp=Z,34nm,0.7s						
GHO	**Glory Hole Cre**	**20.14**	**48**	P	**P**	**11 39 47.0**	**+0.5**
GHO				IAmb	IAmb	11 39 49.2	
	comp=Z,21nm,0.6s						
KNK	**Knik Glacier**	**20.27**	**49**	P	**P**	**11 39 48.4**	**+0.5**
KNK				IAmb	IAmb	11 39 49.5	
	comp=Z,46nm,1.0s						
SML	**Sawmill**	**20.42**	**48**	P	**P**	**11 39 49.5**	**0.0**
SML				IAmb	IAmb	11 39 53.3	
	comp=Z,39nm,0.7s						
RND	**Reindeer**	**20.65**	**43**	P	**P**	**11 39 53.4**	**+1.5**
BWN	**Browne**	**20.66**	**41**	P	**P**	**11 39 53.4**	**+1.5**
BWN				IAmb	IAmb	11 39 55.3	
	comp=Z,44nm,1.0s						
MCK	**McKinley**	**20.72**	**42**	P	**P**	**11 39 53.7**	**+1.1**
GLI	**Glacier Island**	**20.81**	**51**	P	**P**	**11 39 53.4**	**-0.2**
NEA2	**Nenana**	**20.98**	**40**	P	**P**	**11 39 56.0**	**+0.6**
	baz=248,SNR=17						
HIN	**Hinchinbrook I**	**21.02**	**52**	P	**P**	**11 39 55.3**	**-0.6**
HIN				IAmb	IAmb	11 39 58.6	
	comp=Z,64nm,1.0s						
FID	**Port Fidalgo**	**21.09**	**51**	P	**P**	**11 39 56.0**	**-0.5**
DHY	**Denali Highway**	**21.19**	**45**	P	**P**	**11 39 58.1**	**+0.3**
DHY				IAmb	IAmb	11 40 00.2	
	comp=Z,57nm,1.1s						
WRH	**Wood River Hil**	**21.33**	**41**	P	**P**	**11 39 58.5**	**-0.6**
EYAK	**Cordova Ski Ar**	**21.41**	**52**	P	**P**	**11 40 00.6**	**+0.6**
EYAK				IAmb	IAmb	11 40 02.9	
	comp=Z,54nm,1.0s						
MDM	**Murphy Dome**	**21.45**	**40**	P	**P**	**11 40 00.9**	**+0.5**
TCOL	**CIGO, UAF Yank**	**21.56**	**40**	P	**P**	**11 40 02.1**	**+0.6**
	baz=249,SNR=6.7						
COLA	**College**	**21.57**	**40**	P	**P**	**11 40 01.9**	**+0.4**
COLD	**Coldfoot**	**21.72**	**33**	P	**P**	**11 40 03.5**	**+0.3**
	baz=240						
COLD	**Coldfoot**	**21.72**	**33**	P	**P**	**11 40 03.9**	**+0.7**
HDA	**Harding Lake**	**21.77**	**41**	P	**P**	**11 40 04.1**	**+0.3**
	baz=251,SNR=8.6						
POKR	**Poker Flat Res**	**21.82**	**39**	P	**P**	**11 40 05.0**	**+0.7**
	baz=249,SNR=7.4						
ILAR	**Eielson Array**	**21.92**	**41**	P	**P**	**11 40 04.0**	**-1.4**
	comp=Z,3.3nm,0.6s,baz=244,slow=9.4,SNR=43						
ILAR				ScP	**ScP**	**11 47 26.6**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=280,slow=3.6,SNR=13						
ILAR				LR	LR	11 47 34.0	
	comp=Z,51nm,20.9s,baz=204,slow=34						
ILAR	**Eielson Array**	**21.92**	**41**	P	**P**	**11 40 04.0**	**-1.4**
RAGM	**Ragged Mountai**	**21.92**	**53**	P	**P**	**11 40 05.9**	**+0.5**
KAIM	**Kayak Island**	**22.00**	**54**	P	**P**	**11 40 07.2**	**+1.0**
PAX	**Paxson**	**22.00**	**46**	P	**P**	**11 40 07.7**	**+1.4**
PAX				IAmb	IAmb	11 40 08.5	
	comp=Z,34nm,1.1s						
RIDG	**Independent Ri**	**22.46**	**44**	P	**P**	**11 40 10.8**	**-0.3**
RIDG				IAmb	IAmb	11 40 13.3	
	comp=Z,18nm,0.5s						
GLB	**Gilahina Butte**	**22.47**	**50**	P	**P**	**11 40 11.1**	**-0.2**
GLB				IAmb	IAmb	11 40 14.3	
	comp=Z,31nm,1.0s						
VRDI	**Verde Repeater**	**22.61**	**51**	P	**P**	**11 40 13.0**	**+0.1**
VRDI				IAmb	IAmb	11 40 15.1	
	comp=Z,39nm,0.8s						
TOLK	**Toolik Lake Re**	**22.65**	**30**	P	**P**	**11 40 13.3**	**+0.4**
	baz=238,SNR=15						
TOLK	**Toolik Lake Re**	**22.65**	**30**	P	**P**	**11 40 13.8**	**+0.8**
TOLK				IAmb	IAmb	11 40 15.7	
	comp=Z,43nm,0.7s						
CRQM	**Cirque**	**22.71**	**52**	P	**P**	**11 40 14.4**	**+0.6**
DOT	**Dot Lake**	**22.78**	**44**	IAmb	IAmb	11 40 16.0	
	comp=Z,24nm,0.8s						
MCARA	**McCarthy VSAT**	**22.84**	**50**	P	**P**	**11 40 14.9**	**0.0**
TGL	**Tana Glacier**	**22.86**	**52**	IAmb	IAmb	11 40 17.3	
	comp=Z,41nm,0.7s						
ISLE	**Juniper Island**	**23.09**	**52**	P	**P**	**11 40 17.2**	**-0.3**
BALM	**Baldy**	**23.13**	**51**	IAmb	IAmb	11 40 19.7	
	comp=Z,21nm,0.8s						
YAH	**Yahtse**	**23.37**	**53**	IAmb	IAmb	11 40 21.9	
	comp=Z,25nm,0.7s						
BARN	**Barnard Glacie**	**23.46**	**51**	P	**P**	**11 40 21.3**	**+0.3**
BCAR	**Beaver Creek A**	**23.66**	**46**	P	**P**	**11 40 22.3**	**-0.3**
TABL	**Table Mountain**	**23.67**	**53**	P	**P**	**11 40 23.2**	**+0.3**
TABL				IAmb	IAmb	11 40 24.8	
	comp=Z,39nm,0.7s						
K27K	**Chicken**	**23.72**	**44**	P	**P**	**11 40 23.2**	**+0.2**
	baz=258						
EGAK	**Eagle**	**24.27**	**42**	P	**P**	**11 40 27.9**	**-0.1**
EGAK				IAmb	IAmb	11 40 29.4	
	comp=Z,46nm,0.9s						
DAWY	**Dawson**	**24.89**	**44**	P	**P**	**11 40 34.0**	**+0.3**
DAWY				IAmb	IAmb	11 40 36.8	
	comp=Z,26nm,0.7s						
HYT	**Haines Junctio**	**25.48**	**52**	P	**P**	**11 40 40.7**	**+1.5**
HYT				IAmb	IAmb	11 40 43.8	
	comp=Z,31nm,0.7s						
EPYK	**Eagle Plains**	**26.41**	**40**	P	**P**	**11 40 47.2**	**-0.3**
	baz=258,SNR=13						
EPYK	**Eagle Plains**	**26.41**	**40**	P	**P**	**11 40 46.9**	**-0.5**
EPYK				IAmb	IAmb	11 40 48.4	
	comp=Z,19nm,0.8s						
JIS	**Juneau Island**	**27.20**	**58**	P	**P**	**11 40 53.6**	**-0.9**
JIS				IAmb	IAmb	11 40 55.6	
	comp=Z,17nm,0.8s						
INK	**Inuvik**	**28.02**	**36**	P	**P**	**11 41 02.0**	**+0.3**
	comp=Z,2.4nm,0.3s,baz=246,slow=8.2,SNR=25						
INK	**Inuvik**	**28.02**	**36**	P	**P**	**11 41 02.3**	**+0.7**
DLBC	**Dease Lake**	**29.45**	**57**	P	**P**	**11 41 14.9**	**+0.4**
	comp=Z,6.4nm,0.7s,baz=233,slow=7.0,SNR=9.7						
DLBC	**Dease Lake**	**29.45**	**57**	P	**P**	**11 41 15.8**	**+1.2**
KLR	**Kul'dur**	**29.50**	**284**	P	**P**	**11 41 14.8**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=356,slow=5.5,SNR=5.3						
A36M	**Sachs Harbour**	**31.47**	**30**	P	**P**	**11 41 33.5**	**+1.4**
	baz=261,SNR=10						
C36M	**Paulatuk**	**31.56**	**35**	P	**P**	**11 41 33.2**	**+0.3**
	baz=266						
C36M	**Paulatuk**	**31.56**	**35**	P	**P**	**11 41 33.3**	**+0.5**
C36M				IAmb	IAmb	11 41 34.3	
	comp=Z,15nm,0.9s						
MAT	**Matsushiro**	**32.28**	**258**	P	**P**	**11 41 39.4**	**-0.2**
MJAR	**Matsushiro Arr**	**32.28**	**258**	P	**P**	**11 41 40.0**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=47,slow=5.9,SNR=6.1						
MJAR	**Matsushiro Arr**	**32.28**	**258**	P	**P**	**11 41 39.8**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**33.34**	**200**	T	T	12 17 16.8	
	baz=11,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**33.35**	**200**	T	T	12 17 21.8	
	baz=11,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**33.35**	**200**	T	T	12 17 22.2	
	baz=11,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**34.56**	**200**	T	T	12 18 44.0	
	SNR=15						
H11S2	**WAKE ISLAND Hy**	**34.58**	**200**	T	T	12 19 22.1	
	baz=10,slow=74,SNR=8.5						
H11S3	**WAKE ISLAND Hy**	**34.58**	**200**	T	T	12 19 11.7	
	baz=198,slow=74,SNR=8.2						
YKA	**Yellowknife Ar**	**36.08**	**46**	P	**P**	**11 42 12.3**	**+0.2**
	comp=Z,5.2nm,0.7s,baz=283,slow=9.2,SNR=24						
YKA				LR	LR	11 58 03.9	
	comp=Z,39nm,18.1s,baz=0.0,slow=38						
D03D	**Eldon**	**37.09**	**73**	P	**P**	**11 42 21.2**	**+0.3**
	baz=299,SNR=6.9						
B05A	**Bryant**	**37.33**	**71**	P	**P**	**11 42 22.8**	**0.0**
	baz=298,SNR=5.2						
E04D	**Cinebar**	**37.88**	**74**	P	**P**	**11 42 28.4**	**+0.8**
	baz=300						
KSRS	**Korea Array**	**38.03**	**268**	P	**P**	**11 42 29.9**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=62,slow=8.2,SNR=6.8						
LON	**Longmire**	**38.24**	**73**	P	**P**	**11 42 30.8**	**+0.2**
F04A	**Amboy**	**38.29**	**75**	P	**P**	**11 42 30.9**	**-0.1**
LTY	**Liberty**	**38.66**	**72**	P	**P**	**11 42 33.8**	**-0.3**
H04D	**Lebanon**	**38.84**	**77**	P	**P**	**11 42 36.5**	**+0.9**
	baz=302						
B08A	**Colville Reser**	**38.90**	**70**	P	**P**	**11 42 35.9**	**-0.2**
I03D	**Drain, OR**	**38.91**	**78**	P	**P**	**11 42 37.5**	**+1.3**
	baz=303						
H04A	**Detroit Lake**	**39.09**	**76**	P	**P**	**11 42 38.4**	**+0.7**
KBO	**Bosley Butte**	**39.20**	**81**	P	**P**	**11 42 40.6**	**+1.9**
K02D	**Willamette Mer**	**39.27**	**80**	P	**P**	**11 42 40.7**	**+1.3**
	baz=304						
G05D	**Wamic, OR**	**39.31**	**75**	P	**P**	**11 42 40.3**	**+0.7**
	baz=302						
I04A	**Tendick Farm,**	**39.43**	**78**	P	**P**	**11 42 41.3**	**+0.7**
	baz=303						
L02E	**Cave Junction**	**39.62**	**81**	P	**P**	**11 42 43.5**	**+1.4**
	baz=305,SNR=5.6						
HAWA	**Hanford**	**39.77**	**73**	P	**P**	**11 42 43.6**	**+0.3**
HAWA				IAmb	IAmb	11 42 44.4	
	comp=Z,26nm,1.5s						
I05D	**Terrebonne, OR**	**39.78**	**76**	P	**P**	**11 42 44.0**	**+0.5**
	baz=303						
**

ORV	**Oroville**	**42.43**	**82**	IAmb	IAmb	11 43 06.5	
	comp=Z,10nm,0.7s						
WVOR	**Wild Horse Val**	**42.48**	**77**	P	**P**	**11 43 06.3**	**+0.6**
WVOR				IAmb	IAmb	11 43 06.6	
	comp=Z,5.3nm,0.6s						
MSO	**Missoula**	**42.82**	**69**	P	**P**	**11 43 07.4**	**-0.9**
	baz=303,SNR=11						
MSO	**Missoula**	**42.82**	**69**	P	**P**	**11 43 07.5**	**-0.8**
MSO				IAmb	IAmb	11 43 07.9	
	comp=Z,6.7nm,0.5s						
PAHR	**Pah Rah Range**	**43.64**	**81**	P	**P**	**11 43 15.9**	**+0.8**
PAHR				IAmb	IAmb	11 43 16.7	
	comp=Z,11nm,0.7s						
VCNR	**Virginia City**	**43.73**	**81**	P	**P**	**11 43 17.0**	**+1.1**
VCNR				IAmb	IAmb	11 43 17.9	
	comp=Z,14nm,0.7s						
HRY	**Holter Researc**	**44.10**	**68**	P	**P**	**11 43 17.9**	**-0.7**
YERR	**Yerington**	**44.17**	**81**	P	**P**	**11 43 20.4**	**+1.0**
YERR				IAmb	IAmb	11 43 21.2	
	comp=Z,12nm,0.7s						
HLID	**Hailey**	**44.36**	**73**	P	**P**	**11 43 20.5**	**-0.4**
	baz=305,SNR=11						
HLID	**Hailey**	**44.36**	**73**	P	**P**	**11 43 20.9**	**0.0**
BCYI	**Bear Canyon**	**44.53**	**72**	P	**P**	**11 43 21.8**	**-0.5**
MCMT	**McKenzie Canyo**	**44.56**	**71**	P	**P**	**11 43 21.5**	**-1.0**
EGMT	**Eagleton**	**44.56**	**65**	P	**P**	**11 43 21.4**	**-0.9**
	baz=303						
KVN	**Kaiserville**	**44.83**	**81**	IAmb	IAmb	11 43 25.8	
	comp=Z,7.1nm,0.6s						
BOZ	**Bozeman (W)**	**44.83**	**69**	P	**P**	**11 43 23.6**	**-0.9**
	baz=304,SNR=23						
BOZ	**Bozeman (W)**	**44.83**	**69**	P	**P**	**11 43 23.8**	**-0.8**
BOZ				IAmb	IAmb	11 43 24.5	
	comp=Z,10nm,0.5s						
PMPB	**Monarch Peak**	**44.95**	**86**	P	**P**	**11 43 26.3**	**+0.8**
PMPB				IAmb	IAmb	11 43 28.4	
	comp=Z,8.4nm,0.7s						
SONM	**Songino Array**	**44.99**	**295**	P	**P**	**11 43 25.8**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=30,slow=9.0,SNR=3.0						
SONM				pP	**pP**	**11 43 49.4**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=62,slow=9.0,SNR=5.4						
SONM				ScP	**ScP**	**11 48 47.3**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=90,slow=3.0,SNR=3.5						
NVAR	**Mina Array Bea**	**45.09**	**81**	P	**P**	**11 43 27.6**	**+0.8**
	comp=Z,11nm,0.6s,baz=298,slow=7.3,SNR=132						
NVAR				PcP	**PcP**	**11 45 06.5**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=322,slow=2.8,SNR=3.9						
NVAR				ScP	**ScP**	**11 48 48.3**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=291,slow=5.0,SNR=5.7						
NVAR	**Mina Array Bea**	**45.09**	**81**	P	**P**	**11 43 26.6**	**-0.2**
MDPB	**Devils Postpil**	**45.11**	**83**	P	**P**	**11 43 28.1**	**+1.1**
MDPB				IAmb	IAmb	11 43 29.1	
	comp=Z,15nm,0.7s						
OMMB	**Old Mammoth Mi**	**45.17**	**83**	P	**P**	**11 43 28.8**	**+1.3**
NV11	**Mina Array Sit**	**45.18**	**81**	P	**P**	**11 43 28.1**	**+0.8**
NV11				IAmb	IAmb	11 43 29.0	
	comp=Z,7.8nm,0.7s						
YHL	**Hebgen Lake**	**45.52**	**70**	P	**P**	**11 43 29.7**	**-0.5**
ELK	**Elko**	**45.53**	**77**	P	**P**	**11 43 30.7**	**+0.4**
ELK				IAmb	IAmb	11 43 31.3	
	comp=Z,6.7nm,0.5s						
YHB	**Horse Butte**	**45.57**	**70**	P	**P**	**11 43 30.2**	**-0.2**
PAGB	**Antelope Grade**	**45.60**	**86**	IAmb	IAmb	11 43 32.3	
	comp=Z,13nm,0.6s						
TIN	**Tinemaha, Big**	**46.00**	**83**	P	**P**	**11 43 34.8**	**+1.0**
	baz=310						
HHC	**Hu-ho-hao-te**	**46.01**	**284**	*e*P	**P**	**11 43 33.6**	**-0.2**
HHC				pmax	pmax		
	comp=Z,22nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,3.8s						
SMMC	**Simmler**	**46.03**	**86**	P	**P**	**11 43 35.1**	**+1.1**
	baz=311						
YNE	**Yellowstone No**	**46.11**	**69**	P	**P**	**11 43 34.2**	**-0.6**
H17A	**Grant Village**	**46.13**	**70**	P	**P**	**11 43 35.6**	**+0.7**
	baz=306,SNR=7.3						
H17A	**Grant Village**	**46.13**	**70**	P	**P**	**11 43 34.7**	**-0.3**
H17A				IAmb	IAmb	11 43 36.5	
	comp=Z,18nm,1.4s						
IMW	**Indian Meadow**	**46.22**	**71**	P	**P**	**11 43 35.4**	**-0.3**
FLWY	**Flagg Ranch**	**46.25**	**70**	IAmb	IAmb	11 43 36.6	
	comp=Z,8.0nm,0.6s						
VES	**Vestal, Richgr**	**46.25**	**85**	P	**P**	**11 43 36.0**	**+0.4**
	baz=311,SNR=11						
PKM	**Mcpherson Peak**	**46.42**	**86**	P	**P**	**11 43 37.9**	**+0.7**
	baz=311						
RLMT	**Red Lodge**	**46.47**	**68**	P	**P**	**11 43 37.0**	**-0.5**
	baz=306,SNR=8.1						
RLMT	**Red Lodge**	**46.47**	**68**	P	**P**	**11 43 37.4**	**-0.2**
RLMT				IAmb	IAmb	11 43 38.6	
	comp=Z,7.4nm,0.8s						
CWC	**Cottonwood Cre**	**46.49**	**83**	P	**P**	**11 43 38.0**	**+0.3**
	baz=310						
LOHW	**Long Hollow**	**46.58**	**71**	P	**P**	**11 43 38.4**	**0.0**
REDW	**Red Top Meadow**	**46.58**	**71**	P	**P**	**11 43 40.1**	**+1.7**
ISA	**Isabella, Lake**	**46.75**	**85**	P	**P**	**11 43 39.6**	**0.0**
	baz=311,SNR=5.2						
ISA	**Isabella, Lake**	**46.75**	**85**	P	**P**	**11 43 39.8**	**+0.2**
BGU	**Big Grassy Mou**	**46.75**	**75**	P	**P**	**11 43 39.2**	**-0.5**
AHID	**Auburn Hatcher**	**46.79**	**72**	P	**P**	**11 43 40.2**	**+0.1**
R11A	**Troy Canyon, C**	**46.80**	**80**	P	**P**	**11 43 40.4**	**+0.3**
	baz=309,SNR=26						
R11A	**Troy Canyon, C**	**46.80**	**80**	P	**P**	**11 43 40.6**	**+0.4**
R11A				IAmb	IAmb	11 43 41.2	
	comp=Z,20nm,1.4s						
MPMC	**Manual Prospec**	**47.10**	**83**	P	**P**	**11 43 43.1**	**+0.6**
	baz=311,SNR=12						
NJ2	**Nanjing**	**47.19**	**269**	*e*P	**P**	**11 43 42.1**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
FURC	**Furnace Creek,**	**47.22**	**83**	P	**P**	**11 43 43.9**	**+0.8**
	baz=310,SNR=19						
TPNV	**Topopah Spring**	**47.29**	**82**	P	**P**	**11 43 44.6**	**+0.7**
	baz=310,SNR=36						
LAO	**LASA Array**	**47.30**	**65**	P	**P**	**11 43 43.5**	**-0.3**
	baz=305						
LAO	**LASA Array**	**47.30**	**65**	IAmb	IAmb	11 43 44.2	
	comp=Z,12nm,1.2s						
DUG	**Dugway, Tooele**	**47.33**	**76**	P	**P**	**11 43 44.4**	**+0.2**
	baz=308,SNR=16						
DUG	**Dugway, Tooele**	**47.33**	**76**	P	**P**	**11 43 43.7**	**-0.5**
LRMC	**Laurel Mtn Rad**	**47.35**	**84**	P	**P**	**11 43 44.6**	**+0.2**
	baz=311,SNR=6.0						
EDW2	**Edwards Air Fo**	**47.55**	**85**	P	**P**	**11 43 46.2**	**+0.3**
	baz=311						
BW06	**Boulder Array**	**47.70**	**71**	P	**P**	**11 43 46.3**	**-0.8**
	baz=307,SNR=8.2						
BW06	**Boulder Array**	**47.70**	**71**	P	**P**	**11 43 46.5**	**-0.6**
BW06				IAmb	IAmb	11 43 47.2	
	comp=Z,6.6nm,0.7s						
PD31	**Pinedale Array**	**47.70**	**71**	P	**P**	**11 43 46.6**	**-0.5**
PDAR	**Pinedale Array**	**47.70**	**71**	P	**P**	**11 43 46.4**	**-0.8**
	comp=Z,4.8nm,0.6s,baz=309,slow=3.6,SNR=64						
PDAR				pP	**pP**	**11 44 11.1**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=323,slow=2.2,SNR=2.3						
PDAR				ScP	**ScP**	**11 48 57.5**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=169,slow=0.8,SNR=3.6						
PDAR	**Pinedale Array**	**47.70**	**71**	P	**P**	**11 43 46.5**	**-0.7**
PRN	**Pahroc Range**	**47.73**	**80**	P	**P**	**11 43 48.2**	**+0.9**
PRN				IAmb	IAmb	11 43 48.9	
	comp=Z,10nm,0.7s						
PSUT	**Pine Spring**	**47.74**	**78**	P	**P**	**11 43 47.3**	**-0.1**
SHOC	**Shoshone, Teco**	**47.95**	**83**	P	**P**	**11 43 49.4**	**+0.6**
	baz=311,SNR=17						
GSC	**Goldstone, Bar**	**48.01**	**84**	P	**P**	**11 43 50.1**	**+0.7**
	baz=311,SNR=25						
GSC	**Goldstone, Bar**	**48.01**	**84**	P	**P**	**11 43 50.0**	**+0.5**
BFSC	**Mount Baldy Ra**	**48.19**	**85**	P	**P**	**11 43 51.5**	**+0.6**
	baz=312						
SHPR	**Sheep Range**	**48.24**	**81**	P	**P**	**11 43 51.8**	**+0.5**
TUQ	**Turquoise Moun**	**48.47**	**83**	P	**P**	**11 43 53.5**	**+0.5**
	baz=311,SNR=12						
HEC	**Hector,Ludlow**	**48.61**	**84**	P	**P**	**11 43 54.6**	**+0.5**
	baz=312						
BBRC	**Big Bear Solar**	**48.63**	**85**	P	**P**	**11 43 55.0**	**+0.6**
	baz=312,SNR=6.7						
MURC	**Murrieta**	**48.90**	**86**	P	**P**	**11 43 56.7**	**+0.5**
	baz=312						
GMRC	**Granite Mounta**	**49.06**	**83**	P	**P**	**11 43 57.9**	**+0.4**
	baz=312,SNR=14						
MTPU	**Mount Pierson**	**49.07**	**78**	P	**P**	**11 43 56.7**	**-1.2**
LCMT	**Little Creek M**	**49.09**	**79**	P	**P**	**11 43 57.8**	**+0.1**
Q16A	**Castle Valley**	**49.12**	**76**	P	**P**	**11 43 57.8**	**-0.3**
PFO	**Pinyon Flats O**	**49.35**	**85**	P	**P**	**11 43 59.7**	**0.0**
	baz=312						
BELC	**Belle Mtn. Jos**	**49.37**	**84**	P	**P**	**11 43 59.9**	**0.0**
	baz=312,SNR=9.1						
109C	**Camp Elliot, M**	**49.43**	**86**	P	**P**	**11 44 00.9**	**+0.7**
	baz=313						
K22A	**Casper**	**49.54**	**69**	P	**P**	**11 43 59.8**	**-1.3**
	baz=308						
IRM	**Iron Mountain**	**49.79**	**84**	P	**P**	**11 44 03.4**	**+0.4**
	baz=312,SNR=7.6						
MONP2	**Monument Peak**	**49.85**	**86**	P	**P**	**11 44 04.0**	**+0.3**
	baz=313,SNR=5.1						
W13A	**Hualapai Mount**	**49.94**	**82**	P	**P**	**11 44 04.6**	**+0.2**
W13A				IAmb	IAmb	11 44 05.5	
	comp=Z,5.6nm,0.7s						
U15A	**North Rim**	**50.05**	**79**	P	**P**	**11 44 05.6**	**+0.4**
CBX	**Cerro Bola**	**50.10**	**87**	P	**P**	**11 44 06.2**	**+0.8**
O20A	**White River Ci**	**50.10**	**73**	P	**P**	**11 44 04.7**	**-0.7**
	baz=309,SNR=9.6						
IKP	**In-Ko-Pah, Jac**	**50.21**	**86**	P	**P**	**11 44 06.4**	**+0.2**
	baz=313						
MDND	**Maddock**	**50.26**	**60**	P	**P**	**11 44 05.5**	**-0.8**
	baz=307						
PDMCI	**Parker Dam,Lak**	**50.31**	**83**	P	**P**	**11 44 07.2**	**+0.3**
	baz=312,SNR=5.2						
PV21	**Cone Mtn., Par**	**50.67**	**75**	P	**P**	**11 44 08.8**	**-1.0**
PV21				IAmb	IAmb	11 44 11.8	
	comp=Z,7.0nm,0.6s						
PV23	**Carpenter Ridg**	**50.72**	**75**	P	**P**	**11 44 09.7**	**-0.5**
PV23				IAmb	IAmb	11 44 16.3	
	comp=Z,9.4nm,0.9s						
GLA	**Glamis**	**50.73**	**84**	P	**P**	**11 44 10.5**	**+0.4**
	baz=313						
GLA	**Glamis**	**50.73**	**84**	P	**P**	**11 44 10.5**	**+0.4**
ESJX	**Sierra Juarez**	**50.75**	**86**	P	**P**	**11 44 10.6**	**+0.2**
ESJX				IAmb	IAmb	11 44 11.5	
	comp=Z,4.9nm,0.8s						
PV14	**Lion Creek, Pa**	**50.76**	**75**	IAmb	IAmb	11 44 10.7	
	comp=Z,7.1nm,0.7s						
ULM	**Lac du Bonnet**	**50.77**	**56**	P	**P**	**11 44 09.0**	**-1.1**
	comp=Z,4.5nm,0.6s,baz=311,slow=12,SNR=4.3						
ULM				LR	LR	12 04 51.6	
	comp=Z,28nm,18.7s,baz=47,slow=35						
ULM	**Lac du Bonnet**	**50.77**	**56**	IAmb	IAmb	11 44 09.8	
	comp=Z,5.5nm,0.7s						
PV22	**Blue Mesa, Par**	**50.80**	**75**	IAmb	IAmb	11 44 12.3	
	comp=Z,6.5nm,0.8s						
PV20	**West Nyswonger**	**50.81**	**75**	IAmb	IAmb	11 44 12.2	
	comp=Z,7.3nm,0.7s						
PV04	**Paradox Valley**	**50.82**	**75**	IAmb	IAmb	11 44 11.2	
	comp=Z,8.9nm,0.7s						
PV19	**Moning Glory**	**50.83**	**75**	IAmb	IAmb	11 44 10.9	
	comp=Z,7.1nm,0.6s						
PV16	**Nyswonger Mesa**	**50.87**	**75**	IAmb	IAmb	11 44 11.6	
	comp=Z,7.8nm,0.6s						
PV18	**Skein Mesa, Pa**	**50.91**	**75**	IAmb	IAmb	11 44 11.9	
	comp=Z,8.4nm,0.7s						
PV12	**Saucer Basin,**	**50.93**	**75**	IAmb	IAmb	11 44 14.2	
	comp=Z,8.5nm,0.8s						
PV03	**Paddox Valley**	**50.94**	**75**	IAmb	IAmb	11 44 12.1	
	comp=Z,9.2nm,0.7s						
PV07	**Paradox Valley**	**50.94**	**75**	P	**P**	**11 44 11.5**	**-0.3**
N23A	**Red Feather La**	**50.98**	**71**	P	**P**	**11 44 11.7**	**-0.4**
	baz=309						
PV13	**Radium Mtn., P**	**51.02**	**75**	P	**P**	**11 44 12.1**	**-0.3**
WUAZ	**Wupatki**	**51.20**	**80**	P	**P**	**11 44 14.2**	**+0.4**
	baz=312,SNR=8.3						
WUAZ	**Wupatki**	**51.20**	**80**	P	**P**	**11 44 14.2**	**+0.4**
WUAZ				IAmb	IAmb	11 44 15.8	
	comp=Z,5.8nm,0.7s						
Y14A	**Wickenburg**	**51.26**	**82**	P	**P**	**11 44 13.9**	**-0.2**
SMCO	**Snowmass**	**51.47**	**73**	P	**P**	**11 44 16.0**	**0.0**
SPX	**San Pedro Mart**	**51.71**	**87**	P	**P**	**11 44 18.0**	**+0.2**
SPX				IAmb	IAmb	11 44 19.4	
	comp=Z,6.5nm,0.8s						
MVCO	**Mesa Verde**	**51.83**	**76**	P	**P**	**11 44 18.3**	**-0.2**
	baz=311						
MVCO	**Mesa Verde**	**51.83**	**76**	P	**P**	**11 44 18.3**	**-0.2**
ISCO	**Idaho Springs**	**51.87**	**72**	P	**P**	**11 44 19.1**	**+0.3**
	baz=310,SNR=5.1						
ISCO	**Idaho Springs**	**51.87**	**72**	P	**P**	**11 44 18.8**	**0.0**
X16A	**Lo Mia Camp, P**	**51.90**	**81**	IAmb	IAmb	11 44 20.7	
	comp=Z,6.0nm,0.7s						
AGMN	**Agassiz Nation**	**51.97**	**58**	P	**P**	**11 44 18.4**	**-0.6**
	baz=308						
AGMN	**Agassiz Nation**	**51.97**	**58**	P	**P**	**11 44 17.6**	**-1.4**
AGMN				IAmb	IAmb	11 44 19.2	
	comp=Z,7.3nm,0.9s						
W18A	**Petrified Fore**	**52.47**	**79**	P	**P**	**11 44 23.5**	**+0.3**
	baz=312						
W18A	**Petrified Fore**	**52.47**	**79**	P	**P**	**11 44 23.4**	**+0.3**
W18A				IAmb	IAmb	11 44 25.3	
	comp=Z,5.2nm,0.8s						
S22A	**4UR Ranch, Cre**	**52.48**	**74**	P	**P**	**11 44 23.6**	**+0.2**
	baz=311,SNR=5.5						
214A	**Organ Pipe Nat**	**52.72**	**84**	P	**P**	**11 44 25.2**	**+0.3**
	baz=314						
B35A	**Bob, Littlefor**	**53.04**	**57**	IAmb	IAmb	11 44 26.6	
	comp=Z,9.8nm,0.8s						
SUMG	**Summit**	**53.22**	**13**	P	**P**	**11 44 28.6**	**+0.2**
SUMG				IAmb	IAmb	11 44 29.4	
	comp=Z,8.8nm,0.8s						
SDCO	**Great Sand Dun**	**53.27**	**74**	P	**P**	**11 44 29.0**	**-0.2**
	baz=311,SNR=7.1						
SDCO	**Great Sand Dun**	**53.27**	**74**	P	**P**	**11 44 29.1**	**0.0**
LZH	**Lanzhou**	**53.70**	**284**	*e*P	**P**	**11 44 31.4**	**-0.8**
LZH				pP	pP	11 44 56.3	0.0
LZH				sP	sP	11 45 07.8	+0.4
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,130nm,7.6s						
LZH				LR	LR		
	comp=Z,260nm,14.7s						
LZH				LR	LR		
	comp=Z,270nm,15.0s						
LZH				LR	LR		
	comp=Z,390nm,17.3s						
TUC	**Tucson**	**53.73**	**82**	P	**P**	**11 44 32.7**	**+0.4**
	baz=314						
TUC	**Tucson**	**53.73**	**82**	P	**P**	**11 44 32.8**	**+0.4**
TUC				IAmb	IAmb	11 44 33.8	
	comp=Z,5.9nm,0.8s						
GTA	**Gaotai**	**53.89**	**290**	*e*P	**P**	**11 44 34.7**	**+1.2**
GTA				pP	pP	11 44 58.1	+0.5
GTA				sP	sP	11 45 10.0	+1.3
GTA				S	**S**	**11 51 59.8**	**-1.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GTA				pmax	pmax		
	comp=Z,57nm,6.8s						
GTA				LR	LR		
	comp=Z,82nm,16.5s						
GTA				LR	LR		
	comp=Z,79nm,18.7s						
GTA				LR	LR		
	comp=Z,75nm,18.4s						
KSCO	**Kaye Shedlock'**	**54.14**	**71**	P	**P**	**11 44 35.4**	**+0.1**
	baz=311						
T25A	**Trinidad**	**54.33**	**73**	P	**P**	**11 44 36.6**	**-0.1**
	baz=312,SNR=8.4						
T25A	**Trinidad**	**54.33**	**73**	IAmb	IAmb	11 44 37.8	
	comp=Z,14nm,1.1s						
EYMN	**Ely**	**54.45**	**56**	P	**P**	**11 44 36.4**	**-0.9**
	baz=310						
ECSD	**EROS Data Cent**	**54.46**	**63**	P	**P**	**11 44 35.9**	**-1.5**
	baz=311						
BGNE	**Belgrade**	**55.13**	**66**	P	**P**	**11 44 41.2**	**-1.1**
	baz=311						
319A	**Douglas**	**55.30**	**82**	P	**P**	**11 44 44.0**	**+0.3**
319A				IAmb	IAmb	11 44 45.3	
	comp=Z,11nm,1.1s						
E38A	**The Farm, Brul**	**55.30**	**57**	P	**P**	**11 44 41.9**	**-1.4**
121A	**Cookes Peak, D**	**55.41**	**80**	P	**P**	**11 44 45.1**	**+0.5**
	baz=314						
121A	**Cookes Peak, D**	**55.41**	**80**	P	**P**	**11 44 45.1**	**+0.5**
SPMN	**Marine on St.**	**55.55**	**59**	P	**P**	**11 44 44.6**	**-0.6**
	baz=311						
CBKS	**Cedar Bluff**	**55.95**	**69**	P	**P**	**11 44 47.6**	**-0.6**
	baz=312						
ARCES	**ARCESS Array B**	**57.34**	**349**	P	**P**	**11 44 57.6**	**0.0**
	comp=Z,0.7nm,0.7s,baz=31,slow=7.5,SNR=4.4						
ARCES	**ARCESS Array B**	**57.34**	**349**	P	**P**	**11 44 57.3**	**-0.3**
MNTX	**Cornudas Mount**	**57.46**	**79**	P	**P**	**11 44 59.0**	**0.0**
	baz=314,SNR=15						
MNTX	**Cornudas Mount**	**57.46**	**79**	P	**P**	**11 44 59.3**	**+0.4**
MNTX				IAmb	IAmb	11 45 00.2	
	comp=Z,5.5nm,0.8s						
MSTX	**Muleshoe**	**57.46**	**75**	P	**P**	**11 44 58.5**	**-0.5**
	baz=314,SNR=9.3						
MSTX	**Muleshoe**	**57.46**	**75**	P	**P**	**11 44 58.5**	**-0.5**
MSTX				IAmb	IAmb	11 44 59.9	
	comp=Z,6.9nm,0.7s						
AMTX	**Amarillo**	**57.48**	**74**	P	**P**	**11 44 58.8**	**-0.4**
	baz=314						
AMTX	**Amarillo**	**57.48**	**74**	P	**P**	**11 44 58.5**	**-0.6**
AMTX				IAmb	IAmb	11 44 59.6	
	comp=Z,6.4nm,0.6s						
KSU1	**Kansas State U**	**57.55**	**67**	P	**P**	**11 44 58.5**	**-1.0**
	baz=313						
KSU1	**Kansas State U**	**57.55**	**67**	P	**P**	**11 44 58.2**	**-1.3**
KSU1				IAmb	IAmb	11 44 58.9	
	comp=Z,9.5nm,0.7s						
WMQ	**Urumqi**	**57.72**	**301**	*e*P	**P**	**11 45 04.0**	**+3.3**
JFWS	**Jewell Farm**	**58.47**	**60**	P	**P**	**11 45 04.5**	**-1.3**
	baz=313						
JFWS	**Jewell Farm**	**58.47**	**60**	P	**P**	**11 45 04.0**	**-1.8**
MKAR	**Makanchi Array**	**58.47**	**307**	P	**P**	**11 45 05.0**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=40,slow=6.7,SNR=12						
MKAR				pP	**pP**	**11 45 30.2**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=51,slow=8.3,SNR=3.5						
MKAR	**Makanchi Array**	**58.47**	**307**	P	**P**	**11 45 04.9**	**-0.9**
KAN13	**South Haven SW**	**58.48**	**69**	P	**P**	**11 45 04.3**	**-1.7**
D46A	**Sault St. Mari**	**58.91**	**53**	P	**P**	**11 45 08.0**	**-0.8**
	baz=314						
P38A	**Dawn**	**58.93**	**64**	P	**P**	**11 45 07.5**	**-1.5**
D47A	**Chapleau**	**59.26**	**52**	P	**P**	**11 45 10.4**	**-0.8**
	baz=314						
WMOK	**Wichita Mounta**	**59.30**	**72**	P	**P**	**11 45 11.3**	**-0.4**
	baz=314,SNR=8.6						
WMOK	**Wichita Mounta**	**59.30**	**72**	P	**P**	**11 45 11.3**	**-0.4**
WMOK				IAmb	IAmb	11 45 12.2	
	comp=Z,4.5nm,0.8s						
OK029	**Liberty Lake**	**59.34**	**70**	P	**P**	**11 45 11.5**	**-0.4**
E47A	**Iron Bridge**	**59.59**	**53**	P	**P**	**11 45 12.9**	**-0.6**
	baz=315						
D48A	**Paudash Townsh**	**59.80**	**51**	P	**P**	**11 45 14.0**	**-1.0**
	baz=315						
MATQ	**Matagami**	**59.91**	**47**	P	**P**	**11 45 14.7**	**-0.9**
	baz=316						
D49A	**Beulah Townshi**	**59.95**	**51**	P	**P**	**11 45 15.2**	**-0.8**
	baz=315						
TX31	**Lajitas Ar. Si**	**60.17**	**80**	P	**P**	**11 45 17.9**	**+0.1**
TX32	**Lajitas Array**	**60.17**	**80**	P	**P**	**11 45 18.2**	**+0.4**
TX32				IAmb	IAmb	11 45 18.8	
	comp=Z,6.2nm,0.7s						
TXAR	**Lajitas Array**	**60.17**	**80**	P	**P**	**11 45 17.9**	**+0.1**
	comp=Z,4.1nm,0.6s,baz=302,slow=4.8,SNR=91						
TXAR				ScP	**ScP**	**11 49 52.9**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=250,slow=3.7,SNR=3.9						
TXAR	**Lajitas Array**	**60.17**	**80**	P	**P**	**11 45 17.6**	**-0.2**
TUL1	**Leonard**	**60.22**	**69**	P	**P**	**11 45 17.3**	**-0.6**
	baz=315						
ABTX	**Abilene, Hawle**	**60.27**	**74**	P	**P**	**11 45 18.2**	**-0.1**
	baz=315,SNR=5.3						
ABTX	**Abilene, Hawle**	**60.27**	**74**	P	**P**	**11 45 17.9**	**-0.5**
ABTX				IAmb	IAmb	11 45 18.8	
	comp=Z,6.3nm,0.7s						
SLBS	**Sierra La Lagu**	**60.38**	**89**	P	**P**	**11 45 19.8**	**+0.5**
SLBS				IAmb	IAmb	11 45 21.2	
	comp=Z,8.4nm,0.8s						
R40A	**Maddies Statio**	**60.56**	**65**	IAmb	IAmb	11 45 18.9	
	comp=Z,6.3nm,0.7s						
HDIL	**Hopedale**	**60.62**	**61**	P	**P**	**11 45 19.4**	**-1.2**
	baz=315						
HDIL	**Hopedale**	**60.62**	**61**	P	**P**	**11 45 19.3**	**-1.2**
SCHQ	**Schefferville**	**60.62**	**37**	P	**P**	**11 45 20.1**	**-0.3**
	comp=Z,7.7nm,0.6s,baz=313,slow=7.0,SNR=18						
SCHQ				LR	LR	12 12 51.3	
	comp=Z,38nm,18.1s,baz=12,slow=37						
SCHQ	**Schefferville**	**60.62**	**37**	IAmb	IAmb	11 45 20.9	
	comp=Z,22nm,1.1s						
U38A	**Gravette**	**60.66**	**67**	P	**P**	**11 45 19.1**	**-1.9**
HPIG		**60.66**	**83**	P	**P**	**11 45 20.5**	**-0.9**
HPIG				IAmb	IAmb	11 45 22.6	
	comp=Z,7.1nm,0.9s						
LSQQ	**Lebel-sur-Quev**	**60.72**	**47**	P	**P**	**11 45 19.6**	**-1.5**
	baz=316						
D51A	**Lot 18 Range I**	**61.03**	**50**	P	**P**	**11 45 22.4**	**-0.8**
	baz=316						
CHGQ	**Chibougamau**	**61.25**	**45**	P	**P**	**11 45 23.1**	**-1.6**
	baz=317						
CCM	**Cathedral Cave**	**61.30**	**64**	P	**P**	**11 45 23.7**	**-1.6**
	baz=315						
E51A	**G1948 Merrick**	**61.37**	**50**	P	**P**	**11 45 24.2**	**-1.4**
	baz=316						
X37A	**Clayton**	**61.40**	**70**	IAmb	IAmb	11 45 26.4	
	comp=Z,7.5nm,0.8s						
D52A	**ZEK Kipawa Sen**	**61.56**	**49**	P	**P**	**11 45 25.3**	**-1.6**
	baz=317						
U40A	**Yellville**	**61.60**	**67**	IAmb	IAmb	11 45 26.9	
	comp=Z,8.7nm,0.8s						
W39A	**Magazine**	**61.89**	**68**	P	**P**	**11 45 28.3**	**-0.9**
	baz=315,SNR=6.1						
W39A	**Magazine**	**61.89**	**68**	IAmb	IAmb	11 45 28.7	
	comp=Z,6.7nm,0.7s						
SFIN	**Lafayette**	**61.92**	**60**	P	**P**	**11 45 28.5**	**-0.9**
	baz=316,SNR=8.7						
WHTX	**Lake Whitney,**	**62.02**	**73**	P	**P**	**11 45 29.8**	**-0.3**
	baz=316,SNR=7.5						
WHTX	**Lake Whitney,**	**62.02**	**73**	P	**P**	**11 45 30.1**	**-0.1**
D54A	**Lac Fusel, La**	**62.26**	**48**	P	**P**	**11 45 30.0**	**-1.5**
	baz=317						
FCAR	**Ozark Folk Cen**	**62.34**	**66**	P	**P**	**11 45 30.5**	**-1.7**
E53A	**Dumoine, Pon

comp=Z,6.7nm,0.6s
ZAIG Zacatecas 65.62 84 P P 11 45 54.8 +0.6
ZAIG IAmb IAmb 11 45 55.9
comp=Z,8.8nm,1.0s
MOQ Mont Orford 65.66 47 P P 11 45 52.8 -1.1
D62A Allapoint, All 65.71 44 P P 11 45 53.1 -0.9
baz=321
D62A Allapoint, All 65.71 44 P P 11 45 52.9 -1.2
D62A IAmb IAmb 11 45 53.9
comp=Z,8.2nm,0.9s
M56A Emporium 65.73 53 P P 11 45 53.5 -0.9
baz=319
J58A Remsen 65.73 50 P P 11 45 53.8 -0.5
baz=319
E62A Clayton Lake 65.86 45 P P 11 45 54.0 -1.1
baz=321
Q53A Leroy 65.98 57 P P 11 45 55.2 -0.7
baz=318
L57A Andrews Acres 66.00 52 P P 11 45 55.3 -0.8
baz=319
G61A St-Isidore-de- 66.01 47 P P 11 45 54.9 -1.2
baz=320
J59A Piesco 66.02 50 P P 11 45 54.8 -1.4
baz=320
I59A Olmsteadville 66.07 49 P P 11 45 55.2 -1.3
baz=320
D63A Stockholm 66.15 43 P P 11 45 56.0 -0.9
baz=322
R53A Hurricane 66.15 58 P P 11 45 56.1 -0.9
baz=318
F62A Pittston Farm, 66.23 45 P P 11 45 56.2 -1.3
baz=321
Q54A Coxs Mills 66.25 57 P P 11 45 56.6 -1.0
baz=318
BINY Binghamton 66.27 51 P P 11 45 56.9 -0.9
baz=319
SWET Sewanee 66.30 63 P P 11 45 57.0 -1.2
M57A Sunshine Farm, 66.36 53 P P 11 45 57.4 -1.0
baz=319
K59A Cooperstown 66.38 50 P P 11 45 57.3 -1.2
baz=320
H61A Lyndonville 66.40 47 P P 11 45 57.7 -1.0
baz=320
L58A Harry Jones Me 66.45 52 P P 11 45 57.8 -1.2
baz=319
E63A Oxbow 66.49 44 P P 11 45 57.6 -1.5
baz=322
E63A Oxbow 66.49 44 P P 11 45 57.3 -1.8
E63A IAmb IAmb 11 45 58.5
comp=Z,14nm,1.1s
G62A West of Eustis 66.50 46 P P 11 45 58.0 -1.2
baz=321
G62A West of Eustis 66.50 46 P P 11 45 57.8 -1.4
G62A IAmb IAmb 11 45 58.6
comp=Z,5.9nm,0.6s
SSPA Standing Stone 66.51 54 P P 11 45 58.4 -1.0
baz=319
SSPA Standing Stone 66.51 54 P P 11 45 58.3 -1.0
ABKAR Akbulak array 66.58 321 P P 11 45 59.7 +0.1
N57A Milroy 66.59 53 P P 11 45 58.8 -1.0
baz=319
TZTN Tazewell 66.62 60 P P 11 45 59.2 -1.0
baz=318
Q55A Buckhannon 66.63 56 P P 11 45 59.3 -0.9
baz=319
LBNH Lisbon 66.63 48 P P 11 45 58.6 -1.4
baz=320
M58A Price's Panora 66.67 52 P P 11 45 59.2 -1.2
baz=319
J60A Lant Hill Farm 66.70 49 P P 11 45 59.2 -1.3
baz=320
H62A Milan 66.72 47 P P 11 45 59.6 -1.1
baz=321
H62A Milan 66.72 47 P P 11 45 59.4 -1.3
H62A IAmb IAmb 11 46 00.8
comp=Z,18nm,1.1s
V51A Loudon 66.74 61 P P 11 46 00.2 -0.7
V51A IAmb IAmb 11 46 00.8
comp=Z,18nm,1.3s
E64A Bridgewater 66.75 44 P P 11 45 59.3 -1.5
baz=322,SNR=5.9
F63A Nahmakanta, Br 66.76 45 P P 11 45 59.7 -1.1
baz=321
R54A Victor 66.76 58 P P 11 46 00.0 -1.0
baz=318
BATG Bathurst New B 66.82 42 P P 11 46 00.4 -0.8
BATG IAmb IAmb 11 46 01.2
comp=Z,12nm,1.1s
T53A Wise 66.84 59 P P 11 46 00.7 -0.9
baz=318
KKAR Karatay Array 66.87 311 P P 11 46 01.9 +0.3
S54A Dingess, Beckl 66.88 58 P P 11 46 00.6 -1.2
baz=318
P56A Dayton Farm, R 66.88 55 P P 11 46 00.7 -1.0
baz=319
KSH Kashi 66.92 305 eP P 11 46 06.0 +3.9
N58A Sunbury 66.94 53 P P 11 46 01.1 -1.0
baz=319
O57A Amberson 66.96 54 P P 11 46 01.3 -0.9
baz=319
F64A Sherman 66.96 44 P P 11 46 00.7 -1.4
baz=322
F64A Sherman 66.96 44 IAmb IAmb 11 46 01.7
comp=Z,10nm,0.8s
G63A Kingsbury 66.99 46 P P 11 46 01.3 -1.1
baz=321
NOA NORSAR Array B 67.02 353 P P 11 46 01.3 -0.9
comp=Z,0.5nm,0.6s,baz=8.3,slow=6.3,SNR=2.2
PKME Peaks-Kenny Pk 67.02 45 P P 11 46 01.2 -1.3
baz=321
J61A Chester 67.03 49 P P 11 46 01.8 -0.8
baz=320
M59A Waymart 67.04 52 P P 11 46 01.9 -0.8
baz=320
R55A Marlinton 67.14 57 P P 11 46 02.6 -0.8
baz=319
I62A Tamworth 67.18 47 P P 11 46 02.7 -0.9
baz=321
G64A Maxfield 67.26 45 P P 11 46 03.3 -0.7
baz=322
L60A Shokan 67.28 51 P P 11 46 03.4 -0.9
baz=320
T54A Tazewell 67.29 59 P P 11 46 03.7 -0.8
baz=319
P57A Homestead Farm 67.32 55 P P 11 46 03.8 -0.6
baz=319
N59A State Game Lan 67.35 52 P P 11 46 03.3 -1.4
baz=320
O58A Lewisberry 67.38 54 P P 11 46 03.9 -0.9
baz=320
I63A Otisfield 67.39 47 P P 11 46 03.8 -1.0
baz=321
R56A Bull Pasture M 67.42 56 P P 11 46 03.9 -1.3
baz=319
J62A Henniker 67.46 48 P P 11 46 04.2 -1.2
baz=321
U54A Nelsons Funny 67.57 59 P P 11 46 05.5 -0.7
baz=319
M60A Port Jervis 67.59 51 P P 11 46 05.3 -0.9
baz=320
K62A Royalston 67.70 49 P P 11 46 05.9 -1.0
baz=321
N60A Cedar Hill Far 67.71 52 P P 11 46 06.2 -0.8
baz=320
BLA Blacksburg 67.79 58 P P 11 46 06.8 -0.8
baz=321
G65A Princeton 67.82 44 P P 11 46 06.5 -1.0
baz=322
S56A Natural Bridge 67.88 57 P P 11 46 07.2 -0.9
baz=319
Q58A Fox Den Farm, 67.90 55 P P 11 46 07.0 -1.1
baz=320
H65A Eastbrook 67.92 45 P P 11 46 07.1 -1.0
baz=322
R57A Stanardsville 67.95 56 P P 11 46 07.6 -0.9
baz=319
O60A Telford 67.99 52 P P 11 46 07.8 -0.9
baz=320
U55A TA2, Sparta 67.99 59 P P 11 46 07.9 -1.0
baz=319
K63A Dunstable 68.01 48 P P 11 46 07.9 -0.9
baz=321
P59A Jarrettsville 68.02 54 P P 11 46 07.9 -0.9
baz=320
V54A Nebo 68.06 60 P P 11 46 08.5 -0.7
baz=319
HRV Adam Dziewonsk 68.14 49 P P 11 46 08.9 -0.7
baz=321
PAL Palisades 68.19 51 P P 11 46 08.8 -1.1
baz=320
GGN Saint George 68.20 44 IAmb IAmb 11 46 09.5
comp=Z,10nm,0.8s
EMMW East Machias 68.26 45 IAmb IAmb 11 46 09.9
comp=Z,12nm,0.7s
H66A Whiting 68.26 44 P P 11 46 09.0 -1.3
baz=322,SNR=6.1
V55A Taylorsville 68.39 59 P P 11 46 10.4 -0.8
baz=319
W54A Cherokee Point 68.44 61 P P 11 46 10.7 -0.9
baz=319
U56A King 68.46 58 P P 11 46 11.0 -0.7
baz=319
R58B Mineral 68.54 56 P P 11 46 11.4 -0.7
baz=320
T57A Hurt 68.56 57 P P 11 46 11.5 -0.8
baz=319
X54A Belton 68.75 61 P P 11 46 12.7 -0.8
baz=319
R60A Leonardtown, M 68.97 55 P P 11 46 13.8 -0.9
baz=320
T58A Grand View Acr 68.97 57 P P 11 46 14.0 -0.8
baz=320
GOGA Godfrey 69.00 63 P P 11 46 13.9 -1.2
baz=319
HODGE Hodges 69.05 61 IAmb IAmb 11 46 14.9
comp=Z,9.0nm,0.6s
V57A Coltrane Farms 69.13 58 P P 11 46 14.7 -1.2
baz=320
X55A Gracelyn & Ava 69.21 61 P P 11 46 15.4 -0.9
baz=319
W56A Indian Trail 69.27 59 P P 11 46 15.8 -0.9
baz=319
CMAR Chiang Mai Arr 69.36 274 P P 11 46 17.4 -0.2
comp=Z,1.3nm,0.5s,baz=29,slow=7.4,SNR=7.6
X56A White Oak 69.52 60 P P 11 46 17.4 -0.8
baz=319
W57A Gilead 69.57 59 P P 11 46 17.5 -1.1
baz=320
V59A Middlesex 70.03 57 P P 11 46 20.6 -0.7
baz=320
W58A Raeford 70.07 59 P P 11 46 20.9 -0.7
baz=320
AKASG Malin Array Be 74.59 340 P P 11 46 47.4 -0.8
comp=Z,0.5nm,0.3s,baz=16,slow=6.7,SNR=2.2
AKASG Malin Array Be 74.59 340 IAmb IAmb 11 46 51.1
comp=Z,1.7nm,1.2s
WRA Warramunga Arr 81.26 222 P P 11 47 25.1 -0.4
comp=Z,3.9nm,0.6s,baz=30,slow=5.7,SNR=42
WRA Warramunga Arr 81.26 222 IAmb IAmb 11 47 25.8
comp=Z,0.2nm,0.8s
ASAR Alice Springs 84.77 220 P P 11 47 43.7 +0.2
comp=Z,2.7nm,0.7s,baz=24,slow=5.7,SNR=27
PALK Palikele 89.20 281 LR LR 12 32 55.1
comp=Z,42nm,18.3s,baz=203,slow=39
STKA Stephens Creek 89.47 211 P P 11 48 06.8 +0.9
comp=Z,4.0nm,0.6s,baz=357,slow=6.1,SNR=13
STKA Stephens Creek 89.47 211 P P 11 48 06.8 +0.9
MAW Mawson 145.86 218 PKPbc PKPdf 11 54 47.5 +1.6
comp=Z,2.5nm,0.5s,baz=115,slow=7.2,SNR=7.5
BOSA Boshof 149.45 309 PKPbc PKPdf 11 54 56.8 +3.5
comp=Z,2.4nm,0.5s,baz=50,slow=1.9,SNR=4.3

*DDA **12** 11:49:10.0, 39˚.34N×28˚.98E, h7km±5km, ML2.2*
*ISK **12** 11:49:10.2, 39˚.35N×29˚.03E, h6km, ML2.7/11*
ISC 12 11:49:10.6±1.0, **39˚.36N**±0˚.03×**29˚.01E**±0˚.02, **h7**km±12km, **n24**, σ0**946**/35, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.27**	**184**	PG		**Pg**	**11 49 16.2**	**+0.2**
SIMA				SG		**Sg**	**11 49 20.2**	**+0.5**
TVSB	**Tavsanli**	**0.36**	**75**	PG		**Pg**	**11 49 17.7**	**-0.1**
TVSB				SG		**Sg**	**11 49 22.7**	**+0.1**
GEDZ	**Gediz**	**0.44**	**135**	PG		**Pg**	**11 49 19.1**	**-0.1**
GEDZ				SG		**Sg**	**11 49 25.5**	**+0.5**
DURS	**Dursunbey**	**0.48**	**301**	*i* P		**Pg**	**11 49 20.1**	**+0.2**
DURS				*i* S		**Sg**	**11 49 26.0**	**-0.2**
USAK	**Uak-Merkez**	**0.64**	**179**	*i* P		**Pg**	**11 49 22.6**	**-0.3**
USAK				IAML			11 49 33.0	
	comp=N,93nm,0.3s							
USAK				IAML			11 49 36.0	
	comp=E,151nm,0.2s							
ULDT	**Uludag**	**0.79**	**7**	*i* P		**Pg**	**11 49 25.1**	**-0.7**
ULDT				*i* S		**Sg**	**11 49 36.4**	**+0.2**
ULDT				IAML			11 49 40.0	
	comp=N,184nm,0.3s							
ULDT				IAML			11 49 41.0	
	comp=E,91nm,0.3s							
BALB	**Balikesir**	**0.92**	**288**	PG		**Pb**	**11 49 28.7**	**-0.2**
IGD	**Bursa**	**0.92**	**9**	*i* P		**Pg**	**11 49 27.8**	**-0.5**
IGD				*i* S		**Sb**	**11 49 42.6**	**+1.3**
IGD				IAML			11 49 43.0	
	comp=N,69nm,0.3s							
IGD				IAML			11 49 44.0	
	comp=E,98nm,0.2s							
MANT	**Manisa**	**0.93**	**202**	*i* P		**Pg**	**11 49 28.1**	**-0.5**
MANT				*i* S		**Sg**	**11 49 39.5**	**-1.1**
MANT				IAML			11 49 40.0	
	comp=E,57nm,0.4s							
MANT				IAML			11 49 41.0	
	comp=N,50nm,0.2s							
AUBOZ	**BOZOYUK**	**0.97**	**55**	PG		**Pg**	**11 49 28.9**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.00**	**272**	*i* P		**Pb**	**11 49 30.3**	**0.0**
STEP				*i* S		**Sb**	**11 49 43.8**	**+0.1**
STEP				IAML			11 49 44.0	
	comp=N,143nm,0.5s							
STEP				IAML			11 49 47.0	
	comp=E,123nm,0.2s							
MDNY	**Mudanya-Bursa**	**1.02**	**355**	PG		**Pb**	**11 49 30.2**	**-0.4**
KCTX	**Karacabey (Bur**	**1.04**	**331**	PG		**Pb**	**11 49 30.8**	**-0.1**
AKHS	**Akhisar**	**1.04**	**243**	*i* P		**Pg**	**11 49 30.3**	**-0.4**
AKHS				*i* S		**Sg**	**11 49 44.0**	**-0.2**
AKHS				IAML			11 49 46.0	
	comp=E,37nm,0.4s							
CAVI	**Cavuskoy**	**1.06**	**37**	PG		**Pb**	**11 49 31.0**	**-0.4**
BALY	**Balya**	**1.14**	**290**	*i* P		**Pb**	**11 49 32.7**	**0.0**
BALY				*i* S		**Sb**	**11 49 47.5**	**-0.3**
ADVT	**Abdulvahap**	**1.21**	**27**	PN		**Pb**	**11 49 33.9**	**0.0**
GONE	**Gonen-Balikesi**	**1.23**	**304**	PN		**Pb**	**11 49 34.3**	**+0.1**
BORA	**Eskisehir**	**1.23**	**64**	PN		**Pg**	**11 49 33.5**	**-0.8**
TRML	**Termal-Yalova**	**1.26**	**6**	PN		**Pb**	**11 49 34.7**	**0.0**
TSVK	**Tesvikiye-Yalo**	**1.27**	**3**	PN		**Pn**	**11 49 35.1**	**+0.3**
SRCK	**Saricakaya, Es**	**1.42**	**61**	PN		**Pn**	**11 49 37.0**	**0.0**
ZEDA	**zmir-Bergama**	**1.55**	**256**	*i* P		**Pg**	**11 49 40.2**	**-0.2**
ZEDA				*i* S		**Sg**	**11 50 01.0**	**+0.6**
ZEDA				IAML			11 50 01.0	
	comp=N,22nm,0.5s							
GULT	**Gulveren**	**1.58**	**47**	PN		**Pg**	**11 49 40.8**	**-0.1**

IDC 12 11:50:06.6±2.8, **6˚.40S**×**129˚.59E, h124**km±40km, **mb3.1**/1, **mb1 3.2**/5, **mb1mx3.0**/29, **mbtmp3.6**/5, **Error ellipse: s-maj=68.1km s-min=16.9km az=93.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**5.74**	**17**	P		Pn	11 51 31.6	+1.9
	1.0nm,0.3s,baz=232,slow=23,SNR=1.5							
SIJI				S		Sn	11 52 33.8	-0.7
	1.7nm,0.3s,baz=245,slow=22,SNR=14							
FITZ	**Fitzroy Crossi**	**12.25**	**198**	P		Pn	11 52 57.3	+0.3
	0.2nm,0.3s,baz=18,slow=8.1,SNR=13							
FITZ				S		Sn	11 55 05.4	-6.7
	0.2nm,0.3s,baz=269,slow=21,SNR=1.5							
WRA	**Warramunga Arr**	**14.23**	**162**	P		Pn	11 53 22.1	-0.6
	0.2nm,0.3s,baz=341,slow=12,SNR=16							
WRA				S		Sn	11 55 46.0	-14
	0.2nm,0.3s,baz=326,slow=23,SNR=1.8							
ASAR	**Alice Springs**	**17.66**	**167**	P		P	11 54 03.7	-0.5
	0.1nm,0.3s,baz=344,slow=9.7,SNR=6.9							
MKAR	**Makanchi Array**	**67.50**	**327**	P		P	12 00 49.6	+0.2
	0.1nm,0.5s,baz=134,slow=8.3,SNR=3.6							

*IDC **12** 12:05:05.9±3.3, 23˚.72S×179˚.99W, h505km±32km, mb3.2/5, mb1 3.5/6, mb1mx3.1/25, mbtmp4.2/6, Error ellipse: s-maj=35.1km s-min=24.2km az=21.0*
*NEIC **12** 12:05:08.2±2.3, 23˚.8S±0˚.1×179˚.9E±0˚.2, h527km±9km, mb4.5/24, Error ellipse: s-maj=23.0km s-min=16.5km az=79.0*
ISC 12 12:05:06.4±0.9, **23˚.87S**±0˚.07×**180˚.0E**±0˚.1, **h500**km, **n36,**
σ1**829**/39, **mb4.3**/16, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**6.37**	**343**	P		**P**	**12 06 48.4**	**+1.8**
MSVF				S		**S**	**12 08 08.2**	**-0.1**
URZ	**Urewera**	**14.55**	**189**	P		**P**	**12 08 11.7**	**-0.1**
	0.6nm,0.3s,baz=300,slow=12,SNR=2.0							
URZ				S		**S**	**12 10 43.5**	**-1.1**
	0.3nm,0.3s,baz=141,slow=16,SNR=1.8							
URZ	**Urewera**	**14.55**	**189**	P		**P**	**12 08 12.7**	**+0.9**
BKZ	**Black Stump Fm**	**15.54**	**190**	P		**P**	**12 08 20.6**	**-1.5**
BKZ				IAmb		IAmb	12 08 22.5	
	comp=Z,46nm,1.5s							
BFZ	**Birch Farm**	**17.06**	**190**	P		**P**	**12 08 41.1**	**+3.2**
THZ	**Tophouse**	**18.80**	**197**	P		**P**	**12 08 55.5**	**+1.5**
KHZ	**Kahutara**	**19.26**	**195**	P		**P**	**12 08 58.8**	**+0.7**
LTZ	**Lake Taylor**	**19.92**	**197**	P		**P**	**12 09 03.5**	**-0.7**
LTZ				IAmb		IAmb	12 09 08.8	
	comp=Z,30nm,1.2s							
MLZ	**Mavora Lakes**	**23.52**	**201**	P		**P**	**12 09 38.8**	**+2.2**
MLZ				IAmb		IAmb	12 09 49.6	
	comp=Z,31nm,1.2s							
EIDS	**Eidsvold**	**26.31**	**261**	P		**P**	**12 10 02.7**	**+1.1**
EIDS				IAmb		IAmb	12 10 13.1	
	comp=Z,15nm,1.3s							
CTAO	**Charters Tower**	**31.47**	**270**	P		**P**	**12 10 47.1**	**+0.5**
CTAO				IAmb		IAmb	12 11 03.8	
	comp=Z,22nm,1.4s							
TOO	**Toolangi**	**32.46**	**237**	P		**P**	**12 10 56.2**	**+1.3**
TOO				IAmb		IAmb	12 11 09.8	
	comp=Z,13nm,1.4s							
KWAJ	**Kwajalein Atol**	**34.65**	**338**	P		**P**	**12 11 14.7**	**+1.1**
STKA	**Stephens Creek**	**34.73**	**248**	P		**P**	**12 11 14.2**	**0.0**
	comp=Z,1.7nm,0.7s,baz=81,slow=14,SNR=3.7							
STKA	**Stephens Creek**	**34.73**	**248**	P		**P**	**12 11 14.1**	**0.0**
BBOO	**Buckleboo**	**39.45**	**247**	P		**P**	**12 11 52.6**	**-0.4**
BBOO				IAmb		IAmb	12 11 59.6	
	comp=Z,29nm,1.4s							
AS31	**Alice Springs**	**42.03**	**261**	P		**P**	**12 12 13.4**	**-0.3**
ASAR	**Alice Springs**	**42.03**	**261**	P		**P**	**12 12 13.3**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=94,slow=7.4,SNR=51							
ASAR				ScP		**ScP**	**12 16 57.6**	**-2.4**
	comp=Z,0.6nm,0.7s,baz=118,slow=4.3,SNR=7.6							
ASAR	**Alice Springs**	**42.03**	**261**	P		**P**	**12 12 13.1**	**-0.7**
WR0	**Warramunga Arr**	**42.22**	**266**	P		**P**	**12 12 14.2**	**-1.1**
WB2	**Warramunga Arr**	**42.39**	**266**	P		**P**	**12 12 15.6**	**-1.0**
WB2				IAmb		IAmb	12 12 16.2	
	comp=Z,6.4nm,0.8s							
WRAB	**Tennant Creek**	**42.40**	**266**	P		**P**	**12 12 14.8**	**-1.8**
WRAB				IAmb		IAmb	12 12 34.5	
	comp=Z,5.8nm,0.6s							
WB0	**Warramunga Arr**	**42.40**	**266**	P		**P**	**12 12 15.5**	**-1.1**
WB0				IAmb		IAmb	12 12 16.1	
	comp=Z,6.4nm,0.7s							
WRA	**Warramunga Arr**	**42.40**	**266**	P		**P**	**12 12 15.7**	**-1.1**
	comp=Z,4.2nm,0.4s,baz=92,slow=8.3,SNR=174							
WRA	**Warramunga Arr**	**42.40**	**266**	P		**P**	**12 12 15.6**	**-1.1**
WAKE	**Wake Island**	**44.82**	**342**	P		**P**	**12 12 33.6**	**-1.7**
FORT	**Forrest**	**46.32**	**250**	P		**P**	**12 12 46.2**	**-0.6**
FORT				IAmb		IAmb	12 12 46.8	
	comp=Z,14nm,0.7s							
MTN	**Manton Dam**	**47.45**	**274**	P		**P**	**12 12 53.9**	**-1.7**
MTN				IAmb		IAmb	12 13 07.0	
	comp=Z,34nm,1.5s							
KNRA	**Kununurra**	**48.68**	**270**	P		**P**	**12 13 04.2**	**-0.6**
KNRA				IAmb		IAmb	12 13 04.6	
	comp=Z,12nm,0.9s							
FITZ	**Fitzroy Crossi**	**50.83**	**266**	P		**P**	**12 13 20.5**	**-0.1**
MORW	**Morawa**	**56.88**	**250**	P		**P**	**12 14 02.6**	**-0.8**
CASY	**Casey**	**60.14**	**206**	P		**P**	**12 14 24.2**	**-0.4**
QSPA	**South Pole Qui**	**66.21**	**180**	P		**P**	**12 15 04.2**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=30,slow=4.5,SNR=5.5							
QSPA	**South Pole Qui**	**66.21**	**180**	P		**P**	**12 15 04.5**	**+0.5**
TXAR	**Lajitas Array**	**90.42**	**58**	P		**P**	**12 17 13.1**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=218,slow=5.9,SNR=4.0							
MDUB	**Mudurnu**	**149.04**	**310**	PKPbc		**PKPdf**	**12 23 55.1**	**+1.8**

*NEIC **12** 12:17:55.9±0.8, 33˚.35N±0˚.05×95˚.6E±0˚.1, h10km±1km, mb4.0/12, Error ellipse: s-maj=20.7km s-min=7.1km az=279.0*
*IDC **12** 12:17:55.1±1.4, 33˚.10N×95˚.24E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/32, mbtmp3.6/8, ML3.5/2, MS2.8/4, Ms1 2.8/4, ms1mx2.6/38, Error ellipse: s-maj=63.1km s-min=19.7km az=66.0*
ISC 12 12:17:56.3±0.8, **33˚.3N**±0˚.1×**95˚.5E**±0˚.1, **h10**km, **n30,**
σ1**830**/26, **mb3.7**/12, **Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**5.20**	**227**			**Pn**	**12 19 15.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**15.13**	**167**	LR		LR	12 28 24.9	
	comp=Z,12nm,19.4s,baz=235,slow=42							
SONM	**Songino Array**	**16.65**	**26**	Pn		**P**	**12 21 53.7**	**+1.4**
	0.2nm,0.3s,baz=209,slow=12,SNR=6.1							
SONM	**Songino Array**	**16.65**	**26**			**Pn**	**12 21 48.8**	**-1.0**
MK31	**Makanchi Array**	**16.80**	**327**	Pn		**Pn**	**12 21 51.0**	**-0.5**
MKAR	**Makanchi Array**	**16.80**	**327**	Pn		**Pn**	**12 21 50.1**	**-1.4**
	0.2nm,0.3s,baz=135,slow=14,SNR=10							
MKAR	**Makanchi Array**	**16.80**	**327**			**Pn**	**12 21 51.4**	**-0.2**
NIL	**Nilore**	**18.57**	**277**	P		**P**	**12 22 13.2**	**-0.3**
NIL				IAmb		IAmb	12 22 30.7	
	comp=Z,22nm,0.9s							
TLY	**Talaya**	**19.27**	**15**	LR		LR	12 30 34.3	
	comp=Z,38nm,21.9s,baz=238,slow=39							
KURBB	**Kurchatov Arra**	**21.31**	**329**	P		**P**	**12 22 43.5**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=136,slow=11,SNR=19							
KURK	**Kurchatov**	**21.34**	**329**	P		**P**	**12 22 43.7**	**+0.3**
KURK				IAmb		IAmb	12 22 44.3	
	comp=Z,2.3nm,0.8s							
KK31	**Karatay Array**	**21.86**	**304**	P		**P**	**12 22 48.1**	**-1.0**
KK31				IAmb		IAmb	12 22 53.2	
	comp=Z,2.7nm,0.9s							
KKAR	**Karatay Array**	**21.86**	**304**	P		**P**	**12 22 48.2**	**-0.9**
KKAR				IAmb		IAmb	12 22 53.2	
	comp=Z,2.7nm,0.9s							
ZAA0	**Zalesovo Array**	**21.97**	**343**	P		**P**	**12 22 51.1**	**+1.0**
ZALV	**Zalesovo Beam**	**21.97**	**343**	P		**P**	**12 22 53.6**	**+3.6**
	comp=Z,0.5nm,0.4s,baz=159,slow=12,SNR=2.4							
ZALV	**Zalesovo Beam**	**21.97**	**343**	P		**P**	**12 22 49.9**	**-0.1**
KBL	**Kabul**	**21.98**	**281**	P		**P**	**12 22 50.8**	**+0.1**
KBL				IAmb		IAmb	12 22 53.6	
	comp=Z,10nm,0.8s							
KSAR	**Wonju Array Be**	**26.63**	**72**	P		**P**	**12 23 34.1**	**-0.9**
BVAR	**Borovoye Array**	**26.66**	**325**	LR		LR	12 33 55.7	
	comp=Z,29nm,18.3s,baz=232,slow=36							
JNU	**Nakatsue**	**29.50**	**81**	LR		LR	12 35 48.2	
	comp=Z,28nm,19.9s,baz=40,slow=36							
WB0	**Warramunga Arr**	**64.54**	**139**	P		**P**	**12 28 34.2**	**+0.6**
WRA	**Warramunga Arr**	**64.65**	**139**	P		**P**	**12 28 34.3**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=324,slow=8.3,SNR=6.7							
WB2	**Warramunga Arr**	**64.66**	**139**	P		**P**	**12 28 34.1**	**-0.3**
WR0	**Warramunga Arr**	**64.77**	**139**	P		**P**	**12 28 32.8**	**-2.3**
WR0				IAmb		IAmb	12 28 56.1	
	comp=Z,6.4nm,1.1s							
ASAR	**Alice Springs**	**67.46**	**142**	P		**P**	**12 28 53.0**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=326,slow=6.7,SNR=10							
BPAW	**Bear Paw Mtn.**	**69.83**	**25**	P		**P**	**12 29 06.1**	**-0.7**
BPAW				IAmb		IAmb	12 29 31.5	
	comp=Z,1.6nm,1.0s							
ILAR	**Eielson Array**	**70.86**	**24**	P		**P**	**12 29 15.8**	**+2.9**
	comp=Z,0.3nm,0.7s,baz=305,slow=5.3,SNR=4.5							
ILAR	**Eielson Array**	**70.86**	**24**	P		**P**	**12 29 12.1**	**-0.9**
BCAR	**Beaver Creek A**	**73.68**	**24**	P		**P**	**12 29 29.2**	**-0.7**
YKA	**Yellowknife Ar**	**81.48**	**14**	P		**P**	**12 30 13.7**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=330,slow=4.2,SNR=1.9							

IDC 12 12:38:42.0±2.4, **8˚.12S**×**130˚.70E, h0**km, **mb3.5**/1, **mb1 3.4**/3, **mb1mx3.3**/24, **mbtmp3.2**/3, **ML3.1**/2, **Error ellipse: s-maj=119.7km s-min=33.7km az=70.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.27**	**164**	Pn		Pn	12 41 38.3	+0.1
	0.1nm,0.3s,baz=347,slow=13,SNR=7.9							
WRA				Sn		Sn	12 43 51.1	-4.7
	0.1nm,0.3s,baz=339,slow=22,SNR=1.4							
ASAR	**Alice Springs**	**15.76**	**169**	Pn		Pn	12 42 25.4	-0.1
	0.1nm,0.3s,baz=345,slow=8.6,SNR=7.8							
MKAR	**Makanchi Array**	**69.54**	**327**	P		P	12 49 52.7	0.0
	0.2nm,0.5s,baz=126,slow=7.3,SNR=2.9							

*DDA **12** 12:38:43.9,35.67′N×29.86′E,h33km, MW3.3*
*ISK **12** 12:38:44.2,35.69′N×29.87′E,h24km,ML3.2/18*
*HLW **12** 12:38:46.0,35.62′N×29.75′E,h22km±15km,Md3.6,Ml3.7*
*NIC **12** 12:38:45.8±0.0,35.94′N×29.92′E,h35km±39km,Ml3.3/3*
ISC 12 12:38:43.7±1.2,**35.73N**±0.03×**29.86E**±0.02,**h17**km±10km, **n53,σ1§98/77,Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMR	**Demre-Antalya**	**0.51**	**4**	PG	**Pn**	**12 38 55.6**	**-0.6**
DEMR				SG	**Sb**	**12 39 04.0**	**+2.7**
AKAS	**Kas**	**0.55**	**338**	PG	**Pn**	**12 38 56.5**	**-0.3**
AKAS				SG	**Sn**	**12 39 05.4**	**-0.2**
AKAS	**Kas**	**0.55**	**338**	*i* P	**Pn**	**12 38 56.2**	**-0.7**
AKAS				*i* S	**Sn**	**12 39 05.5**	**-0.2**
AKUM	**Antalya-Kumluc**	**0.71**	**33**	*i* P	**Pn**	**12 38 59.4**	**+0.4**
AKUM				*i* S	**Sn**	**12 39 10.2**	**+0.7**
ELL	**Elmali**	**1.02**	**2**	PG	**Pn**	**12 39 03.7**	**+0.3**
FETY	**Fethiye**	**1.10**	**325**	PN	**Pn**	**12 39 05.3**	**+0.9**
FETY	**Fethiye**	**1.10**	**325**	*i* P	**Pn**	**12 39 05.0**	**+0.6**
FETY				*i* S	**Sb**	**12 39 18.7**	**+0.3**
KORT	**Korkueli**	**1.33**	**17**	PN	**Pg**	**12 39 08.6**	**-0.8**
KORT	**Korkueli**	**1.33**	**17**	*i* P	**Pg**	**12 39 09.0**	**-0.4**
KORT				*i* S	**Sn**	**12 39 33.5**	**+8.5**
DALY	**Dalyan (Mula)**	**1.46**	**318**	PN	**Pb**	**12 39 10.4**	**0.0**
DALY	**Dalyan (Mula)**	**1.46**	**318**	*i* P	**Pg**	**12 39 11.3**	**-0.5**
DALY				*i* S	**Sg**	**12 39 32.0**	**+1.1**
ARG	**Arkhangelos**	**1.49**	**290**	PN	**Pn**	**12 39 10.3**	**+0.6**
ARG	**Arkhangelos**	**1.49**	**290**	P	**Pn**	**12 39 10.5**	**+0.8**
ARG				S	**Sn**	**12 39 28.8**	**0.0**
GOLH	**Golhisar**	**1.52**	**351**	*i* P	**Pg**	**12 39 12.2**	**-0.8**
GOLH				*i* S	**Sg**	**12 39 33.3**	**+0.4**
TURN	**Turunc**	**1.67**	**309**	PN	**Pg**	**12 39 13.1**	**0.0**
TURN	**Turunc**	**1.67**	**309**	*i* P	**Pg**	**12 39 15.7**	**+2.6**
TURN				*i* S	**Sg**	**12 39 38.0**	**+5.0**
KEPZ	**Antalya-Kepez**	**1.83**	**50**	*i* P	**Pb**	**12 39 16.2**	**-0.6**
KEPZ				*i* S	**Sb**	**12 39 38.5**	**-0.9**
TAVA	**DENIZLI_Tavas**	**1.90**	**336**	*i* P	**Pb**	**12 39 17.7**	**-0.2**
TAVA				*i* S	**Sg**	**12 39 43.5**	**-1.2**
YER	**Yerkesik**	**1.90**	**318**	PN	**Pn**	**12 39 16.5**	**+1.2**
GAZI	**Gazipasa**	**2.05**	**75**	PN	**Pn**	**12 39 18.0**	**+0.5**
GAZI	**Gazipasa**	**2.05**	**75**	*i* P	**Pn**	**12 39 16.2**	**-1.3**
GAZI				*i* S	**Sn**	**12 39 40.9**	**-1.8**
DAT	**Datca**	**2.10**	**299**	PN	**Pn**	**12 39 19.4**	**+1.2**
DAT	**Datca**	**2.10**	**299**	*i* P	**Pn**	**12 39 19.8**	**+1.6**
DAT				*i* S	**Sn**	**12 39 42.9**	**-1.1**
AKMS	**Akamas**	**2.14**	**109**	P	**Pn**	**12 39 19.8**	**+1.1**
AKMS				AML	AML	12 39 45.5	
	0.7nm,1.0s						
AKMS				AML	AML	12 39 45.5	
	0.4nm,0.8s						
AKMS				AML	AML	12 39 45.5	
	0.7nm,1.0s						
AKMS				AML	AML	12 39 45.5	
	0.4nm,0.8s						
AKMS				S	**Sn**	**12 39 45.7**	**+0.8**
KARP	**Karpathos**	**2.21**	**266**	PN	**Pn**	**12 39 20.8**	**+1.2**
KARP	**Karpathos**	**2.21**	**266**	P	**Pn**	**12 39 21.6**	**+2.0**
KARP				S	**Sn**	**12 39 48.4**	**+1.9**
ALFC	**Alefka**	**2.31**	**104**	P	**Pn**	**12 39 22.1**	**+1.1**
ALFC				S	**Sn**	**12 39 49.3**	**+0.3**
ALFC				AML	AML	12 39 49.8	
	0.4nm,0.5s						
ALFC				AML	AML	12 39 49.8	
	0.4nm,0.5s						
ALFC				AML	AML	12 39 51.7	
	0.4nm,0.9s						
ALFC				AML	AML	12 39 51.7	
	0.4nm,0.9s						
BAGO	**Egridir - ISPA**	**2.38**	**18**	*i* P	**Pb**	**12 39 24.4**	**-1.8**
BAGO				*i* S	**Sg**	**12 39 56.2**	**-3.9**
NATA	**Nata**	**2.41**	**112**	P	**Pn**	**12 39 24.6**	**+2.2**
BODT	**Bodrum**	**2.45**	**304**	PN	**Pn**	**12 39 23.8**	**+0.8**
OSC1	**CSNet OBS 1**	**2.51**	**152**	P	**Pb**	**12 39 27.5**	**-0.8**
KZIL	**AFYON_Kizioren**	**2.53**	**5**	*i* P	**Pn**	**12 39 22.1**	**-2.0**
SZAC	**Souni**	**2.66**	**111**	P	**Pn**	**12 39 28.1**	**+2.4**
SZAC				S	**Sn**	**12 39 59.0**	**+1.4**
SZAC				AML	AML	12 40 00.1	
	0.2nm,0.2s						
SZAC				AML	AML	12 40 00.1	
	0.2nm,0.2s						
SZAC				AML	AML	12 40 02.5	
	0.4nm,0.4s						
SZAC				AML	AML	12 40 02.5	
	0.4nm,0.4s						
TEKE	**Tekeli-Mersin**	**2.67**	**80**	PN	**Pn**	**12 39 26.8**	**+0.9**
GCAM	**G?zelcaml?**	**2.89**	**314**	*i* P	**Pg**	**12 39 37.6**	**-1.4**
GCAM				*i* S	**Sn**	**12 40 00.6**	**-2.6**
ASGA	**Asgata**	**2.92**	**108**	P	**Pn**	**12 39 30.9**	**+1.4**
CSS	**Mathiatis**	**2.94**	**104**	PN	**Pn**	**12 39 30.8**	**+1.2**
CSS	**Mathiatis**	**2.94**	**104**	P	**Pn**	**12 39 31.1**	**+1.5**
MANT	**Manisa**	**2.95**	**340**	*i* P	**Pb**	**12 39 35.9**	**0.0**
KONT	**Konya--Tatoy**	**2.98**	**41**	PN	**Pn**	**12 39 31.9**	**+1.6**
KONT	**Konya--Tatoy**	**2.98**	**41**	*i* P	**Pn**	**12 39 33.1**	**-3.3**
GULN	**MERSIN_Gulnar**	**3.02**	**80**	*i* P	**Pn**	**12 39 30.2**	**-0.6**
GULN				*i* S	**Sn**	**12 40 06.2**	**-0.4**
USAK	**Uak-Merkez**	**3.06**	**348**	*i* P	**Pn**	**12 39 31.4**	**+0.1**
USAK				*i* S	**Sb**	**12 40 13.8**	**-0.9**
IKL	**Isikli**	**3.14**	**80**	PN	**Pn**	**12 39 33.8**	**+1.4**
OSC2	**CSNet OBS 4**	**3.31**	**142**	P	**Pn**	**12 39 38.0**	**+3.3**
KIZT	**Kizilcal**	**3.53**	**26**	PN	**Pn**	**12 39 39.9**	**+2.0**
KNL	**Balıkesir**	**4.89**	**339**	*i* P	**Pn**	**12 39 53.9**	**-2.6**
SLUM	**Salum**	**5.74**	**224**	P	**Pn**	**12 40 09.6**	**+1.5**
	baz=224						
SLUM				S	**Sn**	**12 41 08.6**	**-4.9**
	baz=224						
RSH		**5.75**	**145**	P	**Pn**	**12 40 09.7**	**+1.4**
	baz=143						
GLL	**Jalalah**	**6.33**	**165**	P	**Pn**	**12 40 17.4**	**+1.1**
	baz=164						
SUZ	**Suez**	**6.38**	**156**	P	**Pn**	**12 40 17.4**	**+0.5**
	baz=154						
SWA2		**7.46**	**211**	P	**Pn**	**12 40 31.8**	**+0.1**
	baz=211						
SWA2				S	**Sn**	**12 41 51.3**	**-4.7**
	baz=211						
HFRF	**Wahat Farafira**	**8.66**	**189**	P	**Pn**	**12 40 48.7**	**+0.6**
	baz=189						
HFRF				AMP		12 42 00.0	
	baz=189						
HFRF				S	Sn	12 42 18.4	-7.1
	baz=189						

*THE **12** 13:00:47.7,40.50N×23.51E,h22km±1km,ML2.2/7,Error ellipse: s-maj=1.7km s-min=0.8km az=242.0*
*SKO **12** 13:00:48.8,40.54N×23.60E,h0km*
ATH 12 13:00:48.2,40.54N×23.55E,h12km±5km,**ML2.2/8,1C-1D, Error ellipse: s-maj=5.4km s-min=0.8km az=226.0, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLG	**Polygyros**	**0.18**	**206**	P	Pg	13 00 52.5	+0.2
PLG				S	Sg	13 00 55.0	-0.1
	5μm,0.2s						
PLG	**Polygyros**	**0.18**	**206**	P	Pg	13 00 52.6	+0.3
PLG				S	Sg	13 00 55.0	-0.1
PLG				AML	AML	13 00 55.1	
	comp=N,9076μm,0.2s						
PLG				AML	AML	13 00 55.2	
	comp=E,11925μm,0.2s						
SOH	**Sokhos**	**0.32**	**333**	P	Pg	13 00 55.0	+0.2
SOH				S	Sg	13 01 00.0	+0.8
	comp=E,1μm,0.3s						
SOH	**Sokhos**	**0.32**	**333**	P	Pg	13 00 54.9	+0.1
SOH				S	Sg	13 00 59.7	+0.5
SOH				AML	AML	13 01 00.5	
	comp=E,1730μm,0.2s						
SOH				AML	AML	13 01 00.9	
	comp=N,2166μm,0.2s						
HORT	**Hortiatis**	**0.35**	**281**	P	Pg	13 00 55.3	0.0
HORT				S	Sg	13 01 00.0	0.0
	comp=N,370nm,0.1s						
HORT	**Hortiatis**	**0.35**	**281**	P	Pg	13 00 55.2	0.0
HORT				S	Sg	13 00 59.9	0.0
HORT				AML	AML	13 01 02.4	
	comp=E,626μm,0.1s						
HORT				AML	AML	13 01 04.1	
	comp=N,822μm,0.1s						
OUR	**Ouranopolis**	**0.39**	**121**	P	Pg	13 00 56.1	+0.2
OUR				S	Sg	13 01 01.3	+0.2
	comp=N,638nm,0.2s						
OUR	**Ouranopolis**	**0.39**	**121**	P	Pg	13 00 56.1	+0.2
OUR				S	Sg	13 01 01.5	+0.4
OUR				AML	AML	13 01 03.6	
	comp=N,952μm,0.2s						
OUR				AML	AML	13 01 03.9	
	comp=E,1560μm,0.2s						
THE	**Thessaloniki**	**0.45**	**283**	P	Pg	13 00 56.9	-0.3
THE				S	Sg	13 01 03.0	-0.2
THE	**Thessaloniki**	**0.45**	**283**	P	Pg	13 00 56.4	-0.7
SRS	**Serrai**	**0.58**	**3**	P	Pg	13 00 59.5	-0.1
SRS	**Serrai**	**0.58**	**3**	P	Pg	13 00 59.4	-0.2
SRS				S	Sb	13 01 08.1	-0.6
NVR	**Nevrokopi**	**0.85**	**16**	P	Pg	13 01 04.5	-0.1
NVR				S	Sb	13 01 16.6	+0.3
	comp=E,92nm,0.3s						
NVR	**Nevrokopi**	**0.85**	**16**	P	Pg	13 01 04.3	-0.3
NVR				S	Sg	13 01 15.3	-0.4
NVR				AML	AML	13 01 19.4	
	comp=E,209μm,0.3s						
NVR				AML	AML	13 01 21.7	
	comp=N,162μm,0.3s						
KAVA	**Kavala**	**0.87**	**58**	P	Pg	13 01 04.9	-0.1
KAVA				S	Sb	13 01 16.7	-0.1
	comp=N,195nm,0.6s						
KAVA	**Kavala**	**0.87**	**58**	P	Pg	13 01 04.8	-0.1
KAVA				AML	AML	13 01 18.7	
	comp=N,326μm,0.4s						
KAVA				AML	AML	13 01 19.1	
	comp=E,327μm,0.5s						
THAS	**Thassos island**	**0.90**	**85**	P	Pg	13 01 05.2	-0.3
THAS				S	Sg	13 01 17.1	-0.1
	comp=E,162nm,0.2s						
THAS	**Thassos island**	**0.90**	**85**	P	Pg	13 01 05.0	-0.5
THAS				S	Sb	13 01 17.5	-0.1
THAS				AML	AML	13 01 19.4	
	comp=N,343μm,0.2s						
THAS				AML	AML	13 01 20.6	
	comp=E,307μm,0.3s						
LIT	**Litokhoron**	**0.92**	**242**	P	Pg	13 01 05.7	-0.2
LIT				AML	AML	13 01 23.5	
	comp=N,125μm,0.2s						
LIT				AML	AML	13 01 23.7	
	comp=E,110μm,0.3s						
MMB	**Musomiste**	**1.06**	**7**	*e*P	Pb	13 01 07.9	-0.7
VAY	**Valandovo**	**1.08**	**317**	*i*Pg	Pg	13 01 08.9	-0.1
VAY				*i* Sg	Sn	13 01 24.4	+0.3
VAY				*e*Lg	Lg	13 01 25.2	
	comp=E,17nm,0.3s						
KKB	**Krupnik**	**1.38**	**345**	*e*P	Pb	13 01 13.9	0.0
LIA	**Limnos Island**	**1.41**	**116**	P	Pb	13 01 14.5	+0.1
RZN	**Rozhen**	**1.45**	**37**	*e*P	Pb	13 01 15.2	-0.1
STIP	**Stip**	**1.55**	**319**	*i*Pn	Pn	13 01 15.3	-0.3
STIP				*i* Sn	Sg	13 01 38.1	0.0

ATH 12 13:00:57.8,38.92N×23.40E,h14km±6km,**ML1.3/3,Error ellipse: s-maj=6.7km s-min=0.8km az=357.0,Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKIA	**Skiathos**	**0.25**	**12**	P	Pg	13 01 03.6	+0.4
SKIA				S	Sg	13 01 07.4	+0.6
SKIA				AML	AML	13 01 07.8	
	comp=E,454μm,0.4s						
SKIA				AML	AML	13 01 08.3	
	comp=N,197μm,0.3s						
NEO	**Neokhori**	**0.41**	**340**	P	Pg	13 01 06.1	+0.1
NEO				S	Sg	13 01 11.5	-0.1
LKR	**Lokris**	**0.41**	**229**	P	Pg	13 01 05.8	-0.2
LKR				S	Sg	13 01 11.9	+0.1
LKR				AML	AML	13 01 12.6	
	comp=N,112μm,0.3s						
LKR				AML	AML	13 01 12.6	
	comp=E,127μm,0.2s						
AOS	**Alonnisos**	**0.45**	**56**	P	Pg	13 01 06.4	-0.3
AOS				S	Sg	13 01 13.0	+0.2
AOS				AML	AML	13 01 13.4	
	comp=E,57μm,0.2s						
AOS				AML	AML	13 01 13.6	
	comp=N,50μm,0.2s						
XOR	**Xorichti**	**0.47**	**340**	P	Pg	13 01 07.3	+0.1
XOR	**Xorichti**	**0.47**	**340**	P	Pg	13 01 07.3	+0.1
VOL3	**Nea Ionia, Vol**	**0.58**	**321**	P	Pg	13 01 09.2	+0.1
KYMI	**Kymi, Euboea I**	**0.62**	**118**	P	Pg	13 01 09.5	-0.4
KYMI				S	Sg	13 01 18.2	+0.1
VIL2	**Platees**	**0.72**	**188**	P	Pn	13 01 12.8	-0.7
VIL2				S	Sn	13 01 23.2	-1.1
AGG	**Agios Georgios**	**0.84**	**277**	P	Pg	13 01 13.3	-0.8

*IDC **12** 13:12:56.7±1.4, 17.69S×178.30W,h501km±16km, mb3.7/15,mb1 3.9/18,mb1mx3.8/29,mbtmp4.6/18,Error ellipse: s-maj=14.1km s-min=10.3km az=147.0*
*NEIC **12** 13:12:59.0±1.4, 17.7S±0.1×178.36W±0.10,h531km±1km, mb4.6/118,Error ellipse: s-maj=15.8km s-min=13.1km az=163.0*
ISC 12 13:13:00.3±0.3,**17.83S**±0.07×**178.31W**±0.06,**h550**km, **n204,σ1§05/206,mb4.7/79,1D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.47**	**271**	P	**P**	**13 14 18.3**	**-0.3**
AFI	**Afiamalu**	**7.39**	**59**	P	P	13 14 46.3	-6.0
	17nm,0.3s,baz=192,slow=2.9,SNR=18						
NIUE	**Niue**	**8.05**	**100**	P	**P**	**13 14 56.9**	**-1.7**
	baz=8.0,SNR=7.4						
NIUE	**Niue**	**8.05**	**100**	P	**P**	**13 14 56.6**	**-2.0**
RAO	**Raoul Island**	**11.38**	**178**	S	**S**	**13 17 38.1**	**+0.7**
	19nm,0.3s,baz=84,slow=22,SNR=2.0						
DZM	**Mont Dzumac**	**14.94**	**251**	P	**P**	**13 16 07.7**	**-1.7**
	1.0nm,0.3s,baz=103,slow=23,SNR=13						
DZM	**Mont Dzumac**	**14.94**	**251**	*e*P	**P**	**13 16 05.0**	**-4.4**
	25nm,0.6s						
DZM	**Mont Dzumac**	**14.94**	**251**	P	**P**	**13 16 07.8**	**-1.6**
RAR	**Rarotonga**	**17.79**	**104**	P	**P**	**13 16 35.8**	**-0.6**
	baz=235,slow=5.3,SNR=3.6						
MXZ	**Matakaoa Point**	**19.89**	**188**	P	**P**	**13 16 52.9**	**-2.3**
URZ	**Urewera**	**20.75**	**190**	P	**P**	**13 17 01.4**	**-1.6**
	6.9nm,0.5s,baz=3.4,slow=2.7,SNR=9.8						
URZ	**Urewera**	**20.75**	**190**	P	**P**	**13 17 01.0**	**-2.0**
BKZ	**Black Stump Fm**	**21.74**	**191**	P	**P**	**13 17 10.8**	**-1.2**
BKZ				IAmb	IAmb	13 17 18.3	
	comp=Z,72nm,1.8s						
HNR	**Honiara**	**22.70**	**289**	P	**P**	**13 17 19.1**	**-1.8**
SNZO	**South Karori**	**24.16**	**193**	P	**P**	**13 17 32.8**	**-0.7**
QRZ	**Quartz Range**	**24.24**	**197**	P	**P**	**13 17 35.0**	**+0.7**
NNZ	**Nelson**	**24.38**	**195**	P	**P**	**13 17 35.0**	**-0.4**
BSWZ	**Blackbirch Sta**	**24.73**	**194**	P	**P**	**13 17 38.0**	**-0.6**
THZ	**Tophouse**	**25.02**	**196**	P	**P**	**13 17 41.0**	**-0.2**
KHZ	**Kahutara**	**25.48**	**194**	P	**P**	**13 17 45.2**	**+0.2**
PPT2	**Papeete2**	**27.36**	**94**	*e*P	**P**	**13 18 01.7**	**-0.4**
	comp=Z,22nm,0.6s						
PPT	**Papeete**	**27.36**	**94**	P	**P**	**13 18 00.4**	**-1.7**
	comp=Z,31nm,0.6s,baz=92,slow=2.6,SNR=6.2						
PPTF	**Pamatai, Papee**	**27.37**	**94**	P	**P**	**13 18 01.9**	**-0.4**
TBI	**Tubuai**	**27.53**	**106**	*e*P	**P**	**13 18 03.2**	**-0.2**
	comp=Z,40nm,0.7s						
TIAR	**Tiarei**	**27.58**	**94**	*e*P	**P**	**13 18 03.5**	**-0.5**
	comp=Z,12nm,0.8s						
WKZ	**Wanaka**	**28.94**	**199**	P	**P**	**13 18 14.6**	**-0.9**
PMOR	**Pomariorio Ree**	**29.29**	**89**	*e*P	**P**	**13 18 18.2**	**-0.7**
	comp=Z,9.8nm,0.4s						
EIDS	**Eidsvold**	**29.39**	**250**	P	**P**	**13 18 19.4**	**-0.2**
	baz=30,SNR=7.9						
EIDS	**Eidsvold**	**29.39**	**250**	P	**P**	**13 18 19.2**	**-0.3**
EIDS				IAmb	IAmb	13 18 20.2	
	comp=Z,23nm,0.8s						
MLZ	**Mavora Lakes**	**29.71**	**200**	P	**P**	**13 18 23.3**	**+1.2**
ARMA	**Armidale**	**30.06**	**240**	P	**P**	**13 18 26.6**	**+1.1**
	baz=30,SNR=34						
ARMA	**Armidale**	**30.06**	**240**	P	**P**	**13 18 26.5**	**+0.9**
ARMA				IAmb	IAmb	13 18 27.3	
	comp=Z,27nm,0.7s						
DCZ	**Deep Cove**	**30.11**	**201**	P	**P**	**13 18 25.9**	**+0.4**
WHZ	**Wether Hill Ro**	**30.23**	**199**	P	**P**	**13 18 27.4**	**+0.8**
MGCD	**Mangrove Creek**	**31.42**	**235**	P	**P**	**13 18 38.3**	**+1.4**
	baz=32,SNR=5.5						
RMQ	**Roma**	**31.62**	**248**	P	**P**	**13 18 39.6**	**+0.8**
	baz=32,SNR=18						
RABL	**Rabaul**	**31.92**	**292**	P	**P**	**13 18 40.1**	**-1.5**
CNB	**Canberra Magne**	**33.55**	**232**	P	**P**	**13 18 56.4**	**+1.3**
	baz=34,SNR=31						
CTAO	**Charters Tower**	**33.55**	**260**	P	**P**	**13 18 55.0**	**-0.3**
CTAO				IAmb	IAmb	13 18 55.5	
	comp=Z,17nm,0.7s						
CAN	**Canberra**	**33.83**	**233**	P	**P**	**13 18 56.9**	**-0.5**
CAN				IAmb	IAmb	13 19 52.6	
	comp=Z,46nm,1.5s						
CMSA	**Cobar Meteorol**	**35.27**	**240**	P	**P**	**13 19 10.1**	**+0.6**
	baz=35,SNR=62						
MTSU	**Mount Surprise**	**35.51**	**264**	P	**P**	**13 19 11.3**	**-0.3**
	baz=36,SNR=10.0						
QLP	**Quilpie**	**35.65**	**249**	P	**P**	**13 19 12.8**	**+0.1**
	baz=36,SNR=22						
COEN	**Coen**	**37.20**	**270**	P	**P**	**13 19 26.0**	**+0.4**
	baz=37,SNR=17						
COEN	**Coen**	**37.20**	**270**	P	**P**	**13 19 25.4**	**-0.2**
COEN				IAmb	IAmb	13 19 26.7	
	comp=Z,19nm,0.8s						
TOO	**Toolangi**	**37.30**	**231**	P	**P**	**13 19 27.2**	**+1.1**
	baz=38,SNR=48						
TOO	**Toolangi**	**37.30**	**231**	P	**P**	**13 19 26.8**	**+0.7**
TOO				IAmb	IAmb	13 19 28.1	
	comp=Z,29nm,0.6s						
TAOE	**Nuku Hiva Isla**	**38.12**	**82**	P	**P**	**13 19 32.5**	**-0.7**
STKA	**Stephens Creek**	**38.75**	**241**	P	**P**	**13 19 39.0**	**+1.1**
	comp=Z,21nm,0.5s,baz=89,slow=9.7,SNR=92						
STKA	**Stephens Creek**	**38.75**	**241**	P	**P**	**13 19 39.1**	**+1.1**
	baz=39,SNR=80						
STKA	**Stephens Creek**	**38.75**	**241**	P	**P**	**13 19 38.9**	**+0.9**
STKA				IAmb	IAmb	13 19 39.9	
	comp=Z,10nm,1.1s						
QIS	**Mount Isa**	**39.76**	**259**	P	**P**	**13 19 45.7**	**-0.6**
	baz=40,SNR=4.0						
ARPS	**Mount Arapiles**	**39.78**	**234**	P	**P**	**13 19 46.7**	**+0.5**
	baz=40,SNR=5.3						
HTT	**Hallett**	**41.27**	**239**	P	**P**	**13 19 59.1**	**+0.9**
	baz=41,SNR=61						
JAY	**Jayapura**	**42.98**	**286**	P	**P**	**13 20 12.0**	**+0.2**
	comp=Z,47nm,0.8s						
GENI	**Genyem**	**43.44**	**286**	P	**P**	**13 20 16.0**	**+0.6**
	comp=Z,3μmcomp=Z,214nm,0.6s						
BBOO	**Buckleboo**	**43.53**	**241**	P	**P**	**13 20 16.4**	**+0.6**
	baz=44,SNR=168						
BBOO	**Buckleboo**	**43.53**	**241**	P	**P**	**13 20 16.2**	**+0.4**
WR0	**Warramunga Arr**	**44.55**	**259**	P	**P**	**13 20 22.5**	**-1.5**
WR0				IAmb	IAmb	13 20 29.0	
	comp=Z,17nm,1.4s						
WB0	**Warramunga Arr**	**44.71**	**260**	P	**P**	**13 20 24.1**	**-1.1**
WB0				IAmb	IAmb	13 20 25.2	
	comp=Z,16nm,0.8s						
WB2	**Warramunga Arr**	**44.73**	**259**	P	**P**	**13 20 24.1**	**-1.2**
WB2				IAmb	IAmb	13 20 25.5	
	comp=Z,16nm,0.6s						
WRAB	**Tennant Creek**	**44.73**	**259**	P	**P**	**13 20 24.1**	**-1.2**
WRAB				IAmb	IAmb	13 21 52.7	
	comp=Z,18nm,0.5s						
WRA	**Warramunga Arr**	**44.74**	**259**	P	**P**	**13 20 24.5**	**-0.9**
	comp=Z,9.0nm,0.5s,baz=96,slow=7.0,SNR=265						
WRA				PcP	**PcP**	**13 21 56.5**	**+0.7**
	comp=Z,3.5nm,0.5s,baz=91,slow=3.2,SNR=8.3						
WRA				ScP	**ScP**	**13 25 00.1**	**+4.1**
	comp=Z,4.2nm,1.2s,baz=92,slow=3.7,SNR=6.0						
WRA	**Warramunga Arr**	**44.74**	**259**	P	**P**	**13 20 24.1**	**-1.2**
AS31	**Alice Springs**	**44.90**	**254**	P	**P**	**13 20 26.4**	**-0.2**
AS31				IAmb	IAmb	13 20 27.3	
	comp=Z,35nm,0.7s						
ASAR	**Alice Springs**	**44.91**	**254**	P	**P**	**13 20 26.6**	**0.0**
	comp=Z,99nm,0.4s,baz=90,slow=7.8,SNR=2628						
ASAR				PcP	**PcP**	**13 21 57.0**	**+0.6**
	comp=Z,4.8nm,0.4s,baz=98,slow=4.0,SNR=6.1						
ASAR				ScP	**ScP**	**13 25 01.1**	**+4.5**
	comp=Z,1.4nm,0.6s,baz=95,slow=4.8,SNR=6.1						
ASAR				S	**S**	**13 26 24.4**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=91,slow=16,SNR=6.0						
ASAR	**Alice Springs**	**44.91**	**254**	P	**P**	**13 20 25.9**	**-0.7**
SMPI	**Sarmi**	**45.01**	**286**	P	**P**	**13 20 27.8**	**+0.3**
	comp=Z,53nm,0.8s						
KDU	**Kakadu**	**47.66**	**269**	P	**P**	**13 20 47.2**	**-0.3**
	baz=48,SNR=20						
GUMO	**Guam**	**47.90**	**308**	P	**P**	**13 20 49.0**	**-0.3**
MTN	**Manton Dam**	**48.90**	**268**	P	**P**	**13 20 56.2**	**-0.5**
	baz=49,SNR=9.7						
MTN	**Manton Dam**	**48.90**	**268**	P	**P**	**13 20 56.1**	**-0.6**
MTN				IAmb	IAmb	13 20 56.9	
	comp=Z,28nm,0.8s						
WRKA	**Warakurna**	**49.96**	**252**	P	**P**	**13 21 04.7**	**+0.1**
	baz=50,SNR=164						
FORT	**Forrest**	**50.13**	**245**	P	**P**	**13 21 05.4**	**-0.2**
	baz=50,SNR=33						
FORT	**Forrest**	**50.13**	**245**	P	**P**	**13 21 05.3**	**-0.2**
KNRA	**Kununurra**	**50.59**	**264**	P	**P**	**13 21 08.9**	**-0.3**
	baz=51,SNR=32						
KNRA	**Kununurra**	**50.59**	**264**	P	**P**	**13 21 08.8**	**-0.4**
KNRA				IAmb	IAmb	13 21 09.7	
	comp=Z,32nm,0.7s						
FAKI	**Fak Fak**	**50.66**	**281**	P	**P**	**13 21 09.4**	**-0.3**
FAKI				IAmb	IAmb	13 21 53.7	
	comp=Z,71nm,1.2s						
FITZ	**Fitzroy Crossi**	**53.14**	**260**	P	**P**	**13 21 27.7**	**+0.3**
	baz=53,SNR=24						
FITZ	**Fitzroy Crossi**	**53.14**	**260**	P	**P**	**13 21 27.6**	**+0.1**
FITZ				IAmb	IAmb	13 21 29.1	
	comp=Z,42nm,1.7s						
SOEI	**Soe**	**56.17**	**270**	P	**P**	**13 21 49.9**	**+1.0**
	comp=Z,116nm,0.8s						
SOEI	**Soe**	**56.17**	**270**		**P**	**13 21 50.0**	**+1.1**
TNTI	**Ternate**	**56.54**	**283**	P	**P**	**13 21 51.2**	**-0.1**
	comp=

SBUM					IAmb	IAmb	13 23 26.9		
	comp=Z,5.1nm,0.8s								
YULB	**Yu-li**	**71.81**	**303**		P	**P**	**13 23 27.4**	**-0.6**
YULB					IAmb	IAmb	13 23 38.5		
	comp=Z,72nm,1.9s								
SSLB	**Suanglung**	**72.27**	**303**		P	**P**	**13 23 29.7**	**-1.0**
SSLB					IAmb	IAmb	13 24 06.7		
	comp=Z,54nm,1.6s								
CISI	**Cisompet, Garu**	**72.42**	**268**		P	**P**	**13 23 30.8**	**-1.0**
KSM	**Kuching**	**72.77**	**277**		P	**P**	**13 23 34.3**	**+0.5**
LEM	**Lembang**	**72.81**	**268**		P	**P**	**13 23 34.6**	**+0.4**
	comp=Z,54nm,0.6s,baz=34,slow=20,SNR=4.8								
PET	**Petropavlovsk**	**73.32**	**346**		P	**P**	**13 23 34.8**	**-1.1**
PET					IAmb	IAmb	13 24 11.6		
	comp=Z,34nm,1.5s								
FALS	**False Pass**	**73.50**	**9**		P	**P**	**13 23 36.5**	**-0.4**
PEA0B	**Petropavlovsk-**	**73.63**	**345**		P	**P**	**13 23 37.0**	**-0.7**
PEA0B					IAmb	IAmb	13 23 52.8		
	comp=Z,64nm,1.9s								
PETK	**Petropavlovsk-**	**73.63**	**345**		P	**P**	**13 23 37.0**	**-0.7**
	comp=Z,3.6nm,0.7s,baz=131,slow=8.6,SNR=14								
PETK	**Petropavlovsk-**	**73.63**	**345**		P	**P**	**13 23 36.6**	**-1.1**
KSRS	**Korea Array**	**74.70**	**318**		P	**P**	**13 23 44.8**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=130,slow=6.4,SNR=12								
KSAR	**Wonju Array Be**	**74.72**	**318**		P	**P**	**13 23 44.6**	**+0.3**
KS19	**Wonju Array Si**	**74.77**	**318**		P	**P**	**13 23 44.6**	**0.0**
KS19					IAmb	IAmb	13 23 50.4		
	comp=Z,13nm,1.4s								
SAO	**San Andreas Ge**	**76.30**	**44**		P	**P**	**13 23 53.2**	**+0.1**
SAO					IAmb	IAmb	13 23 54.5		
	comp=Z,5.6nm,0.8s								
USRK	**Ussuriysk Ar.**	**76.60**	**326**		P	**P**	**13 23 56.5**	**+2.0**
	comp=Z,1.4nm,0.6s,baz=78,slow=7.5,SNR=3.8								
KMRM	**Mail Ridge**	**76.89**	**40**		P	**P**	**13 23 57.3**	**+1.0**
KMRM					IAmb	IAmb	13 23 58.5		
	comp=Z,9.4nm,1.0s								
CMB	**Columbia Colle**	**77.71**	**43**		P	**P**	**13 24 01.4**	**+0.6**
AFDM	**Forest Hills D**	**77.85**	**42**		P	**P**	**13 24 01.5**	**0.0**
ORV	**Oroville**	**77.87**	**41**		P	**P**	**13 24 01.8**	**+0.2**
NJ2	**Nanjing**	**77.96**	**309**	*e*P		**P**	**13 24 02.1**	**-0.1**
NJ2					pmax	pmax			
	comp=Z,9.0nm,0.6s								
MNAI	**Manna**	**77.97**	**269**		P	**P**	**13 24 03.3**	**+0.6**
MDPB	**Devils Postpil**	**78.35**	**44**		P	**P**	**13 24 04.7**	**+0.2**
OMMB	**Old Mammoth Mi**	**78.39**	**44**		P	**P**	**13 24 05.1**	**+0.3**
SLBS	**Sierra La Lagu**	**78.44**	**60**		P	**P**	**13 24 06.0**	**+0.9**
SLBS					IAmb	IAmb	13 25 10.9		
	comp=Z,30nm,1.8s								
WAKR	**Walker**	**78.60**	**43**		P	**P**	**13 24 06.0**	**+0.2**
PNTR	**Pine Nut**	**78.82**	**43**		P	**P**	**13 24 07.2**	**+0.3**
PNTR					IAmb	IAmb	13 24 08.3		
	comp=Z,7.3nm,0.9s								
MYKOM	**Kota Tinggi**	**78.98**	**275**		P	**P**	**13 24 08.8**	**+0.7**
MYKOM					IAmb	IAmb	13 24 09.3		
	comp=Z,12nm,0.7s								
YERR	**Yerington**	**78.99**	**43**		P	**P**	**13 24 08.0**	**+0.2**
LHV	**Little Huntoon**	**79.07**	**44**		P	**P**	**13 24 08.4**	**+0.5**
LHV					IAmb	IAmb	13 24 09.8		
	comp=Z,6.7nm,1.0s								
RYN	**Ryan**	**79.26**	**44**		P	**P**	**13 24 09.1**	**-0.1**
PAHR	**Pah Rah Range**	**79.30**	**42**		P	**P**	**13 24 09.3**	**0.0**
NVAR	**Mina Array Bea**	**79.30**	**44**		P	**P**	**13 24 10.1**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=226,slow=8.6,SNR=21								
NVAR	**Mina Array Bea**	**79.30**	**44**		P	**P**	**13 24 09.5**	**0.0**
NV11	**Mina Array Sit**	**79.40**	**44**		P	**P**	**13 24 10.0**	**+0.1**
KVN	**Kaiserville**	**79.77**	**43**		P	**P**	**13 24 11.8**	**-0.1**
TPNV	**Topopah Spring**	**79.89**	**46**		P	**P**	**13 24 12.5**	**-0.1**
MOD	**Modoc Plateau**	**79.96**	**40**		P	**P**	**13 24 12.7**	**-0.1**
PINE	**Pine Mountain**	**80.67**	**38**		P	**P**	**13 24 16.4**	**-0.1**
PINE					IAmb	IAmb	13 24 18.1		
	comp=Z,4.8nm,0.9s								
WVOR	**Wild Horse Val**	**81.28**	**40**		P	**P**	**13 24 19.7**	**+0.1**
TUC	**Tucson**	**81.57**	**52**		P	**P**	**13 24 21.9**	**+0.7**
I07A	**Izee**	**81.68**	**39**		P	**P**	**13 24 21.8**	**+0.2**
J08A	**Circle Bar Ran**	**81.89**	**40**		P	**P**	**13 24 22.3**	**-0.4**
LCMT	**Little Creek M**	**82.00**	**47**		P	**P**	**13 24 23.9**	**+0.5**
X16A	**Lo Mia Camp, P**	**82.06**	**50**		P	**P**	**13 24 24.6**	**+0.8**
CCUT	**Cedar City**	**82.19**	**47**		P	**P**	**13 24 24.4**	**-0.1**
KNB	**Kanab**	**82.30**	**47**		P	**P**	**13 24 25.7**	**+0.7**
PSUT	**Pine Spring**	**82.33**	**46**		P	**P**	**13 24 25.1**	**0.0**
U15A	**North Rim**	**82.39**	**48**		P	**P**	**13 24 26.2**	**+0.6**
U15A					IAmb	IAmb	13 24 27.5		
	comp=Z,6.2nm,0.8s								
IPM	**Ipoh**	**82.51**	**277**		P	**P**	**13 24 27.2**	**+0.8**
IPM					IAmb	IAmb	13 24 28.1		
	comp=Z,22nm,0.7s								
ELK	**Elko**	**82.53**	**43**		P	**P**	**13 24 26.3**	**+0.2**
WUAZ	**Wupatki**	**82.62**	**49**		P	**P**	**13 24 26.7**	**+0.1**
RPSI	**Rantau Prapat**	**83.94**	**275**		P	**P**	**13 24 33.2**	**-0.2**
PSI	**Prapat**	**83.97**	**275**		P	**P**	**13 24 33.2**	**-0.6**
	comp=Z,4.5nm,0.4s,baz=179,slow=4.2,SNR=4.2								
ENH	**Enshi**	**84.31**	**304**		P	**P**	**13 24 35.6**	**+0.7**
ENH					IAmb	IAmb	13 24 36.8		
	comp=Z,14nm,1.1s								
HLID	**Hailey**	**84.50**	**41**		P	**P**	**13 24 35.8**	**0.0**
GSI	**Gunungsitoli**	**84.79**	**273**		P	**P**	**13 24 38.7**	**+1.0**
MNTX	**Cornudas Mount**	**85.45**	**55**		P	**P**	**13 24 41.0**	**+0.5**
ILAR	**Eielson Array**	**85.79**	**13**		P	**P**	**13 24 40.1**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=227,slow=5.3,SNR=8.7								
TX31	**Lajitas Ar. Si**	**85.87**	**58**		P	**P**	**13 24 43.6**	**+0.9**
TX31					IAmb	IAmb	13 24 45.1		
	comp=Z,18nm,0.9s								
TX32	**Lajitas Array**	**85.87**	**58**		P	**P**	**13 24 43.7**	**+1.1**
TX32					IAmb	IAmb	13 24 45.1		
	comp=Z,6.2nm,0.9s								
TXAR	**Lajitas Array**	**85.87**	**58**		P	**P**	**13 24 44.0**	**+1.4**
	comp=Z,3.5nm,0.7s,baz=220,slow=6.0,SNR=46								
TXAR	**Lajitas Array**	**85.87**	**58**		P	**P**	**13 24 43.8**	**+1.2**
XAN	**Xi'an**	**86.29**	**307**		P	**P**	**13 24 45.5**	**+1.1**
XAN					pmax	pmax			
	comp=Z,10.0nm,1.1s								
XAN	**Xi'an**	**86.29**	**307**		P	**P**	**13 24 45.5**	**+1.1**
XAN					IAmb	IAmb	13 24 46.4		
	comp=Z,8.0nm,0.9s								
IMW	**Indian Meadow**	**86.86**	**42**		P	**P**	**13 24 47.7**	**+0.5**
IMW					IAmb	IAmb	13 24 48.8		
	comp=Z,2.7nm,0.8s								
S22A	**4UR Ranch, Cre**	**86.88**	**49**		P	**P**	**13 24 47.8**	**+0.3**
S22A					IAmb	IAmb	13 27 16.9		
	comp=Z,13nm,1.9s								
YHL	**Hebgen Lake**	**87.16**	**41**		P	**P**	**13 24 49.1**	**+0.5**
PD31	**Pinedale Array**	**87.23**	**43**		P	**P**	**13 24 48.3**	**-0.6**
PD31					IAmb	IAmb	13 24 49.6		
	comp=Z,4.6nm,1.4s								
PDAR	**Pinedale Array**	**87.23**	**43**		P	**P**	**13 24 49.0**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=218,slow=4.2,SNR=13								
PDAR	**Pinedale Array**	**87.23**	**43**		P	**P**	**13 24 48.2**	**-0.6**
HHC	**Hu-ho-hao-te**	**87.28**	**314**	*e*P		**P**	**13 24 46.2**	**-2.8**
HHC					pmax	pmax			
	comp=Z,20nm,1.1s								
HHC					pmax	pmax			
	comp=Z,98nm,6.0s								
CMAR	**Chiang Mai Arr**	**88.95**	**290**		P	**P**	**13 24 58.5**	**+1.3**
	comp=Z,3.5nm,0.8s,baz=114,slow=2.6,SNR=16								
CMAR	**Chiang Mai Arr**	**88.95**	**290**		P	**P**	**13 24 58.0**	**+0.9**
CHTO	**Chiang Mai**	**89.06**	**290**		P	**P**	**13 24 58.7**	**+1.0**
CHTO					IAmb	IAmb	13 24 59.8		
	comp=Z,6.1nm,0.9s								
SNAA	**Sanae**	**90.68**	**179**		P	**P**	**13 25 04.8**	**+0.5**
SNAA	**Sanae**	**90.68**	**179**		P	**P**	**13 25 04.8**	**+0.5**
SNAA					IAmb	IAmb	13 25 06.2		
	comp=Z,12nm,1.5s								
VNA3	**Neumayer Olymp**	**90.81**	**176**		P	**P**	**13 25 06.0**	**+1.2**
LZH	**Lanzhou**	**90.92**	**308**	⇓P		**P**	**13 25 06.8**	**+0.7**
LZH					pP	pP	13 27 05.6	-1.3
LZH					sP	sP	13 27 58.0	-4.1
LZH					PP	**PP**	**13 28 56.2**	**+3.8**
LZH					pmax	pmax			
	comp=Z,20nm,1.4s								
LZH					pmax	pmax			
	comp=Z,120nm,6.3s								
VNA1	**Neumayer--Stat**	**91.48**	**177**		P	**P**	**13 25 09.4**	**+1.5**
GTA	**Gaotai**	**95.06**	**310**	*e*P		P	13 25 16.8	-8.1
GTA					pP	PcP	13 25 22.4	-2.6
GTA					pmax	pmax			
	comp=Z,4.0nm,1.0s								
MKAR	**Makanchi Array**	**109.15**	**314**		PKiKP	**PKiKP**	**13 30 27.5**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=0.0,slow=0.1,SNR=2.4								
BUR08	**Bucovina Ar. S**	**144.57**	**332**			**PKPab**	**13 31 35.5**	**+0.1**
BURAR	**Bucovina Array**	**144.59**	**332**			**PKPab**	**13 31 35.5**	**+0.1**
BRTR	**Keskin Array B**	**144.79**	**315**		PKP	PKPbc	13 31 36.0	+0.3
	comp=Z,2.0nm,0.6s,baz=150,slow=2.7,SNR=8.6								
BRTR	**Keskin Array B**	**144.79**	**315**			PKPbc	13 31 35.7	-0.1
VYHS	**Vyhne**	**146.38**	**339**	*e*PKP		**PKPab**	**13 31 42.7**	**+0.4**
GERES	**GERESS Array B**	**147.56**	**345**		PKPbc	**PKPbc**	**13 31 43.5**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=20,slow=4.3,SNR=10								
GERES	**GERESS Array B**	**147.56**	**345**			**PKPbc**	**13 31 42.9**	**-0.2**
CIMO	**Cimolais**	**150.23**	**345**			**PKPbc**	**13 31 49.0**	**-0.6**
FUORN	**Ofenpass-Fuorn**	**150.42**	**348**			**PKiKP**	**13 31 50.7**	**-0.1**

ISK ***12*** *13:13:45.8, 36˚.98N×27˚.41E, h5km, ML2.5/7*
DDA ***12*** *13:13:45.4, 36˚.99N×27˚.37E, h7km±1km, ML2.1*
ISC 12 13:13:46.4±0.9, 37˚.03N±0˚.04×27˚.50E±0˚.04, h5km±8km, n12, σ2s06/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.06**	**310**	*i*	P	**Pg**		**13 13 48.1**	**+0.2**
BDRM					IAML			13 13 49.0	
	comp=E,2μm,0.4s								
BDRM				*i*	S	**Sg**		**13 13 49.4**	**+0.5**
BODT	**Bodrum**	**0.16**	**283**		PG	**Pg**		**13 13 48.8**	**-0.7**
BODT					SG	**Sg**		**13 13 50.9**	**-0.7**
DAT	**Datca**	**0.30**	**168**		PG	**Pg**		**13 13 52.1**	**-0.3**
DAT					SG	**Sg**		**13 13 56.7**	**+0.3**
DAT	**Datca**	**0.30**	**168**	*i*	P	**Pg**		**13 13 52.1**	**-0.3**
DAT				*i*	S	**Sg**		**13 13 56.6**	**+0.3**
YER	**Yerkesik**	**0.64**	**80**		PG	**Pb**		**13 14 00.3**	**+0.3**
YER					SG	**Sg**		**13 14 10.3**	**+3.4**
TURN	**Turunc**	**0.65**	**113**		PG	Pg		13 13 59.6	-4.0
TURN					SG	**Sg**		**13 14 09.9**	**-5.3**
TURN	**Turunc**	**0.65**	**113**	*i*	P	**Pn**		**13 14 06.8**	**+1.1**
TURN				*i*	S	**Sg**		**13 14 10.4**	**-4.9**
TURN					IAML			13 14 12.0	
	comp=E,119nm,0.2s								
TURN					IAML			13 14 12.0	
	comp=N,102nm,0.4s								
GCAM	**G?zelcaml?**	**0.70**	**343**		PG	**Pb**		**13 14 00.7**	**-0.5**
GCAM					SG	**Sb**		**13 14 11.6**	**+0.5**
GCAM	**G?zelcaml?**	**0.70**	**343**	*i*	P	**Pg**		**13 13 59.5**	**-0.4**
GCAM				*i*	S	**Sb**		**13 14 10.0**	**-1.2**
GCAM					IAML			13 14 13.0	
	comp=E,63nm,0.5s								
GCAM					IAML			13 14 14.0	
	comp=N,49nm,0.2s								
DALY	**Dalyan (Mula)**	**0.95**	**102**		PG	**Pg**		**13 14 05.4**	**+0.8**
DALY	**Dalyan (Mula)**	**0.95**	**102**	*i*	P	**Pn**		**13 14 06.7**	**+0.3**
DALY				*i*	S	**Sn**		**13 14 21.9**	**+1.6**
DALY					IAML			13 14 23.0	
	comp=N,40nm,0.8s								
ARG	**Arkhangelos**	**0.95**	**148**		PG	**Pg**		**13 14 04.3**	**-0.4**

NIED ***12*** *13:14:53.5, 37˚.34N×141˚.95E, h31km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.75; Mθθ1.13; Mφφ0.62; Mrθ0.89; Mφθ0.87; Mrφ0.39; Fault plane solution: M₀2.02000×10¹⁴ NP1: φs240.00000°, δ59.00000°, λ-83.00000°. NP2:φs47.00000°, δ31.00000°, λ-101.00000°.*
JMA 12 13:14:53.4±0.2, 37˚.34N×141˚.95E, h31km±3km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.86**	**272**		P		Pn	13 15 09.3	-0.1
JFK					S		Sn	13 15 20.2	-0.7
JMST	**Minamisoumatoc**	**0.93**	**295**		P		Pn	13 15 10.3	0.0
JMST					S		Sn	13 15 22.1	-0.4
ONAJ	**Iwakimizuishiy**	**0.95**	**256**		P		Pn	13 15 10.5	-0.2
JIKH	**Ishinomakikobu**	**1.04**	**339**		P		Pn	13 15 11.8	-0.1
JIKH					S		Sn	13 15 24.9	-0.5
JMM	**Marumori**	**1.06**	**300**		P		Pn	13 15 12.4	+0.3
JIO	**Ouri**	**1.21**	**337**		P		Pn	13 15 14.4	+0.2
JFT	**Otama**	**1.30**	**278**		P		Pb	13 15 16.6	-0.6
JFT					S		Sb	13 15 32.8	-0.7
JOU	**Okura**	**1.44**	**316**		P		Pb	13 15 18.6	-1.1
JOU					S		Sb	13 15 37.0	-0.7
JMK	**Ichinoseki**	**1.71**	**341**		P		Pn	13 15 22.0	+1.0
JMK					*e*S		Sn	13 15 43.1	+1.3
JYK	**Kaneyama**	**2.01**	**322**		P		Pn	13 15 26.7	+1.5

IDC 12 14:47:22.4±1.1, 31˚.69N×104˚.40E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/48, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=90.9km s-min=20.7km az=57.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**16.20**	**5**		P		Pn	14 51 11.9	+0.5
	0.1nm,0.3s,baz=183,slow=10,SNR=4.2								
MKAR	**Makanchi Array**	**22.70**	**318**		P		P	14 52 25.0	-0.7
	0.6nm,0.8s,baz=118,slow=10,SNR=5.8								
KURBB	**Kurchatov Arra**	**26.92**	**322**		P		P	14 53 05.7	+0.5
	0.5nm,0.7s,baz=130,slow=8.6,SNR=4.0								
WRA	**Warramunga Arr**	**58.83**	**147**		P		P	14 57 22.3	-0.6
	0.6nm,0.5s,baz=340,slow=7.4,SNR=9.1								
ASAR	**Alice Springs**	**61.87**	**149**		P		P	14 57 44.0	+0.4
	0.4nm,0.4s,baz=331,slow=6.6,SNR=14								

IDC ***12*** *14:50:14.6±0.9, 43˚.23N×139˚.05E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.5/48, mbtmp3.5/8, ML2.6/2, Error ellipse: s-maj=25.9km s-min=23.6km az=177.0*
JMA ***12*** *14:50:16.5±0.2, 43˚.21N×139˚.02E, h36km±5km, M3.4*
ISC 12 14:50:16.0±1.8, 43˚.18N±0˚.05×139˚.11E±0˚.04, h11km±12km, n19, σ1s17/25, mb3.7/6, 1D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JSH	**Shimam**	**0.87**	**128**		P		**Pn**	**14 50 33.4**	**-0.7**
JSH					*e*S		**Sn**	**14 50 45.4**	**-1.3**
JHST	**Hiyamasetana**	**0.94**	**143**		P		**Pn**	**14 50 34.8**	**-0.3**
JHST					*e*S		**Sn**	**14 50 47.5**	**-0.9**
JSK	**Shakotan**	**1.01**	**80**	⇓	P		**Pg**	**14 50 35.3**	**-0.1**
JSK					*e*S		**Sn**	**14 50 48.3**	**-1.9**
JOSM	**Okushiri--Mats**	**1.13**	**166**		P		**Pb**	**14 50 36.6**	**-0.8**
JOSM					*e*S		**Sb**	**14 50 50.9**	**-1.1**
JYM2	**Yakumo 2**	**1.41**	**138**		P		**Pb**	**14 50 41.7**	**-0.5**
JNB	**Noboribetsu**	**1.58**	**116**		P		**Pb**	**14 50 44.4**	**-0.8**
JNB					*e*S		**Sb**	**14 51 04.7**	**-0.5**
JISS	**Ishikarishitsu**	**1.69**	**86**		P		**Pb**	**14 50 46.4**	**-0.6**
JOMM	**Oshimamatsumae**	**1.78**	**158**	*e*S			**Sn**	**14 51 08.0**	**-1.1**
JSR	**Shiriuchi**	**1.91**	**149**		P		**Pn**	**14 50 49.2**	**+0.8**
JKB	**Kayabe**	**1.92**	**132**		P		**Pn**	**14 50 49.2**	**+0.7**
JHR	**Hokuryu**	**1.98**	**73**		P		**Pn**	**14 50 50.2**	**+0.8**
USRK	**Ussuriysk Ar.**	**5.27**	**284**		Pn		**Pn**	**14 51 33.7**	**-0.9**
	baz=87,slow=14,SNR=7.1								
USRK					Sn		**Sn**	**14 52 32.8**	**-2.3**
	baz=91,slow=26,SNR=15								
KSRS	**Korea Array**	**10.28**	**240**		Pn		**Pn**	**14 52 45.5**	**+2.2**
	0.3nm,0.3s,baz=50,slow=14,SNR=4.2								
KURBB	**Kurchatov Arra**	**41.02**	**302**		P		**P**	**14 57 58.9**	**0.0**
	0.3nm,0.7s,baz=74,slow=8.3,SNR=1.2								
WRA	**Warramunga Arr**	**62.96**	**185**		P		**P**	**15 00 42.1**	**-0.3**
	0.3nm,0.5s,baz=6.1,slow=7.1,SNR=6.0								
ASAR	**Alice Springs**	**66.68**	**185**		P		**P**	**15 01 08.2**	**+1.5**
	0.3nm,0.9s,baz=6.9,slow=3.1,SNR=2.0								
AKASG	**Malin Array Be**	**68.41**	**320**		P		**P**	**15 01 17.2**	**-0.2**
	0.5nm,0.4s,baz=48,slow=5.9,SNR=5.6								
NVAR	**Mina Array Bea**	**72.73**	**53**		P		**P**	**15 01 45.8**	**+1.5**
	0.5nm,0.7s,baz=286,slow=6.0,SNR=3.8								
PDAR	**Pinedale Array**	**74.61**	**45**		P		**P**	**15 01 55.2**	**-0.1**
	0.7nm,0.8s,baz=309,slow=7.5,SNR=5.9								

TAP ***12*** *15:01:06.4, 23˚.13N×120˚.84E, h6km, ML3.7, C*
JMA ***12*** *15:01:07.3±0.1, 23˚.15N×120˚.89E, h4km±2km, M3.5*
ISC 12 15:01:07.1±0.9, 23˚.13N±0˚.01×120˚.85E±0˚.01, h5km±7km, n117, σ0s84/188, 17C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.09**	**289**	⇑	*i*P	**Pg**		**15 01 08.7**	**-0.5**
	baz=298								
STYT				*i*	S	**Sg**		**15 01 10.0**	**-0.5**
	baz=298								
ELDTW	**Lidau**	**0.16**	**70**	⇑	*i*P	**Pg**		**15 01 10.8**	**+0.4**
	baz=70								
ELDTW					S	**Sg**		**15 01 13.5**	**+0.9**
	baz=70								
SLGT	**Liugui**	**0.23**	**234**	⇑	*i*P	**Pg**		**15 01 11.7**	**0.0**
	baz=227								
SLGT					*e*S	**Sg**		**15 01 15.1**	**+0.2**
	baz=227								
WTP	**Ta-pu**	**0.24**	**297**	⇓	*i*P	**Pg**		**15 01 12.2**	**+0.2**
	baz=300								
WTP					S	**Sg**		**15 01 16.1**	**+0.9**
	baz=300								
SGST	**Jiashian**	**0.25**	**258**	⇑	*i*P	**Pg**		**15 01 11.2**	**-0.9**
	baz=258								
SGST					S	**Sg**		**15 01 14.9**	**-0.4**
	baz=258								
TPUB	**Ta-pu**	**0.26**	**309**	⇓	*i*P	**Pg**		**15 01 12.6**	**+0.3**
	baz=312								
TPUB					S	**Sg**		**15 01 16.5**	**+0.8**
	baz=312								
CHN1	**Nanshi**	**0.30**	**280**		P	**Pg**		**15 01 13.5**	**+0.5**
	baz=281								
CHN1					*e*S	**Sg**		**15 01 18.2**	**+1.2**
	baz=281								
SNST	**Tainan City**	**0.34**	**285**		*e*P	**Pg**		**15 01 14.4**	**+0.7**
	baz=286								
SNST					*e*S	**Sb**		**15 01 20.4**	**-0.9**
	baz=286								
LONT	**Longtian**	**0.34**	**131**	⇓	*i*P	**Pg**		**15 01 14.3**	**+0.6**
	baz=125								
LONT					S	**Sb**		**15 01 19.4**	**-2.0**
	baz=125								
TWK	**Hsinying**	**0.36**	**292**	⇓	*i*P	**Pg**		**15 01 14.7**	**+0.6**
	baz=293								
TWK					*e*S	**Sb**		**15 01 20.7**	**-1.3**
	baz=293								
YUS	**Yu-Shan**	**0.37**	**15**	*i*	P	**Pg**		**15 01 14.2**	**-0.2**
	baz=17								
TWG	**Pinlang**	**0.37**	**147**	⇓	*i*P	**Pg**		**15 01 14.9**	**+0.6**
	baz=144								
TWG					S	**Sg**		**15 01 20.2**	**+1.0**
	baz=144								
ALS	**Alishan**	**0.38**	**354**	⇑	*i*P	**Pg**		**15 01 14.6**	**+0.1**
	baz=356								
ALS					*e*S	**Sg**		**15 01 20.5**	**+0.9**
	baz=356								
TWGBT	**Beinan**	**0.38**	**146**		*e*P	**Pg**		**15 01 14.8**	**+0.4**
	baz=144								
TWGBT					*i* S	Sg		**15 01 20.3**	**+0.9**
	baz=144								
SCST	**Cishan**	**0.41**	**233**		P	**Pg**		**15 01 15.6**	**+0.5**
	baz=233								
FULB	**Fuli**	**0.41**	**81**	⇑	*i*P	**Pb**		**15 01 16.1**	**-0.8**
	baz=70								
FULB					S	**Sb**		**15 01 22.5**	**-1.0**
	baz=70								
SSD	**Sandimen**	**0.43**	**208**	⇑	*i*P	**Pg**		**15 01 15.2**	**-0.3**
	baz=207								
SSD					*e*S	**Sg**		**15 01 20.9**	**-0.4**
	baz=207								
CHN3	**Shinhua**	**0.45**	**263**		*e*P	**Pb**		**15 01 17.9**	**+0.4**
	baz=263								
CHN3					*e*S	**Sb**		**15 01 26.2**	**+1.6**
	baz=263								
TWF1	**Yuli**	**0.46**	**62**	⇑	*i*P	**Pg**		**15 01 16.3**	**+0.3**
	baz=63								
TWF1					S	**Sg**		**15 01 22.4**	**+0.2**
	baz=63								
TSMG	**Majia**	**0.47**	**204**	⇑	*i*P	**Pg**		**15 01 15.7**	**-0.5**
	baz=204								
TSMG					*e*S	**Sg**		**15 01 21.3**	**-0.9**
	baz=204								
TTN	**Taitung**	**0.47**	**144**		*e*P	**Pb**		**15 01 17.7**	**0.0**
	baz=142								
TTN					*e*S	**Sb**		**15 01 25.0**	**+0.1**
	baz=142								
CHKT	**Chengkung**	**0.47**	**94**		*e*P	**Pb**		**15 01 17.6**	**-0.4**
	baz=93								
CHKT					*e*S	**Sb**		**15 01 25.7**	**+0.5**
	baz=93								
YULB	**Yu-li**	**0.48**	**58**	⇑	*i*P	**Pg**		**15 01 16.5**	**0.0**
	baz=58								
YULB					*e*S	**Sg**		**15 01 22.0**	**-0.8**
	baz=58								
CHN5	**Tsauling**	**0.49**	**341**	⇑	*i*P	**Pg**		**15 01 16.9**	**+0.3**
	baz=342								
CHN5					*e*S	**Sb**		**15 01 25.0**	**-0.7**
	baz=342								
SGLT	**Jiouru**	**0.53**	**219**		*e*P	**Pb**		**

EGFH eS Sb 15 01 32.0 -1.2
baz=53
WNT Mingjian 0.76 348 eP Pb 15 01 22.8 0.0
baz=334
WNT eS Sb 15 01 34.4 +1.0
baz=334
WSF Szhu 0.77 311 eP Pb 15 01 22.4 -0.5
baz=312
WSF eS Sb 15 01 34.4 +0.8
baz=312
TAW Tawu 0.77 177 eP Pg 15 01 22.0 0.0
baz=167
SCZT Fangliau 0.79 196 eP Pg 15 01 21.8 -0.4
baz=188
ESL Shilin 0.86 38 eP Pb 15 01 23.8 -0.8
baz=29
ESL eS Sn 15 01 37.9 -1.0
baz=29
RLNB Erlin 0.88 329 eP Pb 15 01 24.6 -0.2
baz=330
RLNB eS Sb 15 01 37.7 +0.8
baz=330
WLCH Liuqiu 0.89 209 eP Pn 15 01 27.5 +1.2
baz=207
WTCT Ta-ch'eng 0.90 324 eP Pg 15 01 24.5 +0.2
baz=326
SLIU Shizi 0.91 183 eP Pg 15 01 24.8 +0.2
baz=173
CHGB Renai 0.97 18 eP Pg 15 01 24.9 -0.9
baz=19
CHGB eS Sb 15 01 40.3 +0.5
baz=19
WCHH Zhanghua 0.98 344 eP Pb 15 01 26.5 -0.1
baz=345
WCHH eS Sn 15 01 40.7 -1.0
baz=345
TCU Taichung 1.02 351 eP Pb 15 01 27.4 +0.1
baz=338
WHF Hehuan Shan 1.08 21 eP Pg 15 01 26.9 -0.9
baz=22
WHF eS Sb 15 01 43.2 +0.2
baz=22
HWA Hwalien 1.09 39 eP Pb 15 01 28.1 -0.3
baz=53
WDGT Dungji 1.10 277 eP Pg 15 01 27.6 -0.7
baz=276
WDGT eS Sg 15 01 42.2 -0.4
baz=276
HEN Hengchun 1.13 185 eP Pn 15 01 30.3 +0.8
baz=177
WHP Taichung City 1.14 4 eP Pb 15 01 29.1 -0.3
baz=14
WHP eS Sn 15 01 45.7 -0.2
baz=14
TDCB Techi 1.15 14 eP Pb 15 01 29.1 -0.5
baz=15
TDCB eS Sn 15 01 45.2 -0.9
baz=15
TWD Chiawan 1.16 36 eP Pg 15 01 29.1 -0.4
baz=38
TWD eS Sb 15 01 44.6 -0.4
baz=38
FUSS Fushou 1.17 18 eP Pg 15 01 28.7 -0.8
baz=33
TWK1 Hengchun 1.19 182 eP Pn 15 01 30.9 +0.6
baz=181
TWKBT Hengchun 1.19 182 eP Pn 15 01 31.9 +1.6
baz=181
TWQ1 Liyutan 1.21 357 eP Pn 15 01 30.5 -0.2
baz=360
TWQ1 eS Sn 15 01 49.5 +2.0
baz=360
ETLH Xiulin Townshi 1.22 28 eP Pg 15 01 29.7 -0.8
baz=42
ETLH eS Sn 15 01 48.4 +0.7
baz=42
WDJ Dajia District 1.22 351 eP Pn 15 01 31.3 +0.4
baz=338
WDJ eS Sn 15 01 49.8 +2.0
baz=338
PHUB P'eng-hu 1.23 288 eP Pg 15 01 29.3 -1.6
baz=287
PHUB eS Sg 15 01 45.7 -1.1
baz=287
NACB Ninganchiao 1.24 33 P Pg 15 01 30.3 -0.6
baz=35
NACB eS Sb 15 01 47.0 -0.3
baz=35
PNG Penghu 1.27 290 eP Pg 15 01 30.1 -1.4
baz=289
PNG eS Sg 15 01 47.1 -0.7
baz=289
NSY Sanyi 1.28 356 eP Pb 15 01 32.1 +0.4
baz=359
NSY eS Sn 15 01 51.1 +1.9
baz=359
VCHM Qimei 1.31 274 eP Pn 15 01 30.3 -1.8
baz=273
VCHM eS Sg 15 01 48.1 -1.1
baz=273
PTSB Yuanli 1.31 354 eP Pg 15 01 32.8 +0.5
baz=356
PTSB eS Sn 15 01 52.4 +2.4
baz=356
NNSB Datong 1.38 21 eP Pn 15 01 32.4 -0.7
baz=16
NNSB eS Sn 15 01 52.8 +1.0
baz=16
NNSH Datong 1.38 21 eP Pn 15 01 32.2 -0.9
baz=17
NNSH eS Sn 15 01 51.2 -0.6
baz=17
NNS Nan Shan 1.39 20 eP Pn 15 01 32.6 -0.6
baz=25
NMLH Miaoli 1.40 358 eP Pg 15 01 34.3 +0.4
NMLH eS Sn 15 01 53.3 +1.2
NSTT Nanjuang 1.50 5 eP Pg 15 01 35.7 -0.2
baz=350
ENA Nanau 1.52 32 eP Pn 15 01 34.7 -0.3
baz=51
ENAH Nanao 1.58 34 eP Pn 15 01 35.7 0.0
baz=36
NDT Datong Townshi 1.58 22 eP Pn 15 01 35.8 0.0
baz=34
YHNB Yeheng 1.60 17 eP Pb 15 01 36.5 -0.7
baz=31
NSK Sanguang 1.60 17 eP Pb 15 01 36.6 -0.6
baz=31
ENTT Nioudou 1.64 23 eP Pb 15 01 37.7 0.0
baz=26
TWC Suao 1.73 32 eP Pb 15 01 39.4 0.0
baz=35
NWLT Wulai 1.74 20 eP Pb 15 01 39.6 0.0
baz=33
TWE Neicheng 1.75 25 eP Pb 15 01 39.7 0.0
baz=28
NCUH Zhongli 1.85 9 eP Pg 15 01 42.7 0.0
baz=15
NHDH Xindian Distri 1.92 19 eP Pg 15 01 43.0 -1.0
baz=31
NTC Toucheng 1.93 27 eP Pb 15 01 42.8 0.0
baz=47
TWA Mucha 1.96 20 eP Pg 15 01 45.6 +0.9
baz=32
TIPB Shuangxi 2.04 26 eP Pb 15 01 43.6 -0.9
baz=45
YM04 YM04 2.11 17 eP Pg 15 01 46.3 -1.2
baz=29
NWF Wu-fen Shan 2.11 24 eP Pg 15 01 46.7 -0.9
baz=26
WFSB Wu-fen Shan 2.11 24 eP Pg 15 01 47.0 -0.6
baz=27
YM10 YM10 2.12 18 eP Pb 15 01 45.6 -0.4
baz=24
YM05 YM05 2.12 18 eP Pn 15 01 44.4 +1.0
baz=24
YM03 YM03 2.13 17 eP Pb 15 01 45.1 -1.2
baz=7.0
ANP Anpu 2.13 17 eP Pb 15 01 46.1 -0.2
baz=23
TWB1 Santiao Chiao 2.14 29 eP Pb 15 01 45.8 -0.5
baz=46
YM08 YM08 2.15 18 eP Pb 15 01 46.8 +0.2
baz=25
YOJ Yonaguni jima 2.38 56 P Pn 15 01 46.9 +0.2
YOJ eS Sn 15 02 17.1 +0.8
PTTC Pingtan 2.55 338 eP Pn 15 01 48.2 -0.9
baz=339
PCYT Pengchaiyu 2.72 24 eP Pn 15 01 53.4 +1.9
baz=44
HATJ Hateruma jima 2.86 71 eS Sn 15 02 27.1 -1.1
IRIF Iriomote-Funau 2.90 65 P Pn 15 01 55.0 +1.1
IRIF eS Sn 15 02 30.5 +1.4
ZPLA Ao Xicun 2.96 286 eP Pn 15 01 53.2 -1.5
baz=287
JKRS Kuro-shima 3.10 69 P Pn 15 01 58.3 +1.7
JKRS S Sn 15 02 34.6 +0.6
JJ Ishigaki jima 3.25 67 P Pn 15 01 59.5 +0.7
JISG Ishigakijimahi 3.48 65 P Pn 15 02 01.3 -0.6
JISG eS Sn 15 02 44.6 +1.1
LYJJ Jianjiangzhen 3.54 344 eP Pn 15 02 02.3 -0.4
baz=347

IDC **12** *15:05:43.8±3.1,34°.58N×22°.15E,h0km,mb4.0/5, mb1 3.8/8,mb1mx3.5/43,mbtmp3.8/8,ML3.5/3,MS2.7/1, Ms1 2.7/1,ms1mx1.9/50,Error ellipse: s-maj=60.1km s-min=24.7km az=13.0*
ATH **12** *15:05:45.2,34°.47N×22°.26E,h12km±3km,ML2.7/4,Error ellipse: s-maj=4.9km s-min=2.2km az=46.0*
NEIC **12** *15:05:47.0±1.2,34°.36N±0°.09×22°.12E±0°.09,h30km±9km, mb4.2/2,Error ellipse: s-maj=13.3km s-min=9.9km az=196.0*
THE **12** *15:05:48.9,34°.50N×22°.32E,h12km±10km,ML2.6/4,Error ellipse: s-maj=13.6km s-min=1.7km az=227.0*

ISC 12 15:05:47.7±2.2,34°.4N±0°.1×22°.17E±0°.08,h40km±19km, n47,σ0°95/53,mb3.8/6,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**1.52**	**55**	P	**Pn**	**15 06 12.6**	**+0.2**
GVD	**Gavdhos**	**1.65**	**73**	P	**Pn**	**15 06 14.9**	**+0.7**
GVD				S	**Sn**	**15 06 35.2**	**+1.0**
	182nm,0.4s						
GVD	**Gavdhos**	**1.65**	**73**	P	**Pn**	**15 06 14.3**	**+0.1**
GVDS	**Gavdos**	**1.66**	**73**	P	**Pn**	**15 06 13.9**	**-0.4**
GVDS				S	**Sn**	**15 06 34.2**	**-0.1**
	140nm,0.5s						
ANKY	**Antikythira Is**	**1.76**	**32**	P	**Pn**	**15 06 16.1**	**+0.4**
ANKY				S	**Sn**	**15 06 37.2**	**+0.4**
	162nm,0.9s						
ANKY	**Antikythira Is**	**1.76**	**32**	P	**Pn**	**15 06 16.2**	**+0.6**
ANKY				S	**Sn**	**15 06 38.0**	**+1.2**
ANKY				AML	AML	15 06 49.9	
	comp=N,282μm,1.1s						
ANKY				AML	AML	15 06 50.8	
	comp=E,355μm,0.8s						
RODP	**Rodopos**	**1.76**	**47**	P	**Pn**	**15 06 16.3**	**+0.5**
RODP				S	**Sn**	**15 06 36.9**	**-0.1**
IMMV	**Iera Moni Meta**	**1.84**	**54**	P	**Pn**	**15 06 17.0**	**+0.1**
IMMV				S	**Sn**	**15 06 38.4**	**-0.6**
	comp=E,182nm,0.7s						
IMMV	**Iera Moni Meta**	**1.84**	**54**	P	**Pn**	**15 06 17.1**	**+0.3**
IMMV				S	**Sn**	**15 06 40.8**	**+1.9**
IMMV				AML	AML	15 06 52.4	
	comp=E,328μm,0.6s						
IMMV				AML	AML	15 06 57.9	
	comp=N,298μm,0.7s						
VAM	**Vamos**	**1.96**	**58**	P	**Pn**	**15 06 18.8**	**+0.2**
VAM	**Vamos**	**1.96**	**58**	P	**Pn**	**15 06 18.7**	**+0.2**
VAM				AML	AML	15 07 00.1	
	comp=N,277μm,0.7s						
VAM				AML	AML	15 07 15.5	
	comp=E,285μm,1.2s						
KTHA	**Kythira Island**	**2.02**	**21**	P	**Pn**	**15 06 19.9**	**+0.7**
KTHA	**Kythira Island**	**2.02**	**21**	P	**Pn**	**15 06 20.2**	**+0.9**
IDI	**Anoyia**	**2.42**	**67**	Pn	**Pn**	**15 06 24.8**	**0.0**
	comp=E,2.4nm,0.3s,baz=253,slow=8.6,SNR=27						
IDI					**Sn**	**15 06 54.2**	**+0.9**
	comp=E,2.9nm,0.3s,baz=90,slow=14,SNR=5.3						
IDI	**Anoyia**	**2.42**	**67**	P	**Pn**	**15 06 25.2**	**+0.3**
IDI	**Anoyia**	**2.42**	**67**	P	**Pn**	**15 06 25.1**	**+0.3**
IDI	**Anoyia**	**2.42**	**67**		**Pn**	**15 06 25.1**	**+0.3**
VLI	**Veliai**	**2.42**	**15**	P	**Pn**	**15 06 26.1**	**+1.3**
VLI	**Veliai**	**2.42**	**15**	P	**Pn**	**15 06 26.1**	**+1.3**
VLI				AML	AML	15 07 30.3	
	comp=E,154μm,0.8s						
VLI				AML	AML	15 07 31.0	
	comp=N,103μm,1.0s						
PYL	**PYLOS**	**2.54**	**352**	P	**Pn**	**15 06 27.1**	**+0.7**
ITM	**Ithomi**	**2.81**	**356**	P	**Pn**	**15 06 31.9**	**+1.8**
ITM	**Ithomi**	**2.81**	**356**	P	**Pn**	**15 06 31.1**	**+1.1**
ITM	**Ithomi**	**2.81**	**356**	Pn	**Pn**	**15 06 31.2**	**+1.1**
AMT	**Artemida-Makis**	**3.17**	**353**	P	**Pn**	**15 06 36.2**	**+1.1**
DID	**Didima**	**3.24**	**15**	P	**Pn**	**15 06 36.3**	**+0.2**
DID	**Didima**	**3.24**	**15**	P	**Pn**	**15 06 36.4**	**+0.2**
SANT	**Santorini**	**3.35**	**53**	Pn	**Pn**	**15 06 37.2**	**-0.3**
DRO	**Drossia**	**3.59**	**354**	P	**Pn**	**15 06 41.8**	**+0.9**
DION	**Dionisos Attik**	**3.96**	**21**	P	**Pn**	**15 06 45.9**	**-0.1**
KARP	**Karpathos**	**4.27**	**73**	Pn	**Pn**	**15 06 51.6**	**+1.4**
AGG	**Agios Georgios**	**4.64**	**2**	Pn	**Pn**	**15 06 55.6**	**+0.2**
LIT	**Litokhoron**	**5.72**	**3**	Pn	**Pn**	**15 07 09.0**	**-1.2**
SCTE	**Santa Cesarea**	**6.41**	**334**	Pn	**Pn**	**15 07 19.5**	**0.0**
TIP	**Timpagrande**	**6.46**	**319**	Pn	**Pn**	**15 07 20.3**	**-0.1**
ELL	**Elmali**	**6.74**	**67**	Pn	**Pn**	**15 07 23.9**	**-0.3**
SGRT	**San Giovanni R**	**8.94**	**327**	Pn	**Pn**	**15 07 53.4**	**-0.9**
MMAI	**Mount Meron Ar**	**11.11**	**93**	Pn	**Pn**	**15 08 24.5**	**+0.3**
	comp=N,0.5nm,0.3s,baz=260,slow=14,SNR=2.1						
AKASG	**Malin Array Be**	**17.11**	**15**	Pn	**Pn**	**15 09 39.8**	**-3.9**
	comp=N,0.6nm,0.3s,baz=210,slow=11,SNR=1.6						
KVAR	**Kislovodsk Arr**	**18.53**	**53**	LR	LR	15 17 40.3	
	comp=N,25nm,21.9s,baz=257,slow=39						
FINES	**FINESS Array B**	**27.20**	**4**	P	**P**	**15 11 28.5**	**+1.2**
	comp=N,2.2nm,0.8s,baz=182,slow=11,SNR=3.6						
ARCES	**ARCESS Array B**	**35.26**	**2**	P	**P**	**15 12 38.0**	**-0.1**
	comp=N,0.9nm,0.6s,baz=187,slow=8.6,SNR=8.4						
MK31	**Makanchi Array**	**46.26**	**56**	P	**P**	**15 14 09.8**	**+0.7**
MK31				IAmb	IAmb	15 14 14.4	
	comp=Z,1.3nm,1.1s						
MKAR	**Makanchi Array**	**46.26**	**56**	P	**P**	**15 14 09.9**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=271,slow=7.6,SNR=25						
MKAR	**Makanchi Array**	**46.26**	**56**	P	**P**	**15 14 09.7**	**+0.6**
ZALV	**Zalesovo Beam**	**47.32**	**46**	P	**P**	**15 14 17.1**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=250,slow=12,SNR=1.9						
SCHQ	**Schefferville**	**62.17**	**319**	P	**P**	**15 16 05.4**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=73,slow=11,SNR=2.0						
SCHQ	**Schefferville**	**62.17**	**319**	IAmb	IAmb	15 16 09.0	
	comp=Z,4.5nm,1.0s						

IDC **12** *15:27:17.1±2.0,18°.89S×177°.81W,h555km±23km,mb3.1/7, mb1 3.4/9,mb1mx3.2/27,mbtmp4.1/9,Error ellipse: s-maj=54.0km s-min=14.0km az=150.0*
NEIC **12** *15:27:18.4±1.0,19°.1S±0°.2×177°.7W±0°.1,h578km±9km, mb4.6/15,Error ellipse: s-maj=24.2km s-min=15.9km az=174.0*

ISC 12 15:27:16.6±0.7,18°.9S±0°.1×177°.8W±0°.1,h550km,n30, σ0°70/28,mb4.3/15,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.15**	**286**	P	**P**	15 28 44.3	+4.5
NIUE	**Niue**	**7.42**	**92**	P	**P**	**15 29 09.4**	**+0.8**
AFI	**Afiamalu**	**7.61**	**50**	P	**P**	**15 29 10.8**	**+0.1**
	7.1nm,0.3s,baz=198,slow=3.3,SNR=11						
AFI	**Afiamalu**	**7.61**	**50**	P	**P**	**15 29 10.6**	**-0.2**
DZM	**Mont Dzumac**	**15.12**	**255**	P	**P**	**15 30 28.7**	**+1.2**
	0.7nm,0.3s,baz=83,slow=20,SNR=8.1						
DZM	**Mont Dzumac**	**15.12**	**255**	IAmb	IAmb	15 30 29.9	
	comp=Z,13nm,1.1s						
MLZ	**Mavora Lakes**	**28.85**	**201**	P	**P**	**15 32 30.7**	**-0.3**
WHZ	**Wether Hill Ro**	**29.37**	**201**	P	**P**	**15 32 35.0**	**-0.5**
ARMA	**Armidale**	**29.97**	**242**	P	**P**	**15 32 41.0**	**0.0**
ARMA				IAmb	IAmb	15 33 10.2	
	comp=Z,23nm,1.3s						
CTAO	**Charters Tower**	**33.89**	**262**	P	**P**	**15 33 14.6**	**+0.2**
PMG	**Port Moresby**	**35.24**	**281**	P	**P**	**15 33 27.1**	**+1.4**
PMG				IAmb	IAmb	15 33 59.7	
	comp=Z,26nm,0.9s						
COEN	**Coen**	**37.73**	**272**	P	**P**	**15 33 46.9**	**+0.7**
COEN				IAmb	IAmb	15 34 12.9	
	comp=Z,28nm,1.2s						
STKA	**Stephens Creek**	**38.69**	**242**	P	**P**	**15 33 53.6**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=95,slow=11,SNR=5.2						
BBOO	**Buckleboo**	**43.45**	**242**	P	**P**	**15 34 31.1**	**-0.5**
BBOO				IAmb	IAmb	15 35 47.8	
	comp=Z,51nm,1.6s						
WR0	**Warramunga Arr**	**44.87**	**260**	P	**P**	**15 34 42.3**	**-0.3**
WR0				IAmb	IAmb	15 35 47.9	
	comp=Z,30nm,1.9s						
WB0	**Warramunga Arr**	**45.03**	**261**	P	**P**	**15 34 43.0**	**-0.8**
WB0				IAmb	IAmb	15 34 60.0	
	comp=Z,26nm,1.8s						
WB2	**Warramunga Arr**	**45.04**	**260**	P	**P**	**15 34 43.3**	**-0.6**
WB2				IAmb	IAmb	15 35 36.3	
	comp=Z,16nm,1.4s						
WRAB	**Tennant Creek**	**45.05**	**260**	P	**P**	**15 34 42.7**	**-1.3**
WRAB				IAmb	IAmb	15 36 28.5	
	comp=Z,20nm,0.6s						
WRA	**Warramunga Arr**	**45.05**	**260**	P	**P**	**15 34 43.6**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=97,slow=7.6,SNR=21						
WRA	**Warramunga Arr**	**45.05**	**260**	P	**P**	**15 34 43.1**	**-1.0**
AS31	**Alice Springs**	**45.11**	**255**	P	**P**	**15 34 44.0**	**-0.4**
ASAR	**Alice Springs**	**45.11**	**255**	P	**P**	**15 34 44.0**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=88,slow=8.0,SNR=55						
ASAR	**Alice Springs**	**45.11**	**255**	P	**P**	**15 34 43.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**53.47**	**261**	P	**P**	**15 35 45.9**	**-0.2**
PETK	**Petropavlovsk-**	**74.82**	**345**	P	**P**	**15 38 00.7**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=123,slow=7.5,SNR=6.8						
NVAR	**Mina Array Bea**	**79.74**	**43**	P	**P**	**15 38 28.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=226,slow=9.6,SNR=6.0						
TXAR	**Lajitas Array**	**86.03**	**57**	P	**P**	**15 39 00.1**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=224,slow=6.7,SNR=8.4						
PDAR	**Pinedale Array**	**87.68**	**43**	P	**P**	**15 39 06.7**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=236,slow=1.6,SNR=4.5						
ARCES	**ARCESS Array B**	**127.43**	**350**	PKP	**PKPdf**	**15 45 17.8**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=349,slow=2.5,SNR=6.5						
GERES	**GERESS Array B**	**148.75**	**345**	PKPbc	**PKPbc**	**15 46 01.5**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=56,slow=2.4,SNR=6.8						

IDC **12** *15:54:36.6±0.7,17°.06S×172°.87W,h0km,mb4.1/14, mb1 4.3/14,mb1mx4.2/35,mbtmp4.1/14,MS3.4/2, Ms1 3.4/2,ms1mx3.0/37,Error ellipse: s-maj=27.4km s-min=16.4km az=130.0*
NEIC **12** *15:54:38.2±1.6,17°.1S±0°.1×172°.9W±0°.1,h14km±4km, mb4.7/31,Error ellipse: s-maj=21.5km s-min=16.8km az=124.0*

ISC 12 15:54:38.3±0.5,17°.1S±0°.1×172°.9W±0°.1,h10km,n85, σ0°97/73,mb4.5/23,MS3.4/4,7C-2D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.32**	**20**	Pn	Pn	15 55 24.1	-6.3
	11nm,0.3s,baz=213,slow=3.9,SNR=35						
AFI				Sn	Sn	15 55 58.7	-11
	21nm,0.3s,baz=23,slow=19,SNR=4.8						
AFI	**Afiamalu**	**3.32**	**20**		Pn	15 55 23.7	-6.8
NIUE	**Niue**	**3.49**	**126**		Pn	15 55 24.3	-8.4
MSVF	**Nonsavu**	**8.64**	**264**		Pn	15 56 52.4	+8.9
RAR	**Rarotonga**	**13.10**	**110**	LR	LR	16 01 54.4	
	comp=Z,140nm,19.3s,baz=281,slow=34						
DZM	**Mont Dzumac**	**20.06**	**252**	P	**P**	**15 59 12.1**	**+0.2**
	2.6nm,0.6s,baz=90,slow=11,SNR=22						
DZM	**Mont Dzumac**	**20.06**	**252**	*e*P	Pn	15 59 32.2	+18
	44nm,1.4s						
DZM				*e*LR	LR	16 04 41.2	
	comp=Z,330nm,27.2s						
PPT2	**Papeete2**	**22.30**	**95**	*e*LQ	LQ	16 03 28.2	
	256nm,26.2s						
PPT2				*e*LR	LR	16 04 19.2	
	comp=Z,212nm,28.5s						
PPT	**Papeete**	**22.30**	**95**	LR	LR	16 05 35.4	
	comp=Z,102nm,19.8s,baz=306,slow=30						
URZ	**Urewera**	**22.86**	**201**	P	**P**	**15 59 40.8**	**-1.0**
	11nm,0.6s,baz=65,slow=3.8,SNR=8.9						
URZ	**Urewera**	**22.86**	**201**	IAmb	IAmb	16 00 13.6	
	comp=Z,51nm,1.4s						
TBI	**Tubuai**	**22.88**	**110**	*e*LQ	LQ	16 03 48.3	
	comp=Z,416nm,26.2s						
TBI				*e*LR	LR	16 04 44.4	
	comp=Z,186nm,32.0s						
BKZ	**Black Stump Fm**	**23.88**	**201**	P	**P**	**15 59 52.2**	**+0.1**
BKZ				IAmb	IAmb	16 00 37.8	
	comp=Z,57nm,1.4s						
TUWZ	**Tuamarina**	**26.79**	**202**	P	**P**	**16 00 18.9**	**+0.5**
EIDS	**Eidsvold**	**34.47**	**250**	P	**P**	**16 01 25.9**	**-0.6**
ARMA	**Armidale**	**34.91**	**241**	P	**P**	**16 01 30.0**	**-0.4**
ARMA				IAmb	IAmb	16 02 22.1	
	comp=Z,32nm,1.5s						
RABL	**Rabaul**	**36.53**	**286**	P	**P**	**16 01 43.4**	**-1.0**
STKA	**Stephens Creek**	**43.62**	**242**	P	**P**	**16 02 42.4**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=85,slow=8.7,SNR=3.5						
BBOO	**Buckleboo**	**48.39**	**241**	P	**P**	**16 03 19.5**	**-1.2**
WR0	**Warramunga Arr**	**49.73**	**258**	P	**P**	**16 03 29.5**	**-1.7**
WR0				IAmb	IAmb	16 04 25.0	
	comp=Z,25nm,1.7s						
WB0	**Warramunga Arr**	**49.89**	**258**	P	**P**	**16 03 31.0**	**-1.4**
WB0				IAmb	IAmb	16 05 13.0	
	comp=Z,9.9nm,1.2s						
WB2	**Warramunga Arr**	**49.91**	**258**	P	**P**	**16 03 31.3**	**-1.2**
WRA	**Warramunga Arr**	**49.92**	**258**	P	**P**	**16 03 31.3**	**-1.4**
	comp=Z,3.1nm,0.8s,baz=96,slow=6.9,SNR=26						
WRA	**Warramunga Arr**	**49.92**	**258**	P	**P**	**16 03 31.4**	**-1.2**
AS31	**Alice Springs**	**50.04**	**253**	P	**P**	**16 03 32.5**	**-1.0**
ASAR	**Alice Springs**	**50.05**	**253**	P	**P**	**16 03 32.6**	**-0.9**
	comp=Z,5.0nm,0.5s,baz=89,slow=7.9,SNR=90						
ASAR	**Alice Springs**	**50.05**	**253**	P	**P**	**16 03 32.2**	**-1.3**
FORT	**Forrest**	**55.09**	**244**	P	**P**	**16 04 10.6**	**-0.2**
KNRA	**Kununurra**	**55.78**	**262**	P	**P**	**16 04 16.0**	**0.0**
VNDA	**Vanda**	**61.78**	**186**	P	**P**	**16 04 58.0**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=8.8,slow=6.7,SNR=10						
VNDA	**Vanda**	**61.78**	**186**	P	**P**	**16 04 57.8**	**+1.1**
VNDA				IAmb	IAmb	16 05 28.1	
	comp=Z,8.1nm,1.6s						
JCJ	**Chichijima**	**61.83**	**314**	P	**P**	**16 04 57.0**	**-0.8**
PSA00	**Pilbara Seismi**	**63.17**	**254**	P	**P**	**16 05 07.4**	**+0.4**
MMRI	**Maumere**	**63.53**	**269**	P	**P**	**16 05 10.1**	**+0.6**
QSPA	**South Pole Qui**	**72.99**	**180**	P	**P**	**16 06 08.0**	**-0.1**
QSPA				IAmb	IAmb	16 06 17.3	
	comp=Z,8.3nm,1.1s						
KMRM	**Mail Ridge**	**73.09**	**37**	P	**P**	**16 06 08.4**	**-0.6**
KMRM				IAmb	IAmb	16 07 04.0	
	comp=Z,17nm,1.3s						
PEA0B	**Petropavlovsk-**	**74.34**	**342**	P	**P**	**16 06 16.7**	**+0.9**
PETK	**Petropavlovsk-**	**74.34**	**342**	P	**P**	**16 06 16.7**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=110,slow=8.5,SNR=8.4						
NVAR	**Mina Array Bea**	**75.26**	**41**	P	**P**	**16 06 21.0**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=228,slow=9.4,SNR=5.4						
NVAR	**Mina Array Bea**	**75.26**	**41**	P	**P**	**16 06 20.6**	**-1.3**
NV11	**Mina Array Sit**	**75.36**	**42**	P	**P**	**16 06 21.4**	**-0.9**
NV11				IAmb	IAmb	16 06 22.2	
	comp=Z,7.3nm,1.4s						
KVN	**Kaiserville**	**75.76**	**41**	P	**P**	**16 06 23.6**	**-1.0**
KSRS	**Korea Array**	**77.65**	**316**	P	**P**	**16 06 36.1**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=120,slow=7.4,SNR=4.8						
HLID	**Hailey**	**80.62**	**39**	P	**P**	**16 06 51.0**	**-0.5**
HLID				IAmb	IAmb	16 06 54.7	
	comp=Z,7.9nm,1.6s						
MNTX	**Cornudas Mount**	**80.86**	**53**	P	**P**	**16 06 52.3**	**-0.5**
MNTX				IAmb	IAmb	16 06 53.4	
	comp=Z,7.0nm,1.5s						
TX31	**Lajitas Ar. Si**	**81.16**	**56**	P	**P**	**16 06 53.3**	**-1.3**
TX32	**Lajitas Array**	**81.16**	**56**	P	**P**	**16 06 53.3**	**-1.3**
TX32				IAmb	IAmb	16 06 57.9	
	comp=Z,14nm,1.8s						
TXAR	**Lajitas Array**	**81.16**	**56**	P	**P**	**16 06 53.3**	**-1.3**
	comp=Z,1.8nm,1.1s,baz=224,slow=3.5,SNR=6.9						
TXAR	**Lajitas Array**	**81.16**	**56**	P	**P**	**16 06 53.1**	**-1.5**
PDAR	**Pinedale Array**	**83.20**	**42**	P	**P**	**16 07 03.9**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=191,slow=1.5,SNR=7.5						
PDAR	**Pinedale Array**	**83.20**	**42**	P	**P**	**16 07 03.6**	**-1.5**
YHL	**Hebgen Lake**	**83.27**	**39**	P	**P**	**16 07 05.3**	**-0.2**
ILAR	**Eielson Array**	**83.98**	**11**	P	**P**	**16 07 07.5**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=242,slow=6.5,SNR=4.1						
ILAR	**Eielson Array**	**83.98**	**11**	P	**P**	**16 07 08.1**	**-0.3**
MAW	**Mawson**	**86.37**	**199**	P	**P**	**16 07 20.8**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=135,slow=19,SNR=2.5						
MAW	**Mawson**	**86.37**	**199**	IAmb	IAmb	16 09 00.6	
	comp=Z,6.5nm,1.9s						
VNA3	**Neumayer Olymp**	**91.17**	**175**	P	**P**	**16 07 43.1**	**-0.1**
SNAA	**Sanae**	**91.23**	**177**	P	**P**	**16 07 43.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**93.56**	**288**	P	**P**	**16 07 56.8**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=90,slow=2.9,SNR=4.7						
KMBO	**Kilima Mbogo**	**145.19**	**242**	PKPbc	**PKPdf**	**16 14 18.2**	**+0.7**
	comp=Z,5.1nm,0.8s,baz=61,slow=2.3,SNR=12						
KMBO	**Kilima Mbogo**	**145.19**	**242**		**PKPbc**

BRTR	Keskin Array B	147.72	320		PKPbc	PKPbc	16 14 23.4	-0.3
GERES	GERESS Array B	147.84	352	PKPbc		PKPbc	16 14 24.2	+0.5
	comp=Z,0.7nm,0.7s,baz=64,slow=3.1,SNR=5.6							
GERES	GERESS Array B	147.84	352		PKPbc	PKPbc	16 14 23.4	-0.3
VOIR		147.96	336	⇑P	PKPbc	PKPbc	16 14 24.9	+0.8
ARR	Arges	148.18	336	⇑P	PKiKP	PKiKP	16 14 27.0	+0.6
CONA	Conrad Observa	148.38	349	*e*PKPdf	pPKPdf	PKPbc	16 14 25.1	+0.9
	comp=Z,4.0nm,1.2s							
SIRR	Siria	148.45	340	⇓P	PKPbc	PKPbc	16 14 26.5	+1.2
HERR	Herculane	149.41	338	⇑P	PKPbc	PKPbc	16 14 28.0	+0.2
KBA	Koelnbreinsper	149.62	352	*e*PKiKP	PKPbc	PKPbc	16 14 28.5	+0.1
	comp=Z,0.9nm,0.5s							
WTTA	Wattenberg	149.65	354	*e*PKiKP	PKPbc	PKPbc	16 14 28.8	+0.3
	comp=Z,1.8nm,0.5s							
SOKA	Soboth	149.74	349	*e*PKiKP	PKPbc	PKPbc	16 14 28.2	-0.4
	comp=Z,2.3nm,0.7s							
MDVR	Moldovita	149.74	339	⇑P	PKPbc	PKPbc	16 14 28.9	+0.2
ABTA	Abfaltersbach	150.05	352	*e*PKiKP	PKPbc	PKPbc	16 14 29.4	0.0
	comp=Z,7.2nm,1.1s							
FUORN	Ofenpass-Fuorn	150.41	356		PKPbc	PKPbc	16 14 29.4	-1.1
CIMO	Cimolais	150.49	352		PKPbc	PKPbc	16 14 29.6	-0.8
STAL	STALIGIAL	150.51	352		PKPdf	PKPbc	16 14 28.5	+3.4
CTI	Castel Tesino	150.84	353		PKPbc	PKPbc	16 14 30.5	-0.8
DIVS	Divibare	150.92	341		PKPbc	PKPbc	16 14 31.0	-0.5
VTS	Vitosha	151.03	335	⇑P	PKPbc	PKPbc	16 14 32.1	+0.2

IDC 12 15:54:55.6±8.0,3°42S×103°49E,h0km,mb3.3/3, mb1 3.6/3,mb1mx3.3/37,mbtmp3.3/3,Error ellipse: s-maj=318.7km s-min=29.5km az=59.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	22.20	349	P	P	15 59 53.8	0.0
	0.3nm,0.3s,baz=182,slow=10,SNR=4.3						
WRA	Warramunga Arr	34.27	121	P	P	16 01 43.2	-0.6
	0.6nm,0.7s,baz=303,slow=9.1,SNR=3.1						
ASAR	Alice Springs	35.61	127	P	P	16 01 55.5	+0.2
	0.2nm,0.5s,baz=295,slow=7.9,SNR=10						

*DDA **12** 15:59:10.5,37.02N×27.45E,h7km±1km,ML2.2*
*ISK **12** 15:59:10.1,37.02N×27.43E,h10km,ML2.5/8*
ISC 12 15:59:10.4±1.0,37.02N±0.03×27.57E±0.03,h6km±13km, n13,σ1§98/19,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.11	294	*i* P	Pg	15 59 12.3	-0.4
BODT	Bodrum	0.21	281	PG	Pg	15 59 13.1	-1.4
BODT				SG	Sg	15 59 15.2	-2.1
DAT	Datca	0.29	178	PG	Pg	15 59 16.5	+0.4
DAT				SG	Sg	15 59 21.7	+1.8
DAT	Datca	0.29	178	*i* P	Pg	15 59 16.5	+0.4
DAT				*i* S	Sg	15 59 21.8	+1.8
YEK	Yerkesik	0.58	79	PG	Pg	15 59 23.7	+2.1
TURN	Turunc	0.59	114	PG	Pg	15 59 23.7	-2.8
TURN				SG	Sg	15 59 34.2	-3.2
TURN	Turunc	0.59	114	*i* P	Pg	15 59 23.9	-2.7
TURN				*i* S	Sg	15 59 35.4	-2.1
TURN				IAML		15 59 36.0	
	comp=E,107nm,0.3s						
TURN				IAML		15 59 36.0	
	comp=N,108nm,0.4s						
AYDN	Tasoluk	0.69	21	*i* P	Pg	15 59 24.6	+1.1
AYDN				*i* S	Sg	15 59 34.7	+2.2
AYDN				IAML		15 59 35.0	
	comp=E,84nm,0.4s						
GCAM	G?zelcaml?	0.73	339	PG	Pg	15 59 24.3	-0.1
GCAM	G?zelcaml?	0.73	339	*i* P	Pg	15 59 24.2	-0.2
GCAM				IAML		15 59 38.0	
	comp=E,103nm,0.3s						
GCAM				IAML		15 59 42.0	
	comp=N,93nm,0.4s						
DALY	Dalyan (Mula)	0.89	103	PG	Pb	15 59 29.9	+1.7
ARG	Arkhangelos	0.92	151	PG	Pb	15 59 29.8	+1.1
URLA	Izmir	1.54	330	PN	Pn	15 59 37.6	-0.8

*IDC **12** 16:16:00.8±0.6,17.01S×172.94W,h0km,mb4.5/19, mb1 4.6/19,mb1mx4.5/36,mbtmp4.5/19,MS4.6/3, Ms1 4.6/3,ms1mx4.4/8,Error ellipse: s-maj=20.4km s-min=14.2km az=127.0*
*NEIC **12** 16:16:02.2±1.3,16.96S±0.10×172.86W±0.10,h10km, mb5.0/85,Error ellipse: s-maj=18.3km s-min=13.6km az=137.0*
*BJI **12** 16:16:02.2±0.0,17.10S×173.00W,h10km,mB5.5/25, mb5.0/30,Ms5.0/20,Ms7 4.7/19*
*GCMT **12** 16:16:09.2±0.2,17.18S±0.01×172.38W±0.01,h18km, MW5.3/133,Moment Tensor Solution. s63,c84; s133,c224; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.80±.03; Mθθ 0.10±.02; Mϕϕ -0.90±.02; Mrθ -0.32±.04; Mrϕ 0.17±.01; Mθϕ 0.44±.04; Best double couple: Mo1.03100×10^17 NP1:Φs186.00000°,δ32.00000°, λ117.00000°. NP2:Φs336.00000°,δ61.00000°,λ74.00000°. Principal axes: T 0.9950, Plg69.0000°, Azm213.0000°; N 0.0710, Plg14.0000°, Azm343.0000°; P -1.0660, Plg15.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **12** 16:16:12.9±0.0,15.73S×170.81W,h33km*
ISC 12 16:16:03.0±0.3,16.96S±0.06×172.71W±0.06,h17km, n321,σ1§53/317,mb4.9/59,MS4.9/27,15C-4D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	3.16	17	Pn	Pn	16 16 48.0	-4.1
	30nm,0.3s,baz=191,slow=4.3,SNR=29						
AFI				Sn	Sn	16 17 24.3	-5.2
	134nm,0.3s,baz=39,slow=23,SNR=8.7						
AFI	Afiamalu	3.16	17	Pn	Pn	16 16 47.9	-4.2
NIUE	Niue	3.39	129	P	Pn	16 16 48.6	-6.5
	baz=3.0,SNR=19						
NIUE				S	Sn	16 17 21.4	-14
	baz=3.0						
NIUE	Niue	3.39	129		Pn	16 16 48.3	-6.8
MSVF	Nonsavu	8.85	264		Pn	16 18 15.9	+5.6
FUNA	Funafuti	11.51	316	Pn	Pn	16 18 44.7	-1.9
RAR	Rarotonga	12.94	111	Pn	Pn	16 18 59.5	-6.7
	3.7nm,0.3s,baz=246,slow=9.9,SNR=3.7						
RAO	Raoul Island	13.14	200	LR	LR	16 23 54.3	
	comp=Z,2μm,19.1s,baz=25,slow=36						
DZM	Mont Dzumac	20.29	252	P	P	16 20 36.4	-1.7
	6.4nm,1.0s,baz=80,slow=16,SNR=2.7						
DZM	Mont Dzumac	20.29	252	*e*P	P	16 20 38.8	+0.7
	68nm,1.4s						
DZM				*e*LQ	LQ	16 24 35.8	
	4μm,21.5s						
DZM				*e*LR	LR	16 25 22.3	
	comp=Z,6μm,25.9s						
DZM	Mont Dzumac	20.29	252	Pn	Pn	16 20 40.3	+0.1
OUZ	Omahuta	21.91	211	P	P	16 20 53.8	-1.6
OUZ	Omahuta	21.91	211	P	P	16 20 55.6	+0.2
OUZ				IAmb	IAmb	16 21 05.9	
	comp=Z,79nm,1.4s						
MXZ	Matakaoa Point	22.00	199	P	P	16 20 57.9	+1.6
PPT2	Papeete2	22.10	95	*e*P	P	16 20 57.7	0.0
	comp=Z,93nm,1.5s						
PPT2				*e*S	S	16 24 56.4	-4.6
	comp=Z,3μm,22.2s						
PPT2				*e*LR	LR	16 26 05.9	
	comp=Z,3μm,26.5s						
PPT2	Papeete2	22.10	95	*e*T	T	16 43 38.1	
	comp=Z,4.7nm,0.4s						
PPT	Papeete	22.10	95	LR	LR	16 28 36.5	
	comp=Z,2μm,18.3s,baz=272,slow=34						
WMGZ	Waiomatatini S	22.20	199	P	P	16 21 01.0	+2.6
KUZ	Kuaotunu	22.21	205	P	P	16 20 59.4	+0.8
TIAR	Tiarei	22.32	95	*e*P	P	16 21 00.0	0.0
	comp=Z,10nm,0.9s						
HAZ	Te Kaha	22.34	200	P	P	16 20 58.4	-1.7
WIAZ	Waiheke Island	22.49	206	P	P	16 21 01.9	+0.2
RUGZ	Raukumara Rang	22.57	200	P	P	16 21 04.1	+1.5
TWGZ	Tauwhareparae	22.66	199	P	P	16 21 07.3	+3.8
ETAZ	East Tamaki Re	22.72	206	P	P	16 21 03.0	-1.0
TBI	Tubuai	22.72	110	*e*S	S	16 25 07.8	-4.4
	comp=Z,6μm,26.4s						
TBI				*e*LR	LR	16 26 27.6	
	comp=Z,3μm,27.2s						
TBI	Tubuai	22.72	110	*e*T	T	16 44 24.9	
	comp=Z,4.3nm,0.3s						
OPRZ	Ohinepanea	22.85	202	P	P	16 21 07.7	+2.3
WTAZ	Waiatarua	22.85	207	P	P	16 21 05.6	+0.1
CNGZ	Carnagh Statio	22.88	199	P	P	16 21 08.6	+2.9
AWAZ	Awhitu Peninsu	22.93	207	P	P	16 21 07.5	+1.3
TKGZ	Te Karaka	22.95	199	P	P	16 21 10.1	+3.7
MWZ	Matawai	22.95	200	P	P	16 21 05.1	-1.5
URZ	Urewera	23.02	201	P	P	16 21 04.8	-2.4
	comp=Z,21nm,0.5s,baz=339,slow=5.6,SNR=22						
URZ				LR	LR	16 29 19.4	
	comp=Z,2μm,19.8s,baz=8.0,slow=35						
URZ	Urewera	23.02	201	P	P	16 21 04.9	-2.4
URZ				IAmb	IAmb	16 21 13.1	
	comp=Z,56nm,0.8s						
URZ	Urewera	23.02	201	P	P	16 21 05.2	-2.0
KARZ	Kaharoa	23.12	203	P	P	16 21 10.4	+2.2
RAGZ	Rawiri	23.14	200	P	P	16 21 09.0	+0.5
TOZ	Tahuroa Road	23.15	204	P	P	16 21 09.3	+0.8
RIGZ	Rimuhau	23.22	199	P	P	16 21 12.7	+3.5
SNGZ	Shannon Statio	23.42	200	P	P	16 21 11.7	+0.5
RAHZ	Arahi	23.62	200	P	P	16 21 14.7	+1.4
MTHZ	Maungataniwha	23.65	201	P	P	16 21 15.3	+1.8
TLZ	Tolley Road	23.66	204	P	P	16 21 13.5	0.0
WHWZ	Waihua	23.72	200	P	P	16 21 19.3	+5.1
PMOR	Pomariorio Ree	23.94	89	*e*P	P	16 21 15.4	-1.0
	comp=Z,166nm,1.4s						
PMOR	Pomariorio Ree	23.94	89	*e*T	T	16 45 54.3	
	comp=Z,2.8nm,0.4s						
BKZ	Black Stump Fm	24.05	201	P	P	16 21 17.9	+0.6
BKZ	Black Stump Fm	24.05	201	P	P	16 21 16.6	-0.8
BKZ				IAmb	IAmb	16 21 54.8	
	comp=Z,35nm,1.1s						
HIZ	Hauiti	24.08	204	P	P	16 21 20.0	+2.5
HIZ	Hauiti	24.08	204	P	P	16 21 19.0	+1.5
OTVZ	Oturere	24.34	202	P	P	16 21 17.7	-2.5
BHHZ	Black Hill Sta	24.49	201	P	P	16 21 20.3	-1.1
KAHZ	Kahuranaki	24.49	200	P	P	16 21 22.8	+1.4
PXZ	Pawanui	24.71	199	P	P	16 21 25.6	+2.3
BFZ	Birch Farm	25.50	200	P	P	16 21 30.8	+0.3
BFZ	Birch Farm	25.50	200	P	P	16 21 30.8	+0.3
MRZ	Mangatainoka R	25.70	201	P	P	16 21 32.9	+0.7
TUWZ	Tuamarina	26.96	203	P	P	16 21 46.9	+3.3
TUWZ	Tuamarina	26.96	203	P	P	16 21 44.2	+0.6
NNZ	Nelson	26.98	204	P	P	16 21 46.0	+2.1
QRZ	Quartz Range	26.99	205	P	P	16 21 47.3	+3.4
QRZ	Quartz Range	26.99	205	P	P	16 21 45.6	+1.7
CMWZ	Cape Campbell	27.14	202	P	P	16 21 46.1	+0.9
BSWZ	Blackbirch Sta	27.23	202	P	P	16 21 46.8	+0.7
THZ	Tophouse	27.63	204	P	P	16 21 48.8	-1.0
KHZ	Kahutara	27.96	202	P	P	16 21 59.7	+7.1
GVZ	Greta Valley S	28.63	202	P	P	16 22 09.2	+11
LTZ	Lake Taylor	28.75	203	P	P	16 22 05.6	+5.9
LTZ	Lake Taylor	28.75	203	P	P	16 22 00.6	+0.9
LTZ				IAmb	IAmb	16 22 11.7	
	comp=Z,35nm,0.9s						
OXZ	Oxford	29.30	203	P	P	16 22 05.2	+0.6
RPZ	Rata Peaks	30.01	204	P	P	16 22 11.8	+0.9
	comp=Z,25nm,0.8s,baz=238,slow=22,SNR=3.5						
RPZ	Rata Peaks	30.01	204	P	P	16 22 10.3	-0.6
FOZ	Fox Glacier	30.36	206	P	P	16 22 13.1	-0.7
EAZ	Earnscleugh	31.96	204	P	P	16 22 51.7	+24
TAOE	Nuku Hiva Isla	32.71	80	*e*LR	LR	16 31 08.4	
	comp=Z,2μm,26.8s						
TAOE	Nuku Hiva Isla	32.71	80	*e*T	T	16 56 52.2	
	comp=Z,19nm,0.2s						
PYZ	Puysegur Point	33.80	206	P	P	16 22 45.0	+0.9
ARMA	Armidale	35.14	241	P	P	16 22 54.3	-1.8
ARMA				IAmb	IAmb	16 23 26.8	
	comp=Z,27nm,1.5s						
KRVT	Keravat (AS076	36.78	286	P	P	16 23 08.3	-1.8
	comp=Z,49nm,0.8s,baz=252,slow=4.5,SNR=5.8						
RMQ	Roma	36.91	248	P	P	16 23 09.1	-2.0
	baz=37						
PATS	Pohnpei	37.14	307	P	P	16 23 13.2	+0.1
CNB	Canberra Magne	38.35	234	P	P	16 23 22.5	-0.8
	baz=39						
CAN	Canberra	38.63	234	P	P	16 23 25.8	+0.2
CAN				IAmb	IAmb	16 24 09.1	
	comp=Z,38nm,1.5s						
CTA	Charters Tower	38.96	259	P	P	16 23 26.2	-2.3
	comp=Z,3.6nm,0.5s,baz=105,slow=5.3,SNR=7.3						
CTAO	Charters Tower	38.96	259	P	P	16 23 25.5	-3.1
CTAO				IAmb	IAmb	16 23 30.9	
	comp=Z,56nm,1.8s						
AIN	Ainahou	39.89	26	P	P	16 23 37.6	+1.2
CMSA	Cobar Meteorol	40.36	241	P	P	16 23 39.7	-0.3
	baz=41						
H11N1	WAKE ISLAND Hy	41.59	330	T	T	17 08 37.1	
	SNR=3.5						
TOO	Toolangi	42.02	232	P	P	16 23 53.2	-0.4
	baz=42						
TOO	Toolangi	42.02	232	P	P	16 23 53.3	-0.4
TOO				IAmb	IAmb	16 24 03.0	
	comp=Z,24nm,1.2s						
COEN	Coen	42.56	268	P	P	16 23 57.3	-1.0
COEN				IAmb	IAmb	16 24 12.7	
	comp=Z,54nm,1.6s						
STKA	Stephens Creek	43.85	241	P	P	16 24 07.8	-0.8
	comp=Z,2.2nm,0.4s,baz=68,slow=11,SNR=11						
STKA	Stephens Creek	43.85	241	P	P	16 24 07.5	-1.1
	baz=44,SNR=8.3						
STKA	Stephens Creek	43.85	241	P	P	16 24 07.1	-1.5
HTT	Hallett	46.31	240	P	P	16 24 26.8	-1.3
	baz=47,SNR=3.4						
BBOO	Buckleboo	48.62	241	P	P	16 24 44.6	-1.4
	baz=49,SNR=11						
BBOO	Buckleboo	48.62	241	P	P	16 24 44.2	-1.9
WRA	Warramunga Arr	50.15	258	P	P	16 24 55.5	-2.5
	comp=Z,4.2nm,0.5s,baz=97,slow=6.8,SNR=76						
AS31	Alice Springs	50.27	253	P	P	16 24 56.4	-2.5
ASAR	Alice Springs	50.27	253	P	P	16 24 56.2	-2.6
	comp=Z,12nm,0.7s,baz=91,slow=7.4,SNR=141						
ASAR				S	S	16 32 09.1	-1.9
	comp=Z,1.0nm,1.1s,baz=60,slow=20,SNR=4.3						
ASAR	Alice Springs	50.27	253	P	P	16 24 55.9	-3.0
KDU	Kakadu	53.02	267	P	P	16 25 18.4	-1.1
	baz=53,SNR=3.3						
MTN	Manton Dam	54.27	266	P	P	16 25 27.2	-1.4
WRKA	Warakurna	55.30	251	P	P	16 25 34.8	-1.3
	baz=56,SNR=14						
FORT	Forrest	55.32	244	P	P	16 25 34.8	-1.2
KNRA	Kununurra	56.00	262	P	P	16 25 39.8	-1.3
	baz=56,SNR=4.6						
KNRA	Kununurra	56.00	262	P	P	16 25 39.7	-1.4
FITZ	Fitzroy Crossi	58.55	259	P	P	16 25 58.5	-0.6
	baz=59,SNR=5.3						
FITZ	Fitzroy Crossi	58.55	259	P	P	16 25 57.9	-1.2
SOEI	Soe	61.52	268	P	P	16 26 19.3	-0.4
VNDA	Vanda	61.90	186	P	P	16 26 21.5	+0.4
	comp=Z,1.4nm,0.7s,baz=9.2,slow=7.0,SNR=10						
VNDA	Vanda	61.90	186	P	P	16 26 21.9	+0.8
VNDA				IAmb	IAmb	16 26 33.8	
	comp=Z,8.7nm,1.1s						
PSA00	Pilbara Seismi	63.40	254	P	P	16 26 30.8	-1.3
PSA00				IAmb	IAmb	16 26 32.8	
	comp=Z,21nm,1.1s						
MEEK	Meekatharra	63.84	248	P	P	16 26 33.4	-1.5
	baz=64,SNR=12						
BLDU	Ballidu	65.08	244	P	P	16 26 41.9	-1.1
	baz=66,SNR=17						
MUN	Mundaring	65.38	242	P	P	16 26 44.3	-0.6
	baz=66,SNR=5.7						
MORW	Morawa	65.83	245	P	P	16 26 45.6	-2.2
	baz=66,SNR=5.7						
MORW	Morawa	65.83	245	P	P	16 26 47.3	-0.6
GIRL	Giralia	68.36	252	P	P	16 27 05.0	+0.9
CASY	Casey	69.28	205	P	P	16 27 08.9	0.0
MAT	Matsushiro	70.55	320	P	P	16 27 17.5	+0.3
MAT				S	S	16 32 32.4	+2.3
JAGI	Jajag, Banyuwa	71.51	267	P	P	16 27 22.8	-0.8
KMRM	Mail Ridge	72.89	37	P	P	16 27 32.6	+1.3
QSPA	South Pole Qui	73.09	180	P	P	16 27 32.1	-0.2
	comp=Z,11nm,1.0s,baz=324,slow=0.7,SNR=29						
QSPA	South Pole Qui	73.09	180	P	P	16 27 31.5	-0.8
QSPA				IAmb	IAmb	16 27 38.3	
	comp=Z,20nm,1.1s						
MONP2	Monument Peak	73.13	47	P	P	16 27 33.7	+0.6
	baz=236						
EDW2	Edwards Air Fo	73.18	45	P	P	16 27 34.2	+1.1
	baz=235						
IKP	In-Ko-Pah, Jac	73.22	47	P	P	16 27 34.4	+1.0
	baz=236						
ISA	Isabella, Lake	73.31	44	P	P	16 27 35.0	+1.1
	baz=234						
ISA	Isabella, Lake	73.31	44	P	P	16 27 35.1	+1.3
ISA				IAmb	IAmb	16 28 57.2	
	comp=Z,26nm,2.0s						
O02D	Mt. Diablo Mer	73.39	38	P	P	16 27 37.3	+3.0
	baz=230						
LRMC	Laurel Mtn Rad	73.73	44	P	P	16 27 37.8	+1.4
	baz=235						
CWC	Cottonwood Cre	74.02	43	P	P	16 27 39.9	+1.8
	baz=234						
BELC	Belle Mtn. Jos	74.04	46	P	P	16 27 39.5	+1.2
	baz=236						
O03E	Paynes Creek	74.05	38	P	P	16 27 39.7	+1.6
	baz=231						
MPMC	Manual Prospec	74.19	44	P	P	16 27 39.8	+0.6
	baz=235						
BC3	Big Chuckawall	74.23	47	P	P	16 27 40.7	+1.3
	baz=237						
HEC	Hector,Ludlow	74.27	45	P	P	16 27 40.4	+0.8
	baz=236						
PETK	Petropavlovsk-	74.31	342	P	P	16 27 39.4	+0.2
	comp=Z,2.5nm,0.7s,baz=111,slow=8.3,SNR=9.8						
PETK	Petropavlovsk-	74.31	342	P	P	16 27 40.1	+0.9
WAKR	Walker	74.38	41	P	P	16 27 40.4	+0.2
PNTR	Pine Nut	74.63	40	P	P	16 27 42.6	+0.8
J01E	Myrtle Point	74.70	35	P	P	16 27 43.4	+1.7
	baz=228						
GMRC	Granite Mounta	74.70	46	P	P	16 27 42.9	+0.8
	baz=236						
IRM	Iron Mountain	74.72	47	P	P	16 27 43.3	+1.2
	baz=237						
YERR	Yerington	74.79	40	P	P	16 27 42.8	+0.1
YERR				IAmb	IAmb	16 27 47.5	
	comp=Z,14nm,1.4s						
TUQ	Turquoise Moun	74.89	45	P	P	16 27 43.9	+0.8
	baz=236						
RYN	Ryan	75.03	41	P	P	16 27 44.8	+0.9
RYN				IAmb	IAmb	16 27 52.1	
	comp=Z,18nm,1.7s						
NVAR	Mina Array Bea	75.05	41	P	P	16 27 45.4	+1.2
	comp=Z,1.7nm,0.7s,baz=228,slow=9.7,SNR=13						
NVAR	Mina Array Bea	75.05	41	P	P	16 27 44.7	+0.6
UGM	Wanagama	75.12	266	P	P	16 27 45.1	+0.2
PAHR	Pah Rah Range	75.14	40	P	P	16 27 45.7	+1.1
PAHR				IAmb	IAmb	16 29 03.0	
	comp=Z,15nm,1.6s						
NV11	Mina Array Sit	75.14	41	P	P	16 27 45.3	+0.7
NV11				IAmb	IAmb	16 29 02.9	
	comp=Z,16nm,1.6s						
214A	Organ Pipe Nat	75.21	50	P	P	16 27 45.9	+0.9
TPNV	Topopah Spring	75.52	44	P	P	16 27 48.4	+1.6
	baz=235						
TPNV	Topopah Spring	75.52	44	P	P	16 27 47.2	+0.4
KVN	Kaiserville	75.54	41	P	P	16 27 47.6	+0.6
SHPR	Sheep Range	76.00	44	P	P	16 27 50.4	+0.9
SHPR				IAmb	IAmb	16 27 57.3	
	comp=Z,25nm,1.9s						
J05D	Fort Rock, OR	76.28	36	P	P	16 27 52.4	+1.4
	baz=230						
R11A	Troy Canyon, C	76.74	43	P	P	16 27 54.3	+0.6
	baz=236						
PINE	Pine Mountain	76.77	36	P	P	16 27 55.0	+1.2
PINE				IAmb	IAmb	16 27 56.4	
	comp=Z,33nm,1.6s						
TUC	Tucson	76.87	50	P	P	16 27 56.1	+1.6
	baz=240						
TUC	Tucson	76.87	50	P	P	16 27 55.8	+1.3
X16A	Lo Mia Camp, P	77.46	48	P	P	16 27 59.0	+1.1
LCMT	Little Creek M	77.56	45	P	P	16 27 59.5	+1.2
KSRS	Korea Array	77.73	316	P	P	16 28 00.0	+1.0
	comp=Z,1.2nm,1.0s,baz=132,slow=6.9,SNR=8.5						
KSAR	Wonju Array Be	77.75	315	P	P	16 28 00.4	+1.2
CCUT	Cedar City	77.77	44	P	P	16 28 00.5	+0.9
J08A	Circle Bar Ran	77.90	37	P	P	16 28 00.7	+0.6
PSUT	Pine Spring	77.98	43	P	P	16 28 01.4	+0.6
ELK	Elko	78.32	41	P	P	16 28 03.2	+0.6
ELK				IAmb	IAmb	16 28 07.4	
	comp=Z,17nm,1.9s						
MTPU	Mount Pierson	78.82	44	P	P	16 28 07.1	+1.5
SVW2	Sparrevohn	78.99	8	P	P	16 28 08.0	+2.5
SVW2				IAmb	IAmb	16 29 09.8	
	comp=Z,25nm,1.6s						
W18A	Petrified Fore	79.02	48	P	P	16 28 06.7	+0.2
MSU	Marysvale	79.07	44	P	P	16 28 10.0	+3.2
MFID	Camas Ranch	79.49	38	P	P	16 28 09.5	+0.7
DUG	Dugway, Tooele	79.56	42	P	P	16 28 10.6	+1.3
	baz=237						
HLID	Hailey	80.42	39	P	P	16 28 15.3	+1.4
	baz=236						
HLID	Hailey	80.42	39	P	P	16 28 15.0	+1.1
HLID				IAmb	IAmb	16 28 21.7	
	comp=Z,22nm,1.9s						
MNTX	Cornudas Mount	80.63	53	P	P	16 28 15.9	+0.8
	baz=244						
MNTX	Cornudas Mount	80.63	53	P	P	16 28 16.1	+1.0
TX31	Lajitas Ar. Si	80.94	56	P	P	16 28 18.0	+1.1
TX32	Lajitas Array	80.94	56	P	P	16 28 18.1	+1.2
TX32				IAmb	IAmb	16 29 35.5	
	comp=Z,16nm,1.6s						
TXAR	Lajitas Array	80.94	56	P	P	16 28 18.4	+1.5
	comp=Z,1.0nm,0.7s,baz=224,slow=5.2,SNR=16						
TXAR	Lajitas Array	80.94	56	P	P	16 28 17.8	+0.9
NJ2	Nanjing	81.62	307	*e*P	P	16 28 21.5	+1.1
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
GDL2	Guadalupe Moun	81.63	53	P	P	16 28 21.5	+0.9
S22A	4UR Ranch, Cre	82.34	47	P	P	16 28 25.9	+1.5
	baz=242						
S22A	4UR Ranch, Cre	82.34	47	P	P	16 28 25.6	+1.2
S22A				IAmb	IAmb	16 28 29.9	
	comp=Z,22nm,1.6s						

QIZ				S	**S**	**16 39 00.2**	**+2.3**		
QIZ				sS	**pS**	**16 39 04.0**	**+0.5**		
QIZ				pmax	pmax				
	comp=Z,260nm,5.2s								
QIZ				LR	LR				
	comp=Z,330nm,16.3s								
QIZ				LR	LR				
	comp=Z,310nm,15.1s								
QIZ				LR	LR				
	comp=Z,380nm,17.3s								
K27K	**Chicken**	**84.13**	**13**	P	**P**	**16 28 34.2**	**+1.6**		
	baz=209								
RLMT	**Red Lodge**	**84.37**	**40**	P	**P**	**16 28 35.6**	**+1.0**		
	baz=239								
RLMT	**Red Lodge**	**84.37**	**40**	P	**P**	**16 28 34.8**	**+0.2**		
RLMT				IAmb	IAmb	16 28 37.0			
	comp=Z,11nm,1.4s								
AMTX	**Amarillo**	**84.80**	**51**	P	**P**	**16 28 37.8**	**+1.0**		
	baz=245								
ABTX	**Abilene, Hawle**	**85.43**	**54**	P	**P**	**16 28 41.0**	**+1.0**		
	baz=247								
MAW	**Mawson**	**86.53**	**198**	P	**P**	**16 28 45.1**	**+0.3**		
	comp=Z,1.2nm,0.4s,baz=86,slow=5.9,SNR=3.8								
WHTX	**Lake Whitney,**	**86.90**	**55**	P	**P**	**16 28 48.9**	**+1.7**		
	baz=248								
BJI	**Beijing**	**87.01**	**313**	P	**P**	**16 28 49.7**	**+2.2**		
BJI				S	**S**	**16 39 29.8**	**+4.0**		
BJI				sS	**ScS**	**16 39 33.8**	**+0.5**		
BJI				pmax	pmax				
	comp=Z,8.0nm,1.5s								
BJI				LR	LR				
	comp=Z,250nm,22.6s								
RPSI	**Rantau Prapat**	**89.21**	**273**	P	**P**	**16 28 58.6**	**0.0**		
RPSI	**Rantau Prapat**	**89.21**	**273**	P	**P**	**16 28 58.6**	**0.0**		
PSI	**Prapat**	**89.24**	**273**	P	**P**	**16 28 58.6**	**-0.3**		
	comp=Z,2.5nm,0.3s,baz=180,slow=5.5,SNR=7.3								
GYA	**Guiyang**	**89.35**	**298**	*e*P	**P**	**16 29 01.9**	**+2.7**		
GYA				pP	pwP	16 29 08.2	-1.3		
GYA				pmax	pmax				
	comp=Z,9.0nm,1.3s								
XAN	**Xi'an**	**90.07**	**306**	P	**P**	**16 29 04.8**	**+2.5**		
XAN				pP	sP	16 29 09.0	+1.1		
XAN				SKS	**SKSac**	**16 39 32.8**	**0.0**		
XAN				S	**S**	**16 39 54.5**	**-0.6**		
XAN				pmax	pmax				
	comp=Z,9.0nm,1.9s								
XAN				pmax	pmax				
	comp=Z,140nm,8.8s								
XAN				LR	LR				
	comp=Z,210nm,16.4s								
XAN				LR	LR				
	comp=Z,180nm,19.7s								
XAN				LR	LR				
	comp=Z,380nm,17.6s								
HHC	**Hu-ho-hao-te**	**90.56**	**313**	*e*P	**P**	**16 29 02.7**	**-1.8**		
HHC				pmax	pmax				
	comp=Z,13nm,1.3s								
HHC				pmax	pmax				
	comp=Z,180nm,6.2s								
HHC				LR	LR				
	comp=Z,230nm,16.3s								
HHC				LR	LR				
	comp=Z,240nm,18.4s								
HHC				LR	LR				
	comp=Z,310nm,16.8s								
SYO	**Syowa Base**	**91.21**	**191**	⇑*e*P	**P**	**16 29 06.0**	**-0.9**		
SNAA	**Sanae**	**91.32**	**177**	P	**P**	**16 29 08.5**	**+1.0**		
SNAA	**Sanae**	**91.32**	**177**	P	**P**	**16 29 08.3**	**+0.9**		
SNAA				IAmb	IAmb	16 29 16.9			
	comp=Z,12nm,1.2s								
KMI	**Kunming**	**92.29**	**295**	⇑P	**P**	**16 29 15.8**	**+2.8**		
KMI				pP	sP	16 29 20.7	+2.1		
KMI				sP	pwP	16 29 23.9	+0.5		
KMI				S	**S**	**16 40 17.1**	**+1.0**		
KMI				sS	sS	16 40 25.0	+1.4		
KMI				SS	**SS**	**16 46 22.9**	**-4.1**		
KMI				pmax	pmax				
	comp=Z,8.0nm,1.0s								
KMI				pmax	pmax				
	comp=Z,110nm,4.0s								
KMI				LR	LR				
	comp=Z,200nm,15.7s								
KMI				LR	LR				
	comp=Z,250nm,19.0s								
KMI				LR	LR				
	comp=Z,370nm,17.5s								
CD2	**Chengdu**	**93.18**	**301**	*e*P	**P**	**16 29 20.1**	**+3.3**		
CD2				S	**S**	**16 40 24.5**	**+1.1**		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.9s								
CD2				pmax	pmax				
	comp=Z,210nm,9.8s								
CD2				LR	LR				
	comp=Z,270nm,18.0s								
CD2				LR	LR				
	comp=Z,360nm,17.1s								
CD2				LR	LR				
	comp=Z,280nm,18.9s								
CMAR	**Chiang Mai Arr**	**93.72**	**288**	P	**P**	**16 29 20.4**	**+0.9**		
	comp=Z,0.3nm,0.4s,baz=101,slow=3.7,SNR=5.3								
CMAR	**Chiang Mai Arr**	**93.72**	**288**	P	**P**	**16 29 20.0**	**+0.5**		
LZH	**Lanzhou**	**94.67**	**306**	*e*P	**P**	**16 29 23.5**	**-0.2**		
LZH				*e*PP	**PP**	**16 33 14.7**	**+2.5**		
LZH				pmax	pmax				
	comp=Z,20nm,1.4s								
LZH				pmax	pmax				
	comp=Z,93nm,5.2s								
LZH				LR	LR				
	comp=Z,250nm,17.0s								
LZH				LR	LR				
	comp=Z,260nm,17.2s								
LZH				LR	LR				
	comp=Z,410nm,19.8s								
GTA	**Gaotai**	**98.66**	**308**	*e*P	Pdif	16 29 43.3	+1.6		
GTA				pP	sP	16 29 47.6	+0.3		
GTA				sP	pwP	16 29 50.2	-1.7		
GTA				PP	**PP**	**16 33 47.7**	**+4.8**		
GTA				S	**S**	**16 41 12.6**	**+2.0**		
GTA				sS	sS	16 41 19.5	+1.3		
GTA				pmax	pmax				
	comp=Z,3.0nm,1.2s								
GTA				LR	LR				
	comp=Z,160nm,17.5s								
GTA				LR	LR				
	comp=Z,140nm,19.4s								
GTA				LR	LR				
	comp=Z,230nm,16.5s								
ARCES	**ARCESS Array B**	**126.23**	**352**	PKP	**PKiKP**	**16 35 05.2**	**+0.7**		
	comp=Z,2.4nm,0.8s,baz=322,slow=1.2,SNR=8.3								
ABKAR	**Akbulak array**	**126.82**	**319**	PKPdf	**PKiKP**	**16 35 06.9**	**+0.6**		
BATM	**Batumi**	**141.62**	**317**	⇓P	**PKPdf**	**16 35 30.3**	**-3.4**		
ASSE	**Asse, Remlinge**	**144.81**	**356**	*e*PKPab	**PKPdf**	**16 35 39.1**	**+0.3**		
	baz=3.5,slow=4.0								
OJC	**Ojcow**	**145.32**	**346**	*e*PKP	**PKiKP**	**16 35 44.6**	**+0.8**		
KMBO	**Kilima Mbogo**	**145.42**	**242**	PKPbc	**PKPab**	**16 35 42.9**	**+1.3**		
	comp=Z,7.8nm,1.0s,baz=80,slow=3.7,SNR=10								
KMBO	**Kilima Mbogo**	**145.42**	**242**		**PKPab**	**16 35 41.6**	**+0.1**		
CLL	**Collm**	**145.43**	**354**	*e*PKPbc	**PKPab**	**16 35 41.0**	**+0.9**		
	comp=Z,11nm,0.9s								
CLL				*e*		16 35 56.0			
CLL				*e*PP	**PP**	**16 39 00.0**	**+1.0**		
CLL				*e*SS	SS	16 58 06.0	+16		
CLL				*e*SSS	SSS	17 03 30.0			
CLL				LmV		17 44 00.0			
	comp=Z,200nm,18.4s								
CLL				LmH		17 44 00.0			
	comp=N,300nm,19.5s								
CLL				LmH		17 44 00.0			
	comp=E,200nm,20.0s								
KSP	**Ksiaz**	**145.43**	**350**	*e*PKP	**PKiKP**	**16 35 45.1**	**+1.1**		
CHVC	**Chvalec**	**145.72**	**350**	*e*PKP	**PKiKP**	**16 35 46.4**	**+1.8**		
CHVC				AMS	AMS	17 46 40.0			
	comp=E,200nm,24.5s								
OSTC	**Ostas**	**145.72**	**350**	*e*PKP	**PKiKP**	**16 35 44.1**	**-0.5**		
OSTC				AMS	AMS	17 44 50.0			
	comp=E,300nm,14.4s								
BRG	**Berggiesshubel**	**145.75**	**353**	*e*PKP	**PKiKP**	**16 35 44.6**	**0.0**		
	comp=E,42nm,2.0s								
BRG				*i*		16 36 58.0			
	comp=E,68nm,2.3s								
	comp=N,161nm,15.0s								
	comp=E,105nm,18.7s								
	comp=Z,250nm,15.8s								
BRG	**Berggiesshubel**	**145.75**	**353**	*e*PKPab	**PKiKP**	**16 35 44.8**	**+0.2**		
	baz=3.5,slow=4.0								
UPC	**Upice**	**145.81**	**350**	*e*PKP	**PKiKP**	**16 35 44.1**	**-0.7**		
UPC				AMS	AMS	17 45 00.0			
	comp=Z,200nm,18.1s								
DPC	**Dobruska-Polom**	**145.90**	**350**	*e*PKP	**PKPab**	**16 35 43.6**	**+1.6**		
DPC				*ex*	x	16 35 55.7			
DPC				AMS	AMS	17 45 00.0			
	comp=Z,300nm,15.7s								
NIE	**Niedzica**	**145.94**	**345**	*e*PKP	**PKiKP**	**16 35 47.0**	**+1.9**		
PVCC	**Panska Ves**	**146.00**	**352**	*e*PKP	**PKiKP**	**16 35 47.5**	**+2.3**		
PVCC				AMS	AMS	17 49 10.0			
	comp=Z,300nm,16.8s								
BURAR	**Bucovina Array**	**146.05**	**338**	⇑P	**PKiKP**	**16 35 46.9**	**+1.4**		
BURAR	**Bucovina Array**	**146.05**	**338**	PKPbc	**PKPab**	**16 35 43.3**	**+0.6**		
KRLC	**Kraliky**	**146.09**	**349**	*e*PKP	**PKPab**	**16 35 43.7**	**+1.0**		
KRLC				*ex*	x	16 35 52.6			
KRLC				AMS	AMS	17 46 50.0			
	comp=Z,200nm,19.5s								
UBBA	**Unterbreizbach**	**146.15**	**357**	*e*PKPab	**PKiKP**	**16 35 46.6**	**+1.3**		
	baz=3.5,slow=4.0								
MOX	**Moxa**	**146.22**	**355**	*e*PKPab	**PKiKP**	**16 35 46.9**	**+1.2**		
	baz=3.5,slow=4.0								
MORC	**Moravsky Berou**	**146.23**	**348**	⇑P	**PKPab**	**16 35 43.8**	**+0.6**		
MORC	**Moravsky Berou**	**146.23**	**348**	*e*PKP	**PKPab**	**16 35 44.3**	**+1.1**		
MORC				*e*		16 36 58.5			
PLN	**Plauen**	**146.33**	**354**	*e*PKPab	**PKiKP**	**16 35 47.3**	**+1.4**		
	baz=3.5,slow=4.0								
TANN	**Tannenbergstha**	**146.37**	**354**	*e*PKPab	**PKiKP**	**16 35 47.7**	**+1.7**		
	baz=3.5,slow=4.0								
GUNZ	**Gunzen**	**146.43**	**354**	*e*PKPab	**PKiKP**	**16 35 47.8**	**+1.7**		
	baz=3.5,slow=4.0								
PRA	**Prague**	**146.47**	**352**	AMS	AMS	17 45 50.0			
	comp=Z,200nm,15.9s								
WERN	**Wernitzgruen**	**146.50**	**354**	*e*PKPab	**PKiKP**	**16 35 48.1**	**+1.8**		
	baz=3.5,slow=4.0								
PRU	**Pruhonice**	**146.53**	**351**	*e*PKP	**PKiKP**	**16 35 47.4**	**+1.1**		
PRU				AMS	AMS	17 45 40.0			
	comp=Z,400nm,19.3s								
NKC	**Novy Kostel**	**146.55**	**354**	AMS	AMS	17 44 00.0			
	comp=Z,300nm,15.3s								
TLCR		**146.57**	**332**	⇓P	**PKiKP**	**16 35 45.8**	**-0.7**		
GOPC	**GO Pecny, Ondr**	**146.57**	**351**	AMS	AMS	17 46 20.0			
	comp=Z,300nm,14.6s								
TNS	**Taunus Mts**	**146.81**	**359**	*e*PKPab	**PKiKP**	**16 35 48.5**	**+1.6**		
	baz=3.5,slow=4.0								
MANZ	**Manzenberg**	**146.82**	**354**	*e*PKPab	**PKiKP**	**16 35 49.1**	**+2.2**		
	baz=3.5,slow=4.0								
VRAC	**Vranov**	**146.86**	**349**	*e*PKP	**PKPab**	**16 35 45.4**	**-0.2**		
VRAC				*e*		16 37 01.6			
CFR	**Carcaliu**	**146.88**	**333**	⇓P	**PKPab**	**16 35 45.9**	**+0.1**		
VRI	**Vrincioaia**	**146.93**	**335**	⇑P	**PKPab**	**16 35 46.3**	**+0.2**		
TOPG	**Topolog**	**147.00**	**332**	⇑P	**PKPbc**	**16 35 45.5**	**+0.7**		
ROTZ	**Rotzenmuhle**	**147.03**	**354**	*e*PKPab	**PKiKP**	**16 35 49.1**	**+1.8**		
	baz=3.5,slow=4.0								
TREC	**Trest**	**147.06**	**350**	AMS	AMS	17 45 40.0			
	comp=Z,300nm,16.5s								
JAVC	**Velka Javorina**	**147.07**	**347**	*e*PKP	**PKPab**	**16 35 47.0**	**+0.4**		
OZUR		**147.12**	**336**	⇑P	**PKiKP**	**16 35 48.6**	**+0.9**		
KRUC	**Moravsky**	**147.13**	**349**	*e*PKP	**PKPab**	**16 35 46.1**	**-0.6**		
KRUC				*e*		16 37 02.1			
VYHS	**Vyhne**	**147.16**	**346**	*e*PKP	**PKiKP**	**16 35 49.2**	**+1.5**		
GRF	**Grafenberg Arr**	**147.19**	**355**	*e*PKPab	**PKiKP**	**16 35 49.5**	**+1.9**		
	baz=3.5,slow=4.0								
HARR	**Harsova**	**147.35**	**332**	⇑P	**PKPab**	**16 35 47.9**	**+0.3**		
DOPR	**Dopca**	**147.38**	**336**	⇑P	**PKPab**	**16 35 48.1**	**+0.3**		
KHC	**Kasperske Hory**	**147.50**	**352**	*e*PKP	**PKPab**	**16 35 47.8**	**-0.4**		
KHC				*ex*	x	16 35 51.9			
KHC				*ex*	x	16 36 04.9			
KHC				*ex*	x	16 37 03.5			
KHC				AMS	AMS	17 43 50.0			
	comp=Z,200nm,20.1s								
GEC2	**GERESS Array S**	**147.77**	**352**	PKPbc	**PKPbc**	**16 35 47.5**	**+0.5**		
GERES	**GERESS Array B**	**147.77**	**352**	PKPbc	**PKPbc**	**16 35 48.0**	**+0.9**		
	comp=Z,3.9nm,1.0s,baz=29,slow=3.3,SNR=12								
GERES	**GERESS Array B**	**147.77**	**352**		**PKPbc**	**16 35 47.1**	**+0.1**		
BR131	**Keskin Array S**	**147.77**	**320**	PKPbc	**PKPbc**	**16 35 47.6**	**+0.2**		
BRTR	**Keskin Array B**	**147.77**	**320**	PKPbc	**PKPbc**	**16 35 48.2**	**+0.9**		
	comp=Z,4.6nm,0.9s,baz=132,slow=1.8,SNR=16								
BRTR	**Keskin Array B**	**147.77**	**320**		**PKPbc**	**16 35 47.7**	**+0.4**		
VOIR		**147.95**	**336**	⇑P	**PKiKP**	**16 35 49.2**	**-0.3**		
ARR	**Arges**	**148.17**	**337**	⇓P	**PKPab**	**16 35 51.2**	**+0.2**		
CONA	**Conrad Observa**	**148.32**	**349**	*e*PKiKP	**PKiKP**	**16 35 50.2**	**0.0**		
	comp=Z,16nm,1.5s								
SIRR	**Siria**	**148.42**	**341**	⇑P	**PKiKP**	**16 35 50.7**	**+0.4**		
MOA	**Molln**	**148.66**	**351**	*e*PKiKP	**PKiKP**	**16 35 51.2**	**+0.4**		
	comp=Z,7.3nm,1.1s								
BFO	**Black Forest**	**148.70**	**359**	*e*PKPab	**PKPab**	**16 35 55.7**	**+2.7**		
	baz=3.5,slow=4.0								
ARSA	**Arzberg**	**149.03**	**349**	*e*PKiKP	**PKiKP**	**16 35 51.1**	**-0.5**		
	comp=Z,6.1nm,1.0s								
HERR	**Herculane**	**149.39**	**339**	⇑P	**PKiKP**	**16 35 52.1**	**-0.2**		
RETA	**Reutte**	**149.42**	**355**	*e*pPKPbc	**PKiKP**	**16 35 53.4**	**+1.0**		
	comp=Z,1.6nm,0.5s								
WATA	**Walderalm**	**149.50**	**354**	*e*PKiKP	**PKiKP**	**16 35 52.3**	**-0.3**		
	comp=Z,3.0nm,0.6s								
MOTA	**Moosalm**	**149.53**	**355**	*e*PKiKP	**PKiKP**	**16 35 52.6**	**-0.2**		
	comp=Z,13nm,1.3s								
KBA	**Koelnbreinsper**	**149.55**	**352**	*e*PKiKP	**PKiKP**	**16 35 52.7**	**-0.2**		
	comp=Z,7.6nm,1.3s								
WTTA	**Wattenberg**	**149.57**	**354**	*e*PKiKP	**PKiKP**	**16 35 52.6**	**-0.3**		
	comp=Z,5.1nm,0.6s								
SQTA	**Sankt Quirin**	**149.65**	**355**	*e*PKiKP	**PKiKP**	**16 35 53.3**	**+0.3**		
	comp=Z,4.0nm,0.6s								
SOKA	**Soboth**	**149.68**	**349**	*e*PKiKP	**PKiKP**	**16 35 52.9**	**-0.1**		
	comp=Z,8.1nm,1.1s								
DAVA	**Damuels**	**149.68**	**356**	*e*pPKPbc	**PKiKP**	**16 35 53.9**	**+0.8**		
	comp=Z,12nm,1.0s								
MDVR	**Moldovita**	**149.72**	**339**	⇑P	**PKiKP**	**16 35 53.8**	**+0.7**		
FETA	**Feichten**	**149.89**	**355**	*e*PKiKP	**PKiKP**	**16 35 53.3**	**-0.3**		
	comp=Z,6.5nm,0.9s								
MYKA	**Terra Mystica**	**149.95**	**351**	*e*PKPbc	**PKPbc**	**16 35 52.2**	**-0.4**		
	comp=Z,3.9nm,0.6s								
ABTA	**Abfaltersbach**	**149.98**	**353**	*e*PKiKP	**PKiKP**	**16 35 53.7**	**+0.1**		
	comp=Z,15nm,0.9s								
PRED	**Cave del Predi**	**150.14**	**351**	PKPab	**PKPab**	**16 35 59.1**	**+0.2**		
FUORN	**Ofenpass-Fuorn**	**150.32**	**356**		**PKiKP**	**16 35 54.5**	**0.0**		
TUE	**Stuetta**	**150.52**	**357**		**PKiKP**	**16 35 54.9**	**0.0**		
SENIN	**Lac Senin/Sane**	**150.68**	**360**		**PKiKP**	**16 35 55.6**	**+0.4**		
CTI	**Castel Tesino**	**150.77**	**354**		**PKiKP**	**16 35 55.2**	**-0.1**		
DIVS	**Divibare**	**150.89**	**341**		**PKiKP**	**16 35 55.5**	**-0.1**		
VTS	**Vitosha**	**151.02**	**335**	⇑P	**PKiKP**	**16 35 56.1**	**+0.1**		
PDG	**Podgorica**	**152.63**	**340**	⇑P	**PKiKP**	**16 36 00.1**	**+1.1**		
TORD	**Torodi Ar. Bea**	**173.40**	**124**	PKPdf	**PKPdf**	**16 36 11.9**	**-0.5**		

IDC ***12*** *16:17:16.3±0.8, 16°.94S×172°.98W, h0km, mb4.4/10, mb1 4.6/10, mb1mx4.3/39, mbtmp4.4/10, MS4.7/3, Ms1 4.7/3, ms1mx4.4/9, Error ellipse: s-maj=33.6km s-min=20.1km az=139.0*

NEIC ***12*** *16:17:23.3±1.4, 17°.05S±0°.1×173°.1W±0°.2, h52km±6km, mb5.0/27, Error ellipse: s-maj=23.4km s-min=16.0km az=124.0*

ISC 12 16:17:20.9±0.5, 16°.86S±0°.09×172°.89W±0°.10, h35km, n55, σ1s88/48, mb4.9/22, MS4.9/3, 1C, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.12**	**20**	Sn	**Sn**	**16 18 39.7**	**-4.2**
	47nm,0.3s,baz=15,slow=23,SNR=1.3						
DZM	**Mont Dzumac**	**20.16**	**252**	*e*P	Pn	16 21 54.2	-0.3
	62nm,1.4s						
OUZ	**Omahuta**	**21.91**	**211**	P	**P**	**16 22 11.3**	**+0.2**
OUZ				IAmb	IAmb	16 22 12.9	
	comp=Z,111nm,1.5s						
PPT2	**Papeete2**	**22.28**	**95**	*e*P	**P**	**16 22 13.3**	**-2.1**
	comp=Z,71nm,1.4s						
TBI	**Tubuai**	**22.91**	**110**	*e*P	**P**	**16 22 18.7**	**-3.2**
	comp=Z,258nm,1.4s						
URZ	**Urewera**	**23.06**	**200**	P	**P**	**16 22 22.5**	**-0.7**
	comp=Z,10nm,0.4s,baz=302,slow=1.9,SNR=6.0						
URZ	**Urewera**	**23.06**	**200**	S	**P**	**16 22 22.2**	**-1.1**
URZ	**Urewera**	**23.06**	**200**	IAmb	IAmb	16 23 12.0	
	comp=Z,164nm,1.8s						
BKZ	**Black Stump Fm**	**24.08**	**201**	P	**P**	**16 22 33.4**	**+0.2**
BKZ				IAmb	IAmb	16 23 25.7	
	comp=Z,121nm,1.8s						
HIZ	**Hauiti**	**24.10**	**204**	P	**P**	**16 22 32.6**	**-0.7**
PMOR	**Pomariorio Ree**	**24.10**	**89**	*e*P	**P**	**16 22 30.9**	**-2.6**
	comp=Z,232nm,1.6s						
VAH	**Vaihoa**	**24.33**	**90**	*e*P	**P**	**16 22 33.0**	**-2.6**
	comp=Z,131nm,1.5s						
NNZ	**Nelson**	**27.01**	**203**	P	**P**	**16 22 59.5**	**-0.2**
RPZ	**Rata Peaks**	**30.03**	**204**	LR	LR	16 36 05.8	
	comp=Z,3μm,18.0s,baz=20,slow=38						
FOZ	**Fox Glacier**	**30.37**	**205**	P	**P**	**16 23 28.1**	**-1.4**
KRVT	**Keravat (AS076**	**36.59**	**286**	LR	LR	16 37 34.2	
	comp=Z,2μm,19.3s,baz=119,slow=33						
CTAO	**Charters Tower**	**38.82**	**259**	P	**P**	**16 24 41.5**	**-1.3**
STKA	**Stephens Creek**	**43.75**	**241**	P	**P**	**16 25 23.1**	**-0.2**
	comp=Z,4.7nm,0.9s,baz=85,slow=5.4,SNR=3.8						
STKA	**Stephens Creek**	**43.75**	**241**	IAmb	IAmb	16 25 23.7	
	comp=Z,5.1nm,1.4s						
BBOO	**Buckleboo**	**48.52**	**241**	P	**P**	**16 26 00.1**	**-0.7**
WR0	**Warramunga Arr**	**49.81**	**258**	P	**P**	**16 26 09.8**	**-1.0**
WR0				IAmb	IAmb	16 26 18.6	
	comp=Z,11nm,1.1s						
WB0	**Warramunga Arr**	**49.97**	**258**	P	**P**	**16 26 11.0**	**-1.0**
WB2	**Warramunga Arr**	**49.99**	**258**	P	**P**	**16 26 10.9**	**-1.2**
WRA	**Warramunga Arr**	**50.00**	**258**	P	**P**	**16 26 11.4**	**-0.8**
	comp=Z,2.6nm,0.6s,baz=98,slow=7.2,SNR=9.2						
AS31	**Alice Springs**	**50.14**	**253**	P	**P**	**16 26 12.2**	**-1.1**
ASAR	**Alice Springs**	**50.14**	**253**	P	**P**	**16 26 11.8**	**-1.6**
	comp=Z,7.5nm,0.7s,baz=89,slow=9.7,SNR=6.4						
FORT	**Forrest**	**55.21**	**244**	P	**P**	**16 26 50.2**	**-0.4**
KNRA	**Kununurra**	**55.84**	**262**	P	**P**	**16 26 54.3**	**-1.1**
SOEI	**Soe**	**61.36**	**268**	P	**P**	**16 27 32.1**	**-1.9**
VNDA	**Vanda**	**61.98**	**186**	P	**P**	**16 27 37.6**	**+0.6**
	comp=Z,3.3nm,1.1s,baz=358,slow=7.8,SNR=3.8						
VNDA	**Vanda**	**61.98**	**186**	P	**P**	**16 27 37.5**	**+0.5**
VNDA				IAmb	IAmb	16 27 38.5	
	comp=Z,15nm,1.5s						
PSA00	**Pilbara Seismi**	**63.27**	**254**	P	**P**	**16 27 46.8**	**+0.3**
MMRI	**Maumere**	**63.57**	**269**	P	**P**	**16 27 49.3**	**+0.6**
MORW	**Morawa**	**65.72**	**245**	P	**P**	**16 28 02.3**	**-0.2**
CASY	**Casey**	**69.30**	**205**	P	**P**	**16 28 24.4**	**0.0**
CASY				IAmb	IAmb	16 28 26.2	
	comp=Z,51nm,1.8s						
KMRM	**Mail Ridge**	**72.91**	**37**	P	**P**	**16 28 49.0**	**+2.3**
KMRM				IAmb	IAmb	16 28 49.3	
	comp=Z,16nm,1.0s						
QSPA	**South Pole Qui**	**73.19**	**180**	P	**P**	**16 28 48.0**	**-0.1**
	comp=Z,9.6nm,1.1s,baz=94,slow=1.6,SNR=3.0						
QSPA	**South Pole Qui**	**73.19**	**180**	IAmb	IAmb	16 28 52.8	
	comp=Z,14nm,1.2s						
KKM	**Kota Kinabalu**	**73.65**	**282**	P	**P**	**16 28 51.3**	**-0.4**
KKM				IAmb	IAmb	16 28 56.3	
	comp=Z,16nm,1.1s						
GLA	**Glamis**	**74.40**	**48**	P	**P**	**16 28 57.0**	**+1.5**
WAKR	**Walker**	**74.42**	**41**	P	**P**	**16 28 57.3**	**+1.5**
WAKR				IAmb	IAmb	16 28 58.8	
	comp=Z,24nm,1.7s						
NVAR	**Mina Array Bea**	**75.08**	**41**	P	**P**	**16 29 01.0**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=231,slow=7.5,SNR=3.8						
NV11	**Mina Array Sit**	**75.18**	**42**	P	**P**	**16 29 01.6**	**+1.5**
SVW2	**Sparrevohn**	**78.92**	**8**	P	**P**	**16 29 22.3**	**+1.9**
SVW2				IAmb	IAmb	16 30 35.3	
	comp=Z,35nm,1.8s						
TXAR	**Lajitas Array**	**81.02**	**56**	P	**P**	**16 29 33.8**	**+1.2**
	comp=Z,1.4nm,0.9s,baz=234,slow=4.2,SNR=4.8						
TXAR	**Lajitas Array**	**81.02**	**56**	P	**P**	**16 29 33.3**	**+0.7**
PDAR	**Pinedale Array**	**83.02**	**42**	P	**P**	**16 29 44.3**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=323,slow=2.2,SNR=4.4						
PDAR	**Pinedale Array**	**83.02**	**42**	P	**P**	**16 29 42.7**	**-0.4**
PLCA	**Paso Flores**	**88.17**	**132**	P	**P**	**16 30 08.9**	**+0.2**
	comp=Z,3.8nm,1.0s,baz=224,slow=4.7,SNR=2.9						
SYO	**Syowa Base**	**91.27**	**191**	⇑*e*X	P	16 30 31.0	+8.6
SONM	**Songino Array**	**96.25**	**318**	LR	LR	17 11 23.3	
	comp=Z,89nm,18.5s,baz=108,slow=34						
CLL	**Collm**	**145.31**	**353**	*i* PKPdf	**PKPdf**	**16 36 56.8**	**+1.8**
	comp=Z,30nm,1.7s						
CLL				*i* pPKPdf	sPKPab	16 37 07.8	-0.8
CLL				*i* sPKiKP	**sPKiKP**	**16 37 20.9**	**+8.1**
KMBO	**Kilima Mbogo**	**145.31**	**242**	PKPbc	**PKPdf**	**16 36 57.6**	**+1.2**
	comp=Z,3.0nm,0.7s,baz=254,slow=21,SNR=8.9						
BRTR	**Keskin Array B**	**147.59**	**320**	PKPbc	**PKiKP**	**16 37 04.0**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=177,slow=3.4,SNR=1.9						
BRTR	**Keskin Array B**	**147.59**	**320**		**PKPbc**	**16 37 02.5**	**+0.5**

IDC ***12*** *16:20:21.9±5.1, 12°.78S×167°.43E, h0km, mb4.2/3,

ZALV Zalesovo Beam 67.23 342 P P 16 39 50.5 -1.4
comp=Z,0.6nm,0.4s,baz=145,slow=5.3,SNR=4.8

RHSSO ***12*** *16:29:41.3±0.8, 42°.23N×19°.71E, h5km±4km, ML1.9/5*
PDG ***12*** *16:29:42.5±0.1, 42°.24N×19°.52E, h18km, ML2.1/10, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
TIR ***12*** *16:29:43.0, 42°.22N×19°.59E, h25km, Md2.5/3*
BEO ***12*** *16:29:43.7±0.7, 42°.26N×19°.60E, h7km±6km, ML1.8/5*
ISC 12 16:29:42.1±0.9, **42°.24N**±0°.02×**19°.60E**±0°.02, **h13**km±7km, **n44**, **σ0s82/85, 6C-9D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.30**	**132**	*i*	PG	**Pb**	**16 29 49.9**	**+0.5**
PUK				*i*	SG	**Sb**	**16 29 55.3**	**+1.1**
DRME	**Dracevica, Mon**	**0.31**	**260**	↑	*i*Pg	**Pg**	**16 29 48.1**	**-0.4**
DRME				*i*	Sg	**Sg**	**16 29 52.9**	**+0.2**
DRME	**Dracevica, Mon**	**0.31**	**260**	*e*	Pg	**Pg**	**16 29 48.3**	**-0.2**
DRME				*e*	Sg	**Sg**	**16 29 53.5**	**+0.8**
PDG	**Podgorica**	**0.32**	**307**	*e*	Pg	**Pb**	**16 29 49.3**	**-0.4**
PDG				*e*	Sg	**Sb**	**16 29 54.6**	**-0.2**
PDG	**Podgorica**	**0.32**	**307**	↓	P	**Pg**	**16 29 48.9**	**+0.3**
PDG				↓	S	**Sb**	**16 29 54.5**	**-0.2**
PDG	**Podgorica**	**0.32**	**307**	↑	*i*Pg	**Pb**	**16 29 49.2**	**-0.4**
PDG				*e*	Sg	**Sb**	**16 29 54.4**	**-0.3**
TTG	**Podgorica**	**0.32**	**307**	*e*	Pg	**Pg**	**16 29 48.2**	**-0.4**
TTG				*i*	Sg	**Sg**	**16 29 53.2**	**+0.3**
BCI	**Bajram Curri**	**0.37**	**70**	*i*	PG	**Pb**	**16 29 51.4**	**+0.8**
BCI				*i*	SG	**Sb**	**16 29 58.1**	**+1.8**
ULC	**Ulcinj**	**0.38**	**224**	*e*	Pg	**Pg**	**16 29 49.5**	**-0.2**
ULC				*i*	Sg	**Sb**	**16 29 55.8**	**-0.8**
PVY	**Plav**	**0.44**	**37**	↓	*i*Pg	**Pb**	**16 29 51.8**	**-0.1**
PVY				*i*	Sg	**Sb**	**16 30 00.0**	**+1.4**
BUM	**Brajici-Budva**	**0.53**	**277**	*e*	Pg	**Pg**	**16 29 51.4**	**-1.0**
BUM				*i*	Sg	**Sg**	**16 29 59.6**	**+0.2**
CEME	**Cevo**	**0.59**	**302**	↑	*i*Pg	**Pg**	**16 29 53.3**	**-0.3**
CEME				*i*	Sg	**Sg**	**16 30 01.9**	**+0.5**
KOME	**Kolasin**	**0.61**	**354**	↓	*i*Pg	**Pg**	**16 29 54.0**	**-0.1**
KOME				*i*	Sg	**Sb**	**16 30 03.9**	**+0.5**
IVA	**Berane**	**0.67**	**19**	↓	*i*Pg	**Pb**	**16 29 55.6**	**-0.1**
IVA				*i*	Sg	**Sn**	**16 30 06.8**	**-1.1**
NKME	**Niksic**	**0.71**	**318**	↓	*i*Pg	**Pg**	**16 29 55.0**	**-0.9**
NKME				*i*	Sg	**Sb**	**16 30 06.3**	**+0.2**
NKY	**Niksic**	**0.72**	**322**	*e*	Pg	**Pg**	**16 29 55.4**	**-0.8**
NKY				*i*	Sg	**Sb**	**16 30 06.8**	**+0.2**
PHP	**Peshkopia**	**0.84**	**131**	*i*	PG	**Pn**	**16 29 59.6**	**-0.2**
PHP				*i*	SG	**Sn**	**16 30 11.6**	**-0.4**
HCY	**Herceg Novi**	**0.84**	**285**	*e*	Pg	**Pg**	**16 29 57.2**	**-1.2**
HCY				*i*	Sg	**Sb**	**16 30 10.1**	**+0.2**
HCY	**Herceg Novi**	**0.84**	**285**	*e*	Pg	**Pg**	**16 29 58.0**	**-0.4**
HCY				*e*	Sg	**Sb**	**16 30 10.9**	**+1.0**
BRY	**Bratogost**	**1.02**	**311**	*e*	Pg	**Pg**	**16 30 01.0**	**-0.9**
BRY				*i*	Sg	**Sn**	**16 30 16.4**	**-0.3**
BRY	**Bratogost**	**1.02**	**311**	*e*	Pg	**Pg**	**16 30 00.6**	**-1.3**
BRY				*e*	Sg	**Sb**	**16 30 15.7**	**+0.5**
TREB	**Trebinje**	**1.04**	**298**	*e*	Pg	**Pn**	**16 30 02.5**	**+0.1**
TREB				*e*	Sg	**Sg**	**16 30 15.6**	**0.0**
TREB	**Trebinje**	**1.04**	**298**	*e*	Pg	**Pg**	**16 30 01.7**	**-0.4**
TREB				*e*	Sg	**Sn**	**16 30 16.7**	**-0.1**
SJES	**Sjenica**	**1.06**	**15**	*e*	Pg	**Pn**	**16 30 02.8**	**0.0**
SJES				*e*	Sg	**Sn**	**16 30 17.5**	**0.0**
UPM	**Unac-Piva**	**1.09**	**332**	*e*	Pg	**Pb**	**16 30 02.2**	**-0.8**
UPM				*i*	Sg	**Sn**	**16 30 19.3**	**+0.9**
UPM	**Unac-Piva**	**1.09**	**332**	*e*	Pg	**Pb**	**16 30 02.2**	**-0.8**
UPM				*e*	Sg	**Sn**	**16 30 17.3**	**0.0**
PLE	**Pljevlja**	**1.10**	**352**	↑	*i*Pg	**Pb**	**16 30 02.8**	**-0.3**
PLE				*i*	Sg	**Sn**	**16 30 20.3**	**+1.8**
DBRK	**Dubrovnik**	**1.16**	**292**	*e*	Pg	**Pg**	**16 30 04.9**	**+0.5**
DBRK					Sg	**Sn**	**16 30 20.9**	**+1.2**
RUDO	**Rudo**	**1.39**	**353**	*e*	Pg	**Pn**	**16 30 06.6**	**-0.6**
RUDO				*e*	Sg	**Sg**	**16 30 26.2**	**-0.6**
STON	**Ston**	**1.54**	**295**	*e*	Pn	**Pn**	**16 30 09.2**	**-0.1**
STON					Sn	**Sg**	**16 30 31.3**	**-0.3**
BBLS	**Lazići**	**1.63**	**355**	*e*	Pg	**Pg**	**16 30 13.7**	**+0.3**
BBLS				*e*	Sg	**Sg**	**16 30 34.3**	**-0.3**
BBLS	**Lazići**	**1.63**	**355**	*e*	Pn	**Pn**	**16 30 10.4**	**-0.2**
BBLS				*e*	Sn	**Sb**	**16 30 32.6**	**-0.1**
BARS	**Barje**	**1.74**	**70**	*e*	Pg	**Pb**	**16 30 14.0**	**+0.1**
BARS				*e*	Sg	**Sg**	**16 30 38.3**	**+0.3**
DIVS	**Divibare**	**1.88**	**9**	*e*	Pg	**Pg**	**16 30 17.6**	**-0.6**
DIVS				*e*	Sg	**Sg**	**16 30 41.7**	**-0.9**
DIVS	**Divibare**	**1.88**	**9**	*e*	Pn	**Pn**	**16 30 13.9**	**-0.2**
DIVS				*e*	Sn	**Sn**	**16 30 37.8**	**+0.1**
MAKA	**Makarska**	**2.17**	**300**	*e*	Pn	**Pn**	**16 30 17.2**	**-0.7**
MAKA					Sg	**Sg**	**16 30 51.1**	**-0.6**
HVAR	**Hvar**	**2.50**	**293**	*e*	Pg	**Pb**	**16 30 28.4**	**+1.5**
HVAR					Sg	**Sg**	**16 31 01.6**	**-0.8**
VTS	**Vitosha**	**2.72**	**81**	↓	P	**Pb**	**16 30 29.6**	**-1.1**
VTS				↓	S	**Sb**	**16 31 02.7**	**-1.4**
KIJV	**Kijevo**	**2.93**	**308**	*e*	Pn	**Pn**	**16 30 30.4**	**+2.0**
KIJV					Sn	**Sn**	**16 31 03.7**	**+0.2**
ZIRJ	**Zirje**	**3.23**	**297**	*e*	Pn	**Pn**	**16 30 33.6**	**+1.1**
ZIRJ					Sn	**Sn**	**16 31 10.1**	**-0.7**
MORI	**Morici**	**3.28**	**301**	*e*	Pn	**Pn**	**16 30 34.7**	**+1.5**
MORI					Sn	**Sn**	**16 31 14.5**	**+2.4**
BZS	**Buzias**	**3.68**	**23**	↑	P	Pn	16 30 30.7	-8.0
TIP	**Timpagrande**	**3.74**	**216**	↓	P	Pg	16 31 08.4	+15
TIP				↓	S	**Sb**	**16 31 31.2**	**-2.2**
DUGI	**Dugi Otok**	**3.75**	**299**	*e*	Pn	**Pn**	**16 30 40.0**	**+0.3**
DUGI					Sn	**Sn**	**16 31 24.4**	**+0.5**

ROM 12 16:30:45.5±0.2, **38°.977N**±0°.009×**15°.67E**±0°.03, **h173**km±1km, **ML2.1/6, 1C-2D, Error ellipse: s-maj=2.4km s-min=0.3km az=99.0, Sicily**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JOPP	**Joppolo**	**0.41**	**155**	P		Pn	16 31 09.4	+0.3
JOPP				S		Sn	16 31 26.8	-0.4
JOPP					AML	AML		
	comp=E,75μm,0.5s							
JOPP					AML	AML		
	comp=N,68μm,0.2s							
CAR1	**CAROLEI**	**0.50**	**57**	P		Pn	16 31 09.5	0.0
CAR1				S		Sn	16 31 27.4	-0.6
CAR1					AML	AML		
	comp=N,46μm,1.0s							
CAR1					AML	AML		
	comp=N,46μm,1.0s							
CAR1					AML	AML		
	comp=E,69μm,1.2s							
CET2	**Cetraro**	**0.59**	**22**	P		Pn	16 31 10.1	+0.2
CET2				S		Sn	16 31 28.4	-0.4
MSRU	**Castanea**	**0.72**	**190**	P		Pn	16 31 11.1	+0.5
MSRU				S		Sn	16 31 29.6	-0.3
CELI	**Celico**	**0.78**	**57**	P		Pn	16 31 11.7	+0.6
CELI					AML	AML		
	comp=E,37μm,1.5s							
CELI					AML	AML		
	comp=N,42μm,0.4s							
CELI					AML	AML		
	comp=N,42μm,0.4s							
CELI					AML	AML		
	comp=E,37μm,1.5s							
SERS	**Sersale**	**0.80**	**85**	P		Pn	16 31 11.2	0.0
SERS				S		Sn	16 31 30.5	-0.4
SERS					AML	AML		
	comp=E,29μm,1.1s							
SERS					AML	AML		
	comp=N,38μm,1.1s							
SERS					AML	AML		
	comp=E,29μm,1.1s							
SERS					AML	AML		
	comp=N,38μm,1.1s							
PLAC	**Placanica**	**0.80**	**131**	↑	P	Pn	16 31 11.3	+0.2
PLAC				S		Sn	16 31 30.2	-0.6
PLAC					AML	AML		
	comp=E,53μm,0.2s							
PLAC					AML	AML		
	comp=N,38μm,0.6s							
PLAC					AML	AML		
	comp=E,52μm,0.2s							
T0702	**Acquaformosa (**	**0.81**	**23**	↓	P	Pn	16 31 11.3	+0.2
T0702				S		Sn	16 31 30.4	-0.7
ATN	**Antennamare**	**0.83**	**191**	P		Pn	16 31 11.4	0.0
TDS	**Terranova Siba**	**0.85**	**37**	P		Pn	16 31 11.8	+0.5
CUC	**Castrocucco**	**1.02**	**6**	P		Pn	16 31 12.6	0.0
SALB	**San Lorenzo Be**	**1.04**	**30**	↓	P	Pn	16 31 13.4	+0.6
SALB					AML	AML		
	comp=E,12μm,0.8s							
SALB					AML	AML		
	comp=N,10μm,1.3s							

MAN ***12*** *16:33:37.9, 5°.05N×128°.27E, h81km, mb4.8, ML3.7, MS3.6*
DJA ***12*** *16:33:40.5±1.7, 5°.1N±19°.×12°.8E±°, h132km±31km, M4.4/7, mb4.4/5, mB4.3/1, MLv4.4/7, Mw(mB)3.5/1*
ISC 12 16:33:36.2±2.6, **4°.83N**±0°.09×**128°.2E**±0°.2, **h150**km, **n9, σ2s05/12, 1C, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.76**	**297**	*eP*		**Pn**	**16 34 20.5**	**0.0**
DDMP				*eS*		**Sn**	**16 34 53.8**	**-0.9**
MATI	**Mati**	**2.83**	**318**	*eP*		**Pn**	**16 34 21.7**	**+0.2**
MATI				*eS*		**Sn**	**16 34 53.0**	**-3.6**
KCP	**Kidapawan**	**3.75**	**305**	↑	*i*P	**Pn**	**16 34 34.5**	**+1.2**
KCP				*i*	S	**Sn**	**16 35 17.8**	**+0.2**
SKMP	**Bagumbayan, Su**	**3.98**	**295**	*eP*		**Pn**	**16 34 38.0**	**+1.7**
TNTI	**Ternate**	**4.12**	**191**	P		**Pn**	**16 34 39.0**	**+1.0**
BUKP	**Musuan**	**4.33**	**315**	*eP*		**Pn**	**16 34 44.6**	**+3.8**
GTOI	**Gorontalo**	**6.63**	**231**	P		**Pn**	**16 35 11.7**	**+0.3**
	0.1nm387nm12nm,0.5s							
SANI	**Sanana**	**7.18**	**198**	P		**Pn**	**16 35 16.9**	**-1.8**
	0.3nm52nm,0.6s							
LUWI	**Luwuk**	**7.95**	**223**	P		**Pn**	**16 35 29.9**	**+0.9**

KRSC 12 17:38:26.4±1.6, **54°.53N**×**166°.06E, h19**km±23km, **ML3.8, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.68**	**356**	*eP*		Pb	17 38 37.9	-1.7
BKI				*eS*		Sb	17 38 45.6	-3.0
TUMD	**Tumrok D**	**3.34**	**284**	*eP*		Pb	17 39 21.6	-3.4
TUMD				*eS*		Sn	17 40 00.4	+3.7
KZV	**Kizimen**	**3.39**	**282**	*eP*		Pn	17 39 22.0	+3.7
KZV				*eS*		Sn	17 40 00.8	+2.7
TUMR	**Tumrok**	**3.50**	**285**	*eP*		Pb	17 39 24.6	-3.1
KMNR	**Kamenistaya**	**3.56**	**293**	*eP*		Pb	17 39 25.6	-3.2
KMNR				*eS*		Sb	17 40 07.2	-4.4
KLY	**Klyuchi**	**3.56**	**302**	*eS*		Sn	17 40 03.9	+1.7
KRSR	**Krestovskiy**	**3.56**	**301**	*eS*		Sn	17 40 06.5	+4.2
KIRR	**Kirishev**	**3.57**	**296**	*eS*		Sn	17 40 06.8	+4.2
SPN	**Mys Shipunski**	**3.85**	**251**	*eP*		Pn	17 39 28.5	+3.9
SPN				*eS*		Sn	17 40 12.6	+3.3
KII	**Karymskiy**	**3.91**	**265**	*eP*		Pb	17 39 30.1	-4.5
KII				*eS*		Sn	17 40 14.9	+4.2
NLC	**Nalytchevo**	**4.20**	**254**	*eP*		Pn	17 39 33.3	+3.9
NLC				*eS*		Sn	17 40 21.5	+3.7
SDLR	**Sedlovina**	**4.42**	**257**	*eP*		Pn	17 39 37.4	+4.8
SDLR				*eS*		Sn	17 40 27.8	+4.3
SMAR	**Somma**	**4.47**	**257**	*eP*		Pn	17 39 38.2	+4.8
SMAR				*eS*		Sn	17 40 29.3	+4.3
UGLR	**Uglovaya**	**4.48**	**256**	*eP*		Pn	17 39 38.0	+4.7
UGLR				*eS*		Sn	17 40 30.4	+5.5
KRER	**Koryakskii**	**4.49**	**257**	*eP*		Pn	17 39 38.3	+4.7
AVH	**Avacha**	**4.51**	**257**	*eP*		Pn	17 39 38.9	+5.2
AVH				*eS*		Sn	17 40 30.9	+5.3
KRX	**Arik**	**4.53**	**258**	*eP*		Pn	17 39 38.8	+4.7
KRX				*eS*		Sn	17 40 30.6	+4.4
KOK	**Koryaka**	**4.56**	**257**	*eP*		Pn	17 39 39.3	+4.9
DALK	**Dalny**	**4.58**	**254**	*eP*		Pn	17 39 39.0	+4.4
DALK				*eS*		Sn	17 40 31.5	+4.2
PET	**Petropavlovsk**	**4.64**	**254**	*eP*		Pn	17 39 40.0	+4.6
PET				*eS*		Sn	17 40 32.3	+4.6
RUS	**Russkaya**	**4.97**	**248**	*eP*		Pn	17 39 44.2	+4.3
RUS				*eS*		Sn	17 40 41.2	+4.4
KRMR	**Karymshinskiy**	**5.01**	**253**	*eP*		Pn	17 39 46.1	+5.6
KRMR				*eS*		Sn	17 40 42.5	+4.7
MTVR	**Mutnovka**	**5.13**	**250**	*eP*		Pn	17 39 47.0	+4.8
MTVR				*eS*		Sn	17 40 44.7	+3.8
GRL	**Gorelyy**	**5.16**	**251**	*eP*		Pn	17 39 47.7	+5.1
GRL				*eS*		Sn	17 40 47.1	+5.5
ASAK	**Asacha**	**5.33**	**250**	*eP*		Pn	17 39 50.1	+5.2
ASAK				*eS*		Sn	17 40 50.2	+4.5
KDTR	**Khodutka, Kamc**	**5.52**	**244**	*eP*		Pn	17 39 51.8	+4.4
KDTR				*eS*		Sn	17 40 52.8	+2.5
SKR	**Severo-Kuril's**	**7.17**	**242**	*eP*		Pn	17 40 14.6	+4.5
ALID	**Alaid**	**7.36**	**244**	*eP*		Pn	17 40 18.0	+5.1

WEL 12 18:13:05.5±1.1, **34°S**±13°×**178°0E**±1°5, **h292**km±26km, **M4.0/17, ML4.1/6, MLv4.0/17, Error ellipse: s-maj=0.0km s-min=0.0km az=71.5, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.60**	**197**	P		Pn	18 14 06.8	0.0
WMGZ	**Waiomatatini S**	**3.82**	**194**	P		Pn	18 14 07.5	-1.7
WMGZ				S		S	18 15 01.5	+1.3
HAZ	**Te Kaha**	**3.92**	**201**	P		Pn	18 14 09.8	-0.5
HAZ				S		S	18 15 01.0	-0.6
PUZ	**Puketiti**	**4.09**	**195**	P		Pn	18 14 10.7	-1.6
PUZ				S		S	18 15 05.6	-0.2
KUZ	**Kuaotunu**	**4.11**	**229**	P		Pn	18 14 12.7	+0.3
RUGZ	**Raukumara Rang**	**4.14**	**201**	P		Pn	18 14 13.6	+0.6
TWGZ	**Tauwhareparae**	**4.26**	**197**	P		Pn	18 14 16.2	+2.1
CNGZ	**Carnagh Statio**	**4.50**	**194**	P		Pn	18 14 16.1	-0.7
MWZ	**Matawai**	**4.53**	**201**	P		Pn	18 14 16.3	-1.0
MWZ				S		S	18 15 15.5	+0.7
TKGZ	**Te Karaka**	**4.54**	**198**	P		Pn	18 14 15.8	-1.5
TKGZ				S		S	18 15 16.7	+1.8
URZ	**Urewera**	**4.60**	**205**	P		Pn	18 14 17.9	0.0
URZ				S		S	18 15 16.9	+0.9
RAGZ	**Rawiri**	**4.71**	**201**	P		Pn	18 14 19.5	+0.1
RIGZ	**Rimuhau**	**4.81**	**197**	P		Pn	18 14 21.7	+1.2
RIGZ				S		S	18 15 21.1	+0.4
TOZ	**Tahuroa Road**	**4.90**	**221**	P		Pn	18 14 22.8	+1.3
MUGZ	**Murupara**	**4.91**	**207**	P		Pn	18 14 22.7	+1.0
RTZ	**Ruatahuna**	**4.96**	**204**	P		Pn	18 14 22.9	+0.6
AWAZ	**Awhitu Peninsu**	**4.99**	**232**	P		Pn	18 14 21.4	-1.1
SNGZ	**Shannon Statio**	**5.00**	**201**	P		Pn	18 14 22.5	-0.1
SNGZ				S		S	18 15 25.3	+0.7
OUZ	**Omahuta**	**5.06**	**256**	P		Pn	18 14 23.3	-0.1
MTHZ	**Maungataniwha**	**5.22**	**204**	P		Pn	18 14 25.9	+0.6
BKZ	**Black Stump Fm**	**5.62**	**205**	P		Pn	18 14 30.7	+0.6
HIZ	**Hauiti**	**5.82**	**220**	P		Pn	18 14 36.2	+3.9
KRHZ	**Kereru**	**6.09**	**204**	P		Pn	18 14 34.5	-1.2
KRHZ				S		S	18 15 46.6	-1.7

VAO ***12*** *18:43:31.7±1.2, 4°.20S×76°.29W, h12km±10km, mb3.9*
ISC 12 18:43:34.5±1.6, **4°.2S**±0°.1×**76°.4W**±0°.1, **h113**km, **n16, σ2s49/18, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PTLC	**Puerto Leguiza**	**4.62**	**21**	*eP*		**Pn**	**18 44 37.6**	**-4.6**
PUAC	**Puerto Asis, P**	**4.70**	**358**	*eP*		**Pn**	**18 44 46.1**	**+2.7**
OTAV	**Otavalo**	**4.84**	**335**	*eP*		**Pn**	**18 44 44.3**	**-1.3**
OTAV	**Otavalo**	**4.84**	**335**	*eP*		**Pn**	**18 44 44.8**	**-0.8**
CZSB	**Cruzeiro do Su**	**5.10**	**134**	*eP*		**Pn**	**18 44 46.7**	**-2.1**
CZSB				*eS*		**Sn**	**18 45 44.4**	**-2.2**
GCUF	**Volcan Galeras**	**5.45**	**350**	*eP*		**Pn**	**18 44 53.6**	**-0.3**
CRUC	**La Cruz**	**5.74**	**355**	*eP*		**Pn**	**18 44 57.0**	**-0.7**
FLOC	**Florencia**	**5.78**	**8**	*eP*		**Pn**	**18 44 56.9**	**-1.0**
BBAC	**Balboa, Cauca**	**6.22**	**352**	*eP*		**Pn**	**18 45 02.5**	**-1.5**
GARC	**Garzon, Huila**	**6.39**	**8**	*eP*		**Pn**	**18 45 05.0**	**-1.5**
ETMB	**Extrema**	**11.57**	**119**	*eP*		**Pn**	**18 46 15.7**	**-0.5**
ETMB				*eS*		**Sn**	**18 48 24.4**	**+0.9**
SAML	**Samuel**	**13.97**	**110**	*eP*		**Pn**	**18 46 47.8**	**+0.2**
SAML				*eS*		**Sn**	**18 49 21.5**	**-0.2**
MACA	**Manacapuru-AM**	**15.73**	**87**	*eP*		**P**	**18 47 11.8**	**+0.2**
PTLB	**Pontes e Lacer**	**20.35**	**125**	*eP*		Pn	18 48 07.8	+2.6
NPGB	**Novo Progresso**	**21.14**	**99**	*eP*		**P**	**18 48 16.0**	**+5.3**
CLDB	**Colider**	**21.48**	**109**	*eP*		**P**	**18 48 18.4**	**+4.1**
CLDB				*eS*		Sn	18 52 18.5	-3.8

NEIC ***12*** *19:07:29.5±1.0, 43°.81N±0°.05×105°.31W±0°.04, h0km±1km, ML3.5/68, Error ellipse: s-maj=9.0km s-min=3.0km az=154.0*
ANF ***12*** *19:07:29.0±0.3, 43°.78N×105°.40W, ML3.8/13, Error ellipse: s-maj=4.5km s-min=2.0km az=94.0*
IDC ***12*** *19:07:30.1±0.8, 44°.13N×105°.83W, h0km, mb4.0/5, mb1 4.0/10, mb1mx3.7/41, mbtmp3.8/10, ML3.7/5, Error ellipse: s-maj=23.2km s-min=7.2km az=144.0*
ISC 12 19:07:29.1±0.6, **43.77N**±0°.03×**105°.39W**±0°.04, **h0**km, **n129, σ1s33/139, mb4.1/5, Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.04**	**70**	P		**Pg**	**19 07 48.2**	**-0.8**
	baz=251							
RSSD	**Black Hills**	**1.04**	**70**	Pg		**Pg**	**19 07 48.1**	**-0.8**
K22A	**Casper**	**1.39**	**217**	P		**Pn**	**19 07 55.0**	**-1.0**
	baz=36,SNR=556							
K22A				S		**Sg**	**19 08 14.9**	**+1.1**
	baz=36							
K22A	**Casper**	**1.39**	**217**			**Pn**	**19 07 55.0**	**-1.0**
K22A					IAML		19 08 17.6	
	comp=E,485nm,0.6s							
K22A					IAML		19 08 19.8	
	comp=N,935nm,0.4s							
PHWY	**Pilot Hill**	**2.46**	**181**			**Pn**	**19 08 11.0**	**+0.2**
PHWY					IAML		19 08 48.5	
	comp=N,149nm,0.4s							
RWWY	**Rawlins**	**2.47**	**214**			**Pn**	**19 08 12.3**	**+1.4**
RWWY					IAML		19 08 47.7	
	comp=N,371nm,0.6s							
N23A	**Red Feather La**	**2.90**	**188**	P		**Pn**	**19 08 17.8**	**+1.1**
	baz=7.7,SNR=102							
N23A					Sb	**Sb**	**19 08 59.1**	**+1.1**
	baz=7.7							
N23A	**Red Feather La**	**2.90**	**188**	Pn		**Pn**	**19 08 17.8**	**+1.1**
N23A					IAML		19 09 00.6	
	comp=N,217nm,0.6s							
N23A					IAML		19 09 02.4	
	comp=E,151nm,0.6s							
LAO	**LASA Array**	**2.98**	**349**	P		**Pn**	**19 08 17.8**	**+0.1**
	baz=168							
LAO					Sb	**Sb**	**19 09 01.3**	**+1.1**
	baz=168							
LAO	**LASA Array**	**2.98**	**349**			**Pn**	**19 08 17.8**	**+0.1**
RLMT	**Red Lodge**	**3.09**	**297**	P		**Pn**	**19 08 20.3**	**+0.9**
	baz=115,SNR=32							
RLMT					Sb	**Sb**	**19 09 05.8**	**+2.3**
	baz=115							
RLMT	**Red Lodge**	**3.09**	**297**	Pn		**Pn**	**19 08 20.4**	**+1.0**
RLMT					IAML		19 09 18.4	
	comp=E,93nm,0.7s							
RLMT					IAML		19 09 19.6	
	comp=E,109nm,1.1s							
BW06	**Boulder Array**	**3.21**	**253**	P		**Pn**	**19 08 21.8**	**+0.8**
	baz=70							
BW06	**Boulder Array**	**3.21**	**253**			**Pn**	**19 08 22.0**	**+1.0**
BW06					IAML		19 09 11.9	
	comp=N,91nm,0.5s							
PD31	**Pinedale Array**	**3.21**	**253**			**Pn**	**19 08 22.2**	**+1.2**
PDAR	**Pinedale Array**	**3.21**	**253**	Pn		**Pn**	**19 08 21.9**	**+0.9**
	comp=N,10nm,0.3s,baz=69,slow=16,SNR=112							
PDAR					Pg	**Pb**	**19 08 25.5**	**-1.6**
	comp=N,27nm,0.3s,baz=75,slow=18,SNR=32							
PDAR					Lg	Lg	19 09 04.7	
	comp=N,26nm,0.3s,baz=76,slow=33,SNR=9.8							
PDAR	**Pinedale Array**	**3.21**	**253**			**Pn**	**19 08 22.1**	**+1.1**
YNE	**Yellowstone No**	**3.54**	**292**			**Pn**	**19 08 25.8**	**+0.2**
YMP	**Mirror Lake Pl**	**3.56**	**288**			**Pn**	**19 08 27.1**	**+1.1**
GCMT	**Greycliff**	**3.66**	**305**			**Pn**	**19 08 28.2**	**+1.1**
LKWY	**Lake**	**3.70**	**284**			**Pn**	**19 08 29.1**	**+1.4**
LKWY					IAML		19 09 00.9	
	comp=N,118nm,0.6s							
LOHW	**Long Hollow**	**3.79**	**269**	Pn		**Pn**	**19 08 30.2**	**+1.2**
H17A	**Grant Village**	**3.79**	**281**			**Pn**	**19 08 30.3**	**+1.2**
H17A					IAML		19 09 33.0	
	comp=N,63nm,0.6s							
FLWY	**Flagg Ranch**	**3.85**	**277**			**Pn**	**19 08 30.9**	**+1.0**
FLWY					IAML		19 09 40.4	
	comp=N,82nm,1.6s							
FLWY					IAML		19 10 08.3	
	comp=N,60nm,1.2s							
SNOW	**Snow King Moun**	**3.91**	**267**			**Pn**	**19 08 32.1**	**+1.4**
SNOW					IAML		19 09 07.4	
	comp=N,73nm,0.3s							
SNOW					IAML		19 09 37.2	
	comp=N,78nm,1.2s							
YPP	**Pitchstone Pla**	**3.94**	**279**			**Pn**	**19 08 32.4**	**+1.2**
ISCO	**Idaho Springs**	**3.97**	**183**	P		**Pn**	**19 08 32.2**	**+0.8**
	baz=2.2,SNR=14							
ISCO					Sb	**Sb**	**19 09 31.3**	**+2.6**
	baz=2.2							
ISCO	**Idaho Springs**	**3.97**	**183**	Pn		**Pn

SRU	San Rafael Swe	6.04 221			Pn	19 09 00.3 +0.4
PV14	Lion Creek, Pa	6.05 208			Pn	19 09 01.1 +1.1
PV20	West Nyswonger	6.06 208			Pn	19 09 01.2 +1.2
PV11	David Mesa, Pa	6.06 207			Pn	19 09 01.5 +1.3
PV16	Nyswonger Mesa	6.07 207			Pn	19 09 00.9 +0.7
PV19	Morning Glory	6.09 208			Pn	19 09 01.9 +1.3
PV03	Paradox Valley	6.10 207			Pn	19 09 01.9 +1.2
PV02	Paradox Valley	6.10 206			Pn	19 09 02.4 +1.6
S22A	4UR Ranch, Cre	6.11 191			Pn	19 09 02.3 +1.4
PV01	Paradox Valley	6.12 204			Pn	19 09 02.8 +1.8
PV18	Skein Mesa, Pa	6.12 207			Pn	19 09 01.9 +0.9
PV13	Radium Mtn., P	6.17 206			Pn	19 09 03.0 +1.3
TMUT	Trail Mountain	6.25 226			Pn	19 09 04.0 +1.2
BGU	Big Grassy Mou	6.33 246			Pn	19 09 05.2 +1.3
PV05	Paradox Valley	6.34 208			Pn	19 09 03.6 -0.4
ECSD	EROS Data Cent	6.35 87		P	Pn	19 09 03.6 -0.4
	baz=273					
ECSD				Sb	Sb	19 10 42.6 +5.6
	baz=273					
ECSD	EROS Data Cent	6.35 87			Pn	19 09 03.3 -0.7
Q16A	Castle Valley	6.51 224			Pn	19 09 07.3 +0.9
CBKS	Cedar Bluff	6.52 137			Pn	19 09 06.3 0.0
HLID	Hailey	6.55 271	Pn		Pn	19 09 07.8 +1.0
DUG	Dugway, Tooele	6.58 240	P		Pn	19 09 07.7 +0.4
	baz=54					
DUG	Dugway, Tooele	6.58 240			Pn	19 09 07.9 +0.6
T25A	Trinidad	6.66 173	P		Pn	19 09 08.5 +0.1
	baz=354					
T25A	Trinidad	6.66 173	Pn		Pn	19 09 08.7 +0.2
MSO	Missoula	6.77 300	P		Pn	19 09 09.2 -0.5
	baz=114					
MSO	Missoula	6.77 300			Pn	19 09 09.7 0.0
F33A	5 Mile Ranch,	6.79 69			Pn	19 09 07.5 -2.4
L34A	Svendsen Farm,	6.86 102			Pn	19 09 09.1 -1.9
MVCO	Mesa Verde	6.96 201			Pn	19 09 14.2 +1.6
JTMT	Jette	7.39 306			Pn	19 09 18.6 +0.4
MTPU	Mount Pierson	7.69 224			Pn	19 09 23.1 +0.4
ELK	Elko	7.91 251	Pn		Pn	19 09 27.2 +1.6
	comp=E,0.7nm,0.3s,baz=66,slow=7.5,SNR=8.6					
ELK				Lg	Lg	19 11 33.6
	comp=E,0.1nm,0.3s,baz=27,slow=18,SNR=1.5					
ELK	Elko	7.91 251			Pn	19 09 26.6 +1.1
WALA	Waterton Lakes	7.92 315	Pn		Pn	19 09 25.2 -0.3
AGMN	Agassiz Nation	8.03 52	P		Pn	19 09 25.9 -1.1
	baz=239					
AGMN	Agassiz Nation	8.03 52			Pn	19 09 25.4 -1.5
KSU1	Kansas State U	8.07 122			Pn	19 09 29.4 +1.8
PSUT	Pine Spring	8.25 234	Pn		Pn	19 09 32.3 +2.0
CCUT	Cedar City	8.67 227			Pn	19 09 37.5 +1.5
F10A	Beach Ranch, E	8.70 289			Pn	19 09 37.8 +1.6
ULM	Lac du Bonnet	9.18 42	Pn		Pn	19 09 41.7 -0.9
	comp=E,3.3nm,0.3s,baz=235,slow=11,SNR=10					
ULM				Pg		19 10 15.9
	comp=E,3.0nm,0.3s,baz=222,slow=14,SNR=5.9					
ULM				Lg	Lg	19 12 09.6
	comp=E,0.5nm,0.3s,baz=133,slow=19,SNR=1.7					
ULM	Lac du Bonnet	9.18 42			Pn	19 09 41.4 -1.2
KVN	Kaiserville	10.64 248			Pn	19 10 04.6 +1.6
NVAR	Mina Array Bea	11.11 246	Pn		Pn	19 10 11.7 +2.4
	comp=E,0.2nm,0.3s,baz=51,slow=12,SNR=9.9					
NVAR	Mina Array Bea	11.11 246			Pn	19 10 11.9 +2.5
FFC	Flin Flon	11.19 10	Pn		Pn	19 10 08.1 -2.1
TXAR	Lajitas Array	14.47 174	Pn		P	19 11 02.5 +0.3
	comp=E,0.1nm,0.3s,baz=353,slow=9.0,SNR=4.7					
TXAR				Pg		19 11 57.5
	comp=E,0.1nm,0.3s,baz=357,slow=17,SNR=4.2					
TXAR				Lg	Lg	19 15 13.1
	comp=E,0.1nm,0.3s,baz=356,slow=27,SNR=3.7					
TXAR	Lajitas Array	14.47 174	P		P	19 11 03.0 +0.8
ARCES	ARCESS Array B	61.42 18	P		P	19 17 45.0 -1.6
	comp=E,0.8nm,0.6s,baz=332,slow=6.9,SNR=7.7					
ARCES	ARCESS Array B	61.42 18	P		P	19 17 45.3 -1.2
FINES	FINESS Array B	68.04 223	P		P	19 18 29.6 -0.3
	comp=E,0.7nm,0.6s,baz=12,slow=7.5,SNR=1.2					
ZALV	Zalesovo Beam	82.27 354	P		P	19 19 50.1 -1.9
	comp=E,1.3nm,0.6s,baz=0.0,slow=5.0,SNR=3.7					
SONM	Songino Array	84.58 339	P		P	19 20 03.2 -1.0
	comp=E,0.4nm,0.5s,baz=27,slow=4.8,SNR=4.0					
MKAR	Makanchi Array	89.57 355	P		P	19 20 27.4 -0.9
	comp=E,0.8nm,0.6s,baz=16,slow=4.6,SNR=12					
MKAR	Makanchi Array	89.57 355	P		P	19 20 27.8 -0.5

IDC **12** *19:21:10.8±2.0, 10°.80S×113°.71E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.6/29, mbtmp3.7/6, ML4.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/35, Error ellipse: s-maj=74.4km s-min=21.2km az=44.0*

ISC 12 19:21:13.3±1.7, 10°.65S±0°.3×113°.9E±0°.1, h10km, n11, σ1§66/7, mb3.6/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	Baumata	9.60	88	Pn	Pn	19 23 34.1	+2.3
	2.3nm,0.3s,baz=294,slow=19,SNR=1.4						
BATI				Sn	Sn	19 25 17.8	-2.1
	3.3nm,0.3s,baz=5.1,slow=18,SNR=1.8						
FITZ	Fitzroy Crossi	13.57	125	Pn	Pn	19 24 22.2	-3.9
	0.1nm,0.3s,baz=302,slow=12,SNR=2.4						
FITZ				Sn	Sn	19 26 43.0	-14
	0.2nm,0.3s,baz=237,slow=13,SNR=1.5						
WRA	Warramunga Arr	21.75	118	P	P	19 26 04.9	-0.4
	1.0nm,0.5s,baz=291,slow=11,SNR=5.9						
ASAR	Alice Springs	23.05	127	P	P	19 26 18.4	-0.7
	0.5nm,0.3s,baz=303,slow=9.8,SNR=28						
H08S2	Diego Garcia H	40.98	271	T	T	20 12 13.2	
	baz=96,slow=75,SNR=6.6						
H08S3	Diego Garcia H	40.99	271	T	T	20 12 34.2	
	baz=96,slow=75,SNR=7.4						
H08S1	Diego Carcia H	40.99	271	T	T	20 12 24.6	
	baz=96,slow=75,SNR=8.3						
KSRS	Korea Array	49.60	15	LR	LR	19 52 29.9	
	comp=Z,8.1nm,19.4s,baz=240,slow=38						
SONM	Songino Array	58.58	354	P	P	19 31 10.3	-0.2
	0.4nm,0.7s,baz=165,slow=6.0,SNR=2.7						
MKAR	Makanchi Array	63.76	336	P	P	19 31 45.6	+0.1
	0.2nm,0.3s,baz=150,slow=7.6,SNR=5.1						
ZALV	Zalesovo Beam	68.90	342	P	P	19 32 17.4	-0.8
	0.5nm,0.3s,baz=158,slow=7.6,SNR=2.6						

TEH **12** *19:25:18.5, 28°.46N×58°.72E, h15km, ML3.7*
THR **12** *19:25:20.8±2.3, 27°.68N×60°.78E, h46km±270km, ML3.9*

ISC 12 19:25:12.3±1.1, 27°.89N±0°.07×59°.11E±0°.05, h10km, n17, σ1§39/17, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNJ	Kahnooj	1.24	273	ePg	Pg	19 25 37.6	+1.5
KHNJ				eSg	Sn	19 25 52.9	+0.4
SZD1	Zahaedan-tmp	2.22	44	ePn	Pg	19 25 55.8	+0.9
ZHSF	Zahedan	2.26	40	ePg	Pg	19 25 55.7	+0.1
ZHSF				IAML		19 26 29.8	
	comp=Z,139nm,0.6s						
CHMN	Cheshme madani	2.40	325	ePn	Pn	19 25 49.5	-2.5
CHMN				e		19 26 18.9	
CHBR	Chabahar	2.59	151	ePg	Pb	19 25 58.7	-0.1
BNDS	Bandar-Abbas	2.65	260	ePg	Sb	19 26 31.4	-1.1
BNDS				IAML		19 26 41.9	
	comp=Z,641nm,0.8s						
NGRK	Negar Kerman	2.72	311	ePn	Pn	19 25 56.4	0.0
NGRK				e		19 26 30.8	
KRBR	Kerman	2.93	316	ePg	Sn	19 26 36.5	+1.9
TVBK	TV Kerman	2.93	316	e	Sb	19 26 40.8	-0.1
KHGB	Koh Gabri	3.38	318	ePn	Pn	19 26 04.6	-0.8
KHGB				e		19 26 58.3	
NHDN	Nehbandan	3.59	13	ePn	Pn	19 26 09.6	+1.5
BSRN	Basiran	4.07	0	ePg	Pg	19 26 39.0	+8.8
IKOO	Kooshah	4.53	359	ePn	Pn	19 26 20.6	-0.5
ITEG	Tejag	5.00	357	ePn	Pn	19 26 26.6	-1.0
AFRZ	Afriz	5.52	359	ePn	Pn	19 26 33.4	-1.3
TPRV	Parvadeh(Tabas	5.54	338	ePn	Pn	19 26 32.4	-2.4
TKDS	Koohdasht(Taba	5.96	344	ePn	Pn	19 26 39.5	-1.2

IGQ **12** *19:57:58.9±0.2, 0°.S±1°.7×7°.8W, h5km, M5.1*
IDC **12** *19:57:59.0±0.5, 0°.02N×78°.26W, h0km, mb4.6/23, mb1 4.7/26, mb1mx4.7/33, mbtmp4.6/26, ML4.1/3, MS4.1/21, Ms1 4.1/21, ms1mx4.1/26, Error ellipse: s-maj=21.0km s-min=10.5km az=62.0*
MOS **12** *19:57:59.2±1.0, 0°.01S×78°.49W, h13km, mb5.2/29, Error ellipse: s-maj=9.7km s-min=4.6km az=104.9*
NEIC **12** *19:58:00.1±2.0, 0°.02S±0°.05×78°.32W±0°.06, h12km±3km, mb5.1/426, Error ellipse: s-maj=9.8km s-min=5.8km az=65.0*
VAO **12** *19:58:00.0±0.3, 0°.09N×78°.24W, h10km, mb4.8*
GCMT **12** *19:58:01.1±0.2, 0°.24S±0°.01×78°.48W±0°.01, h12km, MW5.1/125, Moment Tensor Solution. s82,c109; s125,c193; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.96±.12; Mθθ0.26±.08; Mϕϕ-5.22±.10; Mrθ-1.16±.25; Mrϕ-0.41±.07; Mθϕ0.48±.23; Best double couple: M₀5.26300×10¹⁶ NP1:ϕs197.00000°, δ44.00000°, λ109.00000°. NP2:ϕs351.00000°, δ49.00000°, λ72.00000°. Principal axes: T 5.2610, Plg76.0000°, Azm193.0000°; N 0.0080, Plg13.0000°, Azm3.0000°; P -5.2660, Plg2.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 19:58:00.2±0.6, 0°.07S±0°.02×78°.41W±0°.02, h13km±3km, n1171, σ1§40/1177, mb5.1/274, MS4.2/23, 8C-8D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FENY	Casa Vinicio C	0.10	223	P	Pg	19 58 02.2	-1.5
PRAM	Casa Patricio	0.11	229	P	Pg	19 58 02.1	-1.7
C24MA	Colegio 24 de	0.12	211	P	Pg	19 58 02.6	-1.3
PULU	Pululahua	0.13	316	P	Pg	19 58 02.0	-2.1
IRDE	Institut de re	0.14	209	P	Pg	19 58 03.0	-1.2
IRDE				S	Sg	19 58 06.2	-0.6
CIRC	Crculo Milita	0.14	212	P	Pg	19 58 02.9	-1.3
CIRC				S	Sg	19 58 06.2	-0.7
COMIL	Quito-Colegio	0.14	212	P	Pg	19 58 02.8	-1.4
CIVI	Edificio de In	0.16	210	P	Pg	19 58 03.1	-1.3
EPNL	EPN Laboratori	0.16	210	P	Pg	19 58 03.1	-1.3
YANA	Yana	0.17	254	P	Pg	19 58 02.7	-1.9
SANF	Convento San F	0.18	216	P	Pg	19 58 02.3	-2.4
GGP	Refugio Guagua	0.21	241	P	Pg	19 58 03.6	-1.6
VIFL	Administracin	0.21	213	P	Pg	19 58 03.8	-1.4
GGPC	Guagua Pichinc	0.21	240	P	Pg	19 58 03.6	-1.7
GGPC				S	Sg	19 58 07.5	-1.3
PINO	Pino	0.21	247	P	Pg	19 58 03.7	-1.6
LILI	Casa Paps Lil	0.23	211	P	Pg	19 58 04.3	-1.1
ZALD	Colegio Gonzal	0.23	214	P	Pg	19 58 04.1	-1.4
OTAV	Otavalo	0.31	353	eP	Pg	19 58 04.9	-1.9
OTAV	Otavalo	0.31	353	P	Pg	19 58 05.0	-1.9
OTAV	Otavalo	0.31	353	Pg	Pg	19 58 05.0	-1.9
OTAV				Sg	Sg	19 58 09.8	-1.5
OTAV	Otavalo	0.31	353	eP	Pg	19 58 05.0	-1.9
IMBA	Imbabura, San	0.41	32	P	Pg	19 58 08.2	-0.3
COTA	Cotacachi	0.41	10	P	Pg	19 58 07.3	-1.4
APS4	Papallacta	0.42	134	P	Pg	19 58 07.4	-1.5
APS4				S	Sg	19 58 13.3	-1.4
ANTG	Antisana-Guama	0.46	160	P	Pg	19 58 08.1	-1.3
ANTG				S	Sg	19 58 13.9	-1.8
ANTM	Antisana-La Mi	0.50	158	P	Pg	19 58 08.8	-1.4
ANTM				S	Sg	19 58 15.8	-1.2
PAC1	Pacto, Paraso	0.51	312	P	Pg	19 58 08.4	-1.9
PAC1				S	Sg	19 58 16.1	-1.0
VC1	Cotopaxi 1	0.56	179	P	Pg	19 58 10.4	-1.1
APR2	Miler	0.57	285	P	Pg	19 58 09.6	-1.9
BREF	Cotopaxi Volca	0.59	183	P	Pg	19 58 12.3	+0.3
BTAM	Cotopaxi Volca	0.60	179	P	Pg	19 58 11.2	-0.9
TAMB	Tambo	0.62	176	P	Pg	19 58 11.5	-1.0
ILLI	Illinizas Sur	0.71	206	P	Pg	19 58 12.7	-1.5
VCES	Cotopaxi	0.72	179	P	Pg	19 58 13.4	-1.0
CONE	Cono NE Rev Vo	0.77	90	P	Pg	19 58 13.9	-1.3
LAV4	Lava4-Reventad	0.78	91	P	Pg	19 58 14.1	-1.4
REVS	Reventador Sur	0.79	92	P	Pg	19 58 14.4	-1.3
ALAT	Latacunga	0.87	194	P	Pg	19 58 16.4	-0.8
CHL1	Volcn Chiles	0.98	28	P	Pg	19 58 17.3	-1.9
PIS1	Pisayambo	0.98	178	P	Pg	19 58 17.7	-1.5
ECEN	Cerro Negro	0.99	26	P	Pg	19 58 17.5	-2.1
CHL2	Volcn Chiles	1.00	30	P	Pg	19 58 17.8	-1.8
TULM	Tulcn-Chalpat	1.00	39	P	Pg	19 58 17.7	-2.0
ATUL	Tulcn	1.09	39	P	Pg	19 58 19.6	-1.6
ARDO	Archidona, Ten	1.10	146	P	Pb	19 58 20.0	-1.2
SAGO	Sagoatoa	1.10	193	P	Pg	19 58 19.7	-1.9
CMBC	Cumbal	1.17	30	eP	Pn	19 58 22.3	-0.3
BRUN	Tungurahua Vol	1.34	180	P	Pn	19 58 23.5	-1.4
POND	Pondoa	1.34	182	P	Pn	19 58 24.0	-0.9
JUI6	Juive	1.34	182	P	Pn	19 58 23.9	-1.0
RETU	Refugio	1.37	181	P	Pn	19 58 24.3	-1.2
BBIL	Ulba Tungurahu	1.37	183	P	Pn	19 58 24.6	-0.7
BPAT	Tungurahua Vol	1.42	181	P	Pn	19 58 25.2	-1.0
BMAS	Trigal station	1.42	183	P	Pn	19 58 25.0	-1.2
ARRY	Arrayan	1.42	182	P	Pn	19 58 25.0	-1.2
IGUA	Igualata	1.43	189	P	Pn	19 58 25.7	-0.6
AQUE	Quevedo	1.45	228	P	Pn	19 58 25.4	-0.7
PUYO	Puyo, Santa Ro	1.46	165	P	Pn	19 58 26.5	+0.1
GCUF	Volcan Galeras	1.68	40	eP	Pb	19 58 30.4	-0.8
PKYU	Pakayacu	1.76	152	P	Pb	19 58 32.2	-0.3
PUAC	Puerto Asis, P	1.94	71	eP	Pb	19 58 35.0	-0.5
SANGA	Volcan Sangay	1.96	179	P	Pn	19 58 34.2	+0.6
CABP	Cabo Pasado	2.04	261	P	Pn	19 58 32.8	-1.5
CRUC	La Cruz	2.19	42	eP	Pb	19 58 39.0	-0.9
AMIL	Milagro (Trans	2.37	210	P	Pb	19 58 41.8	-0.9
BBAC	Balboa, Cauca	2.38	29	eP	Pb	19 58 41.6	-1.6
PPLP	Puerto Lpez	2.78	238	P	Pn	19 58 43.0	-1.4
BOSC	San Juan Bosco	3.06	182	P	Pb	19 58 52.5	-2.1
GR1C	Gorgona, Isla	3.06	5	eP	Pn	19 58 48.1	-0.3
PCON	Cinco Dias	3.12	40	eP	Pb	19 58 53.3	-2.6
POPC	Popayan, Colom	3.12	34	eP	Pn	19 58 52.1	+2.7
MOTA	Playas El Morr	3.19	217	P	Pn	19 58 51.9	+1.8
FLOC	Florencia	3.21	59	eP	Pn	19 58 51.8	+1.4
FLOC	Florencia	3.21	59	Pn	Pn	19 58 51.3	+0.9
SALI	Salinas	3.32	231	P	Pn	19 58 52.5	+0.6
ISPG	Isla Puna-Puer	3.37	211	P	Pn	19 58 55.4	+2.8
PTLC	Puerto Leguiza	3.62	86	eP	Pn	19 58 57.1	+1.1
GARC	Garzon, Huila	3.68	52	eP	Pn	19 58 59.8	+2.7
MARP	Paez Belalcaza	3.80	40	eP	Pb	19 59 06.4	-0.9
ARNL	Arenillas	3.83	206	P	Pn	19 59 00.7	+1.9
BETC	Betania	4.04	47	eP	Pb	19 59 09.3	-2.0
MALC	Bahia Malaga	4.20	15	eP	Pn	19 59 07.0	+3.1
GONZ	Gonzanam	4.25	193	P	Pn	19 59 08.2	+3.1
YOTC	Yotoco, Valle	4.53	27	eP	Pn	19 59 11.6	+3.0
MCRA	Macar, Loja	4.54	200	P	Pn	19 59 09.8	+1.1
ORTC	Ortega, Tolima	5.07	39	eP	Pn	19 59 20.8	+4.9
MACC	Macarena, Meta	5.07	64	eP	Pn	19 59 17.0	+1.1
PIZC	Pizarro, Choco	5.11	12	eP	Pn	19 59 20.6	+4.0
PRAC	Prado	5.15	43	eP	Pn	19 59 23.3	+5.1
PLMC	San Jos del P	5.38	23	eP	Pn	19 59 23.0	+2.7
ANIL	Santa Ana	5.44	34	eP	Pn	19 59 22.7	+1.4
TOLC	Tolima	5.56	34	eP	Pn	19 59 26.7	+3.7
RREF	El Recreo	5.81	32	eP	Pn	19 59 33.5	+6.8
GUY2C	Guyana, Caldas	6.08	30	eP	Pn	19 59 33.9	+3.6
VILC	Villavicencio,	6.29	49	eP	Pn	19 59 39.9	+7.1
CVER	Cruz Verde, Cu	6.29	43	eP	Pn	19 59 40.0	+6.8
SOLC	Bahia Solano	6.34	9	eP	Pn	19 59 37.5	+4.2
GUVC	San Jose del G	6.34	66	eP	Pn	19 59 35.1	+1.7
CBOC	Ciudad Bolivar	6.37	22	eP	Pn	19 59 36.8	+2.9
ROSC	El Rosal	6.37	40	Pn	Pn	19 59 40.1	+6.0
	8.7nm,0.3s,baz=186,slow=7.6,SNR=30						
ROSC				Lg	Lg	20 01 21.8	
	5.7nm,0.3s,baz=270,slow=20,SNR=1.5						
ROSC	El Rosal	6.37	40	eP	Pn	19 59 40.4	+6.3
ROSC	El Rosal	6.37	40		Pn	19 59 36.5	+2.4
CHIC	Chingaza	6.61	45	eP	Pn	19 59 43.2	+5.8
HELC	Santa Helena	6.86	25	eP	Pn	19 59 44.5	+3.7
ATAH	Atahualpa	7.01	180	Pn	Pn	19 59 46.7	+3.6
	4.8nm,0.3s,baz=3.9,slow=9.4,SNR=24						
ATAH				Lg	Lg	20 01 42.9	
	3.1nm,0.3s,baz=86,slow=11,SNR=3.9						
SPBC	San Pablo de B	7.15	37	eP	Pn	19 59 49.8	+5.2
PTAC	Punta Ardita,	7.20	5	eP	Pn	19 59 48.3	+3.1
DBBC	Dabeiba	7.38	17	eP	Pn	19 59 53.7	+5.9
PTGC	Puerto Gaitan,	7.57	56	eP	Pn	19 59 56.6	+6.2
PTBC	PUERTO BERRIO,	7.66	31	eP	Pn	19 59 53.5	+1.9
RUSC	La Rusia	7.96	42	eP	Pn	20 00 01.3	+5.1
RUSC	La Rusia	7.96	42		Pn	20 00 01.1	+3.9
UREC	San Jos de Ur	8.29	20	eP	Pn	20 00 05.0	+4.8
ZARC	Zaragoza, Cauc	8.31	25	eP	Pn	20 00 03.7	+3.2
BARC	Barichara	8.43	38	eP	Pn	20 00 06.1	+3.7
CAPC	Capurgana	8.71	7	eP	Pn	20 00 09.9	+3.9
MOTC	Monteria, Cord	9.21	17	eP	Pn	20 00 16.6	+3.8
TAMC	Tame, Arauca	9.24	46	eP	Pn	20 00 17.2	+3.9
BCIP	Isla Barro Col	9.29	351	eP	Pn	20 00 15.0	+1.1
BCIP	Isla Barro Col	9.29	351	P	Pn	20 00 13.6	-0.3
BCIP	Isla Barro Col	9.29	351	Pn	Pn	20 00 13.6	-0.3
PAMC	Pamplona, Colo	9.31	38	eP	Pn	20 00 20.0	+5.3
CZSB	Cruzeiro do Su	9.50	143	eP	Pn	20 00 17.6	+0.8
OCAC	Ocana	9.69	31	eP	Pn	20 00 27.9	+8.3
SMLC	San Martn de	9.82	26	eP	Pn	20 00 24.5	+3.3
SJCC	San Jacinto, C	10.41	18	eP	Pn	20 00 34.0	+4.6
HDC	Heredia	11.51	331	Pn	Pn	20 00 46.7	+2.3
SDV	Santo Domingo	11.80	41	Pn	Pn	20 00 53.5	+5.0
	3.3nm,0.3s,baz=217,slow=12,SNR=20						
SDV				Lg	Lg	20 04 12.4	
	6.2nm,0.3s,baz=356,slow=16,SNR=1.8						
SDV				LR	LR	20 05 30.9	
	comp=Z,4µm,21.6s,baz=230,slow=39						
SDV	Santo Domingo	11.80	41	eP	Pn	20 00 54.7	+6.2
SDV	Santo Domingo	11.80	41		Pn	20 00 47.5	-1.0
PAYG	Puerto Ayora	11.89	267		Pn	20 00 54.9	+5.3
NNA	Nana	11.94	173	Pn	Pn	20 00 51.3	+1.1
	1.7nm,0.3s,baz=322,slow=12,SNR=5.9						
NNA				LR	LR	20 05 08.7	
	comp=Z,403nm,21.2s,baz=334,slow=36						
NNA	Nana	11.94	173	iP	Pn	20 00 52.0	+1.7
NNA				pmax	pmax		
	comp=Z,102nm,1.3s						
NNA	Nana	11.94	173		Pn	20 00 50.4	+0.1
JTS	Las Juntas de	12.18	328	Pn	Pn	20 00 58.6	+5.0
	comp=Z,1.6nm,0.3s,baz=188,slow=8.7,SNR=7.5						
JTS				LR	LR	20 04 32.7	
	comp=Z,1µm,20.6s,baz=222,slow=32						
JTS	Las Juntas de	12.18	328	P	Pn	20 00 56.5	+2.9
JTS	Las Juntas de	12.18	328		Pn	20 00 56.5	+2.9
URIC	Uribia, Colomb	13.32	28	Pn	Pn	20 01 10.9	+1.8
ESPN	Las Esperanzas	13.52	335	Pn	Pn	20 01 13.2	+1.4
ACON	Acoyapa	13.72	331	Pn	Pn	20 01 13.2	-1.3
BOAB	BOACO BROADBAN	14.37	330	Pn	Pn	20 01 26.0	+2.5
MATN	Matagalpa	14.91	330		Pn	20 01 32.7	+1.7
ESTN	Estel	15.28	329	Pn	Pn	20 01 36.6	+0.7
ESTN				IAmb	IAmb	20 01 47.9	
	comp=Z,90nm,1.1s						
CRIN	San Cristobal	15.31	326		Pn	20 01 35.0	-1.2
HATO	Hato, Curacao	15.37	37	Pn	Pn	20 01 35.1	-1.9
ETMB	Extrema	15.53	19	eP	Pn	20 01 37.3	-1.7
TGUH	Tegucigalpa,Un	16.55	328	P	P	20 01 55.5	+0.7
TGUH				IAmb	IAmb	20 02 06.3	
	comp=Z,146nm,1.1s						
SNET	Serv Nac Est T	17.37	322	P	P	20 02 03.9	0.0
SNET				IAmb	IAmb	20 02 11.9	
	comp=Z,194nm,0.9s						
SAML	Samuel	17.54	121	eP	Pn	20 02 04.1	-0.6
SAML	Samuel	17.54	121	P	Pn	20 02 02.8	-1.9
SAML				pmax	pmax		
	comp=Z,82nm,1.1s						
SAML	Samuel	17.54	121	Pn	Pn	20 02 02.8	-1.9
SAML	Samuel	17.54	121	eP	Pn	20 02 02.5	-2.2
MACA	Manacapuru-AM	17.98	100	eP	Pn	20 02 07.5	-2.6
MTO3	Montecristo	18.00	323	P	P	20 02 14.1	+3.1
MTO3				IAmb	IAmb	20 02 15.5	
	comp=Z,122nm,1.0s						
ESQI	Esquipulas	18.12	324	P	P	20 02 15.4	+3.3
ESQI				IAmb	IAmb	20 02 22.0	
	comp=Z,263nm,1.3s						
MTDJ	Mount Denham	18.20	3	P	Pn	20 02 10.6	-2.3
MTDJ				IAmb	IAmb	20 02 27.0	
	comp=Z,195nm,1.2s						
PTGA	Pitinga	18.46	92	P	Pn	20 02 18.1	+2.2
	comp=Z,0.8nm,0.3s,baz=266,slow=12,SNR=10						
PTGA				S	Sn	20 05 36.9	-5.3
	comp=Z,0.6nm,0.3s,baz=5.3,slow=16,SNR=5.0						
PTGA	Pitinga	18.46	92	P	Pn	20 02 16.1	+0.2
LPAZ	La Paz	19.04	148	P	Pn	20 02 24.1	+0.5
	comp=Z,0.2nm,0.3s,baz=340,slow=11,SNR=26						
LPAZ				Lg	Lg	20 08 04.6	
	comp=Z,0.2nm,0.3s,baz=355,slow=15,SNR=1.5						
LPAZ				LR	LR	20 11 12.0	
	comp=Z,2µm,19.5s,baz=319,slow=42						
LPAZ	La Paz	19.04

SIV	**San Ignacio**	**23.30**	**134**	P		**P**	**20 03 08.2**	**+0.1**
	comp=Z,24nm,1.0s,baz=325,slow=10.0,SNR=47							
PB09	**IPOC Station P**	**23.37**	**158**	P		**P**	**20 03 08.4**	**-0.5**
PB09				IAmb		IAmb	20 03 27.5	
	comp=Z,115nm,1.2s							
CMIG	**Matias Romero**	**23.54**	**317**	P		**P**	**20 03 12.3**	**+1.9**
	comp=Z,15nm,0.9s,baz=107,slow=7.5,SNR=14							
PB04	**IPOC Station P**	**23.55**	**161**	P		**P**	**20 03 07.5**	**-3.1**
PB04				IAmb		IAmb	20 03 33.5	
	comp=Z,50nm,0.8s							
NPGB	**Novo Progresso**	**24.02**	**107**	*e*P		**P**	**20 03 13.8**	**-1.3**
PB06	**IPOC Station P**	**24.09**	**160**	P		**P**	**20 03 12.3**	**-3.5**
PB06				IAmb		IAmb	20 03 40.8	
	comp=Z,94nm,1.4s							
MALB	**Monte Alegre**	**24.21**	**94**	*e*P		**P**	**20 03 16.6**	**-0.3**
LVC	**Limon Verde**	**24.24**	**158**	P		**P**	**20 03 19.7**	**+2.3**
	comp=Z,10nm,0.8s,baz=335,slow=8.5,SNR=6.0							
LVC	**Limon Verde**	**24.24**	**158**	P		**P**	**20 03 17.8**	**+0.4**
LVC				pmax		pmax		
	comp=Z,76nm,1.2s							
LVC	**Limon Verde**	**24.24**	**158**	P		**P**	**20 03 17.8**	**+0.4**
LVC				IAmb		IAmb	20 03 53.1	
	comp=Z,76nm,1.1s							
LVC	**Limon Verde**	**24.24**	**158**	*e*P		**P**	**20 03 19.1**	**+1.7**
PTLB	**Pontes e Lacer**	**24.41**	**130**	*e*P		**P**	**20 03 18.9**	**+0.3**
PB10	**IPOC Station P**	**24.52**	**162**	P		**P**	**20 03 20.9**	**+1.4**
PB10				IAmb		IAmb	20 03 34.4	
	comp=Z,106nm,1.3s							
PB15	**IPOC Station P**	**24.59**	**160**	P		**P**	**20 03 20.8**	**+0.4**
PB15				IAmb		IAmb	20 03 46.1	
	comp=Z,42nm,1.0s							
CLDB	**Colider**	**24.91**	**116**	*e*P		**P**	**20 03 21.5**	**-1.7**
PB14	**IPOC Station P**	**25.61**	**163**	P		**P**	**20 03 29.7**	**0.0**
PB14				IAmb		IAmb	20 04 01.2	
	comp=Z,52nm,1.1s							
061Z	**Ochoppi**	**25.90**	**355**	P		**P**	**20 03 32.3**	**+0.3**
MDP	**Montagnes des**	**26.25**	**78**	P		**P**	**20 03 36.4**	**+1.0**
	comp=Z,8.1nm,0.9s,baz=253,slow=7.2,SNR=6.2							
MCPB	**Macapa, AP**	**26.36**	**91**	*e*P		**P**	**20 03 35.8**	**-0.6**
GO02	**Mina Guanaco**	**26.36**	**162**	P		**P**	**20 03 36.4**	**-0.2**
GO02				IAmb		IAmb	20 04 05.5	
	comp=Z,84nm,1.3s							
TLIG	**Tlapa**	**26.47**	**312**	P		**P**	**20 03 37.7**	**+0.3**
TLIG				IAmb		IAmb	20 04 02.0	
	comp=Z,51nm,1.5s							
060A	**Indiantown**	**27.02**	**356**	P		**P**	**20 03 43.0**	**+0.9**
SALV	**Santo Antonio**	**27.39**	**126**	*e*P		**P**	**20 03 45.6**	**0.0**
AC02	**Maricunga**	**28.07**	**162**	P		**P**	**20 03 50.4**	**-1.7**
AC02				IAmb		IAmb	20 04 43.9	
	comp=Z,37nm,1.2s							
GO03	**Copiap**	**28.47**	**165**	P		**P**	**20 03 54.6**	**-0.5**
GO03				IAmb		IAmb	20 04 58.9	
	comp=Z,53nm,1.4s							
PRPB	**Paraupebas**	**29.18**	**103**	*e*P		**P**	**20 04 00.3**	**-1.3**
AC05	**El Transito**	**29.64**	**165**	P		**P**	**20 04 04.7**	**-1.0**
AC05				IAmb		IAmb	20 04 36.3	
	comp=Z,49nm,1.2s							
LCO	**Las Campanas**	**29.70**	**166**	P		**P**	**20 04 04.5**	**-1.9**
LCO				pmax		pmax		
	comp=Z,71nm,1.5s							
LCO	**Las Campanas**	**29.70**	**166**	P		**P**	**20 04 04.5**	**-1.9**
LCO				IAmb		IAmb	20 05 02.3	
	comp=Z,70nm,1.4s							
ARAG	**Araguaiana, MT**	**30.51**	**122**	*e*P		**P**	**20 04 13.4**	**0.0**
553A	**Crawfordville**	**30.64**	**350**	P		**P**	**20 04 13.9**	**-0.3**
CO01	**Juntas del Tor**	**30.78**	**166**	P		**P**	**20 04 13.3**	**-2.5**
GO04	**Tololo Observa**	**30.80**	**167**	P		**P**	**20 04 13.0**	**-3.0**
451A	**Vernon**	**31.31**	**348**	P		**P**	**20 04 21.7**	**+1.5**
CO03	**El Pedregal**	**31.46**	**167**	P		**P**	**20 04 20.8**	**-1.0**
CO02	**Combarbal**	**31.75**	**168**	P		**P**	**20 04 22.6**	**-1.7**
SMTB	**Santa Maria do**	**31.92**	**107**	*e*P		**P**	**20 04 25.2**	**-0.6**
255A	**Hazlehurst**	**32.06**	**353**	P		**P**	**20 04 27.0**	**+0.2**
BRAL	**Brewton**	**32.13**	**346**	P		**P**	**20 04 25.1**	**-2.3**
PEXB	**Peixe**	**32.19**	**113**	*e*P		**P**	**20 04 28.8**	**+0.6**
ZON	**Zonda**	**32.63**	**164**	P		**P**	**20 04 29.0**	**-3.0**
ZON				pmax		pmax		
	comp=Z,40nm,1.9s							
ZON	**Zonda**	**32.63**	**164**	P		**P**	**20 04 28.9**	**-3.0**
ZON				IAmb		IAmb	20 05 09.7	
	comp=Z,40nm,1.9s							
ZAIG	**Zacatecas**	**32.68**	**316**	P		**P**	**20 04 32.2**	**-0.6**
250A	**Grady**	**32.73**	**348**	P		**P**	**20 04 30.2**	**-2.5**
154A	**Montrose**	**32.81**	**353**	P		**P**	**20 04 31.4**	**-1.9**
CSU	**Charleston Sou**	**32.92**	**357**	P		**P**	**20 04 35.5**	**+1.2**
346A	**Big Creek Wild**	**33.00**	**342**	P		**P**	**20 04 35.4**	**+0.4**
CPUP	**Villa Florida**	**33.08**	**144**	P		**P**	**20 04 37.7**	**+1.9**
	comp=Z,2.5nm,0.9s,baz=329,slow=6.5,SNR=4.7							
CPUP				LR		LR	20 20 03.3	
	comp=Z,936nm,18.7s,baz=312,slow=40							
CPUP	**Villa Florida**	**33.08**	**144**	P		**P**	**20 04 34.6**	**-1.2**
CPUP				pmax		pmax		
	comp=Z,27nm,2.0s							
CPUP	**Villa Florida**	**33.08**	**144**	P		**P**	**20 04 34.6**	**-1.2**
CPUP	**Villa Florida**	**33.08**	**144**	*e*P		**P**	**20 04 37.1**	**+1.3**
152A	**Waverly Hall**	**33.11**	**350**	P		**P**	**20 04 35.5**	**-0.5**
Z58A	**St. Stephen**	**33.26**	**358**	P		**P**	**20 04 38.4**	**+1.2**
	baz=177							
VA03	**San Esteban**	**33.35**	**168**	P		**P**	**20 04 37.5**	**-0.8**
VA01	**Torpederas**	**33.39**	**170**	P		**P**	**20 04 35.2**	**-3.2**
344A	**Westbrook Farm**	**33.46**	**341**	P		**P**	**20 04 39.0**	**0.0**
ROC1	**El Roble**	**33.46**	**169**	P		**P**	**20 04 38.1**	**-1.2**
GOGA	**Godfrey**	**33.65**	**352**	P		**P**	**20 04 41.3**	**+0.7**
	baz=171							
GOGA	**Godfrey**	**33.65**	**352**	P		**P**	**20 04 41.0**	**+0.4**
GOGA				pmax		pmax		
	comp=Z,15nm,1.1s							
GOGA	**Godfrey**	**33.65**	**352**	P		**P**	**20 04 41.0**	**+0.4**
PEL	**Peldehue**	**33.69**	**168**	P		**P**	**20 04 42.2**	**+1.1**
PEL				pmax		pmax		
	comp=Z,128nm,1.9s							
PEL	**Peldehue**	**33.69**	**168**	P		**P**	**20 04 42.2**	**+1.1**
ITRB	**Iturama**	**33.71**	**127**	*e*P		**P**	**20 04 41.2**	**-0.2**
MT02	**Curacav**	**33.71**	**169**	P		**P**	**20 04 42.1**	**+0.8**
BDFB	**Brasilia**	**33.76**	**119**	P		**P**	**20 04 42.3**	**+0.2**
	comp=Z,6.3nm,0.9s,baz=238,slow=9.5,SNR=2.8							
BDFB				LR		LR	20 19 25.5	
	comp=Z,495nm,20.7s,baz=293,slow=38							
BDFB	**Brasilia**	**33.76**	**119**	P		**P**	**20 04 42.0**	**-0.1**
BDFB				pmax		pmax		
	comp=Z,15nm,0.9s							
BDFB	**Brasilia**	**33.76**	**119**	P		**P**	**20 04 42.0**	**-0.1**
Z51A	**Franklin**	**33.82**	**350**	P		**P**	**20 04 42.5**	**+0.4**
Z51A				IAmb		IAmb	20 04 44.2	
	comp=Z,74nm,1.9s							
Y59A	**Loris**	**33.89**	**359**	P		**P**	**20 04 43.5**	**+0.8**
LRAL	**Lakeview Retre**	**33.91**	**347**	P		**P**	**20 04 43.5**	**+0.5**
	baz=164,SNR=12							
LRAL	**Lakeview Retre**	**33.91**	**347**	P		**P**	**20 04 43.6**	**+0.7**
LRAL				IAmb		IAmb	20 04 44.9	
	comp=Z,30nm,1.0s							
342A	**Flagon Creek P**	**33.95**	**338**	P		**P**	**20 04 43.8**	**+0.5**
Y57A	**Sumter**	**33.96**	**357**	P		**P**	**20 04 44.2**	**+0.8**
Y57A				IAmb		IAmb	20 04 58.3	
	comp=Z,35nm,1.1s							
PCMB	**Pacaembu**	**34.05**	**131**	*e*P		**P**	**20 04 43.9**	**-0.5**
VBMS	**Vicksburg**	**34.09**	**342**	P		**P**	**20 04 44.7**	**+0.1**
HKT	**Hockley**	**34.16**	**332**	P		**P**	**20 04 44.3**	**-0.8**
HKT				pmax		pmax		
	comp=Z,41nm,1.7s							
HKT	**Hockley**	**34.16**	**332**	P		**P**	**20 04 44.3**	**-0.8**
HKT				IAmb		IAmb	20 04 52.0	
	comp=Z,41nm,1.7s							
Y52A	**Lilburn**	**34.17**	**352**	P		**P**	**20 04 44.5**	**-0.7**
735A	**Kenedy**	**34.23**	**329**	P		**P**	**20 04 45.2**	**-0.6**
JSC	**Jenkinsville**	**34.28**	**356**	P		**P**	**20 04 46.9**	**+0.8**
JSC				pmax		pmax		
	comp=Z,9.0nm,1.0s							
JSC	**Jenkinsville**	**34.28**	**356**	P		**P**	**20 04 46.9**	**+0.8**
HODGE	**Hodges**	**34.32**	**354**	P		**P**	**20 04 47.3**	**+0.8**
HODGE				IAmb		IAmb	20 04 48.8	
	comp=Z,23nm,1.2s							
Z47A	**Carrollton**	**34.32**	**346**	P		**P**	**20 04 46.7**	**+0.1**
ROSB	**Rosrio**	**34.39**	**95**	*e*P		**P**	**20 04 46.9**	**-0.6**
X56A	**White Oak**	**34.47**	**356**	P		**P**	**20 04 49.2**	**+1.3**
	baz=175							
X55A	**Gracelyn & Ava**	**34.50**	**355**	P		**P**	**20 04 49.5**	**+1.5**
	baz=174							
Y49A	**Blount Mountai**	**34.58**	**348**	P		**P**	**20 04 47.2**	**-1.6**
BIRD	**Birdtown, Kers**	**34.59**	**357**	P		**P**	**20 04 49.6**	**+0.8**
BIRD				IAmb		IAmb	20 05 04.7	
	comp=Z,45nm,1.6s							
IPMB	**Ipameri, GO**	**34.62**	**123**	*e*P		**P**	**20 04 49.6**	**+0.2**
X54A	**Belton**	**34.64**	**354**	P		**P**	**20 04 50.3**	**+1.0**
	baz=173							
833A	**Chaparral WMA,**	**34.66**	**326**	P		**P**	**20 04 51.2**	**+1.6**
	baz=141							
833A	**Chaparral WMA,**	**34.66**	**326**	P		**P**	**20 04 50.9**	**+1.3**
BO01	**Tunca**	**34.82**	**169**	P		**P**	**20 04 51.1**	**+0.2**
BO01				IAmb		IAmb	20 04 53.8	
	comp=Z,50nm,1.6s							
143A	**Socs Landing,**	**34.83**	**341**	P		**P**	**20 04 49.9**	**-1.1**
PAULI	**Pauline**	**34.86**	**355**	P		**P**	**20 04 50.2**	**-1.0**
PAULI				IAmb		IAmb	20 06 03.6	
	comp=Z,20nm,0.6s							
W57A	**Gilead**	**35.08**	**358**	P		**P**	**20 04 53.9**	**+0.9**
	baz=177							
W57A	**Gilead**	**35.08**	**358**	P		**P**	**20 04 51.8**	**-1.3**
W57A				IAmb		IAmb	20 05 08.8	
	comp=Z,22nm,0.9s							
W56A	**Indian Trail**	**35.09**	**357**	P		**P**	**20 04 54.1**	**+1.0**
	baz=176							
FPAL	**Fort Paine**	**35.09**	**350**	P		**P**	**20 04 53.0**	**-0.2**
BG3	**Lake Jocassee**	**35.14**	**354**	P		**P**	**20 04 54.0**	**+0.3**
BG3				IAmb		IAmb	20 05 58.1	
	comp=Z,20nm,0.5s							
W54A	**Cherokee Point**	**35.16**	**355**	P		**P**	**20 04 55.0**	**+1.3**
	baz=173							
GO05	**Huala**	**35.28**	**171**	P		**P**	**20 04 56.0**	**+1.1**
GO05				IAmb		IAmb	20 05 05.1	
	comp=Z,25nm,1.1s							
X48A	**Hartselle**	**35.28**	**348**	P		**P**	**20 04 54.4**	**-0.4**
X48A				IAmb		IAmb	20 05 07.7	
	comp=Z,20nm,0.7s							
Y45A	**Yeager Farm, C**	**35.34**	**344**	P		**P**	**20 04 55.5**	**+0.1**
PTQB	**Pitanga**	**35.36**	**136**	*e*P		**P**	**20 04 57.4**	**+1.6**
W52A	**Murphy**	**35.36**	**352**	P		**P**	**20 04 55.8**	**+0.2**
W52A				IAmb		IAmb	20 05 59.7	
	comp=Z,19nm,0.7s							
SDBA	**SAO DESIDERIO**	**35.43**	**112**	*e*P		**P**	**20 04 54.8**	**-1.6**
V59A	**Middlesex**	**35.66**	**0**	P		**P**	**20 04 59.2**	**+1.2**
	baz=180							
V60A	**Jim Taylor Roa**	**35.67**	**2**	P		**P**	**20 04 59.5**	**+1.4**
	baz=182							
V60A	**Jim Taylor Roa**	**35.67**	**2**	P		**P**	**20 04 57.7**	**-0.4**
V60A				IAmb		IAmb	20 05 15.2	
	comp=Z,30nm,0.9s							
W50A	**Signal Mountai**	**35.68**	**350**	P		**P**	**20 04 58.9**	**+0.6**
W50A				IAmb		IAmb	20 05 11.7	
	comp=Z,18nm,0.8s							
435B	**Jarrell**	**35.69**	**331**	P		**P**	**20 04 58.3**	**0.0**
V58A	**Windy Hill, Pi**	**35.69**	**359**	P		**P**	**20 04 59.3**	**+1.0**
	baz=179							
V58A	**Windy Hill, Pi**	**35.69**	**359**	P		**P**	**20 04 58.1**	**-0.2**
V58A				IAmb		IAmb	20 05 12.3	
	comp=Z,34nm,1.1s							
V56A	**Mocksville**	**35.75**	**357**	P		**P**	**20 04 60.0**	**+1.1**
	baz=176							
V53A	**Saluda**	**35.80**	**354**	P		**P**	**20 04 59.3**	**0.0**
V53A				IAmb		IAmb	20 05 43.1	
	comp=Z,21nm,0.8s							
CPCT	**Cooper Cave**	**35.80**	**351**	P		**P**	**20 04 59.6**	**+0.4**
CPCT				IAmb		IAmb	20 06 02.1	
	comp=Z,24nm,0.7s							
V57A	**Coltrane Farms**	**35.80**	**358**	P		**P**	**20 04 59.5**	**+0.2**
	baz=178							
SWET	**Sewanee**	**35.80**	**349**	P		**P**	**20 04 59.4**	**+0.1**
Z41A	**Richland Creek**	**35.81**	**339**	P		**P**	**20 04 59.6**	**+0.2**
	baz=155							
Z41A	**Richland Creek**	**35.81**	**339**	P		**P**	**20 04 59.6**	**+0.2**
Z41A				IAmb		IAmb	20 05 01.1	
	comp=Z,44nm,1.1s							
V54A	**Nebo**	**35.82**	**355**	P		**P**	**20 05 00.5**	**+1.1**
	baz=174							
V55A	**Taylorsville**	**35.84**	**356**	P		**P**	**20 05 01.1**	**+1.5**
	baz=175							
V55A	**Taylorsville**	**35.84**	**356**	P		**P**	**20 04 59.0**	**-0.6**
V55A				IAmb		IAmb	20 05 43.7	
	comp=Z,23nm,1.0s							
BB19B	**Bebedouro**	**35.88**	**127**	*e*P		**P**	**20 04 59.8**	**-0.4**
237A	**Washetta, Mont**	**35.90**	**334**	P		**P**	**20 05 00.3**	**+0.1**
237A				IAmb		IAmb	20 05 02.4	
	comp=Z,41nm,0.9s							
TKL	**Tuckaleechee C**	**35.90**	**353**	P		**P**	**20 05 00.2**	**+0.1**
TKL				pmax		pmax		
	comp=Z,25nm,0.6s							
TKL	**Tuckaleechee C**	**35.90**	**353**	P		**P**	**20 05 00.2**	**+0.1**
TKL				IAmb		IAmb	20 05 47.8	
	comp=Z,25nm,0.6s							
OXF	**Oxford**	**35.91**	**344**	P		**P**	**20 05 00.9**	**+0.7**
	baz=161							
OXF	**Oxford**	**35.91**	**344**	P		**P**	**20 05 00.3**	**0.0**
OXF				pmax		pmax		
	comp=Z,51nm,1.3s							
OXF	**Oxford**	**35.91**	**344**	P		**P**	**20 05 00.3**	**0.0**
OXF				IAmb		IAmb	20 05 13.6	
	comp=Z,51nm,1.2s							
PLAL	**Pickwick Lake**	**36.03**	**346**	P		**P**	**20 05 01.1**	**-0.1**
PLAL				IAmb		IAmb	20 05 02.7	
	comp=Z,31nm,1.1s							
V52A	**Sevierville**	**36.06**	**353**	P		**P**	**20 05 01.6**	**+0.1**
CCAR	**Cane Creek**	**36.06**	**341**	P		**P**	**20 05 01.1**	**-0.4**
V51A	**Loudon**	**36.12**	**352**	P		**P**	**20 05 02.4**	**+0.4**
U59A	**Littleton**	**36.25**	**1**	P		**P**	**20 05 04.3**	**+1.2**
	baz=181							
U59A	**Littleton**	**36.25**	**1**	P		**P**	**20 05 03.2**	**+0.1**
U59A				IAmb		IAmb	20 05 24.7	
	comp=Z,50nm,1.6s							
U56A	**King**	**36.28**	**357**	P		**P**	**20 05 04.5**	**+1.1**
	baz=176							
U56A	**King**	**36.28**	**357**	P		**P**	**20 05 02.4**	**-1.0**
U56A				IAmb		IAmb	20 05 51.4	
	comp=Z,21nm,0.9s							
U58A	**Oxford**	**36.28**	**360**	P		**P**	**20 05 04.0**	**+0.6**
	baz=180							
WLAR	**White Oak Lake**	**36.31**	**339**	P		**P**	**20 05 04.4**	**+0.7**
U57A	**Blanch**	**36.33**	**359**	P		**P**	**20 05 04.7**	**+0.9**
	baz=178,SNR=6.3							
X43A	**Marvell**	**36.34**	**342**	P		**P**	**20 05 03.9**	**0.0**
	baz=158							
X43A	**Marvell**	**36.34**	**342**	P		**P**	**20 05 01.7**	**-2.2**
X43A				IAmb		IAmb	20 05 08.7	
	comp=Z,26nm,0.9s							
W45A	**Hickory Valley**	**36.47**	**345**	P		**P**	**20 05 04.6**	**-0.4**
U55A	**TA2, Sparta**	**36.47**	**356**	P		**P**	**20 05 06.0**	**+0.9**
	baz=175							
V48A	**Smith Brothers**	**36.48**	**348**	P		**P**	**20 05 05.0**	**-0.2**
V48A				IAmb		IAmb	20 05 18.2	
	comp=Z,33nm,0.7s							
U54A	**Nelsons Funny**	**36.55**	**355**	P		**P**	**20 05 06.2**	**+0.5**
	baz=174							
U54A	**Nelsons Funny**	**36.55**	**355**	P		**P**	**20 05 05.3**	**-0.4**
JCT	**Junction City**	**36.56**	**328**	P		**P**	**20 05 07.3**	**+1.4**
	baz=142							
JCT	**Junction City**	**36.56**	**328**	P		**P**	**20 05 07.4**	**+1.4**
JCT				pmax		pmax		
	comp=Z,101nm,1.6s							
JCT	**Junction City**	**36.56**	**328**	P		**P**	**20 05 07.4**	**+1.4**
WHTX	**Lake Whitney,**	**36.63**	**332**	P		**P**	**20 05 07.5**	**+1.1**
	baz=147							
WHTX	**Lake Whitney,**	**36.63**	**332**	P		**P**	**20 05 06.7**	**+0.3**
WHTX				IAmb		IAmb	20 05 17.1	
	comp=Z,49nm,1.4s							
Z38A	**Mt. Pleasant**	**36.64**	**336**	P		**P**	**20 05 06.2**	**-0.3**
Z38A				IAmb		IAmb	20 05 14.2	
	comp=Z,34nm,0.9s							
CLTN	**Cedars of Leba**	**36.73**	**349**	P		**P**	**20 05 06.6**	**-0.6**
TZTN	**Tazewell**	**36.74**	**353**	P		**P**	**20 05 08.2**	**+0.9**
	baz=171							
TZTN	**Tazewell**	**36.74**	**353**	P		**P**	**20 05 08.3**	**+0.9**
TZTN				IAmb		IAmb	20 05 20.8	
	comp=Z,62nm,1.4s							
T58A	**Grand View Acr**	**36.83**	**360**	P		**P**	**20 05 08.8**	**+0.7**
	baz=180							
JANB	**Januaria**	**36.84**	**115**	*e*P		**P**	**20 05 06.1**	**-2.5**
T59A	**Double "B" Far**	**36.87**	**1**	P		**P**	**20 05 09.4**	**+1.0**
	baz=181							
T59A	**Double "B" Far**	**36.87**	**1**	P		**P**	**20 05 09.0**	**+0.6**
T59A				IAmb		IAmb	20 05 16.0	
	comp=Z,43nm,1.4s							
T57A	**Hurt**	**36.90**	**359**	P		**P**	**20 05 09.6**	**+0.9**
	baz=178							
T57A	**Hurt**	**36.90**	**359**	P		**P**	**20 05 09.5**	**+0.9**
BI03	**Tigo**	**36.93**	**173**	P		**P**	**20 05 09.0**	**+0.1**
BI03				IAmb		IAmb	20 05 19.3	
	comp=Z,33nm,1.1s							
X40A	**Basin Creek Fa**	**36.94**	**340**	P		**P**	**20 05 09.1**	**+0.1**
	baz=155							
X40A	**Basin Creek Fa**	**36.94**	**340**	P		**P**	**20 05 08.1**	**-1.0**
T56A	**Rocky Mt**	**36.95**	**358**	P		**P**	**20 05 10.5**	**+1.5**
	baz=177							
ITAB	**Concordia**	**36.97**	**139**	*e*P		**P**	**20 05 08.8**	**-0.6**
BI02	**San Fabin de**	**37.00**	**170**	P		**P**	**20 05 09.8**	**+0.1**
UALR	**University of**	**37.04**	**341**	P		**P**	**20 05 09.4**	**-0.4**
UALR				IAmb		IAmb	20 05 10.9	
	comp=Z,37nm,0.8s							
U49A	**Red Boiling Sp**	**37.04**	**350**	P		**P**	**20 05 09.3**	**-0.6**
U49A				IAmb		IAmb	20 06 02.6	
	comp=Z,23nm,0.6s							
T54A	**Tazewell**	**37.06**	**356**	P		**P**	**20 05 10.7**	**+0.5**
	baz=175							
WVT	**Waverly**	**37.07**	**347**	P		**P**	**20 05 10.0**	**-0.1**
	baz=164							
WVT	**Waverly**	**37.07**	**347**	P		**P**	**20 05 09.0**	**-1.1**
WVT				pmax		pmax		
	comp=Z,13nm,0.7s							
WVT	**Waverly**	**37.07**	**347**	P		**P**	**20 05 09.0**	**-1.1**
BLA	**Blacksburg**	**37.15**	**357**	P		**P**	**20 05 11.7**	**+0.9**
	baz=176							
BLA	**Blacksburg**	**37.15**	**357**	P		**P**	**20 05 10.3**	**-0.5**
BLA				pmax		pmax		
	comp=Z,22nm,0.7s							
BLA	**Blacksburg**	**37.15**	**357**	P		**P**	**20 05 10.3**	**-0.5**
BLA				IAmb		IAmb	20 05 42.7	
	comp=Z,22nm,0.7s							
VWCC	**Virginia Weste**	**37.16**	**358**	P		**P**	**20 05 10.2**	**-0.7**
HBAR	**Harrisburg**	**37.24**	**343**	P		**P**	**20 05 11.0**	**-0.5**
MIAR	**Mount Ida**	**37.25**	**339**	P		**P**	**20 05 11.5**	**-0.2**
	baz=154,SNR=5.7							
MIAR	**Mount Ida**	**37.25**	**339**	P		**P**	**20 05 10.7**	**-1.0**
MIAR				pmax		pmax		
	comp=Z,12nm,1.0s							
MIAR	**Mount Ida**	**37.25**	**339**	P		**P**	**20 05 10.7**	**-1.0**
W41B	**Gary Mavity, V**	**37.37**	**341**	P		**P**	**20 05 12.6**	**-0.1**
	baz=157,SNR=12							
W41B	**Gary Mavity, V**	**37.37**	**341**	P		**P**	**20 05 11.7**	**-0.9**
W41B				IAmb		IAmb	20 05 13.8	
	comp=Z,30nm,1.0s							
RCLB	**Rio Claro- Sao**	**37.38**	**129**	*e*P		**P**	**20 05 12.8**	**-0.3**
T50A	**Nancy**	**37.38**	**352**	P		**P**	**20 05 10.2**	**-2.6**
WHAR	**Wooly Hollow**	**37.49**	**341**	P		**P**	**20 05 12.8**	**-0.9**
WHAR				IAmb		IAmb	20 05 14.7	
	comp=Z,30nm,0.9s							
S58A	**Poland Farm, P**	**37.50**	**0**	P		**P**	**20 05 13.0**	**-0.7**
GLAT	**Glass**	**37.55**	**346**	P		**P**	**20 05 13.7**	**-0.4**
S56A	**Natural Bridge**	**37.58**	**358**	P		**P**	**20 05 15.4**	**+0.9**
	baz=178							
S60A	**Water View**	**37.63**	**2**	P		**P**	**20 05 16.2**	**+1.4**
	baz=183							
S57A	**Dark Hollow, R**	**37.65**	**359**	P		**P**	**20 05 16.1**	**+1.0**
	baz=179							
S57A	**Dark Hollow, R**	**37.65**	**359**	P		**P**	**20 05 15.4**	**+0.4**
Z35A	**Perchaven, San**	**37.66**	**334**	P		**P**	**20 05 15.3**	**+0.1**
Z35A				IAmb		IAmb	20 05 22.6	
	comp=Z,102nm,1.7s							
S59A	**Mechanicsville**	**37.66**	**1**	P		**P**	**20 05 16.1**	**+1.0**
	baz=182							
S55A	**Lewisburg**	**37.71**	**357**	P		**P**	**20 05 16.6**	**+1.1**
	baz=176							
T47A	**Sharon Grove**	**37.75**	**349**	P		**P**	**20 05 15.2**	**-0.7**
MC01	**Montes Claros**	**37.78**	**118**	*e*P		**P**	**20 05 15.8**	**-0.7**
HICK	**Hickman**	**37.79**	**346**	P		**P**	**20 05 15.8**	**-0.4**
R58B	**Mineral**	**37.85**	**1**	P		**P**	**20 05 17.7**	**+1.0**
	baz=181							
R58B	**Mineral**	**37.85**	**1**	P		**P**	**20 05 16.8**	**+0.1**
LCAR	**Lake Charles**	**37.86**	**343**	P		**P**	**20 05 16.2**	**-0.7**
LCAR				IAmb		IAmb	20 05 17.6	
	comp=Z,43nm,0.9s							
TXAR	**Lajitas Array**	**37.90**	**323**	P		**P**	**20 05 19.5**	**+2.1**
	comp=Z,4.0nm,1.0s,baz=140,slow=9.9,SNR=28							
TXAR				PcP		**PcP**	**20 07 34.8**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=151,slow=5.9,SNR=6.3							
TXAR	**Lajitas Array**	**37.90**	**323**	P		**P**	**20 05 18.3**	**+0.9**
TXAR	**Lajitas Array**	**37.90**	**323**	P		**P**	**20 05 18.3**	**+0.9**
TX31	**Lajitas Ar. Si**	**37.90**	**323**	P		**P**	**20 05 18.0**	**+0.6**
TX31				IAmb		IAmb	20 05 40.0	
	comp=Z,47nm,1.3s							
TX31						**PcP**	**20 07 34.3**	**+0.7**
TX32	**Lajitas Array**	**37.90**	**323**	P		**P**	**20 05 17.6**	**+0.2**
W39A	**Magazine**	**37.91**	**339**	P		**P

P58A Pank, Wackersv 39.39 1 P P 20 05 30.8 +1.3
baz=182
P56A Dayton Farm, R 39.39 359 P P 20 05 31.1 +1.5
baz=179,SNR=6.4
FVM French Village 39.46 345 P P 20 05 29.0 -1.2
FVM pmax pmax
comp=Z,41nm,1.0s
FVM French Village 39.46 345 P P 20 05 29.0 -1.2
FVM IAmb IAmb 20 05 30.9
comp=Z,41nm,1.0s
P53A Whipple 39.47 356 P P 20 05 30.8 +0.6
baz=175
P53A Whipple 39.47 356 P P 20 05 29.3 -1.0
OKCFA Oklahoma City 39.52 335 P P 20 05 29.1 -1.7
WMOK Wichita Mounta 39.53 333 P P 20 05 31.0 +0.1
baz=147
WMOK Wichita Mounta 39.53 333 P P 20 05 28.2 -2.7
WMOK pmax pmax
comp=Z,19nm,1.4s
WMOK Wichita Mounta 39.53 333 P P 20 05 28.2 -2.7
P54A Burton 39.53 357 P P 20 05 31.2 +0.4
baz=177
P51A Williamsport 39.59 354 P P 20 05 28.5 -2.9
OK025 Westminster Rd 39.62 336 P P 20 05 30.1 -1.5
OK025 IAmb IAmb 20 05 37.8
comp=Z,48nm,1.3s
OLIL Olney 39.63 348 P P 20 05 31.0 -0.7
OLIL IAmb IAmb 20 05 32.0
comp=Z,45nm,1.1s
P52A Corning 39.66 355 P P 20 05 32.1 +0.2
baz=174
P52A Corning 39.66 355 P P 20 05 29.9 -2.1
P52A IAmb IAmb 20 05 48.6
comp=Z,30nm,0.8s
P61A Hammonton 39.70 4 P P 20 05 31.2 -1.0
CCM Cathedral Cave 39.74 344 P P 20 05 31.9 -0.7
baz=160
CCM Cathedral Cave 39.74 344 P P 20 05 31.0 -1.6
CCM pmax pmax
comp=Z,26nm,1.1s
CCM Cathedral Cave 39.74 344 P P 20 05 31.0 -1.6
P60A Greenville 39.78 3 P P 20 05 34.2 +1.4
baz=184
P60A Greenville 39.78 3 P P 20 05 30.9 -1.9
BCOK Bluff Creek, N 39.79 335 P P 20 05 30.5 -2.6
BCOK IAmb IAmb 20 05 45.7
comp=Z,48nm,0.6s
OK029 Liberty Lake 39.85 336 P P 20 05 32.8 -0.7
OK029 IAmb IAmb 20 05 45.8
comp=Z,45nm,1.2s
P48A Milroy 39.87 352 P P 20 05 32.5 -1.1
QUOK Quay 39.87 337 P P 20 05 33.6 -0.1
QUOK IAmb IAmb 20 05 34.9
comp=Z,39nm,1.1s
MVL Millersville 39.93 2 P P 20 05 33.4 -0.7
Q44A Meyer Farm, Va 39.99 347 P P 20 05 34.0 -0.7
Q44A IAmb IAmb 20 05 35.4
comp=Z,45nm,1.1s
S39A Bolivar 40.02 341 P P 20 05 34.5 -0.4
SLM Saint Louis 40.02 346 P P 20 05 34.3 -0.6
SLM pmax pmax
comp=Z,48nm,1.3s
SLM Saint Louis 40.02 346 P P 20 05 34.3 -0.6
SLM IAmb IAmb 20 05 35.4
comp=Z,48nm,1.3s
O58A Lewisberry 40.03 2 P P 20 05 36.6 +1.7
baz=182
O55A Ligonier 40.10 359 P P 20 05 37.1 +1.5
baz=178
O57A Amberson 40.10 1 P P 20 05 37.3 +1.7
baz=181
O54A Avella 40.10 358 P P 20 05 36.2 +0.6
baz=177
O54A Avella 40.10 358 P P 20 05 34.1 -1.5
O52A Adamsville 40.12 356 P P 20 05 35.9 +0.2
baz=174
O52A Adamsville 40.12 356 P P 20 05 35.0 -0.7
PAGS Pennsylvania G 40.14 2 P P 20 05 35.1 -0.7
PAGS IAmb IAmb 20 05 52.5
comp=Z,78nm,1.9s
O56A Blue Knob Stat 40.15 360 P P 20 05 37.8 +1.8
baz=180,SNR=5.4
O56A Blue Knob Stat 40.15 360 P P 20 05 36.6 +0.6
O53A New Philadelph 40.21 357 P P 20 05 37.2 +0.8
baz=176
O53A New Philadelph 40.21 357 P P 20 05 35.9 -0.6
O53A IAmb IAmb 20 06 18.0
comp=Z,22nm,0.7s
O59A Robesonia 40.25 3 P P 20 05 38.4 +1.6
baz=183
R40A Maddies Statio 40.25 343 P P 20 05 35.9 -0.9
O60A Telford 40.29 4 P P 20 05 38.5 +1.4
baz=184
ACSO Alum Creek Sta 40.33 355 P P 20 05 38.1 +0.6
baz=173
GDL2 Guadalupe Moun 40.39 325 P P 20 05 37.6 -0.6
MAN01 Angra dos Reis 40.44 126 eP P 20 05 38.5 -0.2
T35A Sooner Cattle 40.45 337 P P 20 05 37.1 -1.4
MNTX Cornudas Mount 40.62 324 P P 20 05 41.4 +1.4
baz=136,SNR=27
MNTX Cornudas Mount 40.62 324 P P 20 05 40.4 +0.3
N57A Milroy 40.65 1 P P 20 05 41.4 +1.3
baz=181
N55A Marion Center 40.67 359 P P 20 05 41.5 +1.3
baz=179,SNR=5.4
N53A Lisbon 40.75 357 P P 20 05 41.9 +1.0
baz=176
N58A Sunbury 40.75 2 P P 20 05 42.6 +1.7
baz=182
GDU01 Guandu, BA 40.77 111 eP P 20 05 42.3 +0.8
N56A West Decatur 40.80 0 P P 20 05 42.7 +1.3
baz=180,SNR=5.6
P43A Skaggs, Pawnee 40.81 347 P P 20 05 40.5 -0.9
P43A IAmb IAmb 20 05 41.8
comp=Z,81nm,1.4s
MSTX Muleshoe 40.85 328 P P 20 05 43.4 +1.4
baz=141,SNR=23
MSTX Muleshoe 40.85 328 P P 20 05 41.2 -0.8
MSTX IAmb IAmb 20 05 53.5
comp=Z,69nm,1.0s
N60A Cedar Hill Far 40.86 4 P P 20 05 44.4 +2.6
baz=185
N54A Moraine State 40.87 358 P P 20 05 42.9 +1.0
baz=177
N54A Moraine State 40.87 358 P P 20 05 42.6 +0.7
N54A IAmb IAmb 20 06 02.5
comp=Z,61nm,1.4s
N59A State Game Lan 40.87 3 P P 20 05 43.8 +1.8
baz=184
N59A State Game Lan 40.87 3 P P 20 05 42.8 +0.9
KAN13 South Haven SW 40.91 336 P P 20 05 41.9 -0.4
N51A Ashland 40.96 355 P P 20 05 42.5 -0.1
baz=174
AMTX Amarillo 41.02 330 P P 20 05 44.6 +1.3
baz=143
AMTX Amarillo 41.02 330 P P 20 05 43.9 +0.6
AMTX IAmb IAmb 20 05 54.0
comp=Z,37nm,0.9s
PAL Palisades 41.09 5 P P 20 05 46.1 +2.4
baz=187
PLCA Paso Flores 41.10 171 P P 20 05 44.0 +0.1
comp=Z,11nm,1.0s,baz=330,slow=9.0,SNR=10
PLCA LR LR 20 20 42.8
comp=Z,269nm,21.5s,baz=332,slow=33
PLCA Paso Flores 41.10 171 P P 20 05 43.5 -0.4
PLCA pmax pmax
comp=Z,26nm,1.3s
PLCA Paso Flores 41.10 171 P P 20 05 43.5 -0.4
PLCA Paso Flores 41.10 171 eP P 20 05 45.6 +1.8
M57A Sunshine Farm, 41.24 1 P P 20 05 46.6 +1.7
baz=182,SNR=5.5
M57A Sunshine Farm, 41.24 1 P P 20 05 46.2 +1.3
M57A IAmb IAmb 20 05 47.9
comp=Z,39nm,1.2s
M58A Price's Panora 41.29 2 P P 20 05 46.8 +1.4
baz=183
P40A Paris 41.34 344 P P 20 05 44.5 -1.3
M55A Ridgway 41.35 360 P P 20 05 46.2 +0.3
baz=179
M55A Ridgway 41.35 360 P P 20 05 44.1 -1.8
M55A IAmb IAmb 20 05 48.1
comp=Z,46nm,1.4s
KAN12 Harper NE Stat 41.36 336 P P 20 05 46.2 +0.1
M56A Emporium 41.37 0 P P 20 05 46.9 +0.9
baz=180,SNR=7.8
M56A Emporium 41.37 0 P P 20 05 45.8 -0.2
M56A IAmb IAmb 20 05 48.4
comp=Z,58nm,1.2s
M53A WI Miller and 41.37 357 P P 20 05 46.2 +0.2
baz=176
M54A Oil Creek Stat 41.41 359 P P 20 05 46.9 +0.6
baz=178
M61A Granite Spring 41.41 5 P P 20 05 47.6 +1.3
baz=187
M59A Waymart 41.51 3 P P 20 05 48.1 +1.0
baz=184
M62A Hamden 41.63 6 P P 20 05 49.3 +1.2
baz=188
HDIL Hopedale 41.63 347 P P 20 05 46.9 -1.3
baz=163
M63A Gales Ferry 41.69 7 P P 20 05 47.8 -0.8
baz=189
P38A Dawn 41.86 342 P P 20 05 48.8 -1.2
L53A Girard 41.87 358 P P 20 05 50.3 +0.3
baz=177
L57A Andrews Acres 41.91 2 P P 20 05 51.9 +1.5
baz=182
M64A Tiverton 41.94 8 P P 20 05 51.4 +0.8
baz=191
L58A Harry Jones Me 41.99 3 P P 20 05 52.5 +1.4
baz=184
L56A Greenwood 42.02 1 P P 20 05 52.6 +1.1
baz=181
L56A Greenwood 42.02 1 P P 20 05 51.8 +0.3
L60A Shokan 42.04 5 P P 20 05 53.2 +1.7
baz=186
L55A Hinsdale 42.06 360 P P 20 05 52.8 +1.1
baz=180
L54A Sinclairville 42.12 359 P P 20 05 52.8 +0.7
baz=178
BINY Binghamton 42.14 3 P P 20 05 54.0 +1.7
baz=183
BINY Binghamton 42.14 3 P P 20 05 52.9 +0.6
BINY IAmb IAmb 20 06 09.2
comp=Z,71nm,1.6s
L59A Walton 42.18 4 P P 20 05 53.9 +1.3
baz=185
KSU1 Kansas State U 42.41 339 P P 20 05 54.3 -0.2
baz=152
KSU1 Kansas State U 42.41 339 P P 20 05 54.1 -0.4
KSU1 IAmb IAmb 20 05 55.5
comp=Z,26nm,0.9s
K54A Basiliko Farm, 42.49 360 P P 20 05 56.1 +0.9
baz=179
K55A Perry 42.61 0 P P 20 05 57.2 +1.1
baz=180
MMNY Mt. Morris Dam 42.62 1 P P 20 05 54.8 -1.4
MMNY IAmb IAmb 20 05 58.2
comp=Z,92nm,1.5s
K57A Scipio Center 42.65 2 P P 20 05 57.7 +1.2
baz=183
121A Cookes Peak, D 42.66 322 P P 20 05 59.7 +2.9
baz=134,SNR=15
121A Cookes Peak, D 42.66 322 P P 20 05 59.2 +2.3
121A IAmb IAmb 20 06 10.1
comp=Z,30nm,0.8s
K58A Earlville 42.72 3 P P 20 05 58.2 +1.1
baz=184
K59A Cooperstown 42.78 4 P P 20 05 58.8 +1.3
baz=185
319A Douglas 42.82 320 P P 20 05 59.6 +1.4
319A IAmb IAmb 20 06 11.6
comp=Z,43nm,1.2s
HRV Adam Dziewonsk 42.84 7 P P 20 05 57.8 -0.2
baz=190
K62A Royalston 42.91 7 P P 20 05 59.9 +1.4
baz=189
K62A Royalston 42.91 7 P P 20 05 58.4 -0.2
K63A Dunstable 43.02 7 P P 20 06 00.6 +1.2
baz=190
BNM Barren Site 43.11 325 P P 20 06 02.0 +1.4
J55A Hilton 43.15 1 P P 20 06 01.4 +0.9
baz=181
J56A Wolcott 43.18 2 P P 20 06 01.5 +0.8
baz=182
LENM Lemitar 43.32 325 P P 20 06 03.8 +1.5
J58A Remsen 43.33 3 P P 20 06 03.2 +1.2
baz=184
J60A Lant Hill Farm 43.36 5 P P 20 06 03.8 +1.7
baz=187
CBKS Cedar Bluff 43.37 336 P P 20 06 03.0 +0.6
baz=148
ACCN Adirondack Com 43.47 5 P P 20 06 03.8 +0.7
J59A Piesco 43.49 4 P P 20 06 04.3 +1.1
baz=186
L40A Anamosa 43.51 346 P P 20 06 02.1 -1.3
L40A IAmb IAmb 20 06 04.0
comp=Z,39nm,1.2s
J62A Henniker 43.51 7 P P 20 06 04.4 +1.0
baz=189
J61A Chester 43.55 6 P P 20 06 05.6 +1.9
baz=188
ANMO Albuquerque 43.59 326 cP P 20 06 06.5 +2.1
ANMO pmax pmax
comp=Z,28nm,1.0s
I58A Old Forge 43.68 4 P P 20 06 06.1 +1.3
baz=185
I59A Olmsteadville 43.86 5 P P 20 06 07.8 +1.5
baz=186
SCIA State Center 43.88 344 P P 20 06 05.5 -0.9
baz=158
I60A Shoreham 43.96 5 P P 20 06 08.2 +1.2
baz=187
JFWS Jewell Farm 44.10 347 P P 20 06 06.9 -1.2
baz=163
JFWS Jewell Farm 44.10 347 P P 20 06 06.4 -1.7
JFWS pmax pmax
comp=Z,37nm,1.0s
JFWS Jewell Farm 44.10 347 P P 20 06 06.4 -1.7
JFWS IAmb IAmb 20 06 08.1
comp=Z,37nm,0.9s
I55A Frankford 44.10 1 P P 20 06 08.6 +0.5
baz=181
T25A Trinidad 44.15 330 P P 20 06 11.1 +2.1
baz=141,SNR=6.4
T25A Trinidad 44.15 330 P P 20 06 09.1 +0.1
T25A IAmb IAmb 20 06 24.2
comp=Z,33nm,1.2s
I61A Oroboro, Fairl 44.16 6 P P 20 06 10.5 +1.9
baz=189
TUC Tucson 44.40 320 P P 20 06 12.7 +1.8
baz=130
TUC Tucson 44.40 320 P P 20 06 12.6 +1.8
TUC pmax pmax
comp=Z,17nm,1.1s
TUC Tucson 44.40 320 P P 20 06 12.6 +1.8
DELO Deloro Mine 44.40 1 P P 20 06 10.7 +0.2
DELO IAmb IAmb 20 06 12.8
comp=Z,33nm,1.1s
H57A Richville 44.42 3 P P 20 06 12.2 +1.5
baz=184
H55A Tweed 44.44 1 P P 20 06 11.0 +0.2
baz=182
K38A Parkersburg 44.45 345 P P 20 06 08.9 -2.0
K38A IAmb IAmb 20 06 10.8
comp=Z,24nm,0.8s
H53A Bobcaygeon 44.45 360 P P 20 06 10.9 -0.1
baz=180
H58A Gabriels 44.46 4 P P 20 06 11.7 +0.7
baz=186
I63A Otisfield 44.48 8 P P 20 06 12.8 +1.6
baz=191
I64A Boothbay 44.50 9 P P 20 06 12.6 +1.4
baz=192
LBNH Lisbon 44.50 7 P P 20 06 12.8 +1.5
baz=189,SNR=5.5
LBNH Lisbon 44.50 7 P P 20 06 10.6 -0.7
LBNH pmax pmax
comp=Z,19nm,1.0s
LBNH Lisbon 44.50 7 P P 20 06 10.6 -0.7
H56A Elgin 44.52 2 P P 20 06 12.8 +1.4
baz=183
LONY Lake Ozonia 44.63 4 P P 20 06 13.3 +0.9
baz=185
LONY Lake Ozonia 44.63 4 P P 20 06 12.5 +0.1
LONY IAmb IAmb 20 06 19.8
comp=Z,35nm,1.5s
H59A Cadyville 44.72 5 P P 20 06 14.4 +1.3
baz=186
H60A Morristown 44.73 6 P P 20 06 14.5 +1.3
baz=188
I42A Draeger Farm, 44.77 349 P P 20 06 12.6 -0.9
I42A IAmb IAmb 20 06 13.7
comp=Z,38nm,1.1s
KSCO Kaye Shedlock' 44.79 333 P P 20 06 15.0 +1.1
baz=144
H61A Lyndonville 44.79 7 P P 20 06 15.3 +1.6
baz=189
L34A Svendsen Farm, 44.88 341 P P 20 06 13.2 -1.2
L34A IAmb IAmb 20 06 14.3
comp=Z,23nm,0.7s
FRNY Flat Rock 44.92 5 P P 20 06 13.4 -1.2
FRNY IAmb IAmb 20 06 17.2
comp=Z,28nm,1.2s
H62A Milan 44.92 7 P P 20 06 16.6 +1.9
baz=190
PLVO Plevna 44.94 1 P P 20 06 13.9 -0.9
PLVO IAmb IAmb 20 06 16.5
comp=Z,45nm,1.2s
G57A Newington 45.09 3 P P 20 06 16.7 +0.8
baz=185
G55A Calabogie 45.16 2 P P 20 06 17.2 +0.7
baz=182
SDCO Great Sand Dun 45.17 329 P P 20 06 19.2 +2.0
baz=140,SNR=22
SDCO Great Sand Dun 45.17 329 P P 20 06 16.9 -0.2
SDCO IAmb IAmb 20 06 20.6
comp=Z,33nm,1.1s
G58A Ormstown 45.20 4 P P 20 06 17.9 +1.1
baz=186
G59A Clarenceville 45.20 5 P P 20 06 18.0 +1.2
baz=187
H64A Troy 45.27 9 P P 20 06 18.7 +1.3
baz=193
G54A Lake Saint Pet 45.28 0 P P 20 06 18.6 +1.1
baz=180
G60A Masonville 45.30 6 P P 20 06 18.8 +1.1
baz=188
ORIO Orleans, Innes 45.41 3 P P 20 06 19.6 +1.2
baz=184
H65A Eastbrook 45.48 10 P P 20 06 19.7 +0.6
baz=194
214A Organ Pipe Nat 45.52 318 P P 20 06 21.6 +2.0
baz=128,SNR=9.8
214A Organ Pipe Nat 45.52 318 P P 20 06 20.5 +0.8
G61A St-Isidore-de- 45.57 7 P P 20 06 21.6 +1.8
baz=190
W18A Petrified Fore 45.61 323 P P 20 06 22.2 +1.7
baz=133,SNR=24
W18A Petrified Fore 45.61 323 P P 20 06 19.9 -0.7
G62A West of Eustis 45.64 8 P P 20 06 22.2 +1.8
baz=191
G62A West of Eustis 45.64 8 P P 20 06 20.2 -0.2
G62A IAmb IAmb 20 06 27.6
comp=Z,32nm,1.3s
G63A Kingsbury 45.67 9 P P 20 06 22.2 +1.6
baz=192
H66A Whiting 45.74 11 P P 20 06 22.6 +1.4
baz=195
F55A Otter Lake 45.75 2 P P 20 06 21.9 +0.7
baz=183
ALGO Algonquin Park 45.84 0 P P 20 06 23.0 +1.1
baz=180,SNR=6.8
S22A 4UR Ranch, Cre 45.86 328 P P 20 06 24.1 +1.5
baz=138,SNR=7.3
S22A 4UR Ranch, Cre 45.86 328 P P 20 06 22.9 +0.3
I37A Lemond, Waseca 45.89 345 P P 20 06 20.5 -1.8
I37A IAmb IAmb 20 08 07.4
comp=Z,29nm,1.1s
G64A Maxfield 45.94 9 P P 20 06 24.4 +1.7
baz=193
Q24A Divide 45.94 331 P P 20 06 24.2 +0.9
baz=141
F59A Saint Guilaume 46.00 5 P P 20 06 25.0 +1.8
baz=188
G65A Princeton 46.09 11 P P 20 06 25.1 +1.2
baz=195
GGN Saint George 46.15 11 P P 20 06 24.3 -0.1
GGN IAmb IAmb 20 06 35.0
comp=Z,27nm,1.6s
E52A Mattawa 46.17 360 P P 20 06 25.4 +0.9
baz=180
X16A Lo Mia Camp, P 46.18 321 P P 20 06 26.2 +1.1
X16A IAmb IAmb 20 06 38.3
comp=Z,21nm,1.1s
F60A Warwick 46.20 6 P P 20 06 26.0 +1.2
baz=189
E53A Dumoine, Ponti 46.26 1 P P 20 06 26.3 +1.0
baz=181
F61A St Evariste 46.32 7 P P 20 06 26.9 +1.1
baz=190
F63A Nahmakanta, Br 46.32 9 P P 20 06 26.6 +0.8
baz=193
E54A Lac Daplat, Po 46.33 1 P P 20 06 25.9 +0.1
baz=182
E50A Wahnapitae 46.35 358 P P 20 06 25.9 0.0
baz=177
MVCO Mesa Verde 46.37 326 P P 20 06 27.8 +1.2
baz=136
MVCO Mesa Verde 46.37 326 P P 20 06 26.7 +0.1
MVCO IAmb IAmb 20 06 38.4
comp=Z,46nm,1.7s
F62A Pittston Farm, 46.38 8 P P 20 06 27.4 +1.2
baz=192
E51A G1948 Merrick 46.42 359 P P 20 06 26.7 +0.1
baz=178,SNR=5.6
E57A Chemin Saint G 46.44 4 P P 20 06 27.7 +0.9
baz=186,SNR=5.2
E58A La Victoria 46.47 5 P P 20 06 27.8 +0.9
baz=187
E48A Lockeyer 46.48 356 P P 20 06 27.4 +0.5
baz=175
E56A St. Veronique 46.52 3 P P 20 06 27.8 +0.5
baz=184,SNR=7.0
E47A Iron Bridge 46.53 355 P P 20 06 26.5 -0.9
baz=173
ECSD EROS Data Cent 46.55 342 P P 20 06 26.3 -1.3
baz=154,SNR=7.0
ECSD EROS Data Cent 46.55 342 P P 20 06 26.3 -1.3
ECSD IAmb IAmb 20 06 27.6
comp=Z,29nm,1.2s
ECSD PcP PcP 20 08 02.2 +0.5
F64A Sherman 46.60 10 P P 20 06 29.0 +1.1
baz=194
F64A Sherman 46.60 10 P P 20 06 26.9 -0.9
113A Mohawk Valley, 46.65 318 IAmb IAmb 20 06 37.6
comp=Z,25nm,1.3s
E60A Ste Agathe de 46.65 7 P P 20 06 30.2 +1.9
baz=189
ISCO Idaho Springs 46.81 331 P P 20 06 31.1 +1.0
baz=141
SPX San Pedro Mart 46.81 315 P P 20 06 30.2 -0.1
E61A Lac Etchemin 46.83 8 P P 20 06 31.2 +1.4
baz=191
D52A ZEK Kipawa Sen 46.86 0 P P 20 06 29.5 -0.4
baz=180
WUAZ Wupatki 46.86 323 P P 20 06 32.6 +2.2
baz=132,SNR=16
WUAZ Wupatki 46.86 323 P P 20 06 30.8 +0.4
Y14A Wickenburg 46.87 320 P P 20 06 29.5 -0.8
Y14A IAmb IAmb 20 06 43.3
comp=Z,16nm,1.1s
SPMN Marine on St. 46.87 346 P P 20 06 29.9 -0.2
baz=160
SPMN Marine on St. 46.87 346 P P 20 06 28.3 -1.8
SPMN IAmb IAmb 20 06 29.9
comp=Z,27nm,1.1s
D53A Lac Vacive, Po 46.96 1 P P 20 06 32.0 +1.3
baz=181,SNR=6.8
D53A Lac Vacive, Po 46.96 1 P P 20 06 29.9 -0.9
D55A Sainte-Anne-du 46.97 3 P P 20 06 30.9 +0.1
baz=184
D51A Lot 18 Range I 46.98 359 P P 20 06 30.1 -0.7
baz=178
D46A Sault St. Mari 47.03 355 P P 20 06 30.3 -1.0
baz=172
D56A ZEC Mazanza, M 47.04 3 P P 20 06 31.7 +0.3
baz=185,SNR=5.2
D54A Lac Fusel, La 47.06 2 P P 20 06 31.1 -0.4
baz=182
D50A G1974 Best Tow 47.06 359 P P 20 06 31.0 -0.6
baz=178
D57A Chemin Vers le 47.06 4 P P 20 06 32.5 +0.9
baz=186
PV01 Paradox Valley 47.07 327 P P 20 06 31.4 -0.7
PV01 IAmb IAmb 20 06 46.9
comp=Z,16nm,1.2s
D47A Chapleau 47.12 356 P P 20 06 30.8 -1.2
baz=174
E63A Oxbow 47.13 9 P P 20 06 33.6 +1.6

baz=194
E63A Oxbow 47.13 9 P **P** **20 06 32.2 +0.1**
E63A IAmb IAmb 20 06 47.4
comp=Z,14nm,1.1s
D48A Paudash Townsh 47.15 357 P **P** **20 06 32.2 0.0**
baz=175
E62A Clayton Lake 47.15 8 P **P** **20 06 34.0 +1.8**
baz=192,SNR=9.4
E62A Clayton Lake 47.15 8 P **P** **20 06 32.1 -0.1**
E62A IAmb IAmb 20 06 48.0
comp=Z,27nm,1.1s
PV15 Paradox Valley 47.18 328 P **P** **20 06 32.7 -0.2**
PV15 IAmb IAmb 20 06 38.1
comp=Z,25nm,1.1s
PV02 Paradox Valley 47.22 327 P **P** **20 06 33.3 +0.1**
PV02 IAmb IAmb 20 06 36.3
comp=Z,35nm,1.2s
D49A Beulah Townshi 47.22 357 P **P** **20 06 31.9 -0.9**
baz=176
D58A Chemin du LacG 47.23 5 P **P** **20 06 33.7 +0.9**
baz=187
E64A Bridgewater 47.23 10 P **P** **20 06 33.9 +1.1**
baz=194
PV13 Radium Mtn., P 47.23 327 P **P** **20 06 31.5 -1.8**
PV13 IAmb IAmb 20 06 45.0
comp=Z,30nm,1.0s
D60A Saint Jean D'O 47.25 7 P **P** **20 06 34.4 +1.4**
baz=190
PV12 Saucer Basin, 47.33 327 P **P** **20 06 32.0 -2.1**
PV07 Paradox Valley 47.34 327 P **P** **20 06 32.4 -1.8**
PV07 IAmb IAmb 20 06 37.2
comp=Z,25nm,1.2s
PV07 PcP **PcP** **20 08 03.1 -1.9**
PV18 Skein Mesa, Pa 47.34 327 P **P** **20 06 33.2 -0.9**
PV18 IAmb IAmb 20 06 36.9
comp=Z,20nm,0.9s
PV17 East Wray Mesa 47.39 327 P **P** **20 06 34.7 +0.1**
PV19 Morning Glory 47.42 327 P **P** **20 06 34.1 -0.7**
PV19 IAmb IAmb 20 06 37.6
comp=Z,18nm,1.1s
PQI Presque Isle 47.44 10 P **P** **20 06 34.0 -0.4**
PQI IAmb IAmb 20 06 49.9
comp=Z,24nm,1.4s
GLA Glamis 47.53 317 P **P** **20 06 37.7 +2.1**
baz=126
D61A St Aubert, Com 47.63 8 P **P** **20 06 37.7 +1.7**
baz=191
F36A Milaca 47.65 346 P **P** **20 06 34.6 -1.5**
F36A IAmb IAmb 20 06 35.9
comp=Z,15nm,1.1s
D62A Allapoint, All 47.67 9 P **P** **20 06 37.6 +1.4**
baz=192,SNR=8.4
D62A Allapoint, All 47.67 9 P **P** **20 06 36.4 +0.2**
D62A IAmb IAmb 20 06 39.9
comp=Z,38nm,1.4s
ESJX Sierra Juarez 47.70 316 P **P** **20 06 37.4 +0.4**
D63A Stockholm 47.78 10 P **P** **20 06 38.7 +1.6**
baz=194
PDMCI Parker Dam,Lak 47.83 319 P **P** **20 06 39.3 +1.6**
baz=128
E38A The Farm, Brul 47.90 348 P **P** **20 06 36.8 -1.3**
E38A IAmb IAmb 20 06 38.1
comp=Z,24nm,1.1s
PHWY Pilot Hill 47.92 333 P **P** **20 06 39.6 +0.9**
SUSD Miller 47.94 340 P **P** **20 06 37.8 -0.6**
baz=152
SWSC Sam W. Stewart 48.13 317 P **P** **20 06 42.2 +2.1**
baz=125
W13A Hualapai Mount 48.16 320 P **P** **20 06 41.3 +0.8**
IKP In-Ko-Pah, Jac 48.18 316 P **P** **20 06 42.6 +2.0**
baz=125
BC3 Big Chuckawall 48.31 318 P **P** **20 06 43.6 +2.0**
baz=126,SNR=8.9
F33A 5 Mile Ranch, 48.36 343 P **P** **20 06 39.9 -1.8**
F33A IAmb IAmb 20 06 41.4
comp=Z,16nm,1.1s
O20A White River Ci 48.37 329 P **P** **20 06 43.7 +1.6**
baz=138
BATG Bathurst New B 48.38 11 P **P** **20 06 41.6 -0.1**
BATG IAmb IAmb 20 06 55.6
comp=Z,48nm,1.7s
IRM Iron Mountain 48.40 318 P **P** **20 06 44.3 +2.0**
baz=127,SNR=11
NEE2 Needles Airpor 48.43 319 P **P** **20 06 44.1 +1.7**
baz=128
MONP2 Monument Peak 48.53 316 P **P** **20 06 45.4 +2.0**
baz=125,SNR=8.2
BAR Barrett 48.58 316 P **P** **20 06 43.4 -0.3**
PKCU Pink Cliffs 48.71 324 P **P** **20 06 44.1 -0.8**
KNB Kanab 48.73 323 P **P** **20 06 45.1 +0.2**
KNB pmax pmax
comp=Z,13nm,1.0s
KNB Kanab 48.73 323 P **P** **20 06 45.1 +0.2**
SRU San Rafael Swe 48.84 327 P **P** **20 06 44.8 -0.9**
SRU pmax pmax
comp=Z,19nm,0.9s
SRU San Rafael Swe 48.84 327 P **P** **20 06 44.8 -0.9**
BELC Belle Mtn. Jos 48.88 318 P **P** **20 06 48.4 +2.3**
baz=126,SNR=10
LSQQ Lebel-sur-Quev 48.96 1 P **P** **20 06 45.9 -0.2**
baz=182
XPFO Pion Flat 48.96 317 P **P** **20 06 47.5 +0.9**
PFO Pinyon Flats O 48.97 317 P **P** **20 06 48.4 +1.7**
baz=125
PFO Pinyon Flats O 48.97 317 ⇑P **P** **20 06 47.8 +1.1**
PFO pmax pmax
comp=Z,18nm,1.3s
PFO Pinyon Flats O 48.97 317 P **P** **20 06 46.3 -0.4**
LCMT Little Creek M 48.98 323 P **P** **20 06 48.2 +1.4**
MTPU Mount Pierson 49.04 324 P **P** **20 06 47.7 +0.2**
RWWY Rawlins 49.04 331 P **P** **20 06 47.7 +0.4**
RWWY IAmb IAmb 20 06 50.0
comp=Z,31nm,1.1s
EYMN Ely 49.16 348 P **P** **20 06 46.7 -1.1**
baz=162
SZCU Shurtz Canyon 49.27 323 P **P** **20 06 49.7 +0.7**
MSU Marysvale 49.35 325 P **P** **20 06 48.7 -1.0**
MSU Marysvale 49.35 325 P **P** **20 06 48.7 -1.0**
RDMU Red Mountain 49.38 329 P **P** **20 06 49.2 -0.7**
CCUT Cedar City 49.41 323 P **P** **20 06 49.7 -0.5**
CCUT PcP **PcP** **20 08 13.3 +0.9**
MURC Murrieta 49.47 317 P **P** **20 06 52.2 +1.8**
baz=124
RSSD Black Hills 49.57 336 P **P** **20 06 52.4 +1.2**
baz=145
RSSD Black Hills 49.57 336 P **P** **20 06 50.9 -0.3**
RSSD pmax pmax
comp=Z,34nm,1.0s
RSSD Black Hills 49.57 336 P **P** **20 06 50.9 -0.3**
RSSD IAmb IAmb 20 06 54.1
comp=Z,34nm,1.0s
HEC Hector,Ludlow 49.59 318 P **P** **20 06 53.4 +2.0**
baz=126,SNR=11
TUQ Turquoise Moun 49.68 319 P **P** **20 06 53.6 +1.4**
baz=127,SNR=7.6
SHPR Sheep Range 49.85 321 P **P** **20 06 54.1 +0.7**
SHPR IAmb IAmb 20 08 05.8
comp=Z,32nm,1.1s
CHGQ Chibougamau 49.91 3 P **P** **20 06 54.0 +0.5**
baz=185,SNR=7.1
B35A Bob, Littlefor 50.04 347 P **P** **20 06 53.6 -0.8**
SCI2 San Clemente I 50.06 315 P **P** **20 06 57.0 +2.1**
baz=123
BFSC Mount Baldy Ra 50.14 317 P **P** **20 06 57.6 +1.9**
baz=124
GSC Goldstone, Bar 50.18 319 P **P** **20 06 57.8 +1.9**
baz=126,SNR=9.4
GSC Goldstone, Bar 50.18 319 P **P** **20 06 55.9 0.0**
GSC pmax pmax
comp=Z,23nm,1.1s
GSC Goldstone, Bar 50.18 319 P **P** **20 06 55.9 0.0**
GSC IAmb IAmb 20 07 05.2
comp=Z,22nm,1.1s
SHOC Shoshone, Teco 50.19 320 P **P** **20 06 57.3 +1.4**
baz=127,SNR=5.9
CIS Catalina Islan 50.20 316 P **P** **20 06 57.0 +1.0**
baz=123
PRN Pahroc Range 50.34 322 P **P** **20 06 57.3 +0.2**
PSUT Pine Spring 50.34 324 P **P** **20 06 57.4 +0.1**
E28A Huff 50.40 340 P **P** **20 06 57.5 +0.2**
MWC Mount Wilson 50.41 317 P **P** **20 06 57.3 -0.4**
MWC pmax pmax
comp=Z,61nm,1.6s
MWC Mount Wilson 50.41 317 P **P** **20 06 57.3 -0.4**
MWC IAmb IAmb 20 07 06.3
comp=Z,61nm,1.6s

AGMN Agassiz Nation 50.50 345 P **P** **20 06 57.3 -0.6**
baz=157,SNR=5.4
AGMN Agassiz Nation 50.50 345 P **P** **20 06 57.1 -0.8**
AGMN IAmb IAmb 20 06 58.4
comp=Z,28nm,1.3s
AGMN PcP **PcP** **20 08 14.1 -1.8**
DECC Green Verdugo 50.61 317 P **P** **20 06 59.9 +0.8**
baz=124
EDW2 Edwards Air Fo 50.73 317 P **P** **20 07 01.6 +1.5**
baz=125,SNR=11
TPNV Topopah Spring 50.81 321 P **P** **20 07 02.6 +1.9**
baz=128,SNR=7.6
TPNV Topopah Spring 50.81 321 P **P** **20 07 01.7 +1.0**
TPNV pmax pmax
comp=Z,18nm,1.2s
TPNV Topopah Spring 50.81 321 P **P** **20 07 01.7 +1.0**
DUG Dugway, Tooele 50.86 326 P **P** **20 07 02.8 +1.8**
baz=133,SNR=7.6
DUG Dugway, Tooele 50.86 326 P **P** **20 07 01.4 +0.4**
DUG 20 08 19.0
DUG pmax pmax
comp=Z,22nm,1.3s
DUG Dugway, Tooele 50.86 326 P **P** **20 07 01.4 +0.4**
DUG PcP **PcP** **20 08 19.0 +1.4**
LRMC Laurel Mtn Rad 50.87 318 P **P** **20 07 03.3 +2.2**
baz=125
FURC Furnace Creek, 50.91 320 P **P** **20 07 03.5 +2.2**
baz=127,SNR=7.7
BW06 Boulder Array 50.99 331 P **P** **20 07 02.6 +0.5**
baz=138
BW06 Boulder Array 50.99 331 P **P** **20 07 02.5 +0.5**
BW06 PcP **PcP** **20 08 16.9 -1.3**
PD31 Pinedale Array 50.99 331 P **P** **20 07 02.5 +0.4**
PD31 PcP **PcP** **20 08 16.9 -1.3**
PDAR Pinedale Array 50.99 331 P **P** **20 07 02.9 +0.8**
comp=Z,4.3nm,0.9s,baz=138,slow=9.1,SNR=10
PDAR PcP **PcP** **20 08 18.7 +0.5**
comp=Z,1.7nm,0.9s,baz=145,slow=3.3,SNR=2.1
PDAR LR LR 20 29 57.3
comp=Z,205nm,21.9s,baz=139,slow=38
PDAR Pinedale Array 50.99 331 P **P** **20 07 02.2 +0.2**
PDAR PcP **PcP** **20 08 18.3 +0.1**
MPMC Manual Prospec 51.08 319 P **P** **20 07 04.2 +1.4**
baz=126,SNR=8.2
HWUT Hardware Ranch 51.17 328 P **P** **20 07 04.1 +0.8**
R11A Troy Canyon, C 51.27 322 P **P** **20 07 06.0 +1.9**
baz=129,SNR=11
R11A Troy Canyon, C 51.27 322 P **P** **20 07 05.5 +1.4**
SCZ2 Santa Cruz Isl 51.38 316 P **P** **20 07 05.5 +0.7**
baz=122
SPUT South Promonto 51.43 327 P **P** **20 07 05.9 +0.6**
ARVC Arvin 51.44 317 P **P** **20 07 07.4 +2.1**
baz=124
BGU Big Grassy Mou 51.48 327 P **P** **20 07 06.7 +1.0**
ISA Isabella, Lake 51.50 318 P **P** **20 07 08.0 +2.2**
baz=125
ISA Isabella, Lake 51.50 318 P **P** **20 07 07.0 +1.2**
ISA pmax pmax
comp=Z,17nm,1.1s
ISA Isabella, Lake 51.50 318 P **P** **20 07 07.0 +1.2**
GRAC Grapevine Rang 51.55 320 P **P** **20 07 08.5 +2.4**
baz=127
CWC Cottonwood Cre 51.69 319 P **P** **20 07 09.4 +2.1**
baz=125
PKM Mcpherson Peak 51.98 316 P **P** **20 07 11.6 +2.1**
baz=123,SNR=18
REDW Red Top Meadow 52.07 330 P **P** **20 07 10.3 +0.2**
LOHW Long Hollow 52.13 331 P **P** **20 07 11.1 +0.5**
ULM Lac du Bonnet 52.31 346 P **P** **20 07 10.6 -0.9**
comp=Z,18nm,1.0s,baz=149,slow=9.0,SNR=7.6
ULM LR LR 20 31 46.5
comp=Z,136nm,18.3s,baz=156,slow=39
ULM Lac du Bonnet 52.31 346 P **P** **20 07 10.4 -1.0**
ULM pmax pmax
comp=Z,25nm,1.0s
ULM Lac du Bonnet 52.31 346 P **P** **20 07 10.4 -1.0**
ULM IAmb IAmb 20 07 11.6
comp=Z,24nm,1.0s
SMMC Simmler 52.34 317 P **P** **20 07 14.4 +2.4**
baz=123
FXWY Fox Creek 52.36 330 P **P** **20 07 12.7 +0.4**
IMW Indian Meadow 52.51 331 P **P** **20 07 14.1 +0.7**
FLWY Flagg Ranch 52.53 331 P **P** **20 07 14.7 +1.2**
FLWY IAmb IAmb 20 07 16.1
comp=Z,22nm,1.1s
LAO LASA Array 52.56 336 P **P** **20 07 14.3 +0.8**
baz=144
LAO LASA Array 52.56 336 P **P** **20 07 14.2 +0.7**
LAO IAmb IAmb 20 07 17.4
comp=Z,23nm,1.2s
ELK Elko 52.60 325 P **P** **20 07 15.6 +1.5**
ELK pmax pmax
comp=Z,6.0nm,0.8s
ELK Elko 52.60 325 P **P** **20 07 15.6 +1.5**
RLMT Red Lodge 52.64 333 P **P** **20 07 15.1 +0.8**
baz=140
YPP Pitchstone Pla 52.72 331 P **P** **20 07 16.2 +1.2**
PAGB Antelope Grade 52.74 317 P **P** **20 07 15.3 +0.3**
PAGB IAmb IAmb 20 07 24.1
comp=Z,27nm,1.0s
YNE Yellowstone No 52.89 332 P **P** **20 07 15.3 -0.9**
NV11 Mina Array Sit 52.91 321 P **P** **20 07 17.1 +0.7**
NV11 IAmb IAmb 20 07 19.7
comp=Z,21nm,1.1s
OMMB Old Mammoth Mi 52.97 320 P **P** **20 07 18.2 +1.2**
OMMB IAmb IAmb 20 07 26.1
comp=Z,28nm,1.1s
NVAR Mina Array Bea 53.00 321 P **P** **20 07 19.2 +2.2**
comp=Z,14nm,0.9s,baz=138,slow=7.1,SNR=57
NVAR LR LR 20 28 58.6
comp=Z,118nm,20.4s,baz=116,slow=35
NVAR Mina Array Bea 53.00 321 P **P** **20 07 18.4 +1.3**
LHV Little Huntoon 53.02 321 P **P** **20 07 17.9 +1.0**
LHV IAmb IAmb 20 07 31.2
comp=Z,41nm,1.2s
YHH Holmes Hill 53.12 331 P **P** **20 07 18.8 +0.8**
YHH PcP **PcP** **20 08 26.1 -0.1**
KVN Kaiserville 53.24 322 P **P** **20 07 19.5 +0.7**
KVN pmax pmax
comp=Z,10.0nm,1.0s
KVN Kaiserville 53.24 322 P **P** **20 07 19.5 +0.7**
DGMT Dagmar 53.25 339 P **P** **20 07 19.5 +1.0**
baz=147
RYN Ryan 53.26 321 P **P** **20 07 19.1 +0.2**
RYN IAmb IAmb 20 07 22.1
comp=Z,26nm,1.4s
YHL Hebgen Lake 53.33 331 P **P** **20 07 19.3 -0.2**
PMPB Monarch Peak 53.38 317 P **P** **20 07 20.7 +0.9**
QLMT Earthquake Lak 53.43 331 P **P** **20 07 21.9 +1.7**
WAKR Walker 53.76 320 P **P** **20 07 24.0 +1.4**
WAKR IAmb IAmb 20 07 38.5
comp=Z,21nm,1.2s
YERR Yerington 53.92 321 P **P** **20 07 24.6 +0.8**
YERR IAmb IAmb 20 07 39.3
comp=Z,19nm,1.2s
BCYI Bear Canyon 54.04 329 P **P** **20 07 25.5 +0.9**
HLID Hailey 54.04 328 P **P** **20 07 26.1 +1.5**
baz=133,SNR=16
HLID Hailey 54.04 328 P **P** **20 07 25.2 +0.6**
BOZ Bozeman (W) 54.09 332 P **P** **20 07 26.3 +1.4**
baz=137,SNR=34
BOZ Bozeman (W) 54.09 332 P **P** **20 07 25.9 +1.0**
BOZ pmax pmax
comp=Z,42nm,1.1s
BOZ Bozeman (W) 54.09 332 P **P** **20 07 25.9 +1.0**
MCMT McKenzie Canyo 54.13 330 P **P** **20 07 26.1 +0.8**
PAHR Pah Rah Range 54.43 322 P **P** **20 07 27.4 0.0**
PAHR IAmb IAmb 20 07 39.3
comp=Z,26nm,1.6s
LRM Limekiln Ridge 54.65 331 P **P** **20 07 29.5 +0.5**
MFID Camas Ranch 54.70 327 P **P** **20 07 30.7 +1.4**
HRY Holter Researc 55.01 332 P **P** **20 07 32.8 +1.3**
EGMT Eagleton 55.08 335 P **P** **20 07 32.7 +0.7**
baz=141,SNR=7.1
EGMT Eagleton 55.08 335 P **P** **20 07 32.6 +0.7**
EGMT IAmb IAmb 20 07 34.2
comp=Z,25nm,1.0s
SCHQ Schefferville 55.55 8 P **P** **20 07 35.2 +0.2**
comp=Z,15nm,1.0s,baz=199,slow=3.9,SNR=8.5
SCHQ LR LR 20 33 10.2
comp=Z,112nm,19.5s,baz=205,slow=38
SCHQ Schefferville 55.55 8 P **P** **20 07 34.7 -0.3**
SCHQ IAmb IAmb 20 07 37.8
comp=Z,33nm,1.2s
WVOR Wild Horse Val 55.64 325 P **P** **20 07 37.4 +1.2**

WVOR pmax pmax
comp=Z,41nm,1.1s
WVOR Wild Horse Val 55.64 325 P **P** **20 07 37.4 +1.2**
ORV Oroville 55.68 320 P **P** **20 07 37.7 +1.4**
ORV pmax pmax
comp=Z,38nm,1.1s
ORV Oroville 55.68 320 P **P** **20 07 37.7 +1.4**
MSO Missoula 56.09 331 P **P** **20 07 40.3 +1.0**
baz=136,SNR=10.0
MSO Missoula 56.09 331 P **P** **20 07 39.9 +0.6**
MSO IAmb IAmb 20 07 42.4
comp=Z,40nm,1.2s
GDXM Geysers 56.11 319 P **P** **20 07 41.3 +1.8**
J08A Circle Bar Ran 56.13 326 P **P** **20 07 40.2 +0.6**
J08A IAmb IAmb 20 07 41.9
comp=Z,18nm,1.0s
O03E Paynes Creek 56.29 321 P **P** **20 07 41.4 +0.7**
baz=124,SNR=6.9
BMO Blue Mountains 56.45 328 P **P** **20 07 42.2 +0.4**
BMO pmax pmax
comp=Z,7.0nm,1.2s
BMO Blue Mountains 56.45 328 P **P** **20 07 42.2 +0.4**
O02D Mt. Diablo Mer 56.85 320 P **P** **20 07 45.5 +0.7**
baz=123,SNR=5.1
JTMT Jette 56.91 332 P **P** **20 07 46.3 +1.2**
JTMT IAmb IAmb 20 07 47.8
comp=Z,31nm,1.1s
KCPM Cahto Peak 57.10 319 P **P** **20 07 48.0 +1.5**
K05A Summer Lake 57.14 324 P **P** **20 07 48.2 +1.3**
F10A Beach Ranch, E 57.15 329 P **P** **20 07 46.9 +0.1**
F10A IAmb IAmb 20 07 54.1
comp=Z,18nm,1.1s
M04C Macdoel 57.16 322 P **P** **20 07 48.3 +1.4**
baz=125,SNR=6.8
I07A Izee 57.16 326 P **P** **20 07 47.8 +0.9**
I07A IAmb IAmb 20 07 50.2
comp=Z,13nm,0.9s
N02D Trinity Center 57.24 321 P **P** **20 07 47.7 +0.2**
baz=124
KMRM Mail Ridge 57.47 320 P **P** **20 07 50.2 +1.0**
M02C Callahan 57.56 321 P **P** **20 07 50.2 +0.4**
baz=124
K04D Chiloquin, OR 57.59 323 P **P** **20 07 51.5 +1.5**
baz=126
G08A Pilot Rock 57.62 327 P **P** **20 07 51.0 +0.9**
YBH Yreka Blue Hor 57.67 322 P **P** **20 07 50.3 -0.2**
YBH pmax pmax
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 57.67 322 P **P** **20 07 50.3 -0.2**
J05D Fort Rock, OR 57.67 324 P **P** **20 07 52.3 +1.7**
baz=126,SNR=24
WALA Waterton Lakes 57.69 333 P **P** **20 07 50.8 +0.3**
WALA IAmb IAmb 20 07 53.3
comp=Z,23nm,0.9s
L04D Klamath Falls 57.69 322 P **P** **20 07 51.9 +1.2**
baz=125,SNR=13
PINE Pine Mountain 57.80 325 P **P** **20 07 52.4 +0.8**
KHMM Horse Mountain 57.83 320 P **P** **20 07 52.0 +0.2**
FFC Flin Flon 57.95 344 P **P** **20 07 51.9 -0.2**
FFC pmax pmax
comp=Z,34nm,1.0s
FFC Flin Flon 57.95 344 P **P** **20 07 51.9 -0.2**
E09A Wood Farm, Sta 57.98 329 P **P** **20 07 52.5 0.0**
E09A IAmb IAmb 20 07 55.0
comp=Z,41nm,1.3s
J04D Umpqua Nationa 58.16 324 P **P** **20 07 55.5 +1.4**
baz=126,SNR=8.6
KRMB Red Mountain 58.30 321 P **P** **20 07 56.5 +1.5**
I05D Terrebonne, OR 58.36 325 P **P** **20 07 56.7 +1.4**
baz=127,SNR=11
E08A Dider Farm, El 58.45 328 P **P** **20 07 56.6 +0.8**
L02E Cave Junction 58.46 322 P **P** **20 07 56.9 +0.9**
baz=124,SNR=5.7
HAWA Hanford 58.63 328 P **P** **20 07 58.0 +0.9**
HAWA IAmb IAmb 20 07 59.5
comp=Z,13nm,0.9s
NEW Newport 58.64 331 P **P** **20 07 58.1 +0.9**
baz=133,SNR=17
NEW Newport 58.64 331 P **P** **20 07 57.6 +0.5**
NEW pmax pmax
comp=Z,27nm,1.1s
NEW Newport 58.64 331 P **P** **20 07 57.6 +0.5**
NEW IAmb IAmb 20 07 59.3
comp=Z,27nm,1.1s
I04A Tendick Farm, 58.66 324 P **P** **20 07 58.1 +0.7**
baz=126
D08A Wollman Farm, 58.74 329 P **P** **20 07 58.1 +0.2**
D08A IAmb IAmb 20 08 00.4
comp=Z,18nm,1.1s
K02D Willamette Mer 58.79 322 P **P** **20 07 59.9 +1.5**
baz=124,SNR=9.1
G05D Wamic, OR 58.90 326 P **P** **20 08 01.0 +2.1**
baz=127,SNR=12
C09A Chrisman Ranch 58.90 330 P **P** **20 07 60.0 +1.0**
E07A Sunnyside 58.91 328 P **P** **20 08 00.2 +1.1**
E07A IAmb IAmb 20 08 01.9
comp=Z,24nm,1.1s
H04A Detroit Lake 59.06 325 P **P** **20 08 01.2 +1.1**
H04A IAmb IAmb 20 08 06.7
comp=Z,29nm,1.1s
I03D Drain, OR 59.16 323 P **P** **20 08 02.2 +1.4**
baz=125
J01E Myrtle Point 59.21 323 P **P** **20 08 02.5 +1.3**
baz=124
H04D Lebanon 59.28 324 P **P** **20 08 02.5 +0.9**
baz=126
F05D White Salmon 59.37 326 P **P** **20 08 04.2 +2.0**
baz=128,SNR=6.3
I02D Swisshome 59.69 324 P **P** **20 08 06.2 +1.8**
baz=124
LTY Liberty 59.79 328 P **P** **20 08 06.1 +0.9**
B08A Colville Reser 59.80 330 P **P** **20 08 06.1 +0.9**
B08A IAmb IAmb 20 08 07.6
comp=Z,20nm,1.0s
F04A Amboy 59.93 326 P **P** **20 08 07.1 +1.1**
F04A IAmb IAmb 20 08 08.5
comp=Z,26nm,1.1s
FCC Fort Churchill 59.95 351 P **P** **20 08 05.6 -0.3**
FCC pmax pmax
comp=Z,80nm,1.1s
FCC Fort Churchill 59.95 351 P **P** **20 08 05.6 -0.3**
G03D McMinnville, O 59.98 325 P **P** **20 08 08.5 +2.1**
baz=126
LON Longmire 60.09 327 P **P** **20 08 08.3 +1.1**
LON pmax pmax
comp=Z,23nm,1.0s
LON Longmire 60.09 327 P **P** **20 08 08.3 +1.1**
LON IAmb IAmb 20 08 09.7
comp=Z,23nm,0.9s
F04D Rainier, OR 60.35 326 P **P** **20 08 09.9 +1.0**
baz=126
E04D Cinebar 60.38 326 P **P** **20 08 10.5 +1.4**
baz=127
F03A Seaside 60.57 325 P **P** **20 08 11.6 +1.2**
D04E Lakebay 60.87 327 P **P** **20 08 14.3 +1.8**
baz=127
E03A Lebam 60.93 326 P **P** **20 08 14.2 +1.4**
B06A Marblemount 61.01 329 P **P** **20 08 14.3 +1.0**
B05A Bryant 61.17 328 P **P** **20 08 15.1 +0.7**
baz=128,SNR=6.3
D03D Eldon 61.26 327 P **P** **20 08 16.5 +1.4**
baz=127,SNR=8.7
NLWA Neilton Lookou 61.60 327 P **P** **20 08 18.4 +1.0**
A04D Lummi Island 61.77 328 P **P** **20 08 20.1 +1.7**
baz=128,SNR=11
YKA Yellowknife Ar 68.06 343 P **P** **20 08 59.0 -0.2**
comp=Z,7.9nm,0.8s,baz=132,slow=6.0,SNR=18
DLBC Dease Lake 71.00 334 P **P** **20 09 18.4 +0.9**
DLBC IAmb IAmb 20 09 20.3
comp=Z,29nm,1.1s
PPT Papeete 72.04 252 LR LR 20 33 19.6
comp=Z,114nm,19.2s,baz=44,slow=29
PPT2 Papeete2 72.04 252 *e*S **S** **20 18 41.7 -4.9**
comp=Z,85nm,24.5s
PPT2 Papeete2 72.04 252 *e*LR LR 20 31 23.4
comp=Z,362nm,27.5s
TBI Tubuai 72.60 246 *e*S **S** **20 18 45.3 -7.5**
comp=Z,273nm,32.0s
TBI Tubuai 72.60 246 *e*LR LR 20 31 39.0
comp=Z,231nm,31.8s
JIS Juneau Island 72.87 333 P **P** **20 09 30.0 +1.4**
JIS IAmb IAmb 20 09 31.3
comp=Z,25nm,1.1s
BESE Bessie Mountai 73.23 333 P **P** **20 09 32.1 +1.1**
BESE IAmb IAmb 20 09 33.7
comp=Z,25nm,1.1s

LIC	Lamto	73.49	84	*e*P		P	20 09 32.3	-1.0	
	comp=Z,80nm,1.7s								
TIC	Toumodi	73.51	83	*e*P		P	20 09 31.0	-2.4	
DBIC	Dimbokro	73.68	83	P		P	20 09 33.5	-0.9	
	comp=Z,6.5nm,1.0s,baz=212,slow=2.4,SNR=3.8								
DBIC	Dimbokro	73.68	83	P		P	20 09 33.1	-1.2	
DBIC				pmax	pmax				
	comp=Z,69nm,1.6s								
DBIC	Dimbokro	73.68	83	P		P	20 09 33.1	-1.2	
KIC	Kosan Boka	73.78	83	*e*P		P	20 09 34.4	-0.6	
	comp=Z,32nm,1.1s								
HYT	Haines Junctio	75.49	334	P		P	20 09 45.5	+1.4	
HYT				IAmb	IAmb		20 09 51.6		
	comp=Z,44nm,1.6s								
C36M	Paulatuk	75.71	345	P		P	20 09 45.9	+0.9	
	baz=132								
SUMG	Summit	76.72	11	*i* P		P	20 09 51.5	+0.3	
SUMG				pmax	pmax				
	comp=Z,81nm,1.0s								
SUMG	Summit	76.72	11	*i* P		P	20 09 51.5	+0.3	
SUMG				pmax	pmax				
	comp=Z,81nm,1.0s								
SUMG	Summit	76.72	11	P		P	20 09 51.3	+0.1	
BARN	Barnard Glacie	77.42	334	P		P	20 09 56.0	+0.9	
A36M	Sachs Harbour	77.78	347	P		P	20 09 56.2	-0.4	
	baz=132								
INK	Inuvik	77.79	342	P		P	20 09 57.2	+0.4	
INK				pmax	pmax				
	comp=Z,42nm,1.1s								
INK	Inuvik	77.79	342	P		P	20 09 57.2	+0.4	
EPYK	Eagle Plains	77.84	339	P		P	20 09 58.2	+1.0	
	baz=119,SNR=15								
EPYK	Eagle Plains	77.84	339	P		P	20 09 57.9	+0.7	
ESDC	Sonseca Array	78.11	49	P		P	20 09 59.7	+0.4	
	comp=Z,1.3nm,0.8s,baz=271,slow=5.5,SNR=9.0								
ESDC				LR		LR	20 40 40.3		
	comp=Z,78nm,20.4s,baz=240,slow=33								
ESDC	Sonseca Array	78.11	49	P		P	20 09 59.1	-0.1	
MCARA	McCarthy VSAT	78.15	334	P		P	20 09 59.9	+1.0	
MCARA				IAmb	IAmb		20 10 01.8		
	comp=Z,19nm,1.0s								
VRDI	Verde Repeater	78.28	333	P		P	20 09 59.9	-0.1	
BCAR	Beaver Creek A	78.29	335	P		P	20 10 00.8	+1.1	
GLB	Gilahina Butte	78.53	334	P		P	20 10 02.0	+0.9	
EGAK	Eagle	78.75	337	P		P	20 10 02.8	+0.6	
DOT	Dot Lake	79.46	336	P		P	20 10 06.9	+0.7	
DOT				IAmb	IAmb		20 10 08.3		
	comp=Z,19nm,1.0s								
KLU	Klutina	79.49	333	P		P	20 10 07.3	+0.9	
KLU				IAmb	IAmb		20 10 13.7		
	comp=Z,38nm,1.5s								
RIDG	Independent Ri	79.82	336	P		P	20 10 08.5	+0.4	
RIDG				IAmb	IAmb		20 10 10.2		
	comp=Z,25nm,1.1s								
TORD	Torodi Ar. Bea	80.38	77	P		P	20 10 11.4	-0.7	
	comp=Z,3.6nm,1.2s,baz=270,slow=3.0,SNR=3.9								
YRC	Rhoscolyn	80.43	36	*e*P		P	20 10 12.1	+0.6	
WPS	Cemaes, Angles	80.51	36	*e*P		P	20 10 11.9	0.0	
WIM	Isle of Man	80.58	35	*e*P		P	20 10 12.6	+0.3	
YLL	Llanberis	80.64	36	*e*P		P	20 10 13.1	+0.4	
SJPF	Ste Jean	80.70	46	*e*P		P	20 10 13.9	+0.6	
SJPF				pmax	pmax				
	comp=Z,18nm,1.3s								
HDA	Harding Lake	80.92	336	P		P	20 10 14.1	+0.2	
	baz=110								
HDA	Harding Lake	80.92	336	P		P	20 10 13.9	-0.1	
HDA				IAmb	IAmb		20 10 15.4		
	comp=Z,26nm,1.1s								
GHO	Glory Hole Cre	80.94	333	P		P	20 10 13.7	-0.5	
GHO				IAmb	IAmb		20 10 24.8		
	comp=Z,18nm,1.0s								
IL31		81.02	336	P		P	20 10 14.2	-0.3	
ILAR	Eielson Array	81.02	336	P		P	20 10 15.0	+0.5	
	comp=Z,8.7nm,1.0s,baz=118,slow=3.7,SNR=48								
ILAR				PP		PP	20 13 20.4	+1.1	
	comp=Z,2.5nm,1.1s,baz=113,slow=6.1,SNR=6.9								
ILAR				LR		LR	20 50 46.9		
	comp=Z,116nm,18.3s,baz=120,slow=39								
ILAR	Eielson Array	81.02	336	P		P	20 10 13.9	-0.6	
ILAR	Eielson Array	81.02	336	P		P	20 10 13.9	-0.6	
BRLK	Bradley Lake	81.30	331	P		P	20 10 16.5	+0.4	
CCB	Clear Creek Bu	81.35	336	P		P	20 10 16.2	0.0	
RND	Reindeer	81.40	335	P		P	20 10 17.0	+0.4	
RND				pmax	pmax				
	comp=Z,53nm,1.5s								
RND	Reindeer	81.40	335	P		P	20 10 17.0	+0.4	
WRH	Wood River Hil	81.41	336	P		P	20 10 17.1	+0.5	
COLA	College	81.44	336	⇓*i* P		P	20 10 17.4	+0.7	
COLA				pmax	pmax				
	comp=Z,18nm,1.2s								
MCK	McKinley	81.53	335	P		P	20 10 18.0	+0.7	
MCK				pmax	pmax				
	comp=Z,13nm,1.0s								
MCK	McKinley	81.53	335	P		P	20 10 18.0	+0.7	
MDM	Murphy Dome	81.62	336	P		P	20 10 17.9	+0.2	
MDM				IAmb	IAmb		20 10 19.4		
	comp=Z,31nm,1.2s								
GRR	Gorron	81.80	41	*e*P		P	20 10 22.6	+3.7	
GRR				pmax	pmax				
	comp=Z,97nm,1.9s								
EPF	Esparros	81.83	47	*e*P		P	20 10 19.9	+0.6	
EPF				pmax	pmax				
	comp=Z,26nm,1.5s								
NEA2	Nenana	81.85	336	P		P	20 10 19.1	+0.2	
	baz=108								
FLN	La Foliniere	82.10	41	*e*P		P	20 10 25.2	+4.7	
FLN				pmax	pmax				
	comp=Z,77nm,1.9s								
SKT	Skwentna	82.18	333	P		P	20 10 21.1	+0.4	
SPU	Mount Spurr	82.22	332	P		P	20 10 21.3	+0.4	
RSO	Redoubt South	82.38	331	P		P	20 10 22.7	+0.7	
BPAW	Bear Paw Mtn.	82.51	335	P		P	20 10 22.4	0.0	
BPAW				IAmb	IAmb		20 10 23.8		
	comp=Z,21nm,0.9s								
PPLA	Purkeypile	82.71	334	P		P	20 10 23.5	-0.1	
COLD	Coldfoot	83.08	338	P		P	20 10 26.4	+1.1	
	baz=107								
COLD	Coldfoot	83.08	338	P		P	20 10 25.8	+0.5	
VNA3	Neumayer Olymp	83.19	162	P		P	20 10 26.6	+0.8	
MTLF	Montolieu	83.23	46	*e*P		P	20 10 27.6	+1.0	
MTLF				pmax	pmax				
	comp=Z,17nm,1.3s								
TOLK	Toolik Lake Re	83.27	340	P		P	20 10 26.4	+0.1	
	baz=108								
DAG	Danmarks Havn	83.41	12	*i* P		P	20 10 27.0	+0.2	
	comp=Z,18nm,1.0s								
DAG	Danmarks Havn	83.41	12	*i* P		P	20 10 27.0	+0.2	
DAG				pmax	pmax				
	comp=Z,18nm,1.0s								
WAL1	Walls	83.52	29	*e*P		P	20 10 28.0	+0.3	
TCF	Toulx Ste Croi	83.56	44	*e*P		P	20 10 29.1	+0.8	
TCF				pmax	pmax				
	comp=Z,24nm,1.6s								
BGF	Bois d'Agland	84.03	43	*e*P		P	20 10 31.7	+1.1	
BGF				pmax	pmax				
	comp=Z,42nm,1.4s								
IMAR	Indian Mountai	84.12	337	P		P	20 10 29.6	-1.0	
AVF	Avril sur Loir	84.41	43	*e*P		P	20 10 33.1	+0.6	
AVF				pmax	pmax				
	comp=Z,18nm,1.3s								
TTA	Tatalina	84.43	333	P		P	20 10 31.9	-0.5	
TTA	Tatalina	84.43	333	P		P	20 10 31.9	-0.5	
TAM	Tamanrasset	84.43	67	P		P	20 10 34.8	+1.5	
TAM				pmax	pmax				
	comp=Z,7.0nm,0.9s								
TAM	Tamanrasset	84.43	67	P		P	20 10 31.8	-1.5	
TAM				IAmb	IAmb		20 10 35.4		
	comp=Z,13nm,1.3s								
SSF	Saint Saulge	84.54	43	*e*P		P	20 10 33.8	+0.6	
SSF				pmax	pmax				
	comp=Z,41nm,1.8s								
SMF	Signal de Mont	84.72	43	*e*P		P	20 10 35.0	+0.9	
SMF				pmax	pmax				
	comp=Z,40nm,1.6s								
LOR	Lormes	84.80	43	*e*P		P	20 10 37.6	+3.1	
LOR				pmax	pmax				
	comp=Z,15nm,1.3s								
VIVF	Saint-Julien-l	85.14	45	*e*P		P	20 10 36.7	+0.4	
VIVF				pmax	pmax				
	comp=Z,26nm,1.7s								
SNAA	Sanae	85.41	162	P		P	20 10 37.7	+0.6	
SNAA	Sanae	85.41	162	⇑*i* P		P	20 10 37.3	+0.2	
SNAA				pmax	pmax				
	comp=Z,24nm,1.4s								
SNAA	Sanae	85.41	162	P		P	20 10 36.9	-0.2	
SNAA				IAmb	IAmb		20 10 38.8		
	comp=Z,24nm,1.3s								
GIVF	Givet	85.71	40	*e*P		P	20 10 42.8	+3.9	
GIVF				pmax	pmax				
	comp=Z,95nm,1.8s								
ORIF	Oris-en-Rattie	86.00	45	*e*P		P	20 10 43.5	+2.8	
ORIF				pmax	pmax				
	comp=Z,13nm,1.3s								
NOR	Nord	86.08	7	*i* P		P	20 10 41.0	+0.8	
	comp=Z,15nm,1.1s								
NOR	Nord	86.08	7	*i* P		P	20 10 41.0	+0.8	
NOR				pmax	pmax				
	comp=Z,15nm,1.1s								
MEM	Membach	86.50	39	P		P	20 10 44.6	+1.7	
MEM				pmax	pmax				
	comp=Z,14nm,1.2s								
WLF	Walferdange	86.53	40	P		P	20 10 44.1	+1.1	
WLF				pmax	pmax				
	comp=Z,54nm,1.5s								
WLF	Walferdange	86.53	40	P		P	20 10 44.1	+1.1	
HAU	Haudompre	86.54	42	*e*P		P	20 10 44.0	+0.9	
HAU				pmax	pmax				
	comp=Z,2.0nm,0.2s								
ECH	Echery	87.09	42	P		P	20 10 46.4	+0.5	
ECH				pmax	pmax				
	comp=Z,15nm,1.1s								
ECH	Echery	87.09	42	P		P	20 10 46.4	+0.5	
ECH				IAmb	IAmb		20 11 01.2		
	comp=Z,15nm,1.1s								
CDF	Champ du Feu	87.18	42	*e*P		P	20 10 47.2	+0.8	
CDF				pmax	pmax				
	comp=Z,23nm,1.6s								
RDOG	Red Dog Mine	88.00	338	P		P	20 10 50.3	+0.5	
TNS	Taunus Mts	88.04	40	P		P	20 10 51.9	+1.5	
TNS				pmax	pmax				
	comp=Z,11nm,1.3s								
KEST	Kesra	88.22	54	LR		LR	20 52 42.2		
	comp=Z,88nm,18.1s,baz=244,slow=37								
DAVA	Damuels	88.89	43	*e*PcP		PcP	20 10 56.1	-0.1	
	comp=Z,5.9nm,1.1s								
FETA	Feichten	89.47	43	*e*PcP		PcP	20 10 58.5	-0.2	
	comp=Z,3.6nm,1.0s								
MOTA	Moosalm	89.72	43	*e*PcP		PcP	20 10 59.4	-0.5	
	comp=Z,3.3nm,0.9s								
SQTA	Sankt Quirin	89.80	43	*e*PcP		P	20 10 59.4	+0.6	
	comp=Z,5.3nm,1.2s								
NOA	NORSAR Array B	89.88	29	P		P	20 10 59.6	+0.8	
	comp=Z,2.7nm,1.2s,baz=268,slow=4.6,SNR=2.8								
NOA				LR		LR	20 49 09.9		
	comp=Z,73nm,20.2s,baz=260,slow=34								
QSPA	South Pole Qui	89.98	180	P		P	20 11 00.3	+1.1	
	comp=Z,9.5nm,1.1s,baz=165,slow=1.9,SNR=13								
QSPA	South Pole Qui	89.98	180	P		P	20 11 00.1	+0.8	
NVL	N'lazarevskaya	90.01	161	*e*P		P	20 10 59.3	+0.2	
NVL				*e*S		SKSac	20 21 29.3	-0.1	
NVL				pmax	pmax				
	comp=Z,5.0nm,0.7s								
WATA	Walderalm	90.05	43	*e*PcP		PcP	20 11 01.2	0.0	
	comp=Z,1.0nm,0.7s								
WTTA	Wattenberg	90.09	43	*e*PcP		PcP	20 11 01.0	-0.5	
	comp=Z,2.9nm,1.0s								
WTTA	Wattenberg	90.09	43	P		PcP	20 11 00.9	-0.5	
WTTA				pmax	pmax				
	comp=Z,6.0nm,1.4s								
CTI	Castel Tesino	90.09	44	P		P	20 11 00.9	+0.7	
CTI				pmax	pmax				
	comp=Z,26nm,1.7s								
CTI	Castel Tesino	90.09	44	P		P	20 11 00.9	+0.7	
CTI				IAmb	IAmb		20 11 05.1		
	comp=Z,26nm,1.7s								
CIMO	Cimolais	90.64	44	P		P	20 11 03.0	+0.4	
ABTA	Abfaltersbach	90.69	43	PcP		PcP	20 11 04.4	+0.4	
	comp=Z,9.0nm,1.6s								
WET	Wettzell	90.90	41	P		P	20 11 05.3	+1.5	
WET				pmax	pmax				
	comp=Z,5.0nm,1.9s								
CLL	Collm	90.94	39	*i* P		P	20 11 05.0	+1.1	
	comp=Z,17nm,1.9s								
CLL				*e*			20 11 27.0		
CLL				*e*PP		PP	20 14 42.0	+2.0	
CLL				*e*SKSac		SKSac	20 21 30.0	-5.6	
CLL				*e*			20 22 43.0		
CLL				*e*SS		SS	20 27 54.0	-10	
CLL				*e*SSS		SSS	20 31 42.0		
CLL				Lm		MLR	20 48 00.0		
	comp=Z,100nm,20.5s								
CLL	Collm	90.94	39	*i* P		P	20 11 05.0	+1.1	
CLL				*e*			20 21 30.0		
CLL				pmax	pmax				
	comp=Z,17nm,1.9s								
KHC	Kasperske Hory	91.36	41	⇓*i* P		P	20 11 07.2	+1.2	
KHC				pmax	pmax				
	comp=Z,6.0nm,1.2s								
PRED	Cave del Predi	91.42	44	P		P	20 11 06.3	0.0	
PRED				IAmb	IAmb		20 11 11.4		
	comp=Z,11nm,1.5s								
GERES	GERESS Array B	91.45	41	P		P	20 11 06.0	-0.5	
	comp=Z,0.5nm,0.8s,baz=297,slow=3.0,SNR=3.0								
GERES				LR		LR	20 51 10.2		
	comp=Z,55nm,19.2s,baz=258,slow=35								
GERES	GERESS Array B	91.45	41	P		P	20 11 06.9	+0.4	
GERES	GERESS Array B	91.45	41	P		P	20 11 06.9	+0.4	
BRG	Berggiesshubel	91.55	39	*e*P		P	20 11 12.2	+5.4	
	comp=Z,26nm,1.9s								
BRG	Berggiesshubel	91.55	39	*e*P		P	20 11 12.1	+5.4	
BRG				pmax	pmax				
	comp=Z,26nm,1.9s								
MOA	Molln	91.86	42	*e*PcP		P	20 11 08.7	+0.4	
	comp=Z,8.3nm,1.4s								
SOKA	Soboth	92.42	43	*e*PcP		PcP	20 11 11.9	+0.2	
	comp=Z,2.3nm,1.1s								
CONA	Conrad Observa	92.93	42	*e*PcP		P	20 11 13.3	0.0	
	comp=Z,4.8nm,1.6s								
DPC	Dobruska-Polom	93.09	40	P		P	20 11 16.6	+2.7	
DPC				pmax	pmax				
	comp=Z,41nm,1.7s								
KRUC	Moravsky	93.22	41	*e*P		P	20 11 15.1	+0.6	
KRUC	Moravsky	93.22	41	P		P	20 11 16.1	+1.6	
KRUC				pmax	pmax				
	comp=Z,4.0nm,1.9s								
AFI	Afiamalu	93.25	256	LR		LR	20 44 57.0		
	comp=Z,100nm,18.7s,baz=108,slow=30								
VRAC	Vranov	93.33	41	*e*P		P	20 11 15.9	+0.9	
MORC	Moravsky Berou	93.91	40	*e*P		P	20 11 19.0	+1.3	
JAVC	Velka Javorina	94.07	41	*e*P		P	20 11 20.3	+1.8	
ARCES	ARCESS Array B	94.92	20	P		P	20 11 25.1	+3.3	
	comp=Z,1.0nm,0.7s,baz=266,slow=3.6,SNR=4.2								
ARCES				LR		LR	20 51 52.1		
	comp=Z,46nm,19.6s,baz=292,slow=34								
VNDA	Vanda	96.12	191	P		P	20 11 28.1	+0.9	
	comp=Z,2.0nm,1.3s,baz=336,slow=1.3,SNR=3.7								
VNDA				LR		LR	20 51 57.3		
	comp=Z,68nm,18.3s,baz=134,slow=34								
VNDA	Vanda	96.12	191	P		P	20 11 28.1	+0.9	
VNDA				pmax	pmax				
	comp=Z,9.0nm,1.6s								
VNDA	Vanda	96.12	191	P		P	20 11 28.1	+0.9	
VNDA				IAmb	IAmb		20 11 29.3		
	comp=Z,8.6nm,1.6s								
FINES	FINESS Array B	96.97	28	P		P	20 11 31.9	+0.6	
	comp=Z,3.5nm,0.9s,baz=259,slow=14,SNR=2.9								
FINES				LR		LR	20 54 41.2		
	comp=Z,63nm,19.4s,baz=288,slow=35								
FINES	FINESS Array B	96.97	28	P		P	20 11 31.1	-0.2	
FINES	FINESS Array B	96.97	28	P		P	20 11 31.1	-0.2	
BZS	Buzias	97.07	44	P		Pdif	20 11 34.1	+1.8	
BZS				pmax	pmax				
	comp=Z,4.0nm,2.1s								
BILL	Bilibino	99.32	340	⇑*i* P		Pdif	20 11 42.2	+0.4	
BILL				pmax	pmax				
	comp=Z,7.0nm,0.4s								
SYO	Syowa Base	99.67	161	⇑*e*P		Pdif	20 11 38.1	-5.2	
SYO	Syowa Base	99.67	161	⇑*ep*Pdiff		Pdif	20 11 48.6	+5.3	
TMCR	Tamitsa	101.32	24	*e*P		Pdif	20 11 49.8	-0.9	
KIV	Kislovodsk	111.96	42	*i* PKIKP		PKiKP	20 16 35.5	-0.1	
KIV				pmax	pmax				
	comp=Z,10.0nm,1.1s								
YAK	Yakutsk	114.65	346	*i* PKIKP		PKPdf	20 16 40.2	+0.2	
ABKAR	Akbulak array	119.38	30	PKPdf		PKiKP	20 16 49.7	+0.1	
BRVK	Borovoye	121.11	21	⇓*i* PKIKP		PKiKP	20 16 54.4	+1.5	
ZAA0	Zalesovo Array	124.54	12	PKPdf		PKPdf	20 16 58.8	-0.5	
ZALV	Zalesovo Beam	124.54	12	PKP		PKPdf	20 16 59.3	0.0	
	comp=Z,3.1nm,0.8s,baz=325,slow=1.8,SNR=14								
ZALV	Zalesovo Beam	124.54	12	PKIKP		PKPdf	20 16 58.8	-0.5	
ZALV	Zalesovo Beam	124.54	12	PKPdf		PKPdf	20 16 58.8	-0.5	
KLR	Kul'dur	124.59	336	PP		PP	20 18 46.5	+1.1	
	comp=Z,5.7nm,1.0s,baz=52,slow=3.8,SNR=6.3								
KLR	Kul'dur	124.59	336	⇓*i* PKIKP		PKPdf	20 16 59.2	-0.4	
GEYT	Alibeck	125.08	42	PKP		PKiKP	20 17 01.8	+0.5	
	comp=Z,1.6nm,0.7s,baz=264,slow=8.8,SNR=3.8								
KURK	Kurchatov	125.89	18	⇓*i* PKIKP		PKiKP	20 17 02.7	+0.3	
KURK	Kurchatov	125.89	18			PKPdf	20 17 01.6	-0.3	
DGZ	Jazzator, Alta	129.09	12	⇓*i* PKIKP		PKPdf	20 17 08.8	+0.4	
MJAR	Matsushiro Arr	130.32	321	PKP		PKPdf	20 17 10.7	-0.3	
	comp=Z,1.9nm,1.0s,baz=39,slow=2.7,SNR=5.8								
MJAR	Matsushiro Arr	130.32	321	PKIKP		PKPdf	20 17 09.6	-1.3	
MJAR	Matsushiro Arr	130.32	321			PKPdf	20 17 09.6	-1.3	
MAJO	Matsushiro	130.32	321	⇓*i* PKIKP		PKPdf	20 17 10.6	-0.3	
MAKZ	Makanchi	130.39	18	PKIKP		PKPdf	20 17 09.7	-1.1	
MAKZ	Makanchi	130.39	18			PKPdf	20 17 09.7	-1.1	
MK31	Makanchi Array	130.50	17	PKIKP		PKPdf	20 17 09.9	-1.1	
MK31	Makanchi Array	130.50	17	PKPdf		PKPdf	20 17 09.9	-1.1	
MKAR	Makanchi Array	130.50	17	PKP		PKPdf	20 17 10.7	-0.3	
	comp=Z,1.3nm,0.8s,baz=352,slow=2.5,SNR=12								
MKAR				PP		PP	20 19 22.6	-1.6	
	comp=Z,1.1nm,1.0s,baz=356,slow=4.9,SNR=4.1								
MKAR	Makanchi Array	130.50	17			PP	20 19 21.8	-2.4	
STKA	Stephens Creek	130.62	226	PKP		PKiKP	20 17 12.7	+0.2	
	comp=Z,4.5nm,1.0s,baz=325,slow=8.5,SNR=4.5								
STKA	Stephens Creek	130.62	226	PKIKP		PKPdf	20 17 12.1	+0.5	
STKA	Stephens Creek	130.62	226			PKPdf	20 17 12.1	+0.5	
AAK	Ala-Archa	131.13	27	PKIKP		PKiKP	20 17 13.1	-0.3	
AAK	Ala-Archa	131.13	27	PKPdf		PKiKP	20 17 13.1	-0.3	
ULN	Ulaanbaatar	132.16	355	⇓*i* PKIKP		PKPdf	20 17 14.8	+0.6	
ULN	Ulaanbaatar	132.16	355			PKPdf	20 17 14.4	+0.2	
SONM	Songino Array	132.25	356	PKP		PKPdf	20 17 15.0	+0.6	
	comp=Z,3.1nm,1.1s,baz=266,slow=0.5,SNR=15								
SONM				PP		PP	20 19 31.1	-4.3	
	comp=Z,6.1nm,1.4s,baz=352,slow=6.1,SNR=5.6								
SONM	Songino Array	132.25	356	PKIKP		PKPdf	20 17 14.0	-0.4	
SONM	Songino Array	132.25	356	PKPdf		PKPdf	20 17 14.0	-0.4	
SONM						PP	20 19 29.8	-5.7	
WMQ	Urumqi	134.71	14	*e*PKP		PKPdf	20 17 19.6	+0.6	
WMQ				LR	LR				
	comp=Z,140nm,24.7s								
KSRS	Korea Array	135.56	330	PKhKP	PKPpre		20 17 12.8		
	comp=Z,0.4nm,0.6s,baz=0.1,slow=1.8,SNR=4.0								
KSRS				PKP		PKPdf	20 17 21.2	+0.5	
	comp=Z,1.7nm,0.8s,baz=30,slow=1.7,SNR=9.6								
KSAR	Wonju Array Be	135.59	330	PKIKP		PKPdf	20 17 20.2	-0.6	
KSAR	Wonju Array Be	135.59	330		PKPpre		20 17 11.7		
KSAR						PKPdf	20 17 20.2	-0.6	
HHC	Hu-ho-hao-te	138.41	349	*e*PKP		PKPdf	20 17 26.4	+0.3	
HHC				SKKS			20 27 05.8		
HHC				AMB	AMB				
	comp=Z,77nm,9.0s								
HHC				LR	LR				
	comp=Z,160nm,19.5s								
HHC				LR	LR				
	comp=Z,170nm,18.2s								
HHC				LR	LR				
	comp=Z,140nm,20.3s								
ASAR	Alice Springs	140.75	231	PKhKP	PKPpre		20 17 24.9		
	comp=Z,4.3nm,1.0s,baz=118,slow=3.8,SNR=19								
ASAR	Alice Springs	140.75	231	PKHKP	PKPpre		20 17 24.3		
ASAR	Alice Springs	140.75	231		PKPpre		20 17 24.3		
GTA	Gaotai	140.82	2	⇑PKP		PKPdf	20 17 30.6	+0.1	
GTA				PP		PP	20 20 32.5	+3.3	
GTA				SS	SS		20 38 55.0	+0.4	
GTA				AMB	AMB				
	comp=Z,130nm,7.5s								
GTA				LR	LR				
	comp=Z,70nm,19.4s								
GTA				LR	LR				
	comp=Z,120nm,19.4s								
WB2	Warramunga Arr	142.25	236	PKPdf		PKPdf	20 17 32.1	-1.3	
WRA	Warramunga Arr	142.26	236	PKhKP	PKPpre		20 17 28.6		
	comp=Z,3.6nm,0.7s,baz=104,slow=3.2,SNR=8.3								
WRA	Warramunga Arr	142.26	236	PKHKP	PKPpre		20 17 28.4		
WRA	Warramunga Arr	142.26	236			PKPdf	20 17 28.4	-5.1	
NJ2	Nanjing	144.25	334	*e*PKP		PKPdf	20 17 37.6	+1.0	
XAN	Xi'an	145.52	349	PKPbc		PKPbc	20 17 38.6	-0.2	
XAN				PP		PP	20 21 01.5	+4.0	
XAN				SKS		SKSdf	20 24 47.3	-0.8	
XAN				SKKS		SKKSac	20 27 53.2	+2.0	
XAN				SS		SS	20 39 54.6	+5.7	
XAN				AMB	AMB				
	comp=Z,140nm,5.5s								
XAN	Xi'an	145.52	349	PKIKP		PKPbc	20 17 37.9	-0.9	
XAN	Xi'an	145.52	349			PKPbc	20 17 37.9	-0.9	
PYUN	Piuthan	146.92	31	*e*P		PKPbc	20 17 44.0	+0.5	
KOLN	Koldanda	147.50	31	*e*P		PKPbc	20 17 45.1	0.0	

0.6nm,0.5s,baz=11,slow=8.8,SNR=5.0
KDAK Kodiak Island 55.16 36 LR LR 20 42 22.2
comp=Z,55nm,19.4s,baz=146,slow=34
KBZ Khabaz 78.40 313 LR LR 21 01 49.6
comp=Z,37nm,18.6s,baz=318,slow=39
FINES FINESS Array B 78.58 334 P P 20 23 30.2 +0.6
1.6nm,0.8s,baz=64,slow=4.4,SNR=5.8

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*THE **12** 20:15:29.9,40˚.38N×15˚.72E,h14km±12km,ML3.8/7,Error ellipse: s-maj=16.5km s-min=1.0km az=280.0*
*ROM **12** 20:15:34.3±0.1,40˚.455N±0˚.004×16˚.408E±0˚.007, h14km±1km,ML3.7/1,Mw3.7, Error ellipse: s-maj=0.6km s-min=0.1km az=273.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr4.49; Mθθ-0.75; Mφφ-3.73; Mrθ-0.32; Mθφ-2.25; Mφr0.97; Fault plane solution: M₀4.83207×10¹⁴ NP1:φ₁218.00000°,δ42.00000°, λ105.00000°. NP2:φ₂18.00000°,δ50.00000°,λ77.00000°.*
*PDG **12** 20:15:34.4±0.4, 40˚.45N×16˚.41E,h7km,ML3.7/8 Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*MED_RC **12** 20:15:34.0±0.6,40˚.45N×16˚.42E,h16km±1km,MW3.9/8, Moment Tensor Solution.Mantle waves: s8,c14; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr-0.73±.19; Mθθ0.53±.10; Mφφ0.20±.13; Mrθ-0.32±.18; Mθφ-0.57±.07; Mφr-0.13±.23; Best double couple: M₀0.93000×10¹⁵ NP1:φ₁330.00000°,δ44.00000°,λ-54.00000°. NP2: φ₂105.00000°,δ56.00000°,λ-119.00000°. Principal axes: T 0.9800, Plg6.0000°, Azm215.0000°; N -0.1000, Plg24.0000°, Azm122.0000°; P -0.8800, Plg65.0000°, Azm319.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*LDG **12** 20:15:34.3±0.2, 40˚.40N×16˚.46E,h16km,Ml3.2/7 Error ellipse: s-maj=4.8km s-min=3.3km az=136.0*
*IDC **12** 20:15:34.9±0.9,40˚.66N×16˚.41E,h0km,mb3.8/11, mb1 3.9/21,mb1mx3.8/48,mbtmp3.7/21,ML3.4/10,MS3.0/6, Ms1 3.0/6,ms1mx2.6/50,Error ellipse: s-maj=15.4km s-min=12.9km az=178.0*
*PRU **12** 20:15:36.0±0.0, 40˚.34N×16˚.41E,h26km*
ISC 12 20:15:35.2±0.8, 40˚.47N±0˚.02×16˚.35E±0˚.02, h11km±5km, n211,σ2s08/250, mb3.8/11, 37C-6D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
CRAC	**Craco**	**0.12**	**147**	⇑P	**Pg**	**20 15 37.4**	**-0.7**
CRAC				S	**Sg**	**20 15 40.1**	**-0.1**
CRAC				AML	AML		
CRAC				AML	AML		
MIGL	**Miglionico**	**0.15**	**27**	⇑P	**Pg**	**20 15 38.3**	**-0.3**
MIGL				S	**Sg**	**20 15 41.6**	**+0.5**
MIGL				AML	AML		
MIGL				AML	AML		
PTRP	**Pietrapertosa**	**0.23**	**284**	P	**Pb**	**20 15 41.1**	**-0.2**
MATE	**Matera**	**0.33**	**56**	P	**Pg**	**20 15 40.5**	**-1.2**
MATE				S	**Sg**	**20 15 45.1**	**-1.0**
MATE	**Matera**	**0.33**	**56**	⇑P	**Pg**	**20 15 40.7**	**-1.0**
MATE				S	**Sg**	**20 15 45.3**	**-0.8**
MATE				AML	AML		
	comp=E,73200μm,0.5s						
MATE				AML	AML		
	comp=N,57350μm,0.4s						
MATE				AML	AML		
	comp=N,57350μm,0.4s						
MATE				AML	AML		
	comp=E,73200μm,0.5s						
ORI	**Oriolo Calabro**	**0.41**	**169**	⇑P	**Pg**	**20 15 43.1**	**-0.1**
ORI				AML	AML		
	comp=N,63800μm,0.9s						
ORI				AML	AML		
	comp=E,57000μm,0.4s						
ORI				AML	AML		
	comp=N,63800μm,0.9s						
MCEL	**Monticello**	**0.44**	**251**	⇑P	**Pg**	**20 15 43.6**	**-0.2**
MCEL				S	**Sb**	**20 15 51.3**	**-0.4**
MCEL				AML	AML		
	comp=E,20950μm,0.7s						
MCEL				AML	AML		
	comp=N,31550μm,0.5s						
MCEL				AML	AML		
	comp=E,21600μm,0.7s						
MCEL				AML	AML		
	comp=N,31600μm,0.5s						
MCEL				AML	AML		
	comp=E,21000μm,0.7s						
MCEL				AML	AML		
	comp=N,31600μm,0.5s						
MCEL				AML	AML		
	comp=N,32700μm,0.5s						
MCEL				AML	AML		
	comp=E,21600μm,0.7s						
ACER	**Acerenza**	**0.44**	**316**	⇓P	**Pg**	**20 15 43.7**	**-0.2**
ACER				S	**Sb**	**20 15 52.1**	**+0.3**
ACER				AML	AML		
	comp=N,10605μm,1.4s						
ACER				AML	AML		
	comp=N,10610μm,1.4s						
ACER				AML	AML		
	comp=E,15050μm,0.4s						
ACER				AML	AML		
	comp=E,14050μm,0.4s						
ACER				AML	AML		
	comp=E,15050μm,0.4s						
ACER				AML	AML		
	comp=N,11255μm,1.4s						
ACER				AML	AML		
	comp=N,10580μm,1.4s						
PZUN	**Potenza**	**0.45**	**294**	P	**Pb**	**20 15 44.6**	**-0.5**
SG1	**Sgolgore (BA)**	**0.45**	**34**	⇑*i*Pg	**Pg**	**20 15 42.7**	**-1.3**
SIRI	**Monte Sirino -**	**0.47**	**232**	⇑P	**Pg**	**20 15 43.8**	**-0.5**
SIRI				S	**Sb**	**20 15 51.6**	**-0.8**
AMUR	**Altamura**	**0.48**	**24**	⇑P	**Pg**	**20 15 43.3**	**-1.3**
AMUR				S	**Sg**	**20 15 51.1**	**+0.1**
AMUR				AML	AML		
	comp=N,14505μm,0.4s						
AMUR				AML	AML		
	comp=E,24450μm,1.3s						
AMUR				AML	AML		
	comp=E,24450μm,1.3s						
MTSN	**Montesano sull**	**0.50**	**246**	⇑P	**Pg**	**20 15 44.4**	**-0.5**
MTSN				S	**Sb**	**20 15 52.8**	**-0.5**
MTSN				AML	AML		
	comp=N,7455μm,1.6s						
MTSN				AML	AML		
	comp=E,7245μm,0.6s						
T0701	**Viggianello (P**	**0.51**	**200**	⇑P	**Pg**	**20 15 44.5**	**-0.6**
T0701				AML	AML		
	comp=N,12200μm,0.5s						
T0701				AML	AML		
	comp=E,15250μm,0.7s						
T0701				AML	AML		
	comp=E,15200μm,0.7s						
T0701				AML	AML		
	comp=N,12200μm,0.5s						
SLCN	**Sala Consilina**	**0.55**	**262**	⇑P	**Pg**	**20 15 45.5**	**-0.4**
SLCN				S	**Sb**	**20 15 54.8**	**-0.1**
SLCN				AML	AML		
	comp=E,50450μm,0.3s						
SLCN				AML	AML		
	comp=E,371μm,1.6s						
SLCN				AML	AML		
	comp=N,36100μm,0.3s						
SLCN				AML	AML		
	comp=N,384μm,1.6s						
SLCN				AML	AML		
	comp=N,36100μm,0.3s						
SLCN				AML	AML		
	comp=E,50450μm,0.3s						
PALZ	**Palazzo San Ge**	**0.56**	**328**	P	**Pg**	**20 15 45.3**	**-0.7**
PALZ				AML	AML		
	comp=E,9730μm,0.8s						
PALZ				AML	AML		
	comp=N,8250μm,1.5s						
PALZ				AML	AML		
	comp=N,8745μm,1.0s						
SALB	**San Lorenzo Be**	**0.59**	**180**	⇑P	**Pg**	**20 15 45.4**	**-1.2**
SALB				S	**Sg**	**20 15 54.5**	**+0.1**
SALB				AML	AML		
	comp=E,26450μm,0.3s						
SALB				AML	AML		
	comp=N,16750μm,0.4s						
SALB				AML	AML		
	comp=N,16450μm,0.4s						
SALB				AML	AML		
	comp=E,26500μm,0.3s						
SALB				AML	AML		
	comp=E,29250μm,0.3s						
SALB				AML	AML		
	comp=N,16450μm,0.4s						
MRVN	**Minervino Murg**	**0.60**	**349**	P	**Pg**	**20 15 46.3**	**-0.6**
MRVN				AML	AML		
	comp=N,4425μm,0.2s						
MRVN				AML	AML		
	comp=E,5210μm,0.9s						
CUC	**Castrocucco**	**0.62**	**221**	⇑P	**Pg**	**20 15 46.4**	**-0.9**
CUC				S	**Sg**	**20 15 55.4**	**-0.1**
CUC				AML	AML		
	comp=N,9710μm,0.5s						
CUC				AML	AML		
	comp=N,11600μm,0.5s						
CUC				AML	AML		
	comp=N,9715μm,0.5s						
CUC				AML	AML		
	comp=E,7980μm,0.5s						
CUC				AML	AML		
	comp=E,6480μm,0.5s						
NOCI	**Noci**	**0.63**	**59**	P	**Pg**	**20 15 45.5**	**-2.0**
NOCI				S	**Sg**	**20 15 55.7**	**-0.1**
NOCI				AML	AML		
	comp=E,17300μm,0.7s						
NOCI				AML	AML		
	comp=N,21550μm,0.3s						
MMN	**Mormanno**	**0.64**	**206**	⇑P	**Pg**	**20 15 46.6**	**-0.9**
MMN				AML	AML		
	comp=E,3810μm,0.7s						
MMN				AML	AML		
	comp=N,2710μm,1.4s						
MGR	**Morigerati**	**0.69**	**242**	⇑P	**Pg**	**20 15 47.4**	**-1.2**
MGR				AML	AML		
	comp=E,5905μm,0.7s						
MGR				AML	AML		
	comp=N,6020μm,0.3s						
MGR				AML	AML		
	comp=E,6945μm,0.7s						
MGR				AML	AML		
	comp=N,5310μm,0.9s						
MRLC	**Muro Lucano**	**0.71**	**294**	⇑P	**Pg**	**20 15 48.6**	**-0.4**
MRLC				AML	AML		
	comp=E,6020μm,0.4s						
MRLC				AML	AML		
	comp=N,5205μm,0.6s						
MRLC				AML	AML		
	comp=E,6025μm,0.4s						
MRLC				AML	AML		
	comp=N,5200μm,0.6s						
MRLC				AML	AML		
	comp=N,5700μm,1.5s						
MRLC				AML	AML		
	comp=E,6415μm,0.4s						
TAR1	**Taranto**	**0.72**	**85**	⇑*i*Pg	**Pg**	**20 15 47.0**	**-2.0**
TAR1				Sg	**Sg**	**20 15 58.5**	**+0.1**
VULT	**Monte Vulture**	**0.74**	**311**	P	**Pg**	**20 15 49.8**	**+0.3**
VULT				AML	AML		
	comp=E,3960μm,1.0s						
VULT				AML	AML		
	comp=N,6065μm,0.4s						
VULT				AML	AML		
	comp=N,5820μm,0.4s						
VULT				AML	AML		
	comp=E,4065μm,1.0s						
BAI	**Bari**	**0.76**	**32**	⇑*i*Pg	**Pg**	**20 15 48.7**	**-1.1**
BAI				Sg	**Sg**	**20 16 01.0**	**+1.4**
T0702	**Acquaformosa (**	**0.77**	**195**	⇑P	**Pg**	**20 15 48.8**	**-1.2**
T0702				AML	AML		
	comp=N,13800μm,1.0s						
T0702				AML	AML		
	comp=N,13700μm,1.0s						
T0702				AML	AML		
	comp=N,13700μm,1.0s						
T0702				AML	AML		
	comp=E,11500μm,0.6s						
CDRU	**Civita di Ruta**	**0.80**	**272**	⇑P	**Pg**	**20 15 49.1**	**-1.4**
CDRU				AML	AML		
	comp=N,2550μm,0.7s						
CDRU				AML	AML		
	comp=N,2545μm,0.7s						
CDRU				AML	AML		
	comp=E,3290μm,0.3s						
CAPA	**Cerignola FG**	**0.80**	**330**	P	**Pb**	**20 15 51.1**	**0.0**
CAPA				AML	AML		
	comp=N,9250μm,1.0s						
CAPA				AML	AML		
	comp=E,9365μm,1.0s						
TDS	**Terranova Siba**	**0.81**	**181**	⇑P	**Pg**	**20 15 49.1**	**-1.6**
TDS				AML	AML		
	comp=N,2640μm,0.7s						
TDS				AML	AML		
	comp=E,2710μm,0.9s						
CMPR	**Campora**	**0.81**	**260**	⇑P	**Pg**	**20 15 49.4**	**-1.5**
CMPR				AML	AML		
	comp=E,5910μm,1.3s						
CMPR				AML	AML		
	comp=N,6330μm,0.4s						
CGL1	**Ceglie Messapi**	**0.88**	**77**	⇑*i*Pg	**Pg**	**20 15 49.8**	**-2.3**
CGL1				Sg	**Sg**	**20 16 05.2**	**+1.6**
MCRV	**Calabrutti - M**	**0.95**	**290**	P	**Pg**	**20 15 52.4**	**-1.1**
MCRV				AML	AML		
	comp=N,3505μm,0.3s						
MCRV				AML	AML		
	comp=E,3670μm,0.4s						
SNAL	**S. Angelo Dei**	**0.98**	**298**	P	**Pg**	**20 15 53.0**	**-1.0**
SNAL				AML	AML		
	comp=E,3240μm,0.8s						
SNAL				AML	AML		
	comp=N,3815μm,0.6s						
SNAL				AML	AML		
	comp=N,3585μm,0.6s						
SNAL				AML	AML		
	comp=E,3355μm,0.8s						
CET2	**Cetraro**	**0.98**	**198**	P	**Pg**	**20 15 52.8**	**-1.3**
SGTA	**Sant Agata di**	**1.00**	**312**	P	**Pg**	**20 15 54.2**	**-0.2**
SGTA				AML	AML		
	comp=E,2550μm,0.6s						
SGTA				AML	AML		
	comp=N,1860μm,0.6s						
SGTA				AML	AML		
	comp=N,1940μm,0.6s						
SGTA				AML	AML		
	comp=N,1855μm,0.6s						
SGTA				AML	AML		
	comp=E,2610μm,0.6s						
SGTA				AML	AML		
	comp=E,2555μm,0.5s						
CAFE	**Carife**	**1.01**	**304**	P	**Pg**	**20 15 53.8**	**-0.9**
CAFE				AML	AML		
	comp=E,3460μm,0.4s						
CAFE				AML	AML		
	comp=N,2020μm,0.5s						
CAFE				AML	AML		
	comp=N,1985μm,0.5s						
CAFE				AML	AML		
	comp=E,3570μm,0.4s						
CAFE				AML	AML		
	comp=E,3465μm,0.4s						
PIPA	**Pietrapaola**	**1.04**	**160**	P	**Pg**	**20 15 53.5**	**-1.8**
CELI	**Celico**	**1.07**	**173**	P	**Pg**	**20 15 53.6**	**-2.1**
CELI				AML	AML		
	comp=N,6150μm,0.7s						
CELI				AML	AML		
	comp=E,2890μm,0.8s						
CELI				AML	AML		
	comp=E,7305μm,0.8s						
CELI				AML	AML		
	comp=N,2445μm,0.7s						
MESG	**Mesagne**	**1.15**	**83**	P	**Pb**	**20 15 54.5**	**-2.5**
MESG				AML	AML		
	comp=N,11940μm,0.5s						
MESG				AML	AML		
	comp=E,13150μm,1.0s						
CAR1	**CAROLEI**	**1.22**	**185**	P	**Pn**	**20 15 57.2**	**-1.0**
CAR1				AML	AML		
	comp=E,6280μm,0.7s						
CAR1				AML	AML		
	comp=E,6815μm,0.7s						
CAR1				AML	AML		
	comp=N,4905μm,0.7s						
CAR1				AML	AML		
	comp=E,6275μm,0.7s						
CAR1				AML	AML		
	comp=N,5095μm,0.8s						
CAR1				AML	AML		
	comp=E,6810μm,0.7s						
MOCO	**Biccari - m.te**	**1.27**	**315**	AML	AML		
	comp=N,657μm,0.6s						
MOCO				AML	AML		
	comp=E,1585μm,0.8s						
MOCO				AML	AML		
	comp=E,1650μm,0.8s						
MOCO				AML	AML		
	comp=N,630μm,0.6s						
MSAG	**Monte S. Angel**	**1.29**	**345**	P	**Pn**	**20 15 58.4**	**-0.8**
MSAG				AML	AML		
	comp=E,7085μm,0.4s						
MSAG				AML	AML		
	comp=N,14850μm,0.3s						
MSAG				AML	AML		
	comp=E,7985μm,0.4s						
MSAG				AML	AML		
	comp=N,15300μm,0.3s						
MSAG				AML	AML		
	comp=N,14850μm,0.3s						
TIP	**Timpagrande**	**1.32**	**166**	P	**Pb**	**20 16 00.8**	**+0.7**
TIP	**Timpagrande**	**1.32**	**166**	S	**Sg**	**20 16 21.6**	**+3.8**
TIP	**Timpagrande**	**1.32**	**166**	P	**Pn**	**20 15 59.0**	**-0.8**
TIP				AML	AML		
	comp=E,832μm,0.7s						
TIP				AML	AML		
	comp=N,812μm,0.8s						
TIP				AML	AML		
	comp=N,1010μm,0.8s						
TIP				AML	AML		
	comp=E,961μm,0.6s						
SGRT	**San Giovanni R**	**1.36**	**341**	P	**Pn**	**20 15 59.6**	**-0.7**
SGRT				AML	AML		
	comp=E,3840μm,1.1s						
SGRT				AML	AML		
	comp=N,3415μm,0.3s						
SERS	**Sersale**	**1.45**	**169**	AML	AML		
	comp=E,1335μm,1.0s						
SERS				AML	AML		
	comp=E,1425μm,1.1s						
SERS				AML	AML		
	comp=N,1325μm,0.7s						
SERS				AML	AML		
	comp=N,1345μm,1.1s						
MELA	**Melanico ??? S**	**1.54**	**324**	P	**Pn**	**20 16 02.1**	**-0.6**
MELA				AML	AML		
	comp=N,4020μm,1.2s						
MELA				AML	AML		
	comp=N,3790μm,1.1s						
MELA				AML	AML		
	comp=E,4435μm,1.4s						
MELA				AML	AML		
	comp=E,4245μm,1.4s						
SCTE	**Santa Cesarea**	**1.67**	**103**	AML	AML		
	comp=E,5115μm,0.7s						
SCTE				AML	AML		
	comp=N,6685μm,0.8s						
BSSO	**Busso**	**1.71**	**310**	AML	AML		
	comp=E,307μm,1.5s						
BSSO				AML	AML		
	comp=N,648μm,0.8s						
BSSO				AML	AML		
	comp=N,263μm,0.7s						
BSSO				AML	AML		
	comp=E,720μm,0.6s						
TREM	**Isole Tremiti**	**1.77**	**339**	AML	AML		
	comp=E,5895μm,0.6s						
TREM				AML	AML		
	comp=N,5370μm,0.6s						
VAGA	**Valle Agricola**	**1.86**	**301**	P	**Pn**	**20 16 07.5**	**+0.5**
VAGA				AML	AML		
	comp=N,1175μm,1.6s						
VAGA				AML	AML		
	comp=E,562μm,0.7s						
JOPP	**Joppolo**	**1.89**	**191**	AML	AML		
	comp=E,1190μm,0.7s						
JOPP				AML	AML		
	comp=N,1056μm,0.6s						
MIDA	**Miranda**	**1.97**	**307**	AML	AML		
	comp=N,562μm,0.6s						
MIDA				AML	AML		
	comp=E,669μm,1.1s						
GMB	**Gambarie**	**2.33**	**190**	AML	AML		
	comp=N,1930μm,1.2s						
GMB				AML	AML		
	comp=E,2130μm,1.0s						
VPL	**Vulcano Piano**	**2.34**	**207**	AML	AML		
	comp=E,2340μm,0.9s						
VPL				AML	AML		
	comp=N,2675μm,0.8s						
MILZ	**Milazzo**	**2.36**	**202**	AML	AML		
	comp=N,716μm,0.6s						
MILZ				AML	AML		
	comp=E,1090μm,0.5s						
SOI	**Samo**	**2.40**	**186**	AML	AML		
	comp=E,462μm,0.6s						
SOI				AML	AML		
	comp=N,430μm,0.7s						
INTR	**Introdacqua**	**2.40**	**311**	P	**Pn**	**20 16 15.3**	**+0.7**
INTR				AML	AML		
	comp=N,1395μm,0.8s						
INTR				AML	AML		
	comp=E,648μm,0.8s						
IACL	**Alicudi**	**2.47**	**219**	AML	AML		
	comp=N,748μm,0.5s						
IACL				AML	AML		
	comp=E,1205μm,0.7s						
MPAZ	**Palizzi**	**2.52**	**186**	P	**Pn**	**20 16 16.6**	**+0.4**
MPAZ				AML	AML		
	comp=N,501μm,0.5s						
MPAZ				AML	AML		
	comp=E,478μm,0.8s						
MCSR	**Castroreale**	**2.55**	**200**	AML	AML		
	comp=E,1250μm,0.6s						
MCSR				AML	AML		
	comp=N,832μm,0.4s						
HCY	**Herceg Novi**	**2.55**	**38**	⇑*i*Pn	**Pn**	**20 16 17.6**	**+1.1**
HCY				*i* Sn	**Sn**	**20 16 50.4**	**+2.8**
HCY	**Herceg Novi**	**2.55**	**38**	*e*Pn	**Pn**	**20 16 15.6**	**-0.9**
DBRK	**Dubrovnik**	**2.58**	**31**	*e*Pn	**Pg**	**20 16 23.8**	**-0.8**
DBRK				Sn	**Sb**	**20 16 54.9**	**+1.7**
NOV	**Novara**	**2.61**	**201**	AML	AML		
	comp=N,724μm,0.6s						
NOV				AML	AML		
	comp=E,1040μm,0.6s						
ULC	**Ulcinj**	**2.65**	**55**	⇑*i*Pn	**Pn**	**20 16 18.2**	**+0.3**
ULC				*i* Sn	**Sn**	**20 16 52.3**	**+2.3**
BUM	**Brajici-Budva**	**2.65**	**45**	⇑*i*Pn	**Pn**	**20 16 18.4**	**+0.5**
BUM				*i* Sn	**Sn**	**20 16 52.6**	**+2.5**
MUCR	**Ucria**	**2.68**	**206**	P	**Pn**	**20 16 18.1**	**-0.2**
MUCR				AML	AML		
	comp=E,483μm,1.0s						
MUCR				AML	AML		
	comp=N,887μm,0.7s						
TREB	**Trebinje**	**2.70**	**33**	*e*Pn	**Pn**	**20 16 17.0**	**-1.6**
DRME	**Dracevica, Mon**	**2.74**	**50**	⇓*i*Pn	**Pn**	**20 16 19.4**	**+0.3**
DRME				*i* Sn	**Sn**	**20 16 54.5**	**+2.2**
DRME	**Dracevica, Mon**	**2.74**	**50**	*e*Pn	**Pn**	**20 16 18.6**	**-0.5**
FAGN	**Fagnano**	**2.75**	**312**	AML	AML		
	comp=E,625μm,0.6s						
FAGN				AML	AML		
	comp=N,688μm,0.5s						
KEK	**Kerkira**	**2.75**	**105**	P	**Pn**	**20 16 19.4**	**+0.1**
KEK				S	**Sb**	**20 16 58.3**	**+0.1**
	comp=N,690nm,0.6s						
TIR	**Tirane**	**2.81**	**71**	P	**Pn**	**20 16 20.1**	**+0.1**
TIR	**Tirane**	**2.81**	**71**	S	**Sn**	**20 16 52.5**	**-1.4**
TIR	**Tirane**	**2.81**	**71**	AML	AML		
	comp=N,1295μm,0.8s						
TIR				AML	AML		
	comp=E,1040μm,0.7s						
CEME	**Cevo**	**2.84**	**42**	⇑*i*Pn	**Pn**	**20 16 19.6**	**-0.9**
CEME				*i* Sn	**Sn**	**20 16 57.0**	**+2.3**
MNO	**Monte Soro**	**2.84**	**207**	AML	AML		
	comp=N,824μm,0.8s						
MNO				AML	AML		
	comp=E,804μm,0.8s						
SRN	**Sarande**	**2.86**	**101**	P	**Pn**	**20 16 20.8**	**+0.1**
SRN				S	**Sb**	**20 17 01.2**	**0.0**
AQU	**L'Aquila**	**2.91**	**311**	*e*Pn	**Pn**	**20 16 22.5**	**+1.0**
BRY	**Bratogost**	**2.93**	**33**	*e*Pn	**Pn**	**20 16 22.0**	**+0.1**
BRY				*i* Sn	**Sn**	**20 16 59.6**	**+2.4**
BRY	**Bratogost**	**2.93**	**33**	*e*Pn	**Pn**	**20 16 20.7**	**-1.2**
PDG	**Podgorica**	**2.94**	**47**	P	**Pn**	**20 16 21.8**	**0.0**
PDG	**Podgorica**	**2.94**	**47**	*e*Pn	**Pn**	**20 16 19.5**	**-2.3**
TTG	**Podgorica**	**2.94**	**47**	*e*Pn	**Pn**	**20 16 22.3**	**+0.5**

TTG *i* Sn **Sn** **20 16 59.4 +2.3**
TERO Teramo 2.98 317 P **Pn** **20 16 23.2 +0.7**
TERO AML AML
comp=E,103µm,0.8s
TERO AML AML
comp=N,143µm,0.7s
NKME Niksic 3.02 40 *e*Pn **Pn** **20 16 23.2 +0.3**
NKME *i* Sn **Sn** **20 17 01.5 +2.4**
NKY Niksic 3.07 39⇑ *i* Pn **Pn** **20 16 24.2 +0.5**
NKY *i* Sn **Sn** **20 17 02.8 +2.3**
OFFI Offida 3.17 322 AML AML
comp=E,1032µm,0.8s
OFFI AML AML
comp=N,965µm,0.7s
IGT Igoumenitsa 3.20 106 P **Pn** **20 16 25.9 +0.5**
IGT S **Sb** **20 17 09.8 -1.2**
comp=N,382nm,0.9s
ZIRJ Zirje 3.23 351 *e*Pn **Pn** **20 16 26.7 +0.9**
ZIRJ Sn **Sn** **20 17 02.8 -1.4**
HLNI Lentini 3.32 201 AML AML
comp=N,264µm,0.7s
HLNI AML AML
comp=E,289µm,0.8s
AGST Augusta-Monte 3.32 196 AML AML
comp=N,490µm,0.8s
AGST AML AML
comp=E,497µm,0.7s
PHP Peshkopia 3.33 67 P **Pn** **20 16 28.1 +0.9**
UPM Unac-Piva 3.33 34⇑ *i* Pn **Pn** **20 16 28.0 +0.5**
UPM *i* Sn **Sn** **20 17 09.1 +1.9**
UPM Unac-Piva 3.33 34 *e*Pn **Pn** **20 16 27.4 -0.1**
HCRL Carlentini 3.34 198 P **Pn** **20 16 28.0 +0.6**
HCRL AML AML
comp=E,437µm,1.1s
HCRL AML AML
comp=N,333µm,0.6s
VAE Valguarnera 3.34 207 Pn **Pb** **20 16 32.5 -2.0**
comp=N,2.8nm,0.3s,baz=338,slow=1.4,SNR=7.9
VAE Sn **Sg** **20 17 20.4 -2.1**
comp=N,2.8nm,0.3s,baz=86,slow=5.8,SNR=3.9
KOME Kolasin 3.36 44⇓ *i* Pn **Pn** **20 16 28.5 +0.8**
KOME *i* Sn **Sn** **20 17 09.5 +1.8**
NRCA Norcia 3.38 315 P **Pn** **20 16 29.2 +1.2**
NRCA AML AML
comp=E,284µm,0.4s
NRCA AML AML
comp=N,304µm,0.6s
OHR Ohrid 3.44 78 *i* Pn **Pn** **20 16 30.2 +1.4**
PVY Plav 3.44 51⇑ *i* Pn **Pn** **20 16 29.3 +0.4**
PVY *i* Sn **Sn** **20 17 11.5 +1.7**
CORL Corleone 3.49 224 AML AML
comp=E,200µm,0.6s
CORL AML AML
comp=N,132µm,0.8s
CSP1 Cessapalombo 3.52 319 P **Pn** **20 16 30.9 +1.0**
FDMO Fiordimonte 3.54 318 AML AML
comp=E,132µm,0.6s
FDMO AML AML
comp=N,259µm,1.1s
JAN Janina 3.55 102 P **Pn** **20 16 31.3 +1.0**
IVA Berane 3.58 47⇑ *i* Pn **Pn** **20 16 31.3 +0.5**
IVA *i* Sn **Sn** **20 17 15.0 +1.9**
NEST Nestorio 3.59 89 P **Pn** **20 16 32.1 +1.2**
HAVL Avola 3.63 196 AML AML
comp=E,186µm,1.0s
HAVL AML AML
comp=N,213µm,0.9s
PLE Pljevlja 3.65 37 *e*Pn **Pn** **20 16 32.4 +0.7**
PLE *i* Sn **Sn** **20 17 14.7 -0.2**
TSLK Tsoukalades, L 3.71 115 P **Pn** **20 16 32.3 -0.1**
TSLK S **Sn** **20 17 21.3 +5.2**
comp=N,320nm,1.1s
LKD2 Lefkada island 3.73 115 P **Pn** **20 16 32.9 +0.2**
LKD2 S **Sn** **20 17 22.0 +5.4**
comp=N,378nm,0.8s
EL6 Elcito 3.75 321 AML AML
comp=E,360µm,1.1s
EL6 AML AML
comp=N,335µm,1.4s
EVGI Lefkada island 3.81 118 P **Pn** **20 16 34.1 +0.3**
EVGI S **Sn** **20 17 23.5 +4.9**
comp=N,78nm,1.6s
FSK Fiskardo 3.83 120 P **Pn** **20 16 34.0 -0.1**
FSK S **Sn** **20 17 23.3 +4.2**
comp=N,192nm,0.8s
RUDO Rudo 3.87 35 *e*Pn **Pn** **20 16 34.3 -0.4**
KPRO Kipourio 3.87 96 P **Pn** **20 16 36.2 +1.4**
HPAC Pachino 3.89 195 AML AML
comp=E,284µm,0.7s
HPAC AML AML
comp=N,287µm,0.6s
MGRS Mrkonjic Grad 3.98 8 *e*Pn **Pb** **20 16 45.8 +0.4**
VLS Valsamata 4.01 123 P **Pn** **20 16 36.0 -0.5**
VLS S **Sn** **20 17 28.4 +4.9**
comp=N,122nm,1.1s
BBLS Lazići 4.09 33 *e*Pn **Pn** **20 16 38.0 +0.3**
SKO Skopje 4.12 67 *i* Pn **Pn** **20 16 37.1 -1.0**
KZN Kozani 4.14 90 P **Pn** **20 16 39.5 +1.0**
PIEI Pieia 4.18 318 AML AML
comp=N,66µm,1.2s
PIEI AML AML
comp=E,72µm,0.4s
ATPI Pietralunga - 4.19 317 AML AML
comp=N,121µm,0.7s
ATPI AML AML
comp=E,126µm,0.9s
BLY Banja Luka 4.32 8 *e*Pn **Pn** **20 16 41.5 +0.6**
THL Klokotos Trika 4.44 100 P **Pn** **20 16 43.7 +1.2**
DIVS Divibare 4.53 35 *e*Pn **Pn** **20 16 42.0 -1.7**
STIP Stip 4.58 73 *i* Pn **Pn** **20 16 46.5 +2.1**
TEKS Tekeris 4.71 29 *e*Pn **Pn** **20 16 46.4 +0.2**
EFP Efpalio 4.76 114 P **Pn** **20 16 47.5 +0.6**
VAY Valandovo 4.79 78 *i* Pn **Pn** **20 16 48.7 +1.4**
AGG Agios Georgios 4.83 105 P **Pn** **20 16 49.1 +1.2**
RIY Rijeka 5.04 345 *e*Pn **Pn** **20 16 51.0 +0.2**
RIY Sn **Sn** **20 17 45.1 -3.9**
BOJS Bojanci 5.10 351 *i* Pn **Pn** **20 16 51.8 +0.3**
BOJS *e*Sn **Sn** **20 17 48.2 -2.2**
comp=Z,110nm,1.3s
MOSL Moslavina 5.15 3 *e*Pn **Pn** **20 16 52.0 -0.3**
MOSL Sn **Sn** **20 17 49.2 -2.5**
FRGS Fruska Gora 5.33 27 *e*Pn **Pn** **20 16 53.0 -1.8**
ZAG Zagreb 5.36 357 *e*Pn **Pn** **20 16 57.2 +2.1**
ZAG Sn **Sn** **20 17 53.1 -3.8**
CRES Cresnjev 5.40 353 *e*Pn **Pn** **20 16 55.2 -0.4**
GCIS Gornji Cirnik 5.42 355 *i* Pn **Pn** **20 16 55.9 0.0**
PTJ Puntijarka 5.45 357 *e*Pn **Pn** **20 16 56.5 +0.1**
PTJ Sn **Sn** **20 17 55.9 -3.1**
CEY Cerknica 5.45 346 *e*Pn **Pn** **20 16 55.3 -1.1**
PYL PYLOS 5.53 128 P **Pn** **20 16 56.8 -0.6**
VTS Vitosha 5.60 65⇑ P **Pn** **20 16 58.2 -0.3**
VTS S **Sn** **20 17 58.6 -4.3**
GBAS Gorenja Brezov 5.64 346 *i* Pn **Pn** **20 16 58.3 -0.7**
KALN Kalnik 5.66 1 *e*Pn **Pn** **20 17 01.1 +1.8**
KALN Sn **Sn** **20 17 59.8 -4.5**
LJU Ljubljana 5.73 347 *e*Pn **Pn** **20 16 59.5 -0.7**
MDVR Moldovita 5.85 41⇓ P **Pn** **20 17 01.4 -0.5**
PGF Pioggiola 5.89 293 *e*P **Pn** **20 17 05.2 +2.6**
PGF *e*Sn **Sn** **20 18 05.6 -4.6**
comp=Z,4.7nm,0.4s
MORH Mrgy, Hungar 5.98 15 *e*Pn **Pn** **20 17 02.2 -1.4**
OBKA Obir 6.18 348 *e*Pn **Pn** **20 17 05.0 -1.5**
comp=Z,3.1nm,0.3s,SNR=7.8
OBKA *e*Sn **Sn** **20 18 13.6 -3.5**
comp=Z,17nm,0.4s
HERR Herculane 6.28 43⇑ P **Pn** **20 17 06.9 -0.8**
SOKA Soboth 6.28 352 *e*Pn **Pn** **20 17 06.8 -1.0**
comp=Z,0.6nm,0.2s
SOKA *e*Sn **Sn** **20 18 16.8 -2.9**
comp=Z,4.2nm,0.5s
BZS Buzias 6.43 35⇑ P **Pn** **20 17 09.9 +0.1**
MYKA Terra Mystica 6.47 343 *e*Pn **Pn** **20 17 09.9 -0.5**
comp=Z,0.8nm,0.3s
MYKA *e*Sn **Sn** **20 18 20.7 -3.4**
comp=Z,2.7nm,0.3s
ARSA Arzberg 6.81 355 *e*Pn **Pn** **20 17 13.5 -1.5**
comp=Z,5.7nm,0.6s
ARSA *e*Sn **Sn** **20 18 27.8 -4.7**
comp=Z,4.5nm,0.5s
ABTA Abfaltersbach 6.87 337 *e*Pn **Pn** **20 17 14.4 -1.5**
comp=Z,1.1nm,0.3s
ABTA *e*Sn **Sn** **20 18 30.9 -3.1**
comp=Z,11nm,0.4s
KBA Koelnbreinsper 6.96 343 *e*Pn **Pn** **20 17 16.8 -0.4**
comp=Z,0.6nm,0.2s
KBA *e*Sn **Sn** **20 18 32.0 -4.4**
comp=Z,3.6nm,0.4s
KEST Kesra 7.27 232 Pn Pn 20 17 26.4 +5.0
comp=Z,1.5nm,0.3s,baz=334,slow=5.2,SNR=20
KEST Sn **Sn** **20 18 48.8 +4.9**
baz=8.4,slow=13,SNR=1.1
KEST LR LR 20 20 29.9
comp=Z,109nm,18.6s,baz=236,slow=40
CONA Conrad Observa 7.47 357 *e*Pn **Pn** **20 17 23.3 -0.8**
comp=Z,2.6nm,0.4s,SNR=4.7
MOA Molln 7.53 349 *e*Pn **Pn** **20 17 23.9 -1.0**
comp=Z,5.6nm,0.5s,SNR=5.7
MOA *e*Sn **Sn** **20 18 45.5 -4.7**
comp=Z,4.9nm,0.7s
HUMR Humele 7.56 55⇑ P **Pn** **20 17 25.3 0.0**
WTTA Wattenberg 7.60 335 *e*Pn **Pn** **20 17 27.5 +1.5**
comp=Z,0.9nm,0.2s
WTTA *e*Sn **Sn** **20 18 49.5 -2.7**
comp=Z,12nm,0.7s
WATA Walderalm 7.68 335 *e*Pn **Pn** **20 17 28.5 +1.4**
comp=Z,1.3nm,0.2s
SQTA Sankt Quirin 7.70 333 *e*Pn **Pn** **20 17 28.0 +0.6**
comp=Z,1.9nm,0.4s
SQTA *e*Sn **Sn** **20 18 51.5 -3.1**
comp=Z,17nm,0.6s
FETA Feichten 7.71 330 *e*Pn **Pn** **20 17 25.8 -1.7**
comp=Z,1.6nm,0.5s
MOTA Moosalm 7.85 333 *e*Pn **Pn** **20 17 31.8 +2.5**
comp=Z,2.7nm,0.6s
MOTA *e*Sn **Sn** **20 18 55.9 -2.4**
comp=Z,17nm,0.7s
DAVOX Davos/Dischmat 7.86 326 Pn **Pn** **20 17 29.6 0.0**
comp=Z,0.9nm,0.3s,baz=158,slow=15,SNR=17
DAVOX Sn **Sn** **20 18 56.8 -1.9**
comp=Z,0.4nm,0.3s,baz=291,slow=21,SNR=1.6
PSZ Piszkesteto 7.87 18⇓ P **Pn** **20 17 30.7 +1.0**
LMR La Mourre 7.88 295 *e*Pn **Pn** **20 17 27.8 -1.9**
LMR *e*Sn **Sn** **20 18 53.3 -5.5**
comp=Z,0.9nm,0.6s
VOIR 8.09 49⇑ P **Pn** **20 17 31.7 -0.9**
VYHS Vyhne 8.22 12 *e*PN **Pn** **20 17 36.1 +1.7**
VYHS *e*SN **Sn** **20 19 02.2 -5.0**
DAVA Damuels 8.26 328 *e*Pn **Pn** **20 17 36.0 +0.9**
comp=Z,2.4nm,0.4s
DAVA *e*Sn **Sn** **20 19 06.0 -2.5**
comp=Z,4.8nm,0.7s
JAVC Velka Javorina 8.44 6 *e*PN **Pn** **20 17 39.2 +1.7**
IDI Anoyia 8.50 125 Pn **Pn** **20 17 40.5 +2.2**
comp=Z,0.4nm,0.3s,baz=280,slow=19,SNR=1.7
IDI Sn **Sn** **20 19 08.8 -5.5**
comp=Z,1.2nm,0.3s,baz=282,slow=21,SNR=5.9
GERES GERESS Array B 8.59 348 Pn **Pn** **20 17 39.2 -0.3**
comp=Z,0.3nm,0.3s,baz=162,slow=13,SNR=10
GERES Sn **Sn** **20 19 10.2 -6.1**
comp=Z,1.4nm,0.3s,baz=166,slow=24,SNR=12
GERES LR LR 20 21 53.2
comp=Z,39nm,21.1s,baz=155,slow=45
KRUC Moravsky 8.59 0 *e*PN **Pn** **20 17 39.6 +0.1**
MLR Muntele Rosu 8.64 51 Pn **Pn** **20 17 41.6 +1.4**
comp=Z,0.1nm,0.3s,baz=126,slow=19,SNR=2.7
MLR Sn **Sn** **20 19 14.4 -3.4**
comp=Z,0.3nm,0.3s,baz=353,slow=16,SNR=3.6
MLR LR LR 20 21 57.5
comp=Z,112nm,21.8s,baz=300,slow=45
MLR Muntele Rosu 8.64 51⇓ P **Pn** **20 17 39.9 -0.3**
VRAC Vranov 8.84 1 LR LR 20 20 56.6
comp=Z,47nm,18.1s,baz=202,slow=37
KHC Kasperske Hory 8.88 348 *e*PN **Pn** **20 17 44.0 +0.5**
KHC *e*SN **Sn** **20 19 19.6 -4.0**
KOLS Kolonicke sedl 9.45 24 *e*PN **Pn** **20 17 54.4 +3.1**
BURAR Bucovina Array 9.58 39⇑ P **Pn** **20 17 53.5 +0.4**
KRLC Kraliky 9.61 2 *e*PN **Pn** **20 17 53.9 +0.4**
HINF Hinteralfeld 10.02 320 *e*Pn **Pn** **20 17 56.8 -2.3**
HINF *e*Sn **Sn** **20 19 44.1 -7.4**
comp=Z,2.3nm,0.3s
CDF Champ du Feu 10.25 324 *e*Pn **Pn** **20 18 00.2 -2.0**
CDF *e*Sn **Sn** **20 19 49.5 -7.6**
comp=Z,0.8nm,0.4s
CLL Collm 11.09 349 *e*Sn Sn 20 20 02.0 -16
CLL *e* 20 20 41.0
CLL *e*Sg 20 21 29.0
comp=N,100nm,32.0s
CLL *e*Sg 20 21 29.0
comp=E,100nm,22.0s
CLL LV 20 22 00.0
comp=Z,100nm,18.1s
LOR Lormes 11.28 311 *e*Pn **Pn** **20 18 14.2 -2.1**
LOR *e*Sn **Sn** **20 20 14.2 -8.2**
comp=Z,1.4nm,0.5s
MEZF Maizieres J'vi 11.38 319 *e*Pn **Pn** **20 18 15.6 -1.9**
SSF Saint Saulge 11.38 310 *e*Pn **Pn** **20 18 15.5 -2.1**
BRTR Keskin Array B 13.26 88 Pn **Pn** **20 18 44.1 +0.6**
comp=Z,0.1nm,0.3s,baz=265,slow=11,SNR=4.0
AKASG Malin Array Be 13.62 37 Pn **Pn** **20 18 47.9 -0.3**
comp=Z,0.1nm,0.3s,baz=228,slow=13,SNR=1.5
ESDC Sonseca Array 15.57 274 Pn **P** **20 19 22.2 +3.2**
comp=Z,0.1nm,0.3s,baz=71,slow=10,SNR=6.7
MMAI Mount Meron Ar 16.97 110 Pn **P** **20 19 35.3 +0.8**
comp=Z,0.3nm,0.3s,baz=305,slow=10,SNR=2.9
KBZ Khabaz 19.94 72 P **P** **20 20 07.4 +0.4**
comp=Z,0.1nm,0.3s,baz=276,slow=7.4,SNR=4.4
NOA NORSAR Array B 20.84 353 P **P** **20 20 17.8 +1.1**
comp=Z,0.3nm,0.6s,baz=179,slow=11,SNR=2.1
FINES FINESS Array B 21.83 13 P **P** **20 20 25.1 -2.2**
comp=Z,2.5nm,0.9s,baz=194,slow=17,SNR=1.7
KIRV Kirov 27.68 38 LR LR 20 33 12.2
comp=Z,39nm,21.7s,baz=201,slow=38
BVAR Borovoye Array 38.20 52 P **P** **20 22 55.2 +0.5**
comp=Z,1.7nm,0.8s,baz=263,slow=7.2,SNR=14
KURBB Kurchatov Arra 43.52 55 P **P** **20 23 38.5 0.0**
comp=Z,0.3nm,0.3s,baz=287,slow=10.0,SNR=2.4
ZALV Zalesovo Beam 46.61 49 P **P** **20 24 02.9 -0.2**
comp=Z,1.0nm,0.5s,baz=289,slow=4.5,SNR=7.2
MKAR Makanchi Array 46.89 59 P **P** **20 24 05.0 -0.4**
comp=Z,0.6nm,0.7s,baz=285,slow=6.7,SNR=6.6
TLY Talaya 58.11 47 LR LR 20 52 25.8
comp=Z,53nm,21.0s,baz=204,slow=38
SONM Songino Array 61.49 50 P **P** **20 25 52.2 +0.2**
comp=Z,0.6nm,0.7s,baz=292,slow=7.8,SNR=5.0
ULM Lac du Bonnet 71.92 321 P **P** **20 26 58.2 -0.1**
comp=Z,3.5nm,0.7s,baz=30,slow=4.4,SNR=3.5
CMAR Chiang Mai Arr 72.74 80 P **P** **20 27 03.5 -0.1**
comp=Z,0.3nm,0.4s,baz=311,slow=7.4,SNR=4.2
ILAR Eielson Array 74.28 353 P **P** **20 27 15.8 +3.8**
comp=Z,0.1nm,0.3s,baz=324,slow=34,SNR=1.2
PDAR Pinedale Array 83.81 323 P **P** **20 28 05.4 +0.5**
comp=Z,0.9nm,0.8s,baz=76,slow=3.0,SNR=3.9
TXAR Lajitas Array 91.04 311 P **P** **20 28 40.7 +0.7**
comp=Z,0.3nm,0.8s,baz=15,slow=3.7,SNR=3.4

ISK **12** *20:20:54.6,35.80N×30.94E,h85km,ML3.2/20*
NIC **12** *20:20:56.0±0.0,35.84N×30.94E,h52km±17km,Ml3.3/3*
DDA **12** *20:20:56.0,35.99N×31.08E,h15km±1km,ML2.8*
ISC 12 20:20:56.7±1.4,**35.86N**±0.04×**30.96E**±0.03,**h33**km±4km,
n51,σ0.99/67,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKUM	**Antalya-Kumluc**	**0.68**	**313**	*i* P	**Pb**	**20 21 08.6**	**-1.6**
AKUM				*i* S	**Sn**	**20 21 20.1**	**+0.7**
AKUM				IAML		20 21 21.0	
	comp=N,1µm,0.6s						
AKUM				IAML		20 21 24.0	
	comp=E,1µm,0.4s						
KEMT	**Kemer-ANTALYA**	**0.81**	**336**	PG	**Pb**	**20 21 13.2**	**+0.8**
DEMR	**Demre-Antalya**	**0.93**	**294**	PG	**Pn**	**20 21 14.0**	**+0.6**
AKAS	**Kas**	**1.16**	**289**	PN	**Pn**	**20 21 16.6**	**-0.1**
AKAS	**Kas**	**1.16**	**289**	*i* P	**Pb**	**20 21 18.2**	**-0.1**
KEPZ	**Antalya-Kepez**	**1.16**	**27**	*i* P	**Pn**	**20 21 14.8**	**-1.9**
KEPZ				*i* S	**Sn**	**20 21 29.3**	**-2.1**
GAZI	**Gazipasa**	**1.16**	**71**	*i* P	**Pn**	**20 21 15.0**	**-1.6**
GAZI				*i* S	**Sn**	**20 21 29.8**	**-1.7**
GAZI				IAML		20 21 31.0	
	comp=E,158nm,0.3s						
GAZI				IAML		20 21 32.0	
	comp=N,283nm,0.5s						
ELL	**Elmali**	**1.22**	**317**	PN	**Pn**	**20 21 17.3**	**-0.3**
ELL				SN	**Sb**	**20 21 35.5**	**+0.5**
ELL	**Elmali**	**1.22**	**317**	P	**Pn**	**20 21 17.1**	**-0.5**
KORT	**Korkueli**	**1.24**	**337**	PN	**Pn**	**20 21 17.9**	**+0.1**
KORT	**Korkueli**	**1.24**	**337**	*i* P	**Pn**	**20 21 17.9**	**+0.1**
AKMS	**Akamas**	**1.41**	**126**	P	**Pn**	**20 21 19.7**	**-0.3**
AKMS				AML	AML	20 21 44.8	
	comp=N,1.4nm,1.0s						
AKMS				AML	AML	20 21 55.3	
	comp=N,1.1nm,0.8s						
ALFC	**Alefka**	**1.51**	**117**	P	**Pn**	**20 21 20.8**	**-0.7**
ALFC				AML	AML	20 21 51.7	
	comp=N,1.2nm,0.6s						
ALFC				AML	AML	20 21 51.9	
	comp=N,1.1nm,0.5s						
BCK	**Bucak**	**1.62**	**350**	PN	**Pn**	**20 21 24.3**	**+1.2**
SEYD	**Seydisehir-KON**	**1.69**	**24**	PN	**Pn**	**20 21 24.5**	**+0.4**
FETY	**Fethiye**	**1.70**	**298**	PN	**Pn**	**20 21 24.2**	**+0.1**
FETY	**Fethiye**	**1.70**	**298**	*i* P	**Pn**	**20 21 24.1**	**+0.1**
FETY				*i* S	**Sn**	**20 21 45.6**	**+0.9**
NATA	**Nata**	**1.71**	**129**	P	**Pn**	**20 21 25.4**	**+1.3**
LEF	**Lefka**	**1.74**	**115**	PN	**Pn**	**20 21 23.5**	**-1.1**
ERMK	**Ermenek**	**1.76**	**63**	*i* P	**Pn**	**20 21 25.1**	**0.0**
ERMK				*i* S	**Sb**	**20 21 51.1**	**+0.7**
ERMK				IAML		20 21 55.0	
	comp=N,98nm,0.4s						
ERMK				IAML		20 21 58.0	
	comp=E,148nm,0.7s						
TEKE	**Tekeli-Mersin**	**1.77**	**80**	PN	**Pn**	**20 21 25.1**	**+0.1**
GOLH	**Golhisar**	**1.77**	**321**	*i* P	**Pn**	**20 21 26.1**	**+0.9**
GOLH				*i* S	**Sb**	**20 21 50.5**	**-0.1**
GOLH				IAML		20 22 11.0	
	comp=N,141nm,1.2s						
SZAC	**Souni**	**1.92**	**125**	P	**Pn**	**20 21 28.2**	**+1.0**
SZAC				AML	AML	20 22 03.6	
	comp=N,1.1nm,1.0s						
SZAC				AML	AML	20 22 08.2	
	comp=N,1.0nm,1.1s						
BRDR	**BURDUR-Merkez**	**1.97**	**339**	*i* P	**Pn**	**20 21 29.1**	**+1.3**
DALY	**Dalyan (Mula)**	**2.09**	**298**	PN	**Pn**	**20 21 29.5**	**+0.1**
DALY	**Dalyan (Mula)**	**2.09**	**298**	*i* P	**Pn**	**20 21 28.7**	**-0.6**
DALY				*i* S	**Sn**	**20 21 54.1**	**-0.1**
DALY				IAML		20 22 02.0	
	comp=N,78nm,0.8s						
TEVE	**Tevekalti-Mers**	**2.09**	**73**	PN	**Pn**	**20 21 29.8**	**+0.3**
GULN	**MERSIN_Gulnar**	**2.12**	**81**	*i* P	**Pn**	**20 21 29.9**	**+0.1**
GULN				*i* S	**Sn**	**20 21 57.6**	**+2.5**
GULN				IAML		20 21 59.0	
	comp=E,85nm,1.0s						
GULN				IAML		20 22 01.0	
	comp=N,48nm,0.8s						
AKKU	**Akkuyu-Mersin**	**2.12**	**81**	PN	**Pn**	**20 21 29.9**	**0.0**
CSS	**Mathiatis**	**2.14**	**114**	P	**Pn**	**20 21 29.9**	**-0.1**
BASM	**Basmaki-Afyon**	**2.18**	**341**	PN	**Pn**	**20 21 31.1**	**+0.4**
IKL	**Isikli**	**2.24**	**80**	PN	**Pn**	**20 21 32.0**	**+0.5**
TAVA	**DENIZLI_Tavas**	**2.29**	**315**	*i* P	**Pn**	**20 21 32.2**	**-0.1**
TAVA				*i* S	**Sn**	**20 21 59.2**	**-0.3**
TAVA				IAML		20 22 15.0	
	comp=N,84nm,1.2s						
TAVA				IAML		20 22 19.0	
	comp=E,94nm,0.8s						
DOGA	**KONYA_Doganhis**	**2.31**	**14**	*i* P	**Pn**	**20 21 33.3**	**+0.7**
DOGA				*i* S	**Sn**	**20 22 00.7**	**+0.7**
DOGA				IAML		20 22 03.0	
	comp=E,55nm,0.7s						
DOGA				IAML		20 22 05.0	
	comp=N,107nm,0.7s						
ARG	**Arkhangelos**	**2.32**	**280**	P	**Pn**	**20 21 31.9**	**-0.7**
ARG				S	**Sn**	**20 22 00.4**	**+0.4**
MVOU	**Mavrovouni**	**2.34**	**110**	P	**Pn**	**20 21 32.1**	**-0.8**
KONT	**Konya--Tatoy**	**2.36**	**28**	PN	**Pn**	**20 21 33.8**	**+0.6**
KONT	**Konya--Tatoy**	**2.36**	**28**	*i* P	**Pn**	**20 21 33.6**	**+0.3**
TURN	**Turunc**	**2.37**	**293**	*i* P	**Pn**	**20 21 33.0**	**+2.7**
KZIL	**AFYON_Kizioren**	**2.48**	**345**	*i* P	**Pn**	**20 21 34.7**	**-0.2**
YER	**Yerkesik**	**2.50**	**301**	PN	**Pn**	**20 21 35.6**	**+0.5**
LADK	**Ladik-KONYA**	**2.59**	**25**	PN	**Pn**	**20 21 37.1**	**+0.7**
SHUT	**Suhut-Afyon**	**2.71**	**353**	PN	**Pn**	**20 21 38.8**	**+0.8**
KDHN	**Kadinhani**	**2.81**	**19**	*i* P	**Pn**	**20 21 39.1**	**-0.3**
KDHN				*i* S	**Sn**	**20 22 14.2**	**+1.9**
DAT	**Datca**	**2.86**	**289**	PN	**Pn**	**20 21 39.9**	**-0.3**
DAT	**Datca**	**2.86**	**289**	*i* P	**Pn**	**20 21 39.9**	**-0.3**
DAT				*i* S	**Sn**	**20 22 13.0**	**-0.5**
KIZT	**Kizilcal**	**3.10**	**13**	PN	**Pn**	**20 21 43.3**	**-0.1**
KARP	**Karpathos**	**3.10**	**265**	P	**Pn**	**20 21 43.4**	**0.0**
KARP				S	**Sn**	**20 22 19.0**	**-0.3**
BODT	**Bodrum**	**3.17**	**293**	PN	**Pn**	**20 21 44.5**	**+0.2**
USAK	**Uak-Merkez**	**3.24**	**332**	*i* P	**Pn**	**20 21 44.2**	**-1.1**
USAK				*i* S	**Sn**	**20 22 20.0**	**-2.7**
USAK				IAML		20 22 58.0	
	comp=E,20nm,2.0s						
USAK				IAML		20 23 07.0	
	comp=N,20nm,3.2s						
MANT	**Manisa**	**3.25**	**325**	*i* P	**Pn**	**20 21 44.6**	**-1.0**

KRNET 12 20:25:09.6±0.1,39.52N×78.99E,mb2.6,8C-6D,
Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**2.38**	**338**⇓	*e*P	Pn	20 25 50.0	-0.3
TARG				⇓ *i* S	Sn	20 26 19.7	-0.7
	baz=38						
KDJ	**Kajisay**	**2.94**	**333**⇑	*i* P	Pn	20 25 57.9	+0.1
KDJ				⇑ *i* S	Sn	20 26 32.8	-1.2
	baz=33						
PRZ	**Przheval'sk**	**2.99**	**352**⇓	*i* P	Pn	20 25 58.4	-0.1
PRZ				⇓ *i* S	Sn	20 26 34.3	-0.8
	baz=52						
ANVS	**Anan'yevo**	**3.41**	**343**⇓	*i* P	Pn	20 26 04.0	-0.2
ANVS				⇓ *i* S	Sn	20 26 44.6	-0.8
	baz=43						
ULHL	**Ulahol**	**3.42**	**323**⇑	*i* P	Pn	20 26 04.6	+0.1
ULHL				⇑ *i* S	Sn	20 26 45.4	-0.5
	baz=23						
KZA	**Kyzart**	**3.82**	**313**⇑	*i* P	Pn	20 26 09.9	-0.1
KZA				⇑ *i* S	Sn	20 26 54.8	-1.0
	baz=13						
UCH	**Uchtor**	**4.34**	**310**⇑	*e*P	Pn	20 26 17.7	+0.5
UCH				⇑ *i* S	Sn	20 27 07.3	-1.4
	baz=10.0						

SOME 12 20:26:02.4,41.20N×77.85E,h5km,Kyrgyzstan-Xinjiang
border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**1.90**	**12**	*e*P	Pb	20 26 38.2	+0.5
	1.4nm,0.2s						
SATY				*e*S	Sg	20 27 04.1	+0.5
	3.1nm,0.3s						
ZHN	**Zhinishke**	**2.01**	**12**	*e*P	Pb	20 26 40.2	+0.6
	0.9nm,0.1s						
ZHN				*e*S	Sg	20 27 07.5	+0.3
	2.6nm,0.2s						
MDOK	**Medeo**	**2.05**	**343**	*e*P	Pg	20 26 41.0	-0.7
	1.5nm,0.3s						
MDOK				*e*S	Sg	20 27 08.8	+0.6
	2.6nm,0.3s						
KOTS	**Kotyrbulak**	**2.10**	**345**	*e*P	Pb	20 26 41.9	+0.8
	3.9nm,0.2s						
KOTS				*e*S	Sg	20 27 10.3	+0.3
	16nm,0.6s						
UZB	**Uzynbulak**	**2.13**	**24**	*e*P	Pb	20 26 41.1	-0.5
	0.7nm,0.3s						
UZB				*e*S	Sb	20 27 09.0	+0.6
	1.8nm,0.3s						
SHLS	**Shalkode**	**2.29**	**31**	*e*P	Pg	20 26 47.6	+1.3
	2.3nm,0.2s						
SHLS				*e*S	Sg	20 27 20.0	+3.9
	3.9nm,0.3s						
KST	**Kastek**	**2.32**	**323**	*e*P	Pb	20 26 45.4	+0.7
	0.7nm,0.3s						
KST				*e*S	Sg	20 27 16.2	-0.6
	2.5nm,0.4s						
DGS	**Degeres**	**2.56**	**324**	*e*P	Pb	20 26 49.9	+1.0
	0.9nm,0.4s						
DGS				*e*S	Sg	20 27 24.2	-0.4
	1.7nm,0.4s						
KTBS	**Karatobe**	**2.66**	**341**	*e*P	Pg	20 26 51.9	-1.4
	0.9nm,0.4s						
KTBS				*e*S	Sg	20 27 27.5	-0.2
	6.7nm,0.7s						
CHKK	**Chushkaly**	**2.73**	**347**	*e*P	Pg	20 26 53.9	-0.8
	0.4nm,0.1s						
CHKK				*e*S	Sg	20 27 31.0	+1.0

	2.5nm,0.3s						
ARXS	**Arharly**	**3.01**	**360**	*e*P	Pg	20 26 58.4	-1.7
	2.5nm,0.3s						
ARXS				*e*S	Sg	20 27 38.9	-0.2
	2.3nm,0.4s						

MAN ***12*** *20:34:10.6,5.°00N×127.°19E,h9km,mb5.1,ML4.1,MS4.2*
IDC ***12*** *20:34:10.2±0.8,5.°31N×127.°31E,h0km,mb4.1/10, mb1 4.2/11,mb1mx3.8/54,mbtmp4.1/11,ML4.4/1,MS3.0/2, Ms1 3.0/2,ms1mx2.6/35,Error ellipse: s-maj=51.7km s-min=14.5km az=70.0*
NEIC ***12*** *20:34:15.8±1.2,5.°26N±0.°07×127.°1E±0.°1,h35km±3km, mb4.5/11,Error ellipse: s-maj=15.5km s-min=9.1km az=64.0*

ISC 12 20:34:15.5±0.6,**5.°29N**±0.°06×**127.°25E**±0.°10,**h35**km,**n38,** σ1§**73**/**38**,**mb4.3**/15,**1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.74**	**298**	*e*P	**Pn**	**20 34 41.9**	**-1.3**
DDMP				*e*S	**Sn**	**20 35 06.5**	**+2.3**
MATI	**Mati**	**1.92**	**329**	*e*P	**Pn**	**20 34 46.5**	**+0.8**
DAV	**Davao City (W)**	**2.43**	**317**	Pn	**Pn**	**20 34 50.9**	**-1.9**
	76nm,0.3s,baz=235,slow=12,SNR=2.1						
DAV				Sn	**Sn**	**20 35 27.8**	**+6.5**
	51nm,0.3s,baz=285,slow=20,SNR=1.7						
DAV	**Davao City (W)**	**2.43**	**317**		**Pn**	**20 34 52.3**	**-0.5**
KCP	**Kidapawan**	**2.75**	**309**	*e*P	Pn	20 35 03.6	+6.4
SKMP	**Bagumbayan, Su**	**2.96**	**295**	*e*P	**Pn**	**20 34 59.7**	**-0.4**
BUKP	**Musuan**	**3.37**	**320**	*e*P	**Pn**	**20 35 07.6**	**+1.8**
BUKP				*e*S	Sn	20 35 58.5	+14
TNTI	**Ternate**	**4.49**	**179**	Pn	**Pn**	**20 35 21.4**	**+0.3**
SIJI	**Sorong**	**7.31**	**147**	Pn	**Pn**	**20 36 02.3**	**+2.4**
	1.4nm,0.3s,baz=327,slow=15,SNR=4.6						
LUWI	**Luwuk**	**7.72**	**216**	Pn	**Pn**	**20 36 04.5**	**-1.0**
MYLDM	**Lahad Datu**	**8.72**	**270**	Pn	**Pn**	**20 36 17.1**	**-2.1**
KAPI	**Kappang**	**12.68**	**216**	LR	LR	20 41 46.4	
	comp=Z,64nm,18.7s,baz=54,slow=36						
BATI	**Baumata**	**15.80**	**193**	LR	LR	20 43 56.9	
	comp=Z,60nm,21.4s,baz=175,slow=37						
MTN	**Manton Dam**	**18.42**	**168**	P	**P**	**20 38 25.5**	**-2.5**
MTN				IAmb	IAmb	20 38 54.4	
	comp=Z,56nm,1.6s						
JAGI	**Jajag, Banyuwa**	**18.91**	**224**	P	**P**	**20 38 32.4**	**-1.0**
JAGI				IAmb	IAmb	20 38 57.2	
	comp=Z,53nm,1.3s						
KNRA	**Kununurra**	**20.88**	**176**	P	**P**	**20 38 55.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**23.29**	**184**	P	**P**	**20 39 20.9**	**+0.5**
	comp=Z,6.9nm,1.0s,baz=0.1,slow=7.2,SNR=7.0						
FITZ	**Fitzroy Crossi**	**23.29**	**184**	P	**P**	**20 39 21.1**	**+0.8**
FITZ				IAmb	IAmb	20 39 43.5	
	comp=Z,18nm,1.4s						
WB0	**Warramunga Arr**	**25.87**	**164**	P	**P**	**20 39 43.3**	**-0.9**
WB0				IAmb	IAmb	20 40 06.5	
	comp=Z,29nm,1.4s						
JCJ	**Chichijima**	**25.94**	**32**	P	**P**	**20 39 45.0**	**+0.2**
WRA	**Warramunga Arr**	**26.02**	**165**	P	**P**	**20 39 44.8**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=344,slow=10.0,SNR=20						
WB2	**Warramunga Arr**	**26.03**	**165**	P	**P**	**20 39 46.0**	**+0.5**
WB2				IAmb	IAmb	20 40 06.6	
	comp=Z,20nm,1.6s						
WR0	**Warramunga Arr**	**26.09**	**164**	P	**P**	**20 39 45.5**	**-0.6**
PSA00	**Pilbara Seismi**	**27.66**	**195**	P	**P**	**20 40 00.5**	**+0.2**
PSA00				IAmb	IAmb	20 40 02.2	
	comp=Z,23nm,1.1s						
ASAR	**Alice Springs**	**29.50**	**168**	P	**P**	**20 40 15.9**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=350,slow=7.7,SNR=10						
ASAR				PcP	**PcP**	**20 43 22.1**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=338,slow=2.5,SNR=4.7						
ASAR	**Alice Springs**	**29.50**	**168**	P	**P**	**20 40 17.4**	**+0.7**
XAN	**Xi'an**	**33.28**	**332**	P	**P**	**20 40 45.7**	**-4.2**
XAN				pP	pP	20 40 53.7	-4.8
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
STKA	**Stephens Creek**	**39.41**	**161**	P	**P**	**20 41 41.8**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=340,slow=8.5,SNR=9.0						
STKA	**Stephens Creek**	**39.41**	**161**	P	**P**	**20 41 42.2**	**+0.1**
PETK	**Petropavlovsk-**	**53.80**	**22**	P	**P**	**20 43 34.1**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=230,slow=13,SNR=2.0						
MKAR	**Makanchi Array**	**56.59**	**324**	P	**P**	**20 43 54.1**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=107,slow=7.1,SNR=4.7						
MKAR	**Makanchi Array**	**56.59**	**324**	P	**P**	**20 43 54.9**	**0.0**
ZALV	**Zalesovo Beam**	**59.45**	**332**	P	**P**	**20 44 15.3**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=99,slow=4.5,SNR=1.2						
KURK	**Kurchatov**	**60.72**	**327**	P	**P**	**20 44 23.6**	**+0.1**
KURK				IAmb	IAmb	20 44 39.2	
	comp=Z,2.3nm,0.8s						
KURBB	**Kurchatov Arra**	**60.72**	**327**	P	**P**	**20 44 22.2**	**-1.3**
	comp=Z,3.4nm,0.2s,baz=123,slow=7.3,SNR=1.7						
BVAR	**Borovoye Array**	**66.31**	**326**	P	**P**	**20 45 01.6**	**+1.2**
	comp=Z,1.6nm,0.8s,baz=101,slow=7.7,SNR=5.4						
FINES	**FINESS Array B**	**90.71**	**332**	P	**P**	**20 47 15.5**	**+0.9**
	comp=Z,3.0nm,1.1s,baz=72,slow=4.5,SNR=1.9						
FINES	**FINESS Array B**	**90.71**	**332**	P	**P**	**20 47 15.2**	**+0.6**

IDC ***12*** *20:34:11.6±0.6,31.°64N×142.°29E,h0km,mb4.1/17, mb1 4.2/22,mb1mx4.1/59,mbtmp4.1/22,ML3.7/3,MS3.2/3, Ms1 3.2/3,ms1mx2.7/37,Error ellipse: s-maj=18.2km s-min=13.5km az=72.0*
NIED ***12*** *20:34:13.6,31.°73N×142.°41E,h46km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.90; Mθθ0.00; Mrθ-0.28; Mθϕ-0.13; Mϕr0.48; Fault plane solution: M₀1.07000×10¹⁵ NP1: ϕs161.00000°,δ61.00000°,λ-101.00000°. NP2:ϕs3.00000°, δ31.00000°,λ-71.00000°.*
JMA ***12*** *20:34:13.5±0.2,31.°73N×142.°41E,h46km,M4.4*
NEIC ***12*** *20:34:14.4±1.4,31.°65N±0.°06×142.°31E±0.°10,h20km±4km, mb4.6/27,Error ellipse: s-maj=12.1km s-min=8.9km az=68.0*

ISC 12 20:34:16.3±0.5,**31.°67N**±0.°05×**142.°30E**±0.°07,**h35**km,**n101,** σ1§**41**/107,**mb4.3**/25,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.30**	**291**	P	**Pn**	**20 34 51.2**	**-0.5**
JHCJ	**Hachijojimakas**	**2.54**	**304**	P	**Pn**	**20 34 54.0**	**-1.1**
JHJ2	**Mitsune**	**2.55**	**305**	P	**Pn**	**20 34 54.2**	**-1.0**
JHJ2				*e*S	**Sn**	**20 35 24.4**	**-0.6**
JHJ2	**Mitsune**	**2.55**	**305**	Pn	**Pn**	**20 34 54.0**	**-1.2**
JHJ	**Hachijo jima 2**	**2.58**	**305**	Pn	**Pn**	**20 34 54.2**	**-1.3**
	79nm,0.3s,baz=21,slow=15,SNR=38						
JHJ				Sn	**Sn**	**20 35 23.9**	**-1.7**
	198nm,0.3s,baz=248,slow=22,SNR=9.3						
BSO1	**Boso 1**	**3.18**	**340**	P	**Pn**	**20 35 02.7**	**-0.6**
BSO1				*e*S	**Sn**	**20 35 39.3**	**-0.4**
JMKN	**Mikurajimanish**	**3.18**	**315**	P	**Pn**	**20 35 02.8**	**-1.1**
JMKN				*e*S	**Sn**	**20 35 39.7**	**-1.0**
BSO3	**Boso 3**	**3.47**	**335**	P	**Pn**	**20 35 07.0**	**-0.6**
BSO4	**Boso 4**	**3.70**	**334**	P	**Pn**	**20 35 10.2**	**-0.7**
JOD2	**Odawara 2**	**4.48**	**324**	P	**Pn**	**20 35 20.8**	**-1.0**
JOD2				S	**Sn**	**20 36 11.3**	**-1.4**
CBIJ	**Chichi jima**	**4.56**	**181**	P	**Pn**	**20 35 21.7**	**-1.1**
JCJ	**Chichijima**	**4.56**	**181**	Pn	**Pn**	**20 35 21.6**	**-1.3**
	38nm,0.3s,baz=298,slow=22,SNR=52						
JCJ				Sn	**Sn**	**20 36 08.4**	**-6.2**
	45nm,0.3s,baz=270,slow=20,SNR=3.1						
JCJ	**Chichijima**	**4.56**	**181**		**Pn**	**20 35 20.5**	**-2.3**
JHU	**Hanno**	**4.87**	**330**	P	**Pn**	**20 35 26.1**	**-1.0**
JHU				*e*S	**Sn**	**20 36 20.3**	**-2.0**
JYT	**Yasato**	**4.87**	**340**	P	**Pn**	**20 35 26.7**	**-0.4**
JHO	**Hitachi**	**5.13**	**344**	P	**Pn**	**20 35 29.1**	**-1.6**
JRY	**Ryogami san**	**5.18**	**328**	P	**Pn**	**20 35 31.0**	**-0.4**
JRY				*e*S	**Sn**	**20 36 29.0**	**-0.9**
JNY	**Yasuok**	**5.22**	**316**	P	**Pn**	**20 35 32.8**	**+0.8**
JAG	**Ashikaga**	**5.30**	**334**	P	**Pn**	**20 35 32.3**	**-0.7**
JIE	**Ise**	**5.43**	**302**	S	**Sn**	**20 36 37.8**	**+1.8**
MJAR	**Matsushiro Arr**	**5.93**	**326**	Pn	**Pn**	**20 35 39.0**	**-2.7**
	1.0nm,0.3s,baz=157,slow=11,SNR=37						
MJAR				Sn	**Sn**	**20 36 46.0**	**-2.4**
	0.7nm,0.3s,baz=284,slow=7.5,SNR=6.5						
MAJO	**Matsushiro**	**5.93**	**326**	Pn	**Pn**	**20 35 41.5**	**-0.2**
MAT	**Matsushiro**	**5.93**	**326**	P	**Pn**	**20 35 41.3**	**-0.4**
MAT				S	**Sn**	**20 36 45.1**	**-3.3**
MJB9	**Matsu-Tunnel**	**5.94**	**326**		**Pn**	**20 35 41.3**	**-0.4**
JNU	**Nakatsue**	**9.77**	**282**	Pn	**Pn**	**20 36 37.2**	**+2.9**
	0.3nm,0.3s,baz=101,slow=6.7,SNR=6.1						
JNU				LR	LR	20 40 50.6	
	comp=Z,122nm,18.6s,baz=87,slow=41						
JNU	**Nakatsue**	**9.77**	**282**	Pn	**Pn**	**20 36 37.3**	**+3.0**
ERM	**Erimo**	**10.35**	**4**	Pn	**Pn**	**20 36 38.6**	**-3.6**

JKA	**Kamikawa-asahi**	**12.43**	**1**	Pn	**Pn**	**20 37 08.1**	**-2.6**
ASAJ	**Asahikawa**	**12.43**	**1**	Pn	**Pn**	**20 37 07.5**	**-3.2**
	2.7nm,0.3s,baz=208,slow=12,SNR=19						
KSRS	**Korea Array**	**13.18**	**300**	Pn	**Pn**	**20 37 24.1**	**+3.2**
	0.4nm,0.3s,baz=112,slow=13,SNR=16						
KSRS				LR	LR	20 43 27.8	
	comp=Z,64nm,18.3s,baz=116,slow=42						
KSAR	**Wonju Array Be**	**13.20**	**300**	Pn	**Pn**	**20 37 20.8**	**-0.4**
KS19	**Wonju Array Si**	**13.24**	**300**	Pn	**Pn**	**20 37 18.6**	**-3.2**
USRK	**Usuriysk Ar.**	**14.91**	**330**	Pn	**Pn**	**20 37 43.8**	**-0.6**
	baz=141,slow=15,SNR=2.6						
YOJ	**Yonaguni jima**	**18.46**	**252**		**Pn**	**20 38 29.6**	**+0.2**
KLR	**Kul'dur**	**19.26**	**339**	P	**P**	**20 38 36.2**	**-1.4**
	0.2nm,0.3s,baz=180,slow=4.3,SNR=3.0						
YHNB	**Yeheng**	**19.71**	**255**	P	**P**	**20 38 42.6**	**-0.3**
NACB	**Ninganchiao**	**19.74**	**253**		**P**	**20 38 42.4**	**-0.8**
NACB				IAmb	IAmb	20 38 45.3	
	comp=Z,18nm,0.9s						
YULB	**Yu-li**	**20.35**	**251**	P	**P**	**20 38 47.9**	**-1.8**
YULB				IAmb	IAmb	20 38 50.6	
	comp=Z,24nm,1.0s						
SSLB	**Suanglung**	**20.44**	**253**	P	**P**	**20 38 49.1**	**-1.7**
SSLB				IAmb	IAmb	20 39 20.1	
	comp=Z,32nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**25.61**	**115**	T	T	21 06 22.2	
	baz=303						
H11S1	**WAKE ISLAND Hy**	**25.62**	**115**	T	T	21 06 27.5	
	baz=303						
H11S2	**WAKE ISLAND Hy**	**25.63**	**115**	T	T	21 06 24.7	
	baz=303						
SONM	**Songino Array**	**31.64**	**311**	P	**P**	**20 40 38.1**	**+2.0**
	comp=Z,1.8nm,0.8s,baz=118,slow=7.9,SNR=10						
SONM	**Songino Array**	**31.64**	**311**	P	**P**	**20 40 36.5**	**+0.3**
PBKT	**Sadao Pong**	**40.35**	**258**	P	**P**	**20 41 50.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**41.16**	**262**	P	**P**	**20 41 57.1**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=51,slow=7.4,SNR=7.0						
CMAR	**Chiang Mai Arr**	**41.16**	**262**	P	**P**	**20 41 56.2**	**-1.4**
HNR	**Honiara**	**44.22**	**155**	LR	LR	20 59 04.5	
	comp=Z,59nm,20.7s,baz=105,slow=34						
ZALV	**Zalesovo Beam**	**46.19**	**316**	P	**P**	**20 42 37.4**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=76,slow=6.1,SNR=2.0						
ZALV	**Zalesovo Beam**	**46.19**	**316**	P	**P**	**20 42 38.1**	**+0.7**
MK31	**Makanchi Array**	**47.75**	**306**	P	**P**	**20 42 49.8**	**0.0**
MKAR	**Makanchi Array**	**47.75**	**306**	P	**P**	**20 42 51.0**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=88,slow=9.5,SNR=14						
MKAR	**Makanchi Array**	**47.75**	**306**	P	**P**	**20 42 50.8**	**+0.9**
KURK	**Kurchatov**	**49.94**	**312**	P	**P**	**20 43 06.6**	**0.0**
KURK				IAmb	IAmb	20 43 23.0	
	comp=Z,5.6nm,0.9s						
KURBB	**Kurchatov Arra**	**50.00**	**312**	P	**P**	**20 43 07.2**	**+0.2**
	comp=Z,2.7nm,0.2s,baz=86,slow=7.1,SNR=14						
IMAR	**Indian Mountai**	**50.95**	**28**	P	**P**	**20 43 14.2**	**+0.2**
WR0	**Warramunga Arr**	**51.87**	**189**	P	**P**	**20 43 21.1**	**-0.2**
WR0				IAmb	IAmb	20 43 43.1	
	comp=Z,20nm,1.6s						
WB2	**Warramunga Arr**	**51.88**	**190**	P	**P**	**20 43 21.3**	**-0.1**
WB2				IAmb	IAmb	20 43 48.7	
	comp=Z,22nm,1.5s						
WRA	**Warramunga Arr**	**51.88**	**190**	P	**P**	**20 43 21.4**	**0.0**
	comp=Z,1.5nm,0.3s,baz=6.2,slow=7.8,SNR=49						
WRA	**Warramunga Arr**	**51.88**	**190**	P	**P**	**20 43 21.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**52.00**	**200**	P	**P**	**20 43 23.1**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=20,slow=7.6,SNR=7.3						
FITZ	**Fitzroy Crossi**	**52.00**	**200**	P	**P**	**20 43 22.8**	**+0.5**
MDM	**Murphy Dome**	**53.13**	**30**	P	**P**	**20 43 30.5**	**+0.3**
MDM				IAmb	IAmb	20 43 32.3	
	comp=Z,5.7nm,1.2s						
IL31		**53.69**	**30**	P	**P**	**20 43 33.6**	**-0.6**
IL31				IAmb	IAmb	20 43 36.8	
	comp=Z,4.9nm,1.2s						
ILAR	**Eielson Array**	**53.69**	**30**	P	**P**	**20 43 34.9**	**+0.5**
	comp=Z,2.0nm,0.9s,baz=266,slow=6.5,SNR=12						
ILAR	**Eielson Array**	**53.69**	**30**	P	**P**	**20 43 33.6**	**-0.8**
BVAR	**Borovoye Array**	**54.81**	**315**	P	**P**	**20 43 43.9**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=84,slow=8.2,SNR=8.9						
BRVK	**Borovoye**	**54.87**	**315**	P	**P**	**20 43 43.7**	**+0.6**
DOT	**Dot Lake**	**54.92**	**32**	P	**P**	**20 43 44.0**	**+0.7**
DOT				IAmb	IAmb	20 43 47.1	
	comp=Z,4.9nm,1.3s						
ASAR	**Alice Springs**	**55.61**	**189**	P	**P**	**20 43 48.5**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=3.6,slow=5.5,SNR=10						
ASAR	**Alice Springs**	**55.61**	**189**	P	**P**	**20 43 48.7**	**0.0**
BCAR	**Beaver Creek A**	**55.97**	**32**	P	**P**	**20 43 51.2**	**+0.3**
KK31	**Karatay Array**	**56.57**	**304**	P	**P**	**20 43 56.4**	**+0.9**
KKAR	**Karatay Array**	**56.57**	**304**	P	**P**	**20 43 56.3**	**+0.8**
KKAR	**Karatay Array**	**56.57**	**304**	P	**P**	**20 43 55.9**	**+0.4**
KKAR				IAmb	IAmb	20 44 07.5	
	comp=Z,3.8nm,1.2s						
PCA	**Pinnacle**	**56.97**	**36**	P	**P**	**20 44 00.2**	**+2.1**
NIL	**Nilore**	**57.15**	**292**	P	**P**	**20 44 00.2**	**+0.4**
ARCES	**ARCESS Array B**	**69.28**	**340**	P	**P**	**20 45 20.0**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=62,slow=8.5,SNR=0.9						
FINES	**FINESS Array B**	**73.91**	**333**	P	**P**	**20 45 48.0**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=55,slow=6.7,SNR=9.0						
LRM	**Limekiln Ridge**	**77.49**	**44**	P	**P**	**20 46 09.4**	**+0.8**
NVAR	**Mina Array Bea**	**77.64**	**52**	P	**P**	**20 46 10.9**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=286,slow=6.6,SNR=10						
NVAR	**Mina Array Bea**	**77.64**	**52**	P	**P**	**20 46 10.3**	**+0.8**
AKASG	**Malin Array Be**	**79.01**	**323**	P	**P**	**20 46 16.8**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=53,slow=4.6,SNR=1.9						
NB2	**NORSAR Subarra**	**79.42**	**338**	P	**P**	**20 46 19.1**	**+0.4**
	comp=Z,4.7nm,0.8s,baz=41,slow=5.3						
NOA	**NORSAR Array B**	**79.42**	**338**	P	**P**	**20 46 19.4**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=41,slow=5.3,SNR=5.3						
DUG	**Dugway, Tooele**	**80.32**	**49**	P	**P**	**20 46 24.2**	**+0.1**
DUG				IAmb	IAmb	20 46 27.6	
	comp=Z,2.6nm,0.7s						
PD31	**Pinedale Array**	**80.91**	**45**	P	**P**	**20 46 27.8**	**+0.5**
PDAR	**Pinedale Array**	**80.91**	**45**	P	**P**	**20 46 28.2**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=256,slow=1.8,SNR=8.8						
PDAR	**Pinedale Array**	**80.91**	**45**	P	**P**	**20 46 27.5**	**+0.2**
CLL	**Collm**	**86.12**	**331**	*e*P	**P**	**20 46 54.0**	**+0.4**
TX31	**Lajitas Ar. Si**	**92.78**	**53**	P	**P**	**20 47 26.2**	**+0.6**
TX32	**Lajitas Array**	**92.78**	**53**	P	**P**	**20 47 26.0**	**+0.4**
TX32				IAmb	IAmb	20 47 28.4	
	comp=Z,3.8nm,1.1s						
TXAR	**Lajitas Array**	**92.78**	**53**	P	**P**	**20 47 26.8**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=306,slow=3.0,SNR=14						
TXAR	**Lajitas Array**	**92.78**	**53**	P	**P**	**20 47 26.2**	**+0.6**
QSPA	**South Pole Qui**	**121.42**	**180**	PKP	**PKiKP**	**20 53 05.6**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=115,slow=0.5,SNR=5.0						
QSPA	**South Pole Qui**	**121.42**	**180**		**PKiKP**	**20 53 05.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**121.59**	**313**	PKP	**PKiKP**	**20 53 08.4**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=56,slow=3.8,SNR=2.0						
LPAZ	**La Paz**	**148.40**	**68**	PKPbc	**PKPbc**	**20 54 00.7**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=8.5,slow=5.8,SNR=5.9						
LPAZ	**La Paz**	**148.40**	**68**		**PKiKP**	**20 54 01.7**	**-0.3**
PLCA	**Paso Flores**	**152.12**	**118**	PKPbc	**PKiKP**	**20 54 08.2**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=154,slow=7.3,SNR=3.3						
PLCA	**Paso Flores**	**152.12**	**118**		**PKPbc**	**20 54 07.3**	**-0.8**

NDI ***12*** *20:36:16.5±2.2,31.°83N×89.°37E,h40km±98km,ML3.7, MS3.6*
BJI ***12*** *20:36:24.7±0.0,30.°03N×88.°18E,h7km,mB4.4/9, mb4.1/12,Ms4.0/10,Ms7 4.0/10*
IDC ***12*** *20:36:24.2±0.8,29.°77N×87.°91E,h0km,mb3.8/13, mb1 3.9/15,mb1mx3.8/55,mbtmp3.8/15,ML3.7/2,MS3.4/7, Ms1 3.4/7,ms1mx3.1/37,Error ellipse: s-maj=25.2km s-min=16.4km az=48.0*

ISC 12 20:36:27.3±0.5,**29.°86N**±0.°06×**87.°95E**±0.°05,**h10**km,**n36,** σ2§**18**/**32**,**mb3.8**/14,**MS3.4**/6,**1D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**2.79**	**92**	Pg	**Pn**	**20 37 12.9**	**+0.4**
LSA				Sg	**Sn**	**20 37 47.4**	**+1.0**
GUWA	**GUWAHATI**	**4.93**	**137**	*e*P	**Pn**	**20 37 42.8**	**+1.4**
TEZP	**TEZPUR**	**5.36**	**126**	*e*P	Pn	20 37 41.8	-5.6
TEZP				*e*S	**Sb**	**20 39 12.6**	**+7.1**
TEZP				IAMs_20	IAMs_20	20 39 56.6	
	comp=Z,910nm,10.1s						
SHL	**Shillong**	**5.52**	**140**	*e*P	**Pn**	**20 37 49.6**	**-0.2**
SHL				*e*P	Pb	20 37 52.0	-12
SHL				*e*S	**Sg**	**20 39 22.0**	**-2.5**
SHL				IAMs_20	IAMs_20	20 40 02.9	
	comp=Z,1μm,11.5s						
ZIRO	**ZIRO**	**5.68**	**113**	*e*P	Pn	20 37 44.5	-7.5
DDI	**Dehra Dun**	**8.58**	**276**	*e*P	**Pn**	**20 38 35.5**	**+3.8**
DDI				IAMs_20	IAMs_20	20 41 55.7	
	comp=Z,2μm,8.5s						
SMLA	**Simla**	**9.39**	**280**	*e*P	**Pn**	**20 38 42.3**	**-0.4**
SMLA				*e*S	**Sn**	**20 40 28.6**	**+0.3**
SMLA				IAML		20 40 33.0	
	comp=E,17nm,0.7s						
SMLA				IAML		20 40 34.1	
	comp=N,18nm,1.0s						
DHRM	**DHARAMSHALA**	**10.27**	**286**	*e*P	**Pn**	**20 38 58.8**	**+3.9**
DHRM				*e*S	**Sn**	**20 40 52.9**	**+2.6**
DHRM				IAML		20 40 56.9	
	comp=N,22nm,0.7s						
DHRM				IAML		20 41 01.0	
	comp=E,22nm,2.7s						
BHPL	**Bhopal**	**11.49**	**237**	*e*P	**Pn**	**20 39 11.5**	**-0.1**
BHPL				*e*S	**Sn**	**20 41 18.7**	**-1.4**
GTA	**Gaotai**	**13.64**	**43**	*e*P	Pn	20 39 47.0	+6.1
GTA				pP	P	20 39 51.1	+1.2
GTA				sP		20 39 54.1	
GTA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,34nm,5.6s						
GTA				LR	LR		
	comp=N,250nm,15.2s						
GTA				LR	LR		
	comp=E,310nm,12.4s						
GTA				LR	LR		
	comp=Z,350nm,12.7s						
WMQ	**Urumqi**	**13.94**	**359**	*e*P	**Pn**	**20 39 44.3**	**-0.6**
LZH	**Lanzhou**	**14.71**	**61**	*e*P	Pn	20 39 50.2	-5.5
LZH				pP	P	20 39 51.7	-10
LZH				*e*PP	**PnPn**	**20 40 02.3**	**-1.3**
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				pmax	pmax		
	comp=Z,76nm,4.5s						
LZH				LR	LR		
	comp=Z,360nm,11.2s						
LZH				LR	LR		
	comp=Z,450nm,11.8s						
CMAR	**Chiang Mai Arr**	**15.14**	**136**	Pn	**Pn**	**20 40 00.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=312,slow=13,SNR=6.5						
AAK	**Ala-Archa**	**16.72**	**323**	LR	LR	20 47 35.5	
	comp=Z,82nm,21.0s,baz=137,slow=40						
GYA	**Guiyang**	**16.85**	**97**	*e*P	**P**	**20 40 27.8**	**+2.2**
GYA				pmax	pmax		
	comp=Z,13nm,1.8s						
MKAR	**Makanchi Array**	**17.47**	**347**	P	**Pn**	**20 40 31.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=156,slow=12,SNR=9.7						
KURBB	**Kurchatov Arra**	**21.92**	**344**	P	**P**	**20 41 18.4**	**-2.2**
	comp=Z,2.5nm,0.9s,baz=160,slow=9.7,SNR=11						
QIZ	**Qiongzhong**	**22.62**	**113**	P	**P**	**20 41 25.0**	**-3.5**
QIZ				S	**S**	**20 45 35.3**	**-1.1**
QIZ				pmax	pmax		
	comp=Z,21nm,1.4s						
QIZ				LR	LR		
	comp=Z,180nm,4.9s						
WHN	**Wuhan**	**22.82**	**82**	||P	P	20 41 14.0	-16
SONM	**Songino Array**	**22.89**	**33**	P	**P**	**20 41 32.0**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=220,slow=12,SNR=11						
SONM				LR	LR	20 51 06.3	
	comp=Z,61nm,18.3s,baz=228,slow=38						
ZALV	**Zalesovo Beam**	**24.18**	**355**	P	**P**	**20 41 42.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=172,slow=4.1,SNR=2.9						
GEYT	**Alibeck**	**25.96**	**296**	P	**P**	**20 42 00.2**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=129,slow=8.2,SNR=2.8						
BVAR	**Borovoye Array**	**26.49**	**336**	P	**P**	**20 42 04.8**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=145,slow=10,SNR=2.4						
WSAR	**Wadi Sarin**	**26.99

az=125.0
IDC ***12*** *20:43:21.5±1.3,30°.79S×179°.99W,h404km±17km,mb3.5/4, mb1 3.8/7,mb1mx3.3/31,mbtmp4.5/7,Error ellipse: s-maj=27.2km s-min=17.9km az=53.0*

ISC 12 20:43:20.6±0.8,30°.93S±0°.06×179°.9W±0°.1,h400km,n94, σ1877/96,mb4.2/15,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.41**	**47**	**P**		**P**	**Pn**	**20 44 19.9**	**+0.6**
RIZ	**Raoul Island**	**2.42**	**46**	**P**		**P**	**Pn**	**20 44 20.6**	**+1.2**
RAO	**Raoul Island**	**2.42**	**47**	**P**		**P**	**Pn**	**20 44 20.5**	**+1.2**
	134nm,0.3s,baz=89,slow=11,SNR=9.8								
RAO				S		S	20 44 58.9		-8.0
	113nm,0.3s,baz=110,slow=17,SNR=2.4								
GRZ	**Great Barrier**	**6.55**	**215**	**P**		**P**	**Pn**	**20 45 02.6**	**+3.5**
MXZ	**Matakaoa Point**	**6.77**	**192**	**P**		**P**		**20 45 05.6**	**+3.5**
MXZ				S		**S**		**20 46 21.8**	**-2.2**
KUZ	**Kuaotunu**	**6.83**	**211**	**P**		**P**		20 45 07.4	+4.6
OUZ	**Omahuta**	**6.91**	**230**	**P**		**P**		20 45 08.0	+4.3
OUZ	**Omahuta**	**6.91**	**230**	**Pn**		**P**		20 45 08.0	+4.3
WCZ	**Waipu Caves**	**6.91**	**222**	**P**		**P**		20 45 08.4	+4.7
WMGZ	**Waiomatatini S**	**7.00**	**191**	**P**		**P**		**20 45 08.9**	**+4.1**
HAZ	**Te Kaha**	**7.06**	**195**	**P**		**P**		**20 45 08.1**	**+2.7**
HAZ				S		**S**		**20 46 29.6**	**-0.3**
WIAZ	**Waiheke Island**	**7.14**	**214**	**P**		**P**		20 45 10.2	+3.9
PUZ	**Puketiti**	**7.28**	**191**	**P**		**P**		**20 45 11.8**	**+4.1**
RUGZ	**Raukumara Rang**	**7.29**	**195**	**P**		**P**		**20 45 09.9**	**+1.9**
TWGZ	**Tauwhareparae**	**7.43**	**193**	**P**		**P**		**20 45 11.7**	**+2.2**
TWGZ				S		**S**		**20 46 37.0**	**-0.6**
OPRZ	**Ohinepanea**	**7.48**	**202**	**P**		**P**		**20 45 14.3**	**+4.3**
MWZ	**Matawai**	**7.67**	**195**	**P**		**P**		**20 45 13.3**	**+1.1**
MWZ				S		**S**		**20 46 41.3**	**-1.4**
URZ	**Urewera**	**7.70**	**198**	**P**		**P**		**20 45 13.6**	**+1.1**
	29nm,0.3s,baz=276,slow=5.3,SNR=107								
URZ				S		**S**		**20 46 40.8**	**-2.5**
	8.9nm,0.3s,baz=257,slow=20,SNR=12								
URZ	**Urewera**	**7.70**	**198**	**P**		**P**		**20 45 13.6**	**+1.1**
URZ				S		**S**		**20 46 40.9**	**-2.3**
URZ	**Urewera**	**7.70**	**198**	**P**		**P**		**20 45 13.8**	**+1.3**
URZ				S		**S**		**20 46 41.1**	**-2.1**
TKGZ	**Te Karaka**	**7.71**	**193**	**P**		**P**		**20 45 15.2**	**+2.7**
TKGZ				S		**S**		**20 46 41.5**	**-1.9**
KARZ	**Kaharoa**	**7.74**	**203**	**P**		**P**		**20 45 17.2**	**+4.3**
TOZ	**Tahuroa Road**	**7.76**	**208**	**P**		**P**		20 45 19.3	+6.2
OMRZ	**Omania**	**7.78**	**202**	**P**		**P**		20 45 18.6	+5.2
RAGZ	**Rawiri**	**7.85**	**195**	**P**		**P**		**20 45 15.9**	**+1.6**
RRRZ	**Republican Roa**	**7.95**	**201**	**P**		**P**		**20 45 19.0**	**+3.8**
RIGZ	**Rimuhau**	**7.98**	**193**	**P**		**P**		**20 45 17.7**	**+2.0**
RIGZ				S		**S**		**20 46 47.7**	**-1.5**
MUGZ	**Murupara**	**8.00**	**199**	**P**		**P**		**20 45 18.5**	**+2.7**
RTZ	**Ruatahuna**	**8.07**	**197**	**P**		**P**		**20 45 18.7**	**+2.0**
RTZ				S		**S**		**20 46 49.4**	**-1.8**
PRGZ	**Paritu Road**	**8.17**	**192**	**P**		**P**		**20 45 19.6**	**+1.9**
ALRZ	**Allen Road**	**8.20**	**201**	**P**		**P**		**20 45 19.8**	**+1.7**
TLZ	**Tolley Road**	**8.27**	**206**	**P**		**P**		20 45 24.3	+5.5
KNZ	**Kokohu**	**8.30**	**193**	**P**		**P**		**20 45 21.2**	**+2.1**
KNZ				S		**S**		**20 46 52.8**	**-3.0**
MTHZ	**Maungataniwha**	**8.33**	**198**	**P**		**P**		**20 45 21.5**	**+2.0**
MTHZ				S		**S**		**20 46 55.3**	**-1.2**
HIZ	**Hauiti**	**8.69**	**208**	**P**		**P**		20 45 28.6	+5.1
BKZ	**Black Stump Fm**	**8.72**	**199**	**P**		**P**		**20 45 25.1**	**+1.3**
BKZ	**Black Stump Fm**	**8.72**	**199**	**P**		**P**		**20 45 24.6**	**+0.7**
MCHZ	**McNeill Hill**	**8.93**	**197**	**P**		**P**		**20 45 27.4**	**+1.3**
OTVZ	**Oturere**	**8.97**	**203**	**P**		**P**		**20 45 26.9**	**+0.2**
KWHZ	**Kaweka Forest**	**8.98**	**198**	**P**		**P**		**20 45 28.0**	**+1.2**
TRVZ	**Turoa**	**9.13**	**203**	**P**		**P**		**20 45 30.6**	**+2.1**
BHHZ	**Black Hill Sta**	**9.14**	**200**	**P**		**P**		**20 45 29.5**	**+1.0**
MOVZ	**Moawhango**	**9.16**	**201**	**P**		**P**		**20 45 30.0**	**+1.3**
PKVZ	**Pokaka**	**9.19**	**204**	**P**		**Pn**		**20 45 30.7**	**+1.5**
KRHZ	**Kereru**	**9.20**	**198**	**P**		**Pn**		**20 45 29.7**	**+0.5**
VRZ	**Vera Road**	**9.26**	**207**	**P**		**Pn**		**20 45 32.6**	**+2.8**
PXZ	**Pawanui**	**9.45**	**195**	**P**		**Pn**		**20 45 33.6**	**+1.6**
PNHZ	**Pukenui**	**9.50**	**198**	**P**		**P**		**20 45 31.7**	**-0.7**
WPHZ	**Waipukurau**	**9.58**	**197**	**P**		**Pn**		**20 45 34.7**	**+1.1**
TSZ	**Takapari Road**	**9.70**	**199**	**P**		**Pn**		**20 45 35.6**	**+0.6**
PRHZ	**Porangahau**	**9.72**	**196**	**P**		**Pn**		**20 45 36.6**	**+1.4**
WAZ	**Wanganui**	**9.73**	**204**	**P**		**Pn**		**20 45 36.0**	**+0.7**
DVHZ	**Dannevirke**	**9.87**	**198**	**P**		**Pn**		**20 45 37.8**	**+0.8**
ANWZ	**Angora Road**	**9.94**	**196**	**P**		**Pn**		**20 45 39.5**	**+1.7**
BFZ	**Birch Farm**	**10.21**	**197**	**P**		**Pn**		**20 45 40.8**	**-0.1**
BFZ	**Birch Farm**	**10.21**	**197**			**S**		**20 47 31.8**	**-3.7**
MRZ	**Mangatainoka R**	**10.37**	**199**	**P**		**P**		**20 45 42.0**	**-0.1**
HOWZ	**Holdsworth Sta**	**10.60**	**199**	**P**		**P**		**20 45 44.9**	**+0.2**
OGWZ	**Otaki Gorge**	**10.63**	**201**	**P**		**P**		**20 45 44.8**	**-0.2**
TMWZ	**Te Maipa**	**10.70**	**197**	**P**		**Pn**		**20 45 47.9**	**+1.4**
KIW	**Kapiti Island**	**10.75**	**201**	**P**		**P**		**20 45 46.2**	**-0.1**
CAW	**Cannon Point**	**10.93**	**200**	**P**		**Pn**		**20 45 48.9**	**-0.3**
MSWZ	**Moikau Station**	**11.16**	**199**	**P**		**P**		**20 45 51.0**	**+0.2**
PLWZ	**Palliser**	**11.30**	**199**	**P**		**Pn**		**20 45 53.5**	**0.0**
PLWZ	**Palliser**	**11.30**	**199**	**P**		**Pn**		**20 45 53.6**	**0.0**
TUWZ	**Tuamarina**	**11.58**	**204**	**P**		**P**		**20 45 55.2**	**-0.3**
THZ	**Tophouse**	**12.25**	**206**	**P**		**Pn**		**20 46 03.1**	**-1.4**
DZM	**Mont Dzumac**	**15.04**	**303**	**P**		**P**		**20 46 33.3**	**-0.4**
	0.3nm,0.3s,baz=173,slow=19,SNR=1.6								
DZM	**Mont Dzumac**	**15.04**	**303**	**P**		**P**		**20 46 33.1**	**-0.6**
DZM				IAmb		IAmb		20 46 45.3	
	comp=Z,22nm,1.3s								
CTAO	**Charters Tower**	**32.26**	**281**	**P**		**P**		**20 49 15.5**	**+1.5**
CTAO				IAmb		IAmb		20 49 16.5	
	comp=Z,12nm,0.8s								
STKA	**Stephens Creek**	**32.74**	**258**	**P**		**P**		**20 49 19.4**	**+1.4**
	comp=Z,1.8nm,0.5s,baz=97,slow=10,SNR=9.3								
STKA	**Stephens Creek**	**32.74**	**258**	**P**		**P**		**20 49 19.0**	**+1.0**
BBOO	**Buckleboo**	**37.22**	**255**	**P**		**P**		**20 49 56.4**	**+0.6**
BBOO				IAmb		IAmb		20 49 56.9	
	comp=Z,17nm,1.2s								
RABL	**Rabaul**	**37.39**	**310**	**P**		**P**		**20 49 57.7**	**+0.3**
RABL				IAmb		IAmb		20 50 03.4	
	comp=Z,28nm,0.6s								
KRVT	**Keravat (AS076**	**37.40**	**309**	**P**		**P**		**20 49 57.0**	**-0.5**
	comp=Z,54nm,0.4s,baz=28,slow=17,SNR=6.1								
AS31	**Alice Springs**	**41.42**	**268**	**P**		**P**		**20 50 29.9**	**-0.3**
ASAR	**Alice Springs**	**41.42**	**268**	**P**		**P**		**20 50 29.9**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=106,slow=7.3,SNR=34								
WR0	**Warramunga Arr**	**42.28**	**274**	**P**		**P**		**20 50 36.9**	**-0.2**
WR0				IAmb		IAmb		20 50 54.8	
	comp=Z,18nm,1.6s								
WB2	**Warramunga Arr**	**42.45**	**274**	**P**		**P**		**20 50 38.2**	**-0.3**
WB2				IAmb		IAmb		20 50 38.4	
	comp=Z,6.4nm,0.5s								
WRA	**Warramunga Arr**	**42.46**	**274**	**P**		**P**		**20 50 38.0**	**-0.5**
	comp=Z,4.1nm,0.4s,baz=112,slow=7.9,SNR=64								
WB0	**Warramunga Arr**	**42.49**	**274**	**P**		**P**		**20 50 38.5**	**-0.3**
WB0				IAmb		IAmb		20 50 39.8	
	comp=Z,10nm,1.1s								
FORT	**Forrest**	**44.30**	**256**	**P**		**P**		**20 50 52.2**	**-0.6**
FORT				IAmb		IAmb		20 50 54.3	
	comp=Z,15nm,0.9s								
FITZ	**Fitzroy Crossi**	**50.70**	**271**	**P**		**P**		**20 51 42.0**	**+0.4**
	baz=117,slow=6.8								
FITZ	**Fitzroy Crossi**	**50.70**	**271**	**P**		**P**		**20 51 41.7**	**+0.1**
FITZ				IAmb		IAmb		20 51 48.3	
	comp=Z,26nm,1.6s								
CASY	**Casey**	**53.89**	**208**	**P**		**P**		**20 52 04.1**	**+0.1**
MORW	**Morawa**	**54.78**	**254**	**P**		**P**		**20 52 10.3**	**-0.7**
MORW				IAmb		IAmb		20 52 28.0	
	comp=Z,19nm,1.4s								
GIRL	**Giralia**	**58.62**	**261**	**P**		**P**		**20 52 38.4**	**+0.8**
MIDW	**Midway**	**58.87**	**3**	**P**		**P**		**20 52 37.3**	**-1.8**
QSPA	**South Pole Qui**	**59.18**	**180**	**P**		**P**		**20 52 42.4**	**+1.5**
	comp=Z,2.7nm,1.0s,baz=272,slow=0.7,SNR=11								
JCJ	**Chichijima**	**68.11**	**324**	**P**		**P**		**20 53 37.8**	**-1.0**
UGM	**Wanagama**	**68.44**	**274**	**P**		**P**		**20 53 41.0**	**-0.3**
PMSA	**Palmer Station**	**72.46**	**156**	**P**		**P**		**20 54 01.7**	**-2.7**
PMSA				IAmb		IAmb		20 54 08.4	
	comp=Z,37nm,1.4s								
EGAK	**Eagle**	**100.09**	**16**				pP	20 57 49.0	-3.9
FINES	**FINESS Array B**	**145.05**	**338**	PKP			**PKPdf**	**21 02 09.6**	**-0.7**
	comp=Z,2.0nm,0.4s,baz=51,slow=4.4,SNR=38								

KRSC 12 20:46:40.5±1.4,50°.46N×157°.47E,h76km±20km,ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.89**	**285**	***e*P**			Pn	20 46 58.9	+0.9
SKR				*e*S			Sn	20 47 11.6	+0.6
PAU	**Pauzhetka**	**1.09**	**338**	***e*P**			Pn	20 47 02.6	+2.2
PAU				*e*S			Sn	20 47 18.2	+2.9
ALID	**Alaid**	**1.29**	**289**	***e*P**			Pn	20 47 04.5	+1.4
ALID				*e*S			Sn	20 47 20.8	+0.8
KDTR	**Khodutka, Kamc**	**1.40**	**16**	***e*P**			Pn	20 47 06.3	+1.9
KDTR				*e*S			Sn	20 47 24.5	+2.2
MIPR	**Malaya Ipel'ka**	**1.87**	**346**	***e*P**			Pn	20 47 12.9	+2.3
MIPR				*e*S			Sn	20 47 36.6	+3.2
ASAK	**Asacha**	**1.94**	**8**	***e*P**			Pn	20 47 13.7	+2.1
ASAK				*e*S			Sn	20 47 37.9	+2.7
MTVR	**Mutnovka**	**2.07**	**12**	***e*P**			Pn	20 47 15.8	+2.4
MTVR				*e*S			Sn	20 47 40.5	+2.1
RUS	**Russkaya**	**2.08**	**18**	***e*P**			Pn	20 47 14.9	+1.6
RUS				*e*S			Sn	20 47 39.8	+1.5
GRL	**Gorelyy**	**2.13**	**10**	***e*P**			Pn	20 47 16.7	+2.6
GRL				*e*S			Sn	20 47 42.4	+2.7
KRMR	**Karymshinskiy**	**2.41**	**10**	***e*P**			Pn	20 47 21.5	+3.8
KRMR				*e*S			Sn	20 47 48.7	+2.5
APC	**Apacha**	**2.48**	**356**	***e*P**			Pn	20 47 21.2	+2.6
PET	**Petropavlovsk**	**2.67**	**16**	***e*S**			Sn	20 47 55.3	+2.8
DALK	**Dalny**	**2.69**	**17**	***e*P**			Pn	20 47 24.8	+3.2
DALK				*e*S			Sn	20 47 55.6	+2.5
UGLR	**Uglovaya**	**2.88**	**16**	***e*P**			Pn	20 47 25.5	+1.3
AVH	**Avacha**	**2.92**	**15**	***e*P**			Pn	20 47 26.5	+1.8
AVH				*e*S			Sn	20 48 01.2	+2.5
SMAR	**Somma**	**2.92**	**16**	***e*P**			Pn	20 47 26.6	+1.7
KOK	**Koryaka**	**2.93**	**14**	***e*P**			Pn	20 47 28.0	+3.2
NLC	**Nalytchevo**	**2.95**	**22**	***e*S**			Sn	20 47 59.8	+0.4
KRER	**Koryakskii**	**2.96**	**15**	***e*S**			Sn	20 48 02.0	+2.2
KRX	**Arik**	**2.99**	**14**	***e*P**			Pn	20 47 28.8	+3.0
SPN	**Mys Shipunski**	**3.08**	**30**	***e*P**			Pn	20 47 28.9	+2.1
SPN				*e*S			Sn	20 48 03.8	+1.3
KZV	**Kizimen**	**4.96**	**19**	***e*P**			Pn	20 47 55.3	+2.7
KZV				*e*S			Sn	20 48 50.8	+2.1
TUMD	**Tumrok D**	**5.07**	**19**	***e*S**			Sn	20 48 52.4	+1.3
TUMR	**Tumrok**	**5.09**	**17**	***e*P**			Pn	20 47 59.0	+4.6

BGR ***12*** *20:51:56.8±0.0,8°.71N×93°.49E,h33km,mb5.0*
BJI ***12*** *20:52:03.9±0.0,8°.97N×93°.47E,h113km,mB4.7/37, mb4.7/57*
IDC ***12*** *20:52:04.6±2.7,9°.24N×93°.62E,h86km±24km,mb4.3/26, mb1 4.4/28,mb1mx4.4/30,mbtmp4.6/28,MS3.5/9, Ms1 3.5/9,ms1mx3.3/32,Error ellipse: s-maj=13.5km s-min=9.8km az=60.0*
MOS ***12*** *20:52:05.0±1.1,9°.25N×93°.56E,h107km,mb4.9/49,Error ellipse: s-maj=6.7km s-min=3.9km az=114.5*
DJA ***12*** *20:52:06.3±0.4,9°.N±3°×9°.4E±°,h90km±4km,M4.8/31, mb4.8/31,mB5.3/12,MLv5.1/5,Mw(mB)4.7/12,Mwp6.1/1*
NEIC ***12*** *20:52:06.5±1.6,9°.23N±0°.06×93°.59E±0°.08,h105km±4km, mb4.9/116,Error ellipse: s-maj=11.4km s-min=8.6km az=65.0*
KLM ***12*** *20:52:10.0,8°.60N×93°.32E,h135km,mb4.7*
NDI ***12*** *20:52:12.9±4.5,9°.67N×93°.37E,h123km±31km,mb4.9, mb4.9(NEIC)*

ISC 12 20:52:06.8±0.4,9°.26N±0°.04×93°.64E±0°.04,h107km±3km, h107km:pP-P,n600,σ1528/649,mb4.7/180,42C-14D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.54**	**340**	***e*P**			Pn	20 52 46.1	-0.5
PBA				*e*S			Sn	20 53 11.0	-6.1
PBA	**Port Blair**	**2.54**	**340**				Pn	20 52 46.0	-0.6
DGPR	**DIGLIPUR**	**3.95**	**350**	⇓*i*P			**Pn**	**20 53 06.5**	**+1.1**
DGPR				*e*P			**Pn**	**20 53 06.7**	**+1.3**
DGPR				*e*S			**Sn**	**20 53 49.3**	**-1.6**
LHMI	**Lhok Sumawe**	**5.18**	**140**	P			**Pn**	**20 53 22.7**	**+0.7**
	3.3nm11μm1μm,0.7s								
LHMI	**Lhok Sumawe**	**5.18**	**140**	Pn			**Pn**	**20 53 23.4**	**+1.4**
MLSI	**Meulaboh, Aceh**	**5.67**	**151**	P			**Pn**	**20 53 27.7**	**-1.0**
	2.1nm139μm7μm506nm,0.6s								
KCSI	**Kotacane, Aceh**	**7.03**	**144**	P			**Pn**	**20 53 46.0**	**-1.1**
	0.5nm1μm144nm,0.7s								
KULM	**Kulim**	**8.00**	**119**	Pn			**Pn**	**20 54 00.9**	**+0.7**
PSI	**Prapat**	**8.29**	**140**	P			**Pn**	**20 54 04.9**	**+0.4**
	7.6nm,0.3s,baz=360,slow=12,SNR=89								
PSI				LR			LR	20 57 38.1	
	comp=Z,358nm,19.0s,baz=270,slow=40								
RPSI	**Rantau Prapat**	**8.38**	**141**	Pn			**Pn**	**20 54 05.1**	**-0.3**
RPSI	**Rantau Prapat**	**8.38**	**141**				**Pn**	**20 54 04.9**	**-0.6**
IPM	**Ipoh**	**8.74**	**122**	Pn			**Pn**	**20 54 10.4**	**0.0**
IPM	**Ipoh**	**8.74**	**122**	P			**Pn**	**20 54 11.0**	**+0.6**
GSI	**Gunungsitoli**	**8.82**	**153**	Pn			**Pn**	**20 54 08.2**	**-3.4**
PBKT	**Sadao Pong**	**10.19**	**44**	Pn			**Pn**	**20 54 30.9**	**+1.0**
MNSI	**Mandailing Nat**	**10.28**	**145**	P			**Pn**	**20 54 27.8**	**-3.5**
CM31	**Chiang Mai Arr**	**10.49**	**29**				**Pn**	**20 54 34.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**10.49**	**29**	P			**Pn**	**20 54 36.2**	**+2.1**
	0.4nm,0.3s,baz=219,slow=14,SNR=55								
CMAR				LR			LR	20 58 45.6	
	comp=Z,116nm,18.4s,baz=248,slow=38								
CMAR				PcP			**PcP**	**21 00 30.9**	**+1.2**
	0.2nm,0.3s,baz=262,slow=3.4,SNR=4.0								
CMAR	**Chiang Mai Arr**	**10.49**	**29**	P			**Pn**	**20 54 35.3**	**+1.2**
CMAR	**Chiang Mai Arr**	**10.49**	**29**	Pn			**Pn**	**20 54 35.3**	**+1.2**
CHTO	**Chiang Mai**	**10.80**	**28**	P			**Pn**	**20 54 38.7**	**+0.4**
CHTO	**Chiang Mai**	**10.80**	**28**	Pn			**Pn**	**20 54 38.7**	**+0.4**
BKNI	**Bangkinang**	**11.54**	**140**	P			**Pn**	**20 54 47.0**	**-1.3**
	78nm,1.3s								
MYKOM	**Kota Tinggi**	**12.58**	**126**				**Pn**	**20 55 02.3**	**+0.3**
SDSI	**Sungai Dareh**	**12.76**	**142**	P			**Pn**	**20 55 05.6**	**+1.2**
	16nm,0.8s								
PALK	**Pallekele**	**12.96**	**262**	P			**Pn**	**20 55 06.6**	**-0.4**
	1.4nm,0.3s,baz=183,slow=13,SNR=11								
PALK				S			Sn	20 57 16.4	-13
	7.1nm,0.3s,baz=256,slow=23,SNR=16								
PALK				LR			LR	20 59 39.7	
	comp=Z,111nm,21.9s,baz=191,slow=35								
PALK	**Pallekele**	**12.96**	**262**	⇑*i*P			**Pn**	**20 55 04.4**	**-2.7**
PALK				pmax			pmax		
	comp=Z,13nm,1.0s								
PALK	**Pallekele**	**12.96**	**262**	Pn			**Pn**	**20 55 05.8**	**-1.3**
CHLP	**Challavanipeta**	**13.07**	**316**	***e*P**			**Pn**	**20 55 06.3**	**-2.1**
CHLP				*e*				20 57 19.0	
MDRS	**Chennai**	**13.67**	**287**	*ex*			**Pn**	**20 55 17.1**	**+0.7**
PVM	**Polavaram**	**14.13**	**305**	***e*P**			**Pn**	**20 55 22.7**	**+0.5**
PVM				*e*				20 57 45.8	
SKHT	**Srikalahasti**	**14.36**	**289**	***e*P**			**Pn**	**20 55 26.5**	**+1.4**
SKHT				*e*				20 57 50.6	
MYLAV	**Mylavaram**	**14.69**	**302**	***e*P**			**Pn**	**20 55 29.2**	**-0.1**
MYLAV				*e*				20 57 59.6	
ADKI	**Addanki**	**14.86**	**297**	***e*P**			**Pn**	**20 55 33.1**	**+1.7**
ADKI				*e*				20 58 02.1	
SLVN	**Son La**	**15.55**	**38**	P			**P**	**20 55 43.2**	**+0.9**
KSI	**Kapahiang**	**15.63**	**145**	P			P	20 55 50.6	+7.4
KSI	**Kapahiang**	**15.63**	**145**	P			**P**	**20 55 44.0**	**+0.8**
KSI				pmax			pmax		
	comp=Z,42nm,0.6s								
NJS	**Nagarjunasagar**	**15.73**	**299**	***e*P**			**Pn**	**20 55 43.4**	**+0.9**
NJS				*e*				20 58 25.1	
SRLM	**Srisailam**	**15.91**	**297**	***e*P**			**P**	**20 55 47.0**	**+0.8**
SHL	**Shillong**	**16.30**	**354**	***e*P**			**Pn**	**20 55 47.7**	**-1.9**
SHL	**Shillong**	**16.30**	**354**	P			**Pn**	**20 55 47.3**	**-2.4**
SHL				pmax			pmax		
	comp=Z,102nm,0.6s								
SHL	**Shillong**	**16.30**	**354**	Pn			**Pn**	**20 55 47.3**	**-2.4**
MNAI	**Manna**	**16.41**	**145**				**Pn**	**20 55 50.3**	**-0.7**
HYB	**Hyderabad**	**16.76**	**300**	*i* P			**Pn**	**20 55 55.0**	**-0.2**
HYB				*es*P			**sP**	**20 56 29.0**	**+0.6**
HYB				*e*S			S	20 59 30.0	+25
HYB	**Hyderabad**	**16.76**	**300**	*ex*			**Pn**	**20 55 53.9**	**-1.3**
HYBB	**Hyderabad (bro**	**16.76**	**300**	*e*				20 58 51.8	
RPR	**Rampur**	**16.86**	**306**	***e*P**			**Pn**	**20 55 56.6**	**+0.2**
RPR				*e*				20 58 52.3	
GUWA	**GUWAHATI**	**16.94**	**354**	***e*P**			**Pn**	**20 55 55.1**	**-2.3**
URV	**Uravakonda**	**16.98**	**291**	***e*P**			**P**	**20 55 59.4**	**+1.3**
URV				*e*				20 58 47.0	
MDSI	**Maura Dua**	**17.23**	**142**	P			**P**	**20 56 00.5**	**-0.4**
	comp=Z,15nm,1.0s								
TEZP	**TEZPUR**	**17.28**	**357**	⇓*i*x			**P**	**20 55 58.7**	**-2.6**
SRSP	**Sriramsagar**	**17.66**	**305**	***e*P**			**P**	**20 56 05.8**	**+0.2**
SRSP				*e*				20 59 11.9	
KMI	**Kunming**	**18.00**	**28**	⇑P			**Pn**	**20 56 12.9**	**+2.6**
KMI				S			**S**	**20 59 28.7**	**-2.0**
KMI				sS			sS	20 59 56.1	-5.8
KMI				pmax			pmax		
	comp=Z,33nm,1.0s								
KMI				pmax			pmax		
	comp=Z,58nm,5.2s								
KMI				LR			LR		
	comp=Z,180nm,18.1s								
KMI				LR			LR		
	comp=Z,130nm,17.2s								
KMI				LR			LR		
	comp=Z,160nm,17.3s								
KMI	**Kunming**	**18.00**	**28**	P			**Pn**	**20 56 10.4**	**+0.1**
KMI				pmax			pmax		
	comp=Z,36nm,1.0s								
KMI	**Kunming**	**18.00**	**28**	P			**Pn**	**20 56 10.4**	**+0.1**
ZIRO	**ZIRO**	**18.17**	**1**	*ex*			**P**	**20 56 10.0**	**-1.3**
KSM	**Kuching**	**18.30**	**114**				**Pn**	**20 56 13.8**	**0.0**
NGP	**Nagpur**	**18.36**	**312**	***e*P**			**P**	**20 56 14.1**	**+0.8**
NGP				*e*S			S	**20 59 30.9**	**-6.8**
QIZ	**Qiongzhong**	**18.45**	**57**	P			**Pn**	**20 56 15.5**	**-0.1**
QIZ				IAmb			IAmb	20 56 18.3	
	comp=Z,78nm,1.4s								
ODAN	**Odare**	**18.48**	**342**	***e*P**			**Pn**	**20 56 16.3**	**+0.2**
ODAN	**Odare**	**18.48**	**342**	***e*P**			Pn	20 56 24.5	+8.4
	comp=Z,460nm,0.5s								
KLRI	**Killari**	**18.72**	**300**	***e*P**			**Pn**	**20 56 18.3**	**-0.6**
KLRI				*e*				20 59 36.8	
RAMN	**Ramite**	**18.81**	**340**	***e*P**			**Pn**	**20 56 21.0**	**+0.9**
RAMN	**Ramite**	**18.81**	**340**	***e*P**			Pn	20 56 29.0	+8.9
	comp=Z,586nm,0.6s								
TAPN	**Taplejung**	**18.84**	**343**	***e*P**			**Pn**	**20 56 20.4**	**-0.1**
TAPN	**Taplejung**	**18.84**	**343**	***e*P**			Pn	20 56 29.2	+8.7
JBP	**Jabalpur**	**19.03**	**318**	*ex*			Pn	20 56 32.7	+10
JBP				IAmb			IAmb	20 56 33.9	
	comp=Z,48nm,0.5s								
JBP				*e*S			**S**	**20 59 46.9**	**-4.1**
JIRN	**Jiri**	**19.60**	**340**	***e*P**			**P**	**20 56 28.5**	**+1.4**
JIRN	**Jiri**	**19.60**	**340**	***e*P**			Pn	20 56 39.8	+10
	comp=Z,299nm,0.4s								
SBUM	**Sibu**	**19.67**	**109**	P			**P**	**20 56 27.8**	**+0.2**
SBUM	**Sibu**	**19.67**	**109**	P			**Pn**	**20 56 30.0**	**0.0**
PKI	**Pulchoki**	**19.80**	**338**	***e*P**			**P**	**20 56 30.3**	**+1.1**
	comp=Z,129nm,0.9s								
PKI	**Pulchoki**	**19.80**	**338**	***e*P**			Pn	20 56 41.0	+9.3
	comp=Z,369nm,0.8s								
DMN	**Daman**	**19.95**	**337**	***e*P**			**P**	**20 56 31.8**	**+1.1**
	comp=Z,122nm,0.8s								
DMN	**Daman**	**19.95**	**337**	***e*P**	

KSH Kashi 34.01 335 P **P** 20 58 40.0 -0.6
KSH pmax pmax
comp=Z,12nm,0.4s
BTO Baotou 34.44 22 *eP* **P** 20 58 44.5 +0.2
WMQ Urumqi 34.81 352 *eP* **P** 20 58 49.6 +2.2
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,74nm,3.7s
TARG Taragay, Kyrgy 35.23 339 P **P** 20 58 51.2 -0.2
TARG IAmb IAmb 20 58 52.5
comp=Z,16nm,0.7s
HHC Hu-ho-hao-te 35.24 24 *eP* **P** 20 58 52.7 +1.5
HHC PP **PnPn** 21 00 09.3 -3.5
HHC S **S** 21 04 20.2 +3.1
HHC SS **SS** 21 06 48.0 -6.4
HHC pmax pmax
comp=Z,27nm,1.0s
HHC pmax pmax
comp=Z,64nm,4.1s
PRZ Przheval'sk 35.69 341 P **P** 20 58 56.8 +1.7
PRZ pmax pmax
comp=Z,17nm,0.8s
PRZ Przheval'sk 35.69 341 P **P** 20 58 56.8 +1.7
PRZ IAmb IAmb 20 58 57.8
comp=Z,17nm,0.8s
GAR Garm 36.24 329 P **P** 20 58 59.6 -0.2
KZA Kyzart 36.47 337 P **P** 20 59 03.0 +1.0
SNR=6.3
CHGR Chuyangaron 36.59 327 P **P** 20 59 02.0 -0.7
BJT Baijiatuau 36.62 30 P **P** 20 59 05.0 +2.2
BJT pmax pmax
comp=Z,7.0nm,0.7s
BJT Baijiatuau 36.62 30 P **P** 20 59 05.0 +2.2
BJT IAmb IAmb 20 59 05.9
comp=Z,7.3nm,0.7s
BJI Beijing 36.63 30 P **P** 20 59 05.1 +2.2
BJI pmax pmax
comp=Z,10.0nm,1.0s
ARSB Arslanbob 36.78 334 P **P** 20 59 05.3 +0.9
ARSB pmax pmax
comp=Z,37nm,0.7s
ARSB Arslanbob 36.78 334 P **P** 20 59 05.3 +0.9
BTK Batken 36.79 330 P **P** 20 59 05.7 +1.3
BTK pmax pmax
comp=Z,21nm,0.6s
BTK Batken 36.79 330 P **P** 20 59 05.7 +1.3
UCH Uchtor 36.89 336 P **P** 20 59 06.6 +1.0
SNR=13
TKM2 Tokmak 2 37.06 338 P **P** 20 59 07.6 +0.8
SNR=13
KBK Karagaybulak 37.08 337 P **P** 20 59 08.4 +1.5
SNR=12
AML Almayashu 37.14 335 P **P** 20 59 08.9 +1.2
SNR=42
AAK Ala-Archa 37.24 336 P **P** 20 59 09.9 +1.7
SNR=8.4
AAK Ala-Archa 37.24 336 *i* P **P** 20 59 10.0 +1.7
SNR=9.3
AAK Ala-Archa 37.24 336 *i* P **P** 20 59 10.0 +1.7
AAK *i* *PP **pP** 20 59 31.4 -0.3
AAK pmax pmax
comp=Z,18nm,0.9s
AAK Ala-Archa 37.24 336 P **P** 20 59 09.2 +0.9
AAK IAmb IAmb 20 59 10.6
comp=Z,14nm,0.8s
FRU1 Bishkek 37.34 337 P **P** 20 59 10.1 +1.2
FRU1 pmax pmax
comp=Z,12nm,0.6s
FRU1 Bishkek 37.34 337 P **P** 20 59 10.1 +1.2
FRU1 IAmb IAmb 20 59 11.1
comp=Z,12nm,0.6s
CHMS Chumysh 37.45 337 P **P** 20 59 10.9 +1.0
SNR=14
EKS2 Erkin-Say 37.55 336 P **P** 20 59 11.7 +0.8
SNR=18
USP Ospenovka 37.77 337 P **P** 20 59 13.4 +0.8
SNR=21
SOHO SOHO 38.35 297 P **P** 20 59 20.5 +2.8
TAS Tashkent 38.50 330 P **P** 20 59 19.1 +0.4
TAS Tashkent 38.50 330 P **P** 20 59 19.1 +0.4
MK31 Makanchi Array 38.63 347 P **P** 20 59 19.7 0.0
MK31 pmax pmax
comp=Z,4.0nm,0.9s
MK31 Makanchi Array 38.63 347 **P** 20 59 19.7 0.0
MKAR Makanchi Array 38.63 347 P **P** 20 59 19.6 -0.1
comp=Z,3.9nm,0.6s,baz=167,slow=7.9,SNR=49
MKAR PP **PP** 21 00 48.5 -1.8
comp=Z,5.6nm,0.8s,baz=173,slow=10,SNR=4.6
MKAR PcP **PcP** 21 01 30.6 +0.7
comp=Z,3.9nm,0.7s,baz=152,slow=3.9,SNR=4.2
MKAR Makanchi Array 38.63 347 *i* P **P** 20 59 20.0 +0.3
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 38.63 347 **P** 20 59 19.1 -0.7
MKAR **PcP** 21 01 30.3 +0.5
MAKZ Makanchi 38.71 347 P **P** 20 59 20.3 -0.1
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ Makanchi 38.71 347 P **P** 20 59 20.3 -0.1
UOSS Minazif 38.87 298 P **P** 20 59 24.0 +2.0
MDH Madha 38.89 299 P **P** 20 59 23.9 +1.8
HATD Hatta, Dubai 38.89 298 P **P** 20 59 25.2 +2.9
ASHO Ashiyiah 38.92 298 P P 20 59 27.7 +5.2
ALNE Al Ain 39.01 297 P **P** 20 59 27.6 +4.4
MSFE Esma-Masafi 39.03 299 P **P** 20 59 27.5 +4.1
BANOM Banah 39.08 300 P **P** 20 59 27.1 +3.3
SHME Shamm 39.25 300 P **P** 20 59 27.9 +2.7
KK31 Karatay Array 39.31 333 P **P** 20 59 25.9 +0.5
KK31 pmax pmax
comp=Z,15nm,1.2s
KK31 Karatay Array 39.31 333 P **P** 20 59 25.9 +0.5
KK31 IAmb IAmb 20 59 27.3
comp=Z,15nm,1.1s
KKAR Karatay Array 39.31 333 P **P** 20 59 26.1 +0.7
KKAR pmax pmax
comp=Z,15nm,1.2s
KKAR Karatay Array 39.31 333 P **P** 20 59 26.1 +0.7
KKAR IAmb IAmb 20 59 27.3
comp=Z,15nm,1.1s
KKAR Karatay Array 39.31 333 P **P** 20 59 25.6 +0.1
NAZ Nazwa, Dubai 39.35 298 P **P** 20 59 28.6 +2.6
SONM Songino Array 39.93 13 P **P** 20 59 31.2 +0.7
comp=Z,9.4nm,0.9s,baz=192,slow=10,SNR=47
SONM PcP **PcP** 21 01 35.2 +1.1
comp=Z,6.3nm,0.7s,baz=196,slow=3.9,SNR=13
SONM LR LR 21 18 25.2
comp=Z,91nm,18.5s,baz=287,slow=40
SONM Songino Array 39.93 13 P **P** 20 59 31.3 +0.7
SONM 21 01 34.9
SONM pmax pmax
comp=Z,9.0nm,1.0s
SONM Songino Array 39.93 13 P **P** 20 59 31.3 +0.7
SONM **PcP** 21 01 34.9 +0.8
ULN Ulaanbaatar 40.11 14 P **P** 20 59 32.3 +0.2
ULN pmax pmax
comp=Z,8.0nm,0.7s
ULN Ulaanbaatar 40.11 14 P **P** 20 59 32.3 +0.2
DGZ Jazzator, Alta 40.64 354 ⇓ *i* P **P** 20 59 37.5 +1.0
DGZ pmax pmax
comp=Z,13nm,1.6s
TJN Taejon 40.80 43 ⇓ *i* P **P** 20 59 39.1 +1.3
KSAR Wonju Array Be 41.73 42 P **P** 20 59 46.5 +1.1
KSAR Wonju Array Be 41.73 42 P **P** 20 59 46.5 +1.1
KSAR PcP **PcP** 21 01 40.4 +0.4
KSRS Korea Array 41.76 42 P **P** 20 59 46.1 +0.5
comp=Z,1.0nm,0.6s,baz=251,slow=7.8,SNR=6.8
ZAK Zakamensk 41.76 9 *eP* **P** 20 59 45.4 -0.2
ZAK pmax pmax
comp=Z,5.0nm,1.4s
MOY Mondy 42.70 7 *eP* **P** 20 59 54.5 +1.3
GEYT Alibeck 42.84 317 P **P** 20 59 56.2 +1.7
comp=Z,39nm,0.6s,baz=148,slow=8.6,SNR=82
GEYT PcP **PcP** 21 01 45.0 +1.2
comp=Z,8.3nm,1.0s,baz=216,slow=1.3,SNR=3.6
GEYT Alibeck 42.84 317 P **P** 20 59 55.9 +1.4
GEYT PcP **PcP** 21 01 44.8 +1.0
GYA0B ALIBECK ARRAY 42.84 317 P **P** 20 59 55.6 +1.1
GYA0B PcP **PcP** 21 01 44.4 +0.6
MEEK Meekatharra 43.15 146 P **P** 20 59 55.7 -1.3
baz=43,SNR=3.3
KURK Kurchatov 43.15 346 ⇑ *iP* **P** 20 59 57.1 +0.4
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 43.15 346 P **P** 20 59 56.6 0.0
KURK PcP **PcP** 21 01 44.0 -0.4
MORW Morawa 43.81 151 P **P** 21 00 01.9 -0.4
baz=44,SNR=3.7
KDU Kakadu 44.31 119 P **P** 21 00 04.7 -1.8
baz=44,SNR=3.2
ZAA0 Zalesovo Array 45.12 353 P **P** 21 00 12.6 +0.2
ZAA0 IAmb IAmb 21 00 14.0
comp=Z,20nm,0.8s
ZAA0 PcP **PcP** 21 01 50.3 -0.8
ZALV Zalesovo Beam 45.12 353 P **P** 21 00 12.9 +0.6
comp=Z,12nm,0.5s,baz=177,slow=8.3,SNR=59
ZALV PcP **PcP** 21 01 50.7 -0.4
comp=Z,3.5nm,0.5s,baz=165,slow=3.5,SNR=4.8
ZALV S **S** 21 06 41.5 -2.1
comp=Z,0.8nm,0.6s,baz=170,slow=8.8,SNR=2.9
ZALV Zalesovo Beam 45.12 353 *i* P **P** 21 00 12.8 +0.4
ZALV pmax pmax
comp=Z,12nm,0.5s
ZALV Zalesovo Beam 45.12 353 P **P** 21 00 12.5 +0.1
ZALV PcP **PcP** 21 01 50.2 -0.9
HIA Hailar 45.45 24 P **P** 21 00 15.5 +0.4
HIA IAmb IAmb 21 00 17.2
comp=Z,28nm,1.1s
HIA PcP **PcP** 21 01 53.2 +0.8
KLBR Kellerberrin 46.73 151 P **P** 21 00 25.0 -0.2
baz=47
BRVK Borovoye 47.59 341 ⇑ *iP* **P** 21 00 31.5 -0.1
BRVK pmax pmax
comp=Z,8.0nm,0.7s
BRVK Borovoye 47.59 341 P **P** 21 00 31.1 -0.6
BRVK IAmb IAmb 21 00 32.3
comp=Z,8.6nm,0.7s
NWAO Narrogin (SRO) 47.60 153 P **P** 21 00 31.5 -0.5
baz=48,SNR=4.7
NWAO Narrogin (SRO) 47.60 153 P **P** 21 00 31.4 -0.7
NWAO pmax pmax
comp=Z,60nm,1.6s
NWAO Narrogin (SRO) 47.60 153 P **P** 21 00 31.2 -0.8
NWAO IAmb IAmb 21 00 43.6
comp=Z,54nm,1.6s
NWAO Narrogin (SRO) 47.60 153 P **P** 21 00 31.4 -0.7
NWAO IAmb IAmb 21 00 43.6
comp=Z,60nm,1.6s
USRK Ussuriysk Ar. 48.09 37 P **P** 21 00 36.7 +1.0
comp=Z,1.1nm,0.4s,baz=256,slow=4.3,SNR=4.1
MJB9 Matsu-Tunnel 48.61 49 P **P** 21 00 38.9 -1.0
MJB9 IAmb IAmb 21 00 46.5
comp=Z,18nm,1.7s
MJB9 **PcP** 21 02 04.2 +0.3
MAJO Matsushiro 48.61 49 P **P** 21 00 39.6 -0.3
MAJO 21 02 04.3
MAJO pmax pmax
comp=Z,19nm,1.8s
MAJO Matsushiro 48.61 49 P **P** 21 00 39.6 -0.3
MAJO IAmb IAmb 21 00 46.6
comp=Z,19nm,1.8s
MAJO PcP **PcP** 21 02 04.3 +0.4
MAT Matsushiro 48.61 49 P **P** 21 00 40.0 +0.1
MJAR Matsushiro Arr 48.61 49 P **P** 21 00 41.0 +1.1
comp=Z,1.9nm,0.7s,baz=244,slow=8.6,SNR=6.9
MJAR PcP **PcP** 21 02 04.8 +0.9
comp=Z,11nm,0.8s,baz=246,slow=4.7,SNR=23
MJAR Matsushiro Arr 48.61 49 P **P** 21 00 38.6 -1.3
MJAR Matsushiro Arr 48.61 49 P **P** 21 00 38.6 -1.3
MJAR PcP **PcP** 21 02 02.4 -1.5
ABKAR Akbulak array 48.78 331 P **P** 21 00 40.8 -0.1
WB0 Warramunga Arr 49.42 126 P **P** 21 00 44.9 -1.4
WB0 IAmb IAmb 21 00 46.3
comp=Z,42nm,1.8s
WRA Warramunga Arr 49.47 126 P **P** 21 00 45.6 -1.1
comp=Z,6.7nm,0.8s,baz=304,slow=9.0,SNR=33
WRA PcP **PcP** 21 02 07.4 +0.1
comp=Z,3.3nm,0.8s,baz=313,slow=2.9,SNR=8.2
WRA Warramunga Arr 49.47 126 *i* P **P** 21 00 45.5 -1.1
WRA pmax pmax
comp=Z,8.0nm,0.8s
WRA Warramunga Arr 49.47 126 P **P** 21 00 45.0 -1.6
WRA PcP **PcP** 21 02 06.9 -0.4
WRAB Tennant Creek 49.48 126 ⇑ *iP* **P** 21 00 45.8 -0.9
WRAB pmax pmax
comp=Z,15nm,0.9s
WB2 Warramunga Arr 49.48 126 P **P** 21 00 45.8 -0.9
baz=50
WB2 Warramunga Arr 49.48 126 P **P** 21 00 46.1 -0.6
WB2 IAmb IAmb 21 00 46.8
comp=Z,11nm,0.8s
WR0 Warramunga Arr 49.64 126 P **P** 21 00 46.8 -1.1
WR0 IAmb IAmb 21 00 48.1
comp=Z,16nm,0.9s
BOD Bodaibo 50.92 14 *eP* **P** 21 00 57.1 +0.1
KLR Kul'dur 50.95 31 ⇓ *iP* **P** 21 00 58.3 +0.9
KLR pmax pmax
comp=Z,26nm,2.7s
AS31 Alice Springs 51.19 130 P **P** 21 00 57.9 -1.7
AS31 **PcP** 21 02 13.9 +0.3
AS31 PP **PP** 21 02 56.2 -1.3
ASAR Alice Springs 51.19 130 P **P** 21 00 58.0 -1.5
comp=Z,4.6nm,0.8s,baz=303,slow=7.0,SNR=44
ASAR PcP **PcP** 21 02 13.8 +0.2
comp=Z,3.4nm,0.7s,baz=310,slow=4.0,SNR=11
ASAR Alice Springs 51.19 130 P **P** 21 00 58.4 -1.1
ASAR Alice Springs 51.19 130 P **P** 21 00 58.4 -1.1
ASAR PcP **PcP** 21 02 13.6 0.0
AKT Akhty 51.57 316 *eP* **P** 21 01 02.6 +0.4
AKT *e**PP **pP** 21 01 24.1 -3.1
AKT *e**SP **sP** 21 01 38.3 -0.6
AKT *e* 21 02 14.6
AKT pmax pmax
comp=Z,24nm,1.3s
ZEA Zeya 51.90 25 *eP* **P** 21 01 05.2 +0.9
ZEA pmax pmax
comp=N,23nm,0.6s
ZEA pmax pmax
comp=Z,29nm,0.6s
GROC Groznyy 53.59 318 *eP* **P** 21 01 16.6 -0.4
GROC *e**PP **pwP** 21 01 43.8 -0.7
GROC *e**SP **sP** 21 01 55.3 +1.7
GROC *e* 21 02 22.9
GROC *e* 21 03 17.7
GROC *eS **S** 21 08 41.1 -1.2
GROC *e**SS **sS** 21 09 29.5 +4.9
GROC pmax pmax
comp=Z,34nm,0.9s
ABPO Ambohimpanom 53.70 238 P **P** 21 01 18.5 +0.2
ABPO pmax pmax
comp=Z,67nm,1.6s
ABPO Ambohimpanom 53.70 238 P **P** 21 01 18.5 +0.2
SVE Sverdlovsk 53.94 338 ⇓ *eP* **P** 21 01 19.6 +0.4
SVE pmax pmax
comp=Z,23nm,0.8s
QIS Mount Isa 54.04 124 P **P** 21 01 20.3 -0.4
baz=54,SNR=13
ARU Arti 54.42 337 *c iP* **P** 21 01 22.7 -0.1
ARU *PP **pwP** 21 01 49.9 -1.4
ARU 21 02 24.8
ARU 21 03 22.1
ARU S **S** 21 08 56.3 +3.2
ARU SS **SS** 21 12 38.3 +1.5
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 54.42 337 P **P** 21 01 21.9 -0.9
ARU IAmb IAmb 21 01 23.6
comp=Z,7.9nm,0.7s
AKH Akhalkalaki 54.47 315 ⇓ P **P** 21 01 24.4 +0.8
AKH Akhalkalaki 54.47 315 P **P** 21 01 24.4 +0.8
AKH Akhalkalaki 54.47 315 P **P** 21 01 24.0 +0.3
AKH IAmb IAmb 21 01 25.3
comp=Z,11nm,1.0s
AKH PcP **PcP** 21 02 27.1 +1.2
ZEI Tsey 54.70 317 *eP* **P** 21 01 23.9 -1.4
ZEI pmax pmax
comp=Z,13nm,0.5s
KBZ Khabaz 55.74 317 P **P** 21 01 32.2 -0.2
comp=Z,5.4nm,1.0s,baz=130,slow=6.6,SNR=9.0
KBZ PcP **PcP** 21 02 31.4 +0.9
comp=Z,8.5nm,0.8s,baz=92,slow=0.3,SNR=6.8
KBZ Khabaz 55.74 317 ⇑ *iP* **P** 21 01 32.6 +0.2
KIV Kislovodsk 55.96 317 *i* P **P** 21 01 34.3 +0.1
SNR=7.8
KIV Kislovodsk 55.96 317 *i* P **P** 21 01 34.4 +0.1
KIV pmax pmax
comp=Z,17nm,0.9s
KIV Kislovodsk 55.96 317 P **P** 21 01 33.8 -0.4
KIV IAmb IAmb 21 01 35.3
comp=Z,13nm,0.8s
KMBO Kilima Mbogo 57.10 263 P **P** 21 01 46.3 +3.4
comp=Z,4.2nm,0.7s,baz=62,slow=11,SNR=12
KMBO Kilima Mbogo 57.10 263 P **P** 21 01 45.5 +2.5
KMBO Kilima Mbogo 57.10 263 P **P** 21 01 44.6 +1.7
KMBO pmax pmax
comp=Z,7.0nm,0.8s
KMBO Kilima Mbogo 57.10 263 P **P** 21 01 44.6 +1.7
KMBO IAmb IAmb 21 01 45.8
comp=Z,6.9nm,0.8s
MALT Malatya 57.20 310 P **P** 21 01 43.6 +0.5
GAZ Gaziantep 57.84 308 P **P** 21 01 47.5 -0.1
GAZ IAmb IAmb 21 01 48.5
comp=Z,15nm,1.0s
YAK Yakutsk 58.84 19 *eP* **P** 21 01 53.7 -0.3
YAK *e* 21 02 38.9
YAK *e* 21 04 08.1
YAK *ePPP PPP 21 05 35.8
YAK *e*SS sS 21 11 28.1 +53
YAK *eSSS SSS 21 16 13.0
YAK pmax pmax
comp=Z,79nm,1.3s
YAK pmax pmax
comp=N,26nm,1.4s
YAK pmax pmax
comp=E,14nm,1.1s
YAK pmax pmax
comp=Z,79nm,3.2s
YAK pmax pmax
comp=N,41nm,3.3s
YAK pmax pmax
comp=E,51nm,3.2s
YAK Yakutsk 58.84 19 P **P** 21 01 53.9 0.0
CTA Charters Tower 59.42 120 P **P** 21 01 59.5 +0.8
CTA pmax pmax
comp=Z,25nm,1.4s
VRH Novokhopyorsk 59.51 325 *eP* **P** 21 01 57.8 -1.0
VRH pmax pmax
comp=Z,20nm,0.6s
NRIK Noril'sk 60.14 358 P **P** 21 02 03.1 +0.4
comp=Z,11nm,0.6s,baz=153,slow=5.7,SNR=14
NRIK LR LR 21 31 41.8
comp=Z,34nm,19.1s,baz=191,slow=40
QLP Quilpie 60.66 127 P **P** 21 02 07.4 +0.4
baz=61
VSR Storozhevoye 60.98 324 *eP* **P** 21 02 07.1 -1.7
VSR pmax pmax
comp=Z,10.0nm,0.8s
BR131 Keskin Array S 61.16 310 *c iP* **P** 21 02 08.9 -1.4
BR131 Keskin Array S 61.16 310 P **P** 21 02 08.8 -1.6
BR131 IAmb IAmb 21 02 09.9
comp=Z,9.8nm,0.8s
BRTR Keskin Array B 61.16 310 P **P** 21 02 09.0 -1.5
comp=Z,7.6nm,0.8s,baz=122,slow=7.5,SNR=34
BRTR Keskin Array B 61.16 310 P **P** 21 02 08.8 -1.6
ILGA Ilgaz 61.40 312 P **P** 21 02 10.8 -1.3
ILGA IAmb IAmb 21 02 12.5
comp=Z,9.3nm,0.6s
BZK Bozkurt 61.40 313 ⇓ P **P** 21 02 11.8 0.0
STKA Stephens Creek 61.42 134 P **P** 21 02 11.6 -0.5
comp=Z,3.0nm,0.6s,baz=316,slow=3.9,SNR=10.0
STKA LR LR 21 33 10.5
comp=Z,79nm,18.0s,baz=304,slow=40
STKA Stephens Creek 61.42 134 P **P** 21 02 11.3 -0.8
baz=62,SNR=9.0
STKA Stephens Creek 61.42 134 P **P** 21 02 11.2 -0.8
STKA pmax pmax
comp=Z,3.0nm,1.4s
STKA Stephens Creek 61.42 134 P **P** 21 02 11.2 -0.8
LPSR Galich'ya Gora 61.67 326 *eP* **P** 21 02 12.0 -1.4
LPSR pmax pmax
comp=Z,10.0nm,1.0s
BR231 Keskin MP Arra 61.83 310 P **P** 21 02 13.7 -1.2
BR231 IAmb IAmb 21 02 14.6
comp=Z,8.1nm,0.8s
PRGR Permogore 62.88 336 *eP* **P** 21 02 20.4 -0.9
PRGR *e* 21 02 55.8
PRGR *eS **S** 21 10 38.5 -3.9
PRGR pmax pmax
comp=Z,26nm,0.7s
MDUB Mudurnu 63.14 311 P **P** 21 02 22.2 -1.4
MBAR Mbarara 63.39 265 P **P** 21 02 27.2 +1.5
MBAR pmax pmax
comp=Z,10.0nm,1.1s
MBAR Mbarara 63.39 265 P **P** 21 02 27.2 +1.5
MBAR IAmb IAmb 21 02 29.0
comp=Z,10.0nm,1.1s
ELL Elmali 63.50 306 P **P** 21 02 25.2 -0.9
ELL pmax pmax
comp=Z,49nm,0.8s
ELL Elmali 63.50 306 P **P** 21 02 25.2 -0.9
MOS Moscow 63.64 328 *eP* **P** 21 02 24.5 -1.9
OBN Obninsk 63.95 328 *ceP* **P** 21 02 27.8 -0.6
OBN *e**PP **pP** 21 02 51.8 -2.3
OBN *e* 21 04 46.1
OBN pmax pmax
comp=Z,38nm,1.5s
OBN Obninsk 63.95 328 P **P** 21 02 27.6 -0.8
OBN IAmb IAmb 21 02 28.4
comp=Z,14nm,0.6s
CMSA Cobar Meteorol 64.21 132 P **P** 21 02 30.9 +0.3
baz=64,SNR=11
RMQ Roma 64.21 125 P **P** 21 02 32.4 +1.7
baz=64,SNR=7.9
KLMR Klimovskoe 65.00 334 *eP* **P** 21 02 33.9 -1.2
KLMR pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 65.00 334 *eP* **P** 21 02 34.0 -1.2
KLMR AMP 21 02 35.3
comp=Z,9.0nm,0.8s
KARP Karpathos 65.56 305 P **P** 21 02 38.9 -0.5
EIDS Eidsvold 65.64 123 P **P** 21 02 39.9 -0.1
EIDS IAmb IAmb 21 02 43.3
comp=Z,39nm,1.6s
MA2 Magadan 65.77 28 *c iP* **P** 21 02 40.5 +0.3
MA2 pmax pmax
comp=Z,38nm,0.8s
MA2 Magadan 65.77 28 P **P** 21 02 40.8 +0.6
TIXI Tiksi 65.98 12 *c iP* **P** 21 02 41.0 -0.3
TIXI pmax pmax
comp=Z,35nm,0.8s
TIXI Tiksi 65.98 12 P **P** 21 02 40.6 -0.7
MILM Milestii Mici 66.16 317 ⇑ P **P** 21 02 42.3 -0.6
CFR Carcaliu 66.26 315 ⇑ P **P** 21 02 42.9 -0.7
HARR Harsova 66.31 315 ⇑ P **P** 21 02 43.9 -0.1
HARR Harsova 66.31 315 P **P** 21 02 43.8 -0.1
VARL Varlezi 66.60 316 ⇓ P **P** 21 02 45.9 +0.2
SORM Soroca 66.72 319 ⇑ P **P** 21 02 45.3 -1.3
SORM Soroca 66.72 319 P **P** 21 02 45.2 -1.3
AKASG Malin Array Be 66.77 321 P **P** 21 02 45.3 -1.4
comp=Z,6.9nm,0.7s,baz=91,slow=4.5,SNR=15
AKASG Malin Array Be 66.77 321 *i* P **P** 21 02 45.2 -1.5
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKASG Malin Array Be 66.77 321 P **P** 21 02 45.3 -1.4
AKASG **pP** 21 03 13.0 +0.4
AKBB Malin Array Si 66.77 321 ⇓ *iP* **P** 21 02 45.7 -1.0
AKBB Malin Array Si 66.77 321 P **P** 21 02 45.3 -1.4
AKBB IAmb IAmb 21 02 45.8
comp=Z,6.0nm,0.7s
AKBB **pP** 21 03 12.5 -0.1
KIEV Kiev 66.77 321 P **P** 21 02 44.0 -2.8
ALN Alexandroupoli 67.08 310 P **P** 21 02 48.3 -0.6
ALN Alexandroupoli 67.08 310 P **P** 21 02 48.3 -0.6
ALN IAmb IAmb 21 02 49.0
comp=Z,11nm,1.1s
PEA0B Petropavlovsk- 67.17 36 ⇑ *iP* **P** 21 02 48.8 -0.5
PEA0B Petropavlovsk- 67.17 36 P **P** 21 02 49.2 -0.1
PEA0B IAmb IAmb 21 03 19.8
comp=Z,13nm,1.1s
PETK Petropavlovsk- 67.17 36 P **P** 21 02 49.4 +0.1
comp=Z,4.3nm,0.8s,baz=225,slow=4.0,SNR=10
PETK Petropavlovsk- 67.17 36 P **P** 21 02 48.9 -0.4
PETK Petropavlovsk- 67.17 36 P **P** 21 02 48.9 -0.4
VRI Vrincioaia 67.36 316 ⇑ P **P** 21 02 50.9 +0.2
VRI Vrincioaia 67.36 316 P **P** 21 02 50.9 +0.2
VRI pmax pmax
comp=Z,39nm,1.0s
IDI Anoyia 67.38 304 P **P** 21 02 50.2 -0.8
IDI IAmb IAmb 21 02 51.8
comp=Z,16nm,0.8s
PLOR Plostina 67.41 316 ⇑ P **P** 21 02 51.3 +0.3
PLOR Plostina 67.41 316 P **P** 21 02 51.3 +0.3

TESR Tescani 67.53 317 ⇑P **P 21 02 51.4 -0.3**
PET Petropavlovsk 67.71 36 *i* P **P 21 02 53.5 +0.9**
PET pmax pmax
comp=Z,72nm,0.8s
PET Petropavlovsk 67.71 36 P **P 21 02 53.1 +0.5**
PET IAmb IAmb 21 02 54.0
comp=Z,20nm,0.8s
MLR Muntele Rosu 67.84 315 ⇑P **P 21 02 53.9 +0.1**
MLR Muntele Rosu 67.84 315 P **P 21 02 53.4 -0.4**
MLR pmax pmax
comp=Z,18nm,0.9s
MLR Muntele Rosu 67.84 315 P **P 21 02 53.4 -0.4**
MLR IAmb IAmb 21 02 54.9
comp=Z,18nm,0.9s
SEY Seymchan 67.88 25⇑ *i* P **P 21 02 53.4 -0.1**
PRAR RASCA 67.97 317 ⇓P **P 21 02 53.9 -0.5**
KMPD K-Podol'skiy 68.05 319 P **P 21 02 53.0 -1.8**
ARMA Armidale 68.20 128 P **P 21 02 57.7 +1.4**
baz=68,SNR=7.6
ARMA Armidale 68.20 128 P **P 21 02 56.5 +0.2**
ARMA IAmb IAmb 21 02 58.9
comp=Z,16nm,0.8s
HORU Horodok 68.20 319 P **P 21 02 54.2 -1.6**
DOPR Dopca 68.30 316 ⇓P **P 21 02 55.9 -0.6**
VOIR 68.45 315 ⇑P **P 21 02 56.5 -1.0**
VOIR 68.45 315 P **P 21 02 56.6 -1.0**
VOIR pmax pmax
comp=Z,5.0nm,0.7s
CAN Canberra 68.48 134 P **P 21 02 58.2 +0.4**
baz=68
BURAR Bucovina Array 68.69 318 ⇑P **P 21 02 59.2 +0.2**
BURAR Bucovina Array 68.69 318 P **P 21 02 59.2 +0.2**
BURAR Bucovina Array 68.69 318 P **P 21 02 58.4 -0.7**
BUR08 Bucovina Ar. S 68.71 318 P **P 21 02 58.5 -0.7**
KSV Kosov 68.91 318 P **P 21 02 58.6 -1.7**
SRS Serrai 68.94 310 P **P 21 02 59.4 -1.2**
SRS pmax pmax
comp=Z,9.0nm,1.1s
SOH Sokhos 69.09 310 P **P 21 03 00.7 -0.9**
SOH pmax pmax
comp=Z,4.0nm,1.4s
VTS Vitosha 69.38 312 ⇑P **P 21 03 02.9 -0.6**
VTS Vitosha 69.38 312 P **P 21 03 02.3 -1.2**
VTS pmax pmax
comp=Z,7.0nm,1.0s
VTS Vitosha 69.38 312 P **P 21 03 02.3 -1.2**
LIT Litokhoron 69.68 309 P **P 21 03 03.2 -2.0**
LIT pmax pmax
comp=Z,11nm,0.8s
LIT Litokhoron 69.68 309 P **P 21 03 03.2 -2.0**
LIT IAmb IAmb 21 03 04.5
comp=Z,10nm,0.8s
AGG Agios Georgios 69.72 308 P **P 21 03 03.0 -2.5**
AGG pmax pmax
comp=Z,8.0nm,0.9s
AGG Agios Georgios 69.72 308 P **P 21 03 03.0 -2.5**
MORS Morshin 69.82 319 P **P 21 03 04.7 -1.1**
LVV L'vov 69.84 320 *eP* **P 21 03 05.3 -0.7**
ITM Ithomi 69.90 306 P **P 21 03 05.1 -1.5**
ITM IAmb IAmb 21 03 05.9
comp=Z,16nm,0.9s
LVZ Lovozero 70.09 340 P **P 21 03 06.2 -1.0**
LVZ pmax pmax
comp=Z,31nm,1.2s
LVZ Lovozero 70.09 340 P **P 21 03 06.2 -1.0**
LVZ IAmb IAmb 21 03 10.2
comp=Z,31nm,1.2s
HERR Herculane 70.22 314 ⇑P **P 21 03 08.0 -0.4**
MDVR Moldovita 70.71 314 ⇑P **P 21 03 10.7 -0.7**
KOLS Kolonicke sedl 70.84 319 *eP* **P 21 03 12.1 0.0**
KOLS pmax pmax
comp=Z,4.0nm,0.8s
KOLS Kolonicke sedl 70.84 319 *eP* **P 21 03 12.1 0.0**
BZS Buzias 70.87 315 ⇓P **P 21 03 12.0 -0.3**
BZS Buzias 70.87 315 P **P 21 03 12.0 -0.3**
BZS pmax pmax
comp=Z,7.0nm,1.5s
SIRR Siria 70.91 316 ⇑P **P 21 03 12.6 +0.1**
SUW Suwalki 71.10 324 *eP* **P 21 03 12.5 -1.0**
SUW Suwalki 71.10 324 P **P 21 03 12.4 -1.0**
SUW pmax pmax
comp=Z,32nm,1.0s
SUW Suwalki 71.10 324 P **P 21 03 12.4 -1.0**
FINES FINESS Array B 71.26 332 P **P 21 03 14.1 -0.2**
comp=Z,6.0nm,0.6s,baz=92,slow=5.3,SNR=20
IGT Igoumenitsa 71.30 309 P **P 21 03 13.1 -1.9**
IGT pmax pmax
comp=Z,10.0nm,1.1s
MSF Maaselka 71.36 337 P **P 21 03 15.2 +0.3**
MSF pmax pmax
comp=Z,28nm,0.9s
CRVS Cervenica-Dubn 71.37 318 *eP* **P 21 03 15.6 +0.3**
CRVS pmax pmax
comp=Z,18nm,0.9s
CRVS Cervenica-Dubn 71.37 318 *eP* **P 21 03 15.6 +0.3**
SUF Sumiainen 71.57 333 P **P 21 03 16.3 +0.1**
SUF pmax pmax
comp=Z,29nm,1.1s
DIVS Divibare 71.87 313⇑ *i* P **P 21 03 17.3 -1.2**
DIVS Divibare 71.87 313 P **P 21 03 17.2 -1.3**
FRGS Fruska Gora 72.09 314⇑ *i* P **P 21 03 17.9 -1.8**
NIE Niedzica 72.19 319 *eP* **P 21 03 20.5 +0.3**
NIE Niedzica 72.19 319 P **P 21 03 20.5 +0.3**
NIE pmax pmax
comp=Z,4.0nm,1.2s
BBLS Lazići 72.28 313⇑ *i* P **P 21 03 20.2 -0.7**
PDG Podgorica 72.29 312 ⇓P **P 21 03 19.7 -1.2**
PDG Podgorica 72.29 312⇑ *i* P **P 21 03 19.1 -1.8**
PDG Podgorica 72.29 312 P **P 21 03 18.9 -1.9**
PSZ Piszkesteto 72.29 317 ⇑P **P 21 03 21.2 +0.3**
PSZ Piszkesteto 72.29 317 P **P 21 03 19.8 -1.1**
PSZ pmax pmax
comp=Z,6.0nm,0.8s
PSZ Piszkesteto 72.29 317 P **P 21 03 19.8 -1.1**
DRME Dracevica, Mon 72.33 311 *eP* **P 21 03 17.7 -3.4**
UPM Unac-Piva 72.59 312 *eP* **P 21 03 21.6 -1.3**
OJC Ojcow 72.60 320 *eP* **P 21 03 22.3 -0.3**
OJC Ojcow 72.60 320 P **P 21 03 21.9 -0.7**
OJC pmax pmax
comp=Z,16nm,0.6s
OJC Ojcow 72.60 320 P **P 21 03 21.9 -0.7**
OJC IAmb IAmb 21 03 23.3
comp=Z,16nm,0.6s
SGF Sodankyl 72.80 338 P **P 21 03 23.9 +0.5**
SGF pmax pmax
comp=Z,35nm,1.0s
BRY Bratogost 72.84 312 *eP* **P 21 03 22.8 -1.6**
HCY Herceg Novi 72.85 312 *eP* **P 21 03 21.6 -2.6**
TREB Trebinje 72.97 312 *eP* **P 21 03 23.5 -1.4**
MORH Mrgy, Hungar 72.99 315⇑ *i* P **P 21 03 23.9 -1.0**
VYHS Vyhne 73.05 318 *eP* **P 21 03 25.0 -0.3**
VYHS pmax pmax
comp=Z,6.0nm,0.8s
VYHS Vyhne 73.05 318 *eP* **P 21 03 25.0 -0.3**
OKC Ostrava-Krasne 73.62 319 *eP* **P 21 03 28.2 -0.4**
OKC Ostrava-Krasne 73.62 319 *eP* **P 21 03 28.2 -0.4**
ARCES ARCESS Array B 73.80 340 P **P 21 03 29.8 +0.5**
comp=Z,4.6nm,0.4s,baz=97,slow=5.7,SNR=37
ARCES LR LR 21 40 01.5
comp=Z,47nm,18.1s,baz=102,slow=39
ARE0 ARCESS Array S 73.80 340 *eP* **P 21 03 29.0 -0.3**
JAVC Velka Javorina 73.85 318 *eP* **P 21 03 30.4 +0.4**
MGRS Mrkonjic Grad 73.98 314 *eP* **P 21 03 31.0 +0.2**
MORC Moravsky Berou 74.01 319⇑P **P 21 03 31.0 +0.1**
MORC Moravsky Berou 74.01 319 *eP* **P 21 03 30.9 0.0**
MORC Moravsky Berou 74.01 319 P **P 21 03 30.7 -0.2**
MORC pmax pmax
comp=Z,13nm,1.0s
MORC Moravsky Berou 74.01 319 P **P 21 03 30.7 -0.2**
MORC IAmb IAmb 21 03 32.1
comp=Z,13nm,1.0s
MODS Modra-Piesok 74.08 318 *eP* **P 21 03 29.9 -1.4**
MODS pmax pmax
comp=Z,8.0nm,0.9s
MODS Modra-Piesok 74.08 318 *eP* **P 21 03 29.9 -1.4**
LBTB Lobatse 74.48 241 P **P 21 03 34.8 +0.7**
LBTB pmax pmax
comp=Z,16nm,0.8s
LBTB Lobatse 74.48 241 P **P 21 03 34.8 +0.7**
LBTB IAmb IAmb 21 03 36.3
comp=Z,16nm,0.8s
GKP Gorka Klasztor 74.50 323 *eP* **P 21 03 33.0 -0.5**
SOP Sopron 74.51 317 P **P 21 03 33.8 0.0**
SOP pmax pmax
comp=Z,14nm,0.8s
KRLC Kraliky 74.52 319 *eP* **P 21 03 34.1 +0.2**
KRLC Kraliky 74.52 319 *eP* **P 21 03 34.1 +0.2**
VRAC Vranov 74.59 319⇑P **P 21 03 34.8 +0.5**
VRAC Vranov 74.59 319 *eP* **P 21 03 33.3 -1.0**
VRAC Vranov 74.59 319 P **P 21 03 34.8 +0.5**
KRUC Moravsky 74.70 318 *eP* **P 21 03 34.2 -0.7**
KRUC Moravsky 74.70 318 P **P 21 03 34.8 -0.1**
KRUC pmax pmax
comp=Z,8.0nm,1.3s
HAMF Hammerfest 74.72 341 *eP* **P 21 03 35.2 +0.7**
DPC Dobruska-Polom 74.83 320 *eP* **P 21 03 35.9 +0.2**
DPC Dobruska-Polom 74.83 320 *eP* **P 21 03 35.9 +0.2**
KSP Ksiaz 74.89 320 *eP* **P 21 03 36.2 +0.3**
OSTC Ostas 74.92 320 *eP* **P 21 03 36.1 0.0**
BILL Bilibino 74.99 22⇓ *eP* **P 21 03 36.6 +0.4**
BILL *e**PP **pP 21 04 02.8 +0.7**
BILL *e* 21 06 29.1
BILL *e*SS SS 21 17 55.2 -0.3
BILL pmax pmax
comp=Z,23nm,1.7s
CONA Conrad Observa 75.00 317 *eP* **P 21 03 36.2 -0.5**
comp=Z,5.4nm,1.0s
CHVC Chvalec 75.02 320 *eP* **P 21 03 36.6 -0.1**
GROS Grobnik 75.18 316 *i* P **P 21 03 37.4 -0.3**
CRES Cresnjev 75.19 315 *eP* **P 21 03 36.3 -1.5**
ARSA Arzberg 75.19 316 *eP* **P 21 03 37.7 -0.1**
comp=Z,4.3nm,0.9s
TREC Trest 75.31 319 P **P 21 03 38.5 +0.1**
TREC pmax pmax
comp=Z,3.0nm,1.2s
BOJS Bojanci 75.32 315 *i* P **P 21 03 38.0 -0.5**
PERS Pernice 75.45 316 *i* P **P 21 03 39.2 -0.1**
SOKA Soboth 75.51 316 *eP* **P 21 03 39.4 -0.3**
comp=Z,10.0nm,0.9s,SNR=6.8
GOPC GO Pecny, Ondr 75.80 319 *eP* **P 21 03 41.1 -0.1**
GOPC GO Pecny, Ondr 75.80 319 *eP* **P 21 03 41.1 -0.1**
OBKA Obir 75.84 316 *eP* **P 21 03 41.7 +0.1**
comp=Z,5.6nm,0.8s
CEY Cerknica 75.90 315⇑ *i* P **P 21 03 40.9 -1.0**
BOSA Boshof 75.91 237 P **P 21 03 43.1 +0.8**
comp=Z,14nm,0.7s,baz=89,slow=5.4,SNR=41
BOSA LR LR 21 31 32.5
comp=Z,38nm,19.9s,baz=15,slow=31
BOSA Boshof 75.91 237 P **P 21 03 42.9 +0.6**
BOSA pmax pmax
comp=Z,16nm,0.7s
BOSA Boshof 75.91 237 P **P 21 03 42.9 +0.6**
BOSA IAmb IAmb 21 03 43.8
comp=Z,16nm,0.7s
PRU Pruhonice 75.96 319 *eP* **P 21 03 42.2 +0.1**
PRU Pruhonice 75.96 319 *eP* **P 21 03 42.2 +0.1**
PVCC Panska Ves 75.96 320 *eP* **P 21 03 42.7 +0.6**
PVCC Panska Ves 75.96 320 *eP* **P 21 03 42.7 +0.6**
TRO Tromso 76.06 340 *eP* **P 21 03 42.1 -0.1**
MOA Molln 76.07 317 *eP* **P 21 03 42.1 -0.7**
comp=Z,6.3nm,1.1s
BRG Berggiesshubel 76.37 320 *eP* **P 21 03 44.1 -0.2**
comp=Z,6.9nm,0.8s
BRG Berggiesshubel 76.37 320 *eP* **P 21 03 44.2 -0.2**
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG Berggiesshubel 76.37 320 *eP* **P 21 03 44.4 0.0**
comp=Z,28nm,1.8s,baz=90,slow=5.5
CADS Cadrg 76.39 315 *i* P **P 21 03 44.1 -0.6**
MYKA Terra Mystica 76.47 316 *eP* **P 21 03 44.8 -0.3**
comp=Z,2.7nm,0.7s
GEC2 GERESS Array S 76.47 318 *eP* **P 21 03 45.0 -0.1**
comp=Z,12nm,0.8s,baz=90,slow=5.5
GEC2 GERESS Array S 76.47 318 P **P 21 03 45.2 +0.1**
GEC2 IAmb IAmb 21 03 46.1
comp=Z,11nm,0.8s
GERES GERESS Array B 76.47 318 P **P 21 03 45.0 -0.1**
comp=Z,6.5nm,0.7s,baz=86,slow=5.5,SNR=66
GERES GERESS Array B 76.47 318 P **P 21 03 44.8 -0.3**
GERES GERESS Array B 76.47 318 P **P 21 03 44.8 -0.3**
PRED Cave del Predi 76.52 316 P **P 21 03 45.0 -0.4**
PRED IAmb IAmb 21 03 46.0
comp=Z,13nm,0.8s
RUE Ruedersdorf 76.54 322 *eP* **P 21 03 45.4 +0.2**
comp=Z,26nm,0.7s,baz=90,slow=5.5
KHC Kasperske Hory 76.56 318⇑ *i* P **P 21 03 45.3 -0.2**
KHC pmax pmax
comp=Z,14nm,0.9s
KHC Kasperske Hory 76.56 318 *eP* **P 21 03 45.5 0.0**
KHC *e*PCP **PcP 21 03 53.7 -3.0**
KHC *e*pP **pP 21 04 11.5 -0.6**
KHC Kasperske Hory 76.56 318 P **P 21 03 45.0 -0.5**
KBA Koelnbreinsper 76.67 316 P **P 21 03 45.7 -0.7**
KBA pmax pmax
comp=Z,7.0nm,0.7s
FBE Freiberg 76.75 320 *eP* **P 21 03 46.7 +0.2**
comp=Z,28nm,1.4s,baz=90,slow=5.5
ZOU Zoufplan 76.93 316 P **P 21 03 47.1 -0.7**
ZOU IAmb IAmb 21 03 48.4
comp=Z,26nm,1.6s
CLL Collm 76.98 321 *i* P **P 21 03 47.4 -0.4**
comp=Z,8.0nm,1.0s
CLL *e* 21 04 02.0
CLL *e*PP **PP 21 06 43.0 +0.7**
CLL Collm 76.98 321 *i* P **P 21 03 47.4 -0.4**
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 76.98 321 *eP* **P 21 03 47.3 -0.4**
comp=Z,7.6nm,1.0s,baz=90,slow=5.5
WET Wettzell 77.02 318 P **P 21 03 48.6 +0.5**
WET pmax pmax
comp=Z,13nm,1.1s
WET Wettzell 77.02 318 *eP* **P 21 03 48.0 -0.1**
comp=Z,9.1nm,0.9s,baz=90,slow=5.5
FAUS Fauske 77.02 337 *eP* **P 21 03 47.7 0.0**
STEI Steigen 77.11 338 *eP* **P 21 03 47.9 -0.3**
ABTA Abfaltersbach 77.24 316 *eP* **P 21 03 48.6 -0.9**
comp=Z,9.8nm,1.4s
MURB Monte Urbino 77.26 312 P **P 21 03 49.9 +0.3**
MURB IAmb IAmb 21 04 29.6
comp=Z,30nm,1.0s
CIMO Cimolais 77.29 315 P **P 21 03 49.2 -0.6**
CIMO IAmb IAmb 21 03 50.4
comp=Z,20nm,0.9s
TANN Tannenbergstha 77.31 320 *eP* **P 21 03 49.6 -0.1**
comp=Z,5.8nm,1.2s,baz=90,slow=5.5
NKC Novy Kostel 77.31 319 *eP* **P 21 03 49.6 -0.1**
NKC Novy Kostel 77.31 319 *eP* **P 21 03 49.6 -0.1**
WERD Werda 77.41 320 *eP* **P 21 03 50.1 -0.2**
comp=Z,11nm,1.5s,baz=90,slow=5.5
ROTZ Rotzenmuhle 77.46 319 *eP* **P 21 03 50.6 +0.1**
comp=Z,14nm,1.3s,baz=90,slow=5.5
NEUB Neuenburg 77.75 320 *eP* **P 21 03 51.8 -0.3**
comp=Z,12nm,1.0s,baz=90,slow=5.5
LATE Laterza 77.80 312 P **P 21 03 50.5 -2.1**
WTTA Wattenberg 77.84 316 *i* P **P 21 03 51.9 -1.1**
comp=Z,7.5nm,0.6s,SNR=7.1
CTI Castel Tesino 77.84 315 P **P 21 03 52.2 -0.7**
CTI pmax pmax
comp=Z,8.0nm,0.8s
CTI Castel Tesino 77.84 315 P **P 21 03 52.2 -0.7**
MOX Moxa 77.85 320 P **P 21 03 52.8 +0.1**
MOX pmax pmax
comp=Z,8.0nm,1.3s
MOX Moxa 77.85 320 *eP* **P 21 03 52.1 -0.6**
comp=Z,6.9nm,0.9s,baz=90,slow=5.5
WATA Walderalm 77.88 316 *i* P **P 21 03 51.7 -1.4**
comp=Z,4.6nm,0.7s
GRF Grafenberg Arr 78.10 319 *eP* **P 21 03 54.4 +0.3**
comp=Z,9.7nm,0.8s,baz=90,slow=5.5
NSS Namsos 78.11 334 *eP* **P 21 03 53.6 -0.2**
NC602 NORSAR Array S 78.11 330 *eP* **P 21 03 53.2 -0.7**
NORES NORESS Array B 78.11 330 P **P 21 03 53.2 -0.7**
NORES pmax pmax
comp=Z,13nm,0.6s
SQTA Sankt Quirin 78.13 316 *eP* **P 21 03 53.6 -0.8**
comp=Z,6.7nm,0.7s,SNR=6.3
MOTA Moosalm 78.20 316 *eP* **P 21 03 53.9 -1.0**
comp=Z,5.3nm,0.7s,SNR=5.9
NB2 NORAR Subarra 78.28 330 P **P 21 03 54.5 -0.4**
comp=Z,4.2nm,0.6s,baz=96,slow=5.3
NB2 NORSAR Subarra 78.28 330 P **P 21 03 54.5 -0.4**
baz=96,slow=5.3
NOA NORSAR Array B 78.28 330 P **P 21 03 54.4 -0.5**
comp=Z,6.3nm,0.7s,baz=92,slow=5.7,SNR=21
NOA LR LR 21 41 11.6
comp=Z,18nm,20.5s,baz=55,slow=38
ZCCA Zocca 78.36 313 P **P 21 03 56.0 +0.3**
ZCCA IAmb IAmb 21 04 02.0
comp=Z,28nm,1.2s
SPA0 Spitsbergen Ar 78.38 348 *eP* **P 21 03 55.7 +0.6**
SPITS Spitsbergen Ar 78.38 348 P **P 21 03 55.5 +0.4**
SPITS pmax pmax
comp=Z,14nm,0.4s
RETA Reutte 78.43 317 *eP* **P 21 03 55.6 -0.5**
comp=Z,7.8nm,0.6s,SNR=5.6
ASSE Asse, Remlinge 78.44 321 *eP* **P 21 03 55.5 -0.2**
comp=Z,9.9nm,1.0s,baz=90,slow=5.5
FETA Feichten 78.46 316 *eP* **P 21 03 55.9 -0.4**
comp=Z,10nm,0.9s,SNR=5.5
NC204 NORSAR Array S 78.51 331 *eP* **P 21 03 55.9 -0.3**
BSEG Bad Segeberg 78.65 323 P **P 21 03 57.7 +0.8**
BSEG pmax pmax
comp=Z,23nm,1.0s
BSEG Bad Segeberg 78.65 323 *eP* **P 21 03 57.3 +0.3**
comp=Z,20nm,0.9s,baz=90,slow=5.5
NRDL Niedersach Rie 78.78 322 *eP* **P 21 03 58.0 +0.3**
comp=Z,31nm,1.4s,baz=90,slow=5.5
FUORN Ofenpass-Fuorn 78.79 316 P **P 21 03 57.9 -0.4**
UBR Ueberruh 78.87 317 *eP* **P 21 03 57.7 -0.8**
comp=Z,9.9nm,0.7s,baz=90,slow=5.5
GTTG Gottingen 78.88 321 *eP* **P 21 03 58.3 0.0**
comp=Z,13nm,1.0s,baz=90,slow=5.5
DAVA Damuels 79.04 316 *i* P **P 21 03 59.2 -0.3**
comp=Z,6.2nm,0.7s,SNR=6.4
DOMB Dombas 79.34 331 *eP* **P 21 04 00.7 0.0**
TUE Stuetta 79.43 316 P **P 21 04 01.1 -0.6**
TUE IAmb IAmb 21 04 05.5
comp=Z,12nm,0.8s
MAW Mawson 79.79 191 P **P 21 04 03.4 +0.7**
comp=Z,6.1nm,0.9s,baz=355,slow=8.0,SNR=10
MAW Mawson 79.79 191 P **P 21 04 04.0 +1.3**
baz=80,SNR=6.6
MAW Mawson 79.79 191 P **P 21 04 03.9 +1.1**
MAW pmax pmax
comp=Z,1.0nm,1.0s
MAW Mawson 79.79 191 P **P 21 04 03.9 +1.1**
MOL Molde 80.04 332 *eP* **P 21 04 04.9 +0.6**
KEST Kesra 80.05 305 P **P 21 04 05.1 0.0**
comp=Z,5.4nm,0.7s,baz=65,slow=23,SNR=8.5
KEST Kesra 80.05 305 P **P 21 04 05.0 0.0**
IBBN Ibbenburen 80.23 322 *eP* **P 21 04 05.8 +0.3**
comp=Z,25nm,1.0s,baz=90,slow=5.5
SENIN Lac Senin/Sane 80.85 316 P **P 21 04 08.7 -0.6**
LPG La Plagne 81.29 315 *eP* **P 21 04 10.9 -0.9**
LPG pmax pmax
comp=Z,17nm,0.8s
LPL La Plagne 81.31 315 *eP* **P 21 04 10.9 -0.9**
LPL pmax pmax
comp=Z,19nm,0.7s
MBDF Montbardon 81.34 314 *eP* **P 21 04 10.1 -1.8**
MBDF pmax pmax
comp=Z,4.0nm,0.7s
BNI Bardonecchia 81.38 314 P **P 21 04 10.7 -1.4**
BNI pmax pmax
comp=Z,8.0nm,0.8s
BNI Bardonecchia 81.38 314 P **P 21 04 10.7 -1.4**
WLF Walferdange 81.39 319 *eP* **P 21 04 12.1 +0.2**
comp=Z,17nm,1.1s,baz=90,slow=5.5
NOR Nord 83.81 352 *i* P **P 21 04 23.2 -0.6**
comp=Z,19nm,1.0s
NOR Nord 83.81 352 *i* P **P 21 04 23.2 -0.6**
NOR pmax pmax
comp=Z,19nm,1.0s
TAM Tamanrasset 84.75 292 P **P 21 04 29.6 -0.3**
TAM pmax pmax
comp=Z,9.0nm,1.2s
TAM Tamanrasset 84.75 292 P **P 21 04 29.6 -0.3**
SYO Syowa Base 86.58 197⇑ *i* P **P 21 04 37.7 +0.1**
SYO Syowa Base 86.58 197 *e*PCP **PcP 21 04 39.0 -0.9**
ESBB Sonseca Array 89.95 310 P **P 21 04 53.9 -0.6**
ESBB IAmb IAmb 21 04 55.8
comp=Z,9.4nm,1.2s
ESDC Sonseca Array 89.95 310 P **P 21 04 53.6 -0.9**
comp=Z,3.4nm,0.8s,baz=65,slow=4.3,SNR=18
ESDC Sonseca Array 89.95 310 P **P 21 04 53.2 -1.3**
IMAR Indian Mountai 90.54 22 P **P 21 04 56.9 +0.3**
SVW2 Sparrevohn 91.74 27 P **P 21 05 03.6 +1.4**
BPAW Bear Paw Mtn. 92.41 23 P **P 21 05 06.0 +0.7**
SUMG Summit 92.69 347 *i* P **P 21 05 07.0 +0.1**
comp=Z,28nm,1.0s
SUMG Summit 92.69 347 P **P 21 05 07.0 +0.1**
SUMG pmax pmax
comp=Z,14nm,1.1s
SUMG Summit 92.69 347 P **P 21 05 07.0 +0.1**
SKT Skwentna 93.14 25 P **P 21 05 08.9 +0.2**
MCK McKinley 93.39 23 P **P 21 05 10.2 +0.4**
MCK pmax pmax
comp=Z,14nm,1.2s
MCK McKinley 93.39 23 P **P 21 05 10.2 +0.4**
IL31 93.65 22 P **P 21 05 10.2 -0.7**
IL31 IAmb IAmb 21 05 12.2
comp=Z,11nm,1.7s
ILAR Eielson Array 93.65 22 P **P 21 05 10.6 -0.4**
comp=Z,1.2nm,0.6s,baz=307,slow=4.9,SNR=9.7
ILAR PP **PP 21 08 59.5 +2.7**
comp=Z,0.4nm,0.7s,baz=309,slow=9.9,SNR=4.1
ILAR Eielson Array 93.65 22 P **P 21 05 10.3 -0.7**
ILAR Eielson Array 93.65 22 P **P 21 05 10.3 -0.7**
VNDA Vanda 94.38 168 P **P 21 05 14.4 +0.4**
comp=Z,1.7nm,0.7s,baz=281,slow=4.9,SNR=14
VNDA Vanda 94.38 168 P **P 21 05 13.6 -0.4**
VNDA pmax pmax
comp=Z,3.0nm,0.9s
VNDA Vanda 94.38 168 P **P 21 05 13.6 -0.4**
SML Sawmill 94.56 25 P **P 21 05 15.6 +0.3**
BCAR Beaver Creek A 96.47 22 P **P 21 05 23.9 -0.1**
DBIC Dimbokro 97.26 278 P Pdif 21 05 28.9 +0.4
comp=Z,3.7nm,1.0s,baz=66,slow=12,SNR=1.4
DBIC Dimbokro 97.26 278 P Pdif 21 05 29.0 +0.4
DBIC pmax pmax
comp=Z,25nm,1.7s
MSO Missoula 118.98 21 PKPdf **PKPdf 21 10 42.1 -1.2**
MOD Modoc Plateau 120.33 29 **PKiKP 21 10 46.3 +0.1**
LAO LASA Array 121.54 16 **PKiKP 21 10 48.6 +0.3**
HLID Hailey 121.56 24 PKPdf **PKiKP 21 10 48.6 0.0**
LOHW Long Hollow 122.94 21 PKPdf **PKPdf 21 10 50.7 -0.5**
ELK Elko 123.56 26 PKIKP **PKiKP 21 10 52.8 +0.1**
ELK Elko 123.56 26 **PKiKP 21 10 52.8 +0.1**
NVAR Mina Array Bea 123.98 30 PKP **PKPdf 21 10 53.1 -0.2**
comp=Z,2.8nm,0.7s,baz=276,slow=1.5,SNR=13
NVAR Mina Array Bea 123.98 30 **PKiKP 21 10 54.1 +0.5**
PDAR Pinedale Array 124.05 20 PKP **PKPdf 21 10 53.1 -0.3**
comp=Z,3.3nm,0.8s,baz=56,slow=1.2,SNR=31
PDAR PKKPbc **PKKPab 21 20 38.0 -2.3**
comp=Z,0.5nm,0.6s,baz=128,slow=6.9,SNR=5.7
PDAR Pinedale Array 124.05 20 **PKPdf 21 10 52.5 -0.9**
HWUT Hardware Ranch 124.33 23 PKPdf **PKPdf 21 10 53.6 -0.3**
RSSD Black Hills 124.50 15 PKIKP **PKPdf 21 10 53.8 -0.4**
RSSD Black Hills 124.50 15 **PKPdf 21 10 53.8 -0.4**
E46A Sault Ste Mari 124.59 358 PKPdf **PKPdf 21 10 53.5 -0.5**
DUG Dugway, Tooele 125.04 25 PKIKP **PKiKP 21 10 55.4 -0.1**
DUG Dugway, Tooele 125.04 25 **PKiKP 21 10 55.4 -0.1**
RWWY Rawlins 125.80 19 **PKPdf 21 10 56.1 -0.7**
PSUT Pine Spring 125.98 27 PKPdf **PKPdf 21 10 57.3 +0.1**
PRN Pahroc Range 126.36 28 **PKiKP 21 10 59.4 +1.1**
ECSD EROS Data Cent 126.44 9 PKPdf **PKPdf 21 10 57.5 -0.1**
O20A White River Ci 126.84 21 **PKPdf 21 10 58.6 -0.1**
MTPU Mount Pierson 127.11 26 **PKiKP 21 11 00.4 +0.4**
P38A Dawn 130.91 7 **PKPdf 21 11 06.5 +0.3**
S57A Dark Hollow, R 132.71 352 **PKPdf 21 11 09.9 +0.2**
BNM Barren Site 132.73 23 PKPdf **PKPdf 21 11 10.4 +0.2**
MSTX Muleshoe 134.27 19 PKPdf **PKPdf 21 11 12.6 -0.3**
CLTN Cedars of Leba 134.89 360 **PKPdf 21 11 13.7 -0.1**
MNTX Cornudas Mount 135.38 23 **PKPdf 21 11 15.3 +0.5**
TXAR Lajitas Array 138.16 23 PKP **PKPdf 21 11 20.2 +0.1**
comp=Z,1.3nm,0.8s,baz=308,slow=3.0,SNR=8.6
TXAR Lajitas Array 138.16 23 PKIKP **PKPdf 21 11 19.8 -0.4**
TXAR Lajitas Array 138.16 23 PKPdf **PKPdf 21 11 19.8 -0.4**
ZAIG Zacatecas 144.43 26 PKPdf **PKPdf 21 11 31.4 -0.4**
LL01 San Ignacio de 144.81 198 **PKPab 21 11 29.8 -0.8**
PLCA Paso Flores 145.66 202 PKPbc **PKPab 21 11 34.2 +0.2**
comp=Z,32nm,0.9s,baz=148,slow=1.7,SNR=43
PLCA Paso Flores 145.66 202 PKP2 **PKPab 21 11 33.8 -0.2**
PLCA Paso Flores 145.66 202 **PKPab 21 11 33.8 -0.2**
CPUP Villa Florida 147.69 235 PKPbc **PKPbc 21 11 40.0 +0.2**
comp=Z,14nm,0.9s,baz=105,slow=3.0,SNR=22
CPUP Villa Florida 147.69 235 PKP2 **PKPbc 21 11 39.2 -0.5**
CPUP Villa Florida 147.69 235 **PKPbc 21 11 39.2 -0.5**
LC01 Cunco 147.76 201 PKPdf **PKPdf 21 11 36.9 +0.3**
LC01 PKPbc **PKPbc 21 11 39.8 +0.2**
SDDR Presa de Saban 148.24 332 **PKPbc 21 11 41.9 +0.4**

BI02	**San Fabin de**	**149.48**	**204**	PKPdf	**PKPdf**	**21 11 40.2**	**+0.6**
BI02				PKPbc	**PKPbc**	**21 11 44.6**	**+0.4**
TEIG	**Tepich**	**150.63**	**4**		**PKPbc**	**21 11 47.1**	**-0.1**
BO02	**Sierra Bellavi**	**150.86**	**207**		**PKPbc**	**21 11 47.5**	**0.0**
BO01	**Tunca**	**151.33**	**207**		**PKPbc**	**21 11 48.3**	**-0.2**
ZON	**Zonda**	**152.41**	**214**	PKIKP	**PKiKP**	**21 11 51.9**	**+0.5**
ZON	**Zonda**	**152.41**	**214**		**PKiKP**	**21 11 51.9**	**+0.5**
CO03	**El Pedregal**	**154.04**	**212**		**PKPab**	**21 12 08.6**	**+0.2**
CO01	**Juntas del Tor**	**154.39**	**214**		**PKPab**	**21 12 10.3**	**+0.2**
MTO3	**Montecristo**	**156.30**	**7**		**PKPab**	**21 12 18.4**	**-0.1**
LPAZ	**La Paz**	**160.91**	**247**	PKP	**PKPdf**	**21 11 57.0**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=163,slow=2.0,SNR=5.5						
LPAZ				PKPab	**PKPab**	**21 12 38.9**	**-0.4**
	comp=Z,4.6nm,0.7s,baz=131,slow=2.9,SNR=14						
LPAZ	**La Paz**	**160.91**	**247**	PKP2	**PKPab**	**21 12 38.0**	**-1.3**
LPAZ						22 11 54.7	
LPAZ	**La Paz**	**160.91**	**247**		**PKPdf**	**21 11 54.7**	**-1.5**
LPAZ				PKPab	**PKPab**	**21 12 38.0**	**-1.3**
ROSC	**El Rosal**	**161.55**	**319**	PKP	**PKPdf**	**21 11 55.8**	**-0.9**
	comp=Z,10nm,0.4s,baz=52,slow=23,SNR=4.7						

NEIC ***12*** *20:58:49.9±1.4, 35°.976N±0°.009×116°.10W±0°.03, h6km±6km, Error ellipse: s-maj=3.1km s-min=1.3km az=87.0*
ANF ***12*** *20:58:49.6±0.2, 35°.97N×116°.09W, h14km±1km, ML3.1/23, Error ellipse: s-maj=1.5km s-min=1.0km az=52.0*
REN ***12*** *20:58:49.6, 35°.97N×116°.08W, M3.0*
PAS ***12*** *20:58:50.2±1.6, 35°.99N±0°.01×116°.07W±0°.03, h6km±6km, ML3.2/94, Error ellipse: s-maj=3.1km s-min=1.8km az=81.0*
SCEDC ***12*** *20:58:50.2, 35°.99N×116°.07W, h6km, M3.2, ML3.2, ML3.2, ML3.2, ML3.2, ML3.2(REN), ML3.0(REN)*

ISC 12 20:58:49.8±0.8, 35°.98N±0°.02×116°.07W±0°.02, h16km±6km, n93, σ1§20/131, Central California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHOC	**Shoshone, Teco**	**0.18**	**245**	P		**Pg**	**20 58 54.0**	**-0.3**
	baz=61,SNR=134							
SHOC				S		**Sg**	**20 58 56.6**	**-0.5**
	baz=61							
SHOC	**Shoshone, Teco**	**0.18**	**245**			**Pg**	**20 58 53.9**	**-0.3**
SHOC						**Sg**	**20 58 56.7**	**-0.5**
AMDNV	**Amargosa**	**0.51**	**341**			**Pg**	**20 58 59.5**	**-0.3**
AMDNV						**Sg**	**20 59 06.1**	**-0.5**
TUQ	**Turquoise Moun**	**0.55**	**167**	P		**Pg**	**20 59 00.7**	**-0.1**
	baz=348,SNR=231							
TUQ				S		**Sg**	**20 59 08.1**	**-0.1**
	baz=348							
TUQ	**Turquoise Moun**	**0.55**	**167**			**Pg**	**20 59 00.7**	**-0.1**
TUQ						**Sg**	**20 59 08.2**	**+0.1**
QSM	**Queen of Sheba**	**0.64**	**269**			**Pg**	**20 59 02.1**	**-0.3**
MTPC	**Mountain Pass**	**0.65**	**139**			**Pg**	**20 59 02.4**	**-0.2**
MTPC						**Sg**	**20 59 11.0**	**-0.2**
FURC	**Furnace Creek,**	**0.81**	**308**	P		**Pg**	**20 59 05.1**	**-0.3**
	baz=127,SNR=124							
FURC				S		**Sb**	**20 59 16.0**	**+0.1**
	baz=127							
FURC	**Furnace Creek,**	**0.81**	**308**			**Pg**	**20 59 05.2**	**-0.3**
FURC						**Sg**	**20 59 15.6**	**-0.4**
DSCC	**Desert Studies**	**0.83**	**182**			**Pg**	**20 59 05.8**	**0.0**
DSCC						**Sb**	**20 59 17.0**	**+0.2**
FMT	**Funeral Mounta**	**0.87**	**319**			**Pg**	**20 59 06.1**	**-0.7**
FMT						**Sg**	**20 59 17.6**	**-0.7**
WTNK	**Soaring Height**	**0.89**	**76**			**Pg**	**20 59 06.6**	**-0.4**
GSC	**Goldstone, Bar**	**0.90**	**222**	P		**Pb**	**20 59 07.0**	**0.0**
	baz=41,SNR=168							
GSC				S		**Sb**	**20 59 19.3**	**+0.5**
	baz=41							
GSC	**Goldstone, Bar**	**0.90**	**222**			**Sb**	**20 59 19.1**	**+0.3**
GSC	**Goldstone, Bar**	**0.90**	**222**	Pg		**Pb**	**20 59 07.0**	**0.0**
SHPR	**Sheep Range**	**0.91**	**54**			**Pg**	**20 59 06.7**	**-0.8**
SHPR						**Sg**	**20 59 18.4**	**-1.0**
TPNV	**Topopah Spring**	**0.98**	**352**	P		**Pg**	**20 59 08.8**	**0.0**
	baz=172,SNR=168							
TPNV				S		**Sg**	**20 59 22.0**	**+0.3**
	baz=172							
TPNV	**Topopah Spring**	**0.98**	**352**			**Pg**	**20 59 08.8**	**0.0**
TPNV						**Sn**	**20 59 22.4**	**-0.4**
ALV	**Alvord Mountai**	**1.02**	**207**			**Pb**	**20 59 09.0**	**0.0**
CCCA	**Chr Cany lake**	**1.14**	**247**			**Pn**	**20 59 11.1**	**0.0**
MPMC	**Manual Prospec**	**1.15**	**275**	P		**Pb**	**20 59 11.1**	**-0.3**
	baz=93,SNR=373							
MPMC				S		**Sg**	**20 59 26.5**	**-0.5**
	baz=93							
MPMC	**Manual Prospec**	**1.15**	**275**			**Pb**	**20 59 11.1**	**-0.3**
MPMC						**Sg**	**20 59 26.6**	**-0.5**
HEC	**Hector,Ludlow**	**1.16**	**191**	P		**Pb**	**20 59 11.3**	**-0.2**
	baz=10,SNR=64							
HEC				S		**Sn**	**20 59 27.4**	**+0.3**
	baz=10							
HEC	**Hector,Ludlow**	**1.16**	**191**			**Pb**	**20 59 11.3**	**-0.2**
HEC						**Sn**	**20 59 27.6**	**+0.6**
MCA	**Marble Canyon**	**1.18**	**305**			Pn	20 59 00.0	-12
GMRC	**Granite Mounta**	**1.24**	**164**	P		**Pn**	**20 59 12.5**	**-0.1**
	baz=344,SNR=64							
GMRC				S		**Sg**	**20 59 29.5**	**-0.3**
	baz=344							
GMRC	**Granite Mounta**	**1.24**	**164**			**Pn**	**20 59 12.4**	**-0.1**
GMRC						**Sg**	**20 59 29.4**	**-0.3**
CLC	**China Lake**	**1.25**	**263**			**Pn**	**20 59 12.2**	**-0.3**
CLC						**Sg**	**20 59 29.3**	**-0.8**
RRX	**Edison Barstow**	**1.33**	**215**	Pb		**Pb**	**20 59 14.3**	**0.0**
	baz=34							
RRX				S		**Sg**	**20 59 31.9**	**-0.8**
	baz=34							
RRX	**Edison Barstow**	**1.33**	**215**			**Pb**	**20 59 14.3**	**0.0**
TMO	**Tin Mountain**	**1.35**	**308**			**Pn**	**20 59 14.3**	**+0.1**
LRMC	**Laurel Mtn Rad**	**1.40**	**250**	Sb		**Sg**	**20 59 34.3**	**-0.6**
	baz=68							
JRC2	**Joshua Ridge**	**1.41**	**271**			**Pn**	**20 59 14.8**	**-0.1**
DANC	**Danby, Needles**	**1.45**	**157**			**Pb**	**20 59 16.0**	**-0.4**
MFS	**McCloud Flat S**	**1.45**	**276**			**Pn**	**20 59 15.6**	**+0.1**
GRAC	**Grapevine Rang**	**1.46**	**315**	P		**Pb**	**20 59 16.0**	**-0.5**
	baz=134							
GRAC				Sb		**Sg**	**20 59 35.8**	**-1.0**
	baz=134							
CGO	**Cerro Gordo**	**1.51**	**293**			**Pn**	**20 59 16.4**	**-0.1**
WCHM	**Chimney Peak**	**1.63**	**267**			**Pn**	**20 59 17.8**	**-0.2**
PRN	**Pahroc Range**	**1.65**	**30**			**Pb**	**20 59 19.7**	**-0.2**
HYS	**Haystack Butte**	**1.65**	**228**			**Pn**	**20 59 18.6**	**+0.4**
CWC	**Cottonwood Cre**	**1.69**	**287**	Pb		**Pb**	**20 59 20.7**	**+0.2**
	baz=105							
CWC				Sg		**Sg**	**20 59 45.0**	**+0.8**
	baz=105							
NEE2	**Needles Airpor**	**1.69**	**135**	Pb		**Pb**	**20 59 20.8**	**+0.3**
	baz=316							
NEE2				Sg		**Sg**	**20 59 45.3**	**+1.0**
	baz=316							
BBRC	**Big Bear Solar**	**1.84**	**202**	P		**Pn**	**20 59 20.9**	**0.0**
	baz=22							
EDW2	**Edwards Air Fo**	**1.91**	**236**	P		**Pn**	**20 59 21.8**	**+0.1**
	baz=54							
EDW2				Sb		**Sg**	**20 59 49.3**	**-1.9**
	baz=54							
IRM	**Iron Mountain**	**1.97**	**157**	P		**Pn**	**20 59 23.0**	**+0.5**
	baz=338,SNR=47							
BELC	**Belle Mtn. Jos**	**1.97**	**178**	P		**Pn**	**20 59 23.2**	**+0.5**
	baz=358,SNR=56							
BELC				Sb		**Sg**	**20 59 52.4**	**-0.9**
	baz=358							
ISA	**Isabella, Lake**	**1.98**	**262**	P		**Pn**	**20 59 22.6**	**0.0**
	baz=80,SNR=19							
ISA				Sb		**Sg**	**20 59 52.3**	**-1.0**
	baz=80							
ISA	**Isabella, Lake**	**1.98**	**262**			**Pn**	**20 59 22.6**	**0.0**
W13A	**Hualapai Mount**	**1.99**	**115**	Pn		**Pn**	**20 59 23.3**	**+0.4**
ICU	**Indian Springs**	**2.09**	**55**			**Pb**	**20 59 26.6**	**-0.8**
POCCA	**Poleta Canyon**	**2.25**	**309**			**Pn**	**20 59 27.5**	**+1.0**
TPH	**Tonopah**	**2.29**	**337**			**Pg**	**20 59 32.3**	**-1.4**
BC3	**Big Chuckawall**	**2.37**	**167**	P		**Pn**	**20 59 28.4**	**+0.3**
	baz=348							
PFO	**Pinyon Flats O**	**2.38**	**188**	P		**Pn**	**20 59 28.8**	**+0.6**
	baz=7.5,SNR=14							
PFO	**Pinyon Flats O**	**2.38**	**188**			**Pn**	**20 59 28.8**	**+0.6**
XPFO	**Pion Flat**	**2.38**	**188**			**Pn**	**20 59 28.8**	**+0.5**
MWC	**Mount Wilson**	**2.39**	**224**			**Pn**	**20 59 30.1**	**+1.7**
R11A	**Troy Canyon, C**	**2.40**	**9**	P		**Pn**	**20 59 29.4**	**+0.8**
	baz=190							
R11A	**Troy Canyon, C**	**2.40**	**9**	Pn		**Pn**	**20 59 29.7**	**+1.1**
MLNR	**Milner Canyon**	**2.43**	**312**			**Pn**	**20 59 30.2**	**+1.2**
PASC	**Pasadena Art C**	**2.50**	**224**	Pn		**Pn**	**20 59 31.7**	**+2.0**
LCMT	**Little Creek M**	**2.50**	**65**			**Pn**	**20 59 31.5**	**+1.5**
SCHCA	**Scheelite**	**2.52**	**304**			**Pn**	**20 59 31.1**	**+0.8**
CCUT	**Cedar City**	**2.69**	**53**			**Pn**	**20 59 34.3**	**+1.7**
KNB	**Kanab**	**2.82**	**67**	Pn		**Pn**	**20 59 36.0**	**+1.6**
OMMB	**Old Mammoth Mi**	**2.86**	**306**			**Pn**	**20 59 35.1**	**+0.1**
NV11	**Mina Array Sit**	**2.96**	**326**	Pn		**Pn**	**20 59 37.6**	**+1.3**
LHV	**Little Huntoon**	**2.99**	**320**			**Pn**	**20 59 37.9**	**+1.4**
NVAR	**Mina Array Bea**	**3.03**	**325**			**Pn**	**20 59 38.1**	**+0.8**
MONP2	**Monument Peak**	**3.09**	**185**	P		**Pn**	**20 59 38.7**	**+0.6**
	baz=5.2							
GLA	**Glamis**	**3.09**	**160**	P		**Pn**	**20 59 38.3**	**+0.4**
	baz=341							
GLA	**Glamis**	**3.09**	**160**			**Pn**	**20 59 38.4**	**+0.4**
PSUT	**Pine Spring**	**3.11**	**34**	Pn		**Pn**	**20 59 39.5**	**+1.2**
Y14A	**Wickenburg**	**3.24**	**128**			**Pn**	**20 59 42.0**	**+2.0**
Y14A					Pg	**Pg**	**20 59 50.6**	**-1.2**
RYN	**Ryan**	**3.29**	**324**	Pn		**Pn**	**20 59 42.8**	**+2.0**
RYN						**Pb**	**20 59 49.0**	**+1.2**
BAR	**Barrett**	**3.32**	**189**	Pn		**Pn**	**20 59 42.0**	**+0.9**
BAR						**Pb**	**20 59 49.8**	**+1.5**
PKCU	**Pink Cliffs**	**3.36**	**63**			**Pn**	**20 59 44.6**	**+2.7**
KVN	**Kaiserville**	**3.47**	**333**	Pn		**Pn**	**20 59 46.1**	**+2.8**
KVN						**Pg**	**20 59 54.9**	**-1.3**
WAKR	**Walker**	**3.68**	**314**			**Pn**	**20 59 49.1**	**+2.9**
CBX	**Cerro Bola**	**3.69**	**188**			**Pn**	**20 59 47.9**	**+1.7**
MTPU	**Mount Pierson**	**3.73**	**55**			**Pn**	**20 59 49.2**	**+2.1**
PMPB	**Monarch Peak**	**3.84**	**275**	Pn		**Pn**	**20 59 49.7**	**+1.5**
WUAZ	**Wupatki**	**3.85**	**95**	Pn		**Pn**	**20 59 50.5**	**+2.0**
WUAZ						**Pg**	**21 00 00.8**	**-2.7**
TCRU	**Three Creeks R**	**3.91**	**47**			**Pn**	**20 59 50.3**	**+1.0**
ESJX	**Sierra Juarez**	**3.96**	**178**	Pn		**Pn**	**20 59 51.5**	**+1.5**
ESJX						**Pg**	**21 00 03.7**	**-2.0**
MSU	**Marysvale**	**4.01**	**50**	Pn		**Pn**	**20 59 52.5**	**+1.8**
MSU						**Pg**	**21 00 03.5**	**-3.1**
CMB	**Columbia Colle**	**4.02**	**302**	Pn		**Pn**	**20 59 49.1**	**-1.6**
CMB						**Pb**	**21 00 02.4**	**+2.2**
X16A	**Lo Mia Camp, P**	**4.10**	**111**	Pn		**Pn**	**20 59 54.6**	**+2.6**
X16A						**Pg**	**21 00 06.2**	**-2.1**
ELK	**Elko**	**4.81**	**8**	Pn		**Pn**	**21 00 01.6**	**-0.1**
ELK						**Pg**	**21 00 19.1**	**-2.7**
DUG	**Dugway, Tooele**	**4.94**	**30**			**Pn**	**21 00 03.5**	**+2.0**
TMUT	**Trail Mountain**	**5.09**	**48**	Pn		**Pn**	**21 00 07.0**	**+1.3**
TMUT						**Pg**	**21 00 24.4**	**-2.8**
W18A	**Petrified Fore**	**5.24**	**98**			**Pn**	**21 00 10.6**	**+3.0**
BGU	**Big Grassy Mou**	**5.49**	**25**			**Pn**	**21 00 13.4**	**+2.4**

UCR ***12*** *21:08:08.7±1.9, 14°.16N×91°.33W, h30km, ML3.7*
SNET ***12*** *21:08:08.6±1.8, 14°.15N×91°.33W, h30km, ML3.7*
GCG ***12*** *21:08:09.1±0.3, 14°.05N×91°.32W, h35km±64km, MD3.9*

ISC 12 21:08:07.7±1.6, 14°.1N±0°.1×91°.37W±0°.07, h20km±7km, n22, σ0§66/38, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.40**	**331**	*eP*		**Pn**	**21 08 19.0**	**+0.6**
RTAL	**Retalhuleu**	**0.54**	**324**	*eP*		**Pb**	**21 08 18.9**	**+0.4**
RTAL				*eS*		**Sn**	**21 08 28.9**	**+0.2**
FUG	**Fuego 3**	**0.62**	**55**	*eP*		**Pn**	**21 08 21.8**	**+0.2**
FUG				*i* P		**Pn**	**21 08 21.8**	**+0.2**
PCG	**Pacaya**	**0.80**	**68**	*eP*		**Pn**	**21 08 24.3**	**+0.3**
IXG	**Ixpaco**	**0.90**	**84**	*i* P		**Pb**	**21 08 25.4**	**+0.6**
NBG	**Las Nubes**	**1.11**	**63**	*eP*		**Pb**	**21 08 28.8**	**+0.4**
HUEH	**Huehuetenango**	**1.23**	**354**	*eP*		**Pn**	**21 08 28.4**	**-1.6**
HUEH				IAML			21 08 29.1	
	comp=Z,713nm,0.2s							
HUEH				*eS*		**Sb**	**21 08 45.5**	**-0.5**
LOAL	**Lomas de Alarc**	**1.54**	**93**	*eP*		**Pn**	**21 08 33.3**	**-0.8**
LOAL				*eS*		**Sb**	**21 08 54.1**	**-0.6**
RTR	**El Retiro**	**1.68**	**96**	*eP*		**Pn**	**21 08 36.0**	**-0.1**
RTR	**El Retiro**	**1.68**	**96**	*eP*		**Pn**	**21 08 36.0**	**-0.1**
SBLS	**San Blas**	**1.71**	**98**	*eP*		**Pn**	**21 08 36.0**	**-0.6**
SBLS				*eS*		**Sb**	**21 08 59.6**	**-0.2**
SBLS	**San Blas**	**1.71**	**98**	*eP*		**Pn**	**21 08 36.0**	**-0.6**
SBLS				*eS*		**Sb**	**21 08 59.6**	**-0.2**
CEVE	**Cerro Verde**	**1.71**	**98**	*eP*		**Pn**	**21 08 36.2**	**-0.4**
CEVE				*eS*		**Sb**	**21 08 59.4**	**-0.4**
CEVE				IAML			21 09 06.2	
	comp=Z,1μm,0.2s							
CEVE	**Cerro Verde**	**1.71**	**98**	*eP*		**Pn**	**21 08 36.2**	**-0.4**
CEVE				*eS*		**Sb**	**21 08 59.4**	**-0.4**
CEVE				IAML			21 09 06.2	
	comp=Z,1μm,0.2s							
SNJE	**San Jose**	**1.72**	**97**	*eP*		**Pn**	**21 08 36.5**	**-0.2**
SNJE				*eS*		**Sb**	**21 08 59.8**	**-0.4**
SNJE	**San Jose**	**1.72**	**97**	*eP*		**Pn**	**21 08 36.5**	**-0.2**
SNJE				*eS*		**Sb**	**21 08 59.8**	**-0.4**
JAYA	**Jayaque - finc**	**1.91**	**103**	*eP*		**Pn**	**21 08 38.7**	**-0.6**
JAYA				*eS*		**Sn**	**21 09 03.0**	**+0.1**
JAYA				IAML			21 09 04.9	
	comp=Z,960nm,0.2s							
JAYA	**Jayaque - finc**	**1.91**	**103**	*eP*		**Pn**	**21 08 38.7**	**-0.6**
JAYA				*eS*		**Sn**	**21 09 03.0**	**+0.1**
JAYA				IAML			21 09 04.9	
	comp=Z,960nm,0.2s							
TACO	**Tacachico**	**1.96**	**93**	*eP*		**Pn**	**21 08 38.3**	**-1.5**
TACO				*eS*		**Sn**	**21 09 03.6**	**-0.2**
TACO	**Tacachico**	**1.96**	**93**	*eP*		**Pn**	**21 08 38.3**	**-1.5**
TACO				*eS*		**Sn**	**21 09 03.6**	**-0.2**
LFRS	**El Faro**	**2.29**	**101**	*eP*		**Pn**	**21 08 44.1**	**-0.3**
LFRS				*eS*		**Sn**	**21 09 13.1**	**+1.1**
LFRS	**El Faro**	**2.29**	**101**	*eP*		**Pn**	**21 08 44.1**	**-0.3**
LFRS				*eS*		**Sn**	**21 09 13.1**	**+1.1**

TRN ***12*** *21:10:03.0, 19°.50N×64°.46W, h7km*
NEIC ***12*** *21:10:08.9±2.3, 19°.3N±0°.2×64°.45W±0°.05, h64km±33km, Error ellipse: s-maj=23.8km s-min=6.3km az=187.0*
RSPR ***12*** *21:10:10.4, 19°.26N×64°.43W, h23km±27km, MD3.8/17*

ISC 12 21:10:07.0±1.2, 19°.34N±0°.06×64°.45W±0°.04, h27km, n70, σ1§47/79, 13C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.93**	**190**	*eP*		**Pn**	**21 10 24.4**	**+0.1**
TBVI	**Tortola**	**0.93**	**190**	*eS*		**Sb**	**21 10 35.3**	**-1.1**
TBVI	**Tortola**	**0.93**	**190**			**Pn**	**21 10 24.4**	**+0.1**
TBVI						**Sb**	**21 10 35.3**	**-1.1**
STVI	**Saint Thomas**	**1.09**	**206**	*eP*		**Pn**	**21 10 26.8**	**+0.3**
STVI	**Saint Thomas**	**1.09**	**206**	*eS*		**Sn**	**21 10 40.1**	**-0.5**
STVI	**Saint Thomas**	**1.09**	**206**	Pn		**Pn**	**21 10 26.8**	**+0.3**
STVI	**Saint Thomas**	**1.09**	**206**			**Sn**	**21 10 40.1**	**-0.5**
CUPR	**Culebra, Puert**	**1.29**	**218**	*eP*		**Pn**	**21 10 29.8**	**+0.5**
CUPR	**Culebra, Puert**	**1.29**	**218**	*eS*		**Sn**	**21 10 45.2**	**-0.5**
CUPR	**Culebra, Puert**	**1.29**	**218**	Pn		**Pn**	**21 10 29.8**	**+0.5**
CUPR	**Culebra, Puert**	**1.29**	**218**			**Sn**	**21 10 45.2**	**-0.5**
CDVI	**St. Croix**	**1.60**	**191**	*eP*		Pb	21 10 41.2	+5.2
CDVI				*eS*		**Sb**	**21 10 57.9**	**+2.1**
CDVI	**St. Croix**	**1.60**	**191**	Pn		**Pb**	**21 10 35.7**	**-0.2**
MTP	**Monte Pirata**	**1.62**	**221**	*eP*		**Pn**	**21 10 34.8**	**+1.0**
MTP	**Monte Pirata**	**1.62**	**221**	*eS*		**Sn**	**21 10 53.4**	**-0.3**
MTP	**Monte Pirata**	**1.62**	**221**			**Pn**	**21 10 34.3**	**+0.5**
MTP	**Monte Pirata**	**1.62**	**221**			**Sn**	**21 10 53.4**	**-0.3**
CBYP	**Canovanas**	**1.70**	**232**	*eP*		**Pn**	**21 10 35.9**	**+0.9**
CBYP	**Canovanas**	**1.70**	**232**			**Pn**	**21 10 35.9**	**+0.9**
HUMP	**Col San Antoni**	**1.78**	**228**	*eP*		**Pn**	**21 10 37.1**	**+1.1**
HUMP	**Col San Antoni**	**1.78**	**228**	*eS*		**Sn**	**21 10 57.6**	**-0.2**
HUMP	**Col San Antoni**	**1.78**	**228**			**Pn**	**21 10 37.1**	**+1.1**
HUMP						**Sn**	**21 10 57.6**	**-0.2**
SMRT	**St. Maarten**	**1.82**	**134**			**Pb**	**21 10 39.7**	**-0.1**
GCPR	**Guaynabo City**	**1.85**	**237**	*eP*		**Pn**	**21 10 37.8**	**+0.8**
GCPR	**Guaynabo City**	**1.85**	**237**	*eS*		**Sn**	**21 10 59.4**	**-0.2**
GCPR	**Guaynabo City**	**1.85**	**237**			**Pn**	**21 10 37.8**	**+0.8**
GCPR						**Sn**	**21 10 59.4**	**-0.2**
PDPR	**Patillas Dam,**	**1.98**	**229**			**Pn**	**21 10 40.0**	**+1.2**
IGPR	**InterUniversit**	**2.08**	**229**	*eP*		**Pn**	**21 10 41.7**	**+1.6**
IGPR	**InterUniversit**	**2.08**	**229**	*eS*		**Sn**	**21 11 06.1**	**+0.9**
IGPR	**InterUniversit**	**2.08**	**229**			**Pn**	**21 10 41.4**	**+1.3**
IGPR	**InterUniversit**	**2.08**	**229**			**Sn**	**21 11 06.1**	**+0.9**
EMPR	**Esperanza - Ma**	**2.15**	**247**	*eP*		**Pn**	**21 10 42.8**	**+1.7**
EMPR	**Esperanza - Ma**	**2.15**	**247**	*eS*		**Sn**	**21 11 07.3**	**+0.5**
EMPR	**Esperanza - Ma**	**2.15**	**247**			**Pn**	**21 10 41.5**	**+0.5**
EMPR	**Esperanza - Ma**	**2.15**	**247**			**Sn**	**21 11 07.3**	**+0.5**
CELP	**Cerrillos**	**2.38**	**238**	*eP*		**Pn**	**21 10 45.8**	**+1.6**
CELP	**Cerrillos**	**2.38**	**238**	*eS*		**Sn**	**21 11 13.4**	**+0.9**
CELP	**Cerrillos**	**2.38**	**238**			**Pn**	**21 10 45.8**	**+1.6**
CELP						**Sn**	**21 11 13.4**	**+0.9**
AOPR	**Arecibo Observ**	**2.39**	**246**	*eP*		**Pn**	**21 10 45.8**	**+1.3**
AOPR	**Arecibo Observ**	**2.39**	**246**			**Pn**	**21 10 45.8**	**+1.3**
OBIP	**Obispado Ponce**	**2.42**	**238**	*eP*		**Pn**	**21 10 45.9**	**+1.1**
OBIP	**Obispado Ponce**	**2.42**	**238**	*eS*		**Sn**	**21 11 14.5**	**+1.1**
OBIP	**Obispado Ponce**	**2.42**	**238**			**Pn**	**21 10 45.9**	**+1.1**
OBIP						**Sn**	**21 11 14.5**	**+1.1**
SKI	**Saint Kitts**	**2.57**	**141**	*eP*		**Pn**	**21 10 48.9**	**+2.0**
SKI				*eS*		**Sb**	**21 11 23.1**	**-0.5**
SKI	**Saint Kitts**	**2.57**	**141**	Pn		**Pn**	**21 10 48.0**	**+1.1**
AGPR	**Aguadilla, PR**	**2.66**	**252**	*eP*		**Pn**	**21 10 49.6**	**+1.4**
AGPR	**Aguadilla, PR**	**2.66**	**252**	*eS*		**Sn**	**21 11 20.5**	**+0.9**
AGPR	**Aguadilla, PR**	**2.66**	**252**			**Pn**	**21 10 49.6**	**+1.4**
AGPR						**Sn**	**21 11 20.5**	**+0.9**
GBPR	**Guanica, Bosqu**	**2.67**	**240**	*eP*		**Pn**	**21 10 50.5**	**+2.2**
GBPR	**Guanica, Bosqu**	**2.67**	**240**			**Pn**	**21 10 50.5**	**+2.2**
LSP	**Las Mesas**	**2.75**	**246**	*eP*		**Pn**	**21 10 51.7**	**+2.3**
LSP	**Las Mesas**	**2.75**	**246**			**Pn**	**21 10 51.7**	**+2.3**
MLPR	**Magueyes Islan**	**2.81**	**242**	*eP*		**Pn**	**21 10 51.1**	**+1.0**
MLPR	**Magueyes Islan**	**2.81**	**242**	*eS*		**Sn**	**21 11 23.9**	**+0.7**
MLPR	**Magueyes Islan**	**2.81**	**242**			**Pn**	**21 10 51.1**	**+1.0**
MLPR						**Sn**	**21 11 23.9**	**+0.7**
NVBH	**Bath Hotel, Ne**	**2.81**	**141**	*eP*		**Pn**	**21 10 52.6**	**+2.4**
CRPR	**Cabo Rojo, PR**	**2.85**	**243**	*eP*		**Pn**	**21 10 52.5**	**+1.8**
CRPR	**Cabo Rojo, PR**	**2.85**	**243**	*eS*		**Sn**	**21 11 25.4**	**+1.2**
CRPR	**Cabo Rojo, PR**	**2.85**	**243**			**Pn**	**21 10 51.7**	**+1.0**
CRPR	**Cabo Rojo, PR**	**2.85**	**243**			**Sn**	**21 11 25.4**	**+1.2**
ANWB	**Willy Bob**	**3.02**	**123**	*eP*		**Pn**	**21 10 56.1**	**+3.0**
ANWB				*eS*		**Sb**	**21 11 33.0**	**-3.7**
MLYT	**Lee's Yard**	**3.37**	**140**	*eP*		**Pn**	**21 10 59.3**	**+1.4**
ABD	**La Joyeuse, An**	**4.01**	**135**	*eP*		**Pn**	**21 11 07.8**	**+1.2**
CBE	**Ff, Capester**	**4.23**	**140**	*eP*		**Pn**	**21 11 12.4**	**+2.6**
MAGL	**Barre de l'ile**	**4.52**	**138**	*eP*		**Pn**	**21 11 15.7**	**+1.9**
DR12	**Loma Pena Alta**	**4.70**	**264**			**Pn**	**21 11 16.5**	**+0.3**
DSLB	**Salisbury**	**4.83**	**143**	*eP*		**Pn**	**21 11 20.9**	**+2.8**
BANI	**BANI**	**5.67**	**261**			**Pn**	**21 11 32.2**	**+2.6**
BIM	**Bigot**	**5.78**	**145**	*eP*		**Pn**	**21 11 34.5**	**+3.5**
PSUB	**Penn St. - Bra**	**22.60**	**338**	P		**P**	**21 15 02.2**	**-3.4**

NEIC ***12*** *21:33:40.8±0.5, 19°.16N±0°.06×64°.41W±0°.08, h37km±52km, Error ellipse: s-maj=13.2km s-min=6.6km az=52.0*
RSPR ***12*** *21:33:41.6, 19°.16N×64°.39W, h44km±7km, MD3.4/5*

ISC 12 21:33:41.2±3.3, 19°.2N±0°.1×64°.4W±0°.1, h42km, n26, σ0§47/31, 5C-2D, Virgin Islands

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

MAT	**Matsushiro**	**75.19**	**324**	P	**P**	**21 47 46.0**	**-0.1**
MJB9	**Matsu-Tunnel**	**75.19**	**324**	P	**P**	**21 47 44.5**	**-1.6**
MJB9				IAmb	IAmb	21 47 46.6	
	comp=Z,5.9nm,0.7s						
MAW	**Mawson**	**77.42**	**200**	P	**P**	**21 47 59.1**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=118,slow=7.8,SNR=7.1						
MAW	**Mawson**	**77.42**	**200**	P	**P**	**21 47 59.5**	**+1.2**
MAW				IAmb	IAmb	21 49 56.0	
	comp=Z,6.9nm,1.9s						
PEA0B	**Petropavlovsk-**	**81.51**	**344**	P	**P**	**21 48 21.2**	**+0.6**
PETK	**Petropavlovsk-**	**81.51**	**344**	P	**P**	**21 48 20.8**	**+0.2**
	comp=Z,6.2nm,0.9s,baz=116,slow=6.8,SNR=9.8						
KSRS	**Korea Array**	**81.70**	**318**	P	**P**	**21 48 23.3**	**+1.4**
	comp=Z,2.6nm,0.8s,baz=141,slow=5.4,SNR=16						
KSRS				LR	LR	22 23 26.0	
	comp=Z,47nm,18.1s,baz=134,slow=35						
KSAR	**Wonju Array Be**	**81.71**	**318**	P	**P**	**21 48 22.1**	**+0.1**
KS19	**Wonju Array Si**	**81.76**	**318**	P	**P**	**21 48 19.9**	**-2.4**
KS19				IAmb	IAmb	21 48 24.4	
	comp=Z,6.3nm,1.0s						
H03S2	**Juan Fernandez**	**81.85**	**123**	T	T	23 18 06.3	
	baz=244,slow=74,SNR=8.7						
H03S1	**Juan Fernandez**	**81.87**	**124**	T	T	23 18 07.5	
	baz=244,slow=74,SNR=8.0						
H03S3	**Juan Fernandez**	**81.87**	**123**	T	T	23 18 08.3	
	baz=244,slow=74,SNR=8.0						
H03N2	**Juan Fernandez**	**82.02**	**123**	T	T	23 18 12.0	
	baz=242,slow=78,SNR=5.0						
H03N3	**Juan Fernandez**	**82.02**	**123**	T	T	23 18 14.7	
	baz=242,slow=78,SNR=4.5						
H03N1	**Juan Fernandez**	**82.03**	**123**	T	T	23 18 11.3	
	baz=242,slow=78,SNR=4.2						
CMB	**Columbia Colle**	**82.08**	**41**	P	**P**	**21 48 22.3**	**-1.7**
CMB				IAmb	IAmb	21 48 38.3	
	comp=Z,12nm,1.8s						
SNAA	**Sanae**	**82.97**	**178**	P	**P**	**21 48 27.7**	**-0.5**
VNA3	**Neumayer Olymp**	**83.05**	**176**	P	**P**	**21 48 28.3**	**-0.3**
BKNI	**Bangkinang**	**83.57**	**273**	P	**P**	**21 48 32.7**	**+0.5**
NVAR	**Mina Array Bea**	**83.59**	**42**	P	**P**	**21 48 32.5**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=222,slow=8.2,SNR=7.8						
NVAR	**Mina Array Bea**	**83.59**	**42**	P	**P**	**21 48 32.2**	**+0.1**
NV11	**Mina Array Sit**	**83.68**	**42**	P	**P**	**21 48 31.9**	**-0.5**
NV11				IAmb	IAmb	21 48 33.7	
	comp=Z,4.6nm,1.2s						
USRK	**Ussuriysk Ar.**	**84.00**	**325**	P	**P**	**21 48 35.0**	**+1.3**
	comp=Z,5.6nm,1.1s,baz=69,slow=10,SNR=6.9						
USRK	**Ussuriysk Ar.**	**84.00**	**325**	P	**P**	**21 48 34.5**	**+0.8**
KVN	**Kaiserville**	**84.11**	**42**	P	**P**	**21 48 33.8**	**-0.8**
KVN				IAmb	IAmb	21 48 35.7	
	comp=Z,3.9nm,1.1s						
PRN	**Pahroc Range**	**84.97**	**44**	IAmb	IAmb	21 48 40.9	
	comp=Z,6.1nm,1.1s						
LCMT	**Little Creek M**	**85.89**	**46**	P	**P**	**21 48 43.1**	**-0.5**
TX32	**Lajitas Array**	**88.42**	**56**	P	**P**	**21 48 54.9**	**-1.0**
TXAR	**Lajitas Array**	**88.42**	**56**	P	**P**	**21 48 55.8**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=216,slow=6.2,SNR=6.9						
ENH	**Enshi**	**90.17**	**304**	P	**P**	**21 49 04.9**	**+0.8**
PBKT	**Sadao Pong**	**90.73**	**288**	P	**P**	**21 49 08.4**	**+1.5**
RND	**Reindeer**	**91.22**	**12**	P	**P**	**21 49 08.1**	**-0.2**
IMW	**Indian Meadow**	**91.31**	**41**	P	**P**	**21 49 09.7**	**+0.2**
IMW				IAmb	IAmb	21 49 10.9	
	comp=Z,5.0nm,1.2s						
PD31	**Pinedale Array**	**91.51**	**43**	P	**P**	**21 49 09.6**	**-0.7**
PDAR	**Pinedale Array**	**91.51**	**43**	P	**P**	**21 49 09.9**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=222,slow=2.0,SNR=6.9						
BOZ	**Bozeman (W)**	**91.89**	**39**	P	**P**	**21 49 11.5**	**-0.3**
BOZ				IAmb	IAmb	21 49 12.7	
	comp=Z,4.3nm,1.0s						
ILAR	**Eielson Array**	**92.83**	**12**	P	**P**	**21 49 15.6**	**+0.1**
	comp=Z,1.5nm,1.1s,baz=224,slow=5.7,SNR=6.0						
ILAR	**Eielson Array**	**92.83**	**12**	P	**P**	**21 49 15.0**	**-0.6**
CM31	**Chiang Mai Arr**	**93.29**	**289**	P	**P**	**21 49 21.0**	**+2.3**
CMAR	**Chiang Mai Arr**	**93.29**	**289**	P	**P**	**21 49 20.7**	**+1.9**
	comp=Z,3.6nm,1.0s,baz=147,slow=2.6,SNR=15						
CMAR	**Chiang Mai Arr**	**93.29**	**289**	P	**P**	**21 49 20.5**	**+1.7**
MKAR	**Makanchi Array**	**115.77**	**312**	PKP	**PKPdf**	**21 54 44.9**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=129,slow=0.8,SNR=6.9						
ARCES	**ARCESS Array B**	**134.12**	**350**	PKP	**PKPdf**	**21 55 20.3**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=64,slow=2.1,SNR=4.7						
FINES	**FINESS Array B**	**141.01**	**343**	PKhKP	PKPpre	21 55 24.6	
	comp=Z,0.9nm,0.7s,baz=90,slow=2.8,SNR=1.5						
FINES				PKP	**PKPdf**	**21 55 34.3**	**+1.2**
	comp=Z,1.3nm,0.9s,baz=56,slow=5.2,SNR=1.5						
AKH	**Akhalkalaki**	**143.61**	**306**	PKPdf	**PKPdf**	**21 55 37.9**	**-0.7**
NC405	**NORSAR Array S**	**144.00**	**353**	PKPdf	**PKPab**	**21 55 35.4**	**-0.4**
NB2	**NORSAR Subarra**	**144.12**	**354**	PKP	**PKPab**	**21 55 36.1**	**-0.2**
	comp=Z,5.3nm,1.1s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**144.12**	**354**	PKP	**PKPab**	**21 55 36.4**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=6.1,slow=2.3,SNR=8.1						
GEVA	**Gevas**	**144.54**	**301**	PKPdf	PKPbc	21 55 39.3	+0.3
ARTV	**Artvin**	**144.81**	**306**	PKPdf	**PKPdf**	**21 55 40.5**	**-0.2**
KOPT	**Kop Dagi**	**146.15**	**304**	PKPbc	**PKPab**	**21 55 46.1**	**+1.3**
MARD	**Mardin**	**146.49**	**300**	PKPbc	**PKPab**	**21 55 45.9**	**-0.1**
AKASG	**Malin Array Be**	**148.14**	**329**	PKPbc	**PKPbc**	**21 55 48.3**	**-0.7**
	comp=Z,3.1nm,0.6s,baz=44,slow=3.4,SNR=15						
AKASG	**Malin Array Be**	**148.14**	**329**		**PKPbc**	**21 55 48.5**	**-0.5**
GAZ	**Gaziantep**	**149.31**	**300**	PKPbc	**PKPbc**	**21 55 52.6**	**+0.1**
BRTR	**Keskin Array B**	**151.28**	**307**	PKPbc	**PKPbc**	**21 55 56.4**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=122,slow=4.7,SNR=7.9						
BRTR				PKPab	**PKPab**	**21 56 05.1**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=98,slow=3.8,SNR=8.4						
BRTR	**Keskin Array B**	**151.28**	**307**		**PKPbc**	**21 55 56.0**	**-1.2**
BURAR	**Bucovina Array**	**152.18**	**328**		**PKiKP**	**21 55 59.6**	**+0.3**
CLL	**Collm**	**153.29**	**347**	*i* PKPbc	**PKPbc**	**21 56 01.1**	**-0.1**
CLL				*i* PKPab	**PKPab**	**21 56 12.7**	**-0.4**
KRLC	**Kraliky**	**153.49**	**341**	*e*PKP	**PKPab**	**21 56 11.3**	**-2.8**
KHC	**Kasperske Hory**	**155.21**	**345**	*e*PKP	**PKPab**	**21 56 25.6**	**+4.2**
TORD	**Torodi Ar. Bea**	**167.55**	**171**	PKPab	**PKPab**	**21 57 15.6**	**-0.3**
	comp=Z,1.8nm,1.1s,baz=194,slow=5.0,SNR=4.7						

IDC 12 21:47:14.0±1.9, 6.71S×150.61E, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.6/36, mbtmp3.7/7, ML1.7/1, Error ellipse: s-maj=78.0km s-min=20.6km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.77**	**31**	Pn	Pn	21 48 01.6	+1.9
	6.7nm,0.3s,baz=210,slow=8.1,SNR=4.3						
PMG	**Port Moresby**	**4.34**	**232**	Pn	Pn	21 48 23.3	+1.9
	2.8nm,0.3s,baz=339,slow=8.6,SNR=2.5						
PMG				Sn	Sn	21 49 11.9	-0.9
	7.1nm,0.3s,baz=122,slow=22,SNR=7.4						
WRA	**Warramunga Arr**	**20.56**	**229**	P	P	21 51 54.6	+0.1
	0.8nm,0.5s,baz=54,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**23.28**	**222**	P	P	21 52 23.4	-0.2
	0.7nm,0.6s,baz=55,slow=8.8,SNR=4.7						
FITZ	**Fitzroy Crossi**	**26.85**	**243**	P	P	21 52 55.9	-0.6
	2.6nm,0.8s,baz=73,slow=11,SNR=1.8						
SONM	**Songino Array**	**66.81**	**329**	P	P	21 58 07.5	-0.2
	0.3nm,0.7s,baz=141,slow=5.5,SNR=2.6						
ILAR	**Eielson Array**	**84.74**	**22**	P	P	21 59 48.6	-1.1
	0.4nm,0.5s,baz=243,slow=4.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**148.75**	**284**	PKPbc	PKPbc	22 07 04.4	-0.1
	0.7nm,0.7s,baz=65,slow=3.8,SNR=7.5						

JMA 12 21:52:56.9±0.2, 23.01N×123.01E, h55km, M2.8
TAP 12 21:52:58.7, 23.10N×122.99E, h60km±2km, ML3.1, C
ISC 12 21:52:57.4±1.4, 23.00N±0.06×123.01E±0.03, h50km, n59, σ1§33/92, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.28**	**35**	P	**Pn**	**21 53 18.8**	**-0.2**
HATJ				S	**Sn**	**21 53 34.5**	**-0.6**
JYNG	**Yonagunijimaku**	**1.45**	**358**	P	**Pn**	**21 53 21.4**	**+0.2**
JYNG				*e*S	**Sn**	**21 53 38.9**	**-0.2**
LDUT	**Ludao**	**1.45**	**257**	*e*P	**Pn**	**21 53 20.6**	**-0.7**
	baz=260						
LDUT				*e*S	**Sn**	**21 53 38.5**	**-0.6**
	baz=260						
YOJ	**Yonaguni jima**	**1.46**	**0**	P	**Pn**	**21 53 21.5**	**+0.2**
YOJ				*e*S	**Sn**	**21 53 38.9**	**-0.4**
IRIF	**Iriomote-Funau**	**1.49**	**26**	P	**Pn**	**21 53 21.8**	**+0.1**
IRIF				*e*S	**Sn**	**21 53 39.7**	**-0.3**
CHKT	**Chengkung**	**1.52**	**274**	*e*P	**Pn**	**21 53 21.4**	**-0.7**
	baz=277						
CHKT				*e*S	**Sn**	**21 53 37.4**	**-3.2**
	baz=277						
HGSD	**Ruisui**	**1.54**	**289**	*e*P	**Pn**	**21 53 21.9**	**-0.5**
	baz=285						
HGSD				*e*S	**Sn**	**21 53 38.7**	**-2.5**
	baz=285						
JKRS	**Kuro-shima**	**1.54**	**36**	P	**Pn**	**21 53 22.6**	**+0.2**
JKRS				S	**Sn**	**21 53 41.0**	**-0.3**
FULB	**Fuli**	**1.59**	**278**	*e*P	**Pn**	**21 53 22.6**	**-0.5**
	baz=274						
EGFH	**Guangfu**	**1.60**	**295**	*e*P	**Pn**	**21 53 23.7**	**+0.4**
	baz=299						
YULB	**Yu-li**	**1.62**	**284**	*e*P	**Pn**	**21 53 23.1**	**-0.5**
	baz=275						
YULB				*e*S	**Sn**	**21 53 43.1**	**-0.2**
	baz=275						
EHY	**Hungye**	**1.63**	**288**	P	**Pn**	**21 53 23.8**	**+0.1**
	baz=284						
EHY				S	**Sn**	**21 53 42.7**	**-0.8**
	baz=284						
ESL	**Shilin**	**1.66**	**300**	P	**Pn**	**21 53 23.6**	**-0.4**
	baz=296						
ESL				*e*S	**Sn**	**21 53 41.1**	**-3.1**
	baz=296						
TWD	**Chiawan**	**1.68**	**310**	*e*P	**Pn**	**21 53 23.4**	**-1.0**
	baz=307						
TWD				*e*S	**Sn**	**21 53 42.9**	**-1.9**
	baz=307						
JIJ	**Ishigaki jima**	**1.71**	**37**	P	**Pn**	**21 53 24.6**	**-0.2**
JIJ				S	**Sn**	**21 53 44.4**	**-1.2**
LONT	**Longtian**	**1.73**	**267**	*e*P	**Pn**	**21 53 25.6**	**+0.5**
	baz=270						
NACB	**Ninganchiao**	**1.75**	**312**	P	**Pn**	**21 53 24.7**	**-0.6**
	baz=301						
NACB				*e*S	**Sn**	**21 53 44.0**	**-2.4**
	baz=301						
TWGBT	**Beinan**	**1.79**	**265**	P	**Pn**	**21 53 26.4**	**+0.6**
	baz=261						
TWGBT				*e*S	**Sn**	**21 53 46.5**	**-0.9**
	baz=261						
TWG	**Pinlang**	**1.79**	**265**	*e*P	**Pn**	**21 53 26.3**	**+0.4**
	baz=261						
ENAH	**Nanao**	**1.81**	**323**	*e*S	**Sn**	**21 53 48.3**	**+0.3**
	baz=330						
ENA	**Nanau**	**1.84**	**321**	*e*P	**Pn**	**21 53 27.1**	**+0.6**
	baz=328						
ENA				*e*S	**Sn**	**21 53 48.0**	**-0.6**
	baz=328						
ELDTW	**Lidau**	**1.84**	**276**	*e*P	**Pn**	**21 53 27.4**	**+0.8**
	baz=273						
ETLH	**Xiulin Townshi**	**1.84**	**311**	*e*P	**Pn**	**21 53 26.4**	**-0.3**
	baz=314						
ETLH				*e*S	**Sn**	**21 53 47.8**	**-1.2**
	baz=314						
VWDT	**VWDT**	**1.87**	**294**	*e*P	**Pn**	**21 53 27.6**	**+0.7**
	baz=297						
VWDT				*e*S	**Sn**	**21 53 48.7**	**-0.7**
	baz=297						
ECL	**Taimali**	**1.94**	**259**	*e*P	**Pn**	**21 53 27.6**	**-0.3**
	baz=255						
WHF	**Hehuan Shan**	**1.96**	**306**	P	**Pn**	**21 53 28.8**	**+0.2**
	baz=294						
WHF				*e*S	**Sn**	**21 53 52.3**	**-0.1**
	baz=294						
JISG	**Ishigakijimahi**	**1.98**	**37**	P	**Pn**	**21 53 28.2**	**-0.3**
JISG				*e*S	**Sn**	**21 53 51.3**	**-0.9**
CHGB	**Renai**	**1.99**	**303**	*e*P	**Pn**	**21 53 29.1**	**+0.4**
	baz=299						
CHGB				S	**Sn**	**21 53 50.8**	**-1.8**
	baz=299						
FUSS	**Fushou**	**2.04**	**308**	P	**Pn**	**21 53 29.8**	**+0.3**
	baz=305						
FUSS				*e*S	**Sn**	**21 53 53.2**	**-0.7**
	baz=305						
SSLB	**Suanglung**	**2.04**	**293**	*e*P	**Pn**	**21 53 30.4**	**+1.0**
	baz=290						
SSLB				*e*S	**Sn**	**21 53 52.8**	**-0.9**
	baz=290						
NNSB	**Datong**	**2.06**	**314**	P	**Pn**	**21 53 30.1**	**+0.5**
	baz=311						
NNSB				*e*S	**Sn**	**21 53 53.4**	**-0.9**
	baz=311						
NNSH	**Datong**	**2.06**	**314**	P	**Pn**	**21 53 30.0**	**+0.3**
	baz=311						
NNSH				*e*S	**Sn**	**21 53 52.9**	**-1.3**
	baz=311						
NNS	**Nan Shan**	**2.07**	**314**	P	**Pn**	**21 53 30.4**	**+0.5**
	baz=311						
NNS				*e*S	**Sn**	**21 53 53.4**	**-1.2**
	baz=311						
EAST	**Anshuo**	**2.08**	**253**	*e*P	**Pn**	**21 53 30.7**	**+0.8**
	baz=258						
ALS	**Alishan**	**2.09**	**285**	*e*P	**Pn**	**21 53 32.4**	**+2.2**
	baz=328						
ENTT	**Nioudou**	**2.10**	**321**	*e*P	**Pn**	**21 53 30.8**	**+0.6**
	baz=328						
ENTT				*e*S	**Sn**	**21 53 55.0**	**-0.1**
	baz=328						
TDCB	**Techi**	**2.11**	**307**	P	**Pn**	**21 53 30.9**	**+0.6**
	baz=297						
TDCB				*e*S	**Sn**	**21 53 53.0**	**-2.5**
	baz=297						
TWE	**Neicheng**	**2.11**	**325**	*e*P	**Pn**	**21 53 31.2**	**+1.0**
	baz=331						
SMLT	**Sun Moon Lake**	**2.13**	**295**	*e*P	**Pn**	**21 53 31.9**	**+1.3**
	baz=292						
SMLT				*e*S	**Sn**	**21 53 56.7**	**+0.9**
	baz=292						
TYC	**Yuchr**	**2.17**	**295**	*e*P	**Pn**	**21 53 33.0**	**+2.0**
	baz=292						
SLIU	**Shizi**	**2.18**	**250**	*e*P	**Pn**	**21 53 32.1**	**+0.9**
	baz=247						
TSMG	**Majia**	**2.20**	**263**	*e*P	**Pn**	**21 53 34.2**	**+2.8**
	baz=265						
SSD	**Sandimen**	**2.20**	**264**	*e*P	**Pn**	**21 53 32.9**	**+1.4**
	baz=267						
TPUB	**Ta-pu**	**2.21**	**278**	*e*P	**Pn**	**21 53 35.1**	**+3.5**
	baz=275						
WTP	**Ta-pu**	**2.22**	**277**	*e*P	**Pn**	**21 53 34.2**	**+2.5**
	baz=274						
CHN5	**Tsauling**	**2.22**	**286**	*e*P	**Pn**	**21 53 34.6**	**+2.7**
	baz=290						
MASBT	**Mashibuluo**	**2.22**	**261**	*e*P	**Pn**	**21 53 32.8**	**+1.0**
	baz=252						
YHNB	**Yeheng**	**2.24**	**318**	*e*P	**Pn**	**21 53 32.8**	**+0.8**
	baz=316						
YHNB				*e*S	**Sn**	**21 53 57.9**	**-0.6**
	baz=316						
TIPB	**Shuangxi**	**2.24**	**331**	*e*P	**Pn**	**21 53 32.8**	**+0.7**
	baz=329						
NWLT	**Wulai**	**2.24**	**322**	*e*P	**Pn**	**21 53 33.7**	**+1.6**
	baz=320						
NSK	**Sanguang**	**2.25**	**318**	*e*P	**Pn**	**21 53 33.3**	**+1.0**
	baz=316						
NSK				*e*S	**Sn**	**21 53 58.6**	**-0.2**
	baz=316						
JTJ	**Tarama**	**2.26**	**43**	P	**Pn**	**21 53 32.5**	**+0.3**
JTJ				S	**Sn**	**21 53 58.4**	**-0.5**
WHP	**Taichung City**	**2.28**	**304**	*e*P	**Pn**	**21 53 35.7**	**+3.0**
	baz=301						
WHP				*e*S	**Sn**	**21 53 59.8**	**+0.2**
	baz=301						
CHN1	**Nanshi**	**2.29**	**275**	*e*P	**Pn**	**21 53 35.5**	**+2.8**
	baz=272						
SNST	**Tainan City**	**2.32**	**276**	*e*P	**Pn**	**21 53 36.4**	**+3.3**
	baz=273						
YM01	**YM01**	**2.51**	**329**	*e*P	**Pn**	**21 53 37.4**	**+1.7**
	baz=337						
YM04	**YM04**	**2.53**	**328**	*e*P	**Pn**	**21 53 38.5**	**+2.4**
	baz=337						
JMJ2	**Miyako jima3**	**2.74**	**50**	*e*S	**Sn**	**21 54 10.6**	**-0.3**
JIKM	**Ikemajima**	**2.81**	**46**	S	**Sn**	**21 54 12.6**	**+0.2**

ROM 12 21:54:18.7±0.1, 38.941N±0.004×16.340E±0.008, h9km, ML2.1/7, 1C-2D, Error ellipse: s-maj=0.6km s-min=0.5km az=263.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRI	**Girifalco**	**0.13**	**152**	P	Pg	21 54 22.2	+0.5
GRI				S	Sg	21 54 24.6	+0.8
GRI				AML	AML		
	comp=E,2050μm,0.2s						
GRI				AML	AML		
	comp=N,1295μm,0.1s						
GRI				AML	AML		
	comp=E,2055μm,0.2s						
SERS	**Sersale**	**0.29**	**71**	⇑P	Pg	21 54 25.1	+0.6
SERS				S	Sb	21 54 29.7	-1.3
SERS				AML	AML		
	comp=E,170μm,0.6s						
SERS				AML	AML		
	comp=N,164μm,0.4s						
CAR1	**CAROLEI**	**0.33**	**342**	P	Pg	21 54 25.8	+0.6
CAR1				S	Sg	21 54 30.8	+1.2
CAR1				AML	AML		
	comp=N,1093μm,0.5s						
CAR1				AML	AML		
	comp=N,1145μm,0.5s						
CAR1				AML	AML		
	comp=N,1092μm,0.5s						
CAR1				AML	AML		
	comp=E,736μm,1.2s						
CAR1				AML	AML		
	comp=E,618μm,0.5s						
TIP	**Timpagrande**	**0.40**	**54**	P	Pg	21 54 27.2	+0.6
CELI	**Celico**	**0.48**	**16**	P	Pg	21 54 28.3	+0.2
CELI				S	Sb	21 54 36.1	-0.4
CELI				AML	AML		
	comp=E,270μm,0.6s						
CELI				AML	AML		
	comp=N,437μm,0.6s						
CELI				AML	AML		
	comp=E,270μm,0.6s						
JOPP	**Joppolo**	**0.49**	**227**	P	Pg	21 54 28.5	+0.4
JOPP				S	Sg	21 54 35.1	+0.5
JOPP				AML	AML		
	comp=E,120μm,0.6s						
JOPP				AML	AML		
	comp=N,146μm,0.4s						
PLAC	**Placanica**	**0.50**	**171**	P	Pg	21 54 28.6	+0.3
PLAC				S	Sb	21 54 36.6	-0.3
PLAC				AML	AML		
	comp=E,69μm,1.0s						
PLAC				AML	AML		
	comp=N,64μm,0.2s						
PIPA	**Pietrapaola**	**0.66**	**34**	P	Pg	21 54 31.8	+0.4
CET2	**Cetraro**	**0.66**	**333**	P	Pb	21 54 32.1	-0.3
TDS	**Terranova Siba**	**0.72**	**360**	AML	AML		
	comp=N,12μm,0.9s						
TDS				AML	AML		
	comp=N,12μm,0.9s						
TDS				AML	AML		
	comp=E,15μm,1.2s						
T0702	**Acquaformosa (**	**0.80**	**346**	P	Pg	21 54 33.9	-0.3
GMB	**Gambarie**	**0.87**	**208**	P	Pg	21 54 35.4	-0.1
GMB				AML	AML		
	comp=E,152μm,1.4s						
GMB				AML	AML		
	comp=N,170μm,0.8s						
GMB				AML	AML		
	comp=E,153μm,1.4s						
SOI	**Samo**	**0.90**	**195**	P	Pg	21 54 36.0	+0.1
SALB	**San Lorenzo Be**	**0.94**	**0**	P	Pg	21 54 36.7	0.0
MSRU	**Castanea**	**0.94**	**224**	P	Pg	21 54 36.3	-0.4
MPAZ	**Palizzi**	**1.02**	**195**	P	Pg	21 54 38.4	+0.1
MPNC	**Port Mandanici**	**1.11**	**225**	P	Pn	21 54 41.8	+1.4
MCRV	**Calabrutti - M**	**2.05**	**334**	S	Sn	21 55 20.0	+0.9
VULT	**Monte Vulture**	**2.09**	**345**	S	Sb	21 55 22.0	-0.8
RESU	**Resuttano**	**2.21**	**235**	P	Pg	21 55 03.0	+1.9
FOSV	**Fossato di Vic**	**5.12**	**329**	P	Pn	21 55 39.4	+3.9
CDCA	**Citt' di Caste**	**5.47**	**327**	⇓P	Pn	21 55 44.4	+4.1
SSP9	**Sansepolcro**	**5.61**	**327**	P	Pb	21 55 55.1	-1.6
SEI	**Scarperia**	**6.33**	**325**	⇓P	Pb	21 56 12.0	+3.0

IDC 12 22:07:26.3±0.6, 0.59N×146.37E, h0km, mb4.3/16, mb1 4.4/17, mb1mx4.3/37, mbtmp4.3/17, ML4.4/1, MS3.5/20, Ms1 3.6/20, ms1mx3.4/41, Error ellipse: s-maj=24.2km s-min=12.7km az=83.0
NEIC 12 22:07:29.1±1.8, 0.52N±0.09×146.30E±0.08, h19km±2km, mb4.6/34, Error ellipse: s-maj=13.4km s-min=11.1km az=163.0
DJA 12 22:07:29.5±1.7, 1.1°N±4.4°×14.6E±.°, h19km±12km, M4.8/25, mB5.8/4, mb4.8/25, MLv4.6/3, Mw(mB)5.4/4, Mwp5.4/1
GCMT 12 22:07:31.1±0.4, 0.66N±0.02×146.19E±0.03, h24km±2km, MW4.8/67, Moment Tensor Solution. s8,c9; s67,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.08±.13; $M_{\theta\theta}$-1.01±.09; $M_{\phi\phi}$0.92±.11; $M_{r\theta}$-0.08±.12; $M_{r\phi}$1.39±.08; $M_{\theta\phi}$0.19±.13; Best double couple: $M_0$1.70600×10^{16} NP1:ϕ_s73.00000°, δ83.00000°, λ0.00000°. NP2: ϕ_s163.00000°, δ90.00000°, λ-173.00000°. Principal axes: T 1.6630, Plg5.0000°, Azm297.0000°; N 0.0860, Plg83.0000°, Azm164.0000°; P -1.7500, Plg5.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 12 22:07:31.1±0.5, 0.47N±0.07×146.27E±0.07, h35km, n101, σ1§14/83, mb4.5/30, MS3.5/16, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**6.30**	**242**	Pn	**Pn**	**22 08 59.9**	**-1.8**
	0.8nm,0.3s,baz=74,slow=18,SNR=2.2						
JAY				Sn	**Sn**	**22 10 07.8**	**-4.7**
	3.3nm,0.3s,baz=223,slow=19,SNR=2.1						
JAY	**Jayapura**	**6.30**	**242**	P	**Pn**	**22 09 01.7**	**0.0**
	0.1nm10μm15nm,0.8s						
JAY				S	**Sn**	**22 10 14.3**	**+1.8**
	0.1nm10μm15nm,0.8s						
GENI	**Genyem**	**6.81**	**244**	P	**Pn**	**22 09 08.8**	**+0.1**
	0.6nm80nm,0.8s						
KRVT	**Keravat (AS076**	**7.45**	**130**	Pn	**Pn**	**22 09 16.1**	**-1.4**
	5.8nm,0.3s,baz=339,slow=8.6,SNR=5.9						
KRVT				LR	LR	22 11 47.8	
	comp=Z,780nm,20.2s,baz=289,slow=35						
RABL	**Rabaul**	**7.49**	**128**	Pn	**Pn**	**22 09 16.5**	**-1.5**
SMPI	**Sarmi**	**7.94**	**252**	P	**Pn**	**22 09 23.9**	**-0.3**
	0.1nm27nm,1.1s						
PMG	**Port Moresby**	**9.85**	**175**	LR	LR	22 13 26.9	
	comp=Z,462nm,19.3s,baz=328,slow=36						
GUMO	**Guam**	**13.11**	**354**	LR	LR	22 15 12.1	
	comp=Z,84nm

DZM	**Mont Dzumac**	**29.81**	**140**	P		**P**	**22 13 37.3**	**+2.1**	
	comp=Z,6.4nm,0.9s,baz=301,slow=18,SNR=2.0								
STKA	**Stephens Creek**	**32.47**	**187**	P		**P**	**22 13 59.3**	**+1.0**	
	comp=Z,2.5nm,0.7s,baz=6.9,slow=10,SNR=5.4								
STKA				LR		LR	22 28 14.0		
	comp=Z,178nm,18.3s,baz=18,slow=38								
STKA	**Stephens Creek**	**32.47**	**187**	IAmb		IAmb	22 14 08.4		
	comp=Z,2.1nm,1.3s								
MJAR	**Matsushiro Arr**	**36.67**	**349**	LR		LR	22 27 12.1		
	comp=Z,37nm,21.5s,baz=175,slow=32								
KSRS	**Korea Array**	**40.52**	**337**	P		**P**	**22 15 06.0**	**-0.9**	
	comp=Z,2.5nm,0.8s,baz=155,slow=9.1,SNR=14								
SDSI	**Sungai Dareh**	**44.86**	**268**	P		**P**	**22 15 42.6**	**0.0**	
	comp=Z,13nm,1.3s								
USRK	**Ussuriysk Ar.**	**45.36**	**346**	P		**P**	**22 15 45.8**	**-0.3**	
	comp=Z,3.8nm,0.9s,baz=167,slow=7.8,SNR=6.2								
ENH	**Enshi**	**45.82**	**314**	P		**P**	**22 15 50.2**	**+0.2**	
ENH				IAmb		IAmb	22 15 51.3		
	comp=Z,11nm,0.9s								
SLVN	**Son La**	**46.23**	**300**	P		**P**	**22 15 53.9**	**+0.5**	
MNSI	**Mandailing Nat**	**46.69**	**271**	P		**P**	**22 15 56.8**	**-0.2**	
	comp=Z,25nm,0.8s								
RPSI	**Rantau Prapat**	**47.38**	**273**	P		**P**	**22 16 01.9**	**-0.5**	
PBKT	**Sadao Pong**	**47.41**	**292**	P		**P**	**22 16 03.1**	**+0.6**	
KCSI	**Kotacane, Aceh**	**48.56**	**274**	P		**P**	**22 16 10.8**	**-0.7**	
	comp=Z,44nm,0.7s								
RPZ	**Rata Peaks**	**49.25**	**156**	LR		LR	22 35 24.9		
	comp=Z,86nm,19.1s,baz=338,slow=34								
CM31	**Chiang Mai Arr**	**49.77**	**294**	P		**P**	**22 16 21.6**	**+0.8**	
CMAR	**Chiang Mai Arr**	**49.77**	**294**	P		**P**	**22 16 22.6**	**+1.9**	
	comp=Z,9.6nm,0.7s,baz=115,slow=6.1,SNR=75								
CMAR				LR		LR	22 38 08.5		
	comp=Z,32nm,19.0s,baz=168,slow=37								
CMAR	**Chiang Mai Arr**	**49.77**	**294**	P		**P**	**22 16 21.3**	**+0.6**	
CHTO	**Chiang Mai**	**49.86**	**294**	P		**P**	**22 16 22.3**	**+0.8**	
CHTO				IAmb		IAmb	22 16 24.1		
	comp=Z,20nm,1.6s								
MLSI	**Meulaboh, Aceh**	**49.95**	**275**	P		**P**	**22 16 21.9**	**-0.3**	
	comp=Z,70nm,1.7s								
KLR	**Kul'dur**	**50.16**	**348**	LR		LR	22 33 57.4		
	comp=Z,28nm,21.1s,baz=170,slow=32								
PETK	**Petropavlovsk-**	**53.32**	**9**	P		**P**	**22 16 46.5**	**-0.2**	
	comp=Z,3.0nm,0.7s,baz=151,slow=6.9,SNR=10								
PETK				LR		LR	22 35 25.5		
	comp=Z,49nm,21.5s,baz=235,slow=32								
PETK	**Petropavlovsk-**	**53.32**	**9**	P		**P**	**22 16 47.3**	**+0.6**	
ULN	**Ulaanbaatar**	**58.16**	**330**	P		**P**	**22 17 22.1**	**+0.4**	
SONM	**Songino Array**	**58.47**	**330**	P		**P**	**22 17 24.1**	**+0.3**	
	comp=Z,2.3nm,0.7s,baz=146,slow=7.9,SNR=16								
SONM	**Songino Array**	**58.47**	**330**	P		**P**	**22 17 24.2**	**+0.4**	
MA2	**Magadan**	**59.05**	**3**	LR		LR	22 40 46.3		
	comp=Z,22nm,20.2s,baz=135,slow=34								
LSA	**Lhasa**	**59.90**	**304**	IAmb		IAmb	22 17 36.4		
	comp=Z,5.3nm,1.0s								
TAPN	**Taplejung**	**62.12**	**301**	*e*P		**P**	**22 17 50.1**	**+0.7**	
	comp=Z,17nm,0.6s								
ODAN	**Odare**	**62.27**	**300**	*e*P		**P**	**22 17 51.4**	**+1.0**	
	comp=Z,17nm,0.7s								
RAMN	**Ramite**	**62.98**	**300**	*e*P		**P**	**22 17 56.0**	**+0.9**	
PKI	**Pulchoki**	**64.15**	**301**	*e*P		**P**	**22 18 03.7**	**+0.7**	
KKN	**Kakani**	**64.32**	**301**	*e*P		**P**	**22 18 04.8**	**+0.9**	
DMN	**Daman**	**64.42**	**300**	*e*P		**P**	**22 18 05.8**	**+1.1**	
PPT	**Papeete**	**65.58**	**109**	LR		LR	22 44 39.6		
	comp=Z,23nm,18.5s,baz=6.0,slow=34								
DANN	**Dangsing**	**65.75**	**301**	*e*P		**P**	**22 18 14.0**	**+0.7**	
	comp=Z,53nm,0.6s								
KOLN	**Koldanda**	**65.76**	**300**	*e*P		**P**	**22 18 14.3**	**+1.0**	
PYUN	**Piuthan**	**66.36**	**301**	*e*P		**P**	**22 18 18.0**	**+0.9**	
	comp=Z,70nm,0.9s								
MK31	**Makanchi Array**	**72.11**	**320**	P		**P**	**22 18 52.4**	**+0.3**	
MKAR	**Makanchi Array**	**72.11**	**320**	P		**P**	**22 18 52.1**	**0.0**	
	comp=Z,2.0nm,0.9s,baz=105,slow=7.0,SNR=17								
MKAR				LR		LR	22 50 40.3		
	comp=Z,26nm,20.3s,baz=81,slow=36								
MAKZ	**Makanchi**	**72.31**	**319**	P		**P**	**22 18 53.8**	**+0.4**	
MAKZ				IAmb		IAmb	22 18 54.8		
	comp=Z,6.8nm,1.2s								
ZAA0	**Zalesovo Array**	**73.20**	**327**	P		**P**	**22 18 57.6**	**-0.8**	
ZALV	**Zalesovo Beam**	**73.20**	**327**	P		**P**	**22 18 57.7**	**-0.7**	
	comp=Z,1.5nm,0.6s,baz=92,slow=4.5,SNR=7.8								
ZALV	**Zalesovo Beam**	**73.20**	**327**			**P**	**22 18 57.9**	**-0.5**	
TARG	**Taragay, Kyrgy**	**73.73**	**314**	IAmb		IAmb	22 19 06.2		
	comp=Z,5.3nm,1.3s								
NIL	**Nilore**	**75.64**	**305**	P		**P**	**22 19 13.3**	**+0.2**	
KURK	**Kurchatov**	**75.64**	**323**			**P**	**22 19 12.8**	**+0.1**	
ARSB	**Arslanbob**	**77.18**	**312**	P		**P**	**22 19 22.7**	**+0.9**	
ARSB				IAmb		IAmb	22 19 52.8		
	comp=Z,5.5nm,0.7s								
VNDA	**Vanda**	**78.36**	**177**	P		**P**	**22 19 28.7**	**+1.2**	
	comp=Z,0.5nm,0.6s,baz=336,slow=5.0,SNR=7.9								
KBL	**Kabul**	**79.22**	**305**	P		**P**	**22 19 33.2**	**-0.2**	
KK31	**Karatay Array**	**79.30**	**314**	P		**P**	**22 19 33.3**	**0.0**	
KKAR	**Karatay Array**	**79.30**	**314**	P		**P**	**22 19 33.9**	**+0.5**	
ILAR	**Eielson Array**	**79.87**	**24**	P		**P**	**22 19 34.9**	**-1.1**	
	comp=Z,1.0nm,0.6s,baz=254,slow=5.3,SNR=7.5								
ILAR				LR		LR	22 52 32.9		
	comp=Z,34nm,18.8s,baz=252,slow=34								
BRVK	**Borovoye**	**81.22**	**324**	P		**P**	**22 19 43.0**	**-0.5**	
BCAR	**Beaver Creek A**	**81.47**	**26**	P		**P**	**22 19 44.3**	**-0.3**	
ABKAR	**Akbulak array**	**87.25**	**319**	P		**P**	**22 20 12.9**	**-1.2**	
GEYT	**Alibeck**	**88.26**	**308**	P		**P**	**22 20 20.3**	**+1.0**	
	comp=Z,1.3nm,0.5s,baz=110,slow=6.0,SNR=4.9								
GEYT	**Alibeck**	**88.26**	**308**	P		**P**	**22 20 18.3**	**-1.0**	
W13A	**Hualapai Mount**	**97.79**	**55**	P		**P**	**22 21 02.8**	**-0.8**	
PDAR	**Pinedale Array**	**100.07**	**46**	LR		LR	23 00 00.6		
	comp=Z,23nm,19.2s,baz=312,slow=32								
TOA0	**Torodi Ar. Sit**	**142.37**	**292**	PKPdf		**PKPdf**	**22 26 57.6**	**-3.6**	
TORD	**Torodi Ar. Bea**	**142.37**	**292**	PKPhKP		PKPpre	22 26 56.9		
	comp=Z,0.3nm,0.5s,baz=62,slow=3.1,SNR=2.6								
LPAZ	**La Paz**	**142.62**	**117**	PKP		**PKPdf**	**22 27 02.0**	**-0.4**	
	comp=Z,1.1nm,0.5s,baz=255,slow=6.4,SNR=2.7								
CPUP	**Villa Florida**	**145.68**	**140**	PKPbc		**PKPab**	**22 27 08.6**	**+1.2**	
	comp=Z,2.5nm,0.9s,baz=296,slow=1.1,SNR=3.5								
KIC	**Kosan Boka**	**150.28**	**284**	*e*PKP1		**PKiKP**	**22 27 20.5**	**-0.1**	
	comp=Z,16nm,0.8s								
DBIC	**Dimbokro**	**150.33**	**284**	PKPbc		**PKiKP**	**22 27 20.7**	**0.0**	
	comp=Z,7.1nm,0.7s,baz=40,slow=2.4,SNR=11								
TIC	**Toumodi**	**150.49**	**284**	*e*PKP1		**PKiKP**	**22 27 21.0**	**-0.1**	
LIC	**Lamto**	**150.59**	**284**	*e*PKP1		**PKiKP**	**22 27 21.1**	**-0.2**	
	comp=Z,28nm,0.6s								

*IDC **12** 22:10:01.8±1.1, 16°.22S×173°.43W, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.0/35, mbtmp4.0/8, MS3.1/4, Ms1 3.1/4, ms1mx2.9/28, Error ellipse: s-maj=50.3km s-min=21.6km az=132.0*

*NEIC **12** 22:10:02.3±2.4, 16°.16S±0°.08×173°.1W±0°.1, h10km±1km, mb4.4/11, Error ellipse: s-maj=19.7km s-min=12.8km az=96.0*

ISC 12 22:10:04.3±1.0, 16°.4S±0°.2×172°.9W±0°.2, h10km, n57, σ1835/27, mb4.1/12, MS3.5/3, 10C-2D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.69**	**25**	Pn		Pn	22 10 43.0	-4.7
	35nm,0.3s,baz=105,slow=4.5,SNR=7.0							
AFI				Sn		Sn	22 11 10.8	-10
	56nm,0.3s,baz=72,slow=22,SNR=13							
AFI				LR		LR	22 11 13.0	
	comp=Z,72nm,21.3s,baz=264,slow=26							
AFI	**Afiamalu**	**2.69**	**25**			Pn	22 10 43.4	-4.3
NIUE	**Niue**	**3.93**	**134**			**Pn**	**22 11 05.2**	**+0.4**
PPTF	**Pamatai, Papee**	**22.38**	**97**	P		**P**	**22 15 02.3**	**-0.8**
URZ	**Urewera**	**22.50**	**290**	P		**P**	**22 15 13.8**	**-0.5**
	6.7nm,0.8s,baz=333,slow=6.8,SNR=1.7							
H11S2	**WAKE ISLAND Hy**	**40.02**	**329**	T		T	22 59 19.0	
	baz=149,slow=76,SNR=5.6							
H11S3	**WAKE ISLAND Hy**	**40.03**	**329**	T		T	22 59 17.1	
	baz=149,slow=76,SNR=7.9							
H11S1	**WAKE ISLAND Hy**	**40.04**	**329**	T		T	22 59 18.5	
	baz=149,slow=76,SNR=4.9							
H11N3	**WAKE ISLAND Hy**	**40.97**	**330**	T		T	23 00 56.7	
	baz=150,slow=76,SNR=9.0							
H11N1	**WAKE ISLAND Hy**	**40.97**	**330**	T		T	23 01 02.4	
	baz=150,slow=76,SNR=17							
H11N2	**WAKE ISLAND Hy**	**40.99**	**330**	T		T	23 01 00.2	
	baz=150,slow=76,SNR=10							
STKA	**Stephens Creek**	**43.95**	**241**	P		P	22 18 07.8	-3.9
	1.9nm,0.6s,baz=102,slow=9.9,SNR=4.2							
WB2	**Warramunga Arr**	**50.05**	**258**	P		P	22 18 55.9	-3.8
WRA	**Warramunga Arr**	**50.06**	**258**	P		P	22 18 54.3	-5.4
	0.7nm,0.5s,baz=97,slow=6.6,SNR=9.2							
AS31	**Alice Springs**	**50.24**	**253**	P		P	22 18 57.4	-3.7
AS31				IAmb		IAmb	22 19 09.7	
	comp=Z,3.2nm,1.4s							
ASAR	**Alice Springs**	**50.24**	**253**	P		P	22 18 56.3	-4.8
	comp=Z,2.8nm,0.5s,baz=89,slow=8.4,SNR=28							
ASAR				PcP		PcP	22 20 17.6	-2.5
	comp=Z,0.3nm,0.5s,baz=103,slow=4.0,SNR=1.0							
ASAR				LR		LR	22 41 40.3	
	comp=Z,66nm,18.0s,baz=65,slow=38							
PETK	**Petropavlovsk-**	**73.68**	**342**	P		P	22 21 35.9	-2.1
	comp=Z,1.2nm,0.7s,baz=151,slow=6.8,SNR=2.2							
KSRS	**Korea Array**	**77.16**	**316**	LR		LR	22 55 21.0	
	comp=Z,8.2nm,18.0s,baz=230,slow=35							
KSAR	**Wonju Array Be**	**77.18**	**315**	P		P	22 21 56.4	-2.1
KS19	**Wonju Array Si**	**77.22**	**316**	P		P	22 21 56.9	-1.8
ELK	**Elko**	**78.01**	**41**	P		P	22 22 01.6	-1.9
ELK				IAmb		IAmb	22 22 03.4	
	comp=Z,1.1nm,0.7s							
PD31	**Pinedale Array**	**82.69**	**42**	P		P	22 22 26.0	-2.5
PD31				IAmb		IAmb	22 23 40.2	
	comp=Z,6.2nm,1.7s							
PDAR	**Pinedale Array**	**82.69**	**42**	P		P	22 22 27.6	-0.9
	comp=Z,0.6nm,0.7s,baz=231,slow=4.2,SNR=6.1							
CCB	**Clear Creek Bu**	**83.03**	**11**	P		P	22 22 27.3	-2.1
CCB				IAmb		IAmb	22 22 28.0	
	comp=Z,2.8nm,0.7s							
IL31		**83.31**	**11**	P		P	22 22 28.0	-2.8
IL31				IAmb		IAmb	22 23 26.2	
	comp=Z,9.4nm,1.6s							
ILAR	**Eielson Array**	**83.31**	**11**	P		P	22 22 29.1	-1.9
	comp=Z,0.8nm,0.7s,baz=238,slow=6.4,SNR=5.6							
CMAR	**Chiang Mai Arr**	**93.34**	**288**	P		P	22 23 18.7	-1.5
	comp=Z,0.4nm,0.7s,baz=111,slow=2.0,SNR=2.8							
SONM	**Songino Array**	**95.86**	**318**	LR		LR	23 02 38.8	
	comp=Z,17nm,20.3s,baz=186,slow=33							
ARCES	**ARCESS Array B**	**125.62**	**352**	PKP		**PKPdf**	**22 29 04.3**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=48,slow=1.8,SNR=9.6							
FINES	**FINESS Array B**	**132.98**	**348**	PKP		PKPdf	22 29 18.1	-1.5
	comp=Z,0.5nm,0.5s,baz=90,slow=1.9,SNR=5.9							
CLL	**Collm**	**144.82**	**354**	*e*PKPdf		PKPbc	22 29 39.0	-1.5
OSTC	**Ostas**	**145.11**	**350**	*e*PKP		PKPbc	22 29 36.0	-5.5
DPC	**Dobruska-Polom**	**145.29**	**350**	*e*PKP		PKPdf	22 29 41.0	-1.4
DPC				*ex*		x	22 29 55.2	
BURAR	**Bucovina Array**	**145.43**	**338**	⇑P		**PKPdf**	**22 29 41.5**	**-1.2**
KRLC	**Kraliky**	**145.47**	**349**	*e*PKP		**PKPdf**	**22 29 41.4**	**-1.3**
TESR	**Tescani**	**145.81**	**336**	⇑P		PKPdf	22 29 40.9	-2.5
GHRR		**145.87**	**334**	⇑P		**PKPdf**	**22 29 43.5**	**0.0**
PRU	**Pruhonice**	**145.92**	**351**	*e*PKP		**PKPdf**	**22 29 42.4**	**-1.0**
PRU				*ex*		x	22 29 56.9	
TLCR		**145.95**	**332**	⇑P		**PKPdf**	**22 29 42.3**	**-1.3**
CFR	**Carcaliu**	**146.26**	**333**	⇑P		**PKPdf**	**22 29 43.9**	**-0.2**
PLOR	**Plostina**	**146.35**	**335**	⇑P		**PKPdf**	**22 29 43.4**	**-1.0**
TOPG	**Topolog**	**146.39**	**332**	⇑P		**PKPdf**	**22 29 44.2**	**-0.2**
HARR	**Harsova**	**146.73**	**332**	⇓P		**PKPdf**	**22 29 45.3**	**+0.4**
DOPR	**Dopca**	**146.75**	**336**	⇑P		**PKPdf**	**22 29 45.6**	**+0.6**
KHC	**Kasperske Hory**	**146.90**	**352**	*e*PKP		**PKPdf**	**22 29 45.2**	**0.0**
MLR	**Muntele Rosu**	**146.93**	**335**	⇑P		**PKPdf**	**22 29 46.2**	**+0.7**
GERES	**GERESS Array B**	**147.16**	**352**	PKPbc		**PKPdf**	**22 29 46.0**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=30,slow=3.5,SNR=11							
GERES	**GERESS Array B**	**147.16**	**352**			**PKPdf**	**22 29 46.0**	**+0.3**
BRTR	**Keskin Array B**	**147.19**	**320**	PKPbc		**PKPdf**	**22 29 46.5**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=124,slow=2.4,SNR=16							
BRTR	**Keskin Array B**	**147.19**	**320**			**PKPdf**	**22 29 46.0**	**-0.1**
CONA	**Conrad Observa**	**147.70**	**349**	*e*PKiKP		**PKPdf**	**22 29 48.3**	**+1.7**
	comp=Z,2.3nm,0.7s							
MOA	**Molln**	**148.05**	**351**	*e*PKPab		**PKPdf**	**22 29 48.9**	**+1.8**
	comp=Z,1.3nm,0.6s							
BZS	**Buzias**	**148.39**	**340**	⇓P		**PKPdf**	**22 29 49.6**	**+1.9**
HERR	**Herculane**	**148.77**	**339**	⇑P		**PKPdf**	**22 29 50.8**	**+2.5**
KBA	**Koelnbreinsper**	**148.94**	**352**	*e*PKiKP		**PKPdf**	**22 29 51.4**	**+2.6**
	comp=Z,2.5nm,0.6s							
WTTA	**Wattenberg**	**148.96**	**354**	*e*PKiKP		**PKPdf**	**22 29 51.3**	**+2.4**
	comp=Z,4.0nm,0.6s							
ABTA	**Abfaltersbach**	**149.37**	**353**	*e*PKiKP		**PKPdf**	**22 29 51.5**	**+2.1**
	comp=Z,3.2nm,0.8s							

IDC 12 22:14:19.1±7.0, 19°.89S×177°.64W, h596km±86km, mb3.0/5, mb1 3.3/7, mb1mx3.0/33, mbtmp4.2/7, Error ellipse: s-maj=59.2km s-min=30.3km az=15.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.02**	**259**	P		P	22 17 28.4	+0.7
	0.3nm,0.3s,baz=77,slow=18,SNR=2.3							
URZ	**Urewera**	**18.87**	**193**	P		P	22 18 02.3	-0.2
	2.1nm,0.3s,baz=349,slow=5.2,SNR=7.5							
CTA	**Charters Tower**	**33.89**	**263**	P		P	22 20 14.1	0.0
	3.5nm,0.5s,baz=96,slow=9.2,SNR=2.3							
ASAR	**Alice Springs**	**44.99**	**256**	P		P	22 21 43.0	+0.2
	0.9nm,0.4s,baz=86,slow=8.2,SNR=8.1							
WRA	**Warramunga Arr**	**45.02**	**261**	P		P	22 21 42.5	-0.7
	0.5nm,0.3s,baz=98,slow=7.7,SNR=9.1							
FITZ	**Fitzroy Crossi**	**53.44**	**262**	P		P	22 22 45.3	+0.3
	6.5nm,1.2s,baz=90,slow=5.1,SNR=1.6							
TXAR	**Lajitas Array**	**86.44**	**57**	P		P	22 26 00.1	+0.2
	0.2nm,0.6s,baz=215,slow=6.2,SNR=3.2							
GERES	**GERESS Array B**	**149.70**	**345**	PKPbc		PKPbc	22 33 02.0	-0.5
	0.4nm,0.6s,baz=358,slow=2.9,SNR=3.6							

IDC 12 22:29:26.5±24.0, 54°.17N×99°.49E, h0km, Error ellipse: s-maj=152.4km s-min=141.8km az=112.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I34MN	**SONGINO INFRAS**	**7.72**	**143**	*i*			23 16 30.0	
	baz=326,slow=324,SNR=0.5							
I46RU	**ZALESOVO INFRA**	**8.64**	**274**	*i*			23 20 52.7	
	baz=81,slow=318,SNR=3.7							
I31KZ	**AKTYUBINSK INF**	**25.37**	**279**	*i*			01 06 40.0	
	baz=65,slow=324,SNR=1.1							

*KNET **12** 22:30:46.2±0.4, 43°.16N×75°.23E, h18km±3km, ml1.2, Error ellipse: s-maj=3.6km s-min=2.1km az=33.0*

*KRNET **12** 22:30:46.4±0.1, 43°.18N×75°.24E, h18km, mb2.4*

*NNC **12** 22:30:46.3±0.3, 43°.20N×75°.26E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=2.3km s-min=2.0km az=4.0*

*SOME **12** 22:30:46.2, 43°.20N×75°.22E, h10km*

ISC 12 22:30:46.3±0.8, 43°.18N±0°.02×75°.25E±0°.01, h17km±7km, n53, σ0958/101, 39C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TKM2	**Tokmak 2**	**0.37**	**135**	⇓*i*P		**Pg**	**22 30 53.6**	**-0.5**
TKM2				⇓*i*S		**Sg**	**22 30 58.9**	**-0.4**
	baz=35							
TKM2	**Tokmak 2**	**0.37**	**135**	P		**Pg**	**22 30 53.8**	**-0.3**
TKM2				⇑S		**Sg**	**22 30 59.0**	**-0.4**
	4.5nm,0.1s,SNR=153							
TKM2	**Tokmak 2**	**0.37**	**135**	⇑P		**Pg**	**22 30 53.6**	**-0.5**
TKM2				⇑S		**Sg**	**22 30 59.0**	**-0.4**
	0.5nm,0.2s							
DGS	**Degeres**	**0.39**	**81**	⇑*e*P		**Pg**	**22 30 54.3**	**-0.1**
DGS				⇑*e*S		**Sg**	**22 30 59.8**	**-0.1**
	4.8nm,0.1s							
DGS	**Degeres**	**0.39**	**81**	⇑*e*P		**Pg**	**22 30 54.3**	**-0.1**
DGS				*e*S		**Sg**	**22 30 59.9**	**-0.1**
	baz=81							
DGS	**Degeres**	**0.39**	**81**	P		**Pg**	**22 30 54.3**	**-0.1**
DGS				S		**Sg**	**22 30 59.9**	**-0.1**
	7.8nm,0.1s							
CHMS	**Chumysh**	**0.41**	**243**	⇑*i*P		**Pg**	**22 30 54.4**	**-0.3**
CHMS				⇑*i*S		**Sg**	**22 31 00.3**	**-0.1**
	baz=43							
CHMS	**Chumysh**	**0.41**	**243**	⇑P		**Pg**	**22 30 54.6**	**-0.1**
CHMS				⇑S		**Sg**	**22 31 00.6**	**+0.2**
	2.3nm,0.1s,SNR=29							
KST	**Kastek**	**0.54**	**105**	⇑*e*P		**Pg**	**22 30 57.0**	**-0.2**
KST				⇑*e*S		**Sg**	**22 31 04.7**	**+0.1**
	20nm,0.2s							
KST	**Kastek**	**0.54**	**105**	⇑*e*P		**Pg**	**22 30 57.0**	**-0.2**
KST				*e*S		**Sg**	**22 31 04.7**	**+0.1**
	baz=5.0							
KST	**Kastek**	**0.54**	**105**	⇑*e*P		**Pg**	**22 30 57.0**	**-0.2**
KST				*e*S		**Sg**	**22 31 04.7**	**+0.1**
	4.6nm,0.2s							
KST	**Kastek**	**0.54**	**105**	P		**Pg**	**22 30 57.0**	**-0.2**
KST				S		**Sg**	**22 31 04.7**	**+0.1**
	28nm,0.2s							
USP	**Ospenovka**	**0.55**	**279**	⇑*i*P		**Pg**	**22 30 56.9**	**-0.4**
	baz=79							
USP				⇑*i*S		**Sg**	**22 31 04.5**	**-0.3**
	baz=79							
USP	**Ospenovka**	**0.55**	**279**	⇑P		**Pg**	**22 30 57.0**	**-0.4**
	3.8nm,0.1s,SNR=15							
USP				⇑S		**Sg**	**22 31 04.5**	**-0.3**
	6.2nm,0.1s							
KBK	**Karagaybulak**	**0.57**	**203**	⇑*e*P		**Pg**	**22 30 57.4**	**-0.3**
	baz=2.0							
KBK				⇑*i*S		**Sg**	**22 31 05.4**	**0.0**
	baz=2.0							
KBK	**Karagaybulak**	**0.57**	**203**	⇓P		**Pg**	**22 30 57.7**	**0.0**
	1.6nm,0.1s,SNR=6.7							
KBK				⇓S		**Sb**	**22 31 06.2**	**+0.4**
	23nm,0.2s							
FRU1	**Bishkek**	**0.59**	**231**	⇑*i*P		**Pg**	**22 30 57.6**	**-0.4**
	baz=31							
FRU1				⇑*i*S		**Sg**	**22 31 05.8**	**0.0**
	baz=31							
KRBS	**Karabastau**	**0.60**	**31**	⇓*e*P		**Pg**	**22 30 58.0**	**-0.3**
	1.6nm,0.1s							
KRBS				*e*S		**Sg**	**22 31 06.0**	**-0.3**
	10nm,0.1s							
KRBS	**Karabastau**	**0.60**	**31**	P		**Pg**	**22 30 58.0**	**-0.3**
	1.6nm,0.1s							
KRBS				S		**Sg**	**22 31 06.0**	**-0.3**
	10nm,0.1s							
AAK	**Ala-Archa**	**0.78**	**226**	⇑*i*P		**Pb**	**22 31 00.8**	**-0.7**
	baz=26							
AAK				⇑*e*S		**Sb**	**22 31 11.8**	**+0.1**
	baz=26							
IZV	**Izvestkoviy**	**1.01**	**98**	*e*P		**Pb**	**22 31 05.7**	**+0.2**
	baz=98							
IZV				*e*S		**Sn**	**22 31 19.7**	**-0.1**
	baz=98							
IZV	**Izvestkoviy**	**1.01**	**98**	*e*P		**Pb**	**22 31 05.7**	**+0.2**
	1.7nm,0.1s							
IZV				*e*S		**Sn**	**22 31 19.7**	**-0.1**
	9.1nm,0.1s							
IZV	**Izvestkoviy**	**1.01**	**98**	P		**Pb**	**22 31 05.7**	**+0.2**
	1.7nm,0.1s							
IZV				S		**Sn**	**22 31 19.7**	**-0.1**
	9.1nm,0.1s							
UCH	**Uchtor**	**1.10**	**210**	⇑*i*P		**Pb**	**22 31 06.7**	**-0.4**
	baz=10.0							
UCH				⇑*i*S		**Sb**	**22 31 21.8**	**+0.5**
	baz=10.0							
UCH	**Uchtor**	**1.10**	**210**	⇓P		**Pb**	**22 31 07.2**	**0.0**
	0.3nm,0.1s,SNR=8.8							
UCH				⇑S		**Sb**	**22 31 21.8**	**+0.5**
	6.8nm,0.2s							
KZA	**Kyzart**	**1.10**	**180**	⇑P		**Pb**	**22 31 07.3**	**+0.1**
	2.6nm,0.1s,SNR=9.2							
KTBS	**Karatobe**	**1.17**	**63**	*e*P		**Pn**	**22 31 07.9**	**-0.1**
	1.7nm,0.1s							
KTBS				*e*S		**Sn**	**22 31 23.4**	**-0.2**
	7.4nm,0.3s							
KTBS	**Karatobe**	**1.17**	**63**	P		**Pn**	**22 31 07.9**	**-0.1**
	1.7nm,0.1s							
KTBS				S		**Sn**	**22 31 23.3**	**-0.2**
	7.4nm,0.3s							
ULHL	**Ulahol**	**1.19**	**142**	⇓*e*P		**Pn**	**22 31 08.2**	**-0.2**
	baz=41							
ULHL				⇓*i*S		**Sn**	**22 31 24.6**	**+0.4**
	baz=41							
EKS2	**Erkin-Say**	**1.20**	**245**	⇑*i*P		**Pn**	**22

IDC ***12*** *22:31:44.8±3.7,35˚.91S×177˚.54E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.6/31,mbtmp3.5/4,ML2.9/1,MS3.1/1, Ms1 3.1/1,ms1mx2.6/22,Error ellipse: s-maj=95.1km s-min=28.8km az=54.0*

WEL ***12*** *22:31:45.4,36˚.S±17˚×17˚.8E±1˚.7,h33km,M3.6/12, ML3.7/12,MLv3.6/12,Error ellipse: s-maj=0.0km s-min=0.0km az=44.4*

ISC 12 22:31:43.1±3.8,**35˚.85S**±0˚.09×**178˚.3E**±0˚.1,**h6**km±23km, **n27,**σ2⁰**20**/33,**mb3.6**/3,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.71**	**180**	P		**Pn**	**22 32 09.2**	**-4.1**
HAZ	**Te Kaha**	**1.95**	**192**	P		**Pn**	**22 32 16.0**	**-0.7**
HAZ				S		**Sn**	**22 32 41.0**	**-0.4**
WMGZ	**Waiomatatini S**	**1.97**	**178**	P		**Pn**	**22 32 15.5**	**-1.4**
WMGZ				S		**Sn**	**22 32 41.3**	**-0.6**
RUGZ	**Raukumara Rang**	**2.17**	**193**	P		**Pn**	**22 32 18.1**	**-1.7**
PUZ	**Puketiti**	**2.22**	**181**	P		**Pn**	**22 32 22.4**	**+2.1**
PUZ				S		**Sn**	**22 32 47.0**	**-1.1**
TWGZ	**Tauwhareparae**	**2.34**	**186**	P		**Pn**	**22 32 23.8**	**+1.7**
GRZ	**Great Barrier**	**2.34**	**259**	P		**Pn**	**22 32 23.2**	**+1.1**
MWZ	**Matawai**	**2.56**	**194**	P		**Pn**	**22 32 26.5**	**+1.4**
MWZ				S		**Sn**	**22 32 59.0**	**+2.5**
URZ	**Urewera**	**2.59**	**201**	Pn		**Pn**	**22 32 23.6**	**-1.8**
	3.0nm,0.3s,baz=39,slow=13,SNR=7.2							
URZ				Sn		**Sn**	**22 32 53.0**	**-4.1**
	3.3nm,0.3s,baz=274,slow=23,SNR=6.2							
URZ	**Urewera**	**2.59**	**201**	P		**Pn**	**22 32 24.1**	**-1.3**
URZ				S		**Sn**	**22 32 56.6**	**-0.6**
TKGZ	**Te Karaka**	**2.61**	**188**	P		**Pn**	**22 32 28.4**	**+2.7**
RAGZ	**Rawiri**	**2.73**	**195**	P		**Pn**	**22 32 28.3**	**+0.7**
RIGZ	**Rimuhau**	**2.88**	**189**	P		**Pn**	**22 32 29.9**	**+0.3**
RIGZ				S		**Sn**	**22 33 05.7**	**+1.1**
MUGZ	**Murupara**	**2.90**	**205**	P		**Pn**	**22 32 27.0**	**-2.7**
TOZ	**Tahuroa Road**	**2.93**	**229**	P		**Pb**	**22 32 37.2**	**+1.5**
RTZ	**Ruatahuna**	**2.96**	**201**	P		**Pn**	**22 32 32.4**	**+1.8**
SNGZ	**Shannon Statio**	**3.03**	**194**	P		**Pn**	**22 32 34.2**	**+2.7**
AWAZ	**Awhitu Peninsu**	**3.19**	**247**	P		**Pb**	**22 32 39.2**	**-0.9**
RAHZ	**Arahi**	**3.21**	**197**	P		**Pb**	**22 32 39.5**	**-1.0**
MTHZ	**Maungataniwha**	**3.22**	**201**	P		**Pn**	**22 32 36.9**	**+2.8**
NMHZ	**Naumai**	**3.45**	**200**	P		**Pn**	**22 32 35.6**	**-1.9**
BKZ	**Black Stump Fm**	**3.61**	**203**	P		**Pn**	**22 32 43.0**	**+3.4**
RAR	**Raratonga**	**24.08**	**59**	LR		LR	22 45 29.7	
	comp=Z,50nm,21.7s,baz=210,slow=34							
ASAR	**Alice Springs**	**40.10**	**275**	P		**P**	**22 39 17.3**	**-2.3**
	1.1nm,0.8s,baz=117,slow=7.6,SNR=8.3							
WRA	**Warramunga Arr**	**41.60**	**280**	P		**P**	**22 39 29.5**	**-2.5**
	0.4nm,0.6s,baz=119,slow=7.6,SNR=1.9							
QSPA	**South Pole Qui**	**54.27**	**180**	P		**P**	**22 41 13.1**	**+3.4**
	0.5nm,0.6s,baz=54,slow=6.0							
TORD	**Torodi Ar. Bea**	**157.19**	**189**	PKPab		**PKPab**	**22 52 11.0**	**+0.2**
	0.4nm,0.7s,baz=162,slow=3.2,SNR=2.6							

MDD ***12*** *22:45:26.8±0.7,36˚.43N×0˚.88E,h0km,mbLg2.0/7,Error ellipse: s-maj=8.8km s-min=4.3km az=84.0,PRXIMO*

CRAAG ***12*** *22:45:27.4,36˚.19N×0˚.84E,Ml2.8*

ISC 12 22:45:26.2±1.1,**36˚.29N**±0˚.04×**0˚.82E**±0˚.05,**h16**km,**n13,** σ1⁹**08**/21,**Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OKGL	**Djebel Kef Gue**	**0.29**	**209**	P		**Pn**	**22 45 35.1**	**-0.7**
	89nm,0.5s,SNR=7.9							
OKGL				S		**Sn**	**22 45 41.0**	**-0.9**
	284nm,0.4s,SNR=7.9							
EANR	**'Ain N'Sour**	**0.41**	**146**	P		**Pg**	**22 45 35.0**	**+0.4**
EANR	**'Ain N'Sour**	**0.41**	**146**	P		**Pg**	**22 45 35.0**	**+0.4**
EBNR	**Beni Rached**	**0.57**	**90**	P		**Pn**	**22 45 40.0**	**+0.2**
EMUR	**La Murta**	**2.26**	**314**	P		**Pn**	**22 46 02.2**	**-0.7**
	2.9nm,0.7s,SNR=7.9							
EMUR				S		**Sn**	**22 46 29.9**	**-0.7**
	2.5nm,0.5s,SNR=7.9							
EBEN2	**Beniarda presa**	**2.51**	**342**	P		**Pn**	**22 46 05.9**	**-0.5**
	6.2nm,0.8s,SNR=7.9							
EBEN2				S		**Sn**	**22 46 35.0**	**-1.8**
	12nm,0.6s,SNR=7.9							
ENIJ	**Nijar**	**2.53**	**286**	P		**Pn**	**22 46 07.2**	**+0.5**
	3.3nm,0.5s,SNR=7.9							
EIBI	**Ibiza**	**2.76**	**9**	P		**Pn**	**22 46 09.9**	**+0.1**
	3.0nm,0.5s,SNR=7.9							
EIBI				S		**Sn**	**22 46 41.7**	**-1.2**
	1.0nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**3.01**	**322**	P		**Pn**	**22 46 13.9**	**+0.6**
	1.8nm,0.7s,SNR=6.4							
ETOB				S		**Sn**	**22 46 47.3**	**-1.8**
	2.1nm,0.3s,SNR=7.9							
EBER	**Berja**	**3.04**	**283**	P		**Pn**	**22 46 15.2**	**+1.3**
	3.5nm,0.5s,SNR=7.9							
EBER				S		**Sn**	**22 46 49.7**	**-0.4**
	0.5nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**3.25**	**305**	P		**Pn**	**22 46 17.9**	**+1.2**
	0.7nm,0.4s,SNR=7.9							
SESP				S		**Sn**	**22 46 54.4**	**-0.7**
	1.4nm,0.2s,SNR=7.9							
EQES	**Quesada**	**3.46**	**297**	P		**Pn**	**22 46 20.7**	**+1.2**
	3.1nm,0.7s,SNR=7.9							
EQES				S		**Sn**	**22 46 59.5**	**-0.7**
	0.5nm,0.1s,SNR=7.9							
EPOB	**Poblet**	**5.06**	**2**	P		**Pn**	**22 46 43.4**	**+1.9**
	2.4nm,0.8s,SNR=7.9							
EPOB				S		Sn	22 47 28.9	-11
	0.9nm,0.2s,SNR=7.9							

IDC ***12*** *23:02:04.2±2.1,9˚.75N×126˚.33E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/38,mbtmp3.7/5,Error ellipse: s-maj=229.3km s-min=24.8km az=68.0*

MAN ***12*** *23:02:12.7,9˚.52N×125˚.96E,h5km,mb4.7,ML3.6,MS3.5*

ISC 12 23:02:13.7±1.0,**9˚.59N**±0˚.06×**126˚.13E**±0˚.10,**h67**km,**n18,** σ0⁹**95**/17,**mb3.7**/5,**1C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.37**	**294**	*eP*		**Pn**	**23 02 37.1**	**+0.2**
MSLP				*eS*		**Sn**	**23 02 55.4**	**+1.2**
BUKP	**Musuan**	**2.00**	**212**	*eP*		**Pn**	**23 02 45.6**	**+0.2**
BUKP				*eS*		**Sn**	**23 03 10.7**	**+1.2**
TBP	**Tagbilaran**	**2.24**	**273**	*eP*		**Pn**	**23 02 48.3**	**-0.3**
LLP	**Lapu-Lapu**	**2.25**	**289**	↑*P*		**Pn**	**23 02 49.3**	**+0.5**
LLP				*eS*		**Sn**	**23 03 15.2**	**-0.4**
KCP	**Kidapawan**	**2.76**	**202**	↓*P*		**Pn**	**23 02 55.7**	**0.0**
KCP				*i* S		**Sn**	**23 03 30.0**	**+2.0**
PAGZ	**Pagadian**	**3.22**	**238**	*eP*		**Pn**	**23 03 02.1**	**+0.1**
CNP	**Catarman**	**3.25**	**334**	*eP*		**Pn**	**23 03 03.8**	**+1.5**
WRA	**Warramunga Arr**	**30.43**	**165**	P		**P**	**23 08 19.3**	**-0.8**
	0.4nm,0.6s,baz=343,slow=8.9,SNR=2.2							
ASAR	**Alice Springs**	**33.91**	**167**	P		**P**	**23 08 50.5**	**-0.1**
	0.4nm,0.3s,baz=351,slow=6.9,SNR=5.7							
ASAR				PcP		**PcP**	**23 11 27.4**	**-0.5**
	0.2nm,0.3s,baz=354,slow=3.4,SNR=2.0							
H11S3	**WAKE ISLAND Hy 40.25**	**73**		T		T	23 52 45.5	
	baz=262,slow=75,SNR=8.0							
H11S1	**WAKE ISLAND Hy 40.26**	**73**		T		T	23 52 42.4	
	baz=262,slow=75,SNR=6.3							
H11S2	**WAKE ISLAND Hy 40.26**	**73**		T		T	23 52 49.4	
	baz=262,slow=75,SNR=7.3							
H11N1	**WAKE ISLAND Hy 40.60**	**71**		T		T	23 53 07.6	
	baz=262,slow=75,SNR=11							
H11N2	**WAKE ISLAND Hy 40.61**	**71**		T		T	23 53 08.1	
	baz=262,slow=75,SNR=6.8							
H11N3	**WAKE ISLAND Hy 40.62**	**71**		T		T	23 53 09.3	
	baz=262,slow=75,SNR=9.1							
MKAR	**Makanchi Array**	**52.49**	**323**	P		**P**	**23 11 19.4**	**-0.6**
	0.3nm,0.6s,baz=124,slow=7.6,SNR=4.2							
FINES	**FINESS Array B**	**86.42**	**332**	P		**P**	**23 14 47.7**	**-1.0**
	1.0nm,0.9s,baz=76,slow=8.7,SNR=5.3							
VNDA	**Vanda**	**89.27**	**173**	P		**P**	**23 15 02.6**	**+0.7**
	0.3nm,0.7s,baz=325,slow=5.9,SNR=1.9							

IDC ***12*** *23:11:28.3±4.3,24˚.40S×179˚.78E,h555km±49km,mb3.3/6, mb1 3.5/8,mb1mx3.1/30,mbtmp4.3/8,Error ellipse: s-maj=38.8km s-min=24.2km az=32.0*

ISC 12 23:11:25.7±1.3,**24˚.5S**±0˚.1×**179˚.9E**±0˚.2,**h517**km,**n8,** σ1⁹**67**/9,**mb3.9**/6,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.59**	**278**	P		**P**	**23 14 11.9**	**+1.3**
	0.9nm,0.3s,baz=86,slow=17,SNR=7.3							
URZ	**Urewera**	**13.95**	**189**	P		**P**	**23 14 27.0**	**+2.5**
	0.3nm,0.3s,baz=333,slow=2.3,SNR=2.0							
URZ				S		**S**	**23 16 49.6**	**-2.3**
	0.4nm,0.3s,baz=74,slow=23,SNR=6.0							
CTA	**Charters Tower**	**31.39**	**271**	P		**P**	**23 17 04.0**	**-0.1**
	8.2nm,0.4s,baz=93,slow=11,SNR=17							
STKA	**Stephens Creek**	**34.43**	**249**	P		**P**	**23 17 29.5**	**-0.3**
	1.7nm,0.4s,baz=95,slow=11,SNR=9.6							
ASAR	**Alice Springs**	**41.85**	**261**	P		**P**	**23 18 29.4**	**-1.0**
	1.5nm,0.5s,baz=95,slow=7.2,SNR=20							
WRA	**Warramunga Arr**	**42.28**	**267**	P		**P**	**23 18 32.4**	**-1.4**
	4.9nm,0.5s,baz=104,slow=8.1,SNR=29							
QSPA	**South Pole Qui**	**65.62**	**180**	P		**P**	**23 21 18.1**	**0.0**
	0.8nm,0.8s,baz=29,slow=1.7,SNR=6.6							
TXAR	**Lajitas Array**	**90.81**	**58**	P		**P**	**23 23 33.4**	**-0.5**
	0.5nm,0.8s,baz=218,slow=5.7,SNR=2.6							

NEIC ***12*** *23:14:22.4±1.6,24˚.4S±0˚.1×179˚.8W±0˚.1,h500km±7km, mb4.1/14,Error ellipse: s-maj=18.4km s-min=14.5km az=128.0*

IDC ***12*** *23:14:23.3±1.8,24˚.36S×180˚.00E,h497km±18km, mb3.4/11,mb1 3.6/13,mb1mx3.3/29,mbtmp4.3/13,Error ellipse: s-maj=18.4km s-min=14.9km az=68.0*

ISC 12 23:14:23.3±0.5,**24˚.33S**±0˚.08×**179˚.86W**±0˚.09,**h505**km, **n42,**σ1⁹**37**/44,**mb3.8**/11,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.85**	**343**	P		**P**	**23 16 10.2**	**+1.9**
DZM	**Mont Dzumac**	**12.80**	**277**	P		**P**	**23 17 11.6**	**+1.2**
	1.7nm,0.3s,baz=83,slow=17,SNR=16							
AFI	**Afiamalu**	**12.87**	**38**	P		**P**	**23 17 11.0**	**-0.2**
	6.3nm,0.3s,baz=120,slow=4.8,SNR=7.7							
URZ	**Urewera**	**14.13**	**190**	P		**P**	**23 17 21.9**	**-2.1**
	1.1nm,0.3s,baz=318,slow=12,SNR=2.3							
URZ				S		S	23 19 43.1	-10
	0.2nm,0.3s,baz=45,slow=20,SNR=1.5							
BKZ	**Black Stump Fm**	**15.11**	**191**	P		**P**	**23 17 35.9**	**+1.5**
VRZ	**Vera Road**	**15.44**	**196**	P		**P**	**23 17 41.4**	**+3.6**
MOVZ	**Moawhango**	**15.49**	**193**	P		**P**	**23 17 39.1**	**+0.8**
BHHZ	**Black Hill Sta**	**15.51**	**192**	P		**P**	**23 17 38.7**	**+0.2**
KRHZ	**Kereru**	**15.60**	**191**	P		**P**	**23 17 39.4**	**-0.1**
KAHZ	**Kahuranaki**	**15.67**	**189**	P		**P**	**23 17 40.9**	**+0.7**
TSZ	**Takapari Road**	**16.08**	**192**	P		**P**	**23 17 44.2**	**-0.2**
BFZ	**Birch Farm**	**16.63**	**190**	P		**P**	**23 17 48.4**	**-1.8**
MRZ	**Mangatainoka R**	**16.73**	**192**	P		**P**	**23 17 49.1**	**-2.1**
OGWZ	**Otaki Gorge**	**16.96**	**193**	P		**P**	**23 17 52.4**	**-1.1**
HOWZ	**Holdsworth Sta**	**16.97**	**192**	P		**P**	**23 17 52.2**	**-1.4**
QRZ	**Quartz Range**	**17.65**	**199**	P		**P**	**23 17 58.8**	**-1.1**
THZ	**Tophouse**	**18.40**	**197**	P		**P**	**23 18 05.3**	**-1.7**
RPZ	**Rata Peaks**	**20.73**	**199**	P		**P**	**23 18 26.8**	**-1.3**
	15nm,0.6s,baz=34,slow=0.5,SNR=7.4							
CTA	**Charters Tower**	**31.61**	**271**	P		**P**	**23 20 04.6**	**+0.3**
	11nm,0.4s,baz=96,slow=11,SNR=19							
XMAS	**Kiritimati**	**34.08**	**43**	P		**P**	**23 20 24.9**	**-0.4**
STKA	**Stephens Creek**	**34.69**	**249**	P		**P**	**23 20 29.6**	**-0.7**
	1.4nm,0.4s,baz=100,slow=11,SNR=6.7							
TAOE	**Nuku Hiva Isla**	**40.87**	**75**	P		**P**	**23 21 19.3**	**-1.8**
ASAR	**Alice Springs**	**42.10**	**261**	P		**P**	**23 21 30.1**	**-0.6**
	1.4nm,0.5s,baz=95,slow=7.3,SNR=18							
WB0	**Warramunga Arr**	**42.51**	**267**	P		**P**	**23 21 33.4**	**-0.6**
WRA	**Warramunga Arr**	**42.51**	**267**	P		**P**	**23 21 32.9**	**-1.2**
	6.6nm,0.6s,baz=104,slow=8.0,SNR=33							
WRA				PcP		**PcP**	**23 23 17.5**	**+2.1**
	0.7nm,0.6s,baz=99,slow=3.1,SNR=3.0							
WRA				ScP		**ScP**	**23 26 18.7**	**+0.8**
	0.7nm,0.8s,baz=100,slow=4.1,SNR=4.9							
WRA	**Warramunga Arr**	**42.51**	**267**	P		**P**	**23 21 33.1**	**-0.9**
VNDA	**Vanda**	**53.97**	**185**	P		**P**	**23 22 59.9**	**+1.2**
	0.5nm,0.6s,baz=10,slow=7.8,SNR=5.5							
QSPA	**South Pole Qui**	**65.76**	**180**	P		**P**	**23 24 18.5**	**+0.9**
	3.0nm,0.6s,baz=2.8,slow=0.8,SNR=30							
QSPA	**South Pole Qui**	**65.76**	**180**	P		**P**	**23 24 18.6**	**+1.1**
QSPA				IAmb		IAmb	23 24 19.5	
	comp=Z,4.0nm,0.8s							
KSM	**Kuching**	**72.31**	**280**	P		**P**	**23 24 55.6**	**-2.1**
KSM				IAmb		IAmb	23 24 56.8	
	comp=Z,13nm,1.1s							
MJAR	**Matsushiro Arr**	**72.32**	**326**	P		**P**	**23 24 57.4**	**+0.1**
MAW	**Mawson**	**77.40**	**200**	P		**P**	**23 25 25.7**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=79,slow=10,SNR=1.9							
MAW	**Mawson**	**77.40**	**200**	IAmb		IAmb	23 25 47.0	
	comp=Z,6.6nm,1.9s							
INCN	**Inchon**	**79.44**	**319**	P		**P**	**23 25 34.8**	**-2.0**
PEA0B	**Petropavlovsk-**	**79.54**	**346**	P		**P**	**23 25 36.3**	**-0.6**
PETK	**Petropavlovsk-**	**79.54**	**346**	P		**P**	**23 25 37.9**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=134,slow=6.2,SNR=3.1							
SNAA	**Sanae**	**84.24**	**179**	P		**P**	**23 26 00.4**	**-0.5**
TXAR	**Lajitas Array**	**90.54**	**58**	P		**P**	**23 26 33.9**	**+2.5**
	comp=Z,0.4nm,0.8s,baz=208,slow=7.2,SNR=3.5							
FINES	**FINESS Array B**	**138.89**	**341**	PKhKP		PKPpre	23 32 35.7	
	comp=Z,2.8nm,1.0s,baz=35,slow=5.1,SNR=2.2							
FINES				PKP		**PKPdf**	**23 32 51.8**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=35,slow=5.1,SNR=1.6							
FINES				SKPbc		**SKPbc**	**23 35 37.4**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=27,slow=4.7,SNR=5.1							
AKASG	**Malin Array Be**	**145.40**	**327**	PKPbc		**PKPbc**	**23 33 03.7**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=43,slow=4.1,SNR=5.4							
BRTR	**Kekin Array B**	**147.94**	**307**	PKPbc		**PKPbc**	**23 33 11.5**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=84,slow=3.6,SNR=2.0							
TORD	**Torodi Ar. Bea**	**168.78**	**188**	PKPab		**PKPab**	**23 34 45.5**	**-0.9**
	comp=Z,0.7nm,1.0s,baz=176,slow=4.2,SNR=2.3							

TRN ***12*** *23:21:43.3,17˚.50N×61˚.99W,h63km,MD4.2*

TRN Felt in Antigua MMI II.

NEIC ***12*** *23:21:44.0±0.6,17˚.5N±0˚.1×62˚.0W±0˚.2,h69km±11km, Md4.2(TRN),Error ellipse: s-maj=28.7km s-min=6.5km az=46.0*

ISC 12 23:21:43.5±1.5,**17˚.56N**±0˚.06×**61˚.95W**±0˚.06,**h73**km±8km, **n66,**σ0⁸**89**/91,**Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.19**	**54**	*eP*		**Pn**	**23 21 54.7**	**+0.3**
ANWB				*eS*		**Sn**	**23 22 02.5**	**0.0**
ANWB	**Willy Bob**	**0.19**	**54**			**Pn**	**23 21 54.8**	**+0.3**
NVRH	**Round Hill, Ne**	**0.73**	**239**	*eP*		**Pn**	**23 21 59.9**	**+0.8**
NVRH				*eS*		**Sn**	**23 22 10.5**	**0.0**
SKTB	**Turtle Beach**	**0.73**	**242**	*eP*		**Pn**	**23 21 59.9**	**+0.9**
SKTB				*eS*		**Sn**	**23 22 10.4**	**0.0**
NVBH	**Bath Hotel, Ne**	**0.78**	**236**	*eP*		**Pn**	**23 22 00.5**	**+0.9**
NVBH				*eS*		**Sn**	**23 22 11.4**	**+0.1**
SKI	**Saint Kitts**	**0.79**	**254**	*eP*		**Pn**	**23 21 59.5**	**-0.2**
SKI				*eS*		**Sn**	**23 22 10.7**	**-1.0**
SKI	**Saint Kitts**	**0.79**	**254**			**Pn**	**23 21 59.5**	**-0.2**
SKOC	**St. Kitts, UWI**	**0.80**	**251**	*eP*		**Pn**	**23 21 59.6**	**-0.1**
SKOC				*eS*		**Sn**	**23 22 10.8**	**-0.9**
MLYT	**Lee's Yard**	**0.86**	**196**	*eP*		**Pn**	**23 22 00.4**	**-0.2**
MLYT				*eS*		**Sn**	**23 22 12.2**	**-1.0**
SEUS	**St. Eustatius**	**0.99**	**267**	*eP*		**Pn**	**23 22 02.5**	**+0.4**
SEUS				*eS*		**Sn**	**23 22 15.5**	**-0.4**
SEUS	**St. Eustatius**	**0.99**	**267**			**Pn**	**23 22 02.4**	**+0.3**
ABD	**La Joyeuse, An**	**1.16**	**158**	*eP*		**Pn**	**23 22 04.3**	**+0.1**
ABD				*eS*		**Sn**	**23 22 19.7**	**0.0**
SMRT	**St. Maarten**	**1.18**	**295**	*eP*		**Pn**	**23 22 04.8**	**+0.3**
SMRT				*eS*		**Sn**	**23 22 19.6**	**-0.6**
SMRT	**St. Maarten**	**1.18**	**295**			**Pn**	**23 22 04.8**	**+0.3**
CBE	**Ff, Capester**	**1.51**	**168**	*eP*		**Pn**	**23 22 09.1**	**+0.2**
CBE				*eS*		**Sn**	**23 22 28.1**	**+0.2**
MAGL	**Barre de l'ile**	**1.72**	**158**	*eP*		**Pn**	**23 22 11.9**	**+0.3**
MAGL				*eS*		**Sn**	**23 22 32.5**	**-0.2**
TDBA	**Terre de Bas,**	**1.72**	**170**	*eP*		**Pn**	**23 22 12.4**	**+0.8**
TDBA				*eS*		**Sn**	**23 22 33.4**	**+0.5**
MDPV	**Dominica, Penn**	**1.98**	**165**	*eP*		**Pn**	**23 22 16.1**	**+1.1**
MDPV				*eS*		**Sn**	**23 22 39.5**	**+0.5**
DSLB	**Salisbury**	**2.17**	**167**	*eP*		**Pn**	**23 22 18.3**	**+0.8**
DSLB				*eS*		**Sn**	**23 22 43.6**	**+0.1**
MDN	**Morne-Daniel**	**2.29**	**167**	*eP*		**Pn**	**23 22 20.0**	**+0.8**
CDVI	**St. Croix**	**2.70**	**275**	*eP*		**Pn**	**23 22 25.3**	**+0.6**
CDVI				*eS*		**Sn**	**23 22 55.9**	**-0.4**
CDVI	**St. Croix**	**2.70**	**275**	Pn		**Pn**	**23 22 25.4**	**+0.8**
SVN	**Savane Anatole**	**2.80**	**164**	*eP*		**Pn**	**23 22 27.4**	**+1.2**
PCM	**Pelee Case Pet**	**2.81**	**165**	*eP*		**Pn**	**23 22 27.1**	**+0.8**
CXM	**Morne La Croix**	**2.83**	**165**	*eP*		**Pn**	**23 22 27.5**	**+0.8**
BAMF	**Morne Balai**	**2.83**	**164**	*eP*		**Pn**	**23 22 27.7**	**+1.1**
GBMF	**Grand Be**	**2.84**	**165**	*eP*		**Pn**	**23 22 27.3**	**+0.5**
PML	**Morne Lenard**	**2.85**	**165**	*eP*		**Pn**	**23 22 27.5**	**+0.6**
FDF	**Fort de France**	**2.91**	**165**	*eP*		**Pn**	**23 22 27.8**	**+0.2**
FDF				*eS*		**Sn**	**23 23 00.2**	**-1.3**
FDF	**Fort de France**	**2.91**	**165**			**Pn**	**23 22 27.0**	**-0.7**
ILAM	**Ilet Lapin Mar**	**2.95**	**159**	*eP*		**Pn**	**23 22 28.1**	**0.0**
ILAM				*eS*		**Sn**	**23 23 00.2**	**-2.3**
STVI	**Saint Thomas**	**2.97**	**286**	Pn		**Pn**	**23 22 28.5**	**+0.1**
ZAM	**Aeronautique**	**3.09**	**163**	*eP*		**Pn**	**23 22 30.4**	**+0.3**
LPMF	**Morne Lapointe**	**3.11**	**162**	*eP*		**Pn**	**23 22 30.2**	**-0.1**
TRMF	**Trois Ilets**	**3.12**	**164**	*eP*		**Pn**	**23 22 31.6**	**+1.1**
BIM	**Bigot**	**3.14**	**164**	*eP*		**Pn**	**23 22 31.8**	**+1.0**
BIM				*eS*		**Sn**	**23 23 05.2**	**-1.9**
MVM	**Montagne Vaucl**	**3.15**	**161**	*eP*		**Pn**	**23 22 31.2**	**+0.3**
CUPR	**Culebra, Puert**	**3.26**	**284**	Pn		**Pn**	**23 22 32.9**	**+0.5**
MPOM	**Morne Pois Mar**	**3.27**	**161**	*eP*		**Pn**	**23 22 32.7**	**+0.3**
MPOM				*eS*		**Sn**	**23 23 08.3**	**-1.8**
MTP	**Monte Pirata**	**3.48**	**279**			**Pn**	**23 22 35.9**	**+0.6**
SLBI	**Saint Lucia, B**	**3.63**	**165**	*eP*		**Pn**	**23 22 37.9**	**+0.5**
SLBI				*eS*		**Sn**	**23 23 19.4**	**+0.2**
SLW	**Petit Monier**	**3.65**	**164**	*eP*		**Pn**	**23 22 39.9**	**+2.3**
SLW				*eS*		**Sn**	**23 23 18.9**	**-0.6**
HUMP	**Col San Antoni**	**3.77**	**280**			**Pn**	**23 22 39.4**	**+0.1**
SLAC	**Saint Lucia, A**	**3.77**	**164**	*eP*		**Pn**	**23 22 40.7**	**+1.3**
SLAC				*eS*		**Sn**	**23 23 22.5**	**-0.2**
CBYP	**Canovanas**	**3.79**	**281**			**Pn**	**23 22 40.3**	**+0.7**
SLB	**Belfond**	**3.81**	**167**	*eP*		**Pn**	**23 22 41.8**	**+1.9**
SLB				*eS*		**Sn**	**23 23 21.6**	**-1.9**
SLPA	**Patience**	**3.81**	**165**	*eP*		**Pn**	**23 22 42.0**	**+2.1**
PDPR	**Patillas Dam,**	**3.91**	**277**	Pn		**Pn**	**23 22 42.0**	**+0.8**
MCLT	**Moule a Chique**	**3.94**	**166**	*eP*		**Pn**	**23 22 41.6**	**-0.1**
MCLT				*eS*		**Sn**	**23 23 25.8**	**-1.0**
IGPR	**InterUniversit**	**3.99**	**276**			**Pn**	**23 22 42.7**	**+0.5**
GCPR	**Guaynabo City**	**4.01**	**281**			**Pn**	**23 22 43.2**	**+0.6**
SSV	**Crater Summit**	**4.27**	**170**	*eP*		**Pn**	**23 22 47.8**	**+1.6**
SVV	**Soufriere Volc**	**4.27**	**170**	*eP*		**Pn**	**23 22 47.9**	**+1.7**
SVB	**Belmont**	**4.31**	**171**	*eP*		**Pn**	**23 22 47.9**	**+1.1**
SVB	**Belmont**	**4.31**	**171**			**Pn**	**23 22 46.5**	**-0.2**
OBIP	**Obispado Ponce**	**4.47**	**277**			**Pn**	**23 22 49.0**	**+0.2**
AOPR	**Arecibo Observ**	**4.64**	**280**	*eP*		**Pn**	**23 22 51.5**	**+0.2**
AOPR	**Arecibo Observ**	**4.64**	**280**			**Pn**	**23 22 51.6**	**+0.4**
MLPR	**Magueyes Islan**	**4.88**	**276**	Pn		**Pn**	**23 22 53.9**	**-0.5**
CRPR	**Cabo Rojo, PR**	**4.94**	**276**	Pn		**Pn**	**23 22 55.5**	**+0.2**
GCMP	**Grenada, Carri**	**5.07**	**174**	*eP*		**Pn**	**23 22 56.9**	**-0.2**
GRGR	**Grenville**	**5.40**	**177**	*eP*		**Pn**	**23 23 01.6

CSP1 Cessapalombo 0.52 287 ⇓P Pb 00 04 45.6 -1.4
CSP1 S Sb 00 04 55.4 +1.0
CSP1 AML AML
comp=E,2280µm,0.6s
CSP1 AML AML
comp=N,3685µm,0.7s
CAMP Campotosto 0.54 221 ⇓P Pb 00 04 46.0 -1.3
CAMP AML AML
comp=N,2865µm,0.5s
CAMP AML AML
comp=E,2170µm,0.6s
VCEL Villa Celiera 0.55 183 P Pb 00 04 46.0 -1.4
VCEL S Sb 00 04 54.4 -0.8
VCEL AML AML
comp=E,4795µm,1.3s
VCEL AML AML
comp=N,4560µm,1.3s
VCEL AML AML
comp=E,6185µm,0.6s
VCEL AML AML
comp=N,5280µm,0.6s
NRCA Norcia 0.57 259 ⇓P Pb 00 04 46.6 -1.2
NRCA S Sn 00 04 58.1 +1.5
NRCA AML AML
comp=N,2740µm,0.1s
NRCA AML AML
comp=E,3265µm,0.5s
NRCA AML AML
comp=N,2745µm,0.1s
NRCA AML AML
comp=N,2975µm,0.1s
NRCA AML AML
comp=E,3480µm,0.5s
FDMO Fiordimonte 0.59 279 ⇓P Pb 00 04 46.7 -1.3
FDMO S Sn 00 04 57.9 +1.0
FDMO AML AML
comp=E,1720µm,0.6s
FDMO AML AML
comp=N,1740µm,1.0s
AOI Ancona 0.64 342 P Pb 00 04 46.4 -2.5
RM33 Pellescritta (0.66 229 P Pb 00 04 48.0 -1.2
RM33 AML AML
comp=E,3110µm,0.3s
RM33 AML AML
comp=N,2765µm,0.8s
RM33 AML AML
comp=E,3105µm,0.3s
RM33 AML AML
comp=N,2770µm,0.8s
CING Cingoli 0.66 311 ⇓P Pb 00 04 47.4 -1.8
CING S Sn 00 04 59.1 +0.3
CING AML AML
comp=E,2790µm,0.5s
CING AML AML
comp=N,1905µm,0.4s
AQU L'Aquila 0.69 211 P Pb 00 04 49.0 -0.6
AQU AML AML
comp=E,3150µm,1.1s
AQU AML AML
comp=N,2090µm,1.5s
AQU AML AML
comp=E,2970µm,1.2s
AQU AML AML
comp=N,2085µm,1.5s
AQU AML AML
comp=N,2045µm,1.5s
AQU AML AML
comp=E,3145µm,1.1s
AQU L'Aquila 0.69 211 *e*Pg Pb 00 04 48.9 -0.8
EL6 Elcito 0.69 304 P Pb 00 04 48.1 -1.6
EL6 AML AML
comp=E,3845µm,0.7s
EL6 AML AML
comp=N,4210µm,0.4s
EL6 AML AML
comp=N,4235µm,0.6s
EL6 AML AML
comp=E,3825µm,0.7s
FAGN Fagnano 0.71 198 P Pb 00 04 48.6 -1.4
FAGN AML AML
comp=E,5665µm,0.5s
FAGN AML AML
comp=N,5975µm,0.4s
FAGN AML AML
comp=E,5670µm,0.5s
CESI CESI - Serrava 0.72 275 ⇓P Pb 00 04 49.0 -1.2
CESI AML AML
comp=N,1100µm,0.5s
CESI AML AML
comp=E,1175µm,0.3s
SNTG Esanatoglia 0.76 295 P Pb 00 04 49.3 -1.5
SNTG S Sn 00 05 02.3 +1.2
SNTG AML AML
comp=E,206µm,0.8s
SNTG AML AML
comp=N,235µm,0.9s
SNTG AML AML
comp=E,981µm,0.7s
SNTG AML AML
comp=N,235µm,0.9s
SNTG AML AML
comp=N,1525µm,0.8s
SNTG AML AML
comp=E,206µm,0.7s
CAFR Castel Frentan 0.79 154 P Pb 00 04 49.5 -1.9
CAFR AML AML
comp=E,16µm,0.4s
CAFR AML AML
comp=N,3690µm,0.3s
CAFR AML AML
comp=E,16µm,0.4s
FIAM Fiamignano 0.88 220 P Pn 00 04 52.2 -0.2
FIAM AML AML
comp=N,1640µm,1.0s
FIAM AML AML
comp=E,1995µm,0.7s
ARVD Arcevia 0.88 309 P Pb 00 04 51.3 -1.7
ARVD AML AML
comp=E,1156µm,0.8s
ARVD AML AML
comp=E,1156µm,0.8s
ARVD AML AML
comp=N,1002µm,0.9s
FOSV Fossato di Vic 0.89 294 P Pb 00 04 51.6 -1.5
FOSV S Sn 00 05 06.8 +2.4
FOSV AML AML
comp=E,2060µm,0.5s
FOSV AML AML
comp=N,1785µm,0.7s
FOSV AML AML
comp=E,2055µm,0.5s
SENI Senigallia 0.90 328 AML AML
comp=E,4890µm,1.1s
SENI AML AML
comp=E,8980µm,0.9s
SENI AML AML
comp=N,7515µm,0.3s
SENI AML AML
comp=N,2655µm,0.9s
SENI AML AML
comp=N,7520µm,0.3s
SENI AML AML
comp=E,9000µm,1.0s
SENI AML AML
comp=E,4865µm,1.1s
SENI AML AML
comp=N,2624µm,0.9s
ARRO Arrone 0.90 246 P Pn 00 04 52.4 -0.2
ARRO AML AML
comp=E,2720µm,0.3s
ARRO AML AML
comp=N,1690µm,0.3s
ASSB Assisi San Ben 0.90 277 ⇓P Pn 00 04 52.0 -0.7
INTR Introdacqua 0.93 179 ⇓P Pn 00 04 51.8 -1.3
INTR AML AML
comp=E,4105µm,1.0s
INTR AML AML
comp=N,6160µm,0.4s
ATCC AVT- Casa Cast 0.94 285 P Pn 00 04 52.8 -0.4
ATCC AML AML
comp=E,1930µm,0.6s
ATCC AML AML
comp=N,2555µm,1.1s
ATCC AML AML
comp=E,1925µm,0.6s
ATCC AML AML
comp=N,2560µm,1.1s

COR1 Corinaldo 0.94 317 P Pn 00 04 53.1 -0.1
COR1 AML AML
comp=E,4235µm,0.6s
COR1 AML AML
comp=N,4765µm,1.2s
COR1 AML AML
comp=E,2150µm,0.6s
COR1 AML AML
comp=N,4670µm,1.2s
COR1 AML AML
comp=E,4235µm,0.7s
COR1 AML AML
comp=N,4760µm,1.2s
COR1 AML AML
comp=E,2154µm,0.6s
COR1 AML AML
comp=N,4770µm,1.2s
SSFR Montelago di S 0.94 302 P Pn 00 04 52.4 -0.9
SSFR AML AML
comp=E,3500µm,0.2s
SSFR AML AML
comp=N,3150µm,0.3s
SSFR AML AML
comp=N,3110µm,0.3s
SSFR AML AML
comp=E,3670µm,0.3s
MOMA Monte Martano 0.97 262 P Pn 00 04 53.7 0.0
MOMA AML AML
comp=E,2115µm,0.3s
MOMA AML AML
comp=N,2365µm,0.4s
MOMA AML AML
comp=N,2370µm,0.4s
MOMA AML AML
comp=N,2370µm,0.4s
MOMA AML AML
comp=E,2280µm,0.3s
MOMA AML AML
comp=E,2115µm,0.3s
PTQR Pietraquaria 0.99 201 AML AML
comp=E,1150µm,0.4s
PTQR AML AML
comp=N,1445µm,0.4s
CESX Cesi 1.01 251 P Pn 00 04 54.0 -0.2
CESX AML AML
comp=N,2755µm,0.9s
CESX AML AML
comp=E,3500µm,1.2s
FRON Frontone 1.02 305 P Pn 00 04 53.9 -0.4
FRON AML AML
comp=E,2150µm,0.6s
FRON AML AML
comp=N,2670µm,0.7s
MURB Monte Urbino 1.04 288 P Pn 00 04 54.7 0.0
MURB AML AML
comp=E,4870µm,0.7s
MURB AML AML
comp=E,5070µm,1.5s
MURB AML AML
comp=N,2905µm,0.7s
MURB AML AML
comp=E,4875µm,0.7s
MURB AML AML
comp=N,3095µm,0.7s
MURB AML AML
comp=E,5065µm,1.5s
ATFO Monte Foce - G 1.05 294 P Pn 00 04 54.1 -0.6
ATFO AML AML
comp=E,1970µm,0.4s
ATFO AML AML
comp=N,1960µm,0.7s
ATFO AML AML
comp=E,1975µm,0.4s
MPAG Monte Paganucc 1.07 310 P Pn 00 04 54.9 -0.1
MPAG AML AML
comp=E,1297µm,0.8s
MPAG AML AML
comp=N,1298µm,1.2s
MPAG AML AML
comp=E,1245µm,0.8s
MPAG AML AML
comp=N,1295µm,0.8s
VVLD Villa Vallelon 1.09 190 AML AML
comp=E,788µm,0.4s
VVLD AML AML
comp=N,822µm,0.5s
FSSB Fossombrone 1.10 313 P Pn 00 04 55.5 +0.1
FSSB AML AML
comp=N,4270µm,0.4s
FSSB AML AML
comp=E,2680µm,0.3s
FRES Fresagrandinar 1.13 149 AML AML
comp=E,1200µm,0.6s
FRES AML AML
comp=N,766µm,0.5s
PIEI Pieia 1.15 302 P Pn 00 04 55.8 -0.3
PIEI AML AML
comp=E,898µm,0.9s
PIEI AML AML
comp=N,931µm,0.4s
NARO Abbazia di Nar 1.16 306 P Pn 00 04 56.1 -0.1
NARO AML AML
comp=E,325µm,0.9s
NARO AML AML
comp=N,314µm,0.6s
NARO AML AML
comp=E,1140µm,1.2s
NARO AML AML
comp=N,990µm,0.9s
ATVO AVT- Monte Val 1.16 293 AML AML
comp=E,1445µm,0.7s
ATVO AML AML
comp=N,1370µm,0.7s
ATPI Pietralunga - 1.19 296 AML AML
comp=N,1790µm,1.4s
ATPI AML AML
comp=E,1890µm,0.6s
CERT Cerreto 1.20 214 AML AML
comp=N,816µm,1.6s
CERT AML AML
comp=E,1565µm,0.5s
GUAR Guarcino 1.22 200 AML AML
comp=E,1315µm,0.5s
GUAR AML AML
comp=N,1395µm,0.4s
POFI Posta Fibreno 1.23 186 AML AML
comp=N,1130µm,1.5s
POFI AML AML
comp=E,1665µm,0.6s
APEC Apecchio 1.23 300 AML AML
comp=E,1995µm,0.6s
APEC AML AML
comp=N,1725µm,1.6s
MTCE Montecelio 1.25 223 AML AML
comp=N,686µm,1.4s
MTCE AML AML
comp=E,1084µm,0.6s
PESA Pesaro 1.25 323 P Pb 00 04 58.6 -0.5
RNI2 Rionero Sannit 1.26 171 AML AML
comp=N,1870µm,0.4s
RNI2 AML AML
comp=E,2430µm,0.4s
RNI2 AML AML
comp=E,2355µm,0.4s
RNI2 AML AML
comp=N,1775µm,0.4s
PE3 Peglio 1.26 307 AML AML
comp=N,2855µm,0.5s
PE3 AML AML
comp=E,3005µm,0.7s
TRIV Trivento 1.28 157 AML AML
comp=E,1426µm,0.5s
TRIV AML AML
comp=N,1330µm,0.8s
TRIV AML AML
comp=E,1415µm,0.5s
TRIV AML AML
comp=N,1435µm,0.8s
MGAB Montegabbione 1.30 269 AML AML
comp=N,1017µm,0.6s
MGAB AML AML
comp=E,926µm,1.5s
MGAB AML AML
comp=E,965µm,1.5s
MGAB AML AML
comp=N,1064µm,0.6s
BADI Badiali 1.32 296 AML AML
comp=E,855µm,1.0s

BADI AML AML
comp=N,1275µm,1.4s
MIDA Miranda 1.33 168 AML AML
comp=N,968µm,0.4s
MIDA AML AML
comp=E,1152µm,0.9s
CERA Filignano 1.35 176 AML AML
comp=N,2550µm,0.5s
CERA AML AML
comp=E,3025µm,0.6s
CERA AML AML
comp=N,2450µm,0.5s
CERA AML AML
comp=E,3085µm,0.7s
DUGI Dugi Otok 1.35 39 *i*Pg Pn 00 04 57.3 -1.5
DUGI Sg Sn 00 05 14.6 -1.2
PARC Parchiule 1.39 301 AML AML
comp=E,744µm,1.4s
PARC AML AML
comp=N,800µm,0.9s
CPGN Carpegna, Ital 1.43 308 AML AML
comp=N,978µm,1.0s
CPGN AML AML
comp=E,67µm,1.6s
CPGN AML AML
comp=N,1024µm,0.7s
CPGN AML AML
comp=E,1255µm,1.1s
RSM Repubblica di 1.44 314 AML AML
comp=E,915µm,1.5s
RSM AML AML
comp=N,1310µm,1.1s
SACS San Casciano d 1.45 267 AML AML
comp=N,646µm,1.1s
SACS AML AML
comp=E,482µm,1.1s
SACS AML AML
comp=N,659µm,1.1s
SACS AML AML
comp=E,504µm,1.1s
CAFI Castiglion Fio 1.45 286 AML AML
comp=N,421µm,1.4s
CAFI AML AML
comp=E,544µm,0.9s
TREM Isole Tremiti 1.46 124 P Pn 00 04 59.8 -0.4
TREM AML AML
comp=N,4575µm,0.7s
TREM AML AML
comp=E,3090µm,0.5s
GIUL Giuliano Di Ro 1.46 199 AML AML
comp=N,453µm,1.3s
GIUL AML AML
comp=E,408µm,0.4s
ZIRJ Zirje 1.47 60 *i*Pg Pn 00 04 58.7 -1.7
ZIRJ Sg Sn 00 05 17.7 -0.9
BSSO Busso 1.49 159 AML AML
comp=E,734µm,0.4s
BSSO AML AML
comp=N,276µm,0.5s
BSSO AML AML
comp=N,654µm,0.5s
BSSO AML AML
comp=E,310µm,0.4s
CIGN Sant'Elia a Pi 1.50 149 AML AML
comp=N,789µm,0.5s
CIGN AML AML
comp=E,762µm,0.4s
MELA Melanico ??? S 1.54 143 AML AML
comp=N,2630µm,0.4s
MELA AML AML
comp=E,3160µm,0.7s
MELA AML AML
comp=E,2965µm,0.8s
MELA AML AML
comp=N,2560µm,0.4s
VAGA Valle Agricola 1.55 170 AML AML
comp=E,571µm,0.5s
VAGA AML AML
comp=N,1275µm,0.5s
MORI Morici 1.62 55 *e*Pn Pn 00 05 00.7 -1.8
MORI Sn Sn 00 05 20.7 -1.6
GATE Gambatesa 1.62 151 AML AML
comp=N,589µm,0.8s
GATE AML AML
comp=E,817µm,0.4s
GATE AML AML
comp=E,482µm,0.5s
GATE AML AML
comp=N,693µm,0.8s
TOLF Tolfa 1.64 238 AML AML
comp=E,355µm,0.9s
TOLF AML AML
comp=N,410µm,0.6s
SACR S. Croce Del S 1.66 158 AML AML
comp=N,356µm,0.5s
SACR AML AML
comp=E,432µm,0.7s
ASQU Asqua 1.75 300 AML AML
comp=E,504µm,0.9s
ASQU AML AML
comp=N,445µm,0.8s
NVLJ Novalja 1.77 24 *e*Pn Pn 00 05 03.5 -1.1
NVLJ Sn Sn 00 05 26.0 0.0
MODR Mondragone 1.80 180 AML AML
comp=E,252µm,1.4s
MODR AML AML
comp=N,274µm,0.5s
SGRT San Giovanni R 1.82 130 AML AML
comp=N,1655µm,1.3s
SGRT AML AML
comp=E,1680µm,1.4s
VITU Vitulano (BN) 1.84 162 AML AML
comp=N,770µm,0.4s
VITU AML AML
comp=E,664µm,0.5s
HVAR Hvar 1.90 82 *e*Pn Pn 00 05 05.7 -0.6
HVAR Sn Sn 00 05 27.7 -1.5
MSAG Monte S. Angel 1.94 129 AML AML
comp=N,4510µm,0.2s
MSAG AML AML
comp=E,2085µm,1.4s
MSAG AML AML
comp=N,4255µm,0.2s
MSAG AML AML
comp=E,1955µm,0.4s
CSNT Castellina Chi 1.96 286 AML AML
comp=E,202µm,1.0s
CSNT AML AML
comp=N,171µm,1.4s
KIJV Kijevo 2.12 59 *e*Pn Pb 00 05 11.0 -2.9
KIJV Sn Sn 00 05 35.2 +0.5
CAFE Carife 2.16 152 AML AML
comp=E,528µm,0.7s
CAFE AML AML
comp=N,400µm,0.5s
CASP Castiglione de 2.22 267 AML AML
comp=E,54µm,0.8s
CASP AML AML
comp=N,61µm,0.9s
SNAL S. Angelo Dei 2.25 153 AML AML
comp=N,554µm,1.0s
SNAL AML AML
comp=E,414µm,1.0s
CAPA Cerignola FG 2.29 140 AML AML
comp=E,895µm,0.9s
CAPA AML AML
comp=N,1125µm,0.8s
MAKA Makarska 2.33 80 *e*Pn Pn 00 05 11.6 -0.6
MCRV Calabrutti - M 2.36 156 AML AML
comp=N,288µm,0.4s
MCRV AML AML
comp=E,233µm,0.6s
RIY Rijeka 2.42 10 *e*Pn Pn 00 05 12.4 -1.1
RIY Sn Sn 00 05 42.2 +0.1
RICI Ricice 2.44 76 *e*Pn Pn 00 05 13.5 -0.3
RICI Sn Sn 00 05 43.3 +0.7
PALZ Palazzo San Ge 2.53 141 AML AML
comp=N,662µm,0.7s
PALZ AML AML
comp=E,690µm,0.6s
MRVN Minervino Murg 2.55 137 AML AML
comp=N,244µm,0.7s
MRVN AML AML
comp=E,335µm,0.4s
SKDS Skadanscina 2.60 2 *i*Pn Pn 00 05 14.9 -1.2
SKDS *e*Sn Sn 00 05 46.6 -0.1
comp=Z,37nm,0.3s

ACER	**Acerenza**	**2.65**	**144**		AML	AML			
	comp=E,528µm,0.6s								
ACER					AML	AML			
	comp=N,596µm,0.7s								
ACER					AML	AML			
	comp=N,596µm,0.6s								
ACER					AML	AML			
	comp=E,548µm,0.9s								
CDRU	**Civita di Ruta**	**2.67**	**156**		AML	AML			
	comp=N,93µm,0.6s								
CDRU					AML	AML			
	comp=E,126µm,0.6s								
BOJS	**Bojanci**	**2.74**	**21**	*i* Pn		**Pn**	**00 05 17.2**	**-0.8**	
BOJS	**Bojanci**	**2.74**	**21**	AML		AML	AML		
	comp=N,132µm,0.6s								
BOJS					AML	AML			
	comp=E,222µm,0.8s								
MGRS	**Mrkonjic Grad**	**2.75**	**57**	*e*Pn		**Pb**	**00 05 26.5**	**+1.9**	
TRI	**Trieste**	**2.77**	**358**	AML		AML	AML		
	comp=E,139µm,0.6s								
TRI					AML	AML			
	comp=N,121µm,1.1s								
STON	**Ston**	**2.81**	**90**	*e*Pn		**Pn**	**00 05 18.5**	**-0.3**	
STON				Sn		**Sn**	**00 05 51.1**	**-0.5**	
CEY	**Cerknica**	**2.82**	**8**	*e*Pn		**Pn**	**00 05 16.8**	**-2.3**	
SLCN	**Sala Consilina**	**2.87**	**152**	AML		AML	AML		
	comp=N,214µm,0.4s								
SLCN					AML	AML			
	comp=N,344µm,1.4s								
SLCN					AML	AML			
	comp=E,304µm,1.5s								
SLCN					AML	AML			
	comp=E,236µm,0.4s								
AMUR	**Altamura**	**2.88**	**134**	AML		AML	AML		
	comp=N,334µm,0.4s								
AMUR					AML	AML			
	comp=E,452µm,0.3s								
PRIJ	**Prijedor**	**2.88**	**44**	*e*Pn		**Pb**	**00 05 24.2**	**-2.6**	
BLY	**Banja Luka**	**3.00**	**52**	*e*Pn		**Pn**	**00 05 20.9**	**-0.5**	
MTSN	**Montesano sull**	**3.02**	**152**	AML		AML	AML		
	comp=N,134µm,0.4s								
MTSN					AML	AML			
	comp=E,130µm,0.6s								
MIGL	**Miglionico**	**3.02**	**140**	AML		AML	AML		
	comp=N,1030µm,0.5s								
MIGL					AML	AML			
	comp=E,1105µm,1.0s								
SABO	**M.te Sabotino**	**3.04**	**356**	AML		AML	AML		
	comp=E,290µm,1.5s								
SABO					AML	AML			
	comp=N,316µm,0.6s								
BULG	**Bulgheria - Ca**	**3.08**	**158**	AML		AML	AML		
	comp=N,201µm,0.9s								
BULG					AML	AML			
	comp=E,98µm,0.8s								
CRES	**Cresnjev**	**3.10**	**21**	*e*Pn		**Pn**	**00 05 21.3**	**-1.5**	
LJU	**Ljubljana**	**3.13**	**8**	AML		AML	AML		
	comp=E,290µm,0.5s								
LJU					AML	AML			
	comp=N,494µm,0.5s								
LJU	**Ljubljana**	**3.13**	**8**	*e*Pn		**Pn**	**00 05 22.1**	**-1.2**	
DBRK	**Dubrovnik**	**3.15**	**94**	*e*Pn		**Pn**	**00 05 24.9**	**+1.4**	
NOCI	**Noci**	**3.21**	**131**	AML		AML	AML		
	comp=N,353µm,1.6s								
NOCI					AML	AML			
	comp=E,250µm,0.3s								
CRAC	**Craco**	**3.21**	**143**	AML		AML	AML		
	comp=N,544µm,0.6s								
CRAC					AML	AML			
	comp=E,566µm,0.6s								
PDKS	**Podkum**	**3.22**	**14**	*i* Pn		**Pn**	**00 05 23.7**	**-0.8**	
ZAG	**Zagreb**	**3.25**	**27**	*e*Pn		**Pn**	**00 05 26.4**	**+1.6**	
TREB	**Trebinje**	**3.30**	**92**	*e*Pn		**Pn**	**00 05 24.8**	**-0.7**	
PTJ	**Puntijarka**	**3.32**	**26**	*e*Pg		**Pb**	**00 05 31.9**	**-2.4**	
PTJ				Sn		**Sn**	**00 06 05.9**	**+1.5**	
ROVR	**Rover Verones**	**3.37**	**324**	AML		AML	AML		
	comp=E,45µm,1.2s								
ROVR					AML	AML			
	comp=N,89µm,0.9s								
GEPF	**Gemona**	**3.37**	**351**	AML		AML	AML		
	comp=E,108µm,0.7s								
GEPF					AML	AML			
	comp=N,142µm,0.8s								
MOSL	**Moslavina**	**3.38**	**37**	*e*Pn		**Pn**	**00 05 24.9**	**-1.7**	
BRY	**Bratogost**	**3.42**	**89**	*e*Pn		**Pn**	**00 05 26.1**	**-1.3**	
HCY	**Herceg Novi**	**3.44**	**97**	*e*Pn		**Pn**	**00 05 26.7**	**-0.8**	
CTI	**Castel Tesino**	**3.49**	**334**	AML		AML	AML		
	comp=N,125µm,0.7s								
CTI					AML	AML			
	comp=E,122µm,0.6s								
OBKA	**Obir**	**3.60**	**7**	*e*Pn		**Pn**	**00 05 29.2**	**-0.6**	
	comp=E,3.0nm,0.2s,SNR=10								
OBKA					*e*Sn	**Sb**	**00 06 26.0**	**+3.8**	
	comp=E,48nm,0.8s								
PGF	**Pioggiola**	**3.62**	**265**	*e*P		**Pn**	**00 05 32.1**	**+2.0**	
PGF				*e*Sn		**Sn**	**00 06 07.1**	**-4.6**	
	comp=E,3.6nm,0.6s								
MAGA	**Magasa**	**3.67**	**322**	AML		AML	AML		
	comp=E,296µm,0.5s								
MAGA					AML	AML			
	comp=N,208µm,0.6s								
KALN	**Kalnik**	**3.68**	**29**	*e*Pn		**Pn**	**00 05 30.8**	**-0.1**	
MYKA	**Terra Mystica**	**3.69**	**357**	*i* Pn		**Pn**	**00 05 30.6**	**-0.5**	
	comp=N,2.1nm,0.2s,SNR=6.8								
MYKA					*e*Sn	**Sn**	**00 06 14.1**	**+0.5**	
	comp=N,7.3nm,0.4s								
UPM	**Unac-Piva**	**3.69**	**84**	*e*Pn		**Pn**	**00 05 31.4**	**+0.2**	
SOKA	**Soboth**	**3.82**	**12**	*e*Pn		**Pn**	**00 05 32.0**	**-0.9**	
	comp=N,0.7nm,0.2s								
SOKA					*e*Sn	**Sb**	**00 06 31.8**	**+3.1**	
	comp=N,9.3nm,0.6s								
ABTA	**Abfaltersbach**	**3.93**	**346**	*i* Pn		**Pn**	**00 05 33.9**	**-0.4**	
	comp=N,2.5nm,0.2s,SNR=19								
ABTA					*e*Sn	**Sn**	**00 06 21.2**	**+1.9**	
	comp=N,60nm,0.8s								
MABI	**Malga Bissina**	**3.93**	**323**	AML		AML	AML		
	comp=E,52µm,0.8s								
MABI					AML	AML			
	comp=N,76µm,0.8s								
KOSI	**Kohlern**	**3.95**	**334**	AML		AML	AML		
	comp=E,129µm,0.8s								
KOSI					AML	AML			
	comp=N,136µm,1.1s								
DRME	**Dracevica, Mon**	**3.99**	**99**	*e*Pn		**Pn**	**00 05 34.1**	**-1.0**	
PDG	**Podgorica**	**4.00**	**96**	*e*Pn		**Pn**	**00 05 33.9**	**-1.2**	
RUDO	**Rudo**	**4.07**	**79**	*e*Pn		Pn	00 05 25.6	-11	
MDI	**Monti di Nese**	**4.12**	**315**	AML		AML	AML		
	comp=E,60µm,1.0s								
MDI					AML	AML			
	comp=N,46µm,0.4s								
BBLS	**Lazići**	**4.13**	**75**	*e*Pn		**Pn**	**00 05 36.7**	**-0.4**	
KBA	**Koelnbreinsper**	**4.15**	**355**	*e*Pn		**Pn**	**00 05 36.3**	**-1.2**	
	comp=N,2.1nm,0.3s								
ABSI	**Aberstueckl**	**4.20**	**335**	AML		AML	AML		
	comp=E,250µm,0.4s								
ABSI					AML	AML			
	comp=N,210µm,0.9s								
RISI	**Rein**	**4.20**	**343**	AML		AML	AML		
	comp=E,185µm,0.4s								
RISI					AML	AML			
	comp=N,216µm,0.8s								
ARSA	**Arzberg**	**4.46**	**15**	*e*Pn		**Pn**	**00 05 41.2**	**-0.3**	
	comp=N,0.5nm,0.3s								
MUGIO	**Muggio**	**4.57**	**312**	AML		AML	AML		
	comp=N,30µm,1.1s								
MUGIO					AML	AML			
	comp=E,30µm,0.2s								
DIVS	**Divibare**	**4.59**	**73**	*e*Pn		**Pn**	**00 05 42.1**	**-1.3**	
WTTA	**Wattenberg**	**4.60**	**341**	*e*Pn		**Pn**	**00 05 44.3**	**+0.6**	
	comp=E,1.9nm,0.2s								
WTTA					*e*Sn	**Sn**	**00 06 37.8**	**+1.7**	
	comp=E,8.7nm,0.5s								
WTTA	**Wattenberg**	**4.60**	**341**	AML		AML	AML		
	comp=N,68µm,0.8s								
WTTA					AML	AML			
	comp=E,69µm,1.4s								
FETA	**Feichten**	**4.65**	**332**	*e*Pn		**Pn**	**00 05 43.5**	**-0.8**	
	comp=E,4.7nm,0.7s								
SQTA	**Sankt Quirin**	**4.68**	**337**	*e*Pn		**Pn**	**00 05 45.8**	**+1.2**	
	comp=E,2.6nm,0.2s								
SQTA					*e*Sn	**Sn**	**00 06 40.0**	**+2.1**	
	comp=E,19nm,0.7s								
WATA	**Walderalm**	**4.69**	**340**	*i* Pn		**Pn**	**00 05 45.6**	**+0.8**	
	comp=E,1.6nm,0.2s,SNR=10								
WATA					*e*Sn	**Sn**	**00 06 39.5**	**+1.4**	
	comp=E,5.1nm,0.2s								
MORH	**Mrgy, Hungar**	**4.72**	**44**	*e*Pn		**Pn**	**00 05 46.9**	**+1.8**	

DAVOX	**Davos/Dischmat**	**4.78**	**325**	Pn		**Pn**	**00 05 46.5**	**+0.5**	
	comp=E,1.4nm,0.3s,baz=154,slow=17,SNR=18								
DAVOX				Sn		**Sn**	**00 06 42.2**	**+1.8**	
	comp=E,1.0nm,0.3s,baz=317,slow=17,SNR=1.7								
SBF	**Sospel**	**4.79**	**283**	*e*P		**Pn**	**00 05 46.2**	**+0.1**	
SBF				*e*Sn		**Sn**	**00 06 34.7**	**-5.8**	
	comp=E,7.9nm,0.4s								
FRGS	**Fruska Gora**	**4.81**	**61**	*e*Pn		**Pn**	**00 05 48.0**	**+1.6**	
MOTA	**Moosalm**	**4.82**	**337**	*e*Pn		**Pn**	**00 05 47.3**	**+0.7**	
	comp=E,1.7nm,0.2s,SNR=4.6								
MOA	**Molln**	**4.92**	**3**	*e*Pn		**Pn**	**00 05 47.6**	**-0.2**	
	comp=E,1.2nm,0.2s,SNR=15								
MOA				*e*Sn		**Sn**	**00 06 43.4**	**-0.2**	
	comp=E,3.5nm,0.3s								
RETA	**Reutte**	**5.05**	**335**	*e*Pn		**Pn**	**00 05 51.6**	**+1.9**	
	comp=E,1.0nm,0.2s								
RETA				*e*Sn		**Sn**	**00 06 48.2**	**+1.2**	
	comp=E,7.0nm,0.4s								
CONA	**Conrad Observa**	**5.18**	**15**	*e*Pn		**Pn**	**00 05 50.5**	**-1.0**	
	comp=E,0.7nm,0.2s,SNR=5.8								
DAVA	**Damuels**	**5.18**	**328**	*i* Pn		**Pn**	**00 05 54.3**	**+2.7**	
	comp=E,1.7nm,0.2s								
DAVA				*e*Sn		**Sn**	**00 06 51.1**	**+0.7**	
	comp=E,6.4nm,0.6s								
FRF	**La Foret Royal**	**5.32**	**279**	*e*P		**Pn**	**00 05 53.4**	**+0.1**	
FRF				*e*Sn		Sn	00 06 47.5	-6.0	
	comp=E,2.7nm,0.5s								
LMR	**La Mourre**	**5.41**	**277**	*e*P		**Pn**	**00 05 54.9**	**+0.3**	
LMR				*e*Sn		Sn	00 06 49.9	-5.8	
	comp=E,0.7nm,0.3s								
MBDF	**Montbardon**	**5.44**	**292**	*e*P		**Pn**	**00 05 55.7**	**+0.5**	
MBDF				*e*Sn		**Sn**	**00 06 51.2**	**-5.6**	
	comp=E,3.5nm,0.4s								
OHR	**Ohrid**	**5.47**	**107**	*i* Pn		**Pn**	**00 05 55.6**	**+0.2**	
KEK	**Kerkira**	**5.50**	**124**	P		**Pn**	**00 05 55.4**	**-0.5**	
SRN	**Sarande**	**5.53**	**122**	P		**Pn**	**00 05 55.7**	**-0.5**	
LPG	**La Plagne**	**5.72**	**299**	*e*P		**Pn**	**00 05 59.6**	**+0.4**	
LPG				*e*Sn		Sn	00 06 56.8	-7.1	
	comp=E,3.3nm,0.4s								
LPL	**La Plagne**	**5.74**	**299**	*e*P		**Pn**	**00 05 59.8**	**+0.4**	
LPL				*e*Sn		Sn	00 06 57.0	-7.3	
	comp=E,6.1nm,0.4s								
GERES	**GERESS Array B**	**5.91**	**359**	Pn		**Pn**	**00 05 59.5**	**-2.0**	
	comp=E,0.8nm,0.3s,baz=177,slow=13,SNR=31								
GERES				Sn		**Sn**	**00 07 06.0**	**-2.1**	
	comp=E,0.8nm,0.3s,baz=170,slow=23,SNR=4.7								
NEST	**Nestorio**	**5.93**	**113**	P		**Pn**	**00 06 02.5**	**+0.6**	
IGT	**Igoumenitsa**	**5.94**	**123**	P		**Pn**	**00 06 01.7**	**-0.2**	
ORIF	**Oris-en-Rattie**	**6.11**	**292**	*e*P		**Pn**	**00 06 04.1**	**-0.1**	
ORIF				*e*Sn		Sn	00 07 05.7	-7.3	
	comp=E,4.5nm,0.5s								
SMRF	**Simiane la Rot**	**6.13**	**283**	*e*P		**Pn**	**00 06 05.6**	**+1.0**	
SMRF				*e*Sn		Sn	00 07 06.9	-6.7	
	comp=E,2.0nm,0.5s								
KHC	**Kasperske Hory**	**6.19**	**358**	*e*PN		**Pn**	**00 06 03.9**	**-1.5**	
KHC				*e*SN		**Sn**	**00 07 10.6**	**-4.5**	
KHC				*ex*		x	00 08 03.0		
STIP	**Stip**	**6.28**	**99**	*i* Pn		**Pn**	**00 06 08.0**	**+1.4**	
TREC	**Trest**	**6.45**	**9**	*e*SN		**Sn**	**00 07 17.9**	**-3.5**	
VYHS	**Vyhne**	**6.54**	**30**	*e*PN		**Pn**	**00 06 10.2**	**0.0**	
TSLK	**Tsoukalades, L**	**6.58**	**126**	P		**Pn**	**00 06 10.8**	**+0.2**	
LKD2	**Lefkada island**	**6.60**	**127**	P		**Pn**	**00 06 11.1**	**+0.1**	
CABF	**La Chapelle**	**6.65**	**306**	*e*P		**Pn**	**00 06 11.6**	**-0.1**	
CABF				*e*Sn		Sn	00 07 18.1	-8.3	
	comp=E,4.2nm,0.5s								
EVGI	**Lefkada island**	**6.71**	**128**	P		**Pn**	**00 06 11.9**	**-0.6**	
FSK	**Fiskardo**	**6.77**	**129**	P		**Pn**	**00 06 13.2**	**-0.1**	
VIVF	**Saint-Julien-l**	**6.92**	**289**	*e*P		**Pn**	**00 06 15.3**	**-0.1**	
VIVF				*e*Sn		Sn	00 07 25.6	-7.4	
	comp=E,0.7nm,0.3s								
HINF	**Hinteralfeld**	**6.94**	**317**	*e*P		**Pn**	**00 06 15.0**	**-0.7**	
HINF				*e*Sn		Sn	00 07 24.6	-9.0	
	comp=E,3.3nm,0.3s								
PRU	**Pruhonice**	**7.06**	**3**	*e*SN		**Sn**	**00 07 31.3**	**-5.1**	
CDF	**Champ du Feu**	**7.16**	**322**	*e*P		**Pn**	**00 06 18.7**	**0.0**	
CDF				*e*Sn		Sn	00 07 29.6	-9.4	
	comp=E,3.9nm,0.4s								
EVR	**Evrytania**	**7.22**	**121**	P		**Pn**	**00 06 19.7**	**+0.1**	
PVO	**Paravola**	**7.23**	**124**	P		**Pn**	**00 06 19.8**	**+0.2**	
HAU	**Haudompre**	**7.32**	**316**	*e*P		**Pn**	**00 06 20.2**	**-0.7**	
HAU				*e*Sn		Sn	00 07 33.8	-9.1	
	comp=E,5.8nm,0.4s								
LASF	**Ste Croix**	**7.38**	**282**	*e*P		**Pn**	**00 06 23.9**	**+2.3**	
LASF				*e*Sn		Sn	00 07 37.0	-7.2	
	comp=E,0.8nm,0.4s								
ANX	**Ano Chora**	**7.49**	**123**	P		**Pn**	**00 06 23.3**	**0.0**	
RLS	**Riolos of Patr**	**7.56**	**128**	P		**Pn**	**00 06 25.0**	**+0.9**	
PAGF	**Fort de Pagny**	**8.00**	**317**	*e*P		**Pn**	**00 06 29.5**	**-0.6**	
PAGF				*e*Sn		Sn	00 07 49.5	-10	
	comp=E,2.3nm,0.3s								
KEST	**Kesra**	**8.01**	**207**	Pn		**Pn**	**00 06 32.7**	**+2.3**	
	comp=E,0.0nm,0.3s,baz=311,slow=9.3,SNR=2.3								
SMF	**Signal de Mont**	**8.04**	**301**	*e*P		**Pn**	**00 06 30.8**	**+0.1**	
SMF				*e*Sn		Sn	00 07 51.7	-8.8	
	comp=E,4.3nm,0.4s								
SFTF	**Sexfontaines**	**8.13**	**313**	*e*P		**Pn**	**00 06 31.9**	**0.0**	
	baz=130								
SFTF				*e*Sn		Sn	00 07 53.1	-10	
	comp=E,1.1nm,0.3s								
LOR	**Lormes**	**8.30**	**305**	*e*P		**Pn**	**00 06 34.1**	**-0.2**	
	baz=124								
LOR				*e*Sn		Sn	00 07 57.6	-9.3	
	comp=E,5.5nm,0.4s								
CLL	**Collm**	**8.39**	**356**	*e*Pn		**Pn**	**00 06 34.0**	**-1.4**	
CLL				*e*Sn		**Sn**	**00 08 03.0**	**-6.0**	
CLL				*e*			00 08 57.0		
CLL				*e*Sg		Sb	00 09 07.0	+27	
	comp=Z,13nm,1.4s								
AVF	**Avril sur Loir**	**8.41**	**301**	*e*P		**Pn**	**00 06 35.2**	**-0.5**	
AVF				*e*Sn		Sn	00 08 00.9	-8.6	
	comp=Z,0.6nm,0.3s								
SSF	**Saint Saulge**	**8.42**	**303**	*e*P		**Pn**	**00 06 36.2**	**+0.3**	
SSF				*e*Sn		Sn	00 08 00.6	-9.3	
	comp=Z,2.6nm,0.4s								
MTLF	**Montolieu**	**8.54**	**277**	*e*P		**Pn**	**00 06 38.2**	**+0.7**	
MTLF				*e*Sn		Sn	00 08 04.3	-8.5	
	comp=Z,0.2nm,0.3s								
BGF	**Bois d'Agland**	**8.64**	**298**	*e*P		**Pn**	**00 06 39.2**	**+0.2**	
BGF				*e*Sn		Sn	00 08 06.1	-9.2	
	comp=Z,6.9nm,0.6s								
TCF	**Toulx Ste Croi**	**8.97**	**296**	*e*P		**Pn**	**00 06 43.7**	**+0.2**	
TCF				*e*Sn		Sn	00 08 14.4	-9.0	
	comp=Z,1.3nm,0.3s								
MLR	**Muntele Rosu**	**9.03**	**69**	Pn		**Pn**	**00 06 45.6**	**+1.2**	
	comp=Z,0.1nm,0.3s,baz=351,slow=18,SNR=3.4								
MLR				LR		LR	00 10 50.7		
	comp=Z,29nm,20.5s,baz=338,slow=42								
NOA	**NORSAR Array B**	**18.20**	**356**	P		**Pn**	**00 08 45.6**	**-0.5**	
	comp=Z,0.0nm,0.3s,baz=187,slow=12,SNR=2.3								
FINES	**FINESS Array B**	**19.92**	**17**	P		**P**	**00 09 04.1**	**-0.8**	
	comp=Z,0.1nm,0.3s,baz=181,slow=9.5,SNR=3.7								
KBZ	**Khabaz**	**21.08**	**78**	P		**P**	**00 09 18.9**	**+1.3**	
	comp=Z,1.4nm,0.7s,baz=254,slow=12,SNR=3.6								
TORD	**Torodi Ar. Bea**	**31.50**	**203**	P		**P**	**00 10 56.7**	**+1.5**	
	comp=Z,0.7nm,1.0s,baz=8.3,slow=10.0,SNR=3.1								
MKAR	**Makanchi Array**	**47.24**	**60**	P		**P**	**00 13 06.5**	**+0.3**	
	comp=Z,0.6nm,0.7s,baz=283,slow=6.0,SNR=6.1								

LDG ***13*** *00:12:54.4,43˚.02N×14˚.15E,h34km*
ROM ***13*** *00:12:55.8±0.3,42˚.993N±0˚.010×14˚.03E±0˚.02,*
h32km±1km,ML2.9/1,Error ellipse: s-maj=1.8km
s-min=0.7km az=255.0
PRU ***13*** *00:12:57.2±0.0,43˚.13N×13˚.99E,h0km*
ISC 13 00:12:58.0±1.2, 42˚98N±0˚.03×13˚76E±0˚.03, h35km, n107,
σ2s60/110, 7D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFFI	**Offida**	**0.07**	**232**	⇓P	**Pn**	**00 13 02.7**	**-1.2**
OFFI				S	**Sn**	**00 13 09.2**	**+1.3**
OFFI				AML	AML		
	comp=E,10400µm,0.7s						
OFFI				AML	AML		
	comp=N,15150µm,0.7s						
GUMA	**Gualdo di Mace**	**0.15**	**56**	⇓P	**Pn**	**00 13 06.5**	**+2.0**
GUMA				S	**Sn**	**00 13 14.8**	**+5.9**
GUMA				AML	AML		
	comp=E,2825µm,0.5s						
GUMA				AML	AML		
	comp=N,3005µm,0.4s						
GUMA				AML	AML		
	comp=N,3395µm,0.4s						
GUMA				AML	AML		
	comp=E,3020µm,0.6s						

TRTR	**Tortoreto Alta**	**0.20**	**146**	⇓P		**Pn**	**00 13 02.4**	**-2.4**	
TRTR				S		**Sn**	**00 13 08.1**	**-1.4**	
TRTR				AML	AML				
	comp=E,18800µm,0.4s								
TRTR				AML	AML				
	comp=N,18300µm,0.4s								
CADA	**Capodarco di F**	**0.22**	**0**	P		**Pn**	**00 13 02.3**	**-2.7**	
MNTP	**Montappone**	**0.27**	**307**	P		**Pn**	**00 13 05.2**	**-0.3**	
MNTP				S		**Sn**	**00 13 13.3**	**+2.6**	
CIMA	**Civitanova Mar**	**0.34**	**349**	P		**Pn**	**00 13 04.9**	**-1.4**	
CIMA				S		**Sn**	**00 13 12.7**	**+0.6**	
TERO	**Teramo**	**0.37**	**198**	⇓P		**Pn**	**00 13 05.8**	**-1.1**	
TERO				S		**Sn**	**00 13 14.1**	**+1.1**	
TERO				AML	AML				
	comp=E,386µm,0.4s								
TERO				AML	AML				
	comp=E,386µm,0.4s								
TERO				AML	AML				
	comp=N,410µm,0.6s								
PP3	**Marolino**	**0.41**	**345**	P		**Pn**	**00 13 06.4**	**-1.0**	
PP3				AML	AML				
	comp=E,1390µm,0.3s								
PP3				AML	AML				
	comp=N,1214µm,0.4s								
PP3				AML	AML				
	comp=E,1415µm,0.6s								
PP3				AML	AML				
	comp=N,1142µm,0.3s								
PP3				AML	AML				
	comp=N,1215µm,0.4s								
PP3				AML	AML				
	comp=E,1395µm,0.3s								
PP3				AML	AML				
	comp=N,1216µm,0.4s								
PP3				AML	AML				
	comp=N,1144µm,0.3s								
PP3				AML	AML				
	comp=E,1410µm,0.6s								
CSP1	**Cessapalombo**	**0.42**	**286**	P		**Pn**	**00 13 07.8**	**+0.2**	
NRCA	**Norcia**	**0.50**	**253**	P		**Pn**	**00 13 08.9**	**+0.3**	
NRCA				S		**Sn**	**00 13 20.1**	**+4.1**	
NRCA				AML	AML				
	comp=E,1345µm,0.2s								
NRCA				AML	AML				
	comp=N,908µm,0.3s								
NRCA				AML	AML				
	comp=E,1440µm,0.2s								
NRCA				AML	AML				
	comp=N,962µm,0.4s								
NRCA				AML	AML				
	comp=N,962µm,0.4s								
FDMO	**Fiordimonte**	**0.50**	**277**	⇓P		**Pn**	**00 13 09.0**	**+0.4**	
FDMO				S		**Sn**	**00 13 20.2**	**+4.2**	
FDMO				AML	AML				
	comp=N,608µm,0.2s								
FDMO				AML	AML				
	comp=E,892µm,0.2s								
CAMP	**Campotosto**	**0.51**	**210**	⇓P		**Pn**	**00 13 08.2**	**-0.7**	
CAMP				AML	AML				
	comp=E,452µm,1.2s								
CAMP				AML	AML				
	comp=N,530µm,0.9s								
CAMP				AML	AML				
	comp=E,453µm,1.2s								
CING	**Cingoli**	**0.57**	**314**	⇓P		**Pn**	**00 13 09.7**	**0.0**	
CING				S		**Sn**	**00 13 21.3**	**+3.4**	
CING				AML	AML				
	comp=E,948µm,1.3s								
CING				AML	AML				
	comp=N,874µm,0.3s								
AOI	**Ancona**	**0.58**	**349**	P		**Pn**	**00 13 08.7**	**-1.2**	
VCEL	**Villa Celiera**	**0.58**	**174**	P		**Pn**	**00 13 08.5**	**-1.5**	
VCEL				AML	AML				
	comp=N,918µm,0.6s								
VCEL				AML	AML				
	comp=E,803µm,0.4s								
VCEL				AML	AML				
	comp=N,755µm,0.7s								
VCEL				AML	AML				
	comp=E,1110µm,0.6s								
VCEL				AML	AML				
	comp=N,918µm,0.6s								
EL6	**Elcito**	**0.60**	**306**	P		**Pn**	**00 13 10.3**	**+0.3**	
EL6				S		**Sn**	**00 13 22.7**	**+4.1**	
EL6				AML	AML				
	comp=E,2040µm,0.2s								
EL6				AML	AML				
	comp=E,2045µm,0.2s								
EL6				AML	AML				
	comp=N,1995µm,0.3s								
RM33	**Pellescritta (**	**0.62**	**221**	P		**Pn**	**00 13 10.3**	**0.0**	
RM33				AML	AML				
	comp=E,920µm,1.3s								
RM33				AML	AML				
	comp=E,922µm,1.3s								
RM33				AML	AML				
	comp=N,768µm,0.3s								
RM33				AML	AML				
	comp=E,918µm,1.3s								
RM33				AML	AML				
	comp=N,769µm,0.3s								
CESI	**CESI - Serrava**	**0.63**	**273**	P		**Pn**	**00 13 11.3**	**+0.8**	
CESI				AML	AML				
	comp=N,480µm,0.3s								
CESI				AML	AML				
	comp=E,604µm,0.4s								
CESI				AML	AML				
	comp=N,480µm,0.3s								
LNSS	**Leonessa**	**0.65**	**235**	P		**Pn**	**00 13 11.2**	**+0.4**	
LNSS				AML	AML				
	comp=N,5520µm,0.4s								
LNSS				AML	AML				
	comp=E,3760µm,0.4s								
LNSS				AML	AML				
	comp=N,5525µm,0.4s								
SNTG	**Esanatoglia**	**0.66**	**295**	P

	comp=E,3μm,1.0s							
CAFR				AML	AML			
	comp=N,342μm,0.3s							
CAFR				AML	AML			
	comp=E,3μm,1.0s							
FRON	**Frontone**	**0.93**	**306**	AML	AML			
	comp=E,765μm,0.4s							
FRON				AML	AML			
	comp=N,931μm,0.4s							
FRON				AML	AML			
	comp=E,764μm,0.4s							
FRON				AML	AML			
	comp=N,930μm,0.4s							
CESX	**Cesi**	**0.94**	**247**	AML	AML			
	comp=N,973μm,0.4s							
CESX				AML	AML			
	comp=E,975μm,0.5s							
ATFO	**Monte Foce - G**	**0.95**	**295**	AML	AML			
	comp=N,842μm,0.4s							
ATFO				AML	AML			
	comp=N,843μm,0.4s							
ATFO				AML	AML			
	comp=E,888μm,0.5s							
INTR	**Introdacqua**	**0.97**	**174**	P	**Pn**	**00 13 16.2**	**+1.0**	
INTR				AML	AML			
	comp=E,668μm,1.1s							
INTR				AML	AML			
	comp=N,770μm,0.5s							
INTR				AML	AML			
	comp=E,668μm,1.1s							
MPAG	**Monte Paganucc**	**0.98**	**312**	AML	AML			
	comp=N,494μm,1.6s							
MPAG				AML	AML			
	comp=E,497μm,0.6s							
FSSB	**Fossombrone**	**1.01**	**315**	AML	AML			
	comp=E,1480μm,1.3s							
FSSB				AML	AML			
	comp=N,2375μm,1.2s							
ATTE	**AVT- Monte Tez**	**1.05**	**283**	AML	AML			
	comp=E,272μm,0.4s							
ATTE				AML	AML			
	comp=N,192μm,1.4s							
PIEI	**Pieia**	**1.05**	**302**	AML	AML			
	comp=N,392μm,0.4s							
PIEI				AML	AML			
	comp=E,636μm,0.3s							
ATVO	**AVT- Monte Val**	**1.07**	**293**	AML	AML			
	comp=E,630μm,0.3s							
ATVO				AML	AML			
	comp=N,418μm,0.4s							
NARO	**Abbazia di Nar**	**1.07**	**307**	AML	AML			
	comp=N,298μm,1.6s							
NARO				AML	AML			
	comp=E,348μm,0.7s							
APEC	**Apecchio**	**1.14**	**301**	AML	AML			
	comp=N,746μm,0.4s							
APEC				AML	AML			
	comp=E,673μm,0.4s							
ATMI	**Monte Miggiano**	**1.15**	**289**	AML	AML			
	comp=N,511μm,0.7s							
ATMI				AML	AML			
	comp=E,606μm,0.3s							
FRES	**Fresagrandinar**	**1.21**	**146**	P	**Pn**	**00 13 18.4**	**0.0**	
MGAB	**Montegabbione**	**1.21**	**267**	AML	AML			
	comp=N,381μm,0.5s							
MGAB				AML	AML			
	comp=E,348μm,1.5s							
BADI	**Badiali**	**1.23**	**296**	AML	AML			
	comp=N,396μm,1.5s							
BADI				AML	AML			
	comp=E,282μm,0.4s							
PARC	**Parchiule**	**1.30**	**302**	AML	AML			
	comp=N,300μm,0.5s							
PARC				AML	AML			
	comp=E,256μm,0.3s							
RNI2	**Rionero Sannit**	**1.31**	**167**	AML	AML			
	comp=E,320μm,0.4s							
RNI2				AML	AML			
	comp=N,262μm,0.5s							
TRIV	**Trivento**	**1.34**	**154**	AML	AML			
	comp=E,233μm,0.9s							
TRIV				AML	AML			
	comp=N,212μm,0.8s							
SACS	**San Casciano d**	**1.36**	**265**	AML	AML			
	comp=N,169μm,0.7s							
SACS				AML	AML			
	comp=E,141μm,0.6s							
MIDA	**Miranda**	**1.38**	**164**	AML	AML			
	comp=N,126μm,0.4s							
MIDA				AML	AML			
	comp=E,164μm,0.5s							
MIDA				AML	AML			
	comp=N,126μm,0.4s							
MIDA				AML	AML			
	comp=E,166μm,0.9s							
DUGI	**Dugi Otok**	**1.39**	**43**	*e*Pn	**Pn**	**00 13 19.2**	**-1.6**	
CERA	**Filignano**	**1.39**	**172**	AML	AML			
	comp=E,418μm,0.6s							
CERA				AML	AML			
	comp=N,378μm,0.5s							
TREM	**Isole Tremiti**	**1.55**	**123**	P	**Pn**	**00 13 21.7**	**-1.4**	
TREM				AML	AML			
	comp=N,757μm,0.7s							
TREM				AML	AML			
	comp=E,454μm,0.6s							
TOLF	**Tolfa**	**1.59**	**236**	AML	AML			
	comp=N,84μm,1.1s							
TOLF				AML	AML			
	comp=E,99μm,0.5s							
VAGA	**Valle Agricola**	**1.60**	**167**	AML	AML			
	comp=N,194μm,0.6s							
VAGA				AML	AML			
	comp=E,97μm,0.7s							
MELA	**Melanico ??? S**	**1.62**	**141**	AML	AML			
	comp=N,405μm,0.4s							
MELA				AML	AML			
	comp=N,432μm,0.5s							
MELA				AML	AML			
	comp=E,452μm,0.6s							
MELA				AML	AML			
	comp=E,440μm,0.7s							
NVLJ	**Novalja**	**1.78**	**27**	*e*Pn	**Pn**	**00 13 25.3**	**-0.9**	
NVLJ				Sn	**Sn**	**00 13 47.8**	**+0.3**	
VITU	**Vitulano (BN)**	**1.91**	**160**	AML	AML			
	comp=E,83μm,0.5s							
VITU				AML	AML			
	comp=N,91μm,0.5s							
SGRT	**San Giovanni R**	**1.91**	**129**	AML	AML			
	comp=E,240μm,0.3s							
SGRT				AML	AML			
	comp=N,238μm,0.5s							
HVAR	**Hvar**	**1.98**	**83**	*e*Pn	**Pn**	**00 13 28.0**	**-0.9**	
HVAR				Sn	**Sn**	**00 13 50.0**	**-2.6**	
MSAG	**Monte S. Angel**	**2.03**	**128**	AML	AML			
	comp=E,301μm,0.4s							
MSAG				AML	AML			
	comp=N,532μm,0.4s							
SEI	**Scarperia**	**2.05**	**302**	AML	AML			
	comp=E,101μm,0.5s							
SEI				AML	AML			
	comp=N,191μm,0.4s							
UDBI	**Udbina**	**2.12**	**42**	*e*Pn	Pn	00 13 32.5	+1.5	
UDBI				Sn	**Sn**	**00 13 57.8**	**+1.6**	
RIY	**Rijeka**	**2.40**	**12**	*e*Pn	**Pn**	**00 13 35.1**	**+0.3**	
RIY				Sn	**Sn**	**00 14 05.8**	**+2.8**	
TRI	**Trieste**	**2.73**	**0**	AML	AML			
	comp=E,69μm,1.0s							
TRI				AML	AML			
	comp=N,63μm,1.4s							
STON	**Ston**	**2.90**	**91**	*e*Pn	**Pn**	**00 13 39.1**	**-2.4**	
STON				Sn	**Sn**	**00 14 12.0**	**-3.1**	
AMUR	**Altamura**	**2.96**	**133**	AML	AML			
	comp=E,56μm,0.4s							
AMUR				AML	AML			
	comp=N,46μm,0.4s							
SABO	**M.te Sabotino**	**3.00**	**358**	AML	AML			
	comp=N,134μm,0.8s							
SABO				AML	AML			
	comp=E,93μm,0.8s							
MIGL	**Miglionico**	**3.10**	**139**	AML	AML			
	comp=N,167μm,1.6s							
MIGL				AML	AML			
	comp=E,175μm,0.8s							
DBRK	**Dubrovnik**	**3.24**	**94**	*e*Pn	Pn	00 13 46.6	+0.3	
DBRK				Sn	**Sn**	**00 14 21.8**	**-1.9**	
ZAG	**Zagreb**	**3.27**	**28**	*e*Pn	**Pn**	**00 13 45.3**	**-1.3**	
ZAG				Sn	**Sn**	**00 14 26.4**	**+2.2**	
PTJ	**Puntijarka**	**3.33**	**28**	*e*Pn	Pn	00 13 49.2	+1.7	
PTJ				Sn	**Sn**	**00 14 29.1**	**+3.1**	
MOSL	**Moslavina**	**3.40**	**38**	*e*Pn	**Pn**	**00 13 47.2**	**-1.3**	
CTI	**Castel Tesino**	**3.42**	**335**	AML	AML			
	comp=E,54μm,0.9s							
CTI				AML	AML			
	comp=N,67μm,0.2s							
PGF	**Pioggiola**	**3.53**	**265**	*e*P	**Pn**	**00 13 55.0**	**+4.6**	
PGF				*e*Sn	**Sn**	**00 14 30.1**	**-0.9**	
	comp=N,0.9nm,0.5s							
OBKA	**Obir**	**3.58**	**9**	*e*Pn	**Pn**	**00 13 52.0**	**+1.0**	
	comp=N,0.8nm,0.2s							
MYKA	**Terra Mystica**	**3.65**	**359**	*e*Pn	**Pn**	**00 13 52.8**	**+0.7**	
	comp=N,1.4nm,0.2s							
MYKA				*e*Sn	**Sn**	**00 14 36.2**	**+2.3**	
	comp=N,2.6nm,0.3s							
SOKA	**Soboth**	**3.81**	**13**	*e*Pn	**Pn**	**00 13 53.8**	**-0.4**	
	comp=N,0.4nm,0.3s							
ABTA	**Abfaltersbach**	**3.87**	**347**	*e*Pn	**Pn**	**00 13 56.3**	**+1.3**	
	comp=N,1.0nm,0.2s,SNR=5.7							
ABTA				*e*Sn	**Sn**	**00 14 41.0**	**+1.6**	
	comp=N,12nm,0.5s							
KOSI	**Kohlern**	**3.88**	**335**	AML	AML			
	comp=N,45μm,1.6s							
KOSI				AML	AML			
	comp=E,44μm,1.6s							
KBA	**Koelnbreinsper**	**4.11**	**356**	*e*Pn	**Pn**	**00 13 58.9**	**+0.5**	
	comp=E,0.4nm,0.1s							
WTTA	**Wattenberg**	**4.54**	**341**	*e*Pn	**Pn**	**00 14 05.5**	**+1.2**	
	comp=E,0.8nm,0.2s							
FETA	**Feichten**	**4.58**	**333**	*e*Pn	**Pn**	**00 14 07.8**	**+3.0**	
	comp=E,0.3nm,0.1s							
WATA	**Walderalm**	**4.62**	**341**	*i* Pn	**Pn**	**00 14 06.7**	**+1.3**	
	comp=E,0.7nm,0.2s							
WATA				*e*Sn	**Sn**	**00 15 01.7**	**+3.8**	
	comp=E,4.2nm,0.3s							
SBF	**Sospel**	**4.69**	**283**	*e*Pn	**Pn**	**00 14 08.0**	**+1.7**	
SBF				*e*Sn	**Sn**	**00 14 57.6**	**-1.9**	
	comp=E,1.1nm,0.3s							
MOA	**Molln**	**4.89**	**4**	*i* Pn	**Pn**	**00 14 09.4**	**+0.5**	
	comp=E,0.6nm,0.2s							
MOA				*e*Sn	**Sn**	**00 15 05.3**	**+1.1**	
	comp=E,2.1nm,0.6s							
RETA	**Reutte**	**4.98**	**336**	*e*Pn	Pn	00 14 13.5	+3.2	
	comp=E,0.3nm,0.2s							
CONA	**Conrad Observa**	**5.17**	**16**	*e*Pn	**Pn**	**00 14 13.0**	**+0.1**	
	comp=E,0.2nm,0.2s							
FRF	**La Foret Royal**	**5.23**	**279**	*e*P	**Pn**	**00 14 16.2**	**+2.6**	
FRF				*e*Sn	**Sn**	**00 15 10.1**	**-2.5**	
	comp=E,0.5nm,0.2s							
LMR	**La Mourre**	**5.32**	**276**	*e*P	**Pn**	**00 14 17.6**	**+2.8**	
LMR				*e*Sn	**Sn**	**00 15 12.6**	**-2.2**	
	comp=E,0.3nm,0.2s							
MBDF	**Montbardon**	**5.35**	**291**	*e*P	**Pn**	**00 14 17.4**	**+2.0**	
MBDF				*e*Sn	**Sn**	**00 15 12.9**	**-2.9**	
	comp=E,1.3nm,0.4s							
LPG	**La Plagne**	**5.63**	**299**	*e*P	**Pn**	**00 14 21.1**	**+1.7**	
LPG				*e*Sn	**Sn**	**00 15 19.4**	**-3.5**	
	comp=E,2.5nm,0.4s							
LPL	**La Plagne**	**5.65**	**299**	*e*P	**Pn**	**00 14 21.2**	**+1.6**	
LPL				*e*Sn	**Sn**	**00 15 20.1**	**-3.2**	
	comp=E,2.0nm,0.3s							
ORIF	**Oris-en-Rattie**	**6.01**	**292**	*e*P	**Pn**	**00 14 26.0**	**+1.6**	
ORIF				*e*Sn	**Sn**	**00 15 29.7**	**-2.3**	
	comp=E,0.8nm,0.3s							
SMRF	**Simiane la Rot**	**6.04**	**282**	*e*P	**Pn**	**00 14 27.1**	**+2.3**	
SMRF				*e*Sn	**Sn**	**00 15 29.6**	**-3.1**	
	comp=E,0.2nm,0.3s							
KHC	**Kasperske Hory**	**6.16**	**359**	*e*PN	**Pn**	**00 14 26.0**	**-0.4**	
KHC				*e*SN	**Sn**	**00 15 33.3**	**-2.2**	
CABF	**La Chapelle**	**6.56**	**306**	*e*P	**Pn**	**00 14 33.5**	**+1.6**	
CABF				*e*Sn	**Sn**	**00 15 41.2**	**-4.3**	
	comp=E,1.7nm,0.4s							
HINF	**Hinteralfeld**	**6.86**	**317**	*e*P	**Pn**	**00 14 37.1**	**+1.1**	
HINF				*e*Sn	**Sn**	**00 15 47.4**	**-5.4**	
	comp=E,2.9nm,0.3s							
CDF	**Champ du Feu**	**7.08**	**322**	*e*P	**Pn**	**00 14 39.9**	**+0.8**	
CDF				*e*Sn	**Sn**	**00 15 52.6**	**-5.7**	
	comp=E,2.1nm,0.3s							
HAU	**Haudompre**	**7.24**	**317**	*e*P	**Pn**	**00 14 42.6**	**+1.4**	
HAU				*e*Sn	**Sn**	**00 15 57.3**	**-4.8**	
	comp=E,4.3nm,0.4s							
PAGF	**Fort de Pagny**	**7.91**	**318**	*e*P	**Pn**	**00 14 51.4**	**+1.0**	
PAGF				*e*Sn	**Sn**	**00 16 12.7**	**-6.0**	
	comp=E,1.4nm,0.3s							
SMF	**Signal de Mont**	**7.95**	**301**	*e*Pn	**Pn**	**00 14 51.8**	**+0.9**	
SMF				*e*Sn	**Sn**	**00 16 14.7**	**-4.9**	
	comp=E,1.0nm,0.3s							
SFTF	**Sexfontaines**	**8.04**	**314**	*e*P	**Pn**	**00 14 53.6**	**+1.4**	
	baz=133							
SFTF				*e*Sn	**Sn**	**00 16 20.3**	**-1.6**	
	comp=E,0.8nm,0.3s							
LOR	**Lormes**	**8.21**	**305**	*e*P	**Pn**	**00 14 56.3**	**+1.8**	
	baz=120							
LOR				*e*Sn	**Sn**	**00 16 21.2**	**-4.8**	
	comp=E,1.9nm,0.3s							
AVF	**Avril sur Loir**	**8.31**	**301**	*e*P	**Pn**	**00 14 59.3**	**+3.4**	
AVF				*e*Sn	**Sn**	**00 16 23.4**	**-5.1**	
	comp=E,0.6nm,0.3s							
SSF	**Saint Saulge**	**8.33**	**303**	*e*P	**Pn**	**00 14 57.7**	**+1.5**	
SSF				*e*Sn	**Sn**	**00 16 23.5**	**-5.5**	
	comp=E,0.7nm,0.3s							
BGF	**Bois d'Agland**	**8.55**	**298**	*e*P	**Pn**	**00 15 01.2**	**+2.0**	
BGF				*e*Sn	**Sn**	**00 16 28.9**	**-5.4**	
	comp=E,2.5nm,0.3s							
TCF	**Toulx Ste Croi**	**8.88**	**296**	*e*P	**Pn**	**00 15 06.0**	**+2.3**	
TCF				*e*Sn	**Sn**	**00 16 37.7**	**-4.7**	
	comp=E,1.1nm,0.3s							

BJI ***13*** *00:30:40.9±0.0, 13.56N×145.56E, h99km, mB5.2/61, mb5.0/70*

MOS ***13*** *00:30:46.2±1.1, 14.00N×144.99E, h103km, mb5.1/38, Error ellipse: s-maj=7.4km s-min=4.6km az=114.8*

NEIC ***13*** *00:30:47.7, 13.90N×144.97E, h95km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=1.01; Mθθ=0.94; Mϕϕ=0.07; Mrθ=1.62; Mθϕ=-2.01; Mϕr=0.60; Fault plane solution: M₀2.82000×10¹⁷ NP1:φ₁270.83000°, δ73.70000°, λ-137.91000°. NP2:φ₂166.61000°, δ49.96000°, λ-21.50000°. Principal axes: T 2.7996, Plg15.0000°, Azm34.0000°; N 0.0499, Plg45.0000°, Azm288.0000°; P -2.8495, Plg41.0000°, Azm137.0000°;*

NEIC ***13*** *00:30:47.2±1.7, 13.91N±0.05×144.98E±0.05, h98km±1km, mb5.4/253, Mwb5.6/38, Mww5.6, Mwc5.6(GCMT) Error ellipse: s-maj=10.6km s-min=6.7km az=40.0*

DJA ***13*** *00:30:47.3±0.4, 14.1°N±3.3°×14.5°E±.°, h97km±3km, M5.3/81, mb5.5/81, mB5.8/43, MLv5.2/1, Mw(mB)5.3/43, Mwp5.5/12*

IDC ***13*** *00:30:47.4±0.5, 14.00N×145.00E, h103km±3km, mb4.5/37, mb1 4.6/41, mb1mx4.5/49, mbtmp4.9/41, MS4.5/28, Ms1 4.5/28, ms1mx4.5/33, Error ellipse: s-maj=11.5km s-min=6.2km az=78.0*

NEIC ***13*** *00:30:50, 13.87N×145.17E, h106km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.45; Mθθ=0.38; Mϕϕ=0.08; Mrθ=1.93; Mθϕ=-2.80; Mϕr=0.45; Fault plane solution: M₀3.46000×10¹⁷ NP1:φ₁175.00000°, δ55.00000°, λ-9.00000°. NP2:φ₂271.00000°, δ82.00000°, λ-145.00000°. Principal axes: T 3.3827, Plg18.0000°, Azm38.0000°; N 0.1419, Plg54.0000°, Azm282.0000°; P -3.5247, Plg30.0000°, Azm139.0000°;*

GCMT ***13*** *00:30:51.2±0.1, 13.85N±0.01×145.16E±0.01, h102km, MW5.6/159, Moment Tensor Solution. s149,c267; s159,c348; Duration: 1s6 Moment tensor: Scale 10¹⁷Nm; Mrr=0.42±.03; Mθθ=0.28±.03; Mϕϕ=0.14±.03; Mrθ=1.80±.02; Mθϕ=-2.79±.03; Mϕr=0.41±.02; Best double couple: M₀3.36400×10¹⁷ NP1:φ₁177.00000°, δ57.00000°, λ-9.00000°. NP2:φ₂272.00000°, δ82.00000°, λ-147.00000°. Principal axes: T 3.3060, Plg17.0000°, Azm40.0000°; N 0.1160, Plg56.0000°, Azm283.0000°; P -3.4230, Plg28.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***13*** *00:30:54, 13.72N×144.74E, h110km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.39; Mθθ=0.03; Mϕϕ=0.42; Mrθ=2.10; Mθϕ=-2.30; Mϕr=0.26; Fault plane solution: M₀3.15000×10¹⁷ NP1:φ₁179.00000°, δ48.00000°, λ-8.00000°. NP2:φ₂275.00000°, δ84.00000°, λ-138.00000°. Principal axes: T 3.0266, Plg23.0000°, Azm40.0000°; N 0.2289, Plg48.0000°, Azm282.0000°; P -3.2554, Plg33.0000°, Azm146.0000°;*

ISC 13 00:30:47.5±0.3, 13.90N±0.03×145.01E±0.04, h104km±2km, h105km:pP-P, n619, σ1.35/645, mb5.3/232, 13C-13D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.34**	**204**	P	**Pn**	**00 31 03.2**	**+0.4**
	3μm,0.3s,baz=61,slow=19,SNR=832						
GUMO	**Guam**	**0.34**	**204**	P	**Pn**	**00 31 03.2**	**+0.4**
GUMO						00 31 14.2	
GUMO	**Guam**	**0.34**	**204**		**Pn**	**00 31 03.2**	**+0.4**
GUMO				Sn	**Sn**	**00 31 14.2**	**-0.1**
ANA2	**Anatahan**	**2.52**	**16**	Pn	**Pn**	**00 31 28.5**	**+1.4**
JCJ	**Chichijima**	**13.39**	**349**	P	**Pn**	**00 33 51.9**	**-1.5**
	8.4nm,0.3s,baz=165,slow=19,SNR=2.9						
JCJ				LR	LR	00 37 30.5	
	comp=Z,3μm,20.8s,baz=164,slow=30						
JCJ	**Chichijima**	**13.39**	**349**	Pn	**Pn**	**00 33 52.1**	**-1.3**
PATS	**Pohnpei**	**14.84**	**117**	Pn	**Pn**	**00 34 11.2**	**-1.0**
JAY	**Jayapura**	**16.86**	**195**	P	**P**	**00 34 39.0**	**+1.3**
	1.7nm,0.3s,baz=2.7,slow=5.5,SNR=24						
JAY				S	**Sn**	**00 37 45.1**	**+0.3**
	1.4nm,0.3s,baz=54,slow=15,SNR=6.6						
JAY	**Jayapura**	**16.86**	**195**	P	**P**	**00 34 39.7**	**+2.0**
	1μm126nm,1.0s						
SMPI	**Sarmi**	**16.98**	**202**	P	**P**	**00 34 41.0**	**+2.1**
	4μm3μm144nm,1.0s						
GENI	**Genyem**	**17.07**	**197**	P	**P**	**00 34 41.6**	**+1.6**
	6μm6μm264nm,1.0s						
RABL	**Rabaul**	**19.32**	**158**	P	**Pn**	**00 35 06.0**	**-0.9**
KRVT	**Keravat (AS076**	**19.38**	**158**	P	**Pn**	**00 35 07.9**	**+0.4**
	12nm,0.3s,baz=353,slow=7.5,SNR=36						
KRVT				LR	LR	00 41 56.4	
	comp=Z,716nm,20.9s,baz=327,slow=34						
JHJ	**Hachijo jima 2**	**19.72**	**347**	P	**P**	**00 35 09.6**	**+0.7**
	28nm,0.3s,baz=204,slow=18,SNR=7.6						
JHJ				S	**S**	**00 38 43.7**	**-1.8**
	4.9nm,0.3s,baz=134,slow=12,SNR=1.7						
JHJ				LR	LR	00 42 23.1	
	comp=Z,2μm,18.0s,baz=180,slow=36						
SIJI	**Sorong**	**20.02**	**224**	P	Pn	00 35 15.4	+0.5
	384nm,1.0s,baz=32,slow=8.2,SNR=30						
SIJI				S	Sn	00 38 59.1	-1.4
	9.2nm,0.6s,baz=178,slow=23,SNR=1.3						
SIJI				LR	LR	00 41 31.5	
	comp=Z,1μm,19.8s,baz=70,slow=32						
DAV	**Davao City (W)**	**20.26**	**252**	LR	LR	00 43 55.6	
	comp=Z,369nm,18.7s,baz=76,slow=39						
DAV	**Davao City (W)**	**20.26**	**252**	P	Pn	00 35 17.2	-0.6
DAV	**Davao City (W)**	**20.26**	**252**	*e*P	Pn	00 35 26.3	+8.5
FAKI	**Fak Fak**	**20.96**	**218**	P	Pn	00 35 24.3	-1.6
	8μm4μm459nm,0.9s						
FAKI	**Fak Fak**	**20.96**	**218**	P	**P**	**00 35 23.7**	**+1.3**
H11S3	**WAKE ISLAND Hy**	**21.31**	**75**	T	T	00 57 29.7	
	baz=266,slow=74						
H11S1	**WAKE ISLAND Hy**	**21.32**	**75**	T	T	00 57 33.7	
	baz=266,slow=74						
H11S2	**WAKE ISLAND Hy**	**21.32**	**75**	T	T	00 57 31.9	
	baz=266						
WAKE	**Wake Island**	**21.42**	**73**	P	**P**	**00 35 28.9**	**+1.6**
WAKE				IAmb	IAmb	00 35 40.4	
	comp=Z,192nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**21.72**	**72**	T	T	00 58 24.9	
	baz=257,slow=75,SNR=66						
H11N2	**WAKE ISLAND Hy**	**21.73**	**72**	T	T	00 58 38.3	
	baz=257,slow=75,SNR=64						
H11N3	**WAKE ISLAND Hy**	**21.74**	**72**	T	T	00 58 38.9	
	baz=257,slow=75,SNR=82						
TNTI	**Ternate**	**21.79**	**235**	P	**P**	**00 35 31.4**	**+0.1**
	comp=Z,4μmcomp=Z,134nm,0.9s						
TNTI	**Ternate**	**21.79**	**235**	P	**P**	**00 35 31.2**	**0.0**
TNTI				IAmb	IAmb	00 35 34.1	
	comp=Z,113nm,0.9s						
LBMI	**Labuha**	**22.57**	**232**	P	**P**	**00 35 41.3**	**+1.9**
	comp=Z,3μmcomp=Z,93nm,1.0s						
KWAJ	**Kwajalein Atol**	**22.73**	**100**	P	**P**	**00 35 42.2**	**+1.3**
KWAJ				pmax	pmax		
	comp=Z,362nm,0.9s						
KWAJ	**Kwajalein Atol**	**22.73**	**100**	P	**P**	**00 35 42.2**	**+1.3**
JNU	**Nakatsue**	**23.06**	**328**	P	**P**	**00 35 43.8**	**-0.3**
	comp=Z,22nm,0.6s,baz=117,slow=4.2,SNR=28						
JNU				ScP	**ScP**	**00 42 56.1**	**-2.5**
	comp=Z,30nm,1.1s,baz=85,slow=3.6,SNR=9.8						
JNU	**Nakatsue**	**23.06**	**328**	P	**P**	**00 35 44.6**	**+0.5**
JNU				IAmb	IAmb	00 36 24.8	
	comp=Z,164nm,1.4s						
JNU					**ScP**	**00 42 55.9**	**-2.7**
YOJ	**Yonaguni jima**	**23.25**	**300**	P	**P**	**00 35 46.4**	**+0.5**
YOJ				pmax	pmax		
	comp=Z,239nm,0.9s						
YOJ	**Yonaguni jima**	**23.25**	**300**	P	**P**	**00 35 46.4**	**+0.5**
YOJ				IAmb	IAmb	00 35 49.3	
	comp=Z,239nm,0.9s						
PMG	**Port Moresby**	**23.25**	**175**	P	**P**	**00 35 45.2**	**-0.7**
	comp=Z,118nm,0.8s,baz=354,slow=6.6,SNR=18						
PMG				S	**S**	**00 39 51.6**	**+1.5**
	comp=Z,20nm,0.6s,baz=284,slow=20,SNR=2.3						
PMG	**Port Moresby**	**23.25**	**175**	*d* iP	**P**	**00 35 45.5**	**-0.4**
PMG				pmax	pmax		
	comp=Z,247nm,1.2s						
PMG	**Port Moresby**	**23.25**	**175**	P	**P**	**00 35 45.9**	**0.0**
PMG				IAmb	IAmb	00 35 48.8	
	comp=Z,353nm,1.3s						
TGY	**Tagaytay City**	**23.36**	**273**	P	**P**	**00 35 48.2**	**+1.2**
	comp=Z,187nm,0.3s,baz=131,slow=11,SNR=3.6						
TGY				LR	LR	00 43 46.6	
	comp=Z,1μm,20.6s,baz=104,slow=33						
MJAR	**Matsushiro Arr**	**23.36**	**346**	P	**P**	**00 35 44.3**	**-2.5**
	comp=Z,10nm,0.5s,baz=180,slow=9.5,SNR=43						
MJAR				pP	**pP**	**00 36 06.0**	**-1.1**
	comp=Z,20nm,0.9s,baz=180,slow=9.7,SNR=5.7						
MJAR				S	**S**	**00 39 52.9**	**+1.3**
	comp=Z,7.2nm,1.0s,baz=169,slow=15,SNR=5.0						
MJAR				ScP	**ScP**	**00 42 57.7**	**-1.6**
	comp=Z,9.5nm,0.9s,baz=209,slow=2.8,SNR=5.3						
MJAR				LR	LR	00 44 02.5	
	comp=Z,2μm,18.4s,baz=165,slow=34						
MJAR	**Matsushiro Arr**	**23.36**	**346**	P	**P**	**00 35 44.8**	**-2.0**
MJAR				*PP	**pP**	**00 36 06.0**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,12nm,0.8s						
MJAR	**Matsushiro Arr**	**23.36**	**346**	P	**P**	**00 35 44.8**	**-2.0**
MAJO	**Matsushiro**	**23.36**	**346**	*c* iP	**P**	**00 35 44.7**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,61nm,1.4s						
MAJO	**Matsushiro**	**23.36**	**346**	P	**P**	**00 35 46.3**	**-0.5**
MAJO				IAmb	IAmb	00 36 11.2	
	comp=Z,212nm,1.8s						
MAT	**Matsushiro**	**23.36**	**346**	P	**P**	**00 35 45.5**	**-1.3**
MAT				S	**S**	**00 39 45.8**	**-5.8**
MJB9	**Matsu-Tunnel**	**23.36**	**346**	P	**P**	**00 35 46.2**	**-0.7**
MJB9				IAmb	IAmb	00 36 11.1	
	comp=Z,227nm,1.8s						
MSAI	**Masohi**	**23.41**	**224**	P	**P**	**00 35 49.1**	**+1.7**
	comp=Z,884nmcomp=Z,67nm,0.9s						
MNI	**Manado**	**23.47**	**240**	P	**P**	**00 35 48.9**	**+0.8**
MNI				pmax	pmax		
	comp=Z,149nm,0.8s						
AAI	**Ambon**	**24.16**	**225**	P	**P

MYLDM IAmb IAmb 00 36 33.1
comp=Z,125nm,1.2s
COEN Coen 27.74 184 P **P** **00 36 26.5 +0.1**
COEN IAmb IAmb 00 36 29.2
comp=Z,79nm,1.1s
SSE Sheshan 27.78 312 P **P** **00 36 28.4 +1.7**
SSE S **S** **00 41 05.4 +3.5**
SSE pmax pmax
comp=Z,13nm,0.6s
SSE pmax pmax
comp=Z,130nm,4.1s
SSE LR LR
comp=Z,450nm,20.2s
SSE LR LR
comp=Z,540nm,17.6s
SSE LR LR
comp=Z,710nm,20.5s
KSRS Korea Array 27.96 330 P **P** **00 36 27.8 -0.4**
comp=Z,12nm,0.8s,baz=144,slow=10,SNR=27
KSRS pP **pP** **00 36 49.7 -0.6**
comp=Z,12nm,0.9s,baz=144,slow=9.0,SNR=5.2
KSRS ScP **ScP** **00 43 11.2 -1.3**
comp=Z,6.4nm,1.0s,baz=139,slow=3.9,SNR=12
KSRS LR LR 00 46 12.2
comp=Z,956nm,20.1s,baz=124,slow=33
KSRS P3KPbc 01 08 52.0
comp=Z,0.7nm,0.5s,baz=309,slow=3.7,SNR=4.4
KSAR Wonju Array Be 27.97 330 P **P** **00 36 28.7 +0.4**
KSAR Wonju Array Be 27.97 330 P **P** **00 36 28.7 +0.4**
KS19 Wonju Array Si 28.03 330 P **P** **00 36 28.7 -0.2**
MPSI Mapaga 28.27 244 P **P** **00 36 31.6 +0.3**
KKM Kota Kinabalu 29.39 257 P **P** **00 36 42.4 +1.2**
SPMM Sapulut 29.58 255 P **P** **00 36 44.0 +1.1**
NJ2 Nanjing 29.97 311 *e*P **P** **00 36 45.9 -0.3**
NJ2 pP **pP** **00 37 07.8 -0.5**
NJ2 S **S** **00 41 37.3 +0.9**
NJ2 pmax pmax
comp=Z,13nm,1.1s
NJ2 LR LR
comp=Z,880nm,13.1s
NJ2 LR LR
comp=Z,950nm,15.0s
NJ2 LR LR
comp=Z,1μm,17.8s
YUK Yuzh-Kuril'sk 30.04 1 P **P** **00 36 44.9 -1.7**
YUK *e* 00 37 49.3
YUK S **S** **00 41 41.7 +4.6**
YUK *e*SS **SnSn** **00 43 21.2 +0.1**
JKA Kamikawa-asahi 30.18 357 P **P** **00 36 46.5 -1.3**
JKA Kamikawa-asahi 30.18 357 IAmb IAmb 00 37 00.0
comp=Z,91nm,1.6s
ASAJ Asahikawa 30.19 357 P **P** **00 36 46.5 -1.3**
comp=Z,9.2nm,0.8s,baz=195,slow=16,SNR=2.2
ASAJ LR LR 00 49 12.0
comp=Z,914nm,19.2s,baz=179,slow=37
ASAJ Asahikawa 30.19 357 P **P** **00 36 46.6 -1.3**
ASAJ pmax pmax
comp=Z,91nm,1.6s
BNSI Bone 30.68 235 P **P** **00 36 53.0 +0.5**
comp=Z,47nm,0.9s
SPSI Sidrap Palu 30.69 236 P **P** **00 36 52.3 -0.4**
comp=Z,32nm,0.9s
SOEI Soe 31.24 222 P **P** **00 36 57.2 -0.4**
comp=Z,1μmcomp=Z,114nm,1.0s
SOEI Soe 31.24 222 IAmb IAmb 00 37 11.6
comp=Z,114nm,1.0s
KAPI Kappang 31.33 235 P **P** **00 36 58.0 -0.2**
KAPI pmax pmax
comp=Z,29nm,0.8s
KAPI Kappang 31.33 235 P **P** **00 36 58.0 -0.2**
MMRI Maumere 31.81 227 P **P** **00 37 01.3 -1.2**
comp=Z,3μmcomp=Z,106nm,0.9s
MMRI Maumere 31.81 227 IAmb IAmb 00 37 06.2
comp=Z,76nm,0.8s
BATI Baumata 31.97 223 P **P** **00 37 02.5 -1.4**
comp=Z,76nm,1.0s
USRK Ussuriysk Ar. 32.19 342 P **P** **00 37 04.1 -1.3**
comp=Z,1.2nm,0.5s,baz=158,slow=8.7,SNR=9.0
USRK ScP **ScP** **00 43 24.6 -1.5**
comp=Z,2.2nm,0.7s,baz=217,slow=4.8,SNR=5.7
USRK LR LR 00 48 53.9
comp=Z,2μm,19.5s,baz=136,slow=34
EDFI Ende, Flores 32.28 227 P **P** **00 37 05.4 -1.3**
DL2 Dalian 32.35 325 P **P** **00 37 08.1 +1.1**
DL2 pP **pwP** **00 37 34.9 +1.1**
DL2 S **S** **00 42 13.4 0.0**
DL2 sS **sS** **00 42 54.7 +1.3**
DL2 pmax pmax
comp=Z,29nm,0.9s
DL2 pmax pmax
comp=Z,140nm,4.3s
DL2 LR LR
comp=Z,1μm,15.9s
DL2 LR LR
comp=Z,1μm,15.3s
WHN Wuhan 32.71 306 P **P** **00 37 12.0 +1.8**
WHN pP **pwP** **00 37 37.4 -0.1**
WHN sP **sP** **00 37 46.9 +2.8**
WHN pmax pmax
comp=Z,38nm,0.8s
WHN LR LR
comp=Z,2μm,9.8s
WHN LR LR
comp=Z,1μm,9.1s
WHN LR LR
comp=Z,2μm,17.4s
YSS Yuzh-Sakhalins 33.01 357 *e*P P 00 37 25.3 +13
YSS *e* 00 37 46.9
YSS MLR MLR
comp=Z,1μm,13.0s
MTKI Muara Teweh, K 33.28 246 P **P** **00 37 15.5 +0.1**
MDJ Mudanjiang 33.32 340 P **P** **00 37 16.6 +1.3**
MDJ pP pP 00 37 39.0 +1.0
MDJ sP sP 00 37 51.9 +2.1
MDJ S **S** **00 42 26.7 -1.5**
MDJ sS sS 00 43 10.4 +2.1
MDJ pmax pmax
comp=Z,290nm,9.6s
MDJ LR LR
comp=Z,1μm,22.1s
MDJ LR LR
comp=Z,2μm,22.1s
MDJ LR LR
comp=Z,3μm,22.1s
CTAO Charters Tower 33.80 178 P **P** **00 37 20.7 +1.0**
CTAO pmax pmax
comp=Z,63nm,0.9s
CTAO Charters Tower 33.80 178 P **P** **00 37 20.7 +1.0**
CTAO IAmb IAmb 00 37 22.8
comp=Z,63nm,0.8s
QIZ Qiongzhong 34.07 283 P **P** **00 37 20.0 -2.2**
QIZ pP **pP** **00 37 43.2 -1.3**
QIZ S **S** **00 42 40.6 +0.1**
QIZ sS **sS** **00 43 19.1 -1.6**
QIZ LR LR
comp=Z,2μm,19.2s
QIZ LR LR
comp=Z,800nm,11.0s
QIZ LR LR
comp=Z,810nm,12.5s
SBUM Sibu 34.33 254 P **P** **00 37 24.2 -0.3**
SBUM Sibu 34.33 254 P **P** **00 37 25.0 +0.5**
WRAB Tennant Creek 35.22 198*d* *i*P **P** **00 37 32.0 0.0**
WRAB pmax pmax
comp=Z,212nm,1.0s
WRAB Tennant Creek 35.22 198 P **P** **00 37 32.6 +0.6**
WRA Warramunga Arr 35.23 198 P **P** **00 37 31.8 -0.3**
comp=Z,152nm,0.9s,baz=18,slow=9.0,SNR=84
WRA PcP **PcP** **00 40 02.2 +1.3**
comp=Z,19nm,0.8s,baz=11,slow=3.5,SNR=6.8
WRA S **S** **00 42 55.8 -2.4**
comp=Z,8.0nm,1.0s,baz=17,slow=15,SNR=7.9
WRA ScP **ScP** **00 43 36.1 -1.1**
comp=Z,16nm,1.1s,baz=17,slow=3.8,SNR=8.8
WRA PKiKP **PKiKP** **00 47 21.9 -0.7**
comp=Z,1.6nm,0.6s,baz=334,slow=1.4,SNR=11
WRA LR LR 00 51 53.6
comp=Z,684nm,19.1s,baz=40,slow=36
WRA Warramunga Arr 35.23 198 P **P** **00 37 31.5 -0.6**
WRA Warramunga Arr 35.23 198 **ScP** **00 43 36.4 -0.8**
TWSI Taliwang, Sumb 35.85 233 P **P** **00 37 38.7 +1.2**
STKI Sintang 35.93 250 P **P** **00 37 38.5 +0.3**
BJT Baijiatuao 36.28 321 P **P** **00 37 41.2 +0.3**
BJT pmax pmax
comp=Z,31nm,1.1s
BJT Baijiatuao 36.28 321 P **P** **00 37 41.2 +0.3**
BJI Beijing 36.29 321 P **P** **00 37 41.8 +0.9**
BJI S **S** **00 43 13.4 -0.6**
BJI ScP **ScP** **00 43 39.7 -1.1**
BJI sS **sS** **00 43 58.2 +3.8**
BJI SS **SS** **00 45 54.9 -1.5**
BJI pmax pmax
comp=Z,13nm,0.8s
BJI LR LR
comp=Z,890nm,16.7s
BJI LR LR
comp=Z,790nm,14.9s
KSM Kuching 36.47 253 P **P** **00 37 41.9 -0.9**
KSM Kuching 36.47 253 P **P** **00 37 43.0 +0.2**
ENH Enshi 36.54 302 P **P** **00 37 44.0 +0.8**
ENH IAmb IAmb 00 37 46.9
comp=Z,41nm,0.8s
SRBI Singaraja 36.76 235 P **P** **00 37 46.2 +0.9**
comp=Z,77nm,1.1s
KLR Kul'dur 36.88 345 P **P** **00 37 44.1 -1.7**
comp=Z,5.4nm,0.3s,baz=138,slow=8.9,SNR=28
KLR PcP **PcP** **00 40 06.3 +0.9**
comp=Z,3.5nm,0.7s,baz=259,slow=1.1,SNR=1.5
KLR ScP **ScP** **00 43 40.5 -2.3**
comp=Z,9.0nm,1.0s,baz=172,slow=2.9,SNR=6.0
KLR LR LR 00 52 05.8
comp=Z,1μm,18.5s,baz=155,slow=35
KLR Kul'dur 36.88 345*d* *i*P **P** **00 37 46.2 +0.3**
KLR pmax pmax
comp=Z,42nm,2.1s
FITZ Fitzroy Crossi 37.09 212 P **P** **00 37 48.4 +0.5**
DNP Denpasar 37.12 235 P **P** **00 37 49.3 +1.0**
comp=Z,59μmcomp=Z,503nm,0.8s
TIY Taiyuan 37.40 315 *e*P **P** **00 37 52.7 +2.2**
TIY PP **PP** **00 39 27.4 +10**
TIY S **S** **00 43 31.3 +0.1**
TIY sS **sS** **00 44 12.6 +0.8**
TIY pmax pmax
comp=Z,30nm,0.5s
TIY LR LR
comp=Z,930nm,17.6s
TIY LR LR
comp=Z,390nm,9.9s
TIY LR LR
comp=Z,1μm,14.9s
SKR Severo-Kuril's 37.78 12 *e*P P 00 37 46.5 -6.9
SKR *e**PP pP 00 38 13.5 -3.1
SKR *e*PPP PPP 00 39 40.4
SKR *e*S **S** **00 43 42.1 +5.8**
SKR *e**SS sS 00 44 20.2 +3.3
SKR pmax pmax
comp=Z,44nm,1.0s
SKR pmax pmax
comp=Z,300nm,3.2s
SKR pmax pmax
comp=Z,100nm,4.6s
SKR MLR MLR
comp=Z,600nm,15.0s
SKR MLR MLR
comp=Z,400nm,18.0s
JAGI Jajag, Banyuwa 37.84 236 P **P** **00 37 53.7 -0.7**
comp=Z,95nm,0.9s
GYA Guiyang 37.95 295 ⇓P **P** **00 37 56.9 +1.5**
GYA pP pP 00 38 20.1 +2.1
GYA S **S** **00 43 41.4 +1.5**
GYA ScP **ScP** **00 43 47.5 0.0**
GYA sS sS 00 44 22.4 +1.9
GYA ScS **ScS** **00 47 58.4 +1.2**
GYA pmax pmax
comp=Z,19nm,1.1s
GYA LR LR
comp=Z,500nm,10.5s
GYA LR LR
comp=Z,640nm,15.4s
GYA LR LR
comp=Z,710nm,16.6s
XAN Xi'an 38.31 308 P **P** **00 37 58.4 +0.2**
XAN pP pP 00 38 17.1 -3.8
XAN PP **PnPn** **00 39 30.0 -0.7**
XAN PcP **PcP** **00 40 11.1 +0.9**
XAN S **S** **00 43 40.3 -4.7**
XAN ScS **ScS** **00 48 01.2 +2.3**
XAN pmax pmax
comp=Z,26nm,0.7s
XAN pmax pmax
comp=Z,180nm,3.9s
XAN LR LR
comp=Z,2μm,21.1s
XAN LR LR
comp=Z,1μm,21.1s
XAN LR LR
comp=Z,1μm,29.9s
XAN Xi'an 38.31 308 P **P** **00 37 58.0 -0.2**
XAN 00 43 48.6
XAN pmax pmax
comp=Z,16nm,0.7s
XAN Xi'an 38.31 308 P **P** **00 37 58.0 -0.2**
XAN **ScP** **00 43 48.6 -0.1**
GRJI Gresik 38.34 239 P **P** **00 37 59.8 +1.2**
comp=Z,108nm,0.9s
AS31 Alice Springs 38.88 196 P **P** **00 38 03.2 +0.2**
AS31 PcP **PcP** **00 40 12.5 +0.5**
ASAR Alice Springs 38.88 196 P **P** **00 38 03.2 +0.2**
comp=Z,28nm,0.8s,baz=16,slow=5.2,SNR=124
ASAR PP **PnPn** **00 39 36.1 -1.6**
comp=Z,22nm,0.9s,baz=16,slow=11,SNR=6.8
ASAR PcP **PcP** **00 40 13.2 +1.1**
comp=Z,25nm,0.9s,baz=17,slow=3.9,SNR=10
ASAR ScP **ScP** **00 43 50.1 -0.8**
comp=Z,4.6nm,0.8s,baz=11,slow=3.2,SNR=7.9
ASAR PKiKP **PKiKP** **00 47 25.4 0.0**
comp=Z,0.8nm,0.6s,baz=77,slow=0.5,SNR=5.0
ASAR LR LR 00 54 19.0
comp=Z,826nm,21.2s,baz=22,slow=36
ASAR Alice Springs 38.88 196 P **P** **00 38 02.4 -0.6**
ASAR PcP **PcP** **00 40 13.5 +1.5**
NGJI Ngawi 39.44 240 P **P** **00 38 08.9 +1.2**
comp=Z,76nm,0.8s
HHC Hu-ho-hao-te 39.63 319 *e*P **P** **00 38 10.4 +1.2**
HHC PP **PnPn** **00 39 47.0 +0.8**
HHC S **S** **00 44 05.8 +1.1**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,250nm,6.5s
HHC LR LR
comp=Z,590nm,13.5s
HHC LR LR
comp=Z,930nm,12.4s
HHC LR LR
comp=Z,900nm,16.9s
SLVN Son La 39.78 287 P **P** **00 38 11.2 +0.6**
SMRI Semarang 40.13 241 P **P** **00 38 14.6 +1.1**
comp=Z,65nm,1.0s
WOJI Wonogiri, Jawa 40.13 239 P **P** **00 38 11.6 -1.9**
comp=Z,38nm,1.8s
PETK Petropavlovsk- 40.40 12 P **P** **00 38 13.9 -1.2**
comp=Z,2.9nm,0.6s,baz=142,slow=7.7,SNR=9.4
PETK LR LR 00 55 33.0
comp=Z,645nm,18.6s,baz=192,slow=37
PETK Petropavlovsk- 40.40 12 P **P** **00 38 14.8 -0.4**
PETK Petropavlovsk- 40.40 12 P **P** **00 38 14.8 -0.4**
BTO Baotou 40.49 318 *e*P **P** **00 38 18.0 +1.7**
UGM Wanagama 40.51 240 P **P** **00 38 16.9 +0.2**
comp=Z,197nm,1.2s
TPI Tanjungpandan 40.57 249 P **P** **00 38 17.1 0.0**
comp=Z,694nmcomp=Z,71nm,0.8s
YOGI Yogyakarta 40.65 240 P **P** **00 38 17.7 -0.1**
comp=Z,152nm,0.9s
HIA Hailar 40.92 335 P **P** **00 38 19.9 +0.3**
HIA pmax pmax
comp=Z,135nm,1.8s
HIA Hailar 40.92 335 P **P** **00 38 19.9 +0.3**
HIA IAmb IAmb 00 38 47.9
comp=Z,135nm,1.8s
KMI Kunming 41.22 292 ⇑P **P** **00 38 24.6 +2.0**
KMI pP pwP 00 38 49.7 -1.0
KMI sP sP 00 39 00.7 +3.8
KMI PP **PnPn** **00 40 08.9 +3.7**
KMI S **S** **00 44 28.5 -0.5**
KMI sS sS 00 45 10.8 +0.8
KMI pmax pmax
comp=Z,20nm,0.9s
KMI pmax pmax
comp=Z,130nm,4.4s
KMI LR LR
comp=Z,2μm,16.2s
KMI LR LR
comp=Z,350nm,12.6s
KMI LR LR
comp=Z,780nm,27.7s
KMI Kunming 41.22 292 P **P** **00 38 22.8 +0.2**
KMI pmax pmax
comp=Z,15nm,0.6s
KMI Kunming 41.22 292 P **P** **00 38 22.8 +0.2**
CD2 Chengdu 41.45 301 P **P** **00 38 25.3 +1.0**
CD2 pP pP 00 38 48.1 +0.8
CD2 S **S** **00 44 32.7 +0.8**
CD2 sS sS 00 45 13.2 +0.2
CD2 pmax pmax
comp=Z,40nm,1.1s
CD2 pmax pmax
comp=Z,150nm,6.3s
CD2 LR LR
comp=Z,980nm,12.6s
CD2 LR LR
comp=Z,1μm,15.1s
CD2 LR LR
comp=Z,1μm,14.5s
DZM Mont Dzumac 41.47 149 *e*P **P** **00 38 26.2 +1.8**
comp=Z,728nm,0.9s
DZM *e*LQ LQ 00 48 14.8
comp=Z,5μm,35.0s
DZM *e*LR LR 00 49 57.9
comp=Z,2μm,24.6s
DZM Mont Dzumac 41.47 149 P **P** **00 38 26.3 +1.8**
comp=Z,277nm,0.8s,baz=350,slow=7.4,SNR=108
DZM Mont Dzumac 41.47 149 P **P** **00 38 25.5 +1.1**
ZEA Zeya 42.15 344 *e*P **P** **00 38 29.1 -0.4**
ZEA *e* 00 38 53.3
ZEA *e* 00 39 03.0
ZEA *e*S **S** **00 44 36.0 -5.4**
ZEA *e*SSS SSS 00 48 32.0
ZEA pmax pmax
comp=N,41nm,1.0s
ZEA pmax pmax
comp=Z,41nm,1.0s
ZEA smax smax
comp=N,500nm,10.0s
MYKOM Kota Tinggi 42.42 257 P **P** **00 38 31.9 -0.4**
MYKOM IAmb IAmb 00 38 34.8
comp=Z,78nm,0.9s
MYKOM Kota Tinggi 42.42 257 P **P** **00 38 33.0 +0.7**
LEM Lembang 42.44 243 P **P** **00 38 32.4 -0.2**
comp=Z,32nm,0.9s
DSRI Dabo 42.51 254 P **P** **00 38 32.6 -0.4**
comp=Z,5μmcomp=Z,62nm,0.9s
MBWA Marble Bar 42.78 216 P **P** **00 38 35.3 +0.3**
MBWA IAmb IAmb 00 38 36.8
comp=Z,64nm,0.8s
LZH Lanzhou 42.93 308 ⇓P **P** **00 38 37.3 +0.9**
LZH pP pP 00 39 00.2 +0.8
LZH sP sP 00 39 13.2 +2.3
LZH S **S** **00 44 53.1 -0.8**
LZH sS sS 00 45 34.4 -0.7
LZH SS **SS** **00 48 07.3 -2.0**
LZH pmax pmax
comp=Z,45nm,1.3s
LZH pmax pmax
comp=Z,260nm,5.7s
LZH LR LR
comp=Z,2μm,13.6s
LZH LR LR
comp=Z,800nm,13.6s
LZH LR LR
comp=Z,2μm,15.2s
PSA00 Pilbara Seismi 43.04 215 P **P** **00 38 37.5 +0.4**
PSA00 IAmb IAmb 00 38 39.7
comp=Z,79nm,0.9s
BLSI Bandar Lampung 43.86 247 P **P** **00 38 43.5 -0.3**
comp=Z,123nm,0.4s
IPM Ipoh 44.34 262 P **P** **00 38 47.6 -0.2**
CHTO Chiang Mai 44.38 283 P **P** **00 38 46.8 -1.2**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 44.38 283 P **P** **00 38 46.8 -1.2**
CM31 Chiang Mai Arr 44.38 282 P **P** **00 38 48.6 +0.6**
CMAR Chiang Mai Arr 44.38 282 P **P** **00 38 48.9 +0.8**
comp=Z,8.0nm,0.8s,baz=84,slow=5.8,SNR=28
CMAR PcP **PcP** **00 40 31.6 +1.3**
comp=Z,8.3nm,0.8s,baz=88,slow=2.6,SNR=6.3
CMAR ScP **ScP** **00 44 12.7 -0.3**
comp=Z,1.3nm,0.3s,baz=117,slow=1.4,SNR=4.8
CMAR LR LR 00 56 17.0
comp=Z,256nm,21.5s,baz=125,slow=34
CMAR PKPPKP **P'P'df** **01 10 29.2 -3.1**
comp=Z,1.3nm,0.3s,baz=221,slow=5.7,SNR=7.0
CMAR P4KPbc 01 16 31.5
comp=Z,1.2nm,0.3s,baz=232,slow=18,SNR=4.2
CMAR Chiang Mai Arr 44.38 282*ce*P **P** **00 38 49.2 +1.2**
CMAR pmax pmax
comp=Z,10.0nm,0.9s
CMAR Chiang Mai Arr 44.38 282 P **P** **00 38 48.7 +0.7**
CMAR Chiang Mai Arr 44.38 282 ScP **ScP** **00 44 13.9 +1.0**
MDSI Maura Dua 44.44 249 P **P** **00 38 47.3 -1.2**
comp=Z,115nm,1.0s
KULM Kulim 44.50 263 P **P** **00 38 48.8 -0.2**
KULM IAmb IAmb 00 39 30.9
comp=Z,64nm,1.3s
KULM Kulim 44.50 263 P **P** **00 38 50.0 +1.0**
ARMA Armidale 44.52 172 P **P** **00 38 49.4 +0.5**
KASI Kota Agung 44.59 247 P **P** **00 38 49.2 -0.5**
comp=Z,84nm,1.0s
LWLI Liwa 44.77 248 P **P** **00 38 50.5 -0.7**
comp=Z,9μmcomp=Z,174nm,0.6s
MSVF Nonsavu 45.28 133 ⇓*i*P **P** **00 38 56.7 +1.5**
MSVF pmax pmax
comp=Z,75nm,1.0s
MSVF Nonsavu 45.28 133 P **P** **00 38 55.8 +0.6**
MSVF IAmb IAmb 00 38 59.9
comp=Z,68nm,0.9s
KSI Kapahiang 45.54 251 P **P** **00 38 55.8 -1.5**
comp=Z,13μmcomp=Z,99nm,0.5s
SDSI Sungai Dareh 45.61 255 P **P** **00 38 56.7 -1.1**
comp=Z,2μmcomp=Z,25nm,0.9s
STKA Stephens Creek 45.63 184 P **P** **00 38 57.8 +0.2**
comp=Z,39nm,0.4s,baz=14,slow=7.7,SNR=92
STKA LR LR 00 58 30.1
comp=Z,717nm,19.2s,baz=0.7,slow=36
STKA Stephens Creek 45.63 184 P **P** **00 38 57.8 +0.2**
STKA pmax pmax
comp=Z,22nm,1.1s
STKA Stephens Creek 45.63 184 P **P** **00 38 57.8 +0.2**
MA2 Magadan 45.80 4 P **P** **00 38 56.8 -1.8**
comp=Z,20nm,0.7s,baz=186,slow=5.6,SNR=13
MA2 Magadan 45.80 4 ⇓*i*P **P** **00 38 57.8 -0.8**
MA2 pmax pmax
comp=Z,21nm,0.8s
MA2 Magadan 45.80 4 P **P** **00 38 57.4 -1.2**
XMIS Christmas Isla 45.94 240 P **P** **00 38 59.5 -0.9**
KNTN Kanton 45.99 108 P **P** **00 39 01.1 +0.4**
KNTN IAmb IAmb 00 39 03.0
comp=Z,57nm,0.8s
ULN Ulaanbaatar 46.21 325*d* *i*P **P** **00 39 03.0 +0.8**
ULN pmax pmax
comp=Z,10.0nm,1.2s
ULN Ulaanbaatar 46.21 325 P **P** **00 39 02.7 +0.5**
AMKA Amchitka 46.46 29 P **P** **00 39 04.2 +0.3**
PDSI Padang 46.51 255 P **P** **00 39 03.2 -1.7**
SONM Songino Array 46.56 325 P **P** **00 39 04.7 -0.2**
comp=Z,5.8nm,0.8s,baz=141,slow=8.1,SNR=16
SONM ScP **ScP** **00 44 19.7 -1.9**
comp=Z,15nm,1.0s,baz=134,slow=3.1,SNR=13
SONM Songino Array 46.56 325 P **P** **00 39 05.5 +0.6**
SONM pmax pmax
comp=Z,13nm,0.8s
SONM Songino Array 46.56 325 P **P** **00 39 05.5 +0.6**
SONM ScP **ScP** **00 44 19.6 -2.0**
MNSI Mandailing Nat 46.78 258 P **P** **00 39 06.3 -0.7**
PSI Prapat 46.82 261 P **P** **00 39 07.3 -0.1**
PSI pmax pmax
comp=Z,17nm,1.0s
RPSI Rantau Prapat 46.85 261 P **P** **00 39 07.3 -0.1**
GTA Gaotai 47.07 311 ⇑P **P** **00 39 10.8 +1.8**
GTA pP pP 00 39 34.3 +1.8
GTA sP sP 00 39 43.6 -0.2
GTA ScP **ScP** **00 44 23.1 -0.8**
GTA S **S** **00 45 54.0 +0.6**
GTA sS sS 00 46 35.4 +0.2
GTA pmax pmax

comp=Z,12nm,1.1s
GTA pmax pmax
comp=Z,120nm,7.8s
GTA LR LR
comp=Z,960nm,18.4s
GTA LR LR
comp=Z,670nm,17.8s
GTA LR LR
comp=Z,630nm,17.5s
BBOO Buckleboo 47.23 190 P P 00 39 10.5 +0.4
FORT Forrest 47.32 200 P P 00 39 11.4 +0.6
KCSI Kotacane, Aceh 47.73 262 P P 00 39 14.0 -0.3
comp=Z,38nm,1.2s
CAN Canberra 49.09 176 P P 00 39 25.5 +1.1
CAN pmax pmax
comp=Z,140nm,1.3s
CAN Canberra 49.09 176 P P 00 39 25.5 +1.1
SEY Seymchan 49.25 4 P P 00 39 23.9 -1.3
comp=Z,6.0nm,0.6s,baz=177,slow=5.6,SNR=17
SEY Seymchan 49.25 4 ⇑*i*P **P 00 39 24.1 -1.1**
YAK Yakutsk 49.30 351 P P 00 39 24.7 -0.9
comp=Z,13nm,0.4s,baz=39,slow=2.3,SNR=4.9
YAK S **S 00 46 19.7 -4.1**
comp=Z,11nm,0.5s,baz=216,slow=0.5,SNR=1.3
YAK Yakutsk 49.30 351 *e*P **P 00 39 23.6 -2.0**
YAK *e**PP **pP 00 39 49.3 -0.5**
YAK *e* 00 40 46.2
YAK *e* 00 41 15.7
YAK *e*PPP PPP 00 42 13.9
YAK *e*S **S 00 46 21.7 -2.1**
YAK *e* 00 49 05.2
YAK pmax pmax
comp=Z,42nm,1.5s
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=E,11nm,1.5s
YAK pmax pmax
comp=Z,213nm,5.6s
YAK pmax pmax
comp=N,79nm,1.9s
YAK pmax pmax
comp=E,50nm,3.5s
YAK smax smax
comp=E,130nm,3.0s
YAK smax smax
comp=N,99nm,3.2s
YAK Yakutsk 49.30 351 P **P 00 39 24.7 -0.9**
YAK IAmb IAmb 00 39 57.9
comp=Z,50nm,0.7s
ZAK Zakamensk 49.66 326 *e*P **P 00 39 28.3 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
BOD Bodaibo 49.68 339 *e*P **P 00 39 29.5 +0.9**
BOD pmax pmax
comp=Z,32nm,2.2s
TLY Talaya 50.17 328 P **P 00 39 32.2 -0.2**
comp=Z,1.8nm,0.3s,baz=108,slow=3.2,SNR=2.0
TLY Talaya 50.17 328 P **P 00 39 32.7 +0.3**
TLY pmax pmax
comp=Z,22nm,0.9s
TLY Talaya 50.17 328 P **P 00 39 32.7 +0.3**
TLY IAmb IAmb 00 40 02.9
comp=Z,22nm,0.9s
AFI Afiamalu 50.93 121 P **P 00 39 38.7 0.0**
comp=Z,42nm,0.8s,baz=211,slow=12,SNR=4.9
AFI LR LR 00 58 00.1
comp=Z,505nm,19.9s,baz=292,slow=32
AFI Afiamalu 50.93 121 P **P 00 39 38.7 0.0**
AFI pmax pmax
comp=Z,51nm,0.9s
AFI Afiamalu 50.93 121 IAmb IAmb 00 39 41.4
comp=Z,51nm,0.8s
MORW Morawa 51.07 213 P **P 00 39 39.1 -0.3**
TOO Toolangi 51.20 180 P **P 00 39 42.4 +2.1**
TOO pmax pmax
comp=Z,278nm,1.3s
TOO Toolangi 51.20 180 P **P 00 39 42.4 +2.1**
LSA Lhasa 51.98 297 P **P 00 39 47.6 +0.7**
LSA Lhasa 51.98 297 P **P 00 39 47.5 +0.7**
LSA pmax pmax
comp=Z,36nm,1.0s
LSA Lhasa 51.98 297 P **P 00 39 47.5 +0.7**
LSA IAmb IAmb 00 40 17.4
comp=Z,36nm,1.0s
NWAO Narrogin (SRO) 53.59 209 P **P 00 39 57.8 -0.3**
NWAO pmax pmax
comp=Z,27nm,0.8s
NWAO Narrogin (SRO) 53.59 209 P **P 00 39 57.8 -0.3**
NWAO IAmb IAmb 00 40 01.6
comp=Z,27nm,0.8s
KIP Kipapa 54.57 73 ⇑*i*P **P 00 40 05.7 +0.3**
KIP pmax pmax
comp=Z,38nm,0.8s
TAPN Taplejung 54.85 294 *e*P **P 00 40 08.0 +0.3**
comp=Z,29nm,0.7s
UNV Unalaska Valle 54.99 33 IAmb IAmb 00 40 09.3
comp=Z,48nm,0.8s
ODAN Odare 55.12 293 *e*P **P 00 40 09.3 -0.3**
RAMN Ramite 55.83 293 *e*P **P 00 40 14.8 +0.1**
BILL Bilibino 55.84 9 *i*P **P 00 40 14.0 +0.3**
BILL *i* *PP **pP 00 40 36.2 -2.3**
BILL *i* 00 41 08.1
BILL *i* 00 42 25.0
BILL pmax pmax
comp=Z,5.0nm,0.4s
OUZ Omahuta 55.87 152 P **P 00 40 15.9 +1.6**
RAO Raoul Island 55.87 140 LR LR 01 00 53.6
comp=Z,366nm,18.8s,baz=306,slow=32
JIRN Jiri 56.21 294 *e*P **P 00 40 17.2 -0.3**
comp=Z,50nm,0.7s
TAU Tasmania Unive 56.57 178 P **P 00 40 19.9 +0.7**
TAU pmax pmax
comp=Z,109nm,1.1s
TAU Tasmania Unive 56.57 178 P **P 00 40 19.9 +0.7**
WCZ Waipu Caves 56.80 152 P **P 00 40 24.7 +3.7**
PKI Pulchoki 56.90 294 *e*P **P 00 40 21.7 -0.7**
comp=Z,16nm,0.8s
POHA Pohakuloa 56.98 75 P **P 00 40 23.4 +0.5**
KKN Kakani 57.02 294 *e*P **P 00 40 23.4 +0.3**
comp=Z,24nm,0.8s
WMQ Urumqi 57.02 313 *e*P **P 00 40 24.9 +2.2**
WMQ pP pwP 00 40 50.5 -1.1
WMQ S **S 00 48 06.2 -3.1**
WMQ sS sS 00 48 55.0 +3.7
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,380nm,3.8s
WMQ LR LR
comp=Z,660nm,20.9s
WMQ LR LR
comp=Z,410nm,20.9s
WMQ LR LR
comp=Z,570nm,26.1s
AIN Ainahou 57.08 76 P **P 00 40 24.4 +0.8**
MLH Mauna Loa 57.13 76 P **P 00 40 25.3 +1.3**
DMN Daman 57.17 294 *e*P **P 00 40 23.9 -0.3**
comp=Z,24nm,0.7s
GKN Gorkha 57.59 294 *e*P **P 00 40 26.5 -0.5**
comp=Z,18nm,0.3s
XMAS Kiritimati 58.05 96 P **P 00 40 30.7 +0.5**
DANN Dangsing 58.37 295 *e*P **P 00 40 32.7 +0.1**
comp=Z,113nm,0.7s
KOLN Koldanda 58.50 294 *e*P **P 00 40 33.0 -0.5**
comp=Z,38nm,0.7s
TIXI Tiksi 58.54 354 ⇓*i*P **P 00 40 31.6 -1.1**
TIXI pmax pmax
comp=Z,13nm,1.8s
DGZ Jazzator, Alta 58.69 320*c i*P **P 00 40 34.9 +0.5**
DGZ pmax pmax
comp=Z,7.0nm,1.0s
TOZ Tahuroa Road 58.80 152 P **P 00 40 37.6 +2.6**
HIZ Hauiti 59.15 153 P **P 00 40 40.2 +2.8**
ZSN Zaisan 59.77 317 *e*P **P 00 40 42.6 +0.9**
baz=317
ZSN *e*S **S 00 48 46.1 +1.2**
baz=317
ZSN LR LR 01 07 08.5
comp=Z,74nm,12.5s,baz=317
ZSN Zaisan 59.77 317 *e*P **P 00 40 42.5 +0.9**
ZSN *e*S **S 00 48 46.0 +1.2**
ZSN MLR MLR
comp=Z,74nm,13.0s
HAZ Te Kaha 59.89 150 P **P 00 40 44.5 +2.1**

URZ Urewera 59.97 151 P **P 00 40 43.8 +0.8**
URZ Urewera 59.97 151 P **P 00 40 42.5 -0.5**
RUGZ Raukumara Rang 60.01 150 P **P 00 40 43.9 +0.5**
MWZ Matawai 60.23 151 P **P 00 40 45.6 +0.7**
RAGZ Rawiri 60.31 151 P **P 00 40 46.2 +0.8**
TWGZ Tauwhareparae 60.32 150 P **P 00 40 47.2 +1.8**
BKZ Black Stump Fm 60.42 152 P **P 00 40 47.4 +1.3**
BKZ Black Stump Fm 60.42 152 P **P 00 40 46.7 +0.6**
BKZ IAmb IAmb 00 40 48.1
comp=Z,32nm,0.8s
KRHZ Kereru 60.75 153 P **P 00 40 49.0 +0.6**
KNZ Kokohu 60.85 151 P **P 00 40 49.9 +1.0**
TSZ Takapari Road 60.91 153 P **P 00 40 50.6 +1.2**
KAHZ Kahuranaki 61.10 152 P **P 00 40 51.2 +0.5**
MK31 Makanchi Array 61.36 316 *i* P **P 00 40 52.4 -0.1**
MK31 Makanchi Array 61.36 316 P **P 00 40 52.8 +0.3**
MK31 IAmb IAmb 00 41 21.0
comp=Z,71nm,1.8s
MKAR Makanchi Array 61.36 316 P **P 00 40 52.7 +0.2**
comp=Z,4.1nm,0.4s,baz=90,slow=8.8,SNR=43
MKAR pP **pP 00 41 17.9 +0.8**
comp=Z,5.6nm,0.6s,baz=92,slow=9.7,SNR=3.3
MKAR PP **PP 00 43 06.4 -2.2**
comp=Z,3.6nm,0.8s,baz=82,slow=8.7,SNR=1.5
MKAR PKPPKP **P'P'df 01 10 04.8 -2.3**
comp=Z,0.6nm,0.8s,baz=241,slow=2.5,SNR=4.0
MKAR PKP2bc 01 10 14.3
comp=Z,1.7nm,0.9s,baz=270,slow=4.9,SNR=7.2
MKAR P4KPbc 01 17 33.0
comp=Z,0.4nm,0.4s,baz=92,slow=1.8,SNR=8.3
MKAR Makanchi Array 61.36 316 P **P 00 40 52.2 -0.3**
ZAA0 Zalesovo Array 61.45 324 P **P 00 40 53.7 +0.8**
ZAA0 IAmb IAmb 00 41 20.3
comp=Z,49nm,1.6s
ZALV Zalesovo Beam 61.45 324 P **P 00 40 52.2 -0.6**
comp=Z,2.0nm,0.4s,baz=106,slow=8.3,SNR=8.8
ZALV pP **pP 00 41 17.9 +0.1**
comp=Z,6.2nm,0.7s,baz=48,slow=4.4,SNR=2.4
ZALV PKPPKP **P'P'df 01 10 05.7 -0.7**
comp=Z,1.2nm,0.6s,baz=248,slow=1.6,SNR=4.9
ZALV P4KPbc 01 17 31.4
comp=Z,1.1nm,0.5s,baz=121,slow=1.1,SNR=4.6
ZALV Zalesovo Beam 61.45 324 *i* P **P 00 40 53.4 +0.5**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 61.45 324 P **P 00 40 52.7 -0.2**
BHW Baring Head 61.56 155 P **P 00 40 53.8 0.0**
MAKZ Makanchi 61.58 316 P **P 00 40 54.0 +0.1**
MAKZ pmax pmax
comp=Z,65nm,1.4s
MAKZ Makanchi 61.58 316 P **P 00 40 54.0 +0.1**
MAKZ IAmb IAmb 00 41 22.5
comp=Z,65nm,1.4s
PDGK Podgornoye 62.81 312 P **P 00 41 01.7 -0.7**
SHLS Shalkode 62.82 312 *e*P **P 00 41 01.1 -1.4**
comp=Z,3.1nm,0.9s,baz=312
SHLS Shalkode 62.82 312 *e*P **P 00 41 01.0 -1.4**
SHLS pmax pmax
comp=Z,3.0nm,0.9s
UZB Uzynbulak 63.13 311 *e*P **P 00 41 05.1 +0.6**
baz=312
UZB Uzynbulak 63.13 311 *e*P **P 00 41 05.1 +0.6**
KPKS Kokpek 63.41 312 *e*P **P 00 41 07.0 +0.7**
KPKS LR LR 01 09 10.4
baz=312
comp=Z,182nm,15.1s,baz=312
KPKS Kokpek 63.41 312 *e*P **P 00 41 07.0 +0.7**
KPKS MLR MLR
comp=Z,182nm,15.0s
SATY Saty 63.58 311 *e*P **P 00 41 08.3 +0.8**
baz=311
SATY *e*S **S 00 49 34.0 +0.8**
baz=311
SATY Saty 63.58 311 *e*P **P 00 41 08.2 +0.8**
SATY *e*S **S 00 49 34.0 +0.8**
SATY Saty 63.58 311 *e*P **P 00 41 08.2 +0.8**
SATY *e*S **S 00 49 34.0 +0.8**
KDAK Kodiak Island 63.74 32 P **P 00 41 07.7 -0.3**
comp=Z,6.4nm,0.3s,baz=159,slow=0.9,SNR=24
KDAK Kodiak Island 63.74 32 P **P 00 41 07.7 -0.3**
KDAK pmax pmax
comp=Z,106nm,1.4s
TDK Taldyqorghan 63.78 313 *e*P **P 00 41 10.1 +1.5**
comp=Z,9.9nm,0.7s,baz=314
TDK Taldyqorghan 63.78 313 *e*P **P 00 41 10.1 +1.5**
TDK pmax pmax
comp=Z,10.0nm,0.7s
HYB Hyderabad 63.81 283 *i* P **P 00 41 09.0 -0.2**
HYB *es*P **sP 00 41 45.0 -0.1**
HYB *e* 00 42 12.5
TTA Tatalina 63.82 26 P **P 00 41 08.5 -0.1**
TTA pmax pmax
comp=Z,15nm,1.0s
TTA Tatalina 63.82 26 P **P 00 41 08.5 -0.1**
TARG Taragay, Kyrgy 63.90 310 P **P 00 41 09.2 -0.8**
TARG IAmb IAmb 00 41 38.0
comp=Z,50nm,1.5s
KURK Kurchatov 64.44 320*c i*P **P 00 41 12.5 -0.2**
KURK pmax pmax
comp=Z,13nm,0.9s
KURK Kurchatov 64.44 320 P **P 00 41 12.3 -0.4**
KURK IAmb IAmb 00 41 41.3
comp=Z,85nm,1.1s
KURBB Kurchatov Arra 64.48 320 P **P 00 41 12.3 -0.7**
MDOK Medeo 64.58 311 *e*P **P 00 41 14.2 +0.1**
baz=311
MDOK *e*S **S 00 49 45.8 +0.2**
baz=311
MDOK LR LR 01 09 43.6
comp=Z,233nm,15.0s,baz=311
MDOK Medeo 64.58 311 *e*P **P 00 41 14.1 +0.1**
MDOK *e*S **S 00 49 45.7 +0.2**
MDOK MLR MLR
comp=Z,233nm,15.0s
TNSS Tian-Shan 64.64 311 *e*P **P 00 41 15.6 +0.9**
baz=311
TNSS Tian-Shan 64.64 311 *e*P **P 00 41 15.6 +0.9**
AAA Alma-Ata 64.67 311 *e*P **P 00 41 15.3 +0.8**
comp=Z,7.8nm,0.5s,baz=311
AAA *e*S **S 00 49 47.6 +1.0**
baz=311
AAA Alma-Ata 64.67 311 *e*P **P 00 41 15.3 +0.8**
AAA *e*S **S 00 49 47.6 +1.0**
AAA pmax pmax
comp=Z,8.0nm,0.5s
CHKK Chushkaly 64.68 312 *e*P **P 00 41 14.9 +0.4**
baz=312
CHKK Chushkaly 64.68 312 *e*P **P 00 41 14.8 +0.4**
KSH Kashi 65.16 307 P **P 00 41 21.1 +3.3**
KSH pP pwP 00 41 46.1 -1.2
KSH S **S 00 49 57.6 +4.7**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,240nm,5.1s
KSH LR LR
comp=Z,270nm,10.2s
KSH LR LR
comp=Z,340nm,12.2s
KSH LR LR
comp=Z,1µm,28.5s
PPLA Purkeypile 65.45 27 P **P 00 41 20.0 +0.8**
PPLA IAmb IAmb 00 42 08.8
comp=Z,114nm,1.5s
SKT Skwentna 65.46 28 IAmb IAmb 00 42 08.4
comp=Z,55nm,1.5s
TKM2 Tokmak 2 65.62 311 P **P 00 41 20.4 -0.4**
IMAR Indian Mountai 65.86 23 P **P 00 41 21.8 +0.2**
NRIK Noril'sk 65.89 341 P **P 00 41 21.9 +0.1**
comp=Z,5.2nm,0.7s,baz=101,slow=10,SNR=7.1
NRIK S **S 00 49 59.8 -0.5**
comp=Z,1.1nm,0.3s,baz=180,slow=20,SNR=3.8
NRIK LR LR 01 09 46.7
comp=Z,1µm,19.7s,baz=116,slow=36
NRIK Noril'sk 65.89 341 ⇑*i*P **P 00 41 22.6 +0.9**
O22K Cooper Landing 65.89 30 P **P 00 41 22.3 +0.5**
baz=255
AAK Ala-Archa 66.41 311 ⇓*i*P **P 00 41 26.4 +0.5**
AAK pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa 66.41 311 P **P 00 41 25.2 -0.6**
TRF Thorofare Moun 66.44 26 P **P 00 41 26.4 +0.7**
TRF IAmb IAmb 00 42 14.9
comp=Z,71nm,1.3s
PMR Palmer 66.45 28 IAmb IAmb 00 42 24.7
comp=Z,123nm,1.9s
GHO Glory Hole Cre 66.59 28 IAmb IAmb 00 42 14.5
comp=Z,48nm,1.2s
KNK Knik Glacier 66.72 29 IAmb IAmb 00 42 17.1
comp=Z,58nm,1.1s
BTLS Baital 66.86 313 *e*P **P 00 41 28.7 +0.2**
baz=313
BTLS Baital 66.86 313 *e*P **P 00 41 28.6 +0.2**
SML Sawmill 66.87 28 IAmb IAmb 00 42 18.1
comp=Z,63nm,1.0s
NEA2 Nenana 67.28 25 P **P 00 41 30.9 +0.2**
baz=254
NIL Nilore 67.34 301 P **P 00 41 32.2 +0.4**
NIL pmax pmax
comp=Z,333nm,1.8s
NIL Nilore 67.34 301 P **P 00 41 32.2 +0.4**
COLD Coldfoot 67.61 22 P **P 00 41 33.0 +0.2**
baz=252
COLD Coldfoot 67.61 22 P **P 00 41 33.4 +0.6**
DHY Denali Highway 67.61 27 IAmb IAmb 00 42 22.1
comp=Z,118nm,1.9s
CCB Clear Creek Bu 67.82 25 IAmb IAmb 00 42 17.4
comp=Z,50nm,1.6s
KLU Klutina 67.92 29 IAmb IAmb 00 42 24.5
comp=Z,120nm,1.7s
HDA Harding Lake 68.12 26 P **P 00 41 35.2 -0.8**
baz=256
IL31 68.23 25 P **P 00 41 34.5 -2.1**
IL31 IAmb IAmb 00 42 24.6
comp=Z,40nm,1.4s
ILAR Eielson Array 68.23 25 P **P 00 41 34.4 -2.3**
comp=Z,3.6nm,0.4s,baz=250,slow=5.9,SNR=35
ILAR PKPPKP **P'P'df 01 09 50.6 -4.1**
comp=Z,1.0nm,0.9s,baz=145,slow=2.6,SNR=5.9
ILAR LR LR 01 11 39.7
comp=Z,263nm,19.1s,baz=266,slow=36
ILAR Eielson Array 68.23 25 P **P 00 41 33.7 -3.0**
TOLK Toolik Lake Re 68.28 21 P **P 00 41 37.2 +0.2**
baz=252
RIDG Independent Ri 68.87 27 IAmb IAmb 00 42 30.6
comp=Z,140nm,1.6s
GLB Gilahina Butte 68.91 29 IAmb IAmb 00 42 31.3
comp=Z,77nm,1.2s
BTK Batken 69.14 308 P **P 00 41 44.3 +1.4**
BTK pmax pmax
comp=Z,63nm,1.7s
BTK Batken 69.14 308 P **P 00 41 44.3 +1.4**
BTK IAmb IAmb 00 42 12.1
comp=Z,63nm,1.6s
MCARA McCarthy VSAT 69.27 29 IAmb IAmb 00 42 51.0
comp=Z,124nm,1.8s
KK31 Karatay Array 69.35 311 P **P 00 41 44.3 +0.2**
KK31 pmax pmax
comp=Z,30nm,1.2s
KK31 Karatay Array 69.35 311 P **P 00 41 44.3 +0.2**
KKAR Karatay Array 69.35 311 P **P 00 41 43.5 -0.6**
KKAR Karatay Array 69.35 311 P **P 00 41 43.5 -0.6**
BVA0 Borovoye Array 69.77 322 P **P 00 41 46.5 +0.1**
BRVK Borovoye 69.83 322 ⇑*i*P **P 00 41 46.3 -0.5**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 69.83 322 P **P 00 41 46.4 -0.5**
BRVK IAmb IAmb 00 42 17.9
comp=Z,113nm,1.9s
BCAR Beaver Creek A 70.11 28 P **P 00 41 48.0 -0.3**
K27K Chicken 70.13 27 P **P 00 41 48.2 -0.2**
baz=261
EGAK Eagle 70.64 26 IAmb IAmb 00 42 41.8
comp=Z,76nm,1.6s
KBL Kabul 70.78 302 P **P 00 41 53.5 +0.2**
KBL pmax pmax
comp=Z,104nm,1.8s
KBL Kabul 70.78 302 P **P 00 41 53.5 +0.2**
KBL IAmb IAmb 00 42 23.0
comp=Z,104nm,1.8s
PPT Papeete 71.71 114 P **P 00 41 59.7 +0.9**
comp=Z,44nm,0.7s,baz=265,slow=23,SNR=1.5
PPT LR LR 01 07 19.3
comp=Z,408nm,19.0s,baz=298,slow=30
PPT PKPPKP **P'P'df 01 09 44.6 -5.2**
comp=Z,20nm,0.5s,baz=155,slow=6.7,SNR=3.6
PPT2 Papeete2 71.72 114 *e*P **P 00 42 00.3 +1.4**
comp=Z,55nm,1.1s
PPT2 *e*S **S 00 51 09.8 -1.2**
comp=Z,582nm,26.0s
PPT2 Papeete2 71.72 114 *e*LR LR 01 03 41.2
comp=Z,760nm,23.2s,baz=281
TIAR Tiarei 71.91 114 *e*P **P 00 42 01.3 +1.3**
comp=Z,16nm,0.8s
TVO Taravao 72.08 114 *e*P **P 00 42 02.2 +1.2**
comp=Z,16nm,0.9s
PMOR Pomariorio Ree 72.31 111 *e*P **P 00 42 04.0 +1.6**
comp=Z,58nm,0.9s
PMOR Pomariorio Ree 72.31 111 *e*T T 02 01 11.1
comp=Z,4.8nm,0.2s
VAH Vaihoa 72.64 111 *e*P **P 00 42 05.5 +1.2**
comp=Z,36nm,1.0s
EPYK Eagle Plains 72.66 24 P **P 00 42 03.6 -0.1**
baz=265
EPYK Eagle Plains 72.66 24 IAmb IAmb 00 42 54.3
comp=Z,56nm,1.4s
WHY Whitehorse 73.15 30 IAmb IAmb 00 42 57.0
comp=Z,74nm,1.6s
TBI Tubuai 74.00 120 *e*S **S 00 51 34.9 -1.7**
comp=Z,198nm,28.2s
TBI Tubuai 74.00 120 *e*LR LR 01 04 34.4
comp=Z,742nm,34.0s
TBI Tubuai 74.00 120 *e*T T 02 03 18.0
comp=Z,12nm,0.3s
INK Inuvik 74.03 22 P **P 00 42 11.1 -0.4**
comp=Z,7.3nm,1.0s,baz=262,slow=5.2,SNR=7.4
INK Inuvik 74.03 22 IAmb IAmb 00 42 58.5
comp=Z,93nm,1.9s
DGAR Diego Garcia 75.04 258 P **P 00 42 17.2 -1.2**
DGAR pmax pmax
comp=Z,239nm,1.2s
DGAR Diego Garcia 75.04 258 P **P 00 42 17.2 -1.2**
DLBC Dease Lake 75.65 33 P **P 00 42 20.2 -1.0**
comp=Z,4.5nm,0.5s,baz=232,slow=6.3,SNR=6.8
AB31 Akbulak array 76.41 318 P **P 00 42 24.0 -1.6**
ABKAR Akbulak array 76.41 318 P **P 00 42 25.0 -0.6**
ARU Arti 76.59 325*d i*P **P 00 42 26.1 -0.4**
ARU *PP **pP 00 42 52.0 -0.5**
ARU 00 45 17.5
ARU S **S 00 52 04.9 +0.7**
ARU pmax pmax
comp=Z,5.0nm,0.9s
ARU MLR MLR
comp=Z,537nm,18.0s
ARU Arti 76.59 325 P **P 00 42 26.6 +0.1**
C36M Paulatuk 77.43 21 P **P 00 42 30.5 -0.4**
baz=276
TAOE Nuku Hiva Isla 77.62 102 *e*LR LR 01 06 40.5
comp=Z,746nm,27.5s
GEYT Alibeck 79.18 306 P **P 00 42 41.2 0.0**
comp=Z,3.8nm,0.9s,baz=64,slow=3.4,SNR=8.0
GEYT pP **pP 00 43 07.3 -0.1**
comp=Z,4.1nm,0.8s,baz=45,slow=2.2,SNR=2.2
GEYT Alibeck 79.18 306 P **P 00 42 42.2 +0.9**
GEYT Alibeck 79.18 306 IAmb IAmb 00 43 12.9
comp=Z,7.7nm,0.9s
GYA0B ALIBECK ARRAY 79.18 306 P **P 00 42 42.7 +1.4**
NLWA Neilton Lookou 80.67 44 IAmb IAmb 00 43 36.3
comp=Z,97nm,1.5s
D03D Eldon 81.16 43 P **P 00 42 52.5 +0.8**
baz=281
J01E Myrtle Point 81.40 48 P **P 00 42 54.3 +1.3**
baz=281
D04E Lakebay 81.44 44 P **P 00 42 52.9 -0.2**
baz=281
G03D McMinnville, O 81.48 46 P **P 00 42 54.1 +0.7**
baz=281
F04D Rainier, OR 81.49 45 P **P 00 42 53.7 +0.3**
baz=281
B05A Bryant 81.67 42 P **P 00 42 54.8 +0.5**
baz=282
K02D Willamette Mer 81.68 48 P **P 00 42 54.6 0.0**
baz=281
E04D Cinebar 81.70 44 P **P 00 42 55.1 +0.6**
baz=281
I03D Drain, OR 81.71 47 P **P 00 42 55.2 +0.6**
baz=281
L02E Cave Junction 81.83 49 P **P 00 42 55.8 +0.5**
baz=281
F04A Amboy 81.92 45 IAmb IAmb 00 43 47.0
comp=Z,109nm,1.8s
H04D Lebanon 81.98 46 P **P 00 42 56.4 +0.3**

baz=282
KHMM **Horse Mountain** 81.99 50 lAmb lAmb 00 42 59.6
comp=Z,30nm,0.8s
KMRM **Mail Ridge** 82.13 51 P **P** **00 42 56.7 -0.3**
KMRM lAmb lAmb 00 43 44.6
comp=Z,68nm,1.5s
PRGR **Permogore** 82.29 332 *e*P **P** **00 42 54.9 -2.4**
PRGR pmax pmax
comp=Z,11nm,0.8s
I04A **Tendick Farm,** 82.36 47 P **P** **00 42 58.4 +0.2**
baz=282
YKA **Yellowknife Ar** 82.52 27 P **P** **00 42 57.7 -0.7**
comp=Z,1.8nm,0.4s,baz=286,slow=5.1,SNR=10
YKA **Yellowknife Ar** 82.52 27 *i* P **P** **00 42 58.3 -0.2**
YKA pmax pmax
comp=Z,2.0nm,0.4s
M02C **Callahan** 82.53 49 P **P** **00 42 59.8 +0.7**
baz=282,SNR=10
YBH **Yreka Blue Hor** 82.57 49 P **P** **00 43 00.2 +0.9**
comp=Z,18nm,0.8s,baz=284,slow=3.7,SNR=35
YBH **Yreka Blue Hor** 82.57 49 P **P** **00 43 00.0 +0.7**
F05D **White Salmon** 82.59 45 P **P** **00 42 59.5 +0.3**
baz=282
J04D **Umpqua Nationa** 82.69 47 P **P** **00 43 00.1 0.0**
baz=282
N02D **Trinity Center** 82.73 50 P **P** **00 43 00.7 +0.6**
baz=282,SNR=7.3
L04D **Klamath Falls** 82.76 48 P **P** **00 43 00.5 +0.2**
baz=282,SNR=9.2
G05D **Wamic, OR** 82.82 45 P **P** **00 43 00.5 0.0**
baz=282
LTY **Liberty** 82.82 43 lAmb lAmb 00 43 45.9
comp=Z,53nm,1.6s
O02D **Mt. Diablo Mer** 82.83 51 P **P** **00 43 01.9 +1.2**
baz=282,SNR=12
HOPS **Hopland Field** 82.86 52 lAmb lAmb 00 43 46.7
comp=Z,55nm,1.5s
I05D **Terrebonne, OR** 83.00 46 P **P** **00 43 02.0 +0.6**
baz=283
K04D **Chiloquin, OR** 83.08 48 P **P** **00 43 02.9 +0.9**
baz=282
GDXM **Geysers** 83.11 52 lAmb lAmb 00 43 50.4
comp=Z,80nm,1.6s
M04C **Macdoel** 83.19 49 P **P** **00 43 03.0 +0.4**
baz=282,SNR=14
J05D **Fort Rock, OR** 83.30 47 P **P** **00 43 03.7 +0.5**
baz=283
PINE **Pine Mountain** 83.40 47 lAmb lAmb 00 43 06.9
comp=Z,48nm,0.8s
B08A **Colville Reser** 83.45 42 P **P** **00 43 03.6 0.0**
E07A **Sunnyside** 83.53 44 lAmb lAmb 00 43 51.0
comp=Z,92nm,1.7s
O03E **Paynes Creek** 83.54 50 P **P** **00 43 04.4 +0.1**
baz=283,SNR=12
CASY **Casey** 83.94 193 P **P** **00 43 06.0 +0.5**
CASY lAmb lAmb 00 43 08.9
comp=Z,44nm,1.1s
C09A **Chrisman Ranch** 84.28 42 lAmb lAmb 00 43 53.1
comp=Z,71nm,1.8s
AFDM **Forest Hills D** 84.47 51 lAmb lAmb 00 43 59.4
comp=Z,48nm,1.6s
SAO **San Andreas Ge** 84.60 54 lAmb lAmb 00 43 57.3
comp=Z,85nm,1.9s
TMCR **Tamitsa** 84.82 335 *e*P **P** **00 43 08.3 -1.8**
NEW **Newport** 84.91 42 P **P** **00 43 10.9 -0.1**
baz=285
PMPB **Monarch Peak** 85.24 54 lAmb lAmb 00 44 08.5
comp=Z,85nm,1.5s
J08A **Circle Bar Ran** 85.25 47 lAmb lAmb 00 43 59.8
comp=Z,56nm,1.6s
KLMR **Klimovskoe** 85.34 332 *e*P **P** **00 43 10.4 -2.4**
KLMR *e*S S 00 53 24.2 -11
KLMR pmax pmax
comp=Z,15nm,1.4s
KLMR **Klimovskoe** 85.34 332 *e*P **P** **00 43 10.4 -2.4**
KLMR AMP 00 43 21.3
comp=Z,15nm,1.4s
KLMR *e*S S 00 53 24.3 -11
KLMR *e*S S 00 53 24.3 -11
PNTR **Pine Nut** 85.48 51 lAmb lAmb 00 45 52.5
comp=Z,26nm,0.8s
PAHR **Pah Rah Range** 85.49 50 lAmb lAmb 00 45 17.2
comp=Z,27nm,1.0s
WAKR **Walker** 85.74 52 lAmb lAmb 00 44 14.1
comp=Z,61nm,1.7s
MAK **Makhachkala** 86.04 313 *e*P **P** **00 43 15.6 -1.1**
MAK *e**PP **pP** **00 43 40.5 -2.9**
MAK *e**SP **sP** **00 43 51.9 -2.5**
MAK *e* 00 46 35.5
MAK *e* 00 53 30.8
MAK *e*SS SS 00 59 23.5 +1.2
MAK *e*SSS SSS 01 02 51.8
MAK pmax pmax
comp=Z,33nm,1.1s
MAK MLR MLR
comp=Z,550nm,16.0s
SMMC **Simmler** 86.09 55 P **P** **00 43 17.9 +0.8**
baz=284
OMMB **Old Mammoth Mi** 86.30 52 lAmb lAmb 00 44 04.4
comp=Z,53nm,1.9s
PKM **Mcpherson Peak** 86.34 55 P **P** **00 43 19.5 +0.9**
baz=284
RYN **Ryan** 86.41 51 lAmb lAmb 00 45 27.6
comp=Z,27nm,0.5s
LHV **Little Huntoon** 86.52 52 lAmb lAmb 00 45 39.0
comp=Z,33nm,1.2s
KVN **Kaiserville** 86.62 51 lAmb lAmb 00 44 06.7
comp=Z,64nm,1.7s
NVAR **Mina Array Bea** 86.62 51 P **P** **00 43 20.2 +0.3**
comp=Z,9.7nm,0.7s,baz=268,slow=6.0,SNR=38
NVAR PKKPbc **PKKPbc** **01 01 14.8 -0.8**
comp=Z,0.7nm,0.9s,baz=134,slow=3.5,SNR=4.0
NVAR LR LR 01 15 03.0
comp=Z,124nm,21.7s,baz=277,slow=31
NVAR **Mina Array Bea** 86.62 51 P **P** **00 43 20.1 +0.1**
VES **Vestal, Richgr** 86.68 54 P **P** **00 43 20.0 +0.1**
baz=285
NV11 **Mina Array Sit** 86.73 51 lAmb lAmb 00 44 06.4
comp=Z,52nm,1.6s
ARCES **ARCESS Array B** 86.83 342 P **P** **00 43 19.9 -0.2**
comp=Z,3.3nm,0.6s,baz=62,slow=7.7,SNR=16
ARCES PKKPbc **PKKPbc** **01 01 13.5 -2.4**
comp=Z,2.0nm,0.8s,baz=298,slow=2.6,SNR=7.0
ARCES LR LR 01 25 17.9
comp=Z,697nm,20.1s,baz=63,slow=38
ARCES **ARCESS Array B** 86.83 342 P **P** **00 43 20.0 0.0**
ARCES **ARCESS Array B** 86.83 342 P **P** **00 43 20.0 0.0**
JTMT **Jette** 86.88 42 lAmb lAmb 00 44 09.7
comp=Z,51nm,1.5s
ARVC **Arvin** 87.06 55 P **P** **00 43 22.2 +0.4**
baz=285
MFID **Camas Ranch** 87.09 46 lAmb lAmb 00 43 24.9
comp=Z,35nm,0.9s
ISA **Isabella, Lake** 87.20 54 P **P** **00 43 22.8 +0.2**
baz=285
ISA **Isabella, Lake** 87.20 54 lAmb lAmb 00 44 08.7
comp=Z,42nm,1.7s
OSI **Osito Audit: C** 87.28 55 P **P** **00 43 23.3 +0.3**
baz=285
CWC **Cottonwood Cre** 87.31 53 P **P** **00 43 23.2 -0.1**
baz=285
MSO **Missoula** 87.38 42 P **P** **00 43 24.1 +0.9**
baz=288
DECC **Green Verdugo** 87.68 55 P **P** **00 43 25.8 +0.9**
baz=285
EDW2 **Edwards Air Fo** 87.79 55 P **P** **00 43 26.1 +0.7**
baz=285
MPMC **Manual Prospec** 87.87 54 P **P** **00 43 26.7 +0.7**
baz=286,SNR=21
LRMC **Laurel Mtn Rad** 87.88 54 P **P** **00 43 26.5 +0.6**
baz=286
HLID **Hailey** 88.03 46 P **P** **00 43 26.9 +0.4**
baz=287
BFSC **Mount Baldy Ra** 88.22 55 P **P** **00 43 28.1 +0.5**
baz=286
FURC **Furnace Creek,** 88.25 53 P **P** **00 43 28.2 +0.7**
baz=286,SNR=10.0
ELK **Elko** 88.27 49 lAmb lAmb 00 43 30.8
comp=Z,28nm,0.8s
LPSR **Galich'ya Gora** 88.56 324 *e*P **P** **00 43 28.8 +0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
RRX **Edison Barstow** 88.58 55 P **P** **00 43 30.1 +1.0**
baz=286
TPNV **Topopah Spring** 88.59 52 P **P** **00 43 29.7 +0.4**
baz=286,SNR=35
TPNV **Topopah Spring** 88.59 52 lAmb lAmb 00 43 31.8
comp=Z,25nm,0.9s
GSC **Goldstone, Bar** 88.61 54 P **P** **00 43 30.0 +0.6**
baz=286,SNR=18
GSC **Goldstone, Bar** 88.61 54 lAmb lAmb 00 43 31.9
comp=Z,21nm,0.9s
R11A **Troy Canyon, C** 88.70 51 P **P** **00 43 30.5 +0.7**
baz=287
R11A **Troy Canyon, C** 88.70 51 lAmb lAmb 00 44 15.8
comp=Z,91nm,1.9s
DLMT **Dillon** 88.72 44 lAmb lAmb 00 44 18.5
comp=Z,25nm,1.3s
MURC **Murrieta** 88.77 56 P **P** **00 43 29.7 -0.3**
baz=286
SHOC **Shoshone, Teco** 88.86 53 P **P** **00 43 30.9 +0.5**
baz=286
OBN **Obninsk** 88.92 327 *i* P **P** **00 43 32.7 +2.5**
OBN *i* *PP **pP** **00 43 56.9 -0.1**
OBN *i* S S 00 53 59.5 -10
OBN *i* SS **SS** **01 00 09.7 +6.4**
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,592nm,21.0s
VSR **Storozhevoye** 88.92 323 *e*P **P** **00 43 29.1 -1.2**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD **Divnogorie** 88.94 322 *e*P **P** **00 43 29.1 -1.2**
VORD pmax pmax
comp=Z,8.0nm,0.6s
109C **Camp Elliot, M** 89.03 56 P **P** **00 43 31.8 +0.6**
baz=286
109C **Camp Elliot, M** 89.03 56 lAmb lAmb 00 44 21.4
comp=Z,53nm,1.3s
KBZ **Khabaz** 89.04 315 P **P** **00 43 32.8 +1.8**
comp=Z,1.6nm,0.6s,baz=96,slow=6.8,SNR=4.1
HEC **Hector,Ludlow** 89.11 54 P **P** **00 43 32.1 +0.4**
baz=286,SNR=8.4
KIV **Kislovodsk** 89.12 315 *e*P **P** **00 43 32.0 +0.5**
KIV *e* 00 53 51.7
KIV *e*SS SS 01 00 08.6 +1.4
KIV pmax pmax
comp=Z,16nm,1.1s
KIV **Kislovodsk** 89.12 315 P **P** **00 43 29.9 -1.6**
TUQ **Turquoise Moun** 89.27 54 P **P** **00 43 32.4 -0.1**
baz=287
BOZ **Bozeman (W)** 89.29 43 P **P** **00 43 32.7 +0.3**
baz=289
BOZ **Bozeman (W)** 89.29 43 lAmb lAmb 00 44 16.9
comp=Z,40nm,1.7s
PFO **Pinyon Flats O** 89.35 56 P **P** **00 43 33.3 +0.5**
baz=286,SNR=6.1
PFO **Pinyon Flats O** 89.35 56 ⇑*i* P **P** **00 43 33.4 +0.5**
PFO pmax pmax
comp=Z,35nm,1.3s
PFO **Pinyon Flats O** 89.35 56 P **P** **00 43 33.7 +0.8**
PFO lAmb lAmb 00 44 18.6
comp=Z,54nm,1.6s
XPFO **Pion Flat** 89.36 56 P **P** **00 43 33.7 +0.8**
XPFO lAmb lAmb 00 44 18.6
comp=Z,54nm,1.6s
TPFO **Pinon Flats** 89.36 56 P **P** **00 43 33.4 +0.5**
baz=286,SNR=5.2
PRN **Pahroc Range** 89.38 52 lAmb lAmb 00 44 35.2
comp=Z,26nm,1.3s
SHPR **Sheep Range** 89.55 53 lAmb lAmb 00 44 20.3
comp=Z,72nm,1.6s
MONP2 **Monument Peak** 89.58 56 P **P** **00 43 34.2 +0.1**
baz=286,SNR=8.5
BELC **Belle Mtn. Jos** 89.61 55 P **P** **00 43 34.4 +0.2**
baz=287,SNR=9.3
GMRC **Granite Mounta** 89.66 54 P **P** **00 43 35.0 +0.7**
baz=287,SNR=23
IKP **In-Ko-Pah, Jac** 89.90 56 P **P** **00 43 36.2 +0.8**
baz=286
SWSC **Sam W. Stewart** 90.07 56 P **P** **00 43 36.6 +0.5**
baz=287
BC3 **Big Chuckawall** 90.15 55 P **P** **00 43 37.3 +0.7**
baz=287,SNR=8.5
DUG **Dugway, Tooele** 90.20 48 P **P** **00 43 37.1 +0.4**
baz=288
DUG **Dugway, Tooele** 90.20 48 lAmb lAmb 00 44 28.7
comp=Z,26nm,1.2s
IRM **Iron Mountain** 90.25 55 P **P** **00 43 37.7 +0.8**
baz=287,SNR=17
FLWY **Flagg Ranch** 90.42 44 lAmb lAmb 00 44 22.3
comp=Z,28nm,1.1s
TPAW **Teton Pass** 90.45 45 lAmb lAmb 00 44 29.3
comp=Z,34nm,1.4s
REDW **Red Top Meadow** 90.56 45 lAmb lAmb 00 44 24.4
comp=Z,56nm,1.8s
AHID **Auburn Hatcher** 90.58 46 lAmb lAmb 00 44 22.4
comp=Z,27nm,1.1s
HWUT **Hardware Ranch** 90.64 47 lAmb lAmb 00 44 23.3
comp=Z,66nm,1.8s
LOHW **Long Hollow** 90.64 45 lAmb lAmb 00 44 24.6
comp=Z,38nm,1.9s
GLA **Glamis** 90.82 56 P **P** **00 43 40.6 +0.9**
baz=287,SNR=5.8
FINES **FINESS Array B** 90.94 335 P **P** **00 43 37.2 -2.3**
comp=Z,1.4nm,0.4s,baz=66,slow=4.7,SNR=16
FINES PKKP **PKKPbc** **01 01 04.0 -1.6**
comp=Z,1.9nm,0.8s,baz=264,slow=7.7,SNR=5.0
FINES LR LR 01 25 14.4
comp=Z,277nm,19.7s,baz=52,slow=36
FINES **FINESS Array B** 90.94 335 P **P** **00 43 40.1 +0.6**
FINES **FINESS Array B** 90.94 335 P **P** **00 43 40.1 +0.6**
PDMCI **Parker Dam,Lak** 91.00 54 P **P** **00 43 41.2 +0.9**
baz=288,SNR=10
RLMT **Red Lodge** 91.02 43 P **P** **00 43 41.7 +1.2**
baz=291
BW06 **Boulder Array** 91.65 45 P **P** **00 43 44.4 +0.9**
baz=291
PDAR **Pinedale Array** 91.65 45 P **P** **00 43 43.4 -0.2**
comp=Z,2.0nm,0.7s,baz=202,slow=1.6,SNR=15
PDAR pP **pP** **00 44 10.8 0.0**
comp=Z,1.2nm,0.7s,baz=245,slow=2.1,SNR=3.4
PDAR PP **PP** **00 47 21.2 -1.8**
comp=Z,0.7nm,0.8s,baz=207,slow=1.7,SNR=3.4
PDAR LR LR 01 19 30.7
comp=Z,75nm,21.1s,baz=314,slow=32
PDAR **Pinedale Array** 91.65 45 P **P** **00 43 43.2 -0.3**
VNDA **Vanda** 91.77 176 P **P** **00 43 42.1 -0.8**
comp=Z,23nm,0.9s,baz=320,slow=5.4,SNR=82
VNDA PP **PP** **00 47 23.9 +0.7**
comp=Z,2.0nm,1.1s,baz=335,slow=9.9,SNR=3.1
VNDA **Vanda** 91.77 176 P **P** **00 43 43.6 +0.8**
VNDA pmax pmax
comp=Z,32nm,1.1s
VNDA **Vanda** 91.77 176 P **P** **00 43 43.6 +0.8**
VNDA lAmb lAmb 00 43 46.5
comp=Z,32nm,1.1s
U15A **North Rim** 91.78 52 lAmb lAmb 00 43 47.2
comp=Z,11nm,0.9s
LAO **LASA Array** 92.41 41 P **P** **00 43 47.8 +1.1**
baz=293
214A **Organ Pipe Nat** 92.78 56 P **P** **00 43 49.8 +1.0**
baz=288,SNR=7.8
WUAZ **Wupatki** 92.78 53 P **P** **00 43 49.7 +0.9**
baz=289
WUAZ **Wupatki** 92.78 53 lAmb lAmb 00 43 51.7
comp=Z,14nm,0.9s
X16A **Lo Mia Camp, P** 93.08 54 lAmb lAmb 00 44 38.1
comp=Z,39nm,1.9s
O20A **White River Ci** 93.52 47 P **P** **00 43 52.3 +0.2**
baz=291
O20A **White River Ci** 93.52 47 lAmb lAmb 00 44 36.3
comp=Z,12nm,1.1s
PV17 **East Wray Mesa** 93.66 49 lAmb lAmb 00 44 37.0
comp=Z,40nm,1.6s
K22A **Casper** 93.77 45 P **P** **00 43 54.0 +0.8**
baz=293
PV02 **Paradox Valley** 93.85 49 lAmb lAmb 00 45 16.6
comp=Z,15nm,1.3s
W18A **Petrified Fore** 94.17 52 P **P** **00 43 56.1 +0.8**
baz=290
TUC **Tucson** 94.29 55 P **P** **00 43 56.4 +0.6**
baz=289
TUC **Tucson** 94.29 55 P **P** **00 43 56.2 +0.5**
TUC pmax pmax
comp=Z,55nm,2.0s
TUC **Tucson** 94.29 55 P **P** **00 43 56.2 +0.5**
AKASG **Malin Array Be** 94.84 325 PKKPbc PKKPbc 01 00 54.6 -0.5
comp=Z,0.4nm,0.3s,baz=268,slow=2.8,SNR=4.7
AKASG LR LR 01 28 19.1
comp=Z,571nm,21.0s,baz=55,slow=36
RSSD **Black Hills** 94.85 42 P **P** **00 43 58.3 +0.1**
baz=295
RSSD **Black Hills** 94.85 42 P **P** **00 43 58.4 +0.6**
RSSD pmax pmax
comp=Z,17nm,1.3s
RSSD **Black Hills** 94.85 42 P **P** **00 43 58.8 +0.6**
RSSD lAmb lAmb 00 44 43.0
comp=Z,17nm,1.3s
N23A **Red Feather La** 94.85 46 P **P** **00 43 58.8 +0.4**
baz=293
N23A **Red Feather La** 94.85 46 lAmb lAmb 00 44 53.3
comp=Z,32nm,1.4s
SCO **Scoresbysund** 95.34 356 P **P** **00 44 01.3 +1.7**
SCO pmax pmax
comp=Z,100nm,1.7s
SCO **Scoresbysund** 95.34 356 P **P** **00 44 01.2 +1.7**
S22A **4UR Ranch, Cre** 95.42 49 P **P** **00 44 01.0 0.0**
baz=292
S22A **4UR Ranch, Cre** 95.42 49 lAmb lAmb 00 44 45.7
comp=Z,23nm,1.8s
ISCO **Idaho Springs** 95.51 47 P **P** **00 44 01.6 +0.2**
baz=293
ISCO **Idaho Springs** 95.51 47 P **P** **00 44 01.8 +0.3**
ISCO pmax pmax
comp=Z,23nm,2.0s
ISCO **Idaho Springs** 95.51 47 P **P** **00 44 01.8 +0.3**
ISCO lAmb lAmb 00 44 53.4
comp=Z,23nm,1.9s
ANMO **Albuquerque** 96.75 52 ⇓*i* P **P** **00 44 06.6 -0.4**
ANMO pmax pmax
comp=Z,1.0nm,0.8s
NOA **NORSAR Array B** 96.81 339 P **P** **00 44 05.7 -0.8**
comp=Z,0.4nm,0.7s,baz=55,slow=8.6,SNR=1.6
NOA LR LR 01 30 29.3
comp=Z,274nm,21.7s,baz=45,slow=37
BRTR **Keskin Array B** 96.95 314 P **P** **00 44 08.0 +0.3**
comp=Z,0.3nm,0.4s,baz=100,slow=3.4,SNR=2.1
T25A **Trinidad** 97.43 49 P **P** **00 44 09.4 -0.7**
baz=294
BURAR **Bucovina Array** 98.67 324 P **P** **00 44 12.4 -2.8**
MNTX **Cornudas Mount** 98.80 54 P Pdif 00 44 16.6 +0.5
baz=292
MNTX **Cornudas Mount** 98.80 54 lAmb lAmb 00 45 03.2
comp=Z,16nm,1.6s
MAW **Mawson** 99.76 203 P **Pdif** **00 44 18.1 -1.2**
comp=Z,8.3nm,0.9s,baz=90,slow=3.0,SNR=16
MAW LR LR 01 26 32.1
comp=Z,184nm,20.4s,baz=68,slow=34
MAW **Mawson** 99.76 203 P **Pdif** **00 44 20.1 +0.7**
MAW pmax pmax
comp=Z,3.0nm,1.1s
MAW **Mawson** 99.76 203 Pdif **Pdif** **00 44 20.1 +0.7**
TXAR **Lajitas Array** 101.07 56 P **Pdif** **00 44 27.1 +0.8**
comp=Z,0.3nm,0.6s,baz=290,slow=4.0,SNR=4.6
TXAR PKKPbc **PKKPbc** **01 00 36.8 -0.6**
comp=Z,1.7nm,1.0s,baz=125,slow=6.6,SNR=5.2
CLL **Collm** 102.83 331 *e*PP **PKiKP** **00 48 51.0 -2.5**
CLL *e*(sPP) 00 49 30.0
CLL *e*SKSac **SKSac** **00 55 03.0 -0.7**
CLL *e*SKKSac **SKKSac** **00 55 42.0 -2.0**
CLL *e*SP **SP** **00 57 46.0 +1.3**
CLL *e*PS 00 58 31.0
CLL *e*PPS 00 59 12.0
CLL *e*SS **SS** **01 00 30.0 +10**
CLL *e*SSS SSS 01 07 18.0
CLL *e*SSSS 01 10 42.0
CLL *e* 01 12 54.0
CLL LmV 01 35 00.0
comp=Z,400nm,18.1s
GERES **GERESS Array B** 104.14 329 PKKPbc PKKPbc 01 00 27.7 -1.5
comp=Z,0.7nm,0.7s,baz=235,slow=4.7,SNR=6.2
GERES PKKP **PKKPdf** **01 00 37.0 -0.3**
comp=Z,0.2nm,0.3s,baz=297,slow=6.5,SNR=3.5
SYO **Syowa Base** 108.40 201 ⇓*e*PKiKP **PKiKP** **00 49 03.2 +0.1**
LRAL **Lakeview Retre** 111.88 46 P **PKiKP** **00 49 10.6 -0.2**
baz=305
H58A **Gabriels** 111.89 29 P **PKiKP** **00 49 11.4 +0.8**
baz=319
V55A **Taylorsville** 113.99 40 P **PKiKP** **00 49 14.9 +0.1**
baz=310
PAL **Palisades** 114.57 32 P **PKiKP** **00 49 15.3 -0.5**
baz=318
Q60A **Greensboro** 115.01 34 P **PKiKP** **00 49 15.9 -0.7**
baz=316
LSZ **Lusaka** 119.04 260 PKiKP **PKiKP** **00 49 25.8 +0.6**
LSZ **Lusaka** 119.04 260 PKPdf **PKiKP** **00 49 25.8 +0.6**
SNAA **Sanae** 119.11 191 PKPdf **PKPdf** **00 49 23.4 -0.3**
SNAA **Sanae** 119.11 191 ⇑*i* PKiKP **PKPdf** **00 49 23.5 -0.2**
SNAA **Sanae** 119.11 191 PKPdf **PKPdf** **00 49 23.2 -0.5**
ESDC **Sonseca Array** 119.37 333 PKP **PKPdf** **00 49 23.4 -1.8**
comp=Z,0.3nm,0.7s,baz=112,slow=41,SNR=1.7
ESDC PKKPbc **PKKPbc** **00 59 38.1 -0.6**
comp=Z,0.8nm,0.9s,baz=302,slow=2.9,SNR=5.0
VNA2 **Neumayer--Watz** 120.56 190 PKPdf **PKiKP** **00 49 27.6 +1.2**
VNA3 **Neumayer Olymp** 120.65 189 PKPdf **PKiKP** **00 49 27.2 +0.5**
VNA1 **Neumayer--Stat** 120.94 190 PKPdf **PKiKP** **00 49 27.6 +0.4**
LBTB **Lobatse** 122.21 249 PKiKP **PKiKP** **00 49 31.6 +0.4**
LBTB **Lobatse** 122.21 249 **PKiKP** **00 49 31.6 +0.4**
BOSA **Boshof** 122.51 245 PKP **PKiKP** **00 49 32.1 +0.4**
comp=Z,6.8nm,0.9s,baz=100,slow=1.2,SNR=10
BOSA **Boshof** 122.51 245 PKiKP **PKiKP** **00 49 31.9 +0.2**
BOSA **Boshof** 122.51 245 **PKiKP** **00 49 31.9 +0.2**
TORD **Torodi Ar. Bea** 134.80 305 PKhKP PKPpre 00 49 49.3
comp=Z,0.6nm,0.6s,baz=36,slow=2.4,SNR=4.7
TORD PKP **PKPdf** **00 49 54.5 -0.6**
comp=Z,2.1nm,0.5s,baz=35,slow=2.4,SNR=11
TORD SKPbc **SKPbc** **00 53 14.2 -1.9**
comp=Z,20nm,1.0s,baz=39,slow=1.4,SNR=28
H03N2 **Juan Fernandez** 135.69 124 T T 03 21 13.4
baz=268,slow=73,SNR=9.0
H03N3 **Juan Fernandez** 135.69 124 T T 03 21 15.3
baz=268,slow=73,SNR=11
H03N1 **Juan Fernandez** 135.71 124 T T 03 21 19.0
baz=268,slow=73,SNR=11
PDPR **Patillas Dam,** 135.93 45 PKPdf **PKPdf** **00 49 57.7 +0.6**
ATAH **Atahualpa** 136.85 86 PKP **PKPdf** **00 49 57.7 -1.8**
comp=Z,3.6nm,0.7s,baz=359,slow=8.5,SNR=2.3
ATAH SKP **SKPbc** **00 53 24.3 +1.3**
comp=Z,5.0nm,0.7s,baz=186,slow=3.5,SNR=3.0
LL01 **San Ignacio de** 137.03 139 **PKPdf** **00 49 59.1 +0.7**
RUSC **La Rusia** 137.39 65 PKPdf **PKPdf** **00 50 00.5 -0.1**
LC01 **Cunco** 139.06 134 PKPdf **PKPdf** **00 50 02.0 -0.3**
PLCA **Paso Flores** 139.07 138 PKhKP PKPpre 00 49 55.1
comp=Z,1.9nm,0.7s,baz=257,slow=5.0,SNR=5.7
PLCA PKP **PKPdf** **00 50 02.9 +0.5**
comp=Z,11nm,0.8s,baz=211,slow=3.9,SNR=17
PLCA SKPbc **SKPbc** **00 53 28.3 +0.2**
comp=Z,7.1nm,0.7s,baz=227,slow=3.2,SNR=12
PLCA **Paso Flores** 139.07 138 PKPdf **PKiKP** **00 50 03.7 -1.0**
BI02 **San Fabin de** 140.48 132 PKPdf **PKPdf** **00 50 03.4 -1.7**
GO04 **Tololo Observa** 143.26 122 PKPdf **PKPdf** **00 50 09.1 -1.3**
LCO **Las Campanas** 143.69 120 PKiKP **PKPdf** **00 50 10.4 -0.9**
LCO **Las Campanas** 143.69 120 PKPdf **PKPdf** **00 50 10.4 -0.9**
DBIC **Dimbokro** 143.77 302 PKP PKPab 00 50 08.6 0.0
comp=Z,11nm,0.5s,baz=38,slow=3.8,SNR=31
DBIC **Dimbokro** 143.77 302 PKiKP PKPbc 00 50 10.3 +1.0
DBIC **Dimbokro** 143.77 302 PKPdf PKPbc 00 50 10.3 +1.0
KIC **Kosan Boka** 143.85 302 *e*PKiKP PKPbc 00 50 09.4 -0.2
comp=Z,33nm,0.7s
TIC **Toumodi** 143.92 303 *e*PKiKP PKPbc 00 50 09.5 -0.3
LIC **Lamto** 144.16 302 *e*PKiKP **PKPab** **00 50 10.0 0.0**
comp=Z,93nm,0.6s
ZON **Zonda** 144.50 125 PKiKP **PKPdf** **00 50 12.3 0.0**
ZON **Zonda** 144.50 125 PKPdf **PKPdf** **00 50 12.3 0.0**
AC01 **Pan de Azucar** 144.51 116 PKPdf **PKPdf** **00 50 12.4 0.0**
PB10 **IPOC Station P** 145.07 111 **PKPdf** **00 50 14.5 +1.0**
AC02 **Maricunga** 145.62 117 **PKPab** **00 50 16.4 +0.5**
TA01 **Diego Aracena** 145.79 106 PKPbc **PKPab** **00 50 16.4 +0.4**
PB07 **IPOC Station P** 145.94 108 **PKPdf** **00 50 15.6 +0.4**
PB15 **IPOC Station P** 146.10 111 **PKPab** **00 50 17.5 +0.1**
MNMC **Minye Minye** 146.46 104 PKPbc **PKPbc** **00 50 18.0 +0.2**
LVC **Limon Verde** 146.71 110 PKPbc **PKPab** **00 50 19.3 -0.6**
comp=Z,68nm,0.8s,baz=265,slow=4.0,SNR=41
LPAZ **La Paz** 147.94 99 PKPbc **PKPdf** **00 50 20.4 +1.1**
comp=Z,25nm,0.8s,baz=302,slow=2.3,SNR=56
LPAZ **La Paz** 147.94 99 PKPdf **PKPdf** **00 50 19.2 0.0**
LPAZ PKPbc **PKiKP** **00 50 24.1 0.0**
PTGA **Pitinga** 152.04 64 PKP **PKPdf** **00 50 25.9 +0.9**
comp=Z,12nm,0.8s,baz=265,slow=0.8,SNR=28
PTGA PKPbc **PKiKP** **00 50 31.9 -0.1**
comp=Z,23nm,0.6s,baz=276,slow=5.6,SNR=36
PTGA **Pitinga** 152.04 64 **PKPdf** **00 50 25.7 +0.7**
MDP **Montagnes des** 154.25 44 PKP **PKPdf** **00 50 26.5 -1.8**
MDP PKPbc **PKPbc** **00 50 36.5 -0.1**
SIV **San Ignacio** 154.72 98 PKP **PKPdf** **00 50 27.6 -1.2**
comp=Z,0.7nm,0.6s,baz=93,slow=4.3,SNR=5.2
SIV PKPbc **PKiKP** **00 50 37.6 +0.2**

comp=Z,4.0nm,0.9s,baz=231,slow=3.2,SNR=13
SIV PKPab **PKPab 00 50 54.1 +1.4**
comp=Z,10nm,0.8s,baz=285,slow=1.3,SNR=14
CPUP Villa Florida 155.70 124 PKP **PKPdf 00 50 29.4 -0.5**
comp=Z,1.8nm,0.7s,baz=225,slow=1.4,SNR=2.7
CPUP PKPab **pPKPdf 00 50 58.0 -0.3**
comp=Z,7.3nm,0.9s,baz=262,slow=4.7,SNR=6.6
BDFB Brasilia 167.29 99 PKP **PKPdf 00 50 41.7 -0.6**
comp=Z,3.4nm,0.8s,baz=118,slow=3.7,SNR=6.1
BDFB PKPab **PKPab 00 51 48.3 +0.6**
comp=Z,7.3nm,0.9s,baz=229,slow=2.4,SNR=6.5
BDFB Brasilia 167.29 99 PKIKP **PKPdf 00 50 42.5 +0.2**
BDFB Brasilia 167.29 99 PKPdf **PKPdf 00 50 42.5 +0.2**
BDFB **PKPab 00 51 49.2 +1.5**

BJI ***13*** *00:40:37.8±0.0, 42˚.40N×143˚.04E, h45km, mB5.0/17, mb4.5/26, Ms4.6/9, Ms7 4.4/9*
IDC ***13*** *00:40:41.2±0.6, 42˚.37N×143˚.05E, h55km±5km, mb3.8/21, mb1 4.0/24, mb1mx3.9/52, mbtmp4.1/24, MS4.4/4, Ms1 4.4/4, ms1mx3.6/32, Error ellipse: s-maj=14.6km s-min=12.5km az=116.0*
NEIC ***13*** *00:40:41.4±1.0, 42˚.34N±0˚.05×142˚.9E±0˚.1, h55km±6km, mb4.4/26, Error ellipse: s-maj=12.5km s-min=5.8km az=66.0*
SKHL ***13*** *00:40:42.6±0.6, 42˚.45N×142˚.85E, h72km±4km, mb4.9/7*
MOS ***13*** *00:40:42.0±1.1, 42˚.40N×142˚.97E, h76km, mb4.7/25, Error ellipse: s-maj=8.8km s-min=6.1km az=98.0*
JMA ***13*** *00:40:42.0±0.1, 42˚.35N×143˚.11E, h50km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs=238.00000°, δ28.00000°, λ118.00000°. NP2: φs=27.00000°, δ65.00000°, λ76.00000°. Principal axes: T Plg67.0000°, Azm271.0000°; N Plg13.0000°, Azm33.0000°; P Plg19.0000°, Azm128.0000°;*
JMA Felt II J1.
ISC 13 00:40:41.3±0.5, 42˚.33N±0˚.04×143˚.05E±0˚.04, h57km±4km, n183, σ1§40/198, mb4.3/58, MS4.4/7, 15C-19D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**0.19**	**102**	⇑P		**Pn**	**00 40 50.0**	**-0.4**
JTHR				*e*S		**Sn**	**00 40 56.2**	**-0.7**
JNBK	**Urakawa-nobuka**	**0.23**	**257**	⇓P		**Pn**	**00 40 50.8**	**+0.2**
JNBK				*e*S		**Sn**	**00 40 58.0**	**+0.7**
ERM	**Erimo**	**0.33**	**166**	*c i*PN		Pn	00 40 58.6	+7.2
ERM				pmax	pmax			
comp=Z,8μm,1.1s								
ERM	**Erimo**	**0.33**	**166**	Pn		**Pn**	**00 40 51.7**	**+0.4**
JEM	**Erimo**	**0.33**	**166**	⇑P		**Pn**	**00 40 51.6**	**+0.2**
JCH	**Churui**	**0.37**	**39**	⇑P		**Pn**	**00 40 51.1**	**-0.6**
JCH				*e*S		**Sn**	**00 40 58.6**	**-0.6**
JSHD	**Hidakashinhida**	**0.44**	**281**	⇓P		**Pn**	**00 40 53.3**	**+0.9**
JBT2	**Biratori 2**	**0.68**	**312**	⇓P		**Pn**	**00 40 55.8**	**+0.7**
JOB	**Onbets**	**0.81**	**45**	⇑P		**Pn**	**00 40 57.3**	**+0.5**
JOB				*e*S		**Sn**	**00 41 09.3**	**+1.1**
JIAM	**Iburiatsuma**	**0.89**	**290**	⇓P		**Pn**	**00 41 00.0**	**+2.3**
JFR	**Furan**	**0.90**	**338**	P		**Pn**	**00 40 57.2**	**-0.8**
JFR				*e*S		**Sn**	**00 41 09.4**	**-0.8**
JAR	**Ashorobuto**	**1.10**	**29**	P		**Pn**	**00 41 00.4**	**-0.2**
JAR				*e*S		**Sn**	**00 41 14.3**	**-0.6**
JEW	**Eniwo**	**1.29**	**294**	⇓P		**Pn**	**00 41 04.6**	**+1.5**
JAB	**Ashibetsu**	**1.32**	**333**	⇓P		**Pn**	**00 41 04.7**	**+1.2**
JAK	**Akkeshi**	**1.39**	**61**	P		**Pn**	**00 41 03.8**	**-0.6**
JAK				*e*S		**Sn**	**00 41 21.5**	**-0.2**
ASAJ	**Asahikawa**	**1.81**	**350**	P		**Pn**	**00 41 10.3**	**0.0**
comp=Z,81nm,0.3s,baz=198,slow=15,SNR=164								
ASAJ				S		**Sn**	**00 41 25.6**	**-6.5**
comp=Z,103nm,0.3s,baz=212,slow=11,SNR=9.5								
JKA	**Kamikawa-asahi**	**1.81**	**350**	*e*P		**Pn**	**00 41 10.3**	**+0.1**
JKA	**Kamikawa-asahi**	**1.81**	**350**	Pn		**Pn**	**00 41 10.1**	**-0.1**
JKA	**Kamikawa-asahi**	**1.81**	**350**			**Sn**	**00 41 25.6**	**-6.5**
GRPR	**Tuman**	**2.59**	**49**	*i* P		**Pn**	**00 41 21.7**	**+0.9**
GRPR				AMB	AMB		00 41 24.0	
comp=Z,300nm,0.2s								
GRPR				*e*S		**Sn**	**00 41 51.5**	**+0.4**
GRPR				A	A		00 41 54.0	
comp=Z,760nm,0.3s								
GRPR				A	A		00 41 54.0	
comp=Z,280nm,0.3s								
GRPR	**Tuman**	**2.59**	**49**	⇓*i*PN		**Pn**	**00 41 21.7**	**+0.9**
GRPR				*i* S		**Sn**	**00 41 51.0**	**-0.1**
GRPR				pmax	pmax			
comp=E,69nm,0.2s								
GRPR				pmax	pmax			
comp=Z,301nm,0.2s								
GRPR				pmax	pmax			
comp=N,58nm,0.1s								
GRPR				smax	smax			
comp=E,281nm,0.2s								
GRPR				smax	smax			
comp=N,761nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**2.67**	**49**	*i* P		**Pn**	**00 41 23.6**	**+1.7**
YUK				AMB	AMB		00 41 24.0	
comp=N,140nm,0.2s								
YUK				AMB	AMB		00 41 24.0	
comp=N,400nm,0.2s								
YUK				*i* S		**Sn**	**00 41 53.9**	**+0.9**
YUK				A	A		00 41 59.0	
comp=N,1μm,1.0s								
YUK				A	A		00 41 59.0	
comp=N,1μm,0.6s								
YUK				A	A		00 41 59.0	
comp=N,1μm,0.6s								
YUK	**Yuzh-Kuril'sk**	**2.67**	**49**	*d i*PN		**Pn**	**00 41 23.6**	**+1.7**
YUK				*i* S		**Sn**	**00 41 53.9**	**+0.9**
YUK				pmax	pmax			
comp=E,135nm,0.2s								
YUK				pmax	pmax			
comp=Z,397nm,0.2s								
YUK				smax	smax			
comp=N,1μm,0.6s								
YUK				smax	smax			
comp=E,1073μm,0.6s								
KUR	**Kuril'sk**	**4.54**	**49**	*e*P		**Pn**	**00 41 50.0**	**+2.6**
KUR				AMB	AMB		00 41 55.0	
comp=E,80nm,0.3s								
KUR				AMB	AMB		00 41 55.0	
comp=E,30nm,0.3s								
KUR				AMB	AMB		00 41 55.0	
comp=E,120nm,0.3s								
KUR				*e*S		**Sn**	**00 42 40.3**	**+1.5**
KUR				A	A		00 42 57.3	
comp=E,140nm,0.4s								
KUR				A	A		00 42 57.3	
comp=E,60nm,0.4s								
KUR	**Kuril'sk**	**4.54**	**49**	*e*PN		**Pn**	**00 41 50.0**	**+2.6**
KUR				*e*S		**Sn**	**00 42 40.9**	**+2.1**
KUR				pmax	pmax			
comp=Z,120nm,0.3s								
KUR				pmax	pmax			
comp=N,80nm,0.2s								
KUR				pmax	pmax			
comp=E,31nm,0.2s								
KUR				smax	smax			
comp=N,144nm,0.3s								
KUR				smax	smax			
comp=E,64nm,0.4s								
YSS	**Yuzh-Sakhalins**	**4.63**	**357**	*e*P		**Pn**	**00 41 49.4**	**+0.8**
YSS				AMB	AMB		00 41 53.7	
comp=E,60nm,0.5s								
YSS	**Yuzh-Sakhalins**	**4.63**	**357**	⇑*e*PN		**Pn**	**00 41 50.7**	**+2.1**
YSS				pmax	pmax			
comp=Z,60nm,0.5s								
TEY	**Ternei**	**5.40**	**302**	*i* P		**Pn**	**00 42 00.9**	**+1.7**
TEY				AMB	AMB		00 42 01.8	
comp=Z,40nm,0.7s								
TEY	**Ternei**	**5.40**	**302**	*e*PN		**Pn**	**00 41 55.8**	**-3.4**
MJB9	**Matsu-Tunnel**	**6.89**	**215**			**Pn**	**00 42 19.0**	**-0.7**
MAJO	**Matsushiro**	**6.89**	**215**	⇑*i*PN		Pn	00 42 24.0	+4.3
MAJO				pmax	pmax			
comp=Z,4.0nm,0.8s								
MAJO	**Matsushiro**	**6.89**	**215**			**Pn**	**00 42 19.2**	**-0.4**
MAT	**Matsushiro**	**6.89**	**215**	P		**Pn**	**00 42 19.8**	**+0.1**
MAT				S		**Sn**	**00 43 36.6**	**-0.1**
MJAR	**Matsushiro Arr**	**6.89**	**215**	P		**Pn**	**00 42 20.1**	**+0.4**
comp=Z,0.3nm,0.3s,baz=327,slow=28,SNR=15								
MJAR	**Matsushiro Arr**	**6.89**	**215**			**Pn**	**00 42 19.0**	**-0.7**
USA0B	**Ussuriysk Arra**	**8.29**	**287**	⇓*i*PN		**Pn**	**00 42 38.8**	**0.0**
USRK	**Ussuriysk Ar.**	**8.29**	**287**	P		**Pn**	**00 42 40.6**	**+1.9**
baz=87,slow=13,SNR=4.1								
USRK				S		**Sn**	**00 44 14.4**	**+3.6**
baz=187,slow=38,SNR=1.6								
GRNR	**Gornyy**	**9.59**	**334**	*e*P		**Pn**	**00 42 57.5**	**+0.9**
GRNR				AMB	AMB		00 43 01.1	
comp=Z,10.0nm,0.7s								
GRNR				AMB	AMB		00 43 01.1	
comp=Z,100nm,0.7s								
GRNR				AMB	AMB		00 43 01.1	
comp=Z,200nm,0.7s								
GRNR	**Gornyy**	**9.59**	**334**	⇓*i*PN		**Pn**	**00 43 00.3**	**+3.7**
GRNR				*e*S		**Sn**	**00 44 49.4**	**+6.6**
GRNR				pmax	pmax			
comp=E,10.0nm,0.7s								
GRNR				pmax	pmax			
comp=N,10.0nm,0.8s								
GRNR				pmax	pmax			
comp=Z,20nm,0.6s								
GRNR				smax	smax			
comp=N,6.0nm,0.9s								
GRNR				MLR	MLR			
comp=Z,730nm,16.0s								
MDJ	**Mudanjiang**	**10.05**	**288**	Pn		**Pn**	**00 43 00.1**	**-2.8**
KLR	**Kul'dur**	**10.47**	**315**	P		**Pn**	**00 43 10.2**	**+1.5**
comp=Z,0.1nm,0.3s,baz=123,slow=15,SNR=3.4								
KLR	**Kul'dur**	**10.47**	**315**	*e*P		**Pn**	**00 43 09.6**	**+0.9**
KLR	**Kul'dur**	**10.47**	**315**	⇑*i*PN		**Pn**	**00 43 09.6**	**+0.9**
KLR				pmax	pmax			
comp=Z,3.0nm,0.9s								
SKR	**Severo-Kuril's**	**12.27**	**43**	*i* P		**Pn**	**00 43 33.4**	**+0.3**
SKR				AMB	AMB		00 43 34.6	
comp=Z,20nm,0.8s								
KSRS	**Korea Array**	**12.59**	**252**	P		**Pn**	**00 43 39.2**	**+1.6**
comp=Z,0.2nm,0.3s,baz=63,slow=13,SNR=14								
EKMR	**Ekimchan**	**12.70**	**331**	*e*P		**Pn**	**00 43 36.3**	**-2.7**
TJN	**Taejon**	**13.51**	**249**	⇓*i*PN		**Pn**	**00 43 52.0**	**+1.9**
SEY	**Seymchan**	**21.36**	**12**	P		**P**	**00 45 21.6**	**-1.8**
comp=Z,2.2nm,0.4s,baz=192,slow=12,SNR=3.9								
NJ2	**Nanjing**	**21.77**	**250**	*e*P		**P**	**00 45 25.9**	**-2.3**
NJ2				pmax	pmax			
comp=Z,10.0nm,0.5s								
HHC	**Hu-ho-hao-te**	**23.53**	**277**	*e*P		**P**	**00 45 46.6**	**+0.2**
HHC				pmax	pmax			
comp=Z,16nm,0.9s								
HHC				pmax	pmax			
comp=Z,160nm,6.5s								
ULN	**Ulaanbaatar**	**25.84**	**295**	*e*P		**P**	**00 46 06.9**	**-0.5**
ULN	**Ulaanbaatar**	**25.84**	**295**	⇓*i*P		**P**	**00 46 06.9**	**-0.5**
ULN				pmax	pmax			
comp=Z,6.0nm,1.1s								
SONM	**Songino Array**	**26.29**	**295**	P		**P**	**00 46 11.6**	**+0.2**
comp=Z,4.4nm,0.7s,baz=83,slow=8.7,SNR=8.5								
SONM	**Songino Array**	**26.29**	**295**	P		**P**	**00 46 10.5**	**-0.9**
BILL	**Bilibino**	**28.60**	**18**	*i* P		**P**	**00 46 32.8**	**+1.1**
BILL	**Bilibino**	**28.60**	**18**	*i* P		**P**	**00 46 32.8**	**+1.1**
BILL				pmax	pmax			
comp=Z,9.0nm,1.9s								
TIXI	**Tiksi**	**30.22**	**351**	*i* P		**P**	**00 46 47.2**	**+1.2**
TIXI	**Tiksi**	**30.22**	**351**	⇓*i*P		**P**	**00 46 47.2**	**+1.2**
TIXI				pmax	pmax			
comp=Z,6.0nm,1.0s								
H11N2	**WAKE ISLAND Hy**	**30.23**	**131**	T		T	01 18 14.9	
baz=324,slow=75,SNR=85								
H11N1	**WAKE ISLAND Hy**	**30.24**	**131**	T		T	01 18 24.7	
baz=324,slow=75,SNR=77								
H11N3	**WAKE ISLAND Hy**	**30.24**	**131**	T		T	01 18 19.2	
baz=324,slow=75,SNR=84								
LZH	**Lanzhou**	**30.81**	**272**	*e*P		**P**	**00 46 52.4**	**+0.6**
LZH				pP	pP		00 47 03.8	-2.4
LZH				sP	sP		00 47 08.0	-5.0
LZH				*e*PP		**PnPn**	**00 47 52.6**	**-1.2**
LZH				pmax	pmax			
comp=Z,20nm,1.3s								
LZH				pmax	pmax			
comp=Z,65nm,5.2s								
LZH				LR	LR			
comp=Z,250nm,13.1s								
LZH				LR	LR			
comp=Z,270nm,13.3s								
LZH				LR	LR			
comp=Z,370nm,16.4s								
H11S1	**WAKE ISLAND Hy**	**31.10**	**133**	T		T	01 19 24.5	
baz=326								
H11S3	**WAKE ISLAND Hy**	**31.11**	**133**	T		T	01 19 27.2	
baz=326								
H11S2	**WAKE ISLAND Hy**	**31.12**	**133**	T		T	01 19 27.9	
baz=326								
GTA	**Gaotai**	**32.57**	**280**	*e*P		**P**	**00 47 07.7**	**+0.5**
GTA				pP	pP		00 47 18.2	-3.4
GTA				sP	sP		00 47 22.2	-6.2
GTA				pmax	pmax			
comp=Z,5.0nm,0.7s								
GTA				pmax	pmax			
comp=Z,150nm,6.2s								
GTA				LR	LR			
comp=Z,340nm,14.0s								
GTA				LR	LR			
comp=Z,580nm,15.9s								
GTA				LR	LR			
comp=Z,580nm,15.6s								
CD2	**Chengdu**	**33.26**	**263**	*e*P		**P**	**00 47 11.5**	**-1.7**
GYA	**Guiyang**	**33.65**	**254**	*e*P		**P**	**00 47 17.8**	**+1.1**
GYA				pmax	pmax			
comp=Z,12nm,1.3s								
KMI	**Kunming**	**37.26**	**256**	⇑P		**P**	**00 47 48.2**	**+0.3**
KMI				pP	pP		00 47 54.9	-7.5
KMI				pmax	pmax			
comp=Z,11nm,1.0s								
DGZ	**Jazzator, Alta**	**38.54**	**301**	⇑*i*P		**P**	**00 47 59.1**	**+0.8**
DGZ				pmax	pmax			
comp=Z,9.0nm,0.9s								
ZAA0	**Zalesovo Array**	**39.47**	**308**	P		**P**	**00 48 05.7**	**-0.1**
ZAA0				PcP	PcP		00 50 12.8	+0.3
ZALV	**Zalesovo Beam**	**39.47**	**308**	P		**P**	**00 48 05.6**	**-0.2**
comp=Z,12nm,0.8s,baz=85,slow=7.6,SNR=22								
ZALV				PcP		**PcP**	**00 50 12.7**	**+0.2**
comp=Z,2.3nm,0.6s,baz=101,slow=3.7,SNR=5.9								
ZALV	**Zalesovo Beam**	**39.47**	**308**	*i* P		**P**	**00 48 06.0**	**+0.2**
ZALV				pmax	pmax			
comp=Z,12nm,0.8s								
ZALV	**Zalesovo Beam**	**39.47**	**308**	P		**P**	**00 48 05.6**	**-0.2**
ZALV				PcP	PcP		00 50 12.0	-0.5
WMQ	**Urumqi**	**39.82**	**292**	*e*P		**P**	**00 48 09.7**	**+0.8**
WMQ				sP	pP		00 48 23.7	0.0
WMQ				pmax	pmax			
comp=Z,11nm,0.7s								
WMQ				pmax	pmax			
comp=Z,190nm,3.6s								
WMQ				LR	LR			
comp=Z,340nm,11.5s								
WMQ				LR	LR			
comp=Z,340nm,14.3s								
WMQ				LR	LR			
comp=Z,660nm,17.3s								
MK31	**Makanchi Array**	**42.58**	**298**	P		**P**	**00 48 31.4**	**-0.1**
MK31				pmax	pmax			
comp=Z,5.0nm,0.7s								
MK31	**Makanchi Array**	**42.58**	**298**	P		**P**	**00 48 31.4**	**-0.1**
MK31				IAmb	IAmb		00 48 32.4	
comp=Z,5.3nm,0.7s								
MKAR	**Makanchi Array**	**42.58**	**298**	P		**P**	**00 48 31.6**	**+0.1**
comp=Z,4.8nm,0.6s,baz=82,slow=10,SNR=30								
MKAR				PcP		**PcP**	**00 50 23.1**	**+0.2**
comp=Z,0.7nm,0.6s,baz=80,slow=1.9,SNR=4.1								
MKAR	**Makanchi Array**	**42.58**	**298**	P		**P**	**00 48 31.3**	**-0.2**
MKAR				PcP	PcP		00 50 22.7	-0.2
MAKZ	**Makanchi**	**42.78**	**298**	P		**P**	**00 48 32.6**	**-0.5**
MAKZ				pmax	pmax			
comp=Z,7.0nm,0.9s								
MAKZ	**Makanchi**	**42.78**	**298**	P		**P**	**00 48 32.6**	**-0.5**
MAKZ				IAmb	IAmb		00 48 34.1	
comp=Z,7.2nm,0.8s								
KURK	**Kurchatov**	**43.83**	**304**	*i* P		**P**	**00 48 41.4**	**-0.1**
KURK	**Kurchatov**	**43.83**	**304**	*c i*P		**P**	**00 48 41.4**	**-0.1**
KURK				pmax	pmax			
comp=Z,14nm,0.7s								
KURK	**Kurchatov**	**43.83**	**304**	P		**P**	**00 48 41.3**	**-0.1**
CHTO	**Chiang Mai**	**43.99**	**252**	P		**P**	**00 48 43.8**	**+0.6**
CHTO				pmax	pmax			
comp=Z,4.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**44.23**	**251**	P		**P**	**00 48 45.5**	**+0.4**
comp=Z,1.0nm,0.3s,baz=45,slow=7.0,SNR=4.4								
CMAR	**Chiang Mai Arr**	**44.23**	**251**	*ce*P		**P**	**00 48 45.7**	**+0.6**
CMAR				pmax	pmax			
comp=Z,1.0nm,0.3s								
IL31		**44.39**	**35**	P		**P**	**00 48 46.7**	**+1.0**
ILAR	**Eielson Array**	**44.39**	**35**	P		**P**	**00 48 45.8**	**0.0**
comp=Z,2.9nm,1.1s,baz=266,slow=6.4,SNR=8.4								
ILAR				pP		**pP**	**00 48 59.3**	**-1.4**
comp=Z,1.2nm,0.6s,baz=265,slow=6.8,SNR=5.5								
ILAR	**Eielson Array**	**44.39**	**35**	P		**P**	**00 48 46.7**	**+0.9**
TARG	**Taragay, Kyrgy**	**47.37**	**292**	P		**P**	**00 49 09.1**	**-0.9**
RAMN	**Ramite**	**48.07**	**270**	*e*P		**P**	**00 49 15.7**	**+0.3**
comp=Z,12nm,0.4s								
BRVK	**Borovoye**	**48.12**	**309**	*i* P		**P**	**00 49 14.9**	**-0.3**
BRVK	**Borovoye**	**48.12**	**309**	⇓*i*P		**P**	**00 49 14.9**	**-0.3**
BRVK				pmax	pmax			
comp=Z,9.0nm,1.2s								
BRVK	**Borovoye**	**48.12**	**309**	P		**P**	**00 49 14.5**	**-0.7**
KKN	**Kakani**	**48.58**	**272**	*e*P		**P**	**00 49 20.0**	**+0.6**
comp=Z,19nm,0.8s								
PKI	**Pulchoki**	**48.61**	**272**	*e*P		**P**	**00 49 20.4**	**+0.7**
comp=Z,4.1nm,0.3s								
DMN	**Daman**	**48.81**	**272**	*e*P		**P**	**00 49 21.7**	**+0.5**
comp=Z,9.8nm,0.6s								
INK	**Inuvik**	**49.12**	**29**	P		**P**	**00 49 22.3**	**-0.4**
comp=Z,1.4nm,0.5s,baz=280,slow=7.6,SNR=4.8								
HYT	**Haines Junctio**	**49.35**	**39**	P		**P**	**00 49 26.7**	**+2.0**
DANN	**Dangsing**	**49.40**	**274**	*e*P		**P**	**00 49 26.4**	**+0.7**
comp=Z,108nm,0.7s								
KSH	**Kashi**	**49.56**	**291**	*e*P		P	00 49 30.7	+4.1
KOLN	**Koldanda**	**49.84**	**273**	*e*P		**P**	**00 49 29.3**	**+0.4**
comp=Z,8.9nm,0.3s								
PYUN	**Piuthan**	**50.11**	**274**	*e*P		**P**	**00 49 31.2**	**+0.2**
comp=Z,12nm,0.4s								
BESE	**Bessie Mountai**	**51.32**	**42**	P		**P**	**00 49 41.6**	**+2.1**
KK31	**Karatay Array**	**51.70**	**297**	P		**P**	**00 49 41.8**	**-0.7**
KK31				pmax	pmax			
comp=Z,2.0nm,0.8s								
KK31	**Karatay Array**	**51.70**	**297**	P		**P**	**00 49 41.8**	**-0.7**
KKAR	**Karatay Array**	**51.70**	**297**	P		**P**	**00 49 41.6**	**-0.9**
KKAR	**Karatay Array**	**51.70**	**297**	P		**P**	**00 49 41.6**	**-0.9**
ARU	**Arti**	**53.31**	**316**	*i* P		**P**	**00 49 53.6**	**-0.6**
ARU	**Arti**	**53.31**	**316**	*d i*P		**P**	**00 49 53.6**	**-0.6**
ARU							00 51 00.3	
ARU							00 51 52.1	
ARU				S		**S**	**00 57 20.2**	**-1.1**
ARU				SS		**SS**	**01 00 54.8**	**-6.3**
ARU				pmax	pmax			
comp=Z,10.0nm,0.7s								
ARU	**Arti**	**53.31**	**316**	P		**P**	**00 49 52.8**	**-1.4**
ABKAR	**Akbulak array**	**55.59**	**308**	P		**P**	**00 50 10.8**	**0.0**
KIRV	**Kirov**	**56.84**	**321**	*i* P		**P**	**00 50 19.8**	**+0.2**
PRGR	**Permogore**	**57.06**	**326**	*e*P		**P**	**00 50 19.2**	**-1.9**
PRGR				pmax	pmax			
comp=Z,7.0nm,0.8s								
YKA	**Yellowknife Ar**	**58.63**	**32**	LR	LR	LR	01 18 38.0	
comp=Z,243nm,20.0s,baz=0.0,slow=39								
ARCES	**ARCESS Array B**	**59.50**	**339**	P		**P**	**00 50 37.4**	**-0.6**
comp=Z,0.6nm,0.5s,baz=69,slow=8.2,SNR=5.2								
KLMR	**Klimovskoe**	**59.99**	**327**	*e*P		**P**	**00 50 39.3**	**-2.2**
KLMR				pmax	pmax			
comp=Z,9.0nm,1.2s								
KLMR	**Klimovskoe**	**59.99**	**327**	*e*P		**P**	**00 50 39.3**	**-2.2**
KLMR				AMP			00 50 41.2	
comp=Z,9.0nm,1.2s								
KLMR				LQ	LQ		01 13 28.6	
KLMR				LQ	LQ		01 13 28.6	
KLMR				LR	LR		01 19 37.0	
GEYT	**Alibeck**	**62.45**	**297**	P		**P**	**00 50 58.5**	**-0.1**
comp=Z,4.8nm,0.8s,baz=43,slow=2.8,SNR=9.5								
GEYT	**Alibeck**	**62.45**	**297**	P		**P**	**00 50 58.3**	**-0.3**
WRA	**Warramunga Arr**	**62.48**	**189**	P		**P**	**00 50 58.3**	**-0.4**
comp=Z,0.6nm,0.6s,baz=5.4,slow=6.8,SNR=2.3								
WRA				pP		**pP**	**00 51 13.3**	**-1.0**
comp=Z,2.0nm,0.8s,baz=5.8,slow=7.3,SNR=6.2								
OBN	**Obninsk**	**64.64**	**322**	*i* P		**P**	**00 51 10.9**	**-1.7**
OBN	**Obninsk**	**64.64**	**322**	*i* P		**P**	**00 51 10.9**	**-1.7**
OBN				pmax	pmax			
comp=Z,4.0nm,0.9s								
FINES	**FINESS Array B**	**64.73**	**332**	P		**P**	**00 51 12.2**	**-1.0**
comp=Z,4.0nm,0.5s,baz=56,slow=6.9,SNR=40								
FINES				pP		**pP**	**00 51 27.4**	**-1.7**
comp=Z,1.2nm,0.6s,baz=49,slow=7.3,SNR=1.7								
FINES	**FINESS Array B**	**64.73**	**332**	*i* P		**P**	**00 51 12.3**	**-0.8**
FINES				pmax	pmax			
comp=Z,4.0nm,0.5s								
ASAR	**Alice Springs**	**66.21**	**189**	P		**P**	**00 51 23.3**	**+0.3**
comp=Z,0.6nm,0.8s,baz=7.5,slow=7.8,SNR=4.6								
ASAR				pP		**pP**	**00 51 38.7**	**-0.1**
comp=Z,0.8nm,0.7s,baz=13,slow=7.0,SNR=4.5								
KIV	**Kislovodsk**	**68.42**	**310**	*e*P		**P**	**00 51 38.2**	**+1.1**
KIV	**Kislovodsk**	**68.42**	**310**	*e*P		**P**	**00 51 38.2**	**+1.1**
KIV				pmax	pmax			
comp=Z,31nm,0.9s								
KIV	**Kislovodsk**	**68.42**	**310**	P		**P**	**00 51 37.2**	**+0.1**
KBZ	**Khabaz**	**68.44**	**310**	P		**P**	**00 51 37.6**	**+0.5**
comp=Z,3.8nm,0.7s,baz=64,slow=3.6,SNR=10								
KBZ	**Khabaz**	**68.44**	**310**	*i* P		**P**	**00 51 37.9**	**+0.8**
KBZ	**Khabaz**	**68.44**	**310**	*d i*P		**P**	**00 51 37.9**	**+0.8**
NB2	**NORSAR Subarra**	**69.79**	**337**	P		**P**	**00 51 44.3**	**-0.9**
comp=Z,1.1nm,0.5s,baz=34,slow=6.5								
NOA	**NORSAR Array B**	**69.79**	**337**	P		**P**	**00 51 44.4**	**-0.8**
comp=Z,1.7nm,0.8s,baz=35,slow=6.3,SNR=6.1								
NVAR	**Mina Array Bea**	**70.87**	**55**	P		**P**	**00 51 53.3**	**+0.8**
comp=Z,0.4nm,0.5s,baz=305,slow=6.4,SNR=2.4								
AKASG	**Malin Array Be**	**70.89**	**322**	P		**P**	**00 51 51.6**	**-0.5**
comp=Z,0.6nm,0.3s,baz=44,slow=6.1,SNR=5.0								
AKASG				pP		**pP**	**00 52 07.8**	**-0.2**
comp=Z,0.3nm,0.3s,baz=8.5,slow=37,SNR=1.1								
AKASG	**Malin Array Be**	**70.89**

DAVA **Damuels** **81.60 330** *e*P **P** **00 52 53.2 +0.1**
comp=Z,0.7nm,0.2s
PDG **Podgorica** **81.62 322** P **P** **00 52 52.7 -0.3**
TXAR **Lajitas Array** **85.92 54** P **P** **00 53 16.1 +0.7**
comp=Z,1.0nm,0.6s,baz=293,slow=3.4,SNR=10
TXAR pP **pP** **00 53 31.9 +0.2**
comp=Z,0.4nm,0.6s,baz=298,slow=2.2,SNR=3.2
KEST **Kesra** **91.53 324** LR LR 01 39 38.0
comp=Z,132nm,19.3s,baz=296,slow=39
ESDC **Sonseca Array** **93.06 335** P **P** **00 53 48.5 -0.3**
comp=Z,0.7nm,0.9s,baz=34,slow=4.8,SNR=2.6
ESDC LR LR 01 39 50.8
comp=Z,173nm,20.0s,baz=30,slow=38
JTS **Las Juntas de** **111.67 52***c i*PKIKP **PKiKP** **00 59 11.6 +1.7**
H03N2 **Juan Fernandez** **145.99 89** T T 03 43 19.0
baz=300,slow=77,SNR=10
H03N3 **Juan Fernandez** **146.00 89** T T 03 43 20.8
baz=300,slow=77,SNR=10
H03N1 **Juan Fernandez** **146.00 89** T T 03 43 21.4
baz=300,slow=77,SNR=13
SNAA **Sanae** **146.17 199** PKPdf **PKPbc** **01 00 13.8 -0.2**
SIV **San Ignacio** **146.57 46** PKPbc **PKPbc** **01 00 16.9 +0.2**
comp=Z,2.8nm,0.5s,baz=295,slow=3.7,SNR=18

BJI ***13*** *00:45:31.0±0.0, 10°.60S×165°.00E, h29km, mB5.1/10, mb4.8/21, Ms4.7/4, Ms7 4.5/1*
NEIC ***13*** *00:45:32.9±1.3, 10°.72S±0°.10×164°.9E±0°.1, h40km±6km, mb4.6/41, Error ellipse: s-maj=17.1km s-min=13.0km az=61.0*
IDC ***13*** *00:45:33.9±2.7, 10°.72S×164°.93E, h49km±24km, mb4.1/20, mb1 4.3/23, mb1mx4.2/37, mbtmp4.4/23, ML5.1/3, MS3.9/5, Ms1 3.9/5, ms1mx3.5/27, Error ellipse: s-maj=20.3km s-min=13.2km az=72.0*
ISC 13 00:45:32.7±0.5, 10.78S±0°.06×165°.00E±0°.08, h35km, n89, σ1§24/84, mb4.6/39, MS4.3/6, 1C, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.15**	**285**	P		**Pn**	**00 46 47.1**	**-0.3**
	104nm,0.3s,baz=150,slow=3.4,SNR=15							
HNR				S		**Sn**	**00 47 46.5**	**+0.8**
	53nm,0.3s,baz=279,slow=23,SNR=4.0							
HNR	**Honiara**	**5.15**	**285**			**Pn**	**00 46 46.5**	**-0.9**
DZM	**Mont Dzumac**	**11.32**	**173**	P		**Pn**	**00 48 13.2**	**+1.0**
	16nm,0.3s,baz=315,slow=10.0,SNR=231							
DZM				S		**Sn**	**00 50 16.3**	**-1.2**
	0.4nm,0.3s,baz=111,slow=20,SNR=2.0							
DZM	**Mont Dzumac**	**11.32**	**173**	Pn		**Pn**	**00 48 13.1**	**+0.9**
KRVT	**Keravat (AS076**	**14.37**	**296**	P		**Pn**	**00 48 52.9**	**-1.0**
	4.9nm,0.3s,baz=350,slow=21,SNR=1.8							
KRVT				LR		LR	00 54 39.5	
	comp=Z,362nm,19.4s,baz=148,slow=38							
PMG	**Port Moresby**	**17.62**	**273**	LR		LR	00 55 24.7	
	comp=Z,327nm,19.6s,baz=126,slow=34							
EIDS	**Eidsvold**	**19.61**	**220**			**P**	**00 49 58.8**	**+0.5**
EIDS				IAmb		IAmb	00 50 01.9	
	comp=Z,49nm,1.1s							
CTA	**Charters Tower**	**20.29**	**241**	P		Pn	00 50 10.3	+2.5
	comp=Z,5.1nm,0.7s,baz=61,slow=11,SNR=5.5							
ARMA	**Armidale**	**23.17**	**211**	P		**P**	**00 50 37.1**	**+0.7**
ARMA				IAmb		IAmb	00 50 38.9	
	comp=Z,24nm,0.8s							
JAY	**Jayapura**	**25.47**	**287**	P		**P**	**00 50 57.4**	**-0.5**
	comp=Z,31nm,0.9s,baz=143,slow=3.9,SNR=4.5							
JAY	**Jayapura**	**25.47**	**287**	P		**P**	**00 50 57.0**	**-0.9**
	comp=Z,18nm,1.1s							
GENI	**Genyem**	**25.95**	**286**	P		**P**	**00 51 02.0**	**-0.2**
	comp=Z,33nm,1.0s							
SMPI	**Sarmi**	**27.52**	**287**	P		**P**	**00 51 15.8**	**-0.5**
	comp=Z,26nm,1.5s							
H11S2	**WAKE ISLAND Hy**	**29.13**	**3**	T		T	01 21 38.9	
	baz=184,slow=76,SNR=187							
H11S3	**WAKE ISLAND Hy**	**29.13**	**3**	T		T	01 21 45.1	
	baz=184,slow=76,SNR=135							
H11S1	**WAKE ISLAND Hy**	**29.15**	**3**	T		T	01 21 46.3	
	baz=184,slow=76,SNR=281							
URZ	**Urewera**	**29.44**	**160**	P		**P**	**00 51 33.1**	**0.0**
	comp=Z,21nm,1.1s,baz=5.7,slow=3.7,SNR=3.5							
URZ				LR		LR	01 01 49.1	
	comp=Z,476nm,21.0s,baz=327,slow=33							
STKA	**Stephens Creek**	**30.14**	**222**	P		**P**	**00 51 40.1**	**+0.6**
	comp=Z,4.4nm,0.6s,baz=52,slow=10,SNR=11							
STKA	**Stephens Creek**	**30.14**	**222**	P		**P**	**00 51 40.4**	**+0.9**
WRAB	**Tennant Creek**	**30.88**	**249**	P		**P**	**00 51 45.8**	**-0.3**
WRA	**Warramunga Arr**	**30.89**	**249**	P		**P**	**00 51 44.7**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=79,slow=9.5,SNR=3.5							
WRA				PcP		**PcP**	**00 54 42.2**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=98,slow=15,SNR=2.5							
ASAR	**Alice Springs**	**32.26**	**243**	P		**P**	**00 51 56.2**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=64,slow=10.0,SNR=11							
ASAR				PcP		**PcP**	**00 54 45.5**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=87,slow=3.2,SNR=5.1							
JCJ	**Chichijima**	**43.67**	**330**	P		**P**	**00 53 34.2**	**-0.1**
SPSI	**Sidrap Palu**	**45.32**	**275**	P		**P**	**00 53 47.6**	**-0.2**
	comp=Z,2µmcomp=Z,17nm,0.4s							
MJAR	**Matsushiro Arr**	**53.40**	**333**	P		**P**	**00 54 48.2**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=170,slow=7.9,SNR=5.0							
MJAR	**Matsushiro Arr**	**53.40**	**333**	IAmb		IAmb	00 54 49.5	
	comp=Z,1.6nm,1.1s							
MJB9	**Matsu-Tunnel**	**53.40**	**333**	P		**P**	**00 54 48.1**	**-1.0**
MJB9				IAmb		IAmb	00 54 53.9	
	comp=Z,6.6nm,1.1s							
JNU	**Nakatsue**	**54.44**	**325**	P		**P**	**00 54 56.0**	**-0.8**
	comp=Z,11nm,0.9s,baz=203,slow=13,SNR=5.5							
KSRS	**Korea Array**	**59.24**	**326**	P		**P**	**00 55 29.6**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=134,slow=7.4,SNR=9.2							
KSAR	**Wonju Array Be**	**59.26**	**326**	P		**P**	**00 55 30.7**	**-0.1**
NJ2	**Nanjing**	**61.32**	**316**	*e*P		**P**	**00 55 47.4**	**+2.4**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.6s							
USA0B	**Ussuriysk Arra**	**62.38**	**334**	P		**P**	**00 55 51.5**	**-0.5**
USRK	**Ussuriysk Ar.**	**62.38**	**334**	P		**P**	**00 55 50.9**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=139,slow=9.3,SNR=5.5							
USRK	**Ussuriysk Ar.**	**62.38**	**334**	P		**P**	**00 55 51.7**	**-0.2**
PETK	**Petropavlovsk-**	**63.94**	**355**	P		**P**	**00 56 02.8**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=325,slow=49,SNR=1.9							
PETK				LR		LR	01 17 14.9	
	comp=Z,82nm,21.6s,baz=202,slow=30							
CASY	**Casey**	**66.36**	**201**	P		**P**	**00 56 17.1**	**-0.6**
VNDA	**Vanda**	**66.75**	**181**	P		**P**	**00 56 20.5**	**+0.5**
	comp=Z,8.6nm,1.1s,baz=348,slow=6.8,SNR=27							
VNDA	**Vanda**	**66.75**	**181**	P		**P**	**00 56 20.7**	**+0.7**
KMI	**Kunming**	**70.36**	**302**	⇑P		**P**	**00 56 44.8**	**+1.1**
KMI				pP		pP	00 56 52.0	-1.1
KMI				pmax		pmax		
	comp=Z,10.0nm,1.2s							
HHC	**Hu-ho-hao-te**	**71.15**	**320**	*e*P		**P**	**00 56 49.7**	**+1.6**
HHC				pmax		pmax		
	comp=Z,16nm,0.7s							
CMAR	**Chiang Mai Arr**	**71.33**	**294**	P		**P**	**00 56 47.9**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=127,slow=4.5,SNR=6.9							
CMAR	**Chiang Mai Arr**	**71.33**	**294**	P		**P**	**00 56 48.3**	**-1.2**
CD2	**Chengdu**	**71.86**	**308**	P		**P**	**00 56 52.0**	**-0.5**
LZH	**Lanzhou**	**74.04**	**312**	*e*P		**P**	**00 57 05.9**	**+0.5**
LZH				pP		pP	00 57 12.3	-2.6
LZH				sP		sP	00 57 15.0	-3.4
LZH				*e*PP		**PP**	**00 59 53.0**	**+1.8**
LZH				pmax		pmax		
	comp=Z,21nm,1.3s							
LZH				pmax		pmax		
	comp=Z,68nm,7.8s							
LZH				LR		LR		
	comp=Z,170nm,15.5s							
LZH				LR		LR		
	comp=Z,180nm,16.2s							
LZH				LR		LR		
	comp=Z,250nm,19.3s							
ULN	**Ulaanbaatar**	**77.66**	**324**	P		**P**	**00 57 24.8**	**-1.0**
ULN				IAmb		IAmb	00 57 27.0	
	comp=Z,6.7nm,0.9s							
SONM	**Songino Array**	**78.02**	**324**	P		**P**	**00 57 27.1**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=137,slow=6.4,SNR=11							
SONM	**Songino Array**	**78.02**	**324**	P		**P**	**00 57 27.3**	**-0.5**
GTA	**Gaotai**	**78.34**	**314**	*e*P		**P**	**00 57 30.7**	**+0.9**
GTA				pP		PcP	00 57 35.2	-3.9
GTA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GTA				LR		LR		
	comp=Z,87nm,17.1s							
GTA				LR		LR		
	comp=Z,160nm,17.1s							
QSPA	**South Pole Qui**	**79.23**	**180**	P		**P**	**00 57 34.7**	**+0.5**
TLY	**Talaya**	**81.50**	**326**	P		**P**	**00 57 44.8**	**-1.6**
	comp=Z,1.2nm,0.5s,baz=158,slow=19,SNR=3.1							
TLY	**Talaya**	**81.50**	**326**	P		**P**	**00 57 45.2**	**-1.3**
GLB	**Gilahina Butte**	**82.36**	**22**	P		**P**	**00 57 50.5**	**-0.3**
IMAR	**Indian Mountai**	**82.36**	**16**	P		**P**	**00 57 49.7**	**-1.0**
HDA	**Harding Lake**	**83.23**	**19**	P		**P**	**00 57 55.0**	**-0.2**
IL31		**83.49**	**19**	P		**P**	**00 57 55.8**	**-0.7**
ILAR	**Eielson Array**	**83.49**	**19**	P		**P**	**00 57 55.5**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=231,slow=5.8,SNR=17							
ILAR	**Eielson Array**	**83.49**	**19**	P		**P**	**00 57 55.0**	**-1.5**
BCAR	**Beaver Creek A**	**84.11**	**22**	P		**P**	**00 57 59.2**	**-0.6**
AFDM	**Forest Hills D**	**84.58**	**49**	P		**P**	**00 58 02.0**	**-0.7**
MAW	**Mawson**	**84.69**	**202**	P		**P**	**00 58 03.2**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=108,slow=8.0,SNR=5.6							
MAW	**Mawson**	**84.69**	**202**	IAmb		IAmb	00 59 42.0	
	comp=Z,9.0nm,1.9s							
CMB	**Columbia Colle**	**84.73**	**50**	P		**P**	**00 58 02.9**	**-0.7**
EGAK	**Eagle**	**85.38**	**20**	P		**P**	**00 58 06.3**	**+0.2**
NVAR	**Mina Array Bea**	**86.41**	**50**	P		**P**	**00 58 12.3**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=236,slow=7.3,SNR=7.7							
NVAR	**Mina Array Bea**	**86.41**	**50**	P		**P**	**00 58 11.6**	**-0.5**
NV11	**Mina Array Sit**	**86.52**	**50**	P		**P**	**00 58 12.7**	**+0.1**
WVOR	**Wild Horse Val**	**87.33**	**46**	IAmb		IAmb	00 58 20.1	
	comp=Z,6.1nm,1.3s							
J08A	**Circle Bar Ran**	**87.71**	**45**	P		**P**	**00 58 17.9**	**-0.2**
J08A				IAmb		IAmb	00 58 21.6	
	comp=Z,6.5nm,1.3s							
G08A	**Pilot Rock**	**87.95**	**43**	P		**P**	**00 58 19.2**	**0.0**
WMQ	**Urumqi**	**88.39**	**315**	*e*P		**P**	**00 58 22.3**	**+1.0**
WMQ				pP		pP	00 58 28.5	-2.5
WMQ				sP		sP	00 58 31.2	-3.2
WMQ				pmax		pmax		
	comp=Z,9.0nm,0.8s							
WMQ				pmax		pmax		
	comp=Z,80nm,3.7s							
WMQ				LR		LR		
	comp=Z,74nm,12.1s							
WMQ				LR		LR		
	comp=Z,170nm,18.5s							
PRN	**Pahroc Range**	**88.61**	**52**	IAmb		IAmb	00 58 23.4	
	comp=Z,2.9nm,1.0s							
U15A	**North Rim**	**90.53**	**53**	P		**P**	**00 58 30.2**	**-1.6**
U15A				IAmb		IAmb	00 58 32.7	
	comp=Z,2.9nm,0.9s							
X16A	**Lo Mia Camp, P**	**90.77**	**55**	IAmb		IAmb	00 58 33.6	
	comp=Z,2.5nm,0.8s							
MK31	**Makanchi Array**	**92.83**	**317**	P		**P**	**00 58 40.4**	**-1.5**
MK31				IAmb		IAmb	00 58 41.7	
	comp=Z,3.0nm,0.9s							
MKAR	**Makanchi Array**	**92.83**	**317**	P		**P**	**00 58 41.0**	**-0.8**
	comp=Z,3.3nm,0.8s,baz=100,slow=6.3,SNR=32							
MKAR				PP		**PP**	**01 02 30.4**	**+5.9**
	comp=Z,0.5nm,0.7s,baz=82,slow=6.6,SNR=4.3							
MKAR	**Makanchi Array**	**92.83**	**317**	P		**P**	**00 58 40.6**	**-1.3**
ZAA0	**Zalesovo Array**	**92.91**	**324**	P		**P**	**00 58 39.9**	**-2.1**
ZAA0				IAmb		IAmb	00 58 41.4	
	comp=Z,2.7nm,0.9s							
ZALV	**Zalesovo Beam**	**92.91**	**324**	P		**P**	**00 58 40.2**	**-1.8**
	comp=Z,1.5nm,0.7s,baz=119,slow=5.2,SNR=7.1							
ZALV	**Zalesovo Beam**	**92.91**	**324**	P		**P**	**00 58 39.6**	**-2.4**
MAKZ	**Makanchi**	**93.04**	**317**	P		**P**	**00 58 41.5**	**-1.3**
PDAR	**Pinedale Array**	**93.91**	**47**	P		**P**	**00 58 46.1**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=255,slow=2.9,SNR=5.4							
PDAR	**Pinedale Array**	**93.91**	**47**	P		**P**	**00 58 45.9**	**-1.4**
NRIK	**Noril'sk**	**95.62**	**340**	LR		LR	01 41 22.7	
	comp=Z,57nm,20.7s,baz=94,slow=35							
CLL	**Collm**	**133.56**	**336**	*e*PKPdf		**PKPdf**	**01 04 45.0**	**-0.5**
GERES	**GERESS Array B**	**135.14**	**333**	PKP		**PKPdf**	**01 04 49.1**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=132,slow=2.0,SNR=5.0							
GERES	**GERESS Array B**	**135.14**	**333**			**PKPdf**	**01 04 47.2**	**-1.5**
KEST	**Kesra**	**146.76**	**322**	PKPbc		**PKPdf**	**01 05 11.2**	**+1.2**
	comp=Z,5.5nm,1.0s,baz=121,slow=5.9,SNR=4.7							
ESDC	**Sonseca Array**	**149.59**	**343**	PKPbc		**PKPdf**	**01 05 16.2**	**+1.8**
	comp=Z,1.2nm,1.1s,baz=347,slow=5.3,SNR=3.4							
ESDC	**Sonseca Array**	**149.59**	**343**			**PKPbc**	**01 05 19.5**	**+0.5**

IDC 13 00:47:14.2±3.8, 45°.66N×148°.68E, h186km±49km, mb3.2/3, mb1 3.5/5, mb1mx3.1/42, mbtmp3.8/5, Error ellipse: s-maj=104.4km s-min=17.9km az=129.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**4.59**	**253**	P		Pn	00 48 23.1	+0.1
	2.9nm,0.3s,baz=70,slow=13,SNR=19							
PETK	**Petropavlovsk-**	**9.49**	**35**	P		Pn	00 49 26.8	0.0
	0.6nm,0.3s,baz=198,slow=8.8,SNR=9.1							
ILAR	**Eielson Array**	**39.30**	**38**	P		P	00 54 24.5	-0.1
	0.8nm,0.6s,baz=276,slow=8.0,SNR=5.5							
WRA	**Warramunga Arr**	**66.58**	**195**	P		P	00 57 43.4	-0.9
	0.3nm,0.4s,baz=9.2,slow=6.6,SNR=1.9							
ASAR	**Alice Springs**	**70.29**	**194**	P		P	00 58 07.8	+0.5
	0.6nm,0.6s,baz=11,slow=6.2,SNR=7.5							

BGR ***13*** *00:59:06.6±0.0, 20°.34S×179°.69W, h33km*
NEIC ***13*** *01:00:05.5±0.9, 20°.85S±0°.1×178°.4W±0°.1, h582km±6km, mb4.5/35, Error ellipse: s-maj=18.7km s-min=14.5km az=135.0*
IDC ***13*** *01:00:05.9±1.8, 20°.65S×178°.48W, h570km±20km, mb3.7/14, mb1 3.9/16, mb1mx3.8/29, mbtmp4.6/16, Error ellipse: s-maj=16.0km s-min=12.2km az=118.0*
ISC 13 01:00:06.1±0.4, 20°.73S±0°.08×178°.42W±0°.07, h587km, n165, σ1§21/180, mb4.5/30, 37C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.47**	**311**	P		P	**01 01 35.4**	**+1.1**
AFI	**Afiamalu**	**9.29**	**44**	P		P	**01 02 16.7**	**-1.0**
	2.4nm,0.3s,baz=74,slow=18,SNR=1.7							
AFI				S		S	**01 04 00.5**	**-5.1**
	4.0nm,0.3s,baz=16,slow=21,SNR=3.0							
AFI	**Afiamalu**	**9.29**	**44**	P		P	**01 02 16.3**	**-1.4**
AFI				S		S	**01 04 01.7**	**-4.0**
DZM	**Mont Dzumac**	**14.16**	**262**	P		P	**01 03 06.6**	**-0.3**
	3.7nm,0.3s,baz=84,slow=17,SNR=30							
DZM				S		S	**01 05 31.2**	**-3.7**
	0.1nm,0.3s,baz=142,slow=21,SNR=6.2							
DZM	**Mont Dzumac**	**14.16**	**262**	P		P	**01 03 06.8**	**-0.1**
DZM						S	**01 05 34.0**	**-1.0**
URZ	**Urewera**	**17.89**	**192**	P		P	**01 03 39.4**	**-1.8**
	1.8nm,0.3s,baz=48,slow=3.5,SNR=11							
URZ				S		S	**01 06 33.5**	**-2.4**
	0.5nm,0.3s,baz=186,slow=20,SNR=6.7							
URZ	**Urewera**	**17.89**	**192**	P		P	**01 03 39.0**	**-2.1**
URZ				IAmb		IAmb	01 03 41.6	
	comp=Z,20nm,0.7s							
URZ						S	**01 06 34.0**	**-1.9**
STKA	**Stephens Creek**	**37.33**	**244**	P		P	**01 06 30.9**	**+0.9**
	comp=Z,8.3nm,0.5s,baz=92,slow=11,SNR=28							
STKA	**Stephens Creek**	**37.33**	**244**	P		P	**01 06 30.0**	**0.0**
BBOO	**Buckleboo**	**42.09**	**244**	P		P	**01 07 08.1**	**+0.1**
WR0	**Warramunga Arr**	**43.99**	**262**	P		P	**01 07 22.6**	**-0.3**
AS31	**Alice Springs**	**44.08**	**257**	P		P	**01 07 23.4**	**-0.2**
AS31				IAmb		IAmb	01 07 24.5	
	comp=Z,12nm,0.7s							
ASAR	**Alice Springs**	**44.08**	**257**	P		P	**01 07 23.9**	**+0.3**
	comp=Z,35nm,0.5s,baz=97,slow=7.5,SNR=367							
ASAR				PcP		**PcP**	**01 08 56.4**	**+0.6**
	comp=Z,3.2nm,0.7s,baz=115,slow=3.7,SNR=6.1							
ASAR				ScP		**ScP**	**01 11 54.9**	**+2.6**
	comp=Z,1.1nm,0.7s,baz=101,slow=4.3,SNR=5.3							
ASAR				S		**S**	**01 13 12.8**	**-1.9**
	comp=Z,3.2nm,0.8s,baz=94,slow=15,SNR=14							
ASAR	**Alice Springs**	**44.08**	**257**	P		P	**01 07 23.4**	**-0.2**
ASAR						**PcP**	**01 08 55.7**	**0.0**
WB0	**Warramunga Arr**	**44.16**	**263**	P		P	**01 07 23.9**	**-0.2**
WB2	**Warramunga Arr**	**44.16**	**262**	P		P	**01 07 24.1**	**-0.2**
WRA	**Warramunga Arr**	**44.18**	**262**	P		P	**01 07 23.9**	**-0.4**
	comp=Z,19nm,0.5s,baz=98,slow=7.9,SNR=192							
WRA				PcP		**PcP**	**01 08 57.2**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=97,slow=3.1,SNR=2.2							
WRA				S		**S**	**01 13 13.2**	**-2.8**
	comp=Z,1.5nm,0.8s,baz=99,slow=14,SNR=4.2							
WRA	**Warramunga Arr**	**44.18**	**262**	P		P	**01 07 24.1**	**-0.2**
WRA						**PcP**	**01 08 56.0**	**-0.1**
MTN	**Manton Dam**	**48.77**	**271**	P		P	**01 07 58.7**	**-0.3**
KNRA	**Kununurra**	**50.25**	**267**	P		P	**01 08 09.6**	**-0.2**
SOEI	**Soe**	**56.11**	**272**	P		P	**01 08 51.0**	**-0.5**
PSA00	**Pilbara Seismi**	**57.23**	**257**	P		P	**01 08 58.8**	**-0.2**
PSA00				IAmb		IAmb	01 08 59.5	
	comp=Z,31nm,0.8s							
VNDA	**Vanda**	**57.65**	**185**	P		P	**01 09 02.6**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=356,slow=7.0,SNR=7.9							
QSPA	**South Pole Qui**	**69.34**	**180**	P		P	**01 10 17.2**	**+1.6**
	comp=Z,3.7nm,0.6s,baz=309,slow=0.5,SNR=31							

QSPA **South Pole Qui** **69.34 180** P **P** **01 10 16.4 +0.8**
MJAR **Matsushiro Arr** **70.16 324** P **P** **01 10 20.7 0.0**
comp=Z,3.7nm,0.6s,baz=168,slow=5.7,SNR=20
MJAR **Matsushiro Arr** **70.16 324** P **P** **01 10 20.9 +0.1**
MAJO **Matsushiro** **70.16 324** P **P** **01 10 21.0 +0.3**
MAJO IAmb IAmb 01 10 21.8
comp=Z,6.4nm,0.7s
MJB9 **Matsu-Tunnel** **70.16 324** P **P** **01 10 21.0 +0.2**
MJB9 IAmb IAmb 01 10 21.7
comp=Z,6.5nm,0.7s
MJB9 **pP** **01 12 17.9 -1.9**
JNU **Nakatsue** **72.17 317** P **P** **01 10 32.6 +0.1**
JNU IAmb IAmb 01 10 34.6
comp=Z,12nm,0.8s
KSM **Kuching** **73.05 278** P **P** **01 10 37.7 -0.3**
KSM IAmb IAmb 01 10 39.8
comp=Z,19nm,0.7s
PETK **Petropavlovsk-** **76.39 345** P **P** **01 10 56.6 +0.8**
comp=Z,6.3nm,0.7s,baz=136,slow=7.2,SNR=12
PETK **Petropavlovsk-** **76.39 345** P **P** **01 10 56.3 +0.6**
KSRS **Korea Array** **76.79 319** P **P** **01 10 60.0 +1.6**
comp=Z,2.8nm,0.7s,baz=132,slow=6.1,SNR=14
KSAR **Wonju Array Be** **76.81 319** P **P** **01 10 58.6 +0.2**
USRK **Ussuriysk Ar.** **78.93 326** P **P** **01 11 11.2 +1.6**
comp=Z,6.8nm,0.7s,baz=120,slow=3.6,SNR=19
USRK **Ussuriysk Ar.** **78.93 326** P **P** **01 11 10.0 +0.4**
NVAR **Mina Array Bea** **81.46 44** P **P** **01 11 25.1 +1.8**
comp=Z,1.5nm,0.7s,baz=225,slow=6.2,SNR=3.3
NVAR **Mina Array Bea** **81.46 44** P **P** **01 11 23.3 +0.1**
KVN **Kaiserville** **81.95 43** P **P** **01 11 25.7 +0.1**
CN2 **Changchun** **82.24 323** *e*P **P** **01 11 28.0 +1.3**
G08A **Pilot Rock** **85.04 38** P **P** **01 11 41.1 +0.4**
F10A **Beach Ranch, E** **86.42 38** IAmb IAmb 01 11 49.5
comp=Z,7.4nm,0.8s
RND **Reindeer** **87.01 13** P **P** **01 11 50.4 +0.8**
RND IAmb IAmb 01 11 50.9
comp=Z,11nm,0.7s
TXAR **Lajitas Array** **87.51 57** P **P** **01 11 55.3 +2.5**
comp=Z,0.3nm,0.5s,baz=224,slow=3.5,SNR=3.7
TXAR **Lajitas Array** **87.51 57** P **P** **01 11 52.8 +0.1**
XAN **Xi'an** **87.95 308** P **P** **01 11 56.0 +1.3**
XAN pP PcP 01 12 07.3 +11
XAN pmax pmax
comp=Z,15nm,0.9s
XAN **Xi'an** **87.95 308** P **P** **01 11 54.8 +0.1**
XAN IAmb IAmb 01 11 56.9
comp=Z,10nm,0.9s
WRH **Wood River Hil** **88.11 13** IAmb IAmb 01 11 55.6
comp=Z,10nm,0.9s
HDA **Harding Lake** **88.29 13** IAmb IAmb 01 11 56.5
comp=Z,6.7nm,0.7s
CCB **Clear Creek Bu** **88.32 13** IAmb IAmb 01 11 56.3
comp=Z,7.3nm,0.7s
BCAR **Beaver Creek A** **88.35 16** P **P** **01 11 56.6 +0.8**
IMAR **Indian Mountai** **88.45 10** P **P** **01 11 57.1 +1.0**
MDM **Murphy Dome** **88.51 12** P **P** **01 11 56.8 +0.3**
MDM IAmb IAmb 01 11 57.3
comp=Z,8.4nm,0.9s
IL31 **88.62 13** IAmb IAmb 01 11 57.4
comp=Z,3.5nm,0.8s
ILAR **Eielson Array** **88.62 13** P **P** **01 11 57.0 0.0**
comp=Z,2.5nm,0.8s,baz=228,slow=5.7,SNR=14
ILAR **Eielson Array** **88.62 13** P **P** **01 11 57.0 0.0**
IMW **Indian Meadow** **89.08 42** P **P** **01 12 00.1 +0.1**
KMI **Kunming** **89.10 297** ⇑P **P** **01 12 02.7 +2.3**
KMI pmax pmax
comp=Z,13nm,0.8s
PDAR **Pinedale Array** **89.40 43** P **P** **01 12 02.8 +1.3**
comp=Z,1.1nm,0.6s,baz=216,slow=3.3,SNR=14
PDAR **Pinedale Array** **89.40 43** P **P** **01 12 01.0 -0.4**
CMAR **Chiang Mai Arr** **89.82 290** P **P** **01 12 05.5 +1.9**
comp=Z,3.2nm,0.2s,baz=125,slow=2.9,SNR=19
EGAK **Eagle** **89.92 15** P **P** **01 12 03.3 +0.3**
EGAK IAmb IAmb 01 12 04.7
comp=Z,4.6nm,0.9s
CHTO **Chiang Mai** **89.95 290** P **P** **01 12 03.3 -0.9**
ARU **Arti** **125.16 325** **PKPdf** **01 18 00.6 +0.3**
ABKAR **Akbulak array** **125.98 316** PKPdf **PKPdf** **01 18 01.8 -0.3**
GEYT **Alibeck** **128.57 302** PKP **PKPdf** **01 18 08.0 +0.5**
comp=Z,1.8nm,0.7s,baz=232,slow=6.8,SNR=4.4
GEYT **Alibeck** **128.57 302** **PKPdf** **01 18 05.3 -2.2**
ARCES **ARCESS Array B** **129.07 349** PKP **PKPdf** **01 18 07.5 +0.1**
comp=Z,1.6nm,0.5s,baz=37,slow=1.7,SNR=13
ARCES **ARCESS Array B** **129.07 349** **PKPdf** **01 18 07.2 -0.3**
FINES **FINESS Array B** **135.88 343** PKP **PKPdf** **01 18 22.1 +1.7**
comp=Z,0.9nm,0.4s,baz=60,slow=4.4,SNR=5.2
NB2 **NORSAR Subarra** **139.16 353** PKP **PKPdf** **01 18 20.6 -5.9**
comp=Z,0.9nm,0.8s,baz=13,slow=3.1
NOA **NORSAR Array B** **139.16 353** PKP **PKPdf** **01 18 28.4

ARR	**Arges**	**148.95**	**328**	⇓P	**PKPbc**	**01 18 49.1 +0.4**
VYHS	**Vyhne**	**149.02**	**337**	*e*PKP	**PKPbc**	**01 18 49.4 +0.7**
VYHS				*e*		01 18 56.4
PRU	**Pruhonice**	**149.04**	**344**⇑	*e*PKP	**PKPbc**	**01 18 49.4 +0.7**
PRU				*e*PKPAB	**PKPab**	**01 18 56.4 +1.0**
GOPC	**GO Pecny, Ondr**	**149.04**	**343**⇑	*e*PKP	**PKPbc**	**01 18 49.6 +0.8**
VRAC	**Vranov**	**149.06**	**341**	⇑P	**PKPbc**	**01 18 49.1 +0.3**
VRAC	**Vranov**	**149.06**	**341**	*e*PKP	**PKPbc**	**01 18 49.4 +0.6**
VRAC				*e*		01 18 56.5
PSZ	**Piszkesteto**	**149.10**	**336**	⇑P	**PKPab**	**01 18 56.8 +1.0**
PSZ	**Piszkesteto**	**149.10**	**336**	PKPab	**PKPab**	**01 18 54.9 -0.9**
MOX	**Moxa**	**149.11**	**348**	*e*PKPbc	**PKPbc**	**01 18 49.5 +0.7**
	baz=20,slow=2.6					
JAVC	**Velka Javorina**	**149.11**	**339**	*e*PKP	**PKiKP**	**01 18 51.0 +1.1**
JAVC				*e*		01 18 57.6
PLN	**Plauen**	**149.15**	**347**	*e*PKPbc	**PKPbc**	**01 18 49.8 +0.8**
	baz=20,slow=2.6					
TANN	**Tannenbergstha**	**149.15**	**346**	*e*PKPbc	**PKPbc**	**01 18 49.5 +0.5**
	baz=20,slow=2.6					
GUNZ	**Gunzen**	**149.22**	**346**	*e*PKPbc	**PKPbc**	**01 18 50.0 +0.8**
	baz=20,slow=2.6					
WERN	**Wernitzgruen**	**149.29**	**346**	*e*PKPbc	**PKPbc**	**01 18 50.3 +0.9**
	baz=20,slow=2.6					
NKC	**Novy Kostel**	**149.32**	**346**⇑	*e*PKP	**PKPbc**	**01 18 50.3 +0.9**
NKC				*e*PKPAB	**PKPab**	**01 18 57.3 +0.7**
KRUC	**Moravsky**	**149.34**	**341**	*e*PKP	**PKPbc**	**01 18 50.2 +0.7**
KRUC				*e*		01 18 57.4
TREC	**Trest**	**149.41**	**342**⇑	*e*PKP	**PKPbc**	**01 18 50.2 +0.6**
MANZ	**Manzenberg**	**149.63**	**347**	*e*PKPbc	**PKPbc**	**01 18 50.9 +0.8**
	baz=20,slow=2.6					
MODS	**Modra-Piesok**	**149.66**	**339**	*e*PKP	**PKPbc**	**01 18 50.1 -0.2**
KHC	**Kasperske Hory**	**150.08**	**344**⇑	*e*PKP	**PKPbc**	**01 18 51.9 +0.6**
KHC				*e*PKPAB	**PKPab**	**01 19 00.8 +1.0**
SRE	**Strehaia**	**150.16**	**328**	⇑P	**PKPbc**	**01 18 52.2 +0.6**
BZS	**Buzias**	**150.21**	**331**	⇑P	**PKPbc**	**01 18 52.2 +0.6**
GEC2	**GERESS Array S**	**150.31**	**344**	*e*PKPbc	**PKPbc**	**01 18 52.2 +0.3**
	baz=20,slow=2.6					
GERES	**GERESS Array B**	**150.31**	**344**	PKPbc	**PKPbc**	**01 18 52.3 +0.4**
	comp=Z,2.8nm,0.6s,baz=35,slow=2.2,SNR=30					
GERES				PKPab	**PKPab**	**01 19 01.4 +0.6**
	comp=Z,1.0nm,0.7s,baz=31,slow=3.4,SNR=6.0					
GERES	**GERESS Array B**	**150.31**	**344**		**PKPbc**	**01 18 51.5 -0.4**
GERES					**PKPab**	**01 19 00.4 -0.4**
HERR	**Herculane**	**150.39**	**329**	⇓P	**PKPbc**	**01 18 52.5 +0.5**
CONA	**Conrad Observa**	**150.51**	**340**	*e*PKiKP	**PKPbc**	**01 18 52.9 +0.5**
	comp=Z,5.3nm,0.7s					
MDVR	**Moldovita**	**150.79**	**330**	⇑P	**PKPbc**	**01 18 53.1 +0.1**
MOA	**Molln**	**151.06**	**342**	*e*PKiKP	**PKPbc**	**01 18 53.7 +0.1**
	comp=Z,1.7nm,0.5s					
VTS	**Vitosha**	**151.59**	**325**	⇓P	**PKPbc**	**01 18 55.4 +0.4**
SOKA	**Soboth**	**151.88**	**340**	*e*PKiKP	**PKPbc**	**01 18 55.3 -0.1**
	comp=Z,7.0nm,1.3s					
WATA	**Walderalm**	**152.24**	**345**	*e*PKiKP	**PKPbc**	**01 18 56.2 -0.1**
	comp=Z,2.7nm,0.6s					
WTTA	**Wattenberg**	**152.29**	**345**	*e*PKiKP	**PKPbc**	**01 18 56.6 +0.1**
	comp=Z,4.5nm,0.5s					
MOTA	**Moosalm**	**152.34**	**346**	*e*PKiKP	**PKPbc**	**01 18 56.8 +0.3**
	comp=Z,3.7nm,0.6s					
MYKA	**Terra Mystica**	**152.35**	**342**	*i* PKPbc	**PKPbc**	**01 18 55.9 -0.6**
	comp=Z,3.5nm,0.7s					
SQTA	**Sankt Quirin**	**152.44**	**346**	*i* PKiKP	**PKPbc**	**01 18 56.9 +0.2**
	comp=Z,4.6nm,0.9s					
ABTA	**Abfaltersbach**	**152.55**	**344**	*i* PKPbc	**PKPbc**	**01 18 56.6 -0.3**
	comp=Z,6.2nm,0.7s					
FETA	**Feichten**	**152.73**	**346**	*e*PKiKP	**PKPbc**	**01 18 57.8 +0.3**
	comp=Z,1.5nm,0.6s					
PDG	**Podgorica**	**153.74**	**329**	⇑P	**PKPbc**	**01 18 59.1 -0.3**
ESDC	**Sonseca Array**	**160.53**	**13**	PKPab	**PKPab**	**01 19 44.4 -0.6**
	comp=Z,1.4nm,1.1s,baz=3.2,slow=2.9,SNR=5.8					

NEIC ***13*** *01:02:28.6±1.3,20°.43S±0°.02×69°.43W±0°.05,h86km±4km, Error ellipse: s-maj=6.8km s-min=2.8km az=91.0*
IDC ***13*** *01:02:29.9±0.7,20°.35S×69°.18W,h86km±6km, mb3.4/5, mb1 3.8/9, mb1mx3.6/27, mbtmp3.9/9, MS2.6/2, Ms1 2.7/2, ms1mx2.5/18, Error ellipse: s-maj=27.1km s-min=8.4km az=85.0*
SJA ***13*** *01:02:29.2±0.6,20°.46S×69°.50W,h79km±1km, ML4.4, MW4.2*
GUC ***13*** *01:02:29.8±0.7,20°.43S×69°.46W,h79km±3km, ML4.4*

ISC 13 01:02:29.0±0.5,20°.41S±0°.03×69°.41W±0°.04,h85km±4km, n109,σ1§43/150,mb3.9/7,8C-7D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.36**	**42**	⇓*e*P		**Pn**	**01 02 43.7**	**+1.0**
PB08				*e*S		**Sn**	**01 02 53.9**	**+1.1**
PB08	**IPOC Station P**	**0.36**	**42**	Pn		**Pn**	**01 02 42.3**	**-0.4**
PB08				Sn		**Sn**	**01 02 54.1**	**+1.4**
PB08	**IPOC Station P**	**0.36**	**42**	*e*P		**Pn**	**01 02 43.7**	**+1.0**
PB08				*e*S		**Sn**	**01 02 54.2**	**+1.4**
PB01	**IPOC Station P**	**0.63**	**186**	⇑*i*P		**Pn**	**01 02 44.8**	**+0.2**
PB01				*e*S		**Sn**	**01 02 56.0**	**-0.1**
PB01	**IPOC Station P**	**0.63**	**186**	Pn		**Pn**	**01 02 43.9**	**-0.7**
PB01				Sn		**Sn**	**01 02 56.2**	**+0.2**
PB01	**IPOC Station P**	**0.63**	**186**	*e*P		**Pn**	**01 02 44.6**	**+0.1**
PB01				*e*S		**Sn**	**01 02 55.9**	**-0.2**
PB01				IAML			01 02 56.3	
	comp=Z,21μm,0.2s							
PB11	**IPOC Station P**	**0.69**	**341**	⇓*e*P		**Pn**	**01 02 46.1**	**+0.9**
PB11				*e*S		**Sn**	**01 02 58.5**	**+1.4**
PB11	**IPOC Station P**	**0.69**	**341**	Pn		**Pn**	**01 02 45.1**	**0.0**
PB11				Sn		**Sn**	**01 02 56.1**	**-0.9**
PB11	**IPOC Station P**	**0.69**	**341**	*e*P		**Pn**	**01 02 46.0**	**+0.9**
PB11				*e*S		**Sn**	**01 02 58.6**	**+1.6**
PB11				IAML			01 02 59.4	
	comp=Z,9μm,0.2s							
TA01	**Diego Aracena**	**0.73**	**258**	⇑*i*P		**Pn**	**01 02 45.3**	**-0.1**
TA01				*i* S		**Sn**	**01 02 57.2**	**-0.4**
TA01	**Diego Aracena**	**0.73**	**258**	Pn		**Pn**	**01 02 44.7**	**-0.7**
TA01				Sn		**Sn**	**01 02 56.0**	**-1.6**
GO01	**Chusmiza**	**0.77**	**16**	⇓*e*P		**Pn**	**01 02 47.5**	**+1.2**
GO01				*e*S		**Sn**	**01 03 00.9**	**+1.8**
GO01				IAML			01 03 01.7	
	comp=N,26μm,0.1s							
GO01	**Chusmiza**	**0.77**	**16**	Pn		**Pn**	**01 02 45.8**	**-0.5**
GO01				Sn		**Sn**	**01 03 00.6**	**+1.5**
PATCX	**Punta Patache**	**0.80**	**239**	⇑*i*P		**Pn**	**01 02 46.4**	**+0.2**
PATCX				*e*S		**Sn**	**01 02 59.0**	**-0.1**
PATCX				IAML			01 03 00.5	
	comp=N,20μm,0.3s							
PATCX	**Punta Patache**	**0.80**	**239**	Pn		**Pn**	**01 02 45.1**	**-1.1**
PATCX				Sn		**Sn**	**01 02 59.0**	**-0.1**
PATCX	**Punta Patache**	**0.80**	**239**	*e*P		**Pn**	**01 02 46.2**	**0.0**
PATCX				*e*P		**Pn**	**01 02 46.4**	**+0.2**
PATCX				*e*P		**Pn**	**01 02 46.5**	**+0.2**
PSGC	**Pisagua**	**1.05**	**320**	⇓*e*P		**Pn**	**01 02 49.7**	**+0.7**
PSGC				*e*S		**Sn**	**01 03 04.8**	**+0.7**
PSGCX	**Pisagua**	**1.05**	**320**	Pn		**Pn**	**01 02 48.3**	**-0.7**
PSGCX				Sn		**Sn**	**01 03 04.6**	**+0.5**
PSGCX	**Pisagua**	**1.05**	**320**	*e*P		**Pn**	**01 02 49.8**	**+0.7**
PSGCX				*e*S		**Sn**	**01 03 04.9**	**+0.8**
MNMC	**Minye Minye**	**1.29**	**352**	⇓*e*P		**Pn**	**01 02 53.7**	**+1.6**
MNMC				*e*S		**Sn**	**01 03 11.7**	**+2.2**
MNMC				IAML			01 03 18.6	
	comp=N,14μm,0.3s							
MNMC	**Minye Minye**	**1.29**	**352**	Pn		**Pn**	**01 02 52.5**	**+0.4**
MNMC				Sn		**Sn**	**01 03 08.4**	**-1.0**
MNMCX	**Minye Minye**	**1.29**	**352**	*e*P		**Pn**	**01 02 53.6**	**+1.5**
MNMCX				*e*P		**Pn**	**01 02 53.7**	**+1.5**
MNMCX				*e*P		**Pn**	**01 02 53.7**	**+1.5**
PB07	**IPOC Station P**	**1.38**	**199**	⇑*i*P		**Pn**	**01 02 53.5**	**+0.3**
PB07				*i* S		**Sn**	**01 03 12.3**	**+0.9**
PB07				IAML			01 03 16.9	
	comp=E,9μm,0.2s							
PB07	**IPOC Station P**	**1.38**	**199**	Pn		**Pn**	**01 02 53.6**	**+0.4**
PB07				Sn		**Sn**	**01 03 10.9**	**-0.5**
PB07	**IPOC Station P**	**1.38**	**199**	*e*P		**Pn**	**01 02 53.4**	**+0.2**
PB07				*e*S		**Sn**	**01 03 12.0**	**+0.6**
PB07				IAML			01 03 15.7	
	comp=Z,7μm,0.3s							
PB09	**IPOC Station P**	**1.39**	**173**	⇑*i*P		**Pn**	**01 02 54.3**	**+1.0**
PB09				*e*S		**Sn**	**01 03 13.2**	**+1.6**
PB09				IAML			01 03 14.8	
	comp=E,8μm,0.4s							
PB09	**IPOC Station P**	**1.39**	**173**	Pn		**Pn**	**01 02 52.6**	**-0.6**
PB09				Sn		**Sn**	**01 03 10.2**	**-1.3**
PB09	**IPOC Station P**	**1.39**	**173**	*e*P		**Pn**	**01 02 54.1**	**+0.9**
PB09				*e*S		**Sn**	**01 03 12.8**	**+1.3**
PB09				IAML			01 03 14.3	
	comp=Z,7μm,0.5s							
PB03	**IPOC Station P**	**1.66**	**191**	⇑*i*P		**Pn**	**01 02 57.0**	**+0.2**
PB03				*e*S		**Sn**	**01 03 18.7**	**+1.0**
PB03				IAML			01 03 22.6	
	comp=E,4μm,0.6s							
PB03	**IPOC Station P**	**1.66**	**191**	*e*P		**Pn**	**01 02 57.4**	**+0.7**
PB03				*e*S		**Sn**	**01 03 18.3**	**+0.6**
PB03				IAML			01 03 22.1	
	comp=Z,4μm,0.3s							
PB12	**IPOC Station P**	**1.99**	**334**	⇓*e*P		**Pn**	**01 03 01.7**	**+0.7**
PB12				*e*S		**Sn**	**01 03 26.9**	**+1.6**
PB12				IAML			01 03 34.5	
	comp=E,3μm,0.3s							
PB12	**IPOC Station P**	**1.99**	**334**	Pn		**Pn**	**01 03 01.5**	**+0.5**
PB12	**IPOC Station P**	**1.99**	**334**	*e*P		**Pn**	**01 03 01.7**	**+0.7**
PB12				*e*S		**Sn**	**01 03 27.4**	**+2.2**
PB12				IAML			01 03 30.0	
	comp=Z,2μm,0.8s							
PB04	**IPOC Station P**	**2.03**	**200**	⇑*i*P		**Pn**	**01 03 02.3**	**+0.7**
PB04				IAML			01 03 37.4	
	comp=N,3μm,0.3s							
PB04	**IPOC Station P**	**2.03**	**200**	Pn		**Pn**	**01 03 01.4**	**-0.2**
PB04				Sn		**Sn**	**01 03 26.1**	**-0.4**
PB04	**IPOC Station P**	**2.03**	**200**	*e*P		**Pn**	**01 03 02.4**	**+0.8**
PB04				*e*S		**Sn**	**01 03 29.8**	**+3.3**
PB04				IAML			01 03 35.5	
	comp=Z,2μm,0.2s							
PB16	**IPOC Station P**	**2.07**	**358**	⇑*i*P		**Pn**	**01 03 05.2**	**+2.7**
PB16				*e*S		**Sn**	**01 03 31.3**	**+3.4**
PB16				IAML			01 03 35.3	
	comp=E,4μm,0.4s							
PB16	**IPOC Station P**	**2.07**	**358**	Pn		**Pn**	**01 03 01.9**	**-0.6**
PB16	**IPOC Station P**	**2.07**	**358**	*e*P		**Pn**	**01 03 05.5**	**+3.0**
PB16				*e*S		**Sn**	**01 03 31.8**	**+3.9**
PB16				IAML			01 03 35.3	
	comp=Z,1μm,0.5s							
AP01	**Chacalluta**	**2.21**	**337**	*e*P		**Pn**	**01 03 04.9**	**+1.1**
AP01				IAML			01 03 41.2	
	comp=N,7μm,0.4s							
AP01	**Chacalluta**	**2.21**	**337**	Pn		**Pn**	**01 03 03.6**	**-0.2**
LVC	**Limon Verde**	**2.24**	**168**	P		**Pn**	**01 03 06.2**	**+1.7**
	comp=N,178nm,0.3s,baz=25,slow=8.0,SNR=517							
LVC				S		**Sn**	**01 03 33.9**	**+2.3**
	comp=N,251nm,0.3s,baz=176,slow=21,SNR=40							
LVC				LR		LR	01 03 55.1	
	comp=N,67nm,20.7s,baz=24,slow=38							
LVC	**Limon Verde**	**2.24**	**168**	*e*P		**Pn**	**01 03 06.1**	**+1.5**
LVC				*i* S		**Sn**	**01 03 33.8**	**+2.2**
LVC	**Limon Verde**	**2.24**	**168**	Pn		**Pn**	**01 03 04.1**	**-0.5**
LVC				Sn		**Sn**	**01 03 31.1**	**-0.5**
LVC	**Limon Verde**	**2.24**	**168**	*e*P		**Pn**	**01 03 06.2**	**+1.7**
LVC				*e*S		**Sn**	**01 03 33.4**	**+1.7**
LVC				IAML			01 03 41.2	
	comp=Z,974nm,0.3s							
PB06	**IPOC Station P**	**2.29**	**184**	⇓*i*P		**Pn**	**01 03 04.7**	**-0.3**
PB06				IAML			01 03 39.3	
	comp=N,4μm,0.3s							
PB06	**IPOC Station P**	**2.29**	**184**	Pn		**Pn**	**01 03 05.7**	**+0.7**
PB06	**IPOC Station P**	**2.29**	**184**	*e*P		**Pn**	**01 03 06.0**	**+0.9**
PB06				*e*S		**Sn**	**01 03 31.9**	**-0.7**
PB06				IAML			01 03 41.8	
	comp=Z,3μm,0.3s							
PB05	**IPOC Station P**	**2.54**	**197**	*e*P		**Pn**	**01 03 09.0**	**+0.7**
PB05				*e*S		**Sn**	**01 03 42.4**	**+3.9**
PB05				IAML			01 03 54.2	
	comp=Z,1μm,0.4s							
PB15	**IPOC Station P**	**2.78**	**181**	Pn		**Pn**	**01 03 12.3**	**+0.6**
PB15	**IPOC Station P**	**2.78**	**181**	*e*P		**Pn**	**01 03 12.8**	**+1.1**
PB15				IAML			01 03 57.7	
	comp=E,6μm,0.2s							
PB10	**IPOC Station P**	**3.26**	**199**			**Pn**	**01 03 17.9**	**-0.1**
PB10	**IPOC Station P**	**3.26**	**199**	*e*P		**Pn**	**01 03 18.6**	**+0.6**
PB10				IAML			01 04 13.7	
	comp=Z,536nm,0.6s							
LPAZ	**La Paz**	**4.28**	**17**	P		**Pn**	**01 03 36.4**	**+4.0**
	comp=Z,11nm,0.3s,baz=186,slow=8.2,SNR=148							
LPAZ				S		**Sn**	**01 04 12.9**	**-8.6**
	comp=Z,3.6nm,0.3s,baz=203,slow=7.7,SNR=5.0							
LPAZ				LR		LR	01 05 34.1	
	comp=Z,130nm,18.2s,baz=188,slow=44							
LPAZ	**La Paz**	**4.28**	**17**			**Pn**	**01 03 32.6**	**+0.3**
PB14	**IPOC Station P**	**4.29**	**192**	Pn		**Pn**	**01 03 32.8**	**+0.6**
PB14	**IPOC Station P**	**4.29**	**192**	*e*P		**Pn**	**01 03 32.8**	**+0.6**
PB14				IAML			01 04 36.6	
	comp=Z,544nm,0.5s							
GO02	**Mina Guanaco**	**4.73**	**182**	Pn		**Pn**	**01 03 37.6**	**-0.6**
AC01	**Pan de Azucar**	**5.81**	**191**	Pn		**Pn**	**01 03 52.0**	**-0.7**
AC02	**Maricunga**	**6.40**	**178**	Pn		**Pn**	**01 04 00.1**	**-1.0**
AC04	**Llanos de Chal**	**7.90**	**191**	Pn		**Pn**	**01 04 19.0**	**-2.2**
AC05	**El Transito**	**8.42**	**185**	Pn		**Pn**	**01 04 27.6**	**-0.8**
LCO	**Las Campanas**	**8.64**	**188**	Pn		**Pn**	**01 04 30.6**	**-0.8**
SIV	**San Ignacio**	**9.06**	**62**	P		**Pn**	**01 04 36.9**	**-0.3**
	comp=Z,3.6nm,0.3s,baz=266,slow=10,SNR=62							
SIV				S		**Sn**	**01 06 18.4**	**+0.9**
	baz=182,slow=23,SNR=1.4							
CO01	**Juntas del Tor**	**9.54**	**184**	Pn		**Pn**	**01 04 43.5**	**-0.3**
CO03	**El Pedregal**	**10.45**	**186**	Pn		**Pn**	**01 04 55.3**	**-0.7**
NNA	**Nana**	**11.00**	**318**	P		**Pn**	**01 05 06.2**	**+2.6**
	comp=Z,0.9nm,0.3s,baz=204,slow=12,SNR=1.4							
NNA				S		Sn	01 07 15.2	+10
	comp=Z,3.9nm,0.3s,baz=207,slow=18,SNR=4.3							
NNA	**Nana**	**11.00**	**318**			**Pn**	**01 05 03.8**	**+0.3**
NNA				Sn		**Sn**	**01 07 04.6**	**-0.2**
ZON	**Zonda**	**11.11**	**177**	Pn		**Pn**	**01 05 03.5**	**-1.4**
VA03	**San Esteban**	**12.34**	**184**	Pn		**Pn**	**01 05 20.4**	**-1.3**
CPUP	**Villa Florida**	**12.56**	**120**	P		**Pn**	**01 05 22.2**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=290,slow=13,SNR=2.8							
CPUP	**Villa Florida**	**12.56**	**120**			**Pn**	**01 05 24.7**	**+0.2**
ROC1	**El Roble**	**12.60**	**186**	Pn		**Pn**	**01 05 24.0**	**-1.2**
MT02	**Curacav**	**12.89**	**186**	Pn		**Pn**	**01 05 28.7**	**-0.2**
SAML	**Samuel**	**12.89**	**29**	Pn		**Pn**	**01 05 28.6**	**-0.4**
H03N1	**Juan Fernandez**	**15.48**	**211**	T		T	01 21 20.6	
	baz=34,slow=72,SNR=58							
H03N2	**Juan Fernandez**	**15.49**	**211**	T		T	01 21 20.5	
	baz=34,slow=72,SNR=30							
H03N3	**Juan Fernandez**	**15.50**	**211**	T		T	01 21 19.5	
	baz=34,slow=72,SNR=30							
PLCA	**Paso Flores**	**20.28**	**182**	P		**P**	**01 06 58.4**	**+0.6**
	comp=Z,3.8nm,0.7s,baz=358,slow=11,SNR=6.8							
PLCA	**Paso Flores**	**20.28**	**182**	P		**P**	**01 06 57.3**	**-0.6**
PLCA				IAmb		IAmb	01 07 02.1	
	comp=Z,10nm,1.1s							
PTGA	**Pitinga**	**21.63**	**26**	P		**P**	**01 07 10.8**	**-1.7**
	comp=Z,2.3nm,0.3s,baz=172,slow=22,SNR=7.6							
PTGA	**Pitinga**	**21.63**	**26**	P		**P**	**01 07 11.1**	**-1.4**
RUSC	**La Rusia**	**26.39**	**352**	P		**P**	**01 07 58.3**	**+0.1**
SVB	**Belmont**	**34.42**	**14**	P		**P**	**01 09 08.3**	**-0.1**
SVB				IAmb		IAmb	01 09 12.8	
	comp=Z,40nm,0.8s							
TX32	**Lajitas Array**	**59.47**	**325**	P		**P**	**01 12 22.3**	**-1.0**
TX32				IAmb		IAmb	01 12 36.1	
	comp=Z,1.4nm,1.1s							
PDAR	**Pinedale Array**	**72.94**	**330**	P		**P**	**01 13 50.0**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=128,slow=7.0,SNR=4.1							
PDAR	**Pinedale Array**	**72.94**	**330**	P		**P**	**01 13 49.6**	**+0.2**
ELK	**Elko**	**74.27**	**326**	P		**P**	**01 13 56.5**	**-0.8**
ELK				IAmb		IAmb	01 14 01.4	
	comp=Z,1.4nm,0.9s							
NVAR	**Mina Array Bea**	**74.35**	**322**	P		**P**	**01 13 59.5**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=156,slow=7.4,SNR=4.1							
NVAR	**Mina Array Bea**	**74.35**	**322**	P		**P**	**01 13 57.8**	**0.0**
VNDA	**Vanda**	**77.83**	**190**	P		**P**	**01 14 19.2**	**+2.5**
	comp=Z,0.3nm,0.7s,baz=160,slow=2.8,SNR=1.7							
H11S2	**WAKE ISLAND Hy**	**127.27**	**278**	T		T	03 41 07.0	
	baz=102,slow=75,SNR=82							
H11S1	**WAKE ISLAND Hy**	**127.28**	**278**	T		T	03 41 10.0	
	baz=102,slow=75,SNR=92							
H11S3	**WAKE ISLAND Hy**	**127.28**	**278**	T		T	03 41 09.9	
	baz=102,slow=75,SNR=92							
H11N3	**WAKE ISLAND Hy**	**127.32**	**280**	T		T	03 41 15.3	
	baz=102,slow=74,SNR=45							
H11N2	**WAKE ISLAND Hy**	**127.33**	**280**	T		T	03 41 14.6	
	baz=102,slow=74,SNR=54							
H11N1	**WAKE ISLAND Hy**	**127.34**	**280**	T		T	03 41 16.5	
	baz=102,slow=74,SNR=46							
ASAR	**Alice Springs**	**130.65**	**209**	PKP		**PKPdf**	**01 21 30.4**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=142,slow=3.5,SNR=2.9							
WRA	**Warramunga Arr**	**133.64**	**212**	PKP		**PKPdf**	**01 21 36.8**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=168,slow=2.1,SNR=2.1							
ZALV	**Zalesovo Beam**	**141.17**	**24**	PKP		**PKPdf**	**01 21 49.2**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=224,slow=4.0,SNR=2.7							
ZALV				pPKP		**pPKPdf**	**01 22 13.5**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=317,slow=39,SNR=1.3							
ZALV	**Zalesovo Beam**	**141.17**	**24**	PKPdf		**PKPdf**	**01 21 48.9**	**-0.5**
MKAR	**Makanchi Array**	**145.02**	**35**	PKP		**PKPdf**	**01 21 57.0**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=336,slow=2.7,SNR=7.7							
MKAR				pPKP		pPKPbc	01 22 19.9	-0.4
	comp=Z,0.9nm,0.6s,baz=335,slow=4.3,SNR=6.1							
MKAR	**Makanchi Array**	**145.02**	**35**	PKPbc		**PKPbc**	**01 21 55.5**	**-0.5**
USRK	**Ussuriysk Ar.**	**150.34**	**328**	PKPbc		**PKiKP**	**01 22 11.8**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=0.3,slow=2.5,SNR=8.9							
USRK				pPKPbc		**pPKPbc**	**01 22 35.2**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=7.8,slow=1.1,SNR=3.2							
USRK	**Ussuriysk Ar.**	**150.34**	**328**			**PKPbc**	**01 22 09.6**	**-0.9**
MJAR	**Matsushiro Arr**	**151.02**	**310**	PKPbc		**PKiKP**	**01 22 13.6**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=114,slow=0.5,SNR=10							
MJAR	**Matsushiro Arr**	**151.02**	**310**			**PKPbc**	**01 22 12.4**	**0.0**
SONM	**Songino Array**	**152.43**	**6**	PKPbc		**PKPbc**	**01 22 15.5**	**0.0**
	comp=Z,0.3nm,0.3s,baz=334,slow=1.0,SNR=4.0							
SONM				pPKPbc		**pPKPbc**	**01 22 39.7**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=313,slow=1.0,SNR=3.8							
SONM	**Songino Array**	**152.43**	**6**			**PKPbc**	**01 22 15.8**	**+0.3**

DDA ***13*** *01:19:02.7,35°.94N×39°.05E,h7km±1km, ML2.6*
ISK ***13*** *01:19:03.5,36°.00N×39°.39E,h26km, ML2.6/6*

ISC 13 01:19:01.9±2.4,35°.9N±0°.1×39°.21E±0°.06,h17km±14km, n11,σ0§86/18,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
SURC	**SANLIURFA_SURC**	**1.10**	**334**	*i* P		**Pb**	**01 19 22.2**	**-0.2**
SURC				*i* S		**Sb**	**01 19 36.1**	**-0.4**
SURC				IAML			01 19 38.0	
	comp=E,166nm,0.3s							
SURC				IAML			01 19 39.0	
	comp=N,128nm,0.1s							
SANL	**SANLIURFA_Merk**	**1.29**	**352**	*i* P		**Pb**	**01 19 25.9**	**+0.3**
SANL				*i* S		**Sg**	**01 19 42.6**	**-1.0**
SANL				IAML			01 19 45.0	
	comp=E,78nm,0.2s							
SANL				IAML			01 19 45.0	
	comp=N,86nm,0.3s							
URFA	**Urfa**	**1.58**	**349**	PN		**Pn**	**01 19 29.7**	**+0.5**
URFA				SN		**Sn**	**01 19 48.6**	**-0.7**
MAZI	**Mazidag**	**1.85**	**32**	PN		**Pn**	**01 19 32.1**	**-0.9**
MARD	**Mardin**	**1.90**	**41**	*i* P		**Pg**	**01 19 38.7**	**+0.4**
MARD				*i* S		**Sg**	**01 20 03.3**	**+0.3**
MARD				IAML			01 20 04.0	
	comp=N,83nm,0.5s							
MARD				IAML			01 20 06.0	
	comp=E,68nm,0.3s							
KUZU	**Kuzuini**	**1.94**	**298**	*i* P		**Pb**	**01 19 36.4**	**-0.4**
KUZU				*i* S		**Sb**	**01 20 02.0**	**+1.4**
KUZU				IAML			01 20 07.0	
	comp=E,74nm,0.3s							
KUZU				IAML			01 20 11.0	
	comp=N,85nm,0.4s							
GAZ	**Gaziantep**	**2.06**	**309**	PN		**Pb**	**01 19 38.1**	**-

H11N1	**WAKE ISLAND Hy**	**30.93**	**124**	T	T	02 22 56.4	
	baz=318,slow=74,SNR=18						
H11N3	**WAKE ISLAND Hy**	**30.94**	**124**	T	T	02 22 56.9	
	baz=318,slow=74,SNR=28						
H11S1	**WAKE ISLAND Hy**	**31.72**	**126**	T	T	02 24 35.7	
	baz=325,slow=77						
H11S3	**WAKE ISLAND Hy**	**31.72**	**126**	T	T	02 24 35.2	
	baz=325,slow=77						
H11S2	**WAKE ISLAND Hy**	**31.74**	**126**	T	T	02 24 39.7	
	baz=325,slow=77						
AKUT	**Akutan**	**38.07**	**51**	P	**P**	**01 52 39.3**	**-1.7**
AKUT				IAmb	IAmb	01 52 49.5	
	comp=Z,44nm,1.0s						
ZALV	**Zalesovo Beam**	**38.81**	**309**	P	**P**	**01 52 47.5**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=215,slow=20,SNR=1.6						
ZALV	**Zalesovo Beam**	**38.81**	**309**	P	**P**	**01 52 46.6**	**-0.7**
MK31	**Makanchi Array**	**41.45**	**298**	P	**P**	**01 53 09.0**	**0.0**
MKAR	**Makanchi Array**	**41.45**	**298**	P	**P**	**01 53 09.0**	**0.0**
	comp=Z,2.1nm,0.8s,baz=85,slow=10,SNR=16						
MKAR	**Makanchi Array**	**41.45**	**298**	P	**P**	**01 53 08.9**	**-0.1**
MAKZ	**Makanchi**	**41.65**	**299**	P	**P**	**01 53 10.3**	**-0.5**
KURK	**Kurchatov**	**42.99**	**305**	P	**P**	**01 53 21.5**	**+0.1**
KURK				IAmb	IAmb	01 53 22.3	
	comp=Z,4.2nm,0.8s						
IMAR	**Indian Mountai**	**44.10**	**33**	P	**P**	**01 53 31.5**	**+1.3**
ILAR	**Eielson Array**	**47.02**	**34**	P	**P**	**01 53 54.1**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=276,slow=5.8,SNR=4.5						
ILAR	**Eielson Array**	**47.02**	**34**	P	**P**	**01 53 53.9**	**+0.8**
HDA	**Harding Lake**	**47.04**	**35**	P	**P**	**01 53 53.6**	**+0.4**
HDA				IAmb	IAmb	01 54 05.3	
	comp=Z,3.3nm,1.0s						
KK31	**Karatay Array**	**50.53**	**297**	P	**P**	**01 54 19.3**	**-0.8**
KKAR	**Karatay Array**	**50.53**	**297**	P	**P**	**01 54 20.3**	**+0.1**
MYKOM	**Kota Tinggi**	**50.72**	**230**	P	**P**	**01 54 21.2**	**-0.5**
EPYK	**Eagle Plains**	**50.92**	**31**	P	**P**	**01 54 24.5**	**+1.7**
EPYK				IAmb	IAmb	01 54 27.1	
	comp=Z,3.9nm,1.1s						
INK	**Inuvik**	**51.66**	**28**	P	**P**	**01 54 29.2**	**+1.2**
	comp=Z,1.6nm,0.5s,baz=301,slow=7.6,SNR=8.4						
INK	**Inuvik**	**51.66**	**28**	P	**P**	**01 54 28.9**	**+0.8**
INK				IAmb	IAmb	01 54 39.0	
	comp=Z,4.0nm,1.1s						
HYT	**Haines Junctio**	**52.03**	**38**	P	**P**	**01 54 32.6**	**+1.4**
HYT				IAmb	IAmb	01 54 46.8	
	comp=Z,6.3nm,1.2s						
NIL	**Nilore**	**52.63**	**285**	P	**P**	**01 54 36.2**	**+0.2**
NIL				IAmb	IAmb	01 54 38.1	
	comp=Z,4.9nm,0.7s						
ABKAR	**Akbulak array**	**54.90**	**308**	P	**P**	**01 54 52.3**	**+0.2**
WRAB	**Tennant Creek**	**60.50**	**186**	P	**P**	**01 55 30.5**	**-0.9**
WB2	**Warramunga Arr**	**60.51**	**186**	P	**P**	**01 55 29.6**	**-1.8**
WB2				IAmb	IAmb	01 55 48.0	
	comp=Z,6.7nm,1.1s						
WRA	**Warramunga Arr**	**60.51**	**186**	P	**P**	**01 55 31.2**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=2.2,slow=7.5,SNR=10						
WRA	**Warramunga Arr**	**60.51**	**186**	P	**P**	**01 55 31.0**	**-0.5**
WR0	**Warramunga Arr**	**60.51**	**186**	P	**P**	**01 55 30.9**	**-0.6**
WR0				IAmb	IAmb	01 55 35.3	
	comp=Z,5.1nm,1.1s						
GEYT	**Alibeck**	**61.28**	**297**	P	**P**	**01 55 37.0**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=359,slow=8.0,SNR=3.7						
GEYT	**Alibeck**	**61.28**	**297**	P	**P**	**01 55 36.4**	**-0.3**
FINES	**FINESS Array B**	**65.17**	**331**	P	**P**	**01 56 01.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=31,slow=9.5,SNR=0.9						
KBZ	**Khabaz**	**67.83**	**309**	P	**P**	**01 56 20.4**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=80,slow=6.1,SNR=2.4						
NOA	**NORSAR Array B**	**70.49**	**336**	P	**P**	**01 56 35.5**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=72,slow=13,SNR=1.0						
NVAR	**Mina Array Bea**	**73.63**	**53**	P	**P**	**01 56 56.6**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=293,slow=4.6,SNR=4.7						
NVAR	**Mina Array Bea**	**73.63**	**53**	P	**P**	**01 56 54.4**	**-0.1**
PDAR	**Pinedale Array**	**75.84**	**45**	P	**P**	**01 57 08.2**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=22,slow=1.3,SNR=11						
PDAR	**Pinedale Array**	**75.84**	**45**	P	**P**	**01 57 07.1**	**-0.1**

*AEIC **13** 02:09:37.3±2.1, 71.°14N±0.°09×157.°0W±0.°2, h10km±8km, ML3.5/22, Error ellipse: s-maj=14.5km s-min=6.8km az=144.0*
*ANF **13** 02:09:40.3±0.5, 71.°19N×156.°73W, ML3.8/3, Error ellipse: s-maj=6.9km s-min=1.5km az=89.0*
ISC 13 02:09:39.3±1.0,**71.°24N**±0.°06×**156.°63W**±0.°07,**h10**km,**n35,** σ2^{s}**14**/48,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A21K	**Barrow**	**0.08**	**3**	P	**Pg**	**02 09 42.3**	**+0.7**
A21K	baz=211			S	**Sg**	**02 09 45.0**	**+1.7**
	baz=211						
A21K	**Barrow**	**0.08**	**3**		**Pg**	**02 09 42.6**	**+1.0**
A21K					**Sg**	**02 09 45.0**	**+1.7**
PS01	**TAPS Pump Stn**	**2.83**	**107**		**Pb**	**02 10 27.4**	**-2.5**
TOLK	**Toolik Lake Re**	**3.57**	**134**	P	**Pn**	**02 10 36.6**	**+1.9**
TOLK	baz=318			S	**Sn**	**02 11 20.2**	**+3.2**
	baz=318						
TOLK	**Toolik Lake Re**	**3.57**	**134**		**Pn**	**02 10 37.0**	**+2.2**
TOLK					**Sn**	**02 11 20.4**	**+3.5**
PS04	**TAPS Pump Stn4**	**3.79**	**135**		**Pn**	**02 10 39.4**	**+1.7**
RDOG	**Red Dog Mine**	**3.88**	**217**		**Pn**	**02 10 38.1**	**-0.8**
RDOG					**Sn**	**02 11 22.4**	**-2.1**
COLD	**Coldfoot**	**4.64**	**147**	P	**Pn**	**02 10 50.4**	**+1.0**
COLD	baz=332			S	**Sn**	**02 11 45.7**	**+2.6**
	baz=332						
COLD	**Coldfoot**	**4.64**	**147**		**Pn**	**02 10 50.3**	**+1.0**
COLD					**Sn**	**02 11 44.9**	**+1.8**
PS05	**TAPS Pump Stn5**	**4.94**	**151**		**Pn**	**02 10 54.2**	**+0.7**
IM03		**5.39**	**167**		**Pn**	**02 10 59.0**	**-0.6**
IMAR	**Indian Mountai**	**5.39**	**167**	Pn	**Pn**	**02 10 56.4**	**-3.2**
BM03	**Burnt Mountain**	**5.73**	**126**		**Pn**	**02 11 06.2**	**+1.9**
POKR	**Poker Plat Res**	**7.03**	**146**	P	**Pn**	**02 11 23.6**	**+1.4**
POKR	baz=334			S	**Sn**	**02 12 41.7**	**-0.4**
	baz=334						
POKR	**Poker Plat Res**	**7.03**	**146**		**Pn**	**02 11 23.3**	**+1.1**
MDM	**Murphy Dome**	**7.04**	**150**		**Pn**	**02 11 23.2**	**+0.8**
NEA2	**Nenana**	**7.26**	**153**	P	**Pn**	**02 11 27.1**	**+1.8**
	baz=339						
CCB	**Clear Creek Bu**	**7.40**	**149**		**Pn**	**02 11 28.0**	**+0.7**
IL31		**7.45**	**146**		**Pn**	**02 11 28.9**	**+1.1**
ILAR	**Eielson Array**	**7.45**	**146**		**Pn**	**02 11 25.2**	**-2.7**
ANM	**Nome**	**7.47**	**210**		**Pn**	**02 11 26.6**	**-1.5**
BPAW	**Bear Paw Mtn.**	**7.49**	**161**		**Pn**	**02 11 28.3**	**-0.2**
WRH	**Wood River Hil**	**7.52**	**151**		**Pn**	**02 11 29.5**	**+0.6**
HDA	**Harding Lake**	**7.77**	**147**	P	**Pn**	**02 11 33.8**	**+1.5**
HDA	baz=335			S	**Sn**	**02 13 00.2**	**+0.1**
	baz=335						
HDA	**Harding Lake**	**7.77**	**147**		**Pn**	**02 11 29.6**	**-2.7**
TTA	**Tatalina**	**8.36**	**178**		**Pn**	**02 11 40.1**	**-0.3**
INK	**Inuvik**	**8.50**	**99**	Pn	**Pn**	**02 11 41.3**	**-0.9**
EGAK	**Eagle**	**8.68**	**131**		**Pn**	**02 11 42.7**	**-2.0**
EPYK	**Eagle Plains**	**8.68**	**115**	P	**Pn**	**02 11 46.7**	**+2.0**
EPYK	baz=312			S	**Sn**	**02 13 22.0**	**-0.6**
	baz=312						
EPYK	**Eagle Plains**	**8.68**	**115**	Pn	**Pn**	**02 11 43.2**	**-1.6**
RIDG	**Independent Ri**	**8.77**	**143**		**Pn**	**02 11 43.4**	**-2.6**
K27K	**Chicken**	**9.09**	**136**	P	**Pn**	**02 11 51.9**	**+1.5**
K27K	baz=328			S	**Sn**	**02 13 37.3**	**+4.6**
	baz=328						
A36M	**Sachs Harbour**	**9.87**	**71**	P	**Pn**	**02 12 03.4**	**+2.4**
A36M	baz=280			S	**Sn**	**02 13 46.9**	**-4.7**
	baz=280						
BCAR	**Beaver Creek A**	**10.00**	**138**	Pn	**Pn**	**02 12 00.4**	**-2.4**
C36M	**Paulatuk**	**11.06**	**84**	P	**Pn**	**02 12 19.7**	**+2.3**
C36M	baz=294			S	**Sn**	**02 14 16.8**	**-4.1**
	baz=294						

*MEX **13** 02:25:51.7±0.7, 14.°11N×92.°05W, h102km±46km, MD3.9*
*GCG **13** 02:26:01.5±0.7, 14.°05N×91.°17W, h0km±143km, MD3.8*
ISC 13 02:25:46.6±5.9,**13.°8N**±0.°4×**92.°3W**±0.°3,**h10**km,**n5,** σ1^{s}**57**/5,**Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.92**	**48**	*i* P	Pn	02 26 13.3	+7.1
THIG		**1.08**	**1**	*i* P	**Pn**	**02 26 08.4**	**+0.5**
THIG				*i* S	**Sn**	**02 26 23.1**	**-0.9**
FUG	**Fuego 3**	**1.53**	**66**	*e*P	**Pn**	**02 26 12.8**	**-0.6**
IXG	**Ixpaco**	**1.82**	**79**	*i* P	**Pn**	**02 26 16.6**	**-0.5**
NBG	**Las Nubes**	**2.03**	**68**	*e*P	**Pn**	**02 26 21.6**	**+1.8**

*NEIC **13** 02:28:40.2±1.5, 16.°94S±0.°07×174.°1W±0.°1, h104km±7km, mb4.3/18, Error ellipse: s-maj=15.5km s-min=10.4km az=79.0*
*IDC **13** 02:28:40.6±3.0, 16.°96S×174.°15W, h94km±30km, mb3.9/8, mb1 4.1/9, mb1mx3.7/41, mbtmp4.2/9, Error ellipse: s-maj=33.5km s-min=18.1km az=113.0*
ISC 13 02:28:41.7±0.5,**16.°92S**±0.°06×**173.°95W**±0.°08,**h124**km, **n36,** σ1^{s}**36**/43,**mb4.2**/15,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.65**	**35**	P	**Pn**	**02 29 37.3**	**+0.6**
AFI	36nm,0.3s,baz=189,slow=2.0,SNR=46			S	**Sn**	**02 30 16.9**	**-2.5**
	119nm,0.3s,baz=240,slow=18,SNR=16						
AFI	**Afiamalu**	**3.65**	**35**		**Pn**	**02 29 36.7**	**-0.1**
AFI					**Sn**	**02 30 17.6**	**-1.8**
NIUE	**Niue**	**4.38**	**120**		**Pn**	**02 29 47.4**	**+0.9**
NIUE					**Sn**	**02 30 34.3**	**-2.4**
TARA	**Tarawa**	**22.30**	**323**	P	**P**	**02 33 27.6**	**-1.6**
URZ	**Urewera**	**22.66**	**199**	P	**P**	**02 33 32.5**	**0.0**
	3.9nm,0.3s,baz=27,slow=9.0,SNR=8.0						
URZ	**Urewera**	**22.66**	**199**	P	**P**	**02 33 32.3**	**-0.3**
URZ				IAmb	IAmb	02 33 44.2	
	comp=Z,14nm,1.1s						
BKZ	**Black Stump Fm**	**23.69**	**199**	P	**P**	**02 33 40.0**	**-2.1**
BKZ				IAmb	IAmb	02 33 50.9	
	comp=Z,7.3nm,1.0s						
QRZ	**Quartz Range**	**26.54**	**203**	P	**P**	**02 34 07.5**	**-0.3**
WHZ	**Wether Hill Ro**	**32.60**	**204**	P	**P**	**02 34 59.6**	**-1.7**
WHZ				IAmb	IAmb	02 35 07.6	
	comp=Z,5.9nm,0.8s						
ARMA	**Armidale**	**34.13**	**241**	P	**P**	**02 35 13.4**	**-1.5**
ARMA				IAmb	IAmb	02 35 16.6	
	comp=Z,5.7nm,0.8s						
STKA	**Stephens Creek**	**42.84**	**241**	P	**P**	**02 36 28.6**	**+1.0**
	comp=Z,2.9nm,0.5s,baz=100,slow=11,SNR=10						
STKA	**Stephens Creek**	**42.84**	**241**	P	**P**	**02 36 27.6**	**0.0**
BBOO	**Buckleboo**	**47.61**	**241**	P	**P**	**02 37 05.6**	**+0.3**
BBOO				IAmb	IAmb	02 37 13.8	
	comp=Z,8.3nm,1.0s						
WR0	**Warramunga Arr**	**48.81**	**258**	P	**P**	**02 37 13.9**	**-0.8**
WR0				IAmb	IAmb	02 37 32.8	
	comp=Z,3.7nm,1.1s						
WB0	**Warramunga Arr**	**48.97**	**258**	P	**P**	**02 37 14.7**	**-1.2**
WB0				IAmb	IAmb	02 37 28.3	
	comp=Z,6.5nm,1.1s						
WB2	**Warramunga Arr**	**48.99**	**258**	P	**P**	**02 37 14.8**	**-1.4**
WB2				IAmb	IAmb	02 37 19.2	
	comp=Z,2.6nm,0.9s						
WRA	**Warramunga Arr**	**49.00**	**258**	P	**P**	**02 37 15.8**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=95,slow=7.0,SNR=35						
WRA				PcP	**PcP**	**02 38 39.4**	**+1.0**
	comp=Z,0.9nm,1.1s,baz=97,slow=6.0,SNR=1.7						
WRA	**Warramunga Arr**	**49.00**	**258**	P	**P**	**02 37 15.0**	**-1.2**
WRA				PcP	**PcP**	**02 38 37.9**	**-0.6**
AS31	**Alice Springs**	**49.16**	**253**	P	**P**	**02 37 16.9**	**-0.5**
ASAR	**Alice Springs**	**49.16**	**253**	P	**P**	**02 37 17.5**	**+0.1**
	comp=Z,17nm,0.5s,baz=87,slow=8.8,SNR=235						
ASAR				PcP	**PcP**	**02 38 40.8**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=101,slow=4.1,SNR=2.1						
ASAR	**Alice Springs**	**49.16**	**253**	P	**P**	**02 37 16.9**	**-0.5**
ASAR					**PcP**	**02 38 39.8**	**+0.8**
FORT	**Forrest**	**54.27**	**244**	P	**P**	**02 37 53.1**	**-2.2**
VNDA	**Vanda**	**61.82**	**186**	P	**P**	**02 38 49.2**	**+2.2**
	comp=Z,0.7nm,0.8s,baz=350,slow=7.0,SNR=5.1						
CASY	**Casey**	**68.82**	**205**	P	**P**	**02 39 33.0**	**+0.7**
MJAR	**Matsushiro Arr**	**69.76**	**320**	P	**P**	**02 39 40.9**	**+2.4**
	comp=Z,0.5nm,0.4s,baz=247,slow=18,SNR=5.4						
MJAR	**Matsushiro Arr**	**69.76**	**320**	P	**P**	**02 39 39.1**	**+0.6**
QSPA	**South Pole Qui**	**73.13**	**180**	P	**P**	**02 39 59.2**	**+0.6**
PETK	**Petropavlovsk-**	**73.91**	**343**	P	**P**	**02 40 05.5**	**+2.6**
	comp=Z,0.8nm,0.5s,baz=139,slow=9.0,SNR=2.5						
PETK	**Petropavlovsk-**	**73.91**	**343**	P	**P**	**02 40 03.6**	**+0.7**
ILAR	**Eielson Array**	**84.03**	**11**	P	**P**	**02 40 59.5**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=234,slow=5.4,SNR=4.3						
ILAR	**Eielson Array**	**84.03**	**11**	P	**P**	**02 40 59.4**	**+1.6**
SNAA	**Sanae**	**91.42**	**177**	P	**P**	**02 41 34.1**	**+0.6**
KMBO	**Kilima Mbogo**	**144.39**	**243**	PKP	**PKiKP**	**02 48 07.2**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=82,slow=5.1,SNR=5.1						
KMBO	**Kilima Mbogo**	**144.39**	**243**		**PKPdf**	**02 48 04.7**	**0.0**
CLL	**Collm**	**145.25**	**352**	*e*PKPbc	**PKiKP**	**02 48 07.0**	**-1.5**
BRTR	**Keskin Array B**	**146.98**	**319**	PKPbc	**PKPab**	**02 48 11.7**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=132,slow=2.7,SNR=2.5						

*IDC **13** 02:39:09.0±1.4, 6.°98S×129.°34E, h167km±16km, mb3.8/4, mb1 4.1/9, mb1mx3.6/32, mbtmp4.6/9, Error ellipse: s-maj=17.1km s-min=11.4km az=93.0*
*NEIC **13** 02:39:09.6±1.0, 6.°98S±0.°08×129.°32E±0.°03, h190km±12km, mb4.3/7, Error ellipse: s-maj=11.9km s-min=4.2km az=176.0*
ISC 13 02:39:09.8±0.7,**7.°05S**±0.°05×**129.°38E**±0.°06,**h200**km,**n28,** σ2^{s}**20**/37,**mb4.0**/4,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.12**	**116**		**Pn**	**02 39 48.7**	**-0.9**
SAUI					**Sn**	**02 40 19.8**	**-0.7**
FAKI	**Fak Fak**	**5.00**	**35**	Pn	**Pn**	**02 40 23.6**	**-0.6**
SOEI	**Soe**	**5.73**	**242**		**Pn**	**02 40 33.6**	**0.0**
SOEI					**Sn**	**02 41 38.6**	**-1.4**
MTN	**Manton Dam**	**6.01**	**163**	Pn	**Pn**	**02 40 38.2**	**+1.0**
MTN				Sn	**Sn**	**02 41 43.9**	**-2.6**
SIJI	**Sorong**	**6.42**	**17**	P	**Pn**	**02 40 41.6**	**-0.9**
	5.3nm,0.3s,baz=227,slow=22,SNR=39						
SIJI				S	**Sn**	**02 41 52.2**	**-3.9**
	3.1nm,0.3s,baz=358,slow=23,SNR=5.6						
BATI	**Baumata**	**6.46**	**241**	P	**Pn**	**02 40 42.9**	**-0.3**
	40nm,0.3s,baz=94,slow=2.7,SNR=37						
BATI				S	**Sn**	**02 41 55.4**	**-1.7**
	27nm,0.3s,baz=28,slow=21,SNR=10						
KNRA	**Kununurra**	**8.60**	**184**	Pn	**Pn**	**02 41 11.6**	**+0.7**
KNRA				Sn	**Sn**	**02 42 47.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**11.57**	**198**	P	**Pn**	**02 41 49.7**	**+0.4**
	1.5nm,0.3s,baz=14,slow=8.6,SNR=29						
FITZ				S	**Sn**	**02 43 52.0**	**-6.4**
	2.6nm,0.3s,baz=67,slow=21,SNR=7.5						
WB0	**Warramunga Arr**	**13.55**	**159**	Pn	**Pn**	**02 42 13.5**	**-0.7**
WRA	**Warramunga Arr**	**13.69**	**160**	P	**Pn**	**02 42 15.4**	**-0.6**
	1.2nm,0.3s,baz=342,slow=12,SNR=32						
WRA				S	**S**	**02 44 43.0**	**-5.6**
	2.1nm,0.3s,baz=331,slow=22,SNR=7.7						
WRA	**Warramunga Arr**	**13.69**	**160**	Pn	**Pn**	**02 42 15.0**	**-1.0**
WB2	**Warramunga Arr**	**13.70**	**160**	Pn	**Pn**	**02 42 15.8**	**-0.3**
WR0	**Warramunga Arr**	**13.78**	**159**	Pn	**Pn**	**02 42 16.7**	**-0.4**
COEN	**Coen**	**15.20**	**118**	P	**P**	**02 42 36.5**	**+1.5**
COEN				IAmb	IAmb	02 42 37.4	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**17.09**	**166**	P	**Pn**	**02 42 56.9**	**-0.3**
AS31				IAmb	IAmb	02 43 01.2	
	comp=Z,22nm,0.6s						
ASAR	**Alice Springs**	**17.09**	**166**	P	**Pn**	**02 42 58.9**	**+1.7**
	comp=Z,11nm,0.3s,baz=339,slow=9.5,SNR=539						
ASAR				S	**S**	**02 46 07.9**	**+4.3**
	comp=Z,0.6nm,0.3s,baz=339,slow=25,SNR=5.5						
ASAR	**Alice Springs**	**17.09**	**166**	P	**Pn**	**02 42 57.2**	**0.0**
PSA00	**Pilbara Seismi**	**17.13**	**212**	P	**P**	**02 42 56.9**	**+0.7**
PSA00				IAmb	IAmb	02 43 06.5	
	comp=Z,18nm,1.1s						
CTA	**Charters Tower**	**20.88**	**130**	P	**P**	**02 43 39.5**	**+2.8**
	comp=Z,6.5nm,0.6s,baz=300,slow=11,SNR=5.4						
FORT	**Forrest**	**23.64**	**183**	P	**P**	**02 44 04.7**	**+1.7**
BBOO	**Buckleboo**	**26.38**	**167**	P	**P**	**02 44 29.5**	**+1.8**
BBOO				IAmb	IAmb	02 44 31.7	
	comp=Z,6.7nm,0.9s						
STKA	**Stephens Creek**	**27.21**	**157**	P	**P**	**02 44 38.0**	**+2.9**
	comp=Z,4.1nm,0.5s,baz=327,slow=10.0,SNR=11						
STKA	**Stephens Creek**	**27.21**	**157**	P	**P**	**02 44 35.8**	**+0.7**
STKA				IAmb	IAmb	02 44 38.7	
	comp=Z,1.1nm,0.8s						
MK31	**Makanchi Array**	**67.93**	**327**	P	**P**	**02 49 46.4**	**-0.5**
MKAR	**Makanchi Array**	**67.93**	**327**	P	**P**	**02 49 49.4**	**+2.4**
	comp=Z,0.7nm,0.4s,baz=115,slow=8.2,SNR=14						
MKAR	**Makanchi Array**	**67.93**	**327**	P	**P**	**02 49 46.5**	**-0.4**
ZALV	**Zalesovo Beam**	**71.35**	**334**	P	**P**	**02 50 09.6**	**+1.9**
	comp=Z,1.4nm,0.4s,baz=132,slow=8.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**71.35**	**334**	P	**P**	**02 50 08.4**	**+0.8**

*MOS **13** 02:56:24.9±1.1, 44.°57N×149.°55E, h37km, mb4.0/2, Error ellipse: s-maj=15.5km s-min=11.1km az=75.8*
*SKHL **13** 02:56:28.3±0.7, 44.°53N×149.°39E, h74km±5km, mb4.0/3*
ISC 13 02:56:27.5±1.1,**44.°6N**±0.°1×**149.°47E**±0.°08,**h36**km,**n23,** σ1^{s}**12**/25,**3C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.32**	**301**	*e*P	**Pn**	**02 56 49.9**	**+0.6**
KUR				AMB	AMB	02 56 51.3	
	20nm,0.2s						
KUR				*e*S	**Sn**	**02 57 06.1**	**+0.5**
KUR				A	A	02 57 08.9	
	600nm,0.5s						
KUR				A	A	02 57 08.9	
	420nm,0.5s						
KUR	**Kuril'sk**	**1.32**	**301**	*i*PN	**Pn**	**02 56 49.9**	**+0.6**
KUR				*e*S	**Sn**	**02 57 06.1**	**+0.5**
KUR				pmax	pmax		
	comp=Z,197nm,0.3s						
KUR				pmax	pmax		
	comp=N,84nm,0.2s						
KUR				pmax	pmax		
	comp=E,84nm,0.2s						
KUR				smax	smax		
	comp=N,602nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.65**	**260**	*e*P	**Pn**	**02 57 08.0**	**+0.4**
YUK				AMB	AMB	02 57 08.4	
	comp=N,60nm,0.5s						
ERM	**Erimo**	**5.27**	**243**	*i*PN	**Pn**	**02 57 43.8**	**+0.2**
SKR	**Severo-Kuril's**	**7.58**	**34**	*e*P	**Pn**	**02 58 18.1**	**+2.7**
SKR				AMB	AMB	02 58 19.4	
	comp=N,10.0nm,0.9s						
PEA0B	**Petropavlovsk-**	**10.11**	**29**	*i* PN	**Pn**	**02 58 49.9**	**-0.2**
PET	**Petropavlovsk**	**10.40**	**32**	*e*P	**Pn**	**02 58 55.0**	**+1.1**
PET	**Petropavlovsk**	**10.40**	**32**	*e*PN	**Pn**	**02 58 53.2**	**-0.7**
MAJO	**Matsushiro**	**11.72**	**231**	*e*PN	**Pn**	**02 59 12.6**	**+0.4**
USA0B	**Ussuriysk Arra**	**12.52**	**274**	*e*PN	**Pn**	**02 59 23.3**	**+0.4**
KLR	**Kul'dur**	**12.98**	**297**	*i* P	**Pn**	**02 59 29.2**	**0.0**
KLR	**Kul'dur**	**12.98**	**297**	*i*PN	**Pn**	**02 59 29.2**	**0.0**
MA2	**Magadan**	**15.05**	**3**	*i* P	**Pn**	**02 59 55.8**	**-1.5**
MA2	**Magadan**	**15.05**	**3**	*i* P	**Pn**	**02 59 55.8**	**-1.5**
SEY	**Seymchan**	**18.48**	**4**	*i* P	**Pn**	**03 00 38.8**	**-1.5**
SEY	**Seymchan**	**18.48**	**4**	*i* P	**Pn**	**03 00 38.8**	**-1.5**
KDAK	**Kodiak Island**	**37.46**	**48**	*i* P	**P**	**03 03 36.0**	**-1.1**
COLA	**College**	**39.42**	**37**	*i* P	**P**	**03 03 54.1**	**+0.6**
COLA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**41.84**	**307**	*i* P	**P**	**03 04 12.9**	**-0.7**
KURK	**Kurchatov**	**46.45**	**304**	*i* P	**P**	**03 04 49.1**	**-1.4**
KURK	**Kurchatov**	**46.45**	**304**	*i* P	**P**	**03 04 49.1**	**-1.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
BRVK	**Borovoye**	**50.32**	**310**	*i* P	**P**	**03 05 21.2**	**+0.9**
BRVK	**Borovoye**	**50.32**	**310**	*i* P	**P**	**03 05 21.2**	**+0.9**

*BJI **13** 03:05:14.0±0.0, 18.°50N×65.°20W, h80km, Ms4.9/1*
*TRN **13** 03:05:14.2, 18.°61N×65.°21W, h79km*
*IDC **13** 03:05:15.3±0.4, 18.°43N×65.°27W, h75km±3km, mb4.3/27, mb1 4.4/30, mb1mx4.2/42, mbtmp4.6/30, MS3.4/19, Ms1 3.4/19, ms1mx3.2/34, Error ellipse: s-maj=10.1km s-min=8.8km az=38.0*
*OSPL **13** 03:05:16.5±1.5, 18.°60N×65.°28W, h0km±288km, ML4.9*
*RSPR **13** 03:05:16.5, 18.°63N×65.°19W, h74km±1km, MD4.0/19*
ISC 13 03:05:15.7±0.3,**18.°50N**±0.°03×**65.°20W**±0.°02,**h78**km±2km, **n967,** σ0^{s}**90**/1026,**mb4.8**/169,**41C-8D,Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**0.21**	**203**	*e*P	**Pn**	**03 05 27.5**	**+0.2**
CUPR	**Culebra, Puert**	**0.21**	**203**	*e*S	**Sn**	**03 05 36.7**	**+0.8**
CUPR	**Culebra, Puert**	**0.21**	**203**	Pn	**Pn**	**03 05 27.7**	**+0.3**
CUPR				Sn	**Sn**	**03 05 35.8**	**-0.1**
STVI	**Saint Thomas**	**0.28**	**123**	Pn	**Pn**	**03 05 28.2**	**+0.5**
STVI				Sn	**Sn**	**03 05 36.5**	**0.0**
MTP	**Monte Pirata**	**0.53**	**220**

CRPR Cabo Rojo, PR 1.88 255 Pn 03 05 47.0 +1.0
CRPR Sn 03 06 11.2 +2.1
SMRT St. Maarten 2.07 102 *e*P **Pn 03 05 48.8 +0.3**
SMRT *e*S **Sn 03 06 13.2 -0.3**
SMRT St. Maarten 2.07 102 Pn **Pn 03 05 48.7 +0.2**
SEUS St. Eustatius 2.33 115 *e*P **Pn 03 05 53.1 +1.0**
SEUS *e*S **Sn 03 06 22.0 +2.1**
SEUS St. Eustatius 2.33 115 Pn 03 05 53.1 +1.0
SKI Saint Kitts 2.61 116 *e*P **Pn 03 05 57.1 +1.3**
SKI *e*S **Sn 03 06 28.7 +2.0**
SKI Saint Kitts 2.61 116 Pn **Pn 03 05 57.0 +1.1**
SKOC St. Kitts, UWI 2.64 117 *e*P **Pn 03 05 57.1 +0.9**
SKOC *e*S **Sn 03 06 28.6 +1.4**
PCDR Punta Cana, DR 3.02 271⇑ *e*P **Pn 03 06 03.5 +2.2**
PCDR Punta Cana, DR 3.02 271⇑ *e*P **Pn 03 06 03.5 +2.2**
PCDR Punta Cana, DR 3.02 271 *i* P **Pn 03 06 03.0 +1.7**
PCDR *e*S **Sn 03 06 37.1 +0.5**
PCDR IAML 03 06 45.7
comp=Z,3µm,0.7s
PCDR Punta Cana, DR 3.02 271 Pn 03 06 02.0 +0.6
ANWB Willy Bob 3.35 104 *e*P **Pn 03 06 05.1 -0.8**
ANWB *e*S **Sn 03 06 45.0 +0.6**
ANWB Willy Bob 3.35 104 Pn **Pn 03 06 05.0 -0.8**
MLYT Lee's Yard 3.37 121 *e*P **Pn 03 06 07.2 +1.1**
MLYT *e*S **Sn 03 06 45.6 +0.6**
DR12 Loma Pena Alta 3.98 275 Pn 03 06 14.8 +0.4
ABD La Joyeuse, An 4.07 119 *e*P **Pn 03 06 17.3 +1.6**
ABD *e*S **Sn 03 07 01.9 -0.3**
CBE Ff, Capester 4.20 125 *e*P **Pn 03 06 18.7 +1.3**
CBE Ff, Capester 4.20 125 *e*S **Sn 03 07 05.5 +0.2**
TBG Guadaloupe-3 4.30 127 *e*P **Pn 03 06 19.7 +1.0**
TBG Guadaloupe-3 4.30 127 *e*S **Sn 03 07 09.7 +2.0**
TDBA Terre de Bas, 4.31 127 *e*P **Pn 03 06 19.9 +1.1**
TDBA Terre de Bas, 4.31 127 *e*S **Sn 03 07 07.2 -0.7**
SDD Santo Domingo 4.48 270 *i* P **Pn 03 06 23.7 +2.5**
MAGL Barre de l'ile 4.52 124 *e*P **Pn 03 06 23.6 +1.8**
MAGL Barre de l'ile 4.52 124 *e*S **Sn 03 07 12.3 -0.9**
MDPV Dominica, Penn 4.61 128 *e*P **Pn 03 06 25.0 +2.0**
MDPV Dominica, Penn 4.61 128 *e*S **Sn 03 07 17.3 +2.1**
DSLB Salisbury 4.73 130 *e*P **Pn 03 06 25.4 +0.8**
DSLB Salisbury 4.73 130 *e*S **Sn 03 07 19.2 +1.0**
MDN Morne-Daniel 4.83 130 *e*P **Pn 03 06 26.7 +0.8**
MDN Morne-Daniel 4.83 130 *e*S **Sn 03 07 20.3 -0.3**
BON1 Bonao 4.95 276 *i* P **Pn 03 06 28.5 +0.9**
SVN Savane Anatole 5.31 133 *e*P **Pn 03 06 34.0 +1.4**
SC01 Santiago de lo 5.31 281 *i* P **Pn 03 06 33.1 +0.5**
SC01 *e*S **Sn 03 07 30.8 -1.7**
SC01 IAML 03 07 55.9
comp=Z,2µm,0.6s
SC01 Santiago de lo 5.31 281 Pn 03 06 32.9 +0.2
FDF Fort de France 5.39 133 *e*P **Pn 03 06 34.2 +0.4**
FDF Fort de France 5.39 133 Pn 03 06 34.9 +1.2
ILAM Ilet Lapin Mar 5.56 131 *e*P **Pn 03 06 37.7 +1.7**
ILAM Ilet Lapin Mar 5.56 131 *e*S **Sn 03 07 39.6 +1.1**
BIM Bigot 5.60 134 *e*P **Pn 03 06 37.5 +0.9**
BIM Bigot 5.60 134 *e*S **Sn 03 07 39.3 -0.3**
SDDR Presa de Saban 5.79 276 *e*P **Pn 03 06 39.3 +0.1**
SDDR Presa de Saban 5.79 276 *i* P **Pn 03 06 40.2 +1.0**
SDDR IAML 03 07 49.4
comp=Z,439nm,0.5s
SDDR Presa de Saban 5.79 276 Pn **Pn 03 06 39.5 +0.3**
MPOM Morne Pois Mar 5.80 133 *e*P **Pn 03 06 41.0 +1.8**
MPOM Morne Pois Mar 5.80 133 *e*S **Sn 03 07 43.2 -1.1**
SLBI Saint Lucia, B 6.02 137 *e*P **Pn 03 06 42.8 +0.5**
SLBI Saint Lucia, B 6.02 137 *e*S **Sn 03 07 48.8 -1.1**
SLW Petit Monier 6.05 137 *e*P **Pn 03 06 44.7 +2.0**
SLW Petit Monier 6.05 137 *e*S **Sn 03 07 49.4 -1.2**
SLB Belfond 6.13 139 *e*P **Pn 03 06 45.2 +1.4**
SLB Belfond 6.13 139 *e*S **Sn 03 07 52.4 -0.1**
SLDE Delcer 6.13 139 *e*P **Pn 03 06 45.9 +2.0**
SLDE Delcer 6.13 139 *e*S **Sn 03 07 51.5 -1.1**
SLAC Saint Lucia, A 6.17 137 *e*P **Pn 03 06 44.7 +0.4**
SLAC Saint Lucia, A 6.17 137 *e*S **Sn 03 07 51.1 -2.4**
SLPA Patience 6.18 138 *e*P **Pn 03 06 46.0 +1.5**
MCLT Moule a Chique 6.28 139 *e*P **Pn 03 06 46.5 +0.7**
MCLT Moule a Chique 6.28 139 *e*S **Sn 03 07 53.9 -2.3**
GRTK Grand Turk 6.33 299 Pn 03 06 44.0 -2.5
SVV Soufriere Volc 6.42 143 *e*P **Pn 03 06 47.8 0.0**
SVB Belmont 6.44 143 *e*P **Pn 03 06 48.5 +0.5**
SVB Belmont 6.44 143 Pn 03 06 47.5 +0.5
BHS Barnard House 6.49 142 *e*P **Pn 03 06 51.5 +2.8**
SVCV St. Vincent, C 6.50 143 *e*P **Pn 03 06 49.5 +0.7**
GCMP Grenada, Carri 7.00 148 *e*P **Pn 03 06 56.0 +0.3**
LGNH Logne 7.03 271 Pn 03 06 56.5 +0.5
GRGR Grenville 7.20 151 *e*P **Pn 03 06 59.9 +1.5**
BBGH Gun Hill 7.60 134 *e*P **Pn 03 07 06.6 +2.7**
BBSP Saint Philip 7.70 133 *e*P **Pn 03 07 07.0 +1.7**
TOSP Speyside 8.46 147 *e*P **Pn 03 07 17.8 +2.2**
TRN Trinidad (W) 8.63 154 *e*P **Pn 03 07 19.9 +2.1**
BAUV El Baul 9.89 197 *e*P **Pn 03 07 35.9 +0.7**
SDV Santo Domingo 10.92 210 P Pn 03 07 55.0 +5.7
comp=Z,7.1nm,0.3s,baz=29,slow=9.9,SNR=4.6
SDV S **Sn 03 09 48.7 -1.2**
comp=Z,7.2nm,0.3s,baz=353,slow=20,SNR=2.2
SDV Santo Domingo 10.92 210 Pn Pn 03 07 51.1 +1.7
SDV Santo Domingo 10.92 210 *e*P Pn 03 07 43.6 -5.8
SDV *e*S **Sn 03 09 48.1 -1.8**
SMRC Santa Marta, M 11.37 231 *e*P **Pn 03 07 52.4 -3.0**
ARGC Ariguani, Magd 12.28 227 *e*P **Pn 03 08 06.5 -1.2**
OCAC Ocana 12.90 219 *e*P **Pn 03 08 15.5 -0.7**
SJCC San Jacinto, C 12.91 230 *e*P **Pn 03 08 15.4 -0.9**
SMLC San Martn de 12.93 223 *e*P **Pn 03 08 14.4 -2.1**
PAMC Pamplona, Colo 13.28 214 *e*P **Pn 03 08 24.6 +3.0**
CBCY The Bluff, Cay 13.82 277 Pn 03 08 28.5 +0.3
MOTC Monteria, Cord 14.03 228 *e*P **Pn 03 08 30.6 -0.3**
BRRC Barranca, Sant 14.04 217 *e*P **Pn 03 08 32.7 +1.6**
LCCY Blossom Villag 14.12 277 Pn 03 08 32.5 +0.4
BARC Barichara 14.17 214 *e*P **P 03 08 35.9 -2.2**
ZARC Zaragoza, Cauc 14.43 222 *e*P **Pn 03 08 35.7 -0.5**
UREC San Jos de Ur 14.67 225 *e*P **Pn 03 08 40.4 +1.1**
RUSC La Rusia 14.71 215 *e*P **Pn 03 08 41.4 +1.1**
RUSC La Rusia 14.71 213 Pn 03 08 41.3 +1.1
PTBC PUERTO BERRIO, 14.93 218 *e*P **Pn 03 08 42.6 0.0**
FSCY Frank Sound, G 15.15 276 Pn Pn 03 08 44.5 -0.9
CAPC Capurgana 15.35 232 *e*P **Pn 03 08 46.6 -1.3**
SPBC San Pablo de B 15.43 215 *e*P **P 03 08 51.0 -1.0**
HELC Santa Helena 15.85 221 *e*P **P 03 08 56.6 -0.4**
CHIC Chingaza 16.11 212 *e*P **P 03 09 00.5 +0.5**
ROSC El Rosal 16.24 214 P **Pn 03 08 57.9 -1.8**
comp=Z,2.3nm,0.3s,baz=60,slow=13,SNR=2.3
ROSC S **S 03 12 06.8 -1.1**
comp=Z,1.3nm,0.3s,baz=17,slow=21,SNR=2.6
ROSC LR LR 03 16 07.0
comp=Z,73nm,18.1s,baz=82,slow=40
ROSC El Rosal 16.24 214 *e*P **P 03 09 05.8 +4.4**
ROSC El Rosal 16.24 214 P **Pn 03 08 57.9 -1.8**
ROSC IAmb IAmb 03 09 06.7
comp=Z,36nm,0.7s
061Z Ochoppi 16.28 300 P **Pn 03 08 59.6 -0.1**
CBOC Ciudad Bolivar 16.40 221 *e*P **P 03 09 04.8 +1.8**
GUY2C Guyana, Caldas 16.52 218 *e*P **P 03 09 04.1 -0.3**
BCIP Isla Barro Col 16.96 239 *e*P **Pn 03 09 08.1 -0.1**
TOLC Tolima 17.01 217 *e*P **P 03 09 10.9 +1.1**
SOLC Bahia Solano 17.05 226 *e*P **P 03 09 10.9 +1.1**
PLMC San Jos del P 17.32 220 *e*P **P 03 09 14.6 +1.6**
PRAC Prado 17.49 214 *e*P **P 03 09 17.6 +2.8**
ORTC Ortega, Tolima 17.52 215 *e*P **P 03 09 16.7 +1.5**
DWPF Disney Wildern 17.70 306 P **P 03 09 15.0 -2.0**
baz=119
YOTC Yotoco, Valle 18.09 218 *e*P **Pn 03 09 22.9 +0.9**
MDP Montagnes des 18.10 136 P **Pn 03 09 22.0 -0.1**
comp=Z,1.5nm,0.3s,baz=324,slow=12,SNR=24
MDP S Sn 03 12 31.5 -12
comp=Z,0.6nm,0.3s,baz=41,slow=20,SNR=8.2
MACC Macarena, Meta 18.34 209 *e*P **P 03 09 23.2 -0.8**
GARC Garzon, Huila 19.10 213 *e*P **P 03 09 30.4 -2.3**
Y60A Bolivia 19.33 326 P **P 03 09 33.8 -0.9**
baz=140
Z59A Georgetown, SC 19.36 322 P **P 03 09 34.2 -0.9**
baz=136
POPC Popayan, Colom 19.45 217 *e*P **P 03 09 37.0 +0.5**
V62A Hyde County Ai 19.48 333 P **P 03 09 35.4 -1.0**
baz=148
V62A Hyde County Ai 19.48 333 P P 03 09 35.4 -1.0
158A Hollywood 19.56 319 P **P 03 09 36.9 -0.3**
baz=133
W61A Ground Anchor 19.63 330 P **P 03 09 37.7 -0.4**
baz=145
X60A Albert Glenn T 19.64 327 P **P 03 09 37.9 -0.3**
baz=141,SNR=7.7
Y59A Loris 19.67 324 P **P 03 09 38.8 +0.3**
baz=138
FLOC Florencia 19.70 213 *e*P **P 03 09 39.7 +0.7**
FLOC Florencia 19.70 213 P **Pn 03 09 40.7 -0.4**
Z58A St. Stephen 19.74 321 P **P 03 09 39.6 +0.3**
baz=135,SNR=5.9
PTGA Pitinga 19.79 164 P **P 03 09 39.4 -0.6**
comp=Z,3.6nm,0.3s,baz=337,slow=14,SNR=61
PTGA LR LR 03 16 39.2
comp=Z,198nm,21.4s,baz=350,slow=35
PTGA ScP **ScP 03 17 23.8 -1.0**
comp=Z,0.1nm,0.3s,baz=351,slow=4.6,SNR=3.8
PTGA Pitinga 19.79 164 P **P 03 09 40.0 0.0**
PTGA Pitinga 19.79 164 *e*P **P 03 09 38.7 -1.2**
NHSC New Hope 19.80 320 P **P 03 09 39.8 -0.2**
baz=134
NHSC New Hope 19.80 320 P **P 03 09 39.7 -0.2**
NHSC IAmb IAmb 03 09 51.9
comp=Z,71nm,0.8s
W60A Pink Hill 19.88 328 P **P 03 09 40.6 -0.2**
baz=143,SNR=6.8
V61A Roper 19.95 332 P **P 03 09 41.4 -0.1**
baz=147
X59A McDuffie Farm, 19.96 326 P **P 03 09 41.9 +0.2**
baz=140
157A Early Branch 20.02 318 P **P 03 09 43.2 +0.9**
baz=131
CNNC Cliffs of the 20.12 328 P **P 03 09 43.3 0.0**
baz=143
BBAC Balboa, Cauca 20.20 217 *e*P **P 03 09 45.7 +1.1**
V60A Jim Taylor Roa 20.24 331 P **P 03 09 44.9 +0.3**
baz=145
Z57A Bowman 20.25 320 P **P 03 09 45.0 +0.2**
baz=133
ACON Acoyapa 20.33 254 P **P 03 09 46.2 +0.4**
ACON IAmb IAmb 03 09 47.7
comp=Z,42nm,1.0s
W59A Clinton 20.34 327 P **P 03 09 45.7 0.0**
baz=141
U61A Possum Corner 20.35 333 P **P 03 09 45.3 -0.5**
baz=148
X58A Rowland 20.35 325 P **P 03 09 45.6 -0.3**
baz=138
X58A Rowland 20.35 325 P **P 03 09 44.7 -1.2**
X58A IAmb IAmb 03 09 48.0
comp=Z,38nm,0.6s
Y57A Sumter 20.56 322 P **P 03 09 48.1 0.0**
baz=135
Y57A Sumter 20.56 322 P **P 03 09 47.8 -0.4**
Y57A IAmb IAmb 03 10 04.9
comp=Z,89nm,1.1s
BOAB BOACO BROADBAN 20.62 256 P **P 03 09 49.8 +0.9**
BOAB IAmb IAmb 03 09 50.6
comp=Z,50nm,0.9s
W58A Raeford 20.64 326 P **P 03 09 49.4 +0.4**
baz=139
Z56A Williston 20.68 319 P **P 03 09 49.7 +0.3**
baz=131,SNR=7.2
Z56A Williston 20.68 319 P **P 03 09 49.2 -0.2**
MATN Matagalpa 20.70 257 P **P 03 09 50.9 +0.9**
X57A Johnson Farm, 20.71 323 P **P 03 09 49.9 +0.2**
baz=136
V59A Middlesex 20.71 329 P **P 03 09 49.8 +0.1**
baz=143,SNR=6.5
U60A Pendleton 20.77 332 P **P 03 09 50.3 -0.1**
baz=146,SNR=6.3
JTS Las Juntas de 20.79 250 P **P 03 09 50.7 -0.1**
comp=Z,20nm,0.9s,baz=112,slow=8.7,SNR=11
JTS Las Juntas de 20.79 250 P **P 03 09 51.7 +1.0**
GCUF Volcan Galeras 20.90 216 *e*P **P 03 09 53.8 +1.3**
Y56A Pelion 20.95 320 P **P 03 09 52.3 -0.1**
baz=132
U59A Littleton 20.97 331 P **P 03 09 52.6 +0.1**
baz=145,SNR=7.8
U59A Littleton 20.97 331 P **P 03 09 52.1 -0.4**
U59A IAmb IAmb 03 09 53.5
comp=Z,23nm,0.7s
TIGA Tifton 21.03 311 P **P 03 09 54.2 +1.0**
baz=123,SNR=5.7
BIRD Birdtown, Kers 21.05 323 P **P 03 09 53.2 -0.2**
BIRD IAmb IAmb 03 10 11.2
comp=Z,30nm,0.5s
T60A Surry 21.15 334 P **P 03 09 54.0 -0.4**
baz=148
W57A Gilead 21.15 325 P **P 03 09 54.7 +0.2**
baz=138,SNR=6.2
W57A Gilead 21.15 325 P **P 03 09 54.3 -0.2**
V58A Windy Hill, Pi 21.17 327 P **P 03 09 54.7 0.0**
baz=141,SNR=6.5
V58A Windy Hill, Pi 21.17 327 P **P 03 09 54.5 -0.2**
V58A IAmb IAmb 03 10 12.7
comp=Z,34nm,1.0s
S61A Accomac 21.20 336 P **P 03 09 55.5 +0.6**
baz=151
JSC Jenkinsville 21.26 321 P **P 03 09 55.5 -0.2**
X56A White Oak 21.27 322 P **P 03 09 55.9 +0.1**
baz=134,SNR=8.0
U58A Oxford 21.36 329 P **P 03 09 56.7 0.0**
baz=143,SNR=14
T59A Doble "B" Far 21.37 332 P **P 03 09 56.5 -0.3**
baz=146
T59A Double "B" Far 21.37 332 P **P 03 09 56.4 -0.3**
T59A IAmb IAmb 03 10 01.8
comp=Z,33nm,1.1s
154A Montrose 21.37 315 P **P 03 09 56.8 +0.1**
Y55A Saluda 21.39 319 P **P 03 09 57.3 +0.3**
baz=132,SNR=14
W56A Indian Trail 21.47 324 P **P 03 09 58.0 +0.1**
baz=136,SNR=8.7
V57A Coltrane Farms 21.59 326 P **P 03 09 59.1 0.0**
baz=139,SNR=9.9
S60A Water View 21.60 335 P **P 03 09 59.2 -0.1**
baz=149
X55A Gracelyn & Ava 21.61 321 P **P 03 09 59.5 +0.1**
baz=133
TGUH Tegucigalpa,Un 21.64 261 P **P 03 10 00.9 +0.8**
TGUH IAmb IAmb 03 10 04.4
comp=Z,47nm,1.1s
R61A Willards 21.65 338 P **P 03 09 59.1 -0.6**
baz=153
U57A Blanch 21.78 328 P **P 03 10 01.0 -0.1**
baz=141,SNR=6.5
T58A Grand View Acr 21.80 330 P **P 03 10 01.0 -0.3**
baz=144,SNR=6.7
HODGE Hodges 21.84 319 P **P 03 10 01.7 -0.1**
HODGE IAmb IAmb 03 10 04.8
comp=Z,32nm,1.1s
TEIG Tepich 21.84 278 P **P 03 10 01.9 0.0**
comp=Z,44nm,0.7s,baz=139,slow=4.8,SNR=14
TEIG Tepich 21.84 278 P **P 03 10 02.5 +0.6**
S59A Mechanicsville 21.91 334 P **P 03 10 02.2 -0.3**
baz=148
V56A Mocksville 21.92 325 P **P 03 10 02.6 -0.1**
baz=138,SNR=9.2
PAULI Pauline 21.96 321 P **P 03 10 03.0 -0.1**
PAULI IAmb IAmb 03 10 06.1
comp=Z,51nm,1.1s
MACA Manacapuru-AM 21.98 168 *e*P **P 03 10 04.4 +1.0**
352A Blakely 22.02 310 P **P 03 10 03.6 -0.1**
R60A Leonardtown, M 22.06 336 P **P 03 10 03.3 -0.8**
baz=150
GOGA Godfrey 22.09 316 P **P 03 10 04.7 +0.2**
baz=128,SNR=13
GOGA Godfrey 22.09 316 P **P 03 10 04.4 -0.1**
GOGA IAmb IAmb 03 10 10.9
comp=Z,33nm,0.9s
GOGA **PcP 03 13 57.3 -2.1**
X54A Belton 22.12 320 P **P 03 10 04.8 0.0**
baz=132,SNR=9.8
S58A Poland Farm, P 22.12 332 P **P 03 10 04.5 -0.3**
baz=146
S58A Poland Farm, P 22.12 332 P **P 03 10 04.4 -0.3**
S58A IAmb IAmb 03 10 10.9
comp=Z,24nm,0.8s
Q61A Milford 22.13 339 P **P 03 10 04.1 -0.8**
baz=154
T57A Hurt 22.18 329 P **P 03 10 05.1 -0.4**
baz=142,SNR=6.3
T57A Hurt 22.18 329 P **P 03 10 05.2 -0.3**
T57A IAmb IAmb 03 10 11.6
comp=Z,20nm,0.8s
R59A King George, V 22.21 335 P **P 03 10 05.6 -0.2**
baz=149
U56A King 22.26 326 P **P 03 10 05.6 -0.7**
baz=139,SNR=11
CBN Corbin Frederi 22.32 334 P **P 03 10 06.6 -0.4**
baz=148
R58B Mineral 22.33 333 P **P 03 10 06.9 -0.2**
baz=147,SNR=7.8
R58B Mineral 22.33 333 P **P 03 10 06.7 -0.4**
OTAV Otavalo 22.34 217 *e*P **P 03 10 10.5 +2.7**
OTAV Otavalo 22.34 217 *e*P **P 03 10 05.3 -2.5**
V55A Taylorsville 22.34 324 P **P 03 10 07.3 +0.1**
baz=136,SNR=10
V55A Taylorsville 22.34 324 P **P 03 10 06.9 -0.4**
V55A IAmb IAmb 03 10 09.9
comp=Z,38nm,1.1s
W54A Cherokee Point 22.37 321 P **P 03 10 07.6 0.0**
baz=133,SNR=5.3
Q60A Greensboro 22.42 338 P **P 03 10 07.4 -0.6**
baz=153
152A Waverly Hall 22.51 313 P **P 03 10 09.1 0.0**
152A IAmb IAmb 03 10 12.4
comp=Z,48nm,0.9s
T56A Rocky Mt 22.59 328 P **P 03 10 09.5 -0.4**
baz=141,SNR=10
Q59A Harwood 22.60 336 P **P 03 10 09.0 -0.9**
baz=151
S57A Dark Hollow, R 22.65 331 P **P 03 10 09.7 -0.7**
baz=144,SNR=6.2
S57A Dark Hollow, R 22.65 331 P **P 03 10 10.2 -0.3**
S57A IAmb IAmb 03 10 17.3
comp=Z,28nm,0.8s
R58A Rapidan 22.67 333 P **P 03 10 10.1 -0.6**
baz=147
P61A Hammonton 22.67 341 P **P 03 10 10.6 0.0**
baz=156
V54A Nebo 22.71 323 P **P 03 10 11.2 +0.1**
baz=135,SNR=7.1
U55A TA2, Sparta 22.73 325 P **P 03 10 11.5 +0.2**
baz=136,SNR=9.3
BG3 Lake Jocassee 22.76 320 P **P 03 10 11.4 -0.3**
BG3 IAmb IAmb 03 10 14.3
comp=Z,36nm,1.2s
Y52A Lilburn 22.76 316 P **P 03 10 11.5 -0.2**
Y52A IAmb IAmb 03 10 14.7
comp=Z,47nm,1.1s
S56A Natural Bridge 22.87 330 P **P 03 10 12.5 -0.4**
baz=143,SNR=9.4
R57A Stanardsville 22.89 332 P **P 03 10 12.6 -0.3**
baz=146,SNR=6.3
MALB Monte Alegre 22.91 151 *e*P **P 03 10 13.3 0.0**
BLA Blacksburg 22.93 327 P **P 03 10 13.1 -0.4**
baz=140,SNR=6.3
BLA Blacksburg 22.93 327 P **P 03 10 13.0 -0.4**
BLA **S 03 14 16.9 -0.6**
O61A Allentown 22.98 341 P **P 03 10 13.7 -0.1**
baz=157
T55A Pulaski 23.05 327 P **P 03 10 14.7 +0.2**
baz=139,SNR=5.7
P60A Greenville 23.07 339 P **P 03 10 14.4 -0.3**
baz=154
P60A Greenville 23.07 339 P **P 03 10 14.6 -0.1**
Q58A Fox Den Farm, 23.08 335 P **P 03 10 14.4 -0.3**
baz=148
V53A Saluda 23.14 321 P **P 03 10 15.3 -0.1**
U54A Nelsons Funny 23.16 324 P **P 03 10 16.1 +0.4**
baz=136
P59A Jarrettsville 23.17 338 P **P 03 10 15.7 +0.1**
baz=152
Z51A Franklin 23.19 313 P **P 03 10 15.9 0.0**
Z51A IAmb IAmb 03 10 17.7
comp=Z,16nm,0.7s
250A Grady 23.25 309 P **P 03 10 16.6 +0.1**
250A IAmb IAmb 03 10 17.9
comp=Z,54nm,0.9s
R56A Bull Pasture M 23.38 331 P **P 03 10 18.1 +0.4**
baz=144,SNR=5.9
P58A Pank, Wackersv 23.39 336 P **P 03 10 17.3 -0.4**
baz=150
S55A Lewisburg 23.41 328 P **P 03 10 18.0 +0.1**
baz=141,SNR=7.6
T54A Tazewell 23.43 325 P **P 03 10 18.5 +0.4**
baz=138,SNR=5.2
BRAL Brewton 23.45 307 P **P 03 10 18.9 +0.6**
baz=117
Q57A Strasburg 23.46 333 P **P 03 10 18.8 +0.4**
baz=147
N61A South Mountain 23.51 342 P **P 03 10 19.1 +0.3**
baz=158
M64A Tiverton 23.54 349 P **P 03 10 19.1 +0.1**
baz=166
M63A Gales Ferry 23.57 347 P **P 03 10 19.4 +0.1**
baz=164
R55A Marlinton 23.62 330 P **P 03 10 20.6 +0.7**
baz=142,SNR=6.1
R55A Marlinton 23.62 330 P **P 03 10 19.7 -0.2**
PAL Palisades 23.64 343 P **P 03 10 20.6 +0.7**
baz=159
P57A Homestead Farm 23.67 335 P **P 03 10 20.5 +0.3**
baz=148
LUPA Lehigh Univers 23.70 340 P **P 03 10 20.1 -0.3**
LUPA IAmb IAmb 03 10 23.5
comp=Z,22nm,0.9s
O59A Robesonia 23.71 339 P **P 03 10 20.3 -0.2**
baz=153
TKL Tuckaleechee C 23.71 320 P **P 03 10 20.8 +0.1**
comp=Z,7.4nm,0.8s,baz=142,slow=9.7,SNR=7.9
TKL S **S 03 14 37.9 +7.9**
comp=Z,30nm,0.5s,baz=211,slow=5.2,SNR=14
TKL LR LR 03 18 51.2
comp=Z,115nm,20.1s,baz=143,slow=34
TKL Tuckaleechee C 23.71 320 P **P 03 10 20.6 -0.1**
V52A Sevierville 23.72 320 P **P 03 10 20.7 0.0**
M62A Hamden 23.79 346 P **P 03 10 21.9 +0.6**
baz=162
Q56A Snyder Ridge, 23.80 332 P **P 03 10 21.9 +0.5**
baz=145
O58A Lewisberry 23.80 337 P **P 03 10 21.6 +0.2**
baz=151
L65A Cape Cod Natio 23.81 351 P **P 03 10 21.8 +0.4**
baz=168
S54A Dingess, Beckl 23.84 327 P **P 03 10 22.1 +0.3**
baz=139,SNR=13
L64A Middleborough 23.85 350 P **P 03 10 22.4 +0.7**
baz=167
N60A Cedar Hill Far 23.86 341 P **P 03 10 22.5 +0.6**
baz=156
M61A Granite Spring 23.89 344 P **P 03 10 22.9 +0.8**
baz=160
T53A Wise 23.89 324 P **P 03 10 22.8 +0.5**
baz=136
L63A North Scituate 23.92 348 P **P 03 10 23.2 +0.8**
baz=165
R54A Victor 23.97 328 P **P 03 10 23.9 +1.0**
baz=140,SNR=9.2
P56A Dayton Farm, R 24.03 333 P **P 03 10 24.6 +1.1**
baz=147,SNR=6.3
CPCT Cooper Cave 24.04 318 P **P 03 10 23.6 0.0**
CPCT IAmb IAmb 03 10 26.4
comp=Z,27nm,0.8s
N59A State Game Lan 24.11 340 P **P 03 10 24.9 +0.7**
baz=155
M60A Port Jervis 24.14 342 P **P 03 10 25.5 +1.1**
baz=158
O57A Amberson 24.15 336 P **P 03 10 25.0 +0.5**
baz=150
V51A Loudon 24.16 319 P **P 03 10 24.6 0.0**
V51A IAmb IAmb 03 10 28.1
comp=Z,30nm,0.9s
Q55A Buckhannon 24.17 331 P **P 03 10 25.9 +1.2**
baz=143
TZTN Tazewell 24.17 322 P **P 03 10 25.4 +0.6**
baz=133,SNR=7.7
TZTN Tazewell 24.17 322 P **P 03 10 24.8 0.0**
TZTN IAmb IAmb 03 10 27.6
comp=Z,40nm,1.1s
S53A Williamson 24.18 326 P **P 03 10 25.3 +0.4**
baz=138
FPAL Fort Paine 24.19 315 P **P 03 10 25.0 0.0**
FPAL IAmb IAmb 03 10 27.9
comp=Z,23nm,0.8s
L62A Suffield 24.30 346 P **P 03 10 26.3 +0.5**
baz=162
LRAL Lakeview Retre 24.32 311 P **P 03 10 27.0 +0.9**
baz=121,SNR=25
LRAL Lakeview Retre 24.32 311 P **P 03 10 26.3 +0.1**
LRAL IAmb IAmb 03 10 29.3
comp=Z,35nm,0.8s
Y49A Blount Mountai 24.35 313 P **P 03 10 26.5 +0.1**
Y49A IAmb IAmb 03 10 29.1
comp=Z,30nm,1.1s
N58A Sunbury 24.36 338 P **P 03 10 27.1 +0.7**
baz=153
W50A Signal Mountai 24.39 317 P **P 03 10 26.8 0.0**

W50A IAmb IAmb 03 10 30.2
comp=Z,25nm,1.0s
P55A Reedsville 24.47 332 P **P** **03 10 28.3 +0.8**
baz=145,SNR=6.7
Q54A Coxs Mills 24.51 330 P **P** **03 10 28.5 +0.6**
baz=142,SNR=6.8
HRV Adam Dziewonsk 24.53 349 P **P** **03 10 28.3 +0.3**
baz=165
HRV Adam Dziewonsk 24.53 349 P **P** **03 10 27.8 -0.2**
HRV IAmb IAmb 03 10 30.9
comp=Z,22nm,0.8s
O56A Blue Knob Stat 24.56 335 P **P** **03 10 28.3 0.0**
baz=148
R53A Hurricane 24.57 327 P **P** **03 10 28.9 +0.6**
baz=139,SNR=11
M59A Waymart 24.57 341 P **P** **03 10 28.3 0.0**
baz=156
N57A Milroy 24.59 337 P **P** **03 10 29.1 +0.6**
baz=151
MCWV Mont Chateau 24.60 332 P **P** **03 10 29.7 +1.1**
baz=145
SSPA Standing Stone 24.61 336 P **P** **03 10 28.6 -0.1**
baz=150
L60A Shokan 24.64 344 P **P** **03 10 29.4 +0.4**
baz=159,SNR=5.5
L61A Hillsdale 1, H 24.66 345 P **P** **03 10 29.8 +0.6**
baz=161,SNR=9.7
K63A Dunstable 24.70 349 P **P** **03 10 30.6 +1.1**
baz=166,SNR=5.8
L61B Northampton 24.70 347 P **P** **03 10 30.5 +0.9**
baz=163
M58A Price's Panora 24.75 339 P **P** **03 10 30.4 +0.4**
baz=154
Q53A Leroy 24.75 328 P **P** **03 10 30.6 +0.6**
baz=140,SNR=7.3
SWET Sewanee 24.80 316 P **P** **03 10 30.6 0.0**
K62A Royalston 24.82 348 P **P** **03 10 31.1 +0.5**
baz=164
K62A Royalston 24.82 348 P **P** **03 10 30.4 -0.1**
K62A IAmb IAmb 03 10 33.7
comp=Z,21nm,0.8s
O55A Ligonier 24.82 334 P **P** **03 10 30.9 +0.3**
baz=146
P54A Burton 24.84 331 P **P** **03 10 30.9 +0.1**
baz=143
M57A Sunshine Farm, 24.95 338 P **P** **03 10 32.3 +0.6**
baz=152
S51A Beattyville 24.95 324 P **P** **03 10 31.9 0.0**
S51A IAmb IAmb 03 10 34.9
comp=Z,24nm,0.7s
N56A West Decatur 25.01 336 P **P** **03 10 32.8 +0.5**
baz=149
K61A Williamstown 25.05 346 P **P** **03 10 33.3 +0.6**
baz=162
L59A Walton 25.06 343 P **P** **03 10 33.7 +0.9**
baz=157
X48A Hartselle 25.11 314 P **P** **03 10 33.4 +0.1**
K60A Five Rivers En 25.15 345 P **P** **03 10 34.2 +0.7**
baz=160
L58A Harry Jones Me 25.16 341 P **P** **03 10 34.9 +1.1**
baz=156
N55A Marion Center 25.17 335 P **P** **03 10 34.7 +0.9**
baz=148
P53A Whipple 25.18 330 P **P** **03 10 34.4 +0.5**
baz=142
P53A Whipple 25.18 330 P **P** **03 10 33.8 0.0**
Z47A Carrollton 25.18 310 P **P** **03 10 34.1 +0.2**
J63A Strafford 25.20 350 P **P** **03 10 34.8 +0.8**
baz=167
Q52A Bidwell 25.21 327 P **P** **03 10 34.7 +0.5**
baz=139,SNR=9.4
T50A Nancy 25.25 321 P **P** **03 10 34.5 -0.1**
T50A IAmb IAmb 03 10 38.4
comp=Z,26nm,0.8s
O54A Avella 25.26 332 P **P** **03 10 35.5 +0.8**
baz=144
J62A Henniker 25.27 349 P **P** **03 10 35.7 +1.0**
baz=165
BINY Binghamton 25.34 341 P **P** **03 10 35.6 +0.2**
baz=155
346A Big Creek Wild 25.40 305 P **P** **03 10 36.2 +0.2**
L57A Andrews Acres 25.44 339 P **P** **03 10 36.8 +0.5**
baz=154
M56A Emporium 25.46 337 P **P** **03 10 36.6 +0.2**
baz=150
M56A Emporium 25.46 337 P **P** **03 10 36.2 -0.3**
U49A Red Boiling Sp 25.50 319 P **P** **03 10 36.8 0.0**
U49A IAmb IAmb 03 10 40.6
comp=Z,22nm,0.8s
J61A Chester 25.54 347 P **P** **03 10 37.2 +0.1**
baz=164
K59A Cooperstown 25.55 343 P **P** **03 10 38.0 +0.8**
baz=158
I64A Boothbay 25.61 353 P **P** **03 10 38.2 +0.4**
baz=170
J60A Lant Hill Farm 25.63 346 P **P** **03 10 39.1 +1.2**
baz=162,SNR=8.3
P52A Corning 25.65 329 P **P** **03 10 39.3 +1.1**
baz=140,SNR=5.6
P52A Corning 25.65 329 P **P** **03 10 38.1 -0.1**
M55A Ridgway 25.66 336 P **P** **03 10 39.1 +0.8**
baz=149
M55A Ridgway 25.66 336 P **P** **03 10 38.2 -0.1**
O53A New Philadelph 25.70 331 P **P** **03 10 39.8 +1.2**
baz=143
V48A Smith Brothers 25.70 316 P **P** **03 10 38.7 +0.1**
V48A IAmb IAmb 03 10 43.0
comp=Z,25nm,1.1s
N54A Moraine State 25.73 334 P **P** **03 10 39.9 +1.0**
baz=146
K58A Earlville 25.76 342 P **P** **03 10 39.8 +0.6**
baz=157
CCIG Comitan 25.80 269 P **P** **03 10 40.4 +0.5**
CCIG IAmb IAmb 03 10 41.3
comp=Z,36nm,0.8s
L56A Greenwood 25.80 339 P **P** **03 10 40.1 +0.5**
baz=152
I62A Tamworth 25.82 350 P **P** **03 10 40.4 +0.7**
baz=166
R50A Paris 25.82 324 P **P** **03 10 39.7 0.0**
R50A IAmb IAmb 03 10 44.3
comp=Z,38nm,0.9s
I63A Otisfield 25.87 351 P **P** **03 10 40.9 +0.8**
baz=168
O52A Adamsville 25.88 330 P **P** **03 10 41.2 +0.9**
baz=141
N53A Lisbon 25.97 332 P **P** **03 10 42.1 +1.0**
baz=144
K57A Scipio Center 25.99 341 P **P** **03 10 41.9 +0.7**
baz=155
P51A Williamsport 26.00 327 P **P** **03 10 42.6 +1.3**
baz=138
I61A Oroboro, Fairl 26.03 348 P **P** **03 10 43.2 +1.6**
baz=165
M54A Oil Creek Stat 26.05 335 P **P** **03 10 42.7 +0.9**
baz=147
J59A Piesco 26.10 344 P **P** **03 10 42.9 +0.7**
baz=160
PLAL Pickwick Lake 26.11 314 P **P** **03 10 42.5 +0.1**
PLAL IAmb IAmb 03 10 46.6
comp=Z,28nm,0.8s
L55A Hinsdale 26.16 337 P **P** **03 10 43.8 +1.1**
baz=150
I60A Shoreham 26.17 347 P **P** **03 10 43.8 +1.1**
baz=162
J58A Remsen 26.21 343 P **P** **03 10 44.2 +1.1**
baz=158
H65A Eastbrook 26.24 355 P **P** **03 10 44.0 +0.6**
baz=173
I59A Olmsteadville 26.25 346 P **P** **03 10 44.0 +0.5**
baz=161
H66A Whiting 26.27 357 P **P** **03 10 44.1 +0.4**
baz=175
LBNH Lisbon 26.28 349 P **P** **03 10 44.1 +0.3**
baz=165
H64A Troy 26.28 354 P **P** **03 10 43.8 0.0**
baz=171
O51A Pataskala 26.28 329 P **P** **03 10 44.0 +0.2**
baz=140,SNR=6.3
N52A McGinn's Farm, 26.36 331 P **P** **03 10 45.5 +0.9**
baz=143
344A Westbrook Farm 26.42 304 P **P** **03 10 45.4 +0.2**
344A IAmb IAmb 03 10 50.5
comp=Z,24nm,0.9s
I58A Old Forge 26.43 344 P **P** **03 10 45.2 0.0**
baz=159
J57A Williamstown 26.45 342 P **P** **03 10 46.9 +1.5**
baz=156
H62A Milan 26.47 350 P **P** **03 10 46.2 +0.7**
baz=167
L54A Sinclairville 26.53 336 P **P** **03 10 47.7 +1.6**
baz=149
H61A Lyndonville 26.56 349 P **P** **03 10 47.0 +0.7**
baz=166,SNR=7.1
Y45A Yeager Farm, C 26.58 310 P **P** **03 10 46.8 +0.2**
WVT Waverly 26.59 316 P **P** **03 10 47.6 +0.9**
baz=125
WVT Waverly 26.59 316 P **P** **03 10 46.8 +0.1**
G65A Princeton 26.69 356 P **P** **03 10 48.0 +0.5**
baz=175
H60A Morristown 26.73 348 P **P** **03 10 48.7 +0.8**
baz=164
G63A Kingsbury 26.79 353 P **P** **03 10 49.2 +0.8**
baz=171
OXF Oxford 26.80 311 P **P** **03 10 49.0 +0.5**
baz=120,SNR=16
OXF Oxford 26.80 311 P **P** **03 10 48.7 +0.1**
G64A Maxfield 26.84 354 P **P** **03 10 49.5 +0.8**
baz=172
I57A Carthage 26.84 343 P **P** **03 10 49.6 +0.7**
baz=158
J55A Hilton 26.89 339 P **P** **03 10 50.0 +0.8**
baz=153
P49A Miami Univ. Ec 26.92 325 P **P** **03 10 50.4 +0.8**
baz=136
P49A Miami Univ. Ec 26.92 325 P **P** **03 10 49.5 -0.1**
WCI Wyandotte Cave 26.92 321 P **P** **03 10 50.6 +0.9**
baz=131
WCI Wyandotte Cave 26.92 321 P **P** **03 10 49.6 0.0**
WCI IAmb IAmb 03 10 51.7
comp=Z,21nm,1.0s
W45A Hickory Valley 26.97 313 P **P** **03 10 50.2 +0.1**
G62A West of Eustis 27.01 352 P **P** **03 10 51.1 +0.7**
baz=169
G62A West of Eustis 27.01 352 P **P** **03 10 50.2 -0.2**
H59A Caodyville 27.02 347 P **P** **03 10 50.7 +0.3**
baz=162
CZSB Cruzeiro do Su 27.10 197 *e*P **P** **03 10 50.5 -0.9**
NPGB Novo Progresso 27.18 158 *e*P **P** **03 10 51.1 -1.1**
G60A Masonville 27.18 349 P **P** **03 10 52.5 +0.7**
baz=165
LONY Lake Ozonia 27.20 345 P **P** **03 10 53.1 +1.0**
baz=160
G61A St-Isidore-de- 27.22 350 P **P** **03 10 52.0 -0.2**
baz=167
H57A Richville 27.26 344 P **P** **03 10 53.2 +0.6**
baz=158
F63A Nahmakanta, Br 27.32 354 P **P** **03 10 53.8 +0.7**
baz=172
F64A Sherman 27.41 355 P **P** **03 10 54.4 +0.5**
baz=174
G58A Ormstown 27.58 346 P **P** **03 10 56.4 +1.0**
baz=162
H56A Elgin 27.61 343 P **P** **03 10 56.5 +0.8**
baz=157
E64A Bridgewater 27.92 356 P **P** **03 10 59.2 +0.7**
baz=175
F60A Warwick 27.96 350 P **P** **03 10 59.0 +0.2**
baz=166
ETMB Extrema 28.16 182 *e*P **P** **03 11 00.2 -0.7**
PARMO Parma 28.17 315 P **P** **03 11 00.9 +0.1**
PARMO IAmb IAmb 03 11 01.9
comp=Z,26nm,0.7s
E61A Lac Etchemin 28.19 352 P **P** **03 11 01.6 +0.6**
baz=169,SNR=5.2
CCAR Cane Creek 28.24 308 P **P** **03 11 01.7 +0.2**
CMIG Matias Romero 28.29 272 P **P** **03 10 59.6 -2.5**
comp=Z,3.2nm,0.7s,baz=69,slow=9.2,SNR=5.3
CMIG LR LR 03 24 23.9
comp=Z,54nm,18.3s,baz=78,slow=41
H53A Bobcaygeon 28.31 340 P **P** **03 11 01.8 -0.1**
baz=152
OLIL Olney 28.33 320 P **P** **03 11 02.2 0.0**
OLIL IAmb IAmb 03 11 06.5
comp=Z,30nm,1.1s
S44A Carbondale 28.43 317 P **P** **03 11 03.1 0.0**
S44A IAmb IAmb 03 11 05.0
comp=Z,26nm,0.8s
ATAH Atahualpa 28.61 208 LR LR 03 24 10.5
comp=Z,80nm,21.7s,baz=19,slow=40
SADO Sadowa 28.67 339 LR LR 03 22 58.0
comp=Z,51nm,18.7s,baz=140,slow=37
E57A Chemin Saint G 28.80 347 P **P** **03 11 07.3 +1.0**
baz=162
LCAR Lake Charles 28.82 313 P **P** **03 11 06.7 +0.1**
LCAR IAmb IAmb 03 11 09.0
comp=Z,20nm,0.9s
SFIN Lafayette 28.82 324 P **P** **03 11 07.3 +0.8**
baz=133
PRPB Parauapebas 28.83 147 *e*P **P** **03 11 06.9 0.0**
E56A St. Veronique 29.12 346 P **P** **03 11 09.8 +0.7**
baz=160
WLAR White Oak Lake 29.16 307 P **P** **03 11 09.7 +0.1**
WLAR IAmb IAmb 03 11 11.3
comp=Z,13nm,0.7s
W41B Gary Mavity, V 29.16 310 P **P** **03 11 10.2 +0.6**
baz=118,SNR=26
W41B Gary Mavity, V 29.16 310 P **P** **03 11 09.8 +0.2**
D58A Chemin du LacG 29.21 349 P **P** **03 11 10.4 +0.5**
baz=165
WHAR Wooly Hollow 29.25 310 P **P** **03 11 10.6 +0.2**
T42A Van Buren 29.27 314 P **P** **03 11 10.8 +0.1**
X40A Basin Creek Fa 29.28 308 P **P** **03 11 11.1 +0.3**
baz=116,SNR=19
X40A Basin Creek Fa 29.28 308 P **P** **03 11 10.9 +0.1**
X40A IAmb IAmb 03 11 12.4
comp=Z,25nm,0.8s
D57A Chemin Vers le 29.32 348 P **P** **03 11 11.5 +0.5**
baz=163
FVM French Village 29.35 317 P **P** **03 11 11.4 +0.1**
FVM IAmb IAmb 03 11 13.3
comp=Z,10.0nm,0.7s
ALGO Algonquin Park 29.38 342 P **P** **03 11 12.0 +0.6**
baz=154
FCAR Ozark Folk Cen 29.41 312 P **P** **03 11 11.9 +0.1**
O44A Mansfield 29.45 322 P **P** **03 11 12.2 +0.1**
O44A IAmb IAmb 03 11 14.0
comp=Z,17nm,0.9s
LATQ La Tuque 29.47 349 P **P** **03 11 12.7 +0.6**
baz=165
E54A Lac Daplat, Po 29.56 343 P **P** **03 11 13.6 +0.6**
baz=156
E53A Dumoine, Ponti 29.65 342 P **P** **03 11 14.4 +0.6**
baz=156
D55A Sainte-Anne-du 29.67 346 P **P** **03 11 14.2 +0.2**
baz=160
P43A Skaggs, Pawnee 29.76 320 P **P** **03 11 14.9 +0.1**
MIAR Mount Ida 29.86 308 P **P** **03 11 16.2 +0.3**
baz=115
CCM Cathedral Cave 29.93 316 P **P** **03 11 16.5 +0.1**
baz=123
CCM Cathedral Cave 29.93 316 P **P** **03 11 16.6 +0.1**
CCM IAmb IAmb 03 11 18.4
comp=Z,15nm,0.7s
F51A Arnstein 29.95 339 P **P** **03 11 16.7 +0.2**
baz=151
HKT Hockley 30.08 298 P **P** **03 11 18.1 +0.4**
MGMO Mountain Grove 30.14 314 P **P** **03 11 18.4 +0.1**
U40A Yellville 30.15 312 P **P** **03 11 18.8 +0.3**
baz=119,SNR=22
U40A Yellville 30.15 312 P **P** **03 11 18.6 +0.2**
HDIL Hopedale 30.20 322 P **P** **03 11 18.8 +0.1**
baz=130
W39A Magazine 30.30 309 P **P** **03 11 20.8 +1.1**
baz=116,SNR=12
W39A Magazine 30.30 309 P **P** **03 11 19.8 +0.2**
W39A IAmb IAmb 03 11 22.2
comp=Z,26nm,1.1s
D53A Lac Vacive, Po 30.30 343 P **P** **03 11 20.1 +0.6**
baz=156
D52A ZEK Kipawa Sen 30.41 342 P **P** **03 11 20.7 +0.2**
baz=155
CLDB Colider 30.63 162 *e*P **P** **03 11 21.6 -1.2**
237A Washetta, Mont 30.66 302 P **P** **03 11 23.1 +0.2**
R40A Maddies Statio 30.73 316 P **P** **03 11 23.6 +0.1**
D51A Lot 18 Range I 30.80 341 P **P** **03 11 24.2 +0.2**
baz=153
GLMI Grayling 30.85 333 P **P** **03 11 25.1 +0.6**
baz=142
HHAR Hobbs 30.89 311 P **P** **03 11 25.1 +0.2**
S39A Bolivar 31.14 314 P **P** **03 11 27.2 +0.1**
S39A IAmb IAmb 03 11 28.3
comp=Z,16nm,0.9s
N41A Harden Midland 31.22 321 P **P** **03 11 27.8 +0.1**
N41A IAmb IAmb 03 11 28.9
comp=Z,24nm,0.9s
X37A Clayton 31.23 307 P **P** **03 11 28.2 +0.2**
P40A Paris 31.27 318 P **P** **03 11 28.5 +0.3**
P40A IAmb IAmb 03 11 29.3
comp=Z,16nm,0.8s
U38A Gravette 31.29 311 P **P** **03 11 28.6 +0.2**
U38A IAmb IAmb 03 11 30.2
comp=Z,21nm,1.1s
VILB Vilhena 31.64 171 *e*P **P** **03 11 31.9 +0.2**
TLIG Tlapa 31.72 274 P **P** **03 11 33.1 +0.5**
435B Jarrell 31.76 299 P **P** **03 11 33.2 +0.6**
baz=105,SNR=6.7
435B Jarrell 31.76 299 P **P** **03 11 32.9 +0.3**
LSQQ Lebel-sur-Quev 31.93 345 P **P** **03 11 33.3 -0.6**
baz=158
WHTX Lake Whitney, 31.98 301 P **P** **03 11 35.2 +0.6**
baz=107,SNR=7.8
WHTX Lake Whitney, 31.98 301 P **P** **03 11 34.8 +0.2**
TUL1 Leonard 32.08 309 P **P** **03 11 35.5 +0.2**
baz=114,SNR=16
TUL1 Leonard 32.08 309 P **P** **03 11 35.6 +0.2**
CHGQ Chibougamau 32.19 349 P **P** **03 11 36.9 +0.7**
baz=164
Z35A Perchaven, San 32.24 304 P **P** **03 11 37.0 +0.2**
JFWS Jewell Farm 32.27 324 P **P** **03 11 36.9 -0.1**
baz=131
SMTB Santa Maria do 32.27 146 *e*P **P** **03 11 37.7 +0.5**
P38A Dawn 32.28 317 P **P** **03 11 37.2 +0.1**
P38A IAmb IAmb 03 11 37.7
comp=Z,12nm,0.6s
W35A Tecumseh 32.59 307 P **P** **03 11 40.0 +0.1**
N38A Joes South For 32.73 319 P **P** **03 11 41.0 -0.1**
N38A IAmb IAmb 03 11 42.0
comp=Z,16nm,0.7s
MATQ Matagami 32.75 345 P **P** **03 11 41.1 +0.1**
baz=158
833A Chaparral WMA, 32.77 294 P **P** **03 11 41.7 +0.2**
baz=100,SNR=8.8
833A Chaparral WMA, 32.77 294 P **P** **03 11 41.9 +0.3**
QUOK Quay 32.86 309 P **P** **03 11 42.5 +0.2**
FNO Franklin 33.03 307 P **P** **03 11 43.9 +0.2**
T35A Sooner Cattle 33.03 310 P **P** **03 11 43.8 +0.1**
OK025 Westminster Rd 33.10 307 P **P** **03 11 44.5 +0.1**
OK029 Liberty Lake 33.27 308 P **P** **03 11 46.0 +0.2**
BCOK Bluff Creek, N 33.34 307 P **P** **03 11 46.5 +0.1**
SCIA State Center 33.36 320 P **P** **03 11 46.8 +0.3**
baz=126
K38A Parkersburg 33.54 322 P **P** **03 11 48.0 0.0**
K38A IAmb IAmb 03 11 50.4
comp=Z,9.9nm,0.5s
JCT Junction City 33.54 297 P **P** **03 11 48.5 +0.2**
baz=103,SNR=22
JCT Junction City 33.54 297 P **P** **03 11 48.5 +0.2**
KAN13 South Haven SW 33.77 310 P **P** **03 11 50.4 +0.2**
WMOK Wichita Mounta 33.90 305 P **P** **03 11 51.1 -0.3**
baz=110,SNR=13
WMOK Wichita Mounta 33.90 305 P **P** **03 11 51.5 +0.1**
WMOK IAmb IAmb 03 11 52.6
comp=Z,8.8nm,0.7s
ABTX Abilene, Hawle 33.94 301 P **P** **03 11 51.9 +0.2**
baz=106,SNR=33
ABTX Abilene, Hawle 33.94 301 P **P** **03 11 52.0 +0.2**
CROK Carrier 33.94 309 P **P** **03 11 51.8 +0.1**
KSU1 Kansas State U 34.08 314 P **P** **03 11 52.2 -0.6**
baz=118,SNR=5.5
KSU1 Kansas State U 34.08 314 P **P** **03 11 52.7 -0.1**
PTLB Pontes e Lacer 34.26 170 *e*P **P** **03 11 52.7 -1.8**
KAN10 Anthony SW Sta 34.27 310 P **P** **03 11 54.6 +0.2**
N35A Tabor 34.30 317 P **P** **03 11 54.8 +0.1**
PEXB Peixe 34.68 150 *e*P **P** **03 11 57.7 -0.5**
LPAZ La Paz 34.69 185 P **P** **03 11 57.9 -1.0**
comp=Z,12nm,0.8s,baz=4.4,slow=9.9,SNR=28
LPAZ ScP **ScP** **03 18 08.3 -1.8**
comp=Z,1.6nm,0.8s,baz=29,slow=9.2,SNR=4.0
LPAZ La Paz 34.69 185 P **P** **03 11 58.0 -0.9**
LPAZ La Paz 34.69 185 *e*P **P** **03 11 57.8 -1.1**
I37A Lemond, Waseca 34.74 323 P **P** **03 11 58.5 +0.1**
I37A IAmb IAmb 03 11 59.0
comp=Z,18nm,1.1s
ZAIG Zacatecas 35.17 283 P **P** **03 12 02.8 +0.1**
ZAIG IAmb IAmb 03 12 05.0
comp=Z,8.8nm,0.6s
SPMN Marine on St. 35.17 325 P **P** **03 12 02.1 0.0**
baz=130
R32A Long Quarter, 35.25 311 P **P** **03 12 03.0 +0.1**
SALV Santo Antonio 35.45 164 *e*P **P** **03 12 03.7 -1.0**
CBKS Cedar Bluff 36.14 311 P **P** **03 12 10.7 +0.1**
baz=114,SNR=11
CBKS Cedar Bluff 36.14 311 P **P** **03 12 10.7 +0.1**
AMTX Amarillo 36.21 304 P **P** **03 12 11.3 +0.1**
baz=107
AMTX Amarillo 36.21 304 P **P** **03 12 11.4 +0.1**
BGNE Belgrade 36.21 316 P **P** **03 12 10.9 -0.2**
baz=119,SNR=6.4
BGNE Belgrade 36.21 316 P **P** **03 12 11.2 +0.1**
SCHQ Schefferville 36.28 358 P **P** **03 12 12.1 +0.6**
comp=Z,7.5nm,0.8s,baz=193,slow=6.6,SNR=12
SCHQ LR LR 03 24 36.1
comp=Z,38nm,21.8s,baz=242,slow=32
SCHQ Schefferville 36.28 358 P **P** **03 12 11.5 0.0**
SCHQ IAmb IAmb 03 12 13.6
comp=Z,15nm,1.1s
EYMN Ely 36.34 330 P **P** **03 12 12.6 +0.5**
baz=135
ECSD EROS Data Cent 36.45 321 P **P** **03 12 13.1 -0.1**
baz=124,SNR=13
ECSD EROS Data Cent 36.45 321 P **P** **03 12 13.3 +0.2**
ECSD IAmb IAmb 03 12 13.9
comp=Z,11nm,0.8s
ARAG Araguaiana, MT 36.46 158 *e*P **P** **03 12 12.6 -0.8**
TXAR Lajitas Array 36.63 294 P **P** **03 12 15.2 +0.2**
comp=Z,7.7nm,0.6s,baz=114,slow=12,SNR=90
TXAR PcP **PcP** **03 14 38.2 +1.6**
comp=Z,0.5nm,0.6s,baz=96,slow=4.3,SNR=1.7
TXAR ScP **ScP** **03 18 16.1 -0.3**
comp=Z,1.6nm,0.8s,baz=121,slow=6.4,SNR=9.1
TXAR LR LR 03 33 43.5
comp=Z,21nm,18.1s,baz=0.0,slow=47
TXAR Lajitas Array 36.63 294 P **P** **03 12 15.5 +0.6**
TXAR **PcP** **03 14 36.8 +0.3**
TXAR ScP **ScP** **03 18 16.3 -0.1**
TX31 Lajitas Ar. Si 36.63 294 P **P** **03 12 15.3 +0.3**
TX32 Lajitas Array 36.63 294 P **P** **03 12 15.2 +0.2**
TX32 IAmb IAmb 03 12 17.0
comp=Z,13nm,0.8s
SDBA SAO DESIDERIO 36.66 145 *e*P **P** **03 12 14.9 -0.3**
SDBA *e*pP **P** **03 12 17.1 +1.9**
MSTX Muleshoe 36.83 302 P **P** **03 12 16.3 -0.2**
baz=105,SNR=27
MSTX Muleshoe 36.83 302 P **P** **03 12 16.6 +0.1**
K31A O'Neill 37.20 318 P **P** **03 12 19.6 +0.1**
RCBR Riachuelo 37.67 127 P **P** **03 12 24.7 +0.9**
comp=Z,3.0nm,0.3s,baz=300,slow=5.2,SNR=1.4
RCBR Riachuelo 37.67 127 P **P** **03 12 24.9 +1.1**
RCBR IAmb IAmb 03 12 31.5
comp=Z,14nm,1.1s
GDL2 Guadalupe Moun 37.72 299 P **P** **03 12 24.2 +0.1**
BDFB Brasilia 37.91 152 P **P** **03 12 25.8 0.0**
comp=Z,20nm,0.9s,baz=325,slow=9.5,SNR=22
BDFB LR LR 03 27 44.0
comp=Z,132nm,19.5s,baz=355,slow=36
BDFB Brasilia 37.91 152 P **P** **03 12 25.9 0.0**
HPIG 38.13 290 P **P** **03 12 27.9 +0.1**
KSCO Kaye Shedlock' 38.30 310 P **P** **03 12 29.2 +0.3**
baz=111,SNR=6.1
KSCO Kaye Shedlock' 38.30 310 P **P** **03 12 28.9 0.0**
MNTX Cornudas Mount 38.47 298 P **P** **03 12 30.7 +0.3**
baz=100,SNR=70
MNTX Cornudas Mount 38.47 298 P **P** **03 12 30.7 +0.3**
AGMN Agassiz Nation 38.75 327 P **P** **03 12 32.0 -0.5**
baz=129,SNR=7.2
AGMN Agassiz Nation 38.75 327 P **P** **03 12 32.5 +0.1**
T25A Trinidad 39.00 307 P **P** **03 12 35.4 +0.5**
baz=108,SNR=11
T25A Trinidad 39.00 307 P **P** **03 12 34.9 0.0**
T25A IAmb IAmb 03 12 37.5
comp=Z,15nm,1.1s
JANB Januaria 39.19 147 *e*P **P** **03 12 35.7 -0.7**
IPMB Ipameri, GO 39.92 154 *e*P **P** **03 12 41.6 -0.9**
BNM Barren Site 39.98 301 P **P** **03 12 43.0 -0.2**
SDCO Great Sand Dun 40.01 307 P **P** **03 12 43.9 +0.5**
baz=107,SNR=18
ULM Lac du Bonnet 40.02 329 P **P** **03 12 42.1 -0.9**

comp=Z,7.4nm,0.7s,baz=135,slow=8.0,SNR=6.5
ULM LR LR 03 29 14.7

comp=Z,93nm,20.0s,baz=154,slow=36
ULM Lac du Bonnet 40.02 329 P P 03 12 42.7 -0.3
ULM IAmb IAmb 03 12 43.2

comp=Z,10nm,0.8s
Q24A Divide 40.12 309 P P 03 12 44.0 -0.4
baz=109
NBCP Cabaceiras do 40.16 138 eP P 03 12 44.1 -0.4
NBCP epP P 03 12 46.4 +1.9
Y22D IRIS PASSCAL I 40.20 301 P P 03 12 45.8 +0.9
baz=102
MDND Maddock 40.49 324 P P 03 12 46.8 -0.1
baz=124
121A Cookes Peak, D 40.62 299 P P 03 12 49.7 +1.2
baz=99,SNR=13
121A Cookes Peak, D 40.62 299 P P 03 12 48.5 +0.1
121A IAmb IAmb 03 12 52.1

comp=Z,22nm,1.0s
ITRB Iturama 40.67 158 eP P 03 12 48.2 -0.4
ISCO Idaho Springs 40.74 310 P P 03 12 50.2 +0.7
baz=109,SNR=20
ISCO Idaho Springs 40.74 310 P P 03 12 49.3 -0.2
ISCO IAmb IAmb 03 12 51.2

comp=Z,12nm,0.8s
MC01 Montes Claros 40.76 148 eP P 03 12 49.4 -0.1
GDU01 Guandu, BA 40.78 140 eP P 03 12 49.6 0.0
GDU01 epP P 03 12 52.5 +2.9
S22A 4UR Ranch, Cre 41.02 307 P P 03 12 52.2 +0.4
baz=106,SNR=9.9
S22A 4UR Ranch, Cre 41.02 307 P P 03 12 51.6 -0.1
LVC Limon Verde 41.02 185 eP P 03 12 50.2 -1.7
PHWY Pilot Hill 41.15 312 P P 03 12 52.7 -0.1
PHWY IAmb IAmb 03 12 54.2

comp=Z,14nm,0.9s
RSSD Black Hills 41.31 317 P P 03 12 53.9 0.0
baz=116
RSSD Black Hills 41.31 317 P P 03 12 53.8 -0.1
N23A Red Feather La 41.35 311 P P 03 12 54.2 -0.1
baz=110
N23A Red Feather La 41.35 311 P P 03 12 54.3 -0.1
319A Douglas 41.72 297 P P 03 12 57.5 +0.2
SLBS Sierra La Lagu 41.94 285 P P 03 12 59.5 +0.3
SLBS IAmb IAmb 03 13 02.1

comp=Z,16nm,0.8s
PCMB Pacaembu 42.13 160 eP P 03 13 00.1 -0.5
MVCO Mesa Verde 42.16 305 P P 03 13 00.9 -0.1
baz=104
MVCO Mesa Verde 42.16 305 P P 03 13 01.3 +0.3
K22A Casper 42.38 314 P P 03 13 03.1 +0.4
baz=112,SNR=6.7
K22A Casper 42.38 314 P P 03 13 02.7 0.0
K22A IAmb IAmb 03 13 03.6

comp=Z,8.3nm,0.8s
PV15 Paradox Valley 42.43 307 P P 03 13 03.2 -0.1
PV15 IAmb IAmb 03 13 05.3

comp=Z,11nm,0.8s
PV01 Paradox Valley 42.45 307 P P 03 13 03.3 0.0
RWWY Rawlins 42.52 312 P P 03 13 03.8 -0.1
RWWY IAmb IAmb 03 13 05.7

comp=Z,16nm,1.0s
BB19B Bebedouro 42.58 157 eP P 03 13 04.1 -0.2
PV07 Paradox Valley 42.58 307 P P 03 13 04.3 -0.1
PV07 IAmb IAmb 03 13 06.0

comp=Z,11nm,0.6s
PV02 Paradox Valley 42.59 307 P P 03 13 04.5 0.0
PV02 IAmb IAmb 03 13 06.1

comp=Z,11nm,0.7s
PV13 Radium Mtn., P 42.64 307 P P 03 13 04.9 0.0
PV13 IAmb IAmb 03 13 06.4

comp=Z,14nm,0.8s
PV12 Saucer Basin, 42.67 307 P P 03 13 05.1 0.0
PV12 IAmb IAmb 03 13 07.0

comp=Z,17nm,0.7s
W18A Petrified Fore 42.68 302 P P 03 13 06.0 +0.8
baz=101,SNR=12
W18A Petrified Fore 42.68 302 P P 03 13 05.3 +0.1
PV03 Paradox Valley 42.69 307 P P 03 13 05.3 0.0
PV03 IAmb IAmb 03 13 07.0

comp=Z,13nm,0.9s
PV22 Blue Mesa, Par 42.72 307 P P 03 13 05.5 0.0
PV11 David Mesa, Pa 42.72 307 P P 03 13 05.5 0.0
PV18 Skein Mesa, Pa 42.73 307 P P 03 13 05.5 -0.1
PV18 IAmb IAmb 03 13 07.4

comp=Z,15nm,0.8s
PV16 Nyswonger Mesa 42.75 307 P P 03 13 05.8 0.0
PV16 IAmb IAmb 03 13 07.6

comp=Z,13nm,0.8s
O20A White River Ci 42.76 310 P P 03 13 06.7 +0.9
baz=107
O20A White River Ci 42.76 310 P P 03 13 05.8 0.0
PV04 Paradox Valley 42.77 307 P P 03 13 05.9 +0.1
PV17 East Wray Mesa 42.78 307 P P 03 13 06.0 0.0
PV17 IAmb IAmb 03 13 07.7

comp=Z,13nm,0.8s
PV20 West Nyswonger 42.80 307 P P 03 13 06.2 +0.1
PV20 IAmb IAmb 03 13 07.8

comp=Z,11nm,0.8s
PV19 Morning Glory 42.80 307 P P 03 13 06.2 0.0
PV19 IAmb IAmb 03 13 07.9

comp=Z,9.6nm,0.8s
PV05 Paradox Valley 42.83 306 P P 03 13 05.8 -0.7
TRCB Terra Rica 42.84 163 eP P 03 13 05.7 -0.6
PV14 Lion Creek, Pa 42.85 307 P P 03 13 06.4 -0.2
PV14 IAmb IAmb 03 13 08.2

comp=Z,13nm,0.9s
PV21 Cone Mtn., Par 42.86 307 P P 03 13 06.7 -0.1
TUC Tucson 43.10 298 P P 03 13 09.7 +1.1
baz=97
TUC Tucson 43.10 298 P P 03 13 08.8 +0.3
TUC IAmb IAmb 03 13 11.8

comp=Z,14nm,1.0s
LAO LASA Array 43.81 319 P P 03 13 14.7 +0.7
baz=116,SNR=8.8
LAO LASA Array 43.81 319 P P 03 13 14.1 +0.1
LAO IAmb IAmb 03 13 15.9

comp=Z,28nm,1.1s
RDMU Red Mountain 43.86 310 P P 03 13 14.7 0.0
SJMB Sao Joao De Ma 43.86 146 eP P 03 13 14.4 -0.1
X16A Lo Mia Camp, P 43.94 301 P P 03 13 15.5 +0.1
X16A IAmb IAmb 03 13 18.1

comp=Z,16nm,0.8s
BSCB Bom Sucesso 44.06 152 eP P 03 13 16.7 +0.5
WUAZ Wupatki 44.07 302 P P 03 13 17.8 +1.4
baz=100,SNR=65
WUAZ Wupatki 44.07 302 P P 03 13 16.4 +0.1
BSFB Barra de Sao F 44.14 146 eP P 03 13 16.4 -0.4
SRU San Rafael Swe 44.17 307 P P 03 13 17.2 +0.1
RCLB Rio Claro- Sao 44.19 156 eP P 03 13 17.4 +0.2
P17A Butcher Ranch, 44.43 308 P P 03 13 19.2 +0.1
PD31 Pinedale Array 44.52 313 P P 03 13 19.8 -0.1
PDAR Pinedale Array 44.52 313 P P 03 13 20.3 +0.4
comp=Z,7.6nm,0.9s,baz=117,slow=9.2,SNR=48
PDAR pP pP 03 13 36.9 -1.4

comp=Z,1.5nm,0.9s,baz=125,slow=11,SNR=1.9
PDAR PcP PcP 03 15 02.2 +0.2

comp=Z,0.5nm,0.5s,baz=99,slow=6.8,SNR=1.6
PDAR ScP ScP 03 18 46.0 -1.4

comp=Z,2.1nm,0.7s,baz=113,slow=5.3,SNR=15
PDAR LR LR 03 32 09.0

comp=Z,62nm,20.8s,baz=120,slow=36
PDAR Pinedale Array 44.52 313 P P 03 13 19.8 -0.1
PDAR PcP 03 15 02.2 +0.2
BW06 Boulder Array 44.52 313 P P 03 13 19.9 0.0
baz=109,SNR=16
BW06 Boulder Array 44.52 313 P P 03 13 19.9 0.0
TMUT Trail Mountain 44.73 308 P P 03 13 21.6 -0.1
214A Organ Pipe Nat 44.77 297 P P 03 13 23.4 +1.5
baz=96,SNR=9.9
214A Organ Pipe Nat 44.77 297 P P 03 13 22.1 +0.3
214A IAmb IAmb 03 13 24.0

comp=Z,9.7nm,0.8s
RIB01 Linhares ES 44.78 146 eP P 03 13 22.0 +0.1
PTGB Pitanga 44.82 163 eP P 03 13 21.4 -0.8
VAO Valinhos 44.93 156 eP P 03 13 22.7 -0.4
U15A North Rim 44.97 303 P P 03 13 23.5 -0.1
RLMT Red Lodge 45.13 316 P P 03 13 25.3 +0.6
baz=111,SNR=11
RLMT Red Lodge 45.13 316 P P 03 13 24.7 -0.1
RLMT IAmb IAmb 03 13 26.0

comp=Z,11nm,0.8s
Y14A Wickenburg 45.16 300 P P 03 13 25.1 +0.2
PKCU Pink Cliffs 45.17 305 P P 03 13 25.2 -0.1
MTPU Mount Pierson 45.20 306 P P 03 13 25.3 -0.2
CPUP Villa Florida 45.22 170 P P 03 13 23.0 -2.2

comp=Z,6.2nm,0.6s,baz=354,slow=7.3,SNR=24
CPUP PcP PcP 03 15 04.7 +0.5

comp=Z,2.5nm,0.6s,baz=358,slow=3.8,SNR=3.5
CPUP Villa Florida 45.22 170 P P 03 13 23.8 -1.5
CPUP IAmb IAmb 03 13 25.1

comp=Z,11nm,0.9s
CPUP Villa Florida 45.22 170 eP P 03 13 23.5 -1.7
AC02 Maricunga 45.23 185 P P 03 13 24.4 -1.5
JLU Jordanelle 45.24 309 P P 03 13 25.6 -0.1
SPB Sao Paulo 45.29 157 eP P 03 13 24.6 -1.3
MSU Marysvale 45.29 306 P P 03 13 26.0 -0.1
CTU Camp Tracy 45.49 309 P P 03 13 27.7 +0.1
KNB Kanab 45.49 304 P P 03 13 27.8 +0.1
LOHW Long Hollow 45.52 314 P P 03 13 27.8 0.0
LOHW IAmb IAmb 03 13 29.5

comp=Z,15nm,1.1s
SNOW Snow King Moun 45.57 313 P P 03 13 28.3 0.0
SNOW IAmb IAmb 03 13 30.2

comp=Z,11nm,0.8s
YMP Mirror Lake Pl 45.59 315 P P 03 13 28.3 -0.2
AHID Auburn Hatcher 45.60 312 P P 03 13 28.4 -0.1
AHID IAmb IAmb 03 13 29.8

comp=Z,12nm,0.9s
REDW Red Top Meadow 45.61 313 P P 03 13 28.6 0.0
REDW IAmb IAmb 03 13 32.9

comp=Z,16nm,1.1s
GCMT Greycliff 45.64 317 P P 03 13 28.7 +0.1
113A Mohawk Valley, 45.66 298 P P 03 13 29.1 +0.4
113A IAmb IAmb 03 13 31.1

comp=Z,14nm,1.1s
TPAW Teton Pass 45.72 313 P P 03 13 29.3 -0.1
FLWY Flagg Ranch 45.73 314 P P 03 13 29.5 0.0
PARB Paraibuna 45.77 155 eP P 03 13 29.4 -0.3
VAS01 Vassouras-RJ 45.78 151 eP P 03 13 29.2 -0.6
SZCU Shurtz Canyon 45.81 305 P P 03 13 30.1 -0.1
FXWY Fox Creek 45.81 313 P P 03 13 30.1 -0.1
LCMT Little Creek M 45.82 304 P P 03 13 30.3 +0.1
IMW Indian Meadow 45.84 314 P P 03 13 30.3 -0.1
PET01 Itanhaem-SP 45.98 157 eP P 03 13 30.7 -0.6
CCUT Cedar City 46.02 305 P P 03 13 31.8 0.0
W13A Hualapai Mount 46.03 301 P P 03 13 32.0 0.0
MAN01 Angra dos Reis 46.05 152 eP P 03 13 31.6 -0.4
YHH Holmes Hill 46.07 315 P P 03 13 32.1 -0.1
PDMCI Parker Dam,Lak 46.14 300 P P 03 13 34.0 +1.4
baz=97,SNR=7.1
DUG Dugway, Tooele 46.15 308 P P 03 13 33.4 +0.7
baz=104,SNR=5.5
DUG Dugway, Tooele 46.15 308 P P 03 13 32.8 +0.1
CAM01 Campos-RJ 46.23 149 eP P 03 13 33.5 +0.2
YHL Hebgen Lake 46.31 315 P P 03 13 34.0 -0.1
TIJ01 Guaruva-PR 46.33 160 eP P 03 13 34.8 +0.7
QLMT Earthquake Lak 46.47 315 P P 03 13 35.2 -0.1
BGU Big Grassy Mou 46.49 309 P P 03 13 35.4 0.0
EGMT Eagleton 46.55 320 P P 03 13 36.6 +0.9
baz=113,SNR=7.9
EGMT Eagleton 46.55 320 P P 03 13 35.8 +0.1
GLA Glamis 46.57 298 P P 03 13 37.2 +1.2
baz=95
PSUT Pine Spring 46.58 306 P P 03 13 36.2 0.0
NEE2 Needles Airpor 46.59 301 P P 03 13 37.3 +1.2
baz=97
BOZ Bozeman (W) 46.86 316 P P 03 13 39.0 +0.8
baz=110,SNR=9.5
BOZ Bozeman (W) 46.86 316 P P 03 13 38.3 +0.1
BOZ IAmb IAmb 03 13 40.2

comp=Z,8.4nm,1.1s
IRM Iron Mountain 46.95 300 P P 03 13 40.7 +1.8
baz=96,SNR=37
BC3 Big Chuckawall 47.15 299 P P 03 13 42.1 +1.4
baz=96,SNR=16
ITAB Concordia 47.20 164 eP P 03 13 38.6 -2.2
SHPR Sheep Range 47.26 303 P P 03 13 41.5 0.0
PRN Pahroc Range 47.31 304 P P 03 13 41.9 0.0
PRN IAmb IAmb 03 13 44.5

comp=Z,9.9nm,1.1s
AC05 El Transito 47.32 186 P P 03 13 43.4 +1.5
AC05 IAmb IAmb 03 13 44.0

comp=Z,11nm,0.8s
HRY Holter Researc 47.37 317 P P 03 13 42.3 +0.1
SWSC Sam W. Stewart 47.38 298 P P 03 13 43.4 +1.2
baz=95
DLMT Dillon 47.42 315 P P 03 13 42.6 0.0
DLMT IAmb IAmb 03 13 45.7

comp=Z,11nm,1.1s
MCMT McKenzie Canyo 47.43 314 P P 03 13 42.4 -0.4
GMRC Granite Mounta 47.44 300 P P 03 13 44.0 +1.1
baz=96,SNR=17
LRM Limekiln Ridge 47.48 316 P P 03 13 43.1 -0.1
IKP In-Ko-Pah, Jac 47.61 298 P P 03 13 45.0 +0.8
baz=94
BELC Belle Mtn. Jos 47.64 299 P P 03 13 45.9 +1.5
baz=96,SNR=8.6
TUQ Turquoise Moun 47.73 301 P P 03 13 46.6 +1.5
baz=97,SNR=18
R11A Troy Canyon, C 47.88 305 P P 03 13 47.4 +1.0
baz=100,SNR=16
R11A Troy Canyon, C 47.88 305 P P 03 13 46.3 0.0
R11A IAmb IAmb 03 13 48.7

comp=Z,9.9nm,1.1s
MONP2 Monument Peak 47.90 298 P P 03 13 48.4 +1.8
baz=94,SNR=16
XPFO Pion Flat 47.98 299 P P 03 13 47.2 +0.1
PFO Pinyon Flats O 47.98 299 P P 03 13 48.4 +1.3
baz=95
PFO Pinyon Flats O 47.98 299 P P 03 13 47.2 +0.1
HEC Hector,Ludlow 48.00 300 P P 03 13 48.7 +1.5
baz=96
SHOC Shoshone, Teco 48.07 302 P P 03 13 49.2 +1.6
baz=97,SNR=5.6
ELK Elko 48.08 308 P P 03 13 47.8 -0.1
BAR Barrett 48.09 298 P P 03 13 48.1 +0.3
HLID Hailey 48.15 312 P P 03 13 49.3 +1.0
baz=105,SNR=13
HLID Hailey 48.15 312 P P 03 13 48.3 0.0
TPNV Topoah Spring 48.19 303 P P 03 13 50.3 +1.6
baz=98,SNR=38
TPNV Topopah Spring 48.19 303 P P 03 13 48.8 +0.1
CO01 Juntas del Tor 48.43 186 P P 03 13 52.1 +1.5
CO01 IAmb IAmb 03 13 53.4

comp=Z,11nm,1.1s
GSC Goldstone, Bar 48.43 301 P P 03 13 51.7 +1.2
baz=96,SNR=5.9
GSC Goldstone, Bar 48.43 301 P P 03 13 50.7 +0.2
GSC IAmb IAmb 03 13 53.1

comp=Z,17nm,0.9s
109C Camp Elliot, M 48.47 298 P P 03 13 51.8 +1.1
baz=94
109C Camp Elliot, M 48.47 298 P P 03 13 51.0 +0.3
RRX Edison Barstow 48.54 300 P P 03 13 53.1 +1.8
baz=96
MURC Murrieta 48.59 299 P P 03 13 53.0 +1.3
baz=94,SNR=7.1
FURC Furnace Creek, 48.62 303 P P 03 13 53.1 +1.4
baz=97
MSO Missoula 48.78 317 P P 03 13 53.5 +0.5
baz=108
BFSC Mount Baldy Ra 49.03 300 P P 03 13 56.0 +0.9
baz=95,SNR=6.3
MPMC Manual Prospec 49.07 302 P P 03 13 56.7 +1.2
baz=96,SNR=9.5
GRAC Grapevine Rang 49.08 303 P P 03 13 56.9 +1.5
baz=97,SNR=8.1
MFID Camas Ranch 49.11 312 P P 03 13 55.8 +0.2
MFID IAmb IAmb 03 13 57.3

comp=Z,8.9nm,1.1s
LRMC Laurel Mtn Rad 49.16 301 P P 03 13 56.6 +0.5
baz=96
JTMT Jette 49.29 318 P P 03 13 57.0 +0.1
MWC Mount Wilson 49.36 299 P P 03 13 57.8 +0.1
MWC IAmb IAmb 03 13 59.4

comp=Z,10nm,0.9s
EDW2 Edwards Air Fo 49.36 300 P P 03 13 58.9 +1.3
baz=95,SNR=13
WALA Waterton Lakes 49.50 319 P P 03 13 58.6 +0.1
WALA IAmb IAmb 03 13 59.6

comp=Z,5.9nm,0.9s
FMP Fort Macarthur 49.52 299 P P 03 13 59.9 +1.2
baz=94
CWC Cottonwood Cre 49.59 302 P P 03 14 00.4 +1.0
baz=96
CIS Catalina Islan 49.60 298 P P 03 14 00.4 +1.1
baz=93
SCI2 San Clemente I 49.68 298 P P 03 14 01.0 +1.0
baz=93
TIN Tinemaha, Big 49.78 303 P P 03 14 02.4 +1.7

comp=Z,6.5nm,0.8s,baz=97,slow=7.3,SNR=4.2
ISA Isabella, Lake 49.82 301 P P 03 14 02.4 +1.4
baz=95
ISA Isabella, Lake 49.82 301 P P 03 14 01.3 +0.2
ISA IAmb IAmb 03 14 03.2

comp=Z,6.0nm,0.9s
NV11 Mina Array Sit 49.89 305 P P 03 14 01.8 +0.2
CPSB Cacapava Do Su 49.92 167 eP P 03 14 00.6 -1.1
KVN Kaiserville 49.94 306 P P 03 14 02.1 0.0
NVAR Mina Array Bea 50.01 305 P P 03 14 03.4 +0.8
comp=Z,6.5nm,0.8s,baz=93,slow=6.8,SNR=50
NVAR pP pP 03 14 20.2 -1.3

comp=Z,1.2nm,0.6s,baz=91,slow=8.0,SNR=3.0
NVAR PcP PcP 03 15 23.1 +1.5

comp=Z,0.2nm,0.5s,baz=105,slow=6.8,SNR=1.1
NVAR ScP ScP 03 19 10.0 -0.5

comp=Z,1.2nm,0.8s,baz=100,slow=5.0,SNR=7.5
NVAR LR LR 03 35 42.4

comp=Z,48nm,21.7s,baz=89,slow=37
NVAR Mina Array Bea 50.01 305 P P 03 14 02.7 +0.1
ARVC Arvin 50.07 301 P P 03 14 04.5 +1.7
baz=95
LHV Little Huntoon 50.14 305 P P 03 14 03.6 +0.3
LHV IAmb IAmb 03 14 05.7

comp=Z,14nm,1.1s
RYN Ryan 50.21 305 P P 03 14 04.1 +0.1
RYN IAmb IAmb 03 14 05.3

comp=Z,6.1nm,0.9s
MLAC Mammoth, Mammo 50.32 304 P P 03 14 06.4 +1.3
baz=97
VES Vestal, Richgr 50.34 301 P P 03 14 06.2 +1.3
baz=95,SNR=9.2
OMMB Old Mammoth Mi 50.45 304 P P 03 14 06.0 -0.1
OMMB IAmb IAmb 03 14 08.4

comp=Z,13nm,0.8s
BMO Blue Mountains 50.49 313 P P 03 14 06.1 +0.1
SBC Santa Barbara 50.74 300 P P 03 14 08.7 +0.8
baz=94
PKM Mcpherson Peak 50.85 300 P P 03 14 10.4 +1.4
baz=94,SNR=8.7
WAKR Walker 50.90 305 P P 03 14 09.4 +0.1
WAKR IAmb IAmb 03 14 11.3

comp=Z,8.8nm,0.9s
WVOR Wild Horse Val 50.91 310 P P 03 14 09.3 +0.1
J08A Circle Bar Ran 50.98 311 P P 03 14 09.9 +0.2
J08A IAmb IAmb 03 14 11.0

comp=Z,12nm,0.9s
SMMC Simmler 51.03 301 P P 03 14 11.6 +1.5
baz=94,SNR=6.6
PLTB Pedras Altas 51.20 167 eP P 03 14 09.5 -1.8
VA03 San Esteban 51.23 186 P P 03 14 13.2 +1.6
NEW Newport 51.27 318 P P 03 14 11.8 +0.1
baz=107,SNR=7.5
NEW Newport 51.27 318 P P 03 14 11.8 +0.1
NEW IAmb IAmb 03 14 12.7

comp=Z,11nm,0.8s
CMB Columbia Colle 51.59 304 P P 03 14 14.5 +0.2
G08A Pilot Rock 51.73 314 P P 03 14 15.4 +0.1
I07A Izee 51.85 312 P P 03 14 16.4 +0.2
I07A IAmb IAmb 03 14 17.7

comp=Z,9.7nm,1.0s
AFDM Forest Hills D 52.15 305 P P 03 14 18.6 +0.2
SAO San Andreas Ge 52.31 302 P P 03 14 20.0 +0.3
SAO IAmb IAmb 03 14 21.5

comp=Z,12nm,1.1s
ORV Oroville 52.62 306 P P 03 14 22.1 +0.2
ORV IAmb IAmb 03 14 23.5

comp=Z,10nm,0.9s
PSBE So Bento 52.69 54 eP P 03 14 23.6 +1.2
PINE Pine Mountain 52.82 311 P P 03 14 23.5 0.0
PINE IAmb IAmb 03 14 26.0

comp=Z,9.1nm,0.9s
O03E Paynes Creek 52.94 307 P P 03 14 24.3 0.0
baz=97
J05D Fort Rock, OR 52.94 311 P P 03 14 24.8 +0.4
baz=99
PCAS Casmilo, Conde 52.98 53 eP P 03 14 26.0 +1.5
PMTG Montargil 53.09 55 eP P 03 14 25.7 +0.4
comp=Z,19nm,1.7s
PBDV Barranco-do-Ve 53.16 57 eP P 03 14 26.8 +0.9
comp=Z,38nm,1.8s
EVO Evora 53.20 55 eP P 03 14 27.2 +1.1
comp=Z,16nm,1.3s
K04D Chiloquin, OR 53.21 310 P P 03 14 27.3 +0.9
baz=98
PVAQ Vaqueiros 53.34 57 eP P 03 14 25.0 -2.2
PVIS Viseu 53.51 53 eP P 03 14 29.5 +1.0
GDXM Geysers 53.55 305 P P 03 14 29.0 +0.2
L04D Klamath Falls 53.56 309 P P 03 14 29.1 +0.2
baz=98,SNR=7.1
J04D Umpqua Nationa 53.57 310 P P 03 14 29.6 +0.6
baz=99,SNR=6.2
PVRL Vila Real 53.72 52 eP P 03 14 30.4 +0.5
MTE Manteigas 53.74 53 eP P 03 14 30.4 +0.2
comp=Z,37nm,2.1s
PMRV Marv??o 53.76 54 eP P 03 14 30.3 0.0
comp=Z,23nm,1.6s
HOPS Hopland Field 53.78 305 P P 03 14 30.7 +0.3
YBH Yreka Blue Hor 53.80 309 P P 03 14 30.6 0.0
YBH IAmb IAmb 03 14 30.6

comp=Z,8.4nm,0.8s
H04A Detroit Lake 53.85 312 P P 03 14 31.1 +0.3
H04A IAmb IAmb 03 14 32.2

comp=Z,9.8nm,1.0s
I04A Tendick Farm, 53.87 311 P P 03 14 31.7 +0.6
baz=99
MVO Moncorvo 54.22 52 eP P 03 14 34.5 +0.9
comp=Z,27nm,1.2s
KCPM Cahto Peak 54.23 306 P P 03 14 33.9 0.0
KCPM IAmb IAmb 03 14 35.5

comp=Z,11nm,1.1s
KMRM Mail Ridge 54.38 307 P P 03 14 35.0 +0.1
K02D Willamette Mer 54.62 310 P P 03 14 37.1 +0.5
baz=97
YKA Yellowknife Ar 55.52 335 P P 03 14 41.1 -1.4
comp=Z,4.6nm,0.8s,baz=115,slow=7.7,SNR=6.6
YKA pP pP 03 15 01.2 -0.2

comp=Z,2.8nm,0.8s,baz=95,slow=6.9,SNR=2.4
YKA LR LR 03 39 08.4

comp=Z,44nm,19.7s,baz=0.0,slow=37
MDT Midelt 55.77 63 P P 03 14 46.4 +1.4
comp=Z,8.0nm,0.7s,baz=296,slow=7.0,SNR=17
SUMG Summit 56.21 9 i P P 03 14 50.0 +2.2
comp=Z,22nm,1.0s
ESDC Sonseca Array 56.42 54 P P 03 14 51.0 +1.4
comp=Z,11nm,0.9s,baz=267,slow=7.4,SNR=64
ESDC pP pP 03 15 10.3 +1.2

comp=Z,3.5nm,1.0s,baz=266,slow=7.1,SNR=3.8
ESDC LR LR 03 35 59.0

comp=Z,8.5nm,20.1s,baz=355,slow=33
ESDC Sonseca Array 56.42 54 P P 03 14 49.6 +0.1
LC01 Cunco 57.44 186 P P 03 14 55.0 -1.4
LC01 IAmb IAmb 03 14 55.2

comp=Z,7.5nm,0.7s
PLCA Paso Flores 59.14 185 P P 03 15 06.5 -1.8
comp=Z,2.0nm,0.6s,baz=2.8,slow=9.2,SNR=9.9
PLCA PcP PcP 03 15 56.9 +0.7

comp=Z,4.1nm,0.8s,baz=18,slow=10.0,SNR=5.1
PLCA Paso Flores 59.14 185 P P 03 15 07.5 -0.8
PLCA PcP 03 15 56.8 +0.6
PLCA Paso Flores 59.14 185 eP P 03 15 07.3 -1.0
TIC Toumodi 59.66 93 eP P 03 15 12.5 0.0
LIC Lamto 59.78 94 eP P 03 15 13.4 +0.1
comp=Z,56nm,0.7s
DBIC Dimbokro 59.81 93 P P 03 15 13.6 +0.1
comp=Z,23nm,0.6s,baz=276,slow=6.9,SNR=41
DBIC Dimbokro 59.81 93 eP P 03 15 13.9 +0.5
KIC Kosan Boka 60.01 93 eP P 03 15 15.1 +0.3
comp=Z,60nm,0.7s
DLBC Dease Lake 61.28 327 P P 03 15 23.0 +0.2
DLBC IAmb IAmb 03 15 24.7

comp=Z,5.3nm,0.9s
CLF Chambon-Foret 61.44 45 P P 03 15 24.3 +0.3
TORD Torodi Ar. Bea 64.27 84 P P 03 15 43.1 -0.2
comp=Z,8.2nm,0.8s,baz=268,slow=5.4,SNR=41
TORD pP pP 03 16 04.2 +0.7

comp=Z,2.8nm,0.8s,baz=290,slow=7.3,SNR=4.2
TORD sP sP 03 16 10.1 -2.0

comp=Z,3.4nm,1.0s,baz=284,slow=4.6,SNR=3.4
ECH Echery 64.73 45 P P 03 15 46.1 +0.3
ECH IAmb IAmb 03 15 47.1

comp=Z,8.0nm,0.9s
INK Inuvik 64.97 338 P P 03 15 47.5 +0.5
TAM Tamanrasset 65.75 73 P P 03 15 53.1 0.0
DAVA Damuels 66.58 46 eP P 03 15 58.7 +0.8
comp=Z,5.6nm,0.6s,SNR=5.3

VSL	**Villasalto**	**66.73**	**54**	P	**P**	**03 15 58.9**	**+0.1**
VSL				IAmb	IAmb	03 16 00.4	
	comp=Z,14nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**66.88**	**47**	P	**P**	**03 15 59.9**	**0.0**
FUORN				IAmb	IAmb	03 16 01.8	
	comp=Z,8.1nm,0.8s						
KEST	**Kesra**	**67.10**	**58**	P	**P**	**03 16 02.1**	**+0.8**
	comp=Z,6.5nm,0.6s,baz=318,slow=2.1,SNR=17						
KEST				pP	**pP**	**03 16 21.5**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=335,slow=1.6,SNR=2.7						
KEST				LR	LR	03 42 27.3	
	comp=Z,18nm,20.2s,baz=288,slow=33						
KEST	**Kesra**	**67.10**	**58**	P	**P**	**03 16 01.4**	**+0.1**
KEST				IAmb	IAmb	03 16 03.0	
	comp=Z,6.9nm,0.7s						
RETA	**Reutte**	**67.17**	**46**	*eP*	**P**	**03 16 02.2**	**+0.7**
	comp=Z,7.3nm,0.8s,SNR=5.4						
FETA	**Feichten**	**67.17**	**46**	*eP*	**P**	**03 16 02.4**	**+0.7**
	comp=Z,18nm,1.2s						
MOTA	**Moosalm**	**67.41**	**46**	*eP*	**P**	**03 16 03.2**	**+0.1**
	comp=Z,9.5nm,0.8s,SNR=7.1						
NOA	**NORSAR Array B**	**67.41**	**31**	P	**P**	**03 16 03.8**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=269,slow=6.4,SNR=3.7						
EGAK	**Eagle**	**67.44**	**333**	P	**P**	**03 16 03.4**	**+0.6**
SQTA	**Sankt Quirin**	**67.49**	**46**	*eP*	**P**	**03 16 04.1**	**+0.4**
	comp=Z,5.6nm,0.6s,SNR=7.6						
BCAR	**Beaver Creek A**	**67.60**	**331**	P	**P**	**03 16 04.6**	**+0.6**
WTTA	**Wattenberg**	**67.78**	**46**	*i* P	**P**	**03 16 05.6**	**+0.1**
	comp=Z,4.8nm,0.7s						
K27K	**Chicken**	**67.79**	**332**	P	**P**	**03 16 05.7**	**+0.7**
	baz=93						
NKC	**Novy Kostel**	**68.15**	**43**	*eP*	**P**	**03 16 08.1**	**+0.5**
ABTA	**Abfaltersbach**	**68.41**	**46**	*eP*	**P**	**03 16 09.3**	**-0.1**
	comp=Z,1.6nm,0.6s						
CLL	**Collm**	**68.45**	**41**	*i* P	**P**	**03 16 10.0**	**+0.6**
	comp=Z,6.0nm,0.9s						
CLL				*e*PcP	**PcP**	**03 16 33.0**	**-1.2**
DOT	**Dot Lake**	**68.65**	**332**	P	**P**	**03 16 10.9**	**+0.5**
DOT				IAmb	IAmb	03 16 12.3	
	comp=Z,12nm,1.2s						
KHC	**Kasperske Hory**	**68.95**	**44**	*eP*	**P**	**03 16 12.8**	**+0.2**
KHC	**Kasperske Hory**	**68.95**	**44**	P	**P**	**03 16 12.9**	**+0.3**
KBA	**Koelnbreinsper**	**68.95**	**46**	*eP*	**P**	**03 16 13.3**	**+0.4**
	comp=Z,7.1nm,1.2s						
GERES	**GERESS Array B**	**69.05**	**44**	P	**P**	**03 16 13.4**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=262,slow=4.4,SNR=14						
GERES				pP	**pP**	**03 16 34.2**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=254,slow=7.8,SNR=2.1						
GERES				LR	LR	03 39 16.2	
	comp=Z,13nm,21.0s,baz=298,slow=30						
GERES	**GERESS Array B**	**69.05**	**44**	P	**P**	**03 16 13.6**	**+0.2**
PRU	**Pruhonice**	**69.51**	**43**	*eP*	**P**	**03 16 16.7**	**+0.7**
MOA	**Molln**	**69.51**	**45**	*eP*	**P**	**03 16 16.0**	**-0.1**
	comp=Z,2.3nm,0.6s						
IL31		**69.89**	**333**	P	**P**	**03 16 18.1**	**+0.1**
ILAR	**Eielson Array**	**69.89**	**333**	P	**P**	**03 16 17.6**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=100,slow=4.0,SNR=18						
ILAR				pP	**pP**	**03 16 38.5**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=111,slow=5.3,SNR=5.3						
ILAR				LR	LR	03 47 17.9	
	comp=Z,54nm,20.3s,baz=102,slow=36						
ILAR	**Eielson Array**	**69.89**	**333**	P	**P**	**03 16 17.9**	**-0.2**
HDA	**Harding Lake**	**69.92**	**333**	P	**P**	**03 16 18.9**	**+0.6**
	baz=89						
POKR	**Poker Plat Res**	**70.12**	**334**	P	**P**	**03 16 19.7**	**+0.2**
	baz=89						
CHVC	**Chvalec**	**70.42**	**42**	*eP*	**P**	**03 16 22.1**	**+0.5**
MDM	**Murphy Dome**	**70.46**	**333**	P	**P**	**03 16 22.1**	**+0.5**
MDM				IAmb	IAmb	03 16 22.5	
	comp=Z,8.9nm,1.1s						
OSTC	**Ostas**	**70.53**	**42**	*eP*	**P**	**03 16 22.9**	**+0.6**
CONA	**Conrad Observa**	**70.57**	**45**	*eP*	**P**	**03 16 22.9**	**+0.3**
	comp=Z,2.5nm,0.8s						
DPC	**Dobruska-Polom**	**70.62**	**42**	*eP*	**P**	**03 16 23.6**	**+0.7**
KRUC	**Moravsky**	**70.80**	**44**	*eP*	**P**	**03 16 24.1**	**+0.2**
VRAC	**Vranov**	**70.90**	**43**	⇓P	P	03 16 18.0	-6.6
VRAC	**Vranov**	**70.90**	**43**	*eP*	**P**	**03 16 25.1**	**+0.5**
KRLC	**Kraliky**	**70.94**	**42**	*eP*	**P**	**03 16 25.8**	**+1.0**
COLD	**Coldfoot**	**71.17**	**336**	P	**P**	**03 16 26.7**	**+0.8**
	baz=87						
MODS	**Modra-Piesok**	**71.46**	**44**	*eP*	**P**	**03 16 27.7**	**-0.3**
MORC	**Moravsky Berou**	**71.46**	**43**	⇑P	**P**	**03 16 28.0**	**0.0**
MORC	**Moravsky Berou**	**71.46**	**43**	*eP*	**P**	**03 16 28.5**	**+0.5**
MORC	**Moravsky Berou**	**71.46**	**43**	P	**P**	**03 16 28.3**	**+0.3**
BPAW	**Bear Paw Mtn.**	**71.70**	**333**	P	**P**	**03 16 29.1**	**-0.1**
BPAW				IAmb	IAmb	03 16 29.7	
	comp=Z,11nm,1.2s						
VYHS	**Vyhne**	**72.47**	**44**	*eP*	**P**	**03 16 34.8**	**+0.8**
IMAR	**Indian Mountai**	**72.69**	**335**	P	**P**	**03 16 35.1**	**+0.2**
LANS	**Liptovska Anna**	**72.79**	**43**	*eP*	**P**	**03 16 37.7**	**+1.8**
ARCES	**ARCESS Array B**	**73.07**	**22**	P	**P**	**03 16 37.5**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=282,slow=5.6,SNR=6.8						
ARCES				pP	**pP**	**03 16 57.0**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=280,slow=3.5,SNR=3.2						
ARCES	**ARCESS Array B**	**73.07**	**22**	P	**P**	**03 16 37.7**	**+0.6**
SCTE	**Santa Cesarea**	**73.50**	**52**	P	**P**	**03 16 40.9**	**+0.2**
PDG	**Podgorica**	**73.74**	**50**	⇑P	**P**	**03 16 42.1**	**+0.5**
PDG	**Podgorica**	**73.74**	**50**	P	**P**	**03 16 41.9**	**+0.4**
PDG				IAmb	IAmb	03 16 43.4	
	comp=Z,9.0nm,1.0s						
DIVS	**Divibare**	**73.97**	**48**	P	**P**	**03 16 43.1**	**+0.1**
FINES	**FINESS Array B**	**74.54**	**30**	P	**P**	**03 16 45.6**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=276,slow=3.9,SNR=9.8						
FINES				pP	**pP**	**03 17 06.6**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=224,slow=3.8,SNR=2.6						
FINES	**FINESS Array B**	**74.54**	**30**	P	**P**	**03 16 46.4**	**+0.6**
SIRR	**Siria**	**74.73**	**46**	⇑P	**P**	**03 16 48.1**	**+0.7**
BZS	**Buzias**	**74.83**	**47**	⇑P	**P**	**03 16 45.4**	**-2.5**
MDVR	**Moldovita**	**75.06**	**47**	⇓P	**P**	**03 16 53.1**	**+3.9**
HERR	**Herculane**	**75.53**	**47**	⇑P	**P**	**03 16 52.5**	**+0.7**
VTS	**Vitosha**	**76.59**	**49**	⇓P	**P**	**03 16 59.4**	**+1.3**
AGG	**Agios Georgios**	**76.72**	**53**	P	**P**	**03 16 59.1**	**+0.3**
BUR08	**Bucovina Ar. S**	**76.82**	**44**	P	**P**	**03 16 59.5**	**+0.2**
ITM	**Ithomi**	**76.83**	**55**	P	**P**	**03 16 59.6**	**+0.2**
ITM				IAmb	IAmb	03 17 01.0	
	comp=Z,12nm,0.8s						
BURAR	**Bucovina Array**	**76.84**	**44**	⇑P	**P**	**03 16 59.8**	**+0.4**
BURAR	**Bucovina Array**	**76.84**	**44**	P	**P**	**03 16 59.7**	**+0.3**
VOIR		**77.22**	**46**	⇑P	**P**	**03 17 02.0**	**+0.4**
MTUR	**Matau**	**77.28**	**46**	⇑P	P	03 17 20.0	+18
MLR	**Muntele Rosu**	**77.83**	**46**	⇓P	**P**	**03 17 06.7**	**+1.7**
MLR	**Muntele Rosu**	**77.83**	**46**	P	**P**	**03 17 05.1**	**+0.2**
MLR				IAmb	IAmb	03 17 07.5	
	comp=Z,13nm,0.8s						
VRI	**Vrincioaia**	**78.27**	**46**	⇓P	**P**	**03 17 08.3**	**+1.1**
AKASG	**Malin Array Be**	**78.64**	**40**	P	**P**	**03 17 09.4**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=276,slow=5.3,SNR=7.9						
AKASG	**Malin Array Be**	**78.64**	**40**	P	**P**	**03 17 09.7**	**+0.5**
SORM	**Soroca**	**78.76**	**43**	⇓P	**P**	**03 17 10.3**	**+0.4**
GiUM	**Giurgiulesti**	**79.37**	**46**	⇑P	**P**	**03 17 12.5**	**-0.8**
CFR	**Carcaliu**	**79.40**	**46**	⇑P	**P**	**03 17 12.5**	**-1.0**
KLMR	**Klimovskoe**	**80.96**	**29**	*eP*	**P**	**03 17 20.5**	**-1.0**
KLMR				AMP		03 17 22.8	
	comp=Z,7.0nm,1.1s						
PMSA	**Palmer Station**	**83.02**	**180**	*eP*	**P**	**03 17 32.2**	**+0.3**
ELL	**Elmali**	**83.10**	**54**	P	**P**	**03 17 33.5**	**+0.1**
BR131	**Keskin Array S**	**84.93**	**50**	P	**P**	**03 17 42.7**	**0.0**
BRTR	**Keskin Array B**	**84.93**	**50**	P	**P**	**03 17 43.0**	**+0.4**
	comp=Z,3.6nm,0.7s,baz=280,slow=3.7,SNR=22						
BRTR				pP	**pP**	**03 18 04.2**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=251,slow=3.8,SNR=4.4						
BRTR	**Keskin Array B**	**84.93**	**50**	P	**P**	**03 17 42.7**	**0.0**
TSUM	**Tsumeb**	**89.45**	**110**	P	**P**	**03 18 05.1**	**+0.3**
TSUM				IAmb	IAmb	03 18 06.8	
	comp=Z,7.2nm,0.8s						
BOSA	**Boshof**	**99.03**	**117**	LR	LR	04 01 29.2	
	comp=Z,18nm,18.6s,baz=194,slow=34						
SNAA	**Sanae**	**99.20**	**164**		**Pdif**	**03 18 49.1**	**+0.9**
SNAA				IAmb	IAmb	03 18 49.8	
	comp=Z,3.1nm,0.8s						
PETK	**Petropavlovsk-**	**99.64**	**335**	LR	LR	04 06 46.1	
	comp=Z,18nm,20.4s,baz=63,slow=37						
WMQ	**Urumqi**	**113.19**	**21**	*e*PKP	**PKiKP**	**03 23 44.8**	**+0.2**
WMQ				LR	LR		
	comp=Z,140nm,18.9s						
WMQ				LR	LR		
	comp=Z,48nm,16.9s						
MDJ	**Mudanjiang**	**115.75**	**348**		**PKPdf**	**03 23 49.8**	**+0.4**
HHC	**Hu-ho-hao-te**	**120.88**	**3**	*e*PKP	**PKPdf**	**03 23 56.9**	**-2.6**
MAW	**Mawson**	**121.04**	**159**	PKP	**PKPdf**	**03 23 58.8**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=239,slow=6.6,SNR=5.6						
KSRS	**Korea Array**	**122.99**	**348**	PKP	**PKPdf**	**03 24 02.6**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=75,slow=6.7,SNR=1.6						
LZH	**Lanzhou**	**124.73**	**11**	*e*PKP	**PKPdf**	**03 24 05.8**	**-1.3**
LZH				sPKP		03 24 35.0	
CMAR	**Chiang Mai Arr**	**140.10**	**24**	PKP	**PKPdf**	**03 24 36.6**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=305,slow=3.2,SNR=1.1						
CMAR				SKPbc	**SKPbc**	**03 28 04.5**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=320,slow=4.1,SNR=8.5						
CMAR	**Chiang Mai Arr**	**140.10**	**24**		**PKPdf**	**03 24 36.1**	**-0.2**
CMAR					**SKPbc**	**03 28 05.0**	**-0.6**
STKA	**Stephens Creek**	**152.43**	**236**	PKPbc	**PKPbc**	**03 25 03.5**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=20,slow=2.4,SNR=9.2						
STKA	**Stephens Creek**	**152.43**	**236**	PKPdf	**PKPdf**	**03 24 57.0**	**+0.6**
ASAR	**Alice Springs**	**161.46**	**251**	PKP	**PKPdf**	**03 25 07.7**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=145,slow=2.3,SNR=5.3						
ASAR				pPKP	**pPKPdf**	**03 25 29.4**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=48,slow=1.9,SNR=3.2						
ASAR	**Alice Springs**	**161.46**	**251**		**PKPdf**	**03 25 08.4**	**+0.1**
WRA	**Warramunga Arr**	**161.50**	**262**	PKP	**PKPdf**	**03 25 07.2**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=49,slow=7.8,SNR=3.6						
WRA				pPKP	**pPKPdf**	**03 25 29.1**	**-1.5**
	comp=Z,1.8nm,1.0s,baz=61,slow=0.9,SNR=4.5						
WRA	**Warramunga Arr**	**161.50**	**262**		**PKPdf**	**03 25 08.2**	**-0.1**

SOME ***13*** *03:47:05.1, 44˚.45N×84˚.08E, h15km*
NNC ***13*** *03:47:07.2±1.3, 44˚.48N×83˚.94E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=11.2km s-min=4.2km az=121.0*

ISC 13 03:47:11.6±2.4, 44˚.2N±0˚.1×84˚.3E±0˚.1, h10km, n19, σ2$ 47/21, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.95**	**331**	⇓Pg		Pn	03 47 54.2	-4.4
	1.9nm,0.5s,baz=150,slow=15,SNR=46							
MK31				⇑Lg		Lg	03 48 28.4	
	4.9nm,0.4s,baz=147,slow=30,SNR=18							
KTMS	**Ketmen**	**2.99**	**256**	*eP*		**Pn**	**03 47 58.0**	**-1.2**
	1.3nm,0.1s							
KTMS				*eS*		**Sn**	**03 48 36.0**	**+0.8**
	23nm,0.3s							
KTMS	**Ketmen**	**2.99**	**256**	Pg		**Pn**	**03 47 57.4**	**-1.8**
	1.3nm,0.1s							
KTMS				Lg		Lg	03 48 36.0	
	23nm,0.3s							
MAKZ	**Makanchi**	**3.08**	**328**	⇑Pg		Pn	03 47 56.3	-4.0
	1.5nm,0.3s							
MAKZ				⇓Lg		Lg	03 48 32.3	
	11nm,0.7s							
ZSN	**Zaisan**	**3.25**	**6**	*eP*		**Pn**	**03 48 02.0**	**-0.7**
	8.5nm,0.3s							
ZSN				*eS*		**Sn**	**03 48 43.0**	**+1.5**
	14nm,0.6s							
ZSN	**Zaisan**	**3.25**	**6**	Pg		**Pn**	**03 48 02.3**	**-0.4**
	8.5nm,0.3s							
ZSN				Lg		Lg	03 48 43.0	
	14nm,0.6s							
DJR	**Jarkent**	**3.27**	**274**	*eP*		**Pn**	**03 48 02.1**	**-1.0**
	5.6nm,0.5s							
DJR				*eS*		**Sn**	**03 48 43.4**	**+1.3**
	11nm,0.4s							
DJR	**Jarkent**	**3.27**	**274**	Pg		**Pn**	**03 48 02.1**	**-1.0**
	5.6nm,0.5s							
DJR				Lg		Lg	03 48 43.4	
	11nm,0.4s							
PDGK	**Podgornoye**	**3.62**	**257**	Pg		**Pn**	**03 48 08.3**	**+0.4**
	1.4nm,0.4s							
PDGK				Lg		Lg	03 48 53.8	
	8.3nm,0.6s							
PDGK	**Podgornoye**	**3.62**	**257**	⇓Pg		**Pn**	**03 48 10.8**	**+2.9**
	1.2nm,0.3s							
PDGK				⇓Lg		Lg	03 48 53.2	
	16nm,0.6s							
SHLS	**Shalkode**	**3.69**	**255**	*eP*		Pn	03 48 05.3	-3.6
	4.9nm,0.4s							
SHLS				*eS*		**Sn**	**03 48 48.6**	**-3.9**
	27nm,0.7s							
SHLS	**Shalkode**	**3.69**	**255**	Pg		Pn	03 48 05.3	-3.6
	8.4nm,0.4s							
SHLS				Lg		Lg	03 48 48.6	
	76nm,0.5s							
KAPS	**Kapalarasan**	**3.71**	**288**	*eP*		**Pn**	**03 48 09.8**	**+0.8**
	1.7nm,0.5s							
KAPS				*eS*		**Sn**	**03 48 56.5**	**+3.8**
	5.5nm,0.4s							
KAPS	**Kapalarasan**	**3.71**	**288**	Pg		**Pn**	**03 48 09.8**	**+0.8**
	1.7nm,0.5s							
KAPS				Lg		Lg	03 48 56.5	
	5.5nm,0.4s							
UZB	**Uzynbulak**	**4.00**	**256**	*eP*		**Pn**	**03 48 16.9**	**+3.7**
	3.4nm,0.7s							
UZB				*eS*		**Sb**	**03 49 08.9**	**-1.9**
	8.2nm,0.4s							
UZB	**Uzynbulak**	**4.00**	**256**	Pg		**Pn**	**03 48 16.9**	**+3.7**
	3.4nm,0.7s							
UZB				Lg		Lg	03 49 08.9	
	8.2nm,0.4s							
KPKS	**Kokpek**	**4.16**	**262**	*eP*		**Pn**	**03 48 19.4**	**+4.1**
	13nm,0.5s							
KPKS				*eS*		**Sb**	**03 49 13.2**	**-2.1**
	27nm,0.4s							
ARXS	**Arharly**	**4.68**	**272**	*eP*		Pn	03 48 27.9	+5.5
	4.7nm,0.5s							
ARXS				*eS*		**Sb**	**03 49 28.0**	**-2.3**
	13nm,0.7s							
ARXS	**Arharly**	**4.68**	**272**	Pg		Pn	03 48 27.9	+5.5
	4.7nm,0.5s							
ARXS				Lg		Lg	03 49 28.0	
	13nm,0.7s							

ECX ***13*** *04:05:15.9±0.9, 30˚.07N×114˚.19W, h14km±7km, MD3.4, ML3.6*
MEX ***13*** *04:05:17.5±0.5, 30˚.04N×114˚.12W, h5km, MD3.8*
IDC ***13*** *04:05:21.5±4.3, 30˚.13N×113˚.84W, h35km±27km, mb3.3/1, mb1 3.5/4, mb1mx3.3/31, mbtmp3.1/4, ML2.9/2, MS2.9/6, Ms1 2.9/6, ms1mx2.7/16, Error ellipse: s-maj=63.1km s-min=15.6km az=32.0*

ISC 13 04:05:12.5±2.1, 29.97N±0.10×114.17W±0.06, h7km±14km, n22, σ1$70/25, 1C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAHB	**Baha de los**	**0.53**	**93**	*eP*		Pn	04 05 36.9	+10
BAHB				*eS*		Sn	04 05 54.5	+19
SFX	**San Felipe**	**1.22**	**331**	*eP*		**Pn**	**04 05 35.6**	**-0.4**
SFX				*eS*		**Sb**	**04 05 50.4**	**-1.4**
SPX	**San Pedro Mart**	**1.54**	**314**	*eP*		**Pb**	**04 05 41.6**	**-0.1**
SPX				*i* S		**Sn**	**04 05 41.1**	**-0.3**
SPX	**San Pedro Mart**	**1.54**	**314**	*eP*		**Pb**	**04 05 41.6**	**-0.1**
SPX				*eS*		**Sn**	**04 06 00.7**	**-0.6**
SPX				⇑*e*			04 06 05.4	
SPX				IAML			04 06 05.4	
	comp=E,533nm,0.9s							
SPIG	**San Pedro Mart**	**1.55**	**314**	*eP*		**Pb**	**04 05 41.5**	**-0.3**
SPIG				*i* S		**Sn**	**04 06 01.1**	**-0.4**
SPIG	**San Pedro Mart**	**1.55**	**314**	*eP*		**Pb**	**04 05 41.6**	**-0.2**
SPIG				*eS*		**Sn**	**04 06 00.3**	**-1.2**
SQX	**San Quintin**	**1.60**	**293**	*eP*		**Pb**	**04 05 41.4**	**-1.0**
SQX				*eS*		**Sn**	**04 06 01.6**	**-0.6**
PIX	**Pinacate**	**1.70**	**21**	*eP*		**Pn**	**04 05 42.5**	**-0.1**
PIX				*eS*		**Sn**	**04 06 05.1**	**+0.5**
HSIG		**2.96**	**108**	*eP*		**Pb**	**04 06 03.9**	**-1.8**
CBX	**Cerro Bola**	**3.17**	**318**	*eP*		**Pn**	**04 06 04.2**	**+1.2**
CBX				*eS*		**Sn**	**04 06 42.0**	**+0.9**
CBX	**Cerro Bola**	**3.17**	**318**	*eP*		**Pn**	**04 06 04.4**	**+1.5**
CBX				IAML			04 06 57.7	
	comp=E,387nm,0.8s							
CBX				⇓*e*			04 06 57.7	
CBX				⇓*e*			04 07 08.8	
CBX				IAML			04 07 08.8	
	comp=N,218nm,0.8s							
TJIG	**Tijuana**	**3.26**	**319**	*i* P		**Pn**	**04 06 01.9**	**-2.3**
TJIG				*i* S		**Sn**	**04 06 41.8**	**-1.5**
BAR	**Barrett**	**3.45**	**322**	*eP*		**Pn**	**04 06 08.5**	**+1.7**
PFO	**Pinyon Flats O**	**4.12**	**332**	Pg		**Pg**	**04 06 32.0**	**+0.5**
	comp=N,1.1nm,0.3s,baz=162,slow=14,SNR=7.7							
PFO				Lg		Lg	04 07 23.3	
	comp=N,2.4nm,0.3s,baz=55,slow=20,SNR=8.3							
LPIG	**La Paz**	**6.78**	**149**	LR		LR	04 09 39.2	
	comp=N,81nm,18.3s,baz=341,slow=38							
NVAR	**Mina Array Bea**	**9.11**	**339**	Pn		Pn	04 07 33.2	+8.6
	comp=N,0.1nm,0.3s,baz=166,slow=15,SNR=2.9							
TXAR	**Lajitas Array**	**9.16**	**91**	Pn		**Pn**	**04 07 28.6**	**+3.4**
	comp=N,0.1nm,0.3s,baz=276,slow=12,SNR=4.3							
TXAR				Lg		Lg	04 10 02.6	
	comp=N,0.1nm,0.3s,baz=282,slow=31,SNR=2.4							
TXAR				LR		LR	04 11 11.8	
	comp=N,66nm,20.0s,baz=0.0,slow=39							
PDAR	**Pinedale Array**	**13.30**	**15**	Pn		**P**	**04 08 28.2**	**-3.7**
	baz=188,slow=13,SNR=4.7							
PDAR				LR		LR	04 13 48.1	
	comp=N,34nm,18.9s,baz=180,slow=39							
YBH	**Yreka Blue Hor**	**13.62**	**332**	LR		LR	04 13 35.9	
	comp=N,70nm,18.3s,baz=293,slow=36							
BBB	**Bella Bella**	**24.47**	**339**	LR		LR	04 21 51.7	
	comp=N,50nm,18.5s,baz=212,slow=40							
TKL	**Tuckaleechee C**	**26.10**	**69**	LR		LR	04 20 28.6	
	comp=N,28nm,18.8s,baz=288,slow=35							
ILAR	**Eielson Array**	**40.36**	**339**	P		**P**	**04 12 54.0**	**+3.4**
	comp=N,0.6nm,0.9s,baz=122,slow=8.6,SNR=5.5							

DJA 13 04:31:51.1±0.3, 9˚S±5˚×11˚5E±˚, h50km±4km, M3.6/11, MLv3.6/11, Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**0.13**	**276**	P		Pn	04 32 00.2	+1.2
DNP				S		Sn	04 32 08.2	+3.5
SRBI	**Singaraja**	**0.61**	**348**	P		Pn	04 32 05.2	+1.4
SRBI				S		Sn	04 32 15.7	+2.8
JAGI	**Jajag, Banyuwa**	**1.20**	**280**	P		Pn	04 32 11.7	+0.2
JAGI				S		Sn	04 32 26.6	0.0
TWSI	**Taliwang, Sumb**	**1.52**	**92**	P		Pn	04 32 16.5	+0.5
TWSI				S		Sn	04 32 36.0	+1.3
GMJI	**Gumukmas**	**1.92**	**282**	P		Pn	04 32 21.8	+0.4
GMJI				S		Sn	04 32 43.8	-0.6
KMMI	**Kalianget**	**2.12**	**320**	P		Pn	04 32 24.8	+0.7
PLAI	**Plampang**	**2.41**	**93**	P		Pn	04 32 29.9	+1.8
PLAI				S		Sn	04 32 58.6	+2.1
WBSI	**Waikabubak, Su**	**4.11**	**104**	P		Pn	04 32 52.0	+0.5
WBSI				S		Sn	04 33 34.4	-3.9
WOJI	**Wonogiri, Jawa**	**4.45**	**281**	P		Pn	04 32 56.5	+0.4
WOJI				S		Sn	04 33 47.5	+0.8
UGM	**Wanagama**	**4.83**	**279**	P		Pn	04 33 02.6	+1.3
UGM				S		Sn	04 33 55.5	-0.5

VAO ***13*** *04:45:17.0±0.7, 0˚.73S×77˚.81W, h10km, mb4.1*
IDC ***13*** *04:45:29.7±4.1, 0˚.43S×78˚.28W, h193km±48km, mb3.0/4, mb1 3.3/7, mb1mx3.2/28, mbtmp3.6/7, Error ellipse: s-maj=46.2km s-min=18.1km az=41.0*

ISC 13 04:45:21.7±1.0, 0˚.94S±0˚.07×77˚.8W±0˚.1, h35km, n39, σ1$34/30, mb3.5/4, 2D, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**1.32**	**331**	⇓*i* P		**Pn**	**04 45 44.1**	**0.0**
OTAV				*eS*		**Sn**	**04 46 00.6**	**-0.2**
OTAV				*i*			04 46 05.6	
	comp=Z,186nm,0.7s							
CMBC	**Cumbal**	**1.86**	**360**	⇓*eP*		**Pn**	**04 45 53.6**	**+2.1**
CMBC				*i*			04 46 31.5	
	comp=Z,35nm,0.6s							
PUAC	**Puerto Asis, P**	**1.93**	**40**	*eP*		Pn	04 45 59.8	+7.7
BBAC	**Balboa, Cauca**	**2.99**	**11**	*eP*		**Pn**	**04 46 07.5**	**+0.6**
BBAC				*eS*		**Sn**	**04 46 42.5**	**+0.8**
BBAC				*i*			04 46 48.1	
	comp=Z,73nm,0.4s							
PTLC	**Puerto Leguiza**	**3.21**	**70**	*eP*		Pn	04 46 18.9	+9.2
FLOC	**Florencia**	**3.31**	**41**	*eP*		Pn	04 46 15.8	+4.8
POPC	**Popayan, Colom**	**3.63**	**18**	*eP*		**Pn**	**04 46 16.0**	**+0.3**
GARC	**Garzon, Huila**	**3.88**	**37**	*eP*		Pn	04 46 24.2	+5.1
GR1C	**Gorgona, Isla**	**3.93**	**355**	*eP*		Pn	04 46 14.4	-5.1
MACC	**Macarena, Meta**	**5.01**	**52**	*eP*		Pn	04 46 41.3	+6.8
YOTC	**Yotoco, Valle**	**5.10**	**17**	*eP*		**Pn**	**04 46 33.6**	**-2.2**
ORTC	**Ortega, Tolima**	**5.46**	**28**	*eP*		**Pn**	**04 46 41.6**	**+1.0**
ATAH	**Atahualpa**	**6.19**	**185**	P		Pn	04 47

ESJX	**Sierra Juarez**	**2.54**	**323**		**Pn**	**05 09 41.3**	**-0.1**
113A	**Mohawk Valley,**	**2.81**	**7**	Pn	**Pn**	**05 09 44.9**	**+0.1**
CCX	**Cicese**	**2.86**	**312**	Pn	**Pn**	**05 09 47.4**	**+1.8**
HSIG		**2.96**	**108**	*e*P	**Pn**	**05 09 47.5**	**+0.6**
HSIG				*i* S	**Sn**	**05 10 21.9**	**-0.5**
HSIG		**2.96**	**108**	Pn	**Pn**	**05 09 44.6**	**-2.3**
HSIG		**2.96**	**108**	*e*P	**Pn**	**05 09 48.8**	**+1.9**
GLA	**Glamis**	**3.12**	**350**	Pn	**Pn**	**05 09 50.2**	**+1.0**
CBX	**Cerro Bola**	**3.17**	**318**	*e*P	**Pn**	**05 09 50.1**	**+0.2**
CBX				*i* S	**Sn**	**05 10 28.5**	**+0.6**
CBX	**Cerro Bola**	**3.17**	**318**		**Pn**	**05 09 50.1**	**+0.2**
CBX					**Sn**	**05 10 28.5**	**+0.6**
CBX	**Cerro Bola**	**3.17**	**318**	⇓*e*	**Sg**	**05 10 43.9**	**+2.2**
CBX				IAML		05 10 43.9	
	comp=E,276nm,0.9s						
CBX				IAML		05 10 48.7	
	comp=N,235nm,0.7s						
CBX				*e*		05 10 48.7	
BAR	**Barrett**	**3.45**	**322**		**Pn**	**05 09 54.6**	**+0.9**
GUYB	**Guaymas**	**3.55**	**125**	*i* P	**Pn**	**05 09 55.1**	**+0.2**
GUYB				*i* S	**Sn**	**05 10 37.2**	**+0.3**
TUC	**Tucson**	**3.71**	**50**	Pn	**Pn**	**05 09 56.8**	**-0.5**
Y14A	**Wickenburg**	**4.07**	**14**		**Pn**	**05 10 03.4**	**+1.1**
XPFO	**Pion Flat**	**4.12**	**332**	Pn	**Pn**	**05 10 03.8**	**+0.8**
X16A	**Lo Mia Camp, P**	**5.00**	**27**		**Pn**	**05 10 16.4**	**+1.3**
U15A	**North Rim**	**6.62**	**13**		**Pn**	**05 10 38.0**	**+0.5**
KNB	**Kanab**	**7.11**	**9**	Pn	**Pn**	**05 10 44.6**	**+0.5**
LENM	**Lemitar**	**7.39**	**54**	Pn	**Pn**	**05 10 47.4**	**-0.6**
CCUT	**Cedar City**	**7.59**	**5**		**Pn**	**05 10 51.6**	**+0.9**
BNM	**Barren Site**	**7.63**	**55**	Pn	**Pn**	**05 10 52.0**	**+0.7**

IDC 13 05:29:31.1±4.2, 4°31'S×151°73'E, *h*0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/20, mbtmp3.8/3, Error ellipse: s-maj=125.2km s-min=34.9km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.99**	**226**	P	P	05 34 38.5	+0.8
	2.3nm,0.3s,baz=54,slow=10,SNR=57						
ASAR	**Alice Springs**	**25.81**	**220**	P	P	05 35 03.9	-0.4
	0.4nm,0.3s,baz=49,slow=9.0,SNR=6.0						
MKAR	**Makanchi Array**	**79.26**	**319**	P	P	05 41 38.3	-0.2
	0.3nm,0.4s,baz=106,slow=7.0,SNR=4.6						

*KNET **13** 05:44:11.0±0.2, 43.03N×74.92E, *h*7km±3km, *ml*1.3, Error ellipse: s-maj=1.5km s-min=1.1km az=38.0*
*NNC **13** 05:44:11.5±0.3, 42.98N×74.96E, *h*0km, mb3.4, mpv3.0, Error ellipse: s-maj=3.8km s-min=1.2km az=156.0, Suspected Mining explosion.*
*SOME **13** 05:44:11.6, 43.03N×74.92E*
ISC 13 05:44:10.6±0.8, 42.95N±0.03×74.91E±0.02, *h*0km, n23, σ0 61/38, 13C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.13**	**291**	⇑P	**Pg**	**05 44 13.6**	**+0.5**
CHMS	178nm,0.1s,SNR=258			⇓S	**Sg**	**05 44 16.1**	**+1.4**
	228nm,0.2s						
KBK	**Karagaybulak**	**0.30**	**175**	⇓P	**Pb**	**05 44 19.0**	**+0.1**
	109nm,0.1s,SNR=13						
USP	**Ospenovka**	**0.44**	**316**	⇑P	**Pg**	**05 44 18.4**	**-0.6**
USP	21nm,0.1s,SNR=75			⇑S	**Sg**	**05 44 24.5**	**-0.2**
	64nm,0.2s						
AAK	**Ala-Archa**	**0.44**	**225**	⇓P	**Pb**	**05 44 21.0**	**-0.4**
	8.3nm,0.2s,SNR=8.4						
AAK				⇑S	**Sb**	**05 44 28.4**	**-0.2**
	18nm,0.2s						
AAK	**Ala-Archa**	**0.44**	**225**	⇑P	**Pb**	**05 44 20.4**	**-1.0**
	3.5nm,0.4s						
AAK				⇑S	**Sb**	**05 44 28.3**	**-0.3**
	4.3nm,0.3s						
TKM2	**Tokmak 2**	**0.50**	**93**	⇑P	**Pg**	**05 44 21.0**	**+0.8**
	12nm,0.1s,SNR=5.9						
TKM2				⇑S	**Sg**	**05 44 28.2**	**+1.4**
	22nm,0.1s						
TKM2	**Tokmak 2**	**0.50**	**93**	⇑P	**Pg**	**05 44 20.8**	**+0.6**
	1.4nm,0.3s						
TKM2				⇑S	**Sg**	**05 44 27.4**	**+0.7**
	3.4nm,0.3s						
DGS	**Degeres**	**0.69**	**65**	P	**Pg**	**05 44 24.4**	**+0.5**
	5.8nm,0.2s						
DGS				S	**Sg**	**05 44 33.9**	**+1.0**
	8.8nm,0.2s						
KST	**Kastek**	**0.78**	**83**	P	**Pb**	**05 44 26.5**	**-0.5**
	6.5nm,0.2s						
KST				S	**Sb**	**05 44 37.2**	**-1.0**
	9.3nm,0.3s						
UCH	**Uchtor**	**0.78**	**202**	⇑P	**Pb**	**05 44 27.3**	**-0.1**
	2.7nm,0.1s,SNR=23						
EKS2	**Erkin-Say**	**0.89**	**251**	⇑P	**Pb**	**05 44 28.6**	**-0.3**
	9.7nm,0.1s,SNR=39						
EKS2				⇓S	**Sb**	**05 44 42.4**	**+1.0**
	4.7nm,0.2s						
KZA	**Kyzart**	**0.91**	**164**	⇓P	**Pn**	**05 44 30.7**	**-0.4**
	4.4nm,0.2s,SNR=13						
KZA				⇑S	**Sn**	**05 44 44.7**	**-0.4**
	5.5nm,0.2s						
KRBS	**Karabastau**	**0.93**	**37**	P	**Pg**	**05 44 28.5**	**+0.1**
	2.6nm,0.3s						
KRBS				S	**Sg**	**05 44 40.6**	**+0.2**
	2.6nm,0.3s						
AML	**Almayashu**	**1.22**	**228**	⇓P	**Pn**	**05 44 35.2**	**-0.1**
	2.7nm,0.1s,SNR=16						
IZV	**Izvestkoviy**	**1.25**	**86**	P	**Pn**	**05 44 35.4**	**-0.2**
	7.9nm,0.1s						
IZV				S	**Sb**	**05 44 52.5**	**+0.6**
	18nm,0.2s						
MRKS	**Merke**	**1.26**	**261**	P	**Pn**	**05 44 35.8**	**+0.2**
	6.6nm,0.1s						
MRKS				S	**Sn**	**05 44 53.1**	**-0.2**
	14nm,0.2s						
KTBS	**Karatobe**	**1.50**	**59**	P	**Pn**	**05 44 38.7**	**-0.1**
	5.5nm,0.3s						
KTBS				S	**Sg**	**05 44 58.0**	**-0.7**
	8.6nm,0.7s						
MDOK	**Medeo**	**1.58**	**82**	Pg	**Pg**	**05 44 40.9**	**+0.1**
	12nm,0.2s						
MDOK				Lg	Lg	05 45 01.6	
	6.0nm,0.4s						
CHKK	**Chushkaly**	**1.76**	**59**	P	**Pb**	**05 44 43.8**	**0.0**
	4.9nm,0.2s						
CHKK				S	**Sg**	**05 45 07.1**	**0.0**
	17nm,0.2s						
BTLS	**Baital**	**2.18**	**344**	Pg	**Pb**	**05 44 51.1**	**+0.1**
BTLS				Lg	Lg	05 45 19.1	
ARXS	**Arharly**	**2.46**	**58**	Pg	**Pb**	**05 44 55.9**	**0.0**
	3.8nm,0.2s						
ARXS				Lg	Lg	05 45 27.8	
	5.7nm,0.3s						
SATY	**Saty**	**2.56**	**86**	Pg	**Pg**	**05 44 58.9**	**-0.9**
	5.2nm,0.2s						
SATY				Lg	Lg	05 45 32.6	
	8.9nm,0.2s						
PDGK	**Podgornoye**	**3.37**	**82**	Pg	**Pg**	**05 45 14.8**	**-0.4**
	0.9nm,0.2s						
PDGK				Lg	Lg	05 45 59.8	
	1.6nm,0.4s						

*BJI **13** 05:54:32.3±0.0, 3.47S×145.91E, *h*19km, mB5.4/66, mb5.0/62, Ms5.4/79, Ms7 5.2/75*
*IDC **13** 05:54:33.3±0.5, 3.43S×145.45E, *h*0km, mb4.8/22, mb1 5.0/27, mb1mx5.0/32, mbtmp4.9/27, ML4.7/3, MS5.0/34, Ms1 5.0/34, ms1mx4.9/39, Error ellipse: s-maj=15.1km s-min=11.1km az=79.0*
*MOS **13** 05:54:36.5±1.0, 3.48S×145.40E, h33km, mb5.3/32, MS4.8/5, Error ellipse: s-maj=9.8km s-min=5.9km az=112.5*
*GCMT **13** 05:54:37.8±0.1, 3.34S±0.01×145.50E±0.01, h12km, MW5.6/160, Moment Tensor Solution. s132,c242; s160,c321; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr=0.01±.03; Mθθ=0.31±.03; Mφφ=0.31±.03; Mrθ=0.08±.07; Mθφ=2.91±.02; Mφr=-0.23±.07; Best double couple: M=2.93600×10^17 NP1:φs=267.00000°, δ86.00000°, λ=-1.00000°. NP2:φs=357.00000°, δ89.00000°, λ=-176.00000°. Principal axes: T 2.9360, Plg2.0000°, Azm132.0000°; N 0.0010, Plg85.0000°, Azm15.0000°; P -2.9370, Plg4.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **13** 05:54:37.7±0.8, 3.3S×145.1E, *h*31km±7km, M5.2/36, mb5.2/36, mB5.6/28, MLv5.5/6, Mw(mB)5.2/28, Mwp5.5/12*
*NEIC **13** 05:54:37.8±1.3, 3.45S±0.07×145.43E±0.07, h30km±4km, mb5.3/101, Ms_20 5.6/732, Mww5.6, Mwc5.6(GCMT), Error ellipse: s-maj=11.1km s-min=9.7km az=208.0*
*NEIC **13** 05:54:38, 3.35S×145.52E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr-0.01; Mθθ-0.36; Mφφ 0.37; Mrθ-0.36; Mθφ 2.96; Mφr-0.27; Fault plane solution: Mo3.02000×10^17 NP1:φs 176.00000°, δ83.00000°, λ 175.00000°. NP2:φs 267.00000°, δ85.00000°, λ 7.00000°. Principal axes: T 3.0509, Plg8.0000°, Azm132.0000°; N -0.0715, Plg82.0000°, Azm299.0000°; P -2.9794, Plg2.0000°, Azm41.0000°;*
*NEIC **13** 05:54:41, 3.24S×145.66E, h14km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr-0.38; Mθθ-0.16; Mφφ 0.54; Mrθ 0.34; Mθφ 2.53; Mφr-0.74; Fault plane solution: Mo2.70000×10^17 NP1:φs 265.00000°, δ72.00000°, λ -8.00000°. NP2:φs 357.00000°, δ81.00000°, λ -162.00000°. Principal axes: T 2.7775, Plg6.0000°, Azm130.0000°; N -0.1642, Plg70.0000°, Azm22.0000°; P -2.6132, Plg19.0000°, Azm222.0000°;*
ISC 13 05:54:38.1±0.5, 3.50S±0.03×145.52E±0.04, h31km±3km, h31km:pP-P, n747, σ1s63/404, mb5.2/122, MS5.6/427, 18C-6D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.91**	**281**	Pn	**Pn**	**05 55 46.6**	**-3.2**
	4.3nm,0.3s,baz=134,slow=5.1,SNR=14						
JAY				LR	LR	05 57 35.1	
	comp=Z,29μm,19.0s,baz=72,slow=38						
JAY	**Jayapura**	**4.91**	**281**	P	**Pn**	**05 55 46.5**	**-3.4**
GENI	**Genyem**	**5.42**	**279**	P	**Pn**	**05 55 54.1**	**-2.8**
	2.8nm20μm6μm457nm,1.1s						
PMG	**Port Moresby**	**6.09**	**165**	Pn	**Pn**	**05 56 06.8**	**+0.8**
	19nm,0.3s,baz=11,slow=6.3,SNR=14						
PMG	**Port Moresby**	**6.09**	**165**	*e*P	**Pn**	**05 56 05.5**	**-0.5**
PMG				pmax	pmax		
	comp=Z,244nm,1.3s						
PMG	**Port Moresby**	**6.09**	**165**	Pn	**Pn**	**05 56 06.6**	**+0.6**
KRVT	**Keravat (AS076**	**6.54**	**97**	Pn	**Pn**	**05 56 13.7**	**+1.5**
	comp=Z,14nm,0.3s,baz=220,slow=0.6,SNR=70						
RABL	**Rabaul**	**6.66**	**96**		**Pn**	**05 56 15.2**	**+1.3**
SMPI	**Sarmi**	**6.97**	**282**	P	**Pn**	**05 56 15.7**	**-2.4**
	comp=Z,0.7nmcomp=Z,11μmcomp=Z,5μmcomp=Z,176nm,1.1s						
MMPI	**Merauke**	**7.10**	**226**	P	**Pn**	**05 56 18.6**	**-1.4**
	comp=Z,4.1nmcomp=Z,24μmcomp=Z,429nm,0.5s						
COEN	**Coen**	**10.65**	**192**	P	**Pn**	**05 57 11.5**	**+2.9**
	baz=11,SNR=21						
COEN	**Coen**	**10.65**	**192**	Pn	**Pn**	**05 57 10.2**	**+1.6**
FAKI	**Fak Fak**	**13.27**	**272**	P	**Pn**	**05 57 43.5**	**-1.0**
	comp=Z,5μmcomp=Z,94nm,1.3s						
SIJI	**Sorong**	**14.48**	**280**	Pn	**Pn**	**05 58 02.2**	**+1.1**
	comp=Z,1.5nm,0.3s,baz=98,slow=9.4,SNR=7.1						
SIJI				LR	LR	06 03 42.6	
	comp=Z,3μm,18.6s,baz=101,slow=38						
MTSU	**Mount Surprise**	**14.59**	**185**	P	**Pn**	**05 58 04.9**	**+2.4**
	baz=31,SNR=6.6						
HNR	**Honiara**	**15.49**	**113**	Pn	**Pn**	**05 58 16.4**	**+1.9**
	comp=Z,45nm,0.3s,baz=217,slow=3.1,SNR=6.5						
HNR				LR	LR	06 03 14.4	
	comp=Z,7μm,21.8s,baz=285,slow=33						
HNR	**Honiara**	**15.49**	**113**	P	**P**	**05 58 17.5**	**-1.1**
HNR				pmax	pmax		
	comp=Z,642nm,0.8s						
HNR	**Honiara**	**15.49**	**113**	Pn	**P**	**05 58 17.5**	**-1.1**
KDU	**Kakadu**	**15.81**	**234**	P	**Pn**	**05 58 16.8**	**-1.7**
	baz=16,SNR=16						
PATS	**Pohnpei**	**16.38**	**51**	P	**Pn**	**05 58 25.6**	**-0.4**
	baz=16,SNR=25						
PATS	**Pohnpei**	**16.38**	**51**	Pn	**Pn**	**05 58 25.5**	**-0.5**
CTA	**Charters Tower**	**16.50**	**178**	Pn	**P**	**05 58 31.6**	**+1.8**
	comp=Z,1.3nm,0.3s,baz=346,slow=11,SNR=10						
CTA				LR	LR	06 04 49.4	
	comp=Z,5μm,21.3s,baz=1.5,slow=37						
CTAO	**Charters Tower**	**16.50**	**178**	P	**P**	**05 58 31.7**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,125nm,1.5s						
CTAO	**Charters Tower**	**16.50**	**178**	P	**P**	**05 58 31.7**	**+1.9**
MTN	**Manton Dam**	**16.99**	**236**	P	**Pn**	**05 58 33.5**	**-0.1**
	baz=17,SNR=49						
MTN	**Manton Dam**	**16.99**	**236**		**Pn**	**05 58 33.8**	**+0.2**
GUMO	**Guam**	**16.99**	**358**	LR	LR	06 03 11.4	
	comp=Z,3μm,21.6s,baz=178,slow=31						
QIS	**Mount Isa**	**17.91**	**198**	P	**P**	**05 58 45.5**	**+0.1**
	baz=18,SNR=13						
NLAI	**Namlea**	**18.39**	**270**	P	**P**	**05 58 50.6**	**-0.2**
	comp=Z,3μmcomp=Z,91nm,1.0s						
WB0	**Warramunga Arr**	**19.48**	**213**	P	**P**	**05 59 02.1**	**-0.6**
WB0				IAmb	IAmb	05 59 06.7	
	comp=Z,342nm,1.4s						
WR0	**Warramunga Arr**	**19.55**	**212**	P	**P**	**05 59 03.1**	**-0.4**
WR0				IAmb	IAmb	05 59 10.0	
	comp=Z,146nm,0.8s						
SANI	**Sanana**	**19.56**	**274**	P	**P**	**05 59 01.8**	**-1.8**
	comp=Z,3μmcomp=Z,83nm,1.2s						
WRAB	**Tennant Creek**	**19.64**	**213**	*de*P	**P**	**05 59 02.9**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,387nm,1.7s						
WRAB	**Tennant Creek**	**19.64**	**213**	P	**P**	**05 59 04.0**	**-0.4**
WRAB				IAmb	IAmb	05 59 08.4	
	comp=Z,370nm,1.4s						
WB2	**Warramunga Arr**	**19.64**	**213**	P	**P**	**05 59 04.0**	**-0.5**
WC3	**Warramunga Arr**	**19.64**	**213**	P	**P**	**05 59 03.9**	**-0.6**
	baz=20						
WRA	**Warramunga Arr**	**19.65**	**213**	P	**P**	**05 59 03.7**	**-0.9**
	comp=Z,7.3nm,0.3s,baz=31,slow=11,SNR=247						
WRA				S	**Sn**	**06 02 45.6**	**-0.4**
	baz=40,slow=26,SNR=7.9						
WRA				LR	LR	06 07 29.5	
	comp=Z,15μm,18.1s,baz=35,slow=40						
WRA	**Warramunga Arr**	**19.65**	**213**	*i* P	**P**	**05 59 03.2**	**-1.3**
WRA				pmax	pmax		
	comp=Z,236nm,1.3s						
WRA	**Warramunga Arr**	**19.65**	**213**	P	**P**	**05 59 04.3**	**-0.2**
KNRA	**Kununurra**	**20.46**	**233**	P	**P**	**05 59 12.0**	**-1.3**
	baz=20,SNR=63						
KNRA	**Kununurra**	**20.46**	**233**	P	**P**	**05 59 12.2**	**-1.1**
KMSI	**Cibinong**	**21.91**	**280**	P	**P**	**05 59 30.9**	**+1.9**
	comp=Z,256nm,0.9s						
SOEI	**Soe**	**22.00**	**253**	P	**P**	**05 59 29.6**	**-0.5**
	comp=Z,5μmcomp=Z,508nm,0.9s						
SOEI	**Soe**	**22.00**	**253**	P	**P**	**05 59 29.4**	**-0.7**
EIDS	**Eidsvold**	**22.39**	**167**	P	**P**	**05 59 35.6**	**+1.5**
	baz=23,SNR=3.2						
DAV	**Davao City (W)**	**22.51**	**298**	LR	LR	06 08 05.7	
	comp=Z,2μm,18.2s,baz=112,slow=36						
DAV	**Davao City (W)**	**22.51**	**298**	*ie*P	**P**	**05 59 41.1**	**+5.7**
BATI	**Baumata**	**22.69**	**252**	P	**P**	**05 59 37.5**	**+0.1**
	comp=Z,72nm,0.6s,baz=126,slow=15,SNR=3.2						
BATI				LR	LR	06 10 56.6	
	comp=Z,4μm,18.4s,baz=93,slow=43						
BATI	**Baumata**	**22.69**	**252**	P	**P**	**05 59 36.4**	**-1.0**
	comp=Z,3μmcomp=Z,189nm,1.1s						
LUWI	**Luwuk**	**22.86**	**276**	P	**P**	**05 59 36.6**	**-2.6**
	comp=Z,4μmcomp=Z,306nm,1.5s						
LUWI	**Luwuk**	**22.86**	**276**	P	**P**	**05 59 40.3**	**+1.1**
GTOI	**Gorontalo**	**22.87**	**280**	P	**P**	**05 59 39.7**	**+0.4**
	comp=Z,2μmcomp=Z,128nm,1.1s						
AS31	**Alice Springs**	**22.98**	**208**	P	**P**	**05 59 40.5**	**+0.2**
ASAR	**Alice Springs**	**22.98**	**208**	P	**P**	**05 59 39.5**	**-0.9**
	comp=Z,62nm,1.0s,baz=40,slow=8.4,SNR=144						
ASAR				PcP	**PcP**	**06 03 29.7**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=11,slow=1.7,SNR=4.5						
ASAR				S	**S**	**06 03 50.1**	**+1.2**
	comp=Z,2.7nm,0.9s,baz=21,slow=21,SNR=2.7						
ASAR				LR	LR	06 09 12.4	
	comp=Z,5μm,21.5s,baz=34,slow=38						
ASAR	**Alice Springs**	**22.98**	**208**	P	**P**	**05 59 39.9**	**-0.4**
ASAR	**Alice Springs**	**22.98**	**208**	P	**P**	**05 59 39.9**	**-0.4**
QLP	**Quilpie**	**22.98**	**183**	P	**P**	**05 59 41.0**	**+0.7**
	baz=23,SNR=7.3						
RMQ	**Roma**	**23.07**	**173**	P	**P**	**05 59 42.4**	**+1.2**
	baz=23,SNR=17						
MMRI	**Maumere**	**23.70**	**257**	P	**P**	**05 59 42.6**	**-5.0**
	comp=Z,111nm,0.8s						
EDFI	**Ende, Flores**	**24.25**	**256**	P	**P**	**05 59 51.7**	**-1.1**
	comp=Z,736nmcomp=Z,47nm,1.4s						
FITZ	**Fitzroy Crossi**	**24.28**	**232**	P	**P**	**05 59 51.6**	**-1.3**
	comp=Z,50nm,0.6s,baz=46,slow=9.6,SNR=74						
FITZ				LR	LR	06 08 54.9	
	comp=Z,5μm,21.9s,baz=52,slow=36						
FITZ	**Fitzroy Crossi**	**24.28**	**232**	P	**P**	**05 59 51.9**	**-1.0**
	baz=24,SNR=72						
FITZ	**Fitzroy Crossi**	**24.28**	**232**	P	**P**	**05 59 51.5**	**-1.4**
BNSI	**Bone**	**25.37**	**267**	P	**P**	**06 00 02.9**	**+0.1**
	comp=Z,3μmcomp=Z,191nm,1.3s						
BASI	**Baing, Sumba**	**25.64**	**254**	P	**P**	**06 00 06.3**	**+1.1**
	comp=Z,5μmcomp=Z,132nm,1.3s						
SPSI	**Sidrap Palu**	**25.70**	**268**	P	**P**	**06 00 00.8**	**-5.1**
	comp=Z,2μmcomp=Z,171nm,1.4s						
KAPI	**Kappang**	**25.74**	**266**	P	**P**	**06 00 05.8**	**-0.4**
	comp=Z,60nm,0.9s,baz=75,slow=4.6,SNR=16						
KAPI				LR	LR	06 10 50.9	
	comp=Z,2μm,21.3s,baz=86,slow=38						
KAPI	**Kappang**	**25.74**	**266**	P	**P**	**06 00 07.4**	**+1.2**
MPSI	**Mapaga**	**25.89**	**278**	P	**P**	**06 00 06.0**	**-1.6**
	comp=Z,932nmcomp=Z,48nm,1.1s						
WRKA	**Warakurna**	**27.08**	**216**	P	**P**	**06 00 17.4**	**-0.8**
	baz=27,SNR=210						
ARMA	**Armidale**	**27.39**	**168**	P	**P**	**06 00 21.5**	**+0.5**
	baz=28,SNR=4.4						
ARMA	**Armidale**	**27.39**	**168**	P	**P**	**06 00 24.3**	**+3.2**
ARMA				IAmb	IAmb	06 00 35.2	
	comp=Z,124nm,1.6s						
DZM	**Mont Dzumac**	**27.44**	**134**	*e*P	**P**	**06 00 22.9**	**+1.4**
	comp=Z,36nm,0.7s						
DZM				*e*S	**S**	**06 04 58.3**	**-2.0**
	comp=Z,3μm,25.8s						
DZM				*e*LR	LR	06 07 18.4	
	comp=Z,11μm,25.9s						
DZM	**Mont Dzumac**	**27.44**	**134**	P	**P**	**06 00 23.0**	**+1.4**
	comp=Z,65nm,1.1s,baz=343,slow=8.8,SNR=12						
DZM				LR	LR	06 10 09.1	
	comp=Z,6μm,19.2s,baz=304,slow=34						
DZM	**Mont Dzumac**	**27.44**	**134**	P	**P**	**06 00 23.7**	**+2.1**
DZM				IAmb	IAmb	06 00 26.2	
	comp=Z,47nm,0.9s						
CMSA	**Cobar Meteorol**	**27.89**	**180**	P	**P**	**06 00 25.9**	**+0.6**
	baz=28,SNR=5.2						
MYLDM	**Lahad Datu**	**28.34**	**288**	P	**P**	**06 00 31.8**	**+2.3**
MYLDM				IAMs_20	IAMs_20	06 07 19.2	
	comp=Z,10μm,20.0s						
STKA	**Stephens Creek**	**28.47**	**187**	P	**P**	**06 00 30.5**	**0.0**
	comp=Z,5.3nm,0.6s,baz=0.7,slow=11,SNR=9.1						
STKA				LR	LR	06 12 32.6	
	comp=Z,4μm,20.7s,baz=5.2,slow=38						
STKA	**Stephens Creek**	**28.47**	**187**	P	**P**	**06 00 30.8**	**+0.2**
	baz=29,SNR=5.8						
STKA	**Stephens Creek**	**28.47**	**187**	P	**P**	**06 00 30.3**	**-0.2**
HTT	**Hallett**	**30.41**	**191**	P	**P**	**06 00 48.0**	**+0.2**
	baz=31,SNR=4.6						
BBOO	**Buckleboo**	**30.48**	**196**	P	**P**	**06 00 48.1**	**-0.2**
	baz=31,SNR=15						
BBOO	**Buckleboo**	**30.48**	**196**	P	**P**	**06 00 48.4**	**+0.1**
BBOO				IAMs_20	IAMs_20	06 13 58.8	
	comp=Z,8μm,21.0s						
MBWA	**Marble Bar**	**30.61**	**233**	IAMs_20	IAMs_20	06 14 08.1	
	comp=Z,7μm,18.0s						
PSAD1	**Pilbara Seismi**	**30.69**	**232**	IAMs_20	IAMs_20	06 14 10.2	
	comp=Z,9μm,20.0s						
PSAC2	**Pilbara Seismi**	**30.69**	**232**	IAMs_20	IAMs_20	06 14 26.2	
	comp=Z,10μm,18.0s						
PSAB2	**Pilbara Seismi**	**30.72**	**232**	IAMs_20	IAMs_20	06 14 12.0	
	comp=Z,8μm,19.0s						
PSAA3	**Pilbara Seismi**	**30.73**	**232**	IAMs_20	IAMs_20	06 14 13.4	
	comp=Z,8μm,20.0s						
PSA00	**Pilbara Seismi**	**30.74**	**232**	P	**P**	**06 00 50.3**	**-0.5**
PSA00					**pP**	**06 00 53.9**	**-5.1**
PSA00				IAmb	IAmb	06 00 57.5	
	comp=Z,40nm,1.1s						
PSA00				IAMs_20	IAMs_20	06 14 12.5	
	comp=Z,8μm,19.0s						
PSAC1	**Pilbara Seismi**	**30.75**	**232**	IAMs_20	IAMs_20	06 14 13.7	
	comp=Z,9μm,20.0s						
PSAB1	**Pilbara Seismi**	**30.76**	**232**	IAMs_20	IAMs_20	06 14 13.0	
	comp=Z,8μm,19.0s						
YNG	**Young**	**30.76**	**175**	P	**P**	**06 00 51.7**	**+0.9**
	baz=31,SNR=7.6						
KKM	**Kota Kinabalu**	**30.77**	**288**	P	**P**	**06 00 55.0**	**+3.8**
KKM				IAmb	IAmb	06 00 55.7	
	comp=Z,32nm,0.9s						
PSAD3	**Pilbara Seismi**	**30.83**	**232**	IAMs_20	IAMs_20	06 14 15.9	
	comp=Z,8μm,21.0s						
H11N1	**WAKE ISLAND Hy**	**31.20**	**42**	T	T	06 33 38.1	
	baz=225,slow=76,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**31.21**	**42**	T	T	06 33 36.8	
	baz=225,slow=76,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**31.21**	**41**	T	T	06 33 43.1	
	baz=225,slow=76,SNR=7.0						
FORT	**Forrest**	**31.75**	**209**	P	**P**	**06 00 59.8**	**+0.3**
	baz=32,SNR=24						
FORT	**Forrest**	**31.75**	**209**	P	**P**	**06 00 59.8**	**+0.3**
FORT				IAMs_20	IAMs_20	06 15 19.1	
	comp=Z,8μm,19.0s						
ARPS	**Mount Arapiles**	**33.28**	**185**	P	**P**	**06 01 13.9**	**+1.0**
	baz=34,SNR=5.4						
SBUM	**Sibu**	**33.81**	**280**	P	**P**	**06 01 20.0**	**+2.2**
TOO	**Toolangi**	**33.91**	**180**	IAmb	IAmb	06 01 50.7	
	comp=Z,40nm,1.4s						
MEEK	**Meekatharra**	**34.54**	**226**	P	**P**	**06 01 23.3**	**-0.7**
	baz=35,SNR=4.5						
MSVF	**Nonsavu**	**34.87**	**116**	*d* P	**P**	**06 01 27.4**	**+0.4**
MSVF				pmax	pmax		
	comp=Z,65nm,1.1s						
**MSV

SSE LR LR
comp=Z,1µm,23.1s
SSE LR LR
comp=Z,3µm,21.3s
SSE Sheshan 41.50 328 IAMs_20 IAMs_20 06 16 34.8
comp=Z,6µm,20.0s
QIZ Qiongzhong 41.64 304 P **P** **06 02 22.6 -1.3**
QIZ sP **pP** **06 02 30.3 -2.0**
QIZ S **S** **06 08 39.9 +1.2**
QIZ sS **pS** **06 08 49.9 +1.4**
QIZ pmax pmax
comp=Z,230nm,7.3s
QIZ LR LR
comp=Z,1µm,24.5s
QIZ LR LR
comp=Z,1µm,15.7s
QIZ LR LR
comp=Z,2µm,23.5s
TJN Taejon 43.15 338 *ce*P **P** **06 02 34.6 -1.3**
NJ2 Nanjing 43.50 326 *e*P **P** **06 02 38.8 0.0**
NJ2 S **S** **06 09 07.5 +1.8**
NJ2 pmax pmax
comp=Z,460nm,4.2s
NJ2 LR LR
comp=Z,4µm,18.3s
NJ2 LR LR
comp=Z,2µm,18.3s
NJ2 LR LR
comp=Z,4µm,20.6s
KSRS Korea Array 43.91 340 P **P** **06 02 41.1 -0.9**
comp=Z,12nm,0.7s,baz=157,slow=8.9,SNR=36
KSRS LR LR 06 18 27.6
comp=Z,3µm,20.5s,baz=160,slow=33
KSAR Wonju Array Be 43.91 340 P **P** **06 02 40.4 -1.7**
KSAR Wonju Array Be 43.91 340 P **P** **06 02 40.4 -1.7**
URZ Urewera 45.03 144 P **P** **06 02 51.7 +0.7**
comp=Z,20nm,1.1s,baz=312,slow=4.3,SNR=3.0
URZ Urewera 45.03 144 IAmb IAmb 06 04 14.1
comp=Z,39nm,1.2s
WHN Wuhan 45.08 321 ⇓P **P** **06 02 52.3 +0.8**
WHN S **S** **06 09 33.0 +4.2**
WHN pmax pmax
comp=Z,1µm,4.0s
WHN LR LR
comp=Z,3µm,12.1s
WHN LR LR
comp=Z,1µm,9.7s
WHN LR LR
comp=Z,4µm,18.3s
TUWZ Tuamarina 45.56 150 P **P** **06 02 54.8 -0.4**
LTZ Lake Taylor 45.79 152 IAMs_20 IAMs_20 06 19 21.3
comp=Z,5µm,21.0s
RPZ Rata Peaks 45.98 154 IAMs_20 IAMs_20 06 20 19.4
comp=Z,6µm,20.0s
OXZ Oxford 46.11 153 IAMs_20 IAMs_20 06 19 54.7
comp=Z,4µm,20.0s
LBZ Lake Benmore 46.16 155 IAMs_20 IAMs_20 06 20 21.9
comp=Z,4µm,22.0s
RPSI Rantau Prapat 46.98 277 P **P** **06 03 05.3 -1.5**
PSI Prapat 46.99 277 LR LR 06 26 25.9
comp=Z,742nm,18.9s,baz=91,slow=41
PSI Prapat 46.99 277 P **P** **06 03 05.3 -1.8**
PSI pmax pmax
comp=Z,110nm,1.5s
YUK Yuzh-Kuril'sk 47.32 0 P **P** **06 03 05.8 -3.1**
YUK S **S** **06 10 00.6 +0.1**
ASAJ Asahikawa 47.47 357 P **P** **06 03 09.2 -0.9**
ASAJ pmax pmax
comp=Z,79nm,1.3s
JKA Kamikawa-asahi 47.47 357 P **P** **06 03 09.2 -0.9**
TIA Tai'an 47.59 329 P **P** **06 03 09.9 -1.3**
DL2 Dalian 47.62 335 P **P** **06 03 09.1 -2.2**
DL2 PP **PP** **06 04 59.8 -3.4**
DL2 S **S** **06 10 04.3 -0.6**
DL2 pmax pmax
comp=Z,12nm,1.0s
DL2 pmax pmax
comp=Z,250nm,7.4s
DL2 LR LR
comp=Z,2µm,22.0s
DL2 LR LR
comp=Z,2µm,20.2s
DL2 LR LR
comp=Z,3µm,22.0s
SLVN Son La 47.64 303 P **P** **06 03 11.7 -0.2**
SLVN IAmb IAmb 06 03 19.8
comp=Z,45nm,1.1s
GYA Guiyang 47.94 311 ⇑P **P** **06 03 13.8 -0.4**
GYA sP pwP 06 03 24.6 -0.6
GYA S **S** **06 10 13.9 +3.7**
GYA pmax pmax
comp=Z,300nm,3.5s
GYA LR LR
comp=Z,1µm,18.4s
GYA LR LR
comp=Z,1µm,21.9s
GYA LR LR
comp=Z,2µm,22.4s
ENH Enshi 48.10 317 IAmb IAmb 06 03 43.8
comp=Z,31nm,1.2s
ENH IAMs_20 IAMs_20 06 20 17.6
comp=Z,4µm,22.0s
GSI Gunungsitoli 48.16 275 P **P** **06 03 14.1 -1.9**
KUR Kuril'sk 48.56 2 *i* P **P** **06 03 19.4 +0.9**
JOHN Johnston Islan 48.73 64 IAMs_20 IAMs_20 06 20 25.9
comp=Z,3µm,19.0s
USA0B Ussuriysk Arra 49.02 347 *i* P **P** **06 03 21.5 -0.5**
USA0B Ussuriysk Arra 49.02 347 IAmb IAmb 06 03 45.5
comp=Z,21nm,0.9s
USRK Ussuriysk Ar. 49.02 347 P **P** **06 03 21.4 -0.6**
comp=Z,11nm,0.6s,baz=178,slow=7.1,SNR=22
USRK LR LR 06 22 35.2
comp=Z,2µm,18.5s,baz=150,slow=34
USRK Ussuriysk Ar. 49.02 347 P **P** **06 03 21.2 -0.8**
SNY Shenyang 49.33 338 ⇑P **P** **06 03 23.3 -1.2**
SNY S **S** **06 10 31.6 +2.5**
SNY pmax pmax
comp=Z,7.0nm,0.5s
SNY pmax pmax
comp=Z,300nm,5.5s
SNY LR LR
comp=Z,1µm,18.8s
SNY LR LR
comp=Z,1µm,19.2s
SNY LR LR
comp=Z,3µm,25.1s
MDJ Mudanjiang 49.98 345 P **P** **06 03 30.1 +0.7**
MDJ pP pP 06 03 36.1 -1.9
MDJ sP pwP 06 03 39.9 -0.6
MDJ S **S** **06 10 41.3 +3.2**
MDJ sS sS 06 10 53.8 +1.5
MDJ pmax pmax
comp=Z,16nm,0.8s
MDJ pmax pmax
comp=Z,320nm,3.3s
MDJ LR LR
comp=Z,1µm,17.8s
MDJ LR LR
comp=Z,1µm,17.1s
YSS Yuzh-Sakhalins 50.30 358 ⇓*e*P P 06 03 21.8 -10
YSS *e* 06 10 56.9
YSS *e* 06 15 41.5
KMI Kunming 50.32 307 ⇑P **P** **06 03 32.9 +0.3**
KMI pP pP 06 03 38.3 -2.8
KMI sP pwP 06 03 42.4 -1.8
KMI PP **PP** **06 05 28.8 +0.5**
KMI S **S** **06 10 44.9 +1.0**
KMI sS pS 06 10 54.6 +0.5
KMI SS **SS** **06 14 15.0 -3.0**
KMI pmax pmax
comp=Z,28nm,1.0s
KMI pmax pmax
comp=Z,320nm,4.2s
KMI LR LR
comp=Z,1µm,19.6s
KMI LR LR
comp=Z,800nm,26.7s
KMI LR LR
comp=Z,2µm,26.1s
CN2 Changchun 50.43 341 *e*P P 06 03 37.9 +5.1
CN2 *e*S **S** **06 10 42.8 -1.6**
CN2 SS ScS 06 13 01.4 -20
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,2µm,18.0s
CN2 LR LR
comp=E,1µm,18.0s
CN2 LR LR
comp=Z,2µm,19.0s
CM31 Chiang Mai Arr 50.79 297 P **P** **06 03 35.9 -0.1**
CMAR Chiang Mai Arr 50.79 297 P **P** **06 03 36.6 +0.7**
comp=Z,9.5nm,0.7s,baz=118,slow=5.6,SNR=37
CMAR LR LR 06 24 58.9
comp=Z,390nm,19.4s,baz=150,slow=36
CMAR Chiang Mai Arr 50.79 297 P **P** **06 03 35.0 -1.0**
XAN Xi'an 50.83 320 P **P** **06 03 34.8 -1.3**
XAN pP pP 06 03 41.3 -3.5
XAN PcP **PcP** **06 04 51.8 -0.8**
XAN S **S** **06 10 50.8 +0.4**
XAN ScS **ScS** **06 13 19.8 -5.2**
XAN SS **SS** **06 14 25.3 -0.2**
XAN pmax pmax
comp=Z,14nm,1.2s
XAN pmax pmax
comp=Z,370nm,5.9s
XAN LR LR
comp=Z,1µm,19.0s
XAN LR LR
comp=Z,1µm,22.9s
XAN LR LR
comp=Z,3µm,23.5s
XAN Xi'an 50.83 320 IAmb IAmb 06 03 54.0
comp=Z,40nm,1.2s
CHTO Chiang Mai 50.92 298 P **P** **06 03 37.7 +0.8**
CHTO pmax pmax
comp=Z,52nm,1.4s
CHTO Chiang Mai 50.92 298 P **P** **06 03 37.7 +0.8**
CHTO IAmb IAmb 06 03 42.9
comp=Z,52nm,1.4s
BJI Beijing 51.02 331 P **P** **06 03 37.6 +0.3**
BJI S **S** **06 10 55.0 +2.4**
BJI sS **sS** **06 11 05.4 -1.4**
BJI LR LR
comp=Z,2µm,21.1s
BJI LR LR
comp=Z,2µm,20.1s
BJI LR LR
comp=Z,3µm,26.0s
TIY Taiyuan 51.22 326 *e*P **P** **06 03 37.1 -1.9**
TIY S **S** **06 10 57.8 +2.1**
TIY sS **sS** **06 11 12.1 +2.2**
TIY pmax pmax
comp=Z,220nm,4.6s
TIY LR LR
comp=Z,1µm,17.3s
TIY LR LR
comp=Z,480nm,10.3s
TIY LR LR
comp=Z,4µm,29.1s
CD2 Chengdu 52.49 314 ⇓P **P** **06 03 48.5 0.0**
CD2 PP **PP** **06 05 47.5 -0.2**
CD2 S **S** **06 11 14.8 +1.5**
CD2 SS **SS** **06 14 50.9 -1.0**
CD2 pmax pmax
comp=Z,30nm,1.0s
CD2 pmax pmax
comp=Z,420nm,4.3s
CD2 LR LR
comp=Z,1µm,15.3s
CD2 LR LR
comp=Z,1µm,19.4s
CD2 LR LR
comp=Z,2µm,17.3s
KLR Kul'dur 53.86 349 LR LR 06 25 23.2
comp=Z,948nm,19.5s,baz=162,slow=34
KLR Kul'dur 53.86 349 *ce*P **P** **06 03 57.3 -0.9**
KLR pmax pmax
comp=Z,35nm,2.7s
HHC Hu-ho-hao-te 53.95 328 *e*P **P** **06 03 59.6 +0.4**
HHC PP **PP** **06 06 02.5 +1.7**
HHC S **S** **06 11 32.1 -0.8**
HHC SS **SKiKP** **06 15 11.8 +1.4**
HHC pmax pmax
comp=Z,25nm,0.6s
HHC pmax pmax
comp=Z,310nm,6.5s
HHC LR LR
comp=Z,2µm,19.2s
HHC LR LR
comp=Z,2µm,18.6s
HHC LR LR
comp=Z,3µm,19.0s
BTO Baotou 54.59 327 *e*P **P** **06 04 05.5 +1.6**
SKR Severo-Kuril's 54.73 8 *e*P P 06 03 52.3 -12
SKR *e*PPP PPP 06 06 14.0
SKR *e*S **S** **06 11 36.9 -6.0**
SKR *e*SS **ScS** **06 13 54.2 +2.8**
SKR *e*SSS SSS 06 15 17.0
SKR pmax pmax
comp=Z,200nm,5.4s
SKR pmax pmax
comp=Z,500nm,5.4s
SKR MLR MLR
comp=Z,400nm,20.0s
LZH Lanzhou 55.37 319 ⇑P **P** **06 04 09.4 -0.2**
LZH pP pP 06 04 17.3 -1.1
LZH sP sP 06 04 21.8 0.0
LZH S **S** **06 11 49.3 -3.1**
LZH sS pS 06 12 01.3 -1.5
LZH pmax pmax
comp=Z,35nm,1.2s
LZH pmax pmax
comp=Z,430nm,5.2s
LZH LR LR
comp=Z,1µm,16.8s
LZH LR LR
comp=Z,2µm,16.4s
LZH LR LR
comp=Z,2µm,18.2s
RAR Rarotonga 55.95 113 LR LR 06 27 56.5
comp=Z,287nm,19.5s,baz=280,slow=36
NKL Nikolayevsk 56.59 357 *e*P P 06 04 24.9 +7.1
NKL *e* 06 05 12.2
NKL *e*S S 06 12 19.4 +12
NKL pmax pmax
comp=N,4.0nm,0.8s
NKL pmax pmax
comp=Z,26nm,1.0s
NKL pmax pmax
comp=Z,54nm,1.6s
NKL smax smax
comp=N,3.0nm,0.8s
HIA Hailar 57.12 340 IAmb IAmb 06 04 28.9
comp=Z,34nm,1.2s
PEA0B Petropavlovsk- 57.33 9 *i* P **P** **06 04 24.3 +1.2**
PETK Petropavlovsk- 57.33 9 P **P** **06 04 23.2 +0.2**
comp=Z,9.4nm,1.0s,baz=174,slow=6.5,SNR=15
PETK LR LR 06 25 55.5
comp=Z,732nm,21.1s,baz=190,slow=33
PETK Petropavlovsk- 57.33 9 P **P** **06 04 22.6 -0.4**
PET Petropavlovsk 57.40 9 *i* P **P** **06 04 21.6 -1.9**
PET pmax pmax
comp=Z,111nm,1.0s
SAIH SAIHA 57.42 299 *e*P **P** **06 04 20.9 -3.5**
SAIH IAmb IAmb 06 04 26.8
comp=Z,30nm,1.0s
ITAN ITANAGAR 58.50 305 *ex* x 06 04 32.2
ITAN *e*P **P** **06 04 32.5 +0.7**
ZIRO ZIRO 58.54 305 *e*P **P** **06 04 33.9 +1.6**
ZEA Zeya 59.05 347 *e*P **P** **06 04 39.2 +4.1**
ZEA *e*S **S** **06 12 41.0 +1.2**
ZEA *e*SS **SS** **06 16 32.0 -2.3**
ZEA *e*SSS SSS 06 18 54.0
ZEA pmax pmax
comp=Z,85nm,1.6s
ZEA pmax pmax
comp=Z,400nm,6.0s
ZEA smax smax
comp=E,500nm,12.0s
TEZP TEZPUR 59.06 304 *ex* P 06 04 34.8
TEZP *e*S **S** **06 12 39.2 -1.7**
SHL Shillong 59.44 302 *ex* P 06 04 33.3 -5.2
SHL *ex* P 06 04 33.4 -5.2
SHL IAmb IAmb 06 04 40.5
comp=Z,21nm,1.2s
SHL Shillong 59.44 302 IAmb IAmb 06 04 44.0
comp=Z,40nm,1.1s
GUWA GUWAHATI 59.83 303 *ex* **P** **06 04 41.5 +0.6**
GUWA IAmb IAmb 06 04 46.4
comp=Z,23nm,0.7s
GTA Gaotai 59.89 320 ⇑P **P** **06 04 41.1 -0.3**
GTA pP pP 06 04 47.3 -2.9
GTA sP pwP 06 04 50.8 -1.7
GTA S **S** **06 12 51.4 -0.1**
GTA sS pS 06 13 03.6 +1.4
GTA SS **SS** **06 16 50.6 +2.2**
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA pmax pmax
comp=Z,320nm,8.1s
GTA LR LR
comp=Z,940nm,21.6s
GTA LR LR
comp=Z,880nm,19.7s
GTA LR LR
comp=Z,1µm,22.2s
ULN Ulaanbaatar 61.22 331 *ce*P **P** **06 04 49.5 -0.8**
ULN pmax pmax
comp=Z,36nm,2.5s
ULN Ulaanbaatar 61.22 331 P **P** **06 04 50.4 0.0**
SONM Songino Array 61.52 331 P **P** **06 04 52.0 -0.3**
comp=Z,4.1nm,0.9s,baz=154,slow=7.8,SNR=11
SONM LR LR 06 31 05.5
comp=Z,2µm,19.4s,baz=148,slow=36
SONM Songino Array 61.52 331 P **P** **06 04 52.0 -0.3**
SONM Songino Array 61.52 331 P **P** **06 04 51.6 -0.7**
LSA Lhasa 61.58 306 P **P** **06 04 53.8 +0.4**
POHA Pohakuloa 62.32 66 IAMs_20 IAMs_20 06 29 11.8
comp=Z,3µm,20.0s
GTK Tadong 62.80 303 *e*P **P** **06 05 02.2 +0.8**
GTK IAmb IAmb 06 05 05.0
comp=Z,11nm,0.5s
MA2 Magadan 63.02 3 *i* P **P** **06 05 01.8 -0.1**
MA2 pmax pmax
comp=Z,7.0nm,0.7s
ODAN Odare 63.67 302 *e*P **P** **06 05 07.3 +0.1**
ADK Adak 63.81 25 IAMs_20 IAMs_20 06 26 15.5
comp=Z,2µm,22.0s
BOK Bokaro 64.03 298 *e*P **P** **06 05 10.3 +0.9**
BOK IAmb IAmb 06 05 15.5
comp=Z,13nm,0.4s
RAMN Ramite 64.37 302 *e*P **P** **06 05 11.1 -0.7**
comp=Z,85nm,1.4s
ZAK Zakamensk 64.75 332 *e*P **P** **06 05 12.8 -0.9**
ZAK pmax pmax
comp=Z,21nm,1.1s
JIRN Jiri 64.94 303 *e*P **P** **06 05 15.7 0.0**
PPT Papeete 65.03 108 LR LR 06 31 15.9
comp=Z,447nm,19.4s,baz=282,slow=34
PPT2 Papeete2 65.03 108 *e*S **S** **06 13 56.7 -0.1**
comp=Z,2µm,30.5s
PPT2 *e*LQ LQ 06 22 03.2
comp=Z,2µm,26.0s
PPT2 *e*LR LR 06 24 44.1
comp=Z,2µm,31.2s
GUN Gumba 65.28 303 *e*P **P** **06 05 18.0 +0.1**
comp=Z,225nm,1.3s
TLY Talaya 65.47 333 *e*P **P** **06 05 19.7 +1.5**
TLY *e*S **S** **06 14 01.4 +0.6**
TLY *e*SS **SS** **06 18 17.9 +3.0**
TLY pmax pmax
comp=Z,34nm,1.0s
TLY MLR MLR
comp=Z,2µm,15.0s
TLY Talaya 65.47 333 IAMs_20 IAMs_20 06 31 02.3
comp=Z,3µm,22.0s
PKI Pulchoki 65.57 302 *e*P **P** **06 05 19.1 -0.6**
comp=Z,144nm,1.4s
TBI Tubuai 65.71 114 *e*S **S** **06 14 04.5 -0.3**
comp=Z,2µm,31.5s
TBI *e*LQ LQ 06 22 19.8
comp=Z,3µm,34.5s
TBI *e*LR LR 06 25 00.3
comp=Z,3µm,39.5s
DMN Daman 65.84 302 *e*P **P** **06 05 21.4 +0.1**
comp=Z,134nm,0.9s
BOD Bodaibo 66.16 342 *e*P **P** **06 05 21.9 -0.6**
BOD pmax pmax
comp=Z,17nm,1.4s
GKN Gorkha 66.35 303 *e*P **P** **06 05 24.3 -0.2**
comp=Z,190nm,1.2s
SEY Seymchan 66.46 3 *i* P **P** **06 05 23.7 -0.6**
YAK Yakutsk 66.47 352 LR LR 06 32 12.2
comp=Z,662nm,20.6s,baz=158,slow=34
YAK Yakutsk 66.47 352 *e*P **P** **06 05 25.0 +0.7**
YAK *e**PP **sP** **06 05 39.9 +3.3**
YAK *e* 06 05 53.3
YAK *e* 06 07 50.3
YAK *e*S **S** **06 14 13.2 +0.6**
YAK *e**SS sS 06 14 42.1 +15
YAK *e* 06 15 18.9
YAK pmax pmax
comp=Z,22nm,1.3s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=Z,150nm,4.3s
YAK pmax pmax
comp=N,134nm,4.0s
YAK pmax pmax
comp=E,53nm,4.1s
YAK smax smax
comp=E,431nm,6.9s
YAK smax smax
comp=N,153nm,4.6s
PMOR Pomariorio Ree 66.49 105 *e*P **P** **06 05 26.0 +0.6**
comp=N,39nm,0.9s
MOY Mondy 66.69 332 *e*P **P** **06 05 26.3 +0.2**
MOY pmax pmax
comp=Z,54nm,2.6s
KOLN Koldanda 67.16 302 *e*P **P** **06 05 29.5 -0.2**
comp=Z,61nm,0.7s
DANN Dangsing 67.19 303 *e*P **P** **06 05 29.0 -1.1**
comp=Z,108nm,0.7s
CASY Casey 67.28 195 P **P** **06 05 29.2 -0.2**
PYUN Piuthan 67.77 302 *e*P **P** **06 05 33.3 -0.3**
comp=Z,70nm,0.6s
HYB Hyderabad 69.22 290 *i* P **P** **06 05 41.0 -1.6**
UNV Unalaska Valle 69.69 28 P **P** **06 05 44.6 -0.1**
WMQ Urumqi 69.95 319 *e*P **P** **06 05 47.9 +1.2**
WMQ sP pwP 06 05 57.9 -0.7
WMQ PcP **PcP** **06 06 09.8 +0.9**
WMQ S **S** **06 14 51.1 -3.9**
WMQ sS pS 06 15 03.9 -2.1
WMQ ScS **SKSac** **06 15 44.5 -1.3**
WMQ SS **SS** **06 19 29.5 +4.8**
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,120nm,3.7s
WMQ LR LR
comp=Z,770nm,17.9s
WMQ LR LR
comp=Z,330nm,23.3s
SPIA Saint Paul Isl 70.20 24 IAMs_20 IAMs_20 06 32 07.5
comp=Z,2µm,20.0s
BHPL Bhopal 71.42 296 *e*P **P** **06 05 54.5 -1.4**
BHPL IAmb IAmb 06 05 57.0
comp=Z,9.5nm,0.7s
DDI Dehra Dun 72.53 303 *ex* **P** **06 06 06.9 +4.4**
DGZ Jazzator, Alta 72.76 325 *e*P **P** **06 06 02.9 -0.7**
DGZ pmax pmax
comp=Z,7.0nm,1.0s
BILL Bilibino 72.85 8 *i* P **P** **06 06 02.1 -1.5**
BILL *i* 06 06 22.1
BILL pmax pmax
comp=Z,4.0nm,1.2s
BILL MLR MLR
comp=Z,544nm,19.0s
ZSN Zaisan 73.30 322 *i* P **P** **06 06 06.3 -0.5**
baz=322
ZSN *e*S **SKiKP** **06 15 35.4 -0.9**
baz=322
ZSN Zaisan 73.30 322 *i* P **P** **06 06 06.2 -0.5**
ZSN *e*S **SKiKP** **06 15 35.3 -0.9**
SMLA Simla 73.47 304 *e*P **P** **06 06 07.4 -0.6**
SMLA IAmb IAmb 06 06 12.9
comp=Z,20nm,0.8s
SMLA *e*S **SKiKP** **06 15 38.1 +1.2**
TAOE Nuku Hiva Isla 74.00 98 *e*S **SKiKP** **06 15 39.8 +1.4**
comp=Z,383nm,27.7s
TAOE *e*SS **SS** **06 20 23.0 -4.8**

TAOE eLQ LQ 06 25 44.9
comp=Z,2µm,25.5s
TAOE eLR LR 06 28 50.6
comp=Z,2µm,25.3s
GAMB Gambell 74.27 18 IAMs_20 IAMs_20 06 34 58.5
comp=Z,2µm,20.0s
DHRM DHARAMSHALA 74.47 305 eP **P** **06 06 12.0 -2.2**
DHRM IAmb IAmb 06 06 15.1
comp=Z,32nm,0.5s
VNDA Vanda 74.48 176 P **P** **06 06 13.0 -0.1**
comp=Z,3.3nm,0.7s,baz=334,slow=7.0,SNR=24
VNDA LR LR 06 37 29.5
comp=Z,985nm,18.0s,baz=346,slow=35
VNDA Vanda 74.48 176 P **P** **06 06 13.4 +0.3**
VNDA pmax pmax
comp=Z,9.0nm,0.9s
VNDA Vanda 74.48 176 P **P** **06 06 13.4 +0.3**
MKAR Makanchi Array 74.64 320 P **P** **06 06 14.2 -0.4**
comp=Z,4.9nm,0.8s,baz=104,slow=6.6,SNR=30
MKAR LR LR 06 37 33.5
comp=Z,663nm,20.9s,baz=84,slow=35
MKAR Makanchi Array 74.64 320 *i* P **P** **06 06 14.1 -0.5**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 74.64 320 P **P** **06 06 13.8 -0.8**
MAKZ Makanchi 74.85 320 P **P** **06 06 15.5 -0.3**
MAKZ pmax pmax
comp=Z,25nm,1.2s
MAKZ Makanchi 74.85 320 P **P** **06 06 15.5 -0.3**
SHLS Shalkode 75.22 316 *i* P **P** **06 06 15.6 -2.6**
comp=Z,3.5nm,0.8s,baz=316
SHLS eS **S** **06 15 53.5 -1.9**
baz=316
SHLS Shalkode 75.22 316 *i* P **P** **06 06 15.5 -2.6**
SHLS eS **S** **06 15 53.5 -1.9**
SHLS pmax pmax
comp=Z,3.0nm,0.8s
UZB Uzynbulak 75.52 316 *i* P **P** **06 06 19.3 -0.7**
comp=Z,3.8nm,0.9s,baz=316
UZB eS **S** **06 16 00.5 +1.6**
baz=316
UZB Uzynbulak 75.52 316 *i* P **P** **06 06 19.2 -0.7**
UZB eS **S** **06 16 00.4 +1.6**
UZB pmax pmax
comp=Z,4.0nm,0.9s
TIXI Tiksi 75.80 355 *i* P **P** **06 06 22.4 +1.8**
TIXI pmax pmax
comp=Z,19nm,1.1s
KPKS Kokpek 75.86 316 *i* P **P** **06 06 20.9 -0.9**
comp=Z,5.6nm,1.1s,baz=316
KPKS LR LR 06 40 52.4
comp=Z,352nm,16.4s,baz=316
KPKS Kokpek 75.86 316 *i* P **P** **06 06 20.9 -0.9**
KPKS pmax pmax
comp=Z,6.0nm,1.1s
KPKS MLR MLR
comp=Z,352nm,16.0s
ZAA0 Zalesovo Array 76.13 328 IAMs_20 IAMs_20 06 38 07.3
comp=Z,3µm,21.0s
ZALV Zalesovo Beam 76.13 328 P **P** **06 06 21.5 -1.4**
comp=Z,5.4nm,0.7s,baz=109,slow=5.0,SNR=16
ZALV LR LR 06 39 00.9
comp=Z,3µm,20.2s,baz=114,slow=35
ZALV Zalesovo Beam 76.13 328 *i* P **P** **06 06 22.8 -0.1**
ZALV pmax pmax
comp=Z,10.0nm,1.0s
ZALV Zalesovo Beam 76.13 328 P **P** **06 06 21.4 -1.5**
TDK Taldyqorghan 76.55 318 LR LR 06 40 20.2
comp=Z,396nm,15.6s,baz=318
ANM Nome 76.85 20 IAMs_20 IAMs_20 06 34 59.9
comp=Z,2µm,21.0s
MDOK Medeo 76.90 316 *i* P **P** **06 06 27.5 -0.3**
baz=316
MDOK eS **S** **06 16 15.8 +1.9**
baz=316
MDOK Medeo 76.90 316 *i* P **P** **06 06 27.4 -0.3**
MDOK eS **S** **06 16 15.8 +1.9**
TNSS Tian-Shan 76.93 316 *i* P **P** **06 06 27.9 -0.4**
baz=316
TNSS Tian-Shan 76.93 316 *i* P **P** **06 06 27.8 -0.4**
AAA Alma-Ata 77.01 316 *e*P **P** **06 06 27.4 -0.8**
baz=316
AAA eS **S** **06 16 15.8 +0.9**
baz=316
AAA Alma-Ata 77.01 316 *e*P **P** **06 06 27.4 -0.8**
AAA eS **S** **06 16 15.8 +0.9**
NIL Nilore 77.29 305 P **P** **06 06 29.3 -0.7**
NIL pmax pmax
comp=Z,63nm,1.1s
NIL Nilore 77.29 305 P **P** **06 06 29.2 -0.7**
KURK Kurchatov 78.34 323 *ce*P **P** **06 06 35.0 -0.4**
KURK pmax pmax
comp=Z,14nm,1.1s
KURK Kurchatov 78.34 323 P **P** **06 06 34.8 -0.6**
KURK IAmb IAmb 06 06 40.9
comp=Z,27nm,1.1s
KDAK Kodiak Island 78.42 29 LR LR 06 36 12.8
comp=Z,789nm,20.6s,baz=253,slow=32
AAK Ala-Archa 78.55 315 *ce*P **P** **06 06 37.7 +0.7**
AAK pmax pmax
comp=Z,22nm,2.5s
SVW2 Sparrevohn 78.61 25 P **P** **06 06 36.8 +0.1**
SVW2 IAmb IAmb 06 06 45.0
comp=Z,26nm,1.0s
SVW2 IAMs_20 IAMs_20 06 36 08.5
comp=Z,2µm,22.0s
TTA Tatalina 79.34 23 IAMs_20 IAMs_20 06 38 24.1
comp=Z,2µm,20.0s
BTLS Baital 79.51 317 *i* P **P** **06 06 41.4 -0.6**
baz=317
BTLS eS **S** **06 16 43.5 +1.9**
baz=317
BTLS Baital 79.51 317 *i* P **P** **06 06 41.3 -0.6**
BTLS eS **S** **06 16 43.5 +1.9**
GAR Garm 80.76 310 IAMs_20 IAMs_20 06 41 52.5
comp=Z,3µm,22.0s
DZA Taraz 80.87 314 *i* P **P** **06 06 48.6 -0.8**
baz=314
DZA Taraz 80.87 314 *i* P **P** **06 06 48.6 -0.8**
PPLA Purkeypile 80.87 24 P **P** **06 06 48.9 -0.2**
PPLA IAmb IAmb 06 07 20.1
comp=Z,54nm,1.5s
KK31 Karatay Array 81.50 314 P **P** **06 06 52.4 -0.4**
KK31 pmax pmax
comp=Z,15nm,1.1s
KK31 Karatay Array 81.50 314 P **P** **06 06 52.4 -0.4**
KKAR Karatay Array 81.50 314 P **P** **06 06 52.0 -0.7**
KKAR Karatay Array 81.50 314 P **P** **06 06 52.0 -0.7**
KKAR Karatay Array 81.50 314 IAmb IAmb 06 06 58.0
comp=Z,15nm,1.1s
CHGR Chuyangaron 81.58 310 IAMs_20 IAMs_20 06 43 20.1
comp=Z,2µm,22.0s
PMR Palmer 81.61 26 IAmb IAmb 06 06 59.7
comp=Z,25nm,1.2s
IUG Iuzhnay 81.64 313 *e*P **P** **06 06 52.9 -0.8**
baz=313
IUG eS **S** **06 17 05.8 +1.6**
baz=313
IUG Iuzhnay 81.64 313 *e*P **P** **06 06 52.8 -0.8**
IUG eS **S** **06 17 05.8 +1.6**
IMAR Indian Mountai 81.70 21 P **P** **06 06 52.4 -0.8**
BRZS Berezniki 81.73 321 *i* P **P** **06 06 53.4 -0.4**
comp=Z,6.2nm,1.0s,baz=322
BRZS LR LR 06 42 43.0
comp=Z,211nm,14.9s,baz=322
BRZS Berezniki 81.73 321 *i* P **P** **06 06 53.4 -0.4**
BRZS pmax pmax
comp=Z,6.0nm,1.0s
BRZS MLR MLR
comp=Z,211nm,15.0s
GHO Glory Hole Cre 81.78 26 P **P** **06 06 53.9 0.0**
GHO IAmb IAmb 06 07 16.9
comp=Z,23nm,1.0s
GHO IAMs_20 IAMs_20 06 37 00.6
comp=Z,2µm,22.0s
SML Sawmill 82.05 26 IAmb IAmb 06 07 02.4
comp=Z,56nm,1.2s
RND Reindeer 82.46 24 IAmb IAmb 06 07 03.7
comp=Z,29nm,0.8s
RND IAMs_20 IAMs_20 06 40 14.4
comp=Z,2µm,20.0s
NRIK Noril'sk 82.46 342 P **P** **06 06 57.5 +0.3**
comp=Z,29nm,1.0s,baz=112,slow=3.8,SNR=11
NRIK LR LR 06 44 07.7
comp=Z,979nm,18.5s,baz=118,slow=36

NRIK Noril'sk 82.46 342⇑ *e*P **P** **06 06 57.0 -0.2**
NRIK pmax pmax
comp=Z,26nm,0.9s
SCM Sheep Creek Mo 82.50 26 P **P** **06 06 57.5 -0.1**
SCM pmax pmax
comp=Z,33nm,1.1s
SCM Sheep Creek Mo 82.50 26 P **P** **06 06 57.5 -0.1**
SCM IAmb IAmb 06 07 09.0
comp=Z,33nm,1.1s
SCM IAMs_20 IAMs_20 06 37 13.7
comp=Z,2µm,22.0s
MCK McKinley 82.56 24 P **P** **06 06 56.6 -1.2**
MCK pmax pmax
comp=Z,38nm,1.2s
MCK McKinley 82.56 24 P **P** **06 06 56.6 -1.2**
MCK IAmb IAmb 06 07 04.3
comp=Z,38nm,1.2s
NEA2 Nenana 82.85 23 P **P** **06 06 58.7 -0.6**
baz=246
DHY Denali Highway 82.95 25 IAmb IAmb 06 07 06.7
comp=Z,15nm,0.8s
KLU Klutina 83.00 27 IAmb IAmb 06 07 10.6
comp=Z,50nm,1.5s
WRH Wood River Hil 83.19 24 IAmb IAmb 06 07 08.8
comp=Z,39nm,1.2s
RAGM Ragged Mountai 83.19 28 IAMs_20 IAMs_20 06 39 41.2
comp=Z,2µm,19.0s
MDM Murphy Dome 83.33 23 IAmb IAmb 06 07 32.2
comp=Z,30nm,1.4s
MDM IAMs_20 IAMs_20 06 42 44.3
comp=Z,1µm,20.0s
CCB Clear Creek Bu 83.37 23 IAmb IAmb 06 07 11.7
comp=Z,26nm,1.0s
TCOL CIGO, UAF Yank 83.44 23 P **P** **06 07 01.3 -1.0**
baz=247
COLA College 83.44 23*c* *i*P **P** **06 07 00.6 -1.7**
COLA pmax pmax
comp=Z,19nm,1.0s
COLA College 83.44 23 P **P** **06 07 02.1 -0.1**
COLA IAmb IAmb 06 07 03.1
comp=Z,25nm,1.0s
COLD Coldfoot 83.52 21 P **P** **06 07 01.9 -0.8**
baz=245
COLD Coldfoot 83.52 21 IAmb IAmb 06 07 11.6
comp=Z,27nm,1.1s
COLD IAMs_20 IAMs_20 06 41 01.3
comp=Z,2µm,20.0s
HDA Harding Lake 83.62 24 P **P** **06 07 02.2 -1.1**
baz=248
POKR Poker Plat Res 83.70 23 P **P** **06 07 04.7 +1.0**
baz=248
IL31 83.78 23 P **P** **06 07 03.0 -1.0**
IL31 IAmb IAmb 06 07 08.0
comp=Z,25nm,0.8s
ILAR Eielson Array 83.78 23 P **P** **06 07 02.4 -1.7**
comp=Z,11nm,0.7s,baz=253,slow=4.7,SNR=108
ILAR LR LR 06 42 21.2
comp=Z,589nm,19.4s,baz=266,slow=34
ILAR Eielson Array 83.78 23 P **P** **06 07 03.4 -0.7**
ILAR Eielson Array 83.78 23 P **P** **06 07 03.4 -0.7**
GLB Gilahina Butte 83.94 27 IAmb IAmb 06 07 13.3
comp=Z,20nm,1.2s
BRVK Borovoye 83.97 324 *ce*P **P** **06 07 05.0 -0.3**
BRVK pmax pmax
comp=Z,24nm,0.8s
BRVK Borovoye 83.97 324 P **P** **06 07 04.9 -0.4**
BRVK IAmb IAmb 06 07 10.3
comp=Z,35nm,1.1s
MAW Mawson 83.98 202 P **P** **06 07 05.0 -0.1**
comp=Z,3.2nm,1.0s,baz=99,slow=5.2,SNR=5.2
MAW LR LR 06 41 18.1
comp=Z,816nm,21.9s,baz=72,slow=33
MAW Mawson 83.98 202 P **P** **06 07 05.0 -0.1**
MAW Mawson 83.98 202 P **P** **06 07 04.9 -0.1**
CRQM Cirque 84.03 28 P **P** **06 07 06.5 +0.8**
CRQM IAmb IAmb 06 07 22.1
comp=Z,28nm,1.0s
RIDG Independent Ri 84.25 25 IAMs_20 IAMs_20 06 40 58.9
comp=Z,2µm,20.0s
TOLK Toolik Lake Re 84.34 19 P **P** **06 07 07.9 +1.0**
baz=245
TOLK Toolik Lake Re 84.34 19 IAMs_20 IAMs_20 06 38 52.8
comp=Z,1µm,22.0s
DOT Dot Lake 84.55 25 P **P** **06 07 07.5 -0.6**
BARN Barnard Glacie 84.81 28 IAmb IAmb 06 07 11.5
comp=Z,15nm,0.8s
BCAR Beaver Creek A 85.34 26 P **P** **06 07 11.3 -0.8**
K27K Chicken 85.50 25 P **P** **06 07 12.9 +0.1**
baz=253
EGAK Eagle 86.10 24 IAmb IAmb 06 07 25.1
comp=Z,21nm,0.8s
EGAK IAMs_20 IAMs_20 06 42 24.8
comp=Z,2µm,20.0s
HRA Herat 86.42 305 IAmb IAmb 06 07 23.1
comp=Z,26nm,1.2s
QSPA South Pole Qui 86.45 180 P **P** **06 07 16.9 -0.8**
QSPA IAmb IAmb 06 07 24.6
comp=Z,17nm,1.1s
QSPA South Pole Qui 86.45 180 IAMs_20 IAMs_20 06 45 48.6
comp=Z,2µm,20.0s
HYT Haines Junctio 86.71 29 IAmb IAmb 06 07 27.7
comp=Z,16nm,0.9s
BESE Bessie Mountai 87.56 31 IAmb IAmb 06 07 34.4
comp=Z,25nm,1.2s
WHY Whitehorse 87.94 29 P **P** **06 07 25.6 +0.7**
WHY IAmb IAmb 06 07 52.2
comp=Z,12nm,1.0s
DIB Dawson Inlet, 87.99 37 P **P** **06 07 25.3 +0.2**
DIB IAmb IAmb 06 07 37.4
comp=Z,24nm,1.1s
DIB IAMs_20 IAMs_20 06 37 26.9
comp=Z,1µm,20.0s
EPYK Eagle Plains 88.29 23 P **P** **06 07 26.1 -0.2**
baz=258
WRAK Wrangell Islan 88.54 33 P **P** **06 07 28.4 +0.8**
WRAK IAmb IAmb 06 07 52.8
comp=Z,22nm,1.1s
WRAK Wrangell Islan 88.54 33 IAMs_20 IAMs_20 06 38 22.1
comp=Z,1µm,22.0s
ABKAR Akbulak array 89.74 319 P **P** **06 07 31.4 -2.1**
INK Inuvik 89.88 22 IAmb IAmb 06 07 42.0
comp=Z,16nm,1.1s
INK IAMs_20 IAMs_20 06 45 37.5
comp=Z,2µm,20.0s
DLBC Dease Lake 90.05 32 P **P** **06 07 35.1 +0.3**
DLBC IAMs_20 IAMs_20 06 42 45.8
comp=Z,1µm,20.0s
GEYT Alibeck 90.08 308 P **P** **06 07 36.1 +0.7**
comp=Z,1.1nm,0.3s,baz=108,slow=1.8,SNR=2.3
GEYT PP **PP** **06 11 12.1 +3.1**
comp=Z,1.2nm,0.3s,baz=306,slow=3.5,SNR=5.2
GEYT LR LR 06 49 45.2
comp=Z,857nm,21.3s,baz=80,slow=37
BBB Bella Bella 90.50 38 IAMs_20 IAMs_20 06 38 38.7
comp=Z,2µm,22.0s
ARU Arti 91.20 326 P **P** **06 07 40.2 +0.1**
ARU 06 11 19.2
ARU S **SKSac** **06 18 12.8 +2.7**
ARU SP **SPn** **06 19 44.9 +0.1**
ARU MLR MLR
comp=Z,1µm,22.0s
ARU Arti 91.20 326 IAMs_20 IAMs_20 06 47 38.1
comp=Z,1µm,21.0s
SYO Syowa Base 92.42 200⇑ *e*P **P** **06 07 44.6 -0.9**
SYO Syowa Base 92.42 200⇑ *i*pP pP 06 07 53.4 -1.1
SYO Syowa Base 92.42 200⇓ *i*X P 06 07 56.6 +11
JCC Jacoby Creek, 92.60 49 IAMs_20 IAMs_20 06 41 53.5
comp=Z,1µm,20.0s
KRMB Red Mountain 92.72 49 IAMs_20 IAMs_20 06 43 10.6
comp=Z,2µm,20.0s
KMRM Mail Ridge 92.82 50 IAMs_20 IAMs_20 06 56 04.4
comp=Z,1µm,18.0s
KHMM Horse Mountain 92.83 49 IAMs_20 IAMs_20 06 42 51.5
comp=Z,1µm,20.0s
KCPM Cahto Peak 92.90 51 IAMs_20 IAMs_20 06 48 18.5
comp=Z,1µm,18.0s
NLWA Neilton Lookou 92.96 43 P **P** **06 07 48.3 -0.3**
NLWA IAmb IAmb 06 08 08.7
comp=Z,18nm,1.2s
F03A Seaside 93.13 44 IAMs_20 IAMs_20 06 42 07.8
comp=Z,1µm,20.0s
COR Corvallis 93.27 46 IAMs_20 IAMs_20 06 41 08.7
comp=Z,2µm,22.0s
HOPS Hopland Field 93.27 51 IAMs_20 IAMs_20 06 42 12.4
comp=Z,2µm,21.0s
C36M Paulatuk 93.39 21 P **P** **06 07 51.0 +1.0**
baz=269

C36M Paulatuk 93.39 21 IAMs_20 IAMs_20 06 47 01.2
comp=Z,1µm,20.0s
MCCM Marconi Confer 93.40 52 IAMs_20 IAMs_20 06 42 22.8
comp=Z,2µm,20.0s
GDXM Geysers 93.48 51 IAMs_20 IAMs_20 06 40 34.0
comp=Z,2µm,22.0s
D03D Eldon 93.50 43 P **P** **06 07 52.6 +1.7**
baz=269
M02C Callahan 93.51 49 P **P** **06 07 52.5 +1.2**
baz=268
O02D Mt. Diablo Mer 93.53 50 P **P** **06 07 52.0 +0.6**
baz=268
N02D Trinity Center 93.61 49 P **P** **06 07 53.0 +1.2**
baz=269
YBH Yreka Blue Hor 93.63 49 IAMs_20 IAMs_20 06 40 36.5
comp=Z,2µm,22.0s
E04D Cinebar 93.83 44 P **P** **06 07 53.7 +1.2**
baz=269
I04A Tendick Farm, 93.89 46 P **P** **06 07 53.6 +0.7**
baz=269
F04A Amboy 93.92 44 IAMs_20 IAMs_20 06 40 37.9
comp=Z,1µm,21.0s
L04D Klamath Falls 93.94 48 P **P** **06 07 54.0 +0.7**
baz=269
H04A Detroit Lake 94.07 46 IAMs_20 IAMs_20 06 41 43.8
comp=Z,1µm,21.0s
B05A Bryant 94.18 42 P **P** **06 07 55.1 +1.0**
baz=270
O03E Paynes Creek 94.28 50 P **P** **06 07 55.2 +0.3**
baz=269
SAO San Andreas Ge 94.50 54 IAMs_20 IAMs_20 06 42 56.2
comp=Z,2µm,20.0s
G05D Wamic, OR 94.69 45 P **P** **06 07 57.0 +0.5**
baz=270
J05D Fort Rock, OR 94.74 47 P **P** **06 07 57.9 +0.9**
baz=270
PINE Pine Mountain 94.96 47 P **P** **06 07 57.8 -0.2**
PINE IAmb IAmb 06 11 26.5
comp=Z,34nm,1.9s
PMPB Monarch Peak 95.02 54 IAMs_20 IAMs_20 06 59 38.9
comp=Z,3µm,19.0s
CMB Columbia Colle 95.36 52 IAMs_20 IAMs_20 06 41 29.8
comp=Z,2µm,22.0s
MOD Modoc Plateau 95.43 48 IAMs_20 IAMs_20 06 43 31.1
comp=Z,1µm,20.0s
PAGB Antelope Grade 95.46 55 IAMs_20 IAMs_20 06 59 26.7
comp=Z,2µm,18.0s
RUBR Rubicon Trail 95.55 51 IAMs_20 IAMs_20 06 41 38.6
comp=Z,2µm,22.0s
F07A Phinny Hill Vi 95.66 44 P **P** **06 07 59.6 -1.3**
VCNR Virginia City 95.94 51 IAMs_20 IAMs_20 06 41 27.9
comp=Z,1µm,22.0s
PNTR Pine Nut 95.98 51 IAMs_20 IAMs_20 06 41 52.0
comp=Z,2µm,22.0s
I07A Izee 95.99 46 IAMs_20 IAMs_20 06 42 57.8
comp=Z,1µm,22.0s
WAKR Walker 96.11 52 IAMs_20 IAMs_20 06 41 55.5
comp=Z,2µm,22.0s
PAHR Pah Rah Range 96.14 51 IAMs_20 IAMs_20 06 50 48.2
comp=Z,959nm,18.0s
YERR Yerington 96.26 51 IAMs_20 IAMs_20 06 44 05.4
comp=Z,1µm,21.0s
G08A Pilot Rock 96.36 45 IAMs_20 IAMs_20 06 43 07.3
comp=Z,1µm,21.0s
MDPB Devils Postpil 96.40 53 IAMs_20 IAMs_20 06 44 05.3
comp=Z,2µm,20.0s
OMMB Old Mammoth Mi 96.46 53 IAMs_20 IAMs_20 06 43 58.0
comp=Z,3µm,21.0s
WVOR Wild Horse Val 96.66 48 IAMs_20 IAMs_20 06 45 32.6
comp=Z,1µm,20.0s
OSI Osito Audit: C 96.71 56 IAMs_20 IAMs_20 06 58 56.9
comp=Z,3µm,18.0s
J08A Circle Bar Ran 96.75 47 IAMs_20 IAMs_20 07 00 49.1
comp=Z,1µm,20.0s
RYN Ryan 96.82 52 IAMs_20 IAMs_20 06 42 18.5
comp=Z,2µm,22.0s
LHV Little Huntoon 96.84 52 IAMs_20 IAMs_20 06 42 17.0
comp=Z,2µm,22.0s
ISA Isabella, Lake 96.90 55 IAMs_20 IAMs_20 06 58 54.9
comp=Z,1µm,19.0s
NVAR Mina Array Bea 97.00 52 P Pdif 06 08 07.7
comp=Z,0.8nm,0.8s,baz=259,slow=6.9,SNR=7.7
NVAR Mina Array Bea 97.00 52 P Pdif 06 08 07.6
NV11 Mina Array Sit 97.11 52 IAMs_20 IAMs_20 06 42 37.2
comp=Z,2µm,22.0s
KVN Kaiserville 97.14 51 IAMs_20 IAMs_20 06 42 40.9
comp=Z,1µm,22.0s
PASC Pasadena Art C 97.16 56 IAMs_20 IAMs_20 06 58 43.8
comp=Z,3µm,18.0s
CWC Cottonwood Cre 97.21 54 P Pdif 06 08 09.7 +1.2
baz=271
MWC Mount Wilson 97.26 56 IAMs_20 IAMs_20 06 58 44.6
comp=Z,3µm,19.0s
EDW2 Edwards Air Fo 97.31 55 P Pdif 06 08 09.1 +0.3
baz=271
NEW Newport 97.50 42 P Pdif 06 08 10.5 +1.1
baz=273
BMO Blue Mountains 97.54 45 IAMs_20 IAMs_20 06 46 22.7
comp=Z,1µm,20.0s
F10A Beach Ranch, E 97.55 44 IAmb IAmb 06 08 20.3
comp=Z,9.7nm,1.1s
YKA Yellowknife Ar 97.65 27 P **P** **06 08 09.4 -0.1**
comp=Z,1.7nm,0.8s,baz=280,slow=4.7,SNR=4.0
YKA LR LR 06 51 46.4
comp=Z,667nm,19.5s,baz=0.0,slow=35
YKA Yellowknife Ar 97.65 27 *i* P Pdif 06 08 11.7 +2.1
YKA pmax pmax
comp=Z,4.0nm,0.8s
MPMC Manual Prospec 97.70 54 P Pdif 06 08 12.3 +1.6
baz=271
PRGR Permogore 97.77 332 *e*P Pdif 06 08 11.7 +1.6
PRGR pmax pmax
comp=Z,17nm,1.1s
TJX Tijuana 98.13 58 IAMs_20 IAMs_20 07 01 28.7
comp=Z,3µm,20.0s
GSC Goldstone, Bar 98.27 55 IAMs_20 IAMs_20 07 02 01.2
comp=Z,3µm,21.0s
CBX Cerro Bola 98.46 58 IAMs_20 IAMs_20 07 01 24.6
comp=Z,2µm,20.0s
CCX Cicese 98.47 58 IAMs_20 IAMs_20 06 57 48.9
comp=Z,3µm,18.0s
PFO Pinyon Flats O 98.60 57 IAMs_20 IAMs_20 06 58 07.3
comp=Z,3µm,18.0s
XPFO Pion Flat 98.61 57 IAMs_20 IAMs_20 06 58 07.3
comp=Z,3µm,18.0s
TPNV Topopah Spring 98.67 53 IAMs_20 IAMs_20 06 58 49.5
comp=Z,2µm,20.0s
MFID Camas Ranch 98.68 47 IAMs_20 IAMs_20 06 47 43.0
comp=Z,994nm,20.0s
R11A Troy Canyon, C 99.14 52 IAMs_20 IAMs_20 06 43 42.7
comp=Z,2µm,22.0s
ELK Elko 99.28 49 IAMs_20 IAMs_20 06 59 34.1
comp=Z,1µm,20.0s
WALA Waterton Lakes 99.56 41 IAMs_20 IAMs_20 06 46 52.5
comp=Z,1µm,20.0s
PRN Pahroc Range 99.61 53 IAMs_20 IAMs_20 06 45 49.2
comp=Z,2µm,20.0s
HLID Hailey 99.70 47 IAMs_20 IAMs_20 06 46 48.9
comp=Z,1µm,20.0s
NVL N'lazarevskaya 99.86 194 *e*P **Pdif** **06 08 19.6 +0.3**
NVL *e*S **SKSac** **06 18 56.2 +0.7**
NVL *e*SSS SSS 06 30 28.8
NVL pmax pmax
comp=Z,2.0nm,0.5s
SFX San Felipe 100.04 59 IAMs_20 IAMs_20 07 00 04.7
comp=Z,3µm,20.0s
KLMR Klimovskoe 100.81 331 *e*P **Pdif** **06 08 21.7 -1.9**
KLMR *e*SS SS 06 26 59.0 +2.1
KLMR *e*SSS SSS 06 30 50.1
KLMR pmax pmax
comp=Z,16nm,1.2s
KLMR Klimovskoe 100.81 331 *e*P **Pdif** **06 08 21.8 -1.9**
KLMR AMP 06 08 27.7
comp=Z,16nm,1.2s
KLMR *e*SS **SS** **06 26 59.1 +2.2**
KLMR *e*SS **SS** **06 26 59.1 +2.2**
KLMR *e*SSS SSS 06 30 50.2
KLMR *e*SSS SSS 06 30 50.2
KLMR LQ LQ 06 47 42.5
KLMR LQ LQ 06 47 42.5
KLMR LR LR 06 55 03.6
DUG Dugway, Tooele 101.16 50 IAMs_20 IAMs_20 06 59 05.0
comp=Z,2µm,20.0s
IMW Indian Meadow 102.17 46 IAMs_20 IAMs_20 06 47 49.2
comp=Z,1µm,21.0s
SNAA Sanae 102.20 190 IAMs_20 IAMs_20 06 54 51.4
comp=Z,1µm,19.0s

REDW	Red Top Meadow comp=Z,1µm,21.0s	102.30	47	IAMs_20	IAMs_20	06 47 32.7		
FLWY	Flagg Ranch comp=Z,1µm,18.0s	102.32	46	IAMs_20	IAMs_20	06 59 53.2		
SNOW	Snow King Moun comp=Z,1µm,21.0s	102.36	46	IAMs_20	IAMs_20	06 47 23.2		
H17A	Grant Village comp=Z,2µm,19.0s	102.37	45	IAMs_20	IAMs_20	07 00 11.4		
LKWY	Lake comp=Z,2µm,18.0s	102.47	45	IAMs_20	IAMs_20	07 00 04.1		
WUAZ	Wupatki comp=Z,2µm,18.0s	102.69	55	IAMs_20	IAMs_20	06 57 33.1		
RLMT	Red Lodge comp=Z,1µm,19.0s	103.19	45	IAMs_20	IAMs_20	07 00 04.1		
PDAR	Pinedale Array comp=Z,0.4nm,0.7s,baz=340,slow=1.3,SNR=4.9	103.31	47	Pdiff	Pdif	06 08 35.1	-0.5	
PV16	Nyswonger Mesa comp=Z,2µm,22.0s	104.36	51	IAMs_20	IAMs_20	06 48 40.0		
319A	Douglas comp=Z,1µm,20.0s	104.79	59	IAMs_20	IAMs_20	06 56 56.1		
LAO	LASA Array comp=Z,2µm,22.0s	105.02	43	IAMs_20	IAMs_20	07 04 60.0		
RWWY	Rawlins comp=Z,1µm,19.0s	105.19	48	IAMs_20	IAMs_20	07 02 24.4		
FFC	Flin Flon comp=Z,1µm,20.0s	105.72	34	IAMs_20	IAMs_20	06 52 15.6		
RSSD	Black Hills comp=Z,1µm,20.0s	107.05	45	IAMs_20	IAMs_20	06 59 27.1		
EPT	El Paso comp=Z,2µm,22.0s	107.10	58	IAMs_20	IAMs_20	06 57 15.4		
Q24A	Divide comp=Z,2µm,22.0s	107.19	50	IAMs_20	IAMs_20	06 58 13.7		
T25A	Trinidad comp=Z,1µm,21.0s	108.07	52	IAMs_20	IAMs_20	06 49 37.2		
HPIG	comp=Z,1µm,18.0s	108.34	63	IAMs_20	IAMs_20	06 53 29.8		
FCC	Fort Churchill comp=Z,1µm,22.0s	108.36	28	IAMs_20	IAMs_20	06 54 07.5		
KSCO	Kaye Shedlock' comp=Z,2µm,21.0s	109.11	50	IAMs_20	IAMs_20	06 57 45.5		
AKBB	Malin Array Si comp=Z,1µm,22.0s	109.15	323	IAMs_20	IAMs_20	06 59 14.9		
SUSD	Miller comp=Z,2µm,19.0s	110.51	44	IAMs_20	IAMs_20	07 05 31.3		
AMTX	Amarillo comp=Z,2µm,19.0s	110.64	54	IAMs_20	IAMs_20	06 58 12.5		
ULM	Lac du Bonnet comp=Z,2µm,19.0s	110.69	37	IAMs_20	IAMs_20	07 10 08.2		
D32A	Dogwood Acres, comp=Z,2µm,18.0s	111.01	40	IAMs_20	IAMs_20	07 07 01.8		
SUW	Suwalki comp=Z,1µm,19.0s	111.35	328	IAMs_20	IAMs_20	07 02 44.8		
CBKS	Cedar Bluff comp=Z,3µm,21.0s	111.36	50	IAMs_20	IAMs_20	07 01 35.9		
AGMN	Agassiz Nation comp=Z,2µm,20.0s	111.37	39	IAMs_20	IAMs_20	07 07 36.6		
TIRR	Tirgusor comp=Z,2µm,20.0s	111.60	317	IAMs_20	IAMs_20	07 04 14.1		
F33A	5 Mile Ranch, comp=Z,2µm,22.0s	111.90	42	IAMs_20	IAMs_20	07 06 12.2		
BGNE	Belgrade comp=Z,2µm,20.0s	111.90	47	IAMs_20	IAMs_20	07 03 23.8		
R32A	Long Quarter, comp=Z,2µm,18.0s	112.23	50	IAMs_20	IAMs_20	07 07 35.1		
ECSD	EROS Data Cent comp=Z,3µm,22.0s	112.33	44	IAMs_20	IAMs_20	07 05 35.2		
N33A	J Bar K, Exete comp=Z,2µm,18.0s	112.59	47	IAMs_20	IAMs_20	07 02 35.3		
B35A	Bob, Littlefor comp=Z,2µm,21.0s	112.68	38	IAMs_20	IAMs_20	07 08 04.3		
ABTX	Abilene, Hawle comp=Z,2µm,20.0s	112.72	56	IAMs_20	IAMs_20	06 57 01.0		
MLR	Muntele Rosu comp=Z,1µm,22.0s	112.93	318	IAMs_20	IAMs_20	07 01 25.3		
JCT	Junction City comp=Z,1µm,20.0s	112.98	58	IAMs_20	IAMs_20	06 51 29.0		
L34A	Svendsen Farm, comp=Z,3µm,19.0s	113.02	46	IAMs_20	IAMs_20	07 03 41.8		
MANT	Manisa comp=Z,1µm,20.0s	113.13	310	IAMs_20	IAMs_20	07 08 07.2		
KWP	Kalwaria Pacla comp=Z,767nm,19.0s	113.44	323	IAMs_20	IAMs_20	07 03 16.4		
833A	Chaparral WMA, comp=Z,845nm,18.0s	113.68	61	IAMs_20	IAMs_20	06 52 14.0		
F36A	Milaca comp=Z,2µm,18.0s	113.71	41	IAMs_20	IAMs_20	07 08 19.4		
OK025	Westminster Rd comp=Z,2µm,20.0s	113.97	53	IAMs_20	IAMs_20	07 06 12.5		
EYMN	Ely comp=Z,2µm,18.0s	114.22	38	IAMs_20	IAMs_20	07 09 48.4		
SPMN	Marine on St. comp=Z,2µm,19.0s	114.41	41	IAMs_20	IAMs_20	07 06 12.1		
I37A	Lemond, Waseca comp=Z,1µm,21.0s	114.44	43	IAMs_20	IAMs_20	06 56 30.5		
KONO	Kongsberg comp=Z,1µm,19.0s	114.61	337	IAMs_20	IAMs_20	07 04 32.3		
KVTX	Kingsville comp=Z,2µm,18.0s	115.12	61	IAMs_20	IAMs_20	06 54 22.1		
SCIA	State Center comp=Z,2µm,20.0s	115.28	45	IAMs_20	IAMs_20	06 59 52.4		
K38A	Parkersburg comp=Z,2µm,20.0s	115.34	44	IAMs_20	IAMs_20	07 05 10.5		
N38A	Joes South For comp=Z,3µm,20.0s	115.63	46	IAMs_20	IAMs_20	07 04 32.4		
237A	Washetta, Mont comp=Z,1µm,18.0s	116.03	56	IAMs_20	IAMs_20	06 56 32.5		
G40A	Rib Lake comp=Z,2µm,20.0s	116.10	41	IAMs_20	IAMs_20	07 07 44.3		
RGN	Rugen comp=Z,2µm,20.0s	116.10	331	IAMs_20	IAMs_20	07 04 57.1		
I40A	Norwalk comp=Z,1µm,21.0s	116.36	42	IAMs_20	IAMs_20	07 06 21.1		
MORC	Moravsky Berou comp=Z,840nm,21.0s	116.39	325	IAMs_20	IAMs_20	07 04 38.1		
COWI	Conover comp=Z,2µm,19.0s	116.44	39	IAMs_20	IAMs_20	07 08 37.0		
HHAR	Hobbs comp=Z,2µm,19.0s	116.46	51	IAMs_20	IAMs_20	07 02 01.1		
KRLC	Kraliky comp=Z,1µm,18.9s	116.67	326	AMS	AMS	07 04 20.0		
OSTC	Ostas comp=Z,1µm,20.5s	116.75	326	AMS	AMS	07 05 30.0		
DPC	Dobruska-Polom comp=Z,1µm,20.3s	116.79	326	AMS	AMS	07 05 40.0		
CHVC	Chvalec comp=Z,1µm,17.4s	116.82	327	AMS	AMS	07 05 30.0		
UPC	Upice comp=Z,2µm,20.0s	116.88	326	AMS	AMS	07 05 30.0		
JFWS	Jewell Farm comp=Z,2µm,18.0s	116.98	43	IAMs_20	IAMs_20	07 09 46.6		
NATX	Nacogdoches comp=Z,2µm,22.0s	117.03	56	IAMs_20	IAMs_20	06 58 50.1		
F42A	Maple Grove Fa comp=Z,2µm,21.0s	117.22	39	IAMs_20	IAMs_20	07 07 13.2		
I42A	Draeger Farm, comp=Z,3µm,21.0s	117.49	42	IAMs_20	IAMs_20	07 06 54.7		
PVCC	Panska Ves comp=Z,1µm,21.4s	117.66	327	AMS	AMS	07 06 00.0		
TREC	Trest comp=Z,1µm,21.3s	117.79	325	AMS	AMS	07 05 30.0		
GOPC	GO Pecny, Ondr comp=Z,1µm,19.7s	117.86	326	AMS	AMS	07 06 10.0		
PRU	Pruhonice	117.96	327	*e*SP	SP	06 24 17.1	-0.3	
PRU	comp=Z,1µm,19.3s			AMS	AMS	07 06 20.0		
PRA	Prague comp=Z,500nm,21.1s	117.98	327	AMS	AMS	07 06 20.0		
H43A	Windswept, Lux comp=Z,2µm,20.0s	118.00	41	IAMs_20	IAMs_20	07 07 18.4		
WHAR	Wooly Hollow comp=Z,2µm,19.0s	118.03	52	IAMs_20	IAMs_20	07 02 55.7		
CLL	Collm	118.08	328	*e*PKiKP	PKiKP	06 13 23.0	+0.9	
CLL				*e*		06 13 26.0		
CLL				*e*PP	PP	06 14 39.0	+2.4	
CLL				*e*(SKSac)		06 20 30.0		
CLL				*e*PS	PS	06 24 22.0	-1.0	
CLL				*e*		06 25 22.0		
CLL				*e*		06 26 12.0		
CLL				*e*SS	SS	06 30 53.0	+4.1	
CLL				*e*SSS	SSS	06 35 09.0		
CLL				*e*		06 37 00.0		
CLL	comp=Z,2µm,20.0s			LmV		07 06 00.0		
CLL	Collm	118.08	328	*e*PKiKP	PKiKP	06 13 23.0	+0.9	
CLL	comp=Z,2µm,20.0s			MLR	MLR			
CLL	Collm comp=Z,2µm,20.0s	118.08	328	IAMs_20	IAMs_20	07 06 22.6		
Z41A	Richland Creek comp=Z,2µm,18.0s	118.18	54	IAMs_20	IAMs_20	07 03 17.2		
CONA	Conrad Observa comp=Z,7.2nm,0.9s	118.25	324	*e*PKPdf	PKPdf	06 13 18.9	-3.7	
SLM	Saint Louis comp=Z,2µm,18.0s	118.53	47	IAMs_20	IAMs_20	07 04 29.3		
TIR	Tirane comp=Z,778nm,20.0s	118.56	316	IAMs_20	IAMs_20	07 08 42.4		
KHC	Kasperske Hory	118.94	326	*e*PP	PP	06 14 44.7	+2.0	
KHC				*e*SP	SP	06 24 27.4	+1.1	
KHC	comp=Z,1µm,19.2s			AMS	AMS	07 07 10.0		
NKC	Novy Kostel comp=Z,2µm,21.0s	118.97	328	AMS	AMS	07 05 00.0		
GEC2	GERESS Array S comp=Z,1µm,20.0s	119.03	326	IAMs_20	IAMs_20	07 06 53.9		
GERES	GERESS Array B comp=Z,1.1nm,0.7s,baz=57,slow=4.9,SNR=6.7	119.03	326	PKP	PKPdf	06 13 22.9	-1.2	
GERES	GERESS Array B	119.03	326	PKPdf	PKPdf	06 13 22.4	-1.7	
I45A	Fountain comp=Z,2µm,18.0s	119.19	40	IAMs_20	IAMs_20	07 09 20.7		
LPAR	Lepanto comp=Z,1µm,19.0s	119.48	51	IAMs_20	IAMs_20	07 11 04.0		
PARMO	Parma comp=Z,2µm,20.0s	119.55	49	IAMs_20	IAMs_20	06 58 25.8		
S44A	Carbondale comp=Z,2µm,21.0s	119.58	48	IAMs_20	IAMs_20	07 04 11.3		
PEBM	Pemiscott Bayo comp=Z,2µm,19.0s	119.65	50	IAMs_20	IAMs_20	06 56 54.5		
GRA1	Grafenberg Arr comp=Z,1µm,20.0s	119.92	328	IAMs_20	IAMs_20	07 07 10.5		
LNXT	Lenox comp=Z,2µm,22.0s	119.94	50	IAMs_20	IAMs_20	07 03 52.1		
HICK	Hickman comp=Z,2µm,20.0s	119.99	49	IAMs_20	IAMs_20	06 57 13.4		
L46A	Eue Claire comp=Z,2µm,20.0s	120.02	43	IAMs_20	IAMs_20	07 08 38.0		
GLAT	Glass comp=Z,1µm,19.0s	120.04	50	IAMs_20	IAMs_20	07 03 35.7		
OLIL	Olney comp=Z,2µm,20.0s	120.05	47	IAMs_20	IAMs_20	07 06 43.6		
SFIN	Lafayette comp=Z,2µm,21.0s	120.14	45	IAMs_20	IAMs_20	07 08 44.5		
VBMS	Vicksburg comp=Z,2µm,20.0s	120.32	55	IAMs_20	IAMs_20	07 02 40.8		
PRED	Cave del Predi comp=Z,1µm,21.0s	120.35	323	IAMs_20	IAMs_20	07 06 35.1		
P46A	Rosedale comp=Z,2µm,20.0s	120.36	45	IAMs_20	IAMs_20	07 07 08.5		
J47A	Sunmer comp=Z,2µm,19.0s	120.46	41	IAMs_20	IAMs_20	07 08 09.4		
TRI	Trieste comp=Z,848nm,19.0s	120.60	323	IAMs_20	IAMs_20	07 09 51.9		
ZOU	Zoufplan comp=Z,906nm,20.0s	120.64	324	IAMs_20	IAMs_20	07 08 12.8		
ABTA	Abfaltersbach comp=Z,4.6nm,0.9s	120.81	324	*e*PKiKP	PKiKP	06 13 30.8	+3.2	
N47A	Urbana comp=Z,2µm,20.0s	120.91	44	IAMs_20	IAMs_20	07 06 43.7		
STAL	STALIGIAL	120.95	324		PKPdf	06 13 27.5	-0.3	
BLO	Bloomington comp=Z,2µm,19.0s	121.02	46	IAMs_20	IAMs_20	07 06 23.1		
WTTA	Wattenberg comp=Z,12nm,1.1s	121.04	325	*e*PKiKP	PKiKP	06 13 31.1	+2.9	
CIMO	Cimolais	121.09	324		PKPdf	06 13 26.4	-1.7	
CIMO	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	07 07 46.5		
L48A	N Adams comp=Z,2µm,20.0s	121.30	42	IAMs_20	IAMs_20	07 09 13.8		
MOTA	Moosalm comp=Z,5.0nm,1.0s	121.30	325	*e*PKiKP	PKPdf	06 13 28.6	0.0	
SQTA	Sankt Quirin comp=Z,6.7nm,1.1s	121.31	325	*e*PKiKP	PKiKP	06 13 32.3	+3.6	
346A	Big Creek Wild comp=Z,2µm,18.0s	121.41	55	IAMs_20	IAMs_20	07 08 43.9		
T47A	Sharon Grove comp=Z,2µm,21.0s	121.43	48	IAMs_20	IAMs_20	06 58 09.3		
STU	Stuttgart comp=Z,982nm,19.0s	121.54	328	IAMs_20	IAMs_20	07 08 19.3		
WCI	Wyandotte Cave comp=Z,2µm,21.0s	121.56	47	IAMs_20	IAMs_20	07 05 16.4		
AAM	Ann Arbor comp=Z,2µm,21.0s	121.65	41	IAMs_20	IAMs_20	07 09 35.0		
P48A	Milroy comp=Z,2µm,21.0s	121.68	45	IAMs_20	IAMs_20	07 07 57.5		
FETA	Feichten comp=Z,8.9nm,1.0s	121.69	325	*e*pPKPdf	PKiKP	06 13 33.3	+3.8	
N49A	Columbus Grove comp=Z,2µm,20.0s	121.92	43	IAMs_20	IAMs_20	07 07 01.5		
Z47A	Carrollton comp=Z,2µm,20.0s	121.99	53	IAMs_20	IAMs_20	06 56 26.8		
V48A	Smith Brothers comp=Z,2µm,19.0s	122.10	49	IAMs_20	IAMs_20	07 05 35.2		
K50A	Casco comp=Z,1µm,18.0s	122.10	40	IAMs_20	IAMs_20	07 12 02.8		
O49A	Covington comp=Z,2µm,21.0s	122.14	44	IAMs_20	IAMs_20	07 06 41.3		
FUORN	Ofenpass-Fuorn comp=Z,2µm,20.0s	122.18	325	IAMs_20	IAMs_20	07 09 19.5		
BFO	Black Forest comp=Z,985nm,19.0s	122.27	328	IAMs_20	IAMs_20	07 08 50.5		
VLDQ	Val Dor comp=Z,2µm,20.0s	122.31	33	IAMs_20	IAMs_20	07 13 32.5		
X48A	Hartselle comp=Z,2µm,18.0s	122.38	51	IAMs_20	IAMs_20	07 05 33.9		
M50A	Fremont comp=Z,2µm,21.0s	122.47	42	IAMs_20	IAMs_20	07 08 50.9		
AQU	L'Aquila comp=Z,808nm,21.0s	122.48	319	IAMs_20	IAMs_20	07 08 24.7		
SCHQ	Schefferville comp=Z,2µm,20.0s	122.50	22	IAMs_20	IAMs_20	07 18 13.3		
WLF	Walferdange	122.57	330	PKiKP	PKiKP	06 13 31.1	+0.2	
U49A	Red Boiling Sp comp=Z,2µm,20.0s	122.59	48	IAMs_20	IAMs_20	07 06 13.1		
UCC	Uccle comp=Z,2µm,19.0s	122.70	332	IAMs_20	IAMs_20	07 10 11.7		
D53A	Lac Vacive, Po comp=Z,1µm,19.0s	122.78	34	IAMs_20	IAMs_20	07 11 02.7		
TUE	Stuetta comp=Z,2µm,20.0s	122.79	325	IAMs_20	IAMs_20	07 09 36.5		
LRAL	Lakeview Retre comp=Z,2µm,18.0s	122.89	53	IAMs_20	IAMs_20	07 05 51.7		
R50A	Paris comp=Z,2µm,18.0s	122.95	46	IAMs_20	IAMs_20	07 07 16.2		
ECH	Echery comp=Z,1µm,19.0s	122.96	328	IAMs_20	IAMs_20	07 09 27.8		
SWET	Sewanee comp=Z,2µm,21.0s	122.96	50	IAMs_20	IAMs_20	06 57 14.1		
ACSO	Alum Creek Sta comp=Z,1µm,21.0s	123.05	43	IAMs_20	IAMs_20	07 05 27.3		
Y49A	Blount Mountai comp=Z,2µm,19.0s	123.08	51	IAMs_20	IAMs_20	07 06 50.4		
N51A	Ashland comp=Z,2µm,18.0s	123.14	42	IAMs_20	IAMs_20	07 08 50.7		
PRMA	PARMA comp=Z,1µm,21.0s	123.17	323	IAMs_20	IAMs_20	07 09 35.9		
SADO	Sadowa comp=Z,2µm,18.0s	123.25	37	IAMs_20	IAMs_20	07 10 28.6		
P51A	Williamsport comp=Z,2µm,18.0s	123.33	44	IAMs_20	IAMs_20	07 08 00.9		
Q51A	Peebles comp=Z,2µm,18.0s	123.33	45	IAMs_20	IAMs_20	07 07 48.0		
W50A	Signal Mountai comp=Z,2µm,18.0s	123.44	50	IAMs_20	IAMs_20	07 06 28.8		
BRAL	Brewton comp=Z,2µm,21.0s	123.45	55	IAMs_20	IAMs_20	07 02 50.8		
FPAL	Fort Paine comp=Z,2µm,19.0s	123.45	50	IAMs_20	IAMs_20	07 07 04.3		
VLC	Villacellemand comp=Z,795nm,20.0s	123.46	323	IAMs_20	IAMs_20	07 09 31.4		
M52A	Chesterland comp=Z,1µm,21.0s	123.52	41	IAMs_20	IAMs_20	07 06 54.5		
S51A	Beattyville comp=Z,2µm,20.0s	123.75	46	IAMs_20	IAMs_20	07 07 37.3		
250A	Grady comp=Z,2µm,20.0s	123.83	53	IAMs_20	IAMs_20	07 05 25.5		
P52A	Corning comp=Z,2µm,21.0s	123.90	43	IAMs_20	IAMs_20	07 08 39.9		
V51A	Loudon comp=Z,2µm,20.0s	123.93	49	IAMs_20	IAMs_20	06 59 48.7		
CPCT	Cooper Cave comp=Z,2µm,20.0s	123.94	49	IAMs_20	IAMs_20	06 58 18.0		
SENIN	Lac Senin/Sane comp=Z,790nm,20.0s	124.00	326	IAMs_20	IAMs_20	07 09 48.6		
TSUM	Tsumeb comp=Z,718nm,20.0s	124.06	244	IAMs_20	IAMs_20	07 07 50.3		
N53A	Lisbon comp=Z,1µm,18.0s	124.22	42	IAMs_20	IAMs_20	07 10 24.1		
TZTN	Tazewell comp=Z,2µm,19.0s	124.23	47	IAMs_20	IAMs_20	07 08 35.4		
Z51A	Franklin comp=Z,2µm,21.0s	124.23	52	IAMs_20	IAMs_20	07 04 44.0		
O53A	New Philadelph comp=Z,1µm,19.0s	124.24	42	IAMs_20	IAMs_20	07 00 17.7		
DELO	Deloro Mine comp=Z,2µm,18.0s	124.29	36	IAMs_20	IAMs_20	07 11 40.2		
PLVO	Plevna comp=Z,1µm,18.0s	124.31	36	IAMs_20	IAMs_20	07 13 31.6		
TKL	Tuckaleechee C comp=Z,2µm,21.0s	124.42	48	IAMs_20	IAMs_20	06 57 57.6		
P53A	Whipple comp=Z,2µm,21.0s	124.48	43	IAMs_20	IAMs_20	07 09 03.2		
V52A	Sevierville comp=Z,2µm,22.0s	124.48	48	IAMs_20	IAMs_20	06 59 26.1		
W52A	Murphy comp=Z,2µm,22.0s	124.53	49	IAMs_20	IAMs_20	07 02 38.5		
R53A	Hurricane comp=Z,2µm,19.0s	124.62	45	IAMs_20	IAMs_20	07 08 22.1		
M54A	Oil Creek Stat comp=Z,1µm,20.0s	124.64	40	IAMs_20	IAMs_20	07 08 11.0		
451A	Vernon comp=Z,2µm,18.0s	124.69	55	IAMs_20	IAMs_20	07 02 53.6		
N54A	Moraine State comp=Z,2µm,19.0s	124.70	41	IAMs_20	IAMs_20	07 11 55.8		
152A	Waverly Hall comp=Z,2µm,19.0s	124.82	52	IAMs_20	IAMs_20	07 06 07.7		
J55A	Hilton comp=Z,2µm,20.0s	124.87	38	IAMs_20	IAMs_20	07 11 20.7		
PECO	Prince Edward comp=Z,2µm,18.0s	124.99	37	IAMs_20	IAMs_20	07 13 43.7		
PLCA	Paso Flores comp=Z,3.3nm,0.6s,baz=256,slow=1.2,SNR=21	125.01	147	PKP	PKiKP	06 13 36.1	0.0	
352A	Blakely comp=Z,1µm,20.0s	125.07	54	IAMs_20	IAMs_20	07 12 27.5		
BNI	Bardonecchia comp=Z,1µm,18.0s	125.13	325	IAMs_20	IAMs_20	07 13 15.6		
V53A	Saluda comp=Z,2µm,20.0s	125.14	48	IAMs_20	IAMs_20	07 07 59.4		
M55A	Ridgway comp=Z,2µm,22.0s	125.24	40	IAMs_20	IAMs_20	07 10 29.8		
S54A	Dingess, Beckl comp=Z,1µm,21.0s	125.31	45	IAMs_20	IAMs_20	07 12 14.4		
BG3	Lake Jocassee comp=Z,2µm,18.0s	125.32	49	IAMs_20	IAMs_20	06 57 48.4		
MCWV	Mont Chateau comp=Z,1µm,19.0s	125.44	42	IAMs_20	IAMs_20	07 09 47.6		
U54A	Nelsons Funny comp=Z,2µm,20.0s	125.50	47	IAMs_20	IAMs_20	06 59 56.9		
GOGA	Godfrey comp=Z,2µm,20.0s	125.53	51	IAMs_20	IAMs_20	07 03 51.2		
J57A	Williamstown comp=Z,2µm,22.0s	125.89	37	IAMs_20	IAMs_20	07 10 49.4		
553A	Crawfordville comp=Z,2µm,18.0s	125.90	55	IAMs_20	IAMs_20	07 06 59.7		
R55A	Marlinton comp=Z,2µm,20.0s	125.92	44	IAMs_20	IAMs_20	07 08 56.4		
O56A	Blue Knob Stat comp=Z,2µm,18.0s	125.99	41	IAMs_20	IAMs_20	07 11 14.8		
LONY	Lake Ozonia comp=Z,2µm,20.0s	125.99	35	IAMs_20	IAMs_20	07 12 52.9		
154A	Montrose comp=Z,2µm,21.0s	126.11	52	IAMs_20	IAMs_20	07 05 40.7		
TIGA	Tifton comp=Z,2µm,20.0s	126.15	53	IAMs_20	IAMs_20	07 04 41.1		
Q56A	Snyder Ridge, comp=Z,2µm,20.0s	126.19	43	IAMs_20	IAMs_20	07 09 27.5		
SSB	Saint Sauveur comp=Z,958nm,19.0s	126.19	327	IAMs_20	IAMs_20	07 11 31.4		
V55A	Taylorsville comp=Z,2µm,19.0s	126.24	47	IAMs_20	IAMs_20	07 11 41.4		
SSPA	Standing Stone comp=Z,1µm,20.0s	126.24	40	IAMs_20	IAMs_20	07 10 44.4		
M57A	Sunshine Farm, comp=Z,2µm,21.0s	126.35	39	IAMs_20	IAMs_20	07 07 48.2		
K58A	Earlville comp=Z,2µm,21.0s	126.47	37	IAMs_20	IAMs_20	07 08 44.9		
BINY	Binghamton comp=Z,1µm,20.0s	126.58	38	IAMs_20	IAMs_20	07 07 48.1		
J59A	Piesco comp=Z,2µm,20.0s	126.73	36	IAMs_20	IAMs_20	07 12 56.7		
P57A	Homestead Farm comp=Z,2µm,21.0s	126.76	42	IAMs_20	IAMs_20	07 07 46.4		
255A	Hazlehurst comp=Z,2µm,21.0s	126.86	52	IAMs_20	IAMs_20	07 02 25.7		
JSC	Jenkinsville comp=Z,1µm,22.0s	126.87	49	IAMs_20	IAMs_20	07 02 21.4		
N58A	Sunbury comp=Z,2µm,18.0s	126.88	40	IAMs_20	IAMs_20	07 11 11.3		
S57A	Dark Hollow, R comp=Z,2µm,20.0s	126.97	44	IAMs_20	IAMs_20	07 06 20.4		
T57A	Hurt comp=Z,2µm,19.0s	127.13	45	IAMs_20	IAMs_20	07 09 06.6		
L59A	Walton comp=Z,1µm,20.0s	127.16	37	IAMs_20	IAMs_20	07 06 06.3		
Z56A	Williston comp=Z,2µm,20.0s	127.18	50	IAMs_20	IAMs_20	06 57 34.8		
VT1	Waterbury comp=Z,1µm,20.0s	127.20	34	IAMs_20	IAMs_20	07 04 09.9		
PAGS	Pennsylvania G comp=Z,1µm,20.0s	127.21	40	IAMs_20	IAMs_20	07 19 14.0		
BIRD	Birdtown, Kers comp=Z,2µm,21.0s	127.31	48	IAMs_20	IAMs_20	07 06 56.0		
W57A	Gilead comp=Z,2µm,21.0s	127.44	47	IAMs_20	IAMs_20	07 07 15.2		
N59A	State Game Lan comp=Z,2µm,20.0s	127.44	39	IAMs_20	IAMs_20	07 11 49.9		
R58B	Mineral comp=Z,2µm,18.0s	127.62	43	IAMs_20	IAMs_20	07 08 55.3		
F62A	Pittston Farm, comp=Z,2µm,20.0s	127.66	31	IAMs_20	IAMs_20	07 13 54.5		
TRY	Troy comp=Z,2µm,19.0s	127.66	36	IAMs_20	IAMs_20	07 15 32.4		
S58A	Poland Farm, P comp=Z,2µm,21.0s	127.67	44	IAMs_20	IAMs_20	07 06 09.4		
LBNH	Lisbon comp=Z,2µm,20.0s	127.72	34	IAMs_20	IAMs_20	07 12 30.3		
V58A	Windy Hill, Pi comp=Z,2µm,20.0s	127.79	46	IAMs_20	IAMs_20	07 05 50.3		
G62A	West of Eustis comp=Z,2µm,20.0s	127.83	32	IAMs_20	IAMs_20	07 13 31.0		
CBN	Corbin Frederi comp=Z,2µm,19.0s	127.84	43	IAMs_20	IAMs_20	07 07 02.5		
H62A	Milan comp=Z,2µm,19.0s	127.92	33	IAMs_20	IAMs_20	07 12 59.6		
E63A	Oxbow comp=Z,2µm,19.0s	128.07	29	IAMs_20	IAMs_20	07 15 44.1		
PQI	Presque Isle comp=Z,2µm,18.0s	128.09	29	IAMs_20	IAMs_20	07 15 42.5		
NHSC	New Hope comp=Z,

WES	**Weston** comp=Z,2μm,21.0s	**129.24**	**35**	IAMs_20	IAMs_20	07 14 00.9
S61A	**Accomac** comp=Z,2μm,20.0s	**129.26**	**42**	IAMs_20	IAMs_20	07 07 52.6
Y60A	**Bolivia** comp=Z,2μm,18.0s	**129.26**	**48**	IAMs_20	IAMs_20	07 05 50.6
BCX	**Boston College** comp=Z,1μm,21.0s	**129.36**	**35**	IAMs_20	IAMs_20	07 14 16.0
G65A	**Princeton** comp=Z,2μm,19.0s	**129.36**	**30**	IAMs_20	IAMs_20	07 15 55.3
BRYW	**Bryant College** comp=Z,1μm,20.0s	**129.41**	**36**	IAMs_20	IAMs_20	07 13 51.5
U61A	**Possum Corner** comp=Z,2μm,20.0s	**129.42**	**44**	IAMs_20	IAMs_20	07 05 41.7
V61A	**Roper** comp=Z,2μm,19.0s	**129.60**	**45**	IAMs_20	IAMs_20	07 07 52.1
M65A	**Busby, Falmout** comp=Z,2μm,18.0s	**130.15**	**35**	IAMs_20	IAMs_20	07 13 06.0
V62A	**Hyde County Ai** comp=Z,2μm,19.0s	**130.15**	**45**	IAMs_20	IAMs_20	07 07 31.7
HAL	**Halifax** comp=Z,2μm,22.0s	**131.69**	**28**	IAMs_20	IAMs_20	07 12 00.5
ZON	**Zonda** comp=Z,2μm,22.0s	**132.32**	**140**	IAMs_20	IAMs_20	07 15 46.1
ES19	**SONSECA Array** comp=Z,998nm,21.0s	**134.55**	**327**	IAMs_20	IAMs_20	07 16 34.7
ES18	**SONSECA Array** comp=Z,971nm,20.0s	**134.57**	**327**	IAMs_20	IAMs_20	07 16 24.3
ES10	**SONSECA Array** comp=Z,977nm,22.0s	**134.59**	**327**	IAMs_20	IAMs_20	07 16 34.6
ES17	**SONSECA Array** comp=Z,1μm,21.0s	**134.59**	**327**	IAMs_20	IAMs_20	07 16 32.8
ES03	**SONSECA Array** comp=Z,904nm,21.0s	**134.60**	**327**	IAMs_20	IAMs_20	07 16 51.8
ES11	**SONSECA Array** comp=Z,957nm,21.0s	**134.60**	**327**	IAMs_20	IAMs_20	07 16 36.0
ESBB	**Sonseca Array** comp=Z,976nm,22.0s	**134.60**	**327**	IAMs_20	IAMs_20	07 16 35.1
ES04	**SONSECA Array** comp=Z,1μm,22.0s	**134.61**	**327**	IAMs_20	IAMs_20	07 16 35.2
ES16	**SONSECA Array** comp=Z,1μm,21.0s	**134.62**	**327**	IAMs_20	IAMs_20	07 16 36.3
ES15	**SONSECA Array** comp=Z,1μm,21.0s	**134.63**	**327**	IAMs_20	IAMs_20	07 16 49.9
PAB	**San Pablo** comp=Z,863nm,20.0s	**134.91**	**327**	IAMs_20	IAMs_20	07 16 33.1
MTE	**Manteigas** comp=Z,2μm,20.0s	**135.95**	**330**	IAMs_20	IAMs_20	07 17 42.4
PVAQ	**Vaqueiros** comp=Z,598nm,20.0s	**138.28**	**327**	IAMs_20	IAMs_20	07 20 42.3
PFVI	**Vila Bisbo** comp=Z,798nm,20.0s	**139.07**	**328**	IAMs_20	IAMs_20	07 19 04.2
PB16	**IPOC Station P** comp=Z,2μm,22.0s	**139.24**	**123**	IAMs_20	IAMs_20	07 13 00.4
BBSR	**BB Station** comp=Z,1μm,21.0s	**139.66**	**41**	IAMs_20	IAMs_20	07 10 00.3
LPAZ	**La Paz** comp=Z,1.5nm,0.7s,baz=204,slow=0.2,SNR=7.2	**141.36**	**122**	PKhKP	PKPpre	06 14 02.0
LPAZ	**La Paz**	**141.36**	**122**	PKIKP	**PKPdf**	**06 14 02.5 -5.3**
LPAZ	**La Paz**	**141.36**	**122**		PKPpre	06 14 02.5
TOA0	**Torodi Ar. Sit**	**143.00**	**287**		**PKPdf**	**06 14 05.9 -4.0**
TORD	**Torodi Ar. Bea** baz=81,slow=3.9	**143.00**	**287**	PKhKP	PKPpre	06 14 05.1
CPUP	**Villa Florida** comp=Z,2.7nm,0.8s,baz=132,slow=2.5,SNR=5.8	**143.01**	**145**	PKhKP	PKPpre	06 14 06.4
CPUP	**Villa Florida**	**143.01**	**145**	PKIKP	PKPbc	06 14 06.6 +0.2
CPUP	**Villa Florida**	**143.01**	**145**	PKPdf	PKPbc	06 14 06.6 +0.1
CRPR	**Cabo Rojo, PR**	**144.94**	**63**		**PKPab**	**06 14 11.8 -0.7**
OBIP	**Obispado Ponce** comp=Z,908nm,20.0s	**145.38**	**63**	IAMs_20	IAMs_20	07 15 21.9
PDPR	**Patillas Dam,**	**145.91**	**63**		**PKPdf**	**06 14 15.1 +0.2**
MTP	**Monte Pirata**	**146.29**	**62**		**PKPdf**	**06 14 15.6 +0.1**
SMRT	**St. Maarten** comp=Z,1μm,21.0s	**148.48**	**61**	IAMs_20	IAMs_20	07 11 25.8
SEUS	**St. Eustatius** comp=Z,1μm,18.0s	**148.78**	**61**	IAMs_20	IAMs_20	07 10 39.4
SAML	**Samuel** comp=Z,1μm,21.0s	**148.82**	**114**	IAMs_20	IAMs_20	07 11 40.8
SKI	**Saint Kitts** comp=Z,1μm,20.0s	**149.06**	**62**	IAMs_20	IAMs_20	07 09 52.8
ANWB	**Willy Bob** comp=Z,890nm,20.0s	**149.76**	**60**	IAMs_20	IAMs_20	07 15 03.5
KIC	**Kosan Boka** comp=Z,150nm,1.6s	**150.24**	**277**	*e*P	**PKiKP**	**06 14 29.9 +1.8**
DBIC	**Dimbokro** comp=Z,16nm,0.9s,baz=108,slow=2.6,SNR=9.8	**150.33**	**277**	PKPbc	**PKPbc**	**06 14 27.4 -0.1**
DBIC	**Dimbokro**	**150.33**	**277**	PKIKP	**PKPbc**	**06 14 27.0 -0.5**
DBIC	**Dimbokro**	**150.33**	**277**		**PKPbc**	**06 14 27.0 -0.5**
TIC	**Toumodi**	**150.50**	**277**	*e*P	**PKPbc**	**06 14 27.4 -0.6**
LIC	**Lamto** comp=Z,50nm,0.9s	**150.54**	**276**	*e*P	**PKPbc**	**06 14 27.6 -0.4**
BDFB	**Brasilia** comp=Z,3.1nm,0.7s,baz=188,slow=2.5,SNR=5.0	**156.74**	**145**	PKPbc	PKPdf	06 14 40.8 +9.2
BDFB				PKPab	**PKPab**	**06 15 00.6 -0.2**
	comp=Z,8.5nm,1.0s,baz=198,slow=4.3,SNR=6.0					

BGR ***13*** *06:19:08.6±0.0,23.˚90S×172.˚49E, h33km, Ms5.7*
IDC ***13*** *06:19:10.4±0.9,22.˚31S×170.˚44E, h0km, mb4.2/13, mb1 4.4/15, mb1mx4.2/42, mbtmp4.2/15, ML4.1/2, MS4.2/7, Ms1 4.2/7, ms1mx3.8/31, Error ellipse: s-maj=26.1km s-min=19.9km az=144.0*
NEIC ***13*** *06:19:15.6±2.3,22.˚4S±0.˚1×170.˚31E±0.˚03, h35km±1km, mb4.7/15, Error ellipse: s-maj=20.3km s-min=3.0km az=167.0*

ISC 13 06:19:15.1±0.5,22.˚4S±0.˚1×170.˚37E±0.˚08, h33km, n84, σ0§95/79, mb4.3/20, MS4.1/5, 6C-1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 64nm,0.3s,baz=130,slow=15,SNR=490	**3.65**	**275**	Pn	**Pn**	**06 20 10.7**	**+1.3**
DZM				Sn	**Sn**	**06 20 53.1**	**+1.7**
	99nm,0.3s,baz=315,slow=23,SNR=16						
DZM	**Mont Dzumac**	**3.65**	**275**	Pn	**Pn**	**06 20 10.8**	**+1.4**
MSVF	**Nonsavu**	**8.50**	**58**		**Pn**	**06 21 19.9**	**+2.5**
RAO	**Raoul Island**	**12.54**	**125**	LR	LR	06 26 02.2	
	comp=Z,798nm,18.3s,baz=283,slow=33						
URZ	**Urewera** 0.1nm,0.3s,baz=170,slow=18,SNR=2.9	**16.80**	**161**	Pn	**P**	**06 23 10.3**	**+0.6**
URZ				LR	LR	06 28 41.1	
	comp=Z,858nm,18.0s,baz=321,slow=34						
LTZ	**Lake Taylor**	**20.35**	**176**	P	**P**	**06 23 49.8**	**+1.1**
LTZ				IAmb	IAmb	06 24 04.8	
	comp=Z,32nm,1.2s						
RPZ	**Rata Peaks** comp=Z,733nm,19.0s,baz=314,slow=34	**21.23**	**179**	LR	LR	06 31 09.0	
PMG	**Port Moresby** comp=Z,539nm,19.4s,baz=120,slow=33	**25.75**	**297**	LR	LR	06 33 13.0	
COEN	**Coen**	**27.14**	**283**	P	**P**	**06 24 52.3**	**-3.2**
COEN				IAmb	IAmb	06 25 11.1	
	comp=Z,38nm,1.5s						
STKA	**Stephens Creek** comp=Z,2.5nm,0.8s,baz=91,slow=9.0,SNR=4.5	**27.20**	**244**	P	**P**	**06 24 56.7**	**+0.8**
STKA	**Stephens Creek** comp=Z,2.9nm,1.4s	**27.20**	**244**	IAmb	IAmb	06 25 03.8	
WR0	**Warramunga Arr**	**33.45**	**267**	P	**P**	**06 25 50.4**	**-0.8**
WR0				IAmb	IAmb	06 26 06.5	
	comp=Z,18nm,1.4s						
ASAR	**Alice Springs** comp=Z,2.4nm,0.9s,baz=83,slow=8.6,SNR=16	**33.52**	**261**	P	**P**	**06 25 52.6**	**+0.7**
ASAR				PcP	**PcP**	**06 28 32.6**	**+0.2**
	comp=Z,1.3nm,1.1s,baz=114,slow=4.5,SNR=2.6						
ASAR				LR	LR	06 39 02.9	
	comp=Z,267nm,18.3s,baz=98,slow=36						
WB0	**Warramunga Arr**	**33.62**	**268**	P	**P**	**06 25 53.4**	**+0.7**
WB0				IAmb	IAmb	06 26 13.3	
	comp=Z,7.7nm,1.2s						
WB2	**Warramunga Arr**	**33.62**	**267**	P	**P**	**06 25 53.6**	**+0.8**
WB2				IAmb	IAmb	06 26 07.3	
	comp=Z,8.6nm,1.1s						
WRA	**Warramunga Arr** comp=Z,0.6nm,0.4s,baz=100,slow=8.1,SNR=15	**33.63**	**267**	P	**P**	**06 25 52.9**	**0.0**
WRA				PcP	**PcP**	**06 28 32.6**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=100,slow=3.7,SNR=2.8						
WRA				LR	LR	06 39 55.1	
	comp=Z,556nm,18.0s,baz=90,slow=37						
MTN	**Manton Dam**	**38.49**	**278**	P	**P**	**06 26 34.8**	**+0.3**
FITZ	**Fitzroy Crossi** comp=Z,6.3nm,0.9s,baz=80,slow=7.0,SNR=3.1	**42.06**	**268**	P	**P**	**06 27 04.7**	**+0.6**
MJAR	**Matsushiro Arr** comp=Z,1.2nm,0.5s,baz=168,slow=8.0,SNR=9.6	**66.06**	**332**	P	**P**	**06 29 57.9**	**-0.8**
MAJO	**Matsushiro** comp=Z,18nm,1.4s	**66.06**	**332**	P	**P**	**06 29 58.2**	**-0.5**
MAJO				IAmb	IAmb	06 29 58.5	

JNU	**Nakatsue** comp=Z,8.4nm,1.0s,baz=104,slow=3.3,SNR=3.8	**66.87**	**325**	P	**P**	**06 30 03.9**	**-0.1**
JNU	**Nakatsue** comp=Z,28nm,1.3s	**66.87**	**325**	IAmb	IAmb	06 30 04.9	
QSPA	**South Pole Qui**	**67.63**	**180**	P	**P**	**06 30 08.9**	**+0.3**
QSPA	comp=Z,14nm,1.2s			IAmb	IAmb	06 30 20.4	
KSRS	**Korea Array** comp=Z,0.8nm,0.5s,baz=138,slow=6.7,SNR=8.9	**71.73**	**326**	P	**P**	**06 30 34.4**	**+0.4**
RPN	**Rapa Nui** comp=Z,151nm,19.2s,baz=288,slow=29	**71.88**	**112**	LR	LR	06 54 21.8	
MAW	**Mawson** comp=Z,2.4nm,0.9s,baz=114,slow=6.4,SNR=4.4	**75.88**	**202**	P	**P**	**06 30 58.7**	**+0.8**
MAW	**Mawson** comp=Z,1.9nm,1.2s	**75.88**	**202**	IAmb	IAmb	06 31 04.1	
PETK	**Petropavlovsk-** comp=Z,0.7nm,0.4s,baz=103,slow=6.2,SNR=2.6	**76.03**	**352**	P	**P**	**06 30 58.5**	**-0.3**
CMAR	**Chiang Mai Arr** comp=Z,3.3nm,0.9s,baz=135,slow=3.5,SNR=18	**80.77**	**294**	P	**P**	**06 31 27.8**	**+2.0**
CMAR	**Chiang Mai Arr**	**80.77**	**294**	P	**P**	**06 31 24.1**	**-1.7**
CHTO	**Chiang Mai**	**80.94**	**295**	P	**P**	**06 31 25.4**	**-1.3**
CHTO	comp=Z,13nm,1.1s			IAmb	IAmb	06 31 30.0	
SYO	**Syowa Base**	**82.17**	**196**	‖*e*P	**P**	**06 31 31.0**	**-1.3**
SNAA	**Sanae**	**86.02**	**182**	P	**P**	**06 31 51.0**	**-1.0**
SNAA	**Sanae**	**86.02**	**182**	P	**P**	**06 31 50.7**	**-1.3**
VNA3	**Neumayer Olymp**	**86.57**	**180**	P	**P**	**06 31 53.5**	**-1.2**
VNA2	**Neumayer--Watz**	**86.88**	**181**	P	**P**	**06 31 55.0**	**-1.1**
VNA1	**Neumayer--Stat**	**87.16**	**180**	P	**P**	**06 31 57.0**	**-0.4**
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.3s,baz=225,slow=8.8,SNR=3.8	**90.13**	**48**	P	**P**	**06 32 13.0**	**+0.7**
SONM	**Songino Array** comp=Z,3.3nm,0.9s,baz=135,slow=5.0,SNR=16	**90.39**	**323**	P	**P**	**06 32 13.5**	**+0.4**
ILAR	**Eielson Array** comp=Z,0.3nm,0.6s,baz=239,slow=4.8,SNR=2.7	**92.96**	**17**	P	**P**	**06 32 22.8**	**-1.7**
ARCES	**ARCESS Array B** comp=Z,0.9nm,0.4s,baz=71,slow=2.2,SNR=9.5	**128.41**	**345**	PKP	**PKPdf**	**06 38 17.3**	**-0.4**
FINES	**FINESS Array B** comp=Z,0.7nm,0.5s,baz=114,slow=1.7,SNR=3.5	**133.93**	**337**	PKP	**PKiKP**	**06 38 29.8**	**+0.2**
MORC	**Moravsky Berou**	**145.34**	**329**	*e*PKP	**PKPbc**	**06 38 48.8**	**-0.5**
MORC	**Moravsky Berou**	**145.34**	**329**		**PKPbc**	**06 38 48.9**	**-0.4**
CHVC	**Chvalec**	**145.47**	**331**	⇑*e*PKP	**PKPab**	**06 38 49.9**	**0.0**
KRLC	**Kraliky**	**145.50**	**330**	⇑*e*PKP	**PKPab**	**06 38 49.6**	**-0.5**
DPC	**Dobruska-Polom**	**145.52**	**330**	*e*P	**PKPab**	**06 38 50.4**	**+0.3**
UPC	**Upice**	**145.55**	**331**	⇑*e*PKP	**PKPab**	**06 38 50.2**	**0.0**
UPC				*ex*	x	06 38 55.1	
JAVC	**Velka Javorina**	**145.88**	**327**	*e*PKP	**PKPab**	**06 38 52.2**	**+0.6**
VRAC	**Vranov**	**146.11**	**329**	*e*PKP	**PKPab**	**06 38 51.7**	**-0.6**
BRG	**Berggiesshubel** baz=36,slow=2.5	**146.19**	**333**	*e*PKPbc	**PKPbc**	**06 38 51.4**	**-0.5**
CLL	**Collm** comp=Z,13nm,0.5s	**146.25**	**334**	*i* PKPbc	**PKPbc**	**06 38 51.3**	**-0.7**
CLL	**Collm**	**146.25**	**334**		**PKPbc**	**06 38 51.7**	**-0.3**
KRUC	**Moravsky**	**146.37**	**329**	*e*PKP	**PKPbc**	**06 38 52.2**	**-0.3**
GOPC	**GO Pecny, Ondr**	**146.53**	**331**	⇑*e*PKP	**PKPab**	**06 38 52.6**	**-0.3**
PRU	**Pruhonice**	**146.58**	**331**	⇑*e*PKP	**PKPab**	**06 38 53.4**	**-0.7**
TANN	**Tannenbergstha** baz=36,slow=2.5	**147.15**	**334**	*e*PKPbc	**PKPbc**	**06 38 54.1**	**-0.6**
GUNZ	**Gunzen** baz=36,slow=2.5	**147.24**	**334**	*e*PKPbc	**PKPbc**	**06 38 54.6**	**-0.4**
WERN	**Wernitzgruen** baz=36,slow=2.5	**147.28**	**334**	*e*PKPbc	**PKPbc**	**06 38 54.6**	**-0.5**
MOX	**Moxa** baz=36,slow=2.5	**147.31**	**335**	*e*PKPbc	**PKPbc**	**06 38 54.2**	**-0.9**
MOX	comp=Z,1μm,20.4s			*e*L	L	07 06 46.9	
CONA	**Conrad Observa** comp=Z,7.4nm,1.2s	**147.40**	**327**	*e*PKPbc	**PKPbc**	**06 38 55.3**	**-0.2**
DIVS	**Divibare**	**147.42**	**319**		**PKPbc**	**06 38 56.0**	**+0.3**
MANZ	**Manzenberg** baz=36,slow=2.5	**147.63**	**333**	*e*PKPbc	**PKPbc**	**06 38 55.4**	**-0.6**
KHC	**Kasperske Hory**	**147.64**	**331**	⇑*e*PKP	**PKPbc**	**06 38 56.0**	**-0.1**
KHC	**Kasperske Hory**	**147.64**	**331**		**PKPbc**	**06 38 56.2**	**+0.1**
ROTZ	**Rotzenmuhle** baz=36,slow=2.5	**147.75**	**333**	*e*PKPbc	**PKPbc**	**06 38 55.7**	**-0.7**
GEC2	**GERESS Array S** baz=36,slow=2.5	**147.79**	**331**	*e*PKPbc	**PKPbc**	**06 38 55.9**	**-0.6**
GERES	**GERESS Array B** comp=Z,3.4nm,0.8s,baz=58,slow=3.3,SNR=18	**147.79**	**331**	PKPbc	**PKPbc**	**06 38 56.5**	**-0.1**
GERES	**GERESS Array B**	**147.79**	**331**		**PKPbc**	**06 38 56.0**	**-0.6**
WET	**Wettzell** baz=36,slow=2.5	**147.94**	**332**	*e*PKPbc	**PKPbc**	**06 38 56.3**	**-0.6**
GRF	**Grafenberg Arr** comp=Z,1μm,21.9s	**148.22**	**334**	*e*L	L	07 05 45.4	
MOA	**Moln** comp=Z,2.5nm,0.6s	**148.24**	**329**	*e*PKPbc	**PKPbc**	**06 38 56.9**	**-0.8**
SOKA	**Soboth** comp=Z,3.8nm,0.7s	**148.66**	**326**	*e*PKPbc	**PKPbc**	**06 38 57.6**	**-1.3**
KBA	**Koelnbreinsper** comp=Z,2.5nm,0.5s	**149.22**	**329**	*e*PKPbc	**PKPbc**	**06 38 58.4**	**-2.0**
MYKA	**Terra Mystica** comp=Z,2.6nm,0.5s	**149.39**	**328**	*e*PKPbc	**PKPbc**	**06 38 59.8**	**-1.0**
ABTA	**Abfaltersbach** comp=Z,2.3nm,0.5s	**149.86**	**329**	*e*PKPbc	**PKPbc**	**06 39 01.5**	**-0.4**
WATA	**Walderalm** comp=Z,5.2nm,0.5s	**149.87**	**331**	*e*PKPbc	**PKPbc**	**06 39 01.2**	**-0.8**
WTTA	**Wattenberg** comp=Z,2.9nm,0.5s	**149.89**	**330**	*e*PKPbc	**PKPbc**	**06 39 01.3**	**-0.8**
MOTA	**Moosalm** comp=Z,5.9nm,0.7s	**150.07**	**331**	*e*PKPbc	**PKPbc**	**06 39 02.1**	**-0.4**
SQTA	**Sankt Quirin** comp=Z,5.2nm,0.4s	**150.12**	**331**	*e*PKPbc	**PKPbc**	**06 39 02.2**	**-0.3**
UBR	**Ueberruh** baz=36,slow=2.5	**150.25**	**333**	*e*PKPbc	**PKPbc**	**06 39 01.9**	**-0.9**
BFO	**Black Forest** baz=36,slow=2.5	**150.45**	**335**	*e*PKPbc	**PKPbc**	**06 39 02.3**	**-0.9**
BFO	**Black Forest**	**150.45**	**335**		**PKPbc**	**06 39 02.4**	**-0.9**
FETA	**Feichten** comp=Z,4.6nm,0.7s	**150.48**	**331**	*e*PKPbc	**PKPbc**	**06 39 03.0**	**-0.5**

IDC ***13*** *06:25:32.5±10.0,25.˚23S×179.˚58E, h530km±110km, mb2.9/5, mb1 3.3/5, mb1mx3.0/28, mbtmp3.8/5, Error ellipse: s-maj=64.3km s-min=39.6km az=151.0*

ISC 13 06:25:30.4±1.0,25.˚4S±0.˚2×179.˚6E±0.˚2, h507km, n24, σ1§26/22, mb3.3/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**12.45**	**187**	P	**P**	**06 28 14.6**	**+1.1**
RUGZ	**Raukumara Rang**	**12.67**	**187**	P	**P**	**06 28 18.3**	**+2.3**
URZ	**Urewera**	**13.03**	**189**	P	**P**	**06 28 17.8**	**-1.8**
MWZ	**Matawai**	**13.05**	**187**	P	**P**	**06 28 20.2**	**+0.4**
TKGZ	**Te Karaka**	**13.12**	**186**	P	**P**	**06 28 21.7**	**+1.1**
CNGZ	**Carnagh Statio**	**13.14**	**185**	P	**P**	**06 28 22.3**	**+1.6**
RAGZ	**Rawiri**	**13.22**	**188**	P	**P**	**06 28 21.5**	**-0.2**
MUGZ	**Murupara**	**13.29**	**190**	P	**P**	**06 28 22.1**	**-0.3**
RAHZ	**Arahi**	**13.68**	**188**	P	**P**	**06 28 26.2**	**-0.3**
BKZ	**Black Stump Fm**	**14.01**	**190**	P	**P**	**06 28 28.0**	**-2.0**
OTVZ	**Oturere**	**14.15**	**193**	P	**P**	**06 28 31.7**	**+0.1**
MCHZ	**McNeill Hill**	**14.25**	**189**	P	**P**	**06 28 31.4**	**-1.1**
BHHZ	**Black Hill Sta**	**14.40**	**191**	P	**P**	**06 28 32.5**	**-1.5**
KRHZ	**Kereru**	**14.50**	**190**	P	**P**	**06 28 33.3**	**-1.7**
KAHZ	**Kahuranaki**	**14.57**	**188**	P	**P**	**06 28 34.8**	**-1.1**
ASAR	**Alice Springs** 0.3nm,0.3s,baz=92,slow=7.0,SNR=5.8	**41.45**	**262**	P	**P**	**06 32 33.6**	**+1.0**
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=99,slow=6.9,SNR=8.6	**41.96**	**268**	P	**P**	**06 32 36.0**	**-0.7**
FITZ	**Fitzroy Crossi** 4.9nm,1.1s,baz=104,slow=8.3,SNR=1.5	**50.37**	**267**	P	**P**	**06 33 42.3**	**+1.7**
NVAR	**Mina Array Bea** 0.5nm,0.1s,baz=226,slow=9.7,SNR=3.3	**86.05**	**44**	P	**P**	**06 37 16.9**	**-0.4**
TXAR	**Lajitas Array** 0.4nm,0.8s,baz=228,slow=6.7,SNR=4.3	**91.51**	**58**	P	**P**	**06 37 42.8**	**0.0**
NB2	**NORSAR Subarra1** comp=Z,0.6nm,0.6s,baz=15,slow=3.4	**143.46**	**351**	PKP	PKPab	06 44 04.1	-0.6
NOA	**NORSAR Array B** comp=Z,1.1nm,0.8s,baz=31,slow=5.1,SNR=4.1	**143.46**	**351**	PKP	PKPab	06 44 04.0	-0.6
BRTR	**Keskin Array B** comp=Z,0.4nm,0.4s,baz=157,slow=4.3,SNR=2.1	**148.14**	**305**	PKPbc	**PKPbc**	**06 44 18.7**	**-0.4**
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,1.1s,baz=151,slow=4.0,SNR=2.7	**167.69**	**190**	PKPab	**PKPab**	**06 45 48.5**	**0.0**

BEO 13 06:36:26.0±0.9,44.˚05N×22.˚16E, h0km, ML1.3/4, Mining explosion., Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAGS	**Zajecar**	**0.24**	**167**	*e*Pg	Pg	06 36 29.4	-1.2
ZAGS				*e*Sg	Sg	06 36 33.2	-0.4
ZAPS	**Zavoj**	**0.84**	**156**	*e*Pg	Pg	06 36 41.6	-0.6
ZAPS				*e*Sg	Sg	06 36 53.7	+0.6
GRUS	**Gruza**	**1.05**	**262**	*e*Pg	Pg	06 36 45.0	-1.2
GRUS				*e*Sg	Sg	06 36 59.6	-0.3
SELS	**Selova**	**1.12**	**223**	*e*Pg	Pg	06 36 46.1	-1.3
SELS				*e*Sg	Sg	06 37 01.7	-0.2
BARS	**Barje**	**1.25**	**192**	*e*Pg	Pg	06 36 47.6	-2.4
BARS				*e*Sg	Sg	06 37 05.7	-0.6

INET ***13*** *06:47:49.5,16.˚81N×99.˚95W, h10km, mb5.7*
IDC ***13*** *06:48:09.4±0.5,16.˚24N×98.˚19W, h0km, mb5.1/35, mb1 5.2/39, mb1mx5.1/48, mbtmp5.1/39, ML4.4/4, MS4.9/25, Ms1 4.9/25, ms1mx4.8/37, Error ellipse: s-maj=16.9km s-min=9.9km az=52.0*
BJI ***13*** *06:48:10.0±0.0,16.˚30N×98.˚20W, h5km, mB5.9/26, Ms5.6/31, Ms7 5.3/32*
MOS ***13*** *06:48:10.1±1.2,16.˚33N×98.˚17W, h12km, mb5.8/54, MS5.0/9, Error ellipse: s-maj=9.1km s-min=4.9km az=104.0*
MEX ***13*** *06:48:11.9±1.5,16.˚12N×98.˚34W, h15km, MD5.4*
NEIC ***13*** *06:48:11.9, 16.˚32N×98.˚20W, h6km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.47; Mθθ 0.18; Mϕϕ 0.29; Mrθ -0.53; Mrϕ 0.74; Mθr-1.53; Fault plane solution: M0 1.83000×10¹⁷ NP1:ϕs18.07000°, δ80.29000°, λ-107.90000°. NP2:ϕs260.50000°, δ20.28000°, λ-29.11000°. Principal axes: T 1.9533, Plg33.0000°, Azm123.0000°; N -0.2847, Plg18.0000°, Azm21.0000°; P -1.6687, Plg51.0000°, Azm268.0000°;*
INMG ***13*** *06:48:11.3, 16.˚37N×98.˚16W, h7km, MW5.4*
NEIC ***13*** *06:48:11.4±2.0, 16.˚36N±0.˚07×98.˚16W±0.˚06, h7km±1km, mb5.6/621, Mwb5.4/20, Mww5.4, Md5.4(MEX), Mwc5.4(GCMT), Error ellipse: s-maj=12.4km s-min=9.2km az=202.0*
GCMT ***13*** *06:48:13.4±0.1, 16.˚36N±0.˚01×98.˚28W±0.˚01, h12km, MW5.4/125, Moment Tensor Solution. s90,c137; s125,c239; Duration: 1§2 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.97±.02; Mθθ 0.62±.01; Mϕϕ 0.35±.02; Mrθ -0.25±.05; Mrϕ 0.55±.01; Mθr-1.34±.05; Best double couple: M0 1.68700×10¹⁷ NP1:ϕs252.00000°, δ25.00000°, λ-43.00000°. NP2:ϕs22.00000°, δ73.00000°, λ-109.00000°. Principal axes: T 1.5650, Plg26.0000°, Azm127.0000°; N 0.2440, Plg18.0000°, Azm28.0000°; P -1.8090, Plg58.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***13*** *06:48:13, 16.˚33N×98.˚24W, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.99; Mθθ 0.66; Mϕϕ 0.33; Mrθ -0.67; Mrϕ 0.59; Mθr-1.35; Fault plane solution: M0 1.84000×10¹⁷ NP1:ϕs252.00000°, δ21.00000°, λ-51.00000°. NP2:ϕs32.00000°, δ74.00000°, λ-104.00000°. Principal axes: T 1.8162, Plg27.0000°, Azm132.0000°; N 0.0438, Plg13.0000°, Azm36.0000°; P -1.8600, Plg59.0000°, Azm282.0000°;*
NEIC ***13*** *06:48:15, 16.˚24N×98.˚27W, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-1.10; Mθθ 0.64; Mϕϕ 0.47; Mrθ -0.16; Mrϕ 0.45; Mθr-1.49; Fault plane solution: M0 1.84000×10¹⁷ NP1:ϕs242.00000°, δ22.00000°, λ-47.00000°. NP2:ϕs17.00000°, δ74.00000°, λ-105.00000°. Principal axes: T 1.6011, Plg27.0000°, Azm120.0000°; N 0.4082, Plg15.0000°, Azm22.0000°; P -2.0092, Plg59.0000°, Azm266.0000°;*
BGR ***13*** *06:48:15.3±0.0, 16.˚45N×98.˚55W, h33km, mb5.3, Ms5.0*

ISC 13 06:48:10.0±0.5,16.˚20N±0.˚03×98.˚30W±0.˚02, h7km±2km, n1265, σ1§74/1356, mb5.5/352, MS5.0/49, 20C-13D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa** baz=215,slow=18	**0.26**	**41**	⇑*e*P	**Pg**	**06 48 15.3**	**+0.1**
PNIG				*e*S	**Sg**	**06 48 19.3**	**+0.7**
CRIG	**Cruz Grande**	**0.96**	**304**	*e*P	**Pg**	**06 48 26.5**	**-2.0**
CRIG				*i* S	**Sg**	**06 48 38.9**	**-2.1**
YOIG	**Yosondua**	**0.98**	**48**	*i* P	**Pg**	**06 48 28.7**	**-0.1**
YOIG				*e*S	**Sb**	**06 48 42.1**	**-0.7**
PEIG	**Puerto Escondi**	**1.13**	**100**	*e*P	**Pg**	**06 48 30.0**	**-1.7**
PEIG				*e*S	**Sg**	**06 48 43.5**	**-2.8**
TXIG	**Tlaxiaco**	**1.17**	**26**	*e*P	**Pg**	**06 48 31.5**	**-1.0**
TXIG				*e*S	**Sg**	**06 48 46.8**	**-0.9**
TLIG	**Tlapa**	**1.38**	**349**	*e*P	**Pn**	**06 48 34.6**	**-1.4**
TLIG				*e*S	**Sb**	**06 48 52.0**	**-2.3**
TLIG	**Tlapa**	**1.38**	**349**		**Pn**	**06 48 34.7**	**-1.2**
HMTT	**Tlapaneco**	**1.61**	**351**	*e*P	**Pn**	**06 48 38.4**	**-0.7**
HMTT				*e*S	**Sn**	**06 48 57.1**	**-3.0**

CCIG	Comitan	5.92	88	Pn	Pn	06 49 39.8	+1.4		
RTAL	Retalhuleu	6.59	104	Pn	Pn	06 49 48.2	+0.8		
HUEH	Huehuetenango	6.60	97	Pn	Pn	06 49 49.0	+1.1		
SCIG	Sabancuy	7.32	67	*i* P	Pn	06 49 54.0	-3.5		
SCIG				*i* S	Sn	06 51 17.1	-3.9		
ZAIG	Zacatecas	7.68	329	Pn	Pn	06 50 04.3	+1.7		
PETF	Flores	8.12	84	Pn	Pn	06 50 07.2	-1.3		
ESQI	Esquipulas	8.79	99	Pn	Pn	06 50 19.0	+1.2		
MTO3	Montecristo	8.81	101	Pn	Pn	06 50 19.5	+1.3		
SNET	Serv Nac Est T	9.11	105	Pn	Pn	06 50 22.6	+0.4		
TEIG	Tepich	10.33	66	Pn	Pn	06 50 36.3	-2.5		
	5.9nm,0.3s,baz=318,slow=1.7,SNR=29								
TEIG				Sn	Sn	06 52 29.0	-6.0		
	26nm,0.3s,baz=319,slow=20,SNR=8.3								
TEIG	Tepich	10.33	66	Pn	Pn	06 50 35.0	-3.8		
TGUH	Tegucigalpa,Un	10.86	100	Pn	Pn	06 50 47.1	+0.9		
CRIN	San Cristobal	11.44	106	Pn	Pn	06 50 55.1	+1.1		
ESTN	Estel	11.95	103	Pn	Pn	06 51 01.9	+0.8		
833A	Chaparral WMA,	12.11	355	P	Pn	06 51 04.5	+1.3		
	baz=174,SNR=34								
833A	Chaparral WMA,	12.11	355	Pn	Pn	06 51 03.6	+0.5		
H06E1	SOCORRO T-PHAS	12.31	284	T	T	07 03 18.2			
	SNR=154								
MATN	Matagalpa	12.41	104	Pn	Pn	06 51 07.9	+0.5		
735A	Kenedy	12.61	2	Pn	Pn	06 51 09.5	-0.4		
HPIG		12.69	329	Pn	Pn	06 51 13.1	+1.8		
SLBS	Sierra La Lagu	13.24	306		Pn	06 51 20.4	+1.7		
BUEV	Buena Vista	13.64	112	*i* P	Pn	06 51 25.7	+1.6		
GB1A	Borinquen Arri	13.64	111	*i* P	Pn	06 51 25.5	+1.4		
GPS3	Bodega del ICE	13.69	112	*i* P	Pn	06 51 26.3	+1.4		
GPS1	Guardaparques	13.70	112	*i* P	Pn	06 51 26.7	+1.7		
LPIG	La Paz	13.74	307	LR	LR	06 56 08.5			
	comp=Z,9µm,18.6s,baz=129,slow=35								
GUAB	Guayabo de Bag	13.83	112	*i* P	Pn	06 51 27.7	+0.9		
CUI	Cuipilapa	13.91	112	*i* P	Pn	06 51 29.7	+1.8		
TXAR	Lajitas Array	13.98	340	Pn	Pn	06 51 30.1	+1.4		
	0.1nm,0.3s,baz=159,slow=12,SNR=74								
TXAR				Lg	Lg	06 55 34.8			
	0.3nm,0.3s,baz=34,slow=29,SNR=2.6								
TXAR				LR	LR	06 57 26.8			
	comp=Z,14µm,19.5s,baz=0.0,slow=40								
TXAR	Lajitas Array	13.98	340	P	Pn	06 51 29.5	+0.7		
TXAR	Lajitas Array	13.98	340	Pn	Pn	06 51 29.4	+0.7		
TX31	Lajitas Ar. Si	13.98	340		Pn	06 51 29.6	+0.9		
TX32	Lajitas Array	13.98	340		Pn	06 51 29.9	+1.2		
ESPN	Las Esperanzas	14.14	105	Pn	Pn	06 51 31.0	0.0		
JTS	Las Juntas de	14.26	113	Pn	Pn	06 51 33.5	+0.9		
	1.9nm,0.3s,baz=6.8,slow=10,SNR=58								
JTS				LR	LR	06 56 09.6			
	comp=Z,3µm,19.1s,baz=18,slow=34								
JTS	Las Juntas de	14.26	113	*c i* P	Pn	06 51 33.4	+0.9		
JTS				pmax	pmax				
	comp=Z,512nm,1.3s								
JTS	Las Juntas de	14.26	113	Pn	Pn	06 51 34.4	+1.9		
JCT	Junction City	14.28	355	P	Pn	06 51 32.3	-0.5		
	baz=174,SNR=12								
435B	Jarrell	14.54	2	P	Pn	06 51 34.5	-1.8		
	baz=182								
HDC	Heredia	15.12	112		Pn	06 51 46.6	+2.2		
441A	DeRidder	15.22	17	Pn	Pn	06 51 44.1	-1.5		
441A				IAmb	IAmb	06 52 08.1			
	comp=Z,185nm,1.0s								
WHTX	Lake Whitney,	15.74	3	P	Pn	06 51 51.0	-1.4		
	baz=182,SNR=24								
WHTX	Lake Whitney,	15.74	3	Pn	Pn	06 51 51.8	-0.5		
WHTX				IAmb	IAmb	06 52 20.8			
	comp=Z,536nm,1.7s								
NATX	Nacogdoches	15.84	11	Pn	Pn	06 51 52.7	-0.9		
NATX				IAmb	IAmb	06 52 16.2			
	comp=Z,298nm,1.2s								
237A	Washetta, Mont	15.90	8	P	Pn	06 51 55.5	+1.1		
237A				IAmb	IAmb	06 52 24.3			
	comp=Z,242nm,1.1s								
342A	Flagon Creek P	16.06	19	P	Pn	06 51 55.7	-0.8		
EDPN	Palmar Norte	16.17	115	*eP*	Pn	06 51 57.7	-0.2		
EDBA	Buenos Aires	16.23	114	*eP*	Pn	06 51 58.5	-0.3		
ABTX	Abilene, Hawle	16.40	356	P	Pn	06 51 59.5	-1.3		
	baz=175,SNR=124								
ABTX	Abilene, Hawle	16.40	356	Pn	Pn	06 51 59.6	-1.3		
ABTX				IAmb	IAmb	06 52 05.5			
	comp=Z,311nm,1.1s								
FSCY	Frank Sound, G	16.60	77	P	Pn	06 52 03.5	+0.2		
PRVC	Isla de Provid	16.62	97	*eP*	Pn	06 52 02.0	-1.6		
EDSV	San Vito	16.66	114	*eP*	Pn	06 52 04.4	+0.1		
344A	Westbrook Farm	16.68	23	IAmb	IAmb	06 52 26.8			
	comp=Z,860nm,1.9s								
MNTX	Cornudas Mount	16.73	339	P	Pn	06 52 04.8	-0.2		
	baz=155,SNR=98								
SRIG	Santa Rosalia	17.02	313	P	Pn	06 52 09.5	+0.9		
Z35A	Perchaven, San	17.09	3	P	Pn	06 52 08.3	-1.2		
346A	Big Creek Wild	17.13	26	P	Pn	06 52 08.6	-1.5		
Z38A	Mt. Pleasant	17.25	9	P	P	06 52 12.7	-0.4		
Z38A				IAmb	IAmb	06 52 31.6			
	comp=Z,629nm,1.6s								
HSIG		17.28	320	P	P	06 52 13.9	+0.4		
HSIG				IAmb	IAmb	06 52 19.4			
	comp=Z,849nm,2.0s								
VBMS	Vicksburg	17.45	23	P	Pn	06 52 13.0	-1.0		
	baz=205								
CPRX	Cap Rock	17.50	344	P	Pn	06 52 15.0	+0.1		
LCCY	Blossom Villag	17.68	76	P	Pn	06 52 14.8	-2.1		
Z41A	Richland Creek	17.70	15	P	Pn	06 52 14.4	-2.7		
	baz=197,SNR=14								
Z41A	Richland Creek	17.70	15	IAmb	IAmb	06 52 42.5			
	comp=Z,402nm,1.4s								
CBCY	The Bluff, Cay	17.99	76	P	Pn	06 52 18.6	-2.1		
BRAL	Brewton	18.10	33	P	Pn	06 52 18.9	-3.2		
	baz=217,SNR=8.0								
BRAL	Brewton	18.10	33	P	Pn	06 52 21.8	-0.2		
MSTX	Muleshoe	18.15	348	P	Pn	06 52 22.1	-0.7		
	baz=166,SNR=105								
MSTX				S	S	06 55 48.2	-3.2		
	baz=166								
X34A	Smith Ranch, M	18.33	1	P	Pn	06 52 23.0	-1.9		
451A	Vernon	18.38	36	P	Pn	06 52 22.7	-2.8		
121A	Cookes Peak, D	18.40	334	P	P	06 52 27.0	+1.0		
	baz=149,SNR=90								
121A				S	Sn	06 55 51.6	-0.2		
	baz=149								
121A	Cookes Peak, D	18.40	334	P	P	06 52 26.3	+0.3		
121A				IAmb	IAmb	06 52 31.4			
	comp=Z,436nm,1.5s								
WMOK	Wichita Mounta	18.47	359	P	P	06 52 24.8	-1.7		
	baz=178,SNR=30								
WMOK				S	Sn	06 55 51.5	-1.8		
	baz=178								
WMOK	Wichita Mounta	18.47	359	P	P	06 52 24.9	-1.7		
WMOK				pmax	pmax				
	comp=Z,70nm,2.0s								
PAYG	Puerto Ayora	18.54	154		Pn	06 52 30.2	+2.6		
PAYG				IAmb	IAmb	06 52 34.6			
	comp=Z,378nm,1.3s								
CCAR	Cane Creek	18.60	17	IAmb	IAmb	06 53 26.9			
	comp=Z,759nm,2.0s								
MIAR	Mount Ida	18.76	12	P	P	06 52 27.7	-2.0		
	baz=194,SNR=35								
MIAR	Mount Ida	18.76	12	P	P	06 52 27.7	-2.0		
MIAR				pmax	pmax				
	comp=Z,104nm,0.9s								
MIAR	Mount Ida	18.76	12		P	06 52 27.7	-2.0		
061Z	Ochoppi	18.85	56	P	P	06 52 29.4	-1.5		
AMTX	Amarillo	18.86	351	P	P	06 52 30.5	-0.4		
	baz=170								
X40A	Basin Creek Fa	18.86	14	P	P	06 52 28.9	-1.9		
	baz=196,SNR=7.9								
X40A				S	Sn	06 56 03.6	+0.8		
	baz=196								
250A	Grady	19.14	33	P	P	06 52 33.1	-0.9		
UALR	University of	19.26	15		P	06 52 34.0	-1.2		
Y45A	Yeager Farm, C	19.28	23		P	06 52 34.3	-1.2		
Y45A				IAmb	IAmb	06 52 47.0			
	comp=Z,737nm,1.6s								
BCIP	Isla Barro Col	19.31	109	*eP*	P	06 52 35.8	-0.1		
BCIP	Isla Barro Col	19.31	109	P	Pn	06 52 37.3	+0.4		
BCIP				pmax	pmax				
	comp=Z,2µm,1.7s								
BCIP	Isla Barro Col	19.31	109		Pn	06 52 37.3	+0.4		
OK025	Westminster Rd	19.32	2	P	P	06 52 34.7	-1.2		
W39A	Magazine	19.35	11	P	P	06 52 35.6	-0.6		
	baz=193,SNR=26								
BNM	Barren Site	19.38	339		Pn	06 52 37.8	-0.2		
Y22D	IRIS PASSCAL I	19.42	338	P	Pn	06 52 38.7	+0.5		
	baz=154,SNR=8.0								
Y22D	IRIS PASSCAL I	19.42	338	IAmb	IAmb	06 52 47.8			
	comp=Z,294nm,1.1s								
X43A	Marvell	19.42	19	P	P	06 52 36.7	-0.3		
	baz=202,SNR=14								
X43A				S	Sn	06 56 14.2	-2.0		
	baz=202								
X43A	Marvell	19.42	19	IAmb	IAmb	06 52 41.4			
	comp=Z,675nm,1.6s								
LENM	Lemitar	19.52	338	P	P	06 52 38.0	-0.3		
656A	Willston	19.55	45	P	P	06 52 36.6	-1.8		
DWPF	Disney Wildern	19.59	50	P	P	06 52 38.0	-0.8		
	baz=236								
LRAL	Lakeview Retre	19.64	29	P	P	06 52 39.2	-0.2		
	baz=214,SNR=26								
TUC	Tucson	19.64	327	P	Pn	06 52 41.3	+0.5		
	baz=141								
TUC	Tucson	19.64	327	P	Pn	06 52 40.4	-0.4		
TUC				pmax	pmax				
	comp=Z,183nm,1.3s								
TUC	Tucson	19.64	327	P	Pn	06 52 40.4	-0.4		
W41B	Gary Mavity, V	19.66	15	P	P	06 52 38.6	-1.0		
	baz=197,SNR=9.1								
TUL1	Leonard	19.76	6	P	P	06 52 39.4	-1.3		
	baz=187,SNR=32								
TUL1				S	S	06 56 20.2	-3.5		
	baz=187								
TUL1	Leonard	19.76	6	IAmb	IAmb	06 52 48.3			
	comp=Z,303nm,1.4s								
060A	Indiantown	19.84	54	P	P	06 52 40.2	-1.3		
060A				IAmb	IAmb	06 52 44.8			
	comp=Z,1µm,1.9s								
OXF	Oxford	19.91	22	P	P	06 52 40.8	-1.6		
	baz=206,SNR=20								
OXF	Oxford	19.91	22	IAmb	IAmb	06 52 51.4			
	comp=Z,484nm,1.6s								
QUOK	Quay	19.95	4	IAmb	IAmb	06 52 59.6			
	comp=Z,600nm,1.7s								
ANMO	Albuquerque	20.05	340	*de*P	Pn	06 52 45.1	-0.7		
ANMO				pmax	pmax				
	comp=Z,180nm,1.3s								
CROK	Carrier	20.23	1	IAmb	IAmb	06 53 07.8			
	comp=Z,214nm,1.0s								
TIGA	Tifton	20.25	39	P	P	06 52 44.7	-1.3		
	baz=225								
TIGA				S	S	06 56 33.4	0.0		
	baz=225								
TIGA	Tifton	20.25	39	P	P	06 52 45.4	-0.6		
TIGA				IAmb	IAmb	06 53 03.7			
	comp=Z,128nm,0.6s								
HBAR	Harrisburg	20.45	18	P	P	06 52 47.5	-0.7		
HBAR				IAmb	IAmb	06 53 10.5			
	comp=Z,295nm,1.2s								
214A	Organ Pipe Nat	20.50	323	P	Pn	06 52 51.0	+0.1		
	baz=136,SNR=88								
214A	Organ Pipe Nat	20.50	323		Pn	06 52 50.1	-0.9		
214A				IAmb	IAmb	06 52 55.7			
	comp=Z,463nm,1.5s								
152A	Waverly Hall	20.50	34	P	P	06 52 47.9	-1.0		
W45A	Hickory Valley	20.57	22	IAmb	IAmb	06 52 59.5			
	comp=Z,318nm,1.2s								
Y49A	Blount Mountai	20.59	29		P	06 52 48.2	-1.6		
PIX	Pinacate	20.60	321	IAmb	IAmb	06 52 56.4			
	comp=Z,370nm,1.7s								
LPAR	Lepanto	20.61	19	IAmb	IAmb	06 53 22.8			
	comp=Z,693nm,1.5s								
U40A	Yellville	20.66	13	P	P	06 52 49.2	-1.2		
	baz=195,SNR=55								
U40A				S	S	06 56 39.8	-1.7		
	baz=195								
T35A	Sooner Cattle	20.70	4	IAmb	IAmb	06 53 06.8			
	comp=Z,194nm,1.1s								
Z51A	Franklin	20.76	32	P	P	06 52 50.3	-1.3		
PLAL	Pickwick Lake	20.83	24	P	P	06 52 50.5	-1.9		
PLAL				IAmb	IAmb	06 53 00.5			
	comp=Z,437nm,1.6s								
SFX	San Felipe	21.13	317	P	P	06 52 57.0	+1.4		
SFX				IAmb	IAmb	06 52 59.1			
	comp=Z,317nm,1.3s								
HALT	Halls	21.20	20	P	P	06 52 55.0	-1.2		
255A	Hazlehurst	21.27	40	IAmb	IAmb	06 53 15.7			
	comp=Z,249nm,1.2s								
154A	Montrose	21.37	37	IAmb	IAmb	06 53 18.4			
	comp=Z,292nm,0.9s								
W18A	Petrified Fore	21.44	334	P	P	06 53 01.2	+2.0		
	baz=148,SNR=42								
W18A				S	S	06 56 55.2	-2.3		
	baz=148								
W18A	Petrified Fore	21.44	334	P	P	06 53 00.3	+1.1		
W18A				IAmb	IAmb	06 53 06.4			
	comp=Z,361nm,1.2s								
SPX	San Pedro Mart	21.53	316	IAmb	IAmb	06 53 04.2			
	comp=Z,472nm,1.3s								
MGMO	Mountain Grove	21.55	13	P	P	06 52 58.8	-1.3		
MGMO				IAmb	IAmb	06 53 07.7			
	comp=Z,354nm,1.6s								
T25A	Trinidad	21.55	347	P	P	06 53 01.6	+1.3		
	baz=164,SNR=274								
T25A				S	S	06 57 03.3	+3.7		
	baz=164								
X16A	Lo Mia Camp, P	21.65	329	P	P	06 53 02.6	+1.3		
X16A				IAmb	IAmb	06 53 08.8			
	comp=Z,305nm,1.1s								
GOGA	Godfrey	21.75	35	P	P	06 53 00.9	-1.4		
	baz=221,SNR=38								
GOGA	Godfrey	21.75	35	IAmb	IAmb	06 53 04.7			
	comp=Z,631nm,1.9s								
PARMO	Parma	21.75	19	IAmb	IAmb	06 53 28.7			
	comp=Z,226nm,0.8s								
Y52A	Lilburn	21.77	33	IAmb	IAmb	06 53 04.7			
	comp=Z,656nm,1.8s								
Y52A					PcP	06 57 05.3	+2.3		
HICK	Hickman	21.81	20	P	P	06 53 03.1	+0.3		
HENM	Henderson Moun	21.89	19	IAmb	IAmb	06 53 30.3			
	comp=Z,274nm,1.0s								
WVT	Waverly	21.93	23	P	P	06 53 02.3	-1.9		
	baz=208								
WVT	Waverly	21.93	23	P	P	06 53 02.5	-1.7		
WVT				pmax	pmax				
	comp=Z,559nm,1.7s								
WVT	Waverly	21.93	23	P	P	06 53 02.5	-1.7		
WVT				IAmb	IAmb	06 53 10.3			
	comp=Z,559nm,1.7s								
SWET	Sewanee	21.94	28	IAmb	IAmb	06 53 06.7			
	comp=Z,167nm,1.0s								
PTAC	Punta Ardita,	21.97	112	*eP*	P	06 53 05.8	+1.0		
V48A	Smith Brothers	22.00	26	IAmb	IAmb	06 53 07.5			
	comp=Z,210nm,1.1s								
Y14A	Wickenburg	22.08	326	IAmb	IAmb	06 53 09.2			
	comp=Z,472nm,1.4s								
W50A	Signal Mountai	22.21	29	IAmb	IAmb	06 53 09.5			
	comp=Z,113nm,0.7s								
GTBY	Guantanamo Bay	22.35	77	P	P	06 53 08.9	+0.1		
SDCO	Great Sand Dun	22.39	345	P	P	06 53 10.0	+0.6		
	baz=161,SNR=182								
SDCO	Great Sand Dun	22.39	345	P	P	06 53 08.6	-0.7		
ESJX	Sierra Juarez	22.47	318	IAmb	IAmb	06 53 13.6			
	comp=Z,178nm,1.4s								
GLA	Glamis	22.47	321	P	P	06 53 11.8	+1.7		
	baz=134,SNR=59								
GLA				S	S	06 57 20.0	+2.8		
	baz=134								
GLA	Glamis	22.47	321	IAmb	IAmb	06 53 15.1			
	comp=Z,382nm,1.4s								
WUAZ	Wupatki	22.51	331	P	P	06 53 12.5	+1.9		
	baz=145,SNR=208								
WUAZ	Wupatki	22.51	331	IAmb	IAmb	06 53 15.9			
	comp=Z,432nm,1.3s								
CBKS	Cedar Bluff	22.57	357	P	P	06 53 09.9	-1.2		
	baz=176,SNR=34								
CBKS	Cedar Bluff	22.57	357	P	P	06 53 10.2	-0.8		
CBKS				pmax	pmax				
	comp=Z,244nm,1.3s								
CBKS	Cedar Bluff	22.57	357	P	P	06 53 10.2	-0.8		
CBKS				IAmb	IAmb	06 53 16.7			
	comp=Z,244nm,1.2s								
LCBC	Los crdobas,	22.61	106	*eP*	P	06 53 18.1	+6.5		
R40A	Maddies Statio	22.64	12	IAmb	IAmb	06 53 41.8			
	comp=Z,428nm,1.8s								
CCM	Cathedral Cave	22.65	15	P	P	06 53 09.7	-2.1		
	baz=198								
CCM	Cathedral Cave	22.65	15	P	P	06 53 10.0	-1.8		
CCM				pmax	pmax				
	comp=Z,193nm,1.3s								
CCM	Cathedral Cave	22.65	15	P	P	06 53 10.0	-1.8		
CCM				IAmb	IAmb	06 53 16.6			
	comp=Z,193nm,1.3s								
157A	Early Branch	22.69	41	P	P	06 53 10.2	-2.1		
	baz=228,SNR=16								
157A				S	S	06 57 21.7	+0.6		
	baz=228								
SOLC	Bahia Solano	22.74	113	*eP*	P	06 53 14.7	+1.7		
S22A	4UR Ranch, Cre	22.75	342	P	P	06 53 14.4	+1.1		
	baz=158								
CPCT	Cooper Cave	22.79	30	IAmb	IAmb	06 53 17.3			
	comp=Z,495nm,2.0s								
MVCO	Mesa Verde	22.80	339	P	P	06 53 14.5	+0.8		
	baz=154,SNR=215								
W52A	Murphy	22.80	32	IAmb	IAmb	06 53 16.0			
	comp=Z,472nm,1.6s								
CCX	Cicese	22.85	316	P	P	06 53 14.9	+0.9		
S44A	Carbondale	22.86	19	IAmb	IAmb	06 53 18.6			
	comp=Z,403nm,1.4s								
KSU1	Kansas State U	22.87	3	P	P	06 53 12.2	-1.9		
	baz=184,SNR=19								
KSU1	Kansas State U	22.87	3	IAmb	IAmb	06 53 38.8			
	comp=Z,242nm,1.6s								
Z56A	Williston	22.91	39	P	P	06 53 13.0	-1.6		
	baz=226,SNR=18								
Z56A				S	S	06 57 25.5	+0.6		
	baz=226								
Z56A	Williston	22.91	39	IAmb	IAmb	06 53 18.4			
	comp=Z,193nm,0.7s								
T47A	Sharon Grove	22.96	23	IAmb	IAmb	06 53 19.4			
	comp=Z,286nm,1.1s								
PDMCI	Parker Dam,Lak	22.97	325	P	P	06 53 16.5	+1.2		
	baz=137,SNR=44								
PDMCI				S	S	06 57 28.5	+2.5		
	baz=137								
IKP	In-Ko-Pah, Jac	22.99	319	P	P	06 53 17.2	+1.6		
	baz=131,SNR=25								
IKP				S	S	06 57 30.6	+4.1		
	baz=131								
SWSC	Sam W. Stewart	22.99	320	P	P	06 53 17.0	+1.5		
	baz=132,SNR=38								
SWSC				S	S	06 57 33.2	+6.8		
	baz=132								
HODGE	Hodges	23.03	36	IAmb	IAmb	06 53 17.6			
	comp=Z,86nm,0.7s								
KSCO	Kaye Shedlock'	23.04	351	P	P	06 53 15.8	-0.3		
	baz=169,SNR=41								
KSCO				S	S	06 57 26.4	-1.1		
	baz=169								
KSCO	Kaye Shedlock'	23.04	351	P	P	06 53 15.3	-0.9		
KSCO				IAmb	IAmb	06 53 17.5			
	comp=Z,398nm,1.5s								
Y55A	Saluda	23.05	37	P	P	06 53 13.3	-2.8		
	baz=224,SNR=35								
Y55A				S	S	06 57 27.2	-0.1		
	baz=224								
CBX	Cerro Bola	23.13	317	IAmb	IAmb	06 53 21.1			
	comp=Z,349nm,1.8s								
V51A	Loudon	23.15	30	IAmb	IAmb	06 53 23.7			
	comp=Z,128nm,1.1s								
X54A	Belton	23.20	35	P	P	06 53 16.5	-1.1		
	baz=222,SNR=23								
X54A				S	S	06 57 30.2	+0.3		
	baz=222								
BG3	Lake Jocassee	23.23	33	IAmb	IAmb	06 53 20.6			
	comp=Z,293nm,1.7s								
158A	Hollywood	23.24	42	P	P	06 53 16.4	-1.6		
	baz=229								
158A				S	S	06 57 33.2	+2.7		
	baz=229								
BC3	Big Chuckawall	23.27	321	P	P	06 53 20.1	+1.6		
	baz=134,SNR=44								
BC3				S	S	06 57 34.5	+3.2		
	baz=134								
Y56A	Pelion	23.27	38	P	P	06 53 16.3	-2.1		
	baz=225,SNR=7.6								
Y56A				S	S	06 57 32.8	+1.7		
	baz=225								
Z57A	Bowman	23.29	40	P	P	06 53 16.8	-1.7		
	baz=227,SNR=21								
Z57A				S	S	06 57 33.6	+2.2		
	baz=227								
TKL	Tuckaleechee C	23.32	31	P	P	06 53 18.7	-0.1		
	comp=Z,46nm,0.9s,baz=197,slow=9.4,SNR=20								
TKL	Tuckaleechee C	23.32	31	IAmb	IAmb	06 53 22.6			
	comp=Z,412nm,1.7s								
MONP2	Monument Peak	23.35	319	P	P	06 53 20.9	+1.5		
	baz=131,SNR=30								
MONP2				S	S	06 57 33.6	+0.8		
	baz=131								
SJCC	San Jacinto, C	23.37	103	*eP*	P	06 53 19.5	0.0		
BAR	Barrett	23.37	318	IAmb	IAmb	06 53 21.8			
	comp=Z,306nm,1.9s								
PIZC	Pizarro, Choco	23.39	116	*eP*	P	06 53 22.3	+2.6		
W13A	Hualapai Mount	23.43	326	IAmb	IAmb	06 53 24.1			
	comp=Z,354nm,1.6s								
IRM	Iron Mountain	23.44	323	P	P	06 53 21.6	+1.6		
	baz=135,SNR=47								
IRM				S	S	06 57 36.2	+2.3		
	baz=135								
SLM	Saint Louis	23.45	16	P	P	06 53 19.5	-0.6		
SLM				pmax	pmax				
	comp=Z,198nm,1.4s								
SLM	Saint Louis	23.45	16	P	P	06 53 19.5	-0.6		
SLM				IAmb	IAmb	06 53 24.4			
	comp=Z,198nm,1.4s								
DBBC	Dabeiba	23.46	110	*eP*	P	06 53 22.7	+2.2		
Q24A	Divide	23.46	346	P	P	06 53 20.8	+0.2		
	baz=163,SNR=13								
Q24A				S	S	06 57 39.2	+4.4		
	baz=163								
CSU	Charleston Sou	23.48	41	P	P	06 53 21.6	+1.1		
NHSC	New Hope	23.49	41	P	P	06 53 19.8	-0.7		
	baz=228,SNR=26								
NHSC	New Hope	23.49	41	P	P	06 53 20.4	-0.1		
V52A

PFO **Pinyon Flats O** 23.85 320 P **P** 06 53 25.7 +1.6
PFO IAmb IAmb 06 53 27.9
comp=Z,382nm,1.7s
PV03 Paradox Valley 23.85 339 IAmb IAmb 06 53 25.9
comp=Z,146nm,1.2s
PV18 Skein Mesa, Pa 23.87 339 P **P** 06 53 24.3 -0.2
Z58A St. Stephen 23.87 41 P **P** 06 53 23.1 -1.2
baz=229,SNR=18
Z58A S **S** 06 57 38.3 -2.4
baz=229
P40A Paris 23.88 12 P **P** 06 53 22.5 -1.8
P40A IAmb IAmb 06 53 24.9
comp=Z,234nm,1.3s
MALC Bahia Malaga 23.89 118 eP **P** 06 53 27.3 +2.6
PV12 Saucer Basin, 23.89 339 P **P** 06 53 25.4 +0.6
PV12 IAmb IAmb 06 53 26.7
comp=Z,220nm,1.1s
PV11 David Mesa, Pa 23.90 339 IAmb IAmb 06 53 33.2
comp=Z,253nm,1.3s
SMRC Santa Maria, M 23.91 99 eP **P** 06 53 26.3 +1.5
PV17 East Wray Mesa 23.91 339 IAmb IAmb 06 53 26.4
comp=Z,130nm,1.0s
X56A White Oak 23.92 37 P **P** 06 53 23.8 -1.0
baz=224,SNR=41
X56A S **S** 06 57 40.9 -0.7
baz=224
PV16 Nyswonger Mesa 23.93 339 IAmb IAmb 06 53 26.7
comp=Z,199nm,1.3s
T50A Nancy 23.93 27 IAmb IAmb 06 53 28.7
comp=Z,427nm,2.0s
PV19 Morning Glory 23.95 339 P **P** 06 53 25.6 +0.4
PV19 IAmb IAmb 06 53 26.8
comp=Z,110nm,1.0s
PV07 Paradox Valley 23.95 340 P **P** 06 53 26.3 +1.1
PV07 IAmb IAmb 06 53 27.4
comp=Z,270nm,1.2s
Y57A Sumter 23.97 39 P **P** 06 53 24.5 -0.7
baz=226,SNR=20
Y57A S **S** 06 57 42.6 +0.3
baz=226
Y57A Sumter 23.97 39 IAmb IAmb 06 53 28.0
comp=Z,178nm,0.9s
PV20 West Nyswonger 23.97 339 IAmb IAmb 06 53 27.0
comp=Z,98nm,1.0s
PV04 Paradox Valley 24.00 339 IAmb IAmb 06 53 27.5
comp=Z,218nm,1.1s
PV14 Lion Creek, Pa 24.02 339 IAmb IAmb 06 53 27.5
comp=Z,166nm,1.2s
PV10 Paradox Valley 24.03 339 IAmb IAmb 06 53 30.8
comp=Z,144nm,1.1s
PV22 Blue Mesa, Par 24.09 340 IAmb IAmb 06 53 28.5
comp=Z,202nm,1.1s
PV23 Carpenter Ridg 24.09 339 IAmb IAmb 06 53 28.3
comp=Z,189nm,1.1s
TZTN Tazewell 24.13 30 P **P** 06 53 26.2 -0.6
baz=216,SNR=70
CBOC Ciudad Bolivar 24.14 113 eP **P** 06 53 29.7 +2.5
Z59A Georgetown, SC 24.15 42 P **P** 06 53 26.2 -0.7
baz=230
PV21 Cone Mtn., Par 24.17 339 IAmb IAmb 06 53 33.1
comp=Z,152nm,1.1s
GMRC Granite Mounta 24.18 323 P **P** 06 53 29.0 +1.7
baz=135,SNR=122
GMRC S **S** 06 57 49.8 +3.9
baz=135
ARGC Ariguani, Magd 24.25 102 eP **P** 06 53 28.7 +0.7
MURC Murrieta 24.30 319 P **P** 06 53 30.0 +1.7
baz=131,SNR=40
MURC S **S** 06 57 57.1 +9.4
baz=131
PLMC San Jos del P 24.35 115 eP **P** 06 53 30.4 +1.4
V54A Nebo 24.35 34 P **P** 06 53 28.8 0.0
baz=221,SNR=42
V54A S **S** 06 57 50.3 +1.8
baz=221
WCI Wyandotte Cave 24.36 23 P **P** 06 53 27.9 -0.8
baz=209
WCI Wyandotte Cave 24.36 23 P **P** 06 53 28.1 -0.7
WCI pmax pmax
comp=Z,670nm,1.8s
WCI Wyandotte Cave 24.36 23 P **P** 06 53 28.1 -0.7
ISCO Idaho Springs 24.37 346 P **P** 06 53 30.4 +1.2
baz=162,SNR=183
HELC Santa Helena 24.42 111 eP **P** 06 53 32.0 +2.0
X57A Johnson Farm, 24.46 39 P **P** 06 53 29.4 -0.3
baz=226,SNR=20
X57A S **S** 06 57 52.8 +2.7
baz=226
N33A J Bar K, Exete 24.46 2 P **P** 06 53 29.0 -0.7
N33A IAmb IAmb 06 54 14.8
comp=Z,213nm,1.4s
ZARC Zaragoza, Cauc 24.50 108 eP **P** 06 53 31.1 +0.8
PKCU Pink Cliffs 24.52 332 P **P** 06 53 32.4 +1.7
BBRC Big Bear Solar 24.57 321 P **P** 06 53 33.0 +2.0
baz=132,SNR=9.2
BBRC S **S** 06 58 00.5 +8.1
baz=132
P43A Skaggs, Pawnee 24.58 16 IAmb IAmb 06 53 34.8
comp=Z,304nm,1.5s
LCMT Little Creek M 24.60 330 P **P** 06 53 31.8 +0.6
HEC Hector,Ludlow 24.61 322 P **P** 06 53 33.1 +2.0
baz=134,SNR=21
LGNH Logne 24.63 81 P **P** 06 53 31.6 +0.2
W56A Indian Trail 24.64 37 P **P** 06 53 31.1 -0.2
baz=224,SNR=50
W56A S **S** 06 57 54.5 +1.5
baz=224
YOTC Yotoco, Valle 24.75 117 eP **P** 06 53 34.0 +1.3
SMLC San Martn de 24.75 104 eP **P** 06 53 33.3 +0.8
SCI2 San Clemente I 24.79 316 P **P** 06 53 34.1 +1.3
baz=127,SNR=14
SCI2 S **S** 06 58 05.6 +10
baz=127
TUQ Turquoise Moun 24.80 324 P **P** 06 53 34.6 +1.7
baz=136,SNR=63
TUQ S S 06 58 09.0 +13
baz=136
V55A Taylorsville 24.80 35 P **P** 06 53 32.8 -0.1
baz=222,SNR=28
V55A S **S** 06 57 59.6 +3.9
baz=222
V55A Taylorsville 24.80 35 IAmb IAmb 06 53 54.9
comp=Z,86nm,0.9s
Y59A Loris 24.89 41 P **P** 06 53 33.6 0.0
baz=229,SNR=21
CIS Catalina Islan 24.96 317 P **P** 06 53 35.6 +1.3
baz=128,SNR=12
CIS S **S** 06 58 05.6 +7.3
baz=128
X58A Rowland 24.98 39 P **P** 06 53 34.3 0.0
baz=228,SNR=29
X58A S **S** 06 57 59.2 +0.8
baz=228
T53A Wise 24.98 31 P **P** 06 53 34.3 -0.2
baz=218,SNR=10
T53A S **S** 06 58 00.1 +1.4
baz=218
U54A Nelsons Funny 24.98 33 P **P** 06 53 34.7 +0.1
baz=220,SNR=34
U54A S **S** 06 58 02.2 +3.5
baz=220
W57A Gilead 24.99 38 P **P** 06 53 34.4 -0.1
baz=225,SNR=54
W57A S **S** 06 57 59.6 +0.9
baz=225
SZCU Shurtz Canyon 25.00 331 P **P** 06 53 36.6 +1.7
GUY2C Guyana, Caldas 25.00 113 eP **P** 06 53 37.8 +2.5
BFSC Mount Baldy Ra 25.01 319 P **P** 06 53 36.3 +1.4
baz=131,SNR=33
BFSC S **S** 06 58 06.5 +7.1
baz=131
RRX Edison Barstow 25.03 321 P **P** 06 53 36.9 +2.0
baz=133,SNR=9.7
RRX S **S** 06 58 06.1 +6.6
baz=133
BBAC Balboa, Cauca 25.07 122 eP **P** 06 53 38.0 +2.4
FMP Fort Macarthur 25.07 318 P **P** 06 53 36.4 +1.1
baz=129
BLO Bloomington 25.11 22 P **P** 06 53 34.8 -0.7
BLO pmax pmax
comp=Z,724nm,2.0s
BLO Bloomington 25.11 22 P **P** 06 53 34.8 -0.7
BGNE Belgrade 25.12 0 P **P** 06 53 35.6 0.0
baz=180
BGNE Belgrade 25.12 0 IAmb IAmb 06 54 20.4
comp=Z,120nm,1.1s
RREF El Recreo 25.17 114 eP **P** 06 53 39.6 +2.6

SHPR Sheep Range 25.17 327 IAmb IAmb 06 53 40.6
comp=Z,147nm,1.3s
V56A Mocksville 25.17 36 P **P** 06 53 36.3 +0.2
baz=224,SNR=17
V56A S **S** 06 58 01.4 -0.3
baz=224
OTAV Otavalo 25.20 127⇑ eP **P** 06 53 39.0 +1.9
OTAV Otavalo 25.20 127 P **P** 06 53 39.0 +1.9
OTAV pmax pmax
comp=Z,774nm,1.6s
OTAV Otavalo 25.20 127 P **P** 06 53 39.0 +1.9
GSC Goldstone, Bar 25.21 322 P **P** 06 53 38.2 +1.5
baz=134,SNR=66
GSC Goldstone, Bar 25.21 322 IAmb IAmb 06 53 41.3
comp=Z,179nm,1.4s
POPC Popayan, Colom 25.24 120 eP **P** 06 53 40.5 +3.2
PTBC PUERTO BERRIO, 25.24 110 eP **P** 06 53 38.5 +1.5
MWC Mount Wilson 25.25 319 IAmb IAmb 06 53 41.7
comp=Z,205nm,1.4s
N41A Harden Midland 25.26 13 IAmb IAmb 06 53 51.5
comp=Z,150nm,1.2s
PASC Pasadena Art C 25.30 319 IAmb IAmb 06 53 42.0
comp=Z,149nm,1.4s
ANIL Santa Ana 25.31 115 eP **P** 06 53 40.5 +2.5
Y60A Bolivia 25.32 42 P **P** 06 53 36.8 -0.6
baz=230
SHOC Shoshone, Teco 25.33 324 P **P** 06 53 38.9 +1.3
baz=136,SNR=36
TOLC Tolima 25.34 115 eP **P** 06 53 41.1 +2.9
W58A Raeford 25.35 39 P **P** 06 53 37.9 +0.1
baz=227,SNR=34
W58A S **S** 06 58 04.8 +0.3
baz=227
O44A Mansfield 25.36 18 IAmb IAmb 06 53 42.5
comp=Z,111nm,1.1s
O20A White River Ci 25.37 342 P **P** 06 53 39.7 +1.5
baz=157,SNR=181
O20A S **S** 06 58 03.1 -2.1
baz=157
O20A White River Ci 25.37 342 P **P** 06 53 38.8 +0.6
U55A TA2, Sparta 25.38 34 P **P** 06 53 38.0 -0.1
baz=222,SNR=27
U55A S **S** 06 58 05.2 +0.2
baz=222
X59A McDuffie Farm, 25.44 40 P **P** 06 53 38.4 -0.1
baz=229,SNR=12
DECC Green Verdugo 25.44 319 P **P** 06 53 40.7 +2.0
baz=130,SNR=9.3
N23A Red Feather La 25.49 346 P **P** 06 53 40.2 +0.9
baz=162,SNR=158
N23A S **S** 06 58 07.8 +0.7
baz=162
N23A Red Feather La 25.49 346 IAmb IAmb 06 53 45.2
comp=Z,210nm,1.1s
HDIL Hopedale 25.50 16 P **P** 06 53 38.3 -0.8
baz=200,SNR=17
T54A Tazewell 25.52 32 P **P** 06 53 38.4 -1.0
baz=220,SNR=19
T54A S **S** 06 58 07.3 0.0
baz=220
SOTA Rioblanco 25.52 121 eP **P** 06 53 43.2 +3.1
TCRU Three Creeks R 25.55 334 P **P** 06 53 40.9 +1.0
PCON Cinco Dias 25.59 120 eP **P** 06 53 43.0 +2.2
SNCC San Nicolas Is 25.60 315 P **P** 06 53 41.4 +1.3
baz=126
SNCC San Nicolas Is 25.60 315 P **P** 06 53 41.6 +1.5
SNCC IAmb IAmb 06 53 43.0
comp=Z,168nm,1.3s
U56A King 25.62 35 P **P** 06 53 39.8 -0.5
baz=223,SNR=36
U56A S **S** 06 58 08.2 -0.7
baz=223
TMUT Trail Mountain 25.64 336 P **P** 06 53 41.8 +1.2
V57A Coltrane Farms 25.64 37 P **P** 06 53 40.6 +0.3
baz=225,SNR=71
V57A S **S** 06 58 10.3 +1.3
baz=225
EDW2 Edwards Air Fo 25.64 320 P **P** 06 53 41.4 +0.9
baz=131,SNR=46
EDW2 S **S** 06 58 13.3 +4.1
baz=131
MARP Paez Belalcaza 25.68 119 eP **P** 06 53 43.5 +2.2
BRRC Barranca, Sant 25.69 108 eP **P** 06 53 42.1 +1.0
S53A Williamson 25.73 31 P **P** 06 53 40.3 -0.9
baz=218
S53A S **S** 06 58 12.0 +1.5
baz=218
L34A Svendsen Farm, 25.73 3 IAmb IAmb 06 54 33.9
comp=Z,90nm,0.8s
ORTC Ortega, Tolima 25.73 116⇑ eP **P** 06 53 43.4 +1.9
P48A Milroy 25.77 23 IAmb IAmb 06 54 09.7
comp=Z,91nm,1.1s
PHWY Pilot Hill 25.77 348 IAmb IAmb 06 53 45.4
comp=Z,194nm,1.3s
PRN Pahroc Range 25.80 328 IAmb IAmb 06 53 51.3
comp=Z,288nm,1.7s
X60A Albert Glenn T 25.84 41 P **P** 06 53 42.1 0.0
baz=230,SNR=10
X60A S **S** 06 58 12.9 +0.7
baz=230
LRMC Laurel Mtn Rad 25.85 322 P **P** 06 53 43.9 +1.4
baz=133,SNR=21
URIC Uribia, Colomb 25.91 97 eP **P** 06 53 43.7 +0.6
URIC Uribia, Colomb 25.91 97 P **P** 06 53 43.3 +0.3
OSI Osito Audit: C 25.92 319 P **P** 06 53 44.6 +1.5
baz=130
OSI S **S** 06 58 19.7 +6.0
baz=130
OSI Osito Audit: C 25.92 319 IAmb IAmb 06 53 51.5
comp=Z,174nm,1.3s
W59A Clinton 25.93 40 P **P** 06 53 43.0 0.0
baz=228,SNR=5.8
W59A S **S** 06 58 13.7 +0.1
baz=228
V58A Windy Hill, Pi 25.95 38 P **P** 06 53 43.0 -0.2
baz=226,SNR=32
V58A S **S** 06 58 14.6 +0.6
baz=226
V58A Windy Hill, Pi 25.95 38 IAmb IAmb 06 53 47.4
comp=Z,174nm,0.9s
SPBC San Pablo de B 25.96 111 eP **P** 06 53 45.5 +1.8
T55A Pulaski 25.98 33 P **P** 06 53 43.4 -0.1
baz=221,SNR=33
SFIN Lafayette 25.99 20 P **P** 06 53 43.0 -0.6
baz=205,SNR=12
SFIN S **S** 06 58 15.4 +1.0
baz=205
SFIN Lafayette 25.99 20 P **P** 06 53 42.9 -0.7
SFIN IAmb IAmb 06 53 47.1
comp=Z,176nm,1.4s
SCIA State Center 25.99 9 P **P** 06 53 43.0 -0.5
baz=191,SNR=30
SCIA State Center 25.99 9 IAmb IAmb 06 53 44.5
comp=Z,143nm,0.8s
FURC Furnace Creek, 26.07 324 P **P** 06 53 45.8 +1.6
baz=136,SNR=20
TPNV Topopah Spring 26.08 326 P **P** 06 53 46.7 +2.1
baz=137,SNR=110
TPNV Topopah Spring 26.08 326 IAmb IAmb 06 53 58.8
comp=Z,200nm,1.4s
ROSC El Rosal 26.10 113 P **P** 06 53 48.5 +3.3
comp=Z,142nm,1.1s,baz=0.2,slow=4.9,SNR=58
ROSC El Rosal 26.10 113 eP **P** 06 53 48.5 +3.3
P49A Miami Univ. Ec 26.10 24 P **P** 06 53 43.3 -1.3
baz=211,SNR=39
P49A S **S** 06 58 15.9 -0.5
baz=211
P49A Miami Univ. Ec 26.10 24 IAmb IAmb 06 53 51.5
comp=Z,153nm,0.8s
SCZ2 Santa Cruz Isl 26.12 317 P **P** 06 53 46.0 +1.1
baz=127
MPMC Manual Prospec 26.14 323 P **P** 06 53 46.3 +1.2
baz=134,SNR=78
MPMC S **S** 06 58 18.9 +1.5
baz=134
PRAC Prado 26.14 116 eP **P** 06 53 46.1 +0.8
BETC Betania 26.20 118 eP **P** 06 53 47.6 +1.8
S54A Dingess, Beckl 26.22 32 P **P** 06 53 46.5 +0.8
baz=219,SNR=10
S54A S **S** 06 58 22.7 +4.3
baz=219
S54A Dingess, Beckl 26.22 32 IAmb IAmb 06 53 51.7
comp=Z,316nm,1.7s
GRTK Grand Turk 26.23 74 P **P** 06 53 46.5 +0.6
BLA Blacksburg 26.24 34 P **P** 06 53 46.2 +0.3
baz=222,SNR=34
U57A Blanch 26.27 36 P **P** 06 53 45.6 -0.5

baz=225,SNR=21
U57A S **S** 06 58 17.1 -1.9
baz=225
W60A Pink Hill 26.31 41 P **P** 06 53 46.2 -0.3
baz=230,SNR=26
W60A S **S** 06 58 21.8 +2.2
baz=230
T56A Rocky Mt 26.32 34 P **P** 06 53 46.6 +0.1
baz=223,SNR=26
T56A S **S** 06 58 24.8 +5.1
baz=223
ARVC Arvin 26.32 320 P **P** 06 53 48.4 +1.8
baz=130,SNR=18
ARVC S **S** 06 58 26.1 +6.3
baz=130
CNNC Cliffs of the 26.32 40 P **P** 06 53 46.2 -0.4
baz=229,SNR=22
CNNC Cliffs of the 26.32 40 P **P** 06 53 46.1 -0.4
R53A Hurricane 26.32 30 P **P** 06 53 46.2 -0.4
baz=217,SNR=20
R53A S **S** 06 58 21.4 +1.6
baz=217
K31A O'Neill 26.34 359 IAmb IAmb 06 54 34.1
comp=Z,133nm,1.1s
BARC Barichara 26.38 108 eP **P** 06 53 49.6 +2.0
GARC Garzon, Huila 26.42 119 eP **P** 06 53 49.6 +1.6
SBC Santa Barbara 26.45 317 P **P** 06 53 48.7 +0.9
baz=128
ISA Isabella, Lake 26.45 321 P **P** 06 53 49.8 +1.9
baz=132,SNR=30
ISA S **S** 06 58 21.4 -0.7
baz=132
ISA Isabella, Lake 26.45 321 IAmb IAmb 06 53 51.5
comp=Z,140nm,1.6s
V59A Middlesex 26.45 39 P **P** 06 53 47.6 -0.1
baz=228,SNR=58
V59A S **S** 06 58 21.0 -0.9
baz=228
PUAC Puerto Asis, P 26.48 124 eP **P** 06 53 50.6 +2.4
PAMC Pamplona, Colo 26.54 106 eP **P** 06 53 51.5 +2.2
RWWY Rawlins 26.54 345 IAmb IAmb 06 53 56.7
comp=Z,292nm,1.4s
S55A Lewisburg 26.62 33 P **P** 06 53 49.1 -0.2
baz=221
S55A S **S** 06 58 25.3 +0.7
baz=221
FLOC Florencia 26.62 121⇑ eP **P** 06 53 51.0 +1.5
FLOC Florencia 26.62 121 P **P** 06 53 51.1 +1.5
R54A Victor 26.68 31 P **P** 06 53 50.1 +0.3
baz=219,SNR=15
R54A S **S** 06 58 26.5 +1.0
baz=219
Q52A Bidwell 26.68 29 P **P** 06 53 48.9 -0.9
baz=216,SNR=20
Q52A S **S** 06 58 26.1 +0.7
baz=216
U58A Oxford 26.70 37 P **P** 06 53 50.0 0.0
baz=226,SNR=64
U58A S **S** 06 58 25.7 -0.1
baz=226
CHIC Chingaza 26.72 113 eP **P** 06 53 53.2 +2.4
T57A Hurt 26.72 36 P **P** 06 53 50.0 -0.2
baz=224,SNR=39
T57A S **S** 06 58 24.4 -1.7
baz=224
T57A Hurt 26.72 36 IAmb IAmb 06 53 54.9
comp=Z,253nm,1.4s
GRAC Grapevine Rang 26.73 324 P **P** 06 53 52.5 +2.1
baz=135,SNR=7.6
CWC Cottonwood Cre 26.75 323 P **P** 06 53 52.4 +1.8
baz=133
P51A Williamsport 26.75 27 P **P** 06 53 49.2 -1.2
baz=214,SNR=13
P51A S **S** 06 58 26.1 -0.4
baz=214
P51A Williamsport 26.75 27 IAmb IAmb 06 54 22.2
comp=Z,102nm,0.8s
RUSC La Rusia 26.75 110 eP **P** 06 53 52.4 +1.2
RUSC La Rusia 26.75 110 P **P** 06 53 51.6 +0.4
L42A Oliver, Polo 26.77 14 IAmb IAmb 06 53 54.1
comp=Z,90nm,0.9s
K38A Parkersburg 26.78 9 IAmb IAmb 06 54 31.6
comp=Z,110nm,1.1s
PKM Mcpherson Peak 26.79 318 P **P** 06 53 52.5 +1.5
baz=128,SNR=14
R11A Troy Canyon, C 26.80 329 P **P** 06 53 52.3 +1.2
baz=140,SNR=63
R11A S **S** 06 58 33.8 +6.1
baz=140
R11A Troy Canyon, C 26.80 329 IAmb IAmb 06 54 01.1
comp=Z,210nm,1.9s
O49A Covington 26.82 24 IAmb IAmb 06 53 55.9
comp=Z,162nm,1.2s
W61A Ground Anchor 26.84 41 P **P** 06 53 49.7 -1.5
baz=230
VES Vestal, Richgr 26.94 320 P **P** 06 53 54.3 +2.1
baz=131,SNR=65
Q53A Leroy 26.95 30 P **P** 06 53 51.9 -0.3
baz=218,SNR=12
Q53A S **S** 06 58 28.7 -1.0
baz=218
VILC Villavicencio, 26.99 114 eP **P** 06 53 55.9 +2.9
DUG Dugway, Tooele 27.04 335 P **P** 06 53 54.6 +1.4
baz=148,SNR=70
DUG Dugway, Tooele 27.04 335 IAmb IAmb 06 53 56.4
comp=Z,82nm,1.1s
S56A Natural Bridge 27.04 34 P **P** 06 53 52.9 -0.2
baz=223,SNR=9.9
S56A S **S** 06 58 32.9 +1.7
baz=223
V60A Jim Taylor Roa 27.05 40 P **P** 06 53 52.9 -0.2
baz=229,SNR=16
V60A S **S** 06 58 32.5 +1.2
baz=229
T58A Grand View Acr 27.09 37 P **P** 06 53 53.7 +0.2
baz=225,SNR=42
T58A S **S** 06 58 29.9 -2.0
baz=225
U59A Littleton 27.12 38 P **P** 06 53 52.8 -0.9
baz=228,SNR=24
U59A S **S** 06 58 31.2 -1.1
baz=228
SMMC Simmler 27.17 319 P **P** 06 53 56.1 +1.7
baz=129,SNR=26
R55A Marlinton 27.20 32 P **P** 06 53 54.5 -0.1
baz=221,SNR=21
R55A S **S** 06 58 32.9 -0.9
baz=221
R55A Marlinton 27.20 32 P **P** 06 53 54.0 -0.6
R55A IAmb IAmb 06 54 01.4
comp=Z,290nm,1.8s
TIN Tinemaha, Big 27.26 323 P **P** 06 53 57.0 +1.8
baz=134,SNR=13
P52A Corning 27.28 28 P **P** 06 53 54.6 -0.7
baz=216
P52A S **S** 06 58 37.2 +2.2
baz=216
K22A Casper 27.29 347 P **P** 06 53 56.4 +1.0
baz=162,SNR=36
K22A Casper 27.29 347 IAmb IAmb 06 54 07.2
comp=Z,140nm,1.2s
Q54A Coxs Mills 27.38 31 P **P** 06 53 55.9 -0.2
baz=219,SNR=17
Q54A S **S** 06 58 36.4 -0.1
baz=219
L44A Lake County Fo 27.39 17 P **P** 06 53 55.4 -0.7
baz=202
L44A S **S** 06 58 36.4 -0.2
baz=202
ACSO Alum Creek Sta 27.41 26 P **P** 06 53 55.4 -0.9
baz=213,SNR=16
ACSO Alum Creek Sta 27.41 26 IAmb IAmb 06 54 00.4
comp=Z,102nm,1.1s
S57A Dark Hollow, R 27.43 35 P **P** 06 53 55.2 -1.4
baz=224,SNR=26
S57A S **S** 06 58 38.1 +0.7
baz=224
S57A Dark Hollow, R 27.43 35 IAmb IAmb 06 54 02.6
comp=Z,251nm,1.6s
VOG Valley Oaks Go 27.44 321 P **P** 06 53 57.9 +1.2
baz=131
ECSD EROS Data Cent 27.48 3 P **P** 06 53 56.0 -1.0
baz=183,SNR=16
V61A Roper 27.49 41 P **P** 06 53 55.8 -1.3
baz=230,SNR=14
O51A Pataskala 27.50 27 P **P** 06 53 55.7 -1.4
baz=214
O51A S **S** 06 58 38.9 +0.6

baz=214
JFWS Jewell Farm 27.50 13 P P 06 53 56.1 -1.1
baz=197,SNR=9.7
JFWS Jewell Farm 27.50 13 P P 06 53 55.9 -1.2
JFWS pmax pmax
comp=Z,104nm,1.3s
JFWS Jewell Farm 27.50 13 P P 06 53 55.9 -1.2
JFWS IAmb IAmb 06 54 30.5
comp=Z,104nm,1.2s
P53A Whipple 27.51 29 P P 06 53 56.4 -0.8
baz=217
P53A Whipple 27.51 29 IAmb IAmb 06 54 46.8
comp=Z,197nm,1.7s
U60A Pendleton 27.58 39 P P 06 53 57.5 -0.3
baz=228,SNR=40
PAGB Antelope Grade 27.59 319 IAmb IAmb 06 54 05.3
comp=Z,297nm,1.9s
R56A Bull Pasture M 27.67 33 P P 06 53 58.0 -0.8
baz=222
R56A S **S 06 58 44.0 +2.9**
baz=222
T59A Double "B" Far 27.68 38 P P 06 53 58.6 -0.2
baz=227,SNR=27
T59A S **S 06 58 41.9 +0.7**
baz=227
TAMC Tame, Arauca 27.71 107 *e*P **P 06 54 01.1 +1.8**
L46A Eue Claire 27.72 19 IAmb IAmb 06 54 39.8
comp=Z,94nm,1.0s
V62A Hyde County Ai 27.74 42 P P 06 53 57.6 -1.8
baz=232
Q55A Buckhannon 27.76 32 P P 06 53 58.1 -1.5
baz=220,SNR=13
Q55A S **S 06 58 43.6 +1.0**
baz=220
O52A Adamsville 27.81 28 P P 06 53 58.1 -1.8
baz=216
O52A S **S 06 58 41.9 -1.3**
baz=216
MACC Macarena, Meta 27.83 118 *e*P **P 06 54 01.8 +1.3**
S58A Poland Farm, P 27.83 36 P P 06 53 59.3 -0.8
baz=225,SNR=8.5
S58A S **S 06 58 42.8 -0.9**
baz=225
S58A Poland Farm, P 27.83 36 IAmb IAmb 06 54 05.0
comp=Z,164nm,1.6s
U61A Possum Corner 27.92 40 P P 06 53 59.8 -1.1
baz=230,SNR=7.2
SDV Santo Domingo 27.94 102 P P 06 54 02.5 +0.9
comp=Z,26nm,0.4s,baz=294,slow=4.9,SNR=21
SDV LR LR 07 05 44.8
comp=Z,2µm,19.6s,baz=282,slow=38
SDV Santo Domingo 27.94 102 P P 06 54 03.5 +1.8
SDV IAmb IAmb 06 54 15.5
comp=Z,207nm,1.3s
SDV Santo Domingo 27.94 102 *e*P **P 06 54 02.7 +1.1**
MLAC Mammoth, Mammo 28.01 324 P P 06 54 03.7 +1.7
baz=134
P54A Burton 28.03 30 P P 06 54 00.6 -1.3
baz=218,SNR=9.4
P54A S **S 06 58 46.6 -0.2**
baz=218
R57A Stanardsville 28.06 34 P P 06 54 01.0 -1.2
baz=224
OMMB Old Mammoth Mi 28.09 323 P P 06 54 03.8 +0.9
OMMB IAmb IAmb 06 54 06.3
comp=Z,184nm,1.6s
PTLC Puerto Leguiza 28.13 122 *e*P **P 06 54 06.3 +3.3**
MDPB Devils Postpil 28.15 323 IAmb IAmb 06 54 06.7
comp=Z,126nm,1.3s
SUSD Miller 28.16 359 P P 06 54 02.5 -0.5
baz=178
R58B Mineral 28.18 36 P P 06 54 02.4 -0.8
baz=225,SNR=7.1
R58B S **S 06 58 50.9 +1.8**
baz=225
R58B Mineral 28.18 36 IAmb IAmb 06 54 05.3
comp=Z,133nm,1.8s
BW06 Boulder Array 28.18 342 P P 06 54 04.0 +0.5
baz=156,SNR=83
BW06 Boulder Array 28.18 342 IAmb IAmb 06 54 06.0
comp=Z,180nm,1.6s
PD31 Pinedale Array 28.18 342 IAmb IAmb 06 54 06.0
comp=Z,165nm,1.6s
PDAR Pinedale Array 28.18 342 P P 06 54 04.0 +0.6
comp=Z,39nm,1.1s,baz=139,slow=9.2,SNR=110
PDAR LR LR 07 05 34.2
comp=Z,4µm,19.4s,baz=165,slow=37
PDAR Pinedale Array 28.18 342 P P 06 54 03.0 -0.5
NV11 Mina Array Sit 28.20 326 IAmb IAmb 06 54 07.3
comp=Z,164nm,1.3s
O53A New Philadelph 28.20 28 P P 06 54 01.9 -1.5
baz=216,SNR=6.5
O53A S **S 06 58 48.7 -0.6**
baz=216
N51A Ashland 28.23 26 P P 06 54 02.1 -1.6
baz=214
N51A S **S 06 58 51.7 +1.8**
baz=214
N51A Ashland 28.23 26 IAmb IAmb 06 54 59.5
comp=Z,83nm,1.2s
PMPB Monarch Peak 28.25 319 IAmb IAmb 06 54 07.3
comp=Z,263nm,1.7s
Q56A Snyder Ridge, 28.25 33 P P 06 54 03.6 -0.3
baz=222,SNR=8.9
Q56A S **S 06 58 50.9 +0.6**
baz=222
Q56A Snyder Ridge, 28.25 33 IAmb IAmb 06 54 12.5
comp=Z,286nm,1.9s
LHV Little Huntoon 28.26 325 P P 06 54 06.1 +2.2
LHV IAmb IAmb 06 54 15.5
comp=Z,89nm,1.2s
RSSD Black Hills 28.26 351 P P 06 54 04.9 +0.7
baz=168
RSSD Black Hills 28.26 351 P P 06 54 04.8 +0.7
RSSD pmax pmax
comp=Z,56nm,1.5s
RSSD Black Hills 28.26 351 P P 06 54 04.8 +0.7
T60A Surry 28.27 38 P P 06 54 04.2 +0.1
baz=228
NVAR Mina Array Bea 28.27 325 P P 06 54 06.4 +2.0
comp=Z,74nm,1.1s,baz=147,slow=8.9,SNR=199
NVAR Mina Array Bea 28.27 325 P P 06 54 05.1 +0.7
P55A Reedsville 28.28 31 P P 06 54 03.6 -0.6
baz=220
P55A S **S 06 58 51.7 +1.0**
baz=220
L48A N Adams 28.30 22 IAmb IAmb 06 54 56.8
comp=Z,76nm,1.2s
PTGC Puerto Gaitan, 28.33 112 *e*P **P 06 54 06.0 +1.1**
R58A Rapidan 28.34 35 P P 06 54 04.0 -0.7
baz=224,SNR=17
R58A S **S 06 58 51.3 -0.4**
baz=224
I40A Norwalk 28.37 12 IAmb IAmb 06 54 08.6
comp=Z,164nm,1.8s
S59A Mechanicsville 28.37 37 P P 06 54 05.0 +0.1
baz=226,SNR=14
S59A S **S 06 58 54.7 +2.7**
baz=226
MCWV Mont Chateau 28.38 31 P P 06 54 04.7 -0.4
baz=220
N52A McGinn's Farm, 28.44 27 P P 06 54 05.6 +0.1
baz=215
N52A S **S 06 58 51.7 -1.5**
baz=215
ELK Elko 28.53 332 P P 06 54 08.3 +1.7
comp=Z,31nm,1.2s,baz=159,slow=6.1,SNR=56
ELK LR LR 07 05 46.5
comp=Z,5µm,20.3s,baz=145,slow=37
O54A Avella 28.53 30 P P 06 54 05.5 -0.9
baz=218
O54A S **S 06 58 53.4 -1.2**
baz=218
O54A Avella 28.53 30 IAmb IAmb 06 54 54.8
comp=Z,76nm,1.2s
KVN Kaiserville 28.62 327 P P 06 54 08.8 +1.4
KVN pmax pmax
comp=Z,122nm,1.5s
KVN Kaiserville 28.62 327 P P 06 54 08.8 +1.4
KVN IAmb IAmb 06 54 15.6
comp=Z,122nm,1.5s
CBN Corbin Frederi 28.63 36 P P 06 54 05.8 -1.4
baz=226
Q57A Strasburg 28.65 34 P P 06 54 07.2 -0.2
baz=223,SNR=12
Q57A S **S 06 58 56.8 +0.3**
baz=223
M51A Elyria 28.66 26 P P 06 54 05.9 -1.6
baz=214
M51A S **S 06 58 53.8 -2.7**
baz=214
GUVC San Jose del G 28.68 116 *e*P **P 06 54 10.9 +3.0**
S60A Water View 28.70 38 P P 06 54 08.0 +0.2
baz=227,SNR=11
I42A Draeger Farm, 28.73 14 IAmb IAmb 06 54 12.0
comp=Z,100nm,1.5s
R59A King George, V 28.77 36 P P 06 54 07.6 -0.9
baz=226,SNR=10
P56A Dayton Farm, R 28.78 32 P P 06 54 08.2 -0.3
baz=222
P56A S **S 06 58 57.3 -1.2**
baz=222
N53A Lisbon 28.82 28 P P 06 54 08.0 -0.9
baz=216
N53A S **S 06 58 57.3 -1.8**
baz=216
AAM Ann Arbor 28.89 23 P P 06 54 07.0 -2.5
baz=210
AAM Ann Arbor 28.89 23 IAmb IAmb 06 54 13.7
comp=Z,186nm,1.8s
WAKR Walker 28.95 324 IAmb IAmb 06 54 14.3
comp=Z,123nm,1.5s
Q58A Fox Den Farm, 28.98 35 P P 06 54 10.1 -0.2
baz=224,SNR=7.9
Q58A S **S 06 59 03.7 +2.0**
baz=224
SAO San Andreas Ge 29.00 319 P P 06 54 11.7 +1.1
SAO pmax pmax
comp=Z,80nm,1.6s
SAO San Andreas Ge 29.00 319 P P 06 54 11.7 +1.1
O55A Ligonier 29.07 31 P P 06 54 09.9 -1.3
baz=220,SNR=8.7
O55A S **S 06 59 02.4 -0.8**
baz=220
REDW Red Top Meadow 29.11 341 IAmb IAmb 06 54 14.5
comp=Z,169nm,1.5s
R60A Leonardtown, M 29.12 37 P P 06 54 10.1 -1.5
baz=227
SNOW Snow King Moun 29.17 341 P P 06 54 13.1 +0.7
SNOW IAmb IAmb 06 54 16.9
comp=Z,212nm,1.5s
M52A Chesterland 29.18 27 P P 06 54 10.5 -1.6
baz=215
M52A S **S 06 58 59.4 -5.4**
baz=215
P57A Homestead Farm 29.19 33 P P 06 54 10.6 -1.7
baz=223,SNR=14
P57A Homestead Farm 29.19 33 IAmb IAmb 06 54 17.1
comp=Z,197nm,1.6s
LOHW Long Hollow 29.26 342 IAmb IAmb 06 54 15.8
comp=Z,207nm,1.6s
S61A Accomac 29.27 39 P P 06 54 11.3 -1.6
baz=229
J47A Sumner 29.30 20 IAmb IAmb 06 54 17.4
comp=Z,205nm,1.6s
SPMN Marine on St. 29.31 8 P P 06 54 11.9 -1.3
baz=191,SNR=12
SPMN S **S 06 59 06.2 -0.4**
baz=191
N54A Moraine State 29.33 29 P P 06 54 12.9 -0.6
baz=218,SNR=7.8
N54A S **S 06 59 05.8 -1.4**
baz=218
N54A Moraine State 29.33 29 IAmb IAmb 06 54 18.0
comp=Z,207nm,1.9s
M53A WI Miller and 29.40 28 P P 06 54 11.4 -2.7
baz=216
M53A S **S 06 59 06.2 -2.0**
baz=216
FXWY Fox Creek 29.42 341 P P 06 54 14.9 +0.4
PNTR Pine Nut 29.45 325 IAmb IAmb 06 54 18.6
comp=Z,170nm,1.5s
O56A Blue Knob Stat 29.49 32 P P 06 54 14.0 -0.9
baz=221,SNR=8.3
O56A S **S 06 59 07.9 -1.8**
baz=221
O56A Blue Knob Stat 29.49 32 IAmb IAmb 06 54 20.2
comp=Z,96nm,1.4s
Q59A Harwood 29.49 36 P P 06 54 14.0 -0.9
baz=226
P58A Pank, Wackersv 29.58 34 P P 06 54 15.2 -0.4
baz=224,SNR=5.9
P58A S **S 06 59 10.5 -0.5**
baz=224
IMW Indian Meadow 29.62 341 PcP PcP 06 57 22.2 +1.1
VCNR Virginia City 29.63 325 IAmb IAmb 06 54 20.1
comp=Z,108nm,1.5s
N55A Marion Center 29.67 30 P P 06 54 15.5 -1.0
baz=220
N55A S **S 06 59 13.1 +0.5**
baz=220
G40A Rib Lake 29.77 12 P P 06 54 16.2 -1.2
G40A IAmb IAmb 06 54 21.9
comp=Z,139nm,1.6s
PAHR Pah Rah Range 29.78 326 P P 06 54 18.4 +0.8
PAHR IAmb IAmb 06 54 20.4
comp=Z,89nm,1.5s
R61A Willards 29.89 38 P P 06 54 16.8 -1.7
baz=229
M54A Oil Creek Stat 29.91 29 P P 06 54 17.5 -1.1
baz=218
M54A S **S 06 59 16.0 -0.3**
baz=218
O57A Amberson 29.92 33 P P 06 54 17.5 -1.2
baz=223
O57A S **S 06 59 17.7 +1.3**
baz=223
H17A Grant Village 29.97 342 P P 06 54 20.6 +1.3
baz=156,SNR=7.5
L53A Girard 29.99 28 P P 06 54 17.8 -1.5
baz=216
Q60A Greensboro 30.05 36 P P 06 54 17.9 -1.9
baz=227
SSPA Standing Stone 30.11 32 P P 06 54 19.4 -1.0
baz=222
N56A West Decatur 30.11 31 P P 06 54 19.8 -0.7
baz=221,SNR=5.3
N56A S **S 06 59 19.5 0.0**
baz=221
P59A Jarrettsville 30.14 35 P P 06 54 20.1 -0.5
baz=225,SNR=6.8
O58A Lewisberry 30.23 34 P P 06 54 20.5 -1.0
baz=224
O58A S **S 06 59 27.6 +6.2**
baz=224
ERPA Erie 30.25 28 P P 06 54 19.9 -1.7
baz=217
Q61A Milford 30.26 37 P P 06 54 20.3 -1.4
baz=228
RLMT Red Lodge 30.28 345 P P 06 54 22.7 +0.6
baz=158,SNR=26
RLMT Red Lodge 30.28 345 IAmb IAmb 06 54 24.7
comp=Z,236nm,1.8s
M55A Ridgway 30.30 30 P P 06 54 21.4 -0.7
baz=219,SNR=6.0
M55A S **S 06 59 22.9 +0.4**
baz=219
M55A Ridgway 30.30 30 P P 06 54 21.1 -1.1
M55A IAmb IAmb 06 55 10.5
comp=Z,85nm,1.4s
N57A Milroy 30.36 32 P P 06 54 22.3 -0.3
baz=222,SNR=9.0
N57A S **S 06 59 25.0 +1.6**
baz=222
MVL Millersville 30.45 35 P P 06 54 23.1 -0.3
HLID Hailey 30.53 337 P P 06 54 25.2 +1.0
baz=148,SNR=35
M56A Emporium 30.59 31 P P 06 54 23.5 -1.2
baz=220
M56A S **S 06 59 26.3 -0.8**
baz=220
M56A Emporium 30.59 31 IAmb IAmb 06 54 53.8
comp=Z,63nm,1.1s
L54A Sinclairville 30.64 28 P P 06 54 22.8 -2.3
baz=218
L54A S **S 06 59 26.7 -1.1**
baz=218
P60A Greenville 30.72 36 P P 06 54 25.1 -0.6
baz=226,SNR=5.7
P60A S **S 06 59 28.4 -0.5**
baz=226
P60A Greenville 30.72 36 P P 06 54 25.8 +0.1
P60A IAmb IAmb 06 54 29.3
comp=Z,66nm,1.2s
MCCM Marconi Confer 30.75 320 P P 06 54 26.9 +0.9
O59A Robesonia 30.76 34 P P 06 54 25.9 -0.3
baz=225,SNR=7.5
O59A S **S 06 59 33.1 +3.4**
baz=225
GLMI Grayling 30.79 19 P P 06 54 25.1 -1.2
baz=206
BCYI Bear Canyon 30.80 339 P P 06 54 28.3 +1.5
E38A The Farm, Brul 30.84 9 IAmb IAmb 06 54 30.5
comp=Z,84nm,1.4s
ORV Oroville 30.84 324 IAmb IAmb 06 54 30.7
comp=Z,101nm,1.4s
N58A Sunbury 30.86 33 P P 06 54 26.1 -0.9
baz=223
N58A S **S 06 59 32.7 +1.6**
baz=223
PDPR Patillas Dam, 30.88 82 IAmb IAmb 06 54 30.2
comp=Z,57nm,0.9s
MFID Camas Ranch 30.96 335 IAmb IAmb 06 54 36.4
comp=Z,110nm,1.4s
L55A Hinsdale 31.01 29 P P 06 54 26.2 -2.2
baz=219
L55A S **S 06 59 33.1 -0.5**
baz=219
M57A Sunshine Farm, 31.01 32 P P 06 54 30.2 +1.9
baz=222
M57A S **S 06 59 33.5 0.0**
baz=222
M57A Sunshine Farm, 31.01 32 P P 06 54 29.4 +1.0
M57A IAmb IAmb 06 54 38.1
comp=Z,76nm,1.5s
CBYP Canovanas 31.04 81 IAmb IAmb 06 54 30.1
comp=Z,109nm,1.1s
HUMP Col San Antoni 31.05 82 P P 06 54 26.9 -2.0
HUMP IAmb IAmb 06 54 30.3
comp=Z,116nm,1.2s
HUMP **PcP PcP 06 57 25.3 +0.5**
P61A Hammonton 31.10 37 P P 06 54 26.8 -2.3
baz=228
WVNY West Valley, N 31.10 29 IAmb IAmb 06 55 08.0
comp=Z,62nm,1.1s
LAO LASA Array 31.11 349 P P 06 54 29.0 -0.2
baz=165,SNR=23
LAO LASA Array 31.11 349 P P 06 54 28.9 -0.2
LAO IAmb IAmb 06 54 31.2
comp=Z,206nm,1.6s
GDXM Geysers 31.11 321 P P 06 54 31.3 +1.9
I51A Listowel 31.19 25 P P 06 54 27.2 -2.7
baz=213
I51A S **S 06 59 34.8 -1.4**
baz=213
O60A Telford 31.19 35 P P 06 54 29.0 -0.9
baz=226
O60A S **S 06 59 39.1 +2.7**
baz=226
K54A Basiliko Farm, 31.22 29 P P 06 54 27.8 -2.4
baz=218
K54A S **S 06 59 36.9 +0.1**
baz=218
BOZ Bozeman (W) 31.37 342 P P 06 54 33.1 +1.5
baz=155,SNR=43
BOZ Bozeman (W) 31.37 342 IAmb IAmb 06 54 34.8
comp=Z,88nm,1.4s
M58A Price's Panora 31.38 33 P P 06 54 29.1 -2.5
baz=223
M58A S **S 06 59 39.1 -0.2**
baz=223
L56A Greenwood 31.39 30 P P 06 54 30.0 -1.8
baz=221
L56A S **S 06 59 39.9 +0.3**
baz=221
HOPS Hopland Field 31.40 321 IAmb IAmb 06 54 35.7
comp=Z,133nm,1.4s
N59A State Game Lan 31.41 34 P P 06 54 31.2 -0.7
baz=225,SNR=7.4
N59A S **S 06 59 39.9 0.0**
baz=225
N59A State Game Lan 31.41 34 P P 06 54 33.5 +1.5
N59A IAmb IAmb 06 54 37.0
comp=Z,81nm,1.4s
WVOR Wild Horse Val 31.43 330 P P 06 54 32.8 +0.7
WVOR pmax pmax
comp=Z,212nm,1.4s
WVOR Wild Horse Val 31.43 330 P P 06 54 32.8 +0.7
DLMT Dillon 31.46 341 P P 06 54 33.6 +1.1
O03E Paynes Creek 31.51 324 P P 06 54 33.5 +0.6
baz=133,SNR=10
O03E S **S 06 59 42.5 +0.9**
baz=133
O61A Allentown 31.52 36 P P 06 54 33.2 +0.4
baz=228
E43A Lone Tree Farm 31.53 15 IAmb IAmb 06 54 36.2
comp=Z,77nm,1.3s
MDND Maddock 31.58 358 P P 06 54 33.2 -0.1
baz=177,SNR=27
MDND S **S 06 59 39.9 -2.4**
baz=177
K55A Perry 31.60 29 P P 06 54 32.5 -1.0
baz=219
K55A S **S 06 59 41.2 -1.6**
baz=219
L57A Andrews Acres 31.64 31 P P 06 54 33.3 -0.7
baz=222,SNR=6.0
L57A S **S 06 59 42.5 -0.9**
baz=222
N60A Cedar Hill Far 31.74 35 P P 06 54 34.2 -0.6
baz=226,SNR=6.0
N60A S **S 06 59 45.5 +0.5**
baz=226
J54A Appleton 31.77 28 P P 06 54 33.5 -1.4
baz=218
J54A S **S 06 59 46.3 +1.1**
baz=218
D41A Chassel 31.82 13 P P 06 54 34.2 -1.2
D41A IAmb IAmb 06 54 39.2
comp=Z,118nm,1.1s
MOD Modoc Plateau 31.85 328 IAmb IAmb 06 54 38.8
comp=Z,151nm,1.4s
STVI Saint Thomas 31.89 81 P P 06 54 36.1 -0.3
K56A Middlesex 31.93 30 P P 06 54 32.9 -3.6
baz=220
K56A S **S 06 59 46.3 -1.6**
baz=220
O02D Mt. Diablo Mer 32.00 323 P P 06 54 37.4 +0.2
baz=131,SNR=6.1
M59A Waymart 32.04 33 P P 06 54 37.5 +0.1
baz=225,SNR=5.6
M59A S **S 06 59 48.9 -0.7**
baz=225
AGMN Agassiz Nation 32.08 3 P P 06 54 36.8 -0.8
baz=184,SNR=25
AGMN Agassiz Nation 32.08 3 IAmb IAmb 06 54 38.4
comp=Z,55nm,1.1s
N61A South Mountain 32.11 36 P P 06 54 36.3 -1.6
baz=227
N61A S **S 06 59 51.9 +1.3**
baz=227
WDC Whiskeytown Da 32.12 324 PcP PcP 06 57 28.2 +0.8
J55A Hilton 32.14 29 P P 06 54 35.4 -2.8
baz=219
J55A S **S 06 59 50.2 -0.8**
baz=219
KCPM Cahto Peak 32.14 322 IAmb IAmb 06 54 42.4
comp=Z,137nm,1.4s
EYMN Ely 32.15 9 P P 06 54 35.8 -2.5
baz=192
ODNJ Ogdensburg 32.16 35 IAmb IAmb 06 54 41.7
comp=Z,95nm,1.3s
L58A Harry Jones Me 32.18 32 P P 06 54 38.2 -0.5
baz=223,SNR=5.5
L58A S **S 06 59 55.3 +3.5**
baz=223
BINY Binghamton 32.22 32 P P 06 54 38.3 -0.7
baz=223
BINY Binghamton 32.22 32 P P 06 54 38.0 -1.0
BINY IAmb IAmb 06 54 44.9
comp=Z,50nm,1.1s
M60A Port Jervis 32.32 34 P P 06 54 39.0 -0.8
baz=226,SNR=6.0
M60A S **S 06 59 55.7 +1.8**
baz=226
F48A Evansville 32.33 21 P P 06 54 38.0 -1.9
baz=209
F48A S **S 06 59 52.7 -1.2**
baz=209
K57A Scipio Center 32.35 31 P P 06 54 38.1 -2.0
baz=222
K57A S **S 06 59 53.6 -0.8**
baz=222
F49A Sandfield 32.47 21 P P 06 54 38.7 -2.4

baz=210
F49A S **S** **06 59 55.3 -0.9**
baz=210
N02D Trinity Center 32.48 324 P **P** **06 54 40.9 -0.5**
baz=132,SNR=5.5
PAL Palisades 32.49 36 P **P** **06 54 38.8 -2.5**
baz=228
DGMT Dagmar 32.55 353 P **P** **06 54 42.1 +0.4**
baz=169,SNR=11
DGMT Dagmar 32.55 353 IAmb IAmb 06 54 43.1
comp=Z,69nm,1.1s
M04C Macdoel 32.56 326 P **P** **06 54 43.0 +0.8**
baz=134,SNR=23
M04C S **S** **07 00 03.0 +5.0**
baz=134
J56A Wolcott 32.59 30 P **P** **06 54 38.9 -3.3**
baz=220
J56A Wolcott 32.59 30 IAmb IAmb 06 55 29.7
comp=Z,115nm,1.5s
E47A Iron Bridge 32.66 19 P **P** **06 54 40.9 -1.9**
baz=207
E47A S **S** **06 59 58.7 -0.5**
baz=207
N62A Caumsett State 32.69 36 P **P** **06 54 41.5 -1.6**
baz=228
L59A Walton 32.70 33 P **P** **06 54 41.8 -1.4**
baz=224,SNR=7.5
L59A S **S** **07 00 01.7 +1.7**
baz=224
L59A Walton 32.70 33 IAmb IAmb 06 54 47.0
comp=Z,130nm,1.5s
K05A Summer Lake 32.75 328 IAmb IAmb 06 54 57.4
comp=Z,140nm,1.7s
SADO Sadowa 32.75 26 P **P** **06 54 42.6 -0.9**
comp=Z,10.0nm,0.7s,baz=263,slow=8.4,SNR=4.0
SADO Sadowa 32.75 26 IAmb IAmb 06 54 43.4
comp=Z,97nm,1.7s
BMO Blue Mountains 32.75 335 P **P** **06 54 43.4 -0.3**
BMO pmax pmax
comp=Z,115nm,1.6s
BMO Blue Mountains 32.75 335 P **P** **06 54 43.4 -0.3**
BMO IAmb IAmb 06 54 45.8
comp=Z,115nm,1.6s
M61A Granite Spring 32.78 35 P **P** **06 54 42.8 -1.1**
baz=227,SNR=8.3
K58A Earlville 32.80 32 P **P** **06 54 42.8 -1.4**
baz=223
K58A S **S** **07 00 02.6 +1.0**
baz=223
K58A Earlville 32.80 32 IAmb IAmb 06 55 23.5
comp=Z,82nm,1.3s
D46A Sault St. Mari 32.82 18 P **P** **06 54 43.0 -1.2**
baz=206
D46A S **S** **07 00 01.7 +0.1**
baz=206
H53A Bobcaygeon 32.83 26 P **P** **06 54 42.6 -1.6**
baz=216
H53A S **S** **07 00 00.8 -0.9**
baz=216
M02C Callahan 32.84 325 P **P** **06 54 44.4 -0.1**
baz=132,SNR=5.3
M02C S **S** **07 00 03.0 +0.7**
baz=132
WSPT Westport, CT 32.93 36 IAmb IAmb 06 54 49.0
comp=Z,47nm,0.9s
I55A Frankford 32.94 28 P **P** **06 54 42.9 -2.3**
baz=218
I55A S **S** **07 00 02.6 -0.9**
baz=218
KHMM Horse Mountain 32.99 323 IAmb IAmb 06 54 49.1
comp=Z,135nm,1.4s
L60A Shokan 32.99 34 P **P** **06 54 45.3 -0.5**
baz=226,SNR=6.1
L60A S **S** **07 00 04.7 +0.2**
baz=226
YBH Yreka Blue Hor 33.00 325 P **P** **06 54 44.6 -1.2**
comp=Z,12nm,1.0s,baz=157,slow=5.7,SNR=15
E48A Lockeyer 33.05 21 P **P** **06 54 44.7 -1.5**
baz=209
E48A S **S** **07 00 04.7 -0.6**
baz=209
J57A Williamstown 33.11 30 P **P** **06 54 44.3 -2.4**
baz=222
EGMT Eagleton 33.11 346 P **P** **06 54 47.4 +0.6**
baz=159,SNR=26
K04D Chiloquin, OR 33.11 327 P **P** **06 54 46.9 -0.1**
baz=135
L04D Klamath Falls 33.11 326 P **P** **06 54 47.6 +0.6**
baz=134,SNR=25
JCC Jacoby Creek, 33.13 323 P **P** **06 54 48.3 +1.4**
MSO Missoula 33.19 340 P **P** **06 54 48.0 +0.4**
baz=152,SNR=24
MSO Missoula 33.19 340 IAmb IAmb 06 54 49.1
comp=Z,64nm,1.4s
MSO PcP **PcP** **06 57 31.4 +1.1**
KSCT Kent School, K 33.22 35 IAmb IAmb 06 54 51.7
comp=Z,117nm,1.1s
K59A Cooperstown 33.22 32 P **P** **06 54 45.7 -2.1**
baz=224
K59A S **S** **07 00 08.5 +0.5**
baz=224
D47A Chapleau 33.25 19 P **P** **06 54 45.4 -2.6**
baz=207
D47A S **S** **07 00 08.1 -0.3**
baz=207
J05D Fort Rock, OR 33.33 329 P **P** **06 54 49.7 +0.9**
baz=137,SNR=11
M62A Hamden 33.35 36 P **P** **06 54 46.3 -2.5**
baz=228
M62A S **S** **07 00 12.4 +2.3**
baz=228
F51A Arnstein 33.40 24 P **P** **06 54 46.7 -2.5**
baz=213
F51A S **S** **07 00 08.5 -2.0**
baz=213
H55A Tweed 33.42 28 P **P** **06 54 47.1 -2.3**
baz=219
H55A S **S** **07 00 09.8 -1.2**
baz=219
J58A Remsen 33.42 31 P **P** **06 54 46.3 -3.2**
baz=223
L61A Hillsdale 1, H 33.50 34 P **P** **06 54 48.5 -1.6**
baz=227,SNR=6.1
L61A S **S** **07 00 12.4 +0.1**
baz=227
E50A Wahnapitae 33.50 22 P **P** **06 54 47.3 -2.9**
baz=212
E50A S **S** **07 00 11.5 -0.7**
baz=212
KRMB Red Mountain 33.52 324 IAmb IAmb 06 54 53.6
comp=Z,146nm,1.5s
PINE Pine Mountain 33.56 330 IAmb IAmb 06 54 54.3
comp=Z,91nm,1.6s
K60A Five Rivers En 33.61 33 P **P** **06 54 48.8 -2.3**
baz=226
I57A Carthage 33.66 30 P **P** **06 54 49.4 -2.2**
baz=222
I57A S **S** **07 00 14.1 -0.8**
baz=222
G54A Lake Saint Pet 33.70 26 P **P** **06 54 49.7 -2.1**
baz=217
G54A S **S** **07 00 13.6 -1.7**
baz=217
J04D Umpqua Nationa 33.73 328 P **P** **06 54 53.6 +1.2**
baz=136,SNR=31
J04D S **S** **07 00 18.8 +2.4**
baz=136
L02E Cave Junction 33.77 325 P **P** **06 54 51.5 -1.1**
baz=132
D48A Paudash Townsh 33.78 20 P **P** **06 54 50.6 -2.0**
baz=209
D48A S **S** **07 00 14.1 -2.5**
baz=209
G08A Pilot Rock 33.80 333 IAmb IAmb 06 54 55.1
comp=Z,134nm,1.4s
TRY Troy 33.81 34 IAmb IAmb 06 54 58.0
comp=Z,124nm,1.4s
M63A Gales Ferry 33.81 37 P **P** **06 54 51.1 -1.8**
baz=230,SNR=6.2
M63A S **S** **07 00 19.6 +2.5**
baz=230
I58A Old Forge 33.82 31 P **P** **06 54 50.9 -2.1**
baz=223
H56A Elgin 33.88 29 P **P** **06 54 51.5 -1.9**
baz=220
H56A S **S** **07 00 18.3 +0.3**
baz=220
L62A Suffield 33.88 35 P **P** **06 54 51.8 -1.6**
baz=228
J59A Piesco 33.89 32 P **P** **06 54 52.0 -1.6**
baz=224
J59A S **S** **07 00 19.2 +0.8**
baz=224
J59A Piesco 33.89 32 P **P** **06 54 52.6 -1.0**
J59A IAmb IAmb 06 54 59.7
comp=Z,127nm,1.8s
K61A Williamstown 33.98 34 P **P** **06 54 54.4 0.0**
baz=226,SNR=15
K61A S **S** **07 00 22.2 +2.5**
baz=226
D49A Beulah Townshi 34.02 21 P **P** **06 54 52.0 -2.6**
baz=210
D49A S **S** **07 00 19.6 -0.6**
baz=210
ULM Lac du Bonnet 34.02 3 P **P** **06 54 53.5 -1.1**
comp=Z,22nm,1.1s,baz=192,slow=9.7,SNR=11
ULM LR LR 07 10 19.0
comp=Z,1µm,18.9s,baz=188,slow=39
ULM Lac du Bonnet 34.02 3*d i*P **P** **06 54 53.1 -1.5**
E51A G1948 Merrick 34.06 23 P **P** **06 54 52.1 -2.9**
baz=213
E51A S **S** **07 00 19.6 -1.3**
baz=213
JTMT Jette 34.11 341 IAmb IAmb 06 54 57.9
comp=Z,96nm,1.4s
L61B Northampton 34.15 35 P **P** **06 54 54.5 -1.3**
baz=228,SNR=6.8
L61B S **S** **07 00 20.1 -2.3**
baz=228
I05D Terrebonne, OR 34.15 330 P **P** **06 54 56.5 +0.6**
baz=138,SNR=16
I05D S **S** **07 00 28.6 +6.1**
baz=138
ALGO Algonquin Park 34.16 25 P **P** **06 54 53.8 -2.1**
baz=216
K02D Willamette Mer 34.17 326 P **P** **06 54 55.8 -0.3**
baz=133
G55A Calabogie 34.18 28 S **S** **07 00 22.2 -0.5**
baz=219
E52A Mattawa 34.18 25 P **P** **06 54 53.1 -3.0**
baz=215
E52A S **S** **07 00 21.8 -1.0**
baz=215
H57A Richville 34.19 30 P **P** **06 54 53.9 -2.2**
baz=222
H57A S **S** **07 00 21.8 -1.1**
baz=222
QUA2 Belchertown 34.21 35 IAmb IAmb 06 54 59.9
comp=Z,70nm,1.1s
ACCN Adirondack Com 34.26 33 IAmb IAmb 06 55 01.9
comp=Z,93nm,1.5s
I04A Tendick Farm, 34.28 328 P **P** **06 54 57.2 +0.2**
baz=136
I04A S **S** **07 00 29.0 +4.5**
baz=136
J60A Lant Hill Farm 34.29 33 P **P** **06 54 55.2 -1.8**
baz=226
J60A S **S** **07 00 26.0 +1.5**
baz=226
L63A North Scituate 34.36 36 P **P** **06 54 56.4 -1.2**
baz=230
L63A S **S** **07 00 29.4 +3.9**
baz=230
M64A Tiverton 34.39 37 P **P** **06 54 57.3 -0.6**
baz=231
M64A S **S** **07 00 29.4 +3.4**
baz=231
BBSR BB Station 34.42 56 P **P** **06 55 00.4 +2.1**
BRYW Bryant College 34.43 36 IAmb IAmb 06 55 02.1
comp=Z,65nm,1.3s
I59A Olmsteadville 34.45 32 P **P** **06 54 55.9 -2.5**
baz=224
I59A S **S** **07 00 28.2 +1.2**
baz=224
D50A G1974 Best Tow 34.46 22 P **P** **06 54 57.1 -1.3**
baz=212
D50A S **S** **07 00 26.9 -0.2**
baz=212
K62A Royalston 34.53 35 P **P** **06 54 58.2 -1.0**
baz=228
K62A S **S** **07 00 28.6 +0.3**
baz=228
K62A Royalston 34.53 35 P **P** **06 54 59.9 +0.8**
K62A IAmb IAmb 06 55 04.4
comp=Z,85nm,1.4s
D51A Lot 18 Range I 34.57 23 P **P** **06 54 59.9 +0.5**
baz=213
D51A S **S** **07 00 29.0 +0.3**
baz=213
J01E Myrtle Point 34.63 326 P **P** **06 55 01.2 +1.2**
baz=133,SNR=9.2
J01E S **S** **07 00 31.1 +1.4**
baz=133
E53A Dumoine, Ponti 34.66 25 P **P** **06 54 58.8 -1.4**
baz=216
E53A S **S** **07 00 29.4 -0.7**
baz=216
LONY Lake Ozonia 34.69 30 P **P** **06 54 58.7 -1.8**
baz=223
I03D Drain, OR 34.70 327 P **P** **06 55 00.8 +0.3**
baz=134,SNR=10.0
M65A Busby, Falmout 34.73 38 P **P** **06 55 00.2 -0.6**
baz=231
H58A Gabriels 34.74 31 P **P** **06 55 00.2 -0.7**
baz=223
H58A S **S** **07 00 31.6 +0.1**
baz=223
I60A Shoreham 34.78 32 P **P** **06 55 00.8 -0.5**
baz=225,SNR=7.9
I60A S **S** **07 00 35.0 +3.0**
baz=225
F55A Otter Lake 34.79 27 P **P** **06 55 00.5 -0.8**
baz=219
HRV Adam Dziewonsk 34.80 36 P **P** **06 55 00.2 -1.2**
baz=229
HRV Adam Dziewonsk 34.80 36 P **P** **06 55 03.0 +1.5**
HRV pmax pmax
comp=Z,105nm,1.5s
HRV Adam Dziewonsk 34.80 36 P **P** **06 55 03.0 +1.5**
HRV IAmb IAmb 06 55 04.6
comp=Z,105nm,1.4s
G05D Wamic, OR 34.82 331 P **P** **06 55 01.8 +0.2**
baz=139
J61A Chester 34.82 34 P **P** **06 55 00.8 -0.9**
baz=227,SNR=9.7
J61A S **S** **07 00 34.6 +1.8**
baz=227
D52A ZEK Kipawa Sen 34.85 24 P **P** **06 54 59.7 -2.1**
baz=215
D52A S **S** **07 00 33.3 +0.3**
baz=215
L64A Middleborough 34.85 37 P **P** **06 55 01.3 -0.6**
baz=231
L64A S **S** **07 00 34.1 +1.0**
baz=231
G57A Newington 34.86 29 P **P** **06 55 00.8 -1.0**
baz=222
G57A S **S** **07 00 32.9 -0.3**
baz=222
WES Weston 34.86 36 IAmb IAmb 06 55 06.2
comp=Z,100nm,1.4s
ORIO Orleans, Innes 34.87 28 P **P** **06 54 58.7 -3.3**
baz=220
E54A Lac Daplat, Po 34.90 26 P **P** **06 54 58.6 -3.7**
baz=217
E54A S **S** **07 00 32.9 -1.0**
baz=217
HAWA Hanford 34.92 334 P **P** **06 55 01.3 -1.1**
K63A Dunstable 34.94 35 P **P** **06 55 00.7 -1.9**
baz=229
K63A S **S** **07 00 36.3 +1.7**
baz=229
H04D Lebanon 34.97 329 P **P** **06 55 03.1 +0.2**
baz=136,SNR=12
J62A Henniker 35.14 35 P **P** **06 55 04.1 -0.3**
baz=228,SNR=17
J62A S **S** **07 00 40.1 +2.5**
baz=228
NNA Nana 35.14 142*ce*P **P** **06 55 05.5 +0.8**
NNA pmax pmax
comp=Z,174nm,1.7s
NNA Nana 35.14 142 P **P** **06 55 06.2 +1.5**
NNA IAmb IAmb 06 55 07.3
comp=Z,100nm,1.4s
H59A Cadyville 35.15 31 P **P** **06 55 01.9 -2.5**
baz=224
H59A S **S** **07 00 38.4 +0.7**
baz=224
D53A Lac Vacive, Po 35.21 25 P **P** **06 55 03.3 -1.6**
baz=216
D53A S **S** **07 00 37.5 -1.1**
baz=216
I02D Swisshome 35.24 327 P **P** **06 55 05.9 +0.7**
baz=134
I02D S **S** **07 00 42.2 +3.2**
baz=134
COR Corvallis 35.30 328 P **P** **06 55 07.4 +1.7**
COR pmax pmax
comp=Z,187nm,1.4s
COR Corvallis 35.30 328 P **P** **06 55 07.4 +1.7**
COR IAmb IAmb 06 55 08.7
comp=Z,187nm,1.4s
G58A Ormstown 35.33 30 P **P** **06 55 05.1 -0.8**
baz=223
F05D White Salmon 35.37 332 P **P** **06 55 07.9 +1.6**
baz=139,SNR=29
F05D S **S** **07 00 46.1 +4.9**
baz=139
E55A Montcerf-Lytto 35.40 27 P **P** **06 55 05.3 -1.2**
baz=219
E55A S **S** **07 00 40.1 -1.4**
baz=219
I61A Oroboro, Fairl 35.40 33 P **P** **06 55 06.6 -0.1**
baz=227,SNR=11
I61A S **S** **07 00 42.7 +1.0**
baz=227
NEW Newport 35.52 338 P **P** **06 55 07.7 +0.1**
baz=148,SNR=22
NEW Newport 35.52 338 P **P** **06 55 07.8 +0.1**
NEW pmax pmax
comp=Z,37nm,1.2s
NEW Newport 35.52 338 P **P** **06 55 07.8 +0.1**
F57A Harrington 35.52 29 P **P** **06 55 05.7 -1.9**
baz=221
F57A S **S** **07 00 43.5 +0.1**
baz=221
C09A Chrisman Ranch 35.56 337 IAmb IAmb 06 55 10.5
comp=Z,194nm,1.5s
J63A Strafford 35.58 35 P **P** **06 55 07.9 -0.2**
baz=229,SNR=8.2
J63A S **S** **07 00 46.5 +2.2**
baz=229
H60A Morristown 35.59 32 P **P** **06 55 06.8 -1.4**
baz=225
H60A S **S** **07 00 44.8 +0.3**
baz=225
D54A Lac Fusel, La 35.70 26 P **P** **06 55 08.1 -1.0**
baz=217
D54A S **S** **07 00 44.8 -1.3**
baz=217
G59A Clarenceville 35.71 31 P **P** **06 55 07.2 -2.0**
baz=224
G03D McMinnville, O 35.73 329 P **P** **06 55 09.9 +0.5**
baz=136,SNR=12
LBNH Lisbon 35.76 33 P **P** **06 55 08.5 -1.2**
baz=227,SNR=10
LBNH Lisbon 35.76 33 IAmb IAmb 06 55 15.6
comp=Z,145nm,1.6s
I62A Tamworth 35.83 34 P **P** **06 55 09.8 -0.5**
baz=228,SNR=12
I62A S **S** **07 00 51.2 +3.0**
baz=228
I62A Tamworth 35.83 34 IAmb IAmb 06 55 15.0
comp=Z,158nm,1.3s
F04A Amboy 35.85 331 P **P** **06 55 11.2 +0.8**
F04A IAmb IAmb 06 55 12.9
comp=Z,97nm,1.4s
E56A St. Veronique 35.92 28 P **P** **06 55 08.2 -2.9**
baz=220
H61A Lyndonville 35.96 33 P **P** **06 55 10.6 -0.9**
baz=226,SNR=7.4
H61A S **S** **07 00 52.1 +1.8**
baz=226
F58A St-Lin Laurent 35.97 30 P **P** **06 55 07.9 -3.5**
baz=222
D55A Sainte-Anne-du 36.09 27 P **P** **06 55 11.5 -1.0**
baz=219,SNR=10
D55A S **S** **07 00 50.8 -1.4**
baz=219
G60A Masonville 36.15 32 P **P** **06 55 12.5 -0.5**
baz=225
G60A S **S** **07 00 54.6 +1.6**
baz=225
LON Longmire 36.19 332 IAmb IAmb 06 55 16.2
comp=Z,165nm,1.6s
E57A Chemin Saint G 36.22 29 P **P** **06 55 13.2 -0.4**
baz=222
E57A S **S** **07 00 53.3 -0.9**
baz=222
F04D Rainier, OR 36.24 331 P **P** **06 55 14.7 +0.9**
baz=137
I63A Otisfield 36.35 34 P **P** **06 55 14.6 -0.2**
baz=229,SNR=7.9
I63A S **S** **07 00 57.2 +0.9**
baz=229
I63A Otisfield 36.35 34 IAmb IAmb 06 55 19.9
comp=Z,122nm,1.4s
E04D Cinebar 36.38 331 P **P** **06 55 15.9 +0.9**
baz=138,SNR=17
E04D S **S** **07 00 58.9 +2.3**
baz=138
H62A Milan 36.40 33 P **P** **06 55 14.4 -0.8**
baz=228,SNR=6.7
H62A S **S** **07 00 59.3 +2.4**
baz=228
H62A Milan 36.40 33 IAmb IAmb 06 55 20.6
comp=Z,234nm,2.0s
B08A Colville Reser 36.42 336 IAmb IAmb 06 55 17.7
comp=Z,142nm,1.5s
D56A ZEC Mazanza, M 36.43 27 P **P** **06 55 15.9 +0.5**
baz=220
D56A S **S** **07 00 55.9 -1.4**
baz=220
F59A Saint Guilaume 36.46 30 P **P** **06 55 14.3 -1.3**
baz=224
F59A S **S** **07 00 58.5 +0.7**
baz=224
D05A Enumclaw 36.60 333 P **P** **06 55 15.8 -1.0**
D05A IAmb IAmb 06 55 19.6
comp=Z,127nm,1.1s
E58A La Victoria 36.60 29 P **P** **06 55 15.1 -1.8**
baz=223,SNR=7.0
E58A S **S** **07 01 01.0 +1.1**
baz=223
G61A St-Isidore-de- 36.69 32 P **P** **06 55 16.4 -1.2**
baz=226
G61A S **S** **07 01 03.2 +1.9**
baz=226
C06D Leavenworth 36.70 334 P **P** **06 55 18.1 +0.4**
baz=142
I64A Boothbay 36.79 35 P **P** **06 55 17.5 -1.0**
baz=230
I64A S **S** **07 01 06.6 +3.7**
baz=230
D57A Chemin Vers le 36.79 28 P **P** **06 55 16.3 -2.2**
baz=221
D57A S **S** **07 01 01.9 -1.0**
baz=221
E03A Lebam 36.84 331 P **P** **06 55 20.1 +1.2**
D04E Lakebay 36.94 332 P **P** **06 55 20.4 +0.7**
baz=138
D04E S S 07 01 21.9 +17
baz=138
F60A Warwick 36.95 31 P **P** **06 55 19.4 -0.4**
baz=225
F60A S **S** **07 01 06.1 +0.9**
baz=225
E59A St. Maurice 37.04 30 P **P** **06 55 19.7 -0.8**
baz=224
E59A S **S** **07 01 10.0 +3.4**
baz=224
H63A New Sharon 37.05 34 P **P** **06 55 20.2 -0.5**
baz=229
H63A S **S** **07 01 10.4 +3.6**
baz=229
LSQQ Lebel-sur-Quev 37.10 23 P **P** **06 55 20.2 -0.9**
baz=215
G62A West of Eustis 37.16 33 P **P** **06 55 21.5 -0.1**
baz=228,SNR=12
G62A S **S** **07 01 11.7 +3.2**
baz=228
G62A West of Eustis 37.16 33 P **P** **06 55 21.4 -0.3**
G62A IAmb IAmb 06 55 27.5
comp=Z,134nm,1.1s

D58A Chemin du LacG 37.31 29 P P 06 55 22.3 -0.7
baz=223,SNR=8.7
D58A S **S** **07 01 11.7 +0.9**
baz=223
D03D Eldon 37.35 332 P P 06 55 24.0 +0.8
baz=138,SNR=27
D03D S **S** **07 01 12.5 +1.2**
baz=138
F61A St Evariste 37.43 32 P P 06 55 25.3 +1.3
baz=226
F61A S **S** **07 01 13.4 +0.7**
baz=226
MATQ Matagami 37.44 22 P P 06 55 22.6 -1.3
baz=214
B05A Bryant 37.47 334 P P 06 55 24.6 +0.4
baz=140,SNR=20
E60A Ste Agathe de 37.48 31 P P 06 55 22.8 -1.6
baz=225,SNR=8.3
E60A S **S** **07 01 15.1 +1.8**
baz=225
H64A Troy 37.48 35 P P 06 55 23.8 -0.6
baz=230,SNR=12
H64A S **S** **07 01 13.8 +0.4**
baz=230
G63A Kingsbury 37.57 34 P P 06 55 23.8 -1.4
baz=229,SNR=13
G63A S **S** **07 01 16.0 +1.2**
baz=229
LATQ La Tuque 37.57 29 P P 06 55 24.0 -1.1
baz=223
NLWA Neilton Lookou 37.60 331 IAmb IAmb 06 55 28.6
comp=Z,245nm,1.4s
D59A Saint-Raymond 37.74 30 P P 06 55 23.9 -2.7
baz=224
D59A S **S** **07 01 18.9 +1.6**
baz=224
PKME Peaks-Kenny Pk 37.84 34 P P 06 55 25.5 -1.9
baz=229
F62A Pittston Farm, 37.91 33 P P 06 55 27.7 -0.3
baz=228,SNR=6.7
F62A S **S** **07 01 21.9 +2.1**
baz=228
E61A Lac Etchemin 38.00 32 P P 06 55 27.4 -1.4
baz=227
E61A S **S** **07 01 22.8 +1.5**
baz=227
H65A Eastbrook 38.05 35 P P 06 55 28.4 -0.8
baz=231,SNR=11
H65A S **S** **07 01 22.4 +0.3**
baz=231
A04D Lummi Island 38.08 334 P P 06 55 30.2 +0.9
baz=140,SNR=6.3
D60A Saint Jean D'O 38.12 31 P P 06 55 27.0 -2.7
baz=226
D60A S **S** **07 01 24.5 +1.5**
baz=226
G64A Maxfield 38.13 34 P P 06 55 29.4 -0.4
baz=230,SNR=9.4
G64A S **S** **07 01 24.9 +1.8**
baz=230
F63A Nahmakanta, Br 38.23 34 P P 06 55 28.6 -2.1
baz=229
F63A S **S** **07 01 26.6 +1.8**
baz=229
PGC Sidney 38.35 333 P P 06 55 32.1 +0.5
PGC IAmb IAmb 06 55 33.3
comp=Z,108nm,1.4s
EMMW East Machias 38.50 36 P P 06 55 32.6 -0.4
FFC Flin Flon 38.55 357 P P 06 55 33.1 -0.2
FFC pmax pmax
comp=Z,102nm,1.3s
FFC Flin Flon 38.55 357 P P 06 55 33.1 -0.2
FFC IAmb IAmb 06 55 34.5
comp=Z,102nm,1.2s
E62A Clayton Lake 38.62 32 P P 06 55 33.7 -0.3
baz=228,SNR=8.3
E62A S **S** **07 01 29.6 -1.0**
baz=228
H66A Whiting 38.63 36 P P 06 55 33.6 -0.5
baz=232,SNR=11
H66A S **S** **07 01 29.6 -1.2**
baz=232
D61A St Aubert, Com 38.68 31 P P 06 55 34.0 -0.4
baz=226
D61A S **S** **07 01 33.0 +1.5**
baz=226
F64A Sherman 38.74 34 P P 06 55 33.7 -1.2
baz=230
F64A S **S** **07 01 34.3 +1.9**
baz=230
G65A Princeton 38.75 35 P P 06 55 34.7 -0.3
baz=232,SNR=13
G65A S **S** **07 01 33.5 +0.9**
baz=232
G65A Princeton 38.75 35 IAmb IAmb 06 55 40.0
comp=Z,95nm,1.1s
CHGQ Chibougamau 38.80 25 P P 06 55 34.0 -1.4
baz=218
E63A Oxbow 39.06 33 P P 06 55 37.8 +0.1
baz=229,SNR=11
E63A S **S** **07 01 38.6 +1.3**
baz=229
D62A Allapoint, All 39.17 32 P P 06 55 38.4 -0.2
baz=228,SNR=11
D62A S **S** **07 01 38.1 -0.7**
baz=228
E64A Bridgewater 39.37 34 P P 06 55 39.0 -1.2
baz=230
E64A S **S** **07 01 42.0 +0.1**
baz=230
D63A Stockholm 39.62 33 P P 06 55 41.7 -0.6
baz=229,SNR=10
D63A S **S** **07 01 46.7 +1.0**
baz=229
HAL Halifax 40.71 39 P P 06 55 54.5 +3.1
HAL pmax pmax
comp=Z,25nm,1.1s
HAL Halifax 40.71 39 P P 06 55 54.5 +3.1
BATG Bathurst New B 40.85 34 P P 06 55 52.9 +0.3
ETMB Extrema 40.95 127 *eP* P 06 55 53.6 -0.1
PTGA Pitinga 41.40 110 P P 06 55 57.4 -0.1
PTGA IAmb IAmb 06 55 59.1
comp=Z,147nm,1.4s
MACA Manacapuru-AM 41.86 114 *eP* P 06 56 00.9 -0.3
GBN Guysborough 42.37 39 P P 06 56 04.8 -0.2
FCC Fort Churchill 42.61 3 P P 06 56 07.1 +0.4
FCC pmax pmax
comp=Z,108nm,1.7s
FCC Fort Churchill 42.61 3 P P 06 56 07.1 +0.4
SAML Samuel 42.81 123 P P 06 56 06.9 -2.0
SAML pmax pmax
comp=Z,72nm,1.1s
SAML Samuel 42.81 123 P P 06 56 06.9 -2.0
LPAZ La Paz 43.91 136 P P 06 56 18.7 +0.2
comp=Z,16nm,0.8s,baz=339,slow=8.2,SNR=46
LPAZ LR LR 07 13 17.2
comp=Z,2µm,19.7s,baz=302,slow=34
LPAZ La Paz 43.91 136 P P 06 56 18.7 +0.2
LPAZ pmax pmax
comp=Z,64nm,1.3s
LPAZ La Paz 43.91 136 P P 06 56 18.7 +0.2
LPAZ La Paz 43.91 136 *eP* P 06 56 18.6 +0.2
PB12 IPOC Station P 44.21 140 P P 06 56 21.2 +0.9
PB12 IAmb IAmb 06 56 24.1
comp=Z,155nm,1.8s
PB16 IPOC Station P 44.51 139 IAmb IAmb 06 56 27.8
comp=Z,91nm,1.0s
MNMC Minye Minye 45.05 140 P P 06 56 26.7 -0.5
PSGCX Pisagua 45.09 141 P P 06 56 28.1 +0.9
PSGCX IAmb IAmb 06 56 31.1
comp=Z,52nm,1.1s
PB11 IPOC Station P 45.49 141 P P 06 56 31.2 +0.7
SCHQ Schefferville 45.55 25 P P 06 56 29.8 -0.7
comp=Z,23nm,1.0s,baz=220,slow=5.3,SNR=17
SCHQ LR LR 07 18 33.7
comp=Z,2µm,18.4s,baz=234,slow=40
SCHQ Schefferville 45.55 25 IAmb IAmb 06 56 33.0
comp=Z,54nm,1.2s
DIB Dawson Inlet, 45.60 332 P P 06 56 31.6 +0.8
DIB IAmb IAmb 06 56 35.4
comp=Z,93nm,1.4s
GO01 Chusmiza 45.71 140 P P 06 56 33.5 +0.8
GO01 IAmb IAmb 06 56 35.5
comp=Z,136nm,1.4s
PB08 IPOC Station P 46.09 141 IAmb IAmb 06 56 38.1
comp=Z,120nm,1.5s
ITTB Itaituba 46.79 112 *eP* P 06 56 40.1 -0.6

MALB Monte Alegre 47.04 108 *eP* P 06 56 42.5 -0.2
PB09 IPOC Station P 47.30 142 IAmb IAmb 06 56 49.4
comp=Z,81nm,1.0s
VILB Vilhena 47.52 125 *eP* P 06 56 44.7 -1.7
YKA Yellowknife Ar 47.65 350 P P 06 56 46.3 -0.4
comp=Z,14nm,0.9s,baz=157,slow=7.3,SNR=22
YKA LR LR 07 16 20.7
comp=Z,1µm,19.0s,baz=0.0,slow=36
WRAK Wrangell Islan 47.71 335 P P 06 56 47.9 +0.6
LVC Limon Verde 48.12 142 P P 06 56 53.3 +2.0
LVC pmax pmax
comp=Z,202nm,1.6s
LVC Limon Verde 48.12 142 P P 06 56 53.3 +2.0
LVC Limon Verde 48.12 142 *eP* P 06 56 50.9 -0.4
DLBC Dease Lake 48.27 338 P P 06 56 53.7 +2.0
comp=Z,48nm,1.1s,baz=149,slow=6.1,SNR=50
TAOE Nuku Hiva Isla 48.32 242 *eS* S 07 03 48.0 -5.6
comp=Z,272nm,25.0s
TAOE *eLR* LR 07 10 24.2
comp=Z,1µm,24.0s
NPGB Novo Progresso 48.37 115 *eP* P 06 56 51.5 -1.6
MCPB Macapa, AP 48.49 105 *eP* P 06 56 54.3 +0.3
GO02 Mina Guanaco 49.73 145 IAmb IAmb 06 57 08.7
comp=Z,109nm,1.1s
PTLB Pontes e Lacer 49.84 127 *eP* P 06 57 03.4 -0.8
BESE Bessie Mountai 50.17 336 P P 06 57 06.5 +0.2
SKAG Skagway 50.95 337 IAmb IAmb 06 57 15.3
comp=Z,97nm,1.7s
AC02 Maricunga 51.31 146 IAmb IAmb 06 57 18.8
comp=Z,100nm,1.4s
LCO Las Campanas 52.26 149 P P 06 57 24.0 +1.5
LCO pmax pmax
comp=Z,81nm,1.1s
LCO Las Campanas 52.26 149 P P 06 57 24.0 +1.5
LCO IAmb IAmb 06 57 27.2
comp=Z,81nm,1.1s
AC05 El Transito 52.33 149 IAmb IAmb 06 57 29.7
comp=Z,104nm,1.4s
H03N2 Juan Fernandez 52.71 160 T T 07 54 07.6
baz=337,slow=77
H03N1 Juan Fernandez 52.72 160 T T 07 54 08.8
baz=337,slow=77
H03N3 Juan Fernandez 52.73 160 T T 07 54 07.8
baz=337,slow=77
SALV Santo Antonio 52.77 125 *eP* P 06 57 25.6 -0.6
PRPB Parauapebas 52.87 111 *eP* P 06 57 26.8 -0.3
TMAB Tom-Au,PA,Br 52.91 106 *eP* P 06 57 27.4 0.0
GO04 Tololo Observa 53.17 150 IAmb IAmb 06 57 33.3
comp=Z,90nm,1.1s
CO01 Juntas del Tor 53.36 149 P P 06 57 32.0 +1.4
CO03 El Pedregal 53.78 150 IAmb IAmb 06 57 37.5
comp=Z,86nm,0.9s
CO02 Combarbal 53.94 151 IAmb IAmb 06 57 45.1
comp=Z,65nm,1.1s
PUH Pauahi 54.09 282 P P 06 57 36.7 +0.6
POHA Pohakuloa 54.34 283 P P 06 57 39.5 +1.4
BARN Barnard Glacie 54.41 336 P P 06 57 39.4 +1.5
BALM Baldy 54.67 335 IAmb IAmb 06 57 43.2
comp=Z,138nm,1.6s
TGL Tana Glacier 54.70 335 P P 06 57 41.5 +1.6
MCARA McCarthy VSAT 55.14 336 IAmb IAmb 06 57 48.4
comp=Z,64nm,1.0s
VRDI Verde Repeater 55.22 335 IAmb IAmb 06 57 47.1
comp=Z,141nm,1.7s
ZON Zonda 55.34 149 IAmb IAmb 06 57 49.3
comp=Z,43nm,1.1s
AQDB Aquidauana 55.48 130 *eP* P 06 57 45.1 -0.9
GLB Gilahina Butte 55.48 335 P P 06 57 46.8 +1.3
GLB IAmb IAmb 06 57 48.0
comp=Z,52nm,1.1s
C36M Paulatuk 55.52 349 P P 06 57 44.5 -1.0
baz=149
MT02 Curacav 55.60 152 IAmb IAmb 06 57 51.1
comp=Z,78nm,1.2s
BCAR Beaver Creek A 55.65 338 P P 06 57 46.9 +0.3
PEL Peldehue 55.71 152 P P 06 57 49.2 +1.8
PEL Peldehue 55.71 152 IAmb IAmb 06 57 51.7
comp=Z,113nm,1.3s
ARAG Araguaiana, MT 55.77 122 *eP* P 06 57 47.5 -0.6
EYAK Cordova Ski Ar 55.80 334 IAmb IAmb 06 57 50.3
comp=Z,104nm,1.4s
SMTB Santa Maria do 56.03 113 *eP* P 06 57 50.4 +0.4
EPYK Eagle Plains 56.14 342 P P 06 57 50.5 +0.4
baz=134,SNR=11
EPYK Eagle Plains 56.14 342 IAmb IAmb 06 57 55.5
comp=Z,58nm,1.4s
FID Port Fidalgo 56.21 334 P P 06 57 50.8 +0.1
K27K Chicken 56.33 339 P P 06 57 52.7 +1.3
baz=127
KLU Klutina 56.36 335 IAmb IAmb 06 57 55.0
comp=Z,106nm,1.3s
EGAK Eagle 56.48 340 IAmb IAmb 06 57 56.2
comp=Z,39nm,0.9s
HON Honolulu 56.48 285 P P 06 57 56.0 +2.8
HON pmax pmax
comp=Z,508nm,1.3s
HON Honolulu 56.48 285 P P 06 57 56.0 +2.8
KIP Kipapa 56.48 285 *ceP* P 06 57 55.5 +2.3
KIP pmax pmax
comp=Z,107nm,1.3s
KIP Kipapa 56.48 285 P P 06 57 54.9 +1.7
BO01 Tunca 56.58 153 IAmb IAmb 06 57 57.4
comp=Z,56nm,1.1s
INK Inuvik 56.69 345 P P 06 57 54.1 +0.2
comp=Z,44nm,1.0s,baz=134,slow=8.0,SNR=32
INK Inuvik 56.69 345 IAmb IAmb 06 57 57.4
comp=Z,44nm,0.9s
GO05 Huala 56.75 154 P P 06 57 55.1 +0.3
GO05 IAmb IAmb 06 57 58.8
comp=Z,62nm,1.0s
ROSB Rosrio 56.79 105 *eP* P 06 57 55.9 +0.4
PEXB Peixe 56.89 117 *eP* P 06 57 56.3 +0.2
PAX Paxson 56.97 336 IAmb IAmb 06 58 00.4
comp=Z,68nm,1.1s
BO02 Sierra Bellavi 57.06 153 IAmb IAmb 06 58 01.5
comp=Z,76nm,1.2s
KNK Knik Glacier 57.38 334 IAmb IAmb 06 58 01.6
comp=Z,136nm,1.5s
O22K Cooper Landing 57.48 333 P P 06 58 00.3 +0.6
baz=117
SML Sawmill 57.52 334 IAmb IAmb 06 58 02.3
comp=Z,122nm,1.3s
KDAK Kodiak Island 57.69 329 P P 06 58 02.5 +1.4
KDAK pmax pmax
comp=Z,88nm,1.5s
KDAK Kodiak Island 57.69 329 P P 06 58 02.5 +1.4
KDAK IAmb IAmb 06 58 03.6
comp=Z,88nm,1.4s
BRLK Bradley Lake 57.69 332 IAmb IAmb 06 58 05.4
comp=Z,80nm,1.1s
GHO Glory Hole Cre 57.74 334 P P 06 58 02.3 +0.7
GHO IAmb IAmb 06 58 05.9
comp=Z,64nm,0.9s
PMR Palmer 57.75 334 IAmb IAmb 06 58 05.6
comp=Z,53nm,1.0s
BI03 Tigo 57.90 156 IAmb IAmb 06 58 06.7
comp=Z,72nm,1.1s
PMOR Pomariorio Ree 57.96 240 *eP* P 06 58 05.0 +1.4
comp=Z,118nm,1.2s
PMOR Pomariorio Ree 57.96 240 *eT* T 08 00 14.0
comp=Z,13nm,0.2s
A36M Sachs Harbour 58.00 350 P P 06 58 03.2 +0.1
baz=149
CPUP Villa Florida 58.08 136 P P 06 58 03.2 -1.1
comp=Z,31nm,1.0s,baz=327,slow=7.7,SNR=29
CPUP LR LR 07 23 05.4
comp=Z,1µm,19.5s,baz=330,slow=36
CPUP Villa Florida 58.08 136 P P 06 58 03.8 -0.5
CPUP pmax pmax
comp=Z,24nm,1.2s
CPUP Villa Florida 58.08 136 IAmb IAmb 06 58 07.1
comp=Z,74nm,1.2s
CPUP Villa Florida 58.08 136 *eP* P 06 58 03.1 -1.2
CAPN Captain Cook N 58.24 333 P P 06 58 04.4 -0.5
baz=116
HDA Harding Lake 58.30 337 P P 06 58 05.8 +0.4
baz=122,SNR=27
HDA Harding Lake 58.30 337 IAmb IAmb 06 58 09.2
comp=Z,49nm,1.0s
SUA Susitna One 58.37 333 P P 06 58 06.1 0.0
BI02 San Fabin de 58.44 155 IAmb IAmb 06 58 11.2
comp=Z,96nm,1.3s
ILAR Eielson Array 58.48 338 P P 06 58 07.0 +0.4
comp=Z,61nm,1.1s,baz=140,slow=4.1,SNR=126
ILAR LR LR 07 23 32.7
comp=Z,2µm,19.1s,baz=127,slow=36

ILAR Eielson Array 58.48 338 P P 06 58 06.1 -0.5
ILAR Eielson Array 58.48 338 P P 06 58 06.1 -0.5
CUT Chulitna 58.60 335 P P 06 58 07.9 +0.5
baz=117,SNR=12
MCK McKinley 58.71 336 IAmb IAmb 06 58 10.5
comp=Z,111nm,1.3s
CCB Clear Creek Bu 58.74 337 IAmb IAmb 06 58 10.3
comp=Z,74nm,1.6s
WRH Wood River Hil 58.76 337 IAmb IAmb 06 58 12.2
comp=Z,37nm,1.1s
BDFB Brasilia 58.86 120 P P 06 58 10.2 +0.1
comp=Z,68nm,0.9s,baz=283,slow=6.2,SNR=52
BDFB Brasilia 58.86 120 P P 06 58 09.3 -0.8
BDFB pmax pmax
comp=Z,112nm,1.0s
BDFB Brasilia 58.86 120 P P 06 58 09.3 -0.8
POKR Poker Plat Res 58.86 338 P P 06 58 09.6 +0.4
baz=122,SNR=11
COLA College 58.88 338 *d iP* P 06 58 09.2 -0.1
COLA pmax pmax
comp=Z,34nm,1.0s
COLA College 58.88 338 P P 06 58 09.8 +0.5
COLA IAmb IAmb 06 58 11.1
comp=Z,65nm,1.2s
TCOL CIGO, UAF Yank 58.88 338 P P 06 58 09.3 -0.1
baz=121,SNR=8.2
MDM Murphy Dome 59.06 338 IAmb IAmb 06 59 01.5
comp=Z,77nm,1.5s
ITRB Iturama 59.10 125 *eP* P 06 58 11.2 -0.4
TRCB Terra Rica 59.15 130 *eP* P 06 58 11.1 -0.8
NEA2 Nenana 59.19 337 P P 06 58 11.6 +0.1
baz=120,SNR=40
SFJD Kangerlussuaq 59.39 20 P P 06 58 17.4 +4.5
PCMB Pacaembu 59.48 128 *eP* P 06 58 13.4 -0.8
BPAW Bear Paw Mtn. 59.68 336 P P 06 58 14.8 -0.2
IPMB Ipameri, GO 59.89 122 *eP* P 06 58 16.5 -0.7
SDBA SÃO DESIDERIO 59.97 115 *eP* P 06 58 17.7 -0.1
SVW2 Sparrevohn 60.36 332 P P 06 58 18.8 -0.8
SVW2 IAmb IAmb 06 58 23.0
comp=Z,54nm,0.9s
TIAR Tiarei 60.45 239 *eP* P 06 58 21.8 +0.9
comp=Z,13nm,0.8s
TIAR Tiarei 60.45 239 *eT* T 08 03 21.5
comp=Z,1.7nm,0.3s
TVO Taravao 60.49 238 *eP* P 06 58 22.2 +1.0
comp=Z,28nm,1.1s
PPT Papeete 60.65 239 LR LR 07 17 48.7
comp=Z,527nm,18.7s,baz=57,slow=29
PPT2 Papeete2 60.66 239 *eS* S 07 06 33.9 -5.7
comp=Z,788nm,24.8s
PPT2 *eLQ* LQ 07 13 40.0
comp=Z,637nm,25.8s
PPT2 *eLR* LR 07 15 57.3
comp=Z,721nm,25.8s,baz=53
PTGB Pitanga 60.72 131 *eP* P 06 58 21.6 -1.1
NBMO Morrinhos-CE 60.74 103 *eP* P 06 58 23.2 +0.1
COLD Coldfoot 60.91 339 P P 06 58 24.2 +0.8
baz=120,SNR=21
COLD Coldfoot 60.91 339 P P 06 58 23.9 +0.6
COLD IAmb IAmb 06 58 27.9
comp=Z,74nm,1.3s
TTA Tatalina 61.23 334 P P 06 58 24.7 -0.9
TTA pmax pmax
comp=Z,47nm,1.0s
TTA Tatalina 61.23 334 P P 06 58 24.7 -0.9
TTA IAmb IAmb 06 58 28.8
comp=Z,47nm,1.0s
BB19B Bebedouro 61.28 126 *eP* P 06 58 26.4 -0.2
TOLK Toolik Lake Re 61.44 341 P P 06 58 27.6 +0.7
baz=121,SNR=6.6
TOLK Toolik Lake Re 61.44 341 IAmb IAmb 06 58 30.9
comp=Z,41nm,1.1s
IMAR Indian Mountai 61.58 337 P P 06 58 26.8 -1.1
JANB Januaria 61.70 117 *eP* P 06 58 29.3 -0.2
FRTB Fartura 61.76 128 *eP* P 06 58 29.2 -0.5
ITAB Concordia 62.21 133 *eP* P 06 58 32.3 -0.4
PLCA Paso Flores 62.23 156 P P 06 58 33.9 +1.3
comp=Z,46nm,1.0s,baz=333,slow=8.3,SNR=33
PLCA LR LR 07 20 12.0
comp=Z,1µm,18.1s,baz=334,slow=31
PLCA Paso Flores 62.23 156 P P 06 58 33.4 +0.8
PLCA pmax pmax
comp=Z,152nm,1.3s
PLCA Paso Flores 62.23 156 P P 06 58 33.4 +0.8
PLCA Paso Flores 62.23 156 *eP* P 06 58 33.3 +0.7
MC01 Montes Claros 62.79 119 *eP* P 06 58 36.9 +0.1
LL01 San Ignacio de 62.98 159 P P 06 58 38.7 +1.2
TIJ01 Guaruva-PR 63.31 130 *eP* P 06 58 40.2 0.0
SPB Sao Paulo 63.52 127 P P 06 58 41.8 +0.4
SPB IAmb IAmb 06 58 44.1
comp=Z,33nm,1.0s
SPB Sao Paulo 63.52 127 *eP* P 06 58 41.3 -0.1
VAO Valinhos 63.55 127 *eP* P 06 58 41.8 0.0
TBI Tubuai 63.60 233 *eS* S 07 07 11.6 -4.9
comp=Z,860nm,34.5s
TBI *eLQ* LQ 07 14 53.2
comp=Z,1µm,27.2s
TBI *eLR* LR 07 17 35.1
comp=Z,600nm,23.5s,baz=56
TBI Tubuai 63.60 233 *eT* T 08 07 19.0
comp=Z,70nm,0.3s
PET01 Itanhaem-SP 64.02 128 *eP* P 06 58 45.5 +0.8
PLTB Pedras Altas 64.12 138 *eP* P 06 58 45.1 -0.2
EUNU Eureka 64.12 2 IAmb IAmb 06 58 46.4
comp=Z,84nm,1.4s
BSCB Bom Sucesso 64.22 123 *eP* P 06 58 46.0 -0.2
CALA Caldeira 64.24 55 *eP* P 06 58 46.1 0.0
comp=Z,249nm,1.4s
CNLB Canela 64.38 134 *eP* P 06 58 47.0 -0.1
SRBC Serra Branca 64.75 54 *eP* P 06 58 50.9 +1.5
comp=Z,214nm,1.2s
PARB Paraibuna 64.77 126 *eP* P 06 58 49.9 +0.1
PGRA Graciosa 64.79 54 *eP* P 06 58 50.7 +1.0
comp=Z,156nm,1.5s
GDU01 Guandu, BA 65.20 114 *eP* P 06 58 52.9 +0.3
RCBR Riachuelo 65.49 104 P P 06 58 54.3 -0.3
RCBR pmax pmax
comp=Z,146nm,1.2s
RCBR Riachuelo 65.49 104 P P 06 58 54.3 -0.3
RCBR Riachuelo 65.49 104 *eP* P 06 58 53.9 -0.7
SUMG Summit 65.81 17 ⇓ *iP* P 06 58 56.2 0.0
comp=Z,144nm,1.2s
SUMG Summit 65.81 17 ⇓ *iP* P 06 58 56.2 0.0
SUMG pmax pmax
comp=Z,140nm,1.2s
SUMG Summit 65.81 17 P P 06 58 55.2 -0.9
SUMG IAmb IAmb 06 59 00.8
comp=Z,62nm,1.1s
MAN01 Angra dos Reis 65.82 125 *eP* P 06 58 55.6 -1.0
VAS01 Vassouras-RJ 65.94 124 *eP* P 06 58 57.6 +0.3
SJMB Sao Joao De Ma 66.04 119 *eP* P 06 58 58.7 +0.7
BSFB Barra do Sao F 66.38 119 *eP* P 06 59 00.9 +0.7
NAN01 Guarapari, ES 66.54 118 *eP* P 06 59 01.5 +0.3
PSET Sete Cidades 66.61 55 *eP* P 06 59 03.3 +1.9
comp=Z,266nm,1.4s
CMLA Cha da Macela 66.76 55 *eP* P 06 59 03.5 +1.1
comp=Z,167nm,1.5s
CMLA Cha da Macela 66.76 55 P P 06 59 05.1 +2.7
CMLA pmax pmax
comp=Z,143nm,1.2s
CMLA Cha da Macela 66.76 55 P P 06 59 05.1 +2.7
RIB01 Linhares ES 66.99 120 *eP* P 06 59 04.0 -0.1
BART Pico Bartolome 67.05 55 *eP* P 06 59 05.3 +1.0
comp=Z,394nm,1.5s
PSMA Santa Maria 67.12 56 *eP* P 06 59 05.3 +0.6
comp=Z,48nm,1.2s
CAM01 Campos-RJ 67.14 123 *eP* P 06 59 05.2 +0.2
PSMN Pico do Norte, 67.17 56 *eP* P 06 59 06.1 +1.1
comp=Z,153nm,1.9s
ATKA Atka Island 68.74 320 P P 06 59 15.7 +1.1
DAG Danmarks Havn 71.97 14 ⇓ *iP* P 06 59 33.2 -0.7
comp=Z,266nm,1.0s
DAG Danmarks Havn 71.97 14 ⇓ *iP* P 06 59 33.2 -0.7
DAG pmax pmax
comp=Z,266nm,1.0s
NOR Nord 72.86 9 *i* P P 06 59 39.1 -0.1
comp=Z,56nm,1.3s
NOR Nord 72.86 9 *i* P P 06 59 39.1 -0.1
NOR pmax pmax
comp=Z,56nm,1.3s
BILL Bilibino 77.13 337 *d iP* P 07 00 04.4 +0.3
BILL *i* 07 00 15.6
BILL *i* 07 02 58.8
BILL pmax pmax
comp=Z,111nm,1.4s

BILL MLR MLR
comp=Z,1µm,16.0s
KBS Kingsbay 78.01 11 *ce*P **P 07 00 11.2 +2.4**
KBS pmax pmax
comp=Z,88nm,1.7s
SPITS Spitsbergen Ar 79.13 11 P **P 07 00 15.2 +0.2**
comp=Z,14nm,0.9s,baz=173,slow=16,SNR=4.7
HSPB Hornsund (broa 79.51 12 *e*P **P 07 00 18.4 +1.3**
PSBE So Bento 79.51 52 *e*P **P 07 00 20.4 +2.6**
comp=Z,82nm,1.7s
PCAS Casmilo, Conde 79.62 51 *e*P **P 07 00 20.6 +2.2**
comp=Z,153nm,1.6s
EKA Eskdalemuir Ar 79.73 35 P **P 07 00 20.0 +1.4**
PVIS Viseu 79.92 51 *e*P **P 07 00 21.4 +1.3**
comp=Z,85nm,1.8s
PTEO Sao Teotonio 79.99 54 *e*P **P 07 00 21.4 +1.0**
comp=Z,98nm,2.0s
PFVI Vila Bisbo 80.00 54 *e*P **P 07 00 21.3 +0.8**
comp=Z,109nm,1.5s
PNCL Nicolau / Gran 80.02 53 *e*P **P 07 00 22.0 +1.5**
PMTG Montargil 80.04 52 *e*P **P 07 00 22.1 +1.4**
comp=Z,51nm,2.0s
MORF Marmelete 80.10 54 *e*P **P 07 00 21.6 +0.5**
comp=Z,69nm,1.7s
MTE Manteigas 80.25 51 *e*P **P 07 00 21.6 -0.3**
comp=Z,62nm,1.9s
MTE Manteigas 80.25 51 IAmb IAmb 07 00 25.7
comp=Z,83nm,1.6s
EVO Evora 80.32 53 *e*P **P 07 00 22.8 +0.6**
comp=Z,52nm,1.5s
PCBR Castelo Branco 80.43 51 *e*P **P 07 00 23.0 +0.2**
comp=Z,77nm,1.8s
MVO Moncorvo 80.46 50 *e*P **P 07 00 23.5 +0.5**
comp=Z,59nm,1.8s
PBEJ Beja 80.54 53 *e*P **P 07 00 25.7 +2.3**
comp=Z,45nm,1.6s
PMRV Marv??o 80.59 52 *e*P **P 07 00 23.8 +0.1**
comp=Z,81nm,1.9s
PBDV Barranco-do-Ve 80.67 54 *e*P **P 07 00 26.5 +2.3**
comp=Z,102nm,1.6s
PVAQ Vaqueiros 80.80 54 *e*P **P 07 00 25.2 +0.4**
comp=Z,54nm,1.8s
PVAQ Vaqueiros 80.80 54 P **P 07 00 24.0 -0.8**
PVAQ IAmb IAmb 07 00 29.2
comp=Z,77nm,1.6s
PAB San Pablo 82.84 51 P **P 07 00 36.2 +0.5**
PAB pmax pmax
comp=Z,50nm,1.4s
PAB San Pablo 82.84 51 P **P 07 00 36.2 +0.5**
PAB IAmb IAmb 07 00 40.1
comp=Z,50nm,1.4s
ESDC Sonseca Array 83.10 51 P **P 07 00 37.1 +0.1**
comp=Z,5.0nm,1.0s,baz=291,slow=4.7,SNR=15
ESDC Sonseca Array 83.10 51 P **P 07 00 37.0 +0.1**
ESBB Sonseca Array 83.10 51 IAmb IAmb 07 00 41.4
comp=Z,97nm,1.9s
SEY Seymchan 84.20 334 P **P 07 00 42.9 +0.9**
comp=Z,14nm,0.8s,baz=121,slow=5.7,SNR=24
SEY LR LR 07 40 58.2
comp=Z,1µm,18.2s,baz=59,slow=38
SEY Seymchan 84.20 334 *d*/P **P 07 00 42.5 +0.5**
MDT Midelt 84.41 58 P **P 07 00 44.0 +0.1**
comp=Z,15nm,1.2s,baz=280,slow=3.9,SNR=12
PMSA Palmer Station 84.84 166 *e*P **P 07 00 47.0 +2.0**
KONO Kongsberg 84.90 29 *ce*P **P 07 00 47.1 +1.5**
KONO pmax pmax
comp=Z,97nm,1.3s
KONO Kongsberg 84.90 29 P **P 07 00 46.5 +0.8**
NB2 NORSAR Subarra 85.07 27 P **P 07 00 46.9 +0.4**
comp=Z,120nm,2.0s,baz=298,slow=4.8
NB2 NORSAR Subarra 85.07 27 P **P 07 00 46.9 +0.4**
baz=298,slow=4.8
NOA NORSAR Array B 85.07 27 P **P 07 00 47.1 +0.6**
comp=Z,12nm,1.1s,baz=296,slow=4.7,SNR=9.2
NOA LR LR 07 37 45.4
comp=Z,243nm,21.9s,baz=285,slow=35
NORES NORESS Array B 85.34 28 P **P 07 00 51.0 +3.2**
NORES pmax pmax
comp=Z,18nm,1.1s
PEA0B Petropavlovsk- 85.35 324 *ce*P **P 07 00 49.2 +1.2**
PETK Petropavlovsk- 85.35 324 P **P 07 00 48.9 +0.9**
comp=Z,25nm,0.9s,baz=76,slow=8.0,SNR=27
PETK LR LR 07 39 01.2
comp=Z,411nm,18.7s,baz=61,slow=36
PETK Petropavlovsk- 85.35 324 P **P 07 00 48.5 +0.5**
PETK Petropavlovsk- 85.35 324 P **P 07 00 48.5 +0.5**
SNF Seneffe 85.43 39 PcP **P 07 00 49.6 +1.2**
SNF sP **sP 07 00 51.6 +0.2**
DOU Dourbes 85.76 39 P **P 07 00 48.9 -1.2**
DOU PcP **pP 07 00 50.8 -1.6**
DOU sP **sP 07 00 53.1 -0.1**
BMRD Maredsous 85.79 39 PcP **P 07 00 50.9 +0.6**
BMRD sP **sP 07 00 53.3 +0.1**
ARCES ARCESS Array B 85.90 17 P **P 07 00 49.9 -0.6**
comp=Z,12nm,0.9s,baz=313,slow=4.3,SNR=14
ARCES LR LR 07 41 06.8
comp=Z,440nm,20.9s,baz=285,slow=37
ARCES ARCESS Array B 85.90 17 P **P 07 00 49.7 -0.8**
ARCES ARCESS Array B 85.90 17 P **P 07 00 49.7 -0.8**
BGES Gesves 85.95 39 PcP **P 07 00 51.6 +0.5**
BGES sP **sP 07 00 54.1 0.0**
BCLA Clavier 86.07 39 PcP **PcP 07 00 53.0 -1.3**
BCLA sP **sP 07 00 54.9 +0.2**
MA2 Magadan 86.33 332 P **P 07 00 53.5 +0.7**
comp=Z,19nm,0.9s,baz=51,slow=5.5,SNR=9.8
MA2 Magadan 86.33 332 *ce*P **P 07 00 53.4 +0.7**
MA2 pmax pmax
comp=Z,43nm,1.3s
MA2 MLR MLR
comp=Z,551nm,16.0s
MA2 Magadan 86.33 332 P **P 07 00 53.6 +0.8**
MEM Membach 86.42 38 PcP **P 07 00 54.0 +0.6**
MEM sP **sP 07 00 56.7 +0.3**
BHOU Houvegnez 86.52 38 P **P 07 00 52.9 -1.0**
BHOU sP **sP 07 00 56.8 -0.1**
TIXI Tiksi 86.79 347 P **P 07 00 54.4 -0.3**
comp=Z,44nm,1.2s,baz=32,slow=7.0,SNR=7.5
TIXI Tiksi 86.79 347 *ce*P **P 07 00 54.0 -0.7**
TIXI pmax pmax
comp=Z,47nm,1.3s
TIXI MLR MLR
comp=Z,890nm,23.0s
TIXI Tiksi 86.79 347 P **P 07 00 54.7 0.0**
WLF Walferdange 86.85 39 sP sP 07 00 59.0 +0.4
SKR Severo-Kuril's 87.15 322 *e*P P 07 00 41.4 -16
SKR *e*S S 07 11 27.0 -10
SKR pmax pmax
comp=Z,200nm,4.7s
SKR pmax pmax
comp=Z,400nm,4.9s
SKR MLR MLR
comp=Z,300nm,21.0s
HOPE Hope Point 87.62 149 P **P 07 01 00.5 +1.6**
HOPE pmax pmax
comp=Z,107nm,1.1s
HOPE Hope Point 87.62 149 P **P 07 01 00.5 +1.6**
TNS Taunus Mts 88.02 38 *e*P **P 07 01 01.6 +0.4**
comp=Z,10.0nm,1.1s,baz=296,slow=4.7
CLZ Clausthal 88.48 36 *e*P **P 07 01 04.0 +0.6**
comp=Z,38nm,1.8s,baz=296,slow=4.7
ASSE Asse, Remlinge 88.53 36 *e*P **P 07 01 04.0 +0.6**
comp=Z,17nm,1.2s,baz=296,slow=4.7
MSVF Nonsavu 89.00 251 *i* P **P 07 01 08.4 +2.0**
MSVF pmax pmax
comp=Z,66nm,1.2s
MSVF Nonsavu 89.00 251 P **P 07 01 09.7 +3.3**
APA Apatity 89.39 17 ⇑*i*/P P 07 01 02.4 -4.8
APA pmax pmax
comp=Z,8.0nm,1.2s
MOX Moxa 89.69 37 *e*P **P 07 01 09.2 +0.2**
comp=Z,14nm,1.3s,baz=296,slow=4.7
MOX *e*L L 07 44 55.7
comp=Z,636nm,18.5s
GRF Grafenberg Arr 89.87 38 *e*L L 07 44 45.1
comp=Z,531nm,19.6s
UBR Ueberruh 90.04 40 *e*P **P 07 01 10.8 0.0**
comp=Z,25nm,1.4s,baz=296,slow=4.7
CLL Collm 90.19 36 *e*P **P 07 01 11.0 -0.3**
comp=Z,14nm,1.3s
CLL *e* 07 01 25.0
CLL *e*PP **PP 07 04 46.0 +1.6**
CLL LmV 07 48 00.0
comp=Z,500nm,19.6s
CLL Collm 90.19 36 *e*P **P 07 01 11.0 -0.3**
CLL pmax pmax
comp=Z,14nm,1.3s
CLL MLR MLR
comp=Z,500nm,19.6s
CLL Collm 90.19 36 *e*P **P 07 01 11.1 -0.2**
comp=Z,14nm,1.3s,baz=296,slow=4.7
GUNZ Gunzen 90.23 37 *e*P **P 07 01 13.2 +1.7**
comp=Z,36nm,1.7s,baz=296,slow=4.7
TANN Tannenbergstha 90.28 37 *e*P **P 07 01 11.9 +0.1**
comp=Z,32nm,1.6s,baz=296,slow=4.7
WERN Wernitzgruen 90.28 37 *e*P **P 07 01 12.3 +0.5**
comp=Z,32nm,1.6s,baz=296,slow=4.7
NKC Novy Kostel 90.35 37 AMS AMS 07 44 50.0
comp=Z,600nm,20.6s
ROTZ Rotzenmuhle 90.41 37 *e*P **P 07 01 12.9 +0.5**
comp=Z,31nm,1.9s,baz=296,slow=4.7
FBE Freiberg 90.56 36 *e*P **P 07 01 13.5 +0.5**
comp=Z,37nm,1.6s,baz=296,slow=4.7
FUORN Ofenpass-Fuorn 90.57 41 P **P 07 01 12.4 -1.1**
BRG Berggiesshubel 90.92 36 *e*P **P 07 01 14.9 +0.2**
comp=Z,18nm,1.3s,baz=296,slow=4.7
FINES FINESS Array B 91.01 23 P **P 07 01 14.2 -0.7**
comp=Z,7.1nm,0.9s,baz=338,slow=4.5,SNR=9.0
FINES LR LR 07 44 15.9
comp=Z,383nm,19.4s,baz=312,slow=37
FINES FINESS Array B 91.01 23 P **P 07 01 14.3 -0.6**
FINES FINESS Array B 91.01 23 P **P 07 01 14.3 -0.6**
WET Wettzell 91.08 38 *e*P **P 07 01 16.0 +0.4**
comp=Z,33nm,1.6s,baz=296,slow=4.7
TIC Toumodi 91.30 83 *e*P **P 07 01 17.2 -0.1**
LIC Lamto 91.42 83 *e*P **P 07 01 17.5 -0.2**
comp=Z,224nm,1.7s
DBIC Dimbokro 91.45 83 P **P 07 01 18.2 +0.3**
comp=Z,14nm,1.1s,baz=250,slow=2.8,SNR=6.1
DBIC Dimbokro 91.45 83 P **P 07 01 19.0 +1.1**
DBIC pmax pmax
comp=Z,68nm,1.5s
DBIC Dimbokro 91.45 83 P **P 07 01 18.9 +1.1**
DBIC IAmb IAmb 07 01 21.5
comp=Z,68nm,1.4s
KHC Kasperske Hory 91.50 38 *ce*P **P 07 01 17.7 +0.2**
KHC pmax pmax
comp=Z,32nm,1.6s
KHC Kasperske Hory 91.50 38 *e*P **P 07 01 15.8 -1.7**
KHC *ex* x 07 01 50.0
KHC AMS AMS 07 42 20.0
comp=Z,700nm,19.2s
KIC Kosan Boka 91.65 83 *e*P **P 07 01 18.9 +0.1**
comp=Z,179nm,1.5s
PRU Pruhonice 91.66 37 AMS AMS 07 45 50.0
comp=Z,600nm,19.4s
CTI Castel Tesino 91.69 41 P **P 07 01 18.7 +0.1**
CTI pmax pmax
comp=Z,21nm,1.4s
CTI Castel Tesino 91.69 41 P **P 07 01 18.7 +0.1**
GEC2 GERESS Array S 91.70 38 *e*P **P 07 01 18.8 +0.3**
comp=Z,28nm,1.7s,baz=296,slow=4.7
GERES GERESS Array B 91.70 38 P **P 07 01 18.3 -0.2**
comp=Z,0.9nm,0.8s,baz=316,slow=3.7,SNR=9.5
GERES LR LR 07 43 30.7
comp=Z,586nm,19.1s,baz=297,slow=36
GERES GERESS Array B 91.70 38 P **P 07 01 18.2 -0.3**
GERES GERESS Array B 91.70 38 P **P 07 01 18.2 -0.3**
GOPC GO Pecny, Ondr 91.84 37 AMS AMS 07 45 50.0
comp=Z,500nm,17.0s
CIMO Cimolais 92.07 40 IAmb IAmb 07 01 22.9
comp=Z,26nm,1.5s
CHVC Chvalec 92.23 36 AMS AMS 07 49 10.0
comp=Z,500nm,18.3s
UPC Upice 92.25 36 AMS AMS 07 43 00.0
comp=Z,700nm,22.3s
OSTC Oss 92.34 36 AMS AMS 07 47 30.0
comp=Z,500nm,18.3s
DPC Dobruska-Polom 92.50 36 AMS AMS 07 49 10.0
comp=Z,500nm,16.9s
PRED Cave del Predi 92.70 40 IAmb IAmb 07 01 25.8
comp=Z,29nm,1.7s
VSL Villasalto 92.88 48 P **P 07 01 23.6 -0.4**
KRLC Kraliky 92.89 36 AMS AMS 07 43 00.0
comp=Z,500nm,18.3s
VRAC Vranov 93.16 36 *e*P **P 07 01 25.1 -0.1**
KRUC Moravsky 93.17 37 *e*P **P 07 01 24.9 -0.3**
TMCR Tamitsa 93.17 18 *e*P **P 07 01 23.7 -1.1**
YAK Yakutsk 93.37 339 P **P 07 01 26.7 +0.9**
comp=Z,12nm,0.4s,baz=239,slow=1.5,SNR=5.1
YAK LR LR 07 48 21.0
comp=Z,643nm,19.5s,baz=59,slow=39
YAK Yakutsk 93.37 339 *e*P **P 07 01 26.0 +0.2**
YAK *e*S **SKSac 07 11 57.1 -3.3**
YAK *e* 07 12 34.0
YAK *e*SS **SS 07 18 46.7 -1.9**
YAK pmax pmax
comp=Z,31nm,1.3s
YAK pmax pmax
comp=N,10.0nm,1.5s
YAK pmax pmax
comp=E,15nm,1.5s
YAK pmax pmax
comp=Z,215nm,4.3s
YAK pmax pmax
comp=N,82nm,3.9s
YAK pmax pmax
comp=E,84nm,4.3s
YAK smax smax
comp=N,202nm,3.9s
YAK smax smax
comp=E,144nm,3.8s
YAK Yakutsk 93.37 339 IAmb IAmb 07 01 29.1
comp=Z,31nm,0.8s
MORC Moravsky Berou 93.47 36 *e*P **P 07 01 27.1 +0.5**
MORC Moravsky Berou 93.47 36 P **P 07 01 28.4 +1.8**
MORC pmax pmax
comp=Z,34nm,1.5s
KEST Kesra 94.35 51 P **P 07 01 31.5 +0.5**
comp=Z,4.3nm,0.9s,baz=108,slow=6.4,SNR=3.4
KEST LR LR 07 41 53.6
comp=Z,215nm,20.1s,baz=239,slow=34
NRIK Noril'sk 94.59 358 P **P 07 01 31.1 -0.2**
comp=Z,7.3nm,1.1s,baz=358,slow=4.1,SNR=7.0
NRIK LR LR 07 46 34.1
comp=Z,613nm,21.9s,baz=34,slow=37
NRIK Noril'sk 94.59 358 *e*P **P 07 01 31.0 -0.2**
NRIK pmax pmax
comp=Z,22nm,1.3s
NRIK MLR MLR
comp=Z,620nm,20.1s
VYHS Vyhne 94.85 36 *e*P **P 07 01 33.0 +0.1**
VYHS Vyhne 94.85 36 *e*P **P 07 01 33.0 +0.1**
TORD Torodi Ar. Bea 95.73 75 P **P 07 01 37.0 -0.6**
comp=Z,2.6nm,1.0s,baz=289,slow=4.6
TAM Tamanrasset 96.03 64 IAmb IAmb 07 01 43.5
comp=Z,24nm,1.4s
KLMR Klimovskoe 96.13 19 *e*P **P 07 01 36.8 -1.7**
KLMR *e* 07 05 26.5
KLMR pmax pmax
comp=Z,41nm,1.4s
KLMR Klimovskoe 96.13 19 *e*P **P 07 01 36.8 -1.7**
KLMR AMP 07 01 41.1
comp=Z,41nm,1.4s
KLMR *e*PP **PP 07 05 26.5 -4.0**
KLMR *e*SS **SS 07 19 19.8 -8.1**
KLMR *e*SS **SS 07 19 19.8 -8.1**
KLMR LR LR 07 44 19.0
YSS Yuzh-Sakhalins 96.69 323 ⇓*e*P **P 07 01 42.1 +0.8**
PRGR Permogore 97.31 16 *e*P **P 07 01 41.5 -2.3**
PRGR pmax pmax
comp=Z,42nm,1.2s
AKASG Malin Array Be 99.10 31 P **Pdif 07 01 51.1 -1.0**
comp=Z,0.5nm,0.4s,baz=305,slow=3.7,SNR=4.4
AKASG LR LR 07 50 51.1
comp=Z,274nm,18.0s,baz=330,slow=38
AKASG Malin Array Be 99.10 31 *ce*P **Pdif 07 01 53.5 +1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 99.10 31 IAmb IAmb 07 01 54.4
comp=Z,1.3nm,0.9s
MOS Moscow 99.31 23 *e*P **Pdif 07 01 53.7 +0.8**
OBN Obninsk 99.36 24 LR LR 07 48 02.0
comp=Z,109nm,21.9s,baz=355,slow=36
OBN Obninsk 99.36 24 *i* P **Pdif 07 01 51.2 -1.9**
OBN *i* 07 05 55.1
OBN pmax pmax
comp=Z,14nm,1.3s
OBN MLR MLR
comp=Z,462nm,21.0s
KLR Kul'dur 101.25 329 *i* P **Pdif 07 02 03.5 +1.8**
KLR pmax pmax
comp=Z,2.0nm,1.2s
BOD Bodaibo 101.56 343 *e*P **Pdif 07 02 01.6 -1.3**
BOD pmax pmax
comp=Z,5.0nm,1.6s
MJAR Matsushiro Arr 105.22 316 PP **PP 07 06 36.1 -4.1**
comp=Z,1.3nm,0.9s,baz=36,slow=6.1,SNR=6.4
ZALV Zalesovo Beam 110.09 358 PP **PP 07 07 12.8 -1.9**
comp=Z,0.7nm,0.4s,baz=300,slow=2.9,SNR=4.8
KIV Kislovodsk 110.33 29 *i* PKIKP **PKiKP 07 06 42.6 -0.8**
KIV pmax pmax
comp=Z,18nm,1.0s
BVAR Borovoye Array 110.38 7 PP **PP 07 07 14.9 -1.9**
comp=Z,1.3nm,0.8s,baz=344,slow=4.8,SNR=5.0
KSRS Korea Array 111.17 322 PKKPbc PKKPbc 07 17 50.8 +8.9
comp=Z,1.1nm,0.8s,baz=234,slow=5.3,SNR=5.4
NVL N'lazarevskaya 111.79 160 *i* PKIKP PKiKP 07 06 29.3 -16
NVL *e*SS SS 07 23 06.3 +2.5
NVL pmax pmax
comp=Z,4.0nm,0.5s
SONM Songino Array 112.54 342 PP **PP 07 07 31.8 -0.9**
comp=Z,0.5nm,0.5s,baz=348,slow=6.2,SNR=1.7
SONM PKKPbc **PKKPbc 07 17 35.5 -2.5**
comp=Z,0.3nm,0.4s,baz=215,slow=4.8,SNR=4.2
MAK Makhachkala 113.28 27 *i* PKIKP **PKiKP 07 06 43.9 -4.9**
MAK pmax pmax
comp=Z,31nm,0.4s
KURBB Kurchatov Arra 113.41 2 PKiKP **PKiKP 07 06 48.1 -0.8**
comp=Z,0.6nm,0.7s,baz=332,slow=2.4,SNR=5.0
KURBB PP **PP 07 07 36.6 -2.0**
comp=Z,3.2nm,1.1s,baz=352,slow=6.6,SNR=5.9
KURBB PKKPbc **PKKPab 07 17 40.5 -2.7**
comp=Z,0.7nm,0.5s,baz=199,slow=4.1,SNR=5.5
HHC Hu-ho-hao-te 116.84 335 *e*PKIKP **PKiKP 07 06 57.6 +1.7**
HHC LR LR
comp=Z,410nm,18.8s
HHC LR LR
comp=Z,680nm,19.0s
HHC LR LR
comp=Z,810nm,19.0s
MK31 Makanchi Array 117.30 360 ⇑*e*PKIKP **PKPdf 07 06 56.3 -0.3**
MKAR Makanchi Array 117.30 360 PKP **PKPdf 07 06 55.1 -1.5**
comp=Z,1.3nm,1.0s,baz=343,slow=1.3,SNR=7.9
MKAR PKKPbc **PKKPbc 07 17 18.3 -3.2**
comp=Z,0.6nm,0.8s,baz=241,slow=2.5,SNR=5.4
WMQ Urumqi 120.03 355 PKP **PKiKP 07 07 02.9 +0.9**
WMQ AMB AMB
comp=Z,48nm,6.3s
WMQ LR LR
comp=Z,360nm,18.7s
WMQ LR LR
comp=Z,190nm,16.9s
WMQ LR LR
comp=Z,610nm,18.7s
NJ2 Nanjing 120.26 324 *e*PKP **PKiKP 07 07 03.3 +0.6**
SYO Syowa Base 121.03 164 ⇓*e*PKPdf **PKiKP 07 07 03.2 +0.2**
SYO Syowa Base 121.03 164 ⇓*e*X **PKiKP 07 07 10.0 +7.0**
AAK Ala-Archa 121.08 6 *c i*PKIKP **PKiKP 07 07 05.3 +1.0**
AAK pmax pmax
comp=Z,8.0nm,1.7s
GEYT Alibeck 121.78 22 PKP **PKPdf 07 07 05.5 +0.1**
comp=Z,3.5nm,0.7s,baz=238,slow=5.1,SNR=6.1
GTA Gaotai 122.15 343 *e*PKP **PKiKP 07 07 06.4 0.0**
GTA PP **PP 07 08 44.6 +4.9**
GTA SKKS 07 15 36.9
GTA SS **SS 07 25 20.6 +2.2**
GTA AMB AMB
comp=Z,160nm,8.4s
GTA LR LR
comp=Z,470nm,19.4s
GTA LR LR
comp=Z,320nm,21.3s
GTA LR LR
comp=Z,580nm,19.7s
XAN Xi'an 123.71 333 PKP **PKPdf 07 07 07.8 -1.5**
XAN SKS **SKSdf 07 14 16.0 -6.0**
XAN AMB AMB
comp=Z,360nm,7.4s
XAN LR LR
comp=Z,380nm,19.1s
XAN LR LR
comp=Z,640nm,21.1s
XAN LR LR
comp=Z,770nm,16.7s
STKA Stephens Creek 123.76 242 PKP **PKPdf 07 07 09.1 -0.1**
comp=Z,16nm,0.8s,baz=42,slow=2.3,SNR=20
STKA Stephens Creek 123.76 242 PKIKP **PKPdf 07 07 08.9 -0.3**
STKA Stephens Creek 123.76 242 PKPdf **PKPdf 07 07 08.9 -0.3**
WHN Wuhan 123.90 326 PKP **PKiKP 07 07 15.3 +5.4**
WHN AMB AMB
comp=Z,440nm,9.5s
WHN LR LR
comp=Z,1µm,17.3s
LZH Lanzhou 123.94 338 *e*PKP **PKPdf 07 07 09.6 -0.2**
LZH PP **PP 07 08 53.3 +1.4**
LZH AMB AMB
comp=Z,330nm,9.5s
LZH LR LR
comp=Z,520nm,18.0s
LZH LR LR
comp=Z,630nm,17.9s
LZH LR LR
comp=Z,690nm,19.5s
KSH Kashi 124.32 5 *e*PKP **PKiKP 07 07 12.3 +1.6**
CASY Casey 126.44 194 **PKiKP 07 07 15.0 +1.2**
BOSA Boshof 126.80 114 PKP **PKPdf 07 07 15.4 +0.1**
comp=Z,14nm,1.0s,baz=263,slow=2.1,SNR=12
BOSA Boshof 126.80 114 PKIKP **PKiKP 07 07 15.9 +0.1**
MAW Mawson 127.19 171 PKP **PKiKP 07 07 15.2 0.0**
comp=Z,7.1nm,0.8s,baz=281,slow=3.3,SNR=15
CD2 Chengdu 128.58 336 *e*PKP **PKPdf 07 07 17.5 -1.2**
CD2 SKKS 07 16 17.8
CD2 SS **SS 07 26 38.3 -1.1**
CD2 AMB AMB
comp=Z,260nm,8.4s
CD2 LR LR
comp=Z,480nm,14.1s
CD2 LR LR
comp=Z,680nm,16.7s
CD2 LR LR
comp=Z,690nm,17.7s
LSZ Lusaka 128.61 97 PKIKP **PKiKP 07 07 19.7 0.0**
LSZ Lusaka 128.61 97 PKPdf **PKiKP 07 07 19.7 0.0**
WRAB Tennant Creek 129.97 257 *c i*PKIKP **PKPdf 07 07 21.8 +0.3**
WRAB pmax pmax
comp=Z,48nm,1.3s
WRAB Tennant Creek 129.97 257 **PKiKP 07 07 22.3 +0.1**
WRA Warramunga Arr 129.98 257 PKP **PKPdf 07 07 21.7 +0.2**
comp=Z,21nm,1.1s,baz=82,slow=1.6,SNR=35
WRA Warramunga Arr 129.98 257 **PKPdf 07 07 20.8 -0.7**
ASAR Alice Springs 130.58 253 PKP **PKPdf 07 07 22.6 0.0**
comp=Z,9.9nm,0.9s,baz=98,slow=2.2,SNR=40
ASAR Alice Springs 130.58 253 PKIKP **PKPdf 07 07 22.1 -0.5**
ASAR Alice Springs 130.58 253 PKPdf **PKPdf 07 07 22.1 -0.5**
GYA Guiyang 131.15 330 ⇓PKP **PKPdf 07 07 23.8 0.0**
GYA sPKP 07 07 28.1
GYA PP **PP 07 09 41.4 +1.7**
GYA SKKS 07 16 37.1
GYA SS **SS 07 27 13.0 +1.5**
GYA AMB AMB
comp=Z,250nm,8.9s
GYA LR LR
comp=Z,310nm,18.4s
GYA LR LR
comp=Z,320nm,16.1s
GYA LR LR
comp=Z,420nm,17.6s
KMI Kunming 134.09 333 PKP **PKPdf 07 07 30.0 +0.5**
KMI sPKP 07 07 35.4
KMI PP **PP 07 09 58.9 +0.3**
KMI PKS **PKSdf 07 11 02.1 -4.1**
KMI SKKS 07 16 56.6
KMI SS **SS 07 27 51.3 +4.0**
KMI AMB AMB
comp=Z,440nm,7.1s
KMI LR LR
comp=Z,300nm,18.6s
KMI LR LR
comp=Z,490nm,21.3s
KMI LR LR
comp=Z,380nm,25.5s
QIZ Qiongzhong 135.37 321 PKP **PKPdf 07 07 29.6 -2.1**
QIZ sPKP 07 07 35.8
QIZ SS SS 07 28 02.9 -0.1
QIZ LR LR
comp=Z,310nm,13.7s
QIZ LR LR
comp=Z,250nm,11.8s

QIZ				LR	LR			
	comp=Z,310nm,14.3s							
FITZ	**Fitzroy Crossi**	**138.04**	**261**	PKP	**PKPdf**	**07 07 36.6**	**+0.1**	
	comp=Z,10nm,1.0s,baz=251,slow=2.3,SNR=4.5							
CHTO	**Chiang Mai**	**141.29**	**333**	PKIKP	**PKPdf**	**07 07 40.8**	**-1.8**	
CMAR	**Chiang Mai Arr**	**141.61**	**333**	PKP	**PKPdf**	**07 07 41.9**	**-1.3**	
	comp=Z,1.5nm,0.3s,baz=347,slow=1.5,SNR=13							
CMAR	**Chiang Mai Arr**	**141.61**	**333**	PKIKP	**PKPdf**	**07 07 39.8**	**-3.4**	
CMAR	**Chiang Mai Arr**	**141.61**	**333**		**PKPdf**	**07 07 39.8**	**-3.4**	
KAD	**Karad**	**145.89**	**13**	⇑P	**PKPbc**	**07 07 51.1**	**-0.1**	
MORW	**Morawa**	**145.94**	**242**	PKPdf	**PKPdf**	**07 07 50.7**	**+0.2**	
HYB	**Hyderabad**	**146.46**	**5**	*i* PKP	**PKPdf**	**07 07 51.0**	**-0.7**	
ABPO	**Ambohimpanom**	**147.05**	**100**	PKP2	**PKPbc**	**07 07 55.6**	**+0.7**	
ABPO	**Ambohimpanom**	**147.05**	**100**		**PKPbc**	**07 07 55.6**	**+0.7**	
KULM	**Kulim**	**151.59**	**317**	PKPdf	**PKPdf**	**07 08 02.2**	**+2.2**	

IDC ***13*** *07:06:02.4±1.3,3.˚66S×142.˚93E, h0km, mb4.0/8, mb1 4.2/10, mb1mx3.9/42, mbtmp4.0/10, ML4.0/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/51, Error ellipse: s-maj=35.9km s-min=21.6km az=111.0*

NEIC ***13*** *07:06:04.4±0.9, 3.˚7S±0.˚1×142.˚83E±0.˚10, h14km±7km, mb4.2/10, Error ellipse: s-maj=17.8km s-min=11.8km az=215.0*

ISC 13 07:06:05.6±0.9,**3.˚71S**±0.˚10×**142.˚8E**±0.˚1,**h22**km,**n30, s0g62/24, mb4.1**/10,**Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAY	**Jayapura**	**2.44**	**299**	Pn		**Pn**	**07 06 43.9**	**-0.4**
	5.2nm,0.3s,baz=171,slow=7.6,SNR=15							
JAY				Sn		**Sn**	**07 07 12.9**	**-0.5**
	8.0nm,0.3s,baz=256,slow=15,SNR=5.2							
JAY				LR		LR	07 07 20.6	
	comp=Z,167nm,18.3s,baz=358,slow=31							
MTN	**Manton Dam**	**14.71**	**231**	Pn		**Pn**	**07 09 32.8**	**+0.2**
WB0	**Warramunga Arr**	**17.96**	**207**			**P**	**07 10 13.7**	**-0.4**
WR0	**Warramunga Arr**	**18.07**	**206**			**P**	**07 10 15.7**	**-0.1**
WR0				IAmb		IAmb	07 10 19.5	
	comp=Z,18nm,1.0s							
WRAB	**Tennant Creek**	**18.13**	**207**			**P**	**07 10 16.2**	**-0.3**
WRAB				IAmb		IAmb	07 10 25.1	
	comp=Z,19nm,1.2s							
WB2	**Warramunga Arr**	**18.14**	**206**	P		**P**	**07 10 16.6**	**+0.1**
WB2				IAmb		IAmb	07 10 17.3	
	comp=Z,27nm,1.4s							
WRA	**Warramunga Arr**	**18.14**	**207**	Pn		**P**	**07 10 17.1**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=9.1,slow=13,SNR=27							
WRA	**Warramunga Arr**	**18.14**	**207**	P		**Pn**	**07 10 15.7**	**-0.7**
KNRA	**Kununurra**	**18.26**	**228**			**Pn**	**07 10 17.4**	**-0.4**
ASAR	**Alice Springs**	**21.64**	**203**	P		**P**	**07 10 56.1**	**+1.4**
	comp=Z,1.8nm,0.7s,baz=30,slow=11,SNR=14							
ASAR	**Alice Springs**	**21.64**	**203**	P		**P**	**07 10 54.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**22.10**	**228**	P		**P**	**07 10 59.1**	**-0.4**
	comp=Z,4.5nm,0.7s,baz=307,slow=0.9,SNR=3.9							
KWAJ	**Kwajalein Atol**	**27.65**	**63**	P		**P**	**07 11 51.9**	**-0.2**
H11S3	**WAKE ISLAND Hy**	**32.23**	**46**	T		T	07 46 23.0	
	baz=229,slow=75,SNR=21							
H11S2	**WAKE ISLAND Hy**	**32.24**	**46**	T		T	07 46 20.2	
	baz=229,slow=75,SNR=22							
H11S1	**WAKE ISLAND Hy**	**32.25**	**46**	T		T	07 46 21.2	
	baz=229,slow=75,SNR=16							
H11N1	**WAKE ISLAND Hy**	**33.17**	**45**	T		T	07 47 29.2	
	baz=227							
H11N2	**WAKE ISLAND Hy**	**33.19**	**45**	T		T	07 47 29.8	
	baz=227							
H11N3	**WAKE ISLAND Hy**	**33.19**	**45**	T		T	07 47 29.4	
	baz=227							
CMAR	**Chiang Mai Arr**	**48.52**	**299**	P		**P**	**07 14 48.5**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=119,slow=7.3,SNR=2.2							
PETK	**Petropavlovsk-**	**57.28**	**11**	P		**P**	**07 15 56.6**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=159,slow=6.3,SNR=3.7							
MK31	**Makanchi Array**	**73.12**	**321**	P		**P**	**07 17 34.8**	**+0.4**
MKAR	**Makanchi Array**	**73.12**	**321**	P		**P**	**07 17 35.5**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=114,slow=7.5,SNR=9.1							
MKAR	**Makanchi Array**	**73.12**	**321**	P		**P**	**07 17 34.4**	**-0.1**
MAKZ	**Makanchi**	**73.32**	**321**	P		**P**	**07 17 35.9**	**+0.2**
MAKZ				IAmb		IAmb	07 17 37.2	
	comp=Z,3.0nm,0.9s							
KURK	**Kurchatov**	**76.92**	**324**	P		**P**	**07 17 56.0**	**-0.3**
KURK	**Kurchatov**	**76.92**	**324**	IAmb		IAmb	07 17 58.8	
	comp=Z,4.3nm,1.4s							
KURBB	**Kurchatov Arra**	**76.94**	**324**	P		**P**	**07 17 56.0**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=129,slow=5.9,SNR=2.8							
BVAR	**Borovoye Array**	**82.50**	**324**	P		**P**	**07 18 27.4**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=120,slow=8.7,SNR=5.9							
ILAR	**Eielson Array**	**85.05**	**24**	P		**P**	**07 18 38.7**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=258,slow=4.7,SNR=16							

NEIC ***13*** *07:07:00.5±1.3,4.˚07S±0.˚08×142.˚0E±0.˚1, h109km±7km, mb4.4/9, Error ellipse: s-maj=21.7km s-min=11.4km az=77.0*

IDC ***13*** *07:07:00.4±1.7,4.˚04S×141.˚93E, h106km±14km, mb3.6/10, mb1 3.9/12, mb1mx3.7/39, mbtmp4.1/12, MS3.5/1, Ms1 3.5/1, ms1mx2.8/47, Error ellipse: s-maj=18.6km s-min=11.4km az=103.0*

ISC 13 07:07:00.5±0.6,**4.˚06S**±0.˚06×**141.˚99E**±0.˚09,**h109**km,**n29, s0g74/29, mb3.8**/10,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAY	**Jayapura**	**1.99**	**320**	P		**Pn**	**07 07 33.7**	**+0.2**
	9.4nm,0.3s,baz=110,slow=21,SNR=3.5							
JAY				S		**Sn**	**07 07 57.4**	**-1.3**
	74nm,0.3s,baz=302,slow=18,SNR=8.9							
COEN	**Coen**	**9.91**	**173**	Pn		**Pn**	**07 09 19.1**	**-0.8**
KRVT	**Keravat (AS076**	**10.02**	**92**	P		**Pn**	**07 09 21.3**	**-0.1**
	4.3nm,0.3s,baz=323,slow=20,SNR=2.0							
MTN	**Manton Dam**	**13.83**	**230**	Pn		**Pn**	**07 10 10.6**	**-1.4**
WB0	**Warramunga Arr**	**17.28**	**205**	P		**P**	**07 10 54.6**	**-0.4**
WB0				IAmb		IAmb	07 10 58.8	
	comp=Z,14nm,0.4s							
KNRA	**Kununurra**	**17.39**	**227**	P		**Pn**	**07 10 56.6**	**+0.1**
WR0	**Warramunga Arr**	**17.39**	**204**			**P**	**07 10 56.0**	**-0.2**
WR0				IAmb		IAmb	07 10 56.8	
	comp=Z,28nm,0.8s							
WB2	**Warramunga Arr**	**17.46**	**205**	P		**P**	**07 10 56.5**	**-0.4**
WB2				IAmb		IAmb	07 11 00.8	
	comp=Z,18nm,0.7s							
WRA	**Warramunga Arr**	**17.46**	**205**	P		**P**	**07 10 56.5**	**-0.4**
	comp=Z,4.3nm,0.3s,baz=28,slow=12,SNR=32							
WRA	**Warramunga Arr**	**17.46**	**205**	P		**P**	**07 10 55.9**	**-1.1**
HNR	**Honiara**	**18.61**	**108**	LR		LR	07 17 01.3	
	comp=Z,155nm,21.0s,baz=224,slow=32							
AS31	**Alice Springs**	**21.00**	**201**	P		**P**	**07 11 35.8**	**+0.3**
AS31				IAmb		IAmb	07 11 38.0	
	comp=Z,4.6nm,0.7s							
ASAR	**Alice Springs**	**21.00**	**201**	P		**P**	**07 11 36.0**	**+0.6**
	comp=Z,13nm,0.5s,baz=43,slow=10.0,SNR=5.5							
ASAR				S		**S**	**07 15 23.4**	**0.0**
	comp=Z,0.9nm,0.8s,baz=15,slow=26,SNR=1.9							
ASAR	**Alice Springs**	**21.00**	**201**	P		**P**	**07 11 36.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**21.23**	**228**	P		**P**	**07 11 39.1**	**+1.2**
	comp=Z,6.8nm,0.5s,baz=37,slow=6.5,SNR=11							
FITZ				S		**S**	**07 15 27.6**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=104,slow=7.7,SNR=1.7							
FITZ	**Fitzroy Crossi**	**21.23**	**228**	P		**P**	**07 11 38.8**	**+0.9**
FORT	**Forrest**	**29.65**	**205**	P		**P**	**07 12 56.4**	**+0.6**
KSRS	**Korea Array**	**43.32**	**344**	P		**P**	**07 14 52.3**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=153,slow=11,SNR=4.7							
KLR	**Kul'dur**	**53.81**	**352**	P		**P**	**07 16 11.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=153,slow=6.8,SNR=3.9							
SONM	**Songino Array**	**60.35**	**333**	P		**P**	**07 16 59.0**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=141,slow=9.3,SNR=1.9							
SONM	**Songino Array**	**60.35**	**333**	IAmb		IAmb	07 17 05.4	
	comp=Z,1.4nm,1.3s							
MKAR	**Makanchi Array**	**72.86**	**322**	P		**P**	**07 18 17.9**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=104,slow=7.7,SNR=6.2							
VNDA	**Vanda**	**74.18**	**176**	P		**P**	**07 18 25.8**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=311,slow=4.8,SNR=3.6							
MAW	**Mawson**	**82.12**	**202**	P		**P**	**07 19 09.2**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=63,slow=6.8,SNR=4.2							
MAW	**Mawson**	**82.12**	**202**	IAmb		IAmb	07 19 10.7	
	comp=Z,0.7nm,0.9s							
BVAR	**Borovoye Array**	**82.29**	**325**	P		**P**	**07 19 09.8**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=101,slow=7.5,SNR=2.5							
ILAR	**Eielson Array**	**85.71**	**24**	P		**P**	**07 19 25.6**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=252,slow=5.4,SNR=2.9							
LPAZ	**La Paz**	**144.01**	**125**	PKP		**PKPdf**	**07 26 24.4**	**-0.7**
	comp=Z,2.3nm,0.4s,baz=354,slow=2.0,SNR=28							
LPAZ	**La Paz**	**144.01**	**125**			**PKPdf**	**07 26 25.1**	**0.0**

IDC ***13*** *07:22:02.6±0.6,3.˚42S×145.˚55E, h0km, mb4.4/19, mb1 4.5/24, mb1mx4.4/52, mbtmp4.4/24, ML4.0/4, MS3.8/10, Ms1 3.8/10, ms1mx3.5/46, Error ellipse: s-maj=20.4km s-min=12.4km az=93.0*

NEIC ***13*** *07:22:07.0±1.4,3.˚43S±0.˚09×145.˚5E±0.˚1, h27km±5km, mb4.8/31, Error ellipse: s-maj=16.9km s-min=11.6km az=65.0*

BJI ***13*** *07:22:08.0±0.0,3.˚14S×145.˚62E, h33km, mB4.9/22, mb4.8/34, Ms4.9/17, Ms7 4.6/16*

DJA ***13*** *07:22:12.1±1.3,4.˚5S×7.˚×14.˚5E±.˚, h44km±10km, M4.7/18, mb4.6/18, mB4.9/2, MLv4.7/1, Mw(mB)4.2/2*

ISC 13 07:22:06.7±0.5,**3.˚46S**±0.˚06×**145.˚58E**±0.˚09,**h23**km,**n81,** s1g**33/76, mb4.7**/38,**MS4.1**/11,**2C, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAY	**Jayapura**	**4.96**	**281**	Pn		**Pn**	**07 23 17.4**	**-2.5**
	1.1nm,0.3s,baz=135,slow=16,SNR=1.6							
JAY				LR		LR	07 24 56.1	
	comp=Z,554nm,21.0s,baz=38,slow=35							
GENI	**Genyem**	**5.47**	**279**	P		Pn	07 23 32.6	+5.7
	0.5nm103nm,0.7s							
PMG	**Port Moresby**	**6.11**	**165**	Pn		**Pn**	**07 23 36.1**	**+0.4**
	2.7nm,0.3s,baz=30,slow=6.0,SNR=4.6							
KRVT	**Keravat (AS076**	**6.49**	**98**	Pn		**Pn**	**07 23 40.8**	**-0.1**
	4.3nm,0.3s,baz=328,slow=19,SNR=2.5							
COEN	**Coen**	**10.70**	**193**	Pn		**Pn**	**07 24 38.5**	**-0.1**
HNR	**Honiara**	**15.46**	**113**	LR		LR	07 31 46.4	
	comp=Z,105nm,19.6s,baz=284,slow=38							
CTA	**Charters Tower**	**16.54**	**178**	Pn		**Pn**	**07 25 58.0**	**+0.7**
	0.3nm,0.3s,baz=97,slow=9.3,SNR=2.7							
GUMO	**Guam**	**16.95**	**358**	LR		LR	07 32 02.9	
	comp=Z,157nm,19.5s,baz=162,slow=36							
WB0	**Warramunga Arr**	**19.54**	**213**	P		**P**	**07 26 32.1**	**-0.8**
WB0				IAmb		IAmb	07 26 39.9	
	comp=Z,53nm,1.1s							
WR0	**Warramunga Arr**	**19.62**	**212**			**P**	**07 26 32.9**	**-0.8**
WR0				IAmb		IAmb	07 26 37.7	
	comp=Z,36nm,0.8s							
WRAB	**Tennant Creek**	**19.70**	**213**	P		**P**	**07 26 31.3**	**-3.3**
WRAB				IAmb		IAmb	07 26 38.7	
	comp=Z,35nm,0.8s							
WB2	**Warramunga Arr**	**19.71**	**213**			**P**	**07 26 34.1**	**-0.6**
WB2				IAmb		IAmb	07 26 37.5	
	comp=Z,80nm,1.4s							
WRA	**Warramunga Arr**	**19.71**	**213**	P		**P**	**07 26 33.9**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=33,slow=11,SNR=83							
WRA				PcP		**PcP**	**07 30 53.4**	**0.0**
	comp=Z,0.0nm,0.3s,baz=21,slow=1.8,SNR=3.9							
WRA				LR		LR	07 34 34.6	
	comp=Z,490nm,19.1s,baz=30,slow=38							
WRA	**Warramunga Arr**	**19.71**	**213**	P		**P**	**07 26 32.9**	**-1.9**
KNRA	**Kununurra**	**20.53**	**233**			**P**	**07 26 42.2**	**-1.4**
KNRA				IAmb		IAmb	07 26 47.2	
	comp=Z,68nm,1.2s							
SOEI	**Soe**	**22.07**	**252**	P		**P**	**07 26 59.8**	**-0.6**
	comp=Z,86nm,1.1s							
SOEI	**Soe**	**22.07**	**252**	P		**P**	**07 27 00.2**	**-0.1**
BATI	**Baumata**	**22.76**	**252**	P		**P**	**07 27 06.8**	**-0.9**
	comp=Z,27nm,0.4s,baz=90,slow=4.0,SNR=2.2							
BATI	**Baumata**	**22.76**	**252**	P		**P**	**07 27 06.5**	**-1.2**
	comp=Z,75nm,1.1s							
GTOI	**Gorontalo**	**22.92**	**280**	P		**P**	**07 27 12.1**	**+2.8**
	comp=Z,18nm,1.3s							
AS31	**Alice Springs**	**23.04**	**208**	P		**P**	**07 27 10.5**	**0.0**
ASAR	**Alice Springs**	**23.04**	**208**	P		**P**	**07 27 10.3**	**-0.2**
	comp=Z,11nm,0.9s,baz=39,slow=8.9,SNR=44							
ASAR				PcP		**PcP**	**07 31 00.1**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=28,slow=2.1,SNR=7.4							
ASAR				LR		LR	07 36 39.6	
	comp=Z,353nm,18.2s,baz=36,slow=38							
ASAR	**Alice Springs**	**23.04**	**208**	P		**P**	**07 27 09.3**	**-1.2**
ASAR						**PcP**	**07 31 00.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**24.35**	**232**	P		**P**	**07 27 21.6**	**-1.6**
	comp=Z,13nm,0.8s,baz=36,slow=9.8,SNR=12							
FITZ				LR		LR	07 37 16.1	
	comp=Z,229nm,21.0s,baz=56,slow=38							
FITZ	**Fitzroy Crossi**	**24.35**	**232**	P		**P**	**07 27 21.7**	**-1.5**
BNSI	**Bone**	**25.43**	**267**	P		**P**	**07 27 36.2**	**+3.2**
	comp=Z,37nm,1.0s							
KAPI	**Kappang**	**25.80**	**266**	P		**P**	**07 27 34.9**	**-1.5**
	comp=Z,3.7nm,0.3s,baz=90,slow=7.4,SNR=1.2							
DZM	**Mont Dzumac**	**27.43**	**134**	LR		LR	07 37 22.6	
	comp=Z,385nm,20.2s,baz=74,slow=34							
STKA	**Stephens Creek**	**28.52**	**187**	P		**P**	**07 27 59.8**	**-0.8**
	comp=Z,3.3nm,0.8s,baz=12,slow=10,SNR=5.8							
STKA				LR		LR	07 40 35.0	
	comp=Z,324nm,18.6s,baz=30,slow=39							
STKA	**Stephens Creek**	**28.52**	**187**	P		**P**	**07 27 59.8**	**-0.8**
BBOO	**Buckleboo**	**30.53**	**196**	P		**P**	**07 28 17.6**	**-0.8**
BBOO				IAmb		IAmb	07 28 20.6	
	comp=Z,11nm,0.9s							
FORT	**Forrest**	**31.81**	**209**	P		**P**	**07 28 29.4**	**-0.3**
MJAR	**Matsushiro Arr**	**40.38**	**351**	P		**P**	**07 29 39.9**	**-3.0**
	comp=Z,0.6nm,0.4s,baz=182,slow=9.7,SNR=3.1							
MJAR	**Matsushiro Arr**	**40.38**	**351**	IAmb		IAmb	07 29 42.8	
	comp=Z,0.8nm,0.7s							
AFI	**Afiamalu**	**43.34**	**107**	LR		LR	07 47 02.3	
	comp=Z,115nm,18.9s,baz=3.5,slow=35							
NJ2	**Nanjing**	**43.49**	**326**	*e*P		**P**	**07 30 09.0**	**+0.6**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.6s							
KSRS	**Korea Array**	**43.89**	**340**	P		**P**	**07 30 11.0**	**-0.5**
	comp=Z,4.2nm,0.9s,baz=156,slow=9.7,SNR=15							
KSAR	**Wonju Array Be**	**43.89**	**340**	P		**P**	**07 30 11.0**	**-0.6**
RPZ	**Rata Peaks**	**46.00**	**154**	LR		LR	07 50 11.5	
	comp=Z,202nm,18.3s,baz=7.0,slow=37							
USRK	**Ussuriysk Ar.**	**48.99**	**347**	P		**P**	**07 30 49.2**	**-2.3**
	comp=Z,4.2nm,0.8s,baz=145,slow=5.3,SNR=6.0							
KMI	**Kunming**	**50.34**	**307**	⇑P		**P**	**07 31 06.5**	**+4.1**
KMI				pmax		pmax		
	comp=Z,20nm,1.1s							
CMAR	**Chiang Mai Arr**	**50.82**	**297**	P		**P**	**07 31 06.7**	**+0.8**
	comp=Z,4.4nm,0.8s,baz=118,slow=5.9,SNR=12							
CMAR	**Chiang Mai Arr**	**50.82**	**297**	P		**P**	**07 31 06.5**	**+0.6**
CHTO	**Chiang Mai**	**50.95**	**298**	P		**P**	**07 31 06.7**	**-0.1**
CD2	**Chengdu**	**52.50**	**314**	*e*P		**P**	**07 31 18.3**	**0.0**
CD2				pmax		pmax		
	comp=Z,30nm,0.8s							
KLR	**Kul'dur**	**53.83**	**349**	P		**P**	**07 31 27.2**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=121,slow=4.7,SNR=4.3							
HHC	**Hu-ho-hao-te**	**53.94**	**328**	*e*P		**P**	**07 31 29.3**	**+0.5**
HHC				pmax		pmax		
	comp=Z,15nm,0.5s							
HHC				pmax		pmax		
	comp=Z,120nm,7.9s							
HHC				LR		LR		
	comp=Z,370nm,16.4s							
HHC				LR		LR		
	comp=Z,280nm,19.0s							
HHC				LR		LR		
	comp=Z,210nm,18.2s							
LZH	**Lanzhou**	**55.37**	**319**	*e*P		**P**	**07 31 40.3**	**+0.9**
LZH				pP		pwP	07 31 50.1	+1.6
LZH				sP		sP	07 31 53.5	+5.1
LZH				pmax		pmax		
	comp=Z,25nm,1.3s							
LZH				pmax		pmax		
	comp=Z,92nm,8.0s							
LZH				LR		LR		
	comp=Z,360nm,15.0s							
LZH				LR		LR		
	comp=Z,370nm,14.7s							
LZH				LR		LR		
	comp=Z,530nm,18.1s							
PETK	**Petropavlovsk-**	**57.28**	**9**	P		**P**	**07 31 52.4**	**0.0**
	comp=Z,3.4nm,0.9s,baz=187,slow=9.0,SNR=3.8							
GTA	**Gaotai**	**59.90**	**320**	*e*P		**P**	**07 32 11.9**	**+0.8**
GTA				pP		pwP	07 32 22.0	+1.7
GTA				sP		sP	07 32 25.9	+5.8
GTA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
GTA				pmax		pmax		
	comp=Z,74nm,7.1s							
GTA				LR		LR		
	comp=Z,430nm,18.7s							
GTA				LR		LR		
	comp=Z,350nm,18.7s							
GTA				LR		LR		
	comp=Z,460nm,17.1s							
SONM	**Songino Array**	**61.51**	**331**	P		**P**	**07 32 22.2**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=134,slow=4.3,SNR=6.9							
SONM	**Songino Array**	**61.51**	**331**	P		**P**	**07 32 22.0**	**+0.1**
CASY	**Casey**	**67.33**	**195**	P		**P**	**07 32 59.1**	**-0.4**
CASY				IAmb		IAmb	07 33 00.1	
	comp=Z,5.0nm,0.9s							
WMQ	**Urumqi**	**69.95**	**319**	*e*P		**P**	**07 33 17.9**	**+1.5**
WMQ				pP		pwP	07 33 27.1	+1.4
WMQ				sP		sP	07 33 31.8	+6.3
WMQ				pmax		pmax		
	comp=Z,10.0nm,0.7s							
WMQ				LR		LR		
	comp=Z,180nm,15.1s							
WMQ				LR		LR		
	comp=Z,210nm,16.9s							
WMQ				LR		LR		
	comp=Z,680nm,16.9s							
VNDA	**Vanda**	**74.52**	**176**	P		**P**	**07 33 42.3**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=303,slow=6.0,SNR=13							
VNDA	**Vanda**	**74.52**	**176**	P		**P**	**07 33 43.1**	**+0.1**
MKAR	**Makanchi Array**	**74.65**	**320**	P		**P**	**07 33 44.0**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=113,slow=8.0,SNR=6.2							
MKAR	**Makanchi Array**	**74.65**	**320**	P		**P**	**07 33 44.1**	**-0.2**
ZALV	**Zalesovo Beam**	**76.12**	**328**	P		**P**	**07 33 51.1**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=104,slow=6.3,SNR=5.1							
ZALV	**Zalesovo Beam**	**76.12**	**328**	P		**P**	**07 33 50.7**	**-1.9**
KSH	**Kashi**	**76.64**	**312**	*e*P		**P**	**07 33 57.8**	**+1.8**
KSH				S		**S**	**07 43 43.8**	**+2.2**
KSH				pmax		pmax		
	comp=Z,68nm,6.5s							
KSH				LR		LR		
	comp=Z,160nm,7.4s							
KSH				LR		LR		
	comp=Z,270nm,12.4s							
NIL	**Nilore**	**77.31**	**305**	P		**P**	**07 34 00.3**	**+0.5**
KURK	**Kurchatov**	**78.34**	**323**	P		**P**	**07 34 05.0**	**-0.1**
KURBB	**Kurchatov Arra**	**78.36**	**323**	P		**P**	**07 34 04.2**	**-1.0**
	comp=Z,3.1nm,1.0s,baz=110,slow=4.7,SNR=8.7							
KKAR	**Karatay Array**	**81.51**	**314**	P		**P**	**07 34 22.2**	**-0.4**
IMAR	**Indian Mountai**	**81.64**	**21**	P		**P**	**07 34 22.4**	**-0.2**
RND	**Reindeer**	**82.40**	**24**	P		**P**	**07 34 26.3**	**-0.5**
RND				IAmb		IAmb	07 34 27.3	
	comp=Z,12nm,0.9s							
NRIK	**Noril'sk**	**82.44**	**342**	P		**P**	**07 34 26.3**	**-0.5**
	comp=Z,8.3nm,0.9s,baz=108,slow=6.8,SNR=7.7							
WRH	**Wood River Hil**	**83.13**	**24**	P		**P**	**07 34 30.1**	**-0.3**
WRH				IAmb		IAmb	07 34 31.4	
	comp=Z,13nm,1.0s							
CCB	**Clear Creek Bu**	**83.31**	**23**	IAmb		IAmb	07 34 32.1	
	comp=Z,12nm,1.0s							
COLD	**Coldfoot**	**83.47**	**21**	P		**P**	**07 34 32.2**	**+0.1**
COLD				IAmb		IAmb	07 34 36.9	
	comp=Z,12nm,1.2s							
ILAR	**Eielson Array**	**83.72**	**23**	P		**P**	**07 34 32.6**	**-0.9**
	comp=Z,10nm,0.9s,baz=256,slow=4.9,SNR=65							
BVAR	**Borovoye Array**	**83.89**	**324**	P		**P**	**07 34 34.4**	**-0.3**
	comp=Z,4.6nm,0.7s,baz=111,slow=6.5,SNR=23							
RIDG	**Independent Ri**	**84.19**	**25**	P		**P**	**07 34 35.6**	**-0.4**
DOT	**Dot Lake**	**84.48**	**25**	P		**P**	**07 34 37.3**	**-0.1**
BCAR	**Beaver Creek A**	**85.28**	**26**	P		**P**	**07 34 41.8**	**+0.3**
EGAK	**Eagle**	**86.04**	**24**	P		**P**	**07 34 45.0**	**-0.2**
EGAK				IAmb		IAmb	07 34 47.1	
	comp=Z,10.0nm,1.0s							
HYT	**Haines Junctio**	**86.65**	**29**	IAmb		IAmb	07 34 50.4	
	comp=Z,8.2nm,1.1s							
ABKAR	**Akbulak array**	**89.74**	**319**	P		**P**	**07 35 01.5**	**-1.7**
SYO	**Syowa Base**	**92.47**	**200**	⇑*e*X		**P**	**07 35 19.2**	**+3.7**
F10A	**Beach Ranch, E**	**97.48**	**44**	P		**P**	**07 35 39.2**	**+0.1**
F10A				IAmb		IAmb	07 35 46.6	
	comp=Z,4.4nm,1.2s							

NNC 13 07:37:41.0±4.5,**53.˚74N**×**90.˚39E, h0**km,**mb3.8, mpv3.5, 6C-8D, Error ellipse: s-maj=33.6km s-min=23.5km az=54.0, Suspected Mining explosion., Southwestern Siberia**

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

ATKA	Atka Island	2.87	263			Pn	08 08 20.9	+0.7
FALS	False Pass	4.28	56			Pn	08 08 39.6	+0.1
SPIA	Saint Paul Isl	4.58	355		Pn	Pn	08 08 44.5	+0.8
SDPT	Sand Point	6.01	59		Pn	Pn	08 09 02.7	-0.6
KDAK	Kodiak Island	10.98	55		Pn	Pn	08 10 13.5	+2.2
	0.2nm,0.3s,baz=236,slow=7.3,SNR=2.1							
KDAK	Kodiak Island	10.98	55			Pn	08 10 10.9	-0.4
ILAR	Eielson Array	16.81	35		Pn	Pn	08 11 28.9	-0.8
	0.1nm,0.3s,baz=226,slow=12,SNR=4.4							
PETK	Petropavlovsk-	19.68	285		P	P	08 12 02.7	-1.0
	0.1nm,0.3s,baz=79,slow=15,SNR=1.9							
H11N2	WAKE ISLAND Hy	37.58	218		T	T	08 54 37.2	
	baz=24,slow=76							
H11N3	WAKE ISLAND Hy	37.59	218		T	T	08 54 37.8	
	baz=24,slow=76							
H11N1	WAKE ISLAND Hy	37.60	218		T	T	08 54 41.0	
	baz=24,slow=76							
NVAR	Mina Array Bea	37.78	91		P	P	08 14 52.4	+1.3
	0.2nm,0.5s,baz=316,slow=7.5,SNR=3.5							
H11S1	WAKE ISLAND Hy	38.77	218		T	T	08 56 09.4	
	baz=23,slow=76							
H11S2	WAKE ISLAND Hy	38.79	218		T	T	08 56 09.6	
	baz=23,slow=76							
H11S3	WAKE ISLAND Hy	38.79	218		T	T	08 56 07.0	
	baz=23,slow=76							
PDAR	Pinedale Array	40.47	79		P	P	08 15 12.9	-0.6
	0.4nm,0.5s,baz=292,slow=5.3,SNR=6.8							
TXAR	Lajitas Array	52.86	89		P	P	08 16 50.8	+0.2
	0.7nm,0.6s,baz=299,slow=5.5,SNR=14							

SOME **13** *08:17:29.8,41.°05N×78.°65E,h0km,MS3.4*
IDC **13** *08:17:30.1±1.1,40.°83N×78.°81E,h0km,mb3.9/9, mb1 4.0/13,mb1mx3.7/54,mbtmp3.9/13,ML3.4/4,MS3.4/1, Ms1 3.4/1,ms1mx2.6/47,Error ellipse: s-maj=18.9km s-min=17.5km az=50.0*
BJI **13** *08:17:31.5±0.0,41.°02N×78.°75E,h8km,mb4.2/5,ML4.1/9, Ms3.7/2,Ms7 3.5/2*
MOS **13** *08:17:31.0±1.6,40.°89N×78.°79E,h16km,mb4.5/7,Error ellipse: s-maj=14.8km s-min=7.8km az=97.1*
KRNET **13** *08:17:32.8±0.1,41.°07N×78.°64E,h13km,mb4.4*
NNC **13** *08:17:33.3±1.8,41.°09N×78.°68E,h0km,mb5.0,mpv4.6, Error ellipse: s-maj=12.7km s-min=8.2km az=166.0*
ISC 13 08:17:32.6±1.4,41.°06N±0.°04×78.°75E±0.°03,h7km±8km, n117,σ1ş78/160,mb4.0/12,28C-29D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	0.97	314	⇓	*i*	P	Pg	08 17 49.6	-1.7
	baz=16								
TARG				⇓	*i*	S	Sg	08 18 02.7	-1.3
	baz=16								
PRZ	Przheval'sk	1.45	350	⇑	*i*	P	Pn	08 17 59.3	-0.1
	baz=53								
PRZ				⇑	*i*	S	Sn	08 18 19.5	+0.7
	baz=53								
KDJ	Kajisay	1.59	313	⇓	*i*	P	Pn	08 18 00.7	-0.7
	baz=15								
KDJ				⇓	*i*	S	Sn	08 18 21.7	-0.6
	baz=15								
ANVS	Anan'yevo	1.90	335	⇓	*i*	P	Pb	08 18 07.8	0.0
	baz=37								
ANVS				⇓	*i*	S	Sg	08 18 33.2	-0.5
	baz=37								
SATY	Saty	2.01	353		*e*	P	Pb	08 18 09.4	-0.2
	428nm,0.5s								
SATY					*e*	S	Sg	08 18 38.5	+1.2
	2μm,0.7s								
SATY	Saty	2.01	353		Pg		Pb	08 18 09.4	-0.2
	428nm,0.5s								
SATY					Lg		Lg	08 18 39.2	
	2μm,0.7s								
UZB	Uzynbulak	2.10	5		*e*	P	Pb	08 18 10.4	-0.6
	119nm,0.7s								
UZB					*e*	S	Sg	08 18 39.8	-0.2
	1μm,0.6s								
UZB	Uzynbulak	2.10	5		Pg		Pb	08 18 10.4	-0.6
	119nm,0.7s								
UZB					Lg		Lg	08 18 39.8	
	1μm,0.6s								
SHLS	Shalkode	2.16	14		*e*	P	Pg	08 18 13.0	-1.0
	294nm,0.7s								
SHLS					*e*	S	Sg	08 18 44.2	+2.1
	2μm,0.6s								
SHLS	Shalkode	2.16	14		Pg		Pg	08 18 13.0	-1.0
	294nm,0.7s								
SHLS					Lg		Lg	08 18 44.2	
	2μm,0.6s								
ULHL	Ulahol	2.22	303	⇓	*i*	P	Pn	08 18 11.9	+1.8
	baz=4.0								
ULHL				⇓	*i*	S	Sb	08 18 39.9	-1.1
	baz=4.0								
ULHL	Ulahol	2.22	303		P		Pb	08 18 12.8	-0.4
	SNR=119								
PDGK	Podgornoye	2.33	13		Pg		Pb	08 18 14.0	-1.1
	101nm,0.5s								
PDGK					Lg		Lg	08 18 45.9	
	744nm,0.5s								
PDGK	Podgornoye	2.33	13	⇑	Pg		Pg	08 18 20.8	+3.5
	285nm,0.8s								
PDGK				⇑	Lg		Lg	08 18 47.6	
	1μm,0.6s								
KPKS	Kokpek	2.40	359		*e*	P	Pb	08 18 15.3	-1.0
	618nm,0.4s								
KPKS					*e*	S	Sg	08 18 48.3	-1.5
	3μm,0.4s								
MDOK	Medeo	2.45	330		*e*	P	Pb	08 18 15.2	-1.9
	817nm,0.7s								
MDOK					*e*	S	Sg	08 18 48.1	-3.2
	2μm,0.7s								
MDOK	Medeo	2.45	330	⇓	Pn		Pb	08 18 17.1	-0.1
	514nm,0.7s								
MDOK				⇓	Pg		Pg	08 18 22.2	+2.6
	699nm,0.6s								
MDOK				⇑	Lg		Lg	08 18 50.0	
	2μm,0.7s								
MDOK	Medeo	2.45	330		Pg		Pb	08 18 15.2	-1.9
	817nm,0.7s								
MDOK					Lg		Lg	08 18 48.1	
	2μm,0.7s								
KURS	Kuram	2.46	350		*e*	P	Pb	08 18 16.8	-0.5
	314nm,0.5s								
KURS					*e*	S	Sg	08 18 50.7	-1.0
	1μm,1.0s								
KOTS	Kotyrbulak	2.49	331		*e*	P	Pb	08 18 17.1	-0.7
	1μm,0.4s								
KOTS					*e*	S	Sg	08 18 51.5	-1.0
	5μm,0.6s								
KOTS	Kotyrbulak	2.49	331		Pg		Pb	08 18 17.1	-0.7
	1μm,0.4s								
KOTS					Lg		Lg	08 18 51.5	
	5μm,0.6s								
KNDC	Almaty	2.53	329	⇑	Pg		Pg	08 18 23.5	+2.5
	1μm,0.7s								
KNDC				⇓	Lg		Lg	08 18 52.7	
	2μm,0.8s								
IZV	Izvestkoviy	2.54	322		*e*	P	Pb	08 18 17.1	-1.4
	308nm,0.5s								
IZV					*e*	S	Sg	08 18 51.7	-2.4
	921nm,0.6s								
IZV	Izvestkoviy	2.54	322		Pg		Pb	08 18 17.1	-1.4
	308nm,0.5s								
IZV					Lg		Lg	08 18 51.7	
	921nm,0.6s								
AAA	Alma-Ata	2.54	328		*e*	P	Pb	08 18 18.6	-0.1
	1μm,0.3s								
AAA					*e*	S	Sg	08 18 53.5	-0.8
	276nm,0.7s								
AAA	Alma-Ata	2.54	328		Pg		Pb	08 18 18.6	-0.1
	1μm,0.3s								
AAA					Lg		Lg	08 18 53.5	
	276nm,0.7s								
AAA	Alma-Ata	2.54	328		*e*	PN	Pb	08 18 19.0	+0.4
AAA					*e*	S	Sg	08 18 53.5	-0.8
AAA					pmax		pmax		
	comp=Z,1μm,0.2s								
AAA					smax		smax		
	comp=N,1μm,0.5s								
KSH	Kashi	2.62	235		Pn		Pg	08 18 25.3	+2.4
KSH					Sn		Sg	08 19 07.6	+11
KSH					smax		smax		
	comp=N,280nm,0.7s								
KSH					smax		smax		
	comp=N,410nm,0.6s								
KTMS	Ketmen	2.67	26		*e*	P	Pb	08 18 20.6	-0.2
	comp=N,4.0nm,0.1s								
KTMS					*e*	S	Sg	08 18 57.3	-0.8
	comp=N,2μm,1.0s								
KTMS	Ketmen	2.67	26		Pg		Pb	08 18 20.6	-0.2
	comp=N,4.0nm,0.1s								
KTMS					Lg		Lg	08 18 57.3	
	comp=N,2μm,1.0s								
MTBS	Maitube	2.69	321		*e*	P	Pb	08 18 20.1	-1.1
	comp=N,221nm,0.7s								
MTBS					*e*	S	Sg	08 18 56.3	-2.8
	comp=N,564nm,0.3s								
MTBS	Maitube	2.69	321		Pg		Pb	08 18 20.1	-1.1
	comp=N,221nm,0.7s								
MTBS					Lg		Lg	08 18 56.3	
	comp=N,564nm,0.3s								
KZA	Kyzart	2.81	292	⇓	*e*	P	Pn	08 18 19.7	+1.3
	baz=93								
KZA				⇓	*i*	S	Sn	08 18 54.0	+1.1
	baz=93								
KZA	Kyzart	2.81	292		P		Pn	08 18 20.2	+1.8
	SNR=62								
KST	Kastek	2.87	315		*e*	P	Pb	08 18 23.9	-0.3
	comp=N,334nm,0.9s								
KST					*e*	S	Sg	08 19 03.0	-1.7
	comp=N,314nm,0.6s								
KST	Kastek	2.87	315		Pg		Pb	08 18 23.9	-0.3
	comp=N,334nm,0.9s								
KST					Lg		Lg	08 19 03.0	
	comp=N,314nm,0.6s								
TKM2	Tokmak 2	3.00	309	⇑	*i*	P	Pn	08 18 22.3	+1.6
	baz=10.0								
TKM2				⇑	*i*	S	Sn	08 18 58.8	+1.8
	baz=10.0								
TKM2	Tokmak 2	3.00	309		P		Pn	08 18 23.7	+3.0
	SNR=19								
TKM2	Tokmak 2	3.00	309	⇑	Pg		Pb	08 18 26.0	-0.4
	comp=N,44nm,0.3s								
TKM2				⇓	Lg		Lg	08 19 08.6	
	comp=N,444nm,0.6s								
MNBS	Baschi	3.03	355		*e*	P	Pb	08 18 27.2	+0.3
	comp=N,219nm,0.5s								
MNBS					*e*	S	Sg	08 19 08.6	-1.2
	comp=N,699nm,0.6s								
MNBS	Baschi	3.03	355		Pg		Pb	08 18 27.2	+0.3
	comp=N,219nm,0.5s								
MNBS					Lg		Lg	08 19 08.6	
	comp=N,699nm,0.6s								
KTBS	Karatobe	3.06	331		*e*	P	Pb	08 18 26.9	-0.6
	comp=N,369nm,0.7s								
KTBS					*e*	S	Sg	08 19 08.1	-2.8
	comp=N,876nm,0.5s								
KTBS	Karatobe	3.06	331		Pg		Pb	08 18 26.9	-0.6
	comp=N,369nm,0.7s								
KTBS					Lg		Lg	08 19 08.1	
	comp=N,876nm,0.5s								
CHKK	Chushkaly	3.08	336		*e*	P	Pb	08 18 26.8	-0.9
	comp=N,185nm,0.4s								
CHKK					*e*	S	Sg	08 19 08.6	-2.9
	comp=N,844nm,0.4s								
CHKK	Chushkaly	3.08	336		Pg		Pb	08 18 26.8	-0.9
	comp=N,185nm,0.4s								
CHKK					Lg		Lg	08 19 08.6	
	comp=N,844nm,0.4s								
DGS	Degeres	3.11	316		*e*	P	Pb	08 18 26.7	-1.5
	comp=N,210nm,0.8s								
DGS					*e*	S	Sb	08 19 08.0	+1.6
	comp=N,328nm,0.5s								
DGS	Degeres	3.11	316		Pg		Pb	08 18 26.7	-1.5
	comp=N,210nm,0.8s								
DGS					Lg		Lg	08 19 08.0	
	comp=N,328nm,0.5s								
ARXS	Arharly	3.22	348		*e*	P	Pb	08 18 29.5	-0.7
	comp=N,382nm,0.6s								
ARXS					*e*	S	Sg	08 19 13.4	-2.7
	comp=N,852nm,0.7s								
ARXS	Arharly	3.22	348		Pg		Pb	08 18 29.5	-0.7
	comp=N,382nm,0.6s								
ARXS					Lg		Lg	08 19 13.4	
	comp=N,852nm,0.7s								
KBK	Karagaybulak	3.26	301	⇑	*e*	P	Pn	08 18 25.7	+1.4
	baz=1.0								
KBK				⇑	*i*	S	Sn	08 19 04.7	+1.3
	baz=1.0								
KBK	Karagaybulak	3.26	301		P		Pn	08 18 27.2	+2.9
	SNR=16								
DJR	Jarkent	3.36	13		*e*	P	Pb	08 18 32.8	+0.3
	comp=N,106nm,0.5s								
DJR					*e*	S	Sg	08 19 18.6	-1.9
	comp=N,266nm,0.4s								
DJR	Jarkent	3.36	13		Pg		Pb	08 18 32.8	+0.3
	comp=N,106nm,0.5s								
DJR					Lg		Lg	08 19 18.6	
	comp=N,266nm,0.4s								
UCH	Uchtor	3.38	292	⇑	*i*	P	Pn	08 18 27.6	+1.3
	baz=92								
UCH				⇑	*i*	S	Sn	08 19 07.7	+0.8
	baz=92								
UCH	Uchtor	3.38	292		P		Pn	08 18 28.0	+1.7
	SNR=16								
ARLS	Arif	3.42	285	⇑	*i*	P	Pn	08 18 27.3	+0.8
	baz=85								
ARLS				⇑	*i*	S	Sn	08 19 07.9	+0.5
	baz=85								
KRBS	Karabastau	3.48	320		*e*	P	Pb	08 18 33.6	-1.0
	comp=N,125nm,0.6s								
KRBS					*e*	S	Sg	08 19 19.7	-4.7
	comp=N,131nm,0.6s								
KRBS	Karabastau	3.48	320		Pg		Pb	08 18 33.6	-1.0
	comp=N,125nm,0.6s								
KRBS					Lg		Lg	08 19 19.7	
	comp=N,131nm,0.6s								
FRU1	Bishkek	3.53	301	⇑	*e*	P	Pn	08 18 29.5	+1.5
	baz=1.0								
FRU1				⇑	*i*	S	Sn	08 19 11.2	+1.1
	baz=1.0								
AAK	Ala-Archa	3.55	298		Pn		Pn	08 18 31.3	+3.0
	comp=N,3.6nm,0.3s,baz=118,slow=9.1,SNR=16								
AAK					Lg		Lg	08 19 22.2	
	comp=N,15nm,0.3s,baz=281,slow=22,SNR=13								
AAK	Ala-Archa	3.55	298	⇑	*i*	P	Pn	08 18 29.7	+1.4
	baz=98								
AAK				⇑	*i*	S	Sn	08 19 11.5	+0.9
	baz=98								
AAK	Ala-Archa	3.55	298		P		Pn	08 18 31.1	+2.8
	SNR=9.0								
AAK	Ala-Archa	3.55	298	⇑	Pg		Pg	08 18 40.7	+0.2
	comp=N,59nm,0.6s								
AAK				⇑	Lg		Lg	08 19 23.3	
	comp=N,290nm,0.8s								
AAK	Ala-Archa	3.55	298	*i*	PN		Pn	08 18 30.7	+2.4
CHMS	Chumysh	3.55	304	⇓	*i*	P	Pn	08 18 29.8	+1.6
	baz=5.0								
CHMS				⇓	*e*	S	Sn	08 19 11.7	+1.2
	baz=5.0								
CHMS	Chumysh	3.55	304		P		Pb	08 18 35.0	-0.8
	SNR=17								
USP	Ospenovka	3.85	306	⇓	*i*	P	Pn	08 18 33.8	+1.5
	baz=7.0								
USP				⇓	*i*	S	Sn	08 19 19.0	+1.1
	baz=7.0								
USP	Ospenovka	3.85	306		P		Pn	08 18 36.5	+4.1
	SNR=5.6								
AML	Almayashu	3.94	287	⇓	*e*	P	Pn	08 18 35.2	+1.3
	baz=88								
AML				⇓	*i*	S	Sn	08 19 21.2	+0.7
	baz=88								
AML	Almayashu	3.94	287		P		Pb	08 18 44.1	+1.5
	SNR=13								
EKS2	Erkin-Say	4.04	295	⇑	*i*	P	Pn	08 18 36.6	+1.6
	baz=95								
EKS2				⇑	*e*	S	Sn	08 19 23.1	+0.4
	baz=95								
EKS2	Erkin-Say	4.04	295		P		Pn	08 18 37.8	+2.8
	SNR=7.3								
KAPS	Kapalarasan	4.25	6		*e*	P	Pb	08 18 48.4	+0.8
	comp=N,31nm,0.6s								
KAPS					*e*	S	Sg	08 19 45.2	-3.7
	comp=N,126nm,0.9s								
KAPS	Kapalarasan	4.25	6		Pg		Pb	08 18 48.4	+0.8
	comp=N,31nm,0.6s								
KAPS					Lg		Lg	08 19 45.2	
	comp=N,126nm,0.9s								
ARSB	Arslanbob	4.36	275	⇓	*e*	P	Pn	08 18 40.8	+1.4
	baz=75								
ARSB				⇓	*i*	S	Sn	08 19 30.7	+0.1
	baz=75								
MRKS	Merke	4.45	294		*e*	P	Pb	08 18 51.2	0.0
	comp=N,85nm,0.6s								
MRKS					*e*	S	Sb	08 19 49.7	+4.6
	comp=N,54nm,0.7s								
MRKS	Merke	4.45	294		Pg		Pb	08 18 51.2	0.0
	comp=N,85nm,0.6s								
MRKS					Lg		Lg	08 19 49.7	
	comp=N,54nm,0.7s								
BTLS	Baital	5.26	321		*e*	P	Pb	08 19 06.5	+1.6
	comp=N,10nm,0.5s								
BTLS					*e*	S	Sg	08 20 15.8	-5.7
	comp=N,53nm,0.6s								
MAKZ	Makanchi	6.20	21	⇑	Pn		Pn	08 19 06.0	+1.4
	comp=N,9.8nm,0.8s								
MAKZ				⇓	Lg		Lg	08 20 53.9	
	comp=N,44nm,0.9s								
MK31	Makanchi Array	6.28	23		Pn		Pn	08 19 06.6	+1.0
	comp=N,0.9nm,0.3s,baz=195,slow=11,SNR=62								
MK31				⇓	Lg		Lg	08 20 52.0	
	comp=N,29nm,0.7s,baz=190,slow=30,SNR=4.5								
MK31	Makanchi Array	6.28	23	*i*	PN		Pn	08 19 07.3	+1.7
MKAR	Makanchi Array	6.28	23		Pn		Pn	08 19 07.3	+1.7
	comp=N,0.8nm,0.3s,baz=212,slow=14,SNR=24								
MKAR					Sn		Sn	08 20 21.1	+3.6
	comp=N,2.6nm,0.3s,baz=202,slow=18,SNR=4.5								
MKAR					Lg		Lg	08 20 52.8	
	comp=N,2.8nm,0.3s,baz=210,slow=26,SNR=4.2								
MKAR	Makanchi Array	6.28	23	*i*	PN		Pn	08 19 07.3	+1.7
MKAR					pmax		pmax		
	comp=Z,2.0nm,0.4s								
KK31	Karatay Array	6.46	291	⇑	Pg		Pb	08 19 31.4	+6.1
	comp=Z,17nm,0.7s,baz=93,slow=16,SNR=13								
KK31				⇓	Lg		Lg	08 20 55.4	
	comp=Z,12nm,0.6s,baz=117,slow=24,SNR=6.2								
WMQ	Urumqi	7.17	64	*e*	Pn		Pn	08 19 19.8	+1.9
WMQ					Sn		Sn	08 20 38.0	-1.7
WMQ					smax		smax		
	comp=Z,25nm,0.9s								
WMQ					smax		smax		
	comp=Z,38nm,0.9s								
OTUK	Ortayu	8.51	330	⇑	Pn		Pn	08 19 38.8	+2.5
	comp=Z,18nm,0.9s								
OTUK				⇓	Lg		Lg	08 22 04.0	
	comp=Z,26nm,0.6s								
CHCP	Chirah Chowk	8.58	212		P		Pn	08 19 39.5	+2.2
CEP	Cherat	9.04	219		P		Pn	08 19 45.6	+1.9
CEP					S		Sn	08 21 23.0	-2.8
KURBB	Kurchatov Arra	9.56	359		Pn		Pn	08 19 52.0	+1.3
	comp=Z,0.1nm,0.3s,baz=186,slow=12,SNR=24								
KURBB					Lg		Lg	08 22 32.2	
	comp=Z,0.2nm,0.3s,baz=187,slow=29,SNR=8.3								
KURBB	Kurchatov Arra	9.56	359	⇓	Pn		Pn	08 19 51.3	+0.6
	comp=Z,3.2nm,0.8s								
KURBB				⇓	Lg		Lg	08 22 40.0	
	comp=Z,100nm,0.9s								
KURK	Kurchatov	9.66	360	⇑	Pn		Pn	08 19 53.0	+1.1
	comp=Z,3.4nm,0.6s								
KURK				⇑	Lg		Lg	08 22 40.3	
	comp=Z,96nm,1.1s								
KURK	Kurchatov	9.66	360	*d*	iP		Pn	08 19 53.3	+1.4
DGZ	Jazzator, Alta	10.57	32	*i*	P		Pn	08 20 07.5	+2.9
DGZ					pmax		pmax		
	comp=Z,4.0nm,0.6s								
BVAR	Borovoye Array	13.24	337		Pn		Pn	08 20 41.2	+0.2
	comp=Z,0.4nm,0.3s,baz=103,slow=6.7,SNR=6.6								
BVAR					Lg		Lg	08 24 35.2	
	comp=Z,0.4nm,0.3s,baz=138,slow=26,SNR=7.3								
BRVK	Borovoye	13.30	337	*i*	P		Pn	08 20 42.6	+0.8
ZALV	Zalesovo Beam	13.52	16		Pn		P	08 20 51.4	-2.7
	comp=Z,0.3nm,0.3s,baz=193,slow=12,SNR=4.0								
GTA	Gaotai	16.17	89		*e*	P	Pn	08 21 18.9	-1.5
GTA					pP		P	08 21 23.1	-0.6
GTA					sP		pP	08 21 25.6	-0.5
GTA					pmax		pmax		
	comp=Z,3.0nm,1.2s								
ARU	Arti	20.22	326		P		P	08 22 08.1	+0.1
	comp=Z,2.3nm,0.2s,baz=256,slow=19,SNR=1.2								
ARU	Arti	20.22	326		P		P	08 22 08.0	0.0
ARU								08 22 23.6	
ARU					S		Sn	08 25 59.9	+2.4
ARU					SS		SnSn	08 26 18.5	+6.6
SONM	Songino Array	20.80	62		P		P	08 22 15.0	+0.5
	comp=Z,9.1nm,0.9s,baz=261,slow=11,SNR=33								
SONM	Songino Array	20.80	62		P		P	08 22 15.0	+0.5
ULN	Ulaanbaatar	21.24	62	*i*	P		P	08 22 19.0	-0.3
ULN					pmax		pmax		
	comp=Z,8.0nm,1.1s								
KIV	Kislovodsk	26.61	288		*e*	P	P	08 23 11.1	-0.6
KIV					pmax		pmax		
	comp=Z,17nm,1.0s								
NRIK	Noril'sk	28.72	6	*i*	P		P	08 23 33.1	+2.9
NRIK					pmax		pmax		
	comp=Z,3.0nm,1.0s								
OBN	Obninsk	30.96	311	*i*	P		P	08 23 50.2	+0.1
OBN				*i*				08 24 52.6	
OBN					pmax		pmax		
	comp=Z,5.0nm,0.7s								
BRTR	Keskin Array B	34.09	283		P		P	08 24 17.6	-0.3
	comp=Z,1.7nm,0.7s,baz=95,slow=9.3,SNR=5.6								
FINES	FINESS Array B	37.42	321		P		P	08 24 45.7	-0.3
	comp=Z,2.0nm,0.6s,baz=101,slow=9.9,SNR=7.5								
FINES	FINESS Array B	37.42	321	*i*	P		P	08 24 46.0	0.0
FINES					pmax		pmax		
	comp=Z,2.0nm,0.6s								
TIXI	Tiksi	39.26	23	*i*	P		P	08 25 00.2	-1.2
TIXI					pmax		pmax		
	comp=Z,16nm,1.4s								
ARCES	ARCESS Array B	39.49	334		P		P	08 25 04.0	+0.6
	comp=Z,4.9nm,0.8s,baz=96,slow=8.7,SNR=7.7								
ARCES	ARCESS Array B	39.49	334		P		P	08 25 04.0	+0.6
NB2	NORSAR Subarra	44.58	320		P		P	08 25 43.9	-1.2
	comp=Z,5.2nm,1.1s,baz=87,slow=7.9								
NOA	NORSAR Array B	44.58	320		P		P	08 25 44.1	-0.9
	comp=Z,0.8nm,0.6s,baz=86,slow=7.9,SNR=4.4								
GERES	GERESS Array B	45.41	303		LR		LR	08 48 22.6	
	comp=Z,44nm,18.7s,baz=82,slow=41								
ILAR	Eielson Array	68.62	19		P		P	08 28 33.9	-2.1
	comp=Z,0.7nm,0.9s,baz=302,slow=6.0,SNR=5.5								
WRA	Warramunga Arr	79.62	128		P		P	08 29 39.7	-1.1
	comp=Z,0.4nm,0.9s,baz=189,slow=14,SNR=1.5								
ASAR	Alice Springs	82.24	131		P		P	08 29 51.9	-2.8
	comp=Z,0.3nm,0.7s,baz=325,slow=7.9,SNR=2.4								

SOME **13** *08:29:55.1,41.°05N×78.°58E,h5km*
KRNET **13** *08:29:55.8±0.1,41.°00N×78.°59E,h15km,mb3.1*
NNC **13** *08:29:57.1±1.1,41.°09N×78.°63E,h

105nm,0.5s
SHLS Shalkode 2.23 18 *e*P **Pg 08 30 38.0 -1.4**
54nm,0.3s
SHLS *e*S **Sg 08 31 08.8 +0.5**
117nm,0.3s
SHLS Shalkode 2.23 18 Pg **Pg 08 30 38.0 -1.4**
54nm,0.3s
SHLS Lg Lg 08 31 08.8
117nm,0.3s
MDOK Medeo 2.40 333 *e*P **Pb 08 30 40.2 +0.2**
47nm,0.5s
MDOK *e*S **Sg 08 31 12.6 -1.2**
184nm,0.8s
MDOK Medeo 2.40 333 Pn **Pb 08 30 39.6 -0.4**
38nm,0.5s
MDOK Lg Lg 08 31 12.2
220nm,0.8s
MDOK Medeo 2.40 333 Pg **Pb 08 30 40.2 +0.2**
47nm,0.5s
MDOK Lg Lg 08 31 12.5
184nm,0.8s
PDGK Podgornoye 2.40 17 ⇑Pg **Pb 08 30 38.3 -1.7**
18nm,0.6s
PDGK ⇓Lg Lg 08 31 10.9
152nm,0.7s
KPKS Kokpek 2.43 2 *e*P **Pb 08 30 39.6 -0.9**
63nm,0.3s
KPKS *e*S **Sb 08 31 11.7 +1.1**
608nm,0.5s
KOTS Kotyrbulak 2.44 335 *e*P **Pg 08 30 41.3 -2.1**
97nm,0.4s
KOTS *e*S **Sg 08 31 14.9 -0.2**
574nm,0.5s
KOTS Kotyrbulak 2.44 335 Pg **Pg 08 30 41.3 -2.1**
97nm,0.4s
KOTS Lg Lg 08 31 14.9
574nm,0.5s
IZV Izvestkoviy 2.46 325 *e*P **Pg 08 30 41.7 -2.1**
14nm,0.5s
IZV *e*S **Sg 08 31 15.5 -0.2**
98nm,0.4s
IZV Izvestkoviy 2.46 325 Pg **Pg 08 30 41.7 -2.1**
14nm,0.5s
IZV Lg Lg 08 31 15.5
98nm,0.4s
KURS Kuram 2.47 354 *e*P **Pb 08 30 41.1 0.0**
49nm,0.5s
KURS *e*S **Sg 08 31 14.1 -1.8**
143nm,0.7s
KURS Kuram 2.47 354 Pg **Pb 08 30 41.1 0.0**
49nm,0.5s
KURS Lg Lg 08 31 14.1
143nm,0.7s
KNDC Almaty 2.48 332 ⇑Pg **Pb 08 30 41.2 0.0**
54nm,0.5s
KNDC ⇑Lg Lg 08 31 16.1
212nm,0.7s
AAA Alma-Ata 2.49 331 *e*P **Pg 08 30 42.9 -1.4**
61nm,0.2s
AAA *e*S **Sg 08 31 17.1 +0.6**
144nm,0.3s
AAA Alma-Ata 2.49 331 Pg **Pg 08 30 42.9 -1.4**
61nm,0.2s
AAA Lg Lg 08 31 17.1
144nm,0.3s
MTBS Maitube 2.62 324 *e*P **Pg 08 30 44.9 -1.9**
5.7nm,0.2s
MTBS *e*S **Sg 08 31 20.4 -0.3**
49nm,0.5s
KZA Kyzart 2.68 294 ⇑*i*P **Pn 08 30 41.6 +1.4**
baz=94
KZA ⇑*i*S **Sb 08 31 15.2 -2.8**
baz=94
KTMS Ketmen 2.76 29 *e*P **Pb 08 30 45.3 -0.8**
1.4nm,0.2s
KTMS *e*S **Sb 08 31 21.4 +1.3**
121nm,0.7s
KTMS Ketmen 2.76 29 Pg **Pb 08 30 45.3 -0.8**
1.4nm,0.2s
KTMS Lg Lg 08 31 21.4
121nm,0.7s
TKM2 Tokmak 2 2.89 312 ⇑*i*P **Pn 08 30 44.5 +1.6**
baz=12
TKM2 ⇑*i*S **Sn 08 31 20.4 +2.5**
baz=12
TKM2 Tokmak 2 2.89 312 ⇑Pg **Pb 08 30 47.4 -1.1**
8.6nm,0.6s
TKM2 ⇓Lg Lg 08 31 30.6
20nm,0.5s
KTBS Karatobe 3.01 333 *e*P **Pb 08 30 51.4 +1.1**
25nm,0.6s
KTBS *e*S **Sg 08 31 31.9 -1.4**
81nm,0.4s
KTBS Karatobe 3.01 333 Pg **Pb 08 30 51.4 +1.1**
25nm,0.6s
KTBS Lg Lg 08 31 31.9
81nm,0.4s
DGS Degeres 3.02 318 *e*P **Pb 08 30 51.2 +0.7**
11nm,0.7s
DGS *e*S **Sg 08 31 31.9 -1.7**
24nm,0.6s
DGS Degeres 3.02 318 Pg **Pb 08 30 51.2 +0.7**
11nm,0.7s
DGS Lg Lg 08 31 31.9
24nm,0.6s
CHKK Chushkaly 3.04 338 *e*P **Pb 08 30 51.7 +0.8**
13nm,0.4s
CHKK *e*S **Sg 08 31 32.7 -1.6**
114nm,0.5s
CHKK Chushkaly 3.04 338 Pg **Pb 08 30 51.7 +0.8**
13nm,0.4s
CHKK Lg Lg 08 31 32.7
114nm,0.5s
KBK Karagaybulak 3.13 302 ⇑*i*P **Pn 08 30 47.9 +1.7**
baz=2.0
KBK ⇑*i*S **Sn 08 31 26.2 +2.4**
baz=2.0
ARXS Arharly 3.22 351 *e*P **Pb 08 30 54.1 +0.2**
30nm,0.5s
ARXS *e*S **Sg 08 31 37.1 -3.0**
51nm,0.5s
ARXS Arharly 3.22 351 Pg **Pb 08 30 54.1 +0.2**
30nm,0.5s
ARXS Lg Lg 08 31 37.1
51nm,0.5s
UCH Uchtor 3.25 293 ⇓*i*P **Pn 08 30 49.8 +1.8**
baz=93
UCH ⇓*i*S **Sn 08 31 28.8 +1.9**
baz=93
ARLS Aral 3.27 286 ⇓*i*P **Pn 08 30 49.9 +1.7**
baz=87
ARLS ⇓*i*S **Sn 08 31 29.2 +1.9**
baz=87
KRBS Karabastau 3.40 322 *e*P **Pb 08 30 58.5 +1.4**
9.7nm,0.6s
KRBS *e*S **Sg 08 31 44.0 -1.9**
11nm,0.3s
KRBS Karabastau 3.40 322 Pg **Pb 08 30 58.5 +1.4**
9.7nm,0.6s
KRBS Lg Lg 08 31 44.0
11nm,0.3s
AAK Ala-Archa 3.42 299 Pg **Pg 08 31 00.8 -1.3**
5.0nm,0.6s
AAK Lg Lg 08 31 45.1
18nm,0.7s
DJR Jarkent 3.42 15 *e*P **Pb 08 30 57.4 0.0**
12nm,0.4s
DJR *e*S **Sg 08 31 42.4 -4.1**
22nm,0.4s
DJR Jarkent 3.42 15 Pg **Pb 08 30 57.4 0.0**
12nm,0.4s
DJR Lg Lg 08 31 42.4
22nm,0.4s
EKS2 Erkin-Say 3.91 296 ⇓*e*P **Pn 08 30 58.6 +1.7**
baz=96
EKS2 ⇓*e*S **Sn 08 31 44.6 +1.7**
baz=96
TDK Taldyqorghan 3.97 359 *e*P **Pg 08 31 10.4 -2.2**
144nm,0.5s
TDK *e*S **Sg 08 32 04.8 +0.8**
123nm,0.8s
TDK Taldyqorghan 3.97 359 Pg **Pg 08 31 10.4 -2.2**
144nm,0.5s
TDK Lg Lg 08 32 04.8
123nm,0.8s
ARSB Arslanbob 4.20 276 ⇓*i*P **Pn 08 31 02.6 +1.7**
baz=76
ARSB ⇓*e*S **Sn 08 31 51.9 +1.8**
baz=76

KAPS Kapalarasan 4.29 8 *e*P **Pg 08 31 15.2 -3.7**
3.8nm,0.5s
KAPS *e*S **Sg 08 32 12.7 -1.7**
14nm,0.7s
KAPS Kapalarasan 4.29 8 Pg **Pg 08 31 15.2 -3.7**
3.8nm,0.5s
KAPS Lg Lg 08 32 12.7
14nm,0.7s
MRKS Merke 4.32 295 *e*P **Pg 08 31 16.6 -2.7**
6.2nm,0.4s
MRKS *e*S **Sg 08 32 15.2 -0.1**
5.8nm,0.6s
MRKS Merke 4.32 295 Pg **Pg 08 31 16.6 -2.7**
6.2nm,0.4s
MRKS Lg Lg 08 32 15.2
5.8nm,0.6s
BTLS Baital 5.18 322 *e*P **Pb 08 31 30.2 +2.9**
0.8nm,0.6s
BTLS *e*S **Sg 08 32 38.1 -4.9**
3.7nm,0.8s
MAKZ Makanchi 6.28 22 ⇑Pn **Pn 08 31 32.6 +3.2**
1.4nm,0.9s
MAKZ ⇑Pg **Pb 08 31 46.6 +0.5**
0.9nm,0.5s
MAKZ ⇓Lg Lg 08 33 09.9
4.7nm,1.1s
KK31 Karatay Array 6.32 292 ⇑Pg **Pg 08 31 53.3 -4.3**
0.5nm,0.4s,baz=112,slow=16,SNR=4.7
KK31 ⇑Lg Lg 08 33 20.4
1.7nm,0.6s,baz=113,slow=24,SNR=6.4
MK31 Makanchi Array 6.36 24 ⇑Pn **Pn 08 31 33.2 +2.7**
0.2nm,0.3s,baz=201,slow=12,SNR=8.4
MK31 ⇑Pg Pg 08 31 52.6 -5.8
0.7nm,0.6s,baz=200,slow=9.9,SNR=4.2
MK31 ⇑Lg Lg 08 33 12.8
2.6nm,0.8s,baz=208,slow=25,SNR=5.2

BJI ***13*** *08:49:42.6±0.0,0.°85N×146.°74E, h10km, mB5.0/49, mb5.2/67, Ms4.5/37, Ms7 4.3/36*
IDC ***13*** *08:49:45.8±0.4,0.°97N×146.°24E, h0km, mb4.9/28, mb1 5.0/32, mb1mx4.9/39, mbtmp4.9/32, ML4.2/2, MS4.0/31, Ms1 4.0/31, ms1mx3.9/39, Error ellipse: s-maj=15.7km s-min=9.3km az=87.0*
MOS ***13*** *08:49:47.3±0.8,0.°97N×146.°21E, h22km, mb5.3/45, Error ellipse: s-maj=11.2km s-min=5.5km az=107.9*
DJA ***13*** *08:49:48.9±0.6, 1.°N±4.°×14.°6E±.°, h40km±5km, M5.1/45, mb5.2/45, mB5.5/19, MLv5.4/3, Mw(mB)5.0/19, Mwp5.2/1*
NEIC ***13*** *08:49:48.3±1.3, 0.°97N±0.°06×146.°20E±0.°07, h16km±3km, mb5.2/94, Error ellipse: s-maj=10.6km s-min=9.3km az=95.0*
GCMT ***13*** *08:49:51.3±0.2, 0.°97N±0.°01×146.°23E±0.°01, h22km, MW5.0/117, Moment Tensor Solution. s64,c83; s117,c185; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 1.93±.14; Mθθ -1.06±.10; Mϕϕ -0.87±.11; Mrθ 0.98±.16; Mθϕ 4.29±.08; Mϕr 1.08±.17; Best double couple: M₀4.75000×10¹⁶ NP1:ϕ₁94.00000°, δ67.00000°, λ24.00000°. NP2:ϕ₂355.00000°, δ68.00000°, λ156.00000°. Principal axes: T 4.2420, Plg32.0000°, Azm314.0000°; N 1.0120, Plg58.0000°, Azm135.0000°; P -5.2590, Plg0.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 08:49:47.0±1.4, 0.°98N±0.°04×146.°24E±0.°05, h9km±8km, n337, σ1°35/335, mb5.2/123, **MS4.0**/41, **20C-6D, Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.53**	**238**	Pn		**Pn**		**08 51 22.9**	**-0.5**
	4.2nm,0.3s,baz=177,slow=3.3,SNR=26								
JAY				Sn		**Sn**		**08 52 32.5**	**-5.6**
	7.7nm,0.3s,baz=149,slow=24,SNR=5.9								
JAY	**Jayapura**	**6.53**	**238**	P		**Pn**		**08 51 23.9**	**+0.5**
	0.3nm746nm83nm,1.1s								
GENI	**Genyem**	**7.03**	**240**	P		**Pn**		**08 51 30.4**	**+0.2**
	1.4nm5μm287nm,0.7s								
KRVT	**Keravat (AS076**	**7.81**	**132**	Pn		**Pn**		**08 51 41.7**	**+0.8**
	32nm,0.3s,baz=157,slow=1.2,SNR=92								
KRVT				LR		LR		08 54 21.4	
	comp=Z,2μm,20.5s,baz=324,slow=35								
RABL	**Rabaul**	**7.84**	**131**			**Pn**		**08 51 40.3**	**-1.0**
SMPI	**Sarmi**	**8.08**	**249**	P		**Pn**		**08 51 45.8**	**+1.1**
	1μm165nm,1.0s								
WAMI	**Wamena**	**8.94**	**237**	P		**Pn**		**08 51 59.4**	**+3.0**
	444nm,0.6s								
PMG	**Port Moresby**	**10.36**	**175**	Pn		**Pn**		**08 52 16.4**	**+0.6**
	1.1nm,0.3s,baz=356,slow=15,SNR=3.2								
PMG				LR		LR		08 55 46.2	
	comp=Z,1μm,18.5s,baz=324,slow=35								
MMPI	**Merauke**	**11.05**	**212**	P		Pn		08 52 30.5	+5.2
GUMO	**Guam**	**12.60**	**354**	Pn		**Pn**		**08 52 46.3**	**-0.3**
	1.8nm,0.3s,baz=180,slow=18,SNR=1.2								
GUMO				Sn		**Sn**		**08 55 02.3**	**-4.9**
	3.8nm,0.3s,baz=11,slow=23,SNR=1.4								
GUMO				LR		LR		08 56 17.1	
	comp=Z,837nm,21.8s,baz=174,slow=31								
PATS	**Pohnpei**	**13.37**	**64**	P		**Pn**		**08 52 54.1**	**-3.0**
	baz=13,SNR=20								
PATS	**Pohnpei**	**13.37**	**64**	Pn		**Pn**		**08 52 54.3**	**-2.8**
FAKI	**Fak Fak**	**14.51**	**254**	P		**Pn**		**08 53 12.9**	**+0.2**
	187nm,1.3s								
SIJI	**Sorong**	**15.08**	**263**	Pn		**Pn**		**08 53 20.6**	**+0.1**
	baz=61,slow=10.0,SNR=8.9								
COEN	**Coen**	**15.15**	**191**	P		**Pn**		**08 53 22.2**	**+0.8**
	baz=15,SNR=10								
COEN	**Coen**	**15.15**	**191**	Pn		**Pn**		**08 53 21.0**	**-0.4**
COEN				IAmb		IAmb		08 53 29.1	
	comp=Z,71nm,0.9s								
HNR	**Honiara**	**17.13**	**127**	LR		LR		08 59 53.0	
	comp=Z,1μm,20.4s,baz=305,slow=36								
MTSU	**Mount Surprise**	**19.09**	**186**	P		**Pn**		**08 54 11.8**	**+1.0**
	baz=19,SNR=10								
KDU	**Kakadu**	**19.26**	**225**	P		**P**		**08 54 11.8**	**-0.2**
	baz=20,SNR=47								
NLAI	**Namlea**	**19.58**	**258**	P		**P**		**08 54 13.8**	**-1.8**
	comp=Z,3μmcomp=Z,59nm,1.2s								
MTN	**Manton Dam**	**20.33**	**227**	P		**P**		**08 54 24.2**	**+0.6**
	baz=20,SNR=38								
MTN	**Manton Dam**	**20.33**	**227**	P		**P**		**08 54 24.2**	**+0.6**
CTA	**Charters Tower**	**20.94**	**180**	P		**P**		**08 54 30.9**	**+0.6**
	comp=Z,37nm,0.9s,baz=347,slow=12,SNR=17								
CTA	**Charters Tower**	**20.94**	**180**	P		**P**		**08 54 31.4**	**+1.1**
	baz=21								
CTAO	**Charters Tower**	**20.94**	**180**	P		**P**		**08 54 30.9**	**+0.6**
CTAO				pmax		pmax			
	comp=Z,66nm,1.0s								
CTAO	**Charters Tower**	**20.94**	**180**			**P**		**08 54 30.9**	**+0.6**
DAV	**Davao City (W)**	**21.47**	**287**	LR		LR		09 02 41.0	
	comp=Z,478nm,18.9s,baz=120,slow=36								
QIS	**Mount Isa**	**22.37**	**197**	P		**P**		**08 54 45.2**	**-0.4**
	baz=23,SNR=56								
GTOI	**Gorontalo**	**23.23**	**269**	P		**P**		**08 54 55.8**	**+1.0**
	comp=Z,668nmcomp=Z,74nm,1.0s								
WB0	**Warramunga Arr**	**23.67**	**209**	P		**P**		**08 54 58.2**	**-0.8**
WR0	**Warramunga Arr**	**23.76**	**208**	P		**P**		**08 54 59.2**	**-0.7**
WRAB	**Tennant Creek**	**23.83**	**209**	*ce*P		**P**		**08 54 59.7**	**-0.9**
WRAB				pmax		pmax			
	comp=Z,160nm,0.6s								
WRAB	**Tennant Creek**	**23.83**	**209**	P		**P**		**08 55 00.0**	**-0.6**
WB2	**Warramunga Arr**	**23.84**	**209**	P		**P**		**08 55 00.2**	**-0.5**
WRA	**Warramunga Arr**	**23.84**	**209**	P		**P**		**08 55 00.2**	**-0.6**
	comp=Z,124nm,0.6s,baz=31,slow=11,SNR=308								
WRA				LR		LR		09 03 36.0	
	comp=Z,402nm,19.7s,baz=55,slow=35								
WRA	**Warramunga Arr**	**23.84**	**209**	*ce*P		**P**		**08 54 56.2**	**-4.6**
WRA				pmax		pmax			
	comp=Z,141nm,0.6s								
WRA	**Warramunga Arr**	**23.84**	**209**	P		**P**		**08 54 58.8**	**-1.9**
KNRA	**Kununurra**	**23.92**	**226**	P		**P**		**08 55 00.8**	**-0.7**
	baz=24,SNR=10.0								
KNRA	**Kununurra**	**23.92**	**226**	P		**P**		**08 55 00.7**	**-0.7**
KNRA				IAmb		IAmb		08 55 11.6	
	comp=Z,97nm,1.0s								
SOEI	**Soe**	**24.34**	**244**	P		**P**		**08 55 01.0**	**-4.6**
	comp=Z,4μmcomp=Z,194nm,1.0s								
BATI	**Baumata**	**25.06**	**243**	P		**P**		**08 55 13.3**	**+1.3**
	comp=Z,70nm,0.7s,baz=92,slow=1.4,SNR=6.8								
BATI				LR		LR		09 05 50.1	
	comp=Z,370nm,19.3s,baz=114,slow=38								
BATI	**Baumata**	**25.06**	**243**	P		**P**		**08 55 12.7**	**+0.7**
	comp=Z,1μmcomp=Z,169nm,1.2s								
JCJ	**Chichijima**	**26.26**	**352**	P		**P**		**08 55 22.7**	**0.0**
	comp=Z,77nm,0.8s,baz=146,slow=15,SNR=2.8								
JCJ				LR		LR		09 04 17.8	
	comp=Z,251nm,21.7s,baz=131,slow=33								
JCJ	**Chichijima**	**26.26**	**352**	IAmb		IAmb		08 55 28.6	
	comp=Z,116nm,0.9s								
EDFI	**Ende, Flores**	**26.30**	**248**	P		**P**		**08 55 22.4**	**-1.0**
	comp=Z,13nm,1.2s								
MPSI	**Mapaga**	**26.35**	**269**	P		**P**		**08 55 22.0**	**-1.7**
	comp=Z,2μmcomp=Z,23nm,1.2s								
PCI	**Palu**	**26.47**	**266**	P		**P**		**08 55 19.2**	**-5.6**
	comp=Z,846nmcomp=Z,30nm,0.7s								
KAPI	**Kappang**	**27.12**	**257**	P		**P**		**08 55 30.9**	**+0.2**
	comp=Z,4.7nm,0.4s,baz=76,slow=14,SNR=1.8								
AS31	**Alice Springs**	**27.27**	**205**			**P**		**08 55 31.9**	**0.0**
ASAR	**Alice Springs**	**27.27**	**205**	P		**P**		**08 55 31.9**	**0.0**
	comp=Z,60nm,0.8s,baz=35,slow=7.2,SNR=159								
ASAR				LR		LR		09 06 46.0	
	comp=Z,535nm,20.6s,baz=15,slow=37								
ASAR	**Alice Springs**	**27.27**	**205**	P		**P**		**08 55 32.0**	**0.0**
ASAR	**Alice Springs**	**27.27**	**205**			**P**		**08 55 32.0**	**+0.1**
RMQ	**Roma**	**27.41**	**175**	P		**P**		**08 55 33.4**	**+0.3**
	baz=28,SNR=7.3								
QLP	**Quilpie**	**27.47**	**184**	P		**P**		**08 55 33.6**	**0.0**
	baz=28,SNR=18								
FITZ	**Fitzroy Crossi**	**27.75**	**226**	P		**P**		**08 55 35.9**	**-0.4**
	comp=Z,44nm,0.6s,baz=37,slow=9.7,SNR=101								
FITZ				LR		LR		09 05 49.2	
	comp=Z,277nm,21.8s,baz=62,slow=35								
FITZ	**Fitzroy Crossi**	**27.75**	**226**	P		**P**		**08 55 35.8**	**-0.4**
	baz=28,SNR=24								
FITZ	**Fitzroy Crossi**	**27.75**	**226**	P		**P**		**08 55 35.7**	**-0.5**
FITZ				IAmb		IAmb		08 55 46.1	
	comp=Z,44nm,0.8s								
TGY	**Tagaytay City**	**28.22**	**299**	LR		LR		09 05 28.2	
	comp=Z,422nm,20.4s,baz=108,slow=33								
DZM	**Mont Dzumac**	**30.23**	**140**	*e*P		**P**		**08 55 58.6**	**+0.3**
	comp=Z,14nm,0.7s								
DZM				*e*S		**S**		**09 00 57.1**	**-1.1**
	comp=Z,410nm,25.5s								
DZM				*e*LQ		LQ		09 02 29.3	
	comp=Z,488nm,24.4s								
DZM				*e*LR		LR		09 03 50.5	
	comp=Z,689nm,23.7s								
DZM	**Mont Dzumac**	**30.23**	**140**	P		**P**		**08 55 58.6**	**+0.3**
	comp=Z,7.6nm,0.8s,baz=161,slow=23,SNR=9.0								
DZM				LR		LR		09 05 40.9	
	comp=Z,502nm,21.2s,baz=292,slow=32								
DZM	**Mont Dzumac**	**30.23**	**140**	P		**P**		**08 55 58.7**	**+0.3**
WRKA	**Warakurna**	**31.16**	**213**	P		**P**		**08 56 05.7**	**-0.8**
	baz=31,SNR=15								
ARMA	**Armidale**	**31.64**	**171**	P		**P**		**08 56 11.3**	**+0.6**
	baz=32,SNR=3.7								
ARMA	**Armidale**	**31.64**	**171**	P		**P**		**08 56 10.9**	**+0.2**
CMSA	**Cobar Meteorol**	**32.34**	**181**	P		**P**		**08 56 16.3**	**-0.5**
	baz=33,SNR=8.4								
YULB	**Yu-li**	**32.90**	**314**	P		**P**		**08 56 21.2**	**-0.5**
YULB				IAmb		IAmb		08 56 24.8	
	comp=Z,50nm,1.2s								
STKA	**Stephens Creek**	**32.97**	**187**	P		**P**		**08 56 21.5**	**-0.8**
	comp=Z,12nm,0.7s,baz=358,slow=8.3,SNR=43								
STKA				LR		LR		09 09 34.7	
	comp=Z,294nm,18.1s,baz=359,slow=36								
STKA	**Stephens Creek**	**32.97**	**187**	P		**P**		**08 56 21.6**	**-0.7**
	baz=33,SNR=22								
STKA	**Stephens Creek**	**32.97**	**187**	P		**P**		**08 56 21.7**	**-0.6**
STKA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
STKA	**Stephens Creek**	**32.97**	**187**	P		**P**		**08 56 21.7**	**-0.6**
YHNB	**Yeheng**	**33.66**	**316**	P		**P**		**08 56 28.6**	**+0.1**
TATO	**Taipei**	**33.78**	**317**	P		**P**		**08 56 30.2**	**+0.8**
SBUM	**Sibu**	**34.03**	**273**	P		**P**		**08 56 30.0**	**-1.8**
PSA00	**Pilbara Seismi**	**34.16**	**227**	P		**P**		**08 56 31.4**	**-1.4**
PSA00				IAmb		IAmb		08 56 34.2	
	comp=Z,26nm,0.9s								
BBOO	**Buckleboo**	**34.95**	**195**	P		**P**		**08 56 38.1**	**-1.4**
BBOO				IAmb		IAmb		08 56 39.7	
	comp=Z,32nm,0.8s								
JNU	**Nakatsue**	**35.08**	**337**	P		**P**		**08 56 40.6**	**0.0**
	comp=Z,33nm,0.8s,baz=110,slow=3.3,SNR=21								
JNU				PcP		**PcP**		**08 59 12.6**	**+0.1**
	comp=Z,8.9nm,1.0s,baz=117,slow=2.3,SNR=3.4								
JNU	**Nakatsue**	**35.08**	**337**	P		**P**		**08 56 40.4**	**-0.3**
JNU				IAmb		IAmb		08 56 42.0	
	comp=Z,40nm,0.9s								
KSM	**Kuching**	**35.92**	**271**	P		**P**		**08 56 47.0**	**-1.1**
MJAR	**Matsushiro Arr**	**36.16**	**349**	P		**P**		**08 56 49.0**	**-0.9**
	comp=Z,4.0nm,0.9s,baz=183,slow=12,SNR=14								
MJAR				PcP		**PcP**		**08 59 15.9**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=174,slow=3.5,SNR=11								
MJAR				LR		LR		09 09 41.9	
	comp=Z,196nm,20.2s,baz=160,slow=33								
MJAR	**Matsushiro Arr**	**36.16**	**349**	P		**P**		**08 56 49.3**	**-0.6**
MJAR								08 59 16.0	
MJAR				pmax		pmax			
	comp=Z,4.0nm,1.1s								
MJAR	**Matsushiro Arr**	**36.16**	**349**	P		**P**		**08 56 49.3**	**-0.6**
MJAR				PcP		**PcP**		**08 59 16.0**	**+0.4**
MAJO	**Matsushiro**	**36.16**	**349**	P		**P**		**08 56 49.1**	**-0.7**
MAJO	**Matsushiro**	**36.16**	**349**	P		**P**		**08 56 49.3**	**-0.6**
MAJO				PcP		**PcP**		**08 59 16.2**	**+0.6**
MAT	**Matsushiro**	**36.16**	**349**	P		**P**		**08 56 47.9**	**-1.9**
MAT				*e*S		**S**		**09 02 28.0**	**-1.9**
MJB9	**Matsu-Tunnel**	**36.16**	**349**	P		**P**		**08 56 49.4**	**-0.5**
MSVF	**Nonsavu**	**36.42**	**122**	*i* P		**P**		**08 56 54.1**	**+1.7**
MSVF				pmax		pmax			
	comp=Z,33nm,1.1s								
GIRL	**Giralia**	**39.03**	**231**	P		**P**		**08 57 14.2**	**-0.2**
TJN	**Taejon**	**39.33**	**336**	*ce*P		**P**		**08 57 17.7**	**+1.1**
QIZ	**Qiongzhong**	**39.93**	**299**	P		**P**		**08 57 23.4**	**+1.5**
QIZ				S		**S**		**09 03 29.3**	**+1.9**
QIZ				pmax		pmax			
	comp=Z,44nm,0.8s								
QIZ				LR		LR			
	comp=Z,160nm,8.2s								
QIZ				LR		LR			
	comp=Z,290nm,21.8s								
KSRS	**Korea Array**	**40.03**	**337**	P		**P**		**08 57 22.9**	**+0.4**
	comp=Z,12nm,0.9s,baz=153,slow=9.0,SNR=51								
KSRS				PcP		**PcP**		**08 59 28.2**	**+0.8**
	comp=Z,3.1nm,0.8s,baz=169,slow=2.9,SNR=9.4								
KSRS				LR		LR		09 11 54.6	
	comp=Z,178nm,19.9s,baz=154,slow=33								
KSAR	**Wonju Array Be**	**40.04**	**337**	P		**P**		**08 57 22.3**	**-0.2**
NJ2	**Nanjing**	**40.28**	**323**	⇑P		**P**		**08 57 25.4**	**+0.8**
NJ2				pmax		pmax			
	comp=Z,20nm,0.9s								
MORW	**Morawa**	**41.56**	**222**	P		**P**		**08 57 34.9**	**-0.3**
MORW				IAmb		IAmb		08 57 36.2	
	comp=Z,53nm,0.8s								
WHN	**Wuhan**	**42.18**	**317**	⇓P		**P**		**08 57 42.5**	**+2.2**
WHN				S		**S**		**09 04 06.6**	**+6.0**
WHN				LR		LR			
	comp=Z,740nm,24.2s								
NWAO	**Narrogin (SRO)**	**43.43**	**216**	P		**P**		**08 57 50.0**	**-0.4**
	comp=Z,27nm,1.0s,baz=61,slow=5.4,SNR=5.2								
NWAO	**Narrogin (SRO)**	**43.43**	**216**	P		**P**		**08 57 49.9**	**-0.4**
NWAO				pmax		pmax			
	comp=Z,21nm,1.0s								
NWAO	**Narrogin (SRO)**	**43.43**	**216**	P		**P**		**08 57 50.5**	**+0.1**
NWAO	**Narrogin (SRO)**	**43.43**	**216**	P		**P**		**08 57 49.9**	**-0.5**
NWAO				IAmb		IAmb		08 57 51.2	
	comp=Z,21nm,0.9s								
DL2	**Dalian**	**43.96**	**332**	P		**P**		**08 57 55.4**	**+0.9**
DL2				pmax		pmax			
	comp=Z,35nm,1.0s								
OUZ	**Omahuta**	**44.16**	**147**	P		**P**		**08 57 56.7**	**+0.4**
OUZ				IAmb		IAmb		08 58 08.5	
	comp=Z,51nm,1.3s								
TIA	**Tai'an**	**44.24**	**326**	P		**P**		**08 57 57.3**	**+0.4**
TIA				pmax		pmax			
	comp=Z,23nm,0.8s								
USA0B	**Ussuriysk Arra**	**44.86**	**345**	*i* P		**P**		**08 58 02.8**	**+1.1**
USRK	**Ussuriysk Ar.**	**44.86**	**345**	P		**P**		**08 58 02.9**	**+1.2**
	comp=Z,12nm,0.8s,baz=167,slow=7.7,SNR=18								
USRK				LR		LR		09 14 43.5	
	comp=Z,96nm,21.3s,baz=145,slow=33								
USRK	**Ussuriysk Ar.**	**44.86**	**345**	P		**P**		**08 58 02.5**	**+0.8**
USRK	**Ussuriysk Ar.**	**44.86**	**345**	P		**P**		**08 58 02.5**	**+0.8**
IPM	**Ipoh**	**45.29**	**275**	P		**P**		**08 58 05.0**	**-0.6**
GYA	**Guiyang**	**45.70**	**307**	⇑P		**P**		**08 58 10.5**	**+1.7**
GYA				pP		pwP		08 58 20.6	+4.4
GYA				pmax		pmax			
	comp=Z,21nm,1.3s								
KULM	**Kulim**	**45.71**	**276**	P		**P**		**08 58 08.7**	**-0.2**
KULM				IAmb		IAmb		08 58 10.4	
	comp=Z,25nm,0.9s								

KULM Kulim 45.71 276 P **P** **08 58 08.0 -0.9**
MDJ Mudanjiang 45.89 343 P **P** **08 58 10.8 +1.0**
MDJ pP pwP 08 58 15.1 -2.1
MDJ pmax pmax
comp=Z,15nm,0.7s
MDJ pmax pmax
comp=Z,160nm,6.0s
PBKT Sadao Pong 47.19 292 P **P** **08 58 21.0 +0.6**
PBKT lAmb lAmb 08 58 23.4
comp=Z,40nm,1.0s
RPSI Rantau Prapat 47.32 273 P **P** **08 58 20.6 -0.9**
RPSI lAmb lAmb 08 58 22.6
comp=Z,34nm,0.9s
PSI Prapat 47.32 273 P **P** **08 58 20.6 -1.1**
PSI pmax pmax
comp=Z,34nm,0.9s
BJI Beijing 47.53 329 P **P** **08 58 22.6 -0.1**
BJI S **S** **09 05 23.5 +5.6**
BJI pmax pmax
comp=Z,12nm,0.8s
BJI LR LR
comp=Z,140nm,19.6s
BJI LR LR
comp=Z,110nm,17.6s
XAN Xi'an 47.95 317 P **P** **08 58 26.5 +0.3**
XAN pP pwP 08 58 37.5 +3.9
XAN S **S** **09 05 29.8 +5.6**
XAN pmax pmax
comp=Z,48nm,1.3s
XAN pmax pmax
comp=Z,210nm,6.3s
XAN LR LR
comp=Z,320nm,17.1s
XAN LR LR
comp=Z,240nm,16.1s
XAN LR LR
comp=Z,380nm,19.6s
URZ Urewera 48.31 147 P **P** **08 58 30.5 +1.7**
comp=Z,9.9nm,0.8s,baz=322,slow=12,SNR=2.5
URZ Urewera 48.31 147 P **P** **08 58 27.8 -1.0**
KMI Kunming 48.35 303 ⇑P **P** **08 58 31.4 +1.8**
KMI S **S** **09 05 32.9 +2.5**
KMI pmax pmax
comp=Z,18nm,1.1s
KMI pmax pmax
comp=Z,180nm,5.6s
KMI LR LR
comp=Z,180nm,21.7s
KMI LR LR
comp=Z,140nm,16.9s
KMI LR LR
comp=Z,240nm,34.2s
KCSI Kotacane, Aceh 48.49 274 P **P** **08 58 29.8 -0.9**
comp=Z,77nm,0.8s
GSI Gunungsitoli 48.65 271 P **P** **08 58 30.1 -1.8**
TPTI 49.07 273 P **P** **08 58 31.1 -4.0**
TUWZ Tuamarina 49.12 152 P **P** **08 58 35.9 +0.9**
CMAR Chiang Mai Arr 49.53 294 P **P** **08 58 40.6 +2.0**
comp=Z,26nm,0.8s,baz=113,slow=5.4,SNR=7.7
CMAR LR LR 09 20 25.4
comp=Z,62nm,18.2s,baz=145,slow=37
CMAR Chiang Mai Arr 49.53 294 P **P** **08 58 39.1 +0.5**
CHTO Chiang Mai 49.63 294 P **P** **08 58 40.0 +0.7**
BFZ Birch Farm 49.65 150 P **P** **08 58 39.4 +0.3**
KLR Kul'dur 49.65 348 *ce*P **P** **08 58 39.3 +0.3**
KLR pmax pmax
comp=Z,36nm,1.1s
MSWZ Moikau Station 49.72 151 P **P** **08 58 39.4 -0.2**
RPZ Rata Peaks 49.73 156 P **P** **08 58 41.7 +2.0**
comp=Z,11nm,0.8s,baz=14,slow=6.2,SNR=1.6
RPZ LR LR 09 17 36.2
comp=Z,356nm,19.2s,baz=360,slow=34
CD2 Chengdu 50.02 311 P **P** **08 58 43.3 +1.1**
CD2 S **S** **09 05 54.8 +1.3**
CD2 pmax pmax
comp=Z,90nm,0.8s
CD2 pmax pmax
comp=Z,120nm,8.4s
CD2 LR LR
comp=Z,200nm,17.1s
CD2 LR LR
comp=Z,290nm,20.7s
CD2 LR LR
comp=Z,320nm,24.2s
HHC Hu-ho-hao-te 50.59 326 *e*P **P** **08 58 48.4 +2.0**
HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,77nm,7.4s
HHC LR LR
comp=Z,170nm,13.6s
HHC LR LR
comp=Z,120nm,13.7s
HHC LR LR
comp=Z,260nm,17.7s
BTO Baotou 51.31 325 *e*P **P** **08 58 51.9 +0.1**
LZH Lanzhou 52.55 317 ⇑P **P** **08 59 02.8 +1.6**
LZH pP pwP 08 59 06.8 -1.8
LZH sP sP 08 59 09.6 +6.4
LZH sS sS 09 06 36.0 +5.2
LZH SS **SS** **09 10 06.4 -0.5**
LZH pmax pmax
comp=Z,69nm,1.1s
LZH pmax pmax
comp=Z,140nm,5.9s
LZH LR LR
comp=Z,200nm,12.5s
LZH LR LR
comp=Z,210nm,14.1s
LZH LR LR
comp=Z,260nm,17.4s
PEA0B Petropavlovsk- 52.82 9 *ce*P **P** **08 59 03.8 +1.1**
PEA0B Petropavlovsk- 52.82 9 P **P** **08 59 03.3 +0.7**
PEA0B lAmb lAmb 08 59 05.0
comp=Z,31nm,1.2s
PETK Petropavlovsk- 52.82 9 P **P** **08 59 03.4 +0.7**
comp=Z,16nm,0.9s,baz=174,slow=7.0,SNR=2.7
PETK LR LR 09 17 32.4
comp=Z,156nm,22.0s,baz=202,slow=32
PETK Petropavlovsk- 52.82 9 P **P** **08 59 03.3 +0.6**
PETK Petropavlovsk- 52.82 9 P **P** **08 59 03.2 +0.6**
ZEA Zeya 54.88 346 *e*P **P** **08 59 18.1 +0.4**
ZEA pmax pmax
comp=N,31nm,0.8s
ZEA pmax pmax
comp=Z,31nm,0.8s
GTA Gaotai 57.00 318 ⇑P **P** **08 59 34.5 +1.1**
GTA pP pwP 08 59 38.8 -1.9
GTA sP sP 08 59 41.4 +6.1
GTA ScP **ScP** **09 04 29.3 +0.6**
GTA pmax pmax
comp=Z,28nm,0.9s
GTA pmax pmax
comp=Z,140nm,7.1s
GTA LR LR
comp=Z,140nm,18.4s
GTA LR LR
comp=Z,130nm,17.8s
GTA LR LR
comp=Z,170nm,17.1s
RAR Rarotonga 57.15 116 LR LR 09 20 53.4
comp=Z,128nm,19.7s,baz=278,slow=33
ULN Ulaanbaatar 57.70 330 *ce*P **P** **08 59 39.3 +1.1**
ULN pmax pmax
comp=Z,66nm,1.7s
SONM Songino Array 58.01 329 P **P** **08 59 41.4 +1.1**
comp=Z,17nm,0.8s,baz=145,slow=8.0,SNR=6.9
SONM PcP **PcP** **09 00 32.6 +0.2**
comp=Z,3.6nm,0.7s,baz=151,slow=5.0,SNR=4.1
SONM LR LR 09 24 11.8
comp=Z,174nm,21.4s,baz=126,slow=36
SONM Songino Array 58.01 329 P **P** **08 59 40.8 +0.4**
SONM Songino Array 58.01 329 P **P** **08 59 40.8 +0.4**
MA2 Magadan 58.54 3 *ce*P **P** **08 59 43.8 +0.1**
MA2 pmax pmax
comp=Z,11nm,1.3s
MA2 Magadan 58.54 3 P **P** **08 59 43.9 +0.2**
MA2 lAmb lAmb 08 59 45.1
comp=Z,16nm,0.9s
ADK Adak 59.49 26 P **P** **08 59 50.7 +0.4**
ADK pmax pmax
comp=Z,53nm,1.0s
ADK Adak 59.49 26 P **P** **08 59 50.7 +0.4**
ZAK Zakamensk 61.22 330 *e*P **P** **09 00 03.2 +0.8**
ZAK pmax pmax
comp=Z,36nm,1.1s

TAPN Taplejung 61.83 301 *e*P **P** **09 00 08.0 +0.8**
TLY Talaya 61.87 331 *c i*P **P** **09 00 07.5 +0.9**
TLY pmax pmax
comp=Z,24nm,1.1s
SEY Seymchan 61.98 3 *i*P **P** **09 00 08.1 +1.0**
ODAN Odare 61.99 300 *e*P **P** **09 00 09.3 +1.1**
comp=Z,160nm,1.0s
BOD Bodaibo 62.16 341 *e*P **P** **09 00 09.0 +0.5**
BOD pmax pmax
comp=Z,20nm,1.1s
YAK Yakutsk 62.17 351 *e*P **P** **09 00 09.1 +0.7**
YAK pmax pmax
comp=Z,20nm,1.0s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.0s
RAMN Ramite 62.69 300 *e*P **P** **09 00 14.0 +1.0**
comp=E,55nm,1.0s
MOY Mondy 63.15 330 *e*P **P** **09 00 16.3 +1.0**
MOY pmax pmax
comp=Z,55nm,1.8s
JIRN Jiri 63.22 301 *e*P **P** **09 00 17.7 +1.1**
comp=Z,95nm,0.7s
GUN Gumba 63.54 301 *e*P **P** **09 00 20.0 +1.3**
comp=Z,229nm,0.9s
PKI Pulchoki 63.87 300 *e*P **P** **09 00 21.6 +0.8**
KKN Kakani 64.03 301 *e*P **P** **09 00 22.7 +0.9**
comp=Z,67nm,0.8s
DMN Daman 64.14 300 *e*P **P** **09 00 23.6 +1.1**
comp=Z,190nm,1.0s
GKN Gorkha 64.63 301 *e*P **P** **09 00 26.6 +0.9**
comp=Z,206nm,0.8s
UNV Unalaska Valle 65.43 29 P **P** **09 00 29.8 -0.3**
UNV lAmb lAmb 09 00 46.9
comp=Z,22nm,1.2s
DANN Dangsing 65.47 301 *e*P **P** **09 00 31.9 +0.7**
comp=Z,257nm,0.7s
KOLN Koldanda 65.48 300 *e*P **P** **09 00 32.1 +0.9**
comp=Z,184nm,0.8s
PPT Papeete 65.78 110 LR LR 09 24 42.7
comp=Z,57nm,20.5s,baz=291,slow=32
PPT2 Papeete2 65.78 110 *e*LR LR 09 20 07.8
comp=Z,153nm,24.0s
PYUN Piuthan 66.08 300 *e*P **P** **09 00 35.9 +0.8**
comp=Z,334nm,0.9s
TBI Tubuai 66.93 116 *e*LR LR 09 20 59.7
comp=Z,299nm,24.2s
WMQ Urumqi 67.08 318 *e*P **P** **09 00 42.5 +1.5**
WMQ pP pwP 09 00 47.3 -1.2
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ pmax pmax
comp=Z,110nm,3.7s
WMQ LR LR
comp=Z,140nm,12.7s
WMQ LR LR
comp=Z,82nm,15.7s
BILL Bilibino 68.34 8 *i*P **P** **09 00 47.4 -1.0**
BILL *i* 09 01 14.1
BILL *i* 09 03 21.4
BILL pmax pmax
comp=Z,9.0nm,1.2s
HYB Hyderabad 68.44 288 *i*P **P** **09 00 50.0 0.0**
SDPT Sand Point 69.19 29 P **P** **09 00 53.2 -0.7**
DGZ Jazzator, Alta 69.56 324 *i*P **P** **09 00 57.2 +0.6**
DGZ pmax pmax
comp=Z,42nm,1.4s
ZSN Zaisan 70.27 321 *i*P **P** **09 01 01.2 +0.4**
baz=321
ZSN *e*S **S** **09 10 12.1 -0.9**
baz=321
ZSN Zaisan 70.27 321 *i*P **P** **09 01 01.2 +0.4**
ZSN *e*S **S** **09 10 12.1 -0.9**
TIXI Tiksi 71.44 354 *ce*P **P** **09 01 08.0 +0.7**
TIXI pmax pmax
comp=Z,12nm,1.3s
MK31 Makanchi Array 71.70 319 P **P** **09 01 08.6 -0.9**
MK31 pmax pmax
comp=Z,27nm,1.3s
MK31 Makanchi Array 71.70 319 P **P** **09 01 08.6 -0.9**
MK31 lAmb lAmb 09 01 11.3
comp=Z,27nm,1.2s
MKAR Makanchi Array 71.70 319 P **P** **09 01 10.1 +0.6**
comp=Z,17nm,0.9s,baz=104,slow=7.6,SNR=8.7
MKAR LR LR 09 32 26.5
comp=Z,115nm,19.8s,baz=94,slow=36
MKAR Makanchi Array 71.70 319 P **P** **09 01 09.6 +0.1**
MAKZ Makanchi 71.91 319 P **P** **09 01 10.9 +0.2**
MAKZ pmax pmax
comp=Z,56nm,1.3s
MAKZ Makanchi 71.91 319 P **P** **09 01 10.9 +0.2**
MAKZ lAmb lAmb 09 01 12.4
comp=Z,56nm,1.3s
SHLS Shalkode 72.54 315 ⇓*i*P **P** **09 01 13.0 -1.7**
comp=Z,20nm,1.1s,baz=315
SHLS Shalkode 72.54 315 ⇓*i*P **P** **09 01 13.0 -1.7**
SHLS pmax pmax
comp=Z,20nm,1.1s
ZALV Zalesovo Beam 72.76 327 P **P** **09 01 15.2 -0.4**
comp=Z,8.0nm,0.7s,baz=106,slow=5.6,SNR=12
ZALV LR LR 09 32 32.8
comp=Z,105nm,21.0s,baz=222,slow=35
ZALV Zalesovo Beam 72.76 327 P **P** **09 01 15.0 -0.6**
ZALV Zalesovo Beam 72.76 327 P **P** **09 01 15.0 -0.6**
UZB Uzynbulak 72.85 315 *e*P **P** **09 01 16.8 +0.2**
comp=Z,21nm,1.1s,baz=315
UZB Uzynbulak 72.85 315 *e*P **P** **09 01 16.7 +0.2**
UZB pmax pmax
comp=Z,21nm,1.1s
KPKS Kokpek 73.17 315 *i*P **P** **09 01 18.5 0.0**
comp=Z,18nm,1.1s,baz=315
KPKS Kokpek 73.17 315 *i*P **P** **09 01 18.4 0.0**
KPKS pmax pmax
comp=Z,18nm,1.1s
SATY Saty 73.26 315 *e*P **P** **09 01 19.1 0.0**
comp=Z,8.2nm,0.8s,baz=315
SATY Saty 73.26 315 *e*P **P** **09 01 19.0 0.0**
SATY pmax pmax
comp=Z,8.0nm,0.8s
SATY Saty 73.26 315 *e*P **P** **09 01 19.0 0.0**
SATY pmax pmax
comp=Z,8.0nm,0.8s
OHAK Old Harbor 73.61 30 P **P** **09 01 21.1 +0.6**
OHAK lAmb lAmb 09 01 23.1
comp=Z,30nm,1.1s
TDK Taldyqorghan 73.76 317 *e*P **P** **09 01 22.1 +0.3**
comp=Z,33nm,0.8s,baz=317
TDK Taldyqorghan 73.76 317 *e*P **P** **09 01 22.1 +0.3**
TDK pmax pmax
comp=Z,33nm,0.8s
KDJ Kajisay 73.91 314 P **P** **09 01 22.6 -0.3**
KDJ pmax pmax
comp=Z,28nm,1.0s
KDJ Kajisay 73.91 314 P **P** **09 01 22.6 -0.3**
KDJ lAmb lAmb 09 01 25.2
comp=Z,28nm,0.9s
TAOE Nuku Hiva Isla 73.97 99 *e*SS SS 09 15 39.8 -1.7
comp=Z,182nm,30.3s
TAOE *e*LR LR 09 24 05.4
comp=Z,158nm,22.2s
KSH Kashi 74.22 311 P **P** **09 01 27.9 +3.2**
KSH S **S** **09 10 58.4 -0.5**
KSH pmax pmax
comp=Z,26nm,0.8s
KSH pmax pmax
comp=Z,130nm,3.8s
KSH LR LR
comp=Z,60nm,11.6s
KSH LR LR
comp=Z,73nm,7.2s
MDOK Medeo 74.25 315 *e*P **P** **09 01 25.2 +0.3**
baz=315
MDOK Medeo 74.25 315 *e*P **P** **09 01 25.1 +0.3**
AAA Alma-Ata 74.35 315 *e*P **P** **09 01 26.0 +0.6**
baz=315
AAA Alma-Ata 74.35 315 *e*P **P** **09 01 25.9 +0.6**
CHKK Chushkaly 74.46 315 *e*P **P** **09 01 26.1 +0.1**
baz=315
CHKK Chushkaly 74.46 315 *e*P **P** **09 01 26.0 +0.1**
TTA Tatalina 74.98 24 P **P** **09 01 29.2 +0.6**
TTA pmax pmax
comp=Z,17nm,0.8s
TTA Tatalina 74.98 24 P **P** **09 01 29.1 +0.6**
TTA lAmb lAmb 09 01 30.7
comp=Z,17nm,0.8s

KURK Kurchatov 75.22 323 *ce*P **P** **09 01 30.2 +0.1**
KURK pmax pmax
comp=Z,33nm,1.1s
KURK Kurchatov 75.22 323 P **P** **09 01 30.4 +0.3**
KURK lAmb lAmb 09 01 31.4
comp=Z,52nm,1.2s
TKM2 Tokmak 2 75.23 314 P **P** **09 01 31.6 +0.9**
SNR=5.7
KZA Kyzart 75.30 313 P **P** **09 01 33.0 +1.7**
SNR=17
NIL Nilore 75.32 304 P **P** **09 01 31.6 +0.5**
NIL pmax pmax
comp=Z,150nm,1.2s
NIL Nilore 75.32 304 P **P** **09 01 31.6 +0.5**
CHMS Chumysh 75.85 314 P **P** **09 01 34.6 +0.6**
SNR=8.3
UCH Uchtor 75.86 313 P **P** **09 01 36.0 +1.5**
SNR=22
AAK Ala-Archa 75.96 314 *ce*P **P** **09 01 35.5 +0.7**
AAK pmax pmax
comp=Z,11nm,0.8s
USP Ospenovka 76.09 314 P **P** **09 01 36.0 +0.7**
SNR=9.8
SKT Skwentna 76.41 25 P **P** **09 01 36.7 -0.1**
AML Almayashu 76.44 313 P **P** **09 01 39.2 +1.4**
SNR=7.0
EKS2 Erkin-Say 76.48 314 P **P** **09 01 38.8 +1.1**
SNR=9.3
PPLA Purkeypile 76.52 24 P **P** **09 01 38.1 +0.6**
BTLS Baital 76.78 316 *e*P **P** **09 01 39.2 0.0**
comp=Z,4.9nm,0.7s,baz=316
BTLS Baital 76.78 316 *e*P **P** **09 01 39.1 0.0**
BTLS pmax pmax
comp=Z,5.0nm,0.7s
ARSB Arslanbob 76.81 312 P **P** **09 01 39.4 -0.2**
ARSB pmax pmax
comp=Z,15nm,0.8s
ARSB Arslanbob 76.81 312 P **P** **09 01 39.4 -0.2**
ARSB lAmb lAmb 09 01 41.2
comp=Z,15nm,0.8s
IMAR Indian Mountai 77.29 21 P **P** **09 01 42.5 +0.9**
PMR Palmer 77.31 26 P **P** **09 01 41.9 +0.2**
PMR pmax pmax
comp=Z,17nm,0.9s
PMR Palmer 77.31 26 P **P** **09 01 41.9 +0.2**
PMR lAmb lAmb 09 01 43.0
comp=Z,17nm,0.9s
GHO Glory Hole Cre 77.46 26 P **P** **09 01 43.0 +0.3**
GHO lAmb lAmb 09 01 44.2
comp=Z,18nm,0.8s
BPAW Bear Paw Mtn. 77.52 24 P **P** **09 01 43.5 +0.6**
KNK Knik Glacier 77.54 27 lAmb lAmb 09 01 44.9
comp=Z,33nm,0.8s
RND Reindeer 78.11 25 lAmb lAmb 09 01 47.7
comp=Z,28nm,0.8s
SCM Sheep Creek Mo 78.19 26 P **P** **09 01 47.1 +0.3**
SCM pmax pmax
comp=Z,54nm,1.0s
SCM Sheep Creek Mo 78.19 26 P **P** **09 01 47.1 +0.3**
FID Port Fidalgo 78.20 28 P **P** **09 01 46.5 -0.3**
DZA Taraz 78.30 314 *e*P **P** **09 01 47.3 -0.5**
baz=314
DZA Taraz 78.30 314 *e*P **P** **09 01 47.2 -0.5**
NRIK Noril'sk 78.45 342 P **P** **09 01 47.6 -0.3**
comp=Z,8.9nm,1.0s,baz=110,slow=4.9,SNR=7.9
NRIK Noril'sk 78.45 342 ⇑*e*P **P** **09 01 47.7 -0.2**
NRIK pmax pmax
comp=Z,20nm,1.2s
NEA2 Nenana 78.48 23 P **P** **09 01 48.7 +0.5**
baz=247
DHY Denali Highway 78.61 25 P **P** **09 01 49.3 +0.1**
DHY lAmb lAmb 09 01 50.8
comp=Z,26nm,0.8s
KLU Klutina 78.71 27 P **P** **09 01 49.5 -0.1**
KLU lAmb lAmb 09 01 52.3
comp=Z,28nm,0.8s
BRZS Berezniki 78.72 321 *e*P **P** **09 01 49.9 0.0**
comp=Z,6.9nm,0.8s,baz=321
BRZS Berezniki 78.72 321 *e*P **P** **09 01 49.9 0.0**
BRZS pmax pmax
comp=Z,7.0nm,0.8s
WRH Wood River Hil 78.83 24 lAmb lAmb 09 01 50.9
comp=Z,21nm,0.9s
VNDA Vanda 78.88 177 P **P** **09 01 50.0 -0.1**
comp=Z,2.6nm,0.8s,baz=327,slow=5.6,SNR=12
VNDA LR LR 09 34 14.4
comp=Z,89nm,20.1s,baz=342,slow=34
VNDA Vanda 78.88 177 P **P** **09 01 50.5 +0.4**
VNDA pmax pmax
comp=Z,8.0nm,0.9s
VNDA Vanda 78.88 177 P **P** **09 01 50.5 +0.4**
KBL Kabul 78.90 305 P **P** **09 01 51.3 -0.2**
KBL pmax pmax
comp=Z,31nm,1.2s
KBL Kabul 78.90 305 P **P** **09 01 51.3 -0.2**
KBL lAmb lAmb 09 01 52.6
comp=Z,31nm,1.1s
KK31 Karatay Array 78.92 314 lAmb lAmb 09 01 53.0
comp=Z,19nm,1.2s
KKAR Karatay Array 78.92 314 P **P** **09 01 51.6 +0.4**
KKAR Karatay Array 78.92 314 P **P** **09 01 51.6 +0.4**
CCB Clear Creek Bu 79.01 24 lAmb lAmb 09 01 51.7
comp=Z,16nm,0.8s
TCOL CIGO_UAF Yank 79.07 23 P **P** **09 01 51.7 +0.3**
baz=248
COLA College 79.07 23 *d i*P **P** **09 01 51.4 0.0**
COLA pmax pmax
comp=Z,13nm,0.8s
COLD Coldfoot 79.11 21 P **P** **09 01 53.3 +1.7**
baz=246
COLD Coldfoot 79.11 21 lAmb lAmb 09 01 54.1
comp=Z,18nm,0.8s
IUG luzhnay 79.13 313 *e*P **P** **09 01 52.6 +0.1**
comp=Z,4.6nm,1.0s,baz=313
IUG luzhnay 79.13 313 *e*P **P** **09 01 52.5 +0.1**
IUG pmax pmax
comp=Z,5.0nm,1.0s
HDA Harding Lake 79.27 24 P **P** **09 01 52.4 -0.2**
baz=249
HDA Harding Lake 79.27 24 P **P** **09 01 52.1 -0.4**
POKR Poker Plat Res 79.33 23 P **P** **09 01 53.4 +0.5**
baz=249
PAX Paxson 79.39 26 P **P** **09 01 53.7 +0.3**
PAX pmax pmax
comp=Z,10.0nm,0.7s
PAX Paxson 79.39 26 P **P** **09 01 53.7 +0.3**
IL31 79.42 24 lAmb lAmb 09 01 53.6
comp=Z,19nm,0.7s
ILAR Eielson Array 79.42 24 P **P** **09 01 52.7 -0.7**
comp=Z,17nm,0.7s,baz=251,slow=5.6,SNR=16.9
ILAR LR LR 09 38 51.7
comp=Z,47nm,18.5s,baz=267,slow=37
ILAR Eielson Array 79.42 24 P **P** **09 01 52.3 -1.1**
ILAR Eielson Array 79.42 24 P **P** **09 01 52.3 -1.1**
GLB Gilahina Butte 79.65 27 lAmb lAmb 09 01 56.6
comp=Z,16nm,0.7s
CRQM Cirque 79.77 28 P **P** **09 01 56.9 +1.3**
CRQM lAmb lAmb 09 01 57.6
comp=Z,37nm,0.8s
TOLK Toolik Lake Re 79.91 20 P **P** **09 01 57.4 +1.4**
baz=246
TOLK Toolik Lake Re 79.91 20 P **P** **09 01 57.5 +1.5**
TOLK lAmb lAmb 09 01 58.4
comp=Z,22nm,0.9s
RIDG Independent Ri 79.91 25 lAmb lAmb 09 01 57.7
comp=Z,22nm,1.0s
DOT Dot Lake 80.21 25 lAmb lAmb 09 01 59.4
comp=Z,29nm,1.1s
BALM Baldy 80.22 28 P **P** **09 01 58.6 +0.7**
BALM lAmb lAmb 09 01 59.9
comp=Z,26nm,0.8s
BARN Barnard Glacie 80.54 28 lAmb lAmb 09 02 02.1
comp=Z,34nm,0.7s
BRVK Borovoye 80.80 324 *ce*P **P** **09 02 01.3 +0.3**
BRVK pmax pmax
comp=Z,32nm,1.3s
BRVK Borovoye 80.80 324 P **P** **09 02 01.5 +0.5**
BRVK lAmb lAmb 09 02 02.5
comp=Z,26nm,1.1s
BCAR Beaver Creek A 81.03 26 P **P** **09 02 02.8 +0.7**
K27K Chicken 81.17 25 P **P** **09 02 04.5 +1.7**
baz=254
EGAK Eagle 81.75 24 P **P** **09 02 06.3 +0.4**
HYT Haines Junctio 82.46 29 P **P** **09 02 10.7 +0.8**
HYT lAmb lAmb 09 02 12.2
comp=Z,18nm,0.8s

EPYK	**Eagle Plains**	**83.92**	**23**	P	**P**	**09 02 18.0**	**+0.8**
	baz=259						
EPYK	**Eagle Plains**	**83.92**	**23**	P	**P**	**09 02 17.7**	**+0.5**
EPYK				IAmb	IAmb	09 02 19.9	
	comp=Z,9.2nm,0.8s						
HRA	**Herat**	**84.49**	**304**	P	**P**	**09 02 21.2**	**+0.2**
INK	**Inuvik**	**85.48**	**22**	IAmb	IAmb	09 02 26.4	
	comp=Z,17nm,1.0s						
DLBC	**Dease Lake**	**85.88**	**32**	P	**P**	**09 02 27.1**	**-0.2**
ABKAR	**Akbulak array**	**86.84**	**319**	P	**P**	**09 02 31.0**	**-1.0**
ARU	**Arti**	**87.90**	**326**	*i* P	**P**	**09 02 35.8**	**-1.2**
ARU				S	**SKSac**	**09 13 01.1**	**-4.4**
ARU				SS	**SS**	**09 18 59.9**	**-7.4**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GEYT	**Alibeck**	**87.92**	**308**	P	**P**	**09 02 38.3**	**+0.7**
	comp=Z,7.6nm,0.8s,baz=113,slow=3.9,SNR=11						
MAW	**Mawson**	**88.36**	**202**	P	**P**	**09 02 38.3**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=7.2,slow=3.8,SNR=4.5						
MAW				LR	LR	09 39 38.0	
	comp=Z,52nm,19.5s,baz=60,slow=34						
A36M	**Sachs Harbour**	**88.61**	**18**	P	**P**	**09 02 41.7**	**+1.6**
	baz=269						
C36M	**Paulatuk**	**88.98**	**21**	P	**P**	**09 02 42.4**	**+0.6**
	baz=270						
M02C	**Callahan**	**90.04**	**49**	P	**P**	**09 02 48.7**	**+1.2**
	baz=271						
O02D	**Mt. Diablo Mer**	**90.12**	**50**	P	**P**	**09 02 49.6**	**+1.7**
	baz=271						
L04D	**Klamath Falls**	**90.43**	**48**	P	**P**	**09 02 50.5**	**+1.1**
	baz=272						
MOD	**Modoc Plateau**	**91.93**	**48**	P	**P**	**09 02 55.7**	**-0.7**
YKA	**Yellowknife Ar**	**93.37**	**27**	P	**P**	**09 03 02.5**	**+0.1**
	comp=Z,4.3nm,0.9s,baz=280,slow=4.9,SNR=5.3						
YKA				LR	LR	09 41 42.7	
	comp=Z,43nm,21.4s,baz=0.0,slow=33						
YKA	**Yellowknife Ar**	**93.37**	**27**‖	*eP*	**P**	**09 03 03.7**	**+1.3**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NVAR	**Mina Array Bea**	**93.68**	**52**	P	**P**	**09 03 05.3**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=258,slow=6.2,SNR=21						
NVAR	**Mina Array Bea**	**93.68**	**52**	P	**P**	**09 03 04.6**	**0.0**
CWC	**Cottonwood Cre**	**94.00**	**54**	P	**P**	**09 03 07.0**	**+0.8**
	baz=274						
MPMC	**Manual Prospec**	**94.51**	**54**	P	**P**	**09 03 09.5**	**+1.0**
	baz=274						
MFID	**Camas Ranch**	**95.10**	**46**	P	**P**	**09 03 10.7**	**-0.3**
MFID				IAmb	IAmb	09 03 13.1	
	comp=Z,6.9nm,0.8s						
MAK	**Makhachkala**	**95.73**	**313**	*eP*	**P**	**09 03 11.0**	**-2.6**
MAK				*e*		09 13 43.9	
MAK				pmax	pmax		
	comp=Z,19nm,0.3s						
HLID	**Hailey**	**96.11**	**46**	P	**P**	**09 03 16.8**	**+1.2**
	baz=277						
HLID	**Hailey**	**96.11**	**46**	P	**P**	**09 03 16.1**	**+0.5**
SYO	**Syowa Base**	**96.84**	**200**‖	*eP*	**P**	**09 03 17.5**	**-0.5**
SYO	**Syowa Base**	**96.84**	**200**‖	*eX*	**P**	**09 03 20.8**	**+2.8**
TMCR	**Tamitsa**	**96.98**	**335**	*eP*	**P**	**09 03 16.8**	**-2.0**
KBZ	**Khabaz**	**98.95**	**314**	LR	LR	09 49 34.8	
	comp=Z,42nm,21.1s,baz=70,slow=36						
KBZ	**Khabaz**	**98.95**	**314**	*i* P	**P**	**09 03 27.5**	**-0.6**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KIV	**Kislovodsk**	**99.06**	**315**	*eP*	**Pdif**	**09 03 26.3**	**-2.5**
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
ARCES	**ARCESS Array B**	**99.43**	**342**	LR	LR	09 52 25.6	
	comp=Z,47nm,19.4s,baz=283,slow=38						
PDAR	**Pinedale Array**	**99.74**	**46**	P	**Pdif**	**09 03 32.3**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=231,slow=1.7,SNR=5.5						
PDAR				LR	LR	09 41 54.6	
	comp=Z,36nm,19.8s,baz=307,slow=31						
OBN	**Obninsk**	**100.34**	**327**	*i* P	**Pdif**	**09 03 32.2**	**-1.8**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**103.09**	**335**	Pdiff	**Pdif**	**09 03 44.3**	**-1.9**
	comp=Z,2.1nm,0.9s,baz=93,slow=7.0,SNR=1.6						
GERES	**GERESS Array B**	**115.71**	**327**	PKP	**PKiKP**	**09 08 29.6**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=352,slow=4.0,SNR=5.0						
BOSA	**Boshof**	**117.43**	**238**	PKP	**PKPdf**	**09 08 33.1**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=171,slow=5.7,SNR=3.8						
PLCA	**Paso Flores**	**128.28**	**145**	PKP	**PKiKP**	**09 08 55.1**	**0.0**
	comp=Z,1.9nm,0.9s,baz=279,slow=4.8,SNR=5.8						
TORD	**Torodi Ar. Bea**	**142.14**	**293**	PKhKP	PKPpre	09 09 15.6	
	comp=Z,0.7nm,0.6s,baz=51,slow=4.2,SNR=3.2						
LPAZ	**La Paz**	**142.88**	**116**	PKP	**PKPdf**	**09 09 20.5**	**-2.4**
	comp=Z,1.8nm,0.6s,baz=294,slow=3.5,SNR=12						
CPUP	**Villa Florida**	**146.09**	**140**	PKPbc	**PKPbc**	**09 09 28.1**	**-0.2**
	comp=Z,5.7nm,1.0s,baz=245,slow=3.6,SNR=6.9						
CPUP	**Villa Florida**	**146.09**	**140**	PKP2	**PKPab**	**09 09 29.1**	**+0.2**
CPUP	**Villa Florida**	**146.09**	**140**		**PKPab**	**09 09 29.1**	**+0.2**
KIC	**Kosan Boka**	**150.13**	**285**	*e*PKP1	**PKPbc**	**09 09 39.3**	**-0.2**
	comp=Z,69nm,1.1s						
DBIC	**Dimbokro**	**150.17**	**285**	PKPbc	**PKPbc**	**09 09 39.5**	**0.0**
	comp=Z,16nm,0.8s,baz=40,slow=1.4,SNR=12						
DBIC	**Dimbokro**	**150.17**	**285**	PKIKP	**PKiKP**	**09 09 40.0**	**-0.4**
DBIC	**Dimbokro**	**150.17**	**285**		**PKiKP**	**09 09 40.0**	**-0.4**
TIC	**Toumodi**	**150.33**	**285**	*e*PKP1	**PKPbc**	**09 09 39.5**	**-0.5**
LIC	**Lamto**	**150.44**	**284**	*e*PKP1	**PKPbc**	**09 09 40.0**	**-0.2**
	comp=Z,145nm,1.2s						

UCR ***13*** *09:11:42.3±1.4, 13.˚58N×90.˚48W, h25km±4km, ML3.5*
SNET ***13*** *09:11:42.2±1.3, 13.˚58N×90.˚48W, h25km±3km, ML3.5*
GCG ***13*** *09:11:47.0±0.6, 13.˚83N×90.˚63W, h13km, MD4.0*

ISC 13 09:11:42.1±1.5, 13.˚57N±0.˚06×90.˚50W±0.˚05, h28km±13km, n52, σ0s76/78, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.60**	**6**	*i* P	**Pn**	**09 11 55.3**	**+0.4**
PCG	**Pacaya**	**0.82**	**353**	*e*P	**Pn**	**09 11 58.4**	**+0.4**
CEVE	**Cerro Verde**	**0.89**	**73**	*e*P	**Pb**	**09 11 58.7**	**-0.4**
CEVE				*e*S	**Sn**	**09 12 12.0**	**+1.0**
CEVE				IAML		09 12 17.4	
	comp=Z,5μm,0.3s						
CEVE	**Cerro Verde**	**0.89**	**73**	*e*P	**Pb**	**09 11 58.7**	**-0.4**
CEVE				*e*S	**Sn**	**09 12 12.0**	**+1.0**
CEVE				IAML		09 12 17.4	
	comp=Z,5μm,0.3s						
RTR	**El Retiro**	**0.90**	**68**	*e*P	**Pb**	**09 11 59.0**	**-0.1**
RTR	**El Retiro**	**0.90**	**68**	*e*P	**Pb**	**09 11 59.0**	**-0.1**
SNJE	**San Jose**	**0.92**	**71**	*e*P	**Pb**	**09 11 59.3**	**-0.4**
SNJE	**San Jose**	**0.92**	**71**	*e*P	**Pb**	**09 11 59.3**	**-0.4**
FUG	**Fuego 3**	**0.93**	**339**	*e*P	**Pb**	**09 11 59.8**	**0.0**
NBG	**Las Nubes**	**1.02**	**8**	*e*P	**Pb**	**09 12 03.2**	**+1.8**
JAYA	**Jayaque - finc**	**1.03**	**85**	*e*P	**Pn**	**09 12 00.1**	**-0.6**
JAYA				*e*S	**Sn**	**09 12 14.6**	**+0.3**
JAYA				IAML		09 12 15.3	
	comp=Z,8μm,0.2s						
JAYA	**Jayaque - finc**	**1.03**	**85**	*e*P	**Pn**	**09 12 00.1**	**-0.6**
JAYA				*e*S	**Sn**	**09 12 14.6**	**+0.3**
JAYA				IAML		09 12 15.3	
	comp=Z,8μm,0.2s						
CEDA	**San Andres**	**1.10**	**78**	*e*P	**Pn**	**09 12 01.5**	**-0.2**
CEDA				*e*S	**Sb**	**09 12 16.8**	**+0.2**
CEDA				IAML		09 12 20.3	
	comp=Z,2μm,0.3s						
CEDA	**San Andres**	**1.10**	**78**	*e*P	**Pn**	**09 12 01.5**	**-0.2**
CEDA				*e*S	**Sb**	**09 12 16.8**	**+0.2**
CEDA				IAML		09 12 20.3	
	comp=Z,2μm,0.3s						
LALI	**Alcalda de L**	**1.15**	**94**	*e*P	**Pn**	**09 12 02.6**	**+0.3**
LALI				*e*S	**Sn**	**09 12 16.9**	**-0.2**
LALI				IAML		09 12 20.9	
	comp=Z,322nm,0.3s						
LALI	**Alcalda de L**	**1.15**	**94**	*e*P	**Pn**	**09 12 02.6**	**+0.3**
LALI				*e*S	**Sn**	**09 12 16.9**	**-0.2**
LALI				IAML		09 12 20.9	
	comp=Z,322nm,0.3s						
TACO	**Tacachico**	**1.19**	**70**	*e*P	**Pn**	**09 12 02.8**	**0.0**
TACO				*e*S	**Sb**	**09 12 19.6**	**+0.7**
TACO	**Tacachico**	**1.19**	**70**	*e*P	**Pn**	**09 12 02.8**	**0.0**
TACO				*e*S	**Sb**	**09 12 19.6**	**+0.7**
BOQS	**Boqueron**	**1.20**	**82**	*e*P	**Pn**	**09 12 03.6**	**+0.4**
BOQS	**Boqueron**	**1.20**	**82**	*e*P	**Pn**	**09 12 03.6**	**+0.4**
UEES	**Universidad Ev**	**1.24**	**83**	*e*P	**Pn**	**09 12 03.6**	**0.0**
UEES				*e*S	**Sb**	**09 12 20.4**	**-0.1**
UEES				IAML		09 12 22.8	
	comp=Z,1μm,0.2s						
UEES	**Universidad Ev**	**1.24**	**83**	*e*P	**Pn**	**09 12 03.6**	**0.0**
UEES				*e*S	**Sb**	**09 12 20.4**	**-0.1**
UEES				IAML		09 12 22.8	
	comp=Z,1μm,0.2s						

SNET	**Serv Nac Est T**	**1.24**	**84**	*e*P	**Pn**	**09 12 03.5**	**-0.1**
SNET				*e*S	**Sb**	**09 12 20.3**	**-0.3**
SNET				IAML		09 12 22.6	
	comp=Z,1μm,0.2s						
SNET	**Serv Nac Est T**	**1.24**	**84**	*e*P	**Pn**	**09 12 03.5**	**-0.1**
SNET				*e*S	**Sb**	**09 12 20.3**	**-0.3**
SNET				IAML		09 12 22.6	
	comp=Z,1μm,0.2s						
SNET	**Serv Nac Est T**	**1.24**	**84**		**Pn**	**09 12 03.5**	**-0.1**
SNET				Sn	**Sn**	**09 12 19.1**	**-0.3**
OPAM	**Oficina de Pla**	**1.28**	**83**	*e*P	**Pn**	**09 12 04.5**	**+0.4**
OPAM				*e*S	**Sb**	**09 12 21.6**	**0.0**
OPAM	**Oficina de Pla**	**1.28**	**83**	*e*P	**Pn**	**09 12 04.5**	**+0.4**
OPAM				*e*S	**Sb**	**09 12 21.6**	**0.0**
LFU	**La Fuente**	**1.36**	**82**	*e*P	**Pb**	**09 12 06.3**	**-0.7**
LFU	**La Fuente**	**1.36**	**82**	*e*P	**Pb**	**09 12 06.3**	**-0.7**
MTO3	**Montecristo**	**1.38**	**53**	*e*P	**Pn**	**09 12 05.5**	**-0.1**
MTO3				*e*S	**Sb**	**09 12 24.4**	**-0.4**
MTO3				IAML		09 12 26.6	
	comp=Z,240nm,0.4s						
MTO3	**Montecristo**	**1.38**	**53**	*e*P	**Pn**	**09 12 05.5**	**-0.1**
MTO3				*e*S	**Sb**	**09 12 24.4**	**-0.4**
MTO3				IAML		09 12 26.6	
	comp=Z,240nm,0.4s						
MTO3	**Montecristo**	**1.38**	**53**		**Pn**	**09 12 05.6**	**-0.1**
LFRS	**El Faro**	**1.40**	**88**	*e*P	**Pn**	**09 12 06.1**	**+0.2**
LFRS	**El Faro**	**1.40**	**88**	*e*P	**Pn**	**09 12 06.1**	**+0.2**
LBRS	**Las Brisas**	**1.43**	**83**	*e*P	**Pb**	**09 12 07.5**	**-0.6**
LBRS	**Las Brisas**	**1.43**	**83**	*e*P	**Pb**	**09 12 07.5**	**-0.6**
ESQI	**Esquipulas**	**1.50**	**49**	*e*P	**Pn**	**09 12 07.3**	**+0.1**
ESQI				*e*S	**Sb**	**09 12 27.7**	**-0.3**
ESQI				IAML		09 12 33.2	
	comp=Z,113nm,0.5s						
ESQI	**Esquipulas**	**1.50**	**49**		**Pn**	**09 12 07.5**	**+0.4**
ESQI				Sn	**Sn**	**09 12 21.7**	**-4.2**
PAVA	**Las Pavas**	**1.53**	**84**	*e*P	**Pn**	**09 12 08.1**	**+0.5**
PAVA	**Las Pavas**	**1.53**	**84**	*e*P	**Pn**	**09 12 08.1**	**+0.5**
ALJI	**Alcalda de J**	**1.90**	**97**	*e*P	**Pn**	**09 12 12.3**	**-0.2**
ALJI				*e*S	**Sn**	**09 12 35.8**	**+0.3**
ALJI				IAML		09 12 42.6	
	comp=Z,227nm,0.3s						
ALJI	**Alcalda de J**	**1.90**	**97**	*e*P	**Pn**	**09 12 12.3**	**-0.2**
ALJI				*e*S	**Sn**	**09 12 35.8**	**+0.3**
ALJI				IAML		09 12 42.6	
	comp=Z,227nm,0.3s						
THIG		**2.17**	**308**		**Pn**	**09 12 15.6**	**-0.6**
THIG					**Sn**	**09 12 41.5**	**-0.6**
JUCU	**Jucuar¡n**	**2.22**	**98**	*e*P	**Pn**	**09 12 17.2**	**+0.2**
JUCU				IAML		09 12 54.1	
	comp=Z,217nm,0.3s						
JUCU	**Jucuar¡n**	**2.22**	**98**	*e*P	**Pn**	**09 12 17.2**	**+0.2**
JUCU				IAML		09 12 54.1	
	comp=Z,217nm,0.3s						
LCND	**La Caada**	**2.56**	**95**	*e*P	**Pn**	**09 12 21.7**	**+0.1**
LCND				*e*S	**Sn**	**09 12 54.1**	**+2.3**
LCND	**La Caada**	**2.56**	**95**	*e*P	**Pn**	**09 12 21.7**	**+0.1**
LCND				*e*S	**Sn**	**09 12 54.1**	**+2.3**
TGUH	**Tegucigalpa,Un**	**3.17**	**81**		**Pn**	**09 12 29.9**	**-0.3**
ESTN	**Estel**	**4.05**	**96**		**Pn**	**09 12 42.6**	**+0.3**
MATN	**Matagalpa**	**4.50**	**98**	Pn	**Pn**	**09 12 48.9**	**+0.4**
BOAB	**BOACO BOADBAN**	**4.84**	**103**	Pn	**Pn**	**09 12 52.0**	**-1.1**
JTS	**Las Juntas de**	**6.33**	**120**	Pn	**Pn**	**09 13 13.9**	**+0.3**

IDC ***13*** *09:12:32.5±0.7, 15.˚07S×173.˚66W, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.1/26, mbtmp4.0/12, ML4.5/1, MS3.4/6, Ms1 3.4/6, ms1mx3.0/38, Error ellipse: s-maj=32.2km s-min=16.2km az=136.0*
NEIC ***13*** *09:12:35.3±0.7, 15.˚04S±0.˚07×173.˚5W±0.˚1, h25km±4km, mb4.6/13, Error ellipse: s-maj=15.5km s-min=7.4km az=118.0*

ISC 13 09:12:36.1±0.5, 15.˚09S±0.˚06×173.˚43W±0.˚08, h30km, n46, σ1s48/40, mb4.0/14, MS3.5/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.98**	**54**	Pn	**Pn**	**09 13 08.2**	**+0.5**
	158nm,0.3s,baz=212,slow=3.0,SNR=210						
AFI				LR	LR	09 13 24.0	
	comp=Z,246nm,20.0s,baz=254,slow=24						
AFI				Sn	**Sn**	**09 13 28.6**	**-3.0**
	341nm,0.3s,baz=49,slow=14,SNR=13						
AFI	**Afiamalu**	**1.98**	**54**		**Pn**	**09 13 08.1**	**+0.5**
AFI					**Sn**	**09 13 29.0**	**-2.6**
NIUE	**Niue**	**5.19**	**140**	Pn	**Pn**	**09 13 53.0**	**+1.2**
NIUE					**Sn**	**09 14 46.3**	**-4.4**
KNTN	**Kanton**	**12.35**	**8**	Pn	**Pn**	**09 15 29.4**	**-0.6**
RAR	**Rarotonga**	**14.34**	**117**	Pn	**Pn**	**09 15 58.5**	**+1.5**
URZ	**Urewera**	**24.55**	**198**	P	**P**	**09 17 54.0**	**+0.8**
	4.3nm,0.4s,baz=22,slow=9.7,SNR=2.0						
URZ	**Urewera**	**24.55**	**198**	P	**P**	**09 17 52.4**	**-0.8**
URZ				IAmb	IAmb	09 18 04.5	
	comp=Z,26nm,1.3s						
QRZ	**Quartz Range**	**28.41**	**203**	P	**P**	**09 18 27.7**	**-0.2**
TUWZ	**Tuamarina**	**28.44**	**200**	P	**P**	**09 18 28.1**	**-0.1**
LTZ	**Lake Taylor**	**30.21**	**201**	P	**P**	**09 18 42.5**	**-1.4**
OXZ	**Oxford**	**30.77**	**201**	P	**P**	**09 18 48.9**	**0.0**
WHZ	**Wether Hill Ro**	**34.47**	**203**	P	**P**	**09 19 21.0**	**-0.2**
H11S2	**WAKE ISLAND Hy**	**38.68**	**329**	T	T	10 00 45.8	
	baz=146,slow=76,SNR=8.6						
H11S3	**WAKE ISLAND Hy**	**38.69**	**329**	T	T	10 00 44.8	
	baz=146,slow=76,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**38.70**	**329**	T	T	10 00 50.1	
	baz=146,slow=76,SNR=9.3						
H11N3	**WAKE ISLAND Hy**	**39.62**	**330**	T	T	10 01 50.9	
	baz=147,slow=76,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**39.63**	**330**	T	T	10 01 49.2	
	baz=147,slow=76,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**39.64**	**330**	T	T	10 01 56.0	
	baz=147,slow=76,SNR=4.9						
STKA	**Stephens Creek**	**44.17**	**240**	P	**P**	**09 20 41.8**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=73,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**44.17**	**240**	P	**P**	**09 20 41.9**	**-0.5**
WB0	**Warramunga Arr**	**49.84**	**257**	P	**P**	**09 21 26.0**	**-0.9**
WB0				IAmb	IAmb	09 21 42.6	
	comp=Z,5.8nm,1.1s						
WB2	**Warramunga Arr**	**49.88**	**257**	P	**P**	**09 21 26.3**	**-0.8**
WB2				IAmb	IAmb	09 21 27.0	
	comp=Z,7.1nm,1.1s						
WRA	**Warramunga Arr**	**49.89**	**257**	P	**P**	**09 21 25.8**	**-1.4**
	comp=Z,1.5nm,1.0s,baz=98,slow=5.9,SNR=16						
WRA	**Warramunga Arr**	**49.89**	**257**	P	**P**	**09 21 26.0**	**-1.2**
AS31	**Alice Springs**	**50.18**	**252**	P	**P**	**09 21 28.9**	**-0.6**
ASAR	**Alice Springs**	**50.18**	**252**	P	**P**	**09 21 28.1**	**-1.4**
	comp=Z,4.8nm,0.7s,baz=86,slow=8.1,SNR=29						
ASAR				LR	LR	09 40 59.1	
	comp=Z,62nm,19.8s,baz=112,slow=34						
ASAR	**Alice Springs**	**50.18**	**252**	P	**P**	**09 21 27.2**	**-2.3**
VNDA	**Vanda**	**63.68**	**186**	P	**P**	**09 23 05.5**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=2.7,slow=6.9,SNR=6.0						
ASAJ	**Asahikawa**	**71.26**	**328**	LR	LR	09 48 23.4	
	comp=Z,25nm,20.0s,baz=152,slow=30						
KMRM	**Mail Ridge**	**71.83**	**38**	P	**P**	**09 23 56.3**	**+0.2**
PETK	**Petropavlovsk-**	**72.32**	**342**	P	**P**	**09 24 00.1**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=145,slow=8.8,SNR=3.8						
YERR	**Yerington**	**73.83**	**41**	P	**P**	**09 24 07.8**	**-0.5**
NVAR	**Mina Array Bea**	**74.12**	**42**	P	**P**	**09 24 12.5**	**+2.5**
	comp=Z,1.5nm,0.9s,baz=228,slow=9.6,SNR=12						
NVAR				LR	LR	09 50 59.6	
	comp=Z,46nm,20.2s,baz=236,slow=31						
NVAR	**Mina Array Bea**	**74.12**	**42**	P	**P**	**09 24 10.2**	**+0.3**
QSPA	**South Pole Qui**	**74.96**	**180**	P	**P**	**09 24 14.3**	**+0.1**
QSPA				IAmb	IAmb	09 24 16.5	
	comp=Z,6.9nm,1.0s						
KSRS	**Korea Array**	**75.91**	**316**	LR	LR	09 51 10.1	
	comp=Z,19nm,21.6s,baz=151,slow=31						
MA2	**Magadan**	**79.86**	**342**	LR	LR	09 55 03.3	
	comp=Z,20nm,21.7s,baz=132,slow=32						
TXAR	**Lajitas Array**	**80.46**	**56**	P	**P**	**09 24 47.7**	**+2.1**
	comp=Z,0.2nm,0.8s,baz=234,slow=7.7,SNR=2.9						
PDAR	**Pinedale Array**	**82.05**	**42**	P	**P**	**09 24 55.6**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=180,slow=2.7,SNR=4.2						
ILAR	**Eielson Array**	**82.14**	**11**	P	**P**	**09 24 54.2**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=219,slow=7.0,SNR=4.9						
ILAR	**Eielson Array**	**82.14**	**11**	P	**P**	**09 24 53.8**	**+0.2**
MAW	**Mawson**	**88.08**	**199**	P	**P**	**09 25 23.7**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=128,slow=7.8,SNR=3.9						
GERES	**GERESS Array B**	**145.83**	**352**	PKPdf	**PKPbc**	**09 32 12.0**	**-0.5**
BRTR	**Keskin Array B**	**145.90**	**321**	PKPbc	**PKiKP**	**09 32 14.3**	**-2.2**
	comp=Z,1.3nm,0.7s,baz=132,slow=3.5,SNR=4.9						
BRTR	**Keskin Array B**	**145.90**	**321**	PKPdf	**PKPab**	**09 32 12.5**	**-1.0**
ALN	**Alexandroupoli**	**149.21**	**330**	PKPab	**PKPab**	**09 32 25.9**	**-0.4**

MAN ***13*** *09:37:22.6,3.˚88N×125.˚59E, h9km, mb4.5, ML3.4, MS3.2*
IDC ***13*** *09:37:22.9±16.0, 4.˚81N×125.˚32E, h194km±166km, mb3.6/5, mb1 3.8/5, mb1mx3.2/48, mbtmp4.1/5, Error ellipse: s-maj=115.1km s-min=25.6km az=61.0*

ISC 13 09:37:27.3±1.1, 4.˚35N±0.˚09×125.˚3E±0.˚2, h200km, n10, σ0s95/11, mb4.0/5, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.80**	**13**	*e*P	**Pn**	**09 38 05.5**	**+1.7**
DDMP				*e*S	**Sn**	**09 38 33.4**	**+1.1**
SKMP	**Bagumbayan, Su**	**2.28**	**341**	*e*P	**Pn**	**09 38 08.3**	**-0.6**
KCP	**Kidapawan**	**2.65**	**356**⇑	*i*P	**Pn**	**09 38 13.2**	**+0.1**
MATI	**Mati**	**2.76**	**20**	*e*P	**Pn**	**09 38 12.8**	**-1.4**
MATI				*e*S	**Sn**	**09 38 50.6**	**-0.2**
BUKP	**Musuan**	**3.52**	**356**	*e*P	**Pn**	**09 38 22.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**22.30**	**179**	P	**P**	**09 42 08.9**	**+0.4**
	5.9nm,0.6s,baz=4.6,slow=8.5,SNR=19						
WRA	**Warramunga Arr**	**25.72**	**160**	P	**P**	**09 42 39.0**	**-0.6**
	2.6nm,0.8s,baz=335,slow=10,SNR=23						
ASAR	**Alice Springs**	**29.08**	**164**	P	**P**	**09 43 09.4**	**0.0**
	0.9nm,0.5s,baz=343,slow=8.7,SNR=24						
STKA	**Stephens Creek**	**39.23**	**158**	P	**P**	**09 44 36.0**	**-0.4**
	3.7nm,0.8s,baz=341,slow=9.5,SNR=6.3						
MKAR	**Makanchi Array**	**56.24**	**326**	P	P	09 46 40.4	-6.5
	0.6nm,0.4s,baz=126,slow=8.0,SNR=11						
MKAR				PcP	pwP	09 47 36.3	-1.5
	0.5nm,0.7s,baz=106,slow=3.7,SNR=3.8						

HLW ***13*** *09:42:52.8, 37.˚02N×27.˚62E, h15km±17km, Md4.3, Ml4.2*
IDC ***13*** *09:42:54.4±1.1, 36.˚92N×27.˚67E, h0km, mb3.7/5, mb1 3.9/12, mb1mx3.7/52, mbtmp3.8/12, ML3.7/7, MS3.1/4, Ms1 3.1/4, ms1mx2.6/57, Error ellipse: s-maj=18.9km s-min=15.7km az=7.0*
ATH ***13*** *09:42:54.6, 36.˚92N×27.˚70E, h29km±1km, ML3.9/12, Error ellipse: s-maj=2.1km s-min=0.9km az=167.0*
DDA ***13*** *09:42:54.9, 36.˚93N×27.˚65E, h15km±1km, MW4.1*
THE ***13*** *09:42:55.1, 36.˚94N×27.˚68E, h1km±1km, ML4.0/5, Error ellipse: s-maj=1.0km s-min=0.5km az=142.0*
ISK ***13*** *09:42:55.0, 36.˚97N×27.˚68E, h14km, ML4.1/31*
NEIC ***13*** *09:42:57.8±2.0, 36.˚99N±0.˚05×27.˚67E±0.˚04, h17km±2km, Error ellipse: s-maj=7.3km s-min=4.9km az=182.0*
NIC ***13*** *09:42:57.1±0.0, 36.˚49N×27.˚44E, h20km±2km, Ml4.3/4*

ISC 13 09:42:55.4±0.9, 36.˚92N±0.˚02×27.˚70E±0.˚01, h9km±6km, n185, σ1s68/249, mb3.8/7, MS3.2/3, 9C-11D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.21**	**207**	P	**Pg**	**09 43 00.1**	**+0.3**
DAT				S	**Sg**	**09 43 03.8**	**+1.0**
DAT	**Datca**	**0.21**	**207**	PG	**Pg**	**09 43 00.2**	**+0.3**
DAT	**Datca**	**0.21**	**207**⇑	*i*P	**Pg**	**09 43 00.1**	**+0.3**
DAT				IAML		09 43 04.0	
	comp=E,10μm,0.5s						
DAT				*i* S	**Sg**	**09 43 04.1**	**+1.3**
DAT				IAML		09 43 05.0	
	comp=N,10μm,0.4s						
BDRM	**Kayabasi**	**0.25**	**306**	*i* P	**Pg**	**09 43 00.2**	**-0.3**
BDRM				*i* S	**Sg**	**09 43 03.6**	**-0.3**
BODT	**Bodrum**	**0.34**	**295**	P	**Pg**	**09 43 01.9**	**-0.3**
BODT				S	**Sb**	**09 43 07.1**	**-2.1

ANAF					AML	AML	09 43 56.9		
	comp=E,16588µm,0.4s								
AKAS	**Kas**	**1.68**	**114**	*i*	P	**Pg**	**09 43 28.6**	**+1.0**	
AKAS				*i*	S	**Sg**	**09 43 54.1**	**+4.7**	
AKAS					IAML		09 43 58.0		
	comp=N,1µm,0.5s								
AKAS					IAML		09 43 58.0		
	comp=E,508nm,0.9s								
AKAS	**Kas**	**1.68**	**114**		Pn	**Pg**	**09 43 27.6**	**0.0**	
AKAS					Sn	**Sg**	**09 43 51.6**	**+2.2**	
URLA	**Izmir**	**1.68**	**329**		PN	**Pn**	**09 43 24.1**	**-0.9**	
URLA	**Izmir**	**1.68**	**329**	⇑*i*	P	**Pn**	**09 43 24.0**	**-1.1**	
URLA				*i*	S	**Sg**	**09 43 50.9**	**+1.4**	
URLA					IAML		09 43 56.0		
	comp=N,2µm,1.3s								
URLA					IAML		09 43 57.0		
	comp=E,2µm,0.7s								
MANT	**Manisa**	**1.71**	**23**	*i*	P	**Pn**	**09 43 25.1**	**-0.5**	
MANT				*i*	S	**Sg**	**09 43 51.3**	**+0.9**	
MANT					IAML		09 43 58.0		
	comp=N,492nm,0.9s								
MANT					IAML		09 44 03.0		
	comp=E,414nm,0.7s								
MANT	**Manisa**	**1.71**	**23**			**Pn**	**09 43 25.0**	**-0.5**	
APE	**Apeiranthos**	**1.74**	**276**		P	**Pn**	**09 43 25.1**	**-0.8**	
APE	**Apeiranthos**	**1.74**	**276**		P	**Pn**	**09 43 25.0**	**-0.9**	
APE					AML	AML	09 43 47.5		
	comp=E,6937µm,0.4s								
APE					AML	AML	09 43 48.1		
	comp=N,7541µm,0.4s								
APE	**Apeiranthos**	**1.74**	**276**	⇓	P	**Pn**	**09 43 24.9**	**-0.9**	
APE				⇓	S	**Sn**	**09 43 46.1**	**-2.1**	
APE	**Apeiranthos**	**1.74**	**276**		PN	**Pn**	**09 43 25.5**	**-0.4**	
APE	**Apeiranthos**	**1.74**	**276**		P	**Pn**	**09 43 25.1**	**-0.8**	
APE					S	**Sn**	**09 43 46.6**	**-1.6**	
KULA	**Kula-Manisa**	**1.77**	**25**		P	**Pn**	**09 43 26.0**	**-0.2**	
KULA	**Kula-Manisa**	**1.77**	**25**		PN	**Pn**	**09 43 25.8**	**-0.4**	
ELL	**Elmali**	**1.78**	**95**		P	**Pg**	**09 43 30.0**	**+0.4**	
ELL					S	**Sg**	**09 43 56.0**	**+3.3**	
ELL	**Elmali**	**1.78**	**95**			**Pg**	**09 43 29.5**	**-0.1**	
GOMA	**Golmarmara-Man**	**1.79**	**5**		PN	**Pn**	**09 43 25.7**	**-0.8**	
THR8	**Santorini-Mono**	**1.86**	**255**		P	**Pn**	**09 43 25.6**	**-1.7**	
SANT	**Santorini**	**1.88**	**254**		P	**Pn**	**09 43 27.4**	**-0.4**	
SANT	**Santorini**	**1.88**	**254**		P	**Pn**	**09 43 27.3**	**-0.4**	
SANT	**Santorini**	**1.88**	**254**	⇑	P	**Pg**	**09 43 31.7**	**+0.2**	
SANT				⇓	S	**Sg**	**09 43 59.4**	**+3.5**	
SANT	**Santorini**	**1.88**	**254**		PN	**Pn**	**09 43 27.8**	**0.0**	
SANT	**Santorini**	**1.88**	**254**			**Pn**	**09 43 27.3**	**-0.4**	
SANT					Sn	**Sg**	**09 43 58.4**	**+2.5**	
THT2	**Imerovigli**	**1.89**	**256**		PN	**Pn**	**09 43 27.9**	**0.0**	
KRBN	**Karaburun**	**1.90**	**332**		PN	**Pn**	**09 43 27.1**	**-0.9**	
THR3	**Thira Island,**	**1.92**	**255**		P	**Pn**	**09 43 27.4**	**-0.8**	
IOSP	**Ios island**	**1.94**	**265**		P	**Pn**	**09 43 27.8**	**-0.8**	
IOSP	**Ios island**	**1.94**	**265**		P	**Pn**	**09 43 27.7**	**-0.9**	
IOSP					AML	AML	09 43 51.7		
	comp=N,8692µm,0.2s								
IOSP					AML	AML	09 43 51.9		
	comp=E,4008µm,0.3s								
THR5	**Thira Island,**	**1.96**	**256**		P	**Pn**	**09 43 28.3**	**-0.4**	
AKHS	**Akhisar**	**1.96**	**3**	*i*	P	**Pn**	**09 43 27.3**	**-1.5**	
AKHS				*i*	S	**Sg**	**09 43 59.6**	**+1.2**	
AKHS					IAML		09 44 09.0		
	comp=E,460nm,0.8s								
CHOS	**Chios island**	**1.96**	**319**		P	**Pn**	**09 43 27.1**	**-1.8**	
CHOS					S	**Sn**	**09 43 52.8**	**-0.9**	
	comp=E,2µm,0.7s								
CHOS	**Chios island**	**1.96**	**319**		P	**Pn**	**09 43 28.1**	**-0.8**	
CHOS					AML	AML	09 44 04.1		
	comp=E,3406µm,0.8s								
CHOS					AML	AML	09 44 04.8		
	comp=N,3805µm,0.5s								
CHOS	**Chios island**	**1.96**	**319**		PN	**Pn**	**09 43 28.1**	**-0.8**	
THR9	**Santorini-Faro**	**1.97**	**254**		P	**Pn**	**09 43 27.6**	**-1.3**	
BRDR	**BURDUR-Merkez**	**2.04**	**67**	*i*	P	**Pb**	**09 43 31.9**	**-0.7**	
BRDR				*i*	S	**Sg**	**09 43 59.0**	**-1.9**	
BRDR					IAML		09 44 03.0		
	comp=N,428nm,1.7s								
BRDR					IAML		09 44 04.0		
	comp=E,311nm,1.1s								
USAK	**Uak-Merkez**	**2.07**	**30**	*i*	P	**Pn**	**09 43 30.2**	**-0.3**	
USAK				*i*	S	**Sg**	**09 44 03.0**	**+1.0**	
ZEDA	**zmir-Bergama**	**2.10**	**347**	*i*	P	**Pn**	**09 43 29.8**	**-1.0**	
ZEDA				*i*	S	**Sg**	**09 44 04.2**	**+1.2**	
ZEDA					IAML		09 44 09.0		
	comp=E,749nm,0.7s								
ZEDA					IAML		09 44 11.0		
	comp=N,714nm,0.8s								
TNSA	**Tinos**	**2.12**	**288**		P	**Pn**	**09 43 30.5**	**-0.4**	
KORT	**Korkueli**	**2.12**	**87**	*i*	P	**Pg**	**09 43 34.7**	**-1.4**	
KORT				*i*	S	**Sg**	**09 44 03.2**	**-0.5**	
KORT					IAML		09 44 19.0		
	comp=N,389nm,0.7s								
KORT					IAML		09 44 19.0		
	comp=E,504nm,0.8s								
ZKR	**Zakros**	**2.17**	**214**		P	**Pn**	**09 43 32.3**	**+0.7**	
ZKR					AML	AML	09 44 12.3		
	comp=E,2207µm,0.5s								
ZKR					AML	AML	09 44 12.8		
	comp=N,1206µm,0.8s								
AKUM	**Antalya-Kumluc**	**2.21**	**105**	*i*	P	**Pb**	**09 43 35.2**	**-0.3**	
AKUM				*i*	S	**Sg**	**09 44 05.0**	**-1.3**	
AKUM					IAML		09 44 10.0		
	comp=E,425nm,0.7s								
AKUM					IAML		09 44 14.0		
	comp=N,440nm,0.9s								
DKL	**Dikili**	**2.24**	**344**		PN	**Pn**	**09 43 32.2**	**-0.4**	
KZIL	**AFYON_Kizioren**	**2.35**	**55**	*i*	P	**Pg**	**09 43 40.0**	**-0.5**	
KZIL				*i*	S	**Sg**	**09 44 16.7**	**+5.6**	
KZIL					IAML		09 44 20.0		
	comp=N,262nm,1.1s								
NPS	**Neapolis**	**2.36**	**226**		P	**Pn**	**09 43 34.0**	**-0.4**	
NPS					AML	AML	09 44 13.6		
	comp=N,1067µm,0.7s								
NPS					AML	AML	09 44 20.2		
	comp=E,1430µm,0.6s								
SIMA	**Simav-Kutahya**	**2.39**	**25**		PN	**Pn**	**09 43 34.7**	**-0.1**	
STEP	**BALIKESIR_Sava**	**2.45**	**0**	*i*	P	**Pn**	**09 43 34.1**	**-1.5**	
STEP				*i*	S	**Sg**	**09 44 17.0**	**+2.8**	
STEP					IAML		09 44 25.0		
	comp=N,1µm,1.1s								
STEP					IAML		09 44 27.0		
	comp=E,1µm,1.1s								
LAST	**Lasithi**	**2.51**	**226**		P	**Pn**	**09 43 35.6**	**-0.8**	
LAST					AML	AML	09 44 25.0		
	comp=N,977µm,0.7s								
LAST					AML	AML	09 44 26.8		
	comp=E,652µm,0.6s								
AYVA	**Ayvalik**	**2.51**	**342**	*i*	P	**Pg**	**09 43 42.3**	**-1.3**	
AYVA				*i*	S	**Sg**	**09 44 16.6**	**+0.5**	
AYVA					IAML		09 44 21.0		
	comp=N,756nm,0.8s								
AYVA					IAML		09 44 24.0		
	comp=E,758nm,0.7s								
GEDZ	**Gediz**	**2.52**	**32**		PN	**Pn**	**09 43 36.6**	**+0.1**	
GDZ	**Gediz**	**2.58**	**32**	*i*	P	**Pn**	**09 43 37.1**	**-0.4**	
GDZ				*i*	S	**Sg**	**09 44 21.1**	**+2.7**	
BAGO	**Egridir - ISPA**	**2.68**	**66**	*i*	P	**Pn**	**09 43 40.6**	**+1.8**	
BAGO				*i*	S	**Sg**	**09 44 27.8**	**+6.3**	
SIGR	**SIGRI**	**2.71**	**328**		P	**Pn**	**09 43 38.6**	**-0.5**	
SIGR	**SIGRI**	**2.71**	**328**		P	**Pn**	**09 43 38.5**	**-0.5**	
SIGR	**SIGRI**	**2.71**	**328**		PN	**Pn**	**09 43 38.6**	**-0.5**	
BALB	**Balikesir**	**2.72**	**3**		PN	**Pn**	**09 43 38.4**	**-0.8**	
DURS	**Dursunbey**	**2.75**	**13**	*i*	P	**Pn**	**09 43 38.0**	**-1.7**	
DURS				*i*	S	**Sg**	**09 44 28.1**	**+4.5**	
DURS					IAML		09 44 35.0		
	comp=N,350nm,0.8s								
DURS					IAML		09 44 35.0		
	comp=E,341nm,1.2s								
IDI	**Anoyia**	**2.80**	**235**		Pn	**Pn**	**09 43 40.6**	**+0.2**	
	comp=E,9.5nm,0.3s,baz=266,slow=5.0,SNR=47								
IDI					Sn	**Sn**	**09 44 13.9**	**-0.3**	
	comp=E,12nm,0.3s,baz=282,slow=23,SNR=6.4								
IDI	**Anoyia**	**2.80**	**235**		P	**Pn**	**09 43 40.0**	**-0.3**	
IDI					AML	AML	09 44 27.9		
	comp=N,551µm,0.6s								
IDI					AML	AML	09 44 32.7		
	comp=E,699µm,0.5s								
IDI	**Anoyia**	**2.80**	**235**	⇓	P	**Pn**	**09 43 40.3**	**-0.1**	
IDI				⇓	S	**Sn**	**09 44 16.2**	**+2.0**	
IDI	**Anoyia**	**2.80**	**235**			**Pn**	**09 43 40.8**	**+0.4**	
IDI						**Sn**	**09 44 16.3**	**+2.0**	
BALY	**Balya**	**2.82**	**359**	*i*	P	**Pn**	**09 43 38.9**	**-1.7**	
BALY				*i*	S	**Sg**	**09 44 26.5**	**+0.6**	
BALY					IAML		09 44 31.0		
	comp=N,630nm,0.9s								
BALY					IAML		09 44 33.0		
	comp=E,385nm,0.7s								
TVSB	**Tavsanli**	**2.88**	**28**		PN	**Pn**	**09 43 41.7**	**+0.1**	
BAYC	**CANAKKALE_Bayr**	**2.96**	**343**	*i*	P	**Pn**	**09 43 41.3**	**-1.3**	
BAYC					IAML		09 44 38.0		
	comp=E,183nm,0.6s								
EZN	**Ezine**	**3.10**	**340**		PN	**Pn**	**09 43 44.4**	**0.0**	
GONE	**Gonen-Balikesi**	**3.12**	**360**		PN	**Pn**	**09 43 44.2**	**-0.6**	
KEPZ	**Antalya-Kepez**	**3.13**	**89**	*i*	P	**Pb**	**09 43 48.1**	**-3.1**	
KEPZ					IAML		09 44 30.0		
	comp=E,199nm,0.8s								
KEPZ					IAML		09 44 31.0		
	comp=N,171nm,0.6s								
BOLV	**Bolvadin**	**3.14**	**54**		Pn	**Pn**	**09 43 46.8**	**+1.7**	
BOZC	**Bozcaada**	**3.19**	**337**		PN	**Pn**	**09 43 45.5**	**-0.2**	
BOZC	**Bozcaada**	**3.19**	**337**	*i*	P	**Pn**	**09 43 45.0**	**-0.7**	
BOZC					IAML		09 44 44.0		
	comp=N,310nm,1.0s								
BOZC					IAML		09 44 45.0		
	comp=E,274nm,1.0s								
KYMI	**Kymi, Euboea I**	**3.33**	**302**		P	**Pn**	**09 43 47.6**	**+0.1**	
KCTX	**Karacabey (Bur**	**3.38**	**9**		PN	**Pn**	**09 43 48.1**	**-0.3**	
ULDT	**Uludag**	**3.41**	**19**	*i*	P	**Pn**	**09 43 48.3**	**-0.6**	
ULDT					IAML		09 44 52.0		
	comp=E,240nm,1.0s								
EDC	**Edincik**	**3.42**	**2**		PN	**Pn**	**09 43 48.1**	**-0.8**	
LPK	**Lapseki**	**3.52**	**348**		PN	**Pn**	**09 43 49.9**	**-0.4**	
IGD	**Bursa**	**3.54**	**19**	*i*	P	**Pn**	**09 43 53.7**	**+3.2**	
GADA	**Gvkgeada**	**3.56**	**337**		PN	**Pn**	**09 43 50.6**	**-0.2**	
GELI	**Tayfur-Gelibol**	**3.60**	**345**		PN	**Pn**	**09 43 50.8**	**-0.6**	
ANKY	**Antikythira Is**	**3.70**	**255**		P	**Pn**	**09 43 53.0**	**+0.3**	
AOS	**Alonnisos**	**3.76**	**308**		P	**Pn**	**09 43 53.6**	**+0.1**	
AOS	**Alonnisos**	**3.76**	**308**		PN	**Pn**	**09 43 53.5**	**0.0**	
RKY	**Sarkoy-Tekirda**	**3.78**	**354**		PN	**Pn**	**09 43 53.6**	**-0.3**	
KTHA	**Kythira Island**	**3.79**	**261**		P	**Pn**	**09 43 54.5**	**+0.5**	
MAR6	**Marsite Statio**	**3.79**	**355**		PN	**Pn**	**09 43 54.0**	**0.0**	
MAR3	**Marsite Statio**	**3.83**	**355**		PN	**Pn**	**09 43 54.0**	**-0.5**	
MAR4	**Marsite Statio**	**3.88**	**356**		PN	**Pn**	**09 43 55.7**	**+0.5**	
ENEZ	**Enez**	**4.00**	**343**		PN	**Pn**	**09 43 57.0**	**+0.2**	
GEYV	**SAKARYA_Geyve**	**4.10**	**29**	*i*	P	Pn	09 43 45.9	-12	
GEYV					IAML		09 44 56.0		
	comp=E,69nm,1.2s								
GEYV					IAML		09 44 57.0		
	comp=N,135nm,0.2s								
ALN	**Alexandroupoli**	**4.18**	**343**		PN	**Pn**	**09 43 59.0**	**-0.2**	
ALN	**Alexandroupoli**	**4.18**	**343**		Pn	**Pn**	**09 43 58.6**	**-0.7**	
AKMS	**Akamas**	**4.21**	**115**		P	**Pn**	**09 44 00.7**	**+0.9**	
AKMS					AML	AML	09 44 56.2		
	comp=N,1.5nm,0.6s								
AKMS					AML	AML	09 44 58.9		
	comp=N,0.7nm,0.6s								
ALFC	**Alefka**	**4.34**	**112**		P	**Pn**	**09 44 02.8**	**+1.2**	
ALFC					AML	AML	09 45 03.0		
	comp=N,1.1nm,0.6s								
ALFC					AML	AML	09 45 08.9		
	comp=N,0.7nm,0.6s								
MDUB	**Mudurnu**	**4.48**	**37**			**Pn**	**09 44 04.9**	**+1.3**	
NATA	**Nata**	**4.50**	**117**		P	**Pn**	**09 44 05.1**	**+1.4**	
OSC1	**CSNet OBS 1**	**4.50**	**138**		P	**Pn**	**09 44 03.3**	**-0.3**	
OSC1					S	**Sn**	**09 44 53.7**	**-2.3**	
LEF	**Lefka**	**4.58**	**112**	⇑	P	**Pn**	**09 44 05.3**	**+0.5**	
LEF				⇓	S	**Sn**	**09 44 58.9**	**+0.9**	
ITM	**Ithomi**	**4.62**	**275**			**Pn**	**09 44 07.4**	**+2.0**	
SZAC	**Souni**	**4.73**	**116**		P	**Pn**	**09 44 08.0**	**+1.1**	
SZAC					AML	AML	09 45 16.8		
	comp=N,1.2nm,0.6s								
SZAC					AML	AML	09 45 17.5		
	comp=N,0.8nm,0.8s								
AGG	**Agios Georgios**	**4.73**	**298**		Pn	**Pn**	**09 44 07.5**	**+0.6**	
BR231	**Keskin MP Arra**	**4.94**	**52**			**Pn**	**09 44 11.8**	**+1.9**	
CSS	**Mathiatis**	**4.97**	**111**		P	**Pn**	**09 44 11.6**	**+1.4**	
CSS	**Mathiatis**	**4.97**	**111**		Pn	**Pn**	**09 44 10.9**	**+0.7**	
CSS					Sn	**Sn**	**09 45 09.4**	**+1.6**	
ASGA	**Asgata**	**4.98**	**114**		P	**Pn**	**09 44 12.2**	**+1.8**	
ASGA					AML	AML	09 45 17.0		
	comp=N,0.6nm,0.7s								
ASGA					AML	AML	09 45 18.7		
	comp=N,0.6nm,0.7s								
LIT	**Litokhoron**	**5.17**	**309**			**Pn**	**09 44 13.6**	**+0.5**	
OSC2	**CSNet OBS 4**	**5.36**	**134**		P	**Pn**	**09 44 15.5**	**-0.1**	
OSC2					S	**Sn**	**09 45 15.8**	**-1.6**	
BRTR	**Keskin Array B**	**5.45**	**57**		Pn	**Pn**	**09 44 18.9**	**+2.0**	
	comp=N,1.5nm,0.3s,baz=238,slow=15,SNR=20								
BRTR					Sn	**Sn**	**09 45 20.7**	**+1.0**	
	comp=N,0.2nm,0.3s,baz=245,slow=17,SNR=3.6								
BRTR					LR	LR	09 47 07.9		
	comp=N,121nm,20.1s,baz=196,slow=46								
BRTR	**Keskin Array B**	**5.45**	**57**		Pn	**Pn**	**09 44 18.5**	**+1.6**	
BR131	**Keskin Array S**	**5.45**	**57**		Pn	**Pn**	**09 44 18.7**	**+1.9**	
PARAL	**Paralimni**	**5.49**	**109**		S	**Sn**	**09 45 25.4**	**+4.8**	
SLUM	**Salum**	**5.79**	**202**		P	**Pn**	**09 44 20.9**	**-0.6**	
	baz=201								
SLUM					S	**Sn**	**09 45 21.9**	**-6.2**	
	baz=201								
VTS	**Vitosha**	**6.65**	**330**	⇑	P	**Pn**	**09 44 34.3**	**+0.9**	
VTS				⇓	S	**Sn**	**09 45 50.0**	**+0.7**	
VTS	**Vitosha**	**6.65**	**330**		Pn	**Pn**	**09 44 33.8**	**+0.4**	
MMAI	**Mount Meron Ar**	**7.43**	**119**		Pn	**Pn**	**09 44 44.3**	**+0.3**	
	comp=N,7.0nm,0.3s,baz=310,slow=12,SNR=10								
MMAI					Sn	**Sn**	**09 46 06.9**	**-1.5**	
	comp=N,9.1nm,0.3s,baz=317,slow=20,SNR=6.0								
KOT	**Kottamia**	**7.78**	**152**		P	**Pn**	**09 44 47.4**	**-1.4**	
	baz=152								
KOT					S	**Sn**	**09 46 11.6**	**-5.5**	
	baz=152								
HHAG	**Hagoal**	**7.86**	**151**		P	**Pn**	**09 44 48.3**	**-1.6**	
	baz=150								
SWA2		**7.88**	**194**		P	**Pn**	**09 44 49.6**	**-0.6**	
	baz=194								
SCTE	**Santa Cesarea**	**7.89**	**296**		Pn	**Pn**	**09 44 52.1**	**+1.8**	
GLL	**Jalalah**	**8.05**	**154**		P	**Pn**	**09 44 51.6**	**-1.0**	
	baz=154								
SUZ	**Suez**	**8.26**	**147**		P	**Pn**	**09 44 54.5**	**-0.9**	
	baz=147								
MLR	**Muntele Rosu**	**8.66**	**352**		Pn	**Pn**	**09 45 02.4**	**+1.4**	
	comp=N,0.1nm,0.3s,baz=200,slow=4.0,SNR=8.2								
MLR	**Muntele Rosu**	**8.66**	**352**			**Pn**	**09 45 01.6**	**+0.6**	
VOIR		**8.74**	**348**	⇓	P	**Pn**	**09 45 00.3**	**-1.7**	
TIP	**Timpagrande**	**8.92**	**288**	⇓	P	**Pn**	**09 45 05.6**	**+1.1**	
TIP	**Timpagrande**	**8.92**	**288**			**Pn**	**09 45 05.7**	**+1.2**	
ASF	**Jabal al Asfar**	**8.94**	**119**		Pn	**Pn**	**09 45 05.8**	**+1.0**	
	comp=N,0.4nm,0.3s,baz=262,slow=6.7,SNR=2.2								
ASF					Sn	**Sn**	**09 46 48.7**	**+3.0**	
	comp=N,0.3nm,0.3s,baz=307,slow=22,SNR=1.6								
PLOR	**Plostina**	**8.96**	**355**	⇑	P	**Pn**	**09 45 08.9**	**+4.0**	
DIVS	**Divibare**	**9.26**	**323**			**Pn**	**09 45 08.6**	**-0.6**	
EIL	**Elat**	**9.44**	**138**		Pn	**Pn**	**09 45 11.1**	**-0.4**	
	comp=N,0.5nm,0.3s,baz=305,slow=16,SNR=1.7								
EIL					Sn	**Sn**	**09 46 53.3**	**-4.5**	
	comp=N,2.2nm,0.3s,baz=130,slow=11,SNR=5.2								
TAMRE	**El Minia**	**9.60**	**163**		P	**Pn**	**09 45 12.2**	**-1.6**	
	baz=162								
HBST	**Basata**	**9.68**	**140**		P	**Pn**	**09 45 13.9**	**-1.0**	
	baz=140								
HFRF	**Wahat Farafira**	**9.76**	**177**		P	**Pn**	**09 45 14.1**	**-1.8**	
	baz=176								
HFRF					S	**Sn**	**09 46 58.5**	**-7.1**	
	baz=176								
HFRF					AMP		09 47 00.0		
	baz=176								
BZS	**Buzias**	**9.82**	**334**	⇓	P	**Pn**	**09 45 19.5**	**+2.9**	
BURAR	**Bucovina Array**	**10.84**	**351**		Pn	**Pn**	**09 45 30.3**	**-0.6**	
GERES	**GERESS Array B**	**15.69**	**324**		Pn	**P**	**09 46 39.9**	**-0.9**	
	comp=N,0.2nm,0.3s,baz=130,slow=13,SNR=1.9								
GERES	**GERESS Array B**	**15.69**	**324**		Pn	**Pn**	**09 46 37.4**	**+0.7**	
KHC	**Kasperske Hory**	**15.95**	**324**	*eP*		**P**	**09 46 45.0**	**+1.4**	
CLL	**Collm**	**17.79**	**329**	*eP*		**P**	**09 47 04.0**	**+0.2**	
CLL				*i*			09 47 09.5		
	comp=Z,10.0nm,1.1s								
FINES	**FINESS Array B**	**24.57**	**358**		P	**P**	**09 48 15.7**	**+0.4**	
	comp=Z,2.1nm,0.8s,baz=189,slow=9.7,SNR=3.5								
FINES	**FINESS Array B**	**24.57**	**358**		P	**P**	**09 48 16.8**	**+1.5**	
ESDC	**Sonseca Array**	**24.93**	**286**		P	**P**	**09 48 18.9**	**-0.1**	
	comp=Z,1.8nm,0.8s,baz=82,slow=9.1,SNR=8.1								
NOA	**NORSAR Array B**	**26.30**	**342**		P	**P**	**09 48 30.0**	**-1.0**	
	comp=Z,0.6nm,0.7s,baz=152,slow=9.6,SNR=2.3								
NOA					LR	LR	10 01 11.6		
	comp=Z,68nm,19.6s,baz=75,slow=42								
ARU	**Arti**	**28.42**	**37**		LR	LR	10 03 07.7		
	comp=Z,25nm,19.0s,baz=118,slow=43								
KKAR	**Karatay Array**	**33.09**	**66**		P	**P**	**09 49 31.4**	**0.0**	
KKAR	**Karatay Array**	**33.09**	**66**		P	**P**	**09 49 32.9**	**+1.5**	
KKAR					IAmb	IAmb	09 49 40.0		
	comp=Z,3.4nm,1.4s								
MK31	**Makanchi Array**	**41.09**	**58**		P	**P**	**09 50 39.9**	**+0.5**	
MKAR	**Makanchi Array**	**41.09**	**58**		P	**P**	**09 50 40.1**	**+0.6**	
	comp=Z,0.7nm,0.7s,baz=273,slow=6.8,SNR=6.5								
MKAR	**Makanchi Array**	**41.09**	**58**		P	**P**	**09 50 39.9**	**+0.5**	
ZALV	**Zalesovo Beam**	**42.30**	**48**		P	**P**	**09 50 50.4**	**+1.3**	
	comp=Z,0.5nm,0.3s,baz=284,slow=8.3,SNR=1.8								
ZALV					LR	LR	10 11 14.7		
	comp=Z,28nm,18.2s,baz=42,slow=40								
ZALV	**Zalesovo Beam**	**42.30**	**48**		P	**P**	**09 50 49.7**	**+0.5**	
BJT	**Baijiatuau**	**66.45**	**57**		P	**P**	**09 53 45.2**	**+0.2**	
BJT					IAmb	IAmb	09 53 45.7		
	comp=Z,4.3nm,0.9s								
ACCN	**Adirondack Com**	**72.89**	**312**		P	**P**	**09 54 25.2**	**+0.5**	
KSAR	**Wonju Array Be**	**75.56**	**54**		P	**P**	**09 54 40.8**	**+0.4**	

DDA ***13*** *09:54:07.2, 36.98N×27.41E, h1km, ML1.9*
ISK ***13*** *09:54:07.7, 36.98N×27.39E, h5km, ML2.5/11*

ISC 13 09:54:07.4±1.0, 37.04N±0.03×27.54E±0.03, h5km±8km, n17, σ1°83/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.08**	**292**	*i*	P	**Pg**	**09 54 09.7**	**+0.5**
BDRM					IAML		09 54 11.0	
	comp=E,3µm,0.3s							
BDRM				*i*	S	**Sg**	**09 54 11.1**	**+0.7**
BODT	**Bodrum**	**0.18**	**278**		PG	**Pg**	**09 54 10.4**	**-0.7**
BODT					SG	**Sg**	**09 54 12.5**	**-1.0**
DAT	**Datca**	**0.31**	**174**		PG	**Pg**	**09 54 13.9**	**+0.5**
DAT	**Datca**	**0.31**	**174**	*i*	P	**Pg**	**09 54 13.7**	**+0.3**
DAT				*i*	S	**Sg**	**09 54 18.6**	**+1.1**
DAT					IAML		09 54 21.0	
	comp=N,98nm,0.2s							
DAT					IAML		09 54 21.0	
	comp=E,84nm,0.2s							
YER	**Yerkesik**	**0.60**	**80**		PG	**Pn**	**09 54 22.1**	**-0.7**
YER					SG	**Sn**	**09 54 32.6**	**-0.4**
TURN	**Turunc**	**0.62**	**114**		PG	**Pg**	**09 54 22.1**	**-2.0**
TURN					SG	**Sg**	**09 54 32.6**	**-2.8**
TURN	**Turunc**	**0.62**	**114**	*i*	P	**Pg**	**09 54 21.0**	**-3.1**
TURN				*i*	S	**Sg**	**09 54 31.9**	**-3.4**
TURN					IAML		09 54 34.0	
	comp=E,68nm,0.7s							
TURN					IAML		09 54 35.0	
	comp=N,81nm,0.5s							
GCAM	**G?zelcaml?**	**0.71**	**340**		PG	**Pb**	**09 54 22.4**	**+0.1**
GCAM					SG	**Sn**	**09 54 33.5**	**-1.9**
GCAM	**G?zelcaml?**	**0.71**	**340**	*i*	P	**Pg**	**09 54 21.4**	**+0.3**
GCAM				*i*	S	**Sb**	**09 54 33.2**	**+0.9**
GCAM					IAML		09 54 35.0	
	comp=E,103nm,0.8s							
GCAM					IAML		09 54 39.0	
	comp=N,72nm,0.4s							
DALY	**Dalyan (Mula)**	**0.92**	**103**		PG	**Pn**	**09 54 27.8**	**+0.8**
DALY	**Dalyan (Mula)**	**0.92**	**103**	*i*	P	**Pn**	**09 54 27.2**	**+0.1**
DALY				*i*	S	**Sn**	**09 54 42.8**	**+2.2**
DALY					IAML		09 54 44.0	
	comp=E,26nm,0.9s							
DALY					IAML		09 54 46.0	
	comp=N,42nm,0.8s							
ARG	**Arkhangelos**	**0.94**	**150**		PG	**Pn**	**09 54 27.2**	**-0.2**
ARG					SG	**Sn**	**09 54 41.2**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.18

ASCN Ascension 15.02 126 P Pn 10 11 03.2 +2.2
MBO M'Bour 16.54 35 P P 10 11 22.7 -0.5
ROSB Rosrio 17.86 258 eP Pn 10 11 37.5 +0.2
GDU01 Guandu, BA 19.32 221 eP P 10 11 54.8 +0.9
TMAB Tom-Au,PA,Br 21.68 262 eP P 10 12 20.4 +0.8
LIC Lamto 22.22 76 eP P 10 12 23.6 -1.8
382nm,1.2s
TIC Toumodi 22.33 74 eP P 10 12 26.2 -0.4
SDBA SAO DESIDERIO 22.39 233 eP P 10 12 28.0 +0.7
SDBA eS S 10 16 37.7 +4.4
DBIC Dimbokro 22.49 75 P P 10 12 26.6 -1.7
35nm,0.8s,baz=244,slow=11,SNR=32
DBIC LR LR 10 18 58.9
comp=Z,3µm,21.5s,baz=236,slow=31
DBIC Dimbokro 22.49 75 P P 10 12 27.2 -1.1
DBIC pmax pmax
comp=Z,179nm,1.2s
DBIC Dimbokro 22.49 75 P P 10 12 27.2 -1.1
DBIC IAmb IAmb 10 12 35.1
comp=Z,179nm,1.2s
KIC Kosan Boka 22.53 75 eP P 10 12 27.0 -1.8
comp=Z,800nm,1.7s
NAN01 Guarapari, ES 22.81 215 eP P 10 12 32.9 +1.3
SMTB Santa Maria do 22.98 245 eP P 10 12 34.6 +1.1
JANB Januaria 23.55 227 eP P 10 12 39.5 +0.3
BSFB Barra de Sao F 24.01 215 eP P 10 12 45.0 +1.5
SJMB Sao Joao De Ma 24.10 216 eP P 10 12 45.7 +1.2
SJMB eS S 10 17 03.7 +1.8
RIB01 Linhares ES 24.14 213 eP P 10 12 46.1 +1.3
PRPB Parauapebas 24.16 253 eP P 10 12 45.7 +0.6
MC01 Montes Claros 24.39 224 eP P 10 12 47.9 +0.8
MCPB Macapa, AP 25.44 267 eP P 10 12 57.1 +0.4
MDP Montagnes des 26.30 280 P P 10 13 03.2 -1.3
comp=Z,27nm,0.9s,baz=107,slow=10,SNR=10
MDP LR LR 10 21 11.6
comp=Z,3µm,21.5s,baz=92,slow=31
BDFB Brasilia 26.71 231 P P 10 13 08.0 -0.3
comp=Z,30nm,1.0s,baz=50,slow=11,SNR=14
BDFB LR LR 10 22 38.2
comp=Z,9µm,19.6s,baz=63,slow=34
BDFB Brasilia 26.71 231 P P 10 13 08.7 +0.4
BDFB Brasilia 26.71 231 P P 10 13 08.7 +0.4
CAM01 Campos-RJ 26.86 212 eP P 10 13 10.8 +1.4
MALB Monte Alegre 27.75 264 eP P 10 13 18.5 +1.0
BSCB Bom Sucesso 28.02 218 eP P 10 13 21.0 +1.1
VAS01 Vassouras-RJ 28.21 214 eP P 10 13 23.1 +1.6
IPMB Ipameri, GO 28.28 228 eP P 10 13 23.4 +1.1
MAN01 Angra dos Reis 28.96 215 eP P 10 13 30.4 +2.0
ITTB Itaituba 29.52 260 eP P 10 13 34.1 +0.8
NPGB Novo Progresso 29.70 254 eP P 10 13 34.5 -0.4
ARAG Araguaiana, MT 29.80 236 eP P 10 13 37.2 +1.4
ARAG eS S 10 18 35.3 +2.9
PARB Paraibuna 30.29 216 eP P 10 13 41.4 +1.3
BB19B Bebedouro 30.52 223 eP P 10 13 43.5 +1.4
TOA0 Torodi Ar. Sit 30.62 65 P P 10 13 42.2 -0.9
TOA0 IAmb IAmb 10 14 18.8
comp=Z,54nm,1.1s
TORD Torodi Ar. Bea 30.62 65 P P 10 13 41.6 -1.4
comp=Z,15nm,0.9s,baz=254,slow=9.2,SNR=4.9
RCLB Rio Claro- Sao 30.80 220 eP P 10 13 46.5 +2.0
VAO Valinhos 30.86 219 eP P 10 13 47.0 +1.9
ITRB Iturama 30.94 227 eP P 10 13 47.4 +1.6
CLDB Colider 31.23 247 eP P 10 13 47.6 -0.9
SPB Sao Paulo 31.58 218 P P 10 13 52.1 +0.7
SPB IAmb IAmb 10 13 54.1
comp=Z,116nm,1.6s
SPB IAMs_20 IAMs_20 10 25 39.6
comp=Z,6µm,18.0s
SPB Sao Paulo 31.58 218 eP P 10 13 52.5 +1.2
PET01 Itanhaem-SP 32.00 217 eP P 10 13 56.2 +1.1
PET01 epP sP 10 13 59.3 -0.1
PCMB Pacaembu 32.79 226 eP P 10 14 03.6 +1.5
PCMB epP pP 10 14 05.8 +0.8
PMOZ Porto Moniz, M 33.05 15 eP P 10 14 05.2 +0.9
PMOZ eLQ LQ 10 21 36.3
PMOZ eLR LR 10 22 30.9
comp=Z,2µm,20.0s
SALV Santo Antonio 33.16 239 eP P 10 14 06.5 +1.1
PTGA Pitinga 33.36 267 P P 10 14 07.5 +0.3
PTGA IAmb IAmb 10 14 15.9
comp=Z,51nm,1.1s
TIJ01 Guaruva-PR 33.82 218 eP P 10 14 12.3 +1.2
TIJ01 epP sP 10 14 15.2 -0.2
MACA Manacapuru-AM 34.26 263 eP P 10 14 16.3 +1.3
TRCB Terra Rica 34.52 226 eP P 10 14 18.5 +1.3
BBGH Gun Hill 34.83 292 IAMs_20 IAMs_20 10 27 53.9
comp=Z,3µm,18.0s
PTGB Pitanga 35.38 222 eP P 10 14 26.1 +1.5
PTGB epP sP 10 14 28.6 -0.3
AQDB Aquidauana 35.46 232 eP P 10 14 26.3 +1.1
AQDB epP pP 10 14 28.9 +0.7
PTLB Pontes e Lacer 35.95 242 eP P 10 14 30.6 +1.1
PTLB epP sP 10 14 33.4 -0.4
VILB Vilhena 35.99 247 eP P 10 14 30.7 +0.8
ITAB Concordia 37.14 219 eP P 10 14 40.6 +1.1
SAML Samuel 37.67 254 P P 10 14 44.9 +0.6
SAML pmax pmax
comp=Z,82nm,1.5s
SAML MLR MLR
comp=Z,1µm,18.0s
SAML Samuel 37.67 254 P P 10 14 44.9 +0.6
SAML IAmb IAmb 10 14 54.1
comp=Z,82nm,1.4s
CNLB Canela 37.86 216 eP P 10 14 46.5 +0.8
CNLB epP sP 10 14 50.6 +0.6
MDT Midelt 37.98 31 P P 10 14 45.6 -1.1
comp=Z,9.9nm,1.1s,baz=245,slow=8.2,SNR=9.3
TAM Tamanrasset 38.13 53 P P 10 14 47.8 -0.4
TAM pmax pmax
comp=Z,73nm,1.7s
TAM MLR MLR
comp=Z,5µm,18.0s
TAM Tamanrasset 38.13 53 P P 10 14 47.8 -0.4
ANWB Willy Bob 38.39 298 P P 10 14 48.0 -2.2
ANWB IAmb IAmb 10 15 05.3
comp=Z,89nm,0.8s
SKI Saint Kitts 39.11 297 P P 10 14 56.4 +0.1
SKI pmax pmax
comp=Z,155nm,1.2s
SKI Saint Kitts 39.11 297 P P 10 14 56.4 +0.1
SKI IAmb IAmb 10 15 22.6
comp=Z,155nm,1.2s
MORF Marmelete 39.92 23 eP P 10 15 02.5 -0.3
MORF AMb AMB 10 15 10.9
comp=Z,88nm,1.3s
MORF Marmelete 39.92 23 eP P 10 15 02.5 -0.3
MORF Marmelete 39.92 23 eP P 10 15 02.4 -0.4
comp=Z,85nm,2.1s
CPUP Villa Florida 40.06 225 P P 10 15 03.9 -0.2
comp=Z,19nm,1.1s,baz=58,slow=8.1,SNR=12
CPUP LR LR 10 31 20.2
comp=Z,7µm,18.7s,baz=62,slow=36
CPUP Villa Florida 40.06 225 P P 10 15 04.3 +0.2
CPUP pmax pmax
comp=Z,76nm,1.4s
CPUP Villa Florida 40.06 225 P P 10 15 04.3 +0.2
CPUP Villa Florida 40.06 225 eP P 10 15 05.1 +1.0
CPUP epP sP 10 15 08.2 -0.3
PTEO Sao Teotonio 40.10 22 eP P 10 15 04.1 -0.2
comp=Z,94nm,1.6s
PBDV Barranco-do-Ve 40.15 23 eP P 10 15 04.5 -0.2
CPSB Cacapava Do Su 40.19 217 eP P 10 15 06.3 +1.2
CPSB epP sP 10 15 09.4 -0.1
PVAQ Vaqueiros 40.37 23 eP P 10 15 06.2 -0.3
comp=Z,70nm,2.1s
PVAQ eS S 10 21 16.5 +2.2
PVAQ eLQ LQ 10 24 30.4
PVAQ eLR LR 10 26 06.5
comp=Z,1µm,18.0s
PVAQ Vaqueiros 40.37 23 P P 10 15 03.9 -2.7
PVAQ IAmb IAmb 10 15 08.3
comp=Z,129nm,1.9s
PCVE Castro Verde 40.44 23 eP P 10 15 06.6 -0.5
comp=Z,67nm,1.8s
ETMB Extrema 40.78 254 eP P 10 15 10.9 +0.6
ETMB epP pP 10 15 13.8 +0.5
PBEJ Beja 40.85 23 eP P 10 15 10.3 -0.2
comp=Z,46nm,2.1s
LIS Lisbon 40.98 21 eP P 10 15 11.0 -0.5
LIS Lisbon 40.98 21 eP P 10 15 11.0 -0.5
EVO Evora 41.24 22 eP P 10 15 13.7 +0.1
comp=Z,69nm,2.1s
PLTB Pedras Altas 41.27 216 eP P 10 15 15.3 +1.3
PLTB epP sP 10 15 18.4 +0.1
STVI Saint Thomas 41.44 297 P P 10 15 15.2 -0.4
STVI IAmb IAmb 10 15 23.2
comp=Z,82nm,1.2s
PMTG Montargil 41.63 22 eP P 10 15 16.9 +0.1
comp=Z,61nm,2.0s
CUPR Culebra, Puert 41.72 297 P P 10 15 17.5 -0.3
PSBE So Bento 41.81 21 eP P 10 15 20.2 +1.8
MTP Monte Pirata 41.89 297 P P 10 15 18.8 -0.5
MTP IAmb IAmb 10 15 32.1
comp=Z,75nm,1.2s
HUMP Col San Antoni 42.17 296 P P 10 15 18.9 -2.6
CBYP Canovanas 42.22 297 P P 10 15 21.4 -0.7
PMRV Marv??o 42.26 22 eP P 10 15 22.3 +0.3
comp=Z,111nm,2.1s
PMRV Marv??o 42.26 22 eLQ LQ 10 25 23.3
PMRV eLR LR 10 27 15.8
comp=Z,1µm,20.0s
PDPR Patillas Dam, 42.28 296 P P 10 15 21.8 -0.7
GCPR Guaynabo City 42.44 297 P P 10 15 23.3 -0.5
GCPR IAmb IAmb 10 15 36.3
comp=Z,108nm,1.1s
PCBR Castelo Branco 42.58 22 eP P 10 15 26.0 +1.4
MTE Manteigas 43.05 21 eP P 10 15 29.8 +1.3
comp=Z,41nm,1.8s
MTE eLQ LQ 10 25 22.6
MTE eLR LR 10 27 21.8
comp=Z,1µm,20.0s
AOPR Arecibo Observ 43.05 296 P P 10 15 26.8 -2.0
AOPR IAmb IAmb 10 15 40.2
comp=Z,113nm,1.4s
MLPR Magueyes Islan 43.19 296 P P 10 15 26.7 -3.1
MLPR IAmb IAmb 10 15 38.2
comp=Z,184nm,2.0s
PVIS Viseu 43.20 21 eP P 10 15 19.9 -10
PAB San Pablo 43.58 25 P P 10 15 31.9 -0.9
PAB pmax pmax
comp=Z,36nm,1.6s
PAB MLR MLR
comp=Z,700nm,18.0s
PAB San Pablo 43.58 25 P P 10 15 31.9 -0.9
ESDC Sonseca Array 43.85 25 P P 10 15 33.7 -1.3
comp=Z,5.3nm,0.9s,baz=222,slow=9.0,SNR=25
ESDC LR LR 10 33 07.6
comp=Z,732nm,19.7s,baz=220,slow=35
ESDC Sonseca Array 43.85 25 P P 10 15 34.3 -0.7
ESBB Sonseca Array 43.85 25 P P 10 15 34.3 -0.7
MVO Moncorvo 43.91 21 eP P 10 15 35.0 -0.4
comp=Z,64nm,1.5s
MVO Moncorvo 43.91 21 eLQ LQ 10 25 40.1
MVO eLR LR 10 27 43.6
comp=Z,1µm,20.0s
PGAV Gavieira, Arco 44.18 20 eP P 10 15 37.4 -0.2
comp=Z,78nm,1.9s
PGAV Gavieira, Arco 44.18 20 eLQ LQ 10 25 41.3
PGAV eLR LR 10 27 55.2
comp=Z,2µm,18.0s
LPAZ La Paz 44.33 246 P P 10 15 41.0 +1.3
comp=Z,17nm,0.8s,baz=64,slow=6.3,SNR=57
LPAZ LR LR 10 33 38.4
comp=Z,3µm,19.3s,baz=68,slow=35
LPAZ La Paz 44.33 246 eP P 10 15 40.8 +1.0
LPAZ La Paz 44.33 246 P P 10 15 40.4 +0.6
LPAZ pmax pmax
comp=Z,67nm,1.2s
LPAZ La Paz 44.33 246 P P 10 15 40.4 +0.6
LPAZ IAmb IAmb 10 15 49.1
comp=Z,67nm,1.2s
LPAZ La Paz 44.33 246 eP P 10 15 40.5 +0.8
SDV Santo Domingo 44.52 282 P P 10 15 41.4 +0.6
SDV IAmb IAmb 10 15 50.8
comp=Z,92nm,1.2s
SOCV Socops 44.66 281 eP P 10 15 42.7 +0.9
LPA La Plata 46.04 216 eP P 10 15 47.7 -4.7
LPA PP PP 10 17 39.7 -0.8
LPA PPP PPP 10 18 20.2
LPA S S 10 22 29.8 -7.8
LPA PS 10 28 47.2
LPA PKIKP PKiKP 10 24 21.0 -4.1
LPA SS SS 10 25 58.1 -4.7
LPA SSS SSS 10 26 55.8
LPA SKIKP 10 27 56.3
LPA SKIKS 10 31 25.5
PB16 IPOC Station P 46.24 243 P P 10 15 51.7 -3.2
PB16 IAMs_20 IAMs_20 10 35 20.7
comp=Z,2µm,18.0s
PB08 IPOC Station P 46.55 241 P P 10 15 56.5 -0.6
PB08 IAMs_20 IAMs_20 10 34 29.1
comp=Z,3µm,21.0s
MNMC Minye Minye 46.59 242 P P 10 15 58.5 +1.3
MNMC IAMs_20 IAMs_20 10 34 37.9
comp=Z,2µm,21.0s
RUSC La Rusia 46.62 277 eP P 10 15 59.0 +1.1
RUSC La Rusia 46.62 277 P P 10 15 55.3 -2.5
CZSB Cruzeiro do Su 46.71 259 eP P 10 15 57.3 -0.7
BARC Barichara 46.77 278 eP P 10 15 59.8 +1.1
PB11 IPOC Station P 46.86 242 P P 10 15 58.4 -0.8
PB11 IAmb IAmb 10 16 23.6
comp=Z,62nm,1.5s
SC01 Santiago de lo 46.96 296 P P 10 16 01.3 +1.4
OCAC Ocana 47.07 280 eP P 10 16 00.1 -0.9
VILC Villavicencio, 47.11 275 eP P 10 15 59.2 -2.2
CHIC Chingaza 47.18 276 eP P 10 16 00.8 -1.3
PB01 IPOC Station P 47.18 240 P P 10 16 00.5 -1.2
PB01 IAmb IAmb 10 16 40.4
comp=Z,52nm,1.6s
PB01 IAMs_20 IAMs_20 10 35 47.6
comp=Z,3µm,20.0s
MACC Macarena, Meta 47.21 272 eP P 10 16 02.7 +0.8
PSGCX Pisagua 47.21 242 IAMs_20 IAMs_20 10 35 31.5
comp=Z,2µm,19.0s
PB09 IPOC Station P 47.25 239 IAMs_20 IAMs_20 10 36 12.6
comp=Z,2µm,19.0s
LVC Limon Verde 47.29 238 P P 10 16 02.8 0.0
LVC pmax pmax
comp=Z,26nm,1.3s
LVC Limon Verde 47.29 238 P P 10 16 02.8 0.0
LVC Limon Verde 47.29 238 eP P 10 16 02.0 -0.8
SDDR Presa de Saban 47.33 295 P P 10 16 03.6 +0.8
SDDR IAmb IAmb 10 16 16.6
comp=Z,27nm,0.9s
BRRC Barranca, Sant 47.34 279 eP P 10 16 02.3 -0.7
SPBC San Pablo de B 47.58 277 eP P 10 16 04.3 -0.7
PATCX Punta Patache 47.67 241 IAMs_20 IAMs_20 10 35 03.7
comp=Z,2µm,19.0s
TSUM Tsumeb 47.74 117 P P 10 16 07.2 +1.1
comp=Z,10nm,1.1s,baz=274,slow=8.9,SNR=13
TSUM Tsumeb 47.74 117 P P 10 16 02.0 -4.1
TSUM IAmb IAmb 10 16 09.6
comp=Z,52nm,1.5s
TSUM Tsumeb 47.74 117 IAMs_20 IAMs_20 10 31 50.6
comp=Z,3µm,20.0s
ROSC El Rosal 47.77 276 P P 10 16 07.7 +0.9
comp=Z,16nm,0.8s,baz=132,slow=1.6,SNR=8.4
ROSC LR LR 10 35 33.4
comp=Z,4µm,19.3s,baz=114,slow=35
PB07 IPOC Station P 47.78 239 IAmb IAmb 10 16 22.2
comp=Z,55nm,1.0s
SMLC San Martn de 47.88 281 eP P 10 16 04.0 -3.0
PB06 IPOC Station P 47.89 238 IAMs_20 IAMs_20 10 36 26.4
comp=Z,3µm,21.0s
PB15 IPOC Station P 48.00 237 IAmb IAmb 10 16 16.8
comp=Z,52nm,1.0s
PTBC PUERTO BERRIO, 48.03 278 eP P 10 16 06.6 -1.7
TCA Tanti 48.15 225 iP P 10 16 08.8 -0.3
PTLC Puerto Leguiza 48.16 269 eP P 10 16 10.0 +0.7
KEST Kesra 48.20 40 P P 10 16 09.2 -0.2
comp=Z,5.5nm,0.8s,baz=232,slow=12,SNR=4.9
KEST LR LR 10 37 36.5
comp=Z,5µm,18.2s,baz=177,slow=38
KEST Kesra 48.20 40 P P 10 16 09.6 +0.3
KEST IAmb IAmb 10 16 22.8
comp=Z,46nm,1.3s
PRAC Prado 48.28 274 eP P 10 16 10.4 0.0
NORC Norcasia 48.37 277 eP P 10 16 09.9 -1.1
ZARC Zaragoza, Cauc 48.51 279 eP P 10 16 10.5 -1.5
ORTC Ortega, Tolima 48.65 274 eP P 10 16 13.1 -0.1
TOLC Tolima 48.76 275 eP P 10 16 13.7 -0.6
RREF El Recreo 48.80 276 eP P 10 16 14.4 -0.5
GUY2C Guyana, Caldas 48.84 276 eP P 10 16 14.4 -0.6
ACLC CERRO LA CRUZ 48.84 229 iP P 10 16 13.4 -1.1
GO02 Mina Guanaco 48.91 235 P P 10 16 16.8 +1.4
FLOC Florencia 49.01 271 eP P 10 16 16.5 +0.6
FLOC Florencia 49.01 271 P P 10 16 15.6 -0.3

APLL PUNTA DE LOS L 49.02 227 iP P 10 16 14.1 -1.7
HELC Santa Helena 49.06 277 eP P 10 16 14.0 -2.7
SJCC San Jacinto, C 49.10 282 eP P 10 16 11.9 -4.7
UREC San Jos de Ur 49.20 279 eP P 10 16 16.1 -1.2
AC02 Maricunga 49.27 233 P P 10 16 17.4 -0.9
AC02 IAmb IAmb 10 16 47.7
comp=Z,40nm,1.2s
AC02 IAMs_20 IAMs_20 10 37 14.2
comp=Z,2µm,19.0s
PB14 IPOC Station P 49.36 236 P P 10 16 14.8 -3.9
CBOC Ciudad Bolivar 49.52 277 eP P 10 16 18.2 -1.8
PLMC San Jos del P 49.73 276 eP P 10 16 20.5 -0.9
YOTC Yotoco, Valle 49.75 274 eP P 10 16 19.7 -2.0
DBBC Dabeiba 49.80 278 eP P 10 16 21.3 -0.8
PUAC Puerto Asis, P 49.92 270 eP P 10 16 23.3 +0.4
AGUA GUANDACOL 50.03 229 iP P 10 16 23.7 +0.2
POPC Popayan, Colom 50.04 273 eP P 10 16 23.7 -0.3
GO03 Copiap 50.49 232 IAMs_20 IAMs_20 10 37 18.4
comp=Z,2µm,22.0s
TRQA Tornquist 50.57 216 eP P 10 16 28.0 +0.6
TRQA epP sP 10 16 31.5 -0.3
VSL Villasalto 50.59 36 IAMs_20 IAMs_20 10 36 59.9
comp=Z,2µm,19.0s
BBAC Balboa, Cauca 50.60 272 eP P 10 16 27.9 -0.4
GCUF Volcan Geleras 50.70 271 eP P 10 16 29.5 +0.2
ACDV Cuesta del Vie 50.84 229 iP P 10 16 30.7 +0.9
ACCO Cerro Coronel 51.00 228 iP P 10 16 31.2 +0.1
AC05 El Transito 51.09 231 P P 10 16 31.2 -0.4
AROD Rodeo 51.10 229 iP P 10 16 33.6 +1.7
ZON Zonda 51.20 227 P P 10 16 31.1 -1.2
ZON pmax pmax
comp=Z,28nm,1.2s
ZON MLR MLR
comp=Z,3µm,20.0s
ZON Zonda 51.20 227 P P 10 16 31.1 -1.2
ZON IAMs_20 IAMs_20 10 38 24.2
comp=Z,3µm,20.0s
RTCV Cerro Valdivia 51.26 227 iP P 10 16 33.4 +0.7
NNA Nana 51.44 254 ceP P 10 16 33.4 -0.9
NNA pmax pmax
comp=Z,125nm,2.5s
NNA Nana 51.44 254 P P 10 16 33.2 -1.1
CO01 Juntas del Tor 51.48 230 P P 10 16 34.8 +0.1
RTLS Leoncito 51.78 227 iP P 10 16 38.2 +1.3
CLTB Caltabellotta 51.79 40 P P 10 16 35.7 -0.9
OTAV Otavalo 51.81 270 eP P 10 16 40.5 +2.8
OTAV Otavalo 51.81 270 P P 10 16 37.5 -0.1
OTAV pmax pmax
comp=Z,188nm,1.9s
OTAV Otavalo 51.81 270 P P 10 16 37.5 -0.1
OTAV Otavalo 51.81 270 eP P 10 16 37.8 +0.2
ASAL Salagasta 51.85 226 iP P 10 16 34.1 -3.0
CORL Corleone 52.03 40 P P 10 16 35.9 -2.5
CORL IAmb IAmb 10 16 43.3
comp=Z,87nm,1.3s
ARCO CERRO ARCO 52.05 226 iP P 10 16 38.8 0.0
AUSP Uspallata 52.06 227 iP P 10 16 40.0 +1.0
AAGR Agrelo 52.10 226 iP P 10 16 40.0 +0.9
GO04 Tololo Observa 52.12 230 P P 10 16 39.3 -0.1
GO04 IAmb IAmb 10 16 42.1
comp=Z,73nm,1.1s
VAE Valguarnera 52.52 41 P P 10 16 42.5 +0.5
comp=Z,11nm,0.4s,baz=130,slow=8.8,SNR=4.6
BNI Bardonecchia 52.96 29 P P 10 16 43.9 -1.4
BNI pmax pmax
comp=Z,29nm,1.2s
BNI Bardonecchia 52.96 29 P P 10 16 43.9 -1.4
LOR Lormes 53.33 26 P P 10 16 48.4 +0.6
LOR pmax pmax
comp=Z,21nm,2.0s
PEL Peldehue 53.47 227 P P 10 16 50.1 +1.0
PEL pmax pmax
comp=Z,50nm,1.0s
MT05 Renca 53.63 226 P P 10 16 51.4 +1.1
CEL Celeste 53.93 41 P P 10 16 53.1 +0.7
CEL IAmb IAmb 10 17 23.9
comp=Z,34nm,0.6s
GBN Guysborough 53.98 330 P P 10 16 52.9 +0.3
GBN IAmb IAmb 10 16 59.5
comp=Z,54nm,1.4s
SENIN Lac Senin/Sane 54.22 28 P P 10 16 53.3 -1.2
SENIN IAmb IAmb 10 16 58.6
comp=Z,44nm,1.4s
OSSC Osservatorio P 54.28 33 P P 10 16 55.2 +0.4
BO02 Sierra Bellavi 54.38 225 P P 10 16 55.7 0.0
BO02 IAmb IAmb 10 17 05.2
comp=Z,63nm,1.1s
BO01 Tunca 54.39 225 P P 10 16 55.8 +0.1
BO01 IAmb IAmb 10 17 04.9
comp=Z,59nm,1.0s
HAL Halifax 54.52 328 P P 10 16 56.1 -0.4
HAL pmax pmax
comp=Z,64nm,1.3s
HAL Halifax 54.52 328 P P 10 16 56.1 -0.4
HAL IAmb IAmb 10 17 03.3
comp=Z,64nm,1.3s
HAL IAMs_20 IAMs_20 10 35 22.3
comp=Z,2µm,20.0s
PAOL Paolisi 54.66 38 IAMs_20 IAMs_20 10 37 37.6
comp=Z,2µm,22.0s
AQU L'Aquila 54.76 36 P P 10 16 58.5 +0.1
AQU pmax pmax
comp=Z,29nm,1.0s
AQU MLR MLR
comp=Z,2µm,18.0s
AQU L'Aquila 54.76 36 P P 10 16 58.5 +0.1
AQU IAMs_20 IAMs_20 10 43 05.2
comp=Z,2µm,18.0s
MURB Monte Urbino 54.83 34 P P 10 16 59.0 +0.1
MURB IAmb IAmb 10 17 13.4
comp=Z,36nm,1.2s
INTR Introdacqua 54.85 36 P P 10 16 58.4 -0.6
INTR IAmb IAmb 10 17 15.7
comp=Z,60nm,1.5s
TIP Timpagrande 54.99 41 ⇓P P 10 16 59.3 -0.8
TIP Timpagrande 54.99 41 P P 10 16 58.7 -1.5
CBCY The Bluff, Cay 55.24 294 P P 10 17 01.1 -1.1
TUE Stuetta 55.29 30 P P 10 17 01.1 -1.2
ECH Echery 55.51 27 P P 10 17 03.4 -0.2
ECH pmax pmax
comp=Z,16nm,1.1s
ECH Echery 55.51 27 IAMs_20 IAMs_20 10 38 39.5
comp=Z,1µm,20.0s
SUR Sutherland 55.63 131 IAMs_20 IAMs_20 10 35 55.4
comp=Z,2µm,19.0s
BI02 San Fabin de 55.69 223 P P 10 17 05.2 0.0
DAVOX Davos/Dischmat 55.76 30 P P 10 17 05.3 -0.4
comp=Z,2.4nm,0.4s,baz=260,slow=3.8,SNR=5.2
SLE Schleitheim 55.79 28 P P 10 17 05.6 -0.1
SLE pmax pmax
comp=Z,17nm,1.0s
DOU Dourbes 55.84 24 P P 10 17 05.2 -0.7
comp=Z,19nm,2.3s
FUORN Ofenpass-Fuorn 55.84 30 P P 10 17 05.1 -1.2
DAVA Damuels 56.12 29 eP P 10 17 07.6 -0.6
comp=Z,17nm,1.1s
BFO Black Forest 56.12 27 P P 10 17 06.9 -1.1
BFO pmax pmax
comp=Z,24nm,1.4s
BFO Black Forest 56.12 27 eP P 10 17 07.0 -1.0
comp=Z,46nm,1.8s,baz=224,slow=7.0
BFO Black Forest 56.12 27 P P 10 17 06.9 -1.1
WLF Walferdange 56.15 25 IAMs_20 IAMs_20 10 40 45.5
comp=Z,2µm,19.0s
CTI Castel Tesino 56.16 31 P P 10 17 07.7 -0.8
CTI pmax pmax
comp=Z,79nm,1.7s
CTI MLR MLR
comp=Z,700nm,19.0s
CTI Castel Tesino 56.16 31 P P 10 17 07.7 -0.8
CTI IAmb IAmb 10 17 11.8
comp=Z,79nm,1.7s
FETA Feichten 56.35 30 eP P 10 17 08.7 -1.2
comp=Z,7.4nm,0.8s
LSZ Lusaka 56.49 109 P P 10 17 10.9 -0.4
LSZ pmax pmax
comp=Z,120nm,1.8s
LSZ Lusaka 56.49 109 P P 10 17 10.9 -0.4
LSZ IAmb IAmb 10 17 15.2
comp=Z,120nm,1.8s
LSZ Lusaka 56.49 109 IAMs_20 IAMs_20 10 36 17.5
comp=Z,2µm,22.0s
UBR Ueberruh 56.50 29 eP P 10 17 10.0 -0.8
comp=Z,183nm,2.5s,baz=224,slow=7.0

GGN Saint George 56.58 327 P P 10 17 10.6 -0.7
GGN IAmb IAmb 10 17 18.5
comp=Z,47nm,1.3s
GGN IAMs_20 IAMs_20 10 34 41.5
comp=Z,2µm,22.0s
H66A Whiting 56.63 326 P P 10 17 11.6 0.0
baz=129
H66A S S **10 25 04.7 +1.2**
baz=129
EMMW East Machias 56.66 326 P P 10 17 10.1 -1.8
EMMW IAmb IAmb 10 17 21.6
comp=Z,36nm,1.1s
LBTB Lobatse 56.66 121 P P 10 17 12.8 +0.4
comp=Z,21nm,1.1s,baz=275,slow=8.7,SNR=12
LBTB Lobatse 56.66 121 P P 10 17 12.7 +0.3
LBTB IAmb IAmb 10 17 15.2
comp=Z,88nm,1.4s
RETA Reutte 56.69 30 *eP* **P 10 17 10.8 -1.3**
comp=Z,14nm,1.3s
M65A Busby, Falmout 56.69 321 P P 10 17 11.9 -0.2
baz=124
M65A Busby, Falmout 56.69 321 IAMs_20 IAMs_20 10 35 16.9
comp=Z,2µm,20.0s
SQTA Sankt Quirin 56.73 30 *eP* **P 10 17 11.4 -1.1**
comp=Z,19nm,1.2s,SNR=9.3
CIMO Cimolais 56.75 32 P P 10 17 11.6 -0.9
CIMO IAmb IAmb 10 17 16.2
comp=Z,49nm,1.5s
MOTA Moosalm 56.76 30 *eP* **P 10 17 11.6 -1.2**
comp=Z,13nm,1.1s
WTTA Wattenberg 56.97 30 *eP* **P 10 17 13.0 -1.3**
comp=Z,14nm,1.2s
WTTA Wattenberg 56.97 30 P P 10 17 13.4 -0.9
WTTA pmax pmax
comp=Z,16nm,1.1s
WATA Walderalm 56.99 30 *eP* **P 10 17 13.0 -1.4**
comp=Z,18nm,1.7s,SNR=6.4
L64A Middleborough 57.02 322 P P 10 17 14.5 0.0
baz=124
L64A S S **10 25 10.0 +1.2**
baz=124
G65A Princeton 57.03 326 P P 10 17 14.3 -0.1
baz=129
G65A S S **10 25 09.5 +0.8**
baz=129
G65A Princeton 57.03 326 IAmb IAmb 10 17 21.7
comp=Z,73nm,1.4s
G65A IAMs_20 IAMs_20 10 35 39.7
comp=Z,2µm,22.0s
M64A Tiverton 57.04 321 P P 10 17 14.0 -0.6
baz=123
M64A S S **10 25 10.6 +1.6**
baz=123
ABTA Abfaltersbach 57.07 31 *eP* **P 10 17 14.8 -0.1**
comp=Z,21nm,1.2s,SNR=9.3
H65A Eastbrook 57.09 326 P P 10 17 14.8 -0.1
baz=128
H65A S S **10 25 12.2 +2.5**
baz=128
ZOU Zoufplan 57.19 32 IAmb IAmb 10 17 20.6
comp=Z,64nm,1.5s
AHRW Bad Neuenahr-A 57.20 25 *eP* **P 10 17 16.0 +0.4**
comp=Z,318nm,2.8s,baz=224,slow=7.0
ROBS Robic 57.27 32 *i* P **P 10 17 15.9 -0.3**
ROBS *e*PP **PP 10 19 21.4 -2.0**
ROBS *e*S **S 10 25 10.9 -1.1**
ROBS *e* 10 28 57.2
V62A Hyde County Ai 57.34 313 P P 10 17 16.5 -0.4
baz=116
V62A Hyde County Ai 57.34 313 IAMs_20 IAMs_20 10 35 24.0
comp=Z,2µm,22.0s
MBAR Mbarara 57.40 91 *i* P **P 10 17 18.9 +1.0**
MBAR pmax pmax
comp=Z,20nm,1.5s
I64A Boothbay 57.43 324 P P 10 17 17.0 -0.3
baz=126
I64A S S **10 25 14.5 +0.5**
baz=126
PRED Cave del Predi 57.43 32 P P 10 17 16.6 -0.8
PRED IAmb IAmb 10 17 21.5
comp=Z,66nm,1.6s
PLCA Paso Flores 57.44 219 P P 10 17 17.5 -0.1
comp=Z,15nm,1.2s,baz=47,slow=7.2,SNR=6.4
PLCA LR LR 10 41 34.5
comp=Z,2µm,19.1s,baz=51,slow=36
PLCA Paso Flores 57.44 219 P P 10 17 15.3 -2.3
PLCA Paso Flores 57.44 219 *eP* **P 10 17 18.5 +0.9**
BRYW Bryant College 57.44 321 IAMs_20 IAMs_20 10 35 28.8
comp=Z,2µm,22.0s
L63A North Scituate 57.46 321 P P 10 17 16.6 -0.9
baz=123
L63A S S **10 25 14.7 +0.1**
baz=123
M63A Gales Ferry 57.48 321 P P 10 17 17.2 -0.6
baz=122
M63A S S **10 25 16.0 +1.1**
baz=122
ITM Ithomi 57.52 45 IAmb IAmb 10 17 23.0
comp=Z,54nm,1.3s
ITM IAMs_20 IAMs_20 10 41 46.5
comp=Z,2µm,22.0s
TNS Taunus Mts 57.55 26 P P 10 17 16.7 -1.5
TNS pmax pmax
comp=Z,18nm,1.0s
BATG Bathurst New B 57.56 329 P P 10 17 17.6 -0.6
BATG IAmb IAmb 10 17 25.3
comp=Z,67nm,1.1s
WES Weston 57.57 322 IAMs_20 IAMs_20 10 36 24.0
comp=Z,2µm,20.0s
ESK Eskdalemuir 57.58 16 IAMs_20 IAMs_20 10 38 18.9
comp=Z,2µm,19.0s
MYKA Terra Mystica 57.59 32 *eP* **P 10 17 18.3 -0.2**
comp=Z,21nm,1.5s
EKA Eskdalemuir Ar 57.61 16 P P 10 17 17.5 -0.9
comp=Z,2.0nm,0.6s,baz=206,slow=7.0,SNR=3.9
BOSA Boshof 57.61 125 P P 10 17 19.2 +0.1
comp=Z,7.1nm,0.8s,baz=317,slow=8.1,SNR=9.3
BOSA LR LR 10 37 12.2
comp=Z,3µm,20.9s,baz=276,slow=31
BOSA Boshof 57.61 125 P P 10 17 18.7 -0.4
BOSA IAmb IAmb 10 17 20.9
comp=Z,57nm,1.4s
H64A Troy 57.62 325 P P 10 17 18.1 -0.5
baz=127
H64A S S **10 25 18.1 +1.5**
baz=127
LJU Ljubljana 57.69 33 *i* P **P 10 17 19.2 +0.1**
LJU *e*PP **PP 10 19 25.1 -2.1**
LJU *e* 10 20 47.3
060A Indiantown 57.71 302 IAMs_20 IAMs_20 10 35 48.2
comp=Z,2µm,22.0s
G64A Maxfield 57.72 326 P P 10 17 19.1 -0.2
baz=128
G64A S S **10 25 18.3 +0.3**
baz=128
KBA Koelnbreinsper 57.72 31 *eP* **P 10 17 18.9 -0.7**
comp=Z,13nm,1.5s,SNR=5.9
KBA Koelnbreinsper 57.72 31 P P 10 17 19.4 -0.2
KBA pmax pmax
comp=Z,15nm,2.3s
BOJS Bojanci 57.75 34 *i* P **P 10 17 19.7 +0.1**
HRV Adam Dziewonsk 57.78 322 P P 10 17 19.3 -0.6
baz=124
HRV Adam Dziewonsk 57.78 322 P P 10 17 20.1 +0.3
HRV pmax pmax
comp=Z,108nm,1.3s
HRV Adam Dziewonsk 57.78 322 P P 10 17 20.1 +0.3
HRV Adam Dziewonsk 57.78 322 IAMs_20 IAMs_20 10 36 19.6
comp=Z,1µm,20.0s
WVL Waterville 57.82 325 IAMs_20 IAMs_20 10 36 06.8
comp=Z,2µm,22.0s
K63A Dunstable 57.86 322 P P 10 17 19.8 -0.6
baz=124
K63A S S **10 25 20.9 +1.0**
baz=124
F64A Sherman 57.87 327 P P 10 17 20.2 -0.2
baz=128
F64A S S **10 25 19.9 0.0**
baz=128
F64A Sherman 57.87 327 IAmb IAmb 10 17 27.8
comp=Z,47nm,1.5s
F64A IAMs_20 IAMs_20 10 36 16.0
comp=Z,2µm,22.0s
V61A Roper 57.89 313 P P 10 17 19.9 -0.8
baz=115
V61A S S **10 25 26.4 +6.0**
baz=115
V61A Roper 57.89 313 IAMs_20 IAMs_20 10 35 29.7
comp=Z,2µm,21.0s
J63A Strafford 57.92 323 P P 10 17 20.7 -0.1
baz=124
J63A S S **10 25 20.2 -0.4**
baz=124
E64A Bridgewater 57.93 327 P P 10 17 20.5 -0.3
baz=129
E64A S S **10 25 21.4 +0.8**
baz=129
W61A Ground Anchor 57.94 312 P P 10 17 20.6 -0.5
baz=115
U61A Possum Corner 58.03 313 P P 10 17 21.2 -0.5
baz=116
U61A Possum Corner 58.03 313 IAMs_20 IAMs_20 10 35 33.3
comp=Z,2µm,22.0s
PKME Peaks-Kenny Pk 58.03 326 P P 10 17 21.2 -0.4
baz=127
PKME Peaks-Kenny Pk 58.03 326 IAmb IAmb 10 17 29.6
comp=Z,40nm,1.2s
M62A Hamden 58.05 320 P P 10 17 21.2 -0.5
baz=122
M62A S S **10 25 25.4 +3.1**
baz=122
I63A Otisfield 58.06 324 S S **10 25 25.6 +3.2**
baz=125
I63A Otisfield 58.06 324 IAMs_20 IAMs_20 10 36 33.0
comp=Z,2µm,20.0s
S61A Accomac 58.07 315 P P 10 17 20.5 -1.4
baz=117
H63A New Sharon 58.09 325 P P 10 17 21.6 -0.4
baz=126
G63A Kingsbury 58.12 325 P P 10 17 22.2 -0.1
baz=127
G63A S S **10 25 25.0 +1.7**
baz=127
R61A Willards 58.14 316 P P 10 17 22.5 +0.1
baz=118
QUA2 Belchertown 58.15 321 IAMs_20 IAMs_20 10 36 00.4
comp=Z,2µm,20.0s
WSPT Westport, CT 58.19 320 IAMs_20 IAMs_20 10 35 35.4
comp=Z,2µm,22.0s
F63A Nahmakanta, Br 58.19 326 P P 10 17 22.6 -0.1
baz=127
F63A S S **10 25 25.4 +1.3**
baz=127
F63A Nahmakanta, Br 58.19 326 IAmb IAmb 10 17 30.1
comp=Z,53nm,1.2s
F63A IAMs_20 IAMs_20 10 37 22.5
comp=Z,1µm,19.0s
PQI Presque Isle 58.19 328 P P 10 17 22.8 +0.2
PQI IAmb IAmb 10 17 29.9
comp=Z,38nm,1.1s
L62A Suffield 58.21 321 P P 10 17 22.8 0.0
baz=122
E63A Oxbow 58.26 327 P P 10 17 22.9 -0.2
baz=128
E63A Oxbow 58.26 327 IAmb IAmb 10 17 30.7
comp=Z,44nm,1.4s
E63A IAMs_20 IAMs_20 10 37 41.2
comp=Z,1µm,19.0s
K62A Royalston 58.28 322 P P 10 17 23.4 0.0
baz=123
K62A Royalston 58.28 322 IAMs_20 IAMs_20 10 35 44.0
comp=Z,2µm,22.0s
J62A Henniker 58.33 322 P P 10 17 23.2 -0.5
baz=124
PDG Podgorica 58.35 39 ⇑P **P 10 17 24.3 +0.5**
SOKA Soboth 58.36 33 *eP* **P 10 17 23.5 -0.5**
comp=Z,15nm,1.1s,SNR=9.9
FFD Franklin Falls 58.37 323 IAMs_20 IAMs_20 10 37 29.3
comp=Z,2µm,20.0s
V60A Jim Taylor Roa 58.38 312 P P 10 17 24.0 -0.1
baz=115
V60A Jim Taylor Roa 58.38 312 IAMs_20 IAMs_20 10 35 42.8
comp=Z,2µm,22.0s
Y60A Bolivia 58.39 310 P P 10 17 23.7 -0.5
baz=113
Y60A Bolivia 58.39 310 IAMs_20 IAMs_20 10 36 23.9
comp=Z,2µm,21.0s
Q61A Milford 58.39 316 P P 10 17 23.8 -0.4
baz=118
CPNY Central Park 58.40 319 IAMs_20 IAMs_20 10 37 25.2
comp=Z,2µm,21.0s
P61A Hammonton 58.40 318 P P 10 17 23.7 -0.6
baz=119
P61A Hammonton 58.40 318 IAMs_20 IAMs_20 10 36 11.2
comp=Z,2µm,20.0s
I62A Tamworth 58.41 323 P P 10 17 23.8 -0.4
baz=124
I62A S S **10 25 31.3 +4.3**
baz=124
I62A Tamworth 58.41 323 IAmb IAmb 10 17 32.0
comp=Z,43nm,1.1s
W60A Pink Hill 58.42 311 P P 10 17 23.9 -0.6
baz=114
X60A Albert Glenn T 58.43 311 P P 10 17 24.2 -0.3
baz=114
GRF Grafenberg Arr 58.43 28 P P 10 17 24.4 +0.1
GRF pmax pmax
comp=Z,20nm,2.0s
GRF Grafenberg Arr 58.43 28 *eP* **P 10 17 23.4 -0.9**
comp=Z,102nm,2.0s,baz=224,slow=7.0
GRF *e*L L 10 40 21.1
comp=Z,851nm,19.8s
L61B Northampton 58.45 321 P P 10 17 23.9 -0.6
baz=122
D63A Stockholm 58.47 328 P P 10 17 24.3 -0.3
baz=129
D63A S S **10 25 29.1 +1.4**
baz=129
PAL Palisades 58.48 319 IAMs_20 IAMs_20 10 36 16.1
comp=Z,2µm,20.0s
M61A Granite Spring 58.54 320 P P 10 17 24.8 -0.4
baz=121
KSCT Kent School, K 58.57 320 IAMs_20 IAMs_20 10 35 58.7
comp=Z,2µm,22.0s
T60A Surry 58.59 314 P P 10 17 24.6 -1.0
baz=116
N61A South Mountain 58.60 319 P P 10 17 25.0 -0.7
baz=120
U60A Pendleton 58.61 313 P P 10 17 25.2 -0.6
baz=115
CNNC Cliffs of the 58.63 312 IAMs_20 IAMs_20 10 35 49.4
comp=Z,2µm,22.0s
AGG Agios Georgios 58.65 43 IAmb IAmb 10 17 34.4
comp=Z,31nm,1.1s
AGG IAMs_20 IAMs_20 10 43 28.6
comp=Z,1µm,19.0s
H62A Milan 58.70 324 P P 10 17 26.2 -0.1
baz=125
H62A Milan 58.70 324 IAmb IAmb 10 17 31.1
comp=Z,66nm,1.6s
H62A IAMs_20 IAMs_20 10 37 02.9
comp=Z,2µm,20.0s
G62A West of Eustis 58.71 325 P P 10 17 25.8 -0.5
baz=126
G62A S S **10 25 34.0 +3.1**
baz=126
G62A West of Eustis 58.71 325 IAmb IAmb 10 17 32.7
comp=Z,53nm,1.6s
G62A IAMs_20 IAMs_20 10 36 57.2
comp=Z,2µm,21.0s
BRNJ Basking Ridge 58.75 319 IAMs_20 IAMs_20 10 36 33.3
comp=Z,2µm,20.0s
S60A Water View 58.78 315 P P 10 17 26.3 -0.7
baz=116
F62A Pittston Farm, 58.79 326 P P 10 17 26.4 -0.5
baz=127
F62A S S **10 25 34.5 +2.7**
baz=127
Q60A Greensboro 58.80 316 IAMs_20 IAMs_20 10 36 52.8
comp=Z,2µm,20.0s
J61A Chester 58.85 322 P P 10 17 27.1 -0.3
baz=123
WET Wettzell 58.85 29 P P 10 17 26.6 -0.7
WET pmax pmax
comp=Z,13nm,1.5s
L61A Hillsdale 1, H 58.86 321 P P 10 17 27.4 -0.1
baz=122
L61A S S **10 25 36.6 +3.7**
baz=122
IDI Anoyia 58.86 48 P P 10 17 27.3 -0.4
comp=Z,8.7nm,0.6s,baz=337,slow=8.1,SNR=6.9
IDI Anoyia 58.86 48 ⇑P **P 10 17 27.5 -0.1**
IDI Anoyia 58.86 48 P P 10 17 28.7 +1.1
IDI IAmb IAmb 10 17 29.4
comp=Z,72nm,1.4s
IDI IAMs_20 IAMs_20 10 45 27.3
comp=Z,2µm,20.0s
Y59A Loris 58.88 310 P P 10 17 27.3 -0.4
baz=113
Y59A Loris 58.88 310 IAMs_20 IAMs_20 10 37 09.1
comp=Z,2µm,20.0s
X59A McDuffie Farm, 58.90 311 P P 10 17 27.5 -0.3
baz=113
Z59A Georgetown, SC 58.91 309 P P 10 17 27.7 -0.2
baz=112
K61A Williamstown 58.93 321 P P 10 17 27.0 -0.9
baz=122
DWPF Disney Wildern 58.94 303 P P 10 17 27.1 -1.1
baz=108
ROTZ Rotzenmuhle 58.95 28 *eP* **P 10 17 27.1 -0.8**
comp=Z,92nm,2.2s,baz=224,slow=7.0
I61A Oroboro, Fairl 58.96 323 P P 10 17 28.2 +0.1
baz=124,SNR=6.3
I61A S S **10 25 36.3 +2.1**
baz=124
LBNH Lisbon 58.96 323 P P 10 17 27.5 -0.6
baz=124
LBNH Lisbon 58.96 323 IAmb IAmb 10 17 30.9
comp=Z,29nm,1.1s
LBNH IAMs_20 IAMs_20 10 37 39.0
comp=Z,2µm,20.0s
PSUB Penn St. - Bra 58.97 318 IAMs_20 IAMs_20 10 36 57.2
comp=Z,2µm,20.0s
ODNJ Ogdensburg 58.97 319 IAMs_20 IAMs_20 10 36 19.2
comp=Z,2µm,22.0s
E62A Clayton Lake 58.98 327 P P 10 17 28.0 -0.1
baz=128
E62A S S **10 25 35.9 +1.5**
baz=128
E62A Clayton Lake 58.98 327 IAMs_20 IAMs_20 10 36 49.3
comp=Z,2µm,22.0s
ARSA Arzberg 58.98 32 *eP* **P 10 17 27.3 -0.9**
comp=Z,11nm,1.3s
R60A Leonardtown, M 58.98 315 P P 10 17 27.7 -0.6
baz=117
D62A Allapoint, All 59.01 327 P P 10 17 27.9 -0.4
baz=128
D62A S S **10 25 35.5 +0.9**
baz=128
D62A Allapoint, All 59.01 327 IAmb IAmb 10 17 35.6
comp=Z,55nm,1.4s
D62A IAMs_20 IAMs_20 10 37 05.0
comp=Z,2µm,22.0s
U59A Littleton 59.02 313 P P 10 17 28.5 -0.1
baz=115
U59A Littleton 59.02 313 IAMs_20 IAMs_20 10 36 02.6
comp=Z,2µm,22.0s
P60A Greenville 59.04 317 P P 10 17 27.8 -0.9
baz=118
P60A S S **10 25 35.1 -0.2**
baz=118
P60A Greenville 59.04 317 IAMs_20 IAMs_20 10 37 10.1
comp=Z,2µm,20.0s
MANZ Manzenberg 59.05 28 *eP* **P 10 17 27.5 -1.1**
comp=Z,71nm,2.4s,baz=224,slow=7.0
GEC2 GERESS Array S 59.06 30 *eP* **P 10 17 27.5 -1.3**
comp=Z,34nm,1.6s,baz=224,slow=7.0
GERES GERESS Array B 59.06 30 P 10 17 27.9 -0.9
comp=Z,1.3nm,0.6s,baz=226,slow=5.4,SNR=16
GERES LR LR 10 40 22.3
comp=Z,964nm,21.8s,baz=232,slow=34
GERES GERESS Array B 59.06 30 P P 10 17 25.8 -3.1
M60A Port Jervis 59.10 319 P P 10 17 28.0 -1.1
baz=120
T59A Double "B" Far 59.11 314 P P 10 17 28.9 -0.4
baz=115
T59A S S **10 25 38.2 +2.0**
baz=115
T59A Double "B" Far 59.11 314 IAmb IAmb 10 17 39.2
comp=Z,58nm,1.4s
T59A IAMs_20 IAMs_20 10 36 05.9
comp=Z,2µm,22.0s
V59A Middlesex 59.11 312 P P 10 17 28.7 -0.5
baz=114
O60A Telford 59.13 318 P P 10 17 28.5 -0.8
baz=119
O60A S S **10 25 39.0 +2.6**
baz=119
H61A Lyndonville 59.13 324 P P 10 17 28.9 -0.4
baz=124
H61A S S **10 25 39.1 +2.7**
baz=124
L60A Shokan 59.18 320 P P 10 17 29.9 +0.2
baz=121
KHC Kasperske Hory 59.19 30 *eP* **P 10 17 28.7 -0.9**
KHC MLR MLR
comp=Z,1µm,20.4s
KHC Kasperske Hory 59.19 30 *eP* **P 10 17 28.7 -0.9**
KHC *ex* x 10 17 40.0
KHC AMS AMS 10 39 20.0
comp=Z,1µm,20.4s
N60A Cedar Hill Far 59.19 319 P P 10 17 29.2 -0.6
baz=119
N60A S S **10 25 38.9 +1.6**
baz=119
TRY Troy 59.21 321 IAMs_20 IAMs_20 10 36 20.6
comp=Z,2µm,22.0s
LUPA Lehigh Univers 59.24 318 IAMs_20 IAMs_20 10 36 47.3
comp=Z,2µm,20.0s
LIT Litokhoron 59.27 42 P P 10 17 29.5 -0.9
LIT pmax pmax
comp=Z,20nm,1.0s
LIT MLR MLR
comp=Z,2µm,20.0s
LIT Litokhoron 59.27 42 P P 10 17 29.5 -0.9
LIT IAMs_20 IAMs_20 10 44 21.8
comp=Z,2µm,20.0s
MOX Moxa 59.28 27 P P 10 17 30.2 0.0
MOX pmax pmax
comp=Z,13nm,2.2s
MOX Moxa 59.28 27 *eP* **P 10 17 30.1 -0.1**
comp=Z,96nm,2.2s,baz=224,slow=7.0
MOX *e*L L 10 40 13.4
comp=Z,717nm,19.4s
Q59A Harwood 59.30 316 P P 10 17 30.3 -0.2
baz=117
Q59A S S **10 25 39.6 +0.9**
baz=117
G61A St-Isidore-de- 59.32 325 P P 10 17 30.3 -0.2
baz=125
G61A S S **10 25 42.0 +3.3**
baz=125
R59A King George, V 59.33 315 P P 10 17 30.1 -0.6
baz=116
J60A Lant Hill Farm 59.33 322 P P 10 17 30.2 -0.5
baz=122
J60A S S **10 25 42.6 +3.7**
baz=122
Z58A St. Stephen 59.36 309 P P 10 17 30.4 -0.7
baz=112
NKC Novy Kostel 59.38 28 *eP* **P 10 17 27.3 -3.6**
NKC MLR MLR
comp=Z,900nm,16.0s
NKC Novy Kostel 59.38 28 *eP* **P 10 17 27.3 -3.6**
NKC AMS AMS 10 41 10.0
comp=Z,900nm,16.0s
WERN Wernitzgruen 59.38 28 *eP* **P 10 17 30.5 -0.4**
comp=Z,36nm,1.6s,baz=224,slow=7.0
E61A Lac Etchemin 59.40 326 P P 10 17 30.6 -0.5
baz=126
E61A S S **10 25 39.3 -0.5**
baz=126
F61A St Evariste 59.41 326 P P 10 17 30.8 -0.4
baz=126
F61A S S **10 25 41.6 +1.6**
baz=126
GUNZ Gunzen 59.41 28 *eP* **P 10 17 30.4 -0.8**
comp=Z,129nm,2.5s,baz=224,slow=7.0
PLN Plauen 59.42 28 *eP* **P 10 17 30.6 -0.6**
comp=Z,102nm,2.5s,baz=224,slow=7.0
158A Hollywood 59.45 308 P P 10 17 31.3 -0.4
baz=111
X58A Rowland 59.46 310 P P 10 17 31.1 -0.6
baz=113
X58A Rowland 59.46 310 IAMs_20 IAMs_20 10 36 55.2
comp=Z,2µm,21.0s
WERD Werda 59.46 28 *eP* **P 10 17 31.1 -0.4**
comp=Z,45nm,2.1s,baz=224,slow=7.0
Y58A Scranton 59.46 310 P P 10 17 31.5 -0.2
baz=112
Y58A S S **10 25 42.9 +1.9**
baz=112
P59A Jarrettsville 59.49 317 P P 10 17 31.2 -0.6

baz=118
VT1 Waterbury 59.51 323 IAMs_20 IAMs_20 10 38 05.2
comp=Z,2µm,20.0s
TANN Tannenbergstha 59.51 28 *e*P **P** **10 17 31.4 -0.4**
comp=Z,71nm,2.0s,baz=224,slow=7.0
W58A Raeford 59.55 311 P **P** **10 17 32.0 -0.3**
baz=113
W58A S **S** **10 25 45.2 +3.0**
baz=113
CLZ Clausthal 59.57 26 *e*P **P** **10 17 32.0 -0.2**
comp=Z,56nm,2.1s,baz=224,slow=7.0
NHSC New Hope 59.57 308 P **P** **10 17 32.1 -0.4**
baz=111
NHSC New Hope 59.57 308 IAMs_20 IAMs_20 10 36 58.2
comp=Z,2µm,22.0s
I60A Shoreham 59.57 322 P **P** **10 17 32.3 0.0**
baz=122
CONA Conrad Observa 59.58 32 *e*P **P** **10 17 31.7 -0.7**
comp=Z,11nm,1.6s,SNR=6.1
U58A Oxford 59.59 313 P **P** **10 17 32.2 -0.4**
baz=114
H60A Morristown 59.60 323 P **P** **10 17 32.3 -0.3**
baz=123
MVL Millersville 59.61 317 IAmb IAmb 10 17 40.3
comp=Z,33nm,1.1s
O59A Robesonia 59.65 318 P **P** **10 17 32.3 -0.6**
baz=118
O59A S **S** **10 25 45.9 +2.7**
baz=118
N59A State Game Lan 59.66 318 P **P** **10 17 32.3 -0.7**
baz=119
N59A S **S** **10 25 44.9 +1.5**
baz=119
N59A State Game Lan 59.66 318 IAmb IAmb 10 18 08.4
comp=Z,35nm,1.1s
N59A IAMs_20 IAMs_20 10 37 11.4
comp=Z,2µm,20.0s
G60A Masonville 59.68 324 P **P** **10 17 33.2 +0.1**
baz=124,SNR=6.5
G60A S **S** **10 25 46.2 +2.7**
baz=124
D61A St Aubert, Com 59.69 327 P **P** **10 17 32.4 -0.7**
baz=127
D61A S **S** **10 25 43.6 +0.1**
baz=127
SANT Santorini 59.73 48 IAMs_20 IAMs_20 10 43 05.1
comp=Z,1µm,22.0s
S58A Poland Farm, P 59.74 314 P **P** **10 17 33.1 -0.5**
baz=115
S58A Poland Farm, P 59.74 314 IAmb IAmb 10 17 41.0
comp=Z,30nm,1.1s
M59A Waymart 59.74 319 P **P** **10 17 33.2 -0.4**
baz=120
R58B Mineral 59.76 314 P **P** **10 17 33.4 -0.3**
baz=116
R58B S **S** **10 25 51.6 +6.8**
baz=116
R58B Mineral 59.76 314 IAmb IAmb 10 18 08.9
comp=Z,38nm,1.1s
V58A Windy Hill, Pi 59.77 312 P **P** **10 17 33.7 -0.2**
baz=113,SNR=5.5
V58A Windy Hill, Pi 59.77 312 IAmb IAmb 10 17 35.2
comp=Z,34nm,1.1s
V58A IAMs_20 IAMs_20 10 36 57.5
comp=Z,2µm,21.0s
SOP Sopron 59.80 32 P **P** **10 17 34.2 +0.4**
SOP pmax pmax
comp=Z,18nm,1.5s
T58A Grand View Acr 59.81 313 P **P** **10 17 34.0 0.0**
baz=114
L59A Walton 59.81 320 P **P** **10 17 33.9 -0.2**
baz=120
L59A S **S** **10 25 49.2 +3.9**
baz=120
L59A Walton 59.81 320 IAMs_20 IAMs_20 10 36 35.4
comp=Z,2µm,22.0s
257A Skidaway Islan 59.84 307 IAMs_20 IAMs_20 10 37 00.5
comp=Z,2µm,22.0s
THE Thessaloniki 59.84 42 P **P** **10 17 33.7 -0.5**
THE pmax pmax
comp=Z,7.0nm,1.4s
E60A Ste Agathe de 59.90 326 P **P** **10 17 34.1 -0.4**
baz=126
I59A Olmsteadville 59.90 322 P **P** **10 17 34.3 -0.3**
baz=122
NRDL Niedersach Rie 59.92 25 *e*P **P** **10 17 35.0 +0.5**
comp=Z,151nm,2.3s,baz=224,slow=7.0
D60A Saint Jean D'O 59.92 326 P **P** **10 17 34.8 +0.1**
baz=126
D60A S **S** **10 25 47.9 +1.4**
baz=126
F60A Warwick 59.95 325 P **P** **10 17 35.0 +0.1**
baz=125
F60A S **S** **10 25 47.5 +0.6**
baz=125
KSPA Keystone Colle 59.97 319 IAMs_20 IAMs_20 10 37 00.6
comp=Z,2µm,21.0s
K59A Cooperstown 59.98 321 P **P** **10 17 34.8 -0.5**
baz=121
K59A S **S** **10 25 51.0 +3.5**
baz=121
R58A Rapidan 60.00 315 P **P** **10 17 35.2 -0.1**
baz=116
R58A S **S** **10 25 51.6 +3.8**
baz=116
X57A Johnson Farm, 60.00 310 P **P** **10 17 35.3 -0.1**
baz=112
P58A Pank, Wackersv 60.03 316 P **P** **10 17 35.1 -0.4**
baz=117
P58A S **S** **10 25 52.4 +4.2**
baz=117
Z57A Bowman 60.05 308 P **P** **10 17 35.7 0.0**
baz=111
Q58A Fox Den Farm, 60.05 316 P **P** **10 17 35.3 -0.4**
baz=116
Q58A S **S** **10 25 51.9 +3.5**
baz=116
O58A Lewisberry 60.06 317 P **P** **10 17 35.7 -0.1**
baz=118
O58A S **S** **10 25 49.3 +0.7**
baz=118
157A Early Branch 60.06 308 P **P** **10 17 34.9 -1.0**
baz=110
Y57A Sumter 60.06 309 P **P** **10 17 35.6 -0.2**
baz=112
Y57A Sumter 60.06 309 IAmb IAmb 10 17 37.4
comp=Z,35nm,1.1s
Y57A IAMs_20 IAMs_20 10 37 23.3
comp=Z,2µm,21.0s
J59A Piesco 60.12 321 P **P** **10 17 35.8 -0.3**
baz=121
J59A S **S** **10 25 52.5 +3.3**
baz=121
J59A Piesco 60.12 321 IAmb IAmb 10 17 51.4
comp=Z,26nm,1.1s
J59A IAMs_20 IAMs_20 10 36 48.5
comp=Z,2µm,22.0s
G59A Clarenceville 60.17 324 P **P** **10 17 36.2 -0.2**
baz=123
W57A Gilead 60.18 311 P **P** **10 17 35.8 -0.9**
baz=112
W57A Gilead 60.18 311 IAMs_20 IAMs_20 10 36 45.4
comp=Z,2µm,21.0s
U57A Blanch 60.19 312 P **P** **10 17 36.6 -0.1**
baz=114,SNR=6.6
SOH Sokhos 60.19 42 P **P** **10 17 36.7 0.0**
SOH pmax pmax
comp=Z,15nm,1.8s
PRU Pruhonice 60.22 29 *e*P **P** **10 17 35.8 -0.9**
PRU *e*S **S** **10 25 52.2 +2.0**
PRU MLR MLR
comp=Z,900nm,17.0s
PRU Pruhonice 60.22 29 *e*P **P** **10 17 35.8 -0.9**
PRU *e*S **S** **10 25 52.2 +2.0**
PRU AMS AMS 10 42 10.0
comp=Z,900nm,17.0s
PRA Prague 60.22 29 *e*S **S** **10 25 53.6 +3.4**
PRA AMS AMS 10 42 10.0
comp=Z,500nm,17.0s
656A Willston 60.24 304 IAMs_20 IAMs_20 10 37 00.1
comp=Z,2µm,21.0s
H59A Cadyville 60.24 323 P **P** **10 17 36.7 -0.3**
baz=123
H59A S **S** **10 25 52.8 +2.1**
baz=123
TREC Trest 60.25 30 AMS AMS 10 48 50.0
comp=Z,800nm,14.4s
N58A Sunbury 60.25 318 P **P** **10 17 36.7 -0.4**
baz=118
N58A S **S** **10 25 53.9 +2.9**
baz=118
N58A Sunbury 60.25 318 IAMs_20 IAMs_20 10 37 49.2
comp=Z,2µm,20.0s
L58A Harry Jones Me 60.26 319 P **P** **10 17 37.3 +0.2**
baz=119
L58A S **S** **10 25 53.4 +2.4**
baz=119
FBE Freiberg 60.27 28 *e*P **P** **10 17 36.9 -0.1**
comp=Z,146nm,2.5s,baz=224,slow=7.0
FRNY Flat Rock 60.28 323 P **P** **10 17 36.9 -0.2**
FRNY IAmb IAmb 10 17 45.3
comp=Z,84nm,1.8s
FRNY IAMs_20 IAMs_20 10 38 08.9
comp=Z,2µm,20.0s
GOPC GO Pecny, Ondr 60.29 30 *e*S **S** **10 25 53.9 +2.7**
GOPC AMS AMS 10 42 10.0
comp=Z,700nm,20.0s
V57A Coltrane Farms 60.30 312 P **P** **10 17 37.1 -0.4**
baz=113,SNR=5.3
M58A Price's Panora 60.33 319 P **P** **10 17 37.7 +0.1**
baz=118
M58A S **S** **10 25 55.0 +2.9**
baz=118
BIRD Birdtown, Kers 60.35 310 P **P** **10 17 38.3 +0.5**
BIRD IAmb IAmb 10 17 39.4
comp=Z,31nm,1.1s
BIRD IAMs_20 IAMs_20 10 37 22.8
comp=Z,2µm,21.0s
T57A Hurt 60.35 313 P **P** **10 17 37.6 -0.3**
baz=114
T57A S **S** **10 25 55.1 +2.7**
baz=114
T57A Hurt 60.35 313 IAMs_20 IAMs_20 10 37 16.0
comp=Z,1µm,20.0s
R57A Stanardsville 60.37 315 P **P** **10 17 37.5 -0.4**
baz=115
R57A S **S** **10 25 56.3 +3.8**
baz=115
F59A Saint Guilaume 60.37 325 P **P** **10 17 37.7 0.0**
baz=124
CLL Collm 60.37 27 *i* P **P** **10 17 37.0 -0.6**
comp=Z,52nm,2.1s
CLL *i* pP **sP** **10 17 41.4 -0.4**
CLL *i* 10 17 46.5
CLL *e*PP **PP** **10 19 48.0 -2.8**
CLL *e*PPP PPP 10 21 18.0
CLL *e*S **S** **10 25 55.0 +2.9**
CLL *e*ScS **ScS** **10 27 30.0 +1.9**
CLL *e* 10 28 36.0
CLL *e*SSS SSS 10 32 36.0
CLL LmH 10 41 00.0
comp=Z,700nm,20.6s
CLL LmV 10 51 00.0
comp=N,500nm,20.6s
CLL LmV 10 51 00.0
comp=E,400nm,21.6s
CLL LmV 10 51 00.0
comp=Z,900nm,18.4s
CLL Collm 60.37 27 *i* P **P** **10 17 37.0 -0.6**
CLL *i* 10 17 41.4
CLL *e*S **S** **10 25 55.0 +2.9**
CLL pmax pmax
comp=Z,52nm,2.1s
CLL MLR MLR
comp=Z,700nm,20.6s
CLL Collm 60.37 27 *e*P **P** **10 17 37.0 -0.6**
comp=Z,52nm,2.1s,baz=224,slow=7.0
OUR Ouranopolis 60.39 43 P **P** **10 17 38.5 +0.5**
H58A Gabriels 60.42 323 P **P** **10 17 37.8 -0.4**
baz=122
H58A S **S** **10 25 57.3 +4.3**
baz=122
BINY Binghamton 60.42 320 P **P** **10 17 38.0 -0.3**
baz=119
BINY Binghamton 60.42 320 P **P** **10 17 39.0 +0.8**
BINY IAMs_20 IAMs_20 10 36 52.6
comp=Z,1µm,22.0s
S57A Dark Hollow, R 60.45 314 P **P** **10 17 38.2 -0.3**
baz=115
S57A Dark Hollow, R 60.45 314 IAMs_20 IAMs_20 10 36 45.4
comp=Z,1µm,22.0s
K58A Earlville 60.48 320 P **P** **10 17 38.5 -0.1**
baz=120
K58A Earlville 60.48 320 IAMs_20 IAMs_20 10 36 56.2
comp=Z,2µm,22.0s
SRS Serrai 60.49 42 P **P** **10 17 38.5 -0.2**
SRS pmax pmax
comp=Z,23nm,1.6s
KKB Krupnik 60.51 41 P **P** **10 17 37.9 -0.9**
BRG Berggiesshubel 60.52 28 *e*P **P** **10 17 38.0 -0.6**
comp=Z,12nm,1.4s
comp=N,367nm,14.2s
comp=E,316nm,12.5s
comp=Z,705nm,12.1s
BRG Berggiesshubel 60.52 28 *e*P **P** **10 17 38.0 -0.6**
BRG pmax pmax
comp=Z,12nm,1.4s
BRG MLR MLR
comp=N,367nm,14.2s
BRG MLR MLR
comp=E,316nm,12.5s
BRG MLR MLR
comp=Z,705nm,12.1s
P57A Homestead Farm 60.52 316 P **P** **10 17 39.0 0.0**
baz=116
P57A Homestead Farm 60.52 316 IAMs_20 IAMs_20 10 37 55.3
comp=Z,1µm,20.0s
I58A Old Forge 60.52 322 P **P** **10 17 38.5 -0.4**
baz=121
J58A Remsen 60.55 321 P **P** **10 17 39.0 -0.1**
baz=120
J58A Remsen 60.55 321 IAmb IAmb 10 17 46.7
comp=Z,32nm,1.0s
J58A IAMs_20 IAMs_20 10 37 12.1
comp=Z,2µm,22.0s
KRUC Moravsky 60.56 31 *e*P **P** **10 17 37.3 -1.7**
KRUC Moravsky 60.56 31 P **P** **10 17 38.6 -0.4**
KRUC pmax pmax
comp=Z,9.0nm,1.4s
Z56A Williston 60.58 308 P **P** **10 17 39.1 -0.3**
baz=110
O57A Amberson 60.59 317 P **P** **10 17 38.7 -0.7**
baz=117
PVCC Panska Ves 60.59 29 P **P** **10 17 39.5 +0.3**
PVCC pmax pmax
comp=Z,8.0nm,1.2s
PVCC Panska Ves 60.59 29 AMS AMS 10 42 40.0
comp=Z,900nm,14.9s
MODS Modra-Piesok 60.60 32 *e*P **P** **10 17 38.1 -1.2**
MODS pmax pmax
comp=Z,49nm,1.7s
MODS Modra-Piesok 60.60 32 *e*P **P** **10 17 38.1 -1.2**
Q57A Strasburg 60.60 315 P **P** **10 17 39.5 0.0**
baz=116
Q57A S **S** **10 25 57.9 +2.4**
baz=116
W56A Indian Trail 60.62 311 P **P** **10 17 39.4 -0.3**
baz=112
W56A S **S** **10 25 58.5 +2.6**
baz=112
Y56A Pelion 60.69 309 P **P** **10 17 39.7 -0.5**
baz=111
X56A White Oak 60.73 310 P **P** **10 17 40.2 -0.2**
baz=111
G58A Ormstown 60.73 323 P **P** **10 17 40.0 -0.2**
baz=122
M57A Sunshine Farm, 60.76 318 P **P** **10 17 39.8 -0.7**
baz=118
M57A S **S** **10 25 59.0 +1.5**
baz=118
M57A Sunshine Farm, 60.76 318 IAMs_20 IAMs_20 10 38 05.6
comp=Z,2µm,20.0s
LONY Lake Ozonia 60.77 323 IAMs_20 IAMs_20 10 37 32.7
comp=Z,1µm,20.0s
N57A Milroy 60.77 317 P **P** **10 17 40.4 -0.3**
baz=117
N57A S **S** **10 25 59.1 +1.4**
baz=117
MMB Musomiste 60.80 41 P **P** **10 17 40.5 -0.4**
V56A Mocksville 60.81 311 P **P** **10 17 40.6 -0.3**
baz=112
VRAC Vranov 60.82 31 P **P** **10 17 39.8 -0.9**
comp=Z,5.6nm,0.9s,baz=228,slow=7.6,SNR=7.1
VRAC Vranov 60.82 31 *e*P **P** **10 17 38.6 -2.2**
JSC Jenkinsville 60.83 309 IAmb IAmb 10 17 49.9
comp=Z,47nm,1.9s
S56A Natural Bridge 60.86 314 P **P** **10 17 40.2 -1.1**
baz=114
L57A Andrews Acres 60.89 319 P **P** **10 17 40.7 -0.7**
baz=118
L57A S **S** **10 26 00.5 +1.3**
baz=118
U56A King 60.93 312 P **P** **10 17 40.9 -0.9**
baz=113
U56A King 60.93 312 IAMs_20 IAMs_20 10 37 33.2
comp=Z,2µm,22.0s
T56A Rocky Mt 60.94 313 P **P** **10 17 41.8 -0.1**
baz=113
E58A La Victoria 60.94 325 P **P** **10 17 41.6 -0.1**
baz=124
E58A S **S** **10 26 02.0 +2.4**
baz=124
SSPA Standing Stone 60.95 317 P **P** **10 17 41.4 -0.4**
baz=117
VTS Vitosha 60.97 40 ⇓P **P** **10 17 42.6 +0.5**
VTS Vitosha 60.97 40 ⇓P **P** **10 17 42.6 +0.5**
VTS Vitosha 60.97 40 P **P** **10 17 42.0 -0.1**
VTS Vitosha 60.97 40 P **P** **10 17 40.1 -2.0**
255A Hazlehurst 60.99 306 IAMs_20 IAMs_20 10 37 34.9
comp=Z,2µm,22.0s
K57A Scipio Center 61.02 320 P **P** **10 17 41.7 -0.6**
baz=119
K57A S **S** **10 26 03.6 +2.8**
baz=119
J57A Williamstown 61.03 321 P **P** **10 17 41.5 -0.7**
baz=120
J57A Williamstown 61.03 321 IAMs_20 IAMs_20 10 37 14.6
comp=Z,2µm,22.0s
R56A Bull Pasture M 61.04 314 P **P** **10 17 42.5 -0.1**
baz=114
R56A S **S** **10 26 03.6 +2.3**
baz=114
I57A Carthage 61.08 321 P **P** **10 17 42.5 -0.2**
baz=120
I57A S **S** **10 26 03.4 +2.0**
baz=120
JAVC Velka Javorina 61.10 32 *e*P **P** **10 17 42.4 -0.4**
P56A Dayton Farm, R 61.10 316 P **P** **10 17 42.9 0.0**
baz=116
D58A Chemin du LacG 61.12 326 P **P** **10 17 42.6 -0.3**
baz=124,SNR=12
D58A S **S** **10 26 01.6 -0.3**
baz=124
Q56A Snyder Ridge, 61.15 315 P **P** **10 17 42.4 -0.8**
baz=115
Q56A Snyder Ridge, 61.15 315 IAmb IAmb 10 17 51.1
comp=Z,26nm,1.0s
Q56A IAMs_20 IAMs_20 10 39 03.0
comp=Z,1µm,20.0s
Y55A Saluda 61.17 309 P **P** **10 17 43.1 -0.4**
baz=110
H57A Richville 61.18 322 P **P** **10 17 43.3 0.0**
baz=121
X55A Gracelyn & Ava 61.19 309 P **P** **10 17 43.1 -0.5**
baz=111
O56A Blue Knob Stat 61.25 317 P **P** **10 17 43.7 -0.3**
baz=116
O56A S **S** **10 26 05.1 +1.2**
baz=116
O56A Blue Knob Stat 61.25 317 IAMs_20 IAMs_20 10 38 38.5
comp=Z,1µm,20.0s
G57A Newington 61.27 323 P **P** **10 17 44.0 +0.1**
baz=122
G57A S **S** **10 26 05.8 +2.1**
baz=122
UPC Upice 61.28 30 *e*P **P** **10 17 43.4 -0.5**
UPC MLR MLR
comp=Z,800nm,20.4s
UPC Upice 61.28 30 *e*P **P** **10 17 43.4 -0.5**
UPC AMS AMS 10 42 20.0
comp=Z,800nm,20.4s
BLA Blacksburg 61.30 313 P **P** **10 17 43.7 -0.6**
baz=113
BLA Blacksburg 61.30 313 IAmb IAmb 10 17 45.9
comp=Z,26nm,1.1s
BLA IAMs_20 IAMs_20 10 37 44.9
comp=Z,2µm,22.0s
DPC Dobruska-Polom 61.33 30 *e*P **P** **10 17 42.9 -1.4**
DPC *e*S **S** **10 26 04.5 -0.1**
DPC Dobruska-Polom 61.33 30 *e*P **P** **10 17 42.9 -1.4**
DPC *e*S **S** **10 26 04.5 -0.1**
CHVC Chvalec 61.35 30 AMS AMS 10 42 20.0
comp=Z,900nm,21.0s
N56A West Decatur 61.35 317 P **P** **10 17 44.2 -0.4**
baz=117
N56A S **S** **10 26 06.3 +1.2**
baz=117
TGUH Tegucigalpa,Un 61.36 286 P **P** **10 17 45.6 +0.5**
V55A Taylorsville 61.37 311 P **P** **10 17 45.3 +0.5**
baz=112,SNR=6.4
V55A S **S** **10 26 08.0 +2.6**
baz=112
V55A Taylorsville 61.37 311 IAmb IAmb 10 18 20.5
comp=Z,33nm,1.1s
V55A IAMs_20 IAMs_20 10 37 54.8
comp=Z,2µm,21.0s
KRLC Kraliky 61.39 30 AMS AMS 10 46 50.0
comp=Z,700nm,17.0s
OSTC Ostas 61.41 30 *e*S **S** **10 26 09.3 +3.8**
L56A Greenwood 61.42 319 P **P** **10 17 44.5 -0.5**
baz=118
L56A S **S** **10 26 09.0 +3.1**
baz=118
L56A Greenwood 61.42 319 IAmb IAmb 10 17 52.4
comp=Z,34nm,1.0s
L56A IAMs_20 IAMs_20 10 38 07.0
comp=Z,2µm,21.0s
PAULI Pauline 61.45 310 IAMs_20 IAMs_20 10 38 05.0
comp=Z,2µm,21.0s
F57A Harrington 61.47 324 P **P** **10 17 44.9 -0.3**
baz=122
F57A S **S** **10 26 08.3 +2.0**
baz=122
E57A Chemin Saint G 61.47 325 P **P** **10 17 44.9 -0.4**
baz=123,SNR=6.1
E57A S **S** **10 26 06.6 +0.3**
baz=123
U55A TA2, Sparta 61.48 312 P **P** **10 17 45.0 -0.6**
baz=112
U55A S **S** **10 26 06.6 -0.4**
baz=112
R55A Marlinton 61.50 314 P **P** **10 17 45.4 -0.4**
baz=114
R55A S **S** **10 26 11.2 +4.0**
baz=114
RZN Rozhen 61.50 42 P **P** **10 17 45.7 -0.1**
J56A Wolcott 61.51 320 P **P** **10 17 45.2 -0.3**
baz=119
J56A S **S** **10 26 08.5 +1.6**
baz=119
J56A Wolcott 61.51 320 IAMs_20 IAMs_20 10 38 01.3
comp=Z,2µm,21.0s
VYHS Vyhne 61.51 33 *e*P **P** **10 17 44.8 -0.7**
VYHS pmax pmax
comp=Z,105nm,2.5s
VYHS Vyhne 61.51 33 *e*P **P** **10 17 44.8 -0.7**
T55A Pulaski 61.53 313 P **P** **10 17 45.4 -0.5**
baz=113
K56A Middlesex 61.53 320 P **P** **10 17 45.0 -0.7**
baz=118
M56A Emporium 61.53 318 P **P** **10 17 44.8 -1.0**
baz=117
M56A Emporium 61.53 318 IAmb IAmb 10 17 48.2
comp=Z,27nm,1.0s
M56A IAMs_20 IAMs_20 10 38 09.0
comp=Z,1µm,20.0s
PGB Panagyurishte 61.54 41 P **P** **10 17 45.7 -0.2**
S55A Lewisburg 61.58 313 P **P** **10 17 45.0 -1.1**
baz=113
HODGE Hodges 61.59 309 IAmb IAmb 10 17 47.9
comp=Z,35nm,1.2s
MORC Moravsky Berou 61.59 31 ⇑P **P** **10 17 45.8 -0.3**
MORC Moravsky Berou 61.59 31 *e*P **P** **10 17 44.6 -1.5**
MORC Moravsky Berou 61.59 31 ⇑P **P** **10 17 45.8 -0.3**
MORC Moravsky Berou 61.59 31 IAmb IAmb 10 17 48.5
comp=Z,59nm,2.0s
KSP Ksiaz 61.63 29 *e*P **P** **10 17 46.4 +0.1**
ARG Arkhangelos 61.65 49 P **P** **10 17 46.1 -0.5**
ARG pmax pmax
comp=Z,49nm,1.1s
D57A Chemin Vers le 61.65 325 P **P** **10 17 45.8 -0.7**
baz=124,SNR=5.8

D57A S **S** **10 26 09.5 +0.9**
baz=124
MPEP Malo Peshtene 61.65 40 P **P** **10 17 45.2 -1.3**
PLD Plovdiv 61.69 41 P **P** **10 17 47.4 +0.6**
PLD pmax pmax
comp=Z,2.0nm,1.3s
PLD Plovdiv 61.69 41 P **P** **10 17 46.5 -0.3**
154A Montrose 61.72 307 IAMs_20 IAMs_20 10 37 57.1
comp=Z,1µm,22.0s
O55A Ligonier 61.73 316 P **P** **10 17 47.3 +0.2**
baz=116,SNR=6.5
O55A S **S** **10 26 12.2 +2.3**
baz=116
TIGA Tifton 61.73 306 P **P** **10 17 45.7 -1.6**
baz=108
PSZ Piszkesteto 61.76 34 ⇓P **P** **10 17 47.3 +0.1**
PSZ Piszkesteto 61.76 34 ⇓P **P** **10 17 47.3 +0.1**
PSZ Piszkesteto 61.76 34 P **P** **10 17 46.9 -0.3**
N55A Marion Center 61.76 317 P **P** **10 17 47.4 0.0**
baz=116,SNR=8.9
N55A S **S** **10 26 12.4 +2.1**
baz=116
ORIO Orleans, Innes 61.76 323 P **P** **10 17 46.5 -0.7**
baz=121
Q55A Buckhannon 61.77 315 P **P** **10 17 46.9 -0.5**
baz=114
Q55A S **S** **10 26 14.6 +4.1**
baz=114
H56A Elgin 61.78 322 P **P** **10 17 47.2 -0.1**
baz=120
H56A S **S** **10 26 12.6 +2.3**
baz=120
X54A Belton 61.78 309 P **P** **10 17 47.0 -0.6**
baz=110
X54A S **S** **10 26 13.0 +2.3**
baz=110
P55A Reedsville 61.80 315 P **P** **10 17 47.3 -0.4**
baz=115
P55A S **S** **10 26 13.2 +2.4**
baz=115
W54A Cherokee Point 61.83 310 P **P** **10 17 47.6 -0.3**
baz=111,SNR=5.0
W54A S **S** **10 26 14.4 +3.1**
baz=111
MCWV Mont Chateau 61.87 315 P **P** **10 17 47.4 -0.7**
baz=115
V54A Nebo 61.89 311 P **P** **10 17 47.6 -0.7**
baz=111
PECO Prince Edward 61.91 321 IAMs_20 IAMs_20 10 38 04.1
comp=Z,2µm,21.0s
M55A Ridgway 61.91 318 P **P** **10 17 48.5 +0.1**
baz=117,SNR=6.5
M55A S **S** **10 26 15.6 +3.4**
baz=117
M55A Ridgway 61.91 318 IAMs_20 IAMs_20 10 38 10.2
comp=Z,1µm,21.0s
MMNY Mt. Morris Dam 61.92 319 IAMs_20 IAMs_20 10 38 22.4
comp=Z,1µm,20.0s
KDZ Kurdzhali 61.95 42 P **P** **10 17 47.4 -1.2**
L55A Hinsdale 62.02 319 P **P** **10 17 48.8 -0.3**
baz=117
L55A S **S** **10 26 11.4 -2.1**
baz=117
K55A Perry 62.03 319 P **P** **10 17 48.9 -0.3**
baz=118
K55A S **S** **10 26 16.4 +2.8**
baz=118
ALN Alexandroupoli 62.05 43 P **P** **10 17 49.0 -0.2**
ALN pmax pmax
comp=Z,25nm,1.3s
ALN Alexandroupoli 62.05 43 IAmb IAmb 10 18 08.0
comp=Z,40nm,1.4s
ALN IAMs_20 IAMs_20 10 44 57.3
comp=Z,2µm,21.0s
553A Crawfordville 62.06 304 IAMs_20 IAMs_20 10 37 56.2
comp=Z,2µm,22.0s
E56A St. Veronique 62.06 324 P **P** **10 17 49.3 +0.1**
baz=122
U54A Nelsons Funny 62.07 312 P **P** **10 17 49.5 -0.1**
baz=112
U54A S **S** **10 26 18.3 +3.8**
baz=112
U54A Nelsons Funny 62.07 312 IAMs_20 IAMs_20 10 38 18.4
comp=Z,2µm,22.0s
T54A Tazewell 62.09 312 P **P** **10 17 49.3 -0.4**
baz=112
R54A Victor 62.09 314 P **P** **10 17 49.3 -0.3**
baz=113
J55A Hilton 62.12 320 P **P** **10 17 49.3 -0.3**
baz=118
J55A Hilton 62.12 320 IAMs_20 IAMs_20 10 38 08.5
comp=Z,2µm,22.0s
D56A ZEC Mazanza, M 62.17 325 P **P** **10 17 50.4 +0.5**
baz=123
D56A S **S** **10 26 16.8 +1.7**
baz=123
S54A Dingess, Beckl 62.18 313 P **P** **10 17 50.0 -0.2**
baz=113
S54A Dingess, Beckl 62.18 313 IAMs_20 IAMs_20 10 38 12.2
comp=Z,2µm,22.0s
WVNY West Valley, N 62.23 319 IAMs_20 IAMs_20 10 38 42.5
comp=Z,2µm,20.0s
GOGA Godfrey 62.26 308 P **P** **10 17 50.7 -0.1**
baz=109
GOGA Godfrey 62.26 308 P **P** **10 17 51.4 +0.6**
GOGA pmax pmax
comp=Z,26nm,2.1s
P54A Burton 62.30 315 P **P** **10 17 51.2 +0.2**
baz=114,SNR=7.4
Q54A Coxs Mills 62.30 314 P **P** **10 17 51.2 +0.2**
baz=114,SNR=7.3
Q54A Coxs Mills 62.30 314 IAmb IAmb 10 17 52.5
comp=Z,32nm,1.0s
H55A Tweed 62.33 321 P **P** **10 17 50.8 -0.3**
baz=119
BG3 Lake Jocassee 62.37 310 IAmb IAmb 10 18 00.8
comp=Z,59nm,1.9s
BG3 IAMs_20 IAMs_20 10 38 53.4
comp=Z,1µm,21.0s
K54A Basiliko Farm, 62.38 319 P **P** **10 17 51.5 0.0**
baz=117,SNR=6.3
K54A S **S** **10 26 19.3 +1.3**
baz=117
G55A Calabogie 62.40 322 P **P** **10 17 51.6 +0.1**
baz=120
G55A S **S** **10 26 18.4 +0.3**
baz=120
O54A Avella 62.46 316 P **P** **10 17 52.0 -0.1**
baz=115
O54A Avella 62.46 316 IAMs_20 IAMs_20 10 39 36.8
comp=Z,1µm,20.0s
F55A Otter Lake 62.47 323 P **P** **10 17 51.9 0.0**
baz=121
MEDO Medina 62.48 320 IAMs_20 IAMs_20 10 38 41.1
comp=Z,1µm,20.0s
I55A Frankford 62.48 321 P **P** **10 17 51.8 -0.3**
baz=119
I55A S **S** **10 26 19.5 +0.3**
baz=119
PLVO Plevna 62.51 322 IAMs_20 IAMs_20 10 38 13.8
comp=Z,2µm,22.0s
V53A Saluda 62.51 310 IAMs_20 IAMs_20 10 38 51.2
comp=Z,2µm,21.0s
N54A Moraine State 62.52 317 P **P** **10 17 51.9 -0.6**
baz=115
N54A S **S** **10 26 21.4 +1.5**
baz=115
N54A Moraine State 62.52 317 IAmb IAmb 10 17 59.8
comp=Z,33nm,1.0s
N54A IAMs_20 IAMs_20 10 38 58.3
comp=Z,1µm,20.0s
M54A Oil Creek Stat 62.54 317 P **P** **10 17 52.0 -0.5**
baz=116
M54A Oil Creek Stat 62.54 317 IAMs_20 IAMs_20 10 38 39.7
comp=Z,1µm,20.0s
D55A Sainte-Anne-du 62.56 325 P **P** **10 17 52.0 -0.6**
baz=122
D55A S **S** **10 26 21.7 +1.6**
baz=122
DELO Deloro Mine 62.59 321 IAMs_20 IAMs_20 10 38 25.0
comp=Z,2µm,22.0s
L54A Sinclairville 62.62 318 P **P** **10 17 52.1 -1.0**
baz=116
L54A S **S** **10 26 22.0 +0.9**
baz=116
J54A Appleton 62.65 320 P **P** **10 17 53.1 -0.1**
baz=118
J54A Appleton 62.65 320 IAMs_20 IAMs_20 10 38 45.6
comp=Z,1µm,20.0s
S53A Williamson 62.73 313 P **P** **10 17 53.3 -0.6**
baz=112
RGN Rugen 62.73 25 IAMs_20 IAMs_20 10 41 55.6
comp=Z,1µm,21.0s
Q53A Leroy 62.74 314 P **P** **10 17 53.3 -0.6**
baz=113
Q53A S **S** **10 26 24.4 +1.7**
baz=113
T53A Wise 62.77 312 P **P** **10 17 54.1 -0.2**
baz=111
T53A S **S** **10 26 24.6 +1.3**
baz=111
NIE Niedzica 62.83 32 *e*P **P** **10 17 55.5 +1.2**
NIE Niedzica 62.83 32 P **P** **10 17 55.3 +0.9**
NIE pmax pmax
comp=Z,6.0nm,1.4s
R53A Hurricane 62.85 313 P **P** **10 17 54.1 -0.5**
baz=112
R53A Hurricane 62.85 313 IAMs_20 IAMs_20 10 38 10.9
comp=Z,2µm,22.0s
Y52A Lilburn 62.88 308 IAmb IAmb 10 18 08.2
comp=Z,49nm,1.4s
P53A Whipple 62.89 315 P **P** **10 17 54.1 -0.8**
baz=114
P53A Whipple 62.89 315 IAmb IAmb 10 18 02.4
comp=Z,48nm,1.1s
P53A IAMs_20 IAMs_20 10 42 51.1
comp=Z,1µm,18.0s
ALLY Alegheny Colle 62.92 317 IAMs_20 IAMs_20 10 39 12.9
comp=Z,1µm,20.0s
ERPA Erie 63.02 318 P **P** **10 17 55.0 -0.7**
baz=116
152A Waverly Hall 63.02 307 IAmb IAmb 10 18 03.9
comp=Z,50nm,1.7s
152A IAMs_20 IAMs_20 10 38 46.8
comp=Z,2µm,22.0s
OJC Ojcow 63.03 31 *e*P **P** **10 17 55.6 -0.1**
OJC Ojcow 63.03 31 P **P** **10 17 55.7 +0.1**
OJC pmax pmax
comp=Z,29nm,1.4s
OJC Ojcow 63.03 31 P **P** **10 17 55.7 +0.1**
SCHQ Schefferville 63.03 335 P **P** **10 17 55.2 -0.3**
comp=Z,7.3nm,0.9s,baz=119,slow=8.5,SNR=4.7
SCHQ LR LR 10 42 10.5
comp=Z,1µm,18.9s,baz=139,slow=33
SCHQ Schefferville 63.03 335 IAMs_20 IAMs_20 10 41 31.4
comp=Z,2µm,19.0s
N53A Lisbon 63.04 316 P **P** **10 17 56.1 +0.1**
baz=114,SNR=5.6
O53A New Philadelph 63.08 316 P **P** **10 17 56.5 +0.4**
baz=114,SNR=5.4
O53A New Philadelph 63.08 316 IAmb IAmb 10 18 03.7
comp=Z,32nm,0.9s
O53A IAMs_20 IAMs_20 10 39 54.9
comp=Z,1µm,20.0s
L53A Girard 63.13 318 P **P** **10 17 56.2 -0.3**
baz=116
V52A Sevierville 63.17 310 IAMs_20 IAMs_20 10 39 10.6
comp=Z,2µm,21.0s
CRVS Cervenica-Dubn 63.17 33 *e*P **P** **10 17 56.5 -0.1**
CRVS Cervenica-Dubn 63.17 33 *e*P **P** **10 17 56.5 -0.1**
W52A Murphy 63.17 309 IAMs_20 IAMs_20 10 39 40.6
comp=Z,2µm,20.0s
ELL Elmali 63.18 49 P **P** **10 17 58.5 +1.4**
M53A WI Miller and 63.20 317 P **P** **10 17 56.7 -0.2**
baz=115
M53A S **S** **10 26 28.6 +0.3**
baz=115
M53A WI Miller and 63.20 317 IAMs_20 IAMs_20 10 39 50.1
comp=Z,1µm,20.0s
H53A Bobcaygeon 63.22 321 P **P** **10 17 56.1 -0.9**
baz=118
H53A S **S** **10 26 29.3 +0.9**
baz=118
TKL Tuckaleechee C 63.24 310 IAMs_20 IAMs_20 10 39 22.5
comp=Z,2µm,21.0s
E54A Lac Daplat, Po 63.27 323 P **P** **10 17 56.4 -0.9**
baz=120
E54A S **S** **10 26 26.4 -2.6**
baz=120
G54A Lake Saint Pet 63.31 322 P **P** **10 17 56.9 -0.6**
baz=119
G54A S **S** **10 26 31.0 +1.5**
baz=119
Q52A Bidwell 63.32 314 P **P** **10 17 56.5 -1.3**
baz=112
D54A Lac Fusel, La 63.32 324 P **P** **10 17 56.7 -0.9**
baz=121
D54A S **S** **10 26 30.0 +0.4**
baz=121
TZTN Tazewell 63.38 311 P **P** **10 17 57.4 -0.8**
baz=110
TZTN Tazewell 63.38 311 IAMs_20 IAMs_20 10 38 57.0
comp=Z,2µm,22.0s
O52A Adamsville 63.46 315 P **P** **10 17 58.9 +0.2**
baz=113,SNR=6.9
O52A Adamsville 63.46 315 IAmb IAmb 10 17 60.0
comp=Z,31nm,0.9s
VOIR 63.48 38 ⇓P **P** **10 17 59.0 +0.2**
P52A Corning 63.48 315 P **P** **10 17 58.0 -0.8**
baz=113
P52A Corning 63.48 315 IAmb IAmb 10 18 06.1
comp=Z,28nm,1.0s
P52A IAMs_20 IAMs_20 10 42 25.6
comp=Z,1µm,18.0s
UZH Uzhgorod 63.48 34 *e*P **P** **10 17 58.8 +0.2**
UZH *e* 10 18 31.8
UZH *e*PPP PPP 10 21 52.8
UZH *e*S **S** **10 26 27.8 -3.8**
UZH *e*PS PnS 10 27 04.6 +16
UZH MLR MLR
comp=N,200nm,16.0s
UZH MLR MLR
comp=E,210nm,16.0s
UZH MLR MLR
comp=Z,100nm,16.0s
E53A Dumoine, Ponti 63.53 323 P **P** **10 17 58.5 -0.5**
baz=120
E53A S **S** **10 26 34.2 +1.9**
baz=120
CHGQ Chibougamau 63.53 328 P **P** **10 17 58.3 -0.7**
baz=124
ALGO Algonquin Park 63.55 322 P **P** **10 17 58.5 -0.7**
baz=119
N52A McGinn's Farm, 63.63 316 P **P** **10 17 59.0 -0.8**
baz=114
SADO Sadowa 63.67 321 IAMs_20 IAMs_20 10 39 18.5
comp=Z,2µm,21.0s
M52A Chesterland 63.70 317 P **P** **10 17 59.5 -0.8**
baz=114
M52A Chesterland 63.70 317 IAMs_20 IAMs_20 10 40 05.5
comp=Z,1µm,20.0s
V51A Loudon 63.73 310 IAmb IAmb 10 18 12.4
comp=Z,22nm,1.0s
V51A IAMs_20 IAMs_20 10 39 59.5
comp=Z,2µm,20.0s
CPCT Cooper Cave 63.75 310 IAMs_20 IAMs_20 10 40 08.9
comp=Z,2µm,20.0s
S51A Beattyville 63.80 312 P **P** **10 18 01.7 +0.7**
S51A IAmb IAmb 10 18 08.9
comp=Z,40nm,1.2s
S51A IAMs_20 IAMs_20 10 39 13.1
comp=Z,2µm,22.0s
D53A Lac Vacive, Po 63.90 324 P **P** **10 18 00.8 -0.7**
baz=120
D53A S **S** **10 26 33.8 -3.0**
baz=120
D53A Lac Vacive, Po 63.90 324 IAmb IAmb 10 18 08.1
comp=Z,37nm,1.1s
D53A IAMs_20 IAMs_20 10 40 20.6
comp=Z,2µm,20.0s
KMBO Kilima Mbogo 63.92 92 P **P** **10 18 04.2 +1.7**
comp=Z,4.0nm,0.9s,baz=243,slow=9.7,SNR=8.0
KMBO LR LR 10 43 00.2
comp=Z,1µm,19.6s,baz=256,slow=33
KMBO Kilima Mbogo 63.92 92 P **P** **10 18 06.5 +4.0**
KMBO Kilima Mbogo 63.92 92 IAMs_20 IAMs_20 10 42 46.6
comp=Z,1µm,19.0s
DOPR Dopca 63.94 38 ⇓P **P** **10 18 01.7 -0.1**
O51A Pataskala 64.01 315 P **P** **10 18 01.6 -0.7**
baz=113
MLR Muntele Rosu 64.06 38 P **P** **10 18 02.3 -0.4**
comp=Z,25nm,1.1s,baz=281,slow=3.2,SNR=29
MLR LR LR 10 46 54.2
comp=Z,2µm,20.5s,baz=268,slow=37
MLR Muntele Rosu 64.06 38 IAmb IAmb 10 18 07.4
comp=Z,58nm,1.3s
P51A Williamsport 64.08 314 P **P** **10 18 02.4 -0.4**
baz=112
E52A Mattawa 64.08 323 P **P** **10 18 02.1 -0.6**
baz=119
E52A S **S** **10 26 40.6 +1.4**
baz=119
Q51A Peebles 64.12 314 IAMs_20 IAMs_20 10 39 24.6
comp=Z,1µm,22.0s
N51A Ashland 64.15 316 P **P** **10 18 02.3 -0.9**
baz=113
N51A Ashland 64.15 316 IAMs_20 IAMs_20 10 40 38.5
comp=Z,1µm,20.0s
M51A Elyria 64.19 316 P **P** **10 18 02.6 -0.9**
baz=114
KWP Kalwaria Pacla 64.25 33 IAMs_20 IAMs_20 10 49 37.2
comp=Z,1µm,18.0s
ISR Istrita 64.26 39 ⇑P **P** **10 18 02.8 -1.1**
ISR Istrita 64.26 39 ⇑P **P** **10 18 02.8 -1.1**
D52A ZEK Kipawa Sen 64.27 323 P **P** **10 18 03.0 -0.9**
baz=119
D52A S **S** **10 26 40.1 -1.3**
baz=119
VLDQ Val d'Or 64.28 325 P **P** **10 18 06.4 +2.5**
W50A Signal Mountai 64.28 309 P **P** **10 18 04.2 -0.1**
W50A IAmb IAmb 10 18 12.2
comp=Z,32nm,1.1s
W50A IAMs_20 IAMs_20 10 40 26.0
comp=Z,1µm,21.0s
FPAL Fort Paine 64.31 308 IAmb IAmb 10 18 12.4
comp=Z,37nm,1.0s
ACSO Alum Creek Sta 64.31 315 P **P** **10 18 04.2 -0.1**
baz=113,SNR=6.5
ACSO Alum Creek Sta 64.31 315 IAmb IAmb 10 18 05.5
comp=Z,30nm,0.8s
ACSO IAMs_20 IAMs_20 10 42 42.7
comp=Z,1µm,19.0s
I51A Listowel 64.44 319 P **P** **10 18 03.8 -1.3**
baz=116
I51A S **S** **10 26 37.3 -6.3**
baz=116
BRAL Brewton 64.50 304 P **P** **10 18 04.6 -1.1**
baz=106
LSQQ Lebel-sur-Quev 64.50 326 P **P** **10 18 04.1 -1.2**
baz=122
T50A Nancy 64.51 311 IAmb IAmb 10 18 16.1
comp=Z,61nm,1.8s
T50A IAMs_20 IAMs_20 10 39 54.1
comp=Z,2µm,21.0s
R50A Paris 64.57 313 IAmb IAmb 10 18 13.9
comp=Z,28nm,1.1s
R50A IAMs_20 IAMs_20 10 39 37.5
comp=Z,2µm,22.0s
BURAR Bucovina Array 64.64 36 P P 10 18 18.0 +12
BURAR Bucovina Array 64.64 36 P **P** **10 18 05.9 -0.5**
F51A Arnstein 64.69 322 P **P** **10 18 05.0 -1.6**
baz=118
F51A S **S** **10 26 46.1 -0.5**
baz=118
E51A G1948 Merrick 64.71 323 P **P** **10 18 05.1 -1.6**
baz=118
E51A S **S** **10 26 47.4 +0.5**
baz=118
VRI Vrincioaia 64.72 38 ⇑P **P** **10 18 06.8 0.0**
VRI Vrincioaia 64.72 38 ⇑P **P** **10 18 06.8 0.0**
SWET Sewanee 64.77 309 IAmb IAmb 10 18 15.1
comp=Z,46nm,1.3s
SWET IAMs_20 IAMs_20 10 40 39.9
comp=Z,1µm,20.0s
M50A Fremont 64.81 316 IAMs_20 IAMs_20 10 40 58.8
comp=Z,1µm,20.0s
D51A Lot 18 Range I 64.90 323 P **P** **10 18 06.8 -1.2**
baz=118
D51A S **S** **10 26 47.6 -1.7**
baz=118
HARR Harsova 64.95 40 ⇓P **P** **10 18 07.8 -0.5**
HARR Harsova 64.95 40 ⇓P **P** **10 18 07.8 -0.5**
LRAL Lakeview Retre 64.97 306 P **P** **10 18 07.2 -1.5**
baz=106
LRAL Lakeview Retre 64.97 306 IAmb IAmb 10 18 17.5
comp=Z,63nm,1.9s
LRAL IAMs_20 IAMs_20 10 39 58.2
comp=Z,2µm,22.0s
TESR Tescani 64.97 38 ⇑P **P** **10 18 09.5 +1.0**
U49A Red Boiling Sp 65.06 310 IAmb IAmb 10 18 21.1
comp=Z,29nm,1.1s
U49A IAMs_20 IAMs_20 10 40 19.6
comp=Z,2µm,21.0s
K50A Casco 65.07 318 IAMs_20 IAMs_20 10 40 19.6
comp=Z,1µm,20.0s
LVV L'vov 65.08 34 *e*P **P** **10 18 08.3 -0.8**
LVV *e* 10 18 44.1
LVV *e* 10 20 35.3
LVV *e*S **S** **10 26 44.5 -6.8**
LVV *e* 10 27 08.1
LVV *e* 10 31 01.1
EIL Elat 65.10 58 P **P** **10 18 08.6 -1.1**
comp=Z,6.3nm,1.0s,baz=267,slow=5.5,SNR=4.8
TIRR Tirgusor 65.16 40 P **P** **10 18 09.5 -0.2**
TIRR pmax pmax
comp=Z,32nm,1.5s
USHA Ushuaia 65.19 205 LR LR 10 42 38.4
comp=Z,2µm,19.6s,baz=64,slow=32
R49A Shelbyville 65.19 312 IAMs_20 IAMs_20 10 40 07.0
comp=Z,2µm,22.0s
D50A G1974 Best Tow 65.22 323 P **P** **10 18 09.2 -0.8**
baz=118
D50A S **S** **10 26 54.0 +0.9**
baz=118
CSS Mathiatis 65.22 52 P **P** **10 18 10.1 -0.2**
MATQ Matagami 65.23 326 P **P** **10 18 09.1 -1.0**
baz=121
CFR Carcaliu 65.29 39 P **P** **10 18 09.5 -1.1**
CFR pmax pmax
comp=Z,12nm,1.3s
P49A Miami Univ. Ec 65.29 314 P **P** **10 18 09.6 -1.1**
baz=111
P49A Miami Univ. Ec 65.29 314 IAMs_20 IAMs_20 10 40 00.7
comp=Z,1µm,22.0s
X48A Harteselle 65.41 308 IAmb IAmb 10 18 20.0
comp=Z,52nm,1.8s
X48A IAMs_20 IAMs_20 10 40 16.9
comp=Z,1µm,22.0s
N49A Columbus Grove 65.42 315 IAMs_20 IAMs_20 10 43 18.0
comp=Z,1µm,19.0s
E50A Wahnapitae 65.42 322 P **P** **10 18 10.4 -1.0**
baz=117
E50A S **S** **10 26 55.3 -0.3**
baz=117
MDUB Mudurnu 65.46 45 P **P** **10 18 11.7 -0.3**
AAM Ann Arbor 65.58 317 IAMs_20 IAMs_20 10 41 25.2
comp=Z,1µm,20.0s
V48A Smith Brothers 65.62 309 IAmb IAmb 10 18 25.0
comp=Z,50nm,1.4s
V48A IAMs_20 IAMs_20 10 41 16.4
comp=Z,1µm,20.0s
I49A Point Hope 65.68 319 IAMs_20 IAMs_20 10 40 37.7
comp=Z,1µm,19.0s
P48A Milroy 65.78 313 IAMs_20 IAMs_20 10 40 14.6
comp=Z,2µm,22.0s
Z47A Carrollton 65.87 306 IAMs_20 IAMs_20 10 40 37.2
comp=Z,2µm,21.0s
F49A Sandfield 65.94 321 P **P** **10 18 13.9 -0.9**
baz=116
F49A S **S** **10 27 02.0 0.0**
baz=116
L48A N Adams 65.98 316 IAmb IAmb 10 18 22.3
comp=Z,34nm,0.9s
L48A IAMs_20 IAMs_20 10 41 16.7
comp=Z,1µm,20.0s
WCI Wyandotte Cave 66.00 312 P **P** **10 18 15.0 -0.3**
baz=109
WCI Wyandotte Cave 66.00 312 P **P** **10 18 15.9 +0.6**
WCI pmax pmax
comp=Z,20nm,1.0s
WCI Wyandotte Cave 66.00 312 P **P** **10 18 15.9 +0.6**
D49A Beulah Townshi 66.19 323 P **P** **10 18 15.7 -0.6**
baz=117
T47A Sharon Grove 66.22 310 IAmb IAmb 10 18 24.1
comp=Z,45nm,1.4s
T47A IAMs_20 IAMs_20 10 40 56.3
comp=Z,2µm,21.0s
MMAI Mount Meron Ar 66.32 54 P **P** **10 18 17.2 -0.4**
comp=Z,4.4nm,0.7s,baz=245,slow=10.0,SNR=6.1
E48A Lockeyer 66.33 322 P **P** **10 18 16.6 -0.7**
baz=116
E48A S **S** **10 27 07.8 +1.0**
baz=116

F48A Evansville 66.33 321 P **P** **10 18 16.1 -1.2**
baz=115
F48A S **S** **10 27 08.3 +1.6**
baz=115
D48A Paudash Townsh 66.42 322 P **P** **10 18 16.8 -1.0**
baz=116
D48A S **S** **10 27 08.3 +0.5**
baz=116
N47A Urbana 66.47 315 IAmb IAmb 10 18 19.1
comp=Z,32nm,1.0s
N47A IAMs_20 IAMs_20 10 45 08.8
comp=Z,1µm,18.0s
BLO Bloomington 66.48 313 IAMs_20 IAMs_20 10 40 59.2
comp=Z,2µm,22.0s
WVT Waverly 66.52 309 P **P** **10 18 17.1 -1.5**
baz=107
WVT Waverly 66.52 309 P **P** **10 18 17.7 -1.0**
WVT pmax pmax
comp=Z,21nm,1.2s
WVT Waverly 66.52 309 P **P** **10 18 17.6 -1.0**
WVT Waverly 66.52 309 IAMs_20 IAMs_20 10 41 45.2
comp=Z,2µm,21.0s
NB2 NORSAR Subarra 66.63 19 P **P** **10 18 19.0 +0.1**
comp=Z,3.8nm,0.8s,baz=223,slow=6.5
NOA NORSAR Array B 66.63 19 P **P** **10 18 19.1 +0.1**
comp=Z,1.4nm,0.8s,baz=221,slow=6.6,SNR=3.6
NOA LR LR 10 45 51.4
comp=Z,488nm,18.0s,baz=210,slow=35
J47A Sunmer 66.73 317 IAMs_20 IAMs_20 10 41 20.7
comp=Z,1µm,20.0s
BR131 Keskin Array S 66.96 47 *i* P **P** **10 18 20.8 -0.8**
BRTR Keskin Array B 66.96 47 P **P** **10 18 21.2 -0.4**
comp=Z,12nm,0.8s,baz=229,slow=5.7,SNR=37
BRTR LR LR 10 48 38.0
comp=Z,1µm,20.9s,baz=208,slow=37
BRTR Keskin Array B 66.96 47 P **P** **10 18 20.7 -0.8**
E47A Iron Bridge 67.02 321 P **P** **10 18 21.2 -0.4**
baz=115
P46A Rosedale 67.13 313 IAmb IAmb 10 18 29.7
comp=Z,45nm,1.1s
P46A IAMs_20 IAMs_20 10 41 19.3
comp=Z,2µm,21.0s
D47A Chapleau 67.16 322 P **P** **10 18 21.9 -0.7**
baz=115
D47A S **S** **10 27 16.9 +0.1**
baz=115
GLMI Grayling 67.21 319 P **P** **10 18 22.5 -0.4**
baz=113
GLMI Grayling 67.21 319 IAMs_20 IAMs_20 10 41 25.3
comp=Z,1µm,20.0s
Y45A Yeager Farm, C 67.24 307 IAMs_20 IAMs_20 10 41 08.3
comp=Z,2µm,22.0s
L46A Eue Claire 67.30 316 IAMs_20 IAMs_20 10 42 35.6
comp=Z,1µm,20.0s
W45A Hickory Valley 67.30 308 IAmb IAmb 10 18 57.9
comp=Z,36nm,0.9s
OXF Oxford 67.30 307 P **P** **10 18 22.3 -1.3**
baz=106
SFIN Lafayette 67.30 314 P **P** **10 18 23.0 -0.6**
baz=110
SFIN S **S** **10 27 17.7 -0.9**
baz=110
SFIN Lafayette 67.30 314 IAmb IAmb 10 18 30.6
comp=Z,32nm,1.1s
ASF Jabal al Asfar 67.33 55 P **P** **10 18 24.1 +0.1**
comp=Z,10.0nm,1.1s,baz=156,slow=2.5,SNR=11
T45A Paducah 67.40 310 IAMs_20 IAMs_20 10 41 52.6
comp=Z,2µm,22.0s
ILGA Ilgaz 67.46 45 IAmb IAmb 10 18 29.2
comp=Z,40nm,1.4s
ILGA IAMs_20 IAMs_20 10 48 51.7
comp=Z,2µm,20.0s
OLIL Olney 67.51 312 IAMs_20 IAMs_20 10 42 01.3
comp=Z,2µm,20.0s
VBMS Vicksburg 67.62 305 P **P** **10 18 25.2 -0.5**
baz=104
D46A Sault St. Mari 67.67 321 P **P** **10 18 25.2 -0.6**
baz=114
D46A S **S** **10 27 22.9 0.0**
baz=114
GLAT Glass 67.69 309 IAMs_20 IAMs_20 10 42 51.1
comp=Z,1µm,21.0s
HICK Hickman 67.72 309 IAMs_20 IAMs_20 10 42 41.9
comp=Z,1µm,20.0s
MET Memphis--Engin 67.88 308 IAMs_20 IAMs_20 10 41 41.3
comp=Z,1µm,22.0s
HENM Henderson Moun 67.95 310 IAMs_20 IAMs_20 10 42 39.2
comp=Z,2µm,21.0s
G45A Suttons Bay 67.97 319 IAMs_20 IAMs_20 10 41 37.5
comp=Z,1µm,21.0s
I45A Fountain 67.98 318 IAMs_20 IAMs_20 10 42 39.7
comp=Z,1µm,20.0s
PENMO Penman 68.00 309 IAMs_20 IAMs_20 10 42 29.4
comp=Z,1µm,20.0s
S44A Carbondale 68.06 311 IAmb IAmb 10 18 39.9
comp=Z,29nm,1.1s
S44A IAMs_20 IAMs_20 10 42 04.1
comp=Z,2µm,21.0s
PARMO Parma 68.15 309 IAMs_20 IAMs_20 10 42 44.5
comp=Z,2µm,20.0s
O44A Mansfield 68.22 313 IAMs_20 IAMs_20 10 41 52.2
comp=Z,2µm,22.0s
Q44A Meyer Farm, Va 68.24 312 IAmb IAmb 10 18 35.7
comp=Z,27nm,1.1s
LPAR Lepanto 68.29 308 IAMs_20 IAMs_20 10 41 53.3
comp=Z,1µm,22.0s
HQIL Hanson Quary C 68.31 315 IAMs_20 IAMs_20 10 45 23.6
comp=Z,1µm,18.0s
AKASG Malin Array Be 68.42 34 P **P** **10 18 29.6 -0.8**
comp=Z,9.0nm,0.9s,baz=241,slow=6.6,SNR=35
AKASG LR LR 10 47 17.9
comp=Z,410nm,21.3s,baz=215,slow=35
AKASG Malin Array Be 68.42 34 P **P** **10 18 29.5 -0.9**
AKBB Malin Array Si 68.42 34 *ce* P **P** **10 18 29.8 -0.6**
AKBB Malin Array Si 68.42 34 IAmb IAmb 10 18 34.7
comp=Z,53nm,1.4s
X43A Marvell 68.48 307 P **P** **10 18 29.9 -1.1**
baz=104
X43A Marvell 68.48 307 IAMs_20 IAMs_20 10 41 58.1
comp=Z,1µm,22.0s
L44A Lake County Fo 68.48 316 P **P** **10 18 30.0 -0.9**
baz=110
L44A Lake County Fo 68.48 316 IAMs_20 IAMs_20 10 45 11.0
comp=Z,1µm,19.0s
HBAR Harrisburg 68.56 308 IAMs_20 IAMs_20 10 42 02.4
comp=Z,1µm,21.0s
DIKM Dikmen 68.75 45 ⇑ P **P** **10 18 31.9 -0.8**
GAZ Gaziantep 68.87 50 IAmb IAmb 10 18 57.9
comp=Z,24nm,1.0s
GAZ IAMs_20 IAMs_20 10 51 13.2
comp=Z,1µm,22.0s
HDIL Hopedale 68.95 314 P **P** **10 18 32.6 -1.3**
baz=108
HDIL Hopedale 68.95 314 IAmb IAmb 10 18 40.2
comp=Z,35nm,1.1s
HDIL IAMs_20 IAMs_20 10 42 02.4
comp=Z,2µm,22.0s
K43A Burlington 68.95 316 IAMs_20 IAMs_20 10 43 36.4
comp=Z,1µm,20.0s
CCAR Cane Creek 69.05 306 IAMs_20 IAMs_20 10 42 25.2
comp=Z,2µm,22.0s
LCAR Lake Charles 69.09 308 IAMs_20 IAMs_20 10 42 18.2
comp=Z,1µm,22.0s
H43A Windswept, Lux 69.17 318 IAMs_20 IAMs_20 10 43 15.1
comp=Z,1µm,20.0s
T42A Van Buren 69.29 309 IAmb IAmb 10 18 42.2
comp=Z,57nm,1.9s
T42A IAMs_20 IAMs_20 10 43 29.5
comp=Z,2µm,20.0s
E43A Lone Tree Farm 69.34 320 IAMs_20 IAMs_20 10 42 41.7
comp=Z,1µm,21.0s
MICGM Minsk 69.51 30 *e* P **P** **10 18 37.0 -0.1**
MNK Minsk 69.51 30 *e* P **P** **10 18 37.0 -0.1**
441A DeRidder 69.52 303 IAMs_20 IAMs_20 10 44 46.9
comp=Z,2µm,21.0s
L42A Oliver, Polo 69.66 315 IAMs_20 IAMs_20 10 45 03.3
comp=Z,1µm,19.0s
CCM Cathedral Cave 69.68 310 P **P** **10 18 37.5 -1.0**
baz=106
CCM Cathedral Cave 69.68 310 P **P** **10 18 37.1 -1.4**
CCM pmax pmax
comp=Z,18nm,1.0s
CCM Cathedral Cave 69.68 310 P **P** **10 18 37.1 -1.4**
CCM Cathedral Cave 69.68 310 IAMs_20 IAMs_20 10 43 33.8
comp=Z,1µm,20.0s
UALR University of 69.71 307 IAmb IAmb 10 18 56.2
comp=Z,21nm,0.9s
W41B Gary Mavity, V 69.73 307 P **P** **10 18 37.8 -1.0**
baz=104
W41B Gary Mavity, V 69.73 307 IAmb IAmb 10 18 59.9
comp=Z,23nm,1.0s
W41B IAMs_20 IAMs_20 10 42 59.2
comp=Z,1µm,22.0s
Z41A Richland Creek 69.73 305 P **P** **10 18 38.1 -0.8**
baz=103
I42A Draeger Farm, 69.74 317 IAmb IAmb 10 18 45.7
comp=Z,39nm,1.0s
I42A IAMs_20 IAMs_20 10 43 31.4
comp=Z,1µm,20.0s
WHAR Wooly Hollow 69.79 307 IAMs_20 IAMs_20 10 43 01.8
comp=Z,1µm,22.0s
F42A Maple Grove Fa 69.86 319 IAMs_20 IAMs_20 10 43 06.4
comp=Z,1µm,20.0s
X40A Basin Creek Fa 70.03 306 P **P** **10 18 39.7 -1.1**
baz=103
X40A Basin Creek Fa 70.03 306 IAMs_20 IAMs_20 10 43 07.4
comp=Z,1µm,22.0s
JFWS Jewell Farm 70.35 316 P **P** **10 18 41.1 -1.4**
baz=108
JFWS Jewell Farm 70.35 316 IAmb IAmb 10 18 49.0
comp=Z,23nm,0.9s
JFWS Jewell Farm 70.35 316 IAMs_20 IAMs_20 10 44 18.5
comp=Z,1µm,20.0s
U40A Yellville 70.49 308 P **P** **10 18 42.4 -1.2**
baz=104,SNR=7.7
U40A Yellville 70.49 308 P **P** **10 18 42.4 -1.2**
U40A IAmb IAmb 10 19 02.2
comp=Z,49nm,1.7s
R40A Maddies Statio 70.52 311 IAmb IAmb 10 18 50.2
comp=Z,70nm,2.0s
R40A IAMs_20 IAMs_20 10 44 00.1
comp=Z,2µm,21.0s
COWI Conover 70.64 319 IAMs_20 IAMs_20 10 43 29.9
comp=Z,1µm,21.0s
MIAR Mount Ida 70.64 306 P **P** **10 18 43.7 -0.8**
baz=103
MIAR Mount Ida 70.64 306 P **P** **10 18 44.2 -0.3**
MIAR pmax pmax
comp=Z,20nm,2.2s
MIAR Mount Ida 70.64 306 IAmb IAmb 10 18 51.6
comp=Z,66nm,1.9s
MIAR IAMs_20 IAMs_20 10 43 25.6
comp=Z,1µm,22.0s
L40A Anamosa 70.78 315 IAmb IAmb 10 18 51.3
comp=Z,27nm,0.9s
L40A IAMs_20 IAMs_20 10 47 52.0
comp=Z,1µm,18.0s
PMSA Palmer Station 70.89 196 LR LR 10 43 47.7
comp=Z,684nm,20.0s,baz=30,slow=31
PMSA Palmer Station 70.89 196 *eP* **P** **10 18 46.8 +1.5**
W39A Magazine 70.96 307 P **P** **10 18 46.0 -0.3**
baz=103,SNR=7.5
W39A S **S** **10 28 00.7 -1.4**
baz=103
W39A Magazine 70.96 307 IAMs_20 IAMs_20 10 43 47.8
comp=Z,1µm,22.0s
G40A Rib Lake 71.06 318 IAMs_20 IAMs_20 10 44 03.3
comp=Z,1µm,20.0s
S39A Bolivar 71.17 310 IAmb IAmb 10 18 54.3
comp=Z,60nm,1.7s
S39A IAMs_20 IAMs_20 10 45 16.5
comp=Z,1µm,20.0s
ANN Anapa 71.26 43 *eP* **P** **10 18 45.8 -2.2**
ANN *eS* **S** **10 28 03.8 -1.5**
ANN pmax pmax
comp=Z,54nm,0.9s
ANN MLR MLR
comp=Z,796nm,22.0s
HHAR Hobbs 71.32 308 IAmb IAmb 10 18 56.1
comp=Z,69nm,1.9s
HKT Hockley 71.62 301 P **P** **10 18 50.4 0.0**
HKT pmax pmax
comp=Z,85nm,1.9s
HKT Hockley 71.62 301 P **P** **10 18 50.4 0.0**
HKT IAmb IAmb 10 18 57.8
comp=Z,85nm,1.9s
HKT Hockley 71.62 301 IAMs_20 IAMs_20 10 46 29.6
comp=Z,1µm,20.0s
U38A Gravette 71.71 308 IAmb IAmb 10 18 57.6
comp=Z,94nm,1.9s
N38A Joes South For 71.89 313 IAmb IAmb 10 18 58.2
comp=Z,39nm,1.1s
SUMG Summit 72.03 356 *i* P **P** **10 18 54.0 +1.4**
comp=Z,89nm,1.1s
SUMG Summit 72.03 356 *i* P **P** **10 18 54.0 +1.4**
SUMG pmax pmax
comp=Z,89nm,1.1s
SUMG Summit 72.03 356 IAmb IAmb 10 19 00.3
comp=Z,35nm,1.1s
K38A Parkersburg 72.05 315 IAMs_20 IAMs_20 10 48 40.5
comp=Z,1µm,19.0s
X37A Clayton 72.10 306 IAmb IAmb 10 19 27.6
comp=Z,45nm,1.6s
X37A IAMs_20 IAMs_20 10 44 36.1
comp=Z,2µm,22.0s
SCIA State Center 72.17 314 P **P** **10 18 52.5 -1.0**
baz=106
SCIA State Center 72.17 314 IAMs_20 IAMs_20 10 44 00.6
comp=Z,1µm,21.0s
FINES FINESS Array B 72.33 24 P **P** **10 18 54.3 +0.2**
comp=Z,8.2nm,0.8s,baz=186,slow=3.8,SNR=15
FINES LR LR 10 46 48.7
comp=Z,1µm,21.8s,baz=231,slow=33
FIA1 FINESS Array S 72.33 24 P **P** **10 18 54.4 +0.3**
E38A The Farm, Brul 72.38 319 IAMs_20 IAMs_20 10 45 16.2
comp=Z,1µm,20.0s
TUL1 Leonard 72.71 307 P **P** **10 18 56.1 -0.8**
baz=102
TUL1 S **S** **10 28 21.7 -0.6**
baz=102
TUL1 Leonard 72.71 307 IAmb IAmb 10 19 03.8
comp=Z,43nm,1.1s
VNA2 Neumayer--Watz 72.73 173 P **P** **10 18 59.2 +2.8**
EYMN Ely 72.77 320 P **P** **10 18 56.2 -0.8**
baz=109
EYMN Ely 72.77 320 IAMs_20 IAMs_20 10 44 16.3
comp=Z,1µm,22.0s
VNA3 Neumayer Olymp 72.79 174 P **P** **10 18 58.6 +1.9**
SPMN Marine on St. 72.80 317 P **P** **10 18 56.0 -1.3**
baz=107
SPMN Marine on St. 72.80 317 IAmb IAmb 10 19 03.4
comp=Z,29nm,1.0s
SPMN IAMs_20 IAMs_20 10 45 57.3
comp=Z,1µm,20.0s
I37A Lemond, Waseca 72.87 316 IAmb IAmb 10 19 04.0
comp=Z,33nm,1.0s
I37A IAMs_20 IAMs_20 10 48 48.1
comp=Z,858nm,18.0s
435B Jarrell 73.25 302 P **P** **10 18 59.0 -1.2**
baz=99
435B Jarrell 73.25 302 IAmb IAmb 10 19 07.3
comp=Z,53nm,1.2s
435B IAMs_20 IAMs_20 10 49 27.6
comp=Z,1µm,18.0s
WHTX Lake Whitney, 73.34 303 P **P** **10 18 59.7 -1.0**
baz=100
WHTX Lake Whitney, 73.34 303 IAmb IAmb 10 19 07.6
comp=Z,72nm,1.5s
F36A Milaca 73.47 318 IAMs_20 IAMs_20 10 45 56.9
comp=Z,1µm,20.0s
T35A Sooner Cattle 73.48 308 IAmb IAmb 10 19 08.5
comp=Z,51nm,1.1s
QUOK Quay 73.49 307 IAmb IAmb 10 19 08.5
comp=Z,52nm,1.3s
N35A Tabor 73.67 312 IAmb IAmb 10 19 13.3
comp=Z,63nm,1.1s
SNAA Sanae 73.98 172 P **P** **10 19 05.0 +1.2**
SNAA Sanae 73.98 172 P **P** **10 19 05.4 +1.6**
comp=Z,7.3nm,0.9s,baz=310,slow=6.6,SNR=18
SNAA LR LR 10 45 41.4
comp=Z,334nm,18.2s,baz=359,slow=31
SNAA Sanae 73.98 172 P **P** **10 19 05.2 +1.4**
KSU1 Kansas State U 74.01 310 P **P** **10 19 03.2 -1.4**
baz=102
KSU1 Kansas State U 74.01 310 IAMs_20 IAMs_20 10 46 07.5
comp=Z,948nm,20.0s
OK029 Liberty Lake 74.01 307 IAMs_20 IAMs_20 10 45 34.6
comp=Z,1µm,22.0s
X34A Smith Ranch, M 74.10 306 IAMs_20 IAMs_20 10 45 57.0
comp=Z,1µm,21.0s
OBN Obninsk 74.30 32 *i* P **P** **10 19 05.8 0.0**
OBN *i* 10 19 24.3
OBN *i* 10 21 54.5
OBN pmax pmax
comp=Z,6.0nm,1.1s
OBN MLR MLR
comp=Z,519nm,17.0s
OBN Obninsk 74.30 32 IAMs_20 IAMs_20 10 49 40.8
comp=Z,915nm,19.0s
B35A Bob, Littlefor 74.32 320 IAMs_20 IAMs_20 10 45 14.3
comp=Z,1µm,22.0s
VORD Divnogorie 74.40 37 *eP* **P** **10 19 05.4 -1.1**
VORD pmax pmax
comp=Z,60nm,1.8s
VSR Storozhevoye 74.41 37 *eP* **P** **10 19 05.4 -1.1**
VSR pmax pmax
comp=Z,20nm,1.3s
833A Chaparral WMA, 74.45 299 P **P** **10 19 07.7 +0.4**
baz=98,SNR=7.7
833A S **SKiKP** **10 28 36.3 +2.2**
baz=98
833A Chaparral WMA, 74.45 299 IAmb IAmb 10 19 15.1
comp=Z,70nm,1.2s
L34A Svendsen Farm, 74.47 313 IAmb IAmb 10 19 16.8
comp=Z,39nm,1.1s
L34A IAMs_20 IAMs_20 10 45 35.5
comp=Z,1µm,22.0s
CROK Carrier 74.56 308 IAMs_20 IAMs_20 10 49 17.2
comp=Z,1µm,19.0s
KIV Kislovodsk 74.64 44 *eP* **P** **10 19 08.0 -0.2**
KIV *eS* **S** **10 28 44.2 +0.1**
KIV pmax pmax
comp=Z,124nm,4.2s
KIV pmax pmax
comp=Z,53nm,1.1s
KIV MLR MLR
comp=Z,821nm,18.0s
KVAR Kislovodsk Arr 74.65 44 LR LR 10 53 08.1
comp=Z,431nm,21.5s,baz=93,slow=37
LPSR Galich'ya Gora 74.72 35 *eP* **P** **10 19 07.2 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
KBZ Khabaz 74.74 45 P **P** **10 19 09.0 +0.4**
comp=Z,8.6nm,1.0s,baz=262,slow=3.6,SNR=15
KBZ LR LR 10 53 37.1
comp=Z,600nm,21.2s,baz=239,slow=37
KBZ Khabaz 74.74 45 *ce* P **P** **10 19 08.7 +0.1**
KBZ pmax pmax
comp=Z,11nm,1.0s
ONI Oni 74.87 46 P **P** **10 19 09.6 +0.1**
WMOK Wichita Mounta 74.89 306 P **P** **10 19 08.8 -1.0**
baz=100,SNR=7.2
WMOK Wichita Mounta 74.89 306 P **P** **10 19 08.7 -1.0**
WMOK pmax pmax
comp=Z,19nm,1.9s
WMOK Wichita Mounta 74.89 306 IAmb IAmb 10 19 16.5
comp=Z,59nm,1.8s
WMOK Wichita Mounta 74.89 306 IAMs_20 IAMs_20 10 46 12.0
comp=Z,1µm,22.0s
ABPO Ambohimpanom 75.04 110 P **P** **10 19 15.6 +4.5**
ABPO pmax pmax
comp=Z,69nm,1.7s
ABPO Ambohimpanom 75.04 110 P **P** **10 19 15.6 +4.5**
ABPO IAmb IAmb 10 19 16.4
comp=Z,69nm,1.7s
ABPO IAMs_20 IAMs_20 10 50 31.0
comp=Z,837nm,19.0s
ECSD EROS Data Cent 75.05 315 P **P** **10 19 09.3 -1.2**
baz=104,SNR=7.9
ECSD EROS Data Cent 75.05 315 IAMs_20 IAMs_20 10 49 49.7
comp=Z,913nm,18.0s
MOS Moscow 75.09 32 *eP* **P** **10 19 09.6 -0.8**
MOS pmax pmax
comp=Z,46nm,0.7s
MOS MLR MLR
comp=Z,700nm,19.0s
JCT Junction City 75.09 301 P **P** **10 19 10.9 -0.1**
baz=98,SNR=15
JCT Junction City 75.09 301 IAmb IAmb 10 19 18.5
comp=Z,74nm,1.2s
JCT IAMs_20 IAMs_20 10 51 05.5
comp=Z,963nm,18.0s
GOF Gofitskoye 75.16 43 ⇑ *eP* **P** **10 19 12.2 +1.1**
GOF pmax pmax
comp=Z,21nm,0.4s
ZEI Tsey 75.24 46 *eP* **P** **10 19 11.3 -0.5**
ZEI pmax pmax
comp=Z,69nm,2.1s
ABTX Abilene, Hawle 75.27 303 P **P** **10 19 11.6 -0.3**
baz=99,SNR=21
F33A 5 Mile Ranch, 75.33 317 IAMs_20 IAMs_20 10 46 35.1
comp=Z,1µm,20.0s
R32A Long Quarter, 75.48 309 IAMs_20 IAMs_20 10 47 12.6
comp=Z,1µm,20.0s
BGNE Belgrade 75.64 313 P **P** **10 19 13.2 -0.8**
baz=102
AGMN Agassiz Nation 75.67 320 P **P** **10 19 13.2 -0.7**
baz=105,SNR=11
AGMN Agassiz Nation 75.67 320 IAmb IAmb 10 19 20.5
comp=Z,26nm,0.9s
NVL N'lazarevskaya 75.76 168 *eP* P 10 19 21.6 +7.6
NVL *eSSS* SSS 10 37 01.0
NVL pmax pmax
comp=Z,9.0nm,0.7s
VRH Novokhopyorsk 75.93 37 *eP* P 10 19 05.6 -10
VRH pmax pmax
comp=Z,9.0nm,0.4s
DAG Danmarks Havn 76.00 2 *i* P **P** **10 19 18.0 +2.8**
comp=Z,13nm,0.9s
DAG Danmarks Havn 76.00 2 P **P** **10 19 15.8 +0.6**
DAG pmax pmax
comp=Z,16nm,1.4s
D32A Dogwood Acres, 76.13 319 IAMs_20 IAMs_20 10 46 49.3
comp=Z,2µm,20.0s
ULM Lac du Bonnet 76.20 322 P **P** **10 19 15.6 -1.3**
comp=Z,6.2nm,0.8s,baz=94,slow=3.5,SNR=4.7
ULM LR LR 10 46 42.3
comp=Z,2µm,21.9s,baz=106,slow=31
ULM Lac du Bonnet 76.20 322 *i* P **P** **10 19 16.3 -0.6**
K31A O'Neill 76.33 314 IAmb IAmb 10 19 30.9
comp=Z,45nm,1.2s
K31A IAMs_20 IAMs_20 10 46 56.8
comp=Z,1µm,22.0s
CBKS Cedar Bluff 76.35 310 P **P** **10 19 17.3 -0.8**
baz=100
CBKS Cedar Bluff 76.35 310 IAmb IAmb 10 19 25.2
comp=Z,49nm,1.4s
CBKS IAMs_20 IAMs_20 10 47 18.4
comp=Z,1µm,20.0s
GROC Groznyy 76.68 46 *eP* **P** **10 19 19.0 -0.8**
GROC *e* 10 19 29.9
GROC pmax pmax
comp=Z,26nm,0.4s
ARCES ARCESS Array B 76.75 17 LR LR 10 47 37.3
comp=Z,935nm,21.8s,baz=251,slow=31
SUSD Miller 76.85 316 P **P** **10 19 19.5 -1.2**
baz=102
SUSD Miller 76.85 316 IAmb IAmb 10 19 41.9
comp=Z,29nm,0.9s
AMTX Amarillo 77.27 305 P **P** **10 19 22.7 -0.7**
baz=98
AMTX Amarillo 77.27 305 IAMs_20 IAMs_20 10 47 49.0
comp=Z,2µm,22.0s
KEV Kevo 77.31 17 IAMs_20 IAMs_20 10 47 42.5
comp=Z,1µm,22.0s
FCC Fort Churchill 77.76 330 IAmb IAmb 10 19 35.0
comp=Z,52nm,1.2s
AKT Akhty 77.77 48 *eP* **P** **10 19 25.8 -0.3**
AKT *e* 10 19 36.5
AKT pmax pmax
comp=Z,23nm,1.6s
KLMR Klimovskoe 77.86 27 *eP* **P** **10 19 25.2 -0.8**
KLMR pmax pmax
comp=Z,40nm,1.4s
KLMR Klimovskoe 77.86 27 *eP* **P** **10 19 25.3 -0.8**
KLMR AMP 10 19 27.4
comp=Z,40nm,1.4s
KLMR LQ LQ 10 44 19.0
KLMR LQ LQ 10 44 19.0
KLMR LR LR 10 47 46.2
MAK Makhachkala 77.87 46 *eP* P 10 19 21.2 -5.2
MAK *e* 10 22 25.1
MAK *eS* **S** **10 29 11.4 -7.9**
MAK *eSS* **SS** **10 34 13.9 -6.1**
MAK *eSSS* SSS 10 37 35.2
MAK pmax pmax
comp=Z,151nm,1.6s
MDND Maddock 78.00 319 P **P** **10 19 26.4 -0.7**
baz=102
MDND Maddock 78.00 319 IAMs_20 IAMs_20 10 47 55.8
comp=Z,1µm,21.0s
MSTX Muleshoe 78.05 304 P **P** **10 19 27.9 +0.1**
baz=97,SNR=25

APA Apatity 78.18 20⇑ *i*P P 10 19 43.8 +16
APA *i* S **S** **10 29 29.0 +7.2**
APA pmax pmax
comp=Z,12nm,0.9s
TXAR Lajitas Array 78.29 300 P **P** **10 19 29.8 +0.5**
comp=Z,6.3nm,0.8s,baz=120,slow=6.1,SNR=59
TXAR LR LR 10 49 59.9
comp=Z,541nm,22.0s,baz=0.0,slow=33
TXAR Lajitas Array 78.29 300 P **P** **10 19 28.8 -0.5**
TMCR Tamitsa 78.45 24 *e*P **P** **10 19 27.6 -1.6**
E28A Huff 78.47 317 IAMs_20 IAMs_20 10 49 02.3
comp=Z,1μm,20.0s
KSCO Kaye Shedlock' 78.60 310 P **P** **10 19 30.9 +0.1**
baz=98
KSCO Kaye Shedlock' 78.60 310 IAMs_20 IAMs_20 10 48 39.1
comp=Z,1μm,21.0s
T25A Trinidad 79.75 307 P **P** **10 19 37.1 -0.2**
baz=97
T25A Trinidad 79.75 307 IAMs_20 IAMs_20 10 55 15.7
comp=Z,734nm,18.0s
MNTX Cornudas Mount 79.99 302 P **P** **10 19 38.1 -0.3**
baz=95,SNR=22
MNTX Cornudas Mount 79.99 302 IAMs_20 IAMs_20 10 53 28.1
comp=Z,908nm,18.0s
RSSD Black Hills 80.38 315 P **P** **10 19 40.6 0.0**
baz=98
RSSD Black Hills 80.38 315 P **P** **10 19 41.0 +0.5**
RSSD pmax pmax
comp=Z,56nm,2.0s
RSSD Black Hills 80.38 315 P **P** **10 19 41.0 +0.5**
RSSD Black Hills 80.38 315 IAMs_20 IAMs_20 10 51 29.0
comp=Z,998nm,19.0s
Q24A Divide 80.55 309 P **P** **10 19 42.1 +0.5**
baz=97,SNR=9.1
SDCO Great Sand Dun 80.69 308 P **P** **10 19 42.6 +0.2**
baz=96,SNR=22
SDCO Great Sand Dun 80.69 308 IAmb IAmb 10 19 50.8
comp=Z,47nm,1.3s
NOR Nord 80.86 1 *i*P **P** **10 19 46.5 +4.5**
NOR Nord 80.86 1 *i*P **P** **10 19 46.5 +4.5**
FFC Flin Flon 80.88 325 P **P** **10 19 42.1 -0.5**
FFC pmax pmax
comp=Z,33nm,1.2s
FFC Flin Flon 80.88 325 P **P** **10 19 42.1 -0.5**
PRGR Permogore 80.91 27 *e*P **P** **10 19 42.2 -0.4**
PRGR pmax pmax
comp=Z,33nm,1.1s
ISCO Idaho Springs 81.00 310 P **P** **10 19 44.7 +0.7**
baz=96,SNR=13
ISCO Idaho Springs 81.00 310 P **P** **10 19 45.4 +1.4**
ISCO pmax pmax
comp=Z,21nm,2.2s
ISCO Idaho Springs 81.00 310 IAmb IAmb 10 19 52.5
comp=Z,62nm,1.8s
ISCO IAMs_20 IAMs_20 10 50 29.5
comp=Z,1μm,21.0s
PHWY Pilot Hill 81.05 312 IAMs_20 IAMs_20 10 50 36.9
comp=Z,1μm,20.0s
DGMT Dagmar 81.14 319 P **P** **10 19 44.8 +0.6**
baz=99,SNR=8.5
DGMT Dagmar 81.14 319 IAmb IAmb 10 19 52.4
comp=Z,72nm,1.1s
DGMT Dagmar 81.14 319 IAMs_20 IAMs_20 10 50 15.8
comp=Z,1μm,20.0s
ANMO Albuquerque 81.18 305 *ce*P **P** **10 19 45.5 +0.6**
ANMO pmax pmax
comp=Z,19nm,1.7s
N23A Red Feather La 81.37 311 P **P** **10 19 46.3 +0.4**
baz=96,SNR=18
N23A Red Feather La 81.37 311 IAmb IAmb 10 19 54.2
comp=Z,56nm,1.3s
N23A IAMs_20 IAMs_20 10 49 53.3
comp=Z,1μm,22.0s
TVZX PASSCAL Wareho 81.48 304 P **P** **10 19 45.7 -0.5**
baz=95
Y22D IRIS PASSCAL I 81.48 304 P **P** **10 19 46.5 0.0**
baz=95
S22A 4UR Ranch, Cre 81.73 308 P **P** **10 19 48.5 +0.6**
baz=95,SNR=26
S22A 4UR Ranch, Cre 81.73 308 IAMs_20 IAMs_20 10 54 58.0
comp=Z,720nm,18.0s
K22A Casper 82.00 313 P **P** **10 19 48.6 -0.4**
baz=96
KIRV Kirov 82.05 31⇑ *e*P **P** **10 19 48.5 -0.2**
121A Cookes Peak, D 82.09 303 P **P** **10 19 49.1 -0.6**
baz=94
LAO LASA Array 82.25 317 P **P** **10 19 50.7 +0.5**
baz=97,SNR=24
LAO LASA Array 82.25 317 IAMs_20 IAMs_20 10 51 11.3
comp=Z,969nm,20.0s
RWWY Rawlins 82.40 312 IAmb IAmb 10 19 59.3
comp=Z,46nm,1.4s
SYO Syowa Base 82.42 161⇑ *e*P **P** **10 19 51.0 +0.6**
SYO Syowa Base 82.42 161⇑ *e*pP pP 10 19 53.6 -0.1
MVCO Mesa Verde 83.01 307 P **P** **10 19 55.4 +0.8**
baz=94,SNR=11
MVCO Mesa Verde 83.01 307 IAMs_20 IAMs_20 10 52 48.9
comp=Z,810nm,20.0s
O20A White River Ci 83.04 310 P **P** **10 19 54.9 +0.3**
baz=95,SNR=9.1
O20A White River Ci 83.04 310 IAmb IAmb 10 20 03.4
comp=Z,58nm,1.3s
O20A IAMs_20 IAMs_20 10 51 35.6
comp=Z,864nm,21.0s
PV15 Paradox Valley 83.08 308 IAMs_20 IAMs_20 10 54 59.7
comp=Z,1μm,21.0s
PV01 Paradox Valley 83.14 308 IAmb IAmb 10 20 03.8
comp=Z,46nm,1.4s
UOSS Minazif 83.16 65 IAMs_20 IAMs_20 10 56 13.7
comp=Z,839nm,20.0s
PV07 Paradox Valley 83.22 308 IAmb IAmb 10 20 03.8
comp=Z,50nm,1.9s
319A Douglas 83.28 301 IAmb IAmb 10 20 04.5
comp=Z,30nm,1.2s
319A IAMs_20 IAMs_20 10 55 26.4
comp=Z,861nm,19.0s
PV22 Blue Mesa, Par 83.34 309 IAmb IAmb 10 20 04.5
comp=Z,38nm,1.3s
PV22 IAMs_20 IAMs_20 10 54 48.5
comp=Z,904nm,20.0s
PV18 Skein Mesa, Pa 83.41 308 IAMs_20 IAMs_20 10 54 59.5
comp=Z,1μm,20.0s
PV16 Nyswonger Mesa 83.42 308 IAMs_20 IAMs_20 10 56 58.7
comp=Z,1μm,21.0s
PV20 West Nyswonger 83.46 308 IAMs_20 IAMs_20 10 54 59.8
comp=Z,1μm,21.0s
PV23 Carpenter Ridg 83.51 308 IAmb IAmb 10 20 05.5
comp=Z,44nm,1.1s
PV14 Lion Creek, Pa 83.51 308 IAmb IAmb 10 20 05.6
comp=Z,50nm,1.2s
PV14 IAMs_20 IAMs_20 10 56 03.1
comp=Z,1μm,20.0s
PV05 Paradox Valley 83.55 308 P **P** **10 19 57.7 +0.3**
RES Resolute Bay 83.56 346 LR LR 10 49 19.7
comp=Z,172nm,20.4s,baz=167,slow=30
W18A Petrified Fore 83.87 305 P **P** **10 19 58.4 -0.6**
baz=93
W18A Petrified Fore 83.87 305 IAMs_20 IAMs_20 10 51 50.8
comp=Z,1μm,22.0s
RLMT Red Lodge 84.21 315 P **P** **10 20 00.9 +0.4**
baz=95,SNR=17
RLMT Red Lodge 84.21 315 IAmb IAmb 10 20 08.5
comp=Z,44nm,1.2s
RLMT IAMs_20 IAMs_20 10 52 05.1
comp=Z,789nm,21.0s
BW06 Boulder Array 84.23 313 IAmb IAmb 10 20 09.2
comp=Z,59nm,1.9s
PDAR Pinedale Array 84.23 313 P **P** **10 20 00.1 -0.7**
comp=Z,3.2nm,0.9s,baz=96,slow=4.7,SNR=20
PDAR LR LR 10 51 59.5
comp=Z,2μm,22.0s,baz=122,slow=32
PDAR Pinedale Array 84.23 313 P **P** **10 19 59.6 -1.1**
TUC Tucson 84.61 302 P **P** **10 20 02.6 0.0**
baz=92
TUC Tucson 84.61 302 P **P** **10 20 03.4 +0.8**
TUC pmax pmax
comp=Z,26nm,1.2s
TUC Tucson 84.61 302 P **P** **10 20 03.4 +0.8**
TUC IAmb IAmb 10 20 10.9
comp=Z,26nm,1.1s
TUC Tucson 84.61 302 IAMs_20 IAMs_20 10 53 49.4
comp=Z,1μm,21.0s
HSIG 84.62 299 IAMs_20 IAMs_20 10 55 46.9
comp=Z,750nm,20.0s
EGMT Eagleton 84.78 318 P **P** **10 20 02.8 -0.4**
baz=94
EGMT Eagleton 84.78 318 IAmb IAmb 10 20 10.7
comp=Z,31nm,1.3s
EGMT IAMs_20 IAMs_20 10 52 41.0
comp=Z,1μm,20.0s
H17A Grant Village 85.08 314 P **P** **10 20 05.7 +0.7**
baz=94
WUAZ Wupatki 85.23 305 P **P** **10 20 06.9 +1.1**
baz=92,SNR=43
WUAZ Wupatki 85.23 305 IAMs_20 IAMs_20 10 52 34.8
comp=Z,1μm,22.0s
X16A Lo Mia Camp, P 85.24 304 IAmb IAmb 10 20 14.8
comp=Z,54nm,1.3s
IMW Indian Meadow 85.31 314 IAmb IAmb 10 20 14.2
comp=Z,42nm,1.2s
WSAR Wadi Sarin 85.33 67 P **P** **10 20 05.3 -1.1**
comp=Z,6.8nm,1.0s,baz=216,slow=13,SNR=3.9
GEYT Alibeck 85.36 52 P **P** **10 20 05.4 -0.8**
comp=Z,1.4nm,0.4s,baz=286,slow=6.9,SNR=4.0
GEYT LR LR 11 02 03.5
comp=Z,252nm,18.8s,baz=0.0,slow=38
FXWY Fox Creek 85.36 314 IAmb IAmb 10 20 14.2
comp=Z,35nm,1.2s
BOZ Bozeman (W) 85.90 315 P **P** **10 20 08.9 0.0**
baz=93
BOZ Bozeman (W) 85.90 315 P **P** **10 20 08.8 -0.1**
BOZ pmax pmax
comp=Z,34nm,1.6s
BOZ Bozeman (W) 85.90 315 P **P** **10 20 08.8 -0.1**
BOZ IAMs_20 IAMs_20 10 52 57.9
comp=Z,974nm,22.0s
U15A North Rim 86.01 306 IAmb IAmb 10 20 18.6
comp=Z,40nm,1.4s
U15A IAMs_20 IAMs_20 10 53 11.3
comp=Z,1μm,22.0s
214A Organ Pipe Nat 86.31 302 P **P** **10 20 11.8 +0.7**
baz=91,SNR=5.2
214A Organ Pipe Nat 86.31 302 IAmb IAmb 10 20 19.6
comp=Z,37nm,1.3s
214A IAMs_20 IAMs_20 10 55 13.6
comp=Z,1μm,20.0s
Y14A Wickenburg 86.52 304 IAmb IAmb 10 20 20.8
comp=Z,45nm,1.4s
DUG Dugway, Tooele 86.54 310 P **P** **10 20 12.7 +0.5**
baz=92,SNR=34
DUG Dugway, Tooele 86.54 310 P **P** **10 20 13.2 +1.0**
DUG pmax pmax
comp=Z,49nm,1.4s
DUG Dugway, Tooele 86.54 310 IAMs_20 IAMs_20 10 54 43.2
comp=Z,994nm,20.0s
DLMT Dillon 86.57 315 IAMs_20 IAMs_20 10 55 25.6
comp=Z,890nm,21.0s
ARU Arti 86.66 34 LR LR 10 59 15.0
comp=Z,516nm,21.5s,baz=260,slow=36
ARU Arti 86.66 34 *c i*P **P** **10 20 12.9 +0.7**
ARU 10 23 34.0
ARU S S 10 30 39.8 -9.2
ARU SS **SS** **10 36 35.1 +5.1**
ARU pmax pmax
comp=Z,18nm,1.6s
ARU MLR MLR
comp=Z,603nm,19.0s
ARU Arti 86.66 34 P **P** **10 20 12.1 0.0**
ARU IAmb IAmb 10 20 21.3
comp=Z,52nm,1.7s
ARU IAMs_20 IAMs_20 11 01 16.7
comp=Z,697nm,19.0s
113A Mohawk Valley, 87.14 303 IAMs_20 IAMs_20 10 57 22.4
comp=Z,919nm,20.0s
ABKAR Akbulak array 87.14 41 P **P** **10 20 14.9 +0.2**
W13A Hualapai Mount 87.27 305 IAmb IAmb 10 20 24.6
comp=Z,26nm,1.3s
W13A IAMs_20 IAMs_20 10 54 25.8
comp=Z,1μm,21.0s
PDMCI Parker Dam,Lak 87.47 304 P **P** **10 20 17.1 +0.5**
baz=91
MSO Missoula 87.55 317 P **P** **10 20 16.7 -0.2**
baz=91
MSO Missoula 87.55 317 IAmb IAmb 10 20 24.6
comp=Z,30nm,1.2s
WALA Waterton Lakes 87.59 319 IAmb IAmb 10 20 24.6
comp=Z,49nm,1.4s
JTMT Jette 87.80 318 IAmb IAmb 10 20 25.8
comp=Z,30nm,1.2s
HLID Hailey 87.82 313 P **P** **10 20 18.8 +0.5**
baz=91,SNR=26
NEE2 Needles Airpor 87.87 305 P **P** **10 20 18.8 +0.2**
baz=90
GLA Glamis 88.03 303 P **P** **10 20 19.5 +0.1**
baz=90
GLA Glamis 88.03 303 IAMs_20 IAMs_20 10 57 01.1
comp=Z,861nm,20.0s
PRN Pahroc Range 88.24 307 IAMs_20 IAMs_20 10 54 47.3
comp=Z,1μm,22.0s
GUVIX Guadalupe Vict 88.24 302 IAMs_20 IAMs_20 10 54 58.6
comp=Z,874nm,21.0s
IRM Iron Mountain 88.30 304 P **P** **10 20 21.3 +0.6**
baz=90,SNR=10.0
SHPR Sheep Range 88.32 306 IAmb IAmb 10 20 29.3
comp=Z,26nm,1.3s
SHPR IAMs_20 IAMs_20 10 54 36.5
comp=Z,878nm,20.0s
YKA Yellowknife Ar 88.33 332 P **P** **10 20 20.1 0.0**
comp=Z,4.0nm,0.9s,baz=102,slow=5.6,SNR=4.6
YKA LR LR 10 55 35.5
comp=Z,1μm,20.9s,baz=0.0,slow=33
ELK Elko 88.40 311 IAMs_20 IAMs_20 10 55 37.4
comp=Z,829nm,20.0s
BC3 Big Chuckawall 88.56 303 P **P** **10 20 21.7 -0.3**
baz=90
HRA Herat 88.62 56 IAMs_20 IAMs_20 11 01 49.5
comp=Z,847nm,19.0s
R11A Troy Canyon, C 88.66 308 P **P** **10 20 22.7 +0.3**
baz=90,SNR=11
R11A Troy Canyon, C 88.66 308 IAmb IAmb 10 20 30.6
comp=Z,23nm,1.2s
R11A IAMs_20 IAMs_20 10 55 01.5
comp=Z,791nm,21.0s
GMRC Granite Mounta 88.73 305 P **P** **10 20 23.6 +0.8**
baz=90,SNR=9.3
SWSC Sam W. Stewart 88.85 303 P **P** **10 20 23.7 +0.5**
baz=90
TUQ Turquoise Moun 88.94 305 P **P** **10 20 24.4 +0.6**
baz=90,SNR=5.2
ESJX Sierra Juarez 88.98 302 IAmb IAmb 10 20 32.7
comp=Z,31nm,1.6s
ESJX IAMs_20 IAMs_20 10 58 12.2
comp=Z,744nm,20.0s
BELC Belle Mtn. Jos 89.01 304 P **P** **10 20 24.7 +0.6**
baz=90,SNR=5.1
IKP In-Ko-Pah, Jac 89.11 302 P **P** **10 20 24.5 -0.1**
baz=90
TPNV Topopah Spring 89.20 307 P **P** **10 20 25.6 +0.6**
baz=90,SNR=20
TPNV Topopah Spring 89.20 307 IAmb IAmb 10 20 33.6
comp=Z,31nm,1.3s
TPNV IAMs_20 IAMs_20 10 55 03.7
comp=Z,980nm,21.0s
SHOC Shoshone, Teco 89.22 306 P **P** **10 20 25.3 +0.4**
baz=90
HEC Hector,Ludlow 89.28 305 P **P** **10 20 26.1 +0.7**
baz=89,SNR=5.6
MONP2 Monument Peak 89.37 303 P **P** **10 20 25.8 -0.1**
baz=89
TPFO Pinon Flats 89.39 303 P **P** **10 20 26.5 +0.6**
baz=89,SNR=6.0
XPFO Pion Flat 89.39 303 P **P** **10 20 27.2 +1.2**
XPFO IAmb IAmb 10 20 34.3
comp=Z,29nm,1.4s
XPFO Pion Flat 89.39 303 IAMs_20 IAMs_20 10 57 44.1
comp=Z,1μm,19.0s
PFO Pinyon Flats O 89.40 303 P **P** **10 20 26.2 +0.2**
baz=89
PFO Pinyon Flats O 89.40 303 *i*P **P** **10 20 26.2 +0.2**
PFO pmax pmax
comp=Z,40nm,1.4s
PFO Pinyon Flats O 89.40 303 P **P** **10 20 27.1 +1.1**
PFO IAmb IAmb 10 20 34.3
comp=Z,29nm,1.4s
PFO Pinyon Flats O 89.40 303 IAMs_20 IAMs_20 10 57 44.1
comp=Z,1μm,19.0s
BAR Barrett 89.59 303 IAMs_20 IAMs_20 10 58 28.2
comp=Z,768nm,20.0s
CCX Cicese 89.59 302 IAMs_20 IAMs_20 10 56 44.4
comp=Z,673nm,20.0s
GSC Goldstone, Bar 89.66 305 P **P** **10 20 27.7 +0.5**
baz=89,SNR=5.6
GSC Goldstone, Bar 89.66 305 IAmb IAmb 10 20 35.3
comp=Z,23nm,1.2s
FURC Furnace Creek, 89.69 306 P **P** **10 20 27.8 +0.7**
baz=89,SNR=13
NEW Newport 89.71 318 P **P** **10 20 26.5 -0.5**
baz=89
NEW Newport 89.71 318 IAMs_20 IAMs_20 10 55 17.7
comp=Z,1μm,20.0s
BBRC Big Bear Solar 89.77 304 P **P** **10 20 27.7 -0.2**
baz=89
F10A Beach Ranch, E 89.82 316 IAMs_20 IAMs_20 10 54 43.7
comp=Z,905nm,22.0s
BMO Blue Mountains 89.90 315 IAmb IAmb 10 20 36.0
comp=Z,44nm,1.3s
BMO IAMs_20 IAMs_20 10 55 25.8
comp=Z,1μm,22.0s
TJX Tijuana 89.91 302 IAMs_20 IAMs_20 10 56 53.9
comp=Z,831nm,21.0s
109C Camp Elliot, M 89.95 303 P **P** **10 20 27.5 -0.9**
baz=89
109C Camp Elliot, M 89.95 303 IAMs_20 IAMs_20 10 58 39.8
comp=Z,855nm,19.0s
MURC Murrieta 90.01 303 P **P** **10 20 28.5 -0.3**
baz=89
GRAC Grapevine Rang 90.09 307 P **P** **10 20 28.8 -0.2**
baz=89
MPMC Manual Prospec 90.21 306 P **P** **10 20 30.2 +0.4**
baz=89,SNR=5.7
LRMC Laurel Mtn Rad 90.38 305 P **P** **10 20 30.4 -0.1**
baz=89
BFSC Mount Baldy Ra 90.38 304 P **P** **10 20 29.8 -0.7**
baz=89
MAW Mawson 90.57 157 P **P** **10 20 32.0 +1.6**
comp=Z,14nm,1.2s,baz=288,slow=5.1,SNR=13
MAW LR LR 10 53 38.8
comp=Z,607nm,19.6s,baz=263,slow=31
MAW Mawson 90.57 157 P **P** **10 20 33.5 +3.0**
KVN Kaiserville 90.62 309 IAMs_20 IAMs_20 10 57 25.3
comp=Z,921nm,20.0s
EDW2 Edwards Air Fo 90.65 305 P **P** **10 20 31.9 +0.2**
baz=88,SNR=5.7
NV11 Mina Array Sit 90.68 308 IAMs_20 IAMs_20 10 56 18.9
comp=Z,782nm,22.0s
NVAR Mina Array Bea 90.80 308 P **P** **10 20 32.9 +0.3**
comp=Z,1.2nm,0.8s,baz=99,slow=6.2,SNR=9.6
NVAR LR LR 10 56 41.5
comp=Z,772nm,22.0s,baz=98,slow=33
NVAR Mina Array Bea 90.80 308 P **P** **10 20 32.6 +0.1**
PASC Pasadena Art C 90.82 304 IAMs_20 IAMs_20 10 57 20.9
comp=Z,1μm,22.0s
QSPA South Pole Qui 90.89 180 P **P** **10 20 33.2 +1.0**
D08A Wollman Farm, 90.96 317 IAMs_20 IAMs_20 10 56 35.8
comp=Z,1μm,21.0s
LHV Little Huntoon 90.96 308 IAMs_20 IAMs_20 10 56 16.3
comp=Z,966nm,22.0s
RYN Ryan 90.97 308 IAMs_20 IAMs_20 10 56 38.4
comp=Z,718nm,21.0s
ISA Isabella, Lake 91.02 306 P **P** **10 20 34.0 +0.6**
baz=88,SNR=5.6
ISA Isabella, Lake 91.02 306 IAmb IAmb 10 20 41.9
comp=Z,23nm,1.2s
G08A Pilot Rock 91.06 315 IAMs_20 IAMs_20 10 56 05.4
comp=Z,1μm,21.0s
E08A Dider Farm, El 91.08 316 IAMs_20 IAMs_20 10 57 28.9
comp=Z,1μm,20.0s
SCI2 San Clemente I 91.16 303 P **P** **10 20 34.2 +0.2**
baz=88
B08A Colville Reser 91.19 318 IAmb IAmb 10 20 41.8
comp=Z,41nm,1.9s
OSI Osito Audit: C 91.25 304 IAMs_20 IAMs_20 10 57 37.3
comp=Z,1μm,20.0s
HAWA Hanford 91.41 316 IAmb IAmb 10 20 43.7
comp=Z,30nm,1.8s
HAWA IAMs_20 IAMs_20 10 57 47.7
comp=Z,971nm,19.0s
MDPB Devils Postpil 91.44 307 IAMs_20 IAMs_20 10 57 14.0
comp=Z,1μm,22.0s
PAHR Pah Rah Range 91.59 310 IAMs_20 IAMs_20 10 58 29.0
comp=Z,724nm,21.0s
F07A Phinny Hill Vi 91.71 316 IAMs_20 IAMs_20 10 56 00.6
comp=Z,1μm,21.0s
PNTR Pine Nut 91.79 309 IAMs_20 IAMs_20 11 00 38.1
comp=Z,717nm,19.0s
VCNR Virginia City 91.82 309 IAMs_20 IAMs_20 10 59 42.9
comp=Z,709nm,19.0s
C36M Paulatuk 91.86 339 IAMs_20 IAMs_20 10 59 01.5
comp=Z,724nm,19.0s
LTY Liberty 92.14 317 IAMs_20 IAMs_20 10 59 59.0
comp=Z,739nm,19.0s
RUBR Rubicon Trail 92.22 309 IAMs_20 IAMs_20 11 00 16.6
comp=Z,732nm,20.0s
PAGB Antelope Grade 92.46 306 IAMs_20 IAMs_20 10 56 42.1
comp=Z,880nm,20.0s
F05D White Salmon 92.78 316 P **P** **10 20 40.5 -0.8**
baz=86
J05D Fort Rock, OR 92.79 313 P **P** **10 20 40.6 -1.0**
baz=86
I05D Terrebonne, OR 92.80 314 P **P** **10 20 40.0 -1.4**
baz=86
PMPB Monarch Peak 92.88 306 IAmb IAmb 10 20 50.2
comp=Z,25nm,1.1s
LON Longmire 92.96 317 IAmb IAmb 10 20 49.1
comp=Z,21nm,1.2s
B05A Bryant 93.03 318 P **P** **10 20 41.6 -0.7**
baz=85
D05A Enumclaw 93.05 317 IAMs_20 IAMs_20 10 58 29.9
comp=Z,775nm,19.0s
ORV Oroville 93.23 310 IAMs_20 IAMs_20 11 00 03.4
comp=Z,643nm,19.0s
M04C Macdoel 93.34 312 P **P** **10 20 43.0 -1.1**
baz=86
H04A Detroit Lake 93.38 315 IAMs_20 IAMs_20 10 58 21.8
comp=Z,832nm,20.0s
O03E Paynes Creek 93.42 310 P **P** **10 20 43.2 -1.2**
baz=86
J04D Umpqua Nationa 93.43 313 P **P** **10 20 43.8 -0.8**
baz=86
F04A Amboy 93.44 316 IAMs_20 IAMs_20 10 58 34.4
comp=Z,634nm,19.0s
E04D Cinebar 93.49 317 P **P** **10 20 44.3 -0.2**
baz=85
D04E Lakebay 93.58 317 P **P** **10 20 44.1 -0.7**
baz=85
I04A Tendick Farm, 93.61 314 P **P** **10 20 44.0 -1.1**
baz=85
L04D Klamath Falls 93.65 312 P **P** **10 20 44.8 -0.7**
baz=86
D03D Eldon 93.76 318 P **P** **10 20 45.4 -0.3**
baz=85
WDC Whiskeytown Da 93.96 311 IAMs_20 IAMs_20 10 59 03.5
comp=Z,788nm,20.0s
G03D McMinnville, O 94.09 315 P **P** **10 20 47.6 +0.3**
baz=85
M02C Callahan 94.13 311 P **P** **10 20 48.1 +0.4**
baz=85
O02D Mt. Diablo Mer 94.18 310 P **P** **10 20 47.8 -0.2**
baz=85
KBL Kabul 94.23 55 IAMs_20 IAMs_20 11 07 29.0
comp=Z,938nm,18.0s
I03D Drain, OR 94.29 314 P **P** **10 20 48.3 0.0**
baz=85
MCCM Marconi Confer 94.41 308 IAMs_20 IAMs_20 11 00 06.6
comp=Z,873nm,20.0s
K02D Willamette Mer 94.62 313 P **P** **10 20 49.9 0.0**
baz=84
L02E Cave Junction 94.62 312 P **P** **10 20 50.0 +0.2**
baz=85
INK Inuvik 95.44 339 P **P** **10 20 53.2 +0.3**
comp=Z,3.4nm,1.0s,baz=65,slow=4.9
INK Inuvik 95.44 339 P **P** **10 20 53.2 +0.3**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 95.44 339 IAmb IAmb 10 21 03.0
comp=Z,8.9nm,1.1s
INK IAMs_20 IAMs_20 11 01 01.9
comp=Z,1μm,20.0s
DLBC Dease Lake 96.29 329 IAmb IAmb 10 21 05.3
comp=Z,11nm,1.1s
EPYK Eagle Plains 97.20 338 P Pdif 10 21 01.6 +0.5
baz=71
NRIK Noril'sk 97.59 19 LR LR 11 06 16.8
comp=Z,512nm,18.4s,baz=296,slow=36
NRIK Noril'sk 97.59 19 *i*P Pdif 10 21 05.0 +2.3
NRIK pmax pmax
comp=Z,3.0nm,1.1s
NIL Nilore 97.78 56 IAMs_20 IAMs_20 11 10 38.6
comp=Z,817nm,18.0s
BESE Bessie Mountai 98.72 330 IAMs_20 IAMs_20 11 01 49.1
comp=Z,951nm,20.0s
KURK Kurchatov 98.99 38 *i*P Pdif 10 21 10.1 +0.7
KURK pmax pmax

comp=Z,2.0nm,1.2s
KSH Kashi 99.20 50 *e*P **Pdif 10 21 04.3 -6.5**
K27K Chicken 100.15 336 P **Pdif 10 21 14.4 +0.1**
baz=66
TOLK Toolik Lake Re 100.71 342 IAMs_20 IAMs_20 11 03 53.2
comp=Z,661nm,22.0s
DOT Dot Lake 101.11 336 IAMs_20 IAMs_20 11 04 58.2
comp=Z,682nm,19.0s
A21K Barrow 101.16 345 P **Pdif 10 21 18.2 -0.3**
baz=51
COLD Coldfoot 101.66 341 IAMs_20 IAMs_20 11 05 15.3
comp=Z,728nm,20.0s
ILAR Eielson Array 101.71 338 P **Pdif 10 21 20.2 -0.9**
comp=Z,0.3nm,0.9s,baz=52,slow=3.5,SNR=2.0
HDA Harding Lake 101.91 337 IAMs_20 IAMs_20 11 04 13.0
comp=Z,540nm,20.0s
COLA College 102.02 338 IAMs_20 IAMs_20 11 10 54.2
comp=Z,596nm,20.0s
MDM Murphy Dome 102.12 338 IAMs_20 IAMs_20 11 04 32.7
comp=Z,804nm,20.0s
DHY Denali Highway 102.70 336 IAMs_20 IAMs_20 11 05 06.2
comp=Z,517nm,19.0s
MCK McKinley 103.00 337 IAMs_20 IAMs_20 11 04 55.9
comp=Z,642nm,20.0s
RND Reindeer 103.13 337 IAMs_20 IAMs_20 11 10 18.4
comp=Z,693nm,20.0s
VNDA Vanda 103.24 182 Pdiff **Pdif 10 21 28.5 +0.8**
comp=Z,0.6nm,0.9s,baz=207,slow=6.8,SNR=2.2
TRF Thorofare Moun 103.66 337 IAMs_20 IAMs_20 11 07 52.5
comp=Z,609nm,20.0s
PPLA Purkeypile 104.69 337 IAMs_20 IAMs_20 11 07 48.6
comp=Z,811nm,19.0s
SKT Skwentna 104.92 336 IAMs_20 IAMs_20 11 07 38.8
comp=Z,566nm,19.0s
TTA Tatalina 106.11 338 IAMs_20 IAMs_20 11 06 43.1
comp=Z,543nm,21.0s
WMQ Urumqi 106.76 44 Pdif **Pdif 10 21 44.8 +0.6**
WMQ PP **PP 10 26 16.1 +6.4**
WMQ Urumqi 106.76 44 SKS **SKSdf 10 32 56.8 -10**
WMQ Urumqi 106.76 44 IAMs_20 IAMs_20 11 17 01.8
comp=Z,709nm,18.0s
RKT Rikitea 107.16 246 *e*LQ LQ 10 52 17.0
comp=Z,455nm,32.0s
RKT *e*LR LR 10 57 05.8
comp=Z,492nm,23.5s
ANM Nome 108.16 343 IAMs_20 IAMs_20 11 09 54.1
comp=Z,515nm,20.0s
BILL Bilibino 110.69 355 *i* PKIKP **PKiKP 10 26 02.5 +1.5**
BILL pmax pmax
comp=Z,3.0nm,0.8s
TAOE Nuku Hiva Isla 113.35 261 *e*LR LR 11 00 09.5
comp=Z,331nm,23.4s
SEY Seymchan 116.40 0 *i* PKIKP **PKPdf 10 26 13.5 +1.4**
SONM Songino Array 116.69 33 PKP **PKiKP 10 26 13.7 +0.5**
comp=Z,0.2nm,0.3s,baz=126,slow=2.0,SNR=1.8
MA2 Magadan 119.74 2 *i* PKIKP **PKiKP 10 26 19.9 +1.2**
MA2 pmax pmax
comp=Z,6.0nm,1.0s
TBI Tubuai 120.25 243 *e*SS SS 10 44 09.2 -4.9
comp=Z,127nm,33.5s
TBI Tubuai 120.25 243 *e*LQ LQ 10 58 10.0
comp=Z,484nm,39.2s
TBI *e*LR LR 11 03 14.7
comp=Z,457nm,25.0s
LZH Lanzhou 121.16 46 *e*PKP **PKPdf 10 26 21.0 -1.3**
LZH sPKP 10 26 26.1
LZH LR LR
comp=Z,430nm,16.8s
LZH LR LR
comp=Z,380nm,17.4s
LZH LR LR
comp=Z,480nm,19.0s
PPT2 Papeete2 121.52 250 *e*SS SS 10 44 31.4 +0.4
comp=Z,101nm,25.0s
PPT2 Papeete2 121.52 250 *e*LQ LQ 10 58 24.7
comp=Z,1μm,29.8s
PPT2 *e*LR LR 11 03 53.0
comp=Z,398nm,23.0s
CMAR Chiang Mai Arr 123.22 67 PKP **PKiKP 10 26 26.9 +0.2**
comp=Z,0.6nm,0.3s,baz=282,slow=3.1,SNR=7.3
CMAR Chiang Mai Arr 123.22 67 *c* *i* PKIKP **PKiKP 10 26 28.3 +1.6**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 123.22 67 PKiKP 10 26 27.0 +0.3
HHC Hu-ho-hao-te 123.79 37 *e*PKP **PKiKP 10 26 27.9 +0.5**
HHC LR LR
comp=Z,430nm,15.2s
HHC LR LR
comp=Z,440nm,17.3s
HHC LR LR
comp=Z,610nm,18.4s
XAN Xi'an 125.80 46 smax smax
comp=N,11nm,1.3s
XAN smax smax
comp=E,13nm,0.9s
PEA0B Petropavlovsk- 126.14 357 *c* *i* PKIKP **PKiKP 10 26 31.8 +0.3**
PETK Petropavlovsk- 126.14 357 PKP **PKiKP 10 26 32.8 +1.2**
comp=E,3.0nm,0.8s,baz=64,slow=6.8,SNR=7.9
PETK Petropavlovsk- 126.14 357 PKPdf **PKiKP 10 26 33.5 +2.0**
KLR Kul'dur 126.77 18 *c* *i* PKIKP **PKPdf 10 26 31.4 -1.0**
KLR pmax pmax
comp=Z,3.0nm,1.1s
BJT Baijiatuan 127.06 36 IAMs_20 IAMs_20 11 23 43.5
comp=Z,455nm,20.0s
IPM Ipoh 127.45 84 IAMs_20 IAMs_20 11 14 45.3
comp=Z,369nm,18.0s
GYA Guiyang 127.48 55 *e*PKP PKiKP 10 26 47.1 +12
GYA sPKP 10 27 07.0
GYA LR LR
comp=Z,280nm,21.9s
ENH Enshi 128.06 50 IAMs_20 IAMs_20 11 28 36.1
comp=Z,372nm,20.0s
MDJ Mudanjiang 130.06 22 PKP **PKiKP 10 26 41.4 +1.8**
MDJ Mudanjiang 130.06 22 IAMs_20 IAMs_20 11 31 44.3
comp=Z,493nm,20.0s
MYKOM Kota Tinggi 130.43 87 IAMs_20 IAMs_20 11 18 44.3
comp=Z,486nm,20.0s
USA0B Ussuriysk Arra 131.29 20 IAMs_20 IAMs_20 11 25 47.7
comp=Z,627nm,22.0s
QIZ Qiongzhong 132.95 63 PKP **PKPdf 10 26 43.1 -1.9**
QIZ PP **PP 10 29 08.5 -1.9**
QIZ SS SS 10 46 51.0 -1.9
QIZ LR LR
comp=Z,340nm,13.7s
QIZ LR LR
comp=Z,310nm,18.8s
QIZ LR LR
comp=Z,340nm,17.3s
NJ2 Nanjing 133.80 42 *e*PKP **PKPdf 10 26 44.8 -1.4**
NJ2 LR LR
comp=Z,920nm,19.7s
NJ2 LR LR
comp=Z,650nm,16.9s
NJ2 LR LR
comp=Z,1μm,20.1s
INCN Inchon 134.57 30 IAMs_20 IAMs_20 11 34 34.8
comp=Z,512nm,20.0s
JNU Nakatsue 140.14 30 IAMs_20 IAMs_20 11 29 50.0
comp=Z,403nm,20.0s
MJB9 Matsu-Tunnel 140.24 19 IAMs_20 IAMs_20 11 30 35.6
comp=Z,562nm,22.0s
MAJO Matsushiro 140.25 19 IAMs_20 IAMs_20 11 30 35.6
comp=Z,532nm,22.0s
MJAR Matsushiro Arr 140.25 19 PKP **PKPdf 10 26 57.6 -0.5**
comp=Z,0.8nm,0.8s,baz=297,slow=3.1,SNR=6.3
MJAR Matsushiro Arr 140.25 19 PKPdf **PKiKP 10 27 00.2 -0.4**
KKM Kota Kinabalu 142.30 79 IAMs_20 IAMs_20 11 27 13.5
comp=Z,412nm,22.0s
MYLDM Lahad Datu 144.68 80 IAMs_20 IAMs_20 11 26 49.6
comp=Z,492nm,21.0s
CAN Canberra 145.44 174 PKIKP **PKPab 10 27 07.7 +0.3**
CAN Canberra 145.44 174 PKPdf **PKPab 10 27 07.7 +0.3**
KAPI Kappang 146.19 98 IAMs_20 IAMs_20 11 23 35.9
comp=Z,424nm,19.0s
STKA Stephens Creek 147.17 161 PKPbc **PKPbc 10 27 12.8 +0.3**
comp=Z,12nm,1.0s,baz=330,slow=17,SNR=10.0
FITZ Fitzroy Crossi 147.81 124 PKPbc **PKiKP 10 27 16.0 -0.6**
comp=Z,13nm,0.9s,baz=192,slow=2.4,SNR=4.3
MMRI Maumere 148.05 105 IAMs_20 IAMs_20 11 24 30.0
comp=Z,353nm,21.0s
ASAR Alice Springs 150.48 142 PKPbc **PKPbc 10 27 21.1 -0.2**
comp=Z,14nm,1.1s,baz=209,slow=1.9,SNR=14
WRA Warramunga Arr 153.40 137 PKPbc **PKPbc 10 27 27.2 -0.8**
comp=Z,1.7nm,0.8s,baz=257,slow=1.5,SNR=4.7
WRA Warramunga Arr 153.40 137 PKPbc 10 27 27.7 -0.3
DZM Mont Dzumac 155.33 210 *e*LR LR 11 19 38.8
comp=Z,613nm,22.5s

IDC ***13*** *10:10:51.6±2.2,2.2°46N×95.7°78E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/59, mbtmp3.6/7, ML3.6/2, Error ellipse: s-maj=63.9km s-min=23.3km az=55.0*

ISC 13 10:10:58.5±2.9, 2.8°N±0.3×96.3°E±0.6, h35km, n13, σ0.9s36/6, mb3.8/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**2.66**	**89**	Pn		Pn	10 11 42.8	+3.8
	1.7nm,0.3s,baz=180,slow=5.3,SNR=3.6							
CMAR	**Chiang Mai Arr**	**15.81**	**9**	Pn		**P**	**10 14 41.8**	**-0.3**
	0.2nm,0.3s,baz=191,slow=11,SNR=5.1							
H08S2	**Diego Garcia H**	**25.87**	**246**	T		T	10 42 29.7	
	baz=67,slow=75,SNR=58							
H08S3	**Diego Garcia H**	**25.88**	**246**	T		T	10 42 29.9	
	baz=67,slow=75,SNR=44							
H08S1	**Diego Garcia H**	**25.89**	**246**	T		T	10 42 31.0	
	baz=67,slow=75,SNR=46							
H01W3	**Cape Leeuwin H**	**41.04**	**157**	T		T	11 02 13.8	
	baz=332,slow=76,SNR=102							
H01W2	**Cape Leeuwin H**	**41.06**	**157**	T		T	11 02 14.7	
	baz=332,slow=76,SNR=106							
H01W1	**Cape Leeuwin H**	**41.06**	**157**	T		T	11 02 15.0	
	baz=332,slow=76,SNR=77							
WRA	**Warramunga Arr**	**43.66**	**123**	P		**P**	**10 19 00.3**	**0.0**
	0.5nm,0.8s,baz=302,slow=8.9,SNR=2.2							
ASAR	**Alice Springs**	**45.09**	**128**	P		**P**	**10 19 11.5**	**-0.1**
	0.2nm,0.5s,baz=303,slow=7.9,SNR=1.3							
MKAR	**Makanchi Array**	**45.51**	**347**	P		**P**	**10 19 14.6**	**0.0**
	0.8nm,0.7s,baz=167,slow=7.9,SNR=7.9							
SONM	**Songino Array**	**45.74**	**10**	P		**P**	**10 19 16.9**	**+0.4**
	0.6nm,0.5s,baz=195,slow=9.2,SNR=2.8							
ZALV	**Zalesovo Beam**	**51.87**	**351**	P		**P**	**10 20 03.1**	**-0.2**
	0.7nm,0.4s,baz=184,slow=12,SNR=2.2							

IDC 13 10:16:16.5±13.0, 3.1°14N×95.5°54E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/57, mbtmp3.5/3, Error ellipse: s-maj=443.2km s-min=35.3km az=68.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.47**	**123**	P		P	10 24 29.7	-0.2
	0.5nm,0.6s,baz=300,slow=8.5,SNR=2.3							
SONM	**Songino Array**	**45.50**	**10**	P		P	10 24 37.7	-0.1
	1.1nm,0.8s,baz=193,slow=4.0,SNR=4.0							
ASAR	**Alice Springs**	**45.88**	**128**	P		P	10 24 41.0	-0.1
	0.2nm,0.8s,baz=310,slow=7.2,SNR=1.3							

BUC 13 10:17:17.1±1.0, 46.1°31N×23.2°12E, h5km±7km, ml1.9/5, 10C-11D, Error ellipse: s-maj=8.7km s-min=2.7km az=127.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SIRR	**Siria**	**1.01**	**268**	↓P		Pg	10 17 35.7	-0.8
SIRR				↑S		Sb	10 17 50.8	0.0
SIRR	**Siria**	**1.01**	**268**	↓P		Pg	10 17 35.7	-0.8
SIRR				↑S		Sb	10 17 50.8	0.0
BZS	**Buzias**	**1.26**	**237**	↓P		Pg	10 17 40.3	-0.9
BZS				↑S		Sn	10 17 58.8	+0.2
BZS	**Buzias**	**1.26**	**237**	↓P		Pg	10 17 40.3	-0.9
BZS				↑S		Sn	10 17 58.8	+0.2
HERR	**Herculane**	**1.51**	**199**	↓P		Pn	10 17 44.2	-0.6
HERR				↑S		Sg	10 18 05.7	+0.1
HERR	**Herculane**	**1.51**	**199**	↓P		Pn	10 17 44.2	-0.6
HERR				↑S		Sg	10 18 05.7	+0.1
MDVR	**Moldovita**	**1.82**	**213**	↓P		Pn	10 17 49.9	+0.9
MDVR				↑S		Sb	10 18 13.4	-0.6
MDVR	**Moldovita**	**1.82**	**213**	↓P		Pn	10 17 49.9	+0.9
MDVR				↑S		Sb	10 18 13.4	-0.6
BURAR	**Bucovina Array**	**1.94**	**47**	↓P		Pn	10 17 51.7	+0.9
BURAR				↑S		Sb	10 18 16.7	-0.9
BURAR	**Bucovina Array**	**1.94**	**47**	↓P		Pn	10 17 51.7	+0.9
BURAR				↑S		Sb	10 18 16.7	-0.9
PLOR	**Plostina**	**2.50**	**99**	↓P		Pg	10 18 05.2	+0.3

IDC ***13*** *10:21:02.8±0.7, 3.4°42S×145.6°65E, h0km, mb4.4/15, mb1 4.5/18, mb1mx4.4/33, mbtmp4.4/18, ML4.3/2, MS3.8/11, Ms1 3.8/11, ms1mx3.6/27, Error ellipse: s-maj=26.0km s-min=12.9km az=94.0*

BJI ***13*** *10:21:03.7±0.0, 3.4°43S×145.8°3E, h19km, mB5.0/23, mb4.9/36, Ms4.5/9, Ms7 4.4/4*

NEIC ***13*** *10:21:07.8±2.0, 3.4°45S±0.08°×145.7°E±0.1°, h37km±6km, mb4.8/49, Error ellipse: s-maj=18.0km s-min=11.3km az=90.0*

DJA ***13*** *10:21:12.5±0.6, 4.1°S±4.1°×144.6°E±0.1°, h51km±7km, M4.5/19, mb4.7/19, mB5.1/5, MLv4.5/2, Mw(mB)4.5/5*

ISC 13 10:21:06.8±0.5, 3.3°39S±0.06°×145.6°E±0.08, h23km, n107, σ1.9s58/98, mb4.8/45, MS4.0/11, 2C-2D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**5.01**	**280**	LR		LR	10 24 00.7	
	comp=Z,200nm,20.1s,baz=211,slow=35							
JAY	**Jayapura**	**5.01**	**280**	P		**Pn**	**10 22 19.1**	**-1.6**
GENI	**Genyem**	**5.53**	**278**	P		**Pn**	**10 22 31.3**	**+3.5**
	0.5nm72nm,1.1s							
PMG	**Port Moresby**	**6.16**	**166**	Pn		**Pn**	**10 22 36.7**	**+0.3**
	2.1nm,0.3s,baz=344,slow=19,SNR=2.0							
PMG	**Port Moresby**	**6.16**	**166**	Pn		**Pn**	**10 22 37.5**	**+1.1**
KRVT	**Keravat (AS076**	**6.43**	**98**	Pn		**Pn**	**10 22 43.4**	**+3.3**
	5.0nm,0.3s,baz=190,slow=11,SNR=1.5							
SMPI	**Sarmi**	**7.07**	**281**	P		Pb	10 23 00.2	-8.7
COEN	**Coen**	**10.78**	**193**	Pn		**Pn**	**10 23 42.0**	**+2.2**
PATS	**Pohnpei**	**16.22**	**51**	P		**P**	**10 24 55.4**	**-0.9**
CTA	**Charters Tower**	**16.61**	**178**	Pn		**Pn**	**10 24 58.1**	**-0.1**
	0.5nm,0.3s,baz=344,slow=8.9,SNR=3.3							
CTAO	**Charters Tower**	**16.61**	**178**	Pn		**Pn**	**10 24 57.8**	**-0.5**
GUMO	**Guam**	**16.89**	**357**	LR		LR	10 29 41.7	
	comp=Z,277nm,21.8s,baz=172,slow=31							
GUMO	**Guam**	**16.89**	**357**	Pn		**Pn**	**10 25 00.2**	**-1.6**
MTN	**Manton Dam**	**17.15**	**236**			**Pn**	**10 25 03.5**	**-1.7**
MTN				IAmb		IAmb	10 25 10.7	
	comp=Z,62nm,1.2s							
WB0	**Warramunga Arr**	**19.64**	**213**	P		**P**	**10 25 32.7**	**-1.3**
WB0				IAmb		IAmb	10 25 36.6	
	comp=Z,50nm,1.1s							
WR0	**Warramunga Arr**	**19.71**	**212**			**P**	**10 25 34.0**	**-0.9**
WR0				IAmb		IAmb	10 25 37.4	
	comp=Z,42nm,0.8s							
WRAB	**Tennant Creek**	**19.80**	**213**	P		**P**	**10 25 34.4**	**-1.3**
WRAB				IAmb		IAmb	10 25 38.4	
	comp=Z,56nm,1.1s							
WB2	**Warramunga Arr**	**19.80**	**213**			**P**	**10 25 35.2**	**-0.6**
WB2				IAmb		IAmb	10 25 37.2	
	comp=Z,38nm,0.9s							
WRA	**Warramunga Arr**	**19.81**	**213**	P		**P**	**10 25 34.5**	**-1.3**
	comp=Z,1.2nm,0.3s,baz=34,slow=12,SNR=57							
WRA				LR		LR	10 33 36.9	
	comp=Z,448nm,21.3s,baz=120,slow=38							
WRA	**Warramunga Arr**	**19.81**	**213**	P		**P**	**10 25 35.0**	**-0.9**
KNRA	**Kununurra**	**20.62**	**233**	P		**P**	**10 25 43.2**	**-1.5**
KNRA				IAmb		IAmb	10 25 50.4	
	comp=Z,102nm,1.4s							
SOEI	**Soe**	**22.15**	**252**	P		**P**	**10 26 06.1**	**+4.7**
	comp=Z,82nm,1.0s							
SOEI	**Soe**	**22.15**	**252**	P		**P**	**10 25 58.4**	**-3.0**
BATI	**Baumata**	**22.84**	**252**	P		**P**	**10 26 08.2**	**-0.5**
	comp=Z,46nm,0.7s,baz=84,slow=2.6,SNR=3.2							
BATI	**Baumata**	**22.84**	**252**	P		**P**	**10 26 11.1**	**+2.4**
	comp=Z,70nm,0.9s							
LUWI	**Luwuk**	**22.98**	**275**	P		**P**	**10 26 07.9**	**-2.1**
GTOI	**Gorontalo**	**22.98**	**280**	P		**P**	**10 26 12.8**	**+2.8**
	comp=Z,504nmcomp=Z,20nm,1.2s							
AS31	**Alice Springs**	**23.13**	**208**	P		**P**	**10 26 10.1**	**-1.5**
ASAR	**Alice Springs**	**23.13**	**208**	P		**P**	**10 26 10.1**	**-1.4**
	comp=Z,12nm,0.8s,baz=40,slow=7.8,SNR=117							
ASAR				S		**S**	**10 30 21.5**	**-0.4**
	comp=Z,1.7nm,1.1s,baz=24,slow=23,SNR=3.3							
ASAR				LR		LR	10 35 17.3	
	comp=Z,367nm,19.7s,baz=36,slow=37							
EDFI	**Ende, Flores**	**24.40**	**256**	P		**P**	**10 26 25.0**	**+1.1**
	comp=Z,412nmcomp=Z,13nm,1.1s							
FITZ	**Fitzroy Crossi**	**24.45**	**232**	P		**P**	**10 26 22.5**	**-1.6**
	comp=Z,22nm,1.0s,baz=39,slow=8.4,SNR=15							
FITZ	**Fitzroy Crossi**	**24.45**	**232**	P		**P**	**10 26 21.8**	**-2.4**
BNSI	**Bone**	**25.50**	**267**	P		**P**	**10 26 38.1**	**+4.4**
	comp=Z,46nm,1.1s							
SPSI	**Sidrap Palu**	**25.83**	**268**	P		**P**	**10 26 41.1**	**+4.4**
	comp=Z,1μmcomp=Z,31nm,1.4s							
ARMA	**Armidale**	**27.47**	**169**	P		**P**	**10 26 50.3**	**-1.2**
MYLDM	**Lahad Datu**	**28.42**	**287**	P		**P**	**10 27 01.0**	**+1.0**
STKA	**Stephens Creek**	**28.59**	**187**	P		**P**	**10 27 01.0**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=1.2,slow=8.6,SNR=5.5							
STKA				LR		LR	10 39 36.0	
	comp=Z,298nm,19.1s,baz=19,slow=39							
STKA	**Stephens Creek**	**28.59**	**187**	P		**P**	**10 26 59.6**	**-1.7**
FORT	**Forrest**	**31.91**	**209**	P		**P**	**10 27 30.3**	**-0.4**
FORT				IAmb		IAmb	10 27 30.4	
	comp=Z,25nm,0.9s							
MORW	**Morawa**	**37.98**	**225**	P		**P**	**10 28 21.4**	**-1.7**
MORW				IAmb		IAmb	10 28 27.6	
	comp=Z,32nm,1.4s							
JNU	**Nakatsue**	**38.91**	**340**	P		**P**	**10 28 30.4**	**-0.5**
JNU				IAmb		IAmb	10 28 36.9	
	comp=Z,26nm,1.3s							
NWAO	**Narrogin (SRO)**	**39.63**	**219**	P		**P**	**10 28 35.0**	**-1.9**
NWAO				IAmb		IAmb	10 28 36.7	
	comp=Z,34nm,1.4s							
MJAR	**Matsushiro Arr**	**40.33**	**351**	P		**P**	**10 28 40.1**	**-2.5**
	comp=Z,1.1nm,0.7s,baz=181,slow=11,SNR=5.4							
MJAR	**Matsushiro Arr**	**40.33**	**351**	IAmb		IAmb	10 28 49.0	
	comp=Z,2.2nm,1.1s							
MAJO	**Matsushiro**	**40.33**	**351**	P		**P**	**10 28 41.1**	**-1.5**
MAT	**Matsushiro**	**40.33**	**351**	P		**P**	**10 28 41.1**	**-1.5**
MJB9	**Matsu-Tunnel**	**40.33**	**351**	P		**P**	**10 28 41.1**	**-1.6**
NJ2	**Nanjing**	**43.48**	**326**	*e*P		**P**	**10 29 10.0**	**+1.6**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
KSRS	**Korea Array**	**43.85**	**340**	P		**P**	**10 29 11.2**	**-0.1**
	comp=Z,6.8nm,0.8s,baz=157,slow=9.0,SNR=30							
KSRS				LR		LR	10 46 21.2	
	comp=Z,50nm,21.1s,baz=205,slow=35							
KSAR	**Wonju Array Be**	**43.85**	**339**	P		**P**	**10 29 10.5**	**-0.8**
KS19	**Wonju Array Si**	**43.91**	**340**	P		**P**	**10 29 11.0**	**-0.8**
KS19				IAmb		IAmb	10 29 11.8	
	comp=Z,9.3nm,0.8s							
WHN	**Wuhan**	**45.07**	**321**	⇓P		**P**	**10 29 18.0**	**-3.2**
ASAJ	**Asahikawa**	**47.37**	**357**	LR		LR	10 51 04.9	
	comp=Z,21nm,18.3s,baz=168,slow=38							
SLVN	**Son La**	**47.69**	**303**	P		**P**	**10 29 41.4**	**-0.6**
SLVN				IAmb		IAmb	10 29 59.0	
	comp=Z,16nm,1.2s							
ENH	**Enshi**	**48.10**	**317**	P		**P**	**10 29 45.1**	**0.0**
ENH				IAmb		IAmb	10 29 52.2	
	comp=Z,7.9nm,0.6s							
USRK	**Ussuriysk Ar.**	**48.94**	**347**	P		**P**	**10 29 51.4**	**+0.3**
	comp=Z,4.6nm,0.7s,baz=180,slow=7.5,SNR=9.0							
KMI	**Kunming**	**50.36**	**307**	⇑P		**P**	**10 30 04.4**	**+1.8**
KMI				pP		pP	10 30 08.8	-0.3
KMI				sP		sP	10 30 11.8	+0.1
KMI				pmax		pmax		
	comp=Z,19nm,0.9s							
KMI	**Kunming**	**50.36**	**307**	P		**P**	**10 30 04.2**	**+1.6**
XAN	**Xi'an**	**50.83**	**320**	P		**P**	**10 30 05.3**	**-0.5**
XAN				pP		pP	10 30 09.6	-2.8
XAN				pmax		pmax		
	comp=Z,9.0nm,1.2s							
XAN	**Xi'an**	**50.83**	**320**	P		**P**	**10 30 04.9**	**-0.9**
XAN				IAmb		IAmb	10 30 10.4	
	comp=Z,8.4nm,1.1s							
CM31	**Chiang Mai Arr**	**50.85**	**297**	P		**P**	**10 30 07.7**	**+1.4**
CM31				IAmb		IAmb	10 30 12.6	
	comp=Z,21nm,1.3s							
CMAR	**Chiang Mai Arr**	**50.85**	**297**	P		**P**	**10 30 06.8**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=122,slow=5.8,SNR=20							
CMAR	**Chiang Mai Arr**	**50.85**	**297**	P		**P**	**10 30 07.0**	**+0.7**
BJT	**Baijiatuan**	**50.97**	**331**	P		**P**	**10 30 06.6**	**-0.1**
CHTO	**Chiang Mai**	**50.98**	**297**	P		**P**	**10 30 06.3**	**-0.9**
CHTO				IAmb		IAmb	10 30 09.1	
	comp=Z,11nm,1.2s							
CD2	**Chengdu**	**52.51**	**314**	P		**P**	**10 30 19.0**	**+0.6**
CD2				pmax		pmax		
	comp=Z,40nm,0.8s							
HHC	**Hu-ho-hao-te**	**53.92**	**328**	*e*P		**P**	**10 30 29.4**	**+0.7**
HHC				pmax		pmax		
	comp=Z,30nm,1.0s							
HHC				pmax		pmax		
	comp=Z,86nm,7.1s							
LZH	**Lanzhou**	**55.37**	**319**	*e*P		**P**	**10 30 40.6**	**+1.2**
LZH				pP		pwP	10 30 49.3	+0.7
LZH				sP		sP	10 30 52.3	+3.8
LZH				*e*PP		**PP**	**10 32 45.8**	**+2.4**
LZH				pmax		pmax		
	comp=Z,24nm,1.3s							
LZH				pmax		pmax		
	comp=Z,93nm,7.8s							
LZH				LR		LR		
	comp=Z,360nm,14.9s							
LZH				LR		LR		
	comp=Z,380nm,14.6s							
LZH				LR		LR		
	comp=Z,530nm,18.0s							
HIA	**Hailar**	**57.06**	**340**	P		**P**	**10 30 51.3**	**+0.3**
PETK	**Petropavlovsk-**	**57.20**	**9**	P		**P**	**10 30 52.2**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=167,slow=7.2,SNR=6.5							
PETK	**Petropavlovsk-**	**57.20**	**9**	P		**P**	**10 30 51.7**	**-0.2**
GTA	**Gaotai**	**59.89**	**320**	⇑P		**P**	**10 31 11.8**	**+0.7**
GTA				pP		pP	10 31 17.0	-0.8
GTA				sP		pwP	10 31 20.6	+0.2
GTA				S		**S**	**10 39 20.9**	**-1.1**
GTA				pmax		pmax		
	comp=Z,9.0nm,0.8s							
GTA				pmax		pmax		
	comp=Z,71nm,7.3s							
GTA				LR		LR		
	comp=Z,76nm,18.1s							
GTA				LR		LR		
	comp=Z,63nm,19.7s							
ULN	**Ulaanbaatar**	**61.19**	**331**	P		**P**	**10 31 20.2**	**+0.3**
ULN				IAmb		IAmb	10 31 21.1	
	comp=Z,7.0nm,1.1s							
SONM	**Songino Array**	**61.48**	**331**	P		**P**	**10 31 22.3**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=153,slow=6.6,SNR=10							
SONM	**Songino Array**	**61.48**	**331**	P		**P**	**10 31 22.0**	**+0.2**
MA2	**Magadan**	**62.91**	**3**	LR		LR	10 53 35.3	
	comp=Z,32nm,21.9s,baz=222,slow=31							
YAK	**Yakutsk**	**66.38**	**352**	P		**P**	**10 31 54.0**	**+0.4**
WMQ	**Urumqi**	**69.95**	**319**	*e*P		**P**	**10 32 18.4**	**+1.9**
WMQ				sP		pwP	10 32 31.3	+5.2
WMQ				pmax		pmax		
	comp=Z,18nm,0.9s							
WMQ				LR		LR		
	comp=Z,320nm,26.7s							
WMQ				LR		LR		
	comp=Z,410nm,21.5s							
WMQ				LR		LR		
	comp=Z,860nm,21.5s							
VNDA	**Vanda**	**74.58**	**176**	P		**P**	**10 32 42.5**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=306,slow=9.3,SNR=5.2							
VNDA				LR		LR	11 04 50.4	
	comp=Z,256nm,19.8s,baz=164,slow=35							
MK31	**Makanchi Array**	**74.64**	**320**	P		**P**	**10 32 44.4**	**0.0**
MKAR	**Makanchi Array**	**74.64**	**320**	P		**P**	**10 32 44.6**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=106,slow=7.7,SNR=15							
MKAR				LR		LR	11 07 28.5	
	comp=Z,153nm,19.1s,baz=280,slow=37							
MKAR	**Makanchi Array**	**74

comp=Z,4.6nm,0.8s,baz=254,slow=5.1,SNR=42

ILAR	**Eielson Array**	**83.63**	**23**	P	**P**	**10 33 32.0**	**-1.2**
DOT	**Dot Lake**	**84.39**	**25**	P	**P**	**10 33 37.4**	**+0.3**
DOT				IAmb	IAmb	10 33 43.3	

comp=Z,12nm,1.2s

BCAR	**Beaver Creek A**	**85.19**	**26**	P	**P**	**10 33 41.5**	**+0.3**
EGAK	**Eagle**	**85.95**	**24**	P	**P**	**10 33 43.6**	**-1.2**
EGAK				IAmb	IAmb	10 33 51.3	

comp=Z,8.9nm,1.1s

QSPA	**South Pole Qui**	**86.56**	**180**	P	P	10 33 43.3	-4.7
ABKAR	**Akbulak array**	**89.74**	**319**	P	**P**	**10 34 01.7**	**-1.6**
ABKAR	**Akbulak array**	**89.74**	**319**	P	**P**	**10 34 01.5**	**-1.8**
ABKAR				IAmb	IAmb	10 34 02.3	

comp=Z,116nm,0.8s

SYO	**Syowa Base**	**92.56**	**200**	∥eX	**P**	**10 34 19.0**	**+3.0**
TORD	**Torodi Ar. Bea**	**143.09**	**287**	PKP	PKPbc	10 40 37.0	+0.2

comp=Z,0.6nm,0.7s,baz=114,slow=3.5,SNR=3.4

TORD	**Torodi Ar. Bea**	**143.09**	**287**		PKPab	10 40 35.3	-0.1
SIV	**San Ignacio**	**147.30**	**127**	PKPbc	**PKPbc**	**10 40 49.3**	**-0.3**

comp=Z,3.5nm,0.8s,baz=228,slow=3.8,SNR=7.9

*IDC **13** 10:35:43.0±1.6, 8.°04S×31.°67E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/52, mbtmp3.8/5, ML4.5/1, Error ellipse: s-maj=39.9km s-min=29.5km az=131.0*

ISC 13 10:35:44.2±1.1, 7.79S±0.10×31.78E±0.07, h10km, n10, σ2§11/17, mb3.5/4, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SINGT	**Singida**	**4.17**	**45**	*i* P		**Pn**	**10 36 49.0**	**+0.8**
SINGT				*i* S		**Sn**	**10 37 36.8**	**-0.3**
KOND	**Kondoa**	**4.90**	**55**	*i* P		**Pn**	**10 36 59.2**	**+1.0**
KOND				*i* S		**Sn**	**10 37 54.0**	**-1.1**
KIBA	**Kibaya**	**5.36**	**63**	*i* P		**Pn**	**10 37 04.9**	**+0.3**
KIBA				*i* S		**Sn**	**10 38 04.4**	**-2.1**
MBAR	**Mbarara**	**7.21**	**352**	*e*P		**Pn**	**10 37 30.9**	**+0.9**
MBAR				*e*S		**Sn**	**10 38 47.7**	**-4.3**
KIBK	**Kibwezi**	**8.26**	**49**	*i* P		**Pn**	**10 37 44.1**	**-0.1**
KIBK				*e*P		**Pn**	**10 37 44.2**	**-0.1**

baz=131

KIBK				*i* S		**Sn**	**10 39 14.6**	**-3.1**
KMBO	**Kilima Mbogo**	**8.57**	**40**	Pn		**Pn**	**10 37 51.1**	**+2.4**

4.9nm,0.3s,baz=226,slow=19,SNR=37

KMBO				Sn		**Sn**	**10 39 24.1**	**-1.6**

12nm,0.3s,baz=319,slow=19,SNR=13

KMBO				Lg		Lg	10 40 15.7	

8.6nm,0.3s,baz=128,slow=19,SNR=4.6

BOSA	**Boshof**	**21.61**	**196**	P		**P**	**10 40 31.7**	**-3.0**

1.8nm,0.7s,baz=28,slow=11,SNR=3.6

TORD	**Torodi Ar. Bea**	**36.41**	**305**	P		**P**	**10 42 50.5**	**+1.2**

0.5nm,0.7s,baz=125,slow=7.5,SNR=2.2

DBIC	**Dimbokro**	**39.26**	**290**	P		**P**	**10 43 13.2**	**-0.2**

3.2nm,0.9s,baz=112,slow=5.4,SNR=1.6

MKAR	**Makanchi Array**	**70.42**	**34**	P		**P**	**10 47 01.3**	**+2.7**

0.2nm,0.5s,baz=237,slow=4.8,SNR=2.4

*IDC **13** 10:46:34.6±1.7, 68.°64N×142.°54W, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.2/56, mbtmp3.2/4, ML2.9/3, Error ellipse: s-maj=22.5km s-min=15.0km az=158.0*
*AEIC **13** 10:46:35.1±1.8, 68.°64N±0.°05×142.°6W±0.°1, h18km±6km, ML2.5/19, Error ellipse: s-maj=7.4km s-min=5.7km az=140.0*
*NEIC **13** 10:46:36.6±1.8, 68.°62N±0.°05×142.°58W±0.°06, h28km±7km, Error ellipse: s-maj=7.2km s-min=2.4km az=162.0*

ISC 13 10:46:34.1±1.0, 68.°64N±0.°05×142.°61W±0.°04, h10km, n28, σ1§06/33, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BM03	**Burnt Mountain**	**1.44**	**212**			**Pn**	**10 47 00.0**	**-0.2**
BM03						**Sg**	**10 47 20.3**	**+0.1**
PS04	**TAPS Pump Stn4**	**2.49**	**268**			**Pn**	**10 47 15.7**	**+1.0**
TOLK	**Toolik Lake Re**	**2.55**	**273**			**Pn**	**10 47 15.9**	**+0.4**
TOLK						**Sn**	**10 47 46.4**	**-0.2**
PS01	**TAPS Pump Stn**	**2.67**	**310**			**Sn**	**10 47 50.0**	**+0.6**
COLD	**Coldfoot**	**3.20**	**247**			**Pn**	**10 47 23.6**	**-0.7**
COLD	**Coldfoot**	**3.20**	**247**			**Sn**	**10 48 02.9**	**+0.4**
EPYK	**Eagle Plains**	**3.21**	**132**			**Pn**	**10 47 24.6**	**0.0**
INK	**Inuvik**	**3.37**	**91**	Pn		**Pn**	**10 47 27.6**	**+1.0**

0.6nm,0.3s,baz=275,slow=13,SNR=28

INK				Sn		**Sn**	**10 48 06.4**	**-0.2**

0.5nm,0.3s,baz=13,slow=7.6,SNR=3.4

INK				Lg		Lg	10 48 20.8	

1.0nm,0.3s,baz=203,slow=32,SNR=4.7

INK	**Inuvik**	**3.37**	**91**			**Pn**	**10 47 27.1**	**+0.4**
INK						**Sn**	**10 48 06.9**	**+0.3**
EGAK	**Eagle**	**3.92**	**171**			**Pn**	**10 47 35.1**	**+0.8**
POKR	**Poker Plat Res**	**4.01**	**211**			**Pn**	**10 47 35.8**	**+0.2**
IL31		**4.24**	**206**			**Pn**	**10 47 39.4**	**+0.8**
ILAR	**Eielson Array**	**4.24**	**206**			**Pn**	**10 47 39.6**	**+1.0**

0.3nm,0.3s,baz=25,slow=9.4,SNR=13

ILAR				Sn		**Sn**	**10 48 29.6**	**+1.5**

0.4nm,0.3s,baz=21,slow=28,SNR=5.4

ILAR				Lg		Lg	10 48 47.4	

0.9nm,0.3s,baz=22,slow=28,SNR=6.9

ILAR	**Eielson Array**	**4.24**	**206**			**Pn**	**10 47 38.7**	**+0.1**
MDM	**Murphy Dome**	**4.31**	**214**			**Pn**	**10 47 37.8**	**-1.9**
CCB	**Clear Creek Bu**	**4.51**	**210**			**Pn**	**10 47 42.6**	**+0.2**
K27K	**Chicken**	**4.63**	**177**			**Pn**	**10 47 45.2**	**+1.1**
WRH	**Wood River Hil**	**4.72**	**210**	Pn		**Pn**	**10 47 45.5**	**+0.2**
RIDG	**Independent Ri**	**5.00**	**191**			**Pn**	**10 47 50.8**	**+1.6**
DOT	**Dot Lake**	**5.05**	**187**	Pn		**Pn**	**10 47 50.9**	**+1.1**
IMAR	**Indian Mountai**	**5.07**	**244**	Pn		**Pn**	**10 47 48.5**	**-1.5**
BWN	**Browne**	**5.26**	**215**	Pn		**Pn**	**10 47 52.7**	**0.0**
BC03		**5.61**	**176**			**Pn**	**10 47 57.7**	**+0.3**
BCAR	**Beaver Creek A**	**5.61**	**176**	Pn		**Pn**	**10 47 58.7**	**+1.2**
BPAW	**Bear Paw Mtn.**	**5.66**	**220**	Pn		**Pn**	**10 47 57.8**	**-0.5**
GLB	**Gilahina Butte**	**7.24**	**185**	Pn		**Pn**	**10 48 19.6**	**-0.4**
YKA	**Yellowknife Ar**	**13.02**	**105**	Pn		**Pn**	**10 49 36.0**	**-2.9**

0.1nm,0.3s,baz=310,slow=12,SNR=1.7

MKAR	**Makanchi Array**	**60.15**	**326**	P		**P**	**10 56 43.3**	**+1.9**

0.3nm,0.7s,baz=0.0,slow=5.8,SNR=2.4

*SOME **13** 10:51:51.8, 44.°72N×82.°00E, h15km*
*NNC **13** 10:51:53.9±1.1, 44.°72N×81.°93E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=12.5km s-min=4.0km az=121.0*

ISC 13 10:51:51.1±1.6, 44.°69N±0.°04×82.°05E±0.°07, h10km±18km, n23, σ1§69/38, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.66**	**258**	*e*P		**Pg**	**10 52 23.6**	**+0.8**

3.7nm,0.2s

DJR				*e*S		**Sg**	**10 52 46.4**	**+2.1**

12nm,0.2s

DJR	**Jarkent**	**1.66**	**258**	P		**Pg**	**10 52 23.7**	**+0.9**

12nm,0.2s

DJR				S		**Sg**	**10 52 47.3**	**+3.0**

12nm,0.2s

KTMS	**Ketmen**	**1.75**	**225**	*e*P		**Pg**	**10 52 24.7**	**+0.1**

5.4nm,0.1s

KTMS				*e*S		**Sg**	**10 52 48.4**	**+1.1**

43nm,0.3s

KTMS	**Ketmen**	**1.75**	**225**	P		**Pg**	**10 52 24.7**	**+0.1**

5.4nm,0.1s

KTMS				S		**Sg**	**10 52 48.4**	**+1.1**

43nm,0.3s

KAPS	**Kapalarasan**	**2.00**	**288**	*e*P		**Pg**	**10 52 28.7**	**-0.7**

5.9nm,0.2s

KAPS				*e*S		**Sg**	**10 52 55.5**	**+0.1**

25nm,0.4s

KAPS	**Kapalarasan**	**2.00**	**288**	Pg		**Pg**	**10 52 28.7**	**-0.7**

5.9nm,0.2s

KAPS				Lg		Lg	10 52 55.5	

25nm,0.4s

MK31	**Makanchi Array**	**2.11**	**5**	⇑Pn		**Pb**	**10 52 30.3**	**+1.0**

1.4nm,0.4s,baz=185,slow=15,SNR=484

MK31				⇑Sn		**Sg**	**10 52 57.8**	**-1.0**

4.3nm,0.3s,baz=190,slow=28,SNR=21

MAKZ	**Makanchi**	**2.12**	**359**	⇑Pn		**Pb**	**10 52 30.0**	**+0.5**

4.1nm,0.6s

MAKZ				⇓Sn		**Sg**	**10 52 58.3**	**-0.7**

8.2nm,0.3s

PDGK	**Podgornoye**	**2.29**	**234**	Pg		**Pb**	**10 52 33.7**	**+1.1**

3.8nm,0.3s

PDGK				Lg		Lg	10 53 03.8	

8.3nm,0.5s

PDGK	**Podgornoye**	**2.29**	**234**	⇓Pn		**Pb**	**10 52 32.4**	**-0.2**

3.2nm,0.4s

PDGK				⇑Sn		**Sg**	**10 53 03.5**	**-1.3**

18nm,0.8s

SHLS	**Shalkode**	**2.42**	**232**	*e*P		**Pb**	**10 52 33.1**	**-1.7**

14nm,0.3s

SHLS				*e*S		**Sb**	**10 53 03.1**	**-1.5**

59nm,0.4s

SHLS	**Shalkode**	**2.42**	**232**	Pg		**Pb**	**10 52 33.1**	**-1.7**

14nm,0.3s

SHLS				Lg		Lg	10 53 03.1	

59nm,0.4s

UZB	**Uzynbulak**	**2.68**	**236**	*e*P		**Pb**	**10 52 39.1**	**0.0**

4.1nm,0.2s

UZB				*e*S		**Sb**	**10 53 13.1**	**+1.0**

8.9nm,0.4s

UZB	**Uzynbulak**	**2.68**	**236**	Pg		**Pb**	**10 52 39.2**	**0.0**

4.1nm,0.2s

UZB				Lg		Lg	10 53 13.1	

8.9nm,0.4s

MNBS	**Baschi**	**2.69**	**258**	*e*P		**Pb**	**10 52 40.2**	**+0.9**

6.2nm,0.2s

MNBS				*e*S		**Sg**	**10 53 14.9**	**-2.4**

16nm,0.3s

MNBS	**Baschi**	**2.69**	**258**	Pg		**Pb**	**10 52 40.2**	**+0.9**

6.2nm,0.2s

MNBS				Lg		Lg	10 53 14.9	

16nm,0.3s

KPKS	**Kokpek**	**2.72**	**244**	*e*P		**Pb**	**10 52 41.1**	**+1.3**

12nm,0.3s

KPKS				*e*S		**Sg**	**10 53 16.4**	**-1.9**

31nm,0.3s

ARXS	**Arharly**	**3.06**	**262**	*e*P		**Pb**	**10 52 47.1**	**+1.5**

5.6nm,0.3s

ARXS				*e*S		**Sg**	**10 53 27.2**	**-2.2**

7.8nm,0.4s

ARXS	**Arharly**	**3.06**	**262**	Pg		**Pb**	**10 52 47.1**	**+1.5**

5.6nm,0.3s

ARXS				Lg		Lg	10 53 27.2	

7.8nm,0.4s

SATY	**Saty**	**3.10**	**239**	*e*P		**Pb**	**10 52 48.2**	**+1.9**

3.1nm,0.2s

SATY				*e*S		**Sg**	**10 53 28.6**	**-2.0**

19nm,0.5s

SATY	**Saty**	**3.10**	**239**	Pg		**Pb**	**10 52 48.2**	**+1.9**

3.1nm,0.2s

SATY				Lg		Lg	10 53 28.6	

19nm,0.5s

KTBS	**Karatobe**	**3.98**	**258**	*e*P		**Pb**	**10 53 02.8**	**+1.5**

1.6nm,0.5s

KTBS				*e*S		**Sg**	**10 53 53.8**	**-5.1**

7.0nm,0.7s

KTBS	**Karatobe**	**3.98**	**258**	Pg		**Pb**	**10 53 02.8**	**+1.5**

1.6nm,0.5s

KTBS				Lg		Lg	10 53 53.8	

7.0nm,0.7s

*IDC **13** 11:02:10.6±1.4, 0.°44N×146.°42E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/32, mbtmp3.7/7, ML3.4/1, MS3.8/2, Ms1 3.8/2, ms1mx2.9/33, Error ellipse: s-maj=49.3km s-min=21.0km az=111.0*

ISC 13 11:02:16.6±1.4, 0.°5N±0.°2×146.°2E±0.°2, h35km, n12, σ1§93/8, mb3.7/6, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.21**	**242**	Pn		**Pn**	**11 03 48.4**	**+2.5**

0.7nm,0.3s,baz=0.0,slow=17,SNR=2.0

JAY				Sn		**Sn**	**11 04 52.6**	**-3.0**

1.2nm,0.3s,baz=56,slow=11,SNR=2.1

HNR	**Honiara**	**16.88**	**126**	LR		LR	11 12 02.4	

comp=Z,114nm,21.3s,baz=186,slow=36

WRA	**Warramunga Arr**	**23.35**	**209**	P		**P**	**11 07 21.3**	**-0.8**

0.9nm,0.3s,baz=31,slow=11,SNR=33

ASAR	**Alice Springs**	**26.78**	**206**	P		**P**	**11 07 53.6**	**+0.2**

0.6nm,0.5s,baz=35,slow=7.1,SNR=10

H11S3	**WAKE ISLAND Hy**	**26.97**	**47**	T		T	11 35 58.3	

baz=229,slow=75,SNR=7.1

H11S2	**WAKE ISLAND Hy**	**26.98**	**47**	T		T	11 36 00.4	

baz=229,slow=75,SNR=3.3

H11S1	**WAKE ISLAND Hy**	**26.99**	**47**	T		T	11 35 59.8	

baz=229,slow=75,SNR=3.7

CMAR	**Chiang Mai Arr**	**49.67**	**294**	P		**P**	**11 11 06.3**	**+0.9**

0.4nm,0.4s,baz=112,slow=6.9,SNR=2.0

PETK	**Petropavlovsk-**	**53.34**	**9**	P		**P**	**11 11 32.6**	**+0.3**

0.7nm,0.7s,baz=167,slow=9.2,SNR=1.5

SONM	**Songino Array**	**58.42**	**330**	P		**P**	**11 12 08.2**	**-0.8**

0.3nm,0.5s,baz=155,slow=11,SNR=1.5

PPT	**Papeete**	**65.67**	**109**	LR		LR	11 38 49.6	

comp=Z,171nm,18.3s,baz=298,slow=34

ILAR	**Eielson Array**	**79.92**	**24**	P		**P**	**11 14 20.6**	**-1.1**

0.3nm,0.7s,baz=251,slow=5.8,SNR=4.0

BER 13 11:13:21.4±0.8, 59.°74N×10.°03E, h0km, ML0.8, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KONO	**Kongsberg**	**0.24**	**248**	*e*P		Pg	11 13 25.4	-0.5
KONO				*e*S		Sg	11 13 28.9	-0.1
KONO				IAML			11 13 29.6	

comp=Z,13nm,0.2s

NAO01	**NORSAR Array S**	**1.19**	**21**	*e*P		Pg	11 13 42.7	-1.4
NAO01				*e*S		Sg	11 13 58.0	-1.5
NAO01				IAML			11 13 59.0	

comp=Z,3.5nm,0.3s

NB201	**NORSAR Array S**	**1.46**	**25**	*e*P		Pn	11 13 47.0	-1.9
NB201				*e*S		Sg	11 14 05.6	-2.5
NB201				IAML			11 14 11.9	

comp=Z,1.3nm,0.3s

NC204	**NORSAR Array S**	**1.58**	**13**	*e*P		Pn	11 13 49.3	-1.4
NC204				*e*S		Sn	11 14 09.6	-2.4

*EST **13** 11:14:04.6±0.1, 59.°26N×27.°91E, h0km±14km, ML1.5(HEL), Explosion*

LVSN 13 11:14:06.1±0.6, 59.°26N×27.°91E, h0km±14km, ML1.5, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARBE	**Arbavere**	**1.00**	**281**	*e*P		Pg	11 14 22.0	-3.2
VSU	**Vasula**	**1.01**	**218**	*e*P		Pg	11 14 22.0	-3.3
VJF	**Virojoki**	**1.29**	**352**	*e*P		Pg	11 14 28.4	-2.5
VJF				MSG			11 14 45.8	

comp=Z,4.7nm,0.2s

VJF				*e*SB		Sg	11 14 46.0	-1.6
PVF	**Pernaja**	**1.65**	**322**	*e*PG		Pn	11 14 34.3	-2.0
PVF				*e*SG		Sn	11 14 55.6	-2.5
PVF				MSG			11 14 58.4	

comp=Z,2.9nm,0.1s

MEF	**Metsahovi**	**2.02**	**300**	*e*P		Pn	11 14 40.8	-0.6
MEF				*e*S		Sn	11 15 05.9	-1.3
MEF				AML	AML		11 15 07.1	

comp=Z,5.5nm,0.4s

MEF				AML	AML		11 15 09.2	

comp=N,8.2nm,0.3s

MEF				AML	AML		11 15 09.2	

comp=E,5.3nm,0.2s

MEF	**Metsahovi**	**2.02**	**300**	*e*PG		Pn	11 14 40.7	-0.6
MEF				*e*SB		Sn	11 15 05.7	-1.6
MEF				MSG			11 15 07.9	

comp=Z,2.4nm,0.1s

MTSE	**Matsula**	**2.19**	**257**	*e*P		Pn	11 14 42.6	-1.0
MTSE				*e*S		Sn	11 15 10.2	-1.2
MTSE	**Matsula**	**2.19**	**257**	*e*PB		Pn	11 14 42.5	-1.2
MTSE				*e*SG		Sn	11 15 10.6	-0.8
FIA0	**FINESS Array S**	**2.37**	**338**	*e*P		Pn	11 14 44.6	-1.6
FIA0				*e*SG		Sb	11 15 17.9	-1.5
FIA0				MSG			11 15 19.3	

comp=Z,1.9nm,0.1s

FIA1	**FINESS Array S**	**2.37**	**338**	*e*P		Pn	11 14 44.7	-1.5
FIA1				*e*PB		Pb	11 14 46.0	-3.6
FIA1				*e*SG		Sn	11 15 17.4	+1.4
KAF	**Kangasniemi**	**2.97**	**345**	*e*PB		Pn	11 14 56.1	+1.7
KAF				*e*SG		Sb	11 15 36.5	-0.1
KEF	**Keuruu**	**3.27**	**334**	*e*P		Pn	11 14 57.7	-0.9
KEF				*e*PB		Pb	11 15 01.8	-3.2
RAF	**Rauma**	**3.54**	**303**	*e*P		Pn	11 15 01.3	-0.9
RAF	**Rauma**	**3.54**	**303**	*e*P		Pn	11 15 01.4	-0.8

*IDC **13** 11:34:42.9±0.5, 29.°28N×142.°49E, h0km, mb4.1/19, mb1 4.3/22, mb1mx4.2/36, mbtmp4.1/22, ML3.3/4, Error ellipse: s-maj=17.3km s-min=13.0km az=86.0*
*JMA **13** 11:34:43.3±0.2, 29.°39N×142.°78E, h39km, M4.1*
*NEIC **13** 11:34:47.0±0.8, 29.°29N±0.°04×142.°5E±0.°1, h26km±4km, mb4.7/45, Error ellipse: s-maj=14.4km s-min=6.0km az=91.0*

ISC 13 11:34:46.5±0.5, 29.°34N±0.°04×142.°54E±0.°09, h24km, n99, σ1§34/114, mb4.5/38, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.25**	**188**	P		**Pn**	**11 35 20.9**	**-1.3**
CBIJ				*e*S		**Sn**	**11 35 48.2**	**-1.1**
JCJ	**Chichijima**	**2.25**	**188**	Pn		**Pn**	**11 35 20.8**	**-1.4**

10nm,0.3s,baz=12,slow=19,SNR=14

JCJ				Sn		**Sn**	**11 35 47.8**	**-1.5**

43nm,0.3s,baz=83,slow=23,SNR=16

JCJ	**Chichijima**	**2.25**	**188**			**Pn**	**11 35 21.3**	**-1.0**
JCJ						**Sn**	**11 35 48.7**	**-0.6**
JHH2	**Haha-jima-NKT2**	**2.71**	**187**	P		**Pn**	**11 35 27.5**	**-1.0**
JHJ2	**Mitsune**	**4.43**	**329**	P		**Pn**	**11 35 50.6**	**-1.5**
JHJ2	**Mitsune**	**4.43**	**329**	Pn		**Pn**	**11 35 52.0**	**-0.1**
JHJ2				Sn		**Sn**	**11 36 42.0**	**-1.0**
JHJ	**Hachijo jima 2**	**4.45**	**329**	Pn		**Pn**	**11 35 50.8**	**-1.6**

5.2nm,0.3s,baz=220,slow=24,SNR=7.2

BSO1	**Boso 1**	**5.47**	**346**	P		**Pn**	**11 36 04.2**	**-1.7**
BSO3	**Boso 3**	**5.72**	**343**	P		**Pn**	**11 36 08.2**	**-1.4**
BSO4	**Boso 4**	**5.94**	**342**	P		**Pn**	**11 36 12.9**	**+0.1**
JOD2	**Odawara 2**	**6.59**	**335**	P		**Pn**	**11 36 21.2**	**-0.7**
HMMJ	**Hamamatsu 2**	**6.85**	**325**	P		**Pn**	**11 36 25.7**	**+0.2**
JHU	**Hanno**	**7.05**	**338**	P		**Pn**	**11 36 27.4**	**-0.8**
JHU				*e*S		**Sn**	**11 37 41.8**	**-5.9**
JNY	**Yasuok**	**7.19**	**328**	P		**Pn**	**11 36 31.3**	**+1.1**
JRY	**Ryogami san**	**7.33**	**336**	P		**Pn**	**11 36 32.0**	**-0.1**
JAO	**Obara**	**7.41**	**324**	P		**Pn**	**11 36 33.8**	**+0.6**
JHO	**Hitachi**	**7.44**	**348**	P		**Pn**	**11 36 31.6**	**-1.9**
JHO				*e*S		**Sn**	**11 37 50.0**	**-7.2**
JAG	**Ashikaga**	**7.53**	**341**	P		**Pn**	**11 36 33.5**	**-1.3**
JAG				*e*S		**Sn**	**11 37 54.7**	**-4.7**
MJAR	**Matsushiro Arr**	**8.05**	**334**	Pn		**Pn**	**11 36 40.3**	**-1.7**

0.3nm,0.3s,baz=164,slow=12,SNR=27

MJAR				Sn		**Sn**	**11 38 11.4**	**-0.9**

baz=134,slow=30,SNR=1.3

MJAR	**Matsushiro Arr**	**8.05**	**334**			**Pn**	**11 36 40.0**	**-1.9**
MJAR						**Sn**	**11 38 12.7**	**+0.5**
MAJO	**Matsushiro**	**8.05**	**334**	Pn		**Pn**	**11 36 42.5**	**+0.5**
MAJO				Sn		**Sn**	**11 38 15.5**	**+3.2**
MAT	**Matsushiro**	**8.05**	**334**	P		**Pn**	**11 36 41.8**	**-0.2**
MAT				S		**Sn**	**11 38 10.8**	**-1.5**
MJB9	**Matsu-Tunnel**	**8.06**	**334**			**Pn**	**11 36 42.7**	**+0.6**
MJB9				Sn		**Sn**	**11 38 15.4**	**+3.0**
KSRS	**Korea Array**	**14.64**	**307**	Pn		**Pn**	**11 38 12.1**	**+0.1**

0.1nm,0.3s,baz=114,slow=12,SNR=2.0

MDJ	**Mudanjiang**	**18.39**	**330**			**P**	**11 38 59.7**	**0.0**
KLR	**Kul'dur**	**21.51**	**340**	P		**P**	**11 39 34.0**	**+0.5**

1.6nm,0.6s,baz=126,slow=7.4,SNR=7.7

HIA	**

comp=Z,4.5nm,0.7s
WUAZ Wupatki 85.15 52 P P 11 47 20.7 -0.4
WUAZ IAmb IAmb 11 47 23.7
comp=Z,3.6nm,1.1s
PV17 East Wray Mesa 85.26 48 P P 11 47 22.3 +0.7
PV16 Nyswonger Mesa 85.27 48 P P 11 47 21.8 +0.1
PV16 IAmb IAmb 11 47 23.6
comp=Z,3.1nm,0.7s
PV11 David Mesa, Pa 85.31 48 P P 11 47 22.8 +1.0
PV11 IAmb IAmb 11 47 23.3
comp=Z,5.2nm,0.9s
PV12 Saucer Basin, 85.34 48 P P 11 47 22.7 +0.7
PV12 IAmb IAmb 11 47 26.8
comp=Z,3.3nm,1.0s
PV13 Radium Mtn., P 85.42 49 P P 11 47 22.9 +0.4
PV13 IAmb IAmb 11 47 24.1
comp=Z,3.5nm,0.7s
PV01 Paradox Valley 85.60 48 P P 11 47 23.7 +0.4
PV01 IAmb IAmb 11 47 25.0
comp=Z,2.4nm,0.7s
TXAR Lajitas Array 94.02 53 P P 11 48 04.7 +1.6
comp=Z,0.9nm,0.8s,baz=305,slow=3.1,SNR=12
TXAR Lajitas Array 94.02 53 P 11 48 03.8 +0.8
LPAZ La Paz 149.00 72 PKPbc PKPbc 11 54 34.0 +0.2
comp=Z,1.6nm,0.8s,baz=4.0,slow=2.3,SNR=7.5
PLCA Paso Flores 150.78 122 PKPbc PKPbc 11 54 36.8 0.0
comp=Z,3.1nm,1.0s,baz=198,slow=5.8,SNR=3.4

NEIC ***13*** *11:41:32.9±1.6,24.°84N±0.°08×140.°9E±0.°1, h209km±7km, mb4.2/10, Error ellipse: s-maj=18.3km s-min=8.1km az=123.0*
IDC ***13*** *11:41:32.2±1.1,24.°71N×141.°29E, h191km±11km, mb3.1/8, mb1 3.4/12, mb1mx3.2/38, mbtmp3.8/12, Error ellipse: s-maj=22.8km s-min=13.1km az=102.0*
JMA ***13*** *11:41:36.0±0.1,25.°02N×140.°91E, h177km, M4.5*

ISC 13 11:41:32.4±0.6, 24.°85N±0.°07×140.°97E±0.°09, h200km, n43, σ1°45/50, mb3.7/14, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**2.08**	**31**	P	**Pn**	**11 42 12.7**	**+1.0**
JHH2				*e*S	**Sn**	**11 42 40.6**	**-1.8**
CBIJ	**Chichi jima**	**2.49**	**26**	P	**Pn**	**11 42 17.2**	**+1.1**
CBIJ				S	**Sn**	**11 42 49.5**	**-0.8**
JCJ	**Chichijima**	**2.49**	**26**	P	**Pn**	**11 42 17.6**	**+1.5**
	45nm,0.3s,baz=276,slow=22,SNR=24						
JCJ				S	**Sn**	**11 42 49.6**	**-0.7**
	247nm,0.3s,baz=132,slow=23,SNR=43						
JCJ	**Chichijima**	**2.49**	**26**		**Pn**	**11 42 17.6**	**+1.5**
JCJ					**Sn**	**11 42 52.0**	**+1.6**
JHJ2	**Mitsune**	**8.29**	**353**	P	**Pn**	**11 43 31.3**	**+2.0**
JHJ2	**Mitsune**	**8.29**	**353**	Pn	**Pn**	**11 43 30.2**	**+0.9**
JHJ	**Hachijo jima 2**	**8.30**	**353**	P	**Pn**	**11 43 30.8**	**+1.3**
	13nm,0.3s,baz=58,slow=22,SNR=5.8						
JHJ				S	**Sn**	**11 44 59.0**	**-3.9**
	9.0nm,0.3s,baz=72,slow=22,SNR=1.7						
BSO1	**Boso 1**	**9.77**	**0**	P	**Pn**	**11 43 48.7**	**+0.7**
JOD2	**Odawara 2**	**10.51**	**352**	P	**Pn**	**11 43 59.4**	**+1.3**
JAO	**Obara**	**10.87**	**344**	P	**Pn**	**11 44 05.8**	**+3.1**
JHU	**Hanno**	**11.06**	**353**	P	**Pn**	**11 44 04.9**	**-0.3**
JRY	**Ryogami san**	**11.27**	**351**	P	**Pn**	**11 44 09.0**	**+1.1**
JOW	**Kunigami**	**11.61**	**283**	Pn	**Pn**	**11 44 10.7**	**-1.5**
JAG	**Ashikaga**	**11.61**	**354**	P	**Pn**	**11 44 10.9**	**-1.3**
JHO	**Hitachi**	**11.73**	**358**	P	**Pn**	**11 44 12.2**	**-1.5**
JHO				*e*S	Sn	11 46 13.9	-11
MJAR	**Matsushiro Arr**	**11.89**	**349**	P	**P**	**11 44 19.2**	**-1.5**
	0.1nm,0.3s,baz=169,slow=10,SNR=4.6						
KSRS	**Korea Array**	**16.79**	**322**	P	**Pn**	**11 45 20.3**	**+4.3**
	0.4nm,0.3s,baz=133,slow=12,SNR=12						
PETK	**Petropavlovsk-**	**30.91**	**20**	P	**P**	**11 47 31.1**	**+1.0**
	0.6nm,0.8s,baz=128,slow=12,SNR=1.7						
PETK	**Petropavlovsk-**	**30.91**	**20**	P	**P**	**11 47 29.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**39.46**	**269**	P	**P**	**11 48 45.4**	**+1.9**
	0.3nm,0.3s,baz=64,slow=11,SNR=1.9						
CMAR	**Chiang Mai Arr**	**39.46**	**269**	P	**P**	**11 48 43.5**	**0.0**
WRA	**Warramunga Arr**	**44.99**	**189**	P	**P**	**11 49 27.9**	**-0.1**
	11nm,0.4s,baz=8.8,slow=8.7,SNR=176						
WRA				PcP	**PcP**	**11 51 05.8**	**+0.2**
	0.7nm,0.6s,baz=2.5,slow=3.6,SNR=4.7						
WRA	**Warramunga Arr**	**44.99**	**189**	P	**P**	**11 49 27.6**	**-0.4**
CISI	**Cisompet, Garu**	**45.62**	**229**	P	**P**	**11 49 32.9**	**-0.2**
ASAR	**Alice Springs**	**48.71**	**189**	P	**P**	**11 49 56.2**	**-0.6**
	0.4nm,0.5s,baz=19,slow=12,SNR=14						
ASAR				PcP	**PcP**	**11 51 19.1**	**+0.4**
	0.6nm,0.7s,baz=2.9,slow=2.7,SNR=4.8						
ASAR	**Alice Springs**	**48.71**	**189**	P	**P**	**11 49 56.5**	**-0.3**
MKAR	**Makanchi Array**	**51.09**	**311**	P	**P**	**11 50 17.7**	**+3.2**
	0.2nm,0.6s,baz=64,slow=6.6,SNR=1.5						
MKAR	**Makanchi Array**	**51.09**	**311**	P	**P**	**11 50 13.2**	**-1.3**
KDJ	**Kajisay**	**54.71**	**305**	P	**P**	**11 50 40.4**	**-0.8**
KDJ				IAmb	IAmb	11 50 40.8	
	comp=Z,8.1nm,0.9s						
STKA	**Stephens Creek**	**56.41**	**179**	P	**P**	**11 50 52.9**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=340,slow=7.0,SNR=5.7						
STKA	**Stephens Creek**	**56.41**	**179**		**P**	**11 50 52.6**	**-0.5**
ILAR	**Eielson Array**	**60.20**	**28**	P	**P**	**11 51 19.0**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=253,slow=5.9,SNR=6.6						
ILAR	**Eielson Array**	**60.20**	**28**	P	**P**	**11 51 18.6**	**-0.3**
RIDG	**Independent Ri**	**61.02**	**29**	P	**P**	**11 51 25.1**	**+0.6**
RIDG				IAmb	IAmb	11 51 37.4	
	comp=Z,6.0nm,1.2s						
DOT	**Dot Lake**	**61.37**	**29**	P	**P**	**11 51 27.6**	**+0.7**
DOT				IAmb	IAmb	11 51 27.9	
	comp=Z,6.0nm,1.4s						
EGAK	**Eagle**	**62.65**	**28**	P	**P**	**11 51 35.7**	**+0.4**
EGAK				IAmb	IAmb	11 51 48.2	
	comp=Z,6.3nm,1.5s						
BKZ	**Black Stump Fm**	**71.82**	**152**	P	**P**	**11 52 32.1**	**-1.1**
LTY	**Liberty**	**77.52**	**44**	P	**P**	**11 53 06.1**	**0.0**
LTY				IAmb	IAmb	11 53 23.2	
	comp=Z,7.7nm,1.5s						
NVAR	**Mina Array Bea**	**82.77**	**51**	P	**P**	**11 53 35.3**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=294,slow=5.3,SNR=6.3						
NVAR	**Mina Array Bea**	**82.77**	**51**	P	**P**	**11 53 33.7**	**-0.8**
HRY	**Holter Researc**	**83.20**	**41**	P	**P**	**11 53 36.5**	**+0.1**
PDAR	**Pinedale Array**	**86.57**	**44**	P	**P**	**11 53 53.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=255,slow=4.5,SNR=3.7						
PDAR	**Pinedale Array**	**86.57**	**44**	P	**P**	**11 53 53.1**	**-0.3**

IDC 13 12:03:26.2±1.9, 3.°25S×145.°43E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.5/36, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=100.4km s-min=30.2km az=121.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.81**	**212**	P	P	12 07 57.9	-0.7
	0.1nm,0.3s,baz=33,slow=10,SNR=9.2						
ASAR	**Alice Springs**	**23.16**	**208**	P	P	12 08 34.2	-0.3
	1.3nm,1.0s,baz=36,slow=9.8,SNR=6.2						
FITZ	**Fitzroy Crossi**	**24.37**	**231**	P	P	12 08 47.5	+1.2
	4.0nm,1.0s,baz=59,slow=12,SNR=2.1						
ILAR	**Eielson Array**	**83.59**	**24**	P	P	12 15 55.9	-0.2
	0.3nm,0.7s,baz=243,slow=4.0,SNR=3.2						

IDC ***13*** *12:16:27.4±0.9, 27.°19N×103.°37E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/50, mbtmp3.8/10, MS3.2/5, Ms1 3.3/5, ms1mx2.9/57, Error ellipse: s-maj=27.4km s-min=17.3km az=63.0*
BJI ***13*** *12:16:29.0±0.0, 27.°09N×103.°38E, h12km, mB4.3/4, mb4.3/7, ML3.9/16, Ms3.7/8, Ms7 3.4/7*
NEIC ***13*** *12:16:31.7±1.7, 27.°13N±0.°04×103.°51E±0.°08, h30km±6km, mb4.1/10, Error ellipse: s-maj=11.4km s-min=4.5km az=70.0*

ISC 13 12:16:29.5±0.6, 27.°21N±0.°05×103.°30E±0.°06, h10km, n42, σ1°39/43, mb4.0/10, MS3.1/4, 1C-2D, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.14**	**194**	⇑Pg	**Pn**	**12 17 06.5**	**+1.0**
KMI				Sg	**Sn**	**12 17 32.8**	**+0.6**
KMI				*s*max	*s*max		
	comp=N,560nm,0.9s						
KMI				*s*max	*s*max		
	comp=E,810nm,1.0s						
KMI	**Kunming**	**2.14**	**194**		**Pn**	**12 17 06.2**	**+0.7**
GYA	**Guiyang**	**3.10**	**103**	⇓Pn	**Pn**	**12 17 19.9**	**+1.3**
GYA				Pg	**Pb**	**12 17 25.8**	**+1.0**
GYA				Sn	**Sn**	**12 17 56.8**	**+1.0**
GYA				Sg	**Sb**	**12 18 05.6**	**+2.9**
GYA				*s*max	*s*max		
	comp=N,530nm,0.9s						
GYA				*s*max	*s*max		
	comp=E,610nm,0.8s						
CD2	**Chengdu**	**3.71**	**6**	Pn	Pn	12 17 32.3	+5.5
CD2				Pg	Pb	12 17 41.3	+6.2
CD2				Sg	**Sg**	**12 18 30.3**	**+1.8**
CD2				*s*max	*s*max		
	comp=N,1μm,0.7s						
CD2				*s*max	*s*max		
	comp=E,2μm,1.1s						
SLVN	**Son La**	**5.88**	**174**	Pn	Pn	12 17 53.9	-2.8
ENH	**Enshi**	**6.23**	**59**		**Pn**	**12 18 02.2**	**+0.7**
XAN	**Xi'an**	**8.35**	**34**		**Pn**	**12 18 29.9**	**-0.7**
CM31	**Chiang Mai Arr**	**9.59**	**206**	Pn	**Pn**	**12 18 46.1**	**-1.6**
CMAR	**Chiang Mai Arr**	**9.59**	**206**	Pn	**Pn**	**12 18 48.1**	**+0.4**
	baz=12,slow=14,SNR=2.0						
CMAR				Pg		12 19 28.9	
	0.2nm,0.3s,baz=4.9,slow=16,SNR=4.4						
CMAR				Lg	Lg	12 21 39.9	
	0.3nm,0.3s,baz=38,slow=23,SNR=2.2						
CMAR				LR	LR	12 22 45.9	
	comp=Z,143nm,18.2s,baz=40,slow=39						
WHN	**Wuhan**	**10.24**	**68**	⇓P	**Pn**	**12 18 57.3**	**+0.8**
WHN				S	**Sn**	**12 20 47.4**	**-4.0**
WHN				LR	LR		
	comp=Z,530nm,5.1s						
BJT	**Baijiatuan**	**16.65**	**37**	Pn	**Pn**	**12 20 19.9**	**-3.0**
BJT				IAmb	IAmb	12 20 38.9	
	comp=Z,14nm,1.5s						
YULB	**Yu-li**	**16.71**	**99**	P	**Pn**	**12 20 22.9**	**-1.0**
YULB				IAmb	IAmb	12 20 23.6	
	comp=Z,21nm,1.2s						
SONM	**Songino Array**	**20.73**	**6**	P	**P**	**12 21 10.6**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=175,slow=11,SNR=5.3						
SONM	**Songino Array**	**20.73**	**6**	P	**P**	**12 21 11.4**	**+1.2**
WMQ	**Urumqi**	**20.82**	**327**	*e*P	**P**	**12 21 12.9**	**+1.7**
ULN	**Ulaanbaatar**	**20.82**	**7**	P	**P**	**12 21 12.5**	**+1.2**
KSAR	**Wonju Array Be**	**23.08**	**58**	P	**P**	**12 21 33.1**	**-2.2**
KSRS	**Korea Array**	**23.12**	**58**	P	**P**	**12 21 34.2**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=245,slow=9.8,SNR=9.9						
KSRS				LR	LR	12 31 44.4	
	comp=Z,38nm,20.6s,baz=250,slow=40						
CN2	**Changchun**	**24.36**	**41**	*e*P	**P**	**12 21 48.0**	**+0.4**
JNU	**Nakatsue**	**24.52**	**69**	P	**P**	**12 21 48.6**	**-0.7**
	comp=Z,3.4nm,0.7s,baz=175,slow=4.4,SNR=4.1						
JNU				LR	LR	12 31 33.3	
	comp=Z,45nm,18.4s,baz=216,slow=37						
JNU	**Nakatsue**	**24.52**	**69**	P	**P**	**12 21 48.6**	**-0.7**
HIA	**Hailar**	**25.42**	**26**	P	**P**	**12 21 57.7**	**+0.5**
HIA				IAmb	IAmb	12 21 58.7	
	comp=Z,6.2nm,0.8s						
MK31	**Makanchi Array**	**25.62**	**325**	P	**P**	**12 21 58.6**	**-0.4**
MKAR	**Makanchi Array**	**25.62**	**325**	P	**P**	**12 21 59.9**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=128,slow=9.8,SNR=9.5						
MKAR	**Makanchi Array**	**25.62**	**325**	P	**P**	**12 21 59.6**	**+0.6**
USRK	**Ussuriysk Ar.**	**28.61**	**46**	P	**P**	**12 22 25.0**	**-0.9**
ZAA0	**Zalesovo Array**	**29.98**	**338**	P	**P**	**12 22 38.1**	**+0.2**
ZAA0				IAmb	IAmb	12 22 46.2	
	comp=Z,1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**29.98**	**338**	P	P	12 22 36.6	-1.4
	comp=Z,0.8nm,0.4s,baz=134,slow=8.3,SNR=2.4						
ZALV	**Zalesovo Beam**	**29.98**	**338**	P	**P**	**12 22 38.4**	**+0.4**
MJAR	**Matsushiro Arr**	**30.93**	**64**	LR	LR	12 36 16.3	
	comp=Z,43nm,18.9s,baz=200,slow=38						
ABKAR	**Akbulak array**	**39.83**	**315**	P	**P**	**12 24 04.0**	**+1.1**
KVAR	**Kislovodsk Arr**	**50.93**	**306**	LR	LR	12 53 13.4	
	comp=Z,41nm,18.5s,baz=257,slow=43						
WRA	**Warramunga Arr**	**55.70**	**144**	P	**P**	**12 26 04.8**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=332,slow=8.5,SNR=33						
WRA	**Warramunga Arr**	**55.70**	**144**	P	**P**	**12 26 04.0**	**-2.3**
ASAR	**Alice Springs**	**58.59**	**147**	P	**P**	**12 26 25.9**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=327,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**58.59**	**147**	P	**P**	**12 26 25.0**	**-1.7**
FINES	**FINESS Array B**	**60.42**	**327**	P	**P**	**12 26 38.3**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=133,slow=5.3,SNR=1.1						
FINES	**FINESS Array B**	**60.42**	**327**	P	**P**	**12 26 39.2**	**+0.3**
NOA	**NORSAR Array B**	**67.57**	**328**	P	**P**	**12 27 25.3**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=73,slow=6.2,SNR=1.8						
IMAR	**Indian Mountai**	**70.53**	**25**	P	**P**	**12 27 43.4**	**-0.8**
BPAW	**Bear Paw Mtn.**	**72.38**	**26**	P	**P**	**12 27 55.9**	**+0.5**
BCAR	**Beaver Creek A**	**76.46**	**25**	P	**P**	**12 28 19.5**	**+0.3**

KRNET ***13*** *12:22:27.5±0.1, 40.°36N×76.°98E, h26km, mb2.8*
NNC ***13*** *12:22:27.9±3.0, 40.°41N×76.°77E, h23km±21km, mb3.6, mpv3.2, Error ellipse: s-maj=21.0km s-min=15.4km az=2.0*
SOME ***13*** *12:22:29.0, 40.°53N×76.°80E, h5km*

ISC 13 12:22:23.5±2.1, 40.°29N±0.°08×76.°84E±0.°03, h3km±12km, n47, σ1°11/75, 18C-21D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.61**	**27**	⇓*i*P	**Pg**	**12 22 55.0**	**+0.7**
	baz=24						
TARG				⇓*i*S	**Sb**	**12 23 15.2**	**+0.3**
	baz=24						
KDJ	**Kajisay**	**1.85**	**8**	⇑*e*P	**Pg**	**12 23 00.1**	**+1.1**
	baz=5.0						
KDJ				⇑*e*S	**Sg**	**12 23 23.5**	**+0.5**
	baz=5.0						
ULHL	**Ulahol**	**2.00**	**347**	⇑*i*P	**Pg**	**12 23 02.7**	**+0.9**
	baz=44						
ULHL				⇑*i*S	**Sg**	**12 23 28.0**	**+0.2**
	baz=44						
KZA	**Kyzart**	**2.15**	**326**	⇑*i*P	**Pg**	**12 23 05.3**	**+0.6**
	baz=23						
KZA				⇑*i*S	**Sg**	**12 23 32.9**	**+0.3**
	baz=23						
ARLS	**Aral**	**2.47**	**310**	⇓*i*P	**Pg**	**12 23 10.3**	**-0.4**
	baz=8.0						
ARLS				⇓*i*S	**Sg**	**12 23 41.3**	**-1.4**
	baz=8.0						
PRZ	**Przheval'sk**	**2.48**	**28**	⇓*i*P	**Pb**	**12 23 08.0**	**-0.8**
	baz=27						
PRZ				⇓*i*S	**Sn**	**12 23 37.9**	**+2.0**
	baz=27						
ANVS	**Anan'yevo**	**2.56**	**14**	⇑*i*P	**Pb**	**12 23 09.7**	**-0.5**
	baz=12						
ANVS				⇑*i*S	**Sb**	**12 23 40.3**	**-1.9**
	baz=12						
UCH	**Uchtor**	**2.61**	**318**	⇓*i*P	**Pb**	**12 23 12.0**	**+0.8**
	baz=16						
UCH				⇓*i*S	**Sb**	**12 23 44.6**	**+0.8**
	baz=16						
KBK	**Karagaybulak**	**2.76**	**329**	⇓*i*P	**Pb**	**12 23 13.5**	**0.0**
	baz=27						
KBK				⇓*i*S	**Sb**	**12 23 47.1**	**-0.7**
	baz=27						
TKM2	**Tokmak 2**	**2.79**	**341**	⇑Pg	**Pb**	**12 23 13.6**	**-0.4**
	2.4nm,0.3s						
TKM2				⇑Lg	Lg	12 23 53.5	
	8.0nm,0.6s						
KST	**Kastek**	**2.83**	**347**	*e*P	**Pg**	**12 23 18.9**	**+1.3**
	2.1nm,0.4s						
KST				*e*S	**Sg**	**12 23 54.5**	**+0.3**
	6.8nm,0.3s						
KST	**Kastek**	**2.83**	**347**	Pg	**Pg**	**12 23 18.6**	**+1.0**
	3.8nm,0.2s						
KST				Lg	Lg	12 23 55.2	
	6.8nm,0.3s						
MTBS	**Maitube**	**2.85**	**354**	*e*P	**Pg**	**12 23 19.5**	**+1.4**
	2.9nm,0.3s						
MTBS				*e*S	**Sg**	**12 23 55.5**	**+0.4**
	24nm,0.4s						
MTBS	**Maitube**	**2.85**	**354**	Pg	**Pg**	**12 23 19.0**	**+0.9**
	3.8nm,0.2s						
MTBS				Lg	Lg	12 23 55.4	
	24nm,0.4s						
MDOK	**Medeo**	**2.87**	**3**	*e*P	**Pg**	**12 23 19.8**	**+1.3**
	5.5nm,0.3s						
MDOK				*e*S	**Sg**	**12 23 56.3**	**+0.6**
	18nm,0.4s						
MDOK	**Medeo**	**2.87**	**3**	Pg	**Pg**	**12 23 18.1**	**-0.4**
	4.5nm,0.6s						
MDOK				Lg	Lg	12 23 55.2	
	15nm,0.6s						
MDOK	**Medeo**	**2.87**	**3**	Pg	**Pg**	**12 23 19.2**	**+0.7**
	5.5nm,0.3s						
MDOK				Lg	Lg	12 23 56.3	
	18nm,0.4s						
AAK	**Ala-Archa**	**2.93**	**324**	⇓*i*P	**Pb**	**12 23 16.0**	**-0.5**
	baz=21						
AAK				⇓*i*S	**Sb**	**12 23 51.4**	**-1.4**
	baz=21						
AAK	**Ala-Archa**	**2.93**	**324**	⇓Pg	**Pb**	**12 23 17.7**	**+1.2**
	3.5nm,0.5s						
AAK				⇑Lg	Lg	12 23 57.0	
	16nm,0.8s						
KOTS	**Kotyrbulak**	**2.94**	**4**	*e*P	**Pg**	**12 23 21.3**	**+1.4**
	17nm,0.2s						
KOTS				*e*S	**Sg**	**12 23 59.0**	**+1.0**
	20nm,0.4s						
KOTS	**Kotyrbulak**	**2.94**	**4**	Pg	**Pg**	**12 23 21.3**	**+1.4**
	17nm,0.2s						
KOTS				Lg	Lg	12 23 59.0	
	20nm,0.4s						
SATY	**Saty**	**3.00**	**22**	*e*P	**Pg**	**12 23 22.2**	**+1.2**
	2.2nm,0.5s						
SATY				*e*S	**Sg**	**12 23 59.9**	**0.0**
	11nm,0.5s						
AML	**Almayashu**	**3.00**	**309**	⇑*i*P	**Pb**	**12 23 17.2**	**-0.6**
	baz=7.0						
AML				⇑*i*S	**Sb**	**12 23 54.3**	**-0.7**
	baz=7.0						
DGS	**Degeres**	**3.05**	**345**	*e*P	**Pg**	**12 23 23.1**	**+1.2**
	2.3nm,0.3s						
DGS				*e*S	**Sg**	**12 24 02.0**	**+0.5**
	14nm,0.6s						
DGS	**Degeres**	**3.05**	**345**	Pg	**Pg**	**12 23 23.1**	**+1.2**
	2.3nm,0.3s						
DGS				Lg	Lg	12 24 02.0	
	14nm,0.6s						
ARSB	**Arslanbob**	**3.11**	**291**	⇓*i*P	**Pb**	**12 23 19.5**	**+0.1**
	baz=89						
ARSB				⇓*i*S	**Sb**	**12 23 57.2**	**-0.6**
	baz=89						
UZB	**Uzynbulak**	**3.28**	**29**	*e*P	**Pg**	**12 23 27.2**	**+0.8**
	1.1nm,0.5s						
UZB				*e*S	**Sg**	**12 24 08.5**	**-0.5**
	5.8nm,0.6s						
EKS2	**Erkin-Say**	**3.30**	**317**	⇑*e*P	**Pb**	**12 23 21.4**	**-1.4**
	baz=15						
EKS2				⇑*i*S	**Sb**	**12 24 00.5**	**-2.9**
	baz=15						
KTBS	**Karatobe**	**3.42**	**358**	*e*P	**Pg**	**12 23 29.6**	**+0.6**
	3.0nm,0.3s						
KTBS				*e*S	**Sg**	**12 24 12.9**	**-0.3**
	20nm,0.4s						
KTBS	**Karatobe**	**3.42**	**358**	Pg	**Pg**	**12 23 29.6**	**+0.6**
	3.0nm,0.3s						
KTBS				Lg	Lg	12 24 12.9	
	20nm,0.4s						
KPKS	**Kokpek**	**3.45**	**23**	*e*P	**Pg**	**12 23 30.2**	**+0.6**
	3.3nm,0.3s						
KPKS				*e*S	**Sg**	**12 24 13.6**	**-0.8**
	27nm,0.5s						
KRBS	**Karabastau**	**3.51**	**346**	*e*P	**Pg**	**12 23 31.8**	**+1.1**
	2.6nm,0.2s						
KRBS				*e*S	**Sg**	**12 24 16.6**	**+0.4**
	9.5nm,0.5s						
KRBS	**Karabastau**	**3.51**	**346**	Pg	**Pg**	**12 23 31.8**	**+1.1**
	2.6nm,0.2s						
KRBS				Lg	Lg	12 24 16.6	
	9.5nm,0.5s						
CHKK	**Chushkaly**	**3.56**	**2**	*e*P	**Pg**	**12 23 31.7**	**+0.1**
	2.0nm,0.3s						
CHKK				*e*S	**Sg**	**12 24 16.0**	**-1.8**
	13nm,0.3s						
PDGK	**Podgornoye**	**3.62**	**32**	⇓Pg	**Pg**	**12 23 31.4**	**-1.4**
	2.2nm,0.7s						
PDGK				⇑Lg	Lg	12 24 18.5	
	13nm,0.9s						
MRKS	**Merke**	**3.66**	**313**	*e*P	**Pg**	**12 23 34.1**	**+0.6**
	1.9nm,0.2s						
MRKS				*e*S	**Sg**	**12 24 21.0**	**0.0**
	4.8nm,0.4s						
MRKS	**Merke**	**3.66**	**313**	Pg	**Pg**	**12 23 34.1**	**+0.6**
	1.9nm,0.2s						
MRKS				Lg	Lg	12 24 21.0	
	4.8nm,0.4s						
ARXS	**Arharly**	**3.98**	**10**	*e*P	**Pg**	**12 23 39.4**	**-0.4**
	2.9nm,0.3s						
ARXS				*e*S	**Sg**	**12 24 29.9**	**-1.5**
	6.6nm,0.4s						
ARXS	**Arharly**	**3.98**	**10**	Pg	**Pg**	**12 23 39.4**	**-0.4**
	2.9nm,0.3s						
ARXS				Lg	Lg	12 24 29.9	
	6.6nm,0.4s						
KTMS	**Ketmen**	**4.10**	**39**	*e*P	**Pg**	**12 23 42.4**	**+0.4**
	0.2nm,0.0s						
KTMS				*e*S	**Sg**	**12 24 34.3**	**-0.7**
	4.7nm,0.3s						
KTMS	**Ketmen**	**4.10**	**39**	Pg	**Pg**	**12 23 42.4**	**+0.4**
	0.2nm,0.0s						
KTMS				Lg	Lg	12 24 34.3	
	4.7nm,0.3s						
DJR	**Jarkent**	**4.59**	**27**	*e*P	**Pg**	**12 23 50.4**	**-1.0**
	1.0nm,0.4s						
DJR				*e*S	**Sg**	**12 24 48.2**	**-2.6**
	3.6nm,0.3s						
BTLS	**Baital**	**5.17**	**337**	*e*P	**Pg**	**12 24 01.4**	**-1.2**
	0.9nm,0.3s						
BTLS				*e*S	**Sg**	**12 25 07.3**	**-2.3**
	4.1nm,0.7s						
BTLS	**Baital**	**5.17**	**337**	Pg	**Pg**	**12 24 01.4**	**-1.2**
	0.9nm,0.3s						
BTLS				Lg	Lg	12 25 07.3	
	4.1nm,0.7s						
KK31	**Karatay Array**	**5.51**	**303**	⇑Pn	**Pn**	**12 23 48.5**	**+2.1**
	0.5nm,0.3s						
KK31				⇑Sn	**Sn**	**12 24 48.4**	**-1.9**
	1.1nm,0.5s,baz=201,slow=17,SNR=8.5						
KK31				⇓Lg	Lg	12 25 15.7	
	1.1nm,0.5s,baz=200,slow=27,SNR=4.0						
MAKZ	**Makanchi**	**7.50**	**28**	⇓Pg	Pb	12 24 24.5	-10
	2.8nm,0.9s						
MAKZ				⇓Lg	Lg	12 25 33.4	
	1.8nm,0.7s						
MK31	**Makanchi Array**	**7.60**	**30**

MGNA	**Meganis**	**0.58**	**39**	P		**Pg**	**12 23 19.2**	**-0.2**
MGNA				S		**Sg**	**12 23 26.9**	**-0.3**
LKD2	**Lefkada island**	**0.64**	**24**	P		**Pg**	**12 23 20.5**	**-0.1**
LKD2				S		**Sg**	**12 23 29.7**	**+0.6**
	comp=N,612nm,0.6s							
LKD2	**Lefkada island**	**0.64**	**24**	P		**Pg**	**12 23 20.5**	**-0.1**
KRI1	**kERI**	**0.66**	**144**	P		**Pg**	**12 23 20.9**	**0.0**
KRI1				S		**Sb**	**12 23 30.4**	**+0.1**
	comp=N,3μm,0.4s							
TSLK	**Tsoukalades, L**	**0.67**	**22**	P		**Pg**	**12 23 21.0**	**-0.2**
TSLK				S		**Sb**	**12 23 31.1**	**+0.4**
	comp=N,600nm,0.4s							
TSLK	**Tsoukalades, L**	**0.67**	**22**	P		**Pg**	**12 23 20.9**	**-0.2**
AXS	**Araxos**	**0.83**	**90**	P		**Pg**	**12 23 23.5**	**-0.5**
RLS	**Riolos of Patr**	**0.91**	**99**	P		**Pg**	**12 23 25.0**	**-0.6**
RLS				S		**Sb**	**12 23 38.0**	**+0.6**
	comp=N,515nm,0.6s							
RLS	**Riolos of Patr**	**0.91**	**99**	P		**Pg**	**12 23 25.0**	**-0.6**
RLS				S		**Sg**	**12 23 36.8**	**-0.8**
RLS				AML	AML		12 23 40.8	
	comp=N,1099μm,0.5s							
RLS				AML	AML		12 23 44.1	
	comp=E,756μm,0.4s							
PVO	**Paravola**	**1.03**	**66**	P		**Pg**	**12 23 27.3**	**-0.6**
PVO				S		**Sn**	**12 23 42.4**	**+0.3**
	comp=E,885nm,0.5s							
PVO	**Paravola**	**1.03**	**66**	P		**Pg**	**12 23 27.4**	**-0.5**
PVO				S		**Sb**	**12 23 41.3**	**+0.4**
PVO				AML	AML		12 23 43.9	
	comp=N,1343μm,0.5s							
PVO				AML	AML		12 23 44.2	
	comp=E,1970μm,0.3s							
DRO	**Drossia**	**1.12**	**102**	P		**Pg**	**12 23 28.9**	**-0.7**
DRO				S		**Sn**	**12 23 45.2**	**+0.9**
	comp=E,670nm,0.4s							
DRO	**Drossia**	**1.12**	**102**	P		**Pg**	**12 23 28.9**	**-0.7**
EFP	**Efpalio**	**1.26**	**79**	P		**Pn**	**12 23 31.2**	**+0.1**
EFP	**Efpalio**	**1.26**	**79**	P		**Pn**	**12 23 30.8**	**-0.3**
AMT	**Artemida-Makis**	**1.28**	**121**	P		**Pn**	**12 23 31.7**	**+0.3**
AMT	**Artemida-Makis**	**1.28**	**121**	P		**Pn**	**12 23 32.1**	**+0.7**
ANX	**Ano Chora**	**1.31**	**72**	P		**Pn**	**12 23 32.2**	**+0.3**
ANX	**Ano Chora**	**1.31**	**72**	P		**Pn**	**12 23 31.7**	**-0.2**
IGT	**Igoumenitsa**	**1.33**	**0**	P		**Pn**	**12 23 33.0**	**+0.9**
IGT	**Igoumenitsa**	**1.33**	**0**	P		**Pb**	**12 23 33.8**	**+1.1**
TRIZ	**Trizonia**	**1.38**	**83**	P		**Pb**	**12 23 34.2**	**+0.6**
GUR	**Goura**	**1.61**	**99**	P		**Pn**	**12 23 36.8**	**+0.8**
GUR				S		**Sg**	**12 23 59.4**	**-0.6**
ITM	**Ithomi**	**1.63**	**128**	P		**Pb**	**12 23 38.2**	**+0.4**
PYL	**PYLOS**	**1.72**	**139**	P		**Pn**	**12 23 38.2**	**+0.8**
DSF	**Desfina**	**1.74**	**82**	P		**Pn**	**12 23 40.1**	**+0.3**
DID	**Didima**	**2.41**	**106**	P		**Pn**	**12 23 49.3**	**+2.4**
STON	**Ston**	**5.08**	**338**	*e*Pn		**Pn**	**12 24 23.1**	**-0.4**
STON				Sn		**Sn**	**12 25 19.2**	**-2.6**
ZIRJ	**Zirje**	**6.50**	**328**	*e*Pn		**Pn**	**12 24 42.6**	**-0.4**
ZIRJ				Sn		**Sn**	**12 25 53.3**	**-3.6**
KIJV	**Kijevo**	**6.51**	**334**	*e*Pn		**Pn**	**12 24 44.7**	**+1.5**
KIJV				Sn		**Sn**	**12 25 56.6**	**-0.6**
MORI	**Morici**	**6.65**	**330**	*e*Pn		**Pn**	**12 24 46.8**	**+1.7**
MORI				Sn		**Sn**	**12 25 59.6**	**-1.1**

IDC 13 12:46:27.6±3.3, 17°.91S×177°.24W, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.6/32, mbtmp3.8/3, Error ellipse: s-maj=397.5km s-min=34.1km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.72**	**259**	P	P	12 54 50.5	-0.5
	0.7nm,0.5s,baz=95,slow=7.3,SNR=22						
ASAR	**Alice Springs**	**45.86**	**254**	P	P	12 54 52.2	+0.2
	3.3nm,0.7s,baz=89,slow=8.5,SNR=29						
TXAR	**Lajitas Array**	**85.06**	**57**	P	P	12 59 05.8	0.0
	0.2nm,0.7s,baz=202,slow=6.3,SNR=3.6						

*NNC **13** 12:52:58.6±0.5, 44°.86N×79°.93E, h2km±3km, mb3.6, mpv3.7, Error ellipse: s-maj=4.4km s-min=3.1km az=85.0*
*SOME **13** 12:52:59.2, 44°.87N×79°.93E, h20km*

ISC 13 12:52:55.9±1.3, 45°.00N±0°.03×80°.11E±0°.04, h9km±10km, n37, σ0°82/64, 2C-4D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPS	**Kapalarasan**	**0.60**	**298**	*e*P	**Pn**	**12 53 10.6**	**-0.2**
	126nm,0.1s						
KAPS				*e*S	**Sn**	**12 53 18.7**	**-2.1**
	276nm,0.2s						
KAPS	**Kapalarasan**	**0.60**	**298**	P	**Pn**	**12 53 10.6**	**-0.2**
	126nm,0.1s						
KAPS				S	**Sn**	**12 53 18.7**	**-2.1**
	276nm,0.2s						
DJR	**Jarkent**	**0.71**	**199**	*e*P	**Pg**	**12 53 09.9**	**+0.3**
	71nm,0.1s						
DJR				*e*S	**Sg**	**12 53 17.4**	**-1.5**
	119nm,0.2s						
DJR	**Jarkent**	**0.71**	**199**	P	**Pg**	**12 53 09.9**	**+0.3**
	71nm,0.1s						
DJR				S	**Sg**	**12 53 17.4**	**-1.5**
	119nm,0.2s						
TDK	**Taldyqorghan**	**1.21**	**271**	*e*P	**Pg**	**12 53 19.8**	**+0.6**
	78nm,0.1s						
TDK				*e*S	**Sb**	**12 53 34.2**	**-0.6**
	153nm,0.2s						
TDK	**Taldyqorghan**	**1.21**	**271**	P	**Pg**	**12 53 19.8**	**+0.6**
	78nm,0.1s						
TDK				S	**Sb**	**12 53 34.2**	**-0.6**
	153nm,0.2s						
KTMS	**Ketmen**	**1.57**	**174**	*e*P	**Pb**	**12 53 25.6**	**+0.3**
	12nm,0.0s						
KTMS				*e*S	**Sn**	**12 53 44.2**	**-0.4**
	68nm,0.2s						
KTMS	**Ketmen**	**1.57**	**174**	P	**Pb**	**12 53 25.6**	**+0.3**
	12nm,0.0s						
KTMS				S	**Sn**	**12 53 44.2**	**-0.4**
	68nm,0.2s						
PDGK	**Podgornoye**	**1.73**	**195**	P	**Pb**	**12 53 27.7**	**-0.4**
	17nm,0.2s						
PDGK				S	**Sn**	**12 53 48.0**	**-0.8**
	28nm,0.2s						
PDGK	**Podgornoye**	**1.73**	**195**	⇓P	**Pb**	**12 53 27.5**	**-0.6**
	13nm,0.3s						
PDGK				⇓S	**Sn**	**12 53 48.4**	**-0.3**
	16nm,0.3s						
ARXS	**Arharly**	**1.81**	**245**	*e*P	**Pb**	**12 53 29.8**	**+0.4**
	42nm,0.2s						
ARXS				*e*S	**Sn**	**12 53 50.9**	**+0.3**
	111nm,0.3s						
ARXS	**Arharly**	**1.81**	**245**	P	**Pb**	**12 53 29.8**	**+0.4**
	42nm,0.2s						
ARXS				S	**Sn**	**12 53 50.9**	**+0.3**
	111nm,0.3s						
KPKS	**Kokpek**	**1.85**	**214**	*e*P	**Pb**	**12 53 29.9**	**-0.1**
	96nm,0.1s						
KPKS				*e*S	**Sn**	**12 53 51.9**	**+0.4**
	120nm,0.3s						
SHLS	**Shalkode**	**1.90**	**194**	*e*P	**Pn**	**12 53 29.8**	**+1.1**
	31nm,0.1s						
SHLS				*e*S	**Sn**	**12 53 51.9**	**-1.0**
	38nm,0.3s						
SHLS	**Shalkode**	**1.90**	**194**	P	**Pn**	**12 53 29.8**	**+1.1**
	31nm,0.1s						
SHLS				S	**Sn**	**12 53 51.9**	**-1.0**
	38nm,0.3s						
UZB	**Uzynbulak**	**2.02**	**203**	*e*P	**Pb**	**12 53 32.2**	**-0.6**
	26nm,0.2s						
UZB				*e*S	**Sn**	**12 53 56.1**	**+0.4**
	48nm,0.2s						
UZB	**Uzynbulak**	**2.02**	**203**	P	**Pb**	**12 53 32.2**	**-0.6**
	26nm,0.2s						
UZB				S	**Sn**	**12 53 56.1**	**+0.4**
	48nm,0.2s						
KURS	**Kuram**	**2.06**	**223**	*e*P	**Pb**	**12 53 33.5**	**-0.1**
	17nm,0.4s						
KURS				*e*S	**Sb**	**12 53 58.1**	**-1.2**
	27nm,0.3s						
MAKZ	**Makanchi**	**2.23**	**35**	⇑Pn	**Pg**	**12 53 40.0**	**+1.4**
	0.6nm,0.3s						
MAKZ				⇑Lg	Lg	12 54 11.6	
	7.4nm,0.3s						
SATY	**Saty**	**2.30**	**213**	*e*P	**Pb**	**12 53 37.4**	**-0.3**
	17nm,0.1s						
SATY				*e*S	**Sb**	**12 54 04.7**	**-1.6**
	132nm,0.1s						
SATY	**Saty**	**2.30**	**213**	Pg	**Pb**	**12 53 37.4**	**-0.3**
	17nm,0.1s						
SATY				Lg	Lg	12 54 04.7	
	132nm,0.1s						
MK31	**Makanchi Array**	**2.35**	**40**	⇓Pn	**Pg**	**12 53 41.0**	**0.0**
	0.6nm,0.4s,baz=216,slow=15,SNR=51						
MK31				⇓Lg	Lg	12 54 14.2	
	3.9nm,0.3s,baz=216,slow=28,SNR=36						
CHKK	**Chushkaly**	**2.52**	**244**	*e*P	**Pb**	**12 53 41.8**	**+0.5**
	3.7nm,0.2s						
CHKK				*e*S	**Sb**	**12 54 12.1**	**-0.3**
	71nm,0.3s						
KTBS	**Karatobe**	**2.78**	**244**	*e*P	**Pb**	**12 53 46.1**	**+0.3**
	5.0nm,0.2s						
KTBS				*e*S	**Sb**	**12 54 20.3**	**+0.3**
	71nm,0.5s						
KTBS	**Karatobe**	**2.78**	**244**	Pg	**Pb**	**12 53 46.1**	**+0.3**
	5.0nm,0.2s						
KTBS				Lg	Lg	12 54 20.3	
	71nm,0.5s						
KOTS	**Kotyrbulak**	**2.79**	**232**	*e*P	**Pb**	**12 53 47.0**	**+0.9**
	12nm,0.3s						
KOTS				*e*S	**Sb**	**12 54 21.2**	**+0.7**
	92nm,0.4s						
KOTS	**Kotyrbulak**	**2.79**	**232**	Pg	**Pb**	**12 53 47.0**	**+0.9**
	12nm,0.3s						
KOTS				Lg	Lg	12 54 21.2	
	92nm,0.4s						
MDOK	**Medeo**	**2.87**	**231**	*e*P	**Pb**	**12 53 47.6**	**+0.1**
	5.9nm,0.3s						
MDOK				*e*S	**Sb**	**12 54 22.8**	**0.0**
	38nm,0.4s						
MDOK	**Medeo**	**2.87**	**231**	Pg	**Pb**	**12 53 47.6**	**+0.1**
	5.9nm,0.3s						
MDOK				Lg	Lg	12 54 22.8	
	38nm,0.4s						
IZV	**Izvestkoviy**	**3.20**	**233**	*e*P	**Pb**	**12 53 53.9**	**+0.8**
	1.8nm,0.1s						
IZV				*e*S	**Sb**	**12 54 32.8**	**+0.6**
	18nm,0.4s						
IZV	**Izvestkoviy**	**3.20**	**233**	Pg	**Pb**	**12 53 53.9**	**+0.8**
	1.8nm,0.1s						
IZV				Lg	Lg	12 54 32.8	
	18nm,0.4s						
MTBS	**Maitube**	**3.25**	**236**	*e*P	**Pb**	**12 53 54.1**	**+0.3**
	5.6nm,0.2s						
MTBS				*e*S	**Sb**	**12 54 33.8**	**+0.3**
	92nm,0.3s						
MTBS	**Maitube**	**3.25**	**236**	Pg	**Pb**	**12 53 54.1**	**+0.3**
	5.6nm,0.2s						
MTBS				Lg	Lg	12 54 33.8	
	92nm,0.3s						
KST	**Kastek**	**3.58**	**238**	*e*P	**Pb**	**12 54 00.8**	**+1.3**
	5.6nm,0.3s						
KST				*e*S	**Sb**	**12 54 44.6**	**+1.6**
	15nm,0.4s						
KST	**Kastek**	**3.58**	**238**	Pg	**Pb**	**12 54 00.8**	**+1.3**
	5.6nm,0.3s						
KST				Lg	Lg	12 54 44.6	
	15nm,0.4s						
DGS	**Degeres**	**3.59**	**242**	*e*P	**Pb**	**12 54 00.2**	**+0.6**
	3.6nm,0.4s						
DGS				*e*S	**Sb**	**12 54 43.8**	**+0.5**
	10nm,0.4s						
DGS	**Degeres**	**3.59**	**242**	Pg	**Pb**	**12 54 00.2**	**+0.6**
	3.6nm,0.4s						
DGS				Lg	Lg	12 54 43.8	
	10nm,0.4s						

*IDC **13** 13:11:32.4±0.7, 22°.22S×170°.51E, h0km, mb4.4/17, mb1 4.5/18, mb1mx4.3/36, mbtmp4.4/18, ML4.7/1, MS4.4/29, Ms1 4.4/29, ms1mx4.3/33, Error ellipse: s-maj=21.7km s-min=18.2km az=137.0*
*BJI **13** 13:11:37.3±0.0, 22°.50S×170°.50E, h60km, mB5.2/30, mb4.9/43, Ms4.8/17, Ms7 4.4/17*
*NEIC **13** 13:11:37.5±1.9, 22°.28S±0°.08×170°.37E±0°.07, h35km±1km, mb5.0/47, Error ellipse: s-maj=14.3km s-min=11.6km az=164.0*
*GCMT **13** 13:11:40.5±0.1, 22°.42S±0°.01×170°.42E±0°.01, h26km, MW5.2/110, Moment Tensor Solution. s100,c166; s110,c187; Duration: 1ſ0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.67±.01; $M_{θθ}$-0.61±.01; $M_{φφ}$-0.05±.01; $M_{rθ}$0.49±.02; $M_{rφ}$0.23±.01; $M_{θr}$-0.14±.02; Best double couple: $M_0$0.85200×10^{17} NP1:φ±292.00000°, δ27.00000°, λ94.00000°. NP2:φ±107.00000°, δ63.00000°, λ88.00000°. Principal axes: T 0.8390, Plg72.0000°, Azm12.0000°; N 0.0250, Plg2.0000°, Azm108.0000°; P -0.8640, Plg18.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 13:11:37.7±0.3, 22°.24S±0°.06×170°.45E±0°.05, h35km, n215, σ1ſ39/210, mb4.9/42, MS4.5/41, 12C-7D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.71**	**272**	*e*Pn	**Pn**	**13 12 32.8**	**+0.1**
	198nm,0.2s						
DZM				*e*Sn	**Sn**	**13 13 13.5**	**-1.7**
	285nm,0.2s						
DZM				*e*LR	LR	13 13 22.9	
	comp=Z,6μm,22.7s						
DZM	**Mont Dzumac**	**3.71**	**272**	Pn	**Pn**	**13 12 32.8**	**+0.1**
	63nm,0.3s,baz=122,slow=13,SNR=784						
DZM				LR	LR	13 13 04.2	
	comp=Z,777nm,21.6s,baz=48,slow=24						
DZM				Sn	**Sn**	**13 13 16.6**	**+1.3**
	74nm,0.3s,baz=146,slow=23,SNR=15						
DZM	**Mont Dzumac**	**3.71**	**272**	Pn	**Pn**	**13 12 32.3**	**-0.3**
DZM				Sn	**Sn**	**13 13 12.5**	**-2.8**
MSVF	**Nonsavu**	**8.44**	**59**	Pn	**Pn**	**13 13 40.9**	**+3.4**
RAO	**Raoul Island**	**12.60**	**126**	LR	LR	13 18 34.2	
	comp=Z,2μm,18.4s,baz=280,slow=34						
OUZ	**Omahuta**	**13.23**	**169**	Pn	**Pn**	**13 14 41.8**	**-1.1**
HNR	**Honiara**	**16.24**	**320**	Pn	**P**	**13 15 26.6**	**+0.6**
	1.6nm,0.3s,baz=268,slow=11,SNR=6.0						
HNR				LR	LR	13 21 02.2	
	comp=Z,727nm,20.4s,baz=138,slow=35						
HNR	**Honiara**	**16.24**	**320**	Pn	**Pn**	**13 15 23.6**	**+0.3**
HIZ	**Hauiti**	**16.66**	**168**		**Pn**	**13 15 28.9**	**+0.5**
URZ	**Urewera**	**16.97**	**162**	LR	LR	13 20 54.7	
	comp=Z,3μm,18.2s,baz=344,slow=33						
EIDS	**Eidsvold**	**17.99**	**256**	P	**Pn**	**13 15 44.6**	**-0.5**
ARMA	**Armidale**	**18.71**	**240**		**Pn**	**13 15 55.2**	**+1.2**
AFI	**Afiamalu**	**18.81**	**67**	LR	LR	13 21 32.0	
	comp=Z,933nm,20.7s,baz=246,slow=32						
TUWZ	**Tuamarina**	**19.36**	**172**	P	**Pn**	**13 16 00.6**	**-0.9**
MSWZ	**Moikau Station**	**19.55**	**169**	P	**P**	**13 16 02.4**	**+0.2**
THZ	**Tophouse**	**19.58**	**175**	Pn	**Pn**	**13 16 04.6**	**+0.4**
THZ				IAmb	IAmb	13 16 05.4	
	comp=Z,121nm,1.3s						
BSWZ	**Blackbirch Sta**	**19.64**	**172**	P	**Pn**	**13 16 04.0**	**-0.7**
KHZ	**Kahutara**	**20.29**	**173**		**P**	**13 16 10.5**	**+0.2**
LTZ	**Lake Taylor**	**20.55**	**176**	P	**P**	**13 16 13.4**	**+0.2**
LTZ				IAmb	IAmb	13 16 36.3	
	comp=Z,72nm,1.3s						
OXZ	**Oxford**	**21.07**	**177**	P	**P**	**13 16 19.1**	**+0.2**
OXZ				IAmb	IAmb	13 16 21.4	
	comp=Z,59nm,1.0s						
RPZ	**Rata Peaks**	**21.43**	**179**	LR	LR	13 24 11.4	
	comp=Z,1μm,18.8s,baz=352,slow=35						
RPZ	**Rata Peaks**	**21.43**	**179**	P	**P**	**13 16 22.3**	**-0.3**
RPZ				IAmb	IAmb	13 16 23.0	
	comp=Z,85nm,1.3s						
LBZ	**Lake Benmore**	**22.09**	**180**	P	**P**	**13 16 32.2**	**+2.4**
LBZ				IAmb	IAmb	13 16 44.2	
	comp=Z,102nm,1.5s						
CTAO	**Charters Tower**	**22.66**	**271**	P	**P**	**13 16 37.6**	**+1.6**
CAN	**Canberra**	**22.82**	**230**	P	**P**	**13 16 39.2**	**+1.6**
CAN				IAmb	IAmb	13 16 45.2	
	comp=Z,75nm,1.4s						
KRVT	**Keravat (AS076**	**25.22**	**312**	P	**P**	**13 17 01.4**	**+1.0**
	comp=Z,97nm,1.2s,baz=197,slow=20,SNR=8.6						
PMG	**Port Moresby**	**25.73**	**296**	LR	LR	13 25 57.9	
	comp=Z,1μm,20.4s,baz=125,slow=34						
KNTN	**Kanton**	**25.96**	**44**	P	**P**	**13 17 07.1**	**-0.1**
TOO	**Toolangi**	**26.38**	**229**	P	**P**	**13 17 10.5**	**-0.3**
STKA	**Stephens Creek**	**27.36**	**243**	P	**P**	**13 17 20.2**	**+0.5**
	comp=Z,5.1nm,0.8s,baz=78,slow=6.8,SNR=7.1						
STKA				LR	LR	13 27 33.8	
	comp=Z,973nm,18.8s,baz=77,slow=35						
STKA	**Stephens Creek**	**27.36**	**243**	P	**P**	**13 17 20.6**	**+0.9**

RAR	**Rarotonga**	**27.67**	**94**	LR	LR	13 28 04.3			
	comp=Z,342nm,18.8s,baz=288,slow=36								
BBOO	**Buckleboo**	**32.13**	**243**	P	**P**	**13 18 02.1**	**+0.2**		
BBOO				IAmb	IAmb	13 18 03.4			
	comp=Z,30nm,1.2s								
WR0	**Warramunga Arr**	**33.53**	**267**	P	**P**	**13 18 12.6**	**-1.7**		
WR0				IAmb	IAmb	13 18 26.4			
	comp=Z,24nm,1.4s								
AS31	**Alice Springs**	**33.62**	**260**	P	**P**	**13 18 14.4**	**-0.7**		
ASAR	**Alice Springs**	**33.62**	**260**	P	**P**	**13 18 14.9**	**-0.2**		
	comp=Z,3.1nm,0.8s,baz=78,slow=9.4,SNR=36								
ASAR				ScP	**ScP**	**13 24 42.5**	**+5.5**		
	comp=Z,1.0nm,0.9s,baz=115,slow=4.0,SNR=4.6								
ASAR				LR	LR	13 32 16.1			
	comp=Z,919nm,18.0s,baz=98,slow=37								
ASAR	**Alice Springs**	**33.62**	**260**	P	**P**	**13 18 13.2**	**-1.9**		
WB0	**Warramunga Arr**	**33.70**	**267**	P	**P**	**13 18 15.5**	**-0.3**		
WB0				IAmb	IAmb	13 18 26.6			
	comp=Z,26nm,1.2s								
WB2	**Warramunga Arr**	**33.71**	**267**	P	**P**	**13 18 14.7**	**-1.1**		
WB2				IAmb	IAmb	13 18 26.2			
	comp=Z,17nm,1.2s								
WRA	**Warramunga Arr**	**33.72**	**267**	P	**P**	**13 18 15.1**	**-0.9**		
	comp=Z,1.4nm,0.8s,baz=99,slow=8.2,SNR=14								
WRA				PcP	**PcP**	**13 20 54.9**	**-0.3**		
	comp=Z,1.8nm,1.0s,baz=109,slow=2.1,SNR=4.5								
WRA				LR	LR	13 32 17.2			
	comp=Z,2μm,18.0s,baz=100,slow=37								
WRA	**Warramunga Arr**	**33.72**	**267**	P	**P**	**13 18 14.8**	**-1.1**		
JAY	**Jayapura**	**34.90**	**300**	LR	LR	13 32 31.2			
	comp=Z,663nm,19.5s,baz=120,slow=36								
TBI	**Tubuai**	**36.90**	**100**	*e*S	**S**	**13 24 22.8**	**-3.1**		
	comp=Z,144nm,27.5s								
TBI				*e*LR	LR	13 28 42.9			
	comp=Z,502nm,26.2s								
PPT2	**Papeete2**	**37.80**	**90**	*e*S	**S**	**13 24 37.3**	**-2.5**		
	comp=Z,111nm,26.2s								
PPT2				*e*LR	LR	13 29 13.1			
	comp=Z,357nm,23.5s,baz=239								
PPT	**Papeete**	**37.80**	**90**	LR	LR	13 30 42.8			
	comp=Z,346nm,20.7s,baz=277,slow=30								
MTN	**Manton Dam**	**38.53**	**277**	P	**P**	**13 18 56.8**	**-0.3**		
MTN				IAmb	IAmb	13 19 02.6			
	comp=Z,21nm,1.1s								
KNRA	**Kununurra**	**39.86**	**272**		**P**	**13 19 07.3**	**-1.0**		
KNRA				IAmb	IAmb	13 19 16.7			
	comp=Z,40nm,1.1s								
FITZ	**Fitzroy Crossi**	**42.15**	**267**	P	**P**	**13 19 27.5**	**+0.5**		
FITZ				IAmb	IAmb	13 19 39.3			
	comp=Z,31nm,1.2s								
SIJI	**Sorong**	**43.63**	**294**	LR	LR	13 38 02.7			
	comp=Z,644nm,19.9s,baz=102,slow=36								
BATI	**Baumata**	**46.31**	**277**	LR	LR	13 40 01.3			
	comp=Z,817nm,19.3s,baz=142,slow=37								
PSA00	**Pilbara Seismi**	**46.77**	**261**	P	**P**	**13 20 04.1**	**+0.1**		
PSA00				IAmb	IAmb	13 20 15.0			
	comp=Z,18nm,1.1s								
PSA00	**Pilbara Seismi**	**46.77**	**261**	P	**P**	**13 20 03.3**	**-0.6**		
PSA00				IAmb	IAmb	13 20 12.5			
	comp=Z,10nm,0.7s								
NWAO	**Narrogin (SRO)**	**47.92**	**245**	LR	LR	13 39 31.2			
	comp=Z,1μm,20.2s,baz=95,slow=35								
NWAO	**Narrogin (SRO)**	**47.92**	**245**	P	**P**	**13 20 12.3**	**-0.4**		
NWAO	**Narrogin (SRO)**	**47.92**	**245**	P	**P**	**13 20 12.3**	**-0.4**		
NWAO				IAmb	IAmb	13 20 18.2			
	comp=Z,45nm,1.4s								
MORW	**Morawa**	**49.16**	**250**	P	**P**	**13 20 20.9**	**-1.5**		
TAOE	**Nuku Hiva Isla**	**49.21**	**82**	*e*S	**S**	**13 27 23.0**	**-3.8**		
	comp=Z,182nm,24.5s								
TAOE				*e*LR	LR	13 34 24.6			
	comp=Z,516nm,23.4s								
TAOE	**Nuku Hiva Isla**	**49.21**	**82**	P	**P**	**13 20 22.7**	**-0.4**		
RKT	**Rikitea**	**50.12**	**102**	*e*LR	LR	13 34 53.5			
	comp=Z,331nm,24.5s								
KAPI	**Kappang**	**51.88**	**282**	LR	LR	13 41 43.6			
	comp=Z,230nm,21.9s,baz=104,slow=35								
DAV	**Davao City (W)**	**52.72**	**298**	LR	LR	13 44 02.1			
	comp=Z,119nm,19.1s,baz=132,slow=37								
VNDA	**Vanda**	**55.49**	**182**	P	**P**	**13 21 08.8**	**+0.2**		
	comp=Z,0.8nm,0.9s,baz=356,slow=6.9,SNR=2.6								
VNDA				LR	LR	13 42 29.0			
	comp=Z,540nm,18.3s,baz=14,slow=33								
KKM	**Kota Kinabalu**	**60.05**	**291**	P	**P**	**13 21 39.6**	**-2.1**		
SBUM	**Sibu**	**61.87**	**286**	P	**P**	**13 21 52.4**	**-1.6**		
KSM	**Kuching**	**63.16**	**284**	P	**P**	**13 22 01.1**	**-1.5**		
MJAR	**Matsushiro Arr**	**65.92**	**332**	P	**P**	**13 22 19.4**	**-0.7**		
	comp=Z,7.0nm,1.1s,baz=173,slow=7.7,SNR=22								
MJAR				LR	LR	13 48 30.2			
	comp=Z,98nm,21.8s,baz=155,slow=34								
MJAR	**Matsushiro Arr**	**65.92**	**332**	P	**P**	**13 22 20.1**	**0.0**		
MAJO	**Matsushiro**	**65.92**	**332**	P	**P**	**13 22 19.9**	**-0.2**		
MAJO				IAmb	IAmb	13 22 21.4			
	comp=Z,19nm,1.2s								
MAT	**Matsushiro**	**65.92**	**332**	P	**P**	**13 22 19.7**	**-0.4**		
MAT				*e*S	**S**	**13 30 57.2**	**-7.8**		
MJB9	**Matsu-Tunnel**	**65.92**	**332**	P	**P**	**13 22 20.0**	**-0.2**		
MJB9				IAmb	IAmb	13 22 21.2			
	comp=Z,20nm,1.2s								
MDSI	**Maura Dua**	**66.36**	**275**	P	**P**	**13 22 23.3**	**-0.1**		
	comp=Z,9.6nm,1.0s								
JNU	**Nakatsue**	**66.75**	**324**	P	**P**	**13 22 25.4**	**-0.1**		
KSRS	**Korea Array**	**71.60**	**325**	P	**P**	**13 22 55.5**	**+0.1**		
	comp=Z,4.2nm,0.9s,baz=142,slow=6.1,SNR=17								
KSAR	**Wonju Array Be**	**71.62**	**325**	P	**P**	**13 22 55.6**	**+0.1**		
INCN	**Inchon**	**72.31**

LZH pP pwP 13 24 27.5 -0.6
LZH sP sP 13 24 34.3 +8.6
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,95nm,8.7s
LZH LR LR
comp=Z,300nm,16.8s
LZH LR LR
comp=Z,310nm,17.0s
LZH LR LR
comp=Z,470nm,19.5s
SEY Seymchan 86.08 352 P **P 13 24 13.5 -0.8**
comp=Z,2.2nm,0.6s,baz=148,slow=4.8,SNR=7.2
SNAA Sanae 86.23 182 P **P 13 24 13.2 -2.1**
SNAA Sanae 86.23 182 P **P 13 24 13.1 -2.2**
VNA3 Neumayer Olymp 86.77 180 P **P 13 24 15.7 -2.2**
KCPM Cahto Peak 87.03 45 P **P 13 24 19.5 -0.2**
KCPM IAmb IAmb 13 24 23.7
comp=Z,9.8nm,0.9s
VNA2 Neumayer--Watz 87.08 181 P **P 13 24 17.8 -1.6**
VNA1 Neumayer--Stat 87.36 180 P **P 13 24 19.2 -1.5**
ISA Isabella, Lake 88.50 50 P **P 13 24 26.6 -0.2**
ISA IAmb IAmb 13 24 32.0
comp=Z,4.0nm,0.8s
YBH Yreka Blue Hor 88.67 44 P **P 13 24 27.9 +0.5**
comp=Z,1.7nm,1.0s,baz=110,slow=2.0,SNR=5.6
NVAR Mina Array Bea 89.94 48 P **P 13 24 33.1 -0.6**
comp=Z,1.2nm,0.7s,baz=225,slow=8.5,SNR=13
NVAR LR LR 13 59 01.5
comp=Z,431nm,18.8s,baz=254,slow=32
NVAR Mina Array Bea 89.94 48 P **P 13 24 32.6 -1.1**
GTA Gaotai 89.99 313 *e*P **P 13 24 35.3 +1.5**
GTA pP sP 13 24 48.0 +1.1
GTA sP pwP 13 24 52.8 +3.5
GTA SKS **SKSac 13 34 58.5 -3.6**
GTA S **S 13 35 20.6 -3.7**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,98nm,7.0s
GTA LR LR
comp=Z,66nm,17.5s
GTA LR LR
comp=Z,100nm,16.8s
GTA LR LR
comp=Z,110nm,19.7s
SONM Songino Array 90.28 323 P **P 13 24 35.6 +0.7**
comp=Z,9.1nm,1.0s,baz=140,slow=4.8,SNR=41
SONM LR LR 14 07 21.5
comp=Z,106nm,18.1s,baz=122,slow=37
SONM Songino Array 90.28 323 P **P 13 24 34.8 -0.1**
ILAR Eielson Array 92.75 17 LR LR 14 03 10.2
comp=Z,189nm,18.9s,baz=234,slow=33
PLCA Paso Flores 95.56 138 LR LR 13 58 14.1
comp=Z,104nm,20.6s,baz=255,slow=29
TXAR Lajitas Array 97.20 61 P Pdif 13 25 08.3 +1.1
comp=Z,0.2nm,0.8s,baz=254,slow=6.5,SNR=2.5
TXAR LR LR 14 00 04.3
comp=Z,237nm,21.7s,baz=0.0,slow=30
PDAR Pinedale Array 97.82 47 LR LR 14 01 35.9
comp=Z,198nm,21.4s,baz=274,slow=31
WMQ Urumqi 100.08 313 *e*P **Pdif 13 25 20.3 +0.7**
WMQ sP pwP 13 25 43.3 +8.0
WMQ LR LR
comp=Z,96nm,23.1s
WMQ LR LR
comp=Z,170nm,28.9s
WMQ LR LR
comp=Z,130nm,23.1s
MKAR Makanchi Array 104.65 315 Pdiff **Pdif 13 25 43.1 +3.3**
comp=Z,0.3nm,0.6s,baz=114,slow=5.4,SNR=3.6
BDFB Brasilia 126.74 132 PKP **PKiKP 13 30 39.0 0.0**
comp=Z,1.4nm,0.3s,baz=138,slow=5.4,SNR=3.3
ARCES ARCESS Array B 128.24 345 PKP **PKPdf 13 30 38.8 -0.8**
comp=Z,2.0nm,0.8s,baz=29,slow=2.8,SNR=7.7
BATG Bathurst New B 128.59 47 **PKPdf 13 30 39.8 -1.2**
FINES FINESS Array B 133.77 337 PKP **PKPdf 13 30 50.8 +0.5**
comp=Z,3.4nm,1.0s,baz=90,slow=4.2,SNR=3.8
AKASG Malin Array Be 138.56 323 PKP **PKPdf 13 30 58.9 -0.6**
comp=Z,0.4nm,0.4s,baz=79,slow=1.0,SNR=5.9
AKASG Malin Array Be 138.56 323 **PKPdf 13 30 58.6 -0.9**
ORH Orhaniye 141.86 308 P **PKiKP 13 31 15.9 +7.2**
OZUR 142.76 318 ⇑P **PKiKP 13 31 14.7 +4.2**
DOPR Dopca 143.07 318 ⇓P PKPbc 13 31 04.9 +0.2
KOLS Kolonicke sedl 143.32 324 *e*PKP PKPbc 13 31 06.5 +1.2
VOIR 143.53 318 ⇓P **PKPdf 13 31 09.6 +0.8**
ARR Arges 143.82 318 ⇑P **PKPdf 13 31 08.7 -0.6**
HUMR Humele 143.99 316 ⇓P **PKPdf 13 31 08.6 -0.9**
PVL Pavlikeni 144.32 314 P **PKPab 13 31 08.2 +0.1**
ALN Alexandroupoli 144.73 310 PKPdf **PKPab 13 31 09.9 +0.2**
OKC Ostrava-Krasne 144.87 328 *e*PKP **PKPdf 13 31 10.7 -0.1**
SIRR Siria 145.15 321 ⇑P **PKPdf 13 31 12.6 +1.1**
PSZ Piszkesteto 145.20 325 ⇑P **PKPdf 13 31 12.4 +0.9**
PSZ Piszkesteto 145.20 325 **PKPbc 13 31 10.1 -1.2**
MORC Moravsky Berou 145.21 329 ⇑P **PKPdf 13 31 11.7 +0.2**
MORC Moravsky Berou 145.21 329 *e*PKP **PKPbc 13 31 11.2 0.0**
MORC Moravsky Berou 145.21 329 **PKPbc 13 31 11.1 -0.1**
OSTC Ostas 145.28 331 *e*PKP **PKPdf 13 31 12.6 +1.0**
OSTC AMS AMS 14 37 50.0
comp=Z,300nm,23.3s
MPEP Malo Peshtene 145.31 315 P **PKPbc 13 31 11.6 -0.1**
CHVC Chvalec 145.33 331 *e*PKP **PKPab 13 31 12.3 +0.6**
CHVC AMS AMS 14 38 30.0
comp=Z,200nm,19.9s
KRLC Kraliky 145.36 330 *e*PKP **PKPab 13 31 12.2 +0.4**
KRLC *ep*PKP **pPKPdf 13 31 21.5 -0.6**
KRLC AMS AMS 14 36 20.0
comp=Z,100nm,22.0s
DPC Dobruska-Polom 145.38 331 *e*PKP **PKPab 13 31 12.5 +0.6**
DPC *ex* x 13 31 22.6
DPC AMS AMS 14 37 10.0
comp=Z,200nm,19.8s
VYHS Vyhne 145.40 326 *e*PKP **PKPab 13 31 12.6 +0.6**
UPC Upice 145.41 331 *e*PKP **PKPab 13 31 12.4 +0.5**
UPC AMS AMS 14 38 20.0
comp=Z,200nm,15.4s
HERR Herculane 145.43 318 ⇓P **PKPab 13 31 12.3 +0.2**
BZS Buzias 145.53 320 ⇑P **PKPab 13 31 13.4 +0.9**
JAVC Velka Javorina 145.75 328 *e*PKP **PKPab 13 31 14.0 +0.7**
MDVR Moldovita 145.91 319 ⇑P **PKPab 13 31 14.6 +0.6**
VTS Vitosha 145.97 314 ⇓P **PKPbc 13 31 13.9 -0.1**
VTS Vitosha 145.97 314 PKPdf **PKPdf 13 31 13.2 0.0**
VTS Vitosha 145.97 314 P **PKPbc 13 31 14.2 +0.2**
VRAC Vranov 145.98 329 ⇓P **PKPab 13 31 14.6 +0.5**
VRAC Vranov 145.98 329 *e*PKP **PKPbc 13 31 13.9 +0.3**
PVCC Panska Ves 146.03 332 AMS AMS 14 35 10.0
comp=Z,200nm,21.7s
BRG Berggiesshubel 146.04 333 *i* PKP **PKPdf 13 31 13.3 +0.5**
comp=Z,139nm,1.9s
MMB Musomiste 146.08 312 P **PKPdf 13 31 12.9 -0.4**
CLL Collm 146.10 334 ⇑*i*PKPbc **PKPdf 13 31 13.4 +0.5**
comp=Z,114nm,2.0s
CLL *i* PKiKP **PKiKP 13 31 17.1 0.0**
CLL *i* pPKPdf pPKPbc 13 31 24.2 +0.2
CLL *e*PP **PP 13 34 37.0 +1.6**
CLL Collm 146.10 334 *e*PKP **PKPdf 13 31 12.2 -0.7**
KRUC Moravsky 146.24 329 *e*PKP **PKPbc 13 31 14.2 -0.1**
MODS Modra-Piesok 146.27 327 *e*PKP **PKPbc 13 31 14.5 0.0**
GOPC GO Pecny, Ondr 146.38 331 *e*PKP **PKPbc 13 31 15.1 +0.3**
GOPC AMS AMS 14 40 00.0
comp=Z,200nm,20.1s
KKB Krupnik 146.40 313 P **PKPdf 13 31 12.1 -1.7**
PRU Pruhonice 146.44 332 *e*PKP **PKPbc 13 31 15.3 +0.4**
PRU AMS AMS 14 35 40.0
comp=Z,100nm,17.1s
TREC Trest 146.51 330 *e*PKP **PKPab 13 31 16.2 0.0**
VAY Valandovo 146.98 313 *i* P **PKPbc 13 31 16.5 -0.2**
STIP Stip 147.08 314 *i* P **PKPab 13 31 18.1 -0.6**
NKC Novy Kostel 147.15 334 *e*PKP **PKPbc 13 31 17.3 +0.3**
CONA Conrad Observa 147.27 328 *i* PKPab **PKPbc 13 31 18.3 +0.8**
comp=Z,15nm,1.0s,SNR=7.1
DIVS Divibare 147.31 319 PKPdf **PKPdf 13 31 15.6 +0.2**
SKO Skopje 147.45 314 *i* P **PKPbc 13 31 18.6 +0.5**
KHC Kasperske Hory 147.50 331 *e*PKP **PKPbc 13 31 18.5 +0.5**
KHC AMS AMS 14 37 30.0
comp=Z,200nm,14.5s
KHC Kasperske Hory 147.50 331 PKPbc **PKPbc 13 31 17.4 -0.5**
LIT Litokhoron 147.54 311 PKPbc **PKPdf 13 31 17.1 +1.4**
GEC2 GERESS Array S 147.65 331 **PKPbc 13 31 18.1 -0.4**
GERES GERESS Array B 147.65 331 PKPbc **PKPbc 13 31 18.7 +0.2**
comp=Z,9.3nm,0.9s,baz=49,slow=2.6,SNR=36
GERES GERESS Array B 147.65 331 PKPdf **PKPdf 13 31 15.1 -0.7**
GERES PKPbc **PKPbc 13 31 18.0 -0.5**

ARSA Arzberg 147.90 327 *i* PKiKP **PKPbc 13 31 19.8 +0.7**
comp=Z,8.3nm,0.8s
AGG Agios Georgios 148.08 309 **PKPbc 13 31 19.1 -0.8**
MOA Molln 148.10 329 *i* PKiKP **PKPbc 13 31 19.9 +0.3**
comp=Z,9.9nm,1.1s
OHR Ohrid 148.28 313 *i* P **PKPbc 13 31 20.3 -0.1**
SOKA Soboth 148.53 327 *i* PKPbc **PKPdf 13 31 18.6 +1.3**
comp=Z,14nm,1.2s
PDG Podgorica 148.65 317 **PKPbc 13 31 20.3 -0.9**
OBKA Obir 148.90 327 *i* PKPdf **PKPdf 13 31 18.0 +0.1**
comp=Z,6.4nm,0.9s
KBA Koelnbreinsper 149.09 329 *i* PKPbc **PKPbc 13 31 21.9 -0.5**
comp=Z,13nm,1.1s
MEM Membach 149.17 341 PKiKP **PKPbc 13 31 22.1 -0.1**
MEM PKPab **PKiKP 13 31 25.2 +1.7**
BOJS Bojanci 149.20 325 *i* PKPbc **PKPbc 13 31 22.5 +0.1**
BOJS *i* 13 31 27.0
LJU Ljubljana 149.22 326 *i* PKPbc **PKPbc 13 31 22.5 0.0**
LJU *i* 13 31 26.8
MYKA Terra Mystica 149.26 328 *i* PKPbc **PKPdf 13 31 20.5 +2.1**
comp=Z,11nm,1.1s
PRED Cave del Predi 149.43 328 **PKPab 13 31 26.4 -1.5**
ABTA Abfaltersbach 149.73 329 *i* PKPbc **PKPbc 13 31 23.0 -0.8**
comp=Z,16nm,1.1s
WATA Walderalm 149.73 331 *i* PKiKP **PKPbc 13 31 23.7 -0.2**
comp=Z,24nm,1.3s
WTTA Wattenberg 149.75 331 *i* PKPbc **PKPbc 13 31 23.8 -0.3**
comp=Z,30nm,1.1s,SNR=6.8
BMRD Maredsous 149.81 342 PKiKP **PKPbc 13 31 23.8 0.0**
BMRD pPKP **pPKPbc 13 31 35.3 +1.3**
MOTA Moosalm 149.93 331 *i* PKPbc **PKPbc 13 31 23.7 -0.7**
comp=Z,30nm,1.1s,SNR=8.4
WLF Walferdange 149.95 339 PKiKP **PKiKP 13 31 24.9 -0.2**
WLF Walferdange 149.95 339 **PKPbc 13 31 24.4 +0.2**
RETA Reutte 149.97 332 *i* PKPbc **PKPbc 13 31 24.0 -0.4**
comp=Z,9.2nm,1.0s
SQTA Sankt Quirin 149.98 331 *i* PKiKP **PKPbc 13 31 24.6 +0.1**
comp=Z,15nm,0.7s,SNR=5.1
DOU Dourbes 150.05 342 PKiKP **PKPbc 13 31 23.9 -0.5**
DOU pPKP **pPKPbc 13 31 35.5 +0.9**
CIMO Cimolais 150.08 329 **PKPbc 13 31 23.8 -0.9**
BFO Black Forest 150.30 336 **PKPbc 13 31 24.3 -0.8**
FETA Feichten 150.34 331 *i* PKiKP **PKPbc 13 31 25.6 +0.2**
comp=Z,26nm,1.0s,SNR=8.6
DAVA Damuels 150.51 333 *i* PKiKP **PKPbc 13 31 25.7 -0.1**
comp=Z,14nm,1.1s
CTI Castel Tesino 150.65 329 **PKPbc 13 31 25.3 -0.8**
ECH Echery 150.83 337 **PKPbc 13 31 25.4 -1.0**
FUORN Ofenpass-Fuorn 150.85 331 **PKPbc 13 31 26.3 -0.5**
TUE Stuetta 151.37 332 **PKPbc 13 31 27.3 -0.7**
SALO Salr 151.49 330 **PKPbc 13 31 27.7 -0.3**
TIP Timpagrande 151.92 313 ⇑P **PKiKP 13 31 30.0 +0.4**
TIP Timpagrande 151.92 313 **PKPbc 13 31 28.7 -0.5**
INTR Introdacqua 152.16 321 **PKPbc 13 31 28.4 -1.3**
TORD Torodi Ar. Bea 165.99 232 **PKPdf 13 31 38.6 -1.2**

NNC 13 13:17:01.6±0.5, 50.°01N×78.°75E, h0km, mb3.6, mpv3.3, 8C-6D, Error ellipse: s-maj=10.2km s-min=2.5km az=79.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.63**	**347**	⇓	P	Pg	13 17 13.6	-0.1
	31nm,0.3s							
KURBB				⇓	S	Sg	13 17 23.2	+1.3
	61nm,0.7s							
KURK	**Kurchatov**	**0.71**	**353**	⇑	P	Pg	13 17 14.9	-0.3
	15nm,0.4s							
KURK				⇑	S	Sg	13 17 25.5	+1.0
	49nm,0.7s							
MAKZ	**Makanchi**	**3.85**	**145**	⇓	Pn	Pn	13 18 04.2	+2.2
	0.6nm,0.5s							
MAKZ				⇑	Pg	Pb	13 18 11.6	+1.2
	1.9nm,0.5s							
MAKZ				⇑	Lg	Lg	13 19 02.2	
	8.0nm,0.7s							
MK31	**Makanchi Array**	**3.98**	**142**	⇑	Pn	Pn	13 18 05.8	+1.9
	0.3nm,0.3s,baz=325,slow=10,SNR=23							
MK31				⇓	Pg	Pg	13 18 15.5	-2.4
	1.2nm,0.4s,baz=309,slow=12,SNR=6.0							
MK31				⇑	Lg	Lg	13 19 08.3	
	7.2nm,0.5s,baz=324,slow=27,SNR=16							
OTUK	**Ortayu**	**4.57**	**250**		Pg	Pn	13 18 13.4	+1.5
	3.7nm,0.1s							
OTUK					Lg	Lg	13 19 05.4	
	2.9nm,0.6s							
OTUK	**Ortayu**	**4.57**	**250**	⇓	Pn	Pn	13 18 13.0	+1.2
	2.3nm,0.5s							
OTUK				⇑	Pg	Pb	13 18 25.2	+2.6
	0.8nm,0.3s							
OTUK				⇓	Lg	Lg	13 19 29.1	
	21nm,0.5s							
KAPS	**Kapalarasan**	**4.74**	**175**		Pg	Pb	13 18 27.3	+1.8
	1.8nm,0.4s							
KAPS					Lg	Lg	13 19 29.9	
	11nm,0.6s							
ZSN	**Zaisan**	**4.79**	**120**		Pg	Pg	13 18 31.1	-2.1
	3.7nm,0.3s							
ZSN					Lg	Lg	13 19 36.9	
	9.9nm,0.6s							
ARXS	**Arharly**	**5.83**	**187**		Pg	Pg	13 18 48.8	-4.5
	3.1nm,0.3s							
ARXS					Lg	Lg	13 20 06.0	
	15nm,0.4s							
CHKK	**Chushkaly**	**6.27**	**192**		Pg	Pb	13 18 54.7	+3.1
	0.9nm,0.2s							
CHKK					Lg	Lg	13 20 15.2	
	13nm,0.1s							
UZB	**Uzynbulak**	**6.86**	**178**		Pg	Pg	13 19 07.7	-5.3
	0.9nm,0.5s							
UZB					Lg	Lg	13 20 37.4	
	4.4nm,0.7s							
DGS	**Degeres**	**7.07**	**198**		Pg	Pb	13 19 10.0	+4.7
	1.9nm,0.2s							
DGS					Lg	Lg	13 20 40.7	
	6.4nm,0.6s							
KST	**Kastek**	**7.23**	**196**		Pg	Pg	13 19 14.0	-5.9
	1.4nm,0.3s							
KST					Lg	Lg	13 20 48.3	
	4.2nm,0.5s							
AKTO	**Aktyubinsk**	**13.29**	**280**	⇑	P	P	13 20 23.5	+2.2
	0.5nm,0.5s							

*IDC **13** 13:19:38.8±0.8, 52.°66N×169.°71W, h0km, mb3.9/9, mb1 4.2/11, mb1mx3.7/63, mbtmp3.9/11, ML3.3/2, MS3.3/4, Ms1 3.3/4, ms1mx2.8/37, Error ellipse: s-maj=32.3km s-min=15.5km az=158.0*
*AEIC **13** 13:19:41±2.4, 52.°86N±0.°10×169.°54W±0.°08, h4km±4km, Error ellipse: s-maj=15.2km s-min=4.0km az=155.0*
*NEIC **13** 13:19:42.7±1.4, 52.°8N±0.°1×169.°53W±0.°10, h21km±5km, mb4.2/64, ML3.9/30(AEIC), Error ellipse: s-maj=17.1km s-min=5.5km az=155.0*

ISC 13 13:19:39.4±0.6, 52.°8N±0.°1×169.°86W±0.°05, h10km, n124, σ0898/117, mb4.2/26, MS3.2/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.64**	**73**			**Pg**	**13 19 51.0**	**-0.7**
NIKH						**Sg**	**13 19 58.9**	**-1.2**
OKSP	**Okmok Steeple**	**1.06**	**63**			**Pg**	**13 19 58.1**	**-1.6**
OKCE	**Okmok Cone E**	**1.21**	**57**			**Pn**	**13 20 01.2**	**-1.1**
OKCE						**Sb**	**13 20 17.7**	**-0.3**
OKNC	**Okmok New Cone**	**1.25**	**57**			**Pn**	**13 20 01.5**	**-1.3**
OKFG	**Magazine Ridge**	**1.33**	**61**			**Pn**	**13 20 02.8**	**-1.2**
OKFG						**Sb**	**13 20 19.6**	**-2.0**
MAPS	**Pakushin South**	**2.03**	**59**			**Pn**	**13 20 13.0**	**-0.7**
MREP	**Makushin Rep't**	**2.13**	**60**			**Pn**	**13 20 14.6**	**-0.6**
MSW	**Makushin Switc**	**2.17**	**57**			**Pn**	**13 20 15.3**	**-0.1**
MNAT	**Makushin Natee**	**2.20**	**59**			**Pn**	**13 20 15.6**	**-0.4**
MNAT						**Sn**	**13 20 44.3**	**+1.0**
UNV	**Unalaska Valle**	**2.28**	**61**			**Pn**	**13 20 16.4**	**-0.6**
AKRB	**Akutan Reef Bi**	**2.64**	**58**			**Pn**	**13 20 22.7**	**+0.7**
KOFP	**Korovin Flat P**	**2.64**	**260**			**Pg**	**13 20 27.5**	**-2.4**
AKMO	**Akutan Morgan**	**2.65**	**59**			**Pn**	**13 20 22.8**	**+0.7**
ZRO	**Akutan Zero**	**2.67**	**59**			**Pn**	**13 20 23.4**	**+1.0**
AKGG	**Akutan Green G**	**2.71**	**57**			**Pn**	**13 20 24.0**	**+1.1**
AKLV	**Akutan Long Va**	**2.71**	**58**			**Pn**	**13 20 23.8**	**+0.8**
ATKA	**Atka Island**	**2.71**	**259**			**Pg**	**13 20 28.5**	**-2.8**
AKUT	**Akutan**	**2.79**	**59**			**Pn**	**13 20 24.1**	**+0.1**
AKSA	**Akutan Strait**	**2.83**	**60**			**Pn**	**13 20 25.0**	**+0.3**
WESP	**Westdahl Peak**	**3.50**	**59**			**Pn**	**13 20 35.0**	**+1.0**

ADK Adak 4.28 261 Pn **Pn 13 20 44.0 -0.5**
FALS False Pass 4.34 59 **Pn 13 20 46.3 +0.9**
SPIA Saint Paul Isl 4.41 357 Pn 13 20 50.0 +3.7
SDPT Sand Point 6.09 61 Pn **Pn 13 21 11.1 +1.7**
CNBA Chernabura Isl 6.42 67 Pn **Pn 13 21 14.9 +1.0**
AMKA Amchitka 6.83 262 Pn Pn 13 21 25.4 +5.9
OHAK Old Harbor 10.50 58 Pn **Pn 13 22 08.8 -1.0**
KDAK Kodiak Island 11.04 56 Pn **Pn 13 22 16.5 -0.6**
0.7nm,0.3s,baz=247,slow=6.4,SNR=8.3
TTA Tatalina 12.53 30 Pn **Pn 13 22 40.7 +3.2**
SEW Seward 13.42 49 Pn **Pn 13 22 50.2 +0.7**
PPLA Purkeypile 13.77 36 Pn **Pn 13 22 53.9 -0.7**
GHO Glory Hole Cre 14.40 43 Pn **Pn 13 23 03.6 +0.5**
BPAW Bear Paw Mtn. 14.96 33 P **P 13 23 17.0 +0.8**
SCM Sheep Creek Mo 15.10 44 Pn **Pn 13 23 13.1 +0.6**
IMAR Indian Mountai 15.49 25 P **P 13 23 22.2 0.0**
BWN Browne 15.52 35 P **P 13 23 24.0 +1.6**
KLU Klutina 15.56 47 **Pn 13 23 18.4 -0.2**
DHY Denali Highway 15.68 40 P **P 13 23 23.7 -0.6**
DHY IAmb IAmb 13 23 24.7
comp=Z,19nm,1.6s
WRH Wood River Hil 16.18 35 Pn **Pn 13 23 27.5 +0.9**
WRH IAmb IAmb 13 24 10.2
comp=Z,34nm,2.0s
PAX Paxson 16.39 42 P **P 13 23 32.5 +0.4**
PAX IAmb IAmb 13 23 34.4
comp=Z,34nm,2.0s
CCB Clear Creek Bu 16.39 35 **P 13 23 30.0 -2.0**
MDM Murphy Dome 16.43 34 Pn **P 13 23 30.8 -1.7**
GLB Gilahina Butte 16.48 48 Pn **Pn 13 23 30.7 +0.1**
HDA Harding Lake 16.55 36 Pn **Pn 13 23 30.2 -1.1**
VRDI Verde Repeater 16.58 49 Pn **Pn 13 23 30.3 -1.5**
VRDI IAmb IAmb 13 23 42.7
comp=Z,32nm,1.6s
IL31 16.78 35 Pn **P 13 23 34.7 -1.7**
IL31 IAmb IAmb 13 24 20.1
comp=Z,23nm,1.9s
ILAR Eielson Array 16.78 35 Pn **Pn 13 23 33.3 -0.9**
comp=Z,0.2nm,0.3s,baz=227,slow=11,SNR=11
ILAR LR LR 13 30 23.9
comp=Z,70nm,18.7s,baz=230,slow=38
ILAR Eielson Array 16.78 35 **P 13 23 34.9 -1.5**
RIDG Independent Ri 17.00 40 P **P 13 23 40.4 +1.5**
RIDG IAmb IAmb 13 24 22.8
comp=Z,38nm,1.9s
BALM Baldy 17.03 50 Pn **Pn 13 23 37.5 0.0**
BALM IAmb IAmb 13 23 48.1
comp=Z,45nm,1.7s
YAH Yahtse 17.14 53 P **P 13 23 42.8 +2.1**
YAH IAmb IAmb 13 23 48.5
comp=Z,35nm,1.3s
DOT Dot Lake 17.26 41 P **P 13 23 42.3 +0.5**
BARN Barnard Glacie 17.36 50 P **P 13 23 42.1 -0.9**
BARN IAmb IAmb 13 23 53.5
comp=Z,16nm,1.2s
COLD Coldfoot 17.37 26 **P 13 23 43.4 +0.6**
CTGM Chitina Glacie 17.48 51 Pn **Pn 13 23 42.9 -0.2**
BCAR Beaver Creek A 17.95 44 Pn **Pn 13 23 47.3 -1.6**
EGAK Eagle 18.90 39 **Pn 13 24 00.2 -0.2**
HYT Haines Junctio 19.28 53 **P 13 24 04.2 +0.1**
HYT IAmb IAmb 13 24 12.6
comp=Z,7.2nm,0.6s
PETK Petropavlovsk- 19.46 284 P **Pn 13 24 09.4 +2.2**
comp=Z,0.2nm,0.3s,baz=90,slow=14,SNR=7.4
SKAG Skagway 20.19 57 Pn 13 24 16.1 +0.3
SKAG IAmb IAmb 13 24 19.9
comp=Z,14nm,1.0s
WHY Whitehorse 20.53 54 Pn 13 24 21.4 +1.6
WHY IAmb IAmb 13 24 26.1
comp=Z,8.1nm,0.8s
EPYK Eagle Plains 21.25 37 P **P 13 24 25.2 -0.1**
DLBC Dease Lake 22.93 60 P **P 13 24 44.6 +1.2**
comp=Z,7.2nm,1.0s,baz=265,slow=8.5,SNR=11
DLBC LR LR 13 33 11.9
comp=Z,32nm,18.7s,baz=330,slow=36
DLBC Dease Lake 22.93 60 P **P 13 24 43.0 -0.4**
DLBC IAmb IAmb 13 24 51.5
comp=Z,11nm,1.1s
INK Inuvik 23.16 34 P **P 13 24 45.6 0.0**
comp=Z,2.0nm,0.7s,baz=217,slow=14,SNR=5.2
INK LR LR 13 33 48.3
comp=Z,83nm,18.2s,baz=228,slow=37
INK Inuvik 23.16 34 P **P 13 24 45.5 -0.1**
INK IAmb IAmb 13 24 57.4
comp=Z,8.5nm,1.2s
YKA Yellowknife Ar 30.20 49 P **P 13 25 49.7 +0.3**
comp=Z,1.2nm,0.7s,baz=276,slow=7.0,SNR=5.4
YKA LR LR 13 39 18.7
comp=Z,80nm,18.1s,baz=0.0,slow=39
JTMT Jette 35.12 75 P **P 13 26 32.3 -0.6**
MCMT McKenzie Canyo 37.49 79 P **P 13 26 53.0 -0.2**
H11N2 WAKE ISLAND Hy 37.60 218 T T 14 06 45.4
baz=24,slow=76,SNR=127
H11N3 WAKE ISLAND Hy 37.60 218 T T 14 06 50.8
baz=24,slow=76,SNR=207
H11N1 WAKE ISLAND Hy 37.62 218 T T 14 06 51.7
baz=24,slow=76,SNR=131
EGMT Eagleton 37.63 72 P **P 13 26 54.6 +0.4**
BOZ Bozeman (W) 37.80 77 P **P 13 26 55.9 +0.2**
BOZ IAmb IAmb 13 26 57.9
comp=Z,10.0nm,1.8s
NVAR Mina Array Bea 37.97 91 P **P 13 26 57.9 +0.5**
comp=Z,0.9nm,0.8s,baz=297,slow=8.0,SNR=6.1
NVAR PcP **PcP 13 29 13.5 +0.6**
comp=Z,0.3nm,0.5s,baz=324,slow=4.5,SNR=2.9
NVAR Mina Array Bea 37.97 91 P **P 13 26 57.7 +0.3**
YHH Holmes Hill 38.70 78 P **P 13 27 04.1 +0.5**
H11S1 WAKE ISLAND Hy 38.79 217 T T 14 08 19.6
baz=23,slow=76,SNR=2339
H11S2 WAKE ISLAND Hy 38.80 217 T T 14 08 18.1
baz=23,slow=76,SNR=1904
H11S3 WAKE ISLAND Hy 38.81 217 T T 14 08 15.9
baz=23,slow=76,SNR=114
GCMT Greycliff 38.85 75 P **P 13 27 04.8 +0.2**
YNE Yellowstone No 39.08 77 P **P 13 27 06.8 +0.2**
MJAR Matsushiro Arr 39.41 267 P **P 13 27 11.2 +1.9**
comp=Z,0.6nm,0.8s,baz=29,slow=6.5,SNR=2.9
MJAR PcP **PcP 13 29 18.3 +1.1**
comp=Z,0.3nm,0.6s,baz=29,slow=0.7,SNR=4.3
R11A Troy Canyon, C 39.67 89 P **P 13 27 11.6 0.0**
R11A IAmb IAmb 13 28 25.6
comp=Z,8.0nm,1.9s
TPNV Topopah Spring 40.17 91 P **P 13 27 16.1 +0.3**
DUG Dugway, Tooele 40.20 85 P **P 13 27 15.7 -0.3**
DUG IAmb IAmb 13 27 18.5
comp=Z,5.9nm,1.4s
PRN Pahroc Range 40.60 90 P **P 13 27 20.3 +1.0**
PSUT Pine Spring 40.61 87 P **P 13 27 19.6 +0.2**
BW06 Boulder Array 40.62 79 P **P 13 27 19.7 +0.3**
PD31 Pinedale Array 40.62 79 P **P 13 27 19.3 -0.2**
PDAR Pinedale Array 40.62 79 P **P 13 27 19.9 +0.5**
comp=Z,0.8nm,0.5s,baz=299,slow=3.6,SNR=12
PDAR Pinedale Array 40.62 79 P **P 13 27 19.4 -0.1**
U15A North Rim 42.91 89 P **P 13 27 39.4 +1.0**
O20A White River Ci 43.00 82 P **P 13 27 40.3 +1.4**
O20A IAmb IAmb 13 27 44.6
comp=Z,5.7nm,0.8s
PV21 Cone Mtn., Par 43.55 84 P **P 13 27 43.0 -0.3**
PV23 Carpenter Ridg 43.59 84 P **P 13 27 42.7 -1.1**
PV23 IAmb IAmb 13 29 19.4
comp=Z,4.0nm,0.9s
PV22 Blue Mesa, Par 43.67 84 P **P 13 27 44.3 -0.1**
PV22 IAmb IAmb 13 27 48.1
comp=Z,2.3nm,0.8s
PV04 Paradox Valley 43.70 84 P **P 13 27 43.3 -1.2**
PV04 IAmb IAmb 13 27 46.4
comp=Z,3.4nm,0.8s
ESJX Sierra Juarez 43.70 96 P **P 13 27 45.1 +0.4**
PV17 East Wray Mesa 43.73 84 P **P 13 27 44.3 -0.5**
PV16 Nyswonger Mesa 43.74 84 P **P 13 27 44.4 -0.5**
PV16 IAmb IAmb 13 27 47.6
comp=Z,2.3nm,0.7s
PV11 David Mesa, Pa 43.77 84 P **P 13 27 44.7 -0.5**
PV18 Skein Mesa, Pa 43.79 84 P **P 13 27 45.3 0.0**
PV18 IAmb IAmb 13 27 46.2
comp=Z,3.1nm,0.7s
PV12 Saucer Basin, 43.80 84 P **P 13 27 45.7 +0.2**
PV12 IAmb IAmb 13 28 02.3
comp=Z,4.0nm,1.0s
PV03 Paradox Valley 43.82 84 P **P 13 27 45.1 -0.5**
PV13 Radium Mtn., P 43.90 84 P **P 13 27 46.3 +0.1**
PV13 IAmb IAmb 13 27 52.4
comp=Z,5.0nm,0.9s
PV02 Paradox Valley 43.91 84 P **P 13 27 46.5 +0.1**

PV02				IAmb	IAmb	13 27 50.3	
	comp=Z,4.1nm,0.9s						
PV01	**Paradox Valley**	**44.06**	**84**	P	**P**	**13 27 47.6**	**+0.1**
PV01				IAmb	IAmb	13 27 48.5	
	comp=Z,2.8nm,0.7s						
WUAZ	**Wupatki**	**44.08**	**89**	P	**P**	**13 27 48.4**	**+0.8**
WUAZ				IAmb	IAmb	13 27 52.0	
	comp=Z,2.3nm,0.7s						
MNTX	**Cornudas Mount**	**50.33**	**88**	P	**P**	**13 28 36.8**	**+0.6**
MNTX				IAmb	IAmb	13 28 37.8	
	comp=Z,1.7nm,0.7s						
WMOK	**Wichita Mounta**	**52.21**	**80**	P	**P**	**13 28 50.2**	**-0.1**
WMOK				IAmb	IAmb	13 28 54.2	
	comp=Z,2.8nm,0.8s						
BCOK	**Bluff Creek, N**	**52.28**	**79**	P	**P**	**13 28 50.5**	**-0.3**
K43A	**Burlington**	**52.93**	**66**	P	**P**	**13 28 55.2**	**-0.3**
P40A	**Paris**	**52.93**	**71**	P	**P**	**13 28 54.4**	**-1.2**
TX31	**Lajitas Ar. Si**	**53.04**	**89**	P	**P**	**13 28 56.4**	**-0.2**
TX32	**Lajitas Array**	**53.04**	**89**	P	**P**	**13 28 56.8**	**+0.2**
TX32				IAmb	IAmb	13 28 57.8	
	comp=Z,2.5nm,0.7s						
TXAR	**Lajitas Array**	**53.04**	**89**	P	**P**	**13 28 56.9**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=296,slow=5.2,SNR=37						
TXAR	**Lajitas Array**	**53.04**	**89**	P	**P**	**13 28 56.4**	**-0.2**
WLAR	**White Oak Lake**	**56.31**	**77**	P	**P**	**13 29 19.0**	**-1.1**
WRA	**Warramunga Arr**	**87.03**	**231**	P	**P**	**13 32 25.5**	**+0.6**
	comp=Z,0.8nm,1.0s,baz=30,slow=5.7,SNR=4.6						
ASAR	**Alice Springs**	**90.43**	**230**	P	**P**	**13 32 41.2**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=35,slow=3.5,SNR=11						
H03N2	**Juan Fernandez**	**116.36**	**111**	T	T	15 45 10.1	
	baz=323,slow=77,SNR=42						
H03N1	**Juan Fernandez**	**116.37**	**111**	T	T	15 45 08.1	
	baz=323,slow=77,SNR=44						
H03N3	**Juan Fernandez**	**116.37**	**111**	T	T	15 45 05.8	
	baz=323,slow=77,SNR=51						

*ROM **13** 13:26:35.4±0.3,43.01N±0.01×14.11E±0.03,h27km±2km, ML2.6/1,Error ellipse: s-maj=2.2km s-min=1.0km az=245.0*

ISC 13 13:26:36.5±1.0,**42.97N**±0.03×**14.00E**±0.03,**h29**km±7km, **n25**,σ1**9**02/31,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRTR	**Tortoreto Alta**	**0.17**	**200**	P	**Pn**	**13 26 42.5**	**-0.7**
TRTR				S	**Sb**	**13 26 47.5**	**+1.3**
TRTR				AML	AML		
	comp=E,9640μm,0.4s						
TRTR				AML	AML		
	comp=N,8670μm,0.3s						
OFFI	**Offida**	**0.23**	**261**	P	**Pn**	**13 26 42.8**	**-1.2**
OFFI				S	**Sb**	**13 26 49.3**	**+2.0**
OFFI				AML	AML		
	comp=E,3280μm,0.2s						
OFFI				AML	AML		
	comp=N,3785μm,0.7s						
CADA	**Capodarco di F**	**0.28**	**323**	P	**Pb**	**13 26 42.4**	**-1.2**
CADA				S	**Sb**	**13 26 47.7**	**-0.8**
TERO	**Teramo**	**0.45**	**220**	P	**Pn**	**13 26 45.8**	**-1.2**
TERO				S	**Sn**	**13 26 54.1**	**-0.1**
TERO				AML	AML		
	comp=E,448μm,1.6s						
TERO				AML	AML		
	comp=E,183μm,1.6s						
TERO				AML	AML		
	comp=N,178μm,1.1s						
TERO				AML	AML		
	comp=N,406μm,1.1s						
PP3	**Marolino**	**0.50**	**325**	AML	AML		
	comp=N,398μm,1.0s						
PP3				AML	AML		
	comp=E,575μm,0.4s						
VCEL	**Villa Celiera**	**0.59**	**191**	P	**Pn**	**13 26 48.5**	**-0.5**
VCEL				AML	AML		
	comp=E,370μm,1.4s						
VCEL				AML	AML		
	comp=N,310μm,0.7s						
VCEL				AML	AML		
	comp=E,446μm,0.8s						
VCEL				AML	AML		
	comp=N,344μm,0.5s						
CSP1	**Cessapalombo**	**0.59**	**282**	P	**Pn**	**13 26 47.9**	**-1.2**
CSP1				S	**Sn**	**13 26 58.2**	**+0.4**
CAMP	**Campotosto**	**0.61**	**225**	P	**Pb**	**13 26 48.2**	**-0.6**
AOI	**Ancona**	**0.65**	**334**	P	**Pn**	**13 26 49.5**	**-0.3**
CING	**Cingoli**	**0.71**	**305**	P	**Pn**	**13 26 50.0**	**-0.7**
CING				S	**Sn**	**13 27 00.9**	**+0.2**
CING				AML	AML		
	comp=E,286μm,0.3s						
CING				AML	AML		
	comp=N,266μm,0.3s						
RM33	**Pellescritta (**	**0.74**	**232**	AML	AML		
	comp=E,277μm,1.0s						
RM33				AML	AML		
	comp=E,276μm,1.0s						
RM33				AML	AML		
	comp=N,348μm,0.6s						
RM33				AML	AML		
	comp=N,348μm,0.6s						
EL6	**Elcito**	**0.75**	**299**	P	**Pn**	**13 26 50.5**	**-0.7**
EL6				AML	AML		
	comp=E,1050μm,1.6s						
EL6				AML	AML		
	comp=N,700μm,0.3s						
EL6				AML	AML		
	comp=E,1050μm,1.6s						
FOSV	**Fossato di Vic**	**0.96**	**290**	P	**Pb**	**13 26 54.4**	**-0.2**
FOSV				S	**Sn**	**13 27 09.7**	**+2.9**
FOSV				AML	AML		
	comp=N,241μm,0.3s						
FOSV				AML	AML		
	comp=E,424μm,0.4s						
INTR	**Introdacqua**	**0.96**	**184**	P	**Pb**	**13 26 54.4**	**-0.2**
INTR				AML	AML		
	comp=N,398μm,0.4s						
INTR				AML	AML		
	comp=E,278μm,1.0s						
ASSB	**Assisi San Ben**	**0.98**	**275**	P	**Pb**	**13 26 54.6**	**-0.4**
ASSB				AML	AML		
	comp=N,252μm,0.4s						
ASSB				AML	AML		
	comp=E,258μm,0.3s						
ATFO	**Monte Foce - G**	**1.11**	**291**	P	**Pb**	**13 26 57.3**	**+0.1**
ATFO				AML	AML		
	comp=N,246μm,0.5s						
ATFO				AML	AML		
	comp=E,282μm,0.5s						
PIEI	**Pieia**	**1.21**	**298**	P	**Pb**	**13 26 58.7**	**0.0**
RNI2	**Rionero Sannit**	**1.27**	**175**	AML	AML		
	comp=N,142μm,0.4s						
RNI2				AML	AML		
	comp=E,164μm,0.3s						
DUGI	**Dugi Otok**	**1.28**	**37**	*e*Pg	**Pb**	**13 26 59.8**	**-0.2**
DUGI				Sg	**Sb**	**13 27 17.5**	**+1.4**
ZIRJ	**Zirje**	**1.38**	**60**	*e*Pg	**Pb**	**13 27 01.5**	**-0.2**
ZIRJ				Sg	**Sb**	**13 27 20.2**	**+1.3**
MORI	**Morici**	**1.54**	**54**	*e*Pn	**Pb**	**13 27 04.0**	**-0.3**
MORI				Sg	**Sb**	**13 27 23.9**	**+0.6**
LATB	**Latina**	**1.66**	**208**	AML	AML		
	comp=E,30μm,1.3s						
LATB				AML	AML		
	comp=N,21μm,1.6s						
NVLJ	**Novalja**	**1.71**	**21**	Sn	**Sb**	**13 27 28.2**	**-0.3**
MSAG	**Monte S. Angel**	**1.90**	**131**	AML	AML		
	comp=N,304μm,1.2s						
MSAG				AML	AML		
	comp=E,156μm,0.3s						
KIJV	**Kijevo**	**2.04**	**59**	*e*Pn	**Pb**	**13 27 12.0**	**-0.8**
KIJV				Sn	**Sb**	**13 27 38.0**	**+0.3**

*IDC **13** 13:57:46.0±0.6,52.62N×169.64W,h0km,mb4.2/13, mb1 4.4/15,mb1mx4.1/39,mbtmp4.1/15,ML3.4/2,MS3.4/8, Ms1 3.4/8,ms1mx3.1/38,Error ellipse: s-maj=23.5km s-min=12.6km az=168.0*

*AEIC **13** 13:57:48±2.0,52.74N±0.09×169.54W±0.08,h13km±3km, Error ellipse: s-maj=13.9km s-min=3.9km az=152.0*

*NEIC **13** 13:57:48±1.6,52.77N±0.09×169.59W±0.08,h10km±1km, mb4.5/155,ML4.2/33(AEIC),Error ellipse: s-maj=16.1km s-min=4.9km az=153.0*

ISC 13 13:57:48.3±1.7,**52.71N**±0.09×**169.55W**±0.05, **h16**km±10km,**n399**,σ0**996**/397,**mb4.5**/67,**MS3.2**/7,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.49**	**58**		**Pg**	**13 57 58.2**	**0.0**
NIKH					**Sb**	**13 58 05.7**	**0.0**
OKSP	**Okmok Steeple**	**0.93**	**54**		**Pg**	**13 58 05.3**	**-1.1**
OKCE	**Okmok Cone E**	**1.10**	**49**		**Pb**	**13 58 08.4**	**-0.6**
OKCE					**Sb**	**13 58 23.8**	**+0.7**
OKNC	**Okmok New Cone**	**1.14**	**49**		**Pb**	**13 58 08.8**	**-0.9**
OKFG	**Magazine Ridge**	**1.21**	**54**		**Pn**	**13 58 10.1**	**-0.5**
OKFG					**Sb**	**13 58 26.1**	**-0.1**
MAPS	**Pakushin South**	**1.91**	**54**		**Pn**	**13 58 20.0**	**-0.2**
MAPS					**Sb**	**13 58 46.1**	**-0.3**
MREP	**Makushin Rep't**	**2.01**	**56**		**Pn**	**13 58 21.8**	**+0.1**
MCIR	**Makushin Cirqu**	**2.02**	**51**		**Sb**	**13 58 50.2**	**+0.6**
MSW	**Makushin Switc**	**2.05**	**53**		**Pn**	**13 58 22.5**	**+0.3**
MNAT	**Makushin Natee**	**2.08**	**55**		**Pn**	**13 58 22.6**	**0.0**
UNV	**Unalaska Valle**	**2.15**	**57**		**Pn**	**13 58 23.6**	**+0.1**
AKRB	**Akutan Reef Bi**	**2.52**	**54**		**Pn**	**13 58 29.8**	**+1.2**
AKMO	**Akutan Morgan**	**2.53**	**56**		**Pn**	**13 58 30.0**	**+1.3**
AKLV	**Akutan Long Va**	**2.59**	**55**		**Pn**	**13 58 31.1**	**+1.5**
AKGG	**Akutan Green G**	**2.59**	**54**		**Pn**	**13 58 31.2**	**+1.5**
AKUT	**Akutan**	**2.67**	**56**		**Pn**	**13 58 31.3**	**+0.7**
AKSA	**Akutan Strait**	**2.71**	**57**		**Pn**	**13 58 32.2**	**+1.0**
KOSE	**Korovin Southe**	**2.77**	**264**		**Pn**	**13 58 32.2**	**+0.1**
KOFP	**Korovin Flat P**	**2.81**	**263**		**Pn**	**13 58 33.2**	**+0.5**
ATKA	**Atka Island**	**2.89**	**262**		**Pn**	**13 58 34.0**	**+0.3**
WESP	**Westdahl Peak**	**3.38**	**56**		**Pn**	**13 58 41.4**	**+0.9**
WEBT	**Westdahl Beart**	**3.42**	**55**		**Pn**	**13 58 42.4**	**+1.5**
FALS	**False Pass**	**4.22**	**57**		**Pn**	**13 58 53.7**	**+1.7**
ADK	**Adak**	**4.46**	**262**	Pn	**Pn**	**13 58 56.4**	**+1.2**
SPIA	**Saint Paul Isl**	**4.49**	**355**		**Pn**	**13 58 57.5**	**+1.8**
SDPT	**Sand Point**	**5.96**	**60**	Pn	**Pn**	**13 59 17.9**	**+2.0**
CNBA	**Chernabura Isl**	**6.27**	**66**	Pn	**Pn**	**13 59 21.2**	**+1.1**
AMKA	**Amchitka**	**7.01**	**263**	Pn	**Pn**	**13 59 32.0**	**+1.8**
LSNW	**Little Sitkin**	**7.35**	**269**		**Pn**	**13 59 36.8**	**+1.8**
CHIR	**Chirikof Islan**	**8.72**	**64**	Pn	**Pn**	**13 59 55.0**	**+1.3**
SII	**Sitkinak Islan**	**9.70**	**61**	Pn	**Pn**	**14 00 08.5**	**+1.3**
OHAK	**Old Harbor**	**10.37**	**58**	Pn	**Pn**	**14 00 16.3**	**0.0**
KDAK	**Kodiak Island**	**10.92**	**56**	Pn	**Pn**	**14 00 24.4**	**+0.7**
	0.8nm,0.3s,baz=228,slow=6.2,SNR=7.7						
KDAK	**Kodiak Island**	**10.92**	**56**		**Pn**	**14 00 24.3**	**+0.6**
SEW	**Seward**	**13.32**	**48**	Pn	**Pn**	**14 00 57.5**	**+1.0**
O22K	**Cooper Landing**	**13.36**	**47**	P	**Pn**	**14 00 56.5**	**-0.6**
	baz=243						
CUT	**Chulitna**	**14.13**	**39**	P	**Pn**	**14 01 06.6**	**-0.9**
	baz=235						
GHO	**Glory Hole Cre**	**14.32**	**43**	Pn	**Pn**	**14 01 11.4**	**+1.1**
KNK	**Knik Glacier**	**14.34**	**44**	Pn	**Pn**	**14 01 10.7**	**+0.2**
BPAW	**Bear Paw Mtn.**	**14.92**	**33**	P	**P**	**14 01 23.3**	**-0.6**
FID	**Port Fidalgo**	**14.93**	**48**	Pn	**Pn**	**14 01 17.6**	**-0.9**
SCM	**Sheep Creek Mo**	**15.02**	**44**	Pn	**Pn**	**14 01 18.9**	**-0.8**
RND	**Reindeer**	**15.23**	**37**	Pn	**Pn**	**14 01 23.0**	**+0.4**
MCK	**McKinley**	**15.39**	**36**	Pn	**Pn**	**14 01 23.4**	**-1.3**
MCK				IAmb	IAmb	14 01 42.2	
	comp=Z,26nm,1.4s						
KLU	**Klutina**	**15.47**	**46**		**Pn**	**14 01 23.6**	**-2.1**
KLU				IAmb	IAmb	14 01 30.6	
	comp=Z,16nm,0.9s						
BWN	**Browne**	**15.47**	**34**	P	**P**	**14 01 29.9**	**-0.1**
BWN				IAmb	IAmb	14 01 33.1	
	comp=Z,36nm,1.1s						
IMAR	**Indian Mountai**	**15.48**	**25**		**P**	**14 01 30.4**	**+0.3**
DHY	**Denali Highway**	**15.61**	**40**	P	**P**	**14 01 30.2**	**-1.6**
NEA2	**Nenana**	**15.87**	**33**	P	**Pn**	**14 01 30.8**	**-0.1**
	baz=231						
WRH	**Wood River Hil**	**16.13**	**35**	Pn	**Pn**	**14 01 34.5**	**+0.3**
PAX	**Paxson**	**16.31**	**42**	Pn	**Pn**	**14 01 36.5**	**-0.1**
CCB	**Clear Creek Bu**	**16.34**	**35**		**Pn**	**14 01 37.2**	**+0.5**
MDM	**Murphy Dome**	**16.38**	**33**	P	**Pn**	**14 01 38.8**	**+1.4**
GLB	**Gilahina Butte**	**16.39**	**48**	Pn	**Pn**	**14 01 37.8**	**+0.3**
GLB				IAmb	IAmb	14 02 29.8	
	comp=Z,34nm,1.5s						
TCOL	**CIGO, UAF Yank**	**16.45**	**34**	P	**Pn**	**14 01 37.5**	**-0.7**
	baz=232						
CRQM	**Cirque**	**16.48**	**50**	Pn	**Pn**	**14 01 39.6**	**+0.8**
CRQM				IAmb	IAmb	14 01 40.4	
	comp=Z,131nm,1.9s						
VRDI	**Verde Repeater**	**16.48**	**49**	Pn	**Pn**	**14 01 39.2**	**+0.4**
HDA	**Harding Lake**	**16.50**	**36**	P	**Pn**	**14 01 38.3**	**-0.5**
	baz=235						
HDA	**Harding Lake**	**16.50**	**36**	P	**Pn**	**14 01 39.2**	**+0.4**
TGL	**Tana Glacier**	**16.62**	**51**	P	**P**	**14 01 43.7**	**+0.8**
TGL				IAmb	IAmb	14 01 45.3	
	comp=Z,34nm,1.1s						
MCARA	**McCarthy VSAT**	**16.73**	**48**	Pn	**Pn**	**14 01 41.2**	**-0.5**
MCARA				IAmb	IAmb	14 01 48.8	
	comp=Z,34nm,1.2s						
IL31		**16.73**	**35**		**Pn**	**14 01 41.7**	**0.0**
ILAR	**Eielson Array**	**16.73**	**35**	Pn	**Pn**	**14 01 41.5**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=227,slow=11,SNR=19						
ILAR				PcP	**PcP**	**14 06 29.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=250,slow=2.8,SNR=4.6						
ISLE	**Juniper Island**	**16.81**	**51**	Pn	**Pn**	**14 01 42.8**	**-0.1**
ISLE				IAmb	IAmb	14 01 44.7	
	comp=Z,85nm,1.6s						
RIDG	**Independent Ri**	**16.93**	**40**	P	**P**	**14 01 46.8**	**+0.6**
BALM	**Baldy**	**16.93**	**50**	P	**P**	**14 01 46.6**	**+0.3**
BALM				IAmb	IAmb	14 01 47.1	
	comp=Z,54nm,2.0s						
MENT	**Mentasta**	**17.01**	**43**	Pn	**Pn**	**14 01 45.9**	**+0.5**
YAH	**Yahtse**	**17.03**	**52**	Pn	**Pn**	**14 01 46.0**	**+0.2**
YAH				IAmb	IAmb	14 01 51.0	
	comp=Z,26nm,0.8s						
DOT	**Dot Lake**	**17.19**	**41**	Pn	**Pn**	**14 01 47.1**	**-0.5**
COLD	**Coldfoot**	**17.35**	**26**	P	**P**	**14 01 50.8**	**0.0**
	baz=222,SNR=6.3						
CTGM	**Chitina Glacie**	**17.38**	**51**	Pn	**Pn**	**14 01 50.0**	**-0.1**
BCAR	**Beaver Creek A**	**17.87**	**44**		**Pn**	**14 01 56.4**	**+0.3**
BCPM	**Bancas Point**	**17.97**	**54**	P	**P**	**14 01 59.0**	**+1.3**
K27K	**Chicken**	**18.15**	**41**	P	**Pn**	**14 01 59.5**	**+0.1**
	baz=244						
TOLK	**Toolik Lake Re**	**18.57**	**23**	P	**Pn**	**14 02 05.0**	**+0.4**
	baz=221						
EGAK	**Eagle**	**18.84**	**39**	P	**P**	**14 02 07.5**	**+0.2**
HYT	**Haines Junctio**	**19.17**	**52**		**Pn**	**14 02 13.2**	**+1.2**
HYT				IAmb	IAmb	14 02 15.4	
	comp=Z,30nm,1.2s						
PEA0B	**Petropavlovsk-**	**19.67**	**284**	P	**P**	**14 02 16.7**	**+0.4**
PEA0B				IAmb	IAmb	14 02 29.8	
	comp=Z,20nm,1.2s						
PETK	**Petropavlovsk-**	**19.67**	**284**	P	**P**	**14 02 16.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=87,slow=14,SNR=12						
PETK				LR	LR	14 10 00.8	
	comp=Z,121nm,18.1s,baz=81,slow=37						
SKAG	**Skagway**	**20.07**	**57**		Pn	14 02 22.7	+0.2
SKAG				IAmb	IAmb	14 02 24.2	
	comp=Z,33nm,0.9s						
BESE	**Bessie Mountai**	**20.27**	**59**	P	**P**	**14 02 24.4**	**+1.4**
BESE				IAmb	IAmb	14 02 27.8	
	comp=Z,24nm,1.2s						
WHY	**Whitehorse**	**20.42**	**53**		Pn	14 02 26.5	-0.3
WHY				IAmb	IAmb	14 02 33.8	
	comp=Z,14nm,0.7s						
JIS	**Juneau Island**	**20.51**	**60**	P	**P**	**14 02 24.8**	**-0.6**
EPYK	**Eagle Plains**	**21.19**	**37**	P	**P**	**14 02 32.1**	**-0.7**
	baz=246						
EPYK	**Eagle Plains**	**21.19**	**37**	P	**P**	**14 02 32.5**	**-0.3**
EPYK				IAmb	IAmb	14 02 33.7	
	comp=Z,20nm,0.8s						
SEY	**Seymchan**	**22.36**	**312**	P	**P**	**14 02 45.8**	**+0.6**
	comp=Z,4.2nm,0.9s,baz=94,slow=7.6,SNR=5.7						
DLBC	**Dease Lake**	**22.80**	**60**	P	**P**	**14 02 51.9**	**+1.7**
	comp=Z,20nm,1.1s,baz=276,slow=9.7,SNR=20						
DLBC				LR	LR	14 12 43.4	
	comp=Z,78nm,18.4s,baz=266,slow=39						
DLBC	**Dease Lake**	**22.80**	**60**	P	**P**	**14 02 53.3**	**+3.1**
DLBC				IAmb	IAmb	14 02 55.2	
	comp=Z,26nm,1.1s						
INK	**Inuvik**	**23.12**	**34**	P	**P**	**14 02 52.6**	**-0.6**
	comp=Z,2.4nm,0.5s,baz=256,slow=7.9,SNR=9.0						
D03D	**Eldon**	**29.81**	**81**	P	**P**	**14 03 54.5**	**+0.2**
	baz=298						
YKA	**Yellowknife Ar**	**30.10**	**49**	P	**P**	**14 03 56.6**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=273,slow=7.7,SNR=6.7						
YKA				LR	LR	14 17 16.9	
	comp=Z,114nm,18.6s,baz=0.0,slow=39						
I02D	**Swisshome**	**31.07**	**87**	P	**P**	**14 04 06.3**	**+0.8**
	baz=303						
I03D	**Drain, OR**	**31.59**	**88**	P	**P**	**14 04 09.2**	**-0.9**
	baz=303						
B08A	**Collaville Reser**	**31.68**	**77**	P	**P**	**14 04 12.3**	**+1.4**
B08A				IAmb	IAmb	14 04 13.3	
	comp=Z,4.7nm,0.9s						
K02D	**Willamette Mer**	**31.96**	**90**	P	**P**	**14 04 12.5**	**-0.9**
	baz=304						
G05D	**Wamic, OR**	**32.01**	**84**	P	**P**	**14 04 14.4**	**+0.7**
	baz=301						
I04A	**Tendick Farm,**	**32.11**	**87**	P	**P**	**14 04 15.5**	**+0.8**
	baz=303						
L02E	**Cave Junction**	**32.30**	**90**	P	**P**	**14 04 17.1**	**+0.8**
	baz=305						
HAWA	**Hanford**	**32.50**	**81**	P	**P**	**14 04 19.7**	**+1.7**
HAWA				IAmb	IAmb	14 05 03.4	
	comp=Z,20nm,1.6s						
J04D	**Umpqua Nationa**	**32.60**	**88**	P	**P**	**14 04 20.6**	**+1.4**
	baz=304						
NEW	**Newport**	**33.03**	**76**	P	**P**	**14 04 24.0**	**+1.3**
	baz=298						
NEW	**Newport**	**33.03**	**76**	P	**P**	**14 04 23.3**	**+0.6**
NEW				IAmb	IAmb	14 04 24.8	
	comp=Z,5.3nm,0.7s						
L04D	**Klamath Falls**	**33.06**	**89**	P	**P**	**14 04 24.9**	**+1.8**
	baz=305						
J05D	**Fort Rock, OR**	**33.11**	**87**	P	**P**	**14 04 24.4**	**+0.9**
	baz=304						
N02D	**Trinity Center**	**33.54**	**91**	P	**P**	**14 04 28.8**	**+1.6**
	baz=307						
M04C	**Macdoel**	**33.59**	**90**	P	**P**	**14 04 29.1**	**+1.4**
	baz=306						
K05A	**Summer Lake**	**33.63**	**87**	P	**P**	**14 04 30.7**	**+2.6**
I07A	**Izee**	**33.72**	**84**	P	**P**	**14 04 30.9**	**+2.1**
I07A				IAmb	IAmb	14 04 31.3	
	comp=Z,5.4nm,1.1s						
O02D	**Mt. Diablo Mer**	**33.97**	**93**	P	**P**	**14 04 32.4**	**+1.4**
	baz=308						
MOD	**Modoc Plateau**	**34.46**	**88**	P	**P**	**14 04 37.3**	**+2.0**
MOD				IAmb	IAmb	14 04 38.5	
	comp=Z,13nm,1.6s						
O03E	**Paynes Creek**	**34.50**	**92**	P	**P**	**14 04 37.2**	**+1.6**
	baz=308						
J08A	**Circle Bar Ran**	**34.74**	**85**	P	**P**	**14 04 39.2**	**+1.6**
J08A				IAmb	IAmb	14 04 41.1	
	comp=Z,9.2nm,1.3s						
JTMT	**Jette**	**34.96**	**75**	P	**P**	**14 04 40.5**	**+1.0**
JTMT				IAmb	IAmb	14 04 42.5	
	comp=Z,14nm,1.5s						
WVOR	**Wild Horse Val**	**35.16**	**86**	P	**P**	**14 04 43.3**	**+2.0**
WVOR				IAmb	IAmb	14 04 44.3	
	comp=Z,5.7nm,0.9s						
MSO	**Missoula**	**35.62**	**77**	P	**P**	**14 04 46.1**	**+0.9**
	baz=301						
MFID	**Camas Ranch**	**36.31**	**83**	P	**P**	**14 04 52.4**	**+1.3**
PAHR	**Pah Rah Range**	**36.33**	**90**	P	**P**	**14 04 53.2**	**+1.8**
PAHR				IAmb	IAmb	14 04 55.4	
	comp=Z,4.8nm,1.0s						
HRY	**Holter Researc**	**36.92**	**76**	P	**P**	**14 04 56.9**	**+0.6**
HLID	**Hailey**	**37.08**	**82**	P	**P**	**14 04 58.3**	**+0.6**
	baz=304						
BCYI	**Bear Canyon**	**37.27**	**80**	P	**P**	**14 05 00.1**	**+0.6**
MCMT	**McKenzie Canyo**	**37.32**	**79**	P	**P**	**14 05 00.5**	**+0.7**
EGMT	**Eagleton**	**37.47**	**73**	P	**P**	**14 05 01.4**	**+0.5**
	baz=300,SNR=6.7						
EGMT	**Eagleton**	**37.47**	**73**	P	**P**	**14 05 01.7**	**+0.8**
EGMT				IAmb	IAmb	14 05 03.3	
	comp=Z,14nm,0.9s						
KVN	**Kaiserville**	**37.51**	**90**	P	**P**	**14 05 03.0**	**+1.4**
BOZ	**Bozeman (W)**	**37.63**	**77**	P	**P**	**14 05 03.1**	**+0.7**
	baz=302,SNR=8.0						
BOZ	**Bozeman (W)**	**37.63**	**77**	P	**P**	**14 05 03.2**	**+0.9**
BOZ				IAmb	IAmb	14 05 04.0	
	comp=Z,4.2nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	14 44 50.7	
	baz=24,slow=76,SNR=83						
H11N3	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	14 44 50.2	
	baz=24,slow=76,SNR=116						
H11N1	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	14 44 48.7	
	baz=24,slow=76,SNR=86						
NVAR	**Mina Array Bea**	**37.78**	**91**	P	**P**	**14 05 05.0**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=298,slow=7.6,SNR=20						
NVAR				PcP	**PcP**	**14 07 20.6**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=316,slow=2.8,SNR=5.1						
NVAR	**Mina Array Bea**	**37.78**	**91**	P	**P**	**14 05 04.2**	**+0.3**
NVAR					**PcP**	**14 07 20.8**	**+0.4**
YHH	**Holmes Hill**	**38.53**	**78**	P	**P**	**14 05 11.2**	**+1.0**
H11S1	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	14 46 14.0	
	baz=23,slow=76,SNR=1373						
H11S2	**WAKE ISLAND Hy**	**38.86**	**218**	T	T	14 46 19.0	
	baz=23,slow=76,SNR=1239						
H11S3	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	14 46 19.2	
	baz=23,slow=76,SNR=1101						
YNE	**Yellowstone No**	**38.91**	**77**	P	**P**	**14 05 14.0**	**+0.7**
IMW	**Indian Meadow**	**38.97**	**79**	P	**P**	**14 05 15.2**	**+1.3**
FXWY	**Fox Creek**	**39.07**	**79**	P	**P**	**14 05 16.0**	**+1.4**
CWC	**Cottonwood Cre**	**39.20**	**94**	P	**P**	**14 05 16.8**	**+1.1**
	baz=311						
RLMT	**Red Lodge**	**39.28**	**76**	P	**P**	**14 05 17.6**	**+1.2**
	baz=304,SNR=5.6						
RLMT	**Red Lodge**	**39.28**	**76**	P	**P**	**14 05 17.5**	**+1.2**
RLMT				IAmb	IAmb	14 05 18.5	
	comp=Z,6.2nm,0.9s						
LOHW	**Long Hollow**	**39.33**	**79**	P	**P**	**14 05 18.0**	**+1.1**
BGU	**Big Grassy Mou**	**39.45**	**84**	P	**P**	**14 05 19.0**	**+1.3**
R11A	**Troy Canyon, C**	**39.48**	**89**	P	**P**	**14 05 19.4**	**+1.3**
	baz=310,SNR=6.1						
R11A	**Troy Canyon, C**	**39.48**	**89**	P	**P**	**14 05 19.4**	**+1.3**
MJAR	**Matsushiro Arr**	**39.60**	**267**	P	**P**	**14 05 18.3**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=38,slow

SRU	San Rafael Swe	42.08	84	P	P	14 05 40.7 +1.3
PFO	Pinyon Flats O	42.08	95	P	P	14 05 40.2 +0.7
	baz=314					
PFO	Pinyon Flats O	42.08	95	P	P	14 05 40.8 +1.3
XPFO	Pion Flat	42.08	95	P	P	14 05 40.8 +1.3
TPFO	Pinon Flats	42.09	95	P	P	14 05 39.6 +0.1
	baz=314					
BELC	Belle Mtn. Jos	42.09	95	P	P	14 05 40.1 +0.5
	baz=313					
K22A	Casper	42.32	78	P	P	14 05 41.3 -0.1
	baz=306					
RWWY	Rawlins	42.49	79	P	P	14 05 42.3 -0.6
IRM	Iron Mountain	42.51	94	P	P	14 05 44.4 +1.6
	baz=313					
MONP2	Monument Peak	42.60	96	P	P	14 05 45.0 +1.2
	baz=314					
W13A	Hualapai Mount	42.64	92	P	P	14 05 45.4 +1.3
BC3	Big Chuckawall	42.66	94	P	P	14 05 44.2 +0.1
	baz=314					
U15A	North Rim	42.73	89	P	P	14 05 46.2 +1.4
U15A				IAmb	IAmb	14 05 47.6
	comp=Z,5.3nm,0.8s					
O20A	White River Ci	42.82	82	P	P	14 05 46.3 +0.8
	baz=308,SNR=5.9					
O20A	White River Ci	42.82	82	P	P	14 05 46.2 +0.8
O20A				IAmb	IAmb	14 05 47.2
	comp=Z,12nm,0.8s					
RSSD	Black Hills	42.93	74	P	P	14 05 46.5 +0.2
	baz=306					
RSSD	Black Hills	42.93	74	P	P	14 05 46.6 +0.2
SWSC	Sam W. Stewart	42.94	96	P	P	14 05 46.9 +0.6
	baz=314					
IKP	In-Ko-Pah, Jac	42.96	96	P	P	14 05 47.5 +0.9
	baz=314					
PDMCI	Parker Dam,Lak	43.02	93	P	P	14 05 48.1 +1.2
	baz=313					
MDND	Maddock	43.35	67	P	P	14 05 49.8 +0.3
	baz=304					
MDND	Maddock	43.35	67	P	P	14 05 50.0 +0.5
PV21	Cone Mtn., Par	43.36	84	P	P	14 05 50.3 +0.4
PV23	Carpenter Ridg	43.41	84	P	P	14 05 51.2 +0.8
PV23				IAmb	IAmb	14 05 55.3
	comp=Z,14nm,1.4s					
PV14	Lion Creek, Pa	43.45	84	P	P	14 05 51.2 +0.5
PV22	Blue Mesa, Par	43.49	84	P	P	14 05 51.4 +0.5
ESJX	Sierra Juarez	43.51	97	P	P	14 05 52.6 +1.5
ESJX				IAmb	IAmb	14 07 00.9
	comp=Z,5.1nm,0.7s					
PV04	Paradox Valley	43.51	84	P	P	14 05 51.8 +0.7
PV04				IAmb	IAmb	14 05 52.8
	comp=Z,5.9nm,0.7s					
PV19	Morning Glory	43.52	84	P	P	14 05 51.9 +0.7
PV19				IAmb	IAmb	14 05 53.6
	comp=Z,3.5nm,0.7s					
PV17	East Wray Mesa	43.55	84	P	P	14 05 52.0 +0.5
PV17				IAmb	IAmb	14 05 53.0
	comp=Z,7.4nm,0.7s					
PV16	Nyswonger Mesa	43.56	84	P	P	14 05 51.8 +0.3
PV16				IAmb	IAmb	14 05 52.7
	comp=Z,4.9nm,0.8s					
PV11	David Mesa, Pa	43.59	84	P	P	14 05 52.6 +0.8
PV11				IAmb	IAmb	14 05 54.1
	comp=Z,8.8nm,0.6s					
PV18	Skein Mesa, Pa	43.60	84	P	P	14 05 52.5 +0.6
PV18				IAmb	IAmb	14 05 53.5
	comp=Z,5.7nm,0.7s					
PV12	Saucer Basin,	43.62	84	P	P	14 05 52.6 +0.5
PV12				IAmb	IAmb	14 05 57.3
	comp=Z,24nm,1.7s					
PV03	Paradox Valley	43.63	84	P	P	14 05 52.6 +0.4
PV03				IAmb	IAmb	14 05 53.7
	comp=Z,25nm,1.7s					
PV13	Radium Mtn., P	43.71	84	P	P	14 05 53.5 +0.7
PV13				IAmb	IAmb	14 05 54.5
	comp=Z,10nm,0.7s					
N23A	Red Feather La	43.73	79	P	P	14 05 53.5 +0.6
	baz=308					
N23A	Red Feather La	43.73	79	P	P	14 05 53.5 +0.6
N23A				IAmb	IAmb	14 05 54.9
	comp=Z,6.8nm,1.2s					
PV02	Paradox Valley	43.73	84	P	P	14 05 53.5 +0.6
PV02				IAmb	IAmb	14 05 54.6
	comp=Z,7.7nm,0.7s					
PV01	Paradox Valley	43.88	84	P	P	14 05 54.8 +0.7
PV01				IAmb	IAmb	14 05 55.7
	comp=Z,6.7nm,0.7s					
WUAZ	Wupatki	43.88	89	P	P	14 05 55.1 +1.0
	baz=312,SNR=5.8					
WUAZ	Wupatki	43.88	89	P	P	14 05 55.6 +1.5
WUAZ				IAmb	IAmb	14 05 56.7
	comp=Z,7.4nm,0.8s					
Y14A	Wickenburg	43.95	92	P	P	14 05 55.9 +1.3
Y14A				IAmb	IAmb	14 05 56.7
	comp=Z,4.5nm,0.8s					
ULM	Lac du Bonnet	44.09	62	P	P	14 05 54.6 -0.7
	comp=Z,4.3nm,0.8s,baz=295,slow=5.9,SNR=3.3					
SPX	San Pedro Mart	44.48	97	P	P	14 06 00.7 +1.6
SPX				IAmb	IAmb	14 07 18.7
	comp=Z,6.9nm,1.2s					
MVCO	Mesa Verde	44.52	85	P	P	14 06 00.2 +0.9
	baz=311					
X16A	Lo Mia Camp, P	44.58	90	P	P	14 06 01.6 +1.9
ISCO	Idaho Springs	44.61	80	P	P	14 06 01.1 +1.1
	baz=309					
W18A	Petrified Fore	45.15	88	P	P	14 06 05.1 +0.8
	baz=312					
W18A	Petrified Fore	45.15	88	P	P	14 06 05.5 +1.3
AGMN	Agassiz Nation	45.18	65	P	P	14 06 04.0 -0.1
	baz=305					
AGMN	Agassiz Nation	45.18	65	P	P	14 06 03.8 -0.3
AGMN				IAmb	IAmb	14 06 04.8
	comp=Z,10.0nm,0.9s					
KSRS	Korea Array	45.26	276	P	P	14 06 04.2 -0.6
	comp=Z,0.5nm,0.7s,baz=44,slow=11,SNR=1.7					
KSRS				LR	LR	14 24 35.1
	comp=Z,34nm,18.1s,baz=76,slow=36					
214A	Organ Pipe Nat	45.44	94	P	P	14 06 07.5 +1.1
	baz=315					
SDCO	Great Sand Dun	45.98	82	P	P	14 06 11.5 +0.6
	baz=311,SNR=7.6					
SDCO	Great Sand Dun	45.98	82	P	P	14 06 12.0 +1.0
SDCO				IAmb	IAmb	14 06 13.1
	comp=Z,3.1nm,0.9s					
TUC	Tucson	46.42	92	P	P	14 06 15.3 +1.1
	baz=314					
TUC	Tucson	46.42	92	P	P	14 06 15.2 +1.1
TUC				IAmb	IAmb	14 06 16.2
	comp=Z,4.0nm,0.9s					
KSCO	Kaye Shedlock'	46.89	79	P	P	14 06 18.6 +0.7
	baz=310					
T25A	Trinidad	47.04	82	P	P	14 06 19.8 +0.7
	baz=311,SNR=5.4					
T25A	Trinidad	47.04	82	P	P	14 06 20.4 +1.2
ECSD	EROS Data Cent	47.46	70	P	P	14 06 21.3 -0.8
	baz=308,SNR=5.1					
ECSD	EROS Data Cent	47.46	70	P	P	14 06 21.3 -0.8
ECSD				IAmb	IAmb	14 06 22.4
	comp=Z,10.0nm,1.2s					
BNM	Barren Site	47.69	87	P	P	14 06 25.5 +1.3
EYMN	Ely	47.76	63	P	P	14 06 25.2 +0.8
121A	Cookes Peak, D	48.09	89	P	P	14 06 28.2 +0.9
	baz=314					
121A	Cookes Peak, D	48.09	89	P	P	14 06 29.0 +1.7
121A				IAmb	IAmb	14 06 29.7
	comp=Z,4.8nm,0.8s					
I37A	Lemond, Waseca	49.11	68	P	P	14 06 34.8 0.0
MNTX	Cornudas Mount	50.14	88	P	P	14 06 44.1 +1.3
	baz=315,SNR=11					
MNTX	Cornudas Mount	50.14	88	P	P	14 06 44.1 +1.3
MNTX				IAmb	IAmb	14 06 45.1
	comp=Z,5.0nm,0.7s					
MSTX	Muleshoe	50.15	84	P	P	14 06 43.9 +1.0
	baz=313					
MSTX	Muleshoe	50.15	84	P	P	14 06 43.6 +0.7
AMTX	Amarillo	50.19	82	P	P	14 06 44.3 +1.1
	baz=313					
AMTX	Amarillo	50.19	82	P	P	14 06 44.5 +1.2
AMTX				IAmb	IAmb	14 08 21.1
	comp=Z,4.2nm,0.7s					
JFWS	Jewell Farm	51.58	67	P	P	14 06 52.5 -1.0
	baz=310					
P38A	Dawn	51.85	72	P	P	14 06 54.8 -0.8
T35A	Sooner Cattle	51.91	77	P	P	14 06 56.4 +0.4
T35A				IAmb	IAmb	14 06 56.5
	comp=Z,7.5nm,1.1s					
WMOK	Wichita Mounta	52.03	81	P	P	14 06 57.2 +0.2
	baz=313,SNR=11					
WMOK	Wichita Mounta	52.03	81	P	P	14 06 57.4 +0.4
WMOK				IAmb	IAmb	14 06 58.3
	comp=Z,7.1nm,0.8s					
D46A	Sault St. Mari	52.39	60	P	P	14 06 58.9 -0.6
	baz=310					
P40A	Paris	52.77	71	P	P	14 07 01.7 -0.7
TX31	Lajitas Ar. Si	52.85	89	P	P	14 07 03.8 +0.6
TX32	Lajitas Array	52.85	89	P	P	14 07 03.9 +0.6
TX32				IAmb	IAmb	14 07 05.0
	comp=Z,6.5nm,0.8s					
TXAR	Lajitas Array	52.85	89	P	P	14 07 04.1 +0.9
	comp=Z,5.5nm,0.7s,baz=299,slow=5.4,SNR=86					
TXAR				PcP	PcP	14 08 12.3 0.0
	comp=Z,1.1nm,0.7s,baz=187,slow=0.3,SNR=4.6					
TXAR	Lajitas Array	52.85	89	P	P	14 07 03.8 +0.6
TXAR					PcP	14 08 12.8 +0.5
ABTX	Abilene, Hawle	52.97	83	P	P	14 07 04.1 +0.1
	baz=314					
ABTX	Abilene, Hawle	52.97	83	P	P	14 07 05.2 +1.2
ABTX				IAmb	IAmb	14 07 07.3
	comp=Z,10nm,1.1s					
D48A	Paudash Townsh	53.37	58	P	P	14 07 06.0 -0.7
	baz=311					
R40A	Maddies Statio	53.48	73	P	P	14 07 05.9 -1.7
D49A	Beulah Townshi	53.54	58	P	P	14 07 07.4 -0.5
	baz=311					
MATQ	Matagami	53.77	53	P	P	14 07 08.8 -0.8
	baz=311					
P43A	Skaggs, Pawnee	54.15	70	P	P	14 07 12.2 -0.3
X37A	Clayton	54.17	78	P	P	14 07 12.7 0.0
JCT	Junction City	54.38	85	P	P	14 07 14.7 +0.3
	baz=316					
U40A	Yellville	54.45	75	P	P	14 07 13.7 -1.1
	baz=314					
U40A	Yellville	54.45	75	P	P	14 07 13.2 -1.5
U40A				IAmb	IAmb	14 07 14.1
	comp=Z,5.3nm,0.8s					
D51A	Lot 18 Range I	54.67	57	P	P	14 07 15.4 -0.8
	baz=312					
W39A	Magazine	54.70	77	P	P	14 07 16.1 -0.4
	baz=314					
W39A	Magazine	54.70	77	P	P	14 07 16.1 -0.4
WHTX	Lake Whitney,	54.73	82	P	P	14 07 17.3 +0.5
	baz=315					
WHTX	Lake Whitney,	54.73	82	P	P	14 07 17.4 +0.6
E51A	G1948 Merrick	54.99	57	P	P	14 07 17.8 -0.7
	baz=312					
SFIN	Lafayette	55.03	68	P	P	14 07 18.0 -0.9
	baz=313					
SFIN	Lafayette	55.03	68	P	P	14 07 18.3 -0.6
FCAR	Ozark Folk Cen	55.20	75	P	P	14 07 18.6 -1.5
FCAR				IAmb	IAmb	14 07 19.5
	comp=Z,6.7nm,0.8s					
D52A	ZEK Kipawa Sen	55.24	56	P	P	14 07 19.5 -0.8
	baz=312					
CHGQ	Chibougamau	55.25	52	P	P	14 07 19.2 -1.1
	baz=313					
MIAR	Mount Ida	55.27	77	P	P	14 07 19.9 -0.8
	baz=314					
MIAR	Mount Ida	55.27	77	P	P	14 07 20.6 -0.1
MIAR				IAmb	IAmb	14 07 21.6
	comp=Z,7.3nm,1.1s					
D53A	Lac Vacive, Po	55.53	56	P	P	14 07 21.6 -0.8
	baz=313					
E52A	Mattawa	55.58	57	P	P	14 07 22.1 -0.7
	baz=313					
W41B	Gary Mavity, V	55.62	76	P	P	14 07 22.1 -1.0
	baz=314					
D54A	Lac Fusel, La	56.01	55	P	P	14 07 24.8 -1.0
	baz=313					
E53A	Dumoine, Ponti	56.02	57	P	P	14 07 25.6 -0.4
	baz=313					
PARMO	Parma	56.05	73	P	P	14 07 25.3 -0.9
ALGO	Algonquin Park	56.12	57	P	P	14 07 26.0 -0.6
	baz=313					
WLAR	White Oak Lake	56.14	77	P	P	14 07 27.1 +0.2
E54A	Lac Daplat, Po	56.23	56	P	P	14 07 26.5 -0.9
	baz=313					
P48A	Milroy	56.59	67	P	P	14 07 31.3 +1.2
D55A	Sainte-Anne-du	56.69	55	P	P	14 07 29.8 -0.9
	baz=314					
CCAR	Cane Creek	56.78	76	P	P	14 07 31.5 0.0
D56A	ZEC Mazanza, M	57.02	54	P	P	14 07 32.1 -0.9
	baz=314					
T47A	Sharon Grove	57.35	71	P	P	14 07 34.5 -1.0
T47A				IAmb	IAmb	14 07 35.9
	comp=Z,9.4nm,0.9s					
M52A	Chesterland	57.40	63	P	P	14 07 35.1 -0.8
	baz=314					
D57A	Chemin Vers le	57.47	54	P	P	14 07 35.3 -0.9
	baz=314					
I55A	Frankford	57.50	58	P	P	14 07 35.8 -0.6
	baz=314					
WVT	Waverly	57.53	72	P	P	14 07 36.3 -0.5
	baz=315					
OXF	Oxford	57.75	74	P	P	14 07 38.0 -0.4
	baz=315					
OXF	Oxford	57.75	74	P	P	14 07 38.0 -0.4
E57A	Chemin Saint G	57.77	55	P	P	14 07 37.2 -1.2
	baz=314					
H56A	Elgin	57.97	57	P	P	14 07 38.9 -0.9
	baz=314					
Q51A	Peebles	58.05	66	P	P	14 07 39.9 -0.6
Q51A				IAmb	IAmb	14 08 42.9
	comp=Z,9.2nm,1.1s					
NRS	Narsarsuaq	58.09	28	P	P	14 07 39.2 -1.0
PLAL	Pickwick Lake	58.19	73	P	P	14 07 40.5 -0.9
PLAL				IAmb	IAmb	14 07 41.4
	comp=Z,5.3nm,0.8s					
G57A	Newington	58.26	56	P	P	14 07 40.9 -0.9
	baz=315					
P52A	Corning	58.30	65	P	P	14 07 43.3 +1.1
K55A	Perry	58.33	60	P	P	14 07 41.6 -0.8
	baz=314					
J56A	Wolcott	58.58	59	P	P	14 07 43.7 -0.3
	baz=315					
T50A	Nancy	58.62	69	P	P	14 07 43.9 -0.5
VBMS	Vicksburg	58.72	77	P	P	14 07 45.4 +0.3
	baz=316					
K56A	Middlesex	58.74	60	P	P	14 07 44.9 -0.3
	baz=315					
M55A	Ridgway	58.85	61	P	P	14 07 45.2 -0.8
	baz=315					
J57A	Williamstown	58.94	58	P	P	14 07 45.5 -1.0
	baz=315					
J57A	Williamstown	58.94	58	P	P	14 07 45.9 -0.6
L56A	Greenwood	59.02	60	P	P	14 07 46.2 -0.9
	baz=315					
L56A	Greenwood	59.02	60	P	P	14 07 47.5 +0.3
SSLB	Suanglung	59.10	269	P	P	14 07 47.9 -0.1
D61A	St Aubert, Com	59.13	52	P	P	14 07 46.8 -0.9
	baz=316					
M56A	Emporium	59.15	61	P	P	14 07 47.7 -0.3
	baz=315					
P54A	Burton	59.23	64	P	P	14 07 48.3 -0.4
	baz=315					
H59A	Cadyville	59.24	56	P	P	14 07 47.8 -0.8
	baz=315					
R53A	Hurricane	59.32	66	P	P	14 07 48.8 -0.4
	baz=315					
L57A	Andrews Acres	59.49	60	P	P	14 07 50.0 -0.4
	baz=315					
G60A	Masonville	59.59	55	P	P	14 07 50.6 -0.5
	baz=316					
P55A	Reedsville	59.66	64	P	P	14 07 51.5 -0.1
	baz=315					
H60A	Morristown	59.79	55	P	P	14 07 52.0 -0.5
	baz=316					
BINY	Binghamton	59.80	59	P	P	14 07 51.8 -0.7
	baz=316					
M57A	Sunshine Farm,	59.81	61	P	P	14 07 53.0 +0.4
E62A	Clayton Lake	59.87	52	P	P	14 07 53.1 +0.2
SSPA	Standing Stone	59.90	62	P	P	14 07 53.3 0.0
T53A	Wise	59.95	67	P	P	14 07 53.5 -0.2
	baz=316					
R54A	Victor	59.96	66	P	P	14 07 53.7 +0.1
	baz=316					
Y49A	Blount Mountai	59.96	73	P	P	14 07 52.7 -1.1
K59A	Cooperstown	59.98	58	P	P	14 07 53.4 -0.3
	baz=316					
L58A	Harry Jones Me	59.98	59	P	P	14 07 53.5 -0.2
	baz=316					
M58A	Price's Panora	60.14	60	P	P	14 07 54.9 0.0
	baz=316					
P56A	Dayton Farm, R	60.20	63	P	P	14 07 55.2 -0.1
	baz=316					
LRAL	Lakeview Retre	60.21	74	P	P	14 07 54.8 -0.6
	baz=316					
L59A	Walton	60.30	59	P	P	14 07 55.5 -0.4
	baz=316					
T54A	Tazewell	60.43	67	P	P	14 07 56.6 -0.4
	baz=316					
S55A	Lewisburg	60.52	66	P	P	14 07 57.2 -0.4
	baz=316					
M59A	Waymart	60.56	59	P	P	14 07 57.1 -0.6
	baz=316					
T55A	Pulaski	60.83	66	P	P	14 07 59.0 -0.7
	baz=316					
G63A	Kingsbury	60.91	53	P	P	14 07 59.4 -0.6
	baz=317					
PKME	Peaks-Kenny Pk	60.96	53	P	P	14 07 59.4 -0.9
	baz=317					
BLA	Blacksburg	60.97	66	P	P	14 08 00.5 -0.1
	baz=316					
BLA	Blacksburg	60.97	66	P	P	14 08 00.7 +0.1
BATG	Bathurst New B	61.01	49	P	P	14 08 00.5 -0.3
O59A	Robesonia	61.04	61	P	P	14 08 01.0 -0.1
	baz=316					
S56A	Natural Bridge	61.10	65	P	P	14 08 01.6 +0.1
	baz=316					
U55A	TA2, Sparta	61.13	67	P	P	14 08 01.5 -0.2
	baz=316					
M60A	Port Jervis	61.13	59	P	P	14 08 01.5 -0.1
	baz=316					
N60A	Cedar Hill Far	61.21	60	P	P	14 08 01.4 -0.8
	baz=316					
Q58A	Fox Den Farm,	61.23	63	P	P	14 08 02.1 -0.2
	baz=316					
R57A	Stanardsville	61.23	64	P	P	14 08 02.3 -0.1
	baz=316					
V55A	Taylorsville	61.50	68	P	P	14 08 03.0 -1.1
	baz=316					
W54A	Cherokee Point	61.50	69	P	P	14 08 03.3 -1.0
	baz=316					
R58A	Rapidan	61.51	63	P	P	14 08 03.8 -0.4
	baz=316					
J63A	Strafford	61.53	55	P	P	14 08 02.8 -1.5
	baz=317					
R58B	Mineral	61.82	64	P	P	14 08 06.3 0.0
	baz=316					
HRV	Adam Dziewonsk	61.85	56	P	P	14 08 05.4 -1.1
	baz=317					
H65A	Eastbrook	61.88	52	P	P	14 08 05.6 -1.0
	baz=318					
M62A	Hamden	61.95	58	P	P	14 08 06.0 -1.0
	baz=317					
HODGE	Hodges	62.08	69	P	P	14 08 07.3 -0.8
U57A	Blanch	62.13	66	P	P	14 08 07.9 -0.5
	baz=317					
T58A	Grand View Acr	62.20	65	P	P	14 08 08.4 -0.5
	baz=317					
X55A	Gracelyn & Ava	62.26	69	P	P	14 08 08.5 -0.9
	baz=317					
V57A	Coltrane Farms	62.28	67	P	P	14 08 08.5 -0.9
	baz=317					
S59A	Mechanicsville	62.29	63	P	P	14 08 08.5 -1.0
	baz=317					
Y55A	Saluda	62.52	69	P	P	14 08 10.2 -0.8
	baz=317					
L64A	Middleborough	62.63	56	P	P	14 08 10.5 -1.1
	baz=318					
T59A	Double "B" Far	62.72	64	P	P	14 08 12.1 -0.2
	baz=317					
V59A	Middlesex	63.22	66	P	P	14 08 15.5 -0.2
	baz=317					
MKAR	Makanchi Array	63.49	313	P	P	14 08 17.8 +0.5
	comp=Z,0.3nm,0.7s,baz=28,slow=6.5,SNR=2.8					
157A	Early Branch	63.93	70	P	P	14 08 20.5 +0.1
	baz=318					
Z58A	St. Stephen	64.12	69	P	P	14 08 21.4 -0.2
	baz=318					
W61A	Ground Anchor	64.35	65	P	P	14 08 22.4 -0.6
	baz=318					
TARG	Taragay, Kyrgy	69.45	312	P	P	14 08 54.3 -1.8
TARG				IAmb	IAmb	14 10 22.8
	comp=Z,13nm,2.0s					
ABKAR	Akbulak array	70.08	328	P	P	14 08 58.1 -1.2
KKAR	Karatay Array	71.46	318	P	P	14 09 06.1 -1.7
CMAR	Chiang Mai Arr	76.44	283	LR	LR	14 45 20.3
	comp=Z,12nm,19.1s,baz=205,slow=37					
KBZ	Khabaz	79.95	337	P	P	14 09 58.0 +1.7
	comp=Z,1.9nm,0.8s,baz=29,slow=3.7,SNR=3.5					
WRA	Warramunga Arr	87.13	231	P	P	14 10 32.0 -1.3
	comp=Z,1.9nm,0.9s,baz=33,slow=5.6,SNR=8.5					
ASAR	Alice Springs	90.53	230	P	P	14 10 49.2 -0.2
	comp=Z,2.6nm,0.8s,baz=30,slow=4.8,SNR=26					
ASAR				LR	LR	14 52 34.7
	comp=Z,23nm,18.1s,baz=36,slow=36					
H03N2	Juan Fernandez	116.15	111	T	T	16 23 20.3
	baz=323,slow=78,SNR=46					
H03N1	Juan Fernandez	116.17	111	T	T	16 23 21.8
	baz=323,slow=78,SNR=48					
H03N3	Juan Fernandez	116.17	111	T	T	16 23 21.3
	baz=323,slow=78,SNR=50					
MAW	Mawson	151.07	219	PKPbc	PKPbc	14 17 39.2 +0.2
	comp=Z,2.7nm,0.6s,baz=140,slow=2.4,SNR=9.6					
MAW	Mawson	151.07	219		PKPbc	14 17 39.1 +0.1
BOSA	Boshof	153.54	330	PKPbc	PKPbc	14 17 45.6 -0.3
	comp=Z,2.5nm,0.8s,baz=8.4,slow=3.0,SNR=5.2					

TEH ***13*** *14:05:13.0, 31.72N×47.43E, h12km, ML3.5*
ISN ***13*** *14:05:14.5±2.5, 31.86N×47.35E, h15km±17km, ML3.1*
ISC 13 14:05:12.7±1.4, 31.6N±0.1×47.3E±0.06, h10km, n24,
σ0.51/27, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	Ahwaz	1.14	102	*e*Pg	Pb	14 05 34.3	-0.2
AHWZ				*e*Sg	Sb	14 05 49.8	+0.4
IBDR	Badra	1.94	322	*e*Pg	Pn	14 05 45.0	-0.7
	baz=136						
IBDR				*e*Sg	Sn	14 06 11.0	+0.9
IBDR				AML	AML	14 06 15.5	
	comp=E,245nm,0.4s						
IBDR				AML	AML	14 06 16.6	
	comp=N,222nm,0.5s						
IKFM	Kafar-mosalman	1.99	12	*e*Pg	Pn	14 05 46.8	+0.4
IKFM				*e*		14 06 16.0	
IKMR	Kamar-syah	2.13	24	*e*Pn	Pn	14 05 48.2	0.0
IKMR				*e*		14 06 31.6	
IKOM	Komasi	2.59	3	*e*Pn	Pn	14 05 54.2	-0.7
IKOM				*e*		14 06 36.3	
KCHF	Cheshme Sefid,	2.70	355	*e*Pn	Pn	14 05 56.9	+0.5
KCHF				*e*		14 06 49.0	
IGHG	Ghaleghazi	2.82	347	*e*Pn	Pn	14 05 57.9	-0.1
JHBN	Jahan bin	2.90	76	*e*Pn	Pn	14 05 59.4	+0.2
JHBN				*e*		14 06 54.1	
IBZA	Bozab	2.92	8	*e*Pn	Pn	14 06 00.3	+0.9
BHD	Baghdad	3.02	305	*e*Pn	Pn	14 06 01.0	+0.5
BHD				*e*Sn	Sn	14 06 36.0	-0.7
IPIR	Pirpir	3.21	69	*e*Pn	Pn	14 06 03.3	-0.2
IPIR				*e*		14 07 03.1	
ROKH	ROKH	3.23	75	*e*Pn	Pn	14 06 03.3	-0.4
ROKH				*e*		14 07 05.4	
IALM	Almabolaq	3.35	12	*e*Pn	Pn	14 06 04.5	-0.8
HAGD	Aghdareh	3.57	25	*e*Pn	Pn	14 06 08.3	-0.1
IKLH	Kolahrood	3.98	63	*e*Pn	Pn	14 06 14.4	+0.4
IKLH				*e*		14 06 17.8	
IGAR	Gharneh	4.08	77	*e*Pn	Pn	14 06 15.3	0.0
IGAR				*e*		14 07 04.3	
IRAM	Ramesheh	4.30	86	*e*Pn	Pn	14 06 18.6	+0.2
IRAZ	Razeghan	4.39	29	*e*Pn	Pn	14 06 20.0	+0.4
IZEF	Zefreh	4.43	71	*e*Pn	Pn	14 06 19.9	-0.3
QABG	Abgarm-Qazvin	4.53	24	*e*Pn	Pn	14 06 20.8	-0.7
QSDN	Sirdan	5.15	17	*e*Pn	Pn	14 06 30.1	+0.1
QALM	Alamut, Qazvin	5.57	29	*e*Pn	Pn	14 06 35.7	-0.1
IDMV	Damavand	5.59	43	*e*Pn	Pn	14 06 35.8	-0.4
IPRN	Peran	6.24	40	*e*Pn	Pn	14 06 44.4	-0.5

IDC ***13*** *14:17:35.7±1.0, 34.69N×28.32E, h0km,

*HLW **13** 14:17:39.5,34˚.50N×28˚.36E,h31km±39km,Md4.3,Ml4.7*
*DDA **13** 14:17:39.5,34˚.87N×28˚.45E,h15km±5km,MW4.0*
*NEIC **13** 14:17:39.5±2.0,34˚.52N±0˚.04×28˚.31E±0˚.05,h34km±6km, mb4.6/53,ML4.4(NIC),ML4.7(HLW),Error ellipse: s-maj=6.5km s-min=6.4km az=201.0*
*NIC **13** 14:17:40.1±0.0,34˚.52N×28˚.42E,h39km±21km,Ml4.4/4*
*THE **13** 14:17:43.3,34˚.71N×28˚.24E,h67km±5km,ML4.1/15,Error ellipse: s-maj=5.6km s-min=0.8km az=92.0*
*GII **13** 14:17:44.3±0.0,34˚.32N×28˚.78E,h30km,mb4.3/1, MD4.1/1*

ISC 13 14:17:37.1±1.2,34˚.50N±0˚.03×28˚.33E±0˚.03,h16km±7km, n382,σ1%68/461,mb4.5/50,20C-6D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**1.72**	**354**	P	**Pb**	**14 18 07.5**	**-0.8**
ARG				S	**Sn**	**14 18 26.6**	**-1.4**
	715nm,0.4s						
ARG	**Arkhangelos**	**1.72**	**354**	P	**Pn**	**14 18 06.5**	**+0.2**
ARG				S	**Sn**	**14 18 25.8**	**-2.2**
ARG				AML	AML	14 18 31.9	
	comp=N,1078µm,0.4s						
ARG				AML	AML	14 18 33.6	
	comp=E,1469µm,0.3s						
ARG	**Arkhangelos**	**1.72**	**354**	PN	**Pn**	**14 18 06.8**	**+0.4**
ARG				SN	**Sn**	**14 18 26.7**	**-1.3**
ARG	**Arkhangelos**	**1.72**	**354**	P	**Pb**	**14 18 07.5**	**-0.8**
ARG				S	**Sb**	**14 18 28.7**	**-1.0**
ARG	**Arkhangelos**	**1.72**	**354**	⇑P	**Pb**	**14 18 07.4**	**-0.9**
ARG				S	**Sb**	**14 18 28.8**	**-1.0**
ARG	**Arkhangelos**	**1.72**	**354**		**Pb**	**14 18 07.5**	**-0.8**
ARG					**Sn**	**14 18 26.6**	**-1.4**
ZKR	**Zakros**	**1.85**	**290**	P	**Pn**	**14 18 09.4**	**+1.3**
ZKR				S	**Sn**	**14 18 30.4**	**-0.7**
	comp=E,2µm,0.3s						
ZKR	**Zakros**	**1.85**	**290**	P	**Pn**	**14 18 09.3**	**+1.3**
ZKR				S	**Sn**	**14 18 30.6**	**-0.6**
ZKR				AML	AML	14 18 33.2	
	comp=E,3901µm,0.3s						
ZKR				AML	AML	14 18 34.2	
	comp=N,3064µm,0.3s						
ZKR	**Zakros**	**1.85**	**290**	PN	**Pn**	**14 18 09.4**	**+1.3**
ZKR				SN	**Sn**	**14 18 31.8**	**+0.7**
ZKR	**Zakros**	**1.85**	**290**		**Pn**	**14 18 09.4**	**+1.3**
ZKR					**Sn**	**14 18 30.4**	**-0.7**
STIA	**Sitia Lasithi**	**1.97**	**291**	P	**Pb**	**14 18 11.7**	**-0.9**
STIA				S	**Sn**	**14 18 34.2**	**0.0**
DEMR	**Demre-Antalya**	**2.16**	**36**	PN	**Pb**	**14 18 14.4**	**-1.4**
FETY	**Fethiye**	**2.22**	**16**	P	**Pn**	**14 18 13.6**	**+0.4**
FETY				S	**Sn**	**14 18 39.5**	**-0.8**
FETY	**Fethiye**	**2.22**	**16**	PN	**Pn**	**14 18 14.2**	**+1.0**
FETY				SN	**Sn**	**14 18 39.6**	**-0.8**
FETY	**Fethiye**	**2.22**	**16**	*i* P	**Pn**	**14 18 13.9**	**+0.6**
FETY				*i* S	**Sn**	**14 18 38.8**	**-1.6**
FETY				IAML		14 18 39.0	
	comp=N,807nm,0.4s						
FETY				IAML		14 18 40.0	
	comp=E,465nm,0.3s						
TURN	**Turunc**	**2.27**	**358**	PN	**Pn**	**14 18 14.6**	**-0.8**
TURN				SN	**Sn**	**14 18 40.5**	**-3.7**
TURN	**Turunc**	**2.27**	**358**	*i* P	**Pn**	**14 18 15.1**	**-0.3**
TURN				*i* S	**Sn**	**14 18 39.5**	**-4.7**
TURN				IAML		14 18 45.0	
	comp=E,392nm,0.3s						
TURN				IAML		14 18 46.0	
	comp=N,326nm,0.3s						
DAT	**Datca**	**2.31**	**345**	P	**Pn**	**14 18 15.1**	**+0.6**
DAT	**Datca**	**2.31**	**345**	PN	**Pn**	**14 18 14.8**	**+0.3**
DAT	**Datca**	**2.31**	**345**	*i* P	**Pn**	**14 18 15.1**	**+0.6**
DAT				*i* S	**Sn**	**14 18 42.7**	**0.0**
DALY	**Dalyan (Mula)**	**2.33**	**6**	PN	**Pn**	**14 18 15.5**	**+0.9**
DALY				SN	**Sn**	**14 18 42.2**	**-0.8**
DALY	**Dalyan (Mula)**	**2.33**	**6**	*i* P	**Pn**	**14 18 15.6**	**+0.9**
DALY				*i* S	**Sn**	**14 18 41.0**	**-1.9**
DALY				IAML		14 18 47.0	
	comp=N,326nm,0.5s						
NPS	**Neapolis**	**2.36**	**290**	P	**Pn**	**14 18 17.3**	**+2.1**
NPS				S	**Sn**	**14 18 43.4**	**-0.5**
	comp=N,2µm,0.3s						
NPS	**Neapolis**	**2.36**	**290**	P	**Pn**	**14 18 17.3**	**+2.1**
NPS				S	**Sn**	**14 18 44.0**	**+0.1**
NPS				AML	AML	14 18 48.2	
	comp=N,3400µm,0.3s						
NPS				AML	AML	14 18 48.3	
	comp=E,4054µm,0.4s						
NPS	**Neapolis**	**2.36**	**290**	P	**Pn**	**14 18 17.3**	**+2.1**
NPS				S	**Sn**	**14 18 43.7**	**-0.2**
LAST	**Lasithi**	**2.44**	**287**	P	**Pn**	**14 18 18.1**	**+1.8**
LAST				S	**Sn**	**14 18 46.3**	**+0.4**
	comp=E,965nm,0.5s						
LAST	**Lasithi**	**2.44**	**287**	P	**Pn**	**14 18 18.0**	**+1.6**
LAST				S	**Sn**	**14 18 46.2**	**+0.3**
LAST				AML	AML	14 18 48.4	
	comp=N,2001µm,0.4s						
LAST				AML	AML	14 18 52.8	
	comp=E,1803µm,0.7s						
AKUM	**Antalya-Kumluc**	**2.45**	**41**	*i* P	**Pn**	**14 18 17.6**	**+1.2**
AKUM				*i* S	**Sn**	**14 18 44.7**	**-1.3**
AKUM				IAML		14 18 46.0	
	comp=N,254nm,0.3s						
AKUM				IAML		14 18 50.0	
	comp=E,300nm,0.5s						
ELL	**Elmali**	**2.59**	**29**	PN	**Pn**	**14 18 20.1**	**+1.8**
ELL				SN	**Sn**	**14 18 50.1**	**+0.6**
ELL	**Elmali**	**2.59**	**29**	P	**Pn**	**14 18 20.2**	**+1.8**
ELL	**Elmali**	**2.59**	**29**	P	**Pn**	**14 18 20.1**	**+1.8**
ELL				S	**Sn**	**14 18 50.0**	**+0.4**
ELL	**Elmali**	**2.59**	**29**	Pn	**Pn**	**14 18 20.2**	**+1.8**
YER	**Yerkesik**	**2.63**	**359**	P	**Pn**	**14 18 19.7**	**+1.4**
YER				S	**Sn**	**14 18 48.7**	**-1.9**
YER	**Yerkesik**	**2.63**	**359**	PN	**Pn**	**14 18 19.7**	**+0.8**
YER	**Yerkesik**	**2.63**	**359**	P	**Pn**	**14 18 20.6**	**+1.7**
YER				S	**Sn**	**14 18 48.7**	**-1.9**
OSC1	**CSNet OBS 1**	**2.64**	**111**	P	**Pn**	**14 18 20.1**	**+1.1**
OSC1				S	**Sn**	**14 18 50.4**	**-0.2**
HRKL	**Herakleio**	**2.78**	**288**	PN	**Pn**	**14 18 22.8**	**+1.9**
HRKL				SN	**Sn**	**14 18 54.8**	**+0.8**
ANAF	**Anafi Island**	**2.79**	**312**	P	**Pn**	**14 18 21.4**	**+0.3**
ANAF				S	**Sn**	**14 18 52.0**	**-2.5**
	comp=E,7µm,0.3s						
ANAF	**Anafi Island**	**2.79**	**312**	P	**Pn**	**14 18 21.5**	**+0.3**
GOLH	**Golhisar**	**2.91**	**20**	*i* P	**Pb**	**14 18 25.3**	**-3.3**
GOLH				*i* S	**Sn**	**14 18 57.8**	**+0.3**
IDI	**Anoyia**	**2.94**	**287**	Pn	**Pn**	**14 18 24.4**	**+1.3**
	comp=E,37nm,0.3s,baz=121,slow=14,SNR=164						
IDI				Sn	**Sn**	**14 18 58.1**	**0.0**
	comp=E,114nm,0.3s,baz=172,slow=23,SNR=23						
IDI	**Anoyia**	**2.94**	**287**	P	**Pn**	**14 18 25.1**	**+1.9**
IDI				S	**Sn**	**14 18 58.0**	**-0.2**
	comp=E,1µm,0.4s						
IDI	**Anoyia**	**2.94**	**287**	P	**Pn**	**14 18 24.9**	**+1.8**
IDI				S	**Sn**	**14 18 57.9**	**-0.2**
IDI				AML	AML	14 19 01.4	
	comp=N,2592µm,0.5s						
IDI				AML	AML	14 19 03.8	
	comp=E,2129µm,0.3s						
IDI	**Anoyia**	**2.94**	**287**	⇑P	**Pn**	**14 18 23.5**	**+0.4**
IDI				S	**Sn**	**14 18 58.1**	**0.0**
IDI	**Anoyia**	**2.94**	**287**	PN	**Pn**	**14 18 25.2**	**+2.1**
IDI	**Anoyia**	**2.94**	**287**	Pn	**Pn**	**14 18 25.1**	**+1.9**
SIVA	**Sivas**	**2.95**	**281**	P	**Pn**	**14 18 25.6**	**+2.4**
SIVA				S	**Sn**	**14 18 58.6**	**+0.4**
	comp=E,3µm,0.4s						
SIVA	**Sivas**	**2.95**	**281**	P	**Pn**	**14 18 25.3**	**+2.1**
SIVA				S	**Sn**	**14 18 58.0**	**-0.2**
SIVA				AML	AML	14 19 00.3	
	comp=N,4038µm,0.5s						
SIVA				AML	AML	14 19 03.7	
	comp=E,6870µm,0.4s						
KORT	**Korkueli**	**2.99**	**33**	PN	**Pn**	**14 18 25.9**	**+2.0**
TAVA	**DENIZLI_Tavas**	**3.00**	**9**	*i* P	**Pn**	**14 18 25.3**	**+1.3**
TAVA				*i* S	**Sn**	**14 18 58.1**	**-1.5**
TAVA				IAML		14 19 03.0	
	comp=E,287nm,0.4s						
TAVA				IAML		14 19 05.0	
	comp=N,330nm,0.5s						
SANT	**Santorini**	**3.00**	**309**	P	**Pn**	**14 18 24.5**	**+0.5**
SANT				S	**Sn**	**14 18 56.9**	**-2.7**
	comp=N,1µm,0.2s						
SANT	**Santorini**	**3.00**	**309**	⇑P	**Pn**	**14 18 24.4**	**+0.4**
SANT	**Santorini**	**3.00**	**309**	PN	**Pn**	**14 18 24.7**	**+0.7**
SANT	**Santorini**	**3.00**	**309**	Pn	**Pn**	**14 18 24.3**	**+0.3**
SNT3	**Karterados, Sa**	**3.03**	**310**	P	**Pn**	**14 18 24.9**	**+0.5**
SNT1	**Gialos, Santor**	**3.05**	**310**	P	**Pn**	**14 18 25.1**	**+0.5**
SNT1	**Gialos, Santor**	**3.05**	**310**	P	**Pn**	**14 18 25.1**	**+0.5**
ANTB	**Antalya**	**3.05**	**38**	PN	**Pn**	**14 18 27.1**	**+2.5**
AMGA	**Amorgos Island**	**3.06**	**320**	P	**Pn**	**14 18 25.1**	**+0.3**
AMGA				S	**Sn**	**14 18 57.2**	**-3.9**
	comp=N,455nm,0.3s						
AMGA	**Amorgos Island**	**3.06**	**320**	P	**Pn**	**14 18 25.1**	**+0.3**
THT2	**Imerovigli**	**3.06**	**310**	PN	**Pn**	**14 18 25.7**	**+0.9**
CMBO	**Columbo, Santo**	**3.10**	**310**	P	**Pn**	**14 18 25.8**	**+0.6**
CMBO				S	**Sn**	**14 18 58.9**	**-3.0**
	comp=N,2µm,0.5s						
AYDN	**Tasoluk**	**3.18**	**353**	*i* P	**Pn**	**14 18 27.2**	**+0.8**
AYDN				IAML		14 19 04.0	
	comp=N,246nm,0.7s						
AYDN				IAML		14 19 06.0	
	comp=E,260nm,0.3s						
MATC	**Matruh**	**3.28**	**197**	P	**Pn**	**14 18 28.9**	**+1.1**
	baz=198						
MATC				AMP		14 19 00.0	
	baz=198						
MATC				S	**Sn**	**14 19 03.6**	**-2.8**
	baz=198						
MATC	**Matruh**	**3.28**	**197**		**Pn**	**14 18 28.9**	**+1.1**
MATC					**Sn**	**14 19 03.6**	**-2.8**
GCAM	**G?zelcaml?**	**3.32**	**345**	PN	**Pn**	**14 18 29.3**	**+1.0**
GCAM	**G?zelcaml?**	**3.32**	**345**	*i* P	**Pn**	**14 18 28.8**	**+0.5**
GCAM				IAML		14 19 06.0	
	comp=N,106nm,0.4s						
GCAM				IAML		14 19 08.0	
	comp=E,102nm,0.5s						
IOSP	**Ios Island**	**3.33**	**313**	P	**Pn**	**14 18 28.6**	**+0.1**
IOSP				S	**Sn**	**14 19 04.1**	**-3.6**
	comp=E,2µm,0.4s						
IOSP	**Ios Island**	**3.33**	**313**	P	**Pn**	**14 18 28.5**	**0.0**
AKMS	**Akamas**	**3.33**	**80**	P	**Pn**	**14 18 29.2**	**+0.7**
AKMS				S	**Sn**	**14 19 07.4**	**-0.4**
AKMS				AML	AML	14 19 10.3	
	comp=E,2.1nm,0.2s						
AKMS				AML	AML	14 19 10.3	
	comp=E,2.1nm,0.2s						
AKMS				AML	AML	14 19 10.7	
	comp=E,1.7nm,0.3s						
AKMS				AML	AML	14 19 10.7	
	comp=E,1.7nm,0.3s						
SMG	**Samos**	**3.42**	**340**	P	**Pn**	**14 18 29.9**	**+0.1**
APE	**Apeiranthos**	**3.43**	**319**	P	**Pn**	**14 18 30.3**	**+0.3**
APE				S	**Sn**	**14 19 07.3**	**-3.0**
	comp=E,928nm,0.3s						
APE	**Apeiranthos**	**3.43**	**319**	P	**Pn**	**14 18 30.2**	**+0.3**
APE	**Apeiranthos**	**3.43**	**319**	⇑P	**Pn**	**14 18 30.2**	**+0.3**
APE	**Apeiranthos**	**3.43**	**319**	PN	**Pn**	**14 18 30.7**	**+0.8**
APE	**Apeiranthos**	**3.43**	**319**	*di* P	**Pn**	**14 18 30.4**	**+0.5**
BCK	**Bucak**	**3.48**	**31**	PN	**Pn**	**14 18 32.9**	**+2.3**
BRDR	**BURDUR-Merkez**	**3.48**	**23**	*i* P	**Pn**	**14 18 33.3**	**+2.6**
BRDR				*i* S	**Sn**	**14 19 10.9**	**-0.7**
NATA	**Nata**	**3.50**	**84**	P	**Pn**	**14 18 32.0**	**+1.1**
NATA				AML	AML	14 19 16.2	
	comp=E,4.3nm,0.6s						
NATA				AML	AML	14 19 17.0	
	comp=E,3.4nm,0.3s						
GVDS	**Gavdos**	**3.51**	**277**	P	**Pn**	**14 18 33.2**	**+2.2**
GVDS				S	**Sn**	**14 19 11.6**	**-0.6**
	comp=E,2µm,0.3s						
GVDS	**Gavdos**	**3.51**	**277**	PN	**Pn**	**14 18 33.6**	**+2.6**
VAM	**Vamos**	**3.51**	**286**	P	**Pn**	**14 18 32.5**	**+1.5**
VAM	**Vamos**	**3.51**	**286**	P	**Pn**	**14 18 32.9**	**+1.9**
VAM	**Vamos**	**3.51**	**286**	P	**Pn**	**14 18 32.5**	**+1.5**
GVD	**Gavdhos**	**3.52**	**277**	P	**Pn**	**14 18 33.0**	**+1.9**
GVD				S	**Sn**	**14 19 12.9**	**+0.6**
	comp=E,2µm,0.3s						
GVD	**Gavdhos**	**3.52**	**277**	P	**Pn**	**14 18 32.9**	**+1.9**
GVD	**Gavdhos**	**3.52**	**277**	PN	**Pn**	**14 18 33.9**	**+2.9**
ALFC	**Alefka**	**3.57**	**78**	⇑P	**Pn**	**14 18 32.5**	**+0.6**
ALFC				S	**Sn**	**14 19 12.7**	**-1.0**
ALFC				AML	AML	14 19 16.4	
	comp=E,2.2nm,0.5s						
ALFC				AML	AML	14 19 16.4	
	comp=E,2.2nm,0.5s						
ALFC				AML	AML	14 19 18.2	
	comp=E,1.6nm,0.3s						
ALFC				AML	AML	14 19 18.2	
	comp=E,1.6nm,0.3s						
OSC2	**CSNet OBS 4**	**3.57**	**112**	P	**Pn**	**14 18 33.1**	**+1.3**
OSC2				S	**Sn**	**14 19 14.2**	**+0.6**
KEPZ	**Antalya-Kepez**	**3.58**	**47**	*i* P	**Pn**	**14 18 33.6**	**+1.6**
KEPZ				*i* S	**Sn**	**14 19 12.3**	**-1.7**
KEPZ				IAML		14 19 15.0	
	comp=N,282nm,0.6s						
KEPZ				IAML		14 19 17.0	
	comp=E,169nm,0.4s						
CHAN	**Chania**	**3.67**	**287**	P	**Pn**	**14 18 35.2**	**+2.1**
BASM	**Basmaki-Afyon**	**3.69**	**22**	PN	**Pn**	**14 18 35.4**	**+2.0**
GAZI	**Gazipasa**	**3.69**	**61**	*i* P	**Pn**	**14 18 33.8**	**+0.4**
GAZI				*i* S	**Sn**	**14 19 12.4**	**-4.2**
GAZI				IAML		14 19 23.0	
	comp=N,188nm,0.4s						
GAZI				IAML		14 19 25.0	
	comp=E,132nm,0.4s						
IMMV	**Iera Moni Meta**	**3.70**	**286**	P	**Pn**	**14 18 35.2**	**+1.6**
IMMV	**Iera Moni Meta**	**3.70**	**286**	PN	**Pn**	**14 18 35.9**	**+2.3**
IMMV				SN	**Sn**	**14 19 17.4**	**+0.6**
SZAC	**Souni**	**3.76**	**85**	⇑P	**Pn**	**14 18 35.3**	**+0.9**
SZAC				AML	AML	14 19 23.9	
	comp=E,2.2nm,0.4s						
SZAC				AML	AML	14 19 24.9	
	comp=E,2.0nm,0.3s						
LEF	**Lefka**	**3.80**	**79**	⇓P	**Pn**	**14 18 35.2**	**+0.3**
LEF	**Lefka**	**3.80**	**79**	*i* P	**Pn**	**14 18 34.9**	**-0.1**
SLUM	**Salum**	**3.98**	**222**	P	**Pn**	**14 18 38.6**	**+1.2**
	baz=223						
MANT	**Manisa**	**3.99**	**3**	*i* P	**Pn**	**14 18 38.0**	**+0.2**
MANT				*i* S	**Sn**	**14 19 21.6**	**-2.7**
MANT				IAML		14 19 23.0	
	comp=E,71nm,0.9s						
MANT				IAML		14 19 25.0	
	comp=N,217nm,0.5s						
MANT	**Manisa**	**3.99**	**3**	Pn	**Pn**	**14 18 39.0**	**+1.3**
BAGO	**Egridir - ISPA**	**4.01**	**29**	*i* P	**Pn**	**14 18 40.1**	**+2.2**
BAGO				*i* S	**Sn**	**14 19 17.7**	**-6.9**
BLCB	**Balcova**	**4.02**	**345**	PN	**Pn**	**14 18 38.2**	**+0.3**
ASGA	**Asgata**	**4.06**	**85**	P	**Pn**	**14 18 39.3**	**+0.7**
SEYD	**Seydisehir-KON**	**4.06**	**43**	PN	**Pn**	**14 18 41.9**	**+3.3**
URLA	**Izmir**	**4.10**	**341**	PN	**Pn**	**14 18 40.4**	**+1.3**
URLA	**Izmir**	**4.10**	**341**	*i* P	**Pn**	**14 18 38.8**	**-0.3**
HBRG	**Burj al `Arab**	**4.11**	**162**	P	**Pn**	**14 18 40.6**	**+1.4**
	baz=161						
HBRG	**Burj al `Arab**	**4.11**	**162**		**Pn**	**14 18 40.6**	**+1.4**
CSS	**Mathiatis**	**4.14**	**82**	P	**Pn**	**14 18 40.3**	**+0.7**
CSS	**Mathiatis**	**4.14**	**82**	Pn	**Pn**	**14 18 40.3**	**+0.7**
CSS	**Mathiatis**	**4.14**	**82**	⇑P	**Pn**	**14 18 40.5**	**+0.8**
CSS	**Mathiatis**	**4.14**	**82**	Pn	**Pn**	**14 18 40.1**	**+0.5**
USAK	**Uak-Merkez**	**4.24**	**7**	*i* P	**Pn**	**14 18 41.5**	**+0.4**
USAK				*i* S	**Sn**	**14 19 26.8**	**-3.5**
USAK				IAML		14 19 27.0	
	comp=N,51nm,1.3s						
USAK				IAML		14 19 31.0	
	comp=E,74nm,0.9s						
CHOS	**Chios island**	**4.29**	**335**	PN	**Pn**	**14 18 43.1**	**+1.3**
ANKY	**Antikythira Is**	**4.34**	**290**	P	**Pn**	**14 18 42.4**	**0.0**
ANKY				S	**Sn**	**14 19 29.9**	**-2.8**
	comp=E,1µm,0.5s						
AKHS	**Akhisar**	**4.39**	**355**	*i* P	**Pn**	**14 18 43.0**	**-0.1**
MVOU	**Mavrovouni**	**4.39**	**82**	P	**Pn**	**14 18 44.2**	**+1.2**
SHUT	**Suhut-Afyon**	**4.42**	**23**	PN	**Pn**	**14 18 45.9**	**+2.3**
DOGA	**KONYA_Doganhis**	**4.50**	**36**	*i* P	**Pn**	**14 18 47.6**	**+3.0**
DOGA				*i* S	**Sn**	**14 19 36.5**	**-0.2**
DOGA				IAML		14 19 40.0	
	comp=N,377nm,0.7s						
DOGA				IAML		14 19 45.0	
	comp=E,206nm,0.9s						
ZEDA	**zmir-Bergama**	**4.57**	**348**	*i* P	**Pn**	**14 18 44.6**	**-0.9**
GULN	**MERSIN_Gulnar**	**4.58**	**67**	*i* P	**Pn**	**14 18 46.9**	**+1.3**
GULN				IAML		14 19 44.0	
	comp=N,66nm,0.6s						
GULN				IAML		14 19 44.0	
	comp=E,54nm,0.4s						
KMER	**Konya-Meram**	**4.62**	**44**	*i* P	**Pn**	**14 18 48.7**	**+2.5**
KMER				IAML		14 19 43.0	
	comp=E,162nm,1.4s						
KMER				IAML		14 19 44.0	
	comp=N,144nm,0.6s						
KTHA	**Kythira Island**	**4.65**	**294**	P	**Pn**	**14 18 46.0**	**-0.6**
DKL	**Dikili**	**4.71**	**346**	PN	**Pn**	**14 18 48.9**	**+1.5**
BOLV	**Bolvadin**	**4.71**	**26**	*i* P	**Pn**	**14 18 51.1**	**+3.6**
PARAL	**Paralimni**	**4.72**	**82**	P	**Pn**	**14 18 49.5**	**+1.9**
KONT	**Konya--Tatoy**	**4.74**	**42**	*i* P	**Pn**	**14 18 50.3**	**+2.5**
KONT				IAML		14 19 50.0	
	comp=E,98nm,0.6s						
KONT				IAML		14 19 53.0	
	comp=N,69nm,0.5s						
STEP	**BALIKESIR_Sava**	**4.89**	**354**	*i* P	**Pn**	**14 18 47.8**	**-2.2**
VLI	**Veliai**	**4.92**	**298**	P	**Pn**	**14 18 50.1**	**-0.3**
VLI				S	**Sn**	**14 19 41.9**	**-5.1**
VLY	**Voula,Athens**	**4.97**	**314**	P	**Pn**	**14 18 52.2**	**+1.2**
TVSB	**Tavsanli**	**5.02**	**10**	PN	**Pn**	**14 18 53.7**	**+1.9**
KDHN	**Kadinhani**	**5.04**	**36**	*i* P	**Pn**	**14 18 54.0**	**+1.9**
KDHN				IAML		14 19 51.0	
	comp=E,105nm,0.4s						
KDHN				IAML		14 19 52.0	
	comp=N,92nm,0.5s						
DURS	**Dursunbey**	**5.09**	**1**	*i* P	**Pn**	**14 18 52.5**	**-0.3**
DURS				IAML		14 19 51.0	
	comp=E,28nm,0.5s						
DURS				IAML		14 20 26.0	
	comp=N,29nm,1.3s						
DID	**Didima**	**5.11**	**307**	P	**Pn**	**14 18 53.7**	**+0.8**
HMYD	**Mayadein**	**5.13**	**155**	P	**Pn**	**14 18 54.5**	**+1.2**
	baz=155						
BALB	**Balikesir**	**5.14**	**356**	PN	**Pn**	**14 18 55.2**	**+1.8**
HNAT	**Natroun**	**5.22**	**158**	P	**Pn**	**14 18 55.3**	**+0.7**
	baz=157						
HNAT				AMP		14 19 00.0	
	baz=157						
HNAT				S	**Sn**	**14 19 51.4**	**-3.1**
	baz=157						
BALY	**Balya**	**5.26**	**354**	*i* P	**Pn**	**14 18 55.4**	**+0.3**
BALY				IAML		14 19 53.0	
	comp=E,32nm,0.4s						
BALY				IAML		14 19 55.0	
	comp=N,38nm,0.6s						
KOT	**Kottamia**	**5.43**	**146**	P	**Pn**	**14 18 57.8**	**+0.3**
	baz=146						
KOT				AMP		14 19 00.0	
	baz=146						
KOT				S	**Sn**	**14 19 54.3**	**-5.4**
	baz=146						
HHAG	**Hagoal**	**5.54**	**144**	P	**Pn**	**14 18 59.5**	**+0.6**
	baz=144						
HHAG				AMP		14 19 00.0	
	baz=144						
HHAG				S	**Sn**	**14 19 57.0**	**-5.3**
	baz=144						
LTK	**Loutraki**	**5.58**	**311**	P	**Pn**	**14 19 00.7**	**+1.3**
VLX	**Vlachokerasia**	**5.62**	**302**	P	**Pn**	**14 19 00.0**	**0.0**
GLL	**Jalalah**	**5.68**	**149**	P	**Pn**	**14 19 01.5**	**+0.6**
	baz=149						
SWA2		**5.78**	**206**	P	**Pn**	**14 19 03.6**	**+1.4**
	baz=206						
ITM	**Ithomi**	**5.85**	**299**	Pn	**Pn**	**14 19 03.3**	**+0.2**
GUR	**Goura**	**5.93**	**307**	P	**Pn**	**14 19 04.4**	**0.0**
MMA0B	**Mount Meron ar**	**6.07**	**102**	Pn	**Pn**	**14 19 06.7**	**+0.5**
MMAI	**Mount Meron Ar**	**6.07**	**102**	Pn	**Pn**	**14 19 06.7**	**+0.5**
	comp=N,18nm,0.3s,baz=291,slow=11,SNR=70						
MMAI				Sn	**Sn**	**14 20 10.1**	**-5.3**
	comp=N,32nm,0.3s,baz=269,slow=24,SNR=15						
MMAI				LR	LR	14 22 26.4	
	comp=N,86nm,19.0s,baz=245,slow=48						
DSF	**Desfina**	**6.09**	**312**	P	**Pn**	**14 19 07.4**	**+0.9**
DSF				S	**Sn**	**14 20 10.8**	**-5.1**
GEM	**Giv'at Ha'Em**	**6.23**	**100**	Pn	**Pn**	**14 19 08.7**	**+0.3**
GEM				Sn	**Sn**	**14 20 15.6**	**-3.7**
KZIT	**Kziot**	**6.24**	**123**	Pn	**Pn**	**14 19 08.5**	**0.0**
KZIT				Sn	**Sn**	**14 20 14.7**	**-4.8**
AMAZ	**Amatzia**	**6.27**	**116**	Pn	**Pn**	**14 19 09.5**	**+0.6**
MMLI	**Mount Malkishu**	**6.27**	**107**	Pn	**Pn**	**14 19 10.1**	**+1.2**
NATI	**Neve Ativ**	**6.28**	**99**	Pn	**Pn**	**14 19 09.2**	**+0.2**
HWQ	**Hawqa**	**6.30**	**90**	*e*P	**Pn**	**14 19 10.1**	**+0.7**
RCY	**Rachaya**	**6.31**	**97**	*e*P	**Pn**	**14 19 09.8**	**+0.2**
HMDT	**Nahal Hemdat**	**6.42**	**108**	Pn	**Pn**	**14 19 11.3**	**+0.4**
HMDT				Sn	**Sn**	**14 20 20.2**	**-3.7**
DSI	**Dead Sea**	**6.60**	**114**	Pn	**Pn**	**14 19 14.1**	**+0.7**
AGG	**Agios Georgios**	**6.60**	**315**	P	**Pn**	**14 19 15.1**	**+1.6**
AGG	**Agios Georgios**	**6.60**	**315**	Pn	**Pn**	**14 19 15.1**	**+1.6**
ALN	**Alexandroupoli**	**6.64**	**345**	P	**Pn**	**14 19 15.2**	**+1.3**
ALN				pmax	pmax		
	comp=Z,27nm,0.6s						
ALN	**Alexandroupoli**	**6.64**	**345**	Pn	**Pn**	**14 19 14.8**	**+0.9**
BR131	**Keskin Array S**	**6.72**	**38**	*i* P	**Pn**	**14 19 16.8**	**+1.6**
BR131	**Keskin Array S**	**6.72**	**38**	Pn	**Pn**	**14 19 16.4**	**+1.1**
BRTR	**Keskin Array B**	**6.72**	**38**	Pn	**Pn**	**14 19 14.2**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=336,slow=2.8,SNR=13						
BRTR				Sn	**Sn**	**14 20 26.9**	**-4.6**
	comp=Z,5.6nm,0.3s,baz=206,slow=26,SNR=23						
BRTR	**Keskin Array B**	**6.72**	**38**	*ce*P	**Pn**	**14 19 16.7**	**+1

SGRT	**San Giovanni R**	**12.27**	**310**	Pn	Pn	14 20 26.3	-4.9		
PAOL	**Paolisi**	**12.69**	**305**	Pn	**Pn**	**14 20 33.4**	**-3.4**		
BURAR	**Bucovina Array**	**13.31**	**351**	Pn	**Pn**	**14 20 44.5**	**-0.9**		
BUR08	**Bucovina Ar. S**	**13.34**	**351**	Pn	**Pn**	**14 20 45.5**	**-0.3**		
INTR	**Introdacqua**	**13.58**	**308**	Pn	**Pn**	**14 20 47.2**	**-1.9**		
KBZ	**Khabaz**	**14.57**	**46**	Pn	**Pn**	**14 21 03.7**	**+1.2**		
	comp=Z,0.2nm,0.3s,baz=222,slow=8.0,SNR=5.0								
KBZ	**Khabaz**	**14.57**	**46**	*ce*P	**P**	**14 21 05.6**	**-3.3**		
KBZ				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KIV	**Kislovodsk**	**14.57**	**45**	*e*P	**Pn**	**14 21 04.9**	**+2.2**		
KIV				pmax	pmax				
	comp=Z,68nm,1.0s								
KIV				MLR	MLR				
	comp=Z,45nm,12.0s								
KIV	**Kislovodsk**	**14.57**	**45**	Pn	**Pn**	**14 21 04.9**	**+2.2**		
KIV				P	**P**	**14 21 10.4**	**+1.3**		
KVAR	**Kislovodsk Arr**	**14.58**	**45**	LR	LR	14 27 50.1			
	comp=Z,49nm,20.4s,baz=274,slow=42								
UZH	**Uzhgorod**	**14.82**	**344**	*e*P	**P**	**14 21 12.6**	**+1.0**		
PSZ	**Piszkesteto**	**14.82**	**337**	P	**P**	**14 21 11.1**	**-0.7**		
PSZ	**Piszkesteto**	**14.82**	**337**	P	**P**	**14 21 11.1**	**-0.7**		
KOLS	**Kolonicke sedl**	**15.11**	**345**	*e*P	**P**	**14 21 15.6**	**+0.7**		
KOLS				pmax	pmax				
	comp=Z,16nm,0.8s								
KOLS	**Kolonicke sedl**	**15.11**	**345**	*e*P	**P**	**14 21 15.5**	**+0.7**		
KEST	**Kesra**	**15.59**	**280**	Pn	**Pn**	**14 21 18.4**	**+2.2**		
	comp=Z,0.5nm,0.3s,baz=332,slow=1.0,SNR=14								
KEST	**Kesra**	**15.59**	**280**	P	**P**	**14 21 21.0**	**+0.6**		
KEST				IAmb	IAmb	14 21 23.0			
	comp=Z,13nm,0.8s								
VYHS	**Vyhne**	**15.67**	**336**	*e*P	**P**	**14 21 23.2**	**+2.1**		
VYHS				pmax	pmax				
	comp=Z,5.0nm,0.9s								
VYHS	**Vyhne**	**15.67**	**336**	*e*P	**P**	**14 21 23.2**	**+2.1**		
SOKA	**Soboth**	**15.79**	**324**	*i* Pn	**Pn**	**14 21 18.1**	**-0.6**		
	comp=Z,4.2nm,0.6s								
VSL	**Villasalto**	**15.94**	**294**	P	**P**	**14 21 24.3**	**+0.1**		
VSL				IAmb	IAmb	14 22 09.6			
	comp=Z,24nm,1.3s								
ARSA	**Arzberg**	**15.98**	**327**	*i* Pn	**Pn**	**14 21 20.5**	**-0.6**		
	comp=Z,1.8nm,0.5s								
NIE	**Niedzica**	**16.05**	**341**	*e*P	**P**	**14 21 26.4**	**+1.1**		
NIE	**Niedzica**	**16.05**	**341**	P	**P**	**14 21 25.9**	**+0.6**		
NIE				pmax	pmax				
	comp=Z,5.0nm,0.9s								
AKASG	**Malin Array Be**	**16.21**	**2**	Pn	**Pn**	**14 21 23.2**	**-0.8**		
	comp=Z,5.3nm,0.3s,baz=194,slow=12,SNR=19								
AKASG	**Malin Array Be**	**16.21**	**2**	*ce*P	**P**	**14 21 26.8**	**-0.2**		
AKASG				pmax	pmax				
	comp=Z,7.0nm,0.4s								
AKASG	**Malin Array Be**	**16.21**	**2**		**Pn**	**14 21 24.8**	**+0.8**		
AKBB	**Malin Array Si**	**16.21**	**2**	*ce*P	**Pn**	**14 21 25.0**	**+1.1**		
AKBB	**Malin Array Si**	**16.21**	**2**	Pn	**Pn**	**14 21 24.1**	**+0.1**		
CONA	**Conrad Observa**	**16.34**	**329**	*i* Pn	**Pn**	**14 21 24.7**	**-1.1**		
	comp=Z,4.4nm,1.0s								
MYKA	**Terra Mystica**	**16.44**	**322**	*i* Pn	**Pn**	**14 21 26.7**	**-0.4**		
	comp=Z,4.4nm,0.9s								
KBA	**Koelnbreinsper**	**16.90**	**323**	*i* Pn	**Pn**	**14 21 31.8**	**-1.1**		
	comp=Z,6.1nm,1.0s								
KBA	**Koelnbreinsper**	**16.90**	**323**	P	**Pn**	**14 21 32.0**	**-0.9**		
KBA				pmax	pmax				
	comp=Z,6.0nm,0.9s								
OJC	**Ojcow**	**16.91**	**341**	*e*P	**P**	**14 21 34.6**	**-0.3**		
OJC	**Ojcow**	**16.91**	**341**	P	**Pn**	**14 21 32.9**	**0.0**		
OJC				pmax	pmax				
	comp=Z,11nm,0.9s								
OJC	**Ojcow**	**16.91**	**341**		**Pn**	**14 21 32.9**	**0.0**		
ABTA	**Abfaltersbach**	**17.11**	**320**	Pn	**Pn**	**14 21 34.3**	**-1.2**		
	comp=Z,6.2nm,0.8s,SNR=4.5								
CTI	**Castel Tesino**	**17.14**	**317**	P	**P**	**14 21 37.1**	**-0.5**		
CTI				pmax	pmax				
	comp=Z,12nm,0.7s								
CTI	**Castel Tesino**	**17.14**	**317**	P	**P**	**14 21 37.1**	**-0.5**		
CTI				IAmb	IAmb	14 21 39.4			
	comp=Z,12nm,0.7s								
MORC	**Moravsky Berou**	**17.21**	**336**	P	**Pn**	**14 21 36.0**	**-0.7**		
MORC				pmax	pmax				
	comp=Z,7.0nm,1.5s								
KRLC	**Kraliky**	**17.72**	**335**	*e*P	**P**	**14 21 44.8**	**+0.9**		
KRLC	**Kraliky**	**17.72**	**335**	*e*P	**P**	**14 21 44.8**	**+0.9**		
WTTA	**Wattenberg**	**17.90**	**320**	*i* P	**P**	**14 21 46.1**	**+0.2**		
	comp=Z,3.4nm,0.6s								
WATA	**Walderalm**	**17.97**	**321**	*i* Pn	**Pn**	**14 21 45.7**	**-0.6**		
	comp=Z,3.5nm,0.5s								
GEC2	**GERESS Array S**	**17.98**	**327**	P	**Pn**	**14 21 45.7**	**-0.6**		
GERES	**GERESS Array B**	**17.98**	**327**	P	**Pn**	**14 21 45.6**	**-0.7**		
	comp=Z,1.3nm,0.3s,baz=136,slow=10,SNR=24								
GERES	**GERESS Array B**	**17.98**	**327**	P	**Pn**	**14 21 45.3**	**-1.0**		
SQTA	**Sankt Quirin**	**18.10**	**320**	*i* Pn	**Pn**	**14 21 46.0**	**-1.7**		
	comp=Z,9.5nm,0.9s								
DPC	**Dobruska-Polom**	**18.11**	**335**	*e*P	**Pn**	**14 21 47.4**	**-0.5**		
DPC	**Dobruska-Polom**	**18.11**	**335**	*e*P	**Pn**	**14 21 47.4**	**-0.5**		
MOTA	**Moosalm**	**18.23**	**320**	*i* P	**Pn**	**14 21 48.1**	**-1.3**		
	comp=Z,9.9nm,1.0s								
FETA	**Feichten**	**18.23**	**319**	P	**Pn**	**14 21 49.4**	**-0.1**		
	comp=Z,6.1nm,0.7s,SNR=5.5								
KHC	**Kasperske Hory**	**18.25**	**328**	*ce*P	**Pn**	**14 21 48.5**	**-1.0**		
KHC				pmax	pmax				
	comp=Z,11nm,0.8s								
KHC	**Kasperske Hory**	**18.25**	**328**	*e*P	**Pn**	**14 21 48.3**	**-1.2**		
KHC	**Kasperske Hory**	**18.25**	**328**	P	**Pn**	**14 21 48.1**	**-1.4**		
FUORN	**Ofenpass-Fuorn**	**18.25**	**317**	P	**Pn**	**14 21 48.1**	**-1.8**		
PBCC	**Pribram**	**18.48**	**330**	*e*P	**P**	**14 21 52.0**	**-0.2**		
RETA	**Reutte**	**18.50**	**320**	P	**P**	**14 21 51.6**	**-0.8**		
	comp=Z,4.1nm,0.4s,SNR=4.8								
DAVOX	**Davos/Dischmat**	**18.56**	**317**	P	**P**	**14 21 52.5**	**-0.8**		
	comp=Z,0.8nm,0.3s,baz=75,slow=5.2,SNR=5.1								
WET	**Wettzell**	**18.57**	**327**	P	**P**				
WET				pmax	pmax	**14 21 52.2**	**-1.0**		
	comp=Z,12nm,0.8s								
TUE	**Stuetta**	**18.70**	**315**	P	**P**	**14 21 54.5**	**-0.3**		
DAVA	**Damuels**	**18.86**	**318**	P	**P**	**14 21 55.3**	**-1.2**		
	comp=Z,7.2nm,0.5s,SNR=4.1								
NKC	**Novy Kostel**	**19.55**	**328**	*e*P	**P**	**14 22 03.9**	**-0.1**		
NKC	**Novy Kostel**	**19.55**	**328**	*e*P	**P**	**14 22 03.9**	**-0.1**		
BNI	**Bardonecchia**	**19.64**	**309**	P	**P**	**14 22 04.7**	**-0.4**		
BNI				pmax	pmax				
	comp=Z,30nm,1.7s								
BNI	**Bardonecchia**	**19.64**	**309**	P	**P**	**14 22 04.7**	**-0.4**		
BNI				IAmb	IAmb	14 22 22.5			
	comp=Z,30nm,1.7s								
SUW	**Suwalki**	**19.84**	**351**	*e*P	**P**	**14 22 07.2**	**+0.1**		
SUW	**Suwalki**	**19.84**	**351**	P	**P**	**14 22 06.9**	**-0.2**		
SUW				pmax	pmax				
	comp=Z,64nm,0.4s								
SUW	**Suwalki**	**19.84**	**351**	P	**P**	**14 22 06.9**	**-0.2**		
SENIN	**Lac Senin/Sane**	**19.85**	**313**	P	**P**	**14 22 06.2**	**-1.2**		
SENIN				IAmb	IAmb	14 22 09.2			
	comp=Z,9.8nm,0.6s								
STU	**Stuttgart**	**20.12**	**321**	P	**P**	**14 22 09.6**	**-0.6**		
STU				pmax	pmax				
	comp=Z,23nm,0.8s								
STU	**Stuttgart**	**20.12**	**321**	P	**P**	**14 22 09.6**	**-0.6**		
STU				IAmb	IAmb	14 22 11.8			
	comp=Z,23nm,0.8s								
CLL	**Collm**	**20.14**	**331**	*i* P	**P**	**14 22 09.5**	**-0.8**		
CLL				*e*		14 22 13.0			
CLL	**Collm**	**20.14**	**331**	*i* P	**P**	**14 22 09.5**	**-0.8**		
CLL	**Collm**	**20.14**	**331**	P	**P**	**14 22 09.0**	**-1.3**		
BFO	**Black Forest**	**20.32**	**319**	P	**P**	**14 22 12.2**	**-0.1**		
BFO				pmax	pmax				
	comp=Z,15nm,1.1s								
BFO	**Black Forest**	**20.32**	**319**	P	**P**	**14 22 12.2**	**-0.1**		
BFO				IAmb	IAmb	14 22 17.5			
	comp=Z,15nm,1.1s								
ECH	**Echery**	**20.90**	**317**	P	**P**	**14 22 17.6**	**-1.0**		
ECH				pmax	pmax				
	comp=Z,5.0nm,0.8s								
ECH	**Echery**	**20.90**	**317**	P	**P**	**14 22 17.6**	**-1.0**		
SSB	**Saint Sauveur**	**21.12**	**308**	P	**P**	**14 22 20.0**	**-1.1**		
SSB				pmax	pmax				
	comp=Z,11nm,1.2s								
SSB	**Saint Sauveur**	**21.12**	**308**	P	**P**	**14 22 20.0**	**-1.1**		
SSB				IAmb	IAmb	14 22 26.0			
	comp=Z,11nm,1.2s								
OBN	**Obninsk**	**21.40**	**13**	*i* P	**P**	**14 22 24.4**	**+0.6**		
OBN				*i*		14 22 43.5			
OBN				pmax	pmax				
	comp=Z,6.0nm,0.8s								
OBN				MLR	MLR				
	comp=Z,108nm,17.0s								
WLF	**Walferdange**	**22.25**	**320**	P	**P**	**14 22 33.8**	**+0.6**		
WLF	**Walferdange**	**22.25**	**320**	P	**P**	**14 22 33.3**	**+0.2**		
WLF				pmax	pmax				
	comp=Z,15nm,0.7s								
WLF	**Walferdange**	**22.25**	**320**	P	**P**	**14 22 33.3**	**+0.2**		
WLF				IAmb	IAmb	14 22 35.0			
	comp=Z,15nm,0.7s								
LOR	**Lormes**	**22.37**	**312**	P	**P**	**14 22 31.6**	**-2.8**		
LOR				pmax	pmax				
	comp=Z,12nm,0.9s								
MEM	**Membach**	**22.88**	**321**	P	**P**	**14 22 39.7**	**-0.1**		
MEM				pP	**pwP**	**14 22 48.2**	**+1.2**		
MEM				PnPn	**PnPn**	**14 23 00.4**	**-3.8**		
MEM	**Membach**	**22.88**	**321**	P	**P**	**14 22 40.2**	**+0.4**		
MEM				pmax	pmax				
	comp=Z,20nm,1.0s								
BGES	**Gesves**	**23.23**	**320**	P	**P**	**14 22 42.9**	**-0.5**		
DOU	**Dourbes**	**23.33**	**319**	P	**P**	**14 22 43.6**	**-0.8**		
DOU				PnPn	**PnPn**	**14 23 12.4**	**+2.0**		
BMRD	**Maredsous**	**23.35**	**320**	P	**P**	**14 22 45.0**	**+0.4**		
BMRD				PnPn	**PnPn**	**14 23 05.2**	**-5.5**		
CLF	**Chambon-Foret**	**23.67**	**313**	P	**P**	**14 22 47.2**	**-0.5**		
GEYT	**Alibeck**	**24.22**	**73**	P	**P**	**14 22 54.0**	**+0.8**		
	comp=Z,1.6nm,0.3s,baz=275,slow=9.0,SNR=7.9								
GEYT	**Alibeck**	**24.22**	**73**	P	**P**	**14 22 53.8**	**+0.7**		
GYA08	**ALIBECK ARRAY**	**24.22**	**73**	P	**P**	**14 22 54.0**	**+0.9**		
UOSS	**Minazif**	**25.94**	**104**	P	**P**	**14 23 09.9**	**+1.1**		
UOSS				IAmb	IAmb	14 23 15.2			
	comp=Z,52nm,1.6s								
ESBB	**Sonseca Array**	**26.19**	**291**	P	**P**	**14 23 10.8**	**-0.2**		
ESBB				IAmb	IAmb	14 23 11.8			
	comp=Z,6.7nm,0.6s								
ESDC	**Sonseca Array**	**26.19**	**291**	P	**P**	**14 23 11.3**	**+0.3**		
	comp=Z,5.6nm,0.6s,baz=81,slow=9.4,SNR=38								
ESDC	**Sonseca Array**	**26.19**	**291**	P	**P**	**14 23 10.2**	**-0.7**		
PAB	**San Pablo**	**26.49**	**291**	P	**P**	**14 23 13.8**	**+0.1**		
PAB				pmax	pmax				
	comp=Z,20nm,1.7s								
PAB	**San Pablo**	**26.49**	**291**	P	**P**	**14 23 13.8**	**+0.1**		
PAB				IAmb	IAmb	14 23 22.1			
	comp=Z,20nm,1.6s								
AKTO	**Aktyubinsk**	**26.84**	**45**	P	**P**	**14 23 16.0**	**-0.6**		
	comp=Z,2.9nm,0.6s,baz=260,slow=8.1,SNR=11								
FINES	**FINESS Array B**	**27.00**	**358**	P	**P**	**14 23 17.4**	**-0.5**		
	comp=Z,9.0nm,0.8s,baz=163,slow=10,SNR=24								
FINES	**FINESS Array B**	**27.00**	**358**	*i* P	**P**	**14 23 17.3**	**-0.6**		
FINES				pmax	pmax				
	comp=Z,9.0nm,0.8s								
FINES	**FINESS Array B**	**27.00**	**358**	P	**P**	**14 23 16.8**	**-1.2**		
FIA1	**FINESS Array S**	**27.00**	**358**	P	**P**	**14 23 17.1**	**-0.8**		
FIA1				IAmb	IAmb	14 23 18.4			
	comp=Z,24nm,1.2s								
KLMR	**Klimovskoe**	**27.34**	**12**	*e*P	**P**	**14 23 19.5**	**-1.5**		
KLMR				pmax	pmax				
	comp=Z,11nm,1.0s								
KLMR	**Klimovskoe**	**27.34**	**12**	*e*P	**P**	**14 23 19.5**	**-1.5**		
KLMR				AMP		14 23 21.2			
	comp=Z,11nm,1.0s								
MDT	**Midelt**	**27.41**	**276**	P	**P**	**14 23 22.9**	**+0.8**		
	comp=Z,2.3nm,0.9s,baz=88,slow=7.5,SNR=3.6								
ABKAR	**Akbulak array**	**27.53**	**48**	P	**P**	**14 23 22.8**	**0.0**		
NC602	**NORSAR Array S**	**28.41**	**343**	P	**P**	**14 23 28.9**	**-1.7**		
NORES	**NORESS Array B**	**28.41**	**343**	P	**P**	**14 23 30.5**	**-0.1**		
NORES				pmax	pmax				
	comp=Z,3.0nm,0.3s								
NAO01	**NORSAR Array S**	**28.67**	**342**	P	**P**	**14 23 31.3**	**-1.6**		
NAO01				IAmb	IAmb	14 23 37.3			
	comp=Z,80nm,1.6s								
NC405	**NORSAR Array S**	**28.70**	**343**	P	**P**	**14 23 31.5**	**-1.7**		
NB201	**NORSAR Array S**	**28.75**	**343**	P	**P**	**14 23 32.3**	**-1.3**		
NB201				IAmb	IAmb	14 23 45.3			
	comp=Z,63nm,1.5s								
NB2	**NORSAR Subarra**	**28.76**	**343**	P	**P**	**14 23 31.7**	**-2.0**		
	comp=Z,3.6nm,0.8s,baz=150,slow=9.3								
NOA	**NORSAR Array B**	**28.76**	**343**	P	**P**	**14 23 31.3**	**-2.4**		
	comp=Z,1.1nm,0.5s,baz=147,slow=10,SNR=8.7								
NBO00	**NORSAR Array S**	**28.86**	**342**	P	**P**	**14 23 33.2**	**-1.3**		
NC303	**NORSAR Array S**	**28.88**	**343**	P	**P**	**14 23 33.1**	**-1.6**		
NC303				IAmb	IAmb	14 23 49.0			
	comp=Z,23nm,1.2s								
NC204	**NORSAR Array S**	**29.07**	**343**	P	**P**	**14 23 35.4**	**-1.1**		
PVAQ	**Vaqueiros**	**29.22**	**286**	P	**P**	**14 23 37.9**	**-0.1**		
PVAQ				IAmb	IAmb	14 23 54.4			
	comp=Z,23nm,1.3s								
ARU	**Arti**	**30.09**	**34**	P	**P**	**14 23 46.9**	**+1.4**		
ARU						14 24 45.7			
ARU				S	**S**	**14 28 45.7**	**+2.4**		
ARU				SS	**SnSn**	**14 30 18.7**	**+2.7**		
EKA	**Eskdalemuir Ar**	**30.11**	**323**	P	**P**	**14 23 44.6**	**-1.0**		
	comp=Z,1.5nm,0.4s,baz=124,slow=11,SNR=11								
ESK	**Eskdalemuir**	**30.12**	**323**	P	**P**	**14 23 44.5**	**-1.3**		
ESK				pmax	pmax				
	comp=Z,151nm,2.0s								
ESK	**Eskdalemuir**	**30.12**	**323**	P	**P**	**14 23 44.5**	**-1.3**		
SOCY	**Socotra**	**32.20**	**127**	P	**P**	**14 24 02.4**	**-2.2**		
KKAR	**Karatay Array**	**33.68**	**62**	P	**P**	**14 24 17.8**	**+0.5**		
KKAR	**Karatay Array**	**33.68**	**62**	P	**P**	**14 24 17.8**	**+0.5**		
ARCES	**ARCESS Array B**	**35.12**	**358**	P	**P**	**14 24 28.9**	**-0.5**		
	comp=Z,6.9nm,0.5s,baz=174,slow=8.1,SNR=74								
ARCES	**ARCESS Array B**	**35.12**	**358**	P	**P**	**14 24 28.5**	**-0.9**		
ARE0	**ARCESS Array S**	**35.12**	**358**	P	**P**	**14 24 28.7**	**-0.7**		
KEV	**Kevo**	**35.32**	**359**	P	**P**	**14 24 30.9**	**-0.1**		
KEV				pmax	pmax				
	comp=Z,52nm,1.6s								
KEV	**Kevo**	**35.32**	**359**	P	**P**	**14 24 30.9**	**-0.1**		
NIL	**Nilore**	**36.98**	**78**	P	**P**	**14 24 47.0**	**+1.2**		
NIL				pmax	pmax				
	comp=Z,5.0nm,0.8s								
NIL	**Nilore**	**36.98**	**78**	P	**P**	**14 24 47.0**	**+1.2**		
NIL				IAmb	IAmb	14 24 48.6			
	comp=Z,4.7nm,0.8s								
KURBB	**Kurchatov Arra**	**39.52**	**50**	P	**P**	**14 25 08.0**	**+1.1**		
	comp=Z,0.8nm,0.3s,baz=274,slow=9.0,SNR=14								
KURK	**Kurchatov**	**39.58**	**50**	*ce*P	**P**	**14 25 08.4**	**+1.0**		
KURK				pmax	pmax				
	comp=Z,2.0nm,0.7s								
KURK	**Kurchatov**	**39.58**	**50**	P	**P**	**14 25 08.1**	**+0.7**		
MAKZ	**Makanchi**	**41.75**	**56**	P	**P**	**14 25 26.3**	**+0.9**		
MAKZ				pmax	pmax				
	comp=Z,2.0nm,0.5s								
MAKZ	**Makanchi**	**41.75**	**56**	P	**P**	**14 25 26.3**	**+0.9**		
MK31	**Makanchi Array**	**41.97**	**56**	P	**P**	**14 25 28.1**	**+0.9**		
MK31				pmax	pmax				
	comp=Z,2.0nm,0.5s								
MK31	**Makanchi Array**	**41.97**	**56**	P	**P**	**14 25 28.1**	**+0.9**		
MK31				IAmb	IAmb	14 25 29.3			
	comp=Z,2.4nm,0.5s								
MKAR	**Makanchi Array**	**41.97**	**56**	P	**P**	**14 25 28.3**	**+1.1**		
	comp=Z,2.8nm,0.5s,baz=272,slow=6.6,SNR=47								
MKAR	**Makanchi Array**	**41.97**	**56**	P	**P**	**14 25 28.1**	**+0.9**		
ZALV	**Zalesovo Beam**	**43.59**	**46**	P	**P**	**14 25 40.1**	**-0.1**		
	comp=Z,1.7nm,0.3s,baz=270,slow=8.7,SNR=4.3								
ZALV	**Zalesovo Beam**	**43.59**	**46**	*i* P	**P**	**14 25 41.0**	**+0.8**		
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.3s								
SPA0	**Spitsbergen Ar**	**44.09**	**356**	P	**P**	**14 25 43.9**	**0.0**		
SPITS	**Spitsbergen Ar**	**44.09**	**356**	P	**P**	**14 25 43.9**	**0.0**		
SPITS				pmax	pmax				
	comp=Z,5.0nm,0.2s								
KBS	**Kingsbay**	**45.06**	**356**	P	**P**	**14 25 51.6**	**-0.1**		
KBS				pmax	pmax				
	comp=Z,17nm,0.6s								
KBS	**Kingsbay**	**45.06**	**356**	P	**P**	**14 25 51.6**	**-0.1**		
KBS				IAmb	IAmb	14 26 22.3			
	comp=Z,17nm,0.6s								
WMQ	**Urumqi**	**46.08**	**60**	*e*P	**P**	**14 26 02.4**	**+2.1**		
WMQ				pP	pwP	14 26 11.5	+3.6		
WMQ				PcP	**PcP**	**14 27 38.4**	**+2.0**		
WMQ				pmax	pmax				
	comp=Z,12nm,0.8s								
WMQ				LR	LR				
	comp=N,74nm,8.9s								
WMQ				LR	LR				
	comp=E,58nm,13.7s								
WMQ				LR	LR				
	comp=Z,15nm,13.7s								
NRIK	**Noril'sk**	**47.38**	**24**	*i* P	**P**	**14 26 11.5**	**+1.5**		
NRIK				pmax	pmax				
	comp=Z,2.0nm,1.0s								
SUMG	**Summit**	**50.53**	**339**	P	**P**	**14 26 34.1**	**-0.5**		
SUMG				pmax	pmax				
	comp=Z,31nm,1.7s								
SUMG	**Summit**	**50.53**	**339**	P	**P**	**14 26 34.1**	**-0.5**		
SUMG				IAmb	IAmb	14 26 34.9			
	comp=Z,31nm,1.7s								
SFJD	**Kangerlussuaq**	**54.51**	**332**	P	**P**	**14 27 03.1**	**-0.5**		
SFJD				pmax	pmax				
	comp=Z,96nm,1.9s								
SFJD	**Kangerlussuaq**	**54.51**	**332**	P	**P**	**14 27 03.1**	**-0.5**		
ZAK	**Zakamensk**	**55.22**	**49**	*e*P	**P**	**14 27 11.2**	**+2.0**		
ZAK				pmax	pmax				
	comp=Z,3.0nm,0.9s								
SONM	**Songino Array**	**57.88**	**51**	P	**P**	**14 27 30.1**	**+1.9**		
	comp=Z,1.3nm,0.4s,baz=283,slow=7.8,SNR=8.5								
SONM	**Songino Array**	**57.88**	**51**	P	**P**	**14 27 29.1**	**+1.0**		
ULN	**Ulaanbaatar**	**58.29**	**51**	*ce*P	**P**	**14 27 33.4**	**+2.3**		
ULN				pmax	pmax				
	comp=Z,2.0nm,1.0s								
HHC	**Hu-ho-hao-te**	**63.82**	**57**	*e*P	**P**	**14 28 10.0**	**+1.3**		
HHC				pmax	pmax				
	comp=Z,12nm,0.8s								
HHC				pmax	pmax				
	comp=Z,94nm,8.0s								
SCHQ	**Schefferville**	**65.37**	**321**	P	**P**	**14 28 18.0**	**-0.4**		
	comp=Z,3.6nm,0.7s,baz=59,slow=7.2,SNR=5.9								
SCHQ	**Schefferville**	**65.37**	**321**	P	**P**	**14 28 17.7**	**-0.8**		
GBN	**Guysborough**	**66.31**	**310**	P	**P**	**14 28 24.6**	**-0.1**		
GBN				IAmb	IAmb	14 29 14.6			
	comp=Z,24nm,1.4s								
BATG	**Bathurst New B**	**68.30**	**313**	P	**P**	**14 28 37.7**	**+0.5**		
BATG				IAmb	IAmb	14 29 19.9			
	comp=Z,18nm,1.4s								
E62A	**Clayton Lake**	**70.69**	**314**	P	**P**	**14 28 52.9**	**+0.9**		
E62A				IAmb	IAmb	14 30 32.9			
	comp=Z,20nm,1.4s								
F63A	**Nahmakanta, Br**	**70.89**	**313**	P	**P**	**14 28 54.0**	**+0.6**		
F63A				IAmb	IAmb	14 30 08.7			
	comp=Z,34nm,1.6s								
KLR	**Kul'dur**	**72.53**	**42**	*i* P	**P**	**14 29 04.8**	**+1.7**		
KLR				pmax	pmax				
	comp=Z,1.0nm,1.0s								
BILL	**Bilibino**	**73.04**	**15**	*i* P	**P**	**14 29 06.3**	**+0.6**		
BILL				pmax	pmax				
	comp=Z,5.0nm,1.5s								
NJ2	**Nanjing**	**73.06**	**63**	*e*P	**P**	**14 29 06.1**	**-0.4**		
NJ2				pmax	pmax				
	comp=Z,7.0nm,0.5s								
C36M	**Paulatuk**	**74.49**	**350**	P	**P**	**14 29 13.8**	**-0.4**		
IMAR	**Indian Mountai**	**79.83**	**1**	P	**P**	**14 29 45.1**	**+0.8**		
ILAR	**Eielson Array**	**80.99**	**358**	P	**P**	**14 29 50.7**	**+0.2**		
	comp=Z,0.6nm,0.9s,baz=348,slow=4.2,SNR=4.2								
STKA	**Stephens Creek**	**125.02**	**107**	PKP	**PKiKP**	**14 36 38.3**	**+1.4**		
	comp=Z,1.5nm,0.6s,baz=337,slow=7.7,SNR=3.0								

NNC ***13*** *14:26:36.6±1.1,40.83N×76.20E,h0km,mb4.7,mpv4.3, Error ellipse: s-maj=8.0km s-min=5.5km az=171.0*
SOME ***13*** *14:26:36.4,40.92N×76.18E,h10km*
KRNET ***13*** *14:26:37.2±0.1,40.89N×76.20E,h11km,mb4.2*
BJI ***13*** *14:26:39.5±0.0,40.83N×76.22E,h5km,ML3.7/7*
MOS ***13*** *14:26:39.4±2.0,40.95N×76.12E,h10km,mb4.3/3, Error ellipse: s-maj=19.1km s-min=7.2km az=86.9*
IDC ***13*** *14:26:41.4±2.0,41.09N×76.17E,h0km,mb3.5/4, mb1 3.5/8,mb1mx3.3/40,mbtmp3.4/8,ML2.9/4, Error ellipse: s-maj=24.1km s-min=15.4km az=12.0*
ISC 13 14:26:41.2±1.1,**41.01N**±0.03×**76.27E**±0.02,**h14**km±8km, **n113,**σ1§86/155,**mb3.8**/6,**39C-19D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.23**	**359**	⇓*i*P		**Pn**	**14 27 02.3**	**-1.9**
	baz=1.0							
ULHL				⇓*i

	baz=29								
FRU1				⇑*i*S		Sn	14 27 45.1	+1.4	
	baz=29								
MDOK	**Medeo**	**2.23**	**15**	*e*P		**Pb**	**14 27 20.3**	**-1.0**	
	136nm,0.5s								
MDOK				*e*S		**Sg**	**14 27 52.5**	**-0.4**	
	442nm,0.6s								
MDOK	**Medeo**	**2.23**	**15**	⇓Pg		**Pb**	**14 27 20.2**	**-1.2**	
	111nm,0.6s								
MDOK				⇓Lg		Lg	14 27 53.1		
	292nm,0.6s								
MDOK	**Medeo**	**2.23**	**15**	Pg		**Pb**	**14 27 20.3**	**-1.0**	
	136nm,0.5s								
MDOK				Lg		Lg	14 27 52.5		
	442nm,0.6s								
MDOK	**Medeo**	**2.23**	**15**	PN		**Pb**	**14 27 20.1**	**-1.2**	
AML	**Almayashu**	**2.23**	**301**	⇑*i*P		**Pn**	**14 27 17.1**	**-1.0**	
	baz=4.0								
AML				⇑*i*S		**Sn**	**14 27 45.6**	**0.0**	
	baz=4.0								
AML	**Almayashu**	**2.23**	**301**	P		**Pn**	**14 27 17.6**	**-0.5**	
	SNR=253								
AAA	**Alma-Ata**	**2.25**	**12**	*e*P		**Pb**	**14 27 21.9**	**+0.3**	
	115nm,0.3s								
AAA				*e*S		**Sg**	**14 27 54.4**	**+0.9**	
	142nm,0.4s								
AAA	**Alma-Ata**	**2.25**	**12**	Pg		**Pb**	**14 27 21.9**	**+0.3**	
	115nm,0.3s								
AAA				Lg		Lg	14 27 54.4		
	142nm,0.4s								
AAA	**Alma-Ata**	**2.25**	**12**	*e*PN		**Pb**	**14 27 21.8**	**+0.2**	
AAA				*e*S		**Sg**	**14 27 54.2**	**+0.7**	
AAA				pmax		pmax			
	comp=Z,119nm,0.5s								
AAA				smax		smax			
	comp=N,154nm,0.4s								
DGS	**Degeres**	**2.26**	**351**	*e*P		**Pb**	**14 27 20.9**	**-0.9**	
	comp=N,286nm,0.6s								
DGS				*e*S		**Sg**	**14 27 53.2**	**-0.6**	
	comp=N,340nm,0.5s								
DGS	**Degeres**	**2.26**	**351**	Pg		**Pb**	**14 27 20.9**	**-0.9**	
	comp=N,286nm,0.6s								
DGS				Lg		Lg	14 27 53.2		
	comp=N,340nm,0.5s								
KNDC	**Almaty**	**2.26**	**13**	⇑Pg		**Pb**	**14 27 22.2**	**+0.3**	
	comp=N,127nm,0.5s								
KNDC				⇑Lg		Lg	14 27 55.3		
	comp=N,436nm,0.6s								
KNDC	**Almaty**	**2.26**	**13**	PN		**Pb**	**14 27 22.2**	**+0.3**	
CHMS	**Chumysh**	**2.28**	**331**	⇑*i*P		**Pn**	**14 27 18.3**	**-0.2**	
	baz=33								
CHMS				⇑*i*S		**Sn**	**14 27 47.7**	**+1.3**	
	baz=33								
CHMS	**Chumysh**	**2.28**	**331**	P		**Pb**	**14 27 20.9**	**-1.3**	
	SNR=152								
KOTS	**Kotyrbulak**	**2.31**	**16**	*e*P		**Pb**	**14 27 22.4**	**-0.3**	
	comp=N,344nm,0.4s								
KOTS				*e*S		**Sg**	**14 27 55.9**	**+0.4**	
	comp=N,2μm,0.5s								
KOTS	**Kotyrbulak**	**2.31**	**16**	Pg		**Pb**	**14 27 22.4**	**-0.3**	
	comp=N,344nm,0.4s								
KOTS				Lg		Lg	14 27 55.9		
	comp=N,2μm,0.5s								
EKS2	**Erkin-Say**	**2.48**	**312**	⇓*i*P		**Pn**	**14 27 20.8**	**-0.5**	
	baz=15								
EKS2				⇓*i*S		**Sn**	**14 27 51.8**	**+0.3**	
	baz=15								
EKS2	**Erkin-Say**	**2.48**	**312**	P		**Pn**	**14 27 22.2**	**+0.8**	
	SNR=15								
ARSB	**Arslanbob**	**2.50**	**278**	⇓*i*P		**Pn**	**14 27 20.2**	**-1.3**	
	baz=81								
ARSB				⇓*i*S		**Sn**	**14 27 50.7**	**-1.2**	
	baz=81								
SATY	**Saty**	**2.59**	**37**	*e*P		**Pb**	**14 27 26.6**	**-0.9**	
	comp=N,83nm,0.5s								
SATY				*e*S		**Sg**	**14 28 03.4**	**-1.2**	
	comp=N,329nm,0.7s								
SATY	**Saty**	**2.59**	**37**	Pg		**Pb**	**14 27 26.7**	**-0.9**	
	comp=N,83nm,0.5s								
SATY				Lg		Lg	14 28 03.4		
	comp=N,329nm,0.7s								
USP	**Ospenovka**	**2.61**	**330**	⇑*i*P		**Pn**	**14 27 22.5**	**-0.5**	
	baz=33								
USP				⇑*i*S		**Sn**	**14 27 55.5**	**+1.1**	
	baz=33								
USP	**Ospenovka**	**2.61**	**330**	P		**Pb**	**14 27 26.5**	**-1.2**	
	SNR=33								
KTBS	**Karatobe**	**2.71**	**6**	*e*P		**Pb**	**14 27 29.7**	**+0.1**	
	comp=N,98nm,0.5s								
KTBS				*e*S		**Sg**	**14 28 08.2**	**-0.3**	
	comp=N,255nm,0.5s								
KTBS	**Karatobe**	**2.71**	**6**	Pg		**Pb**	**14 27 29.7**	**+0.1**	
	comp=N,98nm,0.5s								
KTBS				Lg		Lg	14 28 08.2		
	comp=N,255nm,0.5s								
KRBS	**Karabastau**	**2.72**	**351**	*e*P		**Pb**	**14 27 28.9**	**-0.7**	
	comp=N,144nm,0.4s								
KRBS				*e*S		**Sg**	**14 28 07.0**	**-1.5**	
	comp=N,224nm,0.5s								
KRBS	**Karabastau**	**2.72**	**351**	Pg		**Pb**	**14 27 29.0**	**-0.7**	
	comp=N,144nm,0.4s								
KRBS				Lg		Lg	14 28 07.0		
	comp=N,224nm,0.5s								
KURS	**Kuram**	**2.85**	**29**	*e*P		**Pb**	**14 27 30.7**	**-1.2**	
	comp=N,29nm,0.7s								
KURS				*e*S		**Sb**	**14 28 09.8**	**+3.2**	
	comp=N,146nm,1.1s								
CHKK	**Chushkaly**	**2.89**	**10**	*e*P		**Pb**	**14 27 31.5**	**-1.0**	
	comp=N,42nm,0.3s								
CHKK				*e*S		**Sg**	**14 28 11.6**	**-2.5**	
	comp=N,122nm,0.3s								
CHKK	**Chushkaly**	**2.89**	**10**	Pg		**Pb**	**14 27 31.5**	**-1.0**	
	comp=N,42nm,0.3s								
CHKK				Lg		Lg	14 28 11.6		
	comp=N,122nm,0.3s								
UZB	**Uzynbulak**	**2.96**	**43**	*e*P		**Pb**	**14 27 33.1**	**-0.7**	
	comp=N,36nm,0.5s								
UZB				*e*S		**Sg**	**14 28 14.3**	**-2.0**	
	comp=N,137nm,0.6s								
UZB	**Uzynbulak**	**2.96**	**43**	Pg		**Pb**	**14 27 33.1**	**-0.7**	
	comp=N,36nm,0.5s								
UZB				Lg		Lg	14 28 14.3		
	comp=N,137nm,0.6s								
KPKS	**Kokpek**	**3.04**	**35**	*e*P		**Pb**	**14 27 34.2**	**-1.0**	
	comp=N,127nm,0.4s								
KPKS				*e*S		**Sg**	**14 28 16.4**	**-2.5**	
	comp=N,790nm,0.6s								
SHLS	**Shalkode**	**3.20**	**47**	*e*P		**Pg**	**14 27 41.6**	**-1.0**	
	comp=N,51nm,0.4s								
SHLS				*e*S		**Sg**	**14 28 29.5**	**+5.4**	
	comp=N,132nm,0.6s								
SHLS	**Shalkode**	**3.20**	**47**	Pg		**Pg**	**14 27 41.6**	**-1.0**	
	comp=N,51nm,0.4s								
SHLS				Lg		Lg	14 28 29.5		
	comp=N,132nm,0.6s								
ARK	**Arkit**	**3.33**	**285**	⇑*i*P		**Pn**	**14 27 31.2**	**-1.8**	
	baz=87								
ARK				⇑*i*S		**Sn**	**14 28 10.3**	**-2.0**	
	baz=87								
PDGK	**Podgornoye**	**3.33**	**45**	Pg		**Pb**	**14 27 38.0**	**-2.1**	
	comp=N,15nm,0.4s								
PDGK				Lg		Lg	14 28 23.6		
	comp=N,87nm,0.6s								
PDGK	**Podgornoye**	**3.33**	**45**	⇓Pg		**Pg**	**14 27 45.8**	**+0.7**	
	comp=N,36nm,0.6s								
PDGK				⇓Lg		Lg	14 28 32.5		
	comp=N,218nm,0.8s								
PDGK	**Podgornoye**	**3.33**	**45**	PN		**Pg**	**14 27 45.7**	**+0.7**	
ARXS	**Arharly**	**3.40**	**19**	*e*P		**Pb**	**14 27 40.3**	**-1.0**	
	comp=N,79nm,0.4s								
ARXS				*e*S		**Sg**	**14 28 27.1**	**-3.3**	
	comp=N,181nm,0.7s								
ARXS	**Arharly**	**3.40**	**19**	Pg		**Pb**	**14 27 40.3**	**-1.0**	
	comp=N,79nm,0.4s								
ARXS				Lg		Lg	14 28 27.2		
	comp=N,181nm,0.7s								
KTMS	**Ketmen**	**3.89**	**50**	*e*P		**Pb**	**14 27 49.8**	**+0.1**	
	comp=N,4.5nm,0.4s								
KTMS				*e*S		**Sg**	**14 28 42.3**	**-3.8**	
	comp=N,57nm,0.6s								
KTMS	**Ketmen**	**3.89**	**50**	Pg		**Pb**	**14 27 49.8**	**+0.1**	
	comp=N,4.5nm,0.4s								
KTMS				Lg		Lg	14 28 42.3		
	comp=N,57nm,0.6s								
DZA	**Taraz**	**4.13**	**299**	*e*P		**Pb**	**14 27 53.0**	**-0.7**	
	comp=N,80nm,0.1s								
DZA				*e*S		**Sb**	**14 28 47.8**	**+4.3**	
	comp=N,230nm,0.4s								
DZA	**Taraz**	**4.13**	**299**	Pg		**Pb**	**14 27 53.0**	**-0.7**	
	comp=N,80nm,0.1s								
DZA				Lg		Lg	14 28 47.8		
	comp=N,230nm,0.4s								
DJR	**Jarkent**	**4.21**	**37**	*e*P		**Pb**	**14 27 54.9**	**-0.3**	
	comp=N,17nm,0.5s								
DJR				*e*S		**Sb**	**14 28 51.2**	**+5.3**	
	comp=N,38nm,1.0s								
BTK	**Batken**	**4.26**	**259**	⇑*i*P		**Pn**	**14 27 43.8**	**-1.9**	
	baz=60								
BTK				⇑*i*S		**Sn**	**14 28 32.0**	**-3.2**	
	baz=60								
TDK	**Taldyqorghan**	**4.29**	**21**	*e*P		**Pb**	**14 27 56.9**	**+0.6**	
	comp=N,52nm,0.6s								
TDK				*e*S		**Sg**	**14 28 54.7**	**-4.0**	
	comp=N,202nm,0.8s								
BTLS	**Baital**	**4.34**	**339**	*e*P		**Pb**	**14 27 59.4**	**+2.2**	
	comp=N,33nm,0.3s								
BTLS				*e*S		**Sg**	**14 28 59.2**	**-1.4**	
	comp=N,53nm,0.5s								
BTLS	**Baital**	**4.34**	**339**	Pg		**Pb**	**14 27 59.4**	**+2.2**	
	comp=N,33nm,0.3s								
BTLS				Lg		Lg	14 28 59.2		
	comp=N,53nm,0.5s								
KK31	**Karatay Array**	**4.77**	**298**	⇑Pg		**Pb**	**14 28 01.7**	**-2.8**	
	comp=N,8.0nm,0.4s,baz=122,slow=15,SNR=120								
KK31				⇑Lg		Lg	14 29 07.2		
	comp=N,18nm,0.4s,baz=115,slow=26,SNR=6.0								
KK31	**Karatay Array**	**4.77**	**298**	PN		**Pb**	**14 28 01.7**	**-2.8**	
IUG	**Iuzhnay**	**4.81**	**286**	*e*P		**Pb**	**14 28 03.9**	**-1.4**	
	comp=N,38nm,0.4s								
IUG				*e*S		**Sb**	**14 29 07.7**	**+4.6**	
	comp=N,57nm,0.5s								
IUG	**Iuzhnay**	**4.81**	**286**	Pg		**Pb**	**14 28 03.9**	**-1.4**	
	comp=N,38nm,0.4s								
IUG				Lg		Lg	14 29 07.7		
	comp=N,57nm,0.5s								
KAPS	**Kapalarasan**	**4.83**	**27**	*e*P		**Pb**	**14 28 05.6**	**0.0**	
	comp=N,11nm,0.6s								
KAPS				*e*S		**Sb**	**14 29 09.7**	**+6.1**	
	comp=N,46nm,0.7s								
BRLS	**Boroldoy**	**5.20**	**295**	*e*P		**Pb**	**14 28 11.6**	**-0.3**	
	comp=N,5.3nm,0.3s								
BRLS				*e*S		**Sb**	**14 29 19.4**	**+5.3**	
	comp=N,48nm,0.5s								
BRLS	**Boroldoy**	**5.20**	**295**	Pg		**Pb**	**14 28 11.6**	**-0.3**	
	comp=N,5.3nm,0.3s								
BRLS				Lg		Lg	14 29 19.4		
	comp=N,48nm,0.5s								
MAKZ	**Makanchi**	**7.11**	**34**	⇑Pg		Pg	14 28 51.0	-6.3	
	comp=N,3.5nm,0.8s								
MAKZ				⇑Lg		Lg	14 30 32.4		
	comp=N,15nm,1.1s								
MK31	**Makanchi Array**	**7.23**	**35**	Pn		**Pn**	**14 28 27.4**	**+0.9**	
	comp=N,1.2nm,0.6s,baz=209,slow=14,SNR=13								
MK31				⇓Lg		Lg	14 30 32.1		
	comp=N,6.1nm,0.7s,baz=217,slow=29,SNR=5.6								
MK31	**Makanchi Array**	**7.23**	**35**	*e*P		**Pn**	**14 28 27.3**	**+0.9**	
MKAR	**Makanchi Array**	**7.23**	**35**	Pn		**Pn**	**14 28 27.6**	**+1.2**	
	comp=N,0.3nm,0.3s,baz=208,slow=16,SNR=15								
MKAR				Lg		Lg	14 30 29.1		
	comp=N,0.7nm,0.3s,baz=218,slow=28,SNR=7.2								
OTUK	**Ortayu**	**7.75**	**340**	⇑Lg		Lg	14 30 47.6		
	comp=N,33nm,1.1s								
CEP	**Cherat**	**7.97**	**207**	P		**Pn**	**14 28 34.8**	**-1.9**	
CEP				S		**Sn**	**14 30 00.0**	**-6.7**	
WMQ	**Urumqi**	**8.91**	**68**	*e*P		**Pn**	**14 28 51.0**	**+1.5**	
WMQ				smax		smax			
	comp=N,24nm,0.9s								
WMQ				smax		smax			
	comp=N,13nm,0.7s								
THW	**Thamme Wali**	**8.96**	**205**	P		**Pn**	**14 28 47.8**	**-2.5**	
KURBB	**Kurchatov Arra**	**9.74**	**9**	Pn		**Pn**	**14 29 02.3**	**+1.6**	
	comp=N,0.1nm,0.3s,baz=193,slow=12,SNR=2.6								
KURBB				Lg		Lg	14 31 46.2		
	comp=N,0.1nm,0.3s,baz=195,slow=30,SNR=9.0								
KURBB	**Kurchatov Arra**	**9.74**	**9**	⇑Lg		Lg	14 31 50.9		
	comp=N,28nm,0.8s								
KURK	**Kurchatov**	**9.84**	**9**	⇓Lg		Lg	14 31 59.6		
	comp=N,18nm,0.8s								
KURK	**Kurchatov**	**9.84**	**9**	P		**Pn**	**14 29 02.3**	**+0.1**	
BVAR	**Borovoye Array**	**12.66**	**344**	Pn		**Pn**	**14 29 40.8**	**+0.1**	
	comp=N,0.1nm,0.3s,baz=149,slow=14,SNR=3.2								
BVAR				Lg		Lg	14 33 21.5		
	comp=N,0.2nm,0.3s,baz=153,slow=25,SNR=8.8								
BRVK	**Borovoye**	**12.72**	**343**	*i* P		**Pn**	**14 29 42.9**	**+1.4**	
BRVK				pmax		pmax			
	comp=Z,2.0nm,1.1s								
ZALV	**Zalesovo Beam**	**14.16**	**21**	Pn		**Pn**	**14 30 03.6**	**+2.4**	
	comp=Z,0.2nm,0.3s,baz=206,slow=13,SNR=5.3								
ZALV	**Zalesovo Beam**	**14.16**	**21**	*i* P		**Pn**	**14 30 03.5**	**+2.4**	
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.6s								
AKTO	**Aktyubinsk**	**15.81**	**313**	Pn		**Pn**	**14 30 23.7**	**+0.5**	
	comp=Z,0.2nm,0.3s,baz=144,slow=17,SNR=2.0								
ARU	**Arti**	**19.26**	**329**	*d* iP		**P**	**14 31 03.0**	**-2.0**	
ARU				S		**S**	**14 34 42.5**	**0.0**	
ARU				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ZAK	**Zakamensk**	**20.97**	**54**	*e*P		**P**	**14 31 22.7**	**-1.1**	
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.1s								
SONM	**Songino Array**	**22.48**	**62**	P		**P**	**14 31 43.2**	**+3.2**	
	comp=Z,0.3nm,0.5s,baz=267,slow=11,SNR=1.9								
NRIK	**Noril'sk**	**29.01**	**8**	*i* P		P	14 32 34.0	-6.2	
NRIK				pmax		pmax			
	comp=Z,4.0nm,1.2s								
OBN	**Obninsk**	**29.59**	**312**	*i* P		**P**	**14 32 41.4**	**-4.0**	
OBN				pmax		pmax			
	comp=Z,5.0nm,0.8s								
FINES	**FINESS Array B**	**36.28**	**321**	P		**P**	**14 33 46.2**	**+2.4**	
	comp=Z,1.4nm,0.7s,baz=84,slow=13,SNR=2.3								
ARCES	**ARCESS Array B**	**38.71**	**334**	P		**P**	**14 34 06.9**	**+2.7**	
	comp=Z,0.8nm,0.5s,baz=96,slow=11,SNR=5.2								
NOA	**NORSAR Array B**	**43.41**	**320**	P		**P**	**14 34 44.5**	**+1.4**	
	comp=Z,0.3nm,0.5s,baz=93,slow=7.6,SNR=1.7								

*BEO **13** 14:37:29.2±0.6,42°.16N×23°.50E,h0km,ML2.2/8*
*THE **13** 14:37:29.9,42°.06N×23°.47E,h0km±3km,ML2.5/5,Error ellipse: s-maj=3.8km s-min=1.4km az=311.0*
*SKO **13** 14:37:29.6,42°.17N×23°.46E,h6km*
ISC 13 14:37:28.2±1.3,42°.15N±0°.03×23°.47E±0°.04,h0km±12km, n22,σ1§07/35,2D,Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
VTS	**Vitosha**	**0.50**	**340**	*e*Pg		**Pg**	**14 37 37.5**	**-0.3**
VTS				*e*Sg		**Sg**	**14 37 42.6**	**-1.7**
BOSS	**Bosilegrad**	**0.81**	**296**	*e*Pg		**Pg**	**14 37 44.4**	**+0.7**
BOSS				*e*Sg		**Sg**	**14 37 55.9**	**+1.7**
NVR	**Nevrokopi**	**0.85**	**159**	P		**Pg**	**14 37 44.3**	**-0.1**
NVR				S		**Sg**	**14 37 55.4**	**0.0**
	198nm,0.2s							
NVR	**Nevrokopi**	**0.85**	**159**	P		**Pg**	**14 37 44.4**	**0.0**
SRS	**Serrai**	**1.03**	**175**	P		**Pg**	**14 37 47.9**	**0.0**
SRS				S		**Sg**	**14 38 02.5**	**+1.2**
	335nm,0.5s							
SRS	**Serrai**	**1.03**	**175**	P		**Pg**	**14 37 47.9**	**0.0**
STIP	**Stip**	**1.06**	**245**	⇓*i*Pg		Pg	14 37 44.7	-3.7
STIP				*i* Sg		**Sg**	**14 37 57.8**	**-4.2**
STIP				*e*Lg		Lg	14 37 58.4	
	comp=N,59nm,0.2s							
VAY	**Valandovo**	**1.06**	**219**	*e*Pg		**Pb**	**14 37 49.2**	**-0.2**
VAY				*e*Sg		**Sg**	**14 38 02.5**	**+0.2**
VAY	**Valandovo**	**1.06**	**219**	⇓*i*Pg		**Pb**	**14 37 49.5**	**+0.2**
VAY				*i* Sg		**Sb**	**14 38 04.6**	**+0.8**
VAY				*e*Lg		Lg	14 38 07.7	
	comp=E,117nm,0.3s							
ZAPS	**Zavoj**	**1.28**	**332**	*e*Pg		**Pn**	**14 37 52.6**	**-0.8**
ZAPS				*e*Sg		**Sn**	**14 38 10.9**	**-0.4**
SOH	**Sokhos**	**1.33**	**184**	P		**Pn**	**14 37 53.3**	**-0.6**
SOH				S		**Sb**	**14 38 10.9**	**-0.5**
	comp=E,198nm,0.4s							
SOH	**Sokhos**	**1.33**	**184**	P		**Pn**	**14 37 53.3**	**-0.6**
KAVA	**Kavala**	**1.39**	**145**	P		**Pn**	**14 37 54.6**	**-0.2**
KAVA				S		**Sg**	**14 38 13.9**	**+1.1**
	comp=E,158nm,0.4s							
KAVA	**Kavala**	**1.39**	**145**	P		**Pn**	**14 37 54.6**	**-0.2**
BARS	**Barje**	**1.39**	**299**	*e*Pg		**Pb**	**14 37 55.5**	**+0.5**
BARS				*e*Sg		**Sb**	**14 38 13.8**	**+0.4**
RDO	**Rodhopi**	**1.85**	**122**	P		**Pn**	**14 38 01.6**	**+0.6**
RDO				S		**Sb**	**14 38 26.0**	**-0.3**
	comp=E,120nm,0.2s							
RDO	**Rodhopi**	**1.85**	**122**	P		**Pn**	**14 38 01.7**	**+0.7**
ZAGS	**Zajecar**	**1.90**	**332**	*e*Pn		**Pb**	**14 38 03.1**	**-0.5**
ZAGS				*e*Sn		**Sn**	**14 38 25.9**	**-0.4**
BOVS	**Bovan**	**1.97**	**320**	*e*Pn		**Pb**	**14 38 04.5**	**-0.4**
BOVS				*e*Sg		**Sg**	**14 38 31.5**	**0.0**
SELS	**Selova**	**2.04**	**303**	*e*Sg		**Pn**	**14 38 04.2**	**+0.5**
SELS	**Selova**	**2.04**	**303**	*e*Pn		**Sg**	**14 38 34.7**	**+1.1**
IVAS	**Ivanjica**	**2.83**	**302**	*e*Pn		**Pn**	**14 38 16.1**	**+1.5**

*NEIC **13** 15:22:32.9±2.6,33°.41S±0°.07×142°.08E±0°.09,h14km±7km, Error ellipse: s-maj=10.3km s-min=10.0km az=85.0*
*AUST **13** 15:22:33.3±0.3,33°.34S×142°.15E,h10km, Error ellipse: s-maj=3.6km s-min=3.3km az=2.0*
*IDC **13** 15:22:35.3±5.2,33°.34S×141°.36E,h0km,mb3.7/1, mb1 3.8/3,mb1mx3.5/25,mbtmp3.6/3,ML3.5/2,Error ellipse: s-maj=61.2km s-min=25.8km az=122.0*
ISC 13 15:22:31.9±0.8,33°.39S±0°.04×142°.12E±0°.05,h10km,n37, σ1§70/50,New South Wales

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**1.57**	**344**	Pg		**Pg**	**15 23 02.6**	**+0.4**
	74nm,0.3s,baz=168,slow=16,SNR=442							
STKA				Lg		Lg	15 23 23.0	
	158nm,0.3s,baz=234,slow=22,SNR=56							
STKA	**Stephens Creek**	**1.57**	**344**	P		**Pg**	**15 23 02.5**	**+0.4**
	baz=1.5,SNR=992							
STKA				S		**Sg**	**15 23 22.7**	**+0.2**
	baz=1.5							
STKA	**Stephens Creek**	**1.57**	**344**			**Pg**	**15 23 02.4**	**+0.4**
HTT	**Hallett**	**2.67**	**268**	P		**Pn**	**15 23 16.3**	**+1.3**
	baz=2.7,SNR=16							
HTT				S		**Sn**	**15 23 49.2**	**+1.7**
	baz=2.7							
ARPS	**Mount Arapiles**	**3.38**	**184**	P		**Pn**	**15 23 25.5**	**+0.8**
	baz=3.4,SNR=170							
ARPS				S		**Sn**	**15 24 04.3**	**-0.5**
	baz=3.4							
AUMAG	**Moama Anglican**	**3.46**	**142**	P		**Pn**	**15 23 27.9**	**+2.0**
	baz=3.5							
CMSA	**Cobar Meteorol**	**3.54**	**60**	P		**Pn**	**15 23 28.2**	**+1.2**
	baz=3.5							
CMSA				S		**Sn**	**15 24 09.0**	**0.0**
	baz=3.5							
LCRK	**Leigh Creek**	**4.43**	**310**	P		**Pn**	**15 23 41.4**	**+2.3**
	baz=4.4,SNR=6.7							
LCRK				S		**Sn**	**15 24 32.0**	**+1.2**
	baz=4.4							
AUMTC	**Mt Clear Colle**	**4.45**	**162**	P		**Pn**	**15 23 40.9**	**+1.6**
	baz=4.5							
AUMTC				S		**Sn**	**15 24 29.4**	**-1.8**
	baz=4.5							
TOO	**Toolangi**	**5.00**	**148**	P		**Pn**	**15 23 48.5**	**+1.5**
	baz=5.0,SNR=14							
TOO	**Toolangi**	**5.00**	**148**	Pn		**Pn**	**15 23 48.5**	**+1.5**
BBOO	**Buckleboo**	**5.12**	**275**	P		**Pn**	**15 23 50.0**	**+1.4**
	baz=5.1,SNR=30							
BBOO				S		**Sn**	**15 24 47.2**	**-0.6**
	baz=5.1							
BBOO	**Buckleboo**	**5.12**	**275**			**Pn**	**15 23 50.4**	**+1.8**
INKA	**Innaminka**	**5.76**	**348**	P		**Pn**	**15 23 58.9**	**+1.6**
	baz=5.7,SNR=14							
INKA				S		**Sn**	**15 25 04.5**	**+1.0**
	baz=5.7							
CAN	**Canberra**	**6.01**	**111**	Pn		**Pn**	**15 24 02.5**	**+1.6**
CNB	**Canberra Magne**	**6.29**	**110**	P		**Pn**	**15 24 06.3**	**+1.4**
	baz=6.3							
AULRC	**Lightning Ridg**	**6.38**	**53**	P		**Pn**	**15 24 07.7**	**+1.7**
	baz=6.3							
AULRC				S		**Sn**	**15 25 18.3**	**-0.6**
	baz=6.3							
QLP	**Quilpie**	**7.03**	**16**	P		**Pn**	**15 24 17.3**	**+2.3**
	baz=7.0,SNR=5.0							
QLP				S		**Sn**	**15 25 35.6**	**+0.7**
	baz=7.0							
MGCD	**Mangrove Creek**	**7.53**	**91**	P		**Pn**	**15 24 23.6**	**+1.8**
	baz=7.5							
OOD	**Oodnadatta**	**7.86**	**314**	P		**Pn**	**15 24 27.9**	**+1.6**
	baz=7.9,SNR=6.7							
OOD				S		**Sn**	**15 25 53.3**	**-2.0**
	baz=7.9							
ARMA	**Armidale**	**8.61**	**72**	P		**Pn**	**15 24 38.5**	**+1.8**
	baz=8.6							
ARMA	**Armidale**	**8.61**	**72**	Pn		**Pn**	**15 24 38.0**	**+1.3**
EIDS	**Eidsvold**	**11.18**	**47**	Pn		**Pn**	**15 25 12.8**	**+1.0**
ASAR	**Alice Springs**	**12.08**	**321**	Pn		**Pn**	**15 25 21.9**	**-2.3**
	0.4nm,0.3s,baz=145,slow=12,SNR=20							
ASAR				Sn		**Sn**	**15 27 34.0**	**-4.9**
	0.4nm,0.3s,baz=146,slow=23,SNR=7.3							
ASAR	**Alice Springs**	**12.08**	**321**			**Pn**	**15 25 23.5**	**-0.7**
AS31	**Alice Springs**	**12.08**	**321**			**Pn**	**15 25 23.7**	**-0.4**
FORT	**Forrest**	**12.20**	**279**	Pn		**Pn**	**15 25 24.5**	**-1.2**
WR0	**Warramunga Arr**	**14.99**	**331**	Pn		**Pn**	**15 26 02.1**	**-1.7**
WB2	**Warramunga Arr**	**15.08**	**331**	Pn		**Pn**	**15 26 02.9**	**-2.2**
**

TAVA	**DENIZLI_Tavas**	**1.26**	**68**	*i* P		**Pg**	**15 26 26.6**	**+0.7**
TAVA				*i* S		**Sn**	**15 26 43.0**	**+0.4**
FETY	**Fethiye**	**1.36**	**105**	PN		**Pg**	**15 26 29.4**	**+1.5**
FETY				SN		**Sg**	**15 26 50.0**	**+4.4**
FETY	**Fethiye**	**1.36**	**105**	*i* P		**Pg**	**15 26 28.3**	**+0.5**
FETY				*i* S		**Sn**	**15 26 45.4**	**+0.3**
URLA	**Izmir**	**1.52**	**334**	PN		**Pg**	**15 26 30.9**	**+0.1**
URLA				SN		**Sg**	**15 26 51.7**	**+1.2**
URLA	**Izmir**	**1.52**	**334**	*i* P		**Pb**	**15 26 29.4**	**-0.5**
URLA				*i* S		**Sg**	**15 26 50.8**	**+0.3**
GOLH	**Golhisar**	**1.71**	**81**	*i* P		**Pg**	**15 26 37.6**	**+3.1**
GOLH				*i* S		**Sg**	**15 26 58.0**	**+1.4**
MANT	**Manisa**	**1.73**	**30**	*i* P		**Pb**	**15 26 34.1**	**+0.3**
IOSP	**Ios island**	**1.75**	**262**	P		**Pb**	**15 26 33.6**	**-0.3**
CHOS	**Chios island**	**1.77**	**322**	P		**Pb**	**15 26 33.3**	**-1.0**
AKAS	**Kas**	**1.90**	**113**	*i* P		**Pg**	**15 26 39.4**	**+1.2**
AKAS					IAML		15 27 11.0	
	comp=N,35nm,0.8s							

DDA ***13*** *15:27:00.7, 37°.01N×27°.42E, h10km, ML1.9*
ISK ***13*** *15:27:01.2, 36°.99N×27°.41E, h3km, ML2.6/10*
ISC 13 15:27:00.9±0.9, 37°.04N±0°.03×27°.52E±0°.03, h7km±7km, n18,σ1§75/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.07**	**297**	*i* P	**Pg**	**15 27 03.2**	**+0.5**
BDRM				*i* S	**Sg**	**15 27 04.3**	**+0.4**
BODT	**Bodrum**	**0.17**	**279**	PG	**Pg**	**15 27 03.9**	**-0.4**
BODT				SG	**Sg**	**15 27 05.9**	**-0.7**
DAT	**Datca**	**0.31**	**171**	PG	**Pg**	**15 27 07.4**	**+0.4**
DAT				SG	**Sb**	**15 27 12.7**	**-1.4**
DAT	**Datca**	**0.31**	**171**	*i* P	**Pg**	**15 27 07.3**	**+0.4**
DAT				*i* S	**Sg**	**15 27 12.0**	**+0.9**
DAT				IAML		15 27 14.0	
	comp=N,166nm,0.2s						
YER	**Yerkesik**	**0.62**	**81**	PG	**Pn**	**15 27 16.0**	**-0.1**
YER				SG	**Sn**	**15 27 26.2**	**-0.2**
TURN	**Turunc**	**0.64**	**114**	PG	**Pg**	**15 27 15.8**	**-2.1**
TURN				SG	**Sg**	**15 27 26.3**	**-3.1**
TURN	**Turunc**	**0.64**	**114**	*i* P	**Pg**	**15 27 14.3**	**-3.6**
TURN				*i* S	**Sg**	**15 27 24.2**	**-5.2**
GCAM	**G?zelcaml?**	**0.70**	**341**	PG	**Pn**	**15 27 16.1**	**-1.0**
GCAM	**G?zelcaml?**	**0.70**	**341**	*i* P	**Pg**	**15 27 14.2**	**-0.1**
GCAM				*i* S	**Sb**	**15 27 24.8**	**-0.4**
GCAM				IAML		15 27 27.0	
	comp=E,57nm,0.2s						
GCAM				IAML		15 27 28.0	
	comp=N,87nm,0.3s						
DALY	**Dalyan (Mula)**	**0.94**	**103**	PG	**Pn**	**15 27 21.2**	**+0.8**
DALY				SG	**Sn**	**15 27 35.8**	**+1.8**
DALY	**Dalyan (Mula)**	**0.94**	**103**	*i* P	**Pg**	**15 27 19.8**	**+1.0**
DALY				*i* S	**Sn**	**15 27 34.7**	**+0.7**
DALY				IAML		15 27 38.0	
	comp=E,33nm,0.2s						
DALY				IAML		15 27 38.0	
	comp=N,30nm,0.4s						
ARG	**Arkhangelos**	**0.95**	**149**	PG	**Pn**	**15 27 20.7**	**+0.1**
ARG				SG	**Sn**	**15 27 34.7**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.19**	**69**	*i* P	**Pg**	**15 27 26.0**	**+2.2**
TAVA				*i* S	**Sb**	**15 27 41.3**	**+1.8**
FETY	**Fethiye**	**1.32**	**107**	PN	**Pg**	**15 27 28.4**	**+2.2**
FETY	**Fethiye**	**1.32**	**107**	*i* P	**Pg**	**15 27 27.6**	**+1.4**
FETY				*i* S	**Sg**	**15 27 44.8**	**+1.5**
BLCB	**Balcova**	**1.40**	**345**	PN	**Pg**	**15 27 28.9**	**+1.2**
URLA	**Izmir**	**1.51**	**331**	PN	**Pg**	**15 27 30.1**	**+0.3**
URLA	**Izmir**	**1.51**	**331**	*i* P	**Pg**	**15 27 29.9**	**+0.1**
URLA				IAML		15 27 58.0	
	comp=N,32nm,0.7s						

ATH ***13*** *15:32:05.3, 40°.48N×21°.53E, h25km±1km, ML2.5/8, Error ellipse: s-maj=2.0km s-min=1.1km az=358.0*
THE ***13*** *15:32:06.7, 40°.44N×21°.56E, h5km±1km, ML2.4/7, Error ellipse: s-maj=1.7km s-min=0.7km az=146.0*
SKO ***13*** *15:32:06.9, 40°.38N×21°.50E, h14km*
ISC 13 15:32:07.0±0.9, 40°.40N±0°.03×21°.53E±0°.02, h15km±6km, n27,σ1§10/45, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.20**	**117**	P	**Pg**	**15 32 11.7**	**-0.1**
KZN				S	**Sg**	**15 32 14.6**	**-0.4**
	2µm,0.2s						
KZN	**Kozani**	**0.20**	**117**	P	**Pg**	**15 32 11.8**	**0.0**
KZN				S	**Sg**	**15 32 15.8**	**+0.9**
KZN				AML	AML	15 32 16.3	
	comp=N,7642µm,0.2s						
KZN				AML	AML	15 32 16.9	
	comp=E,5255µm,0.3s						
PENT	**Pentalofos**	**0.36**	**236**	P	**Pg**	**15 32 14.1**	**-0.4**
PENT				S	**Sg**	**15 32 20.1**	**+0.5**
	comp=E,765nm,0.3s						
PENT	**Pentalofos**	**0.36**	**236**	P	**Pg**	**15 32 14.0**	**-0.4**
PENT				S	**Sb**	**15 32 21.1**	**+0.2**
PENT				AML	AML	15 32 24.3	
	comp=N,1981µm,0.3s						
PENT				AML	AML	15 32 24.6	
	comp=E,1028µm,0.3s						
NEST	**Nestorio**	**0.37**	**272**	P	**Pg**	**15 32 13.8**	**-0.8**
NEST				S	**Sb**	**15 32 20.1**	**-0.9**
	comp=E,642nm,0.3s						
NEST	**Nestorio**	**0.37**	**272**	P	**Pg**	**15 32 13.8**	**-0.8**
NEST				S	**Sg**	**15 32 19.5**	**-0.2**
NEST				AML	AML	15 32 22.5	
	comp=E,1510µm,0.3s						
NEST				AML	AML	15 32 23.0	
	comp=N,1030µm,0.4s						
KTI	**Kastanea**	**0.45**	**91**	P	**Pg**	**15 32 15.5**	**-0.5**
KPRO	**Kipourio**	**0.47**	**196**	P	**Pg**	**15 32 15.8**	**-0.5**
KPRO				S	**Sb**	**15 32 24.1**	**+0.5**
	comp=N,820nm,0.3s						
KPRO	**Kipourio**	**0.47**	**196**	P	**Pg**	**15 32 16.0**	**-0.3**
KPRO				S	**Sb**	**15 32 25.0**	**+1.3**
KPRO				AML	AML	15 32 26.6	
	comp=E,1678µm,0.3s						
KPRO				AML	AML	15 32 28.4	
	comp=N,1593µm,0.3s						
LIT	**Litokhoron**	**0.79**	**112**	P	**Pg**	**15 32 21.3**	**-1.1**
LIT				S	**Sg**	**15 32 32.8**	**0.0**
	comp=N,322nm,0.3s						
LIT	**Litokhoron**	**0.79**	**112**	P	**Pg**	**15 32 21.9**	**-0.5**
LIT				S	**Sg**	**15 32 33.1**	**+0.3**
LIT				AML	AML	15 32 37.1	
	comp=E,837µm,0.2s						
LIT				AML	AML	15 32 38.9	
	comp=N,513µm,0.5s						
OHR	**Ohrid**	**0.90**	**322**	⇓*i* Pg	**Pg**	**15 32 22.9**	**-1.6**
OHR				*i* Sg	**Sn**	**15 32 36.6**	**-1.4**
OHR				*e*Lg	Lg	15 32 38.4	
	comp=N,87nm,0.4s						
JAN	**Janina**	**0.91**	**215**	P	**Pb**	**15 32 23.6**	**-0.9**
THL	**Klokotos Trika**	**0.91**	**156**	P	**Pb**	**15 32 23.5**	**-1.0**
THL				S	**Sn**	**15 32 38.4**	**+0.2**
	comp=N,310nm,0.4s						
THL	**Klokotos Trika**	**0.91**	**156**	P	**Pb**	**15 32 23.6**	**-1.0**
THL				S	**Sn**	**15 32 39.0**	**+0.9**
THL				AML	AML	15 32 40.5	
	comp=N,528µm,0.3s						
THL				AML	AML	15 32 40.8	
	comp=E,716µm,0.4s						
VAY	**Valandovo**	**1.21**	**40**	*i* Pg	**Pg**	**15 32 29.1**	**-1.2**
VAY				*i* Sg	**Sg**	**15 32 47.1**	**+1.1**
VAY				*e*Lg	Lg	15 32 52.1	
	comp=N,35nm,0.4s						
HORT	**Hortiatis**	**1.21**	**80**	P	**Pn**	**15 32 28.6**	**-0.9**
HORT				S	**Sg**	**15 32 45.5**	**-0.6**
HORT				AML	AML	15 32 49.5	
	comp=N,211µm,0.7s						
HORT				AML	AML	15 32 51.6	
	comp=E,210µm,0.5s						
IGT	**Igoumenitsa**	**1.27**	**227**	P	**Pb**	**15 32 30.8**	**+0.3**
IGT				S	**Sg**	**15 32 49.8**	**+1.9**
	comp=E,65nm,0.6s						
IGT	**Igoumenitsa**	**1.27**	**227**	P	**Pb**	**15 32 30.8**	**+0.3**
STIP	**Stip**	**1.38**	**21**	*i* Pn	**Pg**	**15 32 33.8**	**+0.2**
STIP				*i* Sg	**Sg**	**15 32 56.5**	**+4.9**
STIP				*e*Lg	Lg	15 32 56.9	
	comp=E,8.3nm,0.3s						
EVR	**Evrytania**	**1.50**	**172**	P	**Pn**	**15 32 34.2**	**+0.8**
EVR	**Evrytania**	**1.50**	**172**	P	**Pn**	**15 32 33.5**	**+0.1**
AGG	**Agios Georgios**	**1.51**	**156**	P	**Pn**	**15 32 33.5**	**0.0**
AGG	**Agios Georgios**	**1.51**	**156**	P	**Pn**	**15 32 33.9**	**+0.4**
AGG				S	**Sb**	**15 32 54.7**	**+1.0**
AGG				AML	AML	15 32 58.4	
	comp=E,162µm,0.4s						
AGG				AML	AML	15 33 03.6	
	comp=N,200µm,0.5s						
SKO	**Skopje**	**1.57**	**357**	*i* Pn	**Pg**	**15 32 37.9**	**+0.7**
XOR	**Xorichti**	**1.64**	**128**	P	**Pn**	**15 32 34.9**	**-0.5**
XOR	**Xorichti**	**1.64**	**128**	P	**Pn**	**15 32 35.2**	**-0.1**

MDD ***13*** *15:48:01.8±0.7, 35°.00N×2°.88W, h5km±2km, mbLg3.2/36, Error ellipse: s-maj=5.7km s-min=4.6km az=161.0, PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA - ESPAA.
SFS ***13*** *15:48:01.0, 34°.90N×2°.90W, ML3.2, HASSI BERNAKE (MARRUECOS)*
CNRM ***13*** *15:48:01.7±0.4, 35°.06N×2°.86W, h12km±3km, Error ellipse: s-maj=6.2km s-min=3.0km az=54.0*
IDC ***13*** *15:48:01.7±1.2, 35°.16N×2°.88W, h0km, mb3.7/2, mb1 3.7/6, mb1mx3.4/49, mbtmp3.6/6, ML3.7/4, MS2.8/2, Ms1 2.8/2, ms1mx2.3/44, Error ellipse: s-maj=44.9km s-min=13.7km az=125.0*
INMG ***13*** *15:48:03.0±1.3, 35°.06N×3°.03W, h3km±4km, ML3.1, Error ellipse: s-maj=5.9km s-min=3.5km az=114.0*
ISC 13 15:48:01.8±0.9, 35°.08N±0°.02×2°.90W±0°.02, h16km±6km, n124,σ1§70/212, 2C-5b, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOG	**Mont Gurugu**	**0.17**	**331**	P	**Pg**	**15 48 06.3**	**+0.1**
GOG				S	**Sg**	**15 48 09.5**	**+0.4**
MELI	**Melilla**	**0.22**	**352**	P	**Pg**	**15 48 07.2**	**+0.3**
MELI				⇓P	**Pg**	**15 48 07.2**	**+0.3**
	573nm,0.1s,SNR=18						
MELI				S	**Sb**	**15 48 10.8**	**-0.4**
	11µm,0.4s,SNR=7.9						
MELI				S	**Sb**	**15 48 11.2**	**-0.1**
MELI	**Melilla**	**0.22**	**352**	⇓*i* P	**Pg**	**15 48 07.2**	**+0.3**
MELI				*e*S	**Sb**	**15 48 11.2**	**-0.1**
EMEL	**Melilla**	**0.23**	**347**	⇓P	**Pb**	**15 48 07.5**	**-0.2**
	2µm,0.1s,SNR=18						
EMEL				S	**Sb**	**15 48 11.4**	**-0.2**
	7µm,0.1s						
TAF	**Taforalt**	**0.47**	**123**	P	**Pg**	**15 48 10.6**	**-0.7**
TAF				S	**Sg**	**15 48 16.1**	**-1.6**
JBK	**JBK**	**0.79**	**160**	P	**Pg**	**15 48 17.0**	**-0.2**
JBK				S	**Sg**	**15 48 27.2**	**-0.4**
PALE	**Palemas**	**0.87**	**280**	P	**Pn**	**15 48 19.6**	**+0.2**
PALE				S	**Sn**	**15 48 32.4**	**+0.6**
EALB	**Alboran**	**0.87**	**353**	P	**Pg**	**15 48 19.1**	**+0.3**
	81nm,0.2s,SNR=53						
EALB				S	**Sg**	**15 48 30.9**	**+0.7**
	1µm,0.3s,SNR=9.7						
AKLM	**AKL**	**0.98**	**235**	P	**Pn**	**15 48 21.6**	**+0.7**
AKLM				S	**Sn**	**15 48 36.7**	**+2.2**
PVLZ	**Peæn de**	**1.16**	**275**	P	**Pg**	**15 48 24.0**	**-0.1**
PVLZ				S	**Sg**	**15 48 39.2**	**0.0**
PVLZ	**Peæn de**	**1.16**	**275**	⇓*i* P	**Pg**	**15 48 24.0**	**-0.1**
PVLZ				*e*S	**Sg**	**15 48 39.2**	**0.0**
EBER	**Berja**	**1.82**	**0**	P	**Pn**	**15 48 33.7**	**+1.0**
	1.8nm,0.1s,SNR=23						
EBER				S	**Sn**	**15 48 54.3**	**-1.2**
	202nm,0.3s,SNR=5.4						
ELGU	**Los Guajares,**	**1.88**	**342**	⇓P	**Pn**	**15 48 32.5**	**-1.0**
	15nm,0.2s,SNR=18						
ELGU				S	**Sn**	**15 48 54.8**	**-2.2**
	127nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**1.97**	**16**	⇑P	**Pn**	**15 48 33.8**	**-0.9**
	16nm,0.2s,SNR=18						
ENIJ				S	**Sn**	**15 48 57.5**	**-1.5**
	119nm,0.3s,SNR=7.9						
CHEFC	**Chefchaouen**	**2.00**	**272**	P	**Pb**	**15 48 36.6**	**-1.3**
CHEFC				S	**Sb**	**15 49 03.1**	**+0.4**
EMAL	**Malaga-Limoner**	**2.09**	**324**	P	**Pn**	**15 48 35.8**	**-0.5**
EMAL				S	**Sn**	**15 49 00.5**	**-1.5**
EMAL	**Malaga-Limoner**	**2.09**	**324**	*e*P	**Pn**	**15 48 35.8**	**-0.5**
EMAL				*e*S	**Sn**	**15 49 00.5**	**-1.5**
SMIR	**Smir Dam**	**2.12**	**287**	P	**Pn**	**15 48 35.4**	**-1.2**
SMIR				S	**Sb**	**15 49 05.6**	**-0.3**
EMIJ	**Mijas**	**2.13**	**315**	P	**Pn**	**15 48 36.1**	**-0.7**
	6.8nm,0.3s,SNR=31						
EMIJ				S	**Sn**	**15 49 02.1**	**-0.8**
	151nm,0.4s						
LCRM	**LCR**	**2.13**	**230**	P	**Pn**	**15 48 37.7**	**+0.7**
LCRM				S	**Sg**	**15 49 08.9**	**-1.6**
EQUE	**Quentar**	**2.17**	**348**	P	**Pn**	**15 48 38.4**	**+1.0**
	9.1nm,0.3s,SNR=21						
EQUE				S	**Sn**	**15 49 05.6**	**+1.6**
	56nm,0.4s,SNR=8.3						
CEU	**Ceuta**	**2.18**	**293**	P	**Pn**	**15 48 35.5**	**-1.9**
CEU				S	**Sn**	**15 48 59.8**	**-4.3**
CEU	**Ceuta**	**2.18**	**293**	⇑*i* P	**Pn**	**15 48 35.5**	**-1.9**
CEU				*e*S	**Sn**	**15 48 59.8**	**-4.3**
ECEU	**Ceuta**	**2.19**	**293**	P	**Pn**	**15 48 36.7**	**-0.8**
	15nm,0.2s,SNR=11						
ECEU				S	**Sn**	**15 49 02.9**	**-1.4**
	34nm,0.2s						
SICH	**Sidi Chahed**	**2.22**	**245**	P	**Pn**	**15 48 39.3**	**+1.3**
SICH				S	**Sb**	**15 49 08.3**	**-0.6**
EGOR	**Sierra Gorda,**	**2.26**	**335**	P	**Pn**	**15 48 39.8**	**+1.1**
	7.5nm,0.3s,SNR=7.9						
EGOR				S	**Sb**	**15 49 08.4**	**-1.7**
	124nm,0.3s,SNR=7.9						
GORA	**Gorafe**	**2.40**	**357**	P	**Pn**	**15 48 42.4**	**+1.9**
	6.8nm,0.2s,SNR=7.9						
GORA				S	**Sn**	**15 49 11.5**	**+1.7**
	203nm,0.3s,SNR=7.9						
RSA	**Sarsar**	**2.41**	**266**	P	**Pb**	**15 48 43.3**	**-1.6**
RSA				S	**Sb**	**15 49 13.6**	**-0.5**
IFR	**Ifrane**	**2.41**	**231**	*e*P	**Pn**	**15 48 41.3**	**+0.5**
IFR				*e*S	**Sn**	**15 49 11.2**	**+1.0**
EJIF	**Jimena Fronter**	**2.50**	**304**	P	**Pn**	**15 48 42.9**	**+1.0**
	2µm,0.4s,SNR=7.9						
CPS	**Cap Spartel**	**2.56**	**287**	S	**Sn**	**15 49 15.7**	**+2.2**
MDT	**Midelt**	**2.67**	**213**	Pn	**Pn**	**15 48 45.2**	**+0.9**
	11nm,0.3s,baz=310,slow=12,SNR=223						
MDT				Pg	**Pg**	**15 48 51.4**	**-1.6**
	21nm,0.3s,baz=39,slow=18,SNR=26						
MDT				Lg	Lg	15 49 30.8	
	18nm,0.3s,baz=293,slow=22,SNR=9.8						
MD31	**MD31**	**2.69**	**216**	P	**Pn**	**15 48 45.5**	**+0.9**
CZD	**Col de Zad**	**2.71**	**222**	P	**Pn**	**15 48 46.4**	**+1.4**
CZD				S	**Sn**	**15 49 20.0**	**+2.4**
EQES	**Quesada**	**2.73**	**357**	P	**Pn**	**15 48 47.4**	**+2.3**
	12nm,0.2s,SNR=54						
EQES				S	**Sn**	**15 49 20.2**	**+2.4**
	244nm,0.5s						
CART	**Cartagena**	**2.94**	**31**	P	**Pn**	**15 48 46.4**	**-1.5**
CART				S	**Sn**	**15 49 17.9**	**-4.9**
CART	**Cartagena**	**2.94**	**31**	*e*P	**Pn**	**15 48 46.4**	**-1.5**
CART				*e*S	**Sn**	**15 49 17.9**	**-4.9**
ESPR	**Espera**	**3.00**	**308**	P	**Pn**	**15 48 50.5**	**+1.8**
	8.0nm,0.4s,SNR=7.1						
ESPR				S	**Sn**	**15 49 25.1**	**+0.9**
	48nm,0.3s						
OKGL	**Djebel Kef Gue**	**3.04**	**71**	P	**Pn**	**15 48 49.7**	**+0.4**
	0.9nm,0.1s,SNR=7.9						
OKGL				S	**Sn**	**15 49 25.3**	**-0.2**
	54nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.05**	**5**	P	**Pn**	**15 48 51.5**	**+1.9**
	14nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**15 49 27.3**	**+1.4**
	93nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**3.05**	**5**	P	**Pn**	**15 48 51.3**	**+1.7**
	SNR=40						
EMUR	**La Murta**	**3.07**	**25**	P	**Pn**	**15 48 49.4**	**-0.3**
	50nm,0.3s,SNR=50						
EMUR				S	**Sn**	**15 49 23.8**	**-2.3**
	22nm,0.2s						
FIGM	**Figuig**	**3.24**	**155**	S	**Sn**	**15 49 33.9**	**+3.5**
HORN	**Hornachuelos**	**3.36**	**326**	P	**Pn**	**15 48 54.1**	**+0.4**
	SNR=77						
EADA	**Adamuz**	**3.37**	**337**	P	**Pn**	**15 48 55.0**	**+1.2**
	13nm,0.2s,SNR=59						
EADA				S	**Sn**	**15 49 34.4**	**+0.8**
	23nm,0.2s						
ZHG	**ZHG**	**3.50**	**243**	P	**Pn**	**15 48 56.9**	**+1.2**
ECAB	**El Cabril**	**3.62**	**327**	P	**Pn**	**15 48 58.2**	**+0.9**
	0.4nm,0.1s,SNR=13						
ECAB				S	**Sn**	**15 49 39.4**	**-0.3**
	18nm,0.4s,SNR=6.8						
ETOB	**Tobarra**	**3.72**	**16**	P	**Pn**	**15 49 00.3**	**+1.5**
	11nm,0.3s,SNR=36						
ETOB				S	**Sn**	**15 49 42.5**	**+0.2**
	16nm,0.2s,SNR=7.9						
GOLM	**Goulmima**	**3.78**	**208**	P	**Pn**	**15 49 01.6**	**+2.1**
GOLM				S	**Sn**	**15 49 47.7**	**+4.0**
ARF	**Arif**	**3.80**	**197**	P	**Pn**	**15 49 00.4**	**+0.6**
ARF				S	**Sn**	**15 49 46.0**	**+1.8**
AFON	**Font Roja**	**4.05**	**27**	P	**Pn**	**15 49 04.1**	**+0.9**
	4.8nm,0.2s,SNR=12						
AFON				S	**Sn**	**15 49 51.8**	**+1.3**
	34nm,0.4s						
EMIN	**Mina Concepcio**	**4.06**	**313**	P	**Pn**	**15 49 03.8**	**+0.5**
	3.7nm,0.2s,SNR=24						
EMIN				S	**Sn**	**15 49 50.0**	**-0.6**
	11nm,0.3s,SNR=7.9						
AVE	**Averroes**	**4.14**	**246**	*e*S	**Pg**	**15 49 22.5**	**+1.3**
EBEN2	**Beniarda presa**	**4.20**	**30**	P	**Pn**	**15 49 06.5**	**+1.3**
	9.2nm,0.3s,SNR=7.9						
EBEN2				S	**Sn**	**15 49 54.5**	**+0.5**
	18nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.44**	**305**	P	**Pn**	**15 49 08.9**	**+0.3**
	8.0nm,0.2s,SNR=25						
EGRO				S	**Sn**	**15 49 58.3**	**-1.6**
	36nm,0.3s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.54**	**302**	P	**Pn**	**15 49 09.9**	**0.0**
PVAQ				S	**Sn**	**15 50 01.2**	**-1.1**
	33nm,0.4s						
PVAQ	**Vaqueiros**	**4.54**	**302**	P	**Pn**	**15 49 10.1**	**+0.3**
	SNR=22						
PVAQ	**Vaqueiros**	**4.54**	**302**	*e*Pn	**Pn**	**15 49 09.9**	**0.0**
PVAQ				*i* Sn	**Sn**	**15 50 01.2**	**-1.1**
PVAQ				A	A	15 50 05.8	
	33nm,0.4s						
PBAR	**Barrancos**	**4.55**	**314**	S	**Sn**	**15 50 00.9**	**-1.6**
	20nm,0.5s						
PBAR	**Barrancos**	**4.55**	**314**	*e*Sn	**Sn**	**15 50 00.9**	**-1.6**
PBAR				A	A	15 50 06.9	
	20nm,0.5s						
PAB	**San Pablo**	**4.61**	**346**	P	**Pn**	**15 49 12.7**	**+1.8**
	3.3nm,0.3s,SNR=7.9						
PAB				S	**Sn**	**15 50 03.5**	**-0.7**
	14nm,0.6s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.61**	**299**	P	**Pn**	**15 49 11.1**	**+0.2**
PBDV				S	**Sn**	**15 50 04.1**	**-0.1**
	15nm,0.4s						
PBDV	**Barranco-do-Ve**	**4.61**	**299**	*e*Pn	**Pn**	**15 49 11.1**	**+0.2**
PBDV				*e*Sn	**Sn**	**15 50 04.1**	**-0.1**
PBDV				A	A	15 50 09.2	
	15nm,0.4s						
ESDC	**Sonseca Array**	**4.67**	**350**	Pn	**Pn**	**15 49 13.1**	**+1.3**
	3.1nm,0.3s,baz=172,slow=12,SNR=57						
ESDC				Sn	**Sn**	**15 50 04.2**	**-1.5**
	0.8nm,0.3s,baz=170,slow=21,SNR=5.9						
ESDC				Lg	Lg	15 50 19.6	
	2.7nm,0.3s,baz=164,slow=27,SNR=11						
ESDC	**Sonseca Array**	**4.67**	**350**	P	**Pn**	**15 49 13.6**	**+1.9**
	0.6nm,0.1s,baz=174,slow=12,SNR=41						
ESDC				S	**Sn**	**15 50 05.1**	**-0.5**
	6.9nm,0.5s,baz=179,slow=23,SNR=7.9						
ECHE	**Chera**	**4.76**	**18**	P	**Pn**	**15 49 14.1**	**+1.1**
	3.6nm,0.3s,SNR=7.9						
TZRR	**Tazzarine**	**4.83**	**208**	P	Pn	15 49 19.0	+5.0
TZRR				S	**Sn**	**15 50 11.5**	**+1.8**
PCVE	**Castro Verde**	**4.87**	**303**	P	**Pn**	**15 49 14.7**	**+0.2**
PCVE				S	**Sn**	**15 50 09.1**	**-1.4**
	24nm,0.6s						
PCVE	**Castro Verde**	**4.87**	**303**	*e*Pn	**Pn**	**15 49 14.7**	**+0.2**
PCVE				*e*Sn	**Sn**	**15 50 09.1**	**-1.4**
PCVE				A	A	15 50 14.7	
	24nm,0.6s						
PBEJ	**Beja**	**4.97**	**308**	P	**Pn**	**15 49 16.9**	**+1.1**
PBEJ				S	**Sn**	**15 50 12.6**	**-0.3**
	11nm,0.5s						
PBEJ	**Beja**	**4.97**	**308**	*e*Pn	**Pn**	**15 49 16.9**	**+1.1**
PBEJ				*e*Sn	**Sn**	**15 50 12.6**	**-0.3**
PBEJ				A	A	15 50 18.4	
	21nm,0.5s						
MORF	**Marmelete**	**5.16**	**297**	P	**Pn**	**15 49 18.8**	**+0.3**
MORF				S	**Sn**	**15 50 16.9**	**-0.8**
	13nm,0.6s						
MORF	**Marmelete**	**5.16**	**297**	*e*Pn	**Pn**	**15 49 18.8**	**+0.3**
MORF				*e*Sn	**Sn**	**15 50 16.9**	**-0.8**
MORF				A	A	15 50 28.5	
	13nm,0.6s						
EIBI	**Ibiza**	**5.20**	**39**	P	**Pn**	**15 49 18.7**	**-0.3**
	4.2nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**15 50 15.5**	**-3.1**
	7.9nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.22**	**295**	P	**Pn**	**15 49 20.3**	**+1.0**
	3.2nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**15 50 18.0**	**-1.2**
	25nm,0.4s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.22**	**295**	*e*Pn	**Pn**	**15 49 21.1**	**+1.8**
UCM	**Universidad Co**	**5.23**	**357**	S	**Sb**	**15 50 33.8**	**-1.7**
UCM	**Universidad Co**	**5.23**	**357**	*e*S	**Sb**	**15 50 33.8**	**-1.7**
OUZM	**OUZ**	**5.27**	**219**	P	**Pn**	**15 49 21.3**	**+1.2**
PTEO	**Sao Teotonio**	**5.31**	**299**	P	**Pn**	**15 49 21.6**	**+1.1**
PTEO				S	**Sn**	**15 50 20.1**	**-1.3**
	11nm,0.5s						
PTEO	**Sao Teotonio**	**5.31**	**299**	*e*Pn	**Pn**	**15 49 21.6**	**+1.1**
PTEO				*e*Sn	**Sn**	**15 50 20.1**	**-1.3**
PTEO				A	A	15 50 31.1	
	22nm,0.5s						
EVO	**Evora**	**5.36**	**312**	P	**Pn**	**15 49 22.0**	**+0.8**
EVO

PSBE	**So Bento**	**6.46**	**315**	*e*Pn	**Pn**	**15 49 37.6**	**+1.3**
PSBE				*e*Sn	**Sn**	**15 50 48.7**	**-1.0**
PSBE				A	A	15 51 25.1	
	13nm,0.5s						
ETOS	**Mallorca**	**6.53**	**42**	P	**Pn**	**15 49 37.3**	**+0.1**
	2.8nm,0.3s,SNR=7.9						
ETOS				S	**Sn**	**15 50 48.9**	**-2.4**
	0.8nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.90**	**333**	P	**Pn**	**15 49 43.6**	**+1.3**
	18nm,0.2s,SNR=29						
MVO				S	**Sn**	**15 50 56.6**	**-3.9**
	42nm,0.6s,SNR=7.9						
EPOB	**Poblet**	**7.00**	**25**	P	**Pn**	**15 49 44.4**	**+0.6**
	1.5nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**7.49**	**337**	P	**Pn**	**15 49 51.7**	**+1.2**
	3.0nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**15 51 11.4**	**-3.7**
	9.4nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**7.88**	**30**	P	**Pn**	**15 49 56.9**	**+1.1**
	2.4nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**7.90**	**331**	P	**Pn**	**15 49 57.1**	**+1.1**
	1.9nm,0.3s,SNR=7.9						
ELOB				S	**Sn**	**15 51 19.4**	**-5.7**
	17nm,0.5s,SNR=7.9						
EORO	**Oroz-Betelu**	**7.90**	**9**	P	**Pn**	**15 49 56.2**	**+0.1**
	0.6nm,0.2s,SNR=7.9						
CSOR	**Sort**	**7.94**	**22**	P	**Pn**	**15 49 59.0**	**+2.3**
	1.5nm,0.2s,SNR=7.9						
ECHI	**Chisagues Biel**	**7.95**	**17**	P	**Pn**	**15 49 58.9**	**+2.0**
	0.7nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**8.16**	**357**	P	**Pn**	**15 50 01.6**	**+2.0**
	1.4nm,0.3s,SNR=7.9						
ATE	**Arette**	**8.18**	**11**	P	**Pn**	**15 50 04.2**	**+4.3**
	0.7nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**8.20**	**7**	P	**Pn**	**15 50 03.8**	**+3.5**
	0.7nm,0.2s,SNR=7.9						
EALK				S	**Sn**	**15 51 29.0**	**-3.7**
	3.0nm,0.4s,SNR=7.9						
CLLI	**Llivia**	**8.31**	**26**	P	**Pn**	**15 50 04.4**	**+2.6**
	1.1nm,0.3s,SNR=7.9						
EZAM	**Zamans**	**8.39**	**329**	P	**Pn**	**15 50 04.6**	**+1.8**
	2.2nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**8.41**	**348**	P	**Pn**	**15 50 04.8**	**+1.8**
	2.5nm,0.6s,SNR=7.9						
EPON	**Pontenova**	**8.88**	**339**	P	**Pn**	**15 50 10.6**	**+1.2**
	1.3nm,0.3s,SNR=7.9						
EPON				S	**Sn**	**15 51 43.4**	**-5.6**
	2.7nm,0.3s,SNR=7.9						
KEST	**Kesra**	**10.02**	**83**	Pn	**Pn**	**15 50 26.6**	**+1.4**
	0.2nm,0.3s,baz=237,slow=17,SNR=1.7						
DAVOX	**Davos/Dischmat**	**15.14**	**36**	LR	LR	15 57 25.2	
	comp=Z,30nm,18.1s,baz=265,slow=37						
GERES	**GERESS Array B**	**18.43**	**37**	Pn	**Pn**	**15 52 17.6**	**+1.0**
	0.1nm,0.3s,baz=239,slow=11,SNR=2.1						
MLR	**Muntele Rosu**	**24.22**	**56**	LR	LR	16 04 33.8	
	comp=Z,25nm,18.6s,baz=298,slow=41						
KURBB	**Kurchatov Arra**	**58.74**	**47**	P	**P**	**15 57 59.7**	**+0.9**
	0.9nm,0.7s,baz=292,slow=8.0,SNR=5.3						
MKAR	**Makanchi Array**	**62.42**	**51**	P	**P**	**15 58 26.9**	**+2.9**
	0.6nm,0.7s,baz=297,slow=5.3,SNR=8.1						
ASAR	**Alice Springs**	**140.95**	**85**	PKP	**PKiKP**	**16 07 34.4**	**+0.2**
	0.3nm,0.7s,baz=310,slow=0.7,SNR=2.3						

*SKHL **13** 15:48:15.5±0.3, 44.32N×148.84E, h30km±5km, mb3.9/4*
*JMA **13** 15:48:15.1±0.6, 43.99N×148.46E, h0km, M3.6*
ISC 13 15:48:12.1±2.9**, 44°20N**±0°.07×**148°.6E**±0°.1**, h2**km±14**km,**
n16, σ**2s40/27, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KUR	**Kuril'sk**	**1.15**	**335**	*i* P		**Pn**	**Pn**	**15 48 34.7**	**-0.5**
KUR					AMB	AMB	AMB	15 48 35.0	
	40nm,0.4s								
KUR				*i* S		**Sb**	**Sb**	**15 48 49.2**	**-0.9**
KUR				A		A	A	15 48 51.0	
	430nm,0.4s								
KUR				A		A	A	15 48 51.0	
	180nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**1.95**	**266**	*i* P		**Pb**	**Pb**	**15 48 49.6**	**+1.3**
YUK					AMB	AMB	AMB	15 48 53.0	
	10.0nm,0.2s								
YUK					AMB	AMB	AMB	15 48 53.0	
	10.0nm,0.2s								
YUK				*i* S		**Sg**	**Sg**	**15 49 15.4**	**+0.6**
YUK				A		A	A	15 49 19.0	
	170nm,0.4s								
YUK				A		A	A	15 49 19.0	
	210nm,0.4s								
GRPR	**Tuman**	**2.02**	**265**	*e*P		**Pb**	**Pb**	**15 48 51.1**	**+1.6**
GRPR					AMB	AMB	AMB	15 48 58.0	
	10.0nm,0.4s								
GRPR				*i* S		**Sg**	**Sg**	**15 49 17.5**	**+0.5**
GRPR				A		A	A	15 49 25.0	
	190nm,0.4s								
GRPR				A		A	A	15 49 25.0	
	200nm,0.4s								
NEM2	**Nemuro 2**	**2.20**	**249**	P		**Pb**	**Pb**	**15 48 51.3**	**-1.4**
NEM2				*e*S		**Sb**	**Sb**	**15 49 18.2**	**-2.2**
NMR	**Nemuro--Hokkai**	**2.21**	**249**	*i* P		**Pg**	**Pg**	**15 48 54.0**	**-0.5**
NMR				*i* S		**Sg**	**Sg**	**15 49 23.0**	**-0.1**
GLVR	**Golovnino**	**2.24**	**259**	*i* P		**Pb**	**Pb**	**15 48 53.8**	**+0.5**
GLVR					AMB	AMB	AMB	15 48 58.0	
	30nm,0.3s								
GLVR				*i* S		**Sg**	**Sg**	**15 49 22.3**	**-1.9**
GLVR				A		A	A	15 49 30.0	
	290nm,0.4s								
GLVR				A		A	A	15 49 30.0	
	180nm,0.4s								
JRA	**Rausu**	**2.49**	**265**	P		**Pb**	**Pb**	**15 48 56.8**	**-0.8**
JRA				*e*S		**Sb**	**Sb**	**15 49 28.1**	**-0.6**
JNSB	**Nemuroshibetsu**	**2.60**	**262**	P		**Pb**	**Pb**	**15 48 58.6**	**-0.8**
JNK	**Nakash**	**2.84**	**259**	P		**Pn**	**Pn**	**15 49 01.0**	**+2.5**
JAK	**Akkeshi**	**3.05**	**248**	P		**Pn**	**Pn**	**15 49 03.7**	**+2.3**
JAK				*e*S		**Sb**	**Sb**	**15 49 40.7**	**-4.1**
JTKR	**Abashiri--Toko**	**3.36**	**268**	P		**Pn**	**Pn**	**15 49 09.9**	**+4.3**
JAR	**Ashorobuto**	**3.59**	**257**	P		**Pn**	**Pn**	**15 49 12.4**	**+3.7**
JAR				*e*S		**Sb**	**Sb**	**15 49 58.3**	**-1.9**
JCH	**Churui**	**4.10**	**249**	P		**Pn**	**Pn**	**15 49 20.2**	**+4.4**
JNBK	**Urakawa-nobuka**	**4.66**	**248**	P		**Pn**	**Pn**	**15 49 26.8**	**+3.4**
JKB	**Kayabe**	**5.98**	**250**	P		**Pn**	**Pn**	**15 49 44.6**	**+3.0**
JKB				*e*S		**Sn**	**Sn**	**15 50 51.3**	**+0.7**
JANG	**Nango**	**6.47**	**236**	P		**Pn**	**Pn**	**15 49 49.1**	**+0.7**
JANG				*e*S		**Sn**	**Sn**	**15 50 59.6**	**-3.2**

*IDC **13** 15:59:58.3±0.8, 52.59N×169.60W, h0km, mb3.7/12,*
mb1 3.9/14, mb1mx3.7/51, mbtmp3.7/14, ML3.3/2, MS3.2/7,
Ms1 3.2/7, ms1mx2.8/51, Error ellipse: s-maj=28.2km
s-min=14.8km az=176.0
*AEIC **13** 15:59:59±1.5, 52.69N±0°.09×169°.53W±0°.09, h13km±4km,*
Error ellipse: s-maj=14.5km s-min=4.7km az=151.0
*NEIC **13** 16:00:00.4±1.6, 52°.74N±0°.08×169°.52W±0°.07, h15km±4km,*
mb4.1/42, ML3.9/24(AEIC), Error ellipse: s-maj=12.7km
s-min=4.5km az=159.0
ISC 13 16:00:00.7±0.7**, 52°.8N**±0°.1×**169°.51W**±0°.06**, h10**km**, n108,**
n1§**41/93, mb3.7/19, MS3.0/4, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
NIKH	**Nikolski High**	**0.43**	**65**				**Pg**	**16 00 09.7**	**+0.5**
NIKH							**Sg**	**16 00 17.6**	**+2.7**
OKSP	**Okmok Steeple**	**0.87**	**57**				**Pg**	**16 00 16.8**	**-0.6**
OKCE	**Okmok Cone E**	**1.03**	**51**				**Pg**	**16 00 20.0**	**-0.6**
OKCE							**Sg**	**16 00 35.5**	**+1.6**
OKNC	**Okmok New Cone**	**1.07**	**51**				**Pg**	**16 00 20.7**	**-0.6**
OKFG	**Magazine Ridge**	**1.15**	**56**				**Pb**	**16 00 21.5**	**-1.1**
OKFG							**Sb**	**16 00 37.9**	**+0.4**
MAPS	**Pakushin South**	**1.85**	**55**				**Pn**	**16 00 31.4**	**-1.0**
MREP	**Makushin Rep't**	**1.95**	**57**				**Pn**	**16 00 33.0**	**-0.8**
MSW	**Makushin Switc**	**1.98**	**54**				**Pn**	**16 00 33.9**	**-0.4**
MNAT	**Makushin Natee**	**2.02**	**56**				**Pn**	**16 00 33.9**	**-0.8**
UNV	**Unalaska Valle**	**2.09**	**58**				**Pn**	**16 00 35.0**	**-0.7**
AKRB	**Akutan Reef Bi**	**2.46**	**55**				**Pn**	**16 00 40.7**	**-0.1**
AKMO	**Akutan Morgan**	**2.46**	**57**				**Pn**	**16 00 41.0**	**+0.1**
AKLV	**Akutan Long Va**	**2.53**	**56**				**Pn**	**16 00 42.2**	**+0.4**
AKUT	**Akutan**	**2.61**	**57**	Pn			**Pn**	**16 00 42.4**	**-0.4**
KOFP	**Korovin Flat P**	**2.85**	**261**				Pn	16 00 44.7	-1.6
ATKA	**Atka Island**	**2.93**	**260**				Pn	16 00 45.0	-2.2
WESP	**Westdahl Peak**	**3.32**	**57**				**Pn**	**16 00 52.6**	**-0.2**
FALS	**False Pass**	**4.16**	**58**				**Pn**	**16 01 05.1**	**+0.9**
SPIA	**Saint Paul Isl**	**4.42**	**355**				**Pn**	**16 01 08.7**	**+1.0**
ADK	**Adak**	**4.50**	**261**	Pn			**Pn**	**16 01 08.0**	**-0.8**
SDPT	**Sand Point**	**5.90**	**61**	Pn			**Pn**	**16 01 28.9**	**+0.8**

CNBA	**Chernabura Isl**	**6.22**	**67**	Pn		**Pn**	**16 01 32.9**	**+0.5**
AMKA	**Amchitka**	**7.04**	**263**	Pn		**Pn**	**16 01 43.5**	**-0.3**
CHIR	**Chirikof Islan**	**8.67**	**64**	Pn		**Pn**	**16 02 06.3**	**+0.3**
SII	**Sitkinak Islan**	**9.64**	**61**	Pn		**Pn**	**16 02 19.4**	**0.0**
OHAK	**Old Harbor**	**10.31**	**58**	Pn		**Pn**	**16 02 27.2**	**-1.3**
KDAK	**Kodiak Island**	**10.86**	**56**	Pn		**Pn**	**16 02 35.4**	**-0.6**
	0.6nm,0.3s,baz=336,slow=19,SNR=1.5							
KDAK					LR	LR	16 07 37.0	
	comp=Z,117nm,19.6s,baz=263,slow=42							
KDAK	**Kodiak Island**	**10.86**	**56**			**Pn**	**16 02 35.0**	**-1.0**
SVW2	**Sparrevohn**	**11.25**	**37**	Pn		**Pn**	**16 02 41.3**	**-0.1**
SEW	**Seward**	**13.25**	**49**	Pn		**Pn**	**16 03 08.7**	**+0.1**
GHO	**Glory Hole Cre**	**14.25**	**43**	Pn		**Pn**	**16 03 22.8**	**+0.4**
BPAW	**Bear Paw Mtn.**	**14.84**	**33**	Pn		**Pn**	**16 03 29.8**	**-0.6**
FID	**Port Fidalgo**	**14.86**	**49**	Pn		Pn	16 03 28.5	-2.2
SCM	**Sheep Creek Mo**	**14.94**	**44**	Pn		**Pn**	**16 03 30.6**	**-1.2**
EYAK	**Cordova Ski Ar**	**15.12**	**50**	Pn		**Pn**	**16 03 33.0**	**-1.2**
IMAR	**Indian Mountai**	**15.40**	**25**	P		**Pn**	**16 03 41.4**	**+3.6**
KLU	**Klutina**	**15.40**	**46**	Pn		**Pn**	**16 03 36.1**	**-1.8**
KLU					IAmb	IAmb	16 03 41.9	
	comp=Z,17nm,1.1s							
DHY	**Denali Highway**	**15.54**	**40**	Pn		**Pn**	**16 03 39.1**	**-0.6**
DHY					IAmb	IAmb	16 04 01.7	
	comp=Z,22nm,1.7s							
PAX	**Paxson**	**16.24**	**42**	Pn		**Pn**	**16 03 49.4**	**+0.7**
PAX					IAmb	IAmb	16 04 20.6	
	comp=Z,13nm,1.4s							
CCB	**Clear Creek Bu**	**16.26**	**35**			**Pn**	**16 03 49.0**	**+0.2**
MDM	**Murphy Dome**	**16.31**	**33**	Pn		**Pn**	**16 03 47.4**	**-2.1**
GLB	**Gilahina Butte**	**16.32**	**48**	Pn		**Pn**	**16 03 48.4**	**-1.3**
GLB					IAmb	IAmb	16 03 51.6	
	comp=Z,38nm,1.8s							
CRQM	**Cirque**	**16.41**	**51**	Pn		**Pn**	**16 03 50.3**	**-0.7**
VRDI	**Verde Repeater**	**16.41**	**49**	Pn		**Pn**	**16 03 50.5**	**-0.6**
VRDI					IAmb	IAmb	16 04 16.3	
	comp=Z,21nm,1.4s							
HDA	**Harding Lake**	**16.42**	**36**	Pn		**Pn**	**16 03 50.9**	**-0.1**
IL31		**16.65**	**35**	Pn		**Pn**	**16 03 53.5**	**-0.3**
ILAR	**Eielson Array**	**16.65**	**35**	Pn		**Pn**	**16 03 52.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=242,slow=9.0,SNR=1.7							
ILAR					LR	LR	16 09 53.0	
	comp=Z,66nm,19.5s,baz=196,slow=35							
RIDG	**Independent Ri**	**16.85**	**40**	P		**Pn**	**16 03 58.4**	**+1.9**
RIDG					IAmb	IAmb	16 04 25.0	
	comp=Z,32nm,1.8s							
BALM	**Baldy**	**16.86**	**50**	P		**Pn**	**16 03 57.8**	**+1.1**
MENT	**Mentasta**	**16.94**	**43**			**Pn**	**16 03 55.9**	**-1.7**
MENT					IAmb	IAmb	16 04 01.2	
	comp=Z,11nm,1.1s							
YAH	**Yahtse**	**16.96**	**53**	P		**Pn**	**16 03 58.8**	**+0.7**
DOT	**Dot Lake**	**17.12**	**41**	Pn		**Pn**	**16 03 58.5**	**-1.3**
BARN	**Barnard Glacie**	**17.19**	**50**	Pn		**Pn**	**16 04 00.1**	**-0.8**
BARN					IAmb	IAmb	16 04 22.0	
	comp=Z,33nm,1.6s							
BCAR	**Beaver Creek A**	**17.80**	**44**	Pn		**Pn**	**16 04 06.0**	**-2.3**
EGAK	**Eagle**	**18.76**	**39**	P		**P**	**16 04 19.2**	**-0.4**
HYT	**Haines Junctio**	**19.11**	**52**	P		**P**	**16 04 23.3**	**-0.2**
HYT					IAmb	IAmb	16 04 26.5	
	comp=Z,16nm,1.3s							
PEA0B	**Petropavlovsk-**	**19.67**	**284**	P		**P**	**16 04 27.2**	**-2.4**
PETK	**Petropavlovsk-**	**19.67**	**284**	P		**P**	**16 04 28.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=86,slow=14,SNR=11							
PETK					LR	LR	16 11 59.7	
	comp=Z,26nm,19.1s,baz=70,slow=37							
PETK	**Petropavlovsk-**	**19.67**	**284**			**P**	**16 04 28.1**	**-1.6**
WHY	**Whitehorse**	**20.36**	**54**	P		**P**	**16 04 36.4**	**-0.7**
WHY					IAmb	IAmb	16 04 45.2	
	comp=Z,6.4nm,0.7s							
EPYK	**Eagle Plains**	**21.11**	**37**	P		**P**	**16 04 43.8**	**-1.4**
EPYK					IAmb	IAmb	16 04 52.2	
	comp=Z,12nm,0.9s							
H02N1	**VAN INLET T-PH**	**22.09**	**74**	T		T	16 27 54.9	
	SNR=9.3							
H02S1	**DAWSON INLET T**	**22.14**	**74**	T		T	16 27 55.4	
SEY	**Seymchan**	**22.32**	**312**	P		**P**	**16 04 57.5**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=185,slow=18,SNR=4.3							
DLBC	**Dease Lake**	**22.74**	**60**	P		**P**	**16 05 05.0**	**+2.3**
	comp=Z,8.0nm,1.0s,baz=272,slow=9.6,SNR=7.5							
DLBC					LR	LR	16 12 39.4	
	comp=Z,42nm,18.4s,baz=218,slow=33							
DLBC	**Dease Lake**	**22.74**	**60**	P		**P**	**16 05 02.1**	**-0.7**
DLBC					IAmb	IAmb	16 05 42.0	
	comp=Z,7.0nm,0.8s							
INK	**Inuvik**	**23.04**	**34**	P		**P**	**16 05 02.3**	**-3.3**
	comp=Z,0.5nm,0.4s,baz=247,slow=8.4,SNR=1.3							
INK					LR	LR	16 14 52.8	
	comp=Z,53nm,21.1s,baz=221,slow=38							
INK	**Inuvik**	**23.04**	**34**		IAmb	IAmb	16 05 12.6	
	comp=Z,6.5nm,1.2s							
YKA	**Yellowknife Ar**	**30.03**	**49**	P		**P**	**16 06 09.0**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=269,slow=8.7,SNR=2.5							
YKA					LR	LR	16 17 45.2	
	comp=Z,43nm,20.7s,baz=0.0,slow=35							
MCMT	**McKenzie Canyo**	**37.28**	**79**	P		**P**	**16 07 11.9**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**37.73**	**218**	T		T	16 47 05.7	
	baz=24,slow=76,SNR=276							
H11N3	**WAKE ISLAND Hy**	**37.74**	**218**	T		T	16 47 09.1	
	baz=24,slow=76,SNR=310							
H11N1	**WAKE ISLAND Hy**	**37.75**	**218**	T		T	16 47 07.1	
	baz=24,slow=76,SNR=273							
NVAR	**Mina Array Bea**	**37.76**	**91**	P		**P**	**16 07 17.1**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=294,slow=8.6,SNR=5.2							
NVAR	**Mina Array Bea**	**37.76**	**91**	P		**P**	**16 07 16.5**	**-0.3**
YHH	**Holmes Hill**	**38.49**	**78**	P		**P**	**16 07 22.3**	**-0.8**
H11S1	**WAKE ISLAND Hy**	**38.92**	**218**	T		T	16 48 36.4	
	baz=23,slow=76,SNR=3200							
H11S2	**WAKE ISLAND Hy**	**38.94**	**218**	T		T	16 48 36.4	
	baz=23,slow=76,SNR=1751							
H11S3	**WAKE ISLAND Hy**	**38.94**	**218**	T		T	16 48 37.7	
	baz=23,slow=76,SNR=2126							
MJAR	**Matsushiro Arr**	**39.63**	**267**	P		P	16 07 30.5	-1.8
	comp=Z,0.4nm,0.6s,baz=47,slow=6.4,SNR=2.5							
DUG	**Dugway, Tooele**	**39.99**	**85**	P		**P**	**16 07 34.9**	**-0.6**
DUG					IAmb	IAmb	16 07 37.6	
	comp=Z,2.7nm,1.0s							
BW06	**Boulder Array**	**40.41**	**80**	P		**P**	**16 07 37.8**	**-1.3**
PD31	**Pinedale Array**	**40.41**	**80**	P		**P**	**16 07 37.7**	**-1.3**
PDAR	**Pinedale Array**	**40.41**	**80**	P		**P**	**16 07 38.3**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=319,slow=4.3,SNR=7.5							
PDAR	**Pinedale Array**	**40.41**	**80**	P		**P**	**16 07 37.8**	**-1.3**
SRU	**San Rafael Swe**	**42.05**	**85**	P		**P**	**16 07 52.2**	**-0.3**
W13A	**Hualapai Mount**	**42.61**	**92**	P		**P**	**16 07 56.8**	**-0.4**
PV16	**Nyswonger Mesa**	**43.52**	**84**	P		**P**	**16 08 03.4**	**-1.2**
PV03	**Paradox Valley**	**43.60**	**84**	P		**P**	**16 08 03.7**	**-1.4**
PV03					IAmb	IAmb	16 08 12.8	
	comp=Z,1.9nm,0.7s							
PV13	**Radium Mtn., P**	**43.68**	**84**	P		**P**	**16 08 04.9**	**-0.9**
PV02	**Paradox Valley**	**43.70**	**84**	P		**P**	**16 08 04.9**	**-1.1**
PV02					IAmb	IAmb	16 08 05.9	
	comp=Z,2.4nm,0.7s							
MNTX	**Cornudas Mount**	**50.11**	**88**	P		**P**	**16 08 55.3**	**-0.6**
MNTX					IAmb	IAmb	16 08 56.1	
	comp=Z,1.8nm,0.9s							
SONM	**Songino Array**	**51.01**	**300**	P		**P**	**16 09 04.1**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=43,slow=8.0,SNR=2.0							
SONM					PcP	**PcP**	**16 10 17.2**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=76,slow=6.1,SNR=2.6							
P40A	**Paris**	**52.73**	**72**	P		P	16 09 13.1	-2.2
TX31	**Lajitas Ar. Si**	**52.82**	**89**	P		**P**	**16 09 15.3**	**-1.0**
TX32	**Lajitas Array**	**52.82**	**89**	P		**P**	**16 09 15.3**	**-1.0**
TX32					IAmb	IAmb	16 09 16.4	
	comp=Z,1.7nm,0.8s							
TXAR	**Lajitas Array**	**52.82**	**89**	P		**P**	**16 09 15.5**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=297,slow=5.4,SNR=20							
TXAR	**Lajitas Array**	**52.82**	**89**	P		**P**	**16 09 15.0**	**-1.3**
MKAR	**Makanchi Array**	**63.46**	**313**	P		**P**	**16 10 30.0**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=39,slow=9.3,SNR=2.2							
AKASG	**Malin Array Be**	**75.68**	**348**	P		**P**	**16 11 46.5**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=9.0,slow=5.9,SNR=1.8							
WRA	**Warramunga Arr**	**87.20**	**231**	P		**P**	**16 12 46.2**	**-0.8**
	comp=Z,0.1nm,0.5s,baz=33,slow=5.8,SNR=1.0							
ASAR	**Alice Springs**	**90.60**	**230**	P		P	16 13 00.8	-2.2
	comp=Z,0.3nm,0.7s,baz=27,slow=4.1,SNR=2.3							
STKA	**Stephens Creek**	**94.47**	**220**	LR		LR	16 52 43.3	
	comp=Z,46nm,19.1s,baz=211,slow=34							
H03N2	**Juan Fernandez**	**116.16**	**111**	T		T	18 25 31.1	
	baz=323,slow=78,SNR=47							
H03N1	**Juan Fernandez**	**116.17**	**111**	T		T	18 25 30.9	
	baz=323,slow=78,SNR=48							
H03N3	**Juan Fernandez**	**116.17**	**111**	T		T	18 25 28.1	
	baz=323,slow=78,SNR=53							
MAW	**Mawson**	**151.15**	**219**	PKPbc		**PKPdf**	**16 19 51.1**	**+4.5**
	comp=Z,0.9nm,0.7s,baz=128,slow=12,SNR=2.4							
BOSA	**Boshof**	**153.49**	**330**	PKPbc		**PKPdf**	**16 19 57.7**	**+6.2**
	comp=Z,1.6nm,0.9s,baz=31,slow=5.9,SNR=1.5							

*IDC **13** 16:11:04.0±9.5, 18°.52N×146°.77E, h87km±62km, mb3.5/4,*
mb1 3.8/5, mb1mx3.2/46, mbtmp3.9/5, ML3.5/1, Error
ellipse: s-maj=86.1km s-min=32.0km az=62.0
*NEIC **13** 16:11:20.7±1.1, 16°.74N±0°.07×145°.2E±0°.3, h89km±13km,*
mb4.2/11, Error ellipse: s-maj=41.2km s-min=8.2km
az=82.0
ISC 13 16:11:00.6±2.0**, 18°.7N**±0°.1×**146°.7E**±0°.3**, h64**km**, n18,**
σ1§**33/19, mb4.0/7, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
ANA2	**Anatahan**	**2.50**	**202**			Pn	**Pn**	**16 11 36.2**	**-2.8**
GUMO	**Guam**	**5.35**	**200**	P		P	**Pn**	**16 12 19.3**	**+1.4**
	1.6nm,0.3s,baz=210,slow=20,SNR=1.3								
GUMO				S			**Sn**	**16 13 19.8**	**+1.7**
	7.3nm,0.3s,baz=216,slow=23,SNR=4.1								
KKM	**Kota Kinabalu**	**32.25**	**251**	P		**P**		**16 17 22.6**	**-0.7**
SBUM	**Sibu**	**37.41**	**249**	P		**P**		**16 18 06.6**	**-1.1**
SBUM					IAmb	IAmb		16 18 08.7	
	comp=Z,2.8nm,1.1s								
KNRA	**Kununurra**	**38.43**	**209**	P		**P**		**16 18 14.2**	**-2.0**
WB0	**Warramunga Arr**	**40.06**	**198**	P		**P**		**16 18 28.5**	**-1.3**
WR0	**Warramunga Arr**	**40.20**	**198**	P		**P**		**16 18 30.4**	**-0.5**
WR0					IAmb	IAmb		16 18 33.8	
	comp=Z,23nm,1.7s								
WB2	**Warramunga Arr**	**40.24**	**198**	P		**P**		**16 18 30.6**	**-0.7**
WRA	**Warramunga Arr**	**40.24**	**198**	P		**P**		**16 18 30.9**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=20,slow=8.1,SNR=23								
WRA	**Warramunga Arr**	**40.24**	**198**	P		**P**		**16 18 30.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**41.99**	**211**	P		**P**		**16 18 44.6**	**-1.1**
AS31	**Alice Springs**	**43.89**	**197**	P		**P**		**16 19 00.6**	**-0.4**
AS31					IAmb	IAmb		16 19 02.1	
	comp=Z,2.3nm,1.3s								
ASAR	**Alice Springs**	**43.89**	**197**	P		**P**		**16 19 00.5**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=13,slow=6.6,SNR=32								
ASAR	**Alice Springs**	**43.89**	**197**	P		**P**		**16 19 00.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**45.17**	**278**	P		**P**		**16 19 13.2**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=70,slow=6.4,SNR=6.3								
STKA	**Stephens Creek**	**50.49**	**186**	P		**P**		**16 19 53.1**	**+0.8**
	comp=Z,2.1nm,1.1s,baz=16,slow=7.4,SNR=3.7								
STKA	**Stephens Creek**	**50.49**	**186**	P		**P**		**16 19 53.0**	**+0.8**
BBOO	**Buckleboo**	**52.19**	**191**	P		**P**		**16 20 05.5**	**+0.6**

*JMA **13** 16:26:42.2±0.1, 42°.98N×145°.43E, h47km±1km, M2.5*
*SKHL **13** 16:26:42.7±0.5, 42°.98N×145°.41E, h41km±2km, mb3.9/2*
ISC 13 16:26:42.8±1.9**, 43°.00N**±0°.09×**145°.43E**±0°.06**, h43**km±11**km,**
n14, σ**0**§**43/27, Hokkaido region**

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

s-min=11.3km az=70.0
*NEIC **13** 16:49:44.0±1.0, 13°.88N±0°.08×120°.8E±0°.1, h185km±3km, mb4.2/28, Error ellipse: s-maj=17.2km s-min=10.7km az=79.0*

ISC 13 16:49:43.7±0.6, 13°.90N±0°.04×120°.70E±0°.05, h179km±5km, n78, σ1§21/89, mb4.1/28, **4C, Mindoro**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.30**	**48**	P		**Pn**	**16 50 08.5**	**+0.7**
	1μm,0.3s,baz=244,slow=1.7,SNR=70							
TGY				S		**Sn**	**16 50 28.4**	**+2.1**
	489nm,0.3s,baz=236,slow=22,SNR=7.0							
TGY	**Tagaytay City**	**0.30**	**48**	⇑*i*	P	**Pn**	**16 50 08.1**	**+0.3**
TGY					*e*S	**Sn**	**16 50 28.3**	**+2.0**
LUBP	**Lubang**	**0.47**	**250**	*e*	P	**Pn**	**16 50 07.8**	**-0.4**
LUBP					*e*S	**Sn**	**16 50 25.1**	**-1.9**
LQP	**Lukban**	**0.84**	**75**	⇑*i*	P	**Pn**	**16 50 11.1**	**+0.8**
LQP					*i* S	**Sn**	**16 50 26.2**	**-4.7**
BOAC	**Boac**	**1.19**	**111**	*e*	P	**Pn**	**16 50 12.8**	**+0.1**
BOAC					*e*S	**Sn**	**16 50 36.3**	**+1.1**
POLP	**Polilio Island**	**1.46**	**55**	*e*	P	**Pn**	**16 50 16.3**	**+1.2**
SJMP	**San Jose**	**1.48**	**164**	*e*	P	**Pn**	**16 50 14.9**	**-0.4**
SJMP					*e*S	**Sn**	**16 50 37.9**	**-2.1**
GQP	**Guinayangan**	**1.69**	**90**	⇑*i*	P	**Pn**	**16 50 18.4**	**+1.0**
GQP					*i* S	**Sn**	**16 50 45.1**	**+1.6**
OTRP	**Odiongan**	**1.99**	**140**	*e*	P	**Pn**	**16 50 20.2**	**-0.4**
OTRP					*e*S	**Sn**	**16 50 47.6**	**-1.6**
BALP	**Baler**	**2.02**	**25**	*e*	P	**Pn**	**16 50 21.8**	**+0.9**
BALP					*e*S	**Sn**	**16 50 51.2**	**+1.4**
SCZP	**Santa Cruz**	**2.02**	**338**	*e*	P	**Pn**	**16 50 20.4**	**-0.4**
SCZP					*e*S	**Sn**	**16 50 46.6**	**-3.2**
SMPP	**San Manuel, Pa**	**2.24**	**359**	*e*	P	**Pn**	**16 50 23.7**	**+0.3**
SMPP					*e*S	**Sn**	**16 50 53.1**	**-1.2**
BOLP	**Bolinao**	**2.58**	**343**	*e*	P	**Pn**	**16 50 27.2**	**-0.1**
ENPP	**El Nido**	**2.95**	**205**	*e*	P	**Pn**	**16 50 31.9**	**+0.2**
CUYO	**Cuyo Island**	**3.04**	**174**	*e*	P	**Pn**	**16 50 33.0**	**+0.1**
CAUP	**Cauayan**	**3.22**	**19**	*e*	P	**Pn**	**16 50 35.9**	**+1.0**
ABRA	**Dolores**	**3.73**	**0**	*e*	P	**Pn**	**16 50 40.6**	**-0.7**
APYP	**Conner**	**3.98**		*e*	P	**Pn**	**16 50 44.6**	**+0.2**
CNOP	**Candoni, Negro**	**4.47**	**155**	*e*	P	**Pn**	**16 50 50.4**	**-0.4**
DAV	**Davao City (W)**	**8.31**	**144**	Pn		**Pn**	**16 51 41.9**	**+0.8**
MYLDM	**Lahad Datu**	**8.93**	**194**	Pn		**Pn**	**16 51 53.0**	**+3.7**
SBUM	**Sibu**	**14.13**	**217**			**P**	**16 52 59.8**	**+1.4**
TNTI	**Ternate**	**14.61**	**153**			**P**	**16 53 03.2**	**-0.6**
JOW	**Kunigami**	**14.69**	**28**	P		**Pn**	**16 53 01.9**	**-1.1**
PBKT	**Sadao Pong**	**19.23**	**280**	P		**Pn**	**16 53 56.5**	**-0.8**
PBKT				IAmb		IAmb	16 53 58.0	
	comp=Z,5.4nm,0.8s							
CM31	**Chiang Mai Arr**	**21.38**	**285**	P		**P**	**16 54 19.0**	**+1.6**
CM31				IAmb		IAmb	16 54 20.0	
	comp=Z,8.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**21.38**	**285**	P		**P**	**16 54 18.9**	**+1.5**
	comp=Z,5.3nm,0.7s,baz=100,slow=7.7,SNR=32							
CMAR	**Chiang Mai Arr**	**21.38**	**285**	P		**P**	**16 54 18.7**	**+1.3**
CHTO	**Chiang Mai**	**21.44**	**286**	P		**P**	**16 54 18.6**	**+0.6**
CHTO				IAmb		IAmb	16 54 19.9	
	comp=Z,8.4nm,1.1s							
KULM	**Kulim**	**21.52**	**249**	P		**P**	**16 54 19.4**	**+0.5**
IPM	**Ipoh**	**21.54**	**246**	P		**P**	**16 54 19.8**	**+0.7**
IPM				IAmb		IAmb	16 54 20.3	
	comp=Z,17nm,1.3s							
JAGI	**Jajag, Banyuwa**	**23.15**	**197**	P		**P**	**16 54 36.8**	**+2.4**
BATI	**Baumata**	**24.13**	**173**	P		**P**	**16 54 42.8**	**-0.5**
	comp=Z,30nm,0.8s,baz=258,slow=16,SNR=3.9							
PSI	**Prapat**	**24.17**	**245**	P		**P**	**16 54 44.2**	**+0.3**
	comp=Z,10nm,0.6s,baz=0.3,slow=3.5,SNR=9.0							
PSI				LR		LR	17 05 60.0	
	comp=Z,97nm,18.4s,baz=101,slow=40							
RPSI	**Rantau Prapat**	**24.22**	**245**	P		**P**	**16 54 44.0**	**-0.2**
RPSI	**Rantau Prapat**	**24.22**	**245**	P		**P**	**16 54 44.2**	**0.0**
GSI	**Gunungsitoli**	**26.07**	**243**	P		**P**	**16 54 60.0**	**-1.0**
LZH	**Lanzhou**	**26.78**	**329**	⇑P		**P**	**16 55 08.3**	**+1.1**
LZH				pP		pP	16 55 42.5	-1.2
LZH				sP		sP	16 56 02.1	-2.3
LZH				pmax		pmax		
	comp=Z,19nm,1.1s							
LZH				pmax		pmax		
	comp=Z,62nm,4.6s							
HHC	**Hu-ho-hao-te**	**28.02**	**345**	*e*P		**P**	**16 55 18.6**	**+0.5**
HHC				pmax		pmax		
	comp=Z,16nm,0.8s							
HHC				pmax		pmax		
	comp=Z,55nm,7.8s							
GTA	**Gaotai**	**31.38**	**328**	*e*P		**P**	**16 55 49.8**	**+2.0**
GTA				pP		pP	16 56 24.6	-0.2
GTA				sP		sP	16 56 46.6	+1.2
GTA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
LSA	**Lhasa**	**31.50**	**305**	P		**P**	**16 55 49.8**	**+0.4**
LSA				IAmb		IAmb	16 55 52.5	
	comp=Z,3.0nm,0.7s							
SONM	**Songino Array**	**35.87**	**343**	P		**P**	**16 56 26.5**	**0.0**
	comp=Z,0.7nm,0.6s,baz=160,slow=7.1,SNR=4.8							
SONM	**Songino Array**	**35.87**	**343**	IAmb		IAmb	16 56 27.8	
	comp=Z,0.5nm,0.6s							
WRA	**Warramunga Arr**	**36.20**	**158**	P		**P**	**16 56 27.6**	**-1.8**
	comp=Z,0.8nm,1.0s,baz=327,slow=10,SNR=7.4							
KLR	**Kul'dur**	**36.39**	**12**	P		**P**	**16 56 30.5**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=237,slow=7.4,SNR=3.5							
ASAR	**Alice Springs**	**39.50**	**161**	P		**P**	**16 56 56.1**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=336,slow=6.7,SNR=88							
WMQ	**Urumqi**	**41.05**	**323**	*e*P		**P**	**16 57 10.5**	**+0.8**
MK31	**Makanchi Array**	**45.88**	**324**	P		**P**	**16 57 48.8**	**+0.7**
MKAR	**Makanchi Array**	**45.88**	**324**	P		**P**	**16 57 49.0**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=113,slow=8.2,SNR=24							
MKAR				PcP		**PcP**	**16 59 22.1**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=124,slow=4.3,SNR=4.3							
MKAR	**Makanchi Array**	**45.88**	**324**	P		**P**	**16 57 48.6**	**+0.5**
MAKZ	**Makanchi**	**46.07**	**323**	P		**P**	**16 57 50.0**	**+0.4**
MAKZ				IAmb		IAmb	16 57 51.2	
	comp=Z,2.3nm,0.6s							
TARG	**Taragay, Kyrgy**	**46.31**	**315**	P		**P**	**16 57 52.7**	**+0.6**
TARG				IAmb		IAmb	16 58 06.8	
	comp=Z,6.1nm,1.2s							
NWAO	**Narrogin (SRO)**	**46.68**	**184**	P		**P**	**16 57 53.8**	**-0.6**
KDJ	**Kajisay**	**46.90**	**315**	P		**P**	**16 57 57.7**	**+1.3**
KDJ				IAmb		IAmb	16 58 25.2	
	comp=Z,5.8nm,0.9s							
NIL	**Nilore**	**47.20**	**303**	P		**P**	**16 57 59.1**	**+0.4**
NIL				IAmb		IAmb	16 57 59.7	
	comp=Z,5.1nm,0.7s							
BBOO	**Buckleboo**	**48.71**	**163**	P		**P**	**16 58 08.7**	**-1.4**
PETK	**Petropavlovsk-**	**48.85**	**29**	P		**P**	**16 58 10.9**	**0.0**
ZAA0	**Zalesovo Array**	**48.88**	**333**	P		**P**	**16 58 11.0**	**-0.2**
ZALV	**Zalesovo Beam**	**48.88**	**333**	P		**P**	**16 58 11.1**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=121,slow=7.1,SNR=9.7							
ZALV	**Zalesovo Beam**	**48.88**	**333**	P		**P**	**16 58 10.8**	**-0.3**
KURK	**Kurchatov**	**50.03**	**326**	P		**P**	**16 58 20.5**	**+0.6**
BTK	**Batken**	**50.71**	**311**	P		**P**	**16 58 25.7**	**+0.4**
BTK				IAmb		IAmb	16 59 12.3	
	comp=Z,9.6nm,1.8s							
GAR	**Garm**	**50.80**	**309**	P		**P**	**16 58 26.4**	**+0.4**
CHGR	**Chuyangaron**	**51.59**	**309**	P		**P**	**16 58 32.0**	**+0.2**
CHGR				IAmb		IAmb	16 58 32.9	
	comp=Z,9.0nm,0.9s							
KK31	**Karatay Array**	**51.84**	**314**	P		**P**	**16 58 33.9**	**+0.3**
KKAR	**Karatay Array**	**51.84**	**314**	P		**P**	**16 58 33.8**	**+0.2**
KKAR	**Karatay Array**	**51.84**	**314**	P		**P**	**16 58 34.0**	**+0.4**
KKAR				IAmb		IAmb	16 58 34.8	
	comp=Z,1.7nm,0.6s							
GEYT	**Alibeck**	**60.02**	**306**	P		**P**	**16 59 32.7**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=190,slow=7.4,SNR=4.3							
GEYT	**Alibeck**	**60.02**	**306**	P		**P**	**16 59 32.5**	**+0.6**
GYA0B	**ALIBECK ARRAY**	**60.02**	**306**	P		**P**	**16 59 32.6**	**+0.8**
GYA0B				IAmb		IAmb	16 59 36.0	
	comp=Z,3.6nm,0.7s							
ABKAR	**Akbulak array**	**60.59**	**319**	P		**P**	**16 59 35.1**	**-0.3**
IMAR	**Indian Mountai**	**75.61**	**25**	P		**P**	**17 01 08.9**	**+0.4**
ARCES	**ARCESS Array B**	**78.90**	**339**	P		**P**	**17 01 26.6**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=72,slow=6.7,SNR=11							
ARE0	**ARCESS Array S**	**78.90**	**339**	P		**P**	**17 01 26.9**	**0.0**
FINES	**FINESS Array B**	**80.11**	**331**	P		**P**	**17 01 33.0**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=76,slow=5.9,SNR=4.3							
NOA	**NORSAR Array B**	**87.09**	**333**	P		**P**	**17 02 07.2**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=67,slow=4.7,SNR=3.4							
GERES	**GERESS Array B**	**90.48**	**321**	P		**P**	**17 02 24.7**	**-0.7**
	comp=Z,0.1nm,0.2s,baz=80,slow=7.3,SNR=3.6							
TXAR	**Lajitas Array**	**119.33**	**44**	PKP		**PKiKP**	**17 08 12.5**	**0.0**
	comp=Z,0.3nm,0.4s,baz=195,slow=0.6,SNR=9.6							

*MOS **13** 17:06:56.7±0.0, 42°.94N×46°.25E, h16km, MPVA3.6*

*TIF **13** 17:07:01.7, 42°.74N×46°.00E, h8km±4km*
ISC 13 17:06:59.0±1.3, 42°.91N±0°.06×46°.17E±0°.05, h16km±11km, **n8, σ1§61/13, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.40**	**316**	*e*Pg		**Pg**	**17 07 07.0**	**-0.2**
GROC					*e*Sg	**Sg**	**17 07 13.1**	**+0.4**
XNZR	**Khunzakh**	**0.54**	**133**	*e*Pg		**Pg**	**17 07 08.8**	**-1.0**
XNZR					*e*Sg	**Sg**	**17 07 16.4**	**-0.6**
LGD	**Lagodekhi**	**1.08**	**177**	P		**Pn**	**17 07 19.9**	**+0.4**
LGD				S		**Sn**	**17 07 33.2**	**-0.9**
PNSH	**Pansheti**	**1.18**	**257**	P		**Pn**	**17 07 21.9**	**+0.8**
PNSH				S		**Sn**	**17 07 36.4**	**-0.5**
LACR	**Lac**	**1.38**	**267**	*e*Pg		**Pg**	**17 07 25.3**	**-0.3**
LACR					*e*Sg	**Sg**	**17 07 45.0**	**+1.4**
DDFL	**Dedoflistskaro**	**1.47**	**182**	P		**Pg**	**17 07 30.3**	**+3.0**
DDFL				S		Sg	17 07 56.8	+10
TRLG	**Trialeti**	**2.06**	**229**	P		**Pg**	**17 07 36.9**	**-1.7**
DMNI	**Dmanisi**	**2.17**	**224**	P		**Pg**	**17 07 38.1**	**-2.4**

*NEIC **13** 17:20:09.1±2.5, 4°.4S±0°.1×147°.4E±0°.2, h120km±11km, mb4.0/9, Error ellipse: s-maj=25.2km s-min=16.9km az=133.0*
*IDC **13** 17:20:22.4±2.2, 5°.37S×147°.21E, h190km±33km, mb3.1/3, mb1 3.4/5, mb1mx3.1/33, mbtmp3.8/5, Error ellipse: s-maj=103.9km s-min=17.2km az=103.0*
ISC 13 17:20:22.9±1.2, 5°.4S±0°.1×147°.2E±0°.2, h195km, **n18, σ1§31/19, mb3.6/4, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.00**	**180**	P		**Pn**	**17 21 23.3**	**-1.3**
	8.1nm,0.3s,baz=37,slow=11,SNR=45							
PMG				S		Sn	17 22 05.7	-7.4
	7.8nm,0.3s,baz=69,slow=20,SNR=7.4							
COEN	**Coen**	**9.38**	**204**	Pn		**Pn**	**17 22 36.5**	**+2.2**
MTN	**Manton Dam**	**17.46**	**244**	Pn		**Pn**	**17 24 14.3**	**-0.7**
MTN				IAmb		IAmb	17 24 28.8	
	comp=Z,60nm,1.4s							
WB0	**Warramunga Arr**	**18.94**	**220**			**P**	**17 24 29.9**	**+0.4**
WB0				IAmb		IAmb	17 24 31.2	
	comp=Z,5.1nm,1.0s							
WR0	**Warramunga Arr**	**18.99**	**219**			**P**	**17 24 30.6**	**+0.7**
WR0				IAmb		IAmb	17 24 31.3	
	comp=Z,10nm,1.1s							
WB2	**Warramunga Arr**	**19.10**	**220**			**P**	**17 24 31.7**	**+0.6**
WB2				IAmb		IAmb	17 24 32.4	
	comp=Z,6.8nm,1.1s							
WRA	**Warramunga Arr**	**19.11**	**220**	P		**P**	**17 24 32.0**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=46,slow=12,SNR=71							
WRA				S		**S**	**17 27 53.9**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=42,slow=21,SNR=3.9							
WRA	**Warramunga Arr**	**19.11**	**220**	P		**P**	**17 24 30.3**	**-0.9**
KNRA	**Kununurra**	**20.75**	**239**	P		**P**	**17 24 47.9**	**-0.9**
AS31	**Alice Springs**	**22.21**	**214**	P		**P**	**17 25 04.6**	**+0.9**
ASAR	**Alice Springs**	**22.22**	**214**	P		**P**	**17 25 04.6**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=48,slow=8.2,SNR=59							
ASAR				S		**S**	**17 28 55.0**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=34,slow=22,SNR=6.0							
ASAR	**Alice Springs**	**22.22**	**214**	P		**P**	**17 25 04.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**24.52**	**237**	P		**P**	**17 25 25.4**	**+0.6**
MLOA	**Mauna Loa Obse**	**61.53**	**65**	P		P	17 30 10.9	-9.4
SONM	**Songino Array**	**63.94**	**331**	P		**P**	**17 30 34.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=129,slow=4.6,SNR=2.0							
MKAR	**Makanchi Array**	**77.12**	**320**	P		**P**	**17 31 54.6**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=94,slow=6.3,SNR=2.0							
QSPA	**South Pole Qui**	**84.59**	**180**	P		**P**	**17 32 34.7**	**+0.5**
QSPA				IAmb		IAmb	17 32 44.8	
	comp=Z,2.2nm,1.2s							
TORD	**Torodi Ar. Bea**	**145.08**	**285**	PKPbc		**PKPdf**	**17 39 38.7**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=70,slow=4.0,SNR=2.5							

*NEIC **13** 17:26:29.7±1.0, 44°.02N±0°.05×105°.23W±0°.04, h0km±2km, ML3.2/56, Error ellipse: s-maj=9.4km s-min=3.9km az=342.0*
*IDC **13** 17:26:29.8±2.1, 44°.17N×105°.55W, h0km, mb3.6/1, mb1 3.8/3, mb1mx3.4/41, mbtmp3.7/3, ML3.6/2, Error ellipse: s-maj=80.9km s-min=9.0km az=147.0*
ISC 13 17:26:29.1±1.0, 44°.01N±0°.07×105°.19W±0°.07, h0km, **n75, σ0§82/74, Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.84**	**82**			**Pb**	**17 26 46.7**	**+0.1**
K22A	**Casper**	**1.67**	**216**	Pn		**Pn**	**17 26 58.1**	**-1.7**
PHWY	**Pilot Hill**	**2.71**	**184**			**Pn**	**17 27 14.4**	**+0.2**
RWWY	**Rawlins**	**2.75**	**213**			**Pn**	**17 27 15.0**	**+0.3**
RWWY				IAML			17 27 55.5	
	110nm,0.6s							
LAO	**LASA Array**	**2.78**	**345**	Pn		**Pn**	**17 27 14.3**	**-0.6**
LAO				IAML			17 28 17.7	
	124nm,0.8s							
RLMT	**Red Lodge**	**3.12**	**292**	Pn		**Pn**	**17 27 19.8**	**0.0**
RLMT				IAML			17 28 09.1	
	66nm,0.5s							
RLMT				IAML			17 28 15.7	
	62nm,0.4s							
N23A	**Red Feather La**	**3.16**	**190**			**Pn**	**17 27 21.0**	**+0.7**
N23A				IAML			17 28 10.2	
	comp=N,65nm,0.3s							
N23A				IAML			17 28 10.9	
	comp=E,51nm,0.6s							
BW06	**Boulder Array**	**3.42**	**250**			**Pn**	**17 27 24.4**	**+0.5**
BW06				IAML			17 28 15.7	
	comp=E,39nm,0.5s							
BW06				IAML			17 28 19.3	
	comp=N,46nm,0.6s							
PD31	**Pinedale Array**	**3.42**	**250**			**Pn**	**17 27 24.5**	**+0.6**
PDAR	**Pinedale Array**	**3.42**	**250**	Pn		**Pn**	**17 27 25.4**	**+1.5**
	comp=N,4.8nm,0.3s,baz=66,slow=20,SNR=50							
PDAR				Lg		Lg	17 28 10.6	
	comp=N,13nm,0.3s,baz=152,slow=32,SNR=9.9							
PDAR	**Pinedale Array**	**3.42**	**250**			**Pn**	**17 27 23.9**	**+0.1**
YNE	**Yellowstone No**	**3.59**	**288**	Pn		**Pn**	**17 27 25.4**	**-0.9**
YMP	**Mirror Lake PI**	**3.64**	**283**			**Pn**	**17 27 26.5**	**-0.4**
GCMT	**Greycliff**	**3.65**	**301**	Pn		**Pn**	**17 27 26.9**	**0.0**
LKWY	**Lake**	**3.79**	**280**	Pn		**Pn**	**17 27 28.5**	**-0.4**
LKWY				IAML			17 28 37.4	
	comp=N,32nm,0.5s							
LKWY				IAML			17 28 47.1	
	comp=N,33nm,0.6s							
H17A	**Grant Village**	**3.90**	**278**	Pn		**Pn**	**17 27 31.0**	**+0.6**
H17A				IAML			17 28 32.7	
	comp=N,26nm,0.5s							
LOHW	**Long Hollow**	**3.94**	**266**			**Pn**	**17 27 31.7**	**+0.6**
FLWY	**Flagg Ranch**	**3.98**	**273**			**Pn**	**17 27 31.6**	**+0.1**
FLWY				IAML			17 28 39.4	
	comp=N,44nm,2.1s							
SNOW	**Snow King Moun**	**4.07**	**264**			**Pn**	**17 27 31.9**	**-1.0**
SNOW				IAML			17 29 24.5	
	comp=N,27nm,1.6s							
SNOW				IAML			17 29 25.5	
	comp=N,29nm,1.9s							
E28A	**Huff**	**4.08**	**49**			**Pn**	**17 27 34.3**	**+1.6**
YHH	**Holmes Hill**	**4.13**	**283**			**Pn**	**17 27 33.4**	**-0.3**
IMW	**Indian Meadow**	**4.16**	**270**	Pn		**Pn**	**17 27 34.2**	**+0.2**
IMW				IAML			17 28 43.1	
	comp=N,29nm,0.7s							
IMW				IAML			17 28 54.1	
	comp=N,28nm,0.6s							
REDW	**Red Top Meadow**	**4.16**	**263**			**Pn**	**17 27 35.3**	**+1.3**
REDW				IAML			17 28 42.5	
	comp=N,34nm,0.7s							
REDW				IAML			17 28 46.5	
	comp=N,35nm,0.6s							
TPAW	**Teton Pass**	**4.21**	**265**			**Pn**	**17 27 34.7**	**0.0**
TPAW				IAML			17 29 05.9	
	comp=N,26nm,1.3s							
ISCO	**Idaho Springs**	**4.22**	**184**			**Pn**	**17 27 35.8**	**+0.9**
FXWY	**Fox Creek**	**4.24**	**267**			**Pn**	**17 27 36.1**	**+1.0**
AHID	**Auburn Hatcher**	**4.49**	**256**			**Pn**	**17 27 38.1**	**-0.4**
AHID				IAML			17 28 54.3	
	comp=N,26nm,0.5s							
AHID				IAML			17 28 58.5	
	comp=E,22nm,0.6s							
O20A	**White River Ci**	**4.49**	**211**			**Pn**	**17 27 38.8**	**+0.3**
DGMT	**Dagmar**	**4.52**	**8**	Pn		**Pn**	**17 27 39.0**	**+0.3**
RDMU	**Red Mountain**	**4.73**	**225**			**Pn**	**17 27 42.2**	**+0.4**
BOZ	**Bozeman (W)**	**4.85**	**291**			**Pn**	**17 27 43.8**	**+0.3**
BOZ				IAML			17 29 00.5	
	comp=E,14nm,1.6s							
EGMT	**Eagleton**	**5.12**	**323**	Pn		**Pn**	**17 27 47.8**	**+0.7**
HWUT	**Hardware Ranch**	**5.27**	**245**	Pn		**Pn**	**17 27 48.9**	**-0.3**
HWUT				IAML			17 29 17.7	
	comp=E,20nm,0.7s							
HWUT				IAML			17 29 21.9	
	comp=E,20nm,0.8s							
HRY	**Holter Researc**	**5.41**	**302**			**Pn**	**17 27 51.6**	**+0.5**
TCUT	**Toone Canyon**	**5.43**	**240**			**Pn**	**17 27 51.8**	**+0.3**
DLMT	**Dillon**	**5.46**	**287**	Pn		**Pn**	**17 27 53.6**	**+1.9**
MDND	**Maddock**	**5.47**	**43**	Pn		**Pn**	**17 27 54.5**	**+2.7**
LRM	**Limekiln Ridge**	**5.47**	**292**	Pn		**Pn**	**17 27 52.2**	**+0.1**
BCYI	**Bear Canyon**	**5.92**	**276**	Pn		**Pn**	**17 27 58.8**	**+0.6**
PV22	**Blue Mesa, Par**	**6.10**	**208**			**Pn**	**17 28 01.7**	**+1.0**
PV21	**Cone Mtn., Par**	**6.14**	**209**	Pn		**Pn**	**17 28 01.7**	**+0.4**
P17A	**Butcher Ranch,**	**6.15**	**224**	Pn		**Pn**	**17 28 01.5**	**+0.2**
PV07	**Paradox Valley**	**6.15**	**206**			**Pn**	**17 28 01.5**	**+0.2**
PV15	**Paradox Valley**	**6.18**	**205**	Pn		**Pn**	**17 28 02.4**	**+0.5**
ECSD	**EROS Data Cent**	**6.20**	**90**	Pn		**Pn**	**17 28 02.7**	**+0.8**
PV23	**Carpenter Ridg**	**6.25**	**209**	Pn		**Pn**	**17 28 03.8**	**+1.0**
SDCO	**Great Sand Dun**	**6.26**	**182**	Pn		**Pn**	**17 28 03.5**	**+0.6**
PV04	**Paradox Valley**	**6.27**	**208**	Pn		**Pn**	**17 28 03.7**	**+0.7**
PV12	**Saucer Basin,**	**6.31**	**207**	Pn		**Pn**	**17 28 03.7**	**+0.2**
SRU	**San Rafael Swe**	**6.32**	**221**	Pn		**Pn**	**17 28 03.2**	**-0.5**
PV14	**Lion Creek, Pa**	**6.33**	**209**	Pn		**Pn**	**17 28 04.5**	**+0.6**
PV10	**Paradox Valley**	**6.33**	**209**	Pn		**Pn**	**17 28 04.8**	**+0.9**
PV20	**West Nyswonger**	**6.34**	**208**	Pn		**Pn**	**17 28 04.0**	**+0.1**
PV11	**David Mesa, Pa**	**6.35**	**207**	Pn		**Pn**	**17 28 04.7**	**+0.7**
PV16	**Nyswonger Mesa**	**6.35**	**208**	Pn		**Pn**	**17 28 04.5**	**+0.4**
PV19	**Morning Glory**	**6.37**	**208**			**Pn**	**17 28 04.8**	**+0.4**
PV03	**Paradox Valley**	**6.38**	**207**	Pn		**Pn**	**17 28 04.9**	**+0.4**
S22A	**4UR Ranch, Cre**	**6.38**	**192**	Pn		**Pn**	**17 28 04.9**	**+0.3**
PV02	**Paradox Valley**	**6.38**	**206**	Pn		**Pn**	**17 28 05.0**	**+0.4**
PV17	**East Wray Mesa**	**6.39**	**208**	Pn		**Pn**	**17 28 05.3**	**+0.7**
PV18	**Skein Mesa, Pa**	**6.41**	**207**	Pn		**Pn**	**17 28 05.2**	**+0.4**
PV13	**Radium Mtn., P**	**6.46**	**206**	Pn		**Pn**	**17 28 06.4**	**+0.8**
TMUT	**Trail Mountain**	**6.52**	**226**	Pn		**Pn**	**17 28 07.0**	**+0.5**
MSO	**Missoula**	**6.78**	**298**			**Pn**	**17 28 10.3**	**+0.5**
DUG	**Dugway, Tooele**	**6.83**	**239**	Pn		**Pn**	**17 28 09.1**	**-1.5**
T25A	**Trinidad**	**6.89**	**175**	Pn		**Pn**	**17 28 12.4**	**+0.9**
JTMT	**Jette**	**7.37**	**304**	Pn		**Pn**	**17 28 18.7**	**+0.8**
MSU	**Marysvale**	**7.61**	**226**	Pn		**Pn**	**17 28 19.6**	**-1.8**
WALA	**Waterton Lakes**	**7.85**	**313**	Pn		**Pn**	**17 28 24.5**	**-0.1**
MTPU	**Mount Pierson**	**7.97**	**224**	Pn		**Pn**	**17 28 26.8**	**+0.4**
PSUT	**Pine Spring**	**8.51**	**233**	Pn		**Pn**	**17 28 35.6**	**+1.8**
ULM	**Lac du Bonnet**	**8.90**	**42**	Pn		**Pn**	**17 28 37.9**	**-0.9**
	comp=E,1.7nm,0.3s,baz=227,slow=12,SNR=6.1							
ULM				Lg		Lg	17 31 08.2	
	comp=E,0.3nm,0.3s,baz=128,slow=19,SNR=1.7							
ULM	**Lac du Bonnet**	**8.90**	**42**			**Pn**	**17 28 39.0**	**+0.2**
I56US	**NEWPORT INFRAS**	**9.32**	**301**	*i*			18 19 30.0	
	baz=114,slow=312,SNR=2.4							
MKAR	**Makanchi Array**	**89.34**	**355**	P		**P**	**17 39 27.2**	**-0.1**
	comp=E,0.2nm,0.8s,baz=1.6,slow=3.8,SNR=3.7							

**IDC 13 17:45:12.5±14.0, 15°.20S×165°.93E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.4/39, mbtmp3

IDC ***13*** *18:17:19.0±2.0, 13.6′64S×76.23W, h50km±17km, mb3.5/7, mb1 3.8/9, mb1mx3.7/27, mbtmp3.9/9, ML3.8/2, MS3.1/3, Ms1 3.2/3, ms1mx2.8/29, Error ellipse: s-maj=32.7km s-min=13.5km az=58.0*

ISC 13 18:17:18.2±0.6, **13.74S**±0.07×**76.41W**±0.09, **h50km, n54, σ1.279/47, mb3.9/7, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.79**	**346**	P	**Pn**	**18 17 46.4**	**-0.4**
	21nm,0.3s,baz=180,slow=11,SNR=24						
NNA				S	**Sn**	**18 18 08.3**	**-0.1**
	161nm,0.3s,baz=180,slow=13,SNR=8.6						
NNA				LR	LR	18 18 30.8	
	comp=Z,259nm,18.2s,baz=146,slow=41						
NNA	**Nana**	**1.79**	**346**		**Pn**	**18 17 45.1**	**-1.7**
ATAH	**Atahualpa**	**6.85**	**343**	P	**Pn**	**18 18 59.0**	**+2.6**
	1.1nm,0.3s,baz=140,slow=4.9,SNR=3.8						
ATAH				S	**Sn**	**18 20 15.2**	**+1.9**
	0.8nm,0.3s,baz=90,slow=16,SNR=1.5						
PB12	**IPOC Station P**	**7.59**	**130**	Pn	**Pn**	**18 19 04.5**	**-1.9**
PB16	**IPOC Station P**	**8.06**	**125**	Pn	**Pn**	**18 19 13.7**	**+0.5**
PSGCX	**Pisagua**	**8.38**	**135**	Pn	**Pn**	**18 19 14.3**	**-2.9**
LPAZ	**La Paz**	**8.39**	**109**	P	**Pn**	**18 19 20.0**	**+2.2**
	2.8nm,0.3s,baz=291,slow=9.0,SNR=38						
LPAZ				S	**Sn**	**18 20 58.2**	**+6.6**
	baz=195,slow=23,SNR=1.7						
LPAZ				LR	LR	18 22 58.1	
	comp=Z,114nm,20.6s,baz=254,slow=41						
LPAZ	**La Paz**	**8.39**	**109**	Pn	**Pn**	**18 19 19.1**	**+1.3**
MNMC	**Minye Minye**	**8.46**	**130**		**Pn**	**18 19 17.7**	**-0.7**
PB11	**IPOC Station P**	**8.82**	**134**	Pn	**Pn**	**18 19 22.2**	**-1.0**
TA01	**Diego Aracena**	**9.03**	**140**	Pn	**Pn**	**18 19 25.6**	**-0.4**
GO01	**Chusmiza**	**9.09**	**131**	Pn	**Pn**	**18 19 26.4**	**-0.9**
PATCX	**Punta Patache**	**9.24**	**141**	Pn	**Pn**	**18 19 29.2**	**+0.2**
PB08	**IPOC Station P**	**9.42**	**133**	Pn	**Pn**	**18 19 31.1**	**-0.6**
PB01	**IPOC Station P**	**9.82**	**139**		**Pn**	**18 19 35.9**	**-1.0**
LVC	**Limon Verde**	**11.34**	**142**	P	**Pn**	**18 19 58.4**	**+0.4**
	0.8nm,0.3s,baz=353,slow=6.9,SNR=7.1						
LVC				S	**Sn**	**18 22 01.1**	**-2.4**
	0.8nm,0.3s,baz=80,slow=18,SNR=1.7						
LVC				LR	LR	18 23 56.1	
	comp=Z,95nm,21.8s,baz=300,slow=35						
LVC	**Limon Verde**	**11.34**	**142**		**Pn**	**18 19 57.9**	**-0.1**
PB14	**IPOC Station P**	**12.22**	**153**	Pn	**Pn**	**18 20 07.9**	**-2.0**
GO02	**Mina Guanaco**	**13.05**	**152**	Pn	**Pn**	**18 20 23.3**	**+2.0**
SAML	**Samuel**	**13.82**	**71**		**Pn**	**18 20 27.0**	**-4.5**
AC02	**Maricunga**	**14.71**	**153**	P	**P**	**18 20 48.3**	**-0.6**
SIV	**San Ignacio**	**15.00**	**100**	P	**Pn**	**18 20 46.7**	**-0.5**
	0.3nm,0.3s,baz=302,slow=12,SNR=3.7						
H03N1	**Juan Fernandez**	**19.75**	**186**	T	T	18 41 41.7	
	baz=7.9,slow=74,SNR=68						
H03N2	**Juan Fernandez**	**19.75**	**186**	T	T	18 41 44.7	
	baz=7.9,slow=74,SNR=50						
H03N3	**Juan Fernandez**	**19.76**	**186**	T	T	18 41 43.5	
	baz=7.9,slow=74,SNR=59						
RUSC	**La Rusia**	**19.78**	**10**	P	**P**	**18 21 45.6**	**+0.6**
PTGA	**Pitinga**	**20.79**	**53**	P	**P**	**18 21 53.9**	**-1.5**
	4.5nm,0.8s,baz=228,slow=11,SNR=9.7						
PTGA	**Pitinga**	**20.79**	**53**	P	**P**	**18 21 52.6**	**-2.7**
JTS	**Las Juntas de**	**25.33**	**340**	LR	LR	18 31 22.0	
	comp=Z,63nm,21.3s,baz=214,slow=33						
URIC	**Uribia, Colomb**	**25.65**	**10**	P	**P**	**18 22 41.6**	**-1.9**
PLCA	**Paso Flores**	**27.38**	**170**	P	**P**	**18 23 00.4**	**+1.5**
	1.1nm,0.7s,baz=343,slow=7.9,SNR=4.2						
PLCA	**Paso Flores**	**27.38**	**170**	IAmb	IAmb	18 23 19.9	
	comp=Z,10nm,1.5s						
TX31	**Lajitas Ar. Si**	**50.26**	**329**	P	**P**	**18 26 09.8**	**0.0**
TXAR	**Lajitas Array**	**50.26**	**329**	P	**P**	**18 26 09.9**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=148,slow=7.4,SNR=4.0						
T50A	**Nancy**	**51.11**	**351**	P	**P**	**18 26 13.9**	**-2.0**
T50A				IAmb	IAmb	18 26 20.1	
	comp=Z,7.1nm,0.7s						
PDAR	**Pinedale Array**	**63.93**	**333**	P	**P**	**18 27 47.0**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=137,slow=9.4,SNR=2.5						
NVAR	**Mina Array Bea**	**65.03**	**325**	P	**P**	**18 27 54.7**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=151,slow=7.1,SNR=3.6						
NVAR	**Mina Array Bea**	**65.03**	**325**	P	**P**	**18 27 54.5**	**+0.8**
DBIC	**Dimbokro**	**73.85**	**79**	P	**P**	**18 28 47.9**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=246,slow=10,SNR=1.0						
DLBC	**Dease Lake**	**84.12**	**335**	P	**P**	**18 29 44.3**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=62,slow=4.8,SNR=4.2						
H11N3	**WAKE ISLAND Hyl**	**19.35**	**285**	T	T	20 46 22.7	
	baz=96,slow=74,SNR=27						
H11N2	**WAKE ISLAND Hyl**	**19.36**	**285**	T	T	20 46 37.9	
	baz=96,slow=74,SNR=31						
H11N1	**WAKE ISLAND Hyl**	**19.37**	**285**	T	T	20 46 23.1	
	baz=96,slow=74,SNR=15						
H11S2	**WAKE ISLAND Hyl**	**19.43**	**284**	T	T	20 46 28.2	
	baz=93,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hyl**	**19.44**	**284**	T	T	20 46 29.4	
	baz=93,slow=74,SNR=11						
H11S3	**WAKE ISLAND Hyl**	**19.45**	**284**	T	T	20 46 29.5	
	baz=93,slow=74,SNR=11						
ASAR	**Alice Springs**	**132.45**	**219**	PKP	**PKiKP**	**18 36 29.0**	**0.0**
	comp=Z,0.3nm,0.8s,baz=134,slow=4.0,SNR=1.5						
WRA	**Warramunga Arr**	**134.88**	**223**	PKP	**PKPdf**	**18 36 33.6**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=137,slow=2.0,SNR=2.6						
ZALV	**Zalesovo Beam**	**137.24**	**16**	PKP	**PKPdf**	**18 36 35.1**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=323,slow=2.2,SNR=4.4						
ZALV	**Zalesovo Beam**	**137.24**	**16**		**PKPdf**	**18 36 34.6**	**-1.3**
MKAR	**Makanchi Array**	**142.52**	**24**	PKP	**PKPdf**	**18 36 46.5**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=29,slow=3.3,SNR=2.3						
MKAR	**Makanchi Array**	**142.52**	**24**		**PKPdf**	**18 36 45.9**	**+0.2**
SONM	**Songino Array**	**145.93**	**357**	PKPbc	**PKPbc**	**18 36 52.9**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=348,slow=1.8,SNR=12						
SONM	**Songino Array**	**145.93**	**357**		**PKPdf**	**18 36 52.3**	**+0.5**

IDC 13 18:27:01.3±4.1, **58.51S**×**149.35E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.6/24, mbtmp3.4/3, ML3.1/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/24, Error ellipse: s-maj=421.5km s-min=30.1km az=75.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**19.56**	**172**	P	P	18 31 30.2	0.0
	0.1nm,0.3s,baz=341,slow=12,SNR=6.4						
URZ	**Urewera**	**27.06**	**54**	LR	LR	18 42 03.7	
	comp=Z,69nm,18.1s,baz=225,slow=33						
H01W1	**Cape Leeuwin H**	**33.15**	**300**	T	T	19 08 36.9	
	baz=146,slow=75,SNR=381						
H01W2	**Cape Leeuwin H**	**33.15**	**300**	T	T	19 08 32.8	
	baz=146,slow=75,SNR=504						
H01W3	**Cape Leeuwin H**	**33.16**	**300**	T	T	19 08 38.2	
	baz=146,slow=75,SNR=390						
ASAR	**Alice Springs**	**36.52**	**336**	P	P	18 34 08.4	0.0
	0.6nm,1.0s,baz=161,slow=9.5,SNR=5.5						
MAW	**Mawson**	**37.01**	**219**	LR	LR	18 49 27.4	
	comp=Z,161nm,18.6s,baz=64,slow=36						
WRA	**Warramunga Arr**	**40.05**	**338**	P	P	18 34 37.8	-0.2
	0.8nm,0.9s,baz=165,slow=7.1,SNR=2.7						
HNR	**Honiara**	**42.64**	**14**	LR	LR	18 53 41.7	
	comp=Z,52nm,18.2s,baz=322,slow=32						
H08S2	**Diego Garcia H**	**76.66**	**277**	T	T	20 02 52.7	
	baz=148,slow=76,SNR=154						
H08S1	**Diego Carcia H**	**76.67**	**277**	T	T	20 02 51.9	
	baz=148,slow=76,SNR=164						
H08S3	**Diego Garcia H**	**76.67**	**277**	T	T	20 03 02.3	
	baz=148,slow=76,SNR=130						
H03S2	**Juan Fernandez**	**79.57**	**141**	T	T	20 07 26.8	
	baz=201,slow=74,SNR=24						
H03S1	**Juan Fernandez**	**79.57**	**141**	T	T	20 07 33.3	
	baz=201,slow=74,SNR=24						
H03S3	**Juan Fernandez**	**79.59**	**141**	T	T	20 07 27.6	
	baz=201,slow=74,SNR=22						

IDC ***13*** *18:36:41.6±2.5, 34.47N×23.15E, h0km, mb3.8/5, mb1 3.8/11, mb1mx3.6/65, mbtmp3.7/11, ML3.6/4, MS2.8/2, Ms1 2.8/2, ms1mx2.2/59, Error ellipse: s-maj=42.6km s-min=21.6km az=21.0*

THE ***13*** *18:36:48.0, 34.39N×23.60E, h4km±1km, ML3.3/10, Error ellipse: s-maj=1.2km s-min=0.8km az=29.0*

ATH ***13*** *18:36:49.4, 34.55N×23.67E, h31km±1km, ML3.5/5, Error ellipse: s-maj=3.3km s-min=1.7km az=23.0*

ISK ***13*** *18:37:01.9, 35.39N×24.41E, h111km, ML3.3/10*

ISC 13 18:36:44.5±1.2, **34.27N**±0.10×**23.49E**±0.06, **h21km**±5km, **n49, σ1.986/71, mb3.7/5, Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.75**	**41**	P	**Pn**	**18 36 59.5**	**-0.4**
GVD				S	**Sn**	**18 37 08.7**	**-2.0**
	6μm,0.5s						
GVD	**Gavdhos**	**0.75**	**41**	P	**Pn**	**18 36 59.3**	**-0.6**
GVD				S	**Sb**	**18 37 07.1**	**-1.6**
GVD				AML	AML	18 37 11.1	
	comp=N,13410μm,0.5s						
GVD				AML	AML	18 37 12.0	
	comp=E,12540μm,0.4s						
GVDS	**Gavdos**	**0.76**	**41**	P	**Pn**	**18 36 59.2**	**-0.8**
GVDS				S	**Sn**	**18 37 08.5**	**-2.3**
	comp=E,5μm,0.6s						
KNDR	**Palaiochora Ch**	**0.98**	**9**	P	**Pn**	**18 37 03.8**	**+0.8**
KNDR				S	**Sn**	**18 37 16.6**	**+0.4**
	comp=E,2μm,0.5s						
IMMV	**Iera Moni Meta**	**1.25**	**19**	P	**Pb**	**18 37 08.5**	**+1.0**
IMMV	**Iera Moni Meta**	**1.25**	**19**	P	**Pb**	**18 37 07.8**	**+0.3**
IMMV				S	**Sb**	**18 37 20.8**	**-2.4**
IMMV				AML	AML	18 37 25.6	
	comp=E,6863μm,0.9s						
IMMV				AML	AML	18 37 27.3	
	comp=N,8962μm,0.4s						
VAM	**Vamos**	**1.28**	**27**	P	**Pb**	**18 37 08.3**	**+0.5**
VAM				S	**Sn**	**18 37 25.6**	**+2.0**
	comp=N,2μm,0.8s						
VAM	**Vamos**	**1.28**	**27**	P	**Pb**	**18 37 07.8**	**0.0**
VAM				S	**Sb**	**18 37 21.7**	**-2.1**
VAM				AML	AML	18 37 31.0	
	comp=N,3405μm,0.5s						
VAM				AML	AML	18 37 31.1	
	comp=E,4189μm,1.0s						
RODP	**Rodopos**	**1.31**	**10**	P	**Pb**	**18 37 09.8**	**+1.4**
RODP				S	**Sb**	**18 37 26.0**	**+1.3**
SIVA	**Sivas**	**1.32**	**55**	P	**Pb**	**18 37 09.8**	**+1.3**
SIVA				S	**Sn**	**18 37 26.4**	**+1.7**
	comp=E,4μm,0.6s						
SIVA	**Sivas**	**1.32**	**55**	P	**Pb**	**18 37 09.5**	**+1.0**
SIVA				S	**Sn**	**18 37 23.7**	**-1.0**
SIVA				AML	AML	18 37 32.0	
	comp=E,9392μm,0.6s						
SIVA				AML	AML	18 37 33.0	
	comp=N,5926μm,0.6s						
TMBK	**Timbaki Herakl**	**1.32**	**52**	P	**Pb**	**18 37 09.9**	**+1.3**
TMBK				S	**Sn**	**18 37 26.3**	**+1.6**
	comp=N,1μm,0.8s						
CHAN	**Chania**	**1.33**	**20**	P	**Pb**	**18 37 09.9**	**+1.2**
CHAN				S	**Sb**	**18 37 26.6**	**+1.4**
IDI	**Anoyia**	**1.54**	**48**	Pn	**Pb**	**18 37 12.6**	**+0.3**
	comp=N,29nm,0.3s,baz=238,slow=14,SNR=56						
IDI				Sn	**Sb**	**18 37 33.6**	**+2.3**
	comp=N,48nm,0.3s,baz=330,slow=23,SNR=13						
IDI	**Anoyia**	**1.54**	**48**	P	**Pb**	**18 37 12.5**	**+0.2**
IDI				S	**Sb**	**18 37 32.2**	**+0.9**
	comp=N,795nm,0.7s						
IDI	**Anoyia**	**1.54**	**48**	P	**Pb**	**18 37 12.1**	**-0.2**
IDI				S	**Sb**	**18 37 30.7**	**-0.6**
ANKY	**Antikythira Is**	**1.60**	**354**	P	**Pb**	**18 37 14.3**	**+0.9**
ANKY				S	**Sb**	**18 37 35.1**	**+1.9**
	comp=N,580nm,0.5s						
ANKY	**Antikythira Is**	**1.60**	**354**	P	**Pb**	**18 37 14.3**	**+0.9**
ANKY				S	**Sn**	**18 37 31.8**	**+0.2**
LAST	**Lasithi**	**1.86**	**61**	P	**Pb**	**18 37 18.2**	**+0.3**
LAST				S	**Sb**	**18 37 40.3**	**-0.4**
	comp=N,388nm,0.8s						
LAST	**Lasithi**	**1.86**	**61**	P	**Pb**	**18 37 17.8**	**-0.1**
LAST				S	**Sn**	**18 37 37.7**	**-0.5**
LAST				AML	AML	18 37 52.3	
	comp=E,591μm,0.7s						
LAST				AML	AML	18 37 57.3	
	comp=N,948μm,0.8s						
NPS	**Neapolis**	**2.01**	**60**	P	**Pb**	**18 37 20.0**	**-0.3**
NPS	**Neapolis**	**2.01**	**60**	P	**Pb**	**18 37 19.7**	**-0.6**
KTHA	**Kythira Island**	**2.01**	**350**	P	**Pb**	**18 37 20.1**	**-0.3**
KTHA				S	**Sb**	**18 37 45.5**	**+0.4**
	comp=N,412nm,0.8s						
KTHA	**Kythira Island**	**2.01**	**350**	P	**Pb**	**18 37 19.9**	**-0.5**
ZKR	**Zakros**	**2.40**	**69**	PN	**Pb**	**18 37 29.6**	**+2.6**
ZKR				SN	**Sn**	**18 37 49.8**	**-1.5**
VLI	**Veliai**	**2.49**	**350**	P	**Pb**	**18 37 27.0**	**-1.4**
SANT	**Santorini**	**2.64**	**37**	PN	**Pn**	**18 37 27.1**	**+1.1**
SANT				SN	Sn	18 37 45.5	-12
APE	**Apeiranthos**	**3.25**	**30**	PN	**Pn**	**18 37 34.5**	**+0.2**
DAT	**Datca**	**4.14**	**52**	PN	**Pn**	**18 37 47.5**	**+0.9**
ARG	**Arkhangelos**	**4.26**	**62**	PN	**Pn**	**18 37 50.6**	**+2.4**
TURN	**Turunc**	**4.61**	**56**	PN	**Pn**	**18 37 54.3**	**-2.8**
DALY	**Dalyan (Mula)**	**4.92**	**57**	PN	**Pn**	**18 37 58.6**	**+1.4**
FETY	**Fethiye**	**5.14**	**61**	PN	**Pn**	**18 38 02.0**	**+1.7**
AKAS	**Kas**	**5.37**	**67**	PN	**Pn**	**18 38 06.3**	**+2.7**
ELL	**Elmali**	**5.79**	**63**	PN	**Pn**	**18 38 11.0**	**+1.7**
BRTR	**Keskin Array B**	**9.77**	**53**	Pn	**Pn**	**18 39 06.9**	**+2.9**
	baz=218,slow=14,SNR=2.3						
BRTR				LR	LR	18 43 35.5	
	comp=N,38nm,18.7s,baz=168,slow=42						
MMAI	**Mount Meron Ar**	**10.01**	**94**	Pn	**Pn**	**18 39 10.8**	**+3.6**
	comp=N,0.6nm,0.3s,baz=263,slow=12,SNR=2.1						
MMAI				Sn	**Sn**	**18 40 54.6**	**-4.2**
	comp=N,0.9nm,0.3s,baz=255,slow=17,SNR=2.3						
EIL	**Elat**	**10.76**	**112**	Pn	**Pn**	**18 39 20.1**	**+2.8**
	comp=N,0.4nm,0.3s,baz=81,slow=13,SNR=2.0						
EIL				Sn	**Sn**	**18 41 10.8**	**-6.3**
	comp=N,0.3nm,0.3s,baz=232,slow=19,SNR=2.0						
VRAC	**Vranov**	**15.87**	**343**	Pn	**Pn**	**18 40 23.8**	**-2.8**
	baz=238,slow=13,SNR=0.9						
GERES	**GERESS Array B**	**16.28**	**336**	Pn	**Pn**	**18 40 28.8**	**-3.1**
	comp=N,0.1nm,0.3s,baz=310,slow=42,SNR=1.6						
KHC	**Kasperske Hory**	**16.57**	**337**	*eP*	**P**	**18 40 39.1**	**+1.2**
KHC				*ex*	x	18 40 41.0	
KHC				*ex*	x	18 40 53.1	
AKASG	**Malin Array Be**	**16.95**	**13**	Pn	**Pn**	**18 40 38.9**	**-1.3**
	comp=N,0.6nm,0.3s,baz=209,slow=11,SNR=3.2						
CLL	**Collm**	**18.65**	**339**	*eP*	**Pn**	**18 41 04.0**	**+2.7**
MDT	**Midelt**	**23.44**	**274**	LR	LR	18 51 31.3	
	comp=N,27nm,18.0s,baz=166,slow=38						
EKA	**Eskdalemuir Ar**	**28.00**	**327**	P	**P**	**18 42 31.0**	**-2.8**
	comp=N,0.6nm,0.5s,baz=126,slow=7.3,SNR=2.5						
AKTO	**Aktyubinsk**	**29.86**	**47**	P	**P**	**18 42 51.3**	**+1.0**
	comp=N,0.6nm,0.4s,baz=287,slow=5.7,SNR=3.7						
MKAR	**Makanchi Array**	**45.41**	**56**	P	**P**	**18 45 03.0**	**+1.3**
	comp=N,1.6nm,0.5s,baz=271,slow=7.6,SNR=31						
ZALV	**Zalesovo Beam**	**46.61**	**46**	P	**P**	**18 45 10.9**	**0.0**
	comp=N,0.7nm,0.5s,baz=264,slow=8.4,SNR=3.9						
SONM	**Songino Array**	**61.11**	**50**	P	**P**	**18 46 59.1**	**+1.9**
	comp=N,0.3nm,0.5s,baz=277,slow=6.1,SNR=2.5						

NEIC ***13*** *18:42:21.1±1.1, 43.83N±0.01×105.23W±0.05, h0km±2km, ML3.5/64, Error ellipse: s-maj=6.6km s-min=3.0km az=69.0*

IDC ***13*** *18:42:21.1±0.9, 44.17N×105.72W, h0km, mb4.0/3, mb1 3.9/8, mb1mx3.6/67, mbtmp3.7/8, ML3.2/4, Error ellipse: s-maj=23.4km s-min=8.2km az=144.0*

ISC 13 18:42:20.3±0.8, **43.85N**±0.06×**105.22W**±0.07, **h0km, n99, σ0.994/98, mb4.0/3, Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.90**	**72**	Pg	**Pb**	**18 42 38.4**	**-0.5**
K22A	**Casper**	**1.53**	**219**		**Pn**	**18 42 47.6**	**-1.5**
K22A				IAML		18 43 11.1	
	comp=E,941nm,0.6s						
PHWY	**Pilot Hill**	**2.56**	**184**		**Pn**	**18 43 02.7**	**-0.6**
RWWY	**Rawlins**	**2.61**	**215**		**Pn**	**18 43 05.0**	**+1.0**
RWWY				IAML		18 43 42.9	
	comp=E,252nm,0.8s						
LAO	**LASA Array**	**2.92**	**346**		**Pn**	**18 43 09.1**	**+0.9**
N23A	**Red Feather La**	**3.00**	**190**	Pn	**Pn**	**18 43 09.6**	**+0.2**
N23A				IAML		18 43 55.9	
	comp=N,207nm,0.6s						
N23A				IAML		18 43 56.8	
	comp=E,108nm,0.6s						
RLMT	**Red Lodge**	**3.16**	**295**	Pn	**Pn**	**18 43 12.3**	**+0.8**
RLMT				IAML		18 44 07.5	
	comp=E,109nm,0.6s						
RLMT				IAML		18 44 08.8	
	comp=E,124nm,0.3s						
PD31	**Pinedale Array**	**3.34**	**253**		**Pn**	**18 43 14.1**	**0.0**
PDAR	**Pinedale Array**	**3.34**	**253**	Pn	**Pn**	**18 43 14.2**	**+0.1**
	comp=E,14nm,0.3s,baz=67,slow=16,SNR=78						
PDAR				Lg	Lg	18 43 59.4	
	comp=E,16nm,0.3s,baz=80,slow=33,SNR=7.0						
BW06	**Boulder Array**	**3.34**	**253**		**Pn**	**18 43 14.2**	**+0.1**
BW06				IAML		18 44 02.5	
	comp=E,78nm,0.4s						
BW06				IAML		18 44 03.4	
	comp=N,87nm,0.7s						
YNE	**Yellowstone No**	**3.62**	**290**		**Pn**	**18 43 17.9**	**0.0**
YMP	**Mirror Lake Pl**	**3.65**	**286**		**Pn**	**18 43 18.7**	**+0.3**
GCMT	**Greycliff**	**3.71**	**303**		**Pn**	**18 43 19.9**	**+0.9**
H17A	**Grant Village**	**3.89**	**280**		**Pn**	**18 43 23.3**	**+1.7**
H17A				IAML		18 44 28.2	
	comp=N,52nm,0.3s						
LOHW	**Long Hollow**	**3.91**	**268**		**Pn**	**18 43 22.8**	**+1.0**
FLWY	**Flagg Ranch**	**3.96**	**275**		**Pn**	**18 43 23.2**	**+0.7**
SNOW	**Snow King Moun**	**4.03**	**266**		**Pn**	**18 43 24.5**	**+1.0**
SNOW				IAML		18 44 29.6	
	comp=N,48nm,0.8s						
SNOW				IAML		18 44 30.7	
	comp=N,64nm,0.8s						
YPP	**Pitchstone Pla**	**4.04**	**278**	Pn	**Pn**	**18 43 24.6**	**+0.8**
ISCO	**Idaho Springs**	**4.06**	**184**	Pn	**Pn**	**18 43 24.4**	**+0.5**
REDW	**Red Top Meadow**	**4.12**	**265**		**Pn**	**18 43 25.6**	**+0.9**
REDW				IAML		18 44 41.0	
	comp=N,70nm,0.7s						
REDW				IAML		18 44 48.3	
	comp=N,78nm,0.8s						
IMW	**Indian Meadow**	**4.13**	**273**	Pn	**Pn**	**18 43 25.8**	**+0.8**
IMW				IAML		18 43 54.4	
	comp=N,57nm,0.6s						
IMW				IAML		18 44 36.4	
	comp=N,48nm,0.7s						
YHH	**Holmes Hill**	**4.14**	**285**	Pn	**Pn**	**18 43 25.4**	**+0.3**
TPAW	**Teton Pass**	**4.17**	**267**		**Pn**	**18 43 25.9**	**+0.4**
TPAW				IAML		18 44 47.3	
	comp=N,55nm,0.6s						
TPAW				IAML		18 44 49.1	
	comp=N,36nm,0.7s						
E28A	**Huff**	**4.20**	**48**		**Pn**	**18 43 27.9**	**+2.3**
FXWY	**Fox Creek**	**4.21**	**269**		**Pn**	**18 43 26.9**	**+0.9**
O20A	**White River Ci**	**4.34**	**212**		**Pn**	**18 43 28.2**	**+0.5**
O20A				IAML		18 44 36.9	
	comp=E,60nm,0.8s						
YHB	**Horse Butte**	**4.38**	**284**	Pn	**Pn**	**18 43 28.4**	**+0.1**
AHID	**Auburn Hatcher**	**4.42**	**258**	Pn	**Pn**	**18 43 28.9**	**+0.1**
AHID				IAML		18 44 43.1	
	comp=E,50nm,0.8s						
AHID				IAML		18 44 58.8	
	comp=N,58nm,0.7s						
QLMT	**Earthquake Lak**	**4.56**	**285**	Pn	**Pn**	**18 43 31.1**	**+0.3**
RDMU	**Red Mountain**	**4.60**	**226**		**Pn**	**18 43 32.0**	**+0.7**
DGMT	**Dagmar**	**4.67**	**8**		**Pn**	**18 43 34.4**	**+2.3**
Q24A	**Divide**	**4.88**	**179**	Pn	**Pn**	**18 43 35.1**	**-0.2**
Q24A				IAML		18 44 55.7	
	comp=E,30nm,0.6s						
Q24A				IAML		18 44 58.6	
	comp=N,23nm,0.6s						
BOZ	**Bozeman (W)**	**4.89**	**293**		**Pn**	**18 43 35.9**	**+0.7**
BOZ				IAML		18 44 53.0	
	comp=N,23nm,0.8s						
BOZ				IAML		18 44 58.1	
	comp=N,28nm,0.8s						
HWUT	**Hardware Ranch**	**5.18**	**247**	Pn	**Pn**	**18 43 39.8**	**+0.5**
HWUT				IAML		18 45 08.7	
	comp=N,38nm,1.1s						
HWUT				IAML		18 45 15.7	
	comp=N,38nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.21**	**157**	Pn	**Pn**	**18 43 39.5**	**-0.2**
EGMT	**Eagleton**	**5.23**	**324**	Pn	**Pn**	**18 43 40.5**	**+0.6**
TCUT	**Toone Canyon**	**5.33**	**241**		**Pn**	**18 43 41.4**	**0.0**
HRY	**Holter Researc**	**5.47**	**304**		**Pn**	**18 43 44.0**	**+0.9**
DLMT	**Dillon**	**5.48**	**289**		**Pn**	**18 43 43.6**	**+0.4**
LRM	**Limekiln Ridge**	**5.50**	**293**		**Pn**	**18 43 44.9**	**+1.1**
MCMT	**McKenzie Canyo**	**5.56**	**283**		**Pn**	**18 43 46.4**	**+1.9**
MDND	**Maddock**	**5.60**	**43**	Pn	**Pn**	**18 43 44.7**	**-0.2**
JLU	**Jordanelle**	**5.65**	**237**	Pn	**Pn**	**18 43 46.1**	**+0.3**
BGNE	**Belgrade**	**5.76**	**113**	Pn	**Pn**	**18 43 47.8**	**+0.7**
CTU	**Camp Tracy**	**5.78**	**239**	Pn	**Pn**	**18 43 47.6**	**+0.1**
SPUT	**South Promonto**	**5.91**	**247**	Pn	**Pn**	**18 43 49.9**	**+0.7**
BCYI	**Bear Canyon**	**5.91**	**277**		**Pn**	**18 43 51.9**	**+2.5**
PV22	**Blue Mesa, Par**	**5.95**	**208**		**Pn**	**18 43 50.5**	**+0.7**
PV07	**Paradox Valley**	**5.99**	**207**	Pn	**Pn**	**18 43 51.3**	**+0.9**
PV21	**Cone Mtn., Par**	**5.99**	**209**		**Pn**	**18 43 51.0**	**+0.5**
P17A	**Butcher Ranch,**	**6.02**	**225**		**Pn**	**18 43 50.8**	**+0.1**
PV15	**Paradox Valley**	**6.03**	**205**	Pn	**Pn**	**18 43 50.9**	**-0.1**
**S

KUR				A	A	18 43 49.4		
	150nm,0.2s							
KUR				A	A	18 43 49.4		
	130nm,0.2s							
KUR	**Kuril'sk**	**1.19**	**350**	*d i* PN	**Pn**	**18 43 33.8**	**+1.7**	
KUR				*i* S	**Sn**	**18 43 48.7**	**-0.4**	
KUR				pmax	pmax			
	comp=Z,502nm,0.2s							
KUR				pmax	pmax			
	comp=N,104nm,0.3s							
KUR				pmax	pmax			
	comp=E,73nm,0.3s							
KUR				smax	smax			
	comp=N,2μm,0.2s							
KUR				smax	smax			
	comp=E,671nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.65**	**270**	*i* P	**Pn**	**18 43 38.8**	**+1.1**	
YUK				AMB	AMB	18 43 39.0		
	comp=E,10.0nm,0.3s							
YUK				AMB	AMB	18 43 39.0		
	comp=E,10.0nm,0.3s							
YUK				AMB	AMB	18 43 39.0		
	comp=E,50nm,0.3s							
YUK				*i* S	**Sn**	**18 43 57.5**	**-1.5**	
YUK				A	A	18 43 59.0		
	comp=E,90nm,0.5s							
YUK				A	A	18 43 59.0		
	comp=E,730nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.65**	**270**	*d i* PN	**Pn**	**18 43 38.8**	**+1.1**	
YUK				*i* S	**Sn**	**18 43 57.1**	**-1.9**	
YUK				pmax	pmax			
	comp=Z,525nm,0.4s							
YUK				pmax	pmax			
	comp=N,93nm,0.2s							
YUK				pmax	pmax			
	comp=E,143nm,0.2s							
YUK				smax	smax			
	comp=N,936nm,0.4s							
YUK				smax	smax			
	comp=E,725nm,0.2s							
GRPR	**Tuman**	**1.72**	**269**	*i* P	**Pn**	**18 43 39.4**	**+0.9**	
GRPR				AMB	AMB	18 43 40.0		
	comp=E,20nm,0.4s							
GRPR				AMB	AMB	18 43 40.0		
	comp=E,10.0nm,0.4s							
GRPR				AMB	AMB	18 43 40.0		
	comp=E,30nm,0.4s							
GRPR				*i* S	**Sn**	**18 43 58.4**	**-2.1**	
GRPR				A	A	18 44 00.0		
	comp=E,130nm,0.4s							
GRPR				A	A	18 44 00.0		
	comp=E,660nm,0.4s							
GRPR	**Tuman**	**1.72**	**269** ⇑	*i* PN	**Pn**	**18 43 39.4**	**+0.9**	
GRPR				*i* S	**Sn**	**18 43 58.4**	**-2.1**	
GRPR				pmax	pmax			
	comp=Z,293nm,0.4s							
GRPR				pmax	pmax			
	comp=E,137nm,0.2s							
GRPR				pmax	pmax			
	comp=N,232nm,0.3s							
GRPR				smax	smax			
	comp=E,659nm,0.1s							
GRPR				smax	smax			
	comp=N,1μm,0.4s							
NEM2	**Nemuro 2**	**1.88**	**249**	P	**Pn**	**18 43 42.2**	**+1.6**	
NEM2				*e*S	**Sn**	**18 44 02.9**	**-1.3**	
NMR	**Nemuro--Hokkai**	**1.89**	**249**	*i* P	**Pn**	**18 43 42.2**	**+1.5**	
NMR				*e*S	**Sn**	**18 44 03.5**	**-0.9**	
NMR	**Nemuro--Hokkai**	**1.89**	**249** ⇓	*i* PN	**Pn**	**18 43 42.2**	**+1.5**	
NMR				*e*S	**Sn**	**18 44 03.5**	**-0.9**	
GLVR	**Golovnino**	**1.93**	**261**	*i* P	**Pn**	**18 43 42.9**	**+1.7**	
GLVR				AMB	AMB	18 43 48.0		
	comp=N,140nm,0.5s							
GLVR				*i* S	**Sn**	**18 44 04.8**	**-0.5**	
GLVR				A	A	18 44 07.0		
	comp=N,690nm,0.4s							
GLVR				A	A	18 44 07.0		
	comp=N,100nm,0.4s							
GLVR	**Golovnino**	**1.93**	**261**	*d i* PN	**Pn**	**18 43 42.9**	**+1.7**	
GLVR				*i* S	**Sn**	**18 44 04.8**	**-0.5**	
GLVR				pmax	pmax			
	comp=Z,139nm,0.5s							
GLVR				pmax	pmax			
	comp=N,94nm,0.2s							
GLVR				pmax	pmax			
	comp=E,94nm,0.2s							
GLVR				smax	smax			
	comp=N,693nm,0.3s							
GLVR				smax	smax			
	comp=E,980nm,0.3s							
JRA	**Rausu**	**2.19**	**268**	P	**Pn**	**18 43 46.1**	**+1.5**	
JRA				*e*S	**Sn**	**18 44 10.6**	**-0.7**	
JNSB	**Nemuroshibetsu**	**2.29**	**264**	P	**Pn**	**18 43 47.9**	**+2.0**	
JNSB				*e*S	**Sn**	**18 44 13.5**	**-0.2**	
JKHN	**Kushirohamanak**	**2.38**	**247**	P	**Pn**	**18 43 49.1**	**+2.0**	
JKHN				*e*S	**Sn**	**18 44 14.9**	**-1.0**	
JNK	**Nakash**	**2.53**	**260**	P	**Pn**	**18 43 50.6**	**+1.5**	
JNK				*e*S	**Sn**	**18 44 18.2**	**-1.2**	
JAK	**Akkeshi**	**2.73**	**248**	P	**Pn**	**18 43 53.3**	**+1.6**	
JAK				*e*S	**Sn**	**18 44 22.5**	**-1.5**	
JTKR	**Abashiri--Toko**	**3.06**	**270**	P	**Pn**	**18 43 57.4**	**+1.3**	
JTKR				*e*S	**Sn**	**18 44 31.1**	**-0.9**	
JAR	**Ashorobuto**	**3.27**	**258**	P	**Pn**	**18 44 01.2**	**+2.3**	
JAR				*e*S	**Sn**	**18 44 37.2**	**+0.2**	
JCH	**Churui**	**3.78**	**249**	P	**Pn**	**18 44 07.4**	**+1.6**	
JCH				*e*S	**Sn**	**18 44 47.8**	**-1.5**	
JKK2	**Kamakawa 2**	**3.91**	**269**	P	**Pn**	**18 44 09.1**	**+1.6**	
JKA	**Kamikawa-asahi**	**4.00**	**273**	*e*P	**Pn**	**18 44 10.6**	**+1.9**	
JKA	**Kamikawa-asahi**	**4.00**	**273**		**Pn**	**18 44 10.2**	**+1.5**	
ASAJ	**Asahikawa**	**4.00**	**273**	P	**Pn**	**18 44 10.6**	**+1.9**	
	comp=E,1.3nm,0.3s,baz=40,slow=14,SNR=16							
ASAJ				S	**Sn**	**18 44 59.5**	**+4.9**	
	comp=E,0.5nm,0.3s,baz=112,slow=19,SNR=1.4							
JSE	**Soyaes**	**4.08**	**285**	P	**Pn**	**18 44 13.0**	**+3.2**	
JFR	**Furan**	**4.13**	**259**	P	**Pn**	**18 44 13.1**	**+2.5**	
ERM	**Erimo**	**4.19**	**243**	*i* PN	**Pn**	**18 44 15.3**	**+4.0**	
ERM	**Erimo**	**4.19**	**243**	Pn	**Pn**	**18 44 15.1**	**+3.7**	
JNBK	**Urakawa-nobuka**	**4.33**	**248**	P	**Pn**	**18 44 14.5**	**+1.3**	
YSS	**Yuzh-Sakhalins**	**4.77**	**309**	*e*P	**Pn**	**18 44 19.1**	**0.0**	
YSS				AMB	AMB	18 44 20.2		
	comp=E,10.0nm,0.4s							
JKB	**Kayabe**	**5.66**	**250**	P	**Pn**	**18 44 32.8**	**+1.6**	
JKB				*e*S	**Sn**	**18 45 30.4**	**-4.3**	
JOT	**Ohata**	**5.88**	**245**	*e*S	**Sn**	**18 45 35.1**	**-5.0**	
YAK	**Yakutsk**	**21.01**	**335**	P	**P**	**18 47 41.6**	**-3.2**	
	comp=E,2.9nm,0.3s,baz=278,slow=0.1,SNR=12							
YAK	**Yakutsk**	**21.01**	**335**	*e*P	**P**	**18 47 41.0**	**-3.8**	
YAK				pmax	pmax			
	comp=Z,10.0nm,0.9s							
YAK				pmax	pmax			
	comp=N,5.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.3s							
YAK	**Yakutsk**	**21.01**	**335**	P	**P**	**18 47 41.0**	**-3.8**	
YAK				IAmb	IAmb	18 47 43.2		
	comp=Z,10nm,0.7s							
BILL	**Bilibino**	**25.86**	**16**	*i* P	P	18 48 23.4	-8.1	
BILL				pmax	pmax			
	comp=Z,6.0nm,1.2s							
H11N2	**WAKE ISLAND Hy**	**28.88**	**141**	T	T	19 20 03.2		
	baz=331,slow=75,SNR=16							
H11N1	**WAKE ISLAND Hy**	**28.89**	**141**	T	T	19 20 11.2		
	baz=331,slow=75,SNR=23							
H11N3	**WAKE ISLAND Hy**	**28.89**	**141**	T	T	19 20 07.6		
	baz=331,slow=75,SNR=12							
SONM	**Songino Array**	**29.02**	**292**	P	**P**	**18 49 00.4**	**+0.3**	
	comp=Z,0.5nm,0.5s,baz=98,slow=11,SNR=4.1							
SONM	**Songino Array**	**29.02**	**292**	P	**P**	**18 49 00.6**	**+0.5**	
SONM				pmax	pmax			
	comp=Z,1.0nm,0.8s							
SONM	**Songino Array**	**29.02**	**292**	P	**P**	**18 49 00.6**	**+0.5**	
H11S1	**WAKE ISLAND Hy**	**29.86**	**143**	T	T	19 21 24.1		
	baz=332,slow=76,SNR=90							
H11S3	**WAKE ISLAND Hy**	**29.87**	**143**	T	T	19 21 13.5		
	baz=332,slow=76,SNR=69							
H11S2	**WAKE ISLAND Hy**	**29.88**	**143**	T	T	19 21 14.3		
	baz=332,slow=76,SNR=65							
ZALV	**Zalesovo Beam**	**41.39**	**307**	P	**P**	**18 50 45.4**	**-0.3**	
	comp=Z,0.3nm,0.3s,baz=95,slow=9.5,SNR=1.9							
DAV	**Davao City (W)**	**41.80**	**215**	LR	LR	19 07 54.3		
	comp=Z,41nm,19.6s,baz=152,slow=35							
MK31	**Makanchi Array**	**45.08**	**298**	P	**P**	**18 51 16.1**	**+0.6**	
MK31				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MK31	**Makanchi Array**	**45.08**	**298**	P	**P**	**18 51 16.1**	**+0.6**	
MK31				IAmb	IAmb	18 51 17.0		
	comp=Z,1.3nm,0.7s							
MKAR	**Makanchi Array**	**45.08**	**298**	P	**P**	**18 51 16.3**	**+0.7**	
	comp=Z,1.1nm,0.5s,baz=81,slow=8.8,SNR=17							
MKAR	**Makanchi Array**	**45.08**	**298**	P	**P**	**18 51 16.0**	**+0.5**	
MAKZ	**Makanchi**	**45.28**	**298**	P	**P**	**18 51 17.8**	**+0.7**	
MAKZ				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MAKZ	**Makanchi**	**45.28**	**298**	P	**P**	**18 51 17.8**	**+0.7**	
MAKZ				IAmb	IAmb	18 51 18.6		
	comp=Z,1.9nm,0.7s							
KURK	**Kurchatov**	**45.95**	**304**	*e*P	**P**	**18 51 22.9**	**+0.6**	
KURK	**Kurchatov**	**45.95**	**304**	P	**P**	**18 51 22.9**	**+0.6**	
KURK	**Kurchatov**	**45.95**	**304**	P	**P**	**18 51 22.7**	**+0.4**	
KURBB	**Kurchatov Arra**	**46.04**	**304**	P	**P**	**18 51 22.9**	**0.0**	
	comp=Z,0.9nm,0.4s,baz=72,slow=9.0,SNR=6.8							
JAY	**Jayapura**	**46.85**	**190**	LR	LR	19 09 43.6		
	comp=Z,50nm,20.0s,baz=230,slow=34							
AAK	**Ala-Archa**	**51.87**	**296**	*e*P	**P**	**18 52 07.3**	**-0.5**	
AAK	**Ala-Archa**	**51.87**	**296**	*e*P	**P**	**18 52 07.3**	**-0.5**	
AAK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ARU	**Arti**	**54.61**	**317**	*i* P	P	18 52 37.3	+10	
ARU				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ABKAR	**Akbulak array**	**57.43**	**309**	P	**P**	**18 52 48.5**	**+0.9**	
A05A	**Maple Falls**	**58.44**	**51**	P	**P**	**18 52 53.2**	**-1.4**	
ARCES	**ARCESS Array B**	**59.21**	**340**	P	**P**	**18 52 58.7**	**-1.0**	
	comp=Z,1.2nm,0.6s,baz=46,slow=7.7,SNR=5.4							
ARCES	**ARCESS Array B**	**59.21**	**340**	P	**P**	**18 52 58.9**	**-0.8**	
ARCES	**ARCESS Array B**	**59.21**	**340**	P	**P**	**18 52 58.9**	**-0.8**	
FINES	**FINESS Array B**	**64.92**	**333**	P	**P**	**18 53 37.7**	**-0.3**	
	comp=Z,1.4nm,0.6s,baz=38,slow=9.6,SNR=9.6							
FINES	**FINESS Array B**	**64.92**	**333**	*i* P	**P**	**18 53 38.0**	**0.0**	
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**64.92**	**333**	P	**P**	**18 53 38.0**	**0.0**	
NOA	**NORSAR Array B**	**69.57**	**339**	P	**P**	**18 54 08.4**	**+1.0**	
	comp=Z,0.2nm,0.3s,baz=37,slow=5.9,SNR=4.7							
KBZ	**Khabaz**	**70.13**	**312**	P	**P**	**18 54 12.0**	**+1.0**	
	comp=Z,0.8nm,0.5s,baz=37,slow=5.1,SNR=2.5							
BUR08	**Bucovina Ar. S**	**75.80**	**324**	P	**P**	**18 54 45.6**	**+1.0**	
BUR08				IAmb	IAmb	18 55 10.6		
	comp=Z,2.1nm,1.2s							
BURAR	**Bucovina Array**	**75.81**	**324**	P	**P**	**18 54 45.6**	**+1.0**	

*DDA **13** 18:53:44.3,37.00N×27.40E,h11km,ML2.1*
*ISK **13** 18:53:45.7,37.00N×27.40E,h5km,ML2.5/12*
ISC 13 18:53:45.1±0.9,**36.99N**±0.03×**27.44E**±0.03,**h8**km±6km,
n26,σ1s82/39,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.07**	**6**	*i* P	**Pg**	**18 53 47.2**	**+0.1**
BDRM				*i* S	**Sg**	**18 53 48.4**	**-0.3**
BODT	**Bodrum**	**0.12**	**305**	PG	**Pg**	**18 53 48.0**	**+0.2**
BODT				SG	**Sg**	**18 53 50.1**	**+0.3**
DAT	**Datca**	**0.29**	**156**	PG	**Pb**	**18 53 52.4**	**-0.1**
DAT				SG	**Sb**	**18 53 56.7**	**-0.8**
DAT	**Datca**	**0.29**	**156**	*i* P	**Pg**	**18 53 50.6**	**-0.2**
DAT				*i* S	**Sg**	**18 53 56.0**	**+1.3**
TURN	**Turunc**	**0.68**	**108**	PG	**Pg**	**18 53 59.2**	**-4.0**
TURN				SG	**Sg**	**18 54 10.3**	**-5.2**
TURN	**Turunc**	**0.68**	**108**	*i* P	Pg	18 53 57.0	-6.2
TURN				*i* S	**Sg**	**18 54 08.9**	**-6.5**
TURN				IAML		18 54 11.0	
	comp=E,101nm,0.2s						
TURN				IAML		18 54 11.0	
	comp=N,149nm,0.5s						
YER	**Yerkesik**	**0.69**	**78**	PG	**Pb**	**18 54 00.1**	**+0.7**
GCAM	**G?zelcaml?**	**0.72**	**347**	PG	**Pb**	**18 54 00.0**	**+0.1**
GCAM				SG	**Sb**	**18 54 10.6**	**+0.6**
GCAM	**G?zelcaml?**	**0.72**	**347**	*i* P	**Pg**	**18 53 58.4**	**-0.7**
GCAM				*i* S	**Sg**	**18 54 08.4**	**-0.1**
GCAM				IAML		18 54 11.0	
	comp=N,98nm,0.6s						
GCAM				IAML		18 54 12.0	
	comp=E,126nm,0.6s						
ARG	**Arkhangelos**	**0.95**	**144**	PG	**Pn**	**18 54 05.0**	**+0.3**
ARG				SG	**Sn**	**18 54 19.2**	**+0.7**
DALY	**Dalyan (Mula)**	**0.99**	**100**	PG	**Pn**	**18 54 06.0**	**+0.7**
DALY	**Dalyan (Mula)**	**0.99**	**100**	*i* P	**Pn**	**18 54 05.4**	**+0.1**
DALY				*i* S	**Sg**	**18 54 17.9**	**+0.8**
DGB	**zmir**	**1.15**	**338**	*i* P	**Pg**	**18 54 06.1**	**-1.0**
DGB				*i* S	**Sg**	**18 54 21.0**	**-1.0**
TAVA	**DENIZLI_Tavas**	**1.27**	**68**	*i* P	**Pg**	**18 54 10.5**	**+1.0**
TAVA				*i* S	**Sn**	**18 54 26.9**	**+0.4**
FETY	**Fethiye**	**1.37**	**105**	PN	**Pg**	**18 54 12.7**	**+1.3**
FETY	**Fethiye**	**1.37**	**105**	*i* P	**Pg**	**18 54 12.5**	**+1.1**
FETY				*i* S	**Sg**	**18 54 29.9**	**+0.7**
BLCB	**Balcova**	**1.43**	**347**	PN	**Pg**	**18 54 12.6**	**+0.2**
URLA	**Izmir**	**1.52**	**334**	PN	**Pg**	**18 54 13.9**	**-0.3**
URLA	**Izmir**	**1.52**	**334**	*i* P	**Pb**	**18 54 13.4**	**-0.2**
APE	**Apeiranthos**	**1.53**	**273**	PN	**Pg**	**18 54 14.1**	**-0.3**
GOLH	**Golhisar**	**1.72**	**81**	*i* P	**Pg**	**18 54 19.9**	**+1.8**
GOLH				*i* S	**Sg**	**18 54 44.0**	**+3.7**
MANT	**Manisa**	**1.74**	**30**	*i* P	**Pb**	**18 54 16.6**	**-0.8**
CHOS	**Chios island**	**1.77**	**322**	PN	**Pb**	**18 54 17.4**	**-0.4**
AKAS	**Kas**	**1.90**	**113**	PN	**Pb**	**18 54 20.1**	**0.0**
AKAS	**Kas**	**1.90**	**113**	*i* P	**Pg**	**18 54 21.9**	**+0.3**
AKAS				IAML		18 54 54.0	
	comp=N,29nm,0.8s						
USAK	**Uak-Merkez**	**2.13**	**36**	*i* P	**Pb**	**18 54 24.1**	**+0.1**
USAK				IAML		18 54 57.0	
	comp=N,40nm,0.3s						

*IDC **13** 19:34:33.0±0.9,0.82N×146.34E,h0km,mb4.2/11,*
mb1 4.4/12,mb1mx4.1/36,mbtmp4.2/12,ML3.6/1,MS3.5/8,
Ms1 3.5/8,ms1mx3.0/37,Error ellipse: s-maj=32.8km
s-min=16.0km az=100.0
*NEIC **13** 19:34:35.8±1.5,0.81N±0.06×146.11E±0.09,h16km±4km,*
mb4.7/17,Error ellipse: s-maj=13.2km s-min=8.2km
az=100.0
ISC 13 19:34:38.1±0.6,**0.79N**±0.09×**146.15E**±0.08,**h35**km,**n49,**
σ1s16/39,mb4.5/18,MS3.3/5,Eastern Caroline Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**6.36**	**239**	Pn	**Pn**	**19 36 08.7**	**-0.8**
	1.3nm,0.3s,baz=252,slow=3.7,SNR=16						
JAY				Sn	**Sn**	**19 37 17.4**	**-3.5**
	3.1nm,0.3s,baz=246,slow=22,SNR=6.7						
JAY				LR	LR	19 38 21.7	
	comp=Z,450nm,21.8s,baz=274,slow=35						
RABL	**Rabaul**	**7.78**	**130**	Pn	**Pn**	**19 36 29.8**	**+0.8**
PMG	**Port Moresby**	**10.18**	**174**	LR	LR	19 40 39.3	
	comp=Z,205nm,19.7s,baz=330,slow=36						
PATS	**Pohnpei**	**13.53**	**63**	Pn	**Pn**	**19 37 45.2**	**-2.6**
HNR	**Honiara**	**17.09**	**127**	LR	LR	19 44 56.8	
	comp=Z,156nm,19.6s,baz=252,slow=37						
MTN	**Manton Dam**	**20.14**	**227**	P	**P**	**19 39 10.0**	**+0.6**
MTN				IAmb	IAmb	19 39 12.4	
	comp=Z,80nm,1.4s						
WB0	**Warramunga Arr**	**23.46**	**209**	P	**P**	**19 39 44.9**	**+0.3**
WB0				IAmb	IAmb	19 39 46.0	
	comp=Z,22nm,1.1s						
WR0	**Warramunga Arr**	**23.56**	**208**	P	**P**	**19 39 45.8**	**+0.2**
WR0				IAmb	IAmb	19 39 46.9	
	comp=Z,16nm,0.7s						
WRAB	**Tennant Creek**	**23.62**	**209**	P	**P**	**19 39 47.0**	**+0.8**
WRAB				IAmb	IAmb	19 39 47.6	
	comp=Z,24nm,0.6s						
WB2	**Warramunga Arr**	**23.63**	**209**	P	**P**	**19 39 47.0**	**+0.8**
WRA	**Warramunga Arr**	**23.64**	**209**	P	**P**	**19 39 46.9**	**+0.5**
	comp=Z,20nm,0.6s,baz=31,slow=11,SNR=205						
WRA	**Warramunga Arr**	**23.64**	**209**	P	**P**	**19 39 45.5**	**-0.8**
KNRA	**Kununurra**	**23.73**	**226**	P	**P**	**19 39 47.9**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**26.76**	**48**	T	T	20 08 40.2	
	baz=235						
H11S2	**WAKE ISLAND Hy**	**26.77**	**48**	T	T	20 08 37.0	
	baz=235						
H11S1	**WAKE ISLAND Hy**	**26.77**	**48**	T	T	20 08 13.9	
	baz=235						
AS31	**Alice Springs**	**27.07**	**205**	P	**P**	**19 40 17.1**	**-0.5**
ASAR	**Alice Springs**	**27.07**	**205**	P	**P**	**19 40 18.9**	**+1.3**
	comp=Z,10.0nm,0.8s,baz=36,slow=9.2,SNR=53						
ASAR				LR	LR	19 49 46.9	
	comp=Z,88nm,19.4s,baz=30,slow=34						
ASAR	**Alice Springs**	**27.07**	**205**	P	**P**	**19 40 17.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**27.56**	**226**	P	**P**	**19 40 23.0**	**+1.0**
	comp=Z,5.5nm,0.6s,baz=36,slow=10,SNR=26						
FITZ				LR	LR	19 51 16.9	
	comp=Z,76nm,18.7s,baz=52,slow=36						
FITZ	**Fitzroy Crossi**	**27.56**	**226**	P	**P**	**19 40 22.7**	**+0.7**
FITZ				IAmb	IAmb	19 40 42.5	
	comp=Z,18nm,1.3s						
H11N1	**WAKE ISLAND Hy**	**27.68**	**46**	T	T	20 09 10.5	
	baz=228						
H11N2	**WAKE ISLAND Hy**	**27.69**	**46**	T	T	20 09 09.1	
	baz=228						
H11N3	**WAKE ISLAND Hy**	**27.69**	**46**	T	T	20 09 17.9	
	baz=228						
TGY	**Tagaytay City**	**28.23**	**299**	LR	LR	19 49 16.2	
	comp=Z,36nm,21.0s,baz=78,slow=31						
DZM	**Mont Dzumac**	**30.14**	**140**	LR	LR	19 50 07.2	
	comp=Z,67nm,20.2s,baz=294,slow=31						
STKA	**Stephens Creek**	**32.78**	**187**	P	**P**	**19 41 08.7**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=335,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**32.78**	**187**	P	**P**	**19 41 08.4**	**+0.4**
MSVF	**Nonsavu**	**36.40**	**122**	P	**P**	**19 41 39.2**	**-0.4**
MSVF				IAmb	IAmb	19 41 41.6	
	comp=Z,12nm,0.9s						
CM31	**Chiang Mai Arr**	**49.53**	**294**	P	**P**	**19 43 24.4**	**-1.4**
CM31				IAmb	IAmb	19 43 45.8	
	comp=Z,8.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**49.53**	**294**	P	**P**	**19 43 28.1**	**+2.3**
	comp=Z,0.6nm,0.3s,baz=99,slow=5.6,SNR=6.2						
CMAR	**Chiang Mai Arr**	**49.53**	**294**	P	**P**	**19 43 24.8**	**-1.0**
PETK	**Petropavlovsk-**	**53.02**	**9**	P	**P**	**19 43 51.4**	**0.0**
	comp=Z,2.1nm,0.7s,baz=167,slow=7.1,SNR=3.7						
PETK	**Petropavlovsk-**	**53.02**	**9**	P	**P**	**19 43 52.1**	**+0.7**
RAR	**Rarotonga**	**57.15**	**116**	LR	LR	20 02 52.3	
	comp=Z,168nm,21.9s,baz=34,slow=30						
SONM	**Songino Array**	**58.13**	**330**	P	**P**	**19 44 29.8**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=145,slow=7.7,SNR=5.8						
SONM	**Songino Array**	**58.13**	**330**	P	**P**	**19 44 29.7**	**+1.3**
MK31	**Makanchi Array**	**71.78**	**320**	P	**P**	**19 45 57.6**	**+0.5**
MKAR	**Makanchi Array**	**71.78**	**320**	P	**P**	**19 45 58.1**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=90,slow=7.3,SNR=7.0						
MKAR	**Makanchi Array**	**71.78**	**320**	P	**P**	**19 45 57.2**	**+0.1**
MAKZ	**Makanchi**	**71.99**	**319**	P	**P**	**19 45 58.9**	**+0.5**
MAKZ				IAmb	IAmb	19 46 09.6	
	comp=Z,9.3nm,1.4s						
ZALV	**Zalesovo Beam**	**72.87**	**327**	P	**P**	**19 46 03.6**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=110,slow=7.8,SNR=1.9						
ZALV	**Zalesovo Beam**	**72.87**	**327**	P	**P**	**19 46 05.2**	**+1.8**
KURK	**Kurchatov**	**75.31**	**323**	P	**P**	**19 46 17.6**	**-0.2**
KURK				IAmb	IAmb	19 46 29.3	
	comp=Z,4.3nm,0.9s						
NIL	**Nilore**	**75.36**	**305**	P	**P**	**19 46 18.7**	**+0.3**
VNDA	**Vanda**	**78.70**	**177**	P	**P**	**19 46 37.2**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=348,slow=5.7,SNR=7.5						
ILAR	**Eielson Array**	**79.62**	**24**	P	**P**	**19 46 40.6**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=254,slow=5.5,SNR=6.7						
ILAR	**Eielson Array**	**79.62**	**24**	P	**P**	**19 46 40.3**	**-1.3**
TORD	**Torodi Ar. Bea**	**142.13**	**293**	PKP	**PKPdf**	**19 54 07.6**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=83,slow=3.3,SNR=2.5						

*JMA **13** 19:55:06.1±0.2,29.31N×130.56E,h24km±3km,M4.1*
*NIED **13** 19:55:06.2,29.31N×130.56E,h24km,MW4.3,Moment*
Tension Solution. s3 Moment tensor: Scale 10^15Nm;
Mrr1.66; Mθθ-0.22; Mφφ-1.43; Mrθ1.21; Mrφ-1.17; Mθφ2.33;
Fault plane solution: Mo3.24000×10^15 NP1:φ±28.00000°,
δ72.00000°,λ87.00000°. NP2:φ±217.00000°,δ18.00000°,
λ99.00000°.
*NEIC **13** 19:55:08.1±1.5,29.51N±0.10×130.8E±0.1,h53km±6km,*
mb4.2/17 Error ellipse: s-maj=17.6km s-min=12.4km
az=60.0
*IDC **13** 19:55:12.2±2.5,29.55N×130.97E,h95km±24km,mb3.5/11,*
mb1 3.5/17,mb1mx3.4/39,mbtmp3.8/17,MS3.3/17,
Ms1 3.4/17,ms1mx3.2/37,Error ellipse: s-maj=30.8km
s-min=15.4km az=62.0
ISC 13 19:55:05.7±1.1,**29.29N**±0.03×**130.65E**±0.05,**h32**km±9km,
n72,σ1s18/72,mb4.1/18,MS3.5/13,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.87**	**309**	P	**Pn**	**19 55 21.1**	**-0.6**
JNN				S	**Sn**	**19 55 32.6**	**-0.7**
JYAK	**Yakushimahirau**	**0.95**	**353**	P	**Pn**	**19 55 23.4**	**+0.6**
JYAK				*e*S	**Sn**	**19 55 35.6**	**+0.3**
JMTN	**Minamitane**	**1.12**	**11**	P	**Pb**	**19 55 26.4**	**-0.1**
JMTN				*e*S	**Sb**	**19 55 41.2**	**+0.4**
JZK	**Kikaishima**	**1.14**	**212**	P	**Pb**	**19 55 26.7**	**-0.2**
JKC	**Kuchinoerabu**	**1.23**	**341**	P	**Pb**	**19 55 27.4**	**-0.9**
JKC				*e*S	**Sb**	**19 55 43.2**	**-0.6**
JAM	**Amami Oshima**	**1.27**	**226**	P	**Pn**	**19 55 27.8**	**+0.6**
JAM				*e*S	**Sn**	**19 55 43.6**	**+0.4**
JTAJ	**Takarajima**	**1.27**	**264**	P	**Pb**	**19 55 27.3**	**-1.7**
JTN	**Tanegashima 3**	**1.39**	**12

MKAR Makanchi Array 41.19 309 P **P** 20 02 47.1 -0.3
comp=Z,0.5nm,0.5s,baz=88,slow=10,SNR=12
MKAR Makanchi Array 41.19 309 P **P** 20 02 47.4 +0.1
ZAA0 Zalesovo Array 41.20 320 P **P** 20 02 46.2 -1.0
ZALV Zalesovo Beam 41.20 320 P **P** 20 02 46.6 -0.6
comp=Z,0.9nm,0.6s,baz=107,slow=7.9,SNR=3.7
ZALV Zalesovo Beam 41.20 320 P **P** 20 02 46.5 -0.7
MAKZ Makanchi 41.41 309 P **P** 20 02 49.5 +0.4
PMG Port Moresby 41.64 155 LR LR 20 16 31.8
comp=Z,43nm,21.5s,baz=9.0,slow=31
KURK Kurchatov 44.16 314 P **P** 20 03 11.0 -0.2
KURK IAmb IAmb 20 03 11.8
comp=Z,5.3nm,0.8s
KURBB Kurchatov Arra 44.20 314 P **P** 20 03 11.4 -0.2
comp=Z,2.9nm,0.6s,baz=100,slow=8.9,SNR=11
AAK Ala-Archa 46.56 302 P **P** 20 03 31.4 +0.7
AAK IAmb IAmb 20 03 32.6
comp=Z,6.5nm,1.4s
HNR Honiara 47.75 139 LR LR 20 20 50.5
comp=Z,59nm,19.9s,baz=48,slow=32
NIL Nilore 48.62 291 P **P** 20 03 46.5 -0.1
WRA Warramunga Arr 49.08 175 P **P** 20 03 51.6 +1.5
comp=Z,0.6nm,0.9s,baz=351,slow=8.1,SNR=2.2
WRA Warramunga Arr 49.08 175 IAmb IAmb 20 03 56.1
comp=Z,0.3nm,1.2s
KK31 Karatay Array 49.46 303 P **P** 20 03 52.8 -0.1
KK31 IAmb IAmb 20 03 54.4
comp=Z,2.0nm,0.8s
KKAR Karatay Array 49.46 303 P **P** 20 03 52.8 -0.1
KKAR IAmb IAmb 20 03 54.3
comp=Z,2.0nm,0.8s
BRVK Borovoye 49.55 316 P **P** 20 03 52.9 -0.5
BRVK IAmb IAmb 20 03 53.7
comp=Z,4.6nm,0.8s
ASAR Alice Springs 52.75 176 P **P** 20 04 20.1 +2.4
comp=Z,0.3nm,0.6s,baz=1.4,slow=9.4,SNR=1.8
ABKAR Akbulak array 56.16 312 P **P** 20 04 42.2 0.0
GEYT Alibeck 59.65 299 LR LR 20 37 03.4
comp=Z,30nm,18.0s,baz=190,slow=42
ILAR Eielson Array 60.73 29 P P 20 05 09.0 -4.9
comp=Z,0.3nm,0.5s,baz=317,slow=6.4,SNR=2.7
ARCES ARCESS Array B 67.95 339 LR LR 20 41 01.6
comp=Z,61nm,18.3s,baz=274,slow=40
FINES FINESS Array B 71.26 331 P **P** 20 06 22.1 +0.5
comp=Z,2.2nm,0.8s,baz=67,slow=7.7,SNR=3.8
FINES LR LR 20 40 53.6
comp=Z,47nm,18.1s,baz=62,slow=38
SOCY Socotra 72.59 274 P **P** 20 06 29.6 -0.9
AKASG Malin Array Be 74.59 320 P **P** 20 06 40.2 -1.3
comp=Z,0.9nm,0.5s,baz=58,slow=6.3,SNR=4.5
BRTR Keskin Array B 76.84 308 P **P** 20 06 55.7 +0.9
comp=Z,1.4nm,0.7s,baz=275,slow=36,SNR=1.7
NOA NORSAR Array B 77.51 334 P **P** 20 06 57.2 -0.8
comp=Z,0.3nm,0.6s,baz=55,slow=5.4,SNR=1.4
R11A Troy Canyon, C 88.62 46 P **P** 20 07 53.5 -2.5
R11A IAmb IAmb 20 07 56.0
comp=Z,1.8nm,0.8s
RWWY Rawlins 91.46 39 P **P** 20 08 07.7 -1.6
ESDC Sonseca Array 99.44 326 LR LR 20 57 26.3
comp=Z,26nm,18.3s,baz=150,slow=38

*ECX **13** 19:57:31.5±0.4,27.70N×111.64W, h9km±440km, MD2.5*
*MEX **13** 19:57:32.1±0.3,27.54N×111.56W, h10km, MD3.6*
ISC 13 19:57:28.3±1.1**,27.70N**±0.07×**111.82W**±0.07**, h10**km**, n8,**
σ1§78/15, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.54**	**225**	*eP*		**Pn**	**19 57 43.1**	**+1.1**
SRIG				*eS*		**Sn**	**19 57 52.0**	**+0.9**
SRIG	**Santa Rosalia**	**0.54**	**225**	*eP*		**Pn**	**19 57 42.9**	**+0.9**
SRIG				*eS*		**Sn**	**19 57 52.2**	**+1.0**
GUYB	**Guaymas**	**0.86**	**77**	*eP*		**Pg**	**19 57 44.1**	**-0.7**
GUYB				*eS*		**Sg**	**19 57 53.6**	**-2.4**
GUYB	**Guaymas**	**0.86**	**77**	*eP*		**Pg**	**19 57 43.9**	**-0.9**
GUYB				*eS*		**Sg**	**19 57 53.7**	**-2.3**
HSIG		**1.52**	**30**	*i* P		**Pn**	**19 57 56.4**	**+0.9**
HSIG				*eS*		**Sn**	**19 58 15.7**	**+0.3**
HSIG		**1.52**	**30**	*eP*		**Pn**	**19 57 56.6**	**+1.1**
HSIG				*eS*		**Sn**	**19 58 15.6**	**+0.3**
NZIG	**Nacozari, Sono**	**3.31**	**36**	*i* P		**Pn**	**19 58 24.4**	**+4.0**
NZIG				*eS*		**Sn**	**19 59 01.5**	**+1.5**
SPIG	**San Pedro Mart**	**4.61**	**317**	*eP*		**Pn**	**19 58 37.2**	**-1.2**

*UCR **13** 20:31:49.3±1.3,9.84N×84.57W, h49km±4km, MD3.9*
*UPA **13** 20:31:49.6±1.1, 10.55N×84.01W, h7km±27km, MW4.4*
ISC 13 20:31:50.7±1.0**,9.91N**±0.04×**84.58W**±0.03**, h32**km±8km**,**
n46,σ1§33/69, 13C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SRA1	**San Ramn**	**0.20**	**29**	*eP*		**Pb**	**20 31 57.3**	**-0.2**
LAFE	**Finca La Fe, P**	**0.34**	**253**	*eP*		**Pb**	**20 31 58.8**	**-0.1**
LAFE				*eS*		**Sn**	**20 32 06.7**	**+1.5**
HDC	**Heredia**	**0.47**	**79**	*eP*		**Pb**	**20 31 60.0**	**-1.0**
HDC				*eS*		**Sb**	**20 32 08.7**	**+0.8**
HDC3	**Heredia 3**	**0.47**	**78**	*eP*		**Pb**	**20 31 60.0**	**-1.0**
HDC3				*eS*		**Sb**	**20 32 08.4**	**+0.4**
SJS	**Escuela Geolog**	**0.52**	**86**	*eP*		**Pb**	**20 32 00.7**	**-1.1**
SJS				*eS*		**Sb**	**20 32 09.2**	**+0.2**
JTS	**Las Juntas de**	**0.53**	**316**	*eP*		**Pb**	**20 32 00.7**	**-1.1**
CASO	**Castillo**	**0.54**	**344**	*i* P		**Pb**	**20 32 01.6**	**-0.5**
CASO				*i* S		**Sn**	**20 32 11.8**	**+1.4**
FORC	**Fortuna**	**0.56**	**351**	⇑*i*P		**Pb**	**20 32 01.7**	**-0.6**
FORC				*i* S		**Sn**	**20 32 12.1**	**+1.3**
ARE1	**Arenal 1**	**0.57**	**346**	*eP*		**Pb**	**20 32 02.1**	**-0.3**
CEDE	**Laguna Cedeo**	**0.59**	**348**	⇑*i*P		**Pb**	**20 32 02.0**	**-0.8**
CEDE				*i* S		**Sn**	**20 32 13.2**	**+1.7**
LCR2	**La Lucha 2**	**0.59**	**106**	*eP*		**Pb**	**20 32 00.8**	**-2.1**
RIMA	**Rio Macho**	**0.72**	**101**	*eP*		**Pn**	**20 32 02.7**	**-2.2**
CVTR	**Volcan Turrial**	**0.82**	**82**	*eP*		**Pn**	**20 32 04.9**	**-1.5**
COVE	**Coope Vega, Sa**	**0.83**	**12**	*eP*		**Pn**	**20 32 05.1**	**-1.1**
ACAL	**Aguas Claras**	**0.85**	**328**	⇑*i*P		**Pn**	**20 32 05.8**	**-0.7**
PLVR	**Palo Verde**	**0.88**	**300**	*eP*		**Pn**	**20 32 05.7**	**-1.4**
PTEN	**Parque Tenorio**	**0.90**	**334**	⇑*i*P		**Pn**	**20 32 06.3**	**-0.9**
PTEN				*i* S		**Sb**	**20 32 21.0**	**+1.4**
DUNO	**Dulce Nombre,**	**0.92**	**281**	*eP*		**Pn**	**20 32 06.4**	**-1.0**
CUI	**Cuipilapa**	**0.94**	**322**	*eP*		**Pn**	**20 32 07.1**	**-0.7**
COLC	**Colonia**	**0.97**	**321**	⇑*i*P		**Pn**	**20 32 07.3**	**-0.9**
COLC				*i* S		**Sb**	**20 32 22.3**	**+0.6**
ORTG	**Ortega, Santa**	**0.97**	**298**	*eP*		**Pn**	**20 32 07.1**	**-1.2**
GUAI	**GUAI**	**0.98**	**292**	*i* P		**Pn**	**20 32 07.0**	**-1.3**
GUAI				*i* S		**Sn**	**20 32 21.9**	**+0.8**
HORNC	**Hornillas**	**0.99**	**324**	⇑*i*P		**Pn**	**20 32 07.6**	**-0.9**
HORNC				*i* S		**Sn**	**20 32 22.5**	**+1.0**
GUAB	**Guayabo de Bag**	**1.02**	**321**	⇑*i*P		**Pn**	**20 32 07.9**	**-0.9**
GUAB				*i* S		**Sn**	**20 32 23.3**	**+1.2**
LIM1	**Limonal**	**1.03**	**320**	⇑*i*P		**Pn**	**20 32 07.9**	**-1.1**
LIM1				*i* S		**Sn**	**20 32 23.1**	**+0.8**
PEZE	**Perez Zeledon,**	**1.03**	**120**	*eP*		**Pn**	**20 32 07.2**	**-1.9**
GRZA	**Playa Garza**	**1.04**	**271**	*eP*		**Pn**	**20 32 07.0**	**-2.1**
GPS2	**Hotel Rincn d**	**1.13**	**318**	⇑*i*P		**Pn**	**20 32 09.5**	**-1.0**
GPS2				*i* S		**Sn**	**20 32 25.8**	**+0.9**
GPS3	**Bodega del ICE**	**1.14**	**318**	⇑*i*P		**Pn**	**20 32 09.8**	**-0.8**
GPS1	**Guardaparques**	**1.15**	**319**	⇑*i*P		**Pn**	**20 32 09.6**	**-1.1**
GPS1				*i* S		**Sn**	**20 32 26.6**	**+1.3**
EDLM	**Las Mercedes**	**1.16**	**122**	*eP*		**Pn**	**20 32 09.5**	**-1.3**
LAPC	**Finca la Perla**	**1.20**	**316**	⇑*i*P		**Pn**	**20 32 10.0**	**-1.3**
LAPC				*i* S		**Sn**	**20 32 27.1**	**+0.6**
BUEV	**Buena Vista**	**1.20**	**318**	*eP*		**Pn**	**20 32 10.6**	**-0.8**
GB1A	**Borinquen Arri**	**1.21**	**318**	*eP*		**Pn**	**20 32 10.8**	**-0.8**
BUAI	**Buenos Aires**	**1.21**	**323**	*i* P		**Pn**	**20 32 10.6**	**-0.9**
BUAI				*i* S		**Sn**	**20 32 27.4**	**+0.5**
GBS3	**Finca Las Img**	**1.22**	**315**	⇑*i*P		**Pn**	**20 32 10.6**	**-1.1**
DRK0	**Durika**	**1.47**	**116**	*eP*		**Pn**	**20 32 13.5**	**-1.7**
EDBA	**Buenos Aires**	**1.49**	**120**	*eP*		**Pn**	**20 32 13.4**	**-1.8**
MLIR3	**Monte Lirio, C**	**2.06**	**122**	*eP*		**Pn**	**20 32 24.6**	**+1.3**
MLIR3				*eS*		**Sb**	**20 32 52.1**	**-0.7**
ACON	**Acoyapa**	**2.13**	**344**	*eP*		**Pn**	**20 32 23.0**	**-1.1**
BRU2	**Volcan**	**2.17**	**121**	*eP*		**Pn**	**20 32 26.3**	**+1.5**
BRU2				*eS*		**Sn**	**20 32 54.2**	**+3.5**
BC3P	**Paso Ancho**	**2.23**	**119**	*eP*		**Pn**	**20 32 26.4**	**+0.8**
BC3P				*eS*		**Sn**	**20 32 54.5**	**+2.4**
ESPN	**Las Esperanzas**	**2.29**	**7**	*eP*		**Pn**	**20 32 25.6**	**-0.8**
BCO2	**Palmira**	**2.34**	**120**	*eP*		**Pn**	**20 32 28.9**	**+1.7**
BCO2				*eS*		**Sn**	**20 32 58.6**	**+3.6**
CHGR2	**Aguacate**	**2.59**	**112**	*eP*		**Pn**	**20 32 30.1**	**-0.4**
CHGR2				*eS*		**Sn**	**20 33 00.0**	**-0.9**
GMAL	**Guarumal, Vera**	**3.94**	**123**	*eP*		**Pn**	**20 32 49.5**	**+0.5**
GMAL				*eS*		**Sn**	**20 33 33.5**	**-0.6**

*MEX **13** 20:55:01.2±0.8, 13.92N×92.22W, h16km±324km, MD3.9*
*GCG **13** 20:55:04.9±0.4, 13.93N×91.93W, h40km, MD3.5*
ISC 13 20:54:59.7±3.4**,13.9N**±0.2×**92.4W**±0.1**, h46**km**, n8,**σ**1§43/9,**
Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.94**	**56**	*eP*		**Pn**	**20 55 17.1**	**+0.6**
THIG		**0.99**	**6**	*eP*		**Pn**	**20 55 17.1**	**-0.2**
THIG				*i* S		**Sn**	**20 55 28.3**	**-1.9**
FUG	**Fuego 3**	**1.58**	**70**	*eP*		**Pn**	**20 55 25.3**	**-0.1**
PCG	**Pacaya**	**1.78**	**74**	*eP*		**Pn**	**20 55 28.5**	**+0.3**
IXG	**Ixpaco**	**1.89**	**82**	*eP*		**Pn**	**20 55 29.4**	**-0.3**
PCIG		**1.96**	**335**	*eP*		**Pn**	**20 55 30.5**	**+0.1**
NBG	**Las Nubes**	**2.08**	**71**	*eP*		**Pn**	**20 55 33.9**	**+1.6**
CCIG	**Comitan**	**2.37**	**6**	*eP*		**Pn**	**20 55 38.6**	**+2.4**

*DRS **13** 21:14:01.8±0.0, 41.71N×46.40E, h10km*
*DDA **13** 21:14:04.5, 42.03N×46.38E, h20km±2km, ML2.6*
*TIF **13** 21:14:04.3, 41.70N×46.51E, h22km±2km*
ISC 13 21:14:05.0±1.0**,41.76N**±0.03×**46.48E**±0.02**, h16**km±8km**,**
n26,σ1§92/47, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.19**	**294**	P		**Pb**	**21 14 10.8**	**+0.6**
LGD				S		**Sg**	**21 14 14.8**	**+2.2**
DDFL	**Dedoflistskaro**	**0.41**	**221**	*i* P		**Pn**	**21 14 16.1**	**-0.2**
DDFL				*i* S		**Sb**	**21 14 26.6**	**+6.7**
DDFL	**Dedoflistskaro**	**0.41**	**221**	P		**Pn**	**21 14 16.1**	**-0.2**
DDFL				S		**Sb**	**21 14 27.4**	**+7.5**
GNBR	**Gunib**	**0.73**	**30**	*i* Pg		**Pg**	**21 14 19.1**	**-0.1**
GNBR	56nm,0.5s							
				*e*Sg		**Sg**	**21 14 29.0**	**+0.1**
	425nm,0.8s							
BTLR	**Botlikh**	**0.93**	**348**	*i* Pg		**Pg**	**21 14 22.7**	**-0.3**
BTLR	22nm,0.7s							
				*e*Sg		**Sg**	**21 14 34.7**	**-0.4**
	81nm,0.6s							
URKR	**Urkarakh**	**0.96**	**64**	*e*Pg		**Pb**	**21 14 23.1**	**-0.2**
URKR	41nm,0.5s							
				*e*Sg		**Sb**	**21 14 36.6**	**+0.9**
	157nm,0.5s							
AKT	**Akhty**	**0.98**	**106**	*e*Pg		**Pg**	**21 14 22.7**	**-1.2**
AKT	46nm,0.4s							
				*e*Sg		**Sg**	**21 14 34.8**	**-2.0**
	195nm,0.4s							
BUJR	**Buynaksk**	**1.17**	**24**	*e*Pg		**Pn**	**21 14 26.4**	**-0.3**
BUJR	41nm,0.5s							
				*e*Sg		**Sn**	**21 14 43.1**	**+0.7**
	165nm,0.8s							
BTNK	**Botanikuri**	**1.26**	**267**	*i* P		**Pb**	**21 14 28.2**	**-0.1**
BTNK				*i* S		**Sg**	**21 14 46.0**	**+0.5**
BTNK				IAML			21 14 48.0	
	comp=E,149nm,0.1s							
BTNK				IAML			21 14 48.0	
	comp=N,141nm,0.3s							
BTNK	**Botanikuri**	**1.26**	**267**	P		**Pb**	**21 14 28.3**	**-0.1**
BTNK				S		**Sg**	**21 14 46.0**	**+0.5**
DBC	**Dubki**	**1.29**	**12**	*e*Pg		**Pg**	**21 14 30.2**	**+0.4**
DBC	comp=N,22nm,0.4s							
				*e*Sg		**Sb**	**21 14 46.1**	**+0.8**
	comp=N,37nm,0.5s							
TBLG	**Delisi**	**1.30**	**269**	*i* P		**Pb**	**21 14 29.1**	**0.0**
TBLG				*i* S		**Sb**	**21 14 45.5**	**0.0**
TBLG	**Delisi**	**1.30**	**269**	P		**Pb**	**21 14 29.1**	**0.0**
TBLG				S		**Sg**	**21 14 47.5**	**+0.5**
KZRT	**Kazreti**	**1.60**	**257**	*i* P		**Pb**	**21 14 33.4**	**-0.8**
KZRT				*i* S		**Sn**	**21 14 52.8**	**-0.3**
KZRT	**Kazreti**	**1.60**	**257**	P		**Pb**	**21 14 33.2**	**-1.0**
KZRT				S		**Sg**	**21 14 55.0**	**-1.6**
PNSH	**Pansheti**	**1.64**	**303**	P		**Pb**	**21 14 35.3**	**+0.4**
PNSH				S		**Sb**	**21 14 56.3**	**+0.9**
DMNI	**Dmanisi**	**1.77**	**257**	P		**Pn**	**21 14 35.6**	**+0.6**
DMNI				S		**Sb**	**21 14 59.4**	**+0.3**
TRLG	**Trialeti**	**1.79**	**264**	P		**Pn**	**21 14 35.9**	**+0.5**
TRLG				S		**Sg**	**21 15 00.8**	**-1.8**
BKRG	**Bakuriani**	**2.21**	**271**	P		**Pb**	**21 14 43.5**	**-1.2**
BKRG				S		**Sg**	**21 15 13.7**	**-2.3**
ONI	**Oni**	**2.40**	**291**	P		**Pb**	**21 14 47.6**	**-0.2**
ONI				S		**Sg**	**21 15 20.6**	**-1.3**
EAK	**Akyaka**	**2.41**	**245**	*i* P		**Pb**	**21 14 47.0**	**-1.1**
EAK				*i* S		**Sb**	**21 15 16.0**	**-1.7**
EAK				IAML			21 15 23.0	
	comp=N,48nm,0.9s							
EAK				IAML			21 15 24.0	
	comp=E,42nm,1.0s							
IGDI	**IGDIR**	**2.62**	**225**	*i* P		**Pn**	**21 14 48.1**	**+1.4**
EPOS	**Posof**	**2.82**	**266**	*i* P		**Pg**	**21 14 56.8**	**-2.3**
ARTV	**Artvin**	**3.46**	**262**	*i* P		**Pb**	**21 15 06.5**	**+0.4**
DAGI	**Agillar**	**3.50**	**260**	*i* P		**Pb**	**21 15 02.8**	**-3.8**
DBAD	**Bademkaya**	**3.67**	**260**	*i* P		**Pn**	**21 15 01.2**	**0.0**

*ISU **13** 21:15:23.0, 39.40N×71.50E, h15km*
*SOME **13** 21:15:24.1, 39.35N×72.00E, h10km*
*KRNET **13** 21:15:26.4±0.1, 39.39N×71.75E, h13km, mb4.1*
*IDC **13** 21:15:26.0±1.0, 39.31N×71.84E, h0km, mb3.7/8,*
mb1 3.9/15, mb1mx3.6/64, mbtmp3.7/15, ML3.4/7, MS3.0/6,
Ms1 3.0/6, ms1mx2.6/57, Error ellipse: s-maj=18.7km
s-min=14.1km az=149.0
*NNC **13** 21:15:32.5±3.0, 39.67N×71.87E, h6km±13km, mb4.5,*
mpv4.0, Error ellipse: s-maj=22.1km s-min=9.6km az=6.0
ISC 13 21:15:27.8±1.6**, 39.48N**±0.06×**71.84E**±0.03**, h0**km±9km**,**
n77,σ2§61/102, mb3.7/8, MS3.7/3, 31C-15D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.97**	**307**	⇑*i*P		**Pg**	**21 15 44.9**	**-1.6**
BTK	baz=13							
				⇑*i*S		**Sg**	**21 15 58.9**	**-0.2**
	baz=13							
FRG	**Fergana**	**1.25**	**358**	*eP*		Pg	21 15 45.6	-6.3
FRG				*eS*		Sg	21 15 59.3	-8.8
GAR	**Garm**	**1.27**	**248**	⇑*i*P		Pn	21 15 48.8	-4.2
GAR	baz=51							
				⇑*i*S		Sb	21 16 05.4	-4.3
	baz=51							
OHH	**Osh**	**1.27**	**35**	⇓*i*P		**Pg**	**21 15 52.4**	**+0.2**
OHH	baz=35							
				⇓*i*S		**Sn**	**21 16 11.8**	**+1.0**
	baz=35							
NAM	**Namangan**	**1.52**	**355**	*eP*		**Pg**	**21 15 58.1**	**+1.2**
NAM				*eS*		**Sn**	**21 16 20.9**	**+4.2**
ARSB	**Arslanbob**	**2.04**	**25**	⇓*i*P		**Pn**	**21 16 05.4**	**+1.8**
ARSB	baz=26							
				⇓*i*S		**Sg**	**21 16 33.5**	**+0.1**
	baz=26							
CHGR	**Chuyangaron**	**2.24**	**249**	⇑*i*P		Pn	21 16 05.3	-1.0
CHGR	baz=51							
				⇑*i*S		**Sn**	**21 16 33.2**	**-1.4**
	baz=51							
ARK	**Arkit**	**2.32**	**2**	⇑*i*P		**Pn**	**21 16 08.9**	**+1.5**
ARK	baz=4.0							
				⇑*i*S		**Sg**	**21 16 39.8**	**-2.5**
	baz=4.0							
CHMG	**Chimgan**	**2.49**	**327**	*eP*		**Pb**	**21 16 14.2**	**+0.6**
CHMG				*eS*		**Sg**	**21 16 49.2**	**+1.3**
TAS	**Tashkent**	**2.67**	**314**	⇑*i*P		**Pn**	**21 16 12.9**	**+0.7**
TAS	baz=17							
				⇑*i*S		**Sn**	**21 16 47.0**	**+1.7**
	baz=17							
TAS	**Tashkent**	**2.67**	**314**	*eP*		**Pb**	**21 16 17.1**	**+0.5**
TAS				*eS*		**Sg**	**21 16 54.8**	**+1.0**
IUG	**luzhnay**	**3.00**	**333**	*eP*		**Pb**	**21 16 22.0**	**-0.1**
IUG	38nm,0.4s							
				eS		**Sg**	**21 17 03.9**	**-0.2**
	349nm,0.4s							
IUG	**luzhnay**	**3.00**	**333**	Pg		**Pb**	**21 16 22.0**	**-0.1**
IUG	38nm,0.4s							
				Lg		Lg	21 17 02.2	
	349nm,0.4s							
AML	**Almayashu**	**3.00**	**27**	⇑*e*P		**Pn**	**21 16 19.1**	**+2.1**
AML	baz=28							
				⇑*i*S		**Sb**	**21 16 57.3**	**-2.4**
	baz=28							
AML	**Almayashu**	**3.00**	**27**	P		**Pn**	**21 16 20.3**	**+3.3**
	SNR=46							
ARLS	**Aral**	**3.04**	**38**	⇓*i*P		**Pn**	**21 16 19.3**	**+2.0**
ARLS	baz=38							
				⇓*i*S		**Sb**	**21 16 58.4**	**-2.2**
	baz=38							

CHM Chimkent 3.30 330 *e*P **Pb** **21 16 28.4 +1.1**
8.9nm,0.5s
CHM *e*S **Sg** **21 17 15.6 +1.7**
668nm,0.3s
UCH Uchtor 3.41 36⇑*i*P **Pn** **21 16 24.7 +2.0**
baz=36
UCH ⇑*i*S **Sb** **21 17 07.3 -4.4**
baz=36
UCH Uchtor 3.41 36 P **Pn** **21 16 26.1 +3.4**
SNR=157
MRKS Merke 3.43 17 *e*P **Pb** **21 16 29.3 -0.1**
18nm,0.4s
MRKS *e*S **Sg** **21 17 16.9 -1.1**
89nm,0.4s
MRKS Merke 3.43 17 Pg **Pn** **21 16 26.0 +3.4**
23nm,0.4s
MRKS Lg Lg 21 17 09.7
89nm,0.4s
EKS2 Erkin-Say 3.50 24⇑*i*P **Pn** **21 16 25.8 +2.2**
baz=24
EKS2 ⇑*i*S **Sb** **21 17 09.1 -4.8**
baz=24
EKS2 Erkin-Say 3.50 24 P **Pn** **21 16 27.3 +3.7**
SNR=29
KZA Kyzart 3.67 44⇓*i*P **Pn** **21 16 28.3 +2.1**
baz=44
KZA ⇓*i*S **Sn** **21 17 13.2 +2.9**
baz=44
KZA Kyzart 3.67 44 P **Pn** **21 16 29.9 +3.7**
SNR=19
AAK Ala-Archa 3.74 32 Pn **Pn** **21 16 30.8 +3.9**
12nm,0.3s,baz=198,slow=9.8,SNR=50
AAK Sn **Sb** **21 17 19.2 -1.6**
5.0nm,0.3s,baz=158,slow=19,SNR=4.8
AAK Lg Lg 21 17 27.2
16nm,0.3s,baz=102,slow=19,SNR=8.9
AAK Ala-Archa 3.74 32⇑*i*P **Pn** **21 16 29.0 +2.0**
baz=32
AAK ⇑*i*S **Sn** **21 17 14.9 +3.1**
baz=32
AAK Ala-Archa 3.74 32 P **Pn** **21 16 31.3 +4.4**
SNR=5.4
AAK Ala-Archa 3.74 32 ⇑Pg **Pb** **21 16 35.8 +1.0**
28nm,0.6s
AAK ⇑Lg Lg 21 17 22.4
96nm,0.7s
KK31 Karatay Array 3.75 345 ⇑Pn **Pn** **21 16 29.1 +2.1**
4.8nm,0.3s,baz=163,slow=12,SNR=90
KK31 ⇑Pg **Pg** **21 16 41.2 +1.4**
45nm,0.7s,baz=163,slow=15,SNR=20
KK31 ⇓Lg Lg 21 17 28.4
18nm,0.4s,baz=178,slow=29,SNR=5.2
BRLS Boroldaу 3.85 338 *e*P Pn 21 16 33.9 +5.6
10.0nm,0.5s
BRLS *e*S **Sb** **21 17 25.0 +1.1**
86nm,0.3s
BRLS Boroldaу 3.85 338 Pg **Pb** **21 16 36.6 -0.1**
29nm,0.5s
BRLS Lg Lg 21 17 26.8
86nm,0.3s
FRU1 Bishkek 3.94 31⇑*i*P **Pn** **21 16 31.9 +2.3**
baz=32
FRU1 ⇑*i*S **Sn** **21 17 19.2 +2.6**
baz=32
KBK Karagaybulak 3.95 36⇓*i*P **Pn** **21 16 31.8 +1.9**
baz=36
KBK ⇓*i*S **Sn** **21 17 20.1 +3.1**
baz=36
KBK Karagaybulak 3.95 36 P **Pn** **21 16 34.3 +4.4**
SNR=37
CHMS Chumysh 4.15 31⇑*e*P **Pn** **21 16 34.5 +2.1**
baz=31
CHMS ⇑*i*S **Sn** **21 17 24.5 +2.9**
baz=31
CHMS Chumysh 4.15 31 P **Pn** **21 16 36.2 +3.8**
SNR=66
USP Ospenovka 4.28 27⇑*i*P **Pn** **21 16 36.5 +2.2**
baz=27
USP ⇑*i*S **Sn** **21 17 27.8 +2.9**
baz=27
USP Ospenovka 4.28 27 P **Pn** **21 16 37.7 +3.4**
SNR=30
ULHL Ulahol 4.33 49 P **Pn** **21 16 39.1 +4.0**
SNR=9.6
TKM2 Tokmak 2 4.46 38 P **Pn** **21 16 41.0 +4.1**
SNR=19
TKM2 Tokmak 2 4.46 38 ⇓Pn **Pn** **21 16 39.7 +2.9**
13nm,0.6s
TKM2 ⇑Pg **Pg** **21 16 52.7 -0.5**
32nm,0.7s
TKM2 ⇑Lg Lg 21 17 49.3
33nm,0.7s
KST Kastek 4.73 40 *e*P **Pb** **21 16 53.3 +1.6**
14nm,1.1s
KST *e*S **Sg** **21 17 58.4 -1.3**
40nm,1.0s
KST Kastek 4.73 40 Pg **Pb** **21 16 55.5 +3.8**
31nm,0.6s
KST Lg Lg 21 18 00.1
40nm,1.0s
DGS Degeres 4.79 37 *e*P **Pb** **21 16 54.1 +1.5**
19nm,0.5s
DGS *e*S **Sg** **21 17 59.7 -1.8**
37nm,0.8s
DGS Degeres 4.79 37 Pg **Pb** **21 16 57.0 +4.3**
19nm,0.5s
DGS Lg Lg 21 17 59.7
37nm,0.8s
KRBS Karabastau 5.10 33 *e*P **Pb** **21 16 59.2 +1.2**
5.7nm,0.9s
KRBS *e*S **Sg** **21 18 08.7 -3.0**
16nm,0.6s
KRBS Karabastau 5.10 33 Pg **Pb** **21 17 01.0 +3.0**
18nm,0.6s
KRBS Lg Lg 21 18 08.7
16nm,0.6s
MDOK Medeo 5.38 45 *e*P **Pb** **21 17 04.6 +1.9**
5.5nm,0.8s
MDOK *e*S **Sg** **21 18 16.9 -3.7**
26nm,1.6s
KOTS Kotyrbulak 5.46 45 *e*P **Pb** **21 17 07.9 +3.8**
19nm,0.5s
KOTS *e*S **Sg** **21 18 22.9 -0.4**
117nm,1.2s
KOTS Kotyrbulak 5.46 45 Pg **Pb** **21 17 08.5 +4.3**
18nm,0.4s
KOTS Lg Lg 21 18 22.9
117nm,1.2s
KTBS Karatobe 5.57 39 *e*P **Pb** **21 17 07.6 +1.6**
4.9nm,0.5s
KTBS *e*S **Sg** **21 18 22.5 -4.3**
30nm,0.8s
KTBS Karatobe 5.57 39 Pg **Pb** **21 17 08.4 +2.4**
12nm,0.6s
KTBS Lg Lg 21 18 22.5
30nm,0.8s
BTLS Baital 5.79 16 *e*P **Pb** **21 17 13.0 +3.3**
7.3nm,0.4s
BTLS *e*S **Sg** **21 18 31.2 -2.7**
5.7nm,0.7s
BTLS Baital 5.79 16 Pg **Pb** **21 17 13.0 +3.3**
7.3nm,0.4s
BTLS Lg Lg 21 18 31.2
5.7nm,0.7s
CHKK Chushkaly 5.83 40 *e*P **Pb** **21 17 10.5 +0.1**
5.9nm,0.5s
CHKK *e*S **Sg** **21 18 27.3 -7.7**
15nm,0.7s
CHKK Chushkaly 5.83 40 Pg **Pb** **21 17 10.5 +0.1**
5.9nm,0.5s
CHKK Lg Lg 21 18 27.3
15nm,0.7s
MKAR Makanchi Array 10.57 43 Pn **

BVAR	**Borovoye Array**	**13.59**	**356**	Pn		**Pn**	**21 18 38.8**	**-2.8**
	0.1nm,0.3s,baz=172,slow=12,SNR=6.6							
BVAR				LR		LR	21 24 21.2	
	comp=Z,36nm,21.2s,baz=128,slow=39							
AKTO	**Aktyubinsk**	**14.66**	**323**	Pn		**Pn**	**21 18 54.3**	**-2.0**
	0.3nm,0.3s,baz=125,slow=17,SNR=5.7							
AKTO				Sn		Sn	21 21 28.5	-11
	0.2nm,0.3s,baz=158,slow=19,SNR=1.6							
AKTO				LR		LR	21 25 03.9	
	comp=Z,36nm,18.7s,baz=155,slow=39							
AKTO	**Aktyubinsk**	**14.66**	**323**	⇓Pn		**Pn**	**21 18 58.2**	**+1.8**
	5.1nm,0.8s							
AKTO				⇓Sn		**Sn**	**21 21 37.5**	**-1.9**
	3.9nm,1.0s							
ZALV	**Zalesovo Beam**	**16.95**	**27**	P		**Pn**	**21 19 27.2**	**+1.1**
	0.7nm,0.3s,baz=217,slow=11,SNR=11							
ZALV				LR		LR	21 26 21.0	
	comp=Z,40nm,20.1s,baz=242,slow=38							
ARU	**Arti**	**19.09**	**337**	LR		LR	21 27 55.9	
	comp=Z,34nm,18.8s,baz=135,slow=39							
SONM	**Songino Array**	**26.18**	**60**	P		**P**	**21 21 03.2**	**-0.9**
	0.3nm,0.7s,baz=275,slow=5.4,SNR=2.3							
FINES	**FINESS Array B**	**35.43**	**324**	P		**P**	**21 22 24.5**	**-0.8**
	1.5nm,0.8s,baz=103,slow=8.2,SNR=9.1							
ARCES	**ARCESS Array B**	**38.67**	**336**	P		**P**	**21 22 52.4**	**-0.4**
	0.9nm,0.6s,baz=106,slow=8.9,SNR=6.2							
GERES	**GERESS Array B**	**41.81**	**303**	P		**P**	**21 23 19.6**	**+0.5**
	0.3nm,0.4s,baz=55,slow=8.7,SNR=1.5							
NOA	**NORSAR Array B**	**42.44**	**321**	P		**P**	**21 23 23.0**	**-1.0**
	0.6nm,0.7s,baz=93,slow=8.2,SNR=3.8							
KSRS	**Korea Array**	**43.36**	**74**	LR		LR	21 43 19.1	
	comp=Z,30nm,18.6s,baz=194,slow=39							
DAV	**Davao City (W)**	**57.88**	**109**	LR		LR	21 52 43.0	
	comp=Z,479nm,20.5s,baz=261,slow=39							
TORD	**Torodi Ar. Bea**	**66.47**	**268**	P		P	21 26 17.0	-2.4
	0.9nm,0.5s,baz=48,slow=5.5,SNR=5.4							
GUMO	**Guam**	**68.44**	**90**	LR		LR	21 55 17.3	
	comp=Z,44nm,19.2s,baz=163,slow=35							
WRA	**Warramunga Arr**	**83.03**	**123**	P		P	21 27 52.6	-2.6
	1.0nm,0.9s,baz=316,slow=5.2,SNR=2.4							
ASAR	**Alice Springs**	**85.43**	**126**	P		P	21 28 05.2	-2.1
	0.4nm,0.7s,baz=325,slow=4.7,SNR=5.2							

*IDC **13** 21:38:29.9±1.5, 0.°56S×135.°88E, h0km, mb3.8/5, mb1 4.1/9, mb1mx3.8/37, mbtmp4.0/9, ML3.9/4, MS3.0/4, Ms1 3.0/4, ms1mx2.6/45, Error ellipse: s-maj=32.4km s-min=23.7km az=59.0*

*NEIC **13** 21:38:34.5±1.8, 0.°63S±0.°08×135.°87E±0.°06, h39km±9km, mb4.0/9, Error ellipse: s-maj=11.2km s-min=9.2km az=199.0*

*DJA **13** 21:38:35.1±1.9, 1.°S±12.°×13.°6E±.°, h36km±51km, M4.1/6, MLv4.1/6*

ISC 13 21:38:33.2±1.1, 0.°6S±0.°1×135.°87E±0.°06, h29km, n30, σ1°23/31, mb4.0/6, MS3.0/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.92**	**242**	P	**Pn**	**21 39 03.3**	**-0.6**
RKPI				S	**Sn**	**21 39 26.1**	**-1.0**
SMPI	**Sarmi**	**3.15**	**116**	P	**Pn**	**21 39 23.2**	**+2.3**
FAKI	**Fak Fak**	**4.29**	**238**	P	**Pn**	**21 39 37.4**	**+0.9**
FAKI	**Fak Fak**	**4.29**	**238**		**Pn**	**21 39 37.2**	**+0.6**
FAKI				Sn	**Sn**	**21 40 24.0**	**-1.6**
SIJI	**Sorong**	**4.61**	**267**	Pn	**Pn**	**21 39 41.1**	**+0.1**
	3.0nm,0.3s,baz=63,slow=20,SNR=4.3						
SIJI				Sn	**Sn**	**21 40 31.8**	**-1.9**
	2.5nm,0.3s,baz=68,slow=19,SNR=4.3						
JAY	**Jayapura**	**5.19**	**111**	Pn	**Pn**	**21 39 49.0**	**0.0**
	0.8nm,0.3s,baz=218,slow=13,SNR=4.6						
JAY				Sn	**Sn**	**21 40 45.5**	**-2.4**
	0.6nm,0.3s,baz=128,slow=19,SNR=1.2						
TNTI	**Ternate**	**8.62**	**279**	Pn	**Pn**	**21 40 36.2**	**+0.2**
MTN	**Manton Dam**	**13.03**	**201**	Pn	**Pn**	**21 41 37.7**	**+1.2**
COEN	**Coen**	**15.10**	**152**	Pn	**Pn**	**21 42 01.9**	**-2.8**
BATI	**Baumata**	**15.44**	**231**	Pn	**P**	**21 42 11.8**	**-1.6**
	4.0nm,0.3s,baz=98,slow=3.3,SNR=4.6						
KNRA	**Kununurra**	**16.53**	**205**	Pn	**Pn**	**21 42 22.5**	**-0.7**
KAPI	**Kappang**	**16.68**	**255**	LR	LR	21 50 33.3	
	comp=Z,64nm,18.3s,baz=85,slow=43						
WB0	**Warramunga Arr**	**19.09**	**184**	P	**P**	**21 42 54.1**	**+0.3**
WB0				IAmb	IAmb	21 43 02.3	
	comp=Z,7.4nm,0.9s						
WB2	**Warramunga Arr**	**19.27**	**184**	P	**P**	**21 42 55.9**	**+0.1**
WRA	**Warramunga Arr**	**19.27**	**184**	P	**Pn**	**21 42 57.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=0.5,slow=12,SNR=25						
WRA	**Warramunga Arr**	**19.27**	**184**	P	**P**	**21 42 56.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**20.08**	**209**	P	**P**	**21 43 05.9**	**+1.4**
	comp=Z,3.9nm,0.9s,baz=22,slow=9.0,SNR=12						
FITZ	**Fitzroy Crossi**	**20.08**	**209**	P	**P**	**21 43 05.2**	**+0.7**
AS31	**Alice Springs**	**23.00**	**185**	P	**P**	**21 43 36.1**	**+0.3**
AS31				IAmb	IAmb	21 43 47.7	
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**23.00**	**185**	P	**P**	**21 43 36.9**	**+1.1**
	comp=Z,3.4nm,0.6s,baz=10,slow=10,SNR=20						
ASAR				LR	LR	21 53 59.5	
	comp=Z,56nm,21.4s,baz=160,slow=40						
ASAR	**Alice Springs**	**23.00**	**185**	P	**P**	**21 43 36.4**	**+0.5**
STKA	**Stephens Creek**	**31.57**	**171**	P	**P**	**21 44 54.4**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=341,slow=9.1,SNR=8.8						
STKA	**Stephens Creek**	**31.57**	**171**	P	**P**	**21 44 53.6**	**+0.3**
KSRS	**Korea Array**	**38.58**	**350**	LR	LR	22 01 49.2	
	comp=Z,7.5nm,18.0s,baz=215,slow=36						
KLR	**Kul'dur**	**49.77**	**356**	LR	LR	22 05 35.9	
	comp=Z,26nm,18.8s,baz=187,slow=33						
MKAR	**Makanchi Array**	**66.41**	**323**	P	**P**	**21 49 20.7**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=107,slow=8.2,SNR=4.8						
MKAR	**Makanchi Array**	**66.41**	**323**	P	**P**	**21 49 20.1**	**+0.4**
MAKZ	**Makanchi**	**66.61**	**323**	P	**P**	**21 49 21.2**	**+0.2**
MAKZ				IAmb	IAmb	21 49 31.3	
	comp=Z,2.6nm,1.2s						
VNDA	**Vanda**	**78.12**	**174**	P	**P**	**21 50 31.0**	**+1.9**
	comp=Z,0.6nm,0.9s,baz=327,slow=3.7,SNR=2.4						
VNDA	**Vanda**	**78.12**	**174**	P	**P**	**21 50 28.9**	**-0.2**
VNDA				IAmb	IAmb	21 50 48.0	
	comp=Z,3.5nm,1.4s						

*EAF **13** 21:53:59.5±1.6, 10.°12N×42.°00E, h40km±999km*

AAE 13 21:53:48.7, 12.°57N×41.°03E, h6km, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.06**	**120**	*e*P	Pb	21 54 25.6	-0.9
ATD				*e*S	Sn	21 54 44.4	-5.5
ATD	**Arta Tunnel**	**2.06**	**120**	*e*P	Pb	21 54 25.6	-0.9
ATD				*e*S	Sn	21 54 44.4	-5.5
AAE	**Adis Abeba**	**4.16**	**213**	*e*P	Pn	21 54 50.5	-2.6
AAE				*e*S	Sn	21 55 36.5	-5.8
AAE	**Adis Abeba**	**4.16**	**213**	*e*P	Pn	21 54 50.5	-2.6
AAE				*e*S	Sn	21 55 36.5	-5.8
FURI	**Furi**	**4.32**	**213**	*e*P	Pn	21 54 50.2	-5.1
FURI				*e*S	Sn	21 55 44.0	-2.2
FURI	**Furi**	**4.32**	**213**	*e*P	Pn	21 54 50.2	-5.1
FURI				*e*S	Sn	21 55 44.0	-2.2

IDC 13 21:56:30.9±9.0, 37.°33N×71.°27E, h224km±57km, mb3.5/1, mb1 3.1/4, mb1mx2.6/55, mbtmp3.7/4, 3C-1D, Error ellipse: s-maj=89.4km s-min=63.2km az=167.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.80**	**355**	⇑Pn	Pn	21 57 55.7	-0.2
	0.7nm,0.3s,baz=168,slow=12,SNR=25						
KK31				⇑Sn	S	21 59 03.4	0.0
	1.6nm,0.3s,baz=176,slow=22,SNR=16						
AAK	**Ala-Archa**	**5.85**	**24**	P	Pn	21 57 56.2	-0.6
	1.5nm,0.3s,baz=186,slow=9.2,SNR=5.7						
AAK				S	S	21 59 05.7	+0.8
	0.3nm,0.3s,baz=340,slow=22,SNR=9.9						
AAK	**Ala-Archa**	**5.85**	**24**	⇓Pn	Pn	21 57 55.5	-1.3
	1.8nm,0.3s						
AAK				⇑Sn	S	21 59 05.4	+0.5
	4.1nm,0.8s						
MKAR	**Makanchi Array**	**12.50**	**37**	P	P	21 59 23.2	-1.3
	0.1nm,0.3s,baz=220,slow=11,SNR=5.3						
ZALV	**Zalesovo Beam**	**19.07**	**25**	P	P	22 00 36.1	-0.4
	0.4nm,0.3s,baz=213,slow=10,SNR=5.4						
ARCES	**ARCESS Array B**	**40.46**	**337**	P	P	22 03 47.4	+0.1
	2.3nm,0.9s,baz=106,slow=9.6,SNR=1.9						

*IDC **13** 21:59:56.2±1.8, 36.°78N×71.°49E, h0km, mb4.0/9, mb1 4.2/15, mb1mx3.8/56, mbtmp4.1/15, ML4.0/6, Error ellipse: s-maj=33.3km s-min=17.1km az=148.0*

*NNC **13** 22:00:09.5±2.5, 37.°43N×71.°17E, h114km±35km, mb3.6, mpv4.1, Error ellipse: s-maj=23.2km s-min=13.5km az=163.0*

*BJI **13** 22:00:10.6±0.0, 37.°32N×71.°63E, h77km, mB4.4/9, mb4.3/10, Ms3.5/3*

*NEIC **13** 22:00:10.8±1.8, 37.°43N±0.°06×71.°31E±0.°09, h94km±8km, mb4.0/13, Error ellipse: s-maj=10.5km s-min=8.1km az=88.0*

ISC 13 22:00:09.8±0.5, 37.°30N±0.°05×71.°56E±0.°05, h109km, n93, σ2°13/99, mb4.0/13, 11C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**1.96**	**330**		**Pn**	**22 00 40.6**	**-1.7**
GAR				Sn	**Sn**	**22 01 03.5**	**-3.6**
CHGR	**Chuyangaron**	**2.33**	**306**	Pn	**Pn**	**22 00 44.3**	**-2.8**
CHGR				Sn	**Sn**	**22 01 11.0**	**-4.6**
BTK	**Batken**	**2.81**	**348**	Pn	**Pn**	**22 00 52.5**	**-0.9**
BTK				Sn	**Sn**	**22 01 26.0**	**-0.8**
KBL	**Kabul**	**3.43**	**217**		**Pn**	**22 01 02.8**	**+1.2**
NIL	**Nilore**	**3.90**	**159**		**Pn**	**22 01 10.9**	**+3.1**
KSH	**Kashi**	**4.11**	**56**	P	**Pn**	**22 01 08.9**	**-1.8**
KSH				S	**Sn**	**22 01 51.4**	**-6.5**
KSH				smax	smax		
	comp=N,260nm,0.6s						
KSH				smax	smax		
	comp=E,190nm,0.6s						
TAS	**Tashkent**	**4.38**	**337**		**Pn**	**22 01 12.8**	**-1.4**
AML	**Almayashu**	**5.10**	**18**	P	**Pn**	**22 01 25.1**	**+0.9**
	SNR=80						
JMU	**Jammu**	**5.33**	**148**	*e*P	Pn	22 01 18.0	-9.1
JMU				*e*S	Sn	22 02 11.0	-16
UCH	**Uchtor**	**5.42**	**24**	P	**Pn**	**22 01 29.7**	**+1.0**
	SNR=29						
KZA	**Kyzart**	**5.55**	**30**	P	**Pn**	**22 01 31.3**	**+0.9**
	SNR=7.8						
EKS2	**Erkin-Say**	**5.62**	**17**	P	**Pn**	**22 01 32.2**	**+1.2**
	SNR=29						
AAK	**Ala-Archa**	**5.79**	**22**	Pn	**Pn**	**22 01 34.8**	**+1.5**
	5.4nm,0.3s,baz=178,slow=6.2,SNR=16						
AAK				Sn	**Sn**	**22 02 37.0**	**-1.4**
	3.9nm,0.3s,baz=329,slow=19,SNR=14						
AAK	**Ala-Archa**	**5.79**	**22**	P	Pn	**22 01 35.1**	**+1.7**
	SNR=11						
AAK	**Ala-Archa**	**5.79**	**22**	⇓P	Pn	**22 01 34.9**	**+1.6**
	8.8nm,0.5s						
AAK				⇓S	**Sn**	**22 02 36.9**	**-1.4**
	36nm,0.5s						
AAK	**Ala-Archa**	**5.79**	**22**	Pn	**Pn**	**22 01 34.5**	**+1.2**
KK31	**Karatay Array**	**5.85**	**352**	P	**Pn**	**22 01 33.1**	**-0.9**
	22nm,0.7s,baz=186,slow=15,SNR=154						
KK31				S	**Sn**	**22 02 37.3**	**-2.4**
	17nm,0.4s,baz=185,slow=25,SNR=6.4						
KK31	**Karatay Array**	**5.85**	**352**	Pn	**Pn**	**22 01 33.3**	**-0.8**
KKAR	**Karatay Array**	**5.85**	**352**	Pn	**Pn**	**22 01 33.4**	**-0.6**
KKAR	**Karatay Array**	**5.85**	**352**		**Pn**	**22 01 33.3**	**-0.8**
THN	**Thein Dam**	**5.94**	**144**	*e*P	**Pn**	**22 01 35.5**	**+0.2**
THN				*e*SG	**Sn**	**22 02 42.0**	**0.0**
FRU1	**Bishkek**	**5.98**	**22**		**Pn**	**22 01 37.6**	**+1.6**
CHMS	**Chumysh**	**6.19**	**22**	P	**Pn**	**22 01 40.0**	**+1.3**
	SNR=9.3						
USP	**Ospenovka**	**6.37**	**20**	P	**Pn**	**22 01 41.8**	**+0.7**
	SNR=9.0						
DHRM	**DHARAMSHALA**	**6.37**	**141**	*e*P	**Pn**	**22 01 42.4**	**+1.0**
DHRM				*e*S	**Sn**	**22 02 48.6**	**-4.3**
DHRM				IAML		22 02 54.5	
	comp=E,570nm,0.4s						
DHRM				IAML		22 02 54.8	
	comp=N,471nm,0.2s						
TKM2	**Tokmak 2**	**6.41**	**28**	P	**Pn**	**22 01 43.0**	**+1.2**
	SNR=13						
TKM2	**Tokmak 2**	**6.41**	**28**	⇓P	**Pn**	**22 01 42.7**	**+0.9**
	comp=N,8.4nm,0.5s						
TKM2				⇑S	**Sn**	**22 02 53.2**	**-0.4**
	comp=N,9.0nm,0.6s						
KDJ	**Kajisay**	**6.48**	**40**	Pn	**Pn**	**22 01 43.5**	**+0.7**
TARG	**Taragay, Kyrgy**	**6.55**	**46**	Pn	**Pn**	**22 01 43.8**	**0.0**
MDOK	**Medeo**	**7.20**	**34**	P	**Pn**	**22 01 54.4**	**+1.9**
	comp=N,8.2nm,0.8s						
PRZ	**Przheval'sk**	**7.38**	**43**	Pn	**Pn**	**22 01 56.2**	**+1.3**
SMLA	**Simla**	**7.71**	**141**	*e*P	**Pn**	**22 01 59.7**	**+0.4**
SMLA				*e*S	**Sn**	**22 03 19.9**	**-5.1**
SMLA				IAML		22 03 24.7	
	comp=E,281nm,0.6s						
SMLA				IAML		22 03 24.9	
	comp=N,303nm,0.6s						
HRA	**Herat**	**8.10**	**252**	Pn	**Pn**	**22 02 02.3**	**-2.6**
PDGK	**Podgornoye**	**8.54**	**43**	⇓P	**Pn**	**22 02 10.1**	**-0.5**
	comp=N,4.9nm,0.7s						
DDI	**Dehra Dun**	**8.81**	**140**	*e*P	**Pn**	**22 02 15.1**	**+0.8**
DDI				*e*S	**Sn**	**22 03 46.1**	**-5.7**
GEYT	**Alibeck**	**10.68**	**277**	Pn	Pn	22 02 32.9	-6.8
	comp=N,2.5nm,0.3s,baz=92,slow=9.7,SNR=25						
GEYT				Sn	Sn	22 04 25.7	-12
	comp=N,4.1nm,0.3s,baz=99,slow=23,SNR=5.8						
GEYT	**Alibeck**	**10.68**	**277**	Pn	Pn	22 02 34.6	-5.0
GYA0B	**ALIBECK ARRAY**	**10.68**	**277**	⇓P	Pn	22 02 34.3	-5.3
GYA0B				⇓S	Sn	22 04 26.6	-11
GYA0B	**ALIBECK ARRAY**	**10.68**	**277**	Pn	Pn	22 02 34.5	-5.1
MAKZ	**Makanchi**	**12.24**	**36**	⇑P	**Pn**	**22 02 58.3**	**-2.0**
	comp=N,4.2nm,0.9s						
MAKZ	**Makanchi**	**12.24**	**36**		**Pn**	**22 03 00.3**	**0.0**
MK31	**Makanchi Array**	**12.38**	**37**	⇑P	**Pn**	**22 03 01.7**	**-0.5**
	comp=N,1.7nm,0.5s,baz=224,slow=15,SNR=24						
MK31	**Makanchi Array**	**12.38**	**37**	Pn	**Pn**	**22 03 02.1**	**0.0**
MKAR	**Makanchi Array**	**12.38**	**37**	Pn	**Pn**	**22 03 02.0**	**-0.1**
	comp=N,0.6nm,0.3s,baz=226,slow=16,SNR=30						
KOLN	**Koldanda**	**13.90**	**130**	*e*P	**Pn**	**22 03 20.4**	**-1.8**
	comp=N,7.4nm,0.3s						
KURBB	**Kurchatov Arra**	**14.22**	**18**	Pn	**Pn**	**22 03 24.1**	**-1.9**
	comp=N,0.0nm,0.3s,baz=212,slow=11,SNR=4.5						
KURBB	**Kurchatov Arra**	**14.22**	**18**	⇑P	**Pn**	**22 03 28.5**	**+2.5**
	comp=N,3.1nm,0.7s						
KURK	**Kurchatov**	**14.33**	**18**	⇑P	**Pn**	**22 03 30.3**	**+2.9**
	comp=N,2.5nm,1.0s						
KURK	**Kurchatov**	**14.33**	**18**		**Pn**	**22 03 26.1**	**-1.2**
GKN	**Gorkha**	**14.39**	**126**	*e*P	**Pn**	**22 03 26.9**	**-1.6**
	comp=N,33nm,0.4s						
AB31	**Akbulak array**	**14.62**	**328**	⇑P	Pn	22 03 27.5	-3.5
	comp=N,8.7nm,0.5s,baz=140,slow=13,SNR=86						
AB31				⇑S	Sn	22 06 03.8	-8.4
	comp=N,8.9nm,0.3s,baz=163,slow=22,SNR=6.7						
ABKAR	**Akbulak array**	**14.62**	**328**	Pn	Pn	22 03 27.1	-3.9
DMN	**Daman**	**14.96**	**126**	*e*P	**Pn**	**22 03 34.2**	**-1.6**
	comp=N,9.2nm,0.4s						
PKI	**Pulchoki**	**15.18**	**126**	*e*P	**Pn**	**22 03 36.9**	**-1.8**
	comp=N,17nm,0.6s						
BVA0	**Borovoye Array**	**15.74**	**357**	P	**Pn**	**22 03 42.5**	**-2.7**
	comp=N,6.4nm,1.1s,baz=232,slow=38,SNR=24						
BVAR	**Borovoye Array**	**15.74**	**357**	Pn	**Pn**	**22 03 43.2**	**-2.0**
	comp=N,0.5nm,0.3s,baz=161,slow=13,SNR=18						
BRVK	**Borovoye**	**15.78**	**357**	⇑P	**Pn**	**22 03 44.2**	**-1.4**
	comp=N,6.0nm,0.7s						
BRVK	**Borovoye**	**15.78**	**357**		**Pn**	**22 03 44.4**	**-1.2**
BRVK				IAmb	IAmb	22 03 49.1	
	comp=Z,6.5nm,0.7s						
AKTO	**Aktyubinsk**	**16.32**	**328**	Pn	**Pn**	**22 03 50.9**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=135,slow=13,SNR=12						
AKTO				Sn	Sn	22 06 40.1	-13
	comp=Z,0.2nm,0.3s,baz=198,slow=20,SNR=2.0						
AKTO	**Aktyubinsk**	**16.32**	**328**	⇓P	**Pn**	**22 03 51.3**	**-1.1**
	comp=Z,40nm,1.0s						
AKTO				⇓S	**Sn**	**22 06 46.2**	**-7.1**
	comp=Z,8.0nm,1.0s						
RAMN	**Ramite**	**16.38**	**125**	*e*P	**Pn**	**22 03 50.6**	**-2.9**
	comp=Z,13nm,0.4s						
ODAN	**Odare**	**16.96**	**123**	*e*P	**Pn**	**22 03 57.7**	**-2.9**
	comp=Z,15nm,0.6s						
UOSS	**Minazif**	**17.98**	**231**	P	**P**	**22 04 13.1**	**+1.2**
UOSS				IAmb	IAmb	22 04 18.0	
	comp=Z,35nm,1.5s						
LSA	**Lhasa**	**17.99**	**109**	P	**Pn**	**22 04 14.9**	**+1.5**
ZAA0	**Zalesovo Array**	**19.00**	**25**	⇑P	**P**	**22 04 21.4**	**-1.3**
	comp=Z,0.5nm,0.8s						
ZAA0	**Zalesovo Array**	**19.00**	**25**	P	**P**	**22 04 23.3**	**+0.6**
ZAA0				IAmb	IAmb	22 04 29.6	
	comp=Z,3.3nm,0.7s						
ZALV	**Zalesovo Beam**	**19.00**	**25**	P	**P**	**22 04 23.6**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=221,slow=10,SNR=17						
ZALV	**Zalesovo Beam**	**19.00**	**25**	P	**P**	**22 04 23.4**	**+0.7**
ARU	**Arti**	**21.03**	**340**	P	**P**	**22 04 45.3**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=116,slow=10,SNR=7.4						
ARU	**Arti**	**21.03**	**340**	P	**P**	**22 04 44.5**	**-0.1**
ARU				IAmb	IAmb	22 04 48.9	
	comp=Z,6.2nm,0.7s						
TBLG	**Delisi**	**21.12**	**290**	P	**P**	**22 04 45.5**	**-0.2**
TBLG				IAmb	IAmb	22 04 48.2	
	comp=Z,12nm,1.3s						
AKH	**Akhalkalaki**	**22.04**	**289**	P	**P**	**22 04 55.1**	**-0.5**
AKH				IAmb	IAmb	22 04 59.1	
	comp=Z,6.0nm,0.8s						
GTA	**Gaotai**	**22.22**	**76**	⇑P	**P**	**22 05 02.5**	**+5.0**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
GTA				pmax	pmax		
	comp=Z,47nm,8.1s						
GTA				LR	LR		
	comp=Z,65nm,16.5s						
GTA				LR	LR		
	comp=Z,46nm,16.5s						
KIV	**Kislovodsk**	**22.82**	**296**	P	**P**	**22 05 03.5**	**-0.1**
KIV				IAmb	IAmb	22 05 08.0	
	comp=Z,2.6nm,0.8s						
SONM	**Songino Array**	**27.52**	**56**	P	**P**	**22 05 48.9**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=255,slow=8.4,SNR=2.1						
SONM	**Songino Array**	**27.52**	**56**	P	**P**	**22 05 49.8**	**+3.7**
AKASG	**Malin Array Be**	**32.80**	**308**	P	**P**	**22 06 33.9**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=113,slow=7.5,SNR=2.3						
BURAR	**Bucovina Array**	**35.23**	**302**	P	**P**	**22 06 54.6**	**+1.0**
BUR08	**Bucovina Ar. S**	**35.24**	**302**	P	**P**	**22 06 55.0**	**+1.3**
FINES	**FINESS Array B**	**37.07**	**325**	P	**P**	**22 07 10.1**	**+1.1**
	comp=Z,3.6nm,1.0s,baz=125,slow=8.2,SNR=9.9						
FINES	**FINESS Array B**	**37.07**	**325**	P	**P**	**22 07 09.8**	**+0.8**
ARCES	**ARCESS Array B**	**40.58**	**337**	P	**P**	**22 07 39.7**	**+1.5**
	comp=Z,1.9nm,0.5s,baz=114,slow=8.5,SNR=18						
ARE0	**ARCESS Array S**	**40.58**	**337**	P	**P**	**22 07 39.6**	**+1.4**
NC405	**NORSAR Array S**	**43.78**	**323**	P	**P**	**22 08 05.2**	**+1.0**
NB2	**NORSAR Subarra**	**44.01**	**323**	P	**P**	**22 08 07.2**	**+1.1**
	comp=Z,1.7nm,0.5s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.01**	**323**	P	**P**	**22 08 07.3**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=94,slow=7.8,SNR=16						
KONO	**Kongsberg**	**44.75**	**320**	P	**P**	**22 08 13.1**	**+1.2**
ESBB	**Sonseca Array**	**57.48**	**298**	P	**P**	**22 09 48.2**	**+0.8**
ESDC	**Sonseca Array**	**57.48**	**298**	P	**P**	**22 09 48.8**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=60,slow=7.0,SNR=23						
ESDC	**Sonseca Array**	**57.48**	**298**	P	**P**	**22 09 48.5**	**+1.0**
TORD	**Torodi Ar. Bea**	**66.19**	**269**	P	**P**	**22 10 46.0**	**0.0**
	comp=Z,0.4nm,0.5s,baz=49,slow=5.4,SNR=9.0						
INK	**Inuvik**	**73.04**	**9**	P	**P**	**22 11 29.5**	**+2.2**
	comp=Z,1.5nm,0.7s,baz=301,slow=5.9,SNR=3.6						

*IDC **13** 22:02:15.8±2.4, 17.°68S×175.°16W, h190km±25km, mb3.7/9, mb1 3.9/10, mb1mx3.6/40, mbtmp4.3/10, Error ellipse: s-maj=25.0km s-min=16.7km az=99.0*

*NEIC **13** 22:02:16.3±1.4, 17.°64S±0.°10×175.°1W±0.°1, h202km±9km, mb4.3/18, Error ellipse: s-maj=18.5km s-min=13.6km az=102.0*

ISC 13 22:02:16.0±0.6, 17.°6S±0.°1×175.°0W±0.°1, h200km, n36, σ1°21/37, mb4.2/18, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.82**	**41**	P	**Pn**	**22 03 29.7**	**+1.5**
	22nm,0.3s,baz=214,slow=3.3,SNR=29						
AFI				S	**Sn**	**22 04 22.0**	**-3.1**
	46nm,0.3s,baz=17,slow=24,SNR=10						
AFI	**Afiamalu**	**4.82**	**41**		**Pn**	**22 03 30.3**	**+2.1**
AFI					**Sn**	**22 04 22.5**	**-2.6**
NIUE	**Niue**	**5.06**	**108**	Pn	Pn	22 03 33.2	+2.1
MSVF	**Nonsavu**	**6.61**	**268**		Pn	22 03 58.4	+7.2
URZ	**Urewera**	**21.71**	**197**	P	**P**	**22 06 50.0**	**-1.2**
	6.9nm,0.6s,baz=72,slow=3.2,SNR=5.8						
URZ				S	**S**	**22 10 36.5**	**-1.1**
	3.7nm,0.5s,baz=120,slow=20,SNR=1.4						
URZ	**Urewera**	**21.71**	**197**	P	**P**	**22 06 50.3**	**-0.9**
BKZ	**Black Stump Fm**	**22.72**	**197**	P	**P**	**22 07 01.6**	**+0.8**
BKZ				IAmb

DALK	**Dalny**	**2.52**	**19**	*eP*		Pn	22 14 27.5	+2.5
UGLR	**Uglovaya**	**2.71**	**18**	*eP*		Pn	22 14 31.6	+4.0
AVH	**Avacha**	**2.74**	**17**	*eP*		Pn	22 14 32.0	+3.9
AVH				*eS*		Sn	22 15 07.0	+7.0
KOK	**Koryaka**	**2.75**	**16**	*eP*		Pn	22 14 32.1	+3.9
SMAR	**Somma**	**2.75**	**18**	*eP*		Pn	22 14 31.8	+3.4
KRER	**Koryakskii**	**2.78**	**17**	*eP*		Pn	22 14 32.6	+3.9
KRER				*eS*		Sn	22 15 06.5	+5.4
NLC	**Nalytchevo**	**2.79**	**25**	*eS*		Sn	22 15 02.0	+0.9
KRX	**Arik**	**2.82**	**15**	*eP*		Pn	22 14 32.6	+3.4
KRX				*eS*		Sn	22 15 03.9	+2.0
SPN	**Mys Shipunski**	**2.94**	**32**	*eP*		Pn	22 14 33.6	+2.9
SPN				*eS*		Sn	22 15 06.6	+2.0
KBTR	**Krutoberegovo**	**6.43**	**28**	*eP*		Pn	22 15 21.3	+2.7

IDC 13 22:14:18.8±2.5, 6°.91S×156°.78E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/26, mbtmp3.8/5, Error ellipse: s-maj=77.4km s-min=31.8km az=103.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.33**	**237**	P	P	22 19 48.1	+0.5
	0.7nm,0.5s,baz=61,slow=9.2,SNR=11						
H11S3	**WAKE ISLAND Hy**	**27.07**	**21**	T	T	22 48 47.3	
	baz=202,slow=75,SNR=86						
H11S2	**WAKE ISLAND Hy**	**27.07**	**21**	T	T	22 48 47.0	
	baz=202,slow=75,SNR=72						
H11S1	**WAKE ISLAND Hy**	**27.09**	**21**	T	T	22 48 37.1	
	baz=202,slow=75,SNR=38						
ASAR	**Alice Springs**	**27.57**	**230**	P	P	22 20 07.5	-0.3
	0.3nm,0.4s,baz=60,slow=9.1,SNR=4.8						
H11N1	**WAKE ISLAND Hy**	**28.27**	**20**	T	T	22 50 19.5	
	baz=199,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.27**	**20**	T	T	22 50 18.7	
	baz=199,slow=74						
H11N2	**WAKE ISLAND Hy**	**28.28**	**20**	T	T	22 50 17.3	
	baz=199						
SONM	**Songino Array**	**70.23**	**327**	P	P	22 25 34.4	+0.5
	1.0nm,0.8s,baz=133,slow=6.1,SNR=5.6						
MKAR	**Makanchi Array**	**84.51**	**318**	P	P	22 26 53.3	-0.5
	0.1nm,0.4s,baz=106,slow=7.0,SNR=2.0						
MAW	**Mawson**	**85.16**	**203**	P	P	22 26 56.2	-0.4
	0.9nm,0.6s,baz=98,slow=7.1,SNR=6.8						

IDC 13 22:22:14.1±3.9, 6°.08S×151°.45E, h41km±28km, mb3.6/3, mb1 4.0/4, mb1mx3.4/38, mbtmp4.0/4, ML2.3/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/34, Error ellipse: s-maj=87.3km s-min=10.0km az=123.0

ISC 13 22:22:13.0±2.3, 6°.2S±0°.2×151°.6E±0°.4, h41km, n7, σ1s29/8, mb3.6/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.88**	**12**	P	**Pn**	**22 22 42.1**	**-0.5**
	118nm,0.3s,baz=228,slow=16,SNR=37						
KRVT				S	**Sn**	**22 23 06.2**	**+1.1**
	69nm,0.3s,baz=238,slow=23,SNR=5.9						
PMG	**Port Moresby**	**5.49**	**234**	P	**Pn**	**22 23 33.6**	**+1.3**
	6.7nm,0.3s,baz=54,slow=9.7,SNR=9.3						
PMG				S	**Sn**	**22 24 32.6**	**-1.7**
	3.9nm,0.3s,baz=114,slow=20,SNR=1.7						
PMG				LR	LR	22 25 41.2	
	comp=Z,71nm,19.2s,baz=52,slow=38						
WRA	**Warramunga Arr**	**21.69**	**229**	P	**P**	**22 27 00.2**	**-0.4**
	1.8nm,0.9s,baz=54,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**24.38**	**223**	P	**P**	**22 27 28.4**	**+0.8**
	1.4nm,0.8s,baz=54,slow=9.1,SNR=11						
ASAR				LR	LR	22 37 09.2	
	comp=Z,43nm,19.5s,baz=68,slow=37						
BATI	**Baumata**	**27.97**	**260**	LR	LR	22 40 36.4	
	comp=Z,191nm,18.5s,baz=164,slow=40						
FITZ	**Fitzroy Crossi**	**28.00**	**243**	P	**P**	**22 28 00.7**	**+0.3**
	3.3nm,0.8s,baz=57,slow=8.5,SNR=1.7						
TORD	**Torodi Ar. Bea**	**149.59**	**285**	PKPbc	**PKiKP**	**22 41 59.0**	**-1.3**
	1.2nm,0.6s,baz=96,slow=2.5,SNR=16						

JMA 13 22:33:17.3±0.1, 36°.39N×141°.04E, h46km±2km, M3.3
JMA Felt I J1.
NIED 13 22:33:17.4, 36°.39N×141°.04E, h46km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}1.53; $M_{\theta\theta}$-0.24; $M_{\phi\phi}$-1.28; $M_{r\theta}$1.32; $M_{\theta\phi}$-1.02; $M_{r\phi}$3.43; Fault plane solution: $M_0$4.06000×10¹⁴ NP1 φ22.00000°, δ78.00000°, λ85.00000°. NP2 φ226.00000°, δ13.00000°, λ114.00000°.
IDC 13 22:33:18.2±2.5, 36°.43N×141°.08E, h52km±24km, mb3.4/3, mb1 3.6/7, mb1mx3.2/55, mbtmp3.8/7, ML3.6/4, MS2.7/4, Ms1 2.7/4, ms1mx2.5/39 Error ellipse: s-maj=24.4km s-min=17.1km az=37.0

ISC 13 22:33:16.1±1.4, 36°.42N±0°.04×141°.14E±0°.06, h32km±11km, n28, σ1s13/30, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.45**	**261**	P	**Pn**	**22 33 26.8**	**+0.4**
JHYU				S	**Sn**	**22 33 33.2**	**-0.2**
JHO	**Hitachi**	**0.50**	**293**	P	**Pn**	**22 33 27.3**	**+0.2**
JHO				S	**Sn**	**22 33 34.5**	**-0.1**
JIHU	**Itakohorinouch**	**0.67**	**228**	P	**Pn**	**22 33 30.2**	**+0.8**
JIHU				S	**Sn**	**22 33 39.4**	**+0.7**
ONAJ	**Iwakimizuishiy**	**0.74**	**338**	P	**Pb**	**22 33 30.9**	**+0.3**
ONAJ				S	**Sb**	**22 33 40.5**	**+0.1**
JYT	**Yasato**	**0.79**	**257**	P	**Pb**	**22 33 30.8**	**-0.5**
JYT				S	**Sb**	**22 33 40.4**	**-1.3**
JFK	**Kawauchi**	**0.97**	**348**	P	**Pb**	**22 33 34.2**	**-0.3**
JFT	**Otama**	**1.27**	**330**	P	**Pb**	**22 33 39.6**	**0.0**
JFT				S	**Sb**	**22 33 55.4**	**-0.2**
JAG	**Ashikaga**	**1.36**	**271**	P	**Pn**	**22 33 39.1**	**+0.2**
JMM	**Marumori**	**1.47**	**349**	P	**Pn**	**22 33 41.6**	**+1.1**
JMM				S	**Sn**	**22 33 59.7**	**+1.0**
JFY	**Yanaizu**	**1.52**	**311**	P	**Pn**	**22 33 42.4**	**+1.3**
JKT	**Katashina**	**1.56**	**284**	P	**Pn**	**22 33 42.7**	**+0.9**
MJAR	**Matsushiro Arr**	**2.36**	**274**	P	**Pn**	**22 33 53.2**	**+0.5**
	2.5nm,0.3s,baz=112,slow=7.5,SNR=166						
MJAR				S	**Sn**	**22 34 21.1**	**+0.4**
	1.0nm,0.3s,baz=0.3,slow=27,SNR=6.5						
MJAR				LR	LR	22 34 55.5	
	comp=Z,82nm,20.4s,baz=140,slow=43						
MAT	**Matsushiro**	**2.37**	**274**	P	**Pn**	**22 33 54.0**	**+1.2**
MAT				S	**Sn**	**22 34 20.4**	**-0.3**
JHJ	**Hachijo jima 2**	**3.47**	**199**	P	**Pn**	**22 34 10.9**	**+3.0**
	9.5nm,0.3s,baz=308,slow=21,SNR=6.8						
JHJ				S	**Sn**	**22 34 47.7**	**-0.3**
	24nm,0.3s,baz=60,slow=20,SNR=6.2						
ASAJ	**Asahikawa**	**7.77**	**8**	P	**Pn**	**22 35 08.4**	**+1.4**
	0.7nm,0.3s,baz=222,slow=9.3,SNR=8.4						
ASAJ				S	**Sn**	**22 36 30.7**	**-3.2**
	0.2nm,0.3s,baz=209,slow=19,SNR=1.8						
JNU	**Nakatsue**	**9.06**	**252**	LR	LR	22 38 57.3	
	comp=Z,26nm,19.3s,baz=169,slow=38						
JCJ	**Chichijima**	**9.33**	**174**	P	**Pn**	**22 35 29.6**	**+1.1**
	4.8nm,0.3s,baz=302,slow=15,SNR=1.5						
JCJ				S	Sn	22 37 04.0	-8.4
	2.4nm,0.3s,baz=270,slow=20,SNR=1.2						
KSRS	**Korea Array**	**10.63**	**280**	LR	LR	22 39 40.2	
	comp=Z,42nm,18.0s,baz=96,slow=36						
SONM	**Songino Array**	**27.95**	**305**	P	**P**	**22 39 03.9**	**+0.1**
	0.5nm,0.7s,baz=101,slow=7.5,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**28.03**	**119**	T	T	23 08 39.6	
	baz=312,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy**	**28.04**	**119**	T	T	23 08 40.5	
	baz=312,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy**	**28.05**	**119**	T	T	23 08 41.0	
	baz=312,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy**	**28.72**	**122**	T	T	23 09 24.2	
	baz=314,slow=76,SNR=110						
H11S3	**WAKE ISLAND Hy**	**28.72**	**122**	T	T	23 09 26.6	
	baz=314,slow=76,SNR=52						
H11S2	**WAKE ISLAND Hy**	**28.73**	**122**	T	T	23 09 25.5	
	baz=314,slow=76,SNR=52						
ZALV	**Zalesovo Beam**	**42.17**	**313**	P	**P**	**22 41 04.8**	**-0.7**
	0.8nm,0.4s,baz=90,slow=6.8,SNR=5.3						
BVAR	**Borovoye Array**	**50.83**	**313**	LR	LR	23 04 45.6	
	comp=Z,29nm,18.3s,baz=200,slow=37						
WRA	**Warramunga Arr**	**56.42**	**188**	P	**P**	**22 42 54.1**	**-0.6**
	0.5nm,0.7s,baz=2.3,slow=7.8,SNR=1.6						

KRNET 13 22:38:50.8±0.1, 41°.14N×78°.75E, h17km, mb3.7

SOME 13 22:38:50.0, 41°.10N×78°.63E, h5km
NNC 13 22:38:52.8±1.1, 41°.20N×78°.67E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=7.5km s-min=4.6km az=163.0

ISC 13 22:38:52.0±1.4, 41°.16N±0°.07×78°.65E±0°.04, h10km, n79, σ1s80/115, 27C-24D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.34**	**352**	⇓*iP*	**Pb**	**22 39 16.4**	**-0.9**
	baz=50						
PRZ				⇓*iS*	**Sg**	**22 39 34.7**	**-0.4**
	baz=50						
KDJ	**Kajisay**	**1.47**	**312**	⇓*iP*	**Pb**	**22 39 18.7**	**-0.8**
	baz=11						
KDJ				⇓*iS*	**Sg**	**22 39 39.5**	**+0.3**
	baz=11						
ANVS	**Anan'yevo**	**1.78**	**336**	⇑*iP*	**Pb**	**22 39 24.4**	**-0.4**
	baz=34						
ANVS				⇑*iS*	**Sg**	**22 39 49.1**	**-0.2**
	baz=34						
SATY	**Saty**	**1.91**	**355**	*eP*	**Pb**	**22 39 26.9**	**-0.1**
	138nm,0.4s						
SATY				*eS*	**Sg**	**22 39 52.8**	**-0.6**
	356nm,0.6s						
SATY	**Saty**	**1.91**	**355**	Pg	**Pb**	**22 39 26.8**	**-0.1**
	138nm,0.4s						
SATY				Lg	Lg	22 39 52.8	
	356nm,0.6s						
UZB	**Uzynbulak**	**2.01**	**8**	*eP*	**Pg**	**22 39 29.0**	**-1.5**
	53nm,0.4s						
UZB				*eS*	**Sg**	**22 39 57.0**	**+0.4**
	197nm,0.6s						
UZB	**Uzynbulak**	**2.01**	**8**	Pg	**Pg**	**22 39 29.0**	**-1.5**
	53nm,0.4s						
UZB				Lg	Lg	22 39 57.0	
	197nm,0.6s						
SHLS	**Shalkode**	**2.09**	**17**	*eP*	**Pg**	**22 39 32.0**	**0.0**
	164nm,0.1s						
SHLS				*eS*	**Sg**	**22 40 02.2**	**+3.1**
	502nm,0.5s						
SHLS	**Shalkode**	**2.09**	**17**	Pg	**Pg**	**22 39 32.0**	**0.0**
	164nm,0.1s						
SHLS				Lg	Lg	22 40 02.2	
	502nm,0.5s						
ULHL	**Ulahol**	**2.10**	**302**	⇑*iP*	**Pb**	**22 39 29.0**	**-1.4**
	baz=1.0						
ULHL				⇑*iS*	**Sb**	**22 39 57.4**	**+0.8**
	baz=1.0						
ULHL	**Ulahol**	**2.10**	**302**	P	**Pb**	**22 39 28.9**	**-1.4**
	SNR=64						
PDGK	**Podgornoye**	**2.26**	**16**	Pg	**Pb**	**22 39 32.2**	**-0.8**
PDGK				Lg	Lg	22 40 02.3	
PDGK	**Podgornoye**	**2.26**	**16**	⇑Pg	**Pg**	**22 39 33.9**	**-1.4**
	17nm,0.3s						
PDGK				⇓Lg	Lg	22 40 05.4	
	234nm,0.6s						
KPKS	**Kokpek**	**2.31**	**1**	*eP*	**Pb**	**22 39 34.1**	**+0.3**
	192nm,0.3s						
KPKS				*eS*	**Sg**	**22 40 05.8**	**-0.4**
	1μm,0.3s						
MDOK	**Medeo**	**2.33**	**330**	*eP*	**Pb**	**22 39 34.3**	**+0.2**
	138nm,0.5s						
MDOK				*eS*	**Sg**	**22 40 05.9**	**-1.0**
	402nm,0.7s						
MDOK	**Medeo**	**2.33**	**330**	⇑Pg	**Pb**	**22 39 34.4**	**+0.2**
	140nm,0.7s						
MDOK				⇑Lg	Lg	22 40 07.1	
	289nm,0.7s						
MDOK	**Medeo**	**2.33**	**330**	Pg	**Pb**	**22 39 34.3**	**+0.2**
	138nm,0.5s						
MDOK				Lg	Lg	22 40 05.9	
	402nm,0.7s						
KURS	**Kuram**	**2.36**	**352**	*eP*	**Pb**	**22 39 35.0**	**+0.5**
	126nm,0.3s						
KURS				*eS*	**Sg**	**22 40 07.2**	**-0.5**
	317nm,0.7s						
KOTS	**Kotyrbulak**	**2.37**	**332**	*eP*	**Pb**	**22 39 35.3**	**+0.5**
	344nm,0.4s						
KOTS				*eS*	**Sg**	**22 40 07.8**	**-0.3**
	1μm,0.4s						
KOTS	**Kotyrbulak**	**2.37**	**332**	Pg	**Pb**	**22 39 35.3**	**+0.5**
	344nm,0.4s						
KOTS				Lg	Lg	22 40 07.8	
	1μm,0.4s						
KNDC	**Almaty**	**2.41**	**329**	⇓Pg	**Pg**	**22 39 36.5**	**-1.6**
	174nm,0.7s						
KNDC				⇑Lg	Lg	22 40 10.6	
	695nm,0.7s						
IZV	**Izvestkoviy**	**2.41**	**322**	*eP*	**Pg**	**22 39 36.4**	**-1.8**
	86nm,0.5s						
IZV				*eS*	**Sg**	**22 40 09.5**	**0.0**
	228nm,0.3s						
IZV	**Izvestkoviy**	**2.41**	**322**	Pg	**Pg**	**22 39 36.4**	**-1.8**
	86nm,0.5s						
IZV				Lg	Lg	22 40 09.5	
	228nm,0.3s						
AAA	**Alma-Ata**	**2.42**	**328**	*eP*	**Pg**	**22 39 37.0**	**-1.4**
	231nm,0.3s						
AAA				*eS*	**Sg**	**22 40 10.6**	**+0.8**
	393nm,0.4s						
AAA	**Alma-Ata**	**2.42**	**328**	Pg	**Pg**	**22 39 37.0**	**-1.4**
	231nm,0.3s						
AAA				Lg	Lg	22 40 10.6	
	393nm,0.4s						
MTBS	**Maitube**	**2.57**	**321**	*eP*	**Pb**	**22 39 38.4**	**+0.2**
	35nm,0.3s						
MTBS				*eS*	**Sg**	**22 40 13.3**	**-1.2**
	117nm,0.5s						
MTBS	**Maitube**	**2.57**	**321**	Pg	**Pb**	**22 39 38.4**	**+0.2**
	35nm,0.3s						
MTBS				Lg	Lg	22 40 13.3	
	117nm,0.5s						
KTMS	**Ketmen**	**2.62**	**28**	*eP*	**Pb**	**22 39 39.0**	**0.0**
	2.6nm,0.2s						
KTMS				*eS*	**Sg**	**22 40 13.9**	**-2.1**
	303nm,0.7s						
KTMS	**Ketmen**	**2.62**	**28**	Pg	**Pb**	**22 39 39.0**	**0.0**
	2.6nm,0.2s						
KTMS				Lg	Lg	22 40 13.9	
	303nm,0.7s						
KZA	**Kyzart**	**2.71**	**291**	*eP*	**Pb**	**22 39 37.9**	**-2.8**
	baz=91						
KZA				⇑*iS*	**Sb**	**22 40 12.2**	**-2.0**
	baz=91						
KZA	**Kyzart**	**2.71**	**291**	P	**Pb**	**22 39 38.2**	**-2.5**
	SNR=11						
KST	**Kastek**	**2.75**	**314**	*eP*	**Pb**	**22 39 41.3**	**+0.1**
	42nm,0.3s						
KST				*eS*	**Sg**	**22 40 18.8**	**-1.4**
	104nm,0.5s						
KST	**Kastek**	**2.75**	**314**	Pg	**Pb**	**22 39 41.3**	**+0.1**
	42nm,0.3s						
KST				Lg	Lg	22 40 18.8	
	104nm,0.5s						
TKM2	**Tokmak 2**	**2.88**	**309**	⇑*iP*	**Pn**	**22 39 40.1**	**+2.0**
	baz=8.0						
TKM2				⇑*iS*	**Sb**	**22 40 15.8**	**-3.0**
	baz=8.0						
TKM2	**Tokmak 2**	**2.88**	**309**	P	**Pb**	**22 39 41.5**	**-2.0**
	SNR=9.6						
TKM2	**Tokmak 2**	**2.88**	**309**	⇑Pg	**Pb**	**22 39 43.0**	**-0.5**
	10nm,0.5s						
TKM2				⇓Lg	Lg	22 40 23.8	
	58nm,0.5s						
KTBS	**Karatobe**	**2.94**	**331**	*eP*	**Pb**	**22 39 45.3**	**+0.8**
	47nm,0.4s						
KTBS				*eS*	**Sg**	**22 40 25.0**	**-1.3**
	416nm,0.5s						
KTBS	**Karatobe**	**2.94**	**331**	Pg	**Pb**	**22 39 45.3**	**+0.8**
	47nm,0.4s						
KTBS				Lg	Lg	22 40 25.0	
	416nm,0.5s						
CHKK	**Chushkaly**	**2.96**	**336**	*eP*	**Pb**	**22 39 45.2**	**+0.4**
	37nm,0.4s						
CHKK				*eS*	**Sg**	**22 40 25.7**	**-1.4**
	312nm,0.3s						
CHKK	**Chushkaly**	**2.96**	**336**	Pg	**Pb**	**22 39 45.2**	**+0.4**
	37nm,0.4s						
CHKK				Lg	Lg	22 40 25.7	
	312nm,0.3s						
DGS	**Degeres**	**2.98**	**315**	*eP*	**Pb**	**22 39 45.6**	**+0.4**
	32nm,0.6s						
DGS				*eS*	**Sg**	**22 40 26.4**	**-1.4**
	112nm,0.4s						
DGS	**Degeres**	**2.98**	**315**	Pg	**Pb**	**22 39 45.6**	**+0.4**
	32nm,0.6s						
DGS				Lg	Lg	22 40 26.4	
	112nm,0.4s						

ARXS	**Arharly**	**3.12**	**349**	*eP*		**Pb**	**22 39 48.6**	**+1.1**
	86nm,0.4s							
ARXS				*eS*		**Sg**	**22 40 30.7**	**-1.3**
	178nm,0.4s							
ARXS	**Arharly**	**3.12**	**349**	Pg		**Pb**	**22 39 48.6**	**+1.1**
	86nm,0.4s							
ARXS				Lg		Lg	22 40 30.7	
	178nm,0.4s							
KBK	**Karagaybulak**	**3.14**	**300**	⇑*iP*		**Pn**	**22 39 43.7**	**+2.0**
	baz=99							
KBK				⇑*iS*		**Sn**	**22 40 22.1**	**+2.8**
	baz=99							
KBK	**Karagaybulak**	**3.14**	**300**	P		**Pb**	**22 39 48.8**	**+0.8**
	SNR=18							
UCH	**Uchtor**	**3.27**	**290**	⇓*iP*		**Pn**	**22 39 46.0**	**+2.2**
	baz=90							
UCH				⇓*iS*		**Sn**	**22 40 25.9**	**+2.9**
	baz=90							
UCH	**Uchtor**	**3.27**	**290**	P		**Pb**	**22 39 51.3**	**+0.9**
	SNR=13							
DJR	**Jarkent**	**3.29**	**14**	*eP*		**Pb**	**22 39 51.0**	**+0.6**
	18nm,0.2s							
DJR				*eS*		**Sg**	**22 40 35.3**	**-2.1**
	76nm,0.4s							
DJR	**Jarkent**	**3.29**	**14**	Pg		**Pb**	**22 39 51.0**	**+0.6**
	18nm,0.2s							
DJR				Lg		Lg	22 40 35.3	
	76nm,0.4s							
ARLS	**Aral**	**3.32**	**284**	⇑*eP*		**Pn**	**22 39 45.9**	**+1.8**
	baz=84							
ARLS				⇑*iS*		**Sn**	**22 40 26.7**	**+2.9**
	baz=84							
KRBS	**Karabastau**	**3.36**	**320**	*eP*		**Pb**	**22 39 52.6**	**+1.0**
	12nm,0.3s							
KRBS				*eS*		**Sg**	**22 40 37.4**	**-2.4**
	41nm,0.4s							
KRBS	**Karabastau**	**3.36**	**320**	Pg		**Pb**	**22 39 52.6**	**+1.0**
	12nm,0.3s							
KRBS				Lg		Lg	22 40 37.4	
	41nm,0.4s							
FRU1	**Bishkek**	**3.42**	**300**	⇓*iP*		**Pn**	**22 39 47.4**	**+2.0**
	baz=0.0							
FRU1				⇓*iS*		**Sn**	**22 40 28.7**	**+2.7**
	baz=0.0							
AAK	**Ala-Archa**	**3.44**	**297**	⇓*eP*		**Pn**	**22 39 47.6**	**+1.9**
	baz=97							
AAK				⇓*iS*		**Sn**	**22 40 29.2**	**+2.7**
	baz=97							
AAK	**Ala-Archa**	**3.44**	**297**	P		**Pb**	**22 39 53.6**	**+0.6**
	SNR=6.1							
AAK	**Ala-Archa**	**3.44**	**297**	⇓Pn		**Pb**	**22 39 52.8**	**-0.2**
	4.5nm,0.4s							
AAK				⇑Pg		**Pg**	**22 39 58.5**	**+0.7**
	6.0nm,0.3s							
AAK				⇓Lg		Lg	22 40 42.7	
	43nm,0.7s							
CHMS	**Chumysh**	**3.44**	**304**	⇓*eP*		**Pn**	**22 39 47.5**	**+1.9**
	baz=3.0							
CHMS				⇓*iS*		**Sn**	**22 40 29.0**	**+2.7**
	baz=3.0							
CHMS	**Chumysh**	**3.44**	**304**	P		**Sg**	**22 40 40.7**	**-1.5**
	SNR=6.4							
USP	**Ospenovka**	**3.73**	**306**	⇑*iP*		**Pn**	**22 39 51.6**	**+1.9**
	baz=5.0							
USP				⇑*iS*		**Sn**	**22 40 35.8**	**+2.1**
	baz=5.0							
USP	**Ospenovka**	**3.73**	**306**	P		**Pb**	**22 39 57.5**	**-0.5**
	SNR=9.3							
AML	**Almayashu**	**3.84**	**286**	P		**Pb**	**22 40 01.1**	**+1.1**
	SNR=11							
TDK	**Taldyqorghan**	**3.85**	**357**	*eP*		**Pg**	**22 40 02.7**	**-3.0**
	99nm,0.5s							
TDK				*eS*		**Sg**	**22 40 54.7**	**-0.9**
	187nm,0.9s							
TDK	**Taldyqorghan**	**3.85**	**357**	Pg		**Pg**	**22 40 02.7**	**-3.0**
	99nm,0.5s							
TDK				Lg		Lg	22 40 54.7	
	187nm,0.9s							
EKS2	**Erkin-Say**	**3.93**	**294**	⇑*iP*		**Pn**	**22 39 54.7**	**+2.2**
	baz=94							
EKS2				⇑*iS*		**Sn**	**22 40 41.2**	**+2.4**
	baz=94							
EKS2	**Erkin-Say**	**3.93**	**294**	P		**Pb**	**22 40 03.5**	**+2.1**
	SNR=22							
KAPS	**Kapalarasan**	**4.16**	**7**	*eP*		**Pg**	**22 40 07.9**	**-3.7**
	13nm,0.3s							
KAPS				*eS*		**Sg**	**22 41 03.5**	**-2.0**
	32nm,0.4s							
KAPS	**Kapalarasan**	**4.16**	**7**	Pg		**Pg**	**22 40 07.9**	**-3.7**
	13nm,0.3s							
KAPS				Lg		Lg	22 41 03.5	
	32nm,0.4s							
ARSB	**Arslanbob**	**4.27**	**274**	⇓*iP*		**Pn**	**22 39 59.2**	**+2.0**
	baz=74							
ARSB				⇓*iS*		**Sn**	**22 40 49.6**	**+2.4**
	baz=74							
MRKS	**Merke**	**4.34**	**293**	*eP*		**Pg**	**22 40 11.3**	**-3.9**
	7.8nm,0.6s							
MRKS				*eS*		**Sg**	**22 41 09.1**	**-2.3**
	15nm,0.4s							
MRKS	**Merke**	**4.34**	**293**	Pg		**Pg**	**22 40 11.8**	**-3.4**
	14nm,0.4s							
MRKS				Lg		Lg	22 41 10.3	
	15nm,0.4s							
BTLS	**Baital**	**5.14**	**321**	*eP*		**Pb**	**22 40 25.0**	**+3.1**
	6.4nm,0.5s							
BTLS				*eS*		**Sg**	**22 41 33.8**	**-3.2**
	17nm,0.8s							
BTLS	**Baital**	**5.14**	**321**	Pg		**Pb**	**22 40 25.0**	**+3.1**
	6.4nm,0.5s							
BTLS				Lg		Lg	22 41 33.7	
	17nm,0.8s							
MAKZ	**Makanchi**	**6.14**	**22**	⇓Pg		**Pg**	**22 40 45.4**	**-4.1**
	1.9nm,0.5s							
MAKZ				⇑Lg		Lg	22 42 08.9	
	10.0nm,0.8s							
MK31	**Makanchi Array**	**6.22**	**24**	⇓Pn		**Pn**	**22 40 24.9**	**+1.1**
	0.4nm,0.3s,baz=205,slow=14,SNR=12							
MK31				⇑Pg		**Pg**	**22 40 48.5**	**-2.5**
	1.3nm,0.4s,baz=199,slow=13,SNR=9.3							
MK31				⇑Lg		Lg	22 42 09.8	
	5.2nm,0.6s,baz=198,slow=24,SNR=4.8							
KK31	**Karatay Array**	**6.35**	**291**	⇓Pg		**Pg**	**22 40 50.5**	**-3.1**
	0.8nm,0.4s							
KK31				⇓Lg		Lg	22 42 17.1	
	11nm,0.8s,baz=118,slow=23,SNR=7.8							
OTUK	**Ortayu**	**8.39**	**330**	⇓Lg		Lg	22 43 15.8

EBNR	**Beni Rached**	**3.16**	**261**	P		**Pn**	**22 45 49.4**	**-0.3**
MAHO	**Mahon**	**3.18**	**344**	P		**Pn**	**22 45 51.0**	**+1.3**
MAHO				S		**Sn**	**22 46 25.7**	**-2.0**
MAHO	**Mahon**	**3.18**	**344**⇑	*e*P		**Pn**	**22 45 51.0**	**+1.3**
MAHO				*e*S		**Sn**	**22 46 25.7**	**-2.0**
MAHO				*e*L		L	22 48 43.4	
ECHA	**Ech Chlef**	**3.32**	**259**	P		**Pn**	**22 45 52.0**	**+0.2**
ECHF	**Ech Chlef**	**3.34**	**259**	P		**Pn**	**22 45 52.0**	**-0.1**
KEST	**Kesra**	**3.38**	**108**	Pn		**Pb**	**22 45 57.2**	**-2.5**
	3.2nm,0.3s,baz=252,slow=3.7,SNR=43							
KEST				Sn		**Sb**	**22 46 38.9**	**-2.0**
	6.0nm,0.3s,baz=246,slow=20,SNR=12							
ETOS	**Mallorca**	**3.56**	**326**	P		**Pn**	**22 45 56.7**	**+1.6**
	13nm,0.2s,SNR=51							
ETOS				S		**Sn**	**22 46 31.6**	**-5.6**
	14nm,0.2s,SNR=7.9							
EANR	**'Ain N'Sour**	**3.58**	**257**	P		**Pn**	**22 45 54.5**	**-0.9**
EANR	**'Ain N'Sour**	**3.58**	**257**	P		**Pn**	**22 45 54.5**	**-0.9**
ETRT	**Tiaret**	**3.62**	**248**	P		**Pn**	**22 45 56.3**	**+0.2**
ETRT	**Tiaret**	**3.62**	**248**	P		**Pn**	**22 45 56.3**	**+0.2**
EIBI	**Ibiza**	**3.88**	**305**	P		**Pn**	**22 46 01.0**	**+1.6**
	5.1nm,0.1s,SNR=8.5							
EIBI				S		**Sn**	**22 46 41.7**	**-3.4**
	4.0nm,0.2s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**3.92**	**260**	P		**Pn**	**22 45 59.2**	**-0.9**
	7.1nm,0.1s,SNR=7.9							
OKGL				S		**Sn**	**22 46 42.9**	**-3.2**
	6.7nm,0.2s,SNR=7.9							
EBEN2	**Beniarda presa**	**4.79**	**294**	P		**Pn**	**22 46 13.6**	**+1.5**
	1.7nm,0.1s,SNR=7.9							
EBEN2				S		**Sn**	**22 47 04.1**	**-3.6**
	0.3nm,0.1s,SNR=7.9							
AFON	**Font Roja**	**5.05**	**293**	P		**Pn**	**22 46 17.5**	**+1.9**
	1.4nm,0.2s,SNR=4.0							
CART	**Cartagena**	**5.16**	**280**	P		**Pn**	**22 46 18.2**	**+1.1**
CART	**Cartagena**	**5.16**	**280**	*e*P		**Pn**	**22 46 18.2**	**+1.1**
EMUR	**La Murta**	**5.38**	**283**	P		**Pn**	**22 46 20.5**	**+0.3**
	2.1nm,0.2s,SNR=7.7							
EMUR				S		**Sn**	**22 47 20.3**	**-1.9**
	4.3nm,0.3s,SNR=7.9							
CFON	**Fontmartina**	**5.42**	**336**	P		**Pn**	**22 46 22.0**	**+1.2**
	7.6nm,0.2s,SNR=32							
CFON				S		**Sn**	**22 47 21.3**	**-2.0**
	15nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**5.62**	**325**	⇓P		**Pn**	**22 46 24.8**	**+1.3**
	5.6nm,0.1s,SNR=18							
EPOB				S		**Sn**	**22 47 22.6**	**-5.5**
	1.0nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**5.70**	**318**	P		**Pn**	**22 46 25.9**	**+1.3**
	0.9nm,0.1s,SNR=7.9							
ERTA				S		**Sn**	**22 47 27.0**	**-3.0**
	1.0nm,0.2s,SNR=7.9							
TLOR	**Lorca, Murcia**	**5.71**	**280**	P		**Pn**	**22 46 26.0**	**+1.3**
	22nm,0.2s,SNR=4.0							
ECHE	**Chera**	**5.72**	**301**	P		**Pn**	**22 46 26.4**	**+1.6**
	1.0nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**5.79**	**309**	P		**Pn**	**22 46 27.4**	**+1.5**
	1.0nm,0.2s,SNR=9.8							
EMOS				S		**Sn**	**22 47 29.7**	**-2.8**
	1.4nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**5.79**	**290**	P		**Pn**	**22 46 26.6**	**+0.8**
	1.4nm,0.1s,SNR=23							
ETOB				S		**Sn**	**22 47 29.0**	**-3.4**
	1.1nm,0.2s,SNR=7.9							
EMIR	**Miracle**	**5.89**	**331**	P		**Pn**	**22 46 29.5**	**+2.4**
	18nm,0.2s,SNR=7.3							
EMIR				S		**Sn**	**22 47 34.0**	**-0.7**
	9.4nm,0.3s,SNR=7.9							
EJON	**La Jonquera**	**5.92**	**342**	⇓P		**Pn**	**22 46 29.1**	**+1.5**
	6.7nm,0.2s,SNR=18							
EJON				S		**Sn**	**22 47 33.8**	**-1.7**
	8.7nm,0.3s,SNR=7.9							
ENIJ	**Nijar**	**6.10**	**273**	P		**Pn**	**22 46 29.6**	**-0.4**
	1.0nm,0.1s,SNR=7.9							
ENIJ				S		**Sn**	**22 47 35.2**	**-4.6**
	12nm,0.3s,SNR=7.9							
CLLI	**Llivia**	**6.22**	**336**	P		**Pn**	**22 46 34.6**	**+2.9**
	4.8nm,0.2s,SNR=29							
CLLI				S		**Sn**	**22 47 41.0**	**-2.0**
	1.9nm,0.2s,SNR=7.9							
PGF	**Pioggiola**	**6.34**	**25**	*e*Pn		**Pn**	**22 46 35.3**	**+1.9**
PGF				*e*Sn		**Sn**	**22 47 43.7**	**-2.1**
	5.5nm,0.2s							
PGF	**Pioggiola**	**6.34**	**25**	P		**Pn**	**22 46 35.3**	**+1.9**
PGF				S		**Sn**	**22 47 43.7**	**-2.1**
	2.8nm,0.2s							
CSOR	**Sort**	**6.43**	**331**	P		**Pn**	**22 46 37.8**	**+3.2**
	4.3nm,0.2s,SNR=49							
CSOR				S		**Sn**	**22 47 45.7**	**-2.5**
	4.9nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**6.45**	**284**	P		**Pn**	**22 46 35.8**	**+0.9**
	3.4nm,0.2s,SNR=7.9							
SESP				S		**Sn**	**22 47 45.2**	**-3.4**
	0.8nm,0.3s,SNR=7.9							
SESP	**Santiago Espad**	**6.45**	**284**	P		**Pn**	**22 46 36.3**	**+1.4**
LMR	**La Mourre**	**6.54**	**7**	*e*Pn		**Pn**	**22 46 38.2**	**+2.2**
LMR				*e*Sn		**Sn**	**22 47 49.6**	**-1.0**
	4.6nm,0.2s							
LMR	**La Mourre**	**6.54**	**7**	P		**Pn**	**22 46 38.2**	**+2.2**
LMR				S		**Sn**	**22 47 49.6**	**-1.0**
	2.3nm,0.2s							
EBER	**Berja**	**6.65**	**273**	P		**Pn**	**22 46 37.5**	**-0.2**
	1.5nm,0.2s,SNR=10							
EBER				S		**Sn**	**22 47 47.7**	**-5.8**
	7.0nm,0.3s,SNR=7.9							
TAF	**Taforalt**	**6.66**	**255**	P		**Pn**	**22 46 37.1**	**-0.7**
ESAC	**San Caprasio**	**6.67**	**319**	P		**Pn**	**22 46 40.8**	**+3.0**
	5.9nm,0.1s,SNR=7.9							
EQES	**Quesada**	**6.82**	**281**	P		**Pn**	**22 46 41.4**	**+1.4**
	6.7nm,0.4s,SNR=16							
EQES				S		**Sn**	**22 47 54.3**	**-3.4**
	1.5nm,0.2s,SNR=7.9							
MTLF	**Montolieu**	**6.93**	**340**	*e*Pn		**Pn**	**22 46 43.3**	**+1.9**
MTLF				*e*Sn		**Sn**	**22 47 58.1**	**-2.3**
	1.2nm,0.2s							
MTLF	**Montolieu**	**6.93**	**340**	P		**Pn**	**22 46 43.3**	**+1.9**
MTLF				S		**Sn**	**22 47 58.1**	**-2.3**
	0.6nm,0.2s							
ETOR	**Torete**	**7.04**	**307**	P		**Pn**	**22 46 46.4**	**+3.3**
	1.5nm,0.3s,SNR=7.9							
ECHI	**Chisagues Biel**	**7.06**	**327**	P		**Pn**	**22 46 26.2**	**+2.8**
	1.3nm,0.1s,SNR=7.9							
EQUE	**Quentar**	**7.08**	**276**	P		**Pn**	**22 46 44.9**	**+1.3**
	1.0nm,0.1s,SNR=4.0							
SMRF	**Simiane la Rot**	**7.13**	**1**	*e*Pn		**Pn**	**22 46 46.8**	**+2.7**
SMRF				*e*Sn		**Sn**	**22 48 03.6**	**-1.6**
	0.7nm,0.1s							
SMRF	**Simiane la Rot**	**7.13**	**1**	P		**Pn**	**22 46 46.8**	**+2.7**
SMRF				S		**Sn**	**22 48 03.6**	**-1.6**
	0.7nm,0.1s							
SBF	**Sospel**	**7.18**	**12**	*e*Pn		**Pn**	**22 46 47.1**	**+2.2**
SBF				*e*Sn		**Sn**	**22 48 03.3**	**-3.3**
	4.3nm,0.2s							
SBF	**Sospel**	**7.18**	**12**	P		**Pn**	**22 46 47.1**	**+2.2**
SBF				S		**Sn**	**22 48 03.3**	**-3.3**
	2.2nm,0.2s							
ELGU	**Los Guajares,**	**7.24**	**273**	P		**Pn**	**22 46 45.9**	**+0.2**
	4.4nm,0.2s,SNR=7.9							
ELGU				S		**Sn**	**22 48 03.1**	**-4.8**
	3.2nm,0.3s,SNR=7.9							
EPF	**Esparros**	**7.30**	**329**	*e*Pn		**Pn**	**22 46 49.8**	**+3.3**
EPF				*e*Sn		**Sn**	**22 48 06.7**	**-2.8**
	3.0nm,0.2s							
EPF	**Esparros**	**7.30**	**329**	P		**Pn**	**22 46 49.8**	**+3.3**
EPF				S		**Sn**	**22 48 06.7**	**-2.8**
	1.5nm,0.2s							
LASF	**Ste Croix**	**7.32**	**351**	*e*Pn		**Pn**	**22 46 48.9**	**+2.1**
LASF				*e*Sn		**Sn**	**22 48 07.5**	**-2.4**
	1.5nm,0.2s							
LASF	**Ste Croix**	**7.32**	**351**	P		**Pn**	**22 46 48.9**	**+2.1**
LASF				S		**Sn**	**22 48 07.5**	**-2.4**
	0.8nm,0.2s							
ETSF	**Etsaut**	**7.59**	**325**	*e*Pn		**Pn**	**22 46 52.8**	**+2.3**
ETSF				*e*Sn		**Sn**	**22 48 13.3**	**-3.2**
	1.3nm,0.3s							
ETSF	**Etsaut**	**7.59**	**325**	P		**Pn**	**22 46 52.8**	**+2.3**
ETSF				S		**Sn**	**22 48 13.3**	**-3.2**
	0.6nm,0.3s							
EGOR	**Sierra Gorda,**	**7.62**	**275**	P		**Pn**	**22 46 53.4**	**+2.4**
	0.4nm,0.2s,SNR=7.9							
EGOR				S		**Sn**	**22 48 16.1**	**-1.3**
	1.7nm,0.5s,SNR=7.9							
ATE	**Arette**	**7.80**	**325**	⇓P		**Pn**	**22 46 56.1**	**+2.8**
	SNR=18							
ATE				S		**Sn**	**22 48 19.0**	**-2.6**
	2.2nm,0.3s,SNR=7.9							
AKLM	**AKL**	**7.89**	**256**	P		**Pn**	**22 46 55.9**	**+1.3**

ESDC	**Sonseca Array**	**7.89**	**294**	Pn		**Pn**	**22 46 56.1**	**+1.5**
	0.2nm,0.3s,baz=116,slow=13,SNR=5.2							
ESDC				Sn		**Sn**	**22 48 20.5**	**-3.5**
	baz=109,slow=25,SNR=2.3							
ESDC	**Sonseca Array**	**7.89**	**294**	P		**Pn**	**22 46 55.2**	**+0.6**
	0.3nm,0.2s,baz=106,slow=13,SNR=7.2							
EORO	**Oroz-Betelu**	**7.94**	**322**	P		**Pn**	**22 46 58.1**	**+2.8**
	2.3nm,0.2s,SNR=16							
EORO				S		**Sn**	**22 48 22.0**	**-3.3**
	6.2nm,0.4s,SNR=7.9							
MBDF	**Montbardon**	**7.95**	**7**	*e*Pn		**Pn**	**22 46 59.4**	**+4.0**
MBDF				*e*Sn		**Sn**	**22 48 23.4**	**-2.1**
	0.8nm,0.2s							
MBDF	**Montbardon**	**7.95**	**7**	P		**Pn**	**22 46 59.4**	**+4.0**
MBDF				S		**Sn**	**22 48 23.4**	**-2.1**
	0.4nm,0.2s							
VIVF	**Saint-Julien-l**	**8.03**	**356**	*e*Pn		**Pn**	**22 46 57.7**	**+1.3**
VIVF				*e*Sn		**Sn**	**22 48 24.6**	**-2.6**
	2.4nm,0.2s							
VIVF	**Saint-Julien-l**	**8.03**	**356**	P		**Pn**	**22 46 57.7**	**+1.3**
VIVF				S		**Sn**	**22 48 24.6**	**-2.6**
	1.2nm,0.2s							
SJPF	**Ste Jean**	**8.07**	**323**	*e*Pn		**Pn**	**22 46 59.0**	**+2.0**
SJPF				*e*Sn		**Sn**	**22 48 24.5**	**-3.7**
	0.7nm,0.2s							
SJPF	**Ste Jean**	**8.07**	**323**	P		**Pn**	**22 46 59.0**	**+2.0**
SJPF				S		**Sn**	**22 48 24.5**	**-3.7**
	0.3nm,0.2s							
ORIF	**Oris-en-Rattie**	**8.08**	**2**	*e*Pn		**Pn**	**22 47 01.4**	**+4.2**
ORIF				*e*Sn		**Sn**	**22 48 26.4**	**-2.2**
	0.4nm,0.2s							
ORIF	**Oris-en-Rattie**	**8.08**	**2**	P		**Pn**	**22 47 01.4**	**+4.2**
ORIF				S		**Sn**	**22 48 26.4**	**-2.2**
	0.2nm,0.2s							
PAB	**San Pablo**	**8.14**	**292**	P		**Pn**	**22 46 59.6**	**+1.6**
	0.2nm,0.1s,SNR=7.9							
EMIJ	**Mijas**	**8.18**	**271**	P		**Pn**	**22 46 57.2**	**-1.3**
	0.9nm,0.2s,SNR=6.4							
EALK	**Alkurruntz**	**8.28**	**322**	P		**Pn**	**22 47 02.9**	**+2.9**
	0.1nm,0.2s,SNR=7.9							
EALK				S		**Sn**	**22 48 29.8**	**-3.9**
	7.5nm,0.4s,SNR=7.9							
CAF	**Calviac**	**8.46**	**344**	*e*Pn		**Pn**	**22 47 04.3**	**+1.9**
CAF				*e*Sn		**Sn**	**22 48 34.8**	**-3.2**
	0.9nm,0.2s							
CAF	**Calviac**	**8.46**	**344**	P		**Pn**	**22 47 04.3**	**+1.9**
CAF				S		**Sn**	**22 48 34.8**	**-3.2**
	0.4nm,0.2s							
ECAB	**El Cabril**	**8.69**	**281**	P		**Pn**	**22 47 06.9**	**+1.3**
	0.1nm,0.2s,SNR=7.9							
LPG	**La Plagne**	**8.71**	**6**	*e*Pn		**Pn**	**22 47 09.8**	**+3.8**
LPG				*e*Sn		**Sn**	**22 48 42.0**	**-2.4**
	0.5nm,0.2s							
LPG	**La Plagne**	**8.71**	**6**	P		**Pn**	**22 47 09.8**	**+3.8**
LPG				S		**Sn**	**22 48 42.0**	**-2.4**
	0.2nm,0.2s							
LPL	**La Plagne**	**8.72**	**6**	*e*Pn		**Pn**	**22 47 10.3**	**+4.1**
LPL				*e*Sn		**Sn**	**22 48 42.2**	**-2.5**
	0.4nm,0.2s							
LPL	**La Plagne**	**8.72**	**6**	P		**Pn**	**22 47 10.3**	**+4.1**
LPL				S		**Sn**	**22 48 42.2**	**-2.5**
	0.2nm,0.2s							
LFF	**La Frestale**	**8.82**	**338**	*e*Pn		**Pn**	**22 47 09.4**	**+2.1**
LFF				*e*Sn		**Sn**	**22 48 43.3**	**-3.5**
	0.4nm,0.2s							
LFF	**La Frestale**	**8.82**	**338**	P		**Pn**	**22 47 09.4**	**+2.1**
LFF				S		**Sn**	**22 48 43.3**	**-3.5**
	0.2nm,0.2s							
RJF	**Les Rejaudoux**	**8.95**	**342**	*e*Pn		**Pn**	**22 47 10.0**	**+0.9**
RJF				*e*Sn		**Sn**	**22 48 46.3**	**-3.6**
	0.8nm,0.2s							
RJF	**Les Rejaudoux**	**8.95**	**342**	P		**Pn**	**22 47 10.0**	**+0.9**
RJF				S		**Sn**	**22 48 46.3**	**-3.6**
	0.4nm,0.2s							
MDT	**Midelt**	**9.15**	**247**	Pn		**Pn**	**22 47 11.8**	**-0.2**
	0.1nm,0.3s,baz=29,slow=19,SNR=1.3							
MD31	**MD31**	**9.24**	**248**	P		**Pn**	**22 47 13.6**	**+0.4**
ELAN	**Lanestosa**	**9.30**	**316**	P		**Pn**	**22 47 16.5**	**+2.5**
	0.6nm,0.2s,SNR=7.9							
TCF	**Toulx Ste Croi**	**9.73**	**347**	*e*Pn		**Pn**	**22 47 21.8**	**+1.9**
TCF	**Toulx Ste Croi**	**9.73**	**347**	P		**Pn**	**22 47 21.8**	**+1.9**
CABF	**La Chapelle**	**9.78**	**3**	*e*Pn		**Pn**	**22 47 23.0**	**+2.5**
CABF	**La Chapelle**	**9.78**	**3**	P		**Pn**	**22 47 23.0**	**+2.5**
SMF	**Signal de Mont**	**9.87**	**354**	*e*Pn		**Pn**	**22 47 24.1**	**+2.5**
SMF	**Signal de Mont**	**9.87**	**354**	P		**Pn**	**22 47 24.1**	**+2.5**
BGF	**Bois d'Agland**	**9.89**	**350**	*e*Pn		**Pn**	**22 47 23.7**	**+1.7**
BGF	**Bois d'Agland**	**9.89**	**350**	P		**Pn**	**22 47 23.7**	**+1.7**
AVF	**Avril sur Loir**	**10.06**	**352**	*e*Pn		**Pn**	**22 47 26.3**	**+2.1**
AVF	**Avril sur Loir**	**10.06**	**352**	P		**Pn**	**22 47 26.3**	**+2.1**
SSF	**Saint Saulge**	**10.31**	**353**	*e*Pn		**Pn**	**22 47 30.2**	**+2.5**
SSF	**Saint Saulge**	**10.31**	**353**	P		**Pn**	**22 47 30.2**	**+2.5**
EARI	**Arriondas**	**10.37**	**312**	P		**Pn**	**22 47 30.8**	**+2.1**
	0.3nm,0.2s,SNR=7.9							
LOR	**Lormes**	**10.48**	**354**	*e*Pn		**Pn**	**22 47 31.4**	**+1.3**
LOR	**Lormes**	**10.48**	**354**	P		**Pn**	**22 47 31.4**	**+1.3**
MVO	**Moncorvo**	**10.59**	**298**	P		**Pn**	**22 47 33.9**	**+2.3**
	0.4nm,0.2s,SNR=7.9							
MFF	**Saint Martin d**	**10.59**	**339**	*e*Pn		**Pn**	**22 47 33.2**	**+1.6**
MFF	**Saint Martin d**	**10.59**	**339**	P		**Pn**	**22 47 33.2**	**+1.6**
ECAL	**Calabor**	**10.68**	**302**	P		**Pn**	**22 47 34.3**	**+1.4**
	0.2nm,0.3s,SNR=5.6							
HINF	**Hinteralfeld**	**11.02**	**5**	*e*Pn		**Pn**	**22 47 39.6**	**+2.1**
HINF	**Hinteralfeld**	**11.02**	**5**	P		**Pn**	**22 47 39.6**	**+2.1**
HAU	**Haudompre**	**11.18**	**3**	*e*Pn		**Pn**	**22 47 41.6**	**+2.0**
HAU	**Haudompre**	**11.18**	**3**	P		**Pn**	**22 47 41.6**	**+2.0**
SFTF	**Sexfontaines**	**11.36**	**359**	*e*Pn		**Pn**	**22 47 44.0**	**+1.9**
SFTF	**Sexfontaines**	**11.36**	**359**	P		**Pn**	**22 47 44.0**	**+1.9**
CDF	**Champ du Feu**	**11.64**	**6**	*e*Pn		**Pn**	**22 47 47.9**	**+1.8**
CDF	**Champ du Feu**	**11.64**	**6**	P		**Pn**	**22 47 47.9**	**+1.8**
MEZF	**Maizieres J'vi**	**11.66**	**359**	*e*Pn		**Pn**	**22 47 48.3**	**+2.2**
MEZF	**Maizieres J'vi**	**11.66**	**359**	P		**Pn**	**22 47 48.3**	**+2.2**
PAGF	**Fort de Pagny**	**11.71**	**1**	*e*Pn		**Pn**	**22 47 48.5**	**+1.7**
GRR	**Gorron**	**12.42**	**340**	*e*Pn		**Pn**	**22 47 58.2**	**+1.7**
GRR	**Gorron**	**12.42**	**340**	P		**Pn**	**22 47 58.2**	**+1.7**
LDF	**La Druitiere**	**12.42**	**343**	*e*Pn		**Pn**	**22 47 57.4**	**+0.8**
FLN	**La Foliniere**	**12.67**	**342**	*e*Pn		**Pn**	**22 48 01.8**	**+1.9**
	baz=161							
FLN	**La Foliniere**	**12.67**	**342**	P		**Pn**	**22 48 01.8**	**+1.9**
QUIF	**Quistinic**	**12.74**	**333**	*e*Pn		**Pn**	**22 48 02.7**	**+1.8**
QUIF	**Quistinic**	**12.74**	**333**	P		**Pn**	**22 48 02.7**	**+1.8**
SGMF	**Saint Gilles**	**12.81**	**335**	*e*Pn		**Pn**	**22 48 03.0**	**+1.1**
SGMF	**Saint Gilles**	**12.81**	**335**	P		**Pn**	**22 48 03.0**	**+1.1**
ROSF	**Rostrenen**	**13.13**	**334**	*e*Pn		**Pn**	**22 48 07.8**	**+1.5**
ROSF	**Rostrenen**	**13.13**	**334**	P		**Pn**	**22 48 07.8**	**+1.5**
BAIF	**Baives**	**13.24**	**357**	*e*Pn		**Pn**	**22 48 09.7**	**+2.0**
BAIF	**Baives**	**13.24**	**357**	P		**Pn**	**22 48 09.7**	**+2.0**
GIVF	**Givet**	**13.26**	**358**	*e*Pn		**Pn**	**22 48 10.4**	**+2.4**
GIVF	**Givet**	**13.26**	**358**	P		**Pn**	**22 48 10.4**	**+2.4**
AKASG	**Malin Array Be**	**21.96**	**43**	P		**P**	**22 49 55.9**	**+2.4**
	1.2nm,0.6s,baz=242,slow=11,SNR=2.5							
TORD	**Torodi Ar. Bea**	**23.83**	**189**	P		**P**	**22 50 13.2**	**+0.1**
	0.3nm,0.5s,baz=6.8,slow=9.9,SNR=6.2							
KURBB	**Kurchatov Arra**	**52.52**	**50**	P		**P**	**22 54 16.5**	**+3.6**
	0.5nm,0.7s,baz=291,slow=8.4,SNR=4.1							
ZALV	**Zalesovo Beam**	**55.34**	**45**	P		**P**	**22 54 36.4**	**+2.8**
	0.7nm,0.4s,baz=268,slow=7.5,SNR=1.3							
MKAR	**Makanchi Array**	**56.03**	**54**	P		**P**	**22 54 41.5**	**+2.9**
	0.3nm,0.5s,baz=290,slow=5.7,SNR=7.4							

MAN ***13*** *22:48:24.8, 13.˚77N×120.˚47E, h91km, mb4.3, ML3.1, MS2.9*
IDC ***13*** *22:48:25.6±3.0, 13.˚91N×120.˚75E, h108km±16km, mb3.3/4, mb1 3.4/4, mb1mx3.1/63, mbtmp3.6/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/17, Error ellipse: s-maj=78.3km s-min=47.0km az=139.0*

ISC 13 22:48:25.2±0.9, 13.˚76N±0.˚05×120.˚53E±0.˚07, h101km±7km, n15,σ1°51/20, mb3.6/4, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LUBP	**Lubang**	**0.27**	**266**	*e*P		**Pn**	**22 48 40.0**	**+0.2**
LUBP				*e*S		**Sn**	**22 48 50.0**	**-0.7**
TGY	**Tagaytay City**	**0.53**	**49**	P		**Pn**	**22 48 41.9**	**+0.5**
	426nm,0.3s,baz=194,slow=4.2,SNR=11							
TGY				S		**Sn**	**22 48 54.3**	**+0.8**
	253nm,0.3s,baz=94,slow=19,SNR=8.5							
TGY	**Tagaytay City**	**0.53**	**49**⇑	*e*P		**Pn**	**22 48 41.5**	**+0.1**
TGY				*i* S		**Sn**	**22 48 54.3**	**+0.8**
LQP	**Lukban**	**1.04**	**70**⇑	*e*P		**Pn**	**22 48 46.9**	**+0.5**
LQP				*i* S		**Sn**	**22 48 58.2**	**-4.2**
BOAC	**Boac**	**1.31**	**103**	*e*P		**Pn**	**22 48 49.5**	**+0.2**
OTRP	**Odiongan**	**2.01**	**133**	*e*P		**Pn**	**22 48 58.7**	**+0.8**
SCZP	**Santa Cruz**	**2.10**	**344**	*e*P		**Pn**	**22 48 58.8**	**-0.3**
BALP	**Baler**	**2.22**	**27**	*e*P		**Pn**	**22 49 01.1**	**+0.4**
BALP				*e*S		**Sn**	**22 49 30.4**	**+2.6**
SMPP	**San Manuel, Pa**	**2.38**	**4**	*e*P		**Pn**	**22 49 01.9**	**-1.0**
ENPP	**El Nido**	**2.75**	**203**	*e*P		**Pn**	**22 49 08.3**	**+0.6**
ENPP				*e*S		**Sn**	**22 49 39.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**21.25**	**286**	P		**P**	**22 53 05.5**	**+2.0**
	1.0nm,0.5s,baz=101,slow=8.8,SNR=5.6							
GUMO	**Guam**	**23.65**	**87**	LR		LR	23 02 23.2	
	comp=Z,23nm,21.0s,baz=136,slow=36							
SONM	**Songino Array**	**35.96**	**344**	P		**P**	**22 55 15.7**	**-0.5**
	0.4nm,0.4s,baz=161,slow=9.9,SNR=4.3							
MKAR	**Makanchi Array**	**45.89**	**324**	P		**P**	**22 56 36.3**	**-1.3**
	0.3nm,0.4s,baz=126,slow=8.1,SNR=6.1							
KURBB	**Kurchatov Arra**	**50.05**	**326**	P		**P**	**22 57 09.5**	**0.0**
	0.8nm,0.5s,baz=135,slow=7.7,SNR=9.2							

BJI ***13*** *22:51:26.6±0.0, 33.˚71N×132.˚00E, h89km, mB4.7/28, mb4.6/44, Ms3.9/5, Ms7 3.8/1*
NEIC ***13*** *22:51:28.7±1.0, 33.˚85N±0.˚05×131.˚89E±0.˚07, h82km±6km, mb4.5/34, Error ellipse: s-maj=8.3km s-min=7.5km az=98.0*
JMA ***13*** *22:51:29.3, 33.˚82N×131.˚88E, h77km, M4.4 Broadband fault plane solution. P waves. NP1:φ=308.00000°, δ53.00000°, λ-174.00000°. NP2:φ=214.00000°, δ85.00000°, λ-37.00000°. Principal axes: T Plg21.0000°, Azm267.0000°; N Plg53.0000°, Azm28.0000°; P Plg29.0000°, Azm165.0000°;*
JMA Felt III J1.
NIED ***13*** *22:51:29.3, 33.˚82N×131.˚88E, h77km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.03; Mθθ-5.60; Mφφ5.57; Mrθ1.39; Mθφ-2.06; Mφr2.15; Fault plane solution: M₀6.48000×10¹⁵ NP1:φ=35.00000°, δ89.00000°, λ23.00000°. NP2:φ=305.00000°, δ67.00000°, λ179.00000°.*
IDC ***13*** *22:51:29.5±0.6, 33.˚83N×131.˚75E, h84km±4km, mb3.8/16, mb1 4.0/22, mb1mx3.8/68, mbtmp4.3/22, MS3.2/16, Ms1 3.2/16, ms1mx3.0/39 Error ellipse: s-maj=11.3km s-min=6.9km az=103.0*

ISC 13 22:51:29.2±0.5, 33.˚78N±0.˚03×131.˚89E±0.˚03, h82km±4km, n112,σ1°41/143, mb4.4/35, 8C-5D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JKD	**Kudamatsu**	**0.27**	**356**	⇓P		**Pn**	**22 51 40.9**	**-0.7**
JKD				S		**Sn**	**22 51 49.3**	**-1.4**
JKI	**Kunimi**	**0.31**	**241**	⇑P		**Pn**	**22 51 41.5**	**-0.3**
JKI				S		**Sn**	**22 51 50.4**	**-0.7**
JNA	**Nagahama**	**0.54**	**115**	⇑P		**Pn**	**22 51 43.3**	**-0.2**
JNA				S		**Sn**	**22 51 54.1**	**0.0**
JHM	**Kurahashi**	**0.64**	**56**	⇑P		**Pn**	**22 51 44.0**	**-0.4**
JHM				S		**Sn**	**22 51 55.3**	**-0.3**
UWA2	**Uwa jima 2**	**0.83**	**133**	⇑P		**Pn**	**22 51 46.5**	**0.0**
UWA2			

	comp=Z,22nm,1.0s						
LZH	**Lanzhou**	**23.08 284**	*e*P	**P**	**22 56 25.6**	**-2.5**
LZH			pP	pP	22 56 44.1	-0.9
LZH			sP	sP	22 56 55.5	+0.3
LZH			sS	Sn	23 00 58.9	+2.6
LZH			SS	**SnSn**	**23 01 16.1**	**+2.3**
LZH			pmax	pmax		
	comp=Z,29nm,1.2s					
LZH			pmax	pmax		
	comp=Z,91nm,4.9s					
LZH			LR	LR		
	comp=Z,190nm,10.6s					
LZH			LR	LR		
	comp=Z,160nm,11.0s					
LZH			LR	LR		
	comp=Z,190nm,13.5s					
ULN	**Ulaanbaatar**	**23.35 314**	P	**P**	**22 56 29.7**	**-0.7**
SONM	**Songino Array**	**23.73 314**	P	**P**	**22 56 33.5**	**-0.3**
	comp=Z,4.0nm,0.5s,baz=132,slow=9.9,SNR=28					
SONM			ScP	**ScP**	**23 03 45.0**	**-1.4**
	comp=Z,0.7nm,0.9s,baz=149,slow=3.0,SNR=4.9					
SONM			LR	LR	23 05 56.1	
	comp=Z,64nm,21.8s,baz=119,slow=37					
SONM	**Songino Array**	**23.73 314**	P	**P**	**22 56 33.2**	**-0.6**
SONM				**ScP**	**23 03 44.7**	**-1.7**
CD2	**Chengdu**	**23.91 271**	P	**P**	**22 56 35.5**	**-0.1**
CD2			pmax	pmax		
	comp=Z,50nm,0.5s					
GTA	**Gaotai**	**26.27 292**	*e*P	**P**	**22 56 58.6**	**+1.6**
GTA			pP	pP	22 57 17.1	+1.3
GTA			sP	sP	22 57 26.3	+0.9
GTA			S	**S**	**23 01 27.8**	**+4.1**
GTA			sS	sS	23 01 56.4	+0.1
GTA			pmax	pmax		
	comp=Z,8.0nm,0.9s					
GTA			pmax	pmax		
	comp=Z,69nm,6.8s					
GTA			LR	LR		
	comp=Z,83nm,14.3s					
GTA			LR	LR		
	comp=Z,76nm,14.9s					
DAV	**Davao City (W)**	**27.22 194**	LR	LR	23 05 59.4	
	comp=Z,54nm,20.8s,baz=30,slow=32					
PBKT	**Sadao Pong**	**32.64 246**	P	**P**	**22 57 52.8**	**-0.6**
CHTO	**Chiang Mai**	**32.92 251**	P	**P**	**22 57 54.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**33.12 251**	P	**P**	**22 57 57.7**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=56,slow=6.9,SNR=5.1					
CMAR			LR	LR	23 11 35.5	
	comp=Z,60nm,18.3s,baz=202,slow=36					
CMAR	**Chiang Mai Arr**	**33.12 251**	P	**P**	**22 57 57.0**	**-0.6**
LSA	**Lhasa**	**34.73 275**	P	**P**	**22 58 11.9**	**-0.1**
LSA			IAmb	IAmb	22 58 12.7	
	comp=Z,3.2nm,0.5s					
WMQ	**Urumqi**	**35.50 300**	*e*P	**P**	**22 58 18.0**	**0.0**
WMQ			pP	pP	22 58 38.4	+1.1
WMQ			pmax	pmax		
	comp=Z,10.0nm,0.6s					
WMQ			LR	LR		
	comp=Z,72nm,15.3s					
WMQ			LR	LR		
	comp=Z,96nm,15.3s					
WMQ	**Urumqi**	**35.50 300**	P	**P**	**22 58 17.2**	**-0.8**
FAKI	**Fak Fak**	**36.51 179**	P	**P**	**22 58 27.1**	**+0.3**
ZALV	**Zalesovo Beam**	**38.58 316**	P	**P**	**22 58 43.3**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=106,slow=9.1,SNR=1.5					
ZALV			pP	**pP**	**22 59 02.1**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=108,slow=9.5,SNR=2.6					
ZALV			ScP	**S**	**23 04 33.3**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=92,slow=4.3,SNR=3.6					
ZALV			LR	LR	23 15 29.6	
	comp=Z,42nm,20.7s,baz=80,slow=37					
ZALV	**Zalesovo Beam**	**38.58 316**	P	**P**	**22 58 42.6**	**-1.2**
MK31	**Makanchi Array**	**39.38 304**	P	**P**	**22 58 49.5**	**-1.1**
MKAR	**Makanchi Array**	**39.38 304**	P	**P**	**22 58 49.5**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=95,slow=9.3,SNR=7.7					
MKAR			PcP	**PcP**	**23 00 56.5**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=85,slow=4.5,SNR=4.2					
MKAR			ScP	**ScP**	**23 04 37.0**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=84,slow=5.4,SNR=7.9					
MAKZ	**Makanchi**	**39.59 304**	P	**P**	**22 58 51.5**	**-0.9**
KURK	**Kurchatov**	**41.94 310**	P	**P**	**22 59 10.6**	**-1.0**
KURK			IAmb	IAmb	22 59 17.5	
	comp=Z,6.6nm,1.4s					
KURBB	**Kurchatov Arra**	**41.99 310**	P	**P**	**22 59 11.1**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=95,slow=8.8,SNR=13					
KURBB			pP	**pP**	**22 59 31.1**	**-0.6**
	comp=Z,5.7nm,1.1s,baz=95,slow=9.4,SNR=13					
KURBB			PcP	**PcP**	**23 01 04.5**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=107,slow=3.7,SNR=4.9					
TARG	**Taragay, Kyrgy**	**42.89 297**	P	**P**	**22 59 18.8**	**-1.2**
TARG			IAmb	IAmb	22 59 20.0	
	comp=Z,4.3nm,0.8s					
NRIK	**Noril'sk**	**43.21 339**	LR	LR	23 18 26.9	
	comp=Z,37nm,20.0s,baz=192,slow=38					
MTN	**Manton Dam**	**46.37 181**	P	**P**	**22 59 46.9**	**-0.4**
BVAR	**Borovoye Array**	**47.07 314**	P	**P**	**22 59 52.0**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=106,slow=9.3,SNR=36					
BVAR			pP	**pP**	**23 00 12.1**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=96,slow=9.1,SNR=3.9					
BVAR			PcP	**PcP**	**23 01 22.6**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=90,slow=1.4,SNR=2.5					
BRVK	**Borovoye**	**47.13 314**	P	**P**	**22 59 52.4**	**-0.5**
BRVK			IAmb	IAmb	22 59 53.1	
	comp=Z,4.5nm,0.5s					
KK31	**Karatay Array**	**48.01 300**	P	**P**	**22 59 59.1**	**-0.8**
KK31			IAmb	IAmb	23 00 00.3	
	comp=Z,3.3nm,0.7s					
KKAR	**Karatay Array**	**48.01 300**	P	**P**	**22 59 59.3**	**-0.6**
KKAR	**Karatay Array**	**48.01 300**	P	**P**	**22 59 59.1**	**-0.8**
KKAR			IAmb	IAmb	23 00 00.3	
	comp=Z,3.3nm,0.7s					
NIL	**Nilore**	**48.18 287**	P	**P**	**23 00 00.5**	**-0.9**
NIL			IAmb	IAmb	23 00 02.5	
	comp=Z,4.6nm,0.8s					
GAR	**Garm**	**49.02 295**	P	**P**	**23 00 07.2**	**-0.7**
GAR			IAmb	IAmb	23 00 08.1	
	comp=Z,7.7nm,0.8s					
KNRA	**Kununurra**	**49.27 184**	P	**P**	**23 00 09.8**	**+0.1**
CHGR	**Chuyangaron**	**49.98 295**	P	**P**	**23 00 14.1**	**-1.1**
KBL	**Kabul**	**51.24 290**	P	**P**	**23 00 23.6**	**-1.2**
KBL			IAmb	IAmb	23 00 24.9	
	comp=Z,3.9nm,0.8s					
FITZ	**Fitzroy Crossi**	**51.94 188**	P	**P**	**23 00 30.0**	**+0.3**
	comp=Z,4.8nm,0.5s,baz=1.0,slow=7.4,SNR=14					
FITZ	**Fitzroy Crossi**	**51.94 188**	P	**P**	**23 00 29.7**	**0.0**
WB0	**Warramunga Arr**	**53.30 177**	P	**P**	**23 00 39.5**	**-0.3**
WB0			IAmb	IAmb	23 00 50.9	
	comp=Z,6.5nm,1.0s					
WRA	**Warramunga Arr**	**53.48 177**	P	**P**	**23 00 41.5**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=354,slow=7.9,SNR=18					
WRA	**Warramunga Arr**	**53.48 177**	P	**P**	**23 00 40.7**	**-0.4**
WB2	**Warramunga Arr**	**53.48 177**	P	**P**	**23 00 41.3**	**+0.2**
WB2			IAmb	IAmb	23 00 42.5	
	comp=Z,12nm,1.1s					
ARU	**Arti**	**53.63 319**	P	**P**	**23 00 40.4**	**-1.5**
ARU			IAmb	IAmb	23 00 41.8	
	comp=Z,4.0nm,0.5s					
ABKAR	**Akbulak array**	**54.04 310**	P	**P**	**23 00 44.1**	**-0.8**
PSAD1	**Pilbara Seismi**	**56.12 194**	P	**P**	**23 00 59.8**	**-0.4**
ILAR	**Eielson Array**	**56.32 31**	pP	pP	23 01 22.4	+0.7
	comp=Z,0.7nm,0.5s,baz=277,slow=7.0,SNR=2.1					
AS31	**Alice Springs**	**57.16 178**	P	**P**	**23 01 07.7**	**+0.2**
ASAR	**Alice Springs**	**57.16 178**	P	**P**	**23 01 08.1**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=7.6,slow=13,SNR=12					
ASAR	**Alice Springs**	**57.16 178**	P	**P**	**23 01 07.7**	**+0.2**
GEYT	**Alibeck**	**58.48 297**	LR	LR	23 30 08.4	
	comp=Z,26nm,18.5s,baz=65,slow=40					
KEV	**Kevo**	**63.62 338**	P	**P**	**23 01 50.1**	**-0.8**
ARCES	**ARCESS Array B**	**64.18 338**	P	**P**	**23 01 53.8**	**-0.9**
	comp=Z,2.5nm,0.5s,baz=62,slow=8.4,SNR=19					
ARCES			LR	LR	23 34 39.6	
	comp=Z,26nm,18.2s,baz=344,slow=40					
ARE0	**ARCESS Array S**	**64.18 338**	P	**P**	**23 01 53.8**	**-0.9**
STKA	**Stephens Creek**	**65.95 171**	P	**P**	**23 02 07.5**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=348,slow=7.4,SNR=7.8					
STKA			LR	LR	23 31 11.0	
	comp=Z,70nm,18.1s,baz=206,slow=36					
STKA	**Stephens Creek**	**65.95 171**	P	**P**	**23 02 07.3**	**+0.9**
FIA1	**FINESS Array S**	**67.89 330**	P	**P**	**23 02 17.4**	**-1.1**
FIA1			IAmb	IAmb	23 02 18.4	
	comp=Z,12nm,0.9s					
FINES	**FINESS Array B**	**67.89 330**	P	**P**	**23 02 17.7**	**-0.9**
	comp=Z,3.9nm,0.5s,baz=67,slow=5.9,SNR=37					
FINES			pP	**pP**	**23 02 38.9**	**-0.9**
	comp=Z,3.2nm,0.9s,baz=67,slow=5.0,SNR=1.9					
FINES			LR	LR	23 35 01.2	
	comp=Z,21nm,19.1s,baz=56,slow=38					
AKASG	**Malin Array Be**	**71.88 319**	P	**P**	**23 02 41.6**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=55,slow=6.5,SNR=4.6					
NC405	**NORSAR Array S**	**73.71 334**	P	**P**	**23 02 52.6**	**-1.3**
NB2	**NORSAR Subarra**	**73.94 334**	P	**P**	**23 02 53.7**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=46,slow=5.9					
NOA	**NORSAR Array B**	**73.94 334**	P	**P**	**23 02 54.1**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=48,slow=5.9,SNR=10					
NOA			LR	LR	23 36 21.5	
	comp=Z,9.6nm,20.9s,baz=90,slow=36					
BRTR	**Keskin Array B**	**74.92 308**	P	**P**	**23 03 00.9**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=60,slow=8.6,SNR=2.2					
BRTR			pP	**pP**	**23 03 23.2**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=90,slow=3.7,SNR=2.9					
BRTR	**Keskin Array B**	**74.92 308**	P	**P**	**23 03 00.5**	**-1.0**
BURAR	**Bucovina Array**	**75.77 318**	P	**P**	**23 03 05.3**	**-0.8**
NVAR	**Mina Array Bea**	**83.05 48**	P	**P**	**23 03 47.8**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=301,slow=6.4,SNR=6.2					
NVAR			pP	**pP**	**23 04 08.7**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=292,slow=4.7,SNR=3.7					
NVAR	**Mina Array Bea**	**83.05 48**	P	**P**	**23 03 47.5**	**+1.5**
TORD	**Torodi Ar. Bea**	**113.49 306**	PKiKP	**PKiKP**	**23 09 56.7**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=31,slow=1.0,SNR=9.9					

IDC 13 23:01:12.4±4.7, 24.04S×66.81W, h176km±53km, mb2.8/1, mb1 3.0/3, mb1mx2.9/21, mbtmp3.4/3, Error ellipse: s-maj=75.6km s-min=35.9km az=109.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.40**	**306**	P	Pn	23 01 54.6	+0.5
	13nm,0.3s,baz=131,slow=7.8,SNR=222						
LVC				S	Sn	23 02 26.4	+0.1
	13nm,0.3s,baz=276,slow=20,SNR=32						
LPAZ	**La Paz**	**7.81**	**351**	P	Pn	23 03 04.3	+0.5
	0.3nm,0.3s,baz=172,slow=8.8,SNR=9.0						
LPAZ				S	Sn	23 04 32.2	+0.4
	0.1nm,0.3s,baz=197,slow=20,SNR=1.9						
TORD	**Torodi Ar. Bea**	**76.42**	**69**	P	P	23 12 42.4	-0.5
	0.1nm,0.4s,baz=255,slow=5.5,SNR=1.3						
MKAR	**Makanchi Array**	**146.44**	**40**	PKPbc	PKPbc	23 20 32.2	-0.4
	0.4nm,0.6s,baz=319,slow=1.7,SNR=5.0						

*GCG **13** 23:13:09.7±0.3, 13.02N×88.26W, h125km±56km, MD4.0*
*SNET **13** 23:13:12.4±1.0, 13.60N×88.55W, h176km±5km, ML3.6*
*UCR **13** 23:13:12.6±1.1, 13.62N×88.54W, h175km±5km, ML3.5*

ISC 13 23:13:14.5±2.8, 13.6N±0.1×88.50W±0.06, h166km±16km, n46, σ1§03/59, 14C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TECA	**Tecapa**	**0.07**	**182**	*e*P	**Pn**	**23 13 36.5**	**-0.4**
TECA	**Tecapa**	**0.07**	**182**	*e*P	**Pn**	**23 13 36.5**	**-0.4**
ALJI	**Alcalda de J**	**0.24**	**197**	*e*P	**Pn**	**23 13 36.3**	**-0.5**
ALJI				*e*S	**Sn**	**23 13 54.4**	**+0.5**
ALJI	**Alcalda de J**	**0.24**	**197**	*e*P	**Pn**	**23 13 36.3**	**-0.5**
ALJI				*e*S	**Sn**	**23 13 54.4**	**+0.5**
LCY	**Lacayo**	**0.24**	**124**	*e*P	**Pn**	**23 13 36.8**	**-0.1**
LCY	**Lacayo**	**0.24**	**124**	*e*P	**Pn**	**23 13 36.8**	**-0.1**
BLLM	**Bellamira**	**0.28**	**115**	*e*P	**Pn**	**23 13 36.5**	**-0.4**
BLLM	**Bellamira**	**0.28**	**115**	*e*P	**Pn**	**23 13 36.5**	**-0.4**
FAGO	**Alcalda de S**	**0.41**	**71**	*e*P	**Pn**	**23 13 36.9**	**-0.4**
FAGO				*e*S	**Sn**	**23 13 56.3**	**+1.6**
FAGO	**Alcalda de S**	**0.41**	**71**	*e*P	**Pn**	**23 13 36.9**	**-0.4**
FAGO				*e*S	**Sn**	**23 13 56.3**	**+1.6**
PAVA	**Las Pavas**	**0.45**	**290**	↑*i*P	**Pn**	**23 13 37.2**	**-0.4**
PAVA				IAML		23 13 38.0	
	comp=Z,3μm,0.3s						
PAVA				*e*S	**Sn**	**23 13 55.9**	**+0.7**
PAVA	**Las Pavas**	**0.45**	**290**	↑*i*P	**Pn**	**23 13 37.2**	**-0.4**
PAVA				IAML		23 13 38.0	
	comp=Z,3μm,0.3s						
PAVA				*e*S	**Sn**	**23 13 55.9**	**+0.7**
LFRS	**El Faro**	**0.55**	**277**	↑*e*P	**Pn**	**23 13 37.1**	**-0.9**
LFRS	**El Faro**	**0.55**	**277**	↑*e*P	**Pn**	**23 13 37.1**	**-0.9**
LBRS	**Las Brisas**	**0.56**	**289**	↑*e*P	**Pn**	**23 13 37.5**	**-0.5**
LBRS	**Las Brisas**	**0.56**	**289**	↑*e*P	**Pn**	**23 13 37.5**	**-0.5**
LFU	**La Fuente**	**0.63**	**288**	*e*P	**Pn**	**23 13 37.2**	**-1.2**
LFU	**La Fuente**	**0.63**	**288**	*e*P	**Pn**	**23 13 37.2**	**-1.2**
LCND	**La Caada**	**0.64**	**113**	*e*P	**Pn**	**23 13 38.2**	**-0.2**
LCND				*e*S	**Sn**	**23 13 57.5**	**+0.9**
LCND	**La Caada**	**0.64**	**113**	*e*P	**Pn**	**23 13 38.2**	**-0.2**
LCND				*e*S	**Sn**	**23 13 57.5**	**+0.9**
OPAM	**Oficina de Pla**	**0.69**	**283**	*e*P	**Pn**	**23 13 38.0**	**-0.7**
OPAM	**Oficina de Pla**	**0.69**	**283**	*e*P	**Pn**	**23 13 38.0**	**-0.7**
BOQS	**Boqueron**	**0.78**	**283**	*e*P	**Pn**	**23 13 38.7**	**-0.7**
BOQS	**Boqueron**	**0.78**	**283**	*e*P	**Pn**	**23 13 38.7**	**-0.7**
TACO	**Tacachico**	**0.93**	**296**	↑*i*P	**Pn**	**23 13 39.3**	**-0.9**
TACO				IAML		23 13 39.7	
	comp=Z,309nm,0.4s						
TACO				*e*S	**Sn**	**23 13 59.2**	**-0.9**
TACO	**Tacachico**	**0.93**	**296**	↑*i*P	**Pn**	**23 13 39.3**	**-0.9**
TACO				IAML		23 13 39.7	
	comp=Z,309nm,0.4s						
TACO				*e*S	**Sn**	**23 13 59.2**	**-0.9**
JAYA	**Jayaque - finc**	**0.93**	**276**	*e*P	**Pn**	**23 13 39.0**	**-1.4**
JAYA				*e*S	**Sn**	**23 14 00.3**	**0.0**
JAYA	**Jayaque - finc**	**0.93**	**276**	*e*P	**Pn**	**23 13 39.0**	**-1.4**
JAYA				*e*S	**Sn**	**23 14 00.3**	**0.0**
SNJE	**San Jose**	**1.12**	**286**	*e*P	**Pn**	**23 13 40.7**	**-1.2**
SNJE	**San Jose**	**1.12**	**286**	*e*P	**Pn**	**23 13 40.7**	**-1.2**
CEVE	**Cerro Verde**	**1.12**	**284**	*e*P	**Pn**	**23 13 41.1**	**-1.0**
CEVE				IAML		23 13 45.5	
	comp=Z,250nm,0.4s						
CEVE	**Cerro Verde**	**1.12**	**284**	*e*P	**Pn**	**23 13 41.1**	**-1.0**
CEVE				IAML		23 13 45.5	
	comp=Z,250nm,0.4s						
SBLS	**San Blas**	**1.13**	**284**	*e*P	**Pn**	**23 13 41.0**	**-1.1**
SBLS	**San Blas**	**1.13**	**284**	*e*P	**Pn**	**23 13 41.0**	**-1.1**
RTR	**El Retiro**	**1.16**	**287**	*e*P	**Pn**	**23 13 41.5**	**-0.8**
RTR	**El Retiro**	**1.16**	**287**	*e*P	**Pn**	**23 13 41.5**	**-0.8**
MTO3	**Montecristo**	**1.18**	**315**	↑*i*P	**Pn**	**23 13 41.8**	**-0.7**
MTO3	**Montecristo**	**1.18**	**315**	↑*i*P	**Pn**	**23 13 41.8**	**-0.7**
ESQI	**Esquipulas**	**1.29**	**321**	*e*P	**Pn**	**23 13 42.9**	**-0.4**
NUBE	**Las Nubes**	**1.29**	**285**	↑*e*P	**Pn**	**23 13 42.0**	**-1.4**
NUBE	**Las Nubes**	**1.29**	**285**	↑*e*P	**Pn**	**23 13 42.0**	**-1.4**
TGUH	**Tegucigalpa,Un**	**1.29**	**67**	*e*P	**Pn**	**23 13 41.8**	**-1.6**
TGUH	**Tegucigalpa,Un**	**1.29**	**67**	*e*P	**Pn**	**23 13 41.8**	**-1.6**
IXC	**Ixpaco**	**1.98**	**288**	*e*P	**Pn**	**23 13 49.6**	**-0.9**
NBG	**Las Nubes**	**2.06**	**300**	*e*P	**Pn**	**23 13 51.8**	**+0.3**
FUG	**Fuego 3**	**2.44**	**292**	*e*P	**Pn**	**23 13 55.8**	**-0.1**
FUG				*e*S	**Sn**	**23 14 31.7**	**+3.8**

*NEIC **13** 23:33:22.1±2.0, 7.69S±0.06×127.79E±0.06, h165km±8km, mb4.1/16, Error ellipse: s-maj=9.0km s-min=8.5km az=123.0*
*IDC **13** 23:33:23.4±1.9, 7.52S×127.62E, h164km±17km, mb3.5/9, mb1 3.7/12, mb1mx3.4/38, mbtmp4.1/12, Error ellipse: s-maj=22.8km s-min=14.1km az=74.0*

ISC 13 23:33:21.1±0.5, 7.74S±0.05×127.79E±0.05, h150km, n46, σ1§95/55, mb3.8/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.49**	**94**	P	**Pn**	**23 34 17.1**	**+2.4**
SAUI				S	**Sn**	**23 34 58.2**	**+1.9**
SOEI	**Soe**	**4.02**	**240**	Pn	**Pn**	**23 34 24.3**	**+2.6**
SOEI				Sn	**Sn**	**23 35 10.7**	**+1.9**
BATI	**Baumata**	**4.76**	**239**	P	**Pn**	**23 34 33.6**	**+2.3**
	28nm,0.3s,baz=70,slow=2.6,SNR=15						
BATI				S	**Sn**	**23 35 27.0**	**+0.9**
	47nm,0.3s,baz=17,slow=19,SNR=19						
MTN	**Manton Dam**	**6.05**	**147**		**Pn**	**23 34 50.8**	**+2.3**
MTN					Sn	**23 35 56.6**	**-0.2**
FAKI	**Fak Fak**	**6.53**	**43**	Pn	**Pn**	**23 34 54.5**	**-0.4**
SIJI	**Sorong**	**7.65**	**27**	P	**Pn**	**23 35 10.7**	**+0.8**
	3.6nm,0.3s,baz=270,slow=23,SNR=4.9						
SIJI				S	**Sn**	**23 36 34.6**	**-0.8**
	2.9nm,0.3s,baz=217,slow=20,SNR=1.3						
KNRA	**Kununurra**	**7.95**	**173**		**Pn**	**23 35 14.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**10.51**	**191**	P	**Pn**	**23 35 46.6**	**-1.3**
	2.3nm,0.3s,baz=25,slow=10.0,SNR=39						
FITZ				S	**Sn**	**23 37 37.2**	**-7.0**
	2.3nm,0.3s,baz=317,slow=19,SNR=5.3						
FITZ	**Fitzroy Crossi**	**10.51**	**191**		**Pn**	**23 35 47.0**	**-0.9**
WB0	**Warramunga Arr**	**13.57**	**152**		**Pn**	**23 36 26.9**	**-0.7**
WRAB	**Tennant Creek**	**13.69**	**153**		**Pn**	**23 36 28.5**	**-0.7**
WRA	**Warramunga Arr**	**13.70**	**153**	P	**Pn**	**23 36 28.1**	**-1.1**
	4.6nm,0.3s,baz=320,slow=14,SNR=80						
WRA				S	Sn	23 38 52.9	-8.1
	4.6nm,0.3s,baz=330,slow=22,SNR=11						
WB2	**Warramunga Arr**	**13.70**	**153**		**Pn**	**23 36 28.5**	**-0.8**
WR0	**Warramunga Arr**	**13.80**	**152**		**Pn**	**23 36 29.5**	**-1.1**
PSA00	**Pilbara Seismi**	**15.75**	**208**	P	**P**	**23 36 56.6**	**+0.9**
PSA00				IAmb	IAmb	23 37 06.4	
	comp=Z,19nm,1.2s						
COEN	**Coen**	**16.32**	**114**	P	**P**	**23 37 03.8**	**+1.7**
COEN				IAmb	IAmb	23 37 16.8	
	comp=Z,12nm,0.9s						
AS31	**Alice Springs**	**16.89**	**160**		**Pn**	**23 37 11.1**	**+2.3**
AS31				IAmb	IAmb	23 37 14.2	
	comp=Z,7.8nm,0.5s						
ASAR	**Alice Springs**	**16.89**	**160**	P	**Pn**	**23 37 10.6**	**+1.8**
	comp=Z,2.4nm,0.3s,baz=341,slow=12,SNR=73						
ASAR				S	**S**	**23 40 10.3**	**-6.4**
	comp=Z,1.2nm,0.3s,baz=331,slow=21,SNR=6.2						
ASAR				ScP	**ScP**	**23 45 06.9**	**-1.0**
	baz=350,slow=2.8,SNR=2.7						
ASAR	**Alice Springs**	**16.89**	**160**		**Pn**	**23 37 10.8**	**+2.1**
BBOO	**Buckleboo**	**26.11**	**164**	P	**P**	**23 38 42.7**	**+1.7**
STKA	**Stephens Creek**	**27.25**	**154**	P	**P**	**23 38 55.4**	**+4.1**
	comp=Z,1.2nm,0.5s,baz=312,slow=9.8,SNR=3.6						
STKA	**Stephens Creek**	**27.25**	**154**	P	**P**	**23 38 51.3**	**+0.1**
RPSI	**Rantau Prapat**	**30.60**	**289**	P	**P**	**23 39 20.6**	**-0.6**
RPSI	**Rantau Prapat**	**30.60**	**289**	P	**P**	**23 39 20.1**	**-1.1**
RPSI				IAmb	IAmb	23 39 21.1	
	comp=Z,6.1nm,0.8s						
PSI	**Prapat**	**30.64**	**289**	P	**P**	**23 39 20.6**	**-1.1**
	comp=Z,2.7nm,0.4s,baz=180,slow=5.7,SNR=4.6						
CMAR	**Chiang Mai Arr**	**38.57**	**313**	P	**P**	**23 40 29.1**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=139,slow=7.4,SNR=1.7						
KSRS	**Korea Array**	**44.95**	**0**	P	**P**	**23 41 20.6**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=182,slow=9.5,SNR=1.9						
SONM	**Songino Array**	**58.47**	**343**	P	**P**	**23 43 00.5**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=168,slow=7.6,SNR=3.8						
SONM	**Songino Array**	**58.47**	**343**	P	**P**	**23 43 00.7**	**-0.7**
PEA0B	**Petropavlovsk-**	**65.72**	**19**	P	**P**	**23 43 49.1**	**-0.3**
PETK	**Petropavlovsk-**	**65.72**	**19**	P	**P**	**23 43 49.3**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=201,slow=7.7,SNR=2.2						
PETK	**Petropavlovsk-**	**65.72**	**19**	P	**P**	**23 43 48.7**	**-0.8**
NIL	**Nilore**	**66.05**	**312**	P	**P**	**23 43 50.5**	**-1.5**
MK31	**Makanchi Array**	**67.66**	**328**	P	**P**	**23 44 00.8**	**-1.2**
MKAR	**Makanchi Array**	**67.66**	**328**	P	**P**	**23 44 01.1**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=125,slow=7.3,SNR=8.4						
MAKZ	**Makanchi**	**67.83**	**328**	P	**P**	**23 44 01.7**	**-1.3**
ZAA0	**Zalesovo Array**	**71.29**	**335**	P	**P**	**23 44 22.4**	**-1.6**
ZAA0				IAmb	IAmb	23 44 29.5	
	comp=Z,1.8nm,1.1s						
ZALV	**Zalesovo Beam**	**71.29**	**335**	P	**P**	**23 44 22.2**	**-1.8**
	comp=Z,1.2nm,0.5s,baz=139,slow=6.1,SNR=5.5						
VNDA	**Vanda**	**72.00**	**173**	P	**P**	**23 44 29.1**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=322,slow=6.4,SNR=2.0						
VNDA	**Vanda**	**72.00**	**173**	P	**P**	**23 44 27.7**	**-0.2**
VNDA				IAmb	IAmb	23 44 43.3	
	comp=Z,4.3nm,1.4s						
KURK	**Kurchatov**	**72.02**	**330**	P	**P**	**23 44 27.4**	**-1.1**
KURK				IAmb	IAmb	23 44 29.1	
	comp=Z,2.3nm,0.8s						
QSPA	**South Pole Qui**	**82.25**	**180**	P	**P**	**23 45 26.6**	**+1.1**
QSPA				IAmb	IAmb	23 45 27.2	
	comp=Z,2.1nm,0.7s						
SNAA	**Sanae**	**94.43**	**194**	P	**P**	**23 46 24.7**	**+0.9**
SNAA				IAmb	IAmb	23 46 25.6	
	comp=Z,1.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**126.79**	**281**	PKP	**PKPdf**	**23 52 07.3**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=80,slow=2.1,SNR=5.1						
CPUP	**Villa Florida**	**145.78**	**172**	PKPbc	**PKPbc**	**23 52 44.1**	**+0.8**
	comp=Z,1.1nm,0

comp=N,428µm,0.4s
TA01 Diego Aracena 0.46 198 Pn **Pn 00 03 06.3 +0.5**
PB11 IPOC Station P 0.51 44 ⇓*iP* **Pn 00 03 08.0 +1.3**
PB11 *eS* **Sn 00 03 16.9 +2.1**
PB11 IPOC Station P 0.51 44 Pn 00 03 07.5 +0.8
PB11 **Sn 00 03 16.3 +1.5**
PSGCX Pisagua 0.54 350 Pn 00 03 08.2 +1.2
PSGCX **Sn 00 03 16.6 +1.3**
PSGC Pisagua 0.54 350 ⇑*iP* **Pn 00 03 08.3 +1.4**
PSGC *eS* **Sn 00 03 17.0 +1.6**
PSGC IAML 00 03 17.6
comp=N,699µm,0.5s
PB08 IPOC Station P 0.82 91 ⇓*iP* **Pn 00 03 12.2 +1.3**
PB08 *eS* **Sn 00 03 24.1 +1.9**
PB08 IPOC Station P 0.82 91 Pn **Pn 00 03 11.9 +1.1**
GO01 Chusmiza 0.91 60 ⇓*iP* **Pn 00 03 13.6 +1.5**
GO01 *eS* **Sn 00 03 26.9 +2.5**
GO01 Chusmiza 0.91 60 Pn 00 03 13.5 +1.4
PB01 IPOC Station P 1.04 151 ⇑*iP* **Pn 00 03 14.2 +0.6**
PB01 *eS* **Sn 00 03 27.7 +0.7**
PB01 IAML 00 03 28.4
comp=E,254µm,0.7s
PB01 IPOC Station P 1.04 151 Pn **Pn 00 03 13.6 +0.1**
MNMC Minye Minye 1.08 22 ⇓*iP* **Pn 00 03 15.9 +1.7**
MNMC *eS* **Sn 00 03 30.7 +2.5**
MNMC IAML 00 03 32.5
comp=E,265µm,0.6s
MNMC Minye Minye 1.08 22 Pn 00 03 15.6 +1.4
PB12 IPOC Station P 1.54 349 ⇑*iP* **Pn 00 03 21.8 +1.4**
PB12 *i* S **Sn 00 03 41.4 +2.3**
PB12 IAML 00 03 44.6
comp=E,137µm,0.7s
PB12 IPOC Station P 1.54 349 Pn 00 03 21.8 +1.4
PB07 IPOC Station P 1.59 175 ⇑*iP* **Pn 00 03 22.2 +1.0**
PB07 *i* S **Sn 00 03 42.0 +1.3**
PB07 IPOC Station P 1.59 175 Pn 00 03 22.5 +1.3
AP01 Chacalluta 1.78 350 Pn 00 03 25.4 +1.9
PB09 IPOC Station P 1.81 156 ⇑*iP* **Pn 00 03 26.2 +2.0**
PB09 *eS* **Sn 00 03 47.6 +1.5**
PB09 IPOC Station P 1.81 156 Pn 00 03 26.1 +2.0
PB16 IPOC Station P 1.85 15 Pn 00 03 26.9 +1.8
PB03 IPOC Station P 1.92 172 ⇑*iP* **Pn 00 03 27.3 +1.6**
PB03 *eS* **Sn 00 03 50.4 +1.6**
PB03 IAML 00 03 53.1
comp=E,50µm,0.6s
PB04 IPOC Station P 2.19 183 ⇓*iP* **Pn 00 03 30.0 +0.6**
PB04 *eS* **Sn 00 03 56.8 +1.4**
PB04 IAML 00 04 06.7
comp=N,67µm,0.6s
PB04 IPOC Station P 2.19 183 Pn 00 03 29.9 +0.5
PB06 IPOC Station P 2.60 171 Pn 00 03 35.6 +0.7
LVC Limon Verde 2.68 157 P **Pn 00 03 38.8 +2.5**
comp=N,1µm,0.3s,baz=0.7,slow=8.0,SNR=2120
LVC S **Sn 00 04 10.6 +3.0**
comp=N,2µm,0.3s,baz=45,slow=23,SNR=19
LVC LR LR 00 04 42.3
comp=N,9µm,20.0s,baz=27,slow=39
LVC Limon Verde 2.68 157 Pn **Pn 00 03 38.6 +2.5**
LVC Limon Verde 2.68 157 *eP* **Pn 00 03 38.7 +2.5**
PB15 IPOC Station P 3.10 170 Pn 00 03 42.6 +0.7
PB10 IPOC Station P 3.40 188 Pn **Pn 00 03 44.7 -1.1**
I08BO LAS PENAS INFR 4.17 21 P Pn 00 04 03.8 +6.9
LPAZ La Paz 4.23 26 P **Pn 00 04 02.4 +4.7**
comp=N,53nm,0.3s,baz=197,slow=6.7,SNR=466
LPAZ LR LR 00 05 48.6
comp=N,6µm,18.2s,baz=217,slow=43
PB14 IPOC Station P 4.49 184 Pn **Pn 00 03 59.5 -1.4**
GO02 Mina Guanaco 5.02 175 Pn Pn 00 04 08.2 -0.1
AC01 Pan de Azucar 6.01 185 Pn Pn 00 04 19.6 -2.1
AC02 Maricunga 6.72 173 Pn Pn 00 04 31.4 -0.4
GO03 Copiap 7.43 181 Pn 00 04 40.1 -1.1
LCO Las Campanas 8.86 184 P **Pn 00 04 59.1 -1.9**
LCO Las Campanas 8.86 184 Pn 00 04 59.1 -1.9
SIV San Ignacio 9.46 66 P **Pn 00 05 07.2 -1.7**
comp=N,42nm,0.3s,baz=260,slow=12,SNR=659
CO01 Juntas del Tor 9.80 180 Pn 00 05 11.8 -2.0
NNA Nana 10.41 320 P **Pn 00 05 22.5 +0.5**
comp=N,8.2nm,0.3s,baz=170,slow=12,SNR=14
NNA S **Sn 00 07 09.1 -8.3**
comp=N,7.0nm,0.3s,baz=229,slow=18,SNR=1.9
NNA LR LR 00 09 30.5
comp=N,2µm,19.9s,baz=158,slow=38
NNA Nana 10.41 320 *i* P **Pn 00 05 21.1 -0.9**
NNA Nana 10.41 320 Pn 00 05 23.0 +1.0
ETMB Extrema 10.90 20 *eP* **Pn 00 05 28.2 -0.4**
CO02 Combarbal 11.06 184 Pn 00 05 27.8 -3.0
PTLB Pontes e Lacer 11.37 68 *eP* **Pn 00 05 34.2 -0.9**
ZON Zonda 11.43 174 P **Pn 00 05 33.8 -2.1**
ZON Zonda 11.43 174 Pn 00 05 33.8 -2.1
VILB Vilhena 11.82 54 *eP* **Pn 00 05 49.9 -0.4**
VA03 San Esteban 12.59 182 Pn 00 05 50.1 -1.7
ROC1 El Roble 12.82 184 Pn 00 05 52.9 -2.2
SAML Samuel 12.94 32 P **Pn 00 05 55.0 -1.5**
SAML Samuel 12.94 32 Pn 00 05 55.0 -1.5
SAML Samuel 12.94 32 *eP* **Pn 00 05 54.5 -2.0**
PEL Peldehue 12.97 182 P **Pn 00 05 55.5 -1.4**
PEL Peldehue 12.97 182 Pn 00 05 55.5 -1.4
CPUP Villa Florida 13.20 120 P **Pn 00 05 58.2 -1.9**
comp=N,0.9nm,0.3s,baz=303,slow=13,SNR=27
CPUP LR LR 00 12 10.9
comp=N,1µm,18.4s,baz=303,slow=42
CPUP Villa Florida 13.20 120 P **Pn 00 05 58.9 -1.1**
CPUP Villa Florida 13.20 120 Pn 00 05 58.9 -1.1
CPUP Villa Florida 13.20 120 *eP* **Pn 00 06 00.9 +0.9**
MT05 Renca 13.22 183 Pn **Pn 00 05 59.5 -0.8**
BO01 Tunca 14.24 184 Pn 00 06 13.6 -0.5
SALV Santo Antonio 14.27 75 *eP* **Pn 00 06 12.5 -2.1**
BO02 Sierra Bellavi 14.62 182 Pn **Pn 00 06 19.1 -0.1**
ATAH Atahualpa 15.26 327 P **P 00 06 32.5 +0.3**
comp=N,0.8nm,0.3s,baz=162,slow=13,SNR=6.3
H03N1 Juan Fernandez 15.44 209 T T 00 22 00.5
baz=33,slow=72,SNR=2079
H03N2 Juan Fernandez 15.44 209 T T 00 21 58.2
baz=33,slow=72,SNR=1412
H03N3 Juan Fernandez 15.45 209 T T 00 21 58.6
baz=33,slow=72,SNR=2435
VA04 Juan Fernndez 15.57 208 Pn 00 06 30.2 -1.3
VA04 IAmb IAmb 00 06 35.4
comp=Z,395nm,0.8s
TRCB Terra Rica 16.41 102 *eP* **Pn 00 06 41.4 -0.9**
CLDB Colider 16.50 58 *eP* **Pn 00 06 41.1 -2.5**
BI02 San Fabin de 16.51 184 Pn 00 06 43.5 0.0
BI03 Tigo 16.86 188 P **Pn 00 06 47.4 -0.4**
PTGB Pitanga 17.22 109 *eP* **Pn 00 06 51.8 -0.7**
PCMB Pacaembu 17.60 98 *eP* **Pn 00 06 56.0 -1.2**
ITAB Concordia 17.84 117 *eP* **Pn 00 06 58.6 -1.5**
ARAG Araguaiana, MT 17.88 79 *eP* **Pn 00 06 59.1 -1.5**
LPA La Plata 18.19 147 *eP* P 00 06 54.1 -10
LPA pPP 00 07 23.5
LPA S **Sn 00 10 15.8 -11**
LPA sS **S 00 10 32.3 +2.6**
LPA SSS SSS 00 10 48.2
LPA PCP PcP 00 11 25.1 -10
LPA SCS ScS 00 18 30.0 -18
LPA PKIKP **PKiKP 00 19 25.5 -1.3**
LPA SKIKP 00 22 52.1
LPA SKIKS 00 26 23.3
ITRB Iturama 18.50 92 *eP* **P 00 07 06.6 -1.0**
PLTB Pedras Altas 18.74 131 *eP* **P 00 07 07.6 -2.6**
LC01 Cunco 18.77 184 P **P 00 07 10.2 -0.2**
MACA Manacapuru-AM 19.17 30 *eP* **P 00 07 14.1 -0.9**
FRTB Fartura 19.28 103 *eP* **P 00 07 14.6 -1.5**
NPGB Novo Progresso 19.28 50 *eP* **P 00 07 14.2 -1.9**
CNLB Canela 19.65 121 *eP* **P 00 07 19.2 -1.0**
TIJ01 Guaruva-PR 20.06 109 *eP* **P 00 07 24.2 -0.5**
BB19B Bebedouro 20.15 96 *eP* **P 00 07 24.2 -1.4**
PLCA Paso Flores 20.54 181 P **P 00 07 30.8 +1.0**
comp=Z,85nm,0.9s,baz=3.2,slow=12,SNR=139
PLCA S Sn 00 11 20.9 -2.1
comp=Z,2.2nm,0.8s,baz=150,slow=18,SNR=0.8
PLCA PcP **PcP 00 11 39.5 -0.1**
comp=Z,8.6nm,0.8s,baz=355,slow=0.8,SNR=4.7
PLCA pPcP 00 11 55.5
comp=Z,9.3nm,0.8s,baz=39,slow=1.3,SNR=3.9
PLCA LR LR 00 15 36.2
comp=Z,1µm,21.5s,baz=16,slow=37
PLCA Paso Flores 20.54 181 *eP* **P 00 07 30.6 +0.9**
PLCA Paso Flores 20.54 181 *eP* **P 00 07 30.9 +1.2**
PTLC Puerto Leguiza 20.71 346 *eP* **P 00 07 29.3 -2.4**
IPMB Ipameri, GO 20.73 88 *eP* **P 00 07 29.9 -2.1**
ITTB Itaituba 20.96 43 *eP* **P 00 07 33.1 -1.3**
RCLB Rio Claro- Sao 21.09 100 *eP* **P 00 07 32.9 -2.8**

SPB Sao Paulo 21.25 103 P **P 00 07 36.7 -0.8**
SPB Sao Paulo 21.25 103 *eP* **P 00 07 35.7 -1.7**
BDFB Brasilia 21.41 82 P **P 00 07 37.4 -2.0**
comp=Z,57nm,0.8s,baz=255,slow=12,SNR=32
BDFB S **S 00 11 31.4 -3.3**
comp=Z,9.5nm,0.8s,baz=59,slow=22,SNR=1.1
BDFB LR LR 00 17 20.6
comp=Z,2µm,19.9s,baz=279,slow=41
BDFB Brasilia 21.41 82 P **P 00 07 37.5 -1.9**
BDFB pmax pmax
comp=Z,153nm,0.9s
BDFB Brasilia 21.41 82 P **P 00 07 37.5 -1.9**
PET01 Itanhaem-SP 21.46 105 *eP* **P 00 07 38.4 -1.3**
PUAC Puerto Asis, P 21.53 342 *eP* **P 00 07 43.0 +2.5**
VAO Valinhos 21.63 102 *eP* **P 00 07 39.1 -2.5**
PTGA Pitinga 21.65 28 P **P 00 07 39.6 -2.1**
comp=Z,115nm,0.9s,baz=209,slow=11,SNR=51
PTGA S **S 00 11 36.5 -2.5**
comp=Z,6.4nm,0.6s,baz=172,slow=21,SNR=1.1
PTGA LR LR 00 16 53.8
comp=Z,2µm,19.1s,baz=206,slow=39
PTGA Pitinga 21.65 28 P **P 00 07 39.7 -2.1**
PTGA IAmb IAmb 00 07 59.0
comp=Z,242nm,1.2s
OTAV Otavalo 21.86 337 *eP* **P 00 07 47.4 +2.9**
OTAV Otavalo 21.86 337 P **P 00 07 45.4 +0.9**
OTAV pmax pmax
comp=Z,102nm,0.9s
OTAV Otavalo 21.86 337 P **P 00 07 45.4 +0.9**
OTAV Otavalo 21.86 337 *eP* **P 00 07 46.6 +2.1**
LL01 San Ignacio de 22.27 185 P **P 00 07 47.8 -0.4**
LL01 IAmb IAmb 00 08 08.8
comp=Z,178nm,1.1s
FLOC Florencia 22.27 345 *eP* **P 00 07 48.5 0.0**
FLOC Florencia 22.27 345 P **P 00 07 49.0 +0.5**
PEXB Peixe 22.33 72 *eP* **P 00 07 48.4 -0.7**
GCUF Volcan Galeras 22.41 340 *eP* **P 00 07 53.7 +3.3**
PARB Paraibuna 22.89 102 *eP* **P 00 07 54.0 -1.1**
SOTA Rioblanco 23.05 343 *eP* **P 00 07 59.2 +2.1**
BBAC Balboa, Cauca 23.13 341 *eP* **P 00 07 59.0 +1.4**
PCON Cinco Dias 23.18 344 *eP* **P 00 07 59.7 +1.2**
BETC Betania 23.29 346 *eP* **P 00 07 59.5 +0.6**
MARP Paez Belalcaza 23.56 345 *eP* **P 00 08 03.4 +1.6**
BSCB Bom Sucesso 23.66 97 *eP* **P 00 08 00.3 -2.3**
MALB Monte Alegre 23.82 42 *eP* **P 00 08 01.7 -2.2**
PRPB Parauapebas 24.04 57 *eP* **P 00 08 03.7 -2.3**
PRAC Prado 24.17 348 *eP* **P 00 08 06.3 -0.9**
PTGC Puerto Gaitan, 24.27 355 *eP* **P 00 08 08.5 +0.4**
GR1C Gorgona, Isla 24.34 340 *eP* **P 00 08 11.1 +2.4**
VILC Villavicencio, 24.36 351 *eP* **P 00 08 09.1 0.0**
MAN01 Angra dos Reis 24.39 101 *eP* **P 00 08 08.2 -1.1**
SMTB Santa Maria do 24.41 66 *eP* **P 00 08 08.6 -0.8**
ORTC Ortega, Tolima 24.43 347 *eP* **P 00 08 10.3 +0.6**
YOTC Yotoco, Valle 24.75 345 *eP* **P 00 08 10.9 -1.8**
VAS01 Vassouras-RJ 24.87 100 *eP* **P 00 08 13.4 -0.1**
CHIC Chingaza 24.87 351 *eP* **P 00 08 14.0 0.0**
MC01 Montes Claros 24.97 86 *eP* **P 00 08 13.4 -1.2**
JANB Januaria 25.01 82 *eP* **P 00 08 13.1 -1.9**
ANIL Santa Ana 25.03 347 *eP* **P 00 08 16.2 +0.9**
MALC Bahia Malaga 25.05 343 *eP* **P 00 08 18.3 +3.2**
TOLC Tolima 25.11 347 *eP* **P 00 08 16.6 +0.5**
ROSC El Rosal 25.17 350 P **P 00 08 16.0 -0.7**
comp=Z,95nm,0.7s,baz=162,slow=5.7,SNR=21
ROSC El Rosal 25.17 350 *eP* **P 00 08 17.4 +0.7**
ROSC El Rosal 25.17 350 P **P 00 08 17.4 +0.7**
ROSC IAmb IAmb 00 08 23.5
comp=Z,115nm,0.8s
SDBA SAO DESIDERIO 25.29 76 *eP* **P 00 08 16.0 -1.5**
RREF El Recreo 25.42 348 *eP* **P 00 08 20.7 +1.5**
PLMC San Jos del P 25.63 345 *eP* **P 00 08 21.7 +1.2**
GUY2C Guyana, Caldas 25.74 348 *eP* **P 00 08 23.3 +1.3**
SPBC San Pablo de B 25.93 351 *eP* **P 00 08 23.1 -0.1**
NORC Norcasia 25.97 349 *eP* **P 00 08 24.0 +0.4**
RUSC La Rusia 26.04 353 *eP* **P 00 08 25.5 +0.9**
RUSC La Rusia 26.04 353 P **P 00 08 24.9 +0.3**
MCPB Macapa, AP 26.37 44 *eP* **P 00 08 26.7 -0.5**
TAMC Tame, Arauca 26.46 356 *eP* **P 00 08 28.5 +0.5**
CBOC Ciudad Bolivar 26.50 347 *eP* **P 00 08 28.8 +0.4**
HELC Santa Helena 26.71 348 *eP* **P 00 08 30.5 -0.2**
BARC Barichara 26.74 353 *eP* **P 00 08 30.0 -0.7**
PTBC PUERTO BERRIO, 26.86 350 *eP* **P 00 08 30.2 -1.3**
SJMB Sao Joao De Ma 27.23 92 *eP* **P 00 08 34.1 -0.8**
BRRC Barranca, Sant 27.31 352 *eP* **P 00 08 34.4 -1.1**
PAMC Pamplona, Colo 27.43 354 *eP* **P 00 08 35.7 -1.4**
BSFB Barra de Sao F 27.53 92 *eP* **P 00 08 37.4 -0.1**
TMAB Tom-Au,PA,Br 27.75 53 *eP* **P 00 08 37.9 -1.7**
ZARC Zaragoza, Cauc 27.86 350 *eP* **P 00 08 39.7 -0.8**
RIB01 Linhares ES 27.89 93 *eP* **P 00 08 40.4 -0.5**
UREC San Jos de Ur 28.23 348 *eP* **P 00 08 43.1 -0.7**
NAN01 Guarapari, ES 28.35 90 *eP* **P 00 08 43.1 -1.8**
OCAC Ocana 28.38 353 *eP* **P 00 08 44.0 -1.3**
SDV Santo Domingo 28.84 359 P **P 00 08 48.6 -0.9**
comp=Z,52nm,0.8s,baz=229,slow=4.1,SNR=7.4
SDV LR LR 00 21 25.3
comp=Z,1µm,19.9s,baz=192,slow=39
SDV Santo Domingo 28.84 359 P **P 00 08 48.3 -1.1**
SDV Santo Domingo 28.84 359 *eP* **P 00 08 48.9 -0.6**
SMLC San Martn de 29.02 352 *eP* **P 00 08 48.7 -2.1**
MOTC Monteria, Cord 29.26 349 *eP* **P 00 08 52.5 -0.5**
CAPC Capurgana 29.48 345 *eP* **P 00 08 56.7 +1.7**
GDU01 Guandu, BA 29.79 82 *eP* **P 00 08 56.6 -1.2**
ARGC Ariguani, Magd 30.09 352 *eP* **P 00 08 59.5 -0.8**
SJCC San Jacinto, C 30.27 350 *eP* **P 00 09 01.4 -0.5**
MDP Montagnes des 30.35 36 P **P 00 09 02.3 -0.3**
comp=Z,41nm,0.8s,baz=209,slow=11,SNR=23
MDP LR LR 00 22 02.1
comp=Z,3µm,18.4s,baz=210,slow=38
ROSB Rosrio 30.53 59 *eP* **P 00 09 03.4 -0.9**
BCIP Isla Barro Col 30.67 341 P **P 00 09 06.5 +1.0**
BCIP pmax pmax
comp=Z,206nm,1.8s
BCIP Isla Barro Col 30.67 341 P **P 00 09 06.5 +1.0**
BCIP IAmb IAmb 00 09 56.5
comp=Z,206nm,1.8s
TOSP Speyside 32.60 17 *eP* **P 00 09 19.6 -2.8**
TOSP *eS* **pP 00 09 35.5 +0.2**
TOSP Speyside 32.60 17 P **P 00 09 22.5 +0.1**
TOSP IAmb IAmb 00 09 23.8
comp=Z,180nm,0.9s
EFI East Falkland 32.85 166 *i* P **P 00 09 23.7 -0.5**
EFI pmax pmax
comp=Z,117nm,1.1s
GRGR Grenville 33.10 15 P **P 00 09 26.2 -0.6**
JTS Las Juntas de 33.61 333 P **P 00 09 31.4 +0.1**
comp=Z,8.7nm,0.9s,baz=179,slow=18,SNR=4.8
JTS LR LR 00 23 02.7
comp=Z,657nm,21.8s,baz=220,slow=36
JTS Las Juntas de 33.61 333 *i* P **P 00 09 32.7 +1.4**
JTS pmax pmax
comp=Z,9.0nm,0.9s
JTS Las Juntas de 33.61 333 P **P 00 09 31.8 +0.5**
NBMO Morrinhos-CE 33.68 64 *eP* **P 00 09 30.7 -1.2**
USHA Ushuaia 34.66 178 P **P 00 09 41.3 +1.4**
comp=Z,32nm,0.8s,baz=182,slow=6.3,SNR=3.7
FDF Fort de France 35.73 15 P **P 00 09 47.5 -2.0**
FDF pmax pmax
comp=Z,118nm,0.7s
FDF Fort de France 35.73 15 P **P 00 09 47.5 -2.0**
RCBR Riachuelo 36.06 71 P **P 00 09 52.0 -0.6**
comp=Z,52nm,0.8s,baz=237,slow=9.6,SNR=19
RCBR Riachuelo 36.06 71 P **P 00 09 51.6 -0.9**
RCBR pmax pmax
comp=Z,125nm,1.3s
RCBR Riachuelo 36.06 71 P **P 00 09 51.6 -0.9**
RCBR IAmb IAmb 00 10 11.8
comp=Z,125nm,1.3s
RCBR Riachuelo 36.06 71 *eP* **P 00 09 51.9 -0.6**
MATN Matagalpa 36.39 333 P **P 00 09 56.1 +0.8**
RPN Rapa Nui 36.57 251 LR LR 00 21 06.2
comp=Z,1µm,19.6s,baz=94,slow=30
RPN Rapa Nui 36.57 251 P **P 00 09 57.2 +0.5**
RPN pmax pmax
comp=Z,725nm,2.0s
RPN Rapa Nui 36.57 251 P **P 00 09 57.2 +0.5**
SKI Saint Kitts 37.91 11 P **P 00 10 06.6 -1.5**
SKI pmax pmax
comp=Z,194nm,1.1s
SKI Saint Kitts 37.91 11 P **P 00 10 06.6 -1.5**
TGUH Tegucigalpa,Un 37.97 332 P **P 00 10 09.6 +0.9**
TGUH IAmb IAmb 00 10 30.9
comp=Z,89nm,0.9s
CRPR Cabo Rojo, PR 38.01 5 P **P 00 10 07.7 -1.1**
MTP Monte Pirata 38.24 7 P **P 00 10 09.1 -1.8**

HUMP Col San Antoni 38.26 6 P **P 00 10 08.8 -2.1**
HUMP IAmb IAmb 00 10 11.3
comp=Z,310nm,1.9s
BANI BANI 38.29 359 P **P 00 10 10.1 -1.2**
AOPR Arecibo Observ 38.38 5 P **P 00 10 10.7 -1.3**
AOPR IAmb IAmb 00 10 11.5
comp=Z,98nm,0.9s
CBYP Canovanas 38.38 6 P **P 00 10 10.3 -1.7**
PCDR Punta Cana, DR 38.44 3 P **P 00 10 11.6 -0.8**
CUPR Culebra, Puert 38.48 7 P **P 00 10 10.6 -2.2**
CUPR IAmb IAmb 00 10 12.6
comp=Z,123nm,0.9s
STVI Saint Thomas 38.57 8 P **P 00 10 12.4 -1.1**
STVI IAmb IAmb 00 10 34.7
comp=Z,103nm,1.2s
DR12 Loma Pena Alta 38.68 1 P **P 00 10 12.9 -1.7**
MTDJ Mount Denham 38.83 349 P **P 00 10 16.2 +0.4**
MTDJ IAmb IAmb 00 10 17.6
comp=Z,141nm,0.9s
SDDR Presa de Saban 38.89 358 P **P 00 10 15.1 -1.2**
MTO3 Montecristo 39.23 330 P **P 00 10 20.5 +1.1**
MTO3 IAmb IAmb 00 10 34.7
comp=Z,62nm,0.9s
SC01 Santiago de lo 39.32 359 P **P 00 10 19.2 -0.7**
ESQI Esquipulas 39.36 330 P **P 00 10 21.8 +1.4**
ESQI IAmb IAmb 00 10 46.0
comp=Z,129nm,1.0s
GTBY Guantanamo Bay 40.12 353 P **P 00 10 26.3 -0.1**
GTBY IAmb IAmb 00 10 47.9
comp=Z,55nm,0.8s
CCIG Comitan 42.20 327 P **P 00 10 44.4 +0.5**
HOPE Hope Point 42.58 151 P **P 00 10 47.3 +1.1**
HOPE pmax pmax
comp=Z,120nm,0.9s
HOPE Hope Point 42.58 151 P **P 00 10 47.3 +1.1**
HOPE IAmb IAmb 00 10 48.6
comp=Z,120nm,0.9s
TEIG Tepich 43.91 335 P **P 00 10 57.9 +0.5**
TEIG IAmb IAmb 00 11 11.7
comp=Z,74nm,0.8s
CMIG Matias Romero 44.32 325 P **P 00 11 02.0 +1.3**
comp=Z,8.4nm,0.9s,baz=101,slow=4.0,SNR=9.1
CMIG pP **pP 00 11 14.5 +0.9**
comp=Z,18nm,0.9s,baz=130,slow=1.0,SNR=10
CMIG LR LR 00 26 45.8
comp=Z,275nm,21.8s,baz=144,slow=32
PMSA Palmer Station 44.80 176 P **P 00 11 05.6 +1.6**
comp=Z,17nm,0.8s,baz=11,slow=6.7,SNR=16
PMSA pP **pP 00 11 18.5 +1.3**
comp=Z,44nm,0.9s,baz=10,slow=6.1,SNR=18
PMSA Palmer Station 44.80 176 P **P 00 11 05.4 +1.4**
PMSA IAmb IAmb 00 12 47.3
comp=Z,64nm,0.7s
PMSA Palmer Station 44.80 176 *eP* **P 00 11 05.5 +1.6**
TLIG Tlapa 46.77 321 P **P 00 11 21.8 +1.5**
DWPF Disney Wildern 49.21 347 P **P 00 11 39.3 +0.6**
baz=166
DWPF Disney Wildern 49.21 347 P **P 00 11 39.4 +0.6**
DWPF IAmb IAmb 00 11 40.6
comp=Z,65nm,0.8s
MOIG Morelia 49.97 320 P **P 00 11 45.2 +0.2**
MOIG IAmb IAmb 00 12 00.5
comp=Z,47nm,1.0s
656A Willston 50.67 346 P **P 00 11 50.5 +0.6**
BBSR BB Station 52.45 6 P **P 00 12 02.5 -0.7**
BBSR IAmb IAmb 00 12 23.9
comp=Z,54nm,0.7s
TIGA Tifton 52.90 345 P **P 00 12 06.8 +0.3**
baz=164,SNR=6.5
ZAIG Zacatecas 53.17 322 P **P 00 12 10.3 +1.4**
158A Hollywood 53.46 349 P **P 00 12 11.5 +1.0**
baz=168
157A Early Branch 53.55 348 P **P 00 12 11.7 +0.5**
baz=167
BRAL Brewton 53.56 342 P **P 00 12 11.8 +0.4**
baz=160,SNR=13
BRAL Brewton 53.56 342 P **P 00 12 11.6 +0.3**
CSU Charleston Sou 53.68 350 P **P 00 12 13.4 +1.2**
Z59A Georgetown, SC 53.80 350 P **P 00 12 13.6 +0.6**
baz=169
NHSC New Hope 53.82 349 P **P 00 12 14.1 +1.0**
baz=168,SNR=21
NHSC New Hope 53.82 349 P **P 00 12 14.2 +1.1**
Z58A St. Stephen 53.98 350 P **P 00 12 15.1 +0.8**
baz=169,SNR=27
Z57A Bowman 54.10 349 P **P 00 12 15.8 +0.6**
baz=168,SNR=27
Z56A Williston 54.25 348 P **P 00 12 16.7 +0.4**
baz=167,SNR=9.3
Z56A Williston 54.25 348 P **P 00 12 16.6 +0.3**
152A Waverly Hall 54.35 345 P **P 00 12 16.9 -0.2**
152A IAmb IAmb 00 12 17.9
comp=Z,66nm,0.9s
Y60A Bolivia 54.40 352 P **P 00 12 17.9 +0.5**
baz=171,SNR=11
Y60A Bolivia 54.40 352 P **P 00 12 18.1 +0.7**
Y59A Loris 54.48 351 P **P 00 12 18.4 +0.4**
baz=170,SNR=11
KVTX Kingsville 54.54 329 P **P 00 12 19.0 +0.5**
Y56A Pelion 54.69 348 P **P 00 12 19.8 +0.3**
baz=167
Y57A Sumter 54.74 349 P **P 00 12 20.4 +0.5**
baz=168,SNR=8.7
GOGA Godfrey 54.77 346 P **P 00 12 19.8 -0.3**
baz=165,SNR=14
X60A Albert Glenn T 54.93 352 P **P 00 12 21.7 +0.5**
baz=171,SNR=12
Y55A Saluda 54.94 348 P **P 00 12 21.6 +0.3**
baz=166,SNR=23
344A Westbrook Farm 55.00 338 P **P 00 12 22.2 +0.4**
X59A McDuffie Farm, 55.01 351 P **P 00 12 22.2 +0.4**
baz=170,SNR=14
Z51A Franklin 55.08 345 P **P 00 12 22.1 -0.3**
Z51A IAmb IAmb 00 12 23.2
comp=Z,42nm,1.0s
X58A Rowland 55.10 351 P **P 00 12 22.9 +0.5**
baz=169,SNR=17
X58A Rowland 55.10 351 P **P 00 12 22.9 +0.5**
ASCN Ascension 55.12 86 P **P 00 12 22.6 -0.5**
X57A Johnson Farm, 55.13 350 P **P 00 12 23.0 +0.4**
baz=168,SNR=6.7
JSC Jenkinsville 55.16 349 P **P 00 12 23.1 +0.2**
JSC pmax pmax
comp=Z,31nm,0.9s
JSC Jenkinsville 55.16 349 P **P 00 12 23.1 +0.2**
441A DeRidder 55.27 336 P **P 00 12 25.2 +1.4**
441A IAmb IAmb 00 12 26.5
comp=Z,88nm,0.8s
LRAL Lakeview Retre 55.30 343 P **P 00 12 23.4 -0.5**
baz=161,SNR=19
HODGE Hodges 55.30 348 P **P 00 12 24.1 +0.2**
HODGE IAmb IAmb 00 12 25.2
comp=Z,42nm,1.1s
X56A White Oak 55.32 349 P **P 00 12 24.5 +0.4**
baz=168,SNR=19
Y52A Lilburn 55.34 346 P **P 00 12 24.0 -0.2**
Y52A IAmb IAmb 00 12 25.0
comp=Z,48nm,1.0s
W60A Pink Hill 55.36 352 P **P 00 12 24.8 +0.4**
baz=171,SNR=6.4
W61A Ground Anchor 55.40 353 P **P 00 12 24.9 +0.3**
baz=172,SNR=6.8
X55A Gracelyn & Ava 55.41 348 P **P 00 12 25.1 +0.5**
baz=167,SNR=27
342A Flagon Creek P 55.50 337 P **P 00 12 26.5 +1.0**
146A Union 55.54 341 P **P 00 12 25.5 -0.1**
146A IAmb IAmb 00 12 26.8
comp=Z,77nm,0.8s
W58A Raeford 55.54 351 P **P 00 12 26.4 +0.7**
baz=170,SNR=89
CNNC Cliffs of the 55.57 352 P **P 00 12 26.1 +0.3**
baz=171
W59A Clinton 55.57 352 P **P 00 12 26.4 +0.6**
baz=170,SNR=11
VBMS Vicksburg 55.63 339 P **P 00 12 26.2 -0.1**
baz=157
X54A Belton 55.63 348 P **P 00 12 26.7 +0.4**
baz=166,SNR=20
HKT Hockley 55.65 333 P **P 00 12 27.2 +0.8**
HKT pmax pmax
comp=Z,44nm,1.1s
HKT Hockley 55.65 333 P **P 00 12 27.2 +0.8**
HKT IAmb IAmb 00 12 28.8
comp=Z,44nm,1.1s
Z47A Carrollton 55.76 342 P **P 00 12 26.7 -0.5**
Z47A IAmb IAmb 00 12 27.8

comp=Z,67nm,0.9s
W57A Gilead 55.79 350 P P 00 12 27.8 +0.4
baz=169,SNR=23
W56A Indian Trail 55.87 350 P P 00 12 28.2 +0.2
baz=168,SNR=25
833A Chaparral WMA, 55.91 329 P P 00 12 29.2 +0.8
baz=146,SNR=19
Y49A Blount Mountai 55.91 344 P P 00 12 27.5 -0.9
Y49A IAmb IAmb 00 12 28.7
comp=Z,36nm,0.8s
V61A Roper 55.96 354 P P 00 12 28.9 +0.3
baz=173
V60A Jim Taylor Roa 56.01 353 P P 00 12 29.3 +0.4
baz=172,SNR=7.4
W54A Cherokee Point 56.11 348 P P 00 12 30.3 +0.5
baz=166,SNR=26
V59A Middlesex 56.13 352 P P 00 12 30.3 +0.5
baz=171,SNR=27
V58A Windy Hill, Pi 56.28 351 P P 00 12 31.3 +0.3
baz=170,SNR=35
V57A Coltrane Farms 56.47 351 P P 00 12 32.5 +0.2
baz=169,SNR=28
U61A Possum Corner 56.48 354 P P 00 12 32.6 +0.3
baz=173,SNR=10
V56A Mocksville 56.51 350 P P 00 12 33.3 +0.7
baz=168,SNR=34
X48A Hartselle 56.65 343 P P 00 12 33.1 -0.4
X48A IAmb IAmb 00 12 34.2
comp=Z,79nm,0.8s
U59A Littleton 56.66 352 P P 00 12 34.0 +0.5
baz=171,SNR=20
U59A Littleton 56.66 352 P P 00 12 33.8 +0.3
U59A IAmb IAmb 00 12 35.1
comp=Z,79nm,0.8s
V55A Taylorsville 56.68 349 P P 00 12 34.4 +0.7
baz=167,SNR=30
U60A Pendleton 56.70 353 P P 00 12 34.1 +0.3
baz=172,SNR=12
V54A Nebo 56.74 348 P P 00 12 34.6 +0.4
baz=167,SNR=32
NATX Nacogdoches 56.74 335 P P 00 12 35.6 +1.3
baz=152,SNR=14
NATX Nacogdoches 56.74 335 P P 00 12 35.1 +0.8
NATX pP pP 00 12 48.6 +0.9
U58A Oxford 56.79 352 P P 00 12 35.1 +0.6
baz=170,SNR=28
Y45A Yeager Farm, C 56.83 341 P P 00 12 34.8 0.0
Y45A pP pP 00 12 48.3 +0.1
W50A Signal Mountai 56.91 345 P P 00 12 35.3 -0.1
W50A IAmb IAmb 00 12 36.3
comp=Z,80nm,0.9s
U57A Blanch 56.94 351 P P 00 12 36.0 +0.5
baz=170,SNR=39
CPCT Cooper Cave 56.96 346 P P 00 12 35.4 -0.3
CPCT IAmb IAmb 00 12 36.7
comp=Z,76nm,1.0s
U56A King 57.02 350 P P 00 12 37.1 +0.9
baz=168,SNR=20
435B Jarrell 57.13 332 P P 00 12 37.6 +0.6
baz=149,SNR=6.3
435B Jarrell 57.13 332 P P 00 12 37.4 +0.3
435B IAmb IAmb 00 12 38.7
comp=Z,50nm,0.8s
T59A Double "B" Far 57.24 353 P P 00 12 38.1 +0.5
baz=172,SNR=42
U55A TA2, Sparta 57.28 349 P P 00 12 38.5 +0.4
baz=168,SNR=23
T60A Surry 57.31 354 P P 00 12 38.7 +0.5
baz=172,SNR=7.8
T60A Surry 57.31 354 P P 00 12 38.5 +0.4
T58A Grand View Acr 57.33 352 P P 00 12 39.0 +0.7
baz=170,SNR=56
Z41A Richland Creek 57.37 337 P P 00 12 39.4 +0.7
baz=154,SNR=14
OXF Oxford 57.38 341 P P 00 12 37.6 -1.2
baz=158,SNR=23
237A Washetta, Mont 57.42 334 P P 00 12 40.0 +1.0
U54A Nelsons Funny 57.44 349 P P 00 12 39.5 +0.3
baz=167,SNR=30
T57A Hurt 57.48 351 P P 00 12 40.1 +0.7
baz=170,SNR=28
T57A Hurt 57.48 351 P P 00 12 39.4 0.0
T57A pP pP 00 12 53.4 +0.3
T56A Rocky Mt 57.63 351 P P 00 12 41.4 +0.9
baz=169,SNR=26
TZTN Tazewell 57.80 347 P P 00 12 41.4 -0.3
baz=165,SNR=8.8
T55A Pulaski 57.84 350 P P 00 12 42.8 +0.9
baz=168,SNR=66
X43A Marvell 57.85 340 P P 00 12 42.2 +0.2
baz=157,SNR=16
S60A Water View 57.87 354 P P 00 12 42.4 +0.4
baz=173
WLAR White Oak Lake 57.87 337 P P 00 12 43.2 +1.0
BLA Blacksburg 57.87 350 P P 00 12 43.0 +0.8
baz=168,SNR=18
BLA Blacksburg 57.87 350 P P 00 12 42.7 +0.5
BLA pmax pmax
comp=Z,53nm,0.8s
BLA Blacksburg 57.87 350 P P 00 12 42.7 +0.5
BLA IAmb IAmb 00 12 43.6
comp=Z,53nm,0.8s
JCT Junction City 57.90 330 P P 00 12 42.8 +0.3
baz=147,SNR=13
T54A Tazewell 57.92 349 P P 00 12 42.7 +0.2
baz=167,SNR=25
S58A Poland Farm, P 57.93 352 P P 00 12 43.0 +0.5
baz=171,SNR=14
S59A Mechanicsville 57.99 353 P P 00 12 43.2 +0.3
baz=172
T53A Wise 58.02 348 P P 00 12 43.2 -0.1
baz=166,SNR=27
WHTX Lake Whitney, 58.11 333 P P 00 12 44.5 +0.6
baz=150,SNR=15
HPIG 58.16 322 P P 00 12 45.2 +0.6
S57A Dark Hollow, R 58.19 352 P P 00 12 45.2 +0.8
baz=170,SNR=33
S57A Dark Hollow, R 58.19 352 P P 00 12 45.0 +0.7
S56A Natural Bridge 58.20 351 P P 00 12 44.9 +0.5
baz=170,SNR=12
R58B Mineral 58.26 353 P P 00 12 45.5 +0.7
baz=171,SNR=25
U49A Red Boiling Sp 58.27 345 P P 00 12 44.4 -0.5
U49A IAmb IAmb 00 12 45.5
comp=Z,55nm,0.8s
R61A Willards 58.37 355 P P 00 12 46.1 +0.6
baz=174
SLBS Sierra La Lagu 58.40 316 P P 00 12 47.0 +0.8
R59A King George, V 58.40 353 P P 00 12 46.6 +0.8
baz=172,SNR=15
S55A Lewisburg 58.43 350 P P 00 12 46.9 +0.8
baz=168,SNR=36
CBN Corbin Frederi 58.44 353 P P 00 12 46.5 +0.5
baz=172,SNR=7.3
WVT Waverly 58.44 343 P P 00 12 45.4 -0.8
baz=160
WVT Waverly 58.44 343 P P 00 12 45.3 -0.8
WVT pmax pmax
comp=Z,114nm,0.8s
WVT Waverly 58.44 343 P P 00 12 45.3 -0.8
X40A Basin Creek Fa 58.49 338 P P 00 12 46.3 -0.2
baz=155,SNR=7.6
X40A Basin Creek Fa 58.49 338 P P 00 12 46.7 +0.2
UALR University of 58.58 339 P P 00 12 47.0 -0.1
UALR IAmb IAmb 00 12 48.1
comp=Z,62nm,0.9s
S54A Dingess, Beckl 58.59 350 P P 00 12 47.5 +0.3
baz=168,SNR=19
R58A Rapidan 58.60 353 P P 00 12 47.9 +0.7
baz=171,SNR=24
S53A Williamson 58.62 349 P P 00 12 47.3 -0.1
baz=167,SNR=13
R57A Stanardsville 58.66 352 P P 00 12 48.6 +1.0
baz=171,SNR=29
MIAR Mount Ida 58.81 337 P P 00 12 49.1 +0.4
baz=154,SNR=74
MIAR Mount Ida 58.81 337 P P 00 12 48.7 0.0
MIAR pmax pmax
comp=Z,98nm,0.8s
MIAR Mount Ida 58.81 337 P P 00 12 48.7 0.0
R55A Marlinton 58.87 351 P P 00 12 50.3 +1.1
baz=169,SNR=21
R56A Bull Pasture M 58.89 351 P P 00 12 50.3 +1.0
baz=170,SNR=15
W41B Gary Mavity, V 58.91 339 P P 00 12 49.3 -0.1
baz=156,SNR=20
R54A Victor 58.91 350 P P 00 12 49.8 +0.4
baz=168,SNR=29
TXAR Lajitas Array 58.91 326 P P 00 12 50.2 +0.5
comp=Z,8.7nm,0.8s,baz=146,slow=8.0,SNR=89
TXAR pP pP 00 13 04.2 +0.9
comp=Z,11nm,1.1s,baz=151,slow=8.8,SNR=9.2
TXAR LR LR 00 36 03.9
comp=Z,150nm,20.2s,baz=0.0,slow=34
TXAR PKP2bc 00 42 35.9
comp=Z,0.6nm,0.8s,baz=325,slow=1.5,SNR=6.1
TXAR Lajitas Array 58.91 326 P P 00 12 50.0 +0.3
TX32 Lajitas Array 58.91 326 P P 00 12 50.2 +0.5
LPIG La Paz 58.93 316 P P 00 12 51.5 +1.8
comp=Z,16nm,0.3s,baz=195,slow=6.1,SNR=4.0
Q59A Harwood 59.01 354 P P 00 12 50.8 +0.7
baz=173
WHAR Wooly Hollow 59.03 339 P P 00 12 50.2 -0.1
WHAR IAmb IAmb 00 12 51.1
comp=Z,51nm,0.9s
Q60A Greensboro 59.07 355 P P 00 12 51.2 +0.8
baz=174
Z35A Perchaven, San 59.18 334 P P 00 12 52.0 +0.7
Q58A Fox Den Farm, 59.20 353 P P 00 12 52.0 +0.7
baz=172,SNR=15
R53A Hurricane 59.22 349 P P 00 12 51.5 0.0
baz=167,SNR=9.3
R53A Hurricane 59.22 349 P P 00 12 51.4 -0.2
R53A IAmb IAmb 00 12 52.7
comp=Z,74nm,0.9s
LCAR Lake Charles 59.37 340 P P 00 12 51.9 -0.6
LCAR IAmb IAmb 00 12 53.0
comp=Z,53nm,0.8s
Q57A Strasburg 59.38 352 P P 00 12 53.8 +1.2
baz=171,SNR=47
W39A Magazine 59.47 337 P P 00 12 54.0 +0.7
baz=154,SNR=60
W39A Magazine 59.47 337 P P 00 12 53.7 +0.4
Q56A Snyder Ridge, 59.48 352 P P 00 12 54.6 +1.2
baz=170,SNR=53
Q56A Snyder Ridge, 59.48 352 P P 00 12 54.2 +0.9
Q55A Buckhannon 59.56 351 P P 00 12 55.1 +1.2
baz=169,SNR=34
SDMD Soldier's Deli 59.57 354 P P 00 12 54.5 +0.6
SDMD IAmb IAmb 00 12 55.5
comp=Z,32nm,0.9s
ABTX Abilene, Hawle 59.62 331 P P 00 12 54.9 +0.4
baz=148,SNR=48
ABTX Abilene, Hawle 59.62 331 P P 00 12 54.7 +0.3
P61A Hammonton 59.66 356 P P 00 12 55.0 +0.6
baz=175
Q53A Leroy 59.66 350 P P 00 12 54.7 +0.2
baz=168,SNR=30
Q54A Coxs Mills 59.67 350 P P 00 12 54.8 +0.2
baz=168,SNR=24
Q54A Coxs Mills 59.67 350 P P 00 12 54.7 +0.2
Q54A IAmb IAmb 00 12 55.8
comp=Z,78nm,0.8s
P58A Pank, Wackersv 59.70 353 P P 00 12 55.5 +0.7
baz=172,SNR=13
P59A Jarrettsville 59.73 354 P P 00 12 55.7 +0.8
baz=173,SNR=18
P57A Homestead Farm 59.77 353 P P 00 12 56.5 +1.2
baz=171,SNR=25
P60A Greenville 59.86 355 P P 00 12 56.1 +0.2
baz=174,SNR=11
Q52A Bidwell 59.89 349 P P 00 12 56.0 -0.2
baz=167,SNR=22
P56A Dayton Farm, R 59.89 352 P P 00 12 57.4 +1.3
baz=170,SNR=22
RKT Rikitea 60.01 254 eS S 00 21 01.7 -5.1
RKT eLR LR 00 30 40.8
comp=Z,930nm,32.5s
comp=Z,2µm,30.0s
WCI Wyandotte Cave 60.03 345 P P 00 12 56.4 -0.7
baz=162
WCI Wyandotte Cave 60.03 345 P P 00 12 56.4 -0.7
WCI pmax pmax
comp=Z,85nm,1.0s
WCI Wyandotte Cave 60.03 345 P P 00 12 56.4 -0.7
WCI IAmb IAmb 00 12 57.4
comp=Z,85nm,0.9s
P55A Reedsville 60.03 351 P P 00 12 58.0 +0.9
baz=169,SNR=28
O61A Allentown 60.06 356 P P 00 12 57.7 +0.5
baz=175,SNR=5.7
MVL Millersville 60.11 354 P P 00 12 58.2 +0.6
MVL IAmb IAmb 00 12 59.3
comp=Z,81nm,0.8s
MCWV Mont Chateau 60.18 351 P P 00 12 59.1 +1.0
baz=169,SNR=36
U40A Yellville 60.19 339 P P 00 12 58.1 -0.2
baz=155,SNR=70
P54A Burton 60.22 351 P P 00 12 59.0 +0.6
baz=169,SNR=61
P53A Whipple 60.25 350 P P 00 12 58.9 +0.3
baz=168,SNR=39
O58A Lewisberry 60.29 354 P P 00 12 59.6 +0.8
baz=173,SNR=11
O60A Telford 60.34 355 P P 00 12 59.7 +0.6
baz=174
O59A Robesonia 60.40 355 P P 00 13 00.2 +0.6
baz=173,SNR=8.0
O57A Amberson 60.45 353 P P 00 13 00.8 +0.9
baz=172,SNR=16
HHAR Hobbs 60.50 338 P P 00 13 00.3 0.0
HHAR IAmb IAmb 00 13 01.3
comp=Z,118nm,1.2s
P52A Corning 60.52 349 P P 00 13 00.2 -0.2
baz=167,SNR=18
P51A Williamsport 60.54 348 P P 00 13 00.1 -0.5
baz=166,SNR=5.7
P51A Williamsport 60.54 348 P P 00 12 59.8 -0.7
P51A IAmb IAmb 00 13 01.1
comp=Z,84nm,0.9s
O56A Blue Knob Stat 60.61 353 P P 00 13 02.1 +1.0
baz=171,SNR=33
LUPA Lehigh Univers 60.62 355 P P 00 13 01.5 +0.5
LUPA IAmb IAmb 00 13 04.2
comp=Z,33nm,0.8s
O55A Ligonier 60.65 352 P P 00 13 02.3 +1.0
baz=170,SNR=41
N61A South Mountain 60.70 356 P P 00 13 02.1 +0.5
baz=175
MGMO Mountain Grove 60.72 340 P P 00 13 01.5 -0.4
MGMO IAmb IAmb 00 13 02.7
comp=Z,78nm,0.8s
O54A Avella 60.77 351 P P 00 13 02.4 +0.3
baz=169,SNR=28
U38A Gravette 60.80 338 P P 00 13 02.3 -0.1
U38A IAmb IAmb 00 13 03.3
comp=Z,38nm,0.8s
N62A Caumsett State 60.83 357 P P 00 13 02.7 +0.2
baz=176
TUL1 Leonard 60.84 336 P P 00 13 03.0 +0.3
baz=152,SNR=22
TUL1 Leonard 60.84 336 P P 00 13 02.6 -0.1
N63A Mattituck 60.85 358 P P 00 13 02.3 -0.3
baz=177
N60A Cedar Hill Far 60.87 356 P P 00 13 03.0 +0.3
baz=175,SNR=6.3
SSPA Standing Stone 60.90 353 P P 00 13 03.8 +0.8
baz=172
SSPA Standing Stone 60.90 353 P P 00 13 03.6 +0.7
SSPA IAmb IAmb 00 13 04.9
comp=Z,76nm,0.9s
FVM French Village 60.91 342 P P 00 13 02.8 -0.3
FVM pmax pmax
comp=Z,135nm,0.8s
FVM French Village 60.91 342 P P 00 13 02.8 -0.3
P49A Miami Univ. Ec 60.92 347 P P 00 13 02.3 -0.8
baz=164,SNR=29
PAL Palisades 60.93 357 P P 00 13 03.3 +0.2
baz=176
O52A Adamsville 60.94 350 P P 00 13 03.2 -0.1
baz=167,SNR=19
SHEL Horse Pasture 60.94 97 P P 00 13 03.8 -0.1
SHEL pmax pmax
comp=Z,170nm,0.8s
SHEL Horse Pasture 60.94 97 P P 00 13 03.8 -0.1
O53A New Philadelph 60.97 350 P P 00 13 03.6 +0.2
baz=168,SNR=19
N59A State Game Lan 60.97 355 P P 00 13 04.1 +0.7
baz=174,SNR=7.1
N58A Sunbury 60.98 354 P P 00 13 04.3 +0.9
baz=173,SNR=22
N57A Milroy 60.98 353 P P 00 13 04.1 +0.6
baz=172,SNR=36
BLO Bloomington 60.98 345 P P 00 13 02.7 -0.8
BLO pmax pmax
comp=Z,81nm,0.7s
BLO Bloomington 60.98 345 P P 00 13 02.7 -0.8
WMOK Wichita Mounta 61.03 333 P P 00 13 03.7 -0.3
baz=149,SNR=24
O51A Pataskala 61.10 349 P P 00 13 04.1 -0.3
baz=166,SNR=19
N55A Marion Center 61.17 352 P P 00 13 05.9 +1.0
baz=170,SNR=89
CCM Cathedral Cave 61.22 341 P P 00 13 04.8 -0.4
baz=157
CCM Cathedral Cave 61.22 341 P P 00 13 04.6 -0.6
CCM pmax pmax
comp=Z,76nm,1.0s
CCM Cathedral Cave 61.22 341 P P 00 13 04.6 -0.6
CCM IAmb IAmb 00 13 05.9
comp=Z,76nm,1.0s
N56A West Decatur 61.22 353 P P 00 13 06.0 +0.8
baz=171,SNR=26
M61A Granite Spring 61.23 357 P P 00 13 05.4 +0.2
baz=176
M63A Gales Ferry 61.25 358 P P 00 13 05.8 +0.5
baz=178
ACSO Alum Creek Sta 61.25 349 P P 00 13 05.2 -0.2
baz=166,SNR=31
ACSO Alum Creek Sta 61.25 349 P P 00 13 05.0 -0.4
M60A Port Jervis 61.29 356 P P 00 13 06.0 +0.4
baz=175
M62A Hamden 61.32 358 P P 00 13 06.4 +0.7
baz=177
M64A Tiverton 61.38 359 P P 00 13 06.5 +0.4
baz=179
N53A Lisbon 61.45 351 P P 00 13 07.1 +0.4
baz=168,SNR=14
N53A Lisbon 61.45 351 P P 00 13 07.0 +0.2
SLM Saint Louis 61.45 342 P P 00 13 06.2 -0.6
SLM pmax pmax
comp=Z,48nm,0.9s
SLM Saint Louis 61.45 342 P P 00 13 06.2 -0.6
SLM IAmb IAmb 00 13 07.4
comp=Z,48nm,0.8s
M58A Price's Panora 61.48 354 P P 00 13 07.9 +1.0
baz=173,SNR=28
N54A Moraine State 61.48 351 P P 00 13 07.7 +0.8
baz=169,SNR=30
M57A Sunshine Farm, 61.51 354 P P 00 13 08.1 +1.0
baz=172,SNR=20
M57A Sunshine Farm, 61.51 354 P P 00 13 07.6 +0.6
GDL2 Guadalupe Moun 61.55 327 P P 00 13 08.5 +0.7
M59A Waymart 61.56 355 P P 00 13 08.2 +0.8
baz=174,SNR=17
N52A McGinn's Farm, 61.59 350 P P 00 13 07.5 -0.1
baz=168,SNR=14
MNTX Cornudas Mount 61.68 326 P P 00 13 08.4 -0.1
baz=142,SNR=75
L63A North Scituate 61.70 359 P P 00 13 09.0 +0.7
baz=178,SNR=11
VNA3 Neumayer Olymp 61.70 161 P P 00 13 08.7 +0.6
BRYW Bryant College 61.75 359 P P 00 13 09.2 +0.5
L64A Middleborough 61.76 359 P P 00 13 09.0 +0.3
baz=179
M56A Emporium 61.77 353 P P 00 13 09.6 +0.7
baz=171,SNR=28
N51A Ashland 61.81 349 P P 00 13 08.8 -0.3
baz=167,SNR=13
M55A Ridgway 61.82 353 P P 00 13 10.0 +0.8
baz=171,SNR=46
VNA1 Neumayer--Stat 61.92 161 P P 00 13 10.6 +1.1
L60A Shokan 61.93 356 P P 00 13 10.7 +0.8
baz=176,SNR=6.3
M54A Oil Creek Stat 61.97 352 P P 00 13 10.8 +0.6
baz=170,SNR=42
M53A WI Miller and 62.05 351 P P 00 13 11.0 +0.3
baz=169,SNR=19
L58A Harry Jones Me 62.10 355 P P 00 13 12.0 +0.9
baz=174,SNR=32
L61A Hillsdale 1, H 62.10 357 P P 00 13 11.5 +0.5
baz=176
L57A Andrews Acres 62.14 354 P P 00 13 12.1 +0.7
baz=173,SNR=15
L59A Walton 62.18 356 P P 00 13 12.6 +1.0
baz=175,SNR=31
M51A Elyria 62.18 350 P P 00 13 11.5 -0.1
baz=167,SNR=10
MSTX Muleshoe 62.19 329 P P 00 13 12.0 0.0
baz=145,SNR=37
MSTX Muleshoe 62.19 329 P P 00 13 11.8 -0.2
WES Weston 62.21 359 P P 00 13 12.1 +0.4
WES pmax pmax
comp=Z,61nm,0.9s
WES Weston 62.21 359 P P 00 13 12.1 +0.4
WES IAmb IAmb 00 13 13.3
comp=Z,61nm,0.9s
M52A Chesterland 62.25 350 P P 00 13 12.0 0.0
baz=168,SNR=9.4
BINY Binghamton 62.26 355 P P 00 13 13.0 +0.9
baz=174,SNR=36
SFIN Lafayette 62.26 345 P P 00 13 11.0 -1.2
baz=162,SNR=37
VNA2 Neumayer--Watz 62.28 161 P P 00 13 12.8 +0.8
L61B Northampton 62.31 358 P P 00 13 12.9 +0.4
baz=177,SNR=8.0
HRV Adam Dziewonsk 62.34 359 P P 00 13 13.4 +0.8
baz=178
HRV Adam Dziewonsk 62.34 359 P P 00 13 13.1 +0.5
HRV pmax pmax
comp=Z,154nm,0.9s
HRV Adam Dziewonsk 62.34 359 P P 00 13 13.1 +0.5
L56A Greenwood 62.34 354 P P 00 13 13.4 +0.7
baz=172,SNR=27
O44A Mansfield 62.39 344 P P 00 13 11.7 -1.3
M50A Fremont 62.40 349 P P 00 13 12.5 -0.5
N47A Urbana 62.42 347 P P 00 13 12.2 -1.0
AMTX Amarillo 62.43 331 P P 00 13 13.4 -0.1
baz=146
AMTX Amarillo 62.43 331 P P 00 13 13.3 -0.3
MBO M'Bour 62.45 61 P P 00 13 13.7 -0.2
L55A Hinsdale 62.49 353 P P 00 13 14.4 +0.7
baz=171,SNR=25
L53A Girard 62.49 351 P P 00 13 14.1 +0.4
baz=169,SNR=14
K62A Royalston 62.52 358 P P 00 13 14.5 +0.7
baz=178
K63A Dunstable 62.52 359 P P 00 13 14.5 +0.7
baz=178
K60A Five Rivers En 62.53 357 P P 00 13 14.8 +0.9
baz=176
K61A Williamstown 62.56 357 P P 00 13 14.9 +0.9
baz=177,SNR=8.4
ERPA Erie 62.62 352 P P 00 13 15.0 +0.5
baz=170,SNR=18
L54A Sinclairville 62.64 352 P P 00 13 15.6 +0.9
baz=170,SNR=34
K59A Cooperstown 62.75 356 P P 00 13 16.3 +0.9
baz=175,SNR=33
K58A Earlville 62.79 355 P P 00 13 16.5 +0.8
baz=174,SNR=28
HSIG 62.82 320 P P 00 13 17.1 +0.9
K57A Scipio Center 62.83 355 P P 00 13 16.3 +0.4
baz=173,SNR=22
K56A Middlesex 62.88 354 P P 00 13 16.6 +0.4
baz=172,SNR=15
K54A Basiliko Farm, 62.94 353 P P 00 13 17.4 +0.7
baz=171,SNR=21
K55A Perry 62.98 353 P P 00 13 17.4 +0.5
baz=172,SNR=13
HDIL Hopedale 62.98 344 P P 00 13 15.9 -1.1
baz=160,SNR=11
J62A Henniker 63.06 359 P P 00 13 18.3 +0.9
baz=178
J63A Strafford 63.10 359 P P 00 13 18.9 +1.2
baz=179
J60A Lant Hill Farm 63.14 357 P P 00 13 18.8 +0.9
baz=176,SNR=8.4
J61A Chester 63.20 358 P P 00 13 19.5 +1.1
baz=177
J58A Remsen 63.36 356 P P 00 13 20.0 +0.6
baz=174,SNR=9.2
AAM Ann Arbor 63.38 349 P P 00 13 19.1 -0.4
baz=166
J56A Wolcott 63.40 354 P P 00 13 19.9 +0.2
baz=173,SNR=10
J59A Piesco 63.41 356 P P 00 13 20.7 +0.9
baz=175,SNR=32
J57A Williamstown 63.46 355 P P 00 13 20.5 +0.5
baz=174,SNR=12
J55A Hilton 63.49 354 P P 00 13 20.6 +0.4

baz=172
319A Douglas 63.57 323 P **P** **00 13 22.3 +1.1**
319A IAmb IAmb 00 13 23.9
comp=Z,66nm,0.9s
J54A Appleton 63.59 353 P **P** **00 13 21.2 +0.4**
baz=171,SNR=5.2
121A Cookes Peak, D 63.61 325 P **P** **00 13 23.1 +1.6**
baz=140,SNR=28
121A Cookes Peak, D 63.61 325 P **P** **00 13 22.6 +1.0**
121A IAmb IAmb 00 13 24.4
comp=Z,36nm,0.9s
I58A Old Forge 63.67 356 P **P** **00 13 22.1 +0.7**
baz=175,SNR=24
I62A Tamworth 63.70 359 P **P** **00 13 22.7 +1.1**
baz=179
I59A Olmsteadville 63.71 357 P **P** **00 13 22.5 +0.8**
baz=176,SNR=27
I60A Shoreham 63.73 357 P **P** **00 13 22.8 +1.0**
baz=177,SNR=24
I64A Boothbay 63.74 0 P **P** **00 13 22.9 +1.1**
baz=180
I61A Oroboro, Fairl 63.78 358 P **P** **00 13 23.4 +1.2**
baz=178
I63A Otisfield 63.87 360 P **P** **00 13 23.8 +1.0**
baz=179
SNAA Sanae 63.91 161 P **P** **00 13 23.4 +0.6**
SNAA Sanae 63.91 161 P **P** **00 13 23.4 +0.6**
comp=Z,43nm,0.7s,baz=283,slow=6.0,SNR=206
SNAA pP **pP** **00 13 37.2 +0.5**
comp=Z,38nm,0.6s,baz=283,slow=7.8,SNR=18
SNAA Sanae 63.91 161 *ce* P **P** **00 13 23.3 +0.5**
SNAA pmax pmax
comp=Z,69nm,0.9s
SNAA Sanae 63.91 161 P **P** **00 13 23.1 +0.2**
SNAA IAmb IAmb 00 13 24.6
comp=Z,58nm,0.8s
I57A Carthage 63.96 355 P **P** **00 13 23.9 +0.5**
baz=174,SNR=10
KSU1 Kansas State U 63.96 337 P **P** **00 13 23.2 -0.3**
baz=152,SNR=15
KSU1 Kansas State U 63.96 337 P **P** **00 13 23.2 -0.3**
KSU1 IAmb IAmb 00 13 24.2
comp=Z,56nm,0.8s
LBNH Lisbon 64.08 358 P **P** **00 13 25.3 +1.2**
baz=178,SNR=13
L44A Lake County Fo 64.16 345 P **P** **00 13 23.8 -0.9**
baz=161,SNR=5.8
H58A Gabriels 64.35 357 P **P** **00 13 26.5 +0.6**
baz=176,SNR=25
H61A Lyndonville 64.37 358 P **P** **00 13 27.1 +1.0**
baz=178,SNR=18
WVL Waterville 64.38 0 P **P** **00 13 26.8 +0.8**
WVL IAmb IAmb 00 13 28.0
comp=Z,78nm,0.9s
H62A Milan 64.40 359 P **P** **00 13 27.1 +0.9**
baz=179,SNR=6.1
H62A Milan 64.40 359 P **P** **00 13 26.8 +0.6**
H62A IAmb IAmb 00 13 28.3
comp=Z,52nm,0.8s
I51A Listowel 64.42 351 P **P** **00 13 26.4 0.0**
baz=169,SNR=19
I55A Frankford 64.42 354 P **P** **00 13 26.7 +0.4**
baz=172,SNR=12
H60A Morristown 64.42 358 P **P** **00 13 27.3 +0.9**
baz=177,SNR=8.1
H64A Troy 64.46 1 P **P** **00 13 27.4 +0.8**
baz=181,SNR=6.1
H57A Richville 64.47 356 P **P** **00 13 27.2 +0.6**
baz=174,SNR=38
H63A New Sharon 64.48 360 P **P** **00 13 27.9 +1.3**
baz=180,SNR=17
H65A Eastbrook 64.53 1 P **P** **00 13 27.5 +0.5**
baz=182,SNR=6.6
H59A Cadyville 64.55 357 P **P** **00 13 28.1 +0.9**
baz=176,SNR=25
EMMW East Machias 64.57 2 P **P** **00 13 27.9 +0.6**
EMMW IAmb IAmb 00 13 28.9
comp=Z,74nm,0.9s
LONY Lake Ozonia 64.57 356 P **P** **00 13 28.1 +0.8**
baz=175,SNR=23
H66A Whiting 64.65 2 P **P** **00 13 28.5 +0.7**
baz=183,SNR=10
H56A Elgin 64.66 355 P **P** **00 13 28.5 +0.6**
baz=174,SNR=17
H55A Tweed 64.70 354 P **P** **00 13 28.5 +0.3**
baz=173,SNR=12
HAL Halifax 64.72 5 P **P** **00 13 28.6 +0.3**
HAL pmax pmax
comp=Z,78nm,0.9s
HAL Halifax 64.72 5 P **P** **00 13 28.6 +0.3**
HAL IAmb IAmb 00 13 29.7
comp=Z,78nm,0.9s
ANMO Albuquerque 64.79 327 *ce* P **P** **00 13 30.2 +1.0**
ANMO pmax pmax
comp=Z,23nm,0.9s
H53A Bobcaygeon 64.86 353 P **P** **00 13 29.5 +0.3**
baz=171,SNR=19
CBKS Cedar Bluff 64.91 335 P **P** **00 13 30.2 +0.4**
baz=149,SNR=12
CBKS Cedar Bluff 64.91 335 P **P** **00 13 30.2 +0.4**
CBKS pmax pmax
comp=Z,120nm,1.0s
CBKS Cedar Bluff 64.91 335 P **P** **00 13 30.2 +0.4**
CBKS IAmb IAmb 00 13 31.5
comp=Z,120nm,0.9s
G63A Kingsbury 64.93 0 P **P** **00 13 30.4 +0.8**
baz=180,SNR=10
G60A Masonville 64.95 358 P **P** **00 13 30.7 +0.9**
baz=178,SNR=15
G59A Clarenceville 64.96 358 P **P** **00 13 30.5 +0.7**
baz=177,SNR=13
GGN Saint George 65.00 2 P **P** **00 13 30.4 +0.4**
GGN IAmb IAmb 00 13 31.9
comp=Z,68nm,0.9s
G62A West of Eustis 65.04 360 P **P** **00 13 31.7 +1.4**
baz=180,SNR=40
G65A Princeton 65.06 2 P **P** **00 13 31.1 +0.7**
baz=182,SNR=13
G65A Princeton 65.06 2 P **P** **00 13 30.9 +0.5**
G65A IAmb IAmb 00 13 32.2
comp=Z,96nm,0.8s
G58A Ormstown 65.07 357 P **P** **00 13 31.2 +0.7**
baz=176,SNR=24
G57A Newington 65.08 356 P **P** **00 13 31.3 +0.8**
baz=175,SNR=41
G64A Maxfield 65.08 1 P **P** **00 13 31.2 +0.6**
baz=181,SNR=9.3
PKME Peaks-Kenny Pk 65.08 1 P **P** **00 13 31.5 +0.8**
baz=181,SNR=9.3
PKME Peaks-Kenny Pk 65.08 1 P **P** **00 13 31.2 +0.6**
PKME IAmb IAmb 00 13 32.4
comp=Z,84nm,0.8s
G61A St-Isidore-de- 65.11 359 P **P** **00 13 32.3 +1.4**
baz=178,SNR=21
SADO Sadowa 65.12 353 P **P** **00 13 30.8 -0.1**
TUC Tucson 65.12 322 P **P** **00 13 32.8 +1.5**
baz=138
TUC Tucson 65.12 322 P **P** **00 13 31.9 +0.6**
TUC pmax pmax
comp=Z,67nm,1.8s
TUC Tucson 65.12 322 P **P** **00 13 31.9 +0.6**
SCIA State Center 65.35 341 P **P** **00 13 32.3 -0.1**
baz=156,SNR=10
G55A Calabogie 65.35 355 P **P** **00 13 32.7 +0.3**
baz=173,SNR=19
JFWS Jewell Farm 65.44 344 P **P** **00 13 32.8 -0.3**
baz=159,SNR=32
ORIO Orleans, Innes 65.46 356 P **P** **00 13 33.5 +0.5**
baz=174,SNR=21
F63A Nahmakanta, Br 65.52 1 P **P** **00 13 34.2 +0.7**
baz=181
T25A Trinidad 65.54 330 P **P** **00 13 35.2 +1.1**
baz=144,SNR=28
T25A Trinidad 65.54 330 P **P** **00 13 34.7 +0.6**
T25A IAmb IAmb 00 13 36.3
comp=Z,37nm,0.9s
G54A Lake Saint Pet 65.63 354 P **P** **00 13 34.5 +0.3**
baz=172,SNR=15
GBN Guysborough 65.68 7 P **P** **00 13 34.6 +0.2**
GBN IAmb IAmb 00 13 35.5
comp=Z,53nm,1.0s
F64A Sherman 65.70 1 P **P** **00 13 35.4 +0.8**
baz=182,SNR=18
F64A Sherman 65.70 1 P **P** **00 13 35.3 +0.8**
F64A IAmb IAmb 00 13 36.3
comp=Z,101nm,0.8s
F62A Pittston Farm, 65.71 0 P **P** **00 13 35.4 +0.7**
baz=180,SNR=7.6
F59A Saint Guilaume 65.72 358 P **P** **00 13 35.1 +0.4**
baz=177
F58A St-Lin Laurent 65.77 357 P **P** **00 13 35.3 +0.3**
baz=176
F61A St Evariste 65.80 359 P **P** **00 13 35.8 +0.6**
baz=179,SNR=10
F60A Warwick 65.81 359 P **P** **00 13 35.7 +0.4**
baz=178,SNR=16
F55A Otter Lake 65.90 355 P **P** **00 13 36.1 +0.2**
baz=174,SNR=5.9
GLMI Grayling 66.00 349 P **P** **00 13 35.9 -0.7**
baz=165,SNR=6.1
214A Organ Pipe Nat 66.05 321 P **P** **00 13 39.1 +1.8**
baz=136,SNR=25
ALGO Algonquin Park 66.17 354 P **P** **00 13 37.6 0.0**
baz=172,SNR=28
E60A Ste Agathe de 66.20 359 P **P** **00 13 38.2 +0.4**
baz=176,SNR=7.9
E61A Lac Etchemin 66.25 360 P **P** **00 13 39.2 +1.0**
baz=180,SNR=9.6
E58A La Victoria 66.25 358 P **P** **00 13 38.7 +0.6**
baz=177,SNR=29
E63A Oxbow 66.25 1 P **P** **00 13 38.9 +0.7**
baz=182,SNR=14
E64A Bridgewater 66.26 2 P **P** **00 13 38.9 +0.7**
baz=182,SNR=15
KSCO Kaye Shedlock' 66.28 333 P **P** **00 13 39.6 +0.9**
baz=147,SNR=9.1
E57A Chemin Saint G 66.33 357 P **P** **00 13 39.1 +0.4**
baz=176,SNR=18
E59A St. Maurice 66.33 358 P **P** **00 13 39.3 +0.7**
baz=178
F51A Arnstein 66.36 352 P **P** **00 13 38.8 0.0**
baz=170,SNR=17
E62A Clayton Lake 66.44 0 P **P** **00 13 40.4 +1.0**
baz=180,SNR=24
E62A Clayton Lake 66.44 0 P **P** **00 13 40.3 +1.0**
E62A IAmb IAmb 00 13 41.4
comp=Z,98nm,0.8s
F49A Sandfield 66.48 351 P **P** **00 13 39.0 -0.7**
baz=168,SNR=7.0
E55A Montcerf-Lytto 66.49 355 P **P** **00 13 40.1 +0.4**
baz=174,SNR=16
PQI Presque Isle 66.51 2 P **P** **00 13 40.3 +0.5**
PQI IAmb IAmb 00 13 41.5
comp=Z,63nm,0.9s
E56A St. Veronique 66.51 356 P **P** **00 13 40.2 +0.4**
baz=175,SNR=40
SDCO Great Sand Dun 66.54 330 P **P** **00 13 41.9 +1.3**
baz=144,SNR=126
SDCO Great Sand Dun 66.54 330 P **P** **00 13 41.3 +0.7**
SDCO IAmb IAmb 00 13 43.0
comp=Z,74nm,1.0s
BGNE Belgrade 66.55 337 P **P** **00 13 40.5 +0.2**
baz=151,SNR=18
E53A Dumoine, Ponti 66.56 354 P **P** **00 13 40.3 +0.2**
baz=172,SNR=13
E52A Mattawa 66.56 353 P **P** **00 13 40.0 -0.2**
baz=171,SNR=8.6
E54A Lac Daplat, Po 66.57 355 P **P** **00 13 40.4 +0.2**
baz=173,SNR=38
W18A Petrified Fore 66.63 325 P **P** **00 13 42.7 +1.6**
baz=139,SNR=7.6
F48A Evansville 66.63 350 P **P** **00 13 40.0 -0.6**
baz=167,SNR=5.5
SFX San Felipe 66.64 319 P **P** **00 13 41.7 +0.7**
D60A Saint Jean D'O 66.73 359 P **P** **00 13 41.9 +0.7**
baz=179
D59A Saint-Raymond 66.84 359 P **P** **00 13 42.4 +0.5**
baz=178
D63A Stockholm 66.88 1 P **P** **00 13 42.8 +0.7**
baz=182,SNR=22
E51A G1948 Merrick 66.90 353 P **P** **00 13 42.5 +0.1**
baz=170,SNR=20
D62A Allapoint, All 66.90 1 P **P** **00 13 43.1 +0.8**
baz=181,SNR=35
D57A Chemin Vers le 66.92 357 P **P** **00 13 43.2 +0.7**
baz=176,SNR=36
E50A Wahnapitae 66.95 352 P **P** **00 13 42.4 -0.2**
baz=169,SNR=8.4
D58A Chemin du LacG 66.96 358 P **P** **00 13 43.4 +0.8**
baz=177,SNR=61
D56A ZEC Mazanza, M 67.00 356 P **P** **00 13 43.3 +0.4**
baz=175,SNR=22
D55A Sainte-Anne-du 67.02 356 P **P** **00 13 43.3 +0.3**
baz=174,SNR=33
D61A St Aubert, Com 67.02 360 P **P** **00 13 43.9 +0.9**
baz=180,SNR=8.1
SPX San Pedro Mart 67.02 318 P **P** **00 13 44.7 +0.9**
S22A 4UR Ranch, Cre 67.18 329 P **P** **00 13 45.7 +1.1**
baz=142,SNR=35
BATG Bathurst New B 67.19 3 P **P** **00 13 44.6 +0.5**
BATG IAmb IAmb 00 13 45.7
comp=Z,93nm,0.9s
E48A Lockeyer 67.20 351 P **P** **00 13 44.1 -0.1**
baz=168,SNR=15
D52A ZEK Kipawa Sen 67.22 354 P **P** **00 13 44.8 +0.5**
baz=172,SNR=17
D54A Lac Fusel, La 67.23 355 P **P** **00 13 44.3 -0.2**
baz=173,SNR=25
LATQ La Tuque 67.25 358 P **P** **00 13 44.9 +0.5**
baz=177,SNR=22
D53A Lac Vacive, Po 67.25 354 P **P** **00 13 44.7 +0.2**
baz=172,SNR=48
E47A Iron Bridge 67.35 350 P **P** **00 13 44.8 -0.4**
baz=167,SNR=9.8
Q24A Divide 67.36 331 P **P** **00 13 46.9 +1.1**
baz=144,SNR=22
D51A Lot 18 Range I 67.44 353 P **P** **00 13 45.7 +0.1**
baz=170,SNR=8.9
D50A G1974 Best Tow 67.57 353 P **P** **00 13 46.5 0.0**
baz=170,SNR=21
MVCO Mesa Verde 67.58 328 P **P** **00 13 48.5 +1.3**
baz=141,SNR=29
WUAZ Wupatki 67.82 324 P **P** **00 13 50.5 +1.9**
baz=138,SNR=78
WUAZ Wupatki 67.82 324 P **P** **00 13 49.8 +1.3**
WUAZ IAmb IAmb 00 13 51.7
comp=Z,73nm,0.9s
D48A Paudash Townsh 67.83 351 P **P** **00 13 47.7 -0.5**
baz=168,SNR=15
D49A Beulah Townshi 67.86 352 P **P** **00 13 48.2 -0.2**
baz=168,SNR=15
D46A Sault St. Mari 67.90 350 P **P** **00 13 47.7 -0.9**
baz=166,SNR=6.2
D47A Chapleau 67.91 350 P **P** **00 13 48.1 -0.6**
baz=167,SNR=10
ESJX Sierra Juarez 67.98 319 P **P** **00 13 50.6 +0.9**
GLA Glamis 68.02 320 P **P** **00 13 51.6 +1.9**
baz=135
GLA Glamis 68.02 320 P **P** **00 13 50.7 +0.9**
GLA pmax pmax
comp=Z,18nm,0.9s
GLA Glamis 68.02 320 P **P** **00 13 50.7 +0.9**
ECSD EROS Data Cent 68.07 340 P **P** **00 13 49.8 0.0**
baz=153,SNR=34
ISCO Idaho Springs 68.25 331 P **P** **00 13 52.5 +1.2**
baz=144,SNR=37
ISCO Idaho Springs 68.25 331 P **P** **00 13 51.8 +0.4**
ISCO pmax pmax
comp=Z,37nm,1.0s
ISCO Idaho Springs 68.25 331 P **P** **00 13 51.8 +0.4**
SPMN Marine on St. 68.27 343 P **P** **00 13 50.5 -0.5**
baz=157,SNR=25
TAOE Nuku Hiva Isla 68.40 268 *e*S **S** **00 22 46.0 -5.1**
comp=Z,201nm,27.8s
TAOE Nuku Hiva Isla 68.40 268 *e*LR LR 00 34 27.7
comp=Z,372nm,25.8s
TAOE Nuku Hiva Isla 68.40 268 *e*T T 01 28 05.3
comp=Z,156nm,0.2s
RMX La Lumorosa 68.47 319 P **P** **00 13 53.7 +0.9**
NVL N'lazarevskaya 68.48 159 *ji* P **P** **00 13 52.9 +0.9**
NVL *e*S **S** **00 22 56.2 +6.2**
NVL pmax pmax
comp=Z,93nm,1.0s
PDMCI Parker Dam,Lak 68.50 322 P **P** **00 13 54.3 +1.7**
baz=136,SNR=6.8
IKP In-Ko-Pah, Jac 68.52 319 P **P** **00 13 55.2 +2.2**
baz=134,SNR=9.5
SWSC Sam W. Stewart 68.54 320 P **P** **00 13 54.9 +2.0**
baz=134,SNR=5.5
CBX Cerro Bola 68.64 319 P **P** **00 13 54.5 +0.7**
BC3 Big Chuckawall 68.82 320 P **P** **00 13 56.8 +2.0**
baz=134,SNR=32
MONP2 Monument Peak 68.88 319 P **P** **00 13 57.3 +2.0**
baz=133,SNR=12
BAR Barrett 68.89 319 P **P** **00 13 56.4 +1.2**
IRM Iron Mountain 68.98 321 P **P** **00 13 57.8 +2.0**
baz=135,SNR=28
LIC Lamto 69.03 75 *e*P **P** **00 13 54.9 -1.5**
comp=Z,78nm,1.1s
NEE2 Needles Airpor 69.10 322 P **P** **00 13 58.2 +1.8**
baz=135
LSQQ Lebel-sur-Quev 69.15 355 P **P** **00 13 56.7 +0.3**
baz=173
TIC Toumodi 69.20 74 *e*P **P** **00 13 56.1 -1.4**
N23A Red Feather La 69.28 332 P **P** **00 13 58.8 +1.0**
baz=144
109C Camp Elliot, M 69.30 319 P **P** **00 13 59.3 +1.6**
baz=133
KIC Kosan Boka 69.34 75 *e*P **P** **00 13 57.0 -1.4**
comp=Z,157nm,1.2s
DBIC Dimbokro 69.36 74 P **P** **00 13 57.4 -1.1**
comp=Z,42nm,0.9s,baz=213,slow=5.6,SNR=28
DBIC pP **pP** **00 14 11.7 -0.9**
comp=Z,33nm,0.8s,baz=234,slow=6.5,SNR=6.7
DBIC LR LR 00 43 16.9
comp=Z,388nm,19.7s,baz=226,slow=35
DBIC Dimbokro 69.36 74 P **P** **00 13 57.6 -0.9**
DBIC pmax pmax
comp=Z,683nm,1.9s
DBIC Dimbokro 69.36 74 P **P** **00 13 57.6 -0.9**
BELC Belle Mtn. Jos 69.38 320 P **P** **00 14 00.3 +1.9**
baz=134,SNR=16
XPFO Pion Flat 69.39 320 P **P** **00 13 59.9 +1.5**
PFO Pinyon Flats O 69.39 320 LR LR 00 40 26.3
comp=Z,163nm,19.9s,baz=134,slow=32
PFO Pinyon Flats O 69.39 320 P **P** **00 14 00.5 +2.1**
baz=134,SNR=22
PFO Pinyon Flats O 69.39 320 *ci* P **P** **00 13 59.9 +1.5**
PFO pmax pmax
comp=Z,43nm,0.9s
PFO Pinyon Flats O 69.39 320 P **P** **00 13 60.0 +1.5**
SUSD Miller 69.49 338 P **P** **00 13 58.6 0.0**
baz=151,SNR=5.4
GMRC Granite Mounta 69.73 321 P **P** **00 14 02.5 +2.1**
baz=134,SNR=55
O20A White River Ci 69.74 330 P **P** **00 14 01.8 +1.3**
baz=142,SNR=20
CHGQ Chibougamau 69.83 357 P **P** **00 14 00.8 +0.2**
baz=176
MURC Murrieta 69.83 319 P **P** **00 14 03.1 +2.1**
baz=133
MATQ Matagami 69.91 355 P **P** **00 14 00.8 -0.1**
baz=172,SNR=20
QSPA South Pole Qui 70.05 180 P **P** **00 14 03.4 +1.4**
comp=Z,58nm,0.9s,baz=157,slow=1.9,SNR=264
QSPA pP **pP** **00 14 17.5 +1.5**
comp=Z,88nm,1.0s,baz=158,slow=2.5,SNR=25
QSPA South Pole Qui 70.05 180 P **P** **00 14 02.9 +0.9**
QSPA IAmb IAmb 00 14 18.4
comp=Z,117nm,1.1s
HOR Horta 70.09 33 *e*P **P** **00 14 03.2 +0.9**
comp=Z,112nm,1.0s
CALA Caldeira 70.09 33 *e*P **P** **00 14 02.9 +0.4**
comp=Z,116nm,1.2s
PCED Cedros 70.12 33 *e*P **P** **00 14 02.7 +0.1**
comp=Z,80nm,1.0s
HEC Hector,Ludlow 70.16 321 P **P** **00 14 05.4 +2.4**
baz=134,SNR=34
SCI2 San Clemente I 70.26 318 P **P** **00 14 05.7 +2.1**
baz=132
TUQ Turquoise Moun 70.33 321 P **P** **00 14 06.2 +2.0**
baz=134,SNR=15
ROSA Rosais 70.43 34 *e*P **P** **00 14 04.7 +0.2**
comp=Z,139nm,1.1s
ROSA Rosais 70.43 34 P **P** **00 14 05.0 +0.5**
ROSA IAmb IAmb 00 14 06.3
comp=Z,109nm,1.1s
PMAN Manadas 70.45 34 *e*P **P** **00 14 04.9 +0.3**
comp=Z,160nm,1.1s
EYMN Ely 70.45 345 P **P** **00 14 03.8 -0.6**
baz=159,SNR=19
CIS Catalina Islan 70.46 318 P **P** **00 14 06.7 +1.9**
baz=132
BFSC Mount Baldy Ra 70.55 320 P **P** **00 14 07.2 +1.7**
baz=133,SNR=12
RRX Edison Barstow 70.58 320 P **P** **00 14 07.7 +2.2**
baz=133
FMP Fort Macarthur 70.59 319 P **P** **00 14 07.6 +2.0**
baz=132
GSC Goldstone, Bar 70.76 321 P **P** **00 14 08.8 +2.1**
baz=134,SNR=26
SRBC Serra Branca 70.77 33 *e*P **P** **00 14 04.6 -2.0**
comp=Z,276nm,1.3s
PGRA Graciosa 70.80 34 *e*P **P** **00 14 07.0 +0.3**
comp=Z,127nm,1.4s
PASC Pasadena Art C 70.83 319 P **P** **00 14 08.8 +1.8**
PSMA Santa Maria 70.86 37 *e*P **P** **00 14 05.7 -1.4**
comp=Z,40nm,1.2s
PSMN Pico do Norte, 70.90 37 *e*P **P** **00 14 06.5 -0.9**
comp=Z,44nm,1.2s
K22A Casper 70.95 332 P **P** **00 14 08.8 +1.0**
baz=144,SNR=27
DECC Green Verdugo 70.97 319 P **P** **00 14 10.0 +2.0**
baz=132,SNR=5.1
PSCM Serra do Cume 71.01 34 *e*P **P** **00 14 07.9 -0.1**
comp=Z,93nm,1.0s
SNCC San Nicolas Is 71.05 318 P **P** **00 14 10.1 +1.8**
baz=131
PDA Ponta Delgada 71.10 36 *e*P **P** **00 14 08.2 -0.3**
comp=Z,134nm,1.1s
RSSD Black Hills 71.12 335 P **P** **00 14 09.7 +0.9**
baz=146
RSSD Black Hills 71.12 335 P **P** **00 14 09.4 +0.6**
RSSD pmax pmax
comp=Z,45nm,0.8s
RSSD Black Hills 71.12 335 P **P** **00 14 09.4 +0.6**
RSSD IAmb IAmb 00 14 10.8
comp=Z,45nm,0.8s
PSET Sete Cidades 71.12 36 *e*P **P** **00 14 08.8 0.0**
comp=Z,146nm,1.1s
GRON Grota Negra 71.19 36 *e*P **P** **00 14 09.8 +0.6**
comp=Z,149nm,0.9s
EDW2 Edwards Air Fo 71.19 320 P **P** **00 14 10.9 +1.7**
baz=133,SNR=18
CMLA Cha da Macela 71.19 36 *e*P **P** **00 14 09.3 +0.2**
comp=Z,141nm,1.0s
CMLA Cha da Macela 71.19 36 P **P** **00 14 09.1 0.0**
CMLA pmax pmax
comp=Z,103nm,0.9s
CMLA Cha da Macela 71.19 36 P **P** **00 14 09.1 0.0**
CMLA IAmb IAmb 00 14 24.6
comp=Z,103nm,0.9s
BART Pico Bartolome 71.39 36 *e*P **P** **00 14 10.3 -0.2**
comp=Z,153nm,1.3s
B35A Bob, Littlefor 71.40 344 IAmb IAmb 00 14 10.8
comp=Z,68nm,0.8s
LRMC Laurel Mtn Rad 71.40 320 P **P** **00 14 12.6 +2.0**
baz=133
OSI Osito Audit: C 71.45 319 P **P** **00 14 12.8 +1.9**
baz=132
TPNV Topopah Spring 71.58 322 P **P** **00 14 14.0 +2.3**
baz=134,SNR=38
FURC Furnace Creek, 71.60 322 P **P** **00 14 13.9 +2.3**
baz=134,SNR=19
SCZ2 Santa Cruz Isl 71.61 318 P **P** **00 14 13.5 +1.7**
baz=131
MPMC Manual Prospec 71.68 321 P **P** **00 14 14.0 +1.6**
baz=133,SNR=23
ARVC Arvin 71.86 320 P **P** **00 14 15.2 +2.0**
baz=132
AGMN Agassiz Nation 71.94 342 P **P** **00 14 13.2 -0.2**
baz=155,SNR=26
ISA Isabella, Lake 72.00 320 P **P** **00 14 16.5 +2.3**
baz=132,SNR=40
DUG Dugway, Tooele 72.05 327 P **P** **00 14 16.3 +1.9**
baz=138,SNR=76
R11A Troy Canyon, C 72.19 324 P **P** **00 14 17.5 +2.2**
baz=135,SNR=42
GRAC Grapevine Rang 72.25 322 P **P** **00 14 18.1 +2.5**
baz=134
CWC Cottonwood Cre 72.29 321 P **P** **00 14 18.1 +2.1**
baz=133
PKM Mcpherson Peak 72.31 319 P **P** **00 14 18.3 +2.1**
baz=131,SNR=28
PD31 Pinedale Array 72.41 331 P **P** **00 14 17.0 +0.4**
PDAR Pinedale Array 72.41 331 P **P** **00 14 17.1 +0.4**
comp=Z,9.4nm,0.7s,baz=143,slow=6.7,SNR=62
PDAR LR LR 00 48 56.5
comp=Z,128nm,21.4s,baz=144,slow=38
PDAR Pinedale Array 72.41 331 P **P** **00 14 16.8 +0.2**
BW06 Boulder Array 72.41 331 P **P** **00 14 17.2 +0.6**
baz=141,SNR=16
VES Vestal, Richgr 72.49 320 P **P** **00 14 18.9 +1.9**

baz=132,SNR=7.4
MDND Maddock 72.69 340 P **P** **00 14 18.7 +0.8**
baz=151,SNR=19
BGU Big Grassy Mou 72.70 327 P **P**
SMMC Simmler 72.70 319 P **P** **00 14 20.6 +2.3**
baz=131,SNR=12
TIN Tinemaha, Big 72.80 321 P **P** **00 14 21.1 +2.2**
baz=133
TBI Tubuai 72.95 251 *e*S **S** **00 23 39.5 -4.1**
comp=Z,218nm,31.2s
TBI Tubuai 72.95 251 *e*LR LR 00 36 37.7
comp=Z,1µm,28.5s,baz=108
PAGB Antelope Grade 73.13 319 P **P** **00 14 22.4 +1.5**
AHID Auburn Hatcher 73.13 330 P **P** **00 14 21.8 +0.9**
AHID IAmb IAmb 00 14 23.0
comp=Z,65nm,0.8s
MLAC Mammoth, Mammo 73.54 321 P **P** **00 14 25.7 +2.2**
baz=133
NV11 Mina Array Sit 73.69 322 P **P** **00 14 25.3 +1.1**
ULM Lac du Bonnet 73.71 343 P **P** **00 14 23.4 -0.4**
comp=Z,47nm,0.7s,baz=151,slow=5.8,SNR=42
ULM LR LR 00 49 29.7
comp=Z,95nm,20.1s,baz=146,slow=38
ULM Lac du Bonnet 73.71 343 *c i*P **P** **00 14 22.8 -1.0**
NVAR Mina Array Bea 73.78 322 P **P** **00 14 26.7 +1.9**
comp=Z,16nm,0.8s,baz=152,slow=6.6,SNR=68
NVAR pP **PcP** **00 14 39.8 -0.5**
comp=Z,5.0nm,0.8s,baz=122,slow=16,SNR=5.3
NVAR PP **PP** **00 17 10.9 +0.8**
comp=Z,2.9nm,1.1s,baz=131,slow=6.3,SNR=1.7
NVAR LR LR 00 45 13.3
comp=Z,101nm,20.9s,baz=122,slow=34
NVAR Mina Array Bea 73.78 322 P **P** **00 14 25.8 +1.0**
LAO LASA Array 74.11 335 P **P** **00 14 27.3 +0.9**
baz=145,SNR=15
RLMT Red Lodge 74.12 332 P **P** **00 14 28.0 +1.3**
baz=142,SNR=44
H17A Grant Village 74.14 331 P **P** **00 14 29.3 +2.5**
baz=141
TIAR Tiarei 74.41 257 *e*T T 01 35 33.2
comp=Z,4.3nm,0.2s
SAO San Andreas Ge 74.53 319 P **P** **00 14 30.0 +1.0**
SAO pmax pmax
comp=Z,15nm,1.0s
SAO San Andreas Ge 74.53 319 P **P** **00 14 30.0 +1.0**
PPT2 Papeete2 74.61 257 *e*S **SKiKP** **00 23 55.9 +3.9**
comp=Z,304nm,28.0s
PPT2 Papeete2 74.61 257 *e*LR LR 00 37 25.7
comp=Z,1µm,25.8s,baz=107
PPT Papeete 74.62 257 LR LR 00 39 15.1
comp=Z,220nm,20.3s,baz=134,slow=29
SCHQ Schefferville 74.71 2 P **P** **00 14 29.8 +0.2**
comp=Z,85nm,0.9s,baz=181,slow=5.0,SNR=73
SCHQ LR LR 00 50 01.0
comp=Z,108nm,19.2s,baz=200,slow=38
SCHQ Schefferville 74.71 2 P **P** **00 14 29.6 0.0**
SCHQ IAmb IAmb 00 14 31.0
comp=Z,102nm,0.9s
DGMT Dagmar 74.81 337 P **P** **00 14 31.6 +1.3**
baz=147,SNR=33
HLID Hailey 75.33 328 P **P** **00 14 35.6 +1.9**
baz=137,SNR=94
BOZ Bozeman (W) 75.54 331 P **P** **00 14 36.0 +1.2**
baz=140,SNR=46
EGMT Eagleton 76.61 334 P **P** **00 14 41.6 +0.9**
baz=142,SNR=41
O03E Paynes Creek 77.04 322 P **P** **00 14 43.8 +0.4**
baz=131,SNR=15
MSO Missoula 77.52 331 P **P** **00 14 47.6 +1.7**
baz=138,SNR=21
O02D Mt. Diablo Mer 77.54 321 P **P** **00 14 47.0 +0.9**
baz=130,SNR=12
TOA0 Torodi Ar. Sit 77.89 71 P **P** **00 14 47.4 -1.1**
TORD Torodi Ar. Bea 77.89 71 P **P** **00 14 47.3 -1.2**
comp=Z,86nm,0.9s,baz=256,slow=5.2,SNR=270
TORD pP **pP** **00 15 01.8 -1.1**
comp=Z,40nm,0.7s,baz=253,slow=4.9,SNR=8.4
TORD PP **PP** **00 17 44.4 -0.6**
comp=Z,3.1nm,0.9s,baz=263,slow=12,SNR=1.3
TORD PKKPbc **PKKPbc** **00 33 49.9 +0.6**
comp=Z,0.2nm,0.5s,baz=62,slow=2.4,SNR=5.7
TORD LR LR 00 48 15.4
comp=Z,540nm,19.4s,baz=250,slow=35
N02D Trinity Center 78.00 322 P **P** **00 14 49.2 +0.5**
baz=130,SNR=20
VNDA Vanda 78.01 190 P **P** **00 14 50.1 +2.0**
comp=Z,9.8nm,0.9s,baz=136,slow=5.0,SNR=55
VNDA pP **pP** **00 15 04.5 +2.2**
comp=Z,15nm,0.8s,baz=140,slow=3.6,SNR=19
VNDA Vanda 78.01 190 P **P** **00 14 49.3 +1.2**
M04C Macdoel 78.03 323 P **P** **00 14 50.2 +1.3**
baz=131,SNR=16
SYO Syowa Base 78.14 160 ⇓ *i*P **P** **00 14 48.2 -0.7**
SYO Syowa Base 78.14 160 ⇓ *i*PcP **PcP** **00 14 57.4 -1.0**
M02C Callahan 78.36 322 P **P** **00 14 51.5 +0.8**
baz=130,SNR=13
K04D Chiloquin, OR 78.54 324 P **P** **00 14 52.9 +1.3**
baz=131
L04D Klamath Falls 78.58 323 P **P** **00 14 52.8 +0.8**
baz=131,SNR=9.8
J05D Fort Rock, OR 78.69 325 P **P** **00 14 54.1 +1.6**
baz=132,SNR=13
WALA Waterton Lakes 79.18 332 P **P** **00 14 56.0 +1.0**
WALA IAmb IAmb 00 14 57.3
comp=Z,63nm,0.9s
L02E Cave Junction 79.28 322 P **P** **00 14 57.1 +1.6**
baz=130,SNR=15
FFC Flin Flon 79.41 342 P **P** **00 14 55.9 -0.1**
FFC pmax pmax
comp=Z,21nm,1.0s
FFC Flin Flon 79.41 342 P **P** **00 14 55.9 -0.1**
I05D Terrebonne, OR 79.45 325 P **P** **00 14 58.4 +1.9**
baz=132,SNR=19
K02D Willamette Mer 79.66 323 P **P** **00 14 59.5 +1.8**
baz=130,SNR=15
I04A Tendick Farm, 79.67 324 P **P** **00 14 58.5 +0.8**
baz=131,SNR=12
F07A Phinny Hill Vi 79.76 327 P **P** **00 14 59.8 +1.7**
HAWA Hanford 79.90 328 P **P** **00 15 00.2 +1.4**
G05D Wamic, OR 80.04 326 P **P** **00 15 01.7 +2.1**
baz=132,SNR=9.4
NEW Newport 80.05 330 P **P** **00 15 00.1 +0.5**
baz=136,SNR=11
J01E Myrtle Point 80.10 323 P **P** **00 15 01.7 +1.7**
baz=130
I03D Drain, OR 80.12 324 P **P** **00 15 01.6 +1.5**
baz=130
SUR Sutherland 80.17 121 P **P** **00 15 01.8 +0.7**
SUR IAmb IAmb 00 15 23.4
comp=Z,65nm,0.9s
H04D Lebanon 80.32 325 P **P** **00 15 02.2 +1.1**
baz=131
F05D White Salmon 80.54 326 P **P** **00 15 04.1 +1.8**
baz=132,SNR=6.1
I02D Swisshome 80.66 324 P **P** **00 15 04.7 +1.7**
baz=130,SNR=7.0
COR Corvallis 80.67 325 P **P** **00 15 07.0 +4.0**
COR pmax pmax
comp=Z,632nm,1.0s
G03D McMinnville, O 81.05 325 P **P** **00 15 06.6 +1.6**
baz=130
MORF Marmelete 81.23 45 *e*P **P** **00 15 06.5 +0.3**
MORF AMb AMB 00 15 33.6
comp=Z,82nm,1.3s
MORF Marmelete 81.23 45 *e*P **P** **00 15 06.6 +0.3**
MORF Marmelete 81.23 45 *e*P **P** **00 15 07.5 +1.2**
comp=Z,51nm,1.9s
MORF *e*pP **pP** **00 15 21.8 +1.3**
LON Longmire 81.30 327 P **P** **00 15 06.9 +0.5**
LON pmax pmax
comp=Z,13nm,1.0s
LON Longmire 81.30 327 P **P** **00 15 06.9 +0.5**
PTEO Sao Teotonio 81.31 45 *e*pP pP 00 15 28.7 +7.8
TSUM Tsumeb 81.44 107 P **P** **00 15 08.2 +0.3**
TSUM IAmb IAmb 00 15 29.7
comp=Z,102nm,0.8s
F04D Rainier, OR 81.48 326 P **P** **00 15 09.1 +1.8**
baz=131
E04D Cinebar 81.56 326 P **P** **00 15 08.9 +1.2**
baz=131,SNR=5.1
PBDV Barranco-do-Ve 81.68 45 *e*P **P** **00 15 09.6 +1.0**
comp=Z,39nm,2.0s
PBDV *e*pP **pP** **00 15 23.9 +1.0**
PBDV *i* LQ LQ 00 15 34.7
D05A Enumclaw 81.68 327 P **P** **00 15 09.0 +0.7**
D05A IAmb IAmb 00 15 10.5
comp=Z,74nm,1.0s

MDT Midelt 81.69 51 P **P** **00 15 09.5 +0.7**
comp=Z,29nm,0.9s,baz=235,slow=1.9,SNR=38
PNCL Nicolau / Gran 81.76 44 *e*P **P** **00 15 09.8 +0.9**
comp=Z,31nm,1.3s
PNCL *e*pP **pP** **00 15 24.2 +1.0**
PVAQ Vaqueiros 81.91 45 *e*P **P** **00 15 10.4 +0.6**
comp=Z,26nm,1.9s
PVAQ *e*pP **pP** **00 15 25.2 +1.1**
PVAQ Vaqueiros 81.91 45 *e*S **PnS** **00 26 10.4 -3.5**
PVAQ Vaqueiros 81.91 45 *e*LQ LQ 00 39 17.0
PVAQ *e*LR LR 00 42 08.1
comp=Z,264nm,24.0s
PVAQ Vaqueiros 81.91 45 P **P** **00 15 10.4 +0.6**
D04E Lakebay 82.08 327 P **P** **00 15 11.8 +1.5**
baz=131
PBEJ Beja 82.15 45 *e*P **P** **00 15 11.8 +0.8**
comp=Z,37nm,1.7s
PBEJ *e*pP **pP** **00 15 26.2 +0.9**
B06A Marblemount 82.32 328 P **P** **00 15 12.1 +0.5**
B06A IAmb IAmb 00 15 13.2
comp=Z,46nm,0.9s
PSBE So Bento 82.36 43 *e*P **P** **00 15 13.0 +0.9**
PSBE *e*pP **pP** **00 15 26.8 +0.4**
B05A Bryant 82.45 328 P **P** **00 15 12.9 +0.6**
baz=132,SNR=14
D03D Eldon 82.47 327 P **P** **00 15 13.8 +1.4**
baz=131,SNR=7.3
PMTG Montargil 82.48 44 *e*P **P** **00 15 13.1 +0.4**
comp=Z,56nm,1.1s
PMTG *e*pP **pP** **00 15 27.7 +0.7**
PMTG *i* LQ LQ 00 15 34.3
NLWA Neilton Lookou 82.78 326 P **P** **00 15 14.2 +0.1**
IVI Ivigtut 82.94 10 P **P** **00 15 14.9 +0.4**
IVI IAmb IAmb 00 15 16.4
comp=Z,115nm,0.9s
COI Coimbra 82.99 43 P **P** **00 15 15.1 -0.2**
COI pmax pmax
comp=Z,52nm,1.1s
COI Coimbra 82.99 43 *e*P **P** **00 15 16.4 +1.1**
comp=Z,53nm,1.4s
COI Coimbra 82.99 43 P **P** **00 15 15.1 -0.2**
COI IAmb IAmb 00 15 17.3
comp=Z,52nm,1.1s
A04D Lummi Island 83.06 328 P **P** **00 15 16.6 +1.2**
baz=131,SNR=7.5
PMRV Marv??o 83.22 44 *e*P **P** **00 15 16.1 -0.5**
comp=Z,13nm,1.7s
PMRV *e*pP **pP** **00 15 30.1 -0.8**
PMRV Marv??o 83.22 44 *e*LQ LQ 00 39 05.8
PMRV *e*LR LR 00 42 48.2
comp=Z,224nm,22.0s
PTO Porto 83.38 42 *e*P **P** **00 15 18.2 +0.9**
PCBR Castelo Branco 83.39 43 *e*P **P** **00 15 17.7 +0.3**
comp=Z,34nm,1.2s
NRS Narsarsuaq 83.40 12 *i*P **P** **00 15 16.8 -0.1**
comp=Z,42nm,0.8s
NRS Narsarsuaq 83.40 12 P **P** **00 15 17.2 +0.3**
NRS pmax pmax
comp=Z,43nm,0.8s
NRS Narsarsuaq 83.40 12 P **P** **00 15 17.1 +0.3**
NRS IAmb IAmb 00 15 18.3
comp=Z,43nm,0.8s
PVIS Viseu 83.60 43 *e*P **P** **00 15 19.6 +1.1**
comp=Z,22nm,1.6s
FRB Frobisher Bay 83.61 1 P **P** **00 15 17.4 -0.5**
MTE Manteigas 83.65 43 *e*P **P** **00 15 17.8 -1.0**
comp=Z,49nm,1.1s
MTE *e*pP **pP** **00 15 33.6 +0.4**
MTE Manteigas 83.65 43 *e*S **S** **00 25 41.7 +4.0**
MTE Manteigas 83.65 43 *e*LQ LQ 00 38 59.5
MTE *e*LR LR 00 43 34.4
comp=Z,354nm,18.0s
MTE Manteigas 83.65 43 P **P** **00 15 18.3 -0.5**
PVRL Vila Real 84.02 42 *e*P **P** **00 15 20.9 +0.3**
comp=Z,57nm,1.8s
PVRL *e*pP **pP** **00 15 35.4 +0.4**
PGAV Gavieira, Arco 84.05 41 *e*P **P** **00 15 20.8 -0.1**
comp=Z,88nm,1.7s
PGAV Gavieira, Arco 84.05 41 *e*LQ LQ 00 34 39.3
PGAV Gavieira, Arco 84.05 41 *e*LR LR 00 44 57.9
comp=Z,406nm,20.0s
PCAB Cabril 84.06 42 *e*P **P** **00 15 21.2 +0.4**
comp=Z,56nm,1.2s
PCAB *e*pP **pP** **00 15 35.4 +0.2**
MVO Moncorvo 84.39 43 *e*P **P** **00 15 22.9 +0.3**
comp=Z,78nm,1.7s
MVO *e*pP **pP** **00 15 36.9 -0.1**
MVO Moncorvo 84.39 43 *e*LR LR 00 43 19.6
comp=Z,385nm,22.0s
PBRG Braganca 84.92 42 *e*P **P** **00 15 25.2 0.0**
comp=Z,68nm,1.5s
PBRG *e*pP **pP** **00 15 39.9 +0.3**
BOSA Boshof 85.01 119 P **P** **00 15 26.3 +0.1**
comp=Z,39nm,1.0s,baz=245,slow=4.8,SNR=22
BOSA LR LR 00 50 34.1
comp=Z,303nm,19.5s,baz=236,slow=34
BOSA Boshof 85.01 119 P **P** **00 15 26.2 -0.1**
BOSA IAmb IAmb 00 15 27.3
comp=Z,76nm,1.1s
TAM Tamanrasset 85.15 64 P **P** **00 15 27.2 +0.3**
TAM pmax pmax
comp=Z,76nm,1.0s
TAM Tamanrasset 85.15 64 P **P** **00 15 27.2 +0.3**
TAM IAmb IAmb 00 15 28.6
comp=Z,76nm,1.0s
PAB San Pablo 85.28 45 P **P** **00 15 27.3 +0.2**
PAB pmax pmax
comp=Z,39nm,1.0s
PAB San Pablo 85.28 45 P **P** **00 15 27.3 +0.2**
PAB IAmb IAmb 00 15 28.4
comp=Z,39nm,1.0s
ESDC Sonseca Array 85.60 45 P **P** **00 15 28.5 -0.2**
comp=Z,17nm,1.0s,baz=246,slow=5.5,SNR=46
ESDC LR LR 00 50 10.6
comp=Z,240nm,22.0s,baz=240,slow=33
ESDC Sonseca Array 85.60 45 P **P** **00 15 28.3 -0.4**
ESBB Sonseca Array 85.61 45 P **P** **00 15 29.0 +0.3**
ESBB IAmb IAmb 00 15 55.7
comp=Z,27nm,1.0s
MAW Mawson 85.93 164 P **P** **00 15 30.5 +0.7**
comp=Z,13nm,0.9s,baz=220,slow=7.6,SNR=26
MAW LR LR 00 53 41.8
comp=Z,260nm,20.7s,baz=234,slow=35
MAW Mawson 85.93 164 P **P** **00 15 30.3 +0.5**
LBTB Lobatse 86.54 115 P **P** **00 15 33.5 -0.4**
LBTB pmax pmax
comp=Z,60nm,1.1s
LBTB Lobatse 86.54 115 P **P** **00 15 33.5 -0.4**
LBTB IAmb IAmb 00 15 35.2
comp=Z,60nm,1.1s
YKA Yellowknife Ar 89.56 341 P **P** **00 15 47.4 +0.3**
comp=Z,72nm,0.8s,baz=135,slow=4.7,SNR=122
YKA pP **pP** **00 16 01.4 -0.1**
comp=Z,39nm,0.7s,baz=134,slow=4.6,SNR=14
YKA LR LR 00 59 28.1
comp=Z,202nm,19.5s,baz=0.0,slow=38
ILULI Ilulissat 90.13 7 *i*P **P** **00 15 49.5 -0.1**
comp=Z,36nm,1.1s
ILULI Ilulissat 90.13 7 *i*P **P** **00 15 49.5 -0.1**
ILULI pmax pmax
comp=Z,36nm,1.1s
LSZ Lusaka 92.29 107 P **P** **00 16 01.7 +0.6**
LSZ pmax pmax
comp=Z,40nm,1.5s
LSZ Lusaka 92.29 107 P **P** **00 16 01.6 +0.6**
LSZ IAmb IAmb 00 16 23.8
comp=Z,40nm,1.5s
BORG Borgarnes 92.47 19 P **P** **00 16 01.5 +1.1**
comp=Z,34nm,0.8s,baz=173,slow=4.0,SNR=15
BORG Borgarnes 92.47 19 P **P** **00 16 02.0 +1.5**
BORG pmax pmax
comp=Z,43nm,0.8s
BORG Borgarnes 92.47 19 P **P** **00 16 02.0 +1.5**
KEST Kesra 93.32 53 P **P** **00 16 05.6 +0.2**
comp=Z,9.3nm,0.9s,baz=323,slow=2.1,SNR=6.5
KEST LR LR 00 58 17.1
comp=Z,279nm,20.1s,baz=230,slow=36
KEST Kesra 93.32 53 P **P** **00 16 05.5 +0.2**
KEST IAmb IAmb 00 16 21.7
comp=Z,19nm,1.1s
SSB Saint Sauveur 93.77 43 P **P** **00 16 06.3 -0.8**
SSB pmax pmax
comp=Z,17nm,1.2s
SSB Saint Sauveur 93.77 43 P **P** **00 16 06.3 -0.8**
CASY Casey 93.85 180 P **P** **00 16 07.9 +0.8**
CASY IAmb IAmb 00 16 24.1

comp=Z,40nm,0.9s
EKA Eskdalemuir Ar 94.01 32 P **P** **00 16 06.7 -1.1**
comp=Z,8.2nm,0.9s,baz=236,slow=3.9,SNR=10.0
SUMG Summit 94.88 9 *i*P **P** **00 16 12.6 +0.6**
comp=Z,187nm,1.5s
SUMG Summit 94.88 9 *i*P **P** **00 16 12.6 +0.6**
SUMG pmax pmax
comp=Z,190nm,1.5s
SUMG Summit 94.88 9 P **P** **00 16 12.4 +0.4**
SUMG IAmb IAmb 00 16 14.6
comp=Z,28nm,1.0s
DOU Dourbes 95.81 39 P **P** **00 16 15.2 -1.1**
DOU sP **sP** **00 16 36.0 -0.1**
BMRD Maredsous 96.00 38 ⇓P **P** **00 16 16.3 -0.7**
BGES Gesves 96.22 38 P **P** **00 16 17.3 -0.8**
BGES sP **sP** **00 16 37.5 -0.6**
WLF Walferdange 96.56 39 ⇓P **P** **00 16 18.7 -0.9**
WLF x x 00 16 24.3
WLF sP **sP** **00 16 39.8 +0.2**
WLF Walferdange 96.56 39 P **P** **00 16 19.1 -0.5**
WLF pmax pmax
comp=Z,31nm,1.2s
WLF Walferdange 96.56 39 *e*P **P** **00 16 19.5 -0.1**
comp=Z,35nm,1.2s,baz=250,slow=4.5
WLF Walferdange 96.56 39 P **P** **00 16 19.1 -0.5**
WLF IAmb IAmb 00 16 20.4
comp=Z,31nm,1.2s
ECH Echery 96.60 41 P **P** **00 16 19.2 -0.8**
ECH pmax pmax
comp=Z,12nm,1.0s
ECH Echery 96.60 41 P **P** **00 16 19.1 -0.8**
MEM Membach 96.85 39 P **P** **00 16 19.9 -1.0**
BFO Black Forest 97.37 41 *e*P Pdif 00 16 24.4 +0.9
comp=Z,220nm,1.5s,baz=250,slow=4.5
AHRW Bad Neuenahr-A 97.45 39 *e*P **P** **00 16 23.6 -0.1**
comp=Z,23nm,1.0s,baz=250,slow=4.5
DAVOX Davos/Dischmat 97.78 43 P **P** **00 16 24.9 -0.6**
comp=Z,3.7nm,1.0s,baz=194,slow=8.9,SNR=3.7
DAVA Damuels 97.96 43 *i*P **P** **00 16 26.0 -0.3**
comp=Z,6.5nm,1.1s
DAVA *i* PP **PP** **00 20 29.7 +3.9**
comp=Z,14nm,1.3s
STU Stuttgart 98.07 41 *e*P **P** **00 16 26.1 -0.4**
comp=Z,22nm,0.8s,baz=250,slow=4.5
TNS Taunus Mts 98.14 39 *e*P **P** **00 16 26.7 -0.1**
comp=Z,14nm,0.9s,baz=250,slow=4.5
FETA Feichten 98.41 43 *i*PP **PP** **00 20 26.0 -3.2**
comp=Z,15nm,1.2s
RETA Reutte 98.59 43 *i*Pdiff P **00 16 28.7 -0.3**
comp=Z,4.2nm,0.7s
RETA *i* PP **PP** **00 20 28.4 -2.1**
comp=Z,15nm,1.4s
MOTA Moosalm 98.76 43 *i*Pdiff P **00 16 29.2 -0.7**
comp=Z,11nm,1.3s
MOTA *i* PP **PP** **00 20 31.2 -0.7**
comp=Z,4.4nm,1.2s
SQTA Sankt Quirin 98.79 43 *i*Pdiff P **00 16 29.5 -0.4**
comp=Z,6.3nm,0.8s
SQTA *i* PP **PP** **00 20 29.2 -2.8**
comp=Z,4.8nm,1.0s
WATA Walderalm 99.06 43 *i*Pdiff **Pdif** **00 16 30.1 -1.0**
comp=Z,13nm,1.3s
WATA *i* PP **PP** **00 20 34.8 +0.7**
comp=Z,9.0nm,1.5s
WTTA Wattenberg 99.08 43 *i*Pdiff **Pdif** **00 16 31.1 -0.2**
comp=Z,9.6nm,0.9s
WTTA *i* PP **PP** **00 20 36.0 +1.7**
comp=Z,5.0nm,1.0s
A36M Sachs Harbour 99.11 345 P **Pdif** **00 16 32.0 +1.4**
baz=129
FUR Furstenfeldbru 99.15 42 *e*P **Pdif** **00 16 31.6 +0.2**
comp=Z,14nm,1.0s,baz=250,slow=4.5
ABTA Abfaltersbach 99.47 44 *i*PP **PP** **00 20 34.4 -2.8**
comp=Z,7.5nm,1.3s
GRF Grafenberg Arr 99.63 41 *e*L L 00 58 13.5
comp=Z,183nm,21.6s
BCAR Beaver Creek A 99.83 334 Pdif **Pdif** **00 16 33.8 -0.2**
CLZ Clausthal 99.85 38 *e*P **Pdif** **00 16 34.7 +0.3**
comp=Z,13nm,1.0s,baz=250,slow=4.5
KBA Koelnbreinsper 100.12 44 *i*PKiKP **PKiKP** **00 20 57.9 -5.5**
comp=Z,16nm,1.4s
MYKA Terra Mystica 100.17 44 *i*PP **PP** **00 20 46.1 +3.7**
comp=Z,24nm,1.1s
MOX Moxa 100.19 40 *e*L L 00 58 12.8
comp=Z,240nm,22.0s
MANZ Manzenberg 100.27 41 *e*P **Pdif** **00 16 36.6 +0.3**
comp=Z,13nm,1.2s,baz=250,slow=4.5
K27K Chicken 100.35 335 P **Pdif** **00 16 37.4 +1.1**
baz=115
PLN Plauen 100.46 40 *e*P **Pdif** **00 16 37.4 +0.2**
comp=Z,7.4nm,1.2s,baz=250,slow=4.5
NKC Novy Kostel 100.56 40 *e*P **Pdif** **00 16 37.3 -0.3**
NKC Novy Kostel 100.56 40 *e*PDIFF **Pdif** **00 16 37.3 -0.3**
TANN Tannenbergstha 100.63 40 *e*P **Pdif** **00 16 38.2 +0.3**
baz=250,slow=4.5
GEC2 GERESS Array S 100.90 42 *e*P **Pdif** **00 16 38.8 -0.5**
comp=Z,3.4nm,1.2s,baz=250,slow=4.5
GERES GERESS Array B 100.90 42 P **Pdif** **00 16 38.2 -1.1**
comp=Z,1.4nm,0.8s,baz=270,slow=1.3,SNR=6.1
GERES GERESS Array B 100.90 42 P **Pdif** **00 16 38.5 -0.8**
GERES GERESS Array B 100.90 42 P **Pdif** **00 16 38.5 -0.8**
KHC Kasperske Hory 100.91 42 *i*P **Pdif** **00 16 38.5 -0.7**
KHC pmax pmax
comp=Z,3.0nm,1.0s
KHC Kasperske Hory 100.91 42 *e*PDIFF **Pdif** **00 16 39.9 +0.7**
KHC *ex* x 00 17 27.0
KHC *ex* x 00 17 50.0
KHC *e*PKP **PKiKP** **00 21 02.0 -2.6**
MOA Molln 100.95 43 *i*PKiKP **PKiKP** **00 21 03.9 -0.7**
comp=Z,19nm,1.4s
SOKA Soboth 101.09 44 *i*PKiKP **PKiKP** **00 21 07.7 +2.6**
comp=Z,13nm,1.4s
CLL Collm 101.23 39 *i*Pdif **Pdif** **00 16 39.8 -0.7**
comp=Z,8.0nm,1.1s
CLL *e*PP **PP** **00 20 49.0 -1.3**
CLL *i* sPP 00 21 06.7
CLL *e*PS **PS** **00 29 54.0 +0.2**
CLL *e*PPS PPS 00 30 42.0
CLL Collm 101.23 39 *i*P **Pdif** **00 16 39.8 -0.7**
CLL *e* 00 20 49.0
CLL pmax pmax
comp=Z,8.0nm,1.1s
FBE Freiberg 101.32 40 *e*P **Pdif** **00 16 41.3 +0.4**
comp=Z,8.4nm,1.1s,baz=250,slow=4.5
ARSA Arzberg 101.58 44 *i*PKiKP **PKiKP** **00 21 03.9 -1.9**
comp=Z,7.6nm,1.2s
BRG Berggiesshubel 101.67 40 *e*PKP **PKiKP** **00 21 00.7 -5.1**
comp=Z,6.1nm,1.1s
BRG *e* 00 21 09.8
comp=Z,28nm,1.9s
PRU Pruhonice 101.77 41 *e*P **Pdif** **00 16 42.6 -0.3**
PRU Pruhonice 101.77 41 *e*PDIFF **Pdif** **00 16 42.6 -0.3**
PRU *e*PKP **PKiKP** **00 21 10.1 +4.1**
GOPC GO Pecny, Ondr 101.90 41 *e*PKP **PKiKP** **00 21 11.2 +4.9**
CONA Conrad Observa 102.00 43 *i*PKiKP **PKiKP** **00 21 05.1 -1.5**
comp=Z,5.8nm,1.0s
ILAR Eielson Array 102.57 335 P **Pdif** **00 16 45.9 -0.2**
comp=Z,0.6nm,0.4s,baz=157,slow=4.8,SNR=2.1
ILAR PP **PP** **00 20 59.2 -0.8**
comp=Z,1.2nm,0.8s,baz=110,slow=4.9,SNR=4.3
ILAR Eielson Array 102.57 335 **Pdif** **00 16 45.6 -0.6**
OSTC Ostas 102.96 41 *e*PDIFF **Pdif** **00 16 48.1 -0.2**
OSTC *e*PKP **pPKiKP** **00 21 19.6 -3.6**
VYHS Vyhne 104.07 43 *e*P **Pdif** **00 16 53.2 0.0**
VYHS Vyhne 104.07 43 *e*PDIFF **Pdif** **00 16 53.2 0.0**
BZS Buzias 105.23 47 ⇑P **PKiKP** **00 21 12.7 +0.2**
CFR Carcaliu 109.65 48 ⇓P **PKiKP** **00 21 20.8 +0.1**
FINES FINESS Array B 110.37 31 PKKPbc PKKPbc 00 32 23.1 -1.1
comp=Z,1.9nm,0.8s,baz=56,slow=3.4,SNR=4.7
MILM Milestii Mici 110.37 46 ⇑P **PKiKP** **00 21 22.1 +0.1**
ARCES ARCESS Array B 110.62 22 PKKPbc PKKPbc 00 32 21.6 -2.0
comp=Z,2.1nm,0.7s,baz=96,slow=6.1,SNR=5.4
ARCES PKKPab **PKKPab** **00 32 31.9 +1.6**
comp=Z,2.5nm,0.7s,baz=137,slow=5.8,SNR=7.3
DZM Mont Dzumac 110.71 236 *e*SP SP 00 31 14.5 -11
comp=Z,116nm,36.9s
DZM Mont Dzumac 110.71 236 *e*LR LR 00 54 07.9
comp=Z,526nm,25.1s
AKASG Malin Array Be 111.11 42 PKiKP **PKiKP** **00 21 22.5 -0.8**
comp=Z,1.2nm,0.5s,baz=268,slow=3.0,SNR=6.9
AKBB Malin Array Si 111.11 42 *c i*PKiKP **PKiKP** **00 21 23.1 -0.2**
BRTR Keskin Array B 112.89 54 PKiKP **PKiKP** **00 21 27.3 0.0**
comp=Z,2.6nm,0.7s,baz=155,slow=2.7,SNR=10
BRTR PP **PP** **00 22 14.5 -1.9**
comp=Z,7.6nm,1.2s,baz=232,slow=7.1,SNR=5.2
BRTR PKKPab **PKKPab** **00 32 23.4 +1.9**

comp=Z,1.1nm,0.7s,baz=109,slow=2.8,SNR=4.8
BRTR PKKP **PKKPdf 00 32 37.9 +1.6**
comp=Z,2.4nm,0.9s,baz=103,slow=5.6,SNR=6.8
MMAI Mount Meron Ar 113.30 62 PKiKP **PKiKP 00 21 28.2 +0.1**
comp=Z,2.2nm,0.7s,baz=338,slow=2.0,SNR=4.7
APA Apatity 113.56 24⇑*i*PKIKP **PKiKP 00 21 25.0 -2.5**
APA pmax pmax
comp=Z,5.0nm,1.0s
OBN Obninsk 115.74 38 *i* PKIKP **PKiKP 00 21 31.1 -0.9**
OBN *e* 00 22 37.5
OBN *e*PPP PPP 00 24 59.7
OBN pmax pmax
comp=Z,17nm,1.7s
OBN MLR MLR
comp=Z,99nm,18.0s
KLMR Klimovskoe 116.89 31 *e*PKIKP **PKPdf 00 21 32.5 -1.5**
KLMR *e* 00 22 39.9
KLMR pmax pmax
comp=Z,19nm,1.2s
KLMR Klimovskoe 116.89 31 *e*PKPdf **PKPdf 00 21 32.5 -1.5**
KLMR AMP 00 21 35.7
comp=Z,19nm,1.2s
KLMR *e*PP **PP 00 22 40.0 -3.6**
KLMR *e*PKKPbc **PKKPbc 00 31 59.5 -2.5**
LPSR Galich'ya Gora 117.21 40 *e*PKIKP **PKPdf 00 21 34.0 -0.9**
LPSR pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 117.41 42 *e*PKIKP **PKPdf 00 21 34.4 -0.9**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VRH Novokhopyorsk 119.01 42 *e*PKIKP **PKPdf 00 21 37.9 -0.5**
VRH pmax pmax
comp=Z,10.0nm,0.8s
BATM Batumi 119.15 53⇑P **PKiKP 00 21 39.5 +0.5**
PRGR Permogore 119.66 30 *e*PKIKP **PKPdf 00 21 38.1 -1.2**
PRGR pmax pmax
comp=Z,17nm,0.9s
KIV Kislovodsk 119.91 50⇓P **PKiKP 00 21 40.9 +0.2**
KIV Kislovodsk 119.91 50 *i* PKIKP **PKiKP 00 21 40.8 +0.2**
KIV *e* 00 23 05.6
KIV *e*PS **PS 00 32 55.9 +0.4**
KIV *e*SS SS 00 39 29.2 +1.4
KIV pmax pmax
comp=Z,29nm,1.1s
KIV MLR MLR
comp=Z,183nm,22.0s
KIV Kislovodsk 119.91 50 PKPdf 00 21 40.4 -0.1
STKA Stephens Creek 120.06 211 PKP **PKiKP 00 21 41.5 +0.2**
comp=Z,3.0nm,0.7s,baz=197,slow=4.6,SNR=6.2
STKA PKKPbc **PKKPbc 00 31 49.6 -0.4**
comp=Z,1.2nm,0.4s,baz=277,slow=2.4,SNR=4.2
STKA Stephens Creek 120.06 211 PKPdf 00 21 40.8 -0.4
KBZ Khabaz 120.07 50 PKP **PKPdf 00 21 40.8 +0.1**
comp=Z,19nm,0.8s,baz=217,slow=2.7,SNR=42
KBZ pPKP **pPKPdf 00 21 56.1 +0.4**
comp=Z,12nm,0.8s,baz=254,slow=1.5,SNR=7.0
KBZ Khabaz 120.07 50*c i*PKIKP **PKiKP 00 21 41.3 +0.5**
AKH Akhalkalaki 120.50 53⇑P **PKiKP 00 21 42.5 +0.5**
AKH Akhalkalaki 120.50 53 PKIKP **PKiKP 00 21 42.2 +0.2**
AKH Akhalkalaki 120.50 53 PKiKP 00 21 42.2 +0.2
ZEI Tsey 120.81 52 *i* PKIKP **PKPdf 00 21 41.1 -1.4**
ZEI *e* 00 21 56.4
ZEI pmax pmax
comp=Z,18nm,1.0s
BILL Bilibino 120.87 339 *e*PKIKP **PKPdf 00 21 37.0 -4.5**
BILL pmax pmax
comp=Z,6.0nm,1.1s
BILL MLR MLR
comp=Z,83nm,19.0s
TBLG Delisi 121.44 53 PKIKP **PKPdf 00 21 43.1 -0.4**
TBLG Delisi 121.44 53 PKPdf 00 21 43.1 -0.4
GROC Groznyy 122.19 51 *i* PKIKP **PKiKP 00 21 45.2 +0.2**
GROC *e* 00 22 00.4
GROC *e* 00 23 23.6
GROC pmax pmax
comp=Z,8.0nm,0.4s
KIRV Kirov 122.23 33⇑*e*PKIKP **PKiKP 00 21 45.1 +0.6**
AKT Akhty 123.68 53 *e*PKIKP **PKiKP 00 21 48.8 +0.6**
AKT *e* 00 23 34.3
AKT pmax pmax
comp=Z,13nm,0.8s
H11S2 WAKE ISLAND Hyl 26.66 278 T T 02 41 21.6
baz=102,slow=74
H11S1 WAKE ISLAND Hyl 26.66 278 T T 02 41 21.3
baz=102,slow=74
H11S3 WAKE ISLAND Hyl 26.67 278 T T 02 41 17.1
baz=102,slow=74
H11N3 WAKE ISLAND Hyl 26.70 280 T T 02 41 23.8
baz=101,slow=75,SNR=3837
H11N2 WAKE ISLAND Hyl 26.72 280 T T 02 41 24.9
baz=101,slow=75,SNR=9049
H11N1 WAKE ISLAND Hyl 26.72 280 T T 02 41 25.5
baz=101,slow=75,SNR=3356
NWAO Narrogin (SRO) 126.79 188 PKP **PKPdf 00 21 53.6 -0.4**
comp=Z,13nm,0.8s,baz=282,slow=6.3,SNR=4.1
NWAO Narrogin (SRO) 126.79 188 PKIKP **PKPdf 00 21 53.9 -0.2**
NWAO Narrogin (SRO) 126.79 188 PKPdf 00 21 53.9 -0.2
TIXI Tiksi 127.31 353 PKIKP **PKPdf 00 21 52.3 -1.5**
TIXI Tiksi 127.31 353 PKPdf 00 21 52.2 -1.5
ARU Arti 127.60 33 *i* PKIKP **PKiKP 00 21 55.4 +0.1**
ARU 00 23 57.3
ARU 00 29 01.9
ARU SS SS 00 41 00.7 -2.9
ARU Arti 127.60 33 PKiKP 00 21 55.1 -0.2
SEY Seymchan 128.44 337 PKP **PKiKP 00 21 56.9 +0.2**
comp=Z,19nm,0.8s,baz=107,slow=3.2
SEY Seymchan 128.44 337 *i* PKIKP **PKiKP 00 21 57.0 +0.2**
SVE Sverdlovsk 128.49 32 *e*PKIKP **PKiKP 00 21 57.3 +0.2**
SVE pmax pmax
comp=Z,23nm,1.4s
NRIK Noril'sk 128.91 10 PKP **PKPdf 00 21 56.9 0.0**
comp=Z,7.5nm,0.9s,baz=5.5,slow=3.2,SNR=9.6
NRIK Noril'sk 128.91 10⇑*e*PKIKP **PKiKP 00 21 57.4 -0.2**
NRIK pmax pmax
comp=Z,12nm,1.0s
PET Petropavlovsk 130.35 323⇑*e*PKIKP **PKPdf 00 22 00.5 +0.4**
PET pmax pmax
comp=Z,170nm,2.5s
AS31 Alice Springs 130.61 209 PKPdf **PKPdf 00 22 01.3 -0.4**
ASAR Alice Springs 130.61 209 PKhKP PKPpre 00 21 53.6
comp=Z,0.5nm,0.7s,baz=117,slow=2.4,SNR=4.4
ASAR PKP **PKPdf 00 22 01.3 -0.4**
comp=Z,5.8nm,0.6s,baz=147,slow=2.3,SNR=34
ASAR PP PP 00 24 27.7 +12
comp=Z,1.2nm,0.9s,baz=141,slow=6.0,SNR=4.3
ASAR Alice Springs 130.61 209 PKPdf 00 22 01.1 -0.5
AB31 Akbulak array 130.84 42 PKIKP **PKiKP 00 22 01.9 -0.1**
ABKAR Akbulak array 130.84 42 PKPdf **PKiKP 00 22 01.7 -0.3**
PEA0B Petropavlovsk- 130.85 324*c i*PKIKP **PKiKP 00 22 02.5 +0.6**
PETK Petropavlovsk- 130.85 324 PKP **PKiKP 00 22 01.9 -0.1**
comp=Z,9.5nm,0.9s,baz=96,slow=6.0,SNR=18
GEYT Alibeck 131.94 57 PKP **PKPdf 00 22 02.8 -0.9**
comp=Z,4.1nm,0.8s,baz=267,slow=5.8,SNR=11
GEYT pPKP **pPKPdf 00 22 18.7 0.0**
comp=Z,4.3nm,0.9s,baz=258,slow=4.1,SNR=4.6
GEYT Alibeck 131.94 57 PKPdf **PKPdf 00 22 03.7 +0.1**
GYA0B ALIBECK ARRAY 131.94 57 PKPdf **PKPdf 00 22 03.8 +0.2**
WRA Warramunga Ar 133.57 212 PKP **PKPdf 00 22 07.5 +0.3**
comp=Z,8.7nm,0.7s,baz=152,slow=1.8,SNR=45
WRA pPKP **pPKPdf 00 22 22.6 +0.4**
comp=Z,9.3nm,0.7s,baz=157,slow=1.8,SNR=12
WRA Warramunga Arr 133.57 212 PKPdf 00 22 07.0 -0.3
WRAB Tennant Creek 133.57 212*c i*PKIKP **PKPdf 00 22 06.7 -0.6**
WRAB pmax pmax
comp=Z,18nm,1.3s
WB0 Warramunga Arr 133.69 213 PKPdf **PKPdf 00 22 07.7 +0.1**
BRVK Borovoye 135.17 33*c i*PKIKP **PKiKP 00 22 10.1 -0.6**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BVA0 Borovoye Array 135.24 33 PKIKP **PKPdf 00 22 09.1 -0.2**
HRA Herat 135.65 61 PKPdf **PKPdf 00 22 11.1 +0.2**
KK31 Karatay Array 139.84 46 *i* PKIKP **PKPdf 00 22 18.4 +0.2**
KK31 Karatay Array 139.84 46 PKPdf 00 22 18.1 -0.1
KKAR Karatay Array 139.84 46 PKIKP **PKPdf 00 22 18.8 +0.6**
KKAR Karatay Array 139.84 46 PKPdf 00 22 18.8 +0.6
IUG luzhnay 139.86 48⇑*i*PKP **PKPdf 00 22 19.2 +0.8**
baz=48
IUG luzhnay 139.86 48*c i*PKIKP **PKPdf 00 22 19.1 +0.8**
CHGR Chuyangaron 140.32 53 PKPdf 00 22 19.2 0.0
DZA Taraz 140.48 46⇑*i*PKP **PKPdf 00 22 20.1 +0.8**
baz=46
DZA Taraz 140.48 46*c i*PKIKP **PKPdf 00 22 20.1 +0.8**
KURK Kurchatov 140.74 32 *i* PKIKP **PKPdf 00 22 18.8 -0.7**
KURK Kurchatov 140.74 32 PKPdf 00 22 19.6 +0.2
KURBB Kurchatov Arra 140.75 32 PKHKP PKPpre 00 22 12.6
GAR Garm 141.09 52 PKPdf 00 22 21.0 +0.3
BTK Batken 141.13 51 PKIKP **PKPdf 00 22 20.8 +0.1**
BTK Batken 141.13 51 PKPdf 00 22 20.8 +0.1
ZAA0 Zalesovo Array 141.15 24 PKPdf 00 22 20.6 +0.5
ZALV Zalesovo Beam 141.15 24 PKhKP PKPpre 00 22 13.0
comp=Z,8.6nm,0.8s,baz=312,slow=4.5,SNR=34
ZALV PKP **PKPdf 00 22 21.4 +1.3**
comp=Z,29nm,0.8s,baz=303,slow=2.3,SNR=24
ZALV Zalesovo Beam 141.15 24 PKPdf 00 22 20.9 +0.7
BTLS Baital 141.33 42 *e*PKP **PKPdf 00 22 21.6 +0.8**
baz=42
BTLS Baital 141.33 42 *e*PKIKP **PKPdf 00 22 21.5 +0.8**
YUK Yuzh-Kuril'sk 141.82 317*d i*PKIKP **PKPdf 00 22 21.4 -0.2**
YUK *e* 00 25 24.8
YUK *e*PPP PPP 00 28 32.1
YUK *e*SS SS 00 43 50.4 -4.7
YSS Yuzh-Sakhalins 142.22 323 *i* PKIKP **PKPdf 00 22 21.5 -0.8**
BOD Bodaibo 142.25 356 *e*PKHKP PKPpre 00 22 16.3
BOD pmax pmax
comp=Z,21nm,1.2s
AAK Ala-Archa 142.71 45 *i* PKIKP **PKPdf 00 22 21.9 -1.6**
GENI Genyem 142.75 236 PKP **PKPdf 00 22 23.2 -1.0**
GENI PKP **pPKPdf 00 22 38.1 -1.1**
JKA Kamikawa-asahi 143.84 319 PKPdf **PKPdf 00 22 24.3 -1.0**
ASAJ Asahikawa 143.84 319 PKP PKPbc 00 22 23.8 +0.8
comp=Z,16nm,0.8s,baz=351,slow=1.9,SNR=10
ZEA Zeya 143.93 343 *e*PKIKP PKPbc 00 22 23.6 +0.7
ZEA pmax pmax
comp=Z,36nm,1.2s
TDK Taldyqorghan 144.01 39 *i* PKP PKPbc 00 22 23.9 +0.4
baz=39
TDK Taldyqorghan 144.01 39 *i* PKIKP PKPbc 00 22 23.8 +0.3
TNSS Tian-Shan 144.13 43 *e*PKP **PKPdf 00 22 25.6 -0.7**
baz=43
TNSS Tian-Shan 144.13 43 *e*PKIKP **PKPdf 00 22 25.6 -0.7**
MDOK Medeo 144.13 43 *i* PKP **PKPdf 00 22 25.2 -0.8**
comp=Z,494nm,1.2s,baz=43
MDOK Medeo 144.13 43 *i* PKIKP **PKPdf 00 22 25.2 -0.8**
MDOK pmax pmax
comp=Z,494nm,1.2s
SMPI Sarmi 144.25 235 PKP PKPbc 00 22 25.8 +0.7
SMPI PKP **PKPdf 00 22 26.8 -0.1**
ERM Erimo 144.51 315*c i*PKIKP **PKPdf 00 22 27.6 +1.2**
ERM pmax pmax
comp=Z,104nm,1.7s
ERM Erimo 144.51 315 PKPdf **PKPdf 00 22 26.5 +0.1**
KDJ Kajisay 144.71 44 PKIKP **PKPdf 00 22 27.4 +0.3**
KDJ Kajisay 144.71 44 PKPdf 00 22 27.4 +0.3
NIL Nilore 144.78 60 PKIKP **PKPab 00 22 26.3 0.0**
NIL Nilore 144.78 60 PKPdf **PKPab 00 22 26.3 0.0**
MAKZ Makanchi 144.94 34 PKIKP PKPbc 00 22 26.6 +0.2
MAKZ Makanchi 144.94 34 PKPbc 00 22 26.6 +0.2
KPKS Kokpek 145.00 41⇑*i*PKP **PKPdf 00 22 27.8 +0.4**
comp=Z,143nm,1.0s,baz=41
KPKS Kokpek 145.00 41*c i*PKIKP **PKPdf 00 22 27.8 +0.4**
KPKS pmax pmax
comp=Z,143nm,1.0s
KSH Kashi 145.03 49 PKP **PKPdf 00 22 27.6 0.0**
KSH pPKP pPKPab 00 22 42.1 +0.4
KSH PP **PP 00 25 51.4 +5.2**
SATY Saty 145.04 42⇑*i*PKP **PKPdf 00 22 27.7 +0.1**
comp=Z,46nm,0.9s,baz=42
SATY Saty 145.04 42*c i*PKIKP **PKPdf 00 22 27.6 +0.1**
SATY pmax pmax
comp=Z,46nm,0.9s
SATY Saty 145.04 42*c i*PKIKP **PKPdf 00 22 27.6 +0.1**
SATY pmax pmax
comp=Z,46nm,0.9s
MK31 Makanchi Array 145.12 34 PKIKP **PKPab 00 22 27.1 +0.1**
MK31 Makanchi Array 145.12 34 PKPab 00 22 27.1 +0.1
MKAR Makanchi Array 145.12 34 PKP **PKPab 00 22 27.2 +0.2**
comp=Z,114nm,0.7s,baz=324,slow=3.6,SNR=764
MKAR Makanchi Array 145.12 34 PKIKP **PKPbc 00 22 27.0 0.0**
MKAR Makanchi Array 145.12 34 PKPbc 00 22 27.0 0.0
TARG Taragay, Kyrgy 145.31 44 PKPbc 00 22 28.4 +0.1
UZB Uzynbulak 145.38 41⇑*i*PKP **PKPab 00 22 28.9 +0.5**
comp=Z,75nm,1.5s,baz=42
UZB *i* pPKP **pPKPdf 00 22 44.0 +0.8**
baz=42
UZB *i* sPKP 00 22 49.7
baz=42
UZB Uzynbulak 145.38 41*c i*PKIKP **PKPab 00 22 28.8 +0.5**
UZB *i* 00 22 44.0
UZB pmax pmax
comp=Z,75nm,1.5s
DGZ Jazzator, Alta 145.46 26 *i* PKIKP **PKPab 00 22 28.8 +0.4**
SHLS Shalkode 145.65 41⇑*i*PKP **PKPab 00 22 30.6 +1.2**
comp=Z,125nm,2.3s,baz=41
SHLS Shalkode 145.65 41*c i*PKP2 **PKPab 00 22 30.5 +1.2**
SHLS pmax pmax
comp=Z,125nm,2.3s
POO Poona 145.92 86⇑*i*P **PKPdf 00 22 30.0 +0.4**
comp=Z,140nm,1.0s
ZSN Zaisan 145.97 31⇑*i*PKP **PKPbc 00 22 29.6 0.0**
comp=Z,126nm,3.0s,baz=31
ZSN *i* pPKP pPKPbc 00 22 44.8 +0.2
baz=31
ZSN *i* sPKP 00 22 50.6
baz=31
ZSN Zaisan 145.97 31*c i*PKP2 **PKPbc 00 22 29.6 0.0**
ZSN pmax pmax
comp=Z,126nm,3.0s
GUMO Guam 146.02 265 PKPbc **PKPdf 00 22 30.3 +0.5**
comp=Z,287nm,1.1s,baz=152,slow=4.2,SNR=16
GUMO pPKPbc pPKPbc 00 22 45.4 +0.2
comp=Z,400nm,1.0s,baz=155,slow=2.6,SNR=13
GUMO Guam 146.02 265 PKIKP **PKPdf 00 22 29.9 +0.1**
GUMO Guam 146.02 265 PKPdf **PKPdf 00 22 29.9 +0.1**
KLR Kul'dur 146.14 334 PKPbc **PKPbc 00 22 29.8 -0.3**
comp=Z,24nm,0.7s,baz=37,slow=3.2,SNR=93
KLR Kul'dur 146.14 334*c i*PKP2 **PKPdf 00 22 29.3 +0.3**
KLR pmax pmax
comp=Z,26nm,0.7s
TEY Ternei 146.81 325⇓*i*PKP2 **PKPbc 00 22 31.8 -0.3**
TEY pmax pmax
comp=N,10.0nm,1.2s
TEY pmax pmax
comp=Z,50nm,0.9s
TEY pmax pmax
comp=E,10.0nm,2.1s
TEY pmax pmax
comp=Z,100nm,3.5s
BATI Baumata 146.98 205 PKP **PKPab 00 22 34.6 -0.3**
BATI PKP **PKiKP 00 22 36.9 +0.8**
SOEI Soe 147.14 207 PKP **PKPab 00 22 35.5 -0.2**
SOEI PKP **PKiKP 00 22 35.8 -0.7**
SOEI Soe 147.14 207 PKPbc 00 22 34.9 +0.8
IRK Irkutsk 147.64 7 *e*PKIKP **PKPdf 00 22 32.1 +0.6**
IRK pmax pmax
comp=Z,124nm,1.8s
MOY Mondy 147.75 10 *e*PKP2 **PKPbc 00 22 33.9 -0.8**
MOY pmax pmax
comp=Z,106nm,1.9s
RKPI Ransiki, Papua 147.97 231 PKP **PKPbc 00 22 36.5 +0.2**
CIT Chita 148.05 356 *e*PKHKP PKPpre 00 22 30.3
CIT pmax pmax
comp=Z,178nm,2.5s
TLY Talaya 148.13 7 *e*PKP2 **PKPbc 00 22 34.4 -1.2**
TLY pmax pmax
comp=Z,112nm,0.9s
TLY Talaya 148.13 7 PKPbc 00 22 35.0 -0.6
FAKI Fak Fak 148.33 226 PKP **PKPbc 00 22 38.1 +0.9**
FAKI PKP **PKiKP 00 22 38.8 -0.1**
FAKI Fak Fak 148.33 226 PKPbc 00 22 37.7 +0.4
PALK Pallekele 148.89 110 PKPbc **PKPbc 00 22 38.8 +0.1**
comp=Z,24nm,0.7s,baz=348,slow=6.5,SNR=10
PALK Pallekele 148.89 110 PKPbc 00 22 38.9 +0.2
MMRI Maumere 148.97 204 PKP **PKPbc 00 22 38.1 -0.7**
MMRI PKP **PKiKP 00 22 39.3 -0.9**
MMRI Maumere 148.97 204 PKPbc 00 22 39.0 +0.2
WBSI Waikabubak, Su 149.00 198 PKP **PKPbc 00 22 38.2 -0.7**
EDFI Ende, Flores 149.07 203 PKP **PKPbc 00 22 38.5 -0.7**
ZAK Zakamensk 149.35 8 *e*PKIKP **PKPdf 00 22 35.6 +1.1**
ZAK pmax pmax
comp=Z,38nm,1.1s
JCJ Chichijima 149.74 289 PKPbc **PKPbc 00 22 40.0 -0.4**
comp=Z,85nm,0.6s,baz=269,slow=22,SNR=7.9
JCJ Chichijima 149.74 289 PKPbc 00 22 40.3 -0.1
USA0B Ussuriysk Arra 149.80 328 PKP2 **PKiKP 00 22 40.9 -0.1**
USA0B Ussuriysk Arra 149.80 328 PKiKP 00 22 40.9 -0.1
USRK Ussuriysk Ar. 149.80 328 PKP **PKPdf 00 22 36.2 +1.0**
comp=Z,44nm,1.0s,baz=300,slow=1.5,SNR=8.0
USRK PKPbc **PKiKP 00 22 40.9 -0.1**
comp=Z,74nm,0.8s,baz=24,slow=1.2,SNR=104
USRK pPKPbc **sPKPdf 00 22 55.8 +0.3**
comp=Z,26nm,0.7s,baz=360,slow=0.4,SNR=9.0
USRK Ussuriysk Ar. 149.80 328 PKPdf 00 22 35.8 +0.6
USRK PKPbc **PKiKP 00 22 40.8 -0.1**
HIA Hailar 149.90 347 PKP2 **PKPbc 00 22 40.2 +0.1**
HIA Hailar 149.90 347 PKPbc 00 22 40.2 +0.1
WMQ Urumqi 149.94 33 PKPbc **PKPdf 00 22 35.3 -0.3**
WMQ pPKP PKPab 00 22 47.5 +1.3
WMQ sPKP 00 22 56.0
WMQ AMB AMB
comp=Z,84nm,4.3s
WMQ LR LR
comp=Z,120nm,18.3s
WMQ LR LR
comp=Z,110nm,25.5s
WMQ LR LR
comp=Z,250nm,23.1s
HYB Hyderabad 150.15 90 *i* PKP **PKPbc 00 22 41.0 -0.7**
MJAR Matsushiro Arr 150.40 310 PKP **PKPdf 00 22 36.7 +0.2**
comp=Z,5.0nm,1.0s,baz=54,slow=2.0,SNR=3.4
MJAR PKPbc **PKiKP 00 22 42.6 +0.1**
comp=Z,30nm,0.8s,baz=113,slow=0.5,SNR=29
MJAR Matsushiro Arr 150.40 310 PKIKP **PKPdf 00 22 36.9 +0.4**
MJAR Matsushiro Arr 150.40 310 PKPdf 00 22 36.9 +0.4
MJAR PKPbc **PKPbc 00 22 42.1 +0.3**
MAJO Matsushiro 150.40 310 PKIKP **PKPbc 00 22 42.1 +0.3**
MAJO Matsushiro 150.40 310 PKPbc 00 22 42.1 +0.3
MAT Matsushiro 150.40 310 PKP **PKPbc 00 22 42.1 +0.4**
JHJ Hachijo jima 2 150.49 302 PKPbc **PKPbc 00 22 42.5 +0.5**
comp=Z,122nm,0.8s,baz=152,slow=5.1,SNR=3.9
MDJ Mudanjiang 150.65 331 PKPbc **PKPdf 00 22 37.0 +0.5**
MDJ Mudanjiang 150.65 331 PKPbc 00 22 42.4 +0.4
NGP Nagpur 151.07 83 *eP* **PKPbc 00 22 43.6 -0.2**
NGP *i* x x 00 22 50.3
NGP *ex* x x 00 22 58.2
JAGI Jajag, Banyuwa 151.28 189 PKP **PKPbc 00 22 43.5 -0.9**
JAGI PKP **PKiKP 00 22 45.0 +0.1**
JAGI Jajag, Banyuwa 151.28 189 PKPbc 00 22 44.4 0.0
SONM Songino Array 152.21 5 PKP **PKPdf 00 22 39.9 +0.9**
comp=Z,9.5nm,0.9s,baz=306,slow=0.7,SNR=16
SONM PKPbc **PKiKP 00 22 46.4 +0.3**
comp=Z,33nm,0.7s,baz=309,slow=1.2,SNR=44
SONM PP **PP 00 26 28.1 +1.3**
comp=Z,2.3nm,0.7s,baz=333,slow=4.9,SNR=3.5
SONM Songino Array 152.21 5 PKPdf **PKPdf 00 22 39.7 +0.7**
SONM **PKiKP 00 22 46.1 +0.1**
SONM PKPab **PKPab 00 22 56.4 +0.9**
ULN Ulaanbaatar 152.23 4 PKIKP **PKiKP 00 22 46.7 +0.6**
ULN 00 22 57.0
ULN Ulaanbaatar 152.23 4 PKPdf 00 22 39.9 +0.8
ULN PKPbc **PKiKP 00 22 46.7 +0.6**
ULN PKPab **PKPab 00 22 57.0 +1.4**
CN2 Changchun 153.09 335 *e*PKPbc **PKPbc 00 22 46.3 -1.3**
CN2 sPKP 00 22 59.4
CN2 PP PP 00 26 42.6 +11
CN2 LR LR
comp=Z,200nm,20.0s
CN2 LR LR
comp=Z,200nm,20.0s
CN2 LR LR
comp=Z,200nm,21.0s
LEM Lembang 153.11 175 PKPbc **PKiKP 00 22 49.8 +0.9**
comp=Z,81nm,0.7s,baz=334,slow=21,SNR=13
KAPI Kappang 153.23 202 PKPbc **PKiKP 00 22 49.7 +0.7**
comp=Z,25nm,0.8s,baz=102,slow=2.4,SNR=9.3
KAPI PKPab **sPKPdf 00 23 02.1 +0.6**
comp=Z,65nm,0.8s,baz=113,slow=2.5,SNR=15
KAPI pPKPab **pPKPab 00 23 16.7 +1.7**
comp=Z,169nm,0.8s,baz=202,slow=1.8,SNR=17
KAPI Kappang 153.23 202 PKiKP 00 22 49.6 +0.6
KAPI PKPab **sPKPdf 00 23 01.8 +0.2**
KOLN Koldanda 154.76 67 *eP* **PKPdf 00 22 43.2 -0.2**
DANN Dangsing 154.78 66 *eP* **PKPdf 00 22 43.8 +0.3**
GKN Gorkha 155.61 66 *eP* **PKPdf 00 22 44.3 -0.2**
DMN Daman 156.10 67 *eP* **PKPdf 00 22 44.9 -0.4**
PKI Pulchoki 156.37 67 *eP* **PKPdf 00 22 45.1 -0.6**
KSRS Korea Array 156.72 322 PKP **PKPdf 00 22 46.7 +1.3**
comp=Z,8.5nm,0.9s,baz=57,slow=1.2,SNR=33
KSAR Wonju Array Be 156.75 322 PKIKP **PKPdf 00 22 45.9 +0.5**
KSAR Wonju Array Be 156.75 322 PKPdf **PKPdf 00 22 45.9 +0.5**
RAMN Ramite 157.54 68 *eP* **PKPdf 00 22 47.2 +0.1**
ODAN Odare 158.25 68 *eP* **PKPdf 00 22 47.9 -0.1**
GTA Gaotai 158.89 22⇑PKP **PKPdf 00 22 49.0 +0.8**
GTA pPKP pPKPdf 00 23 04.5 +1.3
GTA sPKP 00 23 11.3
GTA PKPab **PKPab 00 23 24.5 +0.2**
GTA PP **PP 00 27 08.4 +4.1**
GTA SKKS 00 33 51.4
GTA SS **SS 00 47 06.3 +2.6**
GTA AMB AMB
comp=Z,90nm,7.8s
GTA LR LR
comp=Z,110nm,21.9s
GTA LR LR
comp=Z,130nm,21.9s
GTA LR LR
comp=Z,170nm,20.9s
HHC Hu-ho-hao-te 159.30 357 *e*PKP **PKPdf 00 22 50.8 +2.2**
RPSI Rantau Prapat 159.59 147 PKPab 00 23 28.7 +0.9
BTO Baotou 159.59 360 *e*PKP **PKPdf 00 22 47.8 -1.2**
PSI Prapat 159.68 147 PKP **PKPdf 00 22 49.5 -0.4**
comp=Z,2.4nm,0.4s,baz=178,slow=2.3,SNR=4.5
PSI PKPab **PKPab 00 23 28.7 +0.3**
comp=Z,4.0nm,0.4s,baz=180,slow=23,SNR=7.6
PSI pPKPab **pPKPab 00 23 43.2 +0.3**
comp=Z,14nm,0.8s,baz=180,slow=1.5,SNR=4.6
LSA Lhasa 160.47 57 PKP2 **PKPab 00 23 31.9 -0.2**
LSA 01 22 50.9
LSA Lhasa 160.47 57 PKPdf 00 22 50.9 +0.1
LSA **PKPab 00 23 31.9 -0.2**
SBUM Sibu 162.29 187 PKPdf 00 22 53.2 +0.7
TIA Tai'an 162.79 340 PKP **PKPdf 00 22 52.5 +0.1**
LZH Lanzhou 163.22 17⇑PKP **PKPdf 00 22 54.5 +1.5**
LZH pPKP pPKPdf 00 23 10.4 +2.4
LZH PKPab **PKPab 00 23 44.5 +1.2**
LZH AMB AMB
comp=Z,170nm,9.2s
LZH LR LR
comp=Z,220nm,18.0s
LZH LR LR
comp=Z,260nm,18.2s
LZH LR LR
comp=Z,200nm,20.1s
NJ2 Nanjing 165.71 328 *e*PKP **PKPdf 00 22 55.3 +0.2**
XAN Xi'an 166.12 4 PKP **PKPdf 00 22 56.1 +0.7**
XAN sPKP 00 23 11.0
XAN Xi'an 166.12 4 PKIKP **PKPdf 00 22 55.9 +0.5**
XAN 00 23 55.6
XAN Xi'an 166.12 4 PKPdf 00 22 55.9 +0.5
XAN PKPab **PKPab 00 23 55.6 -0.3**
CD2 Chengdu 167.89 26 *e*PKP **PKPdf 00 22 58.1 +1.2**
WHN Wuhan 168.91 340 PKP **PKPdf 00 22 58.3 +0.9**
CMAR Chiang Mai Arr 169.45 97 PKP **PKPdf 00 22 58.6 +0.5**
comp=Z,1.6nm,0.4s,baz=288,slow=2.2,SNR=21
CMAR pPKP **pPKPdf 00 23 13.6 +0.4**
comp=Z,1.4nm,0.3s,baz=271,slow=2.7,SNR=2.3
CMAR PKPab **PKPab 00 24 11.2 -0.2**
comp=Z,2.0nm,0.4s,baz=258,slow=5.6,SNR=9.0
CMAR PP **PP 00 28 01.3 -0.2**
comp=Z,0.9nm,0.3s,baz=284,slow=7.0,SNR=6.3
CMAR Chiang Mai Arr 169.45 97 PKPdf 00 22 58.2 +0.1
CMAR **PKPab 00 24 11.1 -0.3**
CHTO Chiang Mai 169.51 95 PKP2 **PKPab 00 24 11.1 -0.6**
CHTO 01 22 57.9
CHTO Chiang Mai 169.51 95 PKPdf 00 22 57.9 -0.3
CHTO PKPab **PKPab 00 24 11.1 -0.6**
ENH Enshi 169.89 2 PKPdf 00 22 58.4 +0.2
ENH **PKPab 00 24 11.8 -0.8**
PBKT Sadao Pong 170.75 111 PKPdf 00 22 58.8 0.0
PBKT PKPab **PKPab 00 24 16.6 -0.4**
KMI Kunming 171.68 52⇓*e*PKP **PKPdf 00 23 00.5 +1.0**
GYA Guiyang 173.01 25⇑PKP **PKPdf 00 23 00.0 +0.1**
GYA PKPab **PKPab 00 24 26.0 -0.7**
GYA PP **PP 00 28 20.1 +2.7**
GYA AMB AMB
comp=Z,92nm,4.6s
GYA LR LR
comp=Z,190nm,11.9s
GYA LR LR
comp=Z,170nm,11.1s
GYA LR LR
comp=Z,210nm,10.6s

QIZ	**Qiongzhong**	**178.90**	**174**	PKP	**PKPdf**	**00 23 00.3**	**-1.0**
QIZ				PP	**PP**	**00 28 46.3**	**+1.4**
QIZ				SS	SS	00 50 24.6	+2.2
QIZ				AMB	AMB		
	comp=Z,210nm,7.4s						
QIZ				LR	LR		
	comp=Z,160nm,14.3s						

*GUC **14** 00:10:24.6±0.7,20.°16S×69.°98W,h48km±4km,ML3.6*
*IDC **14** 00:10:29.5±3.3,20.°12S×69.°57W,h86km±21km,mb3.5/1,*
mb1 3.6/4,mb1mx3.3/45,mbtmp3.8/4,Error ellipse:
s-maj=66.3km s-min=16.0km az=94.0
ISC 14 00:10:25.2±1.1,20.°14S±0.°03×70.°03W±0.°06,h46km±11km,
n19,σ1°31/32,2C-6D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.45**	**199**		⇑*i*	*P*	00 10 35.1	-0.5
TA01					*e*	**Sn**	**00 10 42.6**	**-0.4**
TA01				IAML			00 10 43.1	
	comp=E,4μm,0.2s							
PB11	**IPOC Station P**	**0.51**	**43**		⇓*i*	*P*	**00 10 36.6**	**0.0**
PB11					*i*	S	**00 10 45.2**	**+0.7**
PB11				IAML			00 10 45.8	
	comp=N,11μm,0.3s							
PSGC	**Pisagua**	**0.54**	**350**		⇓*i*	*P*	**00 10 36.9**	**0.0**
PSGC					*i*	S	**00 10 45.5**	**+0.3**
PSGC				IAML			00 10 46.3	
	comp=E,8μm,0.2s							
PB08	**IPOC Station P**	**0.82**	**90**		⇓*i*	*P*	**00 10 40.8**	**0.0**
PB08					*i*	S	**00 10 52.3**	**+0.3**
PB08				IAML			00 10 53.8	
	comp=E,3μm,0.1s							
GO01	**Chusmiza**	**0.91**	**59**		*eP*	*P*	**00 10 42.0**	**-0.1**
GO01					*i*	S	**00 10 55.2**	**+0.8**
GO01				IAML			00 10 57.2	
	comp=N,7μm,0.1s							
PB01	**IPOC Station P**	**1.03**	**151**		⇑*i*	*P*	**00 10 42.9**	**-0.6**
PB01					*i*	S	**00 10 56.1**	**-0.7**
PB01				IAML			00 10 56.8	
	comp=E,2μm,0.2s							
MNMC	**Minye Minye**	**1.08**	**22**		⇓*i*	*P*	**00 10 44.5**	**+0.3**
MNMC					*i*	S	**00 10 59.6**	**+1.4**
MNMC				IAML			00 11 00.8	
	comp=E,3μm,0.6s							
PB12	**IPOC Station P**	**1.54**	**349**		*eP*	*P*	**00 10 50.5**	**+0.1**
PB12					*i*	S	**00 11 09.3**	**0.0**
PB12				IAML			00 11 13.1	
	comp=E,2μm,0.3s							
PB07	**IPOC Station P**	**1.59**	**175**		⇓*i*	*P*	**00 10 51.5**	**+0.4**
PB07					*i*	S	**00 11 11.1**	**+0.6**
PB07				IAML			00 11 12.8	
	comp=E,1μm,0.4s							
AP01	**Chacalluta**	**1.78**	**350**		*eP*	*P*	**00 10 54.1**	**+0.6**
AP01					*i*	S	**00 11 16.5**	**+1.5**
PB09	**IPOC Station P**	**1.81**	**156**		*eP*	*P*	**00 10 55.1**	**+1.0**
PB09					*i*	S	**00 11 17.4**	**+1.6**
PB09				IAML			00 11 21.4	
	comp=E,951nm,0.5s							
PB16	**IPOC Station P**	**1.86**	**15**		*eP*	*P*	**00 10 56.0**	**+0.9**
PB16					*i*	S	**00 11 20.2**	**+2.6**
PB16				IAML			00 11 27.8	
	comp=N,307nm,0.4s							
PB03	**IPOC Station P**	**1.92**	**172**		⇓*i*	*P*	**00 10 55.9**	**+0.3**
PB03					*i*	S	**00 11 19.5**	**+0.9**
PB03				IAML			00 11 21.7	
	comp=E,928nm,0.3s							
PB04	**IPOC Station P**	**2.19**	**183**		*eP*	*P*	**00 10 59.5**	**+0.2**
PB04					*i*	S	**00 11 26.3**	**+1.0**
PB04				IAML			00 11 33.1	
	comp=N,451nm,0.2s							
LVC	**Limon Verde**	**2.67**	**157**	P		*P*	**00 11 08.9**	**+2.8**
	comp=N,9.6nm,0.3s,baz=352,slow=8.2,SNR=23							
LVC				S		**Sn**	**00 11 40.4**	**+2.9**
	comp=N,34nm,0.3s,baz=186,slow=19,SNR=11							
LPAZ	**La Paz**	**4.23**	**26**	P		*P*	**00 11 29.7**	**+1.9**
	comp=N,1.7nm,0.3s,baz=173,slow=16,SNR=21							
SIV	**San Ignacio**	**9.46**	**66**	P		*P*	**00 12 38.1**	**-0.9**
	comp=N,1.2nm,0.3s,baz=234,slow=14,SNR=1.1							
TORD	**Torodi Ar. Bea**	**77.89**	**71**	P		*P*	**00 22 16.1**	**-2.6**
	comp=N,1.0nm,0.9s,baz=253,slow=5.3,SNR=9.3							
MKAR	**Makanchi Array**	**145.12**	**34**	PKP		PKPbc	00 29 56.0	-1.2
	comp=N,0.4nm,0.5s,baz=333,slow=3.1,SNR=5.0							

*IDC **14** 00:12:54.1±1.1,10.°90N×68.°90W,h0km,mb3.7/6,*
mb1 4.0/8,mb1mx3.8/53,mbtmp3.8/8,ML2.8/2,Error
ellipse: s-maj=28.9km s-min=22.9km az=77.0
*NEIC **14** 00:12:55.3±0.9,10.°90N±0.°02×68.°98W±0.°06,h14km±6km,*
mb4.2/8,Error ellipse: s-maj=8.5km s-min=2.4km az=94.0
ISC 14 00:12:55.4±0.6,10.°93N±0.°05×69.°02W±0.°06,h12km,n49,
σ1°29/54,mb3.9/7,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HATO	**Hato, Curacao**	**1.25**	**3**		Pn	**Pn**	**00 13 19.0**	**+0.3**
HATO					Sn	**Sn**	**00 13 35.9**	**+0.4**
SDV	**Santo Domingo**	**2.58**	**218**		Pn	**Pn**	**00 13 39.0**	**+1.8**
	30nm,0.3s,baz=36,slow=12,SNR=17							
SDV					Sn	**Sn**	**00 14 07.5**	**-1.0**
	48nm,0.3s,baz=18,slow=20,SNR=7.4							
SDV	**Santo Domingo**	**2.58**	**218**		Pn	**Pn**	**00 13 36.1**	**-1.0**
SDV					Sn	**Sn**	**00 14 08.6**	**0.0**
URIC	**Uribia, Colomb**	**3.02**	**285**		*eP*	**Pn**	**00 13 41.3**	**-1.7**
URIC					*eS*	**Sn**	**00 14 16.2**	**-2.9**
URIC					*i*		00 14 30.8	
	comp=Z,113nm,0.4s							
URIC	**Uribia, Colomb**	**3.02**	**285**		Pn	**Pn**	**00 13 41.5**	**-1.6**
PAMC	**Pamplona, Colo**	**5.09**	**226**		*eP*	**Pn**	**00 14 12.4**	**+0.4**
TAMC	**Tame, Arauca**	**5.24**	**212**		*eP*	Pn	00 14 08.2	-5.4
ARGC	**Ariguani, Magd**	**5.25**	**259**		*eP*	**Pn**	**00 14 13.0**	**-0.8**
SMLC	**San Martn de**	**5.41**	**247**		*eP*	**Pn**	**00 14 14.6**	**-1.3**
SJCC	**San Jacinto, C**	**6.14**	**261**		*eP*	**Pn**	**00 14 26.7**	**+0.6**
RUSC	**La Rusia**	**6.42**	**219**		*eP*	**Pn**	**00 14 29.1**	**-1.2**
RUSC	**La Rusia**	**6.42**	**219**			**Pn**	**00 14 29.4**	**-0.8**
ZARC	**Zaragoza, Cauc**	**6.70**	**240**		*eP*	**Pn**	**00 14 34.0**	**+0.3**
PTBC	**PUERTO BERRIO,**	**6.92**	**231**		*eP*	**Pn**	**00 14 35.9**	**-0.8**
UREC	**San Jos de Ur**	**7.16**	**244**		*eP*	**Pn**	**00 14 42.2**	**+2.2**
SPBC	**San Pablo de B**	**7.24**	**224**		*eP*	**Pn**	**00 14 40.9**	**-0.3**
CRPR	**Cabo Rojo, PR**	**7.28**	**15**	Pn		**Pn**	**00 14 41.3**	**-0.3**
CRPR				Sn		**Sn**	**00 16 02.6**	**-1.6**
OBIP	**Obispado Ponce**	**7.45**	**18**	Pn		**Pn**	**00 14 43.0**	**-1.0**
AOPR	**Arecibo Observ**	**7.70**	**16**	Pn		**Pn**	**00 14 47.8**	**+0.4**
HUMP	**Col San Antoni**	**7.80**	**23**	Pn		**Pn**	**00 14 47.5**	**-1.4**
CHIC	**Chingaza**	**7.80**	**217**		*eP*	**Pn**	**00 14 49.3**	**0.0**
NORC	**Norcasia**	**7.87**	**226**		*eP*	**Pn**	**00 14 52.1**	**+2.3**
SVB	**Belmont**	**7.95**	**72**	Pn		**Pn**	**00 14 50.3**	**-0.6**
HELC	**Santa Helena**	**7.97**	**234**		*eP*	**Pn**	**00 14 55.1**	**+3.6**
ROSC	**El Rosal**	**8.01**	**221**	Pn		**Pn**	**00 14 53.0**	**+0.9**
	comp=Z,2.1nm,0.3s,baz=127,slow=21,SNR=2.0							
ROSC					Sn	**Sn**	**00 16 20.5**	**-2.3**
	baz=54,slow=22,SNR=1.0							
ROSC	**El Rosal**	**8.01**	**221**			**Pn**	**00 14 51.5**	**-0.5**
CUPR	**Culebra, Puert**	**8.18**	**26**	Pn		**Pn**	**00 14 53.8**	**-0.3**
SDDR	**Presa de Saban**	**8.30**	**345**	Pn		**Pn**	**00 14 55.8**	**+0.1**
STVI	**Saint Thomas**	**8.36**	**28**			**Pn**	**00 14 56.0**	**-0.5**
GUY2C	**Guyana, Caldas**	**8.46**	**228**		*eP*	**Pn**	**00 14 59.4**	**+1.1**
FDF	**Fort de France**	**8.56**	**63**	Pn		**Pn**	**00 14 57.5**	**-1.7**
RREF	**El Recreo**	**8.66**	**227**		*eP*	**Pn**	**00 15 04.3**	**+3.0**
SCIP	**Isla Barro Col**	**10.79**	**262**	Pn		**Pn**	**00 15 29.4**	**-0.5**
FLOC	**Florencia**	**11.38**	**216**	Pn		**Pn**	**00 15 37.6**	**-0.4**
JTS	**Las Juntas de**	**15.67**	**269**	Pn		**Pn**	**00 16 36.5**	**+0.1**
JTS				IAmb		IAmb	00 16 54.5	
	comp=Z,21nm,1.4s							
BOAB	**BOACO BROADBAN**	**16.37**	**277**	Pn		**Pn**	**00 16 45.7**	**+0.4**
MTO3	**Montecristo**	**20.14**	**282**	P		**P**	**00 17 30.9**	**+1.0**
LPAZ	**La Paz**	**27.05**	**178**	P		**P**	**00 18 39.5**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=354,slow=7.5,SNR=1.3							
LPAZ	**La Paz**	**27.05**	**178**	P		**P**	**00 18 38.7**	**+0.1**
LPAZ				IAmb		IAmb	00 18 54.7	
	comp=Z,5.3nm,1.1s							
TXAR	**Lajitas Array**	**37.13**	**305**	P		**P**	**00 20 07.9**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=119,slow=9.4,SNR=4.3							
TXAR	**Lajitas Array**	**37.13**	**305**	P		**P**	**00 20 06.9**	**+0.6**
CPUP	**Villa Florida**	**38.74**	**163**	P		**P**	**00 20 20.3**	**+0.6**
	comp=Z,3.0nm,1.0s,baz=343,slow=14,SNR=2.8							
PV13	**Radium Mtn., P**	**44.71**	**314**	P		**P**	**00 21 09.5**	**+0.6**
PV13				IAmb		IAmb	00 21 13.9	
	comp=Z,3.9nm,1.0s							
SRU	**San Rafael Swe**	**46.33**	**315**	P		**P**	**00 21 21.8**	**+0.2**
P17A	**Butcher Ranch,**	**46.63**	**315**	P		**P**	**00 21 23.1**	**-0.9**
PDAR	**Pinedale Array**	**47.39**	**319**	P		**P**	**00 21 31.0**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=148,slow=5.3,SNR=1.9							
PLCA	**Paso Flores**	**51.42**	**181**	P		**P**	**00 21 58.9**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=354,slow=6.4,SNR=4.2							
TORD	**Torodi Ar. Bea**	**68.99**	**80**	P		**P**	**00 24 01.6**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=274,slow=7.3,SNR=4.2							
TORD	**Torodi Ar. Bea**	**68.99**	**80**	P		**P**	**00 24 01.0**	**-0.3**

*KRNET **14** 00:43:10.2±0.1,40.°55N×77.°75E,mb3.3*
*SOME **14** 00:43:13.2,40.°67N×77.°63E,h10km*
*NNC **14** 00:43:15.8±0.8,40.°76N×77.°68E,h0km,mb4.2,mpv3.8,*
Error ellipse: s-maj=5.9km s-min=4.2km az=174.0
ISC 14 00:43:14.2±1.4,40.°65N±0.°06×77.°62E±0.°03,h10km,n79,
σ1°84/121,21C-29D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.09**	**7**		⇓*i*	*P*	**00 43 32.1**	**-3.0**
	baz=2.0							
TARG					⇓*i*	S	**00 43 48.7**	**-0.6**
	baz=2.0							
KDJ	**Kajisay**	**1.51**	**348**		⇓*i*	*P*	**00 43 40.7**	**-0.8**
	baz=45							
KDJ					⇓*i*	S	**00 44 02.9**	**0.0**
	baz=45							
ULHL	**Ulahol**	**1.90**	**327**		⇓*i*	*P*	**00 43 47.4**	**+0.5**
	baz=27							
ULHL					⇓*i*	S	**00 44 14.3**	**-1.0**
	baz=27							
ULHL	**Ulahol**	**1.90**	**327**	P		*P*	**00 43 48.8**	**-0.3**
	SNR=23							
PRZ	**Przheval'sk**	**1.92**	**17**		⇑*i*	*P*	**00 43 46.7**	**-0.4**
	baz=14							
PRZ					⇑*i*	S	**00 44 13.5**	**0.0**
	baz=14							
ANVS	**Anan'yevo**	**2.13**	**1**		⇑*i*	*P*	**00 43 51.0**	**+1.0**
	baz=58							
ANVS					⇑*i*	S	**00 44 18.5**	**-1.0**
	baz=58							
KZA	**Kyzart**	**2.28**	**309**		⇓*i*	*P*	**00 43 52.7**	**+0.4**
	baz=10.0							
KZA					⇓*i*	S	**00 44 24.0**	**-0.2**
	baz=10.0							
KZA	**Kyzart**	**2.28**	**309**	P		*P*	**00 43 55.7**	**0.0**
	SNR=104							
TNSS	**Tian-Shan**	**2.44**	**348**		*eP*	*P*	**00 43 59.1**	**+0.8**
	148nm,0.5s							
TNSS					*eS*	**Sg**	**00 44 32.3**	**-0.2**
	81nm,0.6s							
TNSS	**Tian-Shan**	**2.44**	**348**	Pg		**Pb**	**00 43 58.6**	**+0.3**
	148nm,0.5s							
TNSS				Lg		Lg	00 44 32.4	
	76nm,0.5s							
SATY	**Saty**	**2.48**	**13**		*eP*	*P*	**00 43 59.0**	**+0.1**
	30nm,0.9s							
SATY					*eS*	**Sg**	**00 44 31.7**	**-2.0**
	60nm,0.6s							
SATY	**Saty**	**2.48**	**13**	Pg		**Pb**	**00 43 59.0**	**+0.1**
	30nm,0.9s							
SATY				Lg		Lg	00 44 31.6	
	52nm,0.3s							
IZV	**Izvestkoviy**	**2.50**	**343**		*eP*	*P*	**00 43 59.5**	**+0.3**
	46nm,0.3s							
IZV					*eS*	**Sg**	**00 44 32.6**	**-1.8**
	91nm,0.6s							
IZV	**Izvestkoviy**	**2.50**	**343**	Pg		**Pb**	**00 43 59.5**	**+0.3**
	46nm,0.3s							
IZV				Lg		Lg	00 44 32.4	
	91nm,0.6s							
MDOK	**Medeo**	**2.55**	**351**		*eP*	*P*	**00 44 00.6**	**+0.6**
	95nm,0.6s							
MDOK					*eS*	**Sg**	**00 44 34.8**	**-1.2**
	102nm,0.6s							
MDOK	**Medeo**	**2.55**	**351**		⇓Pn	**Pb**	**00 43 58.4**	**-1.6**
	64nm,0.5s							
MDOK					⇓Lg	Lg	00 44 35.2	
	82nm,0.6s							
MDOK	**Medeo**	**2.55**	**351**	Pg		**Pb**	**00 44 00.3**	**+0.3**
	95nm,0.6s							
MDOK				Lg		Lg	00 44 33.8	
	96nm,0.5s							
AAA	**Alma-Ata**	**2.61**	**349**		*eP*	*P*	**00 44 02.4**	**+1.3**
	135nm,0.3s							
AAA					*eS*	**Sg**	**00 44 37.3**	**-0.7**
	75nm,0.7s							
AAA	**Alma-Ata**	**2.61**	**349**	Pg		**Pb**	**00 44 02.2**	**+1.1**
	135nm,0.3s							
AAA				Lg		Lg	00 44 36.9	
	75nm,0.7s							
KNDC	**Almaty**	**2.61**	**349**		⇑Pg	**Pb**	**00 44 01.9**	**+0.8**
	112nm,0.7s							
KNDC					⇓Lg	Lg	00 44 38.3	
	132nm,0.8s							
MTBS	**Maitube**	**2.63**	**341**		*eP*	**Pb**	**00 44 02.2**	**+0.7**
	40nm,0.2s							
MTBS					*eS*	**Sg**	**00 44 37.3**	**-1.4**
	54nm,0.4s							
MTBS	**Maitube**	**2.63**	**341**	Pg		**Pb**	**00 44 02.2**	**+0.7**
	40nm,0.2s							
MTBS				Lg		Lg	00 44 37.1	
	54nm,0.4s							
KST	**Kastek**	**2.69**	**333**		*eP*	*P*	**00 44 03.1**	**+0.6**
	43nm,0.4s							
KST					*eS*	**Sg**	**00 44 39.1**	**-1.5**
	59nm,0.7s							
KST	**Kastek**	**2.69**	**333**	Pg		**Pb**	**00 44 03.1**	**+0.6**
	43nm,0.4s							
KST				Lg		Lg	00 44 39.1	
	33nm,0.5s							
UZB	**Uzynbulak**	**2.70**	**22**		*eP*	**Pb**	**00 44 02.2**	**-0.5**
	14nm,0.5s							
UZB					*eS*	**Sb**	**00 44 37.6**	**+1.6**
	59nm,0.7s							
UZB	**Uzynbulak**	**2.70**	**22**	Pg		**Pb**	**00 44 03.5**	**+0.7**
	14nm,0.5s							
UZB				Lg		Lg	00 44 40.3	
	59nm,0.7s							
TKM2	**Tokmak 2**	**2.73**	**327**		⇑*i*	*P*	**00 43 58.6**	**+0.4**
	baz=26							
TKM2					⇑*i*	S	**00 44 34.4**	**-2.3**
	baz=26							
TKM2	**Tokmak 2**	**2.73**	**327**	P		*P*	**00 44 04.8**	**-1.6**
	SNR=15							
TKM2	**Tokmak 2**	**2.73**	**327**		⇓Pn	**Pb**	**00 44 01.2**	**-1.9**
	8.8nm,0.4s							
TKM2					⇑Lg	Lg	00 44 40.6	
	28nm,0.7s							
ARLS	**Aral**	**2.76**	**297**		⇑*i*	*P*	**00 43 59.0**	**+0.3**
	baz=98							
ARLS					⇑*i*	S	**00 44 34.9**	**+2.7**
	baz=98							
UCH	**Uchtor**	**2.82**	**305**		⇓*i*	*P*	**00 44 00.0**	**+0.3**
	baz=6.0							
UCH					⇓*i*	S	**00 44 36.5**	**+2.6**
	baz=6.0							
UCH	**Uchtor**	**2.82**	**305**	P		*P*	**00 44 06.0**	**+1.1**
	SNR=13							
KBK	**Karagaybulak**	**2.83**	**316**		⇓*i*	*P*	**00 44 00.2**	**+0.6**
	baz=16							
KBK					⇓*i*	S	**00 44 36.9**	**+3.0**
	baz=16							
KBK	**Karagaybulak**	**2.83**	**316**	P		*P*	**00 44 06.2**	**+1.2**
	SNR=14							
SHLS	**Shalkode**	**2.86**	**28**		*eP*	**Pg**	**00 44 08.0**	**-0.9**
	18nm,0.3s							
SHLS					*eS*	**Sg**	**00 44 46.9**	**+1.0**
	74nm,0.7s							
SHLS	**Shalkode**	**2.86**	**28**	Pg		**Pg**	**00 44 08.0**	**-0.9**
	18nm,0.3s							
SHLS				Lg		Lg	00 44 46.7	
	74nm,0.7s							
KURS	**Kuram**	**2.86**	**8**		*eP*	**Pb**	**00 44 05.3**	**-0.1**
	28nm,0.5s							
KURS					*eS*	**Sb**	**00 44 42.8**	**+2.3**
	24nm,0.5s							
DGS	**Degeres**	**2.93**	**333**		*eP*	**Pb**	**00 44 07.4**	**+0.8**
	24nm,0.7s							
DGS					*eS*	**Sg**	**00 44 45.9**	**-2.5**
	37nm,0.6s							
DGS	**Degeres**	**2.93**	**333**	Pg		**Pb**	**00 44 07.4**	**+0.8**
	22nm,0.9s							
DGS				Lg		Lg	00 44 45.9	
	37nm,0.6s							
PDGK	**Podgornoye**	**3.02**	**27**	Pg		**Pb**	**00 44 08.7**	**+0.6**
	9.7nm,0.5s							
PDGK				Lg		Lg	00 44 49.0	
	48nm,0.9s							
PDGK	**Podgornoye**	**3.02**	**27**	⇓Pn		**Pn**	**00 44 03.9**	**+1.8**
	1.5nm,0.6s							
PDGK					⇑Pg	**Pb**	**00 44 08.2**	**+0.1**
	12nm,0.5s							
PDGK					⇓Lg	Lg	00 44 48.5	
	139nm,1.2s							
AAK	**Ala-Archa**	**3.07**	**311**		⇓*i*	*P*	**00 44 03.5**	**+0.6**
	baz=12							
AAK					⇓*i*	S	**00 44 42.7**	**+3.0**
	baz=12							
AAK	**Ala-Archa**	**3.07**	**311**	P		*P*	**00 44 09.8**	**+0.8**
	SNR=15							
AAK	**Ala-Archa**	**3.07**	**311**		⇓Pg	**Pb**	**00 44 09.9**	**+0.9**
	27nm,0.7s							
AAK					⇓Lg	Lg	00 44 52.2	
	76nm,0.8s							
FRU1	**Bishkek**	**3.11**	**315**		⇑*i*	*P*	**00 44 04.0**	**+0.7**
	baz=15							
FRU1					⇑*i*	S	**00 44 43.4**	**+2.9**
	baz=15							
KTBS	**Karatobe**	**3.14**	**347**		*eP*	**Pb**	**00 44 10.4**	**+0.4**
	24nm,0.2s							
KTBS					*eS*	**Sb**	**00 44 51.1**	**+2.8**
	98nm,0.7s							
KTBS	**Karatobe**	**3.14**	**347**	Pg		**Pb**	**00 44 10.4**	**+0.4**
	24nm,0.2s							
KTBS				Lg		Lg	00 44 51.1	
	98nm,0.7s							
CHMS	**Chumysh**	**3.18**	**319**		⇓*i*	*P*	**00 44 05.0**	**+0.8**
	baz=18							
CHMS					⇓*i*	S	**00 44 44.9**	**+2.7**
	baz=18							
CHMS	**Chumysh**	**3.18**	**319**	P		*P*	**00 44 12.1**	**+1.4**
	SNR=13							
CHKK	**Chushkaly**	**3.23**	**352**		*eP*	**Pb**	**00 44 12.5**	**+0.8**
	34nm,0.4s							
CHKK					*eS*	**Sg**	**00 44 55.3**	**-2.8**
	31nm,0.4s							
CHKK	**Chushkaly**	**3.23**	**352**	Pg		**Pb**	**00 44 12.5**	**+0.8**
	34nm,0.4s							
CHKK				Lg		Lg	00 44 54.7	
	31nm,0.4s							
AML	**Almayashu**	**3.30**	**298**		⇓*i*	*P*	**00 44 06.9**	**+0.6**
	baz=99							
AML					⇓*i*	S	**00 44 48.2**	**+2.4**
	baz=99							
AML	**Almayashu**	**3.30**	**298**	P		*P*	**00 44 14.6**	**+1.5**
	SNR=16							
KRBS	**Karabastau**	**3.37**	**335**		*eP*	**Pb**	**00 44 15.2**	**+1.2**
	16nm,0.3s							
KRBS					*eS*	**Sg**	**00 44 59.3**	**-3.0**
	24nm,0.9s							
KRBS	**Karabastau**	**3.37**	**335**	Pg		**Pb**	**00 44 15.2**	**+1.2**
	16nm,0.3s							
KRBS				Lg		Lg	00 44 59.3	
	3.1nm,0.7s							
KUU	**Kurty**	**3.38**	**344**		*eP*	**Pb**	**00 44 14.7**	**+0.6**
	9.7nm,0.3s							
KUU					*eS*	**Sb**	**00 44 58.4**	**+3.2**
	12nm,0.5s							
KUU	**Kurty**	**3.38**	**344**	Pg		**Pb**	**00 44 14.6**	**+0.6**
	9.7nm,0.3s							
KUU				Lg		Lg	00 44 58.4	
	12nm,0.5s							
KTMS	**Ketmen**	**3.46**	**35**		*eP*	**Pb**	**00 44 16.1**	**+0.6**
	0.2nm,0.1s							
KTMS					*eS*	**Sg**	**00 45 01.0**	**-4.1**
	27nm,0.6s							
KTMS	**Ketmen**	**3.46**	**35**	Pg		**Pb**	**00 44 16.1**	**+0.6**
	0.2nm,0.1s							
KTMS				Lg		Lg	00 45 01.0	
	27nm,0.6s							
MNBS	**Baschi**	**3.47**	**9**		*eP*	**Pb**	**00 44 17.8**	**+2.0**
	8.9nm,0.4s							
MNBS					*eS*	**Sg**	**00 45 03.9**	**-1.8**
	43nm,0.4s							
USP	**Ospenovka**	**3.50**	**319**		⇑*i*	*P*	**00 44 09.3**	**+0.6**
	baz=19							
USP					⇑*i*	S	**00 44 52.5**	**+2.3**
	baz=19							
USP	**Ospenovka**	**3.50**	**319**	P		*P*	**00 44 17.8**	**+1.6**
	SNR=13							
EKS2	**Erkin-Say**	**3.51**	**306**		⇓*i*	*P*	**00 44 09.6**	**+0.7**
	baz=7.0							
EKS2					⇓*i*	S	**00 44 53.0**	**+2.4**
	baz=7.0							
EKS2	**Erkin-Say**	**3.51**	**306**	P		*P*	**00 44 20.0**	**-1.5**
	SNR=8.1							
ARXS	**Arharly**	**3.56**	**2**		*eP*	**Pb**	**00 44 18.9**	**+1.6**
	25nm,0.5s							
ARXS					*eS*	**Sg**	**00 45 05.5**	**-3.0**
	51nm,0.4s							
ARXS	**Arharly**	**3.56**	**2**	Pg		**Pb**	**00 44 18.9**	**+1.6**
	25nm,0.5s							
ARXS				Lg		Lg	00 45 05.5	
	51nm,0.4s							
MRKS	**Merke**	**3.90**	**304**		*eP*	**Pg**	**00 44 26.1**	**-2.8**
	10nm,0.4s							
MRKS					*eS*	**Sg**	**00 45 18.0**	**-1.4**
	8.7nm,0.6s							
MRKS	**Merke**	**3.90**	**304**	Pg		**Pg**	**00 44 26.1**	**-2.8**
	10nm,0.4s							
MRKS				Lg		Lg	00 45 18.0	
	8.7nm,0.6s							
TDK	**Taldyqorghan**	**4.39**	**7**		*eP*	**Pb**	**00 44 33.5**	**+2.2**
	58nm,0.4s							
TDK					*eS*	**Sg**	**00 45 31.2**	**-3.8**
	31nm,0.5s							
TDK	**Taldyqorghan**	**4.39**	**7**	Pg		**Pg**	**00 44 34.7**	**-3.5**
	58nm,0.4s							
TDK				Lg		Lg	00 45 32.3	
	31nm,0.5s							
ARK	**Arkit**	**4.42**	**287**		⇑*i*	*P*	**00 44 21.7**	**+0.3**
	baz=88							
ARK					⇑*i*	S	**00 45 14.5**	**+1.6**

SOEI	**Soe**	**5.39**	**246**	P		**Pn**	**00 45 30.6**	**+2.5**
	0.9nm4µm156nm,0.9s								
SOEI				S		**Sn**	**00 46 31.8**	**+2.9**
	0.9nm4µm156nm,0.9s								
SOEI	**Soe**	**5.39**	**246**			**Pn**	**00 45 28.1**	**+0.1**
SOEI				Sn		**Sn**	**00 46 28.9**	**0.0**
FAKI	**Fak Fak**	**5.50**	**33**	P		**Pn**	**00 45 30.1**	**+0.6**
	0.4nm118nm,0.6s								
FAKI	**Fak Fak**	**5.50**	**33**			**Pn**	**00 45 28.1**	**-1.4**
FAKI				Sn		**Sn**	**00 46 29.1**	**-2.4**
MTN	**Manton Dam**	**5.55**	**161**	P		**Pn**	**00 45 32.1**	**+1.8**
	baz=5.1,SNR=89								
MTN				S		**Sn**	**00 46 31.9**	**-0.9**
	baz=5.1								
MTN	**Manton Dam**	**5.55**	**161**	Pn		**Pn**	**00 45 30.7**	**+0.4**
KDU	**Kakadu**	**5.99**	**148**	P		**Pn**	**00 45 37.4**	**+1.3**
	baz=5.6,SNR=196								
BATI	**Baumata**	**6.12**	**244**	P		**Pn**	**00 45 40.0**	**+2.2**
	33nm,0.3s,baz=305,slow=1.6,SNR=33								
BATI				S		**Sn**	**00 46 47.0**	**+0.6**
	10nm,0.3s,baz=282,slow=20,SNR=8.3								
BATI	**Baumata**	**6.12**	**244**	P		**Pn**	**00 45 40.6**	**+2.7**
	0.5nm3µm72nm,0.9s								
SIJI	**Sorong**	**6.95**	**17**	P		**Pn**	**00 45 49.5**	**+0.2**
	2.6nm,0.3s,baz=41,slow=6.9,SNR=20								
SIJI				S		**Sn**	**00 47 05.2**	**-1.6**
	0.9nm,0.3s,baz=260,slow=23,SNR=1.3								
MMRI	**Maumere**	**7.03**	**261**	Pn		**Pn**	**00 45 50.0**	**-0.3**
KNRA	**Kununurra**	**8.07**	**183**	P		**Pn**	**00 46 05.3**	**+0.9**
	baz=7.5,SNR=12								
KNRA				S		**Sn**	**00 47 28.8**	**-5.3**
	baz=7.5								
KNRA	**Kununurra**	**8.07**	**183**			**Pn**	**00 46 05.3**	**+0.9**
WBSI	**Waikabubak, Su**	**9.97**	**257**	P		**Pn**	**00 46 32.4**	**+2.1**
	103nm,0.6s								
FITZ	**Fitzroy Crossi**	**11.04**	**198**	P		**Pn**	**00 46 43.9**	**-1.0**
	1.3nm,0.3s,baz=26,slow=12,SNR=60								
FITZ				S		Sn	00 48 36.3	-10
	2.8nm,0.3s,baz=87,slow=22,SNR=13								
FITZ	**Fitzroy Crossi**	**11.04**	**198**	P		**Pn**	**00 46 44.0**	**-0.8**
	baz=10,SNR=22								
FITZ				S		**Sn**	**00 48 38.7**	**-7.6**
	baz=10								
WB0	**Warramunga Arr**	**13.11**	**158**			**Pn**	**00 47 10.1**	**-2.2**
WRA	**Warramunga Arr**	**13.25**	**159**	P		**Pn**	**00 47 12.2**	**-1.9**
	2.3nm,0.3s,baz=331,slow=13,SNR=58								
WRA				S		Sn	00 49 29.4	-11
	2.2nm,0.3s,baz=340,slow=22,SNR=6.5								
WRA	**Warramunga Arr**	**13.25**	**159**	Pn		**Pn**	**00 47 11.7**	**-2.5**
WB2	**Warramunga Arr**	**13.25**	**159**			**Pn**	**00 47 12.8**	**-1.4**
WC3	**Warramunga Arr**	**13.28**	**159**	P		**Pn**	**00 47 12.8**	**-1.7**
	baz=13								
WR0	**Warramunga Arr**	**13.34**	**158**	Pn		**Pn**	**00 47 13.9**	**-1.4**
COEN	**Coen**	**15.07**	**116**	P		**Pn**	**00 47 39.5**	**+1.9**
	baz=15,SNR=7.2								
COEN	**Coen**	**15.07**	**116**			**Pn**	**00 47 37.1**	**-0.5**
COEN				IAmb		IAmb	00 47 44.6	
	comp=Z,7.5nm,0.7s								
QIS	**Mount Isa**	**16.34**	**143**	P		**P**	**00 47 55.4**	**+0.8**
	baz=16,SNR=10								
AS31	**Alice Springs**	**16.61**	**165**	P		**Pn**	**00 47 57.0**	**+0.1**
AS31				IAmb		IAmb	00 48 01.6	
	comp=Z,3.9nm,0.6s								
ASAR	**Alice Springs**	**16.61**	**165**	P		**Pn**	**00 47 57.6**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=340,slow=10,SNR=39								
ASAR				S		Sn	00 50 51.2	-10
	comp=Z,0.4nm,0.3s,baz=150,slow=19,SNR=2.5								
ASAR	**Alice Springs**	**16.61**	**165**	P		**Pn**	**00 47 57.0**	**+0.1**
PSA00	**Pilbara Seismi**	**16.62**	**212**			**Pn**	**00 47 56.2**	**-0.8**
PSA00				IAmb		IAmb	00 48 14.5	
	comp=Z,22nm,1.1s								
WRKA	**Warakurna**	**17.39**	**183**	P		**P**	**00 48 06.7**	**+0.4**
	baz=17,SNR=32								
STKI	**Sintang**	**19.28**	**292**	P		**P**	**00 48 28.9**	**+1.9**
FORT	**Forrest**	**23.12**	**183**	P		**P**	**00 49 08.1**	**+0.7**
QLP	**Quilpie**	**23.67**	**145**	P		**P**	**00 49 15.4**	**+2.9**
	baz=23,SNR=8.4								
KMBL	**Kambalda**	**24.66**	**195**	P		**P**	**00 49 23.9**	**+2.5**
	baz=24								
BBOO	**Buckleboo**	**25.90**	**167**	P		**P**	**00 49 34.6**	**+2.0**
	baz=26								
BBOO	**Buckleboo**	**25.90**	**167**	P		**P**	**00 49 32.0**	**-0.6**
BBOO				IAmb		IAmb	00 49 43.5	
	comp=Z,9.0nm,1.1s								
GUMO	**Guam**	**26.12**	**36**	P		**P**	**00 49 31.6**	**-3.2**
STKA	**Stephens Creek**	**26.78**	**156**	P		**P**	**00 49 42.4**	**+1.8**
	comp=Z,2.9nm,0.8s,baz=326,slow=12,SNR=4.6								
STKA	**Stephens Creek**	**26.78**	**156**	P		**P**	**00 49 43.2**	**+2.6**
	baz=26								
STKA	**Stephens Creek**	**26.78**	**156**	P		**P**	**00 49 40.7**	**+0.1**
NWAO	**Narrogin (SRO)**	**27.59**	**202**	P		**P**	**00 49 49.4**	**+1.6**
	comp=Z,5.5nm,0.6s,baz=38,slow=12,SNR=1.5								
NWAO	**Narrogin (SRO)**	**27.59**	**202**	P		**P**	**00 49 47.4**	**-0.4**
CMSA	**Cobar Meteorol**	**28.35**	**149**	P		**P**	**00 49 57.4**	**+2.8**
	baz=28,SNR=5.7								
ARPS	**Mount Arapiles**	**31.25**	**160**	P		**P**	**00 50 23.0**	**+2.9**
	baz=31								
MKAR	**Makanchi Array**	**68.30**	**327**	P		**P**	**00 55 00.8**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=133,slow=7.1,SNR=4.0								
MKAR	**Makanchi Array**	**68.30**	**327**	P		**P**	**00 54 58.4**	**-1.9**
VNDA	**Vanda**	**71.97**	**173**	P		**P**	**00 55 21.3**	**-0.9**
QSPA	**South Pole Qui**	**82.41**	**180**	P		**P**	**00 56 19.4**	**-1.5**

THE ***14*** *00:59:51.9, 35°.75N×27°.53E, h2km±2km, ML3.7/3, Error ellipse: s-maj=2.3km s-min=0.7km az=129.0*
ISK ***14*** *00:59:51.9, 35°.78N×27°.48E, h15km, ML3.8/29*
ATH ***14*** *00:59:51.9, 35°.86N×27°.42E, h30km±3km, ML3.6/19, Error ellipse: s-maj=4.9km s-min=0.7km az=100.0*
HLW ***14*** *00:59:52.7, 35°.61N×27°.66E, h10km±19km, Md4.1*
DDA ***14*** *00:59:52.0, 35°.75N×27°.36E, h19km±1km, MW4.0*
NIC ***14*** *00:59:52.6±0.0, 35°.80N×27°.58E, h52km±4km, Ml4.7/4*
IDC ***14*** *00:59:53.1±1.1, 35°.72N×27°.57E, h43km±14km, mb3.7/8, mb1 3.8/16, mb1mx3.6/43, mbtmp3.8/16, ML3.5/8, Error ellipse: s-maj=16.7km s-min=8.0km az=167.0*
GII ***14*** *00:59:54.8±0.0, 35°.49N×27°.88E, h10km, MD3.6/3*
ISC 14 00:59:52.8±1.0, 35°.75N±0°.03×27°.55E±0°.03, h36km±2km, n239, σ2s04/302, mb4.0/10, 8C-6D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.66**	**45**	P		**Pn**	**01 00 05.3**	**-0.3**
ARG				S		**Sn**	**01 00 15.0**	**+0.3**
	9µm,0.3s							
ARG	**Arkhangelos**	**0.66**	**45**	P		**Pn**	**01 00 05.4**	**-0.3**
ARG				S		**Sn**	**01 00 15.2**	**+0.5**
ARG				AML		AML	01 00 18.3	
	comp=E,22947µm,0.4s							
ARG				AML		AML	01 00 18.9	
	comp=N,12387µm,0.3s							
ARG	**Arkhangelos**	**0.66**	**45**	PG		**Pn**	**01 00 05.4**	**-0.3**
ARG				SG		**Sn**	**01 00 15.6**	**+0.9**
ARG	**Arkhangelos**	**0.66**	**45**	⇑P		**Pn**	**01 00 05.4**	**-0.3**
ARG				S		**Sn**	**01 00 15.3**	**+0.5**
NISR	**Nisiros**	**0.92**	**338**	P		**Pn**	**01 00 09.2**	**-0.1**
NISR				S		**Sn**	**01 00 23.7**	**+2.4**
	comp=N,4µm,0.4s							
NISR	**Nisiros**	**0.92**	**338**	P		**Pn**	**01 00 07.5**	**-1.7**
NISR				AML		AML	01 00 28.8	
	comp=E,7811µm,0.3s							
NISR				AML		AML	01 00 29.3	
	comp=N,6368µm,0.4s							
DAT	**Datca**	**0.97**	**1**	P		**Pn**	**01 00 10.3**	**+0.2**
DAT	**Datca**	**0.97**	**1**	PG		**Pn**	**01 00 10.5**	**+0.4**
DAT				SG		**Sn**	**01 00 24.6**	**+1.9**
DAT	**Datca**	**0.97**	**1**	*i* P		**Pn**	**01 00 10.4**	**+0.4**
DAT				*i* S		**Sn**	**01 00 23.8**	**+1.0**
DAT				IAML			01 00 26.0	
	comp=N,1µm,0.5s							
DAT				IAML			01 00 26.0	
	comp=E,1µm,0.6s							
KOSK	**Kos Island**	**1.10**	**335**	PG		**Pn**	**01 00 13.2**	**+1.5**
TURN	**Turunc**	**1.16**	**28**	PN		**Pn**	**01 00 13.6**	**-2.2**
TURN				SN		**Sn**	**01 00 30.6**	**-2.5**
TURN	**Turunc**	**1.16**	**28**	*i* P		**Pn**	**01 00 13.8**	**-2.0**
TURN				*i* S		**Sn**	**01 00 29.0**	**-4.1**
TURN				IAML			01 00 34.0	
	comp=N,1µm,0.3s							
TURN				IAML			01 00 35.0	
	comp=E,2µm,0.3s							
ZKR	**Zakros**	**1.26**	**240**	P		**Pn**	**01 00 15.0**	**+1.1**
ZKR				S		**Sn**	**01 00 31.8**	**+2.1**
	comp=E,3µm,0.3s							
ZKR	**Zakros**	**1.26**	**240**	P		**Pn**	**01 00 14.7**	**+0.8**
ZKR				S		**Sn**	**01 00 32.0**	**+2.4**
ZKR				AML		AML	01 00 36.0	
	comp=N,3775µm,0.3s							
ZKR				AML		AML	01 00 37.6	
	comp=E,7414µm,0.3s							
ZKR	**Zakros**	**1.26**	**240**	PN		**Pn**	**01 00 15.5**	**+1.6**
ZKR				SN		**Sn**	**01 00 32.3**	**+2.6**
BDRM	**Kayabasi**	**1.31**	**356**	*i* P		**Pn**	**01 00 13.8**	**-0.9**
BDRM				*i* S		**Sn**	**01 00 30.5**	**-0.4**
BDRM				IAML			01 00 37.0	
	comp=E,760nm,1.0s							
STIA	**Sitia Lasithi**	**1.31**	**246**	P		**Pn**	**01 00 15.8**	**+1.2**
STIA				S		**Sn**	**01 00 33.5**	**+2.6**
BODT	**Bodrum**	**1.32**	**352**	PN		**Pn**	**01 00 16.4**	**+1.6**
BODT				SN		**Sn**	**01 00 33.3**	**+2.2**
DALY	**Dalyan (Mula)**	**1.39**	**40**	PN		**Pn**	**01 00 17.8**	**+2.2**
DALY	**Dalyan (Mula)**	**1.39**	**40**	*i* P		**Pn**	**01 00 17.7**	**+2.1**
DALY				*i* S		**Sn**	**01 00 36.6**	**+3.9**
DALY				IAML			01 00 42.0	
	comp=E,1µm,0.8s							
DALY				IAML			01 00 45.0	
	comp=N,2µm,0.4s							
YER	**Yerkesik**	**1.50**	**23**	P		**Pn**	**01 00 18.6**	**+1.4**
YER				S		**Sn**	**01 00 39.3**	**+3.7**
YER	**Yerkesik**	**1.50**	**23**	PN		**Pn**	**01 00 19.3**	**+2.1**
FETY	**Fethiye**	**1.52**	**54**	P		**Pn**	**01 00 18.2**	**+0.7**
FETY	**Fethiye**	**1.52**	**54**	PN		**Pn**	**01 00 20.2**	**+2.7**
FETY	**Fethiye**	**1.52**	**54**	*i* P		**Pn**	**01 00 20.1**	**+2.6**
FETY				*i* S		**Sn**	**01 00 40.9**	**+4.9**
FETY				IAML			01 00 47.0	
	comp=N,601nm,0.7s							
FETY				IAML			01 00 47.0	
	comp=E,558nm,0.5s							
ANAF	**Anafi Island**	**1.56**	**293**	P		**Pn**	**01 00 18.2**	**+0.2**
ANAF	**Anafi Island**	**1.56**	**293**	P		**Pn**	**01 00 18.3**	**+0.2**
ANAF				S		**Sn**	**01 00 36.1**	**-1.0**
ANAF				AML		AML	01 00 42.9	
	comp=E,15100µm,0.5s							
ANAF				AML		AML	01 00 44.5	
	comp=N,15886µm,0.3s							
NPS	**Neapolis**	**1.66**	**253**	P		**Pn**	**01 00 20.2**	**+0.9**
NPS	**Neapolis**	**1.66**	**253**	P		**Pn**	**01 00 20.2**	**+0.9**
NPS				S		**Sn**	**01 00 40.6**	**+1.2**
NPS				AML		AML	01 00 45.2	
	comp=E,5906µm,0.4s							
NPS				AML		AML	01 00 46.6	
	comp=N,4230µm,0.3s							
AMGA	**Amorgos Island**	**1.72**	**309**	P		**Pn**	**01 00 20.2**	**0.0**
AMGA				AML		AML	01 00 48.7	
	comp=N,3169µm,0.4s							
AMGA				AML		AML	01 00 48.9	
	comp=E,4640µm,0.5s							
AKAS	**Kas**	**1.73**	**73**	PN		**Pn**	**01 00 23.1**	**+2.6**
AKAS	**Kas**	**1.73**	**73**	*i* P		**Pn**	**01 00 23.0**	**+2.6**
AKAS				IAML			01 00 49.0	
	comp=N,431nm,0.4s							
AKAS				IAML			01 00 53.0	
	comp=E,240nm,0.7s							
LAST	**Lasithi**	**1.79**	**251**	P		**Pn**	**01 00 22.1**	**+0.8**
LAST				S		**Sn**	**01 00 43.1**	**+0.2**
LAST				AML		AML	01 00 48.6	
	comp=E,1692µm,0.4s							
LAST				AML		AML	01 01 04.3	
	comp=N,1626µm,0.5s							
THR8	**Santorini-Mono**	**1.80**	**292**	P		**Pn**	**01 00 20.1**	**-1.3**
SANT	**Santorini**	**1.81**	**291**	P		**Pn**	**01 00 21.6**	**+0.2**
SANT				S		**Sn**	**01 00 42.2**	**-0.9**
SANT				AML		AML	01 00 48.9	
	comp=E,3358µm,0.3s							
SANT				AML		AML	01 00 51.4	
	comp=N,1401µm,0.3s							
SANT	**Santorini**	**1.81**	**291**	⇑P		**Pn**	**01 00 21.6**	**+0.2**
SANT	**Santorini**	**1.81**	**291**	PN		**Pn**	**01 00 22.3**	**+0.9**
SAP2K	**Karterados**	**1.83**	**292**	P		**Pn**	**01 00 21.9**	**+0.2**
SNT3	**Karterados, Sa**	**1.83**	**292**	P		**Pn**	**01 00 22.0**	**+0.3**
SNT1	**Gialos, Santor**	**1.84**	**292**	P		**Pn**	**01 00 22.2**	**+0.3**
THR7	**Fira-Santorini**	**1.85**	**292**	P		**Pn**	**01 00 20.9**	**-1.1**
THR6	**Thira Island,**	**1.85**	**290**	P		**Pn**	**01 00 21.0**	**-0.9**
SAP1	**Santorini-Akro**	**1.85**	**290**	P		**Pn**	**01 00 22.5**	**+0.5**
THT2	**Imerovigli**	**1.86**	**292**	PN		**Pn**	**01 00 23.0**	**+0.9**
THR9	**Santorini-Faro**	**1.88**	**289**	P		**Pn**	**01 00 21.6**	**-0.8**
CMBO	**Columbo, Santo**	**1.88**	**293**	P		**Pn**	**01 00 22.8**	**+0.4**
CMBO				AML		AML	01 00 52.0	
	comp=N,5584µm,0.5s							
CMBO				AML		AML	01 00 56.5	
	comp=E,5252µm,0.5s							
THR5	**Thira Island,**	**1.91**	**291**	P		**Pn**	**01 00 21.6**	**-1.1**
SAP4	**Santorini-Oia**	**1.91**	**293**	P		**Pn**	**01 00 23.0**	**+0.3**
SAP3	**Santorini-Thir**	**1.91**	**292**	P		**Pn**	**01 00 23.4**	**+0.5**
AYDN	**Tasoluk**	**1.92**	**8**	*i* P		**Pn**	**01 00 23.9**	**+0.8**
AYDN				*i* S		**Sn**	**01 00 47.6**	**+1.6**
AYDN				IAML			01 00 57.0	
	comp=E,550nm,0.4s							
GCAM	**G?zelcami?**	**1.96**	**353**	*i* P		**Pn**	**01 00 23.7**	**+0.2**
GCAM				IAML			01 01 02.0	
	comp=E,280nm,0.6s							
GCAM				IAML			01 01 03.0	
	comp=N,265nm,0.7s							
TAVA	**DENIZLI_Tavas**	**2.03**	**32**	*i* P		**Pn**	**01 00 28.4**	**+3.9**
TAVA				*i* S		**Sn**	**01 00 53.5**	**+4.8**
TAVA				IAML			01 01 00.0	
	comp=N,460nm,0.4s							
TAVA				IAML			01 01 00.0	
	comp=E,625nm,0.7s							
SMG	**Samos**	**2.04**	**344**	P		**Pn**	**01 00 24.8**	**+0.2**
SMG				AML		AML	01 01 05.6	
	comp=E,887µm,0.4s							
SMG				AML		AML	01 01 06.0	
	comp=N,884µm,0.4s							
HRKL	**Herakleio**	**2.05**	**258**	PN		**Pn**	**01 00 25.9**	**+1.2**
IOSP	**Ios island**	**2.07**	**299**	P		**Pn**	**01 00 25.2**	**+0.2**
IOSP				S		**Sn**	**01 00 48.0**	**-1.6**
IOSP				AML		AML	01 00 49.6	
	comp=N,2507µm,0.2s							
IOSP				AML		AML	01 00 50.0	
	comp=E,3479µm,0.3s							
APE	**Apeiranthos**	**2.10**	**309**	P		**Pn**	**01 00 25.5**	**+0.1**
APE				S		**Sn**	**01 00 48.9**	**-1.3**
APE				AML		AML	01 01 03.2	
	comp=E,767µm,0.5s							
APE				AML		AML	01 01 03.8	
	comp=N,1414µm,0.5s							
APE	**Apeiranthos**	**2.10**	**309**	⇓P		**Pn**	**01 00 25.6**	**+0.2**
APE	**Apeiranthos**	**2.10**	**309**	PN		**Pn**	**01 00 26.2**	**+0.8**
APE	**Apeiranthos**	**2.10**	**309**	⇑P		**Pn**	**01 00 25.6**	**+0.2**
APE				S		**Sn**	**01 00 51.2**	**+1.0**
ELL	**Elmali**	**2.15**	**62**	PN		**Pn**	**01 00 29.2**	**+3.0**
GOLH	**Golhisar**	**2.19**	**47**	*i* P		**Pn**	**01 00 30.7**	**+3.9**
GOLH				IAML			01 01 09.0	
	comp=N,629nm,0.5s							
GOLH				IAML			01 01 16.0	
	comp=E,66nm,0.5s							
IDI	**Anoyia**	**2.22**	**259**	P		**Pn**	**01 00 27.6**	**+0.4**
	comp=E,24nm,0.3s,baz=10,slow=6.1,SNR=54							
IDI				S		**Sn**	**01 00 54.2**	**+0.8**
	comp=E,70nm,0.3s,baz=325,slow=18,SNR=9.3							
IDI	**Anoyia**	**2.22**	**259**	P		**Pn**	**01 00 27.4**	**+0.2**
IDI				S		**Sn**	**01 00 54.9**	**+1.5**
IDI				AML		AML	01 01 00.2	
	comp=N,1118µm,0.3s							
IDI				AML		AML	01 01 02.8	
	comp=E,1398µm,0.3s							
IDI	**Anoyia**	**2.22**	**259**	⇓P		**Pn**	**01 00 27.4**	**+0.2**
IDI	**Anoyia**	**2.22**	**259**	PN		**Pn**	**01 00 28.1**	**+0.9**
AKUM	**Antalya-Kumluc**	**2.33**	**75**	*i* P		**Pn**	**01 00 31.1**	**+2.5**
AKUM				*i* S		**Sn**	**01 00 59.9**	**+3.9**
AKUM				IAML			01 01 04.0	
	comp=E,152nm,0.3s							
AKUM				IAML			01 01 05.0	
	comp=N,113nm,0.3s							
DGB	**zmir**	**2.36**	**347**	*i* P		**Pn**	**01 00 29.4**	**+0.4**
DGB				IAML			01 01 12.0	
	comp=N,35nm,0.8s							
DGB				IAML			01 01 16.0	
	comp=E,44nm,0.4s							
SIVA	**Sivas**	**2.36**	**253**	P		**Pn**	**01 00 30.8**	**+1.9**
SIVA				S		**Sn**	**01 00 57.3**	**+0.6**
KORT	**Korkueli**	**2.58**	**60**	PN		**Pn**	**01 00 34.7**	**+2.6**
KORT	**Korkueli**	**2.58**	**60**	*i* P		**Pn**	**01 00 35.9**	**+3.8**
KORT				IAML			01 01 11.0	
	comp=N,197nm,0.7s							
KORT				IAML			01 01 15.0	
	comp=E,266nm,0.6s							
URLA	**Izmir**	**2.71**	**344**	PN		**Pn**	**01 00 34.7**	**+0.8**
URLA	**Izmir**	**2.71**	**344**	*i* P		**Pn**	**01 00 34.0**	**+0.1**
URLA				IAML			01 01 14.0	
	comp=N,23nm,0.9s							
URLA				IAML			01 01 16.0	
	comp=E,26nm,0.6s							
MHLO	**Agia Marina, M**	**2.71**	**291**	P		**Pn**	**01 00 35.2**	**+1.4**
MHLA	**Plaka, Milos I**	**2.72**	**292**	P		**Pn**	**01 00 34.8**	**+0.9**
ANTB	**Antalya**	**2.75**	**65**	PN		**Pn**	**01 00 37.3**	**+2.9**
VAM	**Vamos**	**2.75**	**264**	P		**Pn**	**01 00 34.6**	**+0.1**
VAM				S		**Sn**	**01 01 05.5**	**-0.9**
VAM				AML		AML	01 01 13.4	
	comp=N,1353µm,0.4s							
VAM				AML		AML	01 01 20.3	
	comp=E,1129µm,0.4s							
BRDR	**BURDUR-Merkez**	**2.80**	**45**	*i* P		**Pn**	**01 00 38.9**	**+3.8**
BRDR				IAML			01 01 17.0	
	comp=N,71nm,0.6s							
BRDR				IAML			01 01 17.0	
	comp=E,96nm,0.4s							
MANT	**Manisa**	**2.85**	**16**	*i* P		**Pn**	**01 00 37.2**	**+1.3**
MANT				IAML			01 01 11.0	
	comp=N,46nm,0.4s							
MANT				IAML			01 01 18.0	
	comp=E,42nm,0.4s							
CHOS	**Chios island**	**2.89**	**336**	P		**Pn**	**01 00 36.4**	**0.0**
CHOS	**Chios island**	**2.89**	**336**	PN		**Pn**	**01 00 38.0**	**+1.6**
KULA	**Kula-Manisa**	**2.90**	**17**	PN		**Pn**	**01 00 38.9**	**+2.5**
IMMV	**Iera Moni Meta**	**2.92**	**265**	P		**Pn**	**01 00 37.6**	**+0.8**
IMMV	**Iera Moni Meta**	**2.92**	**265**	PN		**Pn**	**01 00 38.5**	**+1.7**
BASM	**Basmaki-Afyon**	**2.95**	**42**	PN		**Pn**	**01 00 39.4**	**+2.2**
GVDS	**Gavdos**	**2.97**	**253**	PN		**Pn**	**01 00 39.9**	**+2.5**
GVD	**Gavdhos**	**2.98**	**253**	P		**Pn**	**01 00 39.2**	**+1.7**
GVD				AML		AML	01 01 18.6	
	comp=N,733µm,0.4s							
GVD				AML		AML	01 01 20.7	
	comp=E,954µm,0.8s							
GVD	**Gavdhos**	**2.98**	**253**	PN		**Pn**	**01 00 39.4**	**+1.9**
BCK	**Bucak**	**2.98**	**54**	PN		**Pn**	**01 00 40.6**	**+3.0**
USAK	**Uak-Merkez**	**3.18**	**21**	*i* P		**Pn**	**01 00 41.8**	**+1.5**
USAK				IAML			01 01 18.0	
	comp=N,57nm,1.0s							
USAK				IAML			01 01 18.0	
	comp=E,51nm,1.0s							
ZEDA	**zmir-Bergama**	**3.23**	**353**	*i* P		**Pn**	**01 00 40.7**	**-0.3**
KZIL	**AFYON_Kizioren**	**3.25**	**39**	*i* P		**Pn**	**01 00 43.6**	**+2.3**
KZIL				*i* S		Sn	01 01 31.9	+13
DKL	**Dikili**	**3.35**	**351**	PN		**Pn**	**01 00 44.4**	**+1.8**
KARY	**Karystos**	**3.38**	**313**	P		**Pn**	**01 00 44.1**	**+1.1**
KARY				AML		AML	01 01 40.3	
	comp=E,174µm,0.9s							
KARY				AML		AML	01 01 43.1	
	comp=N,299µm,0.6s							
BAGO	**Egridir - ISPA**	**3.42**	**48**	*i* P		**Pn**	**01 00 46.6**	**+2.9**
ANKY	**Antikythira Is**	**3.46**	**273**	P		**Pn**	**01 00 44.5**	**+0.4**
ANKY				S		**Sn**	**01 01 23.4**	**-0.4**
ANKY				AML		AML	01 01 40.9	
	comp=N,498µm,0.5s							
ANKY				AML		AML	01 01 44.8	
	comp=E,582µm,0.7s							
KEPZ	**Antalya-Kepez**	**3.47**	**69**	*i* P		**Pn**	**01 00 47.6**	**+3.3**
KEPZ				*i* S		**Sn**	**01 01 27.5**	**+3.4**
SIMA	**Simav-Kutahya**	**3.51**	**18**	PN		**Pn**	**01 00 47.2**	**+2.2**
AYVA	**Ayvalik**	**3.62**	**349**	*i* P		**Pn**	**01 00 48.3**	**+2.1**
STEP	**BALIKESIR_Sava**	**3.62**	**2**	*i* P		**Pn**	**01 00 47.2**	**+0.9**
PRK	**Paraskevi**	**3.63**	**344**	P		**Pn**	**01 00 48.0**	**+1.5**
GDZ	**Gediz**	**3.67**	**24**	*i* P		**Pn**	**01 00 49.2**	**+2.1**
VLY	**Voula,Athens**	**3.67**	**306**	P		**Pn**	**01 00 48.1**	**+1.0**
KTHA	**Kythira Island**	**3.68**	**279**	P		**Pn**	**01 00 48.1**	**+1.0**
KTHA				AML		AML	01 01 34.2	
	comp=N,813µm,0.7s							
KTHA				AML		AML	01 01 34.3	
	comp=E,1176µm,0.4s							
SHUT	**Suhut-Afyon**	**3.68**	**40**	PN		**Pn**	**01 00 49.5**	**+2.2**
SIGR	**SIGRI**	**3.71**	**339**	P		**Pn**	**01 00 47.9**	**+0.4**
SIGR	**SIGRI**	**3.71**	**339**	PN		**Pn**	**01 00 49.3**	**+1.8**
ALAN	**Alanya-ANTALYA**	**3.71**	**76**	PN		**Pn**	**01 00 50.4**	**+2.8**
DION	**Dionisos Attik**	**3.71**	**310**	P		**Pn**	**01 00 48.9**	**+1.3**
AFYO	**Afyonkarahisar**	**3.74**	**35**	*i* P		**Pn**	**01 00 49.1**	**+1.1**
PTL	**Penteli**	**3.74**	**309**	P		**Pn**	**01 00 49.3**	**+1.3**
ATH	**Athens Observa**	**3.79**	**307**	P		**Pn**	**01 00 48.8**	**+0.1**
OSC1	**CSNet OBS 1**	**3.80**	**125**	P		**Pn**	**01 00 49.4**	**+0.6**
OSC1

ATHAL	Athalassa	4.81	96	P		Pn	01 01 03.9 +1.3
PYL	PYLOS	4.83	285	P		Pn	01 01 04.4 +1.4
AUSIV	SIVRIHISAR	4.85	40	*i* P		Pn	01 01 06.5 +3.1
GULN	MERSIN_Gulnar	4.88	83	*i* P		Pn	01 01 05.8 +2.2
GULN				*i* S		Sn	01 01 54.4 -4.4
XOR	Xorichti	5.00	317	P		Pn	01 01 06.3 +1.0
MVOU	Mavrovouni	5.02	97	⇓P		Pn	01 01 06.0 +0.5
KESN	Edirne-Kesan	5.11	353	*i* P		Pn	01 01 05.9 -1.2
AGG	Agios Georgios	5.29	310	P		Pn	01 01 11.1 +1.9
KIZK	Mersin	5.38	80	*i* P		Pn	01 01 12.1 +1.5
KIZK				*i* S		Sn	01 02 09.3 -1.9
EREN	Erenkoy	5.39	90	*i* P		Pn	01 01 11.5 +0.8
EREN				*i* S		Sn	01 02 06.3 -5.2
KKUL	Konya-Kulu	5.46	50	*i* P		Pn	01 01 13.3 +1.5
KERG	Konya-Eregli	5.54	71	*i* P		Pn	01 01 14.9 +2.1
KERG				*i* S		Sn	01 02 12.0 -3.4
SAHE	Sakarya_HENDEK	5.71	26	*i* P		Pn	01 01 13.5 -1.6
KIBS	BOLU	5.76	35	*i* P		Pn	01 01 16.3 +0.5
BBAL	Bala	5.82	48	*i* P		Pn	01 01 20.5 +3.9
DED	Mersin	5.97	76	*i* P		Pn	01 01 20.9 +2.3
DED				*i* S		Sn	01 02 27.1 +1.3
GULE	Gulek	6.01	73	*i* P		Pn	01 01 23.1 +3.7
GULE				*i* S		Sn	01 02 31.1 +4.0
KIRK	Kırklareli	6.03	357	*i* P		Pn	01 01 17.8 -1.6
KIRS	Kırehir-Merke	6.08	54	*i* P		Pn	01 01 23.1 +2.8
CMDR	Camlidere-ANKA	6.12	38	*i* P		Pn	01 01 24.2 +3.4
BCAM	Yenicaga	6.18	34	*i* P		Pn	01 01 25.4 +3.9
BRTR	Keskin Array B comp=E,0.8nm,0.3s,baz=212,slow=9.2,SNR=13	6.24	49	P		Pn	01 01 24.4 +2.0
BRTR				S		Sn	01 02 35.0 +2.3
	comp=E,0.6nm,0.3s,baz=216,slow=26,SNR=5.5						
DELI	KIRIKKALE	6.58	48	*i* P		Pn	01 01 29.9 +2.8
YURE	YUREGIR	6.61	78	*i* P		Pn	01 01 27.0 -0.5
CDAG	Cicekdag	6.64	52	*i* P		Pn	01 01 30.9 +3.0
YAHY	KAYSERI_Yahyal	6.68	67	*i* P		Pn	01 01 31.8 +3.3
SWA2	baz=197	6.73	196	P		Pn	01 01 30.5 +1.5
KBUK	KARABUK-Merkez	6.77	34	*i* P		Pn	01 01 33.1 +3.5
DQRL	Deir Qamar	6.91	105	*e*P		Pn	01 01 31.9 +0.2
YAYL	Yayladag	6.95	85	*i* P		Pn	01 01 32.3 +0.2
YAYL				*i* S		Sn	01 02 48.5 -1.5
HSAF	As Saff baz=150	6.98	150	P		Pn	01 01 33.2 +0.6
SIRC	Yozgat	7.01	57	*i* P		Pn	01 01 35.9 +2.9
MMA0B	Mount Meron ar	7.04	111	Pn		Pn	01 01 33.2 -0.2
MMAI	Mount Meron Ar comp=E,3.9nm,0.3s,baz=301,slow=13,SNR=35	7.04	111	P		Pn	01 01 33.1 -0.3
MMAI				S		Sn	01 02 50.1 -2.1
	comp=E,11nm,0.3s,baz=305,slow=26,SNR=10						
HWQ	Hawqa	7.04	100	*e*P		Pn	01 01 33.8 +0.4
PELI	Kastamonı-Ara	7.14	37	*i* P		Pn	01 01 38.4 +3.5
GEM	Giv'at Ha'Em	7.16	108	Pn		Pn	01 01 34.6 -0.4
GEM				Sn		Sn	01 02 53.2 -1.9
ILGA	Ilgaz	7.17	41	*i* P		Pn	01 01 37.8 +2.5
SHBL	Chebaa	7.17	107	*e*P		Pn	01 01 35.0 -0.3
SAIM	ADANA	7.19	69	*i* P		Pn	01 01 38.3 +2.8
NATI	Neve Ativ	7.20	108	Pn		Pn	01 01 35.7 +0.3
NATI				Sn		Sn	01 02 54.4 -1.5
ANDN	Andirin	7.30	73	*i* P		Pn	01 01 38.1 +1.1
MMLI	Mount Malkishu	7.32	115	Pn		Pn	01 01 37.9 +0.8
SUZ	Suez baz=141	7.38	142	P		Pn	01 01 39.1 +1.1
AMAZ	Amatzia	7.44	122	Pn		Pn	01 01 38.8 -0.1
AMAZ				Sn		Sn	01 02 59.7 -2.3
QRNJ	Al-Qirein	7.48	115	Pn		Pn	01 01 39.8 +0.5
KAMA	Osmaniye	7.48	76	*i* P		Pn	01 01 40.5 +1.0
KAMA				*i* S		Sn	01 02 57.8 -5.3
HMDT	Nahal Hemdat	7.48	116	Pn		Pn	01 01 40.0 +0.6
KZIT	Kziot	7.49	128	Pn		Pn	01 01 39.6 +0.1
KZIT				Sn		Sn	01 03 00.7 -2.5
VTS	Vitosha	7.63	335	⇑P		Pn	01 01 43.5 +2.0
KAGI	orum-Kargı	7.64	43	*i* P		Pn	01 01 45.4 +3.8
YTIR	Yattir	7.68	123	Pn		Pn	01 01 42.2 0.0
YTIR				Sn		Sn	01 03 05.5 -2.5
DSI	Dead Sea	7.74	120	Pn		Pn	01 01 43.2 +0.2
ZNM	Zenema baz=143	7.78	143	P		Pn	01 01 43.8 +0.2
ZNM	baz=143			S		Sn	01 03 05.5 -4.9
KRMI	Paran Flat	8.24	131	Pn		Pn	01 01 49.4 -0.4
PRNI	Paran	8.25	129	Pn		Pn	01 01 50.0 0.0
HRFI	Mount Harif	8.49	130	Pn		Pn	01 01 52.9 -0.3
HRFI				Sn		Sn	01 03 24.2 -3.6
ASF	Jabal al Asfar comp=E,0.4nm,0.3s,baz=300,slow=12,SNR=4.3	8.54	112	S		Sn	01 03 27.7 -1.5
MBRI	Mt Berech	8.58	132	Pn		Pn	01 01 54.6 0.0
HFRF	Wahat Farafira baz=176	8.60	175	P		Pn	01 01 55.0 +0.3
EIL	Elat comp=E,0.8nm,0.3s,baz=335,slow=5.5,SNR=16	8.69	132	P		Pn	01 01 55.9 -0.1
EIL				S		Sn	01 03 29.1 -3.6
	comp=E,3.2nm,0.3s,baz=89,slow=24,SNR=8.9						
EIL	Elat	8.69	132	Pn		Pn	01 01 55.7 -0.3
EIL				Sn		Sn	01 03 29.2 -3.6
TIRR	Tirgusor	8.72	4	⇓P		Pn	01 01 58.8 +2.5
HBST	Basata baz=134	8.90	135	P		Pn	01 01 59.6 +0.8
TIP	Timpagrande	9.24	295	⇑P		Pn	01 02 03.5 0.0
MLR	Muntele Rosu	9.80	353	P		Pn	01 02 10.6 -0.7
	comp=E,0.0nm,0.3s,baz=219,slow=14,SNR=2.1						
PLOR	Plostina	10.11	356	⇓P		Pn	01 02 27.8 +12
VRI	Vrincioaia	10.12	357	⇑P		Pn	01 02 17.6 +2.0
VAE	Valguarnera comp=E,0.3nm,0.3s,baz=151,slow=18,SNR=1.4	10.70	283	P		Pn	01 02 25.9 +2.3
VAE				S		Sn	01 04 16.2 -6.0
	comp=E,0.7nm,0.3s,baz=270,slow=12,SNR=2.0						
KEST	Kesra	14.79	275	P		Pn	01 03 20.3 +0.9
	comp=E,0.1nm,0.3s,baz=358,slow=22,SNR=1.1						
GERES	GERESS Array B	16.58	326	P		P	01 03 44.3 -0.4
	comp=E,0.2nm,0.3s,baz=142,slow=13,SNR=5.6						
KHC	Kasperske Hory	16.85	327	*e*P		P	01 03 49.0 +1.4
PRU	Pruhonice	17.09	330	*e*P		P	01 03 52.0 +1.8
GEYT	Alibeck comp=E,0.6nm,0.4s,baz=262,slow=10.0,SNR=2.4	24.51	76	P		P	01 05 10.0 +1.2
ESDC	Sonseca Array comp=E,0.8nm,0.8s,baz=83,slow=9.9,SNR=8.7	25.17	288	P		P	01 05 14.1 -0.7
FINES	FINESS Array B comp=E,2.5nm,0.9s,baz=163,slow=10,SNR=1.7	25.73	359	P		P	01 05 18.8 -0.8
TORD	Torodi Ar. Bea comp=E,4.3nm,0.4s,baz=34,slow=8.9,SNR=112	32.38	232	P		P	01 06 20.4 +1.2
ARCES	ARCESS Array B comp=E,2.4nm,0.9s,baz=163,slow=8.9,SNR=5.4	33.86	359	P		P	01 06 30.3 -1.2
DBIC	Dimbokro comp=E,6.5nm,0.9s,baz=41,slow=9.3,SNR=4.4	41.48	234	P		P	01 07 34.7 -1.7
TIC	Toumodi	41.60	234	*e*P		P	01 07 38.2 +0.7
KIC	Kosan Boka comp=E,14nm,0.8s	41.63	233	*e*P		P	01 07 38.5 +0.8
MKAR	Makanchi Array comp=E,0.3nm,0.5s,baz=293,slow=6.3,SNR=4.5	41.81	57	P		P	01 07 37.0 -1.9
LIC	Lamto comp=E,94nm,1.7s	41.92	233	*e*P		P	01 07 34.4 -5.7
ZALV	Zalesovo Beam comp=E,0.7nm,0.5s,baz=258,slow=7.2,SNR=1.6	43.18	47	P		P	01 07 50.1 +0.2

IDC 14 01:33:18.8±9.3, 18°.55S×178°.11W, h646km±102km, mb2.9/5, mb1 3.2/5, mb1mx2.8/45, mbtmp3.9/5, Error ellipse: s-maj=200.0km s-min=30.8km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	44.80	260	P	P	01 40 37.7	-0.2
	0.8nm,0.4s,baz=98,slow=6.9,SNR=20						
WRA				PcP	PcP	01 42 03.8	-1.5
	0.8nm,0.9s,baz=91,slow=3.3,SNR=2.5						
ASAR	Alice Springs	44.89	255	P	P	01 40 38.8	+0.1
	3.7nm,1.0s,baz=92,slow=7.8,SNR=18						
ASAR				PcP	PcP	01 42 06.7	+1.0
	0.3nm,0.4s,baz=101,slow=4.0,SNR=1.8						
FITZ	Fitzroy Crossi	53.20	261	P	P	01 41 39.9	+0.5
	4.6nm,1.0s,baz=97,slow=8.1,SNR=2.3						
NVAR	Mina Array Bea	79.69	44	P	P	01 44 21.5	-0.2
	0.2nm,0.3s,baz=210,slow=4.8,SNR=1.7						
TXAR	Lajitas Array	86.10	57	P	P	01 44 54.1	+0.5
	0.2nm,0.6s,baz=220,slow=7.9,SNR=2.4						

DDA 14 01:39:09.6, 35°.76N×27°.58E, h10km±1km, ML1.8
ISK 14 01:39:10.5, 35°.80N×27°.50E, h17km, ML2.2/7
NIC 14 01:39:11.4±0.0, 35°.81N×27°.54E, h30km±2km, MI3.2/1
ISC 14 01:39:09.7±1.4, 35°.73N±0°.05×27°.50E±0°.04, h8km±11km, n19, σ1°.9 14/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	Arkhangelos	0.70	46	PG	Pg	01 39 23.8	+0.5
ARG				SG	Sg	01 39 33.5	+1.0
ARG	Arkhangelos	0.70	46	P	Pg	01 39 23.8	+0.5
ARG				S	Sg	01 39 33.5	+1.0
DAT	Datca	1.00	4	PG	Pg	01 39 28.9	0.0
DAT				SG	Sg	01 39 42.3	+0.4
DAT	Datca	1.00	4	*i* P	Pg	01 39 27.6	-1.3
DAT				*i* S	Sg	01 39 41.7	-0.2
TURN	Turunc	1.21	30	PN	Pn	01 39 32.4	-3.8
TURN				SN	Sg	01 39 47.9	-8.4
TURN	Turunc	1.21	30	*i* P	Pn	01 39 32.2	-4.0
TURN				*i* S	Sg	01 39 47.1	-9.2
TURN	comp=E,22nm,0.3s			IAML		01 39 52.0	
TURN	comp=N,25nm,0.4s			IAML		01 39 53.0	
ZKR	Zakros	1.21	240	PN	Pg	01 39 33.5	+0.6
DALY	Dalyan (Mula)	1.43	40	PN	Pg	01 39 35.8	-1.4
DALY	Dalyan (Mula)	1.43	40	*i* P	Pg	01 39 35.5	-1.7
DALY				*i* S	Sg	01 39 54.5	-1.3
DALY	comp=E,15nm,0.3s			IAML		01 40 00.0	
YER	Yerkesik	1.54	24	PN	Pn	01 39 37.6	+0.1
AKAS	Kas	1.78	73	PN	Pn	01 39 41.2	+0.3
AKAS	Kas	1.78	73	*i* P	Pn	01 39 41.4	+0.5
AKAS	comp=N,17nm,1.2s			IAML		01 40 12.0	
APE	Apeiranthos	2.07	311	S	Sn	01 40 09.4	-1.4
TAVA	DENIZLI_Tavas	2.07	33	*i* P	Pn	01 39 46.7	+1.8
TAVA				*i* S	Sn	01 40 13.7	+2.8
TAVA	comp=E,6.7nm,0.3s			IAML		01 40 20.0	
TAVA	comp=N,9.5nm,0.4s			IAML		01 40 20.0	
GOLH	Golhisar	2.24	47	*i* P	Pn	01 39 48.2	+1.0
GOLH				*i* S	Sn	01 40 16.2	+1.0
GOLH	comp=N,8.2nm,0.5s			IAML		01 40 25.0	
AKMS	Akamas	4.02	99	P	Pn	01 40 11.1	-0.4
AKMS				AML	AML	01 40 57.4	
AKMS	comp=N,0.1nm,1.1s			AML	AML	01 40 57.4	
AKMS	comp=N,0.1nm,1.1s			S	Sn	01 40 57.5	-1.2
AKMS				AML	AML	01 40 58.2	
AKMS	comp=N,0.1nm,1.0s			AML	AML	01 40 58.2	
AKMS	comp=N,0.1nm,1.0s			AML	AML	01 40 58.2	
ALFC	Alefka	4.21	96	P	Pn	01 40 13.4	-0.7
NATA	Nata	4.26	101	P	Pn	01 40 14.3	-0.5
SZAC	Souni	4.51	101	P	Pn	01 40 18.3	-0.1

DJA 14 01:42:07.1±0.3, 1°.S×122°.0E±°, h10km, M4.0/7, MLv4.0/7
IDC 14 01:42:14.3±7.9, 1°.44S×120°.35E, h89km±78km, mb3.5/5, mb1 3.7/6, mb1mx3.4/40, mbtmp3.8/6, ML3.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/33, Error ellipse: s-maj=87.4km s-min=18.5km az=54.0
ISC 14 01:42:09.4±0.8, 1°.13S±0°.04×120°.21E±0°.06, h35km, n11, σ2°.35/16, mb3.9/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPSI	Mapaga	1.49	348	P	Pn	01 42 32.3	-1.4
MPSI				S	Sn	01 42 52.8	+1.0
LUWI	Luwuk	2.56	88	P	Pn	01 42 48.6	+0.1
LUWI				S	Sn	01 43 21.6	+3.2
SPSI	Sidrap Palu	2.85	189	P	Pn	01 42 53.6	+1.1
BNSI	Bone	3.26	182	P	Pn	01 42 59.5	+1.5
BNSI				S	Sn	01 43 38.3	+2.7
GTOI	Gorontalo	3.30	58	P	Pn	01 42 58.4	-0.2
GTOI				S	Sn	01 43 38.7	+2.0
KAPI	Kappang 11nm,0.3s,baz=29,slow=2.6,SNR=23	3.89	187	P	Pn	01 43 07.0	+0.2
KAPI				S	Sn	01 43 50.3	-1.0
	4.8nm,0.3s,baz=178,slow=21,SNR=6.2						
KAPI				LR	LR	01 44 52.9	
	comp=Z,207nm,20.7s,baz=22,slow=44						
WRA	Warramunga Arr	23.26	144	P	P	01 47 10.6	-3.4
	3.4nm,1.1s,baz=321,slow=10.0,SNR=6.9						
ASAR	Alice Springs	26.05	150	P	P	01 47 36.8	-2.9
	0.6nm,0.6s,baz=313,slow=7.9,SNR=8.9						
CMAR	Chiang Mai Arr	28.57	314	P	P	01 48 05.4	+3.0
	0.9nm,0.3s,baz=125,slow=7.8,SNR=1.1						
STKA	Stephens Creek	36.65	149	P	P	01 49 09.4	-3.4
	1.9nm,0.7s,baz=312,slow=10.5,SNR=4.5						
MKAR	Makanchi Array	58.15	330	P	P	01 52 01.1	+1.3
	0.7nm,0.7s,baz=121,slow=8.1,SNR=6.0						

IDC 14 01:45:07.0±1.9, 4°.82S×144°.99E, h68km±19km, mb3.8/13, mb1 4.0/19, mb1mx3.8/42, mbtmp4.1/19, MS3.0/1, Ms1 3.0/1, ms1mx2.5/27, Error ellipse: s-maj=18.1km s-min=13.2km az=68.0
NEIC 14 01:45:07.7±0.8, 4°.80S±0°.02×145°.0E±0°.1, h76km±8km, mb4.0/9, Error ellipse: s-maj=15.0km s-min=1.9km az=82.0
ISC 14 01:45:04.2±0.6, 4°.70S±0°.06×145°.01E±0°.08, h35km, n37, σ1°.71/40, mb4.0/15, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	Jayapura	4.82	297	P	Pn	01 46 18.6	+4.2
	5.0nm,0.3s,baz=156,slow=7.7,SNR=18						
JAY				LR	LR	01 48 14.9	
	comp=Z,172nm,18.7s,baz=343,slow=39						
PMG	Port Moresby	5.13	156	P	Pn	01 46 21.3	+2.6
	7.5nm,0.3s,baz=348,slow=5.5,SNR=7.5						
PMG				S	Sn	01 47 16.6	-0.2
	19nm,0.3s,baz=128,slow=21,SNR=12						
PMG	Port Moresby	5.13	156		Pn	01 46 21.0	+2.3
PMG					Sn	01 47 17.9	+1.1
KRVT	Keravat (AS076	7.00	87	P	Pn	01 46 48.9	+4.5
	4.8nm,0.3s,baz=272,slow=2.9,SNR=3.9						
COEN	Coen	9.37	191		Pn	01 47 19.3	+2.4
COEN				Sn	Sn	01 49 01.5	+0.3
SIJI	Sorong	14.25	285	P	Pn	01 48 25.8	+2.1
	1.5nm,0.3s,baz=226,slow=22,SNR=2.1						
CTA	Charters Tower	15.34	176	P	Pn	01 48 38.6	+0.3
	0.6nm,0.3s,baz=5.8,slow=19,SNR=1.7						
WR0	Warramunga Arr	18.28	213		P	01 49 14.8	-0.3
WR0				IAmb	IAmb	01 49 16.5	
	comp=Z,13nm,0.8s						
WB2	Warramunga Arr	18.37	214	P	P	01 49 15.9	-0.2
WB2				IAmb	IAmb	01 49 18.1	
	comp=Z,10.0nm,0.8s						
WRA	Warramunga Arr	18.37	214	P	P	01 49 16.1	-0.1
	comp=Z,0.7nm,0.3s,baz=40,slow=11,SNR=40						
WRA	Warramunga Arr	18.37	214	P	P	01 49 13.7	-2.5
SOEI	Soe	21.18	255	P	P	01 49 46.8	-0.1
AS31	Alice Springs	21.68	209	P	P	01 49 51.5	-0.7
ASAR	Alice Springs	21.69	209	P	P	01 49 51.6	-0.6
	comp=Z,2.3nm,0.6s,baz=40,slow=8.3,SNR=16						
ASAR	Alice Springs	21.69	209	P	P	01 49 50.7	-1.5
BATI	Baumata	21.86	254	P	P	01 49 53.9	-0.2
	comp=Z,30nm,0.6s,baz=184,slow=1.0,SNR=4.0						
FITZ	Fitzroy Crossi	23.16	233	P	P	01 50 05.3	-2.5
	comp=Z,15nm,0.6s,baz=42,slow=8.5,SNR=39						
FITZ	Fitzroy Crossi	23.16	233	P	P	01 50 07.2	-0.6
STKA	Stephens Creek	27.22	186	P	P	01 50 42.9	-2.1
	comp=Z,1.7nm,0.8s,baz=133,slow=9.6,SNR=1.7						
STKA	Stephens Creek	27.22	186	P	P	01 50 43.0	-1.9
TATO	Taipei	37.33	323	P	P	01 52 12.6	-0.9
MJAR	Matsushiro Arr	41.52	352	P	P	01 52 46.4	-1.9
	comp=Z,0.6nm,0.5s,baz=187,slow=9.4,SNR=4.1						
CMAR	Chiang Mai Arr	50.90	298	P	P	01 54 02.7	+0.4
	comp=Z,1.3nm,0.6s,baz=130,slow=8.9,SNR=4.7						
CMAR	Chiang Mai Arr	50.90	298	P	P	01 54 01.4	-1.0
KLR	Kul'dur	54.94	349	P	P	01 54 31.7	+0.1
	comp=Z,1.0nm,0.6s,baz=230,slow=4.5,SNR=3.9						
VNDA	Vanda	73.32	176	P	P	01 56 30.9	-0.9
	comp=Z,0.3nm,0.5s,baz=327,slow=8.5,SNR=2.3						
MKAR	Makanchi Array	75.25	321	P	P	01 56 43.8	+0.1
	comp=Z,0.4nm,0.6s,baz=93,slow=9.6,SNR=4.9						
MKAR	Makanchi Array	75.25	321	P	P	01 56 41.7	-1.9
ZALV	Zalesovo Beam	76.87	328	P	P	01 56 51.4	-1.2
	comp=Z,1.3nm,0.5s,baz=115,slow=8.2,SNR=5.7						
KURK	Kurchatov	79.00	324	P	P	01 57 03.6	-0.9
KURK				IAmb	IAmb	01 57 06.6	
	comp=Z,1.3nm,1.1s						
KURBB	Kurchatov Arra	79.02	323	P	P	01 57 04.2	-0.5
	comp=Z,0.2nm,0.5s,baz=116,slow=4.4,SNR=6.5						
BVAR	Borovoye Array	84.57	324	P	P	01 57 34.1	+0.2
	comp=Z,1.7nm,0.5s,baz=112,slow=6.8,SNR=14						
ILAR	Eielson Array	85.08	24	P	P	01 57 34.8	-1.4
	comp=Z,1.2nm,0.7s,baz=252,slow=5.4,SNR=8.5						
ILAR	Eielson Array	85.08	24	P	P	01 57 35.2	-1.0
QSPA	South Pole Qui	85.25	180	P	P	01 57 35.5	-1.7
QSPA				IAmb	IAmb	01 57 54.0	
	comp=Z,1.6nm,0.8s						
TORD	Torodi Ar. Bea	142.85	286	PKP	PKPdf	02 04 33.7	-1.4
	comp=Z,0.4nm,0.7s,baz=103,slow=4.4,SNR=2.2						
SIV	San Ignacio	147.00	129	PKPbc	PKPdf	02 04 43.9	+1.5
	comp=Z,0.7nm,0.5s,baz=243,slow=7.4,SNR=2.0						

JMA 14 01:51:50.9±0.1, 24°.94N×123°.38E, h25km±4km, M3.7
NIED 14 01:51:50.9, 24°.94N×123°.38E, h25km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^15Nm; Mrr=1.20; Mθθ=1.12; Mφφ=0.09; Mrθ=-1.25; Mrφ=0.43; Mθφ=-0.05; Fault plane solution: M0=1.76000×10^15 NP1:φ=82.00000°, δ=68.00000°, λ=-80.00000°. NP2:φ=237.00000°, δ=24.00000°, λ=-113.00000°.
IDC 14 01:52:00.8±7.1, 24°.96N×123°.36E, h97km±70km, mb3.5/13, mb1 3.6/14, mb1mx3.4/39, mbtmp3.8/14, ML2.5/1, MS3.3/10, Ms1 3.3/10, ms1mx3.0/37 Error ellipse: s-maj=23.6km s-min=15.1km az=71.0
ISC 14 01:51:51.5±1.3, 24°.86N±0°.06×123°.41E±0°.04, h16km±9km, n27, σ0°.96/30, mb3.8/12, MS3.3/9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.54	222	P	Pg	01 52 02.1	0.0
YOJ				S	Sg	01 52 09.9	0.0
JYNG	Yonagunijimaku	0.58	226	P	Pg	01 52 02.9	-0.1
JYNG				S	Sb	01 52 11.3	0.0
IRIF	Iriomote-Funau	0.60	151	P	Pb	01 52 03.8	+0.2
IRIF				S	Sb	01 52 12.8	+1.0
JKRS	Kuro-shima	0.83	138	P	Pg	01 52 07.6	0.0
JKRS				S	Sn	01 52 19.4	-0.9
JIJ	Ishigaki jima	0.83	126	P	Pb	01 52 07.1	-0.4
JIJ				S	Sg	01 52 18.3	-0.3
JISG	Ishigakijimahi	0.86	108	P	Pb	01 52 07.6	-0.5
JISG				*e*S	Sg	01 52 19.5	-0.2
HATJ	Hateruma jima	0.88	155	P	Pg	01 52 08.4	-0.1
HATJ				S	Sn	01 52 20.7	-0.8
JTJ	Tarama	1.20	100	P	Pn	01 52 13.0	-0.5
JTJ				S	Sb	01 52 29.1	+0.1
MJAR	Matsushiro Arr 0.0nm,0.3s,baz=94,slow=30,SNR=1.8	17.23	44	P	P	01 55 55.9	+3.0
DAV	Davao City (W) comp=Z,70nm,21.8s,baz=331,slow=34	17.81	173	LR	LR	02 02 05.6	
USRK	Ussuriysk Ar. 2.4nm,0.9s,baz=202,slow=9.7,SNR=5.0	20.53	18	P	P	01 56 29.9	+0.9
CMAR	Chiang Mai Arr 0.8nm,0.4s,baz=71,slow=6.8,SNR=1.7	23.59	259	P	P	01 57 02.8	+1.1
CMAR				LR	LR	02 07 01.6	
	comp=Z,37nm,19.2s,baz=170,slow=38						
ASAJ	Asahikawa 1.0nm,0.4s,baz=263,slow=29,SNR=2.0	24.78	34	P	P	01 57 11.8	-0.7
KLR	Kul'dur 1.7nm,0.5s,baz=217,slow=6.3,SNR=6.7	25.19	13	P	P	01 57 16.8	+0.7
KLR				LR	LR	02 07 18.2	
	comp=Z,74nm,19.9s,baz=233,slow=36						
SONM	Songino Array 2.2nm,0.8s,baz=150,slow=9.3,SNR=9.5	26.59	334	P	P	01 57 29.7	+0.6
SONM				LR	LR	02 09 04.4	
	comp=Z,85nm,19.8s,baz=138,slow=39						
SIJI	Sorong	26.68	162	LR	LR	02 07 08.4	
	comp=Z,19nm,20.6s,baz=260,slow=34						
JAY	Jayapura comp=Z,48nm,20.1s,baz=221,slow=32	31.97	146	LR	LR	02 08 58.1	
MKAR	Makanchi Array 0.9nm,0.7s,baz=103,slow=10,SNR=7.3	39.29	314	P	P	01 59 19.6	0.0
ZALV	Zalesovo Beam 1.8nm,0.8s,baz=100,slow=7.5,SNR=4.8	40.81	326	P	P	01 59 30.7	-1.3
ZALV				LR	LR	02 17 27.1	
	comp=Z,49nm,20.6s,baz=82,slow=38						
KURBB	Kurchatov Arra 0.9nm,0.8s,baz=113,slow=8.9,SNR=11	42.92	319	P	P	01 59 48.8	-0.5
WRA	Warramunga Arr 2.1nm,0.6s,baz=347,slow=8.7,SNR=12	45.78	166	P	P	02 00 13.3	+0.8
BVAR	Borovoye Array 0.4nm,0.5s,baz=88,slow=7.6,SNR=2.5	48.45	320	P	P	02 00 32.3	-0.7
NRIK	Noril'sk comp=Z,72nm,18.2s,baz=182,slow=39	49.30	344	LR	LR	02 23 42.7	
ASAR	Alice Springs 0.5nm,0.5s,baz=348,slow=8.3,SNR=8.9	49.30	167	P	P	02 00 41.1	+1.3
FINES	FINESS Array B comp=Z,47nm,19.6s,baz=66,slow=38	71.88	330	LR	LR	02 37 46.5	
NOA	NORSAR Array B 0.3nm,0.6s,baz=52,slow=5.6,SNR=1.8	78.57	333	P	P	02 03 50.2	-1.8
NOA				LR	LR	02 42 06.2	
	comp=Z,25nm,19.2s,baz=95,slow=38						
YKA

MK31	**Makanchi Array**	**81.88**	**319**	P		**P**	**02 22 18.4**	**-0.6**
MKAR	**Makanchi Array**	**81.88**	**319**	P		**P**	**02 22 19.1**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=100,slow=6.5,SNR=17							
MKAR				pP		**pwP**	**02 22 50.6**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=92,slow=8.0,SNR=2.9							
MKAR	**Makanchi Array**	**81.88**	**319**	P		**P**	**02 22 18.4**	**-0.6**
MAKZ	**Makanchi**	**82.09**	**319**	P		**P**	**02 22 19.5**	**-0.6**
MAKZ				IAmb		IAmb	02 22 20.9	
	comp=Z,4.0nm,1.1s							
ILAR	**Eielson Array**	**82.14**	**22**	P		**P**	**02 22 19.3**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=241,slow=5.5,SNR=6.7							
ILAR				pP		**pP**	**02 22 52.6**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=322,slow=33,SNR=2.1							
ILAR	**Eielson Array**	**82.14**	**22**	P		**P**	**02 22 19.9**	**0.0**
ZALV	**Zalesovo Beam**	**82.59**	**326**	P		**P**	**02 22 21.1**	**-1.3**
	comp=Z,1.2nm,0.4s,baz=126,slow=6.4,SNR=5.2							
ZALV	**Zalesovo Beam**	**82.59**	**326**	P		**P**	**02 22 21.9**	**-0.5**
QSPA	**South Pole Qui**	**84.52**	**180**	P		**P**	**02 22 32.2**	**-0.1**
MAW	**Mawson**	**85.61**	**203**	P		**P**	**02 22 37.1**	**-0.4**
	comp=Z,5.7nm,0.6s,baz=103,slow=6.1,SNR=25							
MAW	**Mawson**	**85.61**	**203**	P		**P**	**02 22 37.2**	**-0.3**
MAW				IAmb		IAmb	02 22 37.7	
	comp=Z,1.4nm,0.7s							
NVAR	**Mina Array Bea**	**91.20**	**52**	P		**P**	**02 23 05.9**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=238,slow=6.3,SNR=3.7							
NVAR	**Mina Array Bea**	**91.20**	**52**	P		**P**	**02 23 04.1**	**-0.9**
TORD	**Torodi Ar. Bea**	**152.06**	**288**	PKPbc		**PKPbc**	**02 29 53.2**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=29,slow=2.7,SNR=5.4							
TORD				pPKPbc		**pPKPbc**	**02 30 27.1**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=62,slow=2.3,SNR=3.7							
TORD	**Torodi Ar. Bea**	**152.06**	**288**			**PKPbc**	**02 29 53.5**	**-1.6**

*IDC **14** 02:22:11.6±1.1, 47°.90N×156°.49E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/33, mbtmp3.7/7, ML2.6/1, MS3.7/2, Ms1 3.7/2, ms1mx2.6/38, Error ellipse: s-maj=35.9km s-min=23.3km az=98.0*
*KRSC **14** 02:22:15.7±1.5, 48°.31N×157°.51E, h7km±48km, ML4.3*
ISC 14 02:22:16.6±1.1, 47°.96N±0°.09×156°.9E±0°.1, h35km, n30, σ1§48/36, mb3.7/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.77**	**350**	*eP*			**Pn**	**02 22 58.9**	**+0.5**
SKR				*eS*			**Sn**	**02 23 30.1**	**-0.4**
ALID	**Alaid**	**3.04**	**344**	*eP*			**Pn**	**02 23 03.6**	**+1.4**
PAU	**Pauzhetka**	**3.51**	**359**	*eP*			**Pn**	**02 23 08.5**	**-0.1**
PAU				*eS*			**Sn**	**02 23 48.3**	**-0.5**
KDTR	**Khodutka, Kamc**	**3.93**	**11**	*eP*			**Pn**	**02 23 13.8**	**-0.5**
KDTR				*eS*			**Sn**	**02 23 57.4**	**-1.8**
ASAK	**Asacha**	**4.48**	**8**	*eP*			**Pn**	**02 23 22.1**	**+0.2**
RUS	**Russkaya**	**4.60**	**13**	*eP*			**Pn**	**02 23 23.0**	**-0.5**
RUS				*eS*			**Sn**	**02 24 13.0**	**-2.7**
MTVR	**Mutnovka**	**4.61**	**10**	*eP*			**Pn**	**02 23 23.5**	**-0.3**
MTVR				*eS*			**Sn**	**02 24 14.0**	**-2.1**
GRL	**Gorelyy**	**4.66**	**9**	*eP*			**Pn**	**02 23 24.9**	**+0.4**
KRMR	**Karymshinskiy**	**4.94**	**9**	*eP*			**Pn**	**02 23 28.9**	**+0.7**
PETK	**Petropavlovsk-** 1.1nm,0.3s,baz=165,slow=14,SNR=8.9	**5.18**	**6**	Pn			**Pn**	**02 23 31.9**	**+0.4**
PETK							**Sn**	**02 24 35.2**	**+5.2**
	baz=234,slow=47,SNR=0.8								
DALK	**Dalny**	**5.22**	**13**	*eP*			**Pn**	**02 23 32.1**	**+0.1**
AVH	**Avacha**	**5.44**	**12**	*eP*			**Pn**	**02 23 36.0**	**+0.8**
SMAR	**Somma**	**5.45**	**12**	*eP*			**Pn**	**02 23 37.2**	**+1.8**
KOK	**Koryaka**	**5.46**	**11**	*eP*			**Pn**	**02 23 36.7**	**+1.3**
SDLR	**Sedlovina**	**5.48**	**13**	*eP*			**Pn**	**02 23 35.7**	**0.0**
KRER	**Koryakskii**	**5.48**	**12**	*eP*			**Pn**	**02 23 36.7**	**+0.9**
KRER				*eS*			**Sn**	**02 24 37.1**	**-0.6**
KRX	**Arik**	**5.52**	**11**	*eP*			**Pn**	**02 23 37.2**	**+0.9**
SPN	**Mys Shipunski**	**5.52**	**20**	*eP*			**Pn**	**02 23 37.1**	**+0.9**
SPN				*eS*			**Sn**	**02 24 37.1**	**-1.3**
KII	**Karymskiy**	**6.30**	**14**	*eP*			**Pn**	**02 23 48.1**	**+1.2**
KZV	**Kizimen**	**7.47**	**15**	*eP*			**Pn**	**02 24 04.6**	**+1.5**
TUMR	**Tumrok**	**7.61**	**14**	*eP*			**Pn**	**02 24 07.2**	**+2.2**
KBTR	**Krutoberegovo**	**9.03**	**22**	*eP*			**Pn**	**02 24 24.3**	**0.0**
KLR	**Kul'dur** comp=Z,27nm,18.6s,baz=110,slow=40	**16.64**	**284**	LR		LR	02 33 01.6	
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=63,slow=8.5,SNR=6.3	**48.64**	**298**	P		**P**	**02 30 54.8**	**-2.0**
FINES	**FINESS Array B** 1.1nm,0.5s,baz=42,slow=6.8,SNR=11	**64.00**	**336**	P		**P**	**02 32 46.6**	**+0.7**
NOA	**NORSAR Array B** 0.7nm,0.8s,baz=25,slow=6.4,SNR=2.0	**67.87**	**343**	P		**P**	**02 33 10.4**	**-0.4**
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=20,slow=6.6,SNR=2.1	**70.55**	**202**	P		**P**	**02 33 28.1**	**+0.3**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=8.7,slow=8.0,SNR=2.3	**74.22**	**202**	P		**P**	**02 33 48.9**	**-0.8**
TXAR	**Lajitas Array** 0.4nm,0.6s,baz=307,slow=4.3,SNR=7.1	**74.67**	**63**	P		**P**	**02 33 54.2**	**+1.7**
RAO	**Raoul Island** comp=Z,319nm,20.7s,baz=270,slow=31	**80.13**	**158**	LR		LR	03 03 12.1	

*NNC **14** 02:52:36.7±0.8, 42°.41N×80°.71E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=5.5km s-min=4.1km az=160.0*
*KRNET **14** 02:52:36.2±0.1, 42°.44N×80°.82E, h19km, mb3.3*
*SOME **14** 02:52:36.4, 42°.37N×80°.75E, h15km*
ISC 14 02:52:38.1±1.8, 42°.52N±0°.05×80°.65E±0°.05, h3km±10km, n68, σ2§21/108, 36C-28D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen** baz=41	**0.96**	**347**	⇓*i*P			**Pg**	**02 52 57.1**	**+0.7**
KTMS				⇑*i*S			**Sg**	**02 53 11.2**	**+2.4**
	baz=41								
KTMS	**Ketmen** 30nm,0.1s	**0.96**	**347**	⇓*i*P			**Pg**	**02 52 57.1**	**+0.7**
KTMS				⇑*i*S			**Sg**	**02 53 11.2**	**+2.4**
	489nm,0.3s								
SHLS	**Shalkode** baz=16	**1.09**	**307**	⇑*i*P			**Pn**	**02 52 55.9**	**-4.5**
SHLS				⇑*i*S			**Sb**	**02 53 09.7**	**-4.6**
	baz=16								
SHLS	**Shalkode** 215nm,0.2s	**1.09**	**307**	⇑*i*P			**Pn**	**02 52 55.9**	**-4.5**
SHLS				⇑*i*S			**Sb**	**02 53 09.8**	**-4.6**
	321nm,0.2s								
SHLS	**Shalkode** 215nm,0.2s	**1.09**	**307**	P			**Pn**	**02 52 55.9**	**-4.5**
SHLS				S			**Sb**	**02 53 09.7**	**-4.6**
	146nm,0.2s								
PDGK	**Podgornoye** 34nm,0.3s	**1.18**	**314**	P			**Pg**	**02 53 01.2**	**+0.4**
PDGK				S			**Sg**	**02 53 20.0**	**+4.0**
	17nm,0.1s								
PDGK	**Podgornoye** 28nm,0.4s	**1.18**	**314**	⇓P			**Pg**	**02 53 01.1**	**+0.4**
PDGK				⇓S			**Sg**	**02 53 18.7**	**+2.7**
	48nm,0.5s								
UZB	**Uzynbulak** baz=99	**1.36**	**298**	⇑*i*P			**Pb**	**02 53 04.2**	**0.0**
UZB				⇓*i*S			**Sg**	**02 53 23.9**	**+2.3**
	baz=99								
UZB	**Uzynbulak** 33nm,0.2s	**1.36**	**298**	⇑*i*P			**Pb**	**02 53 04.2**	**0.0**
UZB				⇓*i*S			**Sg**	**02 53 23.9**	**+2.3**
	80nm,0.2s								
PRZ	**Przheval'sk** baz=72	**1.67**	**270**	⇑*i*P			**Pb**	**02 53 09.1**	**-0.5**
PRZ				⇑*i*S			**Sg**	**02 53 33.4**	**+1.8**
	baz=72								
SATY	**Saty** 99nm,0.2s	**1.74**	**289**	⇓*i*P			**Pb**	**02 53 11.0**	**+0.2**
SATY				⇓*i*S			**Sg**	**02 53 36.1**	**+2.1**
	254nm,0.1s								
DJR	**Jarkent** 22nm,0.2s	**1.92**	**341**	*eP*			**Pg**	**02 53 14.4**	**-0.5**
DJR				*eS*			**Sg**	**02 53 41.0**	**+1.2**
	95nm,0.3s								
DJR	**Jarkent** 22nm,0.2s	**1.92**	**341**	Pg			**Pg**	**02 53 14.4**	**-0.5**
DJR				Lg		Lg	02 53 41.0		
	95nm,0.3s								
KURS	**Kuram** 43nm,0.4s	**2.06**	**299**	*eP*			**Pb**	**02 53 16.6**	**+0.4**
KURS				*eS*			**Sg**	**02 53 45.6**	**+1.2**
	47nm,0.5s								
ANVS	**Anan'yevo** baz=79	**2.22**	**278**	⇑*i*P			**Pb**	**02 53 18.0**	**-1.0**
ANVS				⇑*i*S			**Sb**	**02 53 48.5**	**+1.5**
	baz=79								
TARG	**Taragay, Kyrgy** baz=53	**2.26**	**251**	⇑*i*P			**Pb**	**02 53 18.0**	**-1.8**
TARG				⇑*i*S			**Sb**	**02 53 48.7**	**+0.4**
	baz=53								
MNBS	**Baschi** 54nm,0.2s	**2.27**	**314**	*eP*			**Pb**	**02 53 20.0**	**+0.2**
MNBS				*eS*			**Sg**	**02 53 51.1**	**+0.1**
	140nm,0.4s								
MNBS	**Baschi** 54nm,0.2s	**2.27**	**314**	Pg			**Pb**	**02 53 19.6**	**-0.2**
MNBS				Lg		Lg	02 53 51.4		
	140nm,0.4s								
KDJ	**Kajisay** baz=65	**2.60**	**263**	⇓*i*P			**Pb**	**02 53 22.8**	**-2.7**
KDJ				⇓*i*S			**Sb**	**02 53 57.0**	**-1.0**
	baz=65								
ARXS	**Arharly** 49nm,0.3s	**2.67**	**310**	*eP*			**Pb**	**02 53 26.5**	**-0.1**
ARXS				*eS*			**Sb**	**02 54 02.4**	**+2.6**
	51nm,0.5s								
MDOK	**Medeo** 17nm,0.4s	**2.73**	**285**	*eP*			**Pb**	**02 53 27.5**	**-0.2**
MDOK				*eS*			**Sb**	**02 54 04.6**	**+3.0**
	83nm,0.4s								
MDOK	**Medeo** 10nm,0.5s	**2.73**	**285**	⇑Pg			**Pb**	**02 53 27.5**	**-0.2**
MDOK				Lg		Lg	02 54 04.5		
	63nm,0.6s								
MDOK	**Medeo** 17nm,0.4s	**2.73**	**285**	Pg			**Pb**	**02 53 27.4**	**-0.3**
MDOK				Lg		Lg	02 54 05.7		
	83nm,0.4s								
TNSS	**Tian-Shan** 22nm,0.2s	**2.78**	**282**	*eP*			**Pb**	**02 53 28.6**	**-0.1**
TNSS				*eS*			**Sg**	**02 54 06.7**	**-0.6**
	75nm,0.4s								
TNSS	**Tian-Shan** 22nm,0.2s	**2.78**	**282**	Pg			**Pb**	**02 53 28.5**	**-0.1**
TNSS				Lg		Lg	02 54 06.7		
	75nm,0.4s								
AAA	**Alma-Ata** 22nm,0.1s	**2.83**	**285**	*eP*			**Pb**	**02 53 29.6**	**+0.2**
AAA				*eS*			**Sg**	**02 54 08.3**	**-0.9**
	65nm,0.5s								
KAPS	**Kapalarasan** 10nm,0.3s	**2.92**	**342**	*eP*			**Pb**	**02 53 31.4**	**+0.5**
KAPS				*eS*			**Sg**	**02 54 11.0**	**-0.9**
	100nm,0.4s								
KAPS	**Kapalarasan** 10nm,0.3s	**2.92**	**342**	Pg			**Pb**	**02 53 31.4**	**+0.5**
KAPS				Lg		Lg	02 54 11.0		
	100nm,0.4s								
TDK	**Taldyqorghan** 51nm,0.3s	**2.97**	**328**	*eP*			**Pg**	**02 53 34.3**	**-0.7**
TDK				*eS*			**Sg**	**02 54 15.8**	**+2.3**
	90nm,0.3s								
CHKK	**Chushkaly** 7.3nm,0.3s	**3.00**	**298**	*eP*			**Pb**	**02 53 32.8**	**+0.7**
CHKK				*eS*			**Sg**	**02 54 13.4**	**-0.9**
	43nm,0.2s								
CHKK	**Chushkaly** 7.2nm,0.3s	**3.00**	**298**	Pg			**Pb**	**02 53 31.9**	**-0.2**
CHKK				Lg		Lg	02 54 12.2		
	37nm,0.3s								
IZV	**Izvestkoviy** 9.6nm,0.2s	**3.02**	**281**	*eP*			**Pb**	**02 53 32.7**	**+0.1**
IZV				*eS*			**Sg**	**02 54 13.8**	**-1.3**
	116nm,0.3s								
IZV	**Izvestkoviy** 9.6nm,0.2s	**3.02**	**281**	Pg			**Pb**	**02 53 32.7**	**+0.1**
IZV				Lg		Lg	02 54 13.8		
	116nm,0.3s								
KTBS	**Karatobe** 11nm,0.3s	**3.15**	**294**	*eP*			**Pb**	**02 53 35.3**	**+0.6**
KTBS				*eS*			**Sg**	**02 54 18.0**	**-1.0**
	90nm,0.5s								
KTBS	**Karatobe** 10nm,0.2s	**3.15**	**294**	Pg			**Pb**	**02 53 35.3**	**+0.6**
KTBS				Lg		Lg	02 54 18.2		
	70nm,0.5s								
MTBS	**Maitube** 12nm,0.3s	**3.17**	**283**	*eP*			**Pb**	**02 53 35.6**	**+0.6**
MTBS				*eS*			**Sg**	**02 54 19.0**	**-0.8**
	48nm,0.3s								
MTBS	**Maitube** 12nm,0.3s	**3.17**	**283**	Pg			**Pb**	**02 53 35.6**	**+0.6**
MTBS				Lg		Lg	02 54 19.0		
	48nm,0.3s								
ULHL	**Ulahol** baz=68	**3.28**	**267**	⇑*i*P			Pb	02 53 32.6	-4.5
ULHL				⇑*i*S			**Sb**	**02 54 13.7**	**-3.8**
	baz=68								
KST	**Kastek** 11nm,0.4s	**3.49**	**280**	*eP*			**Pb**	**02 53 40.6**	**0.0**
KST				*eS*			**Sb**	**02 54 27.3**	**+3.8**
	68nm,0.3s								
KST	**Kastek** 11nm,0.4s	**3.49**	**280**	Pg			**Pb**	**02 53 40.6**	**0.0**
KST				Lg		Lg	02 54 27.3		
	68nm,0.3s								
DGS	**Degeres** 11nm,0.6s	**3.66**	**283**	*eP*			**Pb**	**02 53 43.9**	**+0.4**
DGS				*eS*			**Sb**	**02 54 32.8**	**+4.4**
	20nm,0.4s								
DGS	**Degeres** 11nm,0.6s	**3.66**	**283**	Pg			**Pb**	**02 53 43.9**	**+0.4**
DGS				Lg		Lg	02 54 32.7		
	20nm,0.4s								
TKM2	**Tokmak 2** baz=79	**3.75**	**278**	⇓*i*P			**Pn**	**02 53 39.3**	**+2.3**
TKM2				⇓*i*S			**Sn**	**02 54 25.3**	**+3.5**
	baz=79								
TKM2	**Tokmak 2** 5.4nm,0.7s	**3.75**	**278**	⇓Pg			**Pb**	**02 53 46.5**	**+1.5**
TKM2				⇑Lg		Lg	02 54 36.4		
	22nm,0.6s								
KRBS	**Karabastau** 6.3nm,0.2s	**3.83**	**290**	*eP*			**Pb**	**02 53 46.9**	**+0.5**
KRBS				*eS*			**Sb**	**02 54 38.1**	**+4.9**
	13nm,0.4s								
KRBS	**Karabastau** 6.3nm,0.2s	**3.83**	**290**	Pg			**Pb**	**02 53 46.9**	**+0.5**
KRBS				Lg		Lg	02 54 38.1		
	13nm,0.4s								
KZA	**Kyzart** baz=67	**4.03**	**266**	⇓*i*P			**Pn**	**02 53 43.0**	**+1.9**
KZA				⇓*i*S			**Sn**	**02 54 31.8**	**+2.7**
	baz=67								
KBK	**Karagaybulak** baz=75	**4.22**	**274**	⇑*i*P			**Pn**	**02 53 45.6**	**+2.2**
KBK				⇑*i*S			**Sn**	**02 54 36.2**	**+2.9**
	baz=75								
CHMS	**Chumysh** baz=79	**4.37**	**278**	⇑*i*P			**Pn**	**02 53 47.7**	**+2.2**
CHMS				⇑*i*S			**Sn**	**02 54 39.7**	**+2.7**
	baz=79								
MAKZ	**Makanchi** 3.2nm,0.8s	**4.39**	**12**	⇓Pn			Pb	02 53 48.5	-7.5
MAKZ				⇑Sn			**Sn**	**02 54 37.9**	**+0.4**
	1.8nm,0.4s								
MAKZ				⇓Lg			Lg	02 54 58.2	
	5.1nm,0.5s								
MK31	**Makanchi Array** 0.3nm,0.2s,baz=203,slow=13,SNR=32	**4.43**	**15**	⇑Pn			**Pn**	**02 53 47.8**	**+1.5**
MK31				⇓Pg			**Pb**	**02 53 57.7**	**+1.1**
	0.8nm,0.3s,baz=195,slow=16,SNR=10			⇑Sn			**Sn**	**02 54 40.4**	**+2.0**
MK31	1.7nm,0.5s,baz=193,slow=18,SNR=3.6			⇓Lg			Lg	02 54 57.1	
	6.3nm,0.5s,baz=180,slow=32,SNR=13								
FRU1	**Bishkek** baz=77	**4.45**	**276**	⇓*i*P			**Pn**	**02 53 48.6**	**+2.0**
FRU1				⇓*i*S			**Sn**	**02 54 41.8**	**+2.8**
	baz=77								
AAK	**Ala-Archa** baz=75	**4.55**	**274**	⇑*i*P			**Pn**	**02 53 50.1**	**+2.1**
AAK				⇑*i*S			**Sn**	**02 54 44.4**	**+2.9**
	baz=75								
AAK	**Ala-Archa** 4.0nm,0.7s	**4.55**	**274**	⇓Pg			**Pb**	**02 54 00.4**	**+1.7**
AAK				⇑Lg			Lg	02 55 05.3	
	15nm,0.8s								
UCH	**Uchtor** baz=70	**4.56**	**268**	⇓*i*P			**Pn**	**02 53 50.5**	**+2.1**
UCH				⇓*i*S			**Sn**	**02 54 44.9**	**+2.8**
	baz=70								
USP	**Ospenovka** baz=82	**4.58**	**282**	⇑*i*P			**Pn**	**02 53 50.3**	**+1.9**
USP				⇑*i*S			**Sn**	**02 54 45.1**	**+2.9**
	baz=82								
ARLS	**Aral** baz=65	**4.75**	**264**	⇓*i*P			**Pn**	**02 53 52.3**	**+1.5**
ARLS				⇓*i*S			**Sn**	**02 54 48.2**	**+1.8**
	baz=65								
EKS2	**Erkin-Say** baz=75	**5.08**	**274**	⇑*i*P			**Pn**	**02 53 57.2**	**+1.9**
EKS2				⇑*i*S			**Sn**	**02 54 56.8**	**+2.3**
	baz=75								
AML	**Almayashu** baz=69	**5.17**	**268**	⇑*i*P			**Pn**	**02 53 58.8**	**+2.0**
AML				⇑*i*S			**Sn**	**02 54 59.4**	**+2.2**
	baz=69								
BTLS	**Baital** 1.9nm,0.4s	**5.41**	**300**	*eP*			Pg	02 54 17.8	-3.9
BTLS				*eS*			**Sg**	**02 55 30.1**	**-1.6**
	2.9nm,0.5s								
BTLS	**Baital** 1.6nm,0.4s	**5.41**	**300**	Pg			**Pb**	**02 54 17.0**	**+3.8**
BTLS				Lg		Lg	02 55 29.4		
	2.4nm,0.3s								
MRKS	**Merke** 1.9nm,0.2s	**5.49**	**275**	*eP*			Pg	02 54 18.8	-4.4
MRKS				*eS*			**Sg**	**02 55 32.2**	**-2.0**
	5.8nm,0.4s								
MRKS	**Merke** 2.1nm,0.4s	**5.49**	**275**	Pg			**Pb**	**02 54 17.2**	**+2.6**
MRKS				Lg		Lg	02 55 30.2		
	8.9nm,0.4s								
ZSN	**Zaisan** 5.8nm,0.2s	**5.77**	**30**	*eP*			Pg	02 54 21.5	-7.0
ZSN				*eS*			**Sg**	**02 55 36.7**	**-6.5**
	9.1nm,0.5s								
ZSN	**Zaisan** 8.7nm,0.3s	**5.77**	**30**	Pg			**Pb**	**02 54 19.8**	**+0.5**
ZSN				Lg		Lg	02 55 34.4		
	3.2nm,0.3s								
KK31	**Karatay Array** 1.1nm,0.6s,baz=84,slow=17,SNR=4.9	**7.48**	**278**	⇓Pg			Pb	02 54 54.5	+6.0
KK31				⇓Lg			Lg	02 56 38.5	
	1.9nm,0.5s,baz=93,slow=27,SNR=5.0								
KURBB	**Kurchatov Arra** 17nm,0.8s	**8.24**	**351**	⇑Lg			Lg	02 56 59.1	
KURK	**Kurchatov** 7.8nm,0.9s	**8.32**	**351**	⇑Lg			Lg	02 57 05.3	

DDA 14 03:20:00.6, 37°.78N×29°.17E, h7km±3km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TAVA	**DENIZLI_Tavas**	**0.37**	**213**	*i* P			Pg	03 20 08.2	+0.4
TAVA				*i* S			Sg	03 20 13.6	+0.9
TAVA				IAML				03 20 14.0	
	comp=E,23nm,0.4s								
TAVA				IAML				03 20 14.0	
	comp=N,23nm,0.4s								
MANT	**Manisa**	**0.86**	**326**	*i* P			Pg	03 20 15.8	-1.3
MANT				*i* S			Sg	03 20 28.6	+0.3
MANT				IAML				03 20 31.0	
	comp=N,6.4nm,0.3s								
USAK	**Uak-Merkez**	**0.94**	**353**	*i* P			Pg	03 20 18.1	-0.6
USAK				*i* S			Sb	03 20 31.9	-0.1

ISK 14 03:20:53.6, 37°.00N×27°.38E, h10km, ML1.8/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.09**	**319**		PG		Pg	03 20 56.3	+0.2
BODT					SG		Sg	03 20 58.4	+0.5
DAT	**Datca**	**0.31**	**149**		PG		Pg	03 21 00.2	+0.3
DAT					SG		Sg	03 21 05.1	+1.1
GCAM	**G?zelcaml?**	**0.71**	**351**		PG		Pb	03 21 08.0	-0.1
GCAM					SG		Sb	03 21 18.6	+0.7
TURN	**Turunc**	**0.73**	**107**		PG		Pb	03 21 08.0	-0.3
TURN					SG		Sb	03 21 18.6	+0.3
YER	**Yerkesik**	**0.73**	**79**		PG		Pb	03 21 08.4	-0.1

*NEIC **14** 03:59:51.2±1.2, 11°.65S±0°.1×163°.0E±0°.1, h43km±10km, mb4.5/8, Error ellipse: s-maj=24.4km s-min=10.8km az=225.0*
*IDC **14** 03:59:54.3±3.9, 11°.64S×162°.77E, h39km±33km, mb4.0/7, mb1 4.2/9, mb1mx3.7/45, mbtmp4.2/9, ML4.3/2, MS3.1/4, Ms1 3.1/4, ms1mx2.8/31, Error ellipse: s-maj=32.0km s-min=23.9km az=99.0*
ISC 14 03:59:52.3±0.8, 11.70S±0°.10×162°.9E±0°.1, h35km, n34, σ1§25/26, mb4.3/11, MS3.1/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara** 107nm,0.3s,baz=139,slow=3.4,SNR=7.9	**3.66**	**308**		Pn		**Pn**	**04 00 47.1**	**+0.7**
HNR					Sn		**Sn**	**04 01 28.8**	**+0.4**
	52nm,0.3s,baz=162,slow=22,SNR=1.8								
HNR	**Honiara**	**3.66**	**308**				**Pn**	**04 00 46.6**	**+0.2**
HNR							**Sn**	**04 01 27.2**	**-1.2**
SANVU	**Saraoutou**	**5.62**	**132**				**Pn**	**04 01 12.3**	**-1.1**
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=26,slow=9.3,SNR=6.3	**10.87**	**162**	Pn			**Pn**	**04 02 27.9**	**+2.4**
DZM	**Mont Dzumac**	**10.87**	**162**				**Pn**	**04 02 25.3**	**-0.2**
WR0	**Warramunga Arr**	**28.44**	**250**	P			**P**	**04 05 43.4**	**-0.8**
WB0	**Warramunga Arr**	**28.54**	**250**	P			**P**	**04 05 44.1**	**-0.8**
WB0				P	IAmb	IAmb	IAmb	04 05 48.2	
	comp=Z,10nm,1.1s								
WB2	**Warramunga Arr**	**28.61**	**250**	P			**P**	**04 05 45.3**	**-0.3**
WB2				P	IAmb	IAmb	IAmb	04 05 48.7	
	comp=Z,10nm,1.1s								
WRA	**Warramunga Arr** comp=Z,1.8nm,0.6s,baz=78,slow=9.2,SNR=20	**28.62**	**250**	P			**P**	**04 05 46.8**	**+1.0**
WRA	**Warramunga Arr**	**28.62**	**250**	P			**P**	**04 05 45.5**	**-0.3**
ASAR	**Alice Springs** comp=Z,2.2nm,0.6s,baz=62,slow=10,SNR=24	**29.99**	**243**	P			**P**	**04 05 58.8**	**+0.9**
ASAR	**Alice Springs**	**29.99**	**243**	P			**P**	**04 05 57.8**	**-0.1**
H11S2	**WAKE ISLAND Hy** baz=188,slow=76,SNR=102	**30.23**	**7**	T			T	04 37 44.3	
H11S3	**WAKE ISLAND Hy** baz=188,slow=76,SNR=46	**30.23**	**7**	T			T	04 37 44.9	
H11S1	**WAKE ISLAND Hy** baz=188,slow=76,SNR=49	**30.25**	**7**	T			T	04 37 46.1	
H11N1	**WAKE ISLAND Hy** baz=188,slow=76,SNR=23	**31.46**	**7**	T			T	04 39 10.3	
H11N3	**WAKE ISLAND Hy** baz=188,slow=76,SNR=40	**31.47**	**7**	T			T	04 39 16.7	
H11N2	**WAKE ISLAND Hy** baz=188,slow=76,SNR=30	**31.48**	**7**	T			T	04

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWA2		**4.87**	**185**	P	**Pn**	**04 05 19.9**	**+1.3**
	baz=186						
SWA2				AMP		04 06 00.0	
	baz=186						
SWA2				S	**Sn**	**04 06 11.9**	**-2.2**
	baz=186						
GLL	**Jalalah**	**6.65**	**131**	P	**Pn**	**04 05 45.2**	**+2.2**
	baz=130						
SUZ	**Suez**	**7.22**	**124**	P	**Pn**	**04 05 52.9**	**+2.1**
	baz=124						
HFRF	**Wahat Farafira**	**7.23**	**163**	P	**Pn**	**04 05 52.7**	**+1.8**
	baz=162						
HFRF				AMP		04 07 00.0	
	baz=162						
HFRF				S	**Sn**	**04 07 08.9**	**-3.3**
	baz=162						
TAMRE	**El Minia**	**7.69**	**145**	P	**Pn**	**04 05 59.2**	**+1.9**
	baz=144						
HDK1	**Dakhla**	**9.04**	**160**	P	**Pn**	**04 06 17.9**	**+2.0**
	baz=159						
FINES	**FINESS Array B**	**27.35**	**0**	P	**P**	**04 09 49.0**	**-0.5**
	1.9nm,0.6s,baz=160,slow=12,SNR=8.0						
TORD	**Torodi Ar. Bea**	**30.35**	**232**	P	**P**	**04 10 18.2**	**+1.5**
	0.3nm,0.7s,baz=30,slow=8.8,SNR=6.1						
ARCES	**ARCESS Array B**	**35.48**	**360**	P	**P**	**04 11 00.3**	**-0.6**
	2.2nm,1.0s,baz=187,slow=9.2,SNR=5.2						
KURBB	**Kurchatov Arra**	**41.27**	**50**	P	**P**	**04 11 48.1**	**-1.7**
	0.4nm,0.4s,baz=276,slow=8.5,SNR=5.4						

BJI **14** *04:08:37.5±0.0,36.°96N×95.°94E, h6km, ML3.7/11*
IDC **14** *04:08:38.9±0.8,36.°97N×95.°98E, h14km±5km, mb3.8/8, mb1 4.0/12,mb1mx3.7/50,mbtmp3.9/12,ML3.6/4, MS3.2/1, Ms1 3.2/1,ms1mx2.3/39,Error ellipse: s-maj=35.0km s-min=15.2km az=48.0*

ISC 14 04:08:38.3±0.9,36.°9N±0.°1×95.°78E±0.°06, h10km, n16, σ2°08/22, mb4.0/8, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**4.03**	**51**	Pn	**Pn**	**04 09 41.0**	**+0.8**
GTA				Sn	**Sn**	**04 10 28.8**	**+1.2**
GTA				smax	smax		
	comp=N,62nm,0.6s						
GTA				smax	smax		
	comp=E,43nm,0.8s						
LZH	**Lanzhou**	**6.55**	**95**	*e*Pg	**Pg**	**04 10 47.4**	**+3.7**
LZH				Sg	**Sg**	**04 12 02.9**	**-5.6**
LZH				smax	smax		
	comp=N,90nm,1.2s						
LZH				smax	smax		
	comp=E,120nm,1.1s						
LZH				LR	LR		
	comp=N,340nm,5.7s						
LZH				LR	LR		
	comp=E,410nm,6.2s						
LZH				LR	LR		
	comp=Z,450nm,7.6s						
WMQ	**Urumqi**	**9.24**	**321**	*e*P	**Pn**	**04 10 55.0**	**+3.3**
WMQ				S	**Sn**	**04 12 32.0**	**-3.7**
WMQ				smax	smax		
	comp=Z,35nm,1.1s						
WMQ				smax	smax		
	comp=Z,36nm,1.1s						
SONM	**Songino Array**	**13.42**	**32**	Pn	**Pn**	**04 11 49.4**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=216,slow=15,SNR=17						
MKAR	**Makanchi Array**	**14.06**	**319**	Pn	**Pn**	**04 11 56.0**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=128,slow=14,SNR=28						
KURBB	**Kurchatov Arra**	**18.45**	**323**	P	**P**	**04 12 54.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=138,slow=11,SNR=13						
ZALV	**Zalesovo Beam**	**18.64**	**339**	P	**P**	**04 12 55.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=152,slow=10,SNR=4.7						
BVAR	**Borovoye Array**	**23.93**	**320**	P	**P**	**04 13 52.5**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=106,slow=9.4,SNR=13						
KSRS	**Korea Array**	**25.55**	**79**	P	**P**	**04 14 05.4**	**-1.8**
	comp=Z,2.5nm,0.7s,baz=270,slow=9.5,SNR=5.5						
FINES	**FINESS Array B**	**48.84**	**323**	P	**P**	**04 17 24.2**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=81,slow=12,SNR=7.7						
FINES				LR	LR	04 37 18.5	
	comp=Z,26nm,20.1s,baz=306,slow=35						
ARCES	**ARCESS Array B**	**49.07**	**334**	P	**P**	**04 17 26.0**	**+0.8**
	comp=Z,5.9nm,1.0s,baz=60,slow=7.2,SNR=5.0						
NB2	**NORSAR Subarra**	**55.98**	**324**	P	**P**	**04 18 16.4**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=72,slow=6.9						
NOA	**NORSAR Array B**	**55.98**	**324**	P	**P**	**04 18 16.7**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=74,slow=7.2,SNR=4.1						
NOA				pP	**pP**	**04 18 21.1**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=72,slow=7.1,SNR=2.7						
WRA	**Warramunga Arr**	**67.25**	**141**	P	**P**	**04 19 32.5**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=336,slow=6.2,SNR=3.0						
WRA				pP	**pP**	**04 19 36.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=332,slow=6.3,SNR=4.0						
ILAR	**Eielson Array**	**67.50**	**24**	P	**P**	**04 19 32.9**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=287,slow=5.6,SNR=7.8						
ASAR	**Alice Springs**	**70.17**	**143**	P	**P**	**04 19 50.9**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=334,slow=6.9,SNR=5.3						
ASAR				pP	**pP**	**04 19 55.8**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=324,slow=6.2,SNR=4.9						

NEIC **14** *04:32:00.6±1.2,4.°6S±0.°2×151.°6E±0.°2, h160km±12km, mb4.3/15,Error ellipse: s-maj=30.2km s-min=20.5km az=70.0*
IDC **14** *04:32:01.5±2.5,4.°65S×150.°92E, h103km±69km, mb3.7/4, mb1 4.0/4,mb1mx3.4/28,mbtmp4.1/4,Error ellipse: s-maj=97.7km s-min=32.0km az=104.0*

ISC 14 04:32:00.5±0.7,4.°7S±0.°1×151.°5E±0.°1, h150km, n24, σ1°915/25, mb4.2/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.63**	**56**	P	**Pn**	**04 32 23.6**	**+0.9**
	95nm,0.3s,baz=259,slow=1.8,SNR=23						
KRVT				S	**Sn**	**04 32 40.9**	**+1.4**
	30nm,0.3s,baz=184,slow=12,SNR=4.3						
RABL	**Rabaul**	**0.81**	**54**		**Pn**	**04 32 24.1**	**+0.3**
WB0	**Warramunga Arr**	**22.43**	**227**	P	**P**	**04 36 48.4**	**+1.3**
WR0	**Warramunga Arr**	**22.45**	**226**	P	**P**	**04 36 48.8**	**+1.5**
WR0				IAmb	IAmb	04 36 50.4	
	comp=Z,6.8nm,0.8s						
WRAB	**Tennant Creek**	**22.57**	**226**	P	**P**	**04 36 50.1**	**+1.6**
WB2	**Warramunga Arr**	**22.57**	**226**	P	**P**	**04 36 49.5**	**+1.0**
WB2				IAmb	IAmb	04 36 51.6	
	comp=Z,8.2nm,0.8s						
WRA	**Warramunga Arr**	**22.58**	**226**	P	**P**	**04 36 50.3**	**+1.7**
	comp=Z,2.3nm,0.3s,baz=50,slow=10,SNR=109						
WRA	**Warramunga Arr**	**22.58**	**226**	P	**P**	**04 36 49.1**	**+0.5**
ASAR	**Alice Springs**	**25.39**	**220**	P	**P**	**04 37 15.4**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=51,slow=8.6,SNR=8.0						
ASAR	**Alice Springs**	**25.39**	**220**	P	**P**	**04 37 14.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**28.59**	**240**	P	**P**	**04 37 44.0**	**+1.2**
	comp=Z,1.6nm,0.3s,baz=57,slow=6.6,SNR=30						
FITZ	**Fitzroy Crossi**	**28.59**	**240**	P	**P**	**04 37 43.5**	**+0.7**
FITZ				IAmb	IAmb	04 37 55.6	
	comp=Z,4.9nm,1.0s						
BBOO	**Buckleboo**	**31.50**	**205**	P	**P**	**04 38 07.7**	**-0.7**
BBOO				IAmb	IAmb	04 38 25.0	
	comp=Z,10nm,1.1s						
KAPI	**Kappang**	**31.64**	**268**	P	**P**	**04 38 08.9**	**-0.8**
FORT	**Forrest**	**34.09**	**218**	P	**P**	**04 38 30.7**	**-0.2**
FORT				IAmb	IAmb	04 38 42.9	
	comp=Z,9.1nm,0.9s						
PSA00	**Pilbara Seismi**	**34.99**	**238**	P	**P**	**04 38 38.8**	**+0.1**
MORW	**Morawa**	**41.43**	**230**	P	**P**	**04 39 32.9**	**+0.3**
MORW				IAmb	IAmb	04 39 46.0	
	comp=Z,9.8nm,1.1s						
KSM	**Kuching**	**41.61**	**277**	P	**P**	**04 39 34.0**	**-0.2**
KSM				IAmb	IAmb	04 39 37.6	
	comp=Z,5.0nm,0.6s						
SNZO	**South Karori**	**41.99**	**154**	P	**P**	**04 39 36.0**	**-0.8**
MSWZ	**Moikau Station**	**42.31**	**153**	P	**P**	**04 39 38.4**	**-1.2**
BJT	**Baijiatuau**	**55.06**	**327**	P	**P**	**04 41 16.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**56.65**	**296**	P	**P**	**04 41 30.9**	**+2.3**
	comp=Z,1.2nm,0.4s,baz=130,slow=4.7,SNR=5.2						
CMAR	**Chiang Mai Arr**	**56.65**	**296**	P	**P**	**04 41 28.8**	**+0.2**
SONM	**Songino Array**	**65.53**	**328**	P	**P**	**04 42 26.3**	**-1.7**

RSPR **14** *05:00:43.6, 19.°47N×66.°33W, h28km±9km, MD3.4/14*
NEIC **14** *05:00:44.3±2.3, 19.°36N±0.°04×66.°34W±0.°04, h28km±11km, Error ellipse: s-maj=7.4km s-min=4.4km az=219.0*

ISC 14 05:00:43.1±1.6, 19.°36N±0.°07×66.°30W±0.°03, h22km±12km, n49, σ1°907/69, 12C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.91**	**194**	*e*P	**Pn**	**05 00 59.8**	**-0.7**
EMPR	**Esperanza - Ma**	**0.91**	**194**	*e*S	**Sn**	**05 01 12.5**	**-0.5**
EMPR	**Esperanza - Ma**	**0.91**	**194**		**Pn**	**05 00 59.8**	**-0.7**
EMPR					**Pb**	**05 01 01.8**	**+1.5**
EMPR					**Sn**	**05 01 15.5**	**+2.5**
EMPR					**Sb**	**05 01 16.0**	**+4.1**
GCPR	**Guaynabo City**	**1.07**	**169**	*e*P	**Pn**	**05 01 01.8**	**-0.9**
GCPR	**Guaynabo City**	**1.07**	**169**	*e*S	**Sb**	**05 01 16.4**	**0.0**
GCPR	**Guaynabo City**	**1.07**	**169**		**Pn**	**05 01 02.3**	**-0.4**
GCPR					**Sn**	**05 01 18.1**	**+1.2**
GCPR					**Sb**	**05 01 18.3**	**+1.9**
AOPR	**Arecibo Observ**	**1.10**	**203**	*e*P	**Pn**	**05 01 02.5**	**-0.7**
AOPR	**Arecibo Observ**	**1.10**	**203**	*e*S	**Sb**	**05 01 17.1**	**-0.4**
AOPR	**Arecibo Observ**	**1.10**	**203**		**Pn**	**05 01 02.5**	**-0.7**
AOPR					**Sn**	**05 01 19.0**	**+1.2**
CBYP	**Canovanas**	**1.16**	**159**	*e*P	**Pn**	**05 01 03.6**	**-0.5**
CBYP	**Canovanas**	**1.16**	**159**		**Pn**	**05 01 03.9**	**-0.2**
CBYP				Sn	**Sn**	**05 01 21.7**	**+2.4**
AGPR	**Aguadilla, PR**	**1.18**	**221**	*e*P	**Pn**	**05 01 03.1**	**-1.2**
AGPR	**Aguadilla, PR**	**1.18**	**221**	*e*S	**Sb**	**05 01 18.1**	**-1.6**
AGPR	**Aguadilla, PR**	**1.18**	**221**		**Pb**	**05 01 03.7**	**-1.1**
AGPR					**Sn**	**05 01 20.3**	**+0.6**
HUMP	**Col San Antoni**	**1.29**	**161**	*e*P	**Pn**	**05 01 05.3**	**-0.5**
HUMP	**Col San Antoni**	**1.29**	**161**	*e*S	**Sn**	**05 01 22.3**	**+0.1**
HUMP	**Col San Antoni**	**1.29**	**161**		**Pn**	**05 01 05.7**	**0.0**
HUMP					**Sb**	**05 01 23.6**	**+0.8**
HUMP					**Sn**	**05 01 23.8**	**+1.6**
CELP	**Cerrillos**	**1.31**	**192**	*e*P	**Pn**	**05 01 05.5**	**-0.6**
CELP	**Cerrillos**	**1.31**	**192**	*e*S	**Sn**	**05 01 22.6**	**-0.3**
CELP	**Cerrillos**	**1.31**	**192**		**Pn**	**05 01 05.5**	**-0.6**
CELP					**Sn**	**05 01 22.6**	**-0.3**
OBIP	**Obispado Ponce**	**1.35**	**193**	*e*P	**Pn**	**05 01 06.0**	**-0.6**
OBIP	**Obispado Ponce**	**1.35**	**193**	*e*S	**Sn**	**05 01 23.4**	**-0.3**
OBIP	**Obispado Ponce**	**1.35**	**193**		**Pb**	**05 01 07.2**	**-0.5**
OBIP					**Sn**	**05 01 23.8**	**0.0**
PDPR	**Patillas Dam,**	**1.36**	**169**		**Pb**	**05 01 07.5**	**-0.5**
PDPR				Sn	**Sb**	**05 01 25.6**	**+0.6**
MPR	**Mayaguez**	**1.40**	**215**		**Pb**	**05 01 07.3**	**-1.3**
LSP	**Las Mesas**	**1.40**	**213**	*e*P	**Pn**	**05 01 06.5**	**-0.9**
LSP	**Las Mesas**	**1.40**	**213**	*e*S	**Sn**	**05 01 24.2**	**-0.9**
LSP	**Las Mesas**	**1.40**	**213**		**Pn**	**05 01 06.5**	**-0.9**
LSP					**Sn**	**05 01 24.2**	**-0.9**
IGPR	**InterUniversit**	**1.40**	**173**	*e*P	**Pn**	**05 01 07.1**	**-0.2**
IGPR	**InterUniversit**	**1.40**	**173**	*e*S	**Sn**	**05 01 25.2**	**+0.1**
IGPR	**InterUniversit**	**1.40**	**173**		**Pb**	**05 01 08.5**	**-0.1**
CUPR	**Culebra, Puert**	**1.42**	**137**	*e*P	**Pn**	**05 01 07.0**	**-0.6**
CUPR	**Culebra, Puert**	**1.42**	**137**	*e*S	**Sn**	**05 01 25.4**	**-0.2**
CUPR	**Culebra, Puert**	**1.42**	**137**		**Pn**	**05 01 07.2**	**-0.4**
CUPR				Sn	**Sn**	**05 01 26.3**	**+0.6**
MTP	**Monte Pirata**	**1.44**	**151**	*e*P	**Pn**	**05 01 07.5**	**-0.4**
MTP	**Monte Pirata**	**1.44**	**151**	*e*S	**Sn**	**05 01 26.4**	**+0.2**
MTP	**Monte Pirata**	**1.44**	**151**	Pn	**Pn**	**05 01 07.9**	**0.0**
MTP					**Sn**	**05 01 26.9**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.56**	**210**	*e*P	**Pn**	**05 01 08.9**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.56**	**210**	*e*S	**Sn**	**05 01 28.2**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.56**	**210**		**Pn**	**05 01 09.1**	**-0.4**
CRPR				Sn	**Sb**	**05 01 31.4**	**+0.9**
MLPR	**Magueyes Islan**	**1.56**	**207**	*e*P	**Pn**	**05 01 08.4**	**-1.1**
MLPR	**Magueyes Islan**	**1.56**	**207**	*e*S	**Sn**	**05 01 28.1**	**-0.9**
MLPR	**Magueyes Islan**	**1.56**	**207**		**Pn**	**05 01 08.5**	**-1.0**
STVI	**Saint Thomas**	**1.62**	**128**	*e*P	**Pn**	**05 01 09.9**	**-0.4**
STVI	**Saint Thomas**	**1.62**	**128**	*e*S	**Sn**	**05 01 30.4**	**-0.1**
STVI	**Saint Thomas**	**1.62**	**128**		**Pn**	**05 01 10.7**	**+0.4**
STVI				Sn	**Sn**	**05 01 31.5**	**+1.0**
STVI					**Sb**	**05 01 31.8**	**-0.5**
CDVI	**St. Croix**	**2.16**	**138**	Pn	**Pn**	**05 01 10.4**	**-2.2**
DR12	**Loma Pena Alta**	**2.97**	**259**	Pn	**Pn**	**05 01 29.6**	**+0.7**
SDDR	**Presa de Saban**	**4.74**	**266**		**Pn**	**05 01 55.2**	**+2.0**
SDDR				Sn	**Sn**	**05 02 47.9**	**+0.3**

IDC **14** *05:10:11.1±1.7,54.°72N×157.°15W, h0km, mb3.9/5, mb1 4.0/8,mb1mx3.5/42,mbtmp3.8/8,ML3.6/3,MS2.7/2, Ms1 2.7/2,ms1mx2.3/42,Error ellipse: s-maj=35.1km s-min=26.6km az=166.0*
AEIC **14** *05:10:13.8±2.1,54.°53N±0.°10×156.°77W±0.°10, h10km±6km, ML3.3,Error ellipse: s-maj=14.6km s-min=7.1km az=161.0*
NEIC **14** *05:10:14.5±2.4,54.°8N±0.°1×157.°01W±0.°08, h30km±7km, Error ellipse: s-maj=16.1km s-min=4.5km az=162.0*

ISC 14 05:10:14.2±1.0,54.°9N±0.°1×157.°00W±0.°06, h24km, n57, σ1°926/55, mb4.0/5, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**1.25**	**38**		**Pn**	**05 10 35.3**	**-0.9**
CNBA	**Chernabura Isl**	**1.50**	**270**		**Pn**	**05 10 38.2**	**-1.4**
VNNF	**Veniaminof 3**	**1.95**	**318**		**Pn**	**05 10 47.0**	**+1.1**
VNFG	**Fog Glacier, M**	**2.04**	**316**		**Pn**	**05 10 48.6**	**+1.4**
SDPT	**Sand Point**	**2.06**	**285**		**Pn**	**05 10 46.8**	**-0.6**
SII	**Sitkinak Islan**	**2.34**	**42**		**Pn**	**05 10 50.4**	**-0.8**
SII					**Sn**	**05 11 18.8**	**-0.3**
PS4A	**Pavlof South-4**	**2.84**	**282**		**Pn**	**05 10 57.5**	**-0.5**
PLK3	**Peulik 3**	**2.88**	**8**		**Pn**	**05 10 60.0**	**+1.5**
OHAK	**Old Harbor**	**3.16**	**40**		**Pn**	**05 11 01.5**	**-0.9**
OHAK					**Sn**	**05 11 37.0**	**-2.3**
CAHL	**Cahill**	**3.35**	**16**		**Pn**	**05 11 05.5**	**+0.4**
FALS	**False Pass**	**3.71**	**273**		**Pn**	**05 11 09.9**	**-0.1**
KDAK	**Kodiak Island**	**3.83**	**38**	Pn	**Pn**	**05 11 10.6**	**-1.0**
	1.7nm,0.3s,baz=214,slow=8.1,SNR=32						
KDAK				Sn	**Sn**	**05 11 53.3**	**-2.5**
	2.0nm,0.3s,baz=238,slow=17,SNR=3.6						
KDAK	**Kodiak Island**	**3.83**	**38**		**Pn**	**05 11 11.1**	**-0.5**
SSBA	**Shishaldin**	**4.12**	**272**		**Pn**	**05 11 15.8**	**0.0**
WESP	**Westdahl Peak**	**4.50**	**269**		**Pn**	**05 11 20.7**	**-0.2**
AKSA	**Akutan Strait**	**5.12**	**266**		**Pn**	**05 11 28.7**	**-0.6**
AKUT	**Akutan**	**5.17**	**266**	Pn	**Pn**	**05 11 29.8**	**-0.1**
AKUT				Sn	**Sn**	**05 12 26.6**	**-2.1**
CNPM	**China Poot**	**5.64**	**31**	Pn	**Pn**	**05 11 37.9**	**+1.5**
UNV	**Unalaska Valle**	**5.65**	**264**	Pn	**Pn**	**05 11 35.5**	**-1.1**
UNV				Sn	**Sn**	**05 12 39.0**	**-1.7**
MNAT	**Makushin Natee**	**5.75**	**264**		**Pn**	**05 11 36.5**	**-1.4**
MSW	**Makushin Switc**	**5.80**	**265**		**Pn**	**05 11 37.2**	**-1.4**
MREP	**Makushin Rep't**	**5.80**	**264**		**Pn**	**05 11 37.2**	**-1.5**
RDWB	**Redoubt West**	**6.08**	**20**		**Pn**	**05 11 43.0**	**+0.4**
SVW2	**Sparrevohn**	**6.31**	**6**	Pn	**Pn**	**05 11 46.7**	**+1.0**
SEW	**Seward**	**6.65**	**35**	Pn	**Pn**	**05 11 51.2**	**+0.9**
HIN	**Hinchinbrook I**	**7.91**	**41**	Pn	**Pn**	**05 12 08.6**	**+0.9**
TTA	**Tatalina**	**8.12**	**3**	Pn	**Pn**	**05 12 11.1**	**+0.6**
FID	**Port Fidalgo**	**8.15**	**39**	Pn	**Pn**	**05 12 10.4**	**-0.5**
EYAK	**Cordova Ski Ar**	**8.29**	**42**	Pn	**Pn**	**05 12 13.1**	**+0.3**
SML	**Sawmill**	**8.33**	**35**	Pn	**Pn**	**05 12 11.9**	**+1.9**
KAIM	**Kayak Island**	**8.48**	**48**	Pn	**Pn**	**05 12 16.7**	**+1.3**
SCM	**Sheep Creek Mo**	**8.64**	**32**	Pn	**Pn**	**05 12 17.2**	**-0.5**
KLU	**Klutina**	**8.85**	**37**		**Pn**	**05 12 21.0**	**+0.4**
TRF	**Thorofare Moun**	**9.28**	**19**	Pn	**Pn**	**05 12 28.4**	**+1.8**
GLB	**Gilahina Butte**	**9.59**	**41**	Pn	**Pn**	**05 12 30.9**	**+0.2**
GLB				Sn	**Sn**	**05 14 14.3**	**-3.3**
VRDI	**Verde Repeater**	**9.60**	**43**	Pn	**Pn**	**05 12 31.5**	**+0.5**
BPAW	**Bear Paw Mtn.**	**9.76**	**16**	Pn	**Pn**	**05 12 32.5**	**-0.4**
YAH	**Yahtse**	**9.86**	**50**	Pn	**Pn**	**05 12 36.0**	**+1.4**
ILAR	**Eielson Array**	**11.16**	**23**	Pn	**Pn**	**05 12 49.3**	**-2.8**
	0.3nm,0.3s,baz=216,slow=12,SNR=20						
ILAR	**Eielson Array**	**11.16**	**23**		**Pn**	**05 12 52.3**	**+0.3**
IMAR	**Indian Mountai**	**11.28**	**7**	Pn	**Pn**	**05 12 54.6**	**+0.8**
BCAR	**Beaver Creek A**	**11.35**	**37**	Pn	**Pn**	**05 12 53.6**	**-1.1**
BBB	**Bella Bella**	**17.33**	**87**	LR	LR	05 18 29.5	
	comp=Z,20nm,19.7s,baz=230,slow=29						
INK	**Inuvik**	**17.34**	**30**	Pn	**P**	**05 14 15.0**	**-0.4**
	0.3nm,0.3s,baz=225,slow=12,SNR=6.2						
PETK	**Petropavlovsk-**	**26.35**	**285**	P	**P**	**05 15 49.0**	**+0.9**
	1.4nm,0.4s,baz=80,slow=10,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**44.45**	**232**	T	T	06 05 51.2	
	baz=29,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**44.45**	**232**	T	T	06 05 51.3	
	baz=29,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**44.46**	**232**	T	T	06 05 56.8	
	baz=29,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**45.60**	**232**	T	T	06 07 23.8	
	baz=28,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**45.61**	**232**	T	T	06 07 20.7	
	baz=28,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**45.62**	**232**	T	T	06 07 25.2	
	baz=28,slow=76,SNR=19						
TXAR	**Lajitas Array**	**45.64**	**102**	P	**P**	**05 18 33.9**	**+1.2**
	0.2nm,0.5s,baz=304,slow=5.6,SNR=4.5						
TXAR	**Lajitas Array**	**45.64**	**102**	P	**P**	**05 18 34.3**	**+1.6**
KSRS	**Korea Array**	**52.23**	**283**	LR	LR	05 42 15.0	
	comp=Z,8.1nm,18.9s,baz=10.0,slow=37						
ARCES	**ARCESS Array B**	**55.91**	**359**	P	**P**	**05 19 50.0**	**+0.6**
	4.4nm,0.9s,baz=12,slow=6.7,SNR=4.1						
FINES	**FINESS Array B**	**64.02**	**358**	P	**P**	**05 20 46.0**	**+0.9**
	2.9nm,0.8s,baz=9.5,slow=5.8,SNR=4.9						
MKAR	**Makanchi Array**	**67.06**	**320**	P	**P**	**05 21 05.9**	**+0.8**
	0.2nm,0.5s,baz=56,slow=5.4,SNR=2.8						

IDC 14 05:38:27.5±4.0,53.°48N×90.°73E, h0km, mb1 3.1/3, mb1mx3.0/39, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=39.4km s-min=26.1km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.54**	**280**	*i*		06 00 30.0	
	baz=96,slow=30,SNR=1.9						
ZALV	**Zalesovo Beam**	**3.54**	**280**	Pn	Pn	05 39 24.5	+0.7
	1.0nm,0.3s,baz=100,slow=15,SNR=10						
ZALV				Lg	Lg	05 40 18.9	
	1.3nm,0.3s,baz=86,slow=23,SNR=8.0						
KURBB	**Kurchatov Arra**	**8.04**	**254**	Pn	Pn	05 40 25.3	-0.2
	0.1nm,0.3s,baz=64,slow=15,SNR=6.9						
KURBB				Lg	Lg	05 42 45.2	
	0.1nm,0.3s,baz=62,slow=27,SNR=3.6						
MKAR	**Makanchi Array**	**8.60**	**222**	Pn	Pn	05 40 33.9	+0.6
	0.2nm,0.3s,baz=40,slow=13,SNR=7.9						
MKAR				Lg	Lg	05 43 01.9	
	baz=37,slow=29,SNR=1.7						

JMA **14** *05:57:48.5±0.1,38.°53N×141.°71E, h53km±1km, M3.6*
JMA Felt I J1.
IDC **14** *05:57:51.3±2.9,39.°15N×140.°30E, h0km, mb3.6/4, mb1 3.7/5,mb1mx3.2/57,mbtmp3.6/5,ML2.2/1,Error ellipse: s-maj=79.8km s-min=26.4km az=74.0*

ISC 14 05:57:48.2±1.5,38.°54N±0.°05×141.°8E±0.°1, h51km±7km, n22, σ0°965/25, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.33**	**226**	P	**Pn**	**05 57 57.9**	**+0.3**
JIKH				S	**Sn**	**05 58 04.2**	**-0.1**
JIO	**Ouri**	**0.34**	**256**	P	**Pn**	**05 57 57.9**	**+0.2**
JIO				S	**Sn**	**05 58 04.3**	**-0.2**
JKMT	**Kesennumamotoy**	**0.36**	**320**	P	**Pn**	**05 57 58.3**	**+0.4**
JKMT				S	**Sn**	**05 58 05.0**	**+0.1**
OFUJ	**Ofunato**	**0.55**	**352**	P	**Pn**	**05 58 00.4**	**+0.3**
OFUJ				S	**Sn**	**05 58 08.7**	**+0.1**
JMK	**Ichinoseki**	**0.59**	**314**	P	**Pn**	**05 58 01.0**	**+0.4**
JMK				S	**Sn**	**05 58 09.7**	**+0.1**
JOU	**Okura**	**0.88**	**259**	P	**Pn**	**05 58 04.1**	**-0.3**
JOU				S	**Sn**	**05 58 15.9**	**-0.3**
JOM	**Ohasama**	**1.00**	**339**	P	**Pn**	**05 58 06.3**	**+0.3**
JOM				S	**Sn**	**05 58 19.5**	**+0.4**
JMM	**Marumori**	**1.02**	**229**	P	**Pn**	**05 58 05.6**	**-0.5**
JMM				S	**Sn**	**05 58 18.5**	**-0.9**
JYK	**Kaneyama**	**1.16**	**290**	P	**Pn**	**05 58 08.2**	**+0.1**
JRG	**Rokugo**	**1.23**	**315**	P	**Pn**	**05 58 09.1**	**+0.1**
JRG				eS	**Sn**	**05 58 24.9**	**+0.3**
MAT	**Matsushiro**	**3.46**	**236**	P	**Pn**	**05 58 41.0**	**+1.5**
MAT				eS	**Sn**	**05 59 20.6**	**+1.3**
MJAR	**Matsushiro Arr**	**3.46**	**236**	Pn	**Pn**	**05 58 41.0**	**+1.5**
	0.3nm,0.3s,baz=34,slow=11,SNR=20						
H11N2	**WAKE ISLAND Hy**	**28.71**	**124**	T	T	06 33 58.1	
	baz=316,slow=75,SNR=62						
H11N1	**WAKE ISLAND Hy**	**28.72**	**124**	T	T

Error ellipse: s-maj=7.8km s-min=5.4km az=106.1

NEIC **14** *06:04:13.8*N*3.0,59°.11*N*±0°.04×154°.07*W*±0°.07, h120km±1km, Error ellipse: s-maj=6.9km s-min=5.8km az=312.0*

PMR **14** *06:04:13±3.2,59°.12*N*±0°.04×154°.14*W*±0°.08,h130km±1km, Error ellipse: s-maj=7.4km s-min=6.0km az=129.0*

AEIC **14** *06:04:14±3.8,59°.08*N*±0°.04×154°.03*W*±0°.08,h130km±4km, ML4.5,mb4.9/350(NEIC),Mwr4.6/20(NEIC),Mww4.6(NEIC), Error ellipse: s-maj=6.3km s-min=5.2km az=131.0*

NEIC **14** *06:04:14,59°.06*N*×154°.22W,h120km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.16; Mθθ=0.17; Mϕϕ=0.34; Mrθ=0.36; Mθϕ=-0.25; Mϕr=0.93; Fault plane solution: M₀1.07000×10¹⁶ NP1:ϕs301.00000°, δ20.00000°,λ-166.00000°. NP2:ϕs198.00000°, δ86.00000°,λ-70.00000°. Principal axes: T 1.0526, Plg38.0000°, Azm271.0000°; N 0.0315, Plg19.0000°, Azm17.0000°; P -1.0842, Plg46.0000°, Azm128.0000°;*

IDC **14** *06:04:15.0±0.4,59°.37*N*×154°.22W,h137km±3km,mb4.2/32, mb1 4.3/36,mb1mx4.1/63,mbtmp4.6/36,MS3.1/6, Ms1 3.1/6,ms1mx2.7/44 Error ellipse: s-maj=11.3km s-min=6.4km az=19.0*

ISC 14 06:04:14.2±0.3,59°.16N±0°.03×154°.12W±0°.03, h136km±2km,h136km:pP-P,n1027,σ1s46/1092,mb4.9/234, 18C-8D,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AUW	**Augustine West**	**0.40**	**57**			**Pn**	**06 04 33.0**	**-0.3**
AUH	**Augustine H**	**0.40**	**58**			**Pn**	**06 04 33.0**	**-0.5**
AUP	**Augustine Pinn**	**0.41**	**59**	P		**Pn**	**06 04 33.1**	**-0.4**
AUP	**Augustine Pinn**	**0.41**	**59**			**Pn**	**06 04 33.1**	**-0.4**
AUL	**Augustine Lava**	**0.42**	**57**			**Pn**	**06 04 33.1**	**-0.4**
AU22	**Augustine Moun**	**0.45**	**61**			**Pn**	**06 04 33.2**	**-0.4**
AU22						**Sn**	**06 04 47.2**	**-1.0**
OPT	**Oil Point**	**0.67**	**42**			**Pn**	**06 04 34.8**	**-0.1**
KAHC	**Katmai Hardscr**	**0.69**	**223**			**Pn**	**06 04 34.0**	**-1.2**
KAHG	**Katmai Hook Gl**	**0.70**	**199**			**Pn**	**06 04 34.1**	**-1.1**
KARR	**Katmai Rainbow**	**0.73**	**205**			**Pn**	**06 04 34.5**	**-0.9**
KAWH	**Katmai**	**0.85**	**205**			**Pn**	**06 04 35.2**	**-1.2**
ILS	**Iliamna Low So**	**0.97**	**33**			**Pn**	**06 04 37.0**	**-0.3**
IVE	**Iliamna Volcan**	**1.03**	**32**			**Pn**	**06 04 37.6**	**-0.3**
KABU	**Katmai Buttres**	**1.08**	**215**			**Pn**	**06 04 37.5**	**-0.9**
KABU						**Sn**	**06 04 54.9**	**-1.9**
CAHL	**Cahill**	**1.27**	**210**			**Pn**	**06 04 39.3**	**-0.9**
HOM	**Homer**	**1.36**	**67**			**Pn**	**06 04 40.7**	**-0.4**
HOM						**Sn**	**06 05 00.8**	**-0.8**
RED	**Redoubt Volcan**	**1.44**	**28**			**Pn**	**06 04 42.0**	**0.0**
RED						**Sn**	**06 05 03.0**	**-0.4**
RDSO	**Redoubt South**	**1.48**	**27**			**Sn**	**06 05 03.8**	**-0.4**
RSO	**Redoubt South**	**1.48**	**27**			**Pn**	**06 04 42.8**	**+0.1**
RDWB	**Redoubt West**	**1.48**	**25**			**Pn**	**06 04 42.3**	**-0.3**
CNPM	**China Poot**	**1.52**	**75**			**Pn**	**06 04 42.7**	**-0.2**
CNPM						**Sn**	**06 05 03.0**	**-1.9**
RDJH	**Redoubt Jeurge**	**1.59**	**24**			**Pn**	**06 04 43.5**	**-0.2**
KDAK	**Kodiak Island**	**1.59**	**149**	P		**Pn**	**06 04 41.5**	**-2.1**
KDAK	687nm,0.3s,baz=16,slow=5.1,SNR=6880					**Sn**	**06 05 02.4**	**-3.7**
	922nm,0.3s,baz=164,slow=15,SNR=7.8							
KDAK	**Kodiak Island**	**1.59**	**149**	Pn		**Pn**	**06 04 41.7**	**-2.0**
BRLK	**Bradley Lake**	**1.76**	**68**			**Pn**	**06 04 44.9**	**-0.7**
PLK2	**Peulik 2**	**1.81**	**221**			**Pn**	**06 04 45.8**	**-0.4**
BRSE	**Bradley Lake S**	**1.82**	**70**			**Pn**	**06 04 45.3**	**-1.0**
PLK5	**Peulik 5**	**1.85**	**232**			**Pn**	**06 04 46.5**	**-0.1**
PLK1	**Peulik 1**	**1.89**	**225**			**Pn**	**06 04 46.5**	**-0.5**
OHAK	**Old Harbor**	**1.99**	**167**			**Pn**	**06 04 46.4**	**-1.8**
OHAK						**Sn**	**06 05 10.2**	**-4.0**
SVW2	**Sparrevohn**	**2.08**	**340**			**Pn**	**06 04 49.8**	**+0.4**
SVW2						**Sn**	**06 05 16.3**	**-0.1**
CAPN	**Captain Cook N** baz=222	**2.20**	**41**	P		**Pn**	**06 04 52.3**	**+1.6**
CAPN				S		**Sn**	**06 05 20.7**	**+1.8**
	baz=222							
CAPN	**Captain Cook N**	**2.20**	**41**			**Pn**	**06 04 52.2**	**+1.4**
SPU	**Mount Spurr**	**2.28**	**26**			**Pn**	**06 04 51.7**	**-0.1**
SPU						**Sn**	**06 05 21.2**	**+0.4**
SPCG	**Spurr Capps Gl**	**2.38**	**25**			**Pn**	**06 04 53.2**	**0.0**
SLKM	**Skilak Lake**	**2.39**	**54**			**Pn**	**06 04 52.0**	**-1.2**
SEW	**Seward**	**2.55**	**66**			**Pn**	**06 04 54.5**	**-0.7**
SEW						**Sn**	**06 05 23.5**	**-3.2**
O22K	**Cooper Landing** baz=239,SNR=162	**2.59**	**57**	P		**Pn**	**06 04 55.1**	**-0.5**
O22K				S		**Sn**	**06 05 24.7**	**-2.8**
	baz=239							
O22K	**Cooper Landing**	**2.59**	**57**			**Pn**	**06 04 55.2**	**-0.4**
SII	**Sitkinak Islan**	**2.60**	**181**			**Pn**	**06 04 54.1**	**-1.8**
SII						**Sn**	**06 05 24.4**	**-3.6**
STLK	**Strandline Lak**	**2.61**	**25**			**Pn**	**06 04 56.2**	**+0.2**
SUA	**Susitna One**	**2.86**	**34**			**Pn**	**06 04 58.9**	**-0.3**
SUA						**Sn**	**06 05 33.0**	**-0.9**
SKT	**Skwentna**	**3.11**	**23**			**Pn**	**06 05 02.0**	**-0.3**
PWL	**Port Wells**	**3.37**	**57**			**Pn**	**06 05 04.5**	**-1.1**
CHIR	**Chirikof Islan**	**3.44**	**194**	Pn		**Pn**	**06 05 04.2**	**-2.4**
CHIR						**Sn**	**06 05 42.7**	**-4.5**
PMR	**Palmer**	**3.48**	**43**	P		**Pn**	**06 05 05.4**	**-1.6**
PMR	**Palmer**	**3.48**	**43**			**Pn**	**06 05 05.4**	**-1.6**
KNK	**Knik Glacier**	**3.61**	**49**			**Pn**	**06 05 07.8**	**-1.1**
GHO	**Glory Hole Cre**	**3.67**	**42**			**Pn**	**06 05 08.4**	**-1.3**
CUT	**Chulitna** baz=211,SNR=26	**3.77**	**28**	P		**Pn**	**06 05 10.2**	**-0.7**
CUT				S		**Sn**	**06 05 53.4**	**-1.4**
	baz=211							
PPLA	**Purkeypile**	**3.87**	**13**	Pn		**Pn**	**06 05 12.8**	**+0.5**
TT01	**Tatalina**	**3.88**	**347**			**Pn**	**06 05 12.3**	**+0.1**
TTA	**Tatalina**	**3.90**	**347**	P		**Pn**	**06 05 12.5**	**-0.1**
TTA	**Tatalina**	**3.90**	**347**	Pn		**Pn**	**06 05 12.5**	**-0.1**
SML	**Sawmill**	**3.91**	**45**			**Pn**	**06 05 11.3**	**-1.5**
GLI	**Glacier Island**	**3.92**	**61**			**Pn**	**06 05 11.3**	**-1.6**
MID	**Middleton Isla**	**4.00**	**83**			**Pn**	**06 05 12.6**	**-1.3**
MID						**Sn**	**06 05 57.7**	**-2.5**
VNNF	**Veniaminof 3**	**4.01**	**226**			**Pn**	**06 05 13.7**	**-0.5**
HIN	**Hinchinbrook I**	**4.05**	**69**	Pn		**Pn**	**06 05 13.5**	**-1.1**
HIN	**Hinchinbrook I**	**4.05**	**69**			**Sn**	**06 05 57.8**	**-3.7**
VNFG	**Fog Glacier, M**	**4.10**	**228**			**Pn**	**06 05 15.1**	**-0.2**
FID	**Port Fidalgo**	**4.16**	**64**			**Pn**	**06 05 14.2**	**-1.8**
FID	**Port Fidalgo**	**4.16**	**64**	Sn		**Sn**	**06 05 59.1**	**-5.0**
SCM	**Sheep Creek Mo**	**4.30**	**48**	P		**Pn**	**06 05 17.0**	**-1.0**
SCM	**Sheep Creek Mo**	**4.30**	**48**			**Pn**	**06 05 17.0**	**-1.0**
VMT	**TAPS TI Valdez**	**4.33**	**60**			**Pn**	**06 05 17.4**	**-0.8**
VMT						**Sn**	**06 06 04.3**	**-3.8**
CAST	**Castle Rocks**	**4.39**	**12**			**Pn**	**06 05 19.9**	**+0.8**
EYAK	**Cordova Ski Ar**	**4.44**	**68**			**Pn**	**06 05 18.4**	**-1.4**
WAT7	**Susitna Watana**	**4.49**	**33**			**Pn**	**06 05 19.5**	**-1.1**
WAT1	**Susitna Watana**	**4.57**	**34**			**Pn**	**06 05 20.3**	**-1.3**
WAT6	**Susitna Watana**	**4.64**	**39**			**Pn**	**06 05 21.1**	**-1.4**
WAT2	**Susitna Watana**	**4.67**	**33**			**Pn**	**06 05 21.6**	**-1.3**
TRF	**Thorofare Moun**	**4.69**	**22**			**Pn**	**06 05 22.6**	**-0.5**
KLU	**Klutina**	**4.70**	**57**			**Pn**	**06 05 22.3**	**-1.0**
KLU						**Sn**	**06 06 13.6**	**-3.5**
RAGM	**Ragged Mountai**	**4.93**	**71**	Pn		**Pn**	**06 05 25.9**	**-0.4**
RAGM						**Sn**	**06 06 20.6**	**-1.9**
GOAT	**Goat Mountain**	**4.94**	**69**			**Pn**	**06 05 25.7**	**-0.8**
RND	**Reindeer**	**4.96**	**28**	P		**Pn**	**06 05 24.8**	**-1.9**
RND	**Reindeer**	**4.96**	**28**	Pn		**Pn**	**06 05 24.8**	**-1.9**
KAIM	**Kayak Island**	**5.00**	**77**			**Pn**	**06 05 26.8**	**-0.3**
KAIM						**Sn**	**06 06 22.1**	**-1.9**
DHY	**Denali Highway**	**5.11**	**37**			**Pn**	**06 05 27.8**	**-1.0**
SDPT	**Sand Point**	**5.14**	**225**			**Pn**	**06 05 27.6**	**-1.6**
BPAW	**Bear Paw Mtn.**	**5.18**	**15**			**Pn**	**06 05 28.9**	**-0.7**
MCK	**McKinley**	**5.22**	**26**	P		**Pn**	**06 05 30.3**	**+0.1**
MCK	**McKinley**	**5.22**	**26**			**Pn**	**06 05 30.2**	**+0.1**
CNBA	**Chernabura Isl**	**5.28**	**217**			**Pn**	**06 05 28.6**	**-2.3**
SUCK	**Suckling Hills**	**5.33**	**76**			**Pn**	**06 05 31.3**	**-0.3**
BERG	**Berg Lake**	**5.41**	**72**			**Pn**	**06 05 31.6**	**-1.1**
BWN	**Browne**	**5.50**	**22**			**Pn**	**06 05 34.9**	**+1.1**
GLB	**Gilahina Butte**	**5.61**	**61**			**Pn**	**06 05 35.2**	**-0.2**
PAX	**Paxson**	**5.68**	**44**	P		**Pn**	**06 05 35.5**	**-0.8**
PAX	**Paxson**	**5.68**	**44**			**Pn**	**06 05 35.5**	**-0.8**
VRDI	**Verde Repeater**	**5.71**	**64**			**Pn**	**06 05 36.0**	**-0.9**
HAG	**Hague Volcano**	**5.72**	**231**	P		**Pn**	**06 05 36.7**	**-0.1**
HAG	**Hague Volcano**	**5.72**	**231**			**Pn**	**06 05 36.7**	**-0.1**
CRQM	**Cirque**	**5.75**	**69**			**Pn**	**06 05 36.6**	**-0.7**
TGL	**Tana Glacier**	**5.89**	**69**			**Pn**	**06 05 38.5**	**-0.8**
MCARA	**McCarthy VSAT**	**5.95**	**63**			**Pn**	**06 05 39.3**	**-0.7**
NEA2	**Nenana** baz=205,SNR=45	**5.96**	**21**	P		**Pn**	**06 05 38.3**	**-1.7**
NEA2	**Nenana**	**5.96**	**21**			**Pn**	**06 05 38.2**	**-1.7**
CYK	**Cape Yakataga**	**5.98**	**76**			**Pn**	**06 05 40.0**	**-0.2**
BARK	**Barkley Ridge**	**6.00**	**73**			**Pn**	**06 05 40.3**	**-0.4**
WRH	**Wood River Hil**	**6.05**	**26**			**Pn**	**06 05 39.3**	**-1.8**
ISLE	**Juniper Island**	**6.11**	**71**			**Pn**	**06 05 41.1**	**-1.0**
KIAG	**Kiagna River**	**6.15**	**68**			**Pn**	**06 05 42.0**	**-0.8**
PTPK	**Patty Peak**	**6.16**	**66**			**Pn**	**06 05 42.6**	**-0.3**
BALM	**Baldy**	**6.18**	**67**			**Pn**	**06 05 42.2**	**-0.9**
BAGL	**Bagley Icefiel**	**6.21**	**72**			**Pn**	**06 05 43.5**	**+0.1**
MESA	**MESA**	**6.25**	**75**			**Pn**	**06 05 43.4**	**-0.7**
CCB	**Clear Creek Bu**	**6.26**	**26**			**Pn**	**06 05 42.2**	**-1.8**
HDA	**Harding Lake** baz=215,SNR=53	**6.27**	**30**	P		**Pn**	**06 05 42.6**	**-1.5**
HDA	**Harding Lake**	**6.27**	**30**			**Pn**	**06 05 42.6**	**-1.5**
MENT	**Mentasta**	**6.31**	**49**			**Pn**	**06 05 44.5**	**-0.3**
YAH	**Yahtse**	**6.37**	**74**			**Pn**	**06 05 45.4**	**-0.3**
RIDG	**Independent Ri**	**6.39**	**40**			**Pn**	**06 05 45.8**	**-0.1**
GRNC	**Granite Creek**	**6.41**	**70**			**Pn**	**06 05 45.7**	**-0.6**
PS08	**TAPS Pump Stn8**	**6.41**	**29**			**Pn**	**06 05 44.6**	**-1.5**
MDM	**Murphy Dome**	**6.45**	**23**			**Pn**	**06 05 45.1**	**-1.4**
TCOL	**CIGO, UAF Yank** baz=209,SNR=17	**6.45**	**24**	P		**Pn**	**06 05 45.1**	**-1.4**
COLA	**College**	**6.45**	**25**	*c*	*i*P	**Pn**	**06 05 45.0**	**-1.5**
COLA	**College**	**6.45**	**25**			**Pn**	**06 05 45.1**	**-1.4**
BARN	**Barnard Glacie**	**6.51**	**68**			**Pn**	**06 05 47.1**	**-0.5**
RKAV	**Rock Avalanche**	**6.56**	**74**			**Pn**	**06 05 48.3**	**0.0**
IL31		**6.58**	**28**			**Pn**	**06 05 46.5**	**-1.8**
ILAR	**Eielson Array** 8.1nm,0.3s,baz=216,slow=13,SNR=356	**6.58**	**28**	P		**Pn**	**06 05 46.3**	**-2.0**
ILAR				S		**Sn**	**06 06 58.4**	**-3.7**
	13nm,0.3s,baz=217,slow=23,SNR=8.9							
ILAR				ScP		**ScP**	**06 15 46.9**	**-0.3**
	0.1nm,0.3s,baz=299,slow=3.1,SNR=4.8							
ILAR	**Eielson Array**	**6.58**	**28**	P		**Pn**	**06 05 46.1**	**-2.2**
ILAR							06 06 58.4	
ILAR	**Eielson Array**	**6.58**	**28**	Pn		**Pn**	**06 05 46.1**	**-2.2**
DOT	**Dot Lake**	**6.60**	**43**			**Pn**	**06 05 48.5**	**-0.2**
CTGM	**Chitina Glacie**	**6.65**	**69**			**Pn**	**06 05 49.1**	**-0.3**
FALS	**False Pass**	**6.66**	**234**	Pn		**Pn**	**06 05 48.9**	**-0.5**
TABL	**Table Mountain**	**6.67**	**73**			**Pn**	**06 05 49.5**	**-0.3**
POKR	**Poker Plat Res** baz=210,SNR=13	**6.75**	**25**	P		**Pn**	**06 05 48.9**	**-1.7**
POKR	**Poker Plat Res**	**6.75**	**25**			**Pn**	**06 05 49.1**	**-1.5**
IM03		**6.86**	**1**			**Pn**	**06 05 52.0**	**0.0**
IMAR	**Indian Mountai**	**6.86**	**1**	Pn		**Pn**	**06 05 51.6**	**-0.4**
SSBA	**Shishaldin**	**7.01**	**236**			**Pn**	**06 05 53.8**	**-0.5**
YUK2	**White River**	**7.07**	**62**			**Pn**	**06 05 55.0**	**0.0**
PCA	**Pinnacle**	**7.09**	**76**			**Pn**	**06 05 54.8**	**-0.5**
BC03		**7.14**	**51**			**Pn**	**06 05 55.5**	**-0.3**
BCAR	**Beaver Creek A**	**7.14**	**51**			**Pn**	**06 05 55.2**	**-0.7**
BCAR						**Sn**	**06 07 13.8**	**-1.8**
YUK3	**Moose Creek**	**7.24**	**63**			**Pn**	**06 05 57.4**	**0.0**
WEBT	**Westdahl Beart**	**7.41**	**236**			**Pn**	**06 05 59.2**	**-0.3**
PNL	**Peninsula**	**7.53**	**80**			**Pn**	**06 06 00.5**	**-0.6**
K27K	**Chicken** baz=234	**7.53**	**44**	P		**Pn**	**06 06 00.7**	**-0.4**
ANM	**Nome**	**7.59**	**320**	P		**Pn**	**06 06 01.9**	**0.0**
ANM	**Nome**	**7.59**	**320**			**Pn**	**06 06 01.9**	**0.0**
YUK6	**Outpost Mounta**	**8.08**	**70**			**Pn**	**06 06 08.4**	**-0.3**
AKSA	**Akutan Strait**	**8.12**	**237**			**Pn**	**06 06 09.0**	**0.0**
AKUT	**Akutan**	**8.15**	**237**			**Pn**	**06 06 09.3**	**-0.2**
AKGG	**Akutan Green G**	**8.21**	**238**			**Pn**	**06 06 09.9**	**-0.3**
AKLV	**Akutan Long Va**	**8.21**	**238**			**Pn**	**06 06 09.7**	**-0.6**
AKRB	**Akutan Reef Bi**	**8.29**	**238**			**Pn**	**06 06 10.8**	**-0.5**
AKMO	**Akutan Morgan**	**8.29**	**237**			**Pn**	**06 06 10.9**	**-0.4**
COLD	**Coldfoot** baz=194,SNR=6.8	**8.29**	**11**	P		**Pn**	**06 06 09.9**	**-1.3**
COLD	**Coldfoot**	**8.29**	**11**			**Pn**	**06 06 10.1**	**-1.2**
EGAK	**Eagle**	**8.30**	**42**	Pn		**Pn**	**06 06 11.4**	**0.0**
HYT	**Haines Junctio**	**8.49**	**72**	Pn		**Pn**	**06 06 13.8**	**-0.3**
DAWY	**Dawson**	**8.56**	**49**			**Pn**	**06 06 14.6**	**-0.4**
UNV	**Unalaska Valle**	**8.67**	**238**			**Pn**	**06 06 14.3**	**-2.1**
MNAT	**Makushin Natee**	**8.72**	**238**			**Pn**	**06 06 15.7**	**-1.4**
MSW	**Makushin Switc**	**8.74**	**239**			**Pn**	**06 06 16.1**	**-1.4**
MAPS	**Pakushin South**	**8.88**	**238**			**Pn**	**06 06 17.9**	**-1.4**
PLBC	**Pleasant Camp**	**9.08**	**80**			**Pn**	**06 06 21.7**	**-0.2**
BM03	**Burnt Mountain**	**9.32**	**23**			**Pn**	**06 06 22.6**	**-2.5**
OKFG	**Magazine Ridge**	**9.58**	**239**			**Pn**	**06 06 26.7**	**-1.9**
GAMB	**Gambell**	**9.59**	**306**	Pn		**Pn**	**06 06 29.2**	**+0.6**
SKAG	**Skagway**	**9.61**	**80**			**Pn**	**06 06 28.7**	**-0.3**
TOLK	**Toolik Lake Re**	**9.73**	**10**	Pn		**Pn**	**06 06 33.9**	**+3.4**
RDOG	**Red Dog Mine**	**9.74**	**340**	Pn		**Pn**	**06 06 31.0**	**+0.4**
WHY	**Whitehorse**	**9.77**	**73**			**Pn**	**06 06 30.7**	**-0.5**
BESE	**Bessie Mountai**	**9.99**	**85**			**Pn**	**06 06 33.9**	**-0.2**
SIT	**Sitka**	**10.16**	**94**			**Pn**	**06 06 35.2**	**-1.1**
SIT						**Sn**	**06 08 25.6**	**-2.7**
NIKH	**Nikolski High**	**10.29**	**239**	Pn		**Pn**	**06 06 36.3**	**-1.8**
JIS	**Juneau Island**	**10.30**	**86**			**Pn**	**06 06 38.9**	**+0.9**
WRAK	**Wrangell Islan**	**11.92**	**94**			**Pn**	**06 06 59.0**	**-0.6**
DLBC	**Dease Lake** 16nm,0.3s,baz=285,slow=11,SNR=64	**12.49**	**83**	P		**Pn**	**06 07 09.0**	**+1.9**
DLBC				S		**Sn**	**06 09 22.7**	**-2.1**
	1.1nm,0.3s,baz=188,slow=22,SNR=1.6							
DLBC				LR		LR	06 12 01.4	
	comp=Z,50nm,19.1s,baz=306,slow=37							
DLBC	**Dease Lake**	**12.49**	**83**			**Pn**	**06 07 09.6**	**+2.5**
INK	**Inuvik** 0.4nm,0.3s,baz=233,slow=14,SNR=14	**12.86**	**36**	P		**Pn**	**06 07 11.1**	**-0.5**
INK				ScP		**ScP**	**06 15 55.3**	**+0.7**
	0.1nm,0.3s,baz=192,slow=6.4,SNR=3.1							
INK	**Inuvik**	**12.86**	**36**	P		**Pn**	**06 07 11.7**	**+0.1**
INK	**Inuvik**	**12.86**	**36**			**Pn**	**06 07 11.7**	**+0.1**
INK						**S**	**06 09 47.3**	**-1.8**
ATKA	**Atka Island**	**13.26**	**247**			**Pn**	**06 07 15.8**	**-1.1**
DIB	**Dawson Inlet,**	**13.41**	**107**			**Pn**	**06 07 18.3**	**-0.5**
DIB						**Sn**	**06 09 43.3**	**-3.5**
ADK	**Adak**	**14.66**	**250**	P		**Pn**	**06 07 34.4**	**-0.3**
ADK	**Adak**	**14.66**	**250**	Pn		**Pn**	**06 07 34.4**	**-0.3**
BBB	**Bella Bella** 0.9nm,0.3s,baz=311,slow=8.2,SNR=15	**16.16**	**104**	P		**P**	**06 07 55.3**	**+1.4**
BBB	**Bella Bella**	**16.16**	**104**			**P**	**06 07 55.3**	**+1.4**
C36M	**Paulatuk** baz=246	**16.36**	**39**	P		**Pn**	**06 07 55.6**	**+0.1**
C36M	**Paulatuk**	**16.36**	**39**			**Pn**	**06 07 55.3**	**-0.2**
AMKA	**Amchitka**	**16.94**	**254**	P		**Pn**	**06 08 03.0**	**+0.3**
SMY	**Shemya**	**18.79**	**264**	P		**P**	**06 08 22.8**	**+0.1**
SMY				pmax		pmax		
	comp=Z,146nm,0.6s							
SMY	**Shemya**	**18.79**	**264**	P		**P**	**06 08 22.8**	**+0.1**
YKA	**Yellowknife Ar**	**19.33**	**63**	P		**P**	**06 08 28.8**	**+0.3**
	comp=Z,7.3nm,0.3s,baz=276,slow=9.8,SNR=270							
YKA				ScP		**ScP**	**06 16 07.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=284,slow=2.2,SNR=8.1							
YKA				LR		LR	06 16 42.3	
	comp=Z,38nm,21.6s,baz=0.0,slow=39							
YKA	**Yellowknife Ar**	**19.33**	**63**	P		**P**	**06 08 28.8**	**+0.3**
BILL	**Bilibino**	**19.37**	**314**	*c*	*i*P	**P**	**06 08 28.9**	**+0.1**
BILL				pmax		pmax		
	comp=Z,88nm,0.8s							
BILL	**Bilibino**	**19.37**	**314**	P		**P**	**06 08 29.0**	**+0.2**
PGC	**Sidney**	**20.71**	**107**	P		Pn	06 08 45.8	-1.4
A04D	**Lummi Island** baz=312,SNR=19	**21.03**	**106**	P		**P**	**06 08 49.0**	**+2.3**
NLWA	**Neilton Lookou**	**21.37**	**110**	P		**P**	**06 08 54.1**	**+3.5**
B05A	**Bryant** baz=312,SNR=12	**21.64**	**106**	P		**P**	**06 08 55.2**	**+1.9**
D03D	**Eldon** baz=314,SNR=8.4	**21.65**	**109**	P		**P**	**06 08 55.5**	**+2.0**
B06A	**Marblemount**	**21.77**	**105**	P		**P**	**06 08 57.2**	**+2.5**
D04E	**Lakebay** baz=314	**22.05**	**109**	P		**P**	**06 08 59.9**	**+2.3**
E03A	**Lebam**	**22.12**	**111**	P		**P**	**06 09 01.6**	**+3.4**
D05A	**Enumclaw**	**22.43**	**108**	P		**P**	**06 09 04.7**	**+3.4**
D05A				IAmb		IAmb	06 09 05.5	
	comp=Z,84nm,1.5s							
E04D	**Cinebar** baz=315	**22.59**	**110**	P		**P**	**06 09 05.5**	**+2.6**
F04D	**Rainier, OR** baz=316	**22.71**	**111**	P		**P**	**06 09 06.2**	**+2.0**
LON	**Longmire**	**22.82**	**109**	P		**P**	**06 09 07.6**	**+2.4**
LON				pmax		pmax		
	comp=Z,7.0nm,1.0s							
LON	**Longmire**	**22.82**	**109**	P		**P**	**06 09 07.6**	**+2.4**
B08A	**Colville Reser**	**22.95**	**103**	P		**P**	**06 09 08.8**	**+2.3**
B08A				IAmb		IAmb	06 09 09.4	
	comp=Z,43nm,0.8s							
LTY	**Liberty**	**23.03**	**106**	P		**P**	**06 09 09.1**	**+1.9**
F04A	**Amboy**	**23.11**	**111**	P		**P**	**06 09 10.6**	**+2.7**
G03D	**McMinnville, O** baz=318	**23.23**	**113**	P		**P**	**06 09 11.3**	**+2.4**
F05D	**White Salmon** baz=316	**23.61**	**110**	P		**P**	**06 09 14.6**	**+2.2**
COR	**Corvallis**	**23.68**	**114**	P		**P**	**06 09 16.4**	**+3.3**
COR				pmax		pmax		
	comp=Z,51nm,1.2s							
COR	**Corvallis**	**23.68**	**114**	P		**P**	**06 09 16.4**	**+3.3**
COR				IAmb		IAmb	06 09 16.9	
	comp=Z,51nm,1.1s							
I02D	**Swisshome** baz=320,SNR=5.8	**23.79**	**116**	P		**P**	**06 09 16.7**	**+2.6**
C09A	**Chrisman Ranch**	**23.86**	**103**	P		**P**	**06 09 16.8**	**+2.1**
E07A	**Sunnyside**	**23.91**	**107**	P		**P**	**06 09 17.8**	**+2.6**
E07A				IAmb		IAmb	06 09 18.4	
	comp=Z,74nm,1.2s							
H04D	**Lebanon** baz=319,SNR=13	**24.00**	**114**	P		**P**	**06 09 18.4**	**+2.4**
D08A	**Wollman Farm,**	**24.03**	**105**	P		**P**	**06 09 18.5**	**+2.3**
D08A				IAmb		IAmb	06 09 19.0	
	comp=Z,29nm,0.9s							
NEW	**Newport** baz=311,SNR=43	**24.13**	**100**	P		**P**	**06 09 19.0**	**+1.8**
NEW	**Newport**	**24.13**	**100**	P		**P**	**06 09 19.4**	**+2.2**
NEW				pmax		pmax		
	comp=Z,33nm,0.8s							
NEW	**Newport**	**24.13**	**100**	P		**P**	**06 09 19.4**	**+2.2**
NEW				IAmb		IAmb	06 09 21.7	
	comp=Z,33nm,0.8s							
H04A	**Detroit Lake**	**24.14**	**113**	P		**P**	**06 09 19.6**	**+2.3**
H04A				IAmb		IAmb	06 09 20.4	
	comp=Z,42nm,1.2s							
G05D	**Wamic, OR** baz=317,SNR=7.4	**24.14**	**111**	P		**P**	**06 09 19.3**	**+2.0**
HAWA	**Hanford**	**24.19**	**107**	P		**P**	**06 09 19.7**	**+2.1**
I03D	**Drain, OR** baz=320	**24.34**	**116**	P		**P**	**06 09 21.7**	**+2.7**
F07A	**Phinny Hill Vi**	**24.35**	**108**	P		**P**	**06 09 22.5**	**+3.5**
F07A				IAmb		IAmb	06 09 22.8	
	comp=Z,28nm,0.6s							
E08A	**Dider Farm, El**	**24.36**	**106**	P		**P**	**06 09 21.4**	**+2.3**
E08A				IAmb		IAmb	06 09 21.5	
	comp=Z,23nm,0.6s							
J01E	**Myrtle Point** baz=321,SNR=11	**24.48**	**117**	P		**P**	**06 09 23.3**	**+3.0**
KEBM	**Edson Butte**	**24.53**	**118**	P		**P**	**06 09 24.0**	**+3.1**
KEBM				IAmb		IAmb	06 09 26.5	
	comp=Z,50nm,1.0s							
I04A	**Tendick Farm,** baz=320,SNR=12	**24.70**	**114**	P		**P**	**06 09 24.6**	**+2.2**
E09A	**Wood Farm, Sta**	**24.79**	**105**	P		**P**	**06 09 24.8**	**+1.7**
E09A				IAmb		IAmb	06 09 25.9	
	comp=Z,39nm,1.2s							
I05D	**Terrebonne, OR** baz=318,SNR=17	**24.80**

ORV Oroville 28.46 119 P P 06 09 57.7 +1.6
MCMT McKenzie Canyo 28.63 102 P P 06 09 59.4 +1.6
BOZ Bozeman (W) 28.71 99 P P 06 09 60.0 +1.5
baz=314,SNR=19
BOZ Bozeman (W) 28.71 99 P P 06 09 59.9 +1.5
BOZ pmax pmax
comp=Z,9.0nm,0.9s
BOZ Bozeman (W) 28.71 99 P P 06 09 59.9 +1.5
BCYI Bear Canyon 28.72 103 P P 06 10 00.0 +1.4
HLID Hailey 28.75 105 P P 06 10 00.5 +1.7
baz=317,SNR=13
HLID Hailey 28.75 105 P P 06 10 00.6 +1.7
AFDM Forest Hills D 29.19 119 P P 06 10 04.7 +2.1
PAHR Pah Rah Range 29.31 116 P P 06 10 05.8 +2.1
PAHR IAmb IAmb 06 10 06.7
comp=Z,26nm,0.9s
QLMT Earthquake Lak 29.34 100 P P 06 10 06.2 +2.1
VCNR Virginia City 29.51 117 P P 06 10 08.0 +2.3
VCNR IAmb IAmb 06 10 08.9
comp=Z,30nm,0.9s
YHB Horse Butte 29.52 100 P P 06 10 08.2 +2.6
GCMT Greycliff 29.58 97 P P 06 10 08.6 +2.6
YHH Holmes Hill 29.67 100 P P 06 10 09.1 +2.0
PNTR Pine Nut 29.70 117 P P 06 10 09.7 +2.4
PNTR IAmb IAmb 06 10 16.0
comp=Z,34nm,0.8s
YNE Yellowstone No 29.94 98 P P 06 10 11.5 +2.0
YERR Yerington 29.95 117 P P 06 10 11.9 +2.5
YERR IAmb IAmb 06 10 12.5
comp=Z,17nm,0.9s
FCC Fort Churchill 30.05 64 P P 06 10 11.0 +1.2
FCC pmax pmax
comp=Z,19nm,1.0s
FCC Fort Churchill 30.05 64 P P 06 10 11.0 +1.2
FCC IAmb IAmb 06 10 27.1
comp=Z,19nm,1.0s
LKWY Lake 30.05 99 P P 06 10 14.1 +3.7
LKWY pmax pmax
comp=Z,14nm,0.8s
LKWY Lake 30.05 99 P P 06 10 14.1 +3.7
LKWY IAmb IAmb 06 10 14.7
comp=Z,14nm,0.8s
YMP Mirror Lake Pl 30.05 99 P P 06 10 13.2 +2.7
YPP Pitchstone Pla 30.06 100 P P 06 10 13.7 +3.2
H17A Grant Village 30.08 100 P P 06 10 14.0 +3.4
baz=315,SNR=12
H17A Grant Village 30.08 100 P P 06 10 14.1 +3.4
CMB Columbia Colle 30.20 119 P P 06 10 13.5 +2.0
CMB pmax pmax
comp=Z,19nm,1.5s
CMB Columbia Colle 30.20 119 P P 06 10 13.5 +2.0
FLWY Flagg Ranch 30.24 100 P P 06 10 15.0 +2.9
RLMT Red Lodge 30.24 98 P P 06 10 14.3 +2.3
baz=314,SNR=28
RLMT Red Lodge 30.24 98 P P 06 10 14.4 +2.4
RLMT IAmb IAmb 06 10 15.4
comp=Z,23nm,0.8s
WAKR Walker 30.25 118 P P 06 10 14.5 +2.4
WAKR IAmb IAmb 06 10 15.5
comp=Z,16nm,0.9s
IMW Indian Meadow 30.25 101 P P 06 10 14.8 +2.6
FXWY Fox Creek 30.39 101 P P 06 10 15.6 +2.2
FXWY IAmb IAmb 06 10 16.7
comp=Z,15nm,0.8s
KVN Kaiserville 30.43 115 P P 06 10 15.9 +2.2
KVN pmax pmax
comp=Z,20nm,1.1s
KVN Kaiserville 30.43 115 P P 06 10 15.9 +2.2
KVN IAmb IAmb 06 10 16.8
comp=Z,20nm,1.1s
TPAW Teton Pass 30.54 102 P P 06 10 16.2 +1.5
TPAW IAmb IAmb 06 10 17.2
comp=Z,27nm,0.8s
RYN Ryan 30.57 116 P P 06 10 17.3 +2.4
LOHW Long Hollow 30.63 101 P P 06 10 16.9 +1.5
LOHW IAmb IAmb 06 10 18.8
comp=Z,28nm,0.8s
DGMT Dagmar 30.63 88 P P 06 10 16.4 +1.2
baz=309,SNR=6.4
DGMT Dagmar 30.63 88 P P 06 10 16.5 +1.4
DGMT IAmb IAmb 06 10 17.2
comp=Z,23nm,0.8s
SNOW Snow King Moun 30.66 101 P P 06 10 18.4 +2.7
REDW Red Top Meadow 30.68 102 P P 06 10 18.1 +2.2
REDW IAmb IAmb 06 10 20.1
comp=Z,21nm,1.1s
LAO LASA Array 30.74 92 P P 06 10 18.0 +1.8
baz=312,SNR=20
LAO LASA Array 30.74 92 P P 06 10 18.1 +1.9
LAO IAmb IAmb 06 10 19.8
comp=Z,21nm,0.9s
NVAR Mina Array Bea 30.83 116 P P 06 10 19.3 +2.0
comp=Z,17nm,0.9s,baz=307,slow=8.6,SNR=29
NVAR pP pP 06 10 48.4 +2.0
comp=Z,3.9nm,0.9s,baz=316,slow=9.4,SNR=2.6
NVAR ScP ScP 06 16 42.1 +1.7
comp=Z,1.2nm,0.8s,baz=294,slow=3.5,SNR=6.4
HVU Hansel Valley 30.88 106 P P 06 10 20.6 +3.0
HVU pmax pmax
comp=Z,28nm,1.2s
HVU Hansel Valley 30.88 106 P P 06 10 20.6 +3.0
LHV Little Huntoon 30.88 117 P P 06 10 20.0 +2.6
LHV IAmb IAmb 06 10 21.0
comp=Z,28nm,1.1s
NV11 Mina Array Sit 30.90 116 P P 06 10 19.9 +2.2
NV11 IAmb IAmb 06 10 20.9
comp=Z,16nm,0.8s
AHID Auburn Hatcher 30.99 103 P P 06 10 20.6 +2.0
MDPB Devils Postpil 31.12 118 P P 06 10 22.4 +2.6
MDPB IAmb IAmb 06 10 23.4
comp=Z,26nm,1.0s
OMMB Old Mammoth Mi 31.18 118 P P 06 10 23.1 +2.7
OMMB IAmb IAmb 06 10 24.0
comp=Z,29nm,1.0s
MLAC Mammoth, Mammo 31.24 118 P P 06 10 24.0 +3.1
baz=325
BGU Big Grassy Mou 31.40 107 P P 06 10 24.4 +2.3
PMPB Monarch Peak 31.53 122 P P 06 10 26.4 +3.2
PMPB IAmb IAmb 06 10 38.1
comp=Z,24nm,1.0s
HWUT Hardware Ranch 31.61 105 P P 06 10 26.4 +2.3
BW06 Boulder Array 31.77 101 P P 06 10 27.1 +1.6
baz=317,SNR=19
BW06 Boulder Array 31.77 101 P P 06 10 27.6 +2.2
PD31 Pinedale Array 31.77 101 P P 06 10 27.1 +1.6
PDAR Pinedale Array 31.77 101 P P 06 10 27.1 +1.6
comp=Z,7.5nm,0.7s,baz=312,slow=4.9,SNR=85
PDAR pP pP 06 10 56.7 +2.1
comp=Z,3.6nm,0.8s,baz=316,slow=6.2,SNR=4.3
PDAR ScP ScP 06 16 44.9 +1.3
comp=Z,0.2nm,0.4s,baz=191,slow=1.5,SNR=3.8
PDAR Pinedale Array 31.77 101 P P 06 10 27.6 +2.2
TIXI Tiksi 31.84 324 P P 06 10 25.1 -0.3
comp=Z,7.9nm,0.6s,baz=91,slow=12,SNR=11
TIXI ScP ScP 06 16 43.1 +0.2
comp=Z,2.5nm,0.7s,baz=199,slow=1.1,SNR=3.3
TIXI Tiksi 31.84 324*d* *i*P P 06 10 24.9 -0.5
TIXI pmax pmax
comp=Z,9.0nm,0.7s
TIXI Tiksi 31.84 324 P P 06 10 25.3 -0.1
TIN Tinemaha, Big 31.98 118 P P 06 10 29.9 +2.7
baz=325,SNR=5.8
TCUT Toone Canyon 32.06 105 P P 06 10 30.8 +2.8
DUG Dugway, Tooele 32.06 108 P P 06 10 29.8 +1.9
baz=320,SNR=26
DUG Dugway, Tooele 32.06 108 P P 06 10 30.0 +2.0
DUG pmax pmax
comp=Z,19nm,0.8s
DUG Dugway, Tooele 32.06 108 P P 06 10 30.0 +2.0
DUG IAmb IAmb 06 10 30.9
comp=Z,19nm,0.8s
VOG Valley Oaks Go 32.07 120 P P 06 10 29.4 +1.6
baz=326
R11A Troy Canyon, C 32.17 113 P P 06 10 30.8 +1.9
baz=323,SNR=49
R11A Troy Canyon, C 32.17 113 P P 06 10 30.8 +1.9
R11A IAmb IAmb 06 10 31.9
comp=Z,30nm,1.1s
PAGB Antelope Grade 32.18 122 P P 06 10 31.3 +2.5
PAGB IAmb IAmb 06 10 32.2
comp=Z,34nm,1.4s
CTU Camp Tracy 32.21 106 P P 06 10 31.7 +2.5
JLU Jordanelle 32.43 106 P P 06 10 33.5 +2.3
GRAC Grapevine Rang 32.43 117 P P 06 10 33.6 +2.6
baz=325

CWC Cottonwood Cre 32.56 118 P P 06 10 34.4 +2.1
baz=326
VES Vestal, Richgr 32.60 120 P P 06 10 34.0 +1.5
baz=327,SNR=9.9
SMMC Simmler 32.64 122 P P 06 10 35.5 +2.5
baz=328,SNR=6.7
PSUT Pine Spring 32.85 111 P P 06 10 37.2 +2.3
TPNV Topopah Spring 32.98 115 P P 06 10 38.0 +2.0
baz=324,SNR=52
TPNV Topopah Spring 32.98 115 P P 06 10 38.0 +2.0
TPNV pmax pmax
comp=Z,26nm,0.8s
TPNV Topopah Spring 32.98 115 P P 06 10 38.0 +2.0
TPNV IAmb IAmb 06 10 39.0
comp=Z,26nm,0.8s
ISA Isabella, Lake 33.02 119 P P 06 10 37.8 +1.5
baz=327,SNR=13
ISA Isabella, Lake 33.02 119 P P 06 10 37.8 +1.5
ISA pmax pmax
comp=Z,15nm,1.0s
ISA Isabella, Lake 33.02 119 P P 06 10 37.8 +1.5
ISA IAmb IAmb 06 10 38.8
comp=Z,15nm,0.9s
PKM Mcpherson Peak 33.08 122 P P 06 10 39.4 +2.5
baz=328,SNR=14
FURC Furnace Creek, 33.09 117 P P 06 10 39.0 +2.3
baz=325,SNR=19
MPMC Manual Prospec 33.14 118 P P 06 10 39.5 +2.0
baz=326,SNR=25
PRN Pahroc Range 33.18 114 P P 06 10 39.8 +2.1
PRN IAmb IAmb 06 10 40.7
comp=Z,16nm,0.9s
ARVC Arvin 33.31 120 P P 06 10 39.9 +1.2
baz=327
RDMU Red Mountain 33.39 104 P P 06 10 41.6 +2.0
MDND Maddock 33.39 85 P P 06 10 40.8 +1.5
baz=310,SNR=8.4
MDND Maddock 33.39 85 P P 06 10 41.2 +1.9
K22A Casper 33.39 98 P P 06 10 40.7 +1.2
baz=316,SNR=9.6
K22A Casper 33.39 98 P P 06 10 41.1 +1.6
K22A IAmb IAmb 06 10 43.1
comp=Z,13nm,0.8s
TMUT Trail Mountain 33.55 107 P P 06 10 43.3 +2.3
RSSD Black Hills 33.62 94 P P 06 10 43.3 +1.7
baz=314
RSSD Black Hills 33.62 94 P P 06 10 43.4 +1.9
RSSD pmax pmax
comp=Z,48nm,0.7s
RSSD Black Hills 33.62 94 P P 06 10 43.4 +1.9
P17A Butcher Ranch, 33.64 106 P P 06 10 44.2 +2.5
E28A Huff 33.67 88 P P 06 10 43.7 +2.0
MSU Marysvale 33.68 109 P P 06 10 45.0 +2.9
MSU Marysvale 33.68 109 P P 06 10 45.0 +2.9
RWWY Rawlins 33.74 100 P P 06 10 44.0 +1.3
ULM Lac du Bonnet 33.78 79 P P 06 10 43.5 +0.9
comp=Z,8.1nm,0.4s,baz=302,slow=8.7,SNR=10
ULM LR LR 06 23 35.9
comp=Z,36nm,19.7s,baz=322,slow=34
ULM Lac du Bonnet 33.78 79*d* *i*P P 06 10 43.3 +0.8
ULM Lac du Bonnet 33.78 79 P P 06 10 43.5 +0.9
ULM IAmb IAmb 06 10 45.1
comp=Z,13nm,0.7s
SHPR Sheep Range 33.85 115 P P 06 10 45.3 +1.7
CCUT Cedar City 33.87 111 P P 06 10 46.0 +2.2
EDW2 Edwards Air Fo 33.89 120 P P 06 10 45.0 +1.2
baz=327,SNR=6.0
SZCU Shurtz Canyon 33.96 111 P P 06 10 46.6 +2.1
SRU San Rafael Swe 34.02 107 P P 06 10 47.5 +2.5
SRU pmax pmax
comp=Z,86nm,0.8s
SRU San Rafael Swe 34.02 107 P P 06 10 47.5 +2.5
MTPU Mount Pierson 34.05 110 P P 06 10 48.2 +2.7
GSC Goldstone, Bar 34.08 118 P P 06 10 47.4 +2.0
baz=326,SNR=17
GSC Goldstone, Bar 34.08 118 P P 06 10 47.5 +2.0
GSC pmax pmax
comp=Z,22nm,1.1s
GSC Goldstone, Bar 34.08 118 P P 06 10 47.5 +2.1
GSC IAmb IAmb 06 10 48.5
comp=Z,22nm,1.1s
LCMT Little Creek M 34.35 112 P P 06 10 50.0 +2.2
TUQ Turquoise Moun 34.37 117 P P 06 10 50.0 +2.0
baz=326,SNR=5.1
O20A White River Ci 34.38 103 P P 06 10 49.8 +1.7
baz=319,SNR=26
O20A White River Ci 34.38 103 P P 06 10 50.0 +1.9
MWC Mount Wilson 34.42 120 P P 06 10 50.3 +1.9
MWC pmax pmax
comp=Z,45nm,1.4s
MWC Mount Wilson 34.42 120 P P 06 10 50.3 +1.9
MWC IAmb IAmb 06 10 51.5
comp=Z,45nm,1.4s
PKCU Pink Cliffs 34.46 110 P P 06 10 51.8 +2.8
KNB Kanab 34.55 111 P P 06 10 51.9 +2.3
KNB pmax pmax
comp=Z,19nm,0.9s
KNB Kanab 34.55 111 P P 06 10 51.9 +2.3
BFSC Mount Baldy Ra 34.58 120 P P 06 10 51.7 +1.9
baz=327,SNR=13
SNCC San Nicolas Is 34.60 123 P P 06 10 52.0 +2.1
baz=329
HEC Hector,Ludlow 34.69 118 P P 06 10 52.4 +1.8
baz=326
PHWY Pilot Hill 34.92 99 P P 06 10 54.1 +1.2
CIS Catalina Islan 34.95 122 P P 06 10 54.2 +1.3
baz=328
N23A Red Feather La 34.97 100 P P 06 10 54.7 +1.4
baz=318,SNR=6.2
N23A Red Feather La 34.97 100 P P 06 10 55.1 +1.9
AGMN Agassiz Nation 35.02 82 P P 06 10 54.0 +0.7
baz=310,SNR=13
AGMN Agassiz Nation 35.02 82 P P 06 10 54.1 +0.9
AGMN IAmb IAmb 06 10 55.0
comp=Z,24nm,1.1s
GMRC Granite Mounta 35.03 117 P P 06 10 55.5 +1.8
baz=326,SNR=16
PV21 Cone Mtn., Par 35.22 105 P P 06 10 57.1 +1.8
SCI2 San Clemente I 35.25 122 P P 06 10 57.4 +2.0
baz=329
U15A North Rim 35.28 111 P P 06 10 58.3 +2.3
U15A IAmb IAmb 06 10 59.2
comp=Z,34nm,1.1s
PV23 Carpenter Ridg 35.28 106 P P 06 10 57.8 +1.8
MURC Murrieta 35.33 120 P P 06 10 57.3 +1.2
baz=328
PV10 Paradox Valley 35.33 106 P P 06 10 59.0 +2.6
PV22 Blue Mesa, Par 35.33 105 P P 06 10 58.1 +1.8
PV14 Lion Creek, Pa 35.34 106 P P 06 10 58.2 +1.8
PV04 Paradox Valley 35.38 106 P P 06 10 58.6 +1.9
PV20 West Nyswonger 35.39 106 P P 06 10 58.9 +2.1
PV20 IAmb IAmb 06 10 59.5
comp=Z,32nm,0.9s
PV19 Morning Glory 35.41 106 P P 06 10 58.8 +1.8
PV19 IAmb IAmb 06 11 00.5
comp=Z,23nm,0.8s
PV16 Nyswonger Mesa 35.44 106 P P 06 10 59.0 +1.8
PV17 East Wray Mesa 35.44 106 P P 06 10 59.0 +1.8
PV11 David Mesa, Pa 35.47 106 P P 06 10 59.4 +1.9
PV07 Paradox Valley 35.48 105 P P 06 10 59.3 +1.7
PV12 Saucer Basin, 35.49 106 P P 06 10 59.4 +1.8
PV18 Skein Mesa, Pa 35.49 106 P P 06 10 59.5 +1.8
PV03 Paradox Valley 35.52 106 P P 06 10 59.6 +1.7
NEE2 Needles Airpor 35.53 116 P P 06 10 59.7 +1.9
baz=326
BELC Belle Mtn. Jos 35.53 118 P P 06 10 59.4 +1.5
baz=327,SNR=12
PV05 Paradox Valley 35.53 106 P P 06 10 59.9 +1.8
YAK Yakutsk 35.54 308 P P 06 10 56.8 -0.7
comp=Z,78nm,0.6s,baz=142,slow=0.4,SNR=25
YAK Yakutsk 35.54 308 *e*P P 06 10 56.1 -1.4
YAK *e* 06 13 22.6
YAK *e*S S 06 16 24.5 +1.9
YAK *e*SS SnSn 06 18 52.6 -5.5
YAK *e* 06 20 57.0
YAK pmax pmax
comp=Z,105nm,0.8s
YAK pmax pmax
comp=E,13nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK smax smax
comp=E,25nm,1.8s
YAK smax smax
comp=N,17nm,1.9s

YAK Yakutsk 35.54 308 P P 06 10 57.3 -0.2
W13A Hualapai Mount 35.60 115 P P 06 11 00.7 +2.1
W13A IAmb IAmb 06 11 01.6
comp=Z,14nm,0.8s
PV13 Radium Mtn., P 35.60 106 P P 06 11 00.5 +1.9
PV02 Paradox Valley 35.61 106 P P 06 11 00.6 +1.9
PV15 Paradox Valley 35.63 105 P P 06 11 00.7 +1.8
PFO Pinyon Flats O 35.65 119 P P 06 11 00.5 +1.7
comp=Z,8.2nm,0.9s,baz=322,slow=6.6,SNR=15
PFO Pinyon Flats O 35.65 119 P P 06 11 00.2 +1.3
baz=327,SNR=9.8
PFO Pinyon Flats O 35.65 119*d* *i*P P 06 11 00.1 +1.2
PFO pmax pmax
comp=Z,17nm,1.1s
PFO Pinyon Flats O 35.65 119 P P 06 11 00.6 +1.7
PFO IAmb IAmb 06 11 01.3
comp=Z,17nm,1.2s
XPFO Pion Flat 35.65 119 P P 06 11 00.6 +1.7
XPFO IAmb IAmb 06 11 01.3
comp=Z,19nm,1.2s
TPFO Pinon Flats 35.65 119 P P 06 11 00.4 +1.4
baz=327,SNR=10.0
PV01 Paradox Valley 35.75 106 P P 06 11 01.8 +1.9
IRM Iron Mountain 35.79 117 P P 06 11 02.2 +2.1
baz=326,SNR=22
ISCO Idaho Springs 35.96 101 P P 06 11 03.7 +1.9
baz=319,SNR=11
ISCO Idaho Springs 35.96 101 P P 06 11 04.1 +2.3
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO Idaho Springs 35.96 101 P P 06 11 04.1 +2.3
109C Camp Elliot, M 35.97 120 P P 06 11 03.4 +2.0
baz=328
109C Camp Elliot, M 35.97 120 P P 06 11 03.5 +2.0
109C IAmb IAmb 06 11 04.5
comp=Z,26nm,1.1s
SUSD Miller 36.01 89 P P 06 11 02.7 +0.8
baz=314
SUSD Miller 36.01 89 P P 06 11 03.1 +1.3
BC3 Big Chuckawall 36.06 118 P P 06 11 03.8 +1.3
baz=327,SNR=8.7
PDMCI Parker Dam, Lak 36.13 116 P P 06 11 04.6 +1.7
baz=326,SNR=14
MONP2 Monument Peak 36.27 120 P P 06 11 06.2 +1.9
baz=328,SNR=13
BAR Barrett 36.34 120 P P 06 11 06.8 +2.1
F33A 5 Mile Ranch, 36.42 85 P P 06 11 06.0 +0.7
F33A IAmb IAmb 06 11 07.0
comp=Z,17nm,1.1s
WUAZ Wupatki 36.45 111 P P 06 11 08.1 +2.3
baz=324,SNR=36
WUAZ Wupatki 36.45 111 P P 06 11 08.0 +2.3
MVCO Mesa Verde 36.50 106 P P 06 11 07.7 +1.4
baz=322,SNR=22
MVCO Mesa Verde 36.50 106 P P 06 11 07.7 +1.4
MVCO IAmb IAmb 06 11 08.7
comp=Z,21nm,0.7s
SWSC Sam W. Stewart 36.50 119 P P 06 11 07.5 +1.5
baz=328
IKP In-Ko-Pah, Jac 36.61 119 P P 06 11 09.0 +1.9
baz=328,SNR=6.4
CBX Cerro Bola 36.65 120 P P 06 11 09.8 +2.4
Q24A Divide 36.83 101 P P 06 11 11.0 +1.9
baz=320,SNR=13
GLA Glamis 36.86 118 P P 06 11 10.8 +1.8
baz=327,SNR=15
GLA Glamis 36.86 118 P P 06 11 10.9 +1.8
GLA pmax pmax
comp=Z,28nm,1.0s
GLA Glamis 36.86 118 P P 06 11 10.9 +1.8
GLA IAmb IAmb 06 11 11.9
comp=Z,28nm,1.0s
S22A 4UR Ranch, Cre 36.92 104 P P 06 11 12.0 +2.1
baz=321,SNR=17
S22A 4UR Ranch, Cre 36.92 104 P P 06 11 12.2 +2.3
Y14A Wickenburg 36.96 115 P P 06 11 12.2 +2.1
Y14A IAmb IAmb 06 11 12.9
comp=Z,18nm,0.7s
ESJX Sierra Juarez 37.23 120 P P 06 11 14.6 +2.2
X16A Lo Mia Camp, P 37.31 112 P P 06 11 15.7 +2.6
K31A O'Neill 37.40 91 P P 06 11 15.0 +1.4
K31A IAmb IAmb 06 11 17.9
comp=Z,24nm,0.9s
EYMN Ely 37.46 79 P P 06 11 14.9 +0.9
baz=311,SNR=16
EYMN Ely 37.46 79 P P 06 11 15.0 +1.0
EYMN IAmb IAmb 06 11 15.8
comp=Z,21nm,0.8s
W18A Petrified Fore 37.56 110 P P 06 11 16.9 +1.6
baz=324,SNR=8.9
W18A Petrified Fore 37.56 110 P P 06 11 17.3 +2.1
W18A IAmb IAmb 06 11 18.4
comp=Z,18nm,1.0s
113A Mohawk Valley, 37.58 117 P P 06 11 16.8 +1.6
SDCO Great Sand Dun 37.58 103 P P 06 11 17.6 +2.1
baz=321,SNR=38
SDCO Great Sand Dun 37.58 103 P P 06 11 17.6 +2.1
SDCO IAmb IAmb 06 11 18.7
comp=Z,18nm,0.8s
ECSD EROS Data Cent 37.72 88 P P 06 11 16.3 +0.1
baz=315,SNR=12
ECSD EROS Data Cent 37.72 88 P P 06 11 16.4 +0.1
ECSD IAmb IAmb 06 11 17.3
comp=Z,10nm,0.7s
F36A Milaca 37.83 83 P P 06 11 17.9 +0.8
KSCO Kaye Shedlock' 38.07 99 P P 06 11 21.1 +1.7
baz=319,SNR=9.8
KSCO Kaye Shedlock' 38.07 99 P P 06 11 21.6 +2.2
FRB Frobisher Bay 38.25 46 P P 06 11 21.1 +0.7
FRB pmax pmax
comp=Z,26nm,0.7s
SPX San Pedro Mart 38.27 120 P P 06 11 23.4 +2.1
SPX IAmb IAmb 06 11 24.4
comp=Z,23nm,1.2s
E38A The Farm, Brul 38.33 81 P P 06 11 21.9 +0.7
YSS Yuzh-Sakhalins 38.38 280 *e*P P 06 11 22.3 +0.6
YSS pmax pmax
comp=Z,30nm,0.9s
BGNE Belgrade 38.59 92 P P 06 11 24.8 +1.2
baz=317,SNR=7.7
BGNE Belgrade 38.59 92 P P 06 11 24.3 +0.7
T25A Trinidad 38.60 102 P P 06 11 26.0 +2.0
baz=321,SNR=13
T25A Trinidad 38.60 102 P P 06 11 25.9 +2.0
T25A IAmb IAmb 06 11 27.0
comp=Z,20nm,1.1s
SPMN Marine on St. 38.63 83 P P 06 11 24.9 +1.0
baz=314,SNR=11
SPMN Marine on St. 38.63 83 P P 06 11 25.1 +1.2
SPMN IAmb IAmb 06 11 26.1
comp=Z,21nm,0.7s
214A Organ Pipe Nat 38.70 116 P P 06 11 26.3 +1.7
baz=327,SNR=18
214A Organ Pipe Nat 38.70 116 P P 06 11 26.5 +2.0
214A IAmb IAmb 06 11 27.5
comp=Z,19nm,0.8s
YUK Yuzh-Kuril'sk 38.80 274*d* *i*P P 06 11 28.0 +2.8
YUK *j* *PP pP 06 11 58.1 +2.9
YUK *i* 06 13 33.2
YUK *e*S S 06 17 18.6 +6.3
YUK *e*SS SS 06 20 06.6 -1.9
YUK *i* 06 21 22.3
YUK pmax pmax
comp=Z,154nm,1.6s
GRNR Gornyy 39.03 289*d* *i*P P 06 11 27.1 0.0
GRNR pmax pmax
comp=N,10.0nm,0.9s
GRNR pmax pmax
comp=E,20nm,0.9s
GRNR pmax pmax
comp=Z,40nm,1.0s
GRNR MLR MLR
comp=N,40nm,13.0s
GRNR MLR MLR
comp=Z,60nm,13.0s
L34A Svendsen Farm, 39.10 90 P P 06 11 28.3 +0.5
I37A Lemond, Waseca 39.17 85 P P 06 11 29.6 +1.2
ANMO Albuquerque 39.30 107*d* *i*P P 06 11 31.6 +1.8
ANMO pmax pmax
comp=Z,22nm,1.6s
TUC Tucson 39.35 114 P P 06 11 32.0 +1.9
baz=326
TUC Tucson 39.35 114 P P 06 11 32.2 +2.2
TUC pmax pmax
comp=Z,10.0nm,0.9s

TUC Tucson 39.35 114 P P 06 11 32.2 +2.2
N33A J Bar K, Exete 39.44 92 P P 06 11 31.9 +1.3
CBKS Cedar Bluff 39.70 96 P P 06 11 34.4 +1.6
baz=319,SNR=9.9
CBKS Cedar Bluff 39.70 96 P P 06 11 34.8 +2.0
CBKS pmax pmax
comp=Z,50nm,0.9s
CBKS Cedar Bluff 39.70 96 P P 06 11 34.8 +2.0
Y22D IRIS PASSCAL I 39.77 108 P P 06 11 36.2 +2.6
baz=324,SNR=5.1
Y22D IRIS PASSCAL I 39.77 108 P P 06 11 36.5 +2.8
BNM Barren Site 39.86 107 P P 06 11 36.5 +2.1
G40A Rib Lake 39.93 81 P P 06 11 35.5 +0.9
G40A IAmb IAmb 06 11 35.9
comp=Z,17nm,0.6s
N35A Tabor 40.28 90 P P 06 11 38.9 +1.4
JKA Kamikawa-asahi 40.41 277 P P 06 11 38.8 +0.2
ASAJ Asahikawa 40.42 277 P P 06 11 38.7 +0.1
comp=Z,10nm,0.7s,baz=62,slow=4.9,SNR=13
ASAJ Asahikawa 40.42 277 P P 06 11 38.8 +0.2
ASAJ pmax pmax
comp=Z,11nm,0.7s
K38A Parkersburg 40.46 86 P P 06 11 40.0 +1.0
K38A IAmb IAmb 06 11 41.2
comp=Z,48nm,1.4s
R32A Long Quarter, 40.52 96 P P 06 11 41.1 +1.6
R32A IAmb IAmb 06 11 41.3
comp=Z,21nm,0.6s
121A Cookes Peak, D 40.60 110 P P 06 11 42.9 +2.4
baz=325,SNR=17
121A Cookes Peak, D 40.60 110 P P 06 11 43.0 +2.4
121A IAmb IAmb 06 11 44.0
comp=Z,29nm,0.9s
I40A Norwalk 40.68 83 P P 06 11 41.8 +0.9
I40A IAmb IAmb 06 11 42.6
comp=Z,28nm,1.1s
E43A Lone Tree Farm 40.79 78 P P 06 11 42.6 +1.0
E43A IAmb IAmb 06 11 43.3
comp=Z,20nm,0.6s
319A Douglas 40.84 113 P P 06 11 44.6 +2.3
319A IAmb IAmb 06 11 45.4
comp=Z,16nm,0.7s
KSU1 Kansas State U 41.09 93 P P 06 11 45.0 +0.8
baz=319,SNR=17
KSU1 Kansas State U 41.09 93 P P 06 11 45.1 +0.9
ZEA Zeya 41.43 298 eP P 06 11 46.2 -0.6
ZEA pmax pmax
comp=Z,52nm,1.0s
I42A Draeger Farm, 41.55 82 P P 06 11 48.9 +1.0
I42A IAmb IAmb 06 11 49.2
comp=Z,12nm,0.6s
JFWS Jewell Farm 41.57 84 P P 06 11 48.1 0.0
baz=316,SNR=7.2
JFWS Jewell Farm 41.57 84 P P 06 11 48.3 +0.3
JFWS pmax pmax
comp=Z,19nm,0.7s
JFWS Jewell Farm 41.57 84 P P 06 11 48.3 +0.3
JFWS IAmb IAmb 06 11 49.0
comp=Z,19nm,0.7s
N38A Joes South For 41.57 88 P P 06 11 48.8 +0.7
N38A IAmb IAmb 06 11 49.4
comp=Z,31nm,0.8s
L40A Anamosa 41.68 85 P P 06 11 49.2 +0.2
L40A IAmb IAmb 06 11 50.0
comp=Z,34nm,0.8s
AMTX Amarillo 41.74 102 P P 06 11 51.3 +1.6
baz=322
AMTX Amarillo 41.74 102 P P 06 11 51.4 +1.7
MSTX Muleshoe 41.91 104 P P 06 11 52.5 +1.4
baz=323,SNR=26
MSTX Muleshoe 41.91 104 P P 06 11 52.5 +1.4
MSTX IAmb IAmb 06 11 54.0
comp=Z,37nm,0.8s
D46A Sault St. Mari 41.92 75 P P 06 11 51.4 +0.6
baz=314
HSIG 42.03 117 P P 06 11 53.0 +1.1
HSIG IAmb IAmb 06 11 54.7
comp=Z,20nm,0.9s
KAN13 South Haven SW 42.22 96 P P 06 11 54.6 +1.2
D47A Chapleau 42.27 74 P P 06 11 54.1 +0.4
baz=314
P38A Dawn 42.28 90 P P 06 11 54.3 +0.4
P38A IAmb IAmb 06 11 55.8
comp=Z,20nm,0.6s
KLR Kul'dur 42.31 290 c iP P 06 11 53.8 -0.2
KLR pmax pmax
comp=Z,65nm,0.8s
CROK Carrier 42.35 97 P P 06 11 55.5 +1.0
CROK IAmb IAmb 06 11 55.9
comp=Z,26nm,0.6s
MNTX Cornudas Mount 42.45 108 P P 06 11 57.6 +2.2
baz=325,SNR=54
MNTX Cornudas Mount 42.45 108 P P 06 11 57.5 +2.2
L42A Oliver, Polo 42.52 84 P P 06 11 55.5 -0.3
L42A IAmb IAmb 06 11 57.2
comp=Z,36nm,1.4s
GDL2 Guadalupe Moun 42.55 107 P P 06 11 58.3 +2.0
E47A Iron Bridge 42.60 75 P P 06 11 56.7 +0.3
baz=314
K43A Burlington 42.70 82 P P 06 11 57.8 +0.6
K43A IAmb IAmb 06 11 58.4
comp=Z,20nm,0.8s
SPITS Spitsbergen Ar 42.79 3 P P 06 11 55.8 -1.7
comp=Z,2.8nm,0.6s,baz=54,slow=4.2,SNR=6.2
SPITS PcP PcP 06 13 45.6 -0.5
comp=Z,1.4nm,0.3s,baz=60,slow=3.3,SNR=6.5
T35A Sooner Cattle 42.79 95 P P 06 11 58.7 +0.7
T35A IAmb IAmb 06 11 59.5
comp=Z,37nm,1.1s
D48A Paudash Townsh 42.82 73 P P 06 11 58.4 +0.2
baz=314
D49A Beulah Townshi 42.98 73 P P 06 11 59.5 +0.1
baz=314
GLMI Grayling 43.07 77 P P 06 12 00.8 +0.6
baz=315
MATQ Matagami 43.07 67 P P 06 12 00.0 -0.1
baz=313
P40A Paris 43.12 89 P P 06 12 00.7 +0.1
P40A IAmb IAmb 06 12 01.6
comp=Z,23nm,0.8s
E48A Lockeyer 43.13 74 P P 06 12 01.0 +0.4
baz=314
OK029 Liberty Lake 43.17 97 P P 06 12 02.0 +0.9
BCOK Bluff Creek, N 43.20 97 P P 06 12 02.5 +1.2
QUOK Quay 43.27 96 P P 06 12 02.6 +0.7
L44A Lake County Fo 43.29 83 P P 06 12 02.2 +0.2
baz=317
WMOK Wichita Mounta 43.32 99 P P 06 12 03.6 +1.2
baz=322,SNR=43
WMOK Wichita Mounta 43.32 99 P P 06 12 03.6 +1.2
WMOK pmax pmax
comp=Z,32nm,0.8s
WMOK Wichita Mounta 43.32 99 P P 06 12 03.5 +1.2
WMOK IAmb IAmb 06 12 04.6
comp=Z,32nm,0.8s
F48A Evansville 43.36 75 P P 06 12 03.3 +0.8
baz=315
OK025 Westminster Rd 43.40 97 P P 06 12 03.8 +0.9
FNO Franklin 43.62 97 P P 06 12 06.5 +1.8
HDIL Hopedale 43.77 85 P P 06 12 05.9 0.0
baz=318,SNR=8.7
HDIL Hopedale 43.77 85 P P 06 12 06.0 +0.2
HDIL IAmb IAmb 06 12 06.8
comp=Z,32nm,0.8s
D50A G1974 Best Tow 43.79 72 P P 06 12 06.3 +0.4
baz=314
S39A Bolivar 43.84 91 P P 06 12 05.7 -0.8
S39A IAmb IAmb 06 12 06.5
comp=Z,15nm,0.7s
LSQQ Lebel-sur-Quev 43.87 68 P P 06 12 06.3 -0.2
baz=314
E50A Wahnapitae 43.88 73 P P 06 12 06.7 +0.1
baz=315
X34A Smith Ranch, M 43.91 98 P P 06 12 08.8 +1.8
R40A Maddies Statio 43.93 90 P P 06 12 07.0 -0.1
R40A IAmb IAmb 06 12 07.8
comp=Z,25nm,0.7s
TUL1 Leonard 43.94 95 P P 06 12 07.4 +0.2
baz=321,SNR=19
TUL1 Leonard 43.94 95 P P 06 12 07.7 +0.4
TUL1 IAmb IAmb 06 12 08.5
comp=Z,30nm,0.7s
W35A Tecumseh 43.97 97 P P 06 12 08.3 +0.8
D51A Lot 18 Range I 44.08 71 P P 06 12 08.2 0.0
baz=314
U38A Gravette 44.25 94 P P 06 12 09.8 +0.1

VLDQ Val d'Or 44.29 69 P P 06 12 08.8 -1.1
VLDQ IAmb IAmb 06 12 09.1
comp=Z,12nm,0.6s
P43A Skaggs, Pawnee 44.33 86 P P 06 12 10.5 +0.2
P43A IAmb IAmb 06 12 11.3
comp=Z,26nm,0.8s
BOD Bodaibo 44.36 310 eP P 06 12 09.7 -0.6
BOD pmax pmax
comp=Z,58nm,0.8s
NRIK Noril'sk 44.40 333 P P 06 12 09.9 -0.5
comp=Z,16nm,0.5s,baz=57,slow=7.1,SNR=16
NRIK pP pP 06 12 41.8 +0.7
comp=Z,5.3nm,0.6s,baz=90,slow=2.9,SNR=3.1
NRIK LR LR 06 36 05.5
comp=Z,22nm,18.1s,baz=49,slow=43
NRIK Noril'sk 44.40 333 i P P 06 12 09.6 -0.9
NRIK pmax pmax
comp=Z,26nm,0.9s
E51A G1948 Merrick 44.41 72 P P 06 12 10.9 +0.1
baz=315
SCHQ Schefferville 44.51 56 P P 06 12 11.7 +0.1
comp=Z,4.7nm,0.8s,baz=317,slow=5.2,SNR=6.6
SCHQ PcP PcP 06 13 52.7 +0.4
comp=Z,1.8nm,0.6s,baz=262,slow=7.1,SNR=1.6
SCHQ Schefferville 44.51 56 IAmb IAmb 06 12 12.4
comp=Z,8.1nm,0.9s
ABTX Abilene, Hawle 44.56 102 P P 06 12 13.2 +0.9
baz=323,SNR=16
ABTX Abilene, Hawle 44.56 102 P P 06 12 13.4 +1.2
ABTX IAmb IAmb 06 12 13.8
comp=Z,25nm,0.6s
HHAR Hobbs 44.60 93 P P 06 12 12.2 -0.3
HHAR IAmb IAmb 06 12 13.0
comp=Z,14nm,0.6s
D52A ZEK Kipawa Sen 44.62 71 P P 06 12 12.7 +0.1
baz=315
F51A Arnstein 44.63 73 P P 06 12 13.2 +0.7
baz=315
CCM Cataral Cave 44.64 89 P P 06 12 12.3 -0.4
baz=319
CCM Cathedral Cave 44.64 89 P P 06 12 12.4 -0.4
CCM pmax pmax
comp=Z,10.0nm,0.9s
CCM Cathedral Cave 44.64 89 P P 06 12 12.4 -0.4
MGMO Mountain Grove 44.79 91 P P 06 12 13.6 -0.4
MGMO IAmb IAmb 06 12 14.3
comp=Z,21nm,0.8s
D53A Lac Vacive, Po 44.90 70 P P 06 12 15.0 +0.3
baz=315
D53A Lac Vacive, Po 44.90 70 P P 06 12 15.2 +0.4
E52A Mattawa 44.99 72 P P 06 12 15.5 +0.1
baz=315
SFIN Lafayette 45.03 84 P P 06 12 16.3 +0.4
baz=318
U40A Yellville 45.10 92 P P 06 12 16.0 -0.5
baz=320,SNR=16
U40A Yellville 45.10 92 P P 06 12 15.7 -0.8
U40A IAmb IAmb 06 12 17.6
comp=Z,13nm,0.5s
FVM French Village 45.11 89 P P 06 12 16.4 -0.1
FVM pmax pmax
comp=Z,41nm,1.3s
FVM French Village 45.11 89 P P 06 12 16.4 -0.1
FVM IAmb IAmb 06 12 17.6
comp=Z,41nm,1.3s
Q44A Meyer Farm, Va 45.15 87 P P 06 12 17.2 +0.5
Q44A IAmb IAmb 06 12 17.8
comp=Z,30nm,1.1s
X37A Clayton 45.18 96 P P 06 12 18.0 +0.9
X37A IAmb IAmb 06 12 18.8
comp=Z,18nm,0.7s
Z35A Perchaven, San 45.21 99 P P 06 12 18.4 +1.0
TX31 Lajitas Ar. Si 45.23 109 P P 06 12 19.5 +1.8
TX32 Lajitas Array 45.23 109 P P 06 12 19.5 +1.8
TX32 IAmb IAmb 06 12 20.5
comp=Z,21nm,0.9s
TXAR Lajitas Array 45.23 109 P P 06 12 19.4 +1.7
comp=Z,12nm,0.7s,baz=324,slow=6.4,SNR=154
TXAR pP pP 06 12 51.8 +3.5
comp=Z,2.7nm,0.8s,baz=316,slow=8.8,SNR=2.7
TXAR ScP ScP 06 17 35.8 +0.9
comp=Z,0.6nm,0.9s,baz=319,slow=2.4,SNR=4.1
TXAR LR LR 06 30 43.8
comp=Z,36nm,18.1s,baz=0.0,slow=35
TXAR Lajitas Array 45.23 109 P P 06 12 18.3 +0.6
TXAR Lajitas Array 45.23 109 P P 06 12 18.3 +0.6
D54A Lac Fusel, La 45.35 69 P P 06 12 18.3 0.0
baz=315
AAM Ann Arbor 45.37 79 P P 06 12 19.0 +0.5
baz=317
N47A Urbana 45.38 82 P P 06 12 18.5 -0.1
N47A IAmb IAmb 06 12 19.2
comp=Z,34nm,0.9s
E53A Dumoine, Ponti 45.41 71 P P 06 12 18.9 +0.1
baz=315
T42A Van Buren 45.49 90 P P 06 12 18.8 -0.7
T42A IAmb IAmb 06 12 19.2
comp=Z,14nm,0.6s
W39A Magazine 45.52 94 P P 06 12 19.9 +0.1
baz=321,SNR=7.2
W39A Magazine 45.52 94 P P 06 12 20.0 +0.3
W39A IAmb IAmb 06 12 20.9
comp=Z,25nm,1.3s
ALGO Algonquin Park 45.53 72 P P 06 12 19.7 +0.1
baz=316
P46A Rosedale 45.54 85 P P 06 12 20.6 +0.8
P46A IAmb IAmb 06 12 21.2
comp=Z,37nm,1.1s
I51A Listowel 45.60 76 P P 06 12 21.2 +0.9
baz=316
E54A Lac Daplat, Po 45.60 71 P P 06 12 20.2 -0.1
baz=315,SNR=6.8
USA0B Ussuriysk Arra 45.72 285 ñ eP P 06 12 20.0 -1.2
USRK Ussuriysk Ar. 45.72 285 P P 06 12 20.2 -0.9
comp=Z,3.1nm,0.6s,baz=41,slow=6.1,SNR=6.8
USRK Ussuriysk Ar. 45.72 285 P P 06 12 20.3 -0.9
OLIL Olney 45.74 86 P P 06 12 21.8 +0.4
OLIL IAmb IAmb 06 12 22.7
comp=Z,28nm,0.8s
FCAR Ozark Folk Cen 45.84 92 P P 06 12 21.8 -0.4
FCAR IAmb IAmb 06 12 22.3
comp=Z,12nm,0.6s
G54A Lake Saint Pet 45.91 72 P P 06 12 22.7 0.0
baz=316
S44A Carbondale 45.94 88 P P 06 12 22.4 -0.6
S44A IAmb IAmb 06 12 23.8
comp=Z,24nm,0.6s
D55A Sainte-Anne-du 46.02 69 P P 06 12 23.4 -0.1
baz=315,SNR=5.7
N49A Columbus Grove 46.12 81 P P 06 12 24.5 +0.1
N49A IAmb IAmb 06 12 25.3
comp=Z,18nm,0.9s
MIAR Mount Ida 46.13 95 P P 06 12 25.0 +0.4
baz=322,SNR=14
MIAR Mount Ida 46.13 95 P P 06 12 23.9 -0.7
MIAR pmax pmax
comp=Z,17nm,0.8s
MIAR Mount Ida 46.13 95 P P 06 12 23.9 -0.7
MIAR IAmb IAmb 06 12 26.1
comp=Z,17nm,0.8s
E55A Montcerf-Lytto 46.14 70 P P 06 12 24.4 0.0
baz=316
WHTX Lake Whitney, 46.17 100 P P 06 12 26.0 +1.1
baz=323,SNR=10.0
WHTX Lake Whitney, 46.17 100 P P 06 12 26.0 +1.1
WHTX IAmb IAmb 06 12 26.9
comp=Z,38nm,0.8s
LCAR Lake Charles 46.20 91 P P 06 12 24.2 -0.8
LCAR IAmb IAmb 06 12 25.3
comp=Z,25nm,1.3s
JCT Junction City 46.21 104 P P 06 12 26.7 +1.4
baz=325,SNR=98
JCT Junction City 46.21 104 P P 06 12 26.8 +1.5
JCT pmax pmax
comp=Z,176nm,0.7s
JCT Junction City 46.21 104 P P 06 12 26.8 +1.5
H53A Bobcaygeon 46.26 73 P P 06 12 25.5 +0.1
baz=316
HPIG 46.27 112 P P 06 12 27.5 +1.5
W41B Gary Mavity, V 46.33 93 P P 06 12 25.7 -0.4
baz=321
D56A ZEC Mazanza, M 46.34 68 P P 06 12 25.9 -0.2
baz=316,SNR=7.3
F55A Otter Lake 46.44 71 P P 06 12 26.5 -0.3
baz=316
PARMO Parma 46.47 89 P P 06 12 27.7 +0.6

X40A Basin Creek Fa 46.56 94 P P 06 12 27.8 -0.1
baz=322,SNR=6.1
X40A Basin Creek Fa 46.56 94 P P 06 12 28.1 +0.2
E56A St. Veronique 46.57 69 P P 06 12 27.6 -0.2
baz=316
P48A Milroy 46.57 83 P P 06 12 27.5 -0.5
P48A IAmb IAmb 06 12 29.0
comp=Z,16nm,0.5s
UALR University of 46.59 93 P P 06 12 28.1 0.0
G55A Calabogie 46.68 71 P P 06 12 28.7 0.0
baz=316
T45A Paducah 46.76 88 P P 06 12 29.8 +0.3
D57A Chemin Vers le 46.78 68 P P 06 12 28.7 -0.7
baz=316
HICK Hickman 46.83 89 P P 06 12 30.9 +1.0
HICK IAmb IAmb 06 12 31.1
comp=Z,45nm,1.2s
PEBM Pemiscott Bayo 46.83 90 P P 06 12 30.6 +0.6
I55A Frankford 46.96 73 P P 06 12 30.0 -0.9
baz=317
H55A Tweed 46.96 72 P P 06 12 30.8 -0.1
baz=317
N51A Ashland 47.04 80 P P 06 12 31.3 -0.3
baz=318
LATQ La Tuque 47.04 67 P P 06 12 30.8 -0.7
baz=316
WLAR White Oak Lake 47.05 95 P P 06 12 32.8 +1.1
WLAR IAmb IAmb 06 12 33.4
comp=Z,41nm,1.1s
WCI Wyandotte Cave 47.05 85 P P 06 12 31.6 -0.1
baz=319
WCI Wyandotte Cave 47.05 85 P P 06 12 32.0 +0.3
WCI pmax pmax
comp=Z,29nm,1.4s
WCI Wyandotte Cave 47.05 85 P P 06 12 32.0 +0.3
WCI IAmb IAmb 06 12 32.7
comp=Z,29nm,1.4s
435B Jarrell 47.08 101 P P 06 12 33.4 +1.4
baz=324,SNR=7.4
435B Jarrell 47.08 101 P P 06 12 33.6 +1.7
E57A Chemin Saint G 47.09 68 P P 06 12 31.6 -0.3
baz=316,SNR=5.5
ORIO Orleans, Innes 47.12 70 P P 06 12 31.7 -0.4
baz=316
J54A Appleton 47.17 75 P P 06 12 33.3 +0.8
baz=317
D58A Chemin du LacG 47.20 67 P P 06 12 32.3 -0.5
baz=316
ACSO Alum Creek Sta 47.24 81 P P 06 12 32.7 -0.4
baz=318
F57A Harrington 47.26 69 P P 06 12 33.1 -0.1
baz=316
L53A Girard 47.34 77 P P 06 12 32.9 -0.9
baz=318
ERPA Erie 47.35 77 P P 06 12 34.5 +0.5
baz=318
H56A Elgin 47.38 72 P P 06 12 34.4 +0.3
baz=317
N52A McGinn's Farm, 47.46 79 P P 06 12 34.5 -0.3
baz=318
O51A Pataskala 47.49 80 P P 06 12 34.8 -0.4
baz=318
M53A WI Miller and 47.51 78 P P 06 12 35.6 +0.4
baz=318
M53A WI Miller and 47.51 78 P P 06 12 36.1 +0.9
M53A IAmb IAmb 06 12 36.6
comp=Z,22nm,0.7s
E58A La Victoria 47.53 68 P P 06 12 34.6 -0.7
baz=316
Z41A Richland Creek 47.54 95 P P 06 12 36.1 +0.6
baz=322
Z41A Richland Creek 47.54 95 P P 06 12 36.7 +1.2
Z41A IAmb IAmb 06 12 37.3
comp=Z,23nm,0.8s
X43A Marvell 47.54 92 P P 06 12 35.7 +0.2
baz=322,SNR=5.9
X43A Marvell 47.54 92 P P 06 12 35.9 +0.4
CCAR Cane Creek 47.55 93 P P 06 12 36.6 +1.0
T47A Sharon Grove 47.58 87 P P 06 12 36.3 +0.5
R49A Shelbyville 47.58 84 P P 06 12 36.0 +0.2
L54A Sinclairville 47.60 76 P P 06 12 36.3 +0.4
baz=318
K54A Basiliko Farm, 47.64 75 P P 06 12 36.4 +0.2
baz=318
NATX Nacogdoches 47.78 98 P P 06 12 38.4 +1.0
baz=323,SNR=5.7
NATX Nacogdoches 47.78 98 P P 06 12 39.0 +1.6
WVNY West Valley, N 47.83 75 P P 06 12 38.4 +0.7
WVNY IAmb IAmb 06 12 38.7
comp=Z,17nm,0.6s
K55A Perry 47.86 75 P P 06 12 38.2 +0.3
baz=318
WVT Waverly 47.87 88 P P 06 12 38.1 +0.2
baz=320
WVT Waverly 47.87 88 P P 06 12 38.5 +0.5
WVT pmax pmax
comp=Z,11nm,0.9s
WVT Waverly 47.87 88 P P 06 12 38.5 +0.5
N53A Lisbon 47.90 78 P P 06 12 38.2 0.0
baz=318
N53A Lisbon 47.90 78 P P 06 12 38.6 +0.4
N53A IAmb IAmb 06 12 38.8
comp=Z,15nm,0.8s
H57A Richville 47.90 71 P P 06 12 37.5 -0.6
baz=317
O52A Adamsville 47.91 80 P P 06 12 37.9 -0.4
baz=319
O52A Adamsville 47.91 80 P P 06 12 37.7 -0.6
O52A IAmb IAmb 06 12 39.6
comp=Z,18nm,0.9s
HIA Hailar 47.91 298 c iP P 06 12 37.4 -0.8
HIA pmax pmax
comp=Z,16nm,0.9s
W45A Hickory Valley 47.92 90 P P 06 12 39.1 +0.7
Q51A Peebles 47.96 82 P P 06 12 38.8 +0.1
Q51A IAmb IAmb 06 12 39.6
comp=Z,24nm,0.9s
M54A Oil Creek Stat 47.97 77 P P 06 12 39.1 +0.3
baz=318
R50A Paris 48.02 83 P P 06 12 39.6 +0.5
R50A IAmb IAmb 06 12 40.2
comp=Z,21nm,0.8s
G58A Ormstown 48.05 70 P P 06 12 39.3 0.0
baz=317
L55A Hinsdale 48.08 75 P P 06 12 40.1 +0.5
baz=318,SNR=5.1
P52A Corning 48.12 81 P P 06 12 39.6 -0.3
baz=319
O53A New Philadelph 48.12 79 P P 06 12 39.8 -0.1
baz=319
F59A Saint Guilaume 48.15 68 P P 06 12 39.9 -0.1
baz=317
I57A Carthage 48.16 72 P P 06 12 39.9 -0.3
baz=317
833A Chaparral WMA, 48.17 105 P P 06 12 41.9 +1.4
baz=326,SNR=7.4
833A Chaparral WMA, 48.17 105 P P 06 12 42.1 +1.6
833A IAmb IAmb 06 12 43.0
comp=Z,20nm,0.9s
LONY Lake Ozonia 48.18 70 P P 06 12 39.8 -0.5
baz=317
N54A Moraine State 48.21 78 P P 06 12 40.9 +0.3
baz=318
K56A Middlesex 48.25 74 P P 06 12 41.4 +0.5
baz=318
MAJO Matsushiro 48.27 273 d iP P 06 12 40.9 -0.2
MAJO pmax pmax
comp=Z,6.0nm,0.8s
MAJO Matsushiro 48.27 273 P P 06 12 41.1 0.0
MAT Matsushiro 48.27 273 P P 06 12 40.6 -0.5
MAT eS S 06 19 31.5 +1.3
MJAR Matsushiro Arr 48.27 273 P P 06 12 40.7 -0.4
comp=Z,2.2nm,0.6s,baz=321,slow=16,SNR=13
MJAR pP pP 06 13 12.1 -0.1
comp=Z,2.2nm,0.9s,baz=359,slow=7.5,SNR=3.7
MJAR ScP ScP 06 17 47.8 +0.4
comp=Z,3.2nm,1.0s,baz=3.1,slow=2.4,SNR=9.6
MJAR Matsushiro Arr 48.27 273 P P 06 12 41.1 0.0
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MJAR Matsushiro Arr 48.27 273 P P 06 12 41.1 0.0
OXF Oxford 48.31 91 P P 06 12 42.0 +0.6
baz=321,SNR=38
OXF Oxford 48.31 91 P P 06 12 42.0 +0.6
OXF pmax pmax
comp=Z,121nm,0.8s

OXF Oxford 48.31 91 P P 06 12 42.0 +0.6
J57A Williamstown 48.38 73 P P 06 12 41.8 0.0
baz=318
M55A Ridgway 48.45 76 P P 06 12 43.0 +0.6
baz=318,SNR=6.0
F60A Warwick 48.46 67 P P 06 12 41.8 -0.6
baz=317
G59A Clarenceville 48.52 69 P P 06 12 42.3 -0.6
baz=317
H58A Gabriels 48.52 70 P P 06 12 42.6 -0.3
baz=317
L56A Greenwood 48.55 75 P P 06 12 43.9 +0.7
baz=318,SNR=6.9
L56A Greenwood 48.55 75 P P 06 12 44.0 +0.7
Q52A Bidwell 48.56 81 P P 06 12 42.5 -0.8
baz=319,SNR=6.7
H59A Cadyville 48.59 70 P P 06 12 43.1 -0.4
baz=317
O54A Avella 48.60 79 P P 06 12 43.4 -0.2
baz=319
O54A Avella 48.60 79 P P 06 12 43.6 +0.1
O54A IAmb IAmb 06 12 44.5
comp=Z,26nm,1.1s
P53A Whipple 48.61 80 P P 06 12 43.3 -0.3
baz=319
P53A Whipple 48.61 80 P P 06 12 43.8 +0.1
P53A IAmb IAmb 06 12 43.9
comp=Z,15nm,0.6s
K57A Scipio Center 48.63 74 P P 06 12 43.9 +0.2
baz=318
U49A Red Boiling Sp 48.63 86 P P 06 12 44.1 +0.3
U49A IAmb IAmb 06 12 44.9
comp=Z,12nm,0.7s
PLAL Pickwick Lake 48.63 89 P P 06 12 44.1 +0.3
HKT Hockley 48.64 100 P P 06 12 45.9 +2.0
HKT pmax pmax
comp=Z,18nm,1.0s
HKT Hockley 48.64 100 P P 06 12 45.9 +2.0
HKT IAmb IAmb 06 12 46.7
comp=Z,18nm,0.9s
CLTN Cedars of Leba 48.67 87 P P 06 12 45.2 +1.1
CLTN IAmb IAmb 06 12 45.7
comp=Z,15nm,0.8s
I58A Old Forge 48.67 72 P P 06 12 44.0 -0.1
baz=318
V48A Smith Brothers 48.69 88 P P 06 12 44.7 +0.4
V48A IAmb IAmb 06 12 45.5
comp=Z,17nm,0.9s
143A Socs Landing, 48.70 94 P P 06 12 45.2 +0.8
T50A Nancy 48.72 85 P P 06 12 45.2 +0.7
M56A Emporium 48.73 76 P P 06 12 44.9 +0.4
baz=318
M56A Emporium 48.73 76 P P 06 12 45.4 +0.8
M56A IAmb IAmb 06 12 45.5
comp=Z,16nm,0.6s
Y45A Yeager Farm, C 48.74 92 P P 06 12 45.8 +1.1
J58A Remsen 48.77 72 P P 06 12 45.0 +0.2
baz=318
N55A Marion Center 48.85 77 P P 06 12 45.4 -0.1
baz=319
S51A Beattyville 48.88 83 P P 06 12 46.2 +0.4
S51A IAmb IAmb 06 12 46.7
comp=Z,12nm,0.7s
G60A Masonville 48.91 68 P P 06 12 45.3 -0.7
baz=317
P54A Burton 48.98 79 P P 06 12 46.4 -0.1
baz=319
L57A Andrews Acres 49.01 74 P P 06 12 47.2 +0.6
baz=318,SNR=5.6
D62A Aliapoint, All 49.01 64 P P 06 12 46.4 -0.1
baz=317
Q53A Leroy 49.01 81 P P 06 12 46.5 -0.3
baz=319
K58A Earlville 49.03 73 P P 06 12 47.1 +0.2
baz=318
J59A Piesco 49.07 71 P P 06 12 46.7 -0.5
baz=318
N56A West Decatur 49.09 76 P P 06 12 47.7 +0.3
baz=319
O55A Ligonier 49.12 78 P P 06 12 47.3 -0.2
baz=319
E62A Clayton Lake 49.13 65 P P 06 12 47.3 -0.2
baz=317
I59A Olmsteadville 49.13 71 P P 06 12 47.4 -0.2
baz=318
H60A Morristown 49.14 69 P P 06 12 47.2 -0.4
baz=318
G61A St-Isidore-de- 49.16 68 P P 06 12 47.6 -0.2
baz=318
R53A Hurricane 49.20 82 P P 06 12 48.0 -0.2
baz=320
CN2 Changchun 49.22 289 eP P 06 12 48.4 +0.1
CN2 esP sP 06 13 33.4 -1.1
CN2 pmax pmax
comp=Z,50nm,0.7s
MCWV Mont Chateau 49.26 79 P P 06 12 48.5 -0.2
baz=319
Q54A Coxs Mills 49.27 80 P P 06 12 48.4 -0.3
baz=319
342A Flagon Creek P 49.28 96 P P 06 12 50.4 +1.5
BINY Binghamton 49.28 74 P P 06 12 48.5 -0.3
baz=318
M57A Sunshine Farm, 49.36 75 P P 06 12 49.8 +0.4
baz=319,SNR=6.5
M57A Sunshine Farm, 49.36 75 P P 06 12 50.1 +0.8
M57A IAmb IAmb 06 12 50.5
comp=Z,16nm,0.5s
P55A Reedsville 49.38 79 P P 06 12 49.7 +0.1
baz=319,SNR=5.1
K59A Cooperstown 49.41 72 P P 06 12 49.4 -0.4
baz=318
O56A Blue Knob Stat 49.45 77 P P 06 12 50.0 -0.1
baz=319
L58A Harry Jones Me 49.47 74 P P 06 12 50.9 +0.8
baz=318,SNR=5.1
D63A Stockholm 49.48 64 P P 06 12 50.1 0.0
baz=317
SSPA Standing Stone 49.51 76 P P 06 12 50.7 +0.2
baz=319
H61A Lyndonville 49.53 69 P P 06 12 50.5 -0.1
baz=318
VBMS Vicksburg 49.54 94 P P 06 12 51.7 +1.0
baz=323
SWET Sewanee 49.55 87 P P 06 12 50.9 0.0
SWET IAmb IAmb 06 12 51.7
comp=Z,25nm,1.1s
X48A Hartselle 49.57 89 P P 06 12 51.0 0.0
X48A IAmb IAmb 06 12 51.8
comp=Z,20nm,0.9s
N57A Milroy 49.59 76 P P 06 12 51.2 +0.2
baz=319
S53A Williamson 49.60 82 P P 06 12 50.8 -0.5
baz=320
Q55A Buckhannon 49.64 79 P P 06 12 51.5 -0.1
baz=320
M58A Price's Panora 49.67 75 P P 06 12 51.9 +0.1
baz=319
G62A West of Eustis 49.69 67 P P 06 12 51.9 +0.1
baz=318
TZTN Tazewell 49.75 84 P P 06 12 52.8 +0.4
baz=320
TZTN Tazewell 49.75 84 P P 06 12 53.0 +0.7
L59A Walton 49.76 73 P P 06 12 52.6 +0.2
baz=318
J60A Lant Hill Farm 49.76 71 P P 06 12 52.6 +0.2
baz=318
E63A Oxbow 49.79 65 P P 06 12 51.9 -0.6
baz=318
R54A Victor 49.80 81 P P 06 12 52.6 -0.1
baz=320
I61A Oroboro, Fairl 49.84 69 P P 06 12 52.4 -0.6
baz=318
H62A Milan 49.87 68 P P 06 12 53.0 -0.2
baz=318
W50A Signal Mountai 49.88 87 P P 06 12 54.3 +0.9
W50A IAmb IAmb 06 12 54.5
comp=Z,12nm,0.9s
P56A Dayton Farm, R 49.88 78 P P 06 12 53.4 0.0
baz=319
S54A Dingess, Beckl 49.93 81 P P 06 12 53.7 -0.1
baz=320
T53A Wise 49.93 83 P P 06 12 54.0 +0.2
baz=320
N58A Sunbury 49.94 75 P P 06 12 54.0 +0.2
baz=319
O57A Amberson 49.96 77 P P 06 12 54.4 +0.5
baz=319,SNR=5.5

146A Union 49.96 92 P P 06 12 55.1 +1.1
Z47A Carrollton 50.02 91 P P 06 12 54.9 +0.4
344A Westbrook Farm 50.04 95 P P 06 12 56.1 +1.6
M59A Waymart 50.05 74 P P 06 12 54.7 +0.1
baz=319
Q56A Snyder Ridge, 50.06 79 P P 06 12 54.7 0.0
baz=320
E64A Bridgewater 50.06 64 P P 06 12 54.1 -0.5
baz=318
J61A Chester 50.11 70 P P 06 12 54.9 -0.1
baz=318
R55A Marlinton 50.17 80 P P 06 12 55.9 +0.4
baz=320
F64A Sherman 50.23 65 P P 06 12 55.5 -0.4
baz=318
FPAL Fort Paine 50.24 88 P P 06 12 56.3 +0.1
FPAL IAmb IAmb 06 12 57.1
comp=Z,33nm,1.0s
L60A Shokan 50.31 73 P P 06 12 56.9 +0.4
baz=319
TKL Tuckaleechee C 50.32 85 P P 06 12 56.7 +0.1
TKL pmax pmax
comp=Z,8.0nm,0.7s
TKL Tuckaleechee C 50.32 85 P P 06 12 56.7 +0.1
P57A Homestead Farm 50.32 77 P P 06 12 56.7 +0.1
baz=320
N59A State Game Lan 50.35 75 P P 06 12 57.0 +0.1
baz=319
T54A Tazewell 50.36 82 P P 06 12 57.1 0.0
baz=320
Y49A Blount Mountai 50.36 89 P P 06 12 56.7 -0.3
S55A Lewisburg 50.36 81 P P 06 12 57.2 +0.2
baz=320
O58A Lewisberry 50.38 76 P P 06 12 57.3 +0.2
baz=319
R56A Bull Pasture M 50.43 79 P P 06 12 57.2 -0.4
baz=320
Q57A Strasburg 50.46 78 P P 06 12 57.7 0.0
baz=320
O59A Robesonia 50.60 75 P P 06 12 59.0 +0.2
baz=319
M60A Port Jervis 50.61 73 P P 06 12 59.3 +0.5
baz=319,SNR=5.9
U54A Nelsons Funny 50.65 83 P P 06 12 59.4 +0.2
baz=321
LRAL Lakeview Retre 50.71 90 P P 06 12 59.1 -0.4
baz=322,SNR=5.2
LRAL Lakeview Retre 50.71 90 P P 06 12 59.2 -0.4
N60A Cedar Hill Far 50.72 74 P P 06 12 59.8 +0.2
baz=319
346A Big Creek Wild 50.74 93 P P 06 13 01.1 +1.3
K62A Royalston 50.77 70 P P 06 13 00.0 0.0
baz=319
V53A Saluda 50.80 84 P P 06 13 00.9 +0.6
V53A IAmb IAmb 06 13 01.3
comp=Z,13nm,0.7s
BLA Blacksburg 50.83 81 P P 06 13 00.6 0.0
baz=320
BLA Blacksburg 50.83 81 P P 06 13 01.0 +0.4
BLA pmax pmax
comp=Z,14nm,0.8s
BLA Blacksburg 50.83 81 P P 06 13 01.0 +0.4
BLA IAmb IAmb 06 13 01.6
comp=Z,14nm,0.8s
Q58A Fox Den Farm, 50.90 78 P P 06 13 00.9 0.0
baz=320
S56A Natural Bridge 50.91 80 P P 06 13 01.2 +0.1
baz=320
R57A Starrdsville 50.96 79 P P 06 13 01.6 +0.1
baz=320
O60A Telford 50.99 75 P P 06 13 01.9 +0.3
baz=319
P59A Jarrettsville 51.01 76 P P 06 13 02.2 +0.4
baz=320
U55A TA2, Sparta 51.06 82 P P 06 13 02.6 +0.3
baz=321,SNR=8.7
V54A Nebo 51.16 84 P P 06 13 03.1 +0.1
baz=321
T56A Rocky Mt 51.17 81 P P 06 13 03.0 -0.1
baz=320
N61A South Mountain 51.21 74 P P 06 13 03.4 +0.2
baz=319
HRV Adam Dziewonsk 51.22 70 P P 06 13 03.0 -0.3
baz=319
V55A Taylorsville 51.48 83 P P 06 13 05.4 0.0
baz=321
V55A Taylorsville 51.48 83 P P 06 13 05.3 0.0
U56A King 51.52 82 P P 06 13 05.9 +0.2
baz=321
R58B Mineral 51.55 79 P P 06 13 05.9 +0.2
baz=320
Y52A Lilburn 51.57 87 P P 06 13 06.0 -0.1
Y52A IAmb IAmb 06 13 07.7
comp=Z,14nm,0.7s
W54A Cherokee Point 51.58 84 P P 06 13 05.9 -0.2
baz=321
O61A Allentown 51.58 74 P P 06 13 06.2 +0.2
baz=320
T57A Hurt 51.59 80 P P 06 13 06.2 +0.1
baz=321
ARCES ARCESS Array B 51.61 0 P P 06 13 05.8 0.0
comp=Z,3.8nm,0.9s,baz=22,slow=6.7,SNR=4.2
ARCES PcP PcP 06 14 17.1 -0.5
comp=Z,5.2nm,0.8s,baz=5.8,slow=4.0,SNR=8.2
ARCES ARCESS Array B 51.61 0 P P 06 13 05.5 -0.4
ARCES ARCESS Array B 51.61 0 P P 06 13 05.5 -0.4
CBN Corbin Frederi 51.62 78 P P 06 13 06.5 +0.2
baz=320
L63A North Scituate 51.68 71 P P 06 13 07.0 +0.2
baz=319
S58A Poland Farm, P 51.73 79 P P 06 13 07.2 +0.1
baz=320
M63A Gales Ferry 51.82 71 P P 06 13 07.5 -0.3
baz=320
V56A Mocksville 51.88 82 P P 06 13 08.4 +0.1
baz=321,SNR=5.3
X54A Beton 51.90 85 P P 06 13 08.4 0.0
baz=322
N63A Mattituck 51.90 72 P P 06 13 07.9 -0.5
baz=320
250A Grady 51.92 90 P P 06 13 08.6 -0.1
250A IAmb IAmb 06 13 08.7
comp=Z,14nm,0.5s
U57A Blanch 51.99 81 P P 06 13 09.2 +0.1
baz=321
T58A Grand View Acr 52.00 80 P P 06 13 08.9 -0.2
baz=321
152A Waverly Hall 52.17 88 P P 06 13 09.8 -0.7
152A IAmb IAmb 06 13 10.5
comp=Z,8.1nm,0.7s
V57A Coltrane Farms 52.19 82 P P 06 13 10.3 -0.3
baz=321
GOGA Godfrey 52.23 87 P P 06 13 10.4 -0.5
baz=322
X55A Gracelyn & Ava 52.34 84 P P 06 13 11.6 -0.1
baz=322,SNR=6.5
W56A Indian Trail 52.36 83 P P 06 13 11.6 -0.3
baz=321
U58A Oxford 52.42 80 P P 06 13 11.9 -0.4
baz=321
T59A Double "B" Far 52.47 79 P P 06 13 12.4 -0.2
baz=321
R61A Willards 52.54 76 P P 06 13 12.8 -0.3
baz=320
V58A Windy Hill, Pi 52.59 81 P P 06 13 13.7 +0.1
baz=321
X56A White Oak 52.63 84 P P 06 13 13.8 0.0
baz=322
Y55A Saluda 52.64 85 P P 06 13 13.9 -0.1
baz=322
W57A Gilead 52.65 83 P P 06 13 13.9 -0.1
baz=322,SNR=5.5
W57A Gilead 52.65 83 P P 06 13 13.6 -0.4
W57A IAmb IAmb 06 13 14.7
comp=Z,16nm,0.8s
JSC Jenkinsville 52.68 84 P P 06 13 14.3 +0.1
JSC pmax pmax
comp=Z,6.0nm,0.7s
JSC Jenkinsville 52.68 84 P P 06 13 14.3 +0.1
KSRS Korea Array 52.81 282 P P 06 13 15.4 +0.4
comp=Z,4.3nm,0.6s,baz=39,slow=6.9,SNR=19
KSRS pP pP 06 13 47.0 +0.4
comp=Z,1.8nm,0.7s,baz=37,slow=6.6,SNR=2.2
KSRS sP sP 06 14 00.8 -0.9
comp=Z,4.0nm,1.0s,baz=40,slow=7.5,SNR=3.2
KSRS Korea Array 52.81 282 P P 06 13 15.5 +0.4
U59A Littleton 52.83 80 P P 06 13 15.3 0.0
baz=321
KSAR Wonju Array Be 52.84 282 P P 06 13 15.4 +0.1
KSAR Wonju Array Be 52.84 282 P P 06 13 15.4 +0.1
TLY Talaya 52.94 310 P P 06 13 16.2 +0.3
comp=Z,4.0nm,0.6s,baz=34,slow=7.4,SNR=5.4
TLY Talaya 52.94 310 eP P 06 13 16.2 +0.3
TLY pmax pmax
comp=Z,39nm,1.6s
TLY Talaya 52.94 310 P P 06 13 16.3 +0.3
U60A Pendleton 53.06 79 P P 06 13 17.3 +0.3
baz=321
V59A Middlesex 53.06 81 P P 06 13 17.1 +0.1
baz=321
X57A Johnson Farm, 53.13 83 P P 06 13 17.8 +0.3
baz=322,SNR=6.0
W58A Raeford 53.14 82 P P 06 13 17.8 +0.3
baz=322
Y57A Sumter 53.33 84 P P 06 13 18.9 0.0
baz=322
Z56A Williston 53.37 85 P P 06 13 19.2 -0.1
baz=322,SNR=5.1
Z56A Williston 53.37 85 P P 06 13 19.6 +0.3
W59A Clinton 53.42 81 P P 06 13 19.6 0.0
baz=322
CNNC Cliffs of the 53.65 81 P P 06 13 21.5 +0.2
baz=322
Z57A Bowman 53.74 85 P P 06 13 21.7 -0.2
baz=322
X59A McDuffie Farm, 53.81 82 P P 06 13 22.6 +0.2
baz=322
W60A Pink Hill 53.89 81 P P 06 13 23.3 +0.3
baz=322
MOY Mondy 53.98 312 eP P 06 13 24.4 +0.8
MOY pmax pmax
comp=Z,16nm,2.1s
ZAK Zakamensk 54.10 310 eP P 06 13 24.0 -0.5
ZAK pmax pmax
comp=Z,5.0nm,0.9s
X60A Albert Glenn T 54.12 81 P P 06 13 24.9 +0.2
baz=322
NHSC New Hope 54.16 84 P P 06 13 25.6 +0.6
baz=322
ULN Ulaanbaatar 54.52 305 cP P 06 13 27.4 -0.3
ULN pmax pmax
comp=Z,11nm,0.6s
ULN Ulaanbaatar 54.52 305 P P 06 13 27.6 -0.1
ULN IAmb IAmb 06 13 28.7
comp=Z,13nm,0.7s
SONM Songino Array 54.83 306 P P 06 13 30.2 +0.4
comp=Z,23nm,0.8s,baz=44,slow=7.4,SNR=92
SONM pP pP 06 14 02.2 +0.6
comp=Z,7.2nm,0.7s,baz=38,slow=7.3,SNR=6.0
SONM Songino Array 54.83 306 P P 06 13 30.2 +0.4
SONM pmax pmax
comp=Z,20nm,0.8s
SONM Songino Array 54.83 306 P P 06 13 30.2 +0.4
BJT Baijiatuau 56.57 293 P P 06 13 42.7 +0.5
BJT pmax pmax
comp=Z,13nm,1.0s
BJT Baijiatuau 56.57 293 P P 06 13 42.7 +0.5
BJT IAmb IAmb 06 13 43.8
comp=Z,13nm,1.0s
TLIG Tlapa 57.65 111 P P 06 13 51.1 +1.0
TLIG IAmb IAmb 06 13 53.5
comp=Z,12nm,0.7s
ZAA0 Zalesovo Array 57.72 323 P P 06 13 49.8 -0.2
ZAA0 IAmb IAmb 06 13 50.2
comp=Z,8.1nm,0.7s
ZALV Zalesovo Beam 57.72 323 P P 06 13 49.2 -0.8
comp=Z,7.9nm,0.7s,baz=30,slow=6.9,SNR=26
ZALV pP pP 06 14 21.9 -0.2
comp=Z,6.5nm,0.7s,baz=31,slow=6.9,SNR=6.3
ZALV sP sP 06 14 36.1 -0.8
comp=Z,2.1nm,0.6s,baz=20,slow=4.7,SNR=2.1
ZALV Zalesovo Beam 57.72 323 iP P 06 13 49.2 -0.8
ZALV pmax pmax
comp=Z,8.0nm,0.6s
ZALV Zalesovo Beam 57.72 323 P P 06 13 49.7 -0.3
HHC Hu-ho-hao-te 58.06 297 eP P 06 13 53.6 +0.8
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,57nm,6.6s
FINES FINESS Array B 59.73 360 P P 06 14 03.5 -0.3
comp=Z,2.9nm,0.8s,baz=35,slow=7.0,SNR=5.1
FINES FINESS Array B 59.73 360 iP P 06 14 03.9 +0.1
FINES pmax pmax
comp=Z,3.0nm,0.8s
TEIG Tepich 60.49 100 P P 06 14 09.6 +0.1
DGZ Jazzator, Alta 60.50 319 eP P 06 14 09.6 +0.1
DGZ pmax pmax
comp=Z,7.0nm,1.1s
NJ2 Nanjing 61.62 285 eP P 06 14 17.3 +0.3
NJ2 pmax pmax
comp=Z,6.0nm,0.7s
ARU Arti 61.86 340 P P 06 14 17.9 -0.4
comp=Z,0.9nm,0.5s,baz=354,slow=6.6,SNR=4.0
ARU pP pP 06 14 49.9 -0.8
comp=Z,1.4nm,0.6s,baz=0.4,slow=7.7,SNR=1.9
ARU Arti 61.86 340 cP P 06 14 17.5 -0.8
ARU *PP pP 06 14 48.0 -2.7
ARU 06 16 34.4
ARU S S 06 22 30.4 -0.2
ARU SS SS 06 26 27.8 -6.0
ARU pmax pmax
comp=Z,5.0nm,0.9s
ARU Arti 61.86 340 P P 06 14 17.7 -0.6
CCIG Comitan 61.88 106 P P 06 14 17.9 -1.3
CCIG IAmb IAmb 06 14 21.6
comp=Z,12nm,0.8s
KURK Kurchatov 62.41 325 cP P 06 14 20.7 -1.3
KURK *PP pP 06 14 53.7 -0.8
KURK pmax pmax
comp=Z,7.0nm,0.9s
KURK Kurchatov 62.41 325 P P 06 14 21.0 -1.0
PETF Flores 62.47 104 P P 06 14 22.5 -0.4
PETF IAmb IAmb 06 14 24.4
comp=Z,14nm,0.9s
BRVK Borovoye 62.54 332 eP P 06 14 21.8 -1.1
BRVK *PP pP 06 14 54.6 -0.8
BRVK pmax pmax
comp=Z,10.0nm,1.3s
BRVK Borovoye 62.54 332 P P 06 14 22.0 -0.9
BVAR Borovoye Array 62.55 332 P P 06 14 21.5 -1.4
comp=Z,3.4nm,0.6s,baz=43,slow=6.7,SNR=17
BVAR pP pP 06 14 54.8 -0.6
comp=Z,6.9nm,0.7s,baz=43,slow=6.7,SNR=8.1
BVAR Borovoye Array 62.55 332 P P 06 14 21.5 -1.4
GTA Gaotai 64.44 304 eP P 06 14 35.6 -0.2
GTA pP PcP 06 15 08.8 -0.1
GTA sP sP 06 15 21.5 -1.7
GTA S S 06 23 02.6 -0.9
GTA sS sS 06 23 54.0 -6.1
GTA pmax pmax
comp=Z,11nm,1.0s
GTA pmax pmax
comp=Z,43nm,5.9s
GTA LR LR
comp=Z,68nm,18.1s
GTA LR LR
comp=Z,73nm,17.8s
GTA LR LR
comp=Z,68nm,18.4s
MK31 Makanchi Array 64.73 321 P P 06 14 35.8 -1.6
MK31 pmax pmax
comp=Z,4.0nm,1.1s
MK31 Makanchi Array 64.73 321 P P 06 14 35.8 -1.6
MKAR Makanchi Array 64.73 321 P P 06 14 36.1 -1.4
comp=Z,3.0nm,0.8s,baz=38,slow=6.1,SNR=20
MKAR pP PcP 06 15 09.6 -0.2
comp=Z,2.7nm,0.8s,baz=44,slow=5.7,SNR=5.8
MKAR PP PP 06 16 57.9 -2.9
comp=Z,1.5nm,0.7s,baz=48,slow=7.4,SNR=5.7
MKAR Makanchi Array 64.73 321 cP P 06 14 36.0 -1.4
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 64.73 321 P P 06 14 35.8 -1.6
MAKZ Makanchi 64.82 321 P P 06 14 37.1 -0.9
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
MAKZ Makanchi 64.82 321 P P 06 14 37.1 -0.9
WHN Wuhan 65.07 288 P P 06 14 38.9 -0.9
WMQ Urumqi 65.47 315 eP P 06 14 45.9 +3.6
WMQ LR LR
comp=Z,180nm,14.5s
WMQ LR LR

comp=Z,250nm,16.3s
WMQ LR LR
comp=Z,100nm,21.9s
OBN Obninsk 65.76 353 *e*P **P** 06 14 43.0 -0.8
OBN *e* 06 17 07.1
OBN pmax pmax
comp=E,5.0nm,0.8s
AKTO Aktyubinsk 67.68 338 P **P** 06 14 54.6 -1.4
comp=Z,1.5nm,0.6s,baz=23,slow=11,SNR=5.1
AKTO pP **pP** 06 15 28.4 -0.6
comp=Z,3.7nm,0.8s,baz=341,slow=8.9,SNR=4.5
AKTO Aktyubinsk 67.68 338 P **P** 06 14 54.6 -1.4
MATN Matagalpa 67.84 102 P **P** 06 14 57.3 -0.3
ABKAR Akbulak array 68.42 337 P **P** 06 14 59.2 -1.5
AKASG Malin Array Be 70.47 358 P **P** 06 15 11.0 -2.2
comp=Z,2.6nm,0.6s,baz=5.4,slow=6.4,SNR=7.9
AKASG pP **pP** 06 15 46.0 -0.5
comp=Z,0.8nm,0.4s,baz=359,slow=6.0,SNR=2.5
AKASG Malin Array Be 70.47 358 *ce*P **P** 06 15 12.1 -1.1
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 70.47 358 IAmb IAmb 06 15 12.7
comp=Z,0.9nm,0.9s
AKBB Malin Array Si 70.47 358⇑ *e*P **P** 06 15 12.2 -1.0
AKBB Malin Array Si 70.47 358 P **P** 06 15 12.3 -1.0
AAK Ala-Archa 70.91 324 P **P** 06 15 15.8 -0.5
comp=Z,3.3nm,0.5s,baz=26,slow=6.5,SNR=5.8
AAK Ala-Archa 70.91 324 P **P** 06 15 15.9 -0.5
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 70.91 324 P **P** 06 15 15.8 -0.5
KK31 Karatay Array 71.64 327 P **P** 06 15 19.3 -1.2
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KK31 Karatay Array 71.64 327 P **P** 06 15 19.3 -1.2
KKAR Karatay Array 71.64 327 P **P** 06 15 19.1 -1.4
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 71.64 327 P **P** 06 15 19.1 -1.4
GERES GERESS Array B 71.90 8 pP pP 06 15 55.3 -0.1
comp=Z,0.7nm,0.7s,baz=60,slow=3.2,SNR=2.8
KSH Kashi 73.30 322 *e*P **P** 06 15 33.3 +2.8
KSH pmax pmax
comp=Z,8.0nm,0.9s
GAR Garm 75.50 326 P **P** 06 15 42.7 -0.5
CHGR Chuyangaron 76.15 326 P **P** 06 15 45.9 -1.0
CHGR IAmb IAmb 06 15 46.7
comp=Z,26nm,0.9s
KIV Kislovodsk 76.32 348 *e*P **P** 06 15 49.2 +1.5
KIV pmax pmax
comp=Z,18nm,1.1s
KBZ Khabaz 76.52 347 P **P** 06 15 48.7 0.0
comp=Z,1.2nm,0.5s,baz=281,slow=3.1,SNR=4.1
KBZ Khabaz 76.52 347⇑ *e*P **P** 06 15 48.4 -0.3
KBZ pmax pmax
comp=Z,2.0nm,0.8s
SMLC San Martn de 77.39 94 *e*P **P** 06 15 52.8 -1.2
SLVN Son La 77.86 291 P **P** 06 15 56.1 -0.5
ZARC Zaragoza, Cauc 78.10 95 *e*P **P** 06 15 56.7 -1.3
ESDC Sonseca Array 78.46 23 P **P** 06 15 59.7 0.0
comp=Z,1.5nm,0.8s,baz=328,slow=5.2,SNR=6.2
ESDC Sonseca Array 78.46 23 P **P** 06 15 58.8 -0.9
CBOC Ciudad Bolivar 78.89 97 *e*P **P** 06 16 02.2 -0.3
PTBC PUERTO BERRIO, 79.11 96 *e*P **P** 06 16 02.0 -1.5
NIL Nilore 79.54 321 P **P** 06 16 04.7 -0.9
NIL pmax pmax
comp=Z,10.0nm,0.7s
NIL Nilore 79.54 321 P **P** 06 16 04.7 -0.9
BARC Barichara 79.72 94 *e*P **P** 06 16 06.7 -0.4
NORC Norcasia 79.73 96 *e*P **P** 06 16 06.3 -0.6
GUY2C Guyana, Caldas 79.77 97 *e*P **P** 06 16 06.9 -0.7
SPBC San Pablo de B 80.07 96 *e*P **P** 06 16 07.5 -1.2
YOTC Yotoco, Valle 80.33 98 *e*P **P** 06 16 10.0 -0.2
RUSC La Rusia 80.37 95 *e*P **P** 06 16 07.5 -3.4
RUSC La Rusia 80.37 95 P **P** 06 16 10.3 -0.6
ORTC Ortega, Tolima 80.95 98 *e*P **P** 06 16 12.2 -1.3
POPC Popayan, Colom 81.39 100 *e*P **P** 06 16 14.5 -1.5
OTAV Otavalo 82.47 102 *e*P **P** 06 16 22.1 +0.3
OTAV Otavalo 82.47 102 P **P** 06 16 22.3 +0.5
OTAV pmax pmax
comp=Z,8.0nm,0.7s
CMAR Chiang Mai Arr 82.69 294 P **P** 06 16 21.4 -1.0
comp=Z,2.7nm,0.7s,baz=16,slow=6.7,SNR=12
CMAR pP **pP** 06 16 55.1 -1.5
comp=Z,1.2nm,0.3s,baz=8.2,slow=6.1,SNR=2.3
CMAR Chiang Mai Arr 82.69 294 *ce*P **P** 06 16 21.7 -0.8
CMAR pmax pmax
comp=Z,3.0nm,0.7s
FLOC Florencia 82.73 99 P **P** 06 16 22.3 -0.4
MARD Mardin 83.09 348 P **P** 06 16 24.3 -0.2
MARD IAmb IAmb 06 16 25.3
comp=Z,18nm,1.3s
PUAC Puerto Asis, P 83.15 100 *e*P **P** 06 16 25.1 +0.2
PBKT Sadao Pong 83.35 291 P **P** 06 16 26.0 +0.1
WRA Warramunga Arr 97.88 244 P Pdif 06 17 35.2 +1.1
comp=Z,0.5nm,0.8s,baz=33,slow=5.7,SNR=2.1
WRA Warramunga Arr 97.88 244 P Pdif 06 17 34.8 +0.7
WRA Warramunga Arr 97.88 244 P Pdif 06 17 34.8 +0.7
KMBO Kilima Mbogo 121.45 347 PKIKP **PKiKP** 06 22 53.1 +1.3
comp=Z,1.5nm,0.6s,baz=25,slow=6.7,SNR=3.7
KMBO Kilima Mbogo 121.45 347 **PKiKP** 06 22 52.2 +0.4
KMBO Kilima Mbogo 121.45 347 **PKiKP** 06 22 52.2 +0.4
BOSA Boshof 149.46 1 PKIKP **PKPbc** 06 23 46.0 -0.8
comp=Z,7.4nm,0.6s,baz=20,slow=1.9,SNR=17
BOSA Boshof 149.46 1 PKP2 **PKPbc** 06 23 46.4 -0.4
BOSA Boshof 149.46 1 **PKPbc** 06 23 46.4 -0.4

TIR ***14*** *06:08:20.7, 41.83N×20.08E, h8km, Md2.1/3*
SKO ***14*** *06:08:21.7, 41.82N×20.04E, h19km*
PDG ***14*** *06:08:21.1±0.1, 41.85N×20.04E, h8km, ML2.5/13, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*
BEO ***14*** *06:08:22.2±0.3, 41.85N×20.10E, h5km±2km, ML2.3/8*
ISC 14 06:08:20.9±1.1, 41.82N±0.02×20.09E±0.02, h4km±10km, n36, σ0.93/70, 6C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.26**	**326**	*i* PG		**Pg**	**06 08 26.2**	**+0.2**
PUK				*i* SG		**Sg**	**06 08 30.5**	**+0.9**
PHP	**Peshkopia**	**0.30**	**118**	*i* PG		**Pg**	**06 08 26.9**	**+0.2**
PHP				*i* SG		**Sb**	**06 08 32.1**	**-2.0**
TIR	**Tirane**	**0.50**	**199**	*i* PG		**Pg**	**06 08 30.6**	**0.0**
TIR				*i* SG		**Sg**	**06 08 35.0**	**-2.1**
TIR	**Tirane**	**0.50**	**199**	*e*Pg		**Pg**	**06 08 31.3**	**+0.7**
TIR				*e*Sg		**Sb**	**06 08 40.1**	**+0.1**
ULC	**Ulcinj**	**0.65**	**283**⇑	*i*Pg		**Pg**	**06 08 32.3**	**-1.0**
ULC				*i* Sg		**Sg**	**06 08 42.1**	**+0.4**
DRME	**Dracevica, Mon**	**0.77**	**299**⇑	*i*Pg		**Pg**	**06 08 34.5**	**-1.1**
DRME				*i* Sg		**Sg**	**06 08 45.8**	**+0.3**
PVY	**Plav**	**0.78**	**353**	*i*Pg		**Pg**	**06 08 35.0**	**-0.8**
PVY				*i* Sg		**Sg**	**06 08 46.8**	**+0.9**
PDG	**Podgorica**	**0.87**	**315**	*e*Pg		**Pg**	**06 08 36.6**	**-1.0**
PDG				*e*Sg		**Sg**	**06 08 49.7**	**+0.9**
TTG	**Podgorica**	**0.87**	**315**	*i*Pg		**Pg**	**06 08 36.4**	**-1.2**
TTG				*i* Sg		**Sg**	**06 08 49.3**	**+0.5**
OHR	**Ohrid**	**0.89**	**143**	*i* Pg		**Pb**	**06 08 38.4**	**-0.6**
OHR				*i* Sg		**Sb**	**06 08 51.6**	**+0.5**
OHR				*e*Lg		Lg	06 08 52.9	
	comp=N,138nm,0.4s							
BUM	**Brajici-Budva**	**1.01**	**299**	*i*Pg		**Pg**	**06 08 38.9**	**-1.4**
BUM				*i* Sg		**Sg**	**06 08 54.1**	**+0.7**
SKO	**Skopje**	**1.02**	**81**	*e*Pg		**Pb**	**06 08 41.3**	**+0.2**
SKO				*e*Sg		**Sg**	**06 08 53.3**	**-0.4**
SKO	**Skopje**	**1.02**	**81**⇑	*i*Pg		**Pg**	**06 08 39.9**	**-0.5**
SKO				*i* Sg		**Sb**	**06 08 55.3**	**+0.4**
SKO				*e*Lg		Lg	06 08 56.7	
	comp=N,21nm,0.5s							
IVA	**Berane**	**1.06**	**352**	*e*Pg		**Pg**	**06 08 40.2**	**-1.0**
IVA				*i* Sg		**Sb**	**06 08 55.9**	**-0.2**
KOME	**Kolasin**	**1.11**	**338**⇑	*i*Pg		**Pg**	**06 08 41.0**	**-1.2**
KOME				*i* Sg		**Sb**	**06 08 57.8**	**+0.2**
CEME	**Cevo**	**1.13**	**310**	*e*Pg		**Pg**	**06 08 41.1**	**-1.5**
CEME				*i* Sg		**Sg**	**06 08 58.1**	**+0.8**
NKME	**Niksic**	**1.26**	**319**	*e*Pg		**Pg**	**06 08 43.6**	**-1.6**
NKME				*i* Sg		**Sb**	**06 09 02.7**	**+0.7**
NKY	**Niksic**	**1.28**	**321**	*i*Pg		**Pg**	**06 08 44.1**	**-1.4**
NKY				*i* Sg		**Sb**	**06 09 03.2**	**+0.7**
HCY	**Herceg Novi**	**1.34**	**298**⇑	*i*Pg		**Pg**	**06 08 45.1**	**-1.5**
HCY				*i* Sg		**Sn**	**06 09 05.3**	**+0.7**
SJES	**Sjenica**	**1.44**	**357**	*e*Pg		**Pg**	**06 08 48.4**	**-0.1**
SJES				*e*Sg		**Sg**	**06 09 07.1**	**-0.1**
TREB	**Trebinje**	**1.57**	**305**	*e*Pg		**Pn**	**06 08 50.1**	**+0.6**
TREB				*e*Sg		**Sg**	**06 09 11.7**	**+0.4**
BRY	**Bratogost**	**1.57**	**314**⇑	*i*Pg		**Pn**	**06 08 49.4**	**-0.4**
BRY				*i* Sg		**Sg**	**06 09 12.6**	**+1.1**
STIP	**Stip**	**1.57**	**94**	*i* Pn		**Pg**	**06 08 51.4**	**+0.2**
STIP				*i* Sn		**Sg**	**06 09 14.2**	**+2.7**
STIP				*e*Lg		Lg	06 09 14.6	
	comp=E,12nm,0.5s							
SELS	**Selova**	**1.59**	**28**	*e*Pg		**Pn**	**06 08 48.7**	**-1.2**
SELS				*e*Sg		**Sg**	**06 09 11.6**	**-0.4**
PLE	**Pljevlja**	**1.59**	**341**⇓	*i*Pg		**Pn**	**06 08 49.9**	**-0.1**
PLE				*i* Sg		**Sg**	**06 09 13.2**	**+1.1**
BARS	**Barje**	**1.62**	**52**	*e*Pg		**Pg**	**06 08 51.5**	**-0.5**
BARS				*e*Sg		**Sg**	**06 09 12.9**	**-0.3**
UPM	**Unac-Piva**	**1.63**	**328**⇓	*i*Pn		**Pn**	**06 08 50.3**	**-0.3**
UPM				*i* Sn		**Sg**	**06 09 14.1**	**+0.7**
DBRK	**Dubrovnik**	**1.67**	**301**	*e*Pn		**Pn**	**06 08 51.2**	**+0.3**
DBRK				Sn		**Sg**	**06 09 15.6**	**+1.0**
BOSS	**Bosilegrad**	**1.90**	**69**	*e*Pn		**Pb**	**06 08 55.7**	**-0.5**
BOSS				*e*Sn		**Sn**	**06 09 18.8**	**+0.3**
VAY	**Valandovo**	**1.93**	**104**	*i* Pn		**Pn**	**06 08 54.0**	**-0.5**
VAY				*i* Sn		**Sn**	**06 09 19.2**	**+0.1**
VAY				*e*Lg		Lg	06 09 19.3	
	comp=E,21nm,0.6s							
STON	**Ston**	**2.06**	**301**	*e*Pn		**Pn**	**06 08 56.4**	**+0.2**
STON				Sn		**Sg**	**06 09 28.7**	**+1.7**
BBLS	**Lazići**	**2.10**	**346**	*e*Pn		**Pn**	**06 08 57.0**	**+0.1**
BBLS				*e*Sn		**Sn**	**06 09 23.9**	**+0.3**
GRUS	**Gruza**	**2.11**	**12**	*e*Pn		**Pn**	**06 08 57.7**	**+0.7**
GRUS				*e*Sn		**Sn**	**06 09 23.4**	**-0.4**
DIVS	**Divibare**	**2.27**	**358**	*e*Pn		**Pn**	**06 09 00.3**	**+1.0**
DIVS				*e*Sn		**Sn**	**06 09 27.9**	**+0.1**
MAKA	**Makarska**	**2.70**	**304**	*e*Pn		**Pn**	**06 09 07.0**	**+2.0**
ZIRJ	**Zirje**	**3.75**	**301**	*e*Pn		**Pn**	**06 09 19.6**	**+0.1**

IDC 14 06:14:00.8±48.0, 15.45S×173.59W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/39, mbtmp4.1/3, MS4.1/1, Ms1 4.1/1, ms1mx2.8/36, Error ellipse: s-maj=916.7km s-min=176.1km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.85**	**240**	P		P	06 22 09.8	+0.7
	1.3nm,0.5s,baz=81,slow=13,SNR=5.6							
WRA	**Warramunga Arr**	**49.65**	**257**	P		P	06 22 54.0	-0.6
	0.3nm,0.4s,baz=95,slow=8.1,SNR=13							
ASAR	**Alice Springs**	**49.92**	**252**	P		P	06 22 56.5	-0.3
	4.1nm,0.6s,baz=88,slow=8.1,SNR=45							
GUMO	**Guam**	**50.20**	**303**	LR		LR	06 41 47.2	
	comp=Z,187nm,21.2s,baz=168,slow=33							

SKHL ***14*** *06:27:18.5±0.4, 43.72N×149.38E, h33km±3km, mb4.1/1*
IDC ***14*** *06:27:33.8±2.3, 46.15N×147.31E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/39, mbtmp3.8/5, ML2.9/1, MS3.5/2, Ms1 3.5/2, ms1mx2.5/38, Error ellipse: s-maj=63.0km s-min=31.7km az=164.0*
ISC 14 06:27:20.6±1.4, 43.64N±0.07×149.3E±0.1, h51km, n26, σ1.985/32, mb4.0/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.89**	**328**	*e*P		**Pn**	**06 27 47.9**	**-2.5**
KUR				AMB		AMB	06 27 50.0	
	110nm,0.5s							
KUR				*i* S		**Sn**	**06 28 09.9**	**-3.2**
KUR				A		A	06 28 12.0	
	130nm,0.6s							
KUR				A		A	06 28 12.0	
	200nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**2.51**	**280**	*e*S		**Sn**	**06 28 27.5**	**-0.7**
YUK				A		A	06 28 31.6	
	150nm,0.5s							
YUK				A		A	06 28 31.6	
	190nm,0.5s							
GRPR	**Tuman**	**2.57**	**279**	*e*S		**Sn**	**06 28 28.8**	**-0.8**
NEM2	**Nemuro 2**	**2.59**	**265**	P		**Pn**	**06 27 58.9**	**-1.0**
NEM2				*e*S		**Sn**	**06 28 28.1**	**-2.1**
NMR	**Nemuro--Hokkai**	**2.60**	**265**	*e*P		**Pn**	**06 27 59.4**	**-0.7**
NMR				*e*S		**Sn**	**06 28 30.4**	**0.0**
JRA	**Rausu**	**3.03**	**277**	P		**Pn**	**06 28 05.2**	**-0.7**
JAK	**Akkeshi**	**3.41**	**261**	P		**Pn**	**06 28 11.5**	**+0.3**
JAR	**Ashorobuto**	**4.03**	**267**	P		**Pn**	**06 28 19.7**	**0.0**
JCH	**Churui**	**4.45**	**259**	P		**Pn**	**06 28 26.6**	**+1.1**
ASAJ	**Asahikawa**	**4.86**	**278**	Pn		**Pn**	**06 28 34.2**	**+3.1**
	0.7nm,0.3s,baz=75,slow=12,SNR=6.1							
JNBK	**Urakawa-nobuka**	**4.98**	**256**	P		**Pn**	**06 28 33.0**	**+0.3**
JBT2	**Biratori 2**	**5.13**	**263**	P		**Pn**	**06 28 34.9**	**+0.1**
JNB	**Noboribetsu**	**6.15**	**262**	P		**Pn**	**06 28 49.2**	**+0.4**
JNB				*e*S		**Sn**	**06 29 58.1**	**+0.3**
JKB	**Kayabe**	**6.32**	**257**	P		**Pn**	**06 28 51.7**	**+0.6**
JKB				*e*S		**Sn**	**06 29 59.9**	**-2.0**
JANG	**Nango**	**6.64**	**243**	P		**Pn**	**06 28 55.4**	**-0.1**
JANG				*e*S		**Sn**	**06 30 05.5**	**-4.3**
OFUJ	**Ofunato**	**7.31**	**234**	P		**Pn**	**06 29 04.8**	**+0.1**
OFUJ				*e*S		**Sn**	**06 30 23.2**	**-3.2**
JRG	**Rokugo**	**7.75**	**240**	P		**Pn**	**06 29 12.0**	**+1.3**
JRG				*e*S		**Sn**	**06 30 34.6**	**-2.4**
JIO	**Ouri**	**7.92**	**232**	*e*S		**Sn**	**06 30 36.7**	**-4.5**
SONM	**Songino Array**	**29.94**	**293**	P		**P**	**06 33 24.3**	**+0.5**
	0.9nm,0.6s,baz=87,slow=5.2,SNR=4.3							
TGY	**Tagaytay City**	**38.14**	**228**	LR		LR	06 51 11.2	
	comp=Z,110nm,19.8s,baz=175,slow=36							
INK	**Inuvik**	**45.72**	**30**	LR		LR	06 55 04.8	
	comp=Z,27nm,19.4s,baz=200,slow=37							
MKAR	**Makanchi Array**	**46.00**	**298**	P		**P**	**06 35 39.9**	**+1.2**
	1.9nm,0.8s,baz=77,slow=7.5,SNR=17							
MKAR				pP		**pP**	**06 35 51.7**	**+1.3**
	1.5nm,0.6s,baz=77,slow=8.3,SNR=9.5							
FINES	**FINESS Array B**	**65.67**	**334**	P		**P**	**06 37 59.6**	**+0.5**
	1.9nm,0.8s,baz=28,slow=8.6,SNR=4.0							
FINES				pP		**pP**	**06 38 11.4**	**+0.1**
	1.5nm,0.6s,baz=54,slow=9.7,SNR=2.1							
NB2	**NORSAR Subarra**	**70.26**	**340**	P		**P**	**06 38 28.4**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**70.26**	**340**	pP		pP	06 38 40.3	+0.3
	comp=Z,1.3nm,0.8s,baz=33,slow=5.8,SNR=4.5							
TXAR	**Lajitas Array**	**81.42**	**58**	P		P	06 39 52.1	+20
	comp=Z,0.2nm,0.6s,baz=316,slow=5.2,SNR=3.4							

IDC ***14*** *06:43:22.3±0.6, 30.59N×140.14E, h0km, mb4.0/11, mb1 4.3/13, mb1mx4.0/36, mbtmp4.0/13, ML3.3/2, MS3.0/11, Ms1 3.0/11, ms1mx2.8/36, Error ellipse: s-maj=23.7km s-min=16.6km az=105.0*
NEIC ***14*** *06:43:24.1±1.7, 30.66N±0.04×139.89E±0.08, h10km±1km, mb4.4/16, Error ellipse: s-maj=11.6km s-min=6.4km az=102.0*
JMA ***14*** *06:43:25.0±0.5, 30.71N×140.78E, h72km, M4.0*
ISC 14 06:43:23.5±0.5, 30.55N±0.07×139.97E±0.08, h10km, n64, σ1.967/51, mb4.1/16, MS3.1/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.56**	**357**	Pn		**Pn**	**06 44 03.4**	**-1.6**
CBIJ	**Chichi jima**	**3.95**	**150**	S		**Sn**	**06 45 05.8**	**-4.9**
JCJ	**Chichijima**	**3.95**	**150**	Pn		**Pn**	**06 44 25.6**	**+1.3**
	12nm,0.3s,baz=258,slow=20,SNR=2.2							
JCJ				Sn		**Sn**	**06 45 05.9**	**-4.8**
	47nm,0.3s,baz=112,slow=24,SNR=9.2							
JCJ	**Chichijima**	**3.95**	**150**			**Pn**	**06 44 25.7**	**+1.5**
JCJ				Sn		**Sn**	**06 45 08.0**	**-2.7**
BSO1	**Boso 1**	**4.18**	**11**	P		**Pn**	**06 44 23.9**	**-2.9**
BSO3	**Boso 3**	**4.26**	**6**	P		**Pn**	**06 44 26.5**	**-1.7**
BSO4	**Boso 4**	**4.44**	**4**	P		**Pn**	**06 44 29.8**	**-1.0**
MJAR	**Matsushiro Arr**	**6.15**	**347**	Pn		**Pn**	**06 44 56.2**	**+1.7**
	0.1nm,0.3s,baz=175,slow=14,SNR=6.2							
MJAR				LR		LR	06 46 58.7	
	comp=Z,42nm,19.9s,baz=175,slow=35							
MJAR	**Matsushiro Arr**	**6.15**	**347**	Pn		**Pn**	**06 44 51.0**	**-3.5**
MAJO	**Matsushiro**	**6.15**	**347**			Pn	06 44 41.2	-13
MJB9	**Matsu-Tunnel**	**6.16**	**347**			Pn	06 44 40.1	-14
JNU	**Nakatsue**	**8.15**	**291**	LR		LR	06 48 30.2	
	comp=Z,183nm,18.9s,baz=162,slow=37							
JNU	**Nakatsue**	**8.15**	**291**	Pn		**Pn**	**06 45 19.9**	**-2.0**
JNU				Sn		**Sn**	**06 46 51.5**	**-2.7**
KSRS	**Korea Array**	**12.13**	**308**	LR		LR	06 50 54.6	
	comp=Z,58nm,19.2s,baz=123,slow=37							
ASAJ	**Asahikawa**	**13.70**	**8**	LR		LR	06 52 48.3	
	comp=Z,57nm,18.4s,baz=176,slow=42							
GUMO	**Guam**	**17.48**	**164**	LR		LR	06 52 35.7	
	comp=Z,51nm,21.7s,baz=95,slow=32							
GUMO	**Guam**	**17.48**	**164**			**P**	**06 47 31.5**	**+2.9**
PETK	**Petropavlovsk-**	**25.98**	**25**	LR		LR	07 01 48.3	
	comp=Z,9.5nm,18.2s,baz=233,slow=43							
H11N2	**WAKE ISLAND Hy**	**26.58**	**108**	T		T	07 16 24.6	
	baz=300,slow=75,SNR=554							
H11N1	**WAKE ISLAND Hy**	**26.59**	**108**	T		T	07 16 29.6	
	baz=300,slow=75,SNR=260							
H11N3	**WAKE ISLAND Hy**	**26.60**	**108**	T		T	07 16 32.9	
	baz=300,slow=75,SNR=246							
H11S3	**WAKE ISLAND Hy**	**27.03**	**110**	T		T	07 17 02.3	
	baz=302,slow=75,SNR=50							
H11S1	**WAKE ISLAND Hy**	**27.04**	**110**	T		T	07 17 01.8	
	baz=302,slow=75,SNR=53							
H11S2	**WAKE ISLAND Hy**	**27.05**	**110**	T		T	07 17 03.6	
	baz=302,slow=75,SNR=44							
CMAR	**Chiang Mai Arr**	**39.03**	**262**	P		**P**	**06 50 53.7**	**+3.1**
	1.2nm,0.4s,baz=76,slow=7.9,SNR=7.6							
CMAR				LR		LR	07 07 33.1	
	comp=Z,42nm,18.3s,baz=182,slow=37							
ZALV	**Zalesovo Beam**	**45.63**	**317**	PcP		**PcP**	**06 53 21.6**	**-0.4**
	1.1nm,0.3s,baz=131,slow=4.5,SNR=4.7							
ZALV				LR		LR	07 11 05.6	
	comp=Z,21nm,18.9s,baz=68,slow=36							
MKAR	**Makanchi Array**	**46.81**	**307**	P		**P**	**06 51 53.6**	**+0.2**
	0.6nm,0.6s,baz=93,slow=9.3,SNR=7.4							
MKAR				LR		LR	07 11 12.2	
	comp=Z,16nm,21.1s,baz=104,slow=36							
MKAR	**Makanchi Array**	**46.81**	**307**	P		**P**	**06 51 54.0**	**+0.5**
KURK	**Kurchatov**	**49.21**	**313**	P		**P**	**06 52 11.5**	**-0.3**
KURK				IAmb		IAmb	06 52 17.9	
	comp=Z,3.4nm,0.9s							
WRA	**Warramunga Arr**	**50.49**	**187**	P		**P**	**06 52 21.9**	**0.0**
	comp=Z,3.1nm,0.8s,baz=5.7,slow=7.7,SNR=14							
WRA				PcP		**PcP**	**06 53 40.4**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=357,slow=4.0,SNR=5.0							
WRA	**Warramunga Arr**	**50.49**	**187**	P		**P**	**06 52 21.8**	**-0.1**
IMAR	**Indian Mountai**	**52.88**	**28**	P		**P**	**06 52 39.4**	**+0.2**
AS31	**Alice Springs**	**54.22**	**187**	P		**P**	**06 52 51.8**	**+2.2**
ASAR	**Alice Springs**	**54.22**	**187**	P		**P**	**06 52 49.5**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=15,slow=14,SNR=16							
ASAR	**Alice Springs**	**54.22**	**187**	P		**P**	**06 52 49.8**	**+0.3**
KKAR	**Karatay Array**	**55.53**	**304**	P		**P**	**06 52 59.4**	**+0.5**
IL31		**55.65**	**30**	P		**P**	**06 52 58.8**	**-0.6**
IL31				IAmb		IAmb	06 53 00.4	
	comp=Z,5.9nm,1.2s							
ILAR	**Eielson Array**	**55.65**	**30**	P		**P**	**06 52 58.5**	**-1.0**
	comp=Z,1.8nm,1.0s,baz=261,slow=6.5,SNR=11							
INK	**Inuvik**	**60.72**	**25**	P		**P**	**06 53 34.5**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=283,slow=5.5,SNR=5.1							
INK	**Inuvik**	**60.72**	**25**	P		**P**	**06 53 34.8**	**0.0**
ABKAR	**Akbulak array**	**61.32**	**313**	P		**P**	**06 53 39.1**	**-0.1**
ARCES	**ARCESS Array B**	**69.65**	**340**	LR		LR	07 29 23.9	
	comp=Z,16nm,18.5s,baz=28,slow=40							
YKA	**Yellowknife Ar**	**70.03**	**28**	P		**P**	**06 54 34.4**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=309,slow=6.9,SNR=3.6							
PINE	**Pine Mountain**	**75.51**	**48**	P		**P**	**06 55 09.9**	**+1.5**
PINE				IAmb		IAmb	06 55 10.2	
	comp=Z,2.8nm,0.8s							
K05A	**Summer Lake**	**76.05**	**49**	P		**P**	**06 55 12.9**	**+1.4**
K05A				IAmb		IAmb	06 55 31.0	
	comp=Z,4.9nm,1.3s							
WALA	**Waterton Lakes**	**77.09**	**40**	P		**P**	**06 55 18.0**	**+0.8**
WALA				IAmb		IAmb	06 55 18.2	
	comp=Z,2.3nm,0.7s							
AKASG	**Malin Array Be**	**78.70**	**323**	P		**P**	**06 55 25.4**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=48,slow=5.7,SNR=2.4							
LRM	**Limekiln Ridge**	**79.67**	**43**	P		**P**	**06 55 32.2**	**+0.6**
NOA	**NORSAR Array B**	**79.69**	**337**	LR		LR	07 33 58.9	
	comp=Z,9.9nm,18.8s,baz=335,slow=38							
NVAR	**Mina Array Bea**	**79.90**	**51**	P		**P**	**06 55 33.1**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=273,slow=5.4,SNR=8.2							
TPNV	**Topopah Spring**	**82.06**	**52**	P		**P**	**06 55 44.9**	**+0.4**
PDAR	**Pinedale Array**	**83.11**	**44**	P		**P**	**06 55 49.7**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=325,slow=0.4,SNR=5.2							
PDAR	**Pinedale Array**	**83.11**	**44**	P		**P**	**06 55 50.3**	**+0.4**
TMUT	**Trail Mountain**	**84.08**	**48**	P		**P**	**06 55 56.2**	**+1.1**
RDMU	**Red Mountain**	**84.38**	**46**	P		**P**	**06 55 57.2**	**+0.8**
SRU	**San Rafael Swe**	**84.62**	**47**	P		**P**	**06 55 58.6**	**+0.9**
PV13	**Radium Mtn., P**	**86.26**	**47**	P		**P**	**06 56 06.4**	**+0.4**
TX32	**Lajitas Array**	**95.04**	**52**	P		**P**	**06 56 47.5**	**+0.4**
TXAR	**Lajitas Array**	**95.04**	**52**	P		**P**	**06 56 47.6**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=300,slow=3.2,SNR=24							
H03N2	**Juan Fernandez**	**147.01**	**105**	T		T	09 47 04.9	
	baz=281,slow=75,S

RGM0	**Gandoca**	**2.16**	**340**⇑	*e*P	**Pn**	**06 52 07.2**	**0.0**
RGM0	**Gandoca**	**2.16**	**340**	*e*P	**Pb**	**06 52 09.3**	**-1.1**
DRK0	**Durika**	**2.20**	**321**⇑	*e*P	**Pn**	**06 52 08.4**	**+0.6**
DRK0				*e*S	**Sb**	**06 52 37.6**	**-0.8**
DRK0	**Durika**	**2.20**	**321**	*e*P	**Pn**	**06 52 08.5**	**+0.6**
ZANG	**Zanguenga, Cho**	**2.40**	**54**⇓	*e*P	**Pb**	**06 52 12.7**	**-1.7**
ZANG	**Zanguenga, Cho**	**2.40**	**54**	*e*P	**Pb**	**06 52 12.6**	**-1.8**
EDLM	**Las Mercedes**	**2.44**	**315**	*e*P	**Pn**	**06 52 12.6**	**+1.5**
PINA	**Piqa, Costa Ab**	**2.44**	**46**⇑	*e*P	**Pb**	**06 52 13.7**	**-1.4**
CHOR3	**La Chorrera**	**2.45**	**57**⇑	*e*P	**Pb**	**06 52 14.1**	**-1.2**
BCIP	**Isla Barro Col**	**2.55**	**51**	*e*P	**Pn**	**06 52 14.8**	**+2.3**
BCIP				*e*S	**Sb**	**06 52 49.0**	**+0.5**
BCIP				*i*		06 52 57.1	
	comp=Z,237nm,0.5s						
BCIP	**Isla Barro Col**	**2.55**	**51**⇑	*e*P	**Pn**	**06 52 14.2**	**+1.7**
BCIP				*i* S	**Sb**	**06 52 45.5**	**-2.9**
BCIP	**Isla Barro Col**	**2.55**	**51**	*e*P	**Pn**	**06 52 14.2**	**+1.7**
PEZE	**Perez Zeledon,**	**2.57**	**315**	*e*P	**Pn**	**06 52 13.4**	**+0.5**
ARRA3	**Arraijan, Pana**	**2.58**	**57**⇓	*e*P	**Pn**	**06 52 13.6**	**+0.7**
ARRA3				*i* S	**Sn**	**06 52 45.8**	**+1.5**
TABO3	**Taboga, Panama**	**2.58**	**61**	*i* P	**Pb**	**06 52 15.6**	**-1.9**
TABO3				*e*S	**Sb**	**06 52 46.7**	**-2.5**
FLAM	**Flamenco Islan**	**2.65**	**59**	*e*P	**Pb**	**06 52 17.2**	**-1.5**
FRIJ	**El Hiral**	**2.67**	**51**⇑	*e*P	**Pn**	**06 52 16.5**	**+2.3**
UPA	**Univ. de Panam**	**2.69**	**58**	*i* P	**Pn**	**06 52 16.4**	**+1.9**
UPA	**Univ. de Panam**	**2.69**	**58**	*e*P	**Pn**	**06 52 16.3**	**+1.9**
SABA3	**Sabanitas, Col**	**2.69**	**48**⇑	*i* P	**Pb**	**06 52 17.6**	**-1.8**
CDM	**Cerro de Muert**	**2.75**	**316**	*e*P	**Pn**	**06 52 16.8**	**+1.1**
RIMA	**Rio Macho**	**2.97**	**318**	*e*P	**Pn**	**06 52 19.4**	**+0.9**
LCR2	**La Lucha 2**	**3.05**	**316**	*e*P	**Pn**	**06 52 20.8**	**+1.2**
CVTR	**Volcan Turrial**	**3.10**	**322**	*e*P	**Pn**	**06 52 23.4**	**+2.9**
CHPO	**Chepo, Panama**	**3.14**	**59**⇑	*e*P	**Pn**	**06 52 22.7**	**+2.1**
MIRA3	**Miramar, Colon**	**3.20**	**51**	*e*P	**Pn**	**06 52 21.9**	**+0.5**
SJS	**Escuela Geolog**	**3.23**	**317**	*e*P	**Pn**	**06 52 23.5**	**+1.5**
HDC3	**Heredia 3**	**3.31**	**317**	*e*P	**Pn**	**06 52 25.0**	**+1.9**
HDC	**Heredia**	**3.31**	**317**⇓	*i* P	**Pn**	**06 52 25.2**	**+2.0**
HDC	**Heredia**	**3.31**	**317**	*e*P	**Pn**	**06 52 24.7**	**+1.5**
CNTA3	**Canitas, Panam**	**3.36**	**60**⇑	*e*P	**Pn**	**06 52 24.2**	**+0.6**
LAFE	**Finca La Fe, P**	**3.77**	**307**	*e*P	**Pn**	**06 52 30.1**	**+0.7**
UPD2	**Meteti**	**3.92**	**75**	*e*P	**Pn**	**06 52 33.1**	**+1.8**
JTS	**Las Juntas de**	**4.11**	**312**⇓	*e*P	**Pn**	**06 52 35.2**	**+1.3**
DUNO	**Dulce Nombre,**	**4.40**	**305**	*e*P	**Pn**	**06 52 36.9**	**-1.0**
GRZA	**Playa Garza**	**4.43**	**302**	*e*P	**Pn**	**06 52 38.1**	**-0.2**
CUI	**Cuipilapa**	**4.50**	**313**	*e*P	**Pn**	**06 52 41.2**	**+1.8**
ORTG	**Ortega, Santa**	**4.54**	**308**	*e*P	**Pn**	**06 52 40.7**	**+0.7**
CAP2	**Capurgana**	**4.57**	**76**⇓	*e*P	**Pn**	**06 52 41.4**	**+1.1**
CAPC	**Capurgana**	**4.57**	**76**	*e*P	**Pn**	**06 52 44.3**	**+4.0**
SOLC	**Bahia Solano**	**4.59**	**106**	*e*P	**Pn**	**06 52 40.0**	**-0.6**
SOLC				*e*S	**Sn**	**06 53 30.2**	**-3.8**
SOLC				*i*		06 53 36.3	
	comp=Z,12nm,0.4s						
GPS2	**Hotel Rincn d**	**4.71**	**313**	*e*P	**Pn**	**06 52 43.2**	**+1.0**
DBBC	**Dabeiba**	**5.61**	**95**	*e*P	**Pn**	**06 52 56.0**	**+1.3**
CBOC	**Ciudad Bolivar**	**6.03**	**106**	*e*P	**Pn**	**06 53 00.9**	**+0.4**
MONA	**Monteria**	**6.24**	**78**	*e*P	**Pn**	**06 53 05.7**	**+2.4**
HELC	**Santa Helena**	**6.41**	**102**	*e*P	**Pn**	**06 53 06.7**	**+0.7**
HELC				*i*		06 53 15.6	
	comp=Z,3.8nm,0.5s						
HELC	**Santa Helena**	**6.41**	**102**⇑	*e*P	**Pn**	**06 53 06.7**	**+0.7**
GUY2C	**Guyana, Caldas**	**6.84**	**109**	*e*P	**Pn**	**06 53 15.5**	**+3.6**
GUY2C				*i*		06 53 33.1	
	comp=Z,3.7nm,0.6s						
RREF	**El Recreo**	**6.97**	**112**	*e*P	**Pn**	**06 53 17.4**	**+3.5**
SJCC	**San Jacinto, C**	**6.99**	**70**	*e*P	**Pn**	**06 53 15.9**	**+2.3**
POPC	**Popayan, Colom**	**7.16**	**134**	*e*P	**Pn**	**06 53 18.4**	**+2.2**
PTBC	**PUERTO BERRIO,**	**7.40**	**97**	*e*P	**Pn**	**06 53 20.6**	**+1.3**

IDC ***14*** *06:51:36.5±0.9,36°.68N×143°.85E, h0km, mb3.6/5, mb1 3.9/8, mb1mx3.7/33, mbtmp3.7/8, ML3.6/3, MS2.6/1, Ms1 2.6/1, ms1mx2.1/53, Error ellipse: s-maj=37.5km s-min=19.0km az=120.0*

NIED ***14*** *06:51:40.8, 36°.79N×143°.79E, h54km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=4.71; Mθθ1.88; Mφφ2.84; Mrθ2.29; Mθφ1.86; Mφr4.13; Fault plane solution: M₀6.52000×10¹⁴ NP1: φs212.00000°, δ68.00000°, λ-94.00000°. NP2:φs42.00000°, δ22.00000°, λ-80.00000°.*

JMA ***14*** *06:51:40.8±0.2,36°.79N×143°.79E, h54km, M4.1*

ISC 14 06:51:41.3±0.8, 36°.83N±0°.05×143°.84E±0°.07, h35km, n38, σ2s 05/51, mb3.7/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**2.39**	**309**	P	**Pn**	**06 52 18.3**	**+0.3**
JIKH				S	**Sn**	**06 52 46.8**	**+0.7**
JFK	**Kawauchi**	**2.43**	**284**	P	**Pn**	**06 52 19.0**	**+0.5**
JFK				S	**Sn**	**06 52 46.6**	**-0.4**
ONAJ	**Iwakimizuishiy**	**2.45**	**277**	P	**Pn**	**06 52 19.1**	**+0.3**
ONAJ				*e*S	**Sn**	**06 52 47.7**	**-0.2**
JMST	**Minamisoumatoc**	**2.52**	**292**	P	**Pn**	**06 52 19.9**	**+0.2**
JMST				S	**Sn**	**06 52 49.1**	**0.0**
JIO	**Ouri**	**2.55**	**310**	P	**Pn**	**06 52 20.8**	**+0.6**
JIO				*e*S	**Sn**	**06 52 49.3**	**-0.7**
JFT	**Otama**	**2.88**	**285**	P	**Pn**	**06 52 26.1**	**+1.4**
JFT				S	**Sn**	**06 52 58.8**	**+0.7**
JMK	**Ichinoseki**	**2.96**	**316**	P	**Pn**	**06 52 26.5**	**+0.7**
JMK				*e*S	**Sn**	**06 53 01.2**	**+1.1**
BSO1	**Boso 1**	**3.18**	**228**	P	**Pn**	**06 52 27.7**	**-0.7**
BSO1				S	**Sn**	**06 53 04.2**	**-0.6**
JOM	**Ohasama**	**3.31**	**324**	P	**Pn**	**06 52 31.3**	**+0.7**
JOM				S	**Sn**	**06 53 08.8**	**0.0**
JYK	**Kaneyama**	**3.45**	**308**	P	**Pn**	**06 52 33.9**	**+1.4**
JYK				*e*S	**Sn**	**06 53 13.6**	**+1.4**
JAG	**Ashikaga**	**3.55**	**265**	P	**Pn**	**06 52 34.4**	**+0.5**
JAG				S	**Sn**	**06 53 13.1**	**-1.5**
JRY	**Ryogami san**	**4.06**	**260**	P	**Pn**	**06 52 41.0**	**0.0**
JRY				*e*S	**Sn**	**06 53 24.3**	**-3.0**
JOD2	**Odawara 2**	**4.15**	**249**	P	**Pn**	**06 52 42.5**	**+0.3**
JOD2				*e*S	**Sn**	**06 53 27.3**	**-2.3**
MJAR	**Matsushiro Arr**	**4.53**	**268**	Pn	**Pn**	**06 52 45.7**	**-1.8**
	0.4nm,0.3s,baz=310,slow=18,SNR=19						
MAT	**Matsushiro**	**4.53**	**268**	P	**Pn**	**06 52 46.5**	**-0.9**
MAT				*e*S	**Sn**	**06 53 39.2**	**+0.3**
JHJ2	**Mitsune**	**4.97**	**223**	P	**Pn**	**06 52 51.6**	**-1.8**
JHJ	**Hachijo jima 2**	**4.98**	**223**	Pn	**Pn**	**06 52 51.7**	**-1.8**
	16nm,0.3s,baz=325,slow=23,SNR=20						
JHJ				Sn	**Sn**	**06 53 44.3**	**-5.6**
	63nm,0.3s,baz=71,slow=22,SNR=8.5						
JOT	**Ohata**	**5.04**	**335**	P	**Pn**	**06 52 55.6**	**+1.3**
JOT				*e*S	**Sn**	**06 53 48.8**	**-2.4**
JKB	**Kayabe**	**5.50**	**338**	P	**Pn**	**06 53 01.5**	**+0.9**
JKB				*e*S	**Sn**	**06 54 00.3**	**-2.3**
JCH	**Churui**	**5.79**	**357**	P	**Pn**	**06 53 03.7**	**-0.9**
JCH				S	**Sn**	**06 54 05.3**	**-4.4**
JOSM	**Okushiri--Mats**	**6.24**	**329**	P	**Pn**	**06 53 13.3**	**+2.5**
NEM2	**Nemuro 2**	**6.69**	**12**	P	**Pn**	**06 53 14.1**	**-2.8**
NEM2				*e*S	**Sn**	**06 54 24.7**	**-7.1**
JTKR	**Abashiri--Toko**	**7.13**	**0**	P	**Pn**	**06 53 21.9**	**-1.1**
JTKR				*e*S	**Sn**	**06 54 38.0**	**-4.8**
ASAJ	**Asahikawa**	**7.34**	**353**	Pn	**Pn**	**06 53 27.1**	**+1.3**
	1.2nm,0.3s,baz=213,slow=21,SNR=6.8						
JCJ	**Chichijima**	**9.81**	**189**	Pn	Pn	06 53 53.5	-6.3
	2.0nm,0.3s,baz=293,slow=21,SNR=1.3						
KSRS	**Korea Array**	**12.72**	**278**	LR	LR	06 59 16.3	
	comp=Z,27nm,18.7s,baz=225,slow=36						
H11N2	**WAKE ISLAND Hy**	**26.40**	**124**	T	T	07 24 22.4	
	baz=316,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**26.41**	**124**	T	T	07 24 17.8	
	baz=316,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**26.42**	**124**	T	T	07 24 26.7	
	baz=316,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**27.14**	**126**	T	T	07 25 12.7	
	baz=318,slow=76,SNR=9.2						
H11S3	**WAKE ISLAND Hy**	**27.14**	**126**	T	T	07 25 09.3	
	baz=318,slow=76,SNR=6.2						
H11S2	**WAKE ISLAND Hy**	**27.16**	**126**	T	T	07 25 31.1	
	baz=318,slow=76,SNR=6.6						
ILAR	**Eielson Array**	**48.63**	**32**	P	**P**	**07 00 22.4**	**+1.2**
	0.5nm,0.7s,baz=246,slow=6.4,SNR=7.6						
WRA	**Warramunga Arr**	**57.17**	**191**	P	**P**	**07 01 23.9**	**-0.9**
	0.8nm,0.4s,baz=9.7,slow=7.0,SNR=24						
WRA				PcP	**PcP**	**07 02 19.6**	**+0.6**
	0.6nm,0.7s,baz=359,slow=4.2,SNR=4.6						
ASAR	**Alice Springs**	**60.90**	**190**	P	**P**	**07 01 49.9**	**-0.6**
	0.6nm,0.9s,baz=7.9,slow=6.9,SNR=2.7						
PDAR	**Pinedale Array**	**76.41**	**47**	P	**P**	**07 03 28.6**	**+1.2**
	0.2nm,0.5s,baz=360,slow=2.0,SNR=4.3						
TXAR	**Lajitas Array**	**88.69**	**54**	P	**P**	**07 04 32.4**	**+1.0**
	0.3nm,0.6s,baz=313,slow=3.6,SNR=7.0						
LPAZ	**La Paz**	**145.09**	**63**	PKPbc	**PKPdf**	**07 11 16.4**	**+0.2**

0.4nm,0.5s,baz=332,slow=5.4,SNR=2.4

IDC 14 08:00:09.6±2.0, 0°.02S×125°.95E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/44, mbtmp3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/25, Error ellipse: s-maj=178.1km s-min=27.3km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**14.96**	**100**	LR	LR	08 09 08.6	
	comp=Z,58nm,21.5s,baz=290,slow=36						
WRA	**Warramunga Arr**	**21.44**	**158**	P	P	08 04 59.0	-0.5
	0.9nm,0.7s,baz=336,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**24.74**	**162**	P	P	08 05 33.3	+0.3
	0.5nm,0.5s,baz=342,slow=6.9,SNR=7.7						
MKAR	**Makanchi Array**	**60.21**	**327**	P	P	08 10 19.5	0.0
	0.3nm,0.4s,baz=123,slow=8.8,SNR=4.4						

RSNC 14 08:04:07.8±1.1, 3°.89N×71°.56W, h4km±6km, ML3.6, Mw3.7, 2C-1D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTGC	**Puerto Gaitan,**	**0.65**	**299**	⇓*i*Pg	Pg	08 04 18.4	-1.9
PTGC				*e*Sg	Sg	08 04 28.1	-0.7
PTGC				*i*		08 04 28.9	
	comp=Z,1μm,0.3s						
GUVC	**San Jose del G**	**1.71**	**219**	*e*P	Pn	08 04 36.2	-2.1
GUVC				*e*S	Sn	08 04 59.8	-0.8
GUVC				*i*		08 05 03.2	
	comp=Z,1μm,0.2s						
VILC	**Villavicencio,**	**2.14**	**276**	*e*P	Pn	08 04 43.6	-0.8
VILC				*e*S	Sn	08 05 10.7	-0.7
VILC				*i*		08 05 18.9	
	comp=Z,1μm,0.3s						
CHIC	**Chingaza**	**2.29**	**289**⇑	*e*P	Pn	08 04 45.9	-0.8
CHIC				*e*S	Sn	08 05 14.7	-0.8
CHIC				*i*		08 05 21.1	
	comp=Z,624nm,0.4s						
RUSC	**La Rusia**	**2.50**	**323**	*e*P	Pn	08 04 48.6	-1.2
RUSC				*e*S	Sn	08 05 21.1	+0.1
RUSC				*i*		08 05 39.4	
	comp=Z,132nm,0.3s						
TAMC	**Tame, Arauca**	**2.54**	**355**	*e*P	Pn	08 04 48.3	-1.6
TAMC				*e*S	Sn	08 05 20.8	-0.6
TAMC				*i*		08 05 32.4	
	comp=Z,298nm,0.5s						
MACC	**Macarena, Meta**	**2.86**	**233**	*e*P	Pn	08 04 53.5	-0.8
MACC				*e*S	Sn	08 05 30.7	+1.5
MACC				*i*		08 05 41.8	
	comp=Z,301nm,0.8s						
ROSC	**El Rosal**	**2.91**	**289**	*e*P	Pn	08 04 55.2	0.0
SPBC	**San Pablo de B**	**3.06**	**305**	*e*P	Pn	08 04 55.3	-1.7
BARC	**Barichara**	**3.13**	**329**⇑	*e*P	Pn	08 04 56.1	-2.1
PRAC	**Prado**	**3.32**	**267**	*e*P	Pn	08 05 00.4	-0.2
PAMC	**Pamplona, Colo**	**3.61**	**342**	*e*P	Pn	08 05 03.8	-1.3
ORTC	**Ortega, Tolima**	**3.68**	**270**	*e*P	Pn	08 05 04.4	-1.1
NORC	**Norcasia**	**3.69**	**297**	*e*P	Pn	08 05 05.3	-0.4
TOLC	**Tolima**	**3.81**	**281**	*e*P	Pn	08 05 07.2	-0.5
BRRC	**Barranca, Sant**	**3.85**	**326**	*e*P	Pn	08 05 06.2	-1.7
BRRC				*i*		08 06 12.4	
	comp=Z,46nm,0.4s						
ANIL	**Santa Ana**	**3.88**	**279**	*e*P	Pn	08 05 07.6	-0.9
PTBC	**PUERTO BERRIO,**	**3.91**	**313**	*e*P	Pn	08 05 05.4	-3.2
RREF	**El Recreo**	**3.91**	**285**	*e*P	Pn	08 05 09.2	0.0
GUY2C	**Guyana, Caldas**	**4.02**	**289**	*e*P	Pn	08 05 09.8	-0.8
BETC	**Betania**	**4.05**	**253**	*e*P	Pn	08 05 10.4	-0.3
GARC	**Garzon, Huila**	**4.27**	**247**	*e*P	Pn	08 05 12.5	-1.4
MARP	**Paez Belalcaza**	**4.51**	**257**	*e*P	Pb	08 05 24.3	-3.4
HELC	**Santa Helena**	**4.57**	**300**	*e*P	Pn	08 05 16.3	-1.8
FLOC	**Florencia**	**4.68**	**241**	*e*P	Pn	08 05 18.3	-1.1
YOTC	**Yotoco, Valle**	**4.77**	**271**	*e*P	Pn	08 05 18.9	-1.8
PLMC	**San Jos del P**	**4.81**	**282**	*e*P	Pn	08 05 21.9	+0.7
CBOC	**Ciudad Bolivar**	**4.85**	**294**	*e*P	Pn	08 05 21.2	-0.6
ZARC	**Zaragoza, Cauc**	**4.86**	**318**	*e*P	Pn	08 05 20.6	-1.1
PTLC	**Puerto Leguiza**	**4.91**	**221**	*e*P	Pn	08 05 25.1	+2.7
PCON	**Cinco Dias**	**5.07**	**252**	*e*P	Pb	08 05 33.0	-4.5
POPC	**Popayan, Colom**	**5.28**	**255**	*e*P	Pn	08 05 27.3	-0.4
URCC	**San Jose de Ur**	**5.51**	**314**	*e*P	Pn	08 05 30.0	-0.7
PUAC	**Puerto Asis, P**	**6.00**	**237**	*e*P	Pn	08 05 40.9	+3.4

IDC 14 08:15:51.0±7.1, 4°.81S×143°.93E, h88km±60km, mb3.3/3, mb1 3.6/4, mb1mx3.3/26, mbtmp3.7/4, ML3.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/29, Error ellipse: s-maj=84.8km s-min=29.0km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.95**	**305**	P	Pn	08 16 49.3	0.0
	comp=Z,78nm,21.1s,baz=189,slow=8.4,SNR=15						
PMG	**Port Moresby**	**5.58**	**145**	LR	LR	08 19 36.4	
	comp=Z,78nm,21.1s,baz=162,slow=40						
WRA	**Warramunga Arr**	**17.71**	**211**	P	P	08 19 46.2	-5.4
	0.1nm,0.3s,baz=32,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.09**	**206**	P	P	08 20 28.4	-0.1
	2.8nm,0.8s,baz=30,slow=11,SNR=23						
MKAR	**Makanchi Array**	**74.65**	**321**	P	P	08 27 21.3	+0.4
	0.2nm,0.5s,baz=97,slow=6.7,SNR=2.6						
ILAR	**Eielson Array**	**85.61**	**24**	P	P	08 28 19.1	-0.2
	0.5nm,0.7s,baz=265,slow=5.0,SNR=5.9						

TRN 14 08:23:06.6, 14°.39N×59°.05W, h126km, MD3.9, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.34**	**202**	*e*P	Pn	08 23 33.6	+0.9
BBGH				*e*S	Sn	08 23 54.2	+1.7
BBSP	**Saint Philip**	**1.34**	**197**	*e*P	Pn	08 23 33.1	+0.4
MPOM	**Morne Pois Mar**	**1.75**	**272**	*e*P	Pn	08 23 37.6	+0.3
MPOM				*e*S	Sn	08 24 02.0	+1.1
MVM	**Montagne Vaucl**	**1.80**	**275**	*e*P	Pn	08 23 38.3	+0.4
SLAC	**Saint Lucia, A**	**1.86**	**255**	*e*P	Pn	08 23 40.3	+1.7
LPMF	**Morne Lapointe**	**1.87**	**276**	*e*P	Pn	08 23 39.0	+0.2
SLW	**Petit Monier**	**1.87**	**259**	*e*S	Sn	08 24 04.8	+1.4
SLBI	**Saint Lucia, B**	**1.90**	**259**	*e*P	Pn	08 23 40.8	+1.6
SLBI				*e*S	Sn	08 24 03.8	-0.3
ZAM	**Aeronautique**	**1.93**	**276**	*e*P	Pn	08 23 40.7	+1.3
MCLT	**Moule a Chique**	**1.96**	**250**	*e*P	Pn	08 23 40.4	+0.6
MCLT				*e*S	Sn	08 24 05.9	+0.6
BIM	**Bigot**	**1.96**	**274**	*e*P	Pn	08 23 41.1	+1.2
BIM				*e*S	Sn	08 24 06.6	+1.1
SLB	**Belfond**	**2.01**	**254**	*e*P	Pn	08 23 42.1	+1.5
SLB				*e*S	Sn	08 24 06.3	-0.3
FDF	**Fort de France**	**2.06**	**280**	*e*P	Pn	08 23 42.5	+1.3
FDF				*e*S	Sn	08 24 09.2	+1.5
BAMF	**Morne Balai**	**2.08**	**282**	*e*P	Pn	08 23 41.7	+0.4
PML	**Morne Lenard**	**2.10**	**281**	*e*P	Pn	08 23 43.2	+1.5
PCM	**Pelee Case Pet**	**2.14**	**282**	*e*P	Pn	08 23 43.1	+1.1
SVCV	**St. Vincent, C**	**2.32**	**242**	*e*P	Pn	08 23 46.0	+1.7
SVCV				*e*S	Sn	08 24 12.8	-0.6
SVB	**Belmont**	**2.41**	**243**	*e*P	Pn	08 23 47.3	+1.8
SVB				*e*S	Sn	08 24 16.7	+1.3

TRN 14 08:27:20.1, 14°.37N×58°.86W, h82km, MD3.7, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.40**	**209**	*e*P	Pn	08 27 45.3	+1.1
BBGH				*e*S	Sn	08 28 04.1	+1.8
MPOM	**Morne Pois Mar**	**1.94**	**272**	*e*P	Pn	08 27 51.9	+0.7
MPOM				*e*S	Sn	08 28 16.1	+1.1
MVM	**Montagne Vaucl**	**1.98**	**276**	*e*P	Pn	08 27 52.5	+0.7
SLW	**Petit Monier**	**2.05**	**260**	*e*P	Pn	08 27 53.4	+0.7
LPMF	**Morne Lapointe**	**2.05**	**276**	*e*P	Pn	08 27 53.2	+0.6
SLBI	**Saint Lucia, B**	**2.08**	**261**	*e*P	Pn	08 27 55.1	+2.0
SLBI				*e*S	Sn	08 28 19.3	+1.0
ZAM	**Aeronautique**	**2.11**	**276**	*e*P	Pn	08 27 54.8	+1.4
MCLT	**Moule a Chique**	**2.12**	**252**	*e*P	Pn	08 27 55.8	+2.1
MCLT				*e*S	Sn	08 28 19.7	+0.3
BIM	**Bigot**	**2.15**	**274**	*e*P	Pn	08 27 55.4	+1.4
BIM				*e*S	Sn	08 28 22.2	+2.2
FDF	**Fort de France**	**2.25**	**280**	*e*P	Pn	08 27 56.7	+1.4
BAMF	**Morne Balai**	**2.26**	**282**	*e*P	Pn	08 27 57.0	+1.4
GBMF	**Grand Be**	**2.27**	**281**	*e*P	Pn	08 27 56.9	+1.1
PML	**Morne Lenard**	**2.29**	**281**	*e*P	Pn	08 27 57.8	+1.9
PCM	**Pelee Case Pet**	**2.32**	**281**	*e*P	Pn	08 27 57.2	+0.9
SVCV	**St. Vincent, C**	**2.47**	**244**	*e*P	Pn	08 27 59.8	+1.5

BJI ***14*** *08:32:12.9±0.0, 3°.72S×145°.92E, h45km, mB4.9/21, mb4.8/27, Ms4.6/6, Ms7 4.3/5*

GCMT ***14*** *08:32:14.9±0.3, 3°.32S±0°.02×145°.48E±0°.03, h20km±1km, MW4.8/61, Moment Tensor Solution. s16,c17; s61,c88; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.01±.20; Mθθ-1.77±.12; Mφφ-0.24±.12; Mrθ-0.60±.17; Mθφ1.20±.05; Mφr-0.03±.23; Best double couple: M₀2.30600×10¹⁶ NP1:φs129.00000°, δ40.00000°, λ106.00000°. NP2: φs289.00000°, δ52.00000°, λ77.00000°. Principal axes: T 2.1240, Plg78.0000°, Azm150.0000°; N 0.3570, Plg10.0000°, Azm297.0000°; P -2.4880, Plg7.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***14*** *08:32:15.9±1.7, 3°.43S±0°.08×145°.5E±0°.1, h44km±5km, mb4.9/58 Error ellipse: s-maj=15.8km s-min=11.3km az=82.0*

DJA ***14*** *08:32:16.4±0.7, 4°.5±4°×14°.6E±°, h49km±8km, M4.9/16, mb4.7/16, mB5.5/2, MLv5.0/2, Mw(mB)5.0/2*

IDC ***14*** *08:32:16.3±2.7, 3°.44S×145°.57E, h42km±25km, mb4.2/15, mb1 4.4/17, mb1mx4.2/38, mbtmp4.4/17, ML4.4/2, MS3.7/25, Ms1 3.7/25, ms1mx3.6/43, Error ellipse: s-maj=21.6km s-min=11.8km az=101.0*

ISC 14 08:32:13.8±0.4, 3°.43S±0°.06×145°.63E±0°.07, h23km, n119, σ1s 27/109, mb4.9/46, MS3.9/23, 2C, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**5.00**	**280**	LR	LR	08 35 01.9	
	comp=Z,300nm,20.5s,baz=26,slow=34						
PMG	**Port Moresby**	**6.13**	**166**	LR	LR	08 36 15.6	
	comp=Z,1μm,18.2s,baz=336,slow=39						
PMG	**Port Moresby**	**6.13**	**166**	Pn	**Pn**	**08 33 43.5**	**+0.5**
KRVT	**Keravat (AS076**	**6.44**	**98**	P	**Pn**	**08 33 50.9**	**+3.5**
	7.4nm,0.3s,baz=86,slow=6.7,SNR=10						
SMPI	**Sarmi**	**7.06**	**281**	P	**Pb**	**08 34 19.2**	**+3.5**
COEN	**Coen**	**10.74**	**193**	Pn	**Pn**	**08 34 49.0**	**+2.6**
SIJI	**Sorong**	**14.57**	**280**	LR	LR	08 42 03.0	
	comp=Z,128nm,18.6s,baz=335,slow=40						
HNR	**Honiara**	**15.42**	**113**	LR	LR	08 41 01.0	
	comp=Z,166nm,18.2s,baz=272,slow=34						
PATS	**Pohnpei**	**16.26**	**51**		**Pn**	**08 36 02.6**	**+1.8**
CTAO	**Charters Tower**	**16.57**	**178**	Pn	**Pn**	**08 36 05.3**	**+0.5**
MTN	**Manton Dam**	**17.12**	**236**	P	**Pn**	**08 36 11.6**	**-0.1**
WB0	**Warramunga Arr**	**19.60**	**213**	P	**P**	**08 36 39.8**	**-0.7**
WB0				IAmb	IAmb	08 36 49.7	
	comp=Z,42nm,1.1s						
WR0	**Warramunga Arr**	**19.67**	**212**	P	**P**	**08 36 40.7**	**-0.7**
WRAB	**Tennant Creek**	**19.75**	**213**	P	**P**	**08 36 41.7**	**-0.6**
WRAB				IAmb	IAmb	08 36 49.4	
	comp=Z,36nm,1.0s						
WB2	**Warramunga Arr**	**19.76**	**213**	P	**P**	**08 36 42.4**	**0.0**
WB2				IAmb	IAmb	08 36 49.5	
	comp=Z,38nm,1.1s						
WRA	**Warramunga Arr**	**19.77**	**213**	P	**P**	**08 36 42.0**	**-0.5**
	comp=Z,1.3n

GTA				S	**S**	08 50 27.5	-1.7
GTA				SS	**SS**	08 54 25.3	-0.6
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,70nm,7.1s						
GTA				LR	LR		
	comp=Z,53nm,17.1s						
GTA				LR	LR		
	comp=Z,59nm,18.1s						
SONM	**Songino Array**	**61.51**	**331**	P	**P**	08 42 29.4	+0.4
	comp=Z,1.8nm,1.0s,baz=134,slow=4.3,SNR=4.1						
SONM	**Songino Array**	**61.51**	**331**	P	**P**	**08 42 27.0**	**-2.0**
PALK	**Pallekele**	**65.66**	**280**	LR	LR	09 12 41.0	
	comp=Z,41nm,18.9s,baz=221,slow=37						
WMQ	**Urumqi**	**69.96**	**319**	*eP*	**P**	**08 43 25.3**	**+1.7**
WMQ				pP	PcP	08 43 39.5	-6.3
WMQ				pmax	pmax		
	comp=Z,27nm,1.3s						
WMQ				LR	LR		
	comp=Z,220nm,28.1s						
WMQ				LR	LR		
	comp=Z,340nm,28.1s						
WMQ				LR	LR		
	comp=Z,93nm,29.0s						
VNDA	**Vanda**	**74.55**	**176**	P	**P**	**08 43 49.9**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=326,slow=6.4,SNR=12						
VNDA				LR	LR	09 15 23.3	
	comp=Z,92nm,18.1s,baz=350,slow=35						
VNDA	**Vanda**	**74.55**	**176**	P	**P**	**08 43 49.6**	**-0.6**
MK31	**Makanchi Array**	**74.66**	**320**	P	**P**	**08 43 51.5**	**0.0**
MKAR	**Makanchi Array**	**74.66**	**320**	P	**P**	**08 43 51.3**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=111,slow=6.6,SNR=18						
MKAR	**Makanchi Array**	**74.66**	**320**	P	**P**	**08 43 51.5**	**+0.1**
MAKZ	**Makanchi**	**74.86**	**320**	P	**P**	**08 43 50.5**	**-2.1**
ZALV	**Zalesovo Beam**	**76.12**	**328**	P	**P**	**08 43 59.0**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=115,slow=6.5,SNR=6.7						
ZALV				LR	LR	09 18 54.0	
	comp=Z,26nm,18.6s,baz=97,slow=37						
ZALV	**Zalesovo Beam**	**76.12**	**328**	P	**P**	**08 43 58.5**	**-1.2**
KDJ	**Kajisay**	**76.52**	**315**	P	**P**	**08 44 02.5**	**0.0**
NIL	**Nilore**	**77.33**	**305**	P	**P**	**08 44 06.9**	**-0.1**
NIL				IAmb	IAmb	08 44 12.7	
	comp=Z,12nm,0.7s						
KURK	**Kurchatov**	**78.34**	**323**	P	**P**	**08 44 11.3**	**-0.9**
KURK				IAmb	IAmb	08 44 13.0	
	comp=Z,18nm,1.2s						
SVW2	**Sparrevohn**	**78.50**	**25**	P	**P**	**08 44 14.7**	**+1.8**
SVW2				IAmb	IAmb	08 44 16.2	
	comp=Z,21nm,1.2s						
TTA	**Tatalina**	**79.23**	**23**	P	**P**	**08 44 16.1**	**-0.9**
PMR	**Palmer**	**81.50**	**26**	P	**P**	**08 44 27.9**	**-1.1**
PMR				IAmb	IAmb	08 44 30.2	
	comp=Z,17nm,1.2s						
KK31	**Karatay Array**	**81.53**	**314**	P	**P**	**08 44 27.1**	**-2.6**
KKAR	**Karatay Array**	**81.53**	**314**	P	**P**	**08 44 27.8**	**-1.9**
KKAR	**Karatay Array**	**81.53**	**314**	P	**P**	**08 44 27.0**	**-2.7**
KKAR				IAmb	IAmb	08 44 36.3	
	comp=Z,4.1nm,1.0s						
IMAR	**Indian Mountai**	**81.59**	**21**	P	**P**	**08 44 30.0**	**+0.5**
BPAW	**Bear Paw Mtn.**	**81.77**	**23**	P	**P**	**08 44 30.5**	**-0.1**
BPAW				IAmb	IAmb	08 44 31.6	
	comp=Z,14nm,1.2s						
SML	**Sawmill**	**81.94**	**26**	P	**P**	**08 44 31.9**	**+0.4**
RND	**Reindeer**	**82.35**	**24**	P	**P**	**08 44 33.0**	**-0.6**
RND				IAmb	IAmb	08 44 34.2	
	comp=Z,17nm,1.0s						
NRIK	**Noril'sk**	**82.42**	**342**	P	**P**	**08 44 33.4**	**-0.3**
	comp=Z,11nm,1.0s,baz=114,slow=4.1,SNR=7.6						
NRIK				LR	LR	09 21 04.5	
	comp=Z,22nm,19.4s,baz=127,slow=36						
MCK	**McKinley**	**82.44**	**24**	P	**P**	**08 44 33.7**	**-0.4**
DHY	**Denali Highway**	**82.83**	**25**	P	**P**	**08 44 36.1**	**-0.1**
WRH	**Wood River Hil**	**83.08**	**24**	P	**P**	**08 44 36.8**	**-0.5**
CCB	**Clear Creek Bu**	**83.26**	**23**	P	**P**	**08 44 36.4**	**-1.8**
COLA	**College**	**83.33**	**23**	P	**P**	**08 44 37.0**	**-1.5**
COLA				IAmb	IAmb	08 44 38.9	
	comp=Z,16nm,1.0s						
COLD	**Coldfoot**	**83.42**	**21**	P	**P**	**08 44 39.5**	**+0.5**
COLD				IAmb	IAmb	08 44 41.2	
	comp=Z,14nm,1.1s						
HDA	**Harding Lake**	**83.51**	**24**	P	**P**	**08 44 38.3**	**-1.3**
IL31		**83.67**	**23**	P	**P**	**08 44 39.4**	**-0.9**
IL31				IAmb	IAmb	08 44 40.3	
	comp=Z,14nm,0.9s						
ILAR	**Eielson Array**	**83.67**	**23**	P	**P**	**08 44 39.2**	**-1.2**
	comp=Z,11nm,0.8s,baz=255,slow=4.9,SNR=95						
ILAR				LR	LR	09 15 38.8	
	comp=Z,60nm,21.4s,baz=275,slow=31						
ILAR	**Eielson Array**	**83.67**	**23**	P	**P**	**08 44 38.0**	**-2.4**
BRVK	**Borovoye**	**83.97**	**324**	P	**P**	**08 44 41.5**	**-0.6**
BRVK				IAmb	IAmb	08 44 43.0	
	comp=Z,14nm,1.2s						
MAW	**Mawson**	**84.08**	**202**	LR	LR	09 19 27.7	
	comp=Z,54nm,21.3s,baz=61,slow=34						
RIDG	**Independent Ri**	**84.14**	**25**	P	**P**	**08 44 41.7**	**-1.1**
DOT	**Dot Lake**	**84.44**	**25**	P	**P**	**08 44 44.2**	**-0.1**
BCAR	**Beaver Creek A**	**85.23**	**26**	P	**P**	**08 44 48.3**	**0.0**
EGAK	**Eagle**	**85.99**	**24**	P	**P**	**08 44 52.2**	**+0.1**
QSPA	**South Pole Qui**	**86.52**	**180**	P	**P**	**08 44 54.1**	**-0.7**
QSPA				IAmb	IAmb	08 44 55.2	
	comp=Z,6.4nm,1.0s						
ABKAR	**Akbulak array**	**89.75**	**319**	P	**P**	**08 45 08.8**	**-1.6**
INK	**Inuvik**	**89.78**	**22**	P	**P**	**08 45 09.8**	**-0.2**
INK				IAmb	IAmb	08 45 11.6	
	comp=Z,9.9nm,1.1s						
PINE	**Pine Mountain**	**94.83**	**47**	P	**P**	**08 45 34.1**	**-0.2**
HAWA	**Hanford**	**95.81**	**44**	P	**P**	**08 45 36.1**	**-2.3**
I07A	**Izee**	**95.87**	**46**	P	**P**	**08 45 39.9**	**+1.0**
I07A				IAmb	IAmb	08 45 40.5	
	comp=Z,4.5nm,1.2s						
B08A	**Colville Reser**	**95.89**	**42**	P	**P**	**08 45 38.8**	**-0.1**
B08A				IAmb	IAmb	08 45 40.5	
	comp=Z,3.6nm,1.1s						
G08A	**Pilot Rock**	**96.23**	**45**	P	**P**	**08 45 41.2**	**+0.6**
G08A				IAmb	IAmb	08 45 42.6	
	comp=Z,6.3nm,1.2s						
WVOR	**Wild Horse Val**	**96.53**	**48**	P	**P**	**08 45 41.9**	**-0.1**
WVOR				IAmb	IAmb	08 45 46.1	
	comp=Z,2.8nm,1.1s						
J08A	**Circle Bar Ran**	**96.63**	**47**	P	**P**	**08 45 41.2**	**-1.2**
J08A				IAmb	IAmb	08 45 44.3	
	comp=Z,2.1nm,0.8s						
E09A	**Wood Farm, Sta**	**96.76**	**44**	P	**P**	**08 45 40.8**	**-1.9**
NVAR	**Mina Array Bea**	**96.87**	**52**	P	**P**	**08 45 44.0**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=256,slow=5.1,SNR=3.9						
NVAR				LR	LR	09 21 49.7	
	comp=Z,67nm,20.9s,baz=276,slow=31						
NVAR	**Mina Array Bea**	**96.87**	**52**	P	**P**	**08 45 43.4**	**-0.3**
BMO	**Blue Mountains**	**97.42**	**45**	P	**P**	**08 45 45.4**	**-0.4**
BMO				IAmb	IAmb	08 45 47.8	
	comp=Z,5.9nm,1.1s						
F10A	**Beach Ranch, E**	**97.42**	**44**	P	Pdif	08 45 47.0	+1.1
F10A				IAmb	IAmb	08 45 47.7	
	comp=Z,4.1nm,0.9s						
YKA	**Yellowknife Ar**	**97.54**	**27**	P	**P**	**08 45 45.6**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=281,slow=5.0,SNR=5.8						
YKA				LR	LR	09 29 21.4	
	comp=Z,35nm,19.4s,baz=0.0,slow=35						
PDAR	**Pinedale Array**	**103.19**	**47**	Pdiff	**Pdif**	**08 46 11.9**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=292,slow=0.8,SNR=4.2						
PDAR	**Pinedale Array**	**103.19**	**47**		**Pdif**	**08 46 11.3**	**-0.6**
DIVS	**Divibare**	**117.40**	**319**		**PKPdf**	**08 50 56.6**	**-1.3**
GERES	**GERESS Array B**	**119.02**	**326**	PKP	**PKPdf**	**08 51 00.4**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=50,slow=4.2,SNR=3.9						
GERES	**GERESS Array B**	**119.02**	**326**		**PKPdf**	**08 50 59.9**	**-1.1**
PLCA	**Paso Flores**	**125.01**	**147**	PKP	**PKiKP**	**08 51 13.2**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=234,slow=3.2,SNR=8.8						
LPAZ	**La Paz**	**141.31**	**121**	PKP	**PKPdf**	**08 51 42.5**	**-2.1**
	comp=Z,1.1nm,0.8s,baz=42,slow=3.2,SNR=3.8						
CPUP	**Villa Florida**	**143.01**	**144**	PKP	PKPbc	08 51 43.8	+0.6
	comp=Z,3.6nm,1.0s,baz=262,slow=4.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**143.08**	**287**	PKhKP	PKPpre	08 51 43.1	
	comp=Z,1.3nm,0.8s,baz=64,slow=2.5,SNR=5.0						
DBIC	**Dimbokro**	**150.43**	**277**	PKPbc	**PKiKP**	**08 52 04.8**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=78,slow=5.6,SNR=4.3						
DBIC	**Dimbokro**	**150.43**	**277**		**PKPbc**	**08 52 03.7**	**-0.9**

*IDC **14** 08:38:59.2±3.8, 30.°16S×178.°19W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/31, mbtmp3.7/2, Error ellipse: s-maj=92.9km s-min=19.4km az=126.0*
*NEIC **14** 08:38:59.0±1.1, 30.°4S±0.°1×178.°05W±0.°05, h10km±2km, mb4.4/5, Error ellipse: s-maj=18.4km s-min=8.0km az=174.0*

ISC 14 08:38:58.7±1.5, 30.°35S±0.°09×177.°9W±0.°3, h10km, n10, σ0s82/8, mb4.1/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.09**	**359**	Pn	**Pg**		**08 39 20.2**	**+0.4**
	92nm,0.3s,baz=89,slow=16,SNR=7.5							
RAO				Sn	**Sg**		**08 39 33.1**	**-0.9**
	200nm,0.3s,baz=94,slow=20,SNR=7.8							
ASAR	**Alice Springs**	**43.20**	**267**	P	P		08 46 59.9	-0.3
	0.5nm,0.6s,baz=106,slow=7.7,SNR=6.5							
WR0	**Warramunga Arr**	**44.00**	**272**	P	P		08 47 06.2	-0.5
WR0				IAmb	IAmb		08 47 08.8	
	comp=Z,5.9nm,1.3s							
WB2	**Warramunga Arr**	**44.17**	**272**		**P**		**08 47 07.9**	**-0.1**
WB2				IAmb	IAmb		08 47 13.8	
	comp=Z,10nm,1.4s							
WRA	**Warramunga Arr**	**44.18**	**272**	P	**P**		**08 47 08.1**	**0.0**
	comp=Z,0.8nm,0.5s,baz=111,slow=8.1,SNR=18							
WRA	**Warramunga Arr**	**44.18**	**272**	P	P		08 47 07.3	-0.8
WB0	**Warramunga Arr**	**44.21**	**272**		**P**		**08 47 08.2**	**-0.1**
QSPA	**South Pole Qui**	**59.76**	**180**	P	**P**		**08 49 03.0**	**-0.7**
FINES	**FINESS Array B**	**145.13**	**340**	PKP	**PKPbc**		**08 58 36.1**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=92,slow=4.4,SNR=4.0							
FINES	**FINESS Array B**	**145.13**	**340**		**PKPbc**		**08 58 36.3**	**+1.1**

IDC 14 09:00:01.6±3.3, 17.°76N×104.°17E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.3/46, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=112.2km s-min=33.7km az=25.0, Thailand

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.01**	**279**	Pn	Pn		09 01 18.0	-0.2
	1.6nm,0.3s,baz=100,slow=14,SNR=14							
WRA	**Warramunga Arr**	**47.76**	**140**	P	P		09 08 40.9	+0.1
	0.6nm,0.9s,baz=329,slow=7.8,SNR=5.3							
ASAR	**Alice Springs**	**50.38**	**144**	P	P		09 09 00.6	-0.3
	0.3nm,0.5s,baz=328,slow=7.2,SNR=5.4							

*IDC **14** 09:06:00.9±2.0, 32.°21N×136.°17E, h380km±71km, mb2.7/2, mb1 2.9/5, mb1mx2.6/42, mbtmp3.6/5, Error ellipse: s-maj=100.4km s-min=32.7km az=32.0*
*JMA **14** 09:06:01.4±0.2, 32.°62N×136.°22E, h468km, M3.4*

ISC 14 09:06:03.5±1.1, 32.°8N±0.°1×136.°24E±0.°10, h450km, n24, σ1s35/28, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTNC	**Tanabenakahech**	**1.16**	**333**	P	**P**		**09 07 00.7**	**+0.6**
JKN2	**Miekihoku**	**1.46**	**1**	P	**P**		**09 07 02.1**	**+0.9**
JWY	**Kouya**	**1.53**	**340**	P	**P**		**09 07 02.7**	**+1.1**
JIE	**Ise**	**1.65**	**14**	P	**P**		**09 07 03.4**	**+1.3**
TK02	**Tokai 2**	**1.72**	**47**	P	**P**		**09 07 03.9**	**+1.7**
JAI	**Aioi**	**1.81**	**304**	P	**P**		**09 07 03.4**	**+0.5**
JMN	**Monobe**	**2.19**	**296**	P	**P**		**09 07 05.5**	**+0.4**
HMMJ	**Hamamatsu 2**	**2.41**	**30**	P	**P**		**09 07 07.7**	**+1.4**
JWT	**Wachi**	**2.59**	**345**	P	**P**		**09 07 08.4**	**+0.9**
JWT				*eS*	**S**		**09 07 59.6**	**0.0**
JNY	**Yasuok**	**2.90**	**27**	P	**P**		**09 07 11.1**	**+1.4**
JHJ	**Hachijo jima 2**	**3.00**	**83**	P	P		09 07 04.0	-6.5
	5.9nm,0.3s,baz=61,slow=21,SNR=1.9							
JOD2	**Odawara 2**	**3.42**	**43**	*eS*	**S**		**09 08 12.5**	**+1.6**
JRY	**Ryogami san**	**3.91**	**34**	P	**P**		**09 07 19.4**	**+1.7**
JRY				*eS*	**S**		**09 08 20.5**	**+2.2**
JHU	**Hanno**	**3.96**	**39**	P	**P**		**09 07 19.4**	**+1.2**
JHU				*eS*	**S**		**09 08 19.9**	**+0.8**
BSO4	**Boso 4**	**4.06**	**56**	*eS*	**S**		**09 08 21.3**	**+0.9**
BSO3	**Boso 3**	**4.09**	**59**	*eS*	**S**		**09 08 20.5**	**-0.1**
MJAR	**Matsushiro Arr**	**4.09**	**23**	P	**P**		**09 07 18.6**	**-0.7**
	0.5nm,0.3s,baz=200,slow=9.9,SNR=41							
BSO1	**Boso 1**	**4.37**	**63**	P	**P**		**09 07 21.2**	**0.0**
JAG	**Ashikaga**	**4.50**	**35**	P	**P**		**09 07 23.1**	**+0.1**
JAG				*eS*	**S**		**09 08 25.4**	**-2.5**
JYT	**Yasato**	**4.74**	**42**	P	**P**		**09 07 25.0**	**-0.2**
JHO	**Hitachi**	**5.23**	**42**	P	**P**		**09 07 29.8**	**-0.1**
JHO				*eS*	**S**		**09 08 37.1**	**-3.4**
KSRS	**Korea Array**	**8.25**	**307**	P	**P**		**09 08 01.7**	**+0.3**
	0.5nm,0.3s,baz=124,slow=9.8,SNR=11							
WRA	**Warramunga Arr**	**52.46**	**182**	P	**P**		**09 14 32.0**	**-1.1**
	0.5nm,0.7s,baz=3.5,slow=7.6,SNR=7.4							
ASAR	**Alice Springs**	**56.17**	**183**	P	**P**		**09 14 58.7**	**-0.6**
	0.3nm,0.6s,baz=6.0,slow=12,SNR=8.1							

*JMA **14** 09:11:35.3±0.1, 24.°05N×122.°58E, h39km±3km, M2.5*
*TAP **14** 09:11:36.2, 24.°14N×122.°55E, h39km, ML3.0, C*

ISC 14 09:11:36.1±1.0, 24.°11N±0.°04×122.°59E±0.°02, h32km±10km, n70, σ0s80/98, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.47**	**43**	P	**Pb**		**09 11 46.1**	**-0.1**
JYNG				S	**Sb**		**09 11 53.8**	**+0.6**
YOJ	**Yonaguni jima**	**0.52**	**47**	P	**Pb**		**09 11 46.8**	**-0.2**
YOJ				*eS*	**Sb**		**09 11 54.9**	**+0.4**
ENAH	**Nanao**	**0.79**	**296**	*eP*	**Pb**		**09 11 51.0**	**-0.4**
	baz=294							
ENA	**Nanau**	**0.84**	**293**	*i* P	**Pb**		**09 11 51.2**	**-1.0**
	baz=292							
ENA				*eS*	**Sb**		**09 12 03.1**	**-0.1**
	baz=292							
TWC	**Suao**	**0.84**	**307**	*i* P	**Pb**		**09 11 51.1**	**-1.1**
	baz=307							
TWC				*eS*	**Sb**		**09 12 03.1**	**-0.1**
	baz=307							
TWD	**Chiawan**	**0.91**	**269**	*eP*	**Pn**		**09 11 52.4**	**-0.1**
	baz=266							
NACB	**Ninganchiao**	**0.91**	**274**	*i* P	**Pn**		**09 11 51.7**	**-0.9**
	baz=259							
EGS		**0.95**	**321**	*i* P	**Pn**		**09 11 52.9**	**-0.2**
	baz=331							
ETLH	**Xiulin Townshi**	**1.02**	**276**	*eP*	**Pn**		**09 11 53.4**	**-0.7**
	baz=274							
NTC	**Toucheng**	**1.02**	**317**	P	**Pn**		**09 11 54.2**	**+0.2**
	baz=318							
NTC				S	**Sn**		**09 12 07.8**	**+0.6**
	baz=318							
TWE	**Neicheng**	**1.04**	**306**	*i* P	**Pn**		**09 11 54.5**	**+0.1**
	baz=306							
TWB1	**Santiao Chiao**	**1.05**	**329**	*i* P	**Pn**		**09 11 54.2**	**-0.3**
	baz=343							
TWB1				*eS*	**Sn**		**09 12 08.1**	**+0.1**
	baz=343							
IRIF	**Iriomote-Funau**	**1.07**	**77**	P	**Pn**		**09 11 54.2**	**-0.5**
IRIF				S	**Sn**		**09 12 08.6**	**+0.2**
ENTT	**Nioudou**	**1.07**	**300**	*i* P	**Pn**		**09 11 55.1**	**+0.3**
	baz=300							
ENTT				*eS*	**Sn**		**09 12 08.9**	**+0.2**
	baz=300							
ESL	**Shilin**	**1.10**	**255**	P	**Pn**		**09 11 54.6**	**-0.5**
	baz=244							
ESL				*eS*	**Sn**		**09 12 07.7**	**-1.5**
	baz=244							
NDT	**Datong Townshi**	**1.10**	**297**	P	**Pn**		**09 11 55.6**	**+0.4**
	baz=285							
TIPB	**Shuangxi**	**1.11**	**321**	P	**Pn**		**09 11 55.4**	**+0.1**
	baz=334							
TIPB				*eS*	**Sn**		**09 12 09.8**	**+0.3**
	baz=334							
HATJ	**Hateruma jima**	**1.11**	**92**	P	**Pn**		**09 11 55.2**	**-0.2**
NNSB	**Datong**	**1.15**	**286**	*i* P	**Pn**		**09 11 55.8**	**-0.2**
	baz=285							
NNSH	**Datong**	**1.15**	**286**	*i* P	**Pn**		**09 11 55.7**	**-0.3**
	baz=285							
EGFH	**Guangfu**	**1.15**	**248**	*eS*	**Sn**		**09 12 08.9**	**-1.6**
	baz=245							
NNS	**Nan Shan**	**1.16**	**287**	*i* P	**Pn**		**09 11 56.1**	**0.0**
	baz=286							
NNS				*eS*	**Sn**		**09 12 11.1**	**+0.2**
	baz=286							
NWLT	**Wulai**	**1.20**	**304**	P	**Pn**		**09 11 56.9**	**+0.3**
	baz=316							
NWLT				*eS*	**Sb**		**09 12 13.4**	**0.0**
	baz=316							
NWF	**Wu-fen Shan**	**1.21**	**323**	P	**Pn**		**09 11 56.7**	**-0.1**
	baz=324							
NWF				*i* S	**Sn**		**09 12 12.1**	**0.0**
	baz=324							
WFSB	**Wu-fen Shan**	**1.21**	**323**	P	**Pn**		**09 11 56.8**	**0.0**
	baz=324							
WFSB				*eS*	**Sn**		**09 12 12.1**	**+0.1**
	baz=324							
HGSD	**Ruisui**	**1.23**	**240**	*eP*	**Pn**		**09 11 56.0**	**-1.0**
	baz=238							
FUSS	**Fushou**	**1.24**	**277**	*eP*	**Pn**		**09 11 57.1**	**-0.2**
	baz=264							
FUSS				*i* S	**Sn**		**09 12 13.2**	**+0.1**
	baz=264							
YHNB	**Yeheng**	**1.24**	**297**	P	**Pn**		**09 11 57.4**	**+0.2**
	baz=285							
NSK	**Sanguang**	**1.26**	**297**	P	**Pn**		**09 11 57.5**	**+0.1**
	baz=285							
TWA	**Mucha**	**1.26**	**314**	*eP*	**Pn**		**09 11 57.5**	**0.0**
	baz=314							
CHGB	**Renai**	**1.29**	**268**	*i* P	**Pn**		**09 11 57.7**	**-0.4**
	baz=267							
CHGB				*i* S	**Sn**		**09 12 13.8**	**-0.6**
	baz=267							
TWT	**Tachien**	**1.30**	**277**	*eP*	**Pn**		**09 11 59.4**	**+1.3**
	baz=266							
JKRS	**Kuro-shima**	**1.30**	**84**	P	**Pn**		**09 11 58.7**	**+0.7**
TDCB	**Techi**	**1.31**	**277**	*eP*	**Pn**		**09 11 58.5**	**+0.2**
	baz=266							
VWDT	**VWDT**	**1.37**	**255**	P	**Pn**		**09 11 58.9**	**0.0**
	baz=253							
YULB	**Yu-li**	**1.38**	**239**	P	**Pn**		**09 11 58.3**	**-0.7**
	baz=236							
YM01	**YM01**	**1.39**	**318**	*eS*	**Sn**		**09 12 16.6**	**0.0**
	baz=319							
TWF1	**Yuli**	**1.40**	**238**	*eP*	**Pn**		**09 11 58.9**	**-0.5**
	baz=235							
YM10	**YM10**	**1.40**	**318**	*eP*	**Pn**		**09 11 59.2**	**-0.2**
	baz=318							
YM04	**YM04**	**1.42**	**318**	*eP*	**Pn**		**09 11 59.8**	**+0.2**
	baz=318							
JIJ	**Ishigaki jima**	**1.44**	**79**	P	**Pn**		**09 11 59.5**	**-0.4**
JIJ				S	**Sn**		**09 12 17.1**	**-0.6**
FULB	**Fuli**	**1.49**	**233**	*eP*	**Pn**		**09 12 01.1**	**+0.5**
	baz=230							
WHP	**Taichung City**	**1.51**	**277**	*eP*	**Pn**		**09 12 02.3**	**+1.4**
	baz=266							
WHP				*i* S	**Sn**		**09 12 20.0**	**+0.5**
	baz=266							
SSLB	**Suanglung**	**1.53**	**258**	*eP*	**Pn**		**09 12 01.1**	**0.0**
	baz=256							
LIOB	**Emei**	**1.53**	**291**	*eP*	**Pn**		**09 12 02.2**	**+1.0**
	baz=290							
SMLT	**Sun Moon Lake**	**1.56**	**262**	*eP*	**Pn**		**09 12 01.9**	**+0.2**
	baz=260							
SMLT				*eS*	**Sn**		**09 12 21.3**	**+0.4**
	baz=260							
TYC	**Yuchr**	**1.60**	**263**	P	**Pn**		**09 12 02.4**	**+0.4**
	baz=262							
TYC				*eS*	**Sn**		**09 12 21.7**	**+0.2**
	baz=262							
EDH	**Donghe**	**1.63**	**227**	*eP*	**Pn**		**09 12 02.7**	**+0.1**
	baz=216							
EDH				*eS*	**Sn**		**09 12 19.7**	**-2.7**
	baz=216							
JISG	**Ishigakijimahi**	**1.64**	**73**	P	**Pn**		**09 12 02.3**	**-0.3**
JISG				S	**Sn**		**09 12 22.0**	**-0.6**
ELDTW	**Lidau**	**1.71**	**238**	*eP*	**Pn**		**09 12 02.9**	**-0.8**
	baz=235							
WJS	**Zhushan**	**1.73**	**261**	*eP*	**Pn**		**09 12 05.6**	**+1.8**
	baz=259							
ALS	**Alishan**	**1.74**	**250**	*eP*	**Pn**		**09 12 04.9**	**+0.6**
	baz=248							
ALS				S	**Sn**		**09 12 25.5**	**0.0**
	baz=248							
WNT	**Mingjian**	**1.76**	**263**	*eP*	**Pn**		**09 12 05.7**	**+1.4**
	baz=261							
LDUT	**Ludao**	**1.76**	**216**	*eP*	**Pn**		**09 12 04.8**	**+0.5**
	baz=213							
CHN5	**Tsauling**	**1.82**	**254**	*eP*	**Pn**		**09 12 06.2**	**+1.0**
	baz=244							
CHN5				*i* S	**Sn**		**09 12 28.4**	**+1.1**
	baz=244							
TWG	**Pinlang**	**1.89**	**228**	*eP*	**Pn**		**09 12 05.7**	**-0.4**
	baz=236							
STYT	**Tauyuan**	**1.93**	**241**	*eP*	**Pn**		**09 12 07.6**	**+1.0**
	baz=231							
STYT				*eS*	**Sn**		**09 12 30.0**	**+0.3**
	baz=231							
TPUB	**Ta-pu**	**1.97**	**246**	*eP*	**Pn**		**09 12 08.3**	**+1.1**
	baz=244							
TPUB				*eS*	**Sn**		**09 12 32.3**	**+1.5**
	baz=244							
JTJ	**Tarama**	**2.00**	**74**	S	**Sn**		**09 12 31.5**	**0.0**
WTP	**Ta-pu**	**2.00**	**245**	*eP*	**Pn**		**09 12 08.8**	**+1.1**
	baz=242							
SLGT	**Liugui**	**2.10**	**239**	*eP*	**Pn**		**09 12 10.4**	**+1.5**
	baz=228							
TWK	**Hsinying**	**2.10**	**247**	*eP*	**Pn**		**09 12 10.0**	**+1.0**
	baz=244							
CHN1	**Nanshi**	**2.10**	**245**	*eP*	**Pn**		**09 12 10.6**	**+1.6**
	baz=243							
CHN1				*eS*	**Sn**		**09 12 36.0**	**+1.9**
	baz=243							
SGST	**Jiashian**	**2.10**	**241**	*eP*	**Pn**		**09 12 10.0**	**+1.0**
	baz=239							
SGST				*eS*	**Sn**		**09 12 34.6**	**+0.5**
	baz=239							
TSMG	**Majia**	**2.27**	**232**	*eP*	**Pn**		**09 12 13.1**	**+1.9**
	baz=223

TNSS eS Sg 09 21 21.7 +0.1
1µm,0.7s
TNSS Tian-Shan 2.39 347 Pg Pg 09 20 50.7 +0.1
490nm,0.5s
TNSS Lg Lg 09 21 21.7
856nm,0.5s
SATY Saty 2.42 13 eP Pg 09 20 51.0 -0.3
167nm,0.6s
SATY eS Sg 09 21 22.1 -0.4
844nm,0.6s
SATY Saty 2.42 13 Pg Pg 09 20 51.1 -0.1
167nm,0.6s
SATY Lg Lg 09 21 22.1
844nm,0.6s
IZV Izvestkoviy 2.45 342 eP Pb 09 20 51.4 +1.5
240nm,0.5s
IZV eS Sb 09 21 22.6 +2.0
2µm,0.6s
IZV Izvestkoviy 2.45 342 Pg Pb 09 20 51.4 +1.5
240nm,0.5s
IZV Lg Lg 09 21 22.6
2µm,0.6s
MDOK Medeo 2.49 350 eP Pb 09 20 51.4 +0.8
260nm,0.6s
MDOK eS Sb 09 21 23.0 +1.3
1µm,0.5s
MDOK Medeo 2.49 350 ⇓Pn Pb 09 20 49.8 -0.8
238nm,0.6s
MDOK ⇑Lg Lg 09 21 23.0
1µm,0.6s
MDOK Medeo 2.49 350 Pg Pb 09 20 51.8 +1.2
260nm,0.6s
MDOK Lg Lg 09 21 23.3
1µm,0.5s
MDOK Medeo 2.49 350 PN Pb 09 20 49.8 -0.8
KOTS Kotyrbulak 2.56 351 eP Pg 09 20 53.6 -0.3
451nm,0.4s
KOTS eS Sg 09 21 26.5 -0.5
3µm,0.5s
KOTS Kotyrbulak 2.56 351 Pg Pg 09 20 53.6 -0.3
451nm,0.4s
KOTS Lg Lg 09 21 26.5
896nm,0.6s
AAA Alma-Ata 2.56 348 eP Pg 09 20 54.0 0.0
547nm,0.3s
AAA eS Sg 09 21 28.4 +1.2
757nm,0.5s
AAA Alma-Ata 2.56 348 Pg Pg 09 20 54.2 +0.3
547nm,0.4s
AAA Lg Lg 09 21 28.4
988nm,0.6s
AAA Alma-Ata 2.56 348 ePN Pg 09 20 53.5 -0.5
AAA *i* S Sg 09 21 29.1 +2.0
AAA pmax pmax
comp=Z,538nm,0.3s
AAA smax smax
comp=N,1µm,0.7s
KNDC Almaty 2.56 349 ⇑Pn Pb 09 20 51.1 -0.5
comp=N,222nm,0.5s
KNDC ⇓Lg Lg 09 21 25.4
comp=N,3µm,0.7s
KNDC Almaty 2.56 349 PN Pb 09 20 51.1 -0.5
MTBS Maitube 2.59 340 eP Pb 09 20 53.2 +1.1
comp=N,159nm,0.4s
MTBS eS Sb 09 21 25.7 +1.4
comp=N,496nm,0.5s
MTBS Maitube 2.59 340 Pg Pb 09 20 53.2 +1.1
comp=N,159nm,0.4s
MTBS Lg Lg 09 21 25.7
comp=N,365nm,0.5s
UZB Uzynbulak 2.64 22 eP Pg 09 20 55.1 -0.5
comp=N,93nm,0.5s
UZB eS Sg 09 21 29.4 -0.4
comp=N,422nm,1.0s
UZB Uzynbulak 2.64 22 Pg Pg 09 20 55.1 -0.5
comp=N,93nm,0.5s
UZB Lg Lg 09 21 29.4
comp=N,422nm,1.0s
KST Kastek 2.65 332 eP Pb 09 20 54.6 +1.4
comp=N,227nm,0.6s
KST eS Sb 09 21 28.0 +1.7
comp=N,364nm,0.5s
KST Kastek 2.65 332 Pg Pb 09 20 54.9 +1.7
comp=N,205nm,0.4s
KST Lg Lg 09 21 29.9
comp=N,364nm,0.5s
TKM2 Tokmak 2 2.69 326 ⇑*i*P Pb 09 20 52.2 -1.7
baz=26
TKM2 ⇑*i*S Sn 09 21 25.0 +2.2
baz=26
TKM2 Tokmak 2 2.69 326 P Pb 09 20 52.6 -1.3
SNR=20
TKM2 Tokmak 2 2.69 326 ⇓Pn Pb 09 20 52.3 -1.7
comp=N,116nm,0.7s
TKM2 ⇓Lg Lg 09 21 31.3
comp=N,281nm,0.8s
TKM2 Tokmak 2 2.69 326 PN Pb 09 20 52.3 -1.7
ARLS Aral 2.76 296 ⇑*i*P Pb 09 20 53.1 -2.0
baz=97
ARLS ⇑*i*S Sb 09 21 26.7 -2.7
baz=97
SHLS Shalkode 2.79 28 eP Pg 09 21 00.1 +1.6
comp=N,330nm,0.5s
SHLS eS Sg 09 21 37.6 +2.9
comp=N,501nm,0.7s
KURS Kuram 2.80 8 eP Pb 09 20 57.6 +1.9
comp=N,128nm,0.6s
KURS eS Sg 09 21 34.4 -0.6
comp=N,560nm,0.7s
KURS Kuram 2.80 8 Pg Pb 09 20 57.6 +1.9
comp=N,128nm,0.6s
KURS Lg Lg 09 21 34.8
comp=N,560nm,0.7s
UCH Uchtor 2.80 304 ⇑eP Pn 09 20 53.2 +1.9
baz=4.0
UCH ⇑*i*S Sn 09 21 28.1 +2.2
baz=4.0
UCH Uchtor 2.80 304 P Pn 09 20 53.1 +1.9
SNR=40
KBK Karagaybulak 2.81 315 ⇑*i*P Pn 09 20 53.3 +2.3
baz=15
KBK ⇑*i*S Sb 09 21 28.3 -2.5
baz=15
KBK Karagaybulak 2.81 315 P Pb 09 20 57.4 +1.4
SNR=123
PDGK Podgornoye 2.96 27 ⇑Pn Pb 09 20 55.9 -2.5
comp=N,11nm,0.5s
PDGK ⇓Pg Pg 09 20 59.8 -1.7
comp=N,96nm,0.5s
PDGK ⇓Lg Lg 09 21 40.5
comp=N,2µm,0.7s
PDGK Podgornoye 2.96 27 PN Pb 09 20 55.9 -2.5
AAK Ala-Archa 3.05 310 Pn Pb 09 20 57.5 -2.6
comp=N,18nm,0.3s,baz=127,slow=9.1,SNR=84
AAK Pg Pg 09 21 00.9 -2.5
comp=N,53nm,0.3s,baz=124,slow=10,SNR=112
AAK Lg Lg 09 21 42.1
comp=N,25nm,0.3s,baz=284,slow=18,SNR=14
AAK LR LR 09 22 25.6
comp=N,151nm,20.7s,baz=90,slow=45
AAK Ala-Archa 3.05 310 ⇑eP Pb 09 20 57.1 -2.9
baz=11
AAK ⇑*i*S Sn 09 21 33.8 +2.3
baz=11
AAK Ala-Archa 3.05 310 P Pb 09 21 00.6 +0.6
SNR=91
AAK Ala-Archa 3.05 310 ⇑Pg Pb 09 21 00.7 +0.6
comp=N,113nm,0.5s
AAK ⇑Lg Lg 09 21 41.5
comp=N,290nm,0.7s
AAK Ala-Archa 3.05 310 *de*PN Pn 09 20 56.8 +2.4
AAK pmax pmax
comp=Z,186nm,0.8s
FRU1 Bishkek 3.08 314 ⇑eP Pb 09 20 57.6 -3.0
baz=14
FRU1 ⇑*i*S Sn 09 21 34.5 +2.3
baz=14
KTBS Karatobe 3.09 347 eP Pb 09 21 01.9 +1.4
comp=Z,61nm,0.6s
KTBS eS Sb 09 21 41.0 +2.2
comp=Z,2µm,0.6s
CHMS Chumysh 3.15 318 ⇑eP Pn 09 20 58.2 +2.6
baz=18
CHMS ⇑*i*S Sn 09 21 36.1 +2.3
baz=18
CHMS Chumysh 3.15 318 P Pb 09 21 03.6 +1.9
SNR=20

CHKK Chushkaly 3.18 351 eP Pb 09 21 04.0 +1.8
comp=Z,118nm,0.4s
CHKK eS Sb 09 21 45.0 +3.6
comp=Z,1µm,0.9s
CHKK Chushkaly 3.18 351 Pg Pb 09 21 04.2 +2.0
comp=Z,118nm,0.4s
CHKK Lg Lg 09 21 45.6
comp=Z,1µm,0.9s
AML Almayashu 3.30 297 ⇓eP Pn 09 21 00.3 +2.3
baz=97
AML ⇓*i*S Sn 09 21 40.5 +2.5
baz=97
AML Almayashu 3.30 297 P Pb 09 21 05.7 +1.3
SNR=13
KTMS Ketmen 3.39 35 eP Pg 09 21 08.6 -1.4
comp=Z,66nm,0.7s
KTMS eS Sg 09 21 52.2 -1.8
comp=Z,515nm,0.6s
KTMS Ketmen 3.39 35 Pg Pg 09 21 08.6 -1.4
comp=Z,1.4nm,0.1s
KTMS Lg Lg 09 21 52.2
comp=Z,515nm,0.6s
USP Ospenovka 3.47 318 ⇑*i*P Pn 09 21 02.8 +2.8
baz=19
USP ⇑*i*S Sn 09 21 43.9 +2.1
baz=19
USP Ospenovka 3.47 318 P Pb 09 21 09.1 +1.9
SNR=34
EKS2 Erkin-Say 3.50 305 ⇑*i*P Pn 09 21 03.4 +3.0
baz=6.0
EKS2 ⇑*i*S Sn 09 21 44.7 +2.2
baz=6.0
EKS2 Erkin-Say 3.50 305 P Pb 09 21 04.4 -3.2
SNR=7.1
ARXS Arharly 3.50 2 eP Pb 09 21 10.4 +2.7
comp=Z,128nm,0.5s
ARXS eS Sg 09 21 55.8 -1.7
comp=Z,279nm,0.5s
ARXS Arharly 3.50 2 Pg Pg 09 21 10.6 -1.5
comp=Z,128nm,0.5s
ARXS Lg Lg 09 21 55.8
comp=Z,268nm,0.6s
ARSB Arslanbob 3.59 281 ⇑*i*P Pn 09 21 04.7 +3.0
baz=82
ARSB ⇑*i*S Sn 09 21 47.0 +2.3
baz=82
MRKS Merke 3.89 303 eP Pb 09 21 15.7 +1.5
comp=Z,82nm,0.5s
MRKS eS Sb 09 22 04.4 +2.6
comp=Z,75nm,0.4s
DJR Jarkent 3.95 23 eP Pg 09 21 19.2 -1.4
comp=Z,59nm,0.4s
DJR eS Sg 09 22 10.3 -1.5
comp=Z,174nm,0.4s
DJR Jarkent 3.95 23 Pg Pg 09 21 19.7 -0.9
comp=Z,59nm,0.5s
DJR Lg Lg 09 22 11.2
comp=Z,174nm,0.4s
TDK Taldyqorghan 4.33 7 eP Pb 09 21 24.8 +3.1
comp=Z,229nm,0.6s
TDK eS Sg 09 22 20.5 -3.4
comp=Z,774nm,0.5s
TDK Taldyqorghan 4.33 7 Pg Pg 09 21 25.3 -2.5
comp=Z,229nm,0.6s
TDK Lg Lg 09 22 20.8
comp=Z,774nm,0.5s
KAPS Kapalarasan 4.74 15 eP Pg 09 21 33.3 -2.5
comp=Z,30nm,0.8s
KAPS eS Sg 09 22 34.6 -2.6
comp=Z,149nm,0.8s
KAPS Kapalarasan 4.74 15 Pg Pg 09 21 35.9 +0.1
comp=Z,32nm,0.6s
KAPS Lg Lg 09 22 39.0
comp=Z,149nm,0.8s
BTLS Baital 5.08 330 eP Pb 09 21 38.3 +3.9
comp=Z,36nm,0.9s
BTLS eS Sg 09 22 43.3 -4.6
comp=Z,112nm,0.7s
KK31 Karatay Array 5.84 297 ⇑Pg Pg 09 21 54.9 -1.9
comp=Z,14nm,0.7s,baz=117,slow=15,SNR=90
KK31 ⇑Lg Lg 09 23 10.2
comp=Z,18nm,0.6s
IUG Iuzhnay 5.91 287 eP Pg 09 21 54.6 -3.5
comp=Z,46nm,0.8s
IUG eS Sg 09 23 11.0 -3.6
comp=Z,74nm,0.8s
MAKZ Makanchi 6.85 26 ⇓Pn Pn 09 21 49.8 +3.4
comp=Z,1.4nm,0.4s
MAKZ ⇓Lg Lg 09 23 42.6
comp=Z,24nm,0.8s
MAKZ Makanchi 6.85 26 PN Pn 09 21 49.8 +3.4
MK31 Makanchi Array 6.95 27 ⇑Pn Pn 09 21 49.5 +1.8
comp=Z,0.5nm,0.3s,baz=206,slow=14,SNR=29
MK31 ⇓Pg Pg 09 22 16.4 -1.6
comp=Z,6.3nm,0.7s
MK31 ⇑Sn Sn 09 23 07.3 0.0
comp=Z,11nm,0.5s
MK31 ⇑Lg Lg 09 23 47.9
comp=Z,24nm,0.8s,baz=207,slow=29,SNR=5.2
MK31 Makanchi Array 6.95 27 *i* PN Pn 09 21 49.8 +2.1
MKAR Makanchi Array 6.95 27 Pn Pn 09 21 49.3 +1.5
comp=Z,0.9nm,0.3s,baz=201,slow=15,SNR=27
MKAR Sn Sn 09 23 08.5 +1.1
comp=Z,1.8nm,0.3s,baz=203,slow=22,SNR=8.3
MKAR Lg Lg 09 23 47.3
comp=Z,2.0nm,0.3s,baz=159,slow=14,SNR=4.3
MKAR LR LR 09 23 59.4
comp=Z,40nm,19.3s,baz=189,slow=33
MKAR Makanchi Array 6.95 27 *e*PN Pn 09 21 49.8 +2.1
MKAR pmax pmax
comp=Z,1.0nm,0.3s
NIL Nilore 7.87 208 P Pn 09 22 00.8 +0.4
NIL pmax pmax
comp=Z,402nm,0.7s
WMQ Urumqi 8.07 64 eP Pn 09 22 03.9 +0.7
WMQ smax smax
comp=Z,22nm,1.3s
WMQ smax smax
comp=Z,29nm,1.1s
THN Thein Dam 8.40 191 eP Pn 09 22 07.0 -0.7
THN eS Sn 09 23 07.0 -36
KBL Kabul 9.19 231 P Pn 09 22 18.5 -0.2
KBL pmax pmax
comp=Z,21nm,0.6s
KURBB Kurchatov Arra 9.93 3 Pn Pn 09 22 29.4 +0.7
comp=Z,0.1nm,0.3s,baz=195,slow=12,SNR=17
KURBB Sn Sn 09 24 16.4 -4.3
comp=Z,0.2nm,0.3s,baz=240,slow=9.7,SNR=6.8
KURBB Lg Lg 09 25 20.8
comp=Z,0.3nm,0.3s,baz=193,slow=28,SNR=7.3
KURBB Kurchatov Arra 9.93 3 ⇑Pn Pn 09 22 29.8 +1.2
comp=Z,3.9nm,0.6s
KURBB ⇑Lg Lg 09 25 21.4
comp=Z,148nm,1.2s
KURBB Kurchatov Arra 9.93 3 P Pn 09 22 29.8 +1.2
KURK Kurchatov 10.03 4 ⇑Pn Pn 09 22 29.9 -0.1
comp=Z,4.0nm,1.2s
KURK ⇑Lg Lg 09 25 21.7
comp=Z,82nm,1.1s
KURK Kurchatov 10.03 4 ⇑eP Pn 09 22 30.8 +0.8
KURK pmax pmax
comp=Z,8.0nm,2.5s
DGZ Jazzator, Alta 11.32 34 ⇑eP Pn 09 22 50.7 +2.9
DGZ pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 13.28 341 Pn Pn 09 23 13.8 -0.5
comp=Z,0.2nm,0.3s,baz=144,slow=13,SNR=4.9
BVAR Lg Lg 09 27 03.9
comp=Z,0.2nm,0.3s,baz=152,slow=32,SNR=9.8
BVAR LR LR 09 28 31.2
comp=Z,52nm,20.2s,baz=144,slow=38
BRVK Borovoye 13.33 340 *i* P Pn 09 23 18.1 +3.0
ZALV Zalesovo Beam 14.10 18 Pn Pn 09 23 27.9 +2.4
comp=Z,0.3nm,0.3s,baz=183,slow=18,SNR=4.1
ZALV LR LR 09 28 31.6
comp=Z,29nm,19.0s,baz=176,slow=36
GTA Gaotai 17.01 87 eP Pn 09 24 02.3 -1.8
GTA pP pP 09 24 07.9 +0.4
GTA sP sP 09 24 10.8 +2.8
GTA pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 21.69 61 eP P 09 25 01.2 +4.1
SONM pmax pmax
comp=Z,1.0nm,0.4s
ULN Ulaanbaatar 22.14 61 ⇓eP P 09 25 03.2 +1.3
ULN pmax pmax
comp=Z,1.0nm,0.8s

OBN Obninsk 30.57 312 eP P 09 26 18.3 -1.4
OBN *e* 09 27 23.1
OBN *e* 09 29 15.2
OBN pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 33.36 283 P P 09 26 44.5 -0.1
comp=Z,2.7nm,0.7s,baz=77,slow=11,SNR=8.7
BRTR Keskin Array B 33.36 283 eP P 09 26 45.0 +0.4
BRTR pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 34.70 303 ⇑eP P 09 26 54.7 -1.2
FINES FINESS Array B 37.17 321 P P 09 27 17.4 +0.5
comp=Z,2.7nm,0.6s,baz=110,slow=10,SNR=7.9
FINES FINESS Array B 37.17 321 eP P 09 27 17.2 +0.2
FINES pmax pmax
comp=Z,3.0nm,0.6s
KLR Kul'dur 38.48 59 LR LR 09 44 38.3
comp=Z,46nm,18.5s,baz=264,slow=38
ARCES ARCESS Array B 39.44 334 P P 09 27 36.4 +0.3
comp=Z,1.9nm,0.8s,baz=90,slow=7.3,SNR=5.7
ARCES ARCESS Array B 39.44 334 eP P 09 27 36.6 +0.6
ARCES pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 39.91 23 ⇓eP P 09 27 39.3 -0.5
TIXI pmax pmax
comp=Z,9.0nm,1.3s
NORES NORESS Array B 44.18 320 P P 09 28 14.6 -0.3
NORES pmax pmax
comp=Z,5.0nm,0.6s
NB2 NORSAR Subarra 44.32 320 P P 09 28 15.6 -0.4
comp=Z,4.5nm,0.8s,baz=87,slow=8.6
NOA NORSAR Array B 44.32 320 P P 09 28 15.8 -0.2
comp=Z,2.3nm,0.7s,baz=87,slow=7.9,SNR=8.8
GERES GERESS Array B 44.91 303 P P 09 28 21.0 +0.1
comp=Z,0.5nm,0.5s,baz=61,slow=6.3,SNR=4.4
BILL Bilibino 52.49 28 eP P 09 29 19.2 +0.3
BILL *e* 09 30 33.6
BILL *e* 09 31 18.7
BILL pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 69.22 19 P P 09 31 11.4 -1.4
comp=Z,0.7nm,0.8s,baz=316,slow=5.1,SNR=8.4
TORD Torodi Ar. Bea 70.94 271 P P 09 31 21.6 -2.5
comp=Z,1.6nm,0.5s,baz=46,slow=6.5,SNR=17
YKA Yellowknife Ar 76.67 6 P P 09 31 55.8 -1.1
comp=Z,1.1nm,0.5s,baz=346,slow=6.3,SNR=9.4
ASAR Alice Springs 82.65 130 P P 09 32 27.8 -2.2
comp=Z,0.4nm,0.7s,baz=315,slow=6.3,SNR=5.2

*IDC **14** 09:25:43.8±1.0, 44°.82S×35°.87E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/37, mbtmp4.1/5, ML3.6/1, MS3.4/8, Ms1 3.4/8, ms1mx3.1/40, Error ellipse: s-maj=53.3km s-min=22.3km az=60.0*

ISC 14 09:25:45.3±1.1, 44°.8S±0°.2×35°.8E±0°.3, h10km, n12, σ0s72/6, mb4.1/4, MS3.4/6, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**17.04**	**312**	P	**Pn**	**09 29 43.4**	**-0.3**
	0.3nm,0.3s,baz=134,slow=16,SNR=1.1						
SUR				LR	LR	09 34 39.6	
	comp=Z,143nm,18.4s,baz=134,slow=31						
BOSA	**Boshof**	**18.23**	**329**	LR	LR	09 35 44.7	
	comp=Z,97nm,18.5s,baz=190,slow=33						
LBTB	**Lobatse**	**21.43**	**334**	P	**P**	**09 30 33.1**	**-0.5**
	5.8nm,0.7s,baz=174,slow=9.2,SNR=8.2						
LBTB				LR	LR	09 37 19.3	
	comp=Z,104nm,20.8s,baz=171,slow=32						
MAW	**Mawson**	**26.90**	**157**	LR	LR	09 39 44.0	
	comp=Z,40nm,20.9s,baz=80,slow=31						
TSUM	**Tsumeb**	**29.71**	**323**	LR	LR	09 43 00.2	
	comp=Z,62nm,19.1s,baz=106,slow=35						
QSPA	**South Pole Qui**	**45.38**	**180**	P	**P**	**09 34 03.6**	**0.0**
	1.6nm,0.7s,baz=251,slow=7.1,SNR=24						
VNDA	**Vanda**	**53.51**	**167**	LR	LR	09 56 24.3	
	comp=Z,44nm,19.7s,baz=250,slow=34						
PMSA	**Palmer Station**	**54.34**	**211**	LR	LR	09 53 55.1	
	comp=Z,39nm,18.9s,baz=80,slow=31						
TORD	**Torodi Ar. Bea**	**65.47**	**323**	P	**P**	**09 36 29.5**	**+1.0**
	0.8nm,0.6s,baz=148,slow=6.6,SNR=7.5						
ASAR	**Alice Springs**	**79.15**	**112**	P	**P**	**09 37 50.3**	**-0.1**
	0.5nm,0.6s,baz=226,slow=5.0,SNR=12						
ESDC	**Sonseca Array**	**91.41**	**330**	LR	LR	10 21 11.8	
	comp=Z,38nm,18.1s,baz=320,slow=36						
TXAR	**Lajitas Array**	**144.53**	**258**	PKP	**PKPdf**	**09 45 21.5**	**-0.5**
	0.6nm,0.9s,baz=140,slow=5.7,SNR=7.8						

*IDC **14** 09:34:32.3±1.2, 55°.3S×27°.41W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/24, mbtmp3.8/3, Error ellipse: s-maj=53.6km s-min=31.0km az=90.0*

ISC 14 09:34:33.9±1.1, 55°.3S±0°.2×27°.5W±0°.3, h10km, n8, σ1s67/8, mb3.8/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.58**	**159**	P	**P**	**09 38 42.7**	**+3.1**
VNA3	**Neumayer Olymp**	**17.78**	**161**	P	**P**	**09 38 41.6**	**-0.4**
VNA2	**Neumayer--Watz**	**17.98**	**159**	P	**Pn**	**09 38 43.7**	**+0.1**
	baz=314,slow=15						
SNAA	**Sanae**	**19.52**	**157**	P	**P**	**09 38 59.1**	**-2.1**
VNDA	**Vanda**	**47.34**	**183**	P	**P**	**09 43 06.8**	**-0.4**
	1.3nm,0.7s,baz=187,slow=6.3,SNR=16						
LPAZ	**La Paz**	**49.79**	**305**	P	**P**	**09 43 27.6**	**+0.2**
	0.8nm,0.8s,baz=129,slow=14,SNR=2.4						
TORD	**Torodi Ar. Bea**	**72.47**	**30**	P	**P**	**09 46 00.5**	**0.0**
	0.5nm,0.5s,baz=202,slow=6.3,SNR=6.2						
ILAR	**Eielson Array**	**149.47**	**313**	PKPbc	**PKPbc**	**09 54 21.6**	**-0.1**
	0.8nm,0.7s,baz=80,slow=1.1,SNR=9.3						

*UCR **14** 09:45:26.7±0.8, 13°.02N×89°.03W, h48km±8km, ML3.5*
*SNET **14** 09:45:26.7±0.8, 13°.04N×89°.03W, h48km±8km, ML3.5*

ISC 14 09:45:24.1±1.8, 13°.00N±0°.09×89°.02W±0°.04, h8km±12km, n70, σ0s54/110, 2C-27D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.54**	**53**	⇓*i*P	**Pn**	**09 45 38.4**	**+0.2**
ALJI				*e*S	**Sn**	**09 45 47.6**	**+0.1**
ALJI	**Alcalda de J**	**0.54**	**53**	⇓*i*P	**Pn**	**09 45 38.4**	**+0.2**
ALJI				*e*S	**Sn**	**09 45 47.6**	**+0.1**
LALI	**Alcalda de L**	**0.57**	**329**	*e*P	**Pn**	**09 45 38.3**	**-0.3**
LALI	**Alcalda de L**	**0.57**	**329**	*e*P	**Pn**	**09 45 38.3**	**-0.3**
LFRS	**El Faro**	**0.62**	**356**	*e*P	**Pn**	**09 45 38.9**	**-0.5**
LFRS				*e*S	**Sn**	**09 45 48.5**	**-1.2**
LFRS	**El Faro**	**0.62**	**356**	*e*P	**Pn**	**09 45 38.9**	**-0.5**
LFRS				*e*S	**Sn**	**09 45 48.5**	**-1.2**
UESV	**Universidad de**	**0.67**	**19**	⇓*e*P	**Pn**	**09 45 39.9**	**-0.2**
UESV				*e*S	**Sn**	**09 45 50.2**	**-0.6**
UESV	**Universidad de**	**0.67**	**19**	⇓*e*P	**Pn**	**09 45 39.9**	**-0.2**
UESV				*e*S	**Sn**	**09 45 50.2**	**-0.6**
COEB	**Comit de Eme**	**0.69**	**44**	⇓*i*P	**Pn**	**09 45 40.2**	**-0.1**
COEB				*e*S	**Sn**	**09 45 50.6**	**-0.6**
COEB	**Comit de Eme**	**0.69**	**44**	⇓*i*P	**Pn**	**09 45 40.2**	**-0.1**
COEB				*e*S	**Sn**	**09 45 50.6**	**-0.6**
AEIL	**Aeropuerto Ilo**	**0.70**	**352**	*e*P	**Pn**	**09 45 40.4**	**-0.1**
AEIL				*e*S	**Sn**	**09 45 51.1**	**-0.4**
AEIL				IAML		09 45 57.1	
	comp=Z,2µm,0.2s						
AEIL	**Aeropuerto Ilo**	**0.70**	**352**	*e*P	**Pn**	**09 45 40.4**	**-0.1**
AEIL				*e*S	**Sn**	**09 45 51.1**	**-0.4**
AEIL				IAML		09 45 57.1	
	comp=Z,2µm,0.2s						
TECA	**Tecapa**	**0.70**	**45**	*e*P	**Pn**	**09 45 40.5**	**-0.1**
TECA				*e*S	**Sn**	**09 45 51.4**	**-0.4**
TECA	**Tecapa**	**0.70**	**45**	*e*P	**Pn**	**09 45 40.5**	**-0.1**
TECA				*e*S	**Sn**	**09 45 51.4**	**-0.4**
PAVA	**Las Pavas**	**0.72**	**6**	⇓*e*P	**Pn**	**09 45 40.4**	**-0.2**
PAVA				*e*S	**Sn**	**09 45 51.2**	**-0.7**
PAVA	**Las Pavas**	**0.72**	**6**	⇓*e*P	**Pn**	**09 45 40.4**	**-0.2**
PAVA				*e*S	**Sn**	**09 45 51.2**	**-0.7**
SNET	**Serv Nac Est T**	**0.72**	**343**	*e*P	**Pn**	**09 45 40.1**	**-0.6**
SNET				*e*S	**Sb**	**09 45 50.3**	**+1.4**
SNET				IAML		09 45 51.5	
	comp=Z,1µm,0.2s						
SNET	**Serv Nac Est T**	**0.72**	**343**	*e*P	**Pn**	**09 45 40.1**	**-0.6**
SNET				*e*S	**Sb**	**09 45 50.3**	**+1.4**
SNET				IAML		09 45 51.5	
	comp=Z,1µm,0.2s						
UTEC	**Universidad Te**	**0.72**	**346**	*e*P	**Pn**	**09 45 40.3**	**-0.5**
UTEC	**Universidad Te**	**0.72**	**346**	*e*P	**Pn**	**09 45 40.3**	**-0.5**
UDBS	**Universidad Do**	**0.73**	**349**	*e*P	**Pn**	**09 45 40.3**	**-0.5**

UDBS	**Universidad Do**	**0.73**	**349**	*eP*		**Pn**	**09 45 40.3**	**-0.5**
IGN	**Direccin Gen**	**0.73**	**348**	*eP*		**Pn**	**09 45 40.3**	**-0.5**
IGN	**Direccin Gen**	**0.73**	**348**	*eP*		**Pn**	**09 45 40.3**	**-0.5**
OPAM	**Oficina de Pla**	**0.73**	**346**	*eP*		**Pn**	**09 45 40.4**	**-0.5**
OPAM				*eS*		**Sb**	**09 45 51.1**	**+1.7**
OPAM				IAML			09 45 52.5	
	comp=Z,2µm,0.2s							
OPAM	**Oficina de Pla**	**0.73**	**346**	*eP*		**Pn**	**09 45 40.4**	**-0.5**
OPAM				*eS*		**Sb**	**09 45 51.1**	**+1.7**
OPAM				IAML			09 45 52.5	
	comp=Z,2µm,0.2s							
LBRS	**Las Brisas**	**0.74**	**358**	*eP*		**Pn**	**09 45 40.8**	**-0.1**
LBRS	**Las Brisas**	**0.74**	**358**	*eP*		**Pn**	**09 45 40.8**	**-0.1**
UESS	**Universidad de**	**0.74**	**346**	*eP*		**Pn**	**09 45 40.5**	**-0.4**
UESS				*eS*		**Sn**	**09 45 51.8**	**-0.7**
UESS	**Universidad de**	**0.74**	**346**	*eP*		**Pn**	**09 45 40.5**	**-0.4**
UESS				*eS*		**Sn**	**09 45 51.8**	**-0.7**
UEES	**Universidad Ev**	**0.75**	**343**	*iP*		**Pn**	**09 45 40.7**	**-0.4**
UEES				IAML			09 45 55.7	
	comp=Z,1µm,0.2s							
UEES	**Universidad Ev**	**0.75**	**343**	*iP*		**Pn**	**09 45 40.7**	**-0.4**
UEES				IAML			09 45 55.7	
	comp=Z,1µm,0.2s							
LFU	**La Fuente**	**0.75**	**353**	*eP*		**Pn**	**09 45 40.7**	**-0.4**
LFU				*eS*		**Sn**	**09 45 52.1**	**-0.7**
LFU	**La Fuente**	**0.75**	**353**	*eP*		**Pn**	**09 45 40.7**	**-0.4**
LFU				*eS*		**Sn**	**09 45 52.1**	**-0.7**
BOQS	**Boqueron**	**0.78**	**341**	*eP*		**Pn**	**09 45 41.4**	**-0.3**
BOQS				*eS*		**Sn**	**09 45 52.9**	**-0.7**
BOQS	**Boqueron**	**0.78**	**341**	*eP*		**Pn**	**09 45 41.4**	**-0.3**
BOQS				*eS*		**Sn**	**09 45 52.9**	**-0.7**
JAYA	**Jayaque - finc**	**0.78**	**327**	*eP*		**Pn**	**09 45 41.0**	**-0.6**
JAYA				*eS*		**Sb**	**09 45 51.9**	**+1.1**
JAYA				IAML			09 45 52.8	
	comp=Z,3µm,0.3s							
JAYA	**Jayaque - finc**	**0.78**	**327**	*eP*		**Pn**	**09 45 41.0**	**-0.6**
JAYA				*eS*		**Sb**	**09 45 51.9**	**+1.1**
JAYA				IAML			09 45 52.8	
	comp=Z,3µm,0.3s							
LCY	**Lacayo**	**0.82**	**59**	*eP*		**Pn**	**09 45 42.1**	**0.0**
LCY				*eS*		**Sn**	**09 45 54.5**	**0.0**
LCY	**Lacayo**	**0.82**	**59**	*eP*		**Pn**	**09 45 42.1**	**0.0**
LCY				*eS*		**Sn**	**09 45 54.5**	**0.0**
RANC	**El Ranchito**	**0.83**	**58**	*eP*		**Pn**	**09 45 42.2**	**-0.1**
RANC				*eS*		**Sn**	**09 45 54.5**	**-0.3**
RANC	**El Ranchito**	**0.83**	**58**	*eP*		**Pn**	**09 45 42.2**	**-0.1**
RANC				*eS*		**Sn**	**09 45 54.5**	**-0.3**
QUEZ	**Alcaldia de Qu**	**0.87**	**343**	*eP*		**Pn**	**09 45 42.7**	**-0.1**
BLLM	**Bellamira**	**0.88**	**60**	*iP*		**Pn**	**09 45 42.8**	**-0.1**
BLLM				*eS*		**Sn**	**09 45 55.8**	**-0.1**
BLLM	**Bellamira**	**0.88**	**60**	*iP*		**Pn**	**09 45 42.8**	**-0.1**
BLLM				*eS*		**Sn**	**09 45 55.8**	**-0.1**
CEDA	**San Andres**	**0.88**	**335**	*eP*		**Pn**	**09 45 42.5**	**-0.3**
CEDA				IAML			09 46 00.5	
	comp=Z,1µm,0.2s							
CEDA	**San Andres**	**0.88**	**335**	*eP*		**Pn**	**09 45 42.5**	**-0.3**
CEDA				IAML			09 46 00.5	
	comp=Z,1µm,0.2s							
CEVE	**Cerro Verde**	**1.01**	**324**	*eP*		**Pn**	**09 45 45.0**	**0.0**
CEVE				IAML			09 46 05.7	
	comp=Z,2µm,0.3s							
CEVE	**Cerro Verde**	**1.01**	**324**	*eP*		**Pn**	**09 45 45.0**	**0.0**
CEVE				IAML			09 46 05.7	
	comp=Z,2µm,0.3s							
TACO	**Tacachico**	**1.02**	**341**	*iP*		**Pb**	**09 45 44.3**	**+0.2**
TACO	**Tacachico**	**1.02**	**341**	*iP*		**Pb**	**09 45 44.3**	**+0.2**
SNJE	**San Jose**	**1.04**	**327**	*eP*		**Pb**	**09 45 45.0**	**+0.5**
SNJE				*eS*		**Sb**	**09 45 58.9**	**+0.5**
SNJE	**San Jose**	**1.04**	**327**	*eP*		**Pb**	**09 45 45.0**	**+0.5**
SNJE				*eS*		**Sb**	**09 45 58.9**	**+0.5**
RTR	**El Retiro**	**1.08**	**326**	*eP*		**Pn**	**09 45 45.8**	**0.0**
RTR				*eS*		**Sb**	**09 46 00.5**	**+0.8**
RTR	**El Retiro**	**1.08**	**326**	*eP*		**Pn**	**09 45 45.8**	**0.0**
RTR				*eS*		**Sb**	**09 46 00.5**	**+0.8**
UNIC	**Universidad Ca**	**1.11**	**332**	*eP*		**Pb**	**09 45 45.8**	**+0.2**
UNIC	**Universidad Ca**	**1.11**	**332**	*eP*		**Pb**	**09 45 45.8**	**+0.2**
FAGO	**Alcalda de S**	**1.12**	**52**	*iP*		**Pb**	**09 45 45.8**	**-0.1**
FAGO	**Alcalda de S**	**1.12**	**52**	*iP*		**Pb**	**09 45 45.8**	**-0.1**
LCND	**La Caada**	**1.14**	**74**	*eP*		**Pb**	**09 45 46.1**	**-0.1**
LCND				*eS*		**Sb**	**09 46 01.4**	**+0.3**
LCND	**La Caada**	**1.14**	**74**	*eP*		**Pb**	**09 45 46.1**	**-0.1**
LCND				*eS*		**Sb**	**09 46 01.4**	**+0.3**
LLGN	**La Laguna**	**1.16**	**3**	*eP*		**Pb**	**09 45 46.4**	**-0.1**
LLGN	**La Laguna**	**1.16**	**3**	*eP*		**Pb**	**09 45 46.4**	**-0.1**
NUBE	**Las Nubes**	**1.17**	**321**	*iP*		**Pg**	**09 45 46.5**	**-0.1**
NUBE				*eS*		**Sg**	**09 46 01.4**	**-0.3**
NUBE				IAML			09 46 03.5	
	comp=Z,601nm,0.3s							
NUBE	**Las Nubes**	**1.17**	**321**	*iP*		**Pg**	**09 45 46.5**	**-0.1**
NUBE				*eS*		**Sg**	**09 46 01.4**	**-0.3**
NUBE				IAML			09 46 03.5	
	comp=Z,601nm,0.3s							
MTO3	**Montecristo**	**1.43**	**347**	*eP*		**Pn**	**09 45 50.1**	**-0.5**
MTO3	**Montecristo**	**1.43**	**347**	*eP*		**Pn**	**09 45 50.1**	**-0.5**
ESQI	**Esquipulas**	**1.58**	**349**	*iP*		**Pn**	**09 45 52.7**	**+0.1**
TGUH	**Tegucigalpa,Un**	**2.00**	**58**	*eP*		**Pn**	**09 45 58.0**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.00**	**58**	*eP*		**Pn**	**09 45 58.0**	**-0.3**

*INET **14** 10:01:53.4, 10.°07N×85.°35W, h41km, ML3.3*
*UCR **14** 10:01:54.4±1.4, 10.°19N×85.°32W, h40km±3km, MD3.7, ML3.7*
*UPA **14** 10:01:56.7±1.7, 10.°24N×85.°03W, h18km±43km, MW4.0*
*IDC **14** 10:01:58.2±33.0, 11.°55N×85.°44W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.6/40, mbtmp3.5/3, Error ellipse: s-maj=571.3km s-min=252.0km az=151.0*
*SNET **14** 10:02:05.5±2.3, 10.°65N×86.°01W, h175km, ML3.9*
ISC 14 10:01:54.1±0.9, **10.°18N**±0.°03×**85.°34W**±0.°03, **h45**km±6km, **n84**,σ1°§**14**/112, **mb3.5/3**,**11C-5D**,**Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNO	**Dulce Nombre,**	**0.18**	**238**	*eP*	**Pn**	**10 02 01.5**	**-0.4**
DUNO				*eS*	**Sn**	**10 02 07.6**	**+0.3**
GUAI	**GUAI**	**0.20**	**298**	*iP*	**Pn**	**10 02 01.7**	**-0.2**
GUAI				*iS*	**Sn**	**10 02 07.8**	**+0.3**
ORTG	**Ortega, Santa**	**0.22**	**327**	*eP*	**Pn**	**10 02 02.0**	**-0.2**
ORTG				*eS*	**Sn**	**10 02 08.0**	**0.0**
GRZA	**Playa Garza**	**0.39**	**229**	*eP*	**Pn**	**10 02 03.1**	**-0.7**
JTS	**Las Juntas de**	**0.39**	**73**	*eP*	**Pn**	**10 02 02.4**	**-1.5**
COLC	**Colonia**	**0.50**	**15**	*iP*	**Pn**	**10 02 04.9**	**-0.3**
COLC				*iS*	**Sn**	**10 02 13.2**	**+0.1**
CUI	**Cuipilapa**	**0.51**	**20**	*eP*	**Pn**	**10 02 05.1**	**-0.2**
CUI				*iS*	**Sn**	**10 02 13.1**	**-0.1**
LIM1	**Limonal**	**0.52**	**9**	*iP*	**Pn**	**10 02 05.2**	**-0.3**
LIM1				*iS*	**Sn**	**10 02 13.6**	**0.0**
GUAB	**Guayabo de Bag**	**0.54**	**11**	*iP*	**Pn**	**10 02 05.2**	**-0.5**
GUAB				*iS*	**Sn**	**10 02 14.1**	**+0.2**
ACAL	**Aguas Claras**	**0.54**	**33**	*iP*	**Pn**	**10 02 05.4**	**-0.3**
ACAL				*iS*	**Sn**	**10 02 14.6**	**+0.6**
HORNC	**Hornillas**	**0.55**	**16**	*iP*	**Pn**	**10 02 05.5**	**-0.4**
HORNC				*iS*	**Sn**	**10 02 14.1**	**-0.2**
LAFE	**Finca La Fe, P**	**0.56**	**131**	*eP*	**Pn**	**10 02 04.9**	**-0.9**
LAFE				*eS*	**Sn**	**10 02 13.3**	**-1.0**
GPS2	**Hotel Rincn d**	**0.57**	**358**	*eP*	**Pn**	**10 02 05.8**	**-0.3**
GPS2				*iS*	**Sn**	**10 02 15.0**	**+0.3**
GPS3	**Bodega del ICE**	**0.57**	**357**	*iP*	**Pn**	**10 02 05.8**	**-0.3**
GPS3				*iS*	**Sn**	**10 02 15.0**	**+0.2**
GPS1	**Guardaparques**	**0.59**	**359**	*iP*	**Pn**	**10 02 06.0**	**-0.5**
GPS1				*iS*	**Sn**	**10 02 15.3**	**+0.1**
LAPC	**Finca la Perla**	**0.59**	**351**	*iP*	**Pn**	**10 02 06.0**	**-0.3**
LAPC				*iS*	**Sn**	**10 02 14.9**	**-0.2**
GBS3	**Finca Las Img**	**0.61**	**349**	*iP*	**Pn**	**10 02 06.2**	**-0.4**
BUEV	**Buena Vista**	**0.62**	**354**	*iP*	**Pn**	**10 02 06.5**	**-0.3**
BUEV				*iS*	**Sn**	**10 02 15.9**	**+0.1**
PTEN	**Parque Tenorio**	**0.63**	**33**	*iP*	**Pn**	**10 02 06.8**	**-0.1**
GB1A	**Borinquen Arri**	**0.64**	**354**	*iP*	**Pn**	**10 02 06.7**	**-0.3**
GB1A				*iS*	**Sn**	**10 02 16.3**	**0.0**
CASO	**Castillo**	**0.64**	**67**	*iP*	**Pn**	**10 02 07.0**	**-0.1**
ARE1	**Arenal 1**	**0.67**	**65**	*eP*	**Pn**	**10 02 07.6**	**+0.2**
CEDE	**Laguna Cedeo**	**0.69**	**64**	*iP*	**Pn**	**10 02 07.9**	**+0.2**
BUAI	**Buenos Aires**	**0.69**	**0**	*iP*	**Pn**	**10 02 07.5**	**-0.2**
FORC	**Fortuna**	**0.71**	**66**	*iP*	**Pn**	**10 02 08.0**	**0.0**
SRA1	**San Ramn**	**0.85**	**96**	*eP*	**Pn**	**10 02 09.6**	**-0.2**
COVE	**Coope Vega, Sa**	**1.06**	**60**	*eP*	**Pn**	**10 02 12.4**	**-0.2**
HDC	**Heredia**	**1.22**	**98**	*eS*	**Sn**	**10 02 27.1**	**-3.1**
HDC	**Heredia**	**1.22**	**98**	*eP*	**Pn**	**10 02 15.3**	**+0.5**
HDC3	**Heredia 3**	**1.22**	**98**	*eP*	**Pn**	**10 02 15.3**	**+0.4**
SJS	**Escuela Geolog**	**1.28**	**101**	*eP*	**Pn**	**10 02 16.1**	**+0.3**
LCR2	**La Lucha 2**	**1.38**	**108**	*eP*	**Pn**	**10 02 17.1**	**-0.1**
RIMA	**Rio Macho**	**1.51**	**106**	*eP*	**Pn**	**10 02 19.2**	**+0.3**
CVTR	**Volcan Turrial**	**1.56**	**96**	*eP*	**Pn**	**10 02 20.4**	**+0.6**
TRT1	**Tortuguero**	**1.66**	**75**	*eP*	**Pn**	**10 02 21.3**	**+0.4**
CDM	**Cerro de Muert**	**1.67**	**112**	*eP*	**Pn**	**10 02 21.1**	**-0.2**
EDDO	**Dominical**	**1.72**	**122**	*eP*	**Pn**	**10 02 21.1**	**-0.5**
EDDO				*eS*	**Sn**	**10 02 41.9**	**-0.4**
ACON	**Acoyapa**	**1.79**	**5**	*eP*	**Pn**	**10 02 22.5**	**-0.1**
PEZE	**Perez Zeledon,**	**1.82**	**116**	*eP*	**Pn**	**10 02 22.9**	**-0.1**
EDLM	**Las Mercedes**	**1.94**	**117**	*eP*	**Pn**	**10 02 25.4**	**+0.8**
EDPN	**Palmar Norte**	**2.21**	**123**	*eP*	**Pn**	**10 02 28.3**	**0.0**
EDPN				*eS*	**Sn**	**10 02 54.5**	**0.0**
ESPN	**Las Esperanzas**	**2.25**	**27**	*eP*	**Pn**	**10 02 28.8**	**-0.1**
DRK0	**Durika**	**2.25**	**114**	*iP*	**Pn**	**10 02 29.0**	**-0.1**
DRK0	**Durika**	**2.25**	**114**	*eP*	**Pn**	**10 02 29.0**	**-0.1**
EDBA	**Buenos Aires**	**2.27**	**116**	*eP*	**Pn**	**10 02 28.6**	**-0.5**
RIOS	**Rincon, Osa**	**2.32**	**129**	*eP*	**Pn**	**10 02 30.8**	**+1.0**
PIRO	**Carate, Puerto**	**2.65**	**132**	*iP*	**Pn**	**10 02 36.0**	**+1.7**
PIRO				*iS*	**Sn**	**10 03 05.2**	**0.0**
PIRO	**Carate, Puerto**	**2.65**	**132**	*eP*	**Pn**	**10 02 35.3**	**+0.9**
EDSV	**San Vito**	**2.69**	**120**	*eP*	**Pn**	**10 02 37.0**	**+1.9**
RGM0	**Gandoca**	**2.75**	**102**	*eP*	**Pn**	**10 02 35.2**	**-0.6**
MATN	**Matagalpa**	**2.79**	**348**	*eP*	**Pn**	**10 02 36.8**	**+0.3**
MLIR3	**Monte Lirio, C**	**2.83**	**119**	*iP*	**Pn**	**10 02 38.1**	**+1.1**
MLIR3				*iS*	**Sn**	**10 03 09.9**	**-0.1**
BRU2	**Volcan**	**2.95**	**118**	*eP*	**Pn**	**10 02 39.0**	**+0.3**
BRU2				*eS*	**Sn**	**10 03 11.8**	**-1.1**
BRU2	**Volcan**	**2.95**	**118**	*eP*	**Pn**	**10 02 38.9**	**+0.2**
BC3P	**Paso Ancho**	**3.01**	**116**	*iP*	**Pn**	**10 02 40.0**	**+0.5**
BC3P				*iS*	**Sn**	**10 03 12.0**	**-2.5**
ESTN	**Estel**	**3.08**	**341**	*eP*	**Pn**	**10 02 40.5**	**+0.1**
BCO2	**Palmira**	**3.13**	**117**	*iP*	**Pn**	**10 02 42.0**	**+0.9**
BCO2				*iS*	**Sn**	**10 03 15.1**	**-2.2**
BAGA3	**Bagala, Chiriq**	**3.25**	**121**	*eP*	**Pn**	**10 02 44.9**	**+2.2**
PSOM3	**Paja de Sombre**	**3.32**	**116**	*iP*	**Pn**	**10 02 44.5**	**+0.8**
PSOM3				*iS*	**Sn**	**10 03 21.8**	**-0.2**
LOCO3	**Loma Colorada,**	**3.37**	**121**	*eP*	**Pn**	**10 02 45.4**	**+1.1**
CHGR2	**Aguacate**	**3.38**	**111**	*iP*	**Pn**	**10 02 45.0**	**+0.6**
CHIR3	**Chiriqui UPA,**	**3.46**	**121**	*eP*	**Pn**	**10 02 46.5**	**+1.0**
CHIR3				*eS*	**Sn**	**10 03 24.9**	**-0.3**
REME3	**Remedios, Chir**	**3.96**	**119**	*eP*	**Pn**	**10 02 53.4**	**+0.9**
LCND	**La Caada**	**3.99**	**321**	IAML		10 03 40.3	
	comp=Z,251nm,0.4s						
LCND	**La Caada**	**3.99**	**321**	*eP*	Pn	10 02 59.8	+7.0
LCND				*eS*	**Sn**	**10 03 37.1**	**-1.3**
LCND				IAML		10 03 40.3	
	comp=Z,251nm,0.4s						
GMAL	**Guarumal, Vera**	**4.71**	**120**	*eP*	**Pn**	**10 03 02.7**	**0.0**
LFRS	**El Faro**	**5.00**	**314**	*eP*	**Pn**	**10 03 09.7**	**+2.9**
LFRS				*eS*	**Sn**	**10 04 01.3**	**-2.2**
PNME	**Penonome**	**5.22**	**108**	*eP*	**Pn**	**10 03 09.2**	**-0.5**
CACAO	**El Cacao, Vera**	**5.24**	**122**	*eP*	**Pn**	**10 03 11.1**	**+1.1**
JAYA	**Jayaque - finc**	**5.30**	**311**	*eP*	**Pn**	**10 03 13.4**	**+2.4**
JAYA	**Jayaque - finc**	**5.30**	**311**	*eP*	**Pn**	**10 03 13.4**	**+2.4**
JAYA				*eS*	**Sn**	**10 04 08.9**	**-2.1**
VTON	**El Valle, Cocl**	**5.38**	**106**	*eP*	**Pn**	**10 03 09.4**	**-2.6**
TACO	**Tacachico**	**5.45**	**314**	*eP*	**Pn**	**10 03 15.2**	**+2.4**
TACO	**Tacachico**	**5.45**	**314**	*eP*	**Pn**	**10 03 15.2**	**+2.4**
TACO				*eS*	**Sn**	**10 04 12.9**	**-1.3**
BCIP	**Isla Barro Col**	**5.51**	**100**	*eP*	**Pn**	**10 03 12.7**	**-1.0**
ZANG	**Zanguenga, Cho**	**5.53**	**102**	*eP*	**Pn**	**10 03 14.3**	**+0.3**
AZU	**Azuero**	**5.53**	**115**	*eP*	**Pn**	**10 03 14.0**	**0.0**
CHOR3	**La Chorrera**	**5.64**	**103**	*eP*	**Pn**	**10 03 16.5**	**+1.0**
NUBE	**Las Nubes**	**5.71**	**311**	*eP*	**Pn**	**10 03 20.3**	**+3.7**
NUBE				*eS*	**Sn**	**10 04 16.8**	**-4.1**
UPA	**Univ. de Panam**	**5.84**	**101**	*eP*	**Pn**	**10 03 17.1**	**-1.2**
CHPO	**Chepo, Panama**	**6.21**	**99**	*eP*	**Pn**	**10 03 24.2**	**+0.8**
TXAR	**Lajitas Array**	**25.64**	**321**	P	**P**	**10 07 19.6**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=141,slow=10,SNR=29						
PDAR	**Pinedale Array**	**38.75**	**331**	P	**P**	**10 09 14.0**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=135,slow=10,SNR=2.4						
NVAR	**Mina Array Bea**	**40.77**	**319**	P	**P**	**10 09 32.5**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=129,slow=7.1,SNR=10						

*IDC **14** 10:18:00.3±1.3, 22.°85S×113.°34W, h0km, mb3.9/4, mb1 4.3/4, mb1mx3.9/24, mbtmp3.9/4, MS3.6/11, Ms1 3.6/11, ms1mx3.5/25, Error ellipse: s-maj=47.7km s-min=36.8km az=40.0*
ISC 14 10:18:02.0±1.3, **22.°85S**±0.°3×**113.°4W**±0.°3, **h10**km, **n34**, σ0§**74**/12, **mb3.8/4**,**MS3.7**/15, **Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKT	**Rikitea**	**19.91**	**265**	*eLQ*	LQ	10 26 00.3	
	370nm,28.5s						
RKT				*eLR*	LR	10 26 53.4	
	comp=Z,512nm,27.8s						
TAOE	**Nuku Hiva Isla**	**29.22**	**294**	*eS*	S	10 28 13.2	-44
	162nm,29.2s						
TAOE				*eLR*	LR	10 30 54.3	
	comp=Z,208nm,25.9s						
H03N2	**Juan Fernandez**	**32.00**	**117**	T	T	10 57 54.0	
	baz=285,slow=75,SNR=26						
H03N3	**Juan Fernandez**	**32.01**	**117**	T	T	10 57 53.5	
	baz=285,slow=75,SNR=26						
H03N1	**Juan Fernandez**	**32.02**	**117**	T	T	10 57 57.2	
	baz=285,slow=75,SNR=27						
TBI	**Tubuai**	**33.17**	**262**	*eLR*	LR	10 33 04.0	
	comp=Z,265nm,28.0s						
TBI	**Tubuai**	**33.17**	**262**	*eT*	T	10 59 47.8	
	4.3nm,0.2s						
PPT2	**Papeete2**	**34.34**	**272**	*eLR*	LR	10 33 30.0	
	comp=Z,195nm,26.5s						
PPT	**Papeete**	**34.34**	**272**	LR	LR	10 35 04.4	
	comp=Z,109nm,19.6s,baz=130,slow=30						
PLCA	**Paso Flores**	**40.07**	**127**	LR	LR	10 37 45.9	
	comp=Z,65nm,21.9s,baz=306,slow=30						
RAR	**Rarotonga**	**42.93**	**263**	LR	LR	10 38 35.6	
	comp=Z,87nm,21.7s,baz=149,slow=29						
LPAZ	**La Paz**	**42.97**	**90**	P	**P**	**10 26 02.5**	**+0.1**
	1.1nm,0.5s,baz=244,slow=8.7,SNR=6.2						
LPAZ				*eLR*	LR	10 39 34.0	
	comp=Z,97nm,20.1s,baz=256,slow=30						
CPUP	**Villa Florida**	**50.73**	**106**	LR	LR	10 44 05.6	
	comp=Z,68nm,19.9s,baz=230,slow=31						
TXAR	**Lajitas Array**	**52.77**	**11**	P	**P**	**10 27 17.1**	**+0.1**
	0.6nm,1.1s,baz=178,slow=9.0,SNR=3.3						
TXAR				*eLR*	LR	10 45 10.1	
	comp=Z,44nm,21.1s,baz=0.0,slow=31						
NVAR	**Mina Array Bea**	**61.13**	**356**	P	**P**	**10 28 17.7**	**+1.0**
	1.5nm,0.7s,baz=180,slow=9.7,SNR=12						
NVAR				*eLR*	LR	10 49 44.4	
	comp=Z,56nm,20.4s,baz=180,slow=31						
BDFB	**Brasilia**	**61.68**	**96**	LR	LR	10 51 44.4	
	comp=Z,54nm,20.2s,baz=166,slow=33						
PDAR	**Pinedale Array**	**65.38**	**3**	P	**P**	**10 28 43.5**	**-1.3**
	0.5nm,0.6s,baz=179,slow=6.8,SNR=6.0						
PDAR				*eLR*	LR	10 52 22.8	
	comp=Z,46nm,19.5s,baz=245,slow=32						
VNDA	**Vanda**	**66.74**	**194**	LR	LR	10 51 00.2	
	comp=Z,60nm,18.9s,baz=39,slow=30						
DZM	**Mont Dzumac**	**73.16**	**253**	*eLR*	LR	10 51 41.5	
	comp=Z,168nm,27.8s						
H11S2	**WAKE ISLAND Hy**	**88.22**	**291**	T	T	12 08 39.1	
	baz=115,slow=75,SNR=67						
H11S1	**WAKE ISLAND Hy**	**88.23**	**291**	T	T	12 08 40.0	
	baz=115,slow=75,SNR=35						
H11S3	**WAKE ISLAND Hy**	**88.23**	**291**	T	T	12 08 40.4	
	baz=115,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**88.55**	**292**	T	T	12 09 07.0	
	baz=116,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**88.57**	**292**	T	T	12 09 08.2	
	baz=116,slow=75,SNR=9.9						
H11N2	**WAKE ISLAND Hy**	**88.57**	**292**	T	T	12 09 08.3	
	baz=116,slow=75,SNR=51						
MAW	**Mawson**	**89.78**	**179**	LR	LR	11 09 41.1	
	comp=Z,33nm,18.0s,baz=90,slow=34						
ARU	**Arti**	**145.93**	**8**	PKPbc	**PKPdf**	**10 37 40.6**	**-0.1**
	0.8nm,0.3s,baz=172,slow=2.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**146.04**	**341**	PKPbc	**PKPdf**	**10 37 41.0**	**-0.1**
	0.9nm,0.6s,baz=12,slow=7.4,SNR=2.2						
BRTR	**Keskin Array B**	**147.38**	**51**	PKPbc	**PKPdf**	**10 37 44.8**	**+0.8**
	0.5nm,0.4s,baz=294,slow=7.7,SNR=2.9						
CMAR	**Chiang Mai Arr**	**149.51**	**268**	PKPbc	**PKPbc**	**10 37 51.9**	**-0.4**
	0.4nm,0.3s,baz=48,slow=1.3,SNR=1.8						
BVAR	**Borovoye Array**	**149.73**	**356**	PKPbc	**PKPbc**	**10 37 51.4**	**-0.5**
	1.7nm,0.6s,baz=355,slow=1.6,SNR=7.0						
KURBB	**Kurchatov Arra**	**150.76**	**344**	PKPbc	**PKPbc**	**10 37 53.8**	**-0.6**
	1.8nm,0.9s,baz=27,slow=1.5,SNR=7.7						
AKTO	**Aktyubinsk**	**151.64**	**12**	PKPbc	**PKPbc**	**10 37 56.2**	**-0.2**
	0.7nm,0.4s,baz=282,slow=4.3,SNR=3.8						
MKAR	**Makanchi Array**	**152.98**	**336**	PKPbc	**PKiKP**	**10 38 00.7**	**+0.9**
	1.0nm,0.9s,baz=46,slow=3.5,SNR=3.8						

*IDC **14** 10:37:26.1±2.8, 10.°71S×161.°28E, h43km±25km, mb3.7/10, mb1 3.9/11, mb1mx3.7/38, mbtmp4.0/11, ML3.7/1, MS3.6/6, Ms1 3.6/6, ms1mx3.1/30, Error ellipse: s-maj=26.5km s-min=18.6km az=85.0*
ISC 14 10:37:27.6±0.8, **10.°7S**±0.°1×**161.°3E**±0.°1, **h61**km, **n25**, σ1°§**43**/14, **mb3.9**/10, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.85**	**312**	P	**Pn**	**10 37 54.7**	**-2.3**
	132nm,0.3s,baz=181,slow=7.4,SNR=11						
HNR				LR	LR	10 38 44.8	
	comp=Z,850nm,19.2s,baz=166,slow=43						
DZM	**Mont Dzumac**	**12.33**	**157**	*eP*	**Pn**	**10 40 19.0**	**-1.5**
	2.1nm,0.3s						
DZM				*eLR*	LR	10 43 13.6	
	comp=Z,234nm,24.1s						
DZM	**Mont Dzumac**	**12.33**	**157**	P	**Pn**	**10 40 19.1**	**-1.5**
	0.4nm,0.3s,baz=36,slow=8.8,SNR=11						
DZM				LR	LR	10 44 05.3	
	comp=Z,158nm,19.1s,baz=20,slow=32						
PMG	**Port Moresby**	**14.01**	**274**	LR	LR	10 45 57.4	
	comp=Z,332nm,19.3s,baz=93,slow=37						
CTA	**Charters Tower**	**17.27**	**235**	P	**P**	**10 41 28.0**	**+2.6**
	0.5nm,0.3s,baz=60,slow=11,SNR=9.6						
AFI	**Afiamalu**	**26.46**	**100**	LR	LR	10 52 08.5	
	comp=Z,138nm,19.1s,baz=268,slow=33						
WRA	**Warramunga Arr**	**27.57**	**247**	P	**P**	**10 43 09.1**	**-0.1**
	1.5nm,0.8s,baz=77,slow=9.1,SNR=10						
GUMO	**Guam**	**29.13**	**326**	LR	LR	10 54 12.9	
	comp=Z,89nm,19.4s,baz=142,slow=35						
ASAR	**Alice Springs**	**29.14**	**240**	P	**P**	**10 43 22.0**	**-1.1**
	1.1nm,0.9s,baz=62,slow=9.8,SNR=16						
ASAR				LR	LR	10 54 49.1	
	comp=Z,175nm,18.7s,baz=68,slow=36						
H11S2	**WAKE ISLAND Hy**	**29.48**	**10**	T	T	11 14 27.7	
	baz=189,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.48**	**10**	T	T	11 14 24.7	
	baz=189,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**29.49**	**10**	T	T	11 14 25.7	
	baz=189,slow=76,SNR=9.9						
H11N1	**WAKE ISLAND Hy**	**30.70**	**10**	T	T

BARC				*e*S	Sn	11 02 22.4	-0.6
BARC				*i*		11 02 23.4	
	comp=Z,79nm,0.5s						
BRRC	**Barranca, Sant**	**0.64**	**298**	⇑*i*P	Pn	11 02 08.5	-0.4
BRRC				*e*S	Sn	11 02 25.9	+0.2
BRRC				*i*		11 02 29.7	
	comp=Z,38nm,0.2s						
PAMC	**Pamplona, Colo**	**0.69**	**40**	*e*P	Pn	11 02 09.5	-0.3
PAMC				*e*S	Sn	11 02 26.7	-0.5
PAMC				*i*		11 02 28.3	
	comp=Z,16nm,0.2s						
RUSC	**La Rusia**	**0.91**	**176**	*e*P	Pn	11 02 11.1	-0.4
RUSC				*e*S	Sn	11 02 29.5	-0.6
RUSC				*i*		11 02 30.2	
	comp=Z,27nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.33**	**259**	*e*P	Pn	11 02 13.2	-1.5
PTBC				*e*S	Sn	11 02 34.8	-1.1
TAMC	**Tame, Arauca**	**1.39**	**105**	⇓*i*P	Pn	11 02 14.8	-0.5
OCAC	**Ocana**	**1.43**	**353**	*e*P	Pn	11 02 15.3	-0.5
OCAC				*e*S	Sn	11 02 37.9	-0.2
SPBC	**San Pablo de B**	**1.47**	**219**	*e*P	Pn	11 02 15.5	-0.7
ZARC	**Zaragoza, Cauc**	**1.83**	**292**	*e*P	Pn	11 02 19.2	-0.8
NORC	**Norcasia**	**2.12**	**234**	*e*P	Pn	11 02 22.6	-0.9
SMLC	**San Martn de**	**2.18**	**335**	*e*P	Pn	11 02 23.3	-0.8
CHIC	**Chingaza**	**2.24**	**195**	*e*P	Pn	11 02 25.2	-0.1
ROSC	**El Rosal**	**2.28**	**211**	*e*P	Pn	11 02 26.8	+1.1
HELC	**Santa Helena**	**2.45**	**256**	*e*P	Pn	11 02 28.6	+0.8
GUY2C	**Guyana, Caldas**	**2.71**	**235**	*e*P	Pn	11 02 31.4	+0.3
GUY2C				*e*S	Sn	11 03 08.9	+3.8
GUY2C				*i*		11 03 15.4	
	comp=Z,16nm,0.5s						
PTGC	**Puerto Gaitan,**	**2.78**	**159**	*e*P	Pn	11 02 29.5	-2.0
RREF	**El Recreo**	**2.90**	**229**	*e*P	Pn	11 02 33.8	+0.3
RREF				*e*S	Sn	11 03 12.2	+2.7
RREF				*i*		11 03 16.2	
	comp=Z,15nm,0.2s						
DBBC	**Dabeiba**	**3.05**	**274**	*e*P	Pn	11 02 34.8	-0.2
TOLC	**Tolima**	**3.09**	**225**	*e*P	Pn	11 02 36.2	+0.4
TOLC				*e*S	Sn	11 03 15.4	+1.9
TOLC				*i*		11 03 17.9	
	comp=Z,26nm,0.3s						
PRAC	**Prado**	**3.53**	**210**	*e*P	Pn	11 02 40.5	-0.7
PRAC				*e*S	Sn	11 03 22.5	-0.6
PRAC				*i*		11 03 26.1	
	comp=Z,11nm,0.3s						
ORTC	**Ortega, Tolima**	**3.56**	**216**	*e*P	Pn	11 02 41.7	+0.2
SJCC	**San Jacinto, C**	**3.67**	**327**	*e*P	Pn	11 02 40.9	-2.1

RSNC 14 11:02:10.5±0.8, 6.80N×73.13W, h149km±3km, ML2.8, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**194**	*e*P	Pn	11 02 29.9	-1.1
BARC				*e*S	Sn	11 02 46.1	-0.5
BARC				*i*		11 02 46.9	
	comp=Z,211nm,0.5s						
BRRC	**Barranca, Sant**	**0.65**	**298**	*e*P	Pn	11 02 31.9	-0.6
BRRC				*e*S	Sn	11 02 49.4	0.0
BRRC				*i*		11 02 53.2	
	comp=Z,102nm,0.2s						
PAMC	**Pamplona, Colo**	**0.69**	**39**	⇓*i*P	Pn	11 02 33.0	-0.4
PAMC				*e*S	Sn	11 02 50.2	-0.5
PAMC				*i*		11 02 51.9	
	comp=Z,44nm,0.2s						
RUSC	**La Rusia**	**0.90**	**177**	*e*P	Pn	11 02 34.5	-0.5
RUSC				*e*S	Sn	11 02 52.9	-0.7
RUSC				*i*		11 02 53.8	
	comp=Z,73nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.34**	**259**	*e*P	Pn	11 02 38.0	-0.4
PTBC				*e*S	Sn	11 02 59.0	-0.7
PTBC				*i*		11 03 05.2	
	comp=Z,83nm,0.3s						
TAMC	**Tame, Arauca**	**1.38**	**105**	⇓*i*P	Pn	11 02 38.3	-0.5
TAMC				*e*S	Sn	11 03 00.1	-0.3
TAMC				*i*		11 03 00.5	
	comp=Z,37nm,0.2s						
OCAC	**Ocana**	**1.44**	**353**	*e*P	Pn	11 02 39.0	-0.6
OCAC				*e*S	Sn	11 03 02.0	+0.2
OCAC				*i*		11 03 04.5	
	comp=Z,81nm,0.2s						
SPBC	**San Pablo de B**	**1.48**	**219**	*e*P	Pn	11 02 38.8	-1.0
SPBC				*e*S	Sn	11 03 01.6	-0.7
SPBC				*i*		11 03 04.0	
	comp=Z,104nm,0.3s						
SPBC	**San Pablo de B**	**1.48**	**219**	*e*S	Pn	11 02 38.9	-1.0
ZARC	**Zaragoza, Cauc**	**1.85**	**292**	*e*P	Pn	11 02 43.4	-0.4
ZARC				*e*S	Sn	11 03 08.6	-0.7
ZARC				*i*		11 03 14.2	
	comp=Z,96nm,0.3s						
NORC	**Norcasia**	**2.12**	**235**	*e*P	Pn	11 02 46.1	-0.9
NORC				*e*S	Sn	11 03 14.8	-0.4
NORC				*i*		11 03 19.4	
	comp=Z,56nm,0.3s						
SMLC	**San Martn de**	**2.19**	**335**	*e*P	Pn	11 02 46.8	-1.1
SMLC				*e*S	Sn	11 03 15.5	-1.2
SMLC				*i*		11 03 19.9	
	comp=Z,62nm,0.1s						
CHIC	**Chingaza**	**2.24**	**196**	*e*P	Pn	11 02 48.2	-0.6
CHIC				*e*S	Sn	11 03 18.2	0.0
CHIC				*i*		11 03 23.8	
	comp=Z,25nm,0.3s						
ROSC	**El Rosal**	**2.28**	**211**	*e*P	Pn	11 02 50.2	+0.9
ROSC				*e*S	Sn	11 03 21.2	+2.1
ROSC				*i*		11 03 27.9	
	comp=Z,61nm,0.7s						
HELC	**Santa Helena**	**2.46**	**256**	*e*P	Pn	11 02 52.4	+1.0
HELC				*e*S	Sn	11 03 26.7	+3.8
HELC				*i*		11 03 29.5	
	comp=Z,33nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.72**	**235**	*e*P	Pn	11 02 55.2	+0.4
GUY2C				*e*S	Sn	11 03 33.5	+4.6
GUY2C				*i*		11 03 39.0	
	comp=Z,46nm,0.5s						
VILC	**Villavicencio,**	**2.73**	**192**	*e*P	Pn	11 02 54.3	-0.3
VILC				*e*S	Sn	11 03 28.7	0.0
VILC				*i*		11 03 35.5	
	comp=Z,39nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.77**	**159**	*e*P	Pn	11 02 53.1	-1.9
PTGC				*e*S	Sn	11 03 26.3	-3.0
PTGC				*i*		11 03 27.1	
	comp=Z,39nm,0.3s						
RREF	**El Recreo**	**2.90**	**230**	*e*P	Pn	11 02 58.7	+1.5
RREF				*e*S	Sn	11 03 37.0	+3.8
RREF				*i*		11 03 39.9	
	comp=Z,43nm,0.3s						
TOLC	**Tolima**	**3.10**	**225**	*e*P	Pn	11 02 59.6	+0.2
TOLC				*e*S	Sn	11 03 39.7	+2.5
TOLC				*i*		11 03 41.2	
	comp=Z,72nm,0.4s						
ANIL	**Santa Ana**	**3.22**	**225**	*e*P	Pn	11 03 00.7	-0.3
ANIL				*e*S	Sn	11 03 41.2	+1.3
ANIL				*i*		11 03 47.2	
	comp=Z,8.6nm,0.5s						
PRAC	**Prado**	**3.53**	**210**	*e*P	Pn	11 03 04.0	-0.7
PRAC				*e*S	Sn	11 03 48.3	+1.5
PRAC				*i*		11 03 50.3	
	comp=Z,27nm,0.3s						
ORTC	**Ortega, Tolima**	**3.56**	**216**	*e*P	Pn	11 03 05.0	-0.1
ORTC				*e*S	Sn	11 03 48.9	+1.5
ORTC				*i*		11 03 59.9	
	comp=Z,14nm,0.5s						

IDC 14 11:17:49.4±3.4, 33.32S×178.94W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.2/44, mbtmp3.5/3, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/17, Error ellipse: s-maj=75.7km s-min=37.5km az=111.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.15**	**12**	LR	LR	11 19 52.7	
	comp=Z,375nm,18.8s,baz=220,slow=30						
URZ	**Urewera**	**5.88**	**212**	Pn	Pn	11 19 18.0	+0.2
	0.9nm,0.3s,baz=278,slow=4.1,SNR=8.1						
URZ				Sn	Sn	11 20 26.4	+0.5
	0.6nm,0.3s,baz=0.4,slow=21,SNR=1.4						
ASAR	**Alice Springs**	**42.25**	**271**	P	P	11 25 44.6	0.0
	0.2nm,0.4s,baz=103,slow=7.5,SNR=4.3						
WRA	**Warramunga Arr**	**43.50**	**276**	P	P	11 25 54.6	-0.2
	0.2nm,0.4s,baz=117,slow=7.6,SNR=7.4						
FINES	**FINESS Array B**	**147.57**	**338**	PKPbc	PKPbc	11 37 34.1	-0.8
	3.1nm,1.1s,baz=336,slow=3.0,SNR=1.7						

GII 14 11:22:23.9±0.0, 29.61N×30.25E, h1km, MD3.7/2, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRMI	**Paran Flat**	**3.92**	**82**	Pn	Pn	11 23 25.7	+0.4
EIL	**Elat**	**4.09**	**88**	Pn	Pn	11 23 27.9	+0.2
EIL				Sn	Sn	11 24 17.2	+1.0
AQBJ	**Aqaba**	**4.18**	**87**	Pn	Pn	11 23 28.6	-0.2
HRFI	**Mount Harif**	**4.18**	**83**	Pn	Pn	11 23 28.7	-0.2
PRNI	**Paran**	**4.19**	**79**	Pn	Pn	11 23 29.1	+0.1
PRNI				Sn	Sn	11 24 19.1	+0.4
ZFRI	**Zfri**	**4.38**	**76**	Pn	Pn	11 23 32.0	+0.5
YTIR	**Yattir**	**4.55**	**66**	Pn	Pn	11 23 34.7	+0.7
HMDT	**Nahal Hemdat**	**5.24**	**59**	Pn	Pn	11 23 43.9	+0.5

IDC 14 11:24:18.3±0.6, 55.22S×30.16W, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.2/28, mbtmp4.3/9, ML4.0/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/17, Error ellipse: s-maj=24.1km s-min=17.0km az=69.0
NEIC 14 11:24:23.3±1.1, 55.2S±0.1×30.3W±0.2, h32km±4km, mb4.7/25, Error ellipse: s-maj=21.2km s-min=15.1km az=212.0
ISC 14 11:24:19.8±0.5, 55.2S±0.1×30.28W±0.10, h10km, n56, σ0 83/49, mb4.6/17, MS3.2/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.72**	**282**	Pn	**Pn**	**11 25 15.9**	**-1.2**
VNA1	**Neumayer--Stat**	**18.25**	**156**	P	**P**	**11 28 33.9**	**+0.9**
VNA3	**Neumayer Olymp**	**18.39**	**159**	P	**P**	**11 28 34.6**	**+0.1**
VNA2	**Neumayer--Watz**	**18.65**	**156**	P	**P**	**11 28 36.9**	**-0.4**
	baz=314,slow=15						
PMSA	**Palmer Station**	**19.17**	**227**	P	**P**	**11 28 43.8**	**+0.7**
	0.4nm,0.3s,baz=49,slow=6.0,SNR=6.7						
PMSA				LR	LR	11 34 11.6	
	comp=Z,105nm,21.2s,baz=88,slow=31						
PMSA	**Palmer Station**	**19.17**	**227**	P	**P**	**11 28 43.7**	**+0.7**
SNAA	**Sanae**	**20.24**	**155**	P	**P**	**11 28 53.9**	**-0.9**
SNAA	**Sanae**	**20.24**	**155**	P	**P**	**11 28 54.1**	**-0.6**
	4.1nm,0.7s,baz=313,slow=9.8,SNR=28						
SNAA				LR	LR	11 36 17.5	
	comp=Z,78nm,18.0s,baz=35,slow=36						
SNAA	**Sanae**	**20.24**	**155**	P	**P**	**11 28 54.1**	**-0.6**
GO09	**Cerro Castillo**	**25.19**	**261**	P	**P**	**11 29 44.0**	**-1.1**
GO09				IAmb	IAmb	11 29 51.8	
	comp=Z,29nm,1.1s						
PLCA	**Paso Flores**	**30.12**	**282**	LR	LR	11 41 58.7	
	comp=Z,47nm,20.3s,baz=136,slow=35						
CPUP	**Villa Florida**	**34.95**	**315**	P	**P**	**11 31 12.2**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=147,slow=8.9,SNR=5.0						
CPUP	**Villa Florida**	**34.95**	**315**	IAmb	IAmb	11 31 12.6	
	comp=Z,2.9nm,0.7s						
QSPA	**South Pole Qui**	**35.05**	**180**	P	**P**	**11 31 13.1**	**+0.7**
	comp=Z,5.1nm,0.7s,baz=212,slow=1.7,SNR=53						
QSPA	**South Pole Qui**	**35.05**	**180**	P	**P**	**11 31 13.5**	**+1.0**
QSPA				IAmb	IAmb	11 31 19.2	
	comp=Z,11nm,1.1s						
MT02	**Curacav**	**35.85**	**291**	P	**P**	**11 31 19.9**	**+0.4**
MT02				IAmb	IAmb	11 31 25.2	
	comp=Z,11nm,1.3s						
CO02	**Combarbal**	**37.38**	**293**	P	**P**	**11 31 33.2**	**+0.6**
CO03	**El Pedregal**	**37.50**	**294**	P	**P**	**11 31 33.9**	**+0.3**
CO03				IAmb	IAmb	11 31 38.8	
	comp=Z,8.9nm,0.8s						
CO01	**Juntas del Tor**	**37.87**	**295**	P	**P**	**11 31 38.8**	**+1.8**
CO01				IAmb	IAmb	11 31 41.0	
	comp=Z,9.1nm,0.8s						
GO04	**Tololo Observa**	**38.09**	**294**	P	**P**	**11 31 38.8**	**+0.1**
GO04				IAmb	IAmb	11 31 41.1	
	comp=Z,11nm,0.8s						
AC05	**El Transito**	**38.88**	**296**	P	**P**	**11 31 45.8**	**+0.5**
AC05				IAmb	IAmb	11 31 55.9	
	comp=Z,12nm,1.1s						
GO02	**Mina Guanaco**	**41.55**	**300**	P	**P**	**11 32 08.7**	**+1.0**
MAW	**Mawson**	**41.86**	**145**	P	**P**	**11 32 08.5**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=234,slow=11,SNR=4.6						
LVC	**Limon Verde**	**43.37**	**303**	P	**P**	**11 32 23.5**	**+1.0**
LVC				IAmb	IAmb	11 32 25.6	
	comp=Z,6.2nm,0.7s						
PB01	**IPOC Station P**	**44.98**	**303**	P	**P**	**11 32 36.1**	**+1.0**
PB08	**IPOC Station P**	**45.59**	**304**	P	**P**	**11 32 40.9**	**+0.5**
PB08				IAmb	IAmb	11 32 44.4	
	comp=Z,8.1nm,0.9s						
GO01	**Chusmiza**	**46.02**	**305**	P	**P**	**11 32 44.5**	**+0.7**
GO01				IAmb	IAmb	11 32 45.8	
	comp=Z,8.0nm,0.7s						
PB11	**IPOC Station P**	**46.16**	**304**	P	**P**	**11 32 44.9**	**+0.3**
PSGCX	**Pisagua**	**46.52**	**304**	P	**P**	**11 32 46.1**	**-1.2**
MNMC	**Minye Minye**	**46.67**	**305**	P	**P**	**11 32 49.6**	**+0.9**
PB16	**IPOC Station P**	**47.32**	**305**	P	**P**	**11 32 54.8**	**+0.7**
VNDA	**Vanda**	**47.32**	**184**	P	**P**	**11 32 53.3**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=200,slow=5.5,SNR=12						
VNDA				LR	LR	11 50 39.4	
	comp=Z,36nm,18.4s,baz=318,slow=33						
VNDA	**Vanda**	**47.32**	**184**	P	**P**	**11 32 53.9**	**+1.1**
LPAZ	**La Paz**	**48.47**	**308**	P	**P**	**11 33 04.3**	**+1.2**
	comp=Z,7.7nm,0.6s,baz=149,slow=6.2,SNR=43						
LPAZ	**La Paz**	**48.47**	**308**	IAmb	IAmb	11 33 06.6	
	comp=Z,8.4nm,0.8s						
H10N1	**ASCENSION HYDR**	**48.88**	**21**	T	T	12 26 03.7	
	baz=191,slow=75,SNR=12						
H10N3	**ASCENSION HYDR**	**48.88**	**21**	T	T	12 26 01.7	
	baz=191,slow=75,SNR=13						
H10N2	**ASCENSION HYDR**	**48.90**	**21**	T	T	12 25 58.7	
	baz=191,slow=75,SNR=16						
LBTB	**Lobatse**	**50.48**	**77**	P	**P**	**11 33 18.6**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=221,slow=10,SNR=4.1						
SAML	**Samuel**	**52.98**	**318**	P	**P**	**11 33 36.9**	**+0.5**
SAML				IAmb	IAmb	11 33 37.4	
	comp=Z,5.1nm,0.7s						
TOA0	**Torodi Ar. Sit**	**73.23**	**33**	P	**P**	**11 35 51.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**73.23**	**33**	P	**P**	**11 35 51.8**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=195,slow=6.1,SNR=8.4						
TORD				LR	LR	12 01 33.6	
	comp=Z,34nm,19.9s,baz=200,slow=30						
TORD	**Torodi Ar. Bea**	**73.23**	**33**	P	**P**	**11 35 50.7**	**-0.1**
PDAR	**Pinedale Array**	**118.42**	**305**	PKP	**PKPdf**	**11 43 05.9**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=159,slow=4.6,SNR=3.9						
ULM	**Lac du Bonnet**	**118.44**	**318**	PKP	**PKPdf**	**11 43 05.0**	**-1.4**
	comp=Z,3.2nm,0.6s,baz=146,slow=7.5,SNR=2.9						
NVAR	**Mina Array Bea**	**119.45**	**296**	PKP	**PKPdf**	**11 43 09.4**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=140,slow=3.1,SNR=7.0						
YBH	**Yreka Blue Hor**	**124.17**	**295**	PKP	**PKPdf**	**11 43 17.8**	**0.0**
	comp=Z,0.9nm,0.7s,baz=61,slow=4.9,SNR=5.4						
FINES	**FINESS Array B**	**124.47**	**29**	PKP	**PKPdf**	**11 43 17.5**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=107,slow=1.5,SNR=6.1						
CMAR	**Chiang Mai Arr**	**127.00**	**113**	PKP	**PKPdf**	**11 43 23.3**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=238,slow=4.0,SNR=5.2						
ARCES	**ARCESS Array B**	**130.82**	**23**	PKP	**PKPdf**	**11 43 29.6**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=180,slow=2.4,SNR=5.9						
YKA	**Yellowknife Ar**	**134.38**	**320**	PKP	**PKPdf**	**11 43 36.2**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=122,slow=2.0,SNR=13						
ZALV	**Zalesovo Beam**	**143.57**	**64**	PKP	PKPab	11 43 50.7	+0.7
	comp=Z,2.0nm,0.6s,baz=212,slow=5.4,SNR=2.1						
ILAR	**Eielson Array**	**148.25**	**313**	PKPbc	**PKPbc**	**11 44 04.3**	**-0.2**
	comp=Z,12nm,0.6s,baz=123,slow=1.6,SNR=143						
SONM	**Songino Array**	**152.43**	**87**	PKPbc	**PKPbc**	**11 44 14.2**	**-1.0**
	comp=Z,3.2nm,0.7s,baz=212,slow=3.2,SNR=12						
SONM	**Songino Array**	**152.43**	**87**		**PKPbc**	**11 44 13.7**	**-1.5**
KSRS	**Korea Array**	**156.89**	**131**	PKPab	**PKPab**	**11 44 43.9**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=234,slow=4.1,SNR=4.5						

IDC 14 11:32:25.9±5.0, 13.97N×92.44W, h0km, mb3.5/2, mb1 3.8/5, mb1mx3.6/33, mbtmp3.5/5, ML3.6/3, Error ellipse: s-maj=79.9km s-min=44.8km az=6.0
MEX 14 11:32:29.3±0.4, 14.01N×92.51W, h67km±28km, MD3.8
GCG 14 11:32:29.5±0.5, 13.94N×92.52W, h28km±999km, MD3.9
SNET 14 11:32:30.8±1.6, 14.02N×92.41W, h29km±16km, ML3.7
UCR 14 11:32:31.0±1.6, 14.03N×92.41W, h29km±16km, ML3.4
ISC 14 11:32:26.9±2.1, 14.10N±0.07×92.48W±0.05, h3km±12km, n26, σ1 33/42, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.83**	**14**	*i* P	**Pn**	**11 32 45.2**	**-0.3**
THIG				*i* S	**Sn**	**11 32 57.6**	**-0.7**
RTAL	**Retalhuleu**	**0.87**	**61**	*e*P	**Pn**	**11 32 46.6**	**+0.6**
HUEH	**Huehuetenango**	**1.54**	**38**	*e*P	**Pg**	**11 32 57.3**	**+0.9**
FUG	**Fuego 3**	**1.62**	**77**	*e*P	**Pg**	**11 32 57.8**	**-0.2**
PCIG		**1.75**	**336**	*e*P	**Pn**	**11 32 57.0**	**-1.2**
PCIG				*i* S	**Sn**	**11 33 18.7**	**-2.4**
PCG	**Pacaya**	**1.83**	**81**	*e*P	**Pb**	**11 33 01.2**	**-0.1**
PCG				*e*S	**Sg**	**11 33 25.3**	**-0.7**
IXG	**Ixpaco**	**1.98**	**88**	*e*P	**Pb**	**11 33 02.4**	**-1.2**
NBG	**Las Nubes**	**2.12**	**76**	*e*P	**Pb**	**11 33 06.3**	**+0.2**
NBG				*e*S	**Sb**	**11 33 32.9**	**-0.1**
CCIG	**Comitan**	**2.20**	**9**	*i* P	**Pb**	**11 33 07.8**	**+0.4**
CCIG				*i* S	**Sg**	**11 33 36.1**	**-1.5**
NUBE	**Las Nubes**	**2.62**	**94**	*e*P	**Pn**	**11 33 11.4**	**+1.1**
NUBE				*e*S	**Sn**	**11 33 40.4**	**-2.5**
NUBE	**Las Nubes**	**2.62**	**94**	*e*P	**Pn**	**11 33 11.4**	**+1.1**
NUBE				*e*S	**Sn**	**11 33 40.4**	**-2.5**
TGIG		**2.74**	**347**	*e*P	**Pn**	**11 33 10.9**	**-1.0**
TGIG				*i* S	**Sn**	**11 33 44.1**	**-1.4**
SNJE	**San Jose**	**2.79**	**94**	*e*P	**Pn**	**11 33 14.1**	**+1.3**
SNJE	**San Jose**	**2.79**	**94**	*e*P	**Pn**	**11 33 14.1**	**+1.3**
JAYA	**Jayaque - finc**	**2.97**	**98**	*e*P	**Pn**	**11 33 14.6**	**-0.6**
JAYA				*e*S	**Sn**	**11 33 49.8**	**-1.6**
JAYA				IAML		11 33 56.4	
	comp=Z,223nm,0.3s						
JAYA	**Jayaque - finc**	**2.97**	**98**	*e*P	**Pn**	**11 33 14.6**	**-0.6**
JAYA				*e*S	**Sn**	**11 33 49.8**	**-1.6**
JAYA				IAML		11 33 56.4	
	comp=Z,223nm,0.3s						
TACO	**Tacachico**	**3.03**	**92**	*e*P	**Pn**	**11 33 16.5**	**+0.7**
TACO				*e*S	**Sn**	**11 33 52.8**	**+0.1**
TACO	**Tacachico**	**3.03**	**92**	*e*P	**Pn**	**11 33 16.5**	**+0.7**
TACO				*e*S	**Sn**	**11 33 52.8**	**+0.1**
LFRS	**El Faro**	**3.35**	**98**	*e*P	**Pn**	**11 33 20.0**	**-0.3**
LFRS				*e*S	**Sn**	**11 33 59.6**	**-1.1**
LFRS	**El Faro**	**3.35**	**98**	*e*P	**Pn**	**11 33 20.0**	**-0.3**
LFRS				*e*S	**Sn**	**11 33 59.6**	**-1.1**
CMIG	**Matias Romero**	**3.77**	**322**	Pn	**Pn**	**11 33 25.8**	**-0.2**
	comp=Z,2.4nm,0.3s,baz=143,slow=10,SNR=16						
CMIG				Sn	**Sn**	**11 34 13.2**	**+2.2**
	comp=Z,3.6nm,0.3s,baz=117,slow=18,SNR=4.4						
CMIG	**Matias Romero**	**3.77**	**322**	*i* P	**Pn**	**11 33 25.2**	**-0.8**
CMIG				*i* S	**Sn**	**11 34 08.6**	**-2.4**
TEIG	**Tepich**	**7.30**	**33**	Pn	**Pn**	**11 34 16.0**	**+1.5**
	comp=Z,3.0nm,0.3s,baz=317,slow=1.1,SNR=7.2						
TXAR	**Lajitas Array**	**18.36**	**327**	P	**P**	**11 36 45.5**	**+2.6**
	comp=Z,0.0nm,0.3s,baz=152,slow=14,SNR=5.7						
NVAR	**Mina Array Bea**	**33.31**	**321**	P	**P**	**11 39 07.9**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=142,slow=7.5,SNR=4.1						
YKA	**Yellowknife Ar**	**50.83**	**347**	P	**P**	**11 41 27.5**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=152,slow=6.9,SNR=5.3						

SOME 14 11:39:14.7, 41.67N×82.08E, h10km, MS3.2
IDC 14 11:39:15.2±2.2, 41.71N×82.22E, h0km, mb3.9/5, mb1 3.9/9, mb1mx3.6/42, mbtmp3.8/9, ML3.2/4, MS2.7/4, Ms1 2.7/4, ms1mx2.5/42, Error ellipse: s-maj=30.5km s-min=17.9km az=124.0
BJI 14 11:39:18.5±0.0, 41.71N×82.22E, h8km, mB4.4/3, mb4.4/4, ML4.1/11, Ms3.5/2, Ms7 3.3/2
NNC 14 11:39:20.9±1.6, 41.93N×81.97E, h0km, mb4.7, mpv4.3, Error ellipse: s-maj=12.5km s-min=7.6km az=144.0
ISC 14 11:39:17.2±0.8, 41.58N±0.05×82.22E±0.04, h18km, n49, σ2 12/72, mb3.7/5, 15C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.32**	**324**	*e*P	**Pb**	**11 39 56.8**	**-1.8**
	60nm,0.1s						
KTMS				*e*S	**Sb**	**11 40 27.5**	**+0.6**
	2μm,0.5s						
PDGK	**Podgornoye**	**2.67**	**312**	⇑Pn	**Pb**	**11 40 01.6**	**-3.0**
	95nm,0.3s						
PDGK				⇑Lg	Lg	11 40 35.1	
	438nm,0.7s						
UZB	**Uzynbulak**	**2.84**	**304**	*e*P	**Pb**	**11 40 05.3**	**-2.2**
	210nm,0.3s						
UZB				*e*S	**Sb**	**11 40 42.4**	**+0.4**
	552nm,0.5s						
UZB	**Uzynbulak**	**2.84**	**304**	Pg	**Pb**	**11 40 05.3**	**-2.2**
	210nm,0.3s						
UZB				Lg	Lg	11 40 42.3	
	552nm,0.5s						
SATY	**Saty**	**3.19**	**299**	*e*P	**Pb**	**11 40 10.7**	**-2.7**
	30nm,0.1s						
SATY				*e*S	**Sb**	**11 40 51.4**	**-0.6**
	454nm,0.3s						
SATY	**Saty**	**3.19**	**299**	Pg	**Pb**	**11 40 10.7**	**-2.7**
	30nm,0.1s						
SATY				Lg	Lg	11 40 51.4	
	454nm,0.3s						
DJR	**Jarkent**	**3.28**	**328**	*e*P	**Pb**	**11 40 13.2**	**-1.7**
	112nm,0.5s						
DJR				*e*S	**Sb**	**11 40 55.4**	**+1.0**
	181nm,0.4s						
DJR	**Jarkent**	**3.28**	**328**	Pg	**P

KST				*eS*		**Sb**	**11 41 43.0**	**+2.9**
	155nm,0.7s							
DGS	**Degeres**	**5.05**	**291**	*eP*		**Pb**	**11 40 44.6**	**-0.5**
	29nm,0.3s							
DGS				*eS*		**Sb**	**11 41 49.0**	**+3.4**
	136nm,0.5s							
TKM2	**Tokmak 2**	**5.10**	**287**	⇑Pn		**Pn**	**11 40 35.1**	**+2.2**
	8.6nm,0.4s							
TKM2				⇓Pg		**Pb**	**11 40 47.7**	**+1.8**
	28nm,0.6s							
TKM2				⇑Lg		Lg	11 41 55.9	
	120nm,0.5s							
KSH	**Kashi**	**5.19**	**249**	Pg		Pg	11 41 02.8	+6.3
KSH				Sg		Sg	11 42 14.8	+11
KSH				smax		smax		
	comp=N,170nm,0.7s							
KSH				smax		smax		
	comp=E,150nm,0.7s							
MK31	**Makanchi Array**	**5.21**	**1**	Pn		**Pn**	**11 40 34.9**	**+0.7**
	1.6nm,0.2s,baz=189,slow=12,SNR=198							
MK31				⇓Pg		**Pb**	**11 40 51.1**	**+3.4**
	8.5nm,0.4s,baz=178,slow=15,SNR=7.9							
MK31				Sn		**Sn**	**11 41 34.7**	**+0.9**
	30nm,0.6s,baz=191,slow=14,SNR=4.6							
MK31				⇑Lg		Lg	11 41 54.5	
	82nm,0.6s,baz=177,slow=28,SNR=6.9							
MKAR	**Makanchi Array**	**5.21**	**1**	Pn		**Pn**	**11 40 34.9**	**+0.7**
	2.2nm,0.3s,baz=188,slow=12,SNR=117							
MKAR				Sn		**Sn**	**11 41 32.5**	**-1.3**
	11nm,0.3s,baz=183,slow=23,SNR=8.6							
MKAR				Lg		Lg	11 41 57.1	
	27nm,0.3s,baz=192,slow=28,SNR=9.6							
MKAR				LR		LR	11 42 53.0	
	comp=Z,48nm,18.8s,baz=28,slow=43							
MAKZ	**Makanchi**	**5.23**	**358**	⇑Pn		**Pn**	**11 40 35.2**	**+0.8**
	2.4nm,0.2s							
MAKZ				⇓Sn		**Sn**	**11 41 33.5**	**-0.8**
	25nm,0.4s							
MAKZ				⇓Lg		Lg	11 41 55.5	
	50nm,0.5s							
KRBS	**Karabastau**	**5.27**	**296**	*eP*		**Pb**	**11 40 48.9**	**+0.1**
	14nm,0.6s							
KRBS				*eS*		**Sb**	**11 41 56.8**	**+5.0**
	31nm,0.4s							
AAK	**Ala-Archa**	**5.84**	**283**	Pn		**Pn**	**11 40 46.1**	**+3.1**
	1.2nm,0.3s,baz=106,slow=8.9,SNR=2.8							
AAK				Pg		Pb	11 41 02.7	+4.0
	4.5nm,0.3s,baz=96,slow=14,SNR=6.0							
AAK				Lg		Lg	11 42 19.4	
	4.3nm,0.3s,baz=210,slow=22,SNR=7.5							
AAK				LR		LR	11 42 49.0	
	comp=Z,20nm,20.2s,baz=80,slow=37							
AAK	**Ala-Archa**	**5.84**	**283**	⇓Pg		**Pg**	**11 41 05.8**	**-3.3**
	22nm,0.6s							
AAK				⇑Lg		Lg	11 42 21.1	
	101nm,0.8s							
KK31	**Karatay Array**	**8.81**	**284**	⇑Pg		Pn	11 41 59.3	+36
	4.9nm,0.6s,baz=88,slow=16,SNR=14							
KK31				⇑Lg		Lg	11 43 57.8	
	30nm,1.0s,baz=92,slow=26,SNR=6.8							
KURBB	**Kurchatov Arra**	**9.40**	**345**	Pn		**Pn**	**11 41 31.3**	**-0.3**
	0.1nm,0.3s,baz=153,slow=12,SNR=4.4							
KURBB				Lg		Lg	11 44 10.3	
	0.4nm,0.3s,baz=157,slow=39,SNR=2.5							
KURK	**Kurchatov**	**9.47**	**346**	⇑Pn		**Pn**	**11 41 32.7**	**+0.2**
	6.2nm,0.8s							
KURK				⇑Sn		**Sn**	**11 43 16.2**	**-2.3**
	29nm,0.9s							
KURK				⇑Lg		Lg	11 44 11.0	
	81nm,1.3s							
OTUK	**Ortayu**	**9.66**	**317**	⇓Pn		**Pn**	**11 41 35.9**	**+0.6**
	3.3nm,0.8s							
OTUK				⇓Lg		Lg	11 44 16.0	
	33nm,0.9s							
SMLA	**Simla**	**11.20**	**203**	*eP*		**Pn**	**11 41 57.8**	**+1.4**
SMLA				*eS*		**Sn**	**11 43 58.5**	**-2.5**
ZALV	**Zalesovo Beam**	**12.49**	**7**	Pn		**Pn**	**11 42 13.6**	**-0.3**
	0.2nm,0.3s,baz=178,slow=12,SNR=3.9							
ZALV				Sn		**Sn**	**11 44 31.9**	**-0.7**
	1.2nm,0.3s,baz=168,slow=26,SNR=7.9							
GTA	**Gaotai**	**13.56**	**93**	*eP*		**Pn**	**11 42 30.8**	**+2.0**
GTA				pP		P	11 42 34.4	-3.4
GTA				sP			11 42 36.9	
GTA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
AKTO	**Aktyubinsk**	**18.93**	**306**	LR		LR	11 51 21.8	
	comp=Z,79nm,18.2s,baz=126,slow=38							
ARU	**Arti**	**21.33**	**322**	P		**P**	**11 44 02.8**	**-0.1**
	2.0nm,0.2s,baz=94,slow=15,SNR=5.2							
ARU				LR		LR	11 52 55.3	
	comp=Z,42nm,20.3s,baz=95,slow=39							
FINES	**FINESS Array B**	**38.68**	**320**	P		**P**	**11 46 39.7**	**+0.3**
	0.6nm,0.4s,baz=118,slow=11,SNR=4.1							
ARCES	**ARCESS Array B**	**40.20**	**333**	P		**P**	**11 46 52.4**	**+0.3**
	2.4nm,0.5s,baz=91,slow=8.3,SNR=29							
NB2	**NORSAR Subarra**	**45.86**	**320**	P		**P**	**11 47 38.0**	**0.0**
	comp=Z,0.7nm,0.5s,baz=80,slow=7.9							
NOA	**NORSAR Array B**	**45.86**	**320**	P		**P**	**11 47 37.8**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=83,slow=7.2,SNR=4.4							
TORD	**Torodi Ar. Bea**	**74.35**	**274**	P		**P**	**11 50 54.2**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=59,slow=7.2,SNR=1.4							

*SOME **14** 12:01:50.8,41.°57N×81.°95E,h10km*
*NNC **14** 12:01:54.0±2.2,41.°72N×81.°95E,h0km,mb3.5,mpv3.3,*
Error ellipse: s-maj=16.4km s-min=9.9km az=159.0
ISC 14 12:01:56.4±2.7,41.°7N±0.°1×81.°83E±0.°08,h18km±19,
σ1§94/29,4C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.05**	**328**	*eP*	**Pb**	**12 02 32.5**	**-0.7**
	2.8nm,0.1s						
KTMS				*eS*	**Sg**	**12 03 02.9**	**+0.5**
	63nm,0.4s						
PDGK	**Podgornoye**	**2.37**	**314**	Pg	**Pb**	**12 02 37.2**	**-1.4**
	5.9nm,0.3s						
PDGK				Lg	Lg	12 03 10.8	
	12nm,0.3s						
PDGK	**Podgornoye**	**2.37**	**314**	⇓Pn	**Pb**	**12 02 37.1**	**-1.5**
	3.6nm,0.3s						
PDGK				⇓Lg	Lg	12 03 13.8	
	14nm,0.6s						
UZB	**Uzynbulak**	**2.53**	**306**	*eP*	**Pb**	**12 02 40.6**	**-0.7**
	13nm,0.2s						
UZB				*eS*	**Sg**	**12 03 16.7**	**-1.0**
	20nm,0.3s						
UZB	**Uzynbulak**	**2.53**	**306**	Pg	**Pb**	**12 02 40.6**	**-0.7**
	13nm,0.2s						
UZB				Lg	Lg	12 03 16.7	
	20nm,0.3s						
SATY	**Saty**	**2.88**	**299**	*eP*	**Pb**	**12 02 46.1**	**-1.0**
	2.9nm,0.1s						
SATY				*eS*	**Sg**	**12 03 26.1**	**-2.6**
	33nm,0.2s						
SATY	**Saty**	**2.88**	**299**	Pg	**Pb**	**12 02 46.2**	**-1.0**
	2.9nm,0.1s						
SATY				Lg	Lg	12 03 26.1	
	33nm,0.2s						
DJR	**Jarkent**	**3.02**	**331**	*eP*	**Pb**	**12 02 49.1**	**-0.5**
	4.9nm,0.3s						
DJR				*eS*	**Sg**	**12 03 30.9**	**-2.4**
	8.6nm,0.3s						
DJR	**Jarkent**	**3.02**	**331**	Pg	**Pb**	**12 02 49.1**	**-0.5**
	4.9nm,0.3s						
DJR				Lg	Lg	12 03 30.9	
	8.6nm,0.3s						
KURS	**Kuram**	**3.24**	**305**	*eP*	**Pb**	**12 02 52.8**	**-0.5**
	3.1nm,0.6s						
KURS				*eS*	**Sg**	**12 03 37.2**	**-3.0**
	7.7nm,0.3s						
KURS	**Kuram**	**3.24**	**305**	Pg	**Pb**	**12 02 52.8**	**-0.5**
	3.1nm,0.6s						
KURS				Lg	Lg	12 03 37.2	
	7.7nm,0.3s						
MNBS	**Baschi**	**3.46**	**314**	*eP*	**Pb**	**12 02 56.4**	**-0.7**
	4.4nm,0.1s						
MNBS				*eS*	**Sb**	**12 03 43.4**	**+4.6**
	18nm,0.3s						
MNBS	**Baschi**	**3.46**	**314**	Pg	**Pb**	**12 02 56.4**	**-0.7**
	4.4nm,0.1s						
MNBS				Lg	Lg	12 03 43.4	
	18nm,0.3s						
MDOK	**Medeo**	**3.83**	**294**	Pg	**Pb**	**12 03 05.2**	**+1.8**
	5.1nm,0.9s						
MDOK				Lg	Lg	12 04 00.0	
	6.3nm,0.5s						
KAPS	**Kapalarasan**	**4.00**	**334**	*eP*	**Pb**	**12 03 03.9**	**-2.4**
	2.7nm,0.2s						
KAPS				*eS*	**Sb**	**12 03 56.3**	**+1.9**
	5.4nm,0.3s						
CHKK	**Chushkaly**	**4.16**	**303**	*eP*	**Pb**	**12 03 10.1**	**+1.1**
	1.1nm,0.1s						
CHKK				*eS*	**Sg**	**12 04 06.7**	**-3.2**
	4.8nm,0.2s						
CHKK	**Chushkaly**	**4.16**	**303**	Pg	**Pb**	**12 03 10.1**	**+1.1**
	1.1nm,0.1s						
CHKK				Lg	Lg	12 04 06.7	
	4.8nm,0.2s						
MK31	**Makanchi Array**	**5.09**	**4**	Pn	**Pn**	**12 03 10.6**	**-1.2**
	0.1nm,0.2s,baz=182,slow=12,SNR=15						
MK31				⇑Sn	**Sn**	**12 04 14.2**	**+4.1**
	0.8nm,0.5s,baz=349,slow=11,SNR=4.5						
MK31				⇑Lg	Lg	12 04 33.6	
	4.6nm,0.7s,baz=182,slow=29,SNR=5.5						
MAKZ	**Makanchi**	**5.10**	**1**	⇑Pn	**Pn**	**12 03 11.2**	**-0.6**
	1.2nm,0.5s						
MAKZ				⇓Sn	**Sn**	**12 04 10.7**	**+0.4**
	0.9nm,0.3s						
MAKZ				⇑Lg	Lg	12 04 33.9	
	1.4nm,0.4s						

*SFS **14** 12:02:23.0,36.°45N×3.°65W,ML1.5,ALBORAN N.*
MDD 14 12:02:23.2±0.9,36.°49N×3.°64W,h19km±8km,mbLg1.6/10,
Error ellipse: s-maj=7.5km s-min=5.4km az=27.0,
PRXIMO,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELGU	**Los Guajares,**	**0.38**	**1**	Pg	Pb	12 02 31.6	+0.1
	3.8nm,0.1s,SNR=7.9						
ELGU				Lg	Lg	12 02 36.6	
	33nm,0.1s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.69**	**293**	Pg	Pn	12 02 40.8	+2.8
EMAL				Lg	Lg	12 02 45.9	
EMAL	**Malaga-Limoner**	**0.69**	**293**	*eP*	Pn	12 02 40.8	+2.8
EMAL				*eS*	Sb	12 02 45.9	+0.1
EGOR	**Sierra Gorda,**	**0.73**	**329**	Pg	Pb	12 02 36.6	-0.7
	0.2nm,0.1s,SNR=7.9						
EGOR				Lg	Lg	12 02 46.0	
	5.5nm,0.2s,SNR=7.9						
EBER	**Berja**	**0.73**	**56**	Pg	Pb	12 02 37.3	-0.1
	0.8nm,0.1s,SNR=8.3						
EBER				Lg	Lg	12 02 46.7	
	6.7nm,0.2s,SNR=6.1						
EQUE	**Quentar**	**0.73**	**13**	Pg	Pg	12 02 37.9	+0.2
	0.7nm,0.1s,SNR=4.7						
EQUE				Lg	Lg	12 02 46.0	
	1.4nm,0.1s,SNR=5.0						
EALB	**Alboran**	**0.73**	**138**	Pg	Pb	12 02 37.2	-0.2
	2.3nm,0.2s,SNR=7.9						
EALB				Lg	Lg	12 02 46.8	
	7.0nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**0.92**	**275**	Pg	Pg	12 02 41.0	-0.1
	0.9nm,0.1s,SNR=9.3						
EMIJ				Lg	Lg	12 02 51.9	
	4.1nm,0.1s,SNR=5.0						
EQES	**Quesada**	**1.39**	**19**	Pg	Pg	12 02 50.2	+0.2
	0.4nm,0.1s,SNR=8.9						
EQES				Lg	Lg	12 03 08.3	
	1.7nm,0.2s,SNR=5.0						
EADA	**Adamuz**	**1.83**	**336**	Pg	Pg	12 02 58.2	-0.3
	0.4nm,0.2s,SNR=4.0						
EADA				Sn	Sb	12 03 18.3	-0.5
	0.3nm,0.2s,SNR=7.9						
EADA				Lg	Lg	12 03 22.6	
	1.2nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**1.85**	**28**	Pg	Pg	12 02 58.7	0.0
	0.7nm,0.2s,SNR=7.9						
SESP				Sn	Sb	12 03 19.4	+0.1
	1.2nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**2.13**	**319**	Lg	Lg	12 03 32.0	
	0.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.74**	**299**	Pn	Pn	12 03 07.4	+1.3
	0.1nm,0.2s,SNR=7.9						
EMIN				Sn	Sn	12 03 40.7	+1.9
	0.6nm,0.4s,SNR=7.9						
EMIN				Lg	Lg	12 03 50.9	
	1.5nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**3.10**	**350**	Sn	Sn	12 03 48.9	+1.1
	0.2nm,0.2s,SNR=7.9						
PAB				Lg	Lg	12 04 05.9	
	5.0nm,0.4s,SNR=7.9						

CNRM 14 12:03:12.1±0.9,34.°92N×2.°71W,h36km±10km,Error
ellipse: s-maj=8.0km s-min=4.0km az=38.0,Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAF	**Taforalt**	**0.27**	**113**	P	Pn	12 03 19.5	-0.9
TAF				S	Sn	12 03 25.8	-2.0
JBK	**JBK**	**0.60**	**169**	P	Pn	12 03 25.5	+1.1
JBK				S	Sn	12 03 34.0	+1.2
AKLM	**AKL**	**1.03**	**247**	P	Pn	12 03 30.7	+0.6
AKLM				S	Sn	12 03 45.6	+2.2

IDC 14 12:09:48.3±17.0,1.°58N×96.°83E,h0km,mb3.9/2,
mb1 3.9/3,mb1mx3.4/51,mbtmp3.8/3,ML4.1/1,Error
ellipse: s-maj=459.9km s-min=133.1km az=122.0,Off
west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.90**	**7**	Pn	Pn	12 13 46.5	+0.1
	0.3nm,0.3s,baz=192,slow=12,SNR=4.4						
H08S2	**Diego Garcia H**	**25.95**	**249**	T	T	12 42 00.4	
	baz=69,slow=76,SNR=87						
H08S3	**Diego Garcia H**	**25.95**	**249**	T	T	12 41 50.7	
	baz=69,slow=76,SNR=62						
H08S1	**Diego Garcia H**	**25.97**	**249**	T	T	12 41 58.4	
	baz=69,slow=76,SNR=71						
H01W2	**Cape Leeuwin H**	**39.75**	**158**	T	T	13 00 27.8	
	baz=332,slow=74,SNR=24						
H01W1	**Cape Leeuwin H**	**39.75**	**157**	T	T	13 00 29.8	
	baz=172,slow=74,SNR=20						
MKAR	**Makanchi Array**	**46.79**	**346**	P	P	12 18 19.0	-0.6
	0.7nm,0.7s,baz=152,slow=8.0,SNR=8.3						
ZALV	**Zalesovo Beam**	**53.13**	**351**	P	P	12 19 08.0	+0.4
	1.4nm,0.5s,baz=170,slow=7.0,SNR=5.9						

*IDC **14** 12:27:57.9±0.9,35.°92N×28.°26E,h0km,mb3.9/8,*
mb1 3.9/14,mb1mx3.7/51,mbtmp3.8/14,ML3.8/6,MS3.0/12,
Ms1 3.0/12,ms1mx2.8/54,Error ellipse: s-maj=20.7km
s-min=15.3km az=165.0
*HLW **14** 12:27:57.5,35.°92N×28.°28E,h3km±5km,Md3.9*
*NEIC **14** 12:27:59.5±2.7,35.°79N±0.°06×28.°28E±0.°06,h10km±1km,*
mb4.1/14,ML4.0(ISK),Error ellipse: s-maj=10.9km
s-min=7.5km az=172.0
*DDA **14** 12:27:59.3,35.°91N×28.°11E,h21km±2km,MW4.0*
*ATH **14** 12:27:60.0,35.°97N×28.°26E,h26km±1km,ML3.9/23,Error*
ellipse: s-maj=4.6km s-min=1.2km az=107.0
*MED_RC **14** 12:28:00.0±0.5,35.°93N×28.°30E,h20km±2km,MW4.3/8,*
Moment Tensor Solution.Mantle waves: s8,c10; Duration:
1s0 Moment tensor: Scale 10¹⁵Nm; Mrr-1.97±.67;
Mθθ-0.77±.47; Mϕϕ2.73±.34; Mrθ-1.41±.54; Mrϕ-1.93±.34;
Mθϕ-0.38±.33; Best double couple: M⊙3.42000×10¹⁵
NP1:ϕs123.00000°,δ60.00000°,λ-140.00000°. Principal axes:
T 3.6000, Plg2.0000°, Azm245.0000°; N -0.3500,
Plg41.0000°, Azm153.0000°; P -3.2500, Plg48.0000°,
Azm338.0000°; nsta1 refers to body waves. nsta2 refers
to surface waves, cutoff=35s.
*ISK **14** 12:28:00.8,35.°99N×28.°24E,h11km,ML4.0/27*
*NIC **14** 12:28:00.7±0.0,35.°96N×28.°29E,h20km±1km,Ml4.3/3*
*THE **14** 12:28:01.0,36.°06N×28.°29E,h0km±1km,ML3.8/3,Error*
ellipse: s-maj=2.2km s-min=0.8km az=101.0
*GII **14** 12:28:03.0±0.0,35.°57N×28.°40E,h10km,mb4.1/5,*
MD3.9/5
ISC 14 12:27:59.5±1.0,35.°89N±0.°03×28.°28E±0.°02,h10km±7km,
n236,σ1§39/269,mb3.8/9,MS2.9/6,20C-4D,Eastern
Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.35**	**339**	P	**Pg**	**12 28 05.6**	**-0.9**
ARG				S	**Sg**	**12 28 10.2**	**-0.9**
	25μm,1.0s						
ARG	**Arkhangelos**	**0.35**	**339**	P	**Pg**	**12 28 06.7**	**+0.2**
ARG				S	**Sg**	**12 28 11.2**	**0.0**
ARG				AML	AML	12 28 12.9	
	comp=N,48855μm,0.5s						
ARG				AML	AML	12 28 13.1	
	comp=E,47434μm,0.6s						
ARG	**Arkhangelos**	**0.35**	**339**	PG	**Pg**	**12 28 06.7**	**+0.2**
ARG				SG	**Sg**	**12 28 10.4**	**-0.7**
ARG	**Arkhangelos**	**0.35**	**339**	⇑P	**Pg**	**12 28 06.6**	**+0.1**
ARG				S	**Sb**	**12 28 12.6**	**-0.8**
TURN	**Turunc**	**0.88**	**358**	*i* P	**Pg**	**12 28 16.1**	**-3.0**
DALY	**Dalyan (Mula)**	**0.97**	**18**	PG	**Pb**	**12 28 18.5**	**+0.1**
DALY				SG	**Sb**	**12 28 31.3**	**0.0**
FETY	**Fethiye**	**0.99**	**41**	P	**Pg**	**12 28 18.6**	**+0.1**
FETY	**Fethiye**	**0.99**	**41**	PG	**Pn**	**12 28 19.1**	**-0.3**
DAT	**Datca**	**1.01**	**326**	P	**Pg**	**12 28 18.1**	**-0.9**
DAT				S	**Sg**	**12 28 31.7**	**-0.5**
DAT	**Datca**	**1.01**	**326**	PG	**Pg**	**12 28 18.3**	**-0.7**
AKAS	**Kas**	**1.13**	**72**	PN	**Pn**	**12 28 22.8**	**+1.4**
AKAS	**Kas**	**1.13**	**72**	*i* P	**Pn**	**12 28 23.1**	**+1.6**
AKAS				*i* S	**Sn**	**12 28 41.6**	**+4.6**
AKAS				IAML		12 28 46.0	
	comp=E,581nm,0.6s						
AKAS				IAML		12 28 56.0	
	comp=N,822nm,1.5s						
AKAS	**Kas**	**1.13**	**72**	Pn	**Pn**	**12 28 22.4**	**+1.0**
NISR	**Nisiros**	**1.18**	**308**	P	**Pb**	**12 28 21.4**	**-0.5**
NISR				S	**Sn**	**12 28 37.9**	**-0.1**
	comp=N,7μm,0.9s						
NISR	**Nisiros**	**1.18**	**308**	P	**Pg**	**12 28 22.1**	**0.0**
NISR				AML	AML	12 28 43.0	
	comp=E,16027μm,0.6s						
NISR				AML	AML	12 28 54.9	
	comp=N,9358μm,0.8s						
YER	**Yerkesik**	**1.24**	**0**	PN	**Pb**	**12 28 23.1**	**0.0**
KOSK	**Kos Island**	**1.36**	**310**	P	**Pn**	**12 28 24.5**	**0.0**
KOSK				S	**Sg**	**12 28 42.9**	**-0.3**
KOSK	**Kos Island**	**1.36**	**310**	PN	**Pb**	**12 28 25.2**	**+0.2**
DEMR	**Demre-Antalya**	**1.36**	**75**	PN	**Pg**	**12 28 26.5**	**+0.8**
BODT	**Bodrum**	**1.41**	**327**	P	**Pn**	**12 28 24.3**	**-0.9**
BODT	**Bodrum**	**1.41**	**327**	PN	**Pn**	**12 28 24.9**	**-0.3**
BODT				SN	**Sn**	**12 28 43.4**	**-0.4**
ELL	**Elmali**	**1.57**	**56**	PN	**Pb**	**12 28 29.0**	**+0.3**
ELL	**Elmali**	**1.57**	**56**	Pn	**Pg**	**12 28 29.4**	**-0.3**
TAVA	**DENIZLI_Tavas**	**1.65**	**18**	*i* P	**Pb**	**12 28 30.3**	**+0.2**
TAVA				*i* S	**Sg**	**12 28 52.5**	**-0.2**
GOLH	**Golhisar**	**1.69**	**37**	*i* P	**Pg**	**12 28 31.7**	**-0.3**
GOLH				*i* S	**Sg**	**12 28 56.1**	**+2.1**
AKUM	**Antalya-Kumluc**	**1.73**	**75**	*i* P	**Pb**	**12 28 31.0**	**-0.3**
AKUM				IAML		12 29 04.0	
	comp=N,248nm,0.6s						
AYDN	**Tasoluk**	**1.80**	**350**	*i* P	**Pb**	**12 28 31.6**	**-0.9**
AYDN				*i* S	**Sb**	**12 28 55.3**	**+0.2**
ZKR	**Zakros**	**1.85**	**246**	P	**Pb**	**12 28 33.3**	**-0.1**
ZKR				S	**Sg**	**12 28 58.6**	**-0.5**
	comp=N,3μm,0.7s						
ZKR	**Zakros**	**1.85**	**246**	P	**Pb**	**12 28 33.3**	**-0.1**
ZKR				S	**Sn**	**12 28 55.7**	**+0.9**
ZKR				AML	AML	12 29 06.4	
	comp=N,3605μm,1.1s						
ZKR				AML	AML	12 29 10.4	
	comp=E,8092μm,0.8s						
ZKR	**Zakros**	**1.85**	**246**	PN	**Pb**	**12 28 33.6**	**+0.1**
STIA	**Sitia Lasithi**	**1.91**	**250**	P	**Pb**	**12 28 34.9**	**+0.4**
STIA				S	**Sg**	**12 29 01.0**	**0.0**
GCAM	**G?zelcaml?**	**1.99**	**335**	PN	**Pn**	**12 28 33.9**	**+0.7**
GCAM	**G?zelcaml?**	**1.99**	**335**	*i* P	**Pn**	**12 28 33.3**	**+0.1**
GCAM				*i* S	**Sn**	**12 28 56.4**	**-1.7**
KORT	**Korkueli**	**2.00**	**56**	PN	**Pb**	**12 28 35.2**	**-0.9**
KORT	**Korkueli**	**2.00**	**56**	*i* P	**Pb**	**12 28 35.8**	**-0.3**
KORT				*i* S	**Sg**	**12 29 04.7**	**+0.7**
ANAF	**Anafi Island**	**2.08**	**284**	P	**Pn**	**12 28 35.4**	**+1.0**
AMGA	**Amorgos Island**	**2.14**	**297**	P	**Pn**	**12 28 36.4**	**+1.1**
AMGA				AML	AML	12 29 12.4	
	comp=E,5646μm,1.0s						
AMGA				AML	AML	12 29 17.6	
	comp=N,3248μm,0.6s						
SMG	**Samos**	**2.15**	**328**	P	**Pn**	**12 28 35.3**	**-0.2**
SMG				AML	AML	12 29 13.7	
	comp=E,2773μm,0.5s						
SMG				AML	AML	12 29 17.4	
	comp=N,1916μm,0.5s						
ANTB	**Antalya**	**2.16**	**62**	PN	**Pb**	**12 28 37.6**	**-1.1**
NPS	**Neapolis**	**2.26**	**255**	P	**Pn**	**12 28 38.1**	**+1.1**
NPS				S	**Sn**	**12 29 05.5**	**+0.6**
NPS				AML	AML	12 29 10.9	
	comp=N,5390μm,0.5s						
NPS				AML	AML	12 29 11.2	
	comp=E,6414μm,0.5s						
THR8	**Santorini-Mono**	**2.33**	**284**	P	**Pn**	**12 28 38.0**	**+0.2**
SANT	**Santorini**	**2.33**	**283**	P	**Pn**	**12 28 38.4**	**+0.5**
SANT				AML	AML	12 29 15.0	
	comp=E,5236μm,0.5s						
SANT				AML	AML	12 29 15.5	
	comp=N,3128μm,0.7s						
SANT	**Santorini**	**2.33**	**283**	⇑P	**Pn**	**12 28 37.4**	**-0.6**
SANT				⇑S	**Sn**	**12 29 07.8**	**+1.2**
SANT	**Santorini**	**2.33**	**283**	PN	**Pn**	**12 28 39.8**	**+1.8**
SANT	**Santorini**	**2.33**	**283**	*i* P	**Pn**	**12 28 38.7**	**+0.8**
SANT				*i* S	**Sb**	**12 29 10.6**	**0.0**
SANT	**Santorini**	**2.33**	**283**	Pn	**Pn**	**12 28 38.8**	**+0.8**
SNT1	**Gialos, Santor**	**2.37**	**284**	P	**Pn**	**12 28 39.1**	**+1.0**
THR2	**Thira island,**	**2.37**	**284**	P	**Pn**	**12 28 38.0**	**-0.4**
THR7	**Fira-Santorini**	**2.37**	**284**	P	**Pn**	**12 28 38.3**	**-0.1**
THT2	**Imerovigli**	**2.38**	**284**	PN	**Pn**	**12 28 40.1**	**+1.6**
THR6	**Thira Island,**	**2.38**	**282**	P	**Pn**	**12 28 38.7**	**+0.1**
THR3	**Thira Island,**	**2.39**	**283**	P	**Pn**	**12 28 38.4**	**-0.3**
CMBO	**Columbo, Santo**	**2.40**	**285**	P	**Pn**	**12 28 39.9**	**+1.1**
CMBO				S	**Sn**	**12 29 08.7**	**+0.5**
CMBO				AML	AML	12 29 16.4	
	comp=E,6520μm,0.7s						
CMBO				AML	AML	12 29 19.3	
	comp=N,12101μm,0.6s						
LAST	**Lasithi**	**2.40**	**253**	P	**Pn**	**12 28 40.2**	**+1.3**
LAST				AML	AML	12 29 27.9	
	comp=E

SIVA	**Sivas**	**2.96**	**254**	P	**Pn**	**12 28 48.8 +2.2**
SIVA				AML	AML	12 29 49.1
	comp=E,3184µm,0.6s					
SIVA				AML	AML	12 29 56.9
	comp=N,2794µm,0.8s					
AKS	**Akhisar**	**3.01**	**353**	PN	**Pn**	**12 28 48.3 +1.1**
KRBN	**Karaburun**	**3.03**	**333**	PN	**Pn**	**12 28 48.5 +1.0**
CHOS	**Chios island**	**3.06**	**325**	P	**Pn**	**12 28 48.0 0.0**
CHOS				AML	AML	12 29 43.1
	comp=E,544µm,1.2s					
CHOS				AML	AML	12 29 46.5
	comp=N,794µm,1.5s					
CHOS	**Chios island**	**3.06**	**325**	PN	**Pn**	**12 28 49.0 +1.0**
SHUT	**Suhut-Afyon**	**3.22**	**34**	PN	**Pn**	**12 28 52.3 +2.1**
SIMA	**Simav-Kutahya**	**3.24**	**10**	PN	**Pn**	**12 28 52.1 +1.7**
GEDZ	**Gediz**	**3.27**	**16**	PN	**Pn**	**12 28 52.6 +1.7**
GAZI	**Gazipasa**	**3.29**	**83**	*i* P	**Pn**	**12 28 51.2 +0.2**
GDZ	**Gediz**	**3.33**	**16**	*i* P	**Pn**	**12 28 53.2 +1.4**
DKL	**Dikili**	**3.36**	**341**	PN	**Pn**	**12 28 53.0 +1.0**
VAM	**Vamos**	**3.36**	**263**	P	**Pn**	**12 28 53.4 +1.4**
VAM				AML	AML	12 29 40.9
	comp=N,1600µm,0.4s					
VAM				AML	AML	12 30 10.1
	comp=E,1444µm,0.9s					
AKMS	**Akamas**	**3.42**	**104**	P	**Pn**	**12 28 53.8 +0.9**
AKMS				AML	AML	12 29 34.2
	comp=E,1.6nm,0.9s					
AKMS				AML	AML	12 29 34.2
	comp=E,1.6nm,0.9s					
AKMS				S	**Sn**	**12 29 34.3 +0.8**
AKMS				AML	AML	12 29 34.4
	comp=E,1.3nm,0.7s					
AKMS				AML	AML	12 29 34.4
	comp=E,1.3nm,0.7s					
OSC1	**CSNet OBS 1**	**3.43**	**133**	P	**Pn**	**12 28 53.7 +0.7**
OSC1				S	**Sn**	**12 29 35.8 +2.1**
IMMV	**Iera Moni Meta**	**3.53**	**264**	P	**Pn**	**12 28 56.1 +1.8**
IMMV				AML	AML	12 29 54.8
	comp=N,1906µm,0.9s					
IMMV				AML	AML	12 30 04.0
	comp=E,1742µm,1.1s					
IMMV	**Iera Moni Meta**	**3.53**	**264**	PN	**Pn**	**12 28 57.1 +2.8**
BOLV	**Bolvadin**	**3.54**	**36**	PN	**Pn**	**12 28 56.3 +1.8**
GVDS	**Gavdos**	**3.58**	**254**	PN	**Pn**	**12 28 58.6 +3.6**
GVD	**Gavdhos**	**3.58**	**254**	P	**Pn**	**12 28 57.3 +2.2**
GVD				AML	AML	12 30 00.0
	comp=N,726µm,0.6s					
GVD				AML	AML	12 30 07.2
	comp=E,1378µm,1.0s					
GVD	**Gavdhos**	**3.58**	**254**	PN	**Pn**	**12 28 58.2 +3.1**
ALFC	**Alefka**	**3.60**	**100**	⇑P	**Pn**	**12 28 55.7 +0.4**
ALFC				AML	AML	12 29 38.3
	comp=E,1.5nm,0.5s					
ALFC				AML	AML	12 29 38.3
	comp=E,1.5nm,0.5s					
ALFC				S	**Sn**	**12 29 39.0 +1.2**
ALFC				AML	AML	12 29 45.9
	comp=E,1.7nm,0.4s					
ALFC				AML	AML	12 29 45.9
	comp=E,1.7nm,0.4s					
NATA	**Nata**	**3.68**	**106**	P	**Pn**	**12 28 57.3 +0.8**
RODP	**Rodopos**	**3.69**	**266**	PN	**Pn**	**12 28 59.3 +2.7**
PRK	**Paraskevi**	**3.71**	**335**	P	**Pn**	**12 28 58.2 +1.4**
PRK				AML	AML	12 30 08.4
	comp=E,876µm,1.0s					
PRK				AML	AML	12 30 14.3
	comp=N,727µm,0.9s					
KARY	**Karystos**	**3.75**	**306**	P	**Pn**	**12 28 58.8 +1.4**
KARY				AML	AML	12 30 03.2
	comp=N,207µm,0.6s					
KARY				AML	AML	12 30 12.9
	comp=E,273µm,0.8s					
KNDR	**Palaiochora Ch**	**3.80**	**261**	PN	**Pn**	**12 29 02.1 +4.0**
SIGR	**SIGRI**	**3.83**	**331**	PN	**Pn**	**12 28 59.1 +0.6**
LEF	**Lefka**	**3.84**	**100**	⇓P	**Pn**	**12 28 56.6 -2.0**
LEF				⇕S	**Sn**	**12 29 42.0 -1.8**
SZAC	**Souni**	**3.93**	**105**	⇑P	**Pn**	**12 29 00.5 +0.6**
SZAC				AML	AML	12 29 47.8
	comp=E,1.5nm,0.4s					
SZAC				AML	AML	12 29 48.2
	comp=E,1.9nm,1.0s					
KDHN	**Kadinhani**	**4.03**	**48**	*i* P	**Pn**	**12 29 02.8 +1.4**
ANKY	**Antikythira Is**	**4.04**	**271**	P	**Pn**	**12 29 02.3 +0.9**
VLY	**Voula,Athens**	**4.09**	**300**	P	**Pn**	**12 29 03.9 +1.8**
VLY				AML	AML	12 30 16.7
	comp=E,397µm,0.6s					
VLY				AML	AML	12 30 20.1
	comp=N,467µm,0.6s					
ASGA	**Asgata**	**4.21**	**104**	P	**Pn**	**12 29 04.3 +0.6**
CSS	**Mathiatis**	**4.23**	**101**	Pn	**Pn**	**12 29 04.4 +0.4**
CSS	**Mathiatis**	**4.23**	**101**	⇑P	**Pn**	**12 29 04.6 +0.6**
CSS	**Mathiatis**	**4.23**	**101**	Pn	**Pn**	**12 29 04.3 +0.4**
KTHA	**Kythira Island**	**4.24**	**276**	P	**Pn**	**12 29 05.4 +1.2**
KTHA				AML	AML	12 29 59.5
	comp=N,789µm,0.7s					
KTHA				AML	AML	12 30 05.6
	comp=E,957µm,0.7s					
KTHA	**Kythira Island**	**4.24**	**276**	PN	**Pn**	**12 29 06.8 +2.6**
OSC2	**CSNet OBS 4**	**4.33**	**129**	P	**Pn**	**12 29 07.3 +2.0**
OSC2				S	**Sn**	**12 29 57.8 +2.0**
DID	**Didima**	**4.36**	**293**	P	**Pn**	**12 29 07.7 +1.8**
DID				AML	AML	12 30 30.8
	comp=E,256µm,0.8s					
DID				AML	AML	12 30 33.5
	comp=N,295µm,0.8s					
VLI	**Velíai**	**4.39**	**282**	P	**Pn**	**12 29 08.1 +1.9**
VLI				AML	AML	12 30 10.2
	comp=N,506µm,0.9s					
VLI				AML	AML	12 30 13.9
	comp=E,489µm,0.8s					
MVOU	**Mavrovouni**	**4.46**	**100**	⇑P	**Pn**	**12 29 07.6 +0.5**
LIA	**Limnos Island**	**4.69**	**329**	P	**Pn**	**12 29 11.1 +0.8**
LTK	**Loutraki**	**4.76**	**298**	P	**Pn**	**12 29 13.0 +1.7**
SLUM	**Salum** baz=211	**5.08**	**211**	P	**Pn**	**12 29 16.7 +1.1**
SLUM				S	**Sn**	**12 30 12.1 -2.2**
	baz=211					
MDUB	**Mudurnu**	**5.12**	**26**	Pn	**Pn**	**12 29 17.0 +0.7**
GUR	**Goura**	**5.18**	**295**	P	**Pn**	**12 29 19.0 +1.9**
ITM	**Ithomi**	**5.28**	**286**	Pn	**Pn**	**12 29 20.4 +2.1**
ALN	**Alexandroupoli**	**5.30**	**341**	Pn	**Pn**	**12 29 19.4 +0.8**
HBRG	**Burj al `Arab** baz=165	**5.46**	**166**	P	**Pn**	**12 29 21.4 +0.5**
HBRG				S	**Sn**	**12 30 22.5 -1.3**
	baz=165					
AGG	**Agios Georgios**	**5.67**	**305**	Pn	**Pn**	**12 29 24.6 +0.7**
BR131	**Keskin Array S**	**5.71**	**46**	Pn	**Pn**	**12 29 26.5 +2.0**
BRTR	**Keskin Array B**	**5.71**	**46**	Pn	**Pn**	**12 29 26.4 +1.8**
	comp=E,0.4nm,0.3s,baz=127,slow=12,SNR=9.3					
BRTR				LR	LR	12 31 42.9
	comp=E,69nm,21.5s,baz=200,slow=39					
BRTR	**Keskin Array B**	**5.71**	**46**	Pn	**Pn**	**12 29 26.5 +2.0**
RZN	**Rozhen**	**6.42**	**335**	*e*P	**Pn**	**12 29 35.7 +1.4**
HMYD	**Mayadein** baz=160	**6.44**	**160**	P	**Pn**	**12 29 35.4 +1.1**
HWQ	**Hawqa**	**6.49**	**102**	*e*P	**Pn**	**12 29 34.9 -0.2**
HNAT	**Natroun** baz=161	**6.54**	**162**	P	**Pn**	**12 29 35.6 -0.2**
HNAT				S	**Sn**	**12 30 48.3 -2.2**
	baz=161					
MMA0B	**Mount Meron ar**	**6.54**	**114**	Pn	**Pn**	**12 29 36.8 +0.9**
MMAI	**Mount Meron Ar**	**6.54**	**114**	Pn	**Pn**	**12 29 36.0 +0.1**
	comp=E,6.3nm,0.3s,baz=317,slow=13,SNR=11					
MMAI				Sn	**Sn**	**12 30 48.1 -2.5**
	comp=E,9.8nm,0.3s,baz=300,slow=24,SNR=5.9					
GEM	**Giv'at Ha'Em**	**6.65**	**112**	Pn	**Pn**	**12 29 38.2 +0.9**
KOT	**Kottamia** baz=152	**6.65**	**152**	P	**Pn**	**12 29 37.7 +0.3**
RCY	**Rachaya**	**6.67**	**109**	*e*P	**Pn**	**12 29 37.8 +0.1**
NATI	**Neve Ativ**	**6.69**	**111**	Pn	**Pn**	**12 29 38.9 +1.2**
RSH		**6.70**	**136**	P	**Pn**	**12 29 38.1 +0.2**
	baz=135					
MMB	**Musomiste**	**6.71**	**329**	*e*P	**Pn**	**12 29 37.8 -0.3**
HHAG	**Hagoal** baz=150	**6.74**	**150**	P	**Pn**	**12 29 40.5 +2.0**
HSAF	**As Saff** baz=155	**6.83**	**155**	P	**Pn**	**12 29 39.5 -0.3**
GLL	**Jalalah** baz=154	**6.93**	**154**	P	**Pn**	**12 29 40.8 -0.3**
HMDT	**Nahal Hemdat**	**7.02**	**119**	Pn	**Pn**	**12 29 43.6 +1.3**
SWA2	baz=201	**7.04**	**201**	P	**Pn**	**12 29 43.5 +0.8**
SWA2				S	**Sn**	**12 31 00.3 -2.4**
	baz=201					
KZIT	**Kziot**	**7.13**	**132**	Pn	**Pn**	**12 29 44.0 +0.1**
KZIT				Sn	**Sn**	**12 31 01.9 -3.0**
SUZ	**Suez** baz=146	**7.14**	**146**	P	**Pn**	**12 29 45.2 +1.1**
KKB	**Krupnik**	**7.21**	**327**	*e*P	**Pn**	**12 29 46.9 +1.9**
YTIR	**Yattir**	**7.27**	**126**	Pn	**Pn**	**12 29 45.7 -0.2**
YTIR				Sn	**Sn**	**12 31 06.4 -2.1**
DSI	**Dead Sea**	**7.32**	**124**	Pn	**Pn**	**12 29 46.7 +0.3**
VTS	**Vitosha**	**7.77**	**331**	⇓P	**Pn**	**12 29 52.2 -0.5**
VTS				⇑S	**Sn**	**12 31 23.1 +2.2**
VTS	**Vitosha**	**7.77**	**331**	Pn	**Pn**	**12 29 53.9 +1.2**
VTS	**Vitosha**	**7.77**	**331**	*e*P	**Pn**	**12 29 56.4 +3.6**
PRNI	**Paran**	**7.89**	**133**	Pn	**Pn**	**12 29 54.2 -0.1**
PRNI				Sn	**Sn**	**12 31 20.6 -3.1**
KRMI	**Paran Flat**	**7.90**	**135**	Pn	**Pn**	**12 29 54.1 -0.3**
KRMI				Sn	**Sn**	**12 31 20.4 -3.5**
HRFI	**Mount Harif**	**8.14**	**134**	Pn	**Pn**	**12 29 58.0 +0.2**
HRFI				Sn	**Sn**	**12 31 26.4 -3.4**
EIL	**Elat**	**8.37**	**136**	Pn	**Pn**	**12 30 00.2 -0.6**
	comp=E,1.4nm,0.3s,baz=296,slow=2.5,SNR=16					
EIL				Sn	**Sn**	**12 31 30.2 -5.1**
	comp=E,3.8nm,0.3s,baz=302,slow=18,SNR=6.9					
EIL				LR	LR	12 34 57.8
	comp=E,71nm,18.4s,baz=274,slow=50					
EIL	**Elat**	**8.37**	**136**	Pn	**Pn**	**12 30 00.5 -0.3**
EIL				Sn	**Sn**	**12 31 31.4 -3.9**
TAMRE	**El Minia** baz=164	**8.48**	**164**	P	**Pn**	**12 30 02.0 -0.4**
GRB	**Gharib** baz=152	**8.50**	**152**	P	**Pn**	**12 30 03.2 +0.4**
TIRR	**Tirgusor**	**8.56**	**1**	⇑P	**Pn**	**12 30 03.0 -0.4**
HBST	**Basata** baz=139	**8.60**	**139**	P	**Pn**	**12 30 04.0 0.0**
HBST				S	**Sn**	**12 31 37.5 -3.5**
	baz=139					
HFRF	**Wahat Farafira** baz=179	**8.72**	**180**	P	**Pn**	**12 30 05.3 -0.3**
SCTE	**Santa Cesarea**	**8.80**	**301**	Pn	**Pn**	**12 30 08.1 +1.4**
HDHB	**Dhahab** baz=141	**8.93**	**141**	P	**Pn**	**12 30 09.6 +1.0**
PDG	**Podgorica**	**9.57**	**316**	⇑P	**Pn**	**12 30 16.9 -0.4**
TIP	**Timpagrande**	**9.72**	**293**	⇓P	**Pn**	**12 30 18.8 -0.6**
TIP	**Timpagrande**	**9.72**	**293**	Pn	**Pn**	**12 30 19.8 +0.4**
VOIR		**9.85**	**347**	P	**Pn**	**12 30 20.9 -0.3**
PLOR	**Plostina**	**10.03**	**353**	⇑P	**Pn**	**12 30 23.3 -0.3**
HERR	**Herculane**	**10.03**	**335**	⇓P	**Pn**	**12 30 23.4 -0.2**
VRI	**Vrincioaia**	**10.04**	**354**	⇑P	**Pn**	**12 30 23.0 -0.6**
MDVR	**Moldovita**	**10.19**	**333**	⇑P	**Pn**	**12 30 25.5 -0.4**
HDK1	**Dakhla** baz=174	**10.36**	**174**	P	**Pn**	**12 30 29.0 +0.8**
TESR	**Tescani**	**10.68**	**354**	⇑P	**Pn**	**12 30 32.1 -0.4**
BURAR	**Bucovina Array**	**11.94**	**350**	Pn	**Pn**	**12 30 53.4 +3.7**
AKASG	**Malin Array Be**	**14.82**	**2**	Pn	**Pn**	**12 31 28.6 -0.4**
	comp=E,0.3nm,0.3s,baz=195,slow=14,SNR=1.5					
AKASG	**Malin Array Be**	**14.82**	**2**	P	**P**	**12 31 36.6 +1.7**
KEST	**Kesra**	**15.37**	**275**	LR	LR	12 39 35.3
	comp=E,54nm,18.3s,baz=220,slow=45					
KEST	**Kesra**	**15.37**	**275**	P	**P**	**12 31 42.3 +1.2**
KEST				IAmb	IAmb	12 31 46.9
	comp=Z,19nm,1.1s					
ZOU	**Zoufplan**	**15.66**	**318**	Pn	**Pn**	**12 31 38.3 -2.1**
ZOU				IAmb	IAmb	12 31 54.8
	comp=Z,14nm,1.1s					
KRUC	**Moravsky**	**15.79**	**330**	*e*PN	**P**	**12 31 46.0 +0.3**
VRAC	**Vranov**	**15.90**	**331**	LR	LR	12 38 58.6
	comp=Z,52nm,19.4s,baz=172,slow=42					
VRAC	**Vranov**	**15.90**	**331**	*e*PN	**P**	**12 31 47.5 +0.5**
ABTA	**Abfaltersbach**	**16.03**	**317**	*i* P	**P**	**12 31 49.7 +1.2**
	comp=Z,2.8nm,0.6s					
CTI	**Castel Tesino**	**16.12**	**314**	P	**P**	**12 31 51.2 +1.7**
CTI				IAmb	IAmb	12 31 54.6
	comp=Z,15nm,1.1s					
TREC	**Trest**	**16.34**	**329**	AMS	AMS	12 39 10.0
	comp=Z,100nm,13.2s					
KRLC	**Kraliky**	**16.45**	**333**	AMS	AMS	12 39 20.0
	comp=Z,200nm,10.3s					
GEC2	**GERESS Array S**	**16.80**	**325**	P	**Pn**	**12 31 55.7 +0.8**
GEC2				IAmb	IAmb	12 32 07.4
	comp=Z,5.0nm,0.8s					
GERES	**GERESS Array B**	**16.80**	**325**	Pn	**P**	**12 31 57.1 +0.1**
	comp=Z,0.2nm,0.3s,baz=138,slow=12,SNR=9.0					
GERES				LR	LR	12 38 44.0
	comp=Z,45nm,18.3s,baz=144,slow=38					
GERES	**GERESS Array B**	**16.80**	**325**	Pn	**Pn**	**12 31 55.1 +0.3**
WTTA	**Wattenberg**	**16.82**	**318**	*i* pP	**P**	**12 31 59.2 +1.9**
	comp=Z,2.6nm,0.3s					
DPC	**Dobruska-Polom**	**16.85**	**333**	AMS	AMS	12 41 10.0
	comp=Z,100nm,17.4s					
OSTC	**Ostas**	**17.06**	**333**	AMS	AMS	12 39 40.0
	comp=Z,100nm,10.4s					
KHC	**Kasperske Hory**	**17.06**	**325**	*e*P	**P**	**12 32 01.3 +1.5**
KHC				*ex*	x	12 32 10.3
KHC				AMS	AMS	12 39 00.0
	comp=Z,200nm,9.9s					
KHC	**Kasperske Hory**	**17.06**	**325**	P	**P**	**12 31 59.9 0.0**
UPC	**Upice**	**17.09**	**333**	AMS	AMS	12 41 20.0
	comp=Z,100nm,11.4s					
GOPC	**GO Pecny, Ondr**	**17.11**	**329**	AMS	AMS	12 39 40.0
	comp=Z,200nm,10.3s					
MOTA	**Moosalm**	**17.16**	**317**	*i* Pn	**P**	**12 32 01.2 +0.2**
	comp=Z,5.2nm,0.7s					
FETA	**Feichten**	**17.18**	**316**	*i* Pn	**P**	**12 32 02.1 +0.8**
	comp=Z,10nm,0.9s					
PRU	**Pruhonice**	**17.27**	**329**	*e*P	**P**	**12 32 02.2 +0.1**
PRU				AMS	AMS	12 39 40.0
	comp=Z,200nm,10.8s					
PRA	**Prague**	**17.38**	**329**	AMS	AMS	12 39 50.0
	comp=Z,100nm,11.2s					
DAVOX	**Davos/Dischmat**	**17.54**	**314**	LR	LR	12 40 24.0
	comp=Z,77nm,21.6s,baz=84,slow=43					
PVCC	**Panska Ves**	**17.67**	**330**	AMS	AMS	12 40 10.0
	comp=Z,100nm,12.8s					
NKC	**Novy Kostel**	**18.36**	**326**	AMS	AMS	12 40 00.0
	comp=Z,200nm,12.5s					
SENIN	**Lac Senin/Sane**	**18.90**	**310**	P	**P**	**12 32 20.0 -0.3**
SENIN				IAmb	IAmb	12 32 28.6
	comp=Z,8.2nm,0.7s					
CLL	**Collm**	**18.91**	**329**	*i* P	**Pn**	**12 32 20.4 -0.3**
	comp=Z,9.0nm,0.9s					
CLL				*e*PP	**PnPn**	**12 32 34.0 +1.0**
CLL				*e*S	**S**	**12 35 57.0 +2.1**
BFO	**Black Forest**	**19.26**	**316**	P	**Pn**	**12 32 26.8 +1.8**
BFO				IAmb	IAmb	12 32 28.2
	comp=Z,14nm,1.4s					
GEYT	**Alibeck**	**23.90**	**76**	P	**P**	**12 33 14.0 +0.6**
	comp=Z,3.3nm,0.6s,baz=269,slow=8.7,SNR=5.7					
GEYT	**Alibeck**	**23.90**	**76**	P	**P**	**12 33 13.6 +0.2**
GYA0B	**ALIBECK ARRAY**	**23.90**	**76**	P	**P**	**12 33 15.4 +2.0**
GYA0B				IAmb	IAmb	12 33 15.9
	comp=Z,5.7nm,0.8s					
FINES	**FINESS Array B**	**25.61**	**358**	P	**P**	**12 33 28.0 -0.7**
	comp=Z,0.7nm,0.3s,baz=169,slow=11,SNR=5.3					
ESDC	**Sonseca Array**	**25.69**	**288**	P	**P**	**12 33 28.3 -1.4**
	comp=Z,1.3nm,0.6s,baz=81,slow=9.2,SNR=15					
ESDC				LR	LR	12 44 02.8
	comp=Z,24nm,21.6s,baz=125,slow=38					
ESDC	**Sonseca Array**	**25.69**	**288**	P	**P**	**12 33 29.1 -0.6**
AKTO	**Aktyubinsk**	**25.89**	**47**	P	**P**	**12 33 31.1 -0.3**
	comp=Z,3.2nm,0.8s,baz=56,slow=20,SNR=7.4					
KLMR	**Klimovskoe**	**26.00**	**13**	*e*	**P**	**12 33 31.0 -1.2**
KLMR				AMP		12 33 38.8
	comp=Z,18nm,1.4s					
HFS	**Hagfors**	**26.02**	**343**	LR	LR	12 46 04.4
	comp=Z,64nm,18.0s,baz=187,slow=42					
ABKAR	**Akbulak array**	**26.65**	**50**	P	**P**	**12 33 37.5 -0.7**
MDT	**Midelt**	**27.25**	**273**	LR	LR	12 46 36.3
	comp=Z,34nm,20.6s,baz=79,slow=41					
NOA	**NORSAR Array B**	**27.42**	**342**	LR	LR	12 45 18.6
	comp=Z,26nm,18.6s,baz=145,slow=38					
ARU	**Arti**	**28.97**	**35**	LR	LR	12 46 08.5
	comp=Z,23nm,20.3s,baz=232,slow=38					
CHGR	**Chuyangaron**	**32.46**	**73**	P	**P**	**12 34 30.6 +0.5**
TORD	**Torodi Ar. Bea**	**32.94**	**233**	P	**P**	**12 34 34.6 +0.3**
	comp=Z,3.6nm,0.6s,baz=38,slow=8.6,SNR=12					
TORD	**Torodi Ar. Bea**	**32.94**	**233**	P	**P**	**12 34 33.3 -0.9**
KKAR	**Karatay Array**	**33.10**	**64**	P	**P**	**12 34 35.1 -0.4**
ARCES	**ARCESS Array B**	**33.73**	**358**	P	**P**	**12 34 39.6 -1.1**
	comp=Z,0.8nm,0.7s,baz=168,slow=9.2,SNR=1.4					
NIL	**Nilore**	**36.77**	**80**	P	**P**	**12 35 09.2 +2.0**
MK31	**Makanchi Array**	**41.24**	**57**	P	**P**	**12 35 44.2 -0.4**
MKAR	**Makanchi Array**	**41.24**	**57**	P	**P**	**12 35 45.0 +0.4**
	comp=Z,1.3nm,0.8s,baz=281,slow=6.4,SNR=6.7					
MKAR	**Makanchi Array**	**41.24**	**57**	P	**P**	**12 35 44.1 -0.5**
ZALV	**Zalesovo Beam**	**42.66**	**47**	P	**P**	**12 35 55.5 -0.5**
	comp=Z,0.5nm,0.4s,baz=293,slow=8.8,SNR=2.2					
ZALV				LR	LR	12 56 28.7
	comp=Z,25nm,18.3s,baz=254,slow=40					

TAP ***14*** *12:30:40.4,22.°00N×120.°47E,h47km,ML3.8,D*
JMA ***14*** *12:30:41.1±0.2,22.°00N×120.°49E,h58km±2km,M3.6*
ISC 14 12:30:39.3±1.5**,21.°90N**±0.°06×**120.°36E**±0.°03**,h51**km±8km**,**
n114,σ1s00/212,8C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HEN	**Hengchun** baz=90	**0.37**	**73**	*i* P		**Pn**	**Pn**	**12 30 49.1**	**0.0**
HEN				*i* S		**Sn**	**Sn**	**12 30 56.0**	**-0.1**
	baz=90								
TWK1	**Hengchun** baz=101	**0.41**	**83**	⇑*i* P		**Pn**	**Pn**	**12 30 49.9**	**+0.3**
TWK1				*i* S		**Sn**	**Sn**	**12 30 57.0**	**0.0**
	baz=101								
TWKBT	**Hengchun** baz=101	**0.42**	**84**	P		**Pn**	**Pn**	**12 30 49.8**	**+0.1**
TWKBT				S		**Sn**	**Sn**	**12 30 56.6**	**-0.5**
	baz=101								
TWP	**Hsiaoliuchiu** baz=337	**0.45**	**0**	*i* P		**Pn**	**Pn**	**12 30 50.0**	**0.0**
TWP				*i* S		**Sn**	**Sn**	**12 30 58.9**	**+1.2**
	baz=337								
WLCH	**Liuqiu** baz=338	**0.45**	**2**	*i* P		**Pn**	**Pn**	**12 30 50.4**	**+0.3**
WLCH				*i* S		**Sn**	**Sn**	**12 30 59.2**	**+1.4**
	baz=338								
TSEB	**Hengchuen, Pin** baz=109	**0.50**	**89**	*i* P		**Pn**	**Pn**	**12 30 50.8**	**+0.2**
TSEB				S		**Sn**	**Sn**	**12 30 58.2**	**-0.5**
	baz=109								
SCZT	**Fangliau** baz=22	**0.53**	**27**	⇑*i* P		**Pn**	**Pn**	**12 30 50.5**	**-0.5**
SCZT				*i* S		**Sn**	**Sn**	**12 30 57.7**	**-1.7**
	baz=22								
SSPT	**Xinbi** baz=19	**0.61**	**18**	⇑*i* P		**Pn**	**Pn**	**12 30 52.0**	**0.0**
SSPT				*i* S		**Sn**	**Sn**	**12 31 00.8**	**-0.3**
	baz=19								
EAST	**Anshuo** baz=33	**0.66**	**43**	⇑*i* P		**Pn**	**Pn**	**12 30 52.6**	**-0.1**
EAST				S		**Sn**	**Sn**	**12 31 01.2**	**-1.1**
	baz=33								
KAU	**Kaohsiung** baz=346	**0.67**	**356**	S		**Sn**	**Sn**	**12 31 02.7**	**+0.3**
TAW	**Tawu** baz=40	**0.68**	**47**	⇑*i* P		**Pn**	**Pn**	**12 30 52.7**	**-0.1**
TAW				S		**Sn**	**Sn**	**12 31 01.1**	**-1.4**
	baz=40								
MASBT	**Mashibuluo** baz=24	**0.76**	**19**	⇑P		**Pn**	**Pn**	**12 30 53.5**	**-0.3**
MASBT				S		**Sn**	**Sn**	**12 31 02.8**	**-1.6**
	baz=24								
SGLT	**Jiouru** baz=3.0	**0.83**	**8**	*i* P		**Pn**	**Pn**	**12 30 56.2**	**+1.4**
SGLT				*i* S		**Sn**	**Sn**	**12 31 07.7**	**+1.5**
	baz=3.0								
SNJT	**Kaohsiung City** baz=340	**0.85**	**358**	*i* P		**Pn**	**Pn**	**12 30 55.6**	**+0.5**
SNJT				*i* S		**Sn**	**Sn**	**12 31 07.2**	**+0.5**
	baz=340								
SSD	**Sandimen** baz=12	**0.88**	**16**	⇑*i* P		**Pn**	**Pn**	**12 30 55.4**	**-0.1**
SSD				*i* S		**Sn**	**Sn**	**12 31 05.9**	**-1.5**
	baz=12								
ECL	**Taimali** baz=30	**0.89**	**38**	⇑*i* P		**Pn**	**Pn**	**12 30 55.5**	**-0.1**
ECL				S		**Sn**	**Sn**	**12 31 05.5**	**-2.0**
	baz=30								
TWM1	**Shoushan** baz=358	**0.93**	**4**	*i* P		**Pn**	**Pn**	**12 30 57.4**	**+1.4**
TWM1				*e*S		**Sn**	**Sn**	**12 31 09.1**	**+0.7**
	baz=358								
LAY	**Lan-yu** baz=88	**1.11**	**82**	*i* P		**Pn**	**Pn**	**12 30 58.4**	**-0.2**
LAY				*i* S		**Sn**	**Sn**	**12 31 12.2**	**-0.7**
	baz=88								
TTN	**Taitung** baz=30	**1.12**	**40**	*i* P		**Pn**	**Pn**	**12 30 59.9**	**+1.2**
TTN				*e*S		**Sn**	**Sn**	**12 31 12.2**	**-0.9**
	baz=30								
SLGT	**Liugui** baz=10.0	**1.12**	**14**	*i* P		**Pn**	**Pn**	**12 30 59.0**	**+0.3**
SLGT				*i* S		**Sn**	**Sn**	**12 31 12.7**	**-0.4**
	baz=10.0								
TWG	**Pinlang** baz=35	**1.13**	**35**	*i* P		**Pn**	**Pn**	**12 30 59.2**	**+0.4**
TWG				S		**Sn**	**Sn**	**12 31 12.2**	**-1.1**
	baz=35								
TWGBT	**Beinan** baz=35	**1.13**	**36**	P		**Pn**	**Pn**	**12 30 59.2**	**+0.3**
TWGBT				S		**Sn**	**Sn**	**12 31 12.2**	**-1.2**
	baz=35								
TAI1	**Yung-k'ang** baz=349	**1.15**	**354**	*e*P		**Pn**	**Pn**	**12 30 59.7**	**+0.7**
TAI1				*e*S		**Sn**	**Sn**	**12 31 13.2**	**-0.3**
	baz=349								
CHN3	**Shinhua** baz=355	**1.18**	**0**	*e*P		**Pn**	**Pn**	**12 31 00.2**	**+0.9**
CHN3				S		**Sn**	**Sn**	**12 31 15.4**	**+1.1**
	baz=355								
SGST	**Jiashian** baz=6.0	**1.20**	**10**	P		**Pn**	**Pn**	**12 31 00.2**	**+0.4**
SGST				*e*S		**Sn**	**Sn**	**12 31 14.5**	**-0.4**
	baz=6.0								
SCLT	**Jiali** baz=348	**1.28**	**353**	S		**Sn**	**Sn**	**12 31 17.3**	**+0.3**
LDUT	**Ludao** baz=54	**1.28**	**

ALS	**Alishan**	**1.66**	**14**	*i* P		**Pn**	**12 31 06.5**	**+0.2**
	baz=3.0								
ALS				S		**Sn**	**12 31 25.1**	**-1.5**
	baz=3.0								
TWF1	**Yuli**	**1.69**	**31**	*i* P		**Pn**	**12 31 07.1**	**+0.7**
	baz=30								
TWF1				*i* S		**Sn**	**12 31 26.4**	**-0.5**
	baz=30								
CHN5	**Tsauling**	**1.72**	**10**	*i* P		**Pn**	**12 31 07.2**	**+0.3**
	baz=357								
CHN5				*i* S		**Sn**	**12 31 26.3**	**-1.4**
	baz=357								
YULB	**Yu-li**	**1.72**	**30**	P		**Pn**	**12 31 07.4**	**+0.5**
	baz=29								
YULB				S		**Sn**	**12 31 27.4**	**-0.3**
	baz=29								
WSF	**Szhu**	**1.74**	**356**	*e*P		**Pn**	**12 31 07.9**	**+0.9**
	baz=353								
WSF				*i* S		**Sn**	**12 31 27.1**	**-0.9**
	baz=353								
PHUB	**P'eng-hu**	**1.77**	**336**	P		**Pn**	**12 31 07.0**	**-0.4**
	baz=332								
PHUB				S		**Sn**	**12 31 26.6**	**-2.1**
	baz=332								
WGK	**Gukeng**	**1.79**	**6**	P		**Pn**	**12 31 07.6**	**-0.2**
	baz=3.0								
WGK				*i* S		**Sn**	**12 31 29.3**	**0.0**
	baz=3.0								
WDLH	**Douliu**	**1.79**	**5**	*i* P		**Pn**	**12 31 08.1**	**+0.3**
	baz=2.0								
WDLH				*i* S		**Sn**	**12 31 28.3**	**-1.1**
	baz=2.0								
PNG	**Penghu**	**1.82**	**336**	*i* P		**Pn**	**12 31 08.2**	**0.0**
	baz=332								
PNG				*i* S		**Sn**	**12 31 29.5**	**-0.7**
	baz=332								
EHY	**Hungye**	**1.83**	**29**	*i* P		**Pn**	**12 31 09.2**	**+0.9**
	baz=16								
EHY				S		**Sn**	**12 31 30.0**	**-0.4**
	baz=16								
WHYT	**Xinyi Township**	**1.85**	**14**	P		**Pn**	**12 31 09.4**	**+0.8**
	baz=2.0								
WHYT				S		**Sn**	**12 31 30.6**	**-0.3**
	baz=2.0								
HGSD	**Ruisui**	**1.87**	**32**	P		**Pn**	**12 31 10.3**	**+1.5**
	baz=19								
HGSD				S		**Sn**	**12 31 31.3**	**+0.1**
	baz=19								
WJS	**Zhushan**	**1.95**	**10**	*e*P		**Pn**	**12 31 10.3**	**+0.3**
	baz=8.0								
WJS				*i* S		**Sn**	**12 31 32.3**	**-0.9**
	baz=8.0								
WTCT	**Ta-ch'eng**	**1.96**	**358**	*i* S		**Sn**	**12 31 32.9**	**-0.6**
	baz=5.0								
SSLB	**Suanglung**	**1.96**	**16**	P		**Pn**	**12 31 10.6**	**+0.4**
	baz=4.0								
SSLB				*i* S		**Sn**	**12 31 33.1**	**-0.5**
	baz=4.0								
VWDT	**VWDT**	**1.98**	**21**	P		**Pn**	**12 31 11.3**	**+0.9**
	baz=20								
VWDT				S		**Sn**	**12 31 33.6**	**-0.5**
	baz=20								
RLNB	**Erlin**	**1.99**	**360**	*e*P		**Pn**	**12 31 10.5**	**+0.1**
	baz=357								
RLNB				S		**Sn**	**12 31 33.6**	**-0.5**
	baz=357								
WNT	**Mingjian**	**2.00**	**9**	P		**Pn**	**12 31 10.8**	**+0.2**
	baz=7.0								
WNT				*i* S		**Sn**	**12 31 33.5**	**-0.9**
	baz=7.0								
EGFH	**Guangfu**	**2.02**	**29**	P		**Pn**	**12 31 11.8**	**+0.9**
	baz=17								
EGFH				*i* S		**Sn**	**12 31 34.8**	**-0.2**
	baz=17								
SMLT	**Sun Moon Lake**	**2.04**	**14**	*i* P		**Pn**	**12 31 11.9**	**+0.6**
	baz=2.0								
SMLT				*i* S		**Sn**	**12 31 35.2**	**-0.5**
	baz=2.0								
TYC	**Yuchr**	**2.05**	**13**	*i* P		**Pn**	**12 31 12.2**	**+0.9**
	baz=1.0								
TYC				*i* S		**Sn**	**12 31 35.9**	**+0.2**
	baz=1.0								
ESL	**Shilin**	**2.15**	**27**	*i* P		**Pn**	**12 31 13.6**	**+0.9**
	baz=16								
ESL				S		**Sn**	**12 31 37.8**	**-0.4**
	baz=16								
WCHH	**Zhanghua**	**2.18**	**5**	S		**Sn**	**12 31 38.2**	**-0.7**
	baz=355								
TCU	**Taichung**	**2.26**	**7**	*e*S		**Sn**	**12 31 39.9**	**-1.0**
	baz=6.0								
CHGB	**Renai**	**2.28**	**19**	P		**Pn**	**12 31 15.6**	**+0.9**
	baz=6.0								
CHGB				S		**Sn**	**12 31 41.6**	**-0.1**
	baz=6.0								
HWA	**Hwalien**	**2.37**	**29**	*e*P		**Pn**	**12 31 18.2**	**+2.5**
	baz=28								
WHF	**Hehuan Shan**	**2.39**	**20**	*i* P		**Pn**	**12 31 17.5**	**+1.1**
	baz=19								
WHF				S		**Sn**	**12 31 45.4**	**+0.7**
	baz=19								
WHP	**Taichung City**	**2.43**	**13**	*i* P		**Pn**	**12 31 17.6**	**+1.0**
	baz=11								
WHP				*i* S		**Sn**	**12 31 45.8**	**+0.6**
	baz=11								
WDJ	**Dajia District**	**2.45**	**6**	S		**Sn**	**12 31 45.5**	**-0.2**
	baz=4.0								
TDCB	**Techi**	**2.46**	**17**	P		**Pn**	**12 31 17.9**	**+0.9**
	baz=7.0								
TDCB				S		**Sn**	**12 31 44.9**	**-1.0**
	baz=7.0								
TWT	**Tachien**	**2.46**	**18**	*i* P		**Pn**	**12 31 18.1**	**+1.0**
	baz=6.0								
TWT				*i* S		**Sn**	**12 31 46.2**	**0.0**
	baz=6.0								
TWQ1	**Liyutan**	**2.47**	**9**	*i* P		**Pn**	**12 31 18.5**	**+1.4**
	baz=7.0								
TWQ1				S		**Sn**	**12 31 45.6**	**-0.5**
	baz=7.0								
ETLH	**Xiulin Townshi**	**2.52**	**24**	P		**Pn**	**12 31 18.8**	**+0.9**
	baz=23								
ETLH				S		**Sn**	**12 31 48.5**	**+1.1**
	baz=23								
NSY	**Sanyi**	**2.54**	**8**	S		**Sn**	**12 31 48.0**	**+0.3**
	baz=7.0								
NACB	**Ninganchiao**	**2.54**	**26**	P		**Pn**	**12 31 18.1**	**+0.1**
	baz=37								
NACB				S		**Sn**	**12 31 46.3**	**-1.4**
	baz=37								
PTSB	**Yuanli**	**2.56**	**7**	S		**Sn**	**12 31 49.0**	**+0.7**
	baz=5.0								
NMLH	**Miaoli**	**2.66**	**8**	S		**Sn**	**12 31 49.4**	**-1.3**
	baz=7.0								
NNSB	**Datong**	**2.69**	**20**	P		**Pn**	**12 31 21.7**	**+1.5**
	baz=19								
NNSB				S		**Sn**	**12 31 51.7**	**+0.1**
	baz=19								
NNSH	**Datong**	**2.69**	**20**	*i* P		**Pn**	**12 31 21.4**	**+1.2**
	baz=19								
NNSH				*i* S		**Sn**	**12 31 51.5**	**-0.2**
	baz=19								
NNS	**Nan Shan**	**2.70**	**20**	*i* P		**Pn**	**12 31 22.1**	**+1.8**
	baz=19								
NNS				*i* S		**Sn**	**12 31 52.4**	**+0.6**
	baz=19								
NSTT	**Nanjuang**	**2.79**	**12**	*i* P		**Pn**	**12 31 21.7**	**+0.3**
	baz=11								
NSTT				*i* S		**Sn**	**12 31 52.6**	**-1.2**
	baz=11								
LIOB	**Emei**	**2.80**	**12**	P		**Pn**	**12 31 22.3**	**+0.6**
	baz=11								
LIOB				S		**Sn**	**12 31 53.6**	**-0.6**
	baz=11								
ENA	**Nanau**	**2.82**	**26**	P		**Pn**	**12 31 22.3**	**+0.4**
	baz=26								
ENA				S		**Sn**	**12 31 53.9**	**-0.8**
	baz=26								
NDT	**Datong Townshi**	**2.90**	**21**	*i* P		**Pn**	**12 31 24.5**	**+1.6**
	baz=21								
NDT				*i* S		**Sn**	**12 31 57.9**	**+1.4**
	baz=21								
YHNB	**Yeheng**	**2.91**	**18**	P		**Pn**	**12 31 24.6**	**+1.4**
	baz=18								
YHNB				S		**Sn**	**12 31 57.4**	**+0.3**
	baz=18								
NSK	**Sanguang**	**2.92**	**18**	*i* P		**Pn**	**12 31 25.2**	**+1.9**
	baz=18								
NSK				S		**Sn**	**12 31 56.4**	**-0.7**
	baz=18								
ENTT	**Nioudou**	**2.95**	**22**	*i* P		**Pn**	**12 31 25.2**	**+1.6**
	baz=10.0								
ENTT				*i* S		**Sn**	**12 31 59.3**	**+1.5**
	baz=10.0								
TWC	**Suao**	**3.03**	**27**	*e*P		**Pn**	**12 31 25.5**	**+0.8**
	baz=26								
TWC				*e*S		**Sn**	**12 31 58.2**	**-1.5**
	baz=26								
NWLT	**Wulai**	**3.05**	**20**	*i* P		**Pn**	**12 31 26.3**	**+1.2**
	baz=19								
NWLT				*e*S		**Sn**	**12 31 59.0**	**-1.5**
	baz=19								
TWE	**Neicheng**	**3.06**	**23**	*e*P		**Pn**	**12 31 26.7**	**+1.6**
	baz=35								
KNMB	**Chin-men Tao**	**3.13**	**325**	P		**Pn**	**12 31 27.1**	**+0.9**
	baz=323								
KNMB				*e*S		**Sn**	**12 32 01.4**	**-1.0**
	baz=323								
ZPLA	**Ao Xicun**	**3.15**	**311**	P		**Pn**	**12 31 27.3**	**+1.0**
	baz=308								
ZPLA				*e*S		**Sn**	**12 32 03.3**	**+0.7**
	baz=308								
VWUC	**VWUC**	**3.19**	**345**	*e*P		**Pn**	**12 31 26.8**	**-0.1**
	baz=343								
VWUC				*e*S		**Sn**	**12 32 01.6**	**-2.2**
	baz=343								
EGS		**3.27**	**26**	*e*P		**Pn**	**12 31 29.6**	**+1.6**
	baz=25								
PTMZ	**Houxiangcun**	**3.33**	**340**	P		**Pn**	**12 31 29.7**	**+0.9**
	baz=338								
PTMZ				*e*S		**Sn**	**12 32 04.8**	**-2.4**
	baz=338								
TIPB	**Shuangxi**	**3.34**	**23**	P		**Pn**	**12 31 30.6**	**+1.5**
	baz=33								
TIPB				*e*S		**Sn**	**12 32 05.7**	**-1.9**
	baz=33								
YM01	**YM01**	**3.42**	**19**	*e*P		**Pn**	**12 31 29.7**	**-0.4**
	baz=7.0								
YM10	**YM10**	**3.43**	**19**	P		**Pn**	**12 31 30.9**	**+0.7**
	baz=6.0								
YM10				*e*S		**Sn**	**12 32 08.9**	**-0.7**
	baz=6.0								
TWB1	**Santiao Chiao**	**3.44**	**25**	P		**Pn**	**12 31 31.9**	**+1.6**
	baz=33								
TWB1				*e*S		**Sn**	**12 32 09.0**	**-0.9**
	baz=33								
JYNG	**Yonagunijimaku**	**3.48**	**43**	P		**Pn**	**12 31 33.0**	**+2.1**
JYNG				S		**Sn**	**12 32 11.1**	**+0.2**
YOJ	**Yonaguni jima**	**3.53**	**43**	P		**Pn**	**12 31 33.7**	**+2.1**
YOJ				*e*S		**Sn**	**12 32 12.3**	**+0.2**
ZZJH	**Jiuhuzhen**	**3.59**	**316**	*e*S		**Sn**	**12 32 14.1**	**+0.5**
	baz=314								
AXDP	**Jialang**	**3.71**	**324**	*e*P		**Pn**	**12 31 34.8**	**+0.7**
	baz=322								
AXDP				*e*S		**Sn**	**12 32 16.4**	**-0.1**
	baz=322								
HATJ	**Hateruma jima**	**3.83**	**55**	P		**Pn**	**12 31 36.7**	**+0.9**
HATJ				*e*S		**Sn**	**12 32 18.4**	**-1.2**
IRIF	**Iriomote-Funau**	**3.94**	**51**	P		**Pn**	**12 31 38.5**	**+1.3**
IRIF				*e*S		**Sn**	**12 32 22.3**	**+0.2**
JKRS	**Kuro-shima**	**4.09**	**55**	P		**Pn**	**12 31 40.3**	**+1.0**
JKRS				*e*S		**Sn**	**12 32 26.1**	**+0.3**
MATB	**Ma-tsu**	**4.25**	**355**	P		**Pn**	**12 31 42.2**	**+0.7**
	baz=354								
MATB				*e*S		**Sn**	**12 32 27.1**	**-2.8**
	baz=354								
JIJ	**Ishigaki jima**	**4.26**	**54**	P		**Pn**	**12 31 42.5**	**+0.9**
JIJ				S		**Sn**	**12 32 28.4**	**-1.7**
MHZQ	**Yeshan**	**4.36**	**344**	*e*P		**Pn**	**12 31 43.7**	**+0.7**
	baz=343								
MHZQ				*e*S		**Sn**	**12 32 30.2**	**-2.3**
	baz=343								
JISG	**Ishigakijimahi**	**4.51**	**53**	P		**Pn**	**12 31 45.5**	**+0.4**
JISG				*e*S		**Sn**	**12 32 35.6**	**-0.7**
LYJJ	**Jianjiangzhen**	**4.67**	**353**	*e*P		**Pn**	**12 31 48.4**	**+1.2**
	baz=352								
LYJJ				*e*S		**Sn**	**12 32 37.0**	**-3.0**
	baz=352								
JTJ	**Tarama**	**4.84**	**55**	P		**Pn**	**12 31 50.2**	**+0.7**
JTJ				S		**Sn**	**12 32 43.5**	**-0.8**
XPSS	**Dashiqiu**	**5.01**	**358**	P		**Pn**	**12 31 52.4**	**+0.5**
	baz=6.0								

MOS ***14*** *12:50:36.0±1.1,42.°01N×142.°66E,h66km,mb4.3/10,Error ellipse: s-maj=10.2km s-min=6.2km az=71.2*

IDC ***14*** *12:50:37.0±1.7,41.°98N×142.°56E,h62km±15km,mb3.6/10, mb1 3.9/15,mb1mx3.7/43,mbtmp4.0/15,MS3.0/9, Ms1 3.0/9,ms1mx2.7/49,Error ellipse: s-maj=21.6km s-min=10.8km az=108.0*

NEIC ***14*** *12:50:37.4±1.6,42.°07N±0.°06×142.°67E±0.°09,h61km±7km, mb4.4/19,Error ellipse: s-maj=10.1km s-min=8.9km az=64.0*

NIED ***14*** *12:50:37.5,42.°06N×142.°65E,h63km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.21; Mθθ1.05; Mφφ-0.84; Mrθ-1.16; Mθφ0.31; Mφr0.62; Fault plane solution: M₀1.65000×10¹⁵ NP1: φs120.00000°,δ86.00000°,λ-54.00000°. NP2: φs217.00000°,δ36.00000°,λ-172.00000°.*

JMA ***14*** *12:50:37.5±0.2,42.°06N×142.°65E,h63km±2km,M4.1 Broadband fault plane solution: P waves. NP1: φs219.00000°,δ56.00000°,λ-161.00000°. NP2: φs118.00000°,δ74.00000°,λ-36.00000°. Principal axes: T Plg12.0000°, Azm172.0000°; N Plg51.0000°, Azm277.0000°; P Plg36.0000°, Azm73.0000°;*

JMA Felt II J1.

ISC 14 12:50:37.4±0.7, 42°02N±0°04×142°63E±0°03, h63km±6km, n112,σ1°17/114, mb4.1/27, 15C-13D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.27**	**20**	⇑P		**Pn**	**12 50 47.3**	**-0.3**
JNBK					*e*S	**Sn**	**12 50 55.2**	**+0.2**
ERM	**Erimo**	**0.39**	**91**	PN		**Pn**	**12 50 48.8**	**+0.3**
ERM	**Erimo**	**0.39**	**91**	Pn		**Pn**	**12 50 48.8**	**+0.3**
JEM	**Erimo**	**0.39**	**91**	⇑P		**Pn**	**12 50 48.7**	**+0.2**
JEM					*e*S	**Sn**	**12 50 57.2**	**+0.6**
JSHD	**Hidakashinhida**	**0.41**	**343**	⇑P		**Pn**	**12 50 48.6**	**-0.1**
JTHR	**Tokachihiroo**	**0.57**	**61**	⇑P		**Pn**	**12 50 50.2**	**-0.1**
JTHR					*e*S	**Sn**	**12 51 00.0**	**+0.3**
JBT2	**Biratori 2**	**0.78**	**346**	⇑P		**Pn**	**12 50 52.4**	**-0.4**
JBT2					*e*S	**Sn**	**12 51 03.9**	**-0.2**
JIAM	**Iburiatsuma**	**0.80**	**319**	⇑P		**Pn**	**12 50 53.7**	**+0.7**
JCH	**Churui**	**0.80**	**42**	⇑P		**Pn**	**12 50 52.8**	**-0.3**
JCH					*e*S	**Sn**	**12 51 04.5**	**-0.1**
JFR	**Furan**	**1.14**	**359**	⇑P		**Pn**	**12 50 56.8**	**-0.6**
JEW	**Eniwo**	**1.20**	**314**	⇑P		**Pn**	**12 50 58.4**	**+0.3**
JEW					*e*S	**Sn**	**12 51 14.0**	**+0.5**
JKB	**Kayabe**	**1.20**	**264**	⇓P		**Pn**	**12 50 58.1**	**0.0**
JKB					*e*S	**Sn**	**12 51 13.8**	**+0.2**
JOB	**Onbets**	**1.25**	**45**	⇓P		**Pn**	**12 50 59.4**	**+0.5**
JNB	**Noboribetsu**	**1.26**	**291**	⇓P		**Pn**	**12 50 58.3**	**-0.7**
JNB					*e*S	**Sn**	**12 51 14.3**	**-0.8**
JOT	**Ohata**	**1.35**	**242**	⇓P		**Pn**	**12 51 00.2**	**+0.1**
JOT					*e*S	**Sn**	**12 51 17.8**	**+0.7**
JAB	**Ashibetsu**	**1.51**	**349**	⇑P		**Pn**	**12 51 02.3**	**0.0**
JAR	**Ashorobuto**	**1.53**	**33**	⇓P		**Pn**	**12 51 02.1**	**-0.4**
JISS	**Ishikarishitsu**	**1.54**	**325**	⇑P		**Pn**	**12 51 02.8**	**+0.1**
JISS					*e*S	**Sn**	**12 51 21.8**	**+0.1**
ASAJ	**Asahikawa**	**2.09**	**359**	P		**Pn**	**12 51 10.7**	**+0.5**
	87nm,0.3s,baz=211,slow=10,SNR=485							
ASAJ				S		**Sn**	**12 51 36.6**	**+1.4**
	37nm,0.3s,baz=33,slow=12,SNR=26							
JKA	**Kamikawa-asahi**	**2.09**	**359**			**Pn**	**12 51 10.9**	**+0.8**
JKA	**Kamikawa-asahi**	**2.09**	**359**			**Sn**	**12 51 36.6**	**+1.4**
NMR	**Nemuro--Hokkai**	**2.65**	**58**	⇓*i*PN		**Pn**	**12 51 16.4**	**-1.3**
NMR					*e*S	**Sn**	**12 51 47.6**	**-1.1**
GLVR	**Golovnino**	**2.73**	**50**	⇓*i*PN		**Pn**	**12 51 19.0**	**+0.2**
GLVR					*e*S	**Sn**	**12 51 51.6**	**+1.0**
GLVR				pmax	pmax			
	comp=N,60nm,0.2s							
GLVR				pmax	pmax			
	comp=E,35nm,0.2s							
GLVR				pmax	pmax			
	comp=Z,488nm,0.2s							
GLVR				smax	smax			
	comp=E,2μm,0.3s							
GLVR				smax	smax			
	comp=N,2μm,0.4s							
GRPR	**Tuman**	**3.03**	**48**	*e*PN		**Pn**	**12 51 23.5**	**+0.6**
GRPR				*e*S		**Sn**	**12 52 00.2**	**+2.2**
GRPR				pmax	pmax			
	comp=Z,278nm,0.3s							
GRPR				pmax	pmax			
	comp=N,66nm,0.2s							
GRPR				pmax	pmax			
	comp=E,87nm,0.1s							
GRPR				smax	smax			
	comp=E,628nm,0.6s							
GRPR				smax	smax			
	comp=N,866nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**3.11**	**49**	*d*PN		**Pn**	**12 51 24.0**	**0.0**
YUK				*i* S		**Sn**	**12 52 01.5**	**+1.6**
YUK				pmax	pmax			
	comp=N,85nm,0.1s							
YUK				pmax	pmax			
	comp=E,110nm,0.1s							
YUK				pmax	pmax			
	comp=Z,433nm,0.1s							
YUK				smax	smax			
	comp=N,693nm,0.4s							
YUK				smax	smax			
	comp=E,481nm,0.3s							
YSS	**Yuzh-Sakhalins**	**4.93**	**1**	⇑*e*PN		**Pn**	**12 51 50.6**	**+1.7**
YSS				*e*S		**Sn**	**12 52 44.2**	**-0.4**
YSS				pmax	pmax			
	comp=Z,30nm,0.7s							
YSS				smax	smax			
	comp=N,30nm,0.9s							
YSS				MLR	MLR			
	comp=Z,200nm,15.0s							
YSS	**Yuzh-Sakhalins**	**4.93**	**1**	Pn		**Pn**	**12 51 50.4**	**+1.5**
KUR	**Kuril'sk**	**4.97**	**48**	*c*PN		**Pn**	**12 51 50.8**	**+1.3**
KUR				*e*S		**Sn**	**12 52 49.4**	**+3.8**
KUR				pmax	pmax			
	comp=Z,80nm,0.6s							
KUR				pmax	pmax			
	comp=N,37nm,0.5s							
KUR				pmax	pmax			
	comp=E,48nm,0.5s							
KUR				smax	smax			
	comp=N,50nm,0.5s							
KUR				smax	smax			
	comp=E,85nm,0.5s							
TEY	**Ternei**	**5.32**	**307**	*e*PN		**Pn**	**12 51 55.3**	**+1.1**
MJB9	**Matsu-Tunnel**	**6.46**	**214**			**Pn**	**12 52 10.7**	**+0.9**
MAJO	**Matsushiro**	**6.46**	**214**	*de*PN		**Pn**	**12 52 11.0**	**+1.1**
MAJO	**Matsushiro**	**6.46**	**214**			**Pn**	**12 52 10.9**	**+1.0**
MAT	**Matsushiro**	**6.46**	**214**	P		**Pn**	**12 52 11.1**	**+1.2**
MAT					*e*S	**Sn**	**12 53 25.1**	**+2.9**
MJAR	**Matsushiro Arr**	**6.46**	**213**	P		**Pn**	**12 52 08.9**	**-1.0**
	comp=E,0.7nm,0.3s,baz=20,slow=12,SNR=31							
MJAR				LR		LR	12 55 18.0	
	comp=E,56nm,20.7s,baz=10.0,slow=44							
MJAR	**Matsushiro Arr**	**6.46**	**213**	PN		**Pn**	**12 52 10.6**	**+0.7**
MJAR	**Matsushiro Arr**	**6.46**	**213**			**Pn**	**12 52 10.6**	**+0.7**
USA0B	**Ussuriysk Arra**	**8.08**	**289**	PN		**Pn**	**12 52 32.2**	**+0.1**
USA0B	**Ussuriysk Arra**	**8.08**	**289**	Pn		**Pn**	**12 52 32.2**	**+0.1**
USRK	**Ussuriysk Ar.**	**8.08**	**289**	P		**Pn**	**12 52 31.2**	**-0.8**
	baz=64,slow=17,SNR=7.0							
USRK	**Ussuriysk Ar.**	**8.08**	**289**	Pn		**Pn**	**12 52 30.8**	**-1.3**
TYV	**Tymovskoe**	**8.84**	**0**	*e*PN		**Pn**	**12 52 45.3**	**+2.9**
TYV				*e*S		**Sn**	**12 54 22.1**	**+1.7**
TYV				pmax	pmax			
	comp=Z,15nm,0.7s							
TYV				smax	smax			
	comp=E,8.0nm,1.1s							
JHJ	**Hachijo jima 2**	**9.17**	**195**	P		**Pn**	**12 52 44.2**	**-2.7**
	comp=E,14nm,0.3s,baz=88,slow=22,SNR=7.0							
KLR	**Kul'dur**	**10.48**	**317**	LR		LR	12 56 59.7	
	comp=E,38nm,20.8s,baz=132,slow=36							
KLR	**Kul'dur**	**10.48**	**317**	⇓*e*PN		**Pn**	**12 53 05.6**	**+0.8**
KSRS	**Korea Array**	**12.20**	**253**	P		**Pn**	**12 53 30.2**	**+1.9**
	comp=E,0.1nm,0.3s,baz=72,slow=13,SNR=5.5							
KSRS				LR		LR	12 57 43.8	
	comp=E,28nm,19.8s,baz=75,slow=35							
JNU	**Nakatsue**	**12.87**	**230**	LR		LR	12 58 12.5	
	comp=E,39nm,18.4s,baz=34,slow=36							
PEA0B	**Petropavlovsk-**	**15.01**	**37**	*i* P		**Pn**	**12 54 02.9**	**-2.8**
PETK	**Petropavlovsk-**	**15.01**	**37**	P		**Pn**	**12 54 02.3**	**-3.4**
	comp=E,0.7nm,0.3s,baz=214,slow=8.0,SNR=29							
MA2	**Magadan**	**18.29**	**13**	P		**P**	**12 54 45.4**	**-0.5**
	comp=E,0.3nm,0.3s,baz=193,slow=10,SNR=5.4							
SEY	**Seymchan**	**21.72**	**12**	P		**P**	**12 55 20.3**	**-2.8**
	comp=E,5.2nm,0.8s,baz=193,slow=8.5,SNR=12							
SEY	**Seymchan**	**21.72**	**12**	⇓*e*P		**P**	**12 55 20.7**	**-2.4**
BILL	**Bilibino**	**28.99**	**18**	*e*P		**P**	**12 56 31.0**	**+0.2**
BILL				pmax	pmax			
	comp=Z,4.0nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**30.27**	**130**	T		T	13 28 13.5	
	baz=327,slow=74,SNR=96							
H11N1	**WAKE ISLAND Hy**	**30.28**	**130**	T		T	13 28 17.1	
	baz=327,slow=74,SNR=109							
H11N3	**WAKE ISLAND Hy**	**30.28**	**130**	T		T	13 28 24.4	
	baz=327							
H11S1	**WAKE ISLAND Hy**	**31.13**	**132**	T		T	13 29 27.9	
	baz=324							
H11S3	**WAKE ISLAND Hy**	**31.13**	**132**	T		T	13 29 23.4	
	baz=324,slow=74,SNR=89							
H11S2	**WAKE ISLAND Hy**	**31.15**	**132**	T		T	13 29 24.3	
	baz=324,slow=74,SNR=82							
DGZ	**Jazzator, Alta**	**38.43**	**301**	⇓*e*P		**P**	**12 57 53.6**	**+0.6**
DGZ				pmax	pmax			
	comp=Z,1.0nm,1.0s							
ZALV	**Zalesovo Beam**	**39.41**	**308**	P		**P**	**12 58 00.6**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=69,slow=8.3,SNR=6.1							
ZALV	**Zalesovo Beam**	**39.41**	**308**	*i* P		**P**	**12 58 01.2**	**+0.3**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.6s							
TTA	**Tatalina**	**40.85**	**38**	P		**P**	**12 58 13.1**	**+0.3**
TTA				pmax	pmax			
	comp=Z,4.0nm,1.4s							
TTA	**Tatalina**	**40.85**	**38**	P		**P**	**12 58 13.1**	**+0.3**
IMAR	**Indian Mountai**	**41.93**	**33**	P		**P**	**12 58 20.7**	**-0.7**
MK31	**Makanchi Array**	**42.44**	**298**	⇓*e*P		**P**	**12 58 26.7**	**+0.7**
MKAR	**Makanchi Array**	**42.44**	**298**	P		**P**	**12 58 25.6**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=82,slow=8.7,SNR=4.9							
MKAR	**Makanchi Array**	**42.44**	**298**	*i* P		**P**	**12 58 24.5**	**-1.5**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
KDAK	**Kodiak Island**	**42.84**	**45**	P		**P**	**12 58 28.3**	**-0.7**
KDAK				pmax	pmax			
	comp=Z,44nm,1.5s							
KDAK	**Kodiak Island**	**42.84**	**45**	P

YKA	**Yellowknife Ar**	**59.05**	**32**	*i* P		**P**	**13 00 31.2**	**+0.7**	
YKA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ARCES	**ARCESS Array B**	**59.68**	**339**	LR	LR		13 30 20.8		
	comp=Z,17nm,18.9s,baz=314,slow=40								
WRA	**Warramunga Arr**	**62.13**	**189**	P		**P**	**13 00 51.4**	**-0.5**	
	comp=Z,1.5nm,0.6s,baz=7.7,slow=7.0,SNR=5.3								
FINES	**FINESS Array B**	**64.86**	**332**	P		**P**	**13 01 08.4**	**-1.1**	
	comp=Z,1.6nm,0.7s,baz=56,slow=7.6,SNR=7.4								
FINES	**FINESS Array B**	**64.86**	**332**	*ce*P		**P**	**13 01 13.0**	**+3.6**	
FINES				pmax	pmax				
	comp=Z,2.0nm,0.8s								
ASAR	**Alice Springs**	**65.85**	**189**	P		**P**	**13 01 15.4**	**-0.9**	
	comp=Z,0.4nm,0.5s,baz=139,slow=7.8,SNR=4.6								
ASAR				LR	LR		13 29 33.2		
	comp=Z,39nm,18.7s,baz=62,slow=36								
HFS	**Hagfors**	**69.94**	**336**	LR	LR		13 34 53.9		
	comp=Z,21nm,18.8s,baz=14,slow=38								
NOA	**NORSAR Array B**	**69.96**	**337**	LR	LR		13 36 08.0		
	comp=Z,13nm,20.1s,baz=40,slow=39								
BOZ	**Bozeman (W)**	**70.55**	**46**	P		**P**	**13 01 46.6**	**+0.8**	
BOZ				pmax	pmax				
	comp=Z,4.0nm,1.5s								
BOZ	**Bozeman (W)**	**70.55**	**46**	P		**P**	**13 01 46.6**	**+0.8**	
BOZ				IAmb	IAmb		13 01 49.6		
	comp=Z,4.4nm,1.5s								
KVN	**Kaiserville**	**71.03**	**54**	P		**P**	**13 01 49.6**	**+0.7**	
KVN				pmax	pmax				
	comp=Z,8.0nm,1.5s								
KVN	**Kaiserville**	**71.03**	**54**	P		**P**	**13 01 49.6**	**+0.7**	
KVN				IAmb	IAmb		13 01 50.8		
	comp=Z,7.6nm,1.5s								
LHV	**Little Huntoon**	**71.29**	**55**	IAmb	IAmb		13 01 53.3		
	comp=Z,3.9nm,1.0s								
NVAR	**Mina Array Bea**	**71.30**	**55**	P		**P**	**13 01 51.4**	**+0.8**	
	comp=Z,1.0nm,0.7s,baz=299,slow=6.2,SNR=9.1								
PDAR	**Pinedale Array**	**73.54**	**47**	P		**P**	**13 02 04.0**	**+0.1**	
	comp=Z,0.7nm,0.6s,baz=252,slow=0.6,SNR=8.8								
PDAR	**Pinedale Array**	**73.54**	**47**	P		**P**	**13 02 03.6**	**-0.2**	
PV22	**Blue Mesa, Par**	**76.85**	**50**	IAmb	IAmb		13 02 24.9		
	comp=Z,1.8nm,0.7s								
TXAR	**Lajitas Array**	**86.36**	**53**	P		**P**	**13 03 13.7**	**+0.7**	
	comp=Z,0.6nm,0.6s,baz=295,slow=3.5,SNR=12								
H03N2	**Juan Fernandez**	**146.30**	**89**	T	T		15 53 28.3		
	baz=300,slow=76,SNR=21								
H03N3	**Juan Fernandez**	**146.32**	**89**	T	T		15 53 29.2		
	baz=300,slow=76,SNR=24								
H03N1	**Juan Fernandez**	**146.32**	**89**	T	T		15 53 29.5		
	baz=300,slow=76,SNR=22								

IDC ***14*** *12:52:49.0±1.8,7.°19S×128.°38E,h0km,mb3.7/2, mb1 3.8/6,mb1mx3.6/28,mbtmp3.7/6,ML3.7/4,MS3.0/1, Ms1 3.0/1,ms1mx2.2/36,Error ellipse: s-maj=52.9km s-min=25.7km az=81.0*

ISC 14 12:52:54.0±1.1,7.43S±0.09×128.3E±0.1,h35km,n7, σ1.9 77/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.37**	**239**	Pn	**Pn**	**12 54 13.5**	**+1.7**
	6.5nm,0.3s,baz=55,slow=2.2,SNR=4.7						
BATI				Sn	**Sn**	12 55 12.1	-0.5
	8.0nm,0.3s,baz=269,slow=14,SNR=4.3						
FITZ	**Fitzroy Crossi**	**10.92**	**194**	Pn	**Pn**	**12 55 29.2**	**+1.3**
	0.3nm,0.3s,baz=16,slow=10,SNR=14						
FITZ				Sn	**Sn**	**12 57 25.4**	**-3.6**
	0.4nm,0.3s,baz=134,slow=14,SNR=2.2						
WRA	**Warramunga Arr**	**13.73**	**155**	Pn	**Pn**	**12 56 07.9**	**+1.5**
	0.4nm,0.3s,baz=332,slow=13,SNR=39						
WRA				Sn	**Sn**	**12 58 36.7**	**-1.1**
	0.6nm,0.3s,baz=337,slow=22,SNR=7.0						
ASAR	**Alice Springs**	**17.01**	**162**	P	**P**	**12 56 51.6**	**+0.8**
	0.2nm,0.3s,baz=330,slow=9.2,SNR=17						
ASAJ	**Asahikawa**	**52.91**	**13**	LR	LR	13 25 46.4	
	comp=Z,14nm,18.1s,baz=36,slow=38						
MKAR	**Makanchi Array**	**67.69**	**328**	P	**P**	**13 03 47.6**	**-0.1**
	0.2nm,0.6s,baz=125,slow=7.9,SNR=2.5						
MKAR				pP	**pP**	**13 03 57.3**	**-0.6**
	0.4nm,0.5s,baz=130,slow=7.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**71.25**	**335**	P	**P**	**13 04 08.1**	**-1.4**
	0.6nm,0.4s,baz=151,slow=6.3,SNR=2.9						
ZALV				pP	**pP**	**13 04 18.7**	**-1.0**
	1.0nm,0.6s,baz=126,slow=4.1,SNR=3.1						

NEIC ***14*** *13:15:14.9±2.0,16.°5N±0.°1×145.°6E±0.°1,h537km±9km, mb4.1/22,Error ellipse: s-maj=19.7km s-min=16.5km az=104.0*

IDC ***14*** *13:15:14.4±0.7,16.°47N×145.°75E,h524km±8km,mb3.2/14, mb1 3.4/15,mb1mx3.1/57,mbtmp4.1/15,Error ellipse: s-maj=17.3km s-min=11.1km az=102.0*

ISC 14 13:15:13.8±0.8,16.51N±0.09×145.7E±0.1,h523km±9km, n48,σ1.9 09/53,mb4.0/21,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**0.17**	**185**	P	**P**	**13 16 14.2**	**-2.2**
GUMO	**Guam**	**3.02**	**196**	P	**P**	**13 16 28.5**	**+1.6**
	18nm,0.3s,baz=140,slow=1.7,SNR=25						
GUMO				S	**S**	**13 17 26.3**	**+0.1**
	29nm,0.3s,baz=350,slow=23,SNR=14						
PATS	**Pohnpei**	**15.62**	**127**	P	**P**	**13 18 31.7**	**+1.5**
JOW	**Kunigami**	**19.18**	**305**	P	**P**	**13 19 03.9**	**+0.2**
MJAR	**Matsushiro Arr**	**21.04**	**343**	P	**P**	**13 19 21.8**	**+1.3**
	0.7nm,0.6s,baz=176,slow=11,SNR=7.0						
MJAR	**Matsushiro Arr**	**21.04**	**343**	P	**P**	**13 19 18.8**	**-1.6**
SAUI	**Saumlaki**	**28.22**	**211**	P	**P**	**13 20 21.5**	**-2.9**
SOEI	**Soe**	**33.65**	**221**	P	**P**	**13 21 09.5**	**-1.7**
KNRA	**Kununurra**	**36.10**	**208**	P	**P**	**13 21 32.0**	**+0.5**
KNRA				IAmb	IAmb	13 21 35.6	
	comp=Z,4.2nm,0.8s						
WB0	**Warramunga Arr**	**37.73**	**198**	P	**P**	**13 21 45.4**	**+0.5**
WR0	**Warramunga Arr**	**37.87**	**197**	P	**P**	**13 21 46.3**	**+0.3**
WR0				IAmb	IAmb	13 22 05.5	
	comp=Z,4.4nm,1.1s						
WRAB	**Tennant Creek**	**37.90**	**198**	P	**P**	**13 21 46.2**	**-0.1**
WB2	**Warramunga Arr**	**37.91**	**198**	P	**P**	**13 21 46.8**	**+0.4**
WRA	**Warramunga Arr**	**37.91**	**198**	P	**P**	**13 21 46.7**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=23,slow=9.6,SNR=20						
WRA				PcP	**PcP**	**13 23 49.1**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=16,slow=3.5,SNR=13						
WRA	**Warramunga Arr**	**37.91**	**198**	P	**P**	**13 21 46.1**	**-0.3**
KSM	**Kuching**	**37.94**	**250**	P	**P**	**13 21 46.7**	**0.0**
FITZ	**Fitzroy Crossi**	**39.67**	**211**	P	**P**	**13 22 00.6**	**0.0**
FITZ				IAmb	IAmb	13 22 05.2	
	comp=Z,7.0nm,1.1s						
ASAR	**Alice Springs**	**41.57**	**196**	P	**P**	**13 22 15.8**	**0.0**
	comp=Z,0.3nm,0.5s,baz=15,slow=6.6,SNR=10						
ASAR				PcP	**PcP**	**13 24 01.0**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=25,slow=3.0,SNR=11						
ASAR				ScP	**ScP**	**13 26 58.8**	**-2.3**
	comp=Z,0.5nm,0.7s,baz=27,slow=3.5,SNR=6.7						
ASAR	**Alice Springs**	**41.57**	**196**	P	**P**	**13 22 15.5**	**-0.3**
ASAR					**PcP**	**13 24 01.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**44.57**	**280**	P	**P**	**13 22 40.9**	**+1.6**
	comp=Z,1.2nm,0.5s,baz=75,slow=6.7,SNR=8.0						
ZALV	**Zalesovo Beam**	**59.77**	**323**	P	**P**	**13 24 28.5**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=85,slow=4.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**59.77**	**323**	P	**P**	**13 24 27.0**	**-0.9**
MK31	**Makanchi Array**	**60.00**	**315**	P	**P**	**13 24 30.4**	**+0.7**
MKAR	**Makanchi Array**	**60.00**	**315**	P	**P**	**13 24 30.9**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=87,slow=9.2,SNR=14						
MKAR				PcP	**PcP**	**13 25 09.2**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=96,slow=5.4,SNR=4.6						
MKAR	**Makanchi Array**	**60.00**	**315**	P	**P**	**13 24 30.6**	**+0.9**
KDAK	**Kodiak Island**	**61.17**	**33**	P	**P**	**13 24 38.6**	**+1.5**
	comp=Z,4.5nm,0.7s,baz=298,slow=1.6,SNR=6.6						
KDAK	**Kodiak Island**	**61.17**	**33**	P	**P**	**13 24 36.8**	**-0.3**
KDAK				IAmb	IAmb	13 24 52.3	
	comp=Z,9.7nm,1.1s						
KURK	**Kurchatov**	**62.92**	**319**	P	**P**	**13 24 49.3**	**+0.7**
KURK				IAmb	IAmb	13 24 50.1	
	comp=Z,4.4nm,0.8s						
BPAW	**Bear Paw Mtn.**	**63.70**	**26**	P	**P**	**13 24 53.8**	**+0.4**
COLD	**Coldfoot**	**64.95**	**23**	P	**P**	**13 25 03.0**	**+1.7**
COLD				IAmb	IAmb	13 25 04.0	
	comp=Z,3.8nm,0.8s						
IL31		**65.59**	**26**	P	**P**	**13 25 05.2**	**-0.1**
ILAR	**Eielson Array**	**65.59**	**26**	P	**P**	**13 25 05.1**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=249,slow=5.9,SNR=44						
ILAR	**Eielson Array**	**65.59**	**26**	P	**P**	**13 25 05.2**	**-0.2**
DOT	**Dot Lake**	**66.56**	**27**	P	**P**	**13 25 11.7**	**+0.2**
DOT				IAmb	IAmb	13 25 13.5	
	comp=Z,3.9nm,0.8s						

KKAR	**Karatay Array**	**68.19**	**310**	P		**P**	**13 25 22.1**	**+0.2**	
INK	**Inuvik**	**71.36**	**23**	P		**P**	**13 25 41.2**	**+1.0**	
	comp=Z,3.8nm,0.9s,baz=258,slow=7.1,SNR=6.5								
INK	**Inuvik**	**71.36**	**23**	P		**P**	**13 25 41.2**	**+1.0**	
INK				IAmb	IAmb		13 25 41.9		
	comp=Z,4.4nm,0.9s								
YKA	**Yellowknife Ar**	**79.90**	**28**	P		**P**	**13 26 28.3**	**+0.6**	
	comp=Z,1.3nm,0.5s,baz=286,slow=5.0,SNR=11								
PINE	**Pine Mountain**	**81.12**	**47**	P		**P**	**13 26 34.9**	**+0.2**	
PINE				IAmb	IAmb		13 26 37.2		
	comp=Z,7.1nm,0.9s								
NVAR	**Mina Array Bea**	**84.46**	**52**	P		**P**	**13 26 53.2**	**+1.5**	
	comp=Z,1.3nm,0.6s,baz=266,slow=5.4,SNR=16								
NVAR	**Mina Array Bea**	**84.46**	**52**	P		**P**	**13 26 49.1**	**-2.7**	
ARCES	**ARCESS Array B**	**84.57**	**342**	P		**P**	**13 26 51.3**	**-0.1**	
	comp=Z,1.1nm,0.6s,baz=81,slow=7.5,SNR=9.0								
ARCES	**ARCESS Array B**	**84.57**	**342**	P		**P**	**13 26 50.6**	**-0.7**	
MFID	**Camas Ranch**	**84.79**	**46**	P		**P**	**13 26 52.5**	**-0.7**	
FINES	**FINESS Array B**	**88.87**	**335**	P		**P**	**13 27 10.8**	**-1.0**	
	comp=Z,3.1nm,0.5s,baz=68,slow=5.0,SNR=26								
PDAR	**Pinedale Array**	**89.33**	**45**	P		**P**	**13 27 15.1**	**+0.4**	
	comp=Z,0.3nm,0.4s,baz=222,slow=2.0,SNR=5.2								
LIC	**Lamto**	**143.29**	**306**	*e*PKP2	PKPab		13 33 46.9	-0.4	
	comp=Z,18nm,0.4s								
LPAZ	**La Paz**	**147.54**	**95**	PKPbc	**PKiKP**		**13 34 01.7**	**-0.6**	
	comp=Z,1.4nm,0.5s,baz=11,slow=2.6,SNR=7.1								

THE 14 13:26:41.1,40.°59N×21.°14E,h13km±1km,ML1.9/4,Error ellipse: s-maj=2.3km s-min=1.2km az=132.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.19**	**202**	P	Pg	13 26 45.1	-0.3
NEST				S	Sg	13 26 48.3	0.0
	1μm,0.1s						
PENT	**Pentalofos**	**0.39**	**180**	P	Pb	13 26 49.7	-0.2
PENT				S	Sg	13 26 54.1	-0.2
	235nm,0.4s						
KZN	**Kozani**	**0.56**	**120**	P	Pg	13 26 52.2	+0.2
KPRO	**Kipourio**	**0.65**	**165**	P	Pg	13 26 53.8	-0.1
KPRO				S	Sb	13 27 03.5	0.0
	100nm,0.4s						
SRN	**Sarande**	**1.12**	**231**	P	Pb	13 27 01.5	-0.9
PHP	**Peshkopia**	**1.22**	**334**	P	Pn	13 27 02.8	-1.1
THL	**Klokotos Trika**	**1.22**	**146**	P	Pn	13 27 02.1	-1.8
IGT	**Igoumenitsa**	**1.22**	**211**	P	Pn	13 27 03.9	0.0
IGT				S	Sn	13 27 20.3	0.0
	22nm,0.4s						

ATH 14 13:27:25.1,40.°62N×20.°95E,h17km±4km,ML2.0/4,1D, Error ellipse: s-maj=5.3km s-min=2.6km az=216.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.21**	**160**	P	Pg	13 27 30.3	+0.2
NEST				S	Sg	13 27 33.3	-0.3
NEST				AML	AML	13 27 33.7	
	comp=E,3075μm,0.2s						
NEST				AML	AML	13 27 34.3	
	comp=N,2085μm,0.2s						
PENT	**Pentalofos**	**0.44**	**161**	P	Pg	13 27 34.1	0.0
PENT				S	Sb	13 27 40.6	-0.3
PENT				AML	AML	13 27 41.9	
	comp=E,484μm,0.3s						
PENT				AML	AML	13 27 42.2	
	comp=N,467μm,0.2s						
OHR	**Ohrid**	**0.51**	**347**	*i* Pg	Pn	13 27 38.2	+0.5
OHR				*i* Sg	Sn	13 27 47.9	+1.7
OHR				*e*Lg	Lg	13 27 48.3	
	comp=E,99nm,0.5s						
KZN	**Kozani**	**0.69**	**116**	P	Pb	13 27 38.9	+0.1
KZN				S	Sb	13 27 48.6	+0.4
KZN				AML	AML	13 27 50.1	
	comp=N,237μm,0.3s						
KZN				AML	AML	13 27 50.2	
	comp=E,219μm,0.4s						
KPRO	**Kipourio**	**0.73**	**154**	P	Pg	13 27 39.1	-0.3
KPRO				S	Sb	13 27 49.4	+0.2
KPRO				AML	AML	13 27 49.7	
	comp=E,280μm,0.4s						
KPRO				AML	AML	13 27 55.7	
	comp=N,144μm,0.4s						
THL	**Klokotos Trika**	**1.33**	**142**	P	Pb	13 27 49.5	-0.1
THL				S	Sg	13 28 08.6	+0.6

IDC 14 13:42:11.1±6.4,26.16S×29.00E,h0km,mb1 2.5/1, mb1mx2.5/37,mbtmp2.4/1,ML2.0/1,Error ellipse: s-maj=46.2km s-min=28.7km az=84.0,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.27**	**290**	Pn	Pn	13 43 04.4	+0.6
	0.2nm,0.3s,baz=127,slow=10,SNR=1.7						
LBTB				Pg	Pb	13 43 10.2	0.0
	0.8nm,0.3s,baz=104,slow=16,SNR=14						
LBTB				Lg	Lg	13 43 55.5	
	3.4nm,0.3s,baz=16,slow=21,SNR=24						
BOSA	**Boshof**	**4.13**	**233**	Pg	Pb	13 43 27.4	+2.6
	0.4nm,0.3s,baz=54,slow=14,SNR=7.8						
BOSA				Sn	Sn	13 44 02.5	-2.1
BOSA				Lg	Lg	13 44 20.9	
	2.7nm,0.3s,baz=152,slow=21,SNR=20						
I47ZA	**BOSHOF INFRASO**	**4.15**	**233**	*i*		14 10 10.0	
	baz=56,slow=324,SNR=1.0						
I35NA	**TSUMEB INFRASO**	**12.61**	**301**	*i*		14 59 40.0	
	baz=123,slow=315,SNR=1.6						

NNC ***14*** *13:44:09.4±3.4,37.°16N×69.°76E,h0km,mb5.1,mpv4.9, Error ellipse: s-maj=28.1km s-min=21.7km az=12.0*

IDC ***14*** *13:44:10.0±2.5,36.°36N×70.°32E,h203km±23km,mb3.7/14, mb1 3.8/20,mb1mx3.5/45,mbtmp4.3/20,MS2.9/2, Ms1 2.9/2,ms1mx2.4/40,Error ellipse: s-maj=15.2km s-min=11.5km az=25.0*

MOS ***14*** *13:44:10.7±0.8,36.°52N×70.°35E,h219km,mb4.0/18,Error ellipse: s-maj=9.5km s-min=4.1km az=76.2*

NEIC ***14*** *13:44:11.1±2.4,36.°46N±0.°07×70.°42E±0.°10,h221km±2km, mb4.3/22,Error ellipse: s-maj=11.2km s-min=9.5km az=90.0*

BJI ***14*** *13:44:11.3±0.0,36.°60N×70.°39E,h223km,mB4.4/17, mb4.3/19*

ISC 14 13:44:10.3±0.4,36.49N±0.04×70.34E±0.04,h204km,n184, σ2.8 10/198,mb4.1/31,19C-27D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.21**	**209**	PN	**Pn**	**13 44 54.2**	**+2.6**
KBL	**Kabul**	**2.21**	**209**	Pn	**Pn**	**13 44 54.2**	**+2.6**
CHGR	**Chuyangaron**	**2.36**	**337**	Pn	**Pn**	**13 44 54.8**	**+1.8**
GAR	**Garm**	**2.51**	**360**	Pn	**Pn**	**13 44 56.8**	**+2.1**
CEP	**Cherat**	**2.96**	**154**	↓P	**Pn**	**13 45 02.7**	**+2.9**
CEP				S	**S**	**13 45 41.0**	**+3.1**
CHCP	**Chirah Chowk**	**3.71**	**139**	↓P	**Pn**	**13 45 11.5**	**+2.8**
NIL	**Nilore**	**3.71**	**139**	PN	**Pn**	**13 45 11.7**	**+3.0**
NIL	**Nilore**	**3.71**	**139**		**Pn**	**13 45 11.7**	**+3.0**
THW	**Thamme Wali**	**3.86**	**162**	↓P	**Pn**	**13 45 13.0**	**+2.3**
TAS	**Tashkent**	**4.90**	**351**	PN	**Pn**	**13 45 24.8**	**+1.3**
SARP	**Sargodha**	**4.95**	**156**	↓P	**Pn**	**13 45 25.7**	**+1.5**
ARSB	**Arslanbob**	**5.25**	**22**	PN	**Pn**	**13 45 28.9**	**+0.8**
ARSB	**Arslanbob**	**5.25**	**22**		**Pn**	**13 45 28.9**	**+0.8**
KSH	**Kashi**	**5.38**	**54**	P	**Pn**	**13 45 26.3**	**-3.4**
KSH				S	**S**	**13 46 25.0**	**-7.1**
KSH				*s*max	*s*max		
	comp=N,420nm,0.4s						
KSH				*s*max	*s*max		
	comp=E,550nm,0.5s						
IUG	**luzhnay**	**5.66**	**358**	↓*i* P	**Pn**	**13 45 34.8**	**+1.5**
	70nm,0.2s,baz=356						
IUG	**luzhnay**	**5.66**	**358**	*d i* PN	**Pn**	**13 45 34.7**	**+1.5**
IUG				pmax	pmax		
	comp=Z,70nm,0.2s						
THN	**Thein Dam**	**6.01**	**131**	*e*P	**Pn**	**13 45 39.0**	**+1.2**
THN				*e*S	**S**	**13 46 46.5**	**-0.2**
AML	**Almayashu**	**6.21**	**24**	P	**Pn**	**13 45 41.3**	**+0.7**
	SNR=143						
DZA	**Taraz**	**6.44**	**7**	*e*P	**Pn**	**13 45 44.2**	**+0.9**
	baz=5.8						
DZA	**Taraz**	**6.44**	**7**	*e*PN	**Pn**	**13 45 44.1**	**+0.9**
DHRM	**DHARAMSHALA**	**6.50**	**129**	*e*P	**Pn**	**13 45 45.5**	**+1.2**
DHRM				*e*S	**S**	**13 46 57.4**	**-1.1**
DHRM				IAML		13 46 59.2	
	comp=E,1μm,0.4s						
DHRM				IAML		13 46 59.3	
	comp=N,796nm,0.3s						
UCH	**Uchtor**	**6.58**	**28**	P	**Pn**	**13 45 46.1**	**+0.7**
	SNR=225						
KK31	**Karatay Array**	**6.61**	**1**	↑Pn	**Pn**	**13 45 41.7**	**-3.7**
	comp=N,19nm,0.5s,baz=182,slow=12,SNR=144						
KK31				↑Pg		13 45 59.8	
	comp=N,13nm,0.4s,baz=186,slow=14,SNR=6.1						
KK31				↑Sn	S	13 46 47.9	-13
	comp=N,63nm,0.7s,baz=191,slow=25,SNR=8.3						
KK31				↓Lg	Lg	13 47 19.5	
	comp=N,28nm,0.4s						
KK31	**Karatay Array**	**6.61**	**1**	PN	**Pn**	**13 45 46.1**	**+0.7**
KK31	**Karatay Array**	**6.61**	**1**	Pn	**Pn**	**13 45 46.1**	**+0.7**
KKAR	**Karatay Array**	**6.61**	**1**	PN	**Pn**	**13 45 45.8**	**+0.4**
KKAR	**Karatay Array**	**6.61**	**1**	Pn	**Pn**	**13 45 45.8**	**+0.4**
KKAR	**Karatay Array**	**6.61**	**1**		**Pn**	**13 45 46.1**	**+0.7**
EKS2	**Erkin-Say**	**6.71**	**22**	P	**Pn**	**13 45 47.8**	**+0.9**
	SNR=99						
KZA	**Kyzart**	**6.76**	**33**	P	**Pn**	**13 45 48.2**	**+0.5**
	SNR=132						
AAK	**Ala-Archa**	**6.93**	**26**	P	**Pn**	**13 45 50.8**	**+1.0**
	comp=N,45nm,0.3s,baz=141,slow=4.0,SNR=104						
AAK				S	**S**	**13 47 06.4**	**-2.2**
	comp=N,22nm,0.3s,baz=10,slow=18,SNR=24						
AAK	**Ala-Archa**	**6.93**	**26**	P	**Pn**	**13 45 50.6**	**+0.9**
	SNR=81						
AAK	**Ala-Archa**	**6.93**	**26**	↓Pn	**Pn**	**13 45 46.3**	**-3.5**
	comp=N,74nm,0.5s						
AAK				↓Sn	**S**	**13 47 06.8**	**-1.7**
	comp=N,202nm,0.6s						
AAK	**Ala-Archa**	**6.93**	**26**	*d i* PN	**Pn**	**13 45 50.5**	**+0.8**
AAK				pmax	pmax		
	comp=Z,73nm,0.6s						
HRA	**Herat**	**6.93**	**255**	Pn	**Pn**	**13 45 52.3**	**+2.5**
KBK	**Karagaybulak**	**7.11**	**29**	P	**Pn**	**13 45 53.4**	**+1.3**
	SNR=14						
FRU1	**Bishkek**	**7.13**	**26**	PN	**Pn**	**13 45 53.4**	**+1.2**
FRU1	**Bishkek**	**7.13**	**26**		**Pn**	**13 45 53.4**	**+1.2**
CHMS	**Chumysh**	**7.34**	**26**	P	**Pn**	**13 45 55.5**	**+0.6**
	SNR=27						
ULHL	**Ulahol**	**7.34**	**37**	P	**Pn**	**13 45 55.8**	**+0.6**
	SNR=51						
USP	**Ospenovka**	**7.49**	**24**	P	**Pn**	**13 45 57.8**	**+1.0**
	SNR=18						
TKM2	**Tokmak 2**	**7.59**	**31**	P	**Pn**	**13 45 59.2**	**+0.8**
	SNR=103						
TKM2	**Tokmak 2**	**7.59**	**31**	↑Pn	**Pn**	**13 45 59.0**	**+0.6**
	comp=Z,31nm,0.3s						
TKM2				↑Sn	**S**	**13 47 19.2**	**-5.2**
	comp=Z,64nm,0.7s						
TKM2	**Tokmak 2**	**7.59**	**31**	PN	**Pn**	**13 45 59.0**	**+0.6**
KDJ	**Kajisay**	**7.74**	**41**	PN	**Pn**	**13 46 00.9**	**+0.7**
KDJ	**Kajisay**	**7.74**	**41**		**Pn**	**13 46 00.9**	**+0.7**
SMLA	**Simla**	**7.80**	**131**	*e*P	**Pn**	**13 46 01.4**	**+0.4**
SMLA				*e*S	**S**	**13 47 26.3**	**-2.8**
SMLA				IAML		13 47 28.2	
	comp=N,157nm,0.0s						
SMLA				IAML		13 47 29.4	
	comp=E,202nm,0.3s						
TARG	**Taragay, Kyrgy**	**7.81**	**46**	Pn	**Pn**	**13 46 00.7**	**-0.8**
MTBS	**Maitube**	**8.12**	**33**	↓*e*P	**Pn**	**13 46 06.2**	**+1.1**
	comp=E,2μm,0.3s,baz=34						
MTBS	**Maitube**	**8.12**	**33**	*de*PN	**Pn**	**13 46 06.2**	**+1.1**
MTBS				pmax	pmax		
	comp=Z,2μm,0.3s						
AAA	**Alma-Ata**	**8.40**	**35**	*e*P	**Pn**	**13 46 10.0**	**+1.2**
	baz=36						
AAA	**Alma-Ata**	**8.40**	**35**	*i* PN	**Pn**	**13 46 10.5**	**+1.7**
AAA				pmax	pmax		
	comp=Z,200nm,0.9s						
MDOK	**Medeo**	**8.43**	**36**	↑*i* P	**Pn**	**13 46 10.2**	**+0.9**
	comp=Z,1μm,0.5s,baz=36						
MDOK	**Medeo**	**8.43**	**36**	↓P	**Pn**	**13 46 09.6**	**+0.4**
	comp=Z,39nm,0.5s						
MDOK	**Medeo**	**8.43**	**36**	*c i* PN	**Pn**	**13 46 10.1**	**+0.9**
MDOK				pmax	pmax		
	comp=Z,1μm,0.5s						
KNDC	**Almaty**	**8.43**	**35**	↓P	**Pn**	**13 46 10.3**	**+1.2**
	comp=Z,140nm,0.7s						
KNDC	**Almaty**	**8.43**	**35**	PN	**Pn**	**13 46 10.3**	**+1.2**
BTLS	**Baital**	**8.99**	**17**	*e*P	**Pn**	**13 46 16.6**	**+0.3**
	comp=Z,19nm,2.2s,baz=17						
BTLS	**Baital**	**8.99**	**17**	*e*PN	**Pn**	**13 46 16.6**	**+0.3**
BTLS				pmax	pmax		
	comp=Z,19nm,2.2s						
SATY	**Saty**	**9.03**	**41**	*e*P	**Pn**	**13 46 17.0**	**0.0**
	comp=Z,11nm,0.8s,baz=42						
**SAT

comp=Z,38nm,8.1s
KURBB **Kurchatov Arra** 15.31 20 P Pn 13 47 35.3 -0.6
comp=Z,1.1nm,0.3s,baz=209,slow=11,SNR=102
KURBB **Kurchatov Arra** 15.31 20 ⇓P P 13 47 40.0 +3.9
comp=Z,21nm,0.6s
KURBB **Kurchatov Arra** 15.31 20 P P 13 47 40.1 +3.9
DMN **Daman** 15.32 121 *eP* P 13 47 39.7 +2.9
comp=Z,19nm,0.3s
KURK **Kurchatov** 15.42 20 ⇑P P 13 47 40.6 +3.2
comp=Z,17nm,0.8s
KURK **Kurchatov** 15.42 20 *d iP* Pn 13 47 36.0 -1.2
KURK pmax pmax
comp=Z,17nm,0.7s
KURK **Kurchatov** 15.42 20 P Pn 13 47 36.2 -1.0
PKI **Pulchoki** 15.55 121 *eP* P 13 47 41.5 +2.0
comp=Z,16nm,0.3s
JIRN **Jiri** 16.05 119 *eP* Pn 13 47 47.9 +2.5
comp=Z,54nm,0.3s
AKTO **Aktyubinsk** 16.53 331 P Pn 13 47 51.1 +0.5
comp=Z,2.1nm,0.3s,baz=142,slow=11,SNR=25
AKTO **Aktyubinsk** 16.53 331 ⇑Pn Pn 13 47 50.6 0.0
comp=Z,6.4nm,0.5s
AKTO ⇑Sn S 13 50 49.9 -2.0
comp=Z,11nm,1.3s
BVAR **Borovoye Array** 16.54 0 P Pn 13 47 50.6 0.0
comp=Z,4.2nm,0.3s,baz=163,slow=10.0,SNR=36
BRVK **Borovoye** 16.57 360 *deP* Pn 13 47 51.0 0.0
BRVK pmax pmax
comp=Z,35nm,1.3s
BRVK **Borovoye** 16.57 360 P Pn 13 47 51.1 +0.1
UOSS **Minazif** 16.71 230 P P 13 47 50.1 -1.8
UOSS IAmb IAmb 13 47 53.5
comp=Z,10nm,1.0s
RAMN **Ramite** 16.77 120 *eP* Pn 13 47 54.5 +0.5
comp=Z,30nm,0.5s
TAPN **Taplejung** 17.32 117 *eP* Pn 13 48 01.0 +0.6
comp=Z,14nm,0.3s
ODAN **Odare** 17.38 119 *eP* Pn 13 48 01.5 +0.4
comp=Z,25nm,0.5s
DGZ **Jazzator, Alta** 18.11 38 *d iP* Pn 13 48 08.5 -0.9
DGZ pmax pmax
comp=Z,39nm,0.8s
ZAA0 **Zalesovo Array** 20.15 25 P P 13 48 29.1 +0.3
ZALV **Zalesovo Beam** 20.15 25 P P 13 48 29.1 +0.3
comp=Z,15nm,0.4s,baz=223,slow=10,SNR=65
ZALV **Zalesovo Beam** 20.15 25 P P 13 48 28.9 +0.2
SVE **Sverdlovsk** 21.36 345 *eP* P 13 48 42.2 +0.7
ARU **Arti** 21.47 342 P P 13 48 43.7 +1.0
comp=Z,2.2nm,0.4s,baz=168,slow=8.8,SNR=10
ARU **Arti** 21.47 342 *d iP* P 13 48 44.0 +1.4
ARU 13 49 23.4
ARU S S 13 52 29.4 +2.3
ARU pmax pmax
comp=Z,10.0nm,0.9s
ARU **Arti** 21.47 342 P P 13 48 40.5 -2.2
ARU IAmb IAmb 13 48 45.9
comp=Z,8.2nm,0.6s
GTA **Gaotai** 23.38 74 *eP* P 13 49 03.8 +3.0
GTA pP pP 13 49 44.8 +5.2
GTA sP sP 13 50 11.6 +5.8
GTA S S 13 52 58.6 +0.1
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,39nm,6.7s
GTA LR LR
comp=Z,46nm,16.8s
GTA LR LR
comp=Z,65nm,17.5s
GTA LR LR
comp=Z,53nm,17.1s
KIRV **Kirov** 26.02 335 ⇓*eP* P 13 49 25.2 +1.0
LZH **Lanzhou** 26.94 81 ⇑P P 13 49 32.8 -0.2
LZH pP pP 13 50 17.5 +2.0
LZH PP PnPn 13 50 29.6 +1.6
LZH sP sP 13 50 44.3 +4.5
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,53nm,4.9s
SONM **Songino Array** 28.78 55 P P 13 49 50.7 +1.5
comp=Z,1.9nm,0.7s,baz=254,slow=9.9,SNR=9.7
SONM **Songino Array** 28.78 55 P P 13 49 50.7 +1.5
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM **Songino Array** 28.78 55 IAmb IAmb 13 49 51.5
comp=Z,1.3nm,0.9s
ULN **Ulaanbaatar** 29.22 56 ⇓*eP* P 13 49 53.5 +0.4
ULN pmax pmax
comp=Z,1.0nm,0.9s
OBN **Obninsk** 29.60 320 *eP* P 13 49 56.0 -0.1
OBN *e**PP pP 13 50 39.4 +1.8
OBN *e* 13 51 05.5
OBN *e* 13 52 56.1
OBN pmax pmax
comp=Z,7.0nm,1.2s
CMAR **Chiang Mai Arr** 30.92 118 P P 13 50 08.8 +0.7
comp=Z,1.9nm,0.9s,baz=294,slow=7.7,SNR=12
CMAR **Chiang Mai Arr** 30.92 118 *ceP* P 13 50 09.6 +1.5
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR **Chiang Mai Arr** 30.92 118 P P 13 50 03.2 -5.0
HHC **Hu-ho-hao-te** 32.27 69 *eP* P 13 50 20.0 +0.2
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,78nm,6.6s
AKASG **Malin Array Be** 32.54 309 P P 13 50 22.3 +0.4
comp=Z,0.9nm,0.5s,baz=83,slow=6.4,SNR=4.4
AKASG **Malin Array Be** 32.54 309 IAmb IAmb 13 50 22.5
comp=Z,0.7nm,0.7s
AKBB **Malin Array Si** 32.54 309 ⇓*eP* P 13 50 21.9 0.0
NRIK **Noril'sk** 34.24 11 P P 13 50 37.6 +1.3
comp=Z,4.9nm,0.4s,baz=202,slow=4.2,SNR=5.3
NRIK **Noril'sk** 34.24 11 ⇑*eP* P 13 50 34.3 -2.0
NRIK pmax pmax
comp=Z,6.0nm,0.6s
LVV **L'vov** 35.74 307 *eP* P 13 51 05.7 +16
KWP **Kalwaria Pacla** 36.59 306 P P 13 50 57.2 +0.6
KWP **Kalwaria Pacla** 36.59 306 P P 13 50 57.2 +0.6
FINES **FINESS Array B** 37.20 326 P P 13 51 02.3 +0.8
comp=Z,2.2nm,0.7s,baz=109,slow=11,SNR=10.0
FINES **FINESS Array B** 37.20 326 *i* P P 13 51 02.2 +0.7
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES **FINESS Array B** 37.20 326 P P 13 51 01.7 +0.1
AGG **Agios Georgios** 37.70 289 P P 13 51 06.1 0.0
AGG pmax pmax
comp=Z,7.0nm,1.2s
AGG **Agios Georgios** 37.70 289 P P 13 51 06.1 0.0
AGG IAmb IAmb 13 51 15.6
comp=Z,6.9nm,1.2s
ARCES **ARCESS Array B** 40.95 338 P P 13 51 33.7 +1.1
comp=Z,1.8nm,0.7s,baz=111,slow=6.8,SNR=13
ARCES **ARCESS Array B** 40.95 338 P P 13 51 34.2 +1.6
ARCES **ARCESS Array B** 40.95 338 P P 13 51 34.2 +1.6
KULM **Kulim** 41.67 131 P P 13 51 36.1 -2.9
KULM IAmb IAmb 13 51 44.9
comp=Z,13nm,1.1s
KHC **Kasperske Hory** 42.56 306 ⇓*eP* P 13 51 49.0 +3.1
KHC pmax pmax
comp=Z,4.0nm,1.2s
NB2 **NORSAR Subarra** 44.07 323 P P 13 51 57.4 -0.4
comp=Z,0.8nm,0.4s,baz=99,slow=7.9
NOA **NORSAR Array B** 44.07 323 P P 13 51 57.9 +0.1
comp=Z,0.9nm,0.5s,baz=97,slow=7.8,SNR=7.0
YAK **Yakutsk** 44.29 36 ⇑*eP* P 13 51 59.6 +0.2
YAK pmax pmax
comp=Z,3.0nm,0.8s
TIXI **Tiksi** 45.98 22 P P 13 52 13.0 +0.4
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI **Tiksi** 45.98 22 P P 13 52 13.0 +0.4
KMBO **Kilima Mbogo** 48.43 227 *i* P P 13 52 36.7 +4.2
KMBO pmax pmax
comp=Z,1.0nm,0.3s
MBAR **Mbarara** 52.07 234 *α iP* P 13 53 00.6 +0.9
MBAR pmax pmax
comp=Z,3.0nm,0.6s
SUMG **Summit** 60.90 341 P P 13 54 03.2 +1.8
SUMG pmax pmax
comp=Z,8.0nm,1.9s
TOA0 **Torodi Ar. Sit** 65.18 268 P P 13 54 28.8 -1.2
TORD **Torodi Ar. Bea** 65.18 268 P P 13 54 28.6 -1.4
comp=Z,1.6nm,0.4s,baz=45,slow=6.1,SNR=15
TORD **Torodi Ar. Bea** 65.18 268 P P 13 54 28.2 -1.8
INK **Inuvik** 74.00 9 P P 13 55 23.7 +0.7
INK pmax pmax
comp=Z,3.0nm,1.0s
LBTB **Lobatse** 74.31 222 P P 13 55 26.0 +0.5
comp=Z,4.4nm,0.7s,baz=54,slow=4.6,SNR=6.4
LBTB **Lobatse** 74.31 222 P P 13 55 24.6 -0.9
LBTB IAmb IAmb 13 55 26.8
comp=Z,6.0nm,0.8s
COLA **College** 74.64 16 ⇑*eP* P 13 55 27.8 +1.1
COLA pmax pmax
comp=Z,2.0nm,0.9s
FITZ **Fitzroy Crossi** 75.31 126 LR LR 14 34 27.9
comp=Z,22nm,18.6s,baz=105,slow=40
KNRA **Kununurra** 75.67 122 P P 13 55 32.0 -1.3
KNRA IAmb IAmb 13 55 33.0
comp=Z,6.0nm,0.6s
BOSA **Boshof** 77.39 220 P P 13 55 42.9 0.0
BOSA pmax pmax
comp=Z,12nm,2.7s
MORW **Morawa** 78.08 140 P P 13 55 45.1 -1.4
MORW IAmb IAmb 13 55 59.0
comp=Z,7.0nm,1.1s
YKA **Yellowknife Ar** 81.28 2 P P 13 56 03.4 +0.1
comp=Z,0.5nm,0.4s,baz=352,slow=5.7,SNR=11
WB0 **Warramunga Arr** 82.36 121 P P 13 56 07.4 -2.1
WB0 IAmb IAmb 13 56 08.2
comp=Z,3.1nm,0.9s
WRA **Warramunga Arr** 82.44 121 P P 13 56 08.1 -1.9
comp=Z,1.6nm,0.5s,baz=324,slow=4.9,SNR=33
WRA **Warramunga Arr** 82.44 121 P P 13 56 08.5 -1.5
WRA **Warramunga Arr** 82.44 121 P P 13 56 08.5 -1.5
WRAB **Tennant Creek** 82.44 121 P P 13 56 08.7 -1.3
WRAB pmax pmax
comp=Z,5.0nm,1.1s
WRAB **Tennant Creek** 82.44 121 P P 13 56 08.7 -1.3
WRAB IAmb IAmb 13 56 28.4
comp=Z,4.6nm,1.1s
WB2 **Warramunga Arr** 82.45 121 P P 13 56 08.5 -1.5
WB2 IAmb IAmb 13 56 08.6
comp=Z,3.6nm,0.6s
WR0 **Warramunga Arr** 82.59 121 P P 13 56 08.4 -2.3
AS31 **Alice Springs** 84.69 124 P P 13 56 19.8 -1.6
ASAR **Alice Springs** 84.69 124 P P 13 56 19.7 -1.7
comp=Z,1.5nm,0.5s,baz=312,slow=4.9,SNR=50
ASAR **Alice Springs** 84.69 124 P P 13 56 19.9 -1.4
ASAR **Alice Springs** 84.69 124 P P 13 56 19.9 -1.4
QSPA **South Pole Qui** 126.28 180 PKP PKPdf 14 02 46.6 -1.0
comp=Z,0.8nm,0.7s,baz=260,slow=1.5,SNR=6.2
QSPA **South Pole Qui** 126.28 180 PKPdf 14 02 46.1 -1.5
PLCA **Paso Flores** 149.32 250 PKPbc PKiKP 14 03 34.9 -1.0
comp=Z,0.8nm,0.6s,baz=48,slow=5.3,SNR=3.7

*DNK **14** 13:57:08.9±3.8, 59.29°N×5.69°E, h15km±52km, ML1.8*
BER 14 13:57:08.4±0.4, 59.39°N×6.05°E, h0km, ML1.4, 1C, Explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLS5	**Blasjo**	**0.21**	**81**	⇑*iP*	Pg	13 57 12.2	-0.2
BLS5				*eS*	Sg	13 57 14.9	-0.1
KMY	**Karmoy**	**0.45**	**247**	*eP*	Pg	13 57 16.7	-0.3
ASK	**Askoy**	**1.18**	**339**	*eP*	Pg	13 57 26.7	-4.3
ASK				*eS*	Sg	13 57 42.1	-4.1
ASK				IAML		13 57 44.3	
comp=Z,9.9nm,0.3s							
SNART	**Snartemo**	**1.21**	**150**	*eP*	Pg	13 57 30.2	-1.4
SNART				*eS*	Sg	13 57 46.2	-1.1
SNART	**Snartemo**	**1.21**	**150**	*e*	Pg	13 57 28.2	-3.5
baz=334,slow=16							
SNART				*i* P	Pb	13 57 30.2	-2.0
SNART				*i* S	Sg	13 57 46.5	-0.8
SNART				IAML		13 57 46.8	
comp=Z,8.0nm,0.3s							
HOMB	**Homborsund**	**1.70**	**130**	*e*	Pn	13 57 36.6	-2.6
baz=310,slow=16							
HOMB				*i* P	Pb	13 57 37.8	-2.7
HOMB				*eS*	Sn	13 58 00.7	-1.0
HOMB				IAML		13 58 02.8	
comp=Z,2.5nm,0.3s							
NBO00	**NORSAR Array S**	**2.88**	**53**	*eP*	Pn	13 57 54.6	-0.8

PRU 14 13:57:51.2±0.0, 51.53N×16.30E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHVC	**Chvalec**	**0.96**	**189**	*e*PG	Pg	13 58 08.0	-1.5
CHVC				*e*SG	Sg	13 58 21.1	-0.8
comp=Z,3.5nm,0.4s							
OSTC	**Ostas**	**0.98**	**183**	*e*PG	Pg	13 58 08.8	-1.1
UPC	**Upice**	**1.04**	**190**	*e*PG	Pg	13 58 10.5	-0.6
UPC				*e*SG	Sg	13 58 24.9	+0.3
comp=Z,6.0nm,0.2s							
DPC	**Dobruska-Polom**	**1.18**	**179**	*e*PG	Pg	13 58 11.6	-2.2
DPC				*e*SG	Sg	13 58 29.2	+0.1
comp=Z,2.2nm,0.3s							
KRLC	**Kraliky**	**1.49**	**168**	*e*PG	Pn	13 58 17.6	-1.6
KRLC				*e*SG	Sg	13 58 38.0	-1.0
comp=Z,6.2nm,0.7s							
BRG	**Berggiesshubel**	**1.62**	**247**	PG	Pn	13 58 19.7	-1.3
BRG				SG	Sn	13 58 38.9	-3.7
4.1nm,0.3s							

*BJI **14** 14:07:19.6±0.0, 43.41N×84.78E, h6km, ML3.4/9*
*NNC **14** 14:07:19.5±3.5, 43.40N×84.48E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=27.4km s-min=13.5km az=131.0*
ISC 14 14:07:23.1±1.3, 43.59N±0.07×84.80E±0.06, h10km, n13, σ1.9 72/16, 7C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**2.11**	**83**	Pn	Pn	**14 07 56.5**	**-2.0**
WMQ				Sn	**Sb**	**14 08 29.1**	**+1.3**
WMQ				smax	smax		
comp=N,3μm,0.4s							
WMQ				smax	smax		
comp=E,3μm,0.4s							
MK31	**Makanchi Array**	**3.66**	**332**	Pn	**Pn**	**14 08 19.9**	**+0.2**
0.2nm,0.2s,baz=150,slow=13,SNR=168							
MK31				⇓Pg	**Pb**	**14 08 29.6**	**+1.8**
2.1nm,0.3s,baz=152,slow=15,SNR=33							
MK31				⇓Lg	Lg	14 09 17.0	
12nm,0.3s,baz=147,slow=28,SNR=12							
DJR	**Jarkent**	**3.69**	**283**	Pg	**Pn**	**14 08 20.4**	**+0.1**
18nm,0.3s							
DJR				Lg	Lg	14 09 13.0	
20nm,0.4s							
MAKZ	**Makanchi**	**3.79**	**329**	⇑Pg	**Pb**	**14 08 31.8**	**+1.8**
3.1nm,0.3s							
MAKZ				⇓Lg	Lg	14 09 20.9	
45nm,0.8s							
ZSN	**Zaisan**	**3.86**	**1**	Pg	**Pb**	**14 08 30.2**	**-1.0**
3.4nm,0.1s							
ZSN				Lg	Lg	14 09 28.8	
33nm,0.5s							
PDGK	**Podgornoye**	**3.87**	**268**	Pg	**Pn**	**14 08 21.9**	**-0.9**
2.9nm,0.4s							
PDGK				Lg	Lg	14 09 15.1	
19nm,0.5s							
PDGK	**Podgornoye**	**3.87**	**268**	⇑Pg	**Pn**	**14 08 27.1**	**+4.3**
8.3nm,0.5s							
PDGK				⇑Lg	Lg	14 09 18.2	
50nm,0.7s							
UZB	**Uzynbulak**	**4.24**	**266**	Pg	**Pn**	**14 08 27.1**	**-0.7**
6.7nm,0.3s							
UZB				Lg	Lg	14 09 24.0	
24nm,0.3s							
KAPS	**Kapalarasan**	**4.25**	**295**	Pg	Pn	14 08 33.0	+5.1
2.4nm,0.2s							
KAPS				Lg	Lg	14 09 34.2	
24nm,0.5s							
MDOK	**Medeo**	**5.67**	**268**	Pg	**Pb**	**14 09 02.2**	**+0.1**
4.1nm,0.6s							
MDOK				⇑Lg	Lg	14 10 15.2	
12nm,0.7s							
TKM2	**Tokmak 2**	**6.75**	**267**	⇓Pg	**Pb**	**14 09 19.6**	**-1.1**
2.2nm,0.5s							
TKM2				⇓Lg	Lg	14 10 49.1	
5.8nm,0.5s							
KURBB	**Kurchatov Arra**	**8.23**	**331**	⇓Pn	**Pn**	**14 09 20.9**	**-1.6**
1.1nm,0.6s							
KURBB				⇑Sn	**Sn**	**14 10 54.6**	**-0.7**
6.4nm,0.6s							
KURBB				⇑Lg	Lg	14 11 40.0	
45nm,0.8s							
KURK	**Kurchatov**	**8.28**	**332**	⇓Pn	**Pn**	**14 09 22.4**	**-0.7**
1.0nm,0.7s							
KURK				⇑Sn	**Sn**	**14 10 55.8**	**-0.7**
4.4nm,0.7s							
KURK				⇓Lg	Lg	14 11 41.9	
18nm,0.7s							

ROM 14 14:15:14.0±0.1, 43.127N±0.003×13.143E±0.009, h15km, ML1.0/4, 1C-1D, Error ellipse: s-maj=0.6km s-min=0.3km az=103.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CSP1	**Cessapalombo**	**0.06**	**127**	P	Pg	14 15 17.2	+0.2
CSP1				S	Sg	14 15 19.3	+0.3
FDMO	**Fiordimonte**	**0.10**	**204**	⇑P	Pg	14 15 17.4	+0.1
FDMO				S	Sg	14 15 19.8	+0.3
FDMO				AML	AML		
comp=N,138μm,0.2s							
FDMO				AML	AML		
comp=E,129μm,1.3s							
SNTG	**Esanatoglia**	**0.20**	**311**	P	Pg	14 15 18.7	+0.1
SNTG				S	Sb	14 15 22.4	-0.4
EL6	**Elcito**	**0.20**	**352**	⇓P	Pb	14 15 19.3	-0.1
EL6				S	Sb	14 15 22.6	-0.5
EL6				AML	AML		
comp=N,74μm,1.5s							
EL6				AML	AML		
comp=E,98μm,1.6s							
CESI	**CESI - Serrava**	**0.21**	**235**	P	Pg	14 15 19.1	+0.3
CESI				S	Sb	14 15 22.9	-0.4
CESI				AML	AML		
comp=E,26μm,1.6s							
CESI				AML	AML		
comp=N,22μm,1.5s							
CESI				AML	AML		
comp=E,26μm,1.6s							
CESI				AML	AML		
comp=N,22μm,1.5s							
CING	**Cingoli**	**0.25**	**9**	P	Pg	14 15 19.6	+0.1
ASSB	**Assisi San Ben**	**0.36**	**257**	P	Pg	14 15 21.7	+0.2
ASSB				S	Sb	14 15 27.3	-0.4
ASSB				AML	AML		
comp=E,42μm,1.6s							
ASSB				AML	AML		
comp=N,39μm,1.6s							
ASSB				AML	AML		
comp=E,42μm,1.6s							
ASSB				AML	AML		
comp=N,39μm,1.6s							
PP3	**Marolino**	**0.42**	**53**	S	Sb	14 15 29.0	-0.3

*IPEC **14** 14:16:31.2±0.3, 51.59°N×16.19°E, h0km±1km, ML2.8/3, Error ellipse: s-maj=2.2km s-min=1.4km az=32.0*
*IDC **14** 14:16:32.9±1.3, 51.50°N×15.97E, h0km, mb1 3.3/4, mb1mx3.1/43, mbtmp3.2/4, ML2.7/3, Error ellipse: s-maj=19.3km s-min=11.3km az=119.0*
*PRU **14** 14:16:32.4±0.0, 51.54N×16.04E, h0km*
*DNK **14** 14:16:32.8±2.8, 51.79N×16.28E, h0km±140km, ML2.5*
*VIE **14** 14:16:33.1±0.4, 51.42N×15.76E, h0km, mb2.3/3, ml3.1/4, Error ellipse: s-maj=2.7km s-min=1.7km az=157.0 84 km NE of Liberec Suspected Mining induced.*
*BGR **14** 14:16:33.2±0.5, 51.50N×16.05E, h1km, ML3.1/13, Error ellipse: s-maj=5.6km s-min=3.3km az=22.0*
ISC 14 14:16:30.5±0.8, 51.63N±0.03×16.08E±0.02, h0km, n58, σ0.996/105, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.80**	**170**	*e*Pg	**Pg**	**14 16 46.0**	**+0.2**
KSP				*e*Sg	**Sg**	**14 16 55.6**	**-0.5**
KSP	**Ksiaz**	**0.80**	**170**	*i* Pg	**Pg**	**14 16 45.9**	**+0.2**
KSP				*e*Sg	**Sg**	**14 16 55.5**	**-0.6**
CHVC	**Chvalec**	**1.04**	**181**	*e*PG	**Pg**	**14 16 50.6**	**+0.2**
CHVC				*e*SG	**Sg**	**14 17 03.7**	**-0.2**
comp=Z,156nm,0.4s							
OSTC	**Ostas**	**1.08**	**175**	*e*PG	**Pg**	**14 16 51.4**	**+0.3**
OSTC				*e*SG	**Sg**	**14 17 04.4**	**-0.6**
comp=Z,240nm,0.3s							
UPC	**Upice**	**1.12**	**182**	*e*PG	**Pg**	**14 16 52.1**	**+0.1**
UPC				*e*SG	**Sg**	**14 17 06.0**	**-0.5**
comp=Z,531nm,0.3s							
DPC	**Dobruska-Polom**	**1.29**	**173**	*e*Pn	**Pg**	**14 16 54.9**	**-0.3**
DPC				*e*Sg	**Sg**	**14 17 10.6**	**-1.2**
DPC	**Dobruska-Polom**	**1.29**	**173**	*e*PG	**Pg**	**14 16 54.7**	**-0.5**
DPC				*e*SG	**Sg**	**14 17 10.4**	**-1.4**
comp=Z,127nm,0.7s							
PVCC	**Panska Ves**	**1.46**	**221**	*e*PG	**Pg**	**14 16 58.5**	**+0.1**
PVCC				*e*SG	**Sg**	**14 17 17.3**	**0.0**
comp=Z,547nm,0.2s							
BRG	**Berggiesshubel**	**1.54**	**241**	PN	**Pn**	**14 16 58.9**	**-0.3**
BRG				PG	**Pg**	**14 17 00.5**	**+0.5**
BRG				SG	**Sg**	**14 17 20.8**	**+0.8**
387nm,0.4s							
KRLC	**Kraliky**	**1.62**	**164**	*e*PG	**Pn**	**14 17 00.1**	**-0.2**
KRLC				*e*SG	**Sn**	**14 17 21.1**	**-0.8**
comp=Z,111nm,0.9s							
FBE	**Freiberg**	**1.85**	**249**	*e*Pg	**Pg**	**14 17 06.5**	**+0.5**
FBE				*e*Sg	**Sg**	**14 17 30.4**	**+0.4**
PRA	**Prague**	**1.88**	**214**	*e*PG	**Pn**	**14 17 04.5**	**+0.7**
PRA				*e*SG	**Sb**	**14 17 29.8**	**+0.2**
comp=Z,70nm,0.5s							
GOPC	**GO Pecny, Ondr**	**1.90**	**206**	*e*PG	**Pb**	**14 17 05.7**	**-0.4**
GOPC				*e*SG	**Sb**	**14 17 30.1**	**-0.3**
comp=Z,60nm,0.4s							
PRU	**Pruhonice**	**1.91**	**211**	*e*PG	**Pb**	**14 17 06.2**	**0.0**
PRU				*e*SG	**Sb**	**14 17 30.1**	**-0.5**
comp=Z,78nm,0.4s							
CLL	**Collm**	**1.95**	**262**	*e*Pn	**Pn**	**14 17 05.0**	**+0.2**
CLL				*e*Pg	**Pg**	**14 17 07.9**	**0.0**
CLL				*e*Sg	**Sg**	**14 17 33.6**	**+0.5**
CLL	**Collm**	**1.95**	**262**	*e*Pn	**Pn**	**14 17 05.0**	**+0.2**
CLL				*e*Pg	**Pg**	**14 17 08.0**	**+0.1**
CLL				*e*		14 17 12.0	
CLL				*e*Sg	**Sg**	**14 17 33.0**	**-0.2**
comp=Z,73nm,0.3s							
CLL				*e*		14 17 41.0	
MORC	**Moravsky Berou**	**2.07**	**153**	*e*PN	**Pn**	**14 17 06.4**	**-0.2**
MORC				*e*SG	**Sb**	**14 17 34.3**	**-1.1**
MORC	**Moravsky Berou**	**2.07**	**153**	*e*Pn	**Pn**	**14 17 06.3**	**-0.3**
baz=335							
MORC				*e*Sg	**Sb**	**14 17 34.2**	**-1.1**
comp=Z,67nm,0.5s,baz=335							
OKC	**Ostrava-Krasne**	**2.22**	**143**	*e*Pg	**Pg**	**14 17 13.3**	**+0.2**
OKC				*e*Sg	**Sb**	**14 17 40.5**	**+0.9**
OKC	**Ostrava-Krasne**	**2.22**	**143**	*e*PG	**Pb**	**14 17 11.8**	**+0.3**
OKC				*e*SG	**Sg**	**14 17 42.1**	**+0.3**
comp=Z,2μm,0.7s							
VRAC	**Vranov**	**2.34**	**172**	Pn	**Pn**	**14 17 10.8**	**+0.5**
comp=Z,1.7nm,0.3s,baz=342,slow=14,SNR=5.8							
VRAC				Lg	Lg	14 17 43.8	
comp=Z,11nm,0.3s,baz=81,slow=23,SNR=13							
VRAC	**Vranov**	**2.34**	**172**	*e*PN	**Pn**	**14 17 10.4**	**+0.1**
VRAC				*e*SG	**Sb**	**14 17 43.3**	**+0.2**
VRAC	**Vranov**	**2.34**	**172**	*e*Pn	**Pn**	**14 17 10.4**	**+0.1**
baz=354							
VRAC				*e*Sg	**Sb**	**14 17 43.3**	**+0.2**
comp=Z,44nm,0.4s,baz=354							
PBCC	**Pribram**	**2.35**	**215**	*e*PG	**Pb**	**14 17 14.3**	**+0.5**
PBCC				*e*SG	**Sb**	**14 17 44.5**	**+1.1**
TREC	**Trest**	**2.37**	**189**	*e*PN	**Pn**	**14 17 11.0**	**+0.4**
TREC				*e*SG	**Sb**	**14 17 44.8**	**+1.1**
comp=Z,52nm,0.4s							
KRUC	**Moravsky**	**2.58**	**175**	*e*PN	**Pn**	**14 17 13.7**	**+0.2**
KRUC				*e*SG	**Sb**	**14 17 50.6**	**+0.8**
KRUC	**Moravsky**	**2.58**	**175**	*e*Pn	**Pn**	**14 17 13.7**	**+0.2**
baz=357							
KRUC				*e*Sg	**Sb**	**14 17 50.6**	**+0.8**
comp=Z,34nm,0.5s,baz=357							
TANN	**Tannenbergstha**	**2.59**	**243**	*e*Pn	**Pn**	**14 17 14.3**	**+0.6**
WERD	**Werda**	**2.66**	**245**	*e*Pn	**Pn**	**14 17 15.9**	**+1.3**
WERD				*e*Sg	**Sg**	**14 17 55.2**	**-0.7**
NKC	**Novy Kostel**	**2.69**	**240**	*e*PN	**Pn**	**14 17 16.0**	**+1.0**
NKC				*e*PG	**Pb**	**14 17 20.6**	**+1.1**
NKC				*e*SG	**Sg**	**14 17 57.1**	**+0.2**
comp=Z,137nm,0.3s							
OJC	**Ojcow**	**2.74**	**119**	*e*Pg	**Pg**	**14 17 23.8**	**+0.7**
OJC	**Ojcow**	**2.74**	**119**	*e*Sg	**Sg**	**14 17 58.8**	**+0.2**
OJC	**Ojcow**	**2.74**	**119**	*e*Pn	**Pn**	**14 17 15.3**	**-0.4**

OJC	**Ojcow**	**2.74**	**119**	*e*Pg	**Pg**	**14 17 23.7 +0.7**
JAVC	**Velka Javorina**	**2.95**	**159**	*e*PN	**Pn**	**14 17 18.7 0.0**
JAVC				*e*SG	**Sb**	**14 18 02.0 +1.3**
JAVC	**Velka Javorina** baz=342	**2.95**	**159**	*e*Pn	**Pn**	**14 17 18.6 -0.1**
JAVC	baz=342			*e*Sg	**Sb**	**14 18 02.0 +1.3**
KHC	**Kasperske Hory**	**2.97**	**214**	*e*PN	**Pn**	**14 17 19.2 +0.3**
KHC				*e*PG	**Pb**	**14 17 24.9 +0.6**
KHC				*e*SG	**Sg**	**14 18 03.7 -2.1**
	comp=Z,42nm,0.4s					
MANZ	**Manzenberg**	**3.01**	**238**	*e*Pn	**Pn**	**14 17 20.0 +0.6**
ROTZ	**Rotzenmuhle**	**3.09**	**234**	*e*Pn	**Pn**	**14 17 21.1 +0.6**
GEC2	**GERESS Array S**	**3.18**	**210**	*e*Pn	**Pn**	**14 17 22.4 +0.6**
GEC2				*e*Sg	**Sb**	**14 18 08.5 +1.4**
GERES	**GERESS Array B** comp=Z,0.8nm,0.3s,baz=27,slow=12,SNR=16	**3.18**	**210**	Pn	**Pn**	**14 17 22.2 +0.4**
GERES				Lg	Lg	14 18 09.0
	comp=Z,10.0nm,0.3s,baz=29,slow=30,SNR=16					
WET	**Wettzell**	**3.22**	**221**	*e*Pn	**Pn**	**14 17 23.0 +0.6**
SMOL	**Smolenice**	**3.24**	**164**	*e*SG	**Sg**	**14 18 13.8 -0.6**
SMOL				*e*LG	Lg	14 18 20.8
LANS	**Liptovska Anna**	**3.29**	**138**	*e*PN	**Pn**	**14 17 24.0 +0.6**
LANS				*e*SG	**Sg**	**14 18 17.4 +1.1**
LANS				*e*LG	Lg	14 18 21.3
MODS	**Modra-Piesok**	**3.35**	**166**	*e*PG	**Pg**	**14 17 35.7 +1.1**
MODS				*e*SG	**Sg**	**14 18 16.2 -1.8**
NIE	**Niedzica**	**3.48**	**128**	*e*P	**Pg**	**14 17 36.8 -0.5**
NIE				*e*S	**Sg**	**14 18 22.4 0.0**
CLZ	**Clausthal**	**3.56**	**276**	*e*Pn	**Pn**	**14 17 28.8 +1.9**
BSD	**Bornholm Skovb**	**3.56**	**349**	*i* P	**Pn**	**14 17 27.7 +0.7**
BSD				*i* S	**Sn**	**14 18 07.0 -2.7**
BSD	**Bornholm Skovb** baz=174,slow=11	**3.56**	**349**	*e*	**Pn**	**14 17 27.1 +0.1**
BSD				*i* P	Pb	14 17 27.7 -6.6
BSD				*i* S	**Sn**	**14 18 07.1 -2.6**
BSD				IAML		14 18 30.7
	comp=Z,6.4nm,0.3s					
VYHS	**Vyhne**	**3.60**	**149**	*e*PN	**Pn**	**14 17 27.0 -0.6**
VYHS				*e*PG	**Pg**	**14 17 40.9 +1.4**
VYHS				*e*SG	**Sg**	**14 18 26.1 -0.1**
CONA	**Conrad Observa** comp=Z,0.7nm,0.2s	**3.71**	**182**	*i* Pn	**Pn**	**14 17 29.3 +0.2**
CONA				*i* Sg	**Sg**	**14 18 28.7 -0.8**
	comp=Z,26nm,0.4s					
MOA	**Molln** comp=Z,0.6nm,0.1s	**3.96**	**198**	*i* Pn	**Pn**	**14 17 31.5 -1.0**
MOA				*i* Sg	**Sg**	**14 18 35.9 -1.8**
	comp=Z,12nm,0.4s					
ARSA	**Arzberg** comp=Z,0.6nm,0.2s	**4.40**	**185**	*i* Pn	**Pn**	**14 17 40.4 +1.9**
ARSA				*i* Sg	**Sb**	**14 18 45.9 +3.7**
	comp=Z,4.5nm,0.3s					
CRVS	**Cervenica-Dubn**	**4.40**	**126**	*e*SG	**Sg**	**14 18 54.1 +2.3**
KBA	**Koelnbreinsper** comp=Z,4.4nm,0.2s	**4.89**	**202**	*i* Sg	**Sg**	**14 19 06.2 -1.4**
WTTA	**Wattenberg** comp=Z,8.0nm,0.4s	**5.24**	**215**	*i* Sg	**Sg**	**14 19 17.4 -1.4**
AKASG	**Matin Array Be** comp=Z,1.4nm,0.3s,baz=279,slow=12,SNR=4.5	**8.32**	**91**	Pn	**Pn**	**14 18 31.9 -0.3**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=220,slow=12,SNR=1.5	**11.26**	**25**	Pn	**Pn**	**14 19 12.1 -0.5**

DJA ***14*** *14:33:53.6±1.3,3°S×3°×12°2E±°, h28km±13km, M3.9/8, mb3.9/1, MLv3.8/8*

IDC ***14*** *14:33:58.4±7.9, 2°.72S×122°.08E, h68km±81km, mb3.0/3, mb1 3.4/5, mb1mx3.1/42, mbtmp3.5/5, ML3.7/2, Error ellipse: s-maj=59.7km s-min=24.9km az=42.0*

ISC 14 14:33:54.8±1.0, 2°.68S±0°.07×122°.28E±0°.09, h35km, n12, σ0s86/15, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.70**	**17**	P	**Pn**	**14 34 21.2**	**-0.8**
LUWI				S	**Sn**	**14 34 44.1**	**+1.5**
BNSI	**Bone**	**2.76**	**232**	P	**Pn**	**14 34 36.0**	**-0.6**
BNSI				S	**Sn**	**14 35 08.8**	**0.0**
SPSI	**Sidrap Palu**	**2.81**	**243**	P	**Pn**	**14 34 37.5**	**+0.2**
SPSI				S	**Sn**	**14 35 11.3**	**+1.3**
GTOI	**Gorontalo**	**3.37**	**12**	P	**Pn**	**14 34 46.0**	**+0.9**
KAPI	**Kappang** 5.9nm,0.3s,baz=347,slow=18,SNR=9.0	**3.43**	**227**	P	**Pn**	**14 34 46.4**	**+0.6**
KAPI				S	**Sn**	**14 35 25.4**	**+0.2**
	4.0nm,0.3s,baz=207,slow=19,SNR=4.1						
KMSI	**Cibinong**	**3.65**	**28**	P	**Pn**	**14 34 48.2**	**-0.7**
MPSI	**Mapaga**	**3.83**	**321**	P	**Pn**	**14 34 50.3**	**-1.0**
EDFI	**Ende, Flores**	**6.06**	**186**	P	**Pn**	**14 35 21.3**	**-0.8**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=336,slow=10.0,SNR=6.4	**15.67**	**168**	P	**P**	**14 37 36.5**	**-0.3**
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=316,slow=15,SNR=2.2	**20.81**	**146**	P	Pn	14 38 36.0	0.0
ASAR	**Alice Springs** 0.3nm,0.7s,baz=343,slow=14,SNR=6.2	**23.70**	**153**	P	**P**	**14 39 04.2**	**+0.5**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=117,slow=6.4,SNR=4.8	**60.52**	**330**	P	**P**	**14 44 01.2**	**-0.4**

IDC 14 14:46:26.7±3.8, 9°.38S×112°.28E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/36, mbtmp3.3/3, Error ellipse: s-maj=226.8km s-min=25.4km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=300,slow=11,SNR=7.6	**23.75**	**119**	P	P	14 51 40.9	-0.1
ASAR	**Alice Springs** 0.4nm,0.9s,baz=301,slow=9.5,SNR=9.7	**25.07**	**127**	P	P	14 51 53.2	+0.1
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=155,slow=8.1,SNR=9.6	**62.00**	**337**	P	P	14 56 48.7	0.0

IDC ***14*** *15:05:58.1±1.5, 12°.95N×87°.01W, h0km, mb3.9/5, mb1 4.3/7, mb1mx3.7/39, mbtmp3.9/7, ML3.5/2, MS3.0/7, Ms1 3.0/7, ms1mx2.8/38, Error ellipse: s-maj=81.7km s-min=25.4km az=49.0*

INET ***14*** *15:05:59.4, 12°.09N×87°.75W, h3km, ML3.9*

NEIC ***14*** *15:05:59.3±1.7, 12°.08N±0°.08×87°.75W±0°.06, h24km±8km, mb4.4/48, Mwr3.9/10, Error ellipse: s-maj=11.6km s-min=7.6km az=198.0*

UCR ***14*** *15:06:00.0±0.9, 12°.13N×87°.94W, h6km±8km, ML3.8, mb3.9(NEIC)*

SNET ***14*** *15:06:00.1±0.8, 12°.11N×87°.93W, h10km±6km, ML3.9*

NEIC ***14*** *15:06:02.3, 12°.20N×87°.69W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-8.36; $M_{\theta\theta}$2.13; $M_{\phi\phi}$6.23; $M_{r\theta}$-0.95; $M_{r\phi}$-3.56; $M_{\theta\phi}$-2.33; Fault plane solution: M_o8.70000×10^{14} NP1:φs342.32000°, δ51.60000°, λ-74.30000°. NP2:φs137.98000°, δ41.02000°, λ-108.84000°. Principal axes: T 8.4351, Plg5.0000°, Azm61.0000°; N 0.5004, Plg12.0000°, Azm152.0000°; P -8.9355, Plg77.0000°, Azm308.0000°;*

ISC 14 15:05:57.9±2.0, 12°.07N±0°.06×87°.79W±0°.05, h13km±11km, n113, σ1s10/129, mb4.4/24, MS3.1/5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.96**	**49**		**Pb**	**15 06 17.7**	**+1.3**
CRIN				Sn	**Sn**	**15 06 32.0**	**+1.3**
LCND	**La Caada**	**1.23**	**355**	*e*P	**Pg**	**15 06 21.0**	**-0.8**
LCND				*e*S	**Sb**	**15 06 38.2**	**+1.2**
LCND				IAML		15 06 40.4	
	comp=Z,4μm,0.3s						
LCND	**La Caada**	**1.23**	**355**	*e*P	**Pg**	**15 06 21.0**	**-0.8**
LCND				*e*S	**Sb**	**15 06 38.2**	**+1.2**
LCND				IAML		15 06 40.4	
	comp=Z,4μm,0.3s						
BLLM	**Bellamira**	**1.43**	**342**	*e*P	**Pn**	**15 06 24.1**	**+0.5**
BLLM	**Bellamira**	**1.43**	**342**	*e*P	**Pn**	**15 06 24.1**	**+0.5**
LCY	**Lacayo**	**1.43**	**340**	*e*P	**Pn**	**15 06 24.4**	**+0.7**
LCY	**Lacayo**	**1.43**	**340**	*e*P	**Pn**	**15 06 24.4**	**+0.7**
ALJI	**Alcalda de J**	**1.46**	**329**	*e*P	**Pn**	**15 06 23.8**	**-0.2**
ALJI				*e*S	**Sn**	**15 06 42.8**	**-0.2**
ALJI				IAML		15 06 46.0	
	comp=Z,2μm,0.4s						
ALJI	**Alcalda de J**	**1.46**	**329**	*e*P	**Pn**	**15 06 23.8**	**-0.2**
ALJI				*e*S	**Sn**	**15 06 42.8**	**-0.2**
ALJI				IAML		15 06 46.0	
	comp=Z,2μm,0.4s						
TECA	**Tecapa**	**1.58**	**334**	*e*P	**Pn**	**15 06 26.1**	**+0.3**
TECA	**Tecapa**	**1.58**	**334**	*e*P	**Pn**	**15 06 26.1**	**+0.3**
COEB	**Comit de Eme**	**1.59**	**333**	*e*P	**Pn**	**15 06 26.9**	**+1.0**
COEB				*e*S	**Sn**	**15 06 47.7**	**+1.3**
COEB				IAML		15 06 54.9	
	comp=Z,1μm,0.4s						
COEB	**Comit de Eme**	**1.59**	**333**	*e*P	**Pn**	**15 06 26.9**	**+1.0**
COEB				*e*S	**Sn**	**15 06 47.7**	**+1.3**
COEB				IAML		15 06 54.9	
	comp=Z,1μm,0.4s						
FAGO	**Alcalda de S**	**1.64**	**349**	*e*P	**Pn**	**15 06 27.2**	**+0.7**
FAGO				*e*S	**Sn**	**15 06 49.5**	**+2.0**
FAGO	**Alcalda de S**	**1.64**	**349**	*e*P	**Pn**	**15 06 27.2**	**+0.7**
FAGO				*e*S	**Sn**	**15 06 49.5**	**+2.0**
ESTN	**Estel**	**1.73**	**53**		**Pn**	**15 06 27.9**	**+0.2**
UESV	**Universidad de**	**1.83**	**328**	*e*P	**Pn**	**15 06 29.7**	**+0.5**
UESV				*e*S	**Sn**	**15 06 53.2**	**+0.9**
UESV	**Universidad de**	**1.83**	**328**	*e*P	**Pn**	**15 06 29.7**	**+0.5**
UESV				*e*S	**Sn**	**15 06 53.2**	**+0.9**
PAVA	**Las Pavas**	**1.98**	**326**	*e*P	**Pn**	**15 06 32.3**	**+1.1**
PAVA				*e*S	**Sn**	**15 06 57.6**	**+1.7**
PAVA				IAML		15 07 03.5	
	comp=Z,1μm,0.5s						
PAVA	**Las Pavas**	**1.98**	**326**	*e*P	**Pn**	**15 06 32.3**	**+1.1**
PAVA				*e*S	**Sn**	**15 06 57.6**	**+1.7**
PAVA				IAML		15 07 03.5	
	comp=Z,1μm,0.5s						
LFRS	**El Faro**	**1.98**	**321**	*e*P	**Pn**	**15 06 31.7**	**+0.5**
LFRS	**El Faro**	**1.98**	**321**	*e*P	**Pn**	**15 06 31.7**	**+0.5**
MATN	**Matagalpa**	**2.01**	**65**		**Pn**	**15 06 32.0**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.04**	**14**		**Pn**	**15 06 32.9**	**+0.8**
LBRS	**Las Brisas**	**2.06**	**324**	*e*P	**Pn**	**15 06 33.3**	**+1.0**
LBRS	**Las Brisas**	**2.06**	**324**	*e*P	**Pn**	**15 06 33.3**	**+1.0**
LFU	**La Fuente**	**2.11**	**322**	*e*P	**Pn**	**15 06 34.0**	**+1.0**
LFU	**La Fuente**	**2.11**	**322**	*e*P	**Pn**	**15 06 34.0**	**+1.0**
BOAB	**BOACO BROADBAN**	**2.11**	**79**	Pn	**Pn**	**15 06 33.1**	**+0.2**
SNET	**Serv Nac Est T**	**2.13**	**319**	Pn	**Pn**	**15 06 33.9**	**+0.6**
BOQS	**Boqueron**	**2.20**	**319**	*e*P	**Pn**	**15 06 35.8**	**+1.4**
BOQS	**Boqueron**	**2.20**	**319**	*e*P	**Pn**	**15 06 35.8**	**+1.4**
JAYA	**Jayaque - finc**	**2.26**	**314**	*e*P	**Pn**	**15 06 35.4**	**+0.3**
JAYA				*e*S	**Sn**	**15 07 02.7**	**-0.2**
JAYA				IAML		15 07 11.4	
	comp=Z,704nm,0.2s						
JAYA	**Jayaque - finc**	**2.26**	**314**	*e*P	**Pn**	**15 06 35.4**	**+0.3**
JAYA				*e*S	**Sn**	**15 07 02.7**	**-0.2**
JAYA				IAML		15 07 11.4	
	comp=Z,704nm,0.2s						
TACO	**Tacachico**	**2.43**	**321**	*e*P	**Pn**	**15 06 38.1**	**+0.8**
TACO				*e*S	**Sn**	**15 07 08.1**	**+1.2**
TACO	**Tacachico**	**2.43**	**321**	*e*P	**Pn**	**15 06 38.1**	**+0.8**
TACO				*e*S	**Sn**	**15 07 08.1**	**+1.2**
ACON	**Acoyapa**	**2.56**	**92**		**Pn**	**15 06 37.7**	**-1.4**
NUBE	**Las Nubes**	**2.66**	**313**	*e*P	**Pn**	**15 06 41.3**	**+0.7**
NUBE				*e*S	**Sn**	**15 07 12.5**	**-0.3**
NUBE				IAML		15 07 19.7	
	comp=Z,343nm,0.4s						
NUBE	**Las Nubes**	**2.66**	**313**	*e*P	**Pn**	**15 06 41.3**	**+0.7**
NUBE				*e*S	**Sn**	**15 07 12.5**	**-0.3**
NUBE				IAML		15 07 19.7	
	comp=Z,343nm,0.4s						
MTO3	**Montecristo**	**2.77**	**327**	*e*P	**Pn**	**15 06 43.2**	**+1.0**
MTO3	**Montecristo**	**2.77**	**327**	*e*P	**Pn**	**15 06 43.2**	**+1.0**
MTO3	**Montecristo**	**2.77**	**327**		**Pn**	**15 06 43.4**	**+1.1**
ESQI	**Esquipulas**	**2.90**	**329**	*e*P	**Pn**	**15 06 45.5**	**+1.6**
ESQI	**Esquipulas**	**2.90**	**329**		**Pn**	**15 06 45.4**	**+1.6**
JTS	**Las Juntas de** comp=Z,4.6nm,0.3s,baz=8.2,slow=10,SNR=8.7	**3.30**	**122**	Pn	**Pn**	**15 06 52.3**	**+3.0**
JTS				LR	LR	15 08 31.4	
	comp=Z,563nm,18.9s,baz=32,slow=46						
JTS	**Las Juntas de**	**3.30**	**122**	Pn	**Pn**	**15 06 51.5**	**+2.2**
ESPN	**Las Esperanzas**	**3.42**	**88**	Pn	**Pn**	**15 06 51.0**	**+0.1**
CMIG	**Matias Romero** comp=Z,0.5nm,0.3s,baz=124,slow=11,SNR=2.2	**8.49**	**307**	Pn	**Pn**	**15 08 03.4**	**+2.8**
CMIG				LR	LR	15 10 35.1	
	comp=Z,42nm,19.2s,baz=137,slow=32						
833A	**Chaparral WMA,** 833A	**19.47**	**328**		**P**	**15 10 25.1**	**+0.6**
				IAmb	IAmb	15 10 26.6	
	comp=Z,38nm,0.8s						
152A	**Waverly Hall** 152A	**20.70**	**7**	P	**P**	**15 10 38.7**	**+0.9**
				IAmb	IAmb	15 10 42.2	
	comp=Z,13nm,0.8s						
ATAH	**Atahualpa** comp=Z,72nm,18.4s,baz=329,slow=33	**21.25**	**153**	LR	LR	15 18 04.1	
JCT	**Junction City** JCT	**21.44**	**331**	P	**P**	**15 10 46.9**	**+1.0**
				IAmb	IAmb	15 10 49.1	
	comp=Z,11nm,0.8s						
GOGA	**Godfrey** GOGA	**21.61**	**10**	P	**P**	**15 10 47.6**	**-0.1**
				IAmb	IAmb	15 10 51.0	
	comp=Z,9.9nm,0.6s						
TX31	**Lajitas Ar. Si**	**22.66**	**322**	P	**P**	**15 10 59.7**	**+0.6**
TX32	**Lajitas Array** TX32	**22.66**	**322**	P	**P**	**15 10 59.4**	**+0.3**
				IAmb	IAmb	15 11 00.8	
	comp=Z,11nm,0.8s						
TXAR	**Lajitas Array**	**22.66**	**322**	P	**P**	**15 10 59.7**	**+0.6**
	comp=Z,9.4nm,0.7s,baz=136,slow=10,SNR=78						
TXAR	**Lajitas Array**	**22.66**	**322**	P	**P**	**15 10 59.7**	**+0.6**
MIAR	**Mount Ida** MIAR	**22.98**	**348**	P	**P**	**15 11 01.6**	**-0.7**
				IAmb	IAmb	15 11 04.9	
	comp=Z,8.8nm,0.8s						
X34A	**Smith Ranch, M**	**24.22**	**339**	P	**P**	**15 11 14.2**	**-0.2**
WMOK	**Wichita Mounta**	**24.68**	**338**	P	**P**	**15 11 17.7**	**-1.0**
MNTX	**Cornudas Mount**	**25.39**	**323**	P	**P**	**15 11 25.9**	**+0.9**
MSTX	**Muleshoe**	**25.73**	**330**	P	**P**	**15 11 28.0**	**-0.2**
NNA	**Nana** comp=Z,7.5nm,18.4s,baz=113,slow=36	**26.26**	**155**	LR	LR	15 22 01.7	
MVL	**Millersville** MVL	**29.60**	**18**	P	**P**	**15 12 01.7**	**-1.0**
				PP	**PP**	**15 13 05.5**	**-4.1**
MVL					**PcP**	**15 15 06.3**	**-1.1**
SDCO	**Great Sand Dun**	**30.08**	**331**	P	**P**	**15 12 07.6**	**+0.2**
PTGA	**Pitinga** comp=Z,48nm,19.7s,baz=262,slow=38	**30.41**	**113**	LR	LR	15 24 54.8	
S22A	**4UR Ranch, Cre** S22A	**30.72**	**330**	P	**P**	**15 12 11.9**	**-1.1**
				IAmb	IAmb	15 12 39.2	
	comp=Z,9.1nm,1.8s						
CPNY	**Central Park**	**31.09**	**21**	P	**P**	**15 12 14.9**	**-0.9**
ODNJ	**Ogdensburg**	**31.13**	**19**	P	**P**	**15 12 16.3**	**0.0**
PAL	**Palisades**	**31.30**	**20**	P	**P**	**15 12 18.1**	**+0.5**
PV13	**Radium Mtn., P** PV13	**32.05**	**328**	P	**P**	**15 12 25.3**	**+0.6**
				IAmb	IAmb	15 13 23.9	
	comp=Z,8.4nm,1.5s						
PV03	**Paradox Valley** PV03	**32.14**	**328**	P	**P**	**15 12 25.9**	**+0.5**
				IAmb	IAmb	15 12 29.3	
	comp=Z,2.6nm,0.9s						
PV05	**Paradox Valley**	**32.14**	**327**	P	**P**	**15 12 26.1**	**+0.6**
PV12	**Saucer Basin,** PV12	**32.16**	**328**	P	**P**	**15 12 26.1**	**+0.5**
				IAmb	IAmb	15 12 29.4	
	comp=Z,12nm,1.3s						
PV18	**Skein Mesa, Pa** PV18	**32.16**	**328**	P	**P**	**15 12 25.4**	**-0.2**
				IAmb	IAmb	15 12 33.9	
	comp=Z,4.4nm,0.8s						
PV11	**David Mesa, Pa**	**32.18**	**328**	P	**P**	**15 12 24.6**	**-1.2**
PV17	**East Wray Mesa** PV17	**32.21**	**328**	P	**P**	**15 12 24.7**	**-1.4**
				IAmb	IAmb	15 12 30.4	
	comp=Z,4.9nm,0.7s						
PV16	**Nyswonger Mesa** PV16	**32.21**	**328**	P	**P**	**15 12 24.8**	**-1.3**
				IAmb	IAmb	15 12 30.1	
	comp=Z,3.0nm,0.8s						
PV04	**Paradox Valley** PV04	**32.27**	**328**	P	**P**	**15 12 27.1**	**+0.5**
				IAmb	IAmb	15 12 30.6	
	comp=Z,5.3nm,0.9s						
SPMN	**Marine on St.**	**33.32**	**354**	P	**P**	**15 12 35.8**	**+0.4**
SADO	**Sadowa**	**33.42**	**11**		**PcP**	**15 15 17.1**	**-0.4**
P17A	**Butcher Ranch,**	**34.03**	**327**	P	**P**	**15 12 41.9**	**0.0**
RDMU	**Red Mountain**	**34.25**	**330**	P	**P**	**15 12 43.1**	**-0.8**
F33A	**5 Mile Ranch,**	**34.42**	**349**	P	**P**	15 12 42.2	-2.8
PDAR	**Pinedale Array** comp=Z,1.1nm,0.8s,baz=131,slow=10,SNR=7.4	**35.95**	**332**	P	**P**	**15 12 57.7**	**-0.8**
PDAR	**Pinedale Array**	**35.95**	**332**	P	**P**	**15 12 57.3**	**-1.2**
HWUT	**Hardware Ranch** HWUT	**36.02**	**329**	P	**P**	**15 12 58.7**	**-0.4**
				IAmb	IAmb	15 13 07.1	
	comp=Z,4.6nm,0.8s						
AHID	**Auburn Hatcher** AHID	**36.67**	**331**	P	**P**	**15 13 04.4**	**-0.2**
				IAmb	IAmb	15 13 06.6	
	comp=Z,6.9nm,0.8s						
REDW	**Red Top Meadow** REDW	**37.01**	**332**	P	**P**	**15 13 07.0**	**-0.5**
				IAmb	IAmb	15 13 08.8	
	comp=Z,11nm,0.9s						
LOHW	**Long Hollow** LOHW	**37.09**	**332**	P	**P**	**15 13 07.7**	**-0.5**
				IAmb	IAmb	15 13 12.2	
	comp=Z,3.2nm,0.8s						
TPAW	**Teton Pass** TPAW	**37.15**	**332**	P	**P**	**15 13 08.0**	**-0.9**
				IAmb	IAmb	15 13 12.5	
	comp=Z,6.4nm,0.9s						
FXWY	**Fox Creek**	**37.30**	**332**	P	**P**	**15 13 09.5**	**-0.5**
IMW	**Indian Meadow**	**37.46**	**332**	P	**P**	**15 13 11.4**	**-0.1**
FLWY	**Flagg Ranch** FLWY	**37.50**	**333**	P	**P**	**15 13 11.7**	**0.0**
				IAmb	IAmb	15 13 12.5	
	comp=Z,9.1nm,1.2s						
NVAR	**Mina Array Bea** comp=Z,0.9nm,0.6s,baz=144,slow=6.3,SNR=3.5	**37.77**	**319**	P	**P**	**15 13 15.9**	**+1.9**
NVAR				PcP	**PcP**	**15 15 32.0**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=125,slow=4.7,SNR=1.9						
YNE	**Yellowstone No**	**37.92**	**334**	P	**P**	**15 13 14.7**	**-0.6**
YHH	**Holmes Hill**	**38.12**	**333**	P	**P**	**15 13 17.3**	**+0.3**
YHB	**Horse Butte**	**38.24**	**333**	P	**P**	**15 13 18.5**	**+0.6**
HLID	**Hailey**	**38.89**	**329**	P	**P**	**15 13 23.2**	**-0.1**
BCYI	**Bear Canyon**	**38.94**	**330**	P	**P**	**15 13 23.6**	**-0.2**
MCMT	**McKenzie Canyo**	**39.06**	**331**	P	**P**	**15 13 25.8**	**+1.0**
BOZ	**Bozeman (W)**	**39.09**	**333**	P	**P**	**15 13 24.0**	**-1.0**
LRM	**Limekiln Ridge**	**39.63**	**333**	P	**P**	**15 13 29.6**	**0.0**
WVOR	**Wild Horse Val**	**40.41**	**324**	P	**P**	**15 13 36.2**	**+0.2**
BMO	**Blue Mountains**	**41.28**	**328**	P	**P**	**15 13 41.9**	**-1.1**
F10A	**Beach Ranch, E**	**42.01**	**329**	P	**P**	**15 13 48.9**	**-0.2**
D08A	**Wollman Farm,** D08A	**43.61**	**329**	P	**P**	**15 14 00.7**	**-1.2**
				IAmb	IAmb	15 14 06.6	
	comp=Z,13nm,1.5s						
SCHQ	**Schefferville** comp=Z,32nm,18.5s,baz=60,slow=39	**45.74**	**17**	LR	LR	15 35 13.4	
CPUP	**Villa Florida** comp=Z,18nm,20.1s,baz=222,slow=34	**48.32**	**142**	LR	LR	15 33 50.8	
YKA	**Yellowknife Ar** comp=Z,1.4nm,0.7s,baz=139,slow=7.3,SNR=7.8	**53.89**	**345**	P	**P**	**15 15 18.2**	**-2.4**
ILAR	**Eielson Array** comp=Z,0.6nm,0.6s,baz=103,slow=6.6,SNR=1.7	**66.23**	**336**	P	**P**	**15 16 43.9**	**-1.4**
LZH	**Lanzhou**	**130.86**	**348**	*e*PKP	**PKPdf**	**15 25 07.9**	**-1.9**
LZH				pPKP	sPKPdf	15 25 21.6	+5.9
LZH				sPKP		15 25 27.3	
CMAR	**Chiang Mai Arr** comp=Z,1.1nm,0.7s,baz=334,slow=3.7,SNR=5.8	**148.95**	**348**	PKPbc	**PKPdf**	**15 25 45.6**	**+3.1**

IDC 14 15:08:49.1±8.3, 28°.38S×23°.17E, h0km, Error ellipse: s-maj=47.1km s-min=39.4km az=98.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I47ZA	**BOSHOF INFRASO** baz=275,slow=309,SNR=1.1	**1.83**	**98**	*i*		15 19 33.1	
BOSA	**Boshof** 1.1nm,0.3s,baz=283,slow=15,SNR=16	**1.85**	**98**	Pg	Pn	15 09 22.9	+0.7
BOSA				Lg	Lg	15 09 47.9	
	9.6nm,0.3s,baz=186,slow=15,SNR=16						
BLWY	**Bulawayo**	**9.58**	**32**	*i* P	Pn	15 11 09.3	+0.7
I35NA	**TSUMEB INFRASO** baz=154,slow=312,SNR=1.8	**10.48**	**330**	*i*		16 13 20.0	

NNC ***14*** *15:15:47.1±6.2, 49°.63N×72°.62E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=76.9km s-min=19.0km az=121.0, Suspected Mining explosion.*

SOME ***14*** *15:15:48.6, 49°.58N×72°.92E, h5km*

ISC 14 15:15:48.7±1.2, 49°.51N±0°.06×72°.7E±0°.1, h0km, n4, σ0s36/6, 4C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRZS	**Berezniki** 5.2nm,0.1s	**0.47**	**358**	*e*P	**Pg**	**15 15 57.7**	**-0.1**
BRZS				*e*S	**Sg**	**15 16 04.0**	**+0.1**
	2.6nm,0.1s						
OTUK	**Ortayu** 1.6nm,0.4s	**1.29**	**191**	⇑P	**Pb**	**15 16 13.8**	**0.0**
OTUK				⇑S	**Sn**	**15 16 32.0**	**0.0**
	5.3nm,0.6s						
KURBB	**Kurchatov Arra** 1.0nm,0.6s,baz=263,slow=16	**3.92**	**71**	⇓Pg	**Pb**	**15 16 59.0**	**+0.4**
KURBB				⇓Lg	Lg	15 17 51.6	
	4.5nm,0.8s,baz=273,slow=26						
KURK	**Kurchatov** 2.9nm,1.5s	**4.00**	**70**	⇑Pg	**Pb**	**15 16 59.5**	**-0.4**
KURK				⇑Lg	Lg	15 17 52.0	
	1.9nm,0.8s						

IDC 14 15:43:52.9±2.0, 32°.48N×96°.84E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.3/46, mbtmp3.4/4, ML3.5/2, MS2.1/1, Ms1 2.3/1, ms1mx2.0/36, Error ellipse: s-maj=86.6km s-min=32.0km az=68.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** comp=Z,7.9nm,21.4s,baz=190,slow=34	**14.09**	**172**	LR	LR	15 51 58.9	
SONM	**Songino Array** 0.6nm,0.3s,baz=217,slow=9.7,SNR=4.0	**16.97**	**23**	Pn	Pn	15 47 51.5	-0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.14**	**33**		Pn	16 09 11.7	-0.3
LSSE	**Little Sitkin**	**0.15**	**48**		Pn	16 09 11.8	-0.2
LSNW	**Little Sitkin**	**0.16**	**30**		Pn	16 09 11.6	-0.4
LSPA	**Little Sitkin**	**0.17**	**42**		Pn	16 09 11.8	-0.3
LSPA					Sn	16 09 24.3	+0.9
CETU	**Semis' Tuman**	**0.70**	**79**		Pn	16 09 14.7	-0.4
AMKA	**Amchitka**	**0.73**	**128**		Pn	16 09 15.1	-0.3
AMKA					Sn	16 09 28.6	-0.6
CESW	**Semis' Southwe**	**0.73**	**84**		Pn	16 09 14.8	-0.6
CEAP	**Semis' Anvil P**	**0.75**	**77**		Pn	16 09 15.4	-0.2
CERAA	**Semis' Rag'd T**	**0.81**	**84**		Pn	16 09 15.6	-0.4
CERAA					Sn	16 09 30.1	-0.4
SMY	**Shemya**	**2.79**	**290**		Pn	16 09 38.9	-1.1
ADK	**Adak**	**3.05**	**87**	Pn	Pn	16 09 42.5	-1.1
ATKA	**Atka Island**	**4.59**	**82**		Pn	16 10 03.3	-0.9
NIKH	**Nikolski High**	**7.89**	**77**	Pn	Pn	16 10 49.3	+0.6
SPIA	**Saint Paul Isl**	**8.50**	**47**	Pn	Pn	16 10 57.6	+0.5
PEA0B	**Petropavlovsk-**	**12.68**	**284**	Pn	Pn	16 11 53.4	+0.2
CNBA	**Chernabura Isl**	**13.48**	**69**	Pn	Pn	16 12 00.6	-3.0
OHAK	**Old Harbor**	**17.22**	**61**	P	P	16 12 47.3	-3.1
OHAK				IAmb	IAmb	16 12 54.0	
	comp=Z,27nm,1.4s						
KDAK	**Kodiak Island**	**17.67**	**59**		P	16 12 53.5	-1.8
BWN	**Browne**	**20.75**	**41**	P	P	16 13 30.2	+1.4
GLI	**Glacier Island**	**20.92**	**51**	P	P	16 13 26.0	-4.6
GLI				IAmb	IAmb	16 13 37.2	
	comp=Z,31nm,1.3s						
FID	**Port Fidalgo**	**21.20**	**51**	P	P	16 13 34.7	+1.1
FID				IAmb	IAmb	16 13 48.5	
	comp=Z,23nm,1.2s						

*JMA **14** 16:22:26.7±0.1,24°.81N×122°.31E,h16km±4km,M2.7*
*TAP **14** 16:22:26.2,24°.88N×122°.28E,h11km,ML3.4,D*
*IDC **14** 16:22:28.8±1.3,24°.70N×121°.24E,h0km,mb3.6/4,*
mb1 3.7/5,mb1mx3.4/44,mbtmp3.5/5,ML3.2/1,MS2.5/2,
Ms1 2.5/2,ms1mx2.2/49,Error ellipse: s-maj=68.9km
s-min=21.9km az=69.0

ISC 14 16:22:26.0±1.1,24°.83N±0°.02×122°.33E±0°.02,h4km±8km,
n103,σ0s85/183,mb3.5/4,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=223						
TWB1	**Santiao Chiao**	**0.36**	**300**	*i* P	**Pg**	**16 22 32.8**	**-0.1**
TWB1	baz=296			*i* S	**Sg**	**16 22 37.2**	**-0.3**
EGS	baz=296	**0.36**	**272**	*i* P	**Pg**	**16 22 33.4**	**+0.4**
EGS	baz=263			S	**Sg**	**16 22 39.0**	**+1.3**
NTC	**Toucheng**	**0.46**	**273**	*i* P	**Pg**	**16 22 35.1**	**+0.3**
NTC	baz=267			S	**Sb**	**16 22 42.7**	**-1.1**
TIPB	baz=267 **Shuangxi**	**0.48**	**287**	*i* P	**Pg**	**16 22 35.5**	**+0.2**
TIPB	baz=282			*e*S	**Sg**	**16 22 41.6**	**+0.1**
TWC	baz=282 **Suao**	**0.49**	**243**	*i* P	**Pg**	**16 22 35.6**	**+0.2**
TWC	baz=236			S	**Sg**	**16 22 41.9**	**+0.1**
ILA	baz=236 **Ilan**	**0.53**	**263**	*e*P	**Pg**	**16 22 36.9**	**+0.7**
ILA	baz=244			S	**Sb**	**16 22 45.2**	**-0.8**
NWF	baz=244 **Wu-fen Shan**	**0.55**	**296**	*i* P	**Pg**	**16 22 37.3**	**+0.6**
NWF	baz=292			*i* S	**Sg**	**16 22 44.6**	**+0.8**
WFSB	baz=292 **Wu-fen Shan**	**0.55**	**296**	P	**Pg**	**16 22 37.1**	**+0.4**
WFSB	baz=292			S	**Sg**	**16 22 44.3**	**+0.5**
ENAH	baz=292 **Nanao**	**0.61**	**231**	*i* P	**Pg**	**16 22 38.1**	**+0.5**
ENAH	baz=226			S	**Sg**	**16 22 46.0**	**+0.4**
TWE	baz=226 **Neicheng**	**0.61**	**260**	*i* P	**Pg**	**16 22 37.7**	**-0.1**
TWE	baz=244			S	**Sg**	**16 22 46.4**	**+0.7**
ENA	baz=244 **Nanau**	**0.67**	**233**	*i* P	**Pg**	**16 22 39.0**	**+0.1**
ENA	baz=219			*i* S	**Sg**	**16 22 47.4**	**-0.2**
JYNG	baz=219 **Yonagunijimaku**	**0.68**	**124**	P	**Pb**	**16 22 39.7**	**-0.7**
JYNG				S	**Sb**	**16 22 49.6**	**-0.6**
TWA	**Mucha**	**0.69**	**282**	*i* P	**Pb**	**16 22 40.0**	**-0.8**
TWA	baz=279			S	**Sb**	**16 22 49.4**	**-1.3**
ENTT	baz=279 **Nioudou**	**0.72**	**255**	*i* P	**Pb**	**16 22 40.7**	**-0.5**
ENTT	baz=250			S	**Sb**	**16 22 50.4**	**-1.1**
YOJ	baz=250 **Yonaguni jima**	**0.72**	**121**	P	**Pb**	**16 22 40.4**	**-0.8**
YOJ				S	**Sb**	**16 22 50.7**	**-0.7**
NHDH	**Xindian Distri**	**0.74**	**280**	*i* P	**Pb**	**16 22 41.0**	**-0.5**
NHDH	baz=277			*i* S	**Sb**	**16 22 51.0**	**-1.1**
NWLT	baz=277 **Wulai**	**0.75**	**266**	*i* P	**Pg**	**16 22 40.9**	**+0.4**
NWLT	baz=262			S	**Sg**	**16 22 51.0**	**+0.7**
YM01	baz=262 **YM01**	**0.76**	**295**	P	**Pg**	**16 22 40.9**	**+0.3**
YM01	baz=291			S	**Sg**	**16 22 51.0**	**+0.6**
YM08	**YM08**	**0.76**	**298**	P	**Pg**	**16 22 40.5**	**-0.1**
TAP1	baz=296 **Taipei**	**0.76**	**286**	P	**Pb**	**16 22 41.5**	**-0.4**
TAP1	baz=282			S	**Sb**	**16 22 51.6**	**-0.9**
YM11	baz=282 **YM11**	**0.76**	**296**	P	**Pb**	**16 22 41.2**	**-0.7**
YM11	baz=293			S	**Sb**	**16 22 52.2**	**-0.5**
YM10	baz=293 **YM10**	**0.77**	**295**	P	**Pg**	**16 22 40.9**	**+0.1**
YM10	baz=292			S	**Sg**	**16 22 51.6**	**+0.9**
TAP	baz=292 **Taipei**	**0.78**	**286**	P	**Pg**	**16 22 40.9**	**0.0**
TAP	baz=296			S	**Sb**	**16 22 52.1**	**-0.9**
NDT	baz=296 **Datong Townshi**	**0.78**	**253**	*i* P	**Pg**	**16 22 41.2**	**+0.2**
NDT	baz=249			S	**Sg**	**16 22 51.8**	**+0.8**
TWY	baz=249 **Chenhua**	**0.80**	**304**	*i* P	**Pg**	**16 22 41.3**	**0.0**
TWY	baz=288			*i* S	**Sb**	**16 22 53.3**	**-0.4**
YM03	baz=288 **YM03**	**0.80**	**296**	P	**Pg**	**16 22 40.5**	**-0.8**
YM03	baz=293			*e*S	**Sb**	**16 22 53.6**	**-0.1**
ANP	baz=293 **Anpu**	**0.81**	**296**	P	**Pg**	**16 22 41.0**	**-0.6**
ANP	baz=293			*e*S	**Sb**	**16 22 53.5**	**-0.8**
PCYT	baz=293 **Pengchaiyu**	**0.83**	**344**	*i* P	**Pg**	**16 22 41.6**	**-0.3**
PCYT	baz=345			*e*S	**Sb**	**16 22 54.8**	**+0.3**
NTST	baz=345 **Danshui**	**0.86**	**293**	P	**Pg**	**16 22 42.9**	**+0.2**
NTST	baz=290			S	**Sb**	**16 22 55.0**	**-0.6**
YHNB	baz=290 **Yeheng**	**0.88**	**260**	P	**Pg**	**16 22 43.0**	**0.0**
YHNB	baz=251			S	**Sb**	**16 22 56.1**	**-0.1**
NSK	baz=251 **Sanguang**	**0.90**	**260**	*i* P	**Pg**	**16 22 43.4**	**+0.2**
NSK	baz=251			S	**Sg**	**16 22 54.1**	**-0.7**
NACB	**Ninganchiao**	**0.94**	**226**	P	**Pg**	**16 22 43.9**	**-0.1**
NACB	baz=223			S	**Sg**	**16 22 55.5**	**-0.7**
NNSB	**Datong**	**0.95**	**245**	P	**Pg**	**16 22 44.1**	**-0.2**
NNSB	baz=231			S	**Sg**	**16 22 57.0**	**+0.4**
NNSH	baz=231 **Datong**	**0.95**	**245**	*i* P	**Pg**	**16 22 44.1**	**-0.1**
NNSH	baz=233			*i* S	**Sg**	**16 22 56.9**	**+0.3**
NNS	baz=233 **Nan Shan**	**0.95**	**246**	*i* P	**Pg**	**16 22 44.5**	**+0.1**
NNS	baz=231			*i* S	**Sb**	**16 22 57.6**	**-0.7**
ETLH	baz=231 **Xiulin Townshi**	**0.99**	**231**	P	**Pg**	**16 22 44.8**	**-0.3**
ETLH	baz=229			S	**Sb**	**16 22 58.3**	**-1.0**
TWD	baz=229 **Chiawan**	**1.00**	**222**	*i* P	**Pg**	**16 22 45.0**	**-0.3**
TWD	baz=227			*i* S	**Sg**	**16 22 58.4**	**+0.1**
NCU	baz=227 **National Centr**	**1.05**	**278**	*e*S	**Sn**	**16 23 01.7**	**-0.9**
NCUH	baz=274 **Zhongli**	**1.05**	**278**	*e*P	**Pn**	**16 22 46.9**	**-0.7**
NCUH	baz=274			S	**Sn**	**16 23 02.1**	**-0.6**
HWA	**Hwalien**	**1.08**	**218**	*e*P	**Pn**	**16 22 49.3**	**+1.4**
WHF	baz=223 **Hehuan Shan**	**1.19**	**235**	*i* P	**Pg**	**16 22 48.5**	**-0.3**
WHF	baz=233			*i* S	**Sg**	**16 23 04.4**	**+0.2**
LIOB	baz=233 **Emei**	**1.21**	**261**	*i* P	**Pb**	**16 22 48.5**	**-1.0**
LIOB	baz=277			S	**Sn**	**16 23 06.7**	**0.0**
TDCB	baz=277 **Techi**	**1.21**	**242**	P	**Pg**	**16 22 49.2**	**0.0**
TDCB	baz=232			S	**Sb**	**16 23 05.2**	**-0.5**
SBCB	baz=232 **Hsinchu**	**1.22**	**268**	*e*P	**Pb**	**16 22 48.8**	**-0.9**
SBCB	baz=284			*e*S	**Sn**	**16 23 06.7**	**-0.3**
NSTT	baz=284 **Nanjuang**	**1.23**	**261**	P	**Pg**	**16 22 50.2**	**+0.7**
NSTT	baz=276			S	**Sn**	**16 23 07.5**	**+0.5**
ESL	baz=276 **Shilin**	**1.30**	**219**	*i* P	**Pg**	**16 22 50.8**	**-0.2**
ESL	baz=225			S	**Sn**	**16 23 08.4**	**-0.6**
CHGB	baz=225 **Renai**	**1.30**	**234**	P	**Pg**	**16 22 50.9**	**-0.1**
CHGB	baz=232			S	**Sn**	**16 23 08.3**	**-1.0**
IRIF	baz=232 **Iriomote-Funau**	**1.37**	**111**	P	**Pb**	**16 22 51.8**	**-0.4**
IRIF				S	**Sg**	**16 23 09.7**	**-0.3**
WHP	**Taichung City**	**1.38**	**247**	*i* P	**Pg**	**16 22 52.4**	**0.0**
WHP	baz=244			*i* S	**Sn**	**16 23 10.1**	**-0.8**
EGFH	baz=244 **Guangfu**	**1.42**	**216**	*i* P	**Pb**	**16 22 52.8**	**-0.4**
EGFH	baz=232			S	**Sg**	**16 23 12.9**	**+1.2**
NMLH	baz=232 **Miaoli**	**1.43**	**258**	P	**Pb**	**16 22 53.1**	**-0.2**
NMLH	baz=271			*e*S	**Sg**	**16 23 12.6**	**+0.5**
NSY	baz=271 **Sanyi**	**1.49**	**254**	P	**Pg**	**16 22 55.6**	**+1.1**
NSY	baz=268			*e*S	**Sg**	**16 23 14.4**	**+0.6**
VWDT	baz=268 **VWDT**	**1.53**	**226**	P	**Pg**	**16 22 55.1**	**-0.2**
VWDT	baz=225			S	**Sg**	**16 23 15.4**	**+0.4**
PTSB	baz=225 **Yuanli**	**1.53**	**256**	*e*P	**Pg**	**16 22 55.2**	**-0.1**
PTSB	baz=269			S	**Sg**	**16 23 15.3**	**+0.1**
HATJ	baz=269 **Hateruma jima**	**1.55**	**120**	P	**Pb**	**16 22 54.7**	**-0.6**
HATJ				*e*S	**Sb**	**16 23 14.6**	**-0.7**
HGSD	**Ruisui**	**1.57**	**212**	P	**Pb**	**16 22 55.0**	**-0.7**
HGSD	baz=198			S	**Sg**	**16 23 17.9**	**+1.4**
EHY	baz=198 **Hungye**	**1.61**	**215**	*i* P	**Pb**	**16 22 55.5**	**-0.9**
EHY	baz=216			S	**Sb**	**16 23 16.8**	**-0.3**
SMLT	baz=216 **Sun Moon Lake**	**1.61**	**234**	*i* P	**Pg**	**16 22 56.9**	**0.0**
SMLT	baz=233			S	**Sg**	**16 23 18.5**	**+0.7**
WDJ	baz=233 **Dajia District**	**1.61**	**253**	S	**Sg**	**16 23 18.0**	**+0.2**
SSLB	baz=266 **Suanglung**	**1.63**	**231**	P	**Pb**	**16 22 56.7**	**-0.1**
SSLB	baz=237			S	**Sb**	**16 23 17.4**	**-0.3**
TYC	baz=237 **Yuchr**	**1.63**	**236**	*i* P	**Pg**	**16 22 57.0**	**-0.2**
TYC	baz=234			S	**Sg**	**16 23 19.0**	**+0.5**
JKRS	baz=234 **Kuro-shima**	**1.64**	**111**	P	**Pn**	**16 22 55.7**	**0.0**
JIJ	**Ishigaki jima**	**1.71**	**105**	P	**Pn**	**16 22 56.0**	**-0.7**
JIJ				*e*S	**Sn**	**16 23 17.8**	**-1.3**
YULB	**Yu-li**	**1.72**	**214**	P	**Pn**	**16 22 56.0**	**-0.8**
YULB	baz=215			S	**Sg**	**16 23 20.6**	**-0.6**
TWF1	baz=215 **Yuli**	**1.75**	**213**	P	**Pn**	**16 22 56.8**	**-0.4**
TWF1	baz=229			*e*S	**Sg**	**16 23 21.4**	**-0.9**
WHYT	baz=229 **Xinyi Township**	**1.76**	**230**	*e*P	**Pg**	**16 22 59.9**	**+0.2**
WHYT	baz=241			*e*S	**Sg**	**16 23 22.8**	**+0.2**
WJS	baz=241 **Zhushan**	**1.77**	**236**	P	**Pg**	**16 23 00.8**	**+0.8**
WJS	baz=235			*e*S	**Sg**	**16 23 25.7**	**+2.7**
WNT	baz=235 **Mingjian**	**1.78**	**238**	*e*P	**Pg**	**16 23 00.2**	**+0.2**
WNT	baz=257			*i* S	**Sg**	**16 23 25.1**	**+2.0**
JISG	baz=257 **Ishigakijimahi**	**1.82**	**97**	P	**Pn**	**16 22 58.0**	**-0.1**
FULB	**Fuli**	**1.88**	**210**	*i* P	**Pn**	**16 22 59.5**	**+0.4**
FULB	baz=195			*e*S	**Sg**	**16 23 26.5**	**0.0**
ALS	baz=195 **Alishan**	**1.92**	**227**	*i* P	**Pb**	**16 23 01.7**	**0.0**
ALS	baz=213			S	**Sg**	**16 23 27.3**	**-0.3**
CHN5	baz=213 **Tsauling**	**1.95**	**231**	*i* P	**Pb**	**16 23 02.4**	**+0.2**
CHN5	baz=232			S	**Sg**	**16 23 27.9**	**-0.7**
WGK	baz=232 **Gukeng**	**1.98**	**235**	*e*P	**Pb**	**16 23 02.4**	**-0.2**
WGK	baz=236			S	**Sg**	**16 23 28.8**	**-0.8**
WDLH	baz=236 **Douliu**	**1.99**	**236**	*e*P	**Pb**	**16 23 01.8**	**-1.0**
WDLH	baz=236			S	**Sg**	**16 23 30.2**	**+0.1**
RLNB	baz=236 **Erlin**	**2.03**	**243**	*e*S	**Sb**	**16 23 28.9**	**-0.2**
ELDTW	baz=258 **Lidau**	**2.03**	**217**	*i* P	**Pn**	**16 23 00.9**	**-0.2**
ELDTW	baz=204			S	**Sn**	**16 23 27.2**	**+0.1**
EDH	baz=204 **Donghe**	**2.08**	**207**	P	**Pn**	**16 23 01.1**	**-0.6**
EDH	baz=195			S	**Sn**	**16 23 26.5**	**-1.5**
TPUB	baz=195 **Ta-pu**	**2.18**	**226**	P	**Pb**	**16 23 05.6**	**-0.4**
TPUB	baz=227			S	**Sg**	**16 23 35.2**	**-0.8**
CHY	baz=227 **Chiayi**	**2.19**	**233**	*e*S	**Sg**	**16 23 34.9**	**-1.6**
STYT	baz=250 **Tauyuan**	**2.20**	**221**	P	**Pb**	**16 23 05.4**	**-1.0**
STYT	baz=223			S	**Sg**	**16 23 35.3**	**-1.3**
WTP	baz=223 **Ta-pu**	**2.23**	**225**	*i* P	**Pb**	**16 23 05.8**	**-1.1**
WTP	baz=212			S	**Sg**	**16 23 36.0**	**-1.6**
LDUT	baz=212 **Ludao**	**2.29**	**200**	*e*P	**Pn**	**16 23 04.7**	**+0.1**
TWK	baz=204 **Hsinying**	**2.29**	**228**	*i* P	**Pb**	**16 23 07.0**	**-1.0**
TWK	baz=229			*e*S	**Sg**	**16 23 38.9**	**-0.9**
TWGBT	baz=229 **Beinan**	**2.31**	**210**	P	**Pn**	**16 23 04.0**	**-1.0**
TWG	baz=213 **Pinlang**	**2.31**	**210**	*e*P	**Pb**	**16 23 06.7**	**-1.6**
SNST	baz=213 **Tainan City**	**2.32**	**227**	*e*P	**Pb**	**16 23 07.6**	**-0.8**
SNST	baz=228			S	**Sb**	**16 23 38.6**	**+1.1**
CHN1	baz=228 **Nanshi**	**2.33**	**226**	*i* P	**Pb**	**16 23 07.6**	**-1.0**
CHN1	baz=227			S	**Sb**	**16 23 38.0**	**+0.3**
SLGT	baz=227 **Liugui**	**2.39**	**220**	P	**Pb**	**16 23 08.1**	**-1.6**
SLGT	baz=223			S	**Sb**	**16 23 39.6**	**0.0**
PTTC	baz=223 **Pingtan**	**2.41**	**287**	*e*P	**Pn**	**16 23 04.4**	**-2.0**
PTTC	baz=283			*e*S	**Sn**	**16 23 35.8**	**-0.5**
MATB	baz=283 **Ma-tsu**	**2.52**	**302**	*e*P	**Pn**	**16 23 07.7**	**-0.2**
MATB	baz=298			*e*S	**Sn**	**16 23 39.2**	**+0.1**
MASBT	baz=298 **Mashibuluo**	**2.70**	**215**	P	**Pn**	**16 23 11.9**	**+1.5**
MASBT	baz=206			*e*S	**Sb**	**16 23 47.3**	**-1.3**
EAST	baz=206 **Anshuo**	**2.79**	**209**	*e*P	**Pn**	**16 23 13.0**	**+1.4**
XPSS	baz=204 **Dashiqiu**	**2.84**	**318**	*e*P	**Pn**	**16 23 13.6**	**+1.3**
LYJJ	baz=316 **Jianjiangzhen**	**2.88**	**307**	P	**Pn**	**16 23 11.1**	**-1.7**
LYJJ	baz=303			S	**Sn**	**16 23 46.7**	**-1.2**
PTMZ	baz=303 **Houxiangcun**	**2.92**	**275**	*e*P	**Pn**	**16 23 12.4**	**-0.9**
PTMZ	baz=271			*e*S	**Sn**	**16 23 46.2**	**-2.7**
MHZQ	baz=271 **Yeshan**	**3.24**	**294**	*e*S	**Sn**	**16 23 56.6**	**-0.1**
KNMB	baz=290 **Chin-men Tao**	**3.60**	**265**	*e*P	**Pn**	**16 23 20.9**	**-1.8**
KSRS	baz=263 **Korea Array**	**13.46**	**19**	Pn	**P**	**16 25 48.2**	**+0.9**
	0.1nm,0.3s,baz=192,slow=13,SNR=4.9						
KSRS				LR	LR	16 31 15.3	
	comp=Z,11nm,18.5s,baz=200,slow=38						
DAV	**Davao City (W)**	**17.93**	**169**	LR	LR	16 32 47.7	
	comp=Z,26nm,20.8s,baz=244,slow=34						
SONM	**Songino Array**	**26.20**	**335**	P	**P**	**16 28 01.6**	**-0.3**
	0.4nm,0.4s,baz=157,slow=8.0,SNR=4.5						
MKAR	**Makanchi Array**	**38.61**	**315**	P	**P**	**16 29 49.2**	**-1.1**
	0.4nm,0.7s,baz=126,slow=9.8,SNR=4.4						
WRA	**Warramunga Arr**	**46.01**	**164**	P	**P**	**16 30 54.8**	**+4.0**
	1.1nm,0.8s,baz=346,slow=8.7,SNR=5.8						
ASAR	**Alice Springs**	**49.50**	**166**	P	P	16 31 22.4	+4.5
	0.5nm,0.8s,baz=336,slow=7.5,SNR=6.3						

*DDA **14** 16:28:26.9,36°.97N×27°.38E,h2km±1km,ML2.1*
*ISK **14** 16:28:27.6,37°.01N×27°.40E,h4km,ML2.7/10*

ISC 14 16:28:27.6±0.9,37°.01N±0°.03×27°.45E±0°.03,h6km±7km,
n20,σ1s91/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.06**	**353**	*i* P	**Pg**	**16 28 29.2**	**+0.2**
BDRM				*i* S	**Sg**	**16 28 30.7**	**+0.5**
BDRM				IAML		16 28 31.0	
	comp=E,5μm,0.2s						
BODT	**Bodrum**	**0.12**	**294**	PG	**Pg**	**16 28 29.9**	**-0.3**
BODT				SG	**Sg**	**16 28 31.9**	**-0.1**
DAT	**Datca**	**0.30**	**160**	PG	**Pg**	**16 28 33.4**	**0.0**
DAT				SG	**Sb**	**16 28 39.4**	**-1.2**
DAT	**Datca**	**0.30**	**160**	*i* P	**Pg**	**16 28 33.4**	**0.0**
DAT				*i* S	**Sg**	**16 28 37.9**	**+0.5**
DAT				IAML		16 28 40.0	
	comp=E,132nm,0.2s						
YER	**Yerkesik**	**0.68**	**79**	PG	**Pb**	**16 28 42.1**	**+0.3**
TURN	**Turunc**	**0.68**	**110**	PG	**Pg**	**16 28 42.1**	**-3.3**
TURN				SG	**Sg**	**16 28 52.4**	**-5.1**
TURN	**Turunc**	**0.68**	**110**	*i* P	Pg	16 28 40.5	-4.9
TURN				*i* S	**Sg**	**16 28 51.9**	**-5.6**
TURN				IAML		16 28 53.0	
	comp=E,137nm,0.2s						
GCAM	**G?zelcaml?**	**0.71**	**346**	PG	**Pb**	**16 28 42.1**	**-0.3**
GCAM				SG	**Sb**	**16 28 52.5**	**+0.1**
GCAM	**G?zelcaml?**	**0.71**	**346**	*i* P	**Pg**	**16 28 40.4**	**-0.8**
GCAM				*i* S	**Sb**	**16 28 52.4**	**0.0**
ARG	**Arkhangelos**	**0.96**	**145**	PG	**Pb**	**16 28 47.2**	**+0.6**
DALY	**Dalyan (Mula)**	**0.98**	**101**	PG	**Pb**	**16 28 47.8**	**+0.8**
DALY	**Dalyan (Mula)**	**0.98**	**101**	*i* P	**Pb**	**16 28 47.9**	**+0.9**
DALY				IAML		16 28 58.0	
	comp=E,36nm,1.3s						
DALY				*i* S	**Sb**	**16 29 01.5**	**+1.3**
DALY				IAML		16 29 04.0	
	comp=N,51nm,0.9s						
DGB	**zmir**	**1.13**	**337**	*i* P	**Pg**	**16 28 48.7**	**-0.6**
TAVA	**DENIZLI_Tavas**	**1.25**	**68**	*i* P	**Pg**	**16 28 51.9**	**+0.4**
TAVA				*i* S	**Sg**	**16 29 08.4**	**+0.6**
FETY	**Fethiye**	**1.36**	**106**	PN	**Pg**	**16 28 54.6**	**+0.9**
FETY	**Fethiye**	**1.36**	**106**	*i* P	**Pg**	**16 28 55.2**	**+1.6**
FETY				*i* S	**Sn**	**16 29 15.2**	**+3.6**
URLA	**Izmir**	**1.51**	**333**	PN	**Pb**	**16 28 55.8**	**-0.2**
URLA	**Izmir**	**1.51**	**333**	*i* P	**Pn**	**16 28 54.9**	**-0.3**
APE	**Apeiranthos**	**1.54**	**273**	PN	**Pg**	**16 28 56.2**	**-0.9**
MANT	**Manisa**	**1.72**	**30**	*i* P	**Pg**	**16 29 01.5**	**+1.0**

*IDC **14** 16:52:53.6±2.4,5°.08S×154°.41E,h157km±21km,mb3.6/5,*
mb1 3.7/7,mb1mx3.3/35,mbtmp4.1/7,Error ellipse:
s-maj=38.5km s-min=23.6km az=16.0
*NEIC **14** 16:52:54.6±1.2,5°.2S±0°.2×154°.4E±0°.1,h157km±14km,*
mb4.5/12,Error ellipse: s-maj=28.0km s-min=15.2km
az=180.0

ISC 14 16:52:53.8±1.2,5°.2S±0°.1×154°.4E±0°.1,h150km,n22,
σ0s69/24,mb4.3/8,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.43**	**294**		**Pn**	**16 53 34.9**	**+0.8**
KRVT	**Keravat (AS076**	**2.51**	**291**	P	**Pn**	**16 53 35.4**	**+0.3**
	61nm,0.3s,baz=98,slow=2.8,SNR=65						
KRVT				S	**Sn**	**16 54 07.4**	**+0.6**
	34nm,0.3s,baz=84,slow=17,SNR=4.1						
PMG	**Port Moresby**	**8.29**	**239**	P	**Pn**	**16 54 52.5**	**+1.4**
	2.0nm,0.3s,baz=51,slow=7.8,SNR=6.3						
PMG				S	**Sn**	**16 56 23.8**	**+0.4**
	2.1nm,0.3s,baz=61,slow=16,SNR=3.6						
PMG	**Port Moresby**	**8.29**	**239**		**Pn**	**16 54 51.3**	**+0.2**
DZM	**Mont Dzumac**	**20.43**	**146**	P	**P**	**16 57 19.6**	**+0.1**
	7.7nm,0.7s,baz=279,slow=5.5,SNR=9.4						
DZM	**Mont Dzumac**	**20.43**	**146**	P	**P**	**16 57 20.0**	**+0.4**
DZM				IAmb	IAmb	16 57 24.6	
	comp=Z,9.2nm,0.8s						
WR0	**Warramunga Arr**	**24.24**	**231**	P	**P**	**16 57 57.2**	**+0.1**
WR0				IAmb	IAmb	16 58 02.7	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**24.25**	**232**	P	**P**	**16 57 57.3**	**+0.2**
WRAB	**Tennant Creek**	**24.38**	**231**	P	**P**	**16 57 59.0**	**+0.7**
WRAB				IAmb	IAmb	16 58 10.4	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**24.38**	**231**	P	**P**	**16 57 58.8**	**+0.5**
WRA	**Warramunga Arr**	**24.39**	**231**	P	**P**	**16 57 58.9**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=57,slow=10,SNR=50						
AS31	**Alice Springs**	**26.94**	**225**	P	**P**	**16 58 21.1**	**-0.4**
ASAR	**Alice Springs**	**26.95**	**225**	P	**P**	**16 58 20.8**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=57,slow=9.5,SNR=22						
KNRA	**Kununurra**	**27.22**	**246**	P	**P**	**16 58 24.5**	**+0.6**
KNRA				IAmb	IAmb	16 58 33.7	
	comp=Z,32nm,1.4s						

STKA	**Stephens Creek**	**29.11**	**203**	P	**P**	**16 58 40.7**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=23,slow=13,SNR=2.1						
STKA	**Stephens Creek**	**29.11**	**203**	P	**P**	**16 58 39.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**30.86**	**243**	P	**P**	**16 58 56.5**	**+0.4**
	comp=Z,3.5nm,0.6s,baz=79,slow=9.6						
FITZ	**Fitzroy Crossi**	**30.86**	**243**	P	**P**	**16 58 55.6**	**-0.6**
FITZ				IAmb	IAmb	16 59 07.8	
	comp=Z,17nm,1.4s						
BBOO	**Buckleboo**	**32.35**	**210**	P	**P**	**16 59 07.4**	**-1.6**
BKZ	**Black Stump Fm**	**39.29**	**152**	P	**P**	**17 00 09.0**	**+0.9**
MORW	**Morawa**	**43.33**	**232**	P	**P**	**17 00 40.8**	**-0.4**
MORW				IAmb	IAmb	17 00 45.4	
	comp=Z,24nm,1.6s						
UGM	**Wanagama**	**43.64**	**264**	P	**P**	**17 00 43.5**	**-0.4**

*NIC **14** 17:01:22.4±0.0,36˚.78N×30˚.52E,h19km±11km,Ml3.4/3*
*IDC **14** 17:01:22.5±1.9,36˚.75N×30˚.67E,h0km,mb3.5/2,*
mb1 3.4/5,mb1mx3.2/53,mbtmp3.4/5,ML3.2/3,MS1.9/1,
Ms1 1.9/1,ms1mx1.7/42,Error ellipse: s-maj=33.9km
s-min=25.1km az=140.0
*DDA **14** 17:01:23.3,36˚.75N×30˚.55E,h10km±2km,ML3.2*
*ISK **14** 17:01:23.9,36˚.73N×30˚.50E,h6km,ML3.2/23*

ISC 14 17:01:23.8±0.8,36.70N±0.02×30.57E±0.02,h13km±5km, n52,σ1§54/70,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMT	**Kemer-ANTALYA**	**0.10**	**188**	PG	**Pg**	**17 01 26.9**	**+0.1**
KEMT				SG	**Sb**	**17 01 30.1**	**+1.2**
ANTB	**Antalya**	**0.21**	**18**	PG	**Pg**	**17 01 28.6**	**+0.2**
ANTB				SG	**Sb**	**17 01 32.9**	**-0.3**
KORT	**Korkueli**	**0.35**	**329**	PG	**Pg**	**17 01 29.9**	**-1.1**
KORT				SG	**Sg**	**17 01 35.0**	**-0.8**
KORT	**Korkueli**	**0.35**	**329**	*i* P	**Pg**	**17 01 29.5**	**-1.4**
KORT				*i* S	**Sg**	**17 01 34.1**	**-1.7**
KORT				IAML		17 01 36.0	
	comp=E,7μm,0.2s						
KORT				IAML		17 01 36.0	
	comp=N,4μm,0.3s						
AKUM	**Antalya-Kumluc**	**0.42**	**206**	*i* P	**Pg**	**17 01 32.2**	**+0.1**
AKUM				*i* S	**Sb**	**17 01 39.7**	**+0.4**
AKUM				IAML		17 01 47.0	
	comp=E,2μm,0.5s						
AKUM				IAML		17 01 47.0	
	comp=N,2μm,0.5s						
ELL	**Elmali**	**0.54**	**275**	PG	**Pg**	**17 01 32.6**	**-1.8**
ELL				SG	**Sg**	**17 01 40.7**	**-0.9**
ELL	**Elmali**	**0.54**	**275**	P	**Pg**	**17 01 32.5**	**-1.8**
ELL				S	**Sg**	**17 01 40.2**	**-1.4**
DEMR	**Demre-Antalya**	**0.71**	**230**	PG	**Pg**	**17 01 37.5**	**-0.1**
BCK	**Bucak**	**0.76**	**1**	PG	**Pb**	**17 01 38.7**	**-0.2**
BCK				SG	**Sb**	**17 01 49.4**	**+0.2**
KEPZ	**Antalya-Kepez**	**0.85**	**76**	*i* P	**Pg**	**17 01 40.0**	**-0.3**
AKAS	**Kas**	**0.91**	**239**	PG	**Pg**	**17 01 40.9**	**-0.5**
AKAS	**Kas**	**0.91**	**239**	*i* P	**Pg**	**17 01 39.5**	**-1.9**
GOLH	**Golhisar**	**0.97**	**304**	*i* P	**Pb**	**17 01 42.1**	**-0.5**
BRDR	**BURDUR-Merkez**	**1.07**	**338**	*i* P	**Pn**	**17 01 44.7**	**+0.1**
BRDR				*i* S	**Sn**	**17 01 59.0**	**-0.4**
BRDR				IAML		17 02 03.0	
	comp=E,390nm,0.5s						
BRDR				IAML		17 02 04.0	
	comp=N,418nm,0.6s						
FETY	**Fethiye**	**1.20**	**267**	PN	**Pg**	**17 01 46.3**	**-0.6**
FETY				SN	**Sg**	**17 02 02.5**	**0.0**
FETY	**Fethiye**	**1.20**	**267**	*i* P	**Pb**	**17 01 46.0**	**-0.4**
SEYD	**Seydisehir-KON**	**1.23**	**55**	PN	**Pg**	**17 01 48.4**	**+0.8**
BASM	**Basmaki-Afyon**	**1.29**	**341**	PN	**Pg**	**17 01 48.5**	**-0.1**
BASM				SN	**Sg**	**17 02 05.9**	**+0.6**
BAGO	**Egridir - ISPA**	**1.30**	**8**	*i* P	**Pn**	**17 01 45.5**	**-2.2**
BAGO				*i* S	**Sg**	**17 02 07.8**	**+2.1**
GAZI	**Gazipasa**	**1.48**	**108**	PN	**Pg**	**17 01 52.5**	**+0.3**
TAVA	**DENİZLİ_Tavas**	**1.53**	**300**	*i* P	**Pg**	**17 01 53.9**	**+0.7**
TAVA				*i* S	**Sg**	**17 02 13.4**	**+0.2**
DALY	**Dalyan (Mula)**	**1.55**	**275**	PN	**Pb**	**17 01 51.9**	**-0.3**
DALY				SN	**Sg**	**17 02 12.7**	**-0.9**
DALY	**Dalyan (Mula)**	**1.55**	**275**	*i* P	**Pn**	**17 01 48.0**	**-2.9**
DALY				*i* S	**Sg**	**17 02 15.0**	**+1.4**
KZIL	**AFYON_Kizioren**	**1.59**	**348**	*i* P	**Pn**	**17 01 52.1**	**+0.3**
KMER	**Konya-Meram**	**1.79**	**53**	*i* P	**Pn**	**17 01 54.6**	**+0.2**
SHUT	**Suhut-Afyon**	**1.85**	**359**	PN	**Pb**	**17 01 56.5**	**-1.0**
TURN	**Turunc**	**1.87**	**273**	PN	**Pg**	**17 01 56.3**	**+1.9**
TURN	**Turunc**	**1.87**	**273**	*i* P	**Pg**	**17 01 57.4**	**+3.1**
TURN				*i* S	**Sg**	**17 02 23.3**	**+8.3**
YER	**Yerkesik**	**1.89**	**284**	PN	**Pb**	**17 01 56.9**	**-1.2**
KONT	**Konya--Tatoy**	**1.89**	**48**	PN	**Pb**	**17 01 57.8**	**-0.4**
KONT	**Konya--Tatoy**	**1.89**	**48**	*i* P	**Pn**	**17 01 56.5**	**+0.7**
ARG	**Arkhangelos**	**2.03**	**257**	PN	**Pb**	**17 01 59.4**	**-1.1**
LADK	**Ladik-KONYA**	**2.07**	**43**	PN	**Pb**	**17 01 59.9**	**-1.3**
TEKE	**Tekeli-Mersin**	**2.12**	**104**	PN	**Pb**	**17 02 01.7**	**-0.4**
KDHN	**Kadinhani**	**2.19**	**34**	*i* P	**Pn**	**17 01 59.4**	**-0.6**
AKMS	**Akamas**	**2.21**	**139**	P	**Pn**	**17 01 59.3**	**-0.7**
AKMS				AML	AML	17 02 41.5	
	comp=N,0.5nm,0.4s						
AKMS				AML	AML	17 02 44.9	
	comp=N,0.6nm,0.8s						
ALFC	**Alefka**	**2.25**	**133**	P	**Pn**	**17 01 59.1**	**-1.7**
ALFC				AML	AML	17 02 40.4	
	comp=N,0.4nm,0.6s						
ALFC				AML	AML	17 02 41.1	
	comp=N,0.4nm,0.6s						
KULA	**Kula-Manisa**	**2.36**	**321**	PN	**Pn**	**17 02 03.6**	**+1.3**
DAT	**Datca**	**2.41**	**272**	PN	**Pn**	**17 02 04.2**	**+1.3**
KIZT	**Kizilcal**	**2.41**	**25**	PN	**Pb**	**17 02 04.9**	**-2.2**
AKKU	**Akkuyu-Mersin**	**2.46**	**102**	PN	**Pb**	**17 02 06.7**	**-1.2**
BDRM	**Kayabasi**	**2.54**	**279**	*i* P	**Pg**	**17 02 10.9**	**-1.5**
IKL	**Isikli**	**2.55**	**99**	PN	**Pb**	**17 02 07.7**	**-1.7**
SZAC	**Souni**	**2.70**	**135**	P	**Pn**	**17 02 06.2**	**-0.7**
SZAC				AML	AML	17 03 00.9	
	comp=N,0.4nm,1.1s						
SZAC				AML	AML	17 03 04.2	
	comp=N,0.4nm,1.1s						
CSS	**Mathiatis**	**2.83**	**127**	P	**Pn**	**17 02 07.5**	**-1.2**
ASGA	**Asgata**	**2.90**	**131**	P	**Pn**	**17 02 08.9**	**-0.6**
MVOU	**Mavrovouni**	**3.00**	**123**	P	**Pn**	**17 02 10.2**	**-0.8**
BRTR	**Keskin Array B**	**3.87**	**38**	Pn	**Pn**	**17 02 22.4**	**-0.6**
	comp=N,0.4nm,0.3s,baz=216,slow=16,SNR=9.7						
BRTR				Sn	**Sn**	**17 03 08.3**	**-0.1**
	comp=N,0.7nm,0.3s,baz=202,slow=26,SNR=6.0						
BRTR				LR	LR	17 03 53.7	
	comp=N,15nm,18.0s,baz=211,slow=40						
IDI	**Anoyia**	**4.82**	**255**	Pn	**Pn**	**17 02 36.8**	**+0.8**
	comp=N,1.9nm,0.3s,baz=55,slow=15,SNR=10						
IDI				Sn	**Sn**	**17 03 31.9**	**+0.1**
	comp=N,1.4nm,0.3s,baz=26,slow=20,SNR=5.5						
MMAI	**Mount Meron Ar**	**5.41**	**131**	Pn	**Pn**	**17 02 44.0**	**-0.2**
	comp=N,1.6nm,0.3s,baz=310,slow=12,SNR=3.0						
FINES	**FINESS Array B**	**24.93**	**355**	P	**P**	**17 06 47.2**	**+1.0**
	comp=N,1.1nm,0.8s,baz=147,slow=13,SNR=1.1						
MKAR	**Makanchi Array**	**39.24**	**58**	P	**P**	**17 08 52.5**	**+0.7**
	comp=N,0.6nm,0.6s,baz=279,slow=7.0,SNR=5.6						

*IDC **14** 17:04:43.6±1.5,2˚.76S×126˚.11E,h0km,mb3.7/3,*
mb1 4.0/5,mb1mx3.5/45,mbtmp3.8/5,ML3.7/2,MS2.6/1,
Ms1 2.6/1,ms1mx2.4/53,Error ellipse: s-maj=45.2km
s-min=25.4km az=70.0
*DJA **14** 17:04:47.1±0.6,3˚S±3˚×12˚6E±˚,h13km±4km,M4.0/12,*
mB4.7/2,mb4.3/5,MLv3.8/12,Mw(mB)4.0/2

ISC 14 17:04:46.9±0.9,2.66S±0.07×126.20E±0.06,h20km,n14, σ1§05/17,mb3.5/3,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.65**	**341**	P	**Pb**	**17 04 58.5**	**-1.0**
NLAI	**Namlea**	**1.06**	**122**	P	**Pn**	**17 05 06.4**	**-0.2**
MSAI	**Masohi**	**2.81**	**104**	P	**Pn**	**17 05 33.1**	**+2.5**
TNTI	**Ternate**	**3.61**	**19**	P	**Pn**	**17 05 42.3**	**+0.7**
TNTI				S	**Sn**	**17 06 23.0**	**-0.7**
LUWI	**Luwuk**	**3.79**	**295**	P	**Pn**	**17 05 44.2**	**+0.1**
LUWI				S	**Sn**	**17 06 29.4**	**+1.2**
KMSI	**Cibinong**	**3.91**	**325**	P	**Pn**	**17 05 45.9**	**+0.1**
KMSI				S	**Sn**	**17 06 31.4**	**+0.3**
SIJI	**Sorong**	**5.37**	**71**	Pn	**Pn**	**17 06 06.9**	**+1.0**
	11nm,0.3s,baz=257,slow=23,SNR=36						
SIJI				Sn	**Sn**	**17 07 07.0**	**-0.1**
	1.0nm,0.3s,baz=355,slow=23,SNR=1.1						
FAKI	**Fak Fak**	**6.05**	**93**	P	**Pn**	**17 06 16.5**	**+1.3**
	0.3nm59nm,1.7s						
KAPI	**Kappang**	**6.84**	**250**	LR	LR	17 09 02.6	
	comp=Z,51nm,21.6s,baz=71,slow=38						
MPSI	**Mapaga**	**6.97**	**295**	P	**Pn**	**17 06 28.3**	**+0.4**
	0.1nm787nm18nm,0.8s						
WRA	**Warramunga Arr**	**18.92**	**156**	P	**P**	**17 09 05.5**	**-1.1**
	0.1nm,0.3s,baz=332,slow=12,SNR=11						
ASAR	**Alice Springs**	**22.17**	**161**	P	**P**	**17 09 40.6**	**-1.2**
	1.0nm,0.7s,baz=343,slow=11,SNR=14						
MKAR	**Makanchi Array**	**62.55**	**328**	P	**P**	**17 15 09.8**	**+0.4**
	0.3nm,0.8s,baz=147,slow=5.5,SNR=4.0						
ILAR	**Eielson Array**	**91.07**	**25**	P	**P**	**17 17 50.1**	**+0.4**
	0.8nm,0.5s,baz=247,slow=6.7,SNR=1.9						

*JMA **14** 17:07:38.3±0.2,37˚.36N×141˚.83E,h41km±3km,M3.6*
*NIED **14** 17:07:38.4,37˚.36N×141˚.83E,h41km,MW3.5,Moment*
Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm;
Mrr0.35; Mθθ0.66; Mϕϕ-1.01; Mrθ1.31; Mθϕ-0.40; Mϕr1.59;
Fault plane solution: Mo2.26000×10¹⁴ NP1:ϕs42.00000°,
δ84.00000°,λ110.00000°. NP2:ϕs149.00000°,δ21.00000°,
λ18.00000°.
*IDC **14** 17:07:41.8±4.0,37˚.23N×141˚.59E,h51km±37km,mb3.5/4,*
mb1 3.6/6,mb1mx3.3/62,mbtmp3.7/6,ML2.7/2 Error
ellipse: s-maj=37.5km s-min=20.8km az=79.0

ISC 14 17:07:35.3±1.7,37.34N±0.04×141.86E±0.06,h6km±10km, n24,σ1§11/31,mb3.8/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.79**	**272**	P	**Pn**	**17 07 52.8**	**-0.2**
JFK				S	**Sb**	**17 08 02.6**	**+0.2**
JMST	**Minamisoumatoc**	**0.86**	**297**	P	**Pn**	**17 07 53.7**	**-0.3**
JMST				S	**Sb**	**17 08 04.3**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.88**	**255**	P	**Pn**	**17 07 54.1**	**-0.2**
ONAJ				S	**Sb**	**17 08 05.0**	**-0.2**
JMM	**Marumori**	**1.00**	**302**	P	**Pn**	**17 07 55.7**	**-0.2**
JMM				S	**Sg**	**17 08 07.4**	**0.0**
JIKH	**Ishinomakikobu**	**1.02**	**342**	P	**Pn**	**17 07 55.8**	**-0.3**
JIKH				S	**Sg**	**17 08 08.1**	**+0.1**
JFFD	**Fukushimafurud**	**1.07**	**257**	P	**Pn**	**17 07 56.8**	**-0.1**
JFFD				S	**Sg**	**17 08 09.7**	**0.0**
JIO	**Ouri**	**1.18**	**340**	P	**Pg**	**17 07 58.3**	**+0.3**
JIO				S	**Sb**	**17 08 11.9**	**-1.8**
JFT	**Otama**	**1.23**	**279**	P	**Pg**	**17 07 59.9**	**+1.0**
JFT				S	**Sg**	**17 08 15.1**	**+0.3**
JHO	**Hitachi**	**1.27**	**235**	P	**Pg**	**17 07 59.0**	**-0.6**
JHO				S	**Sb**	**17 08 13.9**	**-2.3**
JOU	**Okura**	**1.39**	**317**	P	**Pg**	**17 08 02.0**	**-0.1**
JOU				S	**Sn**	**17 08 19.6**	**-0.5**
JFY	**Yanaizu**	**1.72**	**273**	P	**Pb**	**17 08 06.8**	**-0.6**
JFY				S	**Sn**	**17 08 28.1**	**0.0**
MJAR	**Matsushiro Arr**	**3.03**	**256**	P	**Pn**	**17 08 23.1**	**-0.8**
	0.3nm,0.3s,baz=81,slow=14,SNR=23						
MAT	**Matsushiro**	**3.04**	**256**	P	**Pn**	**17 08 26.0**	**+2.1**
MAT				S	**Sn**	**17 09 03.0**	**+2.4**
JHJ	**Hachijo jima 2**	**4.54**	**203**	P	**Pn**	**17 08 46.2**	**+1.5**
	5.0nm,0.3s,baz=337,slow=24,SNR=6.9						
JHJ				S	**Sn**	**17 09 35.7**	**-2.0**
	10nm,0.3s,baz=269,slow=22,SNR=2.1						
H11N2	**WAKE ISLAND Hy 28.00**	**122**		T	T	17 42 56.6	
	baz=314,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy 28.01**	**122**		T	T	17 42 56.7	
	baz=314,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy 28.02**	**122**		T	T	17 42 57.7	
	baz=314,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy 28.73**	**124**		T	T	17 43 51.8	
	baz=316,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy 28.73**	**124**		T	T	17 43 52.0	
	baz=316,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy 28.75**	**124**		T	T	17 43 51.2	
	baz=316,slow=76,SNR=16						
MKAR	**Makanchi Array**	**44.26**	**302**	P	**P**	**17 15 45.2**	**-0.4**
	0.6nm,0.7s,baz=88,slow=10.0,SNR=6.1						
KURBB	**Kurchatov Arra**	**46.09**	**308**	P	**P**	**17 15 59.8**	**-0.2**
	0.6nm,0.4s,baz=82,slow=7.6,SNR=7.5						
ILAR	**Eielson Array**	**49.04**	**33**	P	**P**	**17 16 24.8**	**+2.0**
	1.3nm,0.4s,baz=261,slow=5.2,SNR=4.0						
WRA	**Warramunga Arr**	**57.42**	**188**	P	**P**	**17 17 24.1**	**-0.7**
	0.1nm,0.4s,baz=6.0,slow=7.1,SNR=5.3						

*JMA **14** 17:09:46.9±0.3,28˚.06N×128˚.15E,h5km±4km,M5.5*
JMA Felt III J1.
*NEIC **14** 17:09:46.8±2.4,27˚.96N±0˚.03×128˚.18E±0˚.09,h5km±3km,*
mb4.9/108,Mwb5.3/24,Mwc5.4(GCMT),Error ellipse:
s-maj=11.1km s-min=4.4km az=84.0
*IDC **14** 17:09:46.0±0.5,28˚.08N×128˚.10E,h0km,mb4.4/24,*
mb1 4.5/26,mb1mx4.4/59,mbtmp4.4/26,ML3.5/2,MS4.9/52,
Ms1 4.9/52,ms1mx4.9/62,Error ellipse: s-maj=16.6km
s-min=13.4km az=81.0
*NIED **14** 17:09:46.9,28˚.06N×128˚.15E,h5km,MW5.4,Moment*
Tensor Solution. s3 Moment tensor: Scale 10¹⁷Nm;
Mrr-0.36; Mθθ0.96; Mϕϕ-0.59; Mrθ-0.54; Mθϕ0.86; Mϕr0.03;
Fault plane solution: Mo1.27000×10¹⁷ NP1:
ϕs108.00000°,δ85.00000°,λ-26.00000°. NP2:
ϕs201.00000°,δ64.00000°,λ-175.00000°.
*GCMT **14** 17:09:49.8±0.1,28˚.05N±0˚.01×128˚.07E±0˚.01,h12km,*
MW5.4/157,Moment Tensor Solution. s116,c203;
s157,c315; Duration: 1§2 Moment tensor: Scale 10¹⁷
Nm; Mrr0.03±.01; Mθθ1.10±.01; Mϕϕ-1.14±.02;
Mrθ0.51±.04; Mθϕ0.99±.01; Mϕr0.04±.04; Best double
couple: Mo1.57600×10¹⁷ NP1:ϕs23.00000°,δ74.00000°,
λ171.00000°. NP2:ϕs115.00000°,δ82.00000°,λ16.00000°.
Principal axes: T 1.6260, Plg17.0000°, Azm340.0000°;
N -0.1070, Plg72.0000°, Azm142.0000°; P -1.5250,
Plg5.0000°, Azm248.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
*NEIC **14** 17:09:50,28˚.04N×128˚.07E,h12km,Moment Tensor*
Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.01;
Mθθ1.21; Mϕϕ-1.22; Mrθ0.39; Mθϕ1.10; Mϕr-0.03; Fault
plane solution: Mo1.69000×10¹⁷ NP1:ϕs24.00000°,
δ76.00000°,λ179.00000°. NP2:ϕs114.00000°,δ89.00000°,
λ14.00000°. Principal axes: T 1.6900, Plg10.0000°,
Azm340.0000°; N 0.0028, Plg76.0000°, Azm116.0000°; P
-1.6928, Plg10.0000°, Azm248.0000°;
*MOS **14** 17:09:50.4±1.1,28˚.12N×128˚.05E,h37km,mb4.8/29,*
MS5.2/14 Error ellipse: s-maj=6.5km s-min=4.7km
az=97.5
*NEIC **14** 17:09:52.3,27˚.92N×128˚.15E,h7km,Moment Tensor*
Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.12;
Mθθ0.91; Mϕϕ-1.03; Mrθ0.02; Mθϕ0.73; Mϕr0.01; Fault
plane solution: Mo1.22000×10¹⁷ NP1:ϕs26.42000°,
δ89.37000°,λ179.23000°. NP2:ϕs116.42000°,δ89.23000°,
λ0.63000°. Principal axes: T 1.1532, Plg1.0000°,
Azm341.0000°; N 0.1233, Plg89.0000°, Azm167.0000°; P
-1.2765, Plg0.0000°, Azm71.0000°;
*BJI **14** 17:09:52.3±0.0,28˚.18N×127˚.96E,h45km,mB5.1/65,*
mb4.7/60,Ms5.7/87,Ms7 5.5/81

ISC 14 17:09:50.4±0.5,28.03N±0.03×128.18E±0.03,h30km±3km, n362,σ1§77/369,mb4.9/117,MS5.1/90,17C-10D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.73**	**109**	P	**Pb**	**17 10 01.5**	**-3.1**
JTK				S	**Sb**	**17 10 11.7**	**-2.6**
JOKE	**Okinoerabujima**	**0.75**	**152**	P	**Pb**	**17 10 02.3**	**-2.8**
JOKE				*eS*	**Sb**	**17 10 12.8**	**-2.2**
JAMN	**Amaminishikomi**	**0.91**	**76**	P	**Pb**	**17 10 04.3**	**-3.3**
JAMN				*eS*	**Sb**	**17 10 17.6**	**-1.8**
JIH	**Iheya**	**1.01**	**191**	P	**Pn**	**17 10 06.1**	**-2.4**
JIH				*eS*	**Sb**	**17 10 20.4**	**-1.9**
JYRO	**Yoronjima**	**1.03**	**166**	P	**Pn**	**17 10 07.4**	**-1.4**
JYRO				S	**Sb**	**17 10 21.0**	**-1.9**
JOW	**Kunigami**	**1.20**	**176**	P	**Pn**	**17 10 10.2**	**-0.9**
JOW				*eS*	**Sn**	**17 10 26.2**	**-0.2**
JOW	**Kunigami**	**1.20**	**176**	Pn	**Pn**	**17 10 08.1**	**-3.0**
JOW					**Sn**	**17 10 25.1**	**-1.3**
JAM	**Amami Oshima**	**1.32**	**73**	P	**Pn**	**17 10 11.5**	**-1.3**
JAM				*eS*	**Sn**	**17 10 29.2**	**-0.1**
JTAJ	**Takarajima**	**1.44**	**39**	P	**Pn**	**17 10 13.7**	**-0.7**
JNTH	**Nagotoyohara**	**1.51**	**185**	P	**Pn**	**17 10 14.6**	**-0.9**
JNTH				*eS*	**Sn**	**17 10 34.6**	**+0.5**
JZK	**Kikaishima**	**1.61**	**79**	P	**Pn**	**17 10 17.3**	**+0.5**
JAGN	**Aguni-jima**	**1.66**	**210**	P	**Pn**	**17 10 15.4**	**-2.1**
JJT3	**Tamagusuku3**	**1.91**	**191**	P	**Pn**	**17 10 20.7**	**-0.3**
JJT3				S	**Sb**	**17 10 49.7**	**+1.6**

JKE	**Kume jima 2**	**2.10**	**216**	P	**Pn**	**17 10 21.7**	**-1.9**
JISG	**Ishigakijimahi**	**4.88**	**226**	P	**Pn**	**17 11 02.3**	**+0.6**
JIJ	**Ishigaki jima**	**5.14**	**226**	P	**Pn**	**17 11 05.6**	**+0.2**
IRIF	**Iriomote-Funau**	**5.43**	**228**	P	**Pn**	**17 11 09.7**	**+0.3**
JNU	**Nakatsue**	**5.58**	**24**	Pn	**Pn**	**17 11 14.8**	**+3.3**
	9.6nm,0.3s,baz=189,slow=6.9,SNR=93						
JNU	**Nakatsue**	**5.58**	**24**	Pn	**Pn**	**17 11 15.1**	**+3.7**
YOJ	**Yonaguni jima**	**5.84**	**234**	P	**Pn**	**17 11 16.1**	**+1.1**
YOJ	**Yonaguni jima**	**5.84**	**234**	Pn	**Pn**	**17 11 16.1**	**+1.1**
JYNG	**Yonagunijimaku**	**5.90**	**234**	P	**Pn**	**17 11 19.5**	**+3.8**
TATO	**Taipei**	**6.72**	**245**		**Pn**	**17 11 28.5**	**+1.4**
SSE	**Sheshan**	**6.81**	**298**	P	**Pn**	**17 11 30.0**	**+1.7**
SSE				S	**Sn**	**17 12 42.9**	**-1.9**
SSE				pmax	pmax		
	comp=Z,28nm,0.7s						
SSE				LR	LR		
	comp=N,5μm,19.2s						
SSE				LR	LR		
	comp=E,7μm,18.8s						
SSE	**Sheshan**	**6.81**	**298**	Pn	**Pn**	**17 11 27.9**	**-0.4**
YHNB	**Yeheng**	**6.96**	**243**		**Pn**	**17 11 30.9**	**+0.5**
NACB	**Ninganchiao**	**7.05**	**238**		**Pn**	**17 11 31.0**	**-0.7**
YULB	**Yu-li**	**7.73**	**235**		**Pn**	**17 11 39.3**	**-1.7**
SSLB	**Suanglung**	**7.75**	**239**	Pn	**Pn**	**17 11 41.2**	**-0.1**
TWG	**Pinlang**	**8.25**	**233**		**Pn**	**17 11 46.0**	**-2.1**
TPUB	**Ta-pu**	**8.28**	**237**	Pn	**Pn**	**17 11 46.5**	**-1.9**
TJN	**Taejon**	**8.35**	**355⇑**	*eP*	**Pn**	**17 11 50.8**	**+1.4**
NJ2	**Nanjing**	**9.02**	**299**	*eP*	**Pn**	**17 11 57.4**	**-1.2**
NJ2				S	**Sn**	**17 13 41.3**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,290nm,4.4s						
NJ2				LR	LR		
	comp=N,45μm,15.6s						
NJ2				LR	LR		
	comp=E,20μm,13.3s						
NJ2				LR	LR		
	comp=Z,11μm,11.8s						
QZH	**Quanzhou**	**9.12**	**252↓**	*iP*	**Pn**	**17 12 00.3**	**+0.3**
QZH				S	Sn	17 13 51.5	+10
QZH				pmax	pmax		
	comp=Z,75nm,1.1s						
QZH				pmax	pmax		
	comp=Z,1μm,7.8s						
QZH				LR	LR		
	comp=N,10μm,11.2s						
QZH				LR	LR		
	comp=E,19μm,11.2s						
QZH				LR	LR		
	comp=Z,26μm,11.1s						
KSRS	**Korea Array**	**9.40**	**359**	Pn	**Pn**	**17 12 04.6**	**+0.8**
	0.4nm,0.3s,baz=181,slow=12,SNR=18						
KSRS				LR	LR	17 15 44.2	
	comp=Z,14μm,19.6s,baz=178,slow=38						
KS19	**Wonju Array Si**	**9.45**	**358**		**Pn**	**17 12 05.5**	**+1.0**
KNMB	**Chin-men Tao**	**9.48**	**250**		**Pn**	**17 12 04.9**	**0.0**
JHJ	**Hachijo jima 2**	**11.21**	**60**	LR	LR	17 16 42.3	
	comp=Z,7μm,20.3s,baz=280,slow=37						
JGN	**Niukaw**	**11.25**	**41**	P	**Pn**	**17 12 30.4**	**+1.2**
JHTM	**Izuhatsuma**	**11.54**	**51**	P	**Pn**	**17 12 34.7**	**+1.6**
JOD2	**Odawara 2**	**11.76**	**49**	P	**Pn**	**17 12 37.8**	**+1.7**
JNG	**Nsakai**	**11.84**	**43**	P	**Pn**	**17 12 41.2**	**+3.9**
MAJO	**Matsushiro**	**11.99**	**42⇑**	*eP*	**Pn**	**17 12 41.9**	**+2.5**
MAJO	**Matsushiro**	**11.99**	**42**	Pn	**Pn**	**17 12 41.8**	**+2.4**
MAT	**Matsushiro**	**11.99**	**42**	P	**Pn**	**17 12 41.9**	**+2.5**
MAT				S	**Sn**	**17 14 52.2**	**+0.1**
MJB9	**Matsu-Tunnel**	**11.99**	**42**	Pn	**Pn**	**17 12 41.6**	**+2.2**
MJAR	**Matsushiro Arr**	**12.00**	**42**	Pn	**Pn**	**17 12 40.1**	**+0.7**
	0.1nm,0.3s,baz=241,slow=15,SNR=17						
MJAR				LR	LR	17 18 04.5	
	comp=Z,5μm,18.4s,baz=225,slow=42						
DL2	**Dalian**	**12.14**	**335**	P	P	17 12 58.8	+5.2
DL2				S	Sn	17 15 26.4	+31
DL2				pmax	pmax		
	comp=Z,45nm,0.8s						
DL2				pmax	pmax		
	comp=Z,780nm,8.0s						
DL2				LR	LR		
	comp=N,16μm,13.1s						
DL2				LR	LR		
	comp=E,12μm,12.7s						
DL2				LR	LR		
	comp=Z,21μm,12.9s						
WHN	**Wuhan**	**12.33**	**285**	P	**Pn**	**17 12 47.0**	**+3.1**
WHN				sP		17 13 00.8	
WHN				S	**Sn**	**17 15 00

XAN LR LR
comp=Z,17µm,16.7s
XAN LR LR
comp=Z,17µm,14.7s
XAN Xi'an 17.55 295 P **P** **17 13 53.0 -0.7**
XAN pmax pmax
comp=Z,83nm,1.3s
XAN Xi'an 17.55 295 P **P** **17 13 53.0 -0.7**
TEY Ternei 18.25 19⇓ *e*P **P** **17 14 03.6 +2.3**
TEY pmax pmax
comp=N,10.0nm,0.9s
HHC Hu-ho-hao-te 18.70 317 *e*P **Pn** **17 14 06.9 -0.1**
HHC pmax pmax
comp=N,14nm,1.0s
HHC pmax pmax
comp=N,1µm,7.6s
HHC LR LR
comp=N,16µm,11.6s
HHC LR LR
comp=N,14µm,13.0s
HHC LR LR
comp=N,16µm,13.1s
QIZ Qiongzhong 19.03 246 P **P** **17 14 09.9 -0.2**
QIZ S **Sn** **17 17 42.6 -0.7**
QIZ pmax pmax
comp=N,730nm,9.3s
QIZ LR LR
comp=N,6µm,11.2s
QIZ LR LR
comp=N,6µm,13.7s
QIZ LR LR
comp=N,10µm,10.7s
GYA Guiyang 19.19 270 ⇓P **Pn** **17 14 14.5 +1.5**
GYA S **Sn** **17 17 44.4 -3.0**
GYA pmax pmax
comp=N,31nm,1.5s
GYA LR LR
comp=N,7µm,11.7s
GYA LR LR
comp=N,12µm,12.0s
GYA LR LR
comp=N,15µm,12.8s
BTO Baotou 19.50 315 *e*P **Pn** **17 14 16.1 -0.5**
BTO S **S** **17 17 52.4 -1.6**
ASAJ Asahikawa 19.79 32 P **Pn** **17 14 19.1 -0.8**
comp=N,0.4nm,0.3s,baz=218,slow=7.9,SNR=13
JKA Kamikawa-asahi 19.79 32 P **Pn** **17 14 20.1 +0.2**
DAV Davao City (W) 20.99 187 LR LR 17 22 35.9
comp=N,3µm,21.4s,baz=342,slow=37
GUMO Guam 21.17 129 LR LR 17 21 32.2
comp=N,5µm,19.8s,baz=320,slow=33
KLR Kul'dur 21.35 6 P **P** **17 14 34.2 -0.8**
comp=N,7.3nm,0.9s,baz=190,slow=8.0,SNR=7.0
KLR LR LR 17 22 37.1
comp=N,3µm,19.2s,baz=182,slow=36
KLR Kul'dur 21.35 6*de*P **P** **17 14 35.0 0.0**
YUK Yuzh-Kuril'sk 21.37 37*d i*P **P** **17 14 28.5 -6.7**
YUK *i* S **S** **17 18 32.5 +1.7**
YUK *e*SS **SnSn** **17 18 50.5 -4.0**
YUK pmax pmax
comp=Z,196nm,1.1s
YUK pmax pmax
comp=Z,180nm,1.0s
YUK pmax pmax
comp=N,87nm,0.8s
CD2 Chengdu 21.44 284 P **P** **17 14 36.6 +0.3**
CD2 pP sP 17 14 46.0 -2.0
CD2 S **S** **17 18 27.0 -5.7**
CD2 pmax pmax
comp=N,110nm,1.0s
CD2 pmax pmax
comp=N,430nm,7.1s
CD2 LR LR
comp=N,46µm,14.9s
CD2 LR LR
comp=N,25µm,11.8s
CD2 LR LR
comp=N,21µm,12.0s
YSS Yuzh-Sakhalins 22.08 27 *e*P **P** **17 14 42.8 -0.1**
YSS *e* 17 14 54.5
YSS *e**SP sP 17 15 00.5 +6.0
YSS *e* 17 15 07.8
YSS *e*S **S** **17 18 39.6 -5.1**
YSS *e* 17 19 31.2
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS MLR MLR
comp=Z,6µm,14.0s
YSS Yuzh-Sakhalins 22.08 27 P **P** **17 14 44.9 +1.9**
LZH Lanzhou 22.09 297 *e*P **P** **17 14 43.6 +0.3**
LZH pP sP 17 14 51.3 -3.7
LZH sP pP 17 14 58.0 +6.8
LZH *e*S **S** **17 18 42.8 -2.6**
LZH SS Sn 17 19 18.8 +22
LZH pmax pmax
comp=Z,67nm,1.0s
LZH pmax pmax
comp=Z,380nm,5.2s
LZH LR LR
comp=Z,29µm,13.6s
LZH LR LR
comp=Z,11µm,13.1s
LZH LR LR
comp=Z,9µm,15.2s
HIA Hailar 22.18 345 P **P** **17 14 42.6 -1.4**
HIA pmax pmax
comp=Z,20nm,1.2s
HIA Hailar 22.18 345 P **P** **17 14 42.6 -1.4**
KMI Kunming 22.92 269⇑ *e*P **P** **17 14 52.3 0.0**
KMI pP sP 17 15 02.5 -1.5
KMI S **S** **17 18 56.4 -4.2**
KMI pmax pmax
comp=Z,24nm,1.4s
KMI pmax pmax
comp=Z,590nm,4.7s
KMI LR LR
comp=Z,9µm,13.5s
KMI LR LR
comp=Z,7µm,14.5s
KMI LR LR
comp=Z,8µm,14.2s
KMI Kunming 22.92 269 P **P** **17 14 52.3 0.0**
KMI pmax pmax
comp=Z,52nm,1.3s
KMI Kunming 22.92 269 P **P** **17 14 52.3 0.0**
KMI IAmb IAmb 17 15 04.7
comp=Z,52nm,1.3s
SLVN Son La 23.02 259 P **P** **17 14 56.7 +3.5**
KUR Kuril'sk 23.23 37 *e*P **P** **17 14 56.7 +1.7**
KUR *e*S **S** **17 19 08.8 +3.8**
KUR pmax pmax
comp=Z,1µm,7.3s
KUR pmax pmax
comp=Z,244nm,1.3s
KUR pmax pmax
comp=N,109nm,1.7s
KUR pmax pmax
comp=E,113nm,1.6s
KUR MLR MLR
comp=Z,4µm,19.0s
KUR MLR MLR
comp=N,2µm,14.0s
KUR MLR MLR
comp=E,3µm,18.0s
MYLDM Lahad Datu 24.52 204 P **P** **17 15 07.3 0.0**
ZEA Zeya 25.69 359 *e*P **P** **17 15 18.0 +0.3**
ZEA *e* 17 16 03.0
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=Z,10µm,14.0s
ZEA MLR MLR
comp=E,9µm,10.0s
ZEA MLR MLR
comp=N,8µm,15.0s
ULN Ulaanbaatar 25.73 326*de*P **P** **17 15 18.5 +0.2**
ULN pmax pmax
comp=Z,34nm,1.3s
ULN Ulaanbaatar 25.73 326 P **P** **17 15 17.5 -0.7**
ULN IAmb IAmb 17 15 34.6
comp=Z,27nm,1.0s
SONM Songino Array 26.04 325 P **P** **17 15 20.3 -0.8**
comp=Z,18nm,1.0s,baz=137,slow=9.9,SNR=36
SONM ScP **ScP** **17 22 28.3 +2.4**
comp=Z,0.2nm,0.4s,baz=264,slow=1.3,SNR=1.8
SONM LR LR 17 26 42.1
comp=Z,5µm,18.9s,baz=136,slow=39

GTA Gaotai 26.07 303 ⇑P **P** **17 15 20.4 -1.1**
GTA pP sP 17 15 29.4 -4.2
GTA sP pP 17 15 33.6 +3.6
GTA PP **PnPn** **17 16 05.4 +5.2**
GTA S **S** **17 19 47.5 -3.4**
GTA sS sS 17 20 04.8 -0.1
GTA pmax pmax
comp=Z,190nm,8.1s
GTA LR LR
comp=Z,14µm,16.5s
GTA LR LR
comp=Z,7µm,15.6s
GTA LR LR
comp=Z,9µm,12.7s
CIT Chita 26.35 339 *e*P **P** **17 15 23.8 +0.1**
CIT *e* 17 15 34.1
CIT *e* 17 16 03.5
CIT pmax pmax
comp=Z,62nm,1.2s
NKL Nikolayevsk 26.75 17 *e*P **P** **17 15 27.7 +0.5**
NKL *e*S **S** **17 20 07.5 +6.6**
NKL pmax pmax
comp=Z,9.0nm,1.2s
NKL pmax pmax
comp=N,5.0nm,0.9s
NKL MLR MLR
comp=Z,5µm,12.0s
CHTO Chiang Mai 28.29 257 P **P** **17 15 42.1 +0.7**
CHTO pmax pmax
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 28.29 257 P **P** **17 15 42.1 +0.7**
CMAR Chiang Mai Arr 28.44 257 P **P** **17 15 44.0 +1.3**
comp=Z,0.9nm,0.6s,baz=48,slow=7.3,SNR=2.0
CMAR PcP **PcP** **17 18 56.2 +1.6**
comp=Z,0.8nm,0.4s,baz=60,slow=1.3,SNR=6.4
CMAR LR LR 17 28 36.7
comp=Z,5µm,18.2s,baz=96,slow=40
CMAR Chiang Mai Arr 28.44 257 *i* P P 17 15 48.2 +5.5
CMAR pmax pmax
comp=Z,1.0nm,0.8s
SIJI Sorong 28.89 174 LR LR 17 27 06.6
comp=Z,2µm,19.5s,baz=358,slow=36
SBUM Sibu 29.65 214 P **P** **17 15 55.0 +1.5**
TLY Talaya 29.94 329 LR LR 17 29 20.1
comp=Z,4µm,21.1s,baz=128,slow=39
TLY Talaya 29.94 329 *e*P P 17 16 01.5 +5.7
TLY *e*S **S** **17 20 58.1 +6.7**
TLY pmax pmax
comp=Z,20nm,0.6s
TLY MLR MLR
comp=Z,19µm,17.0s
BOD Bodaibo 31.40 345 *e*P **P** **17 16 07.8 -0.7**
BOD pmax pmax
comp=Z,9.0nm,2.1s
KSM Kuching 31.46 216 P **P** **17 16 06.8 -2.7**
KSM Kuching 31.46 216 P **P** **17 16 10.0 +0.6**
SMPI Sarmi 31.52 160 P **P** **17 16 12.1 +2.2**
LSA Lhasa 32.38 282 P **P** **17 16 18.5 +0.4**
LSA pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 32.38 282 P **P** **17 16 18.5 +0.4**
SHL Shillong 32.41 274 P **P** **17 16 17.0 -1.0**
SHL pmax pmax
comp=Z,26nm,1.0s
SHL Shillong 32.41 274 P **P** **17 16 17.0 -1.0**
JAY Jayapura 32.67 156 LR LR 17 28 34.8
comp=Z,3µm,20.1s,baz=353,slow=34
PETK Petropavlovsk- 33.20 33 P **P** **17 16 23.9 -0.5**
comp=Z,3.3nm,0.9s,baz=175,slow=5.5,SNR=5.0
PETK LR LR 17 30 52.6
comp=Z,2µm,18.6s,baz=226,slow=38
PET Petropavlovsk 33.62 34⇑ *e*P **P** **17 16 27.8 -0.1**
PET pmax pmax
comp=Z,55nm,1.0s
PET Petropavlovsk 33.62 34 P **P** **17 16 27.8 -0.1**
PET IAmb IAmb 17 16 34.3
comp=Z,18nm,1.1s
KAPI Kappang 33.84 195 LR LR 17 31 11.9
comp=Z,1µm,19.2s,baz=8.5,slow=38
YAK Yakutsk 34.02 1 LR LR 17 30 31.2
comp=Z,4µm,18.4s,baz=188,slow=37
YAK Yakutsk 34.02 1 *e*P **P** **17 16 30.6 -0.7**
YAK *e**PP **sP** **17 16 40.1 -3.3**
YAK *e* 17 17 40.7
YAK *e* 17 19 11.5
YAK *e*S **S** **17 21 53.7 -0.8**
YAK *e**SS **sS** **17 22 11.8 +3.4**
YAK *e*SS **SnSn** **17 24 06.9 +4.4**
YAK *e* 17 26 57.8
YAK pmax pmax
comp=Z,6.0nm,0.9s
YAK pmax pmax
comp=Z,63nm,3.7s
YAK smax smax
comp=N,177nm,5.8s
YAK smax smax
comp=E,30nm,3.0s
YAK MLR MLR
comp=Z,5µm,12.0s
YAK MLR MLR
comp=N,5µm,11.0s
YAK MLR MLR
comp=E,3µm,13.0s
YAK Yakutsk 34.02 1 P **P** **17 16 31.3 0.0**
YAK IAmb IAmb 17 16 42.1
comp=Z,8.9nm,0.6s
KULM Kulim 34.57 234 P **P** **17 16 38.0 +1.4**
IPM Ipoh 34.87 233 P **P** **17 16 39.4 +0.1**
IPM IAmb IAmb 17 16 47.2
comp=Z,23nm,0.9s
IPM Ipoh 34.87 233 P **P** **17 16 42.0 +2.8**
MYKOM Kota Tinggi 34.95 226 P **P** **17 16 42.0 +2.1**
MA2 Magadan 35.14 20 LR LR 17 30 39.1
comp=Z,859nm,20.3s,baz=211,slow=36
WMQ Urumqi 35.98 307 *e*P **P** **17 16 51.4 +2.8**
WMQ pP sP 17 17 02.8 +2.0
WMQ sP pP 17 17 09.0 +12
WMQ PP **PP** **17 18 13.4 +2.8**
WMQ pmax pmax
comp=Z,100nm,3.8s
WMQ LR LR
comp=Z,6µm,12.1s
WMQ LR LR
comp=Z,4µm,12.1s
WMQ LR LR
comp=Z,4µm,16.1s
H11N2 WAKE ISLAND Hy 36.23 95 T T 17 54 34.3
baz=290,slow=74,SNR=32
H11N1 WAKE ISLAND Hy 36.24 95 T T 17 54 36.6
baz=290,slow=74,SNR=20
H11N3 WAKE ISLAND Hy 36.25 95 T T 17 54 37.8
baz=290,slow=74,SNR=23
PSI Prapat 37.53 233 LR LR 17 32 58.1
comp=Z,1µm,19.0s,baz=89,slow=37
DGZ Jazzator, Alta 37.78 316⇓ *e*P **P** **17 17 03.8 -0.1**
DGZ pmax pmax
comp=Z,13nm,2.6s
BATI Baumata 38.26 187 LR LR 17 36 44.1
comp=Z,517nm,18.0s,baz=36,slow=42
SEY Seymchan 38.32 18 LR LR 17 33 35.9
comp=Z,2µm,18.6s,baz=206,slow=37
ZSN Zaisan 38.75 312 *e*P **P** **17 17 11.9 -0.1**
baz=312
ZSN LR LR 17 33 12.7
comp=Z,838nm,11.1s,baz=312
ZSN Zaisan 38.75 312 *e*P **P** **17 17 11.9 -0.1**
ZSN MLR MLR
comp=Z,838nm,11.0s
KRVT Keravat (AS076 39.52 141 LR LR 17 30 50.7
comp=Z,1µm,19.5s,baz=344,slow=32
MK31 Makanchi Array 40.32 310 P **P** **17 17 24.8 -0.3**
MK31 pmax pmax
comp=Z,14nm,1.3s
MK31 Makanchi Array 40.32 310 P **P** **17 17 24.8 -0.3**
MKAR Makanchi Array 40.32 310 P **P** **17 17 24.2 -0.9**
comp=Z,4.2nm,0.7s,baz=101,slow=9.7,SNR=42
MKAR LR LR 17 34 26.7
comp=Z,2µm,19.9s,baz=107,slow=37
MKAR Makanchi Array 40.32 310 *i* P **P** **17 17 24.5 -0.6**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi 40.53 310 P **P** **17 17 26.3 -0.6**
MAKZ pmax pmax
comp=Z,26nm,1.4s
MAKZ Makanchi 40.53 310 P **P** **17 17 26.3 -0.6**

MAKZ IAmb IAmb 17 17 30.1
comp=Z,26nm,1.4s
MTN Manton Dam 40.73 176 P **P** **17 17 28.1 -0.5**
MTN IAmb IAmb 17 17 30.9
comp=Z,35nm,1.1s
ZAA0 Zalesovo Array 40.80 322 P **P** **17 17 28.0 -0.9**
ZALV Zalesovo Beam 40.80 322 P **P** **17 17 28.0 -0.9**
comp=Z,4.9nm,0.6s,baz=112,slow=8.8,SNR=12
ZALV LR LR 17 35 55.0
comp=Z,3µm,18.9s,baz=118,slow=38
PMG Port Moresby 41.50 151 LR LR 17 32 19.2
comp=Z,3µm,19.8s,baz=320,slow=32
UZB Uzynbulak 42.12 304 *i* P **P** **17 17 39.8 -0.3**
comp=Z,29nm,2.5s,baz=304
UZB *e*S **S** **17 23 57.0 -1.1**
baz=304
UZB LR LR 17 34 54.6
comp=Z,432nm,11.2s,baz=304
UZB Uzynbulak 42.12 304 *i* P **P** **17 17 39.8 -0.3**
UZB *e*S **S** **17 23 56.9 -1.1**
UZB pmax pmax
comp=Z,29nm,2.5s
UZB MLR MLR
comp=Z,432nm,11.0s
KPKS Kokpek 42.40 305 *i* P **P** **17 17 42.0 -0.3**
comp=Z,30nm,1.7s,baz=304
KPKS LR LR 17 35 17.3
comp=Z,2µm,13.4s,baz=304
KPKS Kokpek 42.40 305 *i* P **P** **17 17 42.0 -0.3**
KPKS pmax pmax
comp=Z,30nm,1.7s
KPKS MLR MLR
comp=Z,2µm,13.0s
SATY Saty 42.57 304 *i* P **P** **17 17 43.6 -0.1**
comp=Z,36nm,2.6s,baz=304
SATY *e*S **S** **17 24 04.0 -0.5**
baz=304
SATY LR LR 17 35 09.0
comp=Z,460nm,11.1s,baz=304
SATY Saty 42.57 304 *i* P **P** **17 17 43.6 -0.1**
SATY *e*S **S** **17 24 04.0 -0.5**
SATY pmax pmax
comp=Z,36nm,2.6s
SATY MLR MLR
comp=Z,460nm,11.0s
SATY Saty 42.57 304 *i* P **P** **17 17 43.6 -0.1**
SATY *e*S **S** **17 24 04.0 -0.5**
SATY pmax pmax
comp=Z,36nm,2.6s
SATY MLR MLR
comp=Z,460nm,11.0s
TDK Taldyqorghan 42.73 307 *e*P **P** **17 17 45.0 0.0**
comp=Z,28nm,1.7s,baz=307
TDK LR LR 17 36 26.8
comp=Z,3µm,14.5s,baz=307
TDK Taldyqorghan 42.73 307 *e*P **P** **17 17 44.9 0.0**
TDK pmax pmax
comp=Z,28nm,1.7s
TDK MLR MLR
comp=Z,3µm,15.0s
TARG Taragay, Kyrgy 42.94 302 P **P** **17 17 46.8 -0.3**
KDJ Kajisay 43.42 303 P **P** **17 17 50.7 0.0**
KDJ pmax pmax
comp=Z,35nm,1.4s
KDJ Kajisay 43.42 303 P **P** **17 17 50.7 0.0**
KDJ IAmb IAmb 17 17 54.6
comp=Z,35nm,1.4s
KNRA Kununurra 43.45 179 P **P** **17 17 49.3 -1.6**
KNRA IAmb IAmb 17 17 55.7
comp=Z,18nm,0.8s
KURK Kurchatov 43.50 315*c i*P **P** **17 17 49.4 -1.5**
KURK pmax pmax
comp=Z,30nm,1.7s
KURK Kurchatov 43.50 315 P **P** **17 17 49.7 -1.2**
KURK IAmb IAmb 17 18 01.0
comp=Z,28nm,1.4s
KURBB Kurchatov Arra 43.53 315 P **P** **17 17 50.0 -1.2**
comp=Z,7.3nm,0.6s,baz=103,slow=8.8,SNR=27
MDOK Medeo 43.57 304 *e*P **P** **17 17 52.0 +0.1**
baz=304
MDOK *e*S **S** **17 24 19.0 -0.2**
baz=304
MDOK LR LR 17 36 00.3
comp=Z,2µm,14.4s,baz=304
MDOK Medeo 43.57 304 *e*P **P** **17 17 51.9 +0.1**
MDOK *e*S **S** **17 24 18.9 -0.2**
MDOK MLR MLR
comp=Z,2µm,14.0s
TNSS Tian-Shan 43.63 304 *e*P **P** **17 17 52.5 -0.2**
baz=304
TNSS Tian-Shan 43.63 304 *e*P **P** **17 17 52.4 -0.2**
TIXI Tiksi 43.66 0⇓ *e*P **P** **17 17 52.2 +0.2**
TIXI pmax pmax
comp=Z,2.0nm,0.9s
AAA Alma-Ata 43.67 304 *e*P **P** **17 17 52.4 -0.1**
baz=304
AAA LR LR 17 36 04.1
comp=Z,2µm,13.6s,baz=304
AAA Alma-Ata 43.67 304 *e*P **P** **17 17 52.4 -0.1**
AAA MLR MLR
comp=Z,2µm,14.0s
KUU Kurty 44.12 305 *e*P **P** **17 17 55.9 -0.2**
comp=Z,17nm,1.8s,baz=305
KUU LR LR 17 36 25.2
comp=Z,938nm,11.9s,baz=305
KUU Kurty 44.12 305 *e*P **P** **17 17 55.9 -0.2**
KUU pmax pmax
comp=Z,17nm,1.8s
KUU MLR MLR
comp=Z,938nm,12.0s
KSH Kashi 44.33 299 P P 17 18 03.8 +5.9
KSH sP sP 17 18 19.3 +9.1
KSH S **S** **17 24 32.8 +2.5**
KSH pmax pmax
comp=Z,10.0nm,0.5s
KSH pmax pmax
comp=Z,120nm,4.3s
KSH LR LR
comp=Z,9µm,14.9s
KSH LR LR
comp=Z,7µm,14.1s
KSH LR LR
comp=Z,3µm,16.6s
AMKA Amchitka 44.60 44 P **P** **17 17 59.1 -0.7**
AAK Ala-Archa 45.42 303⇑ *e*P **P** **17 18 07.2 +0.5**
AAK pmax pmax
comp=Z,4.0nm,1.2s
BTLS Baital 45.82 307 *i* P **P** **17 18 09.2 -0.3**
comp=Z,25nm,2.5s,baz=306
BTLS LR LR 17 37 44.5
comp=Z,655nm,12.8s,baz=306
BTLS Baital 45.82 307 *i* P **P** **17 18 09.2 -0.3**
BTLS pmax pmax
comp=Z,25nm,2.5s
BTLS MLR MLR
comp=Z,655nm,13.0s
BILL Bilibino 45.99 19 *e*P **P** **17 18 09.4 -1.1**
BILL *e* 17 19 56.1
BILL *e*PPP PPP 17 20 47.5
BILL pmax pmax
comp=Z,4.0nm,0.9s
ARSB Arslanbob 46.56 302 P **P** **17 18 15.2 -0.4**
ARSB pmax pmax
comp=Z,27nm,1.3s
ARSB Arslanbob 46.56 302 P **P** **17 18 15.2 -0.4**
NIL Nilore 47.03 291 P **P** **17 18 19.7 +0.4**
NIL pmax pmax
comp=Z,16nm,1.0s
NIL Nilore 47.03 291 P **P** **17 18 19.7 +0.4**
NIL IAmb IAmb 17 18 26.1
comp=Z,16nm,1.0s
NRIK Noril'sk 47.53 342 P **P** **17 18 22.3 -0.2**
comp=Z,3.4nm,0.6s,baz=135,slow=5.7,SNR=5.6
NRIK LR LR 17 40 07.1
comp=Z,6µm,19.0s,baz=132,slow=38
NRIK Noril'sk 47.53 342⇑ *e*P **P** **17 18 22.0 -0.6**
NRIK pmax pmax
comp=Z,20nm,1.7s
DZA Taraz 47.75 304 *i* P **P** **17 18 25.1 +0.3**
baz=303
DZA Taraz 47.75 304 *i* P **P** **17 18 25.0 +0.3**
WRAB Tennant Creek 48.05 172*ce*P **P** **17 18 30.9 +3.7**
WRAB pmax pmax
comp=Z,30nm,2.5s
WRAB Tennant Creek 48.05 172 P **P** **17 18 27.4 +0.3**
WRA Warramunga Arr 48.06 172 P **P** **17 18 27.0 -0.2**

comp=Z,8.5nm,0.6s,baz=353,slow=8.2,SNR=35
WRA LR LR 17 37 53.6
comp=Z,1μm,20.9s,baz=10.0,slow=35
WRA Warramunga Arr 48.06 172 P P 17 18 27.0 -0.2
BTK Batken 48.27 300 P P 17 18 28.7 -0.1
BTK pmax pmax
comp=Z,17nm,1.4s
BTK Batken 48.27 300 P P 17 18 28.7 -0.1
BTK IAmb IAmb 17 18 37.3
comp=Z,17nm,1.4s
KK31 Karatay Array 48.35 304 P P 17 18 28.7 -0.6
KK31 pmax pmax
comp=Z,29nm,1.5s
KK31 Karatay Array 48.35 304 P P 17 18 28.7 -0.6
KKAR Karatay Array 48.35 304 P P 17 18 28.7 -0.6
KKAR pmax pmax
comp=Z,29nm,1.5s
KKAR Karatay Array 48.35 304 P P 17 18 28.7 -0.6
IUG luzhnay 48.74 303 *eP* **P 17 18 32.9 +0.4**
baz=302
IUG luzhnay 48.74 303 eP P 17 18 32.9 +0.4
GAR Garm 48.74 299 P P 17 18 31.8 -0.7
BRVK Borovoye 48.98 317 *ceP* **P 17 18 33.3 -0.7**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 48.98 317 P P 17 18 33.8 -0.2
PALK Pallekele 49.34 255 LR LR 17 41 29.5
comp=Z,1μm,19.1s,baz=148,slow=39
CHGR Chuyangaron 49.68 298 P P 17 18 39.1 -0.6
KBL Kabul 50.34 293 P P 17 18 45.9 +1.0
KBL pmax pmax
comp=Z,61nm,1.3s
KBL Kabul 50.34 293 P P 17 18 45.9 +1.0
CTA Charters Tower 50.93 158 LR LR 17 39 51.3
comp=Z,1μm,21.8s,baz=342,slow=35
AS31 Alice Springs 51.69 173 P P 17 18 54.8 -0.1
ASAR Alice Springs 51.69 173 P P 17 18 55.1 +0.3
comp=Z,4.1nm,0.6s,baz=7.0,slow=8.7,SNR=28
ASAR LR LR 17 39 41.3
comp=Z,833nm,21.4s,baz=354,slow=35
SVE Sverdlovsk 54.82 322 *eP* **P 17 19 17.6 +0.2**
SVE pmax pmax
comp=Z,36nm,1.5s
SVE MLR MLR
comp=Z,7μm,13.0s
HRA Herat 55.88 294 P P 17 19 25.3 -0.4
HRA IAmb IAmb 17 19 34.9
comp=Z,22nm,1.3s
ARU Arti 55.96 321 P P 17 19 25.6 -0.1
comp=Z,1.9nm,0.7s,baz=82,slow=2.3,SNR=8.8
ARU Arti 55.96 321 *d i* P **P 17 19 25.7 0.0**
ARU 17 20 21.5
ARU 17 21 25.4
ARU S **S 17 27 11.9 +0.3**
ARU 17 29 08.9
ARU pmax pmax
comp=Z,10.0nm,0.9s
ARU MLR MLR
comp=Z,4μm,14.0s
ARU Arti 55.96 321 P P 17 19 25.7 0.0
GEYT Alibeck 58.36 299 P P 17 19 42.4 -0.6
comp=Z,5.1nm,1.1s,baz=57,slow=6.0,SNR=2.8
GEYT LR LR 17 47 23.7
comp=Z,2μm,18.8s,baz=50,slow=39
GYA0B ALIBECK ARRAY 58.36 299 P P 17 19 42.8 -0.2
GYA0B IAmb IAmb 17 19 53.1
comp=Z,16nm,0.9s
FORT Forrest 58.48 180 P P 17 19 43.1 -0.5
TTA Tatalina 59.02 31 P P 17 19 47.4 +0.2
TTA pmax pmax
comp=Z,7.0nm,1.3s
TTA Tatalina 59.02 31 P P 17 19 47.4 +0.2
SVW2 Sparrevohn 59.29 33 P P 17 19 50.6 +1.6
SVW2 IAmb IAmb 17 19 55.3
comp=Z,13nm,1.2s
STKA Stephens Creek 60.93 167 P P 17 20 01.1 +0.6
comp=Z,8.1nm,0.6s,baz=337,slow=7.2,SNR=23
STKA LR LR 17 46 13.6
comp=Z,494nm,21.7s,baz=343,slow=36
STKA Stephens Creek 60.93 167 P P 17 20 00.6 +0.1
STKA pmax pmax
comp=Z,2.0nm,0.7s
STKA Stephens Creek 60.93 167 P P 17 20 00.6 +0.1
BBOO Buckleboo 60.97 172 P P 17 20 00.9 +0.1
KDAK Kodiak Island 61.11 37 P P 17 20 02.1 +0.6
comp=Z,6.9nm,0.5s,baz=254,slow=7.4,SNR=3.7
KDAK LR LR 17 47 09.2
comp=Z,693nm,21.8s,baz=250,slow=37
KDAK Kodiak Island 61.11 37 P P 17 20 01.2 -0.3
KDAK pmax pmax
comp=Z,68nm,1.5s
KDAK Kodiak Island 61.11 37 P P 17 20 01.2 -0.3
BPAW Bear Paw Mtn. 61.20 30 P P 17 20 03.2 +1.1
BPAW IAmb IAmb 17 20 19.0
comp=Z,8.6nm,1.1s
DZM Mont Dzumac 62.02 139 *eS* **S 17 28 35.4 +4.4**
comp=Z,2μm,28.9s
DZM LQ LQ 17 36 05.1
comp=Z,998nm,25.9s
DZM LR LR 17 38 46.1
comp=Z,2μm,22.1s
DZM Mont Dzumac 62.02 139 LR LR 17 43 08.2
comp=Z,2μm,21.9s,baz=355,slow=32
RND Reindeer 62.22 30 P P 17 20 08.7 -0.3
RND pmax pmax
comp=Z,13nm,0.8s
RND Reindeer 62.22 30 P P 17 20 08.7 -0.3
MDM Murphy Dome 62.29 29 P P 17 20 10.6 +1.2
WRH Wood River Hil 62.41 29 P P 17 20 11.2 +1.1
WRH IAmb IAmb 17 20 32.4
comp=Z,5.3nm,1.0s
COLA College 62.46 29⇑ *eP* **P 17 20 12.4 +1.9**
COLA pmax pmax
comp=Z,3.0nm,0.9s
CCB Clear Creek Bu 62.51 29 P P 17 20 11.2 +0.3
IL31 62.88 29 P P 17 20 13.6 +0.3
ILAR Eielson Array 62.88 29 P P 17 20 13.8 +0.4
comp=Z,1.2nm,0.6s,baz=294,slow=8.8,SNR=6.5
ILAR LR LR 17 50 11.7
comp=Z,641nm,18.4s,baz=291,slow=39
HDA Harding Lake 62.91 29 P P 17 20 13.6 +0.1
HDA IAmb IAmb 17 20 24.7
comp=Z,7.8nm,0.9s
DOT Dot Lake 64.29 30 P P 17 20 22.8 0.0
DOT IAmb IAmb 17 20 49.3
comp=Z,14nm,1.3s
MENT Mentasta 64.59 30 P P 17 20 25.9 +1.3
MENT IAmb IAmb 17 20 42.1
comp=Z,8.2nm,0.8s
MAK Makhachkala 65.00 307 *eP* **P 17 20 24.6 -3.0**
MAK *e* 17 22 50.5
MAK *eS* **S 17 29 04.8 -2.8**
MAK *eSS* **SS 17 33 18.9 -0.5**
MAK pmax pmax
comp=Z,204nm,1.6s
MAK MLR MLR
comp=Z,1μm,14.0s
KLMR Klimovskoe 65.31 327 P P 17 20 27.3 -2.0
KLMR *eS* **S 17 29 06.5 -4.3**
KLMR *eSS* **SS 17 33 19.1 -4.3**
KLMR pmax pmax
comp=Z,14nm,1.5s
KLMR MLR MLR
comp=Z,2μm,11.0s
KLMR Klimovskoe 65.31 327 P P 17 20 27.3 -2.0
KLMR AMP 17 20 33.6
comp=Z,14nm,1.5s
KLMR *eS* **S 17 29 06.5 -4.3**
KLMR *eS* **S 17 29 06.5 -4.3**
KLMR *eSS* **SS 17 33 19.1 -4.3**
KLMR *eSS* **SS 17 33 19.1 -4.3**
KLMR LQ LQ 17 44 13.2
KLMR LQ LQ 17 44 13.2
KLMR LR LR 17 49 06.8
KLMR AMP 17 53 02.5
comp=Z,2μm,10.9s
INK Inuvik 67.26 24 P P 17 20 40.7 -1.0
comp=Z,2.7nm,1.0s,baz=298,slow=5.7,SNR=4.2
INK LR LR 17 52 14.2
comp=Z,742nm,20.4s,baz=281,slow=38
KBS Kingsbay 67.47 349 P P 17 20 44.4 +1.5
KBS pmax pmax
comp=Z,25nm,1.4s
KBS Kingsbay 67.47 349 P P 17 20 44.4 +1.5
KBZ Khabaz 67.99 309 LR LR 17 55 28.6
comp=Z,864nm,19.0s,baz=52,slow=40
KBZ Khabaz 67.99 309 *ceP* **P 17 20 48.0 +1.3**
KIV Kislovodsk 68.07 309 *eP* **P 17 20 47.0 -0.3**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,3μm,17.0s
VSR Storozhevoye 68.10 317 *eP* **P 17 20 47.5 +0.3**
VSR pmax pmax
comp=Z,2.0nm,0.4s
VSR MLR MLR
comp=Z,4μm,18.0s
ARCES ARCESS Array B 68.32 338 LR LR 17 57 54.0
comp=Z,2μm,19.1s,baz=69,slow=42
OBN Obninsk 68.39 322 *eP* **P 17 20 50.3 +1.4**
OBN *e* 17 23 22.1
OBN *e*PPP PPP 17 24 58.9
OBN pmax pmax
comp=Z,7.0nm,0.9s
FINES FINESS Array B 71.28 330 P **P 17 21 07.2 +0.6**
comp=Z,1.9nm,0.9s,baz=57,slow=7.0,SNR=7.2
FINES LR LR 17 55 59.8
comp=Z,3μm,20.9s,baz=74,slow=39
FINES FINESS Array B 71.28 330 *i* P **P 17 21 07.6 +0.9**
FINES pmax pmax
comp=Z,2.0nm,0.9s
ANN Anapa 71.33 311 *eP* **P 17 21 04.5 -2.8**
ANN *e* 17 21 23.4
ANN *e* 17 23 42.5
ANN *eS* **S 17 30 22.3 -0.8**
ANN pmax pmax
comp=Z,24nm,0.8s
ANN MLR MLR
comp=E,2μm,16.0s
ANN MLR MLR
comp=N,3μm,17.0s
ANN MLR MLR
comp=Z,3μm,17.0s
AKASG Malin Array Be 74.14 319 LR LR 17 56 06.5
comp=Z,4μm,18.2s,baz=70,slow=38
SORM Soroca 75.76 317 ⇑P **P 17 21 35.2 +2.0**
BRTR Keskin Array B 75.90 308 P **P 17 21 33.9 -0.6**
comp=Z,0.9nm,0.5s,baz=91,slow=4.9,SNR=4.1
BRTR LR LR 18 00 32.3
comp=Z,568nm,18.1s,baz=22,slow=40
BRTR Keskin Array B 75.90 308 *i* P **P 17 21 34.4 0.0**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 76.92 25 P **P 17 21 39.1 -0.5**
comp=Z,4.6nm,0.9s,baz=303,slow=5.6,SNR=12
YKA LR LR 18 00 09.6
comp=Z,264nm,18.1s,baz=0.0,slow=39
YKA Yellowknife Ar 76.92 25 *i* P **P 17 21 40.5 +0.9**
YKA pmax pmax
comp=Z,5.0nm,0.9s
TOPG Topolog 77.19 314 ⇑P **P 17 21 40.4 -1.1**
CFR Carcaliu 77.20 314 ⇓P **P 17 21 43.6 +2.1**
LVV L'vov 77.51 320 *eP* **P 17 21 38.8 -4.4**
LVV *e* 17 32 22.9
LVV MLR MLR
comp=N,1μm,19.0s
LVV MLR MLR
comp=E,3μm,19.0s
LVV MLR MLR
comp=Z,3μm,19.0s
HARR Harsova 77.56 314 ⇑P **P 17 21 43.8 +0.3**
NB2 NORSAR Subarra 77.68 334 P **P 17 21 47.4 +3.4**
comp=Z,1.9nm,0.9s,baz=51,slow=5.6
NOA NORSAR Array B 77.68 334 P **P 17 21 42.8 -1.1**
comp=Z,0.7nm,0.6s,baz=53,slow=5.6,SNR=1.8
NOA LR LR 17 59 13.0
comp=Z,2μm,20.4s,baz=50,slow=38
VRI Vrincioaia 77.77 316 ⇓P **P 17 21 43.9 -0.8**
URZ Urewera 80.28 143 LR LR 17 53 57.6
comp=Z,348nm,19.3s,baz=4.0,slow=33
KRLC Kraliky 81.39 323 AMS AMS 18 01 20.0
comp=Z,4μm,14.6s
OSTC Ostas 81.42 323 AMS AMS 18 01 20.0
comp=Z,4μm,15.1s
DPC Dobruska-Polom 81.48 323 AMS AMS 18 01 30.0
comp=Z,4μm,14.5s
CHVC Chvalec 81.49 323 AMS AMS 18 01 20.0
comp=Z,5μm,15.1s
UPC Upice 81.56 323 AMS AMS 18 01 40.0
comp=Z,5μm,14.9s
PVCC Panska Ves 82.30 324 AMS AMS 18 02 10.0
comp=Z,4μm,15.7s
BRG Berggiesshubel 82.43 324 *eP* P 17 22 20.7 +11
comp=Z,18nm,1.9s
comp=N,3μm,19.6s
comp=E,2μm,14.9s
comp=Z,4μm,14.8s
TREC Trest 82.52 322 AMS AMS 18 02 00.0
comp=Z,3μm,15.0s
GOPC GO Pecny, Ondr 82.54 323 AMS AMS 18 02 10.0
comp=Z,4μm,15.0s
PRU Pruhonice 82.63 323 AMS AMS 18 02 10.0
comp=Z,5μm,15.2s
PRA Prague 82.64 324 AMS AMS 18 02 20.0
comp=Z,2μm,15.4s
CLL Collm 82.65 325 *e*PP PP 17 25 20.0 -0.1
CLL *e*S **S 17 32 25.0 -1.2**
CLL *e*PS 17 33 19.0
CLL *e*SS **SS 17 37 48.0 +0.6**
CLL *e* 17 38 54.0
CLL *e* 17 42 06.0
CLL *e*SSSS 17 43 54.0
CLL LH 17 55 00.0
comp=N,3μm,21.2s
CLL LH 17 55 00.0
comp=E,3μm,21.8s
B08A Colville Reser 82.95 38 P **P 17 22 13.3 +0.8**
B08A IAmb IAmb 17 22 27.9
comp=Z,6.8nm,1.1s
NKC Novy Kostel 83.58 324 AMS AMS 18 03 00.0
comp=Z,5μm,14.8s
KHC Kasperske Hory 83.64 323 *eP* **P 17 22 19.4 +3.3**
KHC MLR MLR
comp=Z,6μm,15.0s
KHC Kasperske Hory 83.64 323 *eP* **P 17 22 19.4 +3.3**
KHC AMS AMS 18 02 50.0
comp=Z,6μm,15.0s
GERES GERESS Array B 83.74 323 LR LR 18 02 18.7
comp=Z,2μm,19.0s,baz=68,slow=38
D08A Wollman Farm, 83.92 39 P **P 17 22 17.5 0.0**
D08A IAmb IAmb 17 22 20.5
comp=Z,12nm,1.4s
HAWA Hanford 83.95 40 P **P 17 22 17.2 -0.5**
NEW Newport 84.20 38 P **P 17 22 19.1 +0.1**
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 84.20 38 P **P 17 22 19.1 +0.1**
PINE Pine Mountain 84.59 43 P **P 17 22 21.9 +0.6**
E09A Wood Farm, Sta 84.67 39 P **P 17 22 21.2 -0.1**
E09A IAmb IAmb 17 22 24.6
comp=Z,12nm,1.2s
I07A Izee 85.29 42 P **P 17 22 26.7 +2.1**
WDC Whiskeytown Da 85.38 46 P **P 17 22 26.7 +1.7**
WDC pmax pmax
comp=Z,9.0nm,1.1s
WDC Whiskeytown Da 85.38 46 P **P 17 22 26.7 +1.7**
WDC IAmb IAmb 17 22 28.2
comp=Z,9.2nm,1.1s
JTMT Jette 86.04 37 P **P 17 22 28.7 +0.4**
MOD Modoc Plateau 86.05 44 P **P 17 22 29.4 +0.9**
MOD IAmb IAmb 17 22 47.0
comp=Z,8.0nm,1.1s
BMO Blue Mountains 86.12 40 P **P 17 22 29.5 +0.8**
BMO pmax pmax
comp=Z,6.0nm,1.2s
BMO Blue Mountains 86.12 40 P **P 17 22 29.5 +0.8**
J08A Circle Bar Ran 86.31 42 P **P 17 22 31.3 +1.6**
J08A IAmb IAmb 17 22 33.2
comp=Z,7.5nm,0.9s
ORV Oroville 86.61 47 P **P 17 22 32.3 +1.2**
ORV pmax pmax
comp=Z,11nm,1.2s
ORV Oroville 86.61 47 P **P 17 22 32.3 +1.2**
ORV IAmb IAmb 17 22 33.6
comp=Z,11nm,1.2s
WVOR Wild Horse Val 86.75 43 P **P 17 22 34.6 +2.7**
WVOR pmax pmax
comp=Z,7.0nm,1.4s
FFC Flin Flon 87.01 26 P **P 17 22 32.6 -0.1**
FFC Flin Flon 87.01 26 P **P 17 22 32.6 -0.1**
FFC IAmb IAmb 17 22 42.9
comp=Z,6.6nm,0.8s
AFDM Forest Hills D 87.29 47 P **P 17 22 36.9 +2.4**
AFDM IAmb IAmb 17 22 37.4
comp=Z,6.8nm,1.2s
MFID Camas Ranch 87.83 41 P **P 17 22 37.5 +0.4**
MFID IAmb IAmb 17 22 41.0
comp=Z,9.7nm,1.2s
PAHR Pah Rah Range 87.87 46 P **P 17 22 37.5 +0.2**
PAHR IAmb IAmb 17 22 40.6
comp=Z,9.2nm,1.1s
HRY Holter Researc 87.99 37 P **P 17 22 39.8 +2.0**
CMB Columbia Colle 88.18 47 P **P 17 22 39.9 +1.1**
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 88.18 47 P **P 17 22 39.9 +1.1**
CMB IAmb IAmb 17 22 41.9
comp=Z,6.2nm,0.9s
DLMT Dillon 88.44 38 P **P 17 22 41.9 +1.9**
HLID Hailey 88.56 40 P **P 17 22 40.9 +0.3**
HLID IAmb IAmb 17 22 48.3
comp=Z,7.5nm,1.1s
BOZ Bozeman (W) 88.81 37 P **P 17 22 42.4 +0.7**
BOZ pmax pmax
comp=Z,6.0nm,1.4s
BOZ Bozeman (W) 88.81 37 P **P 17 22 42.4 +0.7**
KVN Kaiserville 89.06 45 P **P 17 22 45.1 +2.0**
KVN pmax pmax
comp=Z,9.0nm,1.2s
KVN Kaiserville 89.06 45 P **P 17 22 45.1 +2.0**
KVN IAmb IAmb 17 22 50.5
comp=Z,8.5nm,1.2s
MDPB Devils Postpil 89.26 47 P **P 17 22 45.2 +1.0**
MDPB IAmb IAmb 17 23 07.3
comp=Z,4.9nm,1.0s
NVAR Mina Array Bea 89.30 46 P **P 17 22 45.8 +1.6**
comp=Z,0.8nm,0.7s,baz=263,slow=5.8,SNR=7.6
NVAR LR LR 17 59 12.2
comp=Z,183nm,20.0s,baz=299,slow=33
IMW Indian Meadow 90.29 38 P **P 17 22 49.0 +0.1**
IMW IAmb IAmb 17 22 52.9
comp=Z,8.5nm,1.3s
FLWY Flagg Ranch 90.30 38 P **P 17 22 48.6 -0.2**
FLWY IAmb IAmb 17 22 57.8
comp=Z,14nm,1.4s
RLMT Red Lodge 90.38 37 P **P 17 22 48.2 -0.9**
RLMT IAmb IAmb 17 23 08.1
comp=Z,9.0nm,1.2s
R11A Troy Canyon, C 91.06 45 P **P 17 22 54.4 +2.0**
KMBO Kilima Mbogo 91.34 269 LR LR 18 05 58.9
comp=Z,389nm,18.0s,baz=90,slow=37
HWUT Hardware Ranch 91.42 40 P **P 17 22 56.5 +2.5**
PPT Papeete 91.52 109 LR LR 17 56 38.5
comp=Z,347nm,21.5s,baz=304,slow=31
PPT2 Papeete2 91.53 109 *e*LQ LQ 17 48 07.5
comp=Z,1μm,34.2s
PPT2 *e*LR LR 17 52 27.7
comp=Z,688nm,22.2s,baz=291
DUG Dugway, Tooele 91.60 42 P **P 17 22 56.3 +1.5**
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG Dugway, Tooele 91.60 42 P **P 17 22 56.3 +1.5**
DUG IAmb IAmb 17 23 06.5
comp=Z,5.2nm,0.8s
PD31 Pinedale Array 91.79 39 P **P 17 22 56.7 +0.9**
PDAR Pinedale Array 91.79 39 P **P 17 22 56.2 +0.4**
comp=Z,1.2nm,0.6s,baz=321,slow=2.1,SNR=9.4
PDAR LR LR 18 06 53.9
comp=Z,216nm,18.9s,baz=344,slow=37
TCUT Toone Canyon 91.83 41 P **P 17 22 55.7 -0.4**
PRN Pahroc Range 91.97 45 P **P 17 22 56.6 0.0**
PRN IAmb IAmb 17 23 10.3
comp=Z,5.8nm,1.1s
PSUT Pine Spring 92.01 44 P **P 17 22 58.9 +2.0**
GSC Goldstone, Bar 92.11 48 P **P 17 22 59.2 +2.0**
GSC pmax pmax
comp=Z,8.0nm,1.1s
GSC Goldstone, Bar 92.11 48 P **P 17 22 59.2 +2.0**
GSC IAmb IAmb 17 23 00.5
comp=Z,8.2nm,1.1s
SHPR Sheep Range 92.45 46 P **P 17 23 01.2 +2.3**
SHPR IAmb IAmb 17 23 02.6
comp=Z,5.1nm,1.1s
ULM Lac du Bonnet 92.83 27 P **P 17 23 00.6 +0.5**
comp=Z,4.0nm,0.7s,baz=333,slow=6.4,SNR=3.8
ULM LR LR 18 08 46.0
comp=Z,411nm,19.1s,baz=328,slow=38
ULM Lac du Bonnet 92.83 27 P **P 17 23 00.6 +0.5**
ULM pmax pmax
comp=Z,9.0nm,1.2s
ULM Lac du Bonnet 92.83 27 IAmb IAmb 17 23 23.7
comp=Z,9.1nm,1.2s
MSU Marysvale 93.05 43 P **P 17 23 03.6 +2.0**
MSU Marysvale 93.05 43 P **P 17 23 03.6 +2.0**
PFO Pinyon Flats O 93.35 49 P **P 17 23 04.1 +1.1**
comp=Z,9.3nm,1.0s,baz=302,slow=5.9,SNR=6.8
PFO Pinyon Flats O 93.35 49 P **P 17 23 04.0 +1.0**
XPFO Pion Flat 93.35 49 P **P 17 23 04.8 +1.7**
KNB Kanab 93.60 45 P **P 17 23 06.2 +2.0**
KNB pmax pmax
comp=Z,9.0nm,1.1s
KNB Kanab 93.60 45 P **P 17 23 06.2 +2.0**
SRU San Rafael Swe 93.65 42 P **P 17 23 06.5 +2.1**
SRU pmax pmax
comp=Z,3.0nm,0.7s
SRU San Rafael Swe 93.65 42 P **P 17 23 06.5 +2.1**
BAR Barrett 93.76 50 P **P 17 23 06.5 +1.7**
CBX Cerro Bola 93.99 50 P **P 17 23 07.9 +1.9**
CBX IAmb IAmb 17 23 09.3
comp=Z,5.8nm,1.0s
W13A Hualapai Mount 94.13 47 P **P 17 23 08.8 +2.1**
KEST Kesra 94.30 314 LR LR 18 09 51.5
comp=Z,825nm,18.0s,baz=354,slow=38
TBI Tubuai 94.37 114 *e*LQ LQ 17 49 23.0
comp=Z,652nm,35.8s
TBI *e*LR LR 17 53 45.7
comp=Z,489nm,25.8s,baz=299
ESJX Sierra Juarez 94.66 50 P **P 17 23 10.2 +1.1**
ESJX IAmb IAmb 17 23 12.8
comp=Z,7.6nm,1.1s
PV17 East Wray Mesa 95.11 42 P **P 17 23 10.9 -0.2**
PV17 IAmb IAmb 17 23 24.5
comp=Z,6.1nm,1.0s
TAOE Nuku Hiva Isla 95.57 97 *e*LR LR 17 54 09.7
comp=Z,555nm,27.0s
SCHQ Schefferville 96.47 9 LR LR 18 10 10.8
comp=Z,327nm,20.5s,baz=346,slow=38
ESDC Sonseca Array 99.24 325 LR LR 18 13 27.9
comp=Z,1μm,19.2s,baz=20,slow=38
RKT Rikitea 106.23 108 *e*LQ LQ 17 54 21.5
comp=Z,383nm,38.5s
RKT *e*LR LR 17 59 09.0
comp=Z,962nm,22.5s
TORD Torodi Ar. Bea 113.97 301 PKiKP **PKiKP 17 28 28.2 +1.0**
comp=Z,0.2nm,0.5s,baz=22,slow=3.0,SNR=4.0
VNA2 Neumayer--Watz 130.47 198 PKPdf **PKiKP 17 28 57.9 -0.1**
VNA3 Neumayer Olymp 130.87 197 PKPdf **PKiKP 17 28 58.9 +0.1**
PTGA Pitinga 151.76 17 **PKPbc 17 29 42.6 -0.3**

ASRS 14 17:13:44.6±0.2, 52°N±3°×97°9E±0°9, h5km, MLh3.5/9,
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/iasp91 confirmed,
Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TDJR	**Todzha**	**1.14**	**284**	Pg	Pn	17 14 10.9	+3.7
TDJR				Sg	Sn	17 14 26.1	+2.8
ORL	**Orlik**	**1.23**	**71**	Pg	Pn	17 14 12.6	+4.0
ORL				Sg	Sn	17 14 28.2	+2.5
KZLR	**Kyzyl**	**2.18**	**260**	Pg	Pg	17 14 29.9	+3.5
KZLR				Sg	Sg	17 14 57.9	+3.2
ARDR	**Aradan**	**2.78**	**281**	Pg	Pg	17 14 38.4	+0.6
ARDR				Sg	Sg	17 15 15.1	+1.3
TLY	**Talaya**	**3.58**	**95**	Pg	Pg	17 14 53.9	+0.7
TLY				Sg	Sg	17 15 39.3	-0.3
ZAK	**Zakamensk**	**3.81**	**116**	Pg	Pg	17 14 59.7	+2.1
ZAK				Sg	Sg	17 15 50.9	+4.1
IRK	**Irkutsk**	**3.92**	**86**	Sg	Sg	17 15 50.3	0.0
CERR	**Cheremushki**	**4.03**	**283**	Pg	Pg	17 15 04.2	+2.5
CERR				Sg	Sg	17 15 53.8	-0.1
DJOS	**Djoyskaya Sosn**	**4.03**	**282**	Pg	Pg	17 15 05.4	+3.6
DJOS				Sg	Sg	17 15 54.0	0.0
DJO	**Djoy, Khakassi**	**4.14**	**281**	Pg	Pg	17 15 05.7	+1.8
DJO				Sg	Sg	17 15 56.6	-0.8

GZLN	**Zheleznogorsk**	**4.88**	**332**	Pg	Pg	17 15 17.0 -1.1
TRG	**Tyrgan**	**5.20**	**80**	Pg	Pg	17 15 24.8 +0.7
TRG				Sg	Sg	17 16 31.1 -0.3
CUR	**Chagan-Uzun**	**6.36**	**255**	Pg	Pg	17 15 47.0 +0.7
CUR				Sg	Sg	17 17 10.2 +1.6
ULGR	**Ulagan, Altay**	**6.41**	**260**	Pg	Pg	17 15 48.7 +1.4
ULGR				Sg	Sg	17 17 14.5 +4.2
ARTR	**Artybash**	**6.58**	**271**	Sg	Sg	17 17 14.4 -1.2
DGZ	**Jazzator, Alta**	**7.06**	**254**	Sg	Sg	17 17 30.9 -0.3
ELT	**Eltsovka**	**7.18**	**284**	Sg	Sg	17 17 28.5 -6.4
ULN	**Ulaanbaatar**	**7.29**	**122**	Sg	Sg	17 17 40.9 +2.6

MAN 14 17:14:33.5, 17°.03N×121°.86E, h53km, mb4.2, ML3.1, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.10**	**204**	*eP*	Pn	17 14 42.6	+0.9
CAUP				*eS*	Sn	17 14 49.8	+2.3
APYP	**Conner**	**1.02**	**324**	*eP*	Pn	17 14 52.3	+0.7
APYP				*eS*	Sn	17 15 07.3	+2.4
ABRA	**Dolores**	**1.26**	**299**	*eP*	Pn	17 14 54.6	-0.3
ABRA				*eS*	Sn	17 15 09.3	-1.4
BALP	**Baler**	**1.31**	**192**	*eP*	Pn	17 14 56.8	+1.2
BALP				*eS*	Sn	17 15 13.8	+1.8

MAN 14 17:16:21.7, 16°.99N×121°.63E, h24km, mb4.5, ML3.3, MS3.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.19**	**103**	*eP*	Pn	17 16 28.7	-0.4
CAUP				*eS*	Sb	17 16 35.9	+5.1
APYP	**Conner**	**0.94**	**337**	*eP*	Pb	17 16 38.4	-1.0
APYP				*eS*	Sn	17 16 53.5	+1.3
ABRA	**Dolores**	**1.09**	**307**	*eP*	Pn	17 16 40.8	-0.7
ABRA				*eS*	Sn	17 16 55.9	0.0
BALP	**Baler**	**1.24**	**182**	*eP*	Pn	17 16 42.9	-0.6
BALP				*eS*	Sb	17 17 00.0	0.0

JMA ***14*** *17:17:13.6±0.2, 28°.07N×128°.16E, h13km±2km, M3.5*
IDC ***14*** *17:17:14.3±1.7, 27°.79N×127°.90E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/65, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=51.5km s-min=28.7km az=72.0*
ISC 14 17:17:13.6±1.7, 27°.95N±0°.05×128°.29E±0°.06, h4km±12km, n17, σ0°77/23, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.60**	**105**	P	**Pn**	**17 17 27.8**	**-1.2**
JTK				S	**Sn**	**17 17 38.2**	**-1.0**
JOKE	**Okinoerabujima**	**0.63**	**157**	P	**Pn**	**17 17 28.8**	**-0.6**
JOKE				S	**Sn**	**17 17 38.9**	**-1.0**
JAMN	**Amaminishikomi**	**0.83**	**69**	P	**Pb**	**17 17 30.9**	**+0.2**
JAMN				*eS*	**Sb**	**17 17 42.8**	**+0.6**
JYRO	**Yoronjima**	**0.93**	**171**	P	**Pn**	**17 17 33.5**	**+0.1**
JYRO				S	**Sn**	**17 17 46.8**	**-0.4**
JIH	**Iheya**	**0.95**	**198**	P	**Pb**	**17 17 32.8**	**+0.1**
JIH				S	**Sn**	**17 17 46.8**	**-1.0**
JOW	**Kunigami**	**1.11**	**181**	P	**Pn**	**17 17 36.2**	**+0.3**
JOW				*eS*	**Sn**	**17 17 52.8**	**+1.1**
JAM	**Amami Oshima**	**1.25**	**68**	P	**Pg**	**17 17 37.4**	**-0.2**
JAM				*eS*	**Sn**	**17 17 55.6**	**+0.5**
JNTH	**Nagotoyohara**	**1.44**	**190**	P	**Pg**	**17 17 40.9**	**-0.4**
JTAJ	**Takarajima**	**1.45**	**33**	P	**Pn**	**17 17 39.0**	**-1.5**
JZK	**Kikaishima**	**1.53**	**76**	P	**Pg**	**17 17 43.9**	**+0.9**
JAGN	**Aguni-jima**	**1.64**	**215**	P	**Pn**	**17 17 42.9**	**-0.4**
JJT3	**Tamagusuku3**	**1.85**	**194**	P	**Pb**	**17 17 47.6**	**-0.4**
JNU	**Nakatsue**	**5.62**	**23**	Pn	Pn	17 18 43.0	+5.0
	1.3nm,0.3s,baz=223,slow=7.4,SNR=6.9						
SONM	**Songino Array**	**26.16**	**325**	P	**P**	**17 22 49.4**	**+0.3**
	1.2nm,0.8s,baz=138,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**40.45**	**310**	P	**P**	**17 24 53.1**	**-0.1**
	0.7nm,0.8s,baz=97,slow=9.9,SNR=5.3						
KURBB	**Kurchatov Arra**	**43.66**	**315**	P	**P**	**17 25 20.1**	**+0.8**
	0.5nm,0.8s,baz=105,slow=8.3,SNR=4.1						
WRA	**Warramunga Arr**	**47.97**	**172**	P	**P**	**17 25 53.9**	**+0.3**
	0.5nm,0.8s,baz=351,slow=8.2,SNR=2.4						

RSNC ***14*** *17:22:32.5±1.1, 5°.27N×73°.73W, h145km±4km, ML3.2, Mw3.5, Fault plane solution: NP1:φ=38.00000°, δ=66.00000°, λ=-102.00000°.*
UPA ***14*** *17:22:39.4±1.7, 5°.87N×74°.28W, h150km, MW4.1*
ISC 14 17:22:29.1±1.5, 5°.29N±0°.04×73°.75W±0°.04, h171km±8km, n36, σ1°940/64, 3C-5D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.48**	**319**	*eP*	**Pn**	**17 22 53.5**	**+0.6**
SPBC				*eS*	**Sn**	**17 23 09.5**	**-1.7**
SPBC				*i*		17 23 12.4	
	comp=Z,552nm,0.6s						
CTAB	**Cerro Tablazo,**	**0.53**	**238**	*eP*	**Pn**	**17 22 55.1**	**+1.6**
CTAB				*eS*	**Sn**	**17 23 09.3**	**-3.0**
CHIC	**Chingaza**	**0.66**	**178**	*↓iP*	**Pn**	**17 22 54.6**	**+0.4**
CHIC				*eS*	**Sn**	**17 23 11.1**	**-2.3**
CHIC				*i*		17 23 12.6	
	comp=Z,151nm,0.2s						
ROSC	**El Rosal**	**0.72**	**232**	*↓iP*	**Pn**	**17 22 56.2**	**+1.8**
ROSC				*eS*	**Sn**	**17 23 13.8**	**-0.1**
ROSC				*i*		17 23 17.6	
	comp=Z,407nm,0.5s						
CVER	**Cruz Verde, Cu**	**0.83**	**203**	*eP*	**Pn**	**17 22 57.5**	**+2.3**
CVER				*eS*	**Sn**	**17 23 12.4**	**-3.0**
RUSC	**La Rusia**	**0.90**	**48**	*↓iP*	**Pn**	**17 22 56.8**	**+1.1**
RUSC				*eS*	**Sn**	**17 23 15.1**	**-1.0**
RUSC				*i*		17 23 17.7	
	comp=Z,135nm,0.4s						
NORC	**Norcasia**	**1.15**	**284**	*↑iP*	**Pn**	**17 22 58.1**	**+1.0**
NORC				*eS*	**Sn**	**17 23 17.6**	**-1.1**
NORC				*i*		17 23 19.6	
	comp=Z,389nm,0.2s						
VILC	**Villavicencio,**	**1.17**	**177**	*↓eP*	**Pn**	**17 22 57.9**	**+0.5**
VILC				*eS*	**Sn**	**17 23 17.6**	**-1.8**
VILC				*i*		17 23 20.4	
	comp=Z,381nm,0.5s						
BARC	**Barichara**	**1.41**	**24**	*eP*	**Pn**	**17 23 00.6**	**+0.9**
BARC				*eS*	**Sn**	**17 23 21.9**	**-1.6**
BARC				*i*		17 23 27.8	
	comp=Z,332nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.43**	**331**	*eP*	**Pn**	**17 23 00.2**	**+0.5**
PTBC				*eS*	**Sn**	**17 23 21.9**	**-1.3**
PTBC				*i*		17 23 25.4	
	comp=Z,130nm,0.1s						
GUY2C	**Guyana, Caldas**	**1.61**	**268**	*eP*	**Pn**	**17 23 03.4**	**+1.5**
GUY2C				*eS*	**Sn**	**17 23 26.8**	**-0.3**
GUY2C				*i*		17 23 31.0	
	comp=Z,76nm,0.3s						
RREF	**El Recreo**	**1.64**	**256**	*eP*	**Pn**	**17 23 04.0**	**+1.7**
RREF				*eS*	**Sn**	**17 23 28.2**	**+0.3**
RREF				*i*		17 23 30.8	
	comp=Z,98nm,0.2s						
TOLC	**Tolima**	**1.71**	**246**	*eP*	**Pn**	**17 23 04.5**	**+1.7**
TOLC				*eS*	**Sn**	**17 23 29.1**	**+0.3**
TOLC				*i*		17 23 31.1	
	comp=Z,407nm,0.5s						
BRRC	**Barranca, Sant**	**1.81**	**1**	*eP*	**Pn**	**17 23 05.5**	**+2.0**
BRRC				*eS*	**Sn**	**17 23 30.4**	**+0.3**
BRRC				*i*		17 23 34.4	
	comp=Z,126nm,0.2s						
ANIL	**Santa Ana**	**1.83**	**244**	*eP*	**Pn**	**17 23 05.6**	**+1.7**
ANIL				*eS*	**Sn**	**17 23 30.6**	**-0.3**
PRAC	**Prado**	**1.93**	**216**	*↓iP*	**Pn**	**17 23 06.3**	**+1.5**
PRAC				*eS*	**Sn**	**17 23 32.3**	**-0.3**
PRAC				*i*		17 23 33.9	
	comp=Z,264nm,0.3s						
PTGC	**Puerto Gaitan,**	**1.94**	**124**	*eP*	**Pn**	**17 23 05.7**	**+0.8**
PTGC				*eS*	**Sn**	**17 23 30.9**	**-1.8**
PTGC				*i*		17 23 35.4	
	comp=Z,284nm,0.2s						
HELC	**Santa Helena**	**1.98**	**297**	*↑iP*	**Pn**	**17 23 07.4**	**+1.7**
HELC				*eS*	**Sn**	**17 23 34.3**	**+0.2**
HELC				*i*		17 23 37.3	
	comp=Z,80nm,0.2s						
HELC	**Santa Helena**	**1.98**	**297**	*↑iP*	**Pn**	**17 23 07.4**	**+1.7**
	baz=114,slow=6.5						
HELC				*i S*	**Sn**	**17 23 34.5**	**+0.4**
ORTC	**Ortega, Tolima**	**2.02**	**227**	*eP*	**Pn**	**17 23 07.1**	**+1.3**
ORTC				*eS*	**Sn**	**17 23 33.9**	**-0.5**
ORTC				*i*		17 23 37.7	
	comp=Z,91nm,0.5s						
TAMC	**Tame, Arauca**	**2.26**	**60**	*eP*	**Pn**	**17 23 10.4**	**+1.9**
TAMC				*eS*	**Sn**	**17 23 38.8**	**-0.3**
TAMC				*i*		17 23 40.9	
	comp=Z,61nm,0.5s						
PAMC	**Pamplona, Colo**	**2.29**	**27**	*eP*	**Pn**	**17 23 11.8**	**+2.5**
PAMC				*eS*	**Sn**	**17 23 40.6**	**+0.1**
PAMC				*i*		17 23 44.4	
	comp=Z,46nm,0.2s						
CBOC	**Ciudad Bolivar**	**2.32**	**284**	*eP*	**Pn**	**17 23 11.6**	**+2.2**
CBOC				*eS*	**Sn**	**17 23 41.0**	**+0.5**
CBOC				*i*		17 23 49.1	
	comp=Z,30nm,0.5s						
ZARC	**Zaragoza, Cauc**	**2.45**	**333**	*eP*	**Pn**	**17 23 11.0**	**+0.3**
ZARC				*eS*	**Sn**	**17 23 42.1**	**-1.0**
ZARC				*i*		17 23 49.6	
	comp=Z,130nm,0.2s						
GUVC	**San Jose del G**	**2.95**	**158**	*eS*	**Sn**	**17 23 53.1**	**-0.7**
GUVC				*i*		17 23 57.6	
	comp=Z,144nm,0.3s						
OCAC	**Ocana**	**2.96**	**8**	*eP*	**Pn**	**17 23 19.0**	**+2.0**
OCAC				*eS*	**Sn**	**17 23 55.3**	**+0.9**
OCAC				*i*		17 24 03.6	
	comp=Z,75nm,0.2s						
UREC	**San Jos de Ur**	**3.02**	**324**	*eP*	**Pn**	**17 23 17.7**	**+0.1**
UREC				*eS*	**Sn**	**17 23 54.3**	**-1.0**
UREC				*i*		17 23 55.6	
	comp=Z,90nm,0.1s						
SMLC	**San Martn de**	**3.50**	**355**	*eP*	**Pn**	**17 23 24.4**	**+0.8**
SMLC				*eS*	**Sn**	**17 24 05.5**	**-0.7**
SMLC				*i*		17 24 09.7	
	comp=Z,111nm,0.1s						
SJCC	**San Jacinto, C**	**4.79**	**343**	*eP*	**Pn**	**17 23 40.3**	**+0.1**
SJCC				*eS*	**Sn**	**17 24 32.8**	**-3.2**
SJCC				*i*		17 24 38.6	
	comp=Z,31nm,0.3s						
SJCC	**San Jacinto, C**	**4.79**	**343**	*i P*	**Pn**	**17 23 40.1**	**-0.1**
CHPO	**Chepo, Panama**	**6.57**	**306**	*eP*	**Pn**	**17 24 03.4**	**-0.1**
UPA	**Univ. de Panam**	**6.81**	**303**	*eP*	**Pn**	**17 24 07.2**	**+0.6**
AZU	**Azuero**	**6.94**	**291**	*eP*	**Pn**	**17 24 07.4**	**-1.0**
ZANG	**Zanguenga, Cho**	**7.08**	**301**	*eP*	**Pn**	**17 24 09.9**	**-0.3**
VTON	**El Valle, Cocl**	**7.12**	**298**	*eP*	**Pn**	**17 24 11.5**	**+0.6**
PNME	**Penonome**	**7.26**	**296**	*eP*	**Pn**	**17 24 11.4**	**-1.2**

BJI ***14*** *17:25:03.4±0.0, 0°.86N×146°.50E, h11km, mB5.5/9, mb4.8/47, Ms5.0/6, Ms7 4.7/6*
IDC ***14*** *17:25:05.0±0.6, 0°.90N×146°.22E, h0km, mb4.4/23, mb1 4.6/24, mb1mx4.4/51, mbtmp4.5/24, ML5.1/1, MS4.5/5, Ms1 4.5/5, ms1mx3.8/45, Error ellipse: s-maj=22.1km s-min=12.4km az=86.0*
NEIC ***14*** *17:25:06.8±1.4, 0°.87N±0°.06×146°.08E±0°.09, h9km±3km, mb4.9/61, Error ellipse: s-maj=13.1km s-min=8.3km az=69.0*
GCMT ***14*** *17:25:09.8±0.3, 0°.92N±0°.02×146°.03E±0°.03, h12km, MW4.8/74, Moment Tensor Solution. s6,c6; s74,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.34±.11; $M_{\theta\theta}$-0.47±.10; $M_{\phi\phi}$0.80±.11; $M_{r\theta}$-0.41±.33; $M_{\theta\phi}$1.92±.06; $M_{\phi r}$-0.11±.27; Best double couple: M_o2.06600×10^{16} NP1:φ=171.00000°, δ78.00000°, λ-178.00000°. NP2: φ=81.00000°, δ88.00000°, λ-12.00000°. Principal axes: T 2.2320, Plg7.0000°, Azm126.0000°; N -0.3310, Plg78.0000°, Azm252.0000°; P -1.9010, Plg10.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***14*** *17:25:11.6±0.5, 1°N±5°×14°6E±°, h48km±7km, M4.8/17, mb4.8/17, mB5.5/2, MLv4.9/3, Mw(mB)5.0/2, Mwp5.8/1*
ISC 14 17:25:10.2±0.4, 0°.83N±0°.06×146°.20E±0°.06, h35km, n135, σ1°919/125, mb4.7/63, MS4.6/5, 1C-6D, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.42**	**239**	Pn	**Pn**	**17 26 38.5**	**-3.9**
	0.8nm,0.3s,baz=216,slow=1.9,SNR=17						
JAY				Sn	**Sn**	**17 27 47.9**	**-6.7**
	1.1nm,0.3s,baz=40,slow=18,SNR=0.9						
JAY	**Jayapura**	**6.42**	**239**	P	**Pn**	**17 26 43.0**	**+0.6**
	0.7nm106nm,0.4s						
GENI	**Genyem**	**6.92**	**241**	P	**Pn**	**17 26 49.9**	**+0.7**
KRVT	**Keravat (AS076**	**7.74**	**131**	Pn	**Pn**	**17 27 00.9**	**+0.5**
	24nm,0.3s,baz=231,slow=1.6,SNR=41						
RABL	**Rabaul**	**7.77**	**130**		**Pn**	**17 27 00.7**	**-0.1**
SMPI	**Sarmi**	**8.00**	**250**	P	**Pn**	**17 27 06.1**	**+2.1**
	30nm,0.9s						
WAMI	**Wamena**	**8.83**	**238**	P	**Pn**	**17 27 17.5**	**+2.1**
	123nm,0.8s						
PATS	**Pohnpei**	**13.47**	**63**	Pn	**Pn**	**17 28 14.7**	**-4.2**
HNR	**Honiara**	**17.06**	**127**	LR	LR	17 35 44.1	
	comp=Z,1μm,20.4s,baz=303,slow=37						
MTN	**Manton Dam**	**20.20**	**227**	P	**P**	**17 29 42.3**	**+0.2**
MTN				lAmb	lAmb	17 30 08.4	
	comp=Z,45nm,1.1s						
CTA	**Charters Tower**	**20.79**	**180**	P	**P**	**17 29 49.3**	**+0.9**
	comp=Z,8.2nm,0.8s,baz=357,slow=9.9,SNR=5.5						
GTOI	**Gorontalo**	**23.19**	**270**	P	**P**	**17 30 15.3**	**+1.2**
	comp=Z,388nm,1.0s						
WRAB	**Tennant Creek**	**23.68**	**209**	P	**P**	**17 30 17.5**	**-1.3**
KNRA	**Kununurra**	**23.79**	**226**	P	**P**	**17 30 18.7**	**-1.1**
KNRA				lAmb	lAmb	17 30 46.0	
	comp=Z,31nm,0.8s						
JCJ	**Chichijima**	**26.40**	**352**	P	**P**	**17 30 42.0**	**-1.6**
H11S3	**WAKE ISLAND Hy**	**26.70**	**48**	T	T	17 58 54.9	
	baz=229,slow=75,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**26.71**	**48**	T	T	17 58 56.4	
	baz=229,slow=75,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**26.71**	**48**	T	T	17 58 51.7	
	baz=229,slow=75,SNR=6.8						
AS31	**Alice Springs**	**27.12**	**205**	P	**P**	**17 30 50.3**	**+0.1**
ASAR	**Alice Springs**	**27.12**	**205**	P	**P**	**17 30 49.9**	**-0.2**
	comp=Z,21nm,0.8s,baz=26,slow=13,SNR=54						
FITZ	**Fitzroy Crossi**	**27.62**	**226**	P	**P**	**17 30 54.1**	**-0.5**
	comp=Z,12nm,0.6s,baz=47,slow=10						
FITZ	**Fitzroy Crossi**	**27.62**	**226**	lAmb	lAmb	17 31 22.5	
	comp=Z,21nm,0.9s						
STKA	**Stephens Creek**	**32.82**	**187**	P	**P**	**17 31 40.0**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=351,slow=11,SNR=5.8						
STKA	**Stphens Creek**	**32.82**	**187**	lAmb	lAmb	17 31 42.0	
	comp=Z,1.2nm,0.9s						
YHNB	**Yeheng**	**33.74**	**317**	P	**P**	**17 31 48.5**	**-0.2**
JNU	**Nakatsue**	**35.21**	**337**	P	**P**	**17 32 00.2**	**-1.1**
	comp=Z,11nm,0.8s,baz=171,slow=1.7,SNR=7.1						
JNU	**Nakatsue**	**35.21**	**337**	lAmb	lAmb	17 32 09.6	
	comp=Z,30nm,0.9s						
FORT	**Forrest**	**35.86**	**207**	P	**P**	**17 32 06.7**	**-0.1**
MSVF	**Nonsavu**	**36.37**	**122**	P	**P**	**17 32 12.9**	**+1.5**
KSRS	**Korea Array**	**40.16**	**337**	P	**P**	**17 32 42.2**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=155,slow=8.8,SNR=12						
NJ2	**Nanjing**	**40.38**	**323**	*eP*	**P**	**17 32 46.0**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MORW	**Morawa**	**41.42**	**222**	P	**P**	**17 32 53.8**	**+0.2**
MORW				lAmb	lAmb	17 32 54.0	
	comp=Z,12nm,0.7s						
NWAO	**Narrogin (SRO)**	**43.28**	**216**	LR	LR	17 51 52.8	
	comp=Z,557nm,18.4s,baz=69,slow=37						
AFI	**Afiamalu**	**44.12**	**111**	LR	LR	17 47 07.9	
	comp=Z,364nm,21.6s,baz=235,slow=30						
USRK	**Ussuriysk Ar.**	**45.00**	**346**	P	**P**	**17 33 21.9**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=160,slow=7.2,SNR=6.1						
RAO	**Raoul Island**	**45.49**	**134**	LR	LR	17 49 52.3	
	comp=Z,711nm,20.9s,baz=248,slow=33						
SLVN	**Son La**	**46.00**	**299**	P	**P**	**17 33 30.4**	**-0.2**
SLVN				lAmb	lAmb	17 33 33.1	
	comp=Z,18nm,1.4s						
MDJ	**Mudanjiang**	**46.03**	**344**	P	**P**	**17 33 28.8**	**-1.5**
MDJ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,860nm,8.0s						
CN2	**Changchun**	**46.62**	**339**	*eP*	**P**	**17 33 38.1**	**+3.1**
PBKT	**Sadao Pong**	**47.21**	**292**	P	**P**	**17 33 41.4**	**+1.3**
PBKT				lAmb	lAmb	17 33 42.4	
	comp=Z,13nm,1.1s						
XAN	**Xi'an**	**48.04**	**317**	P	**P**	**17 33 45.9**	**-0.4**
XAN				pmax	pmax		
	comp=Z,17nm,1.6s						
XAN	**Xi'an**	**48.04**	**317**	P	**P**	**17 33 46.3**	**0.0**
XAN				lAmb	lAmb	17 33 47.1	
	comp=Z,11nm,0.9s						
CM31	**Chiang Mai Arr**	**49.56**	**294**	P	**P**	**17 33 57.8**	**-0.4**
CM31				lAmb	lAmb	17 34 00.8	
	comp=Z,16nm,1.1s						
CMAR	**Chiang Mai Arr**	**49.56**	**294**	P	**P**	**17 33 59.6**	**+1.4**
	comp=Z,6.7nm,0.9s,baz=114,slow=5.6,SNR=40						
KLR	**Kul'dur**	**49.79**	**348**	P	**P**	**17 33 58.8**	**-0.6**
	comp=Z,4.7nm,0.8s,baz=154,slow=7.9,SNR=17						
CD2	**Chengdu**	**50.10**	**311**	*eP*	**P**	**17 34 02.3**	**+0.2**
HHC	**Hu-ho-hao-te**	**50.70**	**326**	*eP*	**P**	**17 34 08.1**	**+1.5**
HHC				pmax	pmax		
	comp=Z,24nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,5.7s						
PETK	**Petropavlovsk-**	**52.98**	**9**	P	**P**	**17 34 22.9**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=177,slow=7.5,SNR=13						
GTA	**Gaotai**	**57.09**	**318**	*↑P*	**P**	**17 34 53.8**	**+0.5**
GTA				pP	pP	17 35 01.5	-1.0
GTA				sP	sP	17 35 04.4	-1.7
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SONM	**Songino Array**	**58.12**	**329**	P	**P**	**17 35 00.8**	**+0.3**
	comp=Z,5.7nm,0.8s,baz=145,slow=8.0,SNR=31						
TAPN	**Taplejung**	**61.88**	**301**	*eP*	**P**	**17 35 27.4**	**+0.6**
TLY	**Talaya**	**61.98**	**332**	P	**P**	**17 35 27.5**	**+0.8**
	comp=Z,3.2nm,0.9s,baz=149,slow=7.9,SNR=4.8						
TLY	**Talaya**	**61.98**	**332**	lAmb	lAmb	17 35 28.3	
	comp=Z,11nm,1.2s						
ODAN	**Odare**	**62.03**	**300**	*eP*	**P**	**17 35 28.5**	**+0.7**
	comp=Z,52nm,1.0s						
SEY	**Seymchan**	**62.13**	**3**	P	**P**	**17 35 26.2**	**-1.2**
	comp=Z,3.1nm,0.8s,baz=133,slow=7.4,SNR=5.8						
RAMN	**Ramite**	**62.74**	**300**	*eP*	**P**	**17 35 33.2**	**+0.7**
JIRN	**Jiri**	**63.26**	**301**	*eP*	**P**	**17 35 36.9**	**+0.7**
PKI	**Pulchoki**	**63.91**	**300**	*eP*	**P**	**17 35 40.8**	**+0.4**
	comp=Z,48nm,1.2s						
KKN	**Kakani**	**64.08**	**301**	*eP*	**P**	**17 35 42.0**	**+0.6**
	comp=Z,38nm,0.8s						
DMN	**Daman**	**64.19**	**300**	*eP*	**P**	**17 35 42.9**	**+0.8**
	comp=Z,73nm,1.1s						
GKN	**Gorkha**	**64.68**	**301**	*eP*	**P**	**17 35 45.8**	**+0.6**
	comp=Z,115nm,1.1s						
DANN	**Dangsing**	**65.51**	**301**	*eP*	**P**	**17 35 50.5**	**-0.3**
KOLN	**Koldanda**	**65.52**	**300**	*eP*	**P**	**17 35 51.3**	**+0.5**
	comp=Z,66nm,1.0s						
PYUN	**Piuthan**	**66.12**	**300**	*eP*	**P**	**17 35 54.9**	**+0.3**
	comp=Z,108nm,0.9s						
WMQ	**Urumqi**	**67.17**	**318**	*eP*	**P**	**17 36 02.9**	**+2.0**
WMQ				pP	pP	17 36 07.3	-2.9
WMQ				sP	sP	17 36 10.1	-3.7
WMQ				PcP	**PcP**	**17 36 31.1**	**+2.4**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				LR	LR		
	comp=Z,680nm,11.9s						
WMQ				LR	LR		
	comp=Z,160nm,13.9s						
ZSN	**Zaisan**	**70.36**	**321**	*↓iP*	**P**	**17 36 20.1**	**-0.5**
	baz=321						
MK31	**Makanchi Array**	**71.79**	**319**	P	**P**	**17 36 29.7**	**+0.4**
MK31				lAmb	lAmb	17 36 30.6	
	comp=Z,10nm,1.2s						
MKAR	**Makanchi Array**	**71.79**	**319**	P	**P**	**17 36 29.4**	**+0.2**
	comp=Z,5.2nm,0.9s,baz=108,slow=6.8,SNR=34						
MAKZ	**Makanchi**	**72.00**	**319**	P	**P**	**17 36 30.5**	**0.0**
ZALV	**Zalesovo Beam**	**72.86**	**327**	P	**P**	**17 36 34.5**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=113,slow=5.9,SNR=8.6						
UZB	**Uzynbulak**	**72.93**	**315**	*↓iP*	**P**	**17 36 35.7**	**-0.6**
	comp=Z,5.4nm,1.1s,baz=315						
KPKS	**Kokpek**	**73.25**	**315**	*↓iP*	**P**	**17 36 37.8**	**-0.3**
	comp=Z,5.3nm,1.1s,baz=315						
SATY	**Saty**	**73.34**	**315**	*i P*	**P**	**17 36 39.0**	**+0.2**
	comp=Z,4.1nm,1.2s,baz=315						
TARG	**Taragay, Kyrgy**	**73.44**	**313**	P	**P**	**17 36 39.1**	**-0.5**
TDK	**Taldyqorghan**	**73.85**	**317**	*i P*	**P**	**17 36 41.8**	**+0.2**
	comp=Z,13nm,0.7s,baz=317						
KSH	**Kashi**	**74.30**	**311**	*eP*	**P**	**17 36 47.3**	**+2.9**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MDOK	**Medeo**	**74.33**	**315**	*i P*	**P**	**17 36 44.4**	**-0.2**
	baz=315						
MDOK				LR	LR	18 10 24.1	
	comp=Z,110nm,13.6s,baz=315						
TNSS	**Tian-Shan**	**74.37**	**315**	*i P*	**P**	**17 36 45.9**	**+0.8**
	baz=314						
AAA	**Alma-Ata**	**74.44**	**315**	*i P*	**P**	**17 36 44.6**	**-0.5**
	baz=315						
KUU	**Kurty**	**75.00**	**315**	*i P*	**P**	**17 36 48.1**	**-0.1**
	comp=Z,12nm,1.2s,baz=315						
TTA	**Tatalina**	**75.13**	**24**	P	**P**	**17 36 49.4**	**+0.8**
KURK	**Kurchatov**	**75.32**	**323**	P	**P**	**17 36 49.5**	**-0.4**
KURK				lAmb	lAmb	17 36 50.8	
	comp=Z,17nm,1.2s						
KURBB	**Kurchatov Arra**	**75.34**	**322**	P	**P**	**17 36 49.7**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=110,slow=5.2,SNR=28						
NIL	**Nilore**	**75.38**	**304**	P	**P**	**17 36 51.6**	**+0.

RIDG	**Independent Ri**	**80.06**	**25**	P	**P**	**17 37 16.3**	**+0.2**
RIDG				IAmb	IAmb	17 37 18.2	
	comp=Z,20nm,1.4s						
MENT	**Mentasta**	**80.30**	**26**	P	**P**	**17 37 18.1**	**+0.7**
DOT	**Dot Lake**	**80.36**	**25**	P	**P**	**17 37 17.8**	**+0.1**
DOT				IAmb	IAmb	17 37 27.2	
	comp=Z,13nm,1.1s						
BALM	**Baldy**	**80.37**	**28**	P	**P**	**17 37 18.5**	**+0.6**
BALM				IAmb	IAmb	17 37 27.2	
	comp=Z,11nm,0.8s						
BARN	**Barnard Glacie**	**80.69**	**28**	P	**P**	**17 37 20.1**	**+0.3**
CTGM	**Chatina Glacie**	**80.82**	**28**	P	**P**	**17 37 21.5**	**+1.1**
BRVK	**Borovoye**	**80.89**	**324**	P	**P**	**17 37 20.6**	**-0.1**
EGAK	**Eagle**	**81.91**	**24**	P	**P**	**17 37 25.6**	**-0.2**
EGAK				IAmb	IAmb	17 37 28.4	
	comp=Z,18nm,1.5s						
DAWY	**Dawson**	**82.47**	**25**	P	**P**	**17 37 29.8**	**+0.9**
DAWY				IAmb	IAmb	17 37 38.6	
	comp=Z,8.4nm,1.0s						
HYT	**Haines Junctio**	**82.61**	**29**	P	**P**	**17 37 30.8**	**+1.0**
HYT				IAmb	IAmb	17 37 39.7	
	comp=Z,5.8nm,0.7s						
INK	**Inuvik**	**85.63**	**22**	P	**P**	**17 37 44.7**	**-0.1**
	comp=Z,4.3nm,0.9s,baz=216,slow=5.3,SNR=5.8						
INK	**Inuvik**	**85.63**	**22**	P	**P**	**17 37 45.4**	**+0.6**
INK				IAmb	IAmb	17 37 47.4	
	comp=Z,7.4nm,1.1s						
GEYT	**Alibeck**	**87.98**	**308**	P	**P**	**17 37 56.8**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=165,slow=2.3,SNR=3.8						
YKA	**Yellowknife Ar**	**93.52**	**27**	P	**P**	**17 38 21.9**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=280,slow=4.3,SNR=3.6						
NVAR	**Mina Array Bea**	**93.80**	**52**	P	**P**	**17 38 25.4**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=255,slow=6.5,SNR=4.4						
BMO	**Blue Mountains**	**94.03**	**45**	P	**P**	**17 38 25.6**	**+0.5**
BMO				IAmb	IAmb	17 38 34.6	
	comp=Z,4.6nm,1.1s						
LPAZ	**La Paz**	**142.84**	**116**	PKP	**PKPdf**	**17 44 41.7**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=293,slow=1.8,SNR=6.1						
CPUP	**Villa Florida**	**146.00**	**140**	PKPbc	**PKPab**	**17 44 48.5**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=249,slow=3.9,SNR=3.8						
DBIC	**Dimbokro**	**150.17**	**285**	PKPbc	**PKPbc**	**17 44 58.9**	**+0.3**
	comp=Z,4.7nm,0.9s,baz=157,slow=1.3,SNR=4.0						

*TEH **14** 17:25:10.8, 36.76N×54.52E, h10km, ML3.8*
*THR **14** 17:25:13.0±0.4, 36.64N×54.69E, h18km±6km, ML3.5*
ISC 14 17:25:11.3±0.9, **36.79N**±0.05×**54.55E**±0.04, **h10**km, **n35, σ2.31**/37, **2C-1D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGLO	**Ghaloghah**	**0.64**	**244**	*e*Pg	**Pg**	**17 25 22.5**	**-1.2**
IGLO				*e*		17 25 41.4	
IMND	**Minoodasht**	**0.83**	**55**	*e*Pg	**Pg**	**17 25 27.3**	**0.0**
IMND				*e*		17 25 41.2	
ISHM	**Shahmirzad**	**1.41**	**226**	*e*Pg	**Pn**	**17 25 37.1**	**-0.1**
ISHM				*e*		17 26 08.0	
IANJ	**Anjilo**	**1.41**	**201**	*e*Pg	**Pn**	**17 25 36.6**	**-0.6**
IANJ				*e*		17 25 56.2	
SHRO	**Shahrood**	**1.42**	**124**	*e*Pn	**Pn**	**17 25 37.5**	**+0.2**
SHRO	**Shahrood**	**1.42**	**124**	*e*Pn	**Pn**	**17 25 37.5**	**+0.2**
IALA	**Alasht**	**1.57**	**244**	*e*Pg	**Pn**	**17 25 40.6**	**+1.2**
IALA				*e*		17 26 08.3	
IFIR	**Firoozkooh**	**1.85**	**232**	*e*Pg	**Pn**	**17 25 45.0**	**+1.8**
IFIR				*e*		17 25 47.9	
IPRN	**Peran**	**1.86**	**254**	*e*Pg	**Pn**	**17 25 45.1**	**+1.8**
IPRN				*e*		17 26 14.7	
ILAS	**Lasjerd**	**1.90**	**223**	*e*Pg	**Pn**	**17 25 46.4**	**+2.4**
ILAS				*e*		17 25 48.7	
IDMV	**Damavand**	**2.37**	**240**	*e*	**Pb**	**17 25 55.5**	**+1.3**
BJRD	**Bojnurd**	**2.46**	**67**	*e*Pn	**Pn**	**17 25 53.6**	**+2.1**
BJRD				*e*Sg	**Sg**	**17 26 28.8**	**-1.4**
BJRD	**Bojnurd**	**2.46**	**67**	*e*Pn	**Pn**	**17 25 53.6**	**+2.1**
SBZV	**Sabzevar**	**2.50**	**98**	*e*Pn	**Pn**	**17 25 54.3**	**+2.1**
ISFR	**Sfrayin**	**2.78**	**83**	*e*Pn	**Pn**	**17 25 58.9**	**+2.8**
ISFR				*e*		17 26 59.4	
CHTH	**Charan**	**2.90**	**253**	*e*Pn	**Pn**	**17 26 01.6**	**+3.9**
CHTH				IAML		17 26 49.2	
	comp=E,123nm,0.6s						
CHTH	**Charan**	**2.90**	**253**	*e*Pn	**Pn**	**17 26 01.6**	**+3.9**
QALM	**Alamut, Qazvin**	**3.16**	**265**	*e*Pn	**Pn**	**17 26 02.2**	**+0.9**
IAKL	**Akhelmad**	**3.39**	**92**	*e*		17 26 47.5	
IAKL				*e*Pn	**Pn**	**17 26 07.6**	**+3.1**
ANAR	**Anarak**	**3.65**	**191**	*e*Pn	**Pn**	**17 26 09.6**	**+1.7**
TKDS	**Koohdasht(Taba**	**3.80**	**146**	*e*Pn	**Pn**	**17 26 12.0**	**+2.0**
TKDS				*e*		17 27 19.8	
IRAZ	**Razeghan**	**3.99**	**251**	*e*Pn	**Pn**	**17 26 14.3**	**+1.7**
TPRV	**Parvadeh(Tabas**	**4.14**	**154**	*e*Pn	**Pn**	**17 26 17.0**	**+2.4**
QABG	**Abgarm-Qazvin**	**4.15**	**256**	*e*Pn	**Pn**	**17 26 17.0**	**+2.0**
QSDN	**Sirdan**	**4.33**	**268**	*e*Pn	**Pn**	**17 26 20.7**	**+3.3**
YZKH	**Yazd**	**4.38**	**180**	*e*Pn	**Pn**	**17 26 19.2**	**+1.2**
YZKH	**Yazd**	**4.38**	**180**	*e*Pn	**Pn**	**17 26 19.2**	**+1.2**
IMYA	**Miami**	**4.49**	**94**	*e*Pn	**Pn**	**17 26 22.7**	**+3.1**
ISAD	**Sadrabad**	**4.91**	**189**	*e*Pn	**Pn**	**17 26 26.4**	**+1.0**
AFRZ	**Afriz**	**4.96**	**131**	*e*Pn	**Pn**	**17 26 28.3**	**+2.3**
IBAF	**Bafgh**	**5.25**	**170**	*e*Pn	**Pn**	**17 26 31.9**	**+1.9**
ISRB	**Sarab**	**5.58**	**283**	*e*Pn	**Pn**	**17 26 36.7**	**+2.1**
ISRB				*e*		17 27 55.6	
IKOO	**Kooshah**	**5.70**	**139**	*e*Pn	**Pn**	**17 26 37.6**	**+1.4**
AB31	**Akbulak array**	**13.07**	**16**	P	**Pn**	**17 28 16.5**	**-0.3**
	comp=E,1.0nm,0.2s,baz=207,slow=14,SNR=4.8						
AB31				⇑S	Sn	17 30 32.2	-10
	comp=E,1.8nm,0.2s,baz=199,slow=23,SNR=10.0						
AKTO	**Aktyubinsk**	**13.87**	**9**	⇓P	**Pn**	**17 28 27.8**	**0.0**
	comp=E,1.5nm,0.8s						
AKTO				⇑S	**Sn**	**17 30 55.5**	**-6.3**
	comp=E,1.8nm,0.7s						

*IDC **14** 17:30:03.6±1.8, 39.54N×143.42E, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.5/51, mbtmp3.7/6, ML3.3/3, Error ellipse: s-maj=52.9km s-min=23.6km az=83.0*
*JMA **14** 17:30:05.6±0.2, 39.70N×143.20E, h23km±3km, M4.0*
ISC 14 17:30:04.0±2.4, **39.66N**±0.05×**143.21E**±0.08, **h4**km±14km, **n22, σ1.76/30, mb3.8**/3, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.07**	**285**	P	**Pg**	**17 30 24.9**	**+0.4**
JTH				S	**Sb**	**17 30 39.3**	**-0.1**
MIYJ	**Miyakonagasawa**	**1.07**	**266**	P	**Pb**	**17 30 25.0**	**-0.1**
JKEN	**Kujiedanarisaw**	**1.27**	**296**	P	**Pn**	**17 30 27.3**	**-1.2**
JKEN				S	**Sb**	**17 30 42.9**	**-2.2**
JANG	**Nango**	**1.48**	**299**	P	**Pn**	**17 30 30.7**	**-0.6**
JOM	**Ohasama**	**1.49**	**263**	P	**Pn**	**17 30 31.7**	**+0.2**
JOM				S	**Sn**	**17 30 50.9**	**-0.5**
JMK	**Ichinoseki**	**1.70**	**246**	P	**Pn**	**17 30 34.8**	**+0.5**
JMK				S	**Sn**	**17 30 56.4**	**0.0**
JIO	**Ouri**	**1.88**	**231**	P	**Pn**	**17 30 37.0**	**+0.1**
JIO				S	**Sn**	**17 31 00.1**	**-0.9**
JTM	**Tenmabayashi**	**1.98**	**305**	P	**Pb**	**17 30 39.2**	**-1.4**
JTM				S	**Sn**	**17 31 03.0**	**-0.6**
JRG	**Rokugo**	**2.01**	**263**	P	**Pn**	**17 30 39.5**	**+0.9**
JRG				*e*S	**Sn**	**17 31 04.2**	**+0.1**
JAH	**Hinai**	**2.04**	**286**	P	**Pn**	**17 30 40.0**	**+0.9**
JAH				S	**Sb**	**17 31 06.1**	**-1.3**
JYK	**Kaneyama**	**2.33**	**252**	P	**Pn**	**17 30 44.1**	**+1.1**
JYK				S	**Sb**	**17 31 14.1**	**-1.6**
JEM	**Erimo**	**2.35**	**359**	P	**Pn**	**17 30 44.2**	**+0.9**
ASAJ	**Asahikawa**	**4.47**	**354**	Pn	**Pn**	**17 31 14.1**	**+1.6**
	1.1nm,0.3s,baz=202,slow=20,SNR=20						
MAT	**Matsushiro**	**5.03**	**233**	P	**Pn**	**17 31 22.2**	**+2.1**
MAT				*e*S	**Sn**	**17 32 23.6**	**+5.0**
MJAR	**Matsushiro Arr**	**5.03**	**233**	Pn	**Pn**	**17 31 20.2**	**+0.1**
	0.3nm,0.3s,baz=33,slow=11,SNR=38						
JHJ	**Hachijo jima 2**	**7.09**	**204**	Pn	**Pn**	**17 31 48.0**	**-0.4**
	5.1nm,0.3s,baz=243,slow=19,SNR=1.3						
JHJ				Sn	**Sn**	**17 33 04.4**	**-5.0**
	0.5nm,0.3s,baz=77,slow=17,SNR=0.9						
H11N2	**WAKE ISLAND Hy**	**28.45**	**127**	T	T	18 06 52.8	
	baz=318,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.46**	**127**	T	T	18 06 51.1	
	baz=318,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**28.47**	**127**	T	T	18 07 00.3	
	baz=318,slow=75,SNR=24						
KURBB	**Kurchatov Arra**	**45.54**	**306**	P	**P**	**17 38 26.6**	**+2.1**
	0.2nm,0.3s,baz=80,slow=8.7,SNR=7.5						
WRA	**Warramunga Arr**	**59.87**	**190**	P	**P**	**17 40 10.2**	**-0.6**
	1.4nm,0.9s,baz=7.3,slow=6.8,SNR=12						
ASAR	**Alice Springs**	**63.60**	**190**	P	**P**	**17 40 35.7**	**-0.1**
	0.5nm,0.7s,baz=7.5,slow=5.2,SNR=7.2						

*NORS **14** 17:47:16.7±0.0, 44.18N×44.21E, h8km, MPVA3.6*
ISC 14 17:47:16.1±3.3, **44.2N**±0.1×**44.2E**±0.1, **h14**km±10km, **n9, σ0.85**/18, **Ukraine-Moldova-Southwestern Russia region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRTR	**Priterechnaya**	**0.49**	**174**	*e*Pg	**Pg**	**17 47 25.3**	**-0.5**
PRTR				*e*Sg	**Sg**	**17 47 31.9**	**-0.5**
STDR	**Stavd-Durt**	**0.88**	**187**	*e*Pg	**Pb**	**17 47 33.5**	**+0.3**
STDR				*e*Sg	**Sb**	**17 47 45.3**	**+0.5**
LSNR	**Lesken**	**1.00**	**196**	*e*Pg	**Pb**	**17 47 35.5**	**+0.2**
LSNR				*e*Sg	**Sg**	**17 47 49.2**	**+0.7**
ARNR	**Ardon**	**1.06**	**177**	*e*Pg	**Pn**	**17 47 36.8**	**+0.2**
ARNR				*e*Sg	**Sb**	**17 47 50.8**	**+0.7**
KORR	**Kora**	**1.16**	**185**	*e*Pg	**Pb**	**17 47 38.4**	**+0.5**
KORR				*e*Sg	**Sn**	**17 47 53.9**	**+0.2**
LACR	**Lac**	**1.42**	**177**	*e*Pg	**Pn**	**17 47 41.5**	**-0.1**
LACR				*e*Sg	**Sn**	**17 47 59.3**	**-0.8**
DIGR	**Digorskoe uzhe**	**1.42**	**199**	*e*Pg	**Pn**	**17 47 41.2**	**-0.5**
DIGR				*e*Sg	**Sn**	**17 47 58.0**	**-2.3**
PNSH	**Pansheti**	**1.63**	**169**	P	**Pn**	**17 47 45.1**	**+0.5**
PNSH				S	**Sn**	**17 48 04.7**	**-0.9**
ONI	**Oni**	**1.74**	**199**	P	**Pn**	**17 47 46.8**	**+0.8**
ONI				S	**Sn**	**17 48 08.2**	**+0.2**

*TAP **14** 17:57:59.9, 21.60N×121.03E, h22km, ML3.5, D*
*JMA **14** 17:57:59.7±0.2, 21.83N×120.98E, h18km±3km, M3.5*
ISC 14 17:57:59.7±2.1, **21.6N**±0.1×**121.02E**±0.04, **h23**km±10km, **n80, σ0.93**/146, **4D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSEB	**Hengchuen, Pin**	**0.33**	**340**	*i*P	**Pb**	**17 58 07.0**	**-0.1**
	baz=332						
TSEB				*i*S	**Sb**	**17 58 12.9**	**+0.8**
	baz=332						
TWKBT	**Hengchun**	**0.40**	**331**	⇓P	**Pb**	**17 58 07.8**	**-0.4**
	baz=329						
TWKBT				S	**Sb**	**17 58 13.7**	**-0.3**
	baz=329						
TWK1	**Hengchun**	**0.41**	**330**	⇓*i*P	**Pb**	**17 58 07.8**	**-0.5**
	baz=329						
TWK1				*i*S	**Sb**	**17 58 13.5**	**-0.6**
	baz=329						
HEN	**Hengchun**	**0.49**	**328**	*i*P	**Pb**	**17 58 09.5**	**-0.2**
	baz=327						
HEN				*i*S	**Sb**	**17 58 17.1**	**+0.6**
	baz=327						
SLIU	**Shizi**	**0.66**	**342**	P	**Pb**	**17 58 12.3**	**-0.3**
	baz=340						
SLIU				S	**Sb**	**17 58 21.5**	**+0.2**
	baz=340						
LAY	**Lan-yu**	**0.67**	**48**	P	**Pb**	**17 58 12.9**	**+0.2**
	baz=48						
LAY				S	**Sb**	**17 58 21.5**	**0.0**
	baz=48						
TAW	**Tawu**	**0.78**	**351**	*i*P	**Pb**	**17 58 13.0**	**-1.5**
	baz=351						
TAW				S	**Sb**	**17 58 24.1**	**-0.5**
	baz=351						
EAST	**Anshuo**	**0.81**	**348**	⇓*i*P	**Pb**	**17 58 13.8**	**-1.3**
	baz=348						
EAST				*i*S	**Sb**	**17 58 25.5**	**-0.1**
	baz=348						
SCZT	**Fangliau**	**0.86**	**334**	⇓*i*P	**Pb**	**17 58 15.9**	**-0.1**
	baz=334						
SCZT				*i*S	**Sn**	**17 58 27.8**	**-0.6**
	baz=334						
SSPT	**Xinbi**	**0.99**	**335**	*i*P	**Pb**	**17 58 18.0**	**-0.1**
	baz=334						
SSPT				S	**Sb**	**17 58 30.1**	**-0.6**
	baz=334						
ECL	**Taimali**	**1.01**	**356**	P	**Pb**	**17 58 17.9**	**-0.5**
	baz=356						
ECL				S	**Sb**	**17 58 29.7**	**-1.6**
	baz=356						
MASBT	**Mashibuluo**	**1.08**	**341**	*e*P	**Pn**	**17 58 19.5**	**+0.1**
	baz=340						
MASBT				S	**Sn**	**17 58 33.6**	**0.0**
	baz=340						
LDUT	**Ludao**	**1.16**	**21**	*e*P	**Pn**	**17 58 20.2**	**-0.2**
	baz=20						
TSMG	**Majia**	**1.17**	**343**	*e*P	**Pb**	**17 58 21.2**	**+0.1**
	baz=342						
TSMG				S	**Sn**	**17 58 37.2**	**+1.4**
	baz=342						
TTN	**Taitung**	**1.17**	**6**	*e*P	**Pn**	**17 58 20.3**	**-0.3**
	baz=5.0						
TTN				S	**Sn**	**17 58 35.6**	**-0.2**
	baz=5.0						
SSD	**Sandimen**	**1.21**	**343**	*i*P	**Pn**	**17 58 21.6**	**+0.5**
	baz=342						
SSD				*i*S	**Sn**	**17 58 36.6**	**-0.2**
	baz=342						
TWGBT	**Beinan**	**1.23**	**2**	P	**Pn**	**17 58 21.3**	**-0.1**
	baz=2.0						
TWGBT				*e*S	**Sn**	**17 58 36.4**	**-0.9**
	baz=2.0						
TWG	**Pinlang**	**1.23**	**2**	*e*P	**Pn**	**17 58 21.4**	**-0.1**
	baz=2.0						
TWG				*e*S	**Sn**	**17 58 36.0**	**-1.4**
	baz=2.0						
LONT	**Longtian**	**1.32**	**4**	*e*P	**Pn**	**17 58 22.4**	**-0.2**
	baz=4.0						
LONT				S	**Sn**	**17 58 38.8**	**-0.7**
	baz=4.0						
SNJT	**Kaohsiung City**	**1.32**	**331**	*e*P	**Pn**	**17 58 22.6**	**-0.1**
	baz=330						
SNJT				*e*S	**Sb**	**17 58 40.2**	**-0.2**
	baz=330						
TWM1	**Shoushan**	**1.35**	**336**	*e*P	**Pb**	**17 58 24.9**	**+0.6**
	baz=335						
TWM1				*e*S	**Sn**	**17 58 39.0**	**-1.4**
	baz=335						
SCST	**Cishan**	**1.38**	**339**	*e*S	**Sn**	**17 58 40.8**	**-0.3**
	baz=338						
EDH	**Donghe**	**1.40**	**11**	*e*P	**Pn**	**17 58 23.6**	**-0.3**
	baz=10.0						
EDH				*e*S	**Sn**	**17 58 40.5**	**-1.1**
	baz=10.0						
SLGT	**Liugui**	**1.44**	**346**	*e*P	**Pn**	**17 58 24.6**	**+0.2**
	baz=345						
SLGT				*e*S	**Sn**	**17 58 42.9**	**+0.3**
	baz=345						
CHKT	**Chengkung**	**1.54**	**12**	P	**Pn**	**17 58 26.3**	**+0.7**
	baz=12						
CHKT				*e*S	**Sn**	**17 58 44.3**	**-0.6**
	baz=12						
SGST	**Jiashian**	**1.54**	**345**	P	**Pb**	**17 58 27.3**	**-0.3**
	baz=344						
SGST				*i*S	**Sn**	**17 58 45.2**	**+0.1**
	baz=344						
STYT	**Tauyuan**	**1.59**	**351**	P	**Pn**	**17 58 27.3**	**+0.9**
	baz=351						
STYT				S	**Sb**	**17 58 47.5**	**-0.6**
	baz=351						
ELDTW	**Lidau**	**1.59**	**360**	P	**Pn**	**17 58 26.3**	**-0.2**
	baz=359						
ELDTW				S	**Sn**	**17 58 47.1**	**+0.6**
	baz=359						
FULB	**Fuli**	**1.62**	**9**	P	**Pn**	**17 58 27.4**	**+0.5**
	baz=8.0						
FULB				*e*S	**Sn**	**17 58 45.9**	**-1.2**
	baz=8.0						
CHN1	**Nanshi**	**1.65**	**344**	P	**Pn**	**17 58 28.0**	**+0.6**
	baz=343						
CHN1				S	**Sn**	**17 58 47.8**	**-0.1**
	baz=343						
WTP	**Ta-pu**	**1.69**	**347**	P	**Pn**	**17 58 28.1**	**+0.2**
	baz=347						
WTP				S	**Sn**	**17 58 48.0**	**-0.9**
	baz=347						
SNST	**Tainan City**	**1.69**	**343**	S	**Sn**	**17 58 47.7**	**-1.2**
	baz=343						
TPUB	**Ta-pu**	**1.74**	**348**	*e*P	**Pn**	**17 58 29.3**	**+0.7**
	baz=347						
TPUB				*e*S	**Sn**	**17 58 49.1**	**-1.0**
	baz=347						
TWK	**Hsinying**	**1.74**	**344**	*e*P	**Pn**	**17 58 29.1**	**+0.6**
	baz=343						
TWK				S	**Sn**	**17 58 49.0**	**-1.1**
	baz=343						
TWF1	**Yuli**	**1.77**	**8**	*e*P	**Pn**	**17 58 28.3**	**-0.7**
	baz=8.0						
TWF1				S	**Sn**	**17 58 50.4**	**-0.4**
	baz=8.0						
YULB	**Yu-li**	**1.81**	**8**	*e*P	**Pn**	**17 58 28.8**	**-0.7**
	baz=7.0						
ALS	**Alishan**	**1.92**	**354**	P	**Pn**	**17 58 30.9**	**-0.4**
	baz=354						
EHY	**Hungye**	**1.93**	**8**	P	**Pn**	**17 58 30.6**	**-0.5**
	baz=8.0						
HGSD	**Ruisui**	**1.93**	**11**	*e*P	**Pn**	**17 58 30.6**	**-0.5**
	baz=10.0						
WLGB	**Puzi**	**2.00**	**341**	*e*S	**Sn**	**17 58 55.6**	**-0.7**
	baz=340						
CHN5	**Tsauling**	**2.02**	**351**	*e*P	**Pn**	**17 58 32.5**	**0.0**
	baz=350						
CHN5				*e*S	**Sn**	**17 58 56.9**	**-0.2**
	baz=350						
EGFH	**Guangfu**	**2.10**	**10**	*e*P	**Pn**	**17 58 35.0**	**+1.5**
	baz=10.0						
EGFH				*e*S	**Sn**	**17 58 59.1**	**+0.1**
	baz=10.0						
WGK	**Gukeng**	**2.13**	**349**	*e*P	**Pn**	**17 58 34.5**	**+0.6**
	baz=348						
WGK				*e*S	**Sn**	**17 58 59.8**	**+0.2**
	baz=348						
WDLH	**Douliu**	**2.14**	**348**	*e*P	**Pn**	**17 58 33.5**	**-0.5**
	baz=347						
WDLH				*e*S	**Sn**	**17 58 59.9**	**+0.1**
	baz=347						
VWDT	**VWDT**	**2.16**	**3**	P	**Pn**	**17 58 36.1**	**+1.9**
	baz=2.0						
VWDT				S	**Sn**	**17 59 00.7**	**+0.4**
	baz=2.0						
WSF	**Szhu**	**2.17**	**340**	S	**Sn**	**17 58 59.2**	**-1.4**
	baz=340						
SSLB	**Suanglung**	**2.19**	**358**	*e*P	**Pn**	**17 58 35.8**	**+1.1**
	baz=358						
SSLB				S	**Sn**	**17 59 01.5**	**+0.3**
	baz=358						
WJS	**Zhushan**	**2.24**	**353**	*e*S	**Sn**	**17 59 04.4**	**+2.1**
	baz=352						
ESL	**Shilin**	**2.25**	**10**	P	**Pn**	**17 58 36.8**	**+1.3**
	baz=9.0						
ESL				S	**Sn**	**17 59 02.4**	**-0.1**
	baz=9.0						
SMLT	**Sun Moon Lake**	**2.29**	**357**	P	**Pn**	**17 58 36.8**	**+0.7**
	baz=357						
SMLT				S	**Sn**	**17 59 03.8**	**+0.1**
	baz=357						
WNT	**Mingjian**	**2.30**	**352**	*e*P	**Pn**	**17 58 36.4**	**+0.2**
	baz=352						
WNT				*e*S	**Sn**	**17 59 04.4**	**+0.6**
	baz=352						
TYC	**Yuchr**	**2.31**	**356**	P	**Pn**	**17 58 37.7**	**+1.4**
	baz=356						
TYC				*e*S	**Sn**	**17 59 03.8**	**-0.2**
	baz=356						
RLNB	**Erlin**	**2.37**	**345**	*e*S	**Sn**	**17 59 05.7**	**+0.2**
	baz=344						
PNG	**Penghu**	**2.39**	**326**	*e*P	**Pn**	**17 58 37.2**	**-0.3**
	baz=325						
PNG				*e*S	**Sn**	**17 59 06.2**	**+0.2**
	baz=325						
CHGB	**Renai**	**2.46**	**3**	P	**Pn**	**17 58 40.0**	**+1.3**
	baz=3.0						
CHGB				S	**Sn**	**17 59 08.4**	**+0.3**
	baz=3.0						
NACB	**Ninganchiao**	**2.63**	**11**	*e*P	**Pn**	**17 58 41.0**	**+0.3**
	baz=11						
NACB				*e*S	**Sn**	**17 59 12.2**	**+0.3**
	baz=11						
ETLH	**Xiulin Townshi**	**2.64**	**9**	*e*P	**Pn**	**17 58 42.9**	**+2.0**
	baz=9.0						
ETLH				*e*S	**Sn**	**17 59 13.8**	**+1.5**
	baz=9.0						
FUSS	**Fushou**	**2.66**	**4**	*e*P	**Pn**	**17 58 42.3**	**+1.0**
	baz=4.0						
FUSS				*e*S	**Sn**	**17 59 13.2**	**+0.3**
	baz=4.0						
TDCB	**Techi**	**2.66**	**3**	P	**Pn**	**17 58 42.3**	**+1.1**
	baz=2.0						
TWT	**Tachien**	**2.66**	**3**	P	**Pn**	**17 58 42.9**	**+1.7**
	baz=2.0						
TWT				*e*S	**Sn**	**17 59 12.5**	**-0.3**
	baz=2.0						
WHP	**Taichung City**	**2.68**	**358**	P	**Pn**	**17 58 41.3**	**-0.2**
	baz=358						
WHP				*e*S	**Sn**	**17 59 13.2**	**-0.1**
	baz=358						
TWQ1	**Liyutan**	**2.76**	**355**	*e*S	**Sn**	**17 59 15.4**	**+0.4**
	baz=355						
NNSB	**Datong**	**2.85**	**7**	*e*P	**Pn**	**17 58 45.5**	**+1.7**
	baz=6.0						
NNSB				*e*S	**Sn**	**17 59 17.4**	**-0.1**
	baz=6.0						
NNS	**Nan Shan**	**2.86**	**6**	P	**Pn**	**17 58 45.9**	**+1.9**
	baz=6.0						
NNS				*e*S	**Sn**	**17 59 18.0**	**+0.3**
	baz=6.0						
ENA	**Nanau**	**2.90**	**13**	*e*P	**Pn**	**17 58 44.9**	**+0.4**
	baz=13						
ENA				*e*S	**Sn**	**17 59 17.4**	**-1.3**
	baz=13						
NDT	**Datong Townshi**	**3.03**	**8**	*e*P	**Pn**	**17 58 49.1**	**+2.8**
	baz=8.0						
NDT				*e*S	**Sn**	**17 59 23.6**	**+1.6**
	baz=8.0						
LIOB	**Emei**	**3.04**	**360**	*e*P	**Pn**	**17 58 47.5**	**+1.0**
	baz=359						
LIOB				*e*S	**Sn**	**17 59 22.9**	**+0.8**
	baz=359						
ENTT	**Nioudou**	**3.08**	**9**	*e*P	**Pn**	**17 58 48.8**	**+1.9**
	baz=9.0						
ENTT				*e*S	**Sn**	**17 59 22.6**	**-0.4**
	baz=9.0						
YHNB	**Yeheng**	**3.08**	**6**	*e*P	**Pn**	**17 58 48.1**	**+1.1**
	baz=5.0						
YHNB				*e*S	**Sn**	**17 59 25.2**	**+1.9**
	baz=5.0						
NSK	**Sanguang**	**3.09**	**6**	*e*P	**Pn**	**17 58 49.8**	**+2.6**
	baz=5.0						
NSK				*e*S	**Sn**	**17 59 24.6**	**+1.2**
	baz=5.0						

GMJI	**Gumukmas**	**5.78**	**303**	P	**Pn**	**18 00 20.8**	**+0.9**
FITZ	**Fitzroy Crossi**	**9.66**	**134**	Sn	**Sn**	**18 02 57.0**	**-3.9**
	0.6nm,0.3s,baz=178,slow=19,SNR=1.7						
WRA	**Warramunga Arr**	**17.54**	**121**	P	**P**	**18 02 59.7**	**+0.1**
	0.1nm,0.3s,baz=292,slow=14,SNR=7.8						
ASAR	**Alice Springs**	**19.14**	**131**	P	**Pn**	**18 03 21.8**	**+3.6**
	0.2nm,0.3s,baz=317,slow=13,SNR=15						
MKAR	**Makanchi Array**	**66.35**	**334**	P	P	18 09 49.5	+7.3
	0.2nm,0.4s,baz=157,slow=7.1,SNR=4.5						

KRNET 14 18:35:24.7±0.1, 42°.07N×77°.29E, h21km, mb1.9, 12C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.10**	**305**	⇑*i*P	Pb	18 35 29.2	-2.4
	baz=7.0						
KDJ				⇑*i*S	Sb	18 35 31.8	-4.7
	baz=7.0						
TARG	**Taragay, Kyrgy**	**0.51**	**132**	⇓*i*P	Pb	18 35 34.9	-0.4
	baz=32						
TARG				⇓*i*S	Sb	18 35 42.1	-0.3
	baz=32						
ANVS	**Anan'yevo**	**0.76**	**21**	⇑*i*P	Pb	18 35 39.5	+0.1
	baz=21						
ANVS				⇑*i*S	Sb	18 35 50.0	+0.6
	baz=21						
ULHL	**Ulahol**	**0.80**	**283**	⇑*i*P	Pb	18 35 39.8	-0.3
	baz=83						
ULHL				⇑*i*S	Sb	18 35 50.5	0.0
	baz=83						
PRZ	**Przheval'sk**	**0.92**	**63**	⇓*i*P	Pb	18 35 41.8	-0.2
	baz=63						
PRZ				⇓*i*S	Sn	18 35 54.7	-0.5
	baz=63						
TKM2	**Tokmak 2**	**1.52**	**305**	⇑*i*P	Pb	18 35 52.4	+0.2
	baz=5.0						
TKM2				⇑*i*S	Sb	18 36 12.3	+1.2
	baz=5.0						
KZA	**Kyzart**	**1.52**	**271**	⇑*i*P	Pb	18 35 52.4	0.0
	baz=71						
KZA				⇑*i*S	Sb	18 36 12.6	+1.2
	baz=71						
UCH	**Uchtor**	**2.07**	**275**	⇑*i*P	Pb	18 36 00.7	-1.2
	baz=75						
UCH				⇑*i*S	Sb	18 36 27.0	-0.4
	baz=75						

SOME 14 18:36:01.1, 42°.93N×78°.35E, h10km, 1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.13**	**18**	*e*P	Pg	18 36 04.4	+0.1
	0.9nm,0.1s						
SATY				*e*S	Sg	18 36 06.8	+0.3
	6.4nm,0.2s						
UZB	**Uzynbulak**	**0.54**	**66**	*e*P	Pg	18 36 11.1	-0.5
	0.4nm,0.1s						
UZB				⇓*i*S	Sg	18 36 18.4	-0.3
	3.1nm,0.3s						

*IDC **14** 18:38:36.8±1.6, 34°.76S×178°.91E, h179km±13km, mb4.1/14, mb1 4.2/15, mb1mx4.1/35, mbtmp4.6/15, Error ellipse: s-maj=15.2km s-min=11.9km az=50.0*
*WEL **14** 18:38:37.0±0.5, 35°.5S±.5°×17°.9E±°, h151km±15km, M5.2/38, mB5.7/4, MLv5.2/38, Mw(mB)5.2/4, Error ellipse: s-maj=0.0km s-min=0.0km az=113.9*
*NEIC **14** 18:38:38.8±1.9, 34°.88S±0°.08×179°.0E±0°.1, h199km±5km, mb4.7/31, Error ellipse: s-maj=15.6km s-min=10.9km az=64.0*

ISC 14 18:38:38.0±0.4, 35°.03S±0°.03×179°.16E±0°.06, h200km, n183, σ1§66/189, mb4.6/29, 4C-3D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.62**	**195**		**Pn**	**18 39 23.4**	**+0.3**
WMGZ	**Waiomatatini S**	**2.84**	**192**	P	**Pn**	18 39 26.9	+1.2
WMGZ				S	**Sn**	18 40 02.8	-0.5
HAZ	**Te Kaha**	**2.94**	**202**	P	**Pn**	18 39 27.2	+0.4
HAZ				S	**Sn**	18 40 04.5	-0.6
PUZ	**Puketiti**	**3.12**	**193**	P	**Pn**	18 39 29.5	+0.5
PUZ				S	**Sn**	18 40 08.0	-1.1
RUGZ	**Raukumara Rang**	**3.16**	**202**	P	**Pn**	18 39 29.5	-0.1
RUGZ				S	**Sn**	18 40 08.2	-1.9
KUZ	**Kuaotunu**	**3.28**	**238**	P	**Pn**	18 39 31.3	+0.4
TWGZ	**Tauwhareparae**	**3.28**	**197**	P	**Pn**	18 39 31.6	+0.6
TWGZ				S	**Sn**	18 40 12.4	-0.1
WHRZ	**Whale Island**	**3.32**	**211**	P	**Pn**	18 39 33.6	+2.2
WHRZ				S	**Sn**	18 40 14.9	+1.5
OPRZ	**Ohinepanea**	**3.51**	**216**	P	**Pn**	18 39 34.0	+0.4
CNGZ	**Carnagh Statio**	**3.53**	**192**	P	**Pn**	18 39 34.4	+0.5
CNGZ				S	**Sn**	18 40 17.1	-0.7
MWZ	**Matawai**	**3.55**	**201**	P	**Pn**	18 39 34.2	0.0
MWZ				S	**Sn**	18 40 16.9	-1.4
TKGZ	**Te Karaka**	**3.56**	**197**	P	**Pn**	18 39 34.3	0.0
TKGZ				S	**Sn**	18 40 17.9	-0.6
MARZ	**Manawahe**	**3.56**	**214**	P	**Pn**	18 39 36.4	+2.1
URZ	**Urewera**	**3.62**	**207**	P	**Pn**	18 39 34.4	-0.6
	26nm,0.3s,baz=274,slow=4.4,SNR=120						
URZ				S	**Sn**	18 40 19.3	-0.5
	193nm,0.3s,baz=259,slow=22,SNR=16						
URZ	**Urewera**	**3.62**	**207**	P	**Pn**	18 39 34.3	-0.6
URZ				S	**Sn**	18 40 19.0	-0.8
URZ	**Urewera**	**3.62**	**207**		**Pn**	18 39 34.7	-0.3
EDRZ	**Edgecumbe**	**3.63**	**212**	P	**Pn**	18 39 36.2	+0.9
RAGZ	**Rawiri**	**3.73**	**202**	P	**Pn**	18 39 36.7	+0.3
RAGZ				S	**Sn**	18 40 22.0	-0.4
KARZ	**Kaharoa**	**3.80**	**217**	P	**Pn**	18 39 39.4	+2.2
OMRZ	**Omania**	**3.80**	**215**	P	**Pn**	18 39 39.1	+1.8
RIGZ	**Rimuhau**	**3.83**	**197**	P	**Pn**	18 39 38.1	+0.4
RIGZ				S	**Sn**	18 40 23.8	-0.9
TARZ	**Mount Tarawera**	**3.84**	**213**	P	**Pn**	18 39 39.9	+2.1
RRRZ	**Republican Roa**	**3.93**	**212**	P	**Pn**	18 39 39.5	+0.7
HLRZ	**Highlands Stat**	**3.93**	**214**	P	**Pn**	18 39 39.9	+1.1
MUGZ	**Murupara**	**3.94**	**209**	P	**Pn**	18 39 38.3	-0.7
MUGZ				S	**Sn**	18 40 26.1	-0.8
UTU	**Utuhina**	**3.94**	**216**	P	**Pn**	18 39 42.3	+3.3
RTZ	**Ruatahuna**	**3.98**	**205**	P	**Pn**	18 39 38.5	-1.1
RTZ				S	**Sn**	18 40 26.3	-1.7
TOZ	**Tahuroa Road**	**4.00**	**227**	P	**Pn**	18 39 40.7	+1.0
PRGZ	**Paritu Road**	**4.01**	**194**	P	**Pn**	18 39 39.6	-0.3
SNGZ	**Shannon Statio**	**4.02**	**201**	P	**Pn**	18 39 39.5	-0.4
SNGZ				S	**Sn**	18 40 27.9	-0.8
HSRZ	**Hossack Road**	**4.03**	**215**	P	**Pn**	18 39 41.1	+1.1
WCZ	**Waipu Caves**	**4.03**	**256**	P	**Pn**	18 39 39.4	-0.7
HRRZ	**Handcock Road**	**4.07**	**214**	P	**Pn**	18 39 42.5	+1.9
PRRZ	**Plateau Road**	**4.11**	**212**	P	**Pn**	18 39 41.3	+0.2
GRRZ	**Galatos Road**	**4.12**	**216**	P	**Pn**	18 39 43.1	+1.9
KNZ	**Kokohu**	**4.16**	**196**	P	**Pn**	18 39 40.6	-1.0
KNZ				S	**Sn**	18 40 30.2	-1.6
ALRZ	**Allen Road**	**4.19**	**212**	P	**Pn**	18 39 42.1	0.0
RAHZ	**Arahi**	**4.22**	**203**	P	**Pn**	18 39 41.8	-0.7
WPRZ	**Whakapapatarin**	**4.23**	**214**	P	**Pn**	18 39 43.5	+0.8
MTHZ	**Maungataniwha**	**4.24**	**205**	P	**Pn**	18 39 42.5	-0.2
WHHZ	**Waihua**	**4.32**	**200**	P	**Pn**	18 39 43.0	-0.7
WHHZ				S	**Sn**	18 40 34.0	-1.5
KUTZ	**Kaahu Road**	**4.37**	**217**	P	**Pn**	18 39 45.2	+0.9
TLZ	**Tolley Road**	**4.39**	**220**	P	**Pn**	18 39 46.9	+2.2
NMHZ	**Naumai**	**4.47**	**204**	P	**Pn**	18 39 45.2	-0.5
ARHZ	**Aropaoanui**	**4.56**	**202**	P	**Pn**	18 39 45.8	-1.0
ARHZ				S	**Sn**	18 40 39.0	-2.0
OUZ	**Omahuta**	**4.57**	**266**	P	**Pn**	18 39 46.0	-0.8
OUZ	**Omahuta**	**4.57**	**266**		**Pn**	18 39 46.4	-0.4
WATZ	**Wairara**	**4.58**	**216**	P	**Pn**	18 39 48.0	+1.0
BKZ	**Black Stump Fm**	**4.64**	**207**	P	**Pn**	18 39 46.5	-1.3
BKZ	**Black Stump Fm**	**4.64**	**207**	Pn	**Pn**	18 39 46.2	-1.3
RITZ	**Rihia Road**	**4.74**	**213**	P	**Pn**	18 39 49.2	+0.1
MCHZ	**McNeill Hill**	**4.82**	**203**	P	**Pn**	18 39 48.7	-1.3
KWHZ	**Kaweka Forest**	**4.90**	**206**	P	**Pn**	18 39 50.6	-0.5
HIZ	**Hauiti**	**4.90**	**224**	P	**Pn**	18 39 52.4	+1.4
HIZ	**Hauiti**	**4.90**	**224**			18 39 52.5	+1.4
CKHZ	**Cape Kidnapper**	**4.91**	**199**	P	**Pn**	18 39 50.5	-0.6
KRVZ	**Karewarewa**	**4.94**	**214**	P	**Pn**	18 39 52.9	+1.3
OTVZ	**Oturere**	**4.98**	**213**	P	**Pn**	18 39 52.2	0.0
BHHZ	**Black Hill Sta**	**5.09**	**208**	P	**Pn**	18 39 51.4	-2.1
KAHZ	**Kahuranaki**	**5.09**	**200**	P	**Pn**	18 39 52.3	-1.2
FWVZ	**Far West T-bar**	**5.11**	**213**	P	**Pn**	18 39 53.5	-0.4
KRHZ	**Kereru**	**5.11**	**205**	P	**Pn**	18 39 51.4	-2.4
WHVZ	**Whangaehu Hut**	**5.11**	**213**	P	**Pn**	18 39 53.7	-0.3
MOVZ	**Moawhango**	**5.14**	**211**	P	**Pn**	18 39 52.4	-1.8
PKVZ	**Pokaka**	**5.23**	**215**	P	**Pn**	18 39 54.9	-0.4
MTVZ	**Mangateitei**	**5.25**	**213**	P	**Pn**	18 39 54.5	-1.0
PXZ	**Pawanui**	**5.31**	**199**	P	**Pn**	18 39 53.9	-2.4
VRZ	**Vera Road**	**5.39**	**219**	P	**Pn**	18 39 57.8	+0.5
PNHZ	**Pukenui**	**5.41**	**205**	P	**Pn**	18 39 55.1	-2.5
WPHZ	**Waipukurau**	**5.47**	**202**	P	**Pn**	18 39 57.2	-1.1
PRHZ	**Porangahau**	**5.59**	**200**	P	**Pn**	18 39 58.4	-1.5
TSZ	**Takapari Road**	**5.62**	**206**	P	**Pn**	18 39 58.3	-2.0
WAZ	**Wanganui**	**5.77**	**214**	P	**Pn**	18 40 01.9	-0.3
DVHZ	**Dannevirke**	**5.77**	**203**	P	**Pn**	18 39 59.1	-3.1
ANWZ	**Angora Road**	**5.82**	**201**	P	**Pn**	18 40 01.6	-1.2
KHEZ	**Kahui Hut**	**5.91**	**223**	P	**Pn**	18 40 05.8	+1.7
POWZ	**Post Office Ro**	**5.99**	**206**	P	**Pn**	18 40 03.0	-2.0
PRWZ	**Pori Road**	**6.06**	**204**	P	**Pn**	18 40 04.8	-1.2
BFZ	**Birch Farm**	**6.09**	**201**	P	**Pn**	18 40 03.8	-2.5
BFZ	**Birch Farm**	**6.09**	**201**		**Pn**	18 40 03.8	-2.5
GLKZ	**Green Lake**	**6.26**	**24**	P	Pn	18 40 02.1	-6.5
GLKZ				S	**Sn**	18 41 13.1	-7.4
RIZ	**Raoul Island**	**6.28**	**24**	S	**Sn**	18 41 14.1	-6.7
TMWZ	**Te Maipa**	**6.59**	**202**	P	**Pn**	18 40 09.8	-3.0
TRWZ	**Traveller**	**6.92**	**202**	P	**Pn**	18 40 13.8	-3.2
MSWZ	**Moikau Station**	**7.08**	**205**	Pn	**Pn**	18 40 16.1	-3.1
SNZO	**South Karori**	**7.18**	**208**	Pn	Pn	18 40 16.7	-3.8
TUWZ	**Tuamarina**	**7.59**	**211**		Pn	18 40 21.1	-4.7
NNZ	**Nelson**	**7.67**	**215**	Pn	**Pn**	18 40 23.5	-3.4
QRZ	**Quartz Range**	**7.80**	**220**	Pn	Pn	18 40 23.7	-4.8
BSWZ	**Blackbirch Sta**	**7.86**	**210**	Pn	Pn	18 40 24.4	-4.8
THZ	**Tophouse**	**8.32**	**214**	Pn	Pn	18 40 31.5	-3.8
KHZ	**Kahutara**	**8.58**	**209**	Pn	Pn	18 40 34.0	-4.6
LTZ	**Lake Taylor**	**9.41**	**213**	Pn	Pn	18 40 45.0	-4.5
OXZ	**Oxford**	**9.95**	**212**	Pn	Pn	18 40 51.5	-4.9
MQZ	**McQueen's Vall**	**10.02**	**208**	Pn	Pn	18 40 52.0	-5.3
RPZ	**Rata Peaks**	**10.70**	**213**	P	Pn	18 41 01.1	-5.0
	1.7nm,0.3s,baz=35,slow=4.2,SNR=8.1						
RPZ				S	Sn	18 42 52.9	-13
	10nm,0.3s,baz=12,slow=23,SNR=12						
RPZ	**Rata Peaks**	**10.70**	**213**		Pn	18 40 59.8	-6.3
FOZ	**Fox Glacier**	**11.15**	**218**	Pn	Pn	18 41 07.4	-4.5
LBZ	**Lake Benmore**	**11.61**	**214**	Pn	Pn	18 41 12.8	-5.0
ODZ	**Otahua Downs**	**11.93**	**211**	Pn	Pn	18 41 17.6	-4.2
WKZ	**Wanaka**	**12.49**	**215**	Pn	Pn	18 41 24.8	-4.1
MLZ	**Mavora Lakes**	**13.32**	**216**	Pn	**Pn**	**18 41 36.2**	**-3.1**
MSVF	**Nonsavu**	**17.26**	**356**	P	**Pn**	**18 42 26.8**	**-0.7**
MSVF				IAmb	IAmb	18 42 31.4	
	comp=Z,14nm,0.6s						
TAU	**Tasmania Unive**	**25.86**	**243**	P	**P**	**18 43 50.5**	**-0.5**
TAU				IAmb	IAmb	18 44 12.1	
	comp=Z,29nm,1.3s						
TOO	**Toolangi**	**27.17**	**255**	P	**P**	**18 44 07.2**	**+4.3**
TOO				IAmb	IAmb	18 44 08.3	
	comp=Z,28nm,1.4s						
STKA	**Stephens Creek**	**31.38**	**265**	P	**P**	**18 44 40.5**	**+0.4**
	comp=Z,3.1nm,0.5s,baz=104,slow=11,SNR=12						
STKA	**Stephens Creek**	**31.38**	**265**	P	**P**	**18 44 40.3**	**+0.2**
CTA	**Charters Tower**	**32.58**	**288**	P	**P**	**18 44 50.2**	**-0.4**
	comp=Z,13nm,0.9s,baz=118,slow=10.0,SNR=5.8						
CTAO	**Charters Tower**	**32.58**	**288**	P	**P**	**18 44 50.2**	**-0.4**
CTAO				IAmb	IAmb	18 44 52.1	
	comp=Z,27nm,1.1s						
BBOO	**Buckleboo**	**35.64**	**261**	P	**P**	**18 45 18.9**	**+2.0**
BBOO				IAmb	IAmb	18 45 21.9	
	comp=Z,29nm,1.4s						
COEN	**Coen**	**38.59**	**294**	P	**P**	**18 45 41.9**	**+0.1**
COEN				IAmb	IAmb	18 45 45.8	
	comp=Z,24nm,1.3s						
RABL	**Rabaul**	**39.58**	**315**	P	**P**	**18 45 50.5**	**+0.5**
RABL				IAmb	IAmb	18 45 54.8	
	comp=Z,32nm,0.8s						
AS31	**Alice Springs**	**40.73**	**274**	P	**P**	**18 45 58.7**	**-0.8**
ASAR	**Alice Springs**	**40.74**	**274**	P	**P**	**18 45 58.7**	**-0.8**
	comp=Z,13nm,0.6s,baz=114,slow=7.9,SNR=96						
ASAR				S	**S**	**18 51 55.5**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=121,slow=14,SNR=4.8						
WR0	**Warramunga Arr**	**41.98**	**279**	P	**P**	**18 46 08.6**	**-1.1**
WB2	**Warramunga Arr**	**42.15**	**279**	P	**P**	**18 46 09.8**	**-1.1**
WB2				IAmb	IAmb	18 46 14.6	
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**42.15**	**279**	P	**P**	**18 46 09.9**	**-1.1**
WRAB				IAmb	IAmb	18 46 14.5	
	comp=Z,15nm,0.8s						
WRA	**Warramunga Arr**	**42.16**	**279**	P	**P**	**18 46 09.8**	**-1.3**
	comp=Z,13nm,0.6s,baz=119,slow=7.6,SNR=82						
WB0	**Warramunga Arr**	**42.20**	**279**	P	**P**	**18 46 10.2**	**-1.2**
WB0				IAmb	IAmb	18 46 15.0	
	comp=Z,16nm,0.8s						
FORT	**Forrest**	**42.74**	**261**	P	**P**	**18 46 17.2**	**+1.6**
VNDA	**Vanda**	**43.26**	**185**	P	**P**	**18 46 23.7**	**+4.6**
	comp=Z,2.0nm,0.7s,baz=18,slow=6.2,SNR=12						
VNDA	**Vanda**	**43.26**	**185**	P	**P**	**18 46 23.4**	**+4.3**
KNRA	**Kununurra**	**48.90**	**280**	P	**P**	**18 47 04.1**	**+0.2**
KNRA				IAmb	IAmb	18 47 11.9	
	comp=Z,34nm,1.2s						
CASY	**Casey**	**49.94**	**209**	P	**P**	**18 47 11.2**	**+0.2**
NWAO	**Narrogin (SRO)**	**50.66**	**254**	P	**P**	**18 47 17.3**	**+0.4**
NWAO				IAmb	IAmb	18 47 18.8	
	comp=Z,14nm,0.8s						
NWAO	**Narrogin (SRO)**	**50.66**	**254**	P	**P**	**18 47 17.4**	**+0.4**
NWAO				IAmb	IAmb	18 47 18.9	
	comp=Z,11nm,0.8s						
MORW	**Morawa**	**53.06**	**258**	P	**P**	**18 47 35.1**	**+0.3**
MORW				IAmb	IAmb	18 47 35.6	
	comp=Z,11nm,0.7s						
PSA00	**Pilbara Seismi**	**53.23**	**268**	P	**P**	**18 47 35.6**	**-0.5**
PSA00				IAmb	IAmb	18 47 56.7	
	comp=Z,19nm,1.2s						
QSPA	**South Pole Qui**	**55.09**	**180**	P	**P**	**18 47 53.1**	**+4.1**
	comp=Z,36nm,0.8s,baz=271,slow=0.3,SNR=222						
QSPA	**South Pole Qui**	**55.09**	**180**	P	**P**	**18 47 53.1**	**+4.1**
GIRL	**Giralia**	**57.32**	**264**	P	**P**	**18 48 06.9**	**+1.7**
MAW	**Mawson**	**67.14**	**202**	P	**P**	**18 49 11.1**	**+1.5**
	comp=Z,2.9nm,0.6s,baz=116,slow=7.6,SNR=8.8						
MAW				PcP	**PcP**	**18 49 37.9**	**+1.7**
	comp=Z,8.0nm,0.9s,baz=122,slow=4.5,SNR=7.0						
MAW	**Mawson**	**67.14**	**202**	P	**P**	**18 49 11.2**	**+1.6**
SYO	**Syowa Base**	**72.06**	**194**	‖*e*P	**P**	**18 49 38.7**	**-1.0**
SYO	**Syowa Base**	**72.06**	**194**	‖*e*PcP	**PcP**	**18 49 55.3**	**-1.7**
SNAA	**Sanae**	**73.58**	**179**	P	**P**	**18 49 50.7**	**+2.0**
SNAA	**Sanae**	**73.58**	**179**	P	**P**	**18 49 50.8**	**+2.0**
SNAA				IAmb	IAmb	18 49 51.9	
	comp=Z,14nm,1.2s						
VNA3	**Neumayer Olymp**	**73.83**	**177**	P	**P**	**18 49 52.3**	**+2.2**
VNA2	**Neumayer--Watz**	**74.24**	**178**	P	**P**	**18 49 54.8**	**+2.4**
	baz=181,slow=4.8						
VNA1	**Neumayer--Stat**	**74.48**	**177**	P	**P**	**18 49 56.2**	**+2.4**
MDSI	**Maura Dua**	**75.15**	**275**	P	**P**	**18 49 57.9**	**-0.7**
SSLB	**Suanglung**	**80.40**	**308**	P	**P**	**18 50 26.4**	**-0.9**
SSLB				IAmb	IAmb	18 50 26.5	
	comp=Z,11nm,0.7s						
MJAR	**Matsushiro Arr**	**80.77**	**328**	P	**P**	**18 50 27.9**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=166,slow=5.7,SNR=4.0						
PLCA	**Paso Flores**	**81.07**	**134**	P	P	18 50 35.2	+4.4
	comp=Z,1.0nm,0.5s,baz=234,slow=6.7,SNR=9.3						
PLCA	**Paso Flores**	**81.07**	**134**	P	**P**	**18 50 32.8**	**+1.9**
GSI	**Gunungsitoli**	**83.85**	**276**	P	**P**	**18 50 46.0**	**+0.5**
KSRS	**Korea Array**	**86.40**	**322**	P	**P**	**18 50 58.1**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=138,slow=5.5,SNR=13						
ADK	**Adak**	**86.63**	**3**	P	**P**	**18 50 58.2**	**-0.1**
PET	**Petropavlovsk**	**89.49**	**348**	P	**P**	**18 51 11.9**	**+0.2**
PEA0B	**Petropavlovsk-**	**89.74**	**347**	P	**P**	**18 51 13.2**	**+0.2**
PETK	**Petropavlovsk-**	**89.74**	**347**	P	**P**	**18 51 13.0**	**+0.1**
	comp=Z,17nm,0.7s,baz=132,slow=6.9,SNR=64						
USRK	**Ussuriysk Ar.**	**89.76**	**328**	P	**P**	**18 51 13.5**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=131,slow=5.3,SNR=6.4						
CMAR	**Chiang Mai Arr**	**92.72**	**291**	P	**P**	**18 51 28.1**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=149,slow=3.2,SNR=10.0						
YBH	**Yreka Blue Hor**	**93.13**	**40**	P	**P**	**18 51 32.4**	**+3.4**
	comp=Z,1.0nm,0.6s,baz=210,slow=4.6,SNR=3.9						
NVAR	**Mina Array Bea**	**93.24**	**44**	P	**P**	**18 51 32.6**	**+2.8**
	comp=Z,1.7nm,0.8s,baz=226,slow=8.5,SNR=6.5						
INK	**Inuvik**	**108.88**	**17**	PKiKP	**PKiKP**	**18 56 42.3**	**0.0**
	comp=Z,1.4nm,0.7s,baz=153,slow=1.4,SNR=3.8						
MKAR	**Makanchi Array**	**118.86**	**309**	PKP	**PKPdf**	**18 57 00.8**	**-1.3**
	comp=Z,2.0nm,0.6s,baz=126,slow=1.5,SNR=20						
ZALV	**Zalesovo Beam**	**119.85**	**317**	PKP	**PKPdf**	**18 57 02.3**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=136,slow=1.3,SNR=6.7						
NRIK	**Noril'sk**	**122.85**	**335**	PKP	**PKiKP**	**18 57 09.1**	**-0.1**
	comp=Z,4.0nm,0.6s,baz=125,slow=3.1,SNR=4.8						
GEYT	**Alibeck**	**133.19**	**292**	PKP	**PKiKP**	**18 57 30.6**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=38,slow=2.6,SNR=6.8						
GEYT				SKPbc	**SKPbc**	**19 00 37.6**	**-1.4**
	comp=Z,1.8nm,0.9s,baz=170,slow=4.0,SNR=3.7						
ARCES	**ARCESS Array B**	**142.52**	**345**	PKhKP	PKPpre	18 57 41.7	
	comp=Z,2.3nm,0.6s,baz=2.0,slow=3.0,SNR=12						
KLMR	**Klimovskoe**	**143.56**	**328**	*e*PKPdf	PKPab	18 57 44.0	-0.9
KLMR				AMP		18 57 51.6	
	comp=Z,16nm,1.3s						
KBZ	**Khabaz**	**145.44**	**298**	PKPbc	**PKPdf**	**18 57 51.6**	**-0.1**
	comp=Z,7.7nm,1.0s,baz=99,slow=0.7,SNR=9.4						
FINES	**FINESS Array B**	**148.51**	**335**	PKPbc	**PKPbc**	**18 57 59.7**	**-0.4**
	comp=Z,35nm,0.6s,baz=35,slow=4.0,SNR=152						
LIC	**Lamto**	**151.07**	**171**	*e*PKIKP	**PKPdf**	**18 58 03.1**	**+1.3**
	comp=Z,140nm,0.9s						
KIC	**Kosan Boka**	**151.24**	**172**	*e*PKIKP	**PKPdf**	**18 58 02.8**	**+0.7**
	comp=Z,80nm,0.9s						
TIC	**Toumodi**	**151.49**	**171**	*e*PKIKP	**PKPdf**	**18 58 03.0**	**+0.5**
DBIC	**Dimbokro**	**151.53**	**172**	PKP	**PKPdf**	**18 58 04.1**	**+1.6**
	comp=Z,13nm,0.8s,baz=160,slow=5.3,SNR=3.7						
DBIC				PKPbc	**PKiKP**	**18 58 10.5**	**+1.2**
	comp=Z,23nm,0.8s,baz=161,slow=2.7,SNR=30						
BRTR	**Keskin Array B**	**152.31**	**290**	PKPbc	**PKPbc**	**18 58 09.2**	**-0.9**
	comp=Z,12nm,0.9s,baz=151,slow=3.5,SNR=24						
NACGM	**Naroch**	**152.43**	**325**	*e*	**PKPbc**	**18 58 08.0**	**-1.6**
LEF	**Lefka**	**152.47**	**280**	‖P	**PKPbc**	**18 58 09.9**	**-0.5**
NB2	**NORSAR Subarra**	**152.85**	**347**	PKPdf	**PKPbc**	**18 58 09.5**	**-0.9**
	comp=Z,4.6nm,0.7s,baz=31,slow=1.9						
NB2	**NORSAR Subarra**	**152.85**	**347**	PKPdf	**PKPbc**	**18 58 09.5**	**-0.9**
	baz=31,slow=1.9						
NOA	**NORSAR Array B**	**152.85**	**347**	PKPbc	**PKPbc**	**18 58 10.1**	**-0.4**
	comp=Z,7.0nm,0.8s,baz=32,slow=2.0,SNR=26						
AKASG	**Malin Array Be**	**153.21**	**315**	PKPbc	**PKPbc**	**18 58 10.7**	**-0.8**
	comp=Z,7.8nm,0.6s,baz=60,slow=2.3,SNR=20						
SORM	**Soroca**	**154.72**	**310**	‖P	**PKPbc**	**18 58 14.0**	**-0.7**
TOPG	**Topolog**	**155.66**	**303**	⇑P	**PKPab**	**18 58 34.5**	**-0.4**
TESR	**Tescani**	**156.36**	**307**	⇑P	**PKPab**	**18 58 37.7**	**-0.1**
BURAR	**Bucovina Array**	**156.87**	**311**	‖P	**PKPab**	**18 58 40.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**158.09**	**187**	PKP	**PKPdf**	**18 58 12.2**	**+0.8**
	comp=Z,4.5nm,0.9s,baz=314,slow=1.0,SNR=16						
TORD				PKPab	**PKPab**	**18 58 46.6**	**+0.8**
	comp=Z,7.4nm,0.9s,baz=170,slow=3.2,SNR=13						
CLL	**Collm**	**160.91**	**333**	*i* PKpab	**PKPab**	**18 58 55.8**	**-1.5**
GERES	**GERESS Array B**	**162.51**	**327**	PKPab	**PKPab**	**18 59 03.5**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=37,slow=5.2,SNR=5.4						
ESDC	**Sonseca Array**	**174.74**	**27**	PKP	**PKPdf**	**18 58 24.9**	**+1.3**
	comp=Z,1.3nm,0.9s,baz=332,slow=1.2,SNR=6.2						

*GCMT **14** 18:46:26.0±0.3, 14°.81S±0°.02×176°.04W±0°.02, h12km, MW4.9/107, Moment Tensor Solution. s31

mb3.7/12,mb1 3.8/12,mb1mx3.3/49,mbtmp4.5/12,Error ellipse: s-maj=24.5km s-min=19.7km az=55.0
NEIC ***14*** *18:57:50.7±1.3,23.6S±0.1×179.9W±0.1,h506km±8km, mb4.7/29,Error ellipse: s-maj=19.1km s-min=15.5km az=124.0*

ISC 14 18:57:50.8±0.7,23.68S±0.09×179.9W±0.1,h500km,n46, σ1§15/46,mb4.6/25,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.22**	**342**	P	**P**		**18 59 31.2**	**+1.7**
BKZ	**Black Stump Fm**	**15.74**	**190**	P	**P**		**19 01 07.9**	**-0.7**
QRZ	**Quartz Range**	**18.25**	**199**	P	**P**		**19 01 34.2**	**+1.0**
LTZ	**Lake Taylor**	**20.13**	**197**	P	**P**		**19 01 49.3**	**-1.2**
WHZ	**Wether Hill Ro**	**24.25**	**201**	P	**P**		**19 02 27.1**	**-0.3**
ARMA	**Armidale**	**26.20**	**249**	P	**P**		**19 02 44.7**	**-0.3**
ARMA				IAmb	IAmb		19 02 51.4	
	comp=Z,44nm,1.7s							
EIDS	**Eidsvold**	**26.45**	**260**	P	**P**		**19 02 47.8**	**+0.7**
EIDS				IAmb	IAmb		19 03 39.5	
	comp=Z,71nm,1.9s							
CAN	**Canberra**	**29.34**	**240**	P	**P**		**19 03 14.0**	**+1.6**
CAN				IAmb	IAmb		19 03 23.6	
	comp=Z,45nm,1.7s							
CTA	**Charters Tower**	**31.58**	**270**	P	**P**		**19 03 32.7**	**+0.8**
	comp=Z,20nm,0.4s,baz=94,slow=11,SNR=56							
CTAO	**Charters Tower**	**31.58**	**270**	P	**P**		**19 03 32.8**	**+0.9**
TOO	**Toolangi**	**32.66**	**237**	P	**P**		**19 03 41.9**	**+0.9**
TOO				IAmb	IAmb		19 05 19.6	
	comp=Z,30nm,1.9s							
TAU	**Tasmania Unive**	**33.16**	**227**	P	**P**		**19 03 46.4**	**+1.3**
TAU				IAmb	IAmb		19 03 58.6	
	comp=Z,55nm,1.4s							
PMG	**Port Moresby**	**34.52**	**289**	P	**P**		**19 03 57.0**	**+0.1**
PMG				IAmb	IAmb		19 04 48.3	
	comp=Z,46nm,1.4s							
STKA	**Stephens Creek**	**34.90**	**248**	P	**P**		**19 04 00.9**	**+1.0**
	comp=Z,2.9nm,0.6s,baz=98,slow=12,SNR=10							
STKA	**Stephens Creek**	**34.90**	**248**	P	**P**		**19 04 00.8**	**+0.9**
BBOO	**Buckleboo**	**39.63**	**247**	P	**P**		**19 04 38.5**	**-0.2**
BBOO				IAmb	IAmb		19 05 48.3	
	comp=Z,44nm,1.6s							
AS31	**Alice Springs**	**42.17**	**260**	P	**P**		**19 04 59.0**	**-0.2**
ASAR	**Alice Springs**	**42.17**	**260**	P	**P**		**19 04 59.1**	**-0.1**
	comp=Z,10nm,0.8s,baz=97,slow=7.3,SNR=109							
ASAR				ScP	**ScP**		**19 09 45.1**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=105,slow=4.8,SNR=7.2							
WR0	**Warramunga Arr**	**42.34**	**266**	P	**P**		**19 04 59.8**	**-0.7**
WB2	**Warramunga Ar**	**42.52**	**266**	P	**P**		**19 05 01.5**	**-0.4**
WB2				IAmb	IAmb		19 05 01.7	
	comp=Z,14nm,0.6s							
WB0	**Warramunga Arr**	**42.52**	**266**	P	**P**		**19 05 01.3**	**-0.7**
WB0				IAmb	IAmb		19 05 02.0	
	comp=Z,14nm,0.7s							
WRAB	**Tennant Creek**	**42.52**	**266**	P	**P**		**19 05 01.3**	**-0.6**
WRAB				IAmb	IAmb		19 05 01.6	
	comp=Z,12nm,0.6s							
WRA	**Warramunga Ar**	**42.53**	**266**	P	**P**		**19 05 01.2**	**-0.8**
	comp=Z,11nm,0.5s,baz=91,slow=8.4,SNR=324							
JAY	**Jayapura**	**43.52**	**293**	P	**P**		**19 05 09.4**	**-0.5**
	comp=Z,4.9nm,0.6s,baz=132,slow=3.8,SNR=9.0							
FORT	**Forrest**	**46.49**	**249**	P	**P**		**19 05 31.9**	**-0.6**
MTN	**Manton Dam**	**47.54**	**274**	P	**P**		**19 05 39.8**	**-0.8**
MTN				IAmb	IAmb		19 06 38.9	
	comp=Z,70nm,1.5s							
KNRA	**Kununurra**	**48.79**	**270**	P	**P**		**19 05 49.8**	**-0.2**
KNRA				IAmb	IAmb		19 07 20.3	
	comp=Z,69nm,1.6s							
FITZ	**Fitzroy Crossi**	**50.95**	**265**	P	**P**		**19 06 05.8**	**0.0**
	comp=Z,4.0nm,0.6s,baz=105,slow=7.1,SNR=17							
FITZ	**Fitzroy Crossi**	**50.95**	**265**	P	**P**		**19 06 06.1**	**+0.3**
FITZ				IAmb	IAmb		19 07 44.8	
	comp=Z,66nm,1.9s							
SIJI	**Sorong**	**52.46**	**288**	P	**P**		**19 06 16.4**	**-0.5**
	comp=Z,26nm,0.7s,baz=66,slow=7.0,SNR=9.8							
MORW	**Morawa**	**57.05**	**250**	P	**P**		**19 06 48.4**	**-0.4**
CASY	**Casey**	**60.36**	**206**	P	**P**		**19 07 10.1**	**-0.4**
QSPA	**South Pole Qui**	**66.41**	**180**	P	**P**		**19 07 50.4**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=225,slow=1.4,SNR=6.4							
QSPA	**South Pole Qui**	**66.41**	**180**	IAmb	IAmb		19 08 14.2	
	comp=Z,14nm,1.6s							
KKM	**Kota Kinabalu**	**68.94**	**287**	P	**P**		**19 08 05.4**	**-0.5**
KKM				IAmb	IAmb		19 09 30.8	
	comp=Z,10.0nm,1.0s							
MJAR	**Matsushiro Arr**	**71.77**	**326**	P	**P**		**19 08 21.3**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=180,slow=5.4,SNR=5.4							
MAW	**Mawson**	**77.99**	**200**	P	**P**		**19 08 57.0**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=150,slow=8.9,SNR=6.4							
MAW	**Mawson**	**77.99**	**200**	P	**P**		**19 08 57.2**	**+0.7**
AKUT	**Akutan**	**78.44**	**8**	P	**P**		**19 08 58.2**	**-0.8**
SNAA	**Sanae**	**84.89**	**179**	P	**P**		**19 09 31.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**89.55**	**290**	P	**P**		**19 09 53.9**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=145,slow=3.0,SNR=5.7							
TXAR	**Lajitas Array**	**90.23**	**58**	P	**P**		**19 09 57.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=272,slow=3.4,SNR=3.8							
ARCES	**ARCESS Array B**	**131.69**	**348**	PKP	**PKPdf**		**19 16 04.8**	**-0.9**
	comp=Z,3.8nm,1.0s,baz=105,slow=1.4,SNR=4.3							
AKASG	**Malin Array Be**	**144.84**	**328**	PKP	**PKPdf**		**19 16 27.6**	**-2.5**
	comp=Z,2.0nm,0.7s,baz=40,slow=4.2,SNR=5.0							
CLL	**Collm**	**150.67**	**343**	*i* PKPbc	**PKPdf**		**19 16 44.7**	**+5.0**
CLL				LmH			19 48 00.0	
	comp=N,500nm,19.8s							
CLL				LmH			19 48 00.0	
	comp=E,300nm,21.1s							
CLL				LmV			19 55 00.0	
	comp=Z,100nm,20.3s							
TORD	**Torodi Ar. Bea**	**169.42**	**188**	PKP	**PKPdf**		**19 17 01.8**	**+0.7**
	comp=Z,0.6nm,1.0s,baz=238,slow=8.5,SNR=3.8							

IDC ***14*** *19:02:01.6±0.8,27.87N×127.82E,h0km,mb3.9/12, mb1 3.9/16,mb1mx3.8/52,mbtmp3.8/16,ML3.1/4,MS3.7/12, Ms1 3.8/12,ms1mx3.5/43,Error ellipse: s-maj=27.3km s-min=15.3km az=78.0*
JMA ***14*** *19:02:02.1±0.2,28.08N×128.17E,h18km±3km,M3.8*
NIED ***14*** *19:02:02.1,28.08N×128.17E,h18km,MW4.6,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-2.30; Mθθ7.40; Mϕϕ-5.10; Mrθ-3.42; Mθϕ-1.04; Mϕr5.28; Fault plane solution: M₀9.15000×10¹⁵ NP1: ϕs135.00000°,δ79.00000°,λ-46.00000°. NP2: ϕs235.00000°,δ45.00000°,λ-165.00000°.*
BJI ***14*** *19:02:02.3±0.0,27.26N×128.59E,h66km,mB4.6/20, mb4.1/25,Ms4.5/23,Ms7 4.2/23*
NEIC ***14*** *19:02:03.6±2.0,27.92N±0.08×128.0E±0.1,h10km±1km, mb4.1/10,Error ellipse: s-maj=18.2km s-min=12.4km az=120.0*

ISC 14 19:02:02.3±1.3,27.93N±0.04×128.17E±0.04,h4km±9km, n55,σ1§58/57,mb4.0/17,MS3.6/8,1C,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.67**	**148**	P	P	**Pb**	**19 02 17.0**	**+0.4**
JOKE				S	S	**Sn**	**19 02 27.2**	**-2.4**
JTK	**Tokunoshima**	**0.71**	**102**	P	P	**Pg**	**19 02 16.3**	**+0.5**
JTK				S	S	**Sg**	**19 02 26.1**	**+1.1**
JIH	**Iheya**	**0.91**	**191**	P	P	**Pn**	**19 02 21.2**	**-0.7**
JIH				*e*S	S	**Sn**	**19 02 35.3**	**-0.2**
JYRO	**Yoronjima**	**0.94**	**165**	P	P	**Pn**	**19 02 21.8**	**-0.5**
JYRO				S	S	**Sn**	**19 02 36.5**	**+0.4**
JAMN	**Amaminishikomi**	**0.94**	**70**	P	P	**Pg**	**19 02 18.8**	**-1.5**
JAMN				S	S	**Sg**	**19 02 31.2**	**-1.3**
JOW	**Kunigami**	**1.10**	**175**	P	P	**Pn**	**19 02 24.5**	**0.0**
JAM	**Amami Oshima**	**1.35**	**69**	P	P	**Pn**	**19 02 25.6**	**-2.4**
JNTH	**Nagotoyohara**	**1.41**	**185**	P	P	**Pg**	**19 02 29.3**	**-0.1**
JTAJ	**Takarajima**	**1.52**	**136**	P	P	**Pn**	**19 02 27.0**	**-3.3**
JAGN	**Aguni-jima**	**1.57**	**212**	P	P	**Pg**	**19 02 32.1**	**-0.3**
JJT3	**Tamagusuku3**	**1.81**	**191**	P	P	**Pg**	**19 02 36.2**	**-0.9**
JKE	**Kume jima 2**	**2.02**	**218**	P	P	**Pb**	**19 02 38.6**	**-1.0**
JYAK	**Yakushimahirau**	**3.08**	**41**	P	P	**Pn**	**19 02 50.5**	**-1.2**
JKDJ	**Kitadaitoujima**	**3.42**	**125**	P	P	**Pn**	**19 02 56.7**	**+0.3**
JKDJ				*e*S	S	**Sn**	**19 03 35.8**	**-1.6**
JMZ	**Minamidaito 2**	**3.44**	**127**	*e*S	S	**Sn**	**19 03 37.5**	**-0.5**
JNU	**Nakatsue**	**5.68**	**24**	Pn	P	**Pn**	**19 03 31.1**	**+3.6**
	2.6nm,0.3s,baz=329,slow=4.6,SNR=23							
JNU				LR	LR		19 05 44.4	
	comp=Z,1μm,20.8s,baz=206,slow=38							
JNU	**Nakatsue**	**5.68**	**24**	Pn	P	**Pn**	**19 03 29.9**	**+2.4**
YHNB	**Yeheng**	**6.91**	**249**		P	**Pn**	**19 03 42.5**	**-2.0**
YULB	**Yu-li**	**7.67**	**235**	Pn	P	**Pn**	**19 03 55.2**	**+0.3**
KNMB	**Chin-men Tao**	**9.44**	**251**	Pn	P	**Pn**	**19 04 18.2**	**-0.9**
KSRS	**Korea Array**	**9.50**	**359**	Pn	P	**Pn**	**19 04 20.5**	**+0.6**
	0.1nm,0.3s,baz=171,slow=12,SNR=2.6							
KSRS				LR	LR		19 08 08.8	
	comp=Z,821nm,18.4s,baz=184,slow=38							
MJAR	**Matsushiro Arr**	**12.07**	**42**	Pn	P	**Pn**	**19 04 58.4**	**+3.2**
	0.0nm,0.3s,baz=246,slow=14,SNR=4.7							
MJAR				LR	LR		19 10 14.5	
	comp=Z,443nm,18.7s,baz=220,slow=40							
TGY	**Tagaytay City**	**15.32**	**208**	LR	LR		19 11 31.9	
	comp=Z,240nm,19.4s,baz=90,slow=38							
BJT	**Baijiatuan**	**15.62**	**324**	P	P		**19 05 48.9**	**+1.3**
BJT				IAmb	IAmb		19 05 52.4	
	comp=Z,9.4nm,0.8s							
CN2	**Changchun**	**15.99**	**353**	*e*P	P		**19 05 56.6**	**+4.9**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CN2				pmax	pmax			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=Z,800nm,12.0s							
CN2				LR	LR			
	comp=Z,800nm,12.0s							
CN2				LR	LR			
	comp=Z,900nm,12.0s							
ENH	**Enshi**	**16.50**	**283**	P	P		**19 05 56.2**	**-1.2**
ENH				IAmb	IAmb		19 06 07.5	
	comp=Z,20nm,1.2s							
USRK	**Ussuriysk Ar.**	**16.52**	**10**	Pn	**Pn**		**19 05 55.9**	**+1.0**
	baz=202,slow=11,SNR=1.8							
USRK				LR	LR		19 12 07.4	
	comp=Z,301nm,19.3s,baz=196,slow=36							
MDJ	**Mudanjiang**	**16.69**	**4**	P	P		**19 05 59.0**	**-0.5**
XAN	**Xi'an**	**17.58**	**295**	P	P		**19 06 10.3**	**+0.8**
XAN				pP	sP		19 06 25.4	+15
XAN				pmax	pmax			
	comp=Z,12nm,2.3s							
GYA	**Guiyang**	**19.19**	**271**	*e*P	**Pn**		**19 06 29.8**	**+1.7**
GYA				pmax	pmax			
	comp=Z,120nm,3.8s							
GYA				LR	LR			
	comp=Z,480nm,11.1s							
GYA				LR	LR			
	comp=Z,600nm,13.7s							
GYA				LR	LR			
	comp=Z,660nm,15.3s							
BTO	**Baotou**	**19.57**	**315**	*e*P	**Pn**		**19 06 33.9**	**+1.3**
BTO				S	**Sn**		**19 10 14.8**	**+2.1**
DAV	**Davao City (W)**	**20.89**	**187**	LR	LR		19 13 41.5	
	comp=Z,244nm,20.6s,baz=34,slow=34							
KLR	**Kul'dur**	**21.45**	**6**	P	**P**		**19 06 52.9**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=199,slow=18,SNR=2.0							
KLR				LR	LR		19 14 34.0	
	comp=Z,155nm,19.6s,baz=169,slow=35							
CD2	**Chengdu**	**21.46**	**284**	*e*P	**P**		**19 06 53.8**	**+1.9**
CD2				pmax	pmax			
	comp=Z,20nm,1.0s							
ULN	**Ulaanbaatar**	**25.81**	**326**		**P**		**19 07 34.5**	**-0.1**
ULN				IAmb	IAmb		19 07 38.4	
	comp=Z,3.8nm,0.8s							
SONM	**Songino Array**	**26.11**	**325**	P	**P**		**19 07 36.8**	**-0.6**
	comp=Z,4.1nm,0.8s,baz=143,slow=8.8,SNR=20							
SONM				LR	LR		19 18 35.9	
	comp=Z,158nm,18.4s,baz=128,slow=38							
GTA	**Gaotai**	**26.12**	**303**	⇑P	**P**		**19 07 37.8**	**+0.2**
GTA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,49nm,6.5s							
GTA				LR	LR			
	comp=Z,670nm,14.3s							
GTA				LR	LR			
	comp=Z,650nm,13.3s							
GTA				LR	LR			
	comp=Z,780nm,13.7s							
CMAR	**Chiang Mai Arr**	**28.41**	**257**	LR	LR		19 20 28.4	
	comp=Z,101nm,18.6s,baz=93,slow=39							
KSM	**Kuching**	**31.37**	**216**	P	**P**		**19 08 24.4**	**0.0**
KAPI	**Kappang**	**33.75**	**195**	LR	LR		19 21 55.7	
	comp=Z,152nm,20.8s,baz=44,slow=36							
MK31	**Makanchi Array**	**40.38**	**310**	P	**P**		**19 09 41.4**	**+0.1**
MKAR	**Makanchi Array**	**40.38**	**310**	P	**P**		**19 09 39.5**	**-1.8**
	comp=Z,1.2nm,0.7s,baz=100,slow=9.5,SNR=13							
ZALV	**Zalesovo Beam**	**40.87**	**322**	P	**P**		**19 09 44.3**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=111,slow=7.9,SNR=2.6							
TARG	**Taragay, Kyrgy**	**42.99**	**302**	P	**P**		**19 10 03.7**	**+0.4**
TARG				IAmb	IAmb		19 10 04.7	
	comp=Z,3.4nm,0.9s							
KURK	**Kurchatov**	**43.56**	**315**	P	**P**		**19 10 06.3**	**-0.9**
KURK				IAmb	IAmb		19 10 09.1	
	comp=Z,4.4nm,1.1s							
KURBB	**Kurchatov Arra**	**43.60**	**315**	P	**P**		**19 10 06.1**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=103,slow=8.4,SNR=10							
NRIK	**Noril'sk**	**47.62**	**342**	P	**P**		**19 10 36.8**	**-2.3**
	comp=Z,9.6nm,0.6s,baz=117,slow=18,SNR=12							
WRA	**Warramunga Arr**	**47.97**	**172**	P	**P**		**19 10 41.7**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=352,slow=8.2,SNR=10							
BRVK	**Borovoye**	**49.05**	**317**	P	**P**		**19 10 49.7**	**-0.7**
ASAR	**Alice Springs**	**51.59**	**173**	P	**P**		**19 11 09.7**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=345,slow=6.7,SNR=4.8							
ASAR				LR	LR		19 34 51.0	
	comp=Z,48nm,18.1s,baz=346,slow=38							
GEYT	**Alibeck**	**58.41**	**299**	P	**P**		**19 11 57.8**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=83,slow=4.5,SNR=1.6							
STKA	**Stephens Creek**	**60.84**	**167**	P	**P**		**19 12 16.2**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=308,slow=12,SNR=1.5							
STKA	**Stephens Creek**	**60.84**	**167**	IAmb	IAmb		19 12 24.2	
	comp=Z,1.7nm,1.4s							
YKA	**Yellowknife Ar**	**77.01**	**25**	P	**P**		**19 13 57.4**	**+1.3**
	comp=Z,1.3nm,1.0s,baz=306,slow=5.4,SNR=4.2							
NOA	**NORSAR Array B**	**77.77**	**334**	P	**P**		**19 13 59.4**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=267,slow=18,SNR=1.7							
NOA				LR	LR		19 50 56.9	
	comp=Z,50nm,19.1s,baz=355,slow=38							

JMA ***14*** *19:38:30.8±0.2,28.09N×128.15E,h8km±2km,M3.5*
NIED ***14*** *19:38:30.9,28.09N×128.15E,h8km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.41; Mθθ1.84; Mϕϕ-1.42; Mrθ-0.97; Mθϕ0.02; Mϕr1.16; Fault plane solution: M₀2.26000×10¹⁵ NP1: ϕs131.00000°,δ82.00000°,λ-43.00000°. NP2: ϕs228.00000°,δ47.00000°,λ-169.00000°.*
IDC ***14*** *19:38:30.6±1.2,27.98N×127.18E,h0km,mb3.4/4, mb1 3.6/7,mb1mx3.3/51,mbtmp3.5/7,ML2.9/3,MS3.2/11, Ms1 3.2/11,ms1mx3.0/39 Error ellipse: s-maj=36.5km s-min=22.0km az=83.0*

ISC 14 19:38:29.7±1.7,28.08N±0.04×128.11E±0.06,h8km±11km, n24,σ1§31/22,mb3.3/4,MS3.0/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.80**	**112**	P	P	**Pb**	**19 38 45.5**	**-0.4**
JTK				S	S	**Sb**	**19 38 55.9**	**-1.0**
JOKE	**Okinoerabujima**	**0.83**	**150**	P	P	**Pb**	**19 38 46.4**	**0.0**
JOKE				S	S	**Sb**	**19 38 57.1**	**-0.6**
JAMN	**Amaminishikomi**	**0.95**	**80**	P	P	**Pb**	**19 38 48.4**	**-0.1**
JAMN				S	S	**Sb**	**19 39 00.8**	**-0.5**
JIH	**Iheya**	**1.05**	**187**	P	P	**Pn**	**19 38 50.8**	**0.0**
JIH				S	S	**Sn**	**19 39 05.1**	**-0.5**
JYRO	**Yoronjima**	**1.10**	**164**	P	P	**Pn**	**19 38 51.3**	**-0.1**
JYRO				S	S	**Sn**	**19 39 06.3**	**-0.4**
JOW	**Kunigami**	**1.26**	**173**	P	P	**Pg**	**19 38 54.2**	**+0.3**
JAM	**Amami Oshima**	**1.36**	**76**	P	P	**Pn**	**19 38 55.1**	**+0.1**
JAM				*e*S	S	**Sg**	**19 39 12.9**	**-0.6**
JTAJ	**Takarajima**	**1.43**	**42**	P	P	**Pb**	**19 38 56.9**	**+0.2**
JNTH	**Nagotoyohara**	**1.56**	**183**	P	P	**Pb**	**19 38 58.8**	**-0.1**
JNTH				*e*S	S	**Sg**	**19 39 19.7**	**-0.3**
JZK	**Kikaishima**	**1.66**	**82**	P	P	**Pg**	**19 39 01.7**	**+0.1**
JNU	**Nakatsue**	**5.56**	**25**	Pn	P	**Pn**	**19 40 00.2**	**+7.5**
	1.0nm,0.3s,baz=167,slow=5.6,SNR=12							
JNU				LR	LR		19 42 13.7	
	comp=Z,239nm,20.2s,baz=207,slow=37							
KSRS	**Korea Array**	**9.35**	**359**	LR	LR		19 44 28.9	
	comp=Z,188nm,20.0s,baz=182,slow=38							
MJAR	**Matsushiro Arr**	**11.99**	**43**	Pn	Pn		19 41 32.1	+11
	0.0nm,0.3s,baz=248,slow=16,SNR=2.4							
MJAR				LR	LR		19 46 44.1	
	comp=Z,102nm,18.1s,baz=225,slow=39							
JCJ	**Chichijima**	**12.52**	**91**	LR	LR		19 46 05.3	
	comp=Z,98nm,19.3s,baz=182,slow=34							
USRK	**Ussuriysk Ar.**	**16.38**	**10**	Pn	**P**		**19 42 25.4**	**+2.6**
	baz=200,slow=16,SNR=1.1							
USRK				LR	LR		19 48 15.9	
	comp=Z,58nm,18.0s,baz=176,slow=35							
ASAJ	**Asahikawa**	**19.77**	**32**	LR	LR		19 49 59.5	
	comp=Z,81nm,19.7s,baz=197,slow=34							
DAV	**Davao City (W)**	**21.04**	**187**	LR	LR		19 51 30.2	
	comp=Z,63nm,20.7s,baz=9.0,slow=37							
KLR	**Kul'dur**	**21.30**	**7**	LR	LR		19 52 12.3	
	comp=Z,50nm,18.0s,baz=175,slow=38							
SONM	**Songino Array**	**25.96**	**325**	P	**P**		**19 44 02.8**	**+0.1**
	0.2nm,0.5s,baz=141,slow=9.3,SNR=1.7							
SONM				LR	LR		19 55 54.0	
	comp=Z,29nm,19.0s,baz=310,slow=41							
CMAR	**Chiang Mai Arr**	**28.39**	**257**	LR	LR		19 57 21.2	
	comp=Z,47nm,18.4s,baz=220,slow=41							
TLY	**Talaya**	**29.87**	**329**	LR	LR		19 57 18.7	
	comp=Z,60nm,18.8s,baz=134,slow=38							
MKAR	**Makanchi Array**	**40.24**	**310**	P	**P**		**19 46 03.4**	**-3.6**
	0.2nm,0.3s,baz=114,slow=7.7,SNR=7.2							
WRA	**Warramunga Arr**	**48.12**	**172**	P	**P**		**19 47 12.4**	**+2.1**
	1.0nm,0.9s,baz=352,slow=8.2,SNR=5.1							
ASAR	**Alice Springs**	**51.75**	**173**	P	**P**		**19 47 40.0**	**+2.2**
	0.4nm,0.8s,baz=359,slow=10,SNR=2.5							

IDC 14 19:44:55.5±2.4,3.83N×127.63E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.3/45,mbtmp3.5/4,Error ellipse: s-maj=191.5km s-min=27.8km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Ar**	**24.53**	**165**	P	P		19 50 16.6	-0.3
	0.8nm,0.6s,baz=343,slow=8.8,SNR=8.5							
ASAR	**Alice Springs**	**28.01**	**168**	P	P		19 50 47.8	-0.6
	0.2nm,0.6s,baz=348,slow=7.3,SNR=6.1							
STKA	**Stephens Creek**	**37.92**	**160**	P	P		19 52 14.8	+0.1
	0.8nm,0.7s,baz=326,slow=11,SNR=3.2							
MKAR	**Makanchi Array**	**57.98**	**325**	P	P		19 54 50.6	+0.6
	0.4nm,0.9s,baz=130,slow=7.1,SNR=2.6							

GCG ***14*** *19:51:48.9±0.6,16.49N×94.90W,h289km±123km,MD4.9*
IDC ***14*** *19:52:11.4±0.6,15.81N×93.68W,h85km±5km,mb4.1/12, mb1 4.4/15,mb1mx3.9/43,mbtmp4.5/15,MS3.3/5, Ms1 3.3/5,ms1mx3.1/24,Error ellipse: s-maj=17.6km s-min=6.6km az=48.0*
NEIC ***14*** *19:52:12.9±1.8,15.74N±0.07×93.71W±0.07,h86km±7km, mb4.7/193,Md4.6/45(MEX),Error ellipse: s-maj=11.6km s-min=7.9km az=220.0*
UCR ***14*** *19:52:12.6±0.9,15.61N×93.88W,h37km±90km,ML4.4, mb4.7(NEIC)*
MEX ***14*** *19:52:12.7±1.0,15.69N×93.89W,h86km±10km,MD4.6*
SNET ***14*** *19:52:12.6±0.9,15.60N×93.87W,h59km±64km,ML4.9, MW4.5*

ISC 14 19:52:11.7±0.5,15.68N±0.04×93.86W±0.03,h88km±4km, h88km:pP-P,n306,σ1§52/360,mb4.7/57,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PCIG		**0.61**	**87**	*e*P		**Pn**	**19 52 26.7**	**-0.5**
PCIG				*i* S		**Sn**	**19 52 38.5**	**-0.2**
PCIG		**0.61**	**87**			**Pn**	**19 52 26.7**	**-0.5**
PCIG						**Sn**	**19 52 37.7**	**-1.1**
TGIG		**1.30**	**33**	*i* P		**Pn**	**19 52 34.5**	**-0.4**
TGIG				*i* S		**Sn**	**19 52 51.7**	**-0.8**
TGIG		**1.30**	**33**			**Pn**	**19 52 34.5**	**-0.4**
TGIG						**Sn**	**19 52 50.7**	**-1.8**
THIG		**1.71**	**116**	*e*P		**Pn**	**19 52 40.2**	**+0.1**
THIG				*e*S		**Sn**	**19 53 01.8**	**+0.1**
CMIG	**Matias Romero**	**1.72**	**325**	P		**Pn**	**19 52 40.1**	**-0.1**
	184nm,0.3s,baz=150,slow=14,SNR=1861							
CMIG				S		**Sn**	**19 53 01.2**	**-0.5**
	805nm,0.3s,baz=222,slow=23,SNR=40							
CMIG				LR	LR		19 53 19.9	
	comp=Z,1μm,20.9s,baz=173,slow=40							
CMIG	**Matias Romero**	**1.72**	**325**	*i* P		**Pn**	**19 52 40.2**	**0.0**
CMIG				*e*S		**Sn**	**19 53 00.5**	**-1.3**
CCIG	**Comitan**	**1.76**	**70**	*e*P		**Pn**	**19 52 41.4**	**+0.5**
CCIG				*i* S		**Sn**	**19 53 03.4**	**+0.3**
CCIG	**Comitan**	**1.76**	**70**			**Pn**	**19 52 41.0**	**+0.1**
HUIG	**Huatulco**	**2.17**	**273**	*e*P		**Pn**	**19 52 45.0**	**-1.1**
HUIG				*i* S		**Sn**	**19 53 11.0**	**-1.4**
HUIG	**Huatulco**	**2.17**	**273**			**Pn**	**19 52 45.0**	**-1.1**
HUEH	**Huehuetenango**	**2.30**	**99**	*e*P		**Pn**	**19 52 49.4**	**+1.4**
HUEH	**Huehuetenango**	**2.30**	**99**	Pn		**Pn**	**19 52 48.0**	**0.0**
RTAL

CAIG *i* S Sn 19 54 51.3 -1.4
CAIG El Cayaco 6.30 283 Pn 19 53 42.9 +0.8
TGUH Tegucigalpa,Un 6.57 103 Pn Pn 19 53 47.0 +1.2
ARIG Puente Sto Nin 6.73 294 *i* P Pn 19 53 50.8 +2.9
ARIG *e*S Sn 19 54 59.9 -3.2
ARIG Puente Sto Nin 6.73 294 Pn 19 53 50.8 +2.9
TEIG Tepich 6.98 49 P Pn 19 53 48.8 -2.4
comp=Z,25nm,0.3s,baz=140,slow=0.5,SNR=48
TEIG S Sn 19 55 04.0 -5.2
comp=Z,50nm,0.3s,baz=319,slow=22,SNR=14
TEIG Tepich 6.98 49 Pn Pn 19 53 49.3 -2.0
ZIIG Zihuatanejo 7.54 286 eP Pn 19 54 00.7 +1.7
ZIIG eS Sn 19 55 20.9 -2.0
ZIIG Zihuatanejo 7.54 286 Pn 19 54 00.7 +1.7
ESTN Estel 7.69 108 Pn Pn 19 53 59.9 -1.3
MOIG Morelia 8.04 301 Pn Pn 19 54 10.1 +4.1
BOAB BOACO BROADBAN 8.57 111 Pn Pn 19 54 13.5 +0.5
ACON Acoyapa 9.20 113 Pn Pn 19 54 19.7 -2.0
JTS Las Juntas de 10.19 121 P Pn 19 54 34.5 -0.8
comp=Z,7.4nm,0.3s,baz=180,slow=23,SNR=10
JTS S Sn 19 56 23.5 -4.3
comp=Z,0.7nm,0.3s,baz=129,slow=21,SNR=2.0
JTS Las Juntas de 10.19 121 Pn Pn 19 54 35.4 +0.2
ZAIG Zacatecas 10.84 312 Pn Pn 19 54 45.8 +1.6
833A Chaparral WMA, 13.59 339 Pn Pn 19 55 22.2 +1.4
435B Jarrell 15.42 348 P Pn 19 55 45.3 +1.0
435B IAmb IAmb 19 56 16.4
comp=Z,45nm,0.8s
JCT Junction City 15.71 341 Pn P 19 55 49.4 -0.9
JCT IAmb IAmb 19 55 53.2
comp=Z,45nm,0.8s
TX32 Lajitas Array 16.32 328 P P 19 55 57.6 +0.4
TXAR Lajitas Array 16.32 328 P P 19 55 57.0 -0.2
comp=Z,0.3nm,0.3s,baz=147,slow=12,SNR=70
TXAR Lajitas Array 16.32 328 P 19 55 57.8 +0.6
TX31 Lajitas Ar. Si 16.32 328 P 19 55 57.6 +0.5
TX31 IAmb IAmb 19 56 15.9
comp=Z,64nm,1.1s
237A Washetta, Mont 16.35 354 P 19 55 57.9 +0.7
237A IAmb IAmb 19 56 00.7
comp=Z,42nm,1.1s
WHTX Lake Whitney, 16.57 349 Pn 19 55 59.0 +0.4
WHTX IAmb IAmb 19 56 32.6
comp=Z,36nm,0.8s
451A Vernon 16.62 25 P Pn 19 55 59.8 +0.5
451A IAmb IAmb 19 56 23.3
comp=Z,60nm,1.0s
143A Socs Landing, 17.10 7 P P 19 56 05.9 +0.4
ABTX Abilene, Hawle 17.67 344 P Pn 19 56 13.2 +1.0
ABTX IAmb IAmb 19 56 15.2
comp=Z,29nm,0.8s
352A Blakely 17.72 26 P P 19 56 12.3 0.0
352A IAmb IAmb 19 56 14.1
comp=Z,72nm,1.4s
Z35A Perchaven, San 17.84 351 P Pn 19 56 14.7 +0.4
Z35A IAmb IAmb 19 56 46.9
comp=Z,26nm,0.6s
WLAR White Oak Lake 17.95 2 P P 19 56 15.0 +0.1
WLAR IAmb IAmb 19 56 36.2
comp=Z,54nm,1.1s
Z47A Carrollton 18.22 16 P P 19 56 18.3 +0.4
Z47A IAmb IAmb 19 56 50.3
comp=Z,36nm,0.9s
CCAR Cane Creek 18.26 6 P P 19 56 18.1 -0.3
CCAR IAmb IAmb 19 56 39.6
comp=Z,29nm,0.6s
TIGA Tifton 18.28 29 P P 19 56 18.3 -0.3
LRAL Lakeview Retre 18.37 19 P Pn 19 56 20.5 -0.1
Y45A Yeager Farm, C 18.52 11 P Pn 19 56 22.4 0.0
Y45A IAmb IAmb 19 56 51.5
comp=Z,55nm,0.9s
MIAR Mount Ida 18.79 1 P P 19 56 24.4 +0.3
MIAR IAmb IAmb 19 56 44.8
comp=Z,41nm,1.1s
152A Waverly Hall 18.84 25 P Pn 19 56 25.5 -0.7
CLNB Carlsbad 18.86 333 P Pn 19 56 26.8 +0.2
X37A Clayton 18.88 356 Pn Pn 19 56 28.5 +1.8
X37A IAmb IAmb 19 56 45.8
comp=Z,56nm,1.1s
X43A Marvell 18.95 8 P Pn 19 56 26.7 -0.8
X43A IAmb IAmb 19 56 58.8
comp=Z,81nm,1.2s
GDL2 Guadalupe Moun 19.03 332 P Pn 19 56 29.3 +0.8
UALR University of 19.07 4 P P 19 56 26.6 -0.6
UALR IAmb IAmb 19 57 01.9
comp=Z,28nm,0.7s
MNTX Cornudas Mount 19.10 329 P Pn 19 56 29.1 -0.2
X34A Smith Ranch, M 19.18 350 P P 19 56 28.1 -0.4
X34A IAmb IAmb 19 57 06.5
comp=Z,51nm,0.8s
Y49A Blount Mountai 19.31 19 P P 19 56 30.3 +0.4
W39A Magazine 19.44 0 P 19 56 31.9 +0.7
W39A IAmb IAmb 19 57 04.8
comp=Z,63nm,1.6s
W41B Gary Mavity, V 19.47 4 P P 19 56 31.3 -0.2
W41B IAmb IAmb 19 57 03.6
comp=Z,46nm,1.5s
154A Montrose 19.48 28 P P 19 56 31.2 -0.5
154A IAmb IAmb 19 56 34.0
comp=Z,43nm,0.9s
WMOK Wichita Mounta 19.49 348 P P 19 56 31.6 -0.2
CPRX Cap Rock 19.52 334 P P 19 56 32.9 +0.6
W35A Tecumseh 19.58 353 P P 19 56 33.6 +0.9
X48A Hartselle 19.68 17 P 19 56 34.0 +0.2
X48A IAmb IAmb 19 56 54.6
comp=Z,21nm,0.8s
FNO Franklin 19.76 351 P P 19 56 34.9 +0.2
MSTX Muleshoe 19.91 338 P P 19 56 37.1 +0.6
MSTX IAmb IAmb 19 56 41.5
comp=Z,60nm,1.0s
OKCFA Oklahoma City 19.92 351 P P 19 56 37.2 +0.7
GOGA Godfrey 20.00 26 P P 19 56 37.9 +0.5
OK025 Westminster Rd 20.07 352 P P 19 56 38.4 +0.4
OK025 pP 19 56 56.5 +1.1
Y52A Lilburn 20.15 24 P P 19 56 38.6 -0.3
Y52A IAmb IAmb 19 56 59.7
comp=Z,30nm,0.9s
BCOK Bluff Creek, N 20.18 351 P P 19 56 39.3 +0.1
BCOK pP 19 56 57.0 +0.4
FCAR Ozark Folk Cen 20.19 4 P P 19 56 38.3 -1.1
FCAR pP pP 19 56 58.7 +1.9
FCAR IAmb IAmb 19 56 59.7
comp=Z,26nm,0.8s
FPAL Fort Paine 20.20 20 P P 19 56 38.8 -0.7
FPAL pP 19 56 58.1 +1.2
FPAL IAmb IAmb 19 57 00.3
comp=Z,33nm,0.6s
TUL1 Leonard 20.23 355 P P 19 56 38.1 -1.7
TUL1 IAmb IAmb 19 57 00.9
comp=Z,30nm,0.8s
OK029 Liberty Lake 20.29 352 P P 19 56 39.7 -0.8
OK029 pP 19 56 59.0 +1.0
AMTX Amarillo 20.38 341 P P 19 56 42.2 +0.7
LCAR Lake Charles 20.45 6 P P 19 56 41.5 -0.7
LCAR IAmb IAmb 19 57 12.6
comp=Z,76nm,1.7s
HHAR Hobbs 20.52 360 P P 19 56 43.8 +0.8
HHAR pP 19 57 00.9 +0.5
HHAR IAmb IAmb 19 57 04.9
comp=Z,37nm,0.8s
QUOK Quay 20.57 353 P P 19 56 44.3 +0.8
QUOK pP pP 19 57 01.8 +0.9
QUOK IAmb IAmb 19 57 03.0
comp=Z,49nm,0.8s
HSIG 20.61 313 P P 19 56 45.2 +1.2
HSIG IAmb IAmb 19 56 48.1
comp=Z,46nm,1.4s
U40A Yellville 20.62 2 P P 19 56 43.5 -0.4
U40A pP 19 57 01.9 +0.5
U40A IAmb IAmb 19 57 04.8
comp=Z,40nm,1.0s
U38A Gravette 20.68 359 P P 19 56 45.5 +0.8
U38A pP pP 19 57 03.5 +1.4
U38A IAmb IAmb 19 57 17.3
comp=Z,20nm,0.7s
SWET Sewanee 20.71 19 P P 19 56 44.6 -0.5
SWET pP 19 57 04.6 +2.0
SWET IAmb IAmb 19 57 05.8
comp=Z,41nm,0.7s
W50A Signal Mountai 20.90 20 P P 19 56 48.5 +1.5
V48A Smith Brothers 20.95 16 P P 19 56 46.8 -0.8
V48A IAmb IAmb 19 57 07.7
comp=Z,26nm,0.9s
121A Cookes Peak, D 21.02 325 P P 19 56 51.6 +3.1

319A Douglas 21.04 321 P P 19 56 51.2 +2.6
319A IAmb IAmb 19 56 53.1
comp=Z,43nm,0.9s
CROK Carrier 21.07 351 P P 19 56 49.0 +0.2
CROK pP pP 19 57 05.1 -1.4
WVT Waverly 21.07 14 P P 19 56 49.2 +0.4
T35A Sooner Cattle 21.29 354 P P 19 56 50.1 -1.1
T35A pP pP 19 57 07.7 -1.1
T35A IAmb IAmb 19 57 10.1
comp=Z,48nm,0.8s
BNM Barren Site 21.70 330 P P 19 56 59.6 +3.8
S39A Bolivar 21.93 1 P P 19 56 57.0 -1.0
S39A pP pP 19 57 16.1 +0.4
S39A IAmb IAmb 19 57 17.7
comp=Z,26nm,1.0s
U49A Red Boiling Sp 21.96 18 P P 19 56 56.9 -1.4
U49A IAmb IAmb 19 57 19.8
comp=Z,20nm,0.6s
T47A Sharon Grove 22.06 15 P 19 56 58.5 -0.9
T47A pP pP 19 57 17.4 +0.3
T47A IAmb IAmb 19 57 21.1
comp=Z,77nm,1.4s
CCM Cathedral Cave 22.41 5 P P 19 57 01.7 -1.4
CCM IAmb IAmb 19 57 23.8
comp=Z,19nm,0.7s
TUC Tucson 22.61 320 P P 19 57 07.9 +2.6
TUC IAmb IAmb 19 57 09.3
comp=Z,31nm,1.2s
FLOC Florencia 22.77 126 P P 19 57 06.7 -0.4
R32A Long Quarter, 23.06 350 P P 19 57 09.6 -0.2
R32A IAmb IAmb 19 57 10.6
comp=Z,36nm,1.2s
T25A Trinidad 23.34 338 P P 19 57 14.8 +2.2
KSU1 Kansas State U 23.46 355 P P 19 57 12.4 -1.0
KSU1 IAmb IAmb 19 57 13.9
comp=Z,24nm,1.1s
CBKS Cedar Bluff 23.62 348 P P 19 57 15.1 +0.2
CBKS IAmb IAmb 19 57 17.1
comp=Z,38nm,0.9s
214A Organ Pipe Nat 23.67 317 P P 19 57 17.8 +2.3
P40A Paris 23.82 3 P P 19 57 14.7 -1.9
P40A pP pP 19 57 33.9 -2.1
P40A IAmb IAmb 19 57 36.2
comp=Z,20nm,0.8s
P38A Dawn 23.86 1 P P 19 57 15.6 -1.4
SDCO Great Sand Dun 24.28 337 P P 19 57 22.6 +1.5
X16A Lo Mia Camp, P 24.47 329 P P 19 57 24.7 +1.9
KSCO Kaye Shedlock' 24.49 343 P P 19 57 24.5 +1.7
P46A Rosedale 24.55 12 pP pP 19 57 43.0 -0.2
S54A Dingess, Beckl 24.67 24 P P 19 57 20.3 -4.1
S54A pP pP 19 57 43.7 -0.8
S54A IAmb IAmb 19 57 45.4
comp=Z,27nm,1.1s
S22A 4UR Ranch, Cre 24.80 335 P P 19 57 27.7 +1.9
113A Mohawk Valley, 24.81 317 P P 19 57 26.0 +0.4
P48A Milroy 24.82 16 pP 19 57 45.1 -0.6
T57A Hurt 24.88 29 pP pP 19 57 46.7 +0.3
N38A Joes South For 25.03 1 P P 19 57 26.6 -1.0
MVCO Mesa Verde 25.07 332 P P 19 57 30.4 +2.1
Y14A Wickenburg 25.07 320 P P 19 57 30.2 +2.1
N41A Harden Midland 25.08 5 pP 19 57 47.4 -0.6
P49A Miami Univ. Ec 25.08 17 pP 19 57 47.0 -1.1
N35A Tabor 25.14 357 P P 19 57 28.6 -0.1
N35A pP 19 57 48.0 -0.6
N35A IAmb IAmb 19 57 49.5
comp=Z,20nm,0.7s
WUAZ Wupatki 25.22 325 P P 19 57 31.2 +1.6
WUAZ pP 19 57 48.9 -0.5
Q24A Divide 25.23 339 P P 19 57 31.2 +1.3
Q24A pP pP 19 57 49.0 -0.6
PV01 Paradox Valley 25.86 333 P P 19 57 37.3 +1.9
PV13 Radium Mtn., P 26.00 332 P P 19 57 38.8 +2.2
PV13 pP pP 19 57 55.7 -0.8
PV15 Paradox Valley 26.00 333 P P 19 57 39.4 +2.7
PV02 Paradox Valley 26.00 333 P P 19 57 38.0 +1.3
PV03 Paradox Valley 26.09 332 P P 19 57 39.6 +2.2
PV18 Skein Mesa, Pa 26.11 332 P P 19 57 39.1 +1.4
PV12 Saucer Basin, 26.12 333 P P 19 57 40.2 +2.5
PV11 David Mesa, Pa 26.14 332 P P 19 57 40.1 +2.2
ISCO Idaho Springs 26.14 339 P P 19 57 39.1 +1.1
SCIA State Center 26.14 1 P P 19 57 37.2 -0.5
PV07 Paradox Valley 26.15 333 P P 19 57 39.5 +1.4
PV07 IAmb IAmb 19 57 41.6
comp=Z,21nm,1.0s
PV07 pP 19 58 00.3 +2.5
PV17 East Wray Mesa 26.16 332 P P 19 57 39.8 +1.7
PV17 pP 19 57 59.7 +1.8
PV16 Nyswonger Mesa 26.16 332 P P 19 57 39.9 +1.7
PV19 Morning Glory 26.19 332 P P 19 57 40.4 +2.0
PV19 pP 19 57 59.5 +1.2
PV20 West Nyswonger 26.21 332 P P 19 57 39.6 +1.1
PV20 pP 19 57 59.3 +0.9
PV04 Paradox Valley 26.23 333 P P 19 57 40.6 +1.9
PV14 Lion Creek, Pa 26.26 332 P P 19 57 40.7 +1.7
PV22 Blue Mesa, Par 26.29 333 P P 19 57 41.5 +2.3
PV22 IAmb IAmb 19 58 21.8
comp=Z,31nm,1.1s
PV23 Carpenter Ridg 26.32 332 P P 19 57 41.5 +1.8
PV23 pP pP 19 58 01.0 +1.5
W13A Hualapai Mount 26.39 321 P P 19 57 41.9 +1.7
U15A North Rim 26.39 325 P P 19 57 41.9 +1.6
L40A Anamosa 26.39 4 pP pP 19 57 59.3 -0.6
PV21 Cone Mtn., Par 26.40 333 P P 19 57 42.2 +1.9
PV21 IAmb IAmb 19 58 30.4
comp=Z,32nm,1.1s
L42A Oliver, Polo 26.48 7 pP 19 58 00.0 -0.7
O52A Adamsville 26.51 21 pP pP 19 58 00.7 -0.5
N49A Columbus Grove 26.52 17 pP 19 57 59.2 -2.0
KNB Kanab 27.11 325 P P 19 57 48.9 +2.2
O20A White River Ci 27.41 336 P P 19 57 51.2 +1.9
MTPU Mount Pierson 27.53 328 P P 19 57 53.5 +2.9
Q16A Castle Valley 27.70 330 P P 19 57 53.3 +1.4
CCUT Cedar City 27.80 325 P P 19 57 55.6 +2.8
P17A Butcher Ranch, 27.94 331 P P 19 57 55.4 +1.4
TMUT Trail Mountain 28.02 330 P P 19 57 56.8 +2.0
ECSD EROS Data Cent 28.06 356 P P 19 57 54.1 -0.8
ECSD IAmb IAmb 19 57 55.2
comp=Z,13nm,0.8s
SHPR Sheep Range 28.10 322 P P 19 57 57.5 +2.0
RDMU Red Mountain 28.32 334 P P 19 57 59.1 +1.7
RWWY Rawlins 28.37 339 P P 19 58 00.1 +2.1
RWWY IAmb IAmb 19 58 01.2
comp=Z,32nm,1.4s
SSPA Standing Stone 28.48 26 P P 19 57 59.1 +0.5
PSUT Pine Spring 28.77 326 P P 19 58 03.8 +2.3
M56A Emporium 29.07 25 P P 19 58 02.9 -0.9
SPMN Marine on St. 29.47 2 P P 19 58 06.5 -0.8
SPMN IAmb IAmb 19 58 07.4
comp=Z,13nm,0.7s
TCUT Toone Canyon 29.56 332 P P 19 58 10.9 +2.4
R11A Troy Canyon, C 29.60 324 P P 19 58 11.6 +2.8
RSSD Black Hills 29.64 345 P P 19 58 10.3 +1.2
F36A Milaca 30.09 0 P P 19 58 11.1 -1.8
F33A 5 Mile Ranch, 30.14 357 P P 19 58 11.4 -1.8
BGU Big Grassy Mou 30.16 330 P P 19 58 15.8 +2.2
BW06 Boulder Array 30.17 337 P P 19 58 15.1 +1.3
PD31 Pinedale Array 30.17 337 P P 19 58 14.8 +1.0
PDAR Pinedale Array 30.17 337 P P 19 58 14.2 +0.4
comp=Z,3.0nm,0.9s,baz=139,slow=9.2,SNR=20
PDAR LR LR 20 13 33.8
comp=Z,47nm,19.4s,baz=144,slow=43
PDAR Pinedale Array 30.17 337 P P 19 58 14.3 +0.5
HVU Hansel Valley 30.71 332 P P 19 58 20.8 +2.3
AHID Auburn Hatcher 30.78 335 P P 19 58 20.7 +1.6
AHID IAmb IAmb 19 58 22.7
comp=Z,11nm,0.9s
NV11 Mina Array Sit 31.16 321 P P 19 58 25.6 +3.1
NV11 IAmb IAmb 19 58 26.7
comp=Z,11nm,1.0s
REDW Red Top Meadow 31.18 336 P P 19 58 24.6 +1.9
SNOW Snow King Moun 31.22 336 P P 19 58 25.2 +2.1
NVAR Mina Array Bea 31.25 321 P P 19 58 24.0 +0.6
comp=Z,9.1nm,0.8s,baz=135,slow=9.0,SNR=64
NVAR Mina Array Bea 31.25 321 P P 19 58 26.2 +2.9
LHV Little Huntoon 31.25 321 P P 19 58 26.7 +3.6
LOHW Long Hollow 31.29 336 P P 19 58 25.4 +1.7
LOHW IAmb IAmb 19 58 26.5
comp=Z,18nm,0.9s
TPAW Teton Pass 31.32 336 P P 19 58 24.7 +0.7
TPAW IAmb IAmb 19 58 26.1
comp=Z,19nm,0.9s
FXWY Fox Creek 31.48 336 P P 19 58 26.7 +1.4

FXWY IAmb IAmb 19 58 28.2
comp=Z,9.4nm,0.9s
RYN Ryan 31.51 321 P P 19 58 27.6 +2.1
KVN Kaiserville 31.53 322 P P 19 58 28.3 +2.5
IMW Indian Meadow 31.66 336 P P 19 58 28.2 +1.3
IMW IAmb IAmb 19 58 30.5
comp=Z,8.5nm,0.8s
FLWY Flagg Ranch 31.73 337 P P 19 58 29.4 +1.9
FLWY IAmb IAmb 19 58 30.4
comp=Z,10.0nm,0.8s
YPP Pitchstone Pla 31.93 337 P P 19 58 30.7 +1.4
WAKR Walker 31.99 320 P P 19 58 31.7 +1.9
YMP Mirror Lake Pl 32.08 338 P P 19 58 31.8 +1.1
RLMT Red Lodge 32.10 339 P P 19 58 31.9 +1.1
RLMT IAmb IAmb 19 58 33.2
comp=Z,20nm,1.4s
YERR Yerington 32.17 321 P P 19 58 34.1 +2.8
YNE Yellowstone No 32.26 338 P P 19 58 33.4 +1.2
YMR Madison River 32.32 337 P P 19 58 33.9 +1.1
YHH Holmes Hill 32.38 337 P P 19 58 35.2 +1.9
MDND Maddock 32.43 353 P P 19 58 32.9 -0.4
AGMN Agassiz Nation 32.57 358 P P 19 58 33.4 -1.2
AGMN IAmb IAmb 19 58 34.2
comp=Z,18nm,0.9s
B35A Bob, Littlefor 32.59 0 IAmb IAmb 19 58 34.0
comp=Z,16nm,1.1s
QLMT Earthquake Lak 32.64 337 P P 19 58 38.2 +2.7
PAHR Pah Rah Range 32.71 322 P P 19 58 38.8 +2.8
GCMT Greycliff 32.83 339 P P 19 58 37.8 +0.8
HLID Hailey 32.86 332 P P 19 58 39.1 +1.8
MCMT McKenzie Canyo 33.20 335 P P 19 58 43.0 +2.7
BOZ Bozeman (W) 33.36 337 P P 19 58 43.4 +1.7
BOZ IAmb IAmb 19 58 47.5
comp=Z,16nm,1.4s
DLMT Dillon 33.53 336 P P 19 58 45.4 +2.2
DGMT Dagmar 33.79 348 P P 19 58 45.8 +0.6
LRM Limekiln Ridge 33.86 336 P P 19 58 48.0 +1.9
WVOR Wild Horse Val 34.11 326 P P 19 58 49.7 +1.5
WVOR IAmb IAmb 19 58 51.4
comp=Z,9.1nm,1.2s
HRY Holter Researc 34.38 338 P P 19 58 51.9 +1.5
ULM Lac du Bonnet 34.52 358 P P 19 58 49.8 -1.6
comp=Z,13nm,0.8s,baz=174,slow=8.0,SNR=7.8
ULM LR LR 20 15 07.1
comp=Z,41nm,18.7s,baz=150,slow=40
ULM Lac du Bonnet 34.52 358 P P 19 58 49.7 -1.8
ULM IAmb IAmb 19 58 50.4
comp=Z,13nm,0.8s
J08A Circle Bar Ran 34.67 328 P P 19 58 54.9 +1.9
J08A IAmb IAmb 19 59 17.1
comp=Z,12nm,0.9s
EGMT Eagleton 34.82 341 P P 19 58 55.6 +1.4
EGMT IAmb IAmb 19 58 56.6
comp=Z,18nm,1.1s
BMO Blue Mountains 35.18 331 P P 19 58 58.0 +0.6
MSO Missoula 35.27 336 P P 19 58 59.2 +1.1
MSO IAmb IAmb 19 59 00.6
comp=Z,9.0nm,0.9s
F10A Beach Ranch, E 35.99 332 P P 19 59 05.2 +0.9
JTMT Jette 36.16 336 P P 19 59 07.0 +1.2
JTMT IAmb IAmb 19 59 08.0
comp=Z,10nm,0.9s
PTGA Pitinga 37.23 113 P P 19 59 13.9 -1.2
H04A Detroit Lake 37.53 326 P P 19 59 18.5 +1.2
H04A IAmb IAmb 19 59 19.8
comp=Z,14nm,1.1s
NEW Newport 37.71 334 P P 19 59 20.3 +1.5
NEW IAmb IAmb 19 59 41.0
comp=Z,17nm,1.6s
C09A Chrisman Ranch 37.85 333 P P 19 59 21.3 +1.4
C09A IAmb IAmb 19 59 43.3
comp=Z,11nm,0.8s
B08A Colville Reser 38.73 333 P P 19 59 28.0 +0.7
SAML Samuel 39.01 127 P P 19 59 28.3 -1.7
FFC Flin Flon 39.48 353 P P 19 59 33.1 -0.3
FFC IAmb IAmb 19 59 33.9
comp=Z,10nm,0.7s
LPAZ La Paz 40.66 140 P P 19 59 43.8 -0.5
comp=Z,1.4nm,0.7s,baz=297,slow=2.4,SNR=5.0
LPAZ pP pP 20 00 05.0 -0.1
comp=Z,1.6nm,0.6s,baz=318,slow=7.1,SNR=4.2
LPAZ LR LR 20 15 41.9
comp=Z,55nm,20.6s,baz=324,slow=35
MNMC Minye Minye 42.03 145 P P 19 59 55.8 +0.7
MNMC IAmb IAmb 19 59 57.3
comp=Z,20nm,1.0s
PB11 IPOC Station P 42.50 145 P P 19 59 59.5 +0.7
PB11 IAmb IAmb 20 00 00.4
comp=Z,16nm,0.9s
PB07 IPOC Station P 43.98 147 P P 20 00 11.7 +1.0
PB07 IAmb IAmb 20 00 12.4
comp=Z,9.7nm,0.8s
SCHQ Scheffer ville 44.32 22 LR LR 20 19 44.0
comp=Z,48nm,21.7s,baz=210,slow=37
SIV San Ignacio 45.14 133 P P 20 00 18.5 -1.4
comp=Z,7.8nm,0.7s,baz=310,slow=8.1,SNR=22
SIV pP pP 20 00 41.0 +0.1
comp=Z,4.9nm,0.7s,baz=310,slow=8.4,SNR=5.8
GO02 Mina Guanaco 46.98 149 P P 20 00 35.6 +1.1
YKA Yellowknife Ar 49.00 347 P P 20 00 49.3 +0.1
comp=Z,12nm,0.7s,baz=152,slow=7.1,SNR=55
YKA pP pP 20 01 08.7 -1.9
comp=Z,6.6nm,0.8s,baz=148,slow=7.3,SNR=6.4
DLBC Dease Lake 50.40 336 P P 20 01 02.8 +2.7
DLBC IAmb IAmb 20 01 03.9
comp=Z,12nm,0.9s
CO03 El Pedregal 51.34 154 P P 20 01 08.5 +1.1
CPUP Villa Florida 54.82 139 pP pP 20 01 53.7 -0.9
comp=Z,4.8nm,0.9s,baz=322,slow=7.7,SNR=5.4
BDFB Brasilia 54.93 122 P P 20 01 33.4 -0.7
comp=Z,5.1nm,0.8s,baz=302,slow=9.7,SNR=4.3
BCAR Beaver Creek A 57.79 336 P P 20 01 54.9 +1.2
INK Inuvik 58.34 344 P P 20 01 57.6 +0.3
PLCA Paso Flores 60.15 160 P P 20 02 10.6 +0.4
comp=Z,5.9nm,0.9s,baz=344,slow=7.9,SNR=12
PLCA LR LR 20 22 03.5
comp=Z,29nm,19.2s,baz=304,slow=30
PLCA Paso Flores 60.15 160 P P 20 02 10.9 +0.7
PLCA IAmb IAmb 20 02 11.9
comp=Z,9.8nm,1.1s
IL31 60.60 337 P P 20 02 14.2 +1.3
IL31 IAmb IAmb 20 02 37.0
comp=Z,6.7nm,0.7s
ILAR Eielson Array 60.60 337 P P 20 02 13.1 +0.1
comp=Z,2.7nm,0.9s,baz=130,slow=5.5,SNR=21
ILAR pP pP 20 02 33.7 -1.3
comp=Z,4.0nm,0.7s,baz=123,slow=4.4,SNR=8.2
ILAR Eielson Array 60.60 337 P P 20 02 13.7 +0.7
RND Reindeer 60.76 335 P P 20 02 15.4 +1.3
BWN Browne 61.33 336 P P 20 02 18.4 +0.5
BPAW Bear Paw Mtn. 61.91 335 P P 20 02 22.1 +0.3
EUNU Eureka 64.50 1 P P 20 02 39.0 +0.3
NOA NORSAR Array B 83.53 28 P P 20 04 28.0 -1.8
comp=Z,0.9nm,1.0s,baz=296,slow=5.7,SNR=3.6
ARCES ARCESS Array B 85.11 18 P P 20 04 36.6 -1.0
comp=Z,3.8nm,1.0s,baz=292,slow=3.8,SNR=8.1
ARCES ARCESS Array B 85.11 18 P P 20 04 37.9 +0.3
ARE0 ARCESS Array S 85.11 18 P P 20 04 38.1 +0.5
TORD Torodi Ar. Bea 91.72 76 P P 20 05 08.7 -1.5
comp=Z,0.5nm,0.8s,baz=282,slow=7.1,SNR=2.3
WRA Warramunga Arr 134.04 257 PKP **PKPdf 20 11 19.2 -0.5**
comp=Z,0.4nm,0.8s,baz=67,slow=1.0,SNR=1.1
WRA pPKP **pPKPdf 20 11 42.8 -1.4**
comp=Z,0.5nm,0.8s,baz=86,slow=2.8,SNR=1.4
ASAR Alice Springs 134.50 252 PKP **PKPdf 20 11 20.9 +0.3**
comp=Z,0.2nm,0.7s,baz=116,slow=2.2,SNR=1.9
ASAR pPKP **pPKPdf 20 11 45.5 +0.4**
comp=Z,0.3nm,0.7s,baz=94,slow=1.1,SNR=1.8
CMAR Chiang Mai Arr 143.81 339 PKP PKPbc 20 11 36.0 +0.6
comp=Z,0.8nm,0.9s,baz=328,slow=3.2,SNR=5.9
CMAR pPKP pPKPdf 20 11 60.0 -2.2
comp=Z,0.3nm,0.5s,baz=353,slow=4.6,SNR=2.7

IDC ***14*** *19:53:35.6±0.9, 2°.59S×120°.64E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.7/45, mbtmp3.8/10, ML3.8/2, MS2.9/2, Ms1 3.0/2, ms1mx2.6/43, Error ellipse: s-maj=47.4km s-min=15.1km az=65.0*
DJA ***14*** *19:53:40.7±1.1, 3°.5±2°×12°1E±°, h19km±10km, M4.4/13, mB4.7/1, mb4.3/7, MLv4.4/13, Mw(mB)3.9/1*
NEIC ***14*** *19:53:42.3±2.3, 2°.75S±0°.07×120°.46E±0°.08, h60km±11km, mb4.1/9, Error ellipse: s-maj=12.0km s-min=10.7km az=91.0*

ISC 14 19:53:41.0±0.7, 2.76S±0.05×120.61E±0.07, h35km, n41, σ1§42/44, mb3.9/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPSI	**Sidrap Palu**	**1.47**	**215**	P	**Pn**	**19 54 05.0**	**+0.1**
SPSI				S	**Sn**	**19 54 24.1**	**+1.2**
BNSI	**Bone**	**1.71**	**197**	P	**Pn**	**19 54 08.1**	**-0.2**
BNSI				S	**Sn**	**19 54 30.5**	**+1.6**
KAPI	**Kappang**	**2.40**	**201**	Pn	**Pn**	**19 54 18.1**	**+0.3**
	60nm,0.3s,baz=0.3,slow=6.6,SNR=51						
KAPI				Sn	**Sn**	**19 54 46.6**	**+0.6**
	95nm,0.3s,baz=211,slow=18,SNR=5.3						
KAPI				LR	LR	19 55 36.9	
	comp=Z,157nm,21.5s,baz=78,slow=47						
KAPI	**Kappang**	**2.40**	**201**		**Pn**	**19 54 17.6**	**-0.2**
LUWI	**Luwuk**	**2.75**	**52**	P	**Pn**	**19 54 23.9**	**+1.3**
LUWI	**Luwuk**	**2.75**	**52**		**Pn**	**19 54 23.0**	**+0.5**
MPSI	**Mapaga**	**3.15**	**347**	P	**Pn**	**19 54 29.1**	**+0.9**
BKB	**Balikpapan**	**4.00**	**292**	P	**Pn**	**19 54 41.8**	**+2.0**
BKB	**Balikpapan**	**4.00**	**292**		**Pn**	**19 54 39.0**	**-0.8**
GTOI	**Gorontalo**	**4.13**	**35**	P	**Pn**	**19 54 43.6**	**+1.9**
KBKI	**Kotabaru**	**4.47**	**263**	P	**Pn**	**19 54 46.8**	**+0.5**
KMSI	**Cibinong**	**4.72**	**46**	P	**Pn**	**19 54 52.1**	**+2.4**
BBKI	**Banjar Baru**	**5.81**	**263**	P	**Pn**	**19 55 06.8**	**+2.1**
	0.1nm18nm,1.3s						
MTKI	**Muara Teweh, K**	**5.99**	**287**	P	**Pn**	**19 55 09.5**	**+2.3**
	0.2nm33nm,0.6s						
EDFI	**Ende, Flores**	**6.05**	**170**	P	**Pn**	**19 55 08.5**	**+0.4**
	0.1nm14nm,1.2s						
WBSI	**Waikabubak, Su**	**6.95**	**190**	P	**Pn**	**19 55 22.1**	**+1.7**
	0.3nm52nm,0.9s						
TNTI	**Ternate**	**7.61**	**63**	P	**Pn**	**19 55 30.8**	**+1.4**
TNTI	**Ternate**	**7.61**	**63**	Pn	**Pn**	**19 55 31.8**	**+2.4**
MYLDM	**Lahad Datu**	**8.16**	**345**		**Pn**	**19 55 39.6**	**+2.6**
KKM	**Kota Kinabalu**	**9.78**	**333**	Pn	**Pn**	**19 56 01.5**	**+2.1**
FITZ	**Fitzroy Crossi**	**16.02**	**162**	Pn	**P**	**19 57 26.0**	**-1.0**
	0.1nm,0.3s,baz=0.0,slow=12,SNR=2.6						
FITZ	**Fitzroy Crossi**	**16.02**	**162**	P	**P**	**19 57 25.9**	**-1.0**
FITZ				IAmb	IAmb	19 58 17.8	
	comp=Z,32nm,1.6s						
WB0	**Warramunga Arr**	**21.61**	**142**	P	**P**	**19 58 29.5**	**+1.4**
WB0				IAmb	IAmb	19 59 15.1	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**21.71**	**143**	P	**P**	**19 58 29.7**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=320,slow=10,SNR=20						
WRA	**Warramunga Arr**	**21.71**	**143**	P	**P**	**19 58 30.0**	**+0.8**
WB2	**Warramunga Arr**	**21.72**	**143**	P	**P**	**19 58 29.4**	**+0.1**
WR0	**Warramunga Arr**	**21.85**	**143**	P	**P**	**19 58 32.0**	**+1.3**
WR0				IAmb	IAmb	19 58 35.3	
	comp=Z,10nm,1.0s						
ASAR	**Alice Springs**	**24.44**	**149**	P	**P**	**19 58 57.3**	**+0.6**
	comp=Z,3.4nm,1.0s,baz=313,slow=7.0,SNR=18						
ASAR	**Alice Springs**	**24.44**	**149**	P	**P**	**19 58 57.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**30.00**	**315**	P	**P**	**19 59 45.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=146,slow=9.8,SNR=2.2						
CMAR				LR	LR	20 14 35.3	
	comp=Z,30nm,19.7s,baz=220,slow=42						
STKA	**Stephens Creek**	**35.06**	**148**	P	**P**	**20 00 31.4**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=357,slow=7.1,SNR=5.9						
STKA	**Stephens Creek**	**35.06**	**148**	P	**P**	**20 00 30.1**	**-0.7**
SONM	**Songino Array**	**51.90**	**348**	P	**P**	**20 02 45.2**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=168,slow=8.6,SNR=7.0						
SONM	**Songino Array**	**51.90**	**348**	P	**P**	**20 02 45.1**	**-1.1**
MKAR	**Makanchi Array**	**59.76**	**330**	P	**P**	**20 03 41.6**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=130,slow=7.6,SNR=6.3						
MKAR	**Makanchi Array**	**59.76**	**330**	P	**P**	**20 03 41.4**	**-1.0**
ZALV	**Zalesovo Beam**	**63.87**	**337**	P	**P**	**20 04 08.5**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=134,slow=4.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**63.87**	**337**	P	**P**	**20 04 08.8**	**-1.1**
KURBB	**Kurchatov Arra**	**64.19**	**332**	P	**P**	**20 04 10.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=135,slow=6.6,SNR=2.0						
KURK	**Kurchatov**	**64.21**	**332**	P	**P**	**20 04 09.8**	**-2.4**
KURK				IAmb	IAmb	20 04 33.5	
	comp=Z,2.3nm,1.1s						
BRVK	**Borovoye**	**69.71**	**330**	P	**P**	**20 04 44.6**	**-2.5**
BRVK				IAmb	IAmb	20 04 49.2	
	comp=Z,1.9nm,0.8s						

*IDC **14** 20:19:47.0±2.6, 44.71N×93.26E, h0km, mb3.6/2, mb1 3.4/7, mb1mx3.2/54, mbtmp3.4/7, ML2.9/5, Error ellipse: s-maj=43.4km s-min=18.0km az=3.0*

*BJI **14** 20:19:52.2±0.0, 44.74N×93.04E, h7km, mb3.7/1, ML3.6/8*

*NNC **14** 20:19:56.9±2.0, 44.69N×92.44E, h0km, mb3.7, mpv3.1, Error ellipse: s-maj=23.3km s-min=15.1km az=12.0*

ISC 14 20:19:50.7±0.8, 45.03N±0.09×93.19E±0.06, h10km, n13, σ3§04/19, 5C-2D, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**4.12**	**255**	*e*Pn	**Pn**	**20 20 57.5**	**+3.8**
WMQ				Sn	**Sn**	**20 21 43.0**	**+1.0**
WMQ				smax	smax		
	comp=N,61nm,0.9s						
WMQ				smax	smax		
	comp=E,150nm,0.7s						
GTA	**Gaotai**	**7.46**	**137**	Pn	**Pn**	**20 21 38.0**	**-1.7**
GTA				Pg	**Pb**	**20 22 01.1**	**+0.8**
GTA				Sn	**Sn**	**20 22 58.9**	**-5.5**
GTA				Sg	**Sb**	**20 23 35.8**	**+6.5**
GTA				smax	smax		
	comp=N,26nm,1.0s						
GTA				smax	smax		
	comp=E,28nm,1.2s						
MK31	**Makanchi Array**	**7.80**	**287**	Pn	**Pn**	**20 21 45.9**	**+1.6**
	0.2nm,0.3s,baz=105,slow=12,SNR=33						
MK31				⇑Sn	**Sn**	**20 23 12.2**	**-0.5**
	3.3nm,0.6s,baz=97,slow=26,SNR=4.3						
MK31				⇓Lg	Lg	20 23 54.2	
	4.3nm,0.5s,baz=100,slow=29,SNR=4.3						
MKAR	**Makanchi Array**	**7.80**	**287**	Pn	**Pn**	**20 21 44.9**	**+0.6**
	0.4nm,0.3s,baz=100,slow=14,SNR=14						
MKAR				Sn	**Sn**	**20 23 12.8**	**+0.1**
	1.3nm,0.3s,baz=95,slow=26,SNR=5.5						
MKAR				Lg	Lg	20 23 59.9	
	1.5nm,0.3s,baz=103,slow=27,SNR=5.9						
MAKZ	**Makanchi**	**8.02**	**287**	⇓Pn	**Pn**	**20 21 48.8**	**+1.5**
	1.6nm,0.7s						
MAKZ				⇑Lg	Lg	20 23 59.5	
	17nm,0.9s						
SONM	**Songino Array**	**9.54**	**68**	Pn	**Pn**	**20 22 07.2**	**-1.0**
	0.1nm,0.3s,baz=244,slow=15,SNR=1.5						
SONM				Pg		20 22 42.7	
	0.1nm,0.3s,baz=260,slow=20,SNR=2.4						
SONM				Lg	Lg	20 24 51.9	
	0.5nm,0.3s,baz=257,slow=31,SNR=2.0						
TLY	**Talaya**	**9.62**	**43**	Lg	Lg	20 24 59.5	
	0.0nm,0.3s,baz=64,slow=20,SNR=5.8						
PDGK	**Podgornoye**	**9.99**	**265**	⇑Pn	**Pn**	**20 22 15.2**	**+0.8**
	4.1nm,0.9s						
PDGK				⇑Sn	**Sn**	**20 24 01.4**	**-5.1**
	12nm,1.5s						
PDGK				⇑Lg	Lg	20 24 57.4	
	9.1nm,0.8s						
ZALV	**Zalesovo Beam**	**10.45**	**332**	Pn	**Pn**	**20 22 24.1**	**+3.6**
	0.1nm,0.3s,baz=146,slow=13,SNR=4.3						
ZALV				Lg	Lg	20 25 27.4	
	0.1nm,0.3s,baz=142,slow=29,SNR=2.4						
KURBB	**Kurchatov Arra**	**11.32**	**305**	Pn	**Pn**	**20 22 34.7**	**+2.3**
	0.1nm,0.3s,baz=110,slow=14,SNR=3.8						
KURBB				Lg	Lg	20 25 53.4	
	0.1nm,0.3s,baz=115,slow=32,SNR=6.5						
BVAR	**Borovoye Array**	**16.91**	**306**	P	**Pn**	**20 23 47.6**	**+0.4**
	0.1nm,0.3s,baz=112,slow=12,SNR=3.3						
AKTO	**Aktyubinsk**	**24.11**	**296**	P	**P**	**20 25 04.2**	**-2.2**
	0.6nm,0.6s,baz=117,slow=11,SNR=2.5						
FINES	**FINESS Array B**	**41.33**	**318**	P	**P**	**20 27 36.3**	**+0.1**
	0.9nm,0.7s,baz=93,slow=7.0,SNR=3.8						

*NIED **14** 20:22:49.2, 21.72N×120.82E, h55km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 1016Nm; Mrr0.97; Mθθ-0.01; Mφφ-0.96; Mrθ0.35; Mθφ0.14; Mφr-0.40; Fault plane solution: M0 1.11000×10**16** NP1: φs157.00000°, δ59.00000°, λ75.00000°. NP2:φs6.00000°, δ34.00000°, λ114.00000°.*

*BJI **14** 20:22:49.9±0.0, 21.64N×120.89E, h19km, mB4.8/45, mb4.4/57, ML4.7/1, Ms4.7/66, Ms7 4.6/61*

*JMA **14** 20:22:49.1±0.5, 21.72N×120.82E, h55km, M4.6*

*IDC **14** 20:22:50.8±1.7, 21.58N×121.10E, h29km±11km, mb4.4/37, mb1 4.4/40, mb1mx4.4/54, mbtmp4.5/40, ML4.0/3, MS4.2/26, Ms1 4.2/26, ms1mx4.1/36, Error ellipse: s-maj=13.0km s-min=7.4km az=66.0*

*NEIC **14** 20:22:50.2±1.4, 21.63N±0.05×121.13E±0.07, h22km±4km, mb4.8/78, ML5.2(TAP), Error ellipse: s-maj=9.7km s-min=7.9km az=96.0*

*TAP **14** 20:22:50.2, 21.71N×121.08E, h24km, ML4.9, D*

*GCMT **14** 20:22:52.2±0.2, 21.52N±0.02×120.89E±0.02, h18km, MW4.9/92, Moment Tensor Solution. s38, c45; s92, c147; Duration: 0 Moment tensor: Scale 1016Nm; Mrr2.23±.12; Mθθ-0.22±.06; Mφφ-2.01±.08; Mrθ0.22±.15; Mθφ-1.01±.04; Mφr-0.52±.16; Best double couple: M02.41800×1016 NP1:φs35.00000°, δ41.00000°, λ107.00000°. NP2: φs194.00000°, δ51.00000°, λ76.00000°. Principal axes: T 2.3400, Plg78.0000°, Azm47.0000°; N 0.1550, Plg11.0000°, Azm203.0000°; P -2.4960, Plg5.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 20:22:50.4±0.8, 21.60N±0.03×121.04E±0.03, h25km±5km, n413, σ1§43/469, mb4.8/90, MS4.5/51, 17C-11D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSEB	**Hengchuen, Pin**	**0.32**	**336**	⇓*i*P	**Pb**	**20 22 57.5**	**-0.4**
TSEB	baz=305			*i* S	**Sb**	**20 23 03.1**	**+0.2**
TWKBT	**Hengchun**	**0.40**	**328**	⇓*i*P	**Pb**	**20 22 58.2**	**-0.8**
TWKBT	baz=306			S	**Sb**	**20 23 03.7**	**-1.1**
TWK1	**Hengchun**	**0.40**	**327**	⇓*i*P	**Pb**	**20 22 58.2**	**-0.9**
TWK1	baz=306			S	**Sb**	**20 23 03.9**	**-1.1**
HEN	**Hengchun**	**0.49**	**325**	⇓*i*P	**Pb**	**20 22 59.9**	**-0.6**
HEN	baz=314			S	**Sb**	**20 23 06.8**	**-0.5**
LAY	**Lan-yu**	**0.64**	**47**	*e*P	**Pb**	**20 23 02.9**	**-0.2**
SLIU	baz=53 **Shizi**	**0.65**	**340**	⇓*i*P	**Pb**	**20 23 02.4**	**-0.8**
SLIU	baz=339			S	**Sb**	**20 23 11.7**	**-0.2**
TAW	**Tawu**	**0.76**	**350**	⇓*i*P	**Pb**	**20 23 03.5**	**-1.6**
TAW	baz=358			*e*S	**Sb**	**20 23 13.3**	**-1.8**
EAST	**Anshuo**	**0.80**	**347**	⇓*i*P	**Pb**	**20 23 04.2**	**-1.5**
EAST	baz=353			*e*S	**Sb**	**20 23 15.2**	**-1.0**
SCZT	**Fangliau**	**0.86**	**333**	⇓*i*P	**Pb**	**20 23 06.3**	**-0.5**
SCZT	baz=336			*e*S	**Sb**	**20 23 17.4**	**-0.5**
WLCH	baz=336 **Liuqiu**	**0.96**	**321**	*e*P	**Pn**	**20 23 07.5**	**-0.9**
WLCH	baz=316			*e*S	**Sn**	**20 23 22.9**	**+1.6**
TWP	baz=316 **Hsiaoliuchiu**	**0.97**	**320**	*e*P	**Pb**	**20 23 08.6**	**0.0**
SSPT	baz=315 **Xinbi**	**0.98**	**334**	*i* P	**Pn**	**20 23 08.6**	**0.0**
SSPT	baz=334			*e*S	**Sn**	**20 23 21.5**	**-0.1**
ECL	**Taimali**	**0.99**	**355**	⇓*i*P	**Pn**	**20 23 06.1**	**-2.7**
ECL	baz=6.0			*e*S	**Sb**	**20 23 18.0**	**-3.6**
MASBT	baz=6.0 **Mashibuluo**	**1.07**	**339**	P	**Pn**	**20 23 09.1**	**-0.8**
MASBT	baz=347			*e*S	**Sn**	**20 23 23.2**	**-0.8**
LDUT	baz=347 **Ludao**	**1.14**	**20**	*e*P	**Pn**	**20 23 08.6**	**-2.2**
LDUT	baz=30			*e*S	**Sn**	**20 23 22.4**	**-3.1**
TTN	baz=30 **Taitung**	**1.15**	**5**	*e*P	**Pn**	**20 23 10.1**	**-0.8**
TSMG	baz=4.0 **Majia**	**1.16**	**342**	*e*P	**Pn**	**20 23 10.7**	**-0.4**
TSMG	baz=348			*e*S	**Sb**	**20 23 26.5**	**+0.1**
KAU	baz=348 **Kaohsiung**	**1.18**	**325**	*e*P	**Pn**	**20 23 11.4**	**+0.1**
SSD	baz=305 **Sandimen**	**1.20**	**342**	P	**Pn**	**20 23 11.6**	**-0.1**
SSD	baz=348			*e*S	**Sn**	**20 23 24.9**	**-2.2**
TWGBT	baz=348 **Beinan**	**1.21**	**2**	*e*P	**Pn**	**20 23 09.0**	**-2.7**
TWGBT				*e*S	**Sn**	**20 23 23.0**	**-4.3**
TWG	**Pinlang**	**1.21**	**1**	*e*P	**Pn**	**20 23 09.0**	**-2.8**
TWG	**Pinlang**	**1.21**	**1**		**Pn**	**20 23 08.9**	**-2.8**
SGLT	**Jiouru**	**1.23**	**336**	⇑*i*P	**Pb**	**20 23 12.9**	**-0.1**
SGLT	baz=347			*e*S	**Sb**	**20 23 30.0**	**+1.6**
LONT	baz=347 **Longtian**	**1.30**	**4**	*e*P	**Pn**	**20 23 11.0**	**-2.0**
SNJT	baz=2.0 **Kaohsiung City**	**1.32**	**330**	*e*P	**Pn**	**20 23 12.7**	**-0.5**
TWM1	baz=309 **Shoushan**	**1.34**	**335**	*e*P	**Pb**	**20 23 14.4**	**-0.5**
SCST	baz=333 **Cishan**	**1.37**	**338**	*e*P	**Pb**	**20 23 15.6**	**+0.1**
SCST	baz=351			*e*S	**Sb**	**20 23 32.1**	**-0.5**
EDH	baz=351 **Donghe**	**1.39**	**10**	P	**Pn**	**20 23 12.4**	**-1.8**
SLGT	baz=9.0 **Liugui**	**1.43**	**345**	*e*P	**Pb**	**20 23 15.9**	**-0.6**
CHKT	baz=356 **Chengkung**	**1.52**	**11**	*e*P	**Pn**	**20 23 14.0**	**-2.0**
CHKT	baz=11			*e*S	**Sn**	**20 23 33.0**	**-1.9**
SGST	baz=11 **Jiashian**	**1.53**	**344**	*i* P	**Pn**	**20 23 15.7**	**-0.5**
STYT	baz=355 **Tauyuan**	**1.57**	**350**	*i* P	**Pn**	**20 23 17.1**	**+0.2**
ELDTW	baz=349 **Lidau**	**1.58**	**359**	*e*P	**Pn**	**20 23 16.8**	**-0.2**
CHN3	baz=5.0 **Shinhua**	**1.59**	**337**	*e*P	**Pn**	**20 23 18.0**	**+1.0**
CHN3	baz=320			*e*S	**Sb**	**20 23 38.1**	**-0.8**
FULB	baz=320 **Fuli**	**1.60**	**8**	*e*P	**Pn**	**20 23 15.8**	**-1.5**
TAI1	baz=7.0 **Yung-k'ang**	**1.62**	**332**	*e*P	**Pn**	**20 23 18.1**	**+0.8**
CHN1	baz=314 **Nanshi**	**1.64**	**343**	*e*P	**Pn**	**20 23 17.6**	**-0.2**
WTP	baz=342 **Ta-pu**	**1.68**	**347**	*e*P	**Pn**	**20 23 18.2**	**-0.1**
SNST	baz=345 **Tainan City**	**1.69**	**343**	*e*P	**Pn**	**20 23 18.9**	**+0.6**
TPUB	baz=354 **Ta-pu**	**1.73**	**347**	P	**Pn**	**20 23 19.1**	**+0.1**
TPUB	baz=346			S	**Sn**	**20 23 39.7**	**-0.6**
TPUB	**Ta-pu**	**1.73**	**347**	Pn	**Pn**	**20 23 18.0**	**-0.9**
TWK	**Hsinying**	**1.73**	**343**	*e*P	**Pn**	**20 23 19.6**	**+0.6**
SCLT	baz=354 **Jiali**	**1.75**	**334**	*e*P	**Pn**	**20 23 18.9**	**-0.2**
TWF1	baz=332 **Yuli**	**1.76**	**8**	*e*P	**Pn**	**20 23 18.2**	**-1.1**
YULB	baz=7.0 **Yu-li**	**1.80**	**8**	*e*P	**Pn**	**20 23 18.6**	**-1.3**
YULB	baz=7.0 **Yu-li**	**1.80**	**8**		**Pn**	**20 23 17.2**	**-2.7**
YUS	**Yu-Shan**	**1.88**	**358**	*e*P	**Pn**	**20 23 20.6**	**-0.9**
YUS	baz=7.0			*e*S	**Sn**	**20 23 43.0**	**-1.6**
ICHU	baz=7.0 **Yijhu**	**1.89**	**338**	*e*P	**Pn**	**20 23 20.4**	**-0.6**
CHN8	baz=337 **Yiju**	**1.90**	**336**	*e*P	**Pn**	**20 23 21.2**	**0.0**
ALS	baz=336 **Alishan**	**1.91**	**354**	*e*P	**Pn**	**20 23 22.7**	**+1.0**
EHY	baz=353 **Hungye**	**1.91**	**8**	*e*P	**Pn**	**20 23 19.8**	**-1.6**
HGSD	baz=7.0 **Ruisui**	**1.91**	**11**	*e*P	**Pn**	**20 23 20.5**	**-0.9**
HGSD	baz=10.0			*e*S	**Sn**	**20 23 42.5**	**-2.2**
CHY	**Chiayi**	**1.97**	**343**	*e*P	**Pn**	**20 23 21.6**	**-0.7**
CHY	baz=343			*e*S	**Sn**	**20 23 46.5**	**+0.4**
WLGB	**Puzi**	**1.99**	**340**	*e*P	**Pn**	**20 23 21.5**	**-0.9**
WLGB	baz=339			*e*S	**Sn**	**20 23 46.1**	**-0.5**
CHN5	baz=339 **Tsauling**	**2.01**	**350**	*e*P	**Pn**	**20 23 23.7**	**+0.8**
WDGT	baz=359 **Dungji**	**2.09**	**323**	P	**Pn**	**20 23 21.9**	**-1.9**
WDGT	baz=322			*e*S	**Sn**	**20 23 46.0**	**-3.0**
EGFH	**Guangfu**	**2.09**	**10**	*e*P	**Pn**	**20 23 22.3**	**-1.5**
WHYT	baz=9.0 **Xinyi Township**	**2.09**	**355**	*e*P	**Pn**	**20 23 25.2**	**+1.2**
WHYT	baz=4.0			*e*S	**Sn**	**20 23 51.0**	**+1.8**
WGK	**Gukeng**	**2.12**	**348**	P	**Pn**	**20 23 24.3**	**+0.1**
WGK	baz=348			*e*S	**Sn**	**20 23 50.6**	**+0.8**
WDLH	baz=348 **Douliu**	**2.13**	**347**	P	**Pn**	**20 23 24.2**	**-0.2**
WDLH	baz=347			*e*S	**Sn**	**20 23 49.9**	**-0.1**
VWDT	**VWDT**	**2.14**	**2**	*e*P	**Pn**	**20 23 25.4**	**+0.8**
WTK	baz=10.0 **Tuku**	**2.16**	**344**	P	**Pn**	**20 23 24.0**	**-0.8**
WTK	baz=344			*e*S	**Sn**	**20 23 49.8**	**-1.1**
WSF	baz=344 **Szhu**	**2.16**	**340**	*e*P	**Pn**	**20 23 23.9**	**-1.0**
WSF	baz=339			*e*S	**Sn**	**20 23 49.5**	**-1.3**
SSLB	baz=339 **Suanglung**	**2.18**	**358**	P	**Pn**	**20 23 26.4**	**+1.3**
SSLB	baz=10.0 **Suanglung**	**2.18**	**358**	Pn	**Pn**	**20 23 25.1**	**0.0**
VCHM	**Qimei**	**2.19**	**317**	*e*P	**Pn**	**20 23 22.9**	**-2.3**
WJS	baz=316 **Zhushan**	**2.23**	**353**	*e*P	**Pn**	**20 23 27.4**	**+1.7**
ESL	baz=352 **Shilin**	**2.23**	**9**	*e*P	**Pn**	**20 23 24.5**	**-1.3**
SMLT	baz=9.0 **Sun Moon Lake**	**2.27**	**357**	P	**Pn**	**20 23 27.4**	**+0.9**
SMLT	baz=9.0			*e*S	**Sn**	**20 23 55.3**	**+1.5**
WNT	**Mingjian**	**2.29**	**352**	*e*P	**Pn**	**20 23 28.1**	**+1.5**
TYC	baz=338 **Yuchr**	**2.30**	**356**	P	**Pn**	**20 23 27.7**	**+1.0**
PHUB	baz=7.0 **P'eng-hu**	**2.34**	**325**	P	**Pn**	**20 23 25.2**	**-2.0**
PHUB	baz=324			*e*S	**Sn**	**20 23 51.3**	**-3.8**
RLNB	baz=324 **Erlin**	**2.36**	**345**	*e*P	**Pn**	**20 23 27.3**	**-0.3**
PNG	baz=345 **Penghu**	**2.39**	**325**	P	**Pn**	**20 23 25.8**	**-2.2**
PNG	baz=325			*e*S	**Sn**	**20 23 53.8**	**-2.7**
HWA	baz=325 **Hwalien**	**2.42**	**12**	*e*P	**Pn**	**20 23 27.9**	**-0.5**
CHGB	baz=3.0 **Renai**	**2.45**	**3**	P	**Pn**	**20 23 29.3**	**+0.2**
WCHH	baz=10.0 **Zhanghua**	**2.50**	**350**	*e*P	**Pn**	**20 23 30.3**	**+0.8**
TWD	baz=350 **Chiawan**	**2.52**	**12**	*e*P	**Pn**	**20 23 28.4**	**-1.3**
WHF	baz=4.0 **Hehuan Shan**	**2.54**	**5**	*e*P	**Pn**	**20 23 30.4**	**0.0**
TCU	baz=12 **Taichung**	**2.56**	**353**	*e*P	**Pn**	**20 23 31.5**	**+1.3**
NACB	baz=340 **Ninganchiao**	**2.61**	**11**	*e*P	**Pn**	**20 23 30.5**	**-0.6**
NACB	baz=10.0 **Ninganchiao**	**2.61**	**11**		**Pn**	**20 23 29.1**	**-2.0**
ETLH	**Xiulin Townshi**	**2.62**	**9**	*e*P	**Pn**	**20 23 31.5**	**+0.2**
FUSS	baz=8.0 **Fushou**	**2.64**	**4**	*e*P	**Pn**	**20 23 31.5**	**-0.2**
TDCB	baz=13 **Techi**	**2.64**	**2**	*e*P	**Pn**	**20 23 32.3**	**+0.7**
TWT	baz=2.0 **Tachien**	**2.64**	**3**	*e*P	**Pn**	**20 23 32.0**	**+0.4**
WHP	baz=2.0 **Taichung City**	**2.66**	**358**	*e*P	**Pn**	**20 23 32.9**	**+1.0**
NSY	baz=8.0 **Sanyi**	**2.81**	**355**	*e*P	**Pn**	**20 23 35.0**	**+1.2**
NNSB	baz=344 **Datong**	**2.83**	**6**	*e*P	**Pn**	**20 23 33.8**	**-0.3**
NNSH	baz=13 **Datong**	**2.83**	**6**	*e*P	**Pn**	**20 23 35.9**	**+1.7**
NNS	baz=14 **Nan Shan**	**2.84**	**6**	*e*P	**Pn**	**20 23 35.7**	**+1.4**
PTSB	baz=13 **Yuanli**	**2.85**	**354**	*e*P	**Pn**	**20 23 34.6**	**+0.3**
ENA	baz=342 **Nanau**	**2.88**	**13**	*e*P	**Pn**	**20 23 34.0**	**-0.8**
ENAH	baz=5.0 **Nanao**	**2.92**	**14**	*e*P	**Pn**	**20 23 35.0**	**-0.3**
NSTT	baz=5.0 **Nanjuang**	**3.01**	**359**	*e*P	**Pn**	**20 23 38.2**	**+1.6**
NDT	baz=360 **Datong Townshi**	**3.02**	**8**	*e*P	**Pn**	**20 23 37.7**	**+1.1**
LIOB	baz=14 **Emei**	**3.03**	**360**	*e*P	**Pn**	**20 23 37.6**	**+0.8**
ENTT	baz=360 **Nioudou**	**3.06**	**9**	*e*P	**Pn**	**20 23 37.3**	**0.0**
YHNB	baz=8.0 **Yeheng**	**3.07**	**6**	*e*P	**Pn**	**20 23 38.2**	**+0.8**
YHNB	baz=352 **Yeheng**	**3.07**	**6**		**Pn**	**20 23 37.7**	**+0.3**
NSK	**Sanguang**	**3.07**	**5**	*e*P	**Pn**	**20 23 38.1**	**+0.6**
TWC	baz=353 **Suao**	**3.08**	**14**	*e*P	**Pn**	**20 23 38.0**	**+0.5**
TWE	baz=6.0 **Neicheng**	**3.16**	**10**	*e*P	**Pn**	**20 23 40.2**	**+1.7**
NWLT	baz=10.0 **Wulai**	**3.19**	**8**	*e*P	**Pn**	**20 23 39.5**	**+0.5**
NTC	baz=14 **Toucheng**	**3.32**	**12**	*e*P	**Pn**	**20 23 42.6**	**+1.9**
EGS	baz=12	**3.33**	**14**	*e*P	**Pn**	**20 23 42.8**	**+1.9**
JYNG	baz=6.0 **Yonagunijimaku**	**3.33**	**31**	P	**Pn**	**20 23 41.3**	**+0.3**
JYNG				*e*S	**Sn**	**20 24 19.9**	**+0.1**
NHDH	**Xindian Distri**	**3.37**	**7**	*e*P	**Pn**	**20 23 41.3**	**-0.2**
YOJ	baz=354 **Yonaguni jima**	**3.38**	**32**	P	**Pn**	**20 23 41.8**	**+0.3**
YOJ				*e*S	**Sn**	**20 24 20.9**	**+0.1**
YOJ	**Yonaguni jima**	**3.38**	**32**		**Pn**	**20 23 41.8**	**+0.3**
TATO	**Taipei**	**3.38**	**7**		**Pn**	**20 23 42.1**	**+0.5**
TWA	**Mucha**	**3.40**	**8**	*e*P	**Pn**	**20 23 43.4**	**+1.5**
TIPB	baz=17 **Shuangxi**	**3.43**	**12**	*e*P	**Pn**	**20 23 43.6**	**+1.2**
TWB1	baz=11 **Santiao Chiao**	**3.50**	**14**	*e*P	**Pn**	**20 23 45.9**	**+2.6**
NWF	baz=6.0 **Wu-fen Shan**	**3.52**	**11**	*e*P	**Pn**	**20 23 46.0**	**+2.4**
WFSB	baz=10.0 **Wu-fen Shan**	**3.52**	**11**	*e*P	**Pn**	**20 23 43.5**	**0.0**
HATJ	baz=10.0 **Hateruma jima**	**3.53**	**46**	P	**Pn**	**20 23 44.0**	**+0.3**
YM01	**YM01**	**3.56**	**8**	*e*P	**Pn**	**20 23 44.3**	**+0.2**
YM04	baz=355 **YM04**	**3.56**	**7**	*e*P	**Pn**	**20 23 45.1**	**+0.9**
YM10	baz=355 **YM10**	**3.57**	**8**	*e*P	**Pn**	**20 23 44.3**	**+0.1**
YM05	baz=355 **YM05**	**3.58**	**8**	*e*P	**Pn**	**20 23 44.3**	**-0.1**
YM11	baz=355 **YM11**	**3.58**	**8**	*e*P	**Pn**	**20 23 44.8**	**+0.3**
YM03	baz=355 **YM03**	**3.59**	**7**	*e*P	**Pn**	**20 23 46.0**	**+1.5**
YM08	baz=355 **YM08**	**3.60**	**8**	*e*P	**Pn**	**20 23 44.5**	**-0.2**
VWUC	baz=355 **VWUC**	**3.68**	**337**	*e*P	**Pn**	**20 23 44.3**	**-1.3**
IRIF	baz=350 **Iriomote-Funau**	**3.68**	**42**

KNMB Chin-men Tao 3.75 320 *e*P Pn 20 23 45.1 -1.6
baz=320
KNMB Chin-men Tao 3.75 320 Pn 20 23 45.2 -1.6
JKRS Kuro-shima 3.79 46 P Pn 20 23 47.5 +0.3
JKRS *e*S Sn 20 24 30.2 -0.8
PTMZ Houxiangcun 3.85 333 *e*P Pn 20 23 46.8 -1.2
baz=323
JIJ Ishigaki jima 3.96 46 P Pn 20 23 49.7 +0.1
QZH Quanzhou 4.01 326 Pn Pn 20 23 49.9 -0.4
QZH Sn Sn 20 24 32.0 -4.6
QZH LR LR
comp=N,3μm,18.7s
QZH LR LR
comp=E,4μm,15.2s
QZH LR LR
comp=Z,6μm,15.9s
PTTC Pingtan 4.05 344 *e*P Pn 20 23 49.9 -0.9
baz=345
JISG Ishigakijimahi 4.23 45 P Pn 20 23 53.2 -0.1
JISG S Sn 20 24 42.6 +0.7
ZZJH Jiuhuzhen 4.24 313 *e*P Pn 20 23 53.0 -0.5
baz=312
AXDP Jialang 4.33 320 *e*P Pn 20 23 53.1 -1.5
baz=319
JTJ Tarama 4.53 47 P Pn 20 23 58.0 +0.6
JTJ *e*S Sn 20 24 49.1 -0.1
MATB Ma-tsu 4.64 348 *e*P Pn 20 23 57.7 -1.2
baz=350
MHZQ Yeshan 4.84 338 *e*P Pn 20 24 00.6 -1.1
baz=351
JIRB Irabujima 4.97 49 P Pn 20 24 04.0 +0.5
JIRB S Sn 20 24 59.2 -1.1
JMJ2 Miyako jima3 5.03 51 P Pn 20 24 05.5 +1.2
JMJ2 *e*S Sn 20 25 01.5 -0.1
LYJJ Jianjiangzhen 5.06 347 *e*P Pn 20 24 04.1 -0.7
baz=351
JIKM Ikemajima 5.09 49 P Pn 20 24 05.4 +0.3
JIKM *e*S Sn 20 25 03.3 +0.3
JOGS Gusukube 5.10 51 P Pn 20 24 06.2 +0.9
JOGS *e*S Sn 20 25 05.1 +1.8
XPSS Dashiqiu 5.36 352 *e*P Pn 20 24 07.1 -1.7
baz=356
HKPS Hong Kong Po S 6.44 277 Pn Pn 20 24 21.8 -1.9
JKE Kume jima 2 7.05 47 P Pn 20 24 31.6 -0.4
JKE *e*S Sn 20 25 51.3 -0.1
GZH Guangzhou 7.28 283 Pn Pn 20 24 31.3 -3.9
GZH Sn Sn 20 25 45.6 -11
TGY Tagaytay City 7.46 181 Pn Pn 20 24 36.8 -1.0
64nm,0.3s,baz=50,slow=12,SNR=1.7
TGY LR LR 20 28 28.9
comp=Z,3μm,19.6s,baz=348,slow=46
NJ2 Nanjing 10.59 350 *e*P Pn 20 25 20.4 -0.2
NJ2 S Sn 20 27 17.3 -1.0
NJ2 pmax pmax
comp=Z,34nm,1.5s
NJ2 LR LR
comp=N,3μm,13.0s
NJ2 LR LR
comp=E,3μm,10.7s
NJ2 LR LR
comp=Z,3μm,14.2s
WHN Wuhan 10.74 327 P Pn 20 25 26.0 +3.4
WHN S Sn 20 27 27.9 +5.8
WHN LR LR
comp=N,5μm,14.8s
WHN LR LR
comp=Z,7μm,14.4s
QIZ Qiongzhong 10.81 258 P Pn 20 25 23.1 -0.6
QIZ S Sn 20 27 25.3 +1.3
QIZ LR LR
comp=N,2μm,14.3s
QIZ LR LR
comp=E,1μm,17.9s
QIZ LR LR
comp=Z,2μm,16.1s
QIZ Qiongzhong 10.81 258 Pn 20 25 22.2 -1.5
GYA Guiyang 13.99 293 ⇑P P 20 26 12.3 -2.7
GYA pmax pmax
comp=Z,11nm,1.2s
GYA LR LR
comp=N,3μm,15.3s
GYA LR LR
comp=E,2μm,14.6s
GYA LR LR
comp=Z,3μm,13.8s
JNU Nakatsue 14.41 35 Pn Pn 20 26 11.3 -1.6
0.2nm,0.3s,baz=270,slow=20,SNR=1.9
TIA Tai'an 14.95 348 P Pn 20 26 22.3 +2.1
TIA pmax pmax
comp=Z,20nm,1.3s
TIA LR LR
comp=N,2μm,11.4s
TIA LR LR
comp=E,850nm,14.1s
TIA LR LR
comp=Z,3μm,12.3s
DLV T Lat 15.38 233 Pn Pn 20 26 27.4 +1.4
DLV IAmb IAmb 20 26 28.5
comp=Z,66nm,1.5s
KKM Kota Kinabalu 16.16 197 P 20 26 38.4 -0.7
XAN Xi'an 16.36 322 P Pn 20 26 39.3 +0.8
XAN pP pP 20 26 44.8 -3.1
XAN S Sn 20 29 36.5 -2.9
XAN pmax pmax
comp=Z,12nm,1.9s
XAN pmax pmax
comp=Z,280nm,3.7s
XAN LR LR
comp=Z,2μm,13.7s
XAN LR LR
comp=Z,4μm,16.1s
MYLDM Lahad Datu 16.51 189 P P 20 26 44.0 +1.1
MYLDM IAmb IAmb 20 27 12.7
comp=Z,85nm,1.3s
KSRS Korea Array 16.88 19 Pn Pn 20 26 45.4 +0.4
comp=Z,0.6nm,0.3s,baz=204,slow=12,SNR=14
KSRS LR LR 20 33 48.5
comp=Z,810nm,21.1s,baz=205,slow=39
KS19 Wonju Array Si 16.91 19 Pn 20 26 45.0 -0.4
KMI Kunming 17.16 285⇓*e*P P 20 26 51.3 +1.0
KMI pP pP 20 26 57.8 +0.7
KMI sP sP 20 26 59.8 -0.4
KMI S Sn 20 29 57.6 -1.6
KMI pmax pmax
comp=Z,7.0nm,1.1s
KMI pmax pmax
comp=Z,160nm,4.5s
KMI LR LR
comp=Z,1μm,14.7s
KMI LR LR
comp=Z,2μm,12.8s
CD2 Chengdu 18.04 304 P P 20 27 00.4 +0.6
CD2 S Sn 20 30 18.3 -1.8
CD2 pmax pmax
comp=Z,20nm,1.4s
CD2 pmax pmax
comp=Z,130nm,7.1s
CD2 LR LR
comp=N,2μm,10.8s
CD2 LR LR
comp=E,3μm,12.5s
CD2 LR LR
comp=Z,3μm,13.9s
CD2 Chengdu 18.04 304 P P 20 27 00.5 +0.6
CD2 PP PnPn 20 27 13.9 +3.2
CD2 S Sn 20 30 19.3 -0.8
CD2 sS S 20 30 27.8 +2.2
CD2 SS SnSn 20 30 41.6 +7.7
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,140nm,8.3s
CD2 LR LR
comp=Z,2μm,12.2s
CD2 LR LR
comp=Z,3μm,13.7s
BJT Baijiatuau 18.82 348 P 20 27 08.4 +0.2
BJI Beijing 18.84 348 P Pn 20 27 09.8 +0.7
BJI pmax pmax
comp=Z,27nm,0.7s
PBKT Sadao Pong 19.61 259 P Pn 20 27 18.7 +0.1
JCJ Chichijima 20.02 70 P P 20 27 20.5 -1.0
comp=Z,3.0nm,0.3s,baz=148,slow=19,SNR=1.7
JCJ Chichijima 20.02 70 IAmb IAmb 20 27 49.3
comp=Z,119nm,1.3s

HHC Hu-ho-hao-te 20.80 339 *e*P P 20 27 31.1 +1.1
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,280nm,6.6s
HHC LR LR
comp=Z,2μm,14.9s
HHC LR LR
comp=Z,2μm,18.2s
LZH Lanzhou 20.81 318 ⇑P Pn 20 27 31.9 -0.8
LZH pP sP 20 27 38.6 -1.5
LZH sP pP 20 27 45.4 +8.5
LZH *e*S **S** **20 31 22.5 +1.2**
LZH sS Sn 20 31 28.3 +1.2
LZH pmax pmax
comp=Z,39nm,1.0s
LZH pmax pmax
comp=Z,280nm,4.1s
LZH LR LR
comp=Z,2μm,12.1s
LZH LR LR
comp=Z,3μm,14.7s
SBUM Sibu 20.88 205 P P 20 27 31.9 +1.0
SBUM Sibu 20.88 205 P Pn 20 27 33.0 -0.5
CHTO Chiang Mai 20.92 266 P P 20 27 32.4 +1.1
CHTO IAmb IAmb 20 27 36.7
comp=Z,52nm,1.4s
CM31 Chiang Mai Arr 20.99 265 P P 20 27 32.8 +0.7
CMAR Chiang Mai Arr 20.99 265 P P 20 27 32.0 -0.1
comp=Z,5.6nm,0.8s,baz=72,slow=9.3,SNR=42
CMAR PcP PcP 20 31 39.2 +0.2
comp=Z,1.1nm,0.6s,baz=35,slow=0.5,SNR=8.4
CMAR LR LR 20 36 38.8
comp=Z,681nm,18.6s,baz=130,slow=39
CMAR Chiang Mai Arr 20.99 265 P P 20 27 32.6 +0.5
MAJO Matsushiro 21.09 41 P P 20 27 34.8 +1.8
MJAR Matsushiro Arr 21.09 41 P P 20 27 32.7 -0.3
comp=Z,5.0nm,0.5s,baz=225,slow=9.9,SNR=32
MJAR PcP PcP 20 31 38.5 -0.4
comp=Z,0.3nm,0.4s,baz=214,slow=3.1,SNR=2.0
MJAR Matsushiro Arr 21.09 41 P P 20 27 33.0 0.0
KMSI Cibinong 21.10 172 P P 20 27 34.6 +1.4
comp=Z,112nm,0.8s
BTO Baotou 21.13 336 *e*P P 20 27 35.3 +1.8
BTO S S 20 31 22.4 -5.0
MPSI Mapaga 21.17 183 P P 20 27 36.0 +2.1
comp=Z,570nmcomp=Z,28nm,1.0s
TNTI Ternate 21.61 163 P P 20 27 39.8 +1.2
comp=Z,40nm,0.6s
TNTI Ternate 21.61 163 P P 20 27 39.3 +0.7
TNTI IAmb IAmb 20 27 46.6
comp=Z,25nm,0.7s
CN2 Changchun 22.44 8 *e*P P 20 27 47.6 +0.2
CN2 *e*S **S** **20 31 47.8 -4.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,1μm,13.0s
CN2 LR LR
comp=Z,800nm,13.0s
CN2 LR LR
comp=Z,1μm,15.0s
LUWI Luwuk 22.57 175 P P 20 27 51.0 +2.0
comp=Z,3μmcomp=Z,136nm,0.7s
KSM Kuching 22.58 209 P P 20 27 48.9 -0.1
KSM IAmb IAmb 20 27 51.7
comp=Z,31nm,0.9s
KSM Kuching 22.58 209 P P 20 27 49.0 -0.1
MTKI Muara Teweh, K 23.20 196 P P 20 27 56.5 +1.0
comp=Z,62nm,1.2s
STKI Sintang 23.35 205 P P 20 27 58.7 +1.6
MDJ Mudanjiang 24.02 15 P P 20 28 04.8 +1.6
MDJ S S 20 32 23.5 +4.8
MDJ SS SnSn 20 33 11.3 +11
MDJ pmax pmax
comp=Z,6.0nm,0.8s
MDJ pmax pmax
comp=Z,140nm,6.3s
MDJ LR LR
comp=Z,820nm,16.2s
MDJ LR LR
comp=Z,1μm,12.2s
MDJ LR LR
comp=Z,1μm,14.8s
MDJ Mudanjiang 24.02 15 P P 20 28 01.1 -2.0
MDJ IAmb IAmb 20 28 17.7
comp=Z,22nm,1.3s
GUMO Guam 24.05 105 P P 20 28 03.4 -0.3
comp=Z,34nm,0.5s,baz=120,slow=2.0,SNR=6.2
GUMO LR LR 20 36 07.2
comp=Z,359nm,19.2s,baz=305,slow=33
GUMO Guam 24.05 105 IAmb IAmb 20 28 06.6
comp=Z,51nm,0.9s
USA0B Ussuriysk Arra 24.29 19 P P 20 28 05.3 -0.5
USRK Ussuriysk Ar. 24.29 19 P P 20 28 05.6 -0.2
comp=Z,6.4nm,0.6s,baz=202,slow=8.0,SNR=13
USRK Ussuriysk Ar. 24.29 19 P P 20 28 06.1 +0.4
SIJI Sorong 24.47 155 P P 20 28 07.2 -0.4
comp=Z,18nm,0.5s,baz=338,slow=14,SNR=13
KBKI Kotabaru 25.20 191 P P 20 28 15.7 +1.5
comp=Z,501nmcomp=Z,49nm,0.9s
GTA Gaotai 25.38 319 ⇑P P 20 28 16.3 +0.5
GTA pP pP 20 28 23.5 +0.4
GTA sP sP 20 28 26.8 +0.7
GTA PcP PcP **20 31 48.8 +0.8**
GTA S S **20 32 42.8 +1.8**
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,100nm,7.8s
GTA LR LR
comp=Z,970nm,17.5s
GTA LR LR
comp=Z,1μm,15.2s
GTA LR LR
comp=Z,2μm,16.2s
NLAI Namlea 25.39 166 P P 20 28 18.6 +2.7
comp=Z,126nm,0.7s
SPSI Sidrap Palu 25.44 183 P P 20 28 17.5 +1.1
comp=Z,588nmcomp=Z,42nm,1.2s
BBKI Banjar Baru 25.64 194 P P 20 28 20.0 +1.8
comp=Z,68nm,0.9s
IPM Ipoh 25.82 232 P P 20 28 20.0 +0.1
IPM IAmb IAmb 20 28 20.9
comp=Z,22nm,0.9s
IPM Ipoh 25.82 232 P P 20 28 20.0 +0.1
MYKOM Kota Tinggi 25.85 223 P P 20 28 21.5 +1.4
MYKOM Kota Tinggi 25.85 223 P P 20 28 23.0 +2.9
KAPI Kappang 26.48 183 P P 20 28 25.7 -0.1
comp=Z,27nm,0.7s,baz=38,slow=18,SNR=8.9
FAKI Fak Fak 26.73 154 P P 20 28 28.7 +0.6
LSA Lhasa 28.07 293 P P 20 28 41.0 +0.5
ULN Ulaanbaatar 28.52 340 P P 20 28 44.9 +0.9
ULN PcP 20 31 56.0 +0.8
ASAJ Asahikawa 28.68 33 P P 20 28 45.6 +0.4
comp=Z,15nm,0.6s,baz=228,slow=10,SNR=31
JKA Kamikawa-asahi 28.68 33 P P 20 28 45.3 0.0
JKA IAmb IAmb 20 28 50.8
comp=Z,17nm,0.7s
SONM Songino Array 28.70 339 P P 20 28 45.5 -0.1
comp=Z,3.8nm,0.8s,baz=151,slow=9.6,SNR=9.1
SONM PcP PcP 20 31 56.0 +0.3
comp=Z,0.6nm,0.5s,baz=108,slow=4.8,SNR=4.0
SONM ScP ScP 20 35 35.7 +0.2
comp=Z,1.7nm,0.8s,baz=179,slow=2.8,SNR=9.4
SONM LR LR 20 42 11.0
comp=Z,1μm,18.2s,baz=152,slow=40
SONM Songino Array 28.70 339 P P 20 28 45.9 +0.2
SONM PcP 20 31 56.3 +0.6
BKNI Bangkinang 28.77 225 P P 20 28 47.1 +0.7
comp=Z,71nm,1.0s
KLR Kul'dur 28.86 15 P P 20 28 46.2 -0.5
comp=Z,2.5nm,0.6s,baz=198,slow=6.9,SNR=13
KLR PcP PcP 20 31 55.7 -0.1
comp=Z,1.4nm,0.7s,baz=195,slow=7.2,SNR=3.4
KLR ScP ScP 20 35 35.2 -0.5
comp=Z,1.0nm,0.8s,baz=145,slow=6.5,SNR=3.8
MNSI Mandailing Nat 29.42 228 P P 20 28 52.4 +0.3
comp=Z,46nm,0.7s
SDSI Sungai Dareh 29.47 223 P P 20 28 53.7 +1.1
comp=Z,12nm,0.9s
MMRI Maumere 30.07 178 P P 20 28 59.5 +1.6
EDFI Ende, Flores 30.17 179 P P 20 28 59.5 +0.7
comp=Z,53nm,0.8s
KRJI Kerinci 30.35 222 P P 20 29 01.9 +1.4
JAY Jayapura 30.73 139 LR LR 20 40 14.7
comp=Z,582nm,19.3s,baz=304,slow=34
MDSI Maura Dua 30.74 214 P P 20 29 05.3 +1.5
comp=Z,17nm,1.0s
BLSI Bandar Lampung 30.95 212 P P 20 29 07.1 +1.4
comp=Z,33nm,0.5s
LWLI Liwa 31.26 214 P P 20 29 09.9 +1.4
comp=Z,4μmcomp=Z,61nm,0.8s
DBJI Dramaga 31.30 208 P P 20 29 10.9 +2.2
WMQ Urumqi 35.39 317 *e*P P 20 29 46.9 +2.7
WMQ pP sP 20 29 54.1 -0.5
WMQ pmax pmax
comp=Z,13nm,0.8s
WMQ LR LR
comp=Z,510nm,18.1s
WMQ LR LR
comp=Z,640nm,18.1s
WMQ LR LR
comp=Z,710nm,16.7s
KNRA Kununurra 37.81 168 P P 20 30 04.8 -0.2
FITZ Fitzroy Crossi 39.71 173 LR LR 20 47 20.8
comp=Z,65nm,21.2s,baz=354,slow=37
KRVT Keravat (AS076 39.80 127 LR LR 20 45 19.9
comp=Z,428nm,18.5s,baz=298,slow=34
RABL Rabaul 39.83 126 P P 20 30 22.4 +0.4
PMG Port Moresby 40.09 138 P P 20 30 23.5 -0.6
comp=Z,13nm,0.7s,baz=341,slow=13
PMG Port Moresby 40.09 138 IAmb IAmb 20 30 36.2
comp=Z,33nm,1.1s
MK31 Makanchi Array 40.13 318 P P 20 30 24.8 +0.6
MKAR Makanchi Array 40.13 318 P P 20 30 24.4 +0.2
comp=Z,3.3nm,0.6s,baz=114,slow=9.7,SNR=28
MKAR PcP PcP 20 32 28.2 -0.1
comp=Z,0.6nm,0.5s,baz=81,slow=2.7,SNR=5.4
MKAR ScP ScP 20 36 17.9 +1.9
comp=Z,0.7nm,0.8s,baz=93,slow=7.4,SNR=4.1
MKAR LR LR 20 49 06.2
comp=Z,1μm,18.5s,baz=108,slow=39
MKAR Makanchi Array 40.13 318 P P 20 30 24.8 +0.6
MAKZ Makanchi 40.33 318 P P 20 30 26.6 +0.8
YAK Yakutsk 40.84 6 P P 20 30 28.2 -1.6
comp=Z,10.0nm,0.3s,baz=129,slow=1.3,SNR=9.2
YAK Yakutsk 40.84 6 P P 20 30 29.8 +0.1
YAK IAmb IAmb 20 30 30.6
comp=Z,22nm,0.7s
COEN Coen 41.48 146 P P 20 30 35.9 +0.3
COEN IAmb IAmb 20 30 37.1
comp=Z,12nm,0.6s
PETK Petropavlovsk- 42.09 32 P P 20 30 39.6 -0.6
comp=Z,1.7nm,0.7s,baz=207,slow=6.3,SNR=4.6
PETK PcP PcP 20 32 34.2 -0.4
comp=Z,0.4nm,0.5s,baz=275,slow=5.4,SNR=1.4
PETK LR LR 20 49 22.4
comp=Z,206nm,19.0s,baz=236,slow=38
PETK Petropavlovsk- 42.09 32 P P 20 30 40.4 +0.2
KSH Kashi 42.23 305 *e*P P 20 30 44.1 +2.3
KSH pmax pmax
comp=Z,2.0nm,0.3s
KSH LR LR
comp=Z,600nm,12.6s
ZAA0 Zalesovo Array 42.35 329 P P 20 30 42.4 +0.1
ZAA0 IAmb IAmb 20 30 47.0
comp=Z,14nm,1.1s
ZALV Zalesovo Beam 42.35 329 P P 20 30 42.1 -0.2
comp=Z,5.5nm,0.7s,baz=119,slow=6.7,SNR=16
ZALV PcP PcP 20 32 34.9 -0.6
comp=Z,1.9nm,0.6s,baz=117,slow=5.2,SNR=3.7
ZALV LR LR 20 50 06.6
comp=Z,570nm,18.4s,baz=122,slow=39
ZALV Zalesovo Beam 42.35 329 P P 20 30 42.5 +0.2
ZALV PcP 20 32 35.3 -0.1
H11N1 WAKE ISLAND Hy 42.83 84 T T 21 16 33.8
baz=282,slow=74,SNR=29
H11N2 WAKE ISLAND Hy 42.83 84 T T 21 16 46.4
baz=282,slow=74,SNR=54
H11N3 WAKE ISLAND Hy 42.84 84 T T 21 16 34.8
baz=282,slow=74,SNR=29
H11S3 WAKE ISLAND Hy 42.88 86 T T 21 16 52.5
baz=283,slow=74,SNR=93
H11S1 WAKE ISLAND Hy 42.89 86 T T 21 16 53.1
baz=283,slow=74,SNR=110
H11S2 WAKE ISLAND Hy 42.90 86 T T 21 16 48.0
baz=283,slow=74,SNR=42
WB0 Warramunga Arr 43.14 161 P P 20 30 48.5 -0.5
WB0 IAmb IAmb 20 30 50.1
comp=Z,13nm,0.7s
WRAB Tennant Creek 43.28 162 P P 20 30 49.9 -0.3
WRAB IAmb IAmb 20 30 51.4
comp=Z,16nm,0.7s
WRA Warramunga Ar 43.29 162 P P 20 30 49.5 -0.7
comp=Z,15nm,0.6s,baz=344,slow=9.0,SNR=108
WRA PcP PcP 20 32 38.7 -0.4
comp=Z,5.3nm,0.6s,baz=344,slow=3.6,SNR=8.6
WRA ScP ScP 20 36 28.8 0.0
comp=Z,2.4nm,1.0s,baz=346,slow=4.3,SNR=5.1
WRA S S 20 37 12.1 -4.2
comp=Z,2.6nm,0.8s,baz=344,slow=14,SNR=7.0
WRA Warramunga Arr 43.29 162 P P 20 30 49.4 -0.9
WRA PcP 20 32 39.4 +0.3
WB2 Warramunga Arr 43.29 162 P P 20 30 49.9 -0.4
WB2 IAmb IAmb 20 30 51.5
comp=Z,21nm,0.7s
WR0 Warramunga Arr 43.37 161 P P 20 30 50.4 -0.5
NIL Nilore 43.66 297 P P 20 30 54.2 +0.9
KURK Kurchatov 44.01 322 P P 20 30 56.1 +0.4
KURK IAmb IAmb 20 30 57.0
comp=Z,9.7nm,1.1s
KURBB Kurchatov Arra 44.02 322 P P 20 30 56.0 +0.2
comp=Z,4.5nm,0.8s,baz=122,slow=7.5,SNR=28
BTK Batken 46.24 305 P P 20 31 14.6 +0.8
GAR Garm 46.49 304 P P 20 31 16.9 +1.1
AS31 Alice Springs 46.71 164 P P 20 31 17.8 +0.4
AS31 IAmb IAmb 20 31 25.0
comp=Z,4.2nm,0.5s
ASAR Alice Springs 46.71 164 P P 20 31 17.6 +0.1
comp=Z,4.0nm,0.5s,baz=348,slow=8.9,SNR=73
ASAR PcP PcP 20 32 50.6 -0.3
comp=Z,4.6nm,0.6s,baz=348,slow=3.3,SNR=10
ASAR ScP ScP 20 36 42.9 0.0
comp=Z,2.2nm,0.7s,baz=348,slow=3.9,SNR=13
ASAR S S 20 38 05.0 -0.7
comp=Z,2.4nm,1.1s,baz=353,slow=2.3,SNR=5.9
ASAR LR LR 20 52 27.8
comp=Z,109nm,18.1s,baz=9.0,slow=38
ASAR Alice Springs 46.71 164 P P 20 31 17.4 0.0
ASAR PcP 20 32 51.0 +0.2
KK31 Karatay Array 46.96 309 P P 20 31 20.3 +1.0
KKAR Karatay Array 46.96 309 P P 20 31 20.2 +0.9
KKAR Karatay Array 46.96 309 P P 20 31 20.3 +0.9
KKAR IAmb IAmb 20 31 20.8
comp=Z,3.2nm,0.9s
KBL Kabul 47.19 298 P P 20 31 22.6 +1.2
KBL IAmb IAmb 20 31 23.9
comp=Z,15nm,1.1s
CTA Charters Tower 48.21 148 P P 20 31 29.1 -0.1
comp=Z,6.8nm,0.7s,baz=320,slow=12,SNR=8.9
BVAR Borovoye Array 49.60 322 P P 20 31 39.8 +0.3
comp=Z,2.4nm,0.6s,baz=109,slow=8.4,SNR=25
BVAR PcP PcP 20 33 00.6 -0.2
comp=Z,3.7nm,0.6s,baz=99,slow=4.1,SNR=9.4
BRVK Borovoye 49.67 322 P P 20 31 40.7 +0.7
BRVK IAmb IAmb 20 31 48.3
comp=Z,6.6nm,0.8s
TIXI Tiksi 50.27 3 P P 20 31 42.9 -1.3
TIXI IAmb IAmb 20 31 44.3
comp=Z,4.1nm,0.6s
NRIK Noril'sk 51.85 346 P P 20 31 56.0 -0.2
comp=Z,5.4nm,0.6s,baz=128,slow=8.9,SNR=8.8
NRIK LR LR 20 56 38.6
comp=Z,557nm,18.2s,baz=154,slow=39
FORT Forrest 52.52 172 P P 20 32 02.3 +0.8
ABKAR Akbulak array 55.16 316 P P 20 32 21.6 +0.8
BBOO Buckleboo 55.98 165 P P 20 32 27.4 +0.6
GEYT Alibeck 56.01 302 P P 20 32 27.5 +0.3
comp=Z,3.5nm,0.7s,baz=90,slow=1.9,SNR=9.9
GEYT LR LR 21 01 36.1
comp=Z,365nm,18.3s,baz=155,slow=42
GEYT Alibeck 56.01 302 P P 20 32 28.0 +0.8
GYA0B ALIBECK ARRAY 56.01 302 P P 20 32 28.1 +0.9
GYA0B IAmb IAmb 20 32 29.5
comp=Z,12nm,1.1s
AKTO Aktyubinsk 56.54 317 P P 20 32 31.1 +0.4
comp=Z,3.4nm,0.7s,baz=93,slow=11,SNR=11
STKA Stephens Creek 56.70 159 P P 20 32 32.1 +0.2
comp=Z,11nm,0.7s,baz=337,slow=7.1,SNR=38
STKA LR LR 20 59 09.2
comp=Z,98nm,18.6s,baz=7.2,slow=38

STKA	Stephens Creek	56.70	159		P		P	20 32 32.1	+0.2
ARU	Arti	57.09	324		P		P	20 32 34.6	+0.1
	comp=Z,5.4nm,0.5s,baz=103,slow=4.9,SNR=32								
ARU	Arti	57.09	324		P		P	20 32 35.0	+0.6
DZM	Mont Dzumac	62.01	132		eS		S	20 41 28.4	-3.9
	comp=Z,116nm,27.9s								
DZM	Mont Dzumac	62.01	132		eLR		LR	20 51 35.3	
	comp=Z,296nm,21.4s								
DZM	Mont Dzumac	62.01	132		P		P	20 33 08.8	-0.2
	comp=Z,2.4nm,0.5s,baz=126,slow=20,SNR=1.4								
AKH	Akhalkalaki	66.91	307	⇑	P		P	20 33 42.9	+1.9
AKH	Akhalkalaki	66.91	307		P		P	20 33 42.1	+1.1
AKH					IAmb		IAmb	20 33 43.5	
	comp=Z,9.2nm,1.0s								
KBZ	Khabaz	67.00	310		P		P	20 33 41.1	-0.1
	comp=Z,4.8nm,0.8s,baz=111,slow=5.0,SNR=12								
KBZ					LR		LR	21 06 46.5	
	comp=Z,337nm,18.1s,baz=69,slow=39								
KIV	Kislovodsk	67.12	310	⇑	P		P	20 33 43.1	+1.0
KIV	Kislovodsk	67.12	310		P		P	20 33 43.3	+1.2
KLMR	Klimovskoe	67.27	328		eP		P	20 33 41.5	-1.1
KLMR					AMP			20 33 43.8	
	comp=Z,29nm,1.5s								
KLMR					LQ		LQ	20 58 59.6	
KLMR					LQ		LQ	20 58 59.6	
KLMR					LR		LR	21 03 58.8	
TTA	Tatalina	67.81	29		P		P	20 33 46.3	+0.2
TTA					IAmb		IAmb	20 33 50.1	
	comp=Z,9.9nm,1.4s								
BPAW	Bear Paw Mtn.	69.92	28		P		P	20 33 59.5	+0.3
BPAW					IAmb		IAmb	20 34 00.7	
	comp=Z,9.9nm,1.3s								
KDAK	Kodiak Island	70.09	35		P		P	20 33 59.6	-0.6
MDM	Murphy Dome	70.96	27		P		P	20 34 06.0	+0.4
MDM					IAmb		IAmb	20 34 23.3	
	comp=Z,7.9nm,1.1s								
RND	Reindeer	70.97	28		P		P	20 34 05.2	-0.5
RND					IAmb		IAmb	20 34 22.3	
	comp=Z,7.2nm,0.8s								
WRH	Wood River Hil	71.11	27		P		P	20 34 07.8	+1.4
WRH					IAmb		IAmb	20 34 23.9	
	comp=Z,6.4nm,1.2s								
ILAR	Eielson Array	71.56	27		P		P	20 34 09.1	-0.1
	comp=Z,0.9nm,0.5s,baz=267,slow=5.3,SNR=4.3								
ARCES	ARCESS Array B	71.88	338		P		P	20 34 11.2	+0.3
	comp=Z,3.0nm,0.8s,baz=64,slow=11,SNR=12								
ARCES					LR		LR	21 09 10.3	
	comp=Z,161nm,19.0s,baz=7.5,slow=39								
ARCES	ARCESS Array B	71.88	338		P		P	20 34 11.7	+0.8
HSPB	Hornsund (broa	72.53	347		eP		P	20 34 15.8	+1.1
HSPB					eL		L	21 09 15.9	
	comp=Z,240nm,22.4s								
KLU	Klutina	72.69	30		P		P	20 34 16.0	0.0
KLU					IAmb		IAmb	20 34 28.7	
	comp=Z,12nm,1.2s								
MENT	Mentasta	73.34	28		P		P	20 34 19.9	+0.1
MENT					IAmb		IAmb	20 34 31.7	
	comp=Z,11nm,1.1s								
FINES	FINESS Array B	73.60	330		P		P	20 34 21.7	+0.4
	comp=Z,4.7nm,0.7s,baz=44,slow=7.0,SNR=13								
FINES					LR		LR	21 10 14.7	
	comp=Z,180nm,19.6s,baz=82,slow=39								
FINES	FINESS Array B	73.60	330		P		P	20 34 21.9	+0.6
BCAR	Beaver Creek A	74.16	28		P		P	20 34 25.3	+0.7
BRTR	Keskin Array B	74.60	307		P		P	20 34 27.2	-0.6
	comp=Z,1.6nm,0.8s,baz=71,slow=8.0,SNR=5.9								
BRTR					LR		LR	21 12 59.5	
	comp=Z,85nm,19.9s,baz=62,slow=40								
BRTR	Keskin Array B	74.60	307		P		P	20 34 27.7	0.0
AKASG	Malin Array Be	74.71	319		P		P	20 34 27.6	-0.3
	comp=Z,1.4nm,0.5s,baz=60,slow=5.6,SNR=12								
AKASG					LR		LR	21 10 09.8	
	comp=Z,214nm,18.9s,baz=65,slow=38								
AKASG	Malin Array Be	74.71	319		P		P	20 34 27.7	-0.3
NACGM	Naroch	74.99	323		e		P	20 34 29.0	-0.5
INK	Inuvik	75.66	22		P		P	20 34 32.7	-0.3
INK					IAmb		IAmb	20 34 33.6	
	comp=Z,4.0nm,0.8s								
SORM	Soroca	75.96	316	⇑	P		P	20 34 35.1	-0.1
TLCR		76.51	313	⇑	P		P	20 34 38.7	+0.3
CFR	Carcaliu	76.97	314	⇑	P		P	20 34 41.4	+0.4
HARR	Harsova	77.26	313	⇑	P		P	20 34 43.3	+0.7
SUW	Suwalki	77.27	323		P		P	20 34 42.6	+0.1
TESR	Tescani	77.56	315	⇑	P		P	20 34 44.7	+0.4
VRI	Vrincioaia	77.70	315	⇑	P		P	20 34 45.8	+0.7
BURAR	Bucovina Array	78.13	317	⇓	P		P	20 34 48.4	+0.8
BURAR	Bucovina Array	78.13	317		P		P	20 34 48.0	+0.4
BUR08	Bucovina Ar. S	78.13	317		P		P	20 34 48.1	+0.5
BUR08					IAmb		IAmb	20 34 48.7	
	comp=Z,5.0nm,0.9s								
C36M	Paulatuk	78.27	19		P		P	20 34 47.2	-0.6
ARR	Arges	79.26	315	⇑	P		P	20 34 55.5	+1.7
KOLS	Kolonicke sedl	79.53	318		eP		P	20 34 56.0	+0.9
RPZ	Rata Peaks	79.54	146		P		P	20 34 55.5	+0.4
	comp=Z,19nm,0.9s,baz=274,slow=4.6,SNR=6.5								
RPZ	Rata Peaks	79.54	146		P		P	20 34 54.7	-0.3
NB2	NORSAR Subarra	80.44	332		P		P	20 34 59.4	-0.4
	comp=Z,4.9nm,0.9s,baz=64,slow=5.3								
NOA	NORSAR Array B	80.44	332		P		P	20 34 59.5	-0.4
	comp=Z,1.5nm,0.6s,baz=63,slow=5.1,SNR=9.5								
NOA					LR		LR	21 14 56.0	
	comp=Z,718nm,18.4s,baz=65,slow=39								
RZN	Rozhen	80.46	311		eP		P	20 35 01.0	+0.5
OJC	Ojcow	80.56	320		eP		P	20 35 01.4	+0.8
OJC					eL		L	21 12 25.6	
	comp=Z,175nm,20.5s								
OJC	Ojcow	80.56	320		P		P	20 35 01.0	+0.3
NIE	Niedzica	80.56	319		eP		P	20 35 02.0	+1.3
NIE					eL		L	21 16 47.2	
	comp=Z,205nm,18.0s								
GKP	Gorka Klasztor	80.83	324		eP		P	20 35 02.6	+0.6
GKP					eL		L	21 15 18.4	
	comp=Z,540nm,16.4s								
VTS	Vitosha	81.16	312	⇑	P		P	20 35 05.2	+1.0
VTS	Vitosha	81.16	312		IAmb		IAmb	20 35 05.8	
	comp=Z,11nm,0.8s								
VTS	Vitosha	81.16	312		eP		P	20 35 04.7	+0.5
LANS	Liptovska Anna	81.17	319		eP		P	20 35 05.5	+1.5
MDVR	Moldovita	81.40	315	⇑	P		P	20 35 05.8	+0.5
KKB	Krupnik	81.54	312		eP		P	20 35 06.0	0.0
VYHS	Vyhne	81.81	319		eP		P	20 35 08.1	+0.8
MORC	Moravsky Berou	82.08	320	⇑	P		P	20 35 09.6	+0.8
MORC	Moravsky Berou	82.08	320		eP		P	20 35 09.4	+0.7
STIP	Stip	82.22	312		iP		P	20 35 08.8	-0.8
KSP	Ksiaz	82.36	322		eP		P	20 35 11.2	+1.0
KSP					eL		L	21 14 37.2	
	comp=Z,278nm,19.1s								
JAVC	Velka Javorina	82.37	320		eP		P	20 35 12.3	+2.0
KRLC	Kraliky	82.40	321		eP		P	20 35 10.6	+0.2
KRLC					AMS		AMS	21 16 40.0	
	comp=Z,200nm,14.2s								
OSTC	Ostas	82.53	322		AMS		AMS	21 14 50.0	
	comp=Z,300nm,16.1s								
DPC	Dobruska-Polom	82.55	321		eP		P	20 35 12.4	+1.2
DPC					AMS		AMS	21 16 20.0	
	comp=Z,300nm,18.1s								
CHVC	Chvalec	82.61	322		eP		P	20 35 12.0	+0.5
CHVC					AMS		AMS	21 16 20.0	
	comp=Z,200nm,15.0s								
UPC	Upice	82.67	322		AMS		AMS	21 14 50.0	
	comp=Z,300nm,17.9s								
DIVS	Divibare	82.80	315		P		P	20 35 13.0	+0.3
MODS	Modra-Piesok	82.81	319		eP		P	20 35 13.0	+0.4
VRAC	Vranov	82.83	320	⇑	P		P	20 35 13.9	+1.2
VRAC	Vranov	82.83	320		eP		P	20 35 13.5	+0.8
KRUC	Moravsky	83.05	320		eP		P	20 35 14.4	+0.6
PVCC	Panska Ves	83.49	322		AMS		AMS	21 15 30.0	
	comp=Z,300nm,17.2s								
TREC	Trest	83.49	321		AMS		AMS	21 17 00.0	
	comp=Z,200nm,19.1s								
GOPC	GO Pecny, Ondr	83.63	321		AMS		AMS	21 17 00.0	
	comp=Z,300nm,15.4s								
PRU	Pruhonice	83.74	321		eP		P	20 35 18.1	+0.8
PRU					AMS		AMS	21 17 00.0	
	comp=Z,300nm,14.6s								
PRA	Prague	83.77	322		AMS		AMS	21 15 30.0	
	comp=Z,100nm,17.8s								
CONA	Conrad Observa	83.86	319		iP		P	20 35 14.7	-3.4
	comp=Z,4.1nm,0.9s								
CLL	Collm	84.03	323		iP		P	20 35 19.1	+0.4
CLL					Lm		MLR	21 18 00.0	
	comp=N,200nm,18.4s								
CLL					Lm		MLR	21 18 00.0	
	comp=E,200nm,20.6s								
CLL					Lm		MLR	21 18 00.0	
	comp=Z,300nm,19.0s								
ITM	Ithomi	84.11	308		P		P	20 35 18.8	-0.7
ARSA	Arzberg	84.36	319		iP		P	20 35 19.0	-1.6
	comp=Z,3.2nm,0.9s								
KMBO	Kilima Mbogo	84.63	267		P		P	20 35 23.6	+0.8
	comp=Z,3.0nm,0.8s,baz=48,slow=10,SNR=5.4								
KMBO	Kilima Mbogo	84.63	267		P		P	20 35 24.1	+1.3
KMBO					IAmb		IAmb	20 35 25.7	
	comp=Z,14nm,1.4s								
KHC	Kasperske Hory	84.69	321		eP		P	20 35 22.9	+0.7
KHC					ex		x	20 35 36.0	
KHC					AMS		AMS	21 18 30.0	
	comp=Z,200nm,17.6s								
GEC2	GERESS Array S	84.75	321		P		P	20 35 23.0	+0.4
GEC2					IAmb		IAmb	20 35 23.7	
	comp=Z,4.3nm,0.8s								
GERES	GERESS Array B	84.75	321		P		P	20 35 23.1	+0.5
	comp=Z,3.7nm,0.7s,baz=59,slow=5.1,SNR=31								
GERES					LR		LR	21 13 11.5	
	comp=Z,110nm,18.9s,baz=90,slow=36								
GERES	GERESS Array B	84.75	321		P		P	20 35 22.8	+0.2
NKC	Novy Kostel	84.83	322		eP		P	20 35 22.3	-0.6
NKC					AMS		AMS	21 19 10.0	
	comp=Z,300nm,19.1s								
MOA	Molln	84.86	320		iP		P	20 35 23.9	+0.9
	comp=Z,2.0nm,0.5s								
SOKA	Soboth	84.91	318		iP		P	20 35 23.7	+0.2
	comp=Z,17nm,1.8s								
OBKA	Obir	85.28	318		iP		P	20 35 26.0	+0.7
	comp=Z,18nm,1.5s								
YKA	Yellowknife Ar	85.39	23		P		P	20 35 25.2	-0.1
	comp=Z,2.0nm,0.6s,baz=306,slow=5.4,SNR=12								
YKA					LR		LR	21 16 47.5	
	comp=Z,61nm,19.4s,baz=0.0,slow=38								
MYKA	Terra Mystica	85.79	319		iP		P	20 35 25.0	-2.8
	comp=Z,7.8nm,1.1s								
ABTA	Abfaltersbach	86.42	319		iP		P	20 35 25.3	-5.6
	comp=Z,14nm,1.6s								
MOTA	Moosalm	86.99	320		iP		P	20 35 30.3	-3.5
	comp=Z,5.5nm,1.2s								
FUORN	Ofenpass-Fuorn	87.84	320		P		P	20 35 38.7	+0.6
FUORN					IAmb		IAmb	20 35 39.9	
	comp=Z,4.9nm,0.8s								
KEST	Kesra	93.85	311		LR		LR	21 26 36.6	
	comp=Z,127nm,18.2s,baz=294,slow=41								
PPT	Papeete	95.75	107		LR		LR	21 12 18.2	
	comp=Z,39nm,19.1s,baz=290,slow=31								
PPT2	Papeete2	95.76	107		eLR		LR	21 07 16.4	
	comp=Z,94nm,23.8s								
NVAR	Mina Array Bea	98.40	43		P		Pdif	20 36 27.0	+0.2
	comp=Z,0.3nm,0.6s,baz=319,slow=5.1,SNR=2.9								
NVAR	Mina Array Bea	98.40	43		P		Pdif	20 36 27.2	+0.3
MAW	Mawson	98.63	199		LR		LR	21 19 21.9	
	comp=Z,78nm,18.1s,baz=59,slow=34								
VNDA	Vanda	101.77	172		P		Pdif	20 36 40.7	+0.2
	comp=Z,0.7nm,0.9s,baz=356,slow=2.3,SNR=2.1								
TORD	Torodi Ar. Bea	111.19	294		PKiKP		PKiKP	20 41 22.1	-0.7
	comp=Z,0.4nm,0.6s,baz=41,slow=3.0,SNR=4.1								
TXAR	Lajitas Array	113.52	42		PKiKP		PKiKP	20 41 26.7	-0.4
	comp=Z,0.4nm,0.7s,baz=206,slow=1.7,SNR=6.2								
SJCC	San Jacinto, C	144.88	29		eP		PKPab	20 42 24.8	-0.5
MOTC	Monteria, Cord	145.64	30		eP		PKPdf	20 42 26.3	-1.2
SMLC	San Martn de	146.34	28		eP		PKPdf	20 42 28.1	-0.6
DBBC	Dabeiba	146.90	33		eP		PKPbc	20 42 32.2	+0.6
ZARC	Zaragoza, Cauc	147.15	30		eP		PKPbc	20 42 32.7	+0.5
PTBC	PUERTO BERRIO	148.17	30		eP		PKPbc	20 42 33.9	-1.2
BARC	Barichara	148.70	28		eP		PKPbc	20 42 35.1	-1.6
GUY2C	Guyana, Caldas	148.86	33		eP		PKPbc	20 42 36.5	-1.0
SPBC	San Pablo de B	149.13	30		eP		PKPbc	20 42 36.3	-1.3
RUSC	La Rusia	149.37	28		eP		PKPbc	20 42 36.8	-1.9
TOLC	Tolima	149.43	34		eP		PKPbc	20 42 37.1	-1.6
ROSC	El Rosal	149.71	32		PKPbc		PKPbc	20 42 38.8	-0.6
	comp=Z,9.5nm,0.5s,baz=238,slow=19,SNR=2.0								
CHIC	Chingaza	150.18	31		eP		PKPdf	20 42 34.6	-0.9
PRAC	Prado	150.40	34		eP		PKPbc	20 42 39.8	-0.9
PLCA	Paso Flores	158.54	155		PKPbc		PKPbc	20 42 56.9	
	comp=Z,0.7nm,0.6s,baz=284,slow=5.4,SNR=3.7								
PLCA					PKPab		PKPab	20 43 19.5	-1.4
	comp=Z,1.6nm,0.9s,baz=217,slow=16,SNR=3.4								
LPAZ	La Paz	169.84	60		PKP		PKPdf	20 42 57.5	0.0
	comp=Z,2.3nm,1.1s,baz=47,slow=5.5,SNR=5.6								
LPAZ					PKPab		PKPab	20 44 10.9	-1.0
	comp=Z,0.5nm,0.5s,baz=314,slow=7.5,SNR=1.5								

*DDA **14** 20:28:16.4,36˚.99N×27˚.35E,h5km,ML2.5*
*THE **14** 20:28:17.4,37˚.02N×27˚.43E,h5km±1km,ML2.6/2,Error ellipse: s-maj=1.3km s-min=0.5km az=274.0*
*ATH **14** 20:28:17.3,37˚.01N×27˚.38E,h31km±10km,ML2.6/2,Error ellipse: s-maj=10.2km s-min=1.5km az=209.0*
*ISK **14** 20:28:17.1,36˚.96N×27˚.34E,h5km,ML2.6/13*

ISC 14 20:28:16.8±0.8, 37˚.00N±0˚.02×27˚.42E±0˚.02, h10km±5km, n36,σ1°33/63, Dodecanese Islands

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.07	15	*i*	P	Pg	20 28 18.9	-0.2
BDRM					IAML		20 28 20.0	
	comp=E,4μm,0.4s							
BDRM				*i*	S	Sg	20 28 20.4	-0.4
BODT	Bodrum	0.11	305		P	Pg	20 28 19.8	+0.2
BODT					S	Sg	20 28 21.9	+0.3
BODT	Bodrum	0.11	305		PG	Pg	20 28 19.8	+0.2
BODT					SG	Sg	20 28 21.7	+0.1
DAT	Datca	0.30	155		P	Pg	20 28 23.4	+0.6
DAT					S	Sb	20 28 28.7	-0.6
DAT	Datca	0.30	155		PG	Pg	20 28 23.4	+0.6
DAT					SG	Sb	20 28 28.4	-0.9
DAT	Datca	0.30	155	*i*	P	Pg	20 28 23.1	+0.2
DAT				*i*	S	Sg	20 28 28.3	+1.4
NISR	Nisiros	0.45	211		P	Pb	20 28 26.5	-0.3
NISR					S	Sb	20 28 33.9	+0.3
TURN	Turunc	0.70	108		PG	Pg	20 28 32.1	-3.1
TURN					SG	Sg	20 28 42.8	-4.8
TURN	Turunc	0.70	108	*i*	P	Pg	20 28 30.3	-4.9
TURN				*i*	S	Sg	20 28 41.8	-5.8
TURN					IAML		20 28 42.0	
	comp=N,238nm,0.5s							
TURN					IAML		20 28 43.0	
	comp=E,191nm,0.3s							
YER	Yerkesik	0.70	79		P	Pb	20 28 31.1	-0.1
YER					S	Sb	20 28 41.2	+0.3
YER	Yerkesik	0.70	79		PG	Pn	20 28 32.5	-0.3
YER					SG	Sn	20 28 43.8	+0.1
GCAM	G?zelcaml?	0.72	348		PG	Pb	20 28 32.1	+0.7
GCAM					SG	Sn	20 28 43.1	-0.9
GCAM	G?zelcaml?	0.72	348	*i*	P	Pg	20 28 30.2	-0.5
GCAM				*i*	S	Sb	20 28 41.3	+0.1
GCAM					IAML		20 28 44.0	
	comp=E,175nm,0.7s							
GCAM					IAML		20 28 49.0	
	comp=N,149nm,0.4s							
SMG	Samos	0.85	327		P	Pg	20 28 33.1	-0.1
SMG					S	Sb	20 28 45.7	+0.6
	comp=N,370nm,0.4s							
SMG	Samos	0.85	327		P	Pg	20 28 33.0	-0.2
SMG					S	Sb	20 28 45.6	+0.5
SMG					AML	AML	20 28 49.1	
	comp=N,405μm,0.2s							
SMG					AML	AML	20 28 52.3	
	comp=E,804μm,0.4s							
ARG	Arkhangelos	0.96	144		P	Pn	20 28 36.3	-0.1
ARG					S	Sn	20 28 50.3	+0.2
	comp=E,512nm,0.5s							
ARG	Arkhangelos	0.96	144		P	Pn	20 28 36.6	+0.3
ARG					S	Sn	20 28 50.1	0.0
ARG					AML	AML	20 28 52.8	
	comp=N,1101μm,0.5s							
ARG					AML	AML	20 28 54.8	
	comp=E,934μm,0.4s							
ARG	Arkhangelos	0.96	144		PG	Pn	20 28 36.5	+0.1
ARG					SG	Sn	20 28 50.4	+0.3
DALY	Dalyan (Mula)	1.00	100		PG	Pn	20 28 38.1	+1.2
DALY					SG	Sn	20 28 53.2	+2.1
DALY	Dalyan (Mula)	1.00	100	*i*	P	Pn	20 28 37.0	+0.1
DALY				*i*	S	Sn	20 28 51.8	+0.8
DALY					IAML		20 28 54.0	
	comp=N,116nm,0.8s							
DGB	zmir	1.14	338	*i*	P	Pb	20 28 38.0	-0.5
DGB				*i*	S	Sn	20 28 54.0	-0.4
AMGA	Amorgos Island	1.24	263		P	Pg	20 28 40.5	-0.1
AMGA					S	Sn	20 28 57.1	+0.2
AMGA	Amorgos Island	1.24	263		P	Pn	20 28 39.7	-0.4
TAVA	DENIZLI_Tavas	1.28	68	*i*	P	Pg	20 28 43.5	+2.1
TAVA				*i*	S	Sn	20 28 58.9	+0.8
FETY	Fethiye	1.38	105		P	Pn	20 28 42.7	+0.6
FETY					S	Sb	20 29 00.5	+0.1
FETY	Fethiye	1.38	105		PN	Pg	20 28 44.6	+1.3
FETY					SN	Sg	20 29 04.4	+3.1
FETY	Fethiye	1.38	105	*i*	P	Pg	20 28 44.4	+1.0
FETY				*i*	S	Sb	20 29 00.3	-0.1
BLCB	Balcova	1.42	348		PN	Pg	20 28 44.5	+0.5
BLCB					SN	Sg	20 29 04.6	+2.2
URLA	Izmir	1.51	334		PN	Pg	20 28 45.5	-0.3
URLA	Izmir	1.51	334	*i*	P	Pb	20 28 45.1	+0.2
URLA				*i*	S	Sn	20 29 02.6	-1.0
APE	Apeiranthos	1.52	273		P	Pn	20 28 43.9	-0.1
APE	Apeiranthos	1.52	273		P	Pn	20 28 43.9	-0.1
APE	Apeiranthos	1.52	273	PN		Pb	20 28 44.6	-0.4
CHOS	Chios island	1.76	322		P	Pn	20 28 47.2	-0.2
CHOS	Chios island	1.76	322	PN		Pb	20 28 48.8	-0.4
AKAS	Kas	1.92	113	PN		Pb	20 28 52.0	+0.1

*IDC **14** 20:37:45.8±3.4,56˚.02S×27˚.50W,h146km±29km,mb4.0/9, mb1 4.0/10,mb1mx3.8/25,mbtmp4.4/10,Error ellipse: s-maj=27.0km s-min=14.7km az=81.0*
*NEIC **14** 20:37:47.2±0.8,56˚.04S±0˚.10×27˚.6W±0˚.2,h158km±6km, mb4.2/12,Error ellipse: s-maj=18.0km s-min=13.4km az=114.0*

ISC 14 20:37:42.0±0.5, 56˚.01S±0˚.09×27˚.6W±0˚.2, h112km, n36, σ0°93/40, mb4.2/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.92	158		P	P	20 41 32.4	+0.8
VNA3	Neumayer Olymp	17.11	160		P	Pn	20 41 34.0	+0.2
VNA2	Neumayer--Watz	17.32	158		P	P	20 41 36.2	+0.2
	baz=313,slow=14							
SNAA	Sanae	18.87	156		P	P	20 41 53.5	+0.3
SNAA	Sanae	18.87	156		P	P	20 41 53.4	+0.3
	4.9nm,0.3s,baz=312,slow=9.3,SNR=434							
SNAA					PcP	PcP	20 46 14.1	-0.2
	0.1nm,0.3s,baz=190,slow=21,SNR=1.1							
SNAA	Sanae	18.87	156		P	P	20 41 53.4	+0.3
SNAA					IAmb	IAmb	20 41 56.9	
	comp=Z,14nm,0.7s							
SNAA					PcP	PcP	20 46 14.3	0.0
TRQA	Tornquist	29.10	294		P	P	20 43 32.2	+0.3
QSPA	South Pole Qui	34.24	180		P	P	20 44 17.4	+0.6
	comp=Z,5.3nm,0.6s,baz=182,slow=1.2,SNR=59							
QSPA					PcP	PcP	20 46 49.6	-0.8
	comp=Z,1.1nm,0.6s,baz=40,slow=2.6,SNR=3.0							
QSPA					ScP	ScP	20 50 20.5	-4.3
	comp=Z,0.8nm,0.7s,baz=353,slow=17,SNR=2.2							
QSPA	South Pole Qui	34.24	180		P	P	20 44 17.4	+0.6
QSPA					IAmb	IAmb	20 44 18.6	
	comp=Z,4.7nm,0.5s							
QSPA					PcP	PcP	20 46 50.0	-0.4
MAW	Mawson	40.31	144		P	P	20 45 07.8	+0.1
	comp=Z,2.9nm,0.6s,baz=223,slow=6.8,SNR=9.8							
MAW	Mawson	40.31	144		P	P	20 45 08.3	+0.6
VNDA	Vanda	46.60	183		P	P	20 45 58.4	+0.4
	comp=Z,3.2nm,0.6s,baz=183,slow=6.5,SNR=39							
VNDA	Vanda	46.60	183		P	P	20 45 58.8	+0.8
VNDA					IAmb	IAmb	20 46 00.1	
	comp=Z,3.3nm,0.6s							
ASCN	Ascension	49.08	17		P	P	20 46 18.6	+0.8
LPAZ	La Paz	50.17	306		P	P	20 46 27.4	+0.6
	comp=Z,0.8nm,0.4s,baz=196,slow=17,SNR=4.0							
LPAZ	La Paz	50.17	306		P	P	20 46 27.4	+0.6
LPAZ					IAmb	IAmb	20 46 36.8	
	comp=Z,1.2nm,0.7s							
PTGA	Pitinga	61.00	322		P	P	20 47 43.4	-0.1
PTGA					IAmb	IAmb	20 47 43.5	
	comp=Z,3.0nm,0.5s							
DBIC	Dimbokro	65.22	25		P	P	20 48 11.4	+0.1
	comp=Z,0.9nm,0.6s,baz=196,slow=7.4,SNR=1.1							
DBIC	Dimbokro	65.22	25		P	P	20 48 11.6	+0.3
ROSC	El Rosal	71.68	310		P	P	20 48 52.2	+0.2
	comp=Z,7.2nm,0.3s,baz=114,slow=19,SNR=1.8							
TOA0	Torodi Ar. Sit	73.13	30		P	P	20 49 00.8	+0.8
TOA0					IAmb	IAmb	20 49 01.5	
	comp=Z,3.8nm,0.9s							
TORD	Torodi Ar. Bea	73.13	30		P	P	20 49 00.1	+0.1
	comp=Z,1.7nm,0.5s,baz=200,slow=6.1,SNR=25							
TORD

WBSI				S	Sn	21 09 30.8	-0.7
WBSI	**Waikabubak, Su**	**1.13**	**185**	P	Pn	21 09 10.9	+0.7
WSI	**Waingapu**	**1.40**	**146**	S	Sn	21 09 34.9	-0.8
WSI	**Waingapu**	**1.40**	**146**	P	Pn	21 09 13.8	+1.2
WSI				S	Sn	21 09 34.9	-0.8
WSI	**Waingapu**	**1.40**	**146**	P	Pn	21 09 13.5	+0.9
PLAI	**Plampang**	**1.73**	**259**	S	Sn	21 09 42.2	+0.7
PLAI	**Plampang**	**1.73**	**259**	P	Pn	21 09 17.5	+1.6
PLAI				S	Sn	21 09 42.2	+0.7
PLAI	**Plampang**	**1.73**	**259**	P	Pn	21 09 17.4	+1.6
BASI	**Baing, Sumba**	**2.01**	**148**	S	Sn	21 09 46.5	-0.6
BASI	**Baing, Sumba**	**2.01**	**148**	P	Pn	21 09 20.1	+1.1
BASI				S	Sn	21 09 46.5	-0.6
BASI	**Baing, Sumba**	**2.01**	**148**	P	Pn	21 09 20.1	+1.1
EDFI	**Ende, Flores**	**2.19**	**97**	P	Pn	21 09 21.7	+0.6
EDFI	**Ende, Flores**	**2.19**	**97**	P	Pn	21 09 21.9	+0.8
TWSI	**Taliwang, Sumb**	**2.59**	**265**	P	Pn	21 09 27.1	+1.4
TWSI	**Taliwang, Sumb**	**2.59**	**265**	P	Pn	21 09 27.1	+1.4
MMRI	**Maumere**	**2.72**	**93**	S	Sn	21 10 01.4	-0.4
MMRI	**Maumere**	**2.72**	**93**	P	Pn	21 09 28.7	+1.4
MMRI				S	Sn	21 10 01.4	-0.4
MMRI	**Maumere**	**2.72**	**93**	P	Pn	21 09 28.6	+1.3
KAPI	**Kappang**	**3.48**	**4**	P	Pn	21 09 35.9	-0.8
	0.4nm,0.3s,baz=204,slow=11,SNR=1.9						
KAPI				S	Sn	21 10 18.4	-0.5
	1.9nm,0.3s,baz=90,slow=22,SNR=2.1						
BATI	**Baumata**	**4.45**	**113**	P	Pn	21 09 50.6	+1.4
	5.7nm,0.3s,baz=283,slow=4.7,SNR=6.7						
BATI				S	Sn	21 10 39.7	-1.5
	12nm,0.3s,baz=169,slow=21,SNR=12						
BATI	**Baumata**	**4.45**	**113**	P	Pn	21 09 51.5	+2.3
BATI	**Baumata**	**4.45**	**113**	P	Pn	21 09 51.3	+2.1
SOEI	**Soe**	**4.88**	**105**	P	Pn	21 09 55.5	+0.6
SOEI	**Soe**	**4.88**	**105**	P	Pn	21 09 55.5	+0.6
JAGI	**Jajag, Banyuwa**	**5.28**	**270**	S	Sn	21 10 56.6	-4.2
JAGI	**Jajag, Banyuwa**	**5.28**	**270**	P	Pn	21 10 02.0	+1.9
	0.3nm60nm,1.2s						
JAGI				S	Sn	21 10 56.6	-4.2
	0.3nm60nm,1.2s						
JAGI	**Jajag, Banyuwa**	**5.28**	**270**	P	Pn	21 10 02.0	+1.9
FITZ	**Fitzroy Crossi**	**11.25**	**149**	P	Pn	21 11 19.9	+1.1
	0.1nm,0.3s,baz=327,slow=10,SNR=11						
FITZ				S	Sn	21 13 15.9	-7.8
	0.2nm,0.3s,baz=284,slow=22,SNR=2.1						
WRA	**Warramunga Arr**	**18.32**	**130**	P	P	21 12 44.9	+0.5
	0.3nm,0.3s,baz=301,slow=12,SNR=20						
WRA				S	S	21 16 05.8	+0.5
	0.1nm,0.3s,baz=295,slow=26,SNR=5.1						
ASAR	**Alice Springs**	**20.44**	**139**	P	P	21 13 08.4	+1.2
	1.4nm,0.3s,baz=312,slow=8.8,SNR=20						
ASAR				ScP	ScP	21 20 32.8	-0.8
	0.1nm,0.3s,baz=336,slow=2.0,SNR=4.2						
STKA	**Stephens Creek**	**31.03**	**142**	P	P	21 14 46.7	+1.9
	1.1nm,0.4s,baz=325,slow=8.3,SNR=4.5						
MKAR	**Makanchi Array**	**64.24**	**333**	P	P	21 18 59.8	-0.1
	0.2nm,0.6s,baz=149,slow=7.3,SNR=1.7						

DJA 14 21:09:52.2±1.9, 8°S±22°×10°8E±°, h10km, M2.8/3, MLv2.8/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.26**	**80**	P	Pb	21 09 58.4	-0.6
CISI				S	Sb	21 10 02.8	-0.7
CISI	**Cisompet, Garu**	**0.26**	**80**	P	Pb	21 09 58.4	-0.6
CNJI	**Cibinong**	**0.52**	**304**	P	Pg	21 10 02.7	+0.4
CNJI				S	Sb	21 10 10.3	-0.6
CNJI	**Cibinong**	**0.52**	**304**	P	Pb	21 10 03.1	-0.3
CBJI	**Citeko**	**1.37**	**329**	P	Pn	21 10 14.6	-2.8

TAP 14 21:24:32.7,24°.15N×122°.53E,h39km,ML2.9,D
JMA 14 21:24:32.4±0.1,24°.11N×122°.52E,h33km±2km,M2.4
ISC 14 21:24:29.9±1.1, 24°.07N±0°.02×122°.53E±0°.02, h9km±10km, n66, σ0°70/117, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.54**	**45**	P	Pn	21 24 42.8	-1.0
JYNG				S	Sb	21 24 50.5	+1.2
YOJ	**Yonaguni jima**	**0.59**	**49**	P	Pn	21 24 43.7	-0.8
YOJ				S	Sb	21 24 51.8	+1.0
ENAH	**Nanao**	**0.76**	**300**	P	Pn	21 24 46.4	-0.3
	baz=294						
ENAH				S	Sb	21 24 57.3	+1.7
	baz=294						
TWC	**Suao**	**0.82**	**311**	*i* P	Pn	21 24 47.2	-0.5
	baz=307						
TWC				*i* S	Sb	21 24 57.3	-0.1
	baz=307						
NACB	**Ninganchiao**	**0.86**	**277**	P	Pn	21 24 48.3	+0.1
	baz=259						
NACB				S	Sb	21 25 00.0	+1.4
	baz=259						
EGS		**0.94**	**325**	*i* P	Pn	21 24 49.5	+0.2
	baz=322						
EGS				*i* S	Sb	21 25 01.7	+0.7
	baz=322						
ETLH	**Xiulin Townshi**	**0.97**	**278**	*e*P	Pb	21 24 48.9	0.0
	baz=273						
ETLH				*e*S	Sn	21 25 04.3	+0.6
	baz=273						
NTC	**Toucheng**	**1.00**	**321**	P	Pn	21 24 50.1	-0.1
	baz=318						
NTC				S	Sb	21 25 03.9	+1.1
	baz=318						
TWE	**Neicheng**	**1.02**	**310**	*i* P	Pn	21 24 50.8	+0.4
	baz=306						
TWE				*i* S	Sn	21 25 05.0	+0.2
	baz=306						
ESL	**Shilin**	**1.03**	**256**	*e*P	Pn	21 24 50.7	0.0
	baz=243						
ESL				S	Sb	21 25 04.3	+0.6
	baz=243						
ENTT	**Nioudou**	**1.04**	**303**	P	Pn	21 24 51.2	+0.4
	baz=299						
ENTT				S	Sb	21 25 05.0	+1.0
	baz=299						
TWB1	**Santiao Chiao**	**1.05**	**332**	P	Pg	21 24 50.0	-0.2
	baz=330						
NDT	**Datong Townshi**	**1.07**	**300**	*e*P	Pn	21 24 51.6	+0.6
	baz=285						
NDT				S	Sb	21 25 05.6	+1.0
	baz=285						
TIPB	**Shuangxi**	**1.10**	**325**	*i* P	Pg	21 24 51.0	0.0
	baz=334						
TIPB				S	Sg	21 25 05.4	0.0
	baz=334						
NNSB	**Datong**	**1.10**	**289**	*e*P	Pn	21 24 51.9	+0.2
	baz=285						
NNSB				*e*S	Sb	21 25 05.8	0.0
	baz=285						
NNSH	**Datong**	**1.10**	**289**	*e*P	Pn	21 24 51.6	-0.1
	baz=285						
NNSH				*e*S	Sb	21 25 05.8	0.0
	baz=285						
NNS	**Nan Shan**	**1.12**	**289**	*e*P	Pn	21 24 54.0	+2.1
	baz=285						
NNS				*e*S	Sb	21 25 07.1	+0.9
	baz=285						
IRIF	**Iriomote-Funau**	**1.13**	**76**	P	Pn	21 24 52.3	+0.4
IRIF				*e*S	Sb	21 25 07.0	+0.6
WHF	**Hehuan Shan**	**1.16**	**274**	*e*P	Pb	21 24 52.4	0.0
	baz=258						
WHF				*e*S	Sn	21 25 08.7	-0.2
	baz=258						
HGSD	**Ruisui**	**1.17**	**240**	P	Pn	21 24 52.8	+0.4
	baz=237						
HGSD				S	Sb	21 25 07.2	-0.2
	baz=237						
HATJ	**Hateruma jima**	**1.17**	**91**	P	Pn	21 24 53.5	+1.1
NWLT	**Wulai**	**1.17**	**307**	*e*P	Pn	21 24 52.7	+0.2
	baz=315						
NWLT				*e*S	Sb	21 25 08.1	+0.5
	baz=315						
FUSS	**Fushou**	**1.19**	**279**	P	Pn	21 24 53.3	+0.3
	baz=264						
FUSS				S	Sb	21 25 08.9	+0.6
	baz=264						
YHNB	**Yeheng**	**1.21**	**300**	P	Pn	21 24 53.4	+0.3
	baz=296						
YHNB				S	Sg	21 25 08.7	-0.1
	baz=296						
NSK	**Sanguang**	**1.23**	**300**	P	Pn	21 24 53.9	+0.6
	baz=296						
NSK				S	Sg	21 25 08.6	-0.8
	baz=296						
CHGB	**Renai**	**1.24**	**270**	P	Pn	21 24 53.8	+0.1
	baz=266						
CHGB				S	Sb	21 25 10.0	+0.2
	baz=266						
EHY	**Hungye**	**1.24**	**243**	P	Pn	21 24 54.4	+0.9
	baz=252						
EHY				S	Sn	21 25 11.2	+0.8
	baz=252						
TWA	**Mucha**	**1.25**	**317**	*e*S	Sg	21 25 10.0	-0.1
	baz=329						
TDCB	**Techi**	**1.27**	**278**	P	Pn	21 24 54.4	+0.4
	baz=263						
TDCB				S	Sg	21 25 09.8	-0.8
	baz=263						
VWDT	**VWDT**	**1.31**	**256**	*e*P	Pg	21 24 56.1	+1.1
	baz=253						
VWDT				*e*S	Sb	21 25 11.6	0.0
	baz=253						
YULB	**Yu-li**	**1.32**	**239**	*e*P	Pb	21 24 54.6	-0.2
	baz=250						
YULB				*e*S	Sb	21 25 11.0	-0.8
	baz=250						
TWF1	**Yuli**	**1.34**	**238**	P	Pg	21 24 56.2	+0.7
	baz=225						
TWF1				S	Sg	21 25 12.6	-0.4
	baz=225						
JKRS	**Kuro-shima**	**1.36**	**83**	P	Pg	21 24 56.5	+0.4
JKRS				*e*S	Sn	21 25 13.8	+0.5
YM01	**YM01**	**1.38**	**321**	*e*P	Pn	21 24 55.2	-0.2
	baz=319						
YM01				*e*S	Sb	21 25 11.8	-2.0
	baz=319						
YM11	**YM11**	**1.39**	**322**	*e*P	Pn	21 24 55.7	0.0
	baz=319						
YM05	**YM05**	**1.40**	**321**	*e*P	Pn	21 24 55.9	+0.2
	baz=319						
YM04	**YM04**	**1.41**	**320**	*e*P	Pn	21 24 55.0	-0.8
	baz=318						
YM04				*e*S	Sb	21 25 13.1	-1.4
	baz=318						
YM03	**YM03**	**1.42**	**321**	*e*P	Pn	21 24 55.2	-0.9
	baz=319						
FULB	**Fuli**	**1.43**	**233**	*e*P	Pb	21 24 56.4	-0.4
	baz=230						
FULB				*e*S	Sn	21 25 15.1	0.0
	baz=230						
WHP	**Taichung City**	**1.46**	**278**	P	Pg	21 24 59.0	+1.0
	baz=265						
WHP				S	Sn	21 25 15.7	-0.2
	baz=265						
SSLB	**Suanglung**	**1.47**	**259**	*e*P	Pb	21 24 57.2	-0.2
	baz=256						
SSLB				*e*S	Sn	21 25 15.4	-0.6
	baz=256						
LIOB	**Emei**	**1.49**	**293**	*e*P	Pg	21 24 58.4	-0.2
	baz=290						
LIOB				*e*S	Sn	21 25 17.1	+0.4
	baz=290						
NSTT	**Nanjuang**	**1.50**	**292**	P	Pb	21 24 58.3	+0.3
	baz=289						
NSTT				*i* S	Sn	21 25 16.9	+0.2
	baz=289						
JIJ	**Ishigaki jima**	**1.50**	**79**	P	Pn	21 24 57.5	+0.4
JIJ				S	Sn	21 25 15.4	-1.4
SMLT	**Sun Moon Lake**	**1.50**	**263**	*e*P	Pg	21 24 58.7	0.0
	baz=260						
SMLT				*e*S	Sn	21 25 16.8	-0.1
	baz=260						
EDH	**Donghe**	**1.57**	**226**	*e*P	Pb	21 24 58.9	-0.3
	baz=216						
EDH				*e*S	Sn	21 25 18.2	-0.2
	baz=216						
WHYT	**Xinyi Township**	**1.58**	**257**	*e*P	Pb	21 24 59.0	-0.4
	baz=246						
WJS	**Zhushan**	**1.67**	**262**	S	Sg	21 25 24.9	+1.4
	baz=259						
ALS	**Alishan**	**1.68**	**251**	*e*P	Pb	21 25 01.1	0.0
	baz=248						
ALS				*e*S	Sg	21 25 23.5	-0.4
	baz=248						
WNT	**Mingjian**	**1.70**	**264**	*e*P	Pg	21 25 01.8	-0.7
	baz=261						
WNT				*e*S	Sg	21 25 24.1	-0.5
	baz=261						
LDUT	**Ludao**	**1.70**	**215**	*e*P	Pn	21 24 59.4	-0.3
	baz=213						
LDUT				*e*S	Sn	21 25 19.4	-2.2
	baz=213						
JISG	**Ishigakijimahi**	**1.70**	**72**	P	Pn	21 24 59.8	0.0
JISG				S	Sn	21 25 20.5	-1.3
CHN5	**Tsauling**	**1.76**	**255**	P	Pg	21 25 03.0	-0.7
	baz=252						
CHN5				*i* S	Sb	21 25 25.2	+0.5
	baz=252						
WGK	**Gukeng**	**1.84**	**258**	*e*S	Sb	21 25 26.8	-0.2
	baz=255						
STYT	**Tauyuan**	**1.86**	**241**	*e*P	Pb	21 25 03.1	-1.0
	baz=230						
STYT				*e*S	Sn	21 25 26.1	+0.3
	baz=230						
WDLH	**Douliu**	**1.86**	**259**	*e*S	Sg	21 25 28.5	-1.2
	baz=256						
TPUB	**Ta-pu**	**1.90**	**247**	*e*P	Pg	21 25 06.3	-0.1
	baz=244						
TPUB				*e*S	Sb	21 25 28.7	-0.1
	baz=244						
WTP	**Ta-pu**	**1.94**	**245**	P	Pg	21 25 07.2	+0.1
	baz=242						
WTP				S	Sb	21 25 30.3	+0.5
	baz=242						
WTK	**Tuku**	**2.00**	**259**	*e*S	Sb	21 25 31.5	+0.1
	baz=257						
SLGT	**Liugui**	**2.04**	**238**	*e*P	Pb	21 25 07.1	0.0
	baz=227						
TWK	**Hsinying**	**2.04**	**247**	P	Pb	21 25 07.4	+0.2
	baz=244						
TWK				S	Sb	21 25 32.8	+0.2
	baz=244						
CHN1	**Nanshi**	**2.04**	**245**	P	Pb	21 25 07.4	+0.2
	baz=242						
CHN1				S	Sb	21 25 32.8	+0.2
	baz=242						
SGST	**Jiashian**	**2.04**	**241**	*e*S	Sb	21 25 32.9	+0.2
	baz=239						
SNST	**Tainan City**	**2.05**	**246**	*e*S	Sb	21 25 33.3	+0.4
	baz=243						
JTJ	**Tarama**	**2.06**	**74**	P	Pn	21 25 05.8	+1.1
JTJ				*e*S	Sn	21 25 29.9	-0.7
WSF	**Szhu**	**2.16**	**259**	*e*S	Sb	21 25 35.9	-0.1
	baz=256						

MOS 14 22:09:16.2±0.9,51°.98N×178°.53E,h118km,mb4.7/27, Error ellipse: s-maj=7.4km s-min=6.6km az=68.2
BJI 14 22:09:17.3±0.0,52°.25N×177°.97E,h110km,mB4.9/29, mb4.7/42
NEIC 14 22:09:17.4±1.5,51°.93N±0°.08×178°.50E±0°.08, h117km±4km,mb4.9/409,ML4.5(AEIC),Error ellipse: s-maj=11.2km s-min=6.8km az=189.0
AEIC 14 22:09:18.0±2.0,51°.84N±0°.07×178°.38E±0°.07, h112km±3km,Error ellipse: s-maj=10.8km s-min=6.5km az=186.0
IDC 14 22:09:18.3±0.5,52°.03N×178°.50E,h122km±4km,mb4.3/35, mb1 4.4/39,mb1mx4.3/55,mbtmp4.7/39,MS3.3/23, Ms1 3.3/23,ms1mx3.2/46,Error ellipse: s-maj=12.1km s-min=7.0km az=161.0
GCMT 14 22:09:19.4±0.4,51°.86N±0°.03×178°.42E±0°.03, h113km±3km,MW5.0/87,Moment Tensor Solution. s28,c34; s87,c121; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.01±.11; Mθθ-2.56±.15; Mϕϕ2.57±.13; Mrθ1.16±.08; Mθϕ1.66±.12; Mϕr-1.00±.07; Best double couple: M♋3.39900×10^16 NP1:ϕ♋240.00000°,δ66.00000°, λ-7.00000°. NP2:ϕ♋332.00000°,δ84.00000°, λ-156.00000°. Principal axes: T 3.1970, Plg12.0000°, Azm104.0000°; N 0.4060, Plg65.0000°, Azm346.0000°; P -3.6010, Plg22.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 14 22:09:17.6±0.4, 51°.94N±0°.06×178°.47E±0°.03, h117km±3km, h118km; pP-P, n815, σ1♋02/743, mb4.9/252, 21C-11D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.03**	**69**		Pn	22 09 33.1	-0.6
LSNW	**Little Sitkin**	**0.04**	**41**		Pn	22 09 32.9	-0.7
LSPA	**Little Sitkin**	**0.06**	**75**		Pn	22 09 33.1	-0.6
CETU	**Semis' Tuman**	**0.63**	**87**		Pn	22 09 36.3	+0.1
CESW	**Semis' Southwe**	**0.68**	**93**		Pn	22 09 35.9	-0.6
CERAA	**Semis' Rag'd T**	**0.75**	**92**		Pn	22 09 36.7	-0.3
AMKA	**Amchitka**	**0.76**	**137**		Pn	22 09 36.5	-0.6
AMKA					Sn	22 09 50.6	-1.2
KIWB	**Kanaga Island**	**2.71**	**90**		Pn	22 09 59.9	-0.1
SMY	**Shemya**	**2.80**	**288**		Pn	22 09 59.9	-1.2
SMY					Sn	22 10 33.5	-1.1
ADK	**Adak**	**3.00**	**89**	P	Pn	22 10 02.8	-0.9
ADK	**Adak**	**3.00**	**89**	Pn	Pn	22 10 02.8	-0.9
ATKA	**Atka Island**	**4.53**	**84**		Pn	22 10 23.6	-0.4
ATKA					Sn	22 11 14.8	-1.0
KOFP	**Korovin Flat P**	**4.59**	**83**		Pn	22 10 25.1	+0.2
KOSE	**Korovin Southe**	**4.62**	**82**		Pn	22 10 25.6	+0.2
NIKH	**Nikolski High**	**7.81**	**77**		Pn	22 11 08.5	+0.1
OKCE	**Okmok Cone E**	**8.26**	**74**		Pn	22 11 15.6	+1.2
OKNC	**Okmok New Cone**	**8.28**	**74**		Pn	22 11 16.5	+1.7
SPIA	**Saint Paul Isl**	**8.39**	**47**	Pn	Pn	22 11 17.8	+1.6
MAPS	**Pakushin South**	**9.02**	**72**		Pn	22 11 25.8	+1.1
MSW	**Makushin Switc**	**9.12**	**72**		Pn	22 11 27.7	+1.5
MNAT	**Makushin Natee**	**9.18**	**72**		Pn	22 11 28.2	+1.3
UNV	**Unalaska Valle**	**9.28**	**72**	Pn	Pn	22 11 28.1	-0.1
AKRB	**Akutan Reef Bi**	**9.57**	**71**		Pn	22 11 33.6	+1.4
AKMO	**Akutan Morgan**	**9.60**	**71**		Pn	22 11 34.1	+1.6
AKGG	**Akutan Green G**	**9.62**	**70**		Pn	22 11 34.5	+1.6
AKUT	**Akutan**	**9.74**	**71**	Pn	Pn	22 11 36.1	+1.6
FALS	**False Pass**	**11.20**	**68**	Pn	Pn	22 11 54.9	+0.9
PET	**Petropavlovsk**	**12.13**	**283**	‖ *e*P	Pn	22 12 05.7	-0.7
PET				pmax	pmax		
	comp=Z,426nm,1.7s						
PET	**Petropavlovsk**	**12.13**	**283**		Pn	22 12 06.0	-0.4
PEA0B	**Petropavlovsk-**	**12.70**	**283**	*ce*P	Pn	22 12 13.8	0.0
PEA0B	**Petropavlovsk-**	**12.70**	**283**	Pn	Pn	22 12 13.9	0.0
PETK	**Petropavlovsk-**	**12.70**	**283**	P	Pn	22 12 13.9	0.0
	comp=Z,2.5nm,0.3s,baz=93,slow=17,SNR=147						
PETK				S	Sn	22 14 26.2	-7.3
	baz=87,slow=35,SNR=3.5						
PETK				LR	LR	22 16 44.9	
	comp=Z,75nm,21.5s,baz=69,slow=35						
PETK				ScP	ScP	22 21 02.0	-0.6
	baz=46,slow=1.8,SNR=5.1						
PETK	**Petropavlovsk-**	**12.70**	**283**		Pn	22 12 13.7	-0.2
PETK	**Petropavlovsk-**	**12.70**	**283**		ScP	22 21 03.5	+0.9
SDPT	**Sand Point**	**12.93**	**66**	Pn	Pn	22 12 15.6	-1.2
GAMB	**Gambell**	**12.95**	**20**	Pn	Pn	22 12 16.1	-0.7
CNBA	**Chernabura Isl**	**13.40**	**69**		Pn	22 12 20.3	-2.6
SKR	**Severo-Kuril's**	**14.03**	**274**	*e*P	Pn	22 12 29.8	-1.3
SKR				*e*S	Sn	22 14 54.6	-11
SKR				pmax	pmax		
	comp=Z,106nm,1.2s						
SKR				pmax	pmax		
	comp=Z,100nm,4.3s						
SKR				MLR	MLR		
	comp=Z,100nm,12.0s						
SKR				MLR	MLR		
	comp=N,100nm,11.0s						
SKR				MLR	MLR		
	comp=E,100nm,17.0s						
CHIR	**Chirikof Islan**	**15.72**	**65**	IAmb	IAmb	22 12 52.6	
	comp=Z,82nm,0.7s						
SII	**Sitkinak Islan**	**16.57**	**63**	IAmb	IAmb	22 13 04.3	
	comp=Z,67nm,0.8s						
SVW2	**Sparrevohn**	**16.89**	**47**	P	P	22 13 06.9	+0.2
SVW2				IAmb	IAmb	22 13 15.4	
	comp=Z,26nm,0.6s						
OHAK	**Old Harbor**	**17.13**	**61**	IAmb	IAmb	22 13 09.6	
	comp=Z,36nm,0.5s						
BILL	**Bilibino**	**17.20**	**344**	*ce*P	Pn	22 13 12.7	+2.4
BILL				pmax	pmax		
	comp=Z,15nm,0.8s						
MA2	**Magadan**	**17.26**	**307**	P	P	22 13 10.1	-0.7
	comp=Z,0.8nm,0.3s,baz=122,slow=9.1,SNR=7.0						
MA2	**Magadan**	**17.26**	**307**	P	P	22 13 10.1	-0.7
MA2				pmax	pmax		
	comp=Z,20nm,0.8s						
MA2	**Magadan**	**17.26**	**307**	IAmb	IAmb	22 13 12.7	
	comp=Z,20nm,0.8s						
TTA	**Tatalina**	**17.46**	**41**	P	Pn	22 13 13.6	+0.1
TTA				pmax	pmax		
	comp=Z,35nm,0.8s						
TTA	**Tatalina**	**17.46**	**41**	P	Pn	22 13 13.6	+0.1
KDAK	**Kodiak Island**	**17.57**	**59**	P	P	22 13 12.2	-1.9
	comp=Z,17nm,0.3s,baz=233,slow=2.1,SNR=83						
KDAK				S	Sn	22 16 19.3	-11
	comp=Z,0.3nm,0.3s,baz=288,slow=20,SNR=1.6						
KDAK				ScP	ScP	22 21 10.7	-0.6
	comp=Z,0.1nm,0.3s,baz=13,slow=4.7,SNR=3.8						
KDAK	**Kodiak Island**	**17.57**	**59**	P	P	22 13 12.4	-1.7
KDAK				S	Sn	22 16 19.3	-11
KDAK				pmax	pmax		
	comp=Z,70nm,0.4s						
KDAK	**Kodiak Island**	**17.57**	**59**	P	P	22 13 12.4	-1.7
SEY	**Seymchan**	**17.70**	**319**	P	P	22 13 15.2	-0.3
	comp=Z,0.2nm,0.3s,baz=114,slow=15,SNR=5.9						
SEY	**Seymchan**	**17.70**	**319**	‖ *i* P	Pn	22 13 16.7	+0.4
RSO	**Redoubt South**	**18.00**	**50**	P	Pn	22 13 19.7	-0.5
RDOG	**Red Dog Mine**	**18.51**	**22**	P	Pn	22 13 25.2	-0.8
SKT	**Skwentna**	**19.01**	**46**		Pn	22 13 31.1	-0.8
O22K	**Cooper Landing**	**19.47**	**52**	P	P	22 13 35.0	+0.2
	baz=258,SNR=14						
CUT	**Chulitna**	**19.71**	**46**	P	P	22 13 37.9	+0.5
	baz=252						
IMAR	**Indian Mountai**	**19.82**	**34**	P	P	22 13 39.3	+0.6
BPAW	**Bear Paw Mtn.**	**20.00**	**41**	P	P	22 13 40.7	+0.1
BPAW				IAmb	IAmb	22 13 45.6	
	comp=Z,46nm,1.0s						
PMR	**Palmer**	**20.00**	**49**	P	P	22 13 39.5	-1.1
PMR				pmax	pmax		
	comp=Z,28nm,0.7s						
PMR	**Palmer**	**20.00**	**49**	P	P	22 13 39.5	-1.1
PMR				IAmb	IAmb	22 13 44.7	
	comp=Z,28nm,0.7s						
TRF	**Thorofare Moun**	**20.04**	**43**	P	P	22 13 41.5	+0.2
TRF				IAmb	IAmb	22 13 48.8	
	comp=Z,71nm,0.8s						
GHO	**Glory Hole Cre**	**20.14**	**48**	P	P	22 13 43.0	+0.8
KNK	**Knik Glacier**	**20.27**	**49**	IAmb	IAmb	22 13 47.4	
	comp=Z,71nm,0.8s						
MLY	**Manley**	**20.47**	**38**	P	P	22 13 44.1	-1.6
RND	**Reindeer**	**20.64**	**44**	P	P	22 13 47.7	+0.2
RND				pmax	pmax		
	comp=Z,24nm,0.6s						
RND	**Reindeer**	**20.64**	**44**	P	P	22 13 47.6	+0.2
RND				IAmb	IAmb	22 13 51.0	
	comp=Z,24nm,0.6s						
BWN	**Browne**	**20.64**	**41**	P	P	22 13 48.1	+0.6
MCK	**McKinley**	**20.71**	**43**	P	P	22 13 47.9	-0.3
MCK				pmax	pmax		
	comp=Z,42nm,1.0s						
MCK	**McKinley**	**20.71**	**43**	P	P	22 13 47.9	-0.3
MCK				IAmb	IAmb	22 13 51.5	
	comp=Z,42nm,1.0s						
GLI	**Glacier Island**	**20.81**	**51**	P	P	22 13 49.3	-0.1
SCM	**Sheep Creek Mo**	**20.89**	**48**	P	P	22 13 49

baz=251,SNR=17
POKR Poker Plat Res 21.80 40 P P 22 14 00.2 +0.4
baz=249,SNR=11
ILAR Eielson Array 21.90 41 P P 22 13 59.4 -1.5
comp=Z,6.4nm,0.6s,baz=247,slow=10,SNR=25
ILAR ScP ScP 22 21 19.1 -2.2
comp=Z,2.5nm,0.7s,baz=276,slow=3.1,SNR=11
ILAR LR LR 22 24 27.6
comp=Z,77nm,18.1s,baz=262,slow=42
ILAR Eielson Array 21.90 41 P P 22 14 01.1 +0.2
RAGM Ragged Mountai 21.93 53 P P 22 14 02.2 +1.0
PAX Paxson 21.99 46 IAmb IAmb 22 14 03.7
comp=Z,38nm,0.8s
KAIM Kayak Island 22.01 54 P P 22 14 01.4 -0.7
HMT Hamilton 22.12 53 P P 22 14 02.9 -0.4
SUCK Suckling Hills 22.34 54 P P 22 14 05.5 -0.1
A21K Barrow 22.43 21 P P 22 14 06.9 +0.7
baz=223
RIDG Independent Ri 22.45 44 IAmb IAmb 22 14 09.3
comp=Z,28nm,0.5s
GLB Gilahina Butte 22.47 50 IAmb IAmb 22 14 10.4
comp=Z,77nm,0.9s
TOLK Toolik Lake Re 22.61 30 P P 22 14 08.9 +0.8
baz=238,SNR=14
TOLK Toolik Lake Re 22.61 30 P P 22 14 09.2 +1.1
TOLK IAmb IAmb 22 14 11.2
comp=Z,42nm,0.7s
MENT Mentasta 22.77 46 P P 22 14 11.0 +1.3
MENT IAmb IAmb 22 14 14.4
comp=Z,46nm,0.6s
DOT Dot Lake 22.77 45 IAmb IAmb 22 14 11.6
comp=Z,46nm,0.8s
MCARA McCarthy VSAT 22.84 51 IAmb IAmb 22 14 12.4
comp=Z,79nm,0.8s
ISLE Juniper Island 23.10 53 P P 22 14 12.5 -0.5
ISLE IAmb IAmb 22 14 20.8
comp=Z,56nm,0.8s
BALM Baldy 23.13 52 P P 22 14 12.9 -0.4
BALM IAmb IAmb 22 14 15.6
comp=Z,41nm,0.7s
MESA MESA 23.26 54 P P 22 14 14.5 -0.2
YAH Yahtse 23.37 53 P P 22 14 15.5 -0.2
YSS Yuzh-Sakhalins 23.59 272 eP P 22 14 19.6 +2.1
YSS e 22 14 47.0
YSS e 22 15 00.5
YSS eS S 22 18 25.1 +2.3
YSS eSS SnSn 22 19 09.1 -4.4
YSS pmax pmax
comp=Z,40nm,0.9s
YSS MLR MLR
comp=Z,100nm,16.0s
YSS Yuzh-Sakhalins 23.59 272 P P 22 14 18.8 +1.3
YSS IAmb IAmb 22 14 20.9
comp=Z,32nm,0.9s
CTGM Chitina Glacie 23.62 52 P P 22 14 18.1 +0.4
BCAR Beaver Creek A 23.66 47 P P 22 14 18.4 +0.4
BCPM Bancas Point 24.42 54 P P 22 14 25.5 +0.7
DAWY Dawson 24.88 45 IAmb IAmb 22 14 32.6
comp=Z,50nm,0.8s
JKA Kamikawa-asahi 25.03 266 P P 22 14 31.0 +0.4
ASAJ Asahikawa 25.03 266 P P 22 14 30.9 +0.3
comp=Z,12nm,0.8s,baz=62,slow=9.4,SNR=13
SKAG Skagway 26.61 55 P P 22 14 44.4 -0.3
WHY Whitehorse 26.77 53 P P 22 14 47.3 +1.1
SIT Sitka 26.89 61 P P 22 14 47.2 0.0
SIT pmax pmax
comp=Z,23nm,0.8s
SIT Sitka 26.89 61 P P 22 14 47.2 0.0
SIT IAmb IAmb 22 14 48.5
comp=Z,23nm,0.8s
BESE Bessie Mountai 26.94 57 P P 22 14 47.6 -0.1
JIS Juneau Island 27.22 58 P P 22 14 49.7 -0.4
JIS IAmb IAmb 22 14 52.0
comp=Z,26nm,0.8s
YAK Yakutsk 27.77 310 P P 22 14 53.9 -1.0
comp=Z,6.8nm,0.4s,baz=251,slow=1.1,SNR=1.8
YAK Yakutsk 27.77 310⇓ eP P 22 14 55.5 +0.6
YAK pmax pmax
comp=Z,7.0nm,0.8s
YAK Yakutsk 27.77 310 IAmb IAmb 22 14 55.5
comp=Z,14nm,0.5s
INK Inuvik 27.99 36 P P 22 14 56.0 -0.8
comp=Z,6.5nm,0.5s,baz=263,slow=8.3,SNR=28
INK ScP ScP 22 21 36.4 -2.0
comp=Z,5.5nm,0.8s,baz=212,slow=2.6,SNR=11
INK Inuvik 27.99 36 P P 22 14 57.5 +0.7
INK pmax pmax
comp=Z,8.0nm,0.8s
INK Inuvik 27.99 36 P P 22 14 57.5 +0.7
INK ScP ScP 22 21 38.3 0.0
WRAK Wrangell Islan 28.62 61 P P 22 15 03.0 +0.4
KLR Kul'dur 29.39 283 P P 22 15 09.6 +0.1
comp=Z,14nm,0.5s,baz=63,slow=8.3,SNR=96
KLR Kul'dur 29.39 283 c iP P 22 15 09.6 +0.1
KLR pmax pmax
comp=Z,22nm,0.8s
DLBC Dease Lake 29.47 57 P P 22 15 11.0 +0.8
comp=Z,9.3nm,0.7s,baz=287,slow=9.3,SNR=21
DLBC Dease Lake 29.47 57 P P 22 15 10.4 +0.2
DLBC IAmb IAmb 22 15 12.5
comp=Z,13nm,0.8s
MOBC Moresby Island 29.68 68 P P 22 15 11.4 -0.7
ZEA Zeya 30.45 294 eP P 22 15 18.8 0.0
ZEA pmax pmax
comp=Z,23nm,1.0s
A36M Sachs Harbour 31.43 30 P P 22 15 28.7 +1.5
baz=261,SNR=7.1
C36M Paulatuk 31.52 35 P P 22 15 28.6 +0.6
baz=266,SNR=7.4
C36M Paulatuk 31.52 35 P P 22 15 28.3 +0.3
C36M IAmb IAmb 22 15 29.8
comp=Z,22nm,0.8s
USA0B Ussuriysk Arra 31.55 275 c iP P 22 15 29.0 +0.5
USA0B Ussuriysk Arra 31.55 275 P P 22 15 28.7 +0.2
USRK Ussuriysk Ar. 31.55 275 P P 22 15 28.8 +0.2
comp=Z,5.4nm,0.7s,baz=54,slow=6.8,SNR=10
USRK PcP PcP 22 18 17.9 -0.3
comp=Z,5.1nm,0.7s,baz=256,slow=2.7,SNR=8.3
USRK LR LR 22 29 13.9
comp=Z,44nm,19.4s,baz=62,slow=38
MAJO Matsushiro 32.22 257 deP P 22 15 35.1 +0.6
MAJO pmax pmax
comp=Z,11nm,1.0s
MAJO Matsushiro 32.22 257 P P 22 15 34.4 -0.1
MAT Matsushiro 32.22 257 P P 22 15 35.6 +1.1
MAT eS ScP 22 21 54.4 +1.6
MJAR Matsushiro Arr 32.22 257 P P 22 15 35.0 +0.5
comp=Z,2.1nm,0.8s,baz=46,slow=6.1,SNR=7.0
MJAR PcP PcP 22 18 20.3 +0.1
comp=Z,1.1nm,0.5s,baz=48,slow=1.3,SNR=6.6
MJAR LR LR 22 31 58.6
comp=Z,7.4nm,18.4s,baz=230,slow=42
MJB9 Matsu-Tunnel 32.22 257 P P 22 15 34.3 -0.3
MJB9 IAmb IAmb 22 15 36.6
comp=Z,15nm,1.1s
MDJ Mudanjiang 32.81 277 P P 22 15 39.4 -0.2
MDJ pmax pmax
comp=Z,7.0nm,0.7s
MDJ pmax pmax
comp=Z,100nm,3.5s
H11N2 WAKE ISLAND Hy 33.40 200 T T 22 51 16.6
baz=11,slow=76
H11N3 WAKE ISLAND Hy 33.41 200 T T 22 51 10.1
baz=11,slow=76
H11N1 WAKE ISLAND Hy 33.42 200 T T 22 51 09.6
baz=11,slow=76
H11S1 WAKE ISLAND Hy 34.63 200 T T 22 52 40.8
baz=11,slow=76
H11S2 WAKE ISLAND Hy 34.64 200 T T 22 52 42.1
baz=11,slow=76
H11S3 WAKE ISLAND Hy 34.64 200 T T 22 52 41.9
baz=11,slow=76
CN2 Changchun 35.78 278 eP P 22 16 05.6 +0.4
YKA Yellowknife Ar 36.08 46 P P 22 16 08.0 +0.5
comp=Z,12nm,0.8s,baz=283,slow=8.4,SNR=43
YKA pP pP 22 16 34.0 +1.0
comp=Z,6.3nm,0.8s,baz=286,slow=8.5,SNR=5.3
YKA ScP ScP 22 22 03.8 -2.2
comp=Z,1.5nm,0.9s,baz=303,slow=3.9,SNR=5.6
YKA LR LR 22 30 15.0
comp=Z,102nm,21.2s,baz=0.0,slow=35
YKA Yellowknife Ar 36.08 46⇑ eP P 22 16 08.1 +0.6
YKA pmax pmax
comp=Z,12nm,0.7s
BOD Bodaibo 36.27 305 eP P 22 16 08.4 -0.8
BOD e 22 16 36.5
BOD pmax pmax
comp=Z,7.0nm,1.1s
HIA Hailar 36.50 290⇓ eP P 22 16 11.1 -0.2
HIA pmax pmax
comp=Z,5.0nm,1.1s
NLWA Neilton Lookou 36.75 74 P P 22 16 12.5 -0.9
NLWA IAmb IAmb 22 16 15.8
comp=Z,16nm,1.0s
A04D Lummi Island 36.80 71 P P 22 16 14.2 +0.5
baz=298
JCJ Chichijima 36.81 242 LR LR 22 30 16.0
comp=Z,40nm,19.4s,baz=124,slow=34
D03D Eldon 37.14 73 P P 22 16 17.5 +0.8
baz=299,SNR=22
E03A Lebam 37.35 75 P P 22 16 18.3 -0.1
E03A IAmb IAmb 22 16 20.6
comp=Z,27nm,1.0s
B05A Bryant 37.38 71 P P 22 16 18.9 +0.3
baz=299
F04D Rainier, OR 37.91 75 P P 22 16 23.9 +0.7
baz=301
E04D Cinebar 37.94 74 P P 22 16 24.1 +0.7
baz=300,SNR=6.8
KSRS Korea Array 37.95 268 P P 22 16 24.1 +0.6
comp=Z,2.2nm,0.8s,baz=63,slow=8.7,SNR=8.3
KSRS PcP PcP 22 18 37.9 +1.0
comp=Z,2.5nm,0.7s,baz=48,slow=3.0,SNR=11
KSRS ScP ScP 22 22 13.4 0.0
comp=Z,0.8nm,0.5s,baz=72,slow=4.1,SNR=4.5
D05A Enumclaw 37.96 73 P P 22 16 20.8 -2.8
D05A IAmb IAmb 22 16 26.1
comp=Z,15nm,0.8s
F04A Amboy 38.34 75 P P 22 16 26.6 -0.2
I02D Swisshome 38.45 78 P P 22 16 28.7 +1.0
baz=303
LTY Liberty 38.71 72 IAmb IAmb 22 16 30.1
comp=Z,7.7nm,0.5s
KEBM Edson Butte 38.83 80 P P 22 16 31.1 +0.1
H04D Lebanon 38.90 77 P P 22 16 32.4 +0.9
baz=303
B08A Colville Reser 38.94 70 P P 22 16 31.0 -0.8
B08A IAmb IAmb 22 16 32.6
comp=Z,15nm,1.1s
I03D Drain, OR 38.98 78 P P 22 16 33.3 +1.1
baz=303
H04A Detroit Lake 39.14 76 P P 22 16 33.3 -0.3
H04A IAmb IAmb 22 16 35.0
comp=Z,18nm,0.8s
K02D Willamette Mer 39.34 80 P P 22 16 36.2 +0.9
baz=304,SNR=5.6
I04A Tendick Farm, 39.49 78 P P 22 16 37.0 +0.6
baz=303,SNR=7.7
E07A Sunnyside 39.55 73 P P 22 16 36.7 -0.1
L02E Cave Junction 39.68 81 P P 22 16 39.3 +1.3
baz=305,SNR=5.7
HAWA Hanford 39.82 73 P P 22 16 38.3 -0.8
HAWA IAmb IAmb 22 16 40.1
comp=Z,26nm,1.0s
C09A Chrisman Ranch 39.84 70 IAmb IAmb 22 16 39.7
comp=Z,19nm,1.0s
D08A Wollman Farm, 39.84 71 P P 22 16 38.5 -0.8
I05D Terrebonne, OR 39.84 76 P P 22 16 39.6 +0.2
baz=303
F07A Phinny Hill Vi 39.85 73 P P 22 16 39.7 +0.4
F07A IAmb IAmb 22 16 40.4
comp=Z,28nm,1.2s
KRMB Red Mountain 39.86 82 P P 22 16 40.2 +0.6
KRMB IAmb IAmb 22 16 42.1
comp=Z,11nm,0.6s
J04D Umpqua Nationa 39.98 78 P P 22 16 41.3 +0.5
baz=304
E08A Dider Farm, El 40.05 72 P P 22 16 40.2 -0.8
E08A IAmb IAmb 22 16 41.6
comp=Z,13nm,0.6s
NEW Newport 40.27 69 P P 22 16 42.3 -0.5
baz=300,SNR=19
NEW Newport 40.27 69 P P 22 16 42.4 -0.5
NEW pmax pmax
comp=Z,27nm,1.1s
NEW Newport 40.27 69 P P 22 16 42.4 -0.5
NEW IAmb IAmb 22 16 43.2
comp=Z,27nm,1.1s
KHMM Horse Mountain 40.35 82 P P 22 16 43.6 -0.1
PINE Pine Mountain 40.38 77 P P 22 16 43.4 -0.6
L04D Klamath Falls 40.44 80 P P 22 16 45.4 +1.0
baz=305,SNR=15
YBH Yreka Blue Hor 40.47 81 P P 22 16 45.3 +0.6
YBH pmax pmax
comp=Z,22nm,0.8s
YBH Yreka Blue Hor 40.47 81 P P 22 16 45.2 +0.6
YBH IAmb IAmb 22 16 47.2
comp=Z,22nm,0.8s
J05D Fort Rock, OR 40.48 78 P P 22 16 45.9 +1.1
baz=304,SNR=16
K04D Chiloquin, OR 40.54 79 P P 22 16 46.3 +1.0
baz=305
E09A Wood Farm, Sta 40.58 72 P P 22 16 44.1 -1.2
E09A IAmb IAmb 22 16 46.5
comp=Z,20nm,1.1s
M02C Callahan 40.58 81 P P 22 16 47.1 +1.6
baz=306,SNR=9.6
G08A Pilot Rock 40.75 74 P P 22 16 46.1 -0.8
KMRM Mail Ridge 40.75 83 P P 22 16 47.3 +0.4
N02D Trinity Center 40.92 82 P P 22 16 49.9 +1.6
baz=306,SNR=11
M04C Macdoel 40.97 80 P P 22 16 50.0 +1.2
baz=306,SNR=13
K05A Summer Lake 41.01 78 P P 22 16 49.0 -0.1
K05A IAmb IAmb 22 16 50.9
comp=Z,18nm,0.6s
I07A Izee 41.08 76 IAmb IAmb 22 16 50.9
comp=Z,16nm,0.9s
KCPM Cahto Peak 41.14 84 P P 22 16 49.6 -0.6
KCPM IAmb IAmb 22 16 52.7
comp=Z,23nm,0.7s
WDC Whiskeytown Da 41.25 82 P P 22 16 51.7 +0.8
WDC pmax pmax
comp=Z,24nm,1.0s
WDC Whiskeytown Da 41.25 82 P P 22 16 51.7 +0.8
WDC IAmb IAmb 22 16 53.2
comp=Z,24nm,0.9s
O02D Mt. Diablo Mer 41.34 83 P P 22 16 53.4 +1.7
baz=307,SNR=9.5
F10A Beach Ranch, E 41.40 72 P P 22 16 51.7 -0.6
WALA Waterton Lakes 41.70 66 IAmb IAmb 22 16 55.3
comp=Z,29nm,0.8s
MOD Modoc Plateau 41.84 79 PcP PcP 22 18 49.2 -0.4
O03E Paynes Creek 41.87 82 P P 22 16 56.7 +0.6
baz=307,SNR=26
HOPS Hopland Field 41.88 84 P P 22 16 56.1 0.0
HOPS IAmb IAmb 22 16 58.0
comp=Z,23nm,0.8s
GDXM Geysers 42.16 84 P P 22 16 59.2 +0.7
GDXM IAmb IAmb 22 17 01.2
comp=Z,25nm,0.9s
ORV Oroville 42.50 82 IAmb IAmb 22 17 02.4
comp=Z,20nm,0.7s
WVOR Wild Horse Val 42.54 77 P P 22 17 02.1 +0.6
WVOR pmax pmax
comp=Z,26nm,1.0s
WVOR Wild Horse Val 42.54 77 IAmb IAmb 22 17 02.4
comp=Z,11nm,0.6s
MSO Missoula 42.86 69 P P 22 17 03.3 -0.7
baz=303,SNR=6.4
MSO Missoula 42.86 69 IAmb IAmb 22 17 04.2
comp=Z,23nm,1.1s
NRIK Noril'sk 43.05 329 LR LR 22 36 20.8
comp=Z,51nm,18.9s,baz=43,slow=38
AFDM Forest Hills D 43.20 83 P P 22 17 06.9 +0.1
PAHR Pah Rah Range 43.71 81 IAmb IAmb 22 17 12.7
comp=Z,31nm,1.1s
VCNR Virginia City 43.80 81 P P 22 17 12.4 +0.6
KWAJ Kwajalein Atol 43.92 196 P P 22 17 12.5 -0.2
KWAJ pmax pmax
comp=Z,143nm,1.2s
KWAJ Kwajalein Atol 43.92 196 P P 22 17 12.5 -0.2
PNTR Pine Nut 43.95 82 P P 22 17 12.7 -0.4
ANA2 Anatahan 43.99 228 P P 22 17 13.2 -0.1
CMB Columbia Colle 44.13 83 P P 22 17 14.6 +0.4
CMB pmax pmax
comp=Z,9.0nm,0.7s
CMB Columbia Colle 44.13 83 P P 22 17 14.6 +0.4
YERR Yerington 44.24 81 P P 22 17 15.8 +0.5
YERR IAmb IAmb 22 17 17.1
comp=Z,32nm,1.1s
SAO San Andreas Ge 44.28 86 P P 22 17 15.8 +0.4
SAO pmax pmax
comp=Z,12nm,0.9s
SAO San Andreas Ge 44.28 86 P P 22 17 15.8 +0.4
TLY Talaya 44.32 301 LR LR 22 38 33.8
comp=Z,28nm,18.1s,baz=46,slow=40
TLY Talaya 44.32 301⇑ eP P 22 17 15.8 +0.2
TLY pmax pmax
comp=Z,4.0nm,0.7s
TLY Talaya 44.32 301 P P 22 17 15.2 -0.4
HLID Hailey 44.41 73 P P 22 17 16.2 -0.4
baz=306,SNR=21
WAKR Walker 44.41 82 IAmb IAmb 22 17 18.8
comp=Z,23nm,0.6s
DLMT Dillon 44.45 70 P P 22 17 15.8 -1.0
ULN Ulaanbaatar 44.48 294 c iP P 22 17 17.5 +0.4
ULN pmax pmax
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 44.48 294 P P 22 17 17.0 -0.1
BCYI Bear Canyon 44.58 72 P P 22 17 17.3 -0.6
EGMT Eagleton 44.59 65 P P 22 17 16.8 -1.0
baz=303
EGMT Eagleton 44.59 65 IAmb IAmb 22 17 19.0
comp=Z,13nm,0.8s
SONM Songino Array 44.87 295 P P 22 17 20.7 +0.5
comp=Z,5.0nm,0.5s,baz=63,slow=8.0,SNR=48
SONM pP pP 22 17 47.6 +0.9
comp=Z,1.0nm,0.6s,baz=70,slow=5.5,SNR=2.0
SONM PcP PcP 22 18 60.0 +0.3
comp=Z,2.4nm,0.7s,baz=56,slow=2.5,SNR=6.8
SONM ScP ScP 22 22 40.4 -0.6
comp=Z,3.1nm,0.9s,baz=64,slow=2.4,SNR=12
SONM LR LR 22 36 00.4
comp=Z,39nm,21.9s,baz=52,slow=36
SONM Songino Array 44.87 295 P P 22 17 20.8 +0.7
SONM Songino Array 44.87 295 ScP ScP 22 22 41.2 +0.2
BOZ Bozeman (W) 44.88 69 P P 22 17 19.5 -0.8
baz=305,SNR=42
BOZ Bozeman (W) 44.88 69 IAmb IAmb 22 17 20.4
comp=Z,19nm,0.8s
KVN Kaiserville 44.89 81 IAmb IAmb 22 17 22.3
comp=Z,11nm,0.6s
RYN Ryan 44.90 81 IAmb IAmb 22 17 21.8
comp=Z,20nm,0.6s
PMPB Monarch Peak 45.03 86 P P 22 17 21.3 -0.1
PMPB IAmb IAmb 22 17 29.6
comp=Z,21nm,0.9s
LHV Little Huntoon 45.15 82 IAmb IAmb 22 17 24.1
comp=Z,12nm,0.7s
NVAR Mina Array Bea 45.16 81 P P 22 17 23.4 +0.8
comp=Z,12nm,0.5s,baz=294,slow=7.6,SNR=97
NVAR ScP ScP 22 22 40.7 -1.8
comp=Z,1.5nm,0.7s,baz=299,slow=4.9,SNR=4.8
NVAR Mina Array Bea 45.16 81 P P 22 17 23.2 +0.6
NVAR ScP 22 22 41.7 -0.7
ZAK Zakamensk 45.20 299 eP P 22 17 23.0 +0.3
ZAK e 22 19 01.7
ZAK pmax pmax
comp=Z,3.0nm,1.0s
ZAK pmax pmax
comp=Z,3.0nm,1.2s
OMMB Old Mammoth Mi 45.24 83 P P 22 17 24.0 +0.5
OMMB IAmb IAmb 22 17 25.1
comp=Z,11nm,0.7s
NV11 Mina Array Sit 45.25 81 IAmb IAmb 22 17 24.9
comp=Z,20nm,1.1s
YHB Horse Butte 45.61 70 P P 22 17 25.1 -1.0
PAGB Antelope Grade 45.68 86 P P 22 17 26.8 +0.3
PAGB IAmb IAmb 22 17 28.6
comp=Z,25nm,0.7s
YMR Madison River 45.79 70 P P 22 17 27.0 -0.6
VOG Valley Oaks Go 45.83 85 P P 22 17 28.3 +0.6
baz=310
GCMT Greycliff 45.90 68 P P 22 17 27.4 -0.9
HHC Hu-ho-hao-te 45.90 284 eP P 22 17 30.1 +1.8
HHC pmax pmax
comp=Z,25nm,0.7s
HHC pmax pmax
comp=Z,88nm,6.6s
YNR Norris Junctio 45.93 70 P P 22 17 27.8 -0.9
TIN Tinemaha, Big 46.07 83 P P 22 17 30.8 +1.1
baz=310
SMMC Simmler 46.11 86 P P 22 17 31.2 +1.3
baz=311
H17A Grant Village 46.18 70 P P 22 17 31.3 +0.6
baz=306,SNR=9.0
H17A Grant Village 46.18 70 P P 22 17 31.1 +0.5
H17A IAmb IAmb 22 17 32.4
comp=Z,17nm,0.8s
YMP Mirror Lake Pl 46.22 69 P P 22 17 30.2 -0.8
FLWY Flagg Ranch 46.29 70 P P 22 17 30.6 -0.9
FLWY IAmb IAmb 22 17 32.5
comp=Z,15nm,0.7s
VES Vestal, Richgr 46.33 85 P P 22 17 32.1 +0.5
baz=311
FXWY Fox Creek 46.36 71 P P 22 17 31.4 -0.6
HVU Hansel Valley 46.44 74 P P 22 17 32.1 -0.5
HVU pmax pmax
comp=Z,19nm,0.7s
HVU Hansel Valley 46.44 74 P P 22 17 32.1 -0.5
PKM Mcpherson Peak 46.50 86 P P 22 17 34.3 +1.1
baz=311,SNR=8.2
RLMT Red Lodge 46.51 68 P P 22 17 32.7 -0.5
baz=306,SNR=19
RLMT Red Lodge 46.51 68 IAmb IAmb 22 17 34.4
comp=Z,26nm,1.1s
CWC Cottonwood Cre 46.56 83 P P 22 17 34.5 +0.9
baz=310
SNOW Snow King Moun 46.62 71 P P 22 17 33.9 -0.2
REDW Red Top Meadow 46.63 71 P P 22 17 32.8 -1.3
GRAC Grapevine Rang 46.64 82 P P 22 17 35.0 +0.9
baz=310
FCC Fort Churchill 46.79 46 P P 22 17 35.2 +0.4
FCC pmax pmax
comp=Z,24nm,1.1s
FCC Fort Churchill 46.79 46 P P 22 17 35.2 +0.4
FCC IAmb IAmb 22 17 39.1
comp=Z,24nm,1.1s
GUMO Guam 46.79 228 LR LR 22 34 34.9
comp=Z,31nm,20.5s,baz=90,slow=32
ISA Isabella, Lake 46.82 85 P P 22 17 35.5 0.0
baz=311,SNR=7.8
AHID Auburn Hatcher 46.84 72 P P 22 17 34.7 -1.0
AHID IAmb IAmb 22 17 37.4
comp=Z,13nm,0.8s
SBC Santa Barbara 46.86 87 P P 22 17 36.5 +0.8
baz=312
R11A Troy Canyon, C 46.87 80 P P 22 17 36.2 +0.3
baz=309,SNR=31
R11A Troy Canyon, C 46.87 80 IAmb IAmb 22 17 37.0
comp=Z,14nm,0.5s
ARVC Arvin 46.95 85 P P 22 17 37.6 +1.1
baz=311
NJ2 Nanjing 47.11 269 eP P 22 17 37.8 +0.1
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
MPMC Manual Prospec 47.17 83 P P 22 17 39.0 +0.6
baz=311,SNR=18
SCZ2 Santa Cruz Isl 47.20 87 P P 22 17 38.9 +0.5
baz=312
FURC Furnace Creek, 47.29 83 P P 22 17 39.8 +0.8
baz=310,SNR=10
TPNV Topopah Spring 47.35 82 P P 22 17 40.1 +0.4
baz=310,SNR=22
DUG Dugway, Tooele 47.39 76 P P 22 17 39.9 0.0
baz=308,SNR=22
DUG Dugway, Tooele 47.39 76 IAmb IAmb 22 17 41.0
comp=Z,17nm,0.7s
DGMT Dagmar 47.43 62 P P 22 17 39.7 -0.3
DGMT IAmb IAmb 22 17 58.9
comp=Z,9.7nm,0.6s
EDW2 Edwards Air Fo 47.63 85 P P 22 17 42.1 +0.3
baz=312,SNR=5.2
CTU Camp Tracy 47.72 75 P P 22 17 41.7 -0.8
BW06 Boulder Array 47.74 71 P P 22 17 42.0 -0.8
baz=307,SNR=20
BW06 Boulder Array 47.74 71 IAmb IAmb 22 17 43.0
comp=Z,15nm,0.8s
PD31 Pinedale Array 47.74 71 IAmb IAmb 22 17 43.0
comp=Z,13nm,0.8s
PDAR Pinedale Array 47.74 71 P P 22 17 42.1 -0.7
comp=Z,12nm,0.7s,baz=306,slow=3.7,SNR=112
PDAR pP pP 22 18 11.4 +1.5
comp=Z,3.7nm,0.9s,baz=300,slow=4.5,SNR=2.5
PDAR ScP ScP 22 22 50.4 -2.8
comp=Z,0.6nm,0.6s,baz=213,slow=1.0,SNR=4.4
PDAR LR LR 22 39 19.1

comp=Z,32nm,18.0s,baz=318,slow=38
PDAR Pinedale Array 47.74 71 P **P** **22 17 41.7 -1.0**
SNCC San Nicolas Is 47.77 88 P **P** **22 17 42.0 -0.8**
SNCC IAmb IAmb 22 17 44.8
comp=Z,31nm,0.8s
PRN Pahroc Range 47.79 80 P **P** **22 17 43.1 0.0**
PRN IAmb IAmb 22 17 46.5
comp=Z,16nm,0.6s
DECC Green Verdugo 47.84 86 P **P** **22 17 43.7 +0.4**
baz=312
JLU Jordanelle 47.95 75 P **P** **22 17 43.9 -0.5**
PASC Pasadena Art C 47.98 86 P **P** **22 17 44.9 +0.5**
PASC IAmb IAmb 22 17 45.9
comp=Z,17nm,0.9s
SHOC Shoshone, Teco 48.02 83 P **P** **22 17 45.3 +0.6**
baz=311,SNR=9.6
MWC Mount Wilson 48.02 86 IAmb IAmb 22 17 46.7
comp=Z,28nm,1.0s
GSC Goldstone, Bar 48.08 84 P **P** **22 17 45.9 +0.6**
baz=311,SNR=48
GSC Goldstone, Bar 48.08 84 P **P** **22 17 45.2 -0.1**
GSC pmax pmax
comp=Z,41nm,0.7s
GSC Goldstone, Bar 48.08 84 P **P** **22 17 45.2 -0.1**
BFSC Mount Baldy Ra 48.26 85 P **P** **22 17 47.3 +0.6**
baz=312,SNR=7.9
SHPR Sheep Range 48.31 81 P **P** **22 17 47.4 +0.3**
CIS Catalina Islan 48.35 87 P **P** **22 17 47.6 +0.3**
baz=312
TUQ Turquoise Moun 48.54 83 P **P** **22 17 49.3 +0.4**
baz=311,SNR=8.3
TCRU Three Creeks R 48.60 77 P **P** **22 17 49.1 -0.4**
HEC Hector,Ludlow 48.69 84 P **P** **22 17 50.3 +0.4**
baz=312,SNR=12
CCUT Cedar City 48.73 79 P **P** **22 17 50.7 +0.3**
SZCU Shurtz Canyon 48.87 79 P **P** **22 17 50.8 -0.6**
TMUT Trail Mountain 48.91 76 P **P** **22 17 50.9 -1.0**
MURC Murrieta 48.97 86 P **P** **22 17 52.6 +0.5**
baz=312
P17A Butcher Ranch, 49.08 75 P **P** **22 17 52.5 -0.6**
GMRC Granite Mounta 49.13 83 P **P** **22 17 53.7 +0.3**
baz=312,SNR=28
PFO Pinyon Flats O 49.42 85 P **P** **22 17 55.8 +0.2**
baz=312
PFO Pinyon Flats O 49.42 85*c i*P **P** **22 17 55.4 -0.2**
PFO pmax pmax
comp=Z,9.0nm,0.9s
PFO Pinyon Flats O 49.42 85 P **P** **22 17 55.8 +0.2**
BELC Belle Mtn. Jos 49.44 84 P **P** **22 17 55.8 0.0**
baz=312,SNR=17
109C Camp Elliot, M 49.51 86 P **P** **22 17 56.6 +0.5**
baz=313
109C Camp Elliot, M 49.51 86 P **P** **22 17 56.4 +0.3**
K22A Casper 49.58 69 P **P** **22 17 55.4 -1.4**
baz=308,SNR=5.2
K22A Casper 49.58 69 P **P** **22 17 55.4 -1.4**
K22A IAmb IAmb 22 17 56.6
comp=Z,9.3nm,0.8s
NEE2 Needles Airpor 49.78 83 P **P** **22 17 58.1 0.0**
baz=312
RWWY Rawlins 49.78 71 P **P** **22 17 56.5 -1.9**
IRM Iron Mountain 49.86 84 P **P** **22 17 59.1 +0.2**
baz=312,SNR=14
BAR Barrett 49.92 86 P **P** **22 17 59.1 -0.1**
BAR IAmb IAmb 22 18 00.8
comp=Z,22nm,0.8s
MONP2 Monument Peak 49.93 86 P **P** **22 17 59.9 +0.3**
baz=313,SNR=7.4
BC3 Big Chuckawall 50.01 84 P **P** **22 17 59.8 -0.3**
baz=312,SNR=9.6
W13A Hualapai Mount 50.01 82 IAmb IAmb 22 18 01.3
comp=Z,10nm,0.8s
TKX Tecate 50.03 86 P **P** **22 18 00.1 0.0**
TKX IAmb IAmb 22 18 03.0
comp=Z,11nm,0.7s
RSSD Black Hills 50.10 66 P **P** **22 17 59.4 -1.3**
baz=308
RSSD Black Hills 50.10 66 P **P** **22 17 59.8 -0.9**
RSSD pmax pmax
comp=Z,5.0nm,0.7s
RSSD Black Hills 50.10 66 P **P** **22 17 59.8 -0.9**
O20A White River Ci 50.15 73 P **P** **22 18 00.5 -0.6**
baz=310,SNR=16
O20A White River Ci 50.15 73 IAmb IAmb 22 18 01.4
comp=Z,17nm,0.7s
SWSC Sam W. Stewart 50.28 85 P **P** **22 18 01.9 0.0**
baz=313
MDND Maddock 50.28 60 P **P** **22 18 01.4 -0.4**
baz=307
MDND Maddock 50.28 60 P **P** **22 18 01.2 -0.6**
IKP In-Ko-Pah, Jac 50.29 86 P **P** **22 18 02.6 +0.5**
baz=313,SNR=6.2
RMX La Rumorosa 50.34 86 P **P** **22 18 02.5 -0.1**
PDMCI Parker Dam,Lak 50.38 83 P **P** **22 18 02.7 0.0**
baz=312,SNR=5.3
PV21 Cone Mtn., Par 50.72 75 P **P** **22 18 04.7 -0.8**
PV21 IAmb IAmb 22 18 08.1
comp=Z,14nm,1.1s
PV23 Carpenter Ridg 50.77 75 P **P** **22 18 04.9 -1.0**
PV23 IAmb IAmb 22 18 09.6
comp=Z,12nm,0.6s
ULM Lac du Bonnet 50.78 56 P **P** **22 18 04.8 -0.7**
comp=Z,11nm,0.6s,baz=306,slow=7.5,SNR=6.9
ULM LR LR 22 39 58.7
comp=Z,28nm,18.5s,baz=277,slow=36
ULM Lac du Bonnet 50.78 56*de*P **P** **22 18 04.9 -0.5**
ULM Lac du Bonnet 50.78 56 P **P** **22 18 03.1 -2.3**
ULM IAmb IAmb 22 18 05.5
comp=Z,11nm,0.7s
GLA Glamis 50.80 84 P **P** **22 18 06.4 +0.5**
baz=313,SNR=12
PV14 Lion Creek, Pa 50.82 75 IAmb IAmb 22 18 06.5
comp=Z,12nm,0.6s
ESJX Sierra Juarez 50.83 86 P **P** **22 18 06.5 +0.2**
ESJX IAmb IAmb 22 18 07.4
comp=Z,9.1nm,0.8s
PV22 Blue Mesa, Par 50.85 75 IAmb IAmb 22 18 07.3
comp=Z,15nm,0.9s
PV20 West Nyswonger 50.87 75 IAmb IAmb 22 18 06.9
comp=Z,14nm,0.7s
PV19 Morning Glory 50.88 75 P **P** **22 18 05.9 -0.8**
PV19 IAmb IAmb 22 18 07.1
comp=Z,13nm,0.6s
PV17 East Wray Mesa 50.91 75 P **P** **22 18 06.3 -0.6**
PV16 Nyswonger Mesa 50.92 75 P **P** **22 18 06.3 -0.6**
PV16 IAmb IAmb 22 18 07.4
comp=Z,15nm,0.6s
PV18 Skein Mesa, Pa 50.97 75 IAmb IAmb 22 18 07.8
comp=Z,18nm,0.7s
PV12 Saucer Basin, 50.98 75 IAmb IAmb 22 18 09.7
comp=Z,16nm,0.6s
PV07 Paradox Valley 51.00 75 IAmb IAmb 22 18 08.0
comp=Z,7.4nm,0.7s
N23A Red Feather La 51.02 71 P **P** **22 18 07.3 -0.5**
baz=310,SNR=5.8
PV15 Paradox Valley 51.16 75 IAmb IAmb 22 18 11.8
comp=Z,10nm,0.8s
PV01 Paradox Valley 51.24 75 IAmb IAmb 22 18 12.3
comp=Z,9.3nm,0.5s
WUAZ Wupatki 51.27 80 P **P** **22 18 10.0 +0.5**
baz=312,SNR=13
WUAZ Wupatki 51.27 80 IAmb IAmb 22 18 10.6
comp=Z,9.9nm,0.6s
SMCO Snowmass 51.52 73 P **P** **22 18 12.5 +0.9**
113A Mohawk Valley, 51.65 84 P **P** **22 18 11.8 -0.3**
SSLB Suanglung 51.72 260 P **P** **22 18 12.8 -0.1**
SSLB IAmb IAmb 22 18 14.8
comp=Z,13nm,0.8s
SPX San Pedro Mart 51.79 87 IAmb IAmb 22 18 15.3
comp=Z,14nm,0.9s
YULB Yu-li 51.80 259 P **P** **22 18 13.6 +0.1**
YULB IAmb IAmb 22 18 18.8
comp=Z,9.7nm,0.6s
MVCO Mesa Verde 51.89 76 P **P** **22 18 13.8 -0.4**
baz=311
MVCO Mesa Verde 51.89 76 P **P** **22 18 12.8 -1.4**
ISCO Idaho Springs 51.92 72 P **P** **22 18 14.4 -0.1**
baz=310,SNR=6.3
ISCO Idaho Springs 51.92 72 P **P** **22 18 13.7 -0.8**
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO Idaho Springs 51.92 72 P **P** **22 18 13.7 -0.8**
X16A Lo Mia Camp, P 51.96 81 P **P** **22 18 14.6 -0.1**
X16A IAmb IAmb 22 18 16.5
comp=Z,9.5nm,0.8s
AGMN Agassiz Nation 51.98 58 P **P** **22 18 13.5 -1.0**
baz=308,SNR=5.8
AGMN Agassiz Nation 51.98 58 P **P** **22 18 13.4 -1.0**
AGMN IAmb IAmb 22 18 14.4
comp=Z,18nm,1.0s
ZALV Zalesovo Beam 52.40 312 P **P** **22 18 16.7 -0.7**
comp=Z,0.8nm,0.4s,baz=54,slow=6.2,SNR=5.7
ZALV PcP **PcP** **22 19 27.3 +0.6**
comp=Z,3.0nm,0.7s,baz=25,slow=4.0,SNR=8.7
ZALV ScP **ScP** **22 23 12.6 0.0**
comp=Z,1.5nm,0.7s,baz=32,slow=5.9,SNR=6.7
ZALV LR LR 22 41 27.5
comp=Z,39nm,19.3s,baz=52,slow=37
ZALV Zalesovo Beam 52.40 312 *i* P **P** **22 18 17.0 -0.4**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 52.40 312 **PcP** **22 19 27.2 +0.6**
ZALV ScP **ScP** **22 23 13.5 +0.8**
W18A Petrified Fore 52.53 79 P **P** **22 18 19.2 +0.3**
baz=312
W18A Petrified Fore 52.53 79 P **P** **22 18 18.7 -0.2**
W18A IAmb IAmb 22 18 19.8
comp=Z,11nm,0.8s
S22A 4UR Ranch, Cre 52.54 74 P **P** **22 18 19.1 +0.1**
baz=311,SNR=12
S22A 4UR Ranch, Cre 52.54 74 P **P** **22 18 19.2 +0.1**
PIX Pinacate 52.67 85 P **P** **22 18 19.6 -0.1**
Q24A Divide 52.73 72 P **P** **22 18 20.3 -0.2**
baz=311
SUSD Miller 52.74 63 P **P** **22 18 19.1 -1.1**
baz=310
SUSD Miller 52.74 63 P **P** **22 18 18.6 -1.6**
214A Organ Pipe Nat 52.79 84 P **P** **22 18 20.9 +0.2**
baz=314,SNR=9.1
214A Organ Pipe Nat 52.79 84 IAmb IAmb 22 18 22.0
comp=Z,14nm,0.8s
SUMG Summit 53.15 13 P **P** **22 18 23.3 +0.2**
SUMG pmax pmax
comp=Z,8.0nm,1.0s
SUMG Summit 53.15 13 P **P** **22 18 23.3 +0.2**
F33A 5 Mile Ranch, 53.31 60 P **P** **22 18 22.7 -1.5**
SDCO Great Sand Dun 53.33 74 P **P** **22 18 24.8 -0.1**
baz=312,SNR=10
LZH Lanzhou 53.60 284 ⇑P **P** **22 18 28.3 +1.6**
LZH pP pP 22 18 55.6 +1.4
LZH sP sP 22 19 09.0 +2.0
LZH PP **PP** **22 20 31.8 +3.6**
LZH pmax pmax
comp=Z,24nm,1.3s
LZH pmax pmax
comp=Z,90nm,7.5s
GTA Gaotai 53.78 290 *e*P **P** **22 18 30.8 +2.9**
GTA pP pP 22 18 55.1 -0.5
GTA sP sP 22 19 07.9 -0.6
GTA S **S** **22 25 54.3 +0.9**
GTA sS sS 22 26 40.3 +0.5
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,30nm,7.8s
GTA LR LR
comp=Z,55nm,18.1s
GTA LR LR
comp=Z,66nm,17.8s
GTA LR LR
comp=Z,62nm,18.1s
TUC Tucson 53.80 82 P **P** **22 18 28.5 +0.5**
baz=314
TUC Tucson 53.80 82 P **P** **22 18 28.7 +0.6**
TUC pmax pmax
comp=Z,17nm,1.1s
TUC Tucson 53.80 82 P **P** **22 18 28.7 +0.6**
TUC IAmb IAmb 22 18 29.6
comp=Z,17nm,1.1s
DGZ Jazzator, Alta 53.84 306 *e*P **P** **22 18 28.4 +0.1**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
K31A O'Neill 54.03 65 P **P** **22 18 28.3 -1.3**
K31A IAmb IAmb 22 18 31.4
comp=Z,20nm,0.8s
ENH Enshi 54.13 275 P **P** **22 18 29.6 -0.9**
ENH IAmb IAmb 22 18 31.3
comp=Z,7.7nm,0.8s
KSCO Kaye Shedlock' 54.18 71 P **P** **22 18 30.8 0.0**
baz=312
KSCO Kaye Shedlock' 54.18 71 P **P** **22 18 31.0 +0.1**
KSCO IAmb IAmb 22 18 31.9
comp=Z,16nm,0.8s
T25A Trinidad 54.38 73 P **P** **22 18 32.4 0.0**
baz=312,SNR=13
T25A Trinidad 54.38 73 P **P** **22 18 31.5 -0.9**
T25A IAmb IAmb 22 18 34.2
comp=Z,12nm,0.8s
EYMN Ely 54.47 56 P **P** **22 18 32.0 -0.7**
baz=310,SNR=7.2
EYMN Ely 54.47 56 IAmb IAmb 22 18 32.9
comp=Z,16nm,0.8s
ECSD EROS Data Cent 54.49 62 P **P** **22 18 31.3 -1.6**
baz=311
ANMO Albuquerque 54.63 77⇑ *e*P **P** **22 18 34.4 +0.2**
ANMO pmax pmax
comp=Z,6.0nm,1.1s
LENM Lemitar 54.85 78 P **P** **22 18 35.6 -0.1**
319A Douglas 55.36 82 P **P** **22 18 39.4 -0.1**
319A IAmb IAmb 22 18 41.6
comp=Z,17nm,0.9s
121A Cookes Peak, D 55.48 80 P **P** **22 18 40.6 +0.3**
baz=314,SNR=6.0
121A Cookes Peak, D 55.48 80 P **P** **22 18 40.0 -0.3**
121A IAmb IAmb 22 18 41.8
comp=Z,7.1nm,0.7s
SPMN Marine on St. 55.57 59 P **P** **22 18 39.6 -1.0**
baz=311
SPMN Marine on St. 55.57 59 IAmb IAmb 22 18 41.5
comp=Z,7.4nm,0.8s
CBKS Cedar Bluff 55.99 69 P **P** **22 18 43.2 -0.5**
baz=312
CBKS Cedar Bluff 55.99 69 P **P** **22 18 42.8 -0.9**
CBKS pmax pmax
comp=Z,30nm,0.8s
CBKS Cedar Bluff 55.99 69 P **P** **22 18 42.8 -0.9**
N33A J Bar K, Exete 56.01 66 P **P** **22 18 41.8 -2.0**
I37A Lemond, Waseca 56.05 60 IAmb IAmb 22 18 44.5
comp=Z,22nm,1.1s
D41A Chassel 56.55 55 P **P** **22 18 46.6 -0.9**
D41A IAmb IAmb 22 18 47.8
comp=Z,10nm,0.8s
R32A Long Quarter, 56.85 69 P **P** **22 18 48.6 -1.2**
COWI Conover 56.90 56 IAmb IAmb 22 18 50.2
comp=Z,9.0nm,0.9s
N35A Tabor 56.94 65 P **P** **22 18 50.1 -0.3**
ARCES ARCESS Array B 57.23 349 P **P** **22 18 51.6 -0.4**
comp=Z,1.4nm,0.8s,baz=30,slow=7.4,SNR=5.6
ARCES pP **pwP** **22 19 21.1 -1.8**
comp=Z,1.9nm,0.6s,baz=353,slow=4.9,SNR=3.0
ARCES LR LR 22 46 58.1
comp=Z,18nm,18.2s,baz=184,slow=40
K38A Parkersburg 57.31 61 P **P** **22 18 52.1 -0.8**
K38A IAmb IAmb 22 18 52.5
comp=Z,19nm,0.9s
KURK Kurchatov 57.39 312*de*P **P** **22 18 53.7 +0.4**
KURK pmax pmax
comp=Z,5.0nm,0.7s
KURK Kurchatov 57.39 312 P **P** **22 18 53.8 +0.4**
KURK IAmb IAmb 22 18 55.7
comp=Z,6.1nm,0.6s
MSTX Muleshoe 57.51 75 P **P** **22 18 54.1 -0.6**
baz=314,SNR=9.6
MNTX Cornudas Mount 57.52 79 P **P** **22 18 54.9 +0.3**
baz=315,SNR=18
MNTX Cornudas Mount 57.52 79 IAmb IAmb 22 18 56.0
comp=Z,13nm,0.7s
AMTX Amarillo 57.53 74 P **P** **22 18 54.5 -0.2**
baz=314
AMTX Amarillo 57.53 74 P **P** **22 18 54.0 -0.8**
SCIA State Center 57.57 62 P **P** **22 18 54.2 -0.7**
baz=313
SCIA State Center 57.57 62 P **P** **22 18 53.5 -1.3**
KSU1 Kansas State U 57.59 67 P **P** **22 18 53.7 -1.2**
baz=313
KSU1 Kansas State U 57.59 67 P **P** **22 18 53.2 -1.7**
KSU1 IAmb IAmb 22 18 54.6
comp=Z,16nm,0.8s
WMQ Urumqi 57.60 301 *e*P **P** **22 18 58.1 +3.0**
WMQ pmax pmax
comp=Z,8.0nm,0.6s
WMQ LR LR
comp=Z,75nm,15.7s
WMQ LR LR
comp=Z,57nm,15.7s
WMQ LR LR
comp=Z,17nm,15.7s
I40A Norwalk 57.62 59 P **P** **22 18 54.2 -1.0**
F42A Maple Grove Fa 57.65 56 P **P** **22 18 55.1 -0.2**
GDL2 Guadalupe Moun 57.78 78 P **P** **22 18 56.0 -0.6**
E43A Lone Tree Farm 57.80 55 P **P** **22 18 55.7 -0.6**
E43A IAmb IAmb 22 18 56.9
comp=Z,18nm,1.0s
MKAR Makanchi Array 58.34 307 P **P** **22 18 59.8 -0.3**
comp=Z,1.7nm,0.5s,baz=50,slow=6.0,SNR=31
MKAR pP **pwP** **22 19 29.3 -0.5**
comp=Z,1.9nm,0.7s,baz=53,slow=6.4,SNR=4.7
MKAR LR LR 22 43 58.8
comp=Z,38nm,20.4s,baz=28,slow=36
MKAR Makanchi Array 58.34 307 *i* P **P** **22 18 59.7 -0.5**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
JFWS Jewell Farm 58.49 59 P **P** **22 18 59.8 -1.4**
baz=314
JFWS Jewell Farm 58.49 59 IAmb IAmb 22 19 00.4
comp=Z,9.9nm,0.7s
MAKZ Makanchi 58.49 307 P **P** **22 19 01.3 +0.1**
MAKZ pmax pmax
comp=Z,4.0nm,1.0s
MAKZ Makanchi 58.49 307 P **P** **22 19 01.3 +0.1**
KAN13 South Haven SW 58.52 69 P **P** **22 19 00.2 -1.3**
L40A Anamosa 58.55 61 IAmb IAmb 22 19 01.3
comp=Z,16nm,0.8s
H43A Windswept, Lux 58.72 57 P **P** **22 19 02.0 -0.8**
H43A IAmb IAmb 22 19 02.6
comp=Z,12nm,0.6s
T35A Sooner Cattle 59.15 68 IAmb IAmb 22 19 05.5
comp=Z,9.2nm,0.8s
D47A Chapleau 59.26 52 P **P** **22 19 05.9 -0.6**
baz=315
WMOK Wichita Mounta 59.34 72 P **P** **22 19 07.0 -0.2**
baz=315,SNR=12
WMOK Wichita Mounta 59.34 72 P **P** **22 19 07.1 -0.1**
WMOK pmax pmax
comp=Z,18nm,0.8s
WMOK Wichita Mounta 59.34 72 IAmb IAmb 22 19 07.9
comp=Z,8.4nm,0.7s
BRVK Borovoye 59.37 318*ce*P **P** **22 19 07.8 +0.7**
BRVK *i* *PP **pP** **22 19 33.7 -1.1**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 59.37 318 P **P** **22 19 07.9 +0.9**
BRVK IAmb IAmb 22 19 10.4
comp=Z,4.3nm,0.6s
BCOK Bluff Creek, N 59.39 70 P **P** **22 19 06.6 -0.9**
L42A Oliver, Polo 59.43 60 P **P** **22 19 05.0 -2.7**
L42A IAmb IAmb 22 19 06.7
comp=Z,14nm,0.8s
QUOK Quay 59.55 69 P **P** **22 19 07.3 -1.3**
QUOK IAmb IAmb 22 19 08.6
comp=Z,14nm,0.9s
E47A Iron Bridge 59.60 52 P **P** **22 19 08.3 -0.4**
baz=315
OK025 Westminster Rd 59.60 70 P **P** **22 19 08.2 -0.8**
FNO Franklin 59.79 70 P **P** **22 19 10.2 -0.1**
D48A Paudash Townsh 59.81 51 P **P** **22 19 09.4 -0.8**
baz=315
MATQ Matagami 59.91 47 P **P** **22 19 09.3 -1.5**
baz=316
LPIG La Paz 59.93 89 LR LR 22 40 32.0
comp=Z,36nm,20.1s,baz=311,slow=31
D49A Beulah Townshi 59.95 51 P **P** **22 19 10.3 -0.9**
baz=315
X34A Smith Ranch, M 60.00 71 P **P** **22 19 10.2 -1.5**
X34A IAmb IAmb 22 19 12.9
comp=Z,10.0nm,0.7s
E48A Lockeyer 60.12 52 P **P** **22 19 11.6 -0.8**
baz=315
SVE Sverdlovsk 60.19 326 *e*P **P** **22 19 14.4 +1.8**
FUNA Funafuti 60.23 179 P **P** **22 19 12.9 -0.4**
TX32 Lajitas Array 60.23 80 IAmb IAmb 22 19 14.6
comp=Z,12nm,0.7s
TXAR Lajitas Array 60.23 80 P **P** **22 19 13.6 +0.1**
comp=Z,8.9nm,0.6s,baz=303,slow=4.8,SNR=176
TXAR ScP **ScP** **22 23 47.5 -0.2**
comp=Z,1.3nm,0.8s,baz=282,slow=3.1,SNR=8.1
TXAR Lajitas Array 60.23 80 P **P** **22 19 13.3 -0.2**
TXAR **ScP** **22 23 46.6 -1.1**
L44A Lake County Fo 60.24 59 P **P** **22 19 12.2 -1.0**
baz=315
TUL1 Leonard 60.27 69 P **P** **22 19 12.5 -1.0**
baz=315
TUL1 Leonard 60.27 69 IAmb IAmb 22 19 13.7
comp=Z,15nm,0.8s
ABTX Abilene, Hawle 60.32 74 P **P** **22 19 13.7 -0.2**
baz=315
ABTX Abilene, Hawle 60.32 74 P **P** **22 19 13.4 -0.6**
ABTX IAmb IAmb 22 19 15.6
comp=Z,14nm,0.9s
S39A Bolivar 60.43 66 P **P** **22 19 12.1 -2.5**
SLBS Sierra La Lagu 60.46 89 P **P** **22 19 14.7 -0.3**
R40A Maddies Statio 60.60 65 IAmb IAmb 22 19 14.8
comp=Z,8.8nm,0.9s
SCHQ Schefferville 60.60 37 P **P** **22 19 15.1 -0.4**
comp=Z,9.9nm,0.8s,baz=321,slow=5.4,SNR=7.6
SCHQ LR LR 22 48 50.7
comp=Z,41nm,18.1s,baz=24,slow=39
SCHQ Schefferville 60.60 37 P **P** **22 19 15.7 +0.2**
SCHQ IAmb IAmb 22 19 16.2
comp=Z,16nm,1.1s
HDIL Hopedale 60.64 61 P **P** **22 19 14.9 -1.0**
baz=315
F49A Sandfield 60.70 52 P **P** **22 19 15.2 -1.1**
baz=316
U38A Gravette 60.70 67 IAmb IAmb 22 19 15.8
comp=Z,12nm,0.9s
LSQQ Lebel-sur-Quev 60.71 47 P **P** **22 19 15.0 -1.3**
baz=317
PRGR Permogore 60.73 336 *e*P **P** **22 19 16.5 +0.3**
PRGR pmax pmax
comp=Z,6.0nm,0.9s
HPIG 60.73 83 P **P** **22 19 16.0 -1.0**
HPIG IAmb IAmb 22 19 18.4
comp=Z,9.5nm,0.9s
D50A G1974 Best Tow 60.75 50 P **P** **22 19 15.4 -1.2**
baz=316
E50A Wahnapitae 60.86 51 P **P** **22 19 16.3 -1.0**
baz=316
D51A Lot 18 Range I 61.03 50 P **P** **22 19 17.3 -1.1**
baz=316
HHAR Hobbs 61.07 67 IAmb IAmb 22 19 18.2
comp=Z,9.3nm,0.8s
J47A Sunmer 61.10 56 P **P** **22 19 17.7 -1.4**
J47A IAmb IAmb 22 19 19.2
comp=Z,26nm,1.1s
P43A Skaggs, Pawnee 61.16 62 P **P** **22 19 17.8 -1.7**
VLDQ Val d'Or 61.18 48 IAmb IAmb 22 19 17.9
comp=Z,21nm,1.1s
ARU Arti 61.22 327*d i*P **P** **22 19 20.2 +0.6**
ARU *PP **pP** **22 19 47.3 -0.2**
ARU **22 19 59.8**
ARU PPP PPP 22 23 03.4
ARU S **S** **22 27 33.7 +3.9**
ARU SS **SS** **22 31 26.0 -4.8**
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 61.22 327 P **P** **22 19 20.0 +0.4**
ARU IAmb IAmb 22 19 22.6
comp=Z,7.6nm,0.7s
CHGQ Chibougamau 61.24 45 P **P** **22 19 18.4 -1.5**
baz=318,SNR=8.4
CCM Cathedral Cave 61.33 64 P **P** **22 19 19.0 -1.7**
baz=315
CCM Cathedral Cave 61.33 64 P **P** **22 19 19.3 -1.4**
CCM pmax pmax
comp=Z,5.0nm,1.0s
CCM Cathedral Cave 61.33 64 P **P** **22 19 19.3 -1.4**
E51A G1948 Merrick 61.38 50 P **P** **22 19 19.7 -1.2**
baz=316
X37A Clayton 61.44 70 IAmb IAmb 22 19 22.1
comp=Z,9.3nm,0.7s
D52A ZEK Kipawa Sen 61.56 49 P **P** **22 19 20.8 -1.3**
baz=317
F51A Arnstein 61.61 51 P **P** **22 19 21.1 -1.4**
baz=316
U40A Yellville 61.63 67 P **P** **22 19 21.1 -1.6**
baz=315,SNR=11
U40A Yellville 61.63 67 P **P** **22 19 20.8 -1.9**

U40A IAmb IAmb 22 19 22.6
comp=Z,15nm,0.9s
JCT Junction City 61.75 76 P **P** **22 19 22.8 -0.9**
baz=316
JCT Junction City 61.75 76 IAmb IAmb 22 19 24.6
comp=Z,15nm,1.1s
D53A Lac Vacive, Po 61.82 49 P **P** **22 19 22.5 -1.3**
baz=317
D53A Lac Vacive, Po 61.82 49 IAmb IAmb 22 19 23.6
comp=Z,20nm,1.1s
W39A Magazine 61.93 68 P **P** **22 19 23.9 -0.8**
baz=316,SNR=7.1
W39A Magazine 61.93 68 IAmb IAmb 22 19 24.5
comp=Z,6.8nm,0.7s
SFIN Lafayette 61.95 60 P **P** **22 19 24.0 -0.8**
baz=316,SNR=10
E52A Mattawa 61.95 50 P **P** **22 19 23.4 -1.3**
baz=317
WHTX Lake Whitney, 62.07 73 P **P** **22 19 25.4 -0.2**
baz=316,SNR=6.3
D54A Lac Fusel, La 62.25 48 P **P** **22 19 25.7 -1.0**
baz=318
MIAR Mount Ida 62.51 68 P **P** **22 19 28.0 -0.6**
baz=316,SNR=9.9
MIAR Mount Ida 62.51 68 P **P** **22 19 28.3 -0.3**
MIAR pmax pmax
comp=Z,25nm,1.2s
MIAR Mount Ida 62.51 68 IAmb IAmb 22 19 29.1
comp=Z,25nm,1.1s
OLIL Olney 62.58 62 IAmb IAmb 22 19 28.9
comp=Z,15nm,0.7s
I51A Listowel 62.61 53 P **P** **22 19 28.1 -1.0**
baz=317
WHAR Wooly Hollow 62.71 67 P **P** **22 19 28.7 -1.2**
WHAR IAmb IAmb 22 19 29.1
comp=Z,7.4nm,0.5s
W41B Gary Mavity, V 62.82 67 P **P** **22 19 29.5 -1.2**
baz=316,SNR=6.9
W41B Gary Mavity, V 62.82 67 IAmb IAmb 22 19 30.3
comp=Z,15nm,1.1s
SADO Sadowa 62.83 51 P **P** **22 19 30.1 -0.5**
comp=Z,9.6nm,0.8s,baz=314,slow=10,SNR=2.7
SADO LR LR 22 47 07.6
comp=Z,41nm,19.5s,baz=348,slow=36
SADO Sadowa 62.83 51 IAmb IAmb 22 19 41.8
comp=Z,17nm,1.1s
KLMR Klimovskoe 62.85 339 P **P** **22 19 29.4 -1.0**
KLMR pmax pmax
comp=Z,11nm,1.4s
KLMR Klimovskoe 62.85 339 P **P** **22 19 29.4 -1.0**
KLMR AMP 22 19 31.3
comp=Z,11nm,1.4s
G54A Lake Saint Pet 62.87 50 P **P** **22 19 29.4 -1.5**
baz=318
D55A Sainte-Anne-du 62.89 48 P **P** **22 19 29.6 -1.3**
baz=318,SNR=8.0
JAY Jayapura 62.96 223 P **P** **22 19 31.9 +0.2**
comp=Z,13nm,0.9s,baz=26,slow=7.7,SNR=4.3
JAY Jayapura 62.96 223 P **P** **22 19 32.0 +0.2**
X40A Basin Creek Fa 62.98 68 P **P** **22 19 30.4 -1.3**
N49A Columbus Grove 63.10 57 P **P** **22 19 31.0 -1.4**
N49A IAmb IAmb 22 19 31.9
comp=Z,9.7nm,0.6s
D56A ZEC Mazanza, M 63.20 47 P **P** **22 19 31.5 -1.5**
baz=318
H53A Bobcaygeon 63.24 51 P **P** **22 19 32.1 -1.2**
baz=318
E56A St. Veronique 63.45 48 P **P** **22 19 33.0 -1.7**
baz=318
D57A Chemin Vers le 63.62 47 P **P** **22 19 34.3 -1.5**
baz=319
G55A Calabogie 63.63 50 P **P** **22 19 34.5 -1.3**
baz=318
P49A Miami Univ. Ec 63.82 59 P **P** **22 19 35.8 -1.4**
baz=317
LATQ La Tuque 63.83 46 P **P** **22 19 35.8 -1.3**
baz=319
WCI Wyandotte Cave 63.93 61 P **P** **22 19 36.9 -1.0**
baz=317
E57A Chemin Saint G 63.95 47 P **P** **22 19 36.4 -1.5**
baz=319,SNR=5.7
D58A Chemin du LacG 64.01 46 P **P** **22 19 36.9 -1.4**
baz=319
N51A Ashland 64.04 56 P **P** **22 19 37.4 -1.2**
baz=317
ORIO Orleans, Innes 64.05 49 P **P** **22 19 36.5 -2.0**
baz=319
SLVN Son La 64.05 272 P **P** **22 19 39.0 0.0**
L53A Girard 64.35 54 P **P** **22 19 39.4 -1.2**
baz=318
ERPA Erie 64.36 54 P **P** **22 19 39.6 -1.1**
baz=318
E58A La Victoria 64.38 47 P **P** **22 19 39.7 -1.0**
baz=319
T47A Sharon Grove 64.39 62 P **P** **22 19 40.2 -0.7**
O51A Pataskala 64.48 57 P **P** **22 19 40.6 -0.9**
baz=317
HKT Hockley 64.50 74 P **P** **22 19 41.4 -0.3**
HKT pmax pmax
comp=Z,4.0nm,0.9s
HKT Hockley 64.50 74 P **P** **22 19 41.4 -0.3**
M53A WI Miller and 64.52 55 P **P** **22 19 41.0 -0.7**
baz=318
G57A Newington 64.55 49 P **P** **22 19 40.6 -1.2**
baz=319
WVT Waverly 64.61 63 P **P** **22 19 41.6 -0.8**
baz=317
K54A Basiliko Farm, 64.64 53 P **P** **22 19 42.0 -0.5**
baz=318
P51A Williamsport 64.73 58 P **P** **22 19 42.0 -1.1**
baz=318
WVNY West Valley, N 64.84 53 P **P** **22 19 43.1 -0.7**
WVNY IAmb IAmb 22 19 44.4
comp=Z,16nm,0.8s
FINES FINESS Array B 64.84 346 P **P** **22 19 42.1 -1.3**
comp=Z,0.9nm,0.6s,baz=0.0,slow=5.7,SNR=4.8
FINES pP **pP** **22 20 10.9 -0.4**
comp=Z,4.0nm,0.9s,baz=50,slow=3.0,SNR=3.4
FINES LR LR 22 52 01.3
comp=Z,33nm,18.2s,baz=46,slow=40
FINES FINESS Array B 64.84 346 *i* P **P** **22 19 44.4 +1.0**
FINES pmax pmax
comp=Z,1.0nm,0.6s
H57A Richville 64.85 49 P **P** **22 19 42.5 -1.2**
baz=319
K55A Perry 64.86 52 P **P** **22 19 43.1 -0.8**
baz=318
O52A Adamsville 64.90 57 P **P** **22 19 43.2 -1.0**
baz=318
OXF Oxford 64.91 66 P **P** **22 19 43.5 -0.9**
baz=317,SNR=6.4
MMNY Mt. Morris Dam 64.94 52 IAmb IAmb 22 19 45.1
comp=Z,18nm,0.8s
G58A Ormstown 64.95 48 P **P** **22 19 43.3 -1.1**
baz=319
F59A Saint Guilaume 65.00 47 P **P** **22 19 43.8 -0.9**
baz=320
D60A Saint Jean D'O 65.01 45 P **P** **22 19 43.6 -1.1**
baz=320
L55A Hinsdale 65.09 53 P **P** **22 19 44.3 -1.1**
baz=318
P52A Corning 65.11 57 P **P** **22 19 44.2 -1.3**
baz=318
LONY Lake Ozonia 65.11 49 P **P** **22 19 43.9 -1.6**
baz=319
AAK Ala-Archa 65.19 308 ⇑ *i*P **P** **22 19 47.4 +1.2**
AAK pmax pmax
comp=Z,2.0nm,1.1s
E60A Ste Agathe de 65.20 46 P **P** **22 19 44.7 -1.4**
baz=320
K56A Middlesex 65.25 52 P **P** **22 19 45.4 -1.1**
baz=319,SNR=5.4
F60A Warwick 65.28 46 P **P** **22 19 45.2 -1.4**
baz=320
PLAL Pickwick Lake 65.31 64 IAmb IAmb 22 19 46.6
comp=Z,9.5nm,0.6s
J57A Williamstown 65.35 51 P **P** **22 19 45.7 -1.3**
baz=319
G59A Clarenceville 65.41 48 P **P** **22 19 45.8 -1.6**
baz=320
H58A Gabriels 65.45 49 P **P** **22 19 46.2 -1.5**
baz=320
M55A Ridgway 65.46 54 P **P** **22 19 47.0 -0.8**
baz=318
U49A Red Boiling Sp 65.46 62 IAmb IAmb 22 19 47.9
comp=Z,9.2nm,0.5s
CLTN Cedars of Leba 65.47 62 IAmb IAmb 22 19 48.3
comp=Z,16nm,0.8s
H59A Cadyville 65.50 48 P **P** **22 19 47.1 -1.0**
baz=320
Q52A Bidwell 65.53 58 P **P** **22 19 47.4 -0.9**
baz=318
L56A Greenwood 65.56 52 P **P** **22 19 47.9 -0.6**
baz=319,SNR=11
E61A Lac Etchemin 65.57 45 P **P** **22 19 47.2 -1.2**
baz=321
T50A Nancy 65.60 61 IAmb IAmb 22 19 49.0
comp=Z,8.8nm,0.6s
P53A Whipple 65.60 57 P **P** **22 19 47.7 -1.0**
baz=318
K57A Scipio Center 65.62 51 P **P** **22 19 47.8 -0.9**
baz=319
I58A Old Forge 65.63 50 P **P** **22 19 47.6 -1.3**
baz=319
LSA Lhasa 65.65 287 P **P** **22 19 49.4 -0.4**
LSA pmax pmax
comp=Z,4.0nm,0.7s
LSA Lhasa 65.65 287 P **P** **22 19 49.4 -0.4**
ZAIG Zacatecas 65.69 84 P **P** **22 19 50.0 +0.1**
ZAIG IAmb IAmb 22 19 51.7
comp=Z,11nm,0.8s
J58A Remsen 65.73 50 P **P** **22 19 48.4 -1.1**
baz=319
M56A Emporium 65.74 53 P **P** **22 19 48.7 -0.9**
baz=319
NCB Newcomb 65.77 49 P **P** **22 19 48.7 -1.1**
G60A Masonville 65.78 47 P **P** **22 19 48.6 -1.2**
baz=320
E62A Clayton Lake 65.85 44 P **P** **22 19 49.2 -1.0**
baz=321
N55A Marion Center 65.86 54 P **P** **22 19 49.5 -1.0**
baz=319
SIJI Sorong 65.88 234 P **P** **22 19 50.5 -0.2**
comp=Z,60nm,0.7s,baz=12,slow=8.6,SNR=12
Q53A Leroy 66.00 57 P **P** **22 19 50.5 -0.8**
baz=318
G61A St-Isidore-de- 66.00 47 P **P** **22 19 50.3 -0.9**
baz=320
L57A Andrews Acres 66.00 52 P **P** **22 19 50.5 -0.8**
baz=319
K58A Earlville 66.01 51 P **P** **22 19 50.5 -0.9**
baz=319
J59A Piesco 66.02 50 P **P** **22 19 49.9 -1.5**
baz=320
I59A Olmsteadville 66.06 49 P **P** **22 19 50.4 -1.2**
baz=320
N56A West Decatur 66.11 54 P **P** **22 19 51.3 -0.7**
baz=319
D63A Stockholm 66.13 43 P **P** **22 19 51.1 -0.9**
baz=322
R53A Hurricane 66.17 58 P **P** **22 19 51.8 -0.6**
baz=318
F62A Pittston Farm, 66.22 45 P **P** **22 19 51.5 -1.0**
baz=321
Q54A Cox's Mills 66.26 57 P **P** **22 19 52.1 -0.9**
baz=318
BINY Binghamton 66.28 51 P **P** **22 19 52.3 -0.7**
baz=319
SWET Sewanee 66.33 63 IAmb IAmb 22 19 53.0
comp=Z,7.6nm,0.5s
M57A Sunshine Farm, 66.37 53 P **P** **22 19 53.1 -0.5**
baz=319
M57A Sunshine Farm, 66.37 53 IAmb IAmb 22 19 54.1
comp=Z,17nm,0.9s
K59A Cooperstown 66.38 50 P **P** **22 19 52.8 -0.9**
baz=320
H61A Lyndonville 66.40 47 P **P** **22 19 52.9 -0.8**
baz=321
ABKAR Akbulak array 66.45 321 P **P** **22 19 54.9 +0.9**
E63A Oxbow 66.48 44 P **P** **22 19 53.0 -1.2**
baz=322
G62A West of Eustis 66.50 46 P **P** **22 19 53.6 -0.7**
baz=321
SSPA Standing Stone 66.52 54 P **P** **22 19 53.9 -0.7**
baz=319
SSPA Standing Stone 66.52 54 P **P** **22 19 54.3 -0.3**
SSPA IAmb IAmb 22 19 54.9
comp=Z,7.9nm,0.7s
S53A Williamson 66.56 59 P **P** **22 19 53.8 -1.1**
baz=318
N57A Milroy 66.60 53 P **P** **22 19 53.9 -1.2**
baz=319
LBNH Lisbon 66.62 48 P **P** **22 19 54.2 -1.0**
baz=321
Q55A Buckhannon 66.64 56 P **P** **22 19 54.6 -0.8**
baz=319
TZTN Tazewell 66.64 60 P **P** **22 19 54.8 -0.7**
baz=318
M58A Price's Panora 66.67 52 P **P** **22 19 54.8 -0.8**
baz=320
J60A Lant Hill Farm 66.70 49 P **P** **22 19 54.7 -1.0**
baz=320
H62A Milan 66.72 47 P **P** **22 19 55.0 -0.8**
baz=321,SNR=5.4
E64A Bridgewater 66.74 44 P **P** **22 19 54.7 -1.2**
baz=322
L59A Walton 66.74 51 P **P** **22 19 55.1 -0.9**
baz=320
KK31 Karatay Array 66.74 311 P **P** **22 19 56.4 +0.4**
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KK31 Karatay Array 66.74 311 P **P** **22 19 56.4 +0.4**
KKAR Karatay Array 66.74 311 P **P** **22 19 56.8 +0.8**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 66.74 311 P **P** **22 19 55.9 -0.1**
KKAR Karatay Array 66.74 311 P **P** **22 19 56.8 +0.8**
F63A Nahmakanta, Br 66.75 45 P **P** **22 19 55.1 -0.8**
baz=322
R54A Victor 66.78 57 P **P** **22 19 55.4 -0.9**
baz=319
KSH Kashi 66.79 305 P P 22 20 01.8 +5.3
KSH pmax pmax
comp=Z,6.0nm,0.6s
T53A Wise 66.86 59 P **P** **22 19 56.4 -0.5**
baz=318
P56A Dayton Farm, R 66.90 55 P **P** **22 19 56.3 -0.7**
baz=319
S54A Dingess, Beckl 66.90 58 P **P** **22 19 56.1 -0.9**
baz=319
NB2 NORSAR Subarra 66.91 353 P pP 22 20 26.5 +1.6
comp=Z,7.0nm,0.9s,baz=7.5,slow=6.5
NOA NORSAR Array B 66.91 353 P **P** **22 19 55.9 -0.9**
comp=Z,0.4nm,0.7s,baz=12,slow=6.7,SNR=4.8
NOA pP **pP** **22 20 26.6 +1.6**
comp=Z,3.2nm,0.8s,baz=8.1,slow=6.4,SNR=8.0
CPCT Cooper Cave 66.93 62 IAmb IAmb 22 19 57.5
comp=Z,6.5nm,0.6s
F64A Sherman 66.95 44 P **P** **22 19 56.2 -1.0**
baz=322
N58A Sunbury 66.95 53 P **P** **22 19 56.4 -0.9**
baz=320
N58A Sunbury 66.95 53 IAmb IAmb 22 19 58.2
comp=Z,23nm,1.1s
O57A Amberson 66.97 54 P **P** **22 19 56.7 -0.8**
baz=319
G63A Kingsbury 66.98 46 P **P** **22 19 56.6 -0.9**
baz=322
FPAL Fort Paine 67.01 63 IAmb IAmb 22 19 57.2
comp=Z,9.1nm,0.6s
PKME Peaks-Kenny Pk 67.01 45 P **P** **22 19 56.9 -0.7**
baz=322
J61A Chester 67.03 49 P **P** **22 19 56.8 -0.9**
baz=321
M59A Waymart 67.04 52 P **P** **22 19 57.1 -0.8**
baz=320
FAKI Fak Fak 67.17 231 P **P** **22 19 58.9 -0.1**
I62A Tamworth 67.18 47 P **P** **22 19 57.7 -0.9**
baz=321
TKL Tuckaleechee C 67.18 61 P **P** **22 19 57.7 -1.2**
comp=Z,3.0nm,0.6s,baz=185,slow=5.5,SNR=4.9
K61A Williamstown 67.21 49 P **P** **22 19 57.9 -1.0**
baz=320
T54A Tazewell 67.31 59 P **P** **22 19 59.4 -0.4**
baz=319
S55A Lewisburg 67.34 57 P **P** **22 19 59.2 -0.7**
baz=319
LRAL Lakeview Retre 67.35 65 P **P** **22 19 58.5 -1.5**
baz=318
LRAL Lakeview Retre 67.35 65 P **P** **22 19 59.3 -0.6**
N59A State Game Lan 67.36 52 P **P** **22 19 59.4 -0.5**
baz=320,SNR=5.3
N59A State Game Lan 67.36 52 IAmb IAmb 22 20 00.3
comp=Z,13nm,0.8s
I63A Otisfield 67.38 47 P **P** **22 19 59.1 -0.8**
baz=321
I63A Otisfield 67.38 47 P **P** **22 19 59.3 -0.7**
I63A IAmb IAmb 22 20 17.5
comp=Z,13nm,1.1s
O58A Lewisberry 67.39 53 P **P** **22 19 58.8 -1.3**
baz=320
R56A Bull Pasture M 67.43 56 P **P** **22 19 59.4 -1.1**
baz=319
J62A Henniker 67.46 48 P **P** **22 19 59.6 -0.9**
baz=321
H64A Troy 67.53 46 P **P** **22 19 59.6 -1.3**
baz=322
U54A Nelsons Funny 67.59 59 P **P** **22 20 00.6 -0.9**
baz=319
U54A Nelsons Funny 67.59 59 P **P** **22 20 01.3 -0.2**
O59A Robesonia 67.61 53 P **P** **22 20 00.6 -0.9**
baz=320
P58A Pank, Wackersv 67.68 54 P **P** **22 20 01.4 -0.5**
baz=320
T55A Pulaski 67.69 58 P **P** **22 20 01.2 -0.8**
baz=319
K62A Royalston 67.70 49 P **P** **22 20 00.9 -1.1**
baz=321
K62A Royalston 67.70 49 P **P** **22 20 01.3 -0.7**
K62A IAmb IAmb 22 20 01.9
comp=Z,16nm,1.0s
N60A Cedar Hill Far 67.72 52 P **P** **22 20 01.3 -0.8**
baz=320,SNR=5.5
MYLDM Lahad Datu 67.73 249 IAmb IAmb 22 20 05.6
comp=Z,18nm,1.0s
LUPA Lehigh Univers 67.79 52 IAmb IAmb 22 20 02.6
comp=Z,15nm,0.8s
BLA Blacksburg 67.81 58 P **P** **22 20 02.1 -0.7**
baz=319
G65A Princeton 67.81 44 P **P** **22 20 01.8 -0.8**
baz=322
G65A Princeton 67.81 44 P **P** **22 20 02.0 -0.6**
G65A IAmb IAmb 22 20 02.6
comp=Z,15nm,0.8s
S56A Natural Bridge 67.90 57 P **P** **22 20 02.6 -0.7**
baz=319
Q58A Fox Den Farm, 67.91 55 P **P** **22 20 02.4 -0.9**
baz=320
H65A Eastbrook 67.91 45 P **P** **22 20 02.4 -0.9**
baz=322
R57A Stanardsville 67.97 56 P **P** **22 20 03.2 -0.5**
baz=320
O60A Telford 67.99 52 P **P** **22 20 03.0 -0.8**
baz=320
K63A Dunstable 68.01 48 P **P** **22 20 03.3 -0.7**
baz=321
U55A TA2, Sparta 68.01 59 P **P** **22 20 03.3 -0.8**
baz=319
P59A Jarrettsville 68.03 54 P **P** **22 20 03.2 -0.9**
baz=320
V54A Nebo 68.08 60 P **P** **22 20 04.1 -0.4**
baz=319
HRV Adam Dziewonsk 68.14 48 P **P** **22 20 04.1 -0.7**
baz=321
S57A Dark Hollow, R 68.15 56 P **P** **22 20 04.2 -0.7**
baz=320
GGN Saint George 68.19 44 P **P** **22 20 04.1 -0.8**
GGN IAmb IAmb 22 20 16.4
comp=Z,27nm,1.1s
PAL Palisades 68.19 51 P **P** **22 20 04.2 -0.9**
baz=321
R58A Rapidan 68.23 55 P **P** **22 20 04.5 -0.9**
baz=320
EMMW East Machias 68.25 45 P **P** **22 20 05.0 -0.3**
EMMW IAmb IAmb 22 20 05.4
comp=Z,16nm,0.6s
H66A Whiting 68.25 44 P **P** **22 20 04.3 -1.0**
baz=323
P60A Greenville 68.27 53 P **P** **22 20 04.7 -0.8**
baz=320
WES Weston 68.34 48 P **P** **22 20 05.6 -0.4**
WES pmax pmax
comp=Z,11nm,0.7s
WES Weston 68.34 48 P **P** **22 20 05.6 -0.4**
WES IAmb IAmb 22 20 05.9
comp=Z,11nm,0.7s
Y52A Lilburn 68.36 63 IAmb IAmb 22 20 06.2
comp=Z,7.2nm,0.7s
V55A Taylorsville 68.41 59 P **P** **22 20 05.7 -0.9**
baz=319
V55A Taylorsville 68.41 59 P **P** **22 20 05.8 -0.7**
U56A King 68.48 58 P **P** **22 20 06.2 -0.8**
baz=319
R58B Mineral 68.55 56 P **P** **22 20 06.2 -1.1**
baz=320
T57A Hurt 68.58 57 P **P** **22 20 06.6 -0.9**
baz=320
BRYW Bryant College 68.61 49 P **P** **22 20 06.5 -1.2**
BRYW IAmb IAmb 22 20 07.3
comp=Z,11nm,0.7s
OBN Obninsk 68.72 338 *e*P **P** **22 20 08.8 +0.7**
OBN *e* 22 20 34.0
OBN *e* 22 22 41.6
OBN pmax pmax
comp=Z,5.0nm,0.9s
S58A Poland Farm, P 68.73 56 P **P** **22 20 07.7 -0.8**
baz=320
M63A Gales Ferry 68.77 50 P **P** **22 20 07.6 -1.0**
baz=321
X54A Belton 68.77 61 P **P** **22 20 08.0 -0.8**
baz=319
V56A Mocksville 68.83 59 P **P** **22 20 08.3 -0.9**
baz=319
N63A Mattituck 68.87 50 P **P** **22 20 08.1 -1.2**
baz=321
T58A Grand View Acr 68.99 57 P **P** **22 20 09.0 -1.2**
baz=320
CHTO Chiang Mai 69.00 274 P **P** **22 20 11.0 +0.5**
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CHTO Chiang Mai 69.00 274 P **P** **22 20 11.0 +0.5**
GOGA Godfrey 69.03 62 P **P** **22 20 09.2 -1.3**
baz=319
GOGA Godfrey 69.03 62 P **P** **22 20 09.1 -1.3**
GOGA pmax pmax
comp=Z,7.0nm,1.1s
GOGA Godfrey 69.03 62 P **P** **22 20 09.1 -1.3**
X55A Gracelyn & Ava 69.23 61 P **P** **22 20 10.9 -0.8**
baz=319,SNR=5.6
CMAR Chiang Mai Arr 69.27 274 P **P** **22 20 12.4 +0.3**
comp=Z,2.6nm,0.5s,baz=28,slow=6.9,SNR=19
CMAR LR LR 22 54 08.1
comp=Z,18nm,18.1s,baz=194,slow=39
CMAR Chiang Mai Arr 69.27 274 *ce*P **P** **22 20 12.8 +0.7**
CMAR pmax pmax
comp=Z,3.0nm,0.5s
PBKT Sadao Pong 69.45 271 P **P** **22 20 13.3 +0.1**
T59A Double "B" Far 69.48 56 P **P** **22 20 12.4 -0.7**
baz=320
T59A Double "B" Far 69.48 56 P **P** **22 20 12.9 -0.2**
Y55A Saluda 69.51 61 P **P** **22 20 12.7 -0.7**
baz=320
X56A White Oak 69.54 60 P **P** **22 20 12.8 -0.8**
baz=320
V58A Windy Hill, Pi 69.56 58 P **P** **22 20 12.8 -0.9**
baz=320
W57A Gilead 69.59 59 P **P** **22 20 12.8 -1.0**
HAL Halifax 69.95 42 P **P** **22 20 15.5 -0.3**
HAL pmax pmax
comp=Z,29nm,1.1s
HAL Halifax 69.95 42 P **P** **22 20 15.5 -0.3**
HAL IAmb IAmb 22 20 22.5
comp=Z,29nm,1.1s
GAR Garm 70.01 308 P **P** **22 20 16.5 -0.1**
GAR IAmb IAmb 22 20 19.4
comp=Z,14nm,1.1s
V59A Middlesex 70.05 57 P **P** **22 20 16.0 -0.6**
baz=320
U60A Pendleton 70.06 56 P **P** **22 20 15.9 -0.8**
baz=320
W58A Raeford 70.09 59 P **P** **22 20 16.0 -0.9**
baz=320
LUWI Luwuk 70.45 241 P **P** **22 20 18.5 -0.8**
Z57A Bowman 70.62 61 P **P** **22 20 19.7 -0.4**
baz=320
CHGR Chuyangaron 70.84 309 P **P** **22 20 23.1 +1.6**
CHGR IAmb IAmb 22 20 23.8
comp=Z,22nm,1.0s
Z58A St. Stephen 71.07 60 P **P** **22 20 22.4 -0.5**
baz=320
X60A Albert Glenn T 71.09 58 P **P** **22 20 22.3 -0.7**
baz=321
NIL Nilore 72.69 303 P **P** **22 20 34.0 +1.4**

NIL						pmax	pmax			
	comp=Z,7.0nm,0.7s									
NIL	**Nilore**	**72.69**	**303**			P	**P**	**22 20 34.0**	**+1.4**	
KBL	**Kabul**	**74.14**	**306**			P	**P**	**22 20 41.5**	**+0.2**	
KBL						pmax	pmax			
	comp=Z,10.0nm,1.0s									
AKASG	**Malin Array Be**	**74.47**	**340**			P	**P**	**22 20 42.1**	**-0.6**	
	comp=Z,1.0nm,0.4s,baz=19,slow=6.3,SNR=4.1									
AKASG						pP	**pP**	**22 21 12.8**	**+1.4**	
	comp=Z,11nm,0.6s,baz=21,slow=6.1,SNR=12									
AKBB	**Malin Array Si**	**74.47**	**340**	⇑	*eP*		**P**	**22 20 43.3**	**+0.7**	
CMIG	**Matias Romero**	**74.69**	**82**		P		**P**	**22 20 43.9**	**-0.5**	
	comp=Z,4.3nm,0.8s,baz=309,slow=7.5,SNR=6.5									
MTN	**Manton Dam**	**76.37**	**228**		P		**P**	**22 20 54.7**	**+0.9**	
GEYT	**Alibeck**	**76.51**	**315**		P		**P**	**22 20 54.5**	**0.0**	
	comp=Z,1.1nm,0.6s,baz=337,slow=6.6,SNR=4.1									
GEYT						pP	**pP**	**22 21 25.1**	**+1.5**	
	comp=Z,0.8nm,0.4s,baz=245,slow=20,SNR=2.0									
GEYT						LR	LR	22 58 01.2		
	comp=Z,24nm,20.2s,baz=200,slow=38									
GEYT	**Alibeck**	**76.51**	**315**		IAmb		IAmb	22 20 56.7		
	comp=Z,1.7nm,0.9s									
CTA	**Charters Tower**	**77.05**	**211**		P		**P**	**22 20 57.6**	**0.0**	
	comp=Z,5.8nm,0.7s,baz=346,slow=8.2,SNR=4.6									
SORM	**Soroca**	**77.08**	**340**	⇑	P		pP	22 21 31.7	+5.3	
KBZ	**Khabaz**	**77.26**	**329**		P		**P**	**22 20 58.8**	**+0.2**	
	comp=Z,1.1nm,0.6s,baz=28,slow=3.0,SNR=4.5									
BATI	**Baumata**	**77.71**	**235**		P		**P**	**22 21 01.7**	**+0.3**	
	comp=Z,28nm,0.5s,baz=72,slow=3.2									
BURAR	**Bucovina Array**	**78.21**	**342**	⇓	P		pP	22 21 38.3	+5.3	
BURAR	**Bucovina Array**	**78.21**	**342**		P		**P**	**22 21 04.0**	**+0.1**	
VYHS	**Vyhne**	**78.44**	**346**	*eP*			**P**	**22 21 04.3**	**-0.8**	
VYHS	**Vyhne**	**78.44**	**346**	*eP*			**P**	**22 21 04.3**	**-0.8**	
TESR	**Tescani**	**78.98**	**341**	⇓	P		pP	22 21 42.4	+5.2	
OZUR		**79.56**	**341**	⇑	P		pP	22 21 45.6	+5.3	
TLCR		**79.78**	**339**	⇑	P		pP	22 21 44.8	+3.3	
CFR	**Carcaliu**	**79.94**	**339**	⇑	P		pP	22 21 47.5	+5.1	
TOPG	**Topolog**	**80.17**	**339**	⇑	P		pP	22 21 47.0	+3.2	
RETA	**Reutte**	**80.39**	**352**		*i* P		**P**	**22 21 14.3**	**-1.5**	
	comp=Z,11nm,1.5s									
WATA	**Walderalm**	**80.47**	**351**		*i* P		**P**	**22 21 14.4**	**-1.9**	
	comp=Z,7.4nm,1.0s									
MOTA	**Moosalm**	**80.50**	**351**		*i* P		**P**	**22 21 16.4**	**-0.1**	
	comp=Z,10.0nm,1.4s									
WTTA	**Wattenberg**	**80.53**	**351**		*i* PcP		**P**	**22 21 19.1**	**+2.4**	
	comp=Z,11nm,1.3s									
SQTA	**Sankt Quirin**	**80.62**	**351**		*i* P		**P**	**22 21 13.9**	**-3.1**	
	comp=Z,4.4nm,0.9s									
DAVA	**Damuels**	**80.67**	**352**		*i* P		**P**	**22 21 13.5**	**-3.8**	
	comp=Z,8.4nm,1.3s									
WB0	**Warramunga Arr**	**81.10**	**222**		IAmb		IAmb	22 21 20.6		
	comp=Z,15nm,0.8s									
WR0	**Warramunga Arr**	**81.21**	**221**		IAmb		IAmb	22 21 21.1		
	comp=Z,15nm,0.7s									
WRAB	**Tennant Creek**	**81.26**	**222**	*de*	P		**P**	**22 21 20.5**	**0.0**	
WRAB						pmax	pmax			
	comp=Z,17nm,0.9s									
WB2	**Warramunga Arr**	**81.27**	**222**		IAmb		IAmb	22 21 21.7		
	comp=Z,20nm,0.8s									
WRA	**Warramunga Arr**	**81.28**	**222**		P		**P**	**22 21 20.5**	**-0.1**	
	comp=Z,13nm,0.7s,baz=32,slow=6.1,SNR=89									
WRA	**Warramunga Arr**	**81.28**	**222**		*i* P		**P**	**22 21 20.7**	**+0.1**	
WRA						pmax	pmax			
	comp=Z,14nm,0.7s									
WRA	**Warramunga Arr**	**81.28**	**222**		P		**P**	**22 21 20.5**	**-0.1**	
RPSI	**Rantau Prapat**	**81.44**	**263**		IAmb		IAmb	22 21 22.3		
	comp=Z,11nm,0.8s									
FITZ	**Fitzroy Crossi**	**83.50**	**230**		P		**P**	**22 21 33.0**	**+0.8**	
	comp=Z,20nm,0.9s,baz=10,slow=5.5,SNR=17									
BRTR	**Keskin Array B**	**83.71**	**333**		P		**P**	**22 21 33.9**	**+0.6**	
	comp=Z,0.7nm,0.5s,baz=96,slow=2.5,SNR=3.8									
BRTR	**Keskin Array B**	**83.71**	**333**	*ce*	P		**P**	**22 21 35.0**	**+1.7**	
BRTR						pmax	pmax			
	comp=Z,1.0nm,0.5s									
ASAR	**Alice Springs**	**84.79**	**220**		P		**P**	**22 21 39.5**	**+0.8**	
	comp=Z,7.1nm,0.8s,baz=22,slow=5.3,SNR=53									
ASAR						LR	LR	23 01 14.6		
	comp=Z,13nm,19.1s,baz=82,slow=37									
ASAR	**Alice Springs**	**84.79**	**220**		P		**P**	**22 21 39.0**	**+0.3**	
STKA	**Stephens Creek**	**89.51**	**211**		P		**P**	**22 22 02.4**	**+1.2**	
	comp=Z,13nm,0.6s,baz=355,slow=6.5,SNR=58									
STKA						LR	LR	23 04 07.6		
	comp=Z,24nm,18.4s,baz=27,slow=37									
KMBO	**Kilima Mbogo**	**119.86**	**314**		*i* PKIKP		**PKiKP**	**22 27 58.7**	**+4.1**	
DBIC	**Dimbokro**	**121.55**	**4**		PKP		**PKPdf**	**22 27 57.3**	**-0.2**	
	comp=Z,1.6nm,0.5s,baz=239,slow=1.1,SNR=7.3									
H03N2	**Juan Fernandez**	**122.93**	**104**		T		T	00 43 00.5		
	baz=317,slow=77									
H03N1	**Juan Fernandez**	**122.94**	**104**		T		T	00 42 55.4		
	baz=317,slow=77									
H03N3	**Juan Fernandez**	**122.95**	**104**		T		T	00 42 53.2		
	baz=317,slow=77									
VNDA	**Vanda**	**129.61**	**185**		PKP		**PKPdf**	**22 28 11.2**	**+0.3**	
	comp=Z,0.6nm,0.6s,baz=328,slow=3.8,SNR=5.8									
CPUP	**Villa Florida**	**131.20**	**81**		SKPbc		**SKPbc**	**22 31 27.6**	**-1.8**	
	comp=Z,5.7nm,0.7s,baz=308,slow=3.9,SNR=16									
PLCA	**Paso Flores**	**132.76**	**105**		SKPab		**SKPab**	**22 31 35.8**	**-0.4**	
	comp=Z,5.7nm,0.9s,baz=292,slow=6.2,SNR=9.7									
BOSA	**Boshof**	**149.32**	**309**		PKPbc		**PKiKP**	**22 28 53.2**	**-0.4**	
	comp=Z,8.3nm,0.6s,baz=34,slow=3.2,SNR=34									
SNAA	**Sanae**	**160.19**	**179**		PKPab		**PKPab**	**22 29 42.1**	**-0.4**	
SNAA	**Sanae**	**160.19**	**179**		PKPab		**PKPab**	**22 29 41.9**	**-0.7**	
	comp=Z,1.6nm,0.5s,baz=210,slow=7.5,SNR=20									
VNA3	**Neumayer Olymp**	**160.28**	**172**		PKPab		**PKPab**	**22 29 43.5**	**+0.6**	
VNA2	**Neumayer--Watz**	**160.76**	**174**		PKPab		**PKPab**	**22 29 45.2**	**+0.3**	

*NEIC **14** 22:15:31.6±2.0, 20°.03S±0°.01×70°.82W±0°.05, h8km±4km, mb4.2/4, ML3.7(GUC), Error ellipse: s-maj=6.4km s-min=2.2km az=90.0*

*IDC **14** 22:15:31.2±1.0, 19°.91S×70°.67W, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.7/33, mbtmp3.8/7, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/29, Error ellipse: s-maj=35.3km s-min=20.7km az=85.0*

*GUC **14** 22:15:34.0±0.8, 20°.02S×70°.71W, h28km±2km, ML3.7*

ISC 14 22:15:31.0±1.5, 20°.01S±0°.02×70°.75W±0°.05, h5km±9km, n60, σ0°.91/67, mb4.1/4, 3C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.64**	**114**		*eP*		**Pb**	**22 15 45.1**	**+0.5**
TA02					IAML			22 15 55.5	
	comp=N,23μm,0.1s								
PSGC	**Pisagua**	**0.72**	**55**		*e*P		**Pn**	**22 15 47.0**	**-1.0**
PSGC					*i* S		**Sb**	**22 15 56.8**	**+0.5**
PSGC					IAML			22 15 58.4	
	comp=N,6μm,0.3s								
PSGCX	**Pisagua**	**0.72**	**55**				**Pb**	**22 15 46.8**	**+0.7**
PSGCX					Sg		**Sb**	**22 15 56.8**	**+0.5**
TA01	**Diego Aracena**	**0.77**	**136**	⇑	*i*P		**Pb**	**22 15 47.4**	**+0.5**
TA01					*i* S		**Sb**	**22 15 57.6**	**0.0**
TA01					IAML			22 16 02.7	
	comp=E,9μm,0.4s								
TA01	**Diego Aracena**	**0.77**	**136**				**Pb**	**22 15 47.4**	**+0.5**
TA01					Sg		**Sb**	**22 15 58.0**	**+0.3**
PATCX	**Punta Patache**	**0.98**	**145**	⇓	*i*P		**Pb**	**22 15 50.8**	**+0.2**
PATCX					*i* S		**Sb**	**22 16 03.6**	**-0.2**
PATCX					IAML			22 16 08.2	
	comp=E,5μm,0.3s								
PATCX	**Punta Patache**	**0.98**	**145**				**Pb**	**22 15 50.8**	**+0.2**
PATCX					Sg		**Sn**	**22 16 05.3**	**-0.5**
PB11	**IPOC Station P**	**1.06**	**77**		*eP*		**Pn**	**22 15 52.6**	**-0.1**
PB11					*i* S		**Sn**	**22 16 06.4**	**-1.5**
PB11					IAML			22 16 11.7	
	comp=Z,1μm,0.2s								
PB11	**IPOC Station P**	**1.06**	**77**				**Pn**	**22 15 52.7**	**0.0**
PB11					Sg		**Sn**	**22 16 07.8**	**-0.2**
MNMC	**Minye Minye**	**1.40**	**51**		*eP*		**Pg**	**22 15 58.3**	**+0.5**
MNMC					*i* S		**Sn**	**22 16 16.6**	**+0.2**
MNMC					IAML			22 16 24.6	
	comp=E,9μm,0.5s								
MNMC	**Minye Minye**	**1.40**	**51**				**Pg**	**22 15 57.9**	**+0.1**
PB12	**IPOC Station P**	**1.45**	**16**		*i* P		**Pb**	**22 15 58.6**	**+0.1**
PB12					*i* S		**Sg**	**22 16 18.1**	**+0.6**
PB12					IAML			22 16 23.2	
	comp=N,2μm,0.7s								
PB12	**IPOC Station P**	**1.45**	**16**				**Pb**	**22 15 58.6**	**+0.1**
PB12							**Sg**	**22 16 18.4**	**+0.9**
GO01	**Chusmiza**	**1.50**	**77**	⇑	*i*P		**Pg**	**22 16 00.1**	**+0.2**
GO01					*i* S		**Sg**	**22 16 19.5**	**+0.1**
GO01	**Chusmiza**	**1.50**	**77**				**Pg**	**22 16 00.3**	**+0.4**
PB08	**IPOC Station P**	**1.51**	**95**		*eP*		**Pg**	**22 15 59.7**	**-0.2**
PB08					*i* S		**Sg**	**22 16 19.2**	**-0.3**
PB08					IAML			22 16 27.4	
	comp=N,780nm,0.7s								
PB08	**IPOC Station P**	**1.51**	**95**				**Pb**	**22 15 59.5**	**-0.2**
PB01	**IPOC Station P**	**1.57**	**131**		*eP*		**Pb**	**22 16 00.2**	**-0.4**
PB01					*i* S		**Sb**	**22 16 19.9**	**-0.8**
PB01					IAML			22 16 22.1	
	comp=E,1μm,0.1s								
PB01	**IPOC Station P**	**1.57**	**131**				**Pb**	**22 16 00.6**	**0.0**
PB01					Sn		**Sg**	**22 16 21.4**	**0.0**
AP01	**Chacalluta**	**1.68**	**13**	⇑	*i*P		**Pb**	**22 16 02.5**	**+0.2**
AP01					*i* S		**Sg**	**22 16 25.0**	**+0.1**
AP01					IAML			22 16 30.5	
	comp=E,4μm,0.4s								
AP01	**Chacalluta**	**1.68**	**13**		Pn		**Pb**	**22 16 02.7**	**+0.4**
AP01					Sn		**Sg**	**22 16 25.1**	**+0.2**
PB07	**IPOC Station P**	**1.89**	**155**		*eP*		**Pn**	**22 16 05.0**	**+0.9**
PB07					*i* S		**Sb**	**22 16 30.5**	**+0.4**
PB07					IAML			22 16 35.4	
	comp=E,1μm,0.4s								
PB07	**IPOC Station P**	**1.89**	**155**				**Pn**	**22 16 04.8**	**+0.7**
PB16	**IPOC Station P**	**2.04**	**35**		*eP*		**Pb**	**22 16 09.1**	**+0.2**
PB16					*i* S		**Sg**	**22 16 35.8**	**-0.8**
PB16					IAML			22 16 44.1	
	comp=E,609nm,0.6s								
PB16	**IPOC Station P**	**2.04**	**35**				**Pb**	**22 16 07.8**	**-1.0**
PB09	**IPOC Station P**	**2.27**	**142**		*eP*		**Pb**	**22 16 11.8**	**-0.8**
PB09					*i* S		**Sb**	**22 16 40.5**	**-0.5**
PB09	**IPOC Station P**	**2.27**	**142**				**Pb**	**22 16 11.9**	**-0.6**
PB04	**IPOC Station P**	**2.38**	**166**				**Pn**	**22 16 10.9**	**+0.1**
PB06	**IPOC Station P**	**2.90**	**158**				**Pn**	**22 16 18.5**	**+0.5**
LVC	**Limon Verde**	**3.10**	**147**		Pn		**Pn**	**22 16 23.7**	**+2.7**
	comp=E,6.9nm,0.3s,baz=5.0,slow=8.8,SNR=68								
LVC					Sn		**Sb**	**22 17 01.9**	**-3.4**
	comp=E,18nm,0.3s,baz=130,slow=24,SNR=6.8								
LVC					Lg		Lg	22 17 07.8	
	comp=E,40nm,0.3s,baz=66,slow=18,SNR=12								
PB10	**IPOC Station P**	**3.49**	**177**		Pn		**Pn**	**22 16 24.7**	**-1.2**
LPAZ	**La Paz**	**4.46**	**34**		Pn		Pb	22 16 45.3	-4.9
	comp=E,0.8nm,0.3s,baz=210,slow=4.9,SNR=17								
LPAZ	**La Paz**	**4.46**	**34**				**Pb**	**22 16 47.5**	**-2.8**
PB14	**IPOC Station P**	**4.60**	**176**				**Pn**	**22 16 40.1**	**-1.5**
GO02	**Mina Guanaco**	**5.24**	**168**				**Pn**	**22 16 50.3**	**0.0**
AC01	**Pan de Azucar**	**6.11**	**179**		Pn		**Pn**	**22 17 00.8**	**-1.2**
SIV	**San Ignacio**	**10.04**	**68**		Pn		**Pn**	**22 17 56.5**	**+0.5**
	comp=E,0.7nm,0.3s,baz=274,slow=12,SNR=8.1								
H03N1	**Juan Fernandez**	**15.22**	**207**		T		T	22 34 43.6		
	baz=32,slow=72									
H03N2	**Juan Fernandez**	**15.23**	**207**		T		T	22 34 46.9		
	baz=32,slow=72									
H03N3	**Juan Fernandez**	**15.24**	**207**		T		T	22 34 49.8		
	baz=32,slow=72									
PLCA	**Paso Flores**	**20.66**	**180**		P		**P**	**22 20 12.5**	**+0.8**	
	comp=E,0.5nm,0.5s,baz=346,slow=17,SNR=1.7									
PLCA	**Paso Flores**	**20.66**	**180**		IAmb		IAmb	22 20 52.1		
	comp=Z,14nm,1.6s									
PTGA	**Pitinga**	**21.88**	**30**		P		**P**	**22 20 23.6**	**-1.3**	
	comp=Z,1.7nm,0.3s,baz=270,slow=23,SNR=4.2									
PTGA	**Pitinga**	**21.88**	**30**		IAmb		IAmb	22 20 42.7		
	comp=Z,12nm,1.6s									
TKL	**Tuckaleechee C**	**56.72**	**347**		LR		LR	22 50 49.9		
	comp=Z,33nm,19.2s,baz=334,slow=37									
SNAA	**Sanae**	**64.24**	**161**		P		**P**	**22 26 08.2**	**+1.4**	
	comp=Z,0.9nm,1.0s,baz=282,slow=14,SNR=5.0									
SNAA	**Sanae**	**64.24**	**161**		IAmb		IAmb	22 27 36.8		
	comp=Z,19nm,2.0s									
TORD	**Torodi Ar. Bea**	**78.50**	**71**		P		**P**	**22 27 33.3**	**-0.5**	
	comp=Z,0.9nm,0.4s,baz=252,slow=5.6,SNR=8.0									
TORD	**Torodi Ar. Bea**	**78.50**	**71**		P		**P**	**22 27 33.0**	**-0.7**	
YKA	**Yellowknife Ar**	**89.22**	**341**		P		**P**	**22 28 27.1**	**-0.4**	
	comp=Z,0.2nm,0.4s,baz=121,slow=5.7,SNR=3.8									
H11S2	**WAKE ISLAND Hyl**	**125.97**	**279**		T		T	00 53 04.0		
	baz=102									
H11S1	**WAKE ISLAND Hyl**	**125.97**	**279**		T		T	00 53 04.6		
	baz=102									
H11S3	**WAKE ISLAND Hyl**	**125.98**	**279**		T		T	00 53 05.3		
	baz=102									
H11N3	**WAKE ISLAND Hyl**	**126.01**	**280**		T		T	00 53 10.9		
	baz=101,slow=74									
H11N2	**WAKE ISLAND Hyl**	**126.03**	**280**		T		T	00 53 11.7		
	baz=101,slow=74									
H11N1	**WAKE ISLAND Hyl**	**126.03**	**280**		T		T	00 53 09.3		
	baz=101,slow=74									
WRA	**Warramunga Arr**	**133.30**	**213**		PKP		**PKiKP**	**22 34 49.8**	**-0.4**	
	comp=Z,0.3nm,0.8s,baz=144,slow=1.4,SNR=4.6									
MKAR	**Makanchi Array**	**145.39**	**33**		PKPbc		**PKPab**	**22 35 11.3**	**+1.1**	
	comp=Z,1.8nm,0.7s,baz=328,slow=4.0,SNR=13									
KLR	**Kul'dur**	**145.73**	**334**		PKPbc		**PKPab**	**22 35 11.9**	**+0.6**	
	comp=Z,0.5nm,0.4s,baz=23,slow=3.8,SNR=3.8									
SONM	**Songino Array**	**152.15**	**4**		PKPbc		**PKiKP**	**22 35 29.0**	**+0.9**	
	comp=Z,2.4nm,1.2s,baz=355,slow=0.9,SNR=4.1									

*TAP **14** 22:32:30.8, 24°.45N×121°.93E, h12km, ML2.9, D*

*JMA **14** 22:32:30.5±0.1, 24°.41N×122°.00E, h15km, M2.3*

ISC 14 22:32:29.8±0.9, 24°.43N±0°.02×122°.01E±0°.03, h13km±7km, n47, σ0°.48/78, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.19**	**277**		P		**Pb**	**22 32 34.5**	**-0.6**
ENAH					S		**Sg**	**22 32 37.3**	**+0.4**
	baz=270								
TWC	**Suao**	**0.24**	**321**		*i* P		**Pg**	**22 32 35.1**	**+0.3**
TWC					S		**Sg**	**22 32 37.9**	**-0.3**
	baz=337								
ENA	**Nanau**	**0.25**	**270**		P		**Pg**	**22 32 34.5**	**-0.6**
ENA					S		**Sg**	**22 32 38.7**	**+0.1**
	baz=262								
ILA	**Ilan**	**0.41**	**324**		P		**Pb**	**22 32 39.0**	**-0.1**
	baz=332								
ILA					eS		**Sb**	**22 32 45.7**	**+0.4**
	baz=332								
EGS		**0.42**	**350**		*eP*		**Pb**	**22 32 38.9**	**-0.3**
	baz=1.0								
TWE	**Neicheng**	**0.43**	**313**		P		**Pb**	**22 32 38.9**	**-0.4**
	baz=319								
TWE					eS		**Sg**	**22 32 43.9**	**-0.3**
	baz=319								
NACB	**Ninganchiao**	**0.46**	**237**		*eP*		**Pg**	**22 32 38.4**	**-0.5**
	baz=228								
NACB					eS		**Sb**	**22 32 45.6**	**-0.8**
	baz=228								
NTC	**Toucheng**	**0.46**	**339**		P		**Pb**	**22 32 39.4**	**-0.3**
	baz=347								
NTC					eS		**Sb**	**22 32 46.3**	**-0.3**
	baz=347								
ENTT	**Nioudou**	**0.46**	**298**		P		**Pb**	**22 32 39.5**	**-0.4**
	baz=300								
ENTT					eS		**Sg**	**22 32 45.3**	**+0.2**
	baz=300								
NDT	**Datong Townshi**	**0.49**	**291**		P		**Pb**	**22 32 40.1**	**-0.2**
	baz=291								
NDT					eS		**Sg**	**22 32 46.2**	**+0.2**
	baz=291								
TWD	**Chiawan**	**0.51**	**228**		*eP*		**Pb**	**22 32 40.5**	**-0.2**
	baz=219								
TWD					S		**Sb**	**22 32 47.6**	**-0.5**
	baz=219								
ETLH	**Xiulin Townshi**	**0.53**	**246**		P		**Pb**	**22 32 40.8**	**-0.3**
	baz=239								
ETLH					S		**Sb**	**22 32 48.2**	**-0.6**
	baz=239								
TIPB	**Shuangxi**	**0.57**	**343**		P		**Pb**	**22 32 41.6**	**-0.1**
	baz=349								
TIPB					S		**Sb**	**22 32 49.6**	**-0.2**
	baz=349								
NNSB	**Datong**	**0.57**	**270**		*eP*		**Pg**	**22 32 40.6**	**-0.5**
	baz=267								
NNSB					eS		**Sg**	**22 32 48.8**	**0.0**
	baz=267								
NNSH	**Datong**	**0.57**	**270**		P		**Pb**	**22 32 41.6**	**-0.3**
	baz=267								
NNSH					S		**Sg**	**22 32 48.7**	**0.0**
	baz=267								
TWB1	**Santiao Chiao**	**0.58**	**358**		P		**Pb**	**22 32 42.5**	**+0.6**
	baz=6.0								
NWLT	**Wulai**	**0.58**	**307**		*eP*		**Pb**	**22 32 42.1**	**+0.2**
	baz=309								
NWLT					eS		**Sg**	**22 32 49.1**	**+0.2**
	baz=309								
NNS	**Nan Shan**	**0.58**	**271**		P		**Pb**	**22 32 41.7**	**-0.3**
	baz=268								
NNS					eS		**Sg**	**22 32 49.3**	**+0.2**
	baz=268								
YHNB	**Yeheng**	**0.63**	**293**		*e*P		**Pb**	**22 32 42.8**	**+0.1**
	baz=293								
YHNB					eS		**Sg**	**22 32 50.5**	**0.0**
	baz=293								
NSK	**Sanguang**	**0.65**	**293**		*e*P		**Pb**	**22 32 43.1**	**+0.1**
	baz=293								
NSK					eS		**Sg**	**22 32 51.0**	**0.0**
	baz=293								
NWF	**Wu-fen Shan**	**0.68**	**342**		P		**Pb**	**22 32 44.3**	**+0.8**
	baz=347								
NWF					S		**Sb**	**22 32 52.9**	**0.0**
	baz=347								
TWA	**Mucha**	**0.68**	**325**		*e*P		**Pb**	**22 32 44.0**	**+0.4**
	baz=329								
WFSB	**Wu-fen Shan**	**0.68**	**342**		*e*P		**Pb**	**22 32 44.3**	**+0.8**
	baz=347								
WFSB					eS		**Sb**	**22 32 52.8**	**0.0**
	baz=347								
NHDH	**Xindian Distri**	**0.69**	**320**		*e*P		**Pb**	**22 32 44.3**	**+0.5**
	baz=324								
NHDH					eS		**Sg**	**22 32 52.4**	**-0.1**
	baz=324								
TDCB	**Techi**	**0.80**	**258**		*e*P		**Pb**	**22 32 46.1**	**+0.4**
	baz=254								
TDCB					eS		**Sb**	**22 32 56.2**	**-0.2**
	baz=254								
YM01	**YM01**	**0.82**	**331**		*e*P		**Pn**	**22 32 47.1**	**-0.1**
	baz=334								
YM10	**YM10**	**0.83**	**331**		*e*P		**Pn**	**22 32 47.4**	**0.0**
	baz=334								
YM11	**YM11**	**0.84**	**332**		*e*P		**Pn**	**22 32 47.5**	**+0.1**
	baz=335								
YM11					eS		**Sb**	**22 32 57.4**	**-0.1**
	baz=335								
YM05	**YM05**	**0.84**	**331**		*e*P		**Pn**	**22 32 47.6**	**+0.2**
	baz=334								
YM04	**YM04**	**0.84**	**329**		*e*P		**Pn**	**22 32 47.9**	**+0.4**
	baz=332								
YM04					eS		**Sn**	**22 32 59.3**	**-0.5**
	baz=332								
CHGB	**Renai**	**0.85**	**245**		*e*P		**Pb**	**22 32 46.8**	**+0.2**
	baz=240								
CHGB					eS		**Sb**	**22 32 58.8**	**+0.9**
	baz=240								
JYNG	**Yonagunijimaku**	**0.85**	**88**		P		**Pb**	**22 32 46.7**	**+0.3**
YM08	**YM08**	**0.85**	**333**		*e*P		**Pn**	**22 32 47.2**	**-0.4**
	baz=337								
YM03	**YM03**	**0.86**	**330**		*e*P		**Pn**	**22 32 47.7**	**-0.1**
	baz=333								
ANP	**Anpu**	**0.88**	**329**		*e*P		**Pb**	**22 32 46.9**	**-0.1**
	baz=333								
YOJ	**Yonaguni jima**	**0.91**	**88**		P		**Pb**	**22 32 47.7**	**+0.2**
TWY	**Chenhua**	**0.93**	**336**		*e*P		**Pn**	**22 32 48.9**	**+0.3**
	baz=340								
TWY					eS		**Sb**	**22 33 00.6**	**+0.6**
	baz=340								
WHP	**Taichung City**	**0.98**	**262**		*e*P		**Pn**	**22 32 49.8**	**+0.3**
	baz=259								
WHP					S		**Sb**	**22 33 02.3**	**+0.6**
	baz=259								
VWDT	**VWDT**	**1.04**	**230**		*e*P		**Pn**	**22 32 50.3**	**+0.2**
	baz=226								
VWDT					eS		**Sn**	**22 33 05.4**	**+0.9**
	baz=226								
HGSD	**Ruisui**	**1.07**	**210**		*e*P		**Pn**	**22 32 51.6**	**+1.0**
	baz=206								
SSLB	**Suanglung**	**1.16**	**237**		*e*P		**Pn**	**22 32 52.5**	**+0.7**
	baz=233								
YULB	**Yu-li**	**1.22**	**213**		*e*P		**Pg**	**22 32 53.3**	**0.0**
	baz=208								
IRIF	**Iriomote-Funau**	**1.57**	**93**		P		**Pn**	**22 32 56.8**	**-0.6**
IRIF					S		**Sn**	**22 33 17.0**	**-0.6**
JKRS	**Kuro-shima**	**1.83**	**95**		P		**Pn**	**22 33 01.4**	**+0.4**
JKRS					eS		**Sn**	**22 33 24.6

comp=Z,1.3nm,0.9s,baz=259,slow=5.3,SNR=9.6
RIDG Independent Ri 84.65 22 P **P** **23 36 18.9 +1.1**
RIDG IAmb IAmb 23 36 30.8
comp=Z,6.9nm,1.2s
DOT Dot Lake 84.89 22 P **P** **23 36 19.8 +0.7**
DOT IAmb IAmb 23 36 20.8
comp=Z,3.1nm,0.8s
BCAR Beaver Creek A 85.44 23 P **P** **23 36 23.5 +1.6**
MK31 Makanchi Array 87.56 318 P **P** **23 36 32.8 +0.2**
MK31 IAmb IAmb 23 36 33.5
comp=Z,1.3nm,0.9s
MKAR Makanchi Array 87.56 318 P **P** **23 36 31.7 -0.9**
comp=Z,0.8nm,0.7s,baz=95,slow=5.2,SNR=8.9
MKAR Makanchi Array 87.56 318 P **P** **23 36 32.4 -0.2**
NVAR Mina Array Bea 90.63 51 P **P** **23 36 49.5 +2.0**
comp=Z,4.1nm,1.0s,baz=249,slow=6.6,SNR=14
GERES GERESS Array B 130.97 330 PKP **PKiKP** **23 42 56.8 -0.4**
comp=Z,0.2nm,0.3s,baz=294,slow=1.3,SNR=4.8
ESDC Sonseca Array 146.13 335 PKPbc **PKPab** **23 43 25.6 -0.1**
comp=Z,0.6nm,0.7s,baz=23,slow=5.3,SNR=5.1

*HEL **14** 23:40:49.6±0.0, 67.81N×20.21E, h0km, ML2.1, ML2.0(UPP), Explosion*
*UPP **14** 23:40:49.2±0.1, 67.81N×20.20E, h0km, ML2.0, Explosion*
*IDC **14** 23:40:51.6±1.1, 67.79N×20.63E, h0km, mb1 2.9/4, mb1mx2.8/45, mbtmp2.9/4, ML2.1/4, Error ellipse: s-maj=18.1km s-min=7.6km az=120.0*
ISC 14 23:40:49.7±0.8, 67.80N±0.03×20.21E±0.02, h0km, n28, σ0s98/42, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KUA	**Kurravaara**	**0.16**	**18**	P		**Pg**	**23 40 52.3**	**-0.5**
KUA				S		**Sg**	**23 40 54.4**	**-0.4**
KUA	**Kurravaara**	**0.16**	**18**	*i* P		**Pg**	**23 40 52.3**	**-0.5**
KUA				*i* S		**Sg**	**23 40 54.4**	**-0.4**
RATU	**Laukkuluspa**	**0.23**	**275**	*i* P		**Pg**	**23 40 53.8**	**-0.4**
RATU				S		**Sg**	**23 40 56.9**	**-0.4**
RATU	**Laukkuluspa**	**0.23**	**275**	*i* P		**Pg**	**23 40 53.8**	**-0.4**
RATU				*i* S		**Sg**	**23 40 56.9**	**-0.4**
KOVU	**Salmi**	**0.42**	**358**	P		**Pg**	**23 40 57.1**	**-0.7**
KOVU				S		**Sg**	**23 41 02.6**	**-0.7**
KOVU	**Salmi**	**0.42**	**358**	*i* P		**Pg**	**23 40 57.1**	**-0.7**
KOVU				*i* S		**Sg**	**23 41 02.6**	**-0.7**
NIKU	**Nikkaluokta**	**0.45**	**279**	P		**Pg**	**23 40 57.7**	**-0.6**
NIKU	**Nikkaluokta**	**0.45**	**279**	*i* P		**Pg**	**23 40 57.7**	**-0.6**
LANU	**Lannavaara**	**0.72**	**69**	P		**Pg**	**23 41 02.7**	**-0.7**
LANU	**Lannavaara**	**0.72**	**69**	*e*P		**Pg**	**23 41 02.4**	**-1.0**
KIF	**Kilpisjarvi** baz=187	**1.23**	**10**	*e*PB		**Pg**	**23 41 12.4**	**-0.8**
KIF				MSG			23 41 28.4	
	comp=Z,19nm,0.2s							
KIF				*e*SB		**Sb**	**23 41 29.1**	**-1.0**
KIF	**Kilpisjarvi**	**1.23**	**10**	*e*P		**Pg**	**23 41 12.7**	**-0.5**
PAJU	**Pajala**	**1.37**	**124**	P		**Pg**	**23 41 14.5**	**-1.4**
PAJU	**Pajala**	**1.37**	**124**	*e*P		**Pg**	**23 41 14.5**	**-1.4**
ERTU	**Ertsjaerv**	**1.47**	**147**	P		**Pn**	**23 41 16.4**	**-1.1**
ERTU	**Ertsjaerv**	**1.47**	**147**	*e*PG		**Pn**	**23 41 16.2**	**-1.3**
ERTU				*e*SN		**Sg**	**23 41 36.5**	**-0.5**
HARU	**Harads**	**1.68**	**169**	P		**Pn**	**23 41 19.9**	**-0.3**
HARU	**Harads**	**1.68**	**169**	*e*P		**Pn**	**23 41 19.9**	**-0.3**
TOF	**Tornio**	**2.37**	**135**	*e*PB		**Pn**	**23 41 30.8**	**+1.0**
TOF				MSG			23 41 59.2	
	comp=Z,9.9nm,0.2s							
TOF				*e*SG		**Sb**	**23 42 03.0**	**0.0**
SGF	**Sodankyl** baz=279	**2.44**	**96**	*e*PB		**Pn**	**23 41 31.9**	**+1.1**
SGF				*e*SG		**Sb**	**23 42 04.8**	**-0.4**
LOF	**Lofoten**	**2.54**	**281**	*e*P		**Pn**	**23 41 32.0**	**-0.1**
ARCES	**ARCESS Array B**	**2.60**	**46**	Pn		**Pn**	**23 41 33.5**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=230,slow=14,SNR=20							
ARCES				Sn		**Sn**	**23 42 06.3**	**+1.0**
	comp=Z,2.9nm,0.3s,baz=226,slow=24,SNR=13							
BURU	**Burvik**	**3.27**	**171**	*e*P		**Pn**	**23 41 43.6**	**+1.5**
VRF	**Varrio**	**3.57**	**87**	*e*SG		**Sb**	**23 42 40.5**	**+2.9**
KU6	**Riekki**	**4.21**	**111**	*e*PG		**Pb**	**23 42 05.3**	**+0.8**
FINES	**FINESS Array B**	**6.86**	**156**	Pn		**Pn**	**23 42 32.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=339,slow=15,SNR=4.4							
FINES				Sn		**Sn**	**23 43 50.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=350,slow=20,SNR=1.5							
FINES				Lg		Lg	23 44 21.9	
	comp=Z,0.3nm,0.3s,baz=351,slow=32,SNR=3.0							
NOA	**NORSAR Array B**	**7.82**	**214**	Pn		**Pn**	**23 42 46.2**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=20,slow=8.1,SNR=3.2							
NOA				Sn		**Sn**	**23 44 13.0**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=9.8,slow=9.3,SNR=1.4							
NOA				Lg		Lg	23 44 56.9	
	comp=Z,0.0nm,0.3s,baz=44,slow=26,SNR=2.5							
HFS	**Hagfors**	**8.21**	**203**	Pn		**Pn**	**23 42 51.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=23,slow=9.4,SNR=1.4							
HFS				Sn		**Sn**	**23 44 21.9**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=182,slow=37,SNR=2.5							
HFS				Lg		Lg	23 45 08.2	
	comp=Z,0.2nm,0.3s,baz=27,slow=29,SNR=2.3							

*IDC **14** 23:57:05.3±2.4, 20.30S×177.87W, h325km±25km, mb3.5/6, mb1 3.8/8, mb1mx3.4/40, mbtmp4.4/8, Error ellipse: s-maj=25.2km s-min=16.1km az=134.0*
*NEIC **14** 23:57:09.5±2.6, 20.6S±0.1×177.7W±0.1, h375km±10km, mb4.2/28, Error ellipse: s-maj=19.4km s-min=14.1km az=180.0*
ISC 14 23:57:07.3±0.5, 20.46S±0.09×177.82W±0.07, h350km, n48, σ1s34/47, mb4.2/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MSVF	**Nonsavu**	**4.76**	**304**	Pn		Pn	23 58 30.2	+5.7
NIUE	**Niue**	**7.55**	**81**			**Pn**	**23 58 56.9**	**+0.6**
NIUE				S		**S**	**00 00 24.3**	**-0.6**
AFI	**Afiamalu** 4.6nm,0.3s,baz=113,slow=6.6,SNR=7.9	**8.70**	**42**	P		**Pn**	**23 59 06.4**	**-3.6**
AFI				S		S	00 00 39.9	-10
	6.5nm,0.3s,baz=150,slow=20,SNR=2.9							
DZM	**Mont Dzumac** 1.8nm,0.3s,baz=83,slow=21,SNR=15	**14.76**	**261**	P		**Pn**	**00 00 21.6**	**0.0**
MXZ	**Matakaoa Point**	**17.38**	**190**	P		**P**	**00 00 48.2**	**+0.6**
URZ	**Urewera** 5.2nm,0.3s,baz=288,slow=3.5,SNR=20	**18.28**	**193**	P		**P**	**00 00 57.7**	**+0.6**
URZ				S		**S**	**00 04 02.4**	**-5.3**
	0.7nm,0.3s,baz=99,slow=19,SNR=2.4							
URZ	**Urewera** comp=Z,26nm,1.2s	**18.28**	**193**	IAmb		IAmb	00 00 58.8	
BKZ	**Black Stump Fm**	**19.28**	**194**	P		**P**	**00 01 07.3**	**-0.6**
BKZ				IAmb		IAmb	00 01 19.3	
	comp=Z,12nm,1.1s							
QRZ	**Quartz Range**	**21.91**	**200**	P		**P**	**00 01 32.8**	**+0.2**
NNZ	**Nelson**	**22.01**	**198**	P		**P**	**00 01 33.5**	**0.0**
BSWZ	**Blackbirch Sta**	**22.33**	**197**	P		**P**	**00 01 34.3**	**-2.2**
THZ	**Tophouse**	**22.65**	**198**	P		**P**	**00 01 37.9**	**-1.6**
KHZ	**Kahutara**	**23.08**	**196**	P		**P**	**00 01 44.1**	**+1.0**
LTZ	**Lake Taylor**	**23.77**	**198**	P		**P**	**00 01 50.2**	**+0.6**
MLZ	**Mavora Lakes**	**27.42**	**202**	P		**P**	**00 02 20.3**	**-1.7**
MLZ				IAmb		IAmb	00 02 26.0	
	comp=Z,12nm,1.0s							
EIDS	**Eidsvold**	**29.03**	**254**	P		**P**	**00 02 37.2**	**+0.7**
EIDS				IAmb		IAmb	00 02 38.6	
	comp=Z,6.3nm,0.6s							
ARMA	**Armidale**	**29.24**	**244**	P		**P**	**00 02 39.5**	**+1.0**
ARMA				IAmb		IAmb	00 02 40.9	
	comp=Z,8.4nm,0.7s							
CTAO	**Charters Tower**	**33.67**	**264**	P		**P**	**00 03 17.5**	**+0.7**
CTAO				IAmb		IAmb	00 03 18.4	
	comp=Z,12nm,0.5s							
TOO	**Toolangi**	**36.06**	**234**	P		**P**	**00 03 37.4**	**+0.5**
COEN	**Coen**	**37.75**	**273**	P		**P**	**00 03 52.3**	**+1.1**
COEN				IAmb		IAmb	00 03 53.6	
	comp=Z,13nm,1.1s							
STKA	**Stephens Creek**	**37.96**	**244**	P		**P**	**00 03 53.1**	**+0.3**
	comp=Z,2.6nm,0.5s,baz=97,slow=7.7,SNR=9.9							
STKA	**Stephens Creek** comp=Z,0.7nm,0.7s	**37.96**	**244**	IAmb		IAmb	00 03 54.3	
BBOO	**Buckleboo**	**42.72**	**243**	P		**P**	**00 04 31.5**	**+0.1**
BBOO				IAmb		IAmb	00 04 32.6	
	comp=Z,5.9nm,0.8s							
WR0	**Warramunga Arr**	**44.59**	**262**	P		**P**	**00 04 46.0**	**-0.4**
AS31	**Alice Springs**	**44.70**	**257**	P		**P**	**00 04 47.4**	**+0.2**
ASAR	**Alice Springs**	**44.70**	**257**	P		**P**	**00 04 47.4**	**+0.2**
	comp=Z,12nm,0.7s,baz=89,slow=8.1,SNR=98							
ASAR				PcP		**PcP**	**00 06 22.2**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=99,slow=5.7,SNR=2.1							
ASAR	**Alice Springs**	**44.70**	**257**	P		**P**	**00 04 46.9**	**-0.3**
WB0	**Warramunga Arr**	**44.76**	**262**	P		**P**	**00 04 47.3**	**-0.4**
WB0				IAmb		IAmb	00 04 48.0	
	comp=Z,8.6nm,0.5s							
WB2	**Warramunga Arr**	**44.77**	**262**	P		**P**	**00 04 47.6**	**-0.1**
WRA	**Warramunga Arr**	**44.78**	**262**	P		**P**	**00 04 47.2**	**-0.6**
	comp=Z,3.0nm,0.3s,baz=97,slow=7.6,SNR=90							
WRA	**Warramunga Arr**	**44.78**	**262**	P		**P**	**00 04 47.0**	**-0.8**
FORT	**Forrest**	**49.47**	**247**	P		**P**	**00 05 22.8**	**-0.7**
FORT				IAmb		IAmb	00 05 30.4	
	comp=Z,19nm,1.1s							
KNRA	**Kununurra**	**50.84**	**266**	P		**P**	**00 05 33.4**	**-0.4**
KNRA				IAmb		IAmb	00 05 42.3	
	comp=Z,21nm,1.1s							
FITZ	**Fitzroy Crossi**	**53.20**	**262**	P		**P**	**00 05 51.2**	**0.0**
FITZ				IAmb		IAmb	00 05 51.9	
	comp=Z,4.9nm,0.8s							
PSA00	**Pilbara Seismi**	**57.85**	**257**	P		**P**	**00 06 23.1**	**-0.8**
PSA00				IAmb		IAmb	00 06 31.9	
	comp=Z,13nm,0.9s							
VNDA	**Vanda**	**57.97**	**185**	P		**P**	**00 06 25.3**	**+1.6**
	comp=Z,2.2nm,1.2s,baz=355,slow=5.7,SNR=3.3							
VNDA	**Vanda**	**57.97**	**185**	P		**P**	**00 06 23.9**	**+0.2**
QSPA	**South Pole Qui**	**69.61**	**180**	P		**P**	**00 07 40.2**	**+0.8**
MJAR	**Matsushiro Arr**	**70.28**	**324**	P		**P**	**00 07 43.6**	**0.0**
	comp=Z,0.8nm,0.5s,baz=158,slow=5.7,SNR=4.6							
ISA	**Isabella, Lake**	**79.18**	**45**	P		**P**	**00 08 34.1**	**-0.3**
ISA				IAmb		IAmb	00 08 34.4	
	comp=Z,4.0nm,0.5s							
P17A	**Butcher Ranch,**	**86.40**	**46**	P		**P**	**00 09 14.6**	**+3.4**
TXAR	**Lajitas Array**	**86.89**	**57**	P		**P**	**00 09 14.9**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=230,slow=6.7,SNR=3.7							
ARCES	**ARCESS Array B**	**128.91**	**350**	PKP		**PKPdf**	**00 15 32.3**	**-0.8**
	comp=Z,4.2nm,1.2s,baz=0.0,slow=4.1,SNR=3.8							
AKASG	**Malin Array Be**	**143.06**	**331**	PKhKP		PKPpre	00 15 55.6	
	comp=Z,0.2nm,0.2s,baz=42,slow=4.5,SNR=4.1							
ASF	**Jabal al Asfar**	**146.91**	**298**	PKPbc		**PKPbc**	**00 16 08.8**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=0.0,slow=6.1,SNR=3.5							
BRTR	**Keskin Array B**	**146.94**	**312**	PKPbc		**PKPbc**	**00 16 09.5**	**0.0**
	comp=Z,0.5nm,0.4s,baz=306,slow=36,SNR=2.1							
MMAI	**Mount Meron Ar**	**147.94**	**300**	PKPbc		**PKPbc**	**00 16 12.2**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=48,slow=3.5,SNR=3.5							
GERES	**GERESS Array B**	**150.20**	**345**	PKPbc		**PKPbc**	**00 16 17.2**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=56,slow=3.4,SNR=7.9							

*IDC **15** 00:01:15.8±5.4, 36.13N×70.42E, h189km±41km, mb3.2/3, mb1 3.1/8, mb1mx2.8/47, mbtmp3.6/8, Error ellipse: s-maj=64.3km s-min=22.4km az=149.0*
*NNC **15** 00:01:22.7±4.5, 36.83N×70.10E, h183km±62km, mb2.7, mpv3.4, Error ellipse: s-maj=41.5km s-min=23.8km az=10.0*
ISC 15 00:01:19.2±0.8, 36.55N±0.08×70.19E±0.08, h200km, n24, σ1s24/27, 6C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KK31	**Karatay Array** 0.7nm,0.2s,baz=180,slow=12,SNR=26	**6.55**	**2**	⇑P		**Pn**	**00 02 54.2**	**+0.6**
KK31				⇑S		**Sn**	**00 04 04.7**	**-3.6**
	5.5nm,0.7s,baz=190,slow=24,SNR=7.1							
AAK	**Ala-Archa** 1.2nm,0.3s,baz=322,slow=22,SNR=14	**6.93**	**27**	S		**Sn**	**00 04 16.6**	**-0.8**
AAK	**Ala-Archa** 0.9nm,0.4s	**6.93**	**27**	⇑P		**Pn**	**00 02 58.9**	**+0.3**
AAK				⇑S		**Sn**	**00 04 16.7**	**-0.8**
	8.6nm,0.6s							
TKM2	**Tokmak 2** 1.6nm,0.5s	**7.60**	**32**	⇑P		**Pn**	**00 03 07.4**	**-0.1**
TKM2				⇓S		**Sn**	**00 04 32.0**	**-1.5**
	3.3nm,0.9s							
GEYT	**Alibeck** 0.7nm,0.3s,baz=98,slow=11,SNR=7.6	**9.73**	**282**	P		**Pn**	**00 03 35.1**	**+0.1**
MK31	**Makanchi Array** 0.8nm,0.7s,baz=203,slow=8.8,SNR=6.6	**13.64**	**38**	⇓P		**P**	**00 04 27.8**	**+0.8**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=203,slow=9.1,SNR=7.7	**13.64**	**38**	P		**Pn**	**00 04 25.4**	**+0.9**
PYUN	**Piuthan** 26nm,0.3s	**13.70**	**124**	*e*P		**Pn**	**00 04 23.4**	**-2.3**
AB01	**Akbulak array** 1.9nm,0.5s	**14.73**	**333**	⇓P		**Pn**	**00 04 37.9**	**-0.1**
GKN	**Gorkha**	**14.88**	**121**	*e*P		**P**	**00 04 41.7**	**+0.7**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=216,slow=9.0,SNR=4.9	**15.29**	**20**	P		**Pn**	**00 04 45.1**	**+0.3**
DMN	**Daman**	**15.45**	**121**	*e*P		**Pn**	**00 04 46.9**	**-0.3**
KKN	**Kakani** 17nm,0.5s	**15.46**	**120**	*e*P		**P**	**00 04 48.3**	**+0.8**
PKI	**Pulokoki** 47nm,0.7s	**15.69**	**120**	*e*P		**P**	**00 04 49.5**	**-0.6**
JIRN	**Jiri** 63nm,0.6s	**16.18**	**119**	*e*P		**Pn**	**00 04 57.3**	**+1.2**
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=138,slow=13,SNR=7.1	**16.42**	**332**	P		**Pn**	**00 05 00.3**	**+1.9**
AKTO	**Aktyubinsk** 2.4nm,0.8s	**16.42**	**332**	⇑P		**Pn**	**00 04 58.9**	**+0.5**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=156,slow=7.4,SNR=3.6	**16.48**	**0**	P		**Pn**	**00 05 00.3**	**+1.3**
RAMN	**Ramite** 7.9nm,0.3s	**16.90**	**120**	*e*P		**P**	**00 05 02.5**	**-0.8**
TAPN	**Taplejung**	**17.45**	**117**	*e*P		**Pn**	**00 05 11.3**	**+0.2**
ODAN	**Odare** 15nm,0.6s	**17.51**	**119**	*e*P		**P**	**00 05 10.4**	**+0.4**
ZALV	**Zalesovo Beam** 1.5nm,0.3s,baz=220,slow=10,SNR=10	**20.15**	**26**	P		**P**	**00 05 38.1**	**+0.2**
ARCES	**ARCESS Array B** 2.3nm,0.9s,baz=117,slow=6.9,SNR=6.9	**40.85**	**338**	P		**P**	**00 08 42.4**	**+1.4**
TORD	**Torodi Ar. Bea** 0.3nm,0.8s,baz=46,slow=6.3,SNR=2.2	**65.07**	**268**	P		**P**	**00 11 37.5**	**-1.1**

*IDC **15** 00:09:25.4±2.8, 5.63S×131.03E, h0km, mb4.1/2, mb1 4.0/4, mb1mx3.6/22, mbtmp3.9/4, ML3.6/2, Error ellipse: s-maj=269.6km s-min=24.6km az=69.0*
*NEIC **15** 00:09:34.2±3.0, 6.12S±0.06×130.7E±0.1, h82km±9km, mb4.4/5, Error ellipse: s-maj=15.7km s-min=8.3km az=79.0*
ISC 15 00:09:35.0±0.6, 6.12S±0.06×130.72E±0.10, h100km, n24, σ2s13/27, mb4.1/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SAUI	**Saumlaki**	**1.94**	**163**	Pn		Pn	**00 10 05.4**	**-1.5**
FAKI	**Fak Fak**	**3.52**	**26**	Pn		**Pn**	**00 10 28.4**	**+0.5**
FAKI						**Sn**	**00 11 06.3**	**-2.4**
MTN	**Manton Dam**	**6.70**	**177**	Pn		**Pn**	**00 11 10.9**	**+0.1**
TNTI	**Ternate**	**7.62**	**334**	Pn		**Pn**	**00 11 21.4**	**-2.0**
LUWI	**Luwuk**	**9.40**	**302**	Pn		**Pn**	**00 11 46.1**	**-1.6**
KNRA	**Kununurra**	**9.69**	**191**	Pn		**Pn**	**00 11 52.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**12.90**	**202**	Pn		**Pn**	**00 12 35.2**	**+0.6**
WB0	**Warramunga Arr**	**14.03**	**166**	Pn		**Pn**	**00 12 50.7**	**+1.2**
DAV	**Davao City (W)**	**14.07**	**339**	Pn		**Pn**	**00 12 49.2**	**-0.8**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=339,slow=13,SNR=8.6	**14.19**	**166**	Pn		**Pn**	**00 12 52.6**	**+1.1**
WRA				Sn		**Sn**	**00 15 24.3**	**-3.5**
	0.9nm,0.3s,baz=352,slow=21,SNR=12							
WRA	**Warramunga Arr**	**14.19**	**166**			**Pn**	**00 12 51.9**	**+0.4**
WB2	**Warramunga Arr**	**14.19**	**166**	Pn		**Pn**	**00 12 52.4**	**+0.9**
WR0	**Warramunga Arr**	**14.25**	**165**	Pn		**Pn**	**00 12 53.0**	**+0.7**
COEN	**Coen**	**14.52**	**123**	Pn		**Pn**	**00 12 56.0**	**+0.2**
ASAR	**Alice Springs** 0.4nm,0.3s,baz=349,slow=9.6,SNR=16	**17.71**	**170**	P		**Pn**	**00 13 39.2**	**+3.8**
ASAR				S		**Sn**	**00 16 47.7**	**-5.3**
	0.2nm,0.3s,baz=355,slow=27,SNR=5.2							
ASAR	**Alice Springs**	**17.71**	**170**	P		**Pn**	**00 13 35.4**	**0.0**
BBOO	**Buckleboo**	**27.02**	**170**	P		**P**	**00 15 08.6**	**+0.8**
STKA	**Stephens Creek** 0.9nm,0.4s,baz=342,slow=14,SNR=3.5	**27.57**	**160**	P		**P**	**00 15 17.4**	**+4.6**
SSLB	**Suanglung**	**31.21**	**343**	P		**P**	**00 15 44.7**	**-0.4**
SSLB				IAmb		IAmb	00 15 58.5	
	comp=Z,6.6nm,1.0s							
MK31	**Makanchi Array**	**67.89**	**326**	P		**P**	**00 20 25.3**	**+2.4**
MK31				IAmb		IAmb	00 20 26.3	
	comp=Z,0.9nm,0.6s							
MKAR	**Makanchi Array** comp=Z,0.9nm,0.4s,baz=115,slow=8.2,SNR=17	**67.89**	**326**	P		**P**	**00 20 24.4**	**+1.5**
MKAR	**Makanchi Array**	**67.89**	**326**	P		**P**	**00 20 24.8**	**+1.9**
ATKA	**Atka Island**	**74.52**	**32**	P		**P**	**00 21 02.9**	**+0.3**
ATKA				IAmb		IAmb	00 21 17.9	
	comp=Z,18nm,1.0s							
MSEY	**Mahe Island**	**74.87**	**267**	P		**P**	**00 21 05.0**	**-0.6**

*OSPL **15** 00:09:41.7±0.3, 18.96N×66.51W, h4km±8km, ML2.7*
*RSPR **15** 00:09:42.9, 19.13N×66.66W, h37km±5km, MD3.1/11*
*NEIC **15** 00:09:42.3±1.0, 19.09N±0.07×66.66W±0.02, h35km±55km,*

Error ellipse: s-maj=10.0km s-min=2.2km az=186.0
ISC 15 00:09:40.2±1.6, 19.08N±0.06×66.63W±0.03, h17km±9km, n48, σ0s40/60, 10C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
EMPR	**Esperanza - Ma**	**0.61**	**171**	⇑*e*P		**Pn**	**00 09 54.6**	**+0.5**
EMPR	**Esperanza - Ma**	**0.61**	**171**	*e*S		**Sn**	**00 10 04.0**	**+0.4**
EMPR	**Esperanza - Ma**	**0.61**	**171**			**Pn**	**00 09 54.6**	**+0.5**
EMPR						**Sn**	**00 10 04.0**	**+0.4**
AOPR	**Arecibo Observ**	**0.74**	**189**	⇑*e*P		**Pn**	**00 09 56.2**	**+0.2**
AOPR	**Arecibo Observ**	**0.74**	**189**	*e*S		**Sn**	**00 10 06.8**	**-0.1**
AOPR	**Arecibo Observ**	**0.74**	**189**			**Pn**	**00 09 56.2**	**+0.2**
AOPR	**Arecibo Observ**	**0.74**	**189**			**Sn**	**00 10 06.5**	**-0.4**
AGPR	**Aguadilla, PR**	**0.76**	**217**	⇓*e*P		**Pn**	**00 09 55.8**	**-0.5**
AGPR	**Aguadilla, PR**	**0.76**	**217**	*i* P		**Pn**	**00 09 55.5**	**-0.8**
AGPR				*e*S		**Sb**	**00 10 05.4**	**+0.2**
AGPR				IAML			00 10 06.0	
	comp=Z,348nm,0.2s							
AGPR	**Aguadilla, PR**	**0.76**	**217**			**Pn**	**00 09 55.6**	**-0.7**
AGPR						**Sb**	**00 10 05.4**	**+0.2**
GCPR	**Guaynabo City**	**0.93**	**146**	⇑*e*P		**Pn**	**00 09 58.7**	**+0.2**
GCPR	**Guaynabo City**	**0.93**	**146**	*e*S		**Sn**	**00 10 11.3**	**-0.1**
GCPR	**Guaynabo City**	**0.93**	**146**			**Pn**	**00 09 58.7**	**+0.2**
GCPR						**Sn**	**00 10 11.3**	**-0.1**
MPR	**Mayaguez**	**0.99**	**209**	*i* P		**Pn**	**00 09 59.0**	**-0.4**
MPR				IAML			00 10 12.4	
	comp=Z,96nm,0.2s							
MPR	**Mayaguez**	**0.99**	**209**	Pn		**Pn**	**00 09 59.0**	**-0.4**
LSP	**Las Mesas**	**1.00**	**206**	⇑*e*P		**Pg**	**00 09 59.7**	**+0.1**
LSP	**Las Mesas**	**1.00**	**206**	*e*S		**Sg**	**00 10 12.8**	**0.0**
LSP	**Las Mesas**	**1.00**	**206**			**Pg**	**00 09 59.7**	**+0.1**
LSP						**Sg**	**00 10 12.8**	**0.0**
CELP	**Cerrillos**	**1.00**	**177**	⇑*e*P		**Pg**	**00 10 00.3**	**+0.6**
CELP	**Cerrillos**	**1.00**	**177**	*e*S		**Sn**	**00 10 13.2**	**-0.1**
CELP	**Cerrillos**	**1.00**	**177**			**Pg**	**00 10 00.3**	**+0.6**
CELP						**Sn**	**00 10 13.2**	**-0.1**
OBIP	**Obispado Ponce**	**1.03**	**179**	⇑*e*P		**Pg**	**00 10 00.5**	**+0.3**
OBIP	**Obispado Ponce**	**1.03**	**179**	*e*S		**Sn**	**00 10 14.4**	**+0.3**
OBIP	**Obispado Ponce**	**1.03**	**179**			**Pg**	**00 10 00.5**	**+0.3**
OBIP						**Sn**	**00 10 14.4**	**+0.3**
CBYP	**Canovanas**	**1.09**	**138**			**Pg**	**00 10 01.2**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.16**	**203**	⇑*e*P		**Pg**	**00 10 02.1**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.16**	**203**	*e*S		**Sb**	**00 10 16.8**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.16**	**203**			**Pg**	**00 10 02.1**	**-0.6**
CRPR						**Sb**	**00 10 16.8**	**+0.1**
MLPR	**Magueyes Islan**	**1.18**	**200**	⇑*e*P		**Pb**	**00 10 01.8**	**-0.3**
MLPR	**Magueyes Islan**	**1.18**	**200**	*e*S		**Sb**	**00 10 17.0**	**-0.1**
MLPR	**Magueyes Islan**	**1.18**	**200**			**Pb**	**00 10 01.8**	**-0.3**
MLPR						**Sb**	**00 10 17.0**	**-0.1**
HUMP	**Col San Antoni**	**1.19**	**142**	⇓*e*P		**Pg**	**00 10 03.2**	**-0.1**
HUMP	**Col San Antoni**	**1.19**	**142**	*e*S		**Sn**	**00 10 18.1**	**+0.2**
HUMP	**Col San Antoni**	**1.19**	**142**			**Pb**	**00 10 02.5**	**+0.1**
HUMP						**Sb**	**00 10 17.2**	**-0.3**
PDPR	**Patillas Dam,**	**1.21**	**151**			**Pg**	**00 10 03.3**	**-0.1**
IGPR	**InterUniversit**	**1.22**	**156**	⇑*e*P		**Pb**	**00 10 03.0**	**+0.2**
IGPR	**InterUniversit**	**1.22**	**156**	*e*S		**Sb**	**00 10 18.5**	**+0.3**
IGPR	**InterUniversit**	**1.22**	**156**			**Pg**	**00 10 03.7**	**0.0**
MTP	**Monte Pirata**	**1.42**	**134**	⇑*e*P		**Pb**	**00 10 06.1**	**-0.1**
MTP	**Monte Pirata**	**1.42**	**134**	*e*S		**Sn**	**00 10 23.7**	**+0.2**
MTP	**Monte Pirata**	**1.42**	**134**			**Pb**	**00 10

s-maj=35.4km s-min=27.2km az=105.0

ISC 15 00:58:42.1±1.1, 38°41'N±0°10'×133°94'E±0°09, h447km, n15, σ1°36/17, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSD	**Sado**	**3.42**	**95**	P	**P**	**00 59 53.7**	**+1.6**
JHS	**Saijyo**	**3.47**	**191**	P	**P**	**00 59 52.2**	**-0.5**
JNG	**Nsakai**	**3.87**	**120**	P	**P**	**00 59 57.4**	**+1.4**
MJAR	**Matsushiro Arr**	**3.87**	**117**	P	**P**	**00 59 57.4**	**+1.4**
	0.1nm,0.3s,baz=291,slow=11,SNR=12						
KSRS	**Korea Array**	**4.85**	**261**	P	**P**	**01 00 04.3**	**-0.5**
	0.3nm,0.3s,baz=83,slow=10,SNR=4.6						
JFT	**Otama**	**5.13**	**98**	P	**P**	**01 00 08.9**	**+1.3**
JMM	**Marumori**	**5.43**	**94**	P	**P**	**01 00 12.1**	**+1.6**
JMK	**Ichinoseki**	**5.72**	**82**	P	**P**	**01 00 15.3**	**+1.9**
JNU	**Nakatsue**	**5.83**	**206**	P	**P**	**01 00 13.9**	**-0.8**
	1.1nm,0.3s,baz=62,slow=1.4,SNR=7.9						
USRK	**Ussuriysk Ar.**	**5.97**	**346**	P	**P**	**01 00 16.7**	**+1.0**
	baz=164,slow=9.6,SNR=22						
BSO1	**Boso 1**	**6.79**	**121**	P	**P**	**01 00 24.6**	**+0.6**
BSO1				*e*S	**S**	**01 01 46.7**	**-0.7**
JCH	**Churui**	**8.32**	**57**	P	**P**	**01 00 42.0**	**+1.3**
JCH				*e*S	**S**	**01 02 16.5**	**-1.7**
JTKR	**Abashiri--Toko**	**9.34**	**50**	*e*S	**S**	**01 02 36.7**	**-2.0**
KLR	**Kul'dur**	**10.93**	**352**	P	**P**	**01 01 09.5**	**+0.4**
	0.3nm,0.3s,baz=193,slow=3.5,SNR=6.9						
SONM	**Songino Array**	**22.10**	**304**	P	**P**	**01 03 02.6**	**-0.1**
	0.5nm,0.5s,baz=119,slow=8.3,SNR=2.1						

IDC 15 01:02:09.7±4.5, 36°01'N×69°86'E, h0km, mb3.4/2, mb1 3.5/8, mb1mx3.3/58, mbtmp3.5/8, ML3.4/5, Error ellipse: s-maj=72.2km s-min=27.1km az=164.0

NNC 15 01:02:21.4±1.6, 36°68'N×69°36'E, h89km±63km, mb3.3, mpv3.6, Error ellipse: s-maj=18.6km s-min=7.3km az=150.0

ISC 15 01:02:19.8±1.9, 36°6N±0°2×69°42E±0°09, h48km, n14, σ1°64/20, 6C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.55**	**7**	⇑P	**Pn**	**01 03 53.8**	**+0.2**
	1.1nm,0.3s,baz=198,slow=14,SNR=19						
KK31				⇓S	**Sn**	**01 05 07.3**	**+0.4**
	1.7nm,0.6s,baz=25,slow=85,SNR=5.7						
AAK	**Ala-Archa**	**7.19**	**31**	Pn	**Pn**	**01 04 03.3**	**+0.8**
	1.3nm,0.3s,baz=210,slow=10,SNR=7.9						
AAK				Sn	**Sn**	**01 05 21.4**	**-1.3**
	0.2nm,0.3s,baz=346,slow=19,SNR=1.1						
AAK	**Ala-Archa**	**7.19**	**31**	⇑P	**Pn**	**01 04 03.4**	**+1.0**
	8.1nm,0.9s						
AAK				⇑S	**Sn**	**01 05 24.1**	**+1.3**
	6.1nm,0.9s						
TKM2	**Tokmak 2**	**7.90**	**35**	⇑P	**Pn**	**01 04 12.6**	**+0.3**
	2.7nm,0.8s						
TKM2				⇓S	**Sn**	**01 05 41.7**	**+1.3**
	1.8nm,0.7s						
GEYT	**Alibeck**	**9.11**	**282**	Pn	**Pn**	**01 04 29.2**	**+0.6**
	0.7nm,0.3s,baz=122,slow=12,SNR=7.1						
GEYT				Sn	**Sn**	**01 06 07.3**	**-2.5**
	0.2nm,0.3s,baz=95,slow=18,SNR=1.3						
GYA0B	**ALIBECK ARRAY**	**9.11**	**282**	⇑P	**Pn**	**01 04 30.1**	**+1.4**
GYA0B				⇓S	**Sn**	**01 06 09.2**	**-0.6**
MKAR	**Makanchi Array**	**13.99**	**39**	Pn	**Pn**	**01 05 34.5**	**-0.7**
	baz=223,slow=9.8,SNR=1.9						
AB01	**Akbulak array**	**14.41**	**334**	⇑P	**Pn**	**01 05 39.7**	**-1.1**
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**15.47**	**22**	Pn	**Pn**	**01 05 51.0**	**-3.7**
	0.0nm,0.3s,baz=207,slow=10,SNR=2.5						
AKTO	**Aktyubinsk**	**16.08**	**333**	Pn	**Pn**	**01 06 02.6**	**+0.1**
	0.1nm,0.3s,baz=114,slow=10,SNR=3.9						
BVAR	**Borovoye Array**	**16.44**	**2**	P	**P**	**01 06 10.7**	**+1.6**
	0.3nm,0.3s,baz=164,slow=8.7,SNR=6.1						
ZALV	**Zalesovo Beam**	**20.37**	**27**	P	**P**	**01 06 51.3**	**-0.9**
	0.8nm,0.4s,baz=202,slow=11,SNR=3.5						
NOA	**NORSAR Array B**	**43.53**	**323**	P	**P**	**01 10 21.0**	**+2.5**
	0.3nm,0.6s,baz=101,slow=7.6,SNR=1.8						
YAK	**Yakutsk**	**44.62**	**36**	P	**P**	**01 10 25.0**	**-2.1**
	10nm,0.4s,baz=250,slow=3.9,SNR=1.4						

IDC 15 01:02:29.4±0.8, 12°79N×121°00E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.7/50, mbtmp3.9/12, MS3.2/6, Ms1 3.2/6, ms1mx2.7/38, Error ellipse: s-maj=28.4km s-min=11.5km az=77.0

NEIC 15 01:02:30.8±0.9, 12°90N±0°02×121°0E±0°2, h10km±6km, mb4.2/13, Error ellipse: s-maj=22.0km s-min=3.5km az=92.0

MAN 15 01:02:31.6, 12°82N×120°82E, h100km, mb5.3, ML4.3, MS4.4

ISC 15 01:02:30.3±1.4, 12°83N±0°04×120°94E±0°04, h6km±9km, n47, σ1°03/51, mb4.0/15, MS3.1/6, 3C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**1.08**	**55**	*e*P	**Pg**	**01 02 50.6**	**-0.5**
BOAC				*e*S	**Sn**	**01 03 06.8**	**-0.4**
BUSP	**Coron**	**1.09**	**221**	*e*P	**Pn**	**01 02 52.4**	**+0.3**
BUSP				*e*S	**Sn**	**01 03 08.5**	**+0.9**
LUBP	**Lubang**	**1.12**	**323**	*e*P	**Pg**	**01 02 50.3**	**-1.6**
LUBP				*e*S	**Sn**	**01 03 10.3**	**+1.9**
OTRP	**Odiongan**	**1.15**	**114**	*e*P	**Pn**	**01 02 52.9**	**0.0**
OTRP				*e*S	**Sn**	**01 03 10.5**	**+1.4**
TGY	**Tagaytay City**	**1.27**	**360**	Pg	**Pn**	**01 02 53.7**	**-0.9**
	572nm,0.3s,baz=258,slow=1.7,SNR=41						
TGY				Lg	Lg	01 03 12.9	
	600nm,0.3s,baz=242,slow=11,SNR=14						
LQP	**Lukban**	**1.40**	**25**	⇑*e*P	**Pb**	**01 02 56.8**	**-0.2**
LQP				*i* S	**Sg**	**01 03 18.7**	**+3.3**
GQP	**Guinayangan**	**1.81**	**54**	⇑*e*P	**Pb**	**01 03 03.8**	**-0.1**
GQP				*i* S	**Sb**	**01 03 26.9**	**0.0**
CUYO	**Cuyo Island**	**1.97**	**178**	*e*P	**Pn**	**01 03 04.4**	**+0.2**
CUYO				*e*S	**Sn**	**01 03 28.8**	**-0.5**
POLP	**Polilio Island**	**2.12**	**27**	*e*P	**Pb**	**01 03 08.3**	**-0.9**
POLP				*e*S	**Sb**	**01 03 35.9**	**+0.1**
ENPP	**El Nido**	**2.19**	**223**	*e*P	**Pn**	**01 03 08.8**	**+1.5**
ENPP				*e*S	**Sg**	**01 03 41.3**	**+0.6**
JAP	**San Jose, Anti**	**2.29**	**154**	⇑*e*P	**Pn**	**01 03 09.4**	**+0.8**
BALP	**Baler**	**2.96**	**12**	*e*P	**Pn**	**01 03 19.3**	**+1.4**
BALP				*e*S	**Sb**	**01 03 60.0**	**+0.1**
SCZP	**Santa Cruz**	**3.09**	**341**	*e*P	**Pn**	**01 03 19.0**	**-0.7**
SMPP	**San Manuel, Pa**	**3.31**	**356**	*e*P	**Pn**	**01 03 22.2**	**-0.5**
BOLP	**Bolinao**	**3.67**	**344**	*e*P	**Pn**	**01 03 27.5**	**-0.1**
MYLDM	**Lahad Datu**	**7.97**	**198**	Pn	**Pn**	**01 04 28.1**	**+1.4**
YOJ	**Yonaguni jima**	**11.73**	**9**	Pn	**Pn**	**01 05 16.2**	**-2.1**
PBKT	**Sadao Pong**	**19.67**	**283**	P	**P**	**01 07 00.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**21.90**	**288**	P	**P**	**01 07 25.9**	**+1.5**
	2.1nm,0.8s,baz=104,slow=8.3,SNR=14						
CMAR				LR	LR	01 15 28.9	
	comp=Z,46nm,18.0s,baz=222,slow=36						
CHTO	**Chiang Mai**	**21.97**	**289**	P	**P**	**01 07 25.3**	**+0.1**
KSAR	**Wonju Array Be**	**25.29**	**13**	P	**P**	**01 07 56.8**	**-0.7**
KSRS	**Korea Array**	**25.30**	**13**	LR	LR	01 18 40.0	
	comp=Z,33nm,18.2s,baz=226,slow=38						
WRA	**Warramunga Arr**	**35.13**	**158**	P	**P**	**01 09 25.1**	**+0.2**
	1.4nm,0.5s,baz=340,slow=9.3,SNR=13						
SONM	**Songino Array**	**36.95**	**344**	P	**P**	**01 09 40.0**	**-0.3**
	0.6nm,0.6s,baz=156,slow=7.9,SNR=2.0						
ASAR	**Alice Springs**	**38.42**	**161**	P	**P**	**01 09 53.4**	**+0.5**
	0.9nm,0.5s,baz=341,slow=7.1,SNR=10.0						
MK31	**Makanchi Array**	**46.87**	**324**	P	**P**	**01 11 01.4**	**+0.1**
MK31				IAmb	IAmb	01 11 02.0	
	comp=Z,1.6nm,0.9s						
MKAR	**Makanchi Array**	**46.87**	**324**	P	**P**	**01 11 01.2**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=119,slow=9.2,SNR=9.4						
MKAR				LR	LR	01 30 55.2	
	comp=Z,19nm,19.1s,baz=102,slow=36						
MKAR	**Makanchi Array**	**46.87**	**324**	P	**P**	**01 11 00.9**	**-0.4**
MAKZ	**Makanchi**	**47.06**	**324**	P	**P**	**01 11 02.4**	**-0.4**
NIL	**Nilore**	**47.98**	**304**	P	**P**	**01 11 10.3**	**+0.1**
NIL				IAmb	IAmb	01 11 16.0	
	comp=Z,4.0nm,0.9s						
STKA	**Stephens Creek**	**48.66**	**156**	P	**P**	**01 11 12.9**	**-2.4**
	comp=Z,2.0nm,0.9s,baz=294,slow=7.5,SNR=3.9						
STKA	**Stephens Creek**	**48.66**	**156**	IAmb	IAmb	01 12 52.4	
	comp=Z,4.3nm,1.9s						
PETK	**Petropavlovsk-**	**49.67**	**28**	P	**P**	**01 11 23.1**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=212,slow=8.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**49.93**	**333**	P	**P**	**01 11 23.8**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=131,slow=4.4,SNR=2.0						
KURBB	**Kurchatov Arra**	**51.04**	**326**	P	**P**	**01 11 33.1**	**0.0**
	comp=Z,0.9nm,0.6s,baz=115,slow=10.0,SNR=6.5						
KURK	**Kurchatov**	**51.04**	**327**	P	**P**	**01 11 33.1**	**-0.1**
GAR	**Garm**	**51.65**	**310**	P	**P**	**01 11 37.9**	**-0.2**
KK31	**Karatay Array**	**52.75**	**315**	P	**P**	**01 11 45.3**	**-0.9**
KK31				IAmb	IAmb	01 11 46.8	
	comp=Z,2.3nm,0.8s						
KKAR	**Karatay Array**	**52.75**	**315**	P	**P**	**01 11 45.7**	**-0.4**
BVAR	**Borovoye Array**	**56.62**	**326**	P	**P**	**01 12 15.0**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=132,slow=6.4,SNR=2.8						
NRIK	**Noril'sk**	**60.31**	**347**	LR	LR	01 40 36.9	
	comp=Z,25nm,18.2s,baz=334,slow=38						
GEYT	**Alibeck**	**60.83**	**306**	P	**P**	**01 12 45.0**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=90,slow=7.4,SNR=4.5						
GEYT	**Alibeck**	**60.83**	**306**	IAmb	IAmb	01 12 45.4	
	comp=Z,2.0nm,1.0s						
ARCES	**ARCESS Array B**	**79.98**	**339**	LR	LR	01 52 46.5	
	comp=Z,18nm,18.7s,baz=190,slow=38						
FINES	**FINESS Array B**	**81.15**	**331**	P	**P**	**01 14 47.1**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=27,slow=9.4,SNR=2.0						
NOA	**NORSAR Array B**	**88.14**	**333**	LR	LR	01 58 14.5	
	comp=Z,9.3nm,19.6s,baz=50,slow=38						
TXAR	**Lajitas Array**	**119.92**	**45**	PKP	**PKPdf**	**01 21 22.2**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=322,slow=2.5,SNR=1.8						

OTT 15 01:14:48.6±1.3, 61°26N×59°38W, h18km, ML3.4/2, 296km east from Resolution Island, Nu LAlbertaRADOR Sea Seismic Zone.

IDC 15 01:14:57.2±6.0, 60°70N×59°72W, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.2/33, mbtmp3.2/3, ML2.2/1, Error ellipse: s-maj=115.1km s-min=24.9km az=102.0

ISC 15 01:14:57.0±3.1, 61°07N±0°07×61°2W±0°2, h10km, n9, σ0°56/9, Davis Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**4.35**	**311**	Op	ISC	h m s	ISC
FRB				PN	**Pn**	**01 16 03.2**	**+0.2**
FRB				SN	**Sn**	**01 16 54.4**	**+0.7**
FRB				Trac		01 16 59.4	
	comp=Z,4.4nm,0.1s						
MKVL	**Makkovik**	**6.08**	**169**	PN	Pn	01 16 18.4	-8.4
MKVL				SN	Sn	01 17 23.1	-13
SCHQ	**Schefferville**	**6.93**	**208**	Pn	**Pn**	**01 16 38.8**	**+0.3**
	0.5nm,0.3s,baz=24,slow=9.7,SNR=7.7						
SCHQ				Sn	**Sn**	**01 17 57.4**	**0.0**
	0.9nm,0.3s,baz=326,slow=16,SNR=5.5						
SCHQ	**Schefferville**	**6.93**	**208**	PN	**Pn**	**01 16 38.4**	**-0.2**
SCHQ				SN	**Sn**	**01 17 57.8**	**+0.5**
SCHQ				Trac		01 18 01.6	
	comp=Z,46nm,1.6s						
LG4Q	**La Grande 4**	**10.19**	**229**	PN	**Pn**	**01 17 22.3**	**-0.8**
LG4Q				SN	**Sn**	**01 19 17.9**	**+0.6**
KJKQ	**Kuujjuarapik**	**10.47**	**244**	SN	**Sn**	**01 19 24.0**	**-0.2**
ILON	**Igloolik, Nuna**	**11.94**	**323**	PN	Pn	01 17 42.3	-4.6
ILON				SN	Sn	01 19 48.6	-11
YKA	**Yellowknife Ar**	**24.70**	**297**	P	P	01 20 26.3	+8.6
	0.4nm,0.7s,baz=64,slow=10,SNR=2.4						
TXAR	**Lajitas Array**	**42.35**	**241**	P	P	01 22 57.6	+6.6
	0.1nm,0.4s,baz=55,slow=7.8,SNR=2.1						

IDC 15 01:49:03.8±1.8, 0°05N×125°59E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/38, mbtmp3.8/3, Error ellipse: s-maj=188.8km s-min=23.6km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.64**	**157**	P	P	01 53 55.5	-0.4
	1.3nm,0.4s,baz=335,slow=10,SNR=28						
ASAR	**Alice Springs**	**24.92**	**162**	P	P	01 54 29.1	+0.3
	0.7nm,0.3s,baz=344,slow=11,SNR=21						
MKAR	**Makanchi Array**	**59.95**	**327**	P	P	01 59 11.9	-0.1
	0.7nm,0.4s,baz=118,slow=7.9,SNR=13						

IDC 15 02:03:18.0±0.6, 21°75N×121°38E, h0km, mb4.1/17, mb1 4.3/17, mb1mx4.1/44, mbtmp4.1/17, MS3.5/15, Ms1 3.5/15, ms1mx3.3/36, Error ellipse: s-maj=23.1km s-min=14.0km az=66.0

NEIC 15 02:03:21.6±1.6, 21°61N±0°07×121°14E±0°08, h22km±6km, mb4.4/27, ML4.8(TAP), Error ellipse: s-maj=14.0km s-min=3.2km az=48.0

TAP 15 02:03:21.2, 21°60N×120°97E, h26km, ML4.1, D

JMA 15 02:03:21.0±0.1, 21°75N×121°20E, h4km±3km, M4.3

ISC 15 02:03:21.0±0.9, 21°57N±0°04×121°01E±0°04, h19km±3km, n156, σ1°16/166, mb4.3/29, MS3.4/13, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.34**	**343**	*i* P	**Pb**	**02 03 29.0**	**+0.4**
	baz=341						
TSEB				*e*S	**Sb**	**02 03 35.3**	**+1.6**
	baz=340						
TWKBT	**Hengchun**	**0.41**	**334**	⇓*i*P	**Pg**	**02 03 29.6**	**+0.1**
TWKBT				S	**Sg**	**02 03 35.6**	**+0.3**
	baz=340						
TWK1	**Hengchun**	**0.41**	**333**	⇓*i*P	**Pg**	**02 03 29.8**	**+0.2**
TWK1				S	**Sg**	**02 03 35.8**	**+0.4**
	baz=340						
HEN	**Hengchun**	**0.50**	**330**	*i* P	**Pg**	**02 03 31.4**	**+0.3**
	baz=342						
HEN				S	**Sb**	**02 03 38.8**	**+0.7**
	baz=342						
SLIU	**Shizi**	**0.67**	**343**	*e*P	**Pb**	**02 03 34.1**	**0.0**
	baz=352						
SLIU				*e*S	**Sg**	**02 03 42.9**	**-0.3**
	baz=352						
TAW	**Tawu**	**0.79**	**353**	*e*P	**Pb**	**02 03 35.1**	**-1.1**
	baz=350						
TAW				*e*S	**Sb**	**02 03 47.3**	**+0.8**
	baz=350						
EAST	**Anshuo**	**0.82**	**350**	P	**Pb**	**02 03 35.7**	**-1.0**
	baz=356						
EAST				*e*S	**Sg**	**02 03 48.7**	**+0.7**
	baz=356						
SCZT	**Fangliau**	**0.87**	**336**	*e*P	**Pb**	**02 03 37.9**	**+0.3**
	baz=331						
SCZT				*e*S	**Sb**	**02 03 48.9**	**0.0**
	baz=331						
WLCH	**Liuqiu**	**0.97**	**323**	*e*P	**Pb**	**02 03 39.1**	**-0.2**
	baz=327						
SSPT	**Xinbi**	**0.99**	**336**	P	**Pb**	**02 03 40.1**	**+0.4**
	baz=340						
ECL	**Taimali**	**1.02**	**357**	*e*P	**Pb**	**02 03 37.8**	**-2.3**
	baz=16						
MASBT	**Masibuluo**	**1.09**	**342**	*e*P	**Pn**	**02 03 40.9**	**-0.5**
	baz=346						
MASBT				*e*S	**Sb**	**02 03 55.5**	**+0.3**
	baz=347						
TSMG	**Majia**	**1.18**	**344**	*e*P	**Pn**	**02 03 42.1**	**-0.4**
	baz=347						
TSMG				*e*S	**Sb**	**02 03 58.1**	**+0.4**
	baz=347						
LDUT	**Ludao**	**1.18**	**21**	*e*P	**Pn**	**02 03 40.4**	**-2.1**
	baz=38						
SSD	**Sandimen**	**1.22**	**344**	*e*P	**Pn**	**02 03 42.9**	**-0.2**
	baz=348						
SSD				*e*S	**Sb**	**02 03 57.1**	**-1.8**
	baz=348						
TWGBT	**Beinan**	**1.24**	**3**	*e*P	**Pn**	**02 03 42.8**	**-0.7**
	baz=7.0						
TWG	**Pinlang**	**1.25**	**3**	*e*P	**Pn**	**02 03 42.7**	**-0.8**
	baz=7.0						
TWG	**Pinlang**	**1.25**	**3**		**Pn**	**02 03 42.3**	**-1.2**
SNJT	**Kanshiung City**	**1.33**	**332**	*e*P	**Pn**	**02 03 44.6**	**0.0**
	baz=319						
LONT	**Longtian**	**1.33**	**5**	*e*P	**Pn**	**02 03 44.7**	**0.0**
	baz=8.0						
TWM1	**Shoushan**	**1.36**	**337**	*e*P	**Pb**	**02 03 47.0**	**+1.1**
	baz=341						
SCST	**Cishan**	**1.39**	**340**	*e*P	**Pg**	**02 03 48.0**	**+0.1**
	baz=344						
EDH	**Donghe**	**1.42**	**11**	*e*P	**Pn**	**02 03 44.9**	**-1.0**
	baz=14						
EDH				*e*S	**Sn**	**02 04 01.3**	**-2.8**
	baz=14						
SLGT	**Liugui**	**1.45**	**347**	*e*P	**Pg**	**02 03 48.8**	**-0.3**
	baz=335						
SGST	**Jiashian**	**1.55**	**345**	*e*P	**Pn**	**02 03 47.0**	**-0.7**
	baz=334						
STYT	**Tauyuan**	**1.60**	**352**	*e*P	**Pn**	**02 03 48.9**	**+0.4**
	baz=355						
ELDTW	**Lidau**	**1.61**	**0**	*e*P	**Pn**	**02 03 48.7**	**+0.1**
	baz=15						
FULB	**Fuli**	**1.64**	**9**	*e*P	**Pn**	**02 03 47.6**	**-1.3**
	baz=12						
FULB				*e*S	**Sn**	**02 04 08.9**	**-0.7**
	baz=12						
CHN1	**Nanshi**	**1.67**	**345**	*e*P	**Pn**	**02 03 49.2**	**-0.1**
	baz=332						
WTP	**Ta-pu**	**1.71**	**348**	P	**Pn**	**02 03 49.8**	**-0.1**
	baz=335						
SNST	**Tainan City**	**1.71**	**344**	*e*P	**Pn**	**02 03 50.4**	**+0.6**
	baz=331						
TWK	**Hsinying**	**1.75**	**344**	*e*P	**Pn**	**02 03 50.6**	**+0.1**
	baz=332						
TPUB	**Ta-pu**	**1.76**	**349**	*e*P	**Pn**	**02 03 50.3**	**-0.2**
	baz=336						
TPUB	**Ta-pu**	**1.76**	**349**	Pn	**Pn**	**02 03 49.7**	**-0.8**
TWF1	**Yuli**	**1.79**	**9**	*e*P	**Pn**	**02 03 50.1**	**-0.9**
	baz=11						
YULB	**Yu-li**	**1.83**	**8**	*e*P	**Pn**	**02 03 51.1**	**-0.4**
	baz=20						
YULB	**Yu-li**	**1.83**	**8**		**Pn**	**02 03 49.9**	**-1.7**
YUS	**Yu-Shan**	**1.91**	**359**	*e*P	**Pn**	**02 03 54.0**	**+1.0**
	baz=2.0						
ALS	**Alishan**	**1.94**	**355**	P	**Pn**	**02 03 54.0**	**+0.7**
	baz=357						
EHY	**Hungye**	**1.95**	**9**	*e*P	**Pn**	**02 03 52.9**	**-0.2**
	baz=20						
HGSD	**Ruisui**	**1.95**	**11**	*e*P	**Pn**	**02 03 51.1**	**-2.0**
	baz=14						
HGSD				*e*S	**Sn**	**02 04 18.4**	**+1.2**
	baz=14						
CHN5	**Tsauling**	**2.04**	**352**	*e*P	**Pn**	**02 03 54.4**	**-0.1**
	baz=354						
WDGT	**Dungji**	**2.09**	**324**	*e*P	**Pn**	**02 03 53.0**	**-2.0**
	baz=339						
WDGT				*e*S	**Sn**	**02 04 16.9**	**-3.7**
	baz=339						
EGFH	**Guangfu**	**2.12**	**10**	*e*P	**Pn**	**02 03 56.7**	**+1.1**
	baz=19						
VWDT	**VWDT**	**2.18**	**3**	*e*P	**Pn**	**02 03 57.3**	**+1.0**
	baz=13						
WTK	**Tuku**	**2.18**	**345**	*e*P	**Pn**	**02 03 55.6**	**-0.7**
	baz=335						
WTK				*e*S	**Sn**	**02 04 21.0**	**-1.9**
	baz=335						
SSLB	**Suanglung**	**2.21**	**359**	*e*P	**Pn**	**02 03 57.6**	**+0.9**
	baz=1.0						
SSLB	**Suanglung**	**2.21**	**359**	Pn	**Pn**	**02 03 57.3**	**+0.6**
SMLT	**Sun Moon Lake**	**2.30**	**358**	*e*P	**Pn**	**02 03 58.9**	**+0.8**
	baz=348						
TYC	**Yuchr**	**2.33**	**357**	*e*P	**Pn**	**02 03 59.0**	**+0.6**
	baz=359						
PNG	**Penghu**	**2.40**	**326**	*e*P	**Pn**	**02 03 57.0**	**-2.3**
	baz=329						
CHGB	**Renai**	**2.48**	**4**	*e*P	**Pn**	**02 04 02.2**	**+1.6**
	baz=15						
TWD	**Chiawan**	**2.56**	**12**	*e*P	**Pn**	**02 04 03.0**	**+1.6**
	baz=14						
NACB	**Ninganchiao**	**2.65**	**12**	*e*P	**Pn**	**02 04 02.7**	**0.0**
	baz=14						
NACB	**Ninganchiao**	**2.65**	**12**		**Pn**	**02 04 02.2**	**-0.5**
ETLH	**Xiulin Townshi**	**2.66**	**9**	*e*P	**Pn**	**02 04 04.3**	**+1.3**
	baz=20						
FUSS	**Fushou**	**2.67**	**5**	*e*P	**Pn**	**02 04 04.6**	**+1.3**
	baz=17						
TDCB	**Techi**	**2.67**	**3**	*e*P	**Pn**	**02 04 03.4**	**+0.1**
	baz=5.0						
WHP	**Taichung City**	**2.69**	**359**	*e*P	**Pn**	**02 04 03.8**	**+0.3**
	baz=1.0						
WHP				*e*S	**Sn**	**02 04 36.4**	**+0.8**
	baz=1.0						
NNSB	**Datong**	**2.87**	**7**	*e*P	**Pn**	**02 04 07.3**	**+1.4**
	baz=15						
NNSH	**Datong**	**2.87**	**7**	*e*P	**Pn**	**02 04 07.0**	**+1.1**
	baz=15						
NNS	**Nan Shan**	**2.88**	**7**	*e*P	**Pn**	**02 04 06.6**	**+0.6**
	baz=15						
NDT	**Datong Townshi**	**3.05**	**9**	*e*P	**Pn**	**02 04 09.9**	**+1.6**
	baz=19						
YHNB	**Yeheng**	**3.10**	**6**	*e*P	**Pn**	**02 04 09.9**	**+0.8**
	baz=356						
YHNB	**Yeheng**	**3.10**	**6**		**Pn**	**02 04 08.9**	**-0.2**
NSK	**Sanguang**	**3.11**	**6**	*e*P	**Pn**	**02 04 09.9**	**+0.8**
	baz=356						
TWC	**Suao**	**3.12**	**14**	*e*P	**Pn**	**02 04 11.2**	**+1.9**
	baz=16						
NWLT	**Wulai**	**3.22**	**8**	*e*P	**Pn**	**02 04 12.7**	**+2.0**
	baz=18						
JYNG	**Yonagunijimaku**	**3.38**	**32**	P	**Pn**	**02 04 12.3**	**-0.5**
JYNG				S	**Sn**	**02 04 51.4**	**-1.0**
TATO	**Taipei**	**3.42**	**7**	Pn	**Pn**	**02 04 14.5**	**+1.1**
YOJ	**Yonaguni jima**	**3.42**	**32**	P	**Pn**	**02 04 13.4**	**+0.1**
YOJ				*e*S	**Sn**	**02 04 53.1**	**-0.3**
YOJ	**Yonaguni jima**	**3.42**	**32**	Pn	**Pn**	**02 04 12.3**	**-1.1**
TIPB	**Shuangxi**	**3.47**	**12**	*e*P	**Pn**	**02 04 15.4**	**+1.3**
	baz=14						
NWF	**Wu-fen Shan**	**3.56**	**11**	*e*P	**Pn**	**02 04 16.8**	**+1.5**
	baz=13						
WFSB	**Wu-fen Shan**	**3.56**	**11**	*e*P	**Pn**	**02 04 16.0**	**+0.7**
	baz=13						
HATJ	**Hateruma jima**	**3.58**	**46**	P	**Pn**	**02 04 14.6**	**-0.9**
HATJ				S	**Sn**	**02 04 55.5**	**-1.8**
YM04	**YM04**	**3.60**	**8**	*e*P	**Pn**	**02 04 18.8**	**+2.9**
	baz=356						
VWUC	**VWU

MKAR				LR	LR	02 29 30.0
	comp=Z,169nm,18.1s,baz=106,slow=39					
MKAR	**Makanchi Array**	**40.13 318**		P	**P**	**02 10 56.2 +0.5**
MAKZ	**Makanchi**	**40.33 318**		P	**P**	**02 10 57.2 -0.2**
PETK	**Petropavlovsk-**	**42.13 32**		P	P	02 11 07.3 -4.8
	comp=Z,0.9nm,0.9s,baz=226,slow=16,SNR=1.6					
PETK				LR	LR	02 30 22.0
	comp=Z,26nm,18.4s,baz=231,slow=39					
ZAA0	**Zalesovo Array**	**42.36 329**		P	**P**	**02 11 14.4 +0.6**
ZAA0				IAmb	IAmb	02 11 15.2
	comp=Z,4.3nm,0.8s					
ZALV	**Zalesovo Beam**	**42.36 329**		P	**P**	**02 11 13.9 0.0**
	comp=Z,5.2nm,0.9s,baz=117,slow=8.5,SNR=11					
ZALV				LR	LR	02 29 40.4
	comp=Z,47nm,21.0s,baz=121,slow=37					
ZALV	**Zalesovo Beam**	**42.36 329**		P	**P**	**02 11 14.0 +0.1**
H11N1	**WAKE ISLAND Hy**	**42.86 84**		T	T	02 57 12.1
	baz=282,slow=74					
H11N2	**WAKE ISLAND Hy**	**42.87 84**		T	T	02 57 05.2
	baz=282,slow=74					
H11N3	**WAKE ISLAND Hy**	**42.88 84**		T	T	02 57 11.8
	baz=282					
H11S3	**WAKE ISLAND Hy**	**42.91 86**		T	T	02 57 11.1
	baz=283,slow=74,SNR=30					
H11S1	**WAKE ISLAND Hy**	**42.92 86**		T	T	02 57 07.7
	baz=283,slow=74,SNR=20					
H11S2	**WAKE ISLAND Hy**	**42.93 86**		T	T	02 57 13.2
	baz=283,slow=74,SNR=14					
WRA	**Warramunga Arr**	**43.27 162**		P	**P**	**02 11 21.5 -0.1**
	comp=Z,4.7nm,0.5s,baz=343,slow=8.9,SNR=53					
WRA	**Warramunga Arr**	**43.27 162**		P	**P**	**02 11 21.6 0.0**
WB2	**Warramunga Arr**	**43.27 162**		P	**P**	**02 11 21.7 +0.1**
WB2				IAmb	IAmb	02 11 32.1
	comp=Z,12nm,1.1s					
WR0	**Warramunga Arr**	**43.35 161**		P	**P**	**02 11 22.3 +0.1**
KURK	**Kurchatov**	**44.01 322**		P	**P**	**02 11 28.4 +1.1**
KURK				IAmb	IAmb	02 11 29.0
	comp=Z,5.0nm,1.1s					
KURBB	**Kurchatov Arra**	**44.02 322**		P	**P**	**02 11 27.9 +0.5**
	comp=Z,4.2nm,0.8s,baz=122,slow=7.6,SNR=13					
AS31	**Alice Springs**	**46.69 164**		P	**P**	**02 11 49.4 +0.6**
ASAR	**Alice Springs**	**46.69 164**		P	**P**	**02 11 49.7 +0.9**
	comp=Z,1.1nm,0.4s,baz=347,slow=7.8,SNR=19					
ASAR				ScP	**ScP**	**02 17 14.4 -0.7**
	comp=Z,0.8nm,0.9s,baz=360,slow=4.6,SNR=4.9					
KK31	**Karatay Array**	**46.96 309**		P	**P**	**02 11 51.9 +1.1**
KK31				IAmb	IAmb	02 11 52.9
	comp=Z,2.9nm,1.0s					
KKAR	**Karatay Array**	**46.96 309**		P	**P**	**02 11 51.4 +0.6**
KBL	**Kabul**	**47.17 298**		P	**P**	**02 11 52.5 -0.4**
KBL				IAmb	IAmb	02 11 55.4
	comp=Z,3.3nm,0.7s					
BRVK	**Borovoye**	**49.68 322**		P	**P**	**02 12 11.9 +0.4**
BRVK				IAmb	IAmb	02 12 13.5
	comp=Z,3.6nm,0.8s					
ABKAR	**Akbulak array**	**55.16 316**		P	**P**	**02 12 53.1 +0.8**
GEYT	**Alibeck**	**56.00 302**		P	**P**	**02 13 00.4 +1.8**
	comp=Z,3.2nm,0.8s,baz=92,slow=7.4,SNR=6.2					
GEYT	**Alibeck**	**56.00 302**		P	**P**	**02 12 59.4 +0.8**
STKA	**Stephens Creek**	**56.69 159**		P	**P**	**02 13 04.0 +0.6**
	comp=Z,2.7nm,0.6s,baz=340,slow=7.5,SNR=15					
STKA	**Stephens Creek**	**56.69 159**		P	**P**	**02 13 03.7 +0.4**
STKA				IAmb	IAmb	02 13 19.9
	comp=Z,3.9nm,1.7s					
ARU	**Arti**	**57.10 324**		P	**P**	**02 13 06.2 +0.1**
AKH	**Akhalkalaki**	**66.91 307**		P	**P**	**02 14 13.8 +1.3**
AKH				IAmb	IAmb	02 14 16.0
	comp=Z,3.9nm,1.0s					
KBZ	**Khabaz**	**66.99 310**		P	**P**	**02 14 14.2 +1.5**
	comp=Z,2.8nm,0.8s,baz=110,slow=2.8,SNR=7.6					
KIV	**Kislovodsk**	**67.11 310**		P	**P**	**02 14 13.2 -0.4**
ARCES	**ARCESS Array B**	**71.89 338**		LR	LR	02 49 31.9
	comp=Z,33nm,19.8s,baz=281,slow=39					
FINES	**FINESS Array B**	**73.61 330**		P	**P**	**02 14 53.3 +0.4**
	comp=Z,2.8nm,0.8s,baz=56,slow=4.8,SNR=6.0					
FINES				LR	LR	02 51 12.5
	comp=Z,55nm,18.0s,baz=80,slow=39					
BRTR	**Keskin Array B**	**74.59 307**		LR	LR	02 52 25.3
	comp=Z,19nm,20.4s,baz=50,slow=39					
AKASG	**Malin Array Be**	**74.71 319**		P	**P**	**02 14 59.5 0.0**
	comp=Z,0.3nm,0.4s,baz=62,slow=5.7,SNR=2.6					
AKASG				LR	LR	02 50 41.4
	comp=Z,30nm,18.5s,baz=265,slow=38					
BURAR	**Bucovina Array**	**78.13 317**		P	**P**	**02 15 18.9 -0.3**
BUR08	**Bucovina Ar. S**	**78.13 317**		P	**P**	**02 15 18.6 -0.5**
BUR08				IAmb	IAmb	02 15 20.6
	comp=Z,2.8nm,1.0s					
NB2	**NORSAR Subarra**	**80.45 332**		P	**P**	**02 15 31.3 -0.2**
	comp=Z,2.1nm,0.9s,baz=60,slow=5.6					
NOA	**NORSAR Array B**	**80.45 332**		P	**P**	**02 15 31.2 -0.2**
	comp=Z,1.1nm,0.7s,baz=58,slow=5.5,SNR=5.4					
NOA				LR	LR	02 55 02.2
	comp=Z,74nm,18.7s,baz=65,slow=39					
OJC	**Ojcow**	**80.57 320**		P	**P**	**02 15 32.1 -0.1**
OJC				IAmb	IAmb	02 15 33.5
	comp=Z,4.4nm,0.7s					
VTS	**Vitosha**	**81.16 312**		P	**P**	**02 15 36.1 +0.4**
VTS				IAmb	IAmb	02 15 37.7
	comp=Z,3.8nm,0.8s					
GERES	**GERESS Array B**	**84.75 321**		P	**P**	**02 15 54.1 0.0**
	comp=Z,14nm,0.8s,baz=72,slow=4.3,SNR=13					
GERES	**GERESS Array B**	**84.75 321**		P	**P**	**02 15 53.2 -1.0**
YKA	**Yellowknife Ar**	**85.43 23**		P	**P**	**02 15 56.1 -1.1**
	comp=Z,0.8nm,0.7s,baz=312,slow=3.2,SNR=5.7					

*VAO **15** 02:03:46.5±0.6,20˚.20S×68˚.79W,h110km±6km,mb4.5*
*SJA **15** 02:03:47.4±0.7,20˚.35S×68˚.86W,h123km±3km,ML4.3,*
MW4.2
*NEIC **15** 02:03:47.4±2.5,20˚.35S±0˚.04×68˚.72W±0˚.07,h115km±3km,*
Error ellipse: s-maj=9.0km s-min=6.2km az=87.0
*IDC **15** 02:03:48.6±0.5,20˚.38S×68˚.55W,h120km±4km,mb3.9/10,*
mb1 4.0/14,mb1mx3.9/32,mbtmp4.3/14,MS2.1/1,
Ms1 2.2/1,ms1mx2.1/24,Error ellipse: s-maj=16.7km
s-min=7.8km az=97.0
*GUC **15** 02:03:48.0±0.7,20˚.34S×68˚.80W,h122km±3km,ML4.4*

ISC 15 02:03:47.4±0.4,**20˚.36S**±0˚.03×**68˚.82W**±0˚.04,**h119**km±4km,**n147,**σ1°**52**/193,**mb4.4**/17,**8C-6D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB08	**IPOC Station P**	**0.38 304**		⇑*iP*		**Pn**	**02 04 05.6**	**+0.6**
PB08				*eS*		**Sn**	**02 04 18.8**	**+0.5**
PB08				IAML			02 04 19.4	
	comp=E,14μm,0.2s							
PB08	**IPOC Station P**	**0.38 304**		Pn		**Pn**	**02 04 05.4**	**+0.4**
PB08				Sn		**Sn**	**02 04 19.0**	**+0.7**
PB08	**IPOC Station P**	**0.38 304**		*eP*		**Pn**	**02 04 05.6**	**+0.6**
PB08				*eS*		**Sn**	**02 04 19.3**	**+1.0**
PB08				IAML			02 04 20.9	
	comp=Z,6μm,0.3s							
GO01	**Chusmiza**	**0.77 333**		⇑*iP*		**Pn**	**02 04 08.2**	**+0.3**
GO01				*eS*		**Sn**	**02 04 24.4**	**+1.3**
GO01				IAML			02 04 27.7	
	comp=E,16μm,0.2s							
GO01	**Chusmiza**	**0.77 333**		Pn		**Pn**	**02 04 08.2**	**+0.3**
GO01				Sn		**Sn**	**02 04 24.2**	**+1.1**
PB01	**IPOC Station P**	**0.93 223**		⇓*eP*		**Pn**	**02 04 09.7**	**+0.9**
PB01				*eS*		**Sn**	**02 04 26.1**	**+1.3**
PB01				IAML			02 04 27.1	
	comp=E,18μm,0.5s							
PB01				IAML			02 04 28.8	
	comp=N,10μm,0.2s							
PB01	**IPOC Station P**	**0.93 223**		Pn		**Pn**	**02 04 09.6**	**+0.9**
PB01				Sn		**Sn**	**02 04 26.3**	**+1.5**
PB01	**IPOC Station P**	**0.93 223**		*eP*		**Pn**	**02 04 09.6**	**+0.9**
PB01				*eS*		**Sn**	**02 04 26.2**	**+1.5**
PB01				IAML			02 04 28.2	
	comp=Z,7μm,0.2s							
PB11	**IPOC Station P**	**0.99 307**		Pn		**Pn**	**02 04 09.9**	**+0.5**
PB11				Sn		**Sn**	**02 04 27.1**	**+1.1**
PB11	**IPOC Station P**	**0.99 307**		*eP*		**Pn**	**02 04 09.9**	**+0.5**
PB11				*eS*		**Sn**	**02 04 27.4**	**+1.4**
PB11				IAML			02 04 30.5	
	comp=Z,8μm,0.2s							
TA02	**Huaiquique**	**1.24 274**		⇑*iP*		**Pn**	**02 04 12.6**	**+0.8**
TA02				*eS*		**Sn**	**02 04 31.1**	**+0.9**
TA01	**Diego Aracena**	**1.30 261**		⇓*eP*		**Pn**	**02 04 13.0**	**+0.6**
TA01				*eS*		**Sn**	**02 04 32.3**	**+1.0**
TA01				IAML			02 04 37.9	
	comp=N,4μm,0.5s							
TA01	**Diego Aracena**	**1.30 261**		Pn		**Pn**	**02 04 13.0**	**+0.6**
TA01				Sn		**Sn**	**02 04 32.5**	**+1.1**
PATCX	**Punta Patache**	**1.33 250**		⇓*eP*		**Pn**	**02 04 13.7**	**+0.7**
PATCX				*eS*		**Sn**	**02 04 33.1**	**+0.8**
PATCX				IAML			02 04 34.9	
	comp=E,7μm,0.7s							
PATCX	**Punta Patache**	**1.33 250**		Pn		**Pn**	**02 04 13.9**	**+1.0**
PATCX				Sn		**Sn**	**02 04 34.0**	**+1.7**
PATCX	**Punta Patache**	**1.33 250**		*eP*		**Pn**	**02 04 13.9**	**+1.0**
PATCX				*eP*		**Pn**	**02 04 14.0**	**+1.0**
PATCX				*eS*		**Sn**	**02 04 33.8**	**+1.5**
MNMC	**Minye Minye**	**1.43 329**		⇑*iP*		**Pn**	**02 04 15.2**	**+1.0**
MNMC				*eS*		**Sn**	**02 04 35.5**	**+1.0**
MNMC	**Minye Minye**	**1.43 329**		Pn		**Pn**	**02 04 14.9**	**+0.7**
MNMCX	**Minye Minye**	**1.43 329**		*eP*		**Pn**	**02 04 15.2**	**+1.0**
MNMCX				*eP*		**Pn**	**02 04 15.2**	**+1.0**
MNMCX				*eP*		**Pn**	**02 04 15.3**	**+1.0**
PSGC	**Pisagua**	**1.44 301**		⇑*iP*		**Pn**	**02 04 14.7**	**+0.5**
PSGC				*eS*		**Sn**	**02 04 35.1**	**+0.6**
PSGC				IAML			02 04 39.6	
	comp=E,8μm,0.3s							
PSGCX	**Pisagua**	**1.44 301**		Pn		**Pn**	**02 04 14.7**	**+0.4**
PSGCX	**Pisagua**	**1.44 301**		*eP*		**Pn**	**02 04 14.6**	**+0.4**
PSGCX				*eP*		**Pn**	**02 04 14.6**	**+0.4**
PSGCX				*eP*		**Pn**	**02 04 14.6**	**+0.4**
PSGCX				*eS*		**Sn**	**02 04 35.2**	**+0.6**
PB09	**IPOC Station P**	**1.48 195**		⇓*eP*		**Pn**	**02 04 16.1**	**+1.4**
PB09				*eS*		**Sn**	**02 04 37.5**	**+2.0**
PB09				IAML			02 04 39.7	
	comp=N,2μm,0.5s							
PB09	**IPOC Station P**	**1.48 195**		Pn		**Pn**	**02 04 15.9**	**+1.2**
PB09	**IPOC Station P**	**1.48 195**		*eP*		**Pn**	**02 04 16.2**	**+1.4**
PB09				*eS*		**Sn**	**02 04 37.9**	**+2.4**
PB09				IAML			02 04 40.7	
	comp=Z,2μm,0.5s							
PB07	**IPOC Station P**	**1.69 216**		⇓*eP*		**Pn**	**02 04 17.9**	**+0.8**
PB07				*eS*		**Sn**	**02 04 40.8**	**+1.0**
PB07				IAML			02 04 42.3	
	comp=E,3μm,0.3s							
PB07	**IPOC Station P**	**1.69 216**				**Pn**	**02 04 18.1**	**+0.9**
PB07	**IPOC Station P**	**1.69 216**		*eP*		**Pn**	**02 04 18.0**	**+0.8**
PB07				*eS*		**Sn**	**02 04 40.5**	**+0.7**
PB07				IAML			02 04 44.5	
	comp=Z,2μm,0.2s							
PB03	**IPOC Station P**	**1.89 207**		⇓*eP*		**Pn**	**02 04 20.5**	**+0.8**
PB03				*eS*		**Sn**	**02 04 45.6**	**+1.3**
PB03	**IPOC Station P**	**1.89 207**		*eP*		**Pn**	**02 04 20.5**	**+0.8**
PB03				*eS*		**Sn**	**02 04 45.2**	**+0.9**
PB03				IAML			02 04 52.1	
	comp=Z,1μm,0.3s							
PB16	**IPOC Station P**	**2.12 342**		⇑*iP*		**Pn**	**02 04 24.2**	**+1.3**
PB16				*eS*		**Sn**	**02 04 52.1**	**+2.2**
PB16	**IPOC Station P**	**2.12 342**		Pn		**Pn**	**02 04 24.4**	**+1.6**
PB16	**IPOC Station P**	**2.12 342**		*eP*		**Pn**	**02 04 24.2**	**+1.3**
PB16				*eS*		**Sn**	**02 04 52.9**	**+3.0**
PB16				IAML			02 04 55.1	
	comp=Z,1μm,0.6s							
LVC	**Limon Verde**	**2.24 182**		P		**Pn**	**02 04 26.0**	**+1.8**
	comp=Z,32nm,0.3s,baz=23,slow=10,SNR=396							
LVC				S		**Sn**	**02 04 54.0**	**+1.7**
	comp=Z,99nm,0.3s,baz=315,slow=11,SNR=27							
LVC	**Limon Verde**	**2.24 182**		Pn		**Pn**	**02 04 25.8**	**+1.5**
LVC	**Limon Verde**	**2.24 182**		*eP*		**Pn**	**02 04 25.7**	**+1.5**
LVC				*eS*		**Sn**	**02 04 54.3**	**+2.0**
LVC	**Limon Verde**	**2.24 182**		*eP*		**Pn**	**02 04 25.7**	**+1.5**
LVC				*eS*		**Sn**	**02 04 54.4**	**+2.0**
PB12	**IPOC Station P**	**2.25 320**		⇑*iP*		**Pn**	**02 04 24.1**	**+0.1**
PB12				*eS*		**Sn**	**02 04 52.5**	**+0.4**
PB12				IAML			02 04 53.9	
	comp=N,6μm,0.3s							
PB12	**IPOC Station P**	**2.25 320**		Pn		**Pn**	**02 04 24.2**	**+0.1**
PB12	**IPOC Station P**	**2.25 320**		*eP*		**Pn**	**02 04 24.2**	**+0.1**
PB12				*eS*		**Sn**	**02 04 52.5**	**+0.4**
PB12				IAML			02 04 53.7	
	comp=Z,3μm,0.2s							
PB04	**IPOC Station P**	**2.32 212**				**Pn**	**02 04 26.2**	**+1.1**
PB04	**IPOC Station P**	**2.32 212**		*eP*		**Pn**	**02 04 26.5**	**+1.4**
PB04				*eS*		**Sn**	**02 04 53.8**	**-0.1**
PB04				IAML			02 05 09.5	
	comp=Z,1μm,0.5s							
PB06	**IPOC Station P**	**2.44 197**				**Pn**	**02 04 27.3**	**+0.8**
PB06	**IPOC Station P**	**2.44 197**		*eP*		**Pn**	**02 04 27.6**	**+1.1**
PB06				*eS*		**Sn**	**02 04 57.4**	**+0.9**
PB06				IAML			02 05 03.2	
	comp=Z,928nm,0.6s							
AP01	**Chacalluta**	**2.45 324**		Pn		**Pn**	**02 04 26.1**	**-0.3**
PB05	**IPOC Station P**	**2.80 207**		*eP*		**Pn**	**02 04 32.0**	**+0.9**
PB05				IAML			02 05 15.8	
	comp=E,898nm,0.5s							
PB05	**IPOC Station P**	**2.80 207**		*eP*		**Pn**	**02 04 31.9**	**+0.9**
PB05				*eS*		**Sn**	**02 05 02.8**	**-2.0**
PB05				IAML			02 05 18.4	
	comp=Z,448nm,0.3s							
PB15	**IPOC Station P**	**2.90 192**		*eP*		**Pn**	**02 04 33.9**	**+1.3**
PB15				*i S*		**Sn**	**02 05 08.9**	**+1.6**
PB15	**IPOC Station P**	**2.90 192**		*eP*		**Pn**	**02 04 34.2**	**+1.6**
PB15				*eS*		**Sn**	**02 05 07.6**	**+0.2**
PB15				IAML			02 05 12.1	
	comp=Z,3μm,0.2s							
PB10	**IPOC Station P**	**3.53 207**		Pn		**Pn**	**02 04 40.3**	**-0.3**
PB10	**IPOC Station P**	**3.53 207**		*eP*		**Pn**	**02 04 40.5**	**-0.1**
PB10				*eS*		**Sn**	**02 05 22.2**	**+0.4**
YJA	**Yavi**	**3.57 121**		*eP*		**Pn**	**02 04 43.8**	**+2.2**
YJA				*eS*		**Sn**	**02 05 26.5**	**+3.1**
LPAZ	**La Paz**	**4.10 9**		P		**Pn**	**02 04 51.7**	**+2.8**
	comp=Z,19nm,0.3s,baz=202,slow=5.4,SNR=601							
LPAZ				LR		LR	02 06 55.0	
	comp=Z,25nm,19.6s,baz=120,slow=46							
LPAZ	**La Paz**	**4.10 9**		Pn		**Pn**	**02 04 50.1**	**+1.2**
PB14	**IPOC Station P**	**4.49 199**		Pn		**Pn**	**02 04 53.0**	**-0.8**
PB14	**IPOC Station P**	**4.49 199**		*eP*		**Pn**	**02 04 53.1**	**-0.7**
PB14				*eS*		**Sn**	**02 05 41.2**	**-4.1**
PB14				IAML			02 05 58.1	
	comp=Z,340nm,1.4s							
GO02	**Mina Guanaco**	**4.83 188**		Pn		**Pn**	**02 04 58.1**	**-0.3**
AC01	**Pan de Azucar**	**5.99 196**		Pn		**Pn**	**02 05 11.6**	**-2.1**
AC02	**Maricunga**	**6.45 182**		Pn		**Pn**	**02 05 19.9**	**-0.5**
GO03	**Copiap**	**7.32 190**		Pn		**Pn**	**02 05 29.0**	**-2.7**
AC04	**Llanos de Chal**	**8.08 194**				**Pn**	**02 05 37.6**	**-4.3**
SIV	**San Ignacio**	**8.55 61**		P		**Pn**	**02 05 45.1**	**-3.3**
	comp=Z,7.4nm,0.3s,baz=259,slow=10,SNR=250							
SIV				S		Sn	02 07 10.3	-13
	baz=254,slow=14,SNR=3.5							
LCO	**Las Campanas**	**8.78 191**				**Pn**	**02 05 48.8**	**-2.9**
GO04	**Tololo Observa**	**9.93 190**		Pn		**Pn**	**02 06 03.8**	**-3.4**
PTLB	**Pontes e Lacer**	**10.43 64**		*eP*		**Pn**	**02 06 10.1**	**-3.6**
CO03	**El Pedregal**	**10.57 189**		Pn		**Pn**	**02 06 11.5**	**-4.2**
ETMB	**Extrema**	**10.78 14**		*eP*		**Pn**	**02 06 15.1**	**-3.4**
CO02	**Combarbal**	**10.98 190**		Pn		**Pn**	**02 06 18.2**	**-2.9**
VILB	**Vilhena**	**11.06 50**		*eP*		**Pn**	**02 06 19.8**	**-2.5**
ZON	**Zonda**	**11.14 179**		Pn		**Pn**	**02 06 20.9**	**-2.4**
NNA	**Nana**	**11.34 316**		P		**Pn**	**02 06 33.0**	**-2.2**
	comp=Z,1.8nm,0.3s,baz=144,slow=8.7,SNR=2.3							
NNA				S		Sn	02 08 21.3	-10
	comp=Z,1.3nm,0.3s,baz=180,slow=13,SNR=1.5							
CPUP	**Villa Florida**	**12.11 122**		P		**Pn**	**02 06 34.3**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=303,slow=12,SNR=60							
SAML	**Samuel**	**12.58 26**				**Pn**	**02 06 40.9**	**-1.4**
MT02	**Curacav**	**13.01 189**				**Pn**	**02 06 47.5**	**-0.4**
SALV	**Santo Antonio**	**13.24 73**		*eP*		**Pn**	**02 06 48.7**	**-2.2**
BO01	**Tunca**	**14.12 188**				**Pn**	**02 07 02.4**	**+0.2**
TRCB	**Terra Rica**	**15.25 102**		*eP*		**Pn**	**02 07 16.7**	**+0.2**
CLDB	**Colider**	**15.68 55**		*eP*		**Pn**	**02 07 20.1**	**-1.8**
PTGB	**Pitanga**	**16.07 109**		*eP*		**P**	**02 07 27.6**	**-0.2**
BI02	**San Fabin de**	**16.39 187**		Pn		**Pn**	**02 07 30.0**	**-0.6**
BI02						IAmb	02 07 32.6	
	comp=Z,13nm,0.8s							
PCMB	**Pacaembu**	**16.44 97**		*eP*		**Pn**	**02 07 31.6**	**+0.3**
ITAB	**Concordia**	**16.72 117**		*eP*		**P**	**02 07 35.5**	**+0.6**
ARAG	**Araguaiana, MT**	**16.82 77**		*eP*		**Pn**	**02 07 35.5**	**-0.3**
CPSB	**Cacapava Do Su**	**17.10 129**		*eP*		**P**	**02 07 37.6**	**-1.5**
ITRB	**Iturama**	**17.36 91**		*eP*		**P**	**02 07 41.8**	**-0.2**
PLTB	**Pedras Altas**	**17.75 133**		*eP*		**P**	**02 07 45.1**	**-1.1**
FRTB	**Fartura**	**18.12 103**		*eP*		**P**	**02 07 49.9**	**-0.5**
CNLB	**Canela**	**18.56 122**		*eP*		**P**	**02 07 55.3**	**+0.1**
NPGB	**Novo Progresso**	**18.58 46**		*eP*		**P**	**02 07 54.8**	**-0.6**
TIJ01	**Guaruva-PR**	**18.91 109**		*eP*		**P**	**02 07 59.0**	**-0.1**
BB19B	**Bebedouro**	**18.99 96**		*eP*		**P**	**02 07 59.2**	**-0.7**
IPMB	**Ipameri, GO**	**19.61 87**		*eP*		**P**	**02 08 05.4**	**-1.3**
SPB	**Sao Paulo**	**20.09 103**		*eP*		**P**	**02 08 11.1**	**-0.6**
PET01	**Itanhaem-SP**	**20.30 105**		*eP*		Pn	02 08 16.4	-0.8
BDFB	**Brasilia**	**20.33 80**		P		**P**	**02 08 12.9**	**-1.6**
	comp=Z,3.6nm,0.5s,baz=261,slow=10,SNR=5.6							
BDFB	**Brasilia**	**20.33 80**		P		**P**	**02 08 12.6**	**-1.9**
BDFB				IAmb		IAmb	02 08 23.8	
	comp=Z,20nm,1.5s							
PLCA	**Paso Flores**	**20.36 184**		P		**P**	**02 08 15.8**	**+1.2**
	comp=Z,10nm,0.8s,baz=11,slow=12,SNR=18							
PLCA	**Paso Flores**	**20.36 184**		P		**P**	**02 08 15.9**	**+1.3**
PLCA				IAmb		IAmb	02 08 19.8	
	comp=Z,16nm,1.0s							
PLCA	**Paso Flores**	**20.36 184**		*eP*		**P**	**02 08 16.1**	**+1.5**
PTGA	**Pitinga**	**21.34 25**		P		**P**	**02 08 22.1**	**-3.1**
	comp=Z,1.3nm,0.3s,baz=203,slow=21,SNR=7.2							
LL01	**San Ignacio de**	**22.16 187**		P		**P**	**02 08 34.2**	**+0.6**
PRPB	**Parauapebas**	**23.22 55**		*eP*		**P**	**02 08 43.1**	**-1.1**
SMTB	**Santa Maria do**	**23.47 64**		*eP*		**P**	**02 08 45.0**	**-1.6**
JANB	**Januaria**	**23.92 81**		*eP*		**P**	**02 08 49.3**	**-1.3**
SDBA	**SAO DESIDERIO**	**24.24 75**		*eP*		**P**	**02 08 53.3**	**-0.3**
RUSC	**La Rusia**	**26.42 350**		P		**P**	**02 09 13.8**	**0.0**
EFI	**East Falkland**	**32.37 167**		P		**P**	**02 10 05.9**	**+0.4**
HBAR	**Harrisburg**	**59.34 339**		P		**P**	**02 13 35.1**	**-1.9**
T47A	**Sharon Grove**	**59.59 343**		P		**P**	**02 13 38.1**	**-0.5**
T47A				IAmb		IAmb	02 13 45.8	
	comp=Z,3.1nm,0.9s							
TXAR	**Lajitas Array**	**59.75 325**		P		**P**	**02 13 42.3**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=120,slow=5.3,SNR=2.2							
TXAR				pP		**pP**	**02 14 09.5**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=150,slow=7.3,SNR=1.6							
P53A	**Whipple**	**60.68 349**		P		**P**	**02 13 45.0**	**-1.0**
P53A				IAmb		IAmb	02 13 47.8	
	comp=Z,3.8nm,0.8s							
VNA3	**Neumayer Olymp**	**61.12 162**		P		**P**	**02 13 50.0**	**+1.3**
VNA1	**Neumayer--Stat**	**61.33 161**		P		**P**	**02 13 51.9**	**+1.9**
VNA2	**Neumayer--Watz**	**61.69 161**		P		**P**	**02 13 53.7**	**+1.2**
	baz=286,slow=6.8							
WMOK	**Wichita Mounta**	**61.75 332**		P		**P**	**02 13 53.8**	**+0.4**
WMOK				IAmb		IAmb	02 13 55.0	
	comp=Z,2.7nm,0.8s							
N49A	**Columbus Grove**	**62.62 347**		P		**P**	**02 13 59.9**	**+0.8**
SNAA	**Sanae**	**63.32 161**		P		**P**	**02 14 04.6**	**+1.1**
SNAA	**Sanae**	**63.32 161**		P		**P**	**02 14 03.5**	**0.0**
SNAA				IAmb		IAmb	02 14 05.2	
	comp=Z,4.5nm,0.7s							
LIC	**Lamto**	**67.99 74**		*eP*		**P**	**02 14 33.2**	**-1.1**
	comp=Z,6.0nm,0.6s							
TIC	**Toumodi**	**68.17 74**		*eP*		**P**	**02 14 33.9**	**-1.6**
KIC	**Kosan Boka**	**68.31 74**		*eP*		**P**	**02 14 34.9**	**-1.4**
	comp=Z,8.0nm,0.5s							
DBIC	**Dimbokro**	**68.33 74**		P		**P**	**02 14 35.2**	**-1.2**
	comp=Z,2.7nm,0.4s,baz=222,slow=6.5,SNR=10							
DBIC	**Dimbokro**	**68.33 74**		IAmb		IAmb	02 14 36.6	
	comp=Z,7.0nm,0.9s							
PV01	**Paradox Valley**	**69.14 327**		P		**P**	**02 14 38.4**	**-2.8**
SRU	**San Rafael Swe**	**70.87 327**		P		**P**	**02 14 51.3**	**-0.4**
TMUT	**Trail Mountain**	**71.36 326**		P		**P**	**02 14 54.5**	**-0.3**
NVAR	**Mina Array Bea**	**74.66 322**		P		**P**	**02 15 16.2**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=140,slow=7.1,SNR=1.5							
NVAR				pP		**pP**	**02 15 46.0**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=144,slow=6.6,SNR=3.1							
YNE	**Yellowstone No**

comp=Z,25nm,21.8s,baz=165,slow=30
ASAR Alice Springs 99.81 164 P **Pdif** **02 30 47.9 +0.1**
comp=Z,0.4nm,0.8s,baz=202,slow=7.0,SNR=2.1
ILAR Eielson Array 149.14 313 PKPbc **PKiKP** **02 36 50.7 -0.6**
comp=Z,1.9nm,0.8s,baz=125,slow=2.1,SNR=15
ILAR Eielson Array 149.14 313 **PKPbc** **02 36 49.9 -0.3**
SONM Songino Array 151.42 86 PKPbc **PKiKP** **02 36 56.6 -0.2**
comp=Z,0.6nm,0.5s,baz=215,slow=5.4,SNR=3.4

IDC ***15*** *02:18:44.8±0.7,29.˚15S×179.˚00W,h340km±7km,mb3.3/5, mb1 3.4/5,mb1mx3.1/28,mbtmp4.0/5,Error ellipse: s-maj=27.4km s-min=19.1km az=25.0*
ISC 15 02:18:45.6±0.7,29.˚72S±0.˚08×178.˚9W±0.˚1, h350km, n37, σ2s40/48, mb3.5/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.00**	**63**	P		**Pn**		**02 19 29.3**	**-2.1**
GLKZ				S		**S**		**02 20 06.4**	**-1.6**
RIZ	**Raoul Island**	**1.00**	**62**	P		**Pn**		**02 19 29.3**	**-2.1**
RIZ				S		**S**		**02 20 04.7**	**-3.3**
RAO	**Raoul Island**	**1.01**	**63**	P		**Pn**		**02 19 30.0**	**-1.4**
	668nm,0.3s,baz=104,slow=1.6,SNR=21								
RAO				S		**S**		**02 20 04.6**	**-3.5**
	155nm,0.3s,baz=107,slow=19,SNR=1.8								
MXZ	**Matakaoa Point**	**8.15**	**196**	P		**P**		**02 20 44.6**	**+0.3**
MXZ				S		**S**		**02 22 08.2**	**-7.8**
HAZ	**Te Kaha**	**8.47**	**198**	P		**Pn**		**02 20 46.1**	**+1.0**
HAZ				S		**S**		**02 22 24.0**	**+1.2**
PUZ	**Puketiti**	**8.65**	**195**	P		**P**		**02 20 49.6**	**-0.3**
PUZ				S		**S**		**02 22 20.8**	**-6.1**
RUGZ	**Raukumara Rang**	**8.69**	**198**	P		**Pn**		**02 20 48.3**	**+0.4**
RUGZ				S		S		02 22 17.8	-10
TWGZ	**Tauwhareparae**	**8.82**	**196**	P		**P**		**02 20 51.7**	**0.0**
TWGZ				S		**S**		**02 22 28.8**	**-1.7**
MWZ	**Matawai**	**9.08**	**198**	P		**Pn**		**02 20 51.6**	**-0.9**
MWZ				S		**S**		**02 22 35.4**	**-0.9**
TKGZ	**Te Karaka**	**9.10**	**196**	P		**P**		**02 20 54.9**	**+0.1**
TKGZ				S		**S**		**02 22 33.7**	**-2.9**
URZ	**Urewera**	**9.13**	**200**	P		**P**		**02 20 54.2**	**-0.9**
	11nm,0.3s,baz=274,slow=4.1,SNR=75								
URZ				S		**S**		**02 22 33.6**	**-3.6**
	3.0nm,0.3s,baz=134,slow=21,SNR=8.1								
URZ	**Urewera**	**9.13**	**200**	P		**Pn**		**02 20 53.1**	**+0.1**
URZ				S		**S**		**02 22 34.4**	**-2.9**
RAGZ	**Rawiri**	**9.26**	**198**	P		**P**		**02 20 57.3**	**+0.5**
RIGZ	**Rimuhau**	**9.37**	**196**	P		**P**		**02 20 58.1**	**+0.1**
MUGZ	**Murupara**	**9.43**	**201**	P		**Pn**		**02 20 57.4**	**+0.8**
KNZ	**Kokohu**	**9.69**	**196**	P		**P**		**02 21 02.1**	**+0.6**
TLZ	**Tolley Road**	**9.73**	**207**	P		**P**		**02 21 05.2**	**+3.2**
RAHZ	**Arahi**	**9.75**	**199**	P		**P**		**02 21 02.4**	**+0.3**
MTHZ	**Maungataniwha**	**9.76**	**200**	P		**P**		**02 21 03.3**	**+1.1**
NMHZ	**Naumai**	**9.99**	**199**	P		**P**		**02 21 04.8**	**-0.1**
ARHZ	**Aropaoanui**	**10.10**	**198**	P		**P**		**02 21 06.1**	**+0.2**
DZM	**Mont Dzumac**	**15.19**	**297**	P		**Pn**		**02 22 04.2**	**-0.6**
	0.6nm,0.3s,baz=125,slow=14,SNR=5.3								
STKA	**Stephens Creek**	**33.84**	**256**	P		**P**		**02 24 57.6**	**+1.3**
	0.9nm,0.4s,baz=118,slow=14,SNR=4.4								
ASAR	**Alice Springs**	**42.33**	**267**	P		**P**		**02 26 06.0**	**-0.7**
	1.6nm,0.5s,baz=97,slow=6.5,SNR=22								
WRA	**Warramunga Arr**	**43.26**	**272**	P		**P**		**02 26 13.2**	**-0.9**
	2.1nm,0.5s,baz=112,slow=6.7,SNR=42								
QSPA	**South Pole Qui**	**60.39**	**180**	P		**P**		**02 28 22.9**	**+4.2**
	1.2nm,0.6s,baz=333,slow=0.6,SNR=7.7								
SNAA	**Sanae**	**78.86**	**179**	P		**P**		**02 30 13.0**	**+2.7**
SNAA	**Sanae**	**78.86**	**179**	P		**P**		**02 30 12.8**	**+2.6**
	0.4nm,0.5s,baz=235,slow=4.5,SNR=6.9								
VNA3	**Neumayer Olymp**	**79.04**	**176**	P		**P**		**02 30 13.9**	**+2.7**
VNA2	**Neumayer--Watz**	**79.46**	**177**	P		**P**		**02 30 16.5**	**+3.0**
	baz=166,slow=5.4								
VNA1	**Neumayer--Stat**	**79.70**	**177**	P		**P**		**02 30 17.7**	**+3.1**
FINES	**FINESS Array B**	**144.22**	**340**	PKP		**PKPab**		**02 37 37.4**	**-1.1**
	2.4nm,0.5s,baz=59,slow=3.5,SNR=27								
NB2	**NORSAR Subarra**	**147.95**	**351**	PKPdf		**PKPbc**		**02 37 47.6**	**-1.8**
	comp=Z,1.2nm,0.8s,baz=44,slow=1.9								
NOA	**NORSAR Array B**	**147.95**	**351**	PKPbc		**PKPbc**		**02 37 47.9**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=9.6,slow=3.2,SNR=4.1								
AKASG	**Malin Array Be**	**150.26**	**323**	PKPbc		**PKPbc**		**02 37 53.7**	**-1.5**
	comp=Z,1.5nm,0.5s,baz=46,slow=3.0,SNR=5.9								
BRTR	**Keskin Array B**	**151.55**	**299**	PKPbc		**PKiKP**		**02 37 58.7**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=158,slow=3.7,SNR=2.0								
TORD	**Torodi Ar. Bea**	**163.50**	**182**	PKPab		**PKPab**		**02 39 02.9**	**+2.1**
	comp=Z,0.3nm,0.4s,baz=181,slow=3.1,SNR=13								

JMA ***15*** *02:20:44.4,24.˚79N×122.˚29E,h0km,M2.6*
TAP ***15*** *02:20:44.5,24.˚85N×122.˚25E,h10km,ML3.1,D*
ISC 15 02:20:44.7±1.0,24.˚83N±0.˚02×122.˚28E±0.˚02, h8km±9km, n64, σ0s45/114, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EGS		**0.32**	**273**	*eP*		**Pb**		**02 20 51.7**	**-0.8**
	baz=268								
EGS				*eS*		**Sg**		**02 20 56.1**	**+0.9**
	baz=268								
TWB1	**Santiao Chiao**	**0.32**	**304**	P		**Pg**		**02 20 50.9**	**-0.1**
	baz=304								
TWB1				S		**Sg**		**02 20 55.3**	**0.0**
	baz=304								
NTC	**Toucheng**	**0.41**	**273**	*eP*		**Pb**		**02 20 53.4**	**-0.8**
	baz=270								
NTC				*eS*		**Sb**		**02 20 59.9**	**-0.7**
	baz=270								
TIPB	**Shuangxi**	**0.44**	**289**	*eP*		**Pb**		**02 20 53.8**	**-0.8**
	baz=287								
TIPB				S		**Sg**		**02 20 59.9**	**+0.9**
	baz=287								
TWC	**Suao**	**0.45**	**241**	*eP*		**Pg**		**02 20 53.6**	**+0.2**
	baz=236								
TWC				S		**Sg**		**02 21 00.0**	**+0.6**
	baz=236								
ILA	**Ilan**	**0.49**	**262**	*eP*		**Pb**		**02 20 54.6**	**-0.9**
	baz=259								
ILA				*eS*		**Sb**		**02 21 01.9**	**-0.9**
	baz=259								
NWF	**Wu-fen Shan**	**0.51**	**298**	*eP*		**Pb**		**02 20 55.6**	**-0.4**
	baz=297								
NWF				S		**Sb**		**02 21 02.7**	**-0.9**
	baz=297								
WFSB	**Wu-fen Shan**	**0.51**	**298**	*eP*		**Pb**		**02 20 55.7**	**-0.2**
	baz=297								
WFSB				S		**Sb**		**02 21 02.8**	**-0.7**
	baz=297								
TWE	**Neicheng**	**0.57**	**259**	*eP*		**Pg**		**02 20 55.7**	**0.0**
	baz=255								
TWE				*eS*		**Sb**		**02 21 04.9**	**-0.2**
	baz=255								
ENAH	**Nanao**	**0.57**	**229**	*eP*		**Pb**		**02 20 56.3**	**-0.6**
	baz=225								
ENAH				*eS*		**Sb**		**02 21 05.6**	**+0.4**
	baz=225								
ENA	**Nanau**	**0.64**	**231**	*eP*		**Pb**		**02 20 58.0**	**+0.1**
	baz=227								
ENA				*eS*		**Sb**		**02 21 07.8**	**+0.8**
	baz=227								
TWA	**Mucha**	**0.65**	**283**	*eP*		**Pb**		**02 20 57.6**	**-0.7**
	baz=282								
TWA				*eS*		**Sb**		**02 21 07.5**	**0.0**
	baz=282								
ENTT	**Nioudou**	**0.68**	**254**	*eP*		**Pg**		**02 20 57.9**	**+0.2**
	baz=251								
ENTT				*eS*		**Sb**		**02 21 08.4**	**+0.2**
	baz=251								
NHDH	**Xindian Distri**	**0.70**	**281**	*eP*		**Pg**		**02 20 58.4**	**+0.2**
	baz=279								
NHDH				*eS*		**Sb**		**02 21 09.2**	**+0.3**
	baz=279								
NWLT	**Wulai**	**0.71**	**266**	*eP*		**Pb**		**02 20 59.3**	**0.0**
	baz=264								
NWLT				*eS*		**Sb**		**02 21 08.8**	**-0.4**
	baz=264								
JYNG	**Yonagunijimaku**	**0.71**	**122**	P		**Pg**		**02 20 58.0**	**-0.4**
JYNG				*eS*		**Sg**		**02 21 08.0**	**+0.3**
YM01	**YM01**	**0.72**	**296**	*eP*		**Pg**		**02 20 58.7**	**+0.2**
	baz=295								
YM01				S		**Sb**		**02 21 08.8**	**-0.7**
	baz=295								
TAP1	**Taipei**	**0.72**	**287**	*eS*		**Sb**		**02 21 09.6**	**+0.2**
	baz=285								
YM08	**YM08**	**0.72**	**300**	*eP*		**Pg**		**02 20 58.8**	**+0.2**
	baz=299								
YM08				*eS*		**Sb**		**02 21 09.0**	**-0.5**
	baz=299								
YM11	**YM11**	**0.72**	**298**	*eP*		**Pg**		**02 20 58.0**	**-0.6**
	baz=297								
YM11				*eS*		**Sb**		**02 21 09.7**	**+0.1**
	baz=297								
YM05	**YM05**	**0.73**	**297**	*eP*		**Pg**		**02 20 58.4**	**-0.4**
	baz=296								
YM05				*eS*		**Sb**		**02 21 09.2**	**-0.6**
	baz=296								
YM10	**YM10**	**0.73**	**296**	*eP*		**Pg**		**02 20 59.0**	**+0.2**
	baz=295								
YM10				S		**Sb**		**02 21 09.5**	**-0.3**
	baz=295								
TAP	**Taipei**	**0.73**	**287**	*eS*		**Sb**		**02 21 09.6**	**-0.2**
	baz=285								
NDT	**Datong Townshi**	**0.74**	**252**	*eP*		**Pb**		**02 20 59.6**	**-0.1**
	baz=250								
NDT				S		**Sb**		**02 21 10.8**	**+0.9**
	baz=250								
YM04	**YM04**	**0.75**	**296**	*eP*		**Pg**		**02 20 58.7**	**-0.4**
	baz=295								
YM04				*eS*		**Sb**		**02 21 09.9**	**-0.4**
	baz=295								
YM03	**YM03**	**0.76**	**297**	*eP*		**Pg**		**02 20 59.3**	**0.0**
	baz=296								
YM03				*eS*		**Sb**		**02 21 10.5**	**-0.2**
	baz=296								
YOJ	**Yonaguni jima**	**0.76**	**119**	P		**Pg**		**02 20 58.7**	**-0.6**
YOJ				*eS*		**Sg**		**02 21 08.9**	**-0.2**
TWY	**Chenhua**	**0.76**	**306**	*eP*		**Pb**		**02 20 59.8**	**-0.4**
	baz=305								
TWY				*eS*		**Sb**		**02 21 10.7**	**+0.1**
	baz=305								
PCYT	**Pengchaiyu**	**0.82**	**347**	P		**Pg**		**02 21 00.4**	**0.0**
	baz=348								
PCYT				*eS*		**Sb**		**02 21 12.7**	**+0.4**
	baz=348								
YHNB	**Yeheng**	**0.84**	**259**	P		**Pg**		**02 21 00.8**	**0.0**
	baz=257								
YHNB				S		**Sb**		**02 21 13.6**	**+0.7**
	baz=257								
NACB	**Ninganchiao**	**0.91**	**224**	*eP*		**Pb**		**02 21 02.2**	**-0.4**
	baz=221								
NACB				*eS*		**Sb**		**02 21 15.0**	**+0.2**
	baz=221								
NNSH	**Datong**	**0.91**	**244**	*eP*		**Pb**		**02 21 02.3**	**-0.4**
	baz=242								
NNSH				S		**Sb**		**02 21 15.1**	**0.0**
	baz=242								
NNSB	**Datong**	**0.91**	**244**	P		**Pb**		**02 21 02.7**	**-0.1**
	baz=242								
NNSB				S		**Sb**		**02 21 14.8**	**-0.3**
	baz=242								
NNS	**Nan Shan**	**0.92**	**245**	*eP*		**Pb**		**02 21 02.4**	**-0.4**
	baz=242								
NNS				*eS*		**Sb**		**02 21 15.0**	**-0.1**
	baz=242								
ETLH	**Xiulin Townshi**	**0.96**	**230**	*eP*		**Pg**		**02 21 02.7**	**-0.4**
	baz=227								
ETLH				S		**Sb**		**02 21 16.0**	**-0.4**
	baz=227								
TWD	**Chiawan**	**0.97**	**220**	*eP*		**Pg**		**02 21 03.1**	**-0.3**
	baz=217								
TWD				*eS*		**Sb**		**02 21 16.3**	**-0.4**
	baz=217								
NCU	**National Centr**	**1.00**	**278**	*eS*		**Sb**		**02 21 17.4**	**-0.3**
	baz=277								
FUSS	**Fushou**	**1.11**	**239**	*eP*		**Pb**		**02 21 06.0**	**-0.2**
	baz=236								
FUSS				*eS*		**Sb**		**02 21 21.1**	**+0.2**
	baz=236								
WHF	**Hehuan Shan**	**1.15**	**234**	*eP*		**Pg**		**02 21 06.0**	**-0.8**
	baz=231								
WHF				*eS*		**Sb**		**02 21 22.4**	**+0.1**
	baz=231								
LIOB	**Emei**	**1.17**	**261**	*eP*		**Pg**		**02 21 06.4**	**-0.7**
	baz=259								
LIOB				*eS*		**Sb**		**02 21 22.3**	**0.0**
	baz=259								
TDCB	**Techi**	**1.17**	**241**	*eP*		**Pg**		**02 21 06.5**	**-0.8**
	baz=239								
TDCB				*eS*		**Sb**		**02 21 22.7**	**0.0**
	baz=239								
SBCB	**Hsinchu**	**1.18**	**268**	*eS*		**Sb**		**02 21 22.8**	**+0.2**
	baz=267								
CHGB	**Renai**	**1.27**	**233**	P		**Pn**		**02 21 08.9**	**0.0**
	baz=231								
CHGB				S		**Sn**		**02 21 26.1**	**0.0**
	baz=231								
ESL	**Shilin**	**1.27**	**218**	*eP*		**Pg**		**02 21 08.5**	**-0.6**
	baz=215								
ESL				*eS*		**Sn**		**02 21 25.9**	**-0.1**
	baz=215								
WHP	**Taichung City**	**1.34**	**246**	*eP*		**Pn**		**02 21 09.6**	**0.0**
	baz=244								
WHP				*eS*		**Sn**		**02 21 27.6**	**0.0**
	baz=244								
NMLH	**Miaoli**	**1.39**	**258**	*eS*		**Sg**		**02 21 28.8**	**-0.5**
	baz=256								
EGFH	**Guangfu**	**1.40**	**214**	*eS*		**Sn**		**02 21 29.8**	**+0.8**
	baz=212								
IRIF	**Iriomote-Funau**	**1.41**	**110**	P		**Pn**		**02 21 11.0**	**+0.5**
TWQ1	**Liyutan**	**1.46**	**251**	*eS*		**Sn**		**02 21 30.8**	**+0.3**
	baz=249								
PTSB	**Yuanli**	**1.49**	**255**	*eS*		**Sn**		**02 21 31.4**	**+0.2**
	baz=254								
VWDT	**VWDT**	**1.50**	**224**	*eP*		**Pb**		**02 21 12.5**	**-0.1**
	baz=222								
VWDT				*eS*		**Sg**		**02 21 32.5**	**-0.2**
	baz=222								
HGSD	**Ruisui**	**1.55**	**211**	*eP*		**Pb**		**02 21 13.2**	**-0.3**
	baz=209								
HGSD				*eS*		**Sg**		**02 21 34.3**	**-0.1**
	baz=209								
WDJ	**Dajia District**	**1.57**	**253**	*eS*		**Sn**		**02 21 33.4**	**+0.2**
	baz=251								
SMLT	**Sun Moon Lake**	**1.57**	**233**	*eP*		**Pn**		**02 21 13.0**	**0.0**
	baz=231								
SMLT				*eS*		**Sn**		**02 21 33.7**	**+0.2**
	baz=231								
EHY	**Hungye**	**1.58**	**214**	*eP*		**Pb**		**02 21 13.8**	**-0.4**
	baz=212								
EHY				*eS*		**Sb**		**02 21 34.4**	**+0.1**
	baz=212								
TYC	**Yuchr**	**1.59**	**235**	*eP*		**Pn**		**02 21 13.5**	**+0.4**
	baz=233								
TYC				*eS*		**Sb**		**02 21 34.4**	**-0.2**
	baz=233								
SSLB	**Suanglung**	**1.60**	**230**	*eP*		**Pn**		**02 21 13.6**	**+0.4**
	baz=228								
SSLB				*eS*		**Sb**		**02 21 34.6**	**-0.1**
	baz=228								
JKRS	**Kuro-shima**	**1.68**	**110**	P		**Pn**		**02 21 15.0**	**+0.7**
YULB	**Yu-li**	**1.69**	**212**	*eP*		**Pn**		**02 21 14.9**	**+0.4**
	baz=211								
YULB				*eS*		**Sb**		**02 21 37.1**	**-0.3**
	baz=211								
TWF1	**Yuli**	**1.73**	**212**	*eS*		**Sn**		**02 21 37.2**	**+0.1**
	baz=210								
FULB	**Fuli**	**1.86**	**209**	*eS*		**Sn**		**02 21 41.2**	**+0.8**
	baz=208								
ALS	**Alishan**	**1.88**	**226**	*eP*		**Pn**		**02 21 17.5**	**+0.1**
	baz=224								
ALS				*eS*		**Sn**		**02 21 42.2**	**+0.8**
	baz=224								
CHN5	**Tsauling**	**1.91**	**230**	*eP*		**Pn**		**02 21 17.8**	**+0.2**
	baz=229								
CHN5				*eS*		**Sn**		**02 21 42.3**	**+0.5**
	baz=229								
CHN1	**Nanshi**	**2.29**	**225**	*eS*		**Sn**		**02 21 51.9**	**+0.7**
	baz=223								

MEX 15 02:38:54.8±0.8,14.˚29N×92.˚34W,h135km±95km, MD3.7, Near coast of Chiapas

NEIC ***15*** *03:01:53.2±2.7,15.˚96N±0.˚07×97.˚35W±0.˚05,h16km±7km, mb3.9/4,Md4.3/56(MEX),Error ellipse: s-maj=11.7km s-min=2.8km az=211.0*
MEX ***15*** *03:01:55.2±1.4,15.˚94N×97.˚42W,h27km±15km,MD4.3*
ISC 15 03:01:53.9±0.9,16.˚00N±0.˚04×97.˚39W±0.˚03, h23km±8km, n59, σ1s36/93, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.23**	**90**	*eP*		**Pg**		**03 02 00.4**	**+0.5**
PEIG				*i* S		**Sb**		**03 02 05.0**	**+1.1**
PNIG	**Pinotepa**	**0.81**	**299**	*eP*		**Pb**		**03 02 08.1**	**-1.3**
PNIG							*eS*	**Sb**	**03 02 18.8**	**-1.1**
PNIG	**Pinotepa**	**0.81**	**299**					**Pb**	**03 02 08.1**	**-1.3**
PNIG								**Sb**	**03 02 18.8**	**-1.1**
YOIG	**Yosondua**	**0.87**	**350**	*i* P				**Pb**	**03 02 09.9**	**-0.5**
YOIG							*eS*	**Sb**	**03 02 20.9**	**-0.9**
PANG	**Puerto Angel**	**0.94**	**110**	*i* P				**Pn**	**03 02 10.3**	**-1.4**
PANG							*i* S	**Sb**	**03 02 22.4**	**-1.2**
PANG	**Puerto Angel**	**0.94**	**110**					**Pn**	**03 02 10.3**	**-1.4**
PANG								**Sb**	**03 02 22.4**	**-1.2**
OXBJ	**Oaxaca**	**1.24**	**31**	*eP*				**Pn**	**03 02 15.8**	**-0.1**
OXBJ							*eS*	**Sn**	**03 02 30.9**	**-1.2**
OXBJ	**Oaxaca**	**1.24**	**31**					**Pn**	**03 02 15.8**	**-0.1**
OXBJ								**Sn**	**03 02 30.9**	**-1.2**
HUIG	**Huatulco**	**1.25**	**100**	*i* P				**Pn**	**03 02 15.0**	**-0.9**
HUIG							*i* S	**Sn**	**03 02 30.2**	**-1.9**
HUIG	**Huatulco**	**1.25**	**100**					**Pn**	**03 02 15.0**	**-0.9**
HUIG								**Sn**	**03 02 30.2**	**-1.9**
TXIG	**Tlaxiaco**	**1.30**	**344**	*eP*				**Pn**	**03 02 16.5**	**-0.4**
TXIG							*eS*	**Sn**	**03 02 32.8**	**-0.9**
HLIG	**Huajuapan de L**	**1.86**	**348**	*eP*				**Pn**	**03 02 25.0**	**+0.4**
HLIG							*i* S	**Sn**	**03 02 46.8**	**-0.8**
TLIG	**Tlapa**	**1.92**	**324**	*eP*				**Pn**	**03 02 24.5**	**-0.8**
TLIG							*eS*	**Sn**	**03 02 47.5**	**-1.3**
TLIG	**Tlapa**	**1.92**	**324**					**Pb**	**03 02 27.5**	**-0.8**
FTIG	**Fresnillo de T**	**2.03**	**340**	*eP*				**Pn**	**03 02 26.3**	**-0.4**
FTIG							*i* S	**Sn**	**03 02 50.5**	**-0.9**
HMTT	**Tlapaneco**	**2.11**	**328**	*eP*				**Pn**	**03 02 27.2**	**-0.7**
HMTT							*eS*	**Sn**	**03 02 52.2**	**-1.2**
HMTT	**Tlapaneco**	**2.11**	**328**					**Pb**	**03 02 30.7**	**-0.9**
HMTT								**Sb**	**03 02 56.2**	**-1.2**
TPIG	**Tehuac#an**	**2.41**	**1**	*eP*				**Pn**	**03 02 27.9**	**-4.1**
TPIG							*eS*	**Sn**	**03 03 00.6**	**-0.3**
TPIG	**Tehuac#an**	**2.41**	**1**					**Pb**	**03 02 35.9**	**-0.8**
TPIG								**Sb**	**03 03 08.6**	**+2.6**
ACP2	**Acapulco**	**2.55**	**290**	*i* P				**Pb**	**03 02 39.9**	**+0.9**
ACP2							*i* S	**Sn**	**03 03 05.9**	**+1.7**
ACP2	**Acapulco**	**2.55**	**290**					Pb	03 02 45.8	+6.8
CMIG	**Matias Romero**	**2.64**	**65**	*eP*				**Pn**	**03 02 34.9**	**-0.1**
CMIG							*i* S	**Sn**	**03 03 06.2**	**-0.2**
CMIG	**Matias Romero**	**2.64**	**65**					**Pn**	**03 02 34.9**	**-0.1**
CMIG								**Sn**	**03 03 06.2**	**-0.2**
CAIG	**El Cayaco**	**2.95**	**291**	*i* P				**Pn**	**03 02 39.4**	**+0.1**
CAIG	**El Cayaco**	**2.95**	**291**					**Pn**	**03 02 39.4**	**+0.1**
PLIG	**Platanillo**	**3.12**	**320**	*eP*				**Pn**	**03 02 41.4**	**-0.4**
PLIG							*eS*	**Sn**	**03 03 17.6**	**-0.8**
PLIG	**Platanillo**	**3.12**	**320**					**Pb**	**03 02 46.8**	**-2.0**
PLIG								**Sn**	**03 03 18.6**	**+0.2**
YAIG	**Yautepec**	**3.27**	**331**	*eP*				**Pn**	**03 02 43.4**	**-0.4**
YAIG							*eS*	**Sn**	**03 03 21.7**	**-0.4**
YAIG	**Yautepec**	**3.27**	**331**					**Pn**	**03 02 47.4**	**+3.6**
YAIG								**Sn**	**03 03 21.7**	**-0.4**
PPM	**Popocatepetl**	**3.27**	**339**	*eP*				**Pn**	**03 02 44.4**	**+0.2**
PPM							*eS*	**Sn**	**03 03 22.6**	**-0.1**
AMVM	**AMECAMECA**	**3.39**	**337**	*eP*				**Pn**	**03 02 46.3**	**+0.6**
MAVM	**Malinalco, Edo**	**3.56**	**326**	*eP*				**Pn**	**03 02 48.3**	**+0.3**
MAVM							*eS*	**Sn**	**03 03 30.2**	**+0.8**
ARIG	**Puente Sto Nin**	**3.63**	**309**	*eP*				**Pn**	**03 02 47.8**	**-0.9**
ARIG							*eS*	**Sn**	**03 03 28.9**	**-1.8**
ARIG	**Puente Sto Nin**	**3.63**	**309**					**Pn**	**03 02 51.8**	**+3.1**
ARIG								**Sn**	**03 03 28.9**	**-1.8**
UNM	**Universidad Na**	**3.73**	**333**			Pn		**Pn**	**03 02 51.1**	**+0.9**
LVIG	**Laguna Verde**	**3.82**	**14**	*eP*				**Pn**	**03 02 50.2**	**-1.1**
LVIG							*eS*	**Sn**	**03 03 35.9**	**+0.5**
LVIG	**Laguna Verde**	**3.82**	**14**					**Pn**	**03 02 50.2**	**-1.1**
LVIG								**Sb**	**03 03 41.9**	**-4.5**
TOVM	**TOLUCA**	**3.93**	**327**	*eP*				**Pn**	**03 02 53.6**	**+0.5**
TOVM							*eS*	**Sn**	**03 03 38.1**	**-0.5**
VTVM	**Tizayuca**	**3.98**	**341**	*eP*				**Pn**	**03 02 53.9**	**+0.1**
VTVM							*eS*	**Sn**	**03 03 40.6**	**+0.8**
AZVM	**Cuida Lopez Ma**	**4.00**	**333**	*eP*				**Pn**	**03 02 54.4**	**+0.4**
AZVM							*eS*	**Sn**	**03 03 40.6**	**+0.3**
ZUVM	**ZUMPANGO**	**4.13**	**337**	*i* P				**Pn**	**03 02 56.5**	**+0.6**
ZUVM					⇑	*i* S		**Sn**	**03 03 43.4**	**-0.2**
TGIG		**4.17**	**79**	*i* P				**Pn**	**03 02 54.9**	**-1.3**
TGIG							*eS*	**Sn**	**03 03 43.6**	**-0.6**
TGIG		**4.17**	**79**					**Pn**	**03 02 54.9**	**-1.3**
TGIG								**Sn**	**03 03 48.6**	**+4.4**
ZIIG	**Zihuatanejo**	**4.22**	**293**	*i* P				**Pn**	**03 02 56.2**	**-0.6**
ZIIG	**Zihuatanejo**	**4.22**	**293**					Pn	03 03 01.2	+4.4
DEIG	**Demacu**	**4.56**	**340**	*eP*				**Pn**	**03 03 01.7**	**+0.1**
DEIG							*eS*	**Sn**	**03 03 54.6**	**+0.5**
CCIG	**Comitan**	**5.06**	**86**	*i* P				Pn	03 03 02.9	-5.5
CCIG	**Comitan**	**5.06**	**86**					Pn	03 03 02.9	-

JSR eS Sn 03 20 37.3 0.0
JFR Furan 1.66 359 P Pn 03 20 16.9 -0.3
JFR S Sn 03 20 38.5 +1.0
JOB Onbets 1.67 33 ⇑P Pn 03 20 16.9 -0.4
JOB S Sn 03 20 38.0 +0.3
JYM2 Yakumo 2 1.79 291 ⇓P Pn 03 20 18.1 -0.8
JOMM Oshimamatsumae 1.96 271 P Pn 03 20 20.6 -0.6
JOMM eS Sn 03 20 44.1 -0.6
JAR Ashorobuto 1.98 25 ⇑P Pn 03 20 20.5 -1.1
ASAJ Asahikawa 2.61 360 P Pn 03 20 30.2 +0.1
47nm,0.3s,baz=226,slow=9.4,SNR=204
ASAJ S Sn 03 21 03.2 +2.5
26nm,0.3s,baz=313,slow=29,SNR=14
ASAJ Asahikawa 2.61 360 P Pn 03 20 29.8 -0.3
ASAJ 03 21 03.2
JKA Kamikawa-asahi 2.61 360 Pn Pn 03 20 29.8 -0.3
JKA Kamikawa-asahi 2.61 360 Sn 03 21 03.2 +2.6
NMR Nemuro--Hokkai 2.96 50 ⇓*i*P Pn 03 20 33.2 -1.7
NMR *i* S Sn 03 21 06.3 -3.0
GLVR Golovnino 3.10 43 *e*P Pn 03 20 35.8 -0.9
GLVR eS Sn 03 21 10.5 -2.0
GLVR pmax pmax
comp=N,68nm,0.1s
GLVR pmax pmax
comp=Z,1μm,0.1s
GLVR smax smax
comp=N,2μm,0.4s
GLVR smax smax
comp=E,706nm,0.2s
GRPR Tuman 3.40 42 *e*P Pn 03 20 40.3 -0.7
GRPR eS Sn 03 21 18.5 -1.6
GRPR pmax pmax
comp=Z,607nm,0.2s
GRPR pmax pmax
comp=N,198nm,0.1s
GRPR pmax pmax
comp=E,312nm,0.1s
GRPR smax smax
comp=E,817nm,0.3s
GRPR smax smax
comp=N,956nm,0.4s
YUK Yuzh-Kuril'sk 3.48 42 ⇓*i*P Pn 03 20 41.5 -0.5
YUK *i* S Sn 03 21 20.3 -1.6
YUK pmax pmax
comp=N,478nm,0.1s
YUK pmax pmax
comp=Z,1μm,0.1s
YUK pmax pmax
comp=E,257nm,0.2s
YUK smax smax
comp=E,1μm,0.4s
YUK smax smax
comp=N,716nm,0.3s
KUR Kuril'sk 5.34 44 ⇓*i*P Pn 03 21 07.6 +0.1
KUR *i* S Sn 03 22 07.0 -0.6
KUR pmax pmax
comp=Z,112nm,0.4s
KUR pmax pmax
comp=N,37nm,0.2s
KUR pmax pmax
comp=E,28nm,0.2s
KUR smax smax
comp=E,114nm,0.3s
KUR smax smax
comp=N,81nm,0.2s
YSS Yuzh-Sakhalins 5.45 1⇑*e*P Pn 03 21 09.5 +0.6
YSS eS Sn 03 22 12.0 +1.8
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS Yuzh-Sakhalins 5.45 1 Pn Pn 03 21 08.8 -0.1
TEY Ternei 5.63 311⇑*e*P Pn 03 21 10.7 -0.7
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=Z,10.0nm,0.8s
TEY pmax pmax
comp=E,10.0nm,0.8s
MJB9 Matsu-Tunnel 6.03 216 Pn Pn 03 21 18.3 +1.4
MAJO Matsushiro 6.03 216*de*P Pn 03 21 18.0 +1.1
MAJO Matsushiro 6.03 216 Pn Pn 03 21 18.7 +1.8
MAT Matsushiro 6.03 216 P Pn 03 21 18.5 +1.6
MAT eS Sn 03 22 26.0 +1.5
MJAR Matsushiro Arr 6.03 216 P Pn 03 21 17.1 +0.2
comp=E,0.4nm,0.3s,baz=60,slow=20,SNR=24
MJAR S Sn 03 22 28.6 +4.1
baz=9.1,slow=16,SNR=1.3
MJAR LR LR 03 24 01.3
comp=E,269nm,20.8s,baz=20,slow=42
MJAR Matsushiro Arr 6.03 216 Pn Pn 03 21 18.8 +1.9
UGL Uglegorsk 7.58 357 P Pn 03 21 32.7 -5.4
UGL pmax pmax
comp=Z,47nm,0.5s
USA0B Ussuriysk Arra 8.26 293⇑*e*P Pn 03 21 47.9 +0.5
USA0B Ussuriysk Arra 8.26 293 Pn Pn 03 21 48.5 +1.2
USRK Ussuriysk Ar. 8.26 293 P Pn 03 21 48.0 +0.6
baz=93,slow=18,SNR=17
USRK Ussuriysk Ar. 8.26 293 P Pn 03 21 48.9 +1.5
USRK Ussuriysk Ar. 8.26 293 Pn Pn 03 21 48.9 +1.5
JHJ Hachijo jima 2 8.67 196 P Pn 03 21 51.6 -1.4
comp=Z,14nm,0.3s,baz=208,slow=17,SNR=2.2
JHJ S Sn 03 23 22.6 -6.7
comp=Z,10nm,0.3s,baz=60,slow=20,SNR=1.5
JHJ LR LR 03 25 41.7
comp=Z,96nm,21.8s,baz=112,slow=40
MDJ Mudanjiang 10.03 292 Pn Pn 03 22 13.2 +1.6
KLR Kul'dur 10.86 319 P Pn 03 22 25.1 +2.3
comp=Z,0.1nm,0.3s,baz=130,slow=15,SNR=5.4
KLR LR LR 03 26 56.2
comp=Z,69nm,19.3s,baz=186,slow=39
KLR Kul'dur 10.86 319 ⇓*i*P Pn 03 22 25.6 +2.7
KSRS Korea Array 12.05 255 P Pn 03 22 40.5 +1.3
baz=72,slow=12,SNR=3.4
KSRS S Sn 03 25 00.3 +8.5
comp=Z,1.2nm,0.3s,baz=65,slow=24,SNR=27
KSRS LR LR 03 26 49.6
comp=Z,120nm,20.4s,baz=56,slow=35
KS19 Wonju Array Si 12.07 255 Pn Pn 03 22 43.1 +3.6
KSAR Wonju Array Be 12.08 255 P Pn 03 22 42.5 +2.8
KSAR Wonju Array Be 12.08 255 Pn Pn 03 22 42.5 +2.8
JNU Nakatsue 12.53 232 LR LR 03 27 24.9
comp=Z,132nm,20.8s,baz=353,slow=36
CN2 Changchun 12.85 286 *e*P Pn 03 22 51.5 +1.5
CN2 pmax pmax
comp=Z,10.0nm,0.9s
SKR Severo-Kuril's 13.10 41 *e*P P 03 22 59.5 -2.0
SKR eS Sn 03 25 22.6 +5.4
SKR pmax pmax
comp=Z,100nm,2.4s
SKR MLR MLR
comp=Z,100nm,15.0s
PETK Petropavlovsk- 15.43 36 P Pn 03 23 20.6 -3.5
comp=Z,0.6nm,0.3s,baz=207,slow=12,SNR=3.5
PETK S Sn 03 26 15.1 +1.2
comp=Z,0.3nm,0.3s,baz=201,slow=20,SNR=2.0
PETK LR LR 03 29 31.5
comp=Z,54nm,21.3s,baz=239,slow=37
MA2 Magadan 18.79 13 LR LR 03 31 09.8
comp=Z,36nm,20.0s,baz=156,slow=36
BJT Baijiatuao 20.07 275 P P 03 24 17.3 -1.2
BJT pmax pmax
comp=Z,11nm,1.0s
BJT Baijiatuao 20.07 275 P P 03 24 17.3 -1.2
YAK Yakutsk 21.98 344 S S 03 28 30.0 -7.6
comp=Z,8.8nm,0.3s,baz=50,slow=4.2,SNR=1.4
SEY Seymchan 22.23 12 P P 03 24 39.5 -2.0
comp=Z,2.0nm,0.6s,baz=176,slow=16,SNR=3.8
SEY Seymchan 22.23 12⇑*e*P P 03 24 39.2 -2.3
HHC Hu-ho-hao-te 23.32 279 *e*P P 03 24 53.5 +0.4
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,60nm,4.0s
HHC LR LR
comp=Z,91nm,12.0s
HHC LR LR
comp=Z,120nm,11.5s
HHC LR LR
comp=Z,160nm,10.6s
ULN Ulaanbaatar 25.91 296⇑*e*P P 03 25 15.7 -0.9
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 25.91 296 P P 03 25 14.1 -2.6
H11N2 WAKE ISLAND Hy 29.95 129 T T 03 57 24.5
baz=323,slow=75,SNR=283
H11N1 WAKE ISLAND Hy 29.95 129 T T 03 57 22.1
baz=323,slow=75,SNR=235
H11N3 WAKE ISLAND Hy 29.96 129 T T 03 57 26.0
baz=323,slow=75,SNR=372
H11S1 WAKE ISLAND Hy 30.80 131 T T 03 58 28.4
baz=325,slow=76,SNR=356
H11S3 WAKE ISLAND Hy 30.80 131 T T 03 58 23.6
baz=325,slow=76,SNR=248
H11S2 WAKE ISLAND Hy 30.81 131 T T 03 58 31.7
baz=325,slow=76,SNR=222
TIXI Tiksi 30.99 352 LR LR 03 39 14.8
comp=Z,34nm,18.5s,baz=209,slow=38
SLVN Son La 38.26 250 P P 03 27 06.2 +1.5
SLVN IAmb IAmb 03 27 07.5
comp=Z,11nm,1.3s
NRIK Noril'sk 39.66 333 LR LR 03 44 30.1
comp=Z,61nm,20.9s,baz=104,slow=37
ZAA0 Zalesovo Array 39.73 309 P P 03 27 16.4 -0.1
ZAA0 IAmb IAmb 03 27 17.0
comp=Z,4.7nm,0.8s
ZALV Zalesovo Beam 39.73 309 P P 03 27 15.9 -0.6
comp=Z,1.6nm,0.4s,baz=91,slow=8.0,SNR=11
ZALV PcP PcP 03 29 22.7 +0.9
comp=Z,1.2nm,0.6s,baz=107,slow=1.5,SNR=4.0
ZALV LR LR 03 42 49.4
comp=Z,25nm,21.6s,baz=112,slow=35
ZALV Zalesovo Beam 39.73 309 *i* P P 03 27 16.2 -0.3
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 39.73 309 P P 03 27 15.7 -0.8
WMQ Urumqi 39.83 292 *e*P P 03 27 18.8 +1.2
WMQ LR LR
comp=Z,110nm,19.1s
WMQ LR LR
comp=Z,92nm,16.5s
WMQ LR LR
comp=Z,100nm,20.3s
IMAR Indian Mountai 42.37 33 P P 03 27 37.4 -0.6
MK31 Makanchi Array 42.68 298 P P 03 27 40.5 -0.4
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 42.68 298 P P 03 27 40.5 -0.4
MKAR Makanchi Array 42.68 298 P P 03 27 40.8 -0.1
comp=Z,1.4nm,0.5s,baz=82,slow=9.9,SNR=20
MKAR PcP PcP 03 29 31.3 -0.4
comp=Z,0.3nm,0.3s,baz=71,slow=5.5,SNR=2.9
MKAR LR LR 03 45 50.0
comp=Z,28nm,21.2s,baz=116,slow=37
MKAR Makanchi Array 42.68 298 P P 03 27 40.3 -0.6
MAKZ Makanchi 42.88 298 P P 03 27 41.6 -0.9
MAKZ pmax pmax
comp=Z,9.0nm,1.2s
MAKZ Makanchi 42.88 298 P P 03 27 41.6 -0.9
MAKZ IAmb IAmb 03 27 43.9
comp=Z,8.8nm,1.1s
LSA Lhasa 42.90 271 P P 03 27 44.3 +0.9
LSA pmax pmax
comp=Z,5.0nm,0.5s
LSA Lhasa 42.90 271 P P 03 27 44.3 +0.9
LSA IAmb IAmb 03 28 59.2
comp=Z,5.0nm,0.5s
KDAK Kodiak Island 43.22 45 P P 03 27 46.1 +1.1
comp=Z,5.5nm,0.8s,baz=56,slow=2.9,SNR=5.6
CHTO Chiang Mai 43.43 252 P P 03 27 48.3 +1.1
CHTO pmax pmax
comp=Z,3.0nm,0.5s
CHTO Chiang Mai 43.43 252 P P 03 27 48.3 +1.1
CHTO IAmb IAmb 03 27 54.3
comp=Z,3.2nm,0.5s
PBKT Sadao Pong 43.50 248 P P 03 27 47.9 +0.1
PBKT IAmb IAmb 03 28 02.1
comp=Z,9.4nm,1.5s
CMAR Chiang Mai Arr 43.66 252 P P 03 27 49.8 +0.7
comp=Z,1.0nm,0.3s,baz=46,slow=6.4,SNR=4.2
CMAR LR LR 03 45 51.2
comp=Z,48nm,18.0s,baz=134,slow=36
KURK Kurchatov 44.03 305*ce*P P 03 27 51.2 -0.5
KURK pmax pmax
comp=Z,15nm,1.3s
KURK Kurchatov 44.03 305 P P 03 27 51.1 -0.5
MDM Murphy Dome 44.67 34 P P 03 27 56.0 -0.7
IL31 45.26 35 IAmb IAmb 03 28 02.8
comp=Z,9.3nm,1.2s
ILAR Eielson Array 45.26 35 P P 03 28 02.0 +0.8
comp=Z,3.7nm,0.8s,baz=268,slow=5.9,SNR=28
ILAR Eielson Array 45.26 35 P P 03 28 00.3 -0.9
BCAR Beaver Creek A 47.72 37 P P 03 28 21.7 +1.1
BVAR Borovoye Array 48.35 310 LR LR 03 49 54.7
comp=Z,24nm,19.7s,baz=66,slow=37
AAK Ala-Archa 49.30 295*ce*P P 03 28 33.7 +0.5
AAK pmax pmax
comp=Z,4.0nm,1.3s
AAK Ala-Archa 49.30 295 P P 03 28 32.3 -0.9
AAK IAmb IAmb 03 28 33.4
comp=Z,3.9nm,0.9s
INK Inuvik 50.00 29 P P 03 28 38.8 +0.9
comp=Z,1.6nm,0.4s,baz=285,slow=5.9,SNR=13
INK Inuvik 50.00 29 IAmb IAmb 03 28 41.7
comp=Z,4.6nm,1.2s
HYT Haines Junctio 50.20 39 P P 03 28 38.6 -1.1
KK31 Karatay Array 51.79 297 IAmb IAmb 03 28 51.7
comp=Z,3.5nm,1.0s
KKAR Karatay Array 51.79 297 P P 03 28 51.1 -0.7
KKAR Karatay Array 51.79 297 P P 03 28 51.1 -0.7
BTK Batken 52.89 294 P P 03 29 00.0 -0.1
BTK pmax pmax
comp=Z,17nm,1.9s
BTK Batken 52.89 294 P P 03 28 60.0 -0.1
ARU Arti 53.69 317*d i*P P 03 29 05.2 -0.3
ARU °PP pP 03 29 22.5 +1.2
ARU 03 31 05.4
ARU S S 03 36 35.8 +1.1
ARU SS SS 03 40 15.1 -0.3
ARU pmax pmax
comp=Z,6.0nm,0.8s
ARU Arti 53.69 317 P P 03 29 05.4 -0.1
GAR Garm 53.72 293 P P 03 29 05.0 -1.2
NIL Nilore 54.20 286 P P 03 29 10.1 +0.4
NIL pmax pmax
comp=Z,8.0nm,0.8s
NIL Nilore 54.20 286 P P 03 29 10.1 +0.4
ABKAR Akbulak array 55.84 308 P P 03 29 20.8 -0.4
KBL Kabul 56.77 289 P P 03 29 28.2 -0.1
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 56.77 289 P P 03 29 28.2 -0.1
LVZ Lovozero 58.44 335⇑*e*P P 03 29 39.5 +0.2
LVZ Lovozero 58.44 335 P P 03 29 39.3 0.0
YKA Yellowknife Ar 59.50 32 P P 03 29 47.0 +0.4
comp=Z,0.3nm,0.6s,baz=306,slow=7.1,SNR=4.3
YKA Yellowknife Ar 59.50 32⇑*e*P P 03 29 47.4 +0.8
YKA pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 60.16 339 P P 03 29 50.5 -0.5
comp=Z,3.1nm,1.0s,baz=40,slow=7.1,SNR=3.9
SGF Sodankyl 61.21 337 P P 03 29 58.4 +0.2
SGF pmax pmax
comp=Z,19nm,2.9s
DAG Danmarks Havn 61.40 355 P P 03 29 59.6 +0.2
DAG pmax pmax
comp=Z,5.0nm,1.0s
WRAB Tennant Creek 61.60 189 P P 03 30 01.9 +0.5
WRAB pmax pmax
comp=Z,11nm,1.0s
WRA Warramunga Ar 61.61 189 P P 03 30 01.6 +0.1
comp=Z,3.5nm,0.9s,baz=7.0,slow=6.9,SNR=17
WRA Warramunga Ar 61.61 189 P P 03 30 01.6 +0.1
HRA Herat 61.64 292 P P 03 30 01.8 -0.1
GEYT Alibeck 62.54 297 P P 03 30 06.8 -1.0
comp=Z,2.2nm,0.7s,baz=219,slow=1.9,SNR=4.6
GEYT LR LR 03 58 55.7
comp=Z,27nm,18.7s,baz=25,slow=38
GEYT Alibeck 62.54 297 P P 03 30 06.8 -1.0
SUF Sumiainen 64.42 333 P P 03 30 19.9 +0.2
OBN Obninsk 65.10 323 *e*P P 03 30 24.1 0.0
OBN pmax pmax
comp=Z,4.0nm,1.1s
FINES FINESS Array B 65.31 332 P P 03 30 25.1 -0.3
comp=Z,2.5nm,0.6s,baz=55,slow=7.5,SNR=20
FINES LR LR 04 00 24.2
comp=Z,35nm,20.9s,baz=63,slow=37
FINES FINESS Array B 65.31 332 *i* P P 03 30 25.1 -0.3
FINES pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 65.34 189 P P 03 30 27.1 +1.0
comp=Z,1.7nm,0.8s,baz=5.8,slow=5.8,SNR=13
KIV Kislovodsk 68.71 310 *e*P P 03 30 48.6 +1.2
KIV pmax pmax
comp=Z,35nm,1.1s
KIV Kislovodsk 68.71 310 P P 03 30 48.4 +0.9
KBZ Khabaz 68.72 310 P P 03 30 48.6 +1.2
comp=Z,3.4nm,0.8s,baz=60,slow=5.3,SNR=7.0
KBZ Khabaz 68.72 310*ce*P P 03 30 48.4 +1.0
KBZ pmax pmax
comp=Z,4.0nm,0.9s
NB2 NORSAR Subarra 70.43 337 P P 03 30 57.6 0.0
comp=Z,0.7nm,0.6s,baz=36,slow=6.2
NOA NORSAR Array B 70.43 337 P P 03 30 57.6 0.0
comp=Z,0.9nm,0.6s,baz=38,slow=6.2,SNR=6.7
NOA LR LR 04 06 27.9
comp=Z,19nm,20.0s,baz=160,slow=40
AKASG Malin Array Be 71.34 322 P P 03 31 02.8 -0.5
comp=Z,1.5nm,0.4s,baz=44,slow=6.0,SNR=9.1
AKASG Malin Array Be 71.34 322 *i* P P 03 31 02.7 -0.6
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 71.34 322 IAmb IAmb 03 31 03.6
comp=Z,1.1nm,1.1s
AKBB Malin Array Si 71.34 322*ce*P P 03 31 03.0 -0.3
AKBB Malin Array Si 71.34 322 P P 03 31 03.2 -0.1
AKBB IAmb IAmb 03 31 03.8
comp=Z,4.1nm,0.8s
NVAR Mina Array Bea 71.61 55 P P 03 31 07.3 +1.9
comp=Z,0.5nm,0.6s,baz=288,slow=5.1,SNR=3.7
NVAR Mina Array Bea 71.61 55 P P 03 31 04.8 -0.7
PDAR Pinedale Array 73.90 47 P P 03 31 20.3 +1.3
comp=Z,0.3nm,0.5s,baz=255,slow=2.7,SNR=3.6
PDAR LR LR 04 04 50.8
comp=Z,16nm,19.6s,baz=310,slow=36
BUR08 Bucovina Ar. S 75.37 322 P P 03 31 27.9 +0.7
BURAR Bucovina Array 75.39 322 P P 03 31 27.0 -0.3
KOLS Kolonicke sedl 75.75 324 P P 03 31 30.5 +1.2
KOLS pmax pmax
comp=Z,3.0nm,2.9s
OJC Ojcow 75.85 326 P P 03 31 30.6 +0.8
OJC pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 77.68 330 *e*P P 03 31 42.0 +1.9
CLL Collm 77.68 330 *e*P P 03 31 42.0 +1.9
KHC Kasperske Hory 79.22 329 *e*P P 03 31 37.7 -11
KHC *ex* x 03 31 48.9
VTS Vitosha 80.02 319 P P 03 31 52.8 -0.4
VTS pmax pmax
comp=Z,3.0nm,0.8s
VTS Vitosha 80.02 319 P P 03 31 52.8 -0.4
VTS IAmb IAmb 03 32 13.7
comp=Z,3.2nm,0.8s
TXAR Lajitas Array 86.68 53 P P 03 32 29.5 +1.9
comp=Z,0.4nm,0.7s,baz=293,slow=4.8,SNR=6.9
ESDC Sonseca Array 93.67 335 LR LR 04 18 38.3
comp=Z,36nm,19.3s,baz=65,slow=38
TORD Torodi Ar. Bea 114.76 317 PKP PKPdf 03 38 23.9 -0.4
comp=Z,0.4nm,0.8s,baz=65,slow=3.3,SNR=2.2
SNAA Sanae 145.29 198⇑*e*PKIKP **PKiKP 03 39 21.5 -2.3**
SNAA pmax pmax
comp=Z,9.0nm,1.7s
SNAA Sanae 145.29 198 PKPab 03 39 20.4 +0.5
H03N2 Juan Fernandez 146.32 90 T T 06 22 44.5
baz=300,slow=77,SNR=17
H03N3 Juan Fernandez 146.33 90 T T 06 22 41.8
baz=300,slow=77,SNR=19
H03N1 Juan Fernandez 146.34 90 T T 06 22 43.2
baz=300,slow=77,SNR=17
SIV San Ignacio 147.38 46 PKPbc **PKPab 03 39 28.8 -0.7**
comp=Z,1.1nm,0.7s,baz=283,slow=3.6,SNR=6.0

AEIC ***15*** *03:31:27.7±2.0, 52.8°N±0.1°×169.5°W±0.1°, h5km±7km, ML3.6, Error ellipse: s-maj=17.3km s-min=4.4km az=152.0*
NEIC ***15*** *03:31:28.2±2.6, 52.7°N±0.1°×169.4°W±0.1°, h25km±8km, Error ellipse: s-maj=22.5km s-min=2.8km az=145.0*
IDC ***15*** *03:32:02.6±7.0, 53.86°N×165.87°W, h186km±57km, mb2.9/7, mb1 3.2/9, mb1mx3.0/53, mbtmp3.5/9, Error ellipse: s-maj=55.8km s-min=20.4km az=28.0*
ISC 15 03:31:26.0±0.9, 52.7°N±0.1°×169.39°W±0.07, h10km, n39, σ1°09/38, mb3.4/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.44**	**47**			**Pb**	**03 31 36.0**	**+0.1**
NIKH						**Sb**	**03 31 43.8**	**+1.4**
OKSP	**Okmok Steeple**	**0.88**	**49**			**Pg**	**03 31 43.2**	**+0.2**
OKSP						**Sb**	**03 31 55.9**	**+0.6**
OKWR	**Okmok West Rim**	**1.04**	**43**			**Pn**	**03 31 46.7**	**-0.1**
OKCE	**Okmok Cone E**	**1.05**	**44**			**Pg**	**03 31 46.4**	**+0.1**
OKWE	**Okmok W'ng Wal**	**1.06**	**41**			**Pn**	**03 31 46.7**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**1.08**	**48**			**Pg**	**03 31 46.7**	**0.0**
OKNC	**Okmok New Cone**	**1.09**	**44**			**Pg**	**03 31 46.8**	**-0.2**
OKFG	**Magazine Ridge**	**1.16**	**50**			**Pb**	**03 31 47.9**	**-0.1**
OKFG						**Sn**	**03 32 04.5**	**+0.4**
MAPS	**Pakushin South**	**1.86**	**51**			**Pn**	**03 31 58.0**	**+0.1**
MREP	**Makushin Rep't**	**1.95**	**53**			**Pn**	**03 31 59.6**	**+0.4**
MSW	**Makushin Switc**	**2.00**	**51**			**Pn**	**03 32 00.3**	**+0.5**
MNAT	**Makushin Natee**	**2.03**	**52**			**Pn**	**03 32 00.6**	**+0.4**
UNV	**Unalaska Valle**	**2.09**	**55**			**Pn**	**03 32 01.5**	**+0.5**
AKRB	**Akutan Reef Bi**	**2.46**	**52**			**Pn**	**03 32 07.7**	**+1.5**
AKMO	**Akutan Morgan**	**2.47**	**54**			**Pn**	**03 32 08.1**	**+1.8**
AKBBA	**Akutan Broad B**	**2.51**	**54**			**Pn**	**03 32 08.8**	**+1.9**
AKLV	**Akutan Long Va**	**2.54**	**53**			**Pn**	**03 32 08.9**	**+1.7**
AKGG	**Akutan Green G**	**2.54**	**52**			**Pn**	**03 32 09.0**	**+1.7**
AKGG						**Sb**	**03 32 42.2**	**-0.8**
AKUT	**Akutan**		**55**			**Pb**	**03 32 11.3**	**-1.6**
KOFP	**Korovin Flat P**		**264**			**Pn**	**03 32 12.5**	**+0.2**
ATKA	**Atka Island**		**263**			**Pn**	**03 32 13.7**	**+0.5**
WEBT	**Westdahl Beart**		**53**			**Pn**	**03 32 20.1**	**+1.5**
FALS	**False Pass**		**56**	Pn		**Pn**	**03 32 31.4**	**+1.9**
SPIA	**Saint Paul Isl**		**354**			**Pn**	**03 32 35.7**	**+1.1**
ADK	**Adak**		**263**	Pn		**Pn**	**03 32 34.8**	**0.0**
AMKA	**Amchitka**		**264**			**Pn**	**03 33 10.9**	**+1.1**
KDAK	**Kodiak Island**	**10.86**	**55**	P		**Pn**	**03 34 01.9**	**+0.6**
	0.4nm,0.3s,baz=161,slow=3.2,SNR=6.6							
KDAK	**Kodiak Island**	**10.86**	**55**			**Pn**	**03 34 01.9**	**+0.6**
ILAR	**Eielson Array**	**16.71**	**35**	P		**Pn**	**03 35 19.1**	**-0.8**
	0.1nm,0.3s,baz=224,slow=11,SNR=10							
INK	**Inuvik**	**23.10**	**34**	P		**P**	**03 36 29.7**	**-1.8**
	1.3nm,0.8s,baz=251,slow=14,SNR=4.3							
YKA	**Yellowknife Ar**	**30.05**	**49**	P		**P**	**03 37 32.8**	**-1.9**
	0.4nm,0.5s,baz=274,slow=8.0,SNR=7.1							
NVAR	**Mina Array Bea**	**37.68**	**91**	P		**P**	**03 38 42.6**	**+1.1**
	0.5nm,0.7s,baz=297,slow=14,SNR=2.8							
PDAR	**Pinedale Array**	**40.36**	**79**	P		**P**	**03 39 04.7**	**+0.8**
	0.4nm,0.5s,baz=303,slow=4.7,SNR=5.3							
TXAR	**Lajitas Array**	**52.76**	**89**	P		**P**	**03 40 42.0**	**+1.0**
	0.9nm,0.6s,baz=296,slow=5.2,SNR=17							
KURBB	**Kurchatov Arra**	**62.24**	**318**	P		**P**	03 42 08.1	+21
	0.1nm,0.3s,baz=56,slow=25,SNR=1.8							
MKAR	**Makanchi Array**	**63.58**	**313**	P		P	03 42 17.2	+21
	0.1nm,0.4s,baz=37,slow=7.9,SNR=2.1							
H03N2	**Juan Fernandez**	**116.05**	**111**	T		T	05 56 55.6	
	baz=323,slow=78,SNR=47							
H03N1	**Juan Fernandez**	**116.06**	**111**	T		T	05 56 52.8	
	baz=323,slow=78,SNR=44							
H03N3	**Juan Fernandez**	**116.07**	**111**	T		T	05 56 52.1	
	baz=323,slow=78,SNR=38							

JMA ***15*** *03:47:47.4±0.2, 24.81°N×122.31°E, h0km, M2.2*
TAP ***15*** *03:47:48.0, 24.87°N×122.27°E, h14km, ML3.0, C*
ISC 15 03:47:47.8±1.0, 24.84°N±0.03°×122.31°E±0.02, h11km±9km, n44, σ0°31/74, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.33**	**300**	P		**Pg**	**03 47 54.5**	**-0.1**
	baz=297							
TWB1				S		**Sg**	**03 47 58.9**	**-0.1**
	baz=297							
EGS		**0.34**	**271**	*e*P		**Pg**	**03 47 55.0**	**+0.4**
	baz=264							
TIPB	**Shuangxi**	**0.46**	**287**	*e*P		**Pg**	**03 47 56.8**	**0.0**
	baz=283							
TIPB				*e*S		**Sg**	**03 48 02.9**	**0.0**
	baz=283							
TWC	**Suao**	**0.48**	**241**	P		**Pg**	**03 47 57.1**	**0.0**
	baz=235							
TWC				*e*S		**Sg**	**03 48 03.5**	**0.0**
	baz=235							
NWF	**Wu-fen Shan**	**0.53**	**296**	*e*P		**Pb**	**03 47 58.9**	**-0.4**

	baz=293						
NWF				*e*S	**Sg**	03 48 05.7	+0.5
	baz=293						
WFSB	**Wu-fen Shan**	**0.53**	**296**	*e*P	**Pb**	03 47 58.6	-0.6
	baz=293						
WFSB				*e*S	**Sb**	03 48 06.0	-0.9
	baz=293						
TWE	**Neicheng**	**0.59**	**259**	P	**Pg**	03 47 59.4	0.0
	baz=245						
TWE				*e*S	**Sg**	03 48 07.2	0.0
	baz=245						
ENA	**Nanau**	**0.66**	**232**	*e*P	**Pg**	03 48 00.7	+0.1
	baz=221						
ENA				*e*S	**Sg**	03 48 09.4	+0.1
	baz=221						
TWA	**Mucha**	**0.67**	**282**	*e*P	**Pb**	03 48 01.6	-0.1
	baz=279						
JYNG	**Yonagunijimaku**	**0.70**	**124**	P	**Pg**	03 48 00.9	-0.5
JYNG				*e*S	**Sg**	03 48 11.0	+0.5
ENTT	**Nioudou**	**0.70**	**254**	*e*P	**Pg**	03 48 01.6	+0.2
	baz=250						
ENTT				*e*S	**Sb**	03 48 11.8	-0.1
	baz=250						
NWLT	**Wulai**	**0.73**	**265**	*e*P	**Pb**	03 48 02.8	+0.1
	baz=262						
NWLT				*e*S	**Sg**	03 48 11.8	+0.2
	baz=262						
YM01	**YM01**	**0.73**	**295**	*e*P	**Pg**	03 48 02.2	+0.2
	baz=292						
YM01				*e*S	**Sg**	03 48 11.9	+0.2
	baz=292						
YM08	**YM08**	**0.74**	**298**	*e*P	**Pg**	03 48 01.9	-0.2
	baz=296						
YM08				*e*S	**Sg**	03 48 12.0	+0.3
	baz=296						
YM11	**YM11**	**0.74**	**296**	*e*P	**Pb**	03 48 03.1	+0.3
	baz=294						
YM11				*e*S	**Sb**	03 48 13.2	+0.2
	baz=294						
YOJ	**Yonaguni jima**	**0.74**	**120**	P	**Pg**	03 48 01.8	-0.4
YOJ				*e*S	**Sg**	03 48 12.2	+0.3
YM05	**YM05**	**0.75**	**296**	*e*P	**Pg**	03 48 02.3	+0.1
	baz=293						
YM05				*e*S	**Sb**	03 48 12.6	-0.5
	baz=293						
YM10	**YM10**	**0.75**	**295**	*e*P	**Pb**	03 48 02.6	-0.3
	baz=293						
YM10				*e*S	**Sb**	03 48 12.8	-0.4
	baz=293						
NDT	**Datong Townshi**	**0.76**	**252**	*e*P	**Pb**	03 48 03.1	-0.1
	baz=249						
NDT				*e*S	**Sb**	03 48 13.1	-0.4
	baz=249						
TWY	**Chenhua**	**0.77**	**304**	*e*P	**Pb**	03 48 03.0	-0.3
	baz=302						
TWY				*e*S	**Sb**	03 48 13.9	0.0
	baz=302						
PCYT	**Pengchaiyu**	**0.81**	**345**	*e*P	**Pg**	03 48 03.6	+0.1
	baz=346						
YHNB	**Yeheng**	**0.86**	**259**	*e*P	**Pg**	03 48 04.5	0.0
	baz=256						
YHNB				*e*S	**Sg**	03 48 15.2	-0.6
	baz=256						
NSK	**Sanguang**	**0.88**	**259**	*e*P	**Pg**	03 48 04.8	0.0
	baz=257						
NSK				*e*S	**Sg**	03 48 16.1	-0.2
	baz=257						
NACB	**Ninganchiao**	**0.93**	**224**	*e*P	**Pg**	03 48 05.2	-0.5
	baz=223						
NACB				*e*S	**Sg**	03 48 17.3	-0.5
	baz=223						
NNSB	**Datong**	**0.94**	**244**	*e*P	**Pg**	03 48 05.6	-0.3
	baz=233						
NNSB				*e*S	**Sb**	03 48 18.6	-0.1
	baz=233						
NNSH	**Datong**	**0.94**	**244**	*e*P	**Pg**	03 48 05.7	-0.2
	baz=233						
NNSH				*e*S	**Sb**	03 48 18.5	-0.2
	baz=233						
NNS	**Nan Shan**	**0.94**	**245**	*e*P	**Pg**	03 48 05.8	-0.1
	baz=233						
NNS				*e*S	**Sb**	03 48 18.9	+0.1
	baz=233						
ETLH	**Xiulin Townshi**	**0.98**	**230**	*e*P	**Pg**	03 48 06.7	-0.1
	baz=228						
ETLH				*e*S	**Sg**	03 48 19.6	+0.1
	baz=228						
TWD	**Chiawan**	**1.00**	**221**	*e*P	**Pg**	03 48 06.8	-0.2
	baz=228						
TWD				*e*S	**Sg**	03 48 19.8	-0.2
	baz=228						
FUSS	**Fushou**	**1.13**	**239**	*e*P	**Pn**	03 48 09.9	0.0
	baz=237						
FUSS				*e*S	**Sb**	03 48 24.7	+0.2
	baz=237						
WHF	**Hehuan Shan**	**1.18**	**234**	*e*P	**Pn**	03 48 10.6	-0.1
	baz=233						
TWT	**Tachien**	**1.19**	**241**	*e*S	**Sn**	03 48 27.2	+0.4
	baz=231						
NSTT	**Nanjuang**	**1.21**	**260**	*e*P	**Pg**	03 48 11.3	+0.3
	baz=259						
CHGB	**Renai**	**1.29**	**233**	*e*P	**Pg**	03 48 12.5	-0.2
	baz=233						
CHGB				*e*S	**Sg**	03 48 29.2	-0.3
	baz=233						
WHP	**Taichung City**	**1.36**	**246**	*e*P	**Pg**	03 48 14.0	0.0
	baz=245						
WHP				*e*S	**Sg**	03 48 31.4	-0.3
	baz=245						
IRIF	**Iriomote-Funau**	**1.39**	**111**	P	**Pb**	03 48 14.0	+0.1
VWDT	**VWDT**	**1.52**	**225**	*e*P	**Pg**	03 48 16.6	-0.4
	baz=232						
VWDT				*e*S	**Sg**	03 48 36.2	-0.5
	baz=232						
SMLT	**Sun Moon Lake**	**1.60**	**234**	*e*P	**Pg**	03 48 18.6	+0.1
	baz=223						
EHY	**Hungye**	**1.60**	**214**	*e*P	**Pn**	03 48 16.8	+0.6
	baz=215						
TYC	**Yuchr**	**1.62**	**235**	*e*P	**Pg**	03 48 18.7	-0.2
	baz=235						
SSLB	**Suanglung**	**1.62**	**230**	*e*P	**Pb**	03 48 18.3	+0.4
	baz=230						
YULB	**Yu-li**	**1.71**	**213**	*e*P	**Pn**	03 48 17.8	+0.1
	baz=214						
ALS	**Alishan**	**1.91**	**226**	*e*P	**Pb**	03 48 22.8	-0.1
	baz=210						
TPUB	**Ta-pu**	**2.17**	**225**	*e*S	**Sb**	03 48 54.8	+0.7
	baz=227						

IDC ***15*** *03:48:16.4±4.5,28°.56S×66°.95W,h138km±32km,mb3.4/6, mb1 3.4/10,mb1mx3.4/25,mbtmp3.8/10,Error ellipse: s-maj=43.8km s-min=19.9km az=26.0*

ISC 15 03:48:15.7±1.2,**28°.6S**±0°.1×**66°.9W**±0°.1,**h134**km,**n13,** σ0°**93**/14,**mb3.8**/6,**Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**6.23**	**343**	P	**Pn**	03 49 47.6	+1.9
	1.8nm,0.3s,baz=164,slow=8.1,SNR=15						
LVC				S	**Sn**	03 50 54.4	-1.5
	0.9nm,0.3s,baz=164,slow=15,SNR=2.4						
CPUP	**Villa Florida**	**8.83**	**77**	P	**Pn**	03 50 20.4	+0.2
	0.2nm,0.3s,baz=255,slow=12,SNR=5.7						
LPAZ	**La Paz**	**12.31**	**355**	P	**Pn**	03 51 07.7	+0.6
	0.3nm,0.3s,baz=143,slow=9.7,SNR=9.1						
SIV	**San Ignacio**	**13.67**	**25**	P	**Pn**	03 51 23.6	-0.5
	0.4nm,0.3s,baz=192,slow=7.8,SNR=7.7						
BDFB	**Brasilia**	**21.72**	**58**	P	**P**	03 52 56.3	-0.2
	1.2nm,0.3s,baz=228,slow=9.5,SNR=3.5						
PTGA	**Pitinga**	**28.51**	**15**	P	**P**	03 53 58.6	0.0
	1.1nm,0.3s,baz=270,slow=20,SNR=3.0						
TXAR	**Lajitas Array**	**67.47**	**326**	P	**P**	03 58 56.3	-0.9
	0.1nm,0.4s,baz=153,slow=8.1,SNR=3.7						
DBIC	**Dimbokro**	**69.27**	**70**	P	**P**	03 59 08.6	-0.1
	0.8nm,0.3s,baz=220,slow=7.4,SNR=1.5						
TORD	**Torodi Ar. Bea**	**78.20**	**68**	P	**P**	04 00 01.3	+0.5
	1.1nm,0.6s,baz=270,slow=6.1,SNR=23						
PDAR	**Pinedale Array**	**81.13**	**330**	P	**P**	04 00 17.1	+0.8
	0.2nm,0.5s,baz=134,slow=7.7,SNR=2.1						
WRA	**Warramunga Arr**	**127.54**	**205**	PKP	**PKPdf**	04 07 04.5	-1.0
	0.2nm,0.4s,baz=154,slow=1.9,SNR=5.2						
ZALV	**Zalesovo Beam**	**147.35**	**31**	PKPbc	**PKPbc**	04 07 42.7	-0.4
	0.8nm,0.3s,baz=233,slow=1.7,SNR=2.8						
MKAR	**Makanchi Array**	**149.90**	**44**	PKPbc	**PKiKP**	04 07 50.8	0.0
	0.3nm,0.5s,baz=341,slow=3.4,SNR=3.7						

ANF ***15*** *03:57:17.8±0.1,34°.29N×116°.44W,h15km±1km,ML3.8/36, ML3.8/36,Error ellipse: s-maj=1.0km s-min=0.9km az=63.0*

PAS ***15*** *03:57:18.8±1.4,34°.30N±0°.01×116°.44W±0°.04,h10km±5km, ML3.8/243,Error ellipse: s-maj=4.4km s-min=1.9km az=98.0*

SCEDC ***15*** *03:57:18.8,34°.30N×116°.44W,h10km,ML3.8,ML3.8*

NEIC ***15*** *03:57:18.5±1.1,34°.31N±0°.04×116°.42W±0°.04,h9km±5km, Error ellipse: s-maj=5.7km s-min=4.7km az=129.0*

ISC 15 03:57:17.9±0.9,**34°.30N**±0°.01×**116°.42W**±0°.01,**h18**km±4km, **n137,** σ0°**83**/186,**Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTM	**Goat Mountain**	**0.05**	**93**		**Pg**	03 57 22.3	+1.0
BLAC	**Blackrock camp**	**0.23**	**174**		**Pb**	03 57 23.5	0.0
BLAC					**Sb**	03 57 27.1	0.0
SIL	**Silver Peak**	**0.34**	**279**		**Pg**	03 57 25.0	-0.4
EW2	**E Wide Canyon**	**0.35**	**179**		**Pg**	03 57 25.7	-0.1
EW2					**Sb**	03 57 31.0	-0.1
TPC	**Twentynine Pal**	**0.36**	**122**		**Pb**	03 57 26.1	+0.2
DEVC	**Devers**	**0.38**	**200**		**Pb**	03 57 26.3	0.0
DEVC					**Sb**	03 57 31.7	-0.2
BBRC	**Big Bear Solar**	**0.42**	**265**	P	**Pg**	03 57 26.3	-0.3
	baz=84,SNR=449						
BBRC				S	**Sg**	03 57 31.8	-0.7
	baz=84						
BBRC	**Big Bear Solar**	**0.42**	**265**		**Pg**	03 57 26.3	-0.3
BBRC					**Sg**	03 57 31.9	-0.6
BELC	**Belle Mtn. Jos**	**0.46**	**130**	P	**Pb**	03 57 27.4	-0.1
	baz=309,SNR=1000						
BELC				S	**Sb**	03 57 34.4	+0.3
	baz=309						
BELC	**Belle Mtn. Jos**	**0.46**	**130**		**Sb**	03 57 34.4	+0.3
HEC	**Hector,Ludlow**	**0.54**	**7**	P	**Pb**	03 57 28.7	-0.1
	baz=190,SNR=488						
HEC				S	**Sb**	03 57 36.3	-0.1
	baz=190						
HEC	**Hector,Ludlow**	**0.54**	**7**		**Pb**	03 57 28.7	-0.1
HEC					**Sb**	03 57 36.2	-0.1
SVD	**Seven Oaks Dam**	**0.60**	**252**		**Sg**	03 57 37.1	-0.7
BBSC	**Beaumont Base**	**0.60**	**231**		**Pb**	03 57 29.9	0.0
CFT	**Crafton Hills**	**0.63**	**246**		**Sg**	03 57 38.7	-0.3
PMD	**Palm Desert**	**0.65**	**177**		**Sg**	03 57 39.1	-0.3
GVDA	**Garner Valley**	**0.66**	**199**		**Pg**	03 57 30.8	-0.2
GVDA					**Sb**	03 57 39.7	-0.2
PFO	**Pinyon Flats O**	**0.68**	**183**	P	**Pb**	03 57 31.3	-0.1
	baz=1.1,SNR=367						
PFO				S	**Sg**	03 57 40.0	-0.6
	baz=1.1						
PFO	**Pinyon Flats O**	**0.68**	**183**	Pg	**Pb**	03 57 31.2	-0.3
PFO	**Pinyon Flats O**	**0.68**	**183**		**Sg**	03 57 40.1	-0.5
XPFO	**Pion Flat**	**0.69**	**183**		**Sg**	03 57 40.1	-0.6
HLNC	**Highland**	**0.69**	**255**		**Pb**	03 57 31.2	-0.1
HLNC					**Sg**	03 57 40.1	-0.6
CTCC	**Cactus City**	**0.73**	**151**		**Pn**	03 57 33.0	-0.5
CTCC					**Sb**	03 57 42.9	+1.0
PEC	**Perris**	**0.74**	**237**		**Sg**	03 57 41.7	-0.6
POB	**Polly Butte**	**0.74**	**215**		**Pb**	03 57 32.3	-0.1
POB					**Sg**	03 57 41.9	-0.4
CFSC	**Central Fire S**	**0.74**	**255**		**Pb**	03 57 32.3	0.0
CFSC					**Sg**	03 57 42.0	-0.4
DNR	**Dunn Ranch,Anz**	**0.75**	**194**		**Sb**	03 57 42.9	+0.4
RRX	**Edison Barstow**	**0.75**	**321**	P	**Pb**	03 57 32.5	0.0
	baz=141,SNR=104						
RRX				S	**Sb**	03 57 42.6	+0.2
	baz=141						
RRX	**Edison Barstow**	**0.75**	**321**		**Sb**	03 57 42.7	+0.2
SNDA	**J Saunders Pla**	**0.76**	**192**		**Sb**	03 57 42.8	0.0
HMC	**Hemet**	**0.76**	**220**		**Sg**	03 57 42.5	-0.5
CTW	**Cottonwood Mou**	**0.77**	**144**		**Pn**	03 57 33.6	-0.3
CTW					**Sb**	03 57 43.7	+0.8
CLTC	**Calectric**	**0.77**	**255**		**Pb**	03 57 32.9	0.0
CLTC					**Sb**	03 57 43.4	+0.4
CRY	**Cary Ranch**	**0.78**	**200**		**Sb**	03 57 43.2	-0.1
ALV	**Alvord Mountai**	**0.78**	**347**		**Pb**	03 57 33.0	-0.1
GMRC	**Granite Mounta**	**0.79**	**52**	P	**Pb**	03 57 33.5	+0.2
	baz=233,SNR=700						
GMRC				S	**Sb**	03 57 44.4	+0.7
	baz=233						
GMRC	**Granite Mounta**	**0.79**	**52**		**Pb**	03 57 33.5	+0.2
GMRC					**Sb**	03 57 44.1	+0.4
VTV	**Victorville**	**0.80**	**289**		**Pg**	03 57 33.0	-0.6
VTV					**Sg**	03 57 43.1	-1.1
DGR	**Domenigoni Val**	**0.81**	**218**		**Sg**	03 57 44.0	-0.6
FRD	**Ford Ranch, An**	**0.81**	**191**		**Sb**	03 57 44.4	+0.1
FRD	**Ford Ranch, An**	**0.81**	**191**		**Sg**	03 57 44.2	-0.5
RSBC	**Riverside Bore**	**0.82**	**247**		**Pg**	03 57 33.4	-0.6
RSBC					**Sg**	03 57 43.9	-1.0
RSBC	**Riverside Bore**	**0.82**	**247**		**Pg**	03 57 33.5	-0.6
RSBC					**Sg**	03 57 44.1	-0.8
BZNA	**Buzz No.'s Pla**	**0.83**	**195**		**Sb**	03 57 45.0	+0.2
FLSC	**Flash Two Peak**	**0.84**	**323**		**Pg**	03 57 33.9	-0.6
HAY	**Hayfield**	**0.85**	**134**		**Pn**	03 57 35.4	+0.4
HAY					**Sn**	03 57 47.2	+0.2
RVR	**Riverside**	**0.85**	**249**		**Sg**	03 57 44.9	-0.9
FON	**Fontana**	**0.87**	**257**		**Pg**	03 57 34.2	-0.7
FON					**Sg**	03 57 45.4	-1.0
ADO	**Adelanto Recei**	**0.88**	**287**		**Sb**	03 57 46.4	+0.3
DSCC	**Desert Studies**	**0.88**	**17**		**Pb**	03 57 35.0	+0.2
SS2	**San Sevaine**	**0.90**	**265**		**Pb**	03 57 35.1	+0.1
DANC	**Danby, Needles**	**0.92**	**68**		**Pn**	03 57 36.3	+0.2
DANC					**Sn**	03 57 49.3	+0.5
MURC	**Murrieta**	**0.95**	**223**	P	**Pb**	03 57 35.8	-0.1
	baz=42,SNR=821						
MURC				S	**Sb**	03 57 48.4	+0.2
	baz=42						
MURC	**Murrieta**	**0.95**	**223**		**Sb**	03 57 48.4	+0.2
MLSC	**Mira Loma**	**0.99**	**253**		**Pb**	03 57 36.5	-0.2
MLSC					**Sb**	03 57 48.9	-0.4
PLM	**Palomar**	**1.01**	**202**		**Sb**	03 57 50.6	+0.5
BC3	**Big Chuckawall**	**1.02**	**128**	P	**Pn**	03 57 37.7	+0.2
	baz=308,SNR=540						
BC3				Sg	**Sn**	03 57 52.6	+1.1
	baz=308						
BC3	**Big Chuckawall**	**1.02**	**128**		**Pn**	03 57 37.8	+0.2
BC3					**Sn**	03 57 52.7	+1.1
BORC	**Borrego Spring**	**1.03**	**180**		**Pn**	03 57 37.6	+0.1
BORC					**Sb**	03 57 50.5	+0.2
BFSC	**Mount Baldy Ra**	**1.03**	**267**	P	**Pb**	03 57 37.0	-0.3
	baz=86,SNR=204						
BFSC				S	**Sb**	03 57 50.6	0.0
	baz=86						
BFSC	**Mount Baldy Ra**	**1.03**	**267**		**Pb**	03 57 37.1	-0.3
BFSC					**Sb**	03 57 50.1	-0.5
CRNC	**Corona**	**1.04**	**246**		**Pb**	03 57 37.1	-0.3
GSC	**Goldstone, Bar**	**1.05**	**342**	P	**Pg**	03 57 37.8	-0.6
	baz=163,SNR=261						
GSC				S	**Sn**	03 57 52.2	0.0
	baz=163						
GSC	**Goldstone, Bar**	**1.05**	**342**	Pg	**Pg**	03 57 37.9	-0.6
GSC	**Goldstone, Bar**	**1.05**	**342**		**Sn**	03 57 52.2	0.0
ELS	**Elsinore Mount**	**1.06**	**233**		**Pb**	03 57 37.5	-0.3
ELS					**Sb**	03 57 51.0	-0.3
SSK	**Sunset Peak**	**1.06**	**266**		**Pb**	03 57 37.8	-0.1
IRM	**Iron Mountain**	**1.06**	**97**	P	**Pg**	03 57 37.8	-0.7
	baz=278,SNR=539						
IRM				S	**Sn**	03 57 52.7	+0.3
	baz=278						
IRM	**Iron Mountain**	**1.06**	**97**		**Pg**	03 57 37.8	-0.7
IRM					**Sn**	03 57 52.8	+0.3
SALN	**Salton City**	**1.08**	**160**		**Pn**	03 57 38.5	+0.4
SALN					**Sn**	03 57 53.2	+0.6
CHNC	**Chino**	**1.09**	**255**		**Pn**	03 57 38.4	0.0
CHNC					**Sb**	03 57 52.2	0.0
FRK	**Frink**	**1.10**	**144**		**Pb**	03 57 38.1	-0.4
HYS	**Haystack Butte**	**1.11**	**301**		**Pb**	03 57 38.4	-0.2
HYS					**Sb**	03 57 52.9	+0.2
SLH	**Sleepy Hollow**	**1.11**	**173**		**Pg**	03 57 39.2	-0.3
SLH					**Sn**	03 57 53.7	+0.3
MATG	**Mataguay Scout**	**1.11**	**190**		**Pg**	03 57 39.2	-0.3
MATG					**Sg**	03 57 53.5	-0.5
PSRC	**Puddingstone R**	**1.17**	**260**		**Sb**	03 57 54.6	+0.1
HOLC	**Holcomb Ridge**	**1.19**	**278**		**Pn**	03 57 40.0	+0.1
HOLC					**Sb**	03 57 55.1	-0.1
TUQ	**Turquoise Moun**	**1.21**	**19**	P	**Pb**	03 57 40.3	-0.1
	baz=201,SNR=127						
TUQ				S	**Sn**	03 57 57.0	+0.9
	baz=201						
TUQ	**Turquoise Moun**	**1.21**	**19**		**Pb**	03 57 40.3	-0.1
PEM	**Pine Mountain**	**1.21**	**264**		**Pb**	03 57 40.4	+0.1
SBB	**Saddle Back Bu**	**1.23**	**289**		**Pn**	03 57 39.9	-0.4
SBB					**Sb**	03 57 55.8	-0.4
JNH	**Juniper Hills**	**1.28**	**277**		**Sb**	03 57 57.8	0.0
MWC	**Mount Wilson**	**1.36**	**267**		**Pb**	03 57 43.1	+0.1
MONP2	**Monument Peak**	**1.40**	**180**	P	**Pb**	03 57 43.4	-0.4
	baz=359,SNR=82						
MONP2				S	**Sb**	03 58 01.8	+0.5
	baz=359						
EDW2	**Edwards Air Fo**	**1.43**	**295**	P	**Pn**	03 57 42.4	-0.6
	baz=114,SNR=585						
EDW2				S	**Sn**	03 58 01.9	+0.6
	baz=114						
SWSC	**Sam W. Stewart**	**1.44**	**159**	P	**Pn**	03 57 43.0	-0.2
	baz=339,SNR=62						
PASC	**Pasadena Art C**	**1.47**	**266**		**Pb**	03 57 44.7	0.0
109C	**Camp Elliot, M**	**1.52**	**202**	P	**Pn**	03 57 44.6	+0.4
	baz=21,SNR=83						
109C				S	**Sb**	03 58 04.5	0.0
	baz=21						
109C	**Camp Elliot, M**	**1.52**	**202**		**Pn**	03 57 44.8	+0.6
DTP	**Desert Tortois**	**1.52**	**310**		**Pn**	03 57 44.1	-0.3
NEE2	**Needles Airpor**	**1.56**	**72**	P	**Pn**	03 57 45.0	+0.3
	baz=253,SNR=61						
NEE2				Sb	**Sg**	03 58 07.8	-0.5
	baz=253						
LRMC	**Laurel Mtn Rad**	**1.57**	**319**	P	**Pn**	03 57 45.2	+0.1
	baz=139,SNR=29						
DECC	**Green Verdugo**	**1.59**	**269**	Pb	**Pb**	03 57 46.3	-0.5
	baz=88						
DECC				Sb	**Sb**	03 58 07.5	+1.0
	baz=88						
SHOC	**Shoshone, Teco**	**1.60**	**4**	Sb	**Sg**	03 58 09.3	-0.5
	baz=185						
TPO	**Tropico Hills**	**1.60**	**292**		**Pn**	03 57 45.2	-0.3
BAR	**Barrett**	**1.63**	**188**	Pn	**Pn**	03 57 46.4	+0.6
IKP	**In-Ko-Pah, Jac**	**1.66**	**171**	P	**Pn**	03 57 46.5	+0.2
	baz=350,SNR=26						
FMP	**Fort Macarthur**	**1.66**	**250**	Pb	**Pb**	03 57 47.7	-0.3
	baz=68						
RMX	**La Rumorosa**	**1.71**	**170**		**Pg**	03 57 52.2	+1.2
TKX	**Tecate**	**1.73**	**185**		**Pb**	03 57 49.6	+0.4
GLA	**Glamis**	**1.82**	**133**	P	**Pn**	03 57 48.4	0.0
	baz=313,SNR=167						
TJX	**Tijuana**	**1.86**	**197**		**Pb**	03 57 50.9	-0.5
PDMCI	**Parker Dam,Lak**	**1.88**	**89**	Pb	**Pg**	03 57 52.7	-1.4
	baz=271						
CIS	**Catalina Islan**	**1.89**	**242**	P	**Pn**	03 57 49.9	+0.5
	baz=61,SNR=28						
OSI	**Osito Audit: C**	**1.93**	**280**	Pb	**Pb**	03 57 52.8	+0.1
	baz=99						
OSI	**Osito Audit: C**	**1.93**	**280**		**Pb**	03 57 53.0	+0.3
MPMC	**Manual Prospec**	**1.96**	**334**	P	**Pn**	03 57 50.7	+0.2
	baz=154,SNR=117						
CBX	**Cerro Bola**	**1.99**	**186**	Pn	**Pn**	03 57 52.2	+1.4
ARVC	**Arvin**	**2.15**	**293**	P	**Pn**	03 57 53.1	+0.1
	baz=112,SNR=63						
ISA	**Isabella, Lake**	**2.17**	**309**	P	**Pn**	03 57 53.2	-0.1
	baz=129,SNR=379						
ISA	**Isabella, Lake**	**2.17**	**309**	Pn	**Pn**	03 57 53.3	0.0
ESJX	**Sierra Juarez**	**2.32**	**170**		**Pn**	03 57 57.0	+1.5
CCX	**Cicese**	**2.43**	**185**		**Pb**	03 58 01.7	+0.6
SHPR	**Sheep Range**	**2.43**	**25**	Pn	**Pn**	03 57 58.2	+1.3
TPNV	**Topopah Spring**	**2.65**	**3**	Pb	**Pb**	03 58 02.2	-2.2
113A	**Mohawk Valley,**	**2.69**	**124**	Pn	**Pn**	03 57 59.5	-0.8
SNCC	**San Nicolas Is**	**2.79**	**249**	Sb	**Sb**	03 58 43.9	+2.7
	baz=67						
GRAC	**Grapevine Rang**	**2.80**	**344**	P	**Pn**	03 58 02.9	+1.0
	baz=164						
Y14A	**Wickenburg**	**2.85**	**96**		**Pn**	03 58 03.1	+0.5
PKM	**Mcpherson Peak**	**2.86**	**283**	P	**Pn**	03 58 03.6	+0.7
	baz=101,SNR=17						
SMMC	**Simmler**	**3.12**	**290**	P	**Pn**	03 58 07.0	+0.7
	baz=108						
VOG	**Valley Oaks Go**	**3.16**	**311**	P	**Pn**	03 58 07.5	+0.7
	baz=129						
SPX	**San Pedro Mart**	**3.35**	**166**	Pg	**Pg**	03 58 20.2	-1.9
PIX	**Pinacate**	**3.69**	**137**		**Pg**	03 58 28.1	-0.6
LCMT	**Little Creek M**	**3.74**	**43**		**Pn**	03 58 16.7	+1.8
214A	**Organ Pipe Nat**	**3.82**	**127**	P	**Pn**	03 58 15.4	-0.5
	baz=309						
214A	**Organ Pipe Nat**	**3.82**	**127**		**Pb**	03 58 24.3	-0.6
KNB	**Kanab**	**3.99**	**46**	Pn	**Pn**	03 58 20.4	+2.0
PMPB	**Monarch Peak**	**4.07**	**299**		**Pn**	03 58 21.1	+1.7
X16A	**Lo Mia Camp, P**	**4.12**	**87**		**Pn**	03 58 22.1	+2.0
WUAZ	**Wupatki**	**4.32**	**72**		**Pg**	03 58 37.4	-3.3
NVAR	**Mina Array Bea**	**4.40**	**340**		**Pn**	03 58 27.9	+3.9
SAO	**San Andreas Ge**	**4.78**	**302**		**Pb**	03 58 39.4	-1.9
CMB	**Columbia Colle**	**4.92**	**320**	Pn	**Pn**	03 58 32.9	+1.9
TUC	**Tucson**	**5.12**	**111**	P	**Pn**	03 58 33.6	-0.2
	baz=294						
PNTR	**Pine Nut**	**5.42**	**333**		**Pb**	03 58 54.1	+1.8
AFDM	**Forest Hills D**	**5.91**	**323**		**Pb**	03 59 04.4	+3.9

MEX ***15*** *03:57:34.6±0.6,14°.84N×92°.44W,h107km±10km,MD3.6*

GCG ***15*** *03:57:37.0±0.7,15°.70N×91°.11W,h24km±999km,MD3.4*

ISC 15 03:57:34.1±3.0,**14°.2N**±0°.2×**92°.4W**±0°.1,**h35**km,**n5,** σ1°**34**/9,

Near coast of Chiapas

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

NISR AML AML 04 00 43.2
comp=N,11433µm,0.5s
DIDI Didim-Aydin 0.43 341 PG **Pg** **04 00 26.0 -0.3**
DIDI SG **Sg** **04 00 31.9 -0.1**
DIDI Didim-Aydin 0.43 341 **Pg** **04 00 26.1 -0.3**
TURN Turunc 0.69 106 PG Pg 04 00 31.3 -5.0
TURN SG **Sg** **04 00 41.9 -6.8**
TURN Turunc 0.69 106⇑ *i*P Pg 04 00 30.7 -5.6
TURN *i* S **Sg** **04 00 42.6 -6.1**
TURN IAML 04 00 44.0
comp=N,12µm,0.4s
TURN IAML 04 00 44.0
comp=E,9µm,0.3s
YER Yerkesik 0.71 76 P **Pg** **04 00 31.0 -0.7**
YER S **Sb** **04 00 42.3 -0.4**
YER Yerkesik 0.71 76 PG **Pg** **04 00 31.5 -0.2**
YER Yerkesik 0.71 76 P **Pg** **04 00 31.0 -0.7**
YER S **Sb** **04 00 42.3 -0.4**
GCAM G?zelcaml? 0.74 349 PG **Pg** **04 00 31.8 -0.5**
GCAM SG **Sb** **04 00 42.6 -1.0**
GCAM G?zelcaml? 0.74 349⇑ *i*P **Pg** **04 00 31.3 -1.0**
GCAM *i* S **Sb** **04 00 42.5 -1.0**
GCAM IAML 04 00 45.0
comp=N,8µm,0.7s
GCAM IAML 04 00 46.0
comp=E,9µm,0.4s
AYDN Tasoluk 0.78 28⇑ *i*P **Pg** **04 00 32.2 -0.9**
AYDN *i* S **Sg** **04 00 42.2 -1.1**
SMG Samos 0.87 328 P **Pg** **04 00 33.6 -1.1**
SMG S **Sb** **04 00 46.9 -0.3**
comp=E,16µm,0.3s
SMG Samos 0.87 328 P **Pg** **04 00 34.1 -0.6**
SMG S **Sg** **04 00 46.0 0.0**
SMG AML AML 04 00 47.6
comp=E,31714µm,0.3s
SMG AML AML 04 00 49.2
comp=N,32376µm,0.4s
ARG Arkhangelos 0.94 143 P **Pg** **04 00 36.1 0.0**
ARG S **Sn** **04 00 51.3 +0.1**
comp=N,13µm,0.6s
ARG Arkhangelos 0.94 143 P **Pb** **04 00 36.7 +0.1**
ARG S **Sb** **04 00 50.0 +0.7**
ARG AML AML 04 00 53.8
comp=N,27888µm,0.8s
ARG AML AML 04 00 55.8
comp=E,23411µm,0.5s
ARG Arkhangelos 0.94 143 PG **Pg** **04 00 36.4 +0.4**
ARG SG **Sn** **04 00 50.7 -0.5**
ARG Arkhangelos 0.94 143 P **Pg** **04 00 36.1 0.0**
ARG S **Sn** **04 00 51.3 +0.1**
ARG Arkhangelos 0.94 143 P **Pg** **04 00 36.5 +0.4**
ARG S **Sn** **04 00 52.1 +0.8**
DALY Dalyan (Mula) 1.00 98 PG **Pg** **04 00 36.6 -0.6**
DALY SG **Sn** **04 00 52.0 -0.7**
DALY Dalyan (Mula) 1.00 98⇑ *i*P **Pg** **04 00 37.5 +0.2**
DALY *i* S **Sb** **04 00 51.0 0.0**
DALY IAML 04 00 54.0
comp=E,3µm,0.8s
DALY IAML 04 00 55.0
comp=N,5µm,0.6s
DGB zmir 1.16 339⇑ *i*P **Pg** **04 00 38.6 -1.7**
DGB *i* S **Sg** **04 00 54.2 -1.2**
DGB IAML 04 01 00.0
comp=E,2µm,0.7s
DGB IAML 04 01 00.0
comp=N,2µm,1.2s
TAVA DENIZLI_Tavas 1.29 67⇑ *i*P **Pn** **04 00 41.5 -1.0**
TAVA *i* S **Sn** **04 00 59.8 -0.3**
FETY Fethiye 1.38 103 P **Pn** **04 00 43.6 +0.1**
FETY Fethiye 1.38 103 PN **Pn** **04 00 43.8 +0.2**
FETY Fethiye 1.38 103⇑ *i*P **Pn** **04 00 43.7 +0.1**
FETY *i* S **Sg** **04 01 03.0 +0.7**
FETY IAML 04 01 08.0
comp=N,1µm,0.4s
FETY Fethiye 1.38 103 **Pn** **04 00 43.3 -0.3**
KARP Karpathos 1.43 188 P **Pn** **04 00 43.7 -0.6**
KARP S **Sn** **04 01 03.7 +0.3**
comp=N,1µm,0.9s
KARP Karpathos 1.43 188 P **Pn** **04 00 43.9 -0.5**
KARP Karpathos 1.43 188 PN **Pn** **04 00 43.9 -0.5**
KARP Karpathos 1.43 188 P **Pn** **04 00 43.8 -0.6**
KARP S **Sg** **04 01 04.4 +0.3**
KARP AML AML 04 01 09.8
comp=N,3.6nm,1.0s
KARP AML AML 04 01 09.8
comp=N,3.6nm,1.0s
KARP AML AML 04 01 17.5
comp=N,2.5nm,0.7s
KARP AML AML 04 01 17.5
comp=N,2.5nm,0.7s
KARP Karpathos 1.43 188 Pn **Pn** **04 00 43.8 -0.5**
BLCB Balcova 1.45 348 P **Pn** **04 00 43.2 -1.3**
BLCB S **Sn** **04 01 02.7 -1.0**
BLCB Balcova 1.45 348 PN **Pn** **04 00 42.9 -1.6**
BLCB Balcova 1.45 348 **Pn** **04 00 42.4 -2.1**
ANAF Anafi Island 1.46 246 P **Pn** **04 00 44.0 -0.6**
ANAF S **Sg** **04 01 05.2 +0.4**
ANAF Anafi Island 1.46 246 P **Pn** **04 00 44.2 -0.4**
ANAF AML AML 04 01 11.7
comp=E,9935µm,0.5s
ANAF AML AML 04 01 12.4
comp=N,8854µm,0.4s
APE Apeiranthos 1.51 274 P **Pn** **04 00 44.5 -0.9**
APE S **Sn** **04 01 05.4 0.0**
comp=N,2µm,0.6s
APE Apeiranthos 1.51 274 P **Pn** **04 00 44.6 -0.9**
APE AML AML 04 01 11.6
comp=N,3889µm,0.6s
APE AML AML 04 01 12.2
comp=E,2254µm,0.5s
APE Apeiranthos 1.51 274 ⇓P **Pn** **04 00 44.6 -0.8**
APE ⇑S **Sn** **04 01 03.6 -1.8**
APE Apeiranthos 1.51 274 PN **Pn** **04 00 44.9 -0.6**
APE Apeiranthos 1.51 274*c* *i*P **Pn** **04 00 44.5 -0.8**
APE Apeiranthos 1.51 274 P **Pn** **04 00 44.7 -0.8**
APE S **Sn** **04 01 04.4 -1.0**
APE AML AML 04 01 11.3
comp=E,3.9nm,0.6s
APE AML AML 04 01 11.3
comp=E,3.9nm,0.6s
APE AML AML 04 01 11.6
comp=E,2.2nm,0.5s
APE AML AML 04 01 11.6
comp=E,2.2nm,0.5s
URLA Izmir 1.53 335 PN **Pn** **04 00 44.7 -1.0**
URLA Izmir 1.53 335⇑ *i*P **Pn** **04 00 44.3 -1.5**
URLA *i* S **Sg** **04 01 07.9 +0.6**
SANT Santorini 1.68 250 P **Pn** **04 00 47.5 -0.3**
SANT Santorini 1.68 250⇑ P **Pn** **04 00 47.7 -0.1**
SANT S **Sn** **04 01 08.6 -1.0**
SANT Santorini 1.68 250 PN **Pn** **04 00 48.4 +0.6**
SANT Santorini 1.68 250 Pn **Pn** **04 00 47.5 -0.3**
THT2 Imerovigli 1.69 252 PN **Pn** **04 00 48.4 +0.5**
IOSP Ios island 1.73 262 P **Pn** **04 00 47.6 -0.7**
IOSP Ios island 1.73 262 P **Pn** **04 00 47.3 -1.1**
GOLH Golhisar 1.73 80⇑ *i*P **Pb** **04 00 49.9 -0.2**
GOLH *i* S **Sg** **04 01 13.1 -0.6**
KRBN Karaburun 1.76 337 PN **Pn** **04 00 48.9 +0.1**
MANT Manisa 1.77 30 *i*P **Pn** **04 00 48.2 -1.0**
MANT *i* S **Sn** **04 01 09.9 -2.0**
MANT Manisa 1.77 30 **Pn** **04 00 48.2 -1.0**
GOMA Golmarmara-Man 1.78 13 PN **Pn** **04 00 49.1 0.0**
CHOS Chios island 1.78 323 P **Pn** **04 00 47.9 -1.3**
CHOS S **Sn** **04 01 11.7 -0.4**
CHOS Chios island 1.78 323 P **Pn** **04 00 48.1 -1.0**
CHOS AML AML 04 01 22.7
comp=E,4954µm,0.5s
CHOS AML AML 04 01 25.2
comp=N,3169µm,1.2s
CHOS Chios island 1.78 323 PN **Pn** **04 00 49.1 -0.1**
KULA Kula-Manisa 1.83 32 P **Pn** **04 00 49.1 -0.8**
KULA Kula-Manisa 1.83 32 PN **Pn** **04 00 49.2 -0.7**
AKAS Kas 1.91 112 PN **Pn** **04 00 51.9 +0.9**
AKAS Kas 1.91 112 *i*P **Pn** **04 00 52.2 +1.2**
AKAS *i* S **Sg** **04 01 22.0 +2.7**
AKHS Akhisar 1.93 9 *i*P **Pn** **04 00 49.7 -1.5**
AKHS *i* S **Sn** **04 01 13.6 -2.1**
AKS Akhisar 1.93 9 PN **Pn** **04 00 51.0 -0.2**
ELL Elmali 2.01 96 PN **Pn** **04 00 52.9 +0.5**
ELL Elmali 2.01 96 P **Pb** **04 00 55.0 +0.1**
ELL Elmali 2.01 96 **Pb** **04 00 55.0 +0.1**
ZEDA zmir-Bergama 2.01 352 *i*P **Pn** **04 00 51.0 -1.3**
ZEDA *i* S **Sg** **04 01 23.7 +1.1**

ZEDA IAML 04 01 31.0
comp=N,964nm,0.7s
ZEDA IAML 04 01 32.0
comp=E,813nm,1.2s
ZKR Zakros 2.09 208 P **Pn** **04 00 53.8 +0.4**
ZKR Zakros 2.09 208 P **Pn** **04 00 53.9 +0.6**
ZKR Zakros 2.09 208 PN **Pn** **04 00 54.4 +1.0**
DKL Dikili 2.14 349 PN **Pn** **04 00 53.8 -0.2**
USAK Uak-Merkez 2.15 36 *i*P **Pn** **04 00 53.5 -0.8**
USAK *i* S **Sg** **04 01 29.2 +1.9**
BRDR BURDUR-Merkez 2.23 70⇓ *i*P **Pn** **04 00 56.4 +1.1**
BRDR *i* S **Sb** **04 01 25.6 -0.8**
NPS Neapolis 2.24 221 P **Pn** **04 00 55.5 0.0**
NPS Neapolis 2.24 221 P **Pb** **04 00 57.5 -1.3**
BASM Basmaki-Afyon 2.30 65 PN **Pn** **04 00 56.8 +0.5**
KORT Korkueli 2.35 88 PN **Pn** **04 00 57.5 +0.5**
KORT Korkueli 2.35 88 *i*P **Pb** **04 00 59.4 -1.3**
KORT *i* S **Sb** **04 01 29.5 -0.4**
SERI Serifos 2.35 276 P **Pn** **04 00 56.2 -0.8**
LAST Lasithi 2.39 222 P **Pn** **04 00 58.1 +0.6**
AYVA Ayvalik 2.41 346 *i*P **Pn** **04 00 57.8 +0.1**
AYVA *i* S **Sg** **04 01 35.9 +0.6**
MHLA Plaka, Milos I 2.41 266 P **Pn** **04 00 57.5 -0.3**
STEP BALIKESIR_Sava 2.42 6 *i*P **Pn** **04 00 56.4 -1.4**
STEP *i* S **Sg** **04 01 35.6 0.0**
MHLO Agia Marina, M 2.44 264 P **Pn** **04 00 58.0 -0.1**
AKUM Antalya-Kumluc 2.44 104⇑ *i*P **Pn** **04 01 00.2 +2.1**
AKUM *i* S **Sb** **04 01 32.3 0.0**
SIMA Simav-Kutahya 2.45 30 PN **Pn** **04 00 58.5 +0.2**
PRK Paraskevi 2.45 339 P **Pn** **04 00 58.4 +0.2**
PRK Paraskevi 2.45 339 P **Pn** **04 00 58.4 +0.2**
HRKL Herakleio 2.50 229 PN **Pn** **04 01 00.2 +1.2**
KZIL AFYON_Kizioren 2.52 58 *i*P **Pn** **04 00 59.3 0.0**
KZIL *i* S **Sg** **04 01 43.6 +4.8**
SIGR SIGRI 2.56 332 P **Pn** **04 00 58.7 -1.0**
SIGR SIGRI 2.56 332 PN **Pn** **04 00 58.9 -0.8**
BCK Bucak 2.58 78 PN **Pn** **04 01 01.2 +1.1**
BCK Bucak 2.58 78 P **Pn** **04 01 01.2 +1.1**
ANTB Antalya 2.59 91 PN **Pn** **04 01 01.3 +1.0**
GEDZ Gediz 2.60 37 PN **Pn** **04 01 01.3 +0.8**
IDI Anoyia 2.65 231 Pn **Pn** **04 01 01.0 0.0**
comp=E,2.2nm,0.3s,baz=41,slow=17,SNR=12
IDI Sn **Sn** **04 01 31.8 -1.6**
comp=E,6.1nm,0.3s,baz=41,slow=13,SNR=16
IDI Anoyia 2.65 231 P **Pn** **04 01 01.1 0.0**
IDI Anoyia 2.65 231⇑ P **Pn** **04 01 01.4 +0.3**
IDI ⇓S **Sn** **04 01 30.8 -2.6**
IDI Anoyia 2.65 231 PN **Pn** **04 01 01.7 +0.7**
IDI Anoyia 2.65 231 **Pn** **04 01 01.4 +0.3**
GDZ Gediz 2.67 37 *i*P **Pn** **04 01 00.9 -0.6**
GDZ *i* S **Sg** **04 01 45.4 +1.6**
BALB Balikesir 2.69 8 PN **Pn** **04 01 02.0 +0.4**
DURS Dursunbey 2.76 17 *i*P **Pn** **04 01 01.3 -1.3**
DURS *i* S **Sg** **04 01 46.1 -0.4**
BALY Balya 2.77 3 *i*P **Pn** **04 01 01.2 -1.6**
BALY *i* S **Sg** **04 01 46.7 -0.3**
BAYC CANAKKALE_Bayr 2.85 346 *i*P **Pn** **04 01 02.7 -1.1**
BAGO Egridir - ISPA 2.87 68 *i*P **Pn** **04 01 04.8 +0.6**
BAGO *i* S **Sg** **04 01 57.9 +7.8**
DION Dionisos Attik 2.98 293 P **Pn** **04 01 05.5 -0.1**
VLYA Voula,Athens 3.02 288 P **Pn** **04 01 06.2 +0.1**
PTL Penteli 3.02 292 P **Pn** **04 01 06.2 0.0**
BOZC Bozcaada 3.06 340 *i*P **Pn** **04 01 05.8 -0.9**
KYMI Kymi, Euboea I 3.11 303 P **Pn** **04 01 07.0 -0.4**
ATH Athens Observa 3.11 290 P **Pn** **04 01 08.0 +0.6**
KEPZ Antalya-Kepez 3.35 90 *i*P **Pn** **04 01 13.6 +2.8**
KEPZ *i* S **Sn** **04 01 53.7 +2.9**
LIA Limnos Island 3.41 330 P **Pn** **04 01 11.2 -0.3**
ANKY Antikythira Is 3.50 253 P **Pn** **04 01 13.0 +0.3**
KTHA Kythira Island 3.58 260 P **Pn** **04 01 14.1 +0.3**
SMTH Samothraki Isl 3.79 338 P **Pn** **04 01 16.2 -0.6**
GAZI Gazipasa 4.01 99 *i*P **Pn** **04 01 20.5 +0.7**
GAZI *i* S **Sn** **04 02 06.6 -0.3**
ALN Alexandroupoli 4.07 345 P **Pn** **04 01 19.9 -0.6**
ALN Alexandroupoli 4.07 345 Pn **Pn** **04 01 19.9 -0.6**
XOR Xorichti 4.10 307 P **Pn** **04 01 20.8 -0.2**
THAS Thassos island 4.20 331 P **Pn** **04 01 21.6 -0.7**
OUR Ouranopolis 4.30 322 P **Pn** **04 01 23.9 +0.1**
ITM Ithomi 4.40 274 Pn **Pn** **04 01 27.3 +2.2**
ERMK Ermenek 4.42 93 *i*P **Pn** **04 01 28.7 +3.1**
ERMK *i* S **Sn** **04 02 21.1 +3.7**
AKMS Akamas 4.44 115 P **Pn** **04 01 25.8 +0.1**
AKMS S **Sn** **04 02 16.6 -0.9**
AGG Agios Georgios 4.51 299 P **Pn** **04 01 27.3 +0.6**
AGG Agios Georgios 4.51 299 Pn **Pn** **04 01 27.3 +0.6**
ALFC Alefka 4.57 112 P **Pn** **04 01 27.4 -0.1**
ALFC AML AML 04 02 21.6
comp=E,0.9nm,0.7s
ALFC AML AML 04 02 27.7
comp=E,1.2nm,0.4s
MDUB Mudurnu 4.58 39 Pn **Pn** **04 01 28.5 +0.8**
OSC1 CSNet OBS 1 4.69 136 P **Pn** **04 01 28.3 -0.7**
NATA Nata 4.72 116 P **Pn** **04 01 29.6 +0.1**
LEF Lefka 4.80 111⇑ P **Pn** **04 01 30.2 -0.4**
LEF ⇑S **Sn** **04 02 24.1 -2.4**
KDZ Kurdzhali 4.92 342 *i*P **Pn** **04 01 31.6 -0.7**
SZAC Souni 4.96 115 P **Pn** **04 01 32.8 -0.1**
SZAC AML AML 04 02 34.2
comp=E,1.2nm,0.5s
SZAC AML AML 04 02 38.0
comp=E,1.8nm,0.5s
LIT Litokhoron 4.97 310 P **Pn** **04 01 33.6 +0.6**
LIT Litokhoron 4.97 310 Pn **Pn** **04 01 33.6 +0.6**
SOH Sokhos 4.98 322 P **Pn** **04 01 33.9 +0.7**
THE Thessaloniki 5.05 318 P **Pn** **04 01 34.7 +0.7**
THE pmax pmax
comp=E,5.0nm,0.5s
BR231 Keskin MP Arra 5.09 54 **Pn** **04 01 36.4 +1.6**
SRS Serrai 5.10 325 P **Pn** **04 01 34.7 -0.1**
SRS pmax pmax
comp=E,15nm,0.8s
RZN Rozhen 5.16 337 *i*P **Pn** **04 01 35.0 -0.7**
CSS Mathiatis 5.20 111 Pn **Pn** **04 01 35.6 -0.5**
CSS Sn **Sn** **04 02 31.3 -5.0**
CSS Mathiatis 5.20 111 P **Pn** **04 01 35.7 -0.3**
CSS Mathiatis 5.20 111 Pn **Pn** **04 01 36.3 +0.2**
ASGA Asgata 5.21 113 P **Pn** **04 01 36.4 +0.1**
DIM Dimitrovgrad 5.28 345 *i*P **Pn** **04 01 36.6 -0.6**
MVCU Mavrovouni 5.40 109 P **Pn** **04 01 38.2 -0.7**
MMB Musomiste 5.43 329 *i*P **Pn** **04 01 38.8 -0.5**
PLD Plovdiv 5.54 339 P **Pn** **04 01 41.5 +0.7**
PLD pmax pmax
comp=Z,2.0nm,0.7s
OSC2 CSNet OBS 4 5.56 133 P **Pn** **04 01 41.9 +0.9**
BR131 Keskin Array S 5.61 59*c* *i*P **Pn** **04 01 43.3 +1.4**
BR131 Keskin Array S 5.61 59 Pn **Pn** **04 01 43.4 +1.5**
BRTR Keskin Array B 5.61 59 Pn **Pn** **04 01 43.1 +1.3**
comp=Z,2.1nm,0.3s,baz=236,slow=15,SNR=22
BRTR Sn **Sn** **04 02 45.5 -1.1**
comp=Z,0.1nm,0.3s,baz=234,slow=27,SNR=2.5
BRTR Keskin Array B 5.61 59 Pn **Pn** **04 01 42.8 +0.9**
KKB Krupnik 5.93 327 *i*P **Pn** **04 01 46.4 +0.3**
STIP Stip 6.22 321 *i*Pn **Pn** **04 01 50.4 +0.3**
VTS Vitosha 6.50 332⇑ P **Pn** **04 01 54.6 +0.5**
VTS Vitosha 6.50 332 *i*P **Pn** **04 01 54.5 +0.5**
VTS Vitosha 6.50 332 P **Pn** **04 01 54.5 +0.5**
VTS Vitosha 6.50 332 Pn **Pn** **04 01 54.5 +0.5**
DQRL Deir Qamar 7.42 114 *e*P **Pn** **04 02 05.9 -0.7**
HWQ Hawqa 7.45 109 *e*P **Pn** **04 02 06.5 -0.5**
HNTI Hanita 7.45 119 Pn **Pn** **04 02 06.3 -0.7**
MMA0B Mount Meron ar 7.65 119 Pn **Pn** **04 02 08.8 -1.0**
MMAI Mount Meron Ar 7.65 119 Pn **Pn** **04 02 08.4 -1.4**
comp=Z,8.6nm,0.3s,baz=304,slow=12,SNR=19
MMAI Sn **Sn** **04 03 32.2 -4.5**
comp=Z,13nm,0.3s,baz=240,slow=28,SNR=10
MMAI LR LR 04 05 37.9
comp=Z,61nm,21.6s,baz=280,slow=42
RCY Rachaya 7.71 114 *e*P **Pn** **04 02 08.9 -1.8**
SHBL Chebaa 7.72 115 *e*P **Pn** **04 02 08.0 -2.8**
GEM Giv'at Ha'Em 7.73 117 Pn **Pn** **04 02 08.9 -1.9**
GEM Sn **Sn** **04 03 33.9 -4.7**
NATI Neve Ativ 7.75 116 Pn **Pn** **04 02 10.3 -0.9**
NATI Sn **Sn** **04 03 34.9 -4.3**
HNAT Natroun 7.79 159 P **Pn** **04 02 11.9 +0.2**
baz=159
HNAT S **Sn** **04 03 35.5 -4.7**
baz=159
SWA2 7.88 193 P **Pn** **04 02 12.8 0.0**
baz=193
SWA2 S **Sn** **04 03 37.0 -5.3**
baz=193

KOT Kottamia 7.93 151 P **Pn** **04 02 12.5 -1.2**
baz=151
HHAG Hagoal 8.02 149 P **Pn** **04 02 15.2 +0.4**
baz=150
HSAF As Saff 8.11 154 P **Pn** **04 02 14.6 -1.5**
baz=154
QRNJ Al-Qirein 8.16 122 Pn **Pn** **04 02 15.8 -0.9**
HMDT Nahal Hemdat 8.17 123 Pn **Pn** **04 02 16.2 -0.7**
GLL Jalalah 8.20 153 P **Pn** **04 02 15.9 -1.4**
baz=153
KZIT Kziot 8.38 134 Pn **Pn** **04 02 18.6 -1.1**
KZIT Sn **Sn** **04 03 49.4 -5.1**
SUZ Suez 8.43 146 P **Pn** **04 02 20.0 -0.4**
baz=146
YTIR Yattir 8.48 129 Pn **Pn** **04 02 20.3 -0.9**
YTIR Sn **Sn** **04 03 52.4 -4.8**
DSI Dead Sea 8.51 127 Pn **Pn** **04 02 20.7 -0.8**
MLR Muntele Rosu 8.59 353 P **Pn** **04 02 23.6 +0.9**
MLR Muntele Rosu 8.59 353 Pn **Pn** **04 02 23.6 +0.9**
VOIR 8.65 349⇑ P **Pn** **04 02 23.8 +0.4**
VOIR 8.65 349 P **Pn** **04 02 23.8 +0.4**
TIP Timpagrande 8.69 288⇑ P **Pn** **04 02 23.3 -0.8**
TIP Timpagrande 8.69 288 Pn **Pn** **04 02 24.5 +0.5**
HERR Herculiane 8.76 336⇓ P **Pn** **04 02 25.5 +0.5**
ZAF Zafarana 8.79 149 P **Pn** **04 02 24.6 -0.8**
baz=149
PLOR Plostina 8.89 357⇑ P **Pn** **04 02 27.2 +0.3**
PLOR Plostina 8.89 357 P **Pn** **04 02 27.1 +0.3**
VRI Vrincioaia 8.90 357⇓ P **Pn** **04 02 27.1 +0.1**
VRI Vrincioaia 8.90 357 P **Pn** **04 02 27.0 +0.1**
MDVR Moldovita 8.92 333⇑ P **Pn** **04 02 27.5 +0.3**
NBNS Bani Suef 8.94 158 P **Pn** **04 02 26.2 -1.2**
baz=157
DIVS Divibare 9.09 324 Pn **Pn** **04 02 30.2 +0.7**
PRNI Paran 9.14 134 Pn **Pn** **04 02 28.3 -1.9**
PRNI Sn **Sn** **04 04 07.4 -5.9**
KRMI Paran Flat 9.16 136 Pn **Pn** **04 02 28.8 -1.7**
ASF Jabal al Asfar 9.16 119 Pn **Pn** **04 02 30.9 +0.3**
comp=Z,0.5nm,0.3s,baz=292,slow=2.0,SNR=3.6
ASF Sn **Sn** **04 04 11.1 -2.9**
comp=Z,0.3nm,0.3s,baz=348,slow=9.5,SNR=1.3
HRFI Mount Harif 9.39 135 Pn **Pn** **04 02 32.8 -0.9**
MBRI Mt Berech 9.51 137 Pn **Pn** **04 02 33.8 -1.5**
EIL Elat 9.62 137 Pn **Pn** **04 02 37.1 +0.2**
comp=Z,1.5nm,0.3s,baz=305,slow=3.0,SNR=6.9
EIL Sn **Sn** **04 04 17.6 -7.6**
comp=Z,1.5nm,0.3s,baz=337,slow=7.7,SNR=3.3
EIL LR 04 08 03.8
comp=Z,39nm,18.2s,baz=332,slow=48
EIL Elat 9.62 137 Pn **Pn** **04 02 36.1 -0.8**
BZS Buzias 9.68 335⇓ P Pg 04 02 37.5 +0.4
BZS Buzias 9.68 335 P **Pn** **04 02 38.3 +0.8**
BZS pmax pmax
comp=Z,4.0nm,1.4s
GRB Gharib 9.78 151 P **Pn** **04 02 37.8 -1.3**
baz=151
HFRF Wahat Farafira 9.82 175 P **Pn** **04 02 38.0 -1.6**
baz=175
HFRF S **Sn** **04 04 22.1 -7.9**
baz=175
HBST Basata 9.87 139 P **Pn** **04 02 38.9 -1.3**
baz=140
HBST S **Sn** **04 04 24.1 -7.0**
baz=140
HDHB Dhahab 10.21 142 P **Pn** **04 02 44.7 -0.1**
baz=142
CORL Corleone 11.26 279 **Pn** **04 03 01.1 +1.8**
KBZ Khabaz 13.59 55 LR LR 04 10 22.5
comp=Z,32nm,18.0s,baz=212,slow=45
KBZ Khabaz 13.59 55⇑ *e*P **Pn** **04 03 32.5 +1.5**
KEST Kesra 14.62 271 Pn **Pn** **04 03 45.1 -0.1**
comp=Z,0.1nm,0.3s,baz=31,slow=20,SNR=1.3
VRAC Vranov 14.63 331 LR LR 04 09 23.6
comp=Z,46nm,20.1s,baz=168,slow=37
GERES GERESS Array B 15.52 324 Pn **Pn** **04 03 56.5 -0.7**
comp=Z,0.1nm,0.3s,baz=146,slow=11,SNR=2.4
GERES LR LR 04 10 01.3
comp=Z,49nm,20.2s,baz=108,slow=38
KHC Kasperske Hory 15.78 325⇑ *e*P **Pn** **04 03 58.9 -1.6**
KHC Kasperske Hory 15.78 325 *e*P **P** **04 04 11.0 +6.5**
SENIN Lac Senin/Sane 17.68 308 P **P** **04 04 27.4 +1.7**
CABF La Chapelle 18.55 308 *e*P **Pn** **04 04 35.8 +0.5**
CABF pmax pmax
comp=Z,58nm,2.2s
OBN Obninsk 19.20 16 *e*P **P** **04 04 42.2 +0.2**
OBN pmax pmax
comp=Z,4.0nm,0.9s
LOR Lormes 20.21 308 *e*P Pn 04 04 54.7 -0.4
LOR pmax pmax
comp=Z,46nm,2.1s
SSF Saint Saulge 20.36 307 *e*P Pn 04 04 56.4 -0.4
SSF pmax pmax
comp=Z,11nm,1.2s
VSU Vasula 21.51 359⇓ *e*P **P** **04 05 07.6 +0.5**
VSU pmax pmax
comp=Z,27nm,1.0s
LDF La Druitiere 23.18 309 *e*P **P** **04 05 24.9 -0.1**
LDF pmax pmax
comp=Z,19nm,1.2s
FLN La Foliniere 23.46 309 *e*P **P** **04 05 27.4 -0.4**
FLN pmax pmax
comp=Z,61nm,1.6s
GRR Gorron 23.58 308 *e*P **P** **04 05 28.3 -0.7**
GRR pmax pmax
comp=Z,58nm,1.6s
FINES FINESS Array B 24.51 358 P **P** **04 05 36.9 -0.8**
comp=Z,3.0nm,0.8s,baz=160,slow=12,SNR=6.8
FINES LR LR 04 15 18.0
comp=Z,40nm,20.7s,baz=190,slow=37
FINES FINESS Array B 24.51 358 P **P** **04 05 37.1 -0.5**
FIA1 FINESS Array S 24.51 358 P **P** **04 05 37.2 -0.4**
ESBB Sonseca Array 24.70 286 P **P** **04 05 40.5 +0.8**
ESBB IAmb IAmb 04 05 44.8
comp=Z,9.3nm,1.4s
ESDC Sonseca Array 24.70 286 P **P** **04 05 39.1 -0.6**
comp=Z,1.9nm,0.8s,baz=81,slow=8.9,SNR=19
ESDC Sonseca Array 24.70 286 P **P** **04 05 40.5 +0.9**
HFS Hagfors 24.80 344 P **P** **04 05 39.3 -0.9**
comp=Z,3.2nm,0.8s,baz=226,slow=5.8,SNR=4.0
KLMR Klimovskoe 25.11 14 *e*P **P** **04 05 41.9 -1.0**
KLMR pmax pmax
comp=Z,15nm,0.8s
KLMR Klimovskoe 25.11 14 *e*P **P** **04 05 42.0 -1.0**
KLMR AMP 04 05 43.3
comp=Z,15nm,0.8s
AKTO Aktyubinsk 25.68 49 P **P** **04 05 48.0 -0.3**
comp=Z,2.1nm,0.6s,baz=242,slow=11,SNR=9.0
AKTO LR LR 04 18 34.3
comp=Z,23nm,19.8s,baz=47,slow=43
KIRV Kirov 25.97 27 LR LR 04 17 50.6
comp=Z,24nm,18.2s,baz=204,slow=41
KIRV Kirov 25.97 27⇑ *e*P **P** **04 05 51.4 +0.6**
NOA NORSAR Array B 26.18 342 P **P** **04 05 53.9 +1.1**
comp=Z,0.7nm,0.9s,baz=151,slow=8.5,SNR=3.6
NOA LR LR 04 16 44.0
comp=Z,21nm,19.0s,baz=150,slow=38
ABKAR Akbulak array 26.52 52 P **P** **04 05 56.2 +0.4**
MDT Midelt 26.52 271 P **P** **04 05 57.2 +1.0**
comp=Z,2.6nm,0.8s,baz=85,slow=9.6,SNR=4.4
PRGR Permogore 27.20 19 *e*P **P** **04 06 00.4 -1.5**
PRGR pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 28.51 37 P **P** **04 06 12.5 -1.2**
comp=Z,1.1nm,0.4s,baz=240,slow=6.7,SNR=3.9
ARU Arti 28.51 37 P **P** **04 06 14.1 +0.4**
ARU 04 07 00.8
ARU S **S** **04 11 03.8 +2.3**
ARU SS **SnSn** **04 12 19.3 -0.7**
ARU Arti 28.51 37 IAmb IAmb 04 06 21.6
comp=Z,9.4nm,1.5s
ARCES ARCESS Array B 32.64 359 P **P** **04 06 50.1 +0.1**
comp=Z,2.7nm,0.9s,baz=180,slow=9.3,SNR=4.0
TOA0 Torodi Ar. Sit 33.05 231 P **P** **04 06 53.9 -0.2**
TOA0 IAmb IAmb 04 06 54.5
comp=Z,3.8nm,1.0s
TORD Torodi Ar. Bea 33.05 231 P **P** **04 06 53.8 -0.3**
comp=Z,1.1nm,0.5s,baz=32,slow=8.9,SNR=19
TORD Torodi Ar. Bea 33.05 231 P **P** **04 06 54.1 0.0**
KKAR Karatay Array 33.27 66 P **P** **04 06 55.8 -0.1**
KKAR Karatay Array 33.27 66 P **P** **04 06 55.8 -0.1**
BVAR Borovoye Array 33.78 48 LR LR 04 25 29.4
comp=Z,26nm,19.1s,baz=189,slow=45
NIL Nilore 37.28 81 P **P** **04 07 31.1 +0.6**
NIL pmax pmax
comp=Z,10.0nm,1.2s

NIL	**Nilore**	**37.28**	**81**	P		**P**	**04 07 31.1**	**+0.6**
KURBB	**Kurchatov Arra**	**38.57**	**53**	P		**P**	**04 07 41.4**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=279,slow=8.9,SNR=30							
KURK	**Kurchatov**	**38.63**	**53**	⇑*e*P		**P**	**04 07 42.2**	**+0.6**
KURK				pmax	pmax			
	comp=Z,6.0nm,1.2s							
KURK	**Kurchatov**	**38.63**	**53**	P		**P**	**04 07 42.2**	**+0.6**
KURK				lAmb	lAmb		04 07 43.3	
	comp=Z,4.2nm,0.9s							
MK31	**Makanchi Array**	**41.26**	**58**	*e*P		**P**	**04 08 04.0**	**+0.4**
MK31	**Makanchi Array**	**41.26**	**58**	P		**P**	**04 08 03.5**	**-0.2**
MKAR	**Makanchi Array**	**41.26**	**58**	P		**P**	**04 08 03.7**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=285,slow=5.6,SNR=4.5							
DBIC	**Dimbokro**	**42.12**	**232**	P		**P**	**04 08 09.8**	**-1.1**
DBIC				pmax	pmax			
	comp=Z,6.0nm,1.1s							
DBIC	**Dimbokro**	**42.12**	**232**	P		**P**	**04 08 09.8**	**-1.1**
DBIC				lAmb	lAmb		04 08 28.5	
	comp=Z,5.8nm,1.1s							
ZALV	**Zalesovo Beam**	**42.44**	**48**	P		**P**	**04 08 12.9**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=269,slow=9.7,SNR=11							
ZALV	**Zalesovo Beam**	**42.44**	**48**	*i* P		**P**	**04 08 12.8**	**-0.2**
ZALV				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ZALV	**Zalesovo Beam**	**42.44**	**48**	P		**P**	**04 08 13.4**	**+0.3**
DGZ	**Jazzator, Alta**	**44.33**	**54**	⇑*e*P		**P**	**04 08 29.3**	**+0.7**
DGZ				pmax	pmax			
	comp=Z,3.0nm,1.0s							
NRIK	**Noril'sk**	**45.47**	**26**	P		**P**	**04 08 37.2**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=234,slow=7.4,SNR=2.0							
WMQ	**Urumqi**	**45.53**	**62**	*e*P		**P**	**04 08 40.4**	**+2.3**
WMQ				LR	LR			
	comp=N,34nm,15.3s							
WMQ				LR	LR			
	comp=E,59nm,19.5s							
WMQ				LR	LR			
	comp=Z,38nm,20.9s							
BOD	**Bodaibo**	**57.90**	**39**	*e*P		**P**	**04 10 09.8**	**-0.5**
BOD				pmax	pmax			
	comp=Z,5.0nm,1.5s							
HHC	**Hu-ho-hao-te**	**63.12**	**58**	*e*P		**P**	**04 10 47.0**	**+0.7**
HHC				pmax	pmax			
	comp=Z,16nm,1.0s							
HHC				pmax	pmax			
	comp=Z,130nm,5.9s							
KLR	**Kul'dur**	**71.20**	**42**	⇑*i* P		**P**	**04 11 37.4**	**+0.1**
KLR				pmax	pmax			
	comp=Z,3.0nm,1.0s							
USRK	**Ussuriysk Ar.**	**74.27**	**46**	P		**P**	**04 11 55.5**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=319,slow=2.6,SNR=5.6							
KSRS	**Korea Array**	**75.74**	**54**	P		**P**	**04 12 04.2**	**0.0**
	comp=Z,1.6nm,0.7s,baz=297,slow=5.5,SNR=5.2							
IMAR	**Indian Mountai**	**77.37**	**0**	P		**P**	**04 12 13.3**	**+0.3**

PRU 15 04:01:05.5±0.0, 50.18N×119.30E, *h*0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**1.20**	**251**	*e*PG	Pg	04 01 26.9	-1.7
MORC				*e*SG	Sg	04 01 41.1	-3.1
KRLC	**Kraliky**	**1.62**	**267**	*e*SG	Sn	04 01 56.7	-0.4
	comp=Z,2.7nm,0.5s						
DPC	**Dobruska-Polom**	**1.92**	**276**	*e*SG	Sg	04 02 06.6	-0.5

*IDC **15** 04:15:06.0±0.8, 4.37S×151.40E, *h*0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/41, mbtmp3.9/8, ML1.3/1, MS3.0/4, Ms1 3.0/4, ms1mx2.6/39, Error ellipse: s-maj=22.3km s-min=8.2km az=170.0*

ISC 15 04:15:07.0±0.8, 4.4S±0.1×151.5E±0.1, *h*10km, n14, σ0.52/10, mb3.9/7, MS3.0/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.53**	**77**	Pg		**Pb**	**04 15 18.1**	**-0.3**
	630nm,0.3s,baz=285,slow=1.5,SNR=188							
KRVT				Lg	Lg	04 15 27.1		
	1μm,0.3s,baz=233,slow=20,SNR=18							
PMG	**Port Moresby**	**6.56**	**221**	Pn		**Pn**	**04 16 43.2**	**-0.5**
	0.4nm,0.3s,baz=11,slow=5.2,SNR=1.3							
HNR	**Honiara**	**9.74**	**121**	LR	LR		04 21 08.1	
	comp=Z,54nm,20.4s,baz=38,slow=37							
DZM	**Mont Dzumac**	**22.74**	**142**	LR	LR		04 28 52.3	
	comp=Z,110nm,18.0s,baz=46,slow=36							
WRA	**Warramunga Arr**	**22.75**	**226**	P		**P**	**04 20 08.9**	**-0.7**
	2.9nm,0.8s,baz=49,slow=10.0,SNR=21							
ASAR	**Alice Springs**	**25.58**	**220**	P		**P**	**04 20 37.2**	**+0.7**
	4.0nm,0.8s,baz=54,slow=8.8,SNR=31							
FITZ	**Fitzroy Crossi**	**28.72**	**240**	LR	LR		04 34 04.9	
	comp=Z,36nm,20.6s,baz=70,slow=40							
STKA	**Stephens Creek**	**28.85**	**198**	P		**P**	**04 21 06.4**	**+0.7**
	1.8nm,0.8s,baz=3.8,slow=5.6,SNR=3.0							
KSRS	**Korea Array**	**47.10**	**334**	LR	LR		04 44 14.4	
	comp=Z,8.1nm,18.0s,baz=95,slow=37							
PETK	**Petropavlovsk-**	**57.56**	**4**	P		**P**	**04 24 56.9**	**+0.2**
	1.0nm,0.6s,baz=150,slow=6.0,SNR=2.0							
MKAR	**Makanchi Array**	**79.20**	**319**	P		**P**	**04 27 12.4**	**0.0**
	0.2nm,0.8s,baz=116,slow=3.4,SNR=1.6							
ZALV	**Zalesovo Beam**	**80.14**	**327**	P		**P**	**04 27 17.2**	**-0.1**
	0.5nm,0.3s,baz=98,slow=11,SNR=1.7							
ILAR	**Eielson Array**	**82.31**	**22**	P		**P**	**04 27 28.8**	**+0.1**
	0.5nm,0.6s,baz=254,slow=5.4,SNR=7.0							
TORD	**Torodi Ar. Bea**	**148.97**	**288**	PKPbc		**PKiKP**	**04 34 57.6**	**-0.1**
	0.6nm,0.9s,baz=75,slow=2.6,SNR=2.8							

IDC 15 04:21:24.8±2.9, 55.42N×86.07E, *h*0km, mb1 2.8/3, mb1mx2.8/43, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=26.3km s-min=18.6km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.64**	**207**	*i*		04 32 40.0	
	baz=20,slow=325,SNR=4.0						
ZALV	**Zalesovo Beam**	**1.64**	**207**	Pg	Pn	04 21 53.4	-1.5
	0.9nm,0.3s,baz=28,slow=20,SNR=16						
ZALV				Lg	Lg	04 22 18.4	
	0.9nm,0.3s,baz=28,slow=28,SNR=7.2						
KURBB	**Kurchatov Arra**	**6.61**	**227**	Pn	Pn	04 23 03.5	+0.4
	0.0nm,0.3s,baz=46,slow=14,SNR=6.3						
KURBB				Lg	Lg	04 24 54.1	
	0.0nm,0.3s,baz=45,slow=33,SNR=3.6						
MKAR	**Makanchi Array**	**8.95**	**197**	Pn	Pn	04 23 34.8	-0.5
	0.0nm,0.3s,baz=19,slow=14,SNR=2.0						
MKAR				Lg	Lg	04 26 04.7	
	0.0nm,0.3s,baz=16,slow=31,SNR=2.5						
BVAR	**Borovoye Array**	**9.49**	**262**	Pn	Pn	04 23 41.9	-0.7
	0.1nm,0.3s,baz=66,slow=14,SNR=2.3						

*IDC **15** 04:34:14.3±1.1, 26.36S×74.21E, *h*0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/38, mbtmp3.9/8, Error ellipse: s-maj=34.0km s-min=25.8km az=51.0*
*NEIC **15** 04:34:16.1±1.5, 26.3S±0.2×74.2E±0.2, *h*10km±1km, mb4.1/6, Error ellipse: s-maj=31.4km s-min=28.3km az=266.0*

ISC 15 04:34:16.0±1.0, 26.4S±0.2×74.2E±0.2, *h*10km, n19, σ0.56/12, mb4.0/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**18.70**	**355**	T	T	04 57 48.8	
	baz=175,slow=76,SNR=127						
H08S1	**Diego Garcia H**	**18.70**	**355**	T	T	04 57 46.8	
	baz=175,slow=76,SNR=111						
H08S3	**Diego Garcia H**	**18.72**	**355**	T	T	04 57 46.7	
	baz=175,slow=76,SNR=121						
H01W2	**Cape Leeuwin H**	**35.19**	**114**	T	T	05 17 55.3	
	baz=272,slow=74,SNR=9.5						
H01W3	**Cape Leeuwin H**	**35.19**	**114**	T	T	05 17 55.7	
	baz=272,slow=74,SNR=6.9						
H01W1	**Cape Leeuwin H**	**35.20**	**114**	T	T	05 17 56.8	
	baz=272,slow=74,SNR=8.4						
CMAR	**Chiang Mai Arr**	**50.62**	**31**	P		**P**	**04 43 15.3**	**-0.1**
	0.6nm,0.3s,baz=214,slow=8.0,SNR=4.5							
ASAR	**Alice Springs**	**53.73**	**101**	P		**P**	**04 43 38.9**	**+0.2**
	2.4nm,0.8s,baz=248,slow=6.5,SNR=23							
AS31	**Alice Springs**	**53.73**	**101**	P		**P**	**04 43 38.7**	**+0.1**
AS31				lAmb	lAmb		04 43 39.6	
	comp=Z,0.9nm,0.7s							
WRA	**Warramunga Arr**	**55.23**	**97**	P		**P**	**04 43 49.0**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=255,slow=7.8,SNR=13							
WRA	**Warramunga Arr**	**55.23**	**97**	lAmb	lAmb		04 43 50.5	
	comp=Z,0.2nm,0.9s							
QSPA	**South Pole Qui**	**63.76**	**180**	P		**P**	**04 44 48.2**	**+0.3**
	comp=Z,1.7nm,1.0s,baz=267,slow=4.1,SNR=2.9							
KK31	**Karatay Array**	**69.22**	**357**	P		**P**	**04 45 23.1**	**+0.3**
KK31				lAmb	lAmb		04 45 25.2	
	comp=Z,1.8nm,0.8s							
KKAR	**Karatay Array**	**69.22**	**357**	P		**P**	**04 45 23.9**	**+1.1**
MKAR	**Makanchi Array**	**73.19**	**6**	P		**P**	**04 45 46.5**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=201,slow=7.6,SNR=4.3							
KURBB	**Kurchatov Arra**	**76.75**	**3**	P		**P**	**04 46 07.1**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=202,slow=6.5,SNR=3.1							
KURK	**Kurchatov**	**76.84**	**3**	P		**P**	**04 46 07.1**	**-0.7**
BVAR	**Borovoye Array**	**79.13**	**358**	P		**P**	**04 46 21.0**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=180,slow=8.6,SNR=3.0							
TORD	**Torodi Ar. Bea**	**80.65**	**290**	P		**P**	**04 46 29.1**	**-0.5**
	comp=Z,0.9nm,1.0s,baz=134,slow=4.2,SNR=3.6							

*NNC **15** 04:48:11.4±1.6, 53.42N×87.82E, *h*0km, mb3.1, mpv2.7, Error ellipse: s-maj=13.4km s-min=6.0km az=63.0, Suspected Mining explosion.*
*IDC **15** 04:48:12.6±2.8, 53.56N×87.67E, *h*0km, mb1 3.1/2, mb1mx3.0/51, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=25.1km s-min=14.1km az=62.0*

ISC 15 04:48:11.0±3.3, 53.6N±0.1×87.8E±0.2, *h*0km, n7, σ1.940/10, 3C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**284**	*i*		04 59 31.0	
	baz=97,slow=300,SNR=2.3						
ZAA0	**Zalesovo Array**	**1.81**	**284**	⇑Pn	Pn	**04 48 43.9**	**+0.5**
	0.4nm,0.3s						
ZAA0				⇓Sn	Sg	**04 49 09.8**	**+0.6**
	7.9nm,0.8s						
ZALV	**Zalesovo Beam**	**1.81**	**284**	Pg	Pb	**04 48 44.0**	**-1.1**
	4.4nm,0.3s,baz=99,slow=15,SNR=41						
ZALV				Lg	Lg	04 49 07.7	
	4.4nm,0.3s,baz=99,slow=31,SNR=9.8						
KURBB	**Kurchatov Arra**	**6.43**	**246**	Pn	Pn	**04 49 48.4**	**+1.6**
	0.1nm,0.3s,baz=62,slow=14,SNR=8.4						
KURBB				Lg	Lg	04 51 32.4	
	0.1nm,0.3s,baz=63,slow=33,SNR=11						
KURBB	**Kurchatov Arra**	**6.43**	**246**	⇑Pn	Pn	**04 49 47.1**	**+0.3**
	2.3nm,0.8s						
KURBB				⇓Sn	Sn	**04 51 01.0**	**+0.2**
	3.9nm,0.9s						
KURBB				⇑Lg	Lg	04 51 32.8	
	7.2nm,0.7s						
MK31	**Makanchi Array**	**7.64**	**210**	⇓Pn	Pn	**04 50 03.2**	**-0.3**
	0.3nm,0.5s,baz=29,slow=13,SNR=12						
MK31				⇓Sn	Sn	**04 51 29.0**	**-1.7**
	0.3nm,0.5s,baz=32,slow=25,SNR=3.7						
MK31				⇓Lg	Lg	04 52 10.0	
	3.0nm,0.9s,baz=38,slow=31,SNR=7.7						
MKAR	**Makanchi Array**	**7.64**	**210**	Pn	Pn	**04 50 05.9**	**+2.4**
	0.3nm,0.3s,baz=29,slow=14,SNR=12						
MKAR				Sn	Sn	**04 51 30.1**	**-0.6**
	0.1nm,0.3s,baz=27,slow=24,SNR=5.1						
MKAR				Lg	Lg	04 52 11.1	
	0.1nm,0.3s,baz=27,slow=32,SNR=11						

RSPR 15 04:53:36.8, 18.95N×67.76W, *h*48km±11km, MD3.2/8, 10C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.78**	**128**	⇑*e*P	Pn	04 53 50.2	-1.3
LSP	**Las Mesas**	**1.00**	**140**	⇑*e*P	Pn	04 53 53.1	-1.4
LSP	**Las Mesas**	**1.00**	**140**	*e*S	Sn	04 54 07.1	-0.5
CRPR	**Cabo Rojo, PR**	**1.12**	**146**	⇓*e*P	Pn	04 53 55.6	-0.5
CRPR	**Cabo Rojo, PR**	**1.12**	**146**	*e*S	Sn	04 54 10.0	-0.5
AOPR	**Arecibo Observ**	**1.12**	**122**	⇑*e*P	Pn	04 53 55.1	-1.1
AOPR	**Arecibo Observ**	**1.12**	**122**	*e*S	Sn	04 54 10.1	-0.5
MLPR	**Magueyes Islan**	**1.19**	**145**	⇓*e*P	Pn	04 53 55.4	-1.7
MLPR	**Magueyes Islan**	**1.19**	**145**	*e*S	Sn	04 54 10.5	-1.5
EMPR	**Esperanza - Ma**	**1.26**	**112**	⇓*e*P	Pn	04 53 57.4	-0.6
EMPR	**Esperanza - Ma**	**1.26**	**112**	*e*S	Sn	04 54 12.0	-1.7
EMPR	**Esperanza - Ma**	**1.26**	**112**		Sn	04 54 12.4	-1.3
CELP	**Cerrillos**	**1.42**	**128**	⇑*e*P	Pn	04 53 59.5	-0.7
CELP	**Cerrillos**	**1.42**	**128**	*e*S	Sn	04 54 16.1	-1.6
CELP	**Cerrillos**	**1.42**	**128**		Sn	04 54 16.1	-1.6
OBIP	**Obispado Ponce**	**1.42**	**129**	⇑*e*P	Pn	04 53 59.1	-1.0
OBIP	**Obispado Ponce**	**1.42**	**129**	*e*S	Sn	04 54 16.6	-1.0
OBIP	**Obispado Ponce**	**1.42**	**129**		Sn	04 54 16.6	-1.0
GCPR	**Guaynabo City**	**1.71**	**111**	⇑*e*P	Pn	04 54 03.8	-0.4
GCPR	**Guaynabo City**	**1.71**	**111**	*e*S	Sn	04 54 24.3	-0.6
IGPR	**InterUniversit**	**1.85**	**122**	*e*S	Sn	04 54 27.3	-1.0
CBYP	**Canovanas**	**1.93**	**110**	⇑*e*P	Pn	04 54 08.2	+1.0
CBYP	**Canovanas**	**1.93**	**110**	*e*S	Sn	04 54 26.4	-3.9
CBYP	**Canovanas**	**1.93**	**110**	⇑*e*P	Pn	04 54 08.2	+1.0
CBYP				*e*S	Sn	04 54 26.4	-3.9
CBYP	**Canovanas**	**1.93**	**110**		Pn	04 54 08.2	+1.0
CBYP					Sn	04 54 26.4	-3.9
HUMP	**Col San Antoni**	**1.98**	**114**	⇑*e*P	Pn	04 54 09.0	+1.1
HUMP				*e*S	Sn	04 54 27.7	-3.8
HUMP	**Col San Antoni**	**1.98**	**114**	⇑*e*P	Pn	04 54 09.0	+1.1
HUMP				*e*S	Sn	04 54 27.7	-3.8
HUMP	**Col San Antoni**	**1.98**	**114**		Pn	04 54 09.0	+1.1
HUMP					Sn	04 54 27.7	-3.8

*TRN **15** 04:53:44.5, 18.75N×64.55W, h30km, M2.8(RSPR)*
*NEIC **15** 04:53:44.4±0.8, 18.85N±0.07×64.46W±0.05, h33km±15km, Error ellipse: s-maj=12.2km s-min=3.8km az=207.0*

RSPR 15 04:53:45.4, 18.87N×64.45W, h14km±1km, MD2.8/6, 6C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.47**	**199**	⇑*e*P	Pg	04 53 54.3	-0.5
TBVI	**Tortola**	**0.47**	**199**	*e*S	Sg	04 54 01.1	0.0
TBVI	**Tortola**	**0.47**	**199**	⇑*e*P	Pg	04 53 54.3	-0.5
TBVI				*e*S	Sg	04 54 01.1	0.0
TBVI	**Tortola**	**0.47**	**199**		Pg	04 53 54.3	-0.5
TBVI					Sg	04 54 01.1	0.0
STVI	**Saint Thomas**	**0.70**	**223**	⇑*e*P	Pg	04 53 57.5	-1.5
STVI	**Saint Thomas**	**0.70**	**223**	*e*S	Sg	04 54 06.9	-1.4
STVI	**Saint Thomas**	**0.70**	**223**	⇑*e*P	Pg	04 53 57.5	-1.5
STVI				*e*S	Sg	04 54 06.9	-1.4
STVI	**Saint Thomas**	**0.70**	**223**		Pg	04 53 57.5	-1.5
STVI					Sg	04 54 06.9	-1.4
CUPR	**Culebra, Puert**	**0.96**	**235**	⇓*e*P	Pb	04 54 01.2	-2.7
CUPR	**Culebra, Puert**	**0.96**	**235**	*e*S	Sb	04 54 13.9	-2.6
CUPR	**Culebra, Puert**	**0.96**	**235**		Pb	04 54 01.2	-2.7
CUPR					Sb	04 54 13.9	-2.6
CDVI	**St. Croix**	**1.15**	**195**	⇑*e*P	Pb	04 54 04.2	-2.8
CDVI	**St. Croix**	**1.15**	**195**	*e*S	Sb	04 54 18.4	-3.4
CDVI	**St. Croix**	**1.15**	**195**	⇑*e*P	Pb	04 54 04.2	-2.8
CDVI				*e*S	Sb	04 54 18.4	-3.4
CDVI	**St. Croix**	**1.15**	**195**		Pb	04 54 04.2	-2.8
CDVI					Sb	04 54 18.4	-3.4
MTP	**Monte Pirata**	**1.30**	**234**	⇓*e*P	Pn	04 54 06.1	-2.9
MTP	**Monte Pirata**	**1.30**	**234**	*e*S	Sb	04 54 22.1	-3.9
MTP	**Monte Pirata**	**1.30**	**234**	⇓*e*P	Pn	04 54 06.1	-2.9
MTP				*e*S	Sb	04 54 22.1	-3.9
MTP	**Monte Pirata**	**1.30**	**234**		Pn	04 54 06.1	-2.9
MTP					Sb	04 54 22.1	-3.9
GCPR	**Guaynabo City**	**1.65**	**251**	Pn	Pn	04 54 12.9	-1.0
EMPR	**Esperanza - Ma**	**2.01**	**259**	Pn	Pn	04 54 11.1	-7.7

*SOME **15** 05:06:49.0, 41.50N×82.57E, h15km*
*IDC **15** 05:06:50.9±1.0, 42.12N×83.19E, *h*0km, mb3.7/7, mb1 3.8/12, mb1mx3.6/54, mbtmp3.6/12, ML3.2/5, MS2.7/1, Ms1 2.7/1, ms1mx2.1/43, Error ellipse: s-maj=22.6km s-min=13.9km az=67.0*
*NNC **15** 05:06:53.9±2.2, 42.12N×83.01E, *h*0km, mb4.2, mpv3.9, Error ellipse: s-maj=16.3km s-min=9.5km az=146.0*
*BJI **15** 05:06:55.1±0.0, 42.06N×83.17E, h5km, ML3.7/8*

ISC 15 05:06:54.0±0.8, 42.10N±0.05×83.42E±0.03, *h*10km, n54, σ3.902/67, mb3.7/7, 20C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.63**	**302**	*e*P	Pn	**05 07 37.0**	**+0.3**
	5.6nm,0.1s						
KTMS				*e*S	Sn	**05 08 11.5**	**+2.8**
	240nm,0.4s						
KTMS	**Ketmen**	**2.63**	**302**	Pg	Pn	**05 07 37.0**	**+0.3**
	5.6nm,0.1s						
KTMS				Lg	Lg	05 08 11.5	
	240nm,0.4s						
PDGK	**Podgornoye**	**3.15**	**294**	Pg	Pn	**05 07 43.1**	**-0.7**
	12nm,0.2s						
PDGK				Lg	Lg	05 08 22.0	
	107nm,0.5s						
PDGK	**Podgornoye**	**3.15**	**294**	⇑Pn	Pn	**05 07 42.3**	**-1.5**
	6.7nm,0.3s						
PDGK				⇑Pg	Pb	**05 07 46.9**	**-3.2**
	27nm,0.7s						
PDGK				⇑Sn	Sn	**05 08 20.3**	**-1.1**
	62nm,0.5s						
PDGK				⇓Lg	Lg	05 08 26.4	
	146nm,0.5s						
UZB	**Uzunbulak**	**3.41**	**289**	⇑*i* P	Pn	**05 07 46.3**	**-1.1**
	28nm,0.3s						
UZB				*e*S	Sn	**05 08 27.6**	**-0.4**
	57nm,0.3s						
UZB	**Uzunbulak**	**3.41**	**289**	Pg	Pn	**05 07 46.3**	**-1.1**
	28nm,0.3s						
UZB				Lg	Lg	05 08 27.6	
	82nm,0.3s						
DJR	**Jarkent**	**3.47**	**311**	*e*P	Pn	05 07 52.9	+4.7
	21nm,0.4s						
DJR				*e*S	**Sb**	**05 08 39.0**	**+1.2**
	82nm,0.6s						
DJR	**Jarkent**	**3.47**	**311**	Pg	Pn	05 07 52.7	+4.5
	21nm,0.4s						
DJR				Lg	Lg	05 08 38.5	
	82nm,0.6s						
WMQ	**Urumqi**	**3.58**	**60**	Pn	Pn	05 07 47.8	-1.9
WMQ				Sn	**Sn**	**05 08 34.3**	**+2.2**
WMQ				smax	smax		
	comp=N,160nm,0.5s						
WMQ				smax	smax		
	comp=E,190nm,0.5s						
SATY	**Saty**	**3.83**	**286**	*e*P	Pn	**05 07 52.0**	**-1.1**
	comp=E,22nm,0.2s						
SATY				*e*S	**Sn**	**05 08 37.4**	**-0.8**
	comp=E,39nm,0.2s						
SATY	**Saty**	**3.83**	**286**	Pg	Pn	**05 07 52.0**	**-1.1**
	comp=E,22nm,0.2s						
SATY				Lg	Lg	05 08 37.4	
	comp=E,45nm,0.4s						
KURS	**Kuram**	**4.11**	**292**	*e*P	Pn	**05 07 58.2**	**+1.3**
	comp=E,5.0nm,0.6s						
KURS				*e*S	**Sn**	**05 08 48.1**	**+3.1**
	comp=E,26nm,0.5s						
MNBS	**Baschi**	**4.18**	**300**	*e*P	Pn	**05 08 01.9**	**+4.0**
	comp=E,16nm,0.2s						
MNBS				*e*S	**Sb**	**05 08 54.3**	**-3.9**
	comp=E,80nm,0.5s						
MNBS	**Baschi**	**4.18**	**300**	Pg	Pn	**05 08 02.1**	**+4.2**
	comp=E,16nm,0.2s						
MNBS				Lg	Lg	05 08 54.2	
	comp=E,80nm,0.5s						
KAPS	**Kapalarasan**	**4.34**	**319**	*e*P	Pn	**05 08 10.2**	**-0.2**
	comp=E,11nm,0.3s						
KAPS				*e*S	**Sb**	**05 09 08.8**	**+6.0**
	comp=E,69nm,0.5s						
KAPS	**Kapalarasan**	**4.34**	**319**	Pg	Pb	**05 08 09.3**	**-1.1**
	comp=E,11nm,0.3s						
KAPS				Lg	Lg	05 09 06.9	
	comp=E,69nm,0.5s						
ARXS	**Arharly**	**4.61**	**299**	*e*P	Pn	05 08 08.6	+4.8
	comp=E,17nm,0.3s						
ARXS				*e*S	**Sb**	**05 09 06.0**	**-4.5**
	comp=E,102nm,0.8s						
ARXS	**Arharly**	**4.61**	**299**	Pg	Pn	**05 08 07.0**	**+3.2**
	comp=E,33nm,0.4s						
ARXS				Lg	Lg	05 09 02.7	
	comp=E,102nm,0.8s						
MK31	**Makanchi Array**	**4.77**	**351**	⇓Pn	Pn	**05 08 06.9**	**+1.0**
	comp=E,0.4nm,0.2s,baz=144,slow=13,SNR=81						
MK31				⇑Pg	Pb	**05 08 18.8**	**+1.2**
	comp=E,7.5nm,0.3s,baz=166,slow=16,SNR=28						
MK31				⇑Sn	Sn	**05 09 01.2**	**0.0**
	comp=E,13nm,0.5s						
MK31				⇑Lg	Lg	05 09 23.0	
	comp=E,23nm,0.4s,baz=169,slow=28,SNR=11						
MKAR	**Makanchi Array**	**4.77**	**351**	Pn	Pn	**05 08 06.8**	**+0.9**
	comp=E,1.2nm,0.3s,baz=175,slow=11,SNR=12						
MKAR				Sn	Sn	**05 08 56.5**	**-4.7**
	comp=E,4.0nm,0.3s,baz=177,slow=27,SNR=4.0						
MKAR				Lg	Lg	05 09 20.0	
	comp=E,8.2nm,0.3s,baz=172,slow=27,SNR=12						
KOTS	**Kotyrbulak**	**4.79**	**286**	*e*P	Pn	**05 08 08.1**	**+1.8**
	comp=E,16nm,0.3s						
KOTS				*e*S	**Sn**	**05 09 05.2**	**+3.2**
	comp=E,59nm,0.4s						
MDOK	**Medeo**	**4.82**	**285**	*e*P	Pn	**05 08 09.4**	**+2.6**
	comp=E,7.3nm,0.4s						
MDOK				*e*S	**Sn**	**05 09 07.3**	**+4.6**
	comp=E,33nm,0.5s						
MDOK	**Medeo**	**4.82**	**285**	Pn	Pn	**05 08 05.4**	**-1.4**
	comp=E,5.3nm,0.5s						
MDOK				⇓Pg	Pb	**05 08 16.3**	**-2.3**
	comp=E,11nm,0.4s						
MDOK				⇓Lg	Lg	05 09 18.7	
	comp=E,42nm,0.7s						
MDOK	**Medeo**	**4.82**	**285**	Pg	Pn	05 08 13.5	+6.7
	comp=E,7.3nm,0.4s						
MDOK				Lg

MRKS	**Merke**	**7.57**	**278**	Pg	**Pb**	**05 09 05.8**	**+0.4**
	comp=E,1.3nm,0.2s							
MRKS				Lg	Lg	05 10 44.1		
	comp=E,4.5nm,0.4s							
KURBB	**Kurchatov Arra**	**9.17**	**340**	Pn	**Pn**	**05 09 05.0**	**-1.3**
	comp=E,0.2nm,0.3s,baz=158,slow=12,SNR=10							
KURBB				Lg	Lg	05 11 37.1		
	comp=E,0.1nm,0.3s,baz=195,slow=24,SNR=4.7							
KURK	**Kurchatov**	**9.23**	**341**	⇑Pn	**Pn**	**05 09 06.9**	**-0.3**
	comp=E,2.6nm,0.6s							
KURK				⇑Sn	**Sn**	**05 10 50.6**	**-0.5**	
	comp=E,7.9nm,0.9s							
KURK				⇑Lg	Lg	05 11 44.2		
	comp=E,21nm,0.9s							
KK31	**Karatay Array**	**9.57**	**280**	⇑Pg	Pn	05 09 43.4	+32	
	comp=E,0.8nm,0.5s,baz=93,slow=16,SNR=3.5							
KK31				⇑Lg	Lg	05 11 49.0		
	comp=E,1.4nm,0.5s,baz=83,slow=28,SNR=3.6							
OTUK	**Ortayu**	**9.95**	**312**	⇑Pn	**Pn**	**05 09 14.2**	**-2.7**
	comp=E,0.8nm,0.6s							
OTUK				⇑Lg	Lg	05 12 03.9		
	comp=E,11nm,0.9s							
ZALV	**Zalesovo Beam**	**11.90**	**4**	Pn	Pn	05 09 40.6	-2.9	
	comp=E,0.3nm,0.3s,baz=182,slow=14,SNR=6.7							
ZALV				Lg	Lg	05 13 08.1		
	comp=E,0.4nm,0.3s,baz=190,slow=23,SNR=2.1							
BVAR	**Borovoye Array**	**14.01**	**326**	Pn	Pn	05 10 06.3	-6.1	
	comp=E,0.2nm,0.3s,baz=136,slow=11,SNR=1.5							
TLY	**Talaya**	**16.77**	**48**	LR	LR	05 17 39.0		
	comp=E,27nm,18.5s,baz=342,slow=38							
CMAR	**Chiang Mai Arr**	**27.02**	**146**	P	**P**	**05 12 36.6**	**+0.3**	
	comp=E,1.2nm,0.7s,baz=333,slow=9.4,SNR=6.0							
FINES	**FINESS Array B**	**38.86**	**320**	P	**P**	**05 14 16.6**	**-2.5**	
	comp=E,2.4nm,0.9s,baz=97,slow=11,SNR=1.6							
ARCES	**ARCESS Array B**	**40.16**	**332**	P	**P**	**05 14 28.4**	**-1.4**	
	comp=E,1.4nm,0.8s,baz=83,slow=7.7,SNR=6.0							
NOA	**NORSAR Array B**	**46.04**	**320**	P	**P**	**05 15 15.2**	**-2.3**	
	comp=E,0.6nm,0.6s,baz=80,slow=7.7,SNR=4.0							
YKA	**Yellowknife Ar**	**74.75**	**9**	P	**P**	**05 18 31.3**	**-2.5**	
	comp=E,0.6nm,0.8s,baz=323,slow=4.9,SNR=3.0							
TORD	**Torodi Ar. Bea**	**75.21**	**274**	P	P	05 18 34.0	-3.1	
	comp=E,0.3nm,0.7s,baz=44,slow=6.2,SNR=2.0							
WRA	**Warramunga Arr**	**77.59**	**132**	P	**P**	**05 18 48.8**	**-1.6**	
	comp=E,0.2nm,0.5s,baz=327,slow=4.6,SNR=1.5							

*IDC **15** 05:14:00.8±2.4, 2°.26N×95°.34E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.5/46, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=54.1km s-min=26.0km az=38.0*
*NEIC **15** 05:14:05.0±0.7, 2°.21N±0°.07×95°.29E±0°.09, h29km±9km, mb4.1/3, Error ellipse: s-maj=14.0km s-min=9.4km az=119.0*
*DJA **15** 05:14:08.4±0.9, 3°N±5°×9°6E±°, h10km, M3.4/6, MLv3.4/6*
ISC 15 05:14:06.3±0.9, 2°.59N±0°.05×95°.43E±0°.07, h25km, n31, σ1°61/29, mb4.0/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.87**	**69**	P	**Pn**	**05 14 34.9**	**-1.9**
TPTI				S	**Sn**	**05 14 55.9**	**-3.7**
MLSI	**Meulaboh, Aceh**	**1.93**	**30**	P	**Pn**	**05 14 35.9**	**-1.6**
GSI	**Gunungsitoli**	**2.50**	**121**	P	**Pb**	**05 14 48.7**	**-1.9**
GSI	**Gunungsitoli**	**2.50**	**121**	Pn	**Pn**	**05 14 45.0**	**-0.4**
KCSI	**Kotacane, Aceh**	**2.52**	**68**	P	**Pn**	**05 14 45.0**	**-0.7**
KCSI				S	**Sb**	**05 15 23.2**	**+1.8**
LHMI	**Lhok Sumawe**	**3.02**	**30**	P	**Pn**	**05 14 51.4**	**-1.3**
LHMI	**Lhok Sumawe**	**3.02**	**30**	Pn	**Pb**	**05 15 01.7**	**+2.2**
RPSI	**Rantau Prapat**	**3.49**	**88**		**Pn**	**05 14 58.5**	**-0.6**
RPSI					**Sn**	**05 15 42.2**	**+2.5**
RPSI	**Rantau Prapat**	**3.49**	**88**	Pn	**Pn**	**05 14 59.6**	**+0.5**
PSI	**Prapat**	**3.50**	**87**	Pn	**Pn**	**05 14 58.5**	**-0.8**
	2.0nm,0.3s,baz=360,slow=7.4,SNR=6.9							
PSI				Sn	**Sn**	**05 15 42.2**	**+2.3**
	0.9nm,0.3s,baz=182,slow=1.0,SNR=3.8							
PBSI	**Pulau Batu**	**3.88**	**133**	P	**Pn**	**05 15 06.5**	**+2.1**
MNSI	**Mandailing Nat**	**4.52**	**113**	P	**Pn**	**05 15 14.4**	**+1.2**
KULM	**Kulim**	**5.86**	**63**	Pn	**Pn**	**05 15 31.1**	**-0.5**
COCO	**West Island**	**14.75**	**175**	P	**Pn**	**05 17 33.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**16.14**	**12**	Pn	**P**	**05 17 53.8**	**-0.9**
	0.1nm,0.3s,baz=202,slow=11,SNR=6.4							
H08S2	**Diego Garcia H**	**25.04**	**246**	T	T	05 45 38.7		
	baz=66,slow=76,SNR=227							
H08S3	**Diego Garcia H**	**25.04**	**246**	T	T	05 45 37.6		
	baz=66,slow=76,SNR=238							
H08S1	**Diego Carcia H**	**25.06**	**246**	T	T	05 45 38.7		
	baz=66,slow=76,SNR=227							
H01W3	**Cape Leeuwin H**	**41.21**	**156**	T	T	06 05 31.6		
	baz=332,slow=76,SNR=37							
H01W2	**Cape Leeuwin H**	**41.22**	**156**	T	T	06 05 32.6		
	baz=332,slow=76,SNR=49							
H01W1	**Cape Leeuwin H**	**41.23**	**156**	T	T	06 05 32.8		
	baz=332,slow=76,SNR=49							
WRA	**Warramunga Arr**	**44.27**	**122**	P	**P**	**05 22 11.6**	**-2.7**	
	0.7nm,1.0s,baz=300,slow=9.2,SNR=2.3							
MK31	**Makanchi Array**	**45.49**	**347**	P	**P**	**05 22 24.8**	**+1.2**	
MK31				IAmb	IAmb	05 22 43.6		
	comp=Z,1.7nm,0.8s							
MKAR	**Makanchi Array**	**45.49**	**347**	P	**P**	**05 22 24.6**	**+1.0**	
	comp=Z,1.0nm,0.5s,baz=157,slow=8.2,SNR=13							
MKAR	**Makanchi Array**	**45.49**	**347**	P	**P**	**05 22 24.2**	**+0.6**	
MAKZ	**Makanchi**	**45.57**	**347**	P	**P**	**05 22 25.3**	**+1.1**	
MAKZ				IAmb	IAmb	05 22 37.7		
	comp=Z,1.8nm,0.7s							
KSAR	**Wonju Array Be**	**45.72**	**37**	P	**P**	**05 22 26.9**	**+1.3**	
ZALV	**Zalesovo Beam**	**51.93**	**352**	P	**P**	**05 23 12.9**	**0.0**	
	comp=Z,1.0nm,0.5s,baz=180,slow=7.1,SNR=5.1							
ZALV	**Zalesovo Beam**	**51.93**	**352**	P	**P**	**05 23 13.7**	**+0.8**	
BRVK	**Borovoye**	**54.43**	**342**	P	**P**	**05 23 31.3**	**-0.1**	
BRVK				IAmb	IAmb	05 23 44.6		
	comp=Z,1.4nm,0.7s							
ABKAR	**Akbulak array**	**55.46**	**333**		**P**	**05 23 39.1**	**+0.1**	

*SNET **15** 05:38:14.3±0.5, 12°.08N×87°.88W, h15km±2km, ML3.5*
*INET **15** 05:38:14.2, 12°.09N×87°.77W, h3km, ML3.5*
*UCR **15** 05:38:14.6±0.8, 12°.10N×87°.88W, h16km±3km, ML3.5*
ISC 15 05:38:13.0±3.9, 12°.1N±0°.2×87°.83W±0°.10, h11km±28km, n26, σ0°31/41, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**1.24**	**357**	*eP*	**Pn**	**05 38 35.5**	**-0.8**
LCND				eS	**Sb**	**05 38 52.5**	**0.0**
LCND				IAML		05 38 54.6		
	comp=Z,2µm,0.3s							
LCND	**La Caada**	**1.24**	**357**	*eP*	**Pn**	**05 38 35.5**	**-0.8**
LCND				eS	**Sb**	**05 38 52.5**	**0.0**
LCND				eS	**Sb**	**05 38 52.5**	**0.0**
LCND				IAML		05 38 54.6		
	comp=Z,2µm,0.3s							
JUCU	**Jucuar¡n**	**1.25**	**341**	*eP*	**Pn**	**05 38 35.9**	**-0.7**
JUCU				eS	**Sb**	**05 38 53.0**	**+0.1**
JUCU	**Jucuar¡n**	**1.25**	**341**	*eP*	**Pn**	**05 38 35.9**	**-0.7**
JUCU				eS	**Sb**	**05 38 53.0**	**+0.1**
RANC	**El Ranchito**	**1.43**	**342**	eS	**Sb**	**05 38 58.6**	**+0.3**
RANC	**El Ranchito**	**1.43**	**342**	eS	**Sb**	**05 38 58.6**	**+0.3**
CNRM	**Centro Naciona**	**1.44**	**347**	eP	**Pb**	**05 38 40.0**	**0.0**
CNRM				eS	**Sn**	**05 38 58.1**	**+0.1**
CNRM	**Centro Naciona**	**1.44**	**347**	eP	**Pb**	**05 38 40.0**	**0.0**
CNRM				eS	**Sn**	**05 38 58.1**	**+0.1**
ALJI	**Alcalda de J**	**1.45**	**330**	eP	**Pn**	**05 38 38.8**	**-0.4**
ALJI				eS	**Sn**	**05 38 58.0**	**-0.3**
ALJI	**Alcalda de J**	**1.45**	**330**	eP	**Pn**	**05 38 38.8**	**-0.4**
ALJI				eS	**Sn**	**05 38 58.0**	**-0.3**
TECA	**Tecapa**	**1.57**	**335**	eP	**Pn**	**05 38 41.0**	**0.0**
TECA	**Tecapa**	**1.57**	**335**	eP	**Pn**	**05 38 41.0**	**0.0**
COEB	**Comit de Eme**	**1.58**	**334**	eS	**Sb**	**05 39 02.7**	**+0.2**
COEB	**Comit de Eme**	**1.58**	**334**	eS	**Sb**	**05 39 02.7**	**+0.2**
FAGO	**Alcalda de S**	**1.64**	**351**	eP	**Pn**	**05 38 42.1**	**+0.2**
FAGO				eS	**Sn**	**05 39 03.3**	**+0.2**
FAGO	**Alcalda de S**	**1.64**	**351**	eP	**Pn**	**05 38 42.1**	**+0.2**
FAGO				eS	**Sn**	**05 39 03.3**	**+0.2**
UESV	**Universidad de**	**1.82**	**329**	eP	**Pn**	**05 38 44.1**	**-0.3**
UESV				eS	**Sn**	**05 39 07.5**	**0.0**
UESV				IAML		05 39 10.2		
	comp=Z,323nm,0.3s							
UESV	**Universidad de**	**1.82**	**329**	*eP*	**Pn**	**05 38 44.1**	**-0.3**
UESV				eS	**Sn**	**05 39 07.5**	**0.0**
UESV				IAML		05 39 10.2		
	comp=Z,323nm,0.3s							
LFRS	**El Faro**	**1.96**	**322**	*eP*	**Pn**	**05 38 46.4**	**0.0**
LFRS				eS	**Sn**	**05 39 11.2**	**+0.1**
LFRS	**El Faro**	**1.96**	**322**	*eP*	**Pn**	**05 38 46.4**	**0.0**
LFRS				eS	**Sn**	**05 39 11.2**	**+0.1**
PAVA	**Las Pavas**	**1.96**	**327**	*eP*	**Pn**	**05 38 46.5**	**+0.1**
PAVA				IAML		05 39 17.4		
	comp=Z,353nm,0.2s							
PAVA	**Las Pavas**	**1.96**	**327**	*eP*	**Pn**	**05 38 46.5**	**+0.1**
PAVA				IAML		05 39 17.4		
	comp=Z,353nm,0.2s							
LBRS	**Las Brisas**	**2.04**	**325**	*eP*	**Pn**	**05 38 47.8**	**+0.3**
LBRS	**Las Brisas**	**2.04**	**325**	*eP*	**Pn**	**05 38 47.8**	**+0.3**
TGUH	**Tegucigalpa,Un**	**2.05**	**15**	*eP*	**Pn**	**05 38 47.9**	**+0.2**
TGUH	**Tegucigalpa,Un**	**2.05**	**15**	*eP*	**Pn**	**05 38 47.9**	**+0.2**

KRSC 15 05:58:09.3±0.9, 52°.34N×158°.45E, h112km±7km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.10**	**22**	*i* P	Pn	05 58 26.4	+1.8
RUS				eS	Sn	05 58 38.4	+2.2
MTVR	**Mutnovka**	**0.22**	**311**	eP	Pn	05 58 26.2	+1.1
MTVR				eS	Sn	05 58 38.0	+0.9
GRL	**Gorelyy**	**0.32**	**313**	*i* P	Pn	05 58 26.9	+1.4
GRL				eS	Sn	05 58 39.1	+1.5
ASAK	**Asacha**	**0.34**	**278**	*i* P	Pn	05 58 26.9	+1.4
ASAK				eS	Sn	05 58 39.7	+2.0
KRMR	**Karymshinskiy**	**0.53**	**338**	*i* P	Pn	05 58 26.5	0.0
KRMR				eS	Sn	05 58 38.7	-0.7
KDTR	**Khodutka, Kamc**	**0.58**	**204**	*i* P	Pn	05 58 28.5	+1.7
KDTR				eS	Sn	05 58 42.1	+2.1
PET	**Petropavlovsk**	**0.70**	**10**	*eP*	Pn	05 58 29.0	+1.3
PET				eS	Sn	05 58 42.8	+1.1
DALK	**Dalny**	**0.72**	**15**	*eP*	Pn	05 58 29.3	+1.4
DALK				eS	Sn	05 58 43.3	+1.3
UGLR	**Uglovaya**	**0.90**	**14**	*eP*	Pn	05 58 31.3	+1.6
UGLR				eS	Sn	05 58 46.8	+1.6
AVH	**Avacha**	**0.94**	**11**	*i* P	Pn	05 58 31.6	+1.5
AVH				eS	Sn	05 58 47.4	+1.5
SMAR	**Somma**	**0.95**	**13**	*eP*	Pn	05 58 31.6	+1.3
SMAR				eS	Sn	05 58 47.7	+1.5
KOK	**Koryaka**	**0.96**	**7**	*eP*	Pn	05 58 31.7	+1.4
KOK				eS	Sn	05 58 47.5	+1.3
SDLR	**Sedlovina**	**0.98**	**15**	*i* P	Pn	05 58 31.8	+1.3
SDLR				eS	Sn	05 58 48.0	+1.5
APC	**Apacha**	**0.98**	**307**	*i* P	Pn	05 58 30.4	0.0
KRER	**Koryakskii**	**0.98**	**10**	*eP*	Pn	05 58 32.0	+1.4
KRER				eS	Sn	05 58 48.2	+1.4
NLC	**Nalytchevo**	**0.99**	**33**	*eP*	Pn	05 58 31.5	+1.0
NLC				eS	Sn	05 58 47.4	+0.9
KRX	**Arik**	**1.03**	**7**	*eP*	Pn	05 58 32.1	+1.1
KRX				eS	Sn	05 58 47.9	+0.4
MIPR	**Malaya Ipel'ka**	**1.04**	**267**	*eP*	Pn	05 58 31.3	+0.3
SPN	**Mys Shipunski**	**1.22**	**51**	*eP*	Pn	05 58 34.8	+1.9
SPN				eS	Sn	05 58 52.7	+1.8
PAU	**Pauzhetka**	**1.34**	**230**	*eP*	Pn	05 58 35.7	+1.4
KII	**Karymskiy**	**1.80**	**19**	*eP*	Pn	05 58 41.6	+1.7
KII				eS	Sn	05 59 04.6	+1.3
SKR	**Severo-Kuril's**	**2.21**	**222**	*eP*	Pn	05 58 47.0	+2.1
SKR				eS	Sn	05 59 14.7	+2.5
ALID	**Alaid**	**2.33**	**232**	*eP*	Pn	05 58 47.5	+0.8
KZV	**Kizimen**	**2.99**	**21**	*eP*	Pn	05 58 57.0	+1.8
TUMD	**Tumrok D**	**3.09**	**21**	*eP*	Pn	05 58 59.2	+2.7
TUMD				eS	Sn	05 59 35.3	+2.4
TUMR	**Tumrok**	**3.12**	**18**	*eP*	Pn	05 58 59.4	+2.5
KMNR	**Kamenistaya**	**3.58**	**16**	*eP*	Pn	05 59 05.5	+2.5
SRDR	**Sredinnyy**	**4.05**	**10**	*eP*	Pn	05 59 11.6	+2.3
SRKR	**Sorokina**	**4.60**	**19**	*eP*	Pn	05 59 20.1	+3.4
KBTR	**Krutoberegovo**	**4.64**	**32**	*eP*	Pn	05 59 18.7	+1.5
BKI	**Bering**	**5.30**	**54**	*eP*	Pn	05 59 27.4	+1.4
BKI				eS	Sn	06 00 22.7	-3.2

IDC 15 06:21:18.1±4.4, 28°.42S×177°.49W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/23, mbtmp3.6/2, Error ellipse: s-maj=86.9km s-min=25.4km az=92.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.91**	**204**	Pn	Pn	06 21 39.1	+0.9
	144nm,0.3s,baz=64,slow=17,SNR=6.9						
RAO				Sn	Sn	06 21 51.3	-0.7
	576nm,0.3s,baz=61,slow=18,SNR=13						
ASAR	**Alice Springs**	**43.70**	**265**	P	P	06 29 25.3	+0.1
	0.3nm,0.5s,baz=107,slow=7.5,SNR=1.7						
WRA	**Warramunga Arr**	**44.51**	**270**	P	P	06 29 31.3	-0.3
	0.5nm,0.3s,baz=111,slow=8.1,SNR=15						
FINES	**FINESS Array B**	**143.43**	**341**	PKP	PKPbc	06 40 51.8	+0.7
	2.0nm,0.9s,baz=35,slow=5.1,SNR=2.4						

*SOME **15** 06:41:56.6, 48°.60N×78°.57E, h0km*
*NNC **15** 06:42:03.2±0.7, 48°.70N×78°.72E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=7.7km s-min=5.3km az=49.0, Suspected Mining explosion.*
ISC 15 06:42:02.8±1.0, 48°.79N±0°.05×78°.76E±0°.04, h0km, n21, σ2°48/21, 8C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**1.93**	**357**	⇑Pg	**Pn**	**06 42 38.8**	**+1.9**
	8.3nm,0.6s						
KURK				⇓Lg	Lg	06 43 07.5	
	8.6nm,0.3s						
MAKZ	**Makanchi**	**2.93**	**131**	⇑Pn	**Pn**	**06 42 49.8**	**-0.9**
	4.4nm,0.3s						
MAKZ				⇑Sn	**Sn**	**06 43 28.7**	**+2.1**
	18nm,0.4s						
MK31	**Makanchi Array**	**3.10**	**129**	⇑Pn	**Pn**	**06 42 51.7**	**-1.3**
	1.1nm,0.2s,baz=309,slow=13,SNR=3.7						
MK31				⇓Sn	**Sn**	**06 43 31.6**	**+0.8**
	7.5nm,0.3s,baz=308,slow=27,SNR=19						
KAPS	**Kapalarasan**	**3.53**	**173**	*eP*	**Pn**	**06 43 00.8**	**+2.0**
	4.7nm,0.2s						
KAPS				eS	**Sb**	**06 43 47.2**	**-2.2**
	16nm,0.4s						
KAPS	**Kapalarasan**	**3.53**	**173**	Pg	Pn	**06 42 55.1**	**-3.7**
	0.7nm,0.1s						
KAPS				Lg	Lg	06 43 48.7	
	19nm,0.4s						
TDK	**Taldyqorghan**	**3.79**	**184**	Pg	Pn	**06 43 02.1**	**-0.3**
	31nm,0.1s						
TDK				Lg	Lg	06 44 00.6	
	42nm,0.5s						
BRZS	**Berezniki**	**4.15**	**289**	*eP*	**Pb**	**06 43 12.7**	**-3.9**
	2.1nm,0.1s						
BRZS				eS	**Sb**	**06 44 07.4**	**+0.1**
	3.2nm,0.1s						
ZSN	**Zaisan**	**4.30**	**106**	*eP*	**Pn**	**06 43 13.4**	**+4.0**
	3.5nm,0.3s						
ZSN				eS	**Sb**	**06 44 08.6**	**-3.1**
	8.9nm,0.3s						
ZSN	**Zaisan**	**4.30**	**106**	Pg	Pn	**06 43 09.5**	**+0.1**
	2.5nm,0.3s						
ZSN				Lg	Lg	06 44 13.2	
	9.0nm,0.3s						
OTUK	**Ortayu**	**4.31**	**265**	⇓Pn	Pn	**06 43 11.0**	**+1.5**
	0.2nm,0.1s						
OTUK				⇑Sn	**Sn**	**06 44 02.5**	**+2.1**
	0.7nm,0.5s						
OTUK				⇑Lg	Lg	06 44 20.3	
	5.1nm,0.6s						
DJR	**Jarkent**	**4.51**	**171**	*eP*	Pn	06 43 16.6	+4.2
	4.5nm,0.2s						
DJR				eS	**Sb**	**06 44 14.4**	**-3.4**
	7.0nm,0.5s						
DJR	**Jarkent**	**4.51**	**171**	Pg	Pn	**06 43 14.3**	**+1.9**
	10nm,0.3s						
DJR				Lg	Lg	06 44 21.9	
	12nm,0.4s						
ARXS	**Arharly**	**4.62**	**188**	Pg	Pn	**06 43 16.2**	**+2.3**
	4.4nm,0.1s						
ARXS				Lg	Lg	06 44 25.0	
	41nm,0.6s						
MNBS	**Baschi**	**4.71**	**183**	Pg	Pn	**06 43 16.9**	**+1.7**
	1.1nm,0.2s						
MNBS				Lg	Lg	06 44 26.4	
	41nm,0.6s						
CHKK	**Chushkaly**	**5.08**	**195**	Pg	Pn	06 43 24.7	+4.5
	0.9nm,0.1s						
CHKK				Lg	Lg	06 44 39.7	
	17nm,0.2s						
KURS	**Kuram**	**5.32**	**185**	Pg	Pn	06 43 28.8	+5.4
	2.5nm,0.6s						
KURS				Lg	Lg	06 44 46.6	
	4.6nm,0.5s						
KTMS	**Ketmen**	**5.45**	**168**	Pg	Pn	06 43 30.8	+5.4
	0.2nm,0.1s						
KTMS				Lg	Lg	06 44 50.2	
	2.9nm,0.1s						
PDGK	**Podgornoye**	**5.48**	**174**	Pg	Pn	06 43 30.9	+5.1
	0.5nm,0.3s						
PDGK				Lg	Lg	06 44 50.1	
	4.4nm,0.6s						
PDGK	**Podgornoye**	**5.48**	**174**	⇑Pg	**Pb**	**06 43 41.9**	**+2.5**
	1.4nm,0.6s						
PDGK				⇑Lg	Lg	06 44 54.5	
	8.9nm,0.7s						
UZB	**Uzynbulak**	**5.64**	**178**	Pg	Pb	06 43 34.4	-7.8
	0.6nm,0.2s						
UZB				Lg	Lg	06 44 56.1	
	3.1nm,0.4s						
TKM2	**Tokmak 2**	**6.27**	**202**	⇓Lg	Lg	06 45 21.5	
	3.8nm,0.7s						

*ISK **15** 06:43:21.5, 37°.09N×27°.48E, h5km, ML2.6/11*
*DDA **15** 06:43:22.3, 37°.01N×27°.43E, h10km, ML2.4*
ISC 15 06:43:22.5±0.8, 37°.03N±0°.03×27°.45E±0°.03, h10km±5km, n21, σ1°28/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.03**	**351**	*i* P	**Pg**	**06 43 24.5**	**+0.1**
BDRM				*i* S	**Sg**	**06 43 25.9**	**0.0**
BDRM				IAML		06 43 26.0	
	comp=E,5µm,0.2s						
BODT	**Bodrum**	**0.12**	**285**	PG	**Pg**	**06 43 25.2**	**-0.2**
BODT				SG	**Sg**	**06 43 27.3**	**-0.1**
DAT	**Datca**	**0.32**	**161**	PG	**Pg**	**06 43 29.1**	**+0.2**
DAT				SG	**Sb**	**06 43 34.8**	**-0.8**
DAT	**Datca**	**0.32**	**161**	*i* P	**Pg**	**06 43 28.7**	**-0.2**
DAT				*i* S	**Sg**	**06 43 33.8**	**+0.5**
YER	**Yerkesik**	**0.67**	**81**	PG	**Pg**	**06 43 34.4**	**-1.1**
TURN	**Turunc**	**0.69**	**112**	PG	Pg	06 43 35.2	-5.3
TURN	**Turunc**	**0.69**	**112**	*i* P	**Pg**	**06 43 36.0**	**-4.5**
TURN				IAML		06 43 48.0	
	comp=E,217nm,0.3s						
TURN				IAML		06 43 48.0	
	comp=N,223nm,0.4s						
GCAM	**G?zelcaml?**	**0.69**	**346**	PG	**Pg**	**06 43 34.6**	**-1.2**
GCAM	**G?zelcaml?**	**0.69**	**346**	*i* P	**Pb**	**06 43 35.9**	**-0.7**
GCAM				*i* S	**Sn**	**06 43 47.8**	**-1.2**
AYDN	**Tasoluk**	**0.71**	**28**	*i* P	**Pb**	**06 43 36.5**	**-0.5**
AYDN				*i* S	**Sb**	**06 43 46.5**	**-0.4**
AYDN				IAML		06 43 47.0	
	comp=N,164nm,0.3s						
ARG	**Arkhangelos**	**0.98**	**146**	PG	**Pn**	**06 43 41.8**	**-0.5**
ARG				SG	**Sn**	**06 43 55.9**	**-0.3**
DALY	**Dalyan (Mula)**	**0.99**	**102**	PG	**Pg**	**06 43 40.6**	**-0.9**
DALY				SG	**Sb**	**06 43 54.7**	**0.0**
DALY	**Dalyan (Mula)**	**0.99**	**102**	*i* P	**Pn**	**06 43 43.9**	**+1.5**
DALY				*i* S	**Sn**	**06 43 57.4**	**+1.0**
DALY				IAML		06 43 59.0	
	comp=N,80nm,0.8s						
DGB	**zmir**	**1.11**	**336**	*i* P	**Pn**	**06 43 44.5**	**+0.4**
DGB				*i* S	**Sn**	**06 43 59.7**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.25**	**69**	*i* P	**Pg**	**06 43 48.0**	**+1.6**
TAVA				*i* S	**Sn**	**06 44 04.6**	**+1.7**
FETY	**Fethiye**	**1.37**	**106**	PN	**Pb**	**06 43 47.8**	**-0.4**
FETY	**Fethiye**	**1.37**	**106**	*i* P	**Pg**	**06 43 50.4**	**+1.6**
FETY				*i* S	**Sg**	**06 44 06.0**	**-0.5**
URLA	**Izmir**	**1.49**	**333**	*i* P	**Pb**	**06 43 49.8**	**-0.4**
URLA				*i* S	**Sg**	**06 44 13.1**	**+2.7**
URLA				IAML		06 44 19.0	
	comp=N,26nm,0.7s						
KARP	**Karpathos**	**1.50**	**189**	PN	**Pb**	**06 43 50.7**	**+0.2**
APE	**Apeiranthos**	**1.54**	**272**	PN	**Pb**	**06 43 50.6**	**-0.5**
AKAS	**Kas**	**1.91**	**114**	PN	**Pn**	**06 43 55.5**	**+0.3**

*NEIC **15** 07:12:18.9±1.1, 13°.6S×170°.0E±0°.1, h616km±8km, mb4.4/22, Error ellipse: s-maj=21.6km s-min=12.9km az=57.0*
*IDC **15** 07:12:22.0±2.3, 13°.73S×169°.81E, h647km±34km, mb3.1/6, mb1 3.4/7, mb1mx2.9/36, mbtmp4.1/7, Error ellipse: s-maj=50.5km s-min=15.5km az=153.0*
ISC 15 07:12:21.1±0.6, 13°.8S±0°.1×170°.02E±0°.09, h650km, n44, σ1°23/46, mb4.3/16, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.19**	**238**	P	P	07 13 40.2	-5.1
MSVF	**Nonsavu**	**8.67**	**118**	P	**P**	**07 14 26.6**	**-1.8**
DZM	**Mont Dzumac**	**8.92**	**202**	P	**P**	**07 14 29.1**	**-1.6**
	2.2nm,0.3s,baz=61,slow=19,SNR=19						
DZM	**Mont Dzumac**	**8.92**	**202**	P	**P**	**07 14 28.8**	**-1.9**
EIDS	**Eidsvold**	**21.21**	**234**	P

FUORN	Ofenpass-Fuorn	143.11 337			PKiKP	07 30 43.9	-2.9
ITM	Ithomi	143.24 315	PKPdf		PKPdf	07 30 43.6	+0.1
TUE	Stuetta	143.58 337	PKPdf		PKiKP	07 30 45.0	-2.7

MDD ***15*** *07:50:29.2±1.0, 37.°01N×3.°19E, h0km, mb3.5/1, Error ellipse: s-maj=10.4km s-min=7.5km az=37.0, PRXIMO SIN SOLUCIN*

CRAAG ***15*** *07:50:29.8, 36.°81N×3.°22E, Ml2.1*

ISC 15 07:50:28.8±1.9, 37.°0N±0.°2×3.°20E±0.°07, h11km±22km, n9, σ0870/10, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	Alger-Bouzarea	0.24	213	P	Pg	07 50 33.6	-0.2
ABA	Alger-Bouzarea	0.24	213	P	Pg	07 50 33.6	-0.2
ABMS	Boumerdes	0.34	138	P	Pg	07 50 35.4	-0.2
ABMS	Boumerdes	0.34	138	P	Pg	07 50 35.4	-0.2
ADJB	Djebel Djouab	0.87	167	P	Pg	07 50 45.4	-0.1
ADJB	Djebel Djouab	0.87	167	P	Pg	07 50 45.4	-0.1
AKET	Djebel Ketaf	1.10	150	P	Pg	07 50 49.9	-0.1
AKET	Djebel Ketaf	1.10	150	P	Pg	07 50 49.9	-0.1
EIBI	Ibiza	2.49	325	P	Pn	07 51 10.3	+1.0
	0.2nm,0.0s,SNR=7.9						
EIBI				S	Sn	07 51 38.4	-1.3
	0.7nm,0.1s,SNR=7.9						

ISK ***15*** *07:50:54.3, 36.°98N×27.°33E, h12km±1km, ML1.7/2*

DDA 15 07:50:53.9, 37.°00N×27.°34E, h7km±1km, ML1.7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	Bodrum	0.07	341	PG	Pg	07 50 57.4	+1.7
BODT				SG	Sg	07 50 59.3	+2.3
BDRM	Kayabasi	0.11	51	*i* P	Pg	07 50 56.7	+0.4
BDRM				IAML	S	07 50 58.0	0.0
	comp=E,324nm,0.1s						
BDRM				*i* S	S	07 50 58.0	0.0
DAT	Datca	0.33	144	PG	Pg	07 51 01.2	+0.8
DAT				SG	Sb	07 51 06.4	-1.3
DAT	Datca	0.33	144	*i* P	Pg	07 51 00.6	+0.2
DAT				*i* S	Sg	07 51 06.1	+1.4
GCAM	G?zelcaml?	0.71	353	*i* P	Pg	07 51 07.7	+0.2
TURN	Turunc	0.76	107	PG	Pb	07 51 09.5	0.0
TURN				SG	Sb	07 51 20.6	+0.6

DDA ***15*** *07:51:34.1, 37.°02N×27.°44E, h9km, ML1.5*

ISK 15 07:51:33.2, 37.°03N×27.°40E, h16km±2km, ML1.9/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.05	41	*i* P	Pg	07 51 36.2	0.0
BDRM				IAML		07 51 37.0	
	comp=E,897nm,0.2s						
BDRM				*i* S	Sg	07 51 37.4	-0.8
BODT	Bodrum	0.08	295	PG	Pg	07 51 36.9	+0.4
BODT				SG	Sg	07 51 38.9	+0.3
DAT	Datca	0.33	155	PG	Pb	07 51 40.5	-0.3
DAT				SG	Sb	07 51 45.5	-0.4
DAT	Datca	0.33	155	*i* P	Pb	07 51 40.5	-0.3
DAT				*i* S	Sb	07 51 45.8	-0.1
GCAM	G?zelcaml?	0.69	349	PG	Pb	07 51 47.1	+0.3
GCAM	G?zelcaml?	0.69	349	*i* P	Pn	07 51 47.7	-0.6
GCAM				IAML		07 51 56.0	
	comp=N,14nm,0.4s						
GCAM				*i* S	Sn	07 51 58.4	-0.2
GCAM				IAML		07 52 01.0	
	comp=E,29nm,0.5s						
YER	Yerkesik	0.71	81	PG	Pg	07 51 47.2	+0.1
TURN	Turunc	0.72	110	PG	Pb	07 51 47.6	+0.2
TURN				SG	Sn	07 51 58.3	-1.1
TURN	Turunc	0.72	110	*i* P	Pb	07 51 48.0	+0.6
TURN				*i* S	Sn	07 51 58.3	-1.1

ISK 15 08:04:11.6, 35.°64N×26.°67E, h15km, ML2.6/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.41	102	PG	Pb	08 04 20.7	+0.1
KARP				SG	Sb	08 04 26.3	-0.4
ZKR	Zakros	0.64	216	PG	Pb	08 04 24.4	0.0
ZKR				SG	Sb	08 04 33.8	+0.6
APE	Apeiranthos	1.70	328	PN	Pn	08 04 41.6	+0.8
APE				SN	Sb	08 05 03.3	-0.6
DALY	Dalyan (Mula)	1.99	53	PN	Pn	08 04 45.6	+0.9
DALY				SN	Sn	08 05 10.6	+1.2
IMMV	Iera Moni Meta	2.20	266	PN	Pn	08 04 49.1	+1.5

DDA 15 08:04:33.5, 37.°02N×27.°26E, h7km±5km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.15	73	*i* P	Pg	08 04 37.8	+1.1
BDRM				*i* S	Sg	08 04 39.0	+0.2
BDRM				IAML		08 04 39.0	
	comp=E,312nm,0.3s						
DAT	Datca	0.39	139	*i* P	Pg	08 04 40.6	-0.4
DAT				*i* S	Sg	08 04 47.4	+1.3
DAT				IAML		08 04 49.0	
	comp=N,12nm,0.3s						
AYDN	Tasoluk	0.81	37	*i* S	Sg	08 04 59.9	+0.4
TURN	Turunc	0.82	107	*i* P	Pb	08 04 50.6	+0.5
TURN				*i* S	Sb	08 05 01.2	-0.2
TURN				IAML		08 05 02.0	
	comp=E,12nm,0.3s						
TURN				IAML		08 05 08.0	
	comp=N,12nm,0.5s						

DDA ***15*** *08:05:08.4, 37.°01N×27.°45E, h5km, ML1.2*

ISK 15 08:05:07.2, 37.°01N×27.°37E, h15km, ML1.8/2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	Bodrum	0.07	317	PG	Pg	08 05 10.4	+0.2
BODT				SG	Sg	08 05 12.6	+0.4
BDRM	Kayabasi	0.08	45	*i* P	Pg	08 05 09.8	-0.4
BDRM				IAML		08 05 11.0	
	comp=E,322nm,0.2s						
BDRM				*i* S	Sg	08 05 11.2	-1.1
DAT	Datca	0.32	149	PG	Pg	08 05 14.3	+0.3
DAT				SG	Sb	08 05 19.4	-0.5
DAT	Datca	0.32	149	*i* P	Pb	08 05 14.6	-0.2
DAT				*i* S	Sb	08 05 19.6	-0.2
DAT				IAML		08 05 20.0	
	comp=E,11nm,0.6s						
DAT				IAML		08 05 21.0	
	comp=N,16nm,0.3s						
GCAM	G?zelcaml?	0.70	351	*i* P	Pb	08 05 21.8	+0.7
GCAM				IAML		08 05 29.0	
	comp=N,48nm,0.9s						
GCAM				*i* S	Sn	08 05 32.9	-0.3
GCAM				IAML		08 05 34.0	
	comp=E,22nm,0.1s						
TURN	Turunc	0.74	108	PG	Pb	08 05 21.8	+0.1
TURN				SG	Sb	08 05 32.8	+1.2

IDC 15 08:12:42.5±4.0, 53.°60N×90.°76E, h0km, mb1 3.1/3, mb1mx3.0/51, mbtmp3.1/3, ML2.7/3, Error ellipse: s-maj=38.4km s-min=26.3km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.54	278	*i*		08 34 30.0	
	baz=89,slow=305,SNR=2.3						
ZALV	Zalesovo Beam	3.54	278	Pn	Pn	08 13 40.6	+1.9
	1.2nm,0.3s,baz=88,slow=16,SNR=5.6						
ZALV				Lg	Lg	08 14 33.9	
	3.4nm,0.3s,baz=91,slow=27,SNR=8.0						
KURBB	Kurchatov Arra	8.10	253	Pn	Pn	08 14 40.9	-0.4
	0.1nm,0.3s,baz=64,slow=14,SNR=2.7						
KURBB				Sn	Sn	08 16 16.0	+2.6
	0.0nm,0.3s,baz=69,slow=24,SNR=2.3						
KURBB				Lg	Lg	08 17 00.7	
	0.0nm,0.3s,baz=63,slow=30,SNR=12						
MKAR	Makanchi Array	8.71	222	Pn	Pn	08 14 50.4	+0.7
	0.2nm,0.3s,baz=33,slow=12,SNR=7.7						
MKAR				Sn	Sn	08 16 29.9	+1.3
	0.0nm,0.3s,baz=42,slow=26,SNR=1.4						
MKAR				Lg	Lg	08 17 17.0	
	0.1nm,0.3s,baz=42,slow=37,SNR=2.9						

IDC 15 08:16:40.3±1.9, 0.°26S×126.°52E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/41, mbtmp3.3/4, MS2.8/1, Ms1 2.8/1, ms1mx2.1/22, Error ellipse: s-maj=193.6km s-min=24.5km az=66.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.01	159	P	P	08 21 26.5	+0.9
	0.4nm,0.9s,baz=338,slow=12,SNR=5.7						
ASAR	Alice Springs	24.35	163	P	P	08 21 59.5	-0.6
	0.5nm,0.7s,baz=344,slow=10,SNR=5.2						
JCJ	Chichijima	31.09	28	LR	LR	08 35 08.7	
	comp=Z,15nm,18.2s,baz=117,slow=36						
MKAR	Makanchi Array	60.72	327	P	P	08 26 54.1	+0.4
	0.3nm,0.6s,baz=115,slow=8.3,SNR=2.9						
KURBB	Kurchatov Arra	64.98	329	P	P	08 27 21.6	-0.4
	0.3nm,0.6s,baz=121,slow=8.2,SNR=1.4						

IDC 15 08:19:48.1±3.7, 54.°19N×87.°40E, h0km, mb1 2.5/2, mb1mx2.5/44, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=33.0km s-min=20.3km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.54	262	*i*		08 28 50.0	
	baz=77,slow=311,SNR=0.6						
ZALV	Zalesovo Beam	1.54	262	Pg	Pn	08 20 16.3	-0.6
	1.7nm,0.3s,baz=79,slow=17,SNR=12						
ZALV				Lg	Lg	08 20 36.9	
	0.9nm,0.3s,baz=83,slow=27,SNR=5.3						
KURBB	Kurchatov Arra	6.50	240	Pn	Pn	08 21 25.7	+0.7
	0.0nm,0.3s,baz=54,slow=14,SNR=3.3						
MKAR	Makanchi Array	8.09	206	Pn	Pn	08 21 47.8	+0.9
	0.1nm,0.3s,baz=26,slow=14,SNR=1.7						

MEX ***15*** *08:34:47.5±1.5, 13.°83N×92.°97W, h16km±365km, MD4.0*
NEIC ***15*** *08:34:48.9±2.2, 14.°11N±0.°03×92.°86W±0.°05, h10km±1km, Error ellipse: s-maj=8.5km s-min=5.8km az=264.0*
SNET ***15*** *08:34:50.5±0.9, 13.°94N×92.°77W, h72km±23km, ML4.1*
UCR ***15*** *08:34:50.6±1.1, 13.°95N×92.°77W, h71km±27km, ML3.8, mb4.3(NEIC)*
GCG ***15*** *08:34:51.1±0.9, 13.°53N×92.°71W, h50km, MD4.3*
IDC ***15*** *08:34:56.2±3.6, 14.°26N×92.°47W, h79km±30km, mb3.6/8, mb1 4.0/11, mb1mx3.6/33, mbtmp4.0/11, MS3.3/8, Ms1 3.3/8, ms1mx3.1/25, Error ellipse: s-maj=31.3km s-min=16.9km az=53.0*

ISC 15 08:34:51.8±0.7, 14.°05N±0.°07×92.°83W±0.°07, h38km±2km, n139, σ1952/144, mb4.2/30, MS3.3/8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.01	33	*e*P	Pn	08 35 07.5	-2.0
THIG				*i* S	Sn	08 35 22.4	0.0
THIG		1.01	33		Pn	08 35 07.5	-2.0
THIG					Sn	08 35 22.4	0.0
RTAL	Retalhuleu	1.20	67	*e*P	Pn	08 35 11.1	-1.0
RTAL				*e*S	Sn	08 35 28.4	+1.3
RTAL	Retalhuleu	1.20	67		Pn	08 35 11.0	-1.0
PCIG		1.69	347	*e*P	Pn	08 35 15.1	-3.7
PCIG				*i* S	Sn	08 35 37.4	-1.7
PCIG		1.69	347		Pn	08 35 15.1	-3.7
PCIG					Sn	08 35 39.8	+0.7
HUEH	Huehuetenango	1.80	45	*e*P	Pn	08 35 20.4	-0.1
HUEH				*e*S	Sn	08 35 45.0	+2.7
HUEH	Huehuetenango	1.80	45		Pn	08 35 20.2	-0.3
FUG	Fuego 3	1.97	78	*e*P	Pn	08 35 22.7	-0.1
FUG				*e*S	Sn	08 35 48.8	+2.4
PCG	Pacaya	2.18	81	*e*P	Pn	08 35 26.7	+0.8
CCIG	Comitan	2.32	17	*e*P	Pn	08 35 27.5	-0.1
CCIG				*e*S	Sn	08 35 59.3	+4.3
CCIG	Comitan	2.32	17		Pn	08 35 27.5	-0.1
IXG	Ixpaco	2.32	87	*e*P	Pn	08 35 27.0	-0.7
IXG	Ixpaco	2.32	87	*e*P	Pn	08 35 27.0	-0.7
IXG	Ixpaco	2.32	87	*e*P	Pn	08 35 27.0	-0.7
NBG	Las Nubes	2.47	77	*e*P	Pn	08 35 31.2	+1.5
TGIG		2.73	354	*i* P	Pn	08 35 31.8	-1.4
TGIG				*i* S	Sn	08 36 04.7	-0.2
TGIG		2.73	354		Pn	08 35 31.8	-1.4
TGIG					Lg	08 36 04.7	
NUBE	Las Nubes	2.96	93	*e*S	Sn	08 36 09.3	-1.6
NUBE	Las Nubes	2.96	93	*e*S	Sn	08 36 09.3	-1.6
MRL	Marmol	3.21	71	*e*P	Pn	08 35 39.4	-0.6
MRL	Marmol	3.21	71	*e*P	Pn	08 35 39.4	-0.6
MRL	Marmol	3.21	71	*e*P	Pn	08 35 44.1	+4.1
JAYA	Jayaque - finc	3.31	96	*e*P	Pn	08 35 39.6	-1.6
JAYA				*e*S	Sn	08 36 17.3	-2.1
JAYA				IAML		08 36 30.9	
	comp=Z,336nm,0.5s						
JAYA	Jayaque - finc	3.31	96	*e*P	Pn	08 35 39.6	-1.6
JAYA				*e*S	Sn	08 36 17.3	-2.1
JAYA				IAML		08 36 30.9	
	comp=Z,336nm,0.5s						
CEDA	San Andres	3.34	94	*e*S	Sn	08 36 18.8	-1.4
CEDA				IAML		08 36 28.2	
	comp=Z,518nm,0.3s						
CEDA	San Andres	3.34	94	*e*S	Sn	08 36 18.8	-1.4
CEDA				IAML		08 36 28.2	
	comp=Z,518nm,0.3s						
TACO	Tacachico	3.38	91	*e*S	Sn	08 36 19.1	-1.8
TACO	Tacachico	3.38	91	*e*S	Sn	08 36 19.1	-1.8
MTO3	Montecristo	3.38	84	Pn	Pn	08 35 43.2	+0.8
ESQI	Esquipulas	3.42	81	*e*P	Pn	08 35 42.1	-0.6
ESQI	Esquipulas	3.42	81		Pn	08 35 43.3	+0.6
SNET	Serv Nac Est T	3.51	95	Pn	Pn	08 35 44.5	+0.5
PETF	Flores	4.03	45	Pn	Pn	08 35 51.3	+0.2
TGUH	Tegucigalpa,Un	5.39	89	Pn	Pn	08 36 08.5	-1.4
ESTN	Estel	6.35	98		Pn	08 36 22.6	-0.5
TLIG	Tlapa	6.53	303	Pn	Pn	08 36 24.9	-0.7
MATN	Matagalpa	6.81	99		Pn	08 36 32.5	+3.2
TEIG	Tepich	7.53	35	P	Pn	08 36 37.5	-1.6
	comp=Z,15nm,0.3s,baz=233,slow=3.9,SNR=44						
TEIG				S	Sn	08 38 00.8	-2.4
	comp=Z,3.2nm,0.3s,baz=47,slow=20,SNR=3.5						
TEIG	Tepich	7.53	35	*e*P	Pn	08 36 38.0	-1.0
TEIG				*i* S	Sn	08 38 05.3	+2.1
TEIG	Tepich	7.53	35	Pn	Pn	08 36 37.0	-2.1
JTS	Las Juntas de	8.56	115	P	Pn	08 36 54.8	+1.5
	comp=Z,0.3nm,0.3s,baz=178,slow=23,SNR=5.5						
JTS	Las Juntas de	8.56	115	Pn	Pn	08 36 55.1	+1.7
MOIG	Morelia	9.76	306	Pn	Pn	08 37 09.9	0.0
KVTX	Kingsville	14.23	341	P	P	08 38 19.2	+1.7
833A	Chaparral WMA,	15.46	338	Pn	Pn	08 38 27.0	-0.2
833A				IAmb	IAmb	08 38 37.0	
	comp=Z,17nm,1.1s						
060A	Indiantown	17.39	40	P	P	08 38 53.3	+0.6
NATX	Nacogdoches	17.71	355	P	P	08 38 56.4	+0.3
NATX				IAmb	IAmb	08 39 15.6	
	comp=Z,12nm,0.5s						
TXAR	Lajitas Array	18.22	328	P	Pn	08 39 03.5	+1.6
	comp=Z,0.1nm,0.3s,baz=156,slow=14,SNR=33						
TX31	Lajitas Ar. Si	18.22	328	P	Pn	08 39 03.2	+1.3
TX31				IAmb	IAmb	08 39 08.3	
	comp=Z,25nm,1.1s						
TX32	Lajitas Array	18.22	328	P	Pn	08 39 03.3	+1.4
143A	Socs Landing,	18.61	4	P	Pn	08 39 07.7	+1.2
143A				IAmb	IAmb	08 39 10.4	
	comp=Z,19nm,1.1s						
352A	Blakely	18.80	21	P	Pn	08 39 07.9	-0.9
352A				IAmb	IAmb	08 39 16.9	
	comp=Z,15nm,0.9s						
ABTX	Abilene, Hawle	19.51	343		P	08 39 15.8	-0.1
Z35A	Perchaven, San	19.61	349	P	P	08 39 16.8	-0.2
Z35A				IAmb	IAmb	08 39 22.3	
	comp=Z,11nm,0.7s						
LRAL	Lakeview Retre	19.63	15	P	Pn	08 39 17.8	-1.0
152A	Waverly Hall	19.96	20	P	P	08 39 20.7	-0.1
MIAR	Mount Ida	20.42	358	P	P	08 39 25.6	-0.1
MIAR				IAmb	IAmb	08 39 33.2	
	comp=Z,12nm,1.0s						
X37A	Clayton	20.58	354	P	Pn	08 39 28.6	-1.3
GDL2	Guadalupe Moun	20.92	332	P	P	08 39 31.8	+0.4
X48A	Hartselle	20.98	13	P	Pn	08 39 33.9	-0.6
MNTX	Cornudas Mount	21.00	329	P	P	08 39 31.5	-0.5
FLOC	Florencia	21.02	125	P	P	08 39 38.2	+5.7
GOGA	Godfrey	21.07	22	P	P	08 39 31.2	-1.5
Y52A	Lilburn	21.27	20	P	P	08 39 33.2	-1.8
Y52A				IAmb	IAmb	08 39 49.2	
	comp=Z,11nm,0.8s						
PLAL	Pickwick Lake	21.28	11	P	P	08 39 34.1	-0.9
WMOK	Wichita Mounta	21.29	346	P	P	08 39 35.5	+0.3
W35A	Tecumseh	21.32	351	P	P	08 39 34.7	-0.8
FNO	Franklin	21.51	350	P	P	08 39 37.2	-0.4
FCAR	Ozark Folk Cen	21.75	2	P	P	08 39 39.7	-0.4
MSTX	Muleshoe	21.78	337	P	P	08 39 42.7	+2.1
MSTX				IAmb	IAmb	08 39 50.2	
	comp=Z,7.9nm,0.8s						
OK025	Westminster Rd	21.82	350	P	P	08 39 38.7	-2.1
BCOK	Bluff Creek, N	21.94	350	P	P	08 39 40.5	-1.6
HHAR	Hobbs	22.16	358	P	P	08 39 42.5	-2.0
U40A	Yellville	22.21	360	P	P	08 39 44.2	-0.8
AMTX	Amarillo	22.23	340	P	P	08 39 45.6	+0.3
AMTX				IAmb	IAmb	08 39 46.4	
	comp=Z,8.0nm,0.7s						
QUOK	Quay	22.30	352	P	P	08 39 45.5	-0.5
QUOK				IAmb	IAmb	08 39 45.9	
	comp=Z,13nm,0.8s						
121A	Cookes Peak, D	22.91	326	P	P	08 39 53.7	+1.1
319A	Douglas	22.92	322	P	P	08 39 53.3	+0.6
319A				IAmb	IAmb	08 40 05.1	
	comp=Z,6.5nm,0.9s						
TKL	Tuckaleechee C	23.00	19	P	P	08 39 51.1	-2.4
	comp=Z,2.9nm,0.9s,baz=203,slow=13,SNR=4.6						
TKL				LR	LR	08 50 00.9	
	comp=Z,78nm,19.6s,baz=183,slow=40						
T35A	Sooner Cattle	23.01	352	P	P	08 39 51.8	-1.6
T35A				IAmb	IAmb	08 39 52.3	
	comp=Z,5.9nm,0.8s						
S39A	Bolivar	23.55	359	P	P	08 39 56.5	-2.3
S39A				IAmb	IAmb	08 39 57.2	
	comp=Z,6.4nm,0.8s						
BNM	Barren Site	23.59	330	P	P	08 40 00.6	+1.1
LENM	Lemitar	23.77	330	P	P	08 40 01.5	+0.4
TUC	Tucson	24.48	321	P	P	08 40 08.5	+0.9
TUC				IAmb	IAmb	08 40 18.6	
	comp=Z,6.8nm,1.1s						
R32A	Long Quarter,	24.83	349	P	P	08 40 09.9	-0.7
T25A	Trinidad	25.21	338	P	P	08 40 14.5	+0.3
T25A				IAmb	IAmb	08 40 21.8	
	comp=Z,4.3nm,0.8s						
SDCO	Great Sand Dun	26.15	337	P	P	08 40 23.4	+0.6
SDCO				IAmb	IAmb	08 40 24.4	
	comp=Z,7.3nm,1.3s						
S22A	4UR Ranch, Cre	26.68	335	P	P	08 40 27.6	-0.1
Y14A	Wickenburg	26.95	321	P	P	08 40 30.9	+1.0
MVCO	Mesa Verde	26.96	332	P	P	08 40 31.6	+1.4
MVCO				IAmb	IAmb	08 40 35.6	
	comp=Z,8.7nm,1.1s						
PV13	Radium Mtn., P	27.89	332	P	P	08 40 40.3	+1.8
PV13				IAmb	IAmb	08 40 43.9	
	comp=Z,7.2nm,1.1s						
PV02	Paradox Valley	27.89	333	P	P	08 40 42.0	+3.5
PV02				IAmb	IAmb	08 40 43.6	
	comp=Z,8.2nm,1.3s						
CCUT	Cedar City	29.69	326	P	P	08 40 56.7	+2.2
ECSD	EROS Data Cent	29.76	354	P	P	08 40 54.8	+0.1
ECSD				IAmb	IAmb	08 40 55.7	
	comp=Z,3.3nm,0.8s						
PDAR	Pinedale Array	32.05	336	P	P	08 41 14.3	-0.9
	comp=Z,0.6nm,0.7s,baz=134,slow=8.5,SNR=6.4						
PDAR	Pinedale Array	32.05	336	P	P	08 41 15.8	+0.6
AHID	Auburn Hatcher	32.66	335	P	P	08 41 21.4	+0.8
REDW	Red Top Meadow	33.06	336	P	P	08 41 24.3	+0.3
SNOW	Snow King Moun	33.10	336	P	P	08 41 24.6	+0.1
NVAR	Mina Array Bea	33.13	322	P	P	08 41 25.9	+1.2
	comp=Z,2.3nm,0.7s,baz=135,slow=8.6,SNR=26						
NVAR				LR	LR	08 56 56.7	
	comp=Z,48nm,20.0s,baz=266,slow=40						
NVAR	Mina Array Bea	33.13	322	P	P	08 41 25.7	+1.0
LOHW	Long Hollow	33.17	336	P	P	08 41 24.9	-0.1
LOHW				IAmb	IAmb	08 41 26.1	
	comp=Z,5.1nm,1.0s						
TPAW	Teton Pass	33.20	336	P	P	08 41 25.4	0.0
IMW	Indian Meadow	33.54	336	P	P	08 41 28.1	-0.2
IMW				IAmb	IAmb	08 41 37.2	
	comp=Z,2.8nm,0.7s						
YNE	Yellowstone No	34.13	338	P	P	08 41 32.8	-0.6
MCMT	McKenzie Canyo	35.08	335	P	P	08 41 42.6	+1.1
PTGA	Pitinga	35.71	112	P	P	08 41 47.2	+0.2
PTGA				IAmb	IAmb	08 41 57.0	
	comp=Z,3.6nm,0.8s						
LRM	Limekiln Ridge	35.74	336	P	P	08 41 47.8	+0.6
ULM	Lac du Bonnet	36.18	357	LR	LR	08 59 38.5	
	comp=Z,32nm,19.8s,baz=206,slow=41						
J08A	Circle Bar Ran	36.57	328	P	P	08 41 54.6	+0.4
J08A				IAmb	IAmb	08 42 03.8	
	comp=Z,4.0nm,0.8s						
F10A	Beach Ranch, E	37.88	332	P	P	08 42 04.7	-0.6
F10A				IAmb	IAmb	08 42 17.0	
	comp=Z,5.7nm,0.8s						
NLWA	Neilton Lookou	42.10	328		P	08 42 40.3	+0.1
NLWA				IAmb	IAmb	08 42 46.6	
	comp=Z,8.3nm,1.4s						
PGC	Sidney	42.74	330	P	P	08 42 46.1	+0.8
SIV	San Ignacio	43.32	132	P	P	08 42 49.7	-0.7
	comp=Z,1.8nm,0.8s,baz=322,slow=7.7,SNR=6.2						
SCHQ	Schefferville	45.46	21	LR	LR	09 03 58.0	
	comp=Z,87nm,18.2s,baz=82,slow=39						
YKA	Yellowknife Ar	50.79	347	P	P	08 43 47.1	-1.0
	comp=Z,4.8nm,0.8s,baz=150,slow=7.1,SNR=36						
DLBC	Dease Lake	52.28	336	P	P	08 44 01.0	+1.6
DAWY	Dawson	59.33	338	P	P	08 44 49.6	-0.1
BCAR	Beaver Creek A	59.67	337	P	P	08 44 52.5	+0.4
INK	Inuvik	60.16	344	P	P	08 44 54.5	-0.8
DOT	Dot Lake	60.85	337	P	P	08 44 59.6	-0.6
DOT				IAmb	IAmb	08 45 00.9	
	comp=Z,2.5nm,1.0s						
ILAR	Eielson Array	62.48	337	P	P	08 45 10.8	-0.3
	comp=Z,1.1nm,0.9s,baz=143,slow=5.2,SNR=7.4						
ILAR	Eielson Array	62.48	337	P	P	08 45 11.0	-0.1
RND	Reindeer	62.64	335	P	P	08 45 12.5	+0.2
BPAW	Bear Paw Mtn.	63.79	335	P	P	08 45 19.4	-0.5
BPAW				IAmb	IAmb	08 45 23.4	
	comp=Z,2.4nm,0.9s						
PPLA	Purkeypile	63.83	334	P	P	08 45 21.3	+1.0
IMAR	Indian Mountai	65.59	337	P	P	08 45 30.5	-1.1
ESDC	Sonseca Array	80.32	52	P	P	08 46 56.2	-3.1

ECHE	**Chera**	**4.93**	**305**	P	**Pb**	**08 48 34.2**	**-0.4**
	0.8nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**5.06**	**344**	P	**Pb**	**08 48 37.5**	**+0.7**
	1.8nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.08**	**314**	P	**Pb**	**08 48 36.4**	**-0.8**
	0.5nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**5.09**	**332**	P	**Pb**	**08 48 37.6**	**+0.2**
	0.6nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**5.64**	**349**	P	**Pb**	**08 48 46.1**	**-0.5**
	0.6nm,0.1s,SNR=7.9						
CSOR	**Sort**	**5.98**	**337**	P	**Pb**	**08 48 51.8**	**-0.7**
	0.5nm,0.2s,SNR=7.9						

*NAO **15** 08:52:05.6±1.8,67°.60N×33°.90E,ML2.6*
*UPP **15** 08:52:05.9±2.7,67°.62N×33°.95E,h0km,ML1.5,Suspected explosion*
*HEL **15** 08:52:06.2±0.4,67°.64N×33°.86E,h0km,ML2.2,Explosion*
ISC 15 08:52:04.2±2.4,**67°.55N**±0°.04×**34°.1E**±0°.1,**h0**km,**n26,** σ1=**70**/45,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.41**	**278**	Pg	**Pg**	**08 52 12.8**	**+0.7**
	baz=90,slow=16						
APA0				Lg	Lg	08 52 17.6	
	baz=70,slow=28						
APA0				Rg	Rg	08 52 19.2	
APA0	**Apatity Array**	**0.41**	**278**	Pg	**Pg**	**08 52 12.8**	**+0.7**
	baz=90,slow=16						
APA0				Sg	**Sg**	**08 52 17.6**	**+0.3**
	baz=70,slow=28						
APA0				Rg	Rg	08 52 19.2	
VRF	**Varrio**	**1.71**	**279**	PG	**Pn**	**08 52 35.7**	**+0.5**
	baz=88						
VRF				MSG		08 52 54.9	
	comp=Z,28nm,0.2s						
VRF				SN	**Sn**	**08 52 57.0**	**-0.8**
KU6	**Riekki**	**2.25**	**229**	PB	**Pb**	**08 52 45.4**	**-0.3**
	baz=42						
KU6				MSG		08 53 13.1	
	comp=Z,9.2nm,0.2s						
KU6				SG	**Sg**	**08 53 15.8**	**-0.7**
MSF	**Maaselka**	**2.58**	**233**	PB	**Pb**	**08 52 51.0**	**-0.4**
MSF				SG	**Sb**	**08 53 25.6**	**+1.9**
SGF	**Sodankyl**	**2.90**	**271**	PG	**Pb**	**08 52 56.3**	**-0.4**
SGF				SG	**Sb**	**08 53 32.4**	**-0.2**
ARA0	**ARCESS Array S**	**3.72**	**306**	Pn	**Pn**	**08 53 03.4**	**+0.5**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**08 53 10.8**	**+0.2**
	baz=127,slow=18						
ARA0				Sn	**Sn**	**08 53 45.7**	**-1.6**
	baz=120,slow=28						
ARA0				Lg	Lg	08 53 56.6	
	baz=122,slow=37						
ARA0	**ARCESS Array S**	**3.72**	**306**	Pn	**Pn**	**08 53 03.4**	**+0.5**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**08 53 10.8**	**+0.2**
	baz=127,slow=18						
ARA0				Sn	**Sn**	**08 53 45.7**	**-1.6**
	baz=120,slow=28						
ARA0				Sg	**Sb**	**08 53 56.6**	**+0.4**
	baz=122,slow=37						
ARE0	**ARCESS Array S**	**3.72**	**306**	PN	**Pn**	**08 53 03.4**	**+0.6**
TOF	**Tornio**	**4.12**	**254**	PG	**Pb**	**08 53 19.6**	**+2.1**
TOF				SB	**Sb**	**08 54 08.3**	**+0.5**
PAJU	**Pajala**	**4.28**	**268**	P	**Pn**	**08 53 10.7**	**+0.2**
PAJU				S	**Sn**	**08 54 01.3**	**+0.3**
LANU	**Lannavaara**	**4.61**	**282**	P	**Pn**	**08 53 15.1**	**+0.1**
LANU	**Lannavaara**	**4.61**	**282**	PN	**Pn**	**08 53 14.9**	**0.0**
LANU				SN	**Sn**	**08 54 06.6**	**-2.5**
ERTU	**Ertsjaerv**	**4.75**	**263**	P	**Pn**	**08 53 17.6**	**+0.6**
ERTU	**Ertsjaerv**	**4.75**	**263**	PN	**Pn**	**08 53 17.6**	**+0.6**
ERTU				SN	**Sn**	**08 54 12.9**	**+0.3**
HAMF	**Hammerfest**	**4.84**	**315**	Sn	**Sn**	**08 54 11.9**	**-2.9**
HAMF				Lg	Lg	08 54 30.5	
HAMF	**Hammerfest**	**4.84**	**315**	Sn	**Sn**	**08 54 11.9**	**-2.9**
HAMF				Sg	**Sb**	**08 54 30.5**	**+2.2**
KIF	**Kilpisjarvi**	**5.13**	**293**	Sn	**Sn**	**08 54 18.1**	**-3.9**
KIF				Lg	Lg	08 54 38.9	
KIF	**Kilpisjarvi**	**5.13**	**293**	Sn	**Sn**	**08 54 18.1**	**-3.9**
KIF				Sg	**Sb**	**08 54 38.9**	**+2.1**
KUA	**Kurravaara**	**5.23**	**281**	P	**Pn**	**08 53 23.7**	**+0.2**
KUA				S	**Sn**	**08 54 22.5**	**-1.9**
KOVU	**Salmi**	**5.29**	**284**	P	**Pn**	**08 53 24.9**	**+0.5**
KOVU				S	**Sn**	**08 54 25.3**	**-0.7**
HARU	**Harads**	**5.34**	**261**	P	**Pn**	**08 53 24.3**	**-0.7**
SJUU	**Sjulsmark**	**5.38**	**253**	P	**Pn**	**08 53 27.0**	**+1.4**
RATU	**Laukkuluspa**	**5.52**	**279**	P	**Pn**	**08 53 27.4**	**-0.1**
RATU				S	**Sn**	**08 54 29.7**	**-1.8**
FIA0	**FINESS Array S**	**7.03**	**213**	Sn	**Sn**	**08 55 04.7**	**-4.0**
	baz=35,slow=22						
FIA0				Lg	Lg	08 55 40.9	
	baz=20,slow=22						
FIA0	**FINESS Array S**	**7.03**	**213**	Sn	**Sn**	**08 55 04.7**	**-4.0**
	baz=35,slow=22						
FIA0				Sg	Sb	08 55 40.9	+10
	baz=20,slow=22						

*MAN **15** 08:56:09.6,18°.10N×122°.48E,h23km,mb5.1,ML4.0,MS4.1*
*NEIC **15** 08:56:14.1±2.0,17°.99N±0°.06×122°.6E±0°.1,h48km±6km,mb4.6/36,Error ellipse: s-maj=15.6km s-min=8.3km az=95.0*
*IDC **15** 08:56:14.4±2.6,17°.98N×122°.55E,h53km±25km,mb3.8/18,mb1 3.9/19,mb1mx3.8/52,mbtmp4.0/19,ML4.5/2,MS3.3/7,Ms1 3.3/7,ms1mx2.8/42,Error ellipse: s-maj=19.7km s-min=11.7km az=80.0*
ISC 15 08:56:09.8±1.4,**18°.04N**±0°.03×**122°.53E**±0°.05,**h16**km±8km,**n103,** σ1=**39**/109,**mb4.4**/34,**MS3.3**/6,**3C,Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.50**	**294**	*eP*	**Pg**	**08 56 19.1**	**-0.7**
SGCP				*eS*	**Sg**	**08 56 26.3**	**-0.2**
APYP	**Conner**	**1.23**	**262**	*eP*	**Pn**	**08 56 30.2**	**-2.3**
APYP				*eS*	**Sb**	**08 56 45.3**	**-3.2**
CAUP	**Cauayan**	**1.28**	**212**	*eP*	**Pb**	**08 56 33.5**	**-0.2**
CAUP				*eS*	**Sg**	**08 56 54.3**	**+3.0**
ABRA	**Dolores**	**1.77**	**257**	*eP*	**Pn**	**08 56 38.5**	**-1.3**
ABRA				*eS*	**Sn**	**08 57 00.9**	**-1.2**
BCP	**Baguio City**	**2.44**	**229**	↑*iP*	**Pb**	**08 56 51.8**	**-1.7**
BCP				*i S*	**Sb**	**08 57 23.2**	**-0.3**
BBP	**Basco**	**2.44**	**348**	*eP*	**Pn**	**08 56 47.7**	**-1.4**
BBP				*eS*	**Sn**	**08 57 17.1**	**-1.5**
BALP	**Baler**	**2.46**	**202**	*eP*	**Pn**	**08 56 49.4**	**+0.1**
BALP				*eS*	**Sn**	**08 57 19.4**	**+0.3**
SMPP	**San Manuel, Pa**	**2.58**	**223**	*eP*	**Pn**	**08 56 51.2**	**+0.2**
SMPP				*eS*	**Sn**	**08 57 21.9**	**-0.2**
BOLP	**Bolinao**	**2.99**	**237**	*eP*	**Pn**	**08 56 52.5**	**+0.9**
BOLP				*eS*	**Sn**	**08 57 33.9**	**+1.7**
POLP	**Polilio Island**	**3.34**	**190**	*eP*	**Pn**	**08 57 01.5**	**0.0**
POLP				*eS*	**Sn**	**08 57 39.5**	**-1.4**
SCZP	**Santa Cruz**	**3.37**	**228**	*eP*	**Pn**	**08 57 03.1**	**+1.3**
LQP	**Lukban**	**4.02**	**194**	↑*eP*	**Pn**	**08 57 12.6**	**+1.6**
GQP	**Guinayangan**	**4.12**	**181**	↑*eP*	**Pn**	**08 57 12.8**	**+0.7**
GQP				*eS*	**Sn**	**08 57 58.2**	**-1.7**
TGY	**Tagaytay City**	**4.21**	**202**	P	**Pn**	**08 57 15.3**	**+1.9**
	180nm,0.3s,baz=157,slow=5.8,SNR=6.7						
TGY				S	**Sn**	**08 58 04.5**	**+2.2**
	77nm,0.3s,baz=225,slow=6.9,SNR=1.3						
BOAC	**Boac**	**4.61**	**188**	*eP*	**Pn**	**08 57 19.9**	**+1.1**
PVCP	**Virac**	**4.69**	**160**	*eP*	**Pn**	**08 57 22.3**	**+2.3**
PVCP				*eS*	**Sn**	**08 58 12.6**	**-1.6**
LUBP	**Lubang**	**4.81**	**207**	*eP*	**Pn**	**08 57 22.8**	**+1.1**
TWG	**Pinlang**	**4.94**	**344**	Pn	**Pn**	**08 57 26.8**	**+3.3**
YULB	**Yu-li**	**5.45**	**348**	Pn	**Pn**	**08 57 31.5**	**+1.1**
TPUB	**Ta-pu**	**5.52**	**342**	Pn	**Pn**	**08 57 34.4**	**+2.9**
OTRP	**Odiongan**	**5.67**	**185**	*eP*	**Pn**	**08 57 34.2**	**+0.8**
SJMP	**San Jose**	**5.71**	**194**	*eP*	**Pn**	**08 57 36.0**	**+1.9**
SSLB	**Suanglung**	**5.90**	**346**	Pn	**Pn**	**08 57 40.3**	**+3.7**
NACB	**Ninganchiao**	**6.16**	**352**	Pn	**Pn**	**08 57 41.5**	**+1.3**
YOJ	**Yonaguni jima**	**6.40**	**4**	Pn	**Pn**	**08 57 46.8**	**+3.2**
YHNB	**Yeheng**	**6.68**	**351**	Pn	**Pn**	**08 57 50.1**	**+2.7**
DAV	**Davao City (W)**	**11.31**	**164**	LR	LR	09 03 52.5	
	comp=Z,132nm,20.4s,baz=342,slow=41						
SBUM	**Sibu**	**18.50**	**214**	P	**Pn**	**09 00 26.4**	**+0.7**
KSRS	**Korea Array**	**19.91**	**13**	P	**Pn**	**09 00 42.7**	**+0.3**
	0.2nm,0.3s,baz=190,slow=10,SNR=8.7						
PBKT	**Sadao Pong**	**20.63**	**269**	P	Pn	09 00 50.4	-0.7
GUMO	**Guam**	**21.94**	**98**	LR	LR	09 08 39.6	
	comp=Z,29nm,18.0s,baz=302,slow=34						
ANA2	**Anatahan**	**22.21**	**91**	P	**P**	**09 01 02.5**	**-3.3**
CHTO	**Chiang Mai**	**22.38**	**276**	P	**P**	**09 01 06.6**	**-1.1**
CM31	**Chiang Mai Arr**	**22.40**	**275**	P	**P**	**09 01 08.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**22.40**	**275**	P	**P**	**09 01 08.7**	**+0.8**
	1.2nm,0.4s,baz=84,slow=8.8,SNR=16						
CMAR				LR	LR	09 10 48.6	
	comp=Z,35nm,19.7s,baz=183,slow=39						
CMAR	**Chiang Mai Arr**	**22.40**	**275**	P	**P**	**09 01 08.0**	**+0.1**
MJAR	**Matsushiro Arr**	**23.05**	**34**	P	**P**	**09 01 14.9**	**+0.4**
	1.5nm,0.7s,baz=270,slow=5.8,SNR=9.0						
MJAR	**Matsushiro Arr**	**23.05**	**34**	P	**P**	**09 01 15.8**	**+1.3**
PSI	**Prapat**	**27.65**	**239**	LR	LR	09 12 21.4	
	comp=Z,88nm,20.6s,baz=276,slow=35						
BATI	**Baumata**	**28.09**	**178**	LR	LR	09 14 35.6	
	comp=Z,117nm,18.3s,baz=194,slow=39						
MTN	**Manton Dam**	**31.84**	**164**	P	**P**	**09 02 32.3**	**-1.9**
MTN				IAmb	IAmb	09 02 38.8	
	comp=Z,9.6nm,0.9s						
KLR	**Kul'dur**	**31.99**	**11**	P	**P**	**09 02 36.6**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=233,slow=8.0,SNR=5.7						
KLR				PcP	**PcP**	**09 05 25.5**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=190,slow=6.1,SNR=4.6						
SONM	**Songino Array**	**32.51**	**340**	P	**P**	**09 02 40.6**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=161,slow=11,SNR=3.6						
SONM				LR	LR	09 17 09.6	
	comp=Z,52nm,20.0s,baz=157,slow=38						
SONM	**Songino Array**	**32.51**	**340**	P	**P**	**09 02 40.9**	**+0.9**
KNRA	**Kununurra**	**34.07**	**169**	P	**P**	**09 02 52.6**	**-1.0**
COEN	**Coen**	**37.76**	**146**	P	**P**	**09 03 25.7**	**+0.4**
WB0	**Warramunga Arr**	**39.34**	**162**	P	**P**	**09 03 36.9**	**-1.7**
WB0				IAmb	IAmb	09 03 37.9	
	comp=Z,11nm,1.2s						
PSA00	**Pilbara Seismi**	**39.46**	**184**	P	**P**	**09 03 38.6**	**-0.9**
PSA00				IAmb	IAmb	09 03 42.1	
	comp=Z,17nm,1.1s						
WRAB	**Tennant Creek**	**39.48**	**162**	P	**P**	**09 03 38.3**	**-1.5**
WRAB				IAmb	IAmb	09 03 51.4	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**39.49**	**162**	P	**P**	**09 03 38.3**	**-1.6**
	comp=Z,2.2nm,0.6s,baz=342,slow=9.2,SNR=40						
WRA				PcP	**PcP**	**09 05 47.5**	**0.0**
	comp=Z,0.7nm,0.6s,baz=342,slow=3.3,SNR=3.3						
WRA	**Warramunga Arr**	**39.49**	**162**	P	**P**	**09 03 38.2**	**-1.6**
WB2	**Warramunga Arr**	**39.49**	**162**	P	**P**	**09 03 38.1**	**-1.7**
WB2				IAmb	IAmb	09 03 38.7	
	comp=Z,6.4nm,0.8s						
WR0	**Warramunga Arr**	**39.56**	**162**	P	**P**	**09 03 39.0**	**-1.4**
WR0				IAmb	IAmb	09 03 53.0	
	comp=Z,13nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**41.86**	**82**	T	T	09 49 02.6	
	baz=277,slow=75						
H11S1	**WAKE ISLAND Hy**	**41.87**	**82**	T	T	09 49 04.2	
	baz=277,slow=75						
H11S2	**WAKE ISLAND Hy**	**41.88**	**82**	T	T	09 49 04.7	
	baz=277,slow=75						
H11N1	**WAKE ISLAND Hy**	**41.92**	**80**	T	T	09 49 07.3	
	baz=275,slow=75						
H11N2	**WAKE ISLAND Hy**	**41.93**	**80**	T	T	09 49 13.7	
	baz=275,slow=75						
H11N3	**WAKE ISLAND Hy**	**41.94**	**80**	T	T	09 49 14.6	
	baz=275,slow=75						
AS31	**Alice Springs**	**42.92**	**165**	P	**P**	**09 04 07.2**	**-0.8**
ASAR	**Alice Springs**	**42.92**	**165**	P	**P**	**09 04 07.1**	**-0.9**
	comp=Z,3.4nm,0.6s,baz=346,slow=7.0,SNR=76						
ASAR	**Alice Springs**	**42.92**	**165**	P	**P**	**09 04 07.2**	**-0.8**
MK31	**Makanchi Array**	**43.72**	**320**	P	**P**	**09 04 15.6**	**+1.3**
MKAR	**Makanchi Array**	**43.72**	**320**	P	**P**	**09 04 15.3**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=107,slow=8.3,SNR=12						
MKAR				PcP	**PcP**	**09 06 00.8**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=98,slow=2.9,SNR=2.5						
ZALV	**Zalesovo Beam**	**46.11**	**330**	P	**P**	**09 04 32.9**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=128,slow=9.5,SNR=1.8						
ZALV	**Zalesovo Beam**	**46.11**	**330**	P	**P**	**09 04 33.2**	**+0.1**
NIL	**Nilore**	**46.56**	**299**	P	**P**	**09 04 37.8**	**+0.7**
NIL				IAmb	IAmb	09 04 38.0	
	comp=Z,7.6nm,0.9s						
MORW	**Morawa**	**47.25**	**188**	P	**P**	**09 04 39.5**	**-2.8**
KURK	**Kurchatov**	**47.67**	**323**	P	**P**	**09 04 45.1**	**-0.3**
KURK				IAmb	IAmb	09 04 53.9	
	comp=Z,6.1nm,1.1s						
KURBB	**Kurchatov Arra**	**47.68**	**323**	P	**P**	**09 04 46.1**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=141,slow=2.6,SNR=6.1						
KURBB				PcP	**PcP**	**09 06 15.1**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=121,slow=3.8,SNR=2.2						
KKAR	**Karatay Array**	**50.32**	**311**	P	**P**	**09 05 06.6**	**+0.7**
CHGR	**Chuyangaron**	**50.51**	**305**	P	**P**	**09 05 07.3**	**-0.2**
BBOO	**Buckleboo**	**52.20**	**166**	P	**P**	**09 05 18.9**	**-1.1**
STKA	**Stephens Creek**	**52.90**	**160**	P	**P**	**09 05 24.3**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=335,slow=9.8,SNR=4.4						
BVAR	**Borovoye Array**	**53.27**	**323**	P	**P**	**09 05 28.3**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=107,slow=8.5,SNR=6.1						
ABKAR	**Kulak array**	**58.69**	**317**	P	**P**	**09 06 06.3**	**-0.3**
GEYT	**Alibeck**	**59.11**	**304**	P	**P**	**09 06 10.5**	**+0.7**
TTA	**Tatalina**	**70.22**	**29**	P	**P**	**09 07 21.3**	**-0.7**
TTA				IAmb	IAmb	09 07 24.5	
	comp=Z,5.7nm,0.5s						
KBZ	**Khabaz**	**70.35**	**311**	P	**P**	**09 07 21.6**	**-1.4**
	comp=Z,2.7nm,0.8s,baz=175,slow=9.8,SNR=4.0						
KIV	**Kislovodsk**	**70.48**	**311**	P	**P**	**09 07 24.6**	**+0.7**
IMAR	**Indian Mountai**	**71.13**	**25**	P	**P**	**09 07 28.9**	**+1.6**
BPAW	**Bear Paw Mtn.**	**72.41**	**27**	P	**P**	**09 07 35.9**	**+0.8**
BPAW				IAmb	IAmb	09 07 37.7	
	comp=Z,4.7nm,0.8s						
RND	**Reindeer**	**73.43**	**28**	P	**P**	**09 07 41.3**	**+0.1**
RND				IAmb	IAmb	09 07 42.7	
	comp=Z,9.2nm,0.8s						
ILAR	**Eielson Array**	**74.10**	**26**	P	**P**	**09 07 44.7**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=282,slow=5.2,SNR=9.2						
ILAR	**Eielson Array**	**74.10**	**26**	P	**P**	**09 07 45.1**	**+0.1**
ARCES	**ARCESS Array B**	**75.68**	**339**	P	**P**	**09 07 54.1**	**0.0**
	comp=Z,1.6nm,0.7s,baz=64,slow=5.5,SNR=4.9						
ARCES	**ARCESS Array B**	**75.68**	**339**	P	**P**	**09 07 54.3**	**+0.2**
EGAK	**Eagle**	**76.51**	**26**	P	**P**	**09 08 00.4**	**+1.6**
FINES	**FINESS Array B**	**77.37**	**331**	P	**P**	**09 08 03.7**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=64,slow=4.3,SNR=8.9						
FINES	**FINESS Array B**	**77.37**	**331**	P	**P**	**09 08 04.0**	**+0.3**
DAWY	**Dawson**	**77.43**	**26**	P	**P**	**09 08 06.1**	**+2.0**
DAWY				IAmb	IAmb	09 08 06.8	
	comp=Z,3.5nm,0.9s						
AKASG	**Malin Array Be**	**78.30**	**320**	P	**P**	**09 08 08.6**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=61,slow=4.8,SNR=2.1						
INK	**Inuvik**	**78.43**	**22**	P	**P**	**09 08 10.7**	**+1.2**
INK				IAmb	IAmb	09 08 17.8	
	comp=Z,5.5nm,1.1s						
HYT	**Haines Junctio**	**79.18**	**29**	P	**P**	**09 08 16.1**	**+2.1**
HYT				IAmb	IAmb	09 08 17.3	
	comp=Z,14nm,1.2s						
EUNU	**Eureka**	**80.89**	**5**	P	**P**	**09 08 23.5**	**+0.7**
EUNU				IAmb	IAmb	09 08 25.0	
	comp=Z,13nm,1.4s						
C36M	**Paulatuk**	**81.16**	**19**	P	**P**	**09 08 24.7**	**+0.4**
C36M				IAmb	IAmb	09 08 34.7	
	comp=Z,13nm,1.3s						
BURAR	**Bucovina Array**	**81.67**	**317**	P	**P**	**09 08 28.2**	**+0.6**
BUR08	**Bucovina Ar. S**	**81.68**	**317**	P	**P**	**09 08 28.7**	**+1.1**
NB2	**NORSAR Subarra**	**84.22**	**333**	P	**P**	**09 08 40.1**	**-0.4**
	comp=Z,5.5nm,0.8s,baz=65,slow=5.6						
NOA	**NORSAR Array B**	**84.22**	**333**	P	**P**	**09 08 40.0**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=62,slow=5.1,SNR=7.9						
NOA				LR	LR	09 49 32.3	
	comp=Z,18nm,19.3s,baz=80,slow=38						
NC204	**NORSAR Array S**	**84.31**	**333**	P	**P**	**09 08 40.8**	**-0.2**
YKA	**Yellowknife Ar**	**88.11**	**23**	P	**P**	**09 08 59.9**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=306,slow=4.7,SNR=11						
TXAR	**Lajitas Array**	**115.15**	**44**	PKP	**PKPdf**	**09 14 51.8**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=192,slow=1.6,SNR=4.3						

*HLW **15** 09:01:42.4,31°.95N×31°.19E,h21km±6km,Md3.4,Ml3.5*
*NIC **15** 09:01:43.3±0.0,31°.85N×31°.30E,h34km±20km,Ml3.4/4*
*GII **15** 09:01:43.1±0.0,31°.90N×31°.62E,h1km,MD2.2/3*
ISC 15 09:01:39.8±1.2,**31°.84N**±0°.03×**31°.23E**±0°.04,**h10**km,**n40,** σ1=**12**/51,**1C-2D,Egypt**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OSC2	**CSNet OBS 4**	**1.51**	**35**	P	**Pn**	**09 02 07.6**	**+0.7**
OSC2				S	**Sn**	**09 02 26.4**	**-0.3**
OSC1	**CSNet OBS 1**	**1.65**	**1**	P	**Pn**	**09 02 08.8**	**-0.1**
HBRG	**Burj al `Arab**	**1.74**	**224**	P	**Pn**	**09 02 10.7**	**+0.7**
	baz=221						
HBRG				AMP		09 02 00.0	
	baz=221						
HBRG				S	**Sn**	**09 02 31.0**	**-1.3**
	baz=221						
KOT	**Kottamia**	**1.98**	**165**	P	**Pn**	**09 02 14.6**	**+1.2**
	baz=164						
KOT				S	**Sn**	**09 02 37.8**	**-0.5**
	baz=164						
HHAG	**Hagoal**	**2.03**	**158**	P	**Pn**	**09 02 15.4**	**+1.3**
	baz=158						
HMYD	**Mayadein**	**2.07**	**190**	P	**Pn**	**09 02 16.1**	**+1.4**
	baz=189						
HSAF	**As Saff**	**2.23**	**173**	P	**Pn**	**09 02 17.9**	**+1.0**
	baz=172						
HNAT	**Natroun**	**2.27**	**194**	P	**Pn**	**09 02 18.5**	**+1.1**
	baz=193						
GLL	**Jalalah**	**2.30**	**169**	P	**Pn**	**09 02 19.1**	**+1.3**
	baz=169						
RSH		**2.31**	**112**	P	**Pn**	**09 02 18.7**	**+0.8**
	baz=113						
SUZ	**Suez**	**2.43**	**145**	P	**Pn**	**09 02 20.3**	**+0.7**
	baz=145						
ZAF	**Zafarana**	**2.80**	**156**	P	**Pn**	**09 02 26.2**	**+1.6**
	baz=155						
KZIT	**Kziot**	**2.87**	**108**	Pn	**Pn**	**09 02 26.2**	**+0.6**
KZIT	**Kziot**	**2.87**	**108**	P	**Pn**	**09 02 26.3**	**+0.6**
KZIT				AML	AML	09 02 58.4	
	0.1nm,0.2s						
KZIT				AML	AML	09 02 59.9	
	0.2nm,0.3s						
AMAZ	**Amatzia**	**3.16**	**95**	Pn	**Pn**	**09 02 30.2**	**+0.5**
AMAZ				Sn	**Sn**	**09 03 06.5**	**-0.9**
AMAZ	**Amatzia**	**3.16**	**95**	P	**Pn**	**09 02 30.2**	**+0.5**
AMAZ				AML	AML	09 03 10.7	
	0.3nm,0.3s						
AMAZ				AML	AML	09 03 11.2	
	0.3nm,0.2s						
NBNS	**Bani Suef**	**3.21**	**179**	P	**Pn**	**09 02 31.4**	**+1.0**
	baz=178						
SZAC	**Souni**	**3.22**	**25**	P	**Pn**	**09 02 31.8**	**+1.4**
SZAC				S	**Sn**	**09 03 09.0**	**+0.1**
SZAC				AML	AML	09 03 10.9	
	0.3nm,0.4s						
SZAC				AML	AML	09 03 10.9	
	0.3nm,0.4s						
SZAC				AML	AML	09 03 15.1	
	0.3nm,0.4s						
SZAC				AML	AML	09 03 15.1	
	0.3nm,0.4s						
SLTI	**Sal'it**	**3.26**	**82**	Pn	**Pn**	**09 02 30.9**	**-0.2**
AKMS	**Akamas**	**3.30**	**16**	↑P	**Pn**	**09 02 32.2**	**+0.6**
AKMS				S	**Sn**	**09 03 09.4**	**-1.5**
AKMS				AML	AML	09 03 10.6	
	0.2nm,0.2s						
AKMS				AML	AML	09 03 10.6	
	0.2nm,0.2s						
AKMS				AML	AML	09 03 20.0	
	0.2nm,0.7s						
AKMS				AML	AML	09 03 20.0	
	0.2nm,0.7s						
YTIR	**Yattir**	**3.35**	**97**	Pn	**Pn**	**09 02 32.8**	**+0.4**
YTIR				Sn	**Sn**	**09 03 10.5**	**-1.8**
ASGA	**Asgata**	**3.39**	**29**	⇓P	**Pn**	**09 02 34.9**	**+2.1**
ASGA				S	**Sn**	**09 03 13.0**	**0.0**
ALFC	**Alefka**	**3.50**	**19**	⇓P	**Pn**	**09 02 35.5**	**+1.2**
DSI	**Dead Sea**	**3.55**	**93**	Pn	**Pn**	**09 02 35.4**	**+0.4**
DSI				Sn	**Sn**	**09 03 16.5**	**-0.5**
CSS	**Mathiatis**	**3.57**	**29**	Pn	**Pn**	**09 02 37.4**	**+2.0**
CSS	**Mathiatis**	**3.57**	**29**	P	**Pn**	**09 02 36.5**	**+1.1**
MMLI	**Mount Malkishu**	**3.61**	**79**	Pn	**Pn**	**09 02 35.9**	**+0.1**
HMDT	**Nahal Hemdat**	**3.67**	**82**	Pn	**Pn**	**09 02 37.1**	**+0.4**
HMDT				Sn	**Sn**	**09 03 18.8**	**-1.3**
QRNJ	**Al-Qirein**	**3.72**	**81**	Pn	**Pn**	**09 02 37.7**	**+0.4**
HRFI	**Mount Harif**	**3.74**	**118**	Pn	**Pn**	**09 02 38.9**	**+1.3**
GHAJ	**Ghor Haditha**	**3.74**	**97**	Pn	**Pn**	**09 02 38.5**	**+0.9**
MVOU	**Mavrovouni**	**3.75**	**32**	P	**Pn**	**09 02 40.0**	**+2.2**
GRB	**Gharib**	**3.81**	**159**	P	**Pn**	**09 02 39.2**	**+0.6**
	baz=158						
KARJ	**KARJ**	**3.85**	**100**	Pn	**Pn**	**09 02 37.5**	**-1.6**
EIL	**Elat**	**3.87**	**123**	Pn	**Pn**	**09 02 40.5**	**+1.1**
SHMJ	**Saham**	**3.94**	**76**	Pn	**Pn**	**09 02 40.1**	**-0

comp=N,334μm,0.4s
TAVA DENIZLI_Tavas 1.17 60 *i* P Pg 10 06 54.0 -0.8
TAVA *i* S Sb 10 07 10.1 -0.1
KARP Karpathos 1.39 196 P Pb 10 06 58.6 +0.2
KARP S Sg 10 07 17.2 +0.3
KARP Karpathos 1.39 196 P Pb 10 06 58.6 +0.2
KARP S Sg 10 07 17.2 +0.3
KARP Karpathos 1.39 196 PN Pg 10 06 58.7 -0.2
AMGA Amorgos Island 1.40 268 P Pb 10 06 58.3 -0.3
AMGA Amorgos Island 1.40 268 P Pn 10 06 58.0 0.0
URLA Izmir 1.69 331 PN Pn 10 07 02.6 +0.6
APE Apeiranthos 1.70 277 PN Pn 10 07 02.7 +0.6
AKAS Kas 1.71 112 PN Pg 10 07 03.2 +0.8
CHOS Chios island 1.95 320 P Pn 10 07 05.9 +0.2
CHOS Chios island 1.95 320 PN Pn 10 07 06.5 +0.8

DDA 15 10:07:05.0, 36.78N×28.24E, h15km±1km, ML1.5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.01**	**132**	*i*	P		Pg	10 07 06.9	-0.6
TURN				*i*	S		Sg	10 07 09.8	+0.6
TURN					IAML			10 07 10.0	
	comp=N,258nm,0.2s								
TURN					IAML			10 07 11.0	
	comp=E,213nm,0.3s								
DALY	**Dalyan (Mula)**	**0.34**	**84**	*i*	P		Pg	10 07 11.0	-0.9
DALY				*i*	S		Sb	10 07 17.3	-0.6
DALY					IAML			10 07 18.0	
	comp=N,64nm,0.4s								
DALY					IAML			10 07 18.0	
	comp=E,57nm,0.2s								
DAT	**Datca**	**0.53**	**265**	*i*	P		Pg	10 07 15.1	-0.4
DAT				*i*	S		Sg	10 07 23.0	+0.3
DAT					IAML			10 07 24.0	
	comp=N,24nm,0.3s								
DAT					IAML			10 07 28.0	
	comp=E,20nm,0.2s								

SKO ***15*** *10:17:34.2, 40.45N×19.36E, h22km*
ATH ***15*** *10:17:35.1, 40.45N×19.57E, h32km±2km, ML2.6/3, Error ellipse: s-maj=2.5km s-min=1.2km az=175.0*
THE ***15*** *10:17:36.0, 40.45N×19.67E, h2km±3km, ML2.5/5, Error ellipse: s-maj=3.2km s-min=0.8km az=216.0*

ISC 15 10:17:34.6±0.9, 40.42N±0.03×19.46E±0.04, h18km±4km, n26, σ0.97/44, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.06**	**27**		P		**Pg**	**10 17 37.9**	**0.0**
VLO					S		**Sb**	**10 17 41.2**	**+1.1**
	17μm,0.3s								
SRN	**Sarande**	**0.68**	**142**		P		**Pg**	**10 17 46.8**	**-1.1**
SRN					S		**Sb**	**10 17 57.0**	**+0.1**
	1μm,0.3s								
KEK	**Kerkira**	**0.75**	**160**		P		**Pn**	**10 17 49.7**	**-0.6**
KEK					S		**Sn**	**10 18 01.7**	**+0.5**
	238nm,0.4s								
KEK	**Kerkira**	**0.75**	**160**		P		**Pn**	**10 17 49.7**	**-0.6**
KEK					S		**Sn**	**10 18 01.7**	**+0.5**
KEK					AML	AML		10 18 03.0	
	comp=N,470μm,0.3s								
KEK					AML	AML		10 18 03.1	
	comp=E,474μm,0.6s								
KASA	**Kassiopi**	**0.76**	**151**		P		**Pn**	**10 17 50.6**	**+0.2**
KASA					S		**Sn**	**10 18 01.6**	**+0.1**
KASA					AML	AML		10 18 02.5	
	comp=N,937μm,0.4s								
KASA					AML	AML		10 18 02.5	
	comp=E,1084μm,0.3s								
SCTE	**Santa Cesarea**	**0.83**	**246**		P		**Pn**	**10 17 52.8**	**+1.3**
SCTE					S		**Sn**	**10 18 05.8**	**+2.5**
SCTE					AML	AML		10 18 07.7	
	comp=E,826μm,0.5s								
SCTE					AML	AML		10 18 07.8	
	comp=N,1084μm,0.3s								
TIR	**Tirane**	**0.98**	**18**		P		**Pb**	**10 17 53.3**	**+0.2**
TIR	**Tirane**	**0.98**	**18**		P		**Pb**	**10 17 53.3**	**+0.2**
IGT	**Igoumenitsa**	**1.11**	**143**		P		**Pg**	**10 17 55.1**	**-0.9**
IGT					S		**Sn**	**10 18 10.5**	**+0.4**
	comp=N,138nm,0.4s								
IGT	**Igoumenitsa**	**1.11**	**143**		P		**Pg**	**10 17 55.1**	**-0.9**
IGT					S		**Sn**	**10 18 10.5**	**+0.4**
NEST	**Nestorio**	**1.21**	**90**		P		**Pn**	**10 17 55.9**	**-0.9**
NEST	**Nestorio**	**1.21**	**90**		P		**Pn**	**10 17 55.9**	**-0.9**
OHR	**Ohrid**	**1.23**	**55**	*e*	Pg		**Pn**	**10 17 56.1**	**-0.9**
OHR				*i*	Sg		**Sb**	**10 18 15.2**	**+2.2**
OHR				*e*	Lg		Lg	10 18 16.3	
	comp=E,63nm,0.5s								
OHR				*e*	Lg		Lg	10 18 16.9	
	comp=N,126nm,0.9s								
JAN	**Janina**	**1.31**	**125**		P		**Pb**	**10 17 58.6**	**-0.1**
JAN					S		**Sg**	**10 18 16.3**	**-0.7**
	comp=N,298nm,0.3s								
JAN	**Janina**	**1.31**	**125**		P		**Pb**	**10 17 58.6**	**-0.1**
PHP	**Peshkopia**	**1.47**	**30**		P		**Pn**	**10 18 00.8**	**+0.5**
PHP					S		**Sn**	**10 18 20.9**	**+1.8**
THL	**Klokotos Trika**	**2.14**	**113**		P		**Pn**	**10 18 10.2**	**+0.8**
THL	**Klokotos Trika**	**2.14**	**113**		P		**Pn**	**10 18 10.2**	**+0.8**
STIP	**Stip**	**2.42**	**57**	*i*	Pn		**Pn**	**10 18 14.8**	**+1.4**
DBRK	**Dubrovnik**	**2.46**	**337**	*e*	Pn		**Pn**	**10 18 12.9**	**-0.9**
DBRK					Sn		**Sn**	**10 18 42.9**	**-0.5**
STON	**Ston**	**2.79**	**332**	*e*	Pn		**Pn**	**10 18 18.0**	**-0.3**
STON					Sn		**Sn**	**10 18 50.6**	**-0.9**
MAKA	**Makarska**	**3.40**	**328**	*e*	Pn		**Pn**	**10 18 26.2**	**-0.5**
MAKA					Sn		**Sn**	**10 19 06.3**	**-0.3**
RICI	**Ricice**	**3.53**	**331**	*e*	Pn		**Pn**	**10 18 28.2**	**-0.4**
RICI					Sn		**Sn**	**10 19 08.3**	**-1.6**
KIJV	**Kijevo**	**4.24**	**329**	*e*	Pn		**Pn**	**10 18 38.1**	**-0.2**
KIJV					Sn		**Sn**	**10 19 27.5**	**0.0**
ZIRJ	**Zirje**	**4.31**	**320**	*e*	Pn		**Pn**	**10 18 38.4**	**-0.8**
ZIRJ					Sn		**Sn**	**10 19 27.5**	**-1.5**
MORI	**Morici**	**4.43**	**322**	*e*	Pn		**Pn**	**10 18 41.7**	**+0.7**
MORI					Sn		**Sn**	**10 19 31.5**	**-0.7**

NNC 15 10:32:31.2±2.9, 37.48N×71.75E, h119km±48km, mb3.3, mpv3.7, 1C-5D, Error ellipse: s-maj=25.3km s-min=18.0km az=12.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.70**	**351**	⇓	P		Pn	10 33 54.0	+0.5
	4.7nm,0.3s,baz=177,slow=13,SNR=95								
KK31				⇓	S		Sn	10 34 58.1	+0.4
	6.6nm,0.3s,baz=175,slow=12,SNR=20								
TKM2	**Tokmak 2**	**6.18**	**27**	⇓	P		Pn	10 33 59.8	-0.4
	2.3nm,0.5s								
TKM2				⇓	S		Sn	10 35 10.4	+0.8
	6.6nm,0.9s								
AB01	**Akbulak array**	**14.55**	**328**	⇑	P		Pn	10 35 50.4	-0.8
	1.5nm,0.5s								
AKTO	**Aktyubinsk**	**16.26**	**327**	⇓	P		P	10 36 13.4	0.0
	3.4nm,0.7s								

IDC ***15*** *12:04:36.0±4.4, 10.01S×124.18E, h33km±47km, mb3.6/2, mb1 4.2/5, mb1mx3.6/44, mbtmp4.2/5, ML4.3/3, MS2.8/3, Ms1 2.9/3, ms1mx2.6/38, Error ellipse: s-maj=66.2km s-min=24.7km az=49.0*
NEIC ***15*** *12:04:36.5±2.6, 10.19S±0.08×124.0E±0.1, h62km±9km, mb4.2/9, Error ellipse: s-maj=16.4km s-min=9.6km az=62.0*
DJA ***15*** *12:04:37.9±0.3, 10°S±4°×12°4E±°, h39km±4km, M4.6/12, mb4.8/6, mB5.3/2, MLv4.5/12, Mw(mB)4.8/2*

ISC 15 12:04:36.2±0.7, 10.27S±0.05×124.09E±0.06, h50km, n42, σ1.52/41, mb4.0/4, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.42**	**278**		Pg		**Pn**	**12 04 47.6**	**+1.0**
	5μm,0.3s,baz=83,slow=2.3,SNR=1546								
BATI					Lg		Lg	12 04 55.4	
	2μm,0.3s,baz=348,slow=20,SNR=14								
BATI					LR		LR	12 05 13.8	
	comp=Z,594nm,18.9s,baz=256,slow=69								
BATI	**Baumata**	**0.42**	**278**		P		**Pn**	**12 04 47.7**	**+1.1**
BATI					S		**Sn**	**12 04 55.3**	**+1.3**
SOEI	**Soe**	**0.54**	**19**		P		**Pn**	**12 04 49.8**	**+1.7**
SOEI					S		**Sn**	**12 04 58.2**	**+1.6**
SOEI	**Soe**	**0.54**	**19**		Pn		**Pn**	**12 04 49.2**	**+1.2**
MMRI	**Maumere**	**2.44**	**311**		P		**Pn**	**12 05 12.8**	**-0.8**
MMRI	**Maumere**	**2.44**	**311**				**Pn**	**12 05 13.0**	**-0.6**
EDFI	**Ende, Flores**	**2.80**	**302**		P		**Pn**	**12 05 17.3**	**-1.4**
BASI	**Baing, Sumba**	**3.45**	**270**		P		**Pn**	**12 05 28.1**	**+0.6**
WSI	**Waingapu**	**3.78**	**279**		P		**Pn**	**12 05 32.2**	**+0.2**
WBSI	**Waikabubak, Su**	**4.67**	**277**		P		**Pn**	**12 05 44.5**	**+0.3**
PLAI	**Plampang**	**6.38**	**282**		P		**Pn**	**12 06 07.0**	**-0.8**
	0.5nm128nm,0.7s								
KAPI	**Kappang**	**6.76**	**320**		LR		LR	12 09 39.0	
	comp=Z,23nm,20.6s,baz=143,slow=46								
BNSI	**Bone**	**7.04**	**326**		P		**Pn**	**12 06 17.1**	**+0.4**
	0.1nm26nm,0.6s								
KNRA	**Kununurra**	**7.05**	**140**				**Pn**	**12 06 20.3**	**+3.4**
TWSI	**Taliwang, Sumb**	**7.27**	**281**		P		**Pn**	**12 06 19.6**	**-0.3**
	0.2nm40nm,0.8s								
MTN	**Manton Dam**	**7.37**	**111**				**Pn**	**12 06 25.1**	**+3.9**
FITZ	**Fitzroy Crossi**	**7.93**	**169**		Pn		**Pn**	**12 06 33.0**	**+4.0**
	2.1nm,0.3s,baz=351,slow=12,SNR=88								
FITZ					Sn		**Sn**	**12 07 58.3**	**+0.9**
	15nm,0.3s,baz=111,slow=12,SNR=17								
JAGI	**Jajag, Banyuwa**	**9.96**	**279**		P		**Pn**	**12 06 59.1**	**+2.3**
	60nm,1.6s								
PSA00	**Pilbara Seismi**	**11.96**	**199**		Pn		**Pn**	**12 07 24.6**	**+0.5**
WB0	**Warramunga Arr**	**13.72**	**135**				**Pn**	**12 07 48.5**	**+0.3**
WRA	**Warramunga Arr**	**13.80**	**135**		Pn		**Pn**	**12 07 49.6**	**+0.4**
	1.7nm,0.3s,baz=314,slow=13,SNR=57								
WRA					Sn		**Sn**	**12 10 17.5**	**-3.5**
	3.0nm,0.3s,baz=291,slow=22,SNR=9.5								
WRA	**Warramunga Arr**	**13.80**	**135**				**Pn**	**12 07 48.9**	**-0.3**
WRAB	**Tennant Creek**	**13.80**	**135**				**Pn**	**12 07 50.2**	**+1.0**
WB2	**Warramunga Arr**	**13.80**	**135**				**Pn**	**12 07 50.4**	**+1.0**
WR0	**Warramunga Arr**	**13.95**	**135**				**Pn**	**12 07 51.9**	**+0.6**
GIRL	**Giralia**	**15.51**	**216**		Pn		**Pn**	**12 08 11.3**	**-0.4**
AS31	**Alice Springs**	**16.29**	**146**		Pn		**P**	**12 08 22.7**	**-1.3**
ASAR	**Alice Springs**	**16.29**	**146**		Pn		**P**	**12 08 24.1**	**0.0**
	1.1nm,0.3s,baz=321,slow=12,SNR=120								
ASAR					Sn		**Sn**	**12 11 20.2**	**-1.4**
	1.5nm,0.3s,baz=315,slow=22,SNR=17								
ASAR	**Alice Springs**	**16.29**	**146**				**P**	**12 08 23.6**	**-0.4**
MORW	**Morawa**	**20.17**	**201**		P		**P**	**12 09 06.7**	**+0.1**
MORW					IAmb	IAmb		12 09 17.3	
	comp=Z,18nm,1.4s								
FORT	**Forrest**	**20.74**	**170**		P		Pn	12 09 17.3	+1.7
FORT					IAmb	IAmb		12 09 18.9	
	comp=Z,11nm,0.7s								
NWAO	**Narrogin (SRO)**	**23.42**	**195**		P		**P**	**12 09 39.9**	**-1.0**
BBOO	**Buckleboo**	**25.00**	**156**		P		**P**	**12 09 55.1**	**-0.4**
BBOO					IAmb	IAmb		12 10 11.0	
	comp=Z,18nm,1.4s								
MNSI	**Mandailing Nat**	**26.75**	**293**		P		P	12 10 21.4	+10
CMAR	**Chiang Mai Arr**	**37.82**	**319**		LR		LR	12 29 05.2	
	comp=Z,15nn,19.4s,baz=200,slow=39								
MJAR	**Matsushiro Arr**	**48.42**	**15**		P		**P**	**12 13 13.6**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=193,slow=9.3,SNR=4.5								
MJAR	**Matsushiro Arr**	**48.42**	**15**		IAmb		IAmb	12 13 21.7	
	comp=Z,1.9nm,1.2s								
MK31	**Makanchi Array**	**67.95**	**330**		P		**P**	**12 15 28.3**	**-1.6**
MKAR	**Makanchi Array**	**67.95**	**330**		P		**P**	**12 15 29.6**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=140,slow=7.0,SNR=4.0								
MKAR	**Makanchi Array**	**67.95**	**330**		P		**P**	**12 15 29.0**	**-0.9**
QSPA	**South Pole Qui**	**79.73**	**180**		P		**P**	**12 16 38.0**	**-0.8**
QSPA					IAmb	IAmb		12 16 50.9	
	comp=Z,2.1nm,1.1s								
LSZ	**Lusaka**	**92.94**	**254**		LR		LR	12 55 01.7	
	comp=Z,13nm,21.0s,baz=304,slow=32								

IDC ***15*** *12:07:11.7±3.7, 53.26N×91.31E, h0km, mb1 3.2/3, mb1mx3.0/52, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=33.8km s-min=26.7km az=30.0*

ISC 15 12:07:06.8±3.9, 52.49N±0.09×90.1E±0.2, h10km, n6, σ1.96/8, 2C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.47**	**297**	*i*				12 30 20.0	
	baz=94,slow=310,SNR=2.1								
ZAA0	**Zalesovo Array**	**3.47**	**297**	⇑	Pn		**Pg**	**12 08 14.5**	**+1.3**
	0.4nm,0.7s,baz=105,slow=13								
ZAA0				⇑	Lg		Lg	12 09 15.7	
	2.3nm,0.7s								
ZALV	**Zalesovo Beam**	**3.47**	**297**		Pn		**Pg**	**12 08 14.3**	**+1.1**
	0.7nm,0.3s,baz=101,slow=15,SNR=7.3								
ZALV					Lg		Lg	12 09 15.8	
	1.7nm,0.3s,baz=95,slow=25,SNR=10								
KURK	**Kurchatov**	**7.34**	**261**	⇓	Pn		**Pb**	**12 09 11.7**	**-2.5**
	0.9nm,0.5s,baz=71,slow=13								
KURK				⇓	Sn		**Sb**	**12 10 41.1**	**-0.6**
	2.2nm,0.6s								
KURK				⇓	Lg		Lg	12 11 23.0	
	10nm,1.1s								
KURBB	**Kurchatov Arra**	**7.43**	**260**		Pn		**Pb**	**12 09 13.6**	**-2.0**
	0.1nm,0.3s,baz=70,slow=14,SNR=7.5								
KURBB					Sn		**Sb**	**12 10 46.5**	**+2.4**
	0.1nm,0.3s,baz=68,slow=25,SNR=8.7								
KURBB					Lg		Lg	12 11 34.2	
	0.0nm,0.3s,baz=68,slow=33,SNR=2.2								
MKAR	**Makanchi Array**	**7.61**	**225**		Pn		**Pb**	**12 09 18.7**	**0.0**
	0.1nm,0.3s,baz=37,slow=15,SNR=1.9								
MKAR					Pg		**Pg**	**12 09 32.8**	**+0.5**
	0.2nm,0.3s,baz=26,slow=17,SNR=6.4								
MKAR					Lg		Lg	12 11 49.9	
	baz=40,slow=29,SNR=2.0								

JMA 15 12:23:44.4±0.1, 36.01N×139.50E, h58km±1km, M0.7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHU	**Hanno**	**0.24**	**228**		P		Pn	12 23 54.1	+0.2
JHU					S		Sn	12 24 01.0	+0.3
JAG	**Ashikaga**	**0.42**	**355**		P		Pn	12 23 55.5	+0.1
JAG					S		Sn	12 24 03.5	+0.2
JRY	**Ryogami san**	**0.48**	**271**		S		Sn	12 24 04.6	0.0
JKT	**Katashina**	**0.78**	**345**		P		Pn	12 23 59.5	-0.2
JKT					S		Sn	12 24 10.6	-0.2
JOD2	**Odawara 2**	**0.82**	**204**		S		Sn	12 24 10.1	-1.4

NIED ***15*** *12:24:40.6, 36.88N×142.50E, h9km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr3.38; Mθθ0.94; Mφφ-4.32; Mrθ1.28; Mθφ-2.90; Mφr-1.87; Fault plane solution: M05.34000×10^15 NP1: φs174.00000°, δs62.00000°, λs49.00000°. NP2: φs55.00000°, δs48.00000°, λs140.00000°.*
JMA ***15*** *12:24:40.5±0.3, 36.88N×142.50E, h9km±4km, M4.6*
JMA Felt I J1.
IDC ***15*** *12:24:41.0±0.5, 36.86N×142.51E, h0km, mb4.3/25, mb1 4.4/32, mb1mx4.3/56, mbtmp4.3/32, ML4.2/5, MS3.5/23, Ms1 3.6/23, ms1mx3.3/51, Error ellipse: s-maj=14.1km s-min=10.6km az=109.0*
BJI ***15*** *12:24:42.0±0.0, 36.77N×142.21E, h8km, mB4.8/36, mb4.5/52, Ms4.2/35, Ms7 4.0/34*
MOS ***15*** *12:24:43.3±1.4, 37.07N×142.52E, h27km, mb4.8/35, Error ellipse: s-maj=7.4km s-min=4.8km az=96.5*
NEIC ***15*** *12:24:45.7±2.3, 36.84N±0.06×142.55E±0.09, h35km±1km, mb4.6/113, Error ellipse: s-maj=12.3km s-min=8.6km az=295.0*

ISC 15 12:24:41.4±0.3, 36.87N±0.03×142.58E±0.04, h9km, n278, σ1.88/275, mb4.6/94, MS3.8/31, 12C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.45**	**280**		P		**Pn**	**12 25 05.4**	**-2.4**
ONAJ					S		**Sb**	**12 25 24.3**	**-2.7**
JFK	**Kawauchi**	**1.45**	**290**		P		**Pn**	**12 25 05.7**	**-2.1**
JFK					S		**Sb**	**12 25 24.4**	**-2.8**
JMST	**Minamisoumatoc**	**1.60**	**303**		P		**Pn**	**12 25 08.0**	**-1.8**
JMST					S		**Sn**	**12 25 28.2**	**-2.3**
JFFD	**Fukushimafurud**	**1.63**	**278**		P		**Pn**	**12 25 08.6**	**-1.7**
JFFD					*e*S		**Sn**	**12 25 28.8**	**-2.6**
JHO	**Hitachi**	**1.64**	**261**		P		**Pn**	**12 25 08.6**	**-1.7**
JMM	**Marumori**	**1.74**	**305**		P		**Pn**	**12 25 10.4**	**-1.3**
JIO	**Ouri**	**1.86**	**329**		P		**Pn**	**12 25 12.3**	**-1.1**
JIO					S		**Sn**	**12 25 35.4**	**-1.6**
JFT	**Otama**	**1.91**	**290**		P		**Pn**	**12 25 13.1**	**-0.9**
JFT					*e*S		**Sn**	**12 25 35.8**	**-2.4**
JOU	**Okura**	**2.13**	**315**		P		**Pn**	**12 25 16.8**	**-0.4**
JOU					S		**Sb**	**12 25 43.7**	**-3.0**
JMK	**Ichinoseki**	**2.34**	**333**		P		**Pn**	**12 25 19.6**	**-0.4**
JFY	**Yanaizu**	**2.36**	**284**		P		**Pn**	**12 25 20.2**	**-0.1**
JYS	**Shirataka**	**2.41**	**305**		P		**Pn**	**12 25 21.0**	**0.0**
JAG	**Ashikaga**	**2.56**	**261**		P		**Pn**	**12 25 22.2**	**-0.8**
BSO1	**Boso 1**	**2.57**	**211**		P		**Pn**	**12 25 23.4**	**+0.8**
BSO1					S		**Sb**	**12 25 55.2**	**-3.5**
JYK	**Kaneyama**	**2.69**	**320**		P		**Pn**	**12 25 24.6**	**-0.3**
JOM	**Ohasama**	**2.79**	**339**		P		**Pn**	**12 25 25.6**	**-0.6**
MJAR	**Matsushiro Arr**	**3.53**	**266**		Pn		**Pn**	**12 25 36.7**	**+0.4**
	4.2nm,0.3s,baz=68,slow=8.2,SNR=127								
MJAR					Sn		**Sn**	**12 26 18.0**	**-0.2**
	4.1nm,0.3s,baz=282,slow=27,SNR=4.2								
MJAR	**Matsushiro Arr**	**3.53**	**266**		Pn		**Pn**	**12 25 34.0**	**-2.4**
MAJO	**Matsushiro**	**3.53**	**266**	*i*	P		**Pn**	**12 25 37.0**	**+0.6**
MAJO	**Matsushiro**	**3.53**	**266**		Pn		**Pn**	**12 25 37.5**	**+1.1**
MAT	**Matsushiro**	**3.53**	**266**		P		**Pn**	**12 25 36.4**	**0.0**
MAT					*e*S		**Sn**	**12 26 20.0**	**+1.7**
MJB9	**Matsu-Tunnel**	**3.53**	**266**		Pn		**Pn**	**12 25 37.2**	**+0.8**
JHJ2	**Mitsune**	**4.38**	**212**				**Pn**	**12 25 47.5**	**-0.6**
JHJ2					Sn		**Sn**	**12 26 37.0**	**-2.3**
JHJ	**Hachijo jima 2**	**4.39**	**212**		Pn		**Pn**	**12 25 47.8**	**-0.4**
	131nm,0.3s,baz=86,slow=21,SNR=44								
JHJ					Sn		**Sn**	**12 26 36.4**	**-3.1**
	217nm,0.3s,baz=52,slow=23,SNR=9.7								
JHJ					LR		LR	12 27 28.7	
	comp=Z,451nm,21.3s,baz=48,slow=39								
ERM	**Erimo**	**5.16**	**5**	*ce*	P		**Pn**	**12 25 57.6**	**-1.1**
ERM					pmax	pmax			
	comp=Z,76nm,1.3s								
ERM	**Erimo**	**5.16**	**5**		Pn		**Pn**	**12 25 58.1**	**-0.6**
ERM					Sn		**Sn**	**12 26 59.3**	**+1.0**
NMR	**Nemuro--Hokkai**	**6.92**	**19**	⇓	*i*P		**Pn**	**12 26 20.5**	**-2.4**
NMR					*i* S		**Sn**	**12 27 34.8**	**-7.0**
GLVR	**Golovnino**	**7.22**	**17**		*e*P		**Pn**	**12 26 25.4**	**-1.6**
GLVR					*e*S		**Sn**	**12 27 43.5**	**-5.5**
ASAJ	**Asahikawa**	**7.24**	**0**		Pn		**Pn**	**12 26 27.5**	**+0.3**
	comp=Z,4.6nm,0.3s,baz=205,slow=13,SNR=50								
ASAJ					Sn		**Sn**		**-5.6**
	comp=Z,2.1nm,0.3s,baz=24,slow=28,SNR=1.1								
ASAJ					LR		LR	12 29 50.2	
	comp=Z,553nm,18.5s,baz=186,slow=43								
JKA	**Kamikawa-asahi**	**7.24**	**0**		Pn		**Pn**	**12 26 25.9**	**-1.3**
JKA					Sn		**Sn**	**12 27 49.1**	**-0.4**
GRPR	**Tuman**	**7.52**	**18**	*e*	P		**Pn**	**12 26 29.2**	**-1.9**
GRPR					*e*S		**Sn**	**12 27 48.9**	**-7.5**
GRPR					pmax	pmax			
	comp=Z,132nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**7.58**	**18**	*d*	P		**Pn**	**12 26 29.7**	**-2.2**
YUK				*i*	S		**Sn**	**12 27 52.5**	**-5.4**
YUK					pmax	pmax			
	comp=E,54nm,0.2s								
YUK					pmax	pmax			
	comp=Z,167nm,0.2s								
YUK					pmax	pmax			
	comp=N,85nm,0.5s								
KUR	**Kuril'sk**	**9.26**	**24**	*e*	P		**Pn**	**12 26 54.4**	**-0.5**
KUR				*e*	S		**Sn**	**12 28 30.6**	**-8.5**
KUR					pmax	pmax			
	comp=E,35nm,0.6s								
KUR					pmax	pmax			
	comp=Z,48nm,0.6s								
KUR					pmax	pmax			
	comp=N,31nm,0.5s								
KUR					smax	smax			
	comp=E,68nm,0.5s								
KUR					smax	smax			
	comp=N,42nm,0.2s								
KUR					MLR	MLR			
	comp=N,437nm,12.0s								
KUR					MLR	MLR			
	comp=E,1μm,12.0s								
KUR					MLR	MLR			
	comp=Z,406nm,12.0s								
TEY	**Ternei**	**9.32**	**333**	*e*	P		**Pn**	**12 26 55.7**	**-0.1**
JCJ	**Chichijima**	**9.75**	**182**		Pn		**Pn**	**12 27 00.9**	**-0.9**
	comp=Z,8.7nm,0.3s,baz=84,slow=23,SNR=16								
JCJ					Sn		**Sn**	**12 28 44.8**	**-6.7**
	comp=Z,16nm,0.3s,baz=233,slow=23,SNR=7.0								
JCJ	**Chichijima**	**9.75**	**182**		Pn		**Pn**	**12 27 00.8**	**-1.1**
JCJ					Sn		**Sn**	**12 28 45.5**	**-6.0**
YSS	**Yuzh-Sakhalins**	**10.08**	**1**	⇑	*e*P		**Pn**	**12 27 05.8**	**-0.3**
YSS					*e*S		**Sn**	**12 28 52.6**	**-6.7**
YSS					pmax	pmax			
	comp=Z,40nm,0.7s								
YSS					MLR	MLR			
	comp=Z,500nm,16.0s								
YSS					MLR	MLR			
	comp=N,200nm,15.0s								
YSS	**Yuzh-Sakhalins**	**10.08**	**1**		Pn		**Pn**	**12 27 05.9**	**-0.3**
JNU	**Nakatsue**	**10.30**	**252**		Pn		**Pn**	**12 27 11.0**	**+1.6**
	comp=N,0.6nm,0.3s,baz=26,slow=4.9,SNR=7.0								
JNU	**Nakatsue**	**10.30**	**252**		Pn		**Pn**	**12 27 09.6**	**+0.3**
VLA	**Vladivostok**	**10.30**	**311**	*i*	P		**Pn**	**12 27 09.4**	**+0.1**
USA0B	**Ussuriysk Arra**	**10.88**	**316**		P		Pn	12 27 21.5	+4.3
USA0B	**Ussuriysk Arra**	**10.88**	**316**		Pn		Pn	12 27 21.5	+4.3
USRK	**Ussuriysk Ar.**	**

NJ2 pmax pmax
comp=Z,5.0nm,0.5s
BJI Beijing 20.89 287 P **P** **12 29 23.3 -0.6**
BJI S **S** **12 33 12.8 -4.0**
BJI pmax pmax
comp=Z,9.0nm,0.6s
BJI LR LR
comp=Z,190nm,11.6s
BJI LR LR
comp=Z,150nm,16.5s
BJT Baijiatuau 20.90 287 P **P** **12 29 23.0 -0.9**
BJT pmax pmax
comp=Z,17nm,1.3s
BJT Baijiatuau 20.90 287 P **P** **12 29 23.0 -0.9**
TPUB Ta-pu 23.25 241 P **P** **12 29 47.5 -1.6**
TPUB IAmb IAmb 12 30 00.9
comp=Z,21nm,0.9s
MA2 Magadan 23.33 11 P **P** **12 29 50.6 +1.1**
comp=Z,20nm,0.8s,baz=178,slow=8.9,SNR=12
MA2 LR LR 12 40 02.0
comp=Z,110nm,18.5s,baz=209,slow=39
MA2 Magadan 23.33 11 *ce*P **P** **12 29 48.9 -0.7**
MA2 pmax pmax
comp=Z,47nm,1.7s
MA2 Magadan 23.33 11 P **P** **12 29 50.5 +0.9**
MA2 IAmb IAmb 12 29 51.9
comp=Z,25nm,0.8s
HHC Hu-ho-hao-te 24.41 289 *e*P **P** **12 30 01.1 +0.9**
HHC S **S** **12 34 23.1 +3.0**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,92nm,4.2s
HHC LR LR
comp=Z,290nm,12.3s
HHC LR LR
comp=Z,200nm,12.5s
HHC LR LR
comp=Z,140nm,10.6s
YAK Yakutsk 26.44 346 P **P** **12 30 18.0 -0.2**
comp=Z,20nm,0.7s,baz=161,slow=0.6,SNR=9.3
YAK Yakutsk 26.44 346 *e*P **P** **12 30 18.2 0.0**
YAK *e**PP **pwP** **12 30 27.3 +2.5**
YAK *e* 12 30 52.9
YAK *e*S **S** **12 34 50.3 -1.4**
YAK *e*SS **SnSn** **12 35 55.1 +2.7**
YAK *e*SSS SSS 12 36 14.9
YAK pmax pmax
comp=Z,21nm,0.8s
YAK pmax pmax
comp=N,3.0nm,0.7s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=Z,83nm,3.4s
YAK pmax pmax
comp=N,28nm,1.4s
YAK pmax pmax
comp=E,52nm,3.3s
YAK smax smax
comp=N,66nm,2.8s
YAK smax smax
comp=E,22nm,1.9s
YAK MLR MLR
comp=Z,150nm,15.0s
YAK MLR MLR
comp=N,153nm,16.0s
YAK MLR MLR
comp=E,91nm,15.0s
YAK Yakutsk 26.44 346 P **P** **12 30 18.0 -0.2**
SEY Seymchan 26.78 10 P **P** **12 30 23.0 +1.8**
comp=E,8.0nm,0.5s,baz=196,slow=8.4,SNR=28
SEY Seymchan 26.78 10 *i*P **P** **12 30 19.9 -1.4**
H11N2 WAKE ISLAND Hy 27.27 122 T T 12 59 18.6
baz=314,slow=75,SNR=178
H11N1 WAKE ISLAND Hy 27.27 122 T T 12 59 19.4
baz=314,slow=75,SNR=106
H11N3 WAKE ISLAND Hy 27.28 122 T T 12 59 18.8
baz=314,slow=75,SNR=109
XAN Xi'an 27.48 274 P **P** **12 30 28.1 +0.1**
XAN pP pwP 12 30 36.8 +2.2
XAN PP **PnPn** **12 31 16.0 +3.5**
XAN S **S** **12 35 06.6 -2.3**
XAN pmax pmax
comp=E,10.0nm,1.2s
XAN pmax pmax
comp=E,90nm,5.6s
XAN LR LR
comp=E,250nm,14.2s
XAN LR LR
comp=E,130nm,16.2s
XAN LR LR
comp=E,290nm,14.7s
XAN Xi'an 27.48 274 P **P** **12 30 28.3 +0.3**
XAN pmax pmax
comp=Z,20nm,1.3s
XAN Xi'an 27.48 274 P **P** **12 30 28.3 +0.3**
XAN IAmb IAmb 12 30 38.1
comp=Z,20nm,1.3s
H11S1 WAKE ISLAND Hy 27.99 124 T T 13 00 13.3
baz=316,slow=76,SNR=103
H11S3 WAKE ISLAND Hy 27.99 124 T T 13 00 05.3
baz=316,slow=76,SNR=128
H11S2 WAKE ISLAND Hy 28.01 124 T T 13 00 10.2
baz=316,slow=76,SNR=116
BOD Bodaibo 28.17 327 *e*P **P** **12 30 33.6 -0.2**
BOD pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 28.22 304 *ce*P **P** **12 30 34.4 -0.2**
ULN pmax pmax
comp=Z,6.0nm,1.7s
ULN Ulaanbaatar 28.22 304 P **P** **12 30 34.3 -0.3**
ENH Enshi 28.25 266 P **P** **12 30 34.4 -0.5**
SONM Songino Array 28.65 304 P **P** **12 30 39.2 +0.8**
comp=Z,6.8nm,0.8s,baz=104,slow=8.9,SNR=19
SONM LR LR 12 43 18.9
comp=Z,43nm,18.9s,baz=70,slow=39
SONM Songino Array 28.65 304 P **P** **12 30 39.7 +1.3**
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 28.65 304 P **P** **12 30 39.7 +1.3**
LZH Lanzhou 31.02 280 *e*P **P** **12 30 58.8 -0.7**
LZH pP pwP 12 31 03.1 -3.0
LZH sP sP 12 31 06.1 +4.3
LZH SS SS 12 37 41.4 -35
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.3s
LZH LR LR
comp=Z,310nm,14.1s
LZH LR LR
comp=Z,450nm,14.1s
LZH LR LR
comp=Z,440nm,15.2s
ZAK Zakamensk 31.10 308 *e*P **P** **12 31 00.6 +0.6**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
TLY Talaya 31.14 311 *e*P **P** **12 31 02.9 +2.6**
TLY *e*SSS SSS 12 38 10.3
TLY pmax pmax
comp=Z,30nm,1.0s
TLY MLR MLR
comp=Z,305nm,13.0s
GYA Guiyang 32.12 262 *e*P **P** **12 31 10.4 +1.2**
GYA pmax pmax
comp=Z,11nm,0.8s
GYA pmax pmax
comp=Z,92nm,3.7s
GTA Gaotai 33.50 288 *e*P **P** **12 31 21.3 +0.1**
GTA pP pwP 12 31 32.0 +4.1
GTA sP sP 12 31 35.6 +12
GTA S **S** **12 36 39.5 -3.7**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,47nm,7.3s
GTA LR LR
comp=Z,140nm,15.5s
GTA LR LR
comp=Z,100nm,16.8s
GTA LR LR
comp=Z,140nm,15.9s
TIXI Tiksi 35.57 353 *i*P **P** **12 31 37.0 -1.5**
TIXI pmax pmax
comp=Z,3.0nm,0.8s

TIXI Tiksi 35.57 353 P **P** **12 31 39.3 +0.8**
KMI Kunming 35.86 262 *e*P **P** **12 31 42.9 +1.0**
KMI pmax pmax
comp=Z,8.0nm,0.8s
JAY Jayapura 39.22 183 LR LR 12 46 45.5
comp=Z,40nm,21.0s,baz=233,slow=34
DGZ Jazzator, Alta 41.24 306 *i*P **P** **12 32 26.3 -0.5**
DGZ pmax pmax
comp=Z,11nm,0.9s
WMQ Urumqi 41.75 297 *e*P **P** **12 32 32.8 +1.9**
WMQ LR LR
comp=Z,140nm,17.3s
WMQ LR LR
comp=Z,170nm,22.1s
WMQ LR LR
comp=Z,180nm,19.7s
CHTO Chiang Mai 42.16 257 P P 12 32 37.9 +3.5
CHTO pmax pmax
comp=Z,9.0nm,1.1s
CMAR Chiang Mai Arr 42.36 256 P **P** **12 32 38.5 +2.5**
comp=Z,0.5nm,0.3s,baz=49,slow=6.1,SNR=4.2
CMAR LR LR 12 51 48.0
comp=Z,87nm,19.6s,baz=82,slow=38
CMAR Chiang Mai Arr 42.36 256 *i*P **P** **12 32 35.9 -0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 42.36 256 P **P** **12 32 35.8 -0.3**
ZAA0 Zalesovo Array 42.71 313 P **P** **12 32 38.1 -0.4**
ZAA0 IAmb IAmb 12 32 48.9
comp=Z,11nm,1.1s
ZALV Zalesovo Beam 42.71 313 P **P** **12 32 39.0 +0.4**
comp=Z,2.4nm,0.6s,baz=94,slow=6.3,SNR=7.1
ZALV PcP **PcP** **12 34 31.1 +1.1**
comp=Z,1.9nm,0.5s,baz=92,slow=4.3,SNR=3.2
ZALV LR LR 12 50 28.4
comp=Z,44nm,19.1s,baz=110,slow=36
ZALV Zalesovo Beam 42.71 313 P **P** **12 32 38.9 +0.4**
ZALV Zalesovo Beam 42.71 313 P **P** **12 32 38.9 +0.4**
LSA Lhasa 43.16 276 P **P** **12 32 41.0 -1.9**
LSA pmax pmax
comp=Z,7.0nm,0.5s
LSA Lhasa 43.16 276 P **P** **12 32 41.0 -1.9**
LSA IAmb IAmb 12 32 52.2
comp=Z,6.7nm,0.5s
RDOG Red Dog Mine 43.23 27 P **P** **12 32 41.6 -0.9**
RDOG IAmb IAmb 12 32 54.3
comp=Z,8.9nm,0.8s
NRIK Noril'sk 43.81 335 LR LR 12 51 40.9
comp=Z,118nm,19.6s,baz=88,slow=37
NRIK Noril'sk 43.81 335 *i*P **P** **12 32 47.3 +0.2**
NRIK pmax pmax
comp=Z,5.0nm,1.3s
MK31 Makanchi Array 45.00 302 P **P** **12 32 57.3 +0.3**
MK31 pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 45.00 302 P **P** **12 32 57.2 +0.3**
MK31 IAmb IAmb 12 33 07.8
comp=Z,9.5nm,1.0s
MKAR Makanchi Array 45.00 302 P **P** **12 32 57.0 0.0**
comp=Z,1.9nm,0.6s,baz=80,slow=10,SNR=11
MKAR LR LR 12 51 40.0
comp=Z,22nm,19.3s,baz=90,slow=36
MKAR Makanchi Array 45.00 302 *i*P **P** **12 32 58.0 +1.0**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 45.00 302 P **P** **12 32 56.7 -0.3**
MAKZ Makanchi 45.21 303 P **P** **12 32 58.5 -0.1**
MAKZ pmax pmax
comp=Z,11nm,1.0s
MAKZ Makanchi 45.21 303 P **P** **12 32 58.5 -0.1**
MAKZ IAmb IAmb 12 33 09.6
comp=Z,11nm,0.9s
IMAR Indian Mountai 46.32 30 P **P** **12 33 08.8 +1.7**
KDAK Kodiak Island 46.59 42 P **P** **12 33 10.5 +1.1**
comp=Z,5.5nm,0.9s,baz=253,slow=11,SNR=2.2
KDAK Kodiak Island 46.59 42 P **P** **12 33 10.7 +1.3**
KDAK pmax pmax
comp=Z,14nm,1.2s
KDAK Kodiak Island 46.59 42 P **P** **12 33 10.7 +1.3**
KURK Kurchatov 46.77 308 *e*P **P** **12 33 10.7 -0.1**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 46.77 308 P **P** **12 33 10.6 -0.3**
KURBB Kurchatov Arra 46.84 308 P **P** **12 33 11.5 +0.1**
comp=Z,5.1nm,0.6s,baz=85,slow=7.8,SNR=4.4
MDM Murphy Dome 48.56 32 P **P** **12 33 25.4 +0.8**
COLA College 48.72 32 *i*P **P** **12 33 23.1 -2.6**
COLA pmax pmax
comp=Z,2.0nm,0.8s
HDA Harding Lake 49.11 33 P **P** **12 33 30.0 +1.1**
HDA IAmb IAmb 12 33 40.7
comp=Z,3.8nm,0.7s
IL31 49.13 32 P **P** **12 33 28.5 -0.4**
IL31 IAmb IAmb 12 33 30.5
comp=Z,4.2nm,0.9s
ILAR Eielson Array 49.13 32 P **P** **12 33 30.2 +1.3**
comp=Z,2.4nm,0.8s,baz=272,slow=6.5,SNR=27
ILAR Eielson Array 49.13 32 P **P** **12 33 28.4 -0.6**
GLI Glacier Island 49.22 37 P **P** **12 33 28.9 -0.8**
GLI IAmb IAmb 12 33 45.4
comp=Z,9.5nm,1.2s
TARG Taragay, Kyrgy 49.31 297 P **P** **12 33 30.2 -1.0**
TARG IAmb IAmb 12 33 45.3
comp=Z,6.0nm,0.8s
COEN Coen 50.56 179 P **P** **12 33 41.6 +1.3**
COEN IAmb IAmb 12 33 50.1
comp=Z,11nm,1.2s
MTN Manton Dam 50.61 195 P **P** **12 33 40.4 -0.3**
AAK Ala-Archa 51.39 299 *i*P **P** **12 33 45.4 -1.2**
AAK pmax pmax
comp=Z,1.0nm,0.9s
AAK Ala-Archa 51.39 299 P **P** **12 33 46.9 +0.3**
AAK IAmb IAmb 12 34 02.7
comp=Z,3.3nm,0.7s
BCAR Beaver Creek A 51.50 34 P **P** **12 33 48.2 +1.2**
EGAK Eagle 51.58 32 P **P** **12 33 48.8 +1.3**
KK31 Karatay Array 54.01 301 P **P** **12 34 05.2 -0.6**
KK31 pmax pmax
comp=Z,7.0nm,1.1s
KK31 Karatay Array 54.01 301 P **P** **12 34 05.2 -0.6**
KK31 IAmb IAmb 12 34 17.3
comp=Z,6.7nm,1.1s
KKAR Karatay Array 54.01 301 P **P** **12 34 06.9 +1.0**
KKAR Karatay Array 54.01 301 P **P** **12 34 06.8 +1.0**
KKAR Karatay Array 54.01 301 P **P** **12 34 05.0 -0.9**
KKAR IAmb IAmb 12 34 17.3
comp=Z,6.7nm,1.1s
INK Inuvik 54.10 27 P **P** **12 34 07.4 +1.4**
comp=Z,1.2nm,0.7s,baz=289,slow=7.9,SNR=3.9
INK Inuvik 54.10 27 P **P** **12 34 07.6 +1.6**
INK pmax pmax
comp=Z,7.0nm,1.3s
INK Inuvik 54.10 27 P **P** **12 34 07.6 +1.6**
INK IAmb IAmb 12 34 08.7
comp=Z,6.9nm,1.2s
GSI Gunungsitoli 54.53 240 P **P** **12 34 10.8 +0.9**
GAR Garm 55.61 296 P **P** **12 34 18.2 +0.6**
CTA Charters Tower 56.76 176 P **P** **12 34 27.3 +1.6**
comp=Z,5.9nm,1.1s,baz=306,slow=9.6,SNR=2.2
WB0 Warramunga Arr 56.86 189 P **P** **12 34 26.6 +0.2**
FITZ Fitzroy Crossi 56.96 199 P **P** **12 34 28.2 +1.0**
comp=Z,4.0nm,1.1s,baz=18,slow=9.1,SNR=7.5
WRAB Tennant Creek 57.03 189 *i*P **P** **12 34 30.8 +3.2**
WRAB pmax pmax
comp=Z,9.0nm,1.0s
WRAB Tennant Creek 57.03 189 P **P** **12 34 27.2 -0.4**
WR0 Warramunga Arr 57.03 189 P **P** **12 34 28.1 +0.5**
WR0 IAmb IAmb 12 34 37.5
comp=Z,9.1nm,1.1s
WB2 Warramunga Arr 57.04 189 P **P** **12 34 28.0 +0.3**
WRA Warramunga Arr 57.04 189 P **P** **12 34 27.9 +0.3**
comp=Z,4.2nm,0.7s,baz=7.3,slow=6.9,SNR=52
WRA LR LR 12 58 09.0
comp=Z,34nm,20.1s,baz=85,slow=35
WRA Warramunga Arr 57.04 189 P **P** **12 34 28.0 +0.3**
WRA Warramunga Arr 57.04 189 P **P** **12 34 27.2 -0.5**
ARU Arti 57.10 319 *ci*P **P** **12 34 27.5 -0.3**
ARU 12 35 20.4
ARU 12 36 30.9
ARU S **S** **12 42 22.9 +0.3**
ARU SS **SS** **12 46 05.7 -5.1**
ARU pmax pmax
comp=Z,16nm,2.3s
ABKAR Akbulak array 58.76 311 P **P** **12 34 39.6 +0.1**
EUNU Eureka 60.21 9 P **P** **12 34 49.2 +0.1**

EUNU IAmb IAmb 12 34 50.4
comp=Z,5.5nm,0.9s
AS31 Alice Springs 60.77 189 P **P** **12 34 54.4 +0.8**
ASAR Alice Springs 60.77 189 P **P** **12 34 54.2 +0.6**
comp=Z,2.5nm,0.7s,baz=13,slow=7.1,SNR=24
SPA0 Spitsbergen Ar 60.86 349 P **P** **12 34 53.1 -0.5**
KIRV Kirov 60.94 323 *i*P **P** **12 34 54.7 +0.4**
RES Resolute Bay 62.52 15 P **P** **12 35 06.2 +1.4**
RES pmax pmax
comp=Z,12nm,1.1s
RES Resolute Bay 62.52 15 P **P** **12 35 06.2 +1.4**
HRA Herat 63.44 294 P **P** **12 35 12.7 +0.9**
YKA Yellowknife Ar 63.48 30 P **P** **12 35 12.2 +0.9**
comp=Z,1.4nm,0.8s,baz=302,slow=6.8,SNR=9.1
YKA Yellowknife Ar 63.48 30 *i*P **P** **12 35 12.6 +1.3**
YKA pmax pmax
comp=Z,1.0nm,0.8s
KLMR Klimovskoe 64.39 328 *e*P **P** **12 35 16.3 -1.0**
KLMR pmax pmax
comp=Z,12nm,1.3s
KLMR Klimovskoe 64.39 328 *e*P **P** **12 35 16.4 -0.9**
KLMR AMP 12 35 26.3
comp=Z,12nm,1.3s
ARCES ARCESS Array B 64.47 340 LR LR 13 05 56.9
comp=Z,44nm,20.6s,baz=74,slow=38
GEYT Alibeck 64.73 299 LR LR 13 06 27.7
comp=Z,39nm,18.6s,baz=165,slow=39
STKA Stephens Creek 68.40 181 P **P** **12 35 44.3 +1.1**
comp=Z,1.1nm,0.6s,baz=339,slow=9.0,SNR=4.4
STKA Stephens Creek 68.40 181 P **P** **12 35 42.9 -0.3**
H04A Detroit Lake 68.50 50 P **P** **12 35 44.7 +0.7**
H04A IAmb IAmb 12 35 47.1
comp=Z,4.4nm,0.9s
OBN Obninsk 68.78 324 *e*P **P** **12 35 44.0 -1.5**
OBN *e* 12 36 08.4
OBN pmax pmax
comp=Z,8.0nm,0.5s
FINES FINESS Array B 69.39 333 P **P** **12 35 49.9 +0.7**
comp=Z,2.2nm,0.7s,baz=46,slow=11,SNR=6.3
FINES LR LR 13 10 38.7
comp=Z,64nm,18.2s,baz=72,slow=40
FINES FINESS Array B 69.39 333 *i*P **P** **12 35 50.5 +1.3**
FINES pmax pmax
comp=Z,2.0nm,0.7s
PINE Pine Mountain 69.73 50 P **P** **12 35 54.6 +2.7**
K05A Summer Lake 70.32 51 P **P** **12 35 57.3 +1.7**
MOD Modoc Plateau 71.13 52 P **P** **12 36 02.1 +1.6**
BMO Blue Mountains 71.35 48 P **P** **12 36 03.2 +1.6**
BMO pmax pmax
comp=Z,4.0nm,1.0s
BMO Blue Mountains 71.35 48 P **P** **12 36 03.2 +1.6**
JTMT Jette 71.47 44 P **P** **12 36 04.0 +1.6**
JTMT IAmb IAmb 12 36 04.7
comp=Z,4.1nm,0.8s
J08A Circle Bar Ran 71.47 49 P **P** **12 36 04.7 +2.3**
KBZ Khabaz 71.72 311 P **P** **12 36 06.4 +2.7**
comp=Z,2.3nm,0.8s,baz=111,slow=5.2,SNR=2.4
KIV Kislovodsk 71.72 311 *e*P **P** **12 36 02.9 -0.9**
KIV pmax pmax
comp=Z,17nm,1.0s
PAHR Pah Rah Range 72.92 53 P **P** **12 36 12.3 +1.2**
CMB Columbia Colle 73.20 55 P **P** **12 36 14.1 +1.4**
CMB pmax pmax
comp=Z,8.0nm,1.4s
CMB Columbia Colle 73.20 55 P **P** **12 36 14.1 +1.4**
CMB IAmb IAmb 12 36 15.7
comp=Z,8.3nm,1.4s
YERR Yerington 73.42 54 P **P** **12 36 16.2 +2.1**
YERR IAmb IAmb 12 36 17.4
comp=Z,6.7nm,1.1s
HRY Holter Researc 73.43 44 P **P** **12 36 15.2 +1.2**
LRM Limekiln Ridge 73.61 45 P **P** **12 36 17.2 +2.0**
HLID Hailey 73.79 48 P **P** **12 36 17.4 +1.1**
DLMT Dillon 73.80 45 P **P** **12 36 17.4 +1.2**
DLMT IAmb IAmb 12 36 19.1
comp=Z,5.3nm,0.7s
KVN Kaiserville 74.11 53 IAmb IAmb 12 36 21.5
comp=Z,8.7nm,1.2s
BOZ Bozeman (W) 74.20 45 IAmb IAmb 12 36 21.4
comp=Z,5.0nm,0.8s
LHV Little Huntoon 74.31 54 IAmb IAmb 12 36 23.6
comp=Z,8.8nm,1.1s
NVAR Mina Array Bea 74.33 54 P **P** **12 36 21.9 +2.3**
comp=Z,2.2nm,0.7s,baz=295,slow=5.7,SNR=22
NVAR Mina Array Bea 74.33 54 P **P** **12 36 20.0 +0.4**
NB2 NORSAR Subarra 74.69 338 P P 12 36 32.2 +11
comp=Z,2.4nm,0.9s,baz=39,slow=6.2
NOA NORSAR Array B 74.69 338 P **P** **12 36 21.9 +0.9**
comp=Z,1.3nm,0.9s,baz=40,slow=5.7,SNR=2.8
NOA LR LR 13 15 07.7
comp=Z,45nm,18.2s,baz=30,slow=40
YHB Horse Butte 74.96 45 P **P** **12 36 25.2 +2.1**
AKASG Malin Array Be 75.00 323 P **P** **12 36 23.1 +0.2**
comp=Z,0.5nm,0.3s,baz=46,slow=6.5,SNR=4.9
AKASG LR LR 13 11 56.4
comp=Z,48nm,19.0s,baz=55,slow=38
AKASG Malin Array Be 75.00 323 *i*P **P** **12 36 23.7 +0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 75.00 323 *ce*P **P** **12 36 22.7 -0.2**
YHH Holmes Hill 75.13 45 P **P** **12 36 25.6 +1.4**
IMW Indian Meadow 75.62 46 IAmb IAmb 12 36 30.7
comp=Z,5.0nm,0.8s
RLMT Red Lodge 75.81 44 P **P** **12 36 28.4 +0.4**
TPAW Teton Pass 75.86 46 P **P** **12 36 29.4 +1.0**
TPAW IAmb IAmb 12 36 30.9
comp=Z,3.6nm,0.8s
SFJD Kangerlussuaq 75.96 5 LR LR 13 11 47.0
comp=Z,30nm,18.9s,baz=339,slow=37
TPNV Topopah Spring 76.52 54 IAmb IAmb 12 36 35.2
comp=Z,6.5nm,1.2s
HWUT Hardware Ranch 76.65 48 P **P** **12 36 33.8 +1.0**
HWUT IAmb IAmb 12 36 36.2
comp=Z,4.6nm,1.1s
FRB Frobisher Bay 76.71 14 LR LR 13 14 55.5
comp=Z,32nm,18.2s,baz=8.0,slow=39
DUG Dugway, Tooele 76.75 50 P **P** **12 36 34.8 +1.5**
DUG pmax pmax
comp=Z,4.0nm,0.8s
DUG Dugway, Tooele 76.75 50 P **P** **12 36 34.8 +1.5**
DUG IAmb IAmb 12 36 36.2
comp=Z,4.3nm,0.8s
PRN Pahroc Range 77.02 53 P **P** **12 36 35.4 +0.5**
BW06 Boulder Array 77.11 46 P **P** **12 36 36.4 +1.0**
PDAR Pinedale Array 77.11 46 P **P** **12 36 37.0 +1.6**
comp=Z,2.0nm,0.6s,baz=278,slow=2.4,SNR=30
PDAR Pinedale Array 77.11 46 P **P** **12 36 36.0 +0.6**
SHPR Sheep Range 77.48 54 P **P** **12 36 36.1 -1.5**
LCMT Little Creek M 78.41 52 P **P** **12 36 42.8 +0.2**
MTPU Mount Pierson 78.45 51 P **P** **12 36 45.5 +2.4**
P17A Butcher Ranch, 78.45 49 P **P** **12 36 44.4 +1.7**
RDMU Red Mountain 78.47 48 P **P** **12 36 44.7 +1.6**
BURAR Bucovina Array 79.02 322 P **P** **12 36 45.4 -0.3**
U15A North Rim 79.37 52 P **P** **12 36 49.2 +1.1**
O20A White River Ci 79.53 47 P **P** **12 36 49.0 +0.2**
O20A IAmb IAmb 12 36 51.5
comp=Z,4.1nm,0.8s
BRTR Keskin Array B 79.66 312 LR LR 13 18 45.5
comp=Z,15nm,18.0s,baz=342,slow=41
OJC Ojcow 79.69 327 P **P** **12 36 50.7 +1.4**
OJC pmax pmax
comp=Z,6.0nm,0.9s
PV21 Cone Mtn., Par 80.10 49 P **P** **12 36 53.6 +1.6**
PV21 IAmb IAmb 12 36 55.0
comp=Z,6.8nm,0.7s
PV23 Carpenter Ridg 80.14 49 P **P** **12 36 51.8 -0.5**
PV22 Blue Mesa, Par 80.23 49 IAmb IAmb 12 36 56.2
comp=Z,10nm,1.2s
PV04 Paradox Valley 80.25 49 IAmb IAmb 12 36 55.9
comp=Z,5.6nm,0.9s
PV16 Nyswonger Mesa 80.29 49 IAmb IAmb 12 36 56.1
comp=Z,6.6nm,0.8s
PV11 David Mesa, Pa 80.33 49 IAmb IAmb 12 36 57.0
comp=Z,5.3nm,0.6s
PV12 Saucer Basin, 80.36 49 IAmb IAmb 12 37 08.4
comp=Z,4.5nm,0.8s
PV03 Paradox Valley 80.37 49 IAmb IAmb 12 36 56.5
comp=Z,6.1nm,0.8s
N23A Red Feather La 80.38 46 IAmb IAmb 12 36 56.8
comp=Z,7.1nm,1.1s
WUAZ Wupatki 80.52 53 P **P** **12 36 53.6 -0.6**
WUAZ IAmb IAmb 12 36 58.1
comp=Z,5.7nm,1.0s
PV15 Paradox Valley 80.53 49 P **P** **12 36 53.7 -0.6**
PV15 IAmb IAmb 12 36 58.3

	comp=Z,3.9nm,0.7s							
OSTC	**Ostas**	**80.98**	**329**		AMS	AMS	13 15 20.0	
	comp=Z,100nm,15.2s							
UPC	**Upice**	**81.10**	**329**		AMS	AMS	13 15 10.0	
	comp=Z,200nm,19.7s							
MVCO	**Mesa Verde**	**81.25**	**50**		P	**P**	**12 36 58.0**	**-0.2**
MVCO					IAmb	IAmb	12 37 01.1	
	comp=Z,6.2nm,1.0s							
CLL	**Collm**	**81.70**	**331**	*e*	P	**P**	**12 37 00.0**	**0.0**
S22A	**4UR Ranch, Cre**	**81.92**	**49**		P	**P**	**12 37 03.7**	**+1.9**
GOPC	**GO Pecny, Ondr**	**82.06**	**329**		AMS	AMS	13 16 10.0	
	comp=Z,100nm,14.8s							
SDCO	**Great Sand Dun**	**82.71**	**48**		P	**P**	**12 37 07.0**	**+1.1**
NKC	**Novy Kostel**	**82.76**	**330**		AMS	AMS	13 20 40.0	
	comp=Z,100nm,17.8s							
KHC	**Kasperske Hory**	**83.17**	**329**	*ce*	P	**P**	**12 37 08.0**	**+0.3**
KHC					pmax	pmax		
	comp=Z,8.0nm,1.7s							
KHC	**Kasperske Hory**	**83.17**	**329**	*e*	P	**P**	**12 37 08.3**	**+0.6**
KHC				*ep*	P	**pwP**	**12 37 17.9**	**+3.5**
KHC					AMS	AMS	13 16 40.0	
	comp=Z,100nm,15.0s							
GERES	**GERESS Array B**	**83.34**	**329**		P	**P**	**12 37 09.1**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=50,slow=6.8,SNR=2.7							
GERES	**GERESS Array B**	**83.34**	**329**		P	**P**	**12 37 08.3**	**-0.5**
PPT	**Papeete**	**83.73**	**117**		LR	LR	13 12 16.4	
	comp=Z,49nm,18.9s,baz=192,slow=34							
T25A	**Trinidad**	**83.76**	**48**		P	**P**	**12 37 11.1**	**-0.2**
T25A					IAmb	IAmb	12 37 14.2	
	comp=Z,5.7nm,0.9s							
ANMO	**Albuquerque**	**83.97**	**50**	*ce*	P	**P**	**12 37 12.3**	**-0.1**
ANMO					pmax	pmax		
	comp=Z,5.0nm,1.3s							
BNM	**Barren Site**	**84.39**	**51**		P	**P**	**12 37 16.0**	**+1.5**
TX31	**Lajitas Ar. Si**	**89.47**	**53**		P	**P**	**12 37 40.2**	**+1.0**
TX32	**Lajitas Array**	**89.47**	**53**		P	**P**	**12 37 40.2**	**+1.0**
TX32					IAmb	IAmb	12 37 41.7	
	comp=Z,2.9nm,0.9s							
TXAR	**Lajitas Array**	**89.47**	**53**		P	**P**	**12 37 40.8**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=296,slow=3.2,SNR=29							
U40A	**Yellville**	**90.84**	**42**		P	**P**	**12 37 45.9**	**+0.6**
MIAR	**Mount Ida**	**91.80**	**43**		P	**P**	**12 37 50.9**	**+1.1**
MIAR					pmax	pmax		
	comp=Z,5.0nm,1.0s							
MIAR	**Mount Ida**	**91.80**	**43**		P	**P**	**12 37 50.9**	**+1.1**
ESDC	**Sonseca Array**	**97.84**	**335**		LR	LR	13 27 16.6	
	comp=Z,49nm,18.1s,baz=180,slow=38							
QSPA	**South Pole Qui**	**126.61**	**180**		PKP	**PKiKP**	**12 43 44.1**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=294,slow=2.4,SNR=6.8							
LPAZ	**La Paz**	**145.96**	**61**		PKPbc	**PKPab**	**12 44 23.4**	**+0.3**
	comp=Z,3.3nm,0.6s,baz=352,slow=4.3,SNR=15							
LPAZ	**La Paz**	**145.96**	**61**		PKP2	**PKPab**	**12 44 23.3**	**+0.2**
LPAZ	**La Paz**	**145.96**	**61**		PKPbc	**PKPab**	**12 44 23.3**	**+0.2**
H03N2	**Juan Fernandez**	**146.08**	**97**		T	T	15 28 04.6	
	baz=290,slow=76,SNR=7.7							
H03N3	**Juan Fernandez**	**146.09**	**97**		T	T	15 28 05.5	
	baz=290,slow=76,SNR=8.0							
H03N1	**Juan Fernandez**	**146.09**	**97**		T	T	15 28 03.9	
	baz=290,slow=76,SNR=7.0							

*IDC **15** 12:29:56.9±0.7,38˚.26S×92˚.56W,h0km,mb4.2/11,*
mb1 4.4/12,mb1mx4.3/26,mbtmp4.2/12,ML3.8/1,MS3.7/9,
Ms1 3.6/9,ms1mx3.5/21,Error ellipse: s-maj=23.5km
s-min=18.2km az=115.0
*NEIC **15** 12:29:58.8±1.8,38˚.3S±0˚.1×92˚.6W±0˚.2,h10km±1km,*
mb4.5/34,Error ellipse: s-maj=22.6km s-min=20.3km
az=280.0

ISC 15 12:29:58.3±0.6,38˚.3S±0˚.1×92˚.7W±0˚.1,h10km,n66,
σ1s19/54,mb4.5/19,MS3.7/9,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**11.96**	**72**	T	T	12 45 28.6	
	baz=243,slow=74,SNR=2282						
H03S1	**Juan Fernandez**	**11.97**	**73**	T	T	12 45 24.2	
	baz=243,slow=74,SNR=4230						
H03S3	**Juan Fernandez**	**11.97**	**72**	T	T	12 45 23.9	
	baz=243,slow=74,SNR=3576						
H03N3	**Juan Fernandez**	**12.13**	**71**	T	T	12 45 24.7	
	baz=250,slow=72,SNR=1057						
H03N2	**Juan Fernandez**	**12.13**	**71**	T	T	12 45 37.7	
	baz=250,slow=72,SNR=1005						
H03N1	**Juan Fernandez**	**12.14**	**71**	T	T	12 45 41.7	
	baz=250,slow=72,SNR=1096						
LC01	**Cunco**	**16.26**	**99**	Pn	**P**	**12 33 54.5**	**+4.6**
GO05	**Huala**	**16.95**	**85**	Pn	**Pn**	**12 33 55.5**	**0.0**
GO05					**P**	**12 33 55.8**	**-1.7**
BI02	**San Fabin de**	**17.05**	**91**		**P**	**12 33 58.8**	**+0.1**
PLCA	**Paso Flores**	**17.23**	**105**	P	**P**	**12 33 59.8**	**-0.9**
	0.1nm,0.3s,baz=212,slow=13,SNR=3.5						
RPN	**Rapa Nui**	**17.87**	**304**	LR	LR	12 38 52.3	
	comp=Z,383nm,18.1s,baz=148,slow=30						
BO02	**Sierra Bellavi**	**17.91**	**86**		**P**	**12 34 07.8**	**-0.4**
BO02				IAmb	IAmb	12 34 28.6	
	comp=Z,43nm,1.9s						
VA03	**San Esteban**	**18.80**	**80**	P	**Pn**	**12 34 18.9**	**+0.5**
CO02	**Combarbal**	**19.12**	**75**	P	**Pn**	**12 34 23.3**	**+0.9**
CO02				IAmb	IAmb	12 34 26.9	
	comp=Z,25nm,1.1s						
CO03	**El Pedregal**	**19.53**	**74**	P	**Pn**	**12 34 27.9**	**+0.6**
GO04	**Tololo Observa**	**19.77**	**72**	P	**Pn**	**12 34 31.7**	**+1.5**
GO04				IAmb	IAmb	12 34 32.6	
	comp=Z,24nm,1.0s						
CO01	**Juntas del Tor**	**20.39**	**73**	P	**P**	**12 34 36.0**	**+0.5**
CO01				IAmb	IAmb	12 34 41.5	
	comp=Z,17nm,1.1s						
LCO	**Las Campanas**	**20.44**	**70**	P	**P**	**12 34 36.6**	**+0.5**
LCO				IAmb	IAmb	12 34 41.4	
	comp=Z,45nm,1.6s						
ZON	**Zonda**	**20.75**	**78**	P	**P**	**12 34 38.8**	**-0.4**
ZON				IAmb	IAmb	12 34 44.4	
	comp=Z,40nm,1.3s						
AC05	**El Transito**	**20.85**	**70**	P	**P**	**12 34 41.3**	**+0.9**
AC05				IAmb	IAmb	12 34 50.3	
	comp=Z,18nm,1.1s						
GO03	**Copiap**	**21.57**	**67**	P	**P**	**12 34 47.8**	**-0.3**
GO03				IAmb	IAmb	12 34 51.7	
	comp=Z,46nm,1.4s						
AC02	**Maricunga**	**22.81**	**67**	P	**P**	**12 35 01.9**	**+0.1**
AC02				IAmb	IAmb	12 35 04.5	
	comp=Z,25nm,1.0s						
PB14	**IPOC Station P**	**23.28**	**61**	P	**P**	**12 35 06.5**	**+0.1**
PB14				IAmb	IAmb	12 35 08.7	
	comp=Z,25nm,1.2s						
GO02	**Mina Guanaco**	**23.50**	**63**	P	**P**	**12 35 08.4**	**-0.2**
GO02				IAmb	IAmb	12 35 20.0	
	comp=Z,26nm,1.1s						
PB15	**IPOC Station P**	**24.85**	**60**	P	**P**	**12 35 22.7**	**+1.5**
PB06	**IPOC Station P**	**25.13**	**59**	P	**P**	**12 35 23.2**	**-0.5**
PB07	**IPOC Station P**	**25.60**	**56**	P	**P**	**12 35 28.3**	**+0.3**
LVC	**Limon Verde**	**25.64**	**59**	P	**P**	**12 35 27.5**	**-1.0**
	comp=Z,10nm,0.9s,baz=216,slow=9.4,SNR=4.7						
LVC	**Limon Verde**	**25.64**	**59**	P	**P**	**12 35 28.9**	**+0.4**
TA01	**Diego Aracena**	**26.24**	**54**	P	**P**	**12 35 33.4**	**-0.2**
MNMC	**Minye Minye**	**27.67**	**53**	P	**P**	**12 35 47.4**	**+0.7**
MNMC				IAmb	IAmb	12 35 48.3	
	comp=Z,18nm,1.3s						
PB16	**IPOC Station P**	**28.32**	**52**	P	**P**	**12 35 53.7**	**+0.8**
PB16				IAmb	IAmb	12 35 54.4	
	comp=Z,7.0nm,1.0s						
LPAZ	**La Paz**	**30.72**	**51**	P	**P**	**12 36 15.2**	**+1.0**
	comp=Z,6.4nm,0.9s,baz=203,slow=7.4,SNR=16						
LPAZ				LR	LR	12 45 58.3	
	comp=Z,115nm,21.9s,baz=244,slow=31						
LPAZ	**La Paz**	**30.72**	**51**	P	**P**	**12 36 15.2**	**+1.0**
LPAZ				IAmb	IAmb	12 36 16.1	
	comp=Z,15nm,1.2s						
CPUP	**Villa Florida**	**31.96**	**79**	P	**P**	**12 36 23.1**	**-1.3**
	comp=Z,3.1nm,0.7s,baz=261,slow=9.0,SNR=9.2						
CPUP				LR	LR	12 48 07.9	
	comp=Z,103nm,18.6s,baz=240,slow=34						
CPUP	**Villa Florida**	**31.96**	**79**	P	**P**	**12 36 23.3**	**-1.1**
CPUP				IAmb	IAmb	12 36 38.3	
	comp=Z,9.9nm,1.4s						
ATAH	**Atahualpa**	**33.58**	**26**	P	**P**	**12 36 39.9**	**+0.8**
	comp=Z,8.1nm,0.7s,baz=209,slow=4.1,SNR=6.0						
SAML	**Samuel**	**39.43**	**50**	P	**P**	**12 37 28.0**	**-0.6**
OTAV	**Otavalo**	**40.49**	**22**	P	**P**	**12 37 37.3**	**-0.6**
OTAV				IAmb	IAmb	12 37 39.5	
	comp=Z,8.6nm,0.9s						
BDFB	**Brasilia**	**45.18**	**73**	P	**P**	**12 38 14.1**	**-1.6**
	comp=Z,7.0nm,0.8s,baz=158,slow=6.7,SNR=4.6						
BDFB				LR	LR	12 56 08.3	
	comp=Z,86nm,19.4s,baz=259,slow=35						

BDFB	**Brasilia**	**45.18**	**73**		P	**P**	**12 38 15.5**	**-0.2**
QSPA	**South Pole Qui**	**51.96**	**180**		P	**P**	**12 39 08.7**	**+1.5**
	comp=Z,2.2nm,1.1s,baz=117,slow=7.9,SNR=3.9							
QSPA	**South Pole Qui**	**51.96**	**180**		P	**P**	**12 39 07.3**	**0.0**
MEH	**Mehetia**	**52.14**	**277**	*eT*	T	T	13 34 43.5	
	comp=Z,23nm,0.3s							
TIAR	**Tiarei**	**53.32**	**276**	*eT*	T	T	13 36 12.2	
	comp=Z,3.2nm,0.3s							
SNAA	**Sanae**	**54.14**	**157**		P	**P**	**12 39 24.0**	**+0.9**
VNDA	**Vanda**	**56.20**	**195**		P	**P**	**12 39 38.0**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=94,slow=13,SNR=2.2							
VNDA					LR	LR	12 59 41.4	
	comp=Z,52nm,18.5s,baz=46,slow=32							
TXAR	**Lajitas Array**	**68.03**	**350**		P	**P**	**12 40 58.3**	**+0.4**
	comp=Z,1.1nm,1.0s,baz=173,slow=6.9,SNR=7.2							
TXAR	**Lajitas Array**	**68.03**	**350**		P	**P**	**12 40 58.5**	**+0.7**
MAW	**Mawson**	**72.83**	**170**		P	**P**	**12 41 25.6**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=186,slow=5.4,SNR=3.9							
MAW	**Mawson**	**72.83**	**170**		P	**P**	**12 41 24.9**	**-1.8**
CCUT	**Cedar City**	**77.83**	**343**		P	**P**	**12 41 57.5**	**+1.6**
PRN	**Pahroc Range**	**78.08**	**342**		P	**P**	**12 41 58.2**	**+1.0**
PRN					IAmb	IAmb	12 42 07.8	
	comp=Z,3.6nm,1.1s							
NVAR	**Mina Array Bea**	**79.89**	**340**		P	**P**	**12 42 07.7**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=161,slow=5.3,SNR=10							
NVAR	**Mina Array Bea**	**79.89**	**340**		P	**P**	**12 42 07.6**	**+0.3**
PD31	**Pinedale Array**	**82.11**	**348**		P	**P**	**12 42 19.4**	**+0.5**
PDAR	**Pinedale Array**	**82.11**	**348**		P	**P**	**12 42 19.0**	**0.0**
	comp=Z,0.9nm,0.8s,baz=180,slow=4.4,SNR=9.3							
PDAR	**Pinedale Array**	**82.11**	**348**		P	**P**	**12 42 17.5**	**-1.4**
DZM	**Mont Dzumac**	**84.70**	**246**	*e*	LR	LR	13 09 09.4	
	comp=Z,108nm,23.7s							
BOSA	**Boshof**	**91.73**	**129**		LR	LR	13 20 06.4	
	comp=Z,10nm,18.1s,baz=224,slow=33							
DBIC	**Dimbokro**	**92.36**	**83**		LR	LR	13 20 09.2	
	comp=Z,29nm,20.1s,baz=198,slow=33							
STKA	**Stephens Creek**	**93.85**	**224**		LR	LR	13 18 31.6	
	comp=Z,52nm,18.1s,baz=196,slow=31							
SCHQ	**Schefferville**	**95.34**	**15**		LR	LR	13 24 44.9	
	comp=Z,31nm,19.0s,baz=98,slow=34							
KSRS	**Kons Array**	**148.13**	**281**		PKPbc	**PKPbc**	**12 49 42.3**	**-1.8**
	comp=Z,1.2nm,1.0s,baz=108,slow=4.0,SNR=3.5							
CMAR	**Chiang Mai Arr**	**157.82**	**210**		PKPab	**PKPab**	**12 50 30.4**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=152,slow=4.0,SNR=4.7							
CMAR	**Chiang Mai Arr**	**157.82**	**210**		PKPdf	**PKPdf**	**12 49 53.2**	**-2.3**
CMAR					PKPab	**sPKPab**	**12 50 30.9**	**-0.3**

*ISK **15** 12:33:40.2,40˚.71N×37˚.97E,h5km,ML2.5/5*
*DDA **15** 12:33:41.0,40˚.69N×38˚.02E,h7km±2km,ML1.8*
ISC 15 12:33:40.7±1.2,40˚.70N±0˚.04×37˚.98E±0˚.03,h12km±14km,
n9,σ0s61/15,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDU	**Ordu-Boztepe**	**0.30**	**342**	*i* P	**Pb**	**12 33 47.9**	**-0.2**
ORDU				*i* S	**Sb**	**12 33 52.4**	**-0.7**
ORDU				IAML		12 33 53.0	
	comp=N,218nm,0.4s						
ORDU				IAML		12 33 53.0	
	comp=E,152nm,0.1s						
SUSE	**Susehri**	**0.52**	**161**	*i* P	**Pg**	**12 33 51.3**	**+0.4**
SUSE				*i* S	**Sg**	**12 33 58.6**	**+0.7**
SUSE				IAML		12 34 00.0	
	comp=E,48nm,0.2s						
SUSE				IAML		12 34 01.0	
	comp=N,65nm,0.5s						
RSDY	**Resadiye-TOKAT**	**0.58**	**239**	PG	**Pg**	**12 33 52.1**	**0.0**
RSDY				SG	**Sg**	**12 34 00.4**	**+0.6**
ESPY	**Espiye-Giresun**	**0.61**	**69**	PG	**Pg**	**12 33 52.6**	**0.0**
ESPY				SG	**Sb**	**12 34 01.4**	**-0.4**
CUZAR	**Zara_SIVAS**	**0.83**	**191**	*i* P	**Pg**	**12 33 56.6**	**-0.2**
CUZAR				*i* S	**Sg**	**12 34 06.8**	**-0.7**
CUZAR				IAML		12 34 08.0	
	comp=N,22nm,0.8s						
SVSK	**Karacayir**	**1.08**	**224**	PN	**Pg**	**12 34 00.6**	**-1.0**
KELT	**Kelkit**	**1.12**	**119**	*i* P	**Pg**	**12 34 01.9**	**-0.4**
KELT				*i* S	**Sg**	**12 34 16.7**	**-0.3**
KELT				IAML		12 34 19.0	
	comp=N,22nm,0.2s						
KELT				IAML		12 34 20.0	
	comp=E,21nm,0.3s						
KVT	**Kavak**	**1.51**	**285**	PN	**Pn**	**12 34 08.5**	**+0.9**
ARPR	**Arapgir-MALATY**	**1.63**	**170**	PN	**Pb**	**12 34 10.6**	**-0.2**

*IDC **15** 12:34:32.6±0.7,6˚.85S×127˚.61E,h0km,mb4.0/10,*
mb1 4.3/14,mb1mx4.1/35,mbtmp4.2/14,ML4.6/4,MS3.2/6,
Ms1 3.2/6,ms1mx2.8/37,Error ellipse: s-maj=23.6km
s-min=14.7km az=83.0
*NEIC **15** 12:34:33.2±2.7,7˚.00S±0˚.04×127˚.81E±0˚.07,h10km±1km,*
mb4.4/17,Error ellipse: s-maj=12.0km s-min=5.6km
az=112.0
*DJA **15** 12:34:37.2±0.2,7˚.5S±3˚×12˚8E±˚,h10km±10km,M4.5/12,*
mb4.7/12,mB4.9/6,MLv4.6/12,Mw(mB)4.2/6,Mwp5.0/1
ISC 15 12:34:33.2±0.5,7˚.05S±0˚.05×127˚.86E±0˚.06,h10km,n61,
σ2s09/64,mb4.3/16,MS3.2/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.23**	**39**	P	**Pn**	**12 35 23.5**	**-0.6**
SAUI	**Saumlaki**	**3.54**	**105**	Pn	**Pn**	**12 35 27.8**	**-0.5**
NLAI	**Namlea**	**3.86**	**349**	P	**Pn**	**12 35 31.9**	**-0.8**
SOEI	**Soe**	**4.46**	**233**	P	**Pn**	**12 35 43.9**	**+2.8**
SOEI	**Soe**	**4.46**	**233**	Pn	**Pn**	**12 35 41.6**	**+0.6**
BATI	**Baumata**	**5.20**	**233**	Pn	**Pn**	**12 35 52.9**	**+1.7**
	72nm,0.3s,baz=94,slow=0.8,SNR=53						
BATI				Sn	**Sn**	**12 36 51.2**	**-0.2**
	5.1nm,0.3s,baz=40,slow=8.7,SNR=1.1						
BATI				LR	LR	12 37 20.3	
	comp=Z,246nm,18.5s,baz=98,slow=33						
BATI	**Baumata**	**5.20**	**233**	P	**Pn**	**12 35 53.3**	**+2.1**
	1.0nm4μm3μm335nm,0.8s						
SANI	**Sanana**	**5.30**	**339**	P	**Pn**	**12 35 51.3**	**-1.3**
	0.4nm2μm156nm,0.6s						
MMRI	**Maumere**	**5.79**	**254**	P	**Pn**	**12 36 01.6**	**+2.3**
	1.5nm4μm457nm,0.8s						
MMRI	**Maumere**	**5.79**	**254**	Pn	**Pn**	**12 35 59.1**	**-0.1**
FAKI	**Fak Fak**	**6.00**	**47**	P	**Pn**	**12 36 04.4**	**+2.3**
	0.2nm48nm,1.1s						
FAKI	**Fak Fak**	**6.00**	**47**	Pn	**Pn**	**12 36 04.6**	**+2.5**
EDFI	**Ende, Flores**	**6.34**	**254**	P	**Pn**	**12 36 07.9**	**+1.0**
	0.2nm601nm51nm,0.7s						
MTN	**Manton Dam**	**6.60**	**151**	Pn	Pn	12 36 15.7	+5.2
SIJI	**Sorong**	**7.01**	**29**	Pn	**Pn**	**12 36 16.4**	**+0.3**
	4.5nm,0.3s,baz=203,slow=23,SNR=8.6						
SIJI				Sn	**Sn**	**12 37 33.6**	**-2.4**
	0.6nm,0.3s,baz=42,slow=23,SNR=1.1						
BNSI	**Bone**	**8.15**	**288**	P	**Pn**	**12 36 30.1**	**-1.6**
	36nm,0.7s						
KAPI	**Kappang**	**8.31**	**284**	LR	LR	12 40 04.8	
	comp=Z,140nm,18.5s,baz=95,slow=41						
SPSI	**Sidrap Palu**	**8.61**	**290**	P	**Pn**	**12 36 38.3**	**+0.2**
	38nm,0.7s						
KNRA	**Kununurra**	**8.62**	**174**	Pn	**Pn**	**12 36 36.6**	**-1.6**
GTOI	**Gorontalo**	**9.04**	**327**	P	**Pn**	**12 36 46.0**	**+2.1**
	12nm,1.0s						
FITZ	**Fitzroy Crossi**	**11.20**	**191**	Pn	**Pn**	**12 37 13.9**	**+0.4**
	3.6nm,0.3s,baz=14,slow=10,SNR=53						
FITZ				Sn	**Sn**	**12 39 15.0**	**-3.8**
	2.3nm,0.3s,baz=3.2,slow=4.7,SNR=4.4						
FITZ				LR	LR	12 41 28.0	
	comp=Z,143nm,21.5s,baz=14,slow=37						
WB0	**Warramunga Arr**	**14.15**	**154**	Pn	**Pn**	**12 37 54.9**	**+1.0**
WRAB	**Tennant Creek**	**14.28**	**154**	Pn	**Pn**	**12 37 56.3**	**+0.6**
WRA	**Warramunga Array**	**14.28**	**155**	Pn	**Pn**	**12 37 56.4**	**+0.7**
	1.7nm,0.3s,baz=322,slow=13,SNR=38						
WRA				Sn	**Sn**	**12 40 27.0**	**-7.2**
	2.1nm,0.3s,baz=334,slow=21,SNR=10.0						
WRA	**Warramunga Arr**	**14.28**	**155**	Pn	**Pn**	**12 37 57.9**	**+2.2**
WB2	**Warramunga Arr**	**14.28**	**154**	Pn	**Pn**	**12 37 56.4**	**+0.7**
WR0	**Warramunga Arr**	**14.38**	**154**	Pn	**Pn**	**12 37 57.6**	**+0.6**
PSA00	**Pilbara Seismi**	**16.39**	**207**		**Pn**	**12 38 21.9**	**-1.6**
COEN	**Coen**	**16.54**	**116**	P	**P**	**12 38 29.0**	**+0.8**
COEN				IAmb	IAmb	12 38 35.0	
	comp=Z,15nm,0.9s						
AS31	**Alice Springs**	**17.52**	**161**	P	**P**	**12 38 41.3**	**+2.4**
ASAR	**Alice Springs**	**17.52**	**161**	P	**P**	**12 38 41.1**	**+2.2**
	comp=Z,1.1nm,0.3s,baz=335,slow=10,SNR=30						
ASAR				S	**Sn**	**12 41 48.1**	**-4.9**
	comp=Z,0.7nm,0.3s,baz=316,slow=18,SNR=7.2						
ASAR	**Alice Springs**	**17.52**	**161**		**Pn**	**12 38 37.8**	**0.0**
SBUM	**Sibu**	**18.24**	**301**	P	**P**	**12 38 47.5**	**+0.6**
PMG	**Port Moresby**	**19.24**	**98**	P	**Pn**	**12 39 02.3**	**+3.4**
	comp=Z,2.0nm,0.3s,baz=43,slow=13,SNR=6.1						
PMG	**Port Moresby**	**19.24**	**98**	P	**P**	**12 38 55.0**	**-3.0**
PMG				IAmb	IAmb	12 39 10.6	
	comp=Z,29nm,0.8s						
BBOO	**Buckleboo**	**26.75**	**165**	P	**P**	**12 40 17.1**	**+3.9**
STKA	**Stephens Creek**	**27.83**	**154**	P	**P**	**12 40 27.4**	**+4.4**
	comp=Z,3.3nm,0.5s,baz=331,slow=12,SNR=9.9						
STKA				LR	LR	12 51 20.1	
	comp=Z,58nm,18.5s,baz=19,slow=36						
STKA	**Stephens Creek**	**27.83**	**154**		**P**	**12 40 26.3**	**+3.4**
CMAR	**Chiang Mai Arr**	**38.16**	**312**	P	**P**	**12 41 52.0**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=133,slow=6.6,SNR=5.6						
CMAR	**Chiang Mai Arr**	**38.16**	**312**	P	**P**	**12 41 51.8**	**-1.4**
KSRS	**Korea Array**	**44.27**	**0**	P	**P**	**12 42 43.5**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=181,slow=9.3,SNR=6.5						
KSRS				LR	LR	12 59 34.4	
	comp=Z,5.9nm,22.0s,baz=280,slow=34						
MJAR	**Matsushiro Arr**	**44.43**	**12**	P	**P**	**12 42 44.0**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=198,slow=9.9,SNR=5.1						
USRK	**Ussuriysk Ar.**	**51.14**	**4**	P	**P**	**12 43 36.8**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=191,slow=5.9,SNR=1.8						
ULN	**Ulaanbaatar**	**57.68**	**344**	P	**P**	**12 44 23.4**	**-0.7**
ULN				IAmb	IAmb	12 44 25.0	
	comp=Z,4.4nm,1.1s						
SONM	**Songino Array**	**57.84**	**343**	P	**P**	**12 44 23.8**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=120,slow=5.2,SNR=4.6						
SONM	**Songino Array**	**57.84**	**343**	P	**P**	**12 44 22.6**	**-2.5**
TARG	**Taragay, Kyrgy**	**66.66**	**321**	P	**P**	**12 45 25.3**	**+0.5**
TARG				IAmb	IAmb	12 45 25.9	
	comp=Z,4.0nm,1.3s						
MK31	**Makanchi Array**	**67.12**	**328**	P	**P**	**12 45 26.7**	**-0.5**
MK31				IAmb	IAmb	12 45 55.9	
	comp=Z,2.1nm,1.1s						
MKAR	**Makanchi Array**	**67.12**	**328**	P	**P**	**12 45 26.5**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=118,slow=7.1,SNR=8.8						
MKAR	**Makanchi Array**	**67.12**	**328**	P	**P**	**12 45 26.7**	**-0.4**
MAKZ	**Makanchi**	**67.29**	**328**	P	**P**	**12 45 27.8**	**-0.5**
MAKZ				IAmb	IAmb	12 45 28.5	
	comp=Z,4.8nm,1.3s						
ZAA0	**Zalesovo Array**	**70.70**	**335**	P	**P**	**12 45 48.6**	**-0.7**
ZAA0				IAmb	IAmb	12 45 51.9	
	comp=Z,2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**70.70**	**335**	P	**P**	**12 45 47.0**	**-2.3**
	comp=Z,2.2nm,0.8s,baz=123,slow=5.5,SNR=7.1						
ZALV	**Zalesovo Beam**	**70.70**	**335**	P	**P**	**12 45 47.8**	**-1.5**
KURK	**Kurchatov**	**71.46**	**329**	P	**P**	**12 45 53.5**	**-0.4**
KURK				IAmb	IAmb	12 45 57.1	
	comp=Z,2.4nm,0.8s						
VNDA	**Vanda**	**72.67**	**173**	P	**P**	**12 46 03.5**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=293,slow=6.6,SNR=4.2						
VNDA				LR	LR	13 15 59.1	
	comp=Z,33nm,21.0s,baz=318,slow=34						
VNDA	**Vanda**	**72.67**	**173**	P	**P**	**12 46 00.4**	**-0.4**
VNDA				IAmb	IAmb	12 46 26.0	
	comp=Z,6.2nm,1.6s						
ABKAR	**Akbulak array**	**81.23**	**322**	P	**P**	**12 46 48.5**	**-0.9**
QSPA	**South Pole Qui**	**82.93**	**180**	P	**P**	**12 47 00.6**	**+2.3**
ILAR	**Eielson Array**	**94.30**	**25**	P	**P**	**12 47 52.0**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=252,slow=4.7,SNR=4.4						
LPAZ	**La Paz**	**151.93**	**146**	PKPbc	**PKPbc**	**12 54 30.5**	**0.0**
	comp=Z,0.6nm,0.5s,baz=236,slow=3.6,SNR=2.5						

*ATH **15** 13:19:31.9,36˚.96N×27˚.31E,h29km±5km,ML2.6/2,Error*
ellipse: s-maj=6.6km s-min=0.9km az=27.0
*DDA **15** 13:19:32.3,37˚.00N×27˚.43E,h6km±1km,ML2.2*
*THE **15** 13:19:32.1,37˚.01N×27˚.43E,h6km±2km,ML2.1/1,Error*
ellipse: s-maj=2.3km s-min=0.6km az=264.0
**ISC

CUYO				*e*S		**Sn**	**14 07 12.3**	**+0.5**
ENPP	**El Nido**	**2.84**	**212**	*e*P		**Pn**	**14 06 40.5**	**+1.3**
ENPP				*e*S		**Sn**	**14 07 12.6**	**-1.0**
PVCP	**Virac**	**3.10**	**90**	*e*P		**Pn**	**14 06 42.1**	**-0.7**
GUIM	**Jordan**	**3.38**	**152**	*e*P		**Pn**	**14 06 48.5**	**+1.8**
GUIM				*e*S		**Sn**	**14 07 29.2**	**+2.2**
CAUP	**Cauayan**	**3.40**	**14**	*e*P		**Pn**	**14 06 48.9**	**+2.1**
CMAR	**Chiang Mai Arr**	**21.69**	**286**	P		**P**	**14 10 44.4**	**-0.7**
	0.3nm,0.3s,baz=106,slow=6.7,SNR=1.9							
GUMO	**Guam**	**23.23**	**87**	LR		LR	14 18 55.0	
	comp=Z,18nm,20.3s,baz=252,slow=33							
WRA	**Warramunga Arr**	**35.87**	**158**	P		**P**	**14 12 52.5**	**-1.6**
	0.6nm,0.8s,baz=330,slow=11,SNR=7.4							
SONM	**Songino Array**	**36.20**	**343**	P		**P**	**14 12 56.3**	**-0.5**
	0.3nm,0.5s,baz=156,slow=11,SNR=1.7							
ASAR	**Alice Springs**	**39.17**	**161**	P		**P**	**14 13 21.2**	**-0.9**
	0.3nm,0.7s,baz=329,slow=6.6,SNR=2.6							

IDC 15 14:45:05.6±6.4,21°.90S×176°.17W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.7/24,mbtmp4.2/3,Error ellipse: s-maj=212.8km s-min=39.4km az=137.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.88**	**258**	P	P	14 53 30.8	+0.6
	3.0nm,0.5s,baz=92,slow=8.1,SNR=96						
WRA	**Warramunga Arr**	**46.12**	**263**	P	P	14 53 31.2	-0.9
	1.7nm,0.3s,baz=97,slow=7.4,SNR=131						
PETK	**Petropavlovsk-**	**78.07**	**344**	P	P	14 57 07.4	+1.4
	0.8nm,0.7s,baz=133,slow=10.0,SNR=4.4						
AKASG	**Malin Array Be**	**145.06**	**332**	PKPbc	PKPbc	15 04 41.5	-2.7
	1.6nm,0.4s,baz=45,slow=4.1,SNR=5.0						

*THR **15** 14:48:04.2±0.3,28°.29N×51°.60E,h14km±2km,ML4.5*
*TEH **15** 14:48:06.7,28°.49N×51°.68E,h10km,ML5.0*
*BJI **15** 14:48:06.0±0.0,28°.50N×51°.70E,h10km,mB4.9/36, mb4.7/48,Ms4.6/40,Ms7 4.3/39*
*GCMT **15** 14:48:06.5±0.4,28°.36N±0°.02×51°.45E±0°.02,h22km±1km, MW4.8/79,Moment Tensor Solution. s16,c20; s79,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr0.17±.09; Mθθ0.33±.08; Mϕϕ-0.49±.08; Mrθ0.77±.15; Mθϕ1.97±.08; Mϕr0.31±.14; Best double couple: M₀2.18100×10^{16} NP1:ϕs98.00000°,δ80.00000°,λ20.00000°. Principal axes: T 2.2370, Plg21.0000°, Azm322.0000°; N -0.1130, Plg68.0000°, Azm123.0000°; P -2.1250, Plg7.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*GII **15** 14:48:06.9±0.0,28°.49N×51°.71E,h10km*
*OMAN **15** 14:48:09.2,28°.30N×51°.57E,h20km,mb6.1/18,ml5.0/5, ms3.7/5*
*IDC **15** 14:48:09.9±1.5,28°.50N×51°.66E,h26km±9km,mb4.5/37, mb1 4.5/45,mb1mx4.5/52,mbtmp4.6/45,ML4.2/8,MS4.0/39, Ms1 4.0/39,ms1mx4.0/45,Error ellipse: s-maj=10.9km s-min=9.4km az=1.0*
*NEIC **15** 14:48:10.7±1.7,28°.55N±0°.07×51°.68E±0°.08,h35km±6km, Error ellipse: s-maj=11.3km s-min=9.6km az=218.0*
*DSN **15** 14:48:11.8±0.7,28°.24N×51°.93E,h10km,ML5.3/8,Error ellipse: s-maj=9.5km s-min=4.6km az=4.0*
*MOS **15** 14:48:11.2±0.9,28°.62N×51°.71E,h50km,mb4.9/84,Error ellipse: s-maj=4.6km s-min=3.0km az=107.8*

ISC 15 14:48:08.5±0.9,28°.49N±0°.03×51°.62E±0°.03,h19km±3km, n614,σ1‡37/677,mb4.8/166,MS4.1/60,55C-5D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.47**	**322**	*e*Pn	**Pg**	**14 48 16.3**	**-1.8**
KAZ1	**Kazerun**	**1.13**	**1**	*e*Pg	**Pn**	**14 48 28.7**	**-0.7**
KAZ1				*e*		14 48 57.4	
SHI	**Shiraz**	**1.39**	**34**	P	**Pb**	**14 48 33.7**	**-0.2**
SHI				S	**Sg**	**14 48 54.0**	**+0.5**
SHI	**Shiraz**	**1.39**	**34**	*e*Pg	**Pn**	**14 48 32.6**	**-0.4**
SHI				*e*		14 48 56.4	
JHRM	**Jahrom**	**1.72**	**89**	*e*Pg	**Pn**	**14 48 38.0**	**+0.5**
JHRM				*e*		14 49 09.3	
LMD1	**Lamerd**	**1.79**	**130**	*e*Pg	**Pn**	**14 48 39.2**	**+0.9**
LMD1				*e*		14 49 27.1	
LAR1	**LAR**	**2.57**	**108**	*e*Pn	**Pn**	**14 48 49.6**	**+0.5**
LAR1				*e*		14 49 47.8	
IRAM	**Ramesheh**	**3.37**	**11**	*e*Pn	**Pn**	**14 49 01.1**	**+0.8**
IBRJ	**Brojen**	**3.42**	**355**	*e*Pn	**Pn**	**14 49 01.9**	**+0.9**
JRN	**Qarnain Island**	**3.70**	**162**	*e*Pn	**Pn**	**14 49 07.0**	**+2.3**
JHBN	**Jahan bin**	**3.82**	**348**	*e*Pn	**Pn**	**14 49 07.8**	**+1.3**
ISAD	**Sadrabad**	**3.85**	**27**	*e*Pn	**Pn**	**14 49 08.4**	**+1.4**
ROKH	**ROKH**	**3.87**	**353**	*e*Pn	**Pn**	**14 49 08.0**	**+0.8**
IMEH	**Mehriz**	**3.88**	**41**	*e*Pn	**Pn**	**14 49 09.2**	**+1.8**
IGAR	**Gharneh**	**3.92**	**5**	*e*Pn	**Pn**	**14 48 08.9**	**+1.1**
BNDS	**Bandar-Abbas**	**4.17**	**104**	*e*Pn	**Pn**	**14 49 09.3**	**-2.0**
BNDS				*e*Sg	**Sb**	**14 50 12.8**	**+1.3**
BNDS	**Bandar-Abbas**	**4.17**	**104**	*e*Pn	**Pn**	**14 49 10.6**	**-0.7**
BNDS				*e*Sg	**Sb**	**14 50 14.5**	**+3.1**
BNDS	**Bandar-Abbas**	**4.17**	**104**	*e*Pn	**Pn**	**14 49 10.6**	**-0.7**
GENO	**Geno**	**4.17**	**104**	*e*Pn	**Pn**	**14 49 11.6**	**+0.3**
GENO				*e*		14 50 40.6	
IPIR	**Pirpir**	**4.22**	**352**	*e*Pn	**Pn**	**14 49 12.3**	**+0.2**
SLWR	**Sila**	**4.41**	**179**	*e*Pn	**Pn**	**14 49 15.2**	**+0.9**
IZEF	**Zefreh**	**4.43**	**8**	*e*Pn	**Pn**	**14 49 15.7**	**+0.8**
ICHK	**Chekchek**	**4.45**	**32**	*e*Pn	**Pn**	**14 49 13.9**	**-1.2**
IBAF	**Bafgh**	**4.61**	**47**	*e*Pn	**Pn**	**14 49 18.7**	**+1.4**
NGRK	**Negar Kerman**	**4.62**	**74**	*e*Pn	**Pn**	**14 49 18.0**	**+0.4**
NGRK				*e*		14 50 18.9	
KHGB	**Koh Gabri**	**4.63**	**65**	*e*Pn	**Pn**	**14 49 17.9**	**+0.2**
KHGB				*e*		14 50 48.7	
GHWR	**Ruwais**	**4.65**	**166**	*e*Pn	**Pn**	**14 49 19.2**	**+1.5**
YZKH	**Yazd**	**4.65**	**33**	*e*Pn	**Pn**	**14 49 19.4**	**+1.5**
YZKH	**Yazd**	**4.65**	**33**	*e*Pn	**Pn**	**14 49 19.4**	**+1.5**
UMQ	**Umm Al-Quwin**	**4.66**	**128**	*e*Pn	**Pn**	**14 49 19.2**	**+1.3**
SHME	**Shamm**	**4.70**	**120**	*e*Pn	**Pn**	**14 49 18.0**	**-0.5**
TVBK	**TV Kerman**	**4.73**	**70**	*e*Pn	**Pn**	**14 49 20.7**	**+1.6**
TVBK				*e*		14 50 24.2	
IKLH	**Kolahrood**	**4.81**	**360**	*e*Pn	**Pn**	**14 49 20.8**	**+0.6**
BANOM	**Banah**	**4.89**	**120**	P	**Pn**	**14 49 20.4**	**-0.6**
BANOM				S	**Sn**	**14 50 14.0**	**-3.1**
BANOM	**Banah**	**4.89**	**120**	P	**Pn**	**14 49 20.4**	**-0.6**
	SNR=120						
BANOM	**Banah**	**4.89**	**120**	*e*Pn	**Pn**	**14 49 20.8**	**-0.2**
AJN	**Ajban**	**4.94**	**142**	*e*Pn	**Pn**	**14 49 22.9**	**+1.2**
ANAR	**Anarak**	**5.02**	**21**	*e*Pn	**Pn**	**14 49 23.1**	**+0.2**
NAZ	**Nazwa, Dubai**	**5.02**	**133**	P	**Pn**	**14 49 23.1**	**+0.2**
NAZ	**Nazwa, Dubai**	**5.02**	**133**	P	**Pn**	**14 49 23.2**	**+0.4**
	SNR=40						
NAZ				S	**Sn**	**14 50 19.4**	**-0.9**
	SNR=12						
NAZ	**Nazwa, Dubai**	**5.02**	**133**	*e*Pn	**Pn**	**14 49 23.2**	**+0.4**
MSFE	**Esma-Masafi**	**5.11**	**127**	*e*Pn	**Pn**	**14 49 24.2**	**+0.1**
FAQ	**Al Faqa, Dubai**	**5.15**	**135**	P	**Pn**	**14 49 23.9**	**-0.7**
FAQ				S	**Sn**	**14 50 23.1**	**-0.5**
FAQ	**Al Faqa, Dubai**	**5.15**	**135**	*e*Pn	**Pn**	**14 49 25.8**	**+1.2**
MDH	**Madha**	**5.25**	**126**	P	**Pn**	**14 49 25.4**	**-0.6**
MDH	**Madha**	**5.25**	**126**	P	**Pn**	**14 49 26.0**	**+0.1**
	SNR=38						
MDH				S	**Sn**	**14 50 25.0**	**-1.0**
	SNR=9.1						
MDH	**Madha**	**5.25**	**126**	*e*Pn	**Pn**	**14 49 25.7**	**-0.3**
CHMN	**Cheshme madani**	**5.35**	**74**	*e*Pn	**Pn**	**14 49 28.0**	**+0.3**
CHMN				*e*		14 50 33.4	
KHNJ	**Kahnooj**	**5.40**	**94**	*e*Pn	**Pn**	**14 49 27.7**	**-0.3**
UOSS	**Minazif**	**5.41**	**130**	P	**Pn**	**14 49 27.3**	**-0.9**
UOSS	**Minazif**	**5.41**	**130**	P	**Pn**	**14 49 28.0**	**-0.2**
UOSS	**Minazif**	**5.41**	**130**	*e*Pn	**Pn**	**14 49 27.6**	**-0.6**
UOSS	**Minazif**	**5.41**	**130**	Pn	**Pn**	**14 49 27.6**	**-0.6**
UOSS				Sn	**Sn**	**14 50 27.2**	**-2.8**
HATD	**Hatta, Dubai**	**5.44**	**131**	P	**Pn**	**14 49 28.3**	**-0.3**
HATD				S	**Sn**	**14 50 28.0**	**-2.7**
HATD	**Hatta, Dubai**	**5.44**	**131**	P	**Pn**	**14 49 29.0**	**+0.4**
	SNR=31						
HATD				S	**Sn**	**14 50 28.6**	**-2.2**
HATD	**Hatta, Dubai**	**5.44**	**131**	*e*Pn	**Pn**	**14 49 28.7**	**+0.1**
ASHO	**Ashiyiah**	**5.49**	**133**	P	**Pn**	**14 49 29.0**	**-0.4**
ASHO	**Ashiyiah**	**5.49**	**133**	P	**Pn**	**14 49 29.0**	**-0.4**
	SNR=138						
ASHO				S	**Sn**	**14 50 31.0**	**-1.0**
	SNR=8.8						
ASHO	**Ashiyiah**	**5.49**	**133**	*e*Pn	**Pn**	**14 49 29.4**	**+0.1**
IKMR	**Kamar-syah**	**5.73**	**332**	*e*Pn	**Pn**	**14 49 33.3**	**+0.8**
ALNE	**Al Ain**	**5.77**	**139**	*e*Pn	**Pn**	**14 49 33.7**	**+0.6**
IKFM	**Kafar-mosalman**	**5.97**	**328**	*e*Pn	**Pn**	**14 49 36.6**	**+0.8**
IDOB	**Doab**	**6.05**	**332**	*e*Pn	**Pn**	**14 49 37.7**	**+0.6**
SOHO	**SOHO**	**6.19**	**133**	P	**Pn**	**14 49 37.9**	**-0.9**
SOHO	**SOHO**	**6.19**	**133**	P	**Pn**	**14 49 38.4**	**-0.5**
SOHO				S	**Sn**	**14 50 47.1**	**-1.9**
SOHO	**SOHO**	**6.19**	**133**	*e*Pn	**Pn**	**14 49 38.1**	**-0.7**
ASAO	**Ashtian**	**6.19**	**348**	*e*Pn	**Pn**	**14 49 40.2**	**+1.1**
ASAO	**Ashtian**	**6.19**	**348**	*e*Pn	**Pn**	**14 49 40.5**	**+1.5**
ASAO	**Ashtian**	**6.19**	**348**	*e*Pn	**Pn**	**14 49 40.5**	**+1.5**
HSAM	**Samen**	**6.26**	**336**	*e*Pn	**Pn**	**14 49 41.2**	**+1.2**
TPRV	**Parvadeh(Tabas**	**6.28**	**43**	*e*Pn	**Pn**	**14 49 41.1**	**+0.9**
IQOM	**Qom**	**6.35**	**356**	*e*Pn	**Pn**	**14 49 40.9**	**-0.4**
IVRN	**Varamin**	**6.48**	**1**	*e*Pn	**Pn**	**14 49 43.1**	**+0.1**
UMZA	**Um Al Zommool**	**6.58**	**150**	*e*Pn	**Pn**	**14 49 44.2**	**-0.1**
HAGD	**Aghdareh**	**6.65**	**342**	*e*Pn	**Pn**	**14 49 46.9**	**+1.4**
IKOM	**Komasi**	**6.67**	**329**	*e*Pn	**Pn**	**14 49 47.2**	**+1.7**
IBZA	**Bozab**	**6.77**	**333**	*e*Pn	**Pn**	**14 49 47.1**	**+0.1**
ARQ	**Araqi**	**6.77**	**138**	P	**Pn**	**14 49 46.0**	**-0.9**
	SNR=194						
ARQ				S	**Sn**	**14 51 03.0**	**-0.5**
	SNR=7.2						
TNSJ	**Nastanj**	**6.92**	**37**	*e*Pn	**Pn**	**14 49 49.6**	**+0.5**
IHSB	**Hasanabad**	**6.93**	**358**	*e*Pn	**Pn**	**14 49 49.3**	**+0.2**
TKDS	**Koohdasht(Taba**	**6.95**	**41**	*e*Pn	**Pn**	**14 49 50.0**	**+0.6**
ILAS	**Lasjerd**	**6.96**	**9**	*e*Pn	**Pn**	**14 49 50.1**	**+0.4**
TABS	**Tabas**	**6.97**	**41**	*e*Pn	**Pn**	**14 49 50.6**	**+0.9**
TABS	**Tabas**	**6.97**	**41**	*e*Pn	**Pn**	**14 49 50.9**	**+1.2**
TABS	**Tabas**	**6.97**	**41**	*e*Pn	**Pn**	**14 49 50.9**	**+1.2**
IALM	**Almabolaq**	**7.00**	**336**	*e*Pn	**Pn**	**14 49 50.9**	**+0.7**
IRAZ	**Razeghan**	**7.04**	**349**	*e*Pn	**Pn**	**14 49 51.1**	**+0.4**
IDMV	**Damavand**	**7.07**	**3**	*e*Pn	**Pn**	**14 49 51.5**	**+0.3**
HOQ	**Hoqain**	**7.08**	**132**	P	**Pn**	**14 49 50.0**	**-1.0**
	SNR=101						
HOQ				S	**Sn**	**14 51 07.1**	**-4.0**
IMHD	**Mahdasht**	**7.22**	**354**	*e*Pn	**Pn**	**14 49 52.1**	**-1.0**
IANJ	**Anjilo**	**7.22**	**15**	*e*Pn	**Pn**	**14 49 53.0**	**-0.2**
IGHG	**Ghaleghazi**	**7.24**	**325**	*e*Pn	**Pn**	**14 49 54.7**	**+1.1**
IVIS	**Veis**	**7.26**	**327**	*e*Pn	**Pn**	**14 49 55.0**	**+1.3**
HSRG	**Sareghieh**	**7.30**	**338**	*e*Pn	**Pn**	**14 49 55.8**	**+1.4**
BSRN	**Basiran**	**7.36**	**60**	*e*Pn	**Pn**	**14 49 55.3**	**+0.3**
BSRN	**Basiran**	**7.36**	**60**	*e*Pn	**Pn**	**14 49 56.1**	**+1.1**
BSRN	**Basiran**	**7.36**	**60**	*e*Pn	**Pn**	**14 49 56.1**	**+1.1**
QABG	**Abgarm-Qazvin**	**7.40**	**347**	*e*Pn	**Pn**	**14 49 55.2**	**-0.5**
ILIN	**Lien**	**7.53**	**329**	*e*Pn	**Pn**	**14 49 58.5**	**+0.9**
BSY	**Bisya**	**7.62**	**137**	P	**Pn**	**14 49 58.0**	**-0.6**
	SNR=142						
IDHR	**Dehrash**	**7.63**	**326**	*e*Pn	**Pn**	**14 49 59.0**	**+0.2**
BIDO	**Bidbid**	**7.67**	**129**	P	**Pn**	**14 49 59.0**	**-0.1**
	SNR=8.5						
BIDO				P	**Pn**	**14 49 59.0**	**-0.1**
	SNR=8.5						
BIDO				S	**Sn**	**14 51 21.6**	**-3.9**
BIDO				S	**Sn**	**14 51 21.6**	**-3.9**
BIDO	**Bidbid**	**7.67**	**129**	*e*Pn	**Pn**	**14 49 58.8**	**-0.3**
IPRN	**Peran**	**7.75**	**4**	*e*Pn	**Pn**	**14 50 01.9**	**+1.5**
NHDN	**Nehbandan**	**7.86**	**66**	*e*Pn	**Pn**	**14 50 01.9**	**-0.1**
SMDO	**Samad**	**7.93**	**132**	P	**Pn**	**14 50 02.0**	**-0.8**
	SNR=59						
SMDO				P	**Pn**	**14 50 02.0**	**-0.8**
	SNR=59						
SMDO				S	**Sn**	**14 51 31.1**	**-1.0**
	SNR=8.2						
SMDO				S	**Sn**	**14 51 31.1**	**-1.0**
	SNR=8.2						
IGZV	**Ghazvin**	**7.96**	**352**	*e*Pn	**Pn**	**14 50 03.8**	**+0.4**
QALM	**Alamut, Qazvin**	**7.96**	**354**	*e*Pn	**Pn**	**14 50 03.9**	**+0.5**
AFRZ	**Afriz**	**8.03**	**50**	*e*Pn	**Pn**	**14 50 04.3**	**+0.1**
ZHSF	**Zahedan**	**8.09**	**80**	*e*Pn	**Pn**	**14 50 05.5**	**+0.4**
ZHSF	**Zahedan**	**8.09**	**80**	*e*Pn	**Pn**	**14 50 05.5**	**+0.4**
WSAR	**Wadi Sarin**	**8.20**	**128**	Pn	**Pn**	**14 50 05.1**	**-1.3**
	10.0nm,0.3s,baz=304,slow=8.6,SNR=101						
WSAR				Sn	**Sn**	**14 51 31.7**	**-6.9**
	8.9nm,0.3s,baz=153,slow=12,SNR=1.6						
WSAR				LR	LR	14 54 30.9	
	comp=Z,671nm,21.6s,baz=325,slow=47						
WSAR	**Wadi Sarin**	**8.20**	**128**	P	**Pn**	**14 50 05.7**	**-0.8**
	SNR=28						
WSAR				S	**Sn**	**14 51 35.6**	**-3.0**
WSAR	**Wadi Sarin**	**8.20**	**128**		**Pn**	**14 50 05.1**	**-1.3**
IGLO	**Ghaloghah**	**8.20**	**13**	*e*Pn	**Pn**	**14 50 08.9**	**+2.2**
QSDN	**Sirdan**	**8.25**	**346**	*e*Pn	**Pn**	**14 50 07.7**	**+0.3**
JMDO	**Jabal Madar**	**8.45**	**135**	P	**Pn**	**14 50 10.0**	**0.0**
	SNR=16						
WBK	**Wadi Bani Khal**	**8.85**	**130**	P	**Pn**	**14 50 14.8**	**-0.6**
	SNR=33						
WBK				P	**Pn**	**14 50 14.8**	**-0.6**
	SNR=33						
SHRT	**Shahrakht**	**9.03**	**53**	*e*Pn	**Pn**	**14 50 18.6**	**+0.7**
SHRT	**Shahrakht**	**9.03**	**53**	*e*Pn	**Pn**	**14 50 19.3**	**+1.3**
SHRT	**Shahrakht**	**9.03**	**53**	*e*Pn	**Pn**	**14 50 19.3**	**+1.3**
IMND	**Minoodasht**	**9.30**	**19**	*e*Pn	**Pn**	**14 50 21.7**	**+0.2**
SBZV	**Sabzevar**	**9.36**	**31**	*e*Pn	**Pn**	**14 50 22.8**	**+0.3**
MHTO	**MHTO**	**9.44**	**141**	P	**Pn**	**14 50 23.0**	**-0.5**
	SNR=11						
JLN	**Jalan Bani Buh**	**9.46**	**130**	P	**Pn**	**14 50 24.0**	**+0.2**
	SNR=12						
JLN				P	**Pn**	**14 50 24.0**	**+0.2**
	SNR=12						
JLN				P	**Pn**	**14 50 24.0**	**+0.2**
	SNR=9.8						
JLN				P	**Pn**	**14 50 24.0**	**+0.2**
	SNR=9.8						
MAHB	**Mahabad**	**9.64**	**330**	*e*Pn	**Pn**	**14 50 26.2**	**-0.1**
ISRB	**Sarab**	**9.88**	**341**	*e*Pn	**Pn**	**14 50 30.6**	**+1.0**
IAKL	**Akhelmad**	**10.08**	**35**	*e*Pn	**Pn**	**14 50 33.6**	**+1.1**
DQM	**DQM**	**10.09**	**146**	P	**Pn**	**14 50 31.4**	**-1.0**
DQM				S	**Sn**	**14 52 22.6**	**-2.4**
LKRN	**Lenkeran, Azer**	**10.46**	**348**	P	**Pn**	**14 50 38.5**	**+1.1**
HRA	**Herat**	**10.80**	**54**	Pn	**Pn**	**14 50 43.9**	**+1.5**
GEYT	**Alibeck**	**10.87**	**28**	Pn	**Pn**	**14 50 44.3**	**+1.3**
	0.6nm,0.3s,baz=209,slow=12,SNR=19						
GEYT	**Alibeck**	**10.87**	**28**		**Pn**	**14 50 43.0**	**0.0**
GYA0	**ALIBECK ARRAY**	**10.87**	**28**	P	**Pn**	**14 50 43.2**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**10.87**	**28**		**Pn**	**14 50 42.0**	**-1.1**
SHAO	**Shalim**	**11.05**	**160**	P	**Pn**	**14 50 44.0**	**-1.6**
	SNR=15						
SHAO				S	**Sn**	**14 52 44.3**	**-4.4**
RBK	**Rabkut**	**11.19**	**167**	P	**Pn**	**14 50 47.0**	**-0.6**
	SNR=9.8						
RBK				S	**Sn**	**14 52 46.1**	**-6.1**
ABTO	**Aybut**	**11.19**	**172**	P	**Pn**	**14 50 46.0**	**-1.6**
	SNR=14						
ABTO				S	**Sn**	**14 52 47.6**	**-4.7**
NAX	**Nakhchivan**	**11.80**	**336**	P	**Pn**	**14 50 58.1**	**+2.2**
MAKU	**Maku**	**12.26**	**334**	*e*Pn	**Pn**	**14 51 03.1**	**+0.8**
MNGR	**Mingechevir, A**	**12.80**	**344**	P	**Pn**	**14 51 11.0**	**+1.6**
GANJ	**Ganja**	**12.88**	**342**	P	**Pn**	**14 51 12.4**	**+1.8**
SEKA	**Sheki**	**13.19**	**345**	P	**Pn**	**14 51 15.9**	**+1.1**
ASF	**Jabal al Asfar**	**13.23**	**290**	Pn	**Pn**	**14 51 13.1**	**-2.4**
	0.3nm,0.3s,baz=55,slow=16,SNR=3.1						
ASF				Sn	**Sn**	**14 53 36.5**	**-5.7**
	0.8nm,0.3s,baz=190,slow=8.5,SNR=3.2						
ASF	**Jabal al Asfar**	**13.23**	**290**		**Pn**	**14 51 13.1**	**-2.4**
AKT	**Akhty**	**13.34**	**347**	*e*P	**Pn**	**14 51 18.0**	**+1.1**
AKT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KARS	**Kars**	**13.99**	**332**	P	**Pn**	**14 51 29.1**	**+3.3**
LGD	**Lagodekhi**	**14.01**	**343**	P	**Pn**	**14 51 28.3**	**+2.3**
KZRT	**Kazreti**	**14.15**	**337**	P	**P**	**14 51 33.8**	**-1.6**
TBLG	**Delisi**	**14.35**	**339**	P	**P**	**14 51 35.5**	**-2.0**
HMDT	**Nahal Hemdat**	**14.39**	**289**	Pn	**Pn**	**14 51 31.7**	**+0.5**
DSI	**Dead Sea**	**14.40**	**286**	Pn	**Pn**	**14 51 32.0**	**+0.7**
ZFRI	**Zfri**	**14.46**	**282**	Pn	**Pn**	**14 51 33.0**	**+0.8**
AKH	**Akhalkalaki**	**14.50**	**335**	P	**P**	**14 51 38.4**	**-0.9**
HRFI	**Mount Harif**	**14.56**	**280**	Pn	**Pn**	**14 51 33.9**	**+0.4**
PRNI	**Paran**	**14.60**	**281**	Pn	**Pn**	**14 51 34.9**	**+0.8**
EIL	**Elat**	**14.63**	**279**	Pn	**Pn**	**14 51 37.5**	**+3.1**
	comp=Z,0.4nm,0.3s,baz=341,slow=23,SNR=2.2						
EIL				LR	LR	14 57 53.8	
	comp=Z,442nm,18.5s,baz=96,slow=40						
EIL	**Elat**	**14.63**	**279**	Pn	**Pn**	**14 51 34.8**	**+0.4**
EIL	**Elat**	**14.63**	**279**	P	**Pn**	**14 51 37.5**	**+3.1**
MMAI	**Mount Meron Ar**	**14.65**	**292**	Pn	**Pn**	**14 51 33.8**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=110,slow=16,SNR=6.2						
MMAI				Sn	**Sn**	**14 54 10.0**	**-6.8**
	comp=Z,0.8nm,0.3s,baz=86,slow=28,SNR=2.8						
MMAI				LR	LR	14 58 01.0	
	comp=Z,395nm,20.5s,baz=105,slow=40						
MMAI	**Mount Meron Ar**	**14.65**	**292**		**Pn**	**14 51 33.8**	**-1.1**
SLTI	**Sal'it**	**14.79**	**289**	Pn	**Pn**	**14 51 37.2**	**+0.5**
MAK	**Makhachkala**	**14.81**	**348**	*e*P	**Pn**	**14 51 33.7**	**-3.2**
MAK				*e*S	**Sn**	**14 54 15.7**	**-4.7**
MAK				pmax	pmax		
	comp=Z,283nm,1.1s						
MAK				MLR	MLR		
	comp=Z,606nm,14.0s						
KRMI	**Paran Flat**	**14.83**	**280**	Pn	**Pn**	**14 51 36.8**	**-0.5**
OFRI	**Ofer**	**14.91**	**290**	Pn	**Pn**	**14 51 38.6**	**+0.3**
GROC	**Groznyy**	**15.41**	**344**	*e*P	**Pn**	**14 51 45.9**	**+1.1**
GROC				pmax	pmax		
	comp=Z,67nm,0.8s						
ONI	**Oni**	**15.54**	**337**	P	**P**	**14 51 49.0**	**-1.9**
ZEI	**Tsey**	**15.57**	**338**	*e*P	**Pn**	**14 51 45.1**	**-2.0**
ZEI				pmax	pmax		
	comp=Z,132nm,1.0s						
KTUT	**Trabzon**	**15.80**	**325**	⇑P	**P**	**14 51 52.8**	**-0.8**
KBL	**Kabul**	**16.03**	**64**	P	**P**	**14 51 54.8**	**-1.6**
	SNR=9.1						
KBL	**Kabul**	**16.03**	**64**	P	**Pn**	**14 51 52.2**	**-0.8**
KBL				pmax	pmax		
	comp=Z,39nm,1.3s						
KBL	**Kabul**	**16.03**	**64**	Pn	**Pn**	**14 51 52.2**	**-0.8**
SOCY	**Socotra**	**16.37**	**172**	Pn	**Pn**	**14 51 52.1**	**-5.4**
SOCY				IAmb	IAmb	14 52 00.4	
	comp=Z,191nm,1.5s						
KBZ	**Khabaz**	**16.74**	**338**	Pn	**P**	**14 52 03.2**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=141,slow=7.7,SNR=39						
KBZ				ScP	**ScP**	**15 00 23.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=270,slow=7.2,SNR=3.8						
KBZ	**Khabaz**	**16.74**	**338**	*ce*P	**Pn**	**14 52 01.8**	**0.0**
KBZ	**Khabaz**	**16.74**	**338**	P	**P**	**14 52 03.2**	**-0.8**
CSS	**Mathiatis**	**16.84**	**297**		**Pn**	**14 52 03.1**	**0.0**
KVAR	**Kislovodsk Arr**	**17.01**	**337**	P	**P**	**14 52 07.0**	**-0.1**
	baz=270,slow=20,SNR=7.9						
KVAR	**Kislovodsk Arr**	**17.01**	**337**	P	**P**	**14 52 07.0**	**-0.1**
KIV	**Kislovodsk**	**17.01**	**337**	⇑P	**P**	**14 52 07.6**	**+0.5**
KIV	**Kislovodsk**	**17.01**	**337**	*e*P	**P**	**14 52 06.5**	**-0.7**
KIV				*e*S	**Sn**	**14 55 16.2**	**+2.2**
KIV				pmax	pmax		
	comp=Z,230nm,1.0s						
KIV				MLR	MLR		
	comp=Z,439nm,13.0s						
KIV	**Kislovodsk**	**17.01**	**337**	P	**P**	**14 52 07.7**	**+0.6**
KIV				IAmb	IAmb	14 52 08.1	
	comp=Z,83nm,1.1s						
CHGR	**Chuyangaron**	**17.76**	**51**	P	**P**	**14 52 15.7**	**+0.3**
CHGR				IAmb	IAmb	14 52 17.1	
	comp=Z,56nm,0.8s						
THW	**Thamme Wali**	**17.83**	**71**	P	**Pn**	**14 52 13.3**	**-2.3**
SOC	**Sochi**	**17.84**	**331**	*i* P	**Pn**	**14 52 15.9**	**+0.3**
SOC				*e*		14

AAK	**Ala-Archa**	23.26	47	P		**P**		**14 53 17.0**	**+2.1**
AAK	**Ala-Archa**	23.26	47	P		**P**		**14 53 15.2**	**+0.3**
SANT	**Santorini**	23.39	296	⇑P		**P**		**14 53 16.9**	**+0.8**
SANT	**Santorini**	23.39	296	P		**P**		**14 53 16.2**	**+0.1**
SANT				IAmb		IAmb		14 53 23.1	
	comp=Z,34nm,0.7s								
KZA	**Kyzart**	23.48	48	P		**P**		**14 53 19.6**	**+2.2**
	SNR=27								
APE	**Apeiranthos**	23.49	298	⇑P		**P**		**14 53 17.9**	**+0.8**
APE	**Apeiranthos**	23.49	298	*i* P		**P**		**14 53 17.3**	**+0.2**
APE				pmax		pmax			
	comp=Z,19nm,1.2s								
KBK	**Karagaybulak**	23.56	47	P		**P**		**14 53 22.0**	**+4.1**
	SNR=8.3								
USP	**Ospenovka**	23.58	45	P		**P**		**14 53 19.1**	**+1.1**
	SNR=25								
CHMS	**Chumysh**	23.60	46	P		**P**		**14 53 18.7**	**+0.5**
	SNR=9.7								
IDI	**Anoyia**	23.64	293	P		**P**		**14 53 20.1**	**+1.4**
	comp=Z,13nm,0.6s,baz=118,slow=12,SNR=12								
IDI				LR		LR		15 06 12.7	
	comp=Z,208nm,21.3s,baz=91,slow=46								
IDI	**Anoyia**	23.64	293	⇑P		**P**		**14 53 19.9**	**+1.2**
IDI	**Anoyia**	23.64	293	P		**P**		**14 53 19.2**	**+0.5**
IDI				IAmb		IAmb		14 53 22.2	
	comp=Z,52nm,1.2s								
VRH	**Novokhopyorsk**	23.88	345	*e*P		**P**		**14 53 20.5**	**-0.1**
VRH				*e*S		**S**		**14 57 35.2**	**-0.5**
VRH				pmax		pmax			
	comp=Z,220nm,0.8s								
VRH				smax		smax			
	comp=E,390nm,1.7s								
TKM2	**Tokmak 2**	24.10	47	P		**P**		**14 53 23.4**	**+0.3**
	SNR=15								
TKM2	**Tokmak 2**	24.10	47	P		**P**		**14 53 22.6**	**-0.5**
PSN	**Preselentsi**	24.14	315	*e*P		**P**		**14 53 26.5**	**+3.3**
BTLS	**Baital**	24.28	41	*i* P		**P**		**14 53 24.6**	**+0.1**
	comp=E,17nm,0.7s,baz=41								
BTLS				LR		LR		15 03 55.2	
	comp=E,240nm,13.4s,baz=41								
BTLS	**Baital**	24.28	41	*c i* P		**P**		**14 53 24.6**	**+0.1**
BTLS				pmax		pmax			
	comp=Z,17nm,0.7s								
BTLS				MLR		MLR			
	comp=Z,240nm,13.0s								
VORD	**Divnogorie**	24.30	341	*e*P		**P**		**14 53 23.5**	**-1.1**
VORD				*e*S		**S**		**14 57 40.7**	**-1.7**
VORD				pmax		pmax			
	comp=Z,90nm,1.8s								
VORD				smax		smax			
	comp=N,280nm,1.8s								
ALN	**Alexandroupoli**	24.30	307	P		**P**		**14 53 26.5**	**+1.8**
JURR	**Jurilovca**	24.31	318	⇑P		**P**		**14 53 26.1**	**+1.3**
TIRR	**Tirgusor**	24.41	317	⇑P		**P**		**14 53 27.2**	**+1.5**
TIRR	**Tirgusor**	24.41	317	P		**P**		**14 53 25.3**	**-0.4**
TIRR				pmax		pmax			
	comp=Z,65nm,1.3s								
TIRR	**Tirgusor**	24.41	317	P		**P**		**14 53 25.3**	**-0.4**
TIRR	**Tirgusor**	24.41	317	*e*P		**P**		**14 53 24.5**	**-1.2**
VSR	**Storozhevoye**	24.56	341	*e*P		**P**		**14 53 25.9**	**-1.0**
VSR				*e*S		**S**		**14 57 47.8**	**+1.2**
VSR				pmax		pmax			
	comp=Z,80nm,1.0s								
VSR				smax		smax			
	comp=E,200nm,1.2s								
TOPG	**Topolog**	24.67	318	⇑P		**P**		**14 53 29.5**	**+1.6**
HARR	**Harsova**	24.83	317	⇑P		**P**		**14 53 30.9**	**+1.4**
HARR	**Harsova**	24.83	317	P		**P**		**14 53 30.8**	**+1.4**
CFR	**Carcaliu**	24.98	318	⇑P		**P**		**14 53 31.8**	**+1.1**
CFR	**Carcaliu**	24.98	318	P		**P**		**14 53 31.6**	**+0.8**
CFR				pmax		pmax			
	comp=Z,21nm,0.9s								
KDZ	**Kurdzhali**	25.03	309	*e*P		**P**		**14 53 32.1**	**+0.7**
TNSS	**Tian-Shan**	25.03	48	*e*P		**P**		**14 53 32.3**	**+0.4**
	baz=48								
TNSS	**Tian-Shan**	25.03	48	*e*P		**P**		**14 53 32.2**	**+0.4**
TARG	**Taragay, Kyrgy**	25.05	51	P		**P**		**14 53 31.7**	**-0.2**
TARG				IAmb		IAmb		14 53 34.6	
	comp=Z,22nm,0.8s								
KUU	**Kurty**	25.05	46	*e*P		**P**		**14 53 31.4**	**-0.1**
	comp=Z,40nm,1.2s,baz=46								
KUU				LR		LR		15 04 21.4	
	comp=Z,374nm,10.6s,baz=46								
KUU	**Kurty**	25.05	46	*e*P		**P**		**14 53 31.4**	**-0.1**
KUU				pmax		pmax			
	comp=Z,40nm,1.2s								
KUU				MLR		MLR			
	comp=Z,374nm,11.0s								
AAA	**Alma-Ata**	25.09	47	*e*P		**P**		**14 53 32.4**	**+0.5**
	baz=48								
AAA	**Alma-Ata**	25.09	47	*e*P		**P**		**14 53 32.4**	**+0.5**
RAZG	**Razgrad**	25.14	313	⇑P		**P**		**14 53 34.3**	**+1.9**
MDOK	**Medeo**	25.16	48	*i* P		**P**		**14 53 32.8**	**+0.2**
	baz=48								
MDOK	**Medeo**	25.16	48	*i* P		**P**		**14 53 32.8**	**+0.2**
SZH	**Strazhica**	25.37	312	*e*P		**P**		**14 53 35.6**	**+1.2**
OTUK	**Ortayu**	25.40	33	P		**P**		**14 53 34.8**	**+0.1**
CHKK	**Chushkaly**	25.44	46	*e*P		**P**		**14 53 35.4**	**+0.3**
	baz=46								
CHKK	**Chushkaly**	25.44	46	*e*P		**P**		**14 53 35.3**	**+0.3**
RZN	**Rozhen**	25.53	308	*e*P		**P**		**14 53 38.0**	**+1.9**
MILM	**Milestii Mici**	25.61	322	⇑P		**P**		**14 53 37.5**	**+1.0**
PLD	**Plovdiv**	25.70	309	P		**P**		**14 53 39.1**	**+1.7**
PLD				pmax		pmax			
	comp=Z,2.0nm,1.1s								
PRZ	**Przheval'sk**	25.76	50	IAmb		IAmb		14 53 44.0	
	comp=Z,36nm,0.8s								
LPSR	**Galich'ya Gora**	25.86	342	*e*P		**P**		**14 53 38.9**	**+0.2**
LPSR				*e*S		**S**		**14 58 06.4**	**-1.0**
LPSR				pmax		pmax			
	comp=Z,230nm,1.0s								
LPSR				smax		smax			
	comp=E,210nm,2.2s								
GHRR		25.89	319	⇑P		**P**		**14 53 40.2**	**+1.1**
ISR	**Istrita**	25.89	317	⇑P		**P**		**14 53 41.0**	**+1.8**
ISR	**Istrita**	25.89	317	P		**P**		**14 53 41.8**	**+2.6**
ISR				pmax		pmax			
	comp=Z,31nm,1.5s								
ODBI	**Odobesti**	25.93	318	⇓P		**P**		**14 53 41.4**	**+2.0**
SATY	**Saty**	26.00	49	*e*P		**P**		**14 53 40.3**	**-0.1**
	baz=49								
SATY	**Saty**	26.00	49	*e*P		**P**		**14 53 40.2**	**-0.1**
SATY	**Saty**	26.00	49	*e*P		**P**		**14 53 40.2**	**-0.1**
SRS	**Serrai**	26.11	306	P		**P**		**14 53 42.3**	**+1.1**
SRS				pmax		pmax			
	comp=Z,29nm,1.2s								
VRI	**Vrincioaia**	26.18	318	⇑P		**P**		**14 53 43.7**	**+2.0**
VRI	**Vrincioaia**	26.18	318	P		**P**		**14 53 43.6**	**+1.8**
VRI				pmax		pmax			
	comp=Z,17nm,1.0s								
SOH	**Sokhos**	26.18	305	P		**P**		**14 53 44.0**	**+2.1**
SOH				pmax		pmax			
	comp=Z,19nm,1.1s								
NEHR	**Nehoiu**	26.20	317	⇓P		**P**		**14 53 44.5**	**+2.5**
PLOR	**Plostina**	26.22	318	⇓P		**P**		**14 53 44.0**	**+1.8**
PLOR	**Plostina**	26.22	318	P		**P**		**14 53 43.9**	**+1.8**
PGB	**Panagyurishte**	26.24	310	*e*P		**P**		**14 53 43.5**	**+1.1**
ITM	**Ithomi**	26.33	297	P		**P**		**14 53 43.7**	**+0.5**
ITM				IAmb		IAmb		14 53 45.4	
	comp=Z,61nm,1.4s								
AGG	**Agios Georgios**	26.42	301	P		**P**		**14 53 46.0**	**+2.0**
AGG				pmax		pmax			
	comp=Z,16nm,1.8s								
MLR	**Muntele Rosu**	26.45	317	P		**P**		**14 53 46.0**	**+1.7**
	comp=Z,6.7nm,0.8s,baz=98,slow=3.7,SNR=12								
MLR				LR		LR		15 06 46.1	
	comp=Z,627nm,21.8s,baz=125,slow=42								
MLR	**Muntele Rosu**	26.45	317	⇑P		**P**		**14 53 46.6**	**+2.4**
MLR	**Muntele Rosu**	26.45	317	P		**P**		**14 53 46.0**	**+1.7**
UZB	**Uzynbulak**	26.45	49	*e*P		**P**		**14 53 44.3**	**-0.1**
	comp=Z,13nm,1.0s,baz=49								
UZB				*e*PP		**PnPn**		**14 54 23.6**	**-0.8**
	baz=49								
UZB	**Uzynbulak**	26.45	49	*e*P		**P**		**14 53 44.2**	**-0.1**
UZB				*e*				14 54 23.5	
UZB				pmax		pmax			
	comp=Z,13nm,1.0s								
TESR	**Tescani**	26.58	319	⇑P		**P**		**14 53 46.5**	**+1.2**
LIT	**Litokhoron**	26.59	303	P		**P**		**14 53 46.1**	**+0.6**
LIT				pmax		pmax			
	comp=Z,14nm,0.7s								
SORM	**Soroca**	26.62	324	⇓P		**P**		**14 53 47.0**	**+1.4**
SORM	**Soroca**	26.62	324	P		**P**		**14 53 46.9**	**+1.4**
KKB	**Krupnik**	26.73	308	*e*P		**P**		**14 53 47.3**	**+0.5**
SHLS	**Shalkode**	26.75	49	*e*P		**P**		**14 53 49.8**	**+2.7**
	baz=50								
SHLS	**Shalkode**	26.75	49	*e*P		**P**		**14 53 49.7**	**+2.7**
BRZS	**Berezniki**	26.78	31	*i* P		**P**		**14 53 47.2**	**+0.1**
	comp=Z,16nm,1.1s,baz=31								
BRZS	**Berezniki**	26.78	31	*i* P		**P**		**14 53 47.2**	**+0.1**
BRZS				pmax		pmax			
	comp=Z,16nm,1.1s								
PDGK	**Podgornoye**	26.84	49	P		**P**		**14 53 48.0**	**+0.2**
OZUR		26.86	318	⇑P		**P**		**14 53 48.5**	**+0.6**
TDK	**Taldyqorghan**	26.88	45	⇑*e*P		**P**		**14 53 48.0**	**-0.1**
	baz=45								
TDK				LR		LR		15 05 16.6	
	comp=Z,385nm,13.1s,baz=45								
TDK	**Taldyqorghan**	26.88	45	*c e*P		**P**		**14 53 48.0**	**-0.1**
TDK				MLR		MLR			
	comp=Z,385nm,13.0s								
VTS	**Vitosha**	26.90	309	⇑P		**P**		**14 53 49.9**	**+1.4**
VTS	**Vitosha**	26.90	309	P		**P**		**14 53 49.9**	**+1.4**
VTS				pmax		pmax			
	comp=Z,9.0nm,1.2s								
VTS	**Vitosha**	26.90	309	*e*P		**P**		**14 53 49.7**	**+1.2**
VAY	**Valandovo**	26.91	306	*i* P		**P**		**14 53 49.6**	**+1.3**
VOIR		26.96	316	⇑P		**P**		**14 53 51.1**	**+2.2**
VOIR		26.96	316	P		**P**		**14 53 50.7**	**+1.8**
VOIR				pmax		pmax			
	comp=Z,12nm,0.8s								
DOPR	**Dopca**	27.03	317	⇑P		**P**		**14 53 51.0**	**+1.6**
ARR	**Arges**	27.18	316	⇑P		**P**		**14 53 52.8**	**+2.0**
STIP	**Stip**	27.30	307	*i* P		**P**		**14 53 51.7**	**-0.1**
PYUN	**Piuthan**	27.59	83	*e*P		**P**		**14 53 55.0**	**+0.2**
	comp=Z,49nm,0.7s								
AKASG	**Malin Array Be**	27.90	329	P		**P**		**14 53 57.1**	**0.0**
	comp=Z,2.5nm,0.4s,baz=137,slow=8.1,SNR=19								
AKASG				ScP		**ScP**		**15 00 50.9**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=102,slow=2.5,SNR=4.4								
AKASG				LR		LR		15 07 04.8	
	comp=Z,146nm,18.4s,baz=120,slow=41								
AKASG	**Malin Array Be**	27.90	329	*c e*P		**P**		**14 53 57.0**	**-0.1**
AKASG				pmax		pmax			
	comp=Z,6.0nm,0.8s								
AKASG	**Malin Array Be**	27.90	329	P		**P**		**14 53 56.1**	**-1.0**
AKBB	**Malin Array Si**	27.90	329	*c e*P		**P**		**14 53 56.7**	**-0.4**
AKBB	**Malin Array Si**	27.90	329	P		**P**		**14 53 56.3**	**-0.8**
AKBB				IAmb		IAmb		14 53 57.9	
	comp=Z,35nm,1.4s								
SKO	**Skopje**	27.92	307	*i* P		**P**		**14 53 55.8**	**-1.6**
BURAR	**Bucovina Array**	28.01	320	⇑P		**P**		**14 53 59.5**	**+1.3**
BURAR	**Bucovina Array**	28.01	320	P		**P**		**14 53 59.5**	**+1.3**
BURAR	**Bucovina Array**	28.01	320	P		**P**		**14 53 59.6**	**+1.3**
BRVK	**Borovoye**	28.15	24	P		**P**		**14 53 59.7**	**+0.4**
BRVK				pmax		pmax			
	comp=Z,18nm,0.8s								
BRVK	**Borovoye**	28.15	24	P		**P**		**14 53 59.7**	**+0.4**
BRVK				IAmb		IAmb		14 54 02.6	
	comp=Z,18nm,0.8s								
BVA0	**Borovoye Array**	28.16	24	*i* P		**P**		**14 53 59.3**	**-0.1**
BVAR	**Borovoye Array**	28.16	24	P		**P**		**14 53 60.0**	**+0.6**
	comp=Z,19nm,0.7s,baz=219,slow=6.9,SNR=80								
BVAR				PcP		**PcP**		**14 57 12.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=180,slow=5.3,SNR=3.8								
BVAR				ScP		**ScP**		**15 00 50.8**	**-2.2**
	comp=Z,3.8nm,1.0s,baz=216,slow=4.8,SNR=9.6								
BVAR				LR		LR		15 07 50.4	
	comp=Z,116nm,21.5s,baz=212,slow=42								
BVAR	**Borovoye Array**	28.16	24			**PcP**		**14 57 12.9**	**-0.1**
BVAR						**ScP**		**15 00 50.8**	**-2.2**
KOLN	**Koldanda**	28.17	84	*e*P		**P**		**14 53 59.9**	**-0.1**
	comp=Z,14nm,0.7s								
DANN	**Dangsing**	28.22	83	*e*P		**P**		**14 54 00.8**	**+0.2**
	comp=Z,141nm,0.8s								
ARU	**Arti**	28.36	8	P		**P**		**14 54 01.7**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=192,slow=9.0,SNR=12								
ARU				LR		LR		15 06 00.8	
	comp=Z,173nm,18.8s,baz=184,slow=38								
ARU	**Arti**	28.36	8	*c i* P		**P**		**14 54 01.4**	**+0.3**
ARU								14 54 49.4	
ARU				S		**S**		**14 58 50.4**	**+3.8**
ARU				SS		**SnSn**		**15 00 07.3**	**+2.6**
ARU				pmax		pmax			
	comp=Z,14nm,1.0s								
HERR	**Herculane**	28.36	313	⇑P		**P**		**14 54 02.9**	**+1.6**
OBN	**Obninsk**	28.74	342	P		**P**		**14 54 04.2**	**-0.3**
	comp=Z,2.8nm,0.3s,baz=112,slow=4.0,SNR=8.5								
OBN				LR		LR		15 07 05.7	
	comp=Z,58nm,18.9s,baz=190,slow=40								
OBN	**Obninsk**	28.74	342	*e*P		**P**		**14 54 04.6**	**+0.1**
OBN				*e*PPP		PPP		14 55 03.6	
OBN				*e*S		**S**		**14 58 51.5**	**-1.2**
OBN				pmax		pmax			
	comp=Z,62nm,1.7s								
OBN				MLR		MLR			
	comp=Z,201nm,18.0s								
MDVR	**Moldovita**	28.77	312	⇑P		**P**		**14 54 06.9**	**+1.9**
MOS	**Moscow**	29.02	344	*e*P		**P**		**14 54 04.6**	**-2.4**
MOS				*e*S		**S**		**14 58 55.3**	**-1.8**
MOS				pmax		pmax			
	comp=Z,56nm,1.4s								
SVE	**Sverdlovsk**	29.03	10	⇑*e*P		**P**		**14 54 08.3**	**+1.2**
SVE				pmax		pmax			
	comp=Z,34nm,1.6s								
SVE				MLR		MLR			
	comp=Z,212nm,13.0s								
GKN	**Gorkha**	29.04	83	*e*P		**P**		**14 54 07.1**	**-0.6**
BZS	**Buzias**	29.19	314	P		**P**		**14 54 09.9**	**+1.3**
BZS				pmax		pmax			
	comp=Z,4.0nm,1.4s								
DMN	**Daman**	29.51	84	*e*P		**P**		**14 54 11.4**	**-0.6**
KKN	**Kakani**	29.64	83	*e*P		**P**		**14 54 12.1**	**-1.0**
PKI	**Pulchoki**	29.78	84	*e*P		**P**		**14 54 13.8**	**-0.7**
	comp=Z,31nm,0.9s								
MAKZ	**Makanchi**	29.93	44	P		**P**		**14 54 15.3**	**0.0**
MAKZ	**Makanchi**	29.93	44	P		**P**		**14 54 14.8**	**-0.5**
MAKZ				IAmb		IAmb		14 54 17.9	
	comp=Z,13nm,0.9s								
KURBB	**Kurchatov Arra**	30.02	35	P		**P**		**14 54 16.4**	**+0.4**
	comp=Z,14nm,0.8s,baz=235,slow=9.1,SNR=68								
KURBB				ScP		**ScP**		**15 00 58.5**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=230,slow=3.7,SNR=14								
MK31	**Makanchi Array**	30.12	44	*i* P		**P**		**14 54 16.8**	**-0.1**
MK31	**Makanchi Array**	30.12	44	P		**P**		**14 54 17.1**	**+0.2**
MKAR	**Makanchi Array**	30.12	44	P		**P**		**14 54 17.1**	**+0.2**
	comp=Z,6.0nm,0.7s,baz=231,slow=7.7,SNR=37								
MKAR				PcP		**PcP**		**14 57 17.7**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=238,slow=5.9,SNR=3.3								
MKAR				ScP		**ScP**		**15 00 58.4**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=264,slow=3.3,SNR=6.5								
MKAR				LR		LR		15 08 09.3	
	comp=Z,524nm,19.0s,baz=240,slow=40								
MKAR	**Makanchi Array**	30.12	44	P		**P**		**14 54 16.9**	**0.0**
MKAR	**Makanchi Array**	30.12	44			**PcP**		**14 57 17.7**	**-0.4**
MKAR						**ScP**		**15 00 58.4**	**-1.0**
KIRV	**Kirov**	30.12	358	P		**P**		**14 54 17.4**	**+0.7**
	comp=Z,38nm,0.8s,baz=170,slow=2.3,SNR=17								
KIRV	**Kirov**	30.12	358	⇑*e*P		**P**		**14 54 16.4**	**-0.3**
KURK	**Kurchatov**	30.13	35	*i* P		**P**		**14 54 16.6**	**-0.3**
KURK				pmax		pmax			
	comp=Z,19nm,0.9s								
KURK	**Kurchatov**	30.13	35	P		**P**		**14 54 17.3**	**+0.5**
KURK				IAmb		IAmb		14 54 20.1	
	comp=Z,18nm,0.9s								
CRVS	**Cervenica-Dubn**	30.82	320	*e*P		**P**		**14 54 24.5**	**+1.4**
CRVS				pmax		pmax			
	comp=Z,23nm,1.1s								
CRVS	**Cervenica-Dubn**	30.82	320	*e*P		**P**		**14 54 24.5**	**+1.4**
RAMN	**Ramite**	30.94	84	*e*P		**P**		**14 54 23.1**	**-1.5**
KECS	**Kecovo**	31.18	318	*e*P		**P**		**14 54 28.1**	**+1.9**
KECS				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KECS	**Kecovo**	31.18	318	*e*P		**P**		**14 54 28.1**	**+1.9**
NIE	**Niedzica**	31.74	320	P		**P**		**14 54 32.4**	**+1.2**
NIE				pmax		pmax			
	comp=Z,2.0nm,1.4s								
ZSN	**Zaisan**	31.99	45	*e*P		**P**		**14 54 34.2**	**+0.8**
	baz=45								
ZSN				LR		LR		15 08 43.3	
	comp=Z,146nm,10.8s,baz=45								
ZSN	**Zaisan**	31.99	45	*e*P		**P**		**14 54 34.1**	**+0.8**
ZSN				MLR		MLR			
	comp=Z,146nm,11.0s								
LANS	**Liptovska Anna**	32.09	319	*e*P		**P**		**14 54 35.8**	**+1.6**
LANS				pmax		pmax			
	comp=Z,13nm,1.0s								
LANS	**Liptovska Anna**	32.09	319	*e*P		**P**		**14 54 35.8**	**+1.6**
VYHS	**Vyhne**	32.16	317	*e*P		**P**		**14 54 35.7**	**+0.9**
VYHS				pmax		pmax			
	comp=Z,6.0nm,1.3s								
VYHS	**Vyhne**	32.16	317	*e*P		**P**		**14 54 35.7**	**+0.9**
IDID	**Didziasalis**	32.24	333	*e*P		**P**		**14 54 36.1**	**+0.7**
OJC	**Ojcow**	32.42	321	*e*P		**P**		**14 54 37.7**	**+0.6**
OJC	**Ojcow**	32.42	321	P		**P**		**14 54 36.8**	**-0.3**
OJC				pmax		pmax			
	comp=Z,24nm,1.0s								
OJC	**Ojcow**	32.42	321	P		**P**		**14 54 36.8**	**-0.3**
KMBO	**Kilima Mbogo**	32.52	207	LR		LR		15 08 48.8	
	comp=Z,641nm,19.1s,baz=126,slow=38								
WMQ	**Urumqi**	32.60	52	*e*P		**P**		**14 54 38.5**	**-0.4**
WMQ				S		S		14 59 44.1	-10
WMQ				pmax		pmax			
	comp=Z,24nm,1.1s								
WMQ				pmax		pmax			
	comp=Z,130nm,3.7s								
WMQ				LR		LR			
	comp=Z,240nm,16.5s								
WMQ				LR		LR			
	comp=Z,250nm,20.1s								
WMQ				LR		LR			
	comp=Z,360nm,18.9s								
ISAL	**Salakas**	32.66	333	*e*P		**P**		**14 54 40.0**	**+0.8**
BEL	**Belsk**	32.74	324	*e*P		**P**		**14 54 40.3**	**+0.4**
IZAR	**Zarasai**	32.74	333	*e*P		**P**		**14 54 40.7**	**+0.9**
SUW	**Suwalki**	32.87	329	P		**P**		**14 54 41.2**	**+0.2**
SUW				pmax		pmax			
	comp=Z,35nm,1.1s								
JAVC	**Velka Javorina**	33.01	317	*e*P		**P**		**14 54 43.5**	**+1.1**
MODS	**Modra-Piesok**	33.04	316	*e*P		**P**		**14 54 42.5**	**-0.1**
MODS				pmax		pmax			
	comp=Z,12nm,1.5s								
MODS	**Modra-Piesok**	33.04	316	*e*P		**P**		**14 54 42.5**	**-0.1**
KLMR	**Klimovskoe**	33.37	349	*e*P		**P**		**14 54 43.7**	**-1.5**
KLMR				*e*				14 55 52.6	
KLMR				pmax		pmax			
	comp=Z,123nm,1.1s								
KLMR	**Klimovskoe**	33.37	349	*e*P		**P**		**14 54 43.8**	**-1.5**
KLMR				AMP				14 54 46.0	
	comp=Z,123nm,1.1s								
KLMR				*e*PP		**PnPn**		**14 55 52.7**	**-3.3**
KLMR				LQ		LQ		15 06 11.2	
KLMR				LQ		LQ		15 06 11.2	
KLMR				LR		LR		15 08 23.6	
PRGR	**Permogore**	33.38	355	*e*P		**P**		**14 54 43.2**	**-2.1**
PRGR				pmax		pmax			
	comp=Z,27nm,0.8s								
MORC	**Moravsky Berou**	33.49	319	*e*P		**P**		**14 54 46.7**	**+0.2**
MORC	**Moravsky Berou**	33.49	319	P		**P**		**14 54 45.2**	**-1.3**
MORC				pmax		pmax			
	comp=Z,14nm,1.2s								
MORC	**Moravsky Berou**	33.49	319	P		**P**		**14 54 45.2**	**-1.3**
MORC				IAmb		IAmb		14 54 48.1	
	comp=Z,14nm,1.2s								
PABE	**Paberze**	33.50	331	*e*P		**P**		**14 54 46.6**	**+0.2**
ARSA	**Arzberg**	33.70	314	*i* P		**P**		**14 54 47.5**	**-0.9**
	comp=Z,4.0nm,0.9s								
CONA	**Conrad Observa**	33.74	315	*i* P		**P**		**14 54 49.2**	**+0.5**
	comp=Z,6.6nm,1.1s								
SOKA	**Soboth**	33.82	312	*i* P		**P**		**14 54 50.4**	**+0.9**
	comp=Z,5.3nm,1.2s								
VRAC	**Vranov**	33.84	318	*e*P		**P**		**14 54 50.1**	**+0.5**
VRAC	**Vranov**	33.84	318	P		**P**		**14 54 50.4**	**+0.8**
VRAC				pmax		pmax			
	comp=Z,10.0nm,1.8s								
KRUC	**Moravsky**	33.86	317	*e*P		**P**		**14 54 50.0**	**+0.3**
KRUC	**Moravsky**	33.86	317	P		**P**		**14 54 50.3**	**+0.6**
KRUC				pmax		pmax			
	comp=Z,7.0nm,1.6s								
KRLC	**Kraliky**	34.06	319	*e*P		**P**		**14 54 52.1**	**+0.6**
KRLC				MLR		MLR			
	comp=Z,200nm,16.7s								
KRLC	**Kraliky**	34.06	319	*e*P		**P**		**14 54 52.1**	**+0.6**
KRLC				AMS		AMS		15 11 00.0	
	comp=Z,200nm,16.7s								
OBKA	**Obir**	34.08	312	*i* pP		**P**		**14 54 53.9**	**+2.1**
	comp=Z,7.6nm,1.1s								
LSA	**Lhasa**	34.45	78	P		**P**		**14 54 54.9**	**-0.7**
LSA				pmax		pmax			
	comp=Z,9.0nm,0.6s								
LSA	**Lhasa**	34.45	78	P		**P**		**14 54 54.9**	**-0.7**
LSA				IAmb		IAmb		14 54 57.6	
	comp=Z,8.7nm,0.6s								
DPC	**Dob

comp=Z,11nm,1.0s
BRG Berggiesshubel 36.05 319 *e*P **P 14 55 08.3 -0.2**
comp=Z,7.3nm,1.1s
BRG *e* 14 55 26.7
comp=Z,4.8nm,0.9s
BRG Berggiesshubel 36.05 319 *e*P **P 14 55 08.3 -0.2**
BRG *e* 14 55 26.7
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG pmax pmax
comp=Z,5.0nm,0.9s
WTTA Wattenberg 36.21 312 *i* P **P 14 55 10.7 +0.5**
comp=Z,19nm,1.2s,SNR=6.3
WTTA Wattenberg 36.21 312 P **P 14 55 10.7 +0.5**
WTTA pmax pmax
comp=Z,14nm,1.1s
WATA Walderalm 36.27 312 *i* P **P 14 55 10.5 -0.2**
comp=Z,17nm,1.3s,SNR=8.3
KEST Kesra 36.31 292 P **P 14 55 11.3 +0.2**
comp=Z,5.7nm,0.9s,baz=7.9,slow=7.9,SNR=5.1
KEST LR LR 15 13 18.6
comp=Z,314nm,18.6s,baz=0.5,slow=42
KEST Kesra 36.31 292 P **P 14 55 10.2 -0.9**
SQTA Sankt Quirin 36.48 312 *i* P **P 14 55 12.3 -0.1**
comp=Z,6.1nm,0.6s
MOTA Moosalm 36.58 312 *i* P **P 14 55 13.4 0.0**
comp=Z,12nm,1.0s,SNR=5.7
NKC Novy Kostel 36.68 317 AMS AMS 15 12 00.0
comp=Z,300nm,18.3s
TMCR Tamitsa 36.73 350 *e*P **P 14 55 12.6 -1.5**
FETA Feichten 36.74 312 *i* P **P 14 55 15.3 +0.6**
comp=Z,13nm,1.0s,SNR=5.7
CLL Collm 36.76 319⇑ *i*P **P 14 55 14.6 0.0**
comp=Z,13nm,1.2s
CLL *e*PP **PP 14 56 40.0 +1.6**
CLL *e*S **S 15 01 03.0 +5.6**
CLL Lm MLR 15 12 00.0
comp=N,300nm,20.1s
CLL Lm MLR 15 12 00.0
comp=E,200nm,18.7s
CLL Lm MLR 15 12 00.0
comp=Z,300nm,19.0s
CLL Collm 36.76 319⇑ *i*P **P 14 55 14.6 0.0**
CLL *e*S **S 15 01 03.0 +5.6**
CLL pmax pmax
comp=Z,13nm,1.2s
CLL MLR MLR
comp=Z,300nm,19.0s
RETA Reutte 36.84 312 *i* P **P 14 55 15.1 -0.4**
comp=Z,5.0nm,0.7s
FIA1 FINESS Array S 37.08 340 P **P 14 55 17.2 +0.1**
FINES FINESS Array B 37.08 340 P **P 14 55 16.9 -0.2**
comp=Z,23nm,0.6s,baz=146,slow=9.5,SNR=107
FINES LR LR 15 13 07.5
comp=Z,157nm,18.1s,baz=136,slow=40
FINES FINESS Array B 37.08 340 *i* P **P 14 55 16.8 -0.4**
FINES pmax pmax
comp=Z,23nm,0.6s
FINES FINESS Array B 37.08 340 P **P 14 55 17.1 -0.1**
DAVOX Davos/Dischmat 37.24 311 P **P 14 55 19.3 +0.3**
comp=Z,3.9nm,0.6s,baz=113,slow=9.1,SNR=7.2
DAVOX LR LR 15 14 28.3
comp=Z,212nm,19.6s,baz=36,slow=42
DAVA Damuels 37.37 312 *i* P **P 14 55 20.2 +0.2**
comp=Z,42nm,1.4s,SNR=7.0
SUF Sumiainen 38.06 341 P **P 14 55 25.8 +0.3**
SUF pmax pmax
comp=Z,44nm,1.1s
STU Stuttgart 38.21 314 P **P 14 55 28.6 +1.6**
STU pmax pmax
comp=Z,22nm,0.6s
MBDF Montbardon 38.95 307 *e*P **P 14 55 33.5 +0.1**
MBDF pmax pmax
comp=Z,7.0nm,0.7s
BNI Bardonecchia 39.07 307 P **P 14 55 33.5 -0.9**
BNI pmax pmax
comp=Z,14nm,1.1s
BNI Bardonecchia 39.07 307 P **P 14 55 33.5 -0.9**
LPG La Plagne 39.09 308 *e*P **P 14 55 38.1 +3.3**
LPG pmax pmax
comp=Z,18nm,1.2s
LPL La Plagne 39.11 308 *e*P **P 14 55 34.8 0.0**
LPL pmax pmax
comp=Z,23nm,1.4s
BSEG Bad Segeberg 39.31 322 P **P 14 55 37.4 +1.3**
BSEG pmax pmax
comp=Z,16nm,1.1s
VAF Ylistaro 39.33 340 P **P 14 55 36.4 +0.3**
VAF pmax pmax
comp=Z,40nm,0.8s
ECH Echery 39.38 312 P **P 14 55 36.3 -0.5**
ECH pmax pmax
comp=Z,9.0nm,1.2s
MSF Maaselka 39.97 346 *e*P **P 14 55 41.7 +0.3**
MSF pmax pmax
comp=Z,62nm,1.1s
WLF Walferdange 40.37 314 *e*P **P 14 55 44.8 -0.2**
WLF pmax pmax
comp=Z,52nm,1.1s
APA Apatity 40.61 349⇑ *i*P **P 14 55 46.2 -0.5**
APA pmax pmax
comp=Z,10.0nm,0.9s
HFS Hagfors 40.68 332 P **P 14 55 47.6 +0.2**
comp=Z,15nm,0.5s,baz=135,slow=9.4,SNR=36
HFS LR LR 15 14 23.4
comp=Z,204nm,20.9s,baz=124,slow=39
LVZ Lovozero 40.72 350 *ce*P **P 14 55 47.8 +0.1**
LVZ pmax pmax
comp=Z,187nm,2.5s
LVZ Lovozero 40.72 350 P **P 14 55 47.1 -0.6**
LVZ IAmb IAmb 14 55 52.6
comp=Z,41nm,1.2s
GTA Gaotai 41.00 62⇑ P **P 14 55 51.0 +0.5**
GTA pP sP 14 56 01.3 +2.3
GTA sP pP 14 56 05.3 +8.5
GTA S **S 15 02 03.4 +1.5**
GTA pmax pmax
comp=Z,14nm,0.8s
GTA pmax pmax
comp=Z,88nm,7.0s
GTA LR LR
comp=Z,220nm,19.4s
GTA LR LR
comp=Z,220nm,16.2s
GTA LR LR
comp=Z,230nm,16.2s
SMF Signal de Mont 41.28 309 *e*P **P 14 55 52.4 -0.1**
SMF pmax pmax
comp=Z,12nm,1.0s
AVF Avril sur Loir 41.63 309 *e*P **P 14 55 57.4 +2.0**
AVF pmax pmax
comp=Z,18nm,1.6s
TAM Tamanrasset 41.75 273 P **P 14 55 59.0 +2.2**
TAM pmax pmax
comp=Z,8.0nm,0.8s
NC602 NORSAR Array S 41.90 332 *e*P **P 14 55 58.1 +0.7**
NORES NORESS Array B 41.90 332 P **P 14 55 58.2 +0.8**
NORES pmax pmax
comp=Z,11nm,0.2s
NC405 NORSAR Array S 42.03 332 P **P 14 55 58.3 -0.2**
MTLF Montolieu 42.06 304 *e*P **P 14 56 00.1 +1.1**
MTLF pmax pmax
comp=Z,17nm,1.5s
NB201 NORSAR Array S 42.17 332 P **P 14 55 59.3 -0.3**
NB201 IAmb IAmb 14 56 08.7
comp=Z,38nm,1.2s
KONO Kongsberg 42.19 330 *ce*P **P 14 55 59.1 -0.7**
KONO pmax pmax
comp=Z,21nm,1.3s
KONO Kongsberg 42.19 330 *e*P **P 14 55 59.6 -0.2**
NB2 NORSAR Subarra 42.20 332 P **P 14 55 59.3 -0.6**
comp=Z,14nm,0.8s,baz=124,slow=8.6
NB2 NORSAR Subarra 42.20 332 P **P 14 55 59.3 -0.6**
baz=124,slow=8.6
NOA NORSAR Array B 42.20 332 P **P 14 55 59.3 -0.6**
comp=Z,8.6nm,0.8s,baz=122,slow=8.3,SNR=29
NOA LR LR 15 15 19.6
comp=Z,173nm,20.1s,baz=125,slow=39
NAO01 NORSAR Array S 42.23 332 P **P 14 55 58.8 -1.3**
NC303 NORSAR Array S 42.24 332 P **P 14 55 59.9 -0.3**
NC303 IAmb IAmb 14 56 01.0
comp=Z,31nm,1.1s
NBO00 NORSAR Array S 42.38 332 P **P 14 56 00.6 -0.7**
NBO00 NORSAR Array S 42.38 332 *e*P **P 14 56 01.3 0.0**
NC204 NORSAR Array S 42.51 332 P **P 14 56 02.2 -0.2**
NC204 IAmb IAmb 14 56 03.8
comp=Z,16nm,0.8s
RJF Les Rejaudoux 42.72 307 *e*P **P 14 56 05.1 +0.8**
RJF pmax pmax
comp=Z,16nm,1.2s
SKAR Skarslia 43.25 330 *e*P **P 14 56 09.3 +0.9**
MOY Mondy 43.26 44 *e*P **P 14 56 09.5 +0.8**
MOY pmax pmax
comp=Z,17nm,1.0s
EPF Esparros 43.41 304 *e*P **P 14 56 12.2 +2.2**
EPF pmax pmax
comp=Z,13nm,1.4s
BLS5 Blasjo 43.52 328 *e*P **P 14 56 11.6 +1.1**
DOMB Dombas 43.60 332 *e*P **P 14 56 12.6 +1.3**
ODD1 Odda 43.65 329 *e*P **P 14 56 12.7 +1.1**
ARCES ARCESS Array B 43.76 347 P **P 14 56 12.9 +0.5**
comp=Z,4.1nm,0.7s,baz=150,slow=7.6,SNR=22
ARCES ScP **ScP 15 01 48.2 -1.2**
comp=Z,3.2nm,0.8s,baz=140,slow=4.7,SNR=5.5
ARCES LR LR 15 18 11.7
comp=Z,193nm,20.3s,baz=180,slow=41
ARCES ARCESS Array B 43.76 347 P **P 14 56 12.6 +0.2**
ARE0 ARCESS Array S 43.76 347 *e*P **P 14 56 13.3 +0.9**
NSS Namsos 43.87 337 *e*P **P 14 56 11.9 -1.3**
ETSF Etsaut 44.07 303 *e*P **P 14 56 19.0 +3.7**
ETSF pmax pmax
comp=Z,16nm,1.2s
CHTO Chiang Mai 44.17 92 P **P 14 56 16.2 -0.1**
CHTO pmax pmax
comp=Z,10.0nm,1.0s
CMAR Chiang Mai Arr 44.30 92 P **P 14 56 17.1 -0.2**
comp=Z,2.6nm,0.7s,baz=286,slow=8.2,SNR=13
CMAR LR LR 15 19 26.4
comp=Z,197nm,18.1s,baz=320,slow=42
CMAR Chiang Mai Arr 44.30 92⇑ *e*P **P 14 56 17.2 -0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
LZH Lanzhou 44.35 66 *e*P **P 14 56 17.6 -0.2**
LZH pP sP 14 56 25.4 -0.9
LZH sP pP 14 56 29.8 +5.7
LZH pmax pmax
comp=Z,26nm,1.1s
LZH LR LR
comp=Z,290nm,13.8s
LZH LR LR
comp=Z,290nm,13.8s
LZH LR LR
comp=Z,310nm,19.0s
ZAK Zakamensk 44.43 46 *e*P **P 14 56 18.1 0.0**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
BER Bergen 44.44 329 *e*P **P 14 56 18.3 +0.4**
FLN La Foliniere 44.47 312 *e*P **P 14 56 18.1 -0.2**
FLN pmax pmax
comp=Z,19nm,1.1s
MOL Molde 44.48 333 *e*P **P 14 56 19.1 +0.9**
AKN Aaknes 44.52 332 *e*P **P 14 56 19.8 +1.3**
SJPF Ste Jean 44.56 304 *e*P **P 14 56 20.3 +1.1**
SJPF pmax pmax
comp=Z,8.0nm,0.6s
FAUS Fauske 44.61 341 *e*P **P 14 56 20.4 +1.3**
KONS Konsvik 44.69 339 *e*P **P 14 56 19.6 -0.2**
NBB40 Tonnes 44.73 339 *e*P **P 14 56 19.5 -0.6**
NBB05 Inndyr 44.75 340 *e*P **P 14 56 20.8 +0.5**
N2TV TYrnvik 44.78 341 *e*P **P 14 56 21.5 +1.0**
NBB30 Finnes 44.80 340 *e*P **P 14 56 21.0 +0.3**
TLY Talaya 44.88 44 P **P 14 56 22.8 +1.2**
comp=Z,0.7nm,0.3s,baz=240,slow=4.3,SNR=5.5
TLY Talaya 44.88 44 *i* P **P 14 56 22.5 +0.9**
TLY pmax pmax
comp=Z,4.0nm,1.1s
STEI Steigen 44.99 342 *e*P **P 14 56 22.0 -0.1**
HAMF Hammerfest 45.03 347 *e*P **P 14 56 23.4 +1.0**
FOO Floro 45.08 331 *e*P **P 14 56 23.7 +0.8**
TRO Tromso 45.26 345 *e*P **P 14 56 24.7 +0.4**
N2SV S rvVgen 45.60 341 *e*P **P 14 56 26.1 -0.9**
LOF Lofoten 45.60 341 *e*P **P 14 56 27.3 +0.2**
NRIK Noril'sk 45.84 17 P **P 14 56 29.8 +0.9**
comp=Z,10.0nm,0.8s,baz=224,slow=5.0,SNR=13
NRIK LR LR 15 19 18.5
comp=Z,174nm,19.6s,baz=218,slow=41
NRIK Noril'sk 45.84 17⇑ *e*P **P 14 56 26.7 -2.2**
NRIK pmax pmax
comp=Z,16nm,1.0s
NRIK Noril'sk 45.84 17 P **P 14 56 29.8 +0.9**
SONM Songino Array 46.15 50 P **P 14 56 32.2 +0.4**
comp=Z,3.2nm,1.0s,baz=259,slow=9.0,SNR=14
SONM LR LR 15 18 32.6
comp=Z,273nm,18.3s,baz=260,slow=40
ULN Ulaanbaatar 46.59 50 *ce*P **P 14 56 34.9 -0.5**
ULN pmax pmax
comp=Z,6.0nm,1.0s
ESBB Sonseca Array 46.71 299 P **P 14 56 36.6 +0.4**
ESDC Sonseca Array 46.71 299 P **P 14 56 36.5 +0.3**
comp=Z,0.9nm,0.5s,baz=65,slow=7.1,SNR=13
ESDC PcP **PcP 14 58 10.3 +0.6**
comp=Z,1.7nm,0.9s,baz=52,slow=4.4,SNR=5.0
ESDC ScP **ScP 15 02 02.2 -0.1**
comp=Z,0.7nm,0.7s,baz=50,slow=4.4,SNR=3.5
ESDC LR LR 15 19 19.1
comp=Z,108nm,18.7s,baz=85,slow=40
ESDC Sonseca Array 46.71 299 P **P 14 56 36.6 +0.3**
ESDC **PcP 14 58 10.5 +0.9**
GUD Guadarrama 46.79 300 P **P 14 56 40.2 +3.2**
GUD pmax pmax
comp=Z,7.0nm,1.9s
PBKT Sadao Pong 46.81 94 P **P 14 56 37.4 +0.2**
PBKT IAmb IAmb 14 56 42.9
comp=Z,8.3nm,0.7s
OPO Ambohidratompo 46.98 186 P **P 14 56 41.4 +2.8**
comp=Z,5.9nm,1.0s,baz=23,slow=15,SNR=4.1
OPO Ambohidratompo 46.98 186 P **P 14 56 41.4 +2.8**
PAB San Pablo 47.01 299 P **P 14 56 38.8 +0.1**
PAB pmax pmax
comp=Z,12nm,1.5s
PAB San Pablo 47.01 299 P **P 14 56 38.8 +0.1**
PAB IAmb IAmb 14 56 43.3
comp=Z,12nm,1.5s
EKA Eskdalemuir Ar 47.19 320 P **P 14 56 40.0 +0.3**
GYA Guiyang 48.52 79 *e*P **P 14 56 52.6 +2.0**
GYA PP **PP 14 58 45.8 +2.5**
GYA S **S 15 03 53.3 +2.1**
GYA pmax pmax
comp=Z,6.0nm,0.8s
GYA pmax pmax
comp=Z,100nm,4.0s
GYA LR LR
comp=Z,170nm,11.1s
GYA LR LR
comp=Z,200nm,11.3s
GYA LR LR
comp=Z,150nm,11.7s
XAN Xi'an 48.75 68 P **P 14 56 52.6 +0.4**
XAN pP sP 14 57 00.6 -0.2
XAN pmax pmax
comp=Z,8.0nm,1.0s
TOA0 Torodi Ar. Sit 48.76 262 P **P 14 56 52.9 +0.5**
TOA0 IAmb IAmb 14 56 55.2
comp=Z,9.7nm,0.8s
TORD Torodi Ar. Bea 48.76 262 P **P 14 56 52.7 +0.3**
comp=Z,9.4nm,0.8s,baz=55,slow=7.9,SNR=52
TORD ScP **ScP 15 02 11.2 -0.1**
comp=Z,2.2nm,1.1s,baz=85,slow=1.1,SNR=4.0
TORD LR LR 15 18 35.5
comp=Z,150nm,18.1s,baz=40,slow=37
TORD Torodi Ar. Bea 48.76 262 P **P 14 56 53.1 +0.8**
HHC Hu-ho-hao-te 49.94 59 *e*P **P 14 57 01.8 +0.6**
HHC S **S 15 04 13.8 +3.1**
HHC SS **SS 15 07 42.3 -1.1**
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,70nm,5.0s
HHC LR LR
comp=Z,220nm,16.2s
HHC LR LR
comp=Z,240nm,15.4s
HHC LR LR
comp=Z,410nm,15.8s
BOD Bodaibo 51.74 37 *e*P **P 14 57 14.0 -0.4**
BOD pmax pmax
comp=Z,20nm,1.4s
PSI Prapat 51.74 111 P **P 14 57 15.5 +0.3**
comp=Z,4.1nm,0.4s,baz=0.5,slow=5.5,SNR=6.9
RPSI Rantau Prapat 51.80 111 P **P 14 57 15.5 +0.1**
SPA0 Spitsbergen Ar 52.22 351 *e*P **P 14 57 19.6 +1.9**
QIZ Qiongzhong 53.68 87 P **P 14 57 28.1 -1.2**
QIZ S **S 15 05 00.3 -2.2**
QIZ LR LR
comp=Z,130nm,15.0s
QIZ LR LR
comp=Z,140nm,13.0s
QIZ LR LR
comp=Z,110nm,12.9s
WHN Wuhan 53.99 71⇑ P P 14 57 21.3 -10
NJ2 Nanjing 57.32 68 *e*P **P 14 57 54.6 -0.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
DBIC Dimbokro 57.48 259 P **P 14 57 57.2 +0.5**
comp=Z,19nm,0.6s,baz=45,slow=8.0,SNR=28
DBIC LR LR 15 22 34.1
comp=Z,124nm,20.9s,baz=38,slow=36
DBIC Dimbokro 57.48 259 P **P 14 57 57.2 +0.5**
KIC Kosan Boka 57.53 259 *e*P **P 14 57 57.5 +0.5**
comp=Z,22nm,0.8s
TIC Toumodi 57.63 259 *e*P **P 14 57 58.0 +0.2**
LIC Lamto 57.84 259 *e*P **P 14 57 59.7 +0.5**
comp=Z,48nm,0.8s
DAG Danmarks Havn 57.98 345 *i* P **P 14 57 59.3 +0.1**
comp=Z,4.5nm,0.8s
DAG Danmarks Havn 57.98 345 *i* P **P 14 57 59.3 +0.1**
DAG pmax pmax
comp=Z,5.0nm,0.8s
NOR Nord 58.85 351 *i* P **P 14 58 05.2 -0.1**
comp=Z,11nm,1.2s
NOR Nord 58.85 351 *i* P **P 14 58 05.2 -0.1**
NOR pmax pmax
comp=Z,11nm,1.2s
TIXI Tiksi 59.22 21 *i* P **P 14 58 07.8 -0.2**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
TIXI Tiksi 59.22 21 P **P 14 58 07.2 -0.7**
TIXI IAmb IAmb 14 58 12.9
comp=Z,4.2nm,0.6s
CN2 Changchun 59.68 54 *e*P **P 14 58 10.1 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
YAK Yakutsk 59.71 32⇑ *e*P **P 14 58 09.5 -2.0**
YAK pmax pmax
comp=Z,8.0nm,0.8s
BOSA Boshof 62.14 206 P **P 14 58 30.2 +1.7**
comp=Z,9.8nm,1.2s,baz=30,slow=6.8,SNR=6.5
BOSA LR LR 15 27 54.9
comp=Z,144nm,18.5s,baz=22,slow=38
BOSA Boshof 62.14 206 P **P 14 58 30.2 +1.7**
BOSA Boshof 62.14 206 IAmb IAmb 14 58 37.0
comp=Z,11nm,1.3s
KLR Kul'dur 62.79 47 *ce*P **P 14 58 31.2 -1.4**
KLR pmax pmax
comp=Z,3.0nm,1.0s
KS19 Wonju Array Si 62.99 60 P **P 14 58 33.0 -1.2**
KS19 IAmb IAmb 14 58 50.6
comp=Z,10nm,1.3s
KSAR Wonju Array Be 63.02 60 P **P 14 58 32.8 -1.5**
KSAR Wonju Array Be 63.02 60 P **P 14 58 32.8 -1.5**
KSRS Korea Array 63.05 60 P **P 14 58 33.0 -1.5**
comp=Z,2.3nm,0.6s,baz=280,slow=6.6,SNR=20
KSRS LR LR 15 29 03.4
comp=Z,175nm,19.8s,baz=284,slow=39
KSRS Korea Array 63.05 60 P **P 14 58 33.0 -1.5**
SUMG Summit 63.12 340 *i* P **P 14 58 35.2 +0.3**
comp=Z,75nm,1.2s
SUMG Summit 63.12 340 *i* P **P 14 58 35.2 +0.3**
SUMG pmax pmax
comp=Z,75nm,1.2s
SUMG Summit 63.12 340 P **P 14 58 34.2 -0.6**
USRK Ussuriysk Ar. 64.17 52 LR LR 15 29 49.8
comp=Z,157nm,20.4s,baz=260,slow=39
GRNR Gornyy 65.34 44 *e*P **P 14 58 46.5 -2.8**
GRNR MLR MLR
comp=E,180nm,16.0s
GRNR MLR MLR
comp=Z,190nm,13.0s
SEY Seymchan 69.71 29 *i* P **P 14 59 16.8 +0.1**
YSS Yuzh-Sakhalins 70.50 47⇓ *i*P **P 14 59 20.9 -0.9**
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS MLR MLR
comp=E,200nm,12.0s
MAT Matsushiro 71.12 58 P **P 14 59 24.4 -1.5**
MAT *e*S **S 15 08 42.2 +0.5**
MJAR Matsushiro Arr 71.12 58 LR LR 15 33 48.9
comp=E,94nm,20.7s,baz=280,slow=38
PEA0B Petropavlovsk- 76.60 37 *ce*P **P 14 59 56.1 -1.6**
PETK Petropavlovsk- 76.60 37 P **P 14 59 58.0 +0.4**
comp=E,3.6nm,1.0s,baz=305,slow=10,SNR=4.4
PETK LR LR 15 36 60.0
comp=E,149nm,18.4s,baz=257,slow=38
SCHQ Schefferville 81.69 329 P **P 15 00 25.8 +0.3**
comp=E,11nm,0.6s,baz=43,slow=6.1,SNR=14
SCHQ LR LR 15 39 03.9
comp=E,56nm,19.5s,baz=30,slow=37
SCHQ Schefferville 81.69 329 P **P 15 00 25.8 +0.3**
IMAR Indian Mountai 83.83 10 P **P 15 00 36.6 +0.3**
MORW Morawa 84.07 127 P **P 15 00 38.4 +0.4**
MORW IAmb IAmb 15 00 40.5
comp=Z,4.8nm,0.7s
COLA College 85.71 8 *i* P **P 15 00 45.1 -0.7**
COLA pmax pmax
comp=Z,4.0nm,1.2s
ILAR Eielson Array 85.92 8 P **P 15 00 46.6 -0.3**
comp=Z,1.2nm,0.8s,baz=336,slow=4.5,SNR=7.9
ILAR LR LR 15 45 07.5
comp=Z,71nm,18.9s,baz=341,slow=40
BPAW Bear Paw Mtn. 86.02 10 P **P 15 00 47.9 +0.5**
EGAK Eagle 86.50 5 P **P 15 00 49.7 0.0**
YKA Yellowknife Ar 88.66 354 P **P 15 01 00.8 +0.7**
comp=Z,5.1nm,0.8s,baz=7.3,slow=5.3,SNR=33
YKA LR LR 15 47 10.4
comp=Z,39nm,18.4s,baz=0.0,slow=40
YKA Yellowknife Ar 88.66 354 P **P 15 01 00.8 +0.7**
WRA Warramunga Arr 93.21 111 P **P 15 01 21.6 -0.4**
comp=Z,1.3nm,0.6s,baz=312,slow=4.0,SNR=15
WRA PKKPbc **PKKPbc 15 18 30.9 +1.1**
comp=Z,0.5nm,0.7s,baz=108,slow=3.4,SNR=8.6
WRA Warramunga Arr 93.21 111 *i* P **P 15 01 20.8 -1.2**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 93.21 111 P **P 15 01 21.6 -0.4**
WRA Warramunga Arr 93.21 111 IAmb IAmb 15 01 25.2
comp=Z,0.3nm,1.2s
ASAR Alice Springs 94.65 114 P **P 15 01 27.6 -1.0**
comp=Z,2.7nm,0.6s,baz=304,slow=4.4,SNR=55
ASAR PKKPbc **PKKPdf 15 18 28.4 +2.1**
comp=Z,0.4nm,0.7s,baz=114,slow=3.4,SNR=5.0
ASAR LR LR 15 49 34.4
comp=Z,33nm,18.3s,baz=260,slow=39
ASAR Alice Springs 94.65 114 P **P 15 01 27.7 -0.9**
ASAR Alice Springs 94.65 114 P **P 15 01 27.7 -0.9**
AS31 Alice Springs 94.65 114 P **P 15 01 27.7 -0.9**
ULM Lac du Bonnet 96.47 340 LR LR 15 47 21.7
comp=Z,62nm,18.8s,baz=36,slow=37
LPAZ La Paz 123.49 269 PKP **PKiKP 15 07 06.6 +0.4**
comp=Z,0.7nm,0.7s,baz=47,slow=1.1,SNR=4.2

IDC 15 15:00:44.5±34.0, 22°34N×106°79W, h0km, mb2.9/1, mb1 3.7/3, mb1mx3.5/35, mbtmp3.2/3, ML3.4/2, Error ellipse: s-maj=452.3km s-min=70.7km az=166.0, Near coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**7.51**	**21**	Pn	Pn	15 02 36.9	+1.4
	0.1nm,0.3s,baz=199,slow=13,SNR=8.4						
NVAR	**Mina Array Bea**	**18.84**	**331**	P	Pn	15 05 06.5	-0.1
	0.2nm,0.3s,baz=157,slow=12,SNR=7.7						
PDAR	**Pinedale Array**	**20.50**	**354**	P	P	15 05 23.9	-0.4
	0.5nm,0.8s,baz=160,slow=11,SNR=4.2						

KRNET ***15*** *15:01:13.5±0.1, 42°13N×80°63E, mb2.4*
NNC ***15*** *15:01:15.6±1.4, 42°31N×80°57E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=8.1km s-min=7.1km az=133.0*
SOME ***15*** *15:01:15.5, 42°22N×80°57E, h20km*
ISC 15 15:01:14.6±2.1, 42°28N±0°07×80°72E±0°09, h10km±12km, n27, σ0s96/45, 11C-7D, Kyrgyzstan-Xinjiang border region

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

KTMS	**Ketmen**	**1.20**	**347**	*e*P	**Pg**	**15 01 38.0**	**+0.4**
	2.2nm,0.1s						
KTMS				*e*S	**Sg**	**15 01 54.3**	**+1.0**
	8.3nm,0.3s						
KTMS	**Ketmen**	**1.20**	**347**	P	**Pg**	**15 01 38.1**	**+0.4**
	2.2nm,0.1s						
KTMS				S	**Sg**	**15 01 54.3**	**+1.0**
	12nm,0.2s						
PDGK	**Podgornoye**	**1.39**	**320**	P	**Pb**	**15 01 40.0**	**-0.7**
	2.1nm,0.2s						
PDGK				S	**Sn**	**15 01 57.5**	**-1.1**
	3.8nm,0.4s						
PDGK	**Podgornoye**	**1.39**	**320**	⇓P	**Pn**	**15 01 39.8**	**-0.3**
	2.3nm,0.5s						
PDGK				⇓S	**Sn**	**15 01 57.8**	**-0.8**
	6.0nm,0.4s						
UZB	**Uzynbulak**	**1.52**	**305**	*e*P	**Pn**	**15 01 41.8**	**-0.3**
	2.4nm,0.2s						
UZB				*e*S	**Sn**	**15 02 00.7**	**-1.2**
	9.1nm,0.1s						
UZB	**Uzynbulak**	**1.52**	**305**	P	**Pn**	**15 01 41.8**	**-0.3**
	2.4nm,0.2s						
UZB				S	**Sn**	**15 02 00.7**	**-1.2**
	9.1nm,0.1s						
PRZ	**Przheval'sk**	**1.73**	**278**	⇓*i*P	**Pn**	**15 01 44.9**	**0.0**
	baz=83						
PRZ				⇓*i*S	**Sb**	**15 02 07.8**	**-0.6**
	baz=83						
SATY	**Saty**	**1.88**	**295**	*e*P	**Pb**	**15 01 48.9**	**-0.1**
	5.5nm,0.3s						
SATY				*e*S	**Sb**	**15 02 12.7**	**+0.1**
	19nm,0.1s						
SATY	**Saty**	**1.88**	**295**	P	**Pb**	**15 01 48.9**	**-0.1**
	5.5nm,0.3s						
SATY				S	**Sb**	**15 02 12.7**	**+0.1**
	19nm,0.1s						
DJR	**Jarkent**	**2.16**	**342**	*e*P	**Pg**	**15 01 55.1**	**-1.0**
	2.7nm,0.3s						
DJR				*e*S	**Sg**	**15 02 23.7**	**-0.4**
	26nm,0.3s						
DJR	**Jarkent**	**2.16**	**342**	Pg	**Pg**	**15 01 55.1**	**-1.0**
	2.7nm,0.3s						
DJR				Lg	Lg	15 02 23.7	
	18nm,0.4s						
TARG	**Taragay, Kyrgy**	**2.24**	**257**	⇑*i*P	**Pn**	**15 01 52.8**	**+0.7**
	baz=60						
TARG				⇑*i*S	**Sb**	**15 02 21.2**	**-2.1**
	baz=60						
ANVS	**Anan'yevo**	**2.31**	**284**	⇑*i*P	**Pb**	**15 01 54.3**	**-2.2**
	baz=88						
ANVS				⇑*e*S	**Sb**	**15 02 24.7**	**-0.5**
	baz=88						
KDJ	**Kajisay**	**2.63**	**268**	⇑*i*P	**Pn**	**15 01 58.2**	**+0.9**
	baz=71						
KDJ				⇑*i*S	**Sn**	**15 02 30.4**	**+1.0**
	baz=71						
MDOK	**Medeo**	**2.84**	**289**	*e*P	**Pb**	**15 02 04.9**	**-0.7**
	5.1nm,0.4s						
MDOK				*e*S	**Sb**	**15 02 40.4**	**-0.1**
	6.2nm,0.4s						
MDOK	**Medeo**	**2.84**	**289**	Pg	**Pb**	**15 02 04.7**	**-0.8**
	3.2nm,0.4s						
MDOK				⇑Lg	Lg	15 02 42.5	
	3.7nm,0.4s						
MDOK	**Medeo**	**2.84**	**289**	Pg	**Pb**	**15 02 04.9**	**-0.7**
	5.1nm,0.4s						
MDOK				Lg	Lg	15 02 40.4	
	6.2nm,0.4s						
ARXS	**Arharly**	**2.86**	**313**	*e*P	**Pb**	**15 02 05.8**	**-0.1**
	5.7nm,0.3s						
ARXS				*e*S	**Sb**	**15 02 42.2**	**+1.2**
	5.8nm,0.4s						
ARXS	**Arharly**	**2.86**	**313**	Pg	**Pb**	**15 02 05.8**	**-0.1**
	5.7nm,0.3s						
ARXS				Lg	Lg	15 02 42.3	
	5.8nm,0.4s						
TNSS	**Tian-Shan**	**2.88**	**287**	*e*P	**Pb**	**15 02 05.6**	**-0.8**
	3.0nm,0.2s						
TNSS				*e*S	**Sb**	**15 02 41.9**	**+0.1**
	4.8nm,0.3s						
TNSS	**Tian-Shan**	**2.88**	**287**	Pg	**Pb**	**15 02 05.6**	**-0.8**
	3.0nm,0.2s						
TNSS				Lg	Lg	15 02 41.9	
	6.3nm,0.4s						
CHKK	**Chushkaly**	**3.15**	**301**	*e*P	**Pb**	**15 02 10.7**	**-0.1**
	1.1nm,0.2s						
CHKK				*e*S	**Sb**	**15 02 50.5**	**+1.2**
	7.1nm,0.4s						
CHKK	**Chushkaly**	**3.15**	**301**	Pg	**Pb**	**15 02 10.7**	**-0.1**
	1.1nm,0.2s						
CHKK				Lg	Lg	15 02 50.5	
	7.1nm,0.4s						
ULHL	**Ulahol**	**3.32**	**271**	⇑*e*P	**Pn**	**15 02 08.2**	**+1.4**
	baz=73						
ULHL				⇑*i*S	**Sn**	**15 02 47.8**	**+1.3**
	baz=73						
TKM2	**Tokmak 2**	**3.83**	**281**	⇓*i*P	**Pn**	**15 02 15.6**	**+1.7**
	baz=84						
TKM2				⇓*i*S	**Sn**	**15 03 00.9**	**+1.8**
	baz=84						
MAKZ	**Makanchi**	**4.62**	**11**	⇑Lg	Lg	15 03 39.4	
	0.7nm,0.7s						
MK31	**Makanchi Array**	**4.65**	**13**	⇓Pg	**Pb**	**15 02 35.9**	**-0.4**
	0.1nm,0.3s,baz=205,slow=14,SNR=6.7						
MK31				⇑Lg	Lg	15 03 41.5	
	1.3nm,0.8s,baz=195,slow=27,SNR=4.5						

*ATH **15** 15:10:30.4,35˚.51N×23˚.48E,h50km±3km, ML3.4/19, Error ellipse: s-maj=3.7km s-min=1.1km az=209.0*
*THE **15** 15:10:30.9,35˚.38N×23˚.34E,h26km, ML3.2/8, Error ellipse: s-maj=1.3km s-min=0.6km az=54.0*
*IDC **15** 15:10:31.7±2.0,35˚.49N×23˚.37E,h80km±23km, mb3.5/8, mb1 3.5/9, mb1mx3.3/35, mbtmp3.7/9, Error ellipse: s-maj=27.5km s-min=23.1km az=158.0*
ISC 15 15:10:28.6±1.0,**35˚.36N**±0˚.06×**23˚.32E**±0˚.06,**h44**km±8km, **n76,σ1§73/88, mb3.7/8, Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.32**	**112**	P	**Pn**	**15 10 37.7**	**+0.3**
KNDR				S	**Sn**	**15 10 43.0**	**-0.5**
	4μm,0.4s						
RODP	**Rodopos**	**0.41**	**60**	P	**Pn**	**15 10 39.0**	**+0.6**
RODP				S	**Sn**	**15 10 45.9**	**+0.6**
	2μm,0.6s						
ANKY	**Antikythira Is**	**0.51**	**358**	P	**Pn**	**15 10 40.2**	**+0.6**
ANKY				S	**Sn**	**15 10 48.4**	**+1.0**
	4μm,0.6s						
ANKY	**Antikythira Is**	**0.51**	**358**	P	**Pn**	**15 10 40.2**	**+0.6**
ANKY				S	**Sn**	**15 10 48.9**	**+1.5**
ANKY				AML	AML	15 10 49.5	
	comp=N,8986μm,0.5s						
ANKY				AML	AML	15 10 50.6	
	comp=E,8243μm,0.6s						
IMMV	**Iera Moni Meta**	**0.55**	**79**	P	**Pn**	**15 10 41.0**	**+0.9**
IMMV				S	**Sn**	**15 10 49.4**	**+1.1**
	comp=E,8μm,0.4s						
IMMV	**Iera Moni Meta**	**0.55**	**79**	P	**Pn**	**15 10 41.1**	**+1.0**
IMMV				S	**Sn**	**15 10 49.1**	**+0.8**
IMMV				AML	AML	15 10 50.2	
	comp=E,10471μm,0.4s						
IMMV				AML	AML	15 10 50.3	
	comp=N,19846μm,0.4s						
CHAN	**Chania**	**0.61**	**74**	P	**Pn**	**15 10 42.1**	**+1.2**
CHAN				S	**Sn**	**15 10 51.0**	**+1.3**
	comp=N,2μm,0.7s						
VAM	**Vamos**	**0.72**	**86**	P	**Pn**	**15 10 43.8**	**+1.5**
VAM	**Vamos**	**0.72**	**86**	P	**Pn**	**15 10 43.9**	**+1.5**
VAM				S	**Sn**	**15 10 52.9**	**+0.6**
VAM				AML	AML	15 10 55.2	
	comp=N,8266μm,0.5s						
VAM				AML	AML	15 10 56.2	
	comp=E,7604μm,0.6s						
GVDS	**Gavdos**	**0.81**	**129**	P	**Pn**	**15 10 45.2**	**+1.6**
GVD	**Gavdhos**	**0.81**	**129**	P	**Pn**	**15 10 45.8**	**+2.2**
GVD				AML	AML	15 11 03.5	
	comp=E,4122μm,0.4s						
GVD				AML	AML	15 11 03.6	
	comp=N,5051μm,0.3s						
KTHA	**Kythira Island**	**0.92**	**347**	P	**Pn**	**15 10 47.0**	**+1.9**
KTHA				S	**Sn**	**15 10 59.4**	**+2.2**
	comp=N,4μm,0.6s						
KTHA	**Kythira Island**	**0.92**	**347**	P	**Pn**	**15 10 47.0**	**+1.9**
KTHA				AML	AML	15 11 02.2	
	comp=E,12415μm,0.7s						
KTHA				AML	AML	15 11 05.3	
	comp=N,4109μm,0.4s						
SIVA	**Sivas**	**1.27**	**105**	P	**Pn**	**15 10 51.7**	**+1.9**
SIVA				AML	AML	15 11 26.9	
	comp=E,2922μm,0.6s						
SIVA				AML	AML	15 11 35.9	
	comp=N,2033μm,0.7s						
IDI	**Anoyia**	**1.29**	**93**	P	**Pn**	**15 10 52.2**	**+2.0**
	comp=N,14nm,0.3s,baz=277,slow=13,SNR=48						
IDI				S	**Sn**	**15 11 11.0**	**+4.8**
	comp=N,59nm,0.3s,baz=34,slow=21,SNR=10						
IDI	**Anoyia**	**1.29**	**93**	P	**Pn**	**15 10 52.4**	**+2.3**
IDI				S	**Sn**	**15 11 08.6**	**+2.4**
	comp=N,660nm,0.8s						
IDI	**Anoyia**	**1.29**	**93**	P	**Pn**	**15 10 52.0**	**+1.9**
IDI				AML	AML	15 11 17.7	
	comp=N,1676μm,0.7s						
IDI				AML	AML	15 11 17.7	
	comp=E,914μm,0.5s						
MNVA	**Monemvasia**	**1.35**	**350**	P	**Pn**	**15 10 52.4**	**+1.5**
VLI	**Veliai**	**1.39**	**347**	P	**Pn**	**15 10 53.4**	**+1.8**
VLI				S	**Sn**	**15 11 11.4**	**+2.6**
	comp=E,882nm,0.6s						
VLI	**Veliai**	**1.39**	**347**	P	**Pn**	**15 10 53.4**	**+1.8**
VLI				AML	AML	15 11 14.6	
	comp=N,1757μm,0.7s						
VLI				AML	AML	15 11 15.9	
	comp=E,1718μm,0.4s						
MHLO	**Agia Marina, M**	**1.59**	**33**	P	**Pn**	**15 10 55.0**	**+0.7**
MHLO				AML	AML	15 11 18.4	
	comp=E,5878μm,0.7s						
MHLO				AML	AML	15 11 26.1	
	comp=N,4029μm,0.4s						
MHLA	**Plaka, Milos I**	**1.65**	**33**	P	**Pn**	**15 10 55.8**	**+0.8**
MHLA				AML	AML	15 11 27.0	
	comp=N,1894μm,1.1s						
MHLA				AML	AML	15 11 30.6	
	comp=E,1914μm,0.9s						
LAST	**Lasithi**	**1.78**	**96**	P	**Pn**	**15 10 59.9**	**+3.0**
LAST	**Lasithi**	**1.78**	**96**	P	**Pn**	**15 10 59.1**	**+2.2**
LAST				AML	AML	15 11 37.5	
	comp=N,672μm,0.9s						
LAST				AML	AML	15 11 49.5	
	comp=E,553μm,1.0s						
NPS	**Neapolis**	**1.88**	**92**	P	**Pn**	**15 10 59.9**	**+1.7**
NPS				AML	AML	15 11 42.1	
	comp=E,735μm,0.8s						
NPS				AML	AML	15 11 48.4	
	comp=N,627μm,0.8s						
THR5	**Thira Island,**	**1.96**	**57**	P	**Pn**	**15 10 59.4**	**+0.1**
SAP1	**Santorini-Akro**	**1.96**	**59**	P	**Pn**	**15 11 00.2**	**+0.9**
THR6	**Thira Island,**	**1.96**	**59**	P	**Pn**	**15 10 59.1**	**-0.2**
SAP3	**Santorini-Thir**	**1.97**	**56**	P	**Pn**	**15 10 59.2**	**-0.2**
SAP3				AML	AML	15 11 36.7	
	comp=N,3101μm,0.4s						
SAP3				AML	AML	15 11 49.6	
	comp=E,5104μm,0.6s						
THR3	**Thira Island,**	**1.99**	**58**	P	**Pn**	**15 10 59.5**	**-0.2**
SANT	**Santorini**	**2.01**	**59**	P	**Pn**	**15 11 00.9**	**+0.9**
CMBO	**Columbo, Santo**	**2.03**	**56**	P	**Pn**	**15 11 01.3**	**+1.1**
THR8	**Santorini-Mono**	**2.04**	**59**	P	**Pn**	**15 10 60.0**	**-0.4**
IOSP	**Ios island**	**2.10**	**49**	P	**Pn**	**15 11 01.7**	**+0.4**
IOSP				AML	AML	15 11 29.1	
	comp=N,938μm,0.3s						
IOSP				AML	AML	15 11 29.2	
	comp=E,1194μm,0.3s						
ITM	**Ithomi**	**2.14**	**329**	P	**Pn**	**15 11 02.7**	**+0.9**
DID	**Didima**	**2.15**	**358**	P	**Pn**	**15 11 03.2**	**+1.3**
VLX	**Vlachokerasia**	**2.15**	**340**	P	**Pn**	**15 11 05.0**	**+3.0**
ANAF	**Anafi Island**	**2.23**	**63**	P	**Pn**	**15 11 03.9**	**+0.9**
ANAF				AML	AML	15 11 43.1	
	comp=E,1460μm,0.4s						
ANAF				AML	AML	15 11 43.7	
	comp=N,1301μm,0.4s						
ZKR	**Zakros**	**2.38**	**95**	P	**Pn**	**15 11 07.6**	**+2.4**
APE	**Apeiranthos**	**2.47**	**46**	P	**Pn**	**15 11 07.2**	**+0.7**
VLY	**Voula,Athens**	**2.52**	**9**	P	**Pn**	**15 11 08.0**	**+1.0**
AMT	**Artemida-Makis**	**2.53**	**330**	P	**Pn**	**15 11 10.2**	**+3.0**
AMGA	**Amorgos Island**	**2.55**	**54**	P	**Pn**	**15 11 07.9**	**+0.4**
AMGA				AML	AML	15 11 42.0	
	comp=E,356μm,0.4s						
AMGA				AML	AML	15 11 59.6	
	comp=N,417μm,0.6s						
ATH	**Athens Observa**	**2.63**	**7**	P	**Pn**	**15 11 10.6**	**+2.2**
LTK	**Loutraki**	**2.68**	**354**	P	**Pn**	**15 11 10.1**	**+0.9**
GUR	**Goura**	**2.69**	**343**	P	**Pn**	**15 11 10.8**	**+1.4**
GUR				AML	AML	15 11 54.0	
	comp=N,564μm,0.4s						
GUR				AML	AML	15 11 55.1	
	comp=E,583μm,0.6s						
PTL	**Penteli**	**2.72**	**9**	P	**Pn**	**15 11 11.2**	**+1.4**
PTL				AML	AML	15 11 48.5	
	comp=E,266μm,0.5s						
PTL				AML	AML	15 11 49.7	
	comp=N,306μm,0.5s						
DION	**Dionisos Attik**	**2.76**	**10**	P	**Pn**	**15 11 10.8**	**+0.5**
DION				AML	AML	15 11 46.9	
	comp=E,1125μm,0.3s						
DION				AML	AML	15 11 47.1	
	comp=N,1014μm,0.4s						
DRO	**Drossia**	**2.90**	**334**	P	**Pn**	**15 11 13.8**	**+1.6**
RLS	**Riolos of Patr**	**3.08**	**332**	P	**Pn**	**15 11 16.6**	**+1.9**
DSF	**Desfina**	**3.11**	**348**	P	**Pn**	**15 11 16.4**	**+1.2**
KARP	**Karpathos**	**3.14**	**85**	P	**Pn**	**15 11 16.7**	**+1.1**
SERG	**Sergoula**	**3.21**	**342**	P	**Pn**	**15 11 18.5**	**+1.9**
EFP	**Efpalio**	**3.27**	**340**	P	**Pn**	**15 11 20.1**	**+2.9**
LKR	**Lokris**	**3.30**	**356**	P	**Pn**	**15 11 18.2**	**+0.5**
KYMI	**Kymi, Euboea I**	**3.33**	**11**	P	**Pn**	**15 11 17.8**	**-0.3**
ANX	**Ano Chora**	**3.42**	**341**	P	**Pn**	**15 11 21.3**	**+1.9**
PVO	**Paravola**	**3.56**	**337**	P	**Pn**	**15 11 23.4**	**+2.1**
CHOS	**Chios island**	**3.73**	**35**	P	**Pn**	**15 11 25.3**	**+1.5**
DBRK	**Dubrovnik**	**8.34**	**333**	*e*Pn	**Pn**	**15 12 23.7**	**-3.1**
DBRK				Sn	Sn	15 13 47.9	-12
STON	**Ston**	**8.68**	**332**	*e*Pn	**Pn**	**15 12 28.5**	**-3.0**
STON				Sn	Sn	15 13 55.9	-12
BRTR	**Keskin Array B**	**9.28**	**59**	P	**Pn**	**15 12 42.2**	**+2.3**
	comp=N,0.2nm,0.3s,baz=234,slow=12,SNR=5.2						
ZIRJ	**Zirje**	**10.18**	**327**	*e*Pn	**Pn**	**15 12 48.9**	**-3.2**
ZIRJ				Sn	Sn	15 14 33.5	-11
MORI	**Morici**	**10.32**	**328**	*e*Pn	**Pn**	**15 12 51.0**	**-3.0**
MORI				Sn	Sn	15 14 38.3	-10
DUGI	**Dugi Otok**	**10.71**	**326**	*e*Pn	**Pn**	**15 12 58.5**	**-0.8**
DUGI				Sn	Sn	15 14 46.9	-11
GERES	**GERESS Array B**	**15.23**	**335**	P	**P**	**15 14 05.8**	**+0.8**
	comp=N,0.2nm,0.3s,baz=148,slow=12,SNR=7.9						
KHC	**Kasperske Hory**	**15.52**	**335**	*e*P	**P**	**15 14 08.7**	**+0.7**
AKASG	**Malin Array Be**	**15.52**	**14**	P	**P**	**15 14 12.3**	**-0.2**
	comp=N,1.3nm,0.3s,baz=201,slow=11,SNR=6.0						
HFS	**Hagfors**	**25.57**	**349**	P	**P**	**15 15 52.2**	**-1.0**
	comp=N,1.9nm,0.5s,baz=152,slow=9.5,SNR=5.8						
FINES	**FINESS Array B**	**26.16**	**3**	P	**P**	**15 15 56.6**	**-1.9**
	comp=N,1.1nm,0.6s,baz=168,slow=9.8,SNR=3.7						
NOA	**NORSAR Array B**	**26.84**	**347**	P	**P**	**15 16 03.1**	**-1.6**
	comp=N,0.4nm,0.8s,baz=156,slow=8.3,SNR=4.0						
EKA	**Eskdalemuir Ar**	**27.02**	**326**	P	**P**	**15 16 07.4**	**+1.0**
	comp=N,0.4nm,0.4s,baz=119,slow=8.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**29.50**	**227**	P	**P**	**15 16 29.5**	**+0.7**
	comp=N,0.4nm,0.6s,baz=37,slow=8.0,SNR=2.4						
ARCES	**ARCESS Array B**	**34.25**	**1**	P	**P**	**15 17 07.4**	**-2.5**
	comp=N,0.8nm,0.6s,baz=180,slow=9.7,SNR=6.1						
MKAR	**Makanchi Array**	**44.92**	**56**	P	**P**	**15 18 37.9**	**-1.1**
	comp=N,1.1nm,0.7s,baz=290,slow=5.0,SNR=8.1						
ZALV	**Zalesovo Beam**	**45.95**	**46**	P	**P**	**15 18 45.2**	**-1.7**
	comp=N,1.3nm,0.3s,baz=273,slow=8.1,SNR=7.9						

MAN 15 15:13:14.2,9.99N×124.16E,h8km,mb4.6,ML3.4,MS3.3, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.38**	**330**	⇓*i*P	Pg	15 13 22.0	+0.5
LLP				*i*S	Sb	15 13 27.9	-1.3
TBP	**Tagbilaran**	**0.42**	**224**	*e*P	Pg	15 13 22.7	+0.4
TBP				*i*S	Sb	15 13 29.4	-0.9
MSLP	**Maasin**	**0.70**	**78**	*e*P	Pb	15 13 28.6	-0.1
MSLP				*e*S	Sb	15 13 40.0	+1.5
OCLP	**Ormoc**	**1.14**	**23**	*e*P	Pb	15 13 36.3	+0.1
OCLP				*e*S	Sn	15 13 52.4	0.0
CNOP	**Candoni, Negro**	**1.51**	**264**	*e*P	Pn	15 13 40.9	-0.6
CNOP				*e*S	Sb	15 14 01.6	-0.1
GUIM	**Jordan**	**1.67**	**292**	*e*P	Pn	15 13 43.3	-0.4
GUIM				*e*S	Sb	15 14 06.2	-0.2
PAGZ	**Pagadian**	**2.26**	**200**	*e*P	Pn	15 13 51.4	-0.5
BUKP	**Musuan**	**2.28**	**157**	*e*P	Pn	15 13 52.3	0.0
BUKP				*e*S	Sb	15 14 22.5	-1.5
BALP	**Baler**	**6.25**	**336**	*e*P	Pn	15 14 54.3	+7.6

IDC 15 15:19:26.1±4.3,28˚.47S×177˚.37W,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.4/23,mbtmp3.5/2, Error ellipse: s-maj=86.5km s-min=26.0km az=100.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.92**	**212**	Pn	Pn	15 19 46.3	+0.1
	250nm,0.3s,baz=102,slow=5.2,SNR=29						
RAO				Sn	Sn	15 20 00.8	+0.6
	658nm,0.3s,baz=59,slow=22,SNR=12						
ASAR	**Alice Springs**	**43.80**	**265**	P	P	15 27 33.5	-0.4
	0.3nm,0.5s,baz=104,slow=6.7,SNR=7.5						
WRA	**Warramunga Arr**	**44.61**	**270**	P	P	15 27 40.4	0.0
	0.6nm,0.6s,baz=110,slow=7.6,SNR=8.0						
FINES	**FINESS Array B**	**143.51**	**341**	PKP	PKPdf	15 39 01.8	-0.2
	3.3nm,1.1s,baz=48,slow=2.1,SNR=4.9						

*JMA **15** 15:32:05.5±0.4,44˚.04N×148˚.06E,h0km,M4.2*
*SKHL **15** 15:32:06.6±0.4,44˚.41N×148˚.18E,h23km±4km,mb4.1/6*
*MOS **15** 15:32:08.4±1.8,44˚.43N×148˚.01E,h41km,mb4.3/3, Error ellipse: s-maj=18.2km s-min=14.7km az=149.5*
ISC 15 15:32:05.2±1.4,**44˚.33N**±0˚.06×**148˚.09E**±0˚.10,**h10**km,**n36,** σ1§61/52,**mb3.8/3,2C-5D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.92**	**350**	*i*P	**Pg**	**15 32 21.8**	**-1.2**
KUR				AMB	AMB	15 32 22.0	
	20nm,0.3s						
KUR				AMB	AMB	15 32 22.0	
	20nm,0.3s						
KUR				AMB	AMB	15 32 22.0	
	50nm,0.3s						
KUR				*i*S	**Sg**	**15 32 33.5**	**-1.5**
KUR				A	A	15 32 34.0	
	930nm,0.3s						
KUR				A	A	15 32 34.0	
	880nm,0.3s						
KUR	**Kuril'sk**	**0.92**	**350**	*d*iPN	**Pg**	**15 32 22.3**	**-0.7**
KUR				*i*S	**Sg**	**15 32 33.9**	**-1.1**
KUR				pmax	pmax		
	comp=Z,496nm,0.3s						
KUR				pmax	pmax		
	comp=E,163nm,0.1s						
KUR				pmax	pmax		
	comp=N,148nm,0.4s						
KUR				smax	smax		
	comp=E,1μm,0.5s						
KUR				smax	smax		
	comp=N,802nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.63**	**261**	*i*P	**Pb**	**15 32 34.7**	**-0.6**
YUK				AMB	AMB	15 32 36.0	
	comp=N,30nm,0.2s						
YUK				AMB	AMB	15 32 36.0	
	comp=N,20nm,0.2s						
YUK				AMB	AMB	15 32 36.0	
	comp=N,40nm,0.2s						
YUK				*i*S	**Sb**	**15 32 55.5**	**-0.3**
YUK				A	A	15 33 00.0	
	comp=N,70nm,0.2s						
YUK				A	A	15 33 00.0	
	comp=N,170nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.63**	**261**	*d*iPN	**Pb**	**15 32 34.7**	**-0.6**
YUK				*i*S	**Sb**	**15 32 55.5**	**-0.3**
YUK				pmax	pmax		
	comp=Z,410nm,0.2s						
YUK				pmax	pmax		
	comp=N,57nm,0.1s						
YUK				pmax	pmax		
	comp=E,215nm,0.1s						
YUK				smax	smax		
	comp=N,716nm,0.2s						
YUK				smax	smax		
	comp=E,169nm,0.1s						
GRPR	**Tuman**	**1.70**	**260**	*i*P	**Pb**	**15 32 35.6**	**-0.9**
GRPR				AMB	AMB	15 32 39.0	
	comp=E,80nm,0.4s						
GRPR				AMB	AMB	15 32 39.0	
	comp=E,190nm,0.4s						
GRPR				*i*S	**Sb**	**15 32 57.3**	**-0.6**
GRPR				A	A	15 33 00.0	
	comp=E,410nm,0.3s						
GRPR				A	A	15 33 00.0	
	comp=E,340nm,0.3s						
GRPR	**Tuman**	**1.70**	**260**	⇑*i*PN	**Pb**	**15 32 35.6**	**-0.9**
GRPR				*i*S	**Sb**	**15 32 57.3**	**-0.6**
GRPR				pmax	pmax		
	comp=Z,192nm,0.2s						
GRPR				pmax	pmax		
	comp=E,76nm,0.1s						
GRPR				smax	smax		
	comp=E,335nm,0.3s						
GRPR				smax	smax		
	comp=N,411nm,0.2s						
GLVR	**Golovnino**	**1.94**	**253**	*i*P	**Pb**	**15 32 39.3**	**-1.3**
GLVR				AMB	AMB	15 32 42.3	
	comp=N,30nm,0.3s						
GLVR				*i*S	**Sb**	**15 33 03.6**	**-1.3**
GLVR				A	A	15 33 07.0	
	comp=N,70nm,0.2s						
GLVR				A	A	15 33 07.0	
	comp=N,270nm,0.2s						
GLVR	**Golovnino**	**1.94**	**253**	⇓*i*PN	**Pb**	**15 32 39.3**	**-1.3**
GLVR				*i*S	**Sb**	**15 33 03.6**	**-1.3**
GLVR				pmax	pmax		
	comp=Z,264nm,0.1s						
GLVR				smax	smax		
	comp=N,740nm,0.2s						
GLVR				smax	smax		
	comp=E,268nm,0.2s						
NEM2	**Nemuro 2**	**1.95**	**241**	P	**Pn**	**15 32 38.3**	**0.0**
NEM2				*e*S	**Sn**	**15 33 01.9**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.96**	**242**	*i*P	**Pn**	**15 32 38.3**	**-0.1**
NMR				*i*S	**Sn**	**15 33 01.8**	**-1.2**
NMR	**Nemuro--Hokkai**	**1.96**	**242**	⇓*i*PN	**Pn**	**15 32 38.3**	**-0.1**
NMR				*i*S	**Sn**	**15 33 01.8**	**-1.2**
JRA	**Rausu**	**2.17**	**261**	P	**Pb**	**15 32 43.0**	**-1.5**
JRA				*e*S	**Sb**	**15 33 11.0**	**-0.4**
JNSB	**Nemuroshibetsu**	**2.29**	**257**	P	**Pb**	**15 32 44.6**	**-2.0**
JKHN	**Kushirohamanak**	**2.46**	**241**	P	**Pn**	**15 32 45.8**	**+0.5**
JNK	**Nakash**	**2.54**	**254**	P	**Pb**	**15 32 47.8**	**-3.1**
JNK				*e*S	**Sn**	**15 33 18.7**	**+1.2**
JAK	**Akkeshi**	**2.79**	**243**	P	**Pn**	**15 32 50.4**	**+0.5**
JAK				*e*S	**Sn**	**15 33 23.4**	**-0.3**

*IDC **15** 15:38:34.3±1.8, 19°.22S×177°.52W, h558km±21km, mb3.2/8, mb1 3.5/9, mb1mx3.2/31, mbtmp4.2/9, Error ellipse: s-maj=19.6km s-min=14.7km az=139.0*

*NEIC **15** 15:38:36.1±1.9, 19°.1S±0°.1×177°.6W±0°.1, h587km±9km, mb4.1/20, Error ellipse: s-maj=21.7km s-min=18.0km az=133.0*

ISC 15 15:38:34.6±0.5, **19°.1S**±0°.1×**177°.52W**±0°.10, **h570**km, **n40,** σ1**9**21/44, **mb4.0**/18, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.42**	**287**	P	**P**	**15 40 04.5**	**+3.3**
AFI	**Afiamalu**	**7.55**	**48**	P	**P**	**15 40 28.8**	**0.0**
	11nm,0.3s,baz=177,slow=1.0,SNR=26						
AFI				S	**S**	**15 42 00.5**	**-1.8**
	1.4nm,0.3s,baz=36,slow=19,SNR=1.7						
AFI	**Afiamalu**	**7.55**	**48**	P	**P**	**15 40 28.9**	**+0.1**
URZ	**Urewera**	**19.65**	**193**	P	**P**	**15 42 24.5**	**-1.8**
	1.9nm,0.3s,baz=278,slow=2.0,SNR=14						
URZ	**Urewera**	**19.65**	**193**	IAmb	IAmb	15 42 30.0	
	comp=Z,25nm,1.0s						
TOO	**Toolangi**	**37.09**	**232**	P	**P**	**15 44 57.5**	**+0.1**
TOO				IAmb	IAmb	15 44 58.7	
	comp=Z,5.8nm,0.7s						
STKA	**Stephens Creek**	**38.81**	**243**	P	**P**	**15 45 12.3**	**+0.8**
	comp=Z,4.9nm,0.5s,baz=94,slow=9.9,SNR=32						
STKA	**Stephens Creek**	**38.81**	**243**	P	**P**	**15 45 11.9**	**+0.4**
BBOO	**Buckleboo**	**43.58**	**242**	P	**P**	**15 45 49.2**	**+0.1**
WRA	**Warramunga Arr**	**45.26**	**261**	P	**P**	**15 46 02.0**	**-0.2**
	comp=Z,2.5nm,0.5s,baz=98,slow=7.1,SNR=91						
WRA				PcP	**PcP**	**15 47 29.8**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=96,slow=3.4,SNR=4.4						
WRA	**Warramunga Arr**	**45.26**	**261**	P	**P**	**15 46 01.3**	**-1.0**
WRA					**PcP**	**15 47 30.4**	**+0.4**
AS31	**Alice Springs**	**45.29**	**255**	P	**P**	**15 46 02.7**	**+0.2**
AS31				IAmb	IAmb	15 46 03.7	
	comp=Z,2.7nm,1.0s						
ASAR	**Alice Springs**	**45.29**	**255**	P	**P**	**15 46 02.6**	**+0.1**
	comp=Z,6.7nm,0.7s,baz=88,slow=7.9,SNR=151						
ASAR				PcP	**PcP**	**15 47 30.0**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=107,slow=3.8,SNR=6.6						
ASAR	**Alice Springs**	**45.29**	**255**	P	**P**	**15 46 02.3**	**-0.2**
ASAR					**PcP**	**15 47 30.2**	**+0.1**
MTN	**Manton Dam**	**49.62**	**269**	P	**P**	**15 46 34.7**	**-0.2**
MTN				IAmb	IAmb	15 46 36.7	
	comp=Z,14nm,1.1s						
FORT	**Forrest**	**50.27**	**246**	P	**P**	**15 46 39.0**	**-0.5**
KNRA	**Kununurra**	**51.22**	**265**	P	**P**	**15 46 46.3**	**-0.2**
KNRA				IAmb	IAmb	15 47 03.5	
	comp=Z,13nm,1.0s						
SOEI	**Soe**	**56.92**	**271**	P	**P**	**15 47 25.0**	**-1.8**
SOEI				IAmb	IAmb	15 47 33.8	
	comp=Z,33nm,1.1s						
PSA00	**Pilbara Seismi**	**58.43**	**256**	P	**P**	**15 47 36.5**	**-0.4**
PSA00				IAmb	IAmb	15 47 37.7	
	comp=Z,7.1nm,0.8s						
VNDA	**Vanda**	**59.33**	**185**	P	**P**	**15 47 42.3**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=350,slow=7.1,SNR=2.5						
VNDA	**Vanda**	**59.33**	**185**	P	**P**	**15 47 42.1**	**+0.3**
NWAO	**Narrogin (SRO)**	**59.40**	**243**	P	**P**	**15 47 42.4**	**-0.7**
NWAO				IAmb	IAmb	15 47 46.8	
	comp=Z,8.5nm,0.9s						
JCJ	**Chichijima**	**60.30**	**318**	P	**P**	**15 47 48.5**	**-0.5**
MORW	**Morawa**	**60.78**	**247**	P	**P**	**15 47 50.9**	**-1.4**
MJAR	**Matsushiro Arr**	**69.37**	**323**	P	**P**	**15 48 43.2**	**-2.7**
MAJO	**Matsushiro**	**69.37**	**323**	P	**P**	**15 48 43.1**	**-2.8**
MAJO				IAmb	IAmb	15 49 00.8	
	comp=Z,4.6nm,1.1s						
MJB9	**Matsu-Tunnel**	**69.37**	**323**	P	**P**	**15 48 43.0**	**-2.9**
MJB9				IAmb	IAmb	15 49 00.6	
	comp=Z,4.5nm,1.1s						
KKM	**Kota Kinabalu**	**69.85**	**284**	P	**P**	**15 48 49.9**	**+0.5**
KKM				IAmb	IAmb	15 49 06.2	
	comp=Z,4.1nm,0.9s						
QSPA	**South Pole Qui**	**70.95**	**180**	P	**P**	**15 48 55.4**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=319,slow=0.6,SNR=20						
QSPA	**South Pole Qui**	**70.95**	**180**	P	**P**	**15 48 55.4**	**+0.4**
NVAR	**Mina Array Bea**	**79.70**	**43**	P	**P**	**15 49 45.5**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=215,slow=8.8,SNR=2.5						
TXAR	**Lajitas Array**	**85.92**	**57**	P	**P**	**15 50 17.1**	**+1.7**
	comp=Z,0.3nm,0.9s,baz=202,slow=5.4,SNR=6.2						
SNAA	**Sanae**	**89.38**	**178**	P	**P**	**15 50 30.0**	**-0.7**
VNA3	**Neumayer Olymp**	**89.50**	**176**	P	**P**	**15 50 30.7**	**-0.5**
VNA2	**Neumayer--Watz**	**89.94**	**177**	P	**P**	**15 50 32.9**	**-0.3**
	baz=186,slow=3.9						
CMAR	**Chiang Mai Arr**	**90.08**	**289**	P	**P**	**15 50 36.5**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=81,slow=2.3,SNR=5.7						
VNA1	**Neumayer--Stat**	**90.17**	**176**	P	**P**	**15 50 34.4**	**+0.1**
ARCES	**ARCESS Array B**	**127.64**	**350**	PKP	**PKPdf**	**15 56 34.8**	**-0.2**
	comp=Z,3.5nm,1.0s,baz=14,slow=4.0,SNR=6.9						
CLL	**Collm**	**146.81**	**348**	*i* PKPbc	**PKPbc**	**15 57 13.3**	**+0.1**
GERES	**GERESS Array B**	**148.98**	**346**	PKPbc	**PKPbc**	**15 57 19.1**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=11,slow=2.0,SNR=7.2						

*JMA **15** 15:50:47.4±0.3, 37°.86N×134°.36E, h441km, M2.8*

*IDC **15** 15:50:50.2±1.4, 37°.80N×134°.40E, h418km±21km, mb2.6/2, mb1 2.8/5, mb1mx2.5/42, mbtmp3.5/5, Error ellipse: s-maj=40.2km s-min=28.2km az=159.0*

ISC 15 15:50:50.3±1.4, **37.8N**±0°.2×**134.4E**±0°.1, **h407**km, **n12,** σ0**97**/12, **Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKG	**Kaga**	**2.16**	**134**	P	**P**	**15 51 48.7**	**+0.8**
JKSM	**Kasumi**	**2.21**	**174**	P	**P**	**15 51 48.8**	**+0.6**
JKY	**Yasaka**	**2.23**	**165**	P	**P**	**15 51 49.2**	**+0.8**
JWT	**Wachi**	**2.63**	**162**	P	**P**	**15 51 52.1**	**+0.9**
JHS	**Saijyo**	**2.96**	**201**	P	**P**	**15 51 54.3**	**+0.5**
JSD	**Sado**	**3.07**	**84**	P	**P**	**15 51 54.9**	**+0.5**
MJAR	**Matsushiro Arr**	**3.29**	**111**	P	**P**	**15 51 57.6**	**+1.2**
	0.1nm,0.3s,baz=290,slow=11,SNR=12						
JFT	**Otama**	**4.73**	**91**	P	**P**	**15 52 10.3**	**+0.7**
KSRS	**Korea Array**	**5.14**	**268**	P	**P**	**15 52 14.9**	**+1.1**
	0.3nm,0.3s,baz=88,slow=10,SNR=12						
ASAJ	**Asahikawa**	**8.85**	**42**	P	**P**	**15 52 54.6**	**-0.3**
	3.2nm,0.3s,baz=235,slow=10,SNR=51						
WRA	**Warramunga Arr**	**57.42**	**180**	P	**P**	**15 59 57.5**	**-0.8**
	0.2nm,0.4s,baz=355,slow=7.5,SNR=6.8						
ASAR	**Alice Springs**	**61.13**	**181**	P	**P**	**16 00 22.1**	**-1.2**
	0.2nm,0.6s,baz=5.0,slow=7.4,SNR=4.2						

*IDC **15** 16:40:31.9±1.6, 0°.19N×126°.56E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.4/58, mbtmp3.6/4, ML2.6/1, Error ellipse: s-maj=57.1km s-min=26.8km az=59.0*

*DJA **15** 16:40:37.7±1.1, 0°.N±4°×12°.7E±°, h22km±12km, M3.3/6, MLv3.3/6*

ISC 15 16:40:37.2±1.9, **0°.4N**±0°.1×**126°.7E**±0°.1, **h47**km, **n6,** σ0**68**/7, **mb3.8**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.75**	**57**	P	**Pn**	**16 40 52.2**	**+0.7**
TNTI				S	**Sn**	**16 41 01.2**	**-0.7**
SANI	**Sanana**	**2.51**	**197**	P	**Pn**	**16 41 16.0**	**+0.5**
SIJI	**Sorong**	**4.69**	**105**	Pn	**Pn**	**16 41 45.9**	**+0.3**
	0.2nm,0.3s,baz=134,slow=21,SNR=1.6						
SIJI				Sn	**Sn**	**16 42 38.9**	**+0.2**
	0.3nm,0.3s,baz=268,slow=23,SNR=2.1						
WRA	**Warramunga Arr**	**21.51**	**160**	P	**P**	**16 45 21.7**	**-0.6**
	2.8nm,0.5s,baz=338,slow=10,SNR=47						
ASAR	**Alice Springs**	**24.88**	**164**	P	**P**	**16 45 55.4**	**-0.4**
	1.0nm,0.4s,baz=346,slow=12,SNR=39						
MKAR	**Makanchi Array**	**60.33**	**326**	P	P	16 50 43.0	+1.6
	0.2nm,0.5s,baz=113,slow=8.3,SNR=3.6						

*NEIC **15** 16:43:07.0±2.9, 8°.96S±0°.09×123°.47E±0°.07, h110km±6km, mb4.1/18, Error ellipse: s-maj=14.8km s-min=6.6km az=210.0*

*DJA **15** 16:43:06.4±0.5, 9°.S±4°×12°.4E±°, h121km±7km, M4.2/9, mb4.5/3, MLv4.1/9*

*IDC **15** 16:43:07.6±1.4, 8°.93S×123°.49E, h101km±16km, mb3.6/6, mb1 3.7/7, mb1mx3.3/56, mbtmp4.0/7, MS2.5/1, Ms1 2.5/1, ms1mx2.2/32, Error ellipse: s-maj=46.2km s-min=20.1km az=74.0*

ISC 15 16:43:06.1±0.6, **9°.00S**±0°.06×**123°.55E**±0°.07, **h100**km, **n45,** σ2**72**/47, **mb3.9**/12, **Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.03**	**137**	P	**Pn**	**16 43 29.9**	**+2.8**
SOEI				S	**Sn**	**16 43 48.5**	**+5.7**
SOEI	**Soe**	**1.03**	**137**		**Pn**	**16 43 29.9**	**+2.8**
BATI	**Baumata**	**1.21**	**175**	P	**Pn**	**16 43 31.2**	**+2.3**
	159nm,0.3s,baz=98,slow=0.5,SNR=129						
BATI				S	**Sn**	**16 43 49.1**	**+3.0**
	298nm,0.3s,baz=328,slow=19,SNR=35						
BATI	**Baumata**	**1.21**	**175**	P	**Pn**	**16 43 31.1**	**+2.1**
MMRI	**Maumere**	**1.35**	**285**	P	**Pn**	**16 43 31.6**	**+1.0**
MMRI	**Maumere**	**1.35**	**285**	Pn	**Pn**	**16 43 31.5**	**+1.0**
EDFI	**Ende, Flores**	**1.86**	**278**	P	**Pn**	**16 43 38.0**	**+1.0**
BASI	**Baing, Sumba**	**3.17**	**247**	P	**Pn**	**16 43 55.8**	**+1.6**
WSI	**Waingapu**	**3.28**	**258**	P	**Pn**	**16 43 56.9**	**+1.2**
WBSI	**Waikabubak, Su**	**4.16**	**261**	P	**Pn**	**16 44 08.2**	**+0.7**
KAPI	**Kappang**	**5.47**	**316**	LR	LR	16 47 03.0	
	comp=Z,46nm,18.5s,baz=262,slow=44						
PLAI	**Plampang**	**5.71**	**271**	P	**Pn**	**16 44 30.9**	**+2.4**
	0.4nm45nm,0.7s						
TWSI	**Taliwang, Sumb**	**6.60**	**272**	P	**Pn**	**16 44 42.1**	**+1.5**
	0.2nm25nm,1.1s						
KNRA	**Kununurra**	**8.36**	**143**		**Pn**	**16 45 03.8**	**-0.8**
MTN	**Manton Dam**	**8.37**	**118**	Pn	**Pn**	**16 45 05.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**9.27**	**168**	P	**Pn**	**16 45 15.7**	**-1.3**
	2.7nm,0.3s,baz=10.0,slow=10,SNR=58						
FITZ				S	Sn	16 46 51.2	-8.2
	9.8nm,0.3s,baz=185,slow=9.5,SNR=18						
JAGI	**Jajag, Banyuwa**	**9.31**	**273**	Pn	**Pn**	**16 45 15.1**	**-2.4**
WB0	**Warramunga Arr**	**14.99**	**137**	Pn	**Pn**	**16 46 31.9**	**-0.9**
WRA	**Warramunga Arr**	**15.07**	**137**	P	**Pn**	**16 46 31.4**	**-2.5**
	0.2nm,0.3s,baz=317,slow=12,SNR=2.2						
WRA				S	**Sn**	**16 49 11.0**	**-9.4**
	1.8nm,0.3s,baz=320,slow=26,SNR=12						
WRA	**Warramunga Arr**	**15.07**	**137**		**Pn**	**16 46 32.3**	**-1.6**
WB2	**Warramunga Arr**	**15.08**	**137**		**Pn**	**16 46 33.9**	**-0.1**
WB2				IAmb	IAmb	16 46 40.4	
	comp=Z,6.4nm,0.5s						
WR0	**Warramunga Arr**	**15.22**	**137**		**Pn**	**16 46 36.6**	**+0.9**
AS31	**Alice Springs**	**17.63**	**147**	P	**Pn**	**16 47 06.2**	**+0.6**
ASAR	**Alice Springs**	**17.63**	**147**	P	**Pn**	**16 47 07.0**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=323,slow=12,SNR=25						
ASAR				S	**Sn**	**16 50 12.6**	**-9.5**
	comp=Z,0.6nm,0.3s,baz=320,slow=24,SNR=16						
ASAR	**Alice Springs**	**17.63**	**147**	P	**Pn**	**16 47 06.1**	**+0.5**
COEN	**Coen**	**19.85**	**106**	P	**Pn**	**16 47 32.6**	**+0.8**
COEN				IAmb	IAmb	16 47 37.6	
	comp=Z,3.9nm,0.8s						
MORW	**Morawa**	**21.18**	**198**	P	**P**	**16 47 44.8**	**+1.3**
MORW				IAmb	IAmb	16 47 47.9	
	comp=Z,5.2nm,0.9s						
FORT	**Forrest**	**22.07**	**170**	P	**P**	**16 47 54.3**	**+1.3**
NWAO	**Narrogin (SRO)**	**24.52**	**193**	P	**P**	**16 48 17.5**	**+1.2**
	comp=Z,8.2nm,1.0s,baz=303,slow=4.8,SNR=2.5						
NWAO	**Narrogin (SRO)**	**24.52**	**193**	P	**P**	**16 48 17.8**	**+1.4**
NWAO				IAmb	IAmb	16 48 32.3	
	comp=Z,8.9nm,1.1s						
IPM	**Ipoh**	**26.14**	**300**	P	**P**	**16 48 30.3**	**-1.0**
IPM				IAmb	IAmb	16 48 34.7	
	comp=Z,4.1nm,1.0s						
BBOO	**Buckleboo**	**26.37**	**156**	P	**P**	**16 48 33.0**	**-0.1**
BBOO				IAmb	IAmb	16 48 40.8	
	comp=Z,4.3nm,0.8s						
STKA	**Stephens Creek**	**28.27**	**146**	P	**P**	**16 48 53.0**	**+2.9**
	comp=Z,0.6nm,0.3s,baz=323,slow=7.5,SNR=5.3						
STKA	**Stephens Creek**	**28.27**	**146**	P	**P**	**16 48 50.9**	**+0.8**
TPUB	**Ta-pu**	**32.23**	**355**	P	**P**	**16 49 21.9**	**-3.2**
TPUB				IAmb	IAmb	16 49 36.8	
	comp=Z,3.7nm,0.7s						
YHNB	**Yeheng**	**33.53**	**356**	P	**P**	**16 49 36.0**	**-0.5**
MJAR	**Matsushiro Arr**	**47.35**	**16**	P	**P**	**16 51 30.6**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=201,slow=9.2,SNR=5.4						
MJAR	**Matsushiro Arr**	**47.35**	**16**	P	**P**	**16 51 27.1**	**-2.9**
MAJO	**Matsushiro**	**47.35**	**16**	P	**P**	**16 51 29.5**	**-0.6**
MAJO				IAmb	IAmb	16 51 45.5	
	comp=Z,4.7nm,1.1s						
MJB9	**Matsu-Tunnel**	**47.35**	**16**	P	**P**	**16 51 29.0**	**-1.1**
MJB9				IAmb	IAmb	16 51 45.3	
	comp=Z,4.6nm,1.1s						
SONM	**Songino Array**	**58.59**	**347**	P	**P**	**16 52 53.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=158,slow=4.7,SNR=2.1						
SONM	**Songino Array**	**58.59**	**347**	IAmb	IAmb	16 52 58.1	
	comp=Z,0.5nm,0.6s						
MKAR	**Makanchi Array**	**66.59**	**330**	P	**P**	**16 53 47.2**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=133,slow=7.5,SNR=10						
MKAR	**Makanchi Array**	**66.59**	**330**	P	**P**	**16 53 46.3**	**+0.5**
ZALV	**Zalesovo Beam**	**70.72**	**337**	P	**P**	**16 54 11.5**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=142,slow=5.6,SNR=4.5						

*IDC **15** 16:43:17.3±1.0, 0°.67N×29°.56W, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/43, mbtmp3.9/9, ML4.1/1, MS3.4/14, Ms1 3.4/14, ms1mx3.2/34, Error ellipse: s-maj=45.5km s-min=20.5km az=146.0*

*NEIC **15** 16:43:18.3±0.7, 0°.7N±0°.1×29°.6W±0°.1, h10km±1km, mb4.3/4, Error ellipse: s-maj=27.9km s-min=18.1km az=132.0*

ISC 15 16:43:20.0±0.8, **0°.6N**±0°.2×**29°.5W**±0°.2, **h19**km, **n30,** σ0**96**/11, **mb3.9**/8, **MS3.4**/13, **Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**9.01**	**225**	Pn	**Pn**	**16 45 28.9**	**-0.2**
	2.2nm,0.3s,baz=25,slow=14,SNR=19						
RCBR				Sn	Sn	16 47 00.7	-9.4
	0.7nm,0.3s,baz=83,slow=11,SNR=1.5						
RCBR				LR	LR	16 48 21.3	
	comp=Z,285nm,18.2s,baz=46,slow=34						
H10N3	**ASCENSION HYDR**	**17.16**	**119**	T	T	17 05 05.5	
	baz=299,slow=75,SNR=1875						
H10N2	**ASCENSION HYDR**	**17.17**	**119**	T	T	17 05 06.9	
	baz=299,slow=75,SNR=1526						
H10N1	**ASCENSION HYDR**	**17.19**	**119**	T	T	17 05 08.3	
	baz=299,slow=75,SNR=2126						
H10S3	**ASCENSION HYDR**	**17.58**	**123**	T	T	17 05 35.8	
	baz=300,slow=74,SNR=605						
H10S2	**ASCENSION HYDR**	**17.60**	**123**	T	T	17 05 40.3	
	baz=280,slow=74,SNR=209						
MDP	**Montagnes des**	**23.51**	**281**	LR	LR	16 55 37.6	
	comp=Z,40nm,21.4s,baz=122,slow=32						
BDFB	**Brasilia**	**24.36**	**228**	LR	LR	16 57 39.5	
	comp=Z,107nm,18.1s,baz=90,slow=35						
DBIC	**Dimbokro**	**25.34**	**76**	P	**P**	**16 48 46.1**	**0.0**
	7.9nm,0.8s,baz=248,slow=13,SNR=8.1						
DBIC				LR	LR	16 57 07.7	
	comp=Z,32nm,18.2s,baz=232,slow=33						
DBIC	**Dimbokro**	**25.34**	**76**	P	**P**	**16 48 45.9**	**-0.1**
DBIC				IAmb	IAmb	16 48 49.7	
	comp=Z,10nm,0.8s						
TORD	**Torodi Ar. Bea**	**33.35**	**67**	P	**P**	**16 49 56.7**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=254,slow=9.5,SNR=2.8						
H05S1	**Guadeloupe/Mar**	**33.87**	**295**	T	T	17 25 21.7	
	SNR=46						
H05N1	**Guadeloupe/Mar**	**34.79**	**298**	T	T	17 26 28.2	
	SNR=7.1						
CPUP	**Vila Florida**	**37.88**	**223**	LR	LR	17 06 04.0	
	comp=Z,171nm,18.4s,baz=49,slow=36						
LPAZ	**La Paz**	**41.61**	**244**	P	**P**	**16 51 07.7**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=106,slow=5.4,SNR=2.1						
LPAZ	**La Paz**	**41.61**	**244**	IAmb	IAmb	16 51 12.5	
	comp=Z,4.2nm,1.1s						
ESDC	**Sonseca Array**	**45.36**	**28**	P	**P**	**16 51 36.9**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=230,slow=9.6,SNR=8.1						
KEST	**Kesra**	**50.26**	**42**	LR	LR	17 13 33.8	
	comp=Z,50nm,19.6s,baz=288,slow=36						
PLCA	**Paso Flores**	**55.48**	**217**	LR	LR	17 16 20.5	
	comp=Z,38nm,19.2s,baz=132,slow=36						
BOSA	**Boshof**	**59.86**	**124**	LR	LR	17 14 05.5	
	comp=Z,32nm,20.6s,baz=264,slow=31						
GERES	**GERESS Array B**	**60.73**	**31**	P	**P**	**16 53 29.8**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=266,slow=6.7,SNR=4.3						
GERES					LR	17 18 08.3	
	comp=Z,19nm,18.7s,baz=296,slow=34						
NOA	**NORSAR Array B**	**67.81**	**20**	LR	LR	17 21 36.6	
	comp=Z,15nm,18.2s,baz=225,slow=34						
BRTR	**Keskin Array B**	**69.23**	**47**	P	**P**	**16 54 28.1**	**+2.1**
	comp=Z,0.6nm,0.5s,baz=246,slow=6.0,SNR=2.3						
BRTR					LR	17 26 27.5	
	comp=Z,19nm,18.1s,baz=220,slow=37						
AKASG	**Malin Array Be**	**70.26**	**35**	P	**P**	**16 54 31.0**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=243,slow=6.8,SNR=1.5						
AKASG	**Malin Array Be**	**70.26**	**35**	IAmb	IAmb	16 54 31.9	
	comp=Z,1.7nm,1.2s						
FINES	**FINESS Array B**	**73.72**	**24**	LR	LR	17 23 38.0	
	comp=Z,23nm,21.6s,baz=252,slow=33						
PDAR	**Pinedale Array**	**82.28**	**313**	LR	LR	17 26 29.0	
	comp=Z,25nm,21.8s,baz=133,slow=32						
NVAR	**Mina Array Bea**	**88.68**	**308**	P	**P**	**16 56 13.4**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=116,slow=6.8,SNR=3.8						
YBH	**Yreka Blue Hor**	**91.99**	**312**	LR	LR	17 36 13.5	
	comp=Z,38nm,18.4s,baz=44,slow=35						
ASAR	**Alice Springs**	**151.99**	**146**	PKPbc	**PKiKP**	**17 03 16.0**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=208,slow=3.2,SNR=4.4						

*NEIC **15** 17:03:35.3±1.6, 33°.92N±0°.02×118°.76W±0°.01, h15km±3km, Error ellipse: s-maj=2.7km s-min=1.3km az=187.0*

*ANF **15** 17:03:35.1±0.2, 33°.95N×118°.73W, h18km±1km, ML3.3/31, ML3.3/31, Error ellipse: s-maj=1.2km s-min=1.0km az=32.0*

*PAS **15** 17:03:36.1±2.1, 33°.95N±0°.03×118°.72W±0°.02, h13km±4km, ML3.4/188, Error ellipse: s-maj=3.8km s-min=1.8km az=174.0*

*SCEDC **15** 17:03:36.1, 33°.95N×118°.72W, h13km, M3.4, ML3.4, ML3.4, ML3.4, ML3.4*

ISC 15 17:03:35.5±0.8, **33°.94N**±0°.02×**118°.74W**±0°.02, **h17**km±6km, **n132,** σ0**87**/177, **Southern California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PT2	**Point Dume**	**0.09**	**318**		**Pg**	**17 03 38.7**	**-0.2**
AGOC	**Agoura**	**0.21**	**353**		**Pg**	**17 03 40.2**	**-0.3**
AGOC					**Sg**	**17 03 43.3**	**-0.5**
DJJ	**Donna J Jenkin**	**0.29**	**55**		**Pg**	**17 03 41.5**	**-0.2**
BHPC	**Baldwin Hills**	**0.32**	**81**		**Pb**	**17 03 42.8**	**+0.1**
RPV	**Rancho Palos V**	**0.34**	**125**		**Pg**	**17 03 42.7**	**+0.2**
RPV					**Sg**	**17 03 47.7**	**+0.3**
USC	**University of**	**0.38**	**78**		**Sb**	**17 03 50.0**	**+0.6**
HLLC	**North Hollywoo**	**0.39**	**53**		**Pg**	**17 03 43.3**	**-0.2**
HLLC					**Sg**	**17 03 48.9**	**-0.1**
WTT2	**Watts, South G**	**0.40**	**89**		**Sg**	**17 03 49.8**	**+0.6**
GR2C	**Griffith Obs.**	**0.40**	**64**		**Pg**	**17 03 43.3**	**-0.4**
OAT	**Oat Mountain**	**0.41**	**14**		**Pg**	**17 03 44.0**	**0.0**
OAT					**Sg**	**17 03 50.0**	**+0.2**
FMP	**Fort Macarthur**	**0.43**	**121**	P	**Pg**	**17 03 44.0**	**-0.1**
	baz=304,SNR=37						
FMP				S	**Sg**	**17 03 50.4**	**+0.2**
	baz=304						
FMP	**Fort Macarthur**	**0.43**	**121**		**Pg**	**17 03 44.1**	**-0.1**
FMP					**Sg**	**17 03 50.3**	**+0.2**
DECC	**Green Verdugo**	**0.46**	**47**	P	**Pg**	**17 03 44.2**	**-0.5**
	baz=227,SNR=18						
DECC				S	**Sg**	**17 03 50.6**	**-0.4**
	baz=227						
DECC	**Green Verdugo**	**0.46**	**47**		**Sg**	**17 03 50.7**	**-0.2**
PASC	**Pasadena Art C**	**0.51**	**63**		**Pg**	**17 03 44.9**	**-0.9**
PASC				Sg	**Sg**	**17 03 51.8**	**-0.8**
SBI	**Santa Barbara**	**0.52**	**208**		**Pb**	**17 03 46.5**	**+0.4**
GVRC	**Garvey Reservo**	**0.52**	**78**		**Pg**	**17 03 46.2**	**+0.3**
IR2C	**Iron Canyon**	**0.53**	**32**		**Pg**	**17 03 45.6**	**-0.4**
CACC	**Caltech Cellar**	**0.55**	**69**		**Pg**	**17 03 45.8**	**-0.5**
CIAC	**Catalina I. Ai**	**0.60**	**153**		**Pb**	**17 03 47.4**	**-0.1**
CIAC					**Sb**	**17 03 55.8**	**+0.1**
CIS	**Catalina Islan**	**0.60**	**153**	P	**Pb**	**17 03 47.4**	**-0.2**
	baz=335,SNR=60						
CIS				S	**Sb**	**17 03 56.0**	**+0.2**
	baz=335						
RHC	**Rose Hills Cem**	**0.60**	**84**		**Pg**	**17 03 47.4**	**0.0**
PYR	**Pyramid**	**0.63**	**360**		**Pg**	**17 03 47.9**	**0.0**
MWC	**Mount Wilson**	**0.63**	**63**	Pg	**Pg**	**17 03 47.2**	**-0.8**
OSI	**Osito Audit: C**	**0.67**	**1**	P	**Pg**	**17 03 48.4**	**-0.3**
	baz=180,SNR=12						
OSI				S	**Sg**	**17 03 57.6**	**-0.1**
	baz=180						
OSI	**Osito Audit: C**	**0.67**	**1**		**Pg**	**17 03 48.4**	**-0.3**
OSI				Sg	**Sg**	**17 03 57.8**	**0.0**
SANC	**Santa Ana**	**0.75**	**108**		**Pb**	**17 03 50.5**	**+0.5**
SCZ2	**Santa Cruz Isl**	**0.75**	**274**	P	**Pb**	**17 03 49.9**	**-0.2**
	baz=93,SNR=50						
SCZ2				S	**Sn**	**17 04 00.8**	**-1.6**
	baz=93						
SCZ2	**Santa Cruz Isl**	**0.75**	**274**	

	baz=259								
BBRC					Sb	**Sb**	**17 04 23.6**	**+0.5**
	baz=259								
GATR	**Gnd/Air Tx Cnt**	**1.59**	**293**			**Pn**	**17 04 03.2**	**+0.3**
109C	**Camp Elliot, M**	**1.72**	**127**	P		**Pn**	**17 04 03.0**	**-1.7**
	baz=309,SNR=7.9								
109C	**Camp Elliot, M**	**1.72**	**127**			**Pn**	**17 04 03.5**	**-1.1**
CPE	**Camp Elliot**	**1.72**	**127**			**Pn**	**17 04 03.1**	**-1.5**
SMMC	**Simmler**	**1.72**	**323**	Pb		**Pn**	**17 04 05.7**	**+0.9**
	baz=142								
SMMC					Sb	**Sb**	**17 04 28.7**	**+0.7**
	baz=142								
ISA	**Isabella, Lake**	**1.73**	**7**	Pb		**Pn**	**17 04 05.6**	**+0.7**
	baz=187								
ISA	**Isabella, Lake**	**1.73**	**7**	Pn		**Pn**	**17 04 05.2**	**+0.3**
LRMC	**Laurel Mtn Rad**	**1.77**	**29**	S		**Sn**	**17 04 27.4**	**-0.2**
	baz=210								
PFO	**Pinyon Flats O**	**1.93**	**99**	P		**Pn**	**17 04 06.9**	**-0.7**
	baz=281,SNR=15								
PFO					Sb	**Sb**	**17 04 34.6**	**+0.6**
	baz=281								
PFO	**Pinyon Flats O**	**1.93**	**99**	Pn		**Pn**	**17 04 07.1**	**-0.5**
XPFO	**Pion Flat**	**1.93**	**99**	Sn		**Sn**	**17 04 33.4**	**+1.8**
TJX	**Tijuana**	**2.00**	**135**	Pn		**Pn**	**17 04 08.3**	**-0.3**
WCHM	**Chimney Peak**	**2.01**	**15**			**Pn**	**17 04 09.4**	**+0.4**
GSC	**Goldstone, Bar**	**2.09**	**49**	P		**Pn**	**17 04 10.3**	**+0.4**
	baz=230,SNR=68								
GSC					S	**Sn**	**17 04 35.2**	**-0.4**
	baz=230								
GSC	**Goldstone, Bar**	**2.09**	**49**	Pn		**Pn**	**17 04 10.5**	**+0.6**
BAR	**Barrett**	**2.14**	**125**	Pn		**Pn**	**17 04 09.0**	**-1.4**
HEC	**Hector,Ludlow**	**2.17**	**65**	P		**Pn**	**17 04 10.9**	**-0.2**
	baz=247,SNR=46								
HEC					S	**Sn**	**17 04 37.7**	**+0.1**
	baz=247								
PAGB	**Antelope Grade**	**2.18**	**326**			**Pn**	**17 04 11.1**	**+0.1**
MONP2	**Monument Peak**	**2.20**	**118**	P		**Pn**	**17 04 10.3**	**-1.1**
	baz=300,SNR=15								
MONP2					Sb	**Sb**	**17 04 43.2**	**+1.2**
	baz=300								
MONP2	**Monument Peak**	**2.20**	**118**			**Pn**	**17 04 11.0**	**-0.4**
TKX	**Tecate**	**2.25**	**127**			**Pb**	**17 04 15.0**	**-0.7**
BELC	**Belle Mtn. Jos**	**2.28**	**88**	P		**Pn**	**17 04 12.0**	**-0.4**
	baz=270,SNR=30								
BELC					Sb	**Sb**	**17 04 45.9**	**+1.7**
	baz=270								
MFS	**McCloud Flat S**	**2.29**	**18**			**Pn**	**17 04 13.5**	**+0.9**
CBKC	**Canebrake**	**2.32**	**116**			**Pn**	**17 04 12.7**	**-0.3**
MPMC	**Manual Prospec**	**2.35**	**25**	P		**Pn**	**17 04 13.6**	**+0.1**
	baz=206,SNR=18								
MPMC					Sb	**Sb**	**17 04 49.0**	**+2.7**
	baz=206								
CBX	**Cerro Bola**	**2.38**	**132**	Pn		**Pn**	**17 04 12.7**	**-1.1**
IKP	**In-Ko-Pah, Jac**	**2.55**	**120**	P		**Pn**	**17 04 15.9**	**-0.2**
	baz=302								
IKP					S	**Sn**	**17 04 46.8**	**-0.1**
	baz=302								
RMX	**La Rumorosa**	**2.59**	**120**			**Pn**	**17 04 17.3**	**+0.5**
SWSC	**Sam W. Stewart**	**2.65**	**111**	Sb		**Sb**	**17 04 56.5**	**+1.8**
	baz=293								
GMRC	**Granite Mounta**	**2.68**	**71**	P		**Pn**	**17 04 17.6**	**-0.4**
	baz=253								
GMRC					S	**Sn**	**17 04 49.5**	**-0.7**
	baz=253								
BC3	**Big Chuckawall**	**2.75**	**95**	S		**Sn**	**17 04 52.4**	**+0.6**
	baz=277								
TUQ	**Turquoise Moun**	**2.76**	**56**	P		**Pn**	**17 04 18.9**	**-0.1**
	baz=238,SNR=7.6								
TUQ					S	**Sn**	**17 04 52.7**	**+0.6**
	baz=238								
PMPB	**Monarch Peak**	**2.83**	**324**			**Pn**	**17 04 20.5**	**+0.5**
IRM	**Iron Mountain**	**2.99**	**85**	P		**Pn**	**17 04 21.9**	**-0.3**
	baz=267								
ESJX	**Sierra Juarez**	**3.04**	**129**			**Pn**	**17 04 22.9**	**0.0**
GLA	**Glamis**	**3.38**	**104**	Pn		**Pn**	**17 04 28.6**	**+1.0**
TPNV	**Topopah Spring**	**3.62**	**33**	P		**Pn**	**17 04 32.3**	**+1.4**
	baz=215								
TPNV	**Topopah Spring**	**3.62**	**33**	Pn		**Pn**	**17 04 32.4**	**+1.4**
OMMB	**Old Mammoth Mi**	**3.67**	**357**	Pn		**Pn**	**17 04 34.0**	**+2.2**
MDPB	**Devils Postpil**	**3.69**	**356**	Pn		**Pn**	**17 04 33.7**	**+1.6**
SHPR	**Sheep Range**	**3.89**	**48**			**Pn**	**17 04 36.0**	**+1.3**
SPX	**San Pedro Mart**	**4.00**	**135**	Pn		**Pn**	**17 04 38.2**	**+1.9**
W13A	**Hualapai Mount**	**4.17**	**73**	Pn		**Pn**	**17 04 38.7**	**+0.2**
CMB	**Columbia Colle**	**4.30**	**342**	Pn		**Pn**	**17 04 42.2**	**+2.0**
LHV	**Little Huntoon**	**4.31**	**2**			**Pn**	**17 04 40.4**	**+0.2**
PRN	**Pahroc Range**	**4.58**	**40**			**Pn**	**17 04 45.4**	**+1.3**
WAKR	**Walker**	**4.59**	**353**	Pn		**Pn**	**17 04 44.8**	**+0.5**
LCMT	**Little Creek M**	**5.43**	**54**			**Pn**	**17 04 57.4**	**+1.6**
CCUT	**Cedar City**	**5.66**	**49**	Pn		**Pn**	**17 05 01.8**	**+2.7**
KNB	**Kanab**	**5.72**	**56**	Pn		**Pn**	**17 05 01.8**	**+1.9**
U15A	**North Rim**	**5.83**	**63**			**Pn**	**17 05 03.2**	**+1.7**
SZCU	**Shurtz Canyon**	**5.86**	**50**	Pn		**Pn**	**17 05 04.3**	**+2.4**
PSUT	**Pine Spring**	**6.05**	**39**	Pn		**Pn**	**17 05 06.6**	**+2.3**

*NNC **15** 17:04:08.3±0.2, 43°.22N×78°.16E, h0km, mb3.2, mpv3.4, Error ellipse: s-maj=3.0km s-min=1.3km az=176.0*
*SOME **15** 17:04:08.9, 43°.23N×78°.15E, h10km*
*KRNET **15** 17:04:09.8±0.1, 43°.22N×78°.07E, h21km, mb2.4*
ISC 15 17:04:08.9±1.1, **43°.24N**±0°.02×**78°.13E**±0°.01, **h3**km±9km, **n56**, σ1°**28**/104, **26C-16D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURS	**Kuram**	**0.25**	**6**	⇓*eP*	**Pg**	**17 04 14.2**	**+0.4**
	42nm,0.1s						
KURS				*eS*	**Sg**	**17 04 17.7**	**+0.6**
	28nm,0.2s						
KURS	**Kuram**	**0.25**	**6**	P	**Pg**	**17 04 14.2**	**+0.4**
	42nm,0.1s						
KURS				S	**Sg**	**17 04 17.7**	**+0.6**
	30nm,0.2s						
SATY	**Saty**	**0.27**	**131**	⇑*eP*	**Pg**	**17 04 14.2**	**+0.2**
	100nm,0.1s						
SATY				*eS*	**Sg**	**17 04 17.9**	**+0.4**
	984nm,0.1s						
SATY	**Saty**	**0.27**	**131**	P	**Pg**	**17 04 14.2**	**+0.2**
	100nm,0.1s						
SATY				S	**Sg**	**17 04 17.9**	**+0.4**
	984nm,0.1s						
ANVS	**Anan'yevo**	**0.57**	**217**	⇑*iP*	**Pg**	**17 04 20.0**	**+0.3**
	baz=14						
ANVS				⇑*iS*	**Sg**	**17 04 27.6**	**+0.5**
	baz=14						
UZB	**Uzynbulak**	**0.66**	**97**	⇑*eP*	**Pg**	**17 04 20.9**	**-0.5**
	43nm,0.1s						
UZB				*eS*	**Sg**	**17 04 29.5**	**-0.5**
	40nm,0.1s						
UZB	**Uzynbulak**	**0.66**	**97**	P	**Pg**	**17 04 20.9**	**-0.5**
	43nm,0.1s						
UZB				S	**Sg**	**17 04 29.5**	**-0.5**
	40nm,0.1s						
KOTS	**Kotyrbulak**	**0.75**	**270**	⇑*eP*	**Pg**	**17 04 23.4**	**+0.3**
	47nm,0.2s						
KOTS				*eS*	**Sg**	**17 04 33.8**	**+1.0**
	57nm,0.2s						
KOTS	**Kotyrbulak**	**0.75**	**270**	P	**Pg**	**17 04 23.5**	**+0.3**
	47nm,0.2s						
KOTS				S	**Sg**	**17 04 33.8**	**+1.0**
	57nm,0.2s						
PRZ	**Przheval'sk**	**0.78**	**165**	⇓*iP*	**Pg**	**17 04 24.7**	**+1.0**
	baz=61						
PRZ				⇓*iS*	**Sg**	**17 04 35.6**	**+1.8**
	baz=61						
MDOK	**Medeo**	**0.80**	**265**	⇓*eP*	**Pb**	**17 04 23.9**	**-1.5**
	3.9nm,0.1s						
MDOK				*eS*	**Sg**	**17 04 34.7**	**+0.2**
	10nm,0.2s						
MDOK	**Medeo**	**0.80**	**265**	⇓P	**Pb**	**17 04 23.6**	**-1.8**
	1.9nm,0.4s						
MDOK				⇑S	**Sg**	**17 04 35.1**	**+0.7**
	5.4nm,0.4s						
MDOK	**Medeo**	**0.80**	**265**	Pg	**Pb**	**17 04 23.9**	**-1.5**
	3.9nm,0.1s						
MDOK				Lg	Lg	17 04 34.7	
	10nm,0.2s						
MNBS	**Baschi**	**0.87**	**13**	⇑*eP*	**Pb**	**17 04 25.6**	**-1.0**
	14nm,0.1s						
MNBS				*eS*	**Sb**	**17 04 37.2**	**-1.5**
	35nm,0.3s						
MNBS	**Baschi**	**0.87**	**13**	P	**Pb**	**17 04 25.6**	**-1.0**
	14nm,0.1s						
MNBS				S	**Sb**	**17 04 37.2**	**-1.5**
	35nm,0.3s						
SHLS	**Shalkode**	**0.97**	**94**	*eP*	**Pn**	**17 04 32.4**	**+2.9**
	11nm,0.1s						
SHLS				*eS*	**Sn**	**17 04 49.1**	**+5.2**
	16nm,0.1s						
SHLS	**Shalkode**	**0.97**	**94**	P	**Pn**	**17 04 32.4**	**+2.9**
	11nm,0.1s						
SHLS				S	**Sn**	**17 04 49.1**	**+5.2**
	16nm,0.1s						
PDGK	**Podgornoye**	**0.99**	**84**	P	**Pb**	**17 04 26.8**	**-2.0**
	4.1nm,0.1s						
PDGK				S	**Sb**	**17 04 39.8**	**-2.5**
	7.0nm,0.2s						
PDGK	**Podgornoye**	**0.99**	**84**	⇑P	**Pb**	**17 04 26.8**	**-2.0**
	1.7nm,0.2s						
PDGK				⇑S	**Sb**	**17 04 39.8**	**-2.5**
	10nm,0.5s						
ARXS	**Arharly**	**1.00**	**347**	⇑*eP*	**Pb**	**17 04 27.7**	**-1.2**
	9.0nm,0.1s						
ARXS				*eS*	**Sb**	**17 04 41.0**	**-1.6**
	14nm,0.2s						
CHKK	**Chushkaly**	**1.04**	**307**	*eP*	**Pb**	**17 04 28.2**	**-1.2**
	3.6nm,0.1s						
CHKK				*eS*	**Sb**	**17 04 42.1**	**-1.4**
	31nm,0.2s						
CHKK	**Chushkaly**	**1.04**	**307**	P	**Pb**	**17 04 28.2**	**-1.2**
	7.9nm,0.2s						
CHKK				S	**Sb**	**17 04 42.1**	**-1.4**
	31nm,0.2s						
IZV	**Izvestkoviy**	**1.13**	**260**	⇓*eP*	**Pb**	**17 04 30.3**	**-0.9**
	19nm,0.1s						
IZV				*eS*	**Sb**	**17 04 45.8**	**-0.5**
	24nm,0.1s						
IZV	**Izvestkoviy**	**1.13**	**260**	P	**Pb**	**17 04 30.3**	**-0.9**
	19nm,0.1s						
IZV				S	**Sb**	**17 04 45.8**	**-0.5**
	24nm,0.1s						
KTBS	**Karatobe**	**1.16**	**295**	⇑*eP*	**Pn**	**17 04 30.7**	**-1.3**
	8.8nm,0.3s						
KTBS				*eS*	**Sb**	**17 04 46.2**	**-0.8**
	49nm,0.2s						
KTBS	**Karatobe**	**1.16**	**295**	P	**Pn**	**17 04 30.7**	**-1.3**
	8.8nm,0.3s						
KTBS				S	**Sb**	**17 04 46.2**	**-0.8**
	49nm,0.2s						
MTBS	**Maitube**	**1.25**	**266**	*eP*	**Pn**	**17 04 32.4**	**-0.9**
	6.4nm,0.1s						
MTBS				*eS*	**Sb**	**17 04 49.6**	**-0.1**
	12nm,0.2s						
MTBS	**Maitube**	**1.25**	**266**	P	**Pn**	**17 04 32.4**	**-0.9**
	6.4nm,0.1s						
MTBS				S	**Sb**	**17 04 49.6**	**-0.1**
	12nm,0.2s						
KDJ	**Kajisay**	**1.31**	**213**	⇓*eP*	**Pn**	**17 04 33.8**	**-0.4**
	baz=11						
KDJ				⇓*iS*	**Sb**	**17 04 50.6**	**-0.8**
	baz=11						
KUU	**Kurty**	**1.46**	**297**	P	**Pn**	**17 04 36.0**	**-0.2**
	17nm,0.1s						
KUU				S	**Sn**	**17 04 55.2**	**-0.7**
	20nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.52**	**189**	⇓*iP*	**Pn**	**17 04 36.4**	**-1.0**
	baz=88						
TARG				⇓*iS*	**Sn**	**17 04 57.0**	**-0.9**
	baz=88						
KST	**Kastek**	**1.60**	**264**	⇓*eP*	**Pn**	**17 04 38.5**	**+0.3**
	7.9nm,0.2s						
KST				*eS*	**Sb**	**17 04 59.9**	**+0.1**
	7.2nm,0.2s						
KST	**Kastek**	**1.60**	**264**	P	**Pn**	**17 04 38.5**	**+0.3**
	7.9nm,0.2s						
KST				S	**Sb**	**17 04 59.9**	**+0.1**
	7.2nm,0.2s						
DJR	**Jarkent**	**1.62**	**47**	*eP*	**Pn**	**17 04 38.4**	**-0.1**
	1.8nm,0.1s						
DJR				*eS*	**Sn**	**17 04 60.0**	**0.0**
	23nm,0.2s						
DJR	**Jarkent**	**1.62**	**47**	P	**Pn**	**17 04 38.4**	**-0.1**
	1.8nm,0.1s						
DJR				S	**Sn**	**17 04 60.0**	**0.0**
	23nm,0.2s						
KTMS	**Ketmen**	**1.63**	**82**	*eP*	**Pn**	**17 04 38.1**	**-0.5**
	2.9nm,0.1s						
KTMS				*eS*	**Sn**	**17 04 59.5**	**-0.7**
	11nm,0.1s						
KTMS	**Ketmen**	**1.63**	**82**	P	**Pn**	**17 04 38.1**	**-0.5**
	2.9nm,0.1s						
KTMS				S	**Sn**	**17 04 59.5**	**-0.7**
	18nm,0.4s						
ULHL	**Ulahol**	**1.71**	**235**	⇑*iP*	**Pn**	**17 04 40.4**	**+0.7**
	baz=35						
ULHL				⇑*iS*	**Sn**	**17 05 02.4**	**+0.2**
	baz=35						
DGS	**Degeres**	**1.73**	**271**	*eP*	**Pn**	**17 04 40.5**	**+0.6**
	5.1nm,0.1s						
DGS				*eS*	**Sb**	**17 05 03.6**	**+0.3**
	14nm,0.3s						
DGS	**Degeres**	**1.73**	**271**	P	**Pn**	**17 04 40.5**	**+0.6**
	5.9nm,0.2s						
DGS				S	**Sb**	**17 05 03.6**	**+0.3**
	20nm,0.4s						
TDK	**Taldyqorghan**	**1.78**	**6**	*eP*	**Pn**	**17 04 41.8**	**+1.3**
	12nm,0.1s						
TDK				*eS*	**Sb**	**17 05 05.4**	**+0.6**
	54nm,0.5s						
TDK	**Taldyqorghan**	**1.78**	**6**	P	**Pn**	**17 04 41.8**	**+1.3**
	12nm,0.1s						
TDK				S	**Sb**	**17 05 05.4**	**+0.6**
	54nm,0.5s						
KRBS	**Karabastau**	**1.85**	**285**	*eP*	**Pn**	**17 04 42.4**	**+0.9**
	9.1nm,0.3s						
KRBS				*eS*	**Sb**	**17 05 06.7**	**-0.2**
	3.7nm,0.4s						
KRBS	**Karabastau**	**1.85**	**285**	P	**Pn**	**17 04 42.4**	**+0.9**
	9.1nm,0.3s						
KRBS				S	**Sb**	**17 05 06.6**	**-0.2**
	3.7nm,0.4s						
TKM2	**Tokmak 2**	**1.89**	**261**	⇑*iP*	**Pn**	**17 04 42.7**	**+0.5**
	baz=61						
TKM2				⇑*iS*	**Sn**	**17 05 07.0**	**+0.5**
	baz=61						
TKM2	**Tokmak 2**	**1.89**	**261**	⇓Pn	**Pn**	**17 04 43.4**	**+1.3**
	1.7nm,0.5s						
TKM2				⇑Sn	**Sb**	**17 05 09.3**	**+1.2**
	4.6nm,0.4s						
KAPS	**Kapalarasan**	**2.23**	**23**	⇑*eP*	**Pn**	**17 04 49.1**	**+2.3**
	1.4nm,0.2s						
KAPS				*eS*	**Sb**	**17 05 18.3**	**+0.5**
	18nm,0.4s						
KAPS	**Kapalarasan**	**2.23**	**23**	Pg	**Pn**	**17 04 49.1**	**+2.3**
	2.6nm,0.3s						
KAPS				Lg	Lg	17 05 18.3	
	18nm,0.4s						
KBK	**Karagaybulak**	**2.41**	**257**	⇑*iP*	**Pn**	**17 04 50.3**	**+1.0**
	baz=57						
KBK				⇑*iS*	**Sn**	**17 05 19.8**	**+0.4**
	baz=57						
KZA	**Kyzart**	**2.42**	**242**	⇑*eP*	**Pn**	**17 04 50.6**	**+0.9**
	baz=42						
KZA				⇑*iS*	**Sn**	**17 05 20.5**	**+0.5**
	baz=42						
CHMS	**Chumysh**	**2.49**	**266**	⇑*iP*	**Pn**	**17 04 51.1**	**+0.8**
	baz=66						
CHMS				⇑*iS*	**Sn**	**17 05 21.5**	**+0.3**
	baz=66						
USP	**Ospenovka**	**2.66**	**272**	⇓*eP*	**Pn**	**17 04 53.3**	**+0.7**
	baz=72						
USP				⇓*iS*	**Sn**	**17 05 25.6**	**+0.3**
	baz=72						
AAK	**Ala-Archa**	**2.74**	**259**	⇑Lg	Lg	17 05 36.4	
	4.9nm,0.7s						
UCH	**Uchtor**	**2.85**	**251**	⇓*iP*	**Pn**	**17 04 56.4**	**+0.7**
	baz=50						
UCH				⇓*iS*	**Sn**	**17 05 31.1**	**+0.4**
	baz=50						
MAKZ	**Makanchi**	**4.49**	**36**	⇑Lg	Lg	17 06 27.3	
	1.4nm,0.8s						
MK31	**Makanchi Array**	**4.62**	**38**	⇑Lg	Lg	17 06 32.3	
	0.1nm,0.2s,baz=215,slow=26,SNR=7.8						

WEL 15 17:23:24.4, 43°S±1°×**17°3E**±°, **h11**km±1km, **M2.9/7, ML3.1/7, MLv2.9/7, Error ellipse: s-maj=0.0km s-min=0.0km az=48.7, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.27**	**194**	P	Pb	17 23 31.6	+0.2
MQZ				S	Sb	17 23 35.7	-0.3
AMCZ	**Amberley**	**0.27**	**346**	P	Pb	17 23 31.8	+0.5
AMCZ				S	Sb	17 23 36.5	+0.5
OKCZ	**Okains Bay**	**0.36**	**141**	P	Pb	17 23 33.0	+0.1
OKCZ				S	Sb	17 23 38.2	-0.5
AKCZ	**Akaroa Harbour**	**0.45**	**164**	P	Pb	17 23 34.7	+0.3
AKCZ				S	Sb	17 23 40.8	-0.3
GVZ	**Greta Valley S**	**0.52**	**24**	P	Pb	17 23 36.0	+0.5
GVZ				S	Sb	17 23 43.6	+0.5
OXZ	**Oxford**	**0.53**	**282**	P	Pb	17 23 36.8	+1.1
OXZ				S	Sb	17 23 44.9	+1.5
LTZ	**Lake Taylor**	**0.74**	**332**	P	Pn	17 23 40.6	-0.3
LTZ				S	Sn	17 23 51.4	-0.9
WACZ	**Wakanui South**	**0.83**	**232**	P	Pn	17 23 42.4	+0.4
WACZ				S	Sn	17 23 54.9	+0.7
KHZ	**Kahutara**	**1.18**	**30**	P	Pb	17 23 46.5	-0.3
KHZ				S	Sn	17 24 02.8	-0.1
INZ	**Inchbonnie**	**1.19**	**307**	P	Pg	17 23 48.0	+0.7
ARCZ	**Arundel**	**1.24**	**246**	P	Pg	17 23 48.4	+0.1
RPZ	**Rata Peaks**	**1.26**	**257**	P	Pg	17 23 48.5	0.0
THZ	**Tophouse**	**1.68**	**4**	P	Pn	17 23 53.9	+0.1
GCSZ	**Gaunt Creek Bo**	**1.77**	**273**	P	Pg	17 23 59.4	+1.1
DSZ	**Denniston Nort**	**1.83**	**337**	P	Pn	17 23 56.8	+0.9
BSWZ	**Blackbirch Sta**	**1.92**	**26**	P	Pn	17 23 57.1	+0.1
LBZ	**Lake Benmore**	**2.08**	**242**	P	Pb	17 24 01.6	-0.5
FOZ	**Fox Glacier**	**2.13**	**267**	P	Pb	17 24 02.5	-0.6
ODZ	**Otahua Downs**	**2.20**	**223**	P	Pn	17 24 01.2	+0.3
NNZ	**Nelson**	**2.27**	**12**	P	Pn	17 24 02.4	+0.5
QRZ	**Quartz Range**	**2.62**	**356**	P	Pn	17 24 08.0	+1.3
CAW	**Cannon Point**	**2.90**	**37**	P	Pn	17 24 09.4	-1.1
PKE	**Pukeiti**	**4.35**	**13**	P	Pn	17 24 32.8	+2.3
ETVZ	**East Tongariro**	**4.85**	**28**	P	Pn	17 24 36.1	-1.4

*MAN **15** 17:23:54.5, 8°.25N×126°.77E, h25km, mb4.7, ML3.6, MS3.4*
*IDC **15** 17:23:58.2±7.7, 8°.39N×127°.00E, h92km±68km, mb3.0/3, mb1 3.1/3, mb1mx2.9/38, mbtmp3.3/3, Error ellipse: s-maj=76.8km s-min=24.2km az=63.0*
ISC 15 17:23:51.9±2.7, **8°.33N**±0°.05×**127°.1E**±0°.1, **h29**km±18km, **n12**, σ2**9**17/18, **mb3.2**/3, **1C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIP	**Bislig**	**0.82**	**263**	⇓*iP*	**Pn**	**17 24 05.9**	**-1.7**
BIP				*i* S	**Sb**	**17 24 14.9**	**-3.5**
MATI	**Mati**	**1.60**	**211**	*eP*	**Pn**	**17 24 17.3**	**-1.0**
MATI				*eS*	**Sn**	**17 24 36.6**	**-1.3**
DAV	**Davao City (W)**	**1.94**	**230**	P	**Pb**	**17 24 28.7**	**+2.1**
	29nm,0.3s,baz=75,slow=23,SNR=1.7						
DAV				LR	LR	17 24 51.1	
	comp=Z,111nm,18.6s,baz=360,slow=28						
DAV				S	**Sb**	**17 24 53.9**	**+3.4**
	40nm,0.3s,baz=248,slow=22,SNR=6.9						
BUKP	**Musuan**	**2.04**	**257**	*eP*	**Pn**	**17 24 25.9**	**+1.5**
BUKP				*eS*	**Sb**	**17 24 54.6**	**+1.2**
KCP	**Kidapawan**	**2.37**	**236**	⇑*iP*	**Pb**	**17 24 32.5**	**-1.4**
KCP				*i* S	Sb	17 25 13.0	+10
DDMP	**Don Marcelino,**	**2.59**	**212**	*eP*	**Pn**	**17 24 32.5**	**+0.6**
DDMP				*eS*	**Sb**	**17 25 08.4**	**-0.8**
MSLP	**Maasin**	**2.83**	**309**	*eP*	**Pb**	**17 24 39.6**	**-2.1**
MSLP				*eS*	**Sb**	**17 25 19.9**	**+4.0**
CNOP	**Candoni, Negro**	**4.62**	**289**	*eP*	**Pn**	**17 25 01.1**	**+1.2**
GUIM	**Jordan**	**4.98**	**298**	*eP*	**Pn**	**17 25 05.9**	**+1.2**
WRA	**Warramunga Arr**	**28.99**	**166**	P	**P**	**17 29 50.2**	**+0.9**
	0.2nm,0.5s,baz=344,slow=9.4,SNR=1.6						
ASAR	**Alice Springs**	**32.50**	**168**	P	**P**	**17 30 20.9**	**+0.6**
	0.1nm,0.3s,baz=342,slow=7.1,SNR=8.9						
MKAR	**Makanchi Array**	**54.04**	**323**	P	**P**	**17 33 12.6**	**-1.2**
	0.3nm,0.4s,baz=105,slow=7.0,SNR=6.9						

JMA 15 17:28:10.8, 35°.36N×136°.85E, h12km±1km, **M2.5, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JICN	**Ichinomiyachia**	**0.06**	**186**	P	Pg	17 28 13.4	+0.2
JICN				S	Sg	17 28 15.3	+0.4
JYTA	**Yamagatataniai**	**0.25**	**338**	P	Pg	17 28 16.3	+0.2
JYTA				S	Sg	17 28 19.7	+0.1
JAO	**Obara**	**0.35**	**105**	P	Pg	17 28 17.7	-0.1
JAO				S	Sg	17 28 22.5	0.0
TSUJ	**Tsu 2**	**0.74**	**209**	P	Pg	17 28 24.8	-0.3
TSUJ				S	Sg	17 28 34.6	-0.2
JIE	**Ise**	**0.97**	**187**	P	Pg	17 28 28.9	-0.7
JIE				S	Sg	17 28 41.1	-1.1
MAT	**Matsushiro**	**1.61**	**43**	P	Pn	17 28 39.5	+0.4
MAT				S	Sb	17 29 01.3	+0.4

*IDC **15** 17:48:10.8±5.3, 36°.17N×70°.55E, h209km±49km, mb3.2/5, mb1 3.3/7, mb1mx2.9/44, mbtmp3.8/7, Error ellipse: s-maj=38.6km s-min=29.6km az=25.0*
*NEIC **15** 17:48:13.1±2.1, 36°.50N±0°.06×70°.3E±0°.1, h207km±6km, mb4.3/8, Error ellipse: s-maj=12.4km s-min=8.1km az=89.0*
*NNC **15** 17:48:19.0±4.4, 37°.06N×70°.22E, h203km±61km, mb2.8, mpv3.9, Error ellipse: s-maj=42.5km s-min=29.3km az=1.0*
ISC 15 17:48:13.1±0.7, **36°.53N**±0°.05×**70°.38E**±0°.06, **h204**km, **n48,** σ1°**68**/59, **mb3.7/7, 4C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.27**	**209**	Pn	**Pn**	**17 48 54.4**	**-0.6**
KBL				Sn	**S**	**17 49 24.7**	**-2.3**
CHGR	**Chuyangaron**	**2.33**	**336**	Pn	**Pn**	**17 48 55.6**	**+0.1**
CHGR				Sn	**S**	**17 49 26.8**	**-1.4**
GAR	**Garm**	**2.46**	**359**	Pn	**Pn**	**17 48 57.6**	**+0.6**
GAR				Sn	**S**	**17 49 30.4**	**-0.3**
BTK	**Batken**	**3.54**	**5**	Pn	**Pn**	**17 49 11.0**	**+1.6**
BTK				Sn	**S**	**17 49

BVA0	**Borovoye Array**	**16.49**	**0**	P	**Pn**	**17 51 53.6**	**+0.7**		
	comp=E,1.0nm,0.5s,baz=171,slow=8.6,SNR=14								
BRVK	**Borovoye**	**16.52**	**360**	P	**P**	**17 51 51.7**	**-0.6**		
RAMN	**Ramite**	**16.76**	**120**	*e*P	**Pn**	**17 51 57.5**	**+0.8**		
	comp=E,12nm,0.6s								
TAPN	**Taplejung**	**17.30**	**117**	*e*P	**Pn**	**17 52 03.6**	**+0.5**		
	comp=E,16nm,0.6s								
ODAN	**Odare**	**17.37**	**119**	*e*P	**Pn**	**17 52 04.1**	**+0.3**		
ZAA0	**Zalesovo Array**	**20.09**	**25**	P	**P**	**17 52 31.5**	**+0.5**		
ZAA0				IAmb	IAmb	17 52 33.7			
	comp=Z,2.1nm,0.5s								
ZALV	**Zalesovo Beam**	**20.09**	**25**	P	**P**	**17 52 31.8**	**+0.8**		
	comp=Z,2.5nm,0.3s,baz=214,slow=10,SNR=17								
ZALV	**Zalesovo Beam**	**20.09**	**25**	P	**P**	**17 52 31.4**	**+0.4**		
ARU	**Arti**	**21.44**	**342**	P	**P**	**17 52 45.5**	**+0.4**		
ARU				IAmb	IAmb	17 52 48.2			
	comp=Z,7.1nm,1.2s								
FIA1	**FINESS Array S**	**37.18**	**326**	P	**P**	**17 55 04.0**	**-0.2**		
FIA1				IAmb	IAmb	17 55 27.7			
	comp=Z,23nm,1.5s								
FINES	**FINESS Array B**	**37.18**	**326**	P	**P**	**17 55 04.3**	**+0.1**		
	comp=Z,1.2nm,0.6s,baz=122,slow=9.3,SNR=5.7								
FINES	**FINESS Array B**	**37.18**	**326**	P	**P**	**17 55 04.5**	**+0.3**		
KEV	**Kevo**	**40.59**	**338**	P	**P**	**17 55 33.3**	**+0.9**		
ARCES	**ARCESS Array B**	**40.92**	**338**	P	**P**	**17 55 35.1**	**-0.1**		
	comp=Z,1.6nm,0.7s,baz=115,slow=5.8,SNR=9.0								
ARCES	**ARCESS Array B**	**40.92**	**338**	P	**P**	**17 55 34.8**	**-0.3**		
NC405	**NORSAR Array S**	**43.82**	**323**	P	**P**	**17 55 58.8**	**+0.2**		
NC303	**NORSAR Array S**	**44.00**	**323**	P	**P**	**17 56 00.5**	**+0.5**		
NC303				IAmb	IAmb	17 56 02.7			
	comp=Z,40nm,1.4s								
TIXI	**Tiksi**	**45.93**	**22**	P	**P**	**17 56 15.8**	**+0.8**		
TORD	**Torodi Ar. Bea**	**65.22**	**268**	P	**P**	**17 58 31.9**	**-1.2**		
	comp=Z,0.2nm,0.3s,baz=57,slow=6.0,SNR=1.9								
ASAR	**Alice Springs**	**84.68**	**124**	P	P	18 00 19.2	-5.0		
	comp=Z,0.2nm,0.8s,baz=308,slow=4.6,SNR=2.1								

IDC ***15*** *18:05:19.6±0.5, 15.˚19S×173.˚59W, h0km, mb4.5/21, mb1 4.6/23, mb1mx4.4/51, mbtmp4.5/23, ML4.2/2, MS3.8/28, Ms1 3.8/28, ms1mx3.8/40, Error ellipse: s-maj=20.0km s-min=12.6km az=126.0*

NEIC ***15*** *18:05:24.4±1.6, 15.˚14S±0.˚08×173.˚57W±0.˚08, h32km±4km, mb4.8/107, Error ellipse: s-maj=13.1km s-min=8.2km az=135.0*

GCMT ***15*** *18:05:32.4±0.4, 15.˚02S±0.˚03×173.˚27W±0.˚03, h77km±3km, MW5.0/84, Moment Tensor Solution. s17,c18; s84,c103; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.10±.14; Mθθ-1.59±.27; Mφφ1.49±.24; Mrθ-1.83±.07; Mθφ2.65±.13; Mφr0.17±.07; Best double couple: M0 3.53600×10^16 NP1:φs74.00000°, δ85.00000°, λ-28.00000°. NP2: φs74.00000°, δ85.00000°, λ-28.00000°. Principal axes: T 3.2320, Plg16.0000°, Azm124.0000°; N 0.6050, Plg61.0000°, Azm245.0000°; P -3.8400, Plg23.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 18:05:23.7±0.3, 15.˚18S±0.˚06×173.˚45W±0.˚06, h30km, n239, σ1s27/214, mb4.7/67, MS3.9/32, 14C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.05**	**52**	Pn	**Pn**	**18 05 55.3**	**-0.9**
	360nm,0.3s,baz=177,slow=1.2,SNR=292						
AFI				Sn	**Sn**	**18 06 15.0**	**-5.8**
	549nm,0.3s,baz=0.1,slow=3.2,SNR=23						
AFI				LR	LR	18 06 39.2	
	comp=Z,2μm,20.1s,baz=167,slow=37						
AFI	**Afiamalu**	**2.05**	**52**	Pn	**Pn**	**18 05 55.3**	**-0.9**
AFI					**Sn**	**18 06 17.2**	**-3.6**
NIUE	**Niue**	**5.13**	**140**	Pn	**Pn**	**18 06 39.4**	**+0.8**
MSVF	**Nonsavu**	**8.55**	**252**		Pn	18 07 34.4	+8.8
FUNA	**Funafuti**	**9.77**	**312**	Pn	**Pn**	**18 07 43.1**	**+0.8**
KNTN	**Kanton**	**12.44**	**8**	Pn	**Pn**	**18 08 16.6**	**-2.2**
RAR	**Rarotonga**	**14.31**	**117**	Pn	**Pn**	**18 08 44.3**	**0.0**
	2.0nm,0.3s,baz=192,slow=8.9,SNR=2.1						
RAR				LR	LR	18 12 57.6	
	comp=Z,200nm,18.9s,baz=325,slow=32						
RAR	**Rarotonga**	**14.31**	**117**	Pn	**Pn**	**18 08 43.1**	**-1.2**
RAO	**Raoul Island**	**14.60**	**196**	LR	LR	18 13 42.9	
	comp=Z,497nm,19.2s,baz=320,slow=35						
DZM	**Mont Dzumac**	**20.24**	**247**	*e*P	Pn	18 10 02.3	+3.4
	101nm,1.2s						
DZM				*e*LQ	LQ	18 13 53.8	
	445nm,23.7s						
DZM				*e*LR	LR	18 14 43.3	
	comp=Z,698nm,26.4s						
DZM	**Mont Dzumac**	**20.24**	**247**	Pn	Pn	18 09 57.5	-1.3
DZM				IAmb	IAmb	18 10 04.1	
	comp=Z,36nm,0.9s						
PAE	**Paea**	**23.02**	**99**	*e*T	T	18 34 20.5	
	comp=Z,5.1nm,0.4s						
PPT	**Papeete**	**23.02**	**99**	LR	LR	18 17 30.1	
	comp=Z,39nm,19.9s,baz=301,slow=32						
PPT2	**Papeete2**	**23.02**	**99**	*e*LQ	LQ	18 15 08.3	
PPT2							
	comp=Z,275nm,28.0s						
				*e*LR	LR	18 15 49.3	
PPT2	**Papeete2**	**23.02**	**99**	*e*T	T	18 34 21.6	
	comp=Z,3.7nm,0.4s						
TBI	**Tubuai**	**24.03**	**113**	*e*LR	LR	18 16 23.6	
	comp=Z,424nm,28.2s						
TBI	**Tubuai**	**24.03**	**113**	*e*T	T	18 35 38.5	
	comp=Z,8.0nm,0.3s						
URZ	**Urewera**	**24.46**	**198**	P	**P**	**18 10 39.5**	**-0.5**
	comp=Z,7.1nm,0.4s,baz=334,slow=1.7,SNR=12						
URZ				LR	LR	18 18 39.2	
	comp=Z,746nm,21.7s,baz=38,slow=33						
URZ	**Urewera**	**24.46**	**198**	P	**P**	**18 10 39.3**	**-0.7**
HIZ	**Hauiti**	**25.43**	**202**	P	**P**	**18 10 45.9**	**-3.0**
BKZ	**Black Stump Fm**	**25.48**	**198**	P	**P**	**18 10 47.3**	**-2.0**
BFZ	**Birch Farm**	**26.95**	**197**	P	**P**	**18 10 60.0**	**-2.6**
QRZ	**Quartz Range**	**28.32**	**203**	P	**P**	**18 11 13.2**	**-1.6**
LTZ	**Lake Taylor**	**30.12**	**201**	P	**P**	**18 11 29.2**	**-1.6**
OXZ	**Oxford**	**30.68**	**201**	P	**P**	**18 11 34.8**	**-0.9**
RPZ	**Rata Peaks**	**31.37**	**202**	P	**P**	**18 11 40.8**	**-1.0**
	comp=Z,4.4nm,0.5s,baz=304,slow=19,SNR=1.0						
RPZ	**Rata Peaks**	**31.37**	**202**	P	**P**	**18 11 41.0**	**-0.8**
MLZ	**Mavora Lakes**	**33.87**	**204**	P	**P**	**18 12 02.6**	**-1.1**
ARMA	**Armidale**	**35.42**	**239**	P	**P**	**18 12 14.3**	**-3.1**
H11S2	**WAKE ISLAND Hy**	**38.75**	**329**	T	T	18 53 45.1	
	baz=149,slow=76,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**38.76**	**329**	T	T	18 53 45.7	
	baz=149,slow=76,SNR=42						
H11S1	**WAKE ISLAND Hy**	**38.77**	**329**	T	T	18 53 45.9	
	baz=149,slow=76,SNR=35						
HMH	**Humu'ula Sheep**	**38.82**	**28**	P	**P**	**18 12 49.6**	**+3.2**
PMG	**Port Moresby**	**38.88**	**274**	LR	LR	18 26 59.2	
	comp=Z,64nm,20.3s,baz=69,slow=34						
CAN	**Canberra**	**39.13**	**232**	P	**P**	**18 12 47.2**	**-1.6**
CAN				IAmb	IAmb	18 12 53.8	
	comp=Z,25nm,1.6s						
WAKE	**Wake Island**	**39.45**	**330**	P	**P**	**18 12 52.8**	**+1.4**
COEN	**Coen**	**41.95**	**266**	P	**P**	**18 13 12.2**	**-0.1**
COEN				IAmb	IAmb	18 13 50.4	
	comp=Z,24nm,1.7s						
TOO	**Toolangi**	**42.57**	**230**	P	**P**	**18 13 15.5**	**-1.6**
TOO				IAmb	IAmb	18 13 16.6	
	comp=Z,24nm,1.4s						
TAU	**Tasmania Unive**	**43.45**	**223**	P	**P**	**18 13 22.6**	**-1.5**
STKA	**Stephens Creek**	**44.11**	**240**	P	**P**	**18 13 28.4**	**-1.1**
	comp=Z,3.6nm,0.7s,baz=88,slow=10,SNR=9.2						
STKA				LR	LR	18 28 44.2	
	comp=Z,94nm,21.8s,baz=34,slow=32						
STKA	**Stephens Creek**	**44.11**	**240**	P	**P**	**18 13 28.9**	**-0.7**
JAY	**Jayapura**	**46.90**	**281**	LR	LR	18 31 47.8	
	comp=Z,84nm,20.9s,baz=156,slow=34						
BBOO	**Buckleboo**	**48.89**	**240**	P	**P**	**18 14 04.9**	**-2.1**
BBOO				PcP	**PcP**	**18 15 32.1**	**+0.8**
WR0	**Warramunga Arr**	**49.66**	**257**	P	**P**	**18 14 11.6**	**-1.6**
WR0				IAmb	IAmb	18 14 12.0	
	comp=Z,18nm,1.4s						
WB0	**Warramunga Arr**	**49.81**	**257**	P	**P**	**18 14 12.3**	**-2.0**
WB0				IAmb	IAmb	18 14 13.1	
	comp=Z,6.7nm,0.9s						
WB2	**Warramunga Arr**	**49.84**	**257**	P	**P**	**18 14 12.1**	**-2.5**
WB2				IAmb	IAmb	18 14 34.9	
	comp=Z,17nm,1.2s						
WRAB	**Tennant Creek**	**49.84**	**257**	P	**P**	**18 14 12.7**	**-1.8**
WRAB				IAmb	IAmb	18 14 34.8	
	comp=Z,20nm,1.4s						
WRA	**Warramunga Arr**	**49.85**	**257**	P	**P**	**18 14 12.6**	**-2.0**
	comp=Z,2.4nm,0.3s,baz=98,slow=5.9,SNR=91						
WRA	**Warramunga Arr**	**49.85**	**257**	P	**P**	**18 14 12.2**	**-2.4**
WRA				PcP	**PcP**	**18 15 34.2**	**-0.8**
AS31	**Alice Springs**	**50.14**	**252**	P	**P**	**18 14 15.1**	**-1.6**
AS31				IAmb	IAmb	18 14 16.0	
	comp=Z,6.2nm,0.7s						
ASAR	**Alice Springs**	**50.14**	**252**	P	**P**	**18 14 14.8**	**-1.9**
	comp=Z,22nm,0.6s,baz=85,slow=8.1,SNR=367						
ASAR				LR	LR	18 33 44.4	
	comp=Z,101nm,21.7s,baz=96,slow=34						
ASAR	**Alice Springs**	**50.14**	**252**	P	**P**	**18 14 14.3**	**-2.5**
MTN	**Manton Dam**	**53.71**	**265**	P	**P**	**18 14 40.9**	**-2.5**
FORT	**Forrest**	**55.48**	**243**	P	**P**	**18 14 54.0**	**-2.0**
FORT				PcP	**PcP**	**18 15 56.5**	**+0.5**
SIJI	**Sorong**	**56.38**	**279**	P	**P**	**18 15 02.9**	**+0.2**
	comp=Z,4.4nm,0.5s,baz=2.6,slow=23,SNR=10						
JCJ	**Chichijima**	**60.17**	**314**	LR	LR	18 36 01.9	
	comp=Z,79nm,21.5s,baz=124,slow=31						
PSA00	**Pilbara Seismi**	**63.23**	**253**	P	**P**	**18 15 48.1**	**-1.6**
VNDA	**Vanda**	**63.59**	**186**	P	**P**	**18 15 53.0**	**+1.8**
	comp=Z,4.2nm,0.8s,baz=8.1,slow=6.9,SNR=23						
VNDA				LR	LR	18 37 34.8	
	comp=Z,29nm,21.8s,baz=352,slow=30						
VNDA	**Vanda**	**63.59**	**186**	P	**P**	**18 15 52.8**	**+1.6**
VNDA				IAmb	IAmb	18 15 54.0	
	comp=Z,8.3nm,1.1s						
KAPI	**Kappang**	**66.33**	**271**	LR	LR	18 44 51.7	
	comp=Z,468nm,18.6s,baz=167,slow=36						
MJAR	**Matsushiro Arr**	**68.74**	**320**	P	**P**	**18 16 24.6**	**-0.2**
	comp=Z,1.9nm,1.0s,baz=165,slow=7.0,SNR=6.0						
MJAR				LR	LR	18 41 04.5	
	comp=Z,81nm,21.8s,baz=120,slow=31						
MJAR	**Matsushiro Arr**	**68.74**	**320**	P	**P**	**18 16 25.0**	**+0.1**
JKA	**Kamikawa-asahi**	**71.33**	**328**	P	**P**	**18 16 42.4**	**+1.9**
JKA	**Kamikawa-asahi**	**71.33**	**328**	IAmb	IAmb	18 17 14.1	
	comp=Z,16nm,1.4s						
ASAJ	**Asahikawa**	**71.33**	**328**	P	**P**	**18 16 42.4**	**+1.9**
	comp=Z,2.0nm,0.7s,baz=322,slow=31,SNR=2.4						
PAGB	**Antelope Grade**	**71.37**	**43**	P	**P**	**18 16 41.0**	**-0.1**
PAGB				IAmb	IAmb	18 17 09.4	
	comp=Z,25nm,1.8s						
GDXM	**Geysers**	**71.58**	**40**	P	**P**	**18 16 43.6**	**+1.2**
GDXM				IAmb	IAmb	18 16 45.5	
	comp=Z,18nm,1.3s						
KMRM	**Mail Ridge**	**71.91**	**38**	P	**P**	**18 16 46.3**	**+2.0**
PETK	**Petropavlovsk-**	**72.41**	**342**	P	**P**	**18 16 47.5**	**+0.6**
	comp=Z,5.7nm,0.7s,baz=138,slow=9.3,SNR=18						
PETK				LR	LR	18 47 24.3	
	comp=Z,20nm,18.4s,baz=74,slow=35						
PETK	**Petropavlovsk-**	**72.41**	**342**	P	**P**	**18 16 47.1**	**+0.3**
ISA	**Isabella, Lake**	**72.52**	**44**	P	**P**	**18 16 48.9**	**+0.8**
CMB	**Columbia Colle**	**72.63**	**41**	P	**P**	**18 16 50.1**	**+1.5**
CMB				IAmb	IAmb	18 16 51.2	
	comp=Z,8.4nm,0.9s						
WDC	**Whiskeytown Da**	**72.83**	**38**	P	**P**	**18 16 50.0**	**+0.4**
WDC				IAmb	IAmb	18 16 53.4	
	comp=Z,15nm,1.4s						
ORV	**Oroville**	**72.83**	**40**	P	**P**	**18 16 50.8**	**+1.1**
OMMB	**Old Mammoth Mi**	**73.28**	**42**	P	**P**	**18 16 54.4**	**+1.6**
YBH	**Yreka Blue Hor**	**73.45**	**37**	P	**P**	**18 16 55.4**	**+2.0**
	comp=Z,9.4nm,0.8s,baz=183,slow=1.7,SNR=29						
YBH	**Yreka Blue Hor**	**73.45**	**37**	P	**P**	**18 16 55.6**	**+2.2**
YBH				IAmb	IAmb	18 16 56.6	
	comp=Z,13nm,0.9s						
GSC	**Goldstone, Bar**	**73.46**	**45**	P	**P**	**18 16 55.0**	**+1.3**
WAKR	**Walker**	**73.51**	**41**	P	**P**	**18 16 55.4**	**+1.4**
WAKR				IAmb	IAmb	18 16 56.9	
	comp=Z,8.8nm,1.0s						
PNTR	**Pine Nut**	**73.74**	**41**	P	**P**	**18 16 56.8**	**+1.4**
PNTR				IAmb	IAmb	18 16 58.2	
	comp=Z,15nm,1.0s						
YERR	**Yerington**	**73.91**	**41**	P	**P**	**18 16 57.9**	**+1.6**
YERR				IAmb	IAmb	18 16 58.9	
	comp=Z,10nm,0.9s						
LHV	**Little Huntoon**	**73.96**	**42**	P	**P**	**18 16 58.2**	**+1.9**
LHV				IAmb	IAmb	18 16 59.5	
	comp=Z,9.1nm,0.9s						
RYN	**Ryan**	**74.16**	**42**	P	**P**	**18 16 59.1**	**+1.4**
RYN				IAmb	IAmb	18 17 00.4	
	comp=Z,8.1nm,1.0s						
NVAR	**Mina Array Bea**	**74.19**	**42**	P	**P**	**18 16 59.7**	**+1.7**
	comp=Z,6.9nm,0.8s,baz=227,slow=10.0,SNR=51						
NVAR				LR	LR	18 41 32.6	
	comp=Z,131nm,21.8s,baz=265,slow=29						
NVAR	**Mina Array Bea**	**74.19**	**42**	P	**P**	**18 16 59.2**	**+1.2**
PAHR	**Pah Rah Range**	**74.24**	**40**	P	**P**	**18 16 59.5**	**+1.4**
PAHR				IAmb	IAmb	18 17 00.9	
	comp=Z,10nm,1.0s						
NV11	**Mina Array Sit**	**74.29**	**42**	P	**P**	**18 17 00.0**	**+1.5**
NV11				IAmb	IAmb	18 17 01.3	
	comp=Z,12nm,1.0s						
113A	**Mohawk Valley,**	**74.30**	**49**	P	**P**	**18 17 00.0**	**+1.5**
KVN	**Kaiserville**	**74.67**	**42**	P	**P**	**18 17 01.9**	**+1.2**
KVN				IAmb	IAmb	18 17 03.4	
	comp=Z,8.5nm,0.9s						
KDAK	**Kodiak Island**	**74.71**	**11**	P	**P**	**18 17 01.5**	**+1.2**
	comp=Z,3.7nm,0.6s,baz=141,slow=4.2,SNR=5.4						
KDAK	**Kodiak Island**	**74.71**	**11**	P	**P**	**18 17 01.4**	**+1.2**
TPNV	**Topopah Spring**	**74.73**	**44**	P	**P**	**18 17 02.4**	**+1.2**
QSPA	**South Pole Qui**	**74.87**	**180**	P	**P**	**18 17 02.5**	**+1.1**
MOD	**Modoc Plateau**	**74.97**	**38**	P	**P**	**18 17 03.9**	**+1.5**
MOD				IAmb	IAmb	18 17 05.2	
	comp=Z,10nm,0.9s						
K05A	**Summer Lake**	**75.12**	**37**	P	**P**	**18 17 05.1**	**+1.8**
SHPR	**Sheep Range**	**75.23**	**45**	P	**P**	**18 17 05.8**	**+1.8**
SHPR				IAmb	IAmb	18 17 07.0	
	comp=Z,12nm,1.3s						
W13A	**Hualapai Mount**	**75.39**	**47**	P	**P**	**18 17 06.2**	**+1.2**
H04A	**Detroit Lake**	**75.60**	**35**	P	**P**	**18 17 06.8**	**+1.1**
H04A				IAmb	IAmb	18 17 08.2	
	comp=Z,15nm,1.4s						
PINE	**Pine Mountain**	**75.75**	**36**	P	**P**	**18 17 08.8**	**+1.9**
PRN	**Pahroc Range**	**75.78**	**44**	P	**P**	**18 17 08.9**	**+1.8**
PRN				IAmb	IAmb	18 17 10.3	
	comp=Z,7.3nm,1.0s						
R11A	**Troy Canyon, C**	**75.93**	**43**	P	**P**	**18 17 09.2**	**+1.2**
KSRS	**Korea Array**	**75.97**	**316**	P	**P**	**18 17 09.9**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=134,slow=7.2,SNR=4.9						
KSRS				LR	LR	18 44 17.7	
	comp=Z,45nm,21.7s,baz=110,slow=31						
KSAR	**Wonju Array Be**	**75.99**	**316**	P	**P**	**18 17 07.8**	**-0.2**
I07A	**Izee**	**76.75**	**37**	P	**P**	**18 17 13.9**	**+1.5**
I07A				IAmb	IAmb	18 17 15.3	
	comp=Z,15nm,1.4s						
KNB	**Kanab**	**77.11**	**46**	P	**P**	**18 17 15.4**	**+0.7**
PSUT	**Pine Spring**	**77.18**	**44**	P	**P**	**18 17 15.7**	**+0.6**
U15A	**North Rim**	**77.18**	**46**	P	**P**	**18 17 16.5**	**+1.3**
U15A				IAmb	IAmb	18 17 18.1	
	comp=Z,7.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**77.18**	**323**	LR	LR	18 45 05.8	
	comp=Z,96nm,21.6s,baz=135,slow=31						
SZCU	**Shurtz Canyon**	**77.22**	**45**	P	**P**	**18 17 16.2**	**+0.9**
WUAZ	**Wupatki**	**77.38**	**48**	P	**P**	**18 17 17.8**	**+1.5**
WUAZ				IAmb	IAmb	18 17 30.1	
	comp=Z,10nm,0.9s						
PKCU	**Pink Cliffs**	**77.67**	**46**	P	**P**	**18 17 18.5**	**+0.5**
BBB	**Bella Bella**	**77.71**	**27**	LR	LR	18 45 53.0	
	comp=Z,89nm,19.3s,baz=299,slow=31						
G08A	**Pilot Rock**	**77.78**	**36**	P	**P**	**18 17 19.8**	**+1.6**
G08A				IAmb	IAmb	18 17 20.9	
	comp=Z,15nm,1.6s						
MTPU	**Mount Pierson**	**78.06**	**45**	P	**P**	**18 17 21.0**	**+0.8**
MSU	**Marysvale**	**78.30**	**45**	P	**P**	**18 17 22.5**	**+1.2**
BMO	**Blue Mountains**	**78.47**	**37**	P	**P**	**18 17 23.0**	**+1.0**
MFID	**Camas Ranch**	**78.54**	**39**	P	**P**	**18 17 22.9**	**+0.4**
MFID				IAmb	IAmb	18 17 24.2	
	comp=Z,8.3nm,1.4s						
DUG	**Dugway, Tooele**	**78.73**	**43**	P	**P**	**18 17 24.6**	**+1.0**
F10A	**Beach Ranch, E**	**79.17**	**36**	P	**P**	**18 17 26.2**	**+0.5**
TMUT	**Trail Mountain**	**79.34**	**44**	P	**P**	**18 17 28.4**	**+1.2**
HLID	**Hailey**	**79.48**	**39**	P	**P**	**18 17 28.6**	**+0.9**
SRU	**San Rafael Swe**	**79.72**	**45**	P	**P**	**18 17 30.3**	**+1.2**
MA2	**Magadan**	**79.94**	**342**	P	**P**	**18 17 29.4**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=160,slow=13,SNR=2.0						
MA2	**Magadan**	**79.94**	**342**	P	**P**	**18 17 29.5**	**-0.1**
MA2				IAmb	IAmb	18 17 54.8	
	comp=Z,19nm,1.5s						
NJ2	**Nanjing**	**80.00**	**307**	*e*P	**P**	**18 17 31.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TCUT	**Toone Canyon**	**80.12**	**43**	P	**P**	**18 17 32.7**	**+1.4**
TRF	**Thorofare Moun**	**80.41**	**10**	P	**P**	**18 17 31.9**	**-0.3**
TRF				IAmb	IAmb	18 17 33.8	
	comp=Z,8.2nm,0.8s						
PV23	**Carpenter Ridg**	**80.44**	**46**	P	**P**	**18 17 34.4**	**+1.3**
PV23				IAmb	IAmb	18 17 36.9	
	comp=Z,6.3nm,0.7s						
PV21	**Cone Mtn., Par**	**80.52**	**46**	P	**P**	**18 17 33.6**	**+0.1**
PV21				IAmb	IAmb	18 17 37.2	
	comp=Z,4.6nm,0.7s						
TXAR	**Lajitas Array**	**80.52**	**56**	LR	LR	18 47 30.5	
	comp=Z,48nm,19.1s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**80.52**	**56**	P	**P**	**18 17 34.9**	**+1.4**
CN2	**Changchun**	**80.89**	**320**	*e*P	**P**	**18 17 36.3**	**+1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MCK	**McKinley**	**80.91**	**11**	P	**P**	**18 17 34.9**	**+0.1**
MCK				IAmb	IAmb	18 17 36.8	
	comp=Z,12nm,0.8s						
MCMT	**McKenzie Canyo**	**81.11**	**39**	P	**P**	**18 17 37.3**	**+0.8**
DLBC	**Dease Lake**	**81.51**	**21**	LR	LR	18 51 38.0	
	comp=Z,86nm,18.3s,baz=212,slow=34						
REDW	**Red Top Meadow**	**81.59**	**41**	P	**P**	**18 17 39.5**	**+0.5**
REDW				IAmb	IAmb	18 17 41.9	
	comp=Z,22nm,1.8s						
TPAW	**Teton Pass**	**81.60**	**41**	P	**P**	**18 17 40.0**	**+0.8**
FXWY	**Fox Creek**	**81.62**	**41**	P	**P**	**18 17 40.0**	**+0.8**
FXWY				IAmb	IAmb	18 18 08.2	
	comp=Z,9.3nm,1.6s						
S22A	**4UR Ranch, Cre**	**81.65**	**47**	P	**P**	**18 17 40.0**	**+0.4**
WRH	**Wood River Hil**	**81.74**	**11**	P	**P**	**18 17 39.3**	**+0.2**
WRH				IAmb	IAmb	18 17 40.5	
	comp=Z,11nm,0.9s						
DOT	**Dot Lake**	**81.80**	**13**	P	**P**	**18 17 39.6**	**+0.2**
DOT				IAmb	IAmb	18 17 41.0	
	comp=Z,6.8nm,0.8s						
HDA	**Harding Lake**	**81.90**	**11**	P	**P**	**18 17 40.4**	**+0.5**
HDA				IAmb	IAmb	18 17 42.0	
	comp=Z,8.6nm,0.8s						
CCB	**Clear Creek Bu**	**81.95**	**11**	P	**P**	**18 17 40.1**	**0.0**
CCB				IAmb	IAmb	18 17 41.7	
	comp=Z,11nm,0.8s						
BW06	**Boulder Array**	**82.13**	**42**	P	**P**	**18 17 42.4**	**+0.5**
PD31	**Pinedale Array**	**82.13**	**42**	P	**P**	**18 17 42.7**	**+0.8**
PDAR	**Pinedale Array**	**82.13**	**42**	P	**P**	**18 17 42.7**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=212,slow=2.9,SNR=15						
PDAR				LR	LR	18 49 06.0	
	comp=Z,95nm,18.4s,baz=284,slow=32						
PDAR	**Pinedale Array**	**82.13**	**42**	P	**P**	**18 17 42.1**	**+0.2**
COLA	**College**	**82.15**	**11**	P	**P**	**18 17 41.5**	**+0.3**
MDM	**Murphy Dome**	**82.16**	**11**	P	**P**	**18 17 40.8**	**-0.5**
IL31		**82.24**	**11**	P	**P**	**18 17 41.6**	**0.0**
IL31				IAmb	IAmb	18 18 00.6	
	comp=Z,14nm,1.6s						
ILAR	**Eielson Array**	**82.24**	**11**	P	**P**	**18 17 41.9**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=229,slow=6.6,SNR=18						
ILAR				LR	LR	18 47 35.3	
	comp=Z,66nm,20.7s,baz=214,slow=31						
ILAR	**Eielson Array**	**82.24**	**11**	P	**P**	**18 17 41.6**	**0.0**
IMAR	**Indian Mountai**	**82.26**	**8**	P	**P**	**18 17 42.4**	**+0.6**
SEY	**Seymchan**	**82.29**	**345**	P	**P**	**18 17 40.8**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=162,slow=3.2,SNR=4.0						
YHH	**Holmes Hill**	**82.31**	**40**	P	**P**	**18 17 44.1**	**+1.2**
HRY	**Holter Researc**	**82.70**	**38**	P	**P**	**18 17 45.7**	**+1.1**
DAWY	**Dawson**	**83.22**	**14**	P	**P**	**18 17 47.9**	**+1.1**
DAWY				IAmb	IAmb	18 17 48.8	
	comp=Z,4.7nm,0.8s						
EGAK	**Eagle**	**83.41**	**13**	P	**P**	**18 17 48.1**	**+0.3**
RLMT	**Red Lodge**	**83.45**	**40**	P	**P**	**18 17 49.8**	**+1.1**
RLMT				IAmb	IAmb	18 17 52.0	
	comp=Z,3.8nm,0.8s						
H03S2	**Juan Fernandez**	**85.36**	**124**	T	T	19 52 48.6	
	baz=255,slow=74						
H03S1	**Juan Fernandez**	**85.38**	**124**	T	T	19 52 49.1	
	baz=255,slow=74						
H03S3	**Juan Fernandez**	**85.38**	**124**	T	T	19 52 39.9	
	baz=255						

RETA	**Reutte**	**147.59**	**355**	*i* PKPab	**PKPbc**	**18**	**25**	**05.9 +0.6**
	comp=Z,6.5nm,1.4s							
WATA	**Walderalm**	**147.66**	**354**	*i* PKPab	**PKPbc**	**18**	**25**	**06.2 +0.6**
	comp=Z,4.9nm,0.8s							
KBA	**Koelnbreinsper**	**147.69**	**351**	*i* PKPbc	**PKPdf**	**18**	**25**	**04.0 +1.1**
	comp=Z,5.5nm,0.7s							
MOTA	**Moosalm**	**147.70**	**354**	*i* PKPab	**PKPbc**	**18**	**25**	**06.4 +0.7**
	comp=Z,7.9nm,1.2s							
WTTA	**Wattenberg**	**147.73**	**354**	*i* PKPab	**PKPbc**	**18**	**25**	**06.7 +0.9**
	comp=Z,5.3nm,0.7s							
SOKA	**Soboth**	**147.80**	**349**	*i* PKPbc	**PKPbc**	**18**	**25**	**05.6 -0.2**
	comp=Z,9.4nm,1.2s							
MDVR	**Moldovita**	**147.82**	**340**	⇑P	**PKPbc**	**18**	**25**	**06.4 +0.4**
SQTA	**Sankt Quirin**	**147.82**	**354**	*i* PKPab	**PKPbc**	**18**	**25**	**07.0 +1.0**
	comp=Z,4.6nm,0.9s							
DAVA	**Damuels**	**147.87**	**356**	*i* PKPab	**PKPbc**	**18**	**25**	**07.0 +0.8**
	comp=Z,6.9nm,1.1s							
OBKA	**Obir**	**148.05**	**350**	*i* PKiKP	**PKPbc**	**18**	**25**	**07.6 +1.0**
	comp=Z,5.1nm,0.8s							
FETA	**Feichten**	**148.06**	**355**	*i* PKiKP	**PKPbc**	**18**	**25**	**07.5 +0.9**
	comp=Z,4.2nm,1.0s							
MYKA	**Terra Mystica**	**148.09**	**351**	*i* PKPbc	**PKPbc**	**18**	**25**	**06.3 -0.3**
	comp=Z,5.5nm,0.8s							
ABTA	**Abfaltersbach**	**148.13**	**352**	*i* PKiKP	**PKPbc**	**18**	**25**	**07.1 +0.3**
	comp=Z,10.0nm,1.0s							
FUORN	**Ofenpass-Fuorn**	**148.50**	**355**		**PKPbc**	**18**	**25**	**08.6 +0.7**
CIMO	**Cimolais**	**148.57**	**352**		**PKPbc**	**18**	**25**	**07.4 -0.5**
CTI	**Castel Tesino**	**148.93**	**353**		**PKPbc**	**18**	**25**	**09.1 +0.2**
DIVS	**Divibare**	**148.99**	**341**	PKPdf	**PKPdf**	**18**	**25**	**02.9 -2.1**
DIVS					**PKPbc**	**18**	**25**	**09.5 +0.4**
VTS	**Vitosha**	**149.12**	**336**	⇓P	**PKiKP**	**18**	**25**	**10.6 -0.2**
VTS	**Vitosha**	**149.12**	**336**		**PKPbc**	**18**	**25**	**09.5 0.0**
BNI	**Bardonecchia**	**150.22**	**360**		**PKPbc**	**18**	**25**	**10.6 -1.5**
ESDC	**Sonseca Array**	**153.91**	**19**	PKPab	**PKPab**	**18**	**25**	**34.6 +0.9**
	comp=Z,0.5nm,0.9s,baz=339,slow=3.6,SNR=4.1							
ESDC	**Sonseca Array**	**153.91**	**19**		**PKPab**	**18**	**25**	**34.0 +0.4**

NEIC ***15*** *18:06:55.9±1.2, 13°.37N±0°.09×146°.58E±0°.07, h12km±7km, mb4.3/6, Error ellipse: s-maj=13.5km s-min=8.4km az=202.0*

IDC ***15*** *18:06:56.6±6.2, 13°.74N×146°.45E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/51, mbtmp3.9/4, Error ellipse: s-maj=152.5km s-min=28.7km az=154.0*

ISC 15 18:06:58.6±0.8**, 13°.5N**±0°.1×**146°.59E**±0°.08**, h26km, n18,** σ1**32**/19**, mb4.2/8, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**1.67**	**274**	Pn		**Pn**	**18 07 25.0**	**-1.3**
	59nm,0.3s,baz=156,slow=24,SNR=144							
GUMO				Sn		**Sn**	**18 07 45.4**	**-1.6**
	46nm,0.3s,baz=341,slow=21,SNR=11							
GUMO	**Guam**	**1.67**	**274**			**Pn**	**18 07 24.9**	**-1.3**
ANA2	**Anatahan**	**2.96**	**344**	Pn		**Pn**	**18 07 43.8**	**-0.2**
PATS	**Pohnpei**	**13.29**	**119**	Pn		**Pn**	**18 10 03.5**	**-2.3**
YULB	**Yu-li**	**25.90**	**296**	P		**P**	**18 12 28.4**	**-0.2**
YULB				IAmb		IAmb	18 12 44.2	
	comp=Z,11nm,1.3s							
STKA	**Stephens Creek**	**45.35**	**186**	P		**P**	**18 15 17.8**	**+3.0**
CMAR	**Chiang Mai Arr**	**45.97**	**283**	P		**P**	**18 15 21.9**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=80,slow=6.9,SNR=4.7							
CMAR	**Chiang Mai Arr**	**45.97**	**283**	P		**P**	**18 15 21.1**	**+1.1**
ZALV	**Zalesovo Beam**	**62.68**	**324**	P		**P**	**18 17 21.1**	**0.0**
	comp=Z,0.5nm,0.4s,baz=75,slow=6.6,SNR=2.8							
ZALV	**Zalesovo Beam**	**62.68**	**324**	P		**P**	**18 17 20.9**	**-0.1**
MK31	**Makanchi Array**	**62.73**	**316**	P		**P**	**18 17 22.4**	**+0.9**
MK31				IAmb		IAmb	18 17 24.2	
	comp=Z,0.7nm,0.5s							
MKAR	**Makanchi Array**	**62.73**	**316**	P		**P**	**18 17 22.3**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=83,slow=8.7,SNR=9.8							
MKAR	**Makanchi Array**	**62.73**	**316**	P		**P**	**18 17 21.6**	**0.0**
MAKZ	**Makanchi**	**62.94**	**316**	P		**P**	**18 17 23.9**	**+1.0**
MAKZ				IAmb		IAmb	18 17 25.8	
	comp=Z,1.3nm,0.6s							
KURK	**Kurchatov**	**65.74**	**320**	P		**P**	**18 17 41.4**	**+0.2**
KURBB	**Kurchatov Arra**	**65.78**	**320**	P		**P**	**18 17 41.6**	**+0.2**
	baz=102,slow=7.0							
KVN	**Kaiserville**	**85.69**	**51**	P		**P**	**18 19 35.6**	**-0.2**
KVN				IAmb		IAmb	18 19 39.3	
	comp=Z,3.5nm,1.4s							
FINES	**FINESS Array B**	**91.95**	**336**	P		**P**	**18 20 04.2**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=66,slow=6.5,SNR=4.7							

JMA ***15*** *18:12:11.4±0.2, 28°.08N×128°.14E, h8km±3km, M3.6*

NIED ***15*** *18:12:11.4, 28°.08N×128°.14E, h8km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.10; Mθθ4.66; Mϕϕ-3.56; Mrθ-1.38; Mθϕ0.42; Mϕr1.39; Fault plane solution: M₀4.63000×10¹⁴ NP1: ϕs129.00000°, δ81.00000°, λ-28.00000°. NP2: ϕs224.00000°, δ62.00000°, λ-170.00000°.*

IDC ***15*** *18:12:12.4±1.3, 27.71N×128.17E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.3/53, mbtmp3.4/5, ML3.3/1, MS2.6/3, Ms1 2.7/3, ms1mx2.4/29 Error ellipse: s-maj=46.1km s-min=21.8km az=81.0*

ISC 15 18:12:12.4±1.5**, 28°.00N**±0°.03×**128°.25E**±0°.05**, h6**km±10km**, n22,** σ1**°77**/30**, mb3.3**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JTK	**Tokunoshima**	**0.66**	**108**	P		**Pb**	**18 12 26.3**	**0.0**
JTK				S		**Sb**	**18 12 36.6**	**+0.9**
JOKE	**Okinoerabujima**	**0.69**	**155**	P		**Pb**	**18 12 26.8**	**-0.2**
JOKE				S		**Sb**	**18 12 37.6**	**+0.8**
JAMN	**Amaminishikomi**	**0.86**	**73**	P		**Pg**	**18 12 29.1**	**+0.2**
JAMN				S		**Sb**	**18 12 41.6**	**+0.2**
JYRO	**Yoronjima**	**0.98**	**169**	P		**Pb**	**18 12 31.9**	**0.0**
JYRO				*e*S		**Sn**	**18 12 46.4**	**-0.6**
JIH	**Iheya**	**0.99**	**195**	P		**Pg**	**18 12 31.2**	**-0.2**
JIH				S		**Sb**	**18 12 45.4**	**+0.1**
JOW	**Kunigami**	**1.16**	**179**	P		**Pg**	**18 12 34.6**	**-0.1**
JOW				S		**Sn**	**18 12 51.0**	**-0.4**
JAM	**Amami Oshima**	**1.27**	**71**	P		**Pg**	**18 12 35.9**	**-0.9**
JAM				S		**Sg**	**18 12 53.6**	**+0.3**
JTAJ	**Takarajima**	**1.43**	**36**	P		**Pn**	**18 12 37.3**	**-1.6**
JNTH	**Nagotoyohara**	**1.48**	**188**	P		**Pn**	**18 12 39.3**	**-0.4**
JNTH				*e*S		**Sb**	**18 12 59.6**	**+0.1**
JZK	**Kikaishima**	**1.56**	**78**	P		**Pb**	**18 12 42.1**	**+0.4**
JAGN	**Aguni-jima**	**1.66**	**213**	P		**Pn**	**18 12 40.9**	**-1.2**
JKE	**Kume jima 2**	**2.11**	**218**	P		**Pn**	**18 12 47.0**	**-1.3**
JYAK	**Yakushimahirau**	**2.98**	**41**	*e*S		**Sn**	**18 13 35.7**	**-0.7**
JKDJ	**Kitadaitoujima**	**3.40**	**126**	P		**Pn**	**18 13 06.2**	**+0.2**
JKDJ				*e*S		**Sn**	**18 13 45.0**	**-1.7**
JMZ	**Minamidaito 2**	**3.43**	**129**	*e*S		**Sn**	**18 13 46.3**	**-1.1**
JNU	**Nakatsue**	**5.59**	**23**	Pn		**Pn**	**18 13 39.9**	**+3.7**
	0.9nm,0.3s,baz=216,slow=14,SNR=8.8							
JNU				Sn		**Sb**	**18 14 51.7**	**-6.0**
	0.2nm,0.3s,baz=182,slow=22,SNR=0.9							
JNU				LR		LR	18 15 52.3	
	comp=Z,50nm,19.0s,baz=168,slow=37							
KSRS	**Korea Array**	**9.44**	**358**	LR		LR	18 17 33.1	
	comp=Z,38nm,21.9s,baz=170,slow=33							
SONM	**Songino Array**	**26.10**	**325**	P		**P**	**18 17 49.8**	**+2.7**
	0.9nm,0.8s,baz=123,slow=11,SNR=5.1							
CMAR	**Chiang Mai Arr**	**28.49**	**257**	LR		LR	18 30 03.9	
	comp=Z,11nm,18.6s,baz=95,slow=38							
MKAR	**Makanchi Array**	**40.39**	**310**	P		**P**	**18 19 53.3**	**+2.1**
	0.2nm,0.6s,baz=82,slow=10,SNR=2.6							
WRA	**Warramunga Arr**	**48.02**	**172**	P		**P**	**18 20 50.2**	**-2.3**
	0.2nm,0.6s,baz=351,slow=8.5,SNR=1.7							
ASAR	**Alice Springs**	**51.65**	**173**	P		**P**	**18 21 19.7**	**-0.4**
	0.2nm,0.6s,baz=0.7,slow=9.3,SNR=5.4							

NEIC ***15*** *18:26:13.7±1.5, 4°.29N±0°.09×124°.9E±0°.1, h284km±8km, mb4.1/20, Error ellipse: s-maj=20.3km s-min=9.5km az=59.0*

IDC ***15*** *18:26:15.9±5.6, 4°.08N×124°.44E, h302km±58km, mb3.2/6, mb1 3.3/6, mb1mx3.0/41, mbtmp3.9/6, Error ellipse: s-maj=78.8km s-min=14.6km az=67.0*

ISC 15 18:26:15.4±0.6**, 4°.20N**±0°.06×**124°.82E**±0°.09**, h303**km**, n34,** σ1**24**/40**, mb3.8**/14**, 1C, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KCP	**Kidapawan**	**2.80**	**6**	⇑*i*P		**Pn**	**18 27 08.5**	**-1.1**
TNTI	**Ternate**	**4.25**	**143**			**Pn**	**18 27 22.7**	**-1.8**
TNTI				S		**S**	**18 28 15.9**	**-4.1**
LUWI	**Luwuk**	**5.59**	**201**	Pn		**Pn**	**18 27 39.8**	**-0.2**
LUWI				S		**S**	**18 28 46.0**	**-2.1**
KKM	**Kota Kinabalu**	**8.76**	**282**			**Pn**	**18 28 17.6**	**-0.8**
MTN	**Manton Dam**	**18.06**	**160**	P		**P**	**18 30 07.0**	**+1.4**
TPUB	**Ta-pu**	**19.42**	**348**	P		**P**	**18 30 18.7**	**-1.4**
TPUB				IAmb		IAmb	18 30 22.2	
	comp=Z,9.6nm,0.7s							
KNRA	**Kununurra**	**20.13**	**169**	P		**P**	**18 30 27.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**22.17**	**178**	P		**P**	**18 30 46.6**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=358,slow=8.3,SNR=30							
FITZ	**Fitzroy Crossi**	**22.17**	**178**	P		**P**	**18 30 46.9**	**+0.2**
FITZ				IAmb		IAmb	18 31 09.6	
	comp=Z,22nm,1.6s							
WB0	**Warramunga Arr**	**25.61**	**159**	P		**P**	**18 31 17.9**	**0.0**
WB0				IAmb		IAmb	18 31 22.1	
	comp=Z,9.7nm,1.4s							
WRAB	**Tennant Creek**	**25.75**	**159**	P		**P**	**18 31 19.2**	**+0.1**
WRAB				IAmb		IAmb	18 31 20.2	
	comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**25.75**	**159**	P		**P**	**18 31 19.1**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=333,slow=11,SNR=53							
WRA				PcP		**PcP**	**18 34 40.6**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=338,slow=2.4,SNR=2.5							
WRA	**Warramunga Arr**	**25.75**	**159**	P		**P**	**18 31 19.0**	**-0.1**
WRA						**PcP**	**18 34 41.2**	**+0.8**
WB2	**Warramunga Arr**	**25.76**	**159**	P		**P**	**18 31 19.2**	**0.0**
WB2				IAmb		IAmb	18 31 34.4	
	comp=Z,8.3nm,1.4s							
WR0	**Warramunga Arr**	**25.84**	**159**	P		**P**	**18 31 20.0**	**+0.1**
WR0				IAmb		IAmb	18 31 44.8	
	comp=Z,6.4nm,1.4s							
AS31	**Alice Springs**	**29.08**	**163**	P		**P**	**18 31 49.4**	**+0.8**
ASAR	**Alice Springs**	**29.08**	**163**	P		**P**	**18 31 49.1**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=340,slow=8.0,SNR=18							
ASAR				PcP		**PcP**	**18 34 49.0**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=350,slow=2.2,SNR=4.5							
ASAR	**Alice Springs**	**29.08**	**163**	P		**P**	**18 31 49.5**	**+0.8**
ASAR						**PcP**	**18 34 49.1**	**+0.7**
FORT	**Forrest**	**34.92**	**175**	P		**P**	**18 32 39.4**	**+0.3**
BBOO	**Buckleboo**	**38.32**	**165**	P		**P**	**18 33 08.8**	**+1.2**
BBOO				IAmb		IAmb	18 33 17.5	
	comp=Z,27nm,1.6s							
STKA	**Stephens Creek**	**39.27**	**157**	P		**P**	**18 33 17.0**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=326,slow=7.7,SNR=8.4							
STKA	**Stephens Creek**	**39.27**	**157**	P		**P**	**18 33 17.1**	**+1.5**
CAN	**Canberra**	**45.40**	**152**	P		**P**	**18 34 07.5**	**+2.9**
CAN				IAmb		IAmb	18 34 22.6	
	comp=Z,19nm,1.5s							
SONM	**Songino Array**	**46.27**	**343**	P		**P**	**18 34 11.9**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=157,slow=8.5,SNR=3.9							
SONM	**Songino Array**	**46.27**	**343**	P		**P**	**18 34 12.5**	**+1.2**
MK31	**Makanchi Array**	**56.09**	**326**	P		**P**	**18 35 24.6**	**+0.9**
MKAR	**Makanchi Array**	**56.09**	**326**	P		**P**	**18 35 23.4**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=118,slow=7.7,SNR=12							
MKAR	**Makanchi Array**	**56.09**	**326**	P		**P**	**18 35 23.3**	**-0.4**
KURK	**Kurchatov**	**60.33**	**328**	P		**P**	**18 35 52.6**	**-0.1**
KURK				IAmb		IAmb	18 35 54.0	
	comp=Z,1.8nm,0.6s							
KK31	**Karatay Array**	**61.59**	**317**	P		**P**	**18 36 00.3**	**-1.1**
KKAR	**Karatay Array**	**61.59**	**317**	P		**P**	**18 36 00.4**	**-1.0**
KKAR				IAmb		IAmb	18 36 01.7	
	comp=Z,1.1nm,0.7s							
BKZ	**Black Stump Fm**	**64.21**	**137**	P		**P**	**18 36 20.4**	**+1.8**
ABKAR	**Akbulak array**	**70.58**	**321**	P		**P**	**18 36 57.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**120.96**	**288**	PKP		**PKPdf**	**18 44 32.1**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=48,slow=2.3,SNR=1.8							

IDC ***15*** *18:44:58.5±1.1, 36°.34N×140°.92E, h0km, mb3.8/10, mb1 3.8/13, mb1mx3.6/65, mbtmp3.8/13, ML3.2/3, Error ellipse: s-maj=22.1km s-min=17.6km az=120.0*

JMA ***15*** *18:45:02.9±0.1, 36°.35N×140°.96E, h43km±1km, M3.7*

JMA Felt II J1.

NIED ***15*** *18:45:03.0, 36°.35N×140°.96E, h43km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.97; Mθθ2.01; Mϕϕ-3.98; Mrθ2.85; Mθϕ0.33; Mϕr3.74; Fault plane solution: M₀5.84000×10¹⁴ NP1:ϕs31.00000°, δ78.00000°, λ119.00000°. NP2:ϕs141.00000°, δ31.00000°, λ23.00000°.*

NEIC ***15*** *18:45:04.0±1.2, 36°.35N±0°.07×140°.9E±0°.1, h39km±8km, mb4.5/11 Error ellipse: s-maj=12.5km s-min=8.7km az=119.0*

ISC 15 18:45:02.0±1.6**, 36°.37N**±0°.04×**140°.98E**±0°.06**, h23**km±11km**, n57,** σ0**°78**/63**, mb3.9**/14**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHYU	**Hitachinakayam**	**0.32**	**265**	P		**Pn**	**18 45 11.5**	**+0.3**
JHYU				S		**Sn**	**18 45 17.3**	**+0.1**
JHO	**Hitachi**	**0.41**	**306**	P		**Pn**	**18 45 12.4**	**-0.1**
JHO				S		**Sn**	**18 45 18.9**	**-0.6**
JIHU	**Itakohorinouch**	**0.54**	**223**	P		**Pn**	**18 45 14.8**	**+0.5**
JIHU				S		**Sn**	**18 45 22.9**	**+0.2**
JYT	**Yasato**	**0.65**	**258**	P		**Pn**	**18 45 15.4**	**-0.4**
JYT				S		**Sb**	**18 45 24.0**	**+0.7**
ONAJ	**Iwakimizuishiy**	**0.75**	**349**	P		**Pn**	**18 45 16.9**	**-0.3**
ONAJ				S		**Sb**	**18 45 26.4**	**+0.2**
JSMT	**Sammumatsuo**	**0.84**	**211**	P		**Pn**	**18 45 18.5**	**+0.1**
JSMT				S		**Sn**	**18 45 29.5**	**-0.6**
JFK	**Kawauchi**	**1.00**	**355**	P		**Pb**	**18 45 20.2**	**-0.5**
JFK				S		**Sb**	**18 45 32.5**	**-0.9**
JAG	**Ashikaga**	**1.23**	**273**	P		**Pn**	**18 45 23.9**	**+0.1**
JAG				S		**Sn**	**18 45 39.0**	**-0.8**
JFT	**Otama**	**1.26**	**336**	P		**Pb**	**18 45 25.4**	**+0.4**
JFT				S		**Sb**	**18 45 41.2**	**+0.4**
JKT	**Katashina**	**1.45**	**286**	P		**Pn**	**18 45 27.7**	**+0.8**
JKT				S		**Sn**	**18 45 45.6**	**+0.4**
JFY	**Yanaizu**	**1.46**	**316**	P		**Pb**	**18 45 27.9**	**-0.5**
MJAR	**Matsushiro Arr**	**2.24**	**275**	Pn		**Pn**	**18 45 36.2**	**-1.5**
	3.6nm,0.3s,baz=95,slow=15,SNR=387							
MJAR				Sn		**Sn**	**18 46 04.5**	**-0.2**
	2.1nm,0.3s,baz=50,slow=13,SNR=3.9							
MJAR	**Matsushiro Arr**	**2.24**	**275**			**Pn**	**18 45 35.8**	**-1.9**
MAJO	**Matsushiro**	**2.24**	**275**			**Pn**	**18 45 39.2**	**+1.5**
MAT	**Matsushiro**	**2.24**	**275**	P		**Pn**	**18 45 39.0**	**+1.3**
MAT				*e*S		**Sn**	**18 46 05.6**	**+0.9**
MJB9	**Matsu-Tunnel**	**2.25**	**275**			**Pn**	**18 45 39.2**	**+1.4**
JHJ	**Hachijo jima 2**	**3.39**	**197**	Pn		**Pn**	**18 45 54.0**	**+0.6**
	5.9nm,0.3s,baz=127,slow=23,SNR=7.8							
JHJ				Sn		**Sn**	**18 46 32.1**	**-0.8**
	13nm,0.3s,baz=255,slow=19,SNR=1.7							
JHJ2	**Mitsune**	**3.39**	**197**	Pn		**Pn**	**18 45 54.7**	**+1.3**
ERM	**Erimo**	**5.89**	**16**	Pn		**Pn**	**18 46 27.8**	**0.0**
ERM						**Sn**	**18 47 35.9**	**+1.4**
ASAJ	**Asahikawa**	**7.84**	**9**	Pn		**Pn**	**18 46 54.0**	**-0.5**
	0.5nm,0.3s,baz=210,slow=11,SNR=10							
ASAJ				Sn		**Sn**	**18 48 23.3**	**+0.8**
	0.2nm,0.3s,baz=152,slow=29,SNR=2.0							
JKA	**Kamikawa-asahi**	**7.84**	**9**			**Pn**	**18 46 54.2**	**-0.4**
SEY	**Seymchan**	**27.51**	**11**	P		**P**	**18 50 48.1**	**+1.7**
	2.0nm,0.8s,baz=260,slow=5.5,SNR=3.9							
SONM	**Songino Array**	**27.88**	**305**	P		**P**	**18 50 49.6**	**-0.5**
	0.9nm,0.8s,baz=94,slow=12,SNR=3.6							
SONM	**Songino Array**	**27.88**	**305**	P		**P**	**18 50 49.9**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**28.12**	**119**	T		T	19 20 15.5	
	baz=312,slow=75,SNR=20							
H11N1	**WAKE ISLAND Hy**	**28.12**	**119**	T		T	19 20 16.4	
	baz=312,slow=75,SNR=20							
H11N3	**WAKE ISLAND Hy**	**28.14**	**119**	T		T	19 20 12.2	
	baz=312,slow=75,SNR=20							
H11S1	**WAKE ISLAND Hy**	**28.80**	**121**	T		T	19 21 08.4	
	baz=314,slow=76,SNR=49							
H11S3	**WAKE ISLAND Hy**	**28.80**	**121**	T		T	19 21 07.1	
	baz=314,slow=76,SNR=42							
H11S2	**WAKE ISLAND Hy**	**28.82**	**121**	T		T	19 21 10.1	
	baz=314,slow=76,SNR=42							
ATKA	**Atka Island**	**35.15**	**49**	P		**P**	**18 51 54.0**	**+0.3**
ZAA0	**Zalesovo Array**	**42.11**	**313**	P		**P**	**18 52 52.1**	**0.0**
ZALV	**Zalesovo Beam**	**42.11**	**313**	P		**P**	**18 52 52.6**	**+0.5**
	2.2nm,0.6s,baz=88,slow=6.9,SNR=8.8							
ZALV	**Zalesovo Beam**	**42.11**	**313**	P		**P**	**18 52 52.3**	**+0.2**
MK31	**Makanchi Array**	**44.18**	**303**	P		**P**	**18 53 09.5**	**+0.5**
MKAR	**Makanchi Array**	**44.18**	**303**	P		**P**	**18 53 08.1**	**-0.9**
	0.9nm,0.9s,baz=75,slow=14,SNR=7.0							
MKAR	**Makanchi Array**	**44.18**	**303**	P		**P**	**18 53 07.3**	**-1.7**
KURK	**Kurchatov**	**46.07**	**309**	P		**P**	**18 53 23.4**	**-0.5**
KURK				IAmb		IAmb	18 53 24.8	
	comp=Z,2.4nm,0.8s							
KURBB	**Kurchatov Arra**	**46.14**	**308**	P		**P**	**18 53 24.4**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=86,slow=8.2,SNR=26							
ILAR	**Eielson Array**	**50.24**	**32**	P		**P**	**18 53 56.3**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=250,slow=4.3,SNR=7.9							
ILAR	**Eielson Array**	**50.24**	**32**	P		**P**	**18 53 56.8**	**+0.8**
BVAR	**Borovoye Array**	**50.76**	**313**	P		**P**	**18 53 59.1**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=65,slow=6.3,SNR=6.8							
KK31	**Karatay Array**	**53.16**	**300**	P		**P**	**18 54 18.0**	**-0.1**
KK31				IAmb		IAmb	18 54 19.8	
	comp=Z,2.1nm,1.1s							
KKAR	**Karatay Array**	**53.16**	**300**	P		**P**	**18 54 17.9**	**-0.1**
INK	**Inuvik**	**55.14**	**27**	P		**P**	**18 54 32.9**	**+0.9**
INK				IAmb		IAmb	18 56 05.1	
	comp=Z,12nm,1.8s							
WR0	**Warramunga Arr**	**56.35**	**187**	P		**P**	**18 54 40.6**	**-0.7**
WR0				IAmb		IAmb	18 55 56.1	
	comp=Z,24nm,1.7s							
WB2	**Warramunga Arr**	**56.35**	**187**	P		**P**	**18 54 40.9**	**-0.4**
WRA	**Warramunga Arr**	**56.35**	**188**	P		**P**	**18 54 40.4**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=5.4,slow=7.5,SNR=1.6							
WRA	**Warramunga Arr**	**56.35**	**188**	P		**P**	**18 54 41.1**	**-0.2**
ARU	**Arti**	**56.63**	**319**	P		**P**	**18 54 43.0**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=52,slow=5.7,SNR=8.4							
ARU	**Arti**	**56.63**	**319**	P		**P**	**18 54 42.8**	**-0.1**
ARU				IAmb		IAmb	18 54 43.6	
	comp=Z,4.6nm,0.7s							
ABKAR	**Akbulak array**	**58.10**	**310**	P		**P**	**18 54 52.9**	**-0.5**
YKA	**Yellowknife Ar**	**64.56**	**30**	P		**P**	**18 55 36.9**	**0.0**
	comp=Z,0.6nm,0.7s,baz=307,slow=6.8,SNR=3.0							
CLL	**Collm**	**81.50**	**330**	*e*P		**P**	**18 57 17.0**	**-0.3**
H03N2	**Juan Fernandez**	**147.30**	**97**	T		T	21 49 24.0	
	baz=290,slow=76,SNR=3.6							
H03N3	**Juan Fernandez**	**147.31**	**97**	T		T	21 49 23.5	
	baz=290,slow=76,SNR=5.5							
H03N1	**Juan Fernandez**	**147.31**	**97**	T		T	21 49 26.8	
	baz=290,slow=76,SNR=3.7							

IDC ***15*** *18:48:49.2±2.8, 11°.64S×166°.39E, h48km±24km, mb4.0/19, mb1 4.1/20, mb1mx4.0/43, mbtmp4.3/20, ML5.1/1, MS3.5/27, Ms1 3.5/27, ms1mx3.4/36, Error ellipse: s-maj=20.8km s-min=14.8km az=91.0*

BJI ***15*** *18:48:50.9±0.0, 11°.43S×166°.35E, h65km, mB4.8/25, mb4.7/35, Ms4.5/4, Ms7 4.2/4*

NEIC ***15*** *18:48:51.6±1.7, 11°.65S±0°.07×166°.37E±0°.07, h72km±6km, mb4.9/48, Error ellipse: s-maj=11.0km s-min=9.7km az=131.0*

ISC 15 18:48:51.0±1.3**, 11°.67S**±0°.07×**166°.38E**±0°.08**, h65**km±10km**, n104,** σ1**9**/96**, mb4.8**/48**, 1C-1D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SANVU	**Saraoutou**	**3.84**	**168**			**Pn**	**18 49 48.8**	**+1.1**
HNR	**Honiara**	**6.71**	**289**	P		**Pn**	**18 50 27.0**	**+0.1**
	36nm,0.3s,baz=140,slow=7.9,SNR=13							
HNR				S		**Sn**	**18 51 39.7**	**-2.3**
	baz=250,slow=18,SNR=1.0							
HNR	**Honiara**	**6.71**	**289**			**Pn**	**18 50 27.2**	**+0.3**
DZM	**Mont Dzumac**	**10.34**	**180**	*e*Pn		**Pn**	**18 51 19.3**	**+2.6**
	5.1nm,0.3s							
DZM				*e*Sn		**Sn**	**18 53 08.0**	**-3.1**
	3.4nm,0.3s							
DZM				*e*LR		LR	18 53 41.9	
	comp=Z,665nm,25.4s							
DZM	**Mont Dzum

comp=Z,25nm,1.1s
MJAR Matsushiro Arr 54.81 332 P **P** **18 58 13.0 -1.4**
comp=Z,1.5nm,0.9s,baz=143,slow=5.5,SNR=5.4
MJAR LR LR 19 19 24.3
comp=Z,16nm,21.9s,baz=175,slow=34
ASAJ Asahikawa 59.59 340 P **P** **18 58 48.0 0.0**
comp=Z,1.4nm,0.7s,baz=127,slow=15,SNR=5.1
KSRS Korea Array 60.74 325 LR LR 19 24 10.3
comp=Z,24nm,18.3s,baz=143,slow=35
NJ2 Nanjing 62.90 315 *e*P **P** **18 59 12.0 +1.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
USRK Ussuriysk Ar. 63.78 333 P **P** **18 59 17.1 +1.0**
comp=Z,1.0nm,0.6s,baz=108,slow=4.2,SNR=5.2
USRK Ussuriysk Ar. 63.78 333 P **P** **18 59 16.4 +0.2**
PETK Petropavlovsk- 64.95 354 LR LR 19 22 18.5
comp=Z,30nm,20.1s,baz=77,slow=31
WHN Wuhan 65.27 312 ⇓P P 18 59 20.1 -6.1
VNDA Vanda 65.88 181 P **P** **18 59 29.2 -0.2**
comp=Z,1.6nm,0.8s,baz=337,slow=6.4,SNR=9.8
VNDA LR LR 19 24 24.2
comp=Z,38nm,20.8s,baz=335,slow=32
VNDA Vanda 65.88 181 P **P** **18 59 29.0 -0.4**
CASY Casey 66.03 201 P **P** **18 59 29.4 -1.1**
CASY IAmb IAmb 18 59 30.6
comp=Z,18nm,1.4s
CN2 Changchun 66.59 329 *e*P P 18 59 39.3 +4.9
CN2 pmax pmax
comp=Z,10.0nm,0.4s
KLR Kul'dur 67.88 336 P **P** **18 59 42.3 -0.1**
comp=Z,0.7nm,0.5s,baz=150,slow=7.2,SNR=4.7
KLR LR LR 19 24 17.1
comp=Z,24nm,21.8s,baz=127,slow=31
ENH Enshi 68.77 309 P **P** **18 59 48.3 -0.2**
ENH IAmb IAmb 18 59 49.2
comp=Z,12nm,0.9s
GYA Guiyang 69.28 304 *e*P **P** **18 59 52.5 +0.7**
GYA pmax pmax
comp=Z,6.0nm,0.7s
SLVN Son La 69.55 298 P **P** **18 59 53.5 0.0**
PBKT Sadao Pong 70.49 292 P **P** **18 59 60.0 +0.7**
PBKT IAmb IAmb 19 00 01.4
comp=Z,6.6nm,0.9s
XAN Xi'an 71.00 312 P **P** **19 00 02.0 -0.1**
XAN pmax pmax
comp=Z,14nm,0.9s
XAN pmax pmax
comp=Z,100nm,4.3s
MA2 Magadan 72.11 352 LR LR 19 25 36.1
comp=Z,33nm,21.6s,baz=164,slow=31
HHC Hu-ho-hao-te 72.71 320 *e*P **P** **19 00 12.9 +0.6**
HHC ScS **ScS** **19 10 15.4 +1.1**
HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,62nm,6.6s
HHC LR LR
comp=Z,110nm,17.4s
HHC LR LR
comp=Z,120nm,16.3s
HHC LR LR
comp=Z,140nm,17.7s
CM31 Chiang Mai Arr 72.93 294 P **P** **19 00 15.1 +1.1**
CM31 IAmb IAmb 19 00 16.3
comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 72.93 294 P **P** **19 00 14.6 +0.6**
CHTO Chiang Mai 73.05 294 P **P** **19 00 15.2 +0.6**
CHTO IAmb IAmb 19 00 16.6
comp=Z,14nm,1.2s
LZH Lanzhou 75.64 312 *e*P **P** **19 00 31.3 +1.8**
LZH pP pwP 19 00 48.4 -0.7
LZH sP sP 19 00 54.8 +1.1
LZH pmax pmax
comp=Z,20nm,1.1s
QSPA South Pole Qui 78.34 180 P **P** **19 00 43.7 -0.5**
QSPA IAmb IAmb 19 00 45.5
comp=Z,13nm,1.0s
ULN Ulaanbaatar 79.17 324 P **P** **19 00 49.4 +0.4**
SONM Songino Array 79.54 324 P **P** **19 00 50.6 -0.4**
comp=Z,1.2nm,0.6s,baz=136,slow=5.7,SNR=8.8
SONM LR LR 19 33 37.7
comp=Z,22nm,21.5s,baz=94,slow=34
SONM Songino Array 79.54 324 P **P** **19 00 50.7 -0.2**
GTA Gaotai 79.94 314 ⇑P **P** **19 00 54.5 +1.2**
GTA pP sP 19 01 15.1 -2.5
GTA sP pP 19 01 23.4 +13
GTA S **S** **19 10 49.4 -2.8**
GTA sS sS 19 11 22.4 +1.7
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,34nm,7.6s
GTA LR LR
comp=Z,51nm,19.4s
GTA LR LR
comp=Z,100nm,18.7s
GTA LR LR
comp=Z,78nm,19.4s
TLY Talaya 82.99 326 LR LR 19 34 30.5
comp=Z,14nm,21.2s,baz=117,slow=33
ILAR Eielson Array 83.91 18 P **P** **19 01 12.8 -0.7**
comp=Z,0.9nm,0.5s,baz=231,slow=4.4,SNR=5.5
ILAR LR LR 19 31 33.2
comp=Z,28nm,21.6s,baz=221,slow=31
MAW Mawson 84.38 202 P **P** **19 01 15.7 -0.2**
comp=Z,1.3nm,0.6s,baz=117,slow=9.0,SNR=2.3
MAW LR LR 19 31 03.3
comp=Z,26nm,21.2s,baz=12,slow=30
NVAR Mina Array Bea 85.95 50 P **P** **19 01 24.8 +0.2**
comp=Z,0.4nm,0.7s,baz=219,slow=8.2,SNR=4.6
NVAR LR LR 19 31 46.3
comp=Z,58nm,19.8s,baz=267,slow=30
WMQ Urumqi 89.97 315 *e*P **P** **19 01 44.1 +0.6**
TUC Tucson 90.20 57 P **P** **19 01 42.9 -1.9**
TUC IAmb IAmb 19 02 15.4
comp=Z,4.1nm,0.8s
PDAR Pinedale Array 93.52 47 P **P** **19 02 01.7 +1.6**
comp=Z,0.2nm,0.5s,baz=232,slow=1.0,SNR=2.6
PDAR LR LR 19 39 44.6
comp=Z,18nm,18.8s,baz=284,slow=33
MK31 Makanchi Array 94.40 317 P **P** **19 02 03.5 -0.3**
MK31 IAmb IAmb 19 02 04.5
comp=Z,2.8nm,0.8s
MKAR Makanchi Array 94.40 317 P **P** **19 02 03.6 -0.2**
comp=Z,3.6nm,0.7s,baz=87,slow=6.4,SNR=35
MKAR Makanchi Array 94.40 317 P **P** **19 02 03.4 -0.4**
ZALV Zalesovo Beam 94.42 324 P **P** **19 02 02.5 -1.1**
comp=Z,0.8nm,0.6s,baz=115,slow=2.1,SNR=4.2
ZALV LR LR 19 44 00.7
comp=Z,13nm,19.6s,baz=80,slow=35
MAKZ Makanchi 94.61 317 P **P** **19 02 04.1 -0.7**
MAKZ IAmb IAmb 19 02 05.5
comp=Z,3.6nm,1.0s
YKA Yellowknife Ar 95.24 27 LR LR 19 41 38.8
comp=Z,29nm,18.4s,baz=0.0,slow=33
TXAR Lajitas Array 95.58 61 LR LR 19 37 33.8
comp=Z,31nm,20.5s,baz=0.0,slow=31
NRIK Noril'sk 96.92 339 LR LR 19 43 15.3
comp=Z,17nm,21.8s,baz=77,slow=34
KURBB Kurchatov Arra 97.56 320 P **P** **19 02 16.2 -1.8**
comp=Z,0.3nm,0.7s,baz=101,slow=3.3,SNR=5.7
ARCES ARCESS Array B 117.09 346 PKP **PKiKP** **19 07 29.0 +1.0**
comp=Z,2.6nm,1.0s,baz=41,slow=1.7,SNR=7.4
FINES FINESS Array B 122.58 339 PKP **PKiKP** **19 07 40.5 +1.6**
comp=Z,1.0nm,0.8s,baz=39,slow=3.7,SNR=5.0
TORD Torodi Ar. Bea 164.97 277 PKPab **PKPab** **19 09 45.8 +0.3**
comp=Z,1.3nm,0.9s,baz=84,slow=4.4,SNR=6.2
TORD Torodi Ar. Bea 164.97 277 **PKPab** **19 09 45.5 0.0**

JMA ***15*** *18:51:11.6±0.2,24.79N×121.57E,h80km±2km,M2.8*
TAP ***15*** *18:51:11.5,24.83N×121.64E,h84km,ML3.8,B*
ISC 15 18:51:11.9±1.2,24.86N±0.03×121.59E±0.02,h82km±4km,
n128,σ0.8?77/227,36C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
NWLT	**Wulai**	**0.12**	**223**	⇑*i*P		**Pn**	**18 51 23.5**	**-0.1**
	baz=248							
NWLT				S		**Sn**	**18 51 31.7**	**-0.6**
	baz=248							
NHDH	**Xindian Distri**	**0.12**	**330**	⇑*i*P		**Pn**	**18 51 23.8**	**+0.2**
	baz=315							
NHDH				S		**Sn**	**18 51 32.3**	**+0.1**
	baz=315							
TWA	**Mucha**	**0.12**	**358**	⇑*i*P		**Pn**	**18 51 23.8**	**+0.1**
	baz=331							
TWA				S		**Sn**	**18 51 32.5**	**+0.2**
	baz=331							
TWE	**Neicheng**	**0.16**	**153**	⇑*i*P		**Pn**	**18 51 23.9**	**+0.2**
	baz=160							
TWE				*e*S		**Sn**	**18 51 32.7**	**+0.3**
	baz=160							
ILA	**Ilan**	**0.17**	**124**	⇑*i*P		**Pn**	**18 51 24.0**	**+0.3**
	baz=122							
ILA				*e*S		**Sn**	**18 51 33.2**	**+0.7**
	baz=122							
TAP	**Taipei**	**0.19**	**337**	⇑P		**Pn**	**18 51 23.9**	**+0.1**
	baz=336							
TAP				*e*S		**Sn**	**18 51 32.8**	**+0.2**
	baz=336							
NTC	**Toucheng**	**0.22**	**92**	⇑*i*P		**Pn**	**18 51 23.9**	**0.0**
	baz=82							
NTC				*i* S		**Sn**	**18 51 32.5**	**-0.3**
	baz=82							
ENTT	**Nioudou**	**0.22**	**185**	⇑*i*P		**Pn**	**18 51 24.1**	**+0.1**
	baz=203							
ENTT				*e*S		**Sn**	**18 51 33.0**	**+0.1**
	baz=203							
TIPB	**Shuangxi**	**0.24**	**63**	⇑*i*P		**Pn**	**18 51 24.1**	**+0.1**
	baz=49							
TIPB				S		**Sn**	**18 51 32.9**	**-0.2**
	baz=49							
NDT	**Datong Townshi**	**0.27**	**195**	⇑*i*P		**Pn**	**18 51 24.4**	**+0.1**
	baz=215							
NDT				S		**Sn**	**18 51 33.2**	**-0.1**
	baz=215							
NWF	**Wu-fen Shan**	**0.27**	**40**	⇑*i*P		**Pn**	**18 51 24.3**	**0.0**
	baz=28							
NWF				S		**Sn**	**18 51 33.0**	**-0.4**
	baz=28							
WFSB	**Wu-fen Shan**	**0.27**	**40**	⇑*i*P		**Pn**	**18 51 24.2**	**0.0**
	baz=28							
WFSB				*e*S		**Sn**	**18 51 33.2**	**-0.1**
	baz=28							
YHNB	**Yeheng**	**0.27**	**225**	⇑*i*P		**Pn**	**18 51 24.2**	**-0.1**
	baz=228							
YHNB				S		**Sn**	**18 51 33.1**	**-0.4**
	baz=228							
NSK	**Sanguang**	**0.28**	**229**	⇑*i*P		**Pn**	**18 51 24.3**	**-0.1**
	baz=230							
NSK				*e*S		**Sn**	**18 51 33.2**	**-0.3**
	baz=230							
YM01	**YM01**	**0.28**	**357**	⇑*i*P		**Pn**	**18 51 24.3**	**-0.1**
	baz=341							
YM01				*e*S		**Sn**	**18 51 33.3**	**-0.2**
	baz=341							
YM10	**YM10**	**0.29**	**355**	⇑P		**Pn**	**18 51 24.3**	**-0.1**
	baz=344							
YM10				*e*S		**Sn**	**18 51 33.4**	**-0.3**
	baz=344							
YM04	**YM04**	**0.29**	**351**	⇑*i*P		**Pn**	**18 51 24.3**	**-0.1**
	baz=344							
YM04				*e*S		**Sn**	**18 51 32.9**	**-0.7**
	baz=344							
YM05	**YM05**	**0.30**	**356**	*e*P		**Pn**	**18 51 24.4**	**-0.1**
	baz=345							
YM05				*e*S		**Sn**	**18 51 33.5**	**-0.2**
	baz=345							
YM11	**YM11**	**0.30**	**357**	*e*P		**Pn**	**18 51 24.5**	**0.0**
	baz=343							
YM11				*e*S		**Sn**	**18 51 33.7**	**-0.1**
	baz=343							
EGS		**0.31**	**93**	⇑*i*P		**Pn**	**18 51 24.8**	**+0.4**
	baz=87							
EGS				S		**Sn**	**18 51 34.3**	**+0.6**
	baz=87							
YM03	**YM03**	**0.32**	**352**	P		**Pn**	**18 51 24.4**	**-0.2**
	baz=342							
YM03				*e*S		**Sn**	**18 51 33.4**	**-0.5**
	baz=342							
YM08	**YM08**	**0.33**	**0**	P		**Pn**	**18 51 24.4**	**-0.1**
	baz=346							
YM08				*e*S		**Sn**	**18 51 33.2**	**-0.7**
	baz=346							
NTST	**Danshui**	**0.33**	**337**	P		**Pn**	**18 51 24.9**	**+0.3**
	baz=326							
NTST				*e*S		**Sn**	**18 51 34.2**	**+0.4**
	baz=326							
ANP	**Anpu**	**0.33**	**349**	*e*P		**Pn**	**18 51 23.4**	**-1.2**
	baz=344							
ANP				*e*S		**Sn**	**18 51 32.6**	**-1.5**
	baz=344							
TWC	**Suao**	**0.34**	**137**	⇑*i*P		**Pn**	**18 51 24.9**	**+0.2**
	baz=137							
TWC				*e*S		**Sn**	**18 51 34.9**	**+0.9**
	baz=137							
NCU	**National Centr**	**0.38**	**287**	*e*P		**Pn**	**18 51 25.3**	**+0.4**
	baz=296							
NCU				*e*S		**Sn**	**18 51 35.2**	**+0.8**
	baz=296							
NCUH	**Zhongli**	**0.38**	**286**	*e*P		**Pn**	**18 51 25.2**	**+0.3**
	baz=296							
NCUH				*e*S		**Sn**	**18 51 34.6**	**+0.1**
	baz=296							
TWB1	**Santiao Chiao**	**0.39**	**68**	⇑*i*P		**Pn**	**18 51 25.1**	**+0.2**
	baz=58							
TWB1				*e*S		**Sn**	**18 51 34.4**	**-0.1**
	baz=58							
TWY	**Chenhua**	**0.41**	**1**	⇑*i*P		**Pn**	**18 51 25.2**	**+0.2**
	baz=353							
TWY				*e*S		**Sn**	**18 51 34.4**	**-0.5**
	baz=353							
ENA	**Nanau**	**0.45**	**162**	P		**Pn**	**18 51 25.2**	**-0.2**
	baz=174							
ENA				*e*S		**Sn**	**18 51 34.5**	**-0.9**
	baz=174							
ENAH	**Nanao**	**0.46**	**154**	P		**Pn**	**18 51 25.1**	**-0.3**
	baz=165							
ENAH				*e*S		**Sn**	**18 51 34.6**	**-0.8**
	baz=165							
NNS	**Nan Shan**	**0.46**	**205**	⇑*i*P		**Pn**	**18 51 25.8**	**+0.1**
	baz=212							
NNS				*e*S		**Sn**	**18 51 35.9**	**0.0**
	baz=212							
NNSB	**Datong**	**0.47**	**204**	⇑*i*P		**Pn**	**18 51 25.8**	**+0.1**
	baz=211							
NNSB				S		**Sn**	**18 51 35.8**	**-0.1**
	baz=211							
NNSH	**Datong**	**0.47**	**204**	⇑*i*P		**Pn**	**18 51 25.7**	**0.0**
	baz=212							
NNSH				*e*S		**Sn**	**18 51 35.4**	**-0.5**
	baz=212							
SBCB	**Hsinchu**	**0.55**	**263**	P		**Pn**	**18 51 26.8**	**+0.5**
	baz=273							
SBCB				*e*S		**Sn**	**18 51 37.5**	**+0.6**
	baz=273							
LIOB	**Emei**	**0.56**	**248**	⇑*i*P		**Pn**	**18 51 26.7**	**+0.4**
	baz=246							
LIOB				*e*S		**Sn**	**18 51 37.6**	**+0.5**
	baz=246							
HSN	**Hsinchu**	**0.57**	**264**	*e*P		**Pn**	**18 51 26.4**	**+0.1**
	baz=270							
HSN				*e*S		**Sn**	**18 51 37.1**	**0.0**
	baz=270							
NSTT	**Nanjuang**	**0.58**	**247**	⇑*i*P		**Pn**	**18 51 26.8**	**+0.3**
	baz=244							
NSTT				S		**Sn**	**18 51 37.5**	**+0.2**
	baz=244							
ETLH	**Xiulin Townshi**	**0.66**	**189**	⇑*i*P		**Pn**	**18 51 27.2**	**-0.2**
	baz=186							
ETLH				*e*S		**Sn**	**18 51 38.6**	**-0.3**
	baz=186							
NACB	**Ninganchiao**	**0.69**	**180**	⇑*i*P		**Pn**	**18 51 26.5**	**-1.1**
	baz=178							
NACB				*e*S		**Sn**	**18 51 38.8**	**-0.3**
	baz=178							
FUSS	**Fushou**	**0.69**	**207**	⇑*i*P		**Pn**	**18 51 28.5**	**+0.7**
	baz=218							
FUSS				S		**Sn**	**18 51 40.1**	**+0.4**
	baz=218							
TWT	**Tachien**	**0.71**	**212**	⇑*i*P		**Pn**	**18 51 28.7**	**+0.7**
	baz=226							
TWT				*e*S		**Sn**	**18 51 40.6**	**+0.6**
	baz=226							
TDCB	**Techi**	**0.72**	**213**	⇑*i*P		**Pn**	**18 51 28.7**	**+0.6**
	baz=225							
TDCB				S		**Sn**	**18 51 40.1**	**+0.1**
	baz=225							
WHF	**Hehuan Shan**	**0.77**	**203**	⇑*i*P		**Pn**	**18 51 29.5**	**+0.6**
	baz=200							
WHF				*e*S		**Sn**	**18 51 42.4**	**+0.8**
	baz=200							
TWD	**Chiawan**	**0.78**	**180**	P		**Pn**	**18 51 27.4**	**-1.1**
	baz=182							
TWD				*e*S		**Sn**	**18 51 40.0**	**-0.8**
	baz=182							
NMLH	**Miaoli**	**0.80**	**246**	P		**Pn**	**18 51 29.1**	**+0.4**
	baz=250							
NMLH				*e*S		**Sn**	**18 51 41.6**	**+0.4**
	baz=250							
WHP	**Taichung City**	**0.82**	**225**	⇑*i*P		**Pn**	**18 51 29.6**	**+0.5**
	baz=230							
WHP				S		**Sn**	**18 51 42.0**	**0.0**
	baz=230							
NSY	**Sanyi**	**0.88**	**240**	P		**Pn**	**18 51 30.1**	**+0.5**
	baz=243							
NSY				*e*S		**Sn**	**18 51 43.4**	**+0.6**
	baz=243							
PCYT	**Pengchaiyu**	**0.88**	**30**	*e*P		**Pn**	**18 51 29.7**	**+0.1**
	baz=32							
PCYT				*e*S		**Sn**	**18 51 43.5**	**+0.6**
	baz=32							
HWA	**Hwalien**	**0.88**	**179**	*e*P		**Pn**	**18 51 28.7**	**-1.0**
	baz=182							
HWA				*e*S		**Sn**	**18 51 42.4**	**-0.5**
	baz=182							
CHGB	**Renai**	**0.88**	**205**	⇑*i*P		**Pn**	**18 51 30.6**	**+0.6**
	baz=216							
CHGB				*e*S		**Sn**	**18 51 43.6**	**+0.2**
	baz=216							
TWQ1	**Liyutan**	**0.90**	**236**	*e*P		**Pn**	**18 51 30.6**	**+0.6**
	baz=246							
TWQ1				S		**Sn**	**18 51 43.7**	**+0.4**
	baz=246							
PTSB	**Yuanli**	**0.90**	**243**	P		**Pn**	**18 51 30.4**	**+0.4**
	baz=246							
PTSB				*e*S		**Sn**	**18 51 43.6**	**+0.2**
	baz=246							
OWD	**Renai**	**0.98**	**203**	*e*P		**Pn**	**18 51 32.0**	**+1.0**
	baz=207							
OWD				*e*S		**Sn**	**18 51 45.7**	**+0.6**
	baz=207							
WDJ	**Dajia District**	**1.00**	**240**	*e*P		**Pn**	**18 51 31.4**	**+0.3**
	baz=243							
WDJ				*e*S		**Sn**	**18 51 45.7**	**+0.3**
	baz=243							
ESL	**Shilin**	**1.05**	**188**	P		**Pn**	**18 51 30.2**	**-1.5**
	baz=184							
ESL				*e*S		**Sn**	**18 51 44.7**	**-1.8**
	baz=184							
TCU	**Taichung**	**1.09**	**230**	*e*P		**Pn**	**18 51 32.6**	**+0.4**
	baz=233							
TCU				*e*S		**Sn**	**18 51 48.4**	**+1.0**
	baz=233							
SMLT	**Sun Moon Lake**	**1.16**	**213**	P		**Pn**	**18 51 33.6**	**+0.5**
	baz=222							
SMLT				*e*S		**Sn**	**18 51 49.7**	**+0.8**
	baz=222							
TYC	**Yuchr**	**1.16**	**215**	P		**Pn**	**18 51 33.5**	**+0.5**
	baz=227							
TYC				*e*S		**Sn**	**18 51 49.1**	**+0.2**
	baz=227							
VWDT	**VWDT**	**1.18**	**200**	P		**Pn**	**18 51 34.0**	**+0.8**
	baz=211							
VWDT				*e*S		**Sn**	**18 51 50.3**	**+1.2**
	baz=211							
EGFH	**Guangfu**	**1.20**	**187**	*e*P		**Pn**	**18 51 33.0**	**-0.4**
	baz=185							
EGFH				*e*S		**Sn**	**18 51 47.4**	**-2.2**
	baz=185							
SSLB	**Suanglung**	**1.22**	**209**	⇑*i*P		**Pn**	**18 51 34.1**	**+0.4**
	baz=213							
SSLB				*e*S		**Sn**	**18 51 49.9**	**-0.2**
	baz=213							
WCHH	**Zhanghua**	**1.22**	**231**	*e*P		**Pn**	**18 51 34.9**	**+1.2**
	baz=234							
WCHH				*e*S		**Sn**	**18 51 50.4**	**+0.3**
	baz=234							
WNT	**Mingjian**	**1.28**	**220**	P		**Pn**	**18 51 34.8**	**+0.4**
	baz=224							
WNT				*e*S		**Sn**	**18 51 52.4**	**+0.9**
	baz=224							
JYNG	**Yonagunijimaku**	**1.30**	**108**	P		**Pn**	**18 51 34.7**	**0.0**
JYNG				S		**Sn**	**18 51 51.8**	**-0.1**
WJS	**Zhushan**	**1.30**	**217**	P		**Pn**	**18 51 35.1**	**+0.4**
	baz=230							
WJS				S		**Sn**	**18 51 52.4**	**+0.5**
	baz=230							
WHYT	**Xinyi Township**	**1.34**	**210**	*e*P		**Pn**	**18 51 35.9**	**+0.6**
	baz=214							
WHYT				*e*S		**Sn**	**18 51 54.3**	**+1.4**
	baz=214							
YOJ	**Yonaguni jima**	**1.35**	**107**	P		**Pn**	**18 51 35.3**	**-0.1**
YOJ				S		**Sn**	**18 51 52.5**	**-0.6**
EHY	**Hungye**	**1.37**	**190**	*e*P		**Pn**	**18 51 33.6**	**-2.1**
	baz=185							
HGSD	**Ruisui**	**1.37**	**186**	*e*P		**Pn**	**18 51 34.8**	**-0.8**
	baz=189							
HGSD				*e*S		**Sn**	**18 51 54.4**	**+0.9**
	baz=189							
RLNB	**Erlin**	**1.48**	**229**	*e*P		**Pn**	**18 51 37.3**	**+0.3**
	baz=233							
RLNB				*e*S		**Sn**	**18 51 56.2**	**+0.3**
	baz=233							
YUS	**Yu-Shan**	**1.48**	**203**	P		**Pn**	**18 51 38.1**	**+0.6**
	baz=216							
YUS				*e*S		**Sn**	**18 51 56.7**	**-0.1**
	baz=216							
YULB	**Yu-li**	**1.49**	**190**	P		**Pn**	**18 51 35.1**	**-2.1**
	baz=185							
YULB				*e*S		**Sn**	**18 51 52.6**	**-3.6**
	baz=185							
WGK	**Gukeng**	**1.50**	**219**	P		**Pn**	**18 51 37.8**	**+0.5**
	baz=222							
WGK				S		**Sn**	**18 51 57.4**	**+1.0**
	baz=222							
CHN5	**Tsauling**	**1.51**	**214**	P		**Pn**	**18 51 37.8**	**+0.3**
	baz=226							
CHN5				*e*S		**Sn**	**18 51 57.6**	**+0.8**
	baz=226							
WDLH	**Douliu**	**1.51**	**220**	*e*P		**Pn**	**18 51 37.3**	**-0.1**
	baz=223							
WDLH				*e*S		**Sn**	**18 51 57.7**	**+1.0**
	baz=223							
ALS	**Alishan**	**1.52**	**208**	⇑*i*P		**Pn**	**18 51 38.3**	**+0.4**
	baz=212							
ALS				S		**Sn**	**18 51 58.3**	**+0.8**
	baz=212							
TWF1	**Yuli**	**1.53**	**190**	*e*P		**Pn**	**18 51 35.6**	**-2.0**
	baz=187							
TWF1				*e*S		**Sn**	**18 51 56.6**	**-0.4**
	baz=187							
WTK	**Tuku**	**1.60**	**223**	*e*P		**Pn**	**18 51 38.9**	**+0.3**
	baz=227							
WTK				*e*S		**Sn**	**18 51 58.8**	**0.0**
	baz=227							
CHN2	**Minshiung**	**1.67**	**218**	*e*S		**Sn**	**18 52 02.0**	**+1.7**
	baz=229							
FULB	**Fuli**	**1.68**	**189**	*e*P		**Pn**	**18 51 38.9**	**-0.8**
	baz=187							
CHY	**Chiayi**	**1.73**	**218**	P		**Pn**	**18 51 41.0**	**+0.8**
	baz=229							
CHY				*e*S		**Sn**	**18 52 02.3**	**+0.6**
	baz=229							
WSF	**Szhu**	**1.74**	**226**	*e*P		**Pn**	**18 51 41.4**	**+1.0**
	baz=229							
WSF				*e*S		**Sn**	**18 52 02.3**	**+0.2**
	baz=229							
ELDTW	**Lidau**	**1.75**	**198**	*e*P		**Pn**	**18 51 40.0**	**-0.6**
	baz=191							
ELDTW				*e*S		**Sn**	**18 52 02.6**	**+0.3**
	baz=191							
PTTC	**Pingtan**	**1.77**	**291**	*e*P		**Pn**	**18 51 39.9**	**-0.8**
	baz=291							
CHKT	**Chengkung**	**1.77**	**187**	*e*P		**Pn**	**18 51 39.8**	**-1.0**
	baz=188							
CHKT				*e*S		**Sn**	**18 52 01.3**	**-1.4**
	baz=188							
TPUB	**Ta-pu**	**1.79**	**210**	P		**Pn**	**18 51 41.1**	**+0.1**
	baz=214							
TPUB				*e*S		**Sn**	**18 52 03.2**	**0.0**
	baz=214							
WLGB	**Puzi**	**1.81**	**221**	*e*P		**Pn**	**18 51 41.6**	**+0.2**
	baz=224							
WLGB				*e*S		**Sn**	**18 52 04.2**	**+0.5**
	baz=224							
WTP	**Ta-pu**	**1.84**	**209**	P		**Pn**	**18 51 42.1**	**+0.3**
	baz=213							

WTP				*e*S		**Sn**	**18 52 05.0**	**+0.5**
	baz=213							
STYT	**Tauyuan**	**1.85**	**204**	P		**Pn**	**18 51 42.5**	**+0.5**
	baz=216							
STYT				*e*S		**Sn**	**18 52 05.0**	**+0.1**
	baz=216							
TWK	**Hsinying**	**1.88**	**213**	P		**Pn**	**18 51 42.3**	**0.0**
	baz=216							
TWK				*e*S		**Sn**	**18 52 07.1**	**+1.7**
	baz=216							
EDH	**Donghe**	**1.90**	**188**	P		**Pn**	**18 51 40.9**	**-1.6**
	baz=189							
EDH				*e*S		**Sn**	**18 52 05.1**	**-0.7**
	baz=189							
ICHU	**Yijhu**	**1.92**	**219**	*e*P		**Pn**	**18 51 43.7**	**+1.0**
	baz=230							
ICHU				*e*S		**Sn**	**18 52 05.4**	**-0.7**
	baz=230							
SNST	**Tainan City**	**1.92**	**212**	*e*P		**Pn**	**18 51 42.7**	**-0.1**
	baz=215							
SNST				*e*S		**Sn**	**18 52 06.5**	**+0.3**
	baz=215							
CHN1	**Nanshi**	**1.93**	**210**	P		**Pn**	**18 51 43.1**	**+0.1**
	baz=214							
CHN1				*e*S		**Sn**	**18 52 07.0**	**+0.4**
	baz=214							
VWUC	**VWUC**	**1.95**	**274**	*e*P		**Pn**	**18 51 42.5**	**-0.7**
	baz=274							
MATB	**Ma-tsu**	**1.96**	**311**	*e*P		**Pn**	**18 51 42.5**	**-0.8**
	baz=309							
SGST	**Jiashian**	**2.00**	**208**	*e*P		**Pn**	**18 51 43.2**	**-0.6**
	baz=221							
IRIF	**Iriomote-Funau**	**2.02**	**105**	P		**Pn**	**18 51 43.8**	**-0.3**
IRIF				S		**Sn**	**18 52 08.1**	**-0.5**
SLGT	**Liugui**	**2.05**	**205**	*e*P		**Pn**	**18 51 45.1**	**+0.6**
	baz=209							
TWG	**Pinlang**	**2.09**	**193**	*e*P		**Pn**	**18 51 43.1**	**-1.9**
	baz=182							
HATJ	**Hateruma jima**	**2.17**	**111**	P		**Pn**	**18 51 47.0**	**+0.9**
HATJ				S		**Sn**	**18 52 13.0**	**+0.7**
LDUT	**Ludao**	**2.18**	**183**	*e*P		**Pn**	**18 51 44.1**	**-2.2**
	baz=192							
PTMZ	**Houxiangcun**	**2.25**	**275**	*e*P		**Pn**	**18 51 46.3**	**-0.8**
	baz=274							
PNG	**Penghu**	**2.26**	**236**	*e*P		**Pn**	**18 51 46.7**	**-0.6**
	baz=238							
PHUB	**P'eng-hu**	**2.28**	**234**	P		**Pn**	**18 51 46.7**	**-0.8**
	baz=236							
JKRS	**Kuro-shima**	**2.29**	**105**	P		**Pn**	**18 51 48.2**	**+0.5**
JKRS				S		**Sn**	**18 52 15.5**	**+0.4**
TSMG	**Majia**	**2.31**	**202**	*e*P		**Pn**	**18 51 48.5**	**+0.5**
	baz=214							
ECL	**Taimali**	**2.33**	**195**	*e*P		**Pn**	**18 51 47.0**	**-1.2**
	baz=186							
LYJJ	**Jianjiangzhen**	**2.35**	**316**	*e*P		**Pn**	**18 51 47.6**	**-1.0**
	baz=314							
JIJ	**Ishigaki jima**	**2.38**	**102**	P		**Pn**	**18 51 48.8**	**-0.1**
JIJ				S		**Sn**	**18 52 16.1**	**-1.1**
WDGT	**Dungji**	**2.38**	**228**	*e*P		**Pn**	**18 51 49.0**	**+0.1**
	baz=223							
MASBT	**Mashibuluo**	**2.41**	**202**	*e*P		**Pn**	**18 51 49.5**	**+0.3**
	baz=216							
XPSS	**Dashiqiu**	**2.41**	**329**	*e*P		**Pn**	**18 51 48.2**	**-1.2**
	baz=327							
JISG	**Ishigakijimahi**	**2.49**	**96**	P		**Pn**	**18 51 50.6**	**+0.2**
JISG				S		**Sn**	**18 52 19.9**	**0.0**
EAST	**Anshuo**	**2.56**	**196**	*e*P		**Pn**	**18 51 50.2**	**-1.2**
	baz=201							
VCHM	**Qimei**	**2.57**	**231**	*e*P		**Pn**	**18 51 50.3**	**-1.1**
	baz=239							
MHZQ	**Yeshan**	**2.62**	**299**	*e*P		**Pn**	**18 51 51.4**	**-0.8**
	baz=297							
SCZT	**Fangliau**	**2.63**	**200**	*e*P		**Pn**	**18 51 52.0**	**-0.3**
	baz=213							
SLIU	**Shizi**	**2.73**	**196**	*e*P		**Pn**	**18 51 54.9**	**+1.3**
	baz=201							
JTJ	**Tarama**	**2.84**	**94**	P		**Pn**	**18 51 56.1**	**+1.0**
JTJ				S		**Sn**	**18 52 29.3**	**+1.0**
KNMB	**Chin-men Tao**	**2.94**	**263**	*e*P		**Pn**	**18 51 55.5**	**-0.9**
	baz=262							
TWKBT	**Hengchun**	**2.99**	**194**	*e*P		**Pn**	**18 51 59.3**	**+2.1**
	baz=199							
JIRB	**Irabujima**	**3.26**	**90**	P		**Pn**	**18 52 01.6**	**+0.9**
JIRB				S		**Sn**	**18 52 39.3**	**+0.9**
AXDP	**Jialang**	**3.29**	**271**	*e*P		**Pn**	**18 52 00.7**	**-0.4**
	baz=270							
JMJ2	**Miyako jima3**	**3.40**	**91**	P		**Pn**	**18 52 04.1**	**+1.4**
JMJ2				S		**Sn**	**18 52 42.3**	**+0.4**
JOGS	**Gusukube**	**3.47**	**91**	S		**Sn**	**18 52 44.9**	**+1.3**
ZPLA	**Ao Xicun**	**3.62**	**256**	*e*P		**Pn**	**18 52 04.7**	**-0.9**
	baz=255							

*DDA **15** 19:21:48.1,36°.98N×27°.41E,h7km±1km,ML2.5*
*ISK **15** 19:21:48.5,36°.98N×27°.39E,h4km,ML2.5/14*
ISC 15 19:21:48.3±0.9,36°.99N±0°.03×27°.44E±0°.03,h9km±6km, n26,σ2°02/40,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BDRM	**Kayabasi**	**0.08**	**2**	*i* P		**Pg**	**19 21 50.6**	**+0.1**
BDRM				*i* S		**Sg**	**19 21 51.8**	**-0.3**
BDRM				IAML			19 21 52.0	
	comp=E,4μm,0.2s							
BODT	**Bodrum**	**0.13**	**305**	PG		**Pg**	**19 21 51.1**	**-0.1**
BODT				SG		**Sg**	**19 21 53.3**	**0.0**
DAT	**Datca**	**0.28**	**157**	PG		**Pg**	**19 21 54.6**	**+0.7**
DAT				SG		**Sb**	**19 21 59.6**	**-0.8**
DAT	**Datca**	**0.28**	**157**	*i* P		**Pg**	**19 21 54.5**	**+0.5**
DAT				*i* S		**Sg**	**19 21 58.4**	**+0.6**
TURN	**Turunc**	**0.68**	**108**	PG		**Pg**	**19 22 02.4**	**-3.9**
TURN				SG		**Sg**	**19 22 13.2**	**-5.3**
TURN	**Turunc**	**0.68**	**108**	*i* P		Pg	19 22 02.0	-4.3
TURN				*i* S		**Sg**	**19 22 11.7**	**-6.8**
TURN				IAML			19 22 14.0	
	comp=N,233nm,0.3s							
TURN				IAML			19 22 14.0	
	comp=E,245nm,0.3s							
YER	**Yerkesik**	**0.69**	**77**	PG		**Pb**	**19 22 03.2**	**+0.7**
GCAM	**G?zelcami?**	**0.73**	**347**	PG		**Pb**	**19 22 03.1**	**0.0**
GCAM	**G?zelcami?**	**0.73**	**347**	*i* P		**Pg**	**19 22 02.1**	**-0.2**
GCAM				*i* S		**Sg**	**19 22 10.4**	**-1.4**
GCAM				IAML			19 22 15.0	
	comp=N,164nm,0.5s							
GCAM				IAML			19 22 15.0	
	comp=E,196nm,0.5s							
ARG	**Arkhangelos**	**0.95**	**144**	PG		**Pn**	**19 22 07.9**	**+0.2**
DALY	**Dalyan (Mula)**	**0.99**	**100**	PG		**Pn**	**19 22 09.0**	**+0.8**
DALY	**Dalyan (Mula)**	**0.99**	**100**	*i* P		**Pg**	**19 22 07.8**	**+0.5**
DALY				*i* S		**Sg**	**19 22 19.5**	**-0.6**
DALY				IAML			19 22 26.0	
	comp=N,96nm,0.8s							
TAVA	**DENIZLI_Tavas**	**1.27**	**67**	*i* P		**Pb**	**19 22 13.3**	**+0.9**
TAVA				*i* S		**Sg**	**19 22 26.1**	**-3.0**
FETY	**Fethiye**	**1.36**	**104**	PN		**Pg**	**19 22 15.9**	**+1.5**
FETY	**Fethiye**	**1.36**	**104**	*i* P		**Pg**	**19 22 18.3**	**+3.9**
FETY				*i* S		**Sb**	**19 22 31.3**	**-0.2**
BLCB	**Balcova**	**1.43**	**347**	PN		**Pg**	**19 22 15.9**	**+0.2**
URLA	**Izmir**	**1.52**	**334**	PN		**Pg**	**19 22 17.2**	**-0.3**
URLA	**Izmir**	**1.52**	**334**	*i* P		**Pb**	**19 22 17.0**	**+0.3**
URLA				*i* S		**Sn**	**19 22 34.2**	**-1.4**
APE	**Apeiranthos**	**1.53**	**274**	PN		**Pb**	**19 22 16.7**	**-0.1**
GOLH	**Golhisar**	**1.71**	**81**	*i* P		**Pg**	**19 22 23.5**	**+2.4**
GOLH				*i* S		**Sg**	**19 22 44.2**	**+0.9**
MANT	**Manisa**	**1.74**	**30**	*i* P		**Pg**	**19 22 23.4**	**+1.7**
MANT				*i* S		**Sn**	**19 22 39.9**	**-1.4**
CHOS	**Chios island**	**1.78**	**322**	PN		**Pn**	**19 22 20.3**	**+1.1**
KULA	**Kula-Manisa**	**1.81**	**32**	PN		**Pb**	**19 22 21.9**	**+0.4**
AKAS	**Kas**	**1.90**	**113**	*i* P		**Pg**	**19 22 25.5**	**+0.9**
AKAS				*i* S		**Sg**	**19 22 49.6**	**+0.3**
AKAS				IAML			19 22 58.0	
	comp=N,32nm,0.6s							
ELL	**Elmali**	**1.99**	**96**	PN		**Pb**	**19 22 24.5**	**-0.2**
USAK	**Uak-Merkez**	**2.13**	**35**	*i* P		**Pb**	**19 22 28.6**	**+1.5**
USAK				*i* S		**Sb**	**19 22 55.8**	**+2.3**
USAK				IAML			19 22 58.0	
	comp=E,46nm,1.1s							

*IDC **15** 19:26:57.4±2.0,6°.70N×72°.94W,h165km±38km,mb3.1/3, mb1 3.6/5,mb1mx3.2/41,mbtmp3.7/5,Error ellipse: s-maj=112.1km s-min=8.4km az=134.0*
*RSNC **15** 19:26:58.9±1.1,6°.80N×73°.14W,h151km±4km,ML3.5, Mw3.9,Fault plane solution: NP1:φs118.00000°,*
δ23.00000°,λ127.00000°.
ISC 15 19:26:57.6±0.9,6°.82N±0°.03×73°.11W±0°.04,h159km±6km, n34,σ1°41/64,mb3.2/3,3C-10D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**197**	*i* P		**Pn**	**19 27 19.3**	**-0.1**
BARC				*e*S		**Sn**	**19 27 34.7**	**-1.4**
BARC				*i*			19 27 36.0	
	comp=E,1μm,0.4s							
PAMC	**Pamplona, Colo**	**0.66**	**38**	*i* P		**Pn**	**19 27 22.1**	**+0.7**
PAMC				*e*S		**Sn**	**19 27 39.2**	**-0.4**
PAMC				*i*			19 27 41.5	
	comp=E,645nm,0.5s							
BRRC	**Barranca, Sant**	**0.66**	**296**	*e*P		**Pn**	**19 27 21.1**	**+0.3**
BRRC				*e*S		**Sn**	**19 27 38.5**	**-0.1**
BRRC				*i*			19 27 42.9	
	comp=E,292nm,0.2s							
RUSC	**La Rusia**	**0.92**	**178**	*i* P		**Pn**	**19 27 23.1**	**-0.2**
RUSC				*e*S		**Sn**	**19 27 41.9**	**-1.0**
RUSC				*i*			19 27 42.8	
	comp=E,231nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	*e*P		**Pn**	**19 27 25.9**	**-0.7**
PTBC				*e*S		**Sn**	**19 27 47.3**	**-1.4**
PTBC				*i*			19 27 53.2	
	comp=E,549nm,0.5s							
TAMC	**Tame, Arauca**	**1.37**	**106**	*i* P		**Pn**	**19 27 27.4**	**+0.8**
TAMC				*i*			19 27 48.3	
	comp=E,270nm,0.3s							
TAMC				*e*S		**Sn**	**19 27 49.1**	**+0.3**
SPBC	**San Pablo de B**	**1.50**	**220**	*i* P		**Pn**	**19 27 28.1**	**+0.1**
SPBC				*e*S		**Sn**	**19 27 50.7**	**-0.7**
SPBC				*i*			19 27 57.5	
	comp=E,571nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*e*P		**Pn**	**19 27 31.9**	**+0.2**
ZARC				*e*S		**Sn**	**19 27 57.7**	**-0.3**
ZARC				*i*			19 28 03.6	
	comp=E,388nm,0.3s							
SMLC	**San Martn de**	**2.19**	**334**	*e*P		**Pn**	**19 27 36.2**	**+0.8**
SMLC				*e*S		**Sn**	**19 28 04.0**	**-0.8**
SMLC				*i*			19 28 11.7	
	comp=E,265nm,0.3s							
CHIC	**Chingaza**	**2.26**	**196**	*e*P		**Pn**	**19 27 37.0**	**+0.1**
CHIC				*e*S		**Sn**	**19 28 06.3**	**-0.7**
CHIC				*i*			19 28 12.9	
	comp=E,119nm,0.5s							
ROSC	**El Rosal**	**2.31**	**212**	P		**Pn**	**19 27 39.0**	**+1.7**
	comp=E,48nm,0.3s,baz=100,slow=10,SNR=29							
ROSC				S		**Sn**	**19 28 08.0**	**+0.1**
	comp=E,59nm,0.3s,baz=325,slow=23,SNR=9.5							
ROSC	**El Rosal**	**2.31**	**212**	*e*P		**Pn**	**19 27 38.8**	**+1.5**
ROSC				*e*S		**Sn**	**19 28 08.0**	**+0.1**
ROSC				*i*			19 28 13.7	
	comp=E,355nm,0.4s							
HELC	**Santa Helena**	**2.48**	**256**	*e*P		**Pn**	**19 27 40.4**	**+1.0**
HELC				*e*S		**Sn**	**19 28 11.2**	**-0.3**
HELC				*i*			19 28 18.0	
	comp=E,229nm,0.3s							
UREC	**San Jos de Ur**	**2.57**	**291**	*e*P		**Pn**	**19 27 40.0**	**-0.1**
UREC				*e*S		**Sn**	**19 28 11.5**	**-1.5**
UREC				*i*			19 28 20.0	
	comp=E,206nm,0.3s							
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*e*P		**Pn**	**19 27 44.1**	**+1.4**
GUY2C				*e*S		**Sn**	**19 28 17.8**	**+0.3**
GUY2C				*i*			19 28 26.2	
	comp=E,294nm,0.7s							
VILC	**Villavicencio,**	**2.75**	**192**	*e*P		**Pn**	**19 27 42.2**	**-0.2**
VILC				*e*S		**Sn**	**19 28 15.9**	**-1.3**
VILC				*i*			19 28 26.7	
	comp=E,132nm,0.4s							
PTGC	**Puerto Gaitan,**	**2.78**	**159**	*e*P		**Pn**	**19 27 42.1**	**-0.6**
PTGC				*e*S		**Sn**	**19 28 15.6**	**-1.9**
PTGC				*i*			19 28 23.7	
	comp=E,68nm,0.5s							
RREF	**El Recreo**	**2.93**	**230**	*e*P		**Pn**	**19 27 44.6**	**-0.5**
RREF				*e*S		**Sn**	**19 28 20.3**	**-1.5**
RREF				*i*			19 28 34.8	
	comp=E,168nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*e*P		**Pn**	**19 27 47.0**	**+1.0**
CBOC				*e*S		**Sn**	**19 28 18.6**	**-4.8**
CBOC				*i*			19 28 44.5	
	comp=E,58nm,0.4s							
DBBC	**Dabeiba**	**3.08**	**274**	*e*P		**Pn**	**19 27 46.8**	**+0.3**
DBBC				*e*S		**Sn**	**19 28 23.7**	**-0.6**
TOLC	**Tolima**	**3.12**	**225**	*e*P		**Pn**	**19 27 48.7**	**+1.4**
TOLC				*e*S		**Sn**	**19 28 23.0**	**-2.7**
SDV	**Santo Domingo**	**3.20**	**50**	P		**Pn**	**19 27 48.6**	**+0.5**
	comp=E,44nm,0.3s,baz=218,slow=12,SNR=18							
SDV				S		**Sn**	**19 28 26.3**	**-0.9**
	comp=E,21nm,0.3s,baz=55,slow=19,SNR=7.9							
ARGC	**Ariguani, Magd**	**3.22**	**340**	*e*P		**Pn**	**19 27 49.6**	**+1.4**
ARGC				*e*S		**Sn**	**19 28 27.9**	**+0.4**
ARGC				*i*			19 28 40.2	
	comp=E,100nm,0.4s							
ANIL	**Santa Ana**	**3.25**	**225**	*e*P		**Pn**	**19 27 51.1**	**+2.3**
ANIL				*e*S		**Sn**	**19 28 29.9**	**+1.4**
ANIL				*i*			19 28 35.8	
	comp=E,40nm,0.4s							
PRAC	**Prado**	**3.56**	**210**	*e*P		**Pn**	**19 27 52.8**	**+0.3**
PRAC				*e*S		**Sn**	**19 28 34.9**	**-0.3**
PRAC				*i*			19 28 41.1	
	comp=E,153nm,0.5s							
ORTC	**Ortega, Tolima**	**3.59**	**216**	*e*P		**Pn**	**19 27 53.5**	**+0.6**
ORTC				*e*S		**Sn**	**19 28 36.7**	**+0.9**
ORTC				*i*			19 28 44.3	
	comp=E,86nm,0.3s							
SJCC	**San Jacinto, C**	**3.68**	**326**	*e*P		**Pn**	**19 27 52.9**	**-1.1**
SJCC				*e*S		**Sn**	**19 28 34.6**	**-3.3**
SJCC				*i*			19 28 47.3	
	comp=E,54nm,0.3s							
PLMC	**San Jos del P**	**3.68**	**239**	*e*P		**Pn**	**19 27 54.5**	**+0.3**
PLMC				*e*S		**Sn**	**19 28 37.8**	**-0.3**
PLMC				*i*			19 28 43.8	
	comp=E,85nm,0.2s							
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P		**Pn**	**19 28 01.7**	**-0.2**
SMRC	**Santa Marta, M**	**4.45**	**346**	*e*P		**Pn**	**19 28 04.1**	**0.0**
SMRC				*e*S		**Sn**	**19 28 52.3**	**-3.6**
SMRC				*i*			19 28 58.9	
	comp=E,63nm,0.3s							
MACC	**Macarena, Meta**	**4.70**	**189**	*e*P		**Pn**	**19 28 06.0**	**-1.3**
MACC				*e*S		**Sn**	**19 28 57.9**	**-3.9**
MACC				*i*			19 29 03.9	
	comp=E,21nm,0.4s							
TXAR	**Lajitas Array**	**36.47**	**312**	P		**P**	**19 33 48.8**	**+1.2**
	comp=E,0.2nm,0.5s,baz=121,slow=8.9,SNR=4.7							
PDAR	**Pinedale Array**	**48.08**	**324**	P		**P**	**19 35 22.5**	**+1.0**
	comp=E,0.3nm,0.6s,baz=132,slow=8.7,SNR=2.9							
YKA	**Yellowknife Ar**	**63.27**	**340**	P		**P**	**19 37 08.5**	**-0.5**
	comp=E,0.8nm,0.6s,baz=132,slow=6.5,SNR=5.2							

*IDC **15** 19:55:42.8±1.7,17°.51S×178°.74W,h538km±26km, mb3.4/5, mb1 3.7/6,mb1mx3.1/36,mbtmp4.3/6,Error ellipse: s-maj=103.7km s-min=15.8km az=152.0*
*NEIC **15** 19:55:43.2±1.8,17°.7S±0°.2×178°.70W±0°.09,h541km±13km, mb4.5/22,Error ellipse: s-maj=31.6km s-min=9.9km az=165.0*
ISC 15 19:55:43.2±0.6,17°.7S±0°.2×178°.6W±0°.1,h547km,n34, σ0°83/38,mb4.4/15,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**3.16**	**268**	P		**P**	19 57 04.9	+5.8
AFI	**Afiamalu**	**7.58**	**61**	P		**P**	**19 57 36.1**	**-0.8**
	2.9nm,0.3s,baz=90,slow=20,SNR=4.3							
AFI				S		**S**	**19 59 09.2**	**-0.8**
	0.2nm,0.3s,baz=25,slow=23,SNR=2.9							
AFI	**Afiamalu**	**7.58**	**61**	P		**P**	**19 57 37.1**	**+0.1**
NIUE	**Niue**	**8.39**	**101**	P		**P**	**19 57 44.3**	**-0.4**
DZM	**Mont Dzumac**	**14.70**	**250**			**P**	**19 58 49.8**	**0.0**
EIDS	**Eidsvold**	**29.15**	**249**	P		**P**	**20 01 00.9**	**+0.3**
EIDS				IAmb		IAmb	20 01 27.7	
	comp=E,11nm,1.1s							
ARMA	**Armidale**	**29.88**	**239**	P		**P**	**20 01 07.5**	**+0.6**
ARMA				IAmb		IAmb	20 01 17.6	
	comp=E,27nm,1.6s							
DCZ	**Deep Cove**	**30.15**	**200**	P		**P**	**20 01 09.9**	**+0.9**
CTAO	**Charters Tower**	**33.27**	**260**	P		**P**	**20 01 36.2**	**+0.2**
CTAO				IAmb		IAmb	20 01 36.5	
	comp=E,26nm,1.5s							
CAN	**Canberra**	**33.68**	**232**	P		**P**	**20 01 39.3**	**0.0**
CAN				IAmb		IAmb	20 01 59.1	
	comp=E,20nm,1.5s							
COEN	**Coen**	**36.89**	**270**	P		**P**	**20 02 07.2**	**+1.1**
COEN				IAmb		IAmb	20 02 21.9	
	comp=E,22nm,1.6s							
TOO	**Toolangi**	**37.16**	**230**	P		**P**	**20 02 08.5**	**+0.5**
STKA	**Stephens Creek**	**38.56**	**241**	P		**P**	**20 02 19.9**	**+0.4**
	comp=Z,5.0nm,0.5s,baz=95,slow=11,SNR=13							
STKA	**Stephens Creek**	**38.56**	**241**	P		**P**	**20 02 19.9**	**+0.4**
BBOO	**Buckleboo**	**43.34**	**241**	P		**P**	**20 02 57.2**	**-0.2**
WR0	**Warramunga Arr**	**44.27**	**259**	P		**P**	**20 03 04.3**	**-0.6**
WR0				IAmb		IAmb	20 03 26.0	
	comp=Z,15nm,1.4s							
WB0	**Warramunga Arr**	**44.43**	**260**	P		**P**	**20 03 05.3**	**-0.7**
WB2	**Warramunga Arr**	**44.45**	**259**	P		**P**	**20 03 05.5**	**-0.7**
WRAB	**Tennant Creek**	**44.45**	**259**	P		**P**	**20 03 05.5**	**-0.8**
WRAB				IAmb		IAmb	20 03 28.9	
	comp=Z,19nm,1.5s							
WRA	**Warramunga Arr**	**44.47**	**259**	P		**P**	**20 03 05.7**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=95,slow=7.9,SNR=77							
WRA				PcP		**PcP**	**20 04 36.4**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=99,slow=3.4,SNR=2.1							
WRA	**Warramunga Arr**	**44.47**	**259**	P		**P**	**20 03 05.3**	**-1.0**
WRA				PcP		**PcP**	**20 04 37.5**	**-0.5**
AS31	**Alice Springs**	**44.65**	**254**	P		**P**	**20 03 07.6**	**-0.2**
AS31				IAmb		IAmb	20 03 08.2	
	comp=Z,6.4nm,0.7s							
ASAR	**Alice Springs**	**44.65**	**254**	P		**P**	**20 03 07.6**	**-0.2**
	comp=Z,24nm,0.6s,baz=88,slow=8.3,SNR=458							
ASAR				PcP		**PcP**	**20 04 37.9**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=103,slow=4.3,SNR=3.0							
ASAR	**Alice Springs**	**44.65**	**254**	P		**P**	**20 03 07.0**	**-0.8**
ASAR						**PcP**	**20 04 37.8**	**-0.8**
MTN	**Manton Dam**	**48.59**	**268**	P		**P**	**20 03 37.4**	**-0.1**
FORT	**Forrest**	**49.92**	**244**	P		**P**	**20 03 46.1**	**-1.0**
FORT				IAmb		IAmb	20 03 46.7	
	comp=Z,10nm,0.7s							
KNRA	**Kununurra**	**50.30**	**264**	P		**P**	**20 03 50.0**	**-0.1**
PSA00	**Pilbara Seismi**	**57.76**	**255**	P		**P**	**20 04 42.2**	**-0.5**
MORW	**Morawa**	**60.38**	**246**	P		**P**	**20 04 58.8**	**-1.3**
MORW				IAmb		IAmb	20 05 21.5	
	comp=Z,28nm,1.6s							
GIRL	**Giralia**	**62.76**	**253**	P		**P**	**20 05 16.3**	**+0.6**
NVAR	**Mina Array Bea**	**79.40**	**44**	P		**P**	**20 06 54.2**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=220,slow=8.3,SNR=3.2							
NVAR	**Mina Array Bea**	**79.40**	**44**	P		**P**	**20 06 54.0**	**+0.8**
PSUT	**Pine Spring**	**82.44**	**46**	P		**P**	**20 07 11.3**	**+2.5**
PDAR	**Pinedale Array**	**87.32**	**44**	P		**P**	**20 07 32.9**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=224,slow=4.1,SNR=3.7							

*IDC **15** 20:07:36.0±1.5,9°.24S×108°.41E,h0km,mb3.9/10, mb1 4.1/11,mb1mx3.8/54,mbtmp4.0/11,ML4.6/1,MS3.1/2, Ms1 3.2/2,ms1mx2.6/34,Error ellipse: s-maj=62.3km s-min=18.6km az=48.0*
*NEIC **15** 20:07:39.4±1.3,9°.56S±0°.07×108°.02E±0°.07,h33km±5km, mb4.4/15,Error ellipse: s-maj=11.0km s-min=9.1km az=147.0*
ISC 15 20:07:41.1±0.8,9°.3S±0°.1×108°.29E±0°.09,h35km,n38, σ0°86/33,mb4.1/16,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CISI	**Cisompet, Garu**	**1.81**	**345**			**Pn**	**20 08 10.1**	**+0.2**
UGM	**Wanagama**	**2.61**	**58**	Pn		**Pn**	**20 08 21.6**	**+0.7**
XMIS	**Christmas Isla**	**2.85**	**246**			Pn	20 08 16.0	-8.1
JAGI	**Jajag, Banyuwa**	**5.85**	**82**			**Pn**	**20 09 06.4**	**+0.9**
JAGI						**Sn**	**20 10 10.8**	**-0.6**
GIRL	**Giralia**	**14.43**	**157**	Pn		Pn	20 10 53.5	-9.5
BATI	**Baumata**	**15.18**	**95**	Pn		**Pn**	**20 11 12.5**	**-0.6**
	2.5nm,0.3s,baz=300,slow=19,SNR=1.4							
DAV	**Davao City (W)**	**23.70**	**47**	LR		LR	20 24 03.6	
	comp=Z,40nm,18.1s,baz=152,slow=42							
PBKT	**Sadao Pong**	**26.71**	**344**	P		**P**	**20 13 17.9**	**+0.5**
PBKT				IAmb		IAmb	20 13 18.6	
	comp=Z,5.2nm,0.7s							
WB0	**Warramunga Arr**	**27.28**	**115**	P		**P**	**20 13 22.2**	**-0.4**
WB0				IAmb		IAmb	20 13 42.5	
	comp=Z,15nm,1.6s							
WRA	**Warramunga Arr**	**27.29**	**116**	P		**P**	**20 13 22.0**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=286,slow=12,SNR=5.0							
WRA	**Warramunga Arr**	**27.29**	**116**	P		**P**	**20 13 21.9**	**-0.8**
WRAB	**Tennant Creek**	**27.30**	**116**	P		**P**	**20 13 23.1**	**+0.4**
WRAB				IAmb		IAmb	20 13 59.6	
	comp=Z,14nm,1.6s							
WB2	**Warramunga Arr**	**27.30**	**116**	P		**P**	**20 13 22.6**	**-0.1**
WB2				IAmb		IAmb	20 13 57.5	
	comp=Z,15nm,1.4s							
WR0	**Warramunga Arr**	**27.47**	**116**	P		**P**	**20 13 24.0**	**-0.3**
WR0				IAmb		IAmb	20 13 35.0	
	comp=Z,16nm,1.6s							
FORT	**Forrest**	**28.21**	**142**	P		**P**	**20 13 32.1**	**+1.4**
CMAR	**Chiang Mai Arr**

comp=Z,13nm,1.2s
WRAB Tennant Creek 17.80 164 P P 20 17 56.8 +1.3
WRAB IAmb IAmb 20 18 04.9
comp=Z,17nm,1.4s
WRA Warramunga Arr 17.81 164 P **P 20 17 55.4 -0.2**
comp=Z,0.6nm,0.3s,baz=343,slow=12,SNR=30
WRA S **Sn 20 21 11.1 -1.6**
comp=Z,0.1nm,0.3s,baz=337,slow=26,SNR=2.7
WRA Warramunga Arr 17.81 164 P **P 20 17 55.3 -0.3**
WB2 Warramunga Arr 17.81 164 P **P 20 17 56.4 +0.8**
WB2 IAmb IAmb 20 18 05.0
comp=Z,16nm,1.3s
WR0 Warramunga Arr 17.88 163 P **P 20 17 57.3 +0.9**
TGY Tagaytay City 18.63 334 LR LR 20 25 19.0
comp=Z,45nm,19.1s,baz=230,slow=37
PSA00 Pilbara Seismi 20.75 205 P **P 20 18 25.7 -2.0**
AS31 Alice Springs 21.28 168 P **P 20 18 33.8 +0.3**
ASAR Alice Springs 21.28 168 P **P 20 18 33.8 +0.4**
comp=Z,5.2nm,0.6s,baz=350,slow=11,SNR=34
ASAR S **S 20 22 26.6 -1.6**
comp=Z,1.5nm,0.8s,baz=349,slow=22,SNR=5.1
ASAR Alice Springs 21.28 168 P **P 20 18 34.2 +0.8**
CTA Charters Tower 23.99 137 P **P 20 19 02.1 +0.7**
comp=Z,6.8nm,1.2s,baz=307,slow=10,SNR=2.6
GIRL Giralia 24.47 215 P **P 20 19 04.9 -0.9**
STKA Stephens Creek 31.24 159 P **P 20 20 05.4 -0.9**
comp=Z,0.7nm,0.3s,baz=333,slow=6.8,SNR=2.9
STKA Stephens Creek 31.24 159 P **P 20 20 04.1 -2.2**
KLR Kul'dur 51.84 2 LR LR 20 45 31.6
comp=Z,13nm,18.9s,baz=179,slow=36
MK31 Makanchi Array 64.24 326 P **P 20 24 21.1 -0.4**
MK31 IAmb IAmb 20 24 56.4
comp=Z,2.2nm,1.4s
MKAR Makanchi Array 64.24 326 P **P 20 24 21.9 +0.4**
comp=Z,0.2nm,0.6s,baz=114,slow=6.5,SNR=4.1
MKAR Makanchi Array 64.24 326 P **P 20 24 21.3 -0.2**
KURBB Kurchatov Arra 68.48 328 P **P 20 24 48.5 -0.1**
comp=Z,0.6nm,0.8s,baz=126,slow=5.7,SNR=4.4
KURK Kurchatov 68.48 328 P **P 20 24 47.8 -0.7**
KURK IAmb IAmb 20 25 01.9
comp=Z,3.9nm,1.4s
ADK Adak 71.06 32 P **P 20 25 06.8 +2.4**
BVAR Borovoye Array 74.05 328 P **P 20 25 21.2 -1.0**
comp=Z,0.3nm,0.7s,baz=140,slow=9.1,SNR=2.4

*IDC **15** 20:25:04.1±1.9,36.˚73N×142.˚25E,h0km,mb3.6/4, mb1 3.7/9,mb1mx3.5/47,mbtmp3.8/9,ML3.7/5,MS3.1/4, Ms1 3.2/4,ms1mx2.6/40,Error ellipse: s-maj=41.0km s-min=21.9km az=80.0*
*JMA **15** 20:25:06.4±0.3,36.˚73N×142.˚26E,h26km±5km,M3.8*
*NIED **15** 20:25:06.5,36.˚73N×142.˚26E,h26km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.43; $M_{\theta\theta}$-0.57; $M_{\phi\phi}$-2.86; $M_{r\theta}$1.09; $M_{\theta\phi}$-2.05; $M_{\phi r}$4.27; Fault plane solution: $M_0$5.80000×10^{14} NP1:ϕ_s18.00000°, δ70.00000°,λ,80.00000°. NP2:ϕ_s226.00000°,δ22.00000°, λ117.00000°.*
*NEIC **15** 20:25:07.9±1.9,36.˚72N±0.˚07×142.˚3E±0.˚1,h31km±6km, mb4.7/10 Error ellipse: s-maj=12.7km s-min=10.4km az=98.0*

ISC 15 20:25:04.3±2.0,36.˚75N±0.˚04×142.˚29E±0.˚06,h7km±13km, n47,σ1ᵗ50/53,mb4.2/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.24**	**287**	P	**Pg**	**20 25 27.8**	**-0.3**
JFK	**Kawauchi**	**1.28**	**299**	P	**Pn**	**20 25 29.0**	**+0.4**
JHO	**Hitachi**	**1.39**	**265**	P	**Pn**	**20 25 29.9**	**-0.1**
JFFD	**Fukushimafurud**	**1.42**	**284**	P	**Pn**	**20 25 30.5**	**0.0**
JHYU	**Hitachinakayam**	**1.43**	**254**	P	**Pn**	**20 25 31.0**	**+0.4**
JHYU				S	**Sb**	**20 25 48.7**	**-0.9**
JMM	**Marumori**	**1.63**	**313**	P	**Pb**	**20 25 34.0**	**-0.6**
JMM				S	**Sn**	**20 25 54.4**	**-0.1**
JFT	**Otama**	**1.73**	**297**	P	**Pb**	**20 25 36.0**	**-0.4**
JFT				S	**Sb**	**20 25 58.5**	**+0.1**
JIO	**Ouri**	**1.85**	**337**	P	**Pb**	**20 25 37.7**	**-0.7**
JIO				S	**Sb**	**20 26 00.9**	**-0.9**
JOU	**Okura**	**2.06**	**322**	P	**Pb**	**20 25 41.1**	**-0.9**
JOU				S	**Sb**	**20 26 07.7**	**-0.1**
JFY	**Yanaizu**	**2.17**	**288**	P	**Pb**	**20 25 42.3**	**-1.5**
JAG	**Ashikaga**	**2.31**	**263**	P	**Pn**	**20 25 43.7**	**+1.1**
JAG				S	**Sn**	**20 26 11.7**	**+0.5**
JMK	**Ichinoseki**	**2.35**	**339**	P	**Pb**	**20 25 45.1**	**-1.8**
BSO1	**Boso 1**	**2.35**	**207**	P	**Pn**	**20 25 44.0**	**+1.3**
BSO1				S	**Sn**	**20 26 12.2**	**+0.6**
JYK	**Kaneyama**	**2.65**	**325**	P	**Pn**	**20 25 49.3**	**+2.0**
MJAR	**Matsushiro Arr**	**3.29**	**268**	Pn	**Pn**	**20 25 55.9**	**-0.3**
	2.0nm,0.3s,baz=96,slow=10,SNR=147						
MJAR				LR	LR	20 27 27.0	
	comp=Z,163nm,18.3s,baz=115,slow=44						
MJAR	**Matsushiro Arr**	**3.29**	**268**		**Pn**	**20 25 55.5**	**-0.6**
MAJO	**Matsushiro**	**3.29**	**268**		**Pn**	**20 25 58.3**	**+2.2**
MAT	**Matsushiro**	**3.29**	**268**	P	**Pn**	**20 25 58.1**	**+1.9**
MAT				S	**Sb**	**20 26 40.2**	**-2.9**
MJB9	**Matsu-Tunnel**	**3.29**	**268**		**Pn**	**20 25 58.9**	**+2.7**
JHJ2	**Mitsune**	**4.16**	**210**	Pn	**Pn**	**20 26 09.1**	**+1.0**
JHJ	**Hachijo jima 2**	**4.17**	**210**	Pn	**Pn**	**20 26 08.2**	**0.0**
	8.5nm,0.3s,baz=26,slow=16,SNR=20						
JHJ				Sn	**Sn**	**20 26 52.4**	**-4.8**
	33nm,0.3s,baz=60,slow=20,SNR=8.6						
ERM	**Erimo**	**5.30**	**7**	Pn	**Pn**	**20 26 24.9**	**+1.2**
ASAJ	**Asahikawa**	**7.36**	**2**	Pn	**Pn**	**20 26 53.3**	**+1.3**
	2.1nm,0.3s,baz=205,slow=10,SNR=19						
ASAJ				Sn	**Sn**	**20 28 12.2**	**-3.5**
	baz=162,slow=19,SNR=1.1						
JKA	**Kamikawa-asahi**	**7.36**	**2**		**Pn**	**20 26 53.1**	**+1.1**
JKA	**Kamikawa-asahi**	**7.36**	**2**		**Sn**	**20 28 12.2**	**-3.5**
JCJ	**Chichijima**	**9.63**	**181**	Pn	**Pn**	**20 27 23.7**	**+0.4**
	3.3nm,0.3s,baz=37,slow=20,SNR=1.7						
JCJ	**Chichijima**	**9.63**	**181**		**Pn**	**20 27 23.1**	**-0.1**
KSRS	**Korea Array**	**11.49**	**278**	Pn	**Pn**	**20 27 50.1**	**+1.3**
	0.1nm,0.3s,baz=94,slow=13,SNR=2.8						
KSRS				LR	LR	20 32 06.7	
	comp=Z,98nm,18.1s,baz=103,slow=37						
ENH	**Enshi**	**28.01**	**266**	P	**P**	**20 30 55.2**	**-0.6**
ENH				IAmb	IAmb	20 30 57.1	
	comp=Z,6.1nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**28.12**	**124**	T	T	21 00 51.3	
	baz=315,slow=76,SNR=7.5						
H11S3	**WAKE ISLAND Hy**	**28.12**	**124**	T	T	21 01 19.9	
	baz=315,slow=76,SNR=7.3						
H11S2	**WAKE ISLAND Hy**	**28.14**	**124**	T	T	21 00 55.2	
	baz=315,slow=76,SNR=6.6						
HKPS	**Hong Kong Po S**	**28.30**	**247**	P	**P**	**20 31 00.4**	**+2.0**
SONM	**Songino Array**	**28.52**	**304**	P	**P**	**20 31 00.9**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=100,slow=8.8,SNR=10						
SONM	**Songino Array**	**28.52**	**304**		**P**	**20 31 01.7**	**+1.3**
ZALV	**Zalesovo Beam**	**42.62**	**313**	P	**P**	**20 33 01.5**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=69,slow=10,SNR=2.3						
ZALV				LR	LR	20 51 31.8	
	comp=Z,35nm,18.4s,baz=97,slow=37						
ZALV	**Zalesovo Beam**	**42.62**	**313**	P	**P**	**20 33 01.9**	**+1.1**
MK31	**Makanchi Array**	**44.86**	**302**	P	**P**	**20 33 19.7**	**+0.6**
MKAR	**Makanchi Array**	**44.86**	**302**	P	**P**	**20 33 20.3**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=77,slow=9.5,SNR=6.8						
MKAR	**Makanchi Array**	**44.86**	**302**	P	**P**	**20 33 18.8**	**-0.2**
KURK	**Kurchatov**	**46.66**	**308**		**P**	**20 33 33.9**	**+0.8**
JOHN	**Johnston Islan**	**46.88**	**102**	P	**P**	**20 33 35.2**	**0.0**
WRAB	**Tennant Creek**	**56.88**	**189**	P	**P**	**20 34 49.5**	**-0.2**
WRAB				IAmb	IAmb	20 35 08.4	
	comp=Z,23nm,1.6s						
WR0	**Warramunga Arr**	**56.88**	**189**	P	**P**	**20 34 50.6**	**+0.9**
WR0				IAmb	IAmb	20 35 05.0	
	comp=Z,18nm,1.4s						
WB2	**Warramunga Arr**	**56.89**	**189**	P	**P**	**20 34 51.2**	**+1.4**
WB2				IAmb	IAmb	20 35 11.0	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**56.89**	**189**	P	**P**	**20 34 50.4**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=16,slow=5.1,SNR=1.8						
NOA	**NORSAR Array B**	**74.71**	**338**	LR	LR	21 13 13.9	
	comp=Z,14nm,19.1s,baz=355,slow=39						

*NEIC **15** 20:36:21.9±1.6,57.˚98N±0.˚05×156.˚4W±0.˚1,h139km±4km, Error ellipse: s-maj=8.8km s-min=6.8km az=100.0*
*AEIC **15** 20:36:23.6±2.2,57.˚93N±0.˚04×156.˚3W±0.˚1,h131km±3km, ML3.7,mb4.1/13(NEIC),Error ellipse: s-maj=8.7km s-min=5.2km az=113.0*
*IDC **15** 20:36:25.7±3.5,58.˚49N×156.˚34W,h157km±32km, mb3.4/15,mb1 3.6/17,mb1mx3.4/51,mbtmp3.9/17,Error ellipse: s-maj=26.7km s-min=10.4km az=25.0*

ISC 15 20:36:22.3±0.7,57.˚98N±0.˚05×156.˚36W±0.˚05, h136km±6km,n153,σ1ᵗ12/160,mb3.7/19,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK2	**Peulik 2**	**0.22**	**175**		**Pn**	**20 36 40.9**	**0.0**
PLK1	**Peulik 1**	**0.23**	**217**		**Pn**	**20 36 40.8**	**0.0**
PLK1					**Sn**	**20 36 54.3**	**-0.6**
PLK5	**Peulik 5**	**0.28**	**273**		**Pn**	**20 36 41.2**	**+0.2**
PLK3	**Peulik 3**	**0.30**	**171**		**Pn**	**20 36 41.2**	**+0.1**
PLK3					**Sn**	**20 36 55.4**	**0.0**
PLBL	**Peulik Blue Cr**	**0.38**	**221**		**Pn**	**20 36 41.3**	**-0.1**
KJL	**Kejulik**	**0.42**	**80**		**Pn**	**20 36 41.6**	**-0.1**
ANCK	**Angle Creek**	**0.51**	**64**		**Pn**	**20 36 42.1**	**0.0**
ANCK					**Sn**	**20 36 56.5**	**-0.6**
CAHL	**Cahill**	**0.57**	**82**		**Pn**	**20 36 42.2**	**-0.2**
ACHA	**Angle Creek He**	**0.59**	**67**		**Pn**	**20 36 42.6**	**0.0**
KABU	**Katmai Buttres**	**0.64**	**63**		**Pn**	**20 36 43.0**	**0.0**
KABU					**Sn**	**20 36 58.4**	**-0.2**
KCG	**Knife Ck. Glac**	**0.74**	**63**		**Pn**	**20 36 43.5**	**0.0**
KAHC	**Katmai Hardscr**	**0.98**	**46**		**Pn**	**20 36 45.5**	**-0.1**
KAHC					**Sn**	**20 37 02.9**	**-0.4**
KARR	**Katmai Rainbow**	**1.02**	**59**		**Pn**	**20 36 45.9**	**+0.1**
KAHG	**Katmai Hook Gl**	**1.09**	**61**		**Pn**	**20 36 46.7**	**+0.2**
OHAK	**Old Harbor**	**1.82**	**113**		**Pn**	**20 36 53.5**	**-0.8**
OHAK	**Old Harbor**	**1.82**	**113**		**Sn**	**20 37 17.3**	**-1.6**
SII	**Sitkinak Islan**	**1.85**	**139**	Pn	**Pn**	**20 36 54.0**	**-0.8**
SII	**Sitkinak Islan**	**1.85**	**139**		**Sn**	**20 37 18.8**	**-0.9**
KDAK	**Kodiak Island**	**2.03**	**94**	P	**Pn**	**20 36 56.1**	**-0.6**
	85nm,0.3s,baz=295,slow=9.3,SNR=558						
KDAK				S	**Sn**	**20 37 21.2**	**-2.0**
	54nm,0.3s,baz=147,slow=22,SNR=18						
KDAK	**Kodiak Island**	**2.03**	**94**		**Sn**	**20 37 21.1**	**-2.2**
AUW	**Augustine West**	**2.06**	**46**		**Pn**	**20 37 56.5**	**+0.5**
AUH	**Augustine H**	**2.06**	**46**		**Pn**	**20 37 57.7**	**+0.4**
AUQ	**Augustine Qik'**	**2.06**	**47**		**Pn**	**20 37 57.6**	**+0.3**
AUP	**Augustine Pinn**	**2.07**	**47**		**Pn**	**20 37 58.4**	**+0.4**
AUL	**Augustine Lava**	**2.07**	**46**		**Pn**	**20 37 58.4**	**+0.4**
CHIR	**Chirikof Islan**	**2.20**	**169**		**Pn**	**20 37 57.7**	**-1.3**
CHIR	**Chirikof Islan**	**2.20**	**169**		**Sn**	**20 37 24.9**	**-2.3**
OPT	**Oil Point**	**2.33**	**43**		**Pn**	**20 37 00.9**	**+0.3**
VNSS	**Veniaminof 8**	**2.44**	**225**		**Pn**	**20 37 02.6**	**+0.5**
ILS	**Iliamna Low So**	**2.61**	**39**		**Pn**	**20 37 04.4**	**+0.3**
HOM	**Homer**	**2.97**	**54**		**Pn**	**20 37 09.6**	**+1.0**
HOM					**Sn**	**20 37 44.2**	**-0.2**
CNPM	**China Poot**	**3.08**	**58**	Pn	**Pn**	**20 37 10.2**	**+0.1**
CNPM	**China Poot**	**3.08**	**58**		**Sn**	**20 37 44.7**	**-2.4**
RDWB	**Redoubt West**	**3.10**	**34**		**Pn**	**20 37 10.3**	**0.0**
RSO	**Redoubt South**	**3.10**	**35**		**Pn**	**20 37 11.4**	**+0.9**
SVW2	**Sparrevohn**	**3.15**	**7**		**Pn**	**20 37 10.8**	**-0.1**
RDT	**Redoubt**	**3.30**	**36**		**Pn**	**20 37 13.6**	**+0.7**
BRLK	**Bradley Lake**	**3.36**	**56**	Pn	**Pn**	**20 37 12.9**	**-0.7**
BRSE	**Bradley Lake S**	**3.41**	**56**		**Pn**	**20 37 13.8**	**-0.5**
SDPT	**Sand Point**	**3.48**	**222**	Pn	**Pn**	**20 37 14.7**	**-0.6**
PS4A	**Pavlof South-4**	**4.02**	**231**		**Pn**	**20 37 23.3**	**+0.9**
SLKM	**Skilak Lake**	**4.04**	**49**		**Pn**	**20 37 22.6**	**0.0**
SEW	**Seward**	**4.15**	**56**		**Pn**	**20 37 23.8**	**-0.2**
STLK	**Strandline Lak**	**4.21**	**31**		**Pn**	**20 37 26.1**	**+1.3**
DT1	**Dutton Round H**	**4.36**	**231**		**Pn**	**20 37 27.4**	**+0.5**
SKT	**Skwentna**	**4.69**	**29**	Pn	**Pn**	**20 37 31.6**	**+0.4**
TT01	**Tatalina**	**4.94**	**2**		**Pn**	**20 37 34.8**	**+0.2**
TTA	**Tatalina**	**4.97**	**2**	Pn	**Pn**	**20 37 35.0**	**+0.1**
PWL	**Port Wells**	**5.01**	**51**		**Pn**	**20 37 34.4**	**-1.1**
KNK	**Knik Glacier**	**5.28**	**46**		**Pn**	**20 37 38.0**	**-1.0**
GHO	**Glory Hole Cre**	**5.33**	**41**		**Pn**	**20 37 37.9**	**-1.9**
PPLA	**Purkeypile**	**5.34**	**21**		**Pn**	**20 37 42.0**	**+2.0**
MID	**Middleton Isla**	**5.42**	**70**		**Pn**	**20 37 40.3**	**-0.6**
GLI	**Glacier Island**	**5.55**	**55**		**Pn**	**20 37 41.0**	**-1.6**
HIN	**Hinchinbrook I**	**5.61**	**60**	Pn	**Pn**	**20 37 43.1**	**-0.5**
FID	**Port Fidalgo**	**5.76**	**57**		**Pn**	**20 37 44.0**	**-1.5**
JPK	**Jack Peak**	**5.84**	**54**		**Pn**	**20 37 45.9**	**-0.7**
EYAK	**Cordova Ski Ar**	**6.02**	**60**	Pn	**Pn**	**20 37 47.6**	**-1.2**
WAT7	**Susitna Watana**	**6.12**	**34**		**Pn**	**20 37 49.0**	**-1.4**
WAT1	**Susitna Watana**	**6.21**	**35**		**Pn**	**20 37 50.0**	**-1.5**
TRF	**Thorofare Moun**	**6.24**	**26**	Pn	**Pn**	**20 37 51.6**	**-0.4**
WAT6	**Susitna Watana**	**6.29**	**39**		**Pn**	**20 37 50.9**	**-1.8**
KLU	**Klutina**	**6.34**	**52**		**Pn**	**20 37 52.3**	**-1.0**
RAGM	**Ragged Mountai**	**6.47**	**63**		**Pn**	**20 37 54.5**	**-0.5**
KAIM	**Kayak Island**	**6.48**	**67**	Pn	**Pn**	**20 37 54.5**	**-0.6**
RND	**Reindeer**	**6.57**	**31**		**Pn**	**20 37 55.1**	**-1.2**
AKGG	**Akutan Green G**	**6.59**	**239**		**Pn**	**20 37 57.2**	**+0.6**
AKLV	**Akutan Long Va**	**6.59**	**239**		**Pn**	**20 37 56.9**	**+0.1**
ZRO	**Akutan Zero**	**6.65**	**238**		**Pn**	**20 37 57.9**	**+0.4**
HMT	**Hamilton**	**6.65**	**64**		**Pn**	**20 37 56.9**	**-0.6**
AKMO	**Akutan Morgan**	**6.67**	**238**		**Pn**	**20 37 58.0**	**+0.4**
BPAW	**Bear Paw Mtn.**	**6.67**	**21**		**Pn**	**20 37 57.5**	**-0.1**
SUCK	**Suckling Hills**	**6.82**	**67**		**Pn**	**20 37 59.2**	**-0.2**
BERG	**Berg Lake**	**6.94**	**64**		**Pn**	**20 38 00.7**	**-0.5**
UNV	**Unalaska Valle**	**7.05**	**238**		**Pn**	**20 38 01.8**	**-1.0**
MNAT	**Makushin Natee**	**7.11**	**239**		**Pn**	**20 38 03.2**	**-0.3**
MSW	**Makushin Switc**	**7.13**	**240**		**Pn**	**20 38 03.5**	**-0.4**
MREP	**Makushin Rep't**	**7.18**	**239**		**Pn**	**20 38 04.4**	**-0.2**
GLB	**Gilahina Butte**	**7.23**	**56**	Pn	**Pn**	**20 38 04.5**	**-0.7**
MAPS	**Pakushin South**	**7.27**	**239**		**Pn**	**20 38 05.2**	**-0.5**
CRQM	**Cirque**	**7.30**	**62**		**Pn**	**20 38 05.4**	**-0.9**
VRDI	**Verde Repeater**	**7.31**	**58**	Pn	**Pn**	**20 38 05.8**	**-0.6**
TGL	**Tana Glacier**	**7.45**	**62**	Pn	**Pn**	**20 38 07.1**	**-1.1**
BARK	**Barkley Ridge**	**7.52**	**65**		**Pn**	**20 38 09.1**	**-0.1**
MCARA	**McCarthy VSAT**	**7.56**	**58**		**Pn**	**20 38 09.0**	**-0.6**
WRH	**Wood River Hil**	**7.63**	**28**	Pn	**Pn**	**20 38 08.8**	**-1.7**
ISLE	**Juniper Island**	**7.64**	**64**		**Pn**	**20 38 10.4**	**-0.4**
KIAG	**Kiagna River**	**7.72**	**62**		**Pn**	**20 38 11.3**	**-0.6**
MESA	**MESA**	**7.74**	**67**		**Pn**	**20 38 12.0**	**-0.2**
PTPK	**Patty Peak**	**7.75**	**60**		**Pn**	**20 38 12.0**	**-0.3**
BALM	**Baldy**	**7.75**	**61**		**Pn**	**20 38 11.9**	**-0.5**
CCB	**Clear Creek Bu**	**7.84**	**28**		**Pn**	**20 38 11.6**	**-1.7**
YAH	**Yahtse**	**7.88**	**66**		**Pn**	**20 38 13.8**	**-0.2**
HDA	**Harding Lake**	**7.88**	**31**		**Pn**	**20 38 12.1**	**-1.8**
GRNC	**Granite Creek**	**7.95**	**64**		**Pn**	**20 38 15.0**	**-0.1**
OKFG	**Magazine Ridge**	**7.97**	**240**		**Pn**	**20 38 14.6**	**-0.5**
MDM	**Murphy Dome**	**8.00**	**26**		**Pn**	**20 38 14.4**	**-1.1**
OKTU	**Okmok Mt. Tuli**	**8.05**	**240**		**Pn**	**20 38 15.1**	**-1.2**
RIDG	**Independent Ri**	**8.05**	**39**		**Pn**	**20 38 15.5**	**-0.7**
RKAV	**Rock Avalanche**	**8.06**	**67**		**Pn**	**20 38 17.0**	**+0.6**
OKCE	**Okmok Cone E**	**8.08**	**241**		**Pn**	**20 38 17.4**	**+0.8**
BARN	**Barnard Glacie**	**8.08**	**61**		**Pn**	**20 38 16.5**	**-0.3**
IM03		**8.12**	**8**		**Pn**	**20 38 17.9**	**+0.9**
IMAR	**Indian Mountai**	**8.12**	**8**	Pn	**Pn**	**20 38 17.7**	**+0.6**
CHX	**Chaix Hills**	**8.13**	**69**		**Pn**	**20 38 17.5**	**+0.1**
IL31		**8.18**	**30**		**Pn**	**20 38 15.8**	**-2.1**
ILAR	**Eielson Array**	**8.18**	**30**	P	**Pn**	**20 38 15.0**	**-2.9**
	1.1nm,0.3s,baz=216,slow=13,SNR=34						
ILAR				S	Sn	20 39 41.0	-7.7
	0.7nm,0.3s,baz=336,slow=28,SNR=3.5						
ILAR	**Eielson Array**	**8.18**	**30**	Pn	**Pn**	**20 38 16.1**	**-1.8**
CTGM	**Chitina Glacie**	**8.21**	**62**		**Pn**	**20 38 18.2**	**-0.3**
DOT	**Dot Lake**	**8.26**	**41**	Pn	**Pn**	**20 38 18.6**	**-0.4**
SAMH	**Samovar Hills**	**8.31**	**68**		**Pn**	**20 38 20.2**	**+0.4**
PCA	**Pinnacle**	**8.57**	**69**		**Pn**	**20 38 22.9**	**-0.2**
YUK2	**White River**	**8.68**	**57**		**Pn**	**20 38 25.3**	**+0.6**
BC03		**8.80**	**49**		**Pn**	**20 38 25.8**	**-0.4**
BCAR	**Beaver Creek A**	**8.80**	**49**	Pn	**Pn**	**20 38 25.1**	**-1.1**
YUK3	**Moose Creek**	**8.85**	**58**		**Pn**	**20 38 27.2**	**+0.1**
BCPM	**Bancas Point**	**8.86**	**70**		**Pn**	**20 38 26.5**	**-0.5**
PNL	**Peninsula**	**8.96**	**72**		**Pn**	**20 38 27.9**	**-0.5**
HYT	**Haines Junctio**	**10.02**	**66**	Pn	**Pn**	**20 38 43.0**	**+0.4**
WHY	**Whitehorse**	**11.28**	**67**		**Pn**	**20 38 59.6**	**+0.2**
DLBC	**Dease Lake**	**13.86**	**77**	P	**Pn**	**20 39 35.1**	**+2.4**
	0.8nm,0.3s,baz=348,slow=6.8,SNR=6.5						
DLBC	**Dease Lake**	**13.86**	**77**		**P**	**20 39 36.9**	**+0.3**
INK	**Inuvik**	**14.50**	**35**	P	**Pn**	**20 39 40.5**	**-0.1**
	0.2nm,0.3s,baz=203,slow=7.5,SNR=3.1						
YKA	**Yellowknife Ar**	**20.92**	**60**	P	**P**	**20 40 53.6**	**0.0**
	2.1nm,0.8s,baz=276,slow=9.8,SNR=10						
SEY	**Seymchan**	**25.17**	**303**	P	**P**	**20 41 33.4**	**-1.1**
	0.5nm,0.3s,baz=69,slow=12,SNR=5.1						
PETK	**Petropavlovsk-**	**26.04**	**279**	P	**P**	**20 41 44.3**	**+1.8**
	0.5nm,0.4s,baz=73,slow=14,SNR=6.5						
YBH	**Yreka Blue Hor**	**26.73**	**113**	P	**P**	**20 41 52.9**	**+4.0**
	1.2nm,0.5s,baz=329,slow=6.6,SNR=5.9						
NVAR	**Mina Array Bea**	**31.43**	**112**	P	**P**	**20 42 33.2**	**+2.6**
	1.0nm,0.7s,baz=307,slow=9.6,SNR=7.4						
NVAR				PcP	**PcP**	**20 45 21.9**	**+1.4**
	0.3nm,0.4s,baz=274,slow=3.9,SNR=4.2						
PD31	**Pinedale Array**	**32.74**	**97**	P	**P**	**20 42 42.9**	**+0.8**
PD31				IAmb	IAmb	20 42 52.4	
	comp=Z,4.3nm,1.6s						
PDAR	**Pinedale Array**	**32.74**	**97**	P	**P**	**20 42 43.8**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=310,slow=4.8,SNR=13						
PDAR	**Pinedale Array**	**32.74**	**97**	P	**P**	**20 42 43.4**	**+1.3**
R11A	**Troy Canyon, C**	**32.85**	**109**	P	**P**	**20 42 44.4**	**+1.4**
SRU	**San Rafael Swe**	**34.87**	**103**	P	**P**	**20 43 02.5**	**+2.0**
PV22	**Blue Mesa, Par**	**36.20**	**101**	P	**P**	**20 43 13.7**	**+1.8**
PV22				IAmb	IAmb	20 43 14.5	
	comp=Z,3.6nm,1.0s						
PV05	**Paradox Valley**	**36.38**	**102**	P	**P**	**20 43 14.8**	**+1.4**
PV13	**Radium Mtn., P**	**36.47**	**102**	P	**P**	**20 43 15.7**	**+1.6**
RMX	**La Rumorosa**	**37.17**	**115**		**P**	**20 43 22.2**	**+2.2**
RMX				IAmb	IAmb	20 43 26.9	
	comp=Z,5.9nm,1.1s						
KLR	**Kul'dur**	**41.62**	**290**	P	**P**	**20 43 55.5**	**-1.0**
	comp=Z,2.0nm,0.5s,baz=76,slow=7.9,SNR=8.8						
MNTX	**Cornudas Mount**	**43.24**	**105**	P	**P**	**20 44 12.2**	**+2.4**
MNTX				IAmb	IAmb	20 44 13.1	
	comp=Z,3.3nm,0.7s						
TX31	**Lajitas Ar. Si**	**46.02**	**105**	P	**P**	**20 44 33.1**	**+1.1**
TX32	**Lajitas Array**	**46.02**	**105**	P	**P**	**20 44 32.8**	**+0.8**
TX32				IAmb	IAmb	20 44 34.8	
	comp=Z,2.6nm,0.9s						
TXAR	**Lajitas Array**	**46.02**	**105**	P	**P**	**20 44 33.9**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=310,slow=5.3,SNR=14						
TXAR	**Lajitas Array**	**46.02**	**105**	P	**P**	**20 44 33.1**	**+1.1**
SONM	**Songino Array**	**54.54**	**305**	P	**P**	**20 45 36.0**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=40,slow=6.6,SNR=24						
SONM	**Songino Array**	**54.54**	**305**		**P**	**20 45 35.4**	**-0.5**
ZALV	**Zalesovo Beam**	**57.94**	**322**	P	**P**	**20 45 57.4**	**-2.4**
	comp=Z,0.3nm,0.4s,baz=38,slow=7.3,SNR=1.9						
KURK	**Kurchatov**	**62.68**	**324**	P	**P**	**20 46 32.7**	**+0.7**
KURK	**Kurchatov**	**62.68**	**324**	IAmb	IAmb	20 46 38.9	
	comp=Z,2.0nm,0.5s						
KURBB	**Kurchatov Arra**	**62.79**	**324**	P	**P**	**20 46 32.7**	**0.0**
	comp=Z,0.2nm,0.3s,baz=28,slow=6.5,SNR=1.9						
BVAR	**Borovoye Array**	**63.00**	**330**	P	**P**	**20 46 32.7**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=18,slow=4.1,SNR=6.2						
MKAR	**Makanchi Array**	**64.88**	**320**	P	**P**	**20 46 45.2**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=12,slow=5.2,SNR=6.5						
AKASG	**Malin Array Be**	**71.58**	**356**	P	**P**	**20 47 25.8**	**-2.3**
	comp=Z,0.7nm,0.5s,baz=4.7,slow=5.7,SNR=2.4						
CMAR	**Chiang Mai Arr**	**82.07**	**292**	P	**P**	**20 48 26.1**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=15,slow=4.8,SNR=6.3						

*BJI **15** 20:48:45.3±0.0,1.˚77N×96.˚40E,h45km,mB4.7/15, mb4.5/23,Ms4.0/5,Ms7 3.8/4*
*NEIC **15** 20:48:47.4±1.5,2.

comp=Z,35nm,18.3s,baz=215,slow=39
MK31 Makanchi Array 46.06 347 P **P** **20 57 09.5 +0.1**
MK31 IAmb IAmb 20 57 10.4
comp=Z,3.4nm,0.7s
MKAR Makanchi Array 46.06 347 P **P** **20 57 09.4 0.0**
comp=Z,4.6nm,0.7s,baz=157,slow=6.6,SNR=53
MKAR Makanchi Array 46.06 347 P **P** **20 57 09.2 -0.2**
MAKZ Makanchi 46.15 346 P **P** **20 57 09.4 -0.8**
MAKZ IAmb IAmb 20 57 10.9
comp=Z,3.7nm,0.7s
SONM Songino Array 46.26 9 P **P** **20 57 10.9 -0.2**
comp=Z,1.3nm,0.5s,baz=190,slow=9.3,SNR=17
SONM PcP **PcP** **20 58 47.2 +0.8**
comp=Z,0.6nm,0.7s,baz=229,slow=3.4,SNR=3.3
SONM LR LR 21 19 02.2
comp=Z,45nm,19.2s,baz=218,slow=39
SONM Songino Array 46.26 9 P **P** **20 57 10.8 -0.2**
KKAR Karatay Array 46.78 334 P **P** **20 57 14.9 -0.3**
GEYT Alibeck 49.91 320 P **P** **20 57 41.1 +1.7**
comp=Z,1.0nm,0.6s,baz=168,slow=10,SNR=2.1
GEYT Alibeck 49.91 320 P **P** **20 57 40.7 +1.3**
KURK Kurchatov 50.60 345 P **P** **20 57 44.1 -0.2**
KURK IAmb IAmb 20 57 44.9
comp=Z,2.3nm,0.8s
ZAA0 Zalesovo Array 52.43 351 P **P** **20 57 57.7 -0.2**
ZALV Zalesovo Beam 52.43 351 P **P** **20 57 57.8 -0.1**
comp=Z,7.9nm,0.6s,baz=179,slow=7.1,SNR=29
ZALV LR LR 21 25 24.4
comp=Z,22nm,18.1s,baz=212,slow=42
ZALV Zalesovo Beam 52.43 351 P **P** **20 57 57.4 -0.5**
ABKAR Akbulak array 56.23 332 P **P** **20 58 24.9 -0.9**
NRIK Noril'sk 67.27 357 P **P** **20 59 37.5 -2.2**
comp=Z,1.9nm,0.6s,baz=210,slow=11,SNR=2.0
KLMR Klimovskoe 72.48 335 *eP* **P** **21 00 15.8 +3.9**
KLMR AMP 21 00 19.4
comp=Z,8.0nm,1.3s
FINES FINESS Array B 78.72 333 P **P** **21 00 46.9 -0.8**
comp=Z,1.0nm,0.7s,baz=106,slow=12,SNR=3.9
FINES FINESS Array B 78.72 333 P **P** **21 00 47.4 -0.3**
ARCES ARCESS Array B 81.30 340 P **P** **21 01 01.4 -0.1**
comp=Z,1.6nm,0.8s,baz=82,slow=8.7,SNR=4.7
TXAR Lajitas Array 143.22 30 PKP **PKPdf** **21 08 21.3 +0.7**
comp=Z,0.2nm,0.6s,baz=343,slow=3.9,SNR=2.8
TXAR Lajitas Array 143.22 30 **PKPdf** **21 08 20.9 +0.3**

JMA 15 20:54:46.9±0.2, 37.54N×143.92E, h50km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**2.09**	**292**	P		Pn	20 55 20.5	+1.1
JIKH				S		Sn	20 55 45.4	+1.2
JIO	**Ouri**	**2.23**	**295**	P		Pn	20 55 22.4	+1.1
JIO				S		Sn	20 55 48.9	+1.3
JKMT	**Kesennumamotoy**	**2.31**	**304**	P		Pn	20 55 23.4	+1.0
JKMT				S		Sn	20 55 50.5	+0.9
OFUJ	**Ofunato**	**2.34**	**312**	P		Pn	20 55 24.0	+1.0
OFUJ				*e*S		Sn	20 55 50.9	+0.4
JMK	**Ichinoseki**	**2.55**	**304**	P		Pn	20 55 27.1	+1.3
JMK				*e*S		Sn	20 55 56.9	+1.3
JOM	**Ohasama**	**2.82**	**314**	P		Pn	20 55 30.9	+1.4
JOM				S		Sn	20 56 03.9	+1.6
JFT	**Otama**	**2.85**	**271**	P		Pn	20 55 31.9	+2.0
JFT				S		Sn	20 56 05.4	+2.4
JYK	**Kaneyama**	**3.12**	**297**	P		Pn	20 55 35.9	+2.3
JYK				*e*S		Sn	20 56 12.5	+2.8
JANG	**Nango**	**3.39**	**327**	P		Pn	20 55 39.0	+1.7
JRY	**Ryogami san**	**4.31**	**251**	P		Pn	20 55 50.9	+1.0
JRY				*e*S		Sn	20 56 38.5	-0.3
JOD2	**Odawara 2**	**4.51**	**241**	P		Pn	20 55 53.8	+1.1
JOD2				*e*S		Sn	20 56 42.6	-1.3
JKB	**Kayabe**	**4.88**	**334**	P		Pn	20 55 59.8	+2.1
JKB				*e*S		Sn	20 56 52.5	-0.3
JCH	**Churui**	**5.09**	**355**	P		Pn	20 56 00.1	-0.4
JCH				*e*S		Sn	20 56 55.0	-2.9
NEM2	**Nemuro 2**	**5.98**	**13**	P		Pn	20 56 10.4	-2.4
NEM2				*e*S		Sn	20 57 13.4	-6.5
JTKR	**Abashiri--Toko**	**6.42**	**360**	P		Pn	20 56 18.1	-0.7
JTKR				*e*S		Sn	20 57 27.4	-3.4

IDC ***15*** *21:42:27.4±0.5, 42.97N×77.40E, h0km, mb4.4/28, mb1 4.5/35, mb1mx4.5/40, mbtmp4.4/35, ML3.6/6, MS4.2/42, Ms1 4.2/42, ms1mx4.1/55, Error ellipse: s-maj=9.3km s-min=7.1km az=154.0*
BJI ***15*** *21:42:27.5±0.0, 43.08N×77.45E, h3km, mB4.7/38, mb4.6/52, ML4.9/5, Ms4.4/54, Ms7 4.3/52*
MOS ***15*** *21:42:28.2±0.9, 43.01N×77.40E, h12km, mb5.0/57, MS4.3/20, Error ellipse: s-maj=4.7km s-min=3.6km az=41.7*
MOS Felt (IV-V) at Almaty.
NNC ***15*** *21:42:29.6±0.3, 43.00N×77.34E, h5km±2km, mb5.4, mpv5.2, Error ellipse: s-maj=3.4km s-min=1.4km az=171.0*
SOME ***15*** *21:42:29.8, 42.97N×77.33E, h15km, MS4.3*
NEIC ***15*** *21:42:30.8±1.6, 42.94N±0.03×77.43E±0.04, h21km±3km, mb5.0/200, Error ellipse: s-maj=4.6km s-min=3.3km az=60.0*
KRNET ***15*** *21:42:30.3±0.1, 42.89N×77.27E, h14km, mb5.4*
KNET ***15*** *21:42:31.0±0.8, 42.91N×77.24E, h18km±6km, ml5.2, Error ellipse: s-maj=6.2km s-min=3.8km az=101.0*
GCMT ***15*** *21:42:32.8±0.3, 43.19N±0.02×77.29E±0.03, h27km±1km, MW4.8/79, Moment Tensor Solution. s23,c29; s79,c118; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.47±.11; Mθθ -1.52±.07; Mφφ 0.05±.06; Mrθ -1.73±.13; Mθφ -0.54±.04; Mφr -0.01±.11; Best double couple: M0 2.34800×10^16 NP1: φs 266.00000°, δ 69.00000°, λ 101.00000°. Principal axes: T 2.2830, Plg64.0000°, Azm193.0000°; N 0.1320, Plg10.0000°, Azm82.0000°; P -2.4130, Plg24.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***15*** *21:42:40.1±0.0, 43.30N×76.43E, h21km±2km, mb4.7, Ms4.1*

ISC 15 21:42:30.1±0.3, 42.96N±0.01×77.32E±0.01, h15km±2km, h15km:pP-P, n748, σ1s 81/898, mb4.9/230, MS4.3/66, 99C-58D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**0.29**	**316**	⇓*eP*		**Pg**	**21 42 36.0**	**-0.4**
	7μm,0.1s							
MDOK				*e*S		**Sg**	**21 42 40.3**	**-0.3**
	303μm,0.4s							
MDOK	**Medeo**	**0.29**	**316**	⇓P		**Pg**	**21 42 36.0**	**-0.4**
MDOK				⇑S		**Sg**	**21 42 40.1**	**-0.6**
MDOK	**Medeo**	**0.29**	**316**	Pg		**Pg**	**21 42 36.0**	**-0.4**
	8μm,0.3s							
MDOK				Lg		Lg	21 42 40.4	
	324μm,0.6s							
MDOK	**Medeo**	**0.29**	**316**	PG		**Pg**	**21 42 36.0**	**-0.4**
MDOK				S		**Sg**	**21 42 40.5**	**-0.1**
TNSS	**Tian-Shan**	**0.29**	**286**	⇑*eP*		**Pg**	**21 42 36.4**	**-0.1**
TNSS				*e*S		**Sg**	**21 42 40.3**	**-0.5**
TNSS	**Tian-Shan**	**0.29**	**286**	P		**Pg**	**21 42 36.3**	**-0.1**
	16μm,0.2s							
TNSS				S		**Sg**	**21 42 41.0**	**+0.2**
	65μm,0.3s							
ANVS	**Anan'yevo**	**0.31**	**125**	⇓*iP*		**Pg**	**21 42 36.5**	**-0.2**
	baz=9.0							
ANVS				⇓*iS*		**Sg**	**21 42 41.2**	**0.0**
	baz=9.0							
KOTS	**Kotyrbulak**	**0.32**	**331**	⇑*eP*		**Pg**	**21 42 36.6**	**-0.3**
	11μm,0.2s							
KOTS				*e*S		**Sb**	**21 42 41.4**	**-1.2**
	479μm,0.5s							
KOTS	**Kotyrbulak**	**0.32**	**331**	P		**Pg**	**21 42 36.6**	**-0.3**
	8μm,0.2s							
KOTS				S		**Sg**	**21 42 41.1**	**-0.3**
	287μm,0.4s							
KNDC	**Almaty**	**0.37**	**315**	⇑P		**Pg**	**21 42 37.6**	**-0.1**
KNDC				⇓S		**Sg**	**21 42 42.3**	**-0.6**
KNDC	**Almaty**	**0.37**	**315**	PG		**Pg**	**21 42 37.6**	**-0.1**
KNDC				S		**Sg**	**21 42 42.3**	**-0.6**
AAA	**Alma-Ata**	**0.39**	**310**	⇓*eP*		**Pg**	**21 42 38.3**	**+0.2**
	9μm,0.2s							
AAA				*e*S		**Sb**	**21 42 44.1**	**-0.5**
	38μm,0.2s							
AAA	**Alma-Ata**	**0.39**	**310**	P		**Pg**	**21 42 38.3**	**+0.2**
	12μm,0.3s							
AAA				S		**Sb**	**21 42 44.2**	**-0.5**
	61μm,0.4s							
AAA	**Alma-Ata**	**0.39**	**310**	*e*PG		**Pg**	**21 42 38.3**	**+0.2**
AAA				*e*S		**Sb**	**21 42 44.2**	**-0.5**
AAA				pmax		pmax		
	comp=Z,12μm,0.4s							
AAA				smax		smax		
	comp=E,38μm,0.1s							
IZV	**Izvestkoviy**	**0.53**	**279**	⇓*eP*		**Pg**	**21 42 40.4**	**-0.3**
IZV				*e*S		**Sg**	**21 42 47.6**	**-0.1**
IZV	**Izvestkoviy**	**0.53**	**279**	P		**Pg**	**21 42 40.3**	**-0.3**
	comp=E,164nm,0.2s							
IZV				S		**Sg**	**21 42 47.7**	**-0.1**
	comp=E,1μm,0.5s							
MTBS	**Maitube**	**0.68**	**285**	⇓*eP*		**Pg**	**21 42 42.9**	**-0.6**
	comp=E,2μm,0.3s							
MTBS				*e*S		**Sg**	**21 42 52.1**	**-0.3**
	comp=E,36μm,0.4s							
MTBS	**Maitube**	**0.68**	**285**	P		**Pg**	**21 42 42.8**	**-0.6**
	comp=E,2μm,0.5s							
MTBS				S		**Sg**	**21 42 52.1**	**-0.3**
	comp=E,34μm,0.5s							
SATY	**Saty**	**0.80**	**82**	*e*P		**Pg**	**21 42 44.9**	**-0.9**
	comp=E,1μm,0.1s							
SATY				*e*S		**Sg**	**21 42 55.7**	**-0.6**
	comp=E,14μm,0.1s							
SATY	**Saty**	**0.80**	**82**	P		**Pg**	**21 42 45.0**	**-0.7**
	comp=E,2μm,0.3s							
SATY				S		**Sg**	**21 42 55.7**	**-0.6**
	comp=E,20μm,0.2s							
KURS	**Kuram**	**0.81**	**49**	⇑*eP*		**Pg**	**21 42 44.7**	**-1.3**
	comp=E,198nm,0.1s							
KURS				*e*S		**Sg**	**21 42 55.2**	**-1.5**
	comp=E,8μm,0.6s							
KURS	**Kuram**	**0.81**	**49**	P		**Pg**	**21 42 44.7**	**-1.3**
	comp=E,298nm,0.2s							
KURS				S		**Sg**	**21 42 55.4**	**-1.3**
	comp=E,10μm,1.3s							
KDJ	**Kajisay**	**0.83**	**187**	⇓*iP*		**Pb**	**21 42 45.4**	**-1.0**
	baz=84							
KDJ				⇓*iS*		**Sg**	**21 42 54.8**	**-2.6**
	baz=84							
KDJ	**Kajisay**	**0.83**	**187**	PG		**Pb**	**21 42 46.3**	**-0.1**
KDJ	**Kajisay**	**0.83**	**187**	Pn		**Pb**	**21 42 46.3**	**-0.1**
KTBS	**Karatobe**	**0.89**	**328**	⇓*eP*		**Pb**	**21 42 46.3**	**-0.9**
	comp=E,3μm,0.1s							
KTBS				*e*S		**Sg**	**21 42 57.9**	**-1.1**
	comp=E,26μm,0.3s							
KTBS	**Karatobe**	**0.89**	**328**	P		**Pb**	**21 42 46.3**	**-0.9**
	comp=E,3μm,0.3s							
KTBS				S		**Sg**	**21 42 58.0**	**-1.1**
	comp=E,51μm,0.5s							
PRZ	**Przheval'sk**	**0.93**	**121**	⇓*iP*		**Pb**	**21 42 48.1**	**+0.1**
	baz=15							
PRZ				⇓*iS*		**Sg**	**21 43 00.8**	**+0.5**
	baz=15							
PRZ	**Przheval'sk**	**0.93**	**121**	PG		**Pb**	**21 42 48.1**	**+0.1**
PRZ	**Przheval'sk**	**0.93**	**121**			**Pb**	**21 42 48.1**	**+0.1**
CHKK	**Chushkaly**	**0.93**	**345**	⇓*eP*		**Pb**	**21 42 46.9**	**-1.0**
	comp=E,4μm,0.1s							
CHKK				*e*S		**Sb**	**21 42 59.1**	**-1.0**
	comp=E,21μm,0.2s							
CHKK	**Chushkaly**	**0.93**	**345**	P		**Pb**	**21 42 46.9**	**-1.0**
	comp=E,6μm,0.4s							
CHKK				S		**Sb**	**21 42 59.1**	**-1.0**
	comp=E,16μm,0.5s							
KST	**Kastek**	**1.00**	**275**	⇓*eP*		**Pb**	**21 42 48.6**	**-0.6**
	comp=E,4μm,0.3s							
KST				*e*S		**Sb**	**21 43 02.5**	**+0.2**
	comp=E,15μm,0.3s							
KST	**Kastek**	**1.00**	**275**	P		**Pb**	**21 42 48.7**	**-0.6**
	comp=E,4μm,0.2s							
KST				S		**Sb**	**21 43 02.1**	**-0.2**
	comp=E,13μm,0.3s							
ULHL	**Ulahol**	**1.07**	**229**	⇑*iP*		**Pb**	**21 42 49.6**	**-0.8**
	baz=30							
ULHL				⇑*iS*		**Sb**	**21 43 03.0**	**-1.3**
	baz=30							
ULHL	**Ulahol**	**1.07**	**229**	P		**Pb**	**21 42 50.1**	**-0.4**
	comp=E,239nm,0.2s,SNR=1130							
ULHL				⇑S		**Sb**	**21 43 04.0**	**-0.3**
	comp=E,44μm,0.2s							
DGS	**Degeres**	**1.17**	**285**	⇓*eP*		**Pn**	**21 42 51.5**	**-0.6**
	comp=E,1μm,0.4s							
DGS				*e*S		**Sb**	**21 43 07.1**	**-0.1**
	comp=E,23μm,0.4s							
DGS	**Degeres**	**1.17**	**285**	P		**Pn**	**21 42 51.5**	**-0.6**
	comp=E,3μm,0.6s							
DGS				S		**Sb**	**21 43 06.9**	**-0.2**
	comp=E,18μm,0.4s							
KUU	**Kurty**	**1.18**	**323**	⇓*eP*		**Pn**	**21 42 51.3**	**-0.7**
	comp=E,3μm,0.3s							
KUU				*e*S		**Sb**	**21 43 06.7**	**-0.5**
	comp=E,21μm,0.2s							
KUU	**Kurty**	**1.18**	**323**	P		**Pn**	**21 42 51.4**	**-0.7**
	comp=E,4μm,0.5s							
KUU				S		**Sb**	**21 43 06.6**	**-0.7**
	comp=E,16μm,0.2s							
UZB	**Uzynbulak**	**1.26**	**81**	*e*P		**Pn**	**21 42 53.0**	**-0.3**
	comp=E,1μm,0.1s							
UZB				*e*S		**Sb**	**21 43 09.3**	**-0.4**
	comp=E,5μm,0.3s							
UZB	**Uzynbulak**	**1.26**	**81**	P		**Pn**	**21 42 52.4**	**-0.9**
	comp=E,1μm,0.3s							
UZB				S		**Sb**	**21 43 08.7**	**-1.0**
	comp=E,8μm,0.5s							
TKM2	**Tokmak 2**	**1.27**	**269**	⇑*iP*		**Pn**	**21 42 53.5**	**0.0**
	baz=72							
TKM2				⇑*iS*		**Sb**	**21 43 10.8**	**+0.5**
	baz=72							
TKM2	**Tokmak 2**	**1.27**	**269**	⇑P		**Pn**	**21 42 53.3**	**-0.2**
	comp=E,944nm,0.2s,SNR=1343							
TKM2				⇓S		**Sn**	**21 43 10.9**	**+0.6**
	comp=E,8μm,0.1s							
TKM2	**Tokmak 2**	**1.27**	**269**	⇑P		**Pn**	**21 42 53.4**	**0.0**
	comp=E,391nm,0.3s							
TKM2				⇓S		**Sb**	**21 43 10.4**	**+0.4**
	comp=E,2μm,0.2s							
TKM2	**Tokmak 2**	**1.27**	**269**	*i* PG		**Pn**	**21 42 53.4**	**0.0**
TKM2				pmax		pmax		
	comp=Z,891nm,0.6s							
TARG	**Taragay, Kyrgy**	**1.28**	**164**	⇓*iP*		**Pn**	**21 42 53.0**	**-0.8**
	baz=61							
TARG				⇓*iS*		**Sb**	**21 43 10.1**	**-0.4**
	baz=61							
TARG	**Taragay, Kyrgy**	**1.28**	**164**	Pn		**Pn**	**21 42 53.0**	**-0.8**
TARG				Sn		**Sb**	**21 43 10.0**	**-0.6**
ARXS	**Arharly**	**1.31**	**16**	⇑*eP*		**Pn**	**21 42 53.4**	**-0.6**
	comp=Z,3μm,0.2s							
ARXS				*e*S		**Sn**	**21 43 10.4**	**-0.7**
	comp=Z,20μm,0.3s							
ARXS	**Arharly**	**1.31**	**16**	P		**Pn**	**21 42 53.3**	**-0.6**
	comp=Z,8μm,0.4s							
ARXS				S		**Sn**	**21 43 10.1**	**-1.0**
	comp=Z,22μm,0.8s							
MNBS	**Baschi**	**1.37**	**35**	⇑*eP*		**Pb**	**21 42 54.9**	**-0.5**
	comp=Z,2μm,0.2s							
MNBS				*e*S		**Sg**	**21 43 13.1**	**-1.2**
	comp=Z,18μm,0.2s							
MNBS	**Baschi**	**1.37**	**35**	P		**Pb**	**21 42 55.0**	**-0.5**
	comp=Z,2μm,0.5s							
MNBS				S		**Sg**	**21 43 13.2**	**-1.2**
	comp=Z,22μm,0.5s							
KRBS	**Karabastau**	**1.41**	**302**	⇓*eP*		**Pn**	**21 42 55.5**	**+0.1**
	comp=Z,4μm,0.3s							
KRBS				*e*S		**Sb**	**21 43 14.0**	**0.0**
	comp=Z,16μm,0.3s							
KRBS	**Karabastau**	**1.41**	**302**	P		**Pn**	**21 42 55.4**	**+0.1**
	comp=Z,4μm,0.4s							
KRBS				S		**Sb**	**21 43 14.0**	**0.0**
	comp=Z,7μm,0.4s							
SHLS	**Shalkode**	**1.58**	**82**	*e*P		**Pg**	**21 43 04.1**	**+3.6**
	comp=Z,726nm,0.1s							
SHLS				*e*S		**Sg**	**21 43 28.6**	**+7.5**
	comp=Z,11μm,0.5s							
SHLS	**Shalkode**	**1.58**	**82**	P		**Pg**	**21 43 04.3**	**+3.8**
	comp=Z,785nm,0.4s							
SHLS				S		**Sg**	**21 43 28.9**	**+7.8**
	comp=Z,13μm,0.7s							
PDGK	**Podgornoye**	**1.63**	**76**	P		**Pb**	**21 42 59.1**	**-0.8**
	comp=Z,746nm,0.4s							
PDGK				S		**Sb**	**21 43 19.8**	**-0.6**
	comp=Z,3μm,0.5s							
PDGK	**Podgornoye**	**1.63**	**76**	⇑P		**Pn**	**21 42 58.6**	**+0.3**
	comp=Z,499nm,0.5s							
PDGK				⇑S		**Sb**	**21 43 19.4**	**-0.9**
	comp=Z,3μm,0.6s							
PDGK	**Podgornoye**	**1.63**	**76**	*i* PN		**Pn**	**21 42 58.7**	**+0.3**
PDGK				pmax		pmax		
	comp=Z,2μm,0.6s							
KZA	**Kyzart**	**1.77**	**241**	⇑*iP*		**Pn**	**21 43 01.9**	**+1.4**
	baz=42							
KZA				⇑*iS*		**Sb**	**21 43 25.2**	**+0.6**
	baz=42							
KZA	**Kyzart**	**1.77**	**241**	P		**Pb**	**21 43 02.5**	**0.0**
	comp=Z,2μm,0.3s,SNR=995							
KZA				⇑S		**Sb**	**21 43 26.3**	**+1.7**
	comp=Z,17μm,0.4s							
KBK	**Karagaybulak**	**1.77**	**261**	⇑*iP*		**Pb**	**21 43 02.5**	**+0.1**
	baz=63							
KBK				⇑*iS*		**Sb**	**21 43 26.1**	**+1.6**
	baz=63							
KBK	**Karagaybulak**	**1.77**	**261**	P		**Pb**	**21 43 02.5**	**+0.1**
	comp=Z,3μm,0.5s,SNR=1487							
KBK				⇓S		**Sg**	**21 43 26.9**	**-0.4**
	comp=Z,43μm,0.5s							
CHMS	**Chumysh**	**1.89**	**272**	⇓*iP*		**Pb**	**21 43 03.9**	**-0.4**
	baz=74							
CHMS				⇓*iS*		**Sb**	**21 43 29.3**	**+1.6**
	baz=74							
CHMS	**Chumysh**	**1.89**	**272**	⇓P		**Pb**	**21 43 03.7**	**-0.6**
	comp=Z,2μm,0.4s,SNR=718							
CHMS				⇑S		**Sb**	**21 43 28.9**	**+1.2**
	comp=Z,13μm,0.5s							
FRU1	**Bishkek**	**1.98**	**267**	⇑*iP*		**Pb**	**21 43 06.4**	**+0.4**
	baz=69							
FRU1				⇑*iS*		**Sb**	**21 43 32.2**	**+1.7**
	baz=69							
FRU1	**Bishkek**	**1.98**	**267**	PN		**Pb**	**21 43 06.2**	**+0.2**
FRU1	**Bishkek**	**1.98**	**267**			**Pb**	**21 43 06.2**	**+0.2**
USP	**Ospenovka**	**2.09**	**279**	⇓*iP*		**Pb**	**21 43 07.1**	**-0.6**
	baz=82							
USP				⇓*iS*		**Sb**	**21 43 35.1**	**+1.6**
	baz=82							
USP	**Ospenovka**	**2.09**	**279**	⇓P		**Pn**	**21 43 06.3**	**+1.7**
	comp=Z,236nm,0.2s,SNR=1644							
USP				⇓S		**Sb**	**21 43 34.9**	**+1.4**
	comp=Z,10μm,0.3s							
AAK	**Ala-Archa**	**2.11**	**262**	Pn		**Pb**	**21 43 07.9**	**-0.2**
	comp=Z,586nm,0.3s,baz=86,slow=9.1,SNR=1961							
AAK				Lg		Lg	21 43 36.2	
	comp=Z,1μm,0.3s,baz=210,slow=20,SNR=20							
AAK	**Ala-Archa**	**2.11**	**262**	⇑*iP*		**Pb**	**21 43 07.9**	**-0.2**
	baz=64							
AAK				⇑*iS*		**Sb**	**21 43 35.3**	**+1.2**
	baz=64							
AAK	**Ala-Archa**	**2.11**	**262**	P		**Pb**	**21 43 07.9**	**-0.2**
	comp=Z,3μm,0.5s,SNR=2854							
AAK				⇓S		**Sb**	**21 43 35.8**	**+1.7**
	comp=Z,15μm,0.6s							
AAK	**Ala-Archa**	**2.11**	**262**	⇑Pn		**Pb**	**21 43 07.2**	**-0.9**
	comp=Z,3μm,0.8s							
AAK				Sn		**Sb**	**21 43 35.4**	**+1.2**
	comp=Z,7μm,0.6s							
AAK	**Ala-Archa**	**2.11**	**262**	*ce*PN		**Pb**	**21 43 07.6**	**-0.5**
AAK				pmax		pmax		
	comp=Z,4μm,0.7s							
TDK	**Taldyqorghan**	**2.19**	**21**	*e*P		**Pb**	**21 43 08.7**	**-0.7**
	comp=Z,3μm,0.3s							
TDK				*e*S		**Sb**	**21 43 36.5**	**+0.2**
	comp=Z,9μm,0.2s							
TDK	**Taldyqorghan**	**2.19**	**21**	Pg		**Pb**	**21 43 07.3**	**-2.1**
	comp=Z,6μm,0.6s							
TDK				Lg		Lg	21 43 34.5	
	comp=Z,37μm,1.1s							
UCH	**Uchtor**	**2.20**	**252**	⇑*iP*		**Pb**	**21 43 09.5**	**-0.3**
	baz=53							
UCH				⇑*iS*		**Sb**	**21 43 37.5**	**+0.4**
	baz=53							
UCH	**Uchtor**	**2.20**	**252**	⇑P		**Pb**	**21 43 09.8**	**0.0**
	comp=Z,6μm,0.7s,SNR=898							
KTMS	**Ketmen**	**2.27**	**77**	*e*P		**Pb**	**21 43 09.9**	**-1.0**
KTMS				*e*S		**Sb**	**21 43 38.1**	**-0.6**
KTMS	**Ketmen**	**2.27**	**77**	Pg		**Pb**	**21 43 10.5**	**-0.3**
	comp=Z,64nm,0.1s							
KTMS				Lg		Lg	21 43 38.4	
	comp=Z,2μm,0.6s							
ARLS	**Aral**	**2.48**	**245**	⇑*iP*		**Pb**	**21 43 12.9**	**-1.5**
	baz=46							
ARLS				⇑*iS*		**Sb**	**21 43 43.7**	**-1.1**
	baz=46							
EKS2	**Erkin-Say**	**2.63**	**265**	⇓*iP*		**Pb**	**21 43 15.1**	**-1.8**
	baz=66							
EKS2				⇓*iS*		**Sb**	**21 43 48.1**	**-0.9**
	baz=66							
EKS2	**Erkin-Say**	**2.63**	**265**	P		**Pb**	**21 43 15.1**	**-1.8**
	comp=Z,551nm,0.2s,SNR=202							
KAPS	**Kapalarasan**	**2.75**	**32**	*e*P		**Pb**	**21 43 18.7**	**-0.3**
	comp=Z,248nm,0.2s							
KAPS				*e*S		**Sb**	**21 43 53.4**	**+1.0**
	comp=Z,4μm,0.6s							
AML	**Almayashu**	**2.81**	**254**	⇑*iP*		**Pb**	**21 43 18.0**	**+3.2**
	baz=55							
AML				⇑*iS*		**Sb**	**21 43 52.4**	**-2.1**
	baz=55							
MRKS	**Merke**	**3.02**	**267**	*e*P		**Pb**	**21 43 24.8**	**+1.2**
	comp=Z,719nm,0.5s							
MRKS				*e*S		**Sb**	**21 44 04.2**	**+3.9**
	comp=Z,6μm,0.4s							
MRKS	**Merke**	**3.02**	**267**	Pg		**Pb**	**21 43 25.5**	**+1.9**
	comp=Z,719nm,0.5s							
MRKS				Lg		Lg	21 44 04.6	
	comp=Z,6μm,0.5s							
BTLS	**Baital**	**3.15**	**312**	*e*P		**Pb**	**21 43 25.6**	**-0.2**
	comp=Z,69nm,0.2s							
BTLS				*e*S		**Sb**	**21 44 05.1**	**+1.2**
	comp=Z,1μm,0.5s							
BTLS	**Baital**	**3.15**	**312**	Pg		**Pb**	**21 43 26.6**	**+0.8**
	comp=Z,580nm,0.8s							
BTLS				Lg		Lg	21 44 07.0	
	comp=Z,3μm,1.0s							
KSH	**Kashi**	**3.59**	**197**	Pn		**Pb**	**21 43 35.3**	**+2.0**
KSH				Sn		**Sb**	**21 44 14.3**	**-2.3**
KSH				smax		smax		
	comp=Z,4μm,0.8s							
KSH				smax		smax		
	comp=Z,8μm,0.8s							
ARSB	**Arslanbob**	**3.62**	**245**	⇑*iP*		**Pn**	**21 43 29.3**	**+3.6**
	baz=45							
ARSB				⇑*iS*		**Sn**	**21 44 11.1**	**+2.9**
	baz=45							
ARSB	**Arslanbob**	**3.62**	**245**	PN		**Pn**	**21 43 29

MKAR Sn **Sn** **21 44 48.1 +0.8**
comp=Z,29nm,0.3s,baz=287,slow=22,SNR=5.0
MKAR Lg Lg 21 45 10.0
comp=Z,47nm,0.3s,baz=223,slow=25,SNR=6.0
MKAR LR LR 21 46 09.0
comp=Z,3μm,21.6s,baz=226,slow=43
MKAR Makanchi Array 5.21 41 *i* PN **Pn** **21 43 48.2 +0.7**
MKAR pmax pmax
comp=Z,30nm,0.5s
MKAR Makanchi Array 5.21 41 Pn **Pn** **21 43 47.3 -0.2**
IUG luzhnay 5.45 264 *e*P **Pg** **21 44 10.4 -4.0**
comp=Z,213nm,0.6s
IUG *e*S **Sg** **21 45 22.4 -2.6**
comp=Z,3μm,0.4s
IUG luzhnay 5.45 264 Pg **Pg** **21 44 11.5 -2.9**
comp=Z,481nm,0.6s
IUG Lg Lg 21 45 23.8
comp=Z,5μm,0.7s
BRLS Boroldaу 5.49 273 *e*P **Pg** **21 44 16.2 +0.9**
comp=Z,13nm,0.5s
BRLS *e*S **Sg** **21 45 32.3 +5.9**
comp=Z,608nm,0.7s
BTK Batken 5.68 242⇓*i*P **Pn** **21 43 56.2 +2.2**
baz=42
BTK ⇓*i*S **Sn** **21 45 00.1 +1.2**
baz=42
BTK Batken 5.68 242 PN **Pn** **21 43 56.2 +2.2**
BTK Batken 5.68 242 Pn **Pn** **21 43 56.2 +2.2**
CHM Chimkent 5.73 266 *e*P **Pg** **21 44 15.7 -4.1**
comp=Z,204nm,0.4s
CHM *e*S **Sg** **21 45 31.0 -3.0**
comp=Z,2μm,0.4s
TAS Tashkent 6.19 257 PN **Pn** **21 44 02.3 +1.4**
TAS Tashkent 6.19 257 Pn **Pn** **21 44 02.3 +1.4**
OTUK Ortayu 6.34 328⇑Pn **Pn** **21 44 02.0 -0.9**
comp=Z,108nm,0.8s
OTUK ⇑Pg Pb 21 44 24.6 +4.6
OTUK comp=Z,203nm,0.7s ⇓Lg Lg 21 45 48.1
comp=Z,2μm,0.9s
OTUK Ortayu 6.34 328 PN **Pn** **21 44 02.1 -0.9**
GAR Garm 6.61 236 Pn **Pn** **21 44 09.8 +3.0**
ZSN Zaisan 6.97 47 *e*P Pb 21 44 35.4 +4.6
comp=Z,112nm,0.9s
ZSN *e*S **Sg** **21 46 06.0 -7.6**
comp=Z,368nm,1.0s
CHGR Chuyangaron 7.54 238 Pn **Pn** **21 44 21.5 +2.0**
WMQ Urumqi 7.61 80 *e*Pn **Pn** **21 44 22.3 +1.9**
WMQ Sn **Sn** **21 45 44.3 -2.0**
WMQ smax smax
comp=Z,190nm,1.3s
WMQ smax smax
comp=Z,230nm,1.3s
WMQ Urumqi 7.61 80 P **Pn** **21 44 21.8 +1.4**
WMQ Urumqi 7.61 80 Pn **Pn** **21 44 21.8 +1.4**
KURBB Kurchatov Arra 7.71 6 Pn **Pn** **21 44 19.8 -1.9**
comp=Z,2.0nm,0.3s,baz=191,slow=12,SNR=113
KURBB Lg Lg 21 46 29.8
comp=Z,6.3nm,0.3s,baz=192,slow=30,SNR=12
BRZS Berezniki 7.72 337 *e*P Pb 21 44 50.6 +7.0
comp=Z,172nm,0.4s
BRZS *e*S Sb 21 46 30.9 +16
comp=Z,999nm,0.8s
BRZS Berezniki 7.72 337 Pg Pb 21 44 52.7 +9.1
comp=Z,112nm,0.5s
BRZS Lg Lg 21 46 33.6
comp=Z,1μm,0.8s
KURK Kurchatov 7.81 6⇑Pn **Pn** **21 44 21.1 -2.0**
comp=Z,67nm,0.8s
KURK ⇑Lg Lg 21 46 33.8
comp=Z,2μm,0.9s
KURK Kurchatov 7.81 6*ce*P **Pn** **21 44 22.2 -0.9**
KURK pmax pmax
comp=Z,107nm,1.3s
KURK Kurchatov 7.81 6 Pn **Pn** **21 44 21.9 -1.2**
DGZ Jazzator, Alta 9.71 43*d i*P **Pn** **21 44 49.6 +0.3**
CHCP Chirah Chowk 9.82 200 P **Pn** **21 44 52.9 +2.2**
NIL Nilore 9.83 200 P **Pn** **21 44 53.0 +2.2**
NIL Nilore 9.83 200 Pn **Pn** **21 44 53.0 +2.2**
JMU Jammu 10.40 191 *e*P **Pn** **21 45 00.0 +1.3**
KBL Kabul 10.60 220 P **Pn** **21 45 03.2 +1.6**
KBL Kabul 10.60 220 Pn **Pn** **21 45 03.2 +1.6**
DHRM DHARAMSHALA 10.72 185 *e*P **Pn** **21 45 07.0 +3.7**
DHRM *i* x x 21 45 09.3
DHRM *ex* x 21 47 14.6
BVA0 Borovoye Array 11.09 338⇑Pn **Pn** **21 45 05.9 -2.1**
comp=Z,78nm,0.8s,baz=151,slow=14,SNR=656
BVA0 ⇓Sn **Sn** **21 47 13.2 +1.7**
comp=Z,41nm,0.6s,baz=156,slow=16,SNR=3.6
BVA0 ⇑Lg Lg 21 48 18.7
comp=Z,648nm,1.3s,baz=158,slow=25,SNR=4.9
BVA0 Borovoye Array 11.09 338 P **Pn** **21 45 05.9 -2.1**
BVA0 S **Sn** **21 47 13.2 +1.7**
BVAR Borovoye Array 11.09 338 Pn **Pn** **21 45 05.9 -2.1**
comp=Z,3.9nm,0.3s,baz=151,slow=13,SNR=128
BVAR Sn **Sn** **21 47 09.2 -2.4**
comp=Z,5.0nm,0.3s,baz=151,slow=22,SNR=3.1
BVAR Lg Lg 21 48 12.9
comp=Z,10nm,0.3s,baz=147,slow=33,SNR=5.3
BVAR LR LR 21 49 31.7
comp=Z,2μm,18.1s,baz=132,slow=38
BRVK Borovoye 11.14 337⇑Pn **Pn** **21 45 06.2 -2.6**
comp=Z,71nm,0.7s
BRVK ⇓Sn **Sn** **21 47 14.1 +1.2**
comp=Z,62nm,0.7s
BRVK ⇓Lg Lg 21 48 17.6
comp=Z,857nm,1.0s
BRVK Borovoye 11.14 337 P **Pn** **21 45 06.6 -2.1**
BRVK Borovoye 11.14 337 Pn **Pn** **21 45 06.6 -2.1**
SMLA Simla 11.81 181 *e*P **Pn** **21 45 19.3 +1.4**
SMLA *i* x x 21 45 24.2
SMLA *ex* x 21 47 41.5
ZAA0 Zalesovo Array 12.06 22⇑Pn **Pn** **21 45 19.1 -2.2**
comp=Z,6.2nm,0.8s
ZAA0 ⇓Lg Lg 21 48 48.1
comp=Z,50nm,0.9s
ZAA0 Zalesovo Array 12.06 22 Pn **Pn** **21 45 19.6 -1.7**
ZALV Zalesovo Beam 12.06 22 Pn **Pn** **21 45 19.5 -1.8**
comp=Z,4.5nm,0.3s,baz=213,slow=14,SNR=45
ZALV Lg Lg 21 48 49.5
comp=Z,1.2nm,0.3s,baz=211,slow=23,SNR=6.3
ZALV LR LR 21 50 16.2
comp=Z,1μm,20.5s,baz=210,slow=39
ZALV Zalesovo Beam 12.06 22 *i* P **Pn** **21 45 19.8 -1.5**
ZALV pmax pmax
comp=Z,14nm,0.4s
ZALV Zalesovo Beam 12.06 22 Pn **Pn** **21 45 19.3 -1.9**
DDI Dehra Dun 12.62 177 *e*P **Pn** **21 45 30.9 +1.7**
DDI *e*S **Sn** **21 47 49.4 -0.1**
AB01 Akbulak array 13.59 304⇑Pn **Pn** **21 45 39.7 -2.5**
comp=Z,17nm,0.6s
AB31 Akbulak array 13.59 304 Pn **Pn** **21 45 39.4 -2.7**
comp=Z,1.3nm,0.2s,baz=107,slow=11,SNR=217
AB31 ⇑Lg Lg 21 49 39.7
comp=Z,214nm,1.1s
ABKAR Akbulak array 13.59 304 Pn **Pn** **21 45 39.1 -3.0**
NDI New Delhi 14.24 180 *e*P **Pn** **21 45 53.0 +1.7**
NDI *e*S **S** **21 48 43.0 -6.5**
HRA Herat 14.54 239 Pn **Pn** **21 45 52.4 -3.1**
AKTO Aktyubinsk 15.18 306 Pn **Pn** **21 46 01.1 -2.8**
comp=Z,0.4nm,0.3s,baz=109,slow=12,SNR=29
AKTO Lg Lg 21 50 26.9
comp=Z,1.0nm,0.3s,baz=196,slow=20,SNR=3.1
AKTO LR LR 21 52 14.5
comp=Z,1μm,20.6s,baz=119,slow=39
AKTO Aktyubinsk 15.18 306⇓Pn **Pn** **21 46 05.6 +1.8**
comp=Z,18nm,0.7s
AKTO ⇑Lg Lg 21 50 29.1
comp=Z,161nm,1.2s
GEYT Alibeck 15.45 257 Pn **Pn** **21 46 05.1 -2.4**
comp=Z,0.5nm,0.3s,baz=79,slow=8.3,SNR=13
GEYT Sn **Sn** **21 49 06.2 +7.8**
comp=Z,0.2nm,0.3s,baz=318,slow=35,SNR=1.6
GEYT Lg Lg 21 50 43.4
baz=152,slow=38,SNR=2.4
GEYT Alibeck 15.45 257 Pn **Pn** **21 46 06.2 -1.3**
GYA0B ALIBECK ARRAY 15.45 257⇑Pn **P** **21 46 10.7 -1.2**
GYA0B ⇑Sn **Sn** **21 48 58.8 +0.4**
GYA0B ⇑Lg Lg 21 50 42.5
GYA0B ALIBECK ARRAY 15.45 257 **Pn** **21 46 06.8 -0.7**
DANN Dangsing 15.48 158 *e*P **Pn** **21 46 05.7 -2.4**
comp=Z,219nm,0.8s
PYUN Piuthan 15.52 161 *e*P **Pn** **21 46 05.6 -3.0**
comp=Z,526nm,1.1s
KOLN Koldanda 15.99 159 *e*P **Pn** **21 46 13.2 -1.4**
comp=Z,271nm,1.2s

GKN Gorkha 16.06 156 *e*P **Pn** **21 46 12.9 -2.6**
comp=Z,145nm,1.0s
KKN Kakani 16.45 154 *e*P **Pn** **21 46 18.1 -2.5**
comp=Z,647nm,1.4s
DMN Daman 16.57 155 *e*P **Pn** **21 46 20.4 -1.7**
comp=Z,292nm,1.1s
PKI Pulchoki 16.70 154 *e*P **Pn** **21 46 21.3 -2.5**
comp=Z,320nm,0.9s
JIRN Jiri 16.88 152 *e*P **Pn** **21 46 24.4 -1.7**
comp=Z,368nm,0.8s
LSA Lhasa 17.27 136 P **P** **21 46 33.0 +0.5**
LSA pmax pmax
comp=Z,66nm,0.9s
LSA LR LR
comp=Z,2μm,15.0s
LSA LR LR
comp=Z,1μm,17.1s
LSA LR LR
comp=Z,3μm,19.9s
LSA Lhasa 17.27 136 P **P** **21 46 32.6 +0.1**
LSA pmax pmax
comp=Z,22nm,0.9s
LSA Lhasa 17.27 136 **P** **21 46 32.6 +0.1**
GTA Gaotai 17.29 94 *e*P **Pn** **21 46 28.6 -2.4**
GTA pP sP 21 46 39.0 -1.1
GTA sP pP 21 46 43.0 +5.3
GTA S **Sn** **21 49 39.9 -3.1**
GTA sS S 21 49 47.1 -4.7
GTA SS **SnSn** **21 50 01.8 +5.7**
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,86nm,7.3s
GTA LR LR
comp=Z,410nm,13.0s
GTA LR LR
comp=Z,640nm,13.0s
GTA LR LR
comp=Z,690nm,12.7s
SVE Sverdlovsk 17.49 328 *e*P **Pn** **21 46 30.6 -2.6**
SVE *e*S **Sn** **21 49 45.3 -2.1**
SVE pmax pmax
comp=Z,65nm,1.5s
SVE MLR MLR
comp=Z,2μm,10.0s
RAMN Ramite 17.67 152 *e*P **Pn** **21 46 35.7 -0.2**
comp=Z,162nm,0.8s
TAPN Taplejung 17.71 148 *e*P **Pn** **21 46 35.6 -0.9**
comp=Z,216nm,1.2s
ODAN Odare 18.04 150 *e*P **Pn** **21 46 39.4 -1.0**
comp=Z,351nm,0.9s
ARU Arti 18.05 325 P **Pn** **21 46 38.9 -1.3**
comp=Z,0.0nm,0.3s,baz=141,slow=9.5,SNR=8.6
ARU S **Sn** **21 49 54.8 -6.3**
comp=Z,0.0nm,0.3s,baz=328,slow=22,SNR=1.4
ARU Lg Lg 21 51 50.0
comp=Z,0.0nm,0.3s,baz=90,slow=20,SNR=3.1
ARU LR LR 21 53 53.1
comp=Z,2μm,18.0s,baz=122,slow=38
ARU Arti 18.05 325 P **Pn** **21 46 36.5 -3.7**
ARU S **Sn** **21 49 54.5 -6.6**
ARU MLR MLR
comp=Z,1μm,17.0s
ARU Arti 18.05 325 **Pn** **21 46 36.5 -3.7**
MOY Mondy 18.20 53 *e*P **P** **21 46 45.4 +3.1**
MOY pmax pmax
comp=Z,29nm,1.5s
ZAK Zakamensk 19.23 58 *e*P **Pn** **21 46 54.9 +0.3**
ZAK pmax pmax
comp=Z,12nm,1.1s
BHPL Bhopal 19.66 180 *e*P **P** **21 46 58.3 -0.2**
BHPL IAmb IAmb 21 47 04.2
comp=Z,20nm,0.7s
BHPL *ex* x 21 50 53.4
TLY Talaya 19.77 55 P **Pn** **21 47 04.3 +3.3**
comp=Z,0.0nm,0.3s,baz=223,slow=5.3,SNR=3.0
TLY Lg Lg 21 52 39.9
comp=Z,0.0nm,0.3s,baz=221,slow=23,SNR=2.8
TLY LR LR 21 54 46.4
comp=Z,656nm,18.5s,baz=256,slow=38
TLY Talaya 19.77 55 *i* P **Pn** **21 47 00.5 -0.5**
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY Talaya 19.77 55 P **P** **21 46 59.9 +0.4**
JBP Jabalpur 19.86 173 *e*P **P** **21 46 59.9 -0.7**
JBP *ex* x 21 50 24.3
IRK Irkutsk 20.30 53 *e*P Pn 21 47 06.3 -1.0
IRK pmax pmax
comp=Z,34nm,3.2s
BOK Bokaro 20.38 157 *e*P **P** **21 47 06.2 -0.1**
BOK IAmb IAmb 21 47 14.5
comp=Z,42nm,1.1s
BHUJ Bhuj 20.66 200 *e*P **P** **21 47 10.7 +1.5**
BHUJ IAmb IAmb 21 47 20.1
comp=Z,148nm,1.1s
SONM Songino Array 20.92 66 P **P** **21 47 11.9 -0.2**
comp=Z,6.5nm,0.9s,baz=264,slow=11,SNR=28
SONM Lg Lg 21 53 30.6
comp=Z,0.5nm,0.5s,baz=346,slow=41,SNR=1.9
SONM LR LR 21 55 48.0
comp=Z,608nm,18.3s,baz=264,slow=38
SONM Songino Array 20.92 66 **P** **21 47 13.2 +1.0**
SHL Shillong 21.06 141 *e*P **P** **21 47 13.5 -0.2**
SHL *e*P **pP** **21 47 16.0 -3.1**
SHL IAmb IAmb 21 47 22.4
comp=Z,20nm,0.6s
SHL Shillong 21.06 141 P **P** **21 47 13.7 -0.1**
SHL pmax pmax
comp=Z,86nm,1.1s
SHL Shillong 21.06 141 P **P** **21 47 13.7 -0.1**
SHL IAmb IAmb 21 47 26.4
comp=Z,86nm,1.1s
ULN Ulaanbaatar 21.37 66*ce*P **P** **21 47 16.1 -0.8**
ULN pmax pmax
comp=Z,31nm,1.3s
ULN Ulaanbaatar 21.37 66 P **P** **21 47 17.3 +0.3**
ULN IAmb IAmb 21 47 31.8
comp=Z,71nm,1.3s
LZH Lanzhou 21.52 100 *e*P **P** **21 47 19.3 +0.6**
LZH pP sP 21 47 28.0 +1.5
LZH sS S 21 51 16.3 -0.6
LZH pmax pmax
comp=Z,13nm,1.2s
LZH pmax pmax
comp=Z,140nm,4.3s
LZH LR LR
comp=Z,960nm,13.3s
LZH LR LR
comp=Z,510nm,10.3s
LZH LR LR
comp=Z,810nm,14.6s
MAK Makhachkala 21.77 280 *e*P **P** **21 47 19.8 -1.3**
MAK *e*S **S** **21 51 19.5 -1.9**
MAK pmax pmax
comp=Z,149nm,0.9s
MAK MLR MLR
comp=Z,260nm,9.0s
AKT Akhty 21.92 276 *e*P **P** **21 47 23.6 +0.7**
AKT *e* 21 47 43.8
AKT *e*S **S** **21 51 26.6 +2.1**
AKT *e*SS **SnSn** **21 51 53.4 +3.6**
AKT pmax pmax
comp=Z,41nm,0.9s
LGD Lagodekhi 22.92 278 P **P** **21 47 37.4 +4.0**
GROC Groznyy 22.96 281 *e*P **P** **21 47 33.9 +0.1**
GROC *e* 21 47 58.9
GROC *e*S **S** **21 51 49.4 +6.0**
GROC *e*SS **SnSn** **21 52 19.4 +4.2**
GROC pmax pmax
comp=Z,105nm,1.2s
KIRV Kirov 23.33 322 P **P** **21 47 36.7 -0.7**
comp=Z,9.0nm,0.7s,baz=120,slow=7.0,SNR=12
KIRV Lg Lg 21 54 42.5
comp=Z,10nm,0.8s,baz=159,slow=18,SNR=3.6
KIRV LR LR 21 57 19.1
comp=Z,940nm,18.4s,baz=132,slow=38
KIRV Kirov 23.33 322⇑*e*P **P** **21 47 38.5 +1.1**
TBLG Delisi 24.04 278 P **P** **21 47 45.3 +0.9**
TBLG pmax pmax
comp=Z,37nm,1.2s
TBLG Delisi 24.04 278 P **P** **21 47 45.3 +0.9**
TBLG IAmb IAmb 21 47 53.3
comp=Z,37nm,1.2s
CD2 Chengdu 24.21 111 P **P** **21 47 47.4 +1.3**
CD2 sP sP 21 47 55.5 +1.2

CD2 PP **PnPn** **21 48 16.4 +0.8**
CD2 S **S** **21 52 04.5 +0.6**
CD2 sS sS 21 52 14.8 +1.7
CD2 SS **SnSn** **21 52 49.6 +3.7**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,160nm,3.9s
CD2 LR LR
comp=Z,420nm,17.2s
CD2 LR LR
comp=Z,390nm,19.1s
CD2 LR LR
comp=Z,490nm,12.9s
BTO Baotou 24.41 84 *e*P **P** **21 47 46.1 -1.9**
BTO S **S** **21 52 07.3 +0.1**
POO Poona 24.53 188 *e*P **P** **21 47 50.0 +0.9**
GOF Gofitskoye 24.64 287⇑*e*P **P** **21 47 52.1 +2.2**
GOF pmax pmax
comp=Z,99nm,0.9s
KBZ Khabaz 24.95 284 P **P** **21 47 52.5 -0.1**
comp=Z,4.1nm,0.8s,baz=102,slow=6.9,SNR=5.2
KBZ Khabaz 24.95 284*ce*P **P** **21 47 54.2 +1.6**
KBZ pmax pmax
comp=Z,13nm,0.9s
UOSS Minazif 24.98 231 P **P** **21 47 52.1 -1.0**
AKH Akhalkalaki 25.02 278 P **P** **21 47 54.5 +0.9**
AKH pmax pmax
comp=Z,38nm,1.3s
AKH Akhalkalaki 25.02 278 P **P** **21 47 54.5 +0.9**
AKH IAmb IAmb 21 47 58.8
comp=Z,38nm,1.3s
WSAR Wadi Sarin 25.04 224 P **P** **21 47 54.1 +0.5**
comp=Z,11nm,1.0s,baz=80,slow=10,SNR=5.0
WSAR LR LR 22 00 16.4
comp=Z,266nm,20.5s,baz=106,slow=43
KVAR Kislovodsk Arr 25.05 284 P **P** **21 47 54.4 +0.7**
comp=Z,4.2nm,0.7s,baz=261,slow=22,SNR=3.5
KIV Kislovodsk 25.06 284 *e*P **P** **21 47 53.9 +0.1**
KIV *e*S **S** **21 52 19.2 +1.7**
KIV pmax pmax
comp=Z,78nm,1.0s
KIV MLR MLR
comp=Z,456nm,15.0s
KIV Kislovodsk 25.06 284 P **P** **21 47 54.9 +1.1**
KIV IAmb IAmb 21 48 02.9
comp=Z,20nm,0.6s
VRH Novokhopyorsk 25.40 301 *e*P **P** **21 47 56.6 -0.1**
VRH *e*S **S** **21 52 25.9 +3.3**
VRH pmax pmax
comp=Z,60nm,1.4s
VRH smax smax
comp=E,50nm,6.0s
VRH MLR MLR
comp=Z,760nm,20.0s
HHC Hu-ho-hao-te 25.47 83 *e*P **P** **21 47 58.4 +0.8**
HHC PP **PnPn** **21 48 31.8 -1.1**
HHC S **S** **21 52 23.1 -1.1**
HHC pmax pmax
comp=Z,33nm,0.8s
HHC pmax pmax
comp=Z,94nm,4.4s
HHC LR LR
comp=Z,410nm,10.8s
HHC LR LR
comp=Z,670nm,11.2s
HHC LR LR
comp=Z,840nm,13.3s
HYB Hyderabad 25.48 177 *i* P **P** **21 47 57.0 -0.7**
HYB *ep*P **pP** **21 48 05.0 +1.5**
HYB Hyderabad 25.48 177 *e*P **P** **21 47 57.0 -0.7**
HYB IAmb IAmb 21 47 59.3
comp=Z,25nm,0.6s
KARS Kars 25.54 277 P **P** **21 48 03.3 +5.1**
CIT Chita 25.87 57 *e*P **P** **21 48 07.0 +6.0**
CIT *e* 21 48 15.4
CIT *e* 21 48 40.5
XAN Xi'an 26.16 99 P **P** **21 48 04.3 +0.5**
XAN pP sP 21 48 11.0 -1.0
XAN PP **PnPn** **21 48 45.8 +3.5**
XAN PcP **PcP** **21 51 32.9 +2.2**
XAN S **S** **21 52 31.8 -3.2**
XAN SS **SnSn** **21 53 40.0 +6.3**
XAN pmax pmax
comp=Z,19nm,1.4s
XAN LR LR
comp=Z,610nm,12.7s
XAN LR LR
comp=Z,340nm,12.9s
XAN LR LR
comp=Z,680nm,14.9s
XAN Xi'an 26.16 99 P **P** **21 48 03.6 -0.2**
XAN pmax pmax
comp=Z,26nm,1.3s
XAN Xi'an 26.16 99 P **P** **21 48 03.5 -0.2**
ARTV Artvin 26.22 278 P **P** **21 48 05.7 +1.2**
GEVA Gevas 26.30 272 P **P** **21 48 06.3 +1.1**
PRGR Permogore 26.51 326⇑*i*P **P** **21 48 07.1 +0.5**
PRGR *e*S **S** **21 52 47.0 +7.1**
PRGR pmax pmax
comp=Z,27nm,0.6s
VORD Divnogorie 26.91 301 *e*P **P** **21 48 10.7 +0.3**
VORD pmax pmax
comp=Z,10.0nm,1.0s
NRIK Noril'sk 26.97 8 P **P** **21 48 10.6 -0.1**
comp=Z,1.6nm,0.4s,baz=180,slow=8.1,SNR=4.3
NRIK LR LR 22 00 24.0
comp=Z,517nm,18.2s,baz=204,slow=40
NRIK Noril'sk 26.97 8⇑*e*P **P** **21 48 11.5 +0.8**
NRIK pmax pmax
comp=Z,20nm,1.1s
VSR Storozhevoye 27.00 301 *e*P **P** **21 48 11.3 +0.1**
VSR *e*S **S** **21 52 48.7 +0.7**
VSR pmax pmax
comp=Z,20nm,1.2s
VSR smax smax
comp=E,100nm,9.4s
VSR MLR MLR
comp=Z,570nm,16.0s
TIY Taiyuan 27.14 89 *e*P **P** **21 48 14.3 +1.6**
TIY pP **sP** **21 48 22.1 +1.2**
TIY sP **pP** **21 48 25.1 +6.7**
TIY LR LR
comp=Z,260nm,10.7s
TIY LR LR
comp=Z,340nm,11.5s
TIY LR LR
comp=Z,430nm,15.8s
LPSR Galich'ya Gora 27.25 304 *e*P **P** **21 48 13.7 +0.3**
LPSR pmax pmax
comp=Z,30nm,1.1s
LPSR MLR MLR
comp=Z,560nm,13.0s
BOD Bodaibo 27.29 44 *e*P **P** **21 48 14.2 +0.5**
BOD pmax pmax
comp=Z,26nm,1.5s
KMI Kunming 27.41 122⇓*e*P **P** **21 48 16.3 +1.0**
KMI pP sP 21 48 23.9 +0.4
KMI sP pP 21 48 26.6 +5.5
KMI S **S** **21 52 53.8 -1.3**
KMI pmax pmax
comp=Z,10.0nm,1.0s
KMI pmax pmax
comp=Z,75nm,4.2s
KMI LR LR
comp=Z,330nm,25.1s
KMI LR LR
comp=Z,360nm,24.3s
KMI LR LR
comp=Z,310nm,33.4s
KMI Kunming 27.41 122 P **P** **21 48 15.7 +0.4**
KMI pmax pmax
comp=Z,19nm,1.3s
KMI Kunming 27.41 122 P **P** **21 48 15.7 +0.4**
KOPT Kop Dagi 27.60 277 P **P** **21 48 17.1 +0.1**
MARD Mardin 28.35 271 P **P** **21 48 24.6 +1.1**
MARD IAmb IAmb 21 48 26.4
comp=Z,22nm,0.9s
MOS Moscow 28.43 311 *e*P **P** **21 48 22.7 -1.1**
MOS *e* 21 49 14.7
MOS *e* 21 54 29.1
MOS pmax pmax
comp=Z,27nm,1.0s
MOS MLR MLR
comp=Z,800nm,15.0s

ENH Enshi 28.57 106 P **P** **21 48 24.6 -0.9**
ANN Anapa 28.62 288 *e*P **P** **21 48 28.3 +2.7**
ANN *e*S **S** **21 53 14.9 +1.5**
ANN pmax pmax
comp=Z,46nm,1.0s
ANN MLR MLR
comp=Z,471nm,14.0s
KLMR Klimovskoe 28.83 322 *e*P **P** **21 48 26.8 -0.6**
KLMR *e* 21 51 35.2
KLMR pmax pmax
comp=Z,43nm,1.5s
KLMR MLR MLR
comp=Z,925nm,10.0s
KLMR Klimovskoe 28.83 322 *e*P **P** **21 48 26.9 -0.5**
KLMR AMP 21 48 29.8
comp=Z,43nm,1.5s
KLMR *e*PcP **PcP** **21 51 35.3 -1.3**
KLMR LQ LQ 21 57 33.2
KLMR LQ LQ 21 57 33.2
KLMR LR LR 21 59 45.6
KLMR AMP 22 00 03.0
comp=Z,925nm,10.2s
OBN Obninsk 28.92 309 LR LR 22 00 24.7
comp=Z,156nm,18.2s,baz=106,slow=37
OBN Obninsk 28.92 309 *e*P **P** **21 48 27.0 -1.3**
OBN *e* 21 49 21.5
OBN *e*S **S** **21 53 20.1 +2.1**
OBN *e*SS **SnSn** **21 54 43.9 +3.4**
OBN pmax pmax
comp=Z,23nm,1.7s
OBN MLR MLR
comp=Z,512nm,17.0s
OBN Obninsk 28.92 309 P **P** **21 48 30.2 +1.9**
GYA Guiyang 29.00 115 ⇑P **P** **21 48 30.0 +0.6**
GYA S **S** **21 53 20.8 +0.7**
GYA pmax pmax
comp=Z,12nm,1.3s
GYA pmax pmax
comp=Z,110nm,4.3s
GYA LR LR
comp=Z,280nm,13.5s
GYA LR LR
comp=Z,130nm,7.2s
GYA LR LR
comp=Z,190nm,11.1s
BJT Baijiatuan 29.07 82 P **P** **21 48 29.5 -0.3**
BJT pmax pmax
comp=Z,6.0nm,1.1s
BJT Baijiatuan 29.07 82 P **P** **21 48 29.5 -0.3**
MALT Malatya 29.69 274 P **P** **21 48 38.4 +3.0**
CHTO Chiang Mai 30.22 136 P **P** **21 48 39.5 -0.6**
CHTO pmax pmax
comp=Z,8.0nm,1.5s
CHTO Chiang Mai 30.22 136 P **P** **21 48 39.5 -0.6**
TOKA Tokat 30.43 279 P P 21 48 37.0 -4.9
CM31 Chiang Mai Arr 30.52 136 P **P** **21 48 42.2 -0.5**
CMAR Chiang Mai Arr 30.52 136 P **P** **21 48 42.3 -0.4**
comp=Z,5.3nm,1.0s,baz=320,slow=9.3,SNR=17
CMAR LR LR 22 03 13.4
comp=Z,338nm,18.2s,baz=14,slow=41
CMAR Chiang Mai Arr 30.52 136 *ce*P **P** **21 48 43.0 +0.3**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 30.52 136 P **P** **21 48 42.7 0.0**
TMCR Tamitsa 30.76 327 *e*P **P** **21 48 42.2 -2.2**
TMCR pmax pmax
comp=Z,4.0nm,0.5s
SLVN Son La 30.94 126 P **P** **21 48 46.4 -0.2**
GAZ Gaziantep 31.02 273 P **P** **21 48 47.7 +0.5**
GAZ IAmb IAmb 21 48 50.7
comp=Z,17nm,1.0s
WHN Wuhan 31.90 101 ⇓P **P** **21 48 55.8 +1.0**
ILGA Ilgaz 32.19 282 P **P** **21 48 57.9 +0.2**
ILGA IAmb IAmb 21 49 00.4
comp=Z,15nm,1.0s
BR131 Keskin Array S 32.68 279 *c i*P **P** **21 49 02.5 +0.7**
BR131 Keskin Array S 32.68 279 P **P** **21 49 02.3 +0.5**
BR131 IAmb IAmb 21 49 04.0
comp=Z,10nm,0.8s
BRTR Keskin Array B 32.68 279 P **P** **21 49 02.4 +0.5**
comp=Z,7.5nm,0.8s,baz=91,slow=8.6,SNR=31
BRTR Keskin Array B 32.68 279 *ce*P **P** **21 49 03.0 +1.2**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 32.68 279 P **P** **21 49 02.5 +0.7**
PBKT Sadao Pong 33.14 135 P **P** **21 49 04.8 -0.9**
PBKT IAmb IAmb 21 49 07.8
comp=Z,11nm,0.8s
AKASG Malin Array Be 33.30 300 P **P** **21 49 07.2 +0.3**
comp=Z,1.7nm,0.7s,baz=71,slow=8.9,SNR=9.8
AKASG LR LR 22 05 30.9
comp=Z,636nm,18.2s,baz=85,slow=42
AKASG Malin Array Be 33.30 300 *ce*P **P** **21 49 07.5 +0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 33.30 300 P **P** **21 49 07.8 +0.9**
AKBB Malin Array Si 33.30 300 *ce*P **P** **21 49 07.1 +0.2**
AKBB Malin Array Si 33.30 300 P **P** **21 49 06.6 -0.2**
AKBB IAmb IAmb 21 49 14.6
comp=Z,12nm,0.8s
LVZ Lovozero 33.62 332 *ce*P **P** **21 49 09.4 0.0**
LVZ pmax pmax
comp=Z,67nm,1.3s
LVZ Lovozero 33.62 332 P **P** **21 49 09.5 0.0**
MNK Minsk 33.90 307 *e*P P 21 49 19.0 +6.9
APA Apatity 33.91 331 ⇑ *i*P **P** **21 49 16.2 +4.2**
APA pmax pmax
comp=Z,9.0nm,0.8s
APA MLR MLR
comp=Z,1μm,12.0s
PBA Port Blair 33.94 152 P P 21 49 13.3 +0.6
MDUB Mudurnu 34.19 282 P **P** **21 49 15.3 +0.4**
SORM Soroca 34.21 296 ⇑P **P** **21 49 15.7 +0.8**
SORM Soroca 34.21 296 P **P** **21 49 15.6 +0.8**
ZEA Zeya 34.21 54 *e*P **P** **21 49 17.0 +2.2**
ZEA pmax pmax
comp=Z,12nm,1.0s
ZEA MLR MLR
comp=E,300nm,14.0s
ZEA MLR MLR
comp=Z,500nm,14.0s
NJ2 Nanjing 34.38 94 *e*P **P** **21 49 16.8 +0.3**
NJ2 LR LR
comp=Z,370nm,12.8s
NJ2 LR LR
comp=Z,360nm,14.7s
NJ2 LR LR
comp=Z,410nm,16.6s
IDID Didziasalis 34.55 309 *e*P **P** **21 49 19.6 +1.9**
CN2 Changchun 34.60 72 *e*P P 21 49 23.9 +5.6
CN2 pmax pmax
comp=Z,10.0nm,1.3s
VSU Vasula 34.65 314 *e*P **P** **21 49 20.0 +1.5**
VSU Vasula 34.65 314 *i*P **P** **21 49 18.6 +0.1**
VSU pmax pmax
comp=Z,58nm,1.0s
CSS Mathiatis 34.80 272 P **P** **21 49 20.7 +0.6**
IZAR Zarasai 34.83 310 *e*P **P** **21 49 21.9 +1.8**
TOPG Topolog 34.89 290 ⇑P **P** **21 49 21.0 +0.3**
ISAL Salakas 34.90 309 *e*P **P** **21 49 22.5 +1.8**
MSF Maaselka 34.95 328 P **P** **21 49 22.0 +1.0**
MSF pmax pmax
comp=Z,17nm,1.1s
CFR Carcaliu 34.98 291 ⇑P **P** **21 49 22.3 +0.8**
CFR Carcaliu 34.98 291 P **P** **21 49 23.0 +1.5**
CFR pmax pmax
comp=Z,11nm,1.8s
FINES FINESS Array B 35.28 320 P **P** **21 49 24.5 +0.5**
comp=Z,8.9nm,0.6s,baz=115,slow=9.6,SNR=18
FINES LR LR 22 04 31.0
comp=Z,615nm,19.6s,baz=102,slow=38
FINES FINESS Array B 35.28 320 *i*P **P** **21 49 27.7 +3.8**
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES FINESS Array B 35.28 320 P **P** **21 49 24.1 +0.2**
TESR Tescani 35.67 294 ⇑P **P** **21 49 28.5 +1.0**
PRAR RASCA 35.77 295 ⇑P **P** **21 49 29.3 +1.0**
VRI Vrincioaia 35.77 293 ⇓P **P** **21 49 30.3 +1.9**
VRI Vrincioaia 35.77 293 P **P** **21 49 30.6 +2.2**
VRI pmax pmax
comp=Z,10.0nm,1.3s
PLOR Plostina 35.83 293 ⇑P **P** **21 49 29.9 +1.0**
PLOR Plostina 35.83 293 P **P** **21 49 29.8 +1.0**
YAK Yakutsk 35.89 40 LR LR 22 04 37.2
comp=Z,541nm,19.2s,baz=257,slow=37
YAK Yakutsk 35.89 40 *e*P **P** **21 49 28.9 -0.2**
YAK *e**PP **pP** **21 49 34.4 -0.6**
YAK *e*S **S** **21 55 05.4 -0.8**
YAK *e**SS **pS** **21 55 11.8 -0.8**
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK smax smax
comp=E,50nm,2.1s
YAK smax smax
comp=N,26nm,3.0s
YAK MLR MLR
comp=Z,464nm,18.0s
YAK MLR MLR
comp=E,289nm,19.0s
YAK Yakutsk 35.89 40 P **P** **21 49 29.1 +0.1**
PABE Paberze 36.13 309 *e*P **P** **21 49 32.5 +1.3**
NEHR Nehoiu 36.17 292 ⇑P **P** **21 49 32.7 +0.9**
QIZ Qiongzhong 36.33 121 P **P** **21 49 32.9 -0.4**
QIZ S **S** **21 55 13.4 -0.3**
QIZ LR LR
comp=E,210nm,18.2s
QIZ LR LR
comp=E,270nm,16.7s
QIZ LR LR
comp=E,230nm,12.9s
SGF Sodankyl 36.34 330 P **P** **21 49 33.7 +0.7**
SGF pmax pmax
comp=Z,17nm,1.1s
BURAR Bucovina Array 36.38 296 ⇑P **P** **21 49 34.9 +1.2**
BURAR Bucovina Array 36.38 296 P **P** **21 49 34.8 +1.2**
BURAR Bucovina Array 36.38 296 P **P** **21 49 34.3 +0.6**
BUR08 Bucovina Ar. S 36.39 296 P **P** **21 49 34.2 +0.5**
MLR Muntele Rosu 36.39 292 ⇑P **P** **21 49 35.7 +1.9**
MLR Muntele Rosu 36.39 292 P **P** **21 49 34.9 +1.0**
MLR pmax pmax
comp=Z,21nm,1.1s
MLR Muntele Rosu 36.39 292 P **P** **21 49 34.9 +1.0**
MLR IAmb IAmb 21 49 43.5
comp=Z,21nm,1.1s
ELL Elmali 36.53 277 P **P** **21 49 34.2 -0.9**
ELL pmax pmax
comp=Z,31nm,0.8s
ELL Elmali 36.53 277 P **P** **21 49 34.2 -0.9**
RAZG Razgrad 36.54 289 ⇑P **P** **21 49 35.3 +0.4**
DOPR Dopca 36.65 293 ⇓P **P** **21 49 37.8 +1.9**
SUW Suwalki 36.68 307 *e*P **P** **21 49 36.9 +0.9**
SUW Suwalki 36.68 307 P **P** **21 49 36.0 0.0**
SUW pmax pmax
comp=Z,71nm,1.0s
SUW Suwalki 36.68 307 P **P** **21 49 36.0 0.0**
LVV L'vov 36.72 300 *e*P **P** **21 49 37.7 +1.3**
LVV *e* 21 51 09.4
LVV *e*S **S** **21 55 18.6 -0.7**
LVV pmax pmax
comp=Z,70nm,1.1s
LVV MLR MLR
comp=N,200nm,16.0s
LVV MLR MLR
comp=E,300nm,16.0s
LVV MLR MLR
comp=Z,300nm,16.0s
KEV Kevo 36.90 334 P **P** **21 49 38.2 +0.6**
KEV pmax pmax
comp=Z,19nm,0.9s
KEV Kevo 36.90 334 P **P** **21 49 38.2 +0.6**
KEV IAmb IAmb 21 49 44.3
comp=Z,19nm,0.9s
VOIR 37.02 292 ⇑P **P** **21 49 39.9 +0.8**
VOIR 37.02 292 P **P** **21 49 39.9 +0.8**
ARCR ARCALIA 37.07 295 ⇑P **P** **21 49 40.2 +0.7**
ARR Arges 37.32 292 ⇑P **P** **21 49 42.6 +1.0**
ARCES ARCESS Array B 37.32 333 P **P** **21 49 41.9 +0.6**
comp=Z,7.3nm,0.7s,baz=98,slow=8.6,SNR=22
ARCES LR LR 22 05 34.2
comp=Z,392nm,21.3s,baz=139,slow=37
ARCES ARCESS Array B 37.32 333 P **P** **21 49 41.7 +0.4**
ARE0 ARCESS Array S 37.32 333 P **P** **21 49 39.6 -1.7**
ARE0 ARCESS Array S 37.32 333 *e*P **P** **21 49 42.0 +0.7**
KLR Kul'dur 37.56 61 LR LR 22 07 23.7
comp=Z,146nm,18.5s,baz=276,slow=40
KLR Kul'dur 37.56 61 *ce*P **P** **21 49 43.9 +0.4**
KLR pmax pmax
comp=Z,3.0nm,0.9s
CJR Cluj-Napoca 37.67 295 ⇓P **P** **21 49 45.1 +0.6**
ALN Alexandroupoli 37.72 285 P **P** **21 49 45.1 +0.1**
ALN pmax pmax
comp=Z,5.0nm,1.0s
ALN Alexandroupoli 37.72 285 P **P** **21 49 45.1 +0.1**
LOT Lotru 37.88 293 ⇑P **P** **21 49 47.7 +1.2**
EZN Ezine 37.91 283 P **P** **21 49 48.4 +1.8**
TIXI Tiksi 37.94 24 *ce*P **P** **21 49 46.1 -0.3**
TIXI pmax pmax
comp=Z,11nm,1.0s
TIXI Tiksi 37.94 24 P **P** **21 49 45.8 -0.6**
TIXI IAmb IAmb 21 49 52.5
comp=Z,23nm,0.8s
KOLS Kolonicke sedl 38.02 299 *e*P **P** **21 49 47.5 0.0**
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS Kolonicke sedl 38.02 299 *e*P **P** **21 49 47.5 0.0**
KOLS *e*PP **PnPn** **21 51 16.4 +0.8**
UZH Uzhgorod 38.07 298 *e*P **P** **21 49 47.4 -0.5**
UZH *i* 21 49 53.0
HAMF Hammerfest 38.25 334 *e*P **P** **21 49 50.2 +1.1**
BEL Belsk 38.40 304 *e*P **P** **21 49 51.4 +0.8**
KSAR Wonju Array Be 38.53 81 P **P** **21 49 51.4 -0.5**
KSAR Wonju Array Be 38.53 81 P **P** **21 49 51.4 -0.5**
KSRS Korea Array 38.56 81 P **P** **21 49 51.2 -0.8**
comp=Z,1.3nm,0.9s,baz=279,slow=7.5,SNR=6.9
KSRS PcP **PcP** **21 52 04.6 +0.2**
comp=Z,0.4nm,0.4s,baz=323,slow=3.7,SNR=3.0
KSRS LR LR 22 06 38.1
comp=Z,111nm,18.5s,baz=291,slow=38
HERR Herculane 38.96 292 ⇑P **P** **21 49 55.6 +0.2**
USA0B Ussuriysk Arra 39.00 69 *i*P **P** **21 49 53.9 -1.8**
USA0B Ussuriysk Arra 39.00 69 P **P** **21 49 54.3 -1.4**
USRK Ussuriysk Ar. 39.00 69 P **P** **21 49 55.0 -0.7**
comp=Z,1.5nm,0.8s,baz=232,slow=8.9,SNR=2.6
USRK LR LR 22 08 01.3
comp=Z,308nm,18.5s,baz=277,slow=39
USRK Ussuriysk Ar. 39.00 69 P **P** **21 49 55.0 -0.7**
USRK Ussuriysk Ar. 39.00 69 P **P** **21 49 55.8 +0.1**
VTS Vitosha 39.11 289 ⇑P **P** **21 49 58.4 +1.6**
VTS Vitosha 39.11 289 P **P** **21 49 58.0 +1.1**
VTS Vitosha 39.11 289 P **P** **21 49 58.0 +1.1**
NIE Niedzica 39.18 300 *e*P **P** **21 49 58.2 +1.0**
NIE Niedzica 39.18 300 P **P** **21 49 59.1 +1.9**
BZS Buzias 39.29 294 ⇑P **P** **21 49 59.7 +1.6**
BZS Buzias 39.29 294 P **P** **21 49 59.4 +1.3**
BZS pmax pmax
comp=Z,19nm,1.2s
OJC Ojcow 39.32 301 *e*P **P** **21 49 59.1 +0.7**
OJC Ojcow 39.32 301 P **P** **21 49 59.4 +1.1**
OJC pmax pmax
comp=Z,32nm,1.1s
OJC Ojcow 39.32 301 P **P** **21 49 59.4 +1.1**
OJC IAmb IAmb 21 50 06.2
comp=Z,32nm,1.1s
SRS Serrai 39.38 286 P **P** **21 50 00.1 +1.1**
SRS pmax pmax
comp=Z,10.0nm,1.4s
MDVR Moldovita 39.47 292 ⇑P **P** **21 50 01.1 +1.4**
TRO Tromso 39.58 332 *e*P **P** **21 50 01.5 +1.3**
APE Apeiranthos 39.58 279 ⇑P **P** **21 50 00.8 0.0**
APE Apeiranthos 39.58 279 P **P** **21 50 01.7 +1.0**
APE pmax pmax
comp=Z,23nm,0.8s
LANS Liptovska Anna 39.77 300 *e*P **P** **21 50 04.3 +2.1**
LANS pmax pmax
comp=Z,3.0nm,0.9s
LANS Liptovska Anna 39.77 300 *e*P **P** **21 50 04.3 +2.1**
PSZ Piszkesteto 39.80 298 P **P** **21 50 01.7 -0.8**
PSZ pmax pmax
comp=Z,6.0nm,0.9s
PSZ Piszkesteto 39.80 298 P **P** **21 50 01.7 -0.8**
SANT Santorini 39.93 279 P **P** **21 50 01.9 -1.7**
SANT IAmb IAmb 21 50 16.3
comp=Z,60nm,1.4s
VAY Valandovo 40.03 287 *i*P **P** **21 50 06.0 +1.7**

STIP Stip 40.16 288 *i*P **P** **21 50 05.2 -0.3**
GKP Gorka Klasztor 40.29 306 *e*P **P** **21 50 07.3 +1.0**
GKP Gorka Klasztor 40.29 306 P **P** **21 50 09.8 +3.5**
VYHS Vyhne 40.34 299 *e*P **P** **21 50 08.3 +1.5**
VYHS pmax pmax
comp=Z,10.0nm,1.4s
VYHS Vyhne 40.34 299 *e*P **P** **21 50 08.3 +1.5**
VYHS *e*PP **PnPn** **21 51 42.8 -0.5**
FAUS Fauske 40.60 328 *e*P **P** **21 50 09.3 +0.7**
SSLB Suanglung 40.62 104 P **P** **21 50 09.4 0.0**
STEI Steigen 40.66 329 *e*P **P** **21 50 09.7 +0.5**
SRO2 Moca 40.82 298 *e*P **P** **21 50 11.9 +1.2**
SRO2 pmax pmax
comp=Z,12nm,1.0s
SRO2 Moca 40.82 298 *e*P **P** **21 50 11.8 +1.1**
IDI Anoyia 40.83 277 P **P** **21 50 09.8 -1.3**
IDI IAmb IAmb 21 50 24.8
comp=Z,17nm,0.9s
MORC Moravsky Berou 40.84 301 ⇑P **P** **21 50 12.5 +1.4**
MORC Moravsky Berou 40.84 301 *e*P **P** **21 50 12.3 +1.3**
MORC *e*PP **PP** **21 51 44.4 -0.6**
MORC Moravsky Berou 40.84 301 P **P** **21 50 11.4 +0.4**
MORC pmax pmax
comp=Z,16nm,1.1s
MORC Moravsky Berou 40.84 301 P **P** **21 50 11.4 +0.4**
DIVS Divibare 40.85 292 P **P** **21 50 11.3 +0.1**
JAVC Velka Javorina 40.99 300 *e*P **P** **21 50 14.8 +2.5**
JAVC *e*PP **PP** **21 51 47.3 +0.6**
AGG Agios Georgios 41.08 284 P **P** **21 50 12.3 -0.8**
AGG pmax pmax
comp=Z,23nm,1.4s
AGG Agios Georgios 41.08 284 P **P** **21 50 12.3 -0.8**
KRLC Kraliky 41.24 302 *e*P **P** **21 50 15.5 +1.2**
KRLC *e* 21 50 21.1
KRLC MLR MLR
comp=Z,500nm,13.7s
KRLC Kraliky 41.24 302 *e*P **P** **21 50 15.5 +1.2**
KRLC *e*pP **pP** **21 50 21.1 +0.8**
KRLC AMS AMS 22 07 40.0
comp=Z,500nm,13.7s
LOF Lofoten 41.32 329 *e*P **P** **21 50 15.7 +1.1**
KSP Ksiaz 41.36 303 *e*P **P** **21 50 16.6 +1.4**
KSP Ksiaz 41.36 303 P **P** **21 50 18.4 +3.2**
MODS Modra-Piesok 41.37 299 *e*P **P** **21 50 16.1 +0.8**
MODS pmax pmax
comp=Z,16nm,1.7s
MODS Modra-Piesok 41.37 299 *e*P **P** **21 50 16.1 +0.8**
KONS Konsvik 41.40 327 *e*P **P** **21 50 16.4 +1.1**
DPC Dobruska-Polom 41.46 302 *e*P **P** **21 50 17.8 +1.7**
DPC *e* 21 50 22.9
DPC MLR MLR
comp=Z,400nm,13.9s
DPC Dobruska-Polom 41.46 302 *e*P **P** **21 50 17.8 +1.7**
DPC *e*pP **pP** **21 50 22.9 +0.8**
DPC AMS AMS 22 08 00.0
comp=Z,400nm,13.9s
OSTC Ostas 41.48 303 AMS AMS 22 08 10.0
comp=Z,500nm,17.5s
VRAC Vranov 41.56 301 *e*P **P** **21 50 18.3 +1.4**
CHVC Chvalec 41.57 303 *e*P **P** **21 50 18.3 +1.3**
CHVC AMS AMS 22 08 10.0
comp=Z,600nm,16.0s
UPC Upice 41.62 303 *e*P **P** **21 50 19.0 +1.7**
UPC MLR MLR
comp=Z,600nm,16.0s
UPC Upice 41.62 303 *e*P **P** **21 50 19.0 +1.7**
UPC AMS AMS 22 08 10.0
comp=Z,600nm,16.0s
KRUC Moravsky 41.75 300 *e*P **P** **21 50 20.1 +1.7**
KRUC *e*PP **PnPn** **21 51 58.6 -1.1**
KRUC *e* 21 52 21.5
NSS Namsos 41.87 324 *e*P **P** **21 50 20.4 +1.2**
PDG Podgorica 41.93 290 ⇓P **P** **21 50 21.2 +1.2**
PDG Podgorica 41.93 290 P **P** **21 50 19.7 -0.3**
ITM Ithomi 42.13 282 P **P** **21 50 20.4 -1.3**
ITM IAmb IAmb 21 50 22.8
comp=Z,32nm,1.3s
NC405 NORSAR Array S 42.20 319 P **P** **21 50 22.2 +0.3**
NC405 IAmb IAmb 21 50 23.9
comp=Z,51nm,1.1s
HSPB Hornsund (broa 42.27 343 *e*P **P** **21 50 23.4 +1.1**
NC602 NORSAR Array S 42.32 318 P **P** **21 50 22.9 0.0**
NC602 IAmb IAmb 21 50 24.4
comp=Z,66nm,1.4s
NC602 NORSAR Array S 42.32 318 *e*P **P** **21 50 24.8 +1.9**
RGN Rugen 42.32 309 P **P** **21 50 23.9 +0.9**
NC303 NORSAR Array S 42.36 319 P **P** **21 50 23.2 0.0**
CONA Conrad Observa 42.41 299 *i*P **P** **21 50 25.4 +1.5**
comp=Z,9.7nm,1.1s,SNR=6.4
CONA *i*P **PP** **21 52 07.1 +5.1**
comp=Z,9.4nm,1.3s
NB201 NORSAR Array S 42.41 319 P **P** **21 50 23.5 -0.1**
NB201 IAmb IAmb 21 50 40.5
comp=Z,43nm,1.1s
SPA0 Spitsbergen Ar 42.45 345 P **P** **21 50 23.5 -0.2**
SPA0 IAmb IAmb 21 50 31.7
comp=Z,39nm,1.1s
NB2 NORSAR Subarra 42.45 319 P **P** **21 50 24.1 +0.1**
comp=Z,28nm,1.2s,baz=83,slow=8.6
NB2 NORSAR Subarra 42.45 319 P **P** **21 50 24.1 +0.1**
baz=83,slow=8.6
NOA NORSAR Array B 42.45 319 P **P** **21 50 24.4 +0.4**
comp=Z,6.4nm,1.0s,baz=88,slow=8.0,SNR=25
NOA LR LR 22 08 33.6
comp=Z,714nm,18.1s,baz=75,slow=37
PVCC Panska Ves 42.50 303 AMS AMS 22 08 40.0
comp=Z,500nm,13.6s
GOPC GO Pecny, Ondr 42.53 302 *e*P **P** **21 50 26.1 +1.3**
GOPC *e* 21 50 31.6
GOPC GO Pecny, Ondr 42.53 302 *e*P **P** **21 50 26.1 +1.3**
GOPC *e*pP **pP** **21 50 31.6 +0.8**
NAO01 NORSAR Array S 42.63 318 IAmb IAmb 21 50 27.4
comp=Z,66nm,1.4s
NC204 NORSAR Array S 42.64 319 P **P** **21 50 25.4 -0.2**
NC204 IAmb IAmb 21 50 27.2
comp=Z,34nm,1.1s
NBO00 NORSAR Array S 42.66 319 P **P** **21 50 25.9 +0.1**
NBO00 IAmb IAmb 21 50 28.0
comp=Z,58nm,1.5s
PRU Pruhonice 42.66 302 *e*P **P** **21 50 27.5 +1.7**
PRU *e* 21 50 33.0
PRU MLR MLR
comp=Z,500nm,15.3s
PRU Pruhonice 42.66 302 *e*P **P** **21 50 27.5 +1.7**
PRU *e*pP **pP** **21 50 33.0 +1.2**
PRU AMS AMS 22 08 50.0
comp=Z,500nm,15.3s
JNU Nakatsue 42.67 85 LR LR 22 10 02.7
comp=Z,173nm,19.0s,baz=274,slow=39
PRA Prague 42.71 302 AMS AMS 22 08 40.0
comp=Z,300nm,16.5s
BRG Berggiesshubel 42.80 304 *e*P **P** **21 50 27.5 +0.6**
comp=Z,3.6nm,1.0s
BRG *i* 21 50 33.6
comp=Z,9.5nm,1.1s
BRG *e* 21 52 10.4
comp=Z,6.4nm,1.0s
BRG *e*PCP **PcP** **21 52 24.5 +6.5**
comp=Z,8.0nm,1.0s
BRG SS SS 21 59 44.0 -17
comp=N,214nm,15.9s
comp=E,283nm,13.4s
comp=Z,445nm,14.1s
BRG Berggiesshubel 42.80 304 *e*P **P** **21 50 27.5 +0.6**
BRG *i* 21 50 33.6
BRG *e* 21 52 10.4
BRG *e* 21 52 24.5
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG MLR MLR
comp=N,214nm,15.9s
BRG MLR MLR
comp=E,283nm,13.4s
BRG MLR MLR
comp=Z,445nm,14.1s
BRG Berggiesshubel 42.80 304 *e*pP **pP** **21 50 33.7 +0.7**
BRG *e*PcP **PcP** **21 52 24.9 +6.9**
KULM Kulim 42.82 145 P **P** **21 50 26.7 -0.8**
KULM IAmb IAmb 21 50 36.4
comp=Z,19nm,0.9s
OSL Oslo 42.82 317 *e*P **P** **21 50 28.1 +1.1**
ARSA Arzberg 42.83 298 *i*P **P** **21 50 25.7 -1.5**
comp=Z,3.8nm,1.1s
ARSA *i*PP **PP** **21 52 05.5 -0.9**

	comp=Z,3.7nm,1.2s								
FBE	**Freiberg**	**43.15 304**	*e*P	**P**	**21 50 31.3 +1.5**
	comp=Z,11nm,0.9s,baz=72,slow=8.0								
FBE			*e*pP	**sP**	**21 50 36.9 -1.2**
CLL	**Collm**	**43.26 304** ⇓	*i*P	**P**	**21 50 31.3 +0.7**
	comp=Z,8.0nm,0.9s								
CLL			⇓*i*pP	**pP**	**21 50 36.7 +0.1**
	comp=Z,15nm,0.9s								
CLL			*i* (sP)	**sP**	**21 50 42.1 +3.1**
CLL			*e*PP	**PP**	**21 52 10.0 -1.0**
CLL			*e*PcP	**PcP**	**21 52 18.0 -1.5**
CLL			*e*pPcP		21 52 26.0
CLL			*e*		21 52 34.0
CLL			*e*PcS	**PcS**	**21 56 11.0 -0.8**
CLL			*e*S	**S**	**21 57 05.0 +8.0**
CLL			*e*SS	**SS**	**22 00 06.0 -3.9**
CLL	**Collm**	**43.26 304** ⇓	*i*P	**P**	**21 50 31.3 +0.7**
CLL			*i*		21 50 36.7
CLL			*e*		21 52 26.0
CLL			*e*S	**S**	**21 57 05.0 +8.0**
CLL			pmax	pmax	
	comp=Z,8.0nm,0.9s								
CLL	**Collm**	**43.26 304**	*e*P	**P**	**21 50 31.7 +1.1**
	comp=Z,10nm,0.8s,baz=72,slow=8.0								
CLL			*e*pP	**pP**	**21 50 37.2 +0.6**
CLL	**Collm**	**43.26 304**	P	**P**	**21 50 31.1 +0.5**
SOKA	**Soboth**	**43.33 297**	*i* P	**P**	**21 50 32.0 +0.7**
	comp=Z,11nm,1.2s,SNR=5.3								
SOKA			*i* PcP	**PcP**	**21 52 20.6 +0.6**
	comp=Z,6.8nm,1.7s								
DOMB	**Dombas**	**43.36 320**	*e*P	**P**	**21 50 32.1 +0.7**
KONO	**Kongsberg**	**43.43 317**	*ce*P	**P**	**21 50 30.7 -1.2**
KONO			pmax	pmax	
	comp=Z,25nm,1.3s								
KONO	**Kongsberg**	**43.43 317**	P	**P**	**21 50 31.2 -0.7**
KONO			IAmb	IAmb	21 50 33.6
	comp=Z,20nm,1.1s								
KONO	**Kongsberg**	**43.43 317**	*e*P	**P**	**21 50 32.6 +0.8**
MOA	**Molln**	**43.45 299**	*i* P	**P**	**21 50 31.5 -0.9**
	comp=Z,7.7nm,1.9s								
MOA			*i* PcP	**PcP**	**21 52 20.7 +0.4**
	comp=Z,10nm,1.1s								
KHC	**Kasperske Hory**	**43.51 301**	*ce*P	**P**	**21 50 31.7 -1.0**
KHC			pmax	pmax	
	comp=Z,23nm,2.5s								
KHC	**Kasperske Hory**	**43.51 301**	*e*P	**P**	**21 50 34.2 +1.5**
KHC			*e*pP	**pP**	**21 50 39.2 +0.5**
KHC			*e*S	**S**	**21 57 04.0 +3.2**
KHC			AMS	AMS	22 11 40.0
	comp=Z,400nm,17.3s								
KHC	**Kasperske Hory**	**43.51 301**	P	**P**	**21 50 32.8 0.0**
GEC2	**GERESS Array S**	**43.51 301**	P	**P**	**21 50 33.5 +0.6**
GERES	**GERESS Array B**	**43.51 301**	P	**P**	**21 50 33.7 +0.9**
	comp=Z,1.0nm,0.6s,baz=62,slow=6.6,SNR=11								
GERES			LR	LR	22 09 41.4
	comp=Z,236nm,18.2s,baz=88,slow=38								
GERES	**GERESS Array B**	**43.51 301**	P	**P**	**21 50 33.2 +0.3**
GERES	**GERESS Array B**	**43.51 301**	P	**P**	**21 50 33.2 +0.3**
PDKS	**Podkum**	**43.55 296**	*e*P	**P**	**21 50 34.1 +0.9**
BOJS	**Bojanci**	**43.57 296**	*e*P	**P**	**21 50 34.4 +1.2**
OBKA	**Obir**	**43.70 297**	*i* P	**P**	**21 50 35.8 +1.5**
	comp=Z,7.3nm,0.9s								
OBKA			*i* PcP	**PcP**	**21 52 22.0 +0.8**
	comp=Z,12nm,1.9s								
IPM	**Ipoh**	**43.71 145**	P	**P**	**21 50 34.2 -0.4**
IPM			IAmb	IAmb	21 50 40.8
	comp=Z,13nm,0.7s								
TANN	**Tannenbergstha**	**43.83 303**	*e*P	**P**	**21 50 36.7 +1.3**
	comp=Z,15nm,0.9s,baz=72,slow=8.0								
TANN			*e*pP	**sP**	**21 50 42.6 -1.2**
LJU	**Ljubljana**	**43.86 297**	*e*P	**P**	**21 50 36.8 +1.2**
NKC	**Novy Kostel**	**43.89 303**	AMS	AMS	22 09 30.0
	comp=Z,700nm,13.9s								
SKAR	**Skarslia**	**43.91 318**	*e*P	**P**	**21 50 37.2 +1.4**
WERD	**Werda**	**43.92 303**	*e*pP	pP	21 50 43.2 +1.1
WERN	**Wernitzgruen**	**43.92 303**	*e*pP	**pP**	**21 50 43.2 +1.1**
WERN			*e*PcP	**PcP**	**21 52 29.3 +7.5**
GUNZ	**Gunzen**	**43.92 303**	*e*P	**P**	**21 50 37.6 +1.5**
	comp=Z,7.9nm,0.9s,baz=72,slow=8.0								
GUNZ			*e*pP	**sP**	**21 50 43.5 -1.0**
GUNZ			*e*PcP	**PcP**	**21 52 29.3 +7.5**
WET	**Wettzell**	**43.94 301**	*e*P	**P**	**21 50 37.7 +1.5**
	comp=Z,4.6nm,0.9s,baz=72,slow=8.0								
WET			*e*pP	**pP**	**21 50 43.4 +1.1**
WET			*e*PcP	**PcP**	**21 52 28.9 +7.0**
MANZ	**Manzenberg**	**44.17 303**	*e*P	**P**	**21 50 40.6 +2.5**
	comp=Z,4.7nm,0.9s,baz=72,slow=8.0								
MANZ			*e*pP	**sP**	**21 50 45.6 -0.9**
MANZ			*e*PcP	**PcP**	**21 52 29.7 +7.0**
ROTZ	**Rotzenmuhle**	**44.17 302**	*e*pP	**pP**	**21 50 45.5 +1.4**
ROTZ			*e*PcP	**PcP**	**21 52 30.2 +7.5**
BSEG	**Bad Segeberg**	**44.18 309**	*e*pP	pP	21 50 45.7 +1.7
HOMB	**Homborsund**	**44.22 315**	*e*P	**P**	**21 50 39.7 +1.4**
MYKA	**Terra Mystica**	**44.25 298**	*i* P	**P**	**21 50 39.4 +0.6**
	comp=Z,2.8nm,0.7s								
MOX	**Moxa**	**44.28 304**	*e*P	**P**	**21 50 40.7 +1.8**
	comp=Z,8.3nm,0.9s,baz=72,slow=8.0								
MOX			*e*pP	**sP**	**21 50 46.2 -1.1**
MOX			*e*L	L	22 10 18.9
	comp=Z,281nm,19.6s								
KBA	**Koelnbreinsper**	**44.29 298**	*i* P	**P**	**21 50 39.9 +0.6**
	comp=Z,7.9nm,1.0s								
KBA			*i* PP	**PcP**	**21 52 24.7 +1.4**
	comp=Z,3.1nm,0.7s								
AKN	**Aaknes**	**44.31 321**	*e*P	**P**	**21 50 39.9 +1.0**
PRED	**Cave del Predi**	**44.36 297**	P	**P**	**21 50 38.9 -0.7**
RJOB	**Jochberg**	**44.43 299**	*e*PcP	**PcP**	**21 52 29.2 +5.5**
RPSI	**Rantau Prapat**	**44.48 148**	IAmb	IAmb	21 50 40.6
	comp=Z,14nm,1.0s								
NRDL	**Niedersach Rie**	**44.67 307**	*e*P	**P**	**21 50 43.9 +2.1**
	comp=Z,24nm,0.9s,baz=72,slow=8.0								
NRDL			*e*pP	**sP**	**21 50 49.7 -0.6**
CLZ	**Clausthal**	**44.70 306**	*e*PcP	**PcP**	**21 52 31.7 +7.2**
GRA1	**Grafenberg Arr**	**44.81 303**	P	**P**	**21 50 43.2 +0.1**
GRF	**Grafenberg Arr**	**44.81 303**	P	**P**	**21 50 43.2 +0.1**
GRF			pmax	pmax	
	comp=Z,38nm,1.2s								
GRF	**Grafenberg Arr**	**44.81 303**	*e*P	**P**	**21 50 45.6 +2.5**
	comp=Z,14nm,0.8s,baz=72,slow=8.0								
GRF			*e*pP	**sP**	**21 50 50.5 -1.0**
GRF			*e*L	L	22 10 37.2
	comp=Z,267nm,21.8s								
ABTA	**Abfaltersbach**	**44.94 298**	*i* P	**P**	**21 50 44.4 +0.1**
	comp=Z,4.0nm,1.1s								
ABTA			*i* PP	**PP**	**21 52 30.7 +1.5**
	comp=Z,8.1nm,1.0s								
TIP	**Timpagrande**	**44.96 287**	⇑P	**P**	**21 50 44.2 -0.3**
TIP	**Timpagrande**	**44.96 287**	P	**P**	**21 50 44.8 +0.3**
TIP			IAmb	IAmb	21 50 51.6
	comp=Z,16nm,0.9s								
GTTG	**Gottingen**	**45.02 305**	*e*P	**P**	**21 50 46.7 +2.0**
	comp=Z,29nm,0.9s,baz=72,slow=8.0								
GTTG			*e*pP	**sP**	**21 50 52.0 -1.2**
GTTG			*e*PcP	**PP**	**21 52 33.1 +3.3**
CIMO	**Cimolais**	**45.14 298**	P	**P**	**21 50 44.9 -0.9**
GSI	**Gunungsitoli**	**45.26 151**	P	**P**	**21 50 45.5 -1.5**
YSS	**Yuzh-Sakhalins**	**45.27 61**	*e*P	P	21 50 41.0 -5.8
WTTA	**Wattenberg**	**45.33 299**	*i* P	**P**	**21 50 48.3 +0.8**
	comp=Z,14nm,1.0s,SNR=5.4								
WTTA			*i* PP	**PP**	**21 52 32.8 -0.6**
	comp=Z,18nm,1.2s								
WATA	**Walderalm**	**45.34 299**	*i* P	**P**	**21 50 48.2 +0.7**
	comp=Z,18nm,1.2s								
WATA			*i* PP	**PP**	**21 52 33.0 -0.4**
	comp=Z,9.4nm,1.1s								
SQTA	**Sankt Quirin**	**45.62 299**	*i* P	**P**	**21 50 50.0 +0.2**
	comp=Z,1.7nm,0.6s								
SQTA			*i* PcP	**PcP**	**21 52 27.9 0.0**
	comp=Z,9.4nm,1.0s								
MOTA	**Moosalm**	**45.64 299**	*i* P	**P**	**21 50 50.6 +0.7**
	comp=Z,10nm,0.9s,SNR=7.8								
MOTA			*i* PcP	**PcP**	**21 52 30.4 +2.5**
	comp=Z,7.0nm,0.9s								
INTR	**Introdacqua**	**45.77 292**	P	**P**	**21 50 51.1 +0.2**
INTR			IAmb	IAmb	21 50 59.6
	comp=Z,24nm,0.9s								
RETA	**Reutte**	**45.81 300**	*i* P	**P**	**21 50 51.9 +0.7**
	comp=Z,12nm,1.0s,SNR=6.5								
AQU	**L'Aquila**	**45.97 292**	P	**P**	**21 50 53.0 +0.5**
AQU			pmax	pmax	
	comp=Z,21nm,1.0s								
AQU	**L'Aquila**	**45.97 292**	P	**P**	**21 50 53.0 +0.5**
AQU			IAmb	IAmb	21 50 55.1
	comp=Z,21nm,1.0s								
NRCA	**Norcia**	**45.98 293**	P	**P**	**21 50 52.4 -0.2**
NRCA			IAmb	IAmb	21 51 07.6
	comp=Z,16nm,1.3s								
FETA	**Feichten**	**45.99 299**	*i* P	**P**	**21 50 53.5 +0.7**
	comp=Z,4.9nm,0.9s								
FETA			*i* PcP	**PcP**	**21 52 30.2 +1.0**
	comp=Z,10nm,1.0s								
IBBN	**Ibbenburen**	**46.11 307**	*e*pP	pP	21 51 00.2 +0.8
UBR	**Ueberruh**	**46.16 300**	*e*P	**P**	**21 50 55.6 +1.7**
	comp=Z,10nm,0.7s,baz=72,slow=8.0								
UBR			*e*pP	**pP**	**21 51 00.8 +0.9**
UBR			*e*PcP	**PP**	**21 52 36.4 -5.7**
ASAJ	**Asahikawa**	**46.20 65**	LR	LR	22 12 47.0
	comp=Z,109nm,19.4s,baz=291,slow=39								
MURB	**Monte Urbino**	**46.21 294**	P	**P**	**21 50 53.8 -0.6**
MURB			IAmb	IAmb	21 51 02.5
	comp=Z,28nm,1.1s								
MA2	**Magadan**	**46.29 42**	LR	LR	22 11 02.6
	comp=Z,707nm,18.4s,baz=282,slow=37								
SEY	**Seymchan**	**46.34 38**	LR	LR	22 12 27.0
	comp=Z,360nm,18.3s,baz=302,slow=39								
SEY	**Seymchan**	**46.34 38**	*i* P	**P**	**21 50 55.0 0.0**
TNS	**Taunus Mts**	**46.34 304**	*e*P	**P**	**21 50 56.1 +0.8**
	comp=Z,6.5nm,0.9s,baz=72,slow=8.0								
TNS			*e*PcP	**PP**	**21 52 37.4 -6.6**
MJAR	**Matsushiro Arr**	**46.35 76**	P	**P**	**21 50 55.0 -0.6**
	comp=Z,2.1nm,1.1s,baz=302,slow=7.3,SNR=5.6								
MJAR			LR	LR	22 11 40.9
	comp=Z,118nm,19.0s,baz=300,slow=38								
MJAR	**Matsushiro Arr**	**46.35 76**	P	**P**	**21 50 55.0 -0.6**
MJAR	**Matsushiro Arr**	**46.35 76**	P	**P**	**21 50 52.3 -3.3**
STU	**Stuttgart**	**46.36 302**	P	**P**	**21 50 55.2 -0.2**
STU			pmax	pmax	
	comp=Z,19nm,0.8s								
STU	**Stuttgart**	**46.36 302**	*e*P	**P**	**21 50 57.1 +1.7**
	comp=Z,13nm,0.8s,baz=72,slow=8.0								
STU			*e*pP	**sP**	**21 51 03.2 -0.6**
STU	**Stuttgart**	**46.36 302**	P	**P**	**21 50 55.2 -0.2**
STU			IAmb	IAmb	21 51 03.7
	comp=Z,19nm,0.8s								
FUORN	**Ofenpass-Fuorn**	**46.44 299**	P	**P**	**21 50 55.8 -0.6**
FUORN			IAmb	IAmb	21 51 04.4
	comp=Z,12nm,0.8s								
DAVA	**Damuels**	**46.44 300**	*i* P	**P**	**21 50 56.8 +0.5**
	comp=Z,11nm,0.9s								
MNSI	**Mandailing Nat**	**46.47 149**	P	**P**	**21 50 55.4 -1.1**
	comp=Z,36nm,1.1s								
BUG	**Bochum--Univer**	**46.66 306**	*e*PcP	**PcP**	**21 52 38.2 +7.0**
OSSC	**Osservatorio P**	**46.96 295**	P	**P**	**21 50 60.0 -0.2**
OSSC			IAmb	IAmb	21 51 02.0
	comp=Z,14nm,1.0s								
BFO	**Black Forest**	**47.05 302**	P	**P**	**21 51 01.0 +0.1**
BFO			pmax	pmax	
	comp=Z,12nm,1.1s								
BFO	**Black Forest**	**47.05 302**	*e*pP	pP	21 51 07.7 +0.8
BFO	**Black Forest**	**47.05 302**	P	**P**	**21 51 01.0 +0.1**
BFO			IAmb	IAmb	21 51 08.3
	comp=Z,12nm,1.1s								
AHRW	**Bad Neuenahr-A**	**47.07 305**	*e*P	**P**	**21 51 02.9 +2.0**
	comp=Z,13nm,0.9s,baz=72,slow=8.0								
AHRW			*e*pP	**sP**	**21 51 08.3 -1.0**
TUE	**Stuetta**	**47.08 299**	P	**P**	**21 51 00.7 -0.6**
TUE			IAmb	IAmb	21 51 10.4
	comp=Z,9.7nm,0.9s								
MEM	**Membach**	**47.69 305**	pP	**pP**	**21 51 11.7 0.0**
MEM			sP	sP	21 51 15.1 +0.9
ECH	**Echery**	**47.83 302**	P	**P**	**21 51 06.5 -0.4**
ECH			pmax	pmax	
	comp=Z,12nm,1.1s								
ECH	**Echery**	**47.83 302**	P	**P**	**21 51 06.5 -0.4**
ECH			IAmb	IAmb	21 51 14.1
	comp=Z,12nm,1.1s								
WLF	**Walferdange**	**47.93 304**	P	**P**	**21 51 07.0 -0.5**
WLF			pP	**sP**	**21 51 15.2 -0.8**
WLF			sP	**pP**	**21 51 18.4 +4.8**
WLF	**Walferdange**	**47.93 304**	P	**P**	**21 51 08.1 +0.5**
WLF			pmax	pmax	
	comp=Z,18nm,0.9s								
WLF	**Walferdange**	**47.93 304**	*e*pP	pP	21 51 14.9 +1.2
WLF	**Walferdange**	**47.93 304**	P	**P**	**21 51 08.1 +0.5**
WLF			IAmb	IAmb	21 51 16.5
	comp=Z,18nm,0.9s								
PDSI	**Padang**	**48.38 148**	P	**P**	**21 51 10.1 -1.3**
	comp=Z,31nm,1.1s								
NOR	**Nord**	**48.39 349**	*i* P	**P**	**21 51 11.5 +0.7**
NOR			*i*		21 51 16.7
NOR	**Nord**	**48.39 349**	*i* P	**P**	**21 51 11.5 +0.7**
NOR			*i*		21 51 16.7
HAU	**Haudompre**	**48.41 302**	*e*P	**P**	**21 51 12.1 +0.7**
HAU			pmax	pmax	
	comp=Z,9.0nm,0.9s								
SENIN	**Lac Senin/Sane**	**48.43 300**	P	**P**	**21 51 12.5 +0.7**
SENIN			IAmb	IAmb	21 51 20.4
	comp=Z,8.6nm,1.0s								
BMRD	**Maredsous**	**48.54 305**	pP	pP	21 51 18.8 +0.4
GIVF	**Givet**	**48.57 305**	*e*P	**P**	**21 51 13.9 +1.3**
GIVF			pmax	pmax	
	comp=Z,15nm,1.0s								
DOU	**Dourbes**	**48.71 305**	pP	pP	21 51 20.3 +0.6
CABF	**La Chapelle**	**49.10 300**	*e*P	**P**	**21 51 17.4 +0.6**
CABF			pmax	pmax	
	comp=Z,12nm,1.0s								
LPG	**La Plagne**	**49.12 299**	*e*P	**P**	**21 51 17.4 +0.2**
LPG			pmax	pmax	
	comp=Z,17nm,1.0s								
LPL	**La Plagne**	**49.13 299**	*e*P	**P**	**21 51 18.3 +1.1**
LPL			pmax	pmax	
	comp=Z,5.0nm,0.6s								
JHJ	**Hachijo jima 2**	**49.15 80**	LR	LR	22 14 07.0
	comp=Z,121nm,19.4s,baz=73,slow=39								
BNI	**Bardonecchia**	**49.35 298**	P	**P**	**21 51 18.8 0.0**
BNI			pmax	pmax	
	comp=Z,17nm,0.9s								
BNI	**Bardonecchia**	**49.35 298**	P	**P**	**21 51 18.8 0.0**
BNI			IAmb	IAmb	21 51 30.8
	comp=Z,17nm,0.9s								
MBDF	**Montbardon**	**49.42 298**	*e*P	**P**	**21 51 19.1 -0.3**
MBDF			pmax	pmax	
	comp=Z,9.0nm,0.6s								
ORIF	**Oris-en-Rattie**	**49.92 298**	*e*P	**P**	**21 51 23.4 +0.3**
ORIF			pmax	pmax	
	comp=Z,9.0nm,0.8s								
DAG	**Danmarks Havn**	**49.97 343** ⇓	*i*P	**P**	**21 51 22.7 -0.2**
DAG			*i*		21 51 28.5
DAG	**Danmarks Havn**	**49.97 343** ⇓	*i*P	**P**	**21 51 22.7 -0.2**
DAG			*i*		21 51 28.5
LOR	**Lormes**	**50.24 302**	*e*P	**P**	**21 51 25.5 +0.1**
LOR			pmax	pmax	
	comp=Z,12nm,1.3s								
KKM	**Kota Kinabalu**	**50.26 126**	P	**P**	**21 51 26.6 +0.6**
SMF	**Signal de Mont**	**50.51 301**	*e*P	**P**	**21 51 27.8 +0.4**
SMF			pmax	pmax	
	comp=Z,8.0nm,0.8s								
VIVF	**Saint-Julien-l**	**50.73 299**	*e*P	**P**	**21 51 29.5 +0.4**
VIVF			pmax	pmax	
	comp=Z,17nm,1.0s								
TCF	**Toulx Ste Croi**	**51.68 301**	*e*P	**P**	**21 51 37.0 +0.7**
TCF			pmax	pmax	
	comp=Z,12nm,1.2s								
PETK	**Petropavlovsk-**	**51.99 49**	LR	LR	22 14 40.0
	comp=Z,351nm,19.3s,baz=249,slow=37								
MYLDM	**Lahad Datu**	**52.32 124**	P	**P**	**21 51 42.0 +0.8**
MYLDM			IAmb	IAmb	21 51 52.7
	comp=Z,26nm,1.3s								
CAF	**Calviac**	**52.37 300**	*e*P	**P**	**21 51 42.4 +1.0**
CAF			pmax	pmax	
	comp=Z,21nm,1.5s								
RJF	**Les Rejaudoux**	**52.55 300**	*e*P	**P**	**21 51 43.9 +1.2**
RJF			pmax	pmax	
	comp=Z,14nm,1.0s								
GRR	**Gorron**	**52.67 305**	*e*P	**P**	**21 51 43.8 +0.3**
GRR			pmax	pmax	
	comp=Z,23nm,1.0s								
MTLF	**Montolieu**	**52.98 298**	*e*P	**P**	**21 51 46.8 +0.9**
MTLF			pmax	pmax	
	comp=Z,4.0nm,0.6s								
ROSF	**Rostrenen**	**54.14 306**	*e*P	**P**	**21 51 56.4 +2.1**
ROSF			pmax	pmax	
	comp=Z,48nm,1.3s								
QUIF	**Quistinic**	**54.27 305**	*e*P	**P**	**21 51 55.6 +0.4**
QUIF			pmax	pmax	
	comp=Z,30nm,1.2s								
EPF	**Esparros**	**54.34 298**	*e*P	**P**	**21 51 55.8 -0.2**
EPF			pmax	pmax	
	comp=Z,10.0nm,1.2s								
ETSF	**Etsaut**	**54.99 299**	*e*P	**P**	**21 52 01.6 +0.9**
ETSF			pmax	pmax	
	comp=Z,6.0nm,0.6s								
SUMG	**Summit**	**56.55 341**	*i* P	**P**	**21 52 12.4 +0.6**
SUMG			*i*		21 52 18.5
SUMG	**Summit**	**56.55 341**	*e*P	**P**	**21 52 12.4 +0.6**
SUMG			*i*		21 52 18.5
SUMG	**Summit**	**56.55 341**	P	**P**	**21 52 12.0 +0.2**
KMBO	**Kilima Mbogo**	**56.74 230**	P	**P**	**21 52 13.9 +0.2**
	comp=Z,2.1nm,0.9s,baz=43,slow=6.6,SNR=4.6								
KMBO			LR	LR	22 19 09.1
	comp=Z,78nm,18.8s,baz=98,slow=39								
KMBO	**Kilima Mbogo**	**56.74 230**	*i* P	**P**	**21 52 15.1 +1.4**
KMBO			pmax	pmax	
	comp=Z,2.0nm,0.8s								
KMBO	**Kilima Mbogo**	**56.74 230**	P	**P**	**21 52 12.7 -1.0**
MPSI	**Mapaga**	**57.01 126**	P	**P**	**21 52 17.5 +2.2**
	comp=Z,600nmcomp=Z,17nm,1.3s								
ESDC	**Sonseca Array**	**58.83 297**	P	**P**	**21 52 27.9 0.0**
	comp=Z,2.8nm,0.9s,baz=51,slow=7.6,SNR=17								
ESDC			LR	LR	22 20 01.0
	comp=Z,112nm,19.1s,baz=50,slow=38								
ESDC	**Sonseca Array**	**58.83 297**	P	**P**	**21 52 27.6 -0.3**
LUWI	**Luwuk**	**59.82 124**	P	**P**	**21 52 31.2 -3.7**
MBAR	**Mbarara**	**60.17 237**	P	**P**	**21 52 36.0 -1.6**
MBAR			pmax	pmax	
	comp=Z,5.0nm,1.0s								
MBAR	**Mbarara**	**60.17 237**	P	**P**	**21 52 36.0 -1.6**
MTE	**Manteigas**	**60.76 299**	P	**P**	**21 52 37.9 -3.3**
MTE			IAmb	IAmb	21 52 41.7
	comp=Z,13nm,1.1s								
KAPI	**Kappang**	**61.26 130**	LR	LR	22 23 19.3
	comp=Z,64nm,18.1s,baz=286,slow=40								
TNTI	**Ternate**	**61.28 119**	P	**P**	**21 52 44.0 -0.9**
TAM	**Tamanrasset**	**61.76 276**	P	**P**	**21 52 47.9 -0.4**
TAM			pmax	pmax	
	comp=Z,2.0nm,0.9s								
TAM	**Tamanrasset**	**61.76 276**	P	**P**	**21 52 47.9 -0.4**
ILULI	**Ilulissat**	**61.88 342**	P	**P**	**21 52 48.2 0.0**
ILULI			pmax	pmax	
	comp=Z,40nm,1.4s								
ILULI	**Ilulissat**	**61.88 342**	P	**P**	**21 52 48.2 0.0**
RODM	**Citronelle, R**	**63.64 195**	P	**P**	**21 53 00.1 -0.4**
COLD	**Coldfoot**	**64.38 19**	P	**P**	**21 53 05.5 +0.6**
COLD			IAmb	IAmb	21 53 11.6
	comp=Z,14nm,1.0s								
IMAR	**Indian Mountai**	**64.49 21**	P	**P**	**21 53 05.2 -0.4**
TTA	**Tatalina**	**66.22 24**	P	**P**	**21 53 17.1 +0.2**
TTA			pmax	pmax	
	comp=Z,6.0nm,1.0s								
TTA	**Tatalina**	**66.22 24**	P	**P**	**21 53 17.1 +0.2**
INK	**Inuvik**	**66.67 12**	IAmb	IAmb	21 53 26.3
	comp=Z,23nm,1.2s								
BPAW	**Bear Paw Mtn.**	**66.70 21**	IAmb	IAmb	21 53 27.5
	comp=Z,8.0nm,1.0s								
COLA	**College**	**66.86 19**	*i* P	**P**	**21 53 20.7 -0.1**
COLA			pmax	pmax	
	comp=Z,7.0nm,0.9s								
COLA	**College**	**66.86 19**	P	**P**	**21 53 20.0 -0.8**
COLA			IAmb	IAmb	21 53 27.4
	comp=Z,14nm,1.0s								
C36M	**Paulatuk**	**66.90 8**	P	**P**	**21 53 21.7 +0.6**
CCB	**Clear Creek Bu**	**67.06 19**	IAmb	IAmb	21 53 28.3
	comp=Z,9.1nm,1.2s								
WRH	**Wood River Hil**	**67.13 20**	P	**P**	**21 53 22.5 -0.1**
IL31		**67.17 19**	P	**P**	**21 53 22.4 -0.5**
IL31			IAmb	IAmb	21 53 28.8
	comp=Z,8.0nm,0.9s								
ILAR	**Eielson Array**	**67.17 19**	P	**P**	**21 53 22.5 -0.4**
	comp=Z,3.9nm,0.9s,baz=313,slow=5.1,SNR=27								
ILAR			LR	LR	22 25 42.4
	comp=Z,163nm,21.7s,baz=326,slow=39								
ILAR	**Eielson Array**	**67.17 19**	P	**P**	**21 53 21.3 -1.6**
PPLA	**Purkeypile**	**67.34 22**	P	**P**	**21 53 24.2 0.0**
PPLA			IAmb	IAmb	21 53 25.3
	comp=Z,20nm,1.2s								
TRF	**Thorofare Moun**	**67.41 21**	P	**P**	**21 53 25.1 +0.5**
TRF			IAmb	IAmb	21 53 33.6
	comp=Z,7.7nm,1.1s								
HDA	**Harding Lake**	**67.46 19**	P	**P**	**21 53 23.2 -1.6**
MCK	**McKinley**	**67.53 20**	P	**P**	**21 53 25.2 0.0**
MCK			pmax	pmax	
	comp=Z,9.0nm,1.3s								
MCK	**McKinley**	**67.53 20**	P	**P**	**21 53 25.2 0.0**
SKT	**Skwentna**	**68.26 23**	P	**P**	**21 53 29.3 -0.5**
SKT			IAmb	IAmb	21 53 35.9
	comp=Z,13nm,0.9s								
EGAK	**Eagle**	**68.45 17**	P	**P**	**21 53 30.4 -0.5**
EGAK			IAmb	IAmb	21 53 38.1
	comp=Z,11nm,1.2s								
DOT	**Dot Lake**	**68.79 18**	P	**P**	**21 53 32.8 -0.3**
DOT			IAmb	IAmb	21 53 38.5
	comp=Z,11nm,1.4s								
GHO	**Glory Hole Cre**	**69.15 22**	P	**P**	**21 53 35.2 -0.3**
GHO			IAmb	IAmb	21 53 44.2
	comp=Z,18nm,1.1s								
PMR	**Palmer**	**69.24 22**	P	**P**	**21 53 35.9 0.0**
PMR			pmax	pmax	
	comp=Z,7.0nm,0.8s								
PMR	**Palmer**	**69.24 22**	P	**P**	**21 53 35.9 0.0**
PMR			IAmb	IAmb	21 53 47.9
	comp=Z,6.9nm,0.8s								
SML	**Sawmill**	**69.28 21**	P	**P**	**21 53 36.0 -0.2**
SML			IAmb	IAmb	21 53 46.3
	comp=Z,20nm,1.2s								
DAWY	**Dawson**	**69.45 16**	IAmb	IAmb	21 53 43.4
	comp=Z,9.7nm,1.2s								
KNK	**Knik Glacier**	**69.57 22**	P	**P**	**21 53 37.4 -0.6**
BCAR	**Beaver Creek A**	**69.81 18**	P	**P**	**21 53 39.8 +0.3**
SDPT	**Sand Point**	**70.49 31**	P	**P**	**21 53 41.7 -1.9**
TORD	**Torodi Ar. Bea**	**70.67 270**	P	**

SCHQ	**Schefferville**	**77.91**	**340**	P		**P**	**21 54 27.1**	**+0.1**
	comp=Z,2.9nm,0.9s,baz=73,slow=14,SNR=1.9							
SCHQ				LR		LR	22 33 08.7	
	comp=Z,65nm,18.4s,baz=31,slow=39							
SCHQ	**Schefferville**	**77.91**	**340**	IAmb		IAmb	21 54 33.1	
	comp=Z,9.6nm,0.9s							
DBIC	**Dimbokro**	**79.77**	**270**	P		**P**	**21 54 37.3**	**-0.5**
	comp=Z,12nm,0.8s,baz=29,slow=6.2,SNR=15							
DBIC	**Dimbokro**	**79.77**	**270**	P		**P**	**21 54 37.4**	**-0.5**
DBIC				pmax		pmax		
	comp=Z,19nm,1.0s							
DBIC	**Dimbokro**	**79.77**	**270**	P		**P**	**21 54 37.4**	**-0.5**
DBIC				IAmb		IAmb	21 54 38.5	
	comp=Z,19nm,0.9s							
KIC	**Kosan Boka**	**79.89**	**269**	*e*P		**P**	**21 54 37.8**	**-0.7**
	comp=Z,61nm,1.1s							
TIC	**Toumodi**	**79.91**	**270**	*e*P		**P**	**21 54 37.9**	**-0.7**
MORW	**Morawa**	**80.02**	**146**	P		**P**	**21 54 38.1**	**-0.6**
MORW				IAmb		IAmb	21 54 39.4	
	comp=Z,14nm,1.0s							
LIC	**Lamto**	**80.20**	**269**	*e*P		**P**	**21 54 39.4**	**-0.7**
	comp=Z,57nm,1.0s							
MIDW	**Midway**	**81.47**	**59**	P		**P**	**21 54 44.6**	**-2.1**
WB0	**Warramunga Arr**	**81.51**	**127**	P		**P**	**21 54 45.5**	**-1.5**
WRAB	**Tennant Creek**	**81.62**	**127**	*ce*P		**P**	**21 54 45.3**	**-2.2**
WRAB				pmax		pmax		
	comp=Z,45nm,1.7s							
WRAB	**Tennant Creek**	**81.62**	**127**	P		**P**	**21 54 46.5**	**-1.0**
WRAB				IAmb		IAmb	21 54 48.3	
	comp=Z,21nm,0.9s							
WRA	**Warramunga Arr**	**81.62**	**127**	P		**P**	**21 54 46.9**	**-0.6**
	comp=Z,16nm,0.9s,baz=325,slow=5.1,SNR=61							
WRA	**Warramunga Arr**	**81.62**	**127**	P		**P**	**21 54 47.0**	**-0.6**
WB2	**Warramunga Arr**	**81.63**	**127**	P		**P**	**21 54 46.5**	**-1.1**
WC3	**Warramunga Arr**	**81.65**	**127**	P		**P**	**21 54 46.9**	**-0.8**
WR0	**Warramunga Arr**	**81.75**	**127**	P		**P**	**21 54 46.9**	**-1.2**
PMG	**Port Moresby**	**81.98**	**111**	P		**P**	**21 54 48.5**	**-1.1**
PMG				pmax		pmax		
	comp=Z,21nm,1.1s							
PMG	**Port Moresby**	**81.98**	**111**	P		**P**	**21 54 48.5**	**-1.1**
PMG				IAmb		IAmb	21 54 50.6	
	comp=Z,21nm,1.1s							
COEN	**Coen**	**82.60**	**117**	P		**P**	**21 54 51.4**	**-1.3**
COEN				IAmb		IAmb	21 54 53.5	
	comp=Z,12nm,0.8s							
TSUM	**Tsumeb**	**82.67**	**235**	P		**P**	**21 54 53.1**	**-0.1**
TSUM				IAmb		IAmb	21 54 54.2	
	comp=Z,10nm,1.1s							
FFC	**Flin Flon**	**82.69**	**360**	P		**P**	**21 54 53.1**	**+0.4**
FFC				pmax		pmax		
	comp=Z,35nm,1.4s							
FFC	**Flin Flon**	**82.69**	**360**	P		**P**	**21 54 53.1**	**+0.4**
BBB	**Bella Bella**	**82.71**	**15**	LR		LR	22 36 37.8	
	comp=Z,135nm,18.0s,baz=350,slow=39							
BBB	**Bella Bella**	**82.71**	**15**	P		**P**	**21 54 50.9**	**-1.9**
ASAR	**Alice Springs**	**84.28**	**130**	P		**P**	**21 55 00.7**	**-0.6**
	comp=Z,8.0nm,1.0s,baz=329,slow=5.3,SNR=40							
ASAR	**Alice Springs**	**84.28**	**130**	P		**P**	**21 55 00.3**	**-0.9**
ASAR	**Alice Springs**	**84.28**	**130**	P		**P**	**21 55 00.3**	**-0.9**
FORT	**Forrest**	**86.90**	**138**	P		**P**	**21 55 13.0**	**-1.0**
ULM	**Lac du Bonnet**	**86.98**	**356**	LR		LR	22 38 22.5	
	comp=Z,222nm,18.3s,baz=360,slow=39							
WALA	**Waterton Lakes**	**87.83**	**7**	P		**P**	**21 55 18.7**	**0.0**
WALA				IAmb		IAmb	21 55 24.9	
	comp=Z,7.6nm,1.1s							
B08A	**Colville Reser**	**87.89**	**11**	P		**P**	**21 55 18.4**	**-0.5**
B08A				IAmb		IAmb	21 55 25.6	
	comp=Z,8.7nm,1.2s							
MOQ	**Mont Orford**	**88.03**	**339**	P		**P**	**21 55 20.2**	**+0.6**
NLWA	**Neilton Lookou**	**88.10**	**14**	P		**P**	**21 55 20.6**	**+0.7**
NLWA				IAmb		IAmb	21 55 27.6	
	comp=Z,12nm,1.2s							
NEW	**Newport**	**88.27**	**10**	P		**P**	**21 55 20.8**	**+0.1**
NEW				pmax		pmax		
	comp=Z,3.0nm,0.8s							
NEW	**Newport**	**88.27**	**10**	P		**P**	**21 55 20.8**	**+0.1**
C09A	**Chrisman Ranch**	**88.58**	**10**	P		**P**	**21 55 22.3**	**+0.1**
C09A				IAmb		IAmb	21 55 30.8	
	comp=Z,6.2nm,0.9s							
D05A	**Enumclaw**	**88.62**	**13**	P		**P**	**21 55 22.9**	**+0.6**
LTY	**Liberty**	**88.77**	**12**	P		**P**	**21 55 20.3**	**-2.8**
AGMN	**Agassiz Nation**	**88.93**	**355**	P		**P**	**21 55 23.6**	**-0.1**
AGMN				IAmb		IAmb	21 55 30.0	
	comp=Z,8.0nm,1.0s							
E03A	**Lebam**	**88.97**	**14**	P		**P**	**21 55 23.2**	**-0.7**
E03A				IAmb		IAmb	21 55 34.5	
	comp=Z,14nm,1.3s							
CTAO	**Charters Tower**	**89.07**	**119**	P		**P**	**21 55 23.4**	**-1.3**
CTAO				pmax		pmax		
	comp=Z,14nm,1.0s							
CTAO	**Charters Tower**	**89.07**	**119**	P		**P**	**21 55 23.4**	**-1.3**
LON	**Longmire**	**89.08**	**13**	P		**P**	**21 55 24.2**	**-0.4**
LON				pmax		pmax		
	comp=Z,5.0nm,1.0s							
LON	**Longmire**	**89.08**	**13**	P		**P**	**21 55 24.2**	**-0.4**
LON				IAmb		IAmb	21 55 32.8	
	comp=Z,4.7nm,0.9s							
JTMT	**Jette**	**89.10**	**8**	P		**P**	**21 55 24.9**	**+0.2**
EGMT	**Eagleton**	**89.19**	**5**	P		**P**	**21 55 23.8**	**-1.3**
EGMT				IAmb		IAmb	21 55 31.5	
	comp=Z,17nm,1.3s							
D08A	**Wollman Farm,**	**89.22**	**11**	P		**P**	**21 55 24.9**	**-0.3**
D08A				IAmb		IAmb	21 55 33.7	
	comp=Z,4.3nm,0.8s							
LONY	**Lake Ozonia**	**89.27**	**340**	P		**P**	**21 55 25.6**	**+0.2**
LONY				IAmb		IAmb	21 55 33.2	
	comp=Z,11nm,0.9s							
PLVO	**Plevna**	**89.46**	**342**	P		**P**	**21 55 28.1**	**+1.8**
E09A	**Wood Farm, Sta**	**89.86**	**11**	P		**P**	**21 55 27.9**	**-0.3**
E09A				IAmb		IAmb	21 55 34.9	
	comp=Z,9.8nm,1.1s							
F10A	**Beach Ranch, E**	**90.51**	**10**	P		**P**	**21 55 31.0**	**-0.3**
F10A				IAmb		IAmb	21 55 44.1	
	comp=Z,5.5nm,0.9s							
E28A	**Huff**	**90.83**	**359**	P		**P**	**21 55 31.4**	**-1.3**
BOZ	**Bozeman (W)**	**91.47**	**6**	P		**P**	**21 55 35.5**	**-0.3**
BOZ				pmax		pmax		
	comp=Z,10.0nm,1.5s							
BOZ	**Bozeman (W)**	**91.47**	**6**	P		**P**	**21 55 35.5**	**-0.3**
BOZ				IAmb		IAmb	21 55 42.8	
	comp=Z,9.6nm,1.4s							
DLMT	**Dillon**	**91.62**	**7**	P		**P**	**21 55 36.3**	**-0.2**
I07A	**Izee**	**92.04**	**12**	P		**P**	**21 55 37.4**	**-1.1**
PINE	**Pine Mountain**	**92.10**	**13**	P		**P**	**21 55 38.6**	**-0.2**
PINE				IAmb		IAmb	21 55 46.7	
	comp=Z,5.8nm,1.1s							
RLMT	**Red Lodge**	**92.11**	**5**	P		**P**	**21 55 38.7**	**-0.2**
RLMT				IAmb		IAmb	21 55 46.2	
	comp=Z,4.0nm,0.9s							
YNE	**Yellowstone No**	**92.17**	**5**	P		**P**	**21 55 39.0**	**-0.2**
ERPA	**Erie**	**92.88**	**343**	P		**P**	**21 55 41.1**	**-1.1**
J08A	**Circle Bar Ran**	**92.91**	**11**	IAmb		IAmb	21 55 54.6	
	comp=Z,2.6nm,0.6s							
RSSD	**Black Hills**	**93.30**	**1**	P		**P**	**21 55 44.4**	**0.0**
RSSD				pmax		pmax		
	comp=Z,5.0nm,0.7s							
RSSD	**Black Hills**	**93.30**	**1**	P		**P**	**21 55 44.4**	**0.0**
RSSD				IAmb		IAmb	21 55 59.6	
	comp=Z,4.9nm,0.7s							
YBH	**Yreka Blue Hor**	**93.78**	**15**	LR		LR	22 42 53.1	
	comp=Z,95nm,18.6s,baz=340,slow=39							
PDAR	**Pinedale Array**	**94.44**	**5**	P		**P**	**21 55 49.9**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=57,slow=6.7,SNR=2.7							
PDAR				LR		LR	22 43 44.9	
	comp=Z,147nm,18.1s,baz=356,slow=39							
PDAR	**Pinedale Array**	**94.44**	**5**	P		**P**	**21 55 49.3**	**-0.4**
N49A	**Columbus Grove**	**94.85**	**346**	P		**P**	**21 55 47.6**	**-3.7**
STKA	**Stephens Creek**	**94.92**	**130**	P		**P**	**21 55 49.3**	**-2.2**
	comp=Z,0.4nm,0.4s,baz=339,slow=3.8,SNR=3.2							
STKA				LR		LR	22 47 38.8	
	comp=Z,44nm,18.4s,baz=313,slow=41							
HWUT	**Hardware Ranch**	**95.44**	**7**	P		**P**	**21 55 53.6**	**-0.6**
HWUT				IAmb		IAmb	21 56 01.5	
	comp=Z,6.0nm,0.7s							
NVAR	**Mina Array Bea**	**97.76**	**12**	P		**P**	**21 56 02.7**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=204,slow=2.0,SNR=1.5							
NVAR				LR		LR	22 45 26.0	
	comp=Z,100nm,18.9s,baz=283,slow=39							
PV22	**Blue Mesa, Par**	**98.70**	**5**	P		**P**	**21 56 08.3**	**-0.7**
PV22				IAmb		IAmb	21 56 16.4	
	comp=Z,6.8nm,1.2s							
SNAA	**Sanae**	**127.19**	**203**	PKPdf		**PKPdf**	**22 01 32.4**	**-0.1**
VNA2	**Neumayer--Watz**	**128.25**	**205**	PKPdf		**PKPdf**	**22 01 33.6**	**-0.9**
VNA3	**Neumayer Olymp**	**129.05**	**205**	PKPdf		**PKPdf**	**22 01 35.1**	**-0.9**
LVC	**Limon Verde**	**145.44**	**295**	PKIKP		**PKPab**	**22 02 09.1**	**+0.9**
LVC	**Limon Verde**	**145.44**	**295**	PKPdf		**PKPab**	**22 02 09.1**	**+0.9**
AC02	**Maricunga**	**148.38**	**290**	PKPdf		**PKPdf**	**22 02 13.4**	**+0.3**
AC02						**sPKPbc**	**22 02 24.3**	**-1.1**
AC05	**El Transito**	**150.41**	**288**	PKPab		**PKPab**	**22 02 28.0**	**+0.4**
LCO	**Las Campanas**	**150.82**	**288**	PKIKP		**PKiKP**	**22 02 22.8**	**0.0**
LCO							22 02 29.1	
LCO	**Las Campanas**	**150.82**	**288**			**PKiKP**	**22 02 22.8**	**0.0**
LCO				PKPab		**pPKPbc**	**22 02 29.1**	**+0.3**
CO01	**Juntas del Tor**	**150.96**	**286**	PKPab		**PKPab**	**22 02 30.1**	**+0.2**
VA03	**San Esteban**	**152.82**	**281**	pPKPab		pPKPab	22 02 44.0	+0.1
PLCA	**Paso Flores**	**156.04**	**264**	PKP		**PKPdf**	**22 02 24.4**	**+1.0**
	comp=Z,2.3nm,0.9s,baz=301,slow=7.2,SNR=2.4							
PLCA	**Paso Flores**	**156.04**	**264**	PKPab		**PKPab**	**22 02 51.0**	**+0.1**

*SNET **15** 21:45:59.9±0.7, 13°.75N×90°.45W, h86km±7km, ML3.8*
*INET **15** 21:45:59.8, 13°.67N×90°.44W, h12km, ML3.1*
*UCR **15** 21:46:00.1±0.6, 13°.76N×90°.43W, h87km±5km, ML3.7*
*GCG **15** 21:46:03.7±0.4, 13°.82N×90°.44W, h63km±9km, MD3.9*

ISC 15 21:46:01.9±2.0, 13°.7N±0°.1×90°.40W±0°.07, h77km±17km, n20, σ0°84/28, 3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
IXG	**Ixpaco**	**0.46**	**355**	⇓*i*P		**Pn**	**21 46 14.3**	**-1.0**
IXG	**Ixpaco**	**0.46**	**355**	⇓*i*P		**Pn**	**21 46 14.3**	**-1.0**
IXG	**Ixpaco**	**0.46**	**355**	*e*P		**Pn**	**21 46 15.1**	**-0.2**
NUBE	**Las Nubes**	**0.63**	**72**	*i* P		**Pn**	**21 46 16.0**	**-0.8**
NUBE				*e*S		**Sn**	**21 46 28.2**	**+0.4**
NUBE				IAML			21 46 29.0	
	comp=Z,572nm,0.2s							
NUBE	**Las Nubes**	**0.63**	**72**	*i* P		**Pn**	**21 46 16.0**	**-0.8**
NUBE				*e*S		**Sn**	**21 46 28.2**	**+0.4**
NUBE				IAML			21 46 29.0	
	comp=Z,572nm,0.2s							
PCG	**Pacaya**	**0.70**	**343**	*i* P		**Pn**	**21 46 18.0**	**+0.2**
CEVE	**Cerro Verde**	**0.76**	**81**	*e*P		**Pn**	**21 46 17.7**	**-0.6**
CEVE				*e*S		**Sn**	**21 46 32.4**	**+1.9**
CEVE				IAML			21 46 36.1	
	comp=Z,4μm,0.2s							
CEVE	**Cerro Verde**	**0.76**	**81**	*e*P		**Pn**	**21 46 17.7**	**-0.6**
CEVE				*e*S		**Sn**	**21 46 32.4**	**+1.9**
CEVE				IAML			21 46 36.1	
	comp=Z,4μm,0.2s							
FUG	**Fuego 3**	**0.85**	**329**	*e*P		**Pn**	**21 46 19.0**	**-0.3**
NBG	**Las Nubes**	**0.87**	**3**	*e*P		**Pn**	**21 46 19.9**	**+0.2**
NBG				*e*S		**Sn**	**21 46 32.6**	**-0.1**
JAYA	**Jayaque - finc**	**0.92**	**93**	*i* P		**Pn**	**21 46 19.3**	**-0.7**
JAYA				*e*S		**Sn**	**21 46 34.0**	**+0.4**
JAYA				IAML			21 46 36.1	
	comp=Z,4μm,0.2s							
JAYA	**Jayaque - finc**	**0.92**	**93**	*i* P		**Pn**	**21 46 19.3**	**-0.7**
JAYA				*e*S		**Sn**	**21 46 34.0**	**+0.4**
JAYA				IAML			21 46 36.1	
	comp=Z,4μm,0.2s							
CEDA	**San Andres**	**0.98**	**85**	*e*P		**Pn**	**21 46 20.0**	**-0.6**
CEDA				IAML			21 46 46.4	
	comp=Z,1μm,0.3s							
CEDA	**San Andres**	**0.98**	**85**	*e*P		**Pn**	**21 46 20.0**	**-0.6**
CEDA				IAML			21 46 46.4	
	comp=Z,1μm,0.3s							
BOQS	**Boqueron**	**1.08**	**89**	*e*P		**Pn**	**21 46 21.3**	**-0.8**
BOQS	**Boqueron**	**1.08**	**89**	*e*P		**Pn**	**21 46 21.3**	**-0.8**
ESQI	**Esquipulas**	**1.33**	**50**	⇓*e*P		**Pn**	**21 46 24.0**	**-1.0**
ERG	**Entre ros, C**	**1.35**	**303**	*e*P		**Pn**	**21 46 25.4**	**+0.2**
ERG				*e*S		**Sn**	**21 46 42.2**	**-0.5**
COEB	**Comit de Eme**	**1.83**	**96**	*e*P		**Pn**	**21 46 31.4**	**-0.1**
COEB	**Comit de Eme**	**1.83**	**96**	*e*P		**Pn**	**21 46 31.4**	**-0.1**

*IDC **15** 22:19:06.4±2.7, 10°.27N×123°.26E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/42, mbtmp3.7/3, Error ellipse: s-maj=261.2km s-min=26.3km az=64.0*
*MAN **15** 22:19:07.2, 10°.59N×123°.81E, h8km, mb4.2, ML3.0, MS2.7 MAN Intensity I - Asturias, Cebu and Cebu City.*
*NEIC **15** 22:19:11.7±1.0, 10°.23N±0°.07×123°.28E±0°.10, h43km±8km, mb4.2/14, Error ellipse: s-maj=14.3km s-min=9.5km az=72.0*

ISC 15 22:19:07.2±1.2, 10°.56N±0°.04×123°.76E±0°.03, h13km±8km, n41, σ1°41/43, mb4.2/9, 2C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.32**	**140**	⇓*i*P		**Pg**	**22 19 14.4**	**+0.7**
LLP				*i* S		**Sb**	**22 19 19.9**	**0.0**
TBP	**Tagbilaran**	**0.87**	**173**	*e*P		**Pn**	**22 19 25.2**	**0.0**
TBP				*i* S		**Sn**	**22 19 37.9**	**+0.1**
OCLP	**Ormoc**	**0.97**	**60**	*e*P		**Pb**	**22 19 24.3**	**-1.6**
OCLP				*e*S		**Sb**	**22 19 38.0**	**-0.6**
GUIM	**Jordan**	**1.15**	**273**	*e*P		**Pn**	**22 19 28.6**	**-0.4**
GUIM				*e*S		**Sg**	**22 19 45.1**	**+0.7**
MSLP	**Maasin**	**1.17**	**111**	*e*P		**Sg**	**22 19 28.7**	**-0.5**
MSLP				*e*S		**Sg**	**22 19 45.5**	**+0.7**
CNOP	**Candoni, Negro**	**1.32**	**237**	*e*P		**Pb**	**22 19 31.8**	**-0.1**
CNOP				*e*S		**Sg**	**22 19 51.2**	**+1.4**
JAP	**San Jose, Anti**	**1.79**	**276**	⇑*e*P		**Pg**	**22 19 40.2**	**-1.3**
CNP	**Catarman**	**2.13**	**25**	*e*P		**Pn**	**22 19 42.5**	**0.0**
OTRP	**Odiongan**	**2.47**	**317**	*e*P		**Pn**	**22 19 47.2**	**0.0**
OTRP				*e*S		**Sb**	**22 20 18.9**	**-2.9**
CUYO	**Cuyo Island**	**2.71**	**276**	*e*P		**Pn**	**22 19 51.7**	**+1.2**
PAGZ	**Pagadian**	**2.72**	**188**	*e*P		**Pn**	**22 19 52.6**	**+1.9**
BUKP	**Musuan**	**2.96**	**154**	*e*P		**Pn**	**22 19 55.5**	**+1.5**
SJMP	**San Jose**	**3.20**	**306**	*e*P		**Pn**	**22 19 58.2**	**+0.9**
KCP	**Kidapawan**	**3.77**	**159**	⇑*i*P		**Pb**	**22 20 10.2**	**-3.5**
BUSP	**Coron**	**3.77**	**293**	*e*P		**Pn**	**22 20 05.5**	**+0.4**
DAV	**Davao City (W)**	**3.91**	**152**	Pn		**Pn**	**22 20 08.4**	**+1.4**
ENPP	**El Nido**	**4.30**	**279**	*e*P		**Pn**	**22 20 12.8**	**+0.4**
MYLDM	**Lahad Datu**	**7.46**	**225**	Pn		Pn	22 20 50.1	-5.8
KKM	**Kota Kinabalu**	**8.71**	**240**	Pn		Pn	22 21 07.2	-5.9
TNTI	**Ternate**	**10.37**	**160**	Pn		**Pn**	**22 21 36.1**	**+0.3**
MAJO	**Matsushiro**	**28.98**	**25**	P		P	22 25 12.2	+5.5
MAJO				IAmb		IAmb	22 25 22.9	
	comp=Z,5.4nm,1.1s							
MJAR	**Matsushiro Arr**	**28.98**	**25**	P		P	22 25 11.9	+5.2
MJB9	**Matsu-Tunnel**	**28.98**	**24**	P		P	22 25 12.0	+5.3
MJB9				IAmb		IAmb	22 25 22.7	
	comp=Z,5.5nm,1.1s							
COEN	**Coen**	**31.06**	**141**	P		**P**	**22 25 26.8**	**+1.6**
WB0	**Warramunga Arr**	**31.91**	**161**	P		**P**	**22 25 33.2**	**+0.6**
WB0				IAmb		IAmb	22 25 38.9	
	comp=Z,4.7nm,1.1s							
WRA	**Warramunga Arr**	**32.05**	**161**	P		**P**	**22 25 32.7**	**-1.2**
	comp=Z,0.7nm,1.0s,baz=339,slow=9.1,SNR=2.1							
WRA	**Warramunga Arr**	**32.05**	**161**	P		**P**	**22 25 32.2**	**-1.7**
WB2	**Warramunga Arr**	**32.06**	**161**	P		**P**	**22 25 33.2**	**-0.8**
WB2				IAmb		IAmb	22 25 45.7	
	comp=Z,5.7nm,1.1s							
WR0	**Warramunga Arr**	**32.13**	**161**	P		**P**	**22 25 34.7**	**+0.1**
WR0				IAmb		IAmb	22 25 46.4	
	comp=Z,4.8nm,1.1s							
PSA00	**Pilbara Seismi**	**32.16**	**187**	P		**P**	**22 25 32.8**	**-2.1**
ASAR	**Alice Springs**	**35.44**	**164**	P		**P**	**22 26 04.0**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=344,slow=6.8,SNR=20							
ASAR	**Alice Springs**	**35.44**	**164**	P		**P**	**22 26 02.3**	**-1.1**
FORT	**Forrest**	**41.31**	**174**	P		**P**	**22 26 51.7**	**-1.0**
BBOO	**Buckleboo**	**44.70**	**165**	P		**P**	**22 27 17.9**	**-2.2**
BBOO				IAmb		IAmb	22 27 20.6	
	comp=Z,3.9nm,0.9s							
MK31	**Makanchi Array**	**50.31**	**324**	P		**P**	**22 28 04.7**	**+1.0**
MKAR	**Makanchi Array**	**50.31**	**324**	P		**P**	**22 28 04.5**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=120,slow=7.2,SNR=7.4							
MKAR	**Makanchi Array**	**50.31**	**324**	P		**P**	**22 28 04.1**	**+0.4**
PEA0B	**Petropavlovsk-**	**50.42**	**26**	P		**P**	**22 28 08.4**	**+4.0**
MAKZ	**Makanchi**	**50.51**	**324**	P		**P**	**22 28 05.5**	**+0.4**
KKAR	**Karatay Array**	**56.29**	**315**	P		**P**	**22 28 48.2**	**+0.4**
ABKAR	**Akbulak array**	**65.05**	**320**	P		**P**	**22 29 47.3**	**0.0**

*DNK **15** 22:36:34.6±1.7, 54°.92N×15°.01E, h22km±4km, ML2.6, Probable volcanic*
*UPP **15** 22:36:36.0±1.3, 54°.94N×14°.84E, h30km±5km, ML2.2, Confirmed Earthquake*
*BGR **15** 22:36:36.0±0.3, 54°.97N×14°.94E, h10km, ML3.3/8, Error ellipse: s-maj=7.8km s-min=5.6km az=155.0*
*NAO **15** 22:36:36.0±3.2, 55°.22N×14°.88E, ML2.6*
*HEL **15** 22:36:36.3±0.5, 55°.11N×15°.07E, h10km, ML2.6, ML2.2(UPP), Confirmed Earthquake*
*PRU **15** 22:36:38.1±0.0, 54°.82N×14°.69E, h10km*

ISC 15 22:36:34.3±0.7, 55°.13N±0°.02×15°.14E±0°.02, h29km±4km,

n122, σ2s46/202, 2C-3D, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BSD	**Bornholm Skovb**	**0.13**	**263**	*e*Pg		**Pn**	**22 36 40.2**	**-0.1**
BSD				*e*Sg		**Sb**	**22 36 42.5**	**-0.9**
BSD	**Bornholm Skovb**	**0.13**	**263**	⇓*i*P		**Pn**	**22 36 40.1**	**-0.1**
BSD				*i* S		**Sb**	**22 36 42.5**	**-0.9**
BSD	**Bornholm Skovb**	**0.13**	**263**	*e*		**Pb**	**22 36 40.0**	**+0.2**
	baz=158,slow=5.6							
BSD				⇓*i*P		**Pn**	**22 36 40.2**	**-0.1**
BSD				*i* S		**Sb**	**22 36 42.5**	**-0.9**
BSD				IAML			22 36 43.0	
	comp=Z,265nm,0.3s							
BSD	**Bornholm Skovb**	**0.13**	**263**	*e*		**Pb**	**22 36 40.0**	**+0.2**
	baz=158,slow=5.6							
BSD				⇓*i*P		**Pn**	**22 36 40.2**	**-0.1**
BSD				*i* S		**Sb**	**22 36 42.5**	**-0.9**
BSD				IAML			22 36 43.0	
	comp=Z,265nm,0.3s							
LUNU	**Lund**	**1.09**	**298**	P		**Pb**	**22 36 55.2**	**+0.8**
LUNU				S		**Sb**	**22 37 09.6**	**+1.3**
LUNU	**Lund**	**1.09**	**298**	*e*P		**Pb**	**22 36 55.2**	**+0.8**
LUNU				*e*S		**Sb**	**22 37 09.6**	**+1.3**
LUNU	**Lund**	**1.09**	**298**	*i* P		**Pb**	**22 36 55.3**	**+0.8**
LUNU				*i* S		**Sb**	**22 37 09.5**	**+1.3**
RGN	**Rugen**	**1.20**	**242**	*e*Pg		**Pn**	**22 36 56.3**	**0.0**
RGN				*e*Sg		**Sn**	**22 37 10.1**	**-0.2**
RGN	**Rugen**	**1.20**	**242**	⇑*i*P		**Pb**	**22 36 56.4**	**0.0**
RGN				*e*S		**Sb**	**22 37 12.0**	**+0.5**
RGN				*e*Sg		**Sn**	**22 37 12.7**	**+2.4**
RGN	**Rugen**	**1.20**	**242**	⇑*i*P		**Pb**	**22 36 56.4**	**0.0**
RGN				*e*S		**Sb**	**22 37 12.0**	**+0.5**
RGN				*e*Sg		**Sn**	**22 37 12.7**	**+2.4**
DEL	**Delary**	**1.52**	**333**	P		**Pb**	**22 37 02.5**	**+0.7**
DEL				S		**Sb**	**22 37 24.1**	**+3.5**
DEL	**Delary**	**1.52**	**333**	*e*P		**Pb**	**22 37 02.5**	**+0.7**
DEL				*e*S		**Sb**	**22 37 24.1**	**+3.5**
DEL	**Delary**	**1.52**	**333**	*e*P		**Pb**	**22 37 02.5**	**+0.7**
DEL				*i*			22 37 03.2	
DEL				*i* Pg		**Pn**	**22 37 03.7**	**+4.2**
DEL				*i* S		**Sb**	**22 37 24.3**	**+3.6**
BJUU	**Bjuv**	**1.53**	**309**	P		**Pb**	**22 37 01.7**	**-0.2**
BJUU	**Bjuv**	**1.53**	**309**	*e*P		**Pb**	**22 37 01.7**	**-0.2**
LLD	**Lille Linde**	**1.69**	**278**	*i* P		**Pb**	**22 37 05.2**	**+0.7**
LLD				*i* Sg		**Sb**	**22 37 27.1**	**+1.7**
LLD				IAML			22 37 28.2	
	comp=Z,0.0nm,0.3s							
LLD	**Lille Linde**	**1.69**	**278**	*i* P		**Pb**	**22 37 05.2**	**+0.7**
LLD				*i* Sg		**Sb**	**22 37 27.1**	**+1.7**
LLD				IAML			22 37 28.2	
	comp=Z,0.0nm,0.3s							
GKP	**Gorka Klasztor**	**2.24**	**146**	*e*Pn		**Pb**	**22 37 12.4**	**-1.5**
GKP				*e*Pg		Pn	22 37 18.0	+8.7
GKP				*e*Sg		**Sb**	**22 37 46.4**	**+5.2**
GKP	**Gorka Klasztor**	**2.24**	**146**	*e*P		**Pn**	**22 37 09.5**	**+0.3**
GKP	**Gorka Klasztor**	**2.24**	**146**	*e*P		**Pn**	**22 37 09.5**	**+0.3**
BYXU	**Byxelkrok**	**2.41**	**25**	P		**Pb**	**22 37 16.9**	**+0.1**
BYXU				S		**Sb**	**22 37 46.9**	**+0.9**
BYXU	**Byxelkrok**	**2.41**	**25**	*e*P		**Pb**	**22 37 16.9**	**+0.1**
BYXU				*e*S		**Sb**	**22 37 46.9**	**+0.9**
BYXU	**Byxelkrok**	**2.41**	**25**	P		**Pb**	**22 37 16.9**	**+0.1**
BYXU				S		**Sb**	**22 37 46.9**	**+0.9**
ASPU	**Aespo

WERN	**Wernitzgruen**	**5.13**	**200**	*e*Sn		**Sn**	**22 38 44.5**	**-2.9**
KRLC	**Kraliky**	**5.16**	**168**	*e*PN		**Pn**	**22 37 50.9**	**+1.3**
KRLC				*e*SN		**Sn**	**22 38 45.5**	**-2.6**
PRU	**Pruhonice**	**5.16**	**184**	*e*SN		**Sn**	**22 38 45.0**	**-3.0**
NKC	**Novy Kostel**	**5.17**	**200**	*e*SN		**Sn**	**22 38 44.9**	**-3.4**
SNART	**Snartemo**	**5.42**	**310**	*e*P		**Pn**	**22 37 54.3**	**+1.3**
SNART				*e*S		**Sn**	**22 38 51.0**	**-3.2**
SNART				IAML			22 38 58.6	
	comp=Z,9.6nm,0.7s							
SNART	**Snartemo**	**5.42**	**310**	*i* P		**Pn**	**22 37 54.3**	**+1.3**
SNART				IAML			22 38 55.7	
	comp=Z,3.6nm,0.3s							
KON	**Kongsberg**	**5.43**	**329**	Pn		**Pn**	**22 37 55.6**	**+2.4**
KON				Sn		**Sn**	**22 38 55.2**	**+0.6**
KON				Lg		Lg	22 39 22.2	
KONO	**Kongsberg**	**5.43**	**329**	*e*P		**Pn**	**22 37 55.1**	**+1.9**
KONO				*e*S		**Sn**	**22 38 52.5**	**-2.0**
KONO				IAML			22 39 28.3	
	comp=Z,9.5nm,0.5s							
MANZ	**Manzenberg**	**5.47**	**201**	*e*Sn		**Sn**	**22 38 50.9**	**-4.8**
MORC	**Moravsky Berou**	**5.56**	**164**	*e*PN		**Pn**	**22 37 56.9**	**+1.9**
MORC				*e*SN		**Sn**	**22 38 53.0**	**-4.9**
AAL	**Aland**	**5.69**	**25**	*e*P		**Pn**	**22 38 01.4**	**+4.7**
AAL				*e*S		**Sn**	**22 39 03.6**	**+2.6**
VRAC	**Vranov**	**5.90**	**171**	*e*PN		**Pn**	**22 38 00.9**	**+1.2**
NRA0	**NORESS Array S**	**5.94**	**343**	Pn		**Pn**	**22 38 02.5**	**+2.4**
	baz=152,slow=11							
NRA0				Sn		**Sn**	**22 39 07.3**	**+0.3**
	baz=157,slow=22							
NRA0	**NORESS Array S**	**5.94**	**343**	Pn		**Pn**	**22 38 02.5**	**+2.4**
	baz=152,slow=11							
NRA0				Sn		**Sn**	**22 39 07.3**	**+0.3**
	baz=157,slow=22							
MTSE	**Matsula**	**5.96**	**49**	*e*S		**Sn**	**22 39 08.4**	**+0.9**
MTSE	**Matsula**	**5.96**	**49**	*e*S		**Sn**	**22 39 08.4**	**+0.9**
KHC	**Kasperske Hory**	**6.08**	**190**	*e*SN		**Sn**	**22 39 07.4**	**-3.4**
KRUC	**Moravsky**	**6.13**	**172**	*e*PN		**Pn**	**22 38 04.0**	**+1.2**
NAO01	**NORSAR Array S**	**6.16**	**340**	*e*P		**Pn**	**22 38 05.5**	**+2.4**
NAO01				*e*S		**Sn**	**22 39 11.8**	**-0.7**
NAO01				IAML			22 39 16.3	
	comp=Z,1.7nm,0.3s							
NB2	**NORSAR Subarra**	**6.28**	**342**	Pn		**Pn**	**22 38 07.5**	**+2.6**
	baz=160,slow=14							
NB2				Sn		**Sn**	**22 39 16.1**	**+0.6**
	baz=168,slow=28							
NB2				Lg		Lg	22 39 52.3	
	baz=167,slow=37							
NB2	**NORSAR Subarra**	**6.28**	**342**	Pn		**Pn**	**22 38 07.5**	**+2.6**
	baz=160,slow=14							
NB2				Sn		**Sn**	**22 39 16.1**	**+0.6**
	baz=168,slow=28							
BLS5	**Blasjo**	**6.38**	**316**	*e*P		**Pn**	**22 38 08.4**	**+2.3**
BLS5				*e*S		**Sn**	**22 39 15.7**	**-2.1**
BLS5				IAML			22 39 19.7	
	comp=Z,2.8nm,0.6s							
SKAR	**Skarslia**	**6.65**	**330**	*e*P		**Pn**	**22 38 11.7**	**+1.8**
SKAR				*e*S		**Sn**	**22 39 22.5**	**-2.1**
SKAR				IAML			22 39 42.6	
	comp=Z,2.4nm,0.7s							
RAF	**Rauma**	**6.87**	**28**	*e*P		**Pn**	**22 38 17.3**	**+4.4**
RAF				*e*S		**Sn**	**22 39 31.8**	**+1.8**
RAF				MSG			22 40 16.0	
	comp=Z,4.8nm,0.2s							
RAF	**Rauma**	**6.87**	**28**	*e*P		**Pn**	**22 38 17.3**	**+4.4**
RAF				*e*S		**Sn**	**22 39 31.8**	**+1.8**
RAF				MSG			22 40 16.0	
	comp=Z,4.8nm,0.2s							
MEF	**Metsahovi**	**7.11**	**40**	*e*P		Pn	22 38 21.0	+4.8
MEF				*e*S		**Sn**	**22 39 36.7**	**+0.7**
MEF				MSG			22 40 23.9	
	comp=Z,8.2nm,0.3s							
MEF	**Metsahovi**	**7.11**	**40**	*e*P		Pn	22 38 21.0	+4.8
MEF				*e*S		**Sn**	**22 39 36.7**	**+0.7**
MEF				MSG			22 40 23.9	
	comp=Z,8.2nm,0.3s							
VSU	**Vasula**	**7.19**	**58**	Pn		Pn	22 38 22.2	+5.0
VSU				Lg		Lg	22 40 21.2	
VSU	**Vasula**	**7.19**	**58**	*e*P		**Pn**	**22 38 21.7**	**+4.4**
VSU				*e*S		**Sn**	**22 39 38.5**	**+0.7**
VSU	**Vasula**	**7.19**	**58**	Pn		Pn	22 38 22.2	+5.0
VSU				*e*S		**Sn**	**22 39 38.5**	**+0.7**
VSU				Sg		Sb	22 40 21.2	+18
DOMB	**Dombas**	**7.62**	**338**	*e*P		**Pn**	**22 38 23.6**	**+0.4**
DOMB				*e*S		**Sn**	**22 39 46.4**	**-2.1**
DOMB				IAML			22 39 46.6	
	comp=Z,4.8nm,0.1s							
PVF	**Pernaja**	**7.88**	**42**	*e*P		**Pn**	**22 38 31.1**	**+4.3**
PVF				*e*S		**Sn**	**22 39 55.0**	**+0.1**
PVF	**Pernaja**	**7.88**	**42**	*e*P		**Pn**	**22 38 31.1**	**+4.3**
PVF				*e*S		**Sn**	**22 39 55.0**	**+0.1**
FIA0	**FINESS Array S**	**8.55**	**38**	Pn		**Pn**	**22 38 39.3**	**+3.4**
	baz=224,slow=12							
FIA0				Sn		**Sn**	**22 40 11.5**	**+0.2**
	baz=226,slow=22							
FIA0				Lg		Lg	22 41 02.1	
	baz=224,slow=37							
FIA0	**FINESS Array S**	**8.55**	**38**	*e*S		**Sn**	**22 40 11.2**	**-0.1**
FIA0				MSG			22 41 09.2	
	comp=Z,2.0nm,0.3s							
FIA0	**FINESS Array S**	**8.55**	**38**	Pn		**Pn**	**22 38 39.3**	**+3.4**
	baz=224,slow=12							
FIA0				*e*S		**Sn**	**22 40 11.2**	**-0.1**
FIA0				Sg			22 41 02.1	
	baz=224,slow=37							
FIA0				MSG			22 41 09.2	
	comp=Z,2.0nm,0.3s							
VJF	**Virojoki**	**8.55**	**46**	*e*S		**Sn**	**22 40 10.3**	**-1.0**
VJF				MSG			22 41 10.9	
	comp=Z,2.1nm,0.2s							
VJF	**Virojoki**	**8.55**	**46**	*e*S		**Sn**	**22 40 10.3**	**-1.0**
VJF				MSG			22 41 10.9	
	comp=Z,2.1nm,0.2s							
KEF	**Keuruu**	**8.68**	**32**	*e*P		**Pn**	**22 38 41.1**	**+3.3**
KEF				*e*S		**Sn**	**22 40 14.0**	**-0.5**
KEF				MSG			22 41 15.6	
	comp=Z,4.6nm,0.4s							
KEF	**Keuruu**	**8.68**	**32**	*e*P		**Pn**	**22 38 41.1**	**+3.3**
KEF				*e*S		**Sn**	**22 40 14.0**	**-0.5**
KEF				MSG			22 41 15.6	
	comp=Z,4.6nm,0.4s							
VAF	**Ylistaro**	**8.83**	**23**	*e*P		**Pn**	**22 38 43.0**	**+3.3**
VAF				*e*S		**Sn**	**22 40 18.4**	**+0.5**
VAF				MSG			22 41 17.7	
	comp=Z,3.3nm,0.3s							
VAF	**Ylistaro**	**8.83**	**23**	*e*P		**Pn**	**22 38 43.0**	**+3.3**
VAF				*e*S		**Sn**	**22 40 18.4**	**+0.5**
VAF				MSG			22 41 17.7	
	comp=Z,3.3nm,0.3s							
KAF	**Kangasniemi**	**9.10**	**35**	*e*P		**Pn**	**22 38 46.8**	**+3.4**
KAF				*e*S		**Sn**	**22 40 23.4**	**-1.3**
KAF				MSG			22 41 30.7	
	comp=Z,1.8nm,0.2s							
KAF	**Kangasniemi**	**9.10**	**35**	*e*P		**Pn**	**22 38 46.8**	**+3.4**
KAF				*e*S		**Sn**	**22 40 23.4**	**-1.3**
KAF				MSG			22 41 30.7	
	comp=Z,1.8nm,0.2s							
SUF	**Sumiainen**	**9.49**	**32**	*e*S		**Sn**	**22 40 33.5**	**-0.8**
SUF				MSG			22 41 39.1	
	comp=Z,2.6nm,0.3s							
SUF	**Sumiainen**	**9.49**	**32**	*e*S		**Sn**	**22 40 33.5**	**-0.8**
SUF				MSG			22 41 39.1	
	comp=Z,2.6nm,0.3s							
OUF	**Merijarvi**	**10.44**	**24**	*e*P		**Pn**	**22 39 04.0**	**+2.3**
OUF				*e*S		**Sn**	**22 40 54.5**	**-3.0**
OUF	**Merijarvi**	**10.44**	**24**	*e*P		**Pn**	**22 39 04.0**	**+2.3**
OUF				*e*S		**Sn**	**22 40 54.5**	**-3.0**
TOF	**Tornio**	**11.86**	**18**	*e*S		**Sn**	**22 41 28.7**	**-3.5**
TOF	**Tornio**	**11.86**	**18**	*e*S		**Sn**	**22 41 28.7**	**-3.5**

IDC 15 22:57:08.9±8.0, 30.79S×179.55W, h471km±102km, mb2.8/3, mb1 3.2/4, mb1mx2.9/29, mbtmp3.7/4, Error ellipse: s-maj=98.5km s-min=30.2km az=7.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.95**	**199**	P	P	22 59 02.2	-1.6
	0.5nm,0.3s,baz=350,slow=17,SNR=7.9						
URZ				S	S	23 00 40.3	+2.0
	2.6nm,0.3s,baz=87,slow=19,SNR=5.9						
ASAR	**Alice Springs**	**41.75**	**268**	P	P	23 04 16.3	+0.4
	0.3nm,0.5s,baz=103,slow=6.2,SNR=4.1						
WRA	**Warramunga Arr**	**42.78**	**273**	P	P	23 04 24.1	0.0
	1.4nm,0.4s,baz=112,slow=6.7,SNR=29						
TXAR	**Lajitas Array**	**93.73**	**58**	P	P	23 09 36.5	+1.8
	0.1nm,0.5s,baz=215,slow=4.4,SNR=1.6						
FINES	**FINESS Array B**	**145.03**	**339**	PKPbc	PKPdf	23 15 49.8	-1.2
	0.7nm,0.4s,baz=41,slow=4.6,SNR=12						

NEIC 15 22:59:45.0±1.4, 30.23S±0.10×179.75W±0.2, h339km±7km, mb4.0/13, Error ellipse: s-maj=21.7km s-min=13.2km az=110.0

IDC 15 22:59:45.5±1.4, 30.16S×179.48W, h338km±13km, mb3.3/8, mb1 3.5/9, mb1mx3.3/33, mbtmp4.0/9, Error ellipse: s-maj=27.2km s-min=17.0km az=151.0

ISC 15 22:59:45.6±0.5, 30.37S±0.06×179.5W±0.1, h350km, n74, σ1s89/92, mb3.8/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.77**	**52**	P	**Pn**	**23 00 32.9**	**-2.4**
GLKZ				S	S	23 01 03.1	-12
RIZ	**Raoul Island**	**1.77**	**51**	P	**Pn**	**23 00 32.5**	**-2.9**
RIZ				S	S	23 01 04.8	-11
RAO	**Raoul Island**	**1.78**	**52**	P	**Pn**	**23 00 33.3**	**-2.2**
	196nm,0.3s,baz=131,slow=20,SNR=3.0						
RAO				S	S	23 01 04.7	-11
	421nm,0.3s,baz=0.0,slow=20,SNR=5.9						
RAO	**Raoul Island**	**1.78**	**52**		**Pn**	**23 00 33.1**	**-2.3**
MXZ	**Matakaoa Point**	**7.40**	**194**	P	**Pn**	**23 01 34.2**	**+1.8**
MXZ				S	**S**	**23 02 57.3**	**-2.3**
MXZ	**Matakaoa Point**	**7.40**	**194**	Pn	**Pn**	**23 01 33.2**	**+0.7**
OUZ	**Omahuta**	**7.55**	**228**	Pn	**Pn**	**23 01 34.8**	**+0.4**
WMGZ	**Waiomatatini S**	**7.63**	**192**	P	**Pn**	**23 01 37.8**	**+2.6**
WMGZ				S	**S**	**23 03 03.3**	**-1.1**
HAZ	**Te Kaha**	**7.70**	**196**	P	**Pn**	**23 01 39.3**	**+3.2**
HAZ				S	**S**	**23 03 03.1**	**-2.9**
WIAZ	**Waiheke Island**	**7.81**	**213**	P	**Pn**	**23 01 36.3**	**-1.0**
PUZ	**Puketiti**	**7.90**	**193**	P	**Pn**	**23 01 42.0**	**+3.6**
PUZ				S	**S**	**23 03 06.7**	**-3.7**
RUGZ	**Raukumara Rang**	**7.92**	**196**	P	**Pn**	**23 01 41.7**	**+2.9**
RUGZ				S	**S**	**23 03 08.1**	**-3.0**
TWGZ	**Tauwhareparae**	**8.06**	**194**	P	**P**	**23 01 44.0**	**+0.6**
MWZ	**Matawai**	**8.31**	**196**	P	**P**	**23 01 46.5**	**+0.3**
MWZ				S	**S**	**23 03 16.2**	**-3.2**
TKGZ	**Te Karaka**	**8.34**	**194**	P	**P**	**23 01 46.3**	**-0.1**
TKGZ				S	**S**	**23 03 16.0**	**-3.9**
URZ	**Urewera**	**8.35**	**199**	P	**P**	**23 01 45.6**	**-0.9**
	3.4nm,0.3s,baz=281,slow=3.7,SNR=6.1						
URZ				S	**S**	**23 03 16.7**	**-3.4**
	4.0nm,0.3s,baz=90,slow=20,SNR=4.0						
URZ	**Urewera**	**8.35**	**199**	P	**P**	**23 01 45.7**	**-0.8**
URZ				S	**S**	**23 03 16.7**	**-3.4**
MUGZ	**Murupara**	**8.65**	**200**	P	**P**	**23 01 48.3**	**-1.5**
SNGZ	**Shannon Statio**	**8.78**	**196**	P	**P**	**23 01 51.0**	**-0.4**
SNGZ				S	**S**	**23 03 27.0**	**-2.7**
TLZ	**Tolley Road**	**8.93**	**206**	P	**P**	**23 01 53.6**	**+0.6**
KUTZ	**Kaahu Road**	**8.97**	**204**	P	**P**	**23 01 55.2**	**+1.8**
RAHZ	**Arahi**	**8.97**	**197**	P	**P**	**23 01 52.7**	**-0.8**
RAHZ				S	**S**	**23 03 31.9**	**-1.9**
MTHZ	**Maungataniwha**	**8.98**	**199**	P	**P**	**23 01 52.8**	**-0.8**
MTHZ				S	**S**	**23 03 33.4**	**-0.6**
WHHZ	**Waihua**	**9.09**	**196**	P	**P**	**23 01 55.4**	**+0.7**
WHHZ				S	**S**	**23 03 34.2**	**-2.1**
NMHZ	**Naumai**	**9.22**	**198**	P	**P**	**23 01 55.1**	**-1.1**
NMHZ				S	**S**	**23 03 36.0**	**-3.3**
HIZ	**Hauiti**	**9.36**	**208**		**P**	**23 01 57.4**	**-0.4**
BKZ	**Black Stump Fm**	**9.37**	**199**	Pn	**P**	**23 01 57.1**	**-0.9**
MCHZ	**McNeill Hill**	**9.57**	**198**	P	**P**	**23 02 00.3**	**+0.1**
MCHZ				S	**S**	**23 03 47.3**	**+0.3**
KWHZ	**Kaweka Forest**	**9.63**	**199**	P	**P**	**23 02 01.2**	**+0.4**
KWHZ				S	**S**	**23 03 45.8**	**-2.5**
BHHZ	**Black Hill Sta**	**9.79**	**201**	P	**Pn**	**23 02 00.7**	**-0.3**
BHHZ				S	**S**	**23 03 48.2**	**-3.8**
KRHZ	**Kereru**	**9.85**	**199**	P	**P**	**23 02 02.8**	**-0.4**
KRHZ				S	**S**	**23 03 47.4**	**-5.7**
KAHZ	**Kahuranaki**	**9.86**	**196**	P	**P**	**23 02 02.6**	**-0.8**
KAHZ				S	**S**	**23 03 50.0**	**-3.3**
BFZ	**Birch Farm**	**10.85**	**197**		**P**	**23 02 14.8**	**+0.5**
BSWZ	**Blackbirch Sta**	**12.52**	**203**	P	**Pn**	**23 02 34.0**	**+0.7**
MSVF	**Nonsavu**	**12.78**	**349**	P	**P**	**23 02 34.5**	**-1.5**
KHZ	**Kahutara**	**13.25**	**203**	P	**Pn**	**23 02 42.1**	**+0.2**
DZM	**Mont Dzumac**	**15.06**	**300**	P	**P**	**23 03 03.2**	**+2.1**
	0.8nm,0.3s,baz=147,slow=13,SNR=8.3						
DZM	**Mont Dzumac**	**15.06**	**300**	P	**P**	**23 02 59.9**	**-1.2**
WKZ	**Wanaka**	**17.03**	**209**	P	**P**	**23 03 21.0**	**-1.0**
WKZ				IAmb	IAmb	23 03 21.4	
	comp=Z,15nm,0.8s						
TOO	**Toolangi**	**29.78**	**247**	P	**P**	**23 05 22.3**	**+1.2**
STKA	**Stephens Creek**	**33.21**	**257**	P	**P**	**23 05 53.4**	**+2.5**
	comp=Z,3.1nm,0.8s,baz=94,slow=9.3,SNR=7.0						
BBOO	**Buckleboo**	**37.72**	**254**	P	**P**	**23 06 29.7**	**+0.7**
BBOO				IAmb	IAmb	23 06 44.0	
	comp=Z,9.2nm,1.1s						
ASAR	**Alice Springs**	**41.81**	**268**	P	**P**	**23 07 03.0**	**+0.6**
	comp=Z,1.4nm,1.0s,baz=106,slow=6.0,SNR=7.4						
WR0	**Warramunga Arr**	**42.61**	**273**	P	**P**	**23 07 10.2**	**+1.4**
WB2	**Warramunga Arr**	**42.78**	**273**	P	**P**	**23 07 10.7**	**+0.5**
WB2				IAmb	IAmb	23 07 12.4	
	comp=Z,4.8nm,0.7s						
WRA	**Warramunga Arr**	**42.79**	**273**	P	**P**	**23 07 10.7**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=112,slow=7.5,SNR=20						
WRA	**Warramunga Arr**	**42.79**	**273**	IAmb	IAmb	23 07 12.4	
	comp=Z,0.3nm,0.8s						
WB0	**Warramunga Arr**	**42.81**	**273**	P	**P**	**23 07 11.3**	**+0.8**
FORT	**Forrest**	**44.79**	**256**	P	**P**	**23 07 26.0**	**+0.1**
FORT				IAmb	IAmb	23 07 43.0	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**59.74**	**180**	P	P	23 09 17.9	+3.6
QSPA				IAmb	IAmb	23 09 18.6	
	comp=Z,3.4nm,0.8s						
MJAR	**Matsushiro Arr**	**77.48**	**326**	P	**P**	**23 11 02.5**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=157,slow=6.9,SNR=2.1						
SNAA	**Sanae**	**78.21**	**179**	P	**P**	**23 11 08.7**	**+1.9**
SNAA	**Sanae**	**78.21**	**179**	P	**P**	**23 11 08.6**	**+1.9**
SNAA				IAmb	IAmb	23 11 09.5	
	comp=Z,2.3nm,1.0s						
VNA3	**Neumayer Olymp**	**78.42**	**177**	P	**P**	**23 11 09.8**	**+2.1**
VNA2	**Neumayer--Watz**	**78.83**	**177**	P	**P**	**23 11 12.3**	**+2.2**
	baz=175,slow=4.0						
VNA1	**Neumayer--Stat**	**79.07**	**177**	P	**P**	**23 11 13.6**	**+2.4**
ADK	**Adak**	**81.94**	**2**	P	**P**	**23 11 25.4**	**-1.0**
KSRS	**Array**	**83.49**	**321**	P	**P**	**23 11 36.5**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=142,slow=6.3,SNR=4.1						
PEA0B	**Petropavlovsk-**	**85.47**	**346**	P	**P**	**23 11 44.7**	**+0.5**
PETK	**Petropavlovsk-**	**85.47**	**346**	P	**P**	**23 11 44.5**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=134,slow=8.3,SNR=6.9						
KMRM	**Mail Ridge**	**87.23**	**39**	P	**P**	**23 11 51.7**	**-1.3**
NVAR	**Mina Array Bea**	**89.11**	**44**	P	**P**	**23 12 03.9**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=256,slow=7.3,SNR=2.6						
TXAR	**Lajitas Array**	**93.48**	**58**	P	**P**	**23 12 21.9**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=309,slow=3.0,SNR=1.3						
MKAR	**Makanchi Array**	**116.76**	**310**	PKP	**PKiKP**	**23 17 48.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=51,slow=4.6,SNR=2.4						
KKAR	**Karatay Array**	**123.97**	**304**		**PKiKP**	**23 18 03.1**	**+0.4**
KBZ	**Khabaz**	**144.01**	**304**	PKP	**PKPdf**	**23 18 39.5**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=150,slow=2.9,SNR=4.1						
FIA1	**FINESS Array S**	**144.66**	**339**		**PKPab**	**23 18 40.2**	**+0.2**
FINES	**FINESS Array B**	**144.66**	**339**	PKP	**PKPab**	**23 18 39.9**	**-0.2**
	comp=Z,10nm,0.6s,baz=58,slow=3.2,SNR=72						
FINES	**FINESS Array B**	**144.66**	**339**		**PKPab**	**23 18 39.5**	**-0.5**
NB2	**NORSAR Subarra**	**148.51**	**350**	PKP	**PKiKP**	**23 18 51.2**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=14,slow=2.5						
NOA	**NORSAR Array B**	**148.51**	**350**	PKPbc	**PKiKP**	**23 18 50.8**	**-1.2**
	comp=Z,2.2nm,0.7s,baz=15,slow=4.2,SNR=8.8						
NOA				PKPab	**PKPab**	**23 18 55.1**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=20,slow=2.8,SNR=6.7						
AKASG	**Malin Array Be**	**150.48**	**322**	PKPbc	**PKiKP**	**23 18 56.4**	**0.0**
	comp=Z,4.4nm,0.7s,baz=52,slow=2.5,SNR=13						
BRTR	**Keskin Array B**	**151.44**	**298**	PKPbc	**PKiKP**	**23 18 59.3**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=135,slow=3.7,SNR=5.9						
TORD	**Torodi Ar. Bea**	**162.82**	**184**	PKPab	**PKPab**	**23 19 59.6**	**+1.9**
	comp=Z,1.0nm,0.6s,baz=166,slow=4.1,SNR=11						

UCR 15 23:31:13.9±1.2, 1.58N×81.53W, h33km±999km, mb4.3(NEIC)

UPA 15 23:32:01.8±1.0, 5.02N×82.61W, h9km±30km, MW4.5

NEIC 15 23:32:02.5±2.0, 5.04N±0.06×82.61W±0.07, h10km±1km, mb4.3/43, Error ellipse: s-maj=12.8km s-min=9.5km az=234.0

IDC 15 23:32:02.3±1.0, 5.17N×82.38W, h0km, mb3.9/9, mb1 4.2/13, mb1mx4.1/28, mbtmp4.0/13, ML3.5/3, MS3.4/15, Ms1 3.5/15, ms1mx3.3/26, Error ellipse: s-maj=39.3km s-min=15.5km az=46.0

ISC 15 23:32:02.8±0.5, 5.01N±0.05×82.59W±0.06, h12km, n136, σ1s64/138, mb4.3/26, MS3.5/11, 2C-4D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CACAO	**El Cacao, Vera**	**2.89**	**36**	*i* P	**Pn**	**23 32 47.0**	**-1.7**
CACAO				*e*S	**Sn**	**23 33 21.4**	**-1.9**
PEDE3	**Pedregal, Chir**	**3.36**	**3**	*e*P	**Pn**	**23 32 53.4**	**-1.8**
CHIR3	**Chiriqui UPA,**	**3.37**	**4**	||*i* P	**Pn**	**23 32 53.9**	**-1.5**
PIRO	**Carate, Puerto**	**3.45**	**348**	||*i* P	**Pn**	**23 32 54.6**	**-1.9**
PIRO				*i* S	**Sn**	**23 33 35.4**	**-2.0**
AZU	**Azuero**	**3.59**	**40**	*e*P	**Pn**	**23 32 57.6**	**-0.8**
AZU				*e*S	**Sn**	**23 33 39.9**	**-0.9**
BCO2	**Palmira**	**3.69**	**1**	*e*P	**Pn**	**23 32 58.5**	**-1.3**
BCO2				*i* S	**Sn**	**23 33 42.2**	**-1.2**
BRU2	**Volcan**	**3.76**	**358**	||*i* P	**Pn**	**23 32 59.7**	**-1.1**
BRU2				*i* S	**Sn**	**23 33 43.4**	**-1.8**
MLIR3	**Monte Lirio, C**	**3.77**	**356**	*e*P	**Pn**	**23 33 00.3**	**-0.5**
CHGR2	**Aguacate**	**3.93**	**6**	*e*P	**Pn**	**23 33 02.1**	**-0.9**
CHGR2				*i* S	**Sn**	**23 33 47.4**	**-1.7**
EDPN	**Palmar Norte**	**4.02**	**348**	*e*P	**Pn**	**23 33 02.7**	**-1.6**
EDBA	**Buenos Aires**	**4.18**	**351**	*e*P	**Pn**	**23 33 05.4**	**-1.1**
DRK0	**Durika**	**4.28**	**351**	||*i* P	**Pn**	**23 33 06.7**	**-1.3**
DRK0				*e*S	**Sn**	**23 33 56.2**	**-1.8**
EDDO	**Dominical**	**4.40**	**343**	||*i* P	**Pn**	**23 33 07.6**	**-2.0**
BCIP	**Isla Barro Col**	**4.95**	**33**	Pn	**Pn**	**23 33 18.1**	**+1.0**
HDC	**Heredia**	**5.19**	**343**	||*i* P	**Pn**	**23 33 19.4**	**-1.0**
HDC				*i* S	**Sn**	**23 34 18.1**	**-2.2**
HDC	**Heredia**	**5.19**	**343**		**Pn**	**23 33 19.2**	**-1.2**
HDC					**Sn**	**23 34 18.7**	**-1.6**
PTAC	**Punta Ardita,**	**5.21**	**66**	*e*P	**Pn**	**23 33 22.4**	**+1.8**
MALC	**Bahia Malaga**	**5.33**	**100**	*e*P	**Pn**	**23 33 23.7**	**+1.5**
JTS	**Las Juntas de**	**5.75**	**336**	Pn	**Pn**	**23 33 26.2**	**-1.9**
	28nm,0.3s,baz=174,slow=18,SNR=50						
JTS				Sn	**Sn**	**23 34 32.1**	**-2.0**
	23nm,0.3s,baz=54,slow=19,SNR=17						
JTS	**Las Juntas de**	**5.75**	**336**	*e*P	**Pn**	**23 33 26.4**	**-1.6**
FORC	**Fortuna**	**5.80**	**339**	*e*P	**Pn**	**23 33 28.4**	**-0.4**
CEDE	**Laguna Cedeo**	**5.83**	**339**	*e*P	**Pn**	**23 33 28.6**	**-0.7**
GUAI	**GUAI**	**5.98**	**331**	*e*P	**Pn**	**23 33 29.0**	**-2.2**
BBAC	**Balboa, Cauca**	**6.10**	**119**	*e*P	**Pn**	**23 33 32.5**	**-0.6**
BBAC				*e*S	**Sn**	**23 34 35.0**	**-8.0**
PTEN	**Parque Tenorio**	**6.15**	**337**	*e*P	**Pn**	**23 33 32.9**	**-0.7**
CUI	**Cuipilapa**	**6.17**	**336**	*e*P	**Pn**	**23 33 32.7**	**-1.1**
COLC	**Colonia**	**6.19**	**335**	*e*P	**Pn**	**23 33 33.7**	**-0.4**
HORNC	**Hornillas**	**6.22**	**336**	*e*P	**Pn**	**23 33 34.2**	**-0.4**
LIM1	**Limonal**	**6.24**	**335**	*e*P	**Pn**	**23 33 34.7**	**-0.1**
PLMC	**San Jos del P**	**6.28**	**91**	*e*P	**Pn**	**23 33 36.1**	**+0.7**
OTAV	**Otavalo**	**6.29**	**139**	*e*P	**Pn**	**23 33 33.5**	**-2.4**
OTAV				*e*S	Sn	23 34 28.4	-19
OTAV	**Otavalo**	**6.29**	**139**		**Pn**	**23 33 34.3**	**-1.5**
YOTC	**Yotoco, Valle**	**6.31**	**99**	*e*P	**Pn**	**23 33 36.9**	**+1.1**
GPS3	**Bodega del ICE**	**6.34**	**334**	*e*P	**Pn**	**23 33 35.1**	**-1.1**
POPC	**Popayan, Colom**	**6.39**	**112**	*e*P	**Pn**	**23 33 37.5**	**+0.5**
BUAI	**Buenos Aires**	**6.43**	**335**	*e*P	**Pn**	**23 33 36.2**	**-1.3**
GCUF	**Volcan Galeras**	**6.44**	**126**	*e*P	**Pn**	**23 33 39.6**	**+1.5**
GCUF				*e*S	**Sn**	**23 34 47.4**	**-4.4**

PV13	**Radium Mtn., P**	**40.73**	**328**	P	**P**	**23 39 43.0**	**-1.0**
PV13				IAmb	IAmb	23 39 47.0	
	comp=Z,5.4nm,0.9s						
PV03	**Paradox Valley**	**40.81**	**328**	P	**P**	**23 39 44.9**	**+0.3**
PV12	**Saucer Basin,**	**40.84**	**328**	P	**P**	**23 39 44.4**	**-0.4**
PV12				IAmb	IAmb	23 39 51.1	
	comp=Z,5.9nm,1.0s						
PV18	**Skein Mesa, Pa**	**40.84**	**328**	P	**P**	**23 39 44.0**	**-0.8**
PV07	**Paradox Valley**	**40.84**	**328**	P	**P**	**23 39 45.0**	**+0.2**
PV11	**David Mesa, Pa**	**40.86**	**328**	P	**P**	**23 39 44.8**	**-0.2**
PV11				IAmb	IAmb	23 39 49.5	
	comp=Z,4.7nm,0.9s						
PV16	**Nyswonger Mesa**	**40.89**	**328**	P	**P**	**23 39 44.9**	**-0.4**
W13A	**Hualapai Mount**	**41.61**	**320**	P	**P**	**23 39 51.4**	**+0.2**
RSSD	**Black Hills**	**43.28**	**337**	P	**P**	**23 40 04.5**	**-0.2**
SHPR	**Sheep Range**	**43.30**	**321**	P	**P**	**23 40 04.8**	**-0.1**
SHPR				IAmb	IAmb	23 40 08.2	
	comp=Z,6.1nm,1.1s						
TPNV	**Topopah Spring**	**44.26**	**320**	P	**P**	**23 40 12.3**	**-0.3**
PDAR	**Pinedale Array**	**44.56**	**332**	P	**P**	**23 40 16.3**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=147,slow=12,SNR=4.6						
PDAR				LR	LR	00 01 08.4	
	comp=Z,59nm,18.5s,baz=148,slow=39						
PDAR	**Pinedale Array**	**44.56**	**332**	P	**P**	**23 40 13.8**	**-1.2**
HWUT	**Hardware Ranch**	**44.69**	**329**	P	**P**	**23 40 14.8**	**-1.2**
HWUT				IAmb	IAmb	23 40 18.2	
	comp=Z,2.8nm,0.8s						
R11A	**Troy Canyon, C**	**44.72**	**323**	P	**P**	**23 40 15.9**	**-0.3**
LC01	**Cunco**	**44.80**	**168**	P	**P**	**23 40 16.8**	**+0.2**
SPUT	**South Promonto**	**44.94**	**328**	P	**P**	**23 40 17.3**	**-0.6**
TPAW	**Teton Pass**	**45.77**	**331**	P	**P**	**23 40 23.5**	**-1.1**
TPAW				IAmb	IAmb	23 40 30.2	
	comp=Z,3.1nm,1.0s						
RLMT	**Red Lodge**	**46.25**	**334**	P	**P**	**23 40 28.2**	**-0.2**
NV11	**Mina Array Sit**	**46.36**	**321**	P	**P**	**23 40 28.9**	**-0.4**
NV11				IAmb	IAmb	23 40 33.9	
	comp=Z,4.5nm,1.1s						
OMMB	**Old Mammoth Mi**	**46.42**	**319**	P	**P**	**23 40 30.3**	**+0.4**
OMMB				IAmb	IAmb	23 40 32.8	
	comp=Z,4.7nm,1.1s						
NVAR	**Mina Array Bea**	**46.45**	**321**	P	**P**	**23 40 31.8**	**+1.7**
	comp=Z,2.8nm,0.8s,baz=135,slow=6.6,SNR=16						
NVAR				LR	LR	23 59 28.4	
	comp=Z,56nm,20.4s,baz=105,slow=36						
NVAR	**Mina Array Bea**	**46.45**	**321**	P	**P**	**23 40 30.0**	**0.0**
LHV	**Little Huntoon**	**46.47**	**320**	P	**P**	**23 40 30.3**	**+0.4**
KVN	**Kaiserville**	**46.70**	**322**	P	**P**	**23 40 32.0**	**0.0**
KVN				IAmb	IAmb	23 40 36.0	
	comp=Z,2.9nm,1.0s						
YERR	**Yerington**	**47.37**	**321**	P	**P**	**23 40 35.9**	**-1.4**
YERR				IAmb	IAmb	23 40 41.5	
	comp=Z,2.9nm,0.9s						
CMB	**Columbia Colle**	**47.56**	**319**	P	**P**	**23 40 38.2**	**-0.3**
BOZ	**Bozeman (W)**	**47.68**	**333**	P	**P**	**23 40 38.9**	**-0.5**
BOZ				IAmb	IAmb	23 40 41.8	
	comp=Z,2.9nm,1.1s						
SCHQ	**Schefferville**	**51.28**	**12**	LR	LR	00 07 23.2	
	comp=Z,17nm,18.5s,baz=16,slow=42						
YKA	**Yellowknife Ar**	**62.03**	**344**	P	**P**	**23 42 23.2**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=139,slow=6.6,SNR=9.1						
BCAR	**Beaver Creek A**	**71.97**	**336**	P	**P**	**23 43 26.1**	**-0.1**
ILAR	**Eielson Array**	**74.72**	**336**	P	**P**	**23 43 43.6**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=126,slow=4.2,SNR=6.8						
ILAR				LR	LR	00 19 53.5	
	comp=Z,39nm,18.6s,baz=149,slow=38						
ESDC	**Sonseca Array**	**78.06**	**51**	P	**P**	**23 44 02.5**	**+0.6**
	comp=Z,2.2nm,1.2s,baz=257,slow=4.6,SNR=7.1						
ESDC				LR	LR	00 12 22.9	
	comp=Z,20nm,21.9s,baz=125,slow=31						
TORD	**Torodi Ar. Bea**	**83.32**	**77**	P	**P**	**23 44 29.9**	**-0.5**
	comp=Z,0.6nm,1.0s,baz=284,slow=6.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**83.32**	**77**	P	**P**	**23 44 28.6**	**-1.9**
FINES	**FINESS Array B**	**94.42**	**27**	LR	LR	00 22 48.8	
	comp=Z,14nm,21.8s,baz=286,slow=32						
H11N3	**WAKE ISLAND Hy**	**107.44**	**292**	T	T	01 46 26.8	
	baz=78,slow=75,SNR=16						
H11N2	**WAKE ISLAND Hy**	**107.45**	**292**	T	T	01 46 28.1	
	baz=78,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**107.45**	**292**	T	T	01 46 30.2	
	baz=78,slow=75,SNR=12						

*IDC **15** 23:42:04.2±2.4, 38°.34N×70°.04E, h0km, mb3.5/3, mb1 3.5/8, mb1mx3.3/53, mbtmp3.4/8, ML3.2/5, Error ellipse: s-maj=41.6km s-min=18.9km az=156.0*
*NNC **15** 23:42:09.9±3.5, 38°.97N×69°.40E, h0km, mb4.2, mpv3.7, Error ellipse: s-maj=26.4km s-min=22.1km az=23.0*
ISC 15 23:42:08.6±1.6, **38°.6N**±0°.1×**69°.59E**±0°.09, **h12**km, **n26,** σ1§**80**/30, **mb3.5**/3, **3C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.53**	**5**	Pg	**Pn**	**23 43 04.6**	**+1.2**
	50nm,0.3s						
IUG				Lg	Lg	23 43 49.8	
	104nm,0.5s						
BRLS	**Borolday**	**4.40**	**2**	Pg	**Pn**	**23 43 17.5**	**+2.3**
	1.2nm,0.3s						
BRLS				Lg	Lg	23 44 12.3	
	12nm,0.6s						
KK31	**Karatay Array**	**4.52**	**9**	Pn	**Pn**	**23 43 16.3**	**-0.6**
	1.7nm,0.3s,baz=191,slow=14,SNR=47						
KK31				⇓S	**Sn**	**23 44 08.4**	**-1.0**
	2.1nm,0.5s,baz=203,slow=22,SNR=5.0						
AML	**Almayashu**	**4.70**	**41**	P	**Pn**	**23 43 20.2**	**+0.6**
	SNR=8.0						
MRKS	**Merke**	**4.95**	**33**	Pg	**Pn**	**23 43 24.0**	**+1.1**
	12nm,0.4s						
MRKS				Lg	Lg	23 44 23.7	
	15nm,0.6s						
EKS2	**Erkin-Say**	**5.13**	**37**	P	**Pn**	**23 43 28.3**	**+2.9**
	SNR=8.4						
UCH	**Uchtor**	**5.20**	**45**	P	**Pn**	**23 43 28.4**	**+1.8**
	SNR=14						
AAK	**Ala-Archa**	**5.47**	**41**	Pn	**Pn**	**23 43 30.2**	**+0.1**
	1.8nm,0.3s,baz=226,slow=7.7,SNR=9.3						
AAK				Sn	**Sn**	**23 44 36.5**	**+3.5**
	1.2nm,0.3s,baz=190,slow=24,SNR=2.2						
AAK	**Ala-Archa**	**5.47**	**41**	⇓Pn	**Pn**	**23 43 31.4**	**+1.4**
	7.9nm,0.8s						
AAK				⇓Sn	**Sn**	**23 44 34.3**	**+1.2**
	7.0nm,0.7s						
KZA	**Kyzart**	**5.53**	**50**	P	**Pn**	**23 43 32.8**	**+1.8**
	SNR=24						
KBK	**Karagaybulak**	**5.72**	**44**	P	**Pn**	**23 43 34.8**	**+1.2**
	SNR=7.6						
CHMS	**Chumysh**	**5.86**	**40**	P	**Pn**	**23 43 37.2**	**+1.8**
	SNR=7.0						
USP	**Ospenovka**	**5.94**	**37**	P	**Pn**	**23 43 37.0**	**+0.7**
	SNR=6.9						
TKM2	**Tokmak 2**	**6.26**	**45**	P	**Pn**	**23 43 41.7**	**+0.8**
	SNR=5.5						
TKM2	**Tokmak 2**	**6.26**	**45**	⇑Pn	**Pn**	**23 43 42.1**	**+1.2**
	6.0nm,0.5s						
TKM2				⇓Sn	**Sn**	**23 44 54.1**	**+1.6**
	6.7nm,0.8s						
MDOK	**Medeo**	**7.24**	**49**	⇑Pn	**Pn**	**23 43 55.2**	**+0.9**
	4.5nm,0.8s						
MKAR	**Makanchi Array**	**12.39**	**45**	Pn	**Pn**	**23 45 00.8**	**-3.9**
	0.1nm,0.3s,baz=232,slow=14,SNR=2.7						
AB01	**Akbulak array**	**12.68**	**330**	⇑Pn	**Pn**	**23 45 08.0**	**-0.6**
	0.9nm,0.5s						
AKTO	**Aktyubinsk**	**14.38**	**329**	Pn	**Pn**	**23 45 31.9**	**0.0**
	0.1nm,0.3s,baz=135,slow=17,SNR=1.5						
AKTO	**Aktyubinsk**	**14.38**	**329**	⇓Pn	**Pn**	**23 45 30.5**	**-1.3**
	1.4nm,0.5s						
BVAR	**Borovoye Array**	**14.41**	**2**	Pn	**Pn**	**23 45 30.1**	**-2.1**
	0.1nm,0.3s,baz=178,slow=11,SNR=3.8						
ZALV	**Zalesovo Beam**	**18.52**	**29**	P	**P**	**23 46 21.1**	**-3.6**
	0.2nm,0.3s,baz=225,slow=12,SNR=4.6						
FINES	**FINESS Array B**	**35.09**	**325**	P	**P**	**23 49 01.8**	**+0.4**
	1.3nm,0.8s,baz=125,slow=12,SNR=3.4						
NB2	**NORSAR Subarra**	**42.01**	**322**	P	**P**	**23 50 00.0**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=94,slow=8.6						
NOA	**NORSAR Array B**	**42.01**	**322**	P	**P**	**23 50 00.0**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=105,slow=7.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**64.68**	**267**	P	**P**	**23 52 47.2**	**+0.6**
	comp=Z,0.3nm,0.9s,baz=38,slow=7.7,SNR=1.6						

*IDC **15** 23:48:44.2±1.9, 5°.34S×146°.99E, h185km±22km, mb3.5/5, mb1 3.7/7, mb1mx3.3/32, mbtmp4.0/7, MS3.4/1, Ms1 3.4/1, ms1mx2.4/30, Error ellipse: s-maj=42.2km s-min=14.6km az=109.0*
*NEIC **15** 23:48:45.3±1.5, 5°.42S±0°.09×147°.1E±0°.1, h204km±10km, mb4.3/11, Error ellipse: s-maj=18.9km s-min=9.5km az=122.0*
ISC 15 23:48:45.0±0.8, **5°.39S**±0°.08×**147°.1E**±0°.1, **h195**km, **n24,** σ0§**95**/24, **mb3.8**/6, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.99**	**180**	P	**Pn**	**23 49 47.8**	**+1.3**
	2.9nm,0.3s,baz=337,slow=7.7,SNR=5.8						
PMG				S	**Sn**	**23 50 34.7**	**-0.2**
	8.4nm,0.3s,baz=342,slow=20,SNR=12						
PMG	**Port Moresby**	**3.99**	**180**		**Pn**	**23 49 47.5**	**+1.0**
PMG					**Sn**	**23 50 34.5**	**-0.4**
RABL	**Rabaul**	**5.16**	**77**	Pn	**Pn**	**23 50 02.4**	**+1.1**
COEN	**Coen**	**9.37**	**204**	Pn	**Pn**	**23 50 57.1**	**+1.0**
CTAO	**Charters Tower**	**14.64**	**183**		**Pn**	**23 52 02.7**	**-0.4**
WB0	**Warramunga Arr**	**18.92**	**220**		**P**	**23 52 50.5**	**-0.7**
WR0	**Warramunga Arr**	**18.97**	**219**	P	**P**	**23 52 51.1**	**-0.7**
WR0				IAmb	IAmb	23 52 55.4	
	comp=Z,6.8nm,0.7s						
WB2	**Warramunga Arr**	**19.07**	**220**	P	**P**	**23 52 52.4**	**-0.5**
WB2				IAmb	IAmb	23 52 56.1	
	comp=Z,8.1nm,0.6s						
WRA	**Warramunga Arr**	**19.08**	**220**	P	**P**	**23 52 52.3**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=42,slow=10,SNR=50						
WRA	**Warramunga Arr**	**19.08**	**220**	IAmb	IAmb	23 52 53.5	
	comp=Z,0.2nm,1.1s						
EIDS	**Eidsvold**	**20.23**	**170**	P	**P**	**23 53 05.5**	**+0.3**
EIDS				IAmb	IAmb	23 53 24.2	
	comp=Z,5.4nm,0.9s						
KNRA	**Kununurra**	**20.73**	**239**	P	**P**	**23 53 10.5**	**-0.1**
KNRA				IAmb	IAmb	23 53 14.9	
	comp=Z,18nm,1.1s						
AS31	**Alice Springs**	**22.19**	**214**	P	**P**	**23 53 25.2**	**-0.3**
ASAR	**Alice Springs**	**22.20**	**214**	P	**P**	**23 53 25.1**	**-0.5**
	comp=Z,3.8nm,0.6s,baz=46,slow=8.1,SNR=44						
ASAR				S	**S**	**23 57 17.4**	**+1.8**
	comp=Z,1.7nm,1.0s,baz=36,slow=20,SNR=5.6						
ASAR	**Alice Springs**	**22.20**	**214**	P	**P**	**23 53 24.4**	**-1.1**
FITZ	**Fitzroy Crossi**	**24.50**	**237**	P	**P**	**23 53 45.1**	**-1.4**
	comp=Z,6.0nm,0.4s,baz=49,slow=12,SNR=37						
ARMA	**Armidale**	**25.26**	**171**	P	**P**	**23 53 52.8**	**-0.5**
ARMA				IAmb	IAmb	23 53 54.7	
	comp=Z,3.4nm,0.9s						
FORT	**Forrest**	**30.98**	**213**	P	**P**	**23 54 42.2**	**-1.9**
MSVF	**Nonsavu**	**32.62**	**115**	P	**P**	**23 54 58.1**	**-0.5**
JHJ	**Hachijo jima 2**	**38.92**	**350**	LR	LR	00 10 00.4	
	comp=Z,60nm,21.7s,baz=35,slow=33						
SONM	**Songino Array**	**63.93**	**331**	P	**P**	**23 58 57.8**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=157,slow=7.8,SNR=2.3						
SONM	**Songino Array**	**63.93**	**331**	IAmb	IAmb	23 58 57.9	
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**78.56**	**328**	P	**P**	**00 00 25.3**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=107,slow=9.5,SNR=1.3						
ILAR	**Eielson Array**	**84.87**	**23**	P	**P**	**00 00 56.9**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=251,slow=5.4,SNR=4.3						

*IDC **16** 00:56:01.6±8.5, 37°.25N×71°.68E, h109km±61km, mb3.3/2, mb1 3.2/8, mb1mx3.0/40, mbtmp3.5/8, MS3.2/3, Ms1 3.2/3, ms1mx2.4/31, Error ellipse: s-maj=72.3km s-min=50.7km az=164.0*
*NNC **16** 00:56:03.6±9.2, 37°.81N×71°.15E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=86.9km s-min=49.0km az=157.0*
ISC 16 00:56:02.0±2.2, **37°.4N**±0°.2×**71°.3E**±0°.1, **h109**km, **n15,** σ1§**60**/17, **4C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.78**	**354**	P	**Pn**	**00 57 27.1**	**+1.8**
	0.4nm,0.2s,baz=174,slow=12,SNR=28						
KK31				⇓S	**Sn**	**00 58 29.7**	**-0.5**
	3.1nm,0.5s,baz=181,slow=24,SNR=6.3						
AAK	**Ala-Archa**	**5.82**	**24**	P	**Pn**	**00 57 25.8**	**-0.3**
	1.1nm,0.3s,baz=201,slow=8.5,SNR=3.0						
AAK				S	**Sn**	**00 58 31.2**	**-0.3**
	0.6nm,0.3s,baz=112,slow=22,SNR=8.2						
AAK	**Ala-Archa**	**5.82**	**24**	⇓P	**Pn**	**00 57 26.4**	**+0.4**
	1.4nm,0.3s						
AAK				⇑S	**Sn**	**00 58 30.3**	**-1.3**
	5.1nm,0.7s						
TKM2	**Tokmak 2**	**6.46**	**29**	⇑P	**Pn**	**00 57 34.6**	**-0.2**
	1.2nm,0.5s						
TKM2				⇑S	**Sn**	**00 58 46.7**	**-0.4**
	0.9nm,0.6s						
GEYT	**Alibeck**	**10.47**	**277**	S	**Sn**	**01 00 20.7**	**-3.7**
	0.8nm,0.3s,baz=129,slow=16,SNR=6.9						
GEYT				LR	LR	01 03 37.4	
	comp=Z,30nm,18.2s,baz=180,slow=42						
MKAR	**Makanchi Array**	**12.46**	**37**	P	**Pn**	**00 58 53.8**	**-1.7**
	0.1nm,0.3s,baz=216,slow=12,SNR=4.2						
KURBB	**Kurchatov Arra**	**14.24**	**19**	P	**Pn**	**00 59 20.0**	**+1.6**
	0.0nm,0.3s,baz=207,slow=11,SNR=4.2						
BVAR	**Borovoye Array**	**15.69**	**358**	P	**Pn**	**00 59 36.4**	**-0.4**
	0.2nm,0.3s,baz=150,slow=9.9,SNR=3.9						
AKTO	**Aktyubinsk**	**16.17**	**328**	P	**P**	**00 59 44.7**	**+0.7**
	0.2nm,0.3s,baz=131,slow=10,SNR=6.1						
AKTO	**Aktyubinsk**	**16.17**	**328**	⇑P	**Pn**	**00 59 44.4**	**+1.6**
	1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**19.04**	**25**	P	**P**	**01 00 13.6**	**-1.7**
	0.1nm,0.3s,baz=218,slow=9.1,SNR=2.5						
ARCES	**ARCESS Array B**	**40.45**	**337**	P	**P**	**01 03 31.1**	**+1.7**
	3.5nm,1.1s,baz=115,slow=10,SNR=6.3						
GERES	**GERESS Array B**	**42.64**	**305**	LR	LR	01 25 16.1	
	comp=Z,21nm,18.6s,baz=278,slow=41						
NOA	**NORSAR Array B**	**43.85**	**322**	P	**P**	**01 03 58.5**	**+1.4**
	0.2nm,0.4s,baz=113,slow=6.1,SNR=1.5						
TGY	**Tagaytay City**	**49.68**	**104**	LR	LR	01 26 43.7	
	comp=Z,92nm,18.2s,baz=110,slow=37						

*MEX **16** 01:13:19.8±0.8, 14°.66N×92°.52W, h82km±10km, MD3.9*
*UCR **16** 01:13:20.9±1.4, 14°.58N×92°.52W, h67km±15km, ML3.6*
*SNET **16** 01:13:20.9±1.3, 14°.58N×92°.51W, h69km±13km, ML3.9*
*GCG **16** 01:13:22.4±0.5, 14°.64N×92°.45W, h60km±8km, MD4.3*
ISC 16 01:13:18.8±1.7, **14°.50N**±0°.08×**92°.71W**±0°.08, **h46**km±22km, **n39,** σ0§**93**/61, **3C-2D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.59**	**47**	*e*P	**Pn**	**01 13 31.0**	**0.0**
THIG				*i* S	**Sn**	**01 13 40.6**	**+0.9**
THIG		**0.59**	**47**	*e*P	**Pn**	**01 13 31.0**	**0.0**
THIG				*e*S	**Sn**	**01 13 38.3**	**-1.4**
RTAL	**Retalhuleu**	**0.99**	**89**	⇑*i*P	**Pn**	**01 13 36.4**	**+0.1**
RTAL				*e*S	**Sn**	**01 13 49.3**	**+0.2**
ERG	**Entre ros, C**	**1.11**	**93**	*e*P	**Pn**	**01 13 39.0**	**+1.0**
STG3	**Santiaguito 3,**	**1.12**	**79**	*e*P	**Pn**	**01 13 39.1**	**+0.7**
STG3				*e*S	**Sn**	**01 13 52.2**	**-0.6**
PCIG		**1.29**	**338**	*e*P	**Pn**	**01 13 41.0**	**+0.6**
PCIG				*i* S	**Sn**	**01 13 56.7**	**+0.1**
PCIG		**1.29**	**338**	*i* P	**Pn**	**01 13 41.1**	**+0.6**
PCIG				*e*S	**Sn**	**01 13 56.0**	**-0.6**
HUEH	**Huehuetenango**	**1.42**	**55**	*e*P	**Pn**	**01 13 42.9**	**+0.4**
HUEH				*e*S	**Sn**	**01 14 00.7**	**+0.6**
FUG	**Fuego 3**	**1.81**	**92**	*e*P	**Pn**	**01 13 48.4**	**+0.6**
FUG				*e*S	**Sn**	**01 14 09.1**	**-0.6**
CCIG	**Comitan**	**1.85**	**17**	*i* P	**Pn**	**01 13 49.6**	**+1.2**
CCIG				*i* S	**Sn**	**01 14 11.6**	**+1.0**
CCIG	**Comitan**	**1.85**	**17**	*i* P	**Pn**	**01 13 49.6**	**+1.2**
CCIG				*e*S	**Sn**	**01 14 10.6**	**0.0**
PCG	**Pacaya**	**2.04**	**93**	*e*P	**Pn**	**01 13 52.0**	**+1.0**
IXG	**Ixpaco**	**2.23**	**98**	*e*P	**Pn**	**01 13 53.4**	**-0.1**
IXG	**Ixpaco**	**2.23**	**98**	*e*P	**Pn**	**01 13 53.4**	**-0.1**
IXG	**Ixpaco**	**2.23**	**98**	*e*P	**Pn**	**01 13 54.5**	**+1.0**
NBG	**Las Nubes**	**2.29**	**88**	*e*P	**Pn**	**01 13 55.7**	**+1.3**
TGIG		**2.29**	**350**	*e*P	**Pn**	**01 13 52.5**	**-1.8**
NUBE	**Las Nubes**	**2.91**	**102**	*e*P	**Pn**	**01 14 03.1**	**+0.3**
NUBE				*e*S	**Sn**	**01 14 35.0**	**-1.5**
NUBE				IAML		01 14 41.4	
	comp=Z,114nm,0.2s						
NUBE	**Las Nubes**	**2.91**	**102**	*e*P	**Pn**	**01 14 03.1**	**+0.3**
NUBE				*e*S	**Sn**	**01 14 35.0**	**-1.5**
NUBE				IAML		01 14 41.4	
	comp=Z,114nm,0.2s						
MRL	**Marmol**	**2.98**	**79**	⇓*e*P	**Pn**	**01 14 03.6**	**-0.3**
MRL	**Marmol**	**2.98**	**79**	⇓*e*P	**Pn**	**01 14 03.6**	**-0.3**
MRL	**Marmol**	**2.98**	**79**	*e*P	**Pn**	**01 14 04.6**	**+0.7**
SBLS	**San Blas**	**3.07**	**102**	*e*P	**Pn**	**01 14 06.1**	**+1.1**
SBLS	**San Blas**	**3.07**	**102**	*e*P	**Pn**	**01 14 06.1**	**+1.1**
CEVE	**Cerro Verde**	**3.07**	**102**	*e*P	**Pn**	**01 14 06.1**	**+0.9**
CEVE				*e*S	**Sn**	**01 14 41.3**	**+0.5**
CEVE				IAML		01 14 52.2	
	comp=Z,631nm,0.3s						
CEVE	**Cerro Verde**	**3.07**	**102**	*e*P	**Pn**	**01 14 06.1**	**+0.9**
CEVE				*e*S	**Sn**	**01 14 41.3**	**+0.5**
CEVE				IAML		01 14 52.2	
	comp=Z,631nm,0.3s						
SNJE	**San Jose**	**3.08**	**101**	*e*P	**Pn**	**01 14 06.5**	**+1.3**
SNJE				*e*S	**Sn**	**01 14 41.7**	**+0.8**
SNJE	**San Jose**	**3.08**	**101**	*e*P	**Pn**	**01 14 06.5**	**+1.3**
SNJE				*e*S	**Sn**	**01 14 41.7**	**+0.8**
MTO3	**Montecristo**	**3.25**	**91**	*e*P	**Pn**	**01 14 07.0**	**-0.5**
MTO3	**Montecristo**	**3.25**	**91**	*e*P	**Pn**	**01 14 07.0**	**-0.5**
JAYA	**Jayaque - finc**	**3.28**	**105**	⇑*e*P	**Pn**	**01 14 08.1**	**+0.2**
JAYA				*e*S	**Sn**	**01 14 43.8**	**-2.0**
JAYA				IAML		01 14 50.7	
	comp=Z,411nm,0.3s						
JAYA	**Jayaque - finc**	**3.28**	**105**	⇑*e*P	**Pn**	**01 14 08.1**	**+0.2**
JAYA				*e*S	**Sn**	**01 14 43.8**	**-2.0**
JAYA				IAML		01 14 50.7	
	comp=Z,411nm,0.3s						
TACO	**Tacachico**	**3.30**	**99**	*e*P	**Pn**	**01 14 07.7**	**-0.4**
TACO	**Tacachico**	**3.30**	**99**	*e*P	**Pn**	**01 14 07.7**	**-0.4**
PETF	**Flores**	**3.64**	**48**	*e*P	**Pn**	**01 14 12.1**	**-0.6**
LFRS	**El Faro**	**3.65**	**103**	*e*P	**Pn**	**01 14 14.2**	**+1.2**
LFRS				*e*S	**Sn**	**01 14 53.7**	**-1.2**
LFRS	**El Faro**	**3.65**	**103**	*e*P	**Pn**	**01 14 14.2**	**+1.2**
LFRS				*e*S	**Sn**	**01 14 53.7**	**-1.2**
LCND	**La Caada**	**4.83**	**104**	*e*P	**Pn**	**01 14 30.0**	**+1.0**
LCND				*e*S	**Sn**	**01 15 23.2**	**-0.6**
LCND				IAML		01 15 28.1	
	comp=Z,147nm,0.3s						
LCND	**La Caada**	**4.83**	**104**	*e*P	**Pn**	**01 14 30.0**	**+1.0**
LCND				*e*S	**Sn**	**01 15 23.2**	**-0.6**
LCND				IAML		01 15 28.1	
	comp=Z,147nm,0.3s						

*HLW **16** 01:47:49.0, 36°.24N×28°.26E, h33km±31km, Md3.6, Ml4.0*
*IDC **16** 01:47:48.4±1.0, 36°.03N×28°.18E, h0km, mb3.8/6, mb1 3.7/14, mb1mx3.6/51, mbtmp3.6/14, ML3.3/8, Error ellipse: s-maj=19.4km s-min=16.2km az=170.0*
*ISK **16** 01:47:50.8, 35°.92N×28°.22E, h11km, ML3.6/27*
*NIC **16** 01:47:50.4±0.0, 35°.78N×28°.28E, h2km, Ml3.9/3*
*THE **16** 01:47:51.0, 35°.89N×28°.24E, h4km±5km, ML3.4/2, Error ellipse: s-maj=5.3km s-min=1.1km az=13.0*
*ATH **16** 01:47:52.4, 36°.01N×28°.10E, h26km±1km, ML3.3/12, Error ellipse: s-maj=6.1km s-min=1.2km az=122.0*
*DDA **16** 01:47:53.4, 36°.07N×28°.24E, h19km±3km, MW3.8*
*GII **16** 01:47:55.5±0.0, 35°.49N×28°.56E, h2km, MD3.4/1*
ISC 16 01:47:50.7±1.0, **35°.89N**±0°.03×**28°.27E**±0°.02, **h16**km±7km, **n154,** σ1§**90**/206, **mb3.8**/6, **2C-1D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.35**	**341**	P	**Pg**	**01 47 57.7**	**-0.2**
ARG				S	**Sg**	**01 48 03.3**	**+0.4**
	8µm,1.0s						
ARG	**Arkhangelos**	**0.35**	**341**	P	**Pg**	**01 47 57.8**	**-0.2**
ARG				S	**Sg**	**01 48 03.3**	**+0.4**
ARG				AML	AML	01 48 03.6	
	comp=N,10172µm,0.5s						
ARG				AML	AML	01 48 08.3	
	comp=E,12060µm,0.3s						
ARG	**Arkhangelos**	**0.35**	**341**	PG	**Pg**	**01 47 57.6**	**-0.4**
ARG				SG	**Sg**	**01 48 02.8**	**-0.1**
ARG	**Arkhangelos**	**0.35**	**341**	P	**Pg**	**01 47 57.7**	**-0.2**
TURN	**Turunc**	**0.89**	**359**	PG	**Pg**	**01 48 07.6**	**-2.9**
TURN				SG	**Sg**	**01 48 20.1**	**-3.8**
TURN	**Turunc**	**0.89**	**359**	*i* P	**Pg**	**01 48 07.7**	**-2.8**
TURN				*i* S	**Sg**	**01 48 17.2**	**-6.6**
TURN				IAML		01 48 24.0	
	comp=E,726nm,0.5s						
TURN				IAML		01 48 25.0	
	comp=N,1µm,0.6s						
KARP	**Karpathos**	**0.96**	**250**	P	**Pg**	**01 48 09.3**	**-0.1**
KARP				S	**Sb**	**01 48 22.6**	**+1.0**
	comp=N,3µm,0.7s						
KARP	**Karpathos**	**0.96**	**250**	P	**Pg**	**01

GCAM				*i* S		Sn	01 48 42.2	-6.2
GCAM				IAML			01 49 04.0	
	comp=N,173nm,1.2s							
GCAM				IAML			01 49 05.0	
	comp=E,337nm,0.9s							
KORT	**Korkueli**	**2.01**	**56**	PN		**Pn**	**01 48 26.1**	**+1.9**
ANAF	**Anafi Island**	**2.08**	**284**	P		**Pn**	**01 48 25.7**	**+0.8**
ANAF				AML	AML		01 48 56.6	
	comp=E,4947µm,0.4s							
ANAF				AML	AML		01 48 59.1	
	comp=N,4208µm,0.4s							
AMGA	**Amorgos Island**	**2.14**	**297**	P		**Pn**	**01 48 26.3**	**+0.5**
AMGA				AML	AML		01 49 03.5	
	comp=E,1041µm,0.6s							
AMGA				AML	AML		01 49 04.3	
	comp=N,1158µm,0.8s							
SMG	**Samos**	**2.15**	**328**	P		**Pn**	**01 48 26.5**	**+0.5**
SMG				AML	AML		01 49 07.6	
	comp=E,647µm,0.4s							
SMG				AML	AML		01 49 08.7	
	comp=N,614µm,0.5s							
ANTB	**Antalya**	**2.17**	**62**	PN		**Pn**	**01 48 28.3**	**+2.0**
NPS	**Neapolis**	**2.25**	**255**	P		**Pn**	**01 48 29.3**	**+1.9**
NPS				AML	AML		01 48 59.5	
	comp=E,1550µm,0.4s							
NPS				AML	AML		01 49 01.8	
	comp=N,1181µm,0.6s							
BRDR	**BURDUR-Merkez**	**2.31**	**38**	*i* P		**Pn**	**01 48 30.2**	**+1.9**
BRDR				*i* S		**Sn**	**01 48 54.6**	**-1.8**
BRDR				IAML			01 49 13.0	
	comp=E,75nm,0.6s							
BRDR				IAML			01 49 23.0	
	comp=N,157nm,1.3s							
THR8	**Santorini-Mono**	**2.32**	**284**	P		**Pn**	**01 48 28.0**	**-0.3**
SANT	**Santorini**	**2.33**	**283**	P		**Pn**	**01 48 29.3**	**+0.9**
THR2	**Thira island,**	**2.36**	**285**	P		**Pn**	**01 48 28.6**	**-0.3**
THR6	**Thira Island,**	**2.37**	**282**	P		**Pn**	**01 48 28.9**	**-0.1**
THR3	**Thira Island,**	**2.38**	**283**	P		**Pn**	**01 48 28.7**	**-0.5**
LAST	**Lasithi**	**2.39**	**253**	P		**Pn**	**01 48 31.1**	**+1.7**
LAST				AML	AML		01 49 13.7	
	comp=N,558µm,0.5s							
LAST				AML	AML		01 49 22.6	
	comp=E,519µm,1.0s							
BCK	**Bucak**	**2.44**	**49**	PN		**Pn**	**01 48 32.6**	**+2.6**
BASM	**Basmaki-Afyon**	**2.48**	**35**	PN		**Pn**	**01 48 32.2**	**+1.6**
APE	**Apeiranthos**	**2.50**	**299**	P		**Pn**	**01 48 31.4**	**+0.5**
APE				AML	AML		01 49 05.5	
	comp=N,241µm,0.3s							
APE				AML	AML		01 49 16.4	
	comp=E,343µm,0.5s							
APE	**Apeiranthos**	**2.50**	**299**	PN		**Pn**	**01 48 31.9**	**+1.0**
IOSP	**Ios island**	**2.55**	**290**	P		**Pn**	**01 48 32.5**	**+1.0**
IOSP				AML	AML		01 49 04.5	
	comp=N,765µm,0.4s							
IOSP				AML	AML		01 49 05.9	
	comp=E,874µm,0.5s							
MANT	**Manisa**	**2.61**	**5**	*i* P		**Pn**	**01 48 34.4**	**+1.9**
MANT				*i* S		Sn	01 48 57.0	-7.0
MANT				IAML			01 49 24.0	
	comp=E,106nm,1.0s							
MANT				IAML			01 49 30.0	
	comp=N,74nm,1.0s							
KULA	**Kula-Manisa**	**2.64**	**7**	PN		**Pn**	**01 48 34.4**	**+1.6**
BLCB	**Balcova**	**2.68**	**339**	PN		**Pn**	**01 48 34.5**	**+1.2**
KZIL	**AFYON_Kizioren**	**2.80**	**32**	*i* P		**Pn**	**01 48 36.5**	**+1.5**
KZIL				*i* S		**Sb**	**01 49 15.8**	**+1.2**
KZIL				IAML			01 49 34.0	
	comp=E,70nm,1.0s							
KZIL				IAML			01 49 36.0	
	comp=N,65nm,1.3s							
URLA	**Izmir**	**2.81**	**332**	PN		**Pn**	**01 48 35.5**	**+0.4**
URLA	**Izmir**	**2.81**	**332**	*i* P		**Pn**	**01 48 35.6**	**+0.6**
URLA				*i* S		**Sn**	**01 49 11.2**	**+2.6**
URLA				IAML			01 49 32.0	
	comp=E,57nm,1.0s							
URLA				IAML			01 49 36.0	
	comp=N,58nm,1.0s							
IDI	**Anoyia**	**2.82**	**259**	Pn		**Pn**	**01 48 36.4**	**+1.2**
	comp=N,6.8nm,0.3s,baz=28,slow=4.4,SNR=48							
IDI				Sn		**Sn**	**01 49 09.6**	**+0.6**
	comp=N,20nm,0.3s,baz=321,slow=23,SNR=7.8							
IDI	**Anoyia**	**2.82**	**259**	P		**Pn**	**01 48 36.2**	**+1.0**
IDI				AML	AML		01 49 20.0	
	comp=E,341µm,0.5s							
IDI				AML	AML		01 49 20.7	
	comp=N,373µm,0.6s							
KEPZ	**Antalya-Kepez**	**2.87**	**68**	*i* P		**Pn**	**01 48 38.7**	**+2.8**
KEPZ				*i* S		**Sn**	**01 49 09.9**	**-0.4**
KEPZ				IAML			01 49 17.0	
	comp=E,54nm,0.7s							
KEPZ				IAML			01 49 31.0	
	comp=N,41nm,0.6s							
USAK	**Uak-Merkez**	**2.88**	**12**	*i* P		**Pn**	**01 48 37.6**	**+1.5**
USAK				*i* S		**Sn**	**01 49 14.8**	**+4.3**
USAK				IAML			01 49 30.0	
	comp=E,43nm,0.7s							
BAGO	**Egridir - ISPA**	**2.91**	**43**	*i* P		**Pn**	**01 48 38.1**	**+1.6**
BAGO				*i* S		**Sn**	**01 49 13.0**	**+1.7**
SIVA	**Sivas**	**2.95**	**254**	P		**Pn**	**01 48 39.9**	**+2.9**
AKHS	**Akhisar**	**3.01**	**353**	*i* P		**Pn**	**01 48 39.2**	**+1.4**
AKHS				*i* S		**Sn**	**01 49 15.4**	**+1.9**
AKHS				IAML			01 49 38.0	
	comp=E,42nm,0.7s							
CHOS	**Chios island**	**3.06**	**325**	P		**Pn**	**01 48 39.2**	**+0.6**
ZEDA	**zmir-Bergama**	**3.22**	**343**	*i* P		**Pn**	**01 48 42.3**	**+1.7**
ZEDA				*i* S		**Sn**	**01 49 19.8**	**+1.1**
ZEDA				IAML			01 49 45.0	
	comp=N,58nm,1.3s							
ZEDA				IAML			01 49 45.0	
	comp=E,36nm,1.3s							
SIMA	**Simav-Kutahya**	**3.24**	**10**	PN		**Pn**	**01 48 42.7**	**+1.6**
GEDZ	**Gediz**	**3.28**	**16**	PN		**Pn**	**01 48 43.7**	**+2.1**
GAZI	**Gazipasa**	**3.30**	**83**	PN		**Pn**	**01 48 42.9**	**+1.1**
GAZI	**Gazipasa**	**3.30**	**83**	*i* P		**Pn**	**01 48 42.5**	**+0.8**
GAZI				*i* S		**Sn**	**01 49 15.9**	**-4.8**
GAZI				IAML			01 49 23.0	
	comp=N,42nm,0.6s							
GAZI				IAML			01 49 30.0	
	comp=E,61nm,0.6s							
VAM	**Vamos**	**3.35**	**263**	P		**Pn**	**01 48 44.2**	**+1.8**
VAM				AML	AML		01 49 36.0	
	comp=E,266µm,0.6s							
VAM				AML	AML		01 49 39.9	
	comp=N,406µm,0.5s							
DKL	**Dikili**	**3.36**	**342**	PN		**Pn**	**01 48 44.2**	**+1.6**
AKMS	**Akamas**	**3.43**	**103**	P		**Pn**	**01 48 45.0**	**+1.4**
AKMS				AML	AML		01 49 25.7	
	comp=N,0.7nm,0.8s							
AKMS				AML	AML		01 49 29.6	
	comp=N,0.6nm,0.6s							
OSC1	**CSNet OBS 1**	**3.44**	**133**	P		**Pn**	**01 48 44.4**	**+0.7**
OSC1				S		**Sn**	**01 49 26.3**	**+2.2**
DOGA	**KONYA_Doganhis**	**3.51**	**50**	*i* P		**Pn**	**01 48 47.7**	**+2.9**
DOGA				*i* S		**Sn**	**01 49 24.2**	**-1.9**
DOGA				IAML			01 49 31.0	
	comp=E,75nm,0.6s							
DOGA				IAML			01 49 32.0	
	comp=N,73nm,0.8s							
STEP	**BALIKESIR_Sava**	**3.51**	**353**	*i* P		**Pn**	**01 48 45.7**	**+0.9**
STEP				*i* S		**Sn**	**01 49 30.7**	**+4.7**
STEP				IAML			01 49 53.0	
	comp=N,99nm,0.9s							
STEP				IAML			01 50 04.0	
	comp=E,77nm,0.8s							
IMMV	**Iera Moni Meta**	**3.52**	**264**	P		**Pn**	**01 48 46.2**	**+1.4**
IMMV	**Iera Moni Meta**	**3.52**	**264**	PN		**Pn**	**01 48 46.8**	**+2.0**
GVD	**Gavdhos**	**3.57**	**254**	PN		**Pn**	**01 48 47.8**	**+2.2**
ALFC	**Alefka**	**3.61**	**100**	P		**Pn**	**01 48 47.5**	**+1.4**
ALFC				AML	AML		01 49 29.4	
	comp=E,0.7nm,0.6s							
ALFC				AML	AML		01 49 29.8	
	comp=E,0.9nm,0.4s							
AYVA	**Ayvalik**	**3.64**	**340**	*i* P		**Pn**	**01 48 47.4**	**+1.0**
AYVA				*i* S		**Sn**	**01 49 33.5**	**+4.4**
AYVA				IAML			01 49 53.0	
	comp=E,30nm,0.8s							
AYVA				IAML			01 50 03.0	
	comp=N,42nm,0.7s							
TVSB	**Tavsanli**	**3.68**	**15**	PN		**Pn**	**01 48 48.5**	**+1.4**
NATA	**Nata**	**3.69**	**106**	P		**Pn**	**01 48 48.5**	**+1.4**
PRK	**Paraskevi**	**3.71**	**335**	P		**Pn**	**01 48 49.6**	**+2.2**
DURS	**Dursunbey**	**3.71**	**2**	*i* P		**Pn**	**01 48 49.5**	**+2.0**
DURS				*i* S		**Sn**	**01 49 31.2**	**+0.2**
DURS				IAML			01 50 04.0	
	comp=N,30nm,1.5s							
DURS				IAML			01 50 07.0	
	comp=E,32nm,0.9s							
BALB	**Balikesir**	**3.76**	**355**	PN		**Pn**	**01 48 50.1**	**+2.0**
ERMK	**Ermenek**	**3.83**	**77**	*i* P		**Pn**	**01 48 53.7**	**+4.4**
ERMK				*i* S		**Sn**	**01 49 33.7**	**-0.3**
ERMK				IAML			01 49 47.0	
	comp=E,76nm,0.6s							
ERMK				IAML			01 49 49.0	
	comp=N,59nm,0.7s							
LEF	**Lefka**	**3.85**	**100**	*i* P		**Pn**	**01 48 50.4**	**+1.1**
LEF				*i* S		**Sn**	**01 49 30.6**	**-3.6**
LEF				IAML			01 49 37.0	
	comp=N,44nm,0.4s							
LEF				IAML			01 49 41.0	
	comp=E,44nm,0.3s							
KONT	**Konya--Tatoy**	**3.87**	**57**	*i* P		**Pn**	**01 48 52.9**	**+3.3**
KONT				*i* S		**Sn**	**01 49 35.1**	**+0.3**
KONT				IAML			01 49 40.0	
	comp=E,25nm,0.8s							
KONT				IAML			01 49 49.0	
	comp=N,15nm,0.7s							
BALY	**Balya**	**3.88**	**353**	*i* P		**Pn**	**01 48 51.0**	**+1.2**
BALY				*i* S		**Sn**	**01 49 30.0**	**-5.2**
BALY				IAML			01 50 03.0	
	comp=E,32nm,0.8s							
BALY				IAML			01 50 09.0	
	comp=N,45nm,1.0s							
SZAC	**Souni**	**3.94**	**105**	⇓P		**Pn**	**01 48 51.9**	**+1.4**
KDHN	**Kadinhani**	**4.04**	**48**	*i* P		**Pn**	**01 48 54.2**	**+2.1**
KDHN				*i* S		Sn	01 49 32.3	-6.9
BAYC	**CANAKKALE_Bayr**	**4.08**	**341**	*i* P		**Pn**	**01 48 53.6**	**+1.1**
BAYC				*i* S		Sn	01 49 30.2	-10
ASGA	**Asgata**	**4.21**	**104**	P		**Pn**	**01 48 55.7**	**+1.4**
CSS	**Mathiatis**	**4.23**	**101**	Pn		**Pn**	**01 48 55.9**	**+1.2**
CSS	**Mathiatis**	**4.23**	**101**	⇑P		**Pn**	**01 48 55.8**	**+1.2**
KTHA	**Kythira Island**	**4.24**	**277**	P		**Pn**	**01 48 55.3**	**+0.6**
ATHAL	**Athalassa**	**4.25**	**99**	P		**Pn**	**01 48 56.5**	**+1.7**
ULDT	**Uludag**	**4.30**	**9**	*i* P		**Pn**	**01 48 59.7**	**+3.9**
ULDT				*i* S		**Sb**	**01 49 58.1**	**+0.2**
ULDT				IAML			01 50 28.0	
	comp=N,26nm,1.3s							
ULDT				IAML			01 50 28.0	
	comp=E,34nm,1.3s							
BOZC	**Bozcaada**	**4.32**	**337**	*i* P		**Pn**	**01 48 56.8**	**+1.0**
BOZC				*i* S		**Sn**	**01 49 45.8**	**0.0**
BOZC				IAML			01 50 21.0	
	comp=N,14nm,1.2s							
BOZC				IAML			01 50 27.0	
	comp=E,17nm,1.1s							
VLI	**Velíai**	**4.39**	**282**	P		**Pn**	**01 48 58.8**	**+2.1**
MVOU	**Mavrovouni**	**4.46**	**100**	⇑P		**Pn**	**01 48 58.9**	**+1.2**
MATC	**Matruh**	**4.61**	**191**	P		**Pn**	**01 49 01.3**	**+1.5**
	baz=191							
MATC				S		**Sn**	**01 49 52.7**	**-0.4**
	baz=191							
LIA	**Limnos Island**	**4.69**	**330**	P		**Pn**	**01 49 02.3**	**+1.4**
KIZK	**Mersin**	**4.79**	**81**	*i* P		**Pn**	**01 49 04.8**	**+2.6**
KIZK				*i* S		**Sn**	**01 49 55.3**	**-2.1**
KIZK				IAML			01 50 07.0	
	comp=N,11nm,0.7s							
KIZK				IAML			01 50 37.0	
	comp=E,16nm,1.1s							
KERG	**Konya-Eregli**	**4.95**	**70**	*i* P		**Pn**	**01 49 08.3**	**+3.8**
KERG				*i* S		**Sn**	**01 49 56.9**	**-4.7**
KERG				IAML			01 50 13.0	
	comp=E,12nm,1.0s							
KERG				IAML			01 50 27.0	
	comp=N,9.0nm,0.4s							
HBRG	**Burj al `Arab**	**5.46**	**166**	P		**Pn**	**01 49 12.1**	**+0.6**
	baz=166							
BRTR	**Keskin Array B**	**5.72**	**46**	Pn		**Pn**	**01 49 17.0**	**+1.8**
	comp=N,0.2nm,0.3s,baz=210,slow=10,SNR=7.5							
BRTR				Sn		**Sn**	**01 50 21.8**	**+1.1**
	comp=N,0.4nm,0.3s,baz=212,slow=25,SNR=6.5							
HNTI	**Hanita**	**6.35**	**114**	Pn		**Pn**	**01 49 26.3**	**+2.6**
HNTI				Sn		**Sn**	**01 50 34.9**	**-1.0**
HNAT	**Natroun**	**6.54**	**162**	P		**Pn**	**01 49 26.7**	**+0.4**
	baz=162							
HNAT				AMP			01 50 00.0	
	baz=162							
HNAT				S		**Sn**	**01 50 37.9**	**-2.7**
	baz=162							
MMA0B	**Mount Meron ar**	**6.55**	**114**	Pn		**Pn**	**01 49 28.6**	**+2.1**
MMAI	**Mount Meron Ar**	**6.55**	**114**	Pn		**Pn**	**01 49 27.1**	**+0.6**
	comp=N,2.0nm,0.3s,baz=302,slow=11,SNR=22							
MMAI				Sn		**Sn**	**01 50 39.7**	**-1.3**
	comp=N,4.6nm,0.3s,baz=309,slow=22,SNR=10							
KOT	**Kottamia**	**6.65**	**152**	P		**Pn**	**01 49 28.5**	**+0.6**
	baz=153							
NATI	**Neve Ativ**	**6.69**	**111**	Pn		**Pn**	**01 49 30.0**	**+1.6**
HHAG	**Hagoal**	**6.74**	**150**	P		**Pn**	**01 49 29.2**	**+0.2**
	baz=151							
HSAF	**As Saff**	**6.83**	**155**	P		**Pn**	**01 49 30.4**	**0.0**
	baz=156							
GLL	**Jalalah**	**6.93**	**154**	P		**Pn**	**01 49 31.5**	**-0.2**
	baz=155							
HMDT	**Nahal Hemdat**	**7.03**	**119**	Pn		**Pn**	**01 49 34.3**	**+1.3**
AMAZ	**Amatzia**	**7.04**	**126**	Pn		**Pn**	**01 49 34.4**	**+1.2**
AMAZ				Sn		**Sn**	**01 50 51.4**	**-1.5**
SWA2		**7.04**	**201**	P		**Pn**	**01 49 33.0**	**-0.1**
	baz=200							
KZIT	**Kziot**	**7.13**	**132**	Pn		**Pn**	**01 49 34.9**	**+0.4**
KZIT				Sn		**Sn**	**01 50 52.4**	**-2.9**
SUZ	**Suez**	**7.15**	**146**	P		**Pn**	**01 49 35.5**	**+0.9**
	baz=147							
YTIR	**Yattir**	**7.28**	**126**	Pn		**Pn**	**01 49 37.2**	**+0.7**
YTIR				Sn		**Sn**	**01 50 56.8**	**-2.1**
DSI	**Dead Sea**	**7.32**	**124**	Pn		**Pn**	**01 49 38.4**	**+1.4**
NBNS	**Bani Suef**	**7.68**	**160**	P		**Pn**	**01 49 41.5**	**-0.6**
	baz=160							
ZFRI	**Zfri**	**7.86**	**131**	Pn		**Pn**	**01 49 46.4**	**+2.0**
PRNI	**Paran**	**7.90**	**132**	Pn		**Pn**	**01 49 45.3**	**+0.3**
KRMI	**Paran Flat**	**7.90**	**135**	Pn		**Pn**	**01 49 46.1**	**+1.0**
KRMI				Sn		**Sn**	**01 51 11.9**	**-2.3**
ASF	**Jabal al Asfar**	**8.06**	**115**	Pn		**Pn**	**01 49 48.9**	**+1.6**
	comp=N,0.1nm,0.3s,baz=14,slow=11,SNR=1.9							
ASF				Sn		**Sn**	**01 51 16.4**	**-1.8**
	comp=N,0.2nm,0.3s,baz=317,slow=19,SNR=1.9							
HRFI	**Mount Harif**	**8.14**	**134**	Pn		**Pn**	**01 49 48.7**	**+0.3**
HRFI				Sn		**Sn**	**01 51 16.7**	**-3.5**
MBRI	**Mt Berech**	**8.25**	**136**	Pn		**Pn**	**01 49 50.6**	**+0.7**
MBRI				Sn		**Sn**	**01 51 20.5**	**-2.4**
EIL	**Elat**	**8.37**	**136**	Pn		**Pn**	**01 49 51.8**	**+0.4**
	comp=N,0.7nm,0.3s,baz=290,slow=2.7,SNR=20							
EIL				Sn		Sn	01 51 19.4	-6.2
	comp=N,0.9nm,0.3s,baz=105,slow=20,SNR=2.9							
GRB	**Gharib**	**8.50**	**152**	P		**Pn**	**01 49 53.9**	**+0.6**
	baz=153							
HFRF	**Wahat Farafira**	**8.71**	**180**	P		**Pn**	**01 49 55.9**	**-0.2**
	baz=179							
MLR	**Muntele Rosu**	**9.76**	**350**	Pn		**Pn**	**01 50 10.0**	**-0.5**
	comp=N,0.1nm,0.3s,baz=230,slow=9.8,SNR=2.7							
VYHS	**Vyhne**	**14.39**	**334**	*e*Pn		Pn	01 51 10.1	-3.7
KEST	**Kesra**	**15.36**	**275**	Pn		**Pn**	**01 51 26.6**	**-0.4**
	comp=N,0.0nm,0.3s,baz=262,slow=2.5,SNR=1.3							
KRUC	**Moravsky**	**15.79**	**330**	*e*PN		**P**	**01 51 36.9**	**+0.8**
VRAC	**Vranov**	**15.90**	**331**	Pn		**P**	**01 51 37.8**	**+0.3**
	baz=140,slow=9.6,SNR=3.8							
GERES	**GERESS Array B**	**16.80**	**325**	Pn		**Pn**	**01 51 42.0**	**-3.4**
	comp=N,0.1nm,0.3s,baz=137,slow=11,SNR=2.1							
WTTA	**Wattenberg**	**16.82**	**318**	*e*P		**P**	**01 51 50.1**	**+2.4**
	comp=N,2.7nm,0.7s							
WATA	**Walderalm**	**16.89**	**318**	*i* Pn		**P**	**01 51 50.0**	**+1.4**
	comp=N,3.5nm,1.0s							
SQTA	**Sankt Quirin**	**17.03**	**317**	*i* pP		pP	01 51 52.9	-0.8
	comp=N,5.4nm,0.8s							
KHC	**Kasperske Hory**	**17.06**	**325**	*e*P		**P**	**01 51 52.1**	**+1.8**
MOTA	**Moosalm**	**17.16**	**317**	*e*Pn		**P**	**01 51 53.4**	**+1.9**
	comp=N,3.9nm,0.8s							
FETA	**Feichten**	**17.18**	**316**	*i* P		**P**	**01 51 54.3**	**+2.5**
	comp=N,5.5nm,0.8s							
PBCC	**Pribram**	**17.28**	**327**	*e*P		**Pn**	**01 51 53.3**	**+2.1**
BRG	**Berggiesshubel**	**18.19**	**330**	*e*P		**Pn**	**01 52 03.9**	**+1.4**
	comp=N,5.2nm,1.1s							
FINES	**FINESS Array B**	**25.62**	**358**	P		**P**	**01 53 17.3**	**-1.8**
	comp=N,2.2nm,0.9s,baz=160,slow=12,SNR=8.5							
ESDC	**Sonseca Array**	**25.68**	**288**	P		**P**	**01 53 17.7**	**-2.4**
	comp=N,0.5nm,0.5s,baz=84,slow=9.2,SNR=3.2							
AKTO	**Aktyubinsk**	**25.90**	**47**	P		**P**	**01 53 21.0**	**-0.9**
	comp=N,1.7nm,0.7s,baz=258,slow=11,SNR=7.5							
TORD	**Torodi Ar. Bea**	**32.93**	**233**	P		**P**	**01 54 24.8**	**+0.2**
	comp=N,0.7nm,0.5s,baz=39,slow=8.3,SNR=10							
ARCES	**ARCESS Array B**	**33.74**	**358**	P		**P**	**01 54 30.4**	**-0.8**
	comp=N,4.0nm,1.0s,baz=5.7,slow=2.4,SNR=3.6							
MKAR	**Makanchi Array**	**41.25**	**57**	P		**P**	**01 55 35.7**	**+0.6**

comp=N,0.5nm,0.5s,baz=275,slow=8.5,SNR=7.3

IDC ***16*** *01:55:52.3±0.7, 17°.77N×62°.21W, h0km, mb3.9/12, mb1 4.1/14, mb1mx3.9/37, mbtmp3.9/14, ML3.9/2, MS2.8/5, Ms1 2.9/5, ms1mx2.5/37, Error ellipse: s-maj=23.0km s-min=15.7km az=50.0*
TRN ***16*** *01:55:58.4, 17°.84N×62°.18W, h46km, MD4.4*
TRN Felt in St. Kitts and Antigua. MMI III.
NEIC ***16*** *01:55:59.8±1.2, 17°.72N±0°.06×62°.17W±0°.05, h60km±4km, mb4.2/30, Error ellipse: s-maj=9.8km s-min=3.9km az=213.0*

ISC 16 01:55:59.5±0.7, 17°.81N±0°.04×62°.19W±0°.04, h55km±6km, n137, σ1°01/165, mb4.1/21, 2C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**0.41**	**109**	*e*P	**Pn**	**01 56 10.4**	**+0.2**
ANWB				*e*S	**Sn**	**01 56 18.1**	**+0.3**
ANWB	**Willy Bob**	**0.41**	**109**		**Pn**	**01 56 10.5**	**+0.3**
ANWB				Sn	**Sn**	**01 56 18.1**	**+0.3**
SKI	**Saint Kitts**	**0.70**	**228**	*i* P	**Pn**	**01 56 14.3**	**+0.7**
SKI				*e*S	**Sn**	**01 56 24.6**	**+0.8**
SKI	**Saint Kitts**	**0.70**	**228**	Pn	**Pn**	**01 56 14.1**	**+0.5**
SKI				Sn	**Sn**	**01 56 23.3**	**-0.5**
SKOC	**St. Kitts, UWI**	**0.73**	**226**	*e*P	**Pn**	**01 56 14.4**	**+0.6**
SKOC				*e*S	**Sn**	**01 56 24.8**	**+0.5**
NVRH	**Round Hill, Ne**	**0.73**	**212**	*e*P	**Pn**	**01 56 15.3**	**+1.4**
NVRH				*e*S	**Sn**	**01 56 25.4**	**+1.0**
NVBH	**Bath Hotel, Ne**	**0.80**	**211**	*e*P	**Pn**	**01 56 16.2**	**+1.4**
NVBH				*e*S	**Sn**	**01 56 26.8**	**+0.9**
SEUS	**St. Eustatius**	**0.82**	**248**	*e*P	**Pn**	**01 56 15.9**	**+0.9**
SEUS				*e*S	**Sn**	**01 56 27.1**	**+0.8**
SEUS	**St. Eustatius**	**0.82**	**248**		**Pn**	**01 56 15.6**	**+0.6**
SEUS				Sn	**Sn**	**01 56 26.1**	**-0.3**
SMRT	**St. Maarten**	**0.88**	**286**	⇓*e*P	**Pn**	**01 56 16.8**	**+1.0**
SMRT	**St. Maarten**	**0.88**	**286**		**Pn**	**01 56 16.7**	**+0.9**
SMRT				Sn	**Sn**	**01 56 28.4**	**+0.7**
SABA	**Saba**	**1.02**	**260**	*e*P	**Pn**	**01 56 18.6**	**+1.0**
SABA				*e*S	**Sn**	**01 56 31.7**	**+0.6**
SABA	**Saba**	**1.02**	**260**		**Pn**	**01 56 18.6**	**+1.0**
SABA				Sn	**Sn**	**01 56 31.2**	**+0.1**
MLYT	**Lee's Yard**	**1.08**	**180**	*e*S	**Sn**	**01 56 34.1**	**+1.6**
ABD	**La Joyeuse, An**	**1.48**	**153**	*e*P	**Pn**	**01 56 24.4**	**+0.5**
ABD				*e*S	**Sn**	**01 56 42.5**	**+0.3**
CBE	**Ff, Capester**	**1.81**	**162**	*e*P	**Pn**	**01 56 29.2**	**+0.7**
CBE				*e*S	**Sn**	**01 56 51.6**	**+1.3**
TBG	**Guadaloupe-3**	**2.01**	**165**	*e*P	**Pn**	**01 56 31.9**	**+0.8**
TBG				*e*S	**Sn**	**01 56 57.5**	**+2.3**
TDBA	**Terre de Bas,**	**2.02**	**165**	*e*P	**Pn**	**01 56 32.1**	**+1.0**
TDBA				*e*S	**Sn**	**01 56 57.1**	**+1.8**
MAGL	**Barre de l'ile**	**2.04**	**155**	*e*P	**Pn**	**01 56 32.0**	**+0.5**
MAGL				*e*S	**Sn**	**01 56 55.9**	**0.0**
MDPV	**Dominica, Penn**	**2.29**	**161**	*e*P	**Pn**	**01 56 36.2**	**+1.3**
MDPV				*e*S	**Sn**	**01 56 57.4**	**+1.4**
CDVI	**St. Croix**	**2.46**	**269**	*e*P	**Pn**	**01 56 38.4**	**+1.3**
CDVI				*e*S	**Sn**	**01 57 07.0**	**+1.0**
CDVI	**St. Croix**	**2.46**	**269**		**Pn**	**01 56 38.6**	**+1.5**
CDVI				Sn	**Sn**	**01 57 04.7**	**-1.3**
DSLB	**Salisbury**	**2.47**	**162**	*e*P	**Pn**	**01 56 38.5**	**+1.1**
DSLB				*e*S	**Sn**	**01 57 07.4**	**+1.1**
MDN	**Morne-Daniel**	**2.59**	**163**	*e*P	**Pn**	**01 56 40.0**	**+1.0**
MDN				*e*S	**Sn**	**01 57 11.9**	**+2.6**
DLPL	**La Plaine**	**2.62**	**160**	*e*P	**Pn**	**01 56 41.7**	**+2.3**
DLPL				*e*S	**Sn**	**01 57 12.6**	**+2.5**
DLPL	**La Plaine**	**2.62**	**160**	Pn	**Pn**	**01 56 39.2**	**-0.3**
STVI	**Saint Thomas**	**2.68**	**282**		**Pn**	**01 56 41.1**	**+0.9**
CUPR	**Culebra, Puert**	**2.98**	**280**		**Pn**	**01 56 45.5**	**+1.1**
CUPR				Sn	**Sn**	**01 57 18.9**	**-0.1**
SVN	**Savane Anatole**	**3.11**	**161**	⇑*e*P	**Pn**	**01 56 47.1**	**+1.0**
PCM	**Pelee Case Pet**	**3.12**	**162**	⇓*e*P	**Pn**	**01 56 47.0**	**+0.7**
PCM	**Pelee Case Pet**	**3.12**	**162**	*e*P	**Pn**	**01 56 47.8**	**+1.5**
CXM	**Morne La Croix**	**3.13**	**162**	*e*P	**Pn**	**01 56 47.5**	**+0.9**
BAMF	**Morne Balai**	**3.14**	**161**	⇑*e*P	**Pn**	**01

ABTX	**Abilene, Hawle**	**36.75**	**301**	P		**P**	**02 03 02.0**	**+0.2**
TX31	**Lajitas Ar. Si**	**39.52**	**295**	P		**P**	**02 03 25.2**	**-0.1**
TX32	**Lajitas Array**	**39.52**	**295**	P		**P**	**02 03 25.2**	**0.0**
TXAR	**Lajitas Array**	**39.52**	**295**	P		**P**	**02 03 24.4**	**-0.9**
	comp=Z,0.5nm,0.5ns,baz=127,slow=6.8,SNR=19							
TXAR				PcP		**PcP**	**02 05 33.4**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=118,slow=5.5,SNR=3.7							
TXAR	**Lajitas Array**	**39.52**	**295**	P		**P**		
TXAR						**PcP**	**02 05 32.3**	**+0.2**
MSTX	**Muleshoe**	**39.61**	**302**	P		**P**	**02 03 26.2**	**+0.2**
LVC	**Limon Verde**	**40.70**	**190**	P		**P**	**02 03 32.6**	**-2.7**
MNTX	**Cornudas Mount**	**41.33**	**298**	P		**P**	**02 03 40.4**	**+0.3**
MNTX				IAmb		IAmb	02 03 41.4	
	comp=Z,3.0nm,0.7s							
T25A	**Trinidad**	**41.71**	**306**	P		**P**	**02 03 43.3**	**-0.1**
T25A				IAmb		IAmb	02 03 45.2	
	comp=Z,3.9nm,0.9s							
ULM	**Lac du Bonnet**	**42.10**	**328**	P		**P**	**02 03 46.0**	**0.0**
	comp=Z,1.9nm,0.4s,baz=76,slow=7.6,SNR=2.1							
ULM	**Lac du Bonnet**	**42.10**	**328**	IAmb		IAmb	02 03 55.9	
	comp=Z,3.1nm,0.9s							
SDCO	**Great Sand Dun**	**42.71**	**307**	P		**P**	**02 03 52.8**	**+1.2**
BNM	**Barren Site**	**42.78**	**301**	P		**P**	**02 03 51.8**	**-0.4**
CPUP	**Villa Florida**	**44.12**	**174**	P		**P**	**02 04 00.8**	**-1.7**
	comp=Z,1.5nm,0.4s,baz=356,slow=6.6,SNR=6.6							
CPUP	**Villa Florida**	**44.12**	**174**	P		**P**	**02 04 00.9**	**-1.7**
319A	**Douglas**	**44.58**	**297**	P		**P**	**02 04 06.7**	**+0.2**
319A				IAmb		IAmb	02 04 09.2	
	comp=Z,6.4nm,0.9s							
PV13	**Radium Mtn., P**	**45.35**	**306**	P		**P**	**02 04 12.9**	**+0.2**
PV13				IAmb		IAmb	02 04 14.9	
	comp=Z,3.1nm,0.8s							
TUC	**Tucson**	**45.95**	**298**	P		**P**	**02 04 17.6**	**+0.2**
TUC				IAmb		IAmb	02 04 19.8	
	comp=Z,2.1nm,0.8s							
X16A	**Lo Mia Camp, P**	**46.76**	**301**	IAmb		IAmb	02 04 26.4	
	comp=Z,2.8nm,1.1s							
PDAR	**Pinedale Array**	**47.09**	**312**	P		**P**	**02 04 26.7**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=118,slow=9.6,SNR=6.0							
PDAR				PcP		**PcP**	**02 05 58.1**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=107,slow=4.8,SNR=5.5							
PDAR	**Pinedale Array**	**47.09**	**312**	P		**P**	**02 04 26.4**	**0.0**
PDAR						**PcP**	**02 05 56.8**	**-0.7**
U15A	**North Rim**	**47.74**	**303**	IAmb		IAmb	02 04 34.1	
	comp=Z,4.0nm,1.1s							
Y14A	**Wickenburg**	**47.98**	**300**	IAmb		IAmb	02 04 35.5	
	comp=Z,2.9nm,0.7s							
TPNV	**Topopah Spring**	**50.96**	**303**	IAmb		IAmb	02 04 58.7	
	comp=Z,3.0nm,0.8s							
NVAR	**Mina Array Bea**	**52.75**	**305**	P		**P**	**02 05 09.7**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=88,slow=6.9,SNR=6.7							
NVAR				PcP		**PcP**	**02 06 20.0**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=108,slow=4.8,SNR=1.5							
NVAR	**Mina Array Bea**	**52.75**	**305**	P		**P**	**02 05 10.3**	**+1.1**
BO02	**Sierra Bellavi**	**52.94**	**189**	P		**P**	**02 05 09.7**	**-0.7**
H10N3	**ASCENSION HYDR**	**53.54**	**114**	T		T	03 02 32.0	
	baz=299,slow=75							
H10N2	**ASCENSION HYDR**	**53.55**	**114**	T		T	03 02 31.8	
	baz=299,slow=75							
H10N1	**ASCENSION HYDR**	**53.56**	**114**	T		T	03 02 24.5	
	baz=299,slow=75							
DBIC	**Dimbokro**	**56.92**	**94**	P		**P**	**02 05 40.0**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=282,slow=5.3,SNR=5.3							
DBIC	**Dimbokro**	**56.92**	**94**	P		**P**	**02 05 39.4**	**0.0**
YKA	**Yellowknife Ar**	**57.39**	**334**	P		**P**	**02 05 42.1**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=105,slow=7.5,SNR=12							
TORD	**Torodi Ar. Bea**	**61.50**	**84**	P		**P**	**02 06 11.4**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=283,slow=7.2,SNR=7.8							
TORD	**Torodi Ar. Bea**	**61.50**	**84**	P		**P**	**02 06 09.8**	**-1.3**
NOA	**NORSAR Array B**	**66.55**	**31**	LR		LR	02 31 55.8	
	comp=Z,3.6nm,20.0s,baz=75,slow=32							
GERES	**GERESS Array B**	**67.57**	**44**	P		**P**	**02 06 51.1**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=233,slow=6.0,SNR=1.9							
BCAR	**Beaver Creek A**	**69.58**	**331**	P		**P**	**02 07 03.1**	**+0.5**
ILAR	**Eielson Array**	**71.80**	**333**	P		**P**	**02 07 16.2**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=97,slow=3.7,SNR=7.8							
ILAR	**Eielson Array**	**71.80**	**333**	P		**P**	**02 07 16.5**	**+0.5**
FINES	**FINESS Array B**	**73.72**	**30**	P		**P**	**02 07 28.3**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=256,slow=5.6,SNR=3.4							

IDC ***16*** *02:25:25.3±9.6, 56.02°S×27.45°W, h70km±87km, mb3.7/5, mb1 3.9/6, mb1mx3.7/24, mbtmp4.1/6, ML4.8/1, Error ellipse: s-maj=36.2km s-min=25.3km az=70.0*

NEIC ***16*** *02:25:28.2±0.8, 56.0°S±0.1°×27.7°W±0.0°, h104km±7km, mb4.2/17, Error ellipse: s-maj=20.6km s-min=4.4km az=193.0*

ISC 16 02:25:27.8±0.7, 56.0°S±0.1°×27.7°W±0.1°, h100km, n33, σ0 90/36, mb4.2/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.33**	**285**		Pn		**Pn**	**02 26 45.2**	**+0.3**
HOPE							**Sn**	**02 27 45.0**	**+0.1**
VNA1	**Neumayer--Stat**	**16.93**	**158**	P			**Pn**	**02 29 17.9**	**-0.1**
VNA3	**Neumayer Olymp**	**17.11**	**160**	P			**Pn**	**02 29 19.9**	**-0.5**
VNA2	**Neumayer--Watz**	**17.32**	**157**	P			**P**	**02 29 22.0**	**-0.9**
	baz=316,slow=13								
SNAA	**Sanae**	**18.88**	**156**	P			**P**	**02 29 38.6**	**-1.3**
SNAA	**Sanae**	**18.88**	**156**	P			**P**	**02 29 38.8**	**-1.1**
	2.9nm,0.3s,baz=304,slow=9.8,SNR=323								
SNAA				S			**Sn**	**02 33 13.7**	**+0.9**
	0.0nm,0.3s,baz=262,slow=12,SNR=3.2								
SNAA	**Sanae**	**18.88**	**156**	P			**P**	**02 29 39.1**	**-0.9**
SNAA							**S**	**02 33 08.7**	**-0.3**
LC01	**Cunco**	**33.72**	**282**	P			P	02 31 52.8	-6.6
LC01				IAmb		IAmb	IAmb	02 31 55.6	
	comp=Z,6.9nm,0.8s								
QSPA	**South Pole Qui**	**34.23**	**180**	P			**P**	**02 32 03.9**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=24,slow=4.4,SNR=27								
QSPA	**South Pole Qui**	**34.23**	**180**	P			**P**	**02 32 04.3**	**+0.6**
QSPA				PcP			**PcP**	**02 34 37.9**	**+0.2**
MT02	**Curacav**	**37.51**	**289**	P			**P**	**02 32 31.7**	**-0.1**
MT02				IAmb		IAmb	IAmb	02 32 36.4	
	comp=Z,4.8nm,1.0s								
CO01	**Juntas del Tor**	**39.54**	**293**	P			**P**	**02 32 48.6**	**-0.5**
CO01				IAmb		IAmb	IAmb	02 32 53.0	
	comp=Z,2.9nm,0.9s								
MAW	**Mawson**	**40.34**	**144**	P			**P**	**02 32 54.3**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=227,slow=6.5,SNR=6.4								
MAW	**Mawson**	**40.34**	**144**	P			**P**	**02 32 55.0**	**+0.1**
AC05	**El Transito**	**40.55**	**294**	P			**P**	**02 32 58.0**	**+0.7**
AC05				IAmb		IAmb	IAmb	02 33 05.6	
	comp=Z,5.1nm,1.1s								
AC04	**Llanos de Chal**	**41.47**	**294**	P			**P**	**02 33 04.6**	**-0.1**
LVC	**Limon Verde**	**45.04**	**301**	P			**P**	**02 33 33.6**	**-0.2**
LVC				IAmb		IAmb	IAmb	02 33 46.1	
	comp=Z,5.9nm,1.1s								
VNDA	**Vanda**	**46.59**	**183**	P			**P**	**02 33 45.7**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=195,slow=6.2,SNR=8.9								
VNDA	**Vanda**	**46.59**	**183**	P			**P**	**02 33 45.4**	**+0.5**
PB01	**IPOC Station P**	**46.65**	**301**	P			**P**	**02 33 46.0**	**-0.2**
PB01				IAmb		IAmb	IAmb	02 33 52.6	
	comp=Z,3.8nm,1.0s								
GO01	**Chusmiza**	**47.69**	**302**	P			**P**	**02 33 53.9**	**-0.8**
GO01				IAmb		IAmb	IAmb	02 34 00.3	
	comp=Z,3.5nm,1.1s								
AP01	**Chacalluta**	**49.35**	**302**	P			**P**	**02 34 03.5**	**-3.3**
LPAZ	**La Paz**	**50.13**	**306**	P			**P**	**02 34 14.7**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=121,slow=9.6,SNR=5.3								
LPAZ	**La Paz**	**50.13**	**306**	P			**P**	**02 34 12.1**	**-1.4**
LPAZ				IAmb		IAmb	IAmb	02 34 27.0	
	comp=Z,1.7nm,1.1s								
TOA0	**Torodi Ar. Sit**	**73.18**	**30**	P			**P**	**02 36 46.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**73.18**	**30**	P			**P**	**02 36 48.1**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=191,slow=5.9,SNR=11								
TORD	**Torodi Ar. Bea**	**73.18**	**30**	P			**P**	**02 36 47.7**	**+0.2**
EIDS	**Eidsvold**	**98.93**	**179**	P			**P**	**02 38 56.7**	**-0.1**
YKA	**Yellowknife Ar**	**135.96**	**318**	PKP			**PKPdf**	**02 44 36.2**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=142,slow=2.2,SNR=2.1								
ILAR	**Eielson Array**	**149.88**	**312**	PKPbc			**PKPbc**	**02 45 05.5**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=132,slow=2.4,SNR=6.0								
ILAR	**Eielson Array**	**149.88**	**312**				**PKPbc**	**02 45 05.3**	**+0.6**
SONM	**Songino Array**	**151.01**	**87**	PKPbc			**PKPbc**	**02 45 08.4**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=296,slow=3.4,SNR=2.9								
SONM	**Songino Array**	**151.01**	**87**				**PKPbc**	**02 45 08.6**	**+0.5**

NEIC ***16*** *02:37:06.7±1.3, 17.12°S±0.07°×172.5°W±0.1°, h39km±5km, mb4.6/39, Error ellipse: s-maj=14.8km s-min=9.1km az=71.0*

IDC ***16*** *02:37:08.2±0.5, 17.06°S×172.84°W, h0km, mb4.3/19, mb1 4.6/19, mb1mx4.5/27, mbtmp4.4/19, MS3.9/20,*

Ms1 3.9/20, ms1mx3.7/38, Error ellipse: s-maj=20.2km s-min=14.4km az=127.0

GCMT ***16*** *02:37:12.7±0.4, 17.11°S±0.04°×172.16°W±0.03°, h29km, MW5.0/75, Moment Tensor Solution. s26,c29; s75,c93; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.44±.21; Mθθ=-1.01±.14; Mφφ=-2.43±.13; Mrθ=-0.16±.25; Mθφ=-1.17±.10; Mφr=1.13±.15; Best double couple: Mo=3.44800×10^16 NP1:φs=218.00000°, δs=38.00000°, λs=105.00000°. NP2: φs=19.00000°, δs=54.00000°, λs=78.00000°. Principal axes: T 3.6800, Plg78.0000°, Azm247.0000°; N -0.4650, Plg9.0000°, Azm26.0000°; P -3.2150, Plg8.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 02:37:09.9±0.4, 17.19°S±0.09°×172.9°W±0.1°, h10km, n158, σ1 s40/96, mb4.6/35, MS3.9/24, 7C-2D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.38**	**124**		Pn		Pn	02 37 54.2	-8.5
NIUE					Sn		Sn	02 38 28.1	-15
AFI	**Afiamalu**	**3.44**	**18**		Pn		Pn	02 37 55.6	-8.0
	16nm,0.3s,baz=84,slow=0.6,SNR=27								
AFI					Sn		Sn	02 38 33.1	-11
	62nm,0.3s,baz=38,slow=20,SNR=8.1								
RAR	**Rarotonga**	**13.02**	**110**		Pn		Pn	02 40 05.6	-9.3
	7.3nm,0.3s,baz=260,slow=7.7,SNR=16								
RAR					LR		LR	02 44 44.3	
	comp=Z,651nm,19.1s,baz=281,slow=35								
RAR	**Rarotonga**	**13.02**	**110**				Pn	02 40 05.2	-10
DZM	**Mont Dzumac**	**20.06**	**253**	*e*	P		Pn	02 41 48.0	+2.7
	9.1nm,0.7s								
DZM				*e*	LR		LR	02 47 05.3	
	comp=Z,648nm,25.1s								
DZM	**Mont Dzumac**	**20.06**	**253**		P		**P**	**02 41 44.1**	**+0.6**
	8.1nm,1.1s,baz=68,slow=19,SNR=2.0								
DZM					LR		LR	02 47 38.2	
	comp=Z,345nm,18.6s,baz=81,slow=31								
DZM	**Mont Dzumac**	**20.06**	**253**		P		**P**	**02 41 40.9**	**-2.6**
DZM					IAmb		IAmb	02 42 29.1	
	comp=Z,89nm,1.9s								
PPT2	**Papeete2**	**22.25**	**95**	*e*	LQ		LQ	02 46 13.2	
	comp=Z,337nm,25.2s								
PPT2				*e*	LR		LR	02 47 09.2	
	comp=Z,610nm,27.5s,baz=269								
PPT	**Papeete**	**22.25**	**94**		LR		LR	02 49 00.1	
	comp=Z,360nm,18.2s,baz=266,slow=32								
URZ	**Urewera**	**22.75**	**201**		P		**P**	**02 42 12.8**	**+0.6**
	comp=Z,24nm,0.6s,baz=297,slow=4.3,SNR=21								
URZ					S		**S**	**02 46 19.0**	**-2.0**
	comp=Z,9.5nm,0.9s,baz=36,slow=17,SNR=2.7								
URZ	**Urewera**	**22.75**	**201**		P		**P**	**02 42 08.1**	**-4.1**
TBI	**Tubuai**	**22.80**	**109**	*e*	LR		LR	02 47 31.9	
	comp=Z,686nm,28.2s,baz=284								
HNR	**Honiara**	**27.51**	**283**		LR		LR	02 52 13.2	
	comp=Z,602nm,21.2s,baz=136,slow=33								
OXZ	**Oxford**	**29.02**	**203**		P		P	02 43 05.4	-4.7
RPZ	**Rata Peaks**	**29.73**	**204**		P		**P**	**02 43 18.6**	**+2.3**
	comp=Z,9.0nm,0.5s,baz=319,slow=20,SNR=1.9								
RPZ	**Rata Peaks**	**29.73**	**204**		P		P	02 43 11.7	-4.6
PMG	**Port Moresby**	**39.58**	**276**		P		P	02 44 37.5	-4.2
PMG					IAmb		IAmb	02 44 45.8	
	comp=Z,19nm,1.0s								
STKA	**Stephens Creek**	**43.59**	**242**		P		**P**	**02 45 13.7**	**-0.7**
	comp=Z,2.9nm,0.6s,baz=98,slow=9.6,SNR=8.4								
STKA					LR		LR	03 01 37.6	
	comp=Z,116nm,18.6s,baz=45,slow=34								
STKA	**Stephens Creek**	**43.59**	**242**		P		P	02 45 10.3	-4.2
BBOO	**Buckleboo**	**48.36**	**241**		P		P	02 45 47.8	-4.3
WB0	**Warramunga Arr**	**49.90**	**258**		P		P	02 45 59.5	-4.6
WB2	**Warramunga Arr**	**49.92**	**258**		P		P	02 45 59.8	-4.5
WRA	**Warramunga Arr**	**49.94**	**258**		P		**P**	**02 46 03.1**	**-1.2**
	comp=Z,4.3nm,0.7s,baz=97,slow=7.2,SNR=40								
WRA					PcP		**PcP**	**02 47 25.5**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=89,slow=3.4,SNR=2.3								
WRA	**Warramunga Arr**	**49.94**	**258**		P		P	02 45 59.9	-4.4
WRA							**PcP**	**02 47 22.7**	**-2.0**
AS31	**Alice Springs**	**50.05**	**253**		P		P	02 46 00.6	-4.5
AS31					IAmb		IAmb	02 46 05.2	
	comp=Z,3.6nm,0.8s								
ASAR	**Alice Springs**	**50.05**	**253**		P		**P**	**02 46 04.5**	**-0.7**
	comp=Z,12nm,0.6s,baz=89,slow=8.5,SNR=139								
ASAR					PcP		**PcP**	**02 47 25.8**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=88,slow=8.2,SNR=4.4								
ASAR					LR		LR	03 07 47.7	
	comp=Z,188nm,18.5s,baz=86,slow=37								
ASAR	**Alice Springs**	**50.05**	**253**		P		P	02 46 00.7	-4.4
ASAR							**PcP**	**02 47 24.1**	**-0.9**
FORT	**Forrest**	**55.06**	**244**		P		P	02 46 37.5	-4.7
VNDA	**Vanda**	**61.65**	**186**		P		**P**	**02 47 29.4**	**+2.0**
	comp=Z,1.8nm,1.1s,baz=2.8,slow=8.0,SNR=5.6								
DAV	**Davao City (W)**	**65.40**	**286**		LR		LR	03 17 21.0	
	comp=Z,91nm,18.6s,baz=158,slow=37								
MJAR	**Matsushiro Arr**	**70.62**	**320**		P		**P**	**02 48 24.4**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=151,slow=4.9,SNR=3.1								
MJAR					LR		LR	03 15 07.6	
	comp=Z,27nm,20.4s,baz=190,slow=32								
MJAR	**Matsushiro Arr**	**70.62**	**320**		P		P	02 48 19.2	-6.4
MAT	**Matsushiro**	**70.62**	**320**		P		**P**	**02 48 26.5**	**+0.8**
MAT					eS		**S**	**02 57 36.2**	**-3.5**
QSPA	**South Pole Qui**	**72.86**	**180**		P		P	02 48 32.3	-6.6
QSPA					IAmb		IAmb	02 48 41.3	
	comp=Z,5.6nm,0.8s								
KMRM	**Mail Ridge**	**73.17**	**37**		P		P	02 48 31.7	-9.3
LPIG	**La Paz**	**73.56**	**58**		LR		LR	03 14 18.3	
	comp=Z,30nm,20.5s,baz=260,slow=30								
AFDM	**Forest Hills D**	**73.99**	**40**		P		P	02 48 36.2	-10
MDPB	**Devils Postpil**	**74.37**	**42**		P		P	02 48 38.6	-10
PETK	**Petropavlovsk-**	**74.48**	**342**		P		**P**	**02 48 47.6**	**-0.6**
	comp=Z,8.4nm,0.9s,baz=118,slow=8.6,SNR=9.9								
PETK					LR		LR	03 21 12.2	
	comp=Z,47nm,18.2s,baz=210,slow=36								
PETK	**Petropavlovsk-**	**74.48**	**342**		P		P	02 48 41.2	-7.1
WAKR	**Walker**	**74.67**	**41**		P		P	02 48 40.4	-10
WAKR					IAmb		IAmb	02 48 51.4	
	comp=Z,17nm,1.9s								
YBH	**Yreka Blue Hor**	**74.73**	**37**		P		P	02 48 40.8	-9.3
YBH					IAmb		IAmb	02 48 52.5	
	comp=Z,4.5nm,0.9s								
YSS	**Yuzh-Sakhalins**	**75.28**	**330**		P		P	02 48 46.4	-6.5
NVAR	**Mina Array Bea**	**75.33**	**41**		P		**P**	**02 48 52.7**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=227,slow=8.0,SNR=11								
NVAR					LR		LR	03 17 28.5	
	comp=Z,121nm,18.0s,baz=266,slow=32								
NVAR	**Mina Array Bea**	**75.33**	**41**		P		P	02 48 44.4	-9.5
NV11	**Mina Array Sit**	**75.43**	**41**		P		P	02 48 44.9	-9.4
NV11					IAmb		IAmb	02 48 56.2	
	comp=Z,8.7nm,1.3s								
KVN	**Kaiserville**	**75.83**	**41**		P		P	02 48 47.1	-10
SHPR	**Sheep Range**	**76.28**	**45**		P		P	02 48 49.6	-10
SHPR					IAmb		IAmb	02 49 01.3	
	comp=Z,6.5nm,1.4s								
Y14A	**Wickenburg**	**76.38**	**48**		P		P	02 48 50.0	-10
K05A	**Summer Lake**	**76.40**	**37**		P		P	02 48 50.3	-9.5
K05A					IAmb		IAmb	02 49 02.1	
	comp=Z,8.5nm,1.1s								
PRN	**Pahroc Range**	**76.85**	**44**				**P**	**02 49 04.0**	**+1.6**
PINE	**Pine Mountain**	**77.05**	**36**				**P**	**02 49 03.2**	**-0.3**
TUC	**Tucson**	**77.15**	**50**		P		P	02 48 54.4	-10
TUC					IAmb		IAmb	02 49 06.2	
	comp=Z,6.1nm,1.2s								
X16A	**Lo Mia Camp, P**	**77.74**	**48**				pP	02 49 09.7	-0.1
KSRS	**Korea Array**	**77.78**	**316**		P		**P**	**02 49 07.6**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=132,slow=6.2,SNR=12								
KSRS					LR		LR	03 18 33.6	
	comp=Z,36nm,20.3s,baz=180,slow=32								
KSAR	**Wonju Array Be**	**77.80**	**316**		P		**P**	**02 49 09.1**	**+1.6**
CCUT	**Cedar City**	**78.05**	**44**				pP	02 49 11.4	-0.1
PSUT	**Pine Spring**	**78.26**	**43**				**P**	**02 49 09.9**	**-0.5**
INCN	**Inchon**	**78.66**	**315**		P		**P**	**02 49 08.9**	**-3.4**
G08A	**Pilot Rock**	**79.09**	**36**		P		P	02 49 05.5	-9.2
G08A					IAmb		IAmb	02 49 41.9	
	comp=Z,8.4nm,1.3s								
MTPU	**Mount Pierson**	**79.11**	**45**				sP	02 49 17.9	-0.4
USRK	**Ussuriysk Ar.**	**79.11**	**323**		P		**P**	**02 49 14.9**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=208,slow=6.1,SNR=6.6								
USRK					LR		LR	03 21 04.4	
	comp=Z,47nm,18.7s,baz=175,slow=33								
USRK	**Ussuriysk Ar.**	**79.11**	**323**		P		**P**	**02 49 15.1**	**+0.5**
MSU	**Marysvale**	**79.36**	**44**				pP	02 49 19.0	+0.3
ZAIG	**Zacatecas**	**79.39**	**62**		P		P	02 49 06.7	-10
ZAIG					IAmb		IAmb	02 49 35.6	
	comp=Z,16nm,1.7s								

BMO	**Blue Mountains**	**79.76**	**37**			**P**	**02 49 19.5**	**+1.2**
MFID	**Camas Ranch**	**79.77**	**38**	P		P	02 49 09.1	-9.3
D08A	**Wollman Farm,**	**80.21**	**34**			**P**	**02 49 22.2**	**+1.7**
HLID	**Hailey**	**80.70**	**39**			**P**	**02 49 22.9**	**-0.5**
MNTX	**Cornudas Mount**	**80.90**	**53**			**P**	**02 49 24.3**	**-0.3**
JLU	**Jordanelle**	**80.94**	**43**	P		P	02 49 15.4	-10
TXAR	**Lajitas Array**	**81.20**	**56**	P		**P**	**02 49 25.4**	**-1.0**
	comp=Z,2.1nm,1.1s,baz=230,slow=7.0,SNR=12							
TXAR				LR		LR	03 19 23.7	
	comp=Z,24nm,18.4s,baz=0.0,slow=31							
TXAR	**Lajitas Array**	**81.20**	**56**	P		P	02 49 16.6	-10
NJ2	**Nanjing**	**81.63**	**307**	*e*P		**P**	**02 49 30.5**	**+2.1**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
MCMT	**McKenzie Canyo**	**82.34**	**38**			**P**	**02 49 33.0**	**+0.8**
RND	**Reindeer**	**82.50**	**11**	P		P	02 49 24.4	-8.0
S22A	**4UR Ranch, Cre**	**82.62**	**47**			**P**	**02 49 34.3**	**+0.3**
FXWY	**Fox Creek**	**82.81**	**40**			**P**	**02 49 36.4**	**+1.8**
IMW	**Indian Meadow**	**83.00**	**40**			**P**	**02 49 36.3**	**+0.6**
DLBC	**Dease Lake**	**83.19**	**21**	P		P	02 49 27.7	-8.3
PDAR	**Pinedale Array**	**83.27**	**42**	P		**P**	**02 49 35.9**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=208,slow=3.2,SNR=12							
PDAR				LR		LR	03 24 49.0	
	comp=Z,61nm,18.2s,baz=296,slow=34							
PDAR	**Pinedale Array**	**83.27**	**42**	P		P	02 49 27.7	-9.4
YHH	**Holmes Hill**	**83.52**	**39**			pP	02 49 40.6	-0.1
WRH	**Wood River Hil**	**83.61**	**11**			**P**	**02 49 38.5**	**+0.4**
CCB	**Clear Creek Bu**	**83.83**	**11**	IAmb		IAmb	02 49 40.8	
	comp=Z,6.2nm,1.1s							
ILAR	**Eielson Array**	**84.10**	**11**	P		**P**	**02 49 38.9**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=225,slow=4.9,SNR=10							
ILAR	**Eielson Array**	**84.10**	**11**	P		P	02 49 32.8	-7.8
IMAR	**Indian Mountai**	**84.17**	**8**	P		P	02 49 33.2	-7.7
ABTX	**Abilene, Hawle**	**85.70**	**54**	P		P	02 49 39.8	-10
MAW	**Mawson**	**86.26**	**199**	P		**P**	**02 49 52.6**	**+1.1**
	comp=Z,1.0nm,0.4s,baz=310,slow=11,SNR=2.2							
MAW	**Mawson**	**86.26**	**199**	P		P	02 49 45.4	-6.1
BJI	**Beijing**	**87.05**	**313**	P		**P**	**02 49 57.1**	**+1.3**
BJI	**Beijing**	**87.05**	**313**	S		**S**	**03 00 35.0**	**+0.1**
BJI				pmax		pmax		
	comp=Z,12nm,1.2s							
BJI				LR		LR		
	comp=N,84nm,4.9s							
BJI				LR		LR		
	comp=E,80nm,13.1s							
PLCA	**Paso Flores**	**87.95**	**132**	P		**P**	**02 50 00.6**	**+0.2**
	comp=E,1.5nm,0.6s,baz=200,slow=7.4,SNR=6.2							
PLCA				LR		LR	03 22 19.6	
	comp=E,94nm,18.2s,baz=309,slow=31							
PLCA	**Paso Flores**	**87.95**	**132**	P		P	02 49 51.5	-8.9
RPSI	**Rantau Prapat**	**89.06**	**273**	P		P	02 49 59.5	-6.4
GYA	**Guiyang**	**89.31**	**298**

WEL 16 02:51:38.1,44°S±1°×17°3E±°, h13km±2km, M3.7/9, ML3.8/9, MLv3.7/9, Error ellipse: s-maj=0.0km s-min=0.0km az=37.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.20**	**188**	P	Pb	02 51 43.9	+0.3
MQZ				S	Sb	02 51 47.3	+0.1
AMCZ	**Amberley**	**0.34**	**355**	P	Pb	02 51 46.2	+0.2
AMCZ				S	Sb	02 51 51.4	+0.1
OKCZ	**Okains Bay**	**0.34**	**128**	P	Pb	02 51 46.5	+0.5
OKCZ				S	Sb	02 51 52.1	+0.7
AKCZ	**Akaroa Harbour**	**0.39**	**156**	P	Pb	02 51 47.7	+0.8
AKCZ				S	Sb	02 51 53.8	+0.9
OXZ	**Oxford**	**0.51**	**291**	P	Pb	02 51 49.5	+0.5
OXZ				S	Sb	02 51 57.5	+1.2
GVZ	**Greta Valley S**	**0.60**	**25**	P	Pb	02 51 51.1	+0.7
WACZ	**Wakanui South**	**0.75**	**235**	P	Pn	02 51 54.9	+0.5
WACZ				S	Sn	02 52 06.2	+0.5
LTZ	**Lake Taylor**	**0.79**	**337**	P	Pn	02 51 54.7	-0.4
LTZ				S	Sb	02 52 05.6	+1.1
MHCZ	**Mount Hutt**	**0.82**	**268**	P	Pn	02 51 56.3	+0.9
ARCZ	**Arundel**	**1.18**	**248**	P	Pg	02 52 01.1	+0.2
INZ	**Inchbonnie**	**1.21**	**310**	P	Pb	02 52 01.0	+0.2
RPZ	**Rata Peaks**	**1.21**	**260**	P	Pg	02 52 01.5	+0.1
KHZ	**Kahutara**	**1.26**	**30**	P	Pn	02 52 00.8	-0.6
KHZ				S	Sb	02 52 17.0	-0.8
WVZ	**Waitaha Valley**	**1.49**	**286**	P	Pg	02 52 07.4	+0.5
GCSZ	**Gaunt Creek Bo**	**1.74**	**276**	P	Pb	02 52 10.4	+0.6
THZ	**Tophouse**	**1.76**	**5**	P	Pn	02 52 08.4	+0.1
DSZ	**Denniston Nort**	**1.89**	**339**	P	Pn	02 52 10.6	+0.6
BSWZ	**Blackbirch Sta**	**2.00**	**26**	P	Pn	02 52 11.7	+0.1
LBZ	**Lake Benmore**	**2.01**	**243**	P	Pb	02 52 13.2	-1.4
FOZ	**Fox Glacier**	**2.09**	**268**	P	Pb	02 52 15.3	-0.6
ODZ	**Otahua Downs**	**2.12**	**223**	P	Pn	02 52 14.1	+0.8
TUWZ	**Tuamarina**	**2.28**	**24**	P	Pn	02 52 15.3	-0.1
NNZ	**Nelson**	**2.35**	**13**	P	Pn	02 52 16.9	+0.5
TCW	**Tory Channel**	**2.58**	**28**	P	Pn	02 52 18.8	-0.8
QRZ	**Quartz Range**	**2.69**	**357**	P	Pn	02 52 21.3	+0.2
WEL	**Wellington**	**2.71**	**35**	P	Pn	02 52 20.0	-0.5
PLWZ	**Palliser**	**2.71**	**45**	P	Pn	02 52 20.7	-0.8
HHSZ	**Highcliff Hill**	**2.80**	**211**	P	Pn	02 52 23.3	+0.7
MSWZ	**Moikau Station**	**2.82**	**43**	P	Pn	02 52 22.0	-0.9
DUWZ	**D'Urville Isla**	**2.86**	**19**	P	Pn	02 52 24.0	+0.5
JCZ	**Jackson Bay**	**2.88**	**257**	P	Pn	02 52 25.7	+1.9
WKZ	**Wanaka**	**2.95**	**242**	P	Pn	02 52 26.1	+1.4
CAW	**Cannon Point**	**2.98**	**37**	P	Pn	02 52 24.1	-1.0
KIW	**Kapiti Island**	**3.12**	**33**	P	Pn	02 52 26.4	-0.6
MTW	**Mount Morrison**	**3.14**	**42**	P	Pn	02 52 27.7	+0.4
OGWZ	**Otaki Gorge**	**3.26**	**35**	P	Pn	02 52 28.0	-1.0
TUZ	**Tuapeka**	**3.27**	**221**	P	Pn	02 52 30.0	+0.9
HOWZ	**Holdsworth Sta**	**3.35**	**40**	P	Pn	02 52 30.0	-0.2
MRZ	**Mangatainoka R**	**3.57**	**38**	P	Pn	02 52 31.7	-1.4
MSZ	**Milford Sound**	**3.62**	**250**	P	Pn	02 52 35.2	+1.3
MLZ	**Mavora Lakes**	**3.76**	**239**	P	Pn	02 52 36.4	+0.5
BFZ	**Birch Farm**	**3.87**	**44**	P	Pn	02 52 36.1	-1.3
SYZ	**Scrubby Hill**	**3.94**	**219**	P	Pn	02 52 39.6	+1.4
WAZ	**Wanganui**	**4.13**	**25**	P	Pn	02 52 42.8	+2.0
WHZ	**Wether Hill Ro**	**4.14**	**233**	P	Pn	02 52 40.8	-0.2
KHEZ	**Kahui Hut**	**4.33**	**14**	P	Pn	02 52 45.6	+1.8
PKE	**Pukeiti**	**4.42**	**13**	P	Pn	02 52 47.0	+2.1
PNHZ	**Pukenui**	**4.45**	**37**	P	Pn	02 52 44.5	-0.8
DREZ	**Durham Road**	**4.47**	**15**	P	Pn	02 52 47.0	+1.5
MTVZ	**Mangateitei**	**4.62**	**28**	P	Pn	02 52 49.9	+2.2
PKVZ	**Pokaka**	**4.67**	**26**	P	Pn	02 52 49.6	+1.3
MOVZ	**Moawhango**	**4.70**	**30**	P	Pn	02 52 49.4	+0.5
KRHZ	**Kereru**	**4.75**	**37**	P	Pn	02 52 48.2	-1.3
BHHZ	**Black Hill Sta**	**4.75**	**33**	P	Pn	02 52 49.5	+0.1
FWVZ	**Far West T-bar**	**4.77**	**28**	P	Pn	02 52 51.0	+1.1
OTVZ	**Oturere**	**4.89**	**28**	P	Pn	02 52 51.8	+0.4
WTVZ	**West Tongariro**	**4.91**	**27**	P	Pn	02 52 52.0	+0.3
HIZ	**Hauiti**	**5.26**	**19**	P	Pn	02 52 56.7	+0.3
NMHZ	**Naumai**	**5.39**	**36**	P	Pn	02 53 00.3	+2.1
TLZ	**Tolley Road**	**5.61**	**24**	P	Pn	02 53 02.5	+1.2
MHGZ	**Murupara**	**5.90**	**33**	P	Pn	02 53 03.8	-1.4
TOZ	**Tahuroa Road**	**6.16**	**21**	P	Pn	02 53 08.6	-0.1
URZ	**Urewera**	**6.22**	**34**	P	Pn	02 53 07.7	-1.9
MWZ	**Matawai**	**6.34**	**37**	P	Pn	02 53 09.1	-2.1
AWAZ	**Awhitu Peninsu**	**6.61**	**14**	P	Pn	02 53 16.0	+1.0
RUGZ	**Raukumara Rang**	**6.71**	**36**	P	Pn	02 53 14.6	-1.8

*ATH **16** 03:05:07.9, 35°38N×27°10E, h20km±5km, ML2.1/2, Error ellipse: s-maj=12.7km s-min=1.4km az=329.0*
*DDA **16** 03:05:27.4, 37°02N×27°49E, h7km± 1km, ML1.2*

ISK 16 03:05:08.8, 35°54N×26°95E, h8km, ML2.4/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.17**	**87**	P	Pg	03 05 12.9	+0.4
KARP				S	Sg	03 05 16.0	+1.1
KARP				AML	AML	03 05 16.4	
	comp=N,4305μm,0.2s						
KARP				AML	AML	03 05 16.8	
	comp=E,3434μm,0.3s						
KARP	**Karpathos**	**0.17**	**87**	PG	Pg	03 05 12.8	+0.4
KARP				SG	Sg	03 05 15.9	+1.0
ZKR	**Zakros**	**0.73**	**235**	P	Pg	03 05 22.6	-0.3
ZKR				S	Sb	03 05 33.7	-0.2
ZKR				AML	AML	03 05 37.8	
	comp=N,60μm,0.5s						
ZKR				AML	AML	03 05 39.5	
	comp=E,165μm,0.6s						
ZKR	**Zakros**	**0.73**	**235**	PG	Pb	03 05 23.4	-0.4
ZKR				SG	Sb	03 05 33.9	0.0
NPS	**Neapolis**	**1.12**	**256**	P	Pn	03 05 31.0	+0.2
LAST	**Lasithi**	**1.26**	**253**	P	Pg	03 05 33.4	+0.5
DAT	**Datca**	**1.29**	**23**	PN	Pg	03 05 33.6	0.0
DAT	**Datca**	**1.29**	**23**	*i* P	Pg	03 05 33.7	+0.1
DAT				*i* S	Sb	03 05 38.6	-12
BDRM	**Kayabasi**	**1.58**	**15**	*i* P	Pn	03 05 29.2	-7.8
BDRM				*i* S	Sn	03 05 30.7	-27
BDRM				IAML		03 05 37.0	
	comp=E,144nm,0.8s						
TURN	**Turunc**	**1.62**	**40**	PN	Pb	03 05 38.4	-0.5
TURN	**Turunc**	**1.62**	**40**	*i* P	Pb	03 05 38.9	0.0
TURN				*i* S	Sn	03 05 49.8	-8.9
TURN				IAML		03 05 53.0	
	comp=N,12nm,1.2s						
FETY	**Fethiye**	**2.05**	**57**	PN	Pn	03 05 44.4	+0.9
AYDN	**Tasoluk**	**2.25**	**19**	*i* P	Pn	03 05 41.1	-5.3
AYDN				*i* S	Sn	03 05 50.8	-23
IMMV	**Iera Moni Meta**	**2.42**	**269**	PN	Pn	03 05 49.4	+0.7

*BJI **16** 03:10:04.2±0.0, 1°15S×98°29E, h40km, mB4.7/27, mb4.9/45, Ms4.2/22, Ms7 4.0/21*
*NEIC **16** 03:10:09.0±1.8, 0°48S±0°08×98°12E±0°08, h32km±4km, mb4.5/33, Error ellipse: s-maj=13.8km s-min=8.9km az=49.0*
*DJA **16** 03:10:10.4±0.5, 0°S±2°×9°8E±°, h23km±5km, M4.8/24, mb5.0/18, mB5.3/10, MLv5.0/24, Mw(mB)4.7/10*
*KLM **16** 03:10:12.0, 0°42S×98°20E, h38km, mb4.7*
*IDC **16** 03:10:12.1±3.8, 0°40S×98°32E, h43km±30km, mb4.1/16, mb1 4.2/18, mb1mx3.9/53, mbtmp4.3/18, ML4.4/2, MS3.6/11, Ms1 3.6/11, ms1mx3.3/48, Error ellipse: s-maj=33.5km s-min=13.0km az=60.0*

ISC 16 03:10:09.4±0.5, 0.39S±0.0°04×98°13E±0.0°06, h27km, n135, σ1°36/131, mb4.6/40, MS3.7/16, 2C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.36**	**24**	P	**Pn**	**03 10 18.8**	**-0.1**
SISI	**Saibi**	**1.33**	**134**	P	**Pb**	**03 10 33.4**	**-0.4**
SISI				S	**Sb**	**03 10 50.8**	**+0.3**
GSI	**Gunungsitoli**	**1.77**	**342**	P	**Pn**	**03 10 39.7**	**+1.3**
GSI	**Gunungsitoli**	**1.77**	**342**	Pn	**Pn**	**03 10 38.3**	**-0.1**
MNSI	**Mandailing Nat**	**1.86**	**51**	P	**Pn**	**03 10 40.2**	**+0.6**
SBSI	**Sibolga**	**2.07**	**21**	P	**Pn**	**03 10 44.0**	**+1.5**
SBSI				S	**Sb**	**03 11 11.3**	**-0.4**
PDSI	**Padang**	**2.39**	**103**	P	**Pn**	**03 10 46.6**	**-0.2**
PDSI				S	**Sn**	**03 11 16.3**	**+1.1**
BKNI	**Bangkinang**	**2.99**	**76**	P	**Pn**	**03 10 55.0**	**-0.1**
BKNI	**Bangkinang**	**2.99**	**76**	Pn	**Pn**	**03 10 54.9**	**-0.3**
PPSI	**Pulau Pagai**	**3.01**	**142**	P	**Pn**	**03 10 56.3**	**+0.9**
RPSI	**Rantau Prapat**	**3.16**	**14**	Pn	**Pn**	**03 10 57.8**	**+0.3**
RPSI	**Rantau Prapat**	**3.16**	**14**		**Pn**	**03 10 58.4**	**+0.8**
RPSI					**Sn**	**03 11 35.8**	**+1.4**
PSI	**Prapat**	**3.27**	**14**	P	**Pn**	**03 10 58.4**	**-0.7**
PSI				S	**Sn**	**03 11 35.8**	**-1.3**
SDSI	**Sungai Dareh**	**3.34**	**99**	P	**Pn**	**03 11 00.5**	**+0.6**
KRJI	**Kerinci**	**3.73**	**117**	P	**Pn**	**03 11 07.2**	**+1.8**
KRJI				S	**Sn**	**03 11 49.9**	**+1.3**
TPTI		**3.75**	**345**	P	**Pn**	**03 11 06.4**	**+0.9**
MASI	**Maura Aman, Be**	**4.93**	**124**	P	**Pn**	**03 11 23.3**	**+1.4**
MLSI	**Meulaboh, Aceh**	**4.94**	**340**	P	**Pn**	**03 11 24.2**	**+2.3**
KSI	**Kapahiang**	**5.51**	**126**	P	**Pn**	**03 11 30.8**	**+0.9**
	2.8nm511nm,0.7s						
IPM	**Ipoh**	**5.63**	**31**	Pn	**Pn**	**03 11 31.0**	**-0.5**
IPM				Sn	**Sn**	**03 12 34.9**	**-0.5**
IPM	**Ipoh**	**5.63**	**31**	P	**Pn**	**03 11 34.0**	**+2.5**
MYKOM	**Kota Tinggi**	**6.11**	**69**	Pn	**Pn**	**03 11 38.2**	**+0.2**
MYKOM	**Kota Tinggi**	**6.11**	**69**	P	**Pn**	**03 11 39.0**	**+0.9**
KULM	**Kulim**	**6.17**	**24**	Pn	**Pn**	**03 11 38.6**	**-0.3**
KULM	**Kulim**	**6.17**	**24**	P	**Pn**	**03 11 40.0**	**+1.1**
LHSI	**Lahat**	**6.38**	**122**	P	**Pn**	**03 11 43.4**	**+1.7**
	1.8nm6μm526nm,0.8s						
DSRI	**Dabo**	**6.45**	**91**	P	**Pn**	**03 11 45.8**	**+3.1**
	0.3nm1μm39nm,0.7s						
MDSI	**Maura Dua**	**7.28**	**124**	P	**Pn**	**03 11 55.3**	**+1.2**
	0.9nm2μm267nm,0.7s						
LWLI	**Liwa**	**7.49**	**128**	P	**Pn**	**03 11 58.7**	**+1.5**
	1.6nm432nm,0.8s						
KASI	**Kota Agung**	**8.15**	**129**	P	**Pn**	**03 12 06.1**	**+0.1**
	3μm264nm,0.7s						
TPI	**Tanjungpandan**	**9.80**	**104**	P	**Pn**	**03 12 31.5**	**+2.8**
DBJI	**Dramaga**	**10.55**	**126**	P	**Pn**	**03 12 38.7**	**-0.4**
	54nm,0.6s						
SKJI	**Sukabumi**	**10.67**	**128**	P	**Pn**	**03 12 41.1**	**+0.5**
	198nm,0.6s						
LEM	**Lembang**	**11.42**	**124**	P	**Pn**	**03 12 52.0**	**+0.9**
	33nm,1.1s						
CISI	**Cisompet, Garu**	**11.99**	**127**		**Pn**	**03 12 56.0**	**-2.9**
KSM	**Kuching**	**12.31**	**81**	P	**Pn**	**03 13 04.0**	**+0.8**
SMRI	**Semarang**	**13.95**	**119**	Pn	**Pn**	**03 13 23.5**	**-2.0**
SBUM	**Sibu**	**14.36**	**79**	Pn	**Pn**	**03 13 30.4**	**-0.8**
SBUM	**Sibu**	**14.36**	**79**	P	**Pn**	**03 13 32.0**	**+0.8**
BBKI	**Banjar Baru**	**16.97**	**101**	P	**P**	**03 14 06.6**	**-0.3**
	30nm,0.4s						
PBKT	**Sadao Pong**	**17.08**	**9**		**Pn**	**03 14 05.9**	**-0.6**
CMJI	**Chiang Mai Arr**	**18.75**	**2**	P	**P**	**03 14 25.8**	**-0.6**
CMJI				IAmb	IAmb	03 14 31.3	
	comp=Z,23nm,1.1s						
CMAR	**Chiang Mai Arr**	**18.75**	**2**	P	**P**	**03 14 26.9**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=194,slow=10,SNR=28						
CMAR	**Chiang Mai Arr**	**18.75**	**2**	P	**P**	**03 14 25.4**	**-1.1**
PALK	**Pallekele**	**18.98**	**294**	LR	LR	03 21 01.4	
	comp=Z,184nm,19.2s,baz=213,slow=34						
PALK	**Pallekele**	**18.98**	**294**	P	**P**	**03 14 26.9**	**-2.2**
SPMM	**Sapulut**	**19.00**	**74**	P	**P**	**03 14 29.0**	**-0.3**
CHTO	**Chiang Mai**	**19.10**	**2**	P	**P**	**03 14 28.7**	**-1.6**
MYLDM	**Lahad Datu**	**21.08**	**75**	P	**P**	**03 14 49.7**	**-2.2**
MYLDM				IAmb	IAmb	03 15 05.0	
	comp=Z,15nm,1.0s						
MPSI	**Mapaga**	**21.78**	**88**	P	**P**	**03 14 59.7**	**+0.3**
	comp=Z,509nmcomp=Z,13nm,0.8s						
KAPI	**Kappang**	**22.07**	**102**	P	**P**	**03 15 02.5**	**-0.1**
	comp=Z,25nm,1.0s,baz=284,slow=10,SNR=7.2						
KAPI	**Kappang**	**22.07**	**102**	P	**P**	**03 15 01.2**	**-1.4**
KAPI				IAmb	IAmb	03 15 08.2	
	comp=Z,29nm,1.0s						
BNSI	**Bone**	**22.31**	**101**	P	**P**	**03 15 06.7**	**+1.6**
	comp=Z,662nmcomp=Z,35nm,1.0s						
SLVN	**Son La**	**22.31**	**14**	P	**P**	**03 15 05.5**	**+0.4**
SLVN				IAmb	IAmb	03 15 10.1	
	comp=Z,11nm,0.9s						
KMI	**Kunming**	**25.75**	**10⇑**	*e*P	**P**	**03 15 43.8**	**+5.6**
KMI				pP	sP	03 15 51.8	+2.6
KMI				sP	pP	03 16 00.6	+15
KMI				pmax	pmax		
	comp=Z,15nm,0.5s						
KMI				pmax	pmax		
	comp=Z,87nm,5.2s						
KMI				LR	LR		
	comp=Z,260nm,18.7s						
KMI				LR	LR		
	comp=Z,210nm,15.6s						
KMI				LR	LR		
	comp=Z,330nm,17.5s						
SHL	**Shillong**	**26.50**	**347**	P	**P**	**03 15 44.9**	**-0.1**
H08S2	**Diego Garcia H**	**26.56**	**254**	T	T	03 43 34.5	
	baz=75,slow=75						
H08S3	**Diego Garcia H**	**26.56**	**254**	T	T	03 43 36.5	
	baz=75,slow=75						
H08S1	**Diego Garcia H**	**26.57**	**254**	T	T	03 43 35.4	
	baz=75,slow=75						
BOK	**Bokaro**	**26.82**	**334**	*e*P	**P**	**03 15 50.3**	**+2.6**
GYA	**Guiyang**	**27.93**	**16**	⇑P	**P**	**03 15 58.6**	**+0.8**
GYA				S	**S**	**03 20 38.9**	**-1.3**
GYA				pmax	pmax		
	comp=Z,21nm,1.0s						
GYA				pmax	pmax		
	comp=Z,50nm,3.5s						
GYA				LR	LR		
	comp=Z,64nm,3.8s						
GYA				LR	LR		
	comp=Z,55nm,4.2s						
GYA				LR	LR		
	comp=Z,100nm,6.6s						
ENH	**Enshi**	**32.35**	**19**	P	**P**	**03 16 36.3**	**-0.4**
XAN	**Xi'an**	**35.71**	**15**	P	**P**	**03 17 05.9**	**0.0**
XAN				pmax	pmax		
	comp=Z,32nm,1.0s						
XAN	**Xi'an**	**35.71**	**15**	P	**P**	**03 17 05.4**	**-0.5**
LZH	**Lanzhou**	**36.68**	**8**	*e*P	**P**	**03 17 15.3**	**+1.0**
LZH				pmax	pmax		
	comp=Z,27nm,1.2s						
LZH				LR	LR		
	comp=Z,160nm,12.5s						
LZH				LR	LR		
	comp=Z,220nm,13.3s						
LZH				LR	LR		
	comp=Z,130nm,13.8s						
H01W3	**Cape Leeuwin H**	**37.43**	**158**	T	T	03 57 29.1	
	baz=333,slow=76						
H01W2	**Cape Leeuwin H**	**37.45**	**158**	T	T	03 57 32.0	
	baz=333,slow=76						
H01W1	**Cape Leeuwin H**	**37.45**	**158**	T	T	03 57 29.8	
	baz=333,slow=76						
NJ2	**Nanjing**	**37.75**	**29**	*e*P	**P**	**03 17 24.3**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,240nm,18.0s						
NJ2				LR	LR		
	comp=Z,340nm,18.0s						
NJ2				LR	LR		
	comp=Z,280nm,17.0s						
GTA	**Gaotai**	**39.64**	**2**	*e*P	**P**	**03 17 39.9**	**+0.8**
GTA				pP	sP	03 17 49.6	-0.6
GTA				sP	pP	03 17 53.3	+6.4
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,27nm,4.6s						
GTA				LR	LR		
	comp=Z,78nm,15.9s						
GTA				LR	LR		
	comp=Z,200nm,17.5s						
GTA				LR	LR		
	comp=Z,58nm,16.2s						
WB0	**Warramunga Arr**	**40.39**	**121**	P	**P**	**03 17 44.5**	**-1.0**
WRA	**Warramunga Arr**	**40.41**	**121**	P	**P**	**03 17 44.5**	**-1.2**
	comp=Z,7.4nm,0.6s,baz=301,slow=9.1,SNR=46						
WRA	**Warramunga Arr**	**40.41**	**121**	P	**P**	**03 17 44.7**	**-1.0**
WRAB	**Tennant Creek**	**40.42**	**121**	P	**P**	**03 17 44.5**	**-1.3**
WRAB				IAmb	IAmb	03 17 45.6	
	comp=Z,9.7nm,0.8s						
WB2	**Warramunga Arr**	**40.42**	**121**	IAmb	IAmb	03 17 45.5	
	comp=Z,9.3nm,0.7s						
NIL	**Nilore**	**41.15**	**328**	P	**P**	**03 17 52.5**	**+0.9**
NIL				IAmb	IAmb	03 18 04.3	
	comp=Z,9.2nm,0.7s						
FORT	**Forrest**	**41.47**	**140**	P	**P**	**03 17 53.9**	**-0.3**
ASAR	**Alice Springs**	**41.70**	**126**	P	**P**	**03 17 56.0**	**-0.3**
	comp=Z,6.0nm,0.8s,baz=299,slow=7.7,SNR=46						
ASAR				LR	LR	03 37 19.3	
	comp=Z,80nm,20.4s,baz=332,slow=39						
ASAR	**Alice Springs**	**41.70**	**126**	P	**P**	**03 17 55.9**	**-0.5**
HHC	**Hu-ho-hao-te**	**42.82**	**15**	*e*P	**P**	**03 18 08.5**	**+3.2**
HHC				PP	**PcP**	**03 19 54.4**	**-1.8**
HHC				PcS	**PcS**	**03 23 43.3**	**-5.2**
HHC				S	**S**	**03 24 29.9**	**+1.8**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,6.3s						
HHC				LR	LR		
	comp=Z,120nm,18.1s						
HHC				LR	LR		
	comp=Z,170nm,17.6s						
HHC				LR	LR		
	comp=Z,130nm,18.0s						
BJI	**Beijing**	**43.48**	**20**	P	**P**	**03 18 11.5**	**+1.1**
BJI				pmax	pmax		
	comp=Z,12nm,1.0s						
WMQ	**Urumqi**	**44.99**	**349**	*e*P	**P**	**03 18 23.6**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				LR	LR		
	comp=Z,90nm,11.1s						
WMQ				LR	LR		
	comp=Z,160nm,19.5s						
WMQ				LR	LR		
	comp=Z,86nm,22.1s						
TARG	**Taragay, Kyrgy**	**45.78**	**339**	IAmb	IAmb	03 18 42.1	
	comp=Z,5.7nm,0.8s						
SHLS	**Shalkode**	**46.48**	**341**	*e*P	**P**	**03 18 34.5**	**+0.1**
	comp=Z,14nm,1.5s,baz=342						
UZB	**Uzynbulak**	**46.61**	**341**	*e*P	**P**	**03 18 36.6**	**+1.1**
	comp=Z,5.3nm,1.3s,baz=341						
KSAR	**Wonju Array Be**	**46.61**	**33**	P	**P**	**03 18 34.6**	**-0.8**
KSRS	**Korea Array**	**46.64**	**33**	P	**P**	**03 18 34.9**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=223,slow=8.0,SNR=3.1						
SATY	**Saty**	**46.74**	**340**	*e*P	**P**	**03 18 37.6**	**+1.2**
	comp=Z,8.0nm,1.0s,baz=340						
GAR	**Garm**	**46.77**	**330**	P	**P**	**03 18 37.9**	**+1.1**
MDOK	**Medeo**	**47.30**	**339**	*e*P	**P**	**03 18 42.3**	**+1.4**
	baz=339						
SONM	**Songino Array**	**48.57**	**7**	P	**P**	**03 18 51.5**	**+0.9**
	comp=Z,7.5nm,0.7s,baz=194,slow=8.6,SNR=16						
SONM				LR	LR	03 42 05.2	
	comp=Z,154nm,19.2s,baz=168,slow=39						
SONM	**Songino Array**	**48.57**	**7**	P	**P**	**03 18 51.8**	**+1.2**
ULN	**Ulaanbaatar**	**48.68**	**8**	P	**P**	**03 18 50.8**	**-0.8**
MK31	**Makanchi Array**	**49.00**	**346**	P	**P**	**03 18 53.9**	**+0.1**
MKAR	**Makanchi Array**	**49.00**	**346**	P	**P**	**03 18 55.0**	**+1.1**
	comp=Z,14nm,1.0s,baz=152,slow=7.2,SNR=40						
MKAR				LR	LR	03 43 55.9	
	comp=Z,42nm,18.8s,baz=142,slow=41						
MKAR	**Makanchi Array**	**49.00**	**346**	P	**P**	**03 18 53.7**	**-0.1**
ZSN	**Zaisan**	**49.03**	**348**	*i* P	**P**	**03 18 55.3**	**+1.3**
	comp=Z,4.7nm,1.0s,baz=348						
IUG	**Iuzhnay**	**49.35**	**333**	*e*P	**P**	**03 18 57.7**	**+1.0**
	baz=332						
KKAR	**Karatay Array**	**49.88**	**334**	P	**P**	**03 19 00.5**	**-0.1**
BTLS	**Baital**	**50.02**	**338**	*e*P	**P**	**03 19 01.9**	**+0.3**
	baz=338						
CTAO	**Charters Tower**	**50.97**	**116**	P	**P**	**03 19 08.3**	**-0.9**
CTAO				IAmb	IAmb	03 19 27.8	
	comp=Z,8.4nm,1.1s						
STKA	**Stephens Creek**	**51.61**	**132**	P	**P**	**03 19 13.3**	**-0.5**
	comp=Z,6.4nm,0.9s,baz=299,slow=9.7,SNR=8.5						
STKA				LR	LR	03 43 19.2	
	comp=Z,88nm,20.0s,baz=219,slow=39						
TLY	**Talaya**	**52.09**	**4**	P	**P**	**03 19 17.7**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=143,slow=20,SNR=1.3						
TLY	**Talaya**	**52.09**	**4**	P	**P**	**03 19 17.5**	**+0.4**
TLY				IAmb	IAmb	03 19 23.9	
	comp=Z,6.8nm,1.0s						
MJAR	**Matsushiro Arr**	**52.25**	**41**	P	**P**	**03 19 18.7**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=211,slow=7.2,SNR=2.4						
MJAR	**Matsushiro Arr**	**52.25**	**41**	P	**P**	**03 19 17.9**	**-0.6**
GEYT	**Alibeck**	**53.02**	**320**	LR	LR	03 43 01.5	
	comp=Z,25nm,20.3s,baz=35,slow=37						
KURK	**Kurchatov**	**53.56**	**345**	P	**P**	**03 19 28.6**	**+0.7**
KURK				IAmb	IAmb	03 19 43.9	
	comp=Z,6.1nm,1.0s						
USRK	**Ussuriysk Ar.**	**53.66**	**30**	P	**P**	**03 19 27.9**	**-0.8**
	comp=Z,6.0nm,0.9s,baz=221,slow=7.7,SNR=11						
USRK	**Ussuriysk Ar.**	**53.66**	**30**	P	**P**	**03 19 28.8**	**+0.1**
ZALV	**Zalesovo Beam**	**55.27**	**350**	P	**P**	**03 19 41.0**	**+0.8**
	comp=Z,3.0nm,0.5s,baz=160,slow=4.7,SNR=14						
ZALV				LR	LR	03 49 26.7	
	comp=Z,39nm,18.4s,baz=94,slow=43						
ZALV	**Zalesovo Beam**	**55.27**	**350**	P	**P**	**03 19 40.5**	**+0.3**
KLR	**Kul'dur**	**57.26**	**26**	P	**P**	**03 19 54.6**	**+0.1**
	comp=Z,8.3nm,0.9s,baz=243,slow=6.4,SNR=18						
ABKAR	**Akbulak array**	**59.34**	**332**	P	**P**	**03 20 09.1**	**0.0**
ASAJ	**Asahikawa**	**59.38**	**36**	P	**P**	**03 20 09.8**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=297,slow=2.3,SNR=1.6						
YAK	**Yakutsk**	**66.68**	**16**	LR	LR	03 52 10.8	
	comp=Z,44nm,19.4s,baz=26,slow=38						
NRIK	**Noril'sk**	**69.97**	**356**	P	**P**	**03 21 19.4**	**+1.4**
	comp

mb1 3.8/12, mb1mx3.6/45, mbtmp3.6/12, ML2.4/2, Error ellipse: s-maj=29.0km s-min=10.2km az=19.0
*NEIC **16** 04:04:51.2±1.3, 64°.3N±0°.1×17°.9W±0°.1, h10km±2km, mb4.0/4, Error ellipse: s-maj=18.5km s-min=9.6km az=195.0*
ISC 16 04:04:51.0±0.5, **64°.61N**±0°.02×**17°.41W**±0°.02, **h10**km, **n61**, σ1§**68**/74, **mb3.6**/12, **Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard** baz=287	**0.16**	**294**	P	**Pg**	**04 04 54.1**	**-0.5**
IDYN	**Dyngjuhals** baz=4.5	**0.18**	**6**	P	**Pg**	**04 04 54.3**	**-0.7**
IDYN	baz=4.5			S	**Sg**	**04 04 57.4**	**-0.4**
IGRF	**Grimsfjall** baz=166	**0.21**	**163**	P	**Pg**	**04 04 55.2**	**-0.3**
IHUS	**Husbondi** baz=199	**0.33**	**199**	P	**Pg**	**04 04 57.5**	**-0.1**
IHUS	baz=199			S	**Sb**	**04 05 03.0**	**-1.5**
IVOT	**Vottur** baz=165	**0.35**	**164**	P	**Pg**	**04 04 57.8**	**-0.3**
IVOT	baz=165			S	**Sb**	**04 05 03.5**	**-1.6**
ISKR	**Skrokkalda** baz=262	**0.42**	**264**	P	**Pg**	**04 04 58.6**	**-0.7**
IJOK	**Jokulheimar** baz=230	**0.46**	**231**	P	**Pg**	**04 04 59.3**	**-0.7**
IJOK	baz=230			S	**Sb**	**04 05 06.8**	**-1.3**
IKRE	**Kreppuhraun** baz=70	**0.48**	**68**	P	**Pg**	**04 04 59.2**	**-1.1**
IKRE	baz=70			S	**Sg**	**04 05 05.9**	**-0.7**
IASK	**Askja** baz=36	**0.55**	**36**	P	**Pg**	**04 05 00.4**	**-1.4**
IMKO	**Mokollar** baz=52	**0.59**	**51**	P	**Pg**	**04 05 01.2**	**-1.3**
IIEY	**Innrieyrar** baz=211	**0.60**	**211**	P	**Pg**	**04 05 01.8**	**-0.9**
IIEY	baz=211			S	**Sg**	**04 05 10.7**	**+0.1**
IKSK	**Karasker** baz=139	**0.61**	**137**	P	**Pg**	**04 05 01.3**	**-1.5**
IKSK	baz=139			S	**Sg**	**04 05 10.5**	**-0.2**
IKAL	**Kalfafell** baz=191	**0.67**	**190**	P	**Pg**	**04 05 03.1**	**-0.9**
IKAL	baz=191			S	**Sg**	**04 05 13.0**	**+0.2**
ISVA	**Svartarkot** baz=4.8	**0.74**	**5**	P	**Pg**	**04 05 03.4**	**-1.9**
IVSH	**V-Sauoahnukur** baz=75	**0.75**	**74**	P	**Pg**	**04 05 03.8**	**-1.8**
IVSH	baz=75			S	**Sg**	**04 05 14.6**	**-0.7**
IVAT	**Vatnsfell** baz=237	**0.78**	**238**	P	**Pg**	**04 05 04.8**	**-1.3**
IVAT	baz=237			S	**Sg**	**04 05 15.5**	**-0.7**
IFAG	**Fagurholsmyri** baz=156	**0.81**	**155**	P	**Pg**	**04 05 05.2**	**-1.3**
IFAG	baz=156			S	**Sg**	**04 05 16.7**	**-0.3**
IADA	**Aoalbol** baz=62	**0.89**	**61**	P	**Pg**	**04 05 05.9**	**-2.2**
IADA	baz=62			S	**Sg**	**04 05 17.9**	**-1.7**
IHVE	**Hveravellir** baz=286	**0.96**	**287**	P	**Pg**	**04 05 07.2**	**-2.3**
IMEL	**Melhnausar** baz=18	**1.02**	**18**	P	**Pg**	**04 05 07.9**	**-2.7**
ISNB	**Snabyli** baz=212	**1.03**	**212**	P	**Pg**	**04 05 08.9**	**-1.8**
ISNB	baz=212			S	**Sg**	**04 05 23.3**	**-0.7**
IREN	**Reynihlio** baz=11	**1.07**	**11**	P	**Pg**	**04 05 08.8**	**-2.6**
ISLY	**Slysaalda** baz=224	**1.08**	**224**	P	**Pg**	**04 05 09.9**	**-2.0**
ISLY	baz=224			S	**Sg**	**04 05 24.9**	**-1.1**
IRJU	**Rjupnafell** baz=210	**1.14**	**210**	P	**Pb**	**04 05 10.9**	**-1.8**
IFED	**Fedgar** baz=240	**1.15**	**241**	P	**Pb**	**04 05 11.0**	**-2.0**
IGRS	**Grimsstaoir** baz=27	**1.17**	**27**	P	**Pb**	**04 05 10.6**	**-2.8**
IMJO	**Mjoaskard** baz=236	**1.20**	**237**	P	**Pb**	**04 05 11.7**	**-2.1**
IGOD	**Go??abunga** baz=222	**1.27**	**222**	P	**Pn**	**04 05 13.3**	**-1.6**
IALF	**Alftagrof** baz=215	**1.37**	**216**	P	**Pn**	**04 05 14.6**	**-1.5**
IGIL	**Gilhagi** baz=16	**1.54**	**16**	P	**Pn**	**04 05 16.4**	**-2.2**
IASB	**`sbjarnarst** baz=276	**1.69**	**277**	P	**Pn**	**04 05 18.9**	**-1.6**
BORG	**Borgarnes** 49nm,0.3s,baz=90,slow=8.2,SNR=82	**1.69**	**277**	Pg	**Pn**	**04 05 18.6**	**-1.9**
BORG	12nm,0.3s,baz=177,slow=22,SNR=8.0			Lg	Lg	04 05 44.3	
BORG	**Borgarnes**	**1.69**	**277**		**Pn**	**04 05 19.2**	**-1.4**
IKRO	**Krokur** baz=254	**1.69**	**254**	P	**Pn**	**04 05 18.9**	**-1.7**
SCO	**Scoresbysund**	**6.15**	**346**	*i* P	**Pn**	**04 06 25.1**	**+3.3**
SCO	**Scoresbysund**	**6.15**	**346**		Pn	04 06 26.1	+4.3
SCO	**Scoresbysund**	**6.15**	**346**	*e*P	**Pn**	**04 06 25.2**	**+3.4**
EKA	**Eskdalemuir Ar** baz=324,slow=13,SNR=53	**11.69**	**136**	Pn	**Pn**	**04 07 36.9**	**-0.8**
ESK	**Eskdalemuir**	**11.69**	**136**	Pn	**Pn**	**04 07 36.4**	**-1.3**
NOA	**NORSAR Array B** 0.0nm,0.3s,baz=294,slow=14,SNR=1.4	**13.49**	**92**	Pn	**Pn**	**04 08 01.0**	**-1.3**
KEV	**Kevo**	**17.63**	**54**		**P**	**04 09 00.4**	**+3.1**
KEV	comp=Z,17nm,1.1s			IAmb	IAmb	04 09 15.7	
FINES	**FINESS Array B** comp=Z,0.0nm,0.3s,baz=294,slow=7.5,SNR=2.5	**19.68**	**79**	P	**Pn**	**04 09 20.6**	**-0.7**
FINES	**FINESS Array B**	**19.68**	**79**	P	**Pn**	**04 09 21.1**	**-0.1**
BRG	**Berggiesshubel** comp=Z,4.8nm,0.9s	**21.35**	**115**	*e*P	**P**	**04 09 41.1**	**+3.0**
BRG	comp=Z,7.9nm,1.1s			*e*		04 09 46.9	
KHC	**Kasperske Hory**	**22.61**	**118**	*e*P	**P**	**04 09 54.0**	**+2.4**
GERES	**GERESS Array B** comp=Z,0.7nm,0.8s,baz=328,slow=6.5,SNR=5.2	**22.89**	**119**	P	**P**	**04 09 54.7**	**+0.1**
GERES	**GERESS Array B**	**22.89**	**119**	P	**P**	**04 09 55.2**	**+0.6**
DAVOX	**Davos/Dischmat** comp=Z,1.1nm,0.6s,baz=318,slow=18,SNR=2.0	**23.25**	**127**	P	**P**	**04 09 58.9**	**+0.4**
EUNU	**Eureka**	**23.74**	**336**	P	**P**	**04 10 04.9**	**+2.0**
EUNU	comp=Z,1.9nm,1.1s			IAmb	IAmb	04 10 24.1	
CTI	**Castel Tesino**	**24.50**	**125**	P	**P**	**04 10 09.9**	**-0.3**
CTI	comp=Z,4.5nm,0.9s			IAmb	IAmb	04 10 19.6	
VYHS	**Vyhne**	**25.18**	**112**	*e*P	**P**	**04 10 19.8**	**+3.6**
ESDC	**Sonseca Array** comp=Z,0.6nm,0.9s,baz=358,slow=9.3,SNR=2.8	**26.18**	**156**	P	**P**	**04 10 26.2**	**+0.7**
ESDC	**Sonseca Array**	**26.18**	**156**	P	**P**	**04 10 23.3**	**-2.2**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.5s,baz=315,slow=9.1,SNR=2.0	**27.80**	**98**	P	**P**	**04 10 41.0**	**+1.2**
BRTR	**Keskin Array B** comp=Z,1.1nm,0.8s,baz=320,slow=6.4,SNR=4.9	**38.43**	**105**	P	**P**	**04 12 15.2**	**+2.6**
YKA	**Yellowknife Ar** comp=Z,0.8nm,1.0s,baz=46,slow=8.9,SNR=3.0	**39.28**	**313**	P	**P**	**04 12 20.8**	**+1.5**
ILAR	**Eielson Array** comp=Z,1.4nm,1.0s,baz=24,slow=6.9,SNR=8.0	**45.76**	**332**	P	**P**	**04 13 13.1**	**+1.2**
ILAR	**Eielson Array**	**45.76**	**332**	P	**P**	**04 13 14.6**	**+2.7**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.7s,baz=345,slow=6.0,SNR=1.9	**53.07**	**156**	P	**P**	**04 14 08.4**	**+0.1**
PDAR	**Pinedale Array** comp=Z,0.8nm,0.7s,baz=58,slow=8.6,SNR=8.7	**53.23**	**293**	P	**P**	**04 14 09.8**	**+0.3**
PDAR	**Pinedale Array**	**53.23**	**293**	P	**P**	**04 14 08.7**	**-0.9**

*GCG **16** 04:25:41.7±0.9, 13°.69N×92°.39W, h27km±999km, MD4.0*
*MEX **16** 04:25:43.4±0.4, 13°.84N×92°.60W, h16km±211km, MD3.9*
ISC 16 04:25:41.5±4.8, **13°.9N**±0°.2×**92°.4W**±0°.1, **h11**km±20km, **n7**, σ1§**53**/8, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.05**	**9**	*i* P	**Pg**	04 26 00.3	-1.5
THIG				*e*S	**Sg**	**04 26 15.0**	**-0.5**
FUG	**Fuego 3**	**1.66**	**69**	*e*P	Pn	04 26 09.7	-1.0
FUG				*e*S	**Sn**	**04 26 31.5**	**-0.6**
PCG	**Pacaya**	**1.85**	**73**	*e*P	**Pn**	**04 26 13.3**	**-0.2**
PCG				*e*S	**Sn**	**04 26 37.3**	**+0.2**
IXG	**Ixpaco**	**1.96**	**81**	*e*P	Pn	04 26 13.4	-1.6
PCIG		**1.98**	**338**	*e*P	**Pn**	**04 26 14.7**	**-0.4**
PCIG				*e*S	Sn	04 26 35.5	-4.4
NBG	**Las Nubes**	**2.15**	**70**	*e*P	**Pn**	**04 26 18.1**	**+0.5**
CCIG	**Comitan**	**2.42**	**7**	*e*P	**Pn**	**04 26 23.8**	**+2.5**
CCIG				*e*S	**Sn**	**04 26 49.7**	**-1.4**

IDC 16 04:41:11.7±2.9, **6°.02S**×**130°.62E**, **h66**km±38km, **mb3.1/1, mb1 3.5/5, mb1mx3.2/36, mbtmp3.6/5, ML3.6/4, Error ellipse: s-maj=71.7km s-min=23.0km az=88.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 6.1nm,0.3s,baz=179,slow=22,SNR=15	**5.16**	**7**	P	Pn	04 42 27.0	+0.5
SIJI	8.2nm,0.3s,baz=153,slow=22,SNR=15			S	Sn	04 43 19.8	-4.9
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=21,slow=11,SNR=17	**12.95**	**202**	P	Pn	04 44 13.5	+0.5
FITZ	0.4nm,0.3s,baz=311,slow=23,SNR=7.7			S	Sn	04 46 32.4	-3.0
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=348,slow=14,SNR=14	**14.30**	**166**	P	Pn	04 44 29.6	-1.4
WRA	0.2nm,0.3s,baz=79,slow=19,SNR=5.5			S	Sn	04 47 01.5	-6.8
ASAR	**Alice Springs** 0.2nm,0.3s,baz=352,slow=13,SNR=9.9	**17.83**	**170**	P	Pn	04 45 16.4	+0.9
ASAR	0.1nm,0.3s,baz=344,slow=14,SNR=3.3			S	Sn	04 48 27.8	-5.9
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=111,slow=8.0,SNR=2.4	**67.75**	**326**	P	P	04 52 02.1	-0.4

*IDC **16** 04:46:16.4±1.2, 32°.28S×69°.20W, h0km, mb3.6/2, mb1 4.0/5, mb1mx3.7/21, mbtmp3.8/5, ML3.7/3, Error ellipse: s-maj=41.3km s-min=37.4km az=74.0*
*GUC **16** 04:46:32.2±0.8, 31°.61S×69°.43W, h149km±11km, ML4.0*
ISC 16 04:46:33.7±0.9, **31°.55S**±0°.04×**69°.31W**±0°.09, **h129**km±9km, **n27**, σ1§**86**/42, **9C, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**1.38**	**301**	*i*P	**Pn**	**04 47 01.0**	**+0.5**
CO03				*i* S	**Sn**	**04 47 22.6**	**+1.8**
CO03	comp=E,3μm,0.4s			IAML		04 47 24.6	
CO02	**Combarbal**	**1.49**	**283**	*i*P	**Pn**	**04 47 01.9**	**+0.2**
CO02				*i* S	**Sn**	**04 47 24.0**	**+0.9**
CO02	comp=E,4μm,0.3s			IAML		04 47 27.8	
VA03	**San Esteban**	**1.60**	**221**	*e*P	**Pn**	**04 47 02.2**	**-0.7**
VA03				*i* S	**Sn**	**04 47 25.6**	**+0.3**
CO01	**Juntas del Tor**	**1.71**	**336**	*i*P	**Pn**	**04 47 05.5**	**+1.1**
CO01				*i* S	**Sn**	**04 47 30.3**	**+2.5**
CO01	comp=E,1μm,0.9s			IAML		04 47 34.2	
GO04	**Tololo Observa**	**1.88**	**317**	*i*P	**Pn**	**04 47 06.4**	**0.0**
GO04				*i* S	**Sn**	**04 47 32.9**	**+1.5**
GO04	comp=N,1μm,0.4s			IAML		04 47 35.9	
PEL	**Peldehue**	**1.97**	**216**	*e*P	**Pn**	**04 47 06.0**	**-1.3**
PEL				*i* S	**Sn**	**04 47 31.8**	**-1.2**
ROCH	**El Roble**	**2.02**	**225**	*e*P	**Pn**	**04 47 07.1**	**-1.0**
ROCH				*i* S	**Sn**	**04 47 34.1**	**-0.3**
MT03	**Universidad Ad**	**2.19**	**207**	*e*P	**Pn**	**04 47 09.2**	**-0.8**
MT03				*i* S	**Sn**	**04 47 36.8**	**-1.0**
MT05	**Renca**	**2.20**	**213**	*i*P	**Pn**	**04 47 09.2**	**-0.9**
MT05				*i* S	**Sn**	**04 47 37.1**	**-0.8**
MT05	comp=E,816nm,0.4s			IAML		04 47 39.5	
LMEL	**Las Melosas**	**2.41**	**198**	*e*P	**Pn**	**04 47 11.9**	**-1.0**
LMEL				*i* S	Sn	04 47 49.1	+6.1
VA01	**Torpederas**	**2.47**	**233**	*e*P	**Pn**	**04 47 09.7**	**-3.6**
VA01				*i* S	**Sn**	**04 47 40.3**	**-3.6**
AC05	**El Transito**	**2.83**	**343**	*i*P	**Pn**	**04 47 19.0**	**+0.7**
AC05				*i* S	**Sn**	**04 47 53.8**	**+1.2**
AC05	comp=E,301nm,0.4s			IAML		04 47 55.5	
VCA	**Vinchina**	**2.96**	**19**	*e*P	**Pn**	**04 47 19.2**	**-0.8**
VCA				*i* S	**Sn**	**04 47 54.6**	**-1.0**
VCA	comp=E,330nm,0.4s			IAML		04 48 00.9	
BO01	**Tunca**	**3.20**	**207**	*i*P	**Pn**	**04 47 20.6**	**-2.3**
BO01				*i* S	**Sn**	**04 47 56.9**	**-4.0**
BO02	**Sierra Bellavi**	**3.46**	**201**	*i*P	**Pn**	**04 47 24.9**	**-1.4**
BO02				*i* S	**Sn**	**04 48 05.2**	**-1.8**
BO02	comp=E,117nm,0.5s			IAML		04 48 14.9	
AC04	**Llanos de Chal**	**3.67**	**335**	*e*P	**Pn**	**04 47 28.2**	**-1.0**
AC04				*i* S	**Sn**	**04 48 07.8**	**-4.2**
LVC	**Limon Verde** comp=E,1.5nm,0.3s,baz=184,slow=7.9,SNR=12	**8.91**	**2**	Pn	**Pn**	**04 48 36.5**	**-3.4**
LVC	comp=E,0.4nm,0.3s,baz=125,slow=19,SNR=1.2			Sn	**Sn**	**04 50 15.4**	**-3.4**
CPUP	**Villa Florida** comp=E,0.1nm,0.3s,baz=215,slow=18,SNR=1.5	**11.71**	**67**	Pn	Pn	04 49 07.8	-9.0
LPAZ	**La Paz** comp=E,0.2nm,0.3s,baz=200,slow=6.6,SNR=16	**15.23**	**4**	Pn	**Pn**	**04 50 03.4**	**+0.7**
VNA2	**Neumayer--Watz** baz=290,slow=8.3	**51.40**	**158**	P	**P**	**04 55 25.7**	**+0.8**
SNAA	**Sanae**	**53.00**	**159**	P	**P**	**04 55 37.4**	**+0.6**
TXAR	**Lajitas Array** comp=E,0.2nm,0.5s,baz=148,slow=8.6,SNR=5.7	**68.80**	**328**	P	**P**	**04 57 26.7**	**+2.6**
TORD	**Torodi Ar. Bea** comp=E,0.7nm,0.7s,baz=266,slow=5.3,SNR=5.8	**81.20**	**69**	P	**P**	**04 58 35.7**	**+0.2**
WRA	**Warramunga Arr** comp=E,0.3nm,0.8s,baz=156,slow=1.8,SNR=5.9	**124.00**	**207**	PKP	**PKPdf**	**05 05 16.3**	**-1.1**
KURBB	**Kurchatov Arra** comp=E,0.4nm,0.4s,baz=300,slow=2.9,SNR=5.4	**149.52**	**42**	PKPbc	**PKiKP**	**05 06 08.8**	**+0.4**
ZALV	**Zalesovo Beam** comp=E,1.6nm,0.5s,baz=298,slow=3.0,SNR=7.5	**150.94**	**32**	PKPbc	**PKPbc**	**05 06 11.6**	**+0.9**
MKAR	**Makanchi Array** comp=E,0.4nm,0.6s,baz=352,slow=8.7,SNR=3.7	**153.42**	**47**	PKPbc	**PKPbc**	**05 06 15.6**	**-1.0**

*EAF **16** 05:04:51.2±0.3, 22°.65S×26°.33E, h10km, MD4.0*
BUL 16 05:04:54.3±1.1, **22°.59S**×**26°.20E**, **h10**km±999km, **MD4.0, Botswana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**2.47**	**193**	*i* S	Sn	05 06 00.1	-5.0
LBTB	**Lobatse**	**2.47**	**193**	*i* S	Sn	05 06 00.1	-5.0
BLWY	**Bulawayo**	**3.32**	**43**	*i* P	Pn	05 05 44.7	-1.8
BLWY				*i* S	Sn	05 06 19.9	-6.2
BLWY	**Bulawayo**	**3.32**	**43**	*i* P	Pn	05 05 42.4	-4.1
BLWY				*i* S	Sn	05 06 19.9	-6.2
TSUM	**Tsumeb**	**8.73**	**291**	*i* P	Pn	05 06 57.6	-3.2
TSUM	**Tsumeb**	**8.73**	**291**	*i* P	Pn	05 06 57.6	-3.2

*DDA **16** 05:09:07.4, 36°.81N×28°.31E, h8km±1km, ML1.6*
ISK 16 05:09:07.3, 36°.76N×28°.32E, h11km, **ML2.0**/5, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.06**	**282**	PG	Pg	05 09 09.9	+0.3
TURN				SG	Sg	05 09 11.6	+0.3
TURN	**Turunc**	**0.06**	**282**	*i* P	Pg	05 09 09.9	+0.4
TURN				*i* S	Sg	05 09 11.3	0.0
TURN	comp=N,301nm,0.2s			IAML		05 09 12.0	
TURN	comp=E,310nm,0.3s			IAML		05 09 12.0	
DALY	**Dalyan (Mula)**	**0.27**	**78**	PG	Pg	05 09 13.3	+0.4
DALY				SG	Sg	05 09 17.7	+1.1
DALY	**Dalyan (Mula)**	**0.27**	**78**	*i* P	Pg	05 09 13.1	+0.2
DALY				*i* S	Sg	05 09 16.6	+0.1
DALY	comp=N,123nm,0.2s			IAML		05 09 18.0	
DALY	comp=E,60nm,0.2s			IAML		05 09 18.0	
YER	**Yerkesik**	**0.37**	**355**	PG	Pg	05 09 14.8	0.0
YER				SG	Sb	05 09 21.0	-0.8
ARG	**Arkhangelos**	**0.57**	**196**	PG	Pg	05 09 18.6	+0.3
ARG				SG	Sb	05 09 27.6	+0.3
DAT	**Datca**	**0.60**	**267**	PG	Pg	05 09 19.3	+0.3
DAT				SG	Sb	05 09 28.2	-0.1
DAT	**Datca**	**0.60**	**267**	*i* P	Pg	05 09 19.2	+0.3
DAT				*i* S	Sb	05 09 28.2	-0.1
FETY	**Fethiye**	**0.62**	**101**	PG	Pb	05 09 19.9	-0.3
FETY				SG	Sb	05 09 28.8	-0.2
FETY	**Fethiye**	**0.62**	**101**	*i* P	Pb	05 09 20.2	0.0
FETY				*i* S	Sg	05 09 26.5	-1.2
TAVA	**DENIZLI_Tavas**	**0.85**	**34**	*i* P	Pg	05 09 23.9	+0.2
TAVA				*i* S	Sg	05 09 34.4	-0.3
GOLH	**Golhisar**	**1.10**	**64**	*i* P	Pn	05 09 29.1	+0.4
GOLH				*i* S	Sg	05 09 43.2	+0.4
GOLH	comp=N,10nm,1.1s			IAML		05 09 57.0	
AKAS	**Kas**	**1.16**	**117**	*i* P	Pg	05 09 31.7	+2.0
AKAS				*i* S	Sn	05 09 47.9	+2.4
AKAS	comp=E,10nm,0.6s			IAML		05 09 53.0	
AKAS	comp=N,20nm,1.2s			IAML		05 10 08.0	

ATH 16 05:09:56.4, 35°.51N×26°.74E, h21km±3km, **ML1.5**/2, **Error ellipse: s-maj=5.8km s-min=1.0km az=157.0, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.34**	**83**	P	Pb	05 10 04.0	+0.3
KARP				S	Sb	05 10 09.0	+0.3
KARP	comp=N,271μm,0.1s			AML	AML	05 10 11.9	
KARP	comp=E,277μm,0.1s			AML	AML	05 10 12.1	
ZKR	**Zakros**	**0.58**	**228**	P	Pb	05 10 07.8	-0.1
ZKR				S	Sb	05 10 16.2	+0.5
ZKR	comp=E,132μm,0.3s			AML	AML	05 10 18.6	
ZKR	comp=N,60μm,0.2s			AML	AML	05 10 19.6	
NPS	**Neapolis**	**0.95**	**256**	P	Pn	05 10 14.5	0.0
NPS				S	Sn	05 10 28.5	+1.0
LAST	**Lasithi**	**1.09**	**252**	P	Pb	05 10 17.0	+0.5
LAST				S	Sn	05 10 32.2	+1.3
AMGA	**Amorgos Island**	**1.49**	**333**	P	Pb	05 10 23.9	+0.5
IDI	**Anoyia**	**1.53**	**262**	P	Pb	05 10 24.8	+0.8

IDC 16 05:54:06.3±3.4, **53°.69N**×**90°.43E**, **h0**km, **mb1 2.9**/3, **mb1mx2.8**/38, **mbtmp2.9**/3, **ML2.3**/3, **Error ellipse: s-maj=28.3km s-min=23.4km az=55.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=88,slow=310,SNR=1.8	**3.34**	**277**	*i*		06 15 50.0	
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=93,slow=16,SNR=2.5	**3.34**	**277**	Pn	Pn	05 55 01.5	+1.8
ZALV	0.2nm,0.3s,baz=96,slow=32,SNR=1.5			Lg	Lg	05 55 50.5	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=63,slow=14,SNR=4.2	**7.94**	**252**	Pn	Pn	05 56 02.5	-0.4
KURBB	0.0nm,0.3s,baz=68,slow=27,SNR=2.6			Sn	Sn	05 57 32.2	-1.0
KURBB	0.0nm,0.3s,baz=69,slow=32,SNR=1.8			Lg	Lg	05 58 18.3	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=34,slow=15,SNR=6.9	**8.65**	**220**	Pn	Pn	05 56 13.1	+0.5
MKAR	0.0nm,0.3s,baz=37,slow=25,SNR=2.5			Sn	Sn	05 57 51.1	+0.3
MKAR	baz=43,slow=28,SNR=1.7			Lg	Lg	05 58 37.4	

*IDC **16** 06:42:46.5±1.1, 0°.80N×146°.41E, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.1/39, mbtmp4.2/11, ML3.0/2, MS3.2/8, Ms1 3.2/8, ms1mx2.9/23, Error ellipse: s-maj=31.7km s-min=21.4km az=103.0*
*NEIC **16** 06:42:48.6±1.7, 0°.75N±0°.09×146°.40E±0°.10, h16km±2km, mb4.4/12, Error ellipse: s-maj=15.4km s-min=11.9km az=130.0*
ISC 16 06:42:48.1±0.6, **0°.75N**±0°.08×**146°.4E**±0°.1, **h10**km, **n51**, σ1§**41**/36, **mb4.3**/15, **MS3.3**/5, **Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura** 0.7nm,0.3s,baz=315,slow=24,SNR=1.6	**6.59**	**241**	Pn	**Pn**	**06 44 26.2**	**+1.1**
JAY	0.6nm,0.3s,baz=61,slow=11,SNR=1.8			Sn	Sn	06 45 28.1	-12
KRVT	**Keravat (AS076** comp=Z,207nm,21.4s,baz=247,slow=36	**7.50**	**132**	LR	LR	06 47 15.0	
PMG	**Port Moresby** 3.0nm,0.3s,baz=0.0,slow=4.0,SNR=2.5	**10.11**	**176**	Pn	**Pn**	**06 45 12.0**	**-1.4**
PMG	**Port Moresby**	**10.11**	**176**	Pn	**Pn**	**06 45 12.2**	**-1.2**
GUMO	**Guam** comp=Z,28nm,19.5s,baz=133,slow=38	**12.86**	**353**	LR	LR	06 50 54.4	
PATS	**Pohnpei**	**13.30**	**63**	Pn	**Pn**	**06 45 58.2**	**+1.1**
HNR	**Honiara** comp=Z,151nm,18.5s,baz=276,slow=36	**16.83**	**127**	LR	LR	06 52 56.4	
SAUI	**Saumlaki**	**17.41**	**240**	P	**Pn**	**06 46 51.9**	**+0.6**
H11S3	**WAKE ISLAND Hy** baz=229,slow=75,SNR=6.0	**26.57**	**47**	T	T	07 16 20.8	
H11S2	**WAKE ISLAND Hy** baz=229	**26.59**	**47**	T	T	07 16 22.1	
H11S1	**WAKE ISLAND Hy** baz=229,slow=75,SNR=3.6	**26.59**	**47**	T	T	07 16 20.8	
H11N1	**WAKE ISLAND Hy** baz=228	**27.50**	**45**	T	T	07 17 27.9	
H11N2	**WAKE ISLAND Hy** baz=228	**27.52**	**45**	T	T	07 17 26.7	
H11N3	**WAKE ISLAND Hy** baz=228	**27.52**	**45**	T	T	07 17 25.5	
FITZ	**Fitzroy Crossi** 2.8nm,0.7s,baz=149,slow=14,SNR=2.2	**27.74**	**227**	P	**P**	**06 48 36.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**27.74**	**227**	P	**P**	**06 48 36.0**	**-1.1**
YOJ	**Yonaguni jima**	**32.71**	**318**	P	**P**	**06 49 21.2**	**+0.2**
STKA	**Stephens Creek** comp=Z,75nm,18.6s,baz=290,slow=36	**32.77**	**188**	LR	LR	07 02 25.4	
FORT	**Forrest**	**35.90**	**208**	P	**P**	**06 49 49.4**	**+0.9**
MJAR	**Matsushiro Arr** comp=Z,13nm,18.7s,baz=255,slow=34	**36.43**	**349**	LR	LR	07 03 20.4	
KSRS	**Korea Array** 1.0nm,0.7s,baz=159,slow=10.0,SNR=5.9	**40.33**	**337**	P	**P**	**06 50 24.6**	**-1.2**
MORW	**Morawa**	**41.52**	**222**	P	**P**	**06 50 35.7**	**-0.1**
MORW	comp=Z,9.8nm,1.2s			IAmb	IAmb	06 50 44.5	
USRK	**Ussuriysk Ar.** comp=Z,1.5nm,0.8s,baz=178,slow=11,SNR=5.2	**45.14**	**345**	P	**P**	**06 51 03.6**	**-1.3**
USRK	**Ussuriysk Ar.**	**45.14**	**345**	P	**P**	**06 51 04.2**	**-0.6**
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.3s,baz=114,slow=6.0,SNR=6.9	**49.81**	**294**	P	**P**	**06 51 41.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**49.81**	**294**	P	**P**	**06 51 41.1**	**-0.6**
PETK	**Petropavlovsk-** comp=Z,1.6nm,0.7s,baz=168,slow=7.4,SNR=2.4	**53.02**	**8**	P	**P**	**06 52 05.9**	**+0.8**
PETK				LR	LR	07 16 25.5	
PETK	**Petropavlovsk-**	**53.02**	**8**	P	**P**	**06 52 05.1**	**0.0**
SONM	**Songino Array** comp=Z,1.8nm,0.8s,baz=140,slow=7.4,SNR=9.8	**58.31**	**329**	P	**P**	**06 52 43.2**	**-0.2**
SONM	**Songino Array**	**58.31**	**329**	P	**P**	**06 52 42.6**	**-0.9**
MK31	**Makanchi Array**	**72.00**	**319**	P	**P**	**06 54 11.8**	**-0.4**
MKAR	**Makanchi Array** comp=Z,1.4nm,0.8s,baz=105,slow=6.4,SNR=13	**72.00**	**319**	P	**P**	**06 54 11.9**	**-0.4**
MKAR	**Makanchi Array**	**72.00**

NV11	**Mina Array Sit**	**93.78**	**52**	P	**P**	**06 56 05.8**	**-0.2**
NV11				IAmb	IAmb	06 56 07.2	
	comp=Z,1.2nm,0.8s						
PDAR	**Pinedale Array**	**99.75**	**46**	LR	LR	07 40 43.1	
	comp=Z,15nm,18.4s,baz=299,slow=35						
LPAZ	**La Paz**	**142.59**	**116**	PKP	**PKPdf**	**07 02 21.9**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=297,slow=2.3,SNR=2.0						
LPAZ	**La Paz**	**142.59**	**116**	PKPdf	**PKPdf**	**07 02 20.7**	**-2.6**
CPUP	**Villa Florida**	**145.78**	**140**	PKPbc	**PKPdf**	**07 02 29.5**	**+1.6**
	comp=Z,1.5nm,1.0s,baz=135,slow=1.4,SNR=2.1						
CPUP	**Villa Florida**	**145.78**	**140**		**PKPdf**	**07 02 28.4**	**+0.5**
DBIC	**Dimbokro**	**150.42**	**285**	PKPbc	**PKPdf**	**07 02 40.3**	**+4.5**
	comp=Z,3.3nm,1.0s,baz=6.3,slow=4.2,SNR=3.1						
DBIC	**Dimbokro**	**150.42**	**285**	PKPbc	**PKPdf**	**07 02 39.5**	**+3.6**

NEIC ***16*** *06:43:01.0±1.7,5.1S±0.1×151.7E±0.1, h103km±8km, mb4.4/12, Error ellipse: s-maj=25.3km s-min=7.8km az=126.0*
IDC ***16*** *06:43:01.3±0.6,4.98S×151.35E, h97km±7km, mb4.0/6, mb1 4.3/7, mb1mx3.7/35, mbtmp4.4/7, MS3.3/1, Ms1 3.3/1, ms1mx2.6/16, Error ellipse: s-maj=56.9km s-min=10.4km az=133.0*

ISC 16 06:43:01.7±0.7,5.2S±0.1×151.7E±0.1, h100km, n30, σ1§15/31, mb4.3/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.99**	**22**	P		Pn		06 43 20.3	-1.7
	229nm,0.3s,baz=188,slow=1.4,SNR=49								
KRVT				S		**Sn**		**06 43 36.4**	**-0.9**
	2µm,0.3s,baz=151,slow=22,SNR=26								
RABL	**Rabaul**	**1.15**	**26**			Pn		06 43 22.2	-1.6
PMG	**Port Moresby**	**6.09**	**227**	P		**Pn**		**06 44 29.2**	**-0.1**
	6.7nm,0.3s,baz=46,slow=6.6,SNR=12								
PMG				S		**Sn**		**06 45 36.3**	**-1.3**
	14nm,0.3s,baz=41,slow=23,SNR=13								
PMG	**Port Moresby**	**6.09**	**227**	Pn		**Pn**		**06 44 30.9**	**+1.7**
MTN	**Manton Dam**	**21.62**	**248**	P		**P**		**06 47 44.4**	**+0.5**
MTN				IAmb		IAmb		06 47 47.0	
	comp=Z,38nm,1.1s								
DZM	**Mont Dzumac**	**22.03**	**141**	P		**P**		**06 47 47.9**	**-0.3**
DZM				IAmb		IAmb		06 47 50.1	
	comp=Z,9.8nm,0.9s								
WB0	**Warramunga Arr**	**22.16**	**228**	P		**P**		**06 47 49.1**	**-0.5**
WB0				IAmb		IAmb		06 47 51.2	
	comp=Z,15nm,0.8s								
WR0	**Warramunga Arr**	**22.18**	**227**	P		**P**		**06 47 49.0**	**-0.8**
WR0				IAmb		IAmb		06 47 51.2	
	comp=Z,12nm,0.8s								
WRAB	**Tennant Creek**	**22.30**	**228**	P		**P**		**06 47 50.0**	**-1.0**
WRAB				IAmb		IAmb		06 47 52.8	
	comp=Z,20nm,0.8s								
WB2	**Warramunga Arr**	**22.30**	**228**	P		**P**		**06 47 50.3**	**-0.8**
WB2				IAmb		IAmb		06 47 52.5	
	comp=Z,18nm,0.8s								
WRA	**Warramunga Arr**	**22.31**	**228**	P		**P**		**06 47 50.3**	**-0.9**
	comp=Z,14nm,0.8s,baz=52,slow=9.9,SNR=47								
WRA				ScP		**ScP**		**06 55 11.9**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=46,slow=2.5,SNR=3.8								
WRA				LR		LR		06 55 45.0	
	comp=Z,80nm,21.5s,baz=180,slow=34								
WRA	**Warramunga Arr**	**22.31**	**228**	P		**P**		**06 47 49.4**	**-1.8**
KNRA	**Kununurra**	**24.76**	**243**	P		**P**		**06 48 14.1**	**-0.1**
AS31	**Alice Springs**	**25.07**	**221**	P		**P**		**06 48 17.2**	**+0.2**
ASAR	**Alice Springs**	**25.07**	**221**	P		**P**		**06 48 17.1**	**0.0**
	comp=Z,9.2nm,0.7s,baz=55,slow=8.3,SNR=79								
ASAR				ScP		**ScP**		**06 55 19.5**	**0.0**
	comp=Z,0.8nm,0.8s,baz=57,slow=2.7,SNR=6.2								
ASAR	**Alice Springs**	**25.07**	**221**	P		**P**		**06 48 17.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**28.45**	**241**	P		**P**		**06 48 46.3**	**-1.1**
	comp=Z,8.5nm,0.8s,baz=31,slow=12,SNR=23								
FITZ	**Fitzroy Crossi**	**28.45**	**241**	P		**P**		**06 48 46.6**	**-0.8**
FITZ				IAmb		IAmb		06 49 03.0	
	comp=Z,13nm,1.1s								
FORT	**Forrest**	**33.74**	**218**	P		**P**		**06 49 33.4**	**-0.4**
TUWZ	**Tuamarina**	**41.18**	**154**	P		**P**		**06 50 36.9**	**+0.5**
MKAR	**Makanchi Array**	**79.90**	**319**	P		P		06 54 56.9	-2.7
	comp=Z,0.7nm,0.8s,baz=114,slow=3.5,SNR=2.2								
ILAR	**Eielson Array**	**82.98**	**22**	P		**P**		**06 55 15.2**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=253,slow=5.5,SNR=4.7								
QSPA	**South Pole Qui**	**84.73**	**180**	P		**P**		**06 55 23.9**	**-0.6**
NVAR	**Mina Array Bea**	**93.25**	**52**	P		**P**		**06 56 05.6**	**0.0**
	comp=Z,1.5nm,0.7s,baz=255,slow=6.3,SNR=16								
PDAR	**Pinedale Array**	**99.98**	**48**	P		**Pdif**		**06 56 34.9**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=180,slow=0.6,SNR=4.7								
PDAR	**Pinedale Array**	**99.98**	**48**	Pdif		**Pdif**		**06 56 35.1**	**-0.9**
GERES	**GERESS Array B**	**123.81**	**328**	PKP		**PKPdf**		**07 01 47.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=47,slow=1.9,SNR=2.4								
GERES	**GERESS Array B**	**123.81**	**328**	PKPdf		**PKPdf**		**07 01 47.1**	**-1.1**
TORD	**Torodi Ar. Bea**	**149.35**	**287**	PKPbc		**PKPdf**		**07 02 38.8**	**+3.2**
	comp=Z,0.5nm,0.3s,baz=82,slow=2.2,SNR=10.0								
TORD	**Torodi Ar. Bea**	**149.35**	**287**	PKPbc		**PKPdf**		**07 02 38.2**	**+2.7**

NEIC ***16*** *06:45:58.0±2.1, 18.95N±0.06×67.02W±0.02, h28km±12km, Error ellipse: s-maj=9.5km s-min=1.2km az=195.0*
RSPR ***16*** *06:45:58.2, 19.00N×67.07W, h8km±1km, MD3.2/15*

ISC 16 06:45:58.4±1.4, 18.94N±0.06×67.04W±0.04, h29km, n42, σ0§88/47, 15C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.47**	**188**	⇑*eP*		**Pb**		**06 46 07.9**	**-0.4**
AGPR	**Aguadilla, PR**	**0.47**	**188**	*eS*		**Sb**		**06 46 16.5**	**+1.4**
AGPR	**Aguadilla, PR**	**0.47**	**188**	Pg		**Pb**		**06 46 07.9**	**-0.4**
AGPR				Sg		**Sb**		**06 46 15.7**	**+0.6**
AOPR	**Arecibo Observ**	**0.65**	**155**	⇑*eP*		**Pb**		**06 46 10.7**	**-0.5**
AOPR	**Arecibo Observ**	**0.65**	**155**	*eS*		**Sb**		**06 46 21.2**	**+1.2**
AOPR	**Arecibo Observ**	**0.65**	**155**	Pg		**Pb**		**06 46 10.6**	**-0.6**
AOPR				Sg		**Sb**		**06 46 20.9**	**+1.0**
EMPR	**Esperanza - Ma**	**0.67**	**133**	⇑*eP*		**Pb**		**06 46 11.8**	**+0.2**
EMPR	**Esperanza - Ma**	**0.67**	**133**	Pg		**Pb**		**06 46 11.6**	**+0.1**
MPR	**Mayaguez**	**0.73**	**187**	Pg		**Pb**		**06 46 11.4**	**-1.1**
LSP	**Las Mesas**	**0.76**	**183**	⇑*eP*		**Pn**		**06 46 12.5**	**-0.6**
LSP	**Las Mesas**	**0.76**	**183**			**Pn**		**06 46 12.5**	**-0.6**
CRPR	**Cabo Rojo, PR**	**0.93**	**184**	⇑*eP*		**Pn**		**06 46 14.9**	**-0.5**
CRPR	**Cabo Rojo, PR**	**0.93**	**184**	*eS*		**Sn**		**06 46 28.8**	**+1.0**
CRPR	**Cabo Rojo, PR**	**0.93**	**184**	Pg		**Pn**		**06 46 14.7**	**-0.7**
MLPR	**Magueyes Islan**	**0.96**	**180**	*eP*		**Pn**		**06 46 14.4**	**-1.5**
MLPR	**Magueyes Islan**	**0.96**	**180**	*eS*		**Sn**		**06 46 28.4**	**-0.3**
MLPR	**Magueyes Islan**	**0.96**	**180**	Pg		**Pn**		**06 46 14.2**	**-1.7**
CELP	**Cerrillos**	**0.96**	**153**	⇑*eP*		**Pn**		**06 46 15.8**	**-0.2**
CELP	**Cerrillos**	**0.96**	**153**	*eS*		**Sn**		**06 46 29.2**	**+0.5**
CELP	**Cerrillos**	**0.96**	**153**			**Pn**		**06 46 15.8**	**-0.2**
CELP						**Sn**		**06 46 29.2**	**+0.5**
OBIP	**Obispado Ponce**	**0.98**	**155**	⇑*eP*		**Pn**		**06 46 15.0**	**-1.2**
OBIP	**Obispado Ponce**	**0.98**	**155**	*eS*		**Sn**		**06 46 29.8**	**+0.7**
OBIP	**Obispado Ponce**	**0.98**	**155**	Pg		**Pn**		**06 46 14.8**	**-1.4**
OBIP				Sg		**Sn**		**06 46 29.4**	**+0.3**
GCPR	**Guaynabo City**	**1.10**	**124**	⇑*eP*		**Pn**		**06 46 17.2**	**-0.6**
GCPR	**Guaynabo City**	**1.10**	**124**	Pn		**Pn**		**06 46 17.0**	**-0.9**
CBYP	**Canovanas**	**1.30**	**120**	⇑*eP*		**Pn**		**06 46 20.1**	**-0.6**
CBYP	**Canovanas**	**1.30**	**120**	Pn		**Pn**		**06 46 19.8**	**-0.9**
IGPR	**InterUniversit**	**1.31**	**137**	⇑*eP*		**Pn**		**06 46 21.1**	**+0.3**
IGPR	**InterUniversit**	**1.31**	**137**	Pn		**Pn**		**06 46 22.4**	**+1.6**
PDPR	**Patillas Dam,**	**1.33**	**133**	Pn		**Pn**		**06 46 20.5**	**-0.5**
PCDR	**Punta Cana, DR**	**1.34**	**252**	⇑*eP*		**Pn**		**06 46 20.2**	**-0.9**
PCDR	**Punta Cana, DR**	**1.34**	**252**	Pn		**Pn**		**06 46 20.0**	**-1.1**
HUMP	**Col San Antoni**	**1.38**	**125**	⇑*eP*		**Pn**		**06 46 21.6**	**-0.1**
HUMP	**Col San Antoni**	**1.38**	**125**	Pn		**Pn**		**06 46 21.4**	**-0.4**
MTP	**Monte Pirata**	**1.64**	**120**	⇑*eP*		**Pn**		**06 46 25.2**	**-0.1**
MTP	**Monte Pirata**	**1.64**	**120**	Pn		**Pn**		**06 46 24.8**	**-0.5**
CUPR	**Culebra, Puert**	**1.78**	**110**	⇑*eP*		**Pn**		**06 46 26.6**	**-0.6**
CUPR	**Culebra, Puert**	**1.78**	**110**	*eS*		**Sn**		**06 46 49.4**	**+0.5**
CUPR	**Culebra, Puert**	**1.78**	**110**	Pn		**Pn**		**06 46 26.8**	**-0.4**
CUPR						**Pb**		**06 46 28.2**	**-2.2**
STVI	**Saint Thomas**	**2.06**	**106**	Pn		**Pn**		**06 46 31.6**	**+0.5**
DR12	**Loma Pena Alta**	**2.22**	**267**	Pn		**Pn**		**06 46 33.5**	**+0.2**
SDDR	**Presa de Saban**	**4.02**	**271**	Pn		**Pn**		**06 46 58.8**	**+0.8**

SOME ***16*** *07:09:47.4, 44.42N×74.42E*
NNC ***16*** *07:09:48.2±0.5, 44.44N×74.37E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=5.1km s-min=3.4km az=50.0, Suspected Mining explosion.*
KNET ***16*** *07:09:49.9±0.4, 44.27N×74.22E, h5km±2km, ml2.3, Error ellipse: s-maj=5.7km s-min=2.4km az=66.0*

ISC 16 07:09:48.3±0.8, 44.39N±0.03×74.36E±0.03, h0km, n32, σ0§71/44, 18C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTLS	**Baital**	**0.69**	**341**	P		**Pg**		**07 10 00.5**	**-1.0**
	12nm,0.2s								
BTLS				S		**Sg**		**07 10 09.3**	**-1.0**
	16nm,0.1s								
USP	**Ospenovka**	**1.13**	**175**	⇑P		**Pg**		**07 10 09.6**	**-0.4**
	10nm,0.1s,SNR=42								
USP				⇑S		**Sg**		**07 10 24.8**	**+0.2**
	16nm,0.2s								
KRBS	**Karabastau**	**1.18**	**126**	P		**Pg**		**07 10 10.6**	**-0.3**
	25nm,0.2s								
KRBS				S		**Sg**		**07 10 26.0**	**-0.1**
	6.0nm,0.2s								
CHMS	**Chumysh**	**1.42**	**168**	⇑P		**Pn**		**07 10 14.9**	**-0.5**
	13nm,0.2s,SNR=19								
DGS	**Degeres**	**1.54**	**138**	P		**Pb**		**07 10 17.3**	**-0.5**
	30nm,0.3s								
DGS				S		**Sn**		**07 10 38.6**	**+0.7**
	67nm,0.4s								
TKM2	**Tokmak 2**	**1.73**	**148**	⇑Pg		**Pb**		**07 10 20.6**	**-0.4**
	3.9nm,0.3s								
TKM2				⇑Lg		Lg		07 10 44.7	
	2.8nm,0.2s								
AAK	**Ala-Archa**	**1.76**	**177**	⇑P		**Pb**		**07 10 21.2**	**-0.3**
	16nm,0.3s,SNR=14								
AAK				⇑S		**Sg**		**07 10 44.8**	**0.0**
	35nm,0.4s								
AAK	**Ala-Archa**	**1.76**	**177**	⇑Pg		**Pb**		**07 10 21.0**	**-0.5**
	11nm,0.4s								
AAK				⇑Lg		Lg		07 10 45.2	
	13nm,0.4s								
EKS2	**Erkin-Say**	**1.78**	**194**	⇑P		**Pb**		**07 10 21.3**	**-0.6**
	25nm,0.2s,SNR=22								
EKS2				⇓S		**Sg**		**07 10 45.6**	**+0.1**
	22nm,0.2s								
KST	**Kastek**	**1.78**	**139**	P		**Pb**		**07 10 21.2**	**-0.7**
	12nm,0.1s								
KST				S		**Sg**		**07 10 45.6**	**+0.1**
	13nm,0.3s								
KBK	**Karagaybulak**	**1.79**	**166**	⇑P		**Pb**		**07 10 21.9**	**-0.2**
	22nm,0.1s,SNR=14								
KBK				⇑S		**Sg**		**07 10 47.0**	**+1.2**
	46nm,0.2s								
KTBS	**Karatobe**	**1.81**	**111**	P		**Pb**		**07 10 22.3**	**-0.1**
	34nm,0.2s								
KTBS				S		**Sg**		**07 10 47.4**	**+0.9**
	37nm,0.2s								
MRKS	**Merke**	**1.84**	**207**	P		**Pb**		**07 10 22.5**	**-0.5**
	10.0nm,0.3s								
MRKS				S		**Sg**		**07 10 47.0**	**-0.5**
	30nm,0.2s								
MTBS	**Maitube**	**1.96**	**129**	Pg		**Pb**		**07 10 24.8**	**-0.1**
	23nm,0.3s								
MTBS				Lg		Lg		07 10 52.0	
	55nm,0.2s								
CHKK	**Chushkaly**	**1.97**	**105**	Pg		**Pb**		**07 10 24.0**	**-1.0**
	9.7nm,0.3s								
CHKK				Lg		Lg		07 10 50.4	
	40nm,0.3s								
IZV	**Izvestkoviy**	**2.12**	**129**	Pg		**Pb**		**07 10 27.3**	**-0.4**
	18nm,0.4s								
IZV				Lg		Lg		07 10 54.9	
	18nm,0.2s								
UCH	**Uchtor**	**2.17**	**177**	⇑P		**Pb**		**07 10 28.2**	**-0.5**
	8.0nm,0.3s,SNR=16								
MDOK	**Medeo**	**2.30**	**121**	Pg		**Pb**		**07 10 30.5**	**-0.4**
	8.2nm,0.4s								
MDOK				Lg		Lg		07 11 01.2	
	8.4nm,0.4s								
KOTS	**Kotyrbulak**	**2.31**	**119**	Pg		**Pb**		**07 10 30.3**	**-0.5**
	19nm,0.3s								
KOTS				Lg		Lg		07 11 00.8	
	25nm,0.6s								
AML	**Almayashu**	**2.31**	**192**	⇑P		**Pb**		**07 10 30.0**	**-1.1**
	15nm,0.3s,SNR=10								
KZA	**Kyzart**	**2.40**	**164**	⇓P		**Pb**		**07 10 32.1**	**-0.6**
	8.7nm,0.2s,SNR=8.8								
ARXS	**Arharly**	**2.50**	**93**	Pg		**Pb**		**07 10 33.0**	**-1.1**
	10nm,0.4s								
ARXS				Lg		Lg		07 11 06.2	
	32nm,0.4s								
KK31	**Karatay Array**	**3.07**	**247**	Pn		**Pn**		**07 10 38.1**	**0.0**
	0.2nm,0.2s,baz=242,slow=46,SNR=6.2								
KK31				Pg		**Pg**		**07 10 47.1**	**-0.1**
	0.5nm,0.3s,baz=65,slow=16,SNR=9.9								
KK31				⇑Lg		Lg		07 11 22.7	
	1.1nm,0.3s,baz=60,slow=30,SNR=8.6								
SATY	**Saty**	**3.22**	**113**	Pg		**Pb**		**07 10 47.0**	**+0.5**
	4.8nm,0.3s								
SATY				Lg		Lg		07 11 29.4	
	8.4nm,0.2s								
UZB	**Uzunbulak**	**3.60**	**109**	Pg		**Pb**		**07 10 53.5**	**+0.6**
	4.7nm,0.2s								
UZB				Lg		Lg		07 11 41.6	
	5.2nm,0.9s								
KAPS	**Kapalarasan**	**3.67**	**74**	Pg		**Pb**		**07 10 53.7**	**-0.3**
	5.2nm,0.3s								
KAPS				Lg		Lg		07 11 41.7	
	4.3nm,0.3s								
PDGK	**Podgornoye**	**3.86**	**104**	⇓Pg		**Pb**		**07 10 59.2**	**+1.8**
	2.1nm,0.5s								
PDGK				⇓Lg		Lg		07 11 53.2	
	1.8nm,0.6s								
IUG	**Iuzhnay**	**3.88**	**236**	Pg		**Pb**		**07 10 58.9**	**+1.3**
	7.7nm,0.5s								
IUG				Lg		Lg		07 11 50.7	
	8.6nm,0.6s								
DJR	**Jarkent**	**3.90**	**89**	Pg		**Pb**		**07 10 57.5**	**-0.5**
	3.2nm,0.3s								
DJR				Lg		Lg		07 11 48.1	
	2.7nm,0.5s								
OTUK	**Ortayu**	**4.10**	**341**	⇑Pg		**Pb**		**07 11 02.4**	**+1.0**
	0.5nm,0.4s								
OTUK				⇑Lg		Lg		07 11 55.6	
	1.7nm,0.5s								
KTMS	**Ketmen**	**4.43**	**100**	Pg		**Pb**		**07 11 08.2**	**+1.1**
	0.2nm,0.1s								
KTMS				Lg		Lg		07 12 06.6	
	2.1nm,0.3s								
MK31	**Makanchi Array**	**6.06**	**64**	⇑Pn		**Pn**		**07 11 19.7**	**+0.5**
	0.5nm,0.3s,baz=241,slow=15,SNR=30								
MK31				⇓Sn		**Sn**		**07 12 29.1**	**-0.1**
	0.3nm,0.4s,baz=240,slow=29,SNR=4.4								
MK31				⇓Lg		Lg		07 12 59.4	
	0.2nm,0.4s,baz=242,slow=27,SNR=4.5								

THR ***16*** *07:42:23.5±0.3, 27.83N×58.56E, h15km, ML3.2*
TEH ***16*** *07:42:40.0, 27.88N×57.17E, h5km, ML2.9*

ISC 16 07:42:13.8±2.8, 27.0N±0.2×58.98E±0.09, h10km, n11, σ1§53/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**1.46**	**310**	*e*Pg		Pg		07 42 50.0	+8.2
KHNJ				*e*				07 43 07.7	
GENO	**Geno**	**2.52**	**279**	*e*		**Pg**		**07 43 02.3**	**+0.1**
BNDS	**Bandar-Abbas**	**2.53**	**279**	*e*Pn		**Pg**		**07 43 01.1**	**-1.2**
BNDS				IAML				07 43 03.1	
	comp=N,153nm,0.2s								
BNDS				IAML				07 43 03.2	
	comp=E,159nm,0.1s								
ZHSF	**Zahedan**	**3.03**	**31**	*e*Pn		**Pb**		**07 43 07.6**	**-0.4**
CHMN	**Cheshme madani**	**3.10**	**336**	*e*		**Sn**		**07 43 38.0**	**-2.4**
NGRK	**Negar Kerman**	**3.28**	**323**	*e*Pn		**Pb**		**07 43 13.3**	**+1.0**
NGRK				*e*				07 43 49.3	
TVBK	**TV Kerman**	**3.54**	**327**	*e*Pn		**Pb**		**07 43 18.6**	**+1.8**
TVBK				*e*				07 44 00.1	
KHGB	**Koh Gabri**	**4.00**	**327**	*e*Pn		**Pb**		**07 43 25.6**	**+1.1**
KHGB				*e*				07 44 19.4	
BSRN	**Basiran**	**4.93**	**1**	*e*Pn		**Pn**		**07 43 28.6**	**+0.5**
BSRN				IAML				07 44 34.5	
	comp=E,14nm,0.3s								
YZKH	**Yazd**	**6.57**	**326**	*e*Pn		**Pn**		**07 43 49.9**	**-0.7**
SHRT	**Shahrakht**	**6.70**	**9**	*e*Pn		**Pn**		**07 43 54.0**	**+1.6**

KRNET ***16*** *07:44:03.7±0.1, 41.07N×78.61E, h16km, mb2.9*
SOME ***16*** *07:44:03.8, 41.13N×78.67E, h5km*
NNC ***16*** *07:44:05.5±1.6, 41.15N×78.71E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=11.3km s-min=6.8km az=165.0*

ISC 16 07:44:05.3±2.1, 41.15N±0.08×78.66E±0.04, h0km±11km, n58, σ1§07/89, 13C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.87**	**312**	⇓*iP*		**Pg**		**07 44 20.7**	**-1.2**
	baz=18								
TARG				⇓*iS*		**Sg**		**07 44 33.2**	**0.0**
	baz=18								
PRZ	**Przheval'sk**	**1.35**	**352**	⇑*eP*		**Pn**		**07 44 30.4**	**-1.1**
	baz=54								
PRZ				⇑*iS*		**Sg**		**07 44 49.7**	**+1.1**
	baz=54								
KDJ	**Kajisay**	**1.48**	**312**	⇑*iP*		**Pn**		**07 44 31.6**	**-1.7**
	baz=15								
KDJ				⇑*iS*		**Sn**		**07 44 52.1**	**-1.4**
	baz=15								
ANVS	**Anan'yevo**	**1.79**	**336**	⇓*eP*		**Pn**		**07 44 38.0**	**+0.3**
	baz=38								
ANVS				⇓*iS*		**Sg**		**07 45 02.9**	**0.0**
	baz=38								
SATY	**Saty**	**1.92**	**354**	*eP*		**Pb**		**07 44 41.3**	**+0.1**
	12nm,0.3s								
SATY				*eS*		**Sg**		**07 45 09.3**	**+2.3**
	48nm,0.2s								
SATY	**Saty**	**1.92**	**354**	Pg		**Pb**		**07 44 41.0**	**-0.2**
	13nm,0.5s								
SATY				Lg		Lg		07 45 08.5	
	48nm,0.2s								
UZB	**Uzunbulak**	**2.02**	**8**	*eP*		**Pb**		**07 44 42.2**	**-0.7**
	4.5nm,0.4s								
UZB				*eS*		**Sg**		**07 45 10.7**	**+0.6**
	38nm,0.3s								
UZB	**Uzunbulak**	**2.02**	**8**	Pg		**Pb**		**07 44 41.8**	**-1.1**
	5.8nm,0.4s								
UZB				Lg		Lg		07 45 10.1	
	59nm,0.6s								
SHLS	**Shalkode**	**2.09**	**16**	*eP*		**Pg**		**07 44 45.0**	**-0.4**
	21nm,0.3s								
SHLS				*eS*		**Sg**		**07 45 15.5**	**+3.0**
	99nm,0.4s								
SHLS	**Shalkode**	**2.09**	**16**	Pg		**Pg**		**07 44 45.0**	**-0.4**
	21nm,0.3s								
SHLS				Lg		Lg		07 45 15.8	
	99nm,0.4s								
ULHL	**Ulahol**	**2.12**	**302**	⇓*eP*		**Pn**		**07 44 42.4**	**+0.3**
	baz=4.0								
ULHL				⇓*iS*		**Sb**		**07 45 10.6**	**-1.0**
	baz=4.0								
PDGK	**Podgornoye**	**2.27**	**15**	Pg		**Pb**		**07 44 45.2**	**-1.9**
	3.2nm,0.2s								
PDGK				Lg		Lg		07 45 15.9	
	41nm,0.5s								
PDGK	**Podgornoye**	**2.27**	**15**	⇓Pg		**Pg**		**07 44 50.3**	**+1.7**
	4.4nm,0.4s								
PDGK				⇓Lg		Lg		07 45 18.2	
	65nm,0.5s								
TNSS	**Tian-Shan**	**2.28**	**327**	*eP*		**Pb**		**07 44 47.5**	**0.0**
	23nm,0.2s								
TNSS				*eS*		**Sg**		**07 45 19.5**	**+1.0**
	60nm,0.3s								
TNSS	**Tian-Shan**	**2.28**	**327**	Pg		**Pb**		**07 44 47.4**	**-0.1**
	23nm,0.2s								
TNSS				Lg		Lg		07 45 19.5	
	60nm,0.3s								
MDOK	**Medeo**	**2.34**	**330**	*eP*		**Pb**		**07 44 47.2**	**-1.2**
	9.9nm,0.4s								
MDOK				*eS*		**Sb**		**07 45 19.1**	**+1.1**
	102nm,0.7s								
MDOK	**Medeo**	**2.34**	**330**	Pg		**Pb**		**07 44 47.5**	**-1.0**
	24nm,0.6s								
MDOK				⇓Lg		Lg		07 45 20.2	
	120nm,0.8s								
MDOK	**Medeo**	**2.34**	**330**	Pg		**Pb**		**07 44 47.5**	**-1.0**
	29nm,0.7s								
MDOK				Lg		Lg		07 45 19.5	
	102nm,0.7s								
KOTS	**Kotyrbulak**	**2.38**	**332**	*eP*		**Pb**		**07 44 49.3**	**+0.2**
	36nm,0.4s								
KOTS				*eS*		**Sg**		**07 45 22.6**	**+0.8**
	218nm,0.5s								
KOTS	**Kotyrbulak**	**2.38**	**332**	Pg		**Pb**		**07 44 49.3**	**+0.2**
	34nm,0.5s								
KOTS				Lg		Lg		07 45 22.6	
	218nm,0.5s								
IZV	**Izvestkoviy**	**2.43**	**322**	*eP*		**Pb**		**07

ARXS				*e*S		**Sg**	**07 45 44.2**	**-1.4**
	52nm,0.6s								
ARXS	**Arharly**	**3.12**	**349**	Pg		**Pb**	**07 45 02.0**	**+0.3**
	17nm,0.5s								
ARXS				Lg		Lg	07 45 44.2		
	52nm,0.6s								
DJR	**Jarkent**	**3.29**	**14**	*e*P		**Pb**	**07 45 05.0**	**+0.5**
	4.8nm,0.4s								
DJR				*e*S		**Sg**	**07 45 49.5**	**-1.4**
	16nm,0.2s								
DJR	**Jarkent**	**3.29**	**14**	Pg		**Pb**	**07 45 05.0**	**+0.5**
	4.8nm,0.4s								
DJR				Lg		Lg	07 45 49.5		
	16nm,0.2s								
UCH	**Uchtor**	**3.29**	**291**	⇓*i*P		**Pn**	**07 44 58.6**	**+0.2**
	baz=92								
UCH				⇓*e*S		**Sn**	**07 45 38.6**	**+0.1**
	baz=92								
ARLS	**Aral**	**3.34**	**284**	⇑*i*P		**Pn**	**07 44 58.8**	**0.0**
	baz=85								
ARLS				⇑*i*S		**Sn**	**07 45 39.1**	**-0.1**
	baz=85								
KRBS	**Karabastau**	**3.37**	**320**	*e*P		**Pb**	**07 45 06.6**	**+0.7**
	4.4nm,0.8s								
KRBS				*e*S		**Sg**	**07 45 52.3**	**-1.3**
	9.1nm,0.4s								
KRBS	**Karabastau**	**3.37**	**320**	Pg		**Pb**	**07 45 06.6**	**+0.7**
	4.4nm,0.8s								
KRBS				Lg		Lg	07 45 52.3		
	9.1nm,0.4s								
AAK	**Ala-Archa**	**3.45**	**297**	⇓Pg		**Pg**	**07 45 13.7**	**+2.3**
	1.0nm,0.3s								
AAK				⇑Lg		Lg	07 45 53.2		
	6.1nm,0.6s								
AML	**Almayashu**	**3.85**	**286**	⇓*i*P		**Pn**	**07 45 06.3**	**+0.2**
	baz=88								
AML				⇓*i*S		**Sn**	**07 45 51.9**	**-0.3**
	baz=88								
EKS2	**Erkin-Say**	**3.95**	**294**	⇓*e*P		**Pn**	**07 45 07.5**	**+0.3**
	baz=95								
EKS2				⇓*i*S		**Sn**	**07 45 54.1**	**-0.1**
	baz=95								
KAPS	**Kapalarasan**	**4.17**	**7**	*e*P		**Pb**	**07 45 20.5**	**+1.0**
	1.2nm,0.4s								
KAPS				*e*S		**Sg**	**07 46 16.1**	**-3.0**
	6.8nm,0.3s								
KAPS	**Kapalarasan**	**4.17**	**7**	Pg		**Pb**	**07 45 20.5**	**+1.0**
	1.2nm,0.4s								
KAPS				Lg		Lg	07 46 16.1		
	6.8nm,0.3s								
ARSB	**Arslanbob**	**4.29**	**274**	⇑*i*P		**Pn**	**07 45 11.9**	**0.0**
	baz=75								
ARSB				⇑*i*S		**Sn**	**07 46 01.6**	**-1.0**
	baz=75								
MRKS	**Merke**	**4.36**	**293**	*e*P		**Pb**	**07 45 25.4**	**+2.7**
	2.9nm,0.4s								
MRKS				*e*S		**Sg**	**07 46 24.4**	**-0.8**
	2.6nm,0.3s								
MRKS	**Merke**	**4.36**	**293**	Pg		**Pg**	**07 45 26.0**	**-2.7**
	2.9nm,0.4s								
MRKS				Lg		Lg	07 46 25.9		
	2.6nm,0.3s								
MK31	**Makanchi Array**	**6.22**	**24**	⇑Lg		Lg	07 47 18.9		
	2.0nm,0.6s,baz=199,slow=29								

IDC ***16*** *07:52:55.6±1.4,21°.39S×179°.19W,h589km±15km, mb3.6/21,mb1 3.8/24,mb1mx3.8/38,mbtmp4.6/24,Error ellipse: s-maj=13.1km s-min=10.8km az=106.0*

NEIC ***16*** *07:52:57.4±2.1,21°.4S±0°.1×179°.3W±0°.1,h610km±7km, mb4.3/122, Error ellipse: s-maj=16.3km s-min=14.0km az=122.0*

ISC 16 07:52:56.3±0.3,21°.45S±0°.05×179°.23W±0°.06,h600km, n235,σ1°92°/227,mb4.3/74,3C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.50**	**325**	P	**P**	**07 54 28.6**	**+3.0**
GLKZ	**Green Lake**	**7.87**	**172**	P	**P**	**07 54 55.0**	**+0.8**
GLKZ				S	**S**	**07 56 34.3**	**+3.4**
NIUE	**Niue**	**9.04**	**76**	P	**P**	**07 55 06.5**	**+0.8**
AFI	**Afiamalu**	**10.33**	**45**	P	**P**	**07 55 16.6**	**-1.9**
	5.6nm,0.3s,baz=287,slow=9.0,SNR=8.8						
AFI				S	**S**	**07 57 08.2**	**-6.9**
	1.3nm,0.3s,baz=157,slow=13,SNR=2.3						
AFI	**Afiamalu**	**10.33**	**45**	P	**P**	**07 55 16.9**	**-1.6**
DZM	**Mont Dzumac**	**13.33**	**265**	P	**P**	**07 55 47.4**	**-1.2**
	1.6nm,0.3s,baz=82,slow=18,SNR=18						
DZM	**Mont Dzumac**	**13.33**	**265**	P	**P**	**07 55 48.7**	**0.0**
OUZ	**Omahuta**	**15.09**	**203**	P	**P**	**07 56 09.2**	**+4.1**
OUZ	**Omahuta**	**15.09**	**203**	P	**P**	**07 56 08.4**	**+3.3**
GRZ	**Great Barrier**	**15.46**	**196**	P	**P**	**07 56 11.6**	**+3.2**
WCZ	**Waipu Caves**	**15.49**	**200**	P	**P**	**07 56 12.4**	**+3.6**
KUZ	**Kuaotunu**	**15.86**	**195**	P	**P**	**07 56 15.2**	**+3.1**
WIAZ	**Waiheke Island**	**16.05**	**197**	P	**P**	**07 56 17.4**	**+3.4**
MBAZ	**Motutapu North**	**16.09**	**197**	P	**P**	**07 56 18.1**	**+3.7**
MXZ	**Matakaoa Point**	**16.20**	**187**	P	**P**	**07 56 16.1**	**+0.9**
ETAZ	**East Tamaki Re**	**16.26**	**197**	P	**P**	**07 56 19.5**	**+3.7**
WTAZ	**Waiatarua**	**16.34**	**198**	P	**P**	**07 56 20.6**	**+4.0**
KBAZ	**Karaka Road Bo**	**16.40**	**197**	P	**P**	**07 56 18.5**	**+1.3**
WMGZ	**Waiomatatini S**	**16.44**	**187**	P	**P**	**07 56 19.3**	**+1.8**
WMGZ				S	**S**	**07 58 57.6**	**-3.6**
AWAZ	**Awhitu Peninsu**	**16.44**	**198**	P	**P**	**07 56 20.8**	**+3.3**
HAZ	**Te Kaha**	**16.45**	**188**	P	**P**	**07 56 17.7**	**+0.1**
HAZ				S	**S**	**07 58 58.6**	**-2.9**
RUGZ	**Raukumara Rang**	**16.67**	**189**	P	**P**	**07 56 19.1**	**-0.7**
RUGZ				S	**S**	**07 58 59.1**	**-6.3**
PUZ	**Puketiti**	**16.70**	**187**	P	**P**	**07 56 20.4**	**+0.4**
PUZ				S	**S**	**07 59 00.4**	**-5.3**
TWGZ	**Tauwhareparae**	**16.84**	**188**	P	**P**	**07 56 22.7**	**+1.5**
TWGZ				S	**S**	**07 59 01.9**	**-6.1**
URZ	**Urewera**	**17.05**	**190**	P	**P**	**07 56 21.6**	**-1.4**
	5.1nm,0.3s,baz=337,slow=12,SNR=35						
URZ				S	**S**	**07 59 04.2**	**-6.9**
	1.8nm,0.3s,baz=184,slow=18,SNR=11						
URZ	**Urewera**	**17.05**	**190**	P	**P**	**07 56 22.1**	**-0.9**
URZ				S	**S**	**07 59 03.0**	**-8.1**
URZ	**Urewera**	**17.05**	**190**	P	**P**	**07 56 22.5**	**-0.5**
MWZ	**Matawai**	**17.05**	**189**	P	**P**	**07 56 23.2**	**+0.1**
MWZ				S	**S**	**07 59 06.7**	**-4.7**
TKGZ	**Te Karaka**	**17.12**	**188**	P	**P**	**07 56 24.1**	**+0.4**
TKGZ				S	**S**	**07 59 09.3**	**-3.1**
MUGZ	**Murupara**	**17.31**	**191**	P	**P**	**07 56 24.4**	**-1.1**
RIGZ	**Rimuhau**	**17.39**	**188**	P	**P**	**07 56 24.6**	**-1.7**
RTZ	**Ruatahuna**	**17.41**	**190**	S	**S**	**07 59 09.9**	**-7.4**
SNGZ	**Shannon Statio**	**17.52**	**189**	P	**P**	**07 56 24.7**	**-2.7**
SNGZ				S	**S**	**07 59 13.3**	**-5.6**
MTHZ	**Maungataniwha**	**17.67**	**190**	P	**P**	**07 56 27.8**	**-0.9**
MTHZ				S	**S**	**07 59 15.6**	**-5.8**
BKZ	**Black Stump Fm**	**18.03**	**191**	P	**P**	**07 56 31.4**	**-0.7**
SNZO	**South Karori**	**20.45**	**193**	P	**P**	**07 56 54.3**	**+0.5**
KHZ	**Kahutara**	**21.77**	**195**	P	**P**	**07 57 05.5**	**-0.1**
RPZ	**Rata Peaks**	**23.63**	**198**	P	**P**	**07 57 21.9**	**-0.3**
	3.9nm,0.5s,baz=6.0,slow=19,SNR=7.5						
RPZ	**Rata Peaks**	**23.63**	**198**	P	**P**	**07 57 21.3**	**-0.9**
DCZ	**Deep Cove**	**26.43**	**202**	P	**P**	**07 57 48.3**	**+1.4**
ARMA	**Armidale**	**27.62**	**245**	P	**P**	**07 57 59.0**	**+1.3**
CAN	**Canberra**	**31.03**	**237**	P	**P**	**07 58 28.9**	**+2.0**
CAN				IAmb	IAmb	07 58 29.4	
	comp=Z,14nm,1.0s						
CTA	**Charters Tower**	**32.27**	**266**	P	**P**	**07 58 38.2**	**+0.6**
	comp=Z,14nm,0.4s,baz=93,slow=10,SNR=26						
CTAO	**Charters Tower**	**32.27**	**266**	P	**P**	**07 58 37.5**	**-0.1**
TOO	**Toolangi**	**34.41**	**234**	P	**P**	**07 58 56.1**	**+0.8**
PMG	**Port Moresby**	**34.46**	**285**	P	**P**	**07 58 56.1**	**+0.2**
PATS	**Pohnpei**	**35.72**	**319**	P	**P**	**07 59 06.9**	**+0.6**
STKA	**Stephens Creek**	**36.35**	**245**	P	**P**	**07 59 12.5**	**+1.2**
	comp=Z,7.7nm,0.6s,baz=93,slow=11,SNR=19						
STKA	**Stephens Creek**	**36.35**	**245**	P	**P**	**07 59 12.2**	**+0.9**
COEN	**Coen**	**36.52**	**275**	P	**P**	**07 59 13.7**	**+0.8**
BBOO	**Buckleboo**	**41.10**	**244**	P	**P**	**07 59 49.7**	**+0.1**
WR0	**Warramunga Arr**	**43.15**	**263**	P	**P**	**08 00 05.0**	**-0.8**
WR0				IAmb	IAmb	08 00 05.9	
	comp=Z,8.9nm,1.1s						
AS31	**Alice Springs**	**43.19**	**258**	P	**P**	**08 00 06.3**	**+0.3**
ASAR	**Alice Springs**	**43.19**	**258**	P	**P**	**08 00 06.3**	**+0.3**
	comp=Z,8.4nm,0.5s,baz=99,slow=8.0,SNR=155						
ASAR				ScP	**ScP**	**08 04 37.3**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=114,slow=5.0,SNR=6.7						
ASAR				S	**S**	**08 05 45.4**	**-5.3**
	comp=Z,4.1nm,0.8s,baz=96,slow=16,SNR=21						
ASAR	**Alice Springs**	**43.19**	**258**	P	**P**	**08 00 05.0**	**-1.0**
WB0	**Warramunga Arr**	**43.32**	**264**	P	**P**	**08 00 06.8**	**-0.3**
WB2	**Warramunga Arr**	**43.33**	**263**	P	**P**	**08 00 06.7**	**-0.5**
WRAB	**Tennant Creek**	**43.33**	**263**	P	**P**	**08 00 06.4**	**-0.8**
WRAB				IAmb	IAmb	08 00 08.3	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**43.34**	**263**	P	**P**	**08 00 06.8**	**-0.5**
	comp=Z,11nm,0.8s,baz=97,slow=7.7,SNR=338						
WRA				S	**S**	**08 05 47.8**	**-5.1**
	comp=Z,1.5nm,0.8s,baz=96,slow=14,SNR=7.4						
WRA	**Warramunga Arr**	**43.34**	**263**	P	**P**	**08 00 06.4**	**-0.8**
OBL	**Observatory Le**	**46.89**	**32**	P	**P**	**08 00 36.7**	**+2.5**
HMH	**Humu'ula Sheep**	**46.95**	**31**	P	**P**	**08 00 35.2**	**+0.2**
FORT	**Forrest**	**47.87**	**247**	P	**P**	**08 00 41.0**	**-0.3**
FORT				IAmb	IAmb	08 00 42.3	
	comp=Z,11nm,0.7s						
MTN	**Manton Dam**	**48.04**	**272**	P	**P**	**08 00 42.3**	**-0.5**
KNRA	**Kununurra**	**49.46**	**267**	P	**P**	**08 00 53.1**	**-0.2**
GUMO	**Guam**	**49.55**	**311**	P	**P**	**08 00 53.6**	**-0.3**
	comp=Z,29nm,0.6s,baz=356,slow=19,SNR=4.1						
GUMO	**Guam**	**49.55**	**311**	P	**P**	**08 00 53.7**	**-0.2**
PSA00	**Pilbara Seismi**	**56.34**	**258**	P	**P**	**08 01 41.2**	**-0.8**
PSA00				IAmb	IAmb	08 01 59.0	
	comp=Z,24nm,1.4s						
VNDA	**Vanda**	**56.87**	**185**	P	**P**	**08 01 46.2**	**+1.5**
	comp=Z,1.5nm,0.5s,baz=4.3,slow=6.6,SNR=22						
VNDA	**Vanda**	**56.87**	**185**	P	**P**	**08 01 47.1**	**+2.4**
MORW	**Morawa**	**58.41**	**248**	P	**P**	**08 01 55.9**	**-0.1**
GIRL	**Giralia**	**61.20**	**255**	P	**P**	**08 02 15.7**	**+1.2**
CASY	**Casey**	**62.62**	**205**	P	**P**	**08 02 23.6**	**+0.7**
CASY				IAmb	IAmb	08 02 24.7	
	comp=Z,13nm,1.1s						
JHJ2	**Mitsune**	**66.88**	**323**	P	**P**	**08 02 49.4**	**-0.7**
JHJ	**Hachijo jima 2**	**66.90**	**323**	P	**P**	**08 02 50.1**	**-0.1**
	comp=Z,36nm,0.5s,baz=57,slow=18,SNR=1.9						
QSPA	**South Pole Qui**	**68.62**	**180**	P	**P**	**08 03 01.6**	**+1.2**
QSPA				IAmb	IAmb	08 03 02.9	
	comp=Z,15nm,0.9s						
MJAR	**Matsushiro Arr**	**70.31**	**325**	P	**P**	**08 03 10.1**	**-0.6**
	comp=Z,4.3nm,0.7s,baz=170,slow=5.8,SNR=12						
MJAR	**Matsushiro Arr**	**70.31**	**325**	P	**P**	**08 03 10.2**	**-0.6**
MAJO	**Matsushiro**	**70.31**	**325**	P	**P**	**08 03 09.6**	**-1.1**
MAJO				IAmb	IAmb	08 03 11.0	
	comp=Z,5.7nm,0.8s						
MAT	**Matsushiro**	**70.31**	**325**	P	**P**	**08 03 10.1**	**-0.6**
MJB9	**Matsu-Tunnel**	**70.31**	**325**	P	**P**	**08 03 09.5**	**-1.2**
MJB9				IAmb	IAmb	08 03 10.8	
	comp=Z,5.8nm,0.8s						
SSLB	**Suanglung**	**73.55**	**304**	P	**P**	**08 03 28.7**	**-1.1**
SSLB				IAmb	IAmb	08 03 29.4	
	comp=Z,9.9nm,0.8s						
JKA	**Kamikawa-asahi**	**74.02**	**332**	P	**P**	**08 03 33.2**	**+1.3**
JKA				IAmb	IAmb	08 03 34.1	
	comp=Z,7.2nm,0.9s						
ASAJ	**Asahikawa**	**74.03**	**332**	P	**P**	**08 03 32.8**	**+0.9**
	comp=Z,5.0nm,0.8s,baz=208,slow=8.7,SNR=8.5						
KSRS	**Korea Array**	**76.85**	**319**	P	**P**	**08 03 47.8**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=145,slow=6.2,SNR=6.2						
PETK	**Petropavlovsk-**	**76.90**	**346**	P	**P**	**08 03 47.3**	**-0.3**
	comp=Z,3.6nm,0.7s,baz=122,slow=7.2,SNR=5.8						
PETK	**Petropavlovsk-**	**76.90**	**346**	P	**P**	**08 03 47.1**	**-0.5**
USRK	**Ussuriysk Ar.**	**79.11**	**327**	P	**P**	**08 03 59.5**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=140,slow=2.8,SNR=6.3						
USRK	**Ussuriysk Ar.**	**79.11**	**327**	P	**P**	**08 04 00.2**	**+0.6**
HOPS	**Hopland Field**	**79.84**	**41**	P	**P**	**08 04 04.9**	**+1.3**
HOPS				IAmb	IAmb	08 04 09.3	
	comp=Z,19nm,1.3s						
MAW	**Mawson**	**80.28**	**200**	P	**P**	**08 04 05.5**	**0.0**
	comp=Z,2.3nm,0.7s,baz=141,slow=8.7,SNR=5.0						
MAW	**Mawson**	**80.28**	**200**	P	**P**	**08 04 06.6**	**+1.2**
SPX	**San Pedro Mart**	**80.39**	**51**	P	**P**	**08 04 08.6**	**+1.5**
VES	**Vestal, Richgr**	**80.51**	**46**	P	**P**	**08 04 07.6**	**+0.4**
	baz=235						
MURC	**Murrieta**	**80.54**	**48**	P	**P**	**08 04 08.0**	**+0.6**
	baz=236						
MONP2	**Monument Peak**	**80.70**	**49**	P	**P**	**08 04 09.6**	**+1.2**
	baz=237						
EDW2	**Edwards Air Fo**	**80.70**	**47**	P	**P**	**08 04 09.2**	**+1.0**
	baz=236						
O02D	**Mt. Diablo Mer**	**80.74**	**40**	P	**P**	**08 04 10.2**	**+1.8**
	baz=232,SNR=7.6						
ISA	**Isabella, Lake**	**80.82**	**46**	P	**P**	**08 04 09.9**	**+1.0**
	baz=235						
KRMB	**Red Mountain**	**80.92**	**39**	P	**P**	**08 04 10.8**	**+1.5**
KRMB				IAmb	IAmb	08 04 11.7	
	comp=Z,7.8nm,1.0s						
CMB	**Columbia Colle**	**80.94**	**43**	P	**P**	**08 04 09.8**	**+0.4**
WDC	**Whiskeytown Da**	**81.14**	**40**	P	**P**	**08 04 11.0**	**+0.7**
WDC				IAmb	IAmb	08 04 12.3	
	comp=Z,7.8nm,1.0s						
N02D	**Trinity Center**	**81.28**	**40**	P	**P**	**08 04 12.1**	**+1.0**
	baz=232,SNR=7.8						
O03E	**Paynes Creek**	**81.41**	**41**	P	**P**	**08 04 13.0**	**+1.2**
	baz=232,SNR=7.6						
M02C	**Callahan**	**81.45**	**39**	P	**P**	**08 04 13.2**	**+1.2**
	baz=232,SNR=7.5						
CWC	**Cottonwood Cre**	**81.52**	**46**	P	**P**	**08 04 13.0**	**+0.4**
	baz=236						
MDPB	**Devils Postpil**	**81.54**	**44**	P	**P**	**08 04 13.2**	**+0.5**
OMMB	**Old Mammoth Mi**	**81.58**	**44**	P	**P**	**08 04 13.6**	**+0.6**
BELC	**Belle Mtn. Jos**	**81.59**	**49**	P	**P**	**08 04 13.9**	**+0.9**
	baz=237						
GSC	**Goldstone, Bar**	**81.75**	**47**	P	**P**	**08 04 14.3**	**+0.6**
	baz=236						
GSC	**Goldstone, Bar**	**81.75**	**47**	P	**P**	**08 04 14.0**	**+0.4**
YBH	**Yreka Blue Hor**	**81.75**	**39**	P	**P**	**08 04 14.2**	**+0.7**
TIN	**Tinemaha, Big**	**81.77**	**45**	P	**P**	**08 04 14.8**	**+1.0**
	baz=235						
BC3	**Big Chuckawall**	**81.79**	**49**	P	**P**	**08 04 15.0**	**+1.1**
	baz=238						
K02D	**Willamette Mer**	**81.80**	**38**	P	**P**	**08 04 14.8**	**+1.1**
	baz=231						
WAKR	**Walker**	**81.82**	**43**	IAmb	IAmb	08 04 16.0	
	comp=Z,11nm,1.1s						
J01E	**Myrtle Point**	**81.94**	**37**	P	**P**	**08 04 15.1**	**+0.8**
	baz=231						
YERR	**Yerington**	**82.22**	**43**	IAmb	IAmb	08 04 17.6	
	comp=Z,9.0nm,0.9s						
GMRC	**Granite Mounta**	**82.25**	**48**	P	**P**	**08 04 16.7**	**+0.5**
	baz=237						
LHV	**Little Huntoon**	**82.27**	**44**	IAmb	IAmb	08 04 18.0	
	comp=Z,7.8nm,1.0s						
IRM	**Iron Mountain**	**82.27**	**49**	P	**P**	**08 04 17.2**	**+0.9**
	baz=238						
L04D	**Klamath Falls**	**82.28**	**39**	P	**P**	**08 04 17.0**	**+0.8**
	baz=232,SNR=8.1						
M04C	**Macdoel**	**82.29**	**39**	P	**P**	**08 04 16.8**	**+0.5**
	baz=232						
GRAC	**Grapevine Rang**	**82.31**	**45**	P	**P**	**08 04 17.3**	**+0.9**
	baz=236						
FURC	**Furnace Creek,**	**82.35**	**46**	P	**P**	**08 04 17.0**	**+0.5**
	baz=236						
CN2	**Changchun**	**82.36**	**323**	*e*P	**P**	**08 04 19.3**	**+2.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TUQ	**Turquoise Moun**	**82.42**	**47**	P	**P**	**08 04 17.6**	**+0.5**
	baz=237						
SHOC	**Shoshone, Teco**	**82.43**	**47**	P	**P**	**08 04 17.4**	**+0.4**
	baz=237						
NVAR	**Mina Array Bea**	**82.50**	**44**	P	**P**	**08 04 18.1**	**+0.5**
	comp=Z,4.6nm,0.8s,baz=225,slow=8.3,SNR=32						
NVAR	**Mina Array Bea**	**82.50**	**44**		**P**	**08 04 18.2**	**+0.7**
PAHR	**Pah Rah Range**	**82.55**	**42**	IAmb	IAmb	08 04 19.2	
	comp=Z,6.5nm,0.8s						
NV11	**Mina Array Sit**	**82.60**	**44**	P	**P**	**08 04 18.3**	**+0.4**
I03D	**Drain, OR**	**82.61**	**37**	P	**P**	**08 04 18.6**	**+0.9**
	baz=231						
KLR	**Kul'dur**	**82.77**	**330**	P	**P**	**08 04 19.4**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=151,slow=2.6,SNR=5.4						
214A	**Organ Pipe Nat**	**82.80**	**52**	P	**P**	**08 04 20.2**	**+1.2**
	baz=239						
TPNV	**Topopah Spring**	**83.03**	**46**	P	**P**	**08 04 20.7**	**+0.6**
	baz=237						
J04D	**Umpqua Nationa**	**83.03**	**38**	P	**P**	**08 04 20.9**	**+0.8**
	baz=232						
PDMCI	**Parker Dam,Lak**	**83.06**	**49**	P	**P**	**08 04 20.8**	**+0.7**
	baz=238						
I04A	**Tendick Farm,**	**83.20**	**38**	P	**P**	**08 04 21.1**	**+0.5**
	baz=232						
K05A	**Summer Lake**	**83.42**	**39**	IAmb	IAmb	08 04 24.1	
	comp=Z,12nm,1.0s						
H04D	**Lebanon**	**83.47**	**37**	P	**P**	**08 04 23.1**	**+1.2**
	baz=231						
J05D	**Fort Rock, OR**	**83.56**	**39**	P	**P**	**08 04 23.6**	**+1.0**
	baz=233,SNR=21						
PINE	**Pine Mountain**	**84.04**	**38**	P	**P**	**08 04 26.1**	**+1.0**
PINE				IAmb	IAmb	08 04 27.1	
	comp=Z,9.5nm,0.9s						
PRN	**Pahroc Range**	**84.08**	**46**	IAmb	IAmb	08 04 27.1	
	comp=Z,8.8nm,1.5s						
I05D	**Terrebonne, OR**	**84.14**	**38**	P	**P**	**08 04 26.0**	**+0.7**
	baz=232						
R11A	**Troy Canyon, C**	**84.23**	**45**	P	**P**	**08 04 25.9**	**-0.1**
	baz=237						
E03A	**Lebam**	**84.29**	**35**	P	**P**	**08 04 26.9**	**+1.1**
E03A				IAmb	IAmb	08 04 28.8	
	comp=Z,14nm,1.1s						
TUC	**Tucson**	**84.47**	**52**	P	**P**	**08 04 28.6**	**+1.4**
	baz=240						
319A	**Douglas**	**85.13**	**54**	IAmb	IAmb	08 04 33.0	
	comp=Z,11nm,0.9s						
D03D	**Eldon**	**85.16**	**34**	P	**P**	**08 04 30.6**	**+0.5**
	baz=231						
J08A	**Circle Bar Ran**	**85.23**	**40**	P	**P**	**08 04 31.5**	**+0.8**
J08A				IAmb	IAmb	08 04 32.4	
	comp=Z,9.3nm,1.3s						
U15A	**North Rim**	**85.45**	**48**	P	**P**	**08 04 33.0**	**+0.9**
U15A				IAmb	IAmb	08 04 34.0	
	comp=Z,7.6nm,0.8s						
SYO	**Syowa Base**	**85.55**	**193**	⇑*e*P	**P**	**08 04 29.2**	**-2.5**
G08A	**Pilot Rock**	**86.07**	**38**	IAmb	IAmb	08 04 36.2	
	comp=Z,12nm,1.3s						
B05A	**Bryant**	**86.14**	**34**	P	**P**	**08 04 35.6**	**+0.9**
	baz=232						
LTY	**Liberty**	**86.28**	**36**	IAmb	IAmb	08 04 36.7	
	comp=Z,5.5nm,1.1s						
HAWA	**Hanford**	**86.39**	**37**	IAmb	IAmb	08 04 37.7	
	comp=Z,7.8nm,0.9s						
GHO	**Glory Hole Cre**	**86.42**	**14**	P	**P**	**08 04 35.2**	**-0.6**
GHO				IAmb	IAmb	08 04 36.1	
	comp=Z,7.7nm,0.7s						
MFID	**Camas Ranch**	**86.85**	**41**	IAmb	IAmb	08 04 40.0	
	comp=Z,6.9nm,1.1s						
SEY	**Seymchan**	**87.05**	**347**	P	**P**	**08 04 38.2**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=129,slow=4.8,SNR=4.6						
SNAA	**Sanae**	**87.09**	**179**	P	**P**	**08 04 38.3**	**-0.7**
D08A	**Wollman Farm,**	**87.12**	**36**	P	**P**	**08 04 40.3**	**+0.9**
D08A				IAmb	IAmb	08 04 41.0	
	comp=Z,9.8nm,1.0s						
E09A	**Wood Farm, Sta**	**87.24**	**37**	IAmb	IAmb	08 04 41.3	
	comp=Z,6.1nm,1.0s						
VNA3	**Neumayer Olymp**	**87.27**	**177**	P	**P**	**08 04 39.2**	**-0.6**
F10A	**Beach Ranch, E**	**87.45**	**38**	IAmb	IAmb	08 04 42.1	
	comp=Z,8.7nm,0.8s						
B08A	**Colville Reser**	**87.67**	**35**	P	**P**	**08 04 42.1**	**+0.1**
B08A				IAmb	IAmb	08 04 42.7	
	comp=Z,6.7nm,0.8s						
VNA2	**Neumayer--Watz**	**87.69**	**177**	P	**P**	**08 04 41.6**	**-0.2**
	baz=180,slow=3.3						
HLID	**Hailey**	**87.79**	**41**	P	**P**	**08 04 43.7**	**+0.8**
	baz=238						
HLID	**Hailey**	**87.79**	**41**	IAmb	IAmb	08 04 44.6	
	comp=Z,4.2nm,0.8s						
RND	**Reindeer**	**87.88**	**13**	IAmb	IAmb	08 04 42.8	
	comp=Z,5.5nm,0.7s						
C09A	**Chrisman Ranch**	**87.92**	**36**	IAmb	IAmb	08 04 44.3	
	comp=Z,4.9nm,0.8s						
VNA1	**Neumayer--Stat**	**87.93**	**177**	P	**P**	**08 04 43.0**	**+0.2**
SRU	**San Rafael Swe**	**88.01**	**46**	P	**P**	**08 04 44.6**	**+0.6**
MNTX	**Cornudas Mount**	**88.23**	**55**	P	**P**	**08 04 45.9**	**+0.9**
	baz=244						
MNTX	**Cornudas Mount**	**88.23**	**55**	IAmb	IAmb	08 04 46.8	
	comp=Z,5.0nm,0.8s						
TX32	**Lajitas Array**	**88.53**	**58**	IAmb	IAmb	08 04 48.7	
	comp=Z,7.3nm,1.0s						
TXAR	**Lajitas Array**	**88.53**	**58**	P	**P**	**08 04 47.6**	**+1.0**
	comp=Z,4.0nm,0.8s,baz=217,slow=5.9,SNR=51						
TXAR	**Lajitas Array**	**88.53**	**58**	P	**P**	**08 04 47.8**	**+1.2**
HWUT	**Hardware Ranch**	**88.57**	**44**	P	**P**	**08 04 46.8**	**+0.2**
HWUT				IAmb	IAmb	08 04 47.4	
	comp=Z,3.0nm,0.7s						
HDA	**Harding Lake**	**89.17**	**13**	P	**P**	**08 04 47.6**	**-0.9**
	baz=210						
HHC	**Hu-ho-hao-te**	**89.20**	**315**	*e*P	**P**	**08 04 49.5**	**+0.1**
HHC				pmax	pmax		
	comp=Z,14nm,1.2s						
HHC		

KRUC	**Moravsky**	**149.77**	**339**	*e*PKP	**PKPbc**	**08 11 38.4**	**-1.0**
KRUC				*e*		08 11 47.0	
KHC	**Kasperske Hory**	**150.56**	**343**	*e*PKP	**PKPbc**	**08 11 40.0**	**-1.3**
MEM	**Membach**	**150.61**	**353**	PKiKP	**PKPbc**	**08 11 40.7**	**-0.5**
GEC2	**GERESS Array S**	**150.78**	**342**		**PKPbc**	**08 11 41.2**	**-0.7**
GERES	**GERESS Array B**	**150.78**	**342**	PKPbc	**PKPbc**	**08 11 41.0**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=29,slow=3.0,SNR=15						
GERES	**GERESS Array B**	**150.78**	**342**		**PKPbc**	**08 11 40.5**	**-1.4**
TORD	**Torodi Ar. Bea**	**171.69**	**186**	PKP	**PKPdf**	**08 11 55.5**	**-2.3**
	comp=Z,1.1nm,0.8s,baz=301,slow=1.7,SNR=5.9						
TORD				PKPab	**PKPab**	**08 13 23.2**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=172,slow=4.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**171.69**	**186**	PKPdf	**PKPdf**	**08 11 56.0**	**-1.7**
TORD				PKPab	**PKPab**	**08 13 22.5**	**-1.2**

SOME **16** *07:53:59.5,41.˝23N×77.˝08E,h15km*
KRNET **16** *07:54:00.2±0.1,41.˝33N×77.˝13E,h14km,mb2.7*
NNC **16** *07:54:01.9±1.4,41.˝30N×77.˝16E,h0km,mb3.5,mpv3.2,*
Error ellipse: s-maj=9.5km s-min=6.1km az=179.0

ISC 16 07:53:59.3±1.6,41°27'N±0'06×77°10'E±0'02,h13km±14km, n61,σ1§57/97,16C-20D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.70**	**49**	⇓*i*	*e*P	**Pg**	**07 54 12.3**	**-0.8**
	baz=51							
TARG				⇓*i*	*e*S	**Sg**	**07 54 21.4**	**-1.0**
	baz=51							
KDJ	**Kajisay**	**0.86**	**4**	⇑*i*	*e*P	**Pg**	**07 54 15.9**	**-0.2**
	baz=3.0							
KDJ				⇑*i*	*e*S	**Sg**	**07 54 26.7**	**-0.8**
	baz=3.0							
ULHL	**Ulahol**	**1.17**	**327**	⇑	*i*P	**Pb**	**07 54 21.6**	**+0.1**
	baz=24							
ULHL				⇑	*i*S	**Sg**	**07 54 37.1**	**0.0**
	baz=24							
ULHL	**Ulahol**	**1.17**	**327**	⇑	P	**Pg**	**07 54 22.3**	**+0.4**
	2.7nm,0.1s,SNR=11							
PRZ	**Przheval'sk**	**1.56**	**38**	⇑	*i*P	**Pb**	**07 54 28.4**	**+0.3**
	baz=39							
PRZ				⇑	*i*S	**Sg**	**07 54 48.8**	**-0.7**
	baz=39							
ANVS	**Anan'yevo**	**1.57**	**15**	⇓	*e*P	**Pb**	**07 54 28.3**	**-0.1**
	baz=15							
ANVS				⇓	*i*S	**Sg**	**07 54 49.1**	**-0.9**
	baz=15							
KZA	**Kyzart**	**1.60**	**301**	⇑	*i*P	**Pb**	**07 54 29.8**	**+0.7**
	baz=99							
KZA				⇑	*i*S	**Sg**	**07 54 51.6**	**+0.6**
	baz=99							
KZA	**Kyzart**	**1.60**	**301**	⇓	P	**Pb**	**07 54 29.7**	**+0.6**
	14nm,0.3s,SNR=11							
TNSS	**Tian-Shan**	**1.77**	**356**		*e*P	**Pg**	**07 54 33.5**	**+0.2**
	18nm,0.2s							
TNSS					*e*S	**Sg**	**07 54 58.4**	**+2.0**
	14nm,0.2s							
TNSS	**Tian-Shan**	**1.77**	**356**		P	**Pg**	**07 54 33.5**	**+0.2**
	18nm,0.2s							
TNSS					S	**Sg**	**07 54 58.4**	**+2.0**
	14nm,0.2s							
IZV	**Izvestkoviy**	**1.81**	**349**		*e*P	**Pg**	**07 54 34.3**	**+0.4**
	5.9nm,0.2s							
IZV					*e*S	**Sg**	**07 54 59.4**	**+2.0**
	21nm,0.2s							
IZV	**Izvestkoviy**	**1.81**	**349**		P	**Pg**	**07 54 34.3**	**+0.4**
	9.1nm,0.2s							
IZV					S	**Sg**	**07 54 59.4**	**+2.0**
	20nm,0.3s							
MDOK	**Medeo**	**1.90**	**359**	⇑	*e*P	**Pg**	**07 54 35.5**	**-0.2**
	13nm,0.3s							
MDOK					*e*S	**Sg**	**07 55 01.2**	**+0.9**
	17nm,0.3s							
MDOK	**Medeo**	**1.90**	**359**		Pg	**Pg**	**07 54 35.4**	**-0.2**
	9.5nm,0.4s							
MDOK					Lg	Lg	07 55 01.2	
	16nm,0.5s							
MTBS	**Maitube**	**1.93**	**345**		*e*P	**Pg**	**07 54 35.9**	**-0.4**
	4.5nm,0.3s							
MTBS					*e*S	**Sg**	**07 55 02.3**	**+1.0**
	26nm,0.6s							
MTBS	**Maitube**	**1.93**	**345**		Pg	**Pg**	**07 54 35.9**	**-0.4**
	4.5nm,0.3s							
MTBS					Lg	Lg	07 55 02.3	
	26nm,0.6s							
KST	**Kastek**	**1.97**	**335**		*e*P	**Pg**	**07 54 37.1**	**+0.1**
	4.2nm,0.4s							
KST					*e*S	**Sg**	**07 55 04.1**	**+1.5**
	19nm,0.3s							
KST	**Kastek**	**1.97**	**335**		Pg	**Pg**	**07 54 37.1**	**+0.1**
	4.4nm,0.5s							
KST					Lg	Lg	07 55 04.1	
	19nm,0.3s							
KOTS	**Kotyrbulak**	**1.97**	**0**		*e*P	**Pg**	**07 54 37.2**	**+0.1**
	61nm,0.3s							
KOTS					*e*S	**Sg**	**07 55 04.5**	**+1.9**
	161nm,0.5s							
KOTS	**Kotyrbulak**	**1.97**	**0**		Pg	**Pg**	**07 54 37.2**	**+0.1**
	61nm,0.3s							
KOTS					Lg	Lg	07 55 04.5	
	161nm,0.5s							
TKM2	**Tokmak 2**	**2.00**	**326**	⇓	*i*P	**Pb**	**07 54 36.2**	**+0.6**
	baz=25							
TKM2				⇓	*i*S	**Sg**	**07 55 02.6**	**-0.9**
	baz=25							
SATY	**Saty**	**2.04**	**28**		*e*P	**Pg**	**07 54 37.7**	**-0.7**
	9.6nm,0.3s							
SATY					*e*S	**Sg**	**07 55 05.3**	**+0.4**
	7.7nm,0.2s							
SATY	**Saty**	**2.04**	**28**		Pg	**Pg**	**07 54 37.7**	**-0.7**
	9.6nm,0.3s							
SATY					Lg	Lg	07 55 05.3	
	7.7nm,0.2s							
UCH	**Uchtor**	**2.16**	**297**	⇓	*i*P	**Pb**	**07 54 39.1**	**+0.6**
	baz=96							
UCH				⇓	*i*S	**Sb**	**07 55 06.9**	**+1.5**
	baz=96							
UCH	**Uchtor**	**2.16**	**297**	⇓	P	**Pb**	**07 54 39.3**	**+0.7**
	5.2nm,0.3s,SNR=9.1							
DGS	**Degeres**	**2.21**	**334**		*e*P	**Pg**	**07 54 41.4**	**-0.2**
	3.7nm,0.3s							
DGS					*e*S	**Sg**	**07 55 11.6**	**+1.4**
	18nm,0.5s							
DGS	**Degeres**	**2.21**	**334**		Pg	**Pg**	**07 54 41.4**	**-0.2**
	3.7nm,0.3s							
DGS					Lg	Lg	07 55 11.6	
	18nm,0.5s							
UZB	**Uzynbulak**	**2.36**	**37**		*e*P	**Pg**	**07 54 43.1**	**-1.5**
	5.0nm,0.3s							
UZB					*e*S	**Sg**	**07 55 14.7**	**-0.5**
	11nm,0.5s							
UZB	**Uzynbulak**	**2.36**	**37**		Pg	**Pg**	**07 54 43.1**	**-1.5**
	5.0nm,0.3s							
UZB					Lg	Lg	07 55 14.7	
	11nm,0.5s							
AAK	**Ala-Archa**	**2.38**	**306**	⇓	*i*P	**Pb**	**07 54 41.6**	**-0.5**
	baz=5.0							
AAK				⇓	*i*S	**Sb**	**07 55 11.8**	**+0.4**
	baz=5.0							
AAK	**Ala-Archa**	**2.38**	**306**	⇑	Pn	**Pb**	**07 54 43.3**	**+1.3**
	1.5nm,0.4s							
AAK				⇑	Sn	**Sg**	**07 55 16.6**	**+0.9**
	11nm,0.7s							
CHMS	**Chumysh**	**2.46**	**316**	⇓	*i*P	**Pb**	**07 54 42.3**	**-1.1**
	baz=14							
CHMS				⇓	*i*S	**Sb**	**07 55 13.1**	**-0.5**
	baz=14							
KTBS	**Karatobe**	**2.46**	**353**		*e*P	**Pg**	**07 54 45.5**	**-1.0**
	5.8nm,0.3s							
KTBS					*e*S	**Sg**	**07 55 18.3**	**-0.2**
	16nm,0.3s							
KTBS	**Karatobe**	**2.46**	**353**		Pg	**Pg**	**07 54 45.4**	**-1.1**
	5.9nm,0.5s							
KTBS					Lg	Lg	07 55 18.3	
	16nm,0.3s							
SHLS	**Shalkode**	**2.58**	**42**		*e*P	**Pg**	**07 54 51.4**	**+2.7**
	6.5nm,0.2s							
SHLS					*e*S	**Sg**	**07 55 28.9**	**+6.7**
	38nm,0.7s							
SHLS	**Shalkode**	**2.58**	**42**		Pg	**Pg**	**07 54 51.4**	**+2.7**
	9.3nm,0.3s							
SHLS					Lg	Lg	07 55 28.8	
	38nm,0.7s							
CHKK	**Chushkaly**	**2.59**	**358**	⇑	*e*P	**Pg**	**07 54 47.6**	**-1.3**
	6.6nm,0.3s							
CHKK					*e*S	**Sg**	**07 55 22.1**	**-0.3**
	18nm,0.3s							
CHKK	**Chushkaly**	**2.59**	**358**		Pg	**Pg**	**07 54 47.6**	**-1.3**
	6.6nm,0.3s							
CHKK					Lg	Lg	07 55 22.1	
	18nm,0.3s							
KRBS	**Karabastau**	**2.65**	**337**		*e*P	**Pg**	**07 54 49.4**	**-0.7**
	1.8nm,0.3s							
KRBS					*e*S	**Sg**	**07 55 25.1**	**+0.8**
	11nm,0.3s							
KRBS	**Karabastau**	**2.65**	**337**		Pg	**Pg**	**07 54 49.4**	**-0.7**
	1.8nm,0.3s							
KRBS					Lg	Lg	07 55 25.1	
	11nm,0.3s							
KUU	**Kurty**	**2.69**	**348**		*e*P	**Pb**	**07 54 48.9**	**+1.6**
	1.2nm,0.2s							
KUU					*e*S	**Sg**	**07 55 24.3**	**-1.3**
	18nm,0.7s							
KUU	**Kurty**	**2.69**	**348**		Pg	**Pb**	**07 54 48.9**	**+1.6**
	1.2nm,0.2s							
KUU					Lg	Lg	07 55 24.3	
	18nm,0.7s							
AML	**Almayashu**	**2.69**	**290**	⇑	*e*P	**Pb**	**07 54 46.4**	**-1.2**
	baz=89							
AML				⇑	*i*S	**Sb**	**07 55 20.2**	**-0.5**
	baz=89							
AML	**Almayashu**	**2.69**	**290**	⇑	P	**Pb**	**07 54 49.4**	**+1.8**
	3.7nm,0.2s,SNR=7.5							
PDGK	**Podgornoye**	**2.72**	**40**		Pg	**Pg**	**07 54 49.9**	**-1.5**
	1.1nm,0.3s							
PDGK					Lg	Lg	07 55 26.0	
	6.1nm,0.9s							
PDGK	**Podgornoye**	**2.72**	**40**	⇓	Pn	**Pb**	**07 54 48.7**	**+0.8**
	2.2nm,0.8s							
PDGK				⇓	Sn	**Sg**	**07 55 24.0**	**-2.7**
	5.7nm,0.5s							
USP	**Ospenovka**	**2.78**	**317**	⇓	P	**Pb**	**07 54 50.9**	**+2.1**
	2.2nm,0.1s,SNR=6.8							
EKS2	**Erkin-Say**	**2.84**	**300**	⇓	*i*P	**Pb**	**07 54 48.2**	**-1.8**
	baz=99							
EKS2				⇓	*i*S	**Sb**	**07 55 23.1**	**-1.6**
	baz=99							
EKS2	**Erkin-Say**	**2.84**	**300**	⇓	P	**Pg**	**07 54 52.7**	**-1.1**
	3.9nm,0.4s,SNR=7.6							
MNBS	**Baschi**	**2.97**	**18**		*e*P	**Pg**	**07 54 54.4**	**-1.8**
	3.2nm,0.2s							
MNBS					*e*S	**Sg**	**07 55 33.8**	**-1.0**
	6.9nm,0.2s							
MNBS	**Baschi**	**2.97**	**18**		Pg	**Pg**	**07 54 54.4**	**-1.8**
	3.2nm,0.2s							
MNBS					Lg	Lg	07 55 33.8	
	6.9nm,0.2s							
ARXS	**Arharly**	**2.99**	**10**		*e*P	**Pg**	**07 54 55.2**	**-1.5**
	5.9nm,0.3s							
ARXS					*e*S	**Sg**	**07 55 35.6**	**+0.1**
	6.1nm,0.5s							
ARXS	**Arharly**	**2.99**	**10**		Pg	**Pg**	**07 54 55.2**	**-1.5**
	5.9nm,0.3s							
ARXS					Lg	Lg	07 55 34.6	
	6.1nm,0.5s							
MRKS	**Merke**	**3.24**	**298**		*e*P	**Pb**	**07 54 59.6**	**+2.8**
	9.3nm,0.5s							
MRKS					*e*S	**Sg**	**07 55 43.2**	**-0.2**
	3.8nm,0.3s							
MRKS	**Merke**	**3.24**	**298**		Pg	**Pb**	**07 54 59.6**	**+2.8**
	9.3nm,0.5s							
MRKS					Lg	Lg	07 55 43.5	
	3.8nm,0.3s							
KTMS	**Ketmen**	**3.25**	**47**		*e*P	**Pb**	**07 54 58.7**	**+1.7**
	0.6nm,0.1s							
KTMS					*e*S	**Sg**	**07 55 41.0**	**-2.6**
	7.9nm,0.6s							
KTMS	**Ketmen**	**3.25**	**47**		Pg	**Pb**	**07 54 58.7**	**+1.7**
	1.0nm,0.4s							
KTMS					Lg	Lg	07 55 41.0	
	7.9nm,0.6s							
DJR	**Jarkent**	**3.65**	**32**		*e*P	**Pb**	**07 55 05.4**	**+1.7**
	1.3nm,0.2s							
DJR					*e*S	**Sg**	**07 55 52.8**	**-3.7**
	3.0nm,0.4s							
DJR	**Jarkent**	**3.65**	**32**		Pg	**Pb**	**07 55 05.4**	**+1.7**
	1.9nm,0.3s							
DJR					Lg	Lg	07 55 52.8	
	3.0nm,0.4s							
BTLS	**Baital**	**4.38**	**330**		*e*P	**Pg**	**07 55 20.1**	**-3.1**
	0.5nm,0.2s							
BTLS					*e*S	**Sg**	**07 56 17.9**	**-2.1**
	2.6nm,0.4s							
BTLS	**Baital**	**4.38**	**330**		Pg	**Pg**	**07 55 20.1**	**-3.1**
	2.2nm,1.4s							
BTLS					Lg	Lg	07 56 17.9	
	3.6nm,0.6s							

ISN **16** *08:01:38.1±1.4,32.˝39N×47.˝83E,h6km±13km, ML2.6*
TEH **16** *08:01:39.0,32.˝35N×47.˝80E,h10km, ML2.8*

ISC 16 08:01:39.6±1.1,32°30'N±0'06×47°80E±0'05,h15km,n12, σ1§94/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.22**	**2**		*e*Pg	**Pb**	**08 02 01.8**	**-0.6**
IKFM					*e*		08 02 21.7	
IKMR	**Kamar-syah**	**1.31**	**22**		*e*Sg	**Sg**	**08 02 22.3**	**+0.4**
IKMR					*e*Pg	**Pb**	**08 02 03.3**	**-0.6**
IKMR					*e*		08 02 24.9	
BMDN	**Meydan**	**1.62**	**32**		*e*		08 02 34.1	
BMDN					*e*Pg	**Pb**	**08 02 08.1**	**-1.2**
IBDR	**Badra**	**1.77**	**298**		*e*Pg	**Pb**	**08 02 10.6**	**-1.2**
	baz=114							
IBDR					*e*Sg	**Sg**	**08 02 36.5**	**-0.3**
IBDR					AML	AML	08 02 49.6	
	comp=N,99nm,0.9s							
IBDR					AML	AML	08 03 03.0	
	comp=E,50nm,0.3s							
IKOM	**Komasi**	**1.89**	**353**		*e*Pg	**Pg**	**08 02 14.1**	**-1.8**
IKOM					*e*		08 02 18.3	
NSR	**Nassriya**	**1.91**	**228**		*e*Pn	**Pn**	**08 02 13.0**	**+1.4**
NSR					*e*Sn	**Sb**	**08 02 39.0**	**+1.1**
HSAM	**Samen**	**2.02**	**19**		*e*Pg	**Pb**	**08 02 15.6**	**-0.6**
HSAM					*e*		08 02 18.4	
JHBN	**Jahan bin**	**2.43**	**91**		*e*Pn	**Pb**	**08 02 21.2**	**-1.9**
JHBN					*e*		08 03 03.5	
IPIR	**Pirpir**	**2.64**	**81**		*e*Pn	**Pn**	**08 02 23.9**	**+2.0**
IPIR					*e*		08 03 12.2	
HAGD	**Aghdareh**	**2.75**	**24**		*e*Pn	**Pb**	**08 02 25.6**	**-3.1**
HAGD					*e*		08 03 14.5	
HSRG	**Sareghieh**	**2.96**	**8**		*e*	**Sg**	**08 03 18.5**	**+3.7**
IRAZ	**Razeghan**	**3.57**	**29**		*e*		08 07 17.9	

IDC **16** *08:03:51.4±0.6,27.˝77N×142.˝81E,h0km,mb4.0/18,*
mb1 4.2/22,mb1mx4.1/45,mbtmp4.0/22,ML3.1/3,MS2.8/4,
Ms1 2.8/4,ms1mx2.6/41,Error ellipse: s-maj=18.2km
s-min=11.5km az=105.0
NIED **16** *08:03:53.0,27.˝88N×143.˝05E,h31km,MW4.0,Moment*
Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm;
Mrr1.09; Mθθ0.10; Mφφ-1.19; Mrθ0.10; Mθφ0.04; Mφr0.55;
Fault plane solution: M₀1.27000×10¹⁵ NP1:φs4.00000°,
δ58.00000°,λ96.00000°. NP2:φs172.00000°,δ32.00000°,
λ80.00000°.
JMA **16** *08:03:52.9,27.˝88N×143.˝05E,h31km±2km,M4.2*
MOS **16** *08:03:54.9±1.0,27.˝76N×142.˝73E,h30km,mb4.4/16,Error*
ellipse: s-maj=16.5km s-min=6.3km az=111.7
NEIC **16** *08:03:57.5±1.5,27.˝79N±0.˝06×142.˝7E±0.˝1,h36km±3km,*
mb4.5/29,Error ellipse: s-maj=15.8km s-min=8.4km
az=100.0

ISC 16 08:03:55.5±0.5,27°78N±0'05×142°79E±0'08,h22km,n130, σ1§31/135,mb4.3/45,13C-1D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.87**	**219**		P	**Pn**	**08 04 12.6**	**+0.2**
CBIJ					S	**Sn**	**08 04 26.7**	**+2.4**
JCJ	**Chichijima**	**0.87**	**219**		Pn	**Pn**	**08 04 12.7**	**+0.3**
	111nm,0.3s,baz=61,slow=6.7,SNR=39							
JCJ					Sn	**Sn**	**08 04 24.8**	**+0.4**
	113nm,0.3s,baz=139,slow=19,SNR=4.9							
JHH2	**Haha-jima-NKT2**	**1.26**	**206**		P	**Pn**	**08 04 18.0**	**+0.2**
JHH2					S	**Sb**	**08 04 36.5**	**+2.1**
JAOM	**Aogashimamukai**	**5.36**	**331**		P	**Pn**	**08 05 13.9**	**-0.3**
JHJ2	**Mitsune**	**5.91**	**335**		Pn	**Pn**	**08 05 22.9**	**+1.2**
JHJ	**Hachijo jima 2**	**5.93**	**335**		Pn	**Pn**	**08 05 20.9**	**-1.1**
	3.4nm,0.3s,baz=68,slow=19,SNR=1.9							
JHJ					Sn	**Sn**	**08 06 28.6**	**-0.6**
	3.7nm,0.3s,baz=75,slow=20,SNR=1.4							
JHJ					LR	LR	08 07 28.6	
	comp=Z,126nm,18.2s,baz=114,slow=37							
JOD2	**Odawara 2**	**8.11**	**338**		P	**Pn**	**08 05 50.3**	**-1.6**
JHU	**Hanno**	**8.59**	**341**		P	**Pn**	**08 05 57.3**	**-1.2**
JAG	**Ashikaga**	**9.08**	**343**		P	**Pn**	**08 06 04.1**	**-1.1**
MJAR	**Matsushiro Arr**	**9.56**	**337**		Pn	**Pn**	**08 06 11.2**	**-0.6**
	0.2nm,0.3s,baz=167,slow=12,SNR=12							
MJAR	**Matsushiro Arr**	**9.56**	**337**		P	**Pn**	**08 06 11.4**	**-0.5**
MJAR	**Matsushiro Arr**	**9.56**	**337**			**Pn**	**08 06 11.4**	**-0.5**
MAJO	**Matsushiro**	**9.57**	**337**		P	**Pn**	**08 06 11.4**	**-0.5**
MAJO	**Matsushiro**	**9.57**	**337**		Pn	**Pn**	**08 06 11.4**	**-0.5**
MJB9	**Matsu-Tunnel**	**9.57**	**337**			**Pn**	**08 06 11.2**	**-0.8**
JNU	**Nakatsue**	**11.58**	**300**		LR	LR	08 11 09.3	
	comp=Z,72nm,18.1s,baz=169,slow=38							
KSRS	**Korea Array**	**15.80**	**311**		Pn	**Pn**	**08 07 36.4**	**-0.2**
	baz=121,slow=11,SNR=1.5							
KSRS					LR	LR	08 13 13.5	
	comp=Z,35nm,18.1s,baz=120,slow=36							
JKA	**Kamikawa-asahi**	**16.31**	**360**		Pn	**Pn**	**08 07 40.9**	**-2.2**
ASAJ	**Asahikawa**	**16.31**	**359**		Pn	**Pn**	**08 07 38.2**	**-4.8**
	0.3nm,0.3s,baz=246,slow=12,SNR=4.4							
ASAJ	**Asahikawa**	**16.31**	**359**		P	**Pn**	**08 07 40.9**	**-2.2**
ASAJ					pmax	pmax		
	comp=Z,6.0nm,0.9s							
USA0B	**Ussuriysk Arra**	**18.55**	**335**		P	**Pn**	**08 08 11.0**	**+0.1**
USA0B					pmax	pmax		
	comp=Z,6.0nm,0.8s							
USA0B	**Ussuriysk Arra**	**18.55**	**335**		P	**Pn**	**08 08 11.0**	**+0.1**
USRK	**Ussuriysk Ar.**	**18.55**	**335**		P	**P**	**08 08 09.9**	**-0.7**
	baz=155,slow=12,SNR=8.3							
USRK	**Ussuriysk Ar.**	**18.55**	**335**		P	**Pn**	**08 08 11.6**	**+0.7**
USRK	**Ussuriysk Ar.**	**18.55**	**335**		P	**Pn**	**08 08 11.6**	**+0.7**
YSS	**Yuzh-Sakhalins**	**19.15**	**360**		*e*P	**Pn**	**08 08 18.6**	**+0.5**
YULB	**Yu-li**	**19.87**	**262**		P	**Pn**	**08 08 26.5**	**-0.5**
NJ2	**Nanjing**	**21.17**	**287**		*e*P	**P**	**08 08 39.4**	**+0.1**
NJ2					pmax	pmax		
	comp=Z,4.0nm,0.5s							
KLR	**Kul'dur**	**23.05**	**341**		P	**P**	**08 08 59.2**	**0.0**
	comp=Z,2.2nm,0.8s,baz=123,slow=12,SNR=6.7							
KLR	**Kul'dur**	**23.05**	**341**		*ce*P	**P**	**08 08 59.3**	**0.0**
KLR					pmax	pmax		
	comp=Z,8.0nm,1.1s							
GRNR	**Gornyy**	**23.47**	**350**	⇑	*i*P	**P**	**08 09 09.5**	**+6.1**
GRNR					pmax	pmax		
	comp=Z,3.0nm,0.8s							
GRNR					MLR	MLR		
	comp=N,30nm,16.0s							
GRNR					MLR	MLR		
	comp=E,50nm,16.0s							
WHN	**Wuhan**	**24.97**	**283**	⇓	P	P	08 09 09.6	-7.9
PETK	**Petropavlovsk-**	**27.62**	**20**		LR	LR	08 22 03.5	
	comp=E,9.3nm,19.5s,baz=62,slow=40							
HHC	**Hu-ho-hao-te**	**28.74**	**305**		*e*P	**P**	**08 09 52.3**	**+0.8**
HHC					SS	SS	08 16 08.1	-33
HHC					pmax	pmax		
	comp=Z,19nm,0.9s							
HHC					pmax	pmax		
	comp=Z,77nm,4.2s							
HHC					LR	LR		
	comp=N,100nm,12.6s							
HHC					LR	LR		
	comp=E,110nm,12.9s							
HHC					LR	LR		
	comp=Z,140nm,13.1s							
ENH	**Enshi**	**29.17**	**283**		P	**P**	**08 09 54.7**	**-0.7**
ENH					IAmb	IAmb	08 09 56.8	
	comp=Z,8.3nm,0.6s							
LZH	**Lanzhou**	**33.90**	**294**		*e*P	**P**	**08 10 36.3**	**-0.7**
LZH					pP	sP	08 10 44.9	-0.6
LZH					sP	pwP	08 10 48.8	+2.0
LZH					pmax	pmax		
	comp=Z,20nm,1.0s							
ULN	**Ulaanbaatar**	**34.21**	**316**		*ce*P	**P**	**08 10 40.3**	**+0.7**
ULN					pmax	pmax		
	comp=Z,7.0nm,1.3s							
ULN	**Ulaanbaatar**	**34.21**	**316**		P	**P**	**08 10 39.5**	**0.0**
ULN					IAmb	IAmb	08 10 44.3	
	comp=Z,3.4nm,0.8s							
SONM	**Songino Array**	**34.61**	**315**		P	**P**	**08 10 41.7**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=115,slow=11,SNR=4.3							
SONM	**Songino Array**	**34.61**	**315**		P	**P**	**08 10 43.0**	**0.0**
SONM					pmax	pmax		
	comp=Z,1.0nm,0.8s							
SONM	**Songino Array**	**34.61**	**315**		P	**P**	**08 10 43.0**	**0.0**
YAK	**Yakutsk**	**35.35**	**349**	*i*	P	**P**	**08 10 49.9**	**+0.9**
YAK					pmax	pmax		
	comp=Z,3.0nm,0.8s							
SEY	**Seymchan**	**35.72**	**7**	*i*	P	**P**	**08 10 53.4**	**+1.2**
GTA	**Gaotai**	**37.31**	**299**		*e*P	**P**	**08 11 06.0**	**-0.3**
GTA					pP	pP	08 11 12.6	+0.5
GTA					sP	pwP	08 11 15.8	-0.3
GTA					pmax	pmax		
	comp=Z,6.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**41.20**	**267**		P	**P**	**08 11 36.7**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=57,slow=10.0,SNR=1.2							
CMAR	**Chiang Mai Arr**	**41.20**	**267**		P	**P**	**08 11 37.3**	**-1.5**
CMAR	**Chiang Mai Arr**	**41.20**	**267**		P	**P**	**08 11 37.3**	**-1.5**
MTN	**Manton Dam**	**41.93**	**197**		P	**P**	**08 11 43.3**	**-1.4**
TIXI	**Tiksi**	**44.59**	**354**	*i*	P	**P**	**08 12 04.6**	**-1.0**
TIXI					pmax	pmax		
	comp=Z,3.0nm,0.9s							
WMQ	**Urumqi**	**46.62**	**305**		*e*P	**P**	**08 12 23.4**	**+1.2**
WMQ					LR	LR		
	comp=N,230nm,18.9s							
WMQ					LR	LR		
	comp=E,320nm,22.5s							
WMQ					LR	LR		
	comp=Z,34nm,20.1s							
DGZ	**Jazzator, Alta**	**47.19**	**313**	*i*	P	**P**	**08 12 27.6**	**+1.0**
DGZ					pmax	pmax		
	comp=Z,7.0nm,1.0s							
WB0	**Warramunga Arr**	**47.96**	**191**		P	**P

	comp=Z,18nm,1.3s								
KURK	**Kurchatov**	**52.90**	**314**		P		**P**	**08 13 10.3**	**+0.6**
KURK					IAmb		IAmb	08 13 10.8	
	comp=Z,10nm,0.9s								
IMAR	**Indian Mountai**	**54.20**	**27**		P		**P**	**08 13 20.3**	**+1.3**
ILAR	**Eielson Array**	**56.86**	**29**		P		**P**	**08 13 38.1**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=262,slow=5.8,SNR=9.4								
ILAR	**Eielson Array**	**56.86**	**29**		P		**P**	**08 13 38.4**	**+0.2**
ILAR	**Eielson Array**	**56.86**	**29**		P		**P**	**08 13 38.4**	**+0.2**
BRVK	**Borovoye**	**57.97**	**317**	*ce*	P		**P**	**08 13 48.1**	**+1.9**
BRVK					pmax		pmax		
	comp=Z,5.0nm,1.3s								
BRVK	**Borovoye**	**57.97**	**317**		P		**P**	**08 13 47.0**	**+0.8**
BRVK					IAmb		IAmb	08 13 48.8	
	comp=Z,3.5nm,0.8s								
KK31	**Karatay Array**	**59.13**	**306**		P		**P**	**08 13 54.3**	**-0.2**
KK31					pmax		pmax		
	comp=Z,5.0nm,1.0s								
KK31	**Karatay Array**	**59.13**	**306**		P		**P**	**08 13 54.3**	**-0.2**
KK31					IAmb		IAmb	08 13 55.9	
	comp=Z,5.3nm,1.0s								
KKAR	**Karatay Array**	**59.13**	**306**		P		**P**	**08 13 54.5**	**0.0**
KKAR	**Karatay Array**	**59.13**	**306**		P		**P**	**08 13 54.5**	**0.0**
CHGR	**Chuyangaron**	**61.06**	**301**		P		**P**	**08 14 07.5**	**-0.4**
SVE	**Sverdlovsk**	**63.02**	**322**	*eP*	P		**P**	**08 14 21.3**	**+0.7**
ARU	**Arti**	**64.22**	**322**	*c i*	P		**P**	**08 14 28.5**	**0.0**
ARU								08 16 47.1	
ARU					S		**S**	**08 23 08.7**	**+4.1**
ARU					SS		**SS**	**08 27 10.2**	**-3.4**
ARU					pmax		pmax		
	comp=Z,9.0nm,0.8s								
ARU	**Arti**	**64.22**	**322**		P		**P**	**08 14 28.2**	**-0.3**
ABKAR	**Akbulak array**	**65.01**	**314**		P		**P**	**08 14 33.8**	**0.0**
KIRV	**Kirov**	**68.44**	**326**	*eP*	P		**P**	**08 14 56.7**	**+1.3**
YKA	**Yellowknife Ar**	**71.29**	**29**		P		**P**	**08 15 12.8**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=289,slow=4.4,SNR=4.8								
YKA	**Yellowknife Ar**	**71.29**	**29**	*eP*	P		**P**	**08 15 13.6**	**+0.7**
YKA					pmax		pmax		
	comp=Z,1.0nm,0.9s								
NLWA	**Neilton Lookou**	**72.24**	**45**		P		**P**	**08 15 20.3**	**+1.3**
NLWA					IAmb		IAmb	08 15 30.4	
	comp=Z,6.0nm,1.1s								
PINE	**Pine Mountain**	**75.54**	**48**		P		**P**	**08 15 40.2**	**+1.6**
PINE					IAmb		IAmb	08 15 42.4	
	comp=Z,3.9nm,1.0s								
K05A	**Summer Lake**	**76.02**	**49**		P		**P**	**08 15 42.5**	**+1.1**
K05A					IAmb		IAmb	08 15 53.4	
	comp=Z,5.4nm,1.1s								
OBN	**Obninsk**	**76.28**	**325**	*eP*	P		**P**	**08 15 43.8**	**+1.5**
OBN					pmax		pmax		
	comp=Z,5.0nm,0.3s								
FINES	**FINESS Array B**	**77.58**	**334**		P		**P**	**08 15 48.3**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=83,slow=4.4,SNR=6.2								
FINES	**FINESS Array B**	**77.58**	**334**	*ce*	P		**P**	**08 15 49.0**	**-0.5**
FINES					pmax		pmax		
	comp=Z,1.0nm,0.7s								
KBZ	**Khabaz**	**77.94**	**313**	*ce*	P		**P**	**08 15 52.8**	**+0.9**
KBZ					pmax		pmax		
	comp=Z,3.0nm,1.0s								
KIV	**Kislovodsk**	**77.98**	**313**	*eP*	P		**P**	**08 15 51.5**	**-0.7**
KIV					pmax		pmax		
	comp=Z,12nm,1.0s								
KIV					MLR		MLR		
	comp=Z,58nm,18.0s								
MFID	**Camas Ranch**	**79.04**	**47**		P		**P**	**08 15 58.7**	**+0.5**
MFID					IAmb		IAmb	08 16 10.4	
	comp=Z,2.8nm,0.9s								
NVAR	**Mina Array Bea**	**79.67**	**52**		P		**P**	**08 16 01.6**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=284,slow=6.3,SNR=5.9								
NVAR	**Mina Array Bea**	**79.67**	**52**		P		**P**	**08 16 02.5**	**+0.6**
LRM	**Limekiln Ridge**	**80.01**	**43**		P		**P**	**08 16 04.0**	**+0.5**
AKASG	**Malin Array Be**	**82.39**	**324**		P		**P**	**08 16 14.7**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=49,slow=5.3,SNR=2.2								
AKASG	**Malin Array Be**	**82.39**	**324**		P		**P**	**08 16 15.5**	**-0.3**
AKASG					pmax		pmax		
	comp=Z,2.0nm,1.4s								
AKASG	**Malin Array Be**	**82.39**	**324**		P		**P**	**08 16 15.4**	**-0.3**
NOA	**NORSAR Array B**	**83.18**	**338**		P		**P**	**08 16 17.9**	**-1.8**
	comp=Z,0.7nm,0.9s,baz=46,slow=5.6,SNR=2.2								
PDAR	**Pinedale Array**	**83.35**	**45**		P		**P**	**08 16 20.9**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=262,slow=4.2,SNR=5.3								
PDAR	**Pinedale Array**	**83.35**	**45**		P		**P**	**08 16 20.1**	**-1.1**
BRTR	**Keskin Array B**	**85.94**	**313**		P		**P**	**08 16 34.2**	**0.0**
	comp=Z,0.9nm,0.7s,baz=132,slow=4.6,SNR=4.2								
BRTR	**Keskin Array B**	**85.94**	**313**	*ce*	P		**P**	**08 16 36.5**	**+2.2**
BRTR					pmax		pmax		
	comp=Z,1.0nm,0.7s								
BRTR	**Keskin Array B**	**85.94**	**313**		P		**P**	**08 16 35.3**	**+1.0**
CLL	**Collm**	**89.72**	**331**	*i*	P		**P**	**08 16 50.8**	**-1.1**
CLL	**Collm**	**89.72**	**331**	*i*	P		**P**	**08 16 50.8**	**-1.1**
GERES	**GERESS Array B**	**91.21**	**329**		P		**P**	**08 16 58.4**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=53,slow=5.2,SNR=3.8								
GERES	**GERESS Array B**	**91.21**	**329**		P		**P**	**08 16 58.9**	**-0.2**
GERES	**GERESS Array B**	**91.21**	**329**		P		**P**	**08 16 58.9**	**-0.2**
TXAR	**Lajitas Array**	**94.77**	**53**		P		**P**	**08 17 16.0**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=292,slow=3.9,SNR=6.6								
TXAR	**Lajitas Array**	**94.77**	**53**		P		**P**	**08 17 16.0**	**+0.1**
TXAR	**Lajitas Array**	**94.77**	**53**		P		**P**	**08 17 15.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**124.54**	**312**		PKP		**PKPdf**	**08 22 52.1**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=5.5,slow=1.6,SNR=2.1								
TORD	**Torodi Ar. Bea**	**124.54**	**312**				**PKPdf**	**08 22 53.6**	**-0.3**
SNAA	**Sanae**	**132.16**	**194**		PKIKP		**PKPdf**	**08 23 06.7**	**-0.1**
SNAA	**Sanae**	**132.16**	**194**		PKPdf		**PKPdf**	**08 23 06.7**	**-0.1**
LPAZ	**La Paz**	**149.23**	**75**		PKPbc		**PKPbc**	**08 23 42.8**	**-1.0**
	comp=Z,1.9nm,1.0s,baz=324,slow=4.9,SNR=6.2								
LPAZ	**La Paz**	**149.23**	**75**		PKPbc		**PKPbc**	**08 23 43.8**	**0.0**

*ISK **16** 08:09:02.7, 38.08N×42.76E, h5km, ML2.8/8*
*DDA **16** 08:09:03.7, 38.06N×42.75E, h7km±3km, ML2.4*
ISC 16 08:09:04.2±1.1, 38.07N±0.03×42.78E±0.03, h4km±10km, n19, σ0.71/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKDM	**Akdamar-Van**	**0.30**	**31**	PG	**Pg**	**08 09 09.9**	**-0.3**
AKDM				SG	**Sg**	**08 09 15.1**	**+0.9**
GEVA	**Gevas**	**0.33**	**42**	*i* P	**Pg**	**08 09 10.2**	**-0.5**
GEVA				*i* S	**Sg**	**08 09 16.5**	**+1.5**
GEVA				IAML		08 09 17.0	
	comp=E,593nm,0.1s						
GEVA				IAML		08 09 18.0	
	comp=N,868nm,0.6s						
SIRT	**Sirnak**	**0.63**	**206**	PG	**Pg**	**08 09 16.1**	**-0.2**
SIRT				SG	**Sb**	**08 09 25.9**	**-1.0**
BLIS	**Bitlis-Merkez**	**0.63**	**304**	*i* P	**Pg**	**08 09 15.9**	**-0.5**
BLIS				*i* S	**Sg**	**08 09 24.6**	**0.0**
BLIS				IAML		08 09 27.0	
	comp=N,140nm,0.2s						
BLIS				IAML		08 09 28.0	
	comp=E,159nm,0.4s						
TVAN	**Van**	**0.67**	**47**	*i* P	**Pg**	**08 09 17.1**	**-0.1**
TVAN				*i* S	**Sb**	**08 09 28.5**	**+0.1**
TVAN				IAML		08 09 35.0	
	comp=N,104nm,0.7s						
TVAN				IAML		08 09 40.0	
	comp=E,125nm,0.6s						
SRTM	**Siirt_Merkez**	**0.68**	**264**	*i* P	**Pg**	**08 09 17.0**	**-0.3**
SRTM				*i* S	**Sb**	**08 09 28.3**	**-0.2**
SRTM				IAML		08 09 30.0	
	comp=N,252nm,0.6s						
SRTM				IAML		08 09 34.0	
	comp=E,199nm,0.7s						
VANB	**Van**	**0.71**	**42**	PG	**Pg**	**08 09 16.6**	**-1.3**
GURO	**Guroymak-BITLI**	**0.76**	**310**	PG	**Pg**	**08 09 17.9**	**-1.0**
HAKT	**HAKKARI**	**0.89**	**125**	*i* P	**Pg**	**08 09 21.0**	**-0.3**
HAKT				*i* S	**Sn**	**08 09 37.3**	**+0.1**
MUSM	**Mu-Merkez**	**1.19**	**304**	*i* P	**Pg**	**08 09 26.1**	**-1.0**
MUSM				*i* S	**Sn**	**08 09 44.5**	**0.0**
BTMN	**Batman**	**1.21**	**262**	*i* P	**Pn**	**08 09 28.5**	**+0.6**
BTMN				*i* S	**Sn**	**08 09 46.3**	**+1.5**
SVAN	**Silvan-Diyarba**	**1.25**	**274**	PN	**Pb**	**08 09 27.7**	**-0.7**
SVAN				SN	**Sn**	**08 09 45.9**	**+0.1**
TUTA	**Tutak**	**1.33**	**1**	*i* P	**Pb**	**08 09 29.5**	**-0.4**
TUTA				*i* S	**Sn**	**08 09 48.4**	**+0.3**
TUTA				IAML		08 09 49.0	
	comp=N,84nm,0.3s						
AGRB	**Hanur-Agry**	**1.52**	**6**	PN	**Pn**	**08 09 31.9**	**-0.4**
AGRB				SN	**Sg**	**08 09 53.2**	**+0.3**
BNGL	**BINGOL**	**1.56**	**305**	*i* P	**Pg**	**08 09 35.1**	**+1.0**
MARD	**Mardin**	**1.76**	**245**	*i* P	**Pb**	**08 09 36.9**	**-0.2**
MARD				*i* S	**Sg**	**08 10 01.1**	**+0.4**
MARD				IAML		08 10 03.0	
	comp=E,85nm,0.5s						
MARD				IAML		08 10 03.0	
	comp=N,142nm,0.7s						
EATA	**Eleskirt**	**1.81**	**353**	*i* P	**Pb**	**08 09 37.8**	**-0.3**
EATA				IAML		08 10 03.0	
	comp=E,38nm,0.8s						
EATA				*i* S	**Sg**	**08 10 03.3**	**+1.0**
EATA				IAML		08 10 04.0	
	comp=N,64nm,0.4s						
MAZI	**Mazidag**	**1.95**	**253**	PN	**Pn**	**08 09 38.2**	**+0.1**
SVRC	**Sivrice-ELAZID**	**2.75**	**278**	PN	**Pn**	**08 09 49.6**	**+0.3**

*IDC **16** 08:30:10.3±0.7, 7.02S×125.12E, h543km±8km, mb3.7/22, mb1 3.7/27, mb1mx3.6/50, mbtmp4.6/27, Error ellipse: s-maj=13.5km s-min=7.5km az=77.0*
*DJA **16** 08:30:10.6±0.4, 7.5S×12.5E±, h534km±5km, M4.4/15, mb4.4/12, mB4.8/6, MLv4.7/15, Mw(mB)4.1/6*
*NEIC **16** 08:30:10.1±1.5, 7.03S±0.08×125.1E±0.1, h542km±3km, mb4.6/40, Error ellipse: s-maj=16.1km s-min=12.1km az=88.0*
ISC 16 08:30:10.0±0.3, 7.03S±0.04×125.07E±0.07, h543km, n128, σ1$27/138, mb4.4/38, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.82**	**196**	P	**P**	**08 31 24.1**	**+0.5**
SOEI				S	**S**	**08 32 21.7**	**-1.7**
SOEI	**Soe**	**2.82**	**196**	P	**P**	**08 31 23.8**	**+0.2**
SOEI				S	**S**	**08 32 21.9**	**-1.4**
MMRI	**Maumere**	**3.23**	**240**	P	**P**	**08 31 25.6**	**-0.4**
MMRI	**Maumere**	**3.23**	**240**		**P**	**08 31 25.6**	**-0.4**
MMRI				S	**S**	**08 32 27.8**	**0.0**
BATI	**Baumata**	**3.45**	**204**	P	**P**	**08 31 28.4**	**+0.9**
	183nm,0.3s,baz=31,slow=1.6,SNR=62						
BATI				S	**S**	**08 32 30.6**	**+0.1**
	19nm,0.3s,baz=62,slow=17,SNR=2.1						
BATI	**Baumata**	**3.45**	**204**	P	**P**	**08 31 28.2**	**+0.7**
BATI				S	**S**	**08 32 29.8**	**-0.7**
EDFI	**Ende, Flores**	**3.76**	**243**	P	**P**	**08 31 29.0**	**-0.8**
NLAI	**Namlea**	**4.27**	**28**	P	**P**	**08 31 34.6**	**+1.0**
NLAI				S	**S**	**08 32 42.0**	**+0.4**
AAI	**Ambon**	**4.55**	**43**	P	**P**	**08 31 36.7**	**+0.9**
SANI	**Sanana**	**5.03**	**10**	P	**P**	**08 31 40.5**	**+0.7**
	2.0nm5µm531nm,0.7s						
BASI	**Baing, Sumba**	**5.46**	**234**	P	**P**	**08 31 43.4**	**0.0**
	1.6nm155nm,0.5s						
BNSI	**Bone**	**5.59**	**298**	P	**P**	**08 31 46.2**	**+1.5**
	0.6nm2µm139nm,0.7s						
KAPI	**Kappang**	**5.66**	**290**	P	**P**	**08 31 47.4**	**+2.1**
	4.2nm,0.3s,baz=124,slow=6.5,SNR=11						
KAPI	**Kappang**	**5.66**	**290**	P	**P**	**08 31 47.1**	**+1.8**
SPSI	**Sidrap Palu**	**6.10**	**300**	P	**P**	**08 31 49.9**	**+0.6**
	0.3nm775nm84nm,0.6s						
WBSI	**Waikabubak, Su**	**6.19**	**245**	P	**P**	**08 31 48.8**	**-1.4**
	1.6nm133nm,0.7s						
LUWI	**Luwuk**	**6.38**	**339**	P	**P**	**08 31 53.4**	**+1.5**
	0.5nm149nm,0.9s						
LUWI	**Luwuk**	**6.38**	**339**	P	**P**	**08 31 53.5**	**+1.5**
PLAI	**Plampang**	**7.45**	**256**	P	**P**	**08 32 01.5**	**-0.6**
	0.3nm32nm,0.9s						
KMSI	**Cibinong**	**7.63**	**352**	P	**P**	**08 32 05.5**	**+1.5**
	1.7nm5µm466nm,0.6s						
GTOI	**Gorontalo**	**7.89**	**345**	P	**P**	**08 32 09.2**	**+2.7**
	910nm88nm,0.8s						
TNTI	**Ternate**	**8.08**	**17**	P	**P**	**08 32 09.0**	**+0.5**
FAKI	**Fak Fak**	**8.23**	**61**	P	**P**	**08 32 09.7**	**-0.3**
	61nm,1.2s						
FAKI	**Fak Fak**	**8.23**	**61**	P	**P**	**08 32 09.5**	**-0.4**
TWSI	**Taliwang, Sumb**	**8.29**	**258**	P	**P**	**08 32 08.8**	**-1.7**
	13nm,1.4s						
MTN	**Manton Dam**	**8.30**	**135**		**P**	**08 32 11.2**	**+0.6**
SIJI	**Sorong**	**8.70**	**46**	P	**P**	**08 32 15.7**	**+1.0**
	7.0nm,0.3s,baz=213,slow=7.9,SNR=9.1						
SIJI				S	**S**	**08 33 55.3**	**-1.5**
	0.9nm,0.3s,baz=221,slow=19,SNR=1.8						
MPSI	**Mapaga**	**8.96**	**325**	P	**P**	**08 32 18.6**	**+1.3**
	25nm,0.7s						
KNRA	**Kununurra**	**9.32**	**158**		**P**	**08 32 21.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**11.01**	**177**	P	**P**	**08 32 38.4**	**+0.1**
	1.7nm,0.3s,baz=360,slow=8.9,SNR=37						
FITZ				S	**S**	**08 34 36.8**	**-3.5**
	0.4nm,0.3s,baz=72,slow=13,SNR=6.3						
PSA00	**Pilbara Seismi**	**15.31**	**199**		**P**	**08 33 22.1**	**-0.8**
PSA00				IAmb	IAmb	08 33 24.1	
	comp=Z,17nm,0.8s						
WB0	**Warramunga Arr**	**15.56**	**145**	P	**P**	**08 33 23.9**	**-1.5**
WRAB	**Tennant Creek**	**15.67**	**146**	P	**P**	**08 33 24.6**	**-2.0**
WRAB				IAmb	IAmb	08 33 28.1	
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	**15.67**	**146**	P	**P**	**08 33 25.7**	**-0.9**
	comp=Z,3.9nm,0.3s,baz=326,slow=10,SNR=209						
WRA				S	**S**	**08 36 08.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=328,slow=15,SNR=3.3						
WRA	**Warramunga Arr**	**15.67**	**146**	P	**P**	**08 33 23.9**	**-2.6**
WB2	**Warramunga Arr**	**15.68**	**146**		**P**	**08 33 25.9**	**-0.7**
WB2				IAmb	IAmb	08 33 26.6	
	comp=Z,22nm,0.8s						
WR0	**Warramunga Arr**	**15.80**	**145**		**P**	**08 33 27.2**	**-0.7**
AS31	**Alice Springs**	**18.59**	**154**	P	**P**	**08 33 54.5**	**+0.8**
ASAR	**Alice Springs**	**18.59**	**154**	P	**P**	**08 33 54.2**	**+0.6**
	comp=Z,7.1nm,0.3s,baz=346,slow=14,SNR=526						
ASAR				ScP	**ScP**	**08 40 38.1**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=348,slow=1.9,SNR=11						
ASAR	**Alice Springs**	**18.59**	**154**	P	**P**	**08 33 54.0**	**+0.3**
GIRL	**Giralia**	**18.71**	**213**		**P**	**08 33 56.0**	**+1.3**
COEN	**Coen**	**19.07**	**113**	P	**P**	**08 33 58.2**	**0.0**
COEN				IAmb	IAmb	08 34 00.2	
	comp=Z,8.9nm,0.5s						
COEN				PcP	**PcP**	**08 37 54.7**	**-1.1**
MORW	**Morawa**	**23.52**	**200**	P	**P**	**08 34 37.6**	**-0.4**
MORW				IAmb	IAmb	08 34 49.9	
	comp=Z,19nm,1.5s						
FORT	**Forrest**	**23.79**	**174**	P	**P**	**08 34 40.2**	**-0.2**
CTA	**Charters Tower**	**24.30**	**124**	P	**P**	**08 34 45.8**	**+0.7**
	comp=Z,3.6nm,0.6s,baz=273,slow=6.9,SNR=4.5						
CTAO	**Charters Tower**	**24.30**	**124**	P	**P**	**08 34 46.1**	**+1.0**
CTAO				IAmb	IAmb	08 34 46.7	
	comp=Z,14nm,1.3s						
NWAO	**Narrogin (SRO)**	**26.78**	**195**	P	**P**	**08 35 06.8**	**+0.1**
	comp=Z,7.0nm,0.4s,baz=28,slow=8.1,SNR=14						
NWAO	**Narrogin (SRO)**	**26.78**	**195**	P	**P**	**08 35 06.7**	**-0.1**
NWAO				IAmb	IAmb	08 35 07.5	
	comp=Z,8.3nm,0.8s						
NWAO	**Narrogin (SRO)**	**26.78**	**195**	P	**P**	**08 35 06.6**	**-0.2**
NWAO				IAmb	IAmb	08 35 07.5	
	comp=Z,6.6nm,0.8s						
BBOO	**Buckleboo**	**27.61**	**160**	P	**P**	**08 35 14.1**	**0.0**
BBOO				IAmb	IAmb	08 35 15.0	
	comp=Z,14nm,0.8s						
GUMO	**Guam**	**28.39**	**44**	P	**P**	**08 35 20.3**	**-0.8**
	comp=Z,17nm,0.5s,baz=184,slow=14,SNR=1.9						
GUMO	**Guam**	**28.39**	**44**	P	**P**	**08 35 20.8**	**-0.3**
STKA	**Stephens Creek**	**29.13**	**150**	P	**P**	**08 35 28.2**	**+0.9**
	comp=Z,20nm,0.5s,baz=320,slow=9.5,SNR=51						
STKA	**Stephens Creek**	**29.13**	**150**	P	**P**	**08 35 28.1**	**+0.7**
STKA				IAmb	IAmb	08 35 28.9	
	comp=Z,4.6nm,0.6s						
TPUB	**Ta-pu**	**30.46**	**352**	P	**P**	**08 35 38.0**	**-0.9**
ARMA	**Armidale**	**34.08**	**136**	P	**P**	**08 36 11.5**	**+1.7**
ARMA				IAmb	IAmb	08 36 30.3	
	comp=Z,30nm,1.5s						
TOO	**Toolangi**	**35.61**	**152**	P	**P**	**08 36 23.5**	**+1.2**
CAN	**Canberra**	**35.71**	**145**	P	**P**	**08 36 24.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**36.14**	**315**	P	**P**	**08 36 27.9**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=144,slow=6.8,SNR=6.2						
CMAR				ScP	**ScP**	**08 41 34.0**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=155,slow=4.3,SNR=4.5						
CMAR	**Chiang Mai Arr**	**36.14**	**315**	P	**P**	**08 36 27.2**	**+0.3**
JCJ	**Chichijima**	**37.76**	**25**	P	**P**	**08 36 38.5**	**-1.5**
	comp=Z,24nm,0.5s,baz=287,slow=19,SNR=1.6						
GYA	**Guiyang**	**37.78**	**332**	P	**P**	**08 36 41.0**	**+0.6**
GYA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
NJ2	**Nanjing**	**39.31**	**352**	*eP*	**P**	**08 36 55.0**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
XAN	**Xi'an**	**43.62**	**340**	P	**P**	**08 37 26.1**	**-0.6**
XAN				pmax	pmax		
	comp=Z,19nm,0.6s						
XAN	**Xi'an**	**43.62**	**340**	P	**P**	**08 37 25.6**	**-1.1**
XAN				IAmb	IAmb	08 37 26.8	
	comp=Z,12nm,0.8s						
KSAR	**Wonju Array Be**	**44.32**	**3**	P	**P**	**08 37 33.0**	**+1.1**
KSRS	**Korea Array**	**44.33**	**3**	P	**P**	**08 37 32.7**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=181,slow=9.7,SNR=18						
MAJO	**Matsushiro**	**45.06**	**15**	P	**P**	**08 37 37.4**	**-0.3**
MAJO				IAmb	IAmb	08 37 42.6	
	comp=Z,16nm,1.4s						
MAT	**Matsushiro**	**45.06**	**15**	P	**P**	**08 37 37.3**	**-0.4**
MJAR	**Matsushiro Arr**	**45.06**	**15**	P	**P**	**08 37 36.7**	**-1.0**
	comp=Z,4.4nm,0.7s,baz=198,slow=9.5,SNR=15						
MJB9	**Matsu-Tunnel**	**45.06**	**15**	P	**P**	**08 37 37.3**	**-0.4**
MJB9				IAmb	IAmb	08 37 42.4	
	comp=Z,17nm,1.4s						
LZH	**Lanzhou**	**47.30**	**336**	*eP*	**P**	**08 37 59.3**	**+4.4**
LZH				pP	pwP	08 39 39.1	-0.3
LZH				sP	sP	08 40 39.4	+5.7
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
BJI	**Beijing**	**47.55**	**351**	P	**P**	**08 37 57.5**	**+1.1**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**49.24**	**346**	*eP*	**P**	**08 38 08.5**	**-0.6**
HHC				PcS	PcS	08 43 09.0	-11
HHC				S	S	08 44 22.8	-12
HHC				SS	**SS**	**08 48 08.5**	**-7.6**
HHC				pmax	pmax		
	comp=Z,27nm,1.1s						
HHC				pmax	pmax		
	comp=Z,100nm,5.7s						
USRK	**Ussuriysk Ar.**	**51.38**	**6**	P	**P**	**08 38 24.9**	**+0.4**
	comp=Z,4.2nm,0.5s,baz=186,slow=6.6,SNR=8.2						
USRK	**Ussuriysk Ar.**	**51.38**	**6**	P	**P**	**08 38 25.2**	**+0.7**
GTA	**Gaotai**	**51.79**	**335**	*eP*	**P**	**08 38 28.4**	**+0.6**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ASAJ	**Asahikawa**	**53.32**	**16**	P	**P**	**08 38 39.0**	**+0.6**
	comp=Z,3.4nm,0.6s,baz=224,slow=12						
JKA	**Kamikawa-asahi**	**53.32**	**16**	P	**P**	**08 38 38.6**	**+0.1**
WHZ	**Wether Hill Ro**	**53.48**	**144**	P	**P**	**08 38 40.0**	**+0.4**
WHZ				IAmb	IAmb	08 38 49.3	
	comp=Z,41nm,1.4s						
RPZ	**Rata Peaks**	**54.27**	**140**	P	**P**	**08 38 45.0**	**-0.3**
	comp=Z,24nm,0.9s,baz=285,slow=2.7,SNR=10						
RPZ	**Rata Peaks**	**54.27**	**140**	P	**P**	**08 38 45.8**	**+0.5**
RPZ				IAmb	IAmb	08 38 47.0	
	comp=Z,26nm,1.0s						
TUWZ	**Tuamarina**	**55.17**	**136**	P	**P**	**08 38 51.9**	**+0.3**
BKZ	**Black Stump Fm**	**56.10**	**133**	P	**P**	**08 38 58.5**	**+0.3**
BKZ				IAmb	IAmb	08 39 07.6	
	comp=Z,41nm,1.4s						
URZ	**Urewera**	**56.24**	**132**	P	**P**	**08 38 59.0**	**-0.1**
	comp=Z,9.8nm,1.0s,baz=276,slow=9.2,SNR=2.1						
URZ	**Urewera**	**56.24**	**132**	P	**P**	**08 38 58.4**	**-0.7**
URZ				IAmb	IAmb	08 39 11.7	
	comp=Z,43nm,1.4s						
KLR	**Kul'dur**	**56.33**	**5**	P	**P**	**08 38 59.5**	**0.0**
	comp=Z,1.3nm,0.4s,baz=183,slow=6.9,SNR=6.9						
SONM	**Songino Array**	**57.07**	**345**	P	**P**	**08 39 05.1**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=162,slow=8.6,SNR=8.5						
SONM	**Songino Array**	**57.07**	**345**	P	**P**	**08 39 05.1**	**+0.4**
WMQ	**Urumqi**	**60.86**	**330**	*eP*	**P**	**08 39 32.1**	**+2.0**
WMQ				LR	LR		
	comp=N,95nm,24.5s						
WMQ				LR	LR		
	comp=E,180nm,24.5s						
WMQ				LR	LR		
	comp=Z,210nm,22.3s						
MK31	**Makanchi Array**	**65.66**	**329**	P	**P**	**08 40 00.8**	**0.0**
MKAR	**Makanchi Array**	**65.66**	**329**	P	**P**	**08 40 01.1**	**+0.4**
	comp=Z,4.4nm,0.6s,baz=126,slow=7.6,SNR=46						
MKAR	**Makanchi Array**	**65.66**	**329**	P	**P**	**08 40 00.2**	**-0.5**
MAKZ	**Makanchi**	**65.83**	**329**	P	**P**	**08 40 02.2**	**+0.3**
PEA0B	**Petropavlovsk-**	**65.99**	**21**	P	**P**	**08 40 03.9**	**+1.2**
PEA0B				IAmb	IAmb	08 40 04.9	
	comp=Z,34nm,1.4s						
PETK	**Petropavlovsk-**	**65.99**	**21**	P	**P**	**08 40 03.5**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=212,slow=10,SNR=4.7						
**P

WB2 IAmb IAmb 08 42 53.5
comp=Z,8.3nm,1.4s
WRA Warramunga Arr 32.89 266 P **P** **08 42 44.1 -0.9**
comp=Z,1.0nm,0.8s,baz=96,slow=8.4,SNR=6.5
WRA Warramunga Arr 32.89 266 P **P** **08 42 43.9 -1.1**
AS31 Alice Springs 32.92 259 P **P** **08 42 45.7 +0.4**
ASAR Alice Springs 32.93 259 P **P** **08 42 45.3 0.0**
comp=Z,1.6nm,0.7s,baz=86,slow=9.3,SNR=20
ASAR LR LR 08 55 38.4
comp=Z,51nm,19.1s,baz=100,slow=36
ASAR Alice Springs 32.93 259 P **P** **08 42 45.0 -0.3**
MTN Manton Dam 37.53 277 P **P** **08 43 23.6 -1.4**
KNRA Kununurra 38.95 271 P **P** **08 43 36.6 -0.2**
FITZ Fitzroy Crossi 41.31 266 P **P** **08 43 57.6 +1.1**
FITZ IAmb IAmb 08 43 58.6
comp=Z,9.3nm,0.8s
VNDA Vanda 56.46 182 LR LR 09 07 18.6
comp=Z,34nm,18.4s,baz=338,slow=33
MJAR Matsushiro Arr 64.61 332 P **P** **08 46 47.1 -0.9**
comp=Z,2.5nm,0.8s,baz=170,slow=7.3,SNR=6.4
MJAR Matsushiro Arr 64.61 332 P **P** **08 46 47.2 -0.8**
MAJO Matsushiro 64.62 332 P **P** **08 46 47.2 -0.8**
MAJO IAmb IAmb 08 46 58.2
comp=Z,4.7nm,1.0s
QSPA South Pole Qui 68.83 180 P **P** **08 47 13.7 -1.0**
QSPA IAmb IAmb 08 47 14.5
comp=Z,4.7nm,0.8s
KSRS Korea Array 70.28 326 P **P** **08 47 24.9 +1.1**
comp=Z,0.6nm,0.6s,baz=140,slow=7.8,SNR=2.5
PETK Petropavlovsk- 74.73 353 LR LR 09 14 56.2
comp=Z,28nm,20.5s,baz=79,slow=31
KLR Kul'dur 77.77 336 P **P** **08 48 07.8 +0.5**
comp=Z,1.8nm,0.8s,baz=124,slow=11,SNR=5.0
CMAR Chiang Mai Arr 79.53 294 P **P** **08 48 19.1 +1.4**
comp=Z,0.8nm,0.5s,baz=141,slow=4.4,SNR=5.7
CMAR Chiang Mai Arr 79.53 294 P **P** **08 48 19.6 +1.9**
SNAA Sanae 87.19 182 P **P** **08 48 54.6 -1.7**
VNA3 Neumayer Olymp 87.77 180 P **P** **08 48 57.6 -1.5**
VNA2 Neumayer--Watz 88.07 181 P **P** **08 48 59.0 -1.4**
baz=171,slow=3.4
SONM Songino Array 88.94 323 P **P** **08 49 04.9 -0.1**
comp=Z,0.4nm,0.4s,baz=151,slow=3.4,SNR=3.7
SONM Songino Array 88.94 323 P **P** **08 49 03.8 -1.3**
GERES GERESS Array B 146.34 331 PKPbc **PKPbc** **08 55 50.4 -0.8**
comp=Z,2.0nm,0.7s,baz=33,slow=3.2,SNR=16
GERES GERESS Array B 146.34 331 PKPdf **PKPdf** **08 55 49.9 0.0**

*NNC **16** 08:51:39.0±0.4,44.87N×79.25E,h0km,mb3.8,mpv3.7,*
Error ellipse: s-maj=3.0km s-min=2.7km az=81.0
*SOME **16** 08:51:39.8,44.90N×79.32E,h20km*
ISC 16 08:51:38.6±1.1,**44.88N**±0.02×**79.23E**±0.02,**h2**km±11km,
n48,σ1§10/78,9C-10D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan** 106nm,0.1s	**0.41**	**12**	⇓*eP*			**Pg**	**08 51 47.1**	**+0.6**
KAPS	296nm,0.1s			*eS*			**Sg**	**08 51 52.6**	**+0.7**
KAPS	**Kapalarasan** 106nm,0.1s	**0.41**	**12**	P			**Pg**	**08 51 47.1**	**+0.6**
KAPS	296nm,0.1s			S			**Sg**	**08 51 52.6**	**+0.7**
TDK	**Taldyqorghan** 96nm,0.3s	**0.60**	**282**	*eP*			**Pb**	**08 51 51.6**	**-0.2**
TDK	268nm,0.1s			*eS*			**Sb**	**08 52 00.1**	**-0.6**
TDK	**Taldyqorghan** 96nm,0.3s	**0.60**	**282**	P			**Pb**	**08 51 51.6**	**-0.2**
TDK	369nm,0.3s			S			**Sb**	**08 52 00.0**	**-0.6**
DJR	**Jarkent** 16nm,0.1s	**0.68**	**144**	*eP*			**Pg**	**08 51 51.8**	**+0.2**
DJR	98nm,0.1s			*eS*			**Sg**	**08 52 00.3**	**-0.1**
DJR	**Jarkent** 16nm,0.1s	**0.68**	**144**	P			**Pg**	**08 51 51.8**	**+0.2**
DJR	98nm,0.1s			S			**Sg**	**08 52 00.3**	**-0.1**
MNBS	**Baschi** 32nm,0.1s	**1.00**	**217**	⇑*eP*			**Pg**	**08 51 58.1**	**+0.4**
MNBS	114nm,0.2s			*eS*			**Sg**	**08 52 11.4**	**+0.7**
MNBS	**Baschi** 32nm,0.1s	**1.00**	**217**	P			**Pg**	**08 51 58.1**	**+0.4**
MNBS	114nm,0.2s			S			**Sg**	**08 52 11.4**	**+0.7**
ARXS	**Arharly** 40nm,0.1s	**1.21**	**237**	⇑*eP*			**Pg**	**08 52 02.5**	**+0.8**
ARXS	101nm,0.3s			*eS*			**Sn**	**08 52 18.7**	**-0.8**
ARXS	**Arharly** 40nm,0.1s	**1.21**	**237**	P			**Pg**	**08 52 02.5**	**+0.8**
ARXS	101nm,0.3s			S			**Sn**	**08 52 18.7**	**-0.8**
PDGK	**Podgornoye** 29nm,0.3s	**1.56**	**173**	P			**Pb**	**08 52 08.1**	**-0.2**
PDGK	35nm,0.3s			S			**Sg**	**08 52 28.5**	**-0.3**
PDGK	**Podgornoye** 17nm,0.3s	**1.56**	**173**	⇑P			**Pb**	**08 52 08.1**	**-0.2**
PDGK	41nm,0.6s			⇓S			**Sg**	**08 52 28.7**	**-0.1**
KTMS	**Ketmen** 13nm,0.1s	**1.65**	**150**	*eP*			**Pb**	**08 52 09.1**	**-0.6**
KTMS	93nm,0.1s			*eS*			**Sb**	**08 52 30.1**	**-0.9**
KTMS	**Ketmen** 13nm,0.1s	**1.65**	**150**	P			**Pb**	**08 52 09.1**	**-0.6**
KTMS	93nm,0.1s			S			**Sb**	**08 52 30.1**	**-0.9**
SHLS	**Shalkode** 23nm,0.2s	**1.73**	**174**	⇓*eP*			**Pg**	**08 52 11.8**	**0.0**
SHLS	464nm,0.4s			*eS*			**Sg**	**08 52 35.0**	**+0.7**
SHLS	**Shalkode** 23nm,0.2s	**1.73**	**174**	P			**Pg**	**08 52 11.9**	**0.0**
SHLS	464nm,0.4s			S			**Sg**	**08 52 34.9**	**+0.7**
UZB	**Uzynbulak** 41nm,0.2s	**1.74**	**185**	⇓*eP*			**Pb**	**08 52 11.4**	**0.0**
UZB	136nm,0.1s			*eS*			**Sg**	**08 52 34.3**	**-0.2**
UZB	**Uzynbulak** 41nm,0.2s	**1.74**	**185**	P			**Pb**	**08 52 11.3**	**0.0**
UZB	187nm,0.3s			S			**Sg**	**08 52 34.3**	**-0.2**
CHKK	**Chushkaly** 26nm,0.3s	**1.91**	**238**	⇑*eP*			**Pb**	**08 52 14.4**	**+0.3**
CHKK	80nm,0.2s			*eS*			**Sb**	**08 52 39.1**	**+0.7**
CHKK	**Chushkaly** 26nm,0.3s	**1.91**	**238**	P			**Pb**	**08 52 14.4**	**+0.3**
CHKK	100nm,0.3s			S			**Sb**	**08 52 39.1**	**+0.7**
SATY	**Saty** 37nm,0.1s	**1.92**	**198**	*eP*			**Pg**	**08 52 15.2**	**-0.1**
SATY	248nm,0.2s			*eS*			**Sg**	**08 52 41.3**	**+1.1**
SATY	**Saty** 37nm,0.1s	**1.92**	**198**	Pg			**Pg**	**08 52 15.2**	**-0.1**
SATY	248nm,0.2s			Lg			Lg	08 52 41.3	
KTBS	**Karatobe** 23nm,0.4s	**2.17**	**238**	⇓*eP*			**Pb**	**08 52 18.9**	**+0.2**
KTBS	175nm,0.5s			*eS*			**Sb**	**08 52 46.8**	**+0.8**
KTBS	**Karatobe** 23nm,0.4s	**2.17**	**238**	Pg			**Pb**	**08 52 18.8**	**+0.2**
KTBS	175nm,0.5s			Lg			Lg	08 52 46.8	
KOTS	**Kotyrbulak** 40nm,0.4s	**2.25**	**224**	⇑*eP*			**Pb**	**08 52 20.6**	**+0.6**
KOTS	164nm,0.7s			*eS*			**Sg**	**08 52 49.7**	**-1.0**
KOTS	**Kotyrbulak** 40nm,0.4s	**2.25**	**224**	Pg			**Pb**	**08 52 20.6**	**+0.6**
KOTS	164nm,0.7s			Lg			Lg	08 52 49.7	
KUU	**Kurty** 10nm,0.5s	**2.30**	**246**	*eP*			**Pb**	**08 52 20.9**	**+0.1**
KUU	87nm,0.2s			*eS*			**Sb**	**08 52 50.4**	**+0.9**
KUU	**Kurty** 10nm,0.5s	**2.30**	**246**	Pg			**Pb**	**08 52 20.9**	**+0.1**
KUU				Lg			Lg	08 52 50.4	
	87nm,0.2s								
MDOK	**Medeo** 11nm,0.4s	**2.33**	**223**	⇓Pn			**Pb**	**08 52 21.1**	**-0.3**
MDOK	31nm,0.6s			⇓Lg			Lg	08 52 53.3	
TNSS	**Tian-Shan** 18nm,0.3s	**2.47**	**223**	*eP*			**Pb**	**08 52 24.2**	**+0.2**
TNSS	42nm,0.4s			*eS*			**Sb**	**08 52 55.6**	**+0.6**
IZV	**Izvestkoviy** 8.0nm,0.4s	**2.64**	**227**	*eP*			**Pb**	**08 52 27.0**	**+0.3**
IZV	40nm,0.8s			*eS*			**Sb**	**08 53 00.8**	**+1.2**
IZV	**Izvestkoviy** 11nm,0.4s	**2.64**	**227**	Pg			**Pb**	**08 52 27.0**	**+0.3**
IZV	40nm,0.8s			Lg			Lg	08 53 00.8	
MTBS	**Maitube** 7.2nm,0.1s	**2.67**	**230**	*eP*			**Pb**	**08 52 28.6**	**+1.4**
MTBS	36nm,0.3s			*eS*			**Sg**	**08 53 03.4**	**-1.2**
MAKZ	**Makanchi** 1.5nm,0.3s	**2.72**	**44**	⇓Pn			**Pb**	**08 52 25.3**	**-2.6**
MAKZ	12nm,0.6s			⇓Lg			Lg	08 53 00.7	
KRBS	**Karabastau** 4.0nm,0.4s	**2.82**	**246**	*eP*			**Pb**	**08 52 30.5**	**+0.9**
KRBS	9.3nm,0.6s			*eS*			**Sb**	**08 53 06.8**	**+2.3**
KRBS	**Karabastau** 4.0nm,0.4s	**2.82**	**246**	Pg			**Pb**	**08 52 30.5**	**+0.9**
KRBS	9.3nm,0.6s			Lg			Lg	08 53 06.8	
MK31	**Makanchi Array** 1.2nm,0.3s,baz=349,slow=22,SNR=60	**2.87**	**47**	⇑Pn			**Pn**	**08 52 26.9**	**+1.5**
MK31	1.6nm,0.2s,baz=223,slow=21,SNR=18			Lg			Lg	08 53 04.9	
DGS	**Degeres** 9.6nm,0.3s	**2.98**	**238**	*eP*			**Pg**	**08 52 34.5**	**-1.3**
DGS	28nm,0.4s			*eS*			**Sg**	**08 53 12.6**	**-1.9**
DGS	**Degeres** 9.6nm,0.3s	**2.98**	**238**	Pg			**Pg**	**08 52 34.5**	**-1.3**
DGS	28nm,0.4s			Lg			Lg	08 53 12.6	
KST	**Kastek** 9.5nm,0.4s	**2.99**	**233**	*eP*			**Pb**	**08 52 33.9**	**+1.3**
KST	17nm,0.4s			*eS*			**Sg**	**08 53 12.7**	**-2.0**
KST	**Kastek** 9.5nm,0.4s	**2.99**	**233**	Pg			**Pb**	**08 52 33.9**	**+1.3**
KST	17nm,0.4s			Lg			Lg	08 53 12.7	
TKM2	**Tokmak 2** 2.7nm,0.5s	**3.28**	**235**	⇑Pg			**Pb**	**08 52 38.6**	**+1.0**
TKM2	3.1nm,0.3s			⇑Lg			Lg	08 53 21.0	
BTLS	**Baital** 0.8nm,0.1s	**3.69**	**274**	*eP*			**Pb**	**08 52 46.8**	**+2.4**
BTLS	1.5nm,0.2s			*eS*			**Sg**	**08 53 34.5**	**-2.4**
BTLS	**Baital** 2.7nm,0.4s	**3.69**	**274**	Pg			**Pb**	**08 52 46.8**	**+2.4**
BTLS	3.1nm,0.3s			Lg			Lg	08 53 34.6	
MRKS	**Merke** 2.3nm,0.3s	**4.84**	**246**	*eP*			**Pg**	**08 53 08.5**	**-2.9**
MRKS	4.4nm,0.5s			*eS*			**Sg**	**08 54 12.1**	**-2.0**
MRKS	**Merke** 2.3nm,0.3s	**4.84**	**246**	Pg			**Pg**	**08 53 08.5**	**-2.9**
MRKS	4.4nm,0.5s			Lg			Lg	08 54 12.1	
OTUK	**Ortayu** 4.2nm,0.7s	**5.82**	**308**	⇑Lg			Lg	08 54 42.8	
KK31	**Karatay Array** 1.6nm,0.6s,baz=72,slow=27,SNR=4.3	**6.54**	**257**	⇓Lg			Lg	08 55 03.0	

*IDC **16** 09:04:55.4±4.4,27.32N×111.56W,h0km,mb1 3.3/3,*
mb1mx3.2/30,mbtmp2.8/3,ML3.9/2,Error ellipse:
s-maj=53.6km s-min=19.3km az=16.0
*MEX **16** 09:04:59.2±0.4,27.49N×111.50W,h10km,MD3.8*
ISC 16 09:04:57.3±1.2,**27.5N**±0.1×**111.59W**±0.06,**h10**km,**n6,**
σ2§28/10,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.61**	**252**	*i* P			**Pn**	**09 05 10.7**	**-1.3**
SRIG				*eS*			**Sn**	**09 05 19.9**	**-2.1**
GUYB	**Guaymas**	**0.74**	**59**	*eP*			**Pg**	**09 05 10.7**	**-1.0**
GUYB				*i* S			**Sg**	**09 05 20.4**	**-1.0**
HSIG		**1.60**	**20**	*eP*			**Pn**	**09 05 24.4**	**-1.3**
HSIG				*eS*			**Sn**	**09 05 43.3**	**-3.3**
TXAR	**Lajitas Array** 0.2nm,0.3s,baz=247,slow=13,SNR=10	**7.21**	**74**	Pn			**Pn**	**09 06 43.8**	**+0.9**
TXAR	0.2nm,0.3s,baz=258,slow=17,SNR=3.6			Sn			**Sn**	**09 08 04.0**	**-0.9**
TXAR	0.7nm,0.3s,baz=249,slow=31,SNR=6.1			Lg			Lg	09 08 43.1	
NVAR	**Mina Array Bea** 0.0nm,0.3s,baz=156,slow=14,SNR=1.5	**12.25**	**334**	Pn			**Pn**	**09 07 55.2**	**+3.1**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=172,slow=7.3,SNR=2.4	**15.31**	**6**	Pn			**P**	**09 08 40.7**	**+2.2**
PDAR	0.1nm,0.3s,baz=175,slow=33,SNR=1.5			Lg			Lg	09 13 03.0	

*TEH **16** 09:08:44.3,32.60N×47.91E,h10km,ML2.9*
*ISN **16** 09:08:44.1±1.0,32.67N×47.92E,h14km±7km,ML2.5*
ISC 16 09:08:45.8±1.3,**32.61N**±0.07×**47.90E**±0.06,**h15**km,**n14,**
σ1§19/17,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.91**	**357**	*ePg*			**Pb**	**09 09 01.7**	**-1.6**
IKFM				*e*				09 09 22.3	
IKMR	**Kamar-syah**	**0.99**	**24**	*e*				09 09 25.4	
IKMR				*ePg*			**Pb**	**09 09 03.0**	**-1.7**
IDOB	**Doab**	**1.20**	**11**	*e*				09 09 30.5	
IDOB				*ePg*			**Pn**	**09 09 07.9**	**-0.3**
BMDN	**Meydan**	**1.31**	**36**	*eSg*			**Sg**	**09 09 29.6**	**+1.3**
BMDN				*ePg*			**Pn**	**09 09 09.6**	**-0.2**
BMDN				*e*				09 09 35.1	
IKOM	**Komasi**	**1.59**	**348**	*ePg*			**Pb**	**09 09 14.7**	**-0.4**
IKOM				*e*				09 09 18.8	
HSAM	**Samen**	**1.70**	**20**	*ePg*			**Pb**	**09 09 15.9**	**-1.1**
HSAM				*e*				09 09 43.3	
IBDR	**Badra**	**1.73**	**287**	*ePg*			**Pn**	**09 09 15.0**	**-0.4**
IBDR				*eSg*			**Sb**	**09 09 39.0**	**+0.1**
IBDR	comp=E,67nm,0.3s			AML	AML		AML	09 09 46.1	
IBDR	comp=N,57nm,0.4s			AML	AML		AML	09 09 48.2	
IBZA	**Bozab**	**1.85**	**359**	*ePn*			**Pb**	**09 09 18.5**	**-1.1**
IBZA				*e*				09 09 22.9	
IGHG	**Ghaleghazi**	**2.04**	**327**	*e*			Sg	09 10 05.3	+14
NSR	**Nassriya**	**2.19**	**224**	*ePn*			**Pn**	**09 09 22.0**	**+0.4**
NSR				*eSn*			**Sn**	**09 09 49.0**	**+0.5**
ILIN	**Lien**	**2.43**	**342**	*ePn*			**Pb**	**09 09 27.5**	**-1.9**
ILIN				*e*				09 10 15.1	
HAGD	**Aghdareh**	**2.44**	**25**	*ePn*			**Pn**	**09 09 26.1**	**+0.8**
HAGD				*e*				09 13 26.8	
HSRG	**Sareghieh**	**2.64**	**7**	*ePn*			**Pn**	**09 09 30.2**	**+2.0**
BHD	**Baghdad**	**3.03**	**283**	*ePn*			**Pn**	**09 09 34.0**	**+0.8**
BHD				*eSn*			**Sn**	**09 10 10.0**	**+0.7**

*KRNET **16** 09:14:58.0±0.1,41.06N×73.29E,h27km,mb3.6*
*NNC **16** 09:14:58.5±1.2,41.12N×73.27E,h0km,mb4.0,mpv3.7,*
Error ellipse: s-maj=10.5km s-min=4.7km az=173.0
*SOME **16** 09:14:58.1,41.15N×73.32E,h10km*
*KNET **16** 09:14:59.2±0.7,41.09N×73.37E,h19km±4km,ml3.0,Error*
ellipse: s-maj=7.4km s-min=3.3km az=79.0
*ISU **16** 09:15:01.0,41.00N×72.80E,h5km*
ISC 16 09:14:54.3±1.1,**40.87N**±0.03×**73.51E**±0.02,**h9**km±9km,
n83,σ1§49/134,45C-21D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARSB	**Arslanbob** baz=19	**0.61**	**319**	⇓*iP*			**Pg**	**09 15 06.0**	**-0.1**
ARSB	baz=19			⇓*iS*			**Sg**	**09 15 11.4**	**-2.7**
OHH	**Osh**	**0.65**	**238**	⇑*iP*			**Pn**	**09 15 10.9**	**+1.1**
OHH	baz=16			⇑*iS*			**Sn**	**09 15 19.9**	**-0.3**
OHH	**Osh**	**0.65**	**238**	*eP*			**Pn**	**09 15 10.7**	**+0.9**
OHH				*eS*			**Sb**	**09 15 17.5**	**+0.4**
ARLS	**Aral** baz=44	**1.17**	**31**	⇓*iP*			**Pg**	**09 15 18.8**	**+2.1**
ARLS	baz=44			⇓*iS*			**Sn**	**09 15 33.8**	**+0.7**
AML	**Almayashu** baz=16	**1.27**	**6**	⇑*iP*			**Pb**	**09 15 18.8**	**+0.1**
AML	baz=16			⇑*iS*			**Sb**	**09 15 33.8**	**-1.5**
AML	**Almayashu** 112nm,0.1s,SNR=300	**1.27**	**6**	⇓P			**Pg**	**09 15 19.6**	**+0.9**
AML	300nm,0.2s			⇑S			**Sb**	**09 15 34.6**	**-0.7**
ARK	**Arkit** baz=7.0	**1.49**	**309**	⇑*iP*			**Pn**	**09 15 20.8**	**-0.6**
ARK	baz=7.0			⇑*iS*			**Sn**	**09 15 37.1**	**-4.0**
ARK	**Arkit**	**1.49**	**309**	*eP*			**Pn**	**09 15 21.4**	**0.0**
ARK				*eS*			**Sn**	**09 15 36.4**	**-4.7**
UCH	**Uchtor** baz=38	**1.55**	**29**	⇑*iP*			**Pg**	**09 15 25.0**	**+0.9**
UCH	baz=38			⇑*iS*			**Sg**	**09 15 44.3**	**0.0**
UCH	**Uchtor** 118nm,0.4s,SNR=164	**1.55**	**29**	⇑P			**Pg**	**09 15 26.0**	**+1.9**
UCH	150nm,0.3s			⇑S			**Sg**	**09 15 45.9**	**+1.6**
KZA	**Kyzart** baz=55	**1.78**	**47**	⇓*iP*			**Pg**	**09 15 29.6**	**+1.1**
KZA	baz=55			⇓*iS*			**Sg**	**09 15 52.6**	**+1.0**
KZA	**Kyzart** 96nm,0.3s,SNR=71	**1.78**	**47**	⇑P			**Pg**	**09 15 30.9**	**+2.5**
EKS2	**Erkin-Say** baz=13	**1.80**	**6**	⇓*iP*			**Pb**	**09 15 27.4**	**-0.2**
EKS2	baz=13			⇓*iS*			**Sn**	**09 15 49.2**	**+0.4**
EKS2	**Erkin-Say** 22nm,0.1s,SNR=31	**1.80**	**6**	⇑P			**Pg**	**09 15 28.8**	**-0.1**
EKS2	99nm,0.3s			⇓S			**Sb**	**09 15 50.2**	**-0.1**
MRKS	**Merke** 51nm,0.2s	**1.89**	**354**	⇓*eP*			**Pb**	**09 15 29.2**	**+0.2**
MRKS	346nm,0.1s			*eS*			**Sn**	**09 15 51.6**	**+0.8**
MRKS	**Merke** 72nm,0.2s	**1.89**	**354**	P			**Pb**	**09 15 29.2**	**+0.2**
MRKS	364nm,0.3s			S			**Sn**	**09 15 51.6**	**+0.8**
AAK	**Ala-Archa** baz=29	**1.92**	**22**	⇑*iP*			**Pb**	**09 15 29.7**	**+0.2**
AAK	baz=29			⇑*iS*			**Sb**	**09 15 52.9**	**-0.7**
AAK	**Ala-Archa** 54nm,0.2s,SNR=45	**1.92**	**22**	⇑P			**Pg**	**09 15 31.6**	**+0.6**
AAK	155nm,0.2s			⇑S			**Sg**	**09 15 55.8**	**-0.1**
AAK	**Ala-Archa** 57nm,0.4s	**1.92**	**22**	⇑Pn			**Pg**	**09 15 31.4**	**+0.4**
AAK	204nm,0.7s			⇑Sn			**Sg**	**09 15 56.0**	**+0.1**
KBK	**Karagaybulak** baz=37	**2.09**	**31**	⇑*iP*			**Pb**	**09 15 32.7**	**+0.3**
KBK	baz=37			⇑*iS*			**Sb**	**09 15 58.1**	**-0.4**
KBK	**Karagaybulak** 57nm,0.2s,SNR=20	**2.09**	**31**	⇑P			**Pg**	**09 15 35.0**	**+0.7**
KBK	324nm,0.4s			⇑S			**Sg**	**09 16 02.2**	**+0.9**
FRU1	**Bishkek** baz=29	**2.11**	**23**	⇑*iP*			**Pb**	**09 15 32.5**	**-0.3**
FRU1	baz=29			⇑*iS*			**Sb**	**09 15 57.9**	**-1.3**
BTK	**Batken** baz=43	**2.21**	**249**	⇑*iP*			**Pb**	**09 15 33.9**	**-0.5**
BTK	baz=43			⇑*iS*			**Sn**	**09 16 00.4**	**+1.7**
BTK	**Batken**	**2.21**	**249**	*eP*			**Pg**	**09 15 36.7**	**+0.1**
BTK				*eS*			**Sg**	**09 16 05.5**	**+0.3**
CHMS	**Chumysh** baz=29	**2.32**	**23**	⇑*iP*			**Pb**	**09 15 35.4**	**-1.0**
CHMS	baz=29			⇑*iS*			**Sn**	**09 16 02.4**	**+1.0**
CHMS	**Chumysh** 25nm,0.3s,SNR=9.0	**2.32**	**23**	⇑P			**Pb**	**09 15 37.7**	**+1.3**
CHMS	50nm,0.2s			⇓S			**Sb**	**09 16 07.1**	**+2.0**
ULHL	**Ulahol** baz=61	**2.47**	**55**	⇑*iP*			**Pb**	**09 15 39.5**	**+0.5**
ULHL	baz=61			⇑*iS*			**Sb**	**09 16 09.6**	**0.0**
ULHL	**Ulahol** 6.9nm,0.2s,SNR=11	**2.47**	**55**	P			**Pg**	**09 15 40.5**	**-1.1**
USP	**Ospenovka** baz=22	**2.51**	**17**	⇑*iP*			**Pb**	**09 15 37.5**	**-2.0**
USP	baz=22			⇑*iS*			**Sn**	**09 16 06.4**	**+0.3**
USP	**Ospenovka** 15nm,0.2s,SNR=13	**2.51**	**17**	⇑P			**Pb**	**09 15 39.1**	**-0.5**
TKM2	**Tokmak 2** baz=42	**2.58**	**37**	⇓*iP*			**Pb**	**09 15 39.9**	**-0.9**
TKM2	baz=42			⇓*iS*			**Sb**	**09 16 10.3**	**-2.3**
TKM2	**Tokmak 2** 46nm,0.3s,SNR=67	**2.58**	**37**	⇑P			**Pb**	**09 15 41.5**	**+0.7**
TKM2	**Tokmak 2** 17nm,0.3s	**2.58**	**37**	⇑Pg			**Pb**	**09 15 41.2**	**+0.4**
TKM2	34nm,0.6s			⇓Lg			Lg	09 16 15.2	
DZA	**Taraz** 109nm,0.1s	**2.60**	**322**	*eP*			**Pb**	**09 15 40.1**	**-0.9**
DZA	287nm,0.2s			*eS*			**Sn**	**09 16 10.2**	**+2.0**
DZA	**Taraz** 132nm,0.1s	**2.60**	**322**	Pg			**Pb**	**09 15 40.4**	**-0.6**
DZA	399nm,0.2s			Lg			Lg	09 16 10.3	
KST	**Kastek** 13nm,0.2s	**2.84**	**39**	*eP*			**Pg**	**09 15 48.7**	**0.0**
KST	38nm,0.1s			*eS*			**Sg**	**09 16 24.9**	**-0.6**
KST	**Kastek** 8.9nm,0.4s	**2.84**	**39**	Pg			**Pg**	**09 15 48.6**	**-0.1**
KST	38nm,0.5s			Lg			Lg	09 16 24.1	
DGS	**Degeres** 13nm,0.5s	**2.91**	**35**	*eP*			**Pg**	**09 15 49.4**	**-0.6**
DGS	76nm,0.4s			*eS*			**Sg**	**09 16 26.4**	**-1.3**
DGS	**Degeres** 13nm,0.4s	**2.91**	**35**	Pg			**Pg**	**09 15 48.9**	**-1.1**
DGS	76nm,0.6s			Lg			Lg	09 16 24.8	
IUG	**Iuzhnay** 48nm,0.2s	**2.91**	**297**	*eP*			**Pb**	**09 15 47.0**	**+0.6**
IUG	347nm,0.4s			*eS*			**Sb**	**09 16 22.3**	**+0.2**
IUG	**Iuzhnay** 63nm,0.3s	**2.91**	**297**	Pg			**Pb**	**09 15 47.5**	**+1.1**
IUG	347nm,0.6s			Lg			Lg	09 16 22.2	
KDJ	**Kajisay** baz=69	**3.03**	**64**	⇓*iP*			**Pb**	**09 15 47.9**	**-0.6**
KDJ	baz=69			⇓*iS*			**Sb**	**09 16 24.6**	**-1.1**
GAR	**Garm** baz=29	**3.08**	**234**	⇑*iP*			**Pb**	**09 15 47.4**	**-2.0**
GAR	baz=29			⇑*iS*			**Sn**	**09 16 23.6**	**+3.2**
MTBS	**Maitube** 7.5nm,0.4s	**3.14**	**43**	*eP*			**Pg**	**09 15 54.4**	**0.0**
MTBS	26nm,0.6s			*eS*			**Sg**	**09 16 34.8**	**-0.2**
MTBS	**Maitube** 7.5nm,0.5s	**3.14**	**43**	Pg			**Pg**	**09 15 55.0**	**+0.6**
MTBS	28nm,0.4s			Lg			Lg	09 16 35.0	
KK31	**Karatay Array** 3.8nm,0.2s,baz=133,slow=14,SNR=70	**3.16**	**316**	Pn			**Pn**	**09 15 45.4**	**+1.1**
KK31	3.8nm,0.2s,baz=130,slow=15,SNR=8.5			Pg			**Pb**	**09 15 50.5**	**-0.2**
KK31	17nm,0.3s,baz=155,slow=26,SNR=4.1			⇓Lg			Lg	09 16 28.6	
IZV	**Izvestkoviy**	**3.17**	**46**	*eP*			**Pg**	**09 15 55.6**	**+0.5**

7.6nm,0.4s
IZV eS Sg 09 16 37.0 +0.9
36nm,0.2s
IZV Izvestkoviy 3.17 46 Pg Pg 09 15 55.5 +0.5
11nm,0.6s
IZV Lg Lg 09 16 36.1
37nm,0.5s
KRBS Karabastau 3.25 29 eP Pg 09 15 56.1 -0.5
6.3nm,0.3s
KRBS eS Sg 09 16 37.8 -0.9
9.7nm,0.4s
KRBS Karabastau 3.25 29 Pg Pg 09 15 55.8 -0.7
6.3nm,0.2s
KRBS Lg Lg 09 16 36.9
8.8nm,0.3s
TARG Taragay, Kyrgy 3.35 74⇑*iP* Pb 09 15 52.6 -1.5
baz=77
TARG ⇑*iS* Sb 09 16 32.7 -2.3
baz=77
TNSS Tian-Shan 3.36 49 eP Pg 09 16 00.4 +1.8
4.6nm,0.2s
TNSS eS Sg 09 16 44.9 +2.8
22nm,0.3s
TNSS Tian-Shan 3.36 49 Pg Pg 09 16 00.3 +1.6
9.6nm,0.3s
TNSS Lg Lg 09 16 44.7
30nm,0.5s
BRLS Borolday 3.49 309 eP Pb 09 15 56.6 +0.3
12nm,0.5s
BRLS eS Sb 09 16 39.0 +0.2
95nm,0.3s
BRLS Borolday 3.49 309 Pg Pb 09 15 56.6 +0.3
34nm,0.6s
BRLS Lg Lg 09 16 37.8
96nm,0.4s
MDOK Medeo 3.49 48 eP Pg 09 16 02.5 +1.3
4.8nm,0.2s
MDOK eS Sg 09 16 48.8 +2.3
17nm,0.5s
MDOK Medeo 3.49 48 ⇑Pg Pg 09 16 05.9 +4.7
13nm,1.0s
MDOK ⇓Lg Lg 09 16 47.1
34nm,1.1s
MDOK Medeo 3.49 48 Pg Pg 09 16 02.7 +1.5
7.0nm,0.4s
MDOK Lg Lg 09 16 48.3
17nm,0.5s
KOTS Kotyrbulak 3.58 47 eP Pg 09 16 03.5 +0.7
15nm,0.5s
KOTS eS Sg 09 16 50.5 +1.4
36nm,0.6s
KOTS Kotyrbulak 3.58 47 Pg Pg 09 16 03.4 +0.7
13nm,0.5s
KOTS Lg Lg 09 16 50.2
118nm,0.5s
ANVS Anan'yevo 3.65 57⇑*iP* Pb 09 15 56.2 -2.9
baz=61
ANVS ⇑*iS* Sb 09 16 38.3 -5.2
baz=61
KUU Kurty 3.68 34 eP Pg 09 16 04.3 -0.4
8.7nm,0.3s
KUU eS Sg 09 16 51.8 -0.5
29nm,0.6s
KUU Kurty 3.68 34 Pg Pg 09 16 03.9 -0.9
8.7nm,0.5s
KUU Lg Lg 09 16 50.3
36nm,0.7s
KTBS Karatobe 3.69 39 eP Pg 09 16 05.0 +0.1
7.8nm,0.4s
KTBS eS Sg 09 16 53.1 +0.3
58nm,0.5s
KTBS Karatobe 3.69 39 Pg Pg 09 16 04.7 -0.2
7.9nm,0.5s
KTBS Lg Lg 09 16 51.8
57nm,0.6s
CHKK Chushkaly 3.94 40 eP Pg 09 16 09.5 -0.3
2.5nm,0.3s
CHKK eS Sg 09 17 00.8 -0.1
22nm,0.3s
CHKK Chushkaly 3.94 40 Pg Pg 09 16 09.2 -0.6
4.8nm,0.8s
CHKK Lg Lg 09 16 59.7
22nm,0.4s
BTLS Baital 4.19 5 eP Pb 09 16 10.5 +2.3
4.1nm,0.3s
BTLS eS Sb 09 17 02.4 +3.5
16nm,0.3s
BTLS Baital 4.19 5 Pg Pb 09 16 10.5 +2.3
4.8nm,0.4s
BTLS Lg Lg 09 17 02.0
35nm,0.6s
SATY Saty 4.26 57 eP Pg 09 16 16.7 +0.9
2.9nm,0.3s
SATY eS Sg 09 17 13.0 +2.1
22nm,0.5s
SATY Saty 4.26 57 Pg Pg 09 16 17.1 +1.3
3.5nm,0.2s
SATY Lg Lg 09 17 13.0
22nm,0.7s
ARXS Arharly 4.62 42 eP Pg 09 16 21.5 -1.3
8.9nm,0.4s
ARXS eS Sg 09 17 21.5 -1.1
18nm,0.4s
UZB Uzynbulak 4.70 59 eP Pg 09 16 24.6 +0.4
1.7nm,0.5s
UZB eS Sg 09 17 26.8 +1.8
11nm,0.5s
MNBS Baschi 4.83 47 eP Pg 09 16 24.7 -2.2
3.3nm,0.4s
MNBS eS Sg 09 17 26.8 -2.7
16nm,0.4s
SHLS Shalkode 4.99 61 eP Pg 09 16 35.8 +5.9
6.5nm,0.4s
SHLS eS Sg 09 17 45.8 +11
24nm,0.6s
SHLS Shalkode 4.99 61 Pg Pg 09 16 35.9 +6.1
6.8nm,0.3s
SHLS Lg Lg 09 17 45.3
32nm,0.5s
PDGK Podgornoye 5.08 59 Pg Pg 09 16 31.1 -0.5
1.0nm,0.4s
PDGK Lg Lg 09 17 37.0
6.0nm,0.9s
PDGK Podgornoye 5.08 59 ⇓Pg Pg 09 16 31.9 +0.3
3.3nm,0.8s
PDGK ⇓Lg Lg 09 17 38.2
17nm,0.8s
DJR Jarkent 5.78 51 eP Pg 09 16 44.0 -1.1
3.6nm,0.6s
DJR eS Sg 09 17 59.7 -0.2
4.0nm,0.5s
DJR Jarkent 5.78 51 Pg Pg 09 16 44.3 -0.8
5.5nm,0.7s
DJR Lg Lg 09 17 59.6
4.7nm,0.5s
KAPS Kapalarasan 6.15 42 eP Pg 09 16 49.9 -2.1
1.8nm,0.5s
KAPS eS Sg 09 18 10.1 -1.6
4.9nm,0.6s
KAPS Kapalarasan 6.15 42 Pg Pg 09 16 49.7 -2.3
1.8nm,0.4s
KAPS Lg Lg 09 18 09.5
4.6nm,0.4s
OTUK Ortayu 7.42 354 ⇑Lg Lg 09 18 43.1
7.3nm,0.6s

IDC ***16*** *09:40:07.2±1.3,23°.92S×66°.67W,h194km±12km, mb3.2/3, mb1 3.4/9, mb1mx3.2/29, mbtmp3.7/9, Error ellipse: s-maj=22.1km s-min=15.6km az=6.0*

ISC 16 09:40:07.3±0.8,23°.95S±0°.1×66°.64W±0°.09,h195km,n12, σ0°51/13,mb3.6/3,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.46**	**302**	P		**Pn**	**09 40 51.3**	**+0.4**
	28nm,0.3s,baz=137,slow=6.3,SNR=380							
LVC				S		**Sn**	**09 41 24.0**	**-0.7**
	22nm,0.3s,baz=56,slow=23,SNR=24							
LPAZ	**La Paz**	**7.72**	**349**	P		**Pn**	**09 41 58.5**	**+0.9**
	0.3nm,0.3s,baz=140,slow=4.2,SNR=11							
CPUP	**Villa Florida**	**8.77**	**108**	P		**Pn**	**09 42 10.9**	**+0.3**
	0.1nm,0.3s,baz=191,slow=19,SNR=4.3							
SIV	**San Ignacio**	**9.47**	**35**	P		**Pn**	**09 42 19.5**	**-0.4**
	0.3nm,0.3s,baz=224,slow=11,SNR=10							
PLCA	**Paso Flores**	**17.08**	**190**	P		**P**	**09 43 53.8**	**+0.4**
	0.1nm,0.3s,baz=225,slow=1.4,SNR=1.5							
BDFB	**Brasilia**	**19.35**	**68**	P		**P**	**09 44 18.5**	**+0.1**
	0.8nm,0.3s,baz=245,slow=12,SNR=11							
PTGA	**Pitinga**	**23.95**	**17**	P		**P**	**09 45 03.8**	**-0.1**
	0.6nm,0.3s,baz=207,slow=9.0,SNR=1.9							
TXAR	**Lajitas Array**	**63.81**	**324**	P		**P**	**09 50 19.3**	**+0.3**
	0.4nm,0.8s,baz=143,slow=7.6,SNR=4.9							
TORD	**Torodi Ar. Bea**	**76.24**	**69**	P		**P**	**09 51 34.8**	**0.0**
	0.7nm,0.5s,baz=258,slow=5.6,SNR=17							
ASAR	**Alice Springs**	**128.66**	**204**	PKP		**PKPdf**	**09 58 51.3**	**-0.7**
	0.3nm,0.6s,baz=160,slow=3.0,SNR=2.3							
WRA	**Warramunga Arr**	**131.84**	**207**	PKP		**PKPdf**	**09 58 57.9**	**-0.2**
	0.2nm,0.4s,baz=160,slow=1.9,SNR=7.8							
MKAR	**Makanchi Array**	**146.26**	**40**	PKPbc		**PKPdf**	**09 59 23.1**	**-0.3**
	0.5nm,0.6s,baz=310,slow=3.8,SNR=5.9							

NEIC ***16*** *09:42:57.6±1.6,21°.74S±0°.03×69°.02W±0°.06,h89km±2km, Error ellipse: s-maj=8.3km s-min=4.9km az=81.0*
VAO ***16*** *09:42:57.8±0.4,21°.75S×69°.21W,h99km±3km, mb4.4*
IDC ***16*** *09:42:57.8±0.4,21°.74S×68°.98W,h92km±4km, mb4.0/12, mb1 4.1/16, mb1mx4.1/26, mbtmp4.3/16, MS3.1/5, Ms1 3.1/5, ms1mx2.9/19, Error ellipse: s-maj=14.7km s-min=8.5km az=97.0*
GUC ***16*** *09:42:58.6±0.7,21°.76S×69°.09W,h91km±3km, ML4.8*
NEIC ***16*** *09:42:58.7,21°.77S×69°.24W,h88km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=2.89; $M_{\theta\theta}$1.63; $M_{\phi\phi}$1.26; $M_{r\theta}$-0.66; $M_{r\phi}$2.11; $M_{\theta\phi}$-2.11; Fault plane solution: $M_0$3.96000×10^{15} NP1:φ=247.60000°, δ32.91000°, λ-56.69000°. NP2:φ=29.54000°, δ63.00000°, λ-109.57000°. Principal axes: T 4.1110, Plg16.0000°, Azm134.0000°; N -0.3267, Plg17.0000°, Azm39.0000°; P -3.7844, Plg66.0000°, Azm264.0000°;*

ISC 16 09:42:57.5±0.4,21°.75S±0°.03×69°.11W±0°.04,h91km±3km, n348,σ1§12/384,mb4.8/29,14C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.13**	**250**	⇓*iP*		**Pn**	**09 43 11.3**	**+0.7**
PB09				eS		**Sn**	**09 43 21.1**	**+0.8**
PB09	**IPOC Station P**	**0.13**	**250**			**Pn**	**09 43 11.4**	**+0.7**
PB09						**Sn**	**09 43 21.2**	**+0.9**
PB03	**IPOC Station P**	**0.67**	**243**	⇑eP		**Pn**	**09 43 14.6**	**+0.6**
PB03				eS		**Sn**	**09 43 26.9**	**+0.7**
PB07	**IPOC Station P**	**0.72**	**272**	⇑eP		**Pn**	**09 43 15.1**	**+0.6**
PB07				eS		**Sn**	**09 43 28.1**	**+0.9**
PB07				IAML			09 43 29.0	
	comp=N,28μm,0.3s							
PB07	**IPOC Station P**	**0.72**	**272**			**Pn**	**09 43 15.4**	**+0.9**
PB01	**IPOC Station P**	**0.79**	**333**	⇑*iP*		**Pn**	**09 43 15.5**	**+0.4**
PB01				eS		**Sn**	**09 43 28.8**	**+0.6**
PB01				IAML			09 43 29.4	
	comp=E,36μm,0.3s							
PB01	**IPOC Station P**	**0.79**	**333**			**Pn**	**09 43 15.5**	**+0.4**
PB01						**Sn**	**09 43 28.7**	**+0.6**
LVC	**Limon Verde**	**0.88**	**168**	P		**Pn**	**09 43 17.0**	**+0.7**
	comp=E,503nm,0.3s,baz=15,slow=6.8,SNR=247							
LVC				S		**Sn**	**09 43 31.2**	**+0.9**
	comp=E,3μm,0.3s,baz=301,slow=8.9,SNR=46							
LVC	**Limon Verde**	**0.88**	**168**	eP		**Pn**	**09 43 17.4**	**+1.1**
LVC				eS		**Sn**	**09 43 31.8**	**+1.5**
LVC	**Limon Verde**	**0.88**	**168**	eP		**Pn**	**09 43 17.4**	**+1.1**
LVC				eS		**Sn**	**09 43 31.9**	**+1.6**
PB06	**IPOC Station P**	**1.04**	**204**	eP		**Pn**	**09 43 19.1**	**+1.1**
PB06				eS		**Sn**	**09 43 34.7**	**+1.4**
PB06	**IPOC Station P**	**1.04**	**204**			**Pn**	**09 43 19.0**	**+1.1**
PB06						**Sn**	**09 43 34.6**	**+1.4**
PB04	**IPOC Station P**	**1.12**	**239**	⇓*iP*		**Pn**	**09 43 19.6**	**+0.7**
PB04				eS		**Sn**	**09 43 36.0**	**+1.1**
PB04	**IPOC Station P**	**1.12**	**239**			**Pn**	**09 43 19.6**	**+0.7**
PATCX	**Punta Patache**	**1.34**	**313**	⇑*iP*		**Pn**	**09 43 22.0**	**+0.6**
PATCX				eS		**Sn**	**09 43 40.5**	**+1.1**
PATCX				IAML			09 43 44.8	
	comp=N,18μm,0.5s							
PATCX	**Punta Patache**	**1.34**	**313**			**Pn**	**09 43 22.1**	**+0.6**
PB15	**IPOC Station P**	**1.49**	**193**	⇑eP		**Pn**	**09 43 24.6**	**+1.2**
PB15				eS		**Sn**	**09 43 44.5**	**+1.5**
PB15	**IPOC Station P**	**1.49**	**193**	Pn		**Pn**	**09 43 24.7**	**+1.3**
PB15				Sn		**Sn**	**09 43 45.7**	**+2.7**
PB05	**IPOC Station P**	**1.49**	**222**	⇓*iP*		**Pn**	**09 43 24.0**	**+0.7**
PB05				eS		**Sn**	**09 43 42.8**	**-0.1**
TA01	**Diego Aracena**	**1.54**	**320**	⇑*iP*		**Pn**	**09 43 24.4**	**+0.5**
TA01				eS		**Sn**	**09 43 44.8**	**+0.9**
TA01				IAML			09 43 46.1	
	comp=N,20μm,0.4s							
TA01	**Diego Aracena**	**1.54**	**320**			**Pn**	**09 43 24.9**	**+1.0**
PB08	**IPOC Station P**	**1.60**	**359**	⇑*iP*		**Pn**	**09 43 26.3**	**+1.3**
PB08				eS		**Sn**	**09 43 47.7**	**+1.9**
PB08				IAML			09 43 52.4	
	comp=E,8μm,0.6s							
PB08	**IPOC Station P**	**1.60**	**359**	Pn		**Pn**	**09 43 26.3**	**+1.3**
PB08				Sn		**Sn**	**09 43 47.7**	**+1.9**
TA02	**Huaiquique**	**1.75**	**327**	⇑*iP*		**Pn**	**09 43 27.0**	**+0.4**
TA02				eS		**Sn**	**09 43 49.7**	**+1.0**
TA02				IAML			09 43 54.8	
	comp=N,14μm,0.5s							
PB11	**IPOC Station P**	**2.04**	**345**	⇑*iP*		**Pn**	**09 43 31.0**	**+0.5**
PB11				eS		**Sn**	**09 43 56.7**	**+1.0**
PB11				IAML			09 44 01.5	
	comp=E,12μm,0.3s							
PB11	**IPOC Station P**	**2.04**	**345**	Pn		**Pn**	**09 43 31.2**	**+0.7**
PB11				Sn		**Sn**	**09 43 52.2**	**-3.5**
GO01	**Chusmiza**	**2.07**	**358**	⇑*iP*		**Pn**	**09 43 32.4**	**+1.2**
GO01				eS		**Sn**	**09 43 59.3**	**+2.5**
GO01				IAML			09 44 04.3	
	comp=N,10μm,0.1s							
GO01	**Chusmiza**	**2.07**	**358**	Pn		**Pn**	**09 43 32.6**	**+1.3**
GO01				Sn		**Sn**	**09 43 58.4**	**+1.6**
PB10	**IPOC Station P**	**2.20**	**217**	eP		**Pn**	**09 43 32.8**	**+0.3**
PB10				eS		**Sn**	**09 43 54.7**	**-4.4**
PB10	**IPOC Station P**	**2.20**	**217**	Pn		**Pn**	**09 43 33.6**	**+1.1**
PB10				Sn		**Sn**	**09 43 54.7**	**-4.4**
PSGC	**Pisagua**	**2.34**	**336**	⇑*iP*		**Pn**	**09 43 34.0**	**-0.5**
PSGC				eS		**Sn**	**09 44 02.9**	**+0.3**
PSGC				IAML			09 44 10.5	
	comp=E,6μm,0.6s							
PSGCX	**Pisagua**	**2.34**	**336**			**Pn**	**09 43 34.0**	**-0.4**
MNMC	**Minye Minye**	**2.65**	**350**	⇑*iP*		**Pn**	**09 43 39.1**	**+0.5**
MNMC				eS		**Sn**	**09 44 11.4**	**+1.3**
MNMC	**Minye Minye**	**2.65**	**350**	Pn		**Pn**	**09 43 38.9**	**+0.3**
PB14	**IPOC Station P**	**3.10**	**202**	eP		**Pn**	**09 43 45.0**	**+0.3**
PB14				eS		**Sn**	**09 44 22.0**	**+1.0**
PB14				IAML			09 44 34.5	
	comp=E,1μm,0.4s							
PB14	**IPOC Station P**	**3.10**	**202**	Pn		**Pn**	**09 43 44.8**	**+0.1**
PB12	**IPOC Station P**	**3.32**	**340**	eP		**Pn**	**09 43 46.5**	**-1.0**
PB12				eS		**Sn**	**09 44 25.0**	**-1.1**
PB12	**IPOC Station P**	**3.32**	**340**	Pn		**Pn**	**09 43 46.9**	**-0.7**
PB16	**IPOC Station P**	**3.42**	**354**	⇑eP		**Pn**	**09 43 50.7**	**+1.4**
PB16				eS		**Sn**	**09 44 30.1**	**+0.9**
PB16				IAML			09 44 58.3	
	comp=E,1μm,0.5s							
PB16	**IPOC Station P**	**3.42**	**354**	Pn		**Pn**	**09 43 51.2**	**+1.9**
GO02	**Mina Guanaco**	**3.42**	**187**	eP		**Pn**	**09 43 49.5**	**+0.4**
GO02				eS		**Sn**	**09 44 29.2**	**+0.3**
GO02				IAML			09 44 58.5	
	comp=N,3μm,0.5s							
GO02	**Mina Guanaco**	**3.42**	**187**	Pn		**Pn**	**09 43 50.5**	**+1.3**
AP01	**Chacalluta**	**3.56**	**341**	eP		**Pn**	**09 43 51.3**	**+0.7**
AP01				eS		**Sn**	**09 44 30.7**	**-0.9**
AC01	**Pan de Azucar**	**4.58**	**197**	Pn		**Pn**	**09 44 03.9**	**-0.7**
AC02	**Maricunga**	**5.06**	**180**	Pn		**Pn**	**09 44 12.5**	**+1.0**
LPAZ	**La Paz**	**5.51**	**10**	P		**Pn**	**09 44 21.3**	**+3.5**
	comp=N,8.1nm,0.3s,baz=183,slow=5.5,SNR=128							
LPAZ				LR		LR	09 46 16.4	
	comp=N,103nm,20.7s,baz=160,slow=36							
LPAZ	**La Paz**	**5.51**	**10**	eP		**Pn**	**09 44 20.4**	**+2.6**
GO03	**Copiap**	**5.91**	**190**			**Pn**	**09 44 21.5**	**-1.1**
AC05	**El Transito**	**7.13**	**188**	Pn		**Pn**	**09 44 38.8**	**-0.5**
GO04	**Tololo Observa**	**8.52**	**190**			**Pn**	**09 44 56.7**	**-1.7**
CO03	**El Pedregal**	**9.16**	**189**			**Pn**	**09 45 06.6**	**-0.4**
SIV	**San Ignacio**	**9.52**	**54**	P		**Pn**	**09 45 09.1**	**-2.8**
	comp=N,2.4nm,0.3s,baz=250,slow=8.0,SNR=46							
SIV				S		**Sn**	**09 46 53.2**	**-4.0**
	comp=N,0.3nm,0.3s,baz=284,slow=15,SNR=3.8							
SIV				LR		LR	09 49 48.6	
	comp=N,122nm,19.1s,baz=282,slow=44							
CO02	**Combarbal**	**9.56**	**190**			**Pn**	**09 45 12.3**	**-0.2**
ZON	**Zonda**	**9.76**	**178**			**Pn**	**09 45 16.2**	**+1.1**
VA03	**San Esteban**	**11.04**	**186**			**Pn**	**09 45 33.0**	**+0.4**
ROC1	**El Roble**	**11.31**	**188**			**Pn**	**09 45 36.8**	**+0.5**
PEL	**Peldehue**	**11.43**	**187**			**Pn**	**09 45 38.9**	**+1.1**
CPUP	**Villa Florida**	**11.69**	**115**	P		**Pn**	**09 45 39.0**	**-2.3**
	comp=N,0.4nm,0.3s,baz=285,slow=10,SNR=8.7							
CPUP				LR		LR	09 51 16.9	
	comp=N,107nm,18.1s,baz=266,slow=43							
ETMB	**Extrema**	**12.19**	**14**	eP		**Pn**	**09 45 48.2**	**+0.1**
VILB	**Vilhena**	**12.20**	**46**	eP		**Pn**	**09 45 48.4**	**+0.2**
NNA	**Nana**	**12.20**	**321**	P		**Pn**	**09 45 47.9**	**-0.3**
	comp=N,0.8nm,0.3s,baz=106,slow=15,SNR=1.4							
NNA				LR		LR	09 49 48.6	
	comp=N,54nm,21.2s,baz=184,slow=34							
AQDB	**Aquidauana**	**12.58**	**87**	eP		**Pn**	**09 45 54.9**	**+1.6**
SAML	**Samuel**	**13.95**	**25**			**Pn**	**09 46 10.8**	**-0.5**
SAML	**Samuel**	**13.95**	**25**	eP		**Pn**	**09 46 10.8**	**-0.5**
SALV	**Santo Antonio**	**13.97**	**68**	eP		**Pn**	**09 46 12.8**	**+1.3**
CZSB	**Cruzeiro do Su**	**14.37**	**346**	eP		**Pn**	**09 46 15.7**	**-1.0**
BI02	**San Fabin de**	**14.98**	**187**			**Pn**	**09 46 24.2**	**-0.3**
TRCB	**Terra Rica**	**15.29**	**97**	eP		**P**	**09 46 30.3**	**-1.0**
PTGB	**Pitanga**	**15.94**	**104**	eP		**P**	**09 46 38.8**	**+0.2**
ITAB	**Concordia**	**16.39**	**113**	eP		**P**	**09 46 43.3**	**-0.1**
CPSB	**Cacapava Do Su**	**16.49**	**125**	eP		**P**	**09 46 44.8**	**+0.2**
PCMB	**Pacaembu**	**16.59**	**93**	eP		**P**	**09 46 45.8**	**0.0**
CLDB	**Colider**	**16.73**	**52**	eP		**Pn**	**09 46 45.2**	**-1.3**
PLTB	**Pedras Altas**	**17.05**	**129**	eP		**P**	**09 46 50.5**	**-0.1**
ARAG	**Araguaiana, MT**	**17.45**	**73**	eP		**P**	**09 46 56.0**	**+0.8**
ITRB	**Iturama**	**17.66**	**87**	eP		**Pn**	**09 46 58.3**	**+0.5**
CNLB	**Canela**	**18.10**	**118**	eP		**P**	**09 47 01.9**	**-0.4**
FRTB	**Fartura**	**18.13**	**99**	eP		**Pn**	**09 47 03.7**	**+0.2**
TIJ01	**Guaruva-PR**	**18.77**	**105**	eP		**Pn**	**09 47 10.3**	**-0.9**
PLCA	**Paso Flores**	**18.96**	**183**	P		**P**	**09 47 12.4**	**+0.7**
	comp=N,0.3nm,0.3s,baz=12,slow=13,SNR=7.7							
PLCA	**Paso Flores**	**18.96**	**183**	IAmb		IAmb	09 47 13.8	
	comp=Z,12nm,1.4s							
PLCA	**Paso Flores**	**18.96**	**183**	eP		**P**	**09 47 11.1**	**-0.6**
BB19B	**Bebedouro**	**19.18**	**92**	eP		**Pn**	**09 47 14.4**	**-1.6**
IPMB	**Ipameri, GO**	**20.01**	**83**	eP		**P**	**09 47 22.4**	**-0.8**
MACA	**Manacapuru-AM**	**20.21**	**25**	eP		**P**	**09 47 24.3**	**-1.0**
PET01	**Itanhaem-SP**	**20.25**	**101**	eP		**P**	**09 47 26.3**	**+0.5**
VAO	**Valinhos**	**20.52**	**98**	eP		**P**	**09 47 27.6**	**-1.1**
BDFB	**Brasilia**	**20.88**	**77**	P		**P**	**09 47 31.7**	**-1.0**
	comp=Z,73nm,0.4s,baz=258,slow=9.3,SNR=2.0							
BDFB	**Brasilia**	**20.88**	**77**	IAmb		IAmb	09 47 33.4	
	comp=Z,5.7nm,1.0s							
PTGA	**Pitinga**	**22.72**	**24**	P		**P**	**09 47 50.3**	**-1.7**
	comp=Z,5.8nm,0.5s,baz=215,slow=11,SNR=12							
PTGA	**Pitinga**	**22.72**	**24**	P		**P**	**09 47 50.7**	**-1.3**
OTAV	**Otavalo**	**23.68**	**336**	eP		**P**	**09 48 00.6**	**-1.1**
VAS01	**Vassouras-RJ**	**23.80**	**96**	eP		**P**	**09 48 03.2**	**+1.0**
FLOC	**Florencia**	**24.06**	**344**	P		**P**	**09 48 04.5**	**0.0**
PRPB	**Parauapebas**	**24.25**	**53**	eP		**P**	**09 48 06.2**	**-0.1**
SMTB	**Santa Maria do**	**24.35**	**62**	eP		**P**	**09 48 07.7**	**+0.4**
MALB	**Monte Alegre**	**24.50**	**38**	eP		**P**	**09 48 08.5**	**0.0**
ROSC	**El Rosal**	**26.91**	**348**	LR		LR	09 59 28.5	
	comp=Z,75nm,20.7s,baz=80,slow=37							
MCPB	**Macapa, AP**	**26.99**	**40**	eP		**P**	**09 48 31.5**	**+0.4**
RUSC	**La Rusia**	**27.75**	**351**	P		**P**	**09 48 38.6**	**+0.3**
NHSC	**New Hope**	**55.56**	**349**	P		**P**	**09 52 24.5**	**+0.9**
	baz=168							
Z58A	**St. Stephen**	**55.72**	**349**	P		**P**	**09 52 25.8**	**+1.1**
	baz=168							
Z57A	**Bowman**	**55.85**	**348**	P		**P**	**09 52 26.6**	**+1.0**
	baz=167							
Y60A	**Bolivia**	**56.12**	**351**	P		**P**	**09 52 28.5**	**+1.0**
	baz=170							
Y60A	**Bolivia**	**56.12**	**351**	P		**P**	**09 52 28.8**	**+1.3**
Y57A	**Sumter**	**56.49**	**349**	P		**P**	**09 52 31.0**	**+0.8**
	baz=168							
X60A	**Albert Glenn T**	**56.65**	**351**	P		**P**	**09 52 31.6**	**+0.4**
	baz=170							
Y55A	**Saluda**	**56.69**	**347**	P		**P**	**09 52 31.7**	**0.0**
	baz=166							
X58A	**Rowland**	**56.83**	**350**	P		**P**	**09 52 33.4**	**+0.8**
	baz=169							
X56A	**White Oak**	**57.07**	**348**	P		**P**	**09 52 35.0**	**+0.7**
	baz=167							
W61A	**Ground Anchor**	**57.11**	**352**	P		**P**	**09 52 35.4**	**+0.9**
	baz=172							
BIRD	**Birdtown, Kers**	**57.11**	**349**	P		**P**	**09 52 35.8**	**+1.2**
BIRD				IAmb		IAmb	09 52 36.3	
	comp=Z,13nm,0.8s							
X55A	**Gracelyn & Ava**	**57.16**	**348**	P		**P**	**09 52 35.4**	**+0.5**
	baz=166							
W58A	**Raeford**	**57.27**	**350**	P		**P**	**09 52 36.7**	**+1.0**
	baz=169,SNR=9.2							
X54A	**Belton**	**57.39**	**347**	P		**P**	**09 52 36.9**	**+0.4**
	baz=166							
W57A	**Gilead**	**57.53**	**349**	P		**P**	**09 52 38.2**	**+0.8**
	baz=168							
W57A	**Gilead**	**57.53**	**349**	P		**P**	**09 52 37.8**	**+0.3**
W57A				IAmb		IAmb	09 52 39.0	
	comp=Z,9.4nm,0.8s							
W56A	**Indian Trail**	**57.61**	**349**	P		**P**	**09 52 38.7**	**+0.6**
	baz=168,SNR=5.1							
833A	**Chaparral WMA,**	**57.73**	**328**	P		**P**	**09 52 39.7**	**+0.6**
	baz=147							
V59A	**Middlesex**	**57.85**	**351**	P		**P**	**09 52 40.5**	**+0.7**
	baz=170,SNR=5.1							
W54A	**Cherokee Point**	**57.87**	**347**	P		**P**	**09 52 40.8**	**+0.9**
	baz=166							
V58A	**Windy Hill, Pi**	**58.01**	**350**	P		**P**	**09 52 41.5**	**+0.7**
	baz=169							
V58A	**Windy Hill, Pi**	**58.01**	**350**	P		**P**	**09 52 41.6**	**+0.7**
V58A				IAmb		IAmb	09 52 42.4	
	comp=Z,9.3nm,0.9s							
V57A	**Coltrane Farms**	**58.21**	**350**	P		**P**	**09 52 42.5**	**+0.2**
	baz=169							
V56A	**Mocksville**	**58.25**	**349**	P		**P**	**09 52 43.5**	**+0.9**
	baz=168,SNR=10							
U59A	**Littleton**	**58.37**	**352**	P		**P**	**09 52 44.1**	**+0.8**
	baz=171							
U60A	**Pendleton**	**58.41**	**352**	P		**P**	**09 52 44.3**	**+0.7**
	baz=172							
V55A	**Taylorsville**	**58.42**	**348**	P		**P**	**09 52 44.9**	**+1.2**
	baz=167,SNR=11							
V55A	**Taylorsville**	**58.42**	**348**	P		**P**	**09 52 45.0**	**+1.2**
X48A	**Hartselle**	**58.44**	**343**	P		**P**	**09 52 44.0**	**+0.2**
X48A				IAmb		IAmb	09 52 44.8	
	comp=Z,13nm,1.2s							
V54A	**Nebo**	**58.49**	**348**	P		**P**	**09 52 45.0**	**+0.7**
	baz=166,SNR=9.4							
U58A	**Oxford**	**58.52**	**351**	P		**P**	**09 52 45.3**	**+0.9**
	baz=170							
U57A	**Blanch**	**58.67**	**350**	P		**P**	**09 52 46.3**	**+0.9**
	baz=169							
CPCT	**Cooper Cave**	**58.73**	**345**	P		**P**	**09 52 46.4**	**+0.5**
CPCT				IAmb		IAmb	09 52 47.0	
	comp=Z,6.1nm,1.0s							
U56A	**King**	**58.76**	**349**	P		**P**	**09 52 47.5**	**+1.4**
	baz=168,SNR=5.0							
TKL	**Tuckaleechee C**	**58.76**	**346**	P		**P**	**09 52 46.1**	**0.0**
TKL				IAmb		IAmb	09 52 47.0	
	comp=Z,5.6nm,0.8s							
SWET	**Sewanee**	**58.86**	**344**	P		**P**	**09 52 47.0**	**+0.2**
SWET				IAmb		IAmb	09 52 47.7	
	comp=Z,12nm,1.2s	

	baz=167,SNR=7.5					
JCT	**Junction City**	**59.72**	**329**	P	**P**	**09 52 53.7 +0.8**
	baz=147					
JCT	**Junction City**	**59.72**	**329**	P	**P**	**09 52 53.8 +0.8**
JCT				IAmb	IAmb	09 52 54.9
	comp=Z,5.8nm,0.8s					
T53A	**Wise**	**59.77**	**348**	P	**P**	**09 52 53.3 +0.2**
	baz=166,SNR=7.9					
CLTN	**Cedars of Leba**	**59.79**	**344**	P	**P**	**09 52 53.6 +0.4**
CLTN				IAmb	IAmb	09 52 54.6
	comp=Z,11nm,1.1s					
VNA3	**Neumayer Olymp**	**59.90**	**161**	P	**P**	**09 52 54.8 +1.2**
S57A	**Dark Hollow, R**	**59.91**	**351**	P	**P**	**09 52 55.1 +1.1**
	baz=170,SNR=8.0					
S56A	**Natural Bridge**	**59.92**	**350**	P	**P**	**09 52 55.1 +1.0**
	baz=169					
R58B	**Mineral**	**59.97**	**352**	P	**P**	**09 52 55.1 +0.7**
	baz=171,SNR=6.5					
R58B	**Mineral**	**59.97**	**352**	P	**P**	**09 52 55.2 +0.9**
R58B				IAmb	IAmb	09 52 56.2
	comp=Z,13nm,0.9s					
VNA1	**Neumayer--Stat**	**60.11**	**160**	P	**P**	**09 52 56.7 +1.7**
S55A	**Lewisburg**	**60.17**	**350**	P	**P**	**09 52 57.1 +1.3**
	baz=168,SNR=15					
WVT	**Waverly**	**60.23**	**343**	P	**P**	**09 52 55.7 -0.5**
	baz=160					
R58A	**Rapidan**	**60.31**	**352**	P	**P**	**09 52 57.7 +1.0**
	baz=171,SNR=6.5					
S54A	**Dingess, Beckl**	**60.34**	**349**	P	**P**	**09 52 57.6 +0.7**
	baz=167,SNR=8.7					
S54A	**Dingess, Beckl**	**60.34**	**349**	P	**P**	**09 52 57.6 +0.7**
S53A	**Williamson**	**60.37**	**348**	P	**P**	**09 52 57.3 +0.1**
	baz=166,SNR=6.2					
R57A	**Stanardsville**	**60.38**	**351**	P	**P**	**09 52 58.4 +1.2**
	baz=170,SNR=8.4					
UALR	**University of**	**60.39**	**338**	P	**P**	**09 52 58.3 +0.9**
VNA2	**Neumayer--Watz**	**60.48**	**161**	P	**P**	**09 52 58.8 +1.3**
	baz=293,slow=8.0					
R55A	**Marlinton**	**60.60**	**350**	P	**P**	**09 53 00.3 +1.5**
	baz=169,SNR=5.9					
R56A	**Bull Pasture M**	**60.62**	**351**	P	**P**	**09 53 00.2 +1.3**
	baz=169,SNR=5.9					
R54A	**Victor**	**60.65**	**349**	P	**P**	**09 52 59.8 +0.8**
	baz=168,SNR=9.9					
TXAR	**Lajitas Array**	**60.73**	**325**	P	**P**	**09 52 59.7 -0.2**
	comp=Z,0.8nm,0.6s,baz=150,slow=8.0,SNR=12					
Q58A	**Fox Den Farm,**	**60.91**	**352**	P	**P**	**09 53 01.7 +1.0**
	baz=171,SNR=5.8					
R53A	**Hurricane**	**60.97**	**348**	P	**P**	**09 53 01.5 +0.4**
	baz=167					
Q57A	**Strasburg**	**61.09**	**352**	P	**P**	**09 53 03.4 +1.4**
	baz=170,SNR=11					
LCAR	**Lake Charles**	**61.17**	**340**	P	**P**	**09 53 03.1 +0.5**
LCAR				IAmb	IAmb	09 53 11.5
	comp=Z,7.3nm,0.5s					
Q56A	**Snyder Ridge,**	**61.20**	**351**	P	**P**	**09 53 04.2 +1.4**
	baz=170					
T45A	**Paducah**	**61.29**	**342**	P	**P**	**09 53 04.0 +0.6**
Q55A	**Buckhannon**	**61.30**	**350**	P	**P**	**09 53 04.9 +1.5**
	baz=169,SNR=7.4					
P58A	**Pank, Wackersv**	**61.40**	**353**	P	**P**	**09 53 04.9 +0.9**
	baz=172					
Q53A	**Leroy**	**61.40**	**349**	P	**P**	**09 53 04.9 +0.7**
	baz=167,SNR=5.6					
Q54A	**Coxs Mills**	**61.41**	**350**	P	**P**	**09 53 04.3 +0.2**
	baz=168,SNR=5.9					
P59A	**Jarrettsville**	**61.42**	**354**	P	**P**	**09 53 05.6 +1.4**
	baz=172,SNR=6.7					
P57A	**Homestead Farm**	**61.48**	**352**	P	**P**	**09 53 05.9 +1.3**
	baz=171,SNR=5.4					
P56A	**Dayton Farm, R**	**61.61**	**351**	P	**P**	**09 53 07.0 +1.6**
	baz=170,SNR=5.0					
Q52A	**Bidwell**	**61.64**	**348**	P	**P**	**09 53 05.8 +0.1**
	baz=166					
O61A	**Allentown**	**61.73**	**355**	P	**P**	**09 53 07.2 +0.9**
	baz=174					
P55A	**Reedsville**	**61.76**	**351**	P	**P**	**09 53 07.7 +1.2**
	baz=169,SNR=6.2					
WCI	**Wyandotte Cave**	**61.81**	**345**	P	**P**	**09 53 06.5 -0.4**
	baz=162					
MCWV	**Mont Chateau**	**61.91**	**351**	P	**P**	**09 53 08.6 +1.2**
	baz=169,SNR=6.7					
P54A	**Burton**	**61.95**	**350**	P	**P**	**09 53 08.8 +1.0**
	baz=168					
O58A	**Lewisberry**	**61.98**	**353**	P	**P**	**09 53 09.2 +1.3**
	baz=172					
P53A	**Whipple**	**61.99**	**349**	P	**P**	**09 53 09.0 +0.9**
	baz=167,SNR=5.8					
O59A	**Robesonia**	**62.09**	**354**	P	**P**	**09 53 09.3 +0.6**
	baz=173					
SNAA	**Sanae**	**62.10**	**161**	P	**P**	**09 53 09.7 +1.1**
SNAA	**Sanae**	**62.10**	**161**	P	**P**	**09 53 09.1 +0.5**
SNAA				IAmb	IAmb	09 53 10.4
	comp=Z,5.6nm,0.9s					
O57A	**Amberson**	**62.15**	**353**	P	**P**	**09 53 10.4 +1.3**
	baz=171					
P52A	**Corning**	**62.27**	**349**	P	**P**	**09 53 10.0 +0.1**
	baz=167					
O56A	**Blue Knob Stat**	**62.33**	**352**	P	**P**	**09 53 11.7 +1.4**
	baz=170					
O55A	**Ligonier**	**62.37**	**351**	P	**P**	**09 53 11.7 +1.2**
	baz=170,SNR=6.3					
O54A	**Avella**	**62.50**	**350**	P	**P**	**09 53 12.0 +0.6**
	baz=168					
N60A	**Cedar Hill Far**	**62.55**	**355**	P	**P**	**09 53 12.6 +0.8**
	baz=174					
SSPA	**Standing Stone**	**62.60**	**352**	P	**P**	**09 53 12.9 +0.8**
	baz=171					
N59A	**State Game Lan**	**62.65**	**354**	P	**P**	**09 53 13.5 +1.1**
	baz=173					
N58A	**Sunbury**	**62.67**	**354**	P	**P**	**09 53 13.5 +0.9**
	baz=172					
N57A	**Milroy**	**62.68**	**353**	P	**P**	**09 53 13.6 +1.0**
	baz=172					
O52A	**Adamsville**	**62.68**	**349**	P	**P**	**09 53 13.0 +0.4**
	baz=167					
P49A	**Miami Univ. Ec**	**62.69**	**346**	P	**P**	**09 53 12.3 -0.4**
	baz=164					
O53A	**New Philadelph**	**62.70**	**350**	P	**P**	**09 53 13.4 +0.6**
	baz=168					
FVM	**French Village**	**62.71**	**341**	P	**P**	**09 53 13.1 +0.2**
O51A	**Pataskala**	**62.85**	**348**	P	**P**	**09 53 13.6 -0.2**
	baz=166					
N55A	**Marion Center**	**62.88**	**352**	P	**P**	**09 53 15.2 +1.2**
	baz=170,SNR=7.5					
M61A	**Granite Spring**	**62.89**	**356**	P	**P**	**09 53 14.5 +0.5**
	baz=175					
M60A	**Port Jervis**	**62.96**	**355**	P	**P**	**09 53 15.3 +0.8**
	baz=174					
M62A	**Hamden**	**62.97**	**357**	P	**P**	**09 53 15.7 +1.2**
	baz=176					
ACSO	**Alum Creek Sta**	**63.00**	**348**	P	**P**	**09 53 15.0 +0.2**
	baz=166					
M58A	**Price's Panora**	**63.17**	**354**	P	**P**	**09 53 17.3 +1.4**
	baz=173,SNR=5.1					
N54A	**Moraine State**	**63.20**	**351**	P	**P**	**09 53 17.2 +1.1**
	baz=169					
M57A	**Sunshine Farm,**	**63.21**	**353**	P	**P**	**09 53 17.3 +1.2**
	baz=172					
M59A	**Waymart**	**63.24**	**355**	P	**P**	**09 53 17.4 +1.0**
	baz=174,SNR=5.5					
L63A	**North Scituate**	**63.33**	**358**	P	**P**	**09 53 17.3 +0.5**
	baz=178					
M56A	**Emporium**	**63.47**	**352**	P	**P**	**09 53 18.5 +0.6**
	baz=171					
MNTX	**Cornudas Mount**	**63.50**	**326**	P	**P**	**09 53 18.5 +0.2**
	baz=142					
MNTX	**Cornudas Mount**	**63.50**	**326**	P	**P**	**09 53 18.8 +0.5**
M55A	**Ridgway**	**63.53**	**352**	P	**P**	**09 53 18.8 +0.5**
	baz=170					
L60A	**Shokan**	**63.59**	**356**	P	**P**	**09 53 19.7 +1.1**
	baz=175					
M54A	**Oil Creek Stat**	**63.69**	**351**	P	**P**	**09 53 19.9 +0.5**
	baz=169					
L61A	**Hillsdale 1, H**	**63.75**	**356**	P	**P**	**09 53 20.6 +1.0**
	baz=176					
L58A	**Harry Jones Me**	**63.78**	**354**	P	**P**	**09 53 21.2 +1.3**
	baz=173,SNR=5.2					
L57A	**Andrews Acres**	**63.83**	**354**	P	**P**	**09 53 20.9 +0.6**
	baz=172					
L59A	**Walton**	**63.85**	**355**	P	**P**	**09 53 21.1 +0.8**
	baz=174,SNR=9.0					
BINY	**Binghamton**	**63.94**	**354**	P	**P**	**09 53 21.1 +0.2**
	baz=173					
L61B	**Northampton**	**63.96**	**357**	P	**P**	**09 53 21.9 +0.9**
	baz=177					
MSTX	**Muleshoe**	**64.01**	**329**	P	**P**	**09 53 22.4 +0.7**
	baz=145					
SFIN	**Lafayette**	**64.04**	**345**	P	**P**	**09 53 20.4 -1.2**
	baz=162					
L56A	**Greenwood**	**64.04**	**353**	P	**P**	**09 53 22.4 +0.8**
	baz=172					
K59A	**Cooperstown**	**64.42**	**355**	P	**P**	**09 53 25.4 +1.3**
	baz=174,SNR=7.8					
K58A	**Earlville**	**64.47**	**355**	P	**P**	**09 53 25.3 +0.9**
	baz=174					
HDIL	**Hopedale**	**64.77**	**343**	P	**P**	**09 53 25.8 -0.6**
	baz=160					
J59A	**Piesco**	**65.08**	**356**	P	**P**	**09 53 29.3 +1.0**
	baz=175					
I58A	**Old Forge**	**65.34**	**355**	P	**P**	**09 53 31.0 +1.0**
	baz=174					
I59A	**Olmsteadville**	**65.37**	**356**	P	**P**	**09 53 31.3 +1.1**
	baz=175					
I60A	**Shoreham**	**65.38**	**357**	P	**P**	**09 53 31.6 +1.4**
	baz=176					
I61A	**Oroboro, Fairl**	**65.42**	**358**	P	**P**	**09 53 31.8 +1.3**
	baz=177					
I63A	**Otisfield**	**65.49**	**359**	P	**P**	**09 53 32.2 +1.3**
	baz=179					
H58A	**Gabriels**	**66.01**	**356**	P	**P**	**09 53 35.2 +0.9**
	baz=175					
H61A	**Lyndonville**	**66.01**	**358**	P	**P**	**09 53 35.8 +1.6**
	baz=177					
H57A	**Richville**	**66.14**	**355**	P	**P**	**09 53 36.0 +0.9**
	baz=174					
H59A	**Cadyville**	**66.20**	**356**	P	**P**	**09 53 36.6 +1.1**
	baz=176					
LONY	**Lake Ozonia**	**66.24**	**356**	P	**P**	**09 53 36.1 +0.4**
	baz=175					
G60A	**Masonville**	**66.59**	**358**	P	**P**	**09 53 39.9 +2.0**
	baz=177					
G62A	**West of Eustis**	**66.66**	**359**	P	**P**	**09 53 39.8 +1.4**
	baz=179					
PKME	**Peaks-Kenny Pk**	**66.69**	**360**	P	**P**	**09 53 39.2 +0.6**
	baz=180					
G58A	**Ormstown**	**66.73**	**356**	P	**P**	**09 53 39.6 +0.8**
	baz=175					
CBKS	**Cedar Bluff**	**66.73**	**334**	P	**P**	**09 53 40.2 +1.1**
	baz=149					
G57A	**Newington**	**66.75**	**355**	P	**P**	**09 53 39.9 +1.0**
	baz=174					
G61A	**St-Isidore-de-**	**66.75**	**358**	P	**P**	**09 53 40.7 +1.8**
	baz=178					
JFWS	**Jewell Farm**	**67.23**	**343**	P	**P**	**09 53 42.3 +0.2**
	baz=159					
F64A	**Sherman**	**67.29**	**1**	P	**P**	**09 53 43.6 +1.3**
	baz=181					
F60A	**Warwick**	**67.44**	**358**	P	**P**	**09 53 44.2 +0.9**
	baz=177					
214A	**Organ Pipe Nat**	**67.84**	**321**	P	**P**	**09 53 48.2 +2.0**
	baz=136					
E63A	**Oxbow**	**67.85**	**1**	P	**P**	**09 53 46.2 +0.3**
	baz=181					
E64A	**Bridgewater**	**67.86**	**1**	P	**P**	**09 53 46.9 +1.0**
	baz=182					
ALGO	**Algonquin Park**	**67.87**	**353**	P	**P**	**09 53 46.5 +0.5**
	baz=171					
E61A	**Lac Etchemin**	**67.87**	**359**	P	**P**	**09 53 47.6 +1.5**
	baz=179					
E58A	**La Victoria**	**67.90**	**357**	P	**P**	**09 53 46.9 +0.7**
	baz=176					
E57A	**Chemin Saint G**	**67.99**	**356**	P	**P**	**09 53 47.5 +0.7**
	baz=175					
E62A	**Clayton Lake**	**68.05**	**360**	P	**P**	**09 53 48.4 +1.3**
	baz=180					
E56A	**St. Veronique**	**68.18**	**356**	P	**P**	**09 53 48.8 +0.8**
	baz=174					
E54A	**Lac Daplat, Po**	**68.25**	**354**	P	**P**	**09 53 48.8 +0.4**
	baz=172					
BGNE	**Belgrade**	**68.37**	**337**	P	**P**	**09 53 50.2 +0.9**
	baz=151					
D63A	**Stockholm**	**68.47**	**1**	P	**P**	**09 53 50.8 +1.0**
	baz=181					
D57A	**Chemin Vers le**	**68.58**	**356**	P	**P**	**09 53 51.4 +1.0**
	baz=176					
D58A	**Chemin du LacG**	**68.61**	**357**	P	**P**	**09 53 51.4 +0.8**
	baz=176					
LIC	**Lamto**	**68.64**	**74**	*e*P	**P**	**09 53 50.3 -1.2**
	comp=Z,30nm,1.6s					
D56A	**ZEC Mazanza, M**	**68.67**	**356**	P	**P**	**09 53 51.3 +0.3**
	baz=175					
D55A	**Sainte-Anne-du**	**68.69**	**355**	P	**P**	**09 53 51.7 +0.6**
	baz=174					
TIC	**Toumodi**	**68.83**	**73**	*e*P	**P**	**09 53 51.7 -1.1**
LATQ	**La Tuque**	**68.89**	**357**	P	**P**	**09 53 53.4 +1.1**
	baz=177					
D54A	**Lac Fusel, La**	**68.92**	**354**	P	**P**	**09 53 52.7 +0.2**
	baz=173					
D53A	**Lac Vacive, Po**	**68.94**	**354**	P	**P**	**09 53 53.2 +0.5**
	baz=172					
KIC	**Kosan Boka**	**68.95**	**74**	*e*P	**P**	**09 53 52.5 -1.0**
	comp=Z,18nm,1.1s					
DBIC	**Dimbokro**	**68.99**	**73**	P	**P**	**09 53 53.3 -0.4**
	comp=Z,7.7nm,0.9s,baz=183,slow=2.6,SNR=6.2					
DBIC				pP	**PcP**	**09 54 17.3 -0.1**
	comp=Z,8.1nm,0.8s,baz=224,slow=6.6,SNR=5.3					
DBIC	**Dimbokro**	**68.99**	**73**	IAmb	IAmb	09 53 54.3
	comp=Z,14nm,1.1s					
D50A	**G1974 Best Tow**	**69.28**	**352**	P	**P**	**09 53 55.2 +0.4**
	baz=170					
MVCO	**Mesa Verde**	**69.40**	**327**	P	**P**	**09 53 57.7 +1.6**
	baz=141					
WUAZ	**Wupatki**	**69.62**	**324**	P	**P**	**09 53 59.6 +2.2**
	baz=138					
SPMN	**Marine on St.**	**70.06**	**342**	P	**P**	**09 53 59.7 +0.1**
	baz=157					
BC3	**Big Chuckawall**	**70.61**	**320**	P	**P**	**09 54 05.5 +2.2**
	baz=135					
IRM	**Iron Mountain**	**70.78**	**321**	P	**P**	**09 54 06.2 +1.9**
LSQQ	**Lebel-sur-Quev**	**70.84**	**355**	P	**P**	**09 54 04.4 +0.1**
	baz=172					
N23A	**Red Feather La**	**71.11**	**331**	P	**P**	**09 54 08.2 +1.8**
	baz=144					
GMRC	**Granite Mounta**	**71.52**	**321**	P	**P**	**09 54 11.1 +2.2**
	baz=135					
O20A	**White River Ci**	**71.56**	**329**	P	**P**	**09 54 10.7 +1.5**
	baz=142					
RSSD	**Black Hills**	**72.94**	**334**	P	**P**	**09 54 17.9 +0.6**
	baz=146					
TPNV	**Topopah Spring**	**73.38**	**322**	P	**P**	**09 54 22.5 +2.6**
	baz=135					
FURC	**Furnace Creek,**	**73.39**	**321**	P	**P**	**09 54 22.0 +2.3**
	baz=134					
AGMN	**Agassiz Nation**	**73.73**	**342**	P	**P**	**09 54 21.4 -0.1**
	baz=154					
ISA	**Isabella, Lake**	**73.79**	**320**	P	**P**	**09 54 24.4 +2.2**
	baz=133					
DUG	**Dugway, Tooele**	**73.86**	**327**	P	**P**	**09 54 24.7 +2.0**
	baz=138					
R11A	**Troy Canyon, C**	**73.99**	**324**	P	**P**	**09 54 25.6 +2.1**
	baz=136					
CWC	**Cottonwood Cre**	**74.08**	**321**	P	**P**	**09 54 25.7 +1.7**
	baz=134					
BW06	**Boulder Array**	**74.23**	**330**	P	**P**	**09 54 25.7 +0.8**
	baz=142					
PDAR	**Pinedale Array**	**74.23**	**330**	P	**P**	**09 54 25.2 +0.4**
	comp=Z,0.6nm,0.5s,baz=138,slow=7.8,SNR=12					
VES	**Vestal, Richgr**	**74.28**	**320**	P	**P**	**09 54 26.9 +1.9**
	baz=133					
ULM	**Lac du Bonnet**	**75.50**	**343**	P	**P**	**09 54 29.4 -2.3**
	comp=Z,4.7nm,0.5s,baz=155,slow=6.3,SNR=5.7					
ULM	**Lac du Bonnet**	**75.50**	**343**	IAmb	IAmb	09 54 32.2
	comp=Z,5.8nm,0.7s					
NVAR	**Mina Array Bea**	**75.58**	**322**	P	**P**	**09 54 33.0 +0.3**
	comp=Z,0.8nm,0.7s,baz=143,slow=5.7,SNR=8.1					
LAO	**LASA Array**	**75.93**	**335**	P	**P**	**09 54 35.9 +1.6**
	baz=145					
RLMT	**Red Lodge**	**75.95**	**332**	P	**P**	**09 54 35.8 +1.1**
	baz=142					
SYO	**Syowa Base**	**76.33**	**159**⇑	*e*P	**P**	**09 54 36.0 -0.3**
VNDA	**Vanda**	**76.57**	**190**	P	**P**	**09 54 37.4 -0.1**
	comp=Z,1.4nm,0.9s,baz=119,slow=3.3,SNR=6.3					
DGMT	**Dagmar**	**76.63**	**337**	P	**P**	**09 54 40.0 +1.8**
	baz=147					
HLID	**Hailey**	**77.16**	**328**	P	**P**	**09 54 43.9 +2.4**
	baz=138					
BOZ	**Bozeman (W)**	**77.37**	**331**	P	**P**	**09 54 44.0 +1.5**
	baz=140					
TORD	**Torodi Ar. Bea**	**77.62**	**70**	P	**P**	**09 54 44.0 -0.4**
	comp=Z,11nm,0.6s,baz=254,slow=5.3,SNR=12					
TORD				pP	**pP**	**09 55 08.2 -1.1**
	comp=Z,8.3nm,1.0s,baz=256,slow=5.7,SNR=5.9					
TORD	**Torodi Ar. Bea**	**77.62**	**70**	P	**P**	**09 54 44.0 -0.4**
EGMT	**Eagleton**	**78.44**	**333**	P	**P**	**09 54 47.8 -0.6**
	baz=142					
MSO	**Missoula**	**79.35**	**330**	P	**P**	**09 54 54.5 +1.1**
	baz=138					
J05D	**Fort Rock, OR**	**80.50**	**324**	P	**P**	**09 55 01.4 +1.7**
	baz=132					
I05D	**Terrebonne, OR**	**81.26**	**325**	P	**P**	**09 55 05.7 +2.0**
	baz=132					
I04A	**Tendick Farm,**	**81.47**	**324**	P	**P**	**09 55 05.5 +0.7**
	baz=131					
BOSA	**Boshof**	**83.50**	**118**	P	**P**	**09 55 15.8 -0.1**
	comp=Z,1.7nm,0.7s,baz=231,slow=3.7,SNR=4.3					
BOSA				pP	**pP**	**09 55 39.5 -1.5**
	comp=Z,3.5nm,0.8s,baz=229,slow=9.6,SNR=4.0					
BOSA	**Boshof**	**83.50**	**118**	IAmb	IAmb	09 55 22.9
	comp=Z,5.7nm,1.4s					
MAW	**Mawson**	**84.14**	**163**	P	**P**	**09 55 17.9 -0.3**
	comp=Z,3.6nm,0.7s,baz=213,slow=5.4,SNR=7.8					
MAW				pP	**pP**	**09 55 42.4 -0.6**
	comp=Z,2.1nm,0.8s,baz=245,slow=7.1,SNR=2.9					
MAW	**Mawson**	**84.14**	**163**	IAmb	IAmb	09 55 20.6
	comp=Z,0.9nm,0.8s					
ESDC	**Sonseca Array**	**86.14**	**45**	P	**P**	**09 55 28.8 +0.1**
	comp=Z,3.2nm,1.2s,baz=247,slow=4.1,SNR=6.4					
YKA	**Yellowknife Ar**	**91.36**	**341**	P	**P**	**09 55 52.6 -0.1**
	comp=Z,5.6nm,0.8s,baz=135,slow=4.2,SNR=20					
YKA				pP	**pP**	**09 56 17.9 +0.5**
	comp=Z,1.4nm,0.7s,baz=139,slow=4.5,SNR=3.1					
KBZ	**Khabaz**	**120.42**	**51**	PKP	**PKiKP**	**10 01 38.5 0.0**
	comp=Z,2.4nm,0.8s,baz=248,slow=6.6,SNR=4.5					
ASAR	**Alice Springs**	**129.60**	**208**	PKP	**PKPdf**	**10 01 57.1 +0.3**
	comp=Z,1.5nm,0.8s,baz=131,slow=1.9,SNR=14					
ASAR				pPKP	**pPKPdf**	**10 02 22.2 -0.8**
	comp=Z,0.7nm,0.9s,baz=195,slow=1.6,SNR=3.1					
SEY	**Seymchan**	**130.25**	**337**	PKP	**PKPdf**	**10 01 56.8 +0.1**
	comp=Z,2.9nm,0.9s,baz=242,slow=14,SNR=4.4					
WRA	**Warramunga Arr**	**132.64**	**211**	PKP	**PKPdf**	**10 02 02.8 +0.2**
	comp=Z,1.3nm,0.6s,baz=153,slow=1.8,SNR=18					
WRA				pPKP	**pPKPdf**	**10 02 28.7 +0.4**
	comp=Z,0.5nm,0.6s,baz=168,slow=1.7,SNR=2.3					
BVAR	**Borovoye Array**	**136.11**	**34**	PKP	**PKPdf**	**10 02 07.4 -0.6**
	comp=Z,0.7nm,0.5s,baz=306,slow=3.3,SNR=5.4					
KURK	**Kurchatov**	**141.64**	**33**		PKPpre	10 02 11.3
KURK					pPKPdf	10 02 43.5 -0.8
KURBB	**Kurchatov Arra**	**141.65**	**33**	PKhKP	PKPpre	10 02 11.3
	comp=Z,0.3nm,0.4s,baz=286,slow=2.7,SNR=2.2					
KURBB				pPKP	pPKPdf	10 02 43.5 -0.9
	comp=Z,0.7nm,0.7s,baz=294,slow=2.2,SNR=1.9					
ZALV	**Zalesovo Beam**	**142.26**	**25**	PKP	**PKPdf**	**10 02 19.0 -0.2**
	comp=Z,3.0nm,0.6s,baz=303,slow=2.3,SNR=10					
ZALV				pPKP	**pPKPdf**	**10 02 45.5 +0.1**
	comp=Z,1.4nm,0.5s,baz=298,slow=3.1,SNR=2.0					
JKA	**Kamikawa-asahi**	**145.61**	**318**		**PKPdf**	**10 02 25.1 -0.3**
ASAJ	**Asahikawa**	**145.61**	**318**	PKPbc	**PKPdf**	**10 02 25.1 -0.3**
	comp=Z,4.0nm,0.9s,baz=324,slow=6.0,SNR=4.5					
MKAR	**Makanchi Array**	**145.95**	**36**	PKPbc	**PKPab**	**10 02 27.0 -0.4**
	comp=Z,3.8nm,0.7s,baz=332,slow=2.8,SNR=34					
MKAR				pPKPbc	**pPKPdf**	**10 02 51.1 -1.0**
	comp=Z,1.4nm,0.7s,baz=317,slow=5.1,SNR=2.6					
USRK	**Ussuriysk Ar.**	**151.62**	**327**	PKPbc	**PKPbc**	**10 02 41.7 +0.4**
	comp=Z,2.9nm,0.6s,baz=86,slow=0.3,SNR=5.4					
MJAR	**Matsushiro Arr**	**152.08**	**308**	PKPbc	**PKPbc**	**10 02 42.7 0.0**
	comp=Z,1.7nm,0.8s,baz=248,slow=1.7,SNR=6.1					
MAT	**Matsushiro**	**152.08**	**308**	*e*PKP	**PKPbc**	**10 02 43.0 +0.3**
SONM	**Songino Array**	**153.73**	**7**	PKP	**PKPdf**	**10 02 37.2 -1.1**
	comp=Z,0.6nm,0.7s,baz=333,slow=1.6,SNR=2.4					
SONM				PKPbc	**PKiKP**	**10 02 46.9 +0.7**
	comp=Z,0.9nm,0.5s,baz=51,slow=1.2,SNR=4.8					
KSRS	**Korea Array**	**158.51**	**320**	PKP	**PKPdf**	**10 02 44.3 -0.3**
	comp=Z,1.1nm,1.0s,baz=104,slow=2.6,SNR=5.9					
KSRS				PKPab	**PKPab**	**10 03 20.4 +0.6**
	comp=Z,0.7nm,0.7s,baz=53,slow=5.5,SNR=3.1					

IDC ***16*** *10:10:46.5±0.6, 19°.84S×70°.83W, h0km, mb4.3/13, mb1 4.5/17, mb1mx4.4/29, mbtmp4.3/17, ML3.8/4, MS3.9/19, Ms1 3.9/19, ms1mx3.8/26, Error ellipse: s-maj=19.5km s-min=13.7km az=55.0*

NEIC ***16*** *10:10:48.1±1.7, 20°.014S±0°.010×71°.04W±0°.04, h10km±1km, mb4.8/157, Mwr4.8/53, Mww4.8, ML4.7(GUC), Error ellipse: s-maj=6.6km s-min=2.7km az=272.0*

NEIC ***16*** *10:10:48.8, 20°.10S×70°.98W, h16km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.32; Mθθ-0.18; Mϕϕ-1.14; Mrθ0.14; Mrϕ0.84; Mθϕ-0.81; Fault plane solution: M₀1.71000×10¹⁶ NP1:ϕ₁316.17000°, δ32.60000°, λ68.21000°. NP2:ϕ₂161.55000°, δ59.98000°, λ103.35000°. Principal axes: T 1.5700, Plg72.0000°, Azm103.0000°; N 0.2528, Plg12.0000°, Azm335.0000°; P -1.8227, Plg14.0000°, Azm242.0000°;*

GUC ***16*** *10:10:49.8±0.7, 20°.02S×71°.06W, h42km±4km, ML4.8*

VAO ***16*** *10:10:50.7±0.4, 19°.93S×70°.82W, h20km, mb4.6*

GCMT ***16*** *10:10:52.1±0.5, 20°.01S±0°.03×71°.31W±0°.03, h20km±1km, MW4.9/76, Moment Tensor Solution. s18,c20; s76,c89; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.06±.15; Mθθ-0.13±.08; Mϕϕ-1.92±.11; Mrθ0.08±.15; Mθϕ0.60±.06; Mϕr-1.86±.21; Best double couple: M₀2.79300×10¹⁶ NP1:ϕ₁334.00000°, δ25.00000°, λ73.00000°. NP2: ϕ₂173.00000°, δ66.00000°, λ98.00000°. Principal axes: T 2.8020, Plg68.0000°, Azm98.0000°; N -0.0110, Plg7.0000°, Azm349.0000°; P -2.7840, Plg21.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***16*** *10:10:52, 20°.00S×70°.98W, h16km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.27; Mθθ-0.04; Mϕϕ-1.23; Mrθ0.83; Mϕϕ0.46; Mθr-1.33; Fault plane solution: M₀2.06000×10¹⁶ NP1:ϕ₁353.00000°, δ21.00000°, λ110.00000°. NP2:ϕ₂151.00000°, δ70.00000°, λ82.00000°. Principal axes: T 2.0246, Plg64.0000°, Azm48.0000°; N 0.0652, Plg7.0000°, Azm154.0000°; P -2.0898, Plg25.0000°, Azm247.0000°;*

ISC 16 10:10:49.2±1.0, 20.04S±0°.03×71.00W±0°.04, h20km±4km, n445, σ1§20/455, mb4.7/78, MS4.2/19, 19C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.84**	**106**	⇑*i*	P		**Pb**	**10 11 05.4**	**+0.1**
TA02				*e*	S		**Sg**	**10 11 17.5**	**+0.5**
TA02					IAML			10 11 19.6	
	comp=N,50μm,0.6s								
TA01	**Diego Aracena**	**0.93**	**125**	⇑*i*	P		**Pb**	**10 11 06.8**	**+0.1**
TA01				*i*	S		**Sg**	**10 11 19.5**	**-0.1**
TA01	**Diego Aracena**	**0.93**	**125**				**Pb**	**10 11 06.8**	**+0.1**
TA01					Sg		**Sg**	**10 11 19.7**	**+0.1**
PSGC	**Pisagua**	**0.93**	**62**	⇑*i*	P		**Pb**

AP01	**Chacalluta**	**1.77**	**21**	*eP*		**Pn**	**10 11 18.0**	**-0.8**
AP01				*eS*		**Sn**	**10 11 39.7**	**-1.0**
AP01				IAML			10 11 57.7	
	comp=N,11µm,0.3s							
AP01	**Chacalluta**	**1.77**	**21**			**Pn**	**10 11 19.5**	**+0.7**
PB07	**IPOC Station P**	**1.97**	**148**⇑	*iP*		**Pn**	**10 11 21.6**	**-0.1**
PB07				*i S*		**Sn**	**10 11 42.9**	**-3.1**
PB07				IAML			10 11 59.5	
	comp=E,9µm,0.7s							
PB07	**IPOC Station P**	**1.97**	**148**	Pn		**Pn**	**10 11 21.6**	**-0.1**
PB16	**IPOC Station P**	**2.20**	**40**⇑	*eP*		**Pn**	**10 11 25.4**	**+0.1**
PB16				*eS*		**Sn**	**10 11 52.8**	**+0.6**
PB16	**IPOC Station P**	**2.20**	**40**			**Pn**	**10 11 25.1**	**-0.1**
PB03	**IPOC Station P**	**2.31**	**150**⇑	*iP*		**Pn**	**10 11 26.2**	**-0.2**
PB03				*i S*		**Sn**	**10 11 54.4**	**0.0**
PB03				IAML			10 12 14.9	
	comp=E,4µm,0.6s							
PB09	**IPOC Station P**	**2.40**	**137**⇑	*iP*		**Pn**	**10 11 28.8**	**+1.3**
PB09				*i S*		**Sn**	**10 11 57.7**	**+1.2**
PB09				IAML			10 12 16.1	
	comp=E,12µm,0.8s							
PB09	**IPOC Station P**	**2.40**	**137**	Pn		**Pn**	**10 11 28.8**	**+1.3**
PB04	**IPOC Station P**	**2.42**	**161**⇑	*eP*		**Pn**	**10 11 27.2**	**-0.6**
PB04				*eS*		**Sn**	**10 11 54.8**	**-2.1**
PB04				IAML			10 12 16.2	
	comp=N,5µm,0.6s							
PB04	**IPOC Station P**	**2.42**	**161**	Pn		**Pn**	**10 11 27.2**	**-0.6**
PB05	**IPOC Station P**	**2.90**	**165**⇑	*eP*		**Pn**	**10 11 33.4**	**-1.0**
PB05				*eS*		**Sn**	**10 12 05.5**	**-3.2**
PB05				IAML			10 12 33.2	
	comp=N,3µm,0.6s							
PB06	**IPOC Station P**	**2.97**	**154**⇑	*eP*		**Pn**	**10 11 34.9**	**-0.4**
PB06				*eS*		**Sn**	**10 12 10.1**	**-0.4**
PB06				IAML			10 12 28.8	
	comp=E,5µm,0.9s							
PB06	**IPOC Station P**	**2.97**	**154**			**Pn**	**10 11 35.0**	**-0.4**
LVC	**Limon Verde**	**3.21**	**143**	Pn		**Pn**	**10 11 40.2**	**+1.2**
	comp=E,16nm,0.3s,baz=311,slow=10,SNR=31							
LVC				Sn		**Sn**	**10 12 17.4**	**+0.5**
	comp=E,102nm,0.3s,baz=332,slow=13,SNR=2.6							
LVC				LR		LR	10 12 23.0	
	comp=E,352nm,21.5s,baz=315,slow=29							
LVC				Lg		Lg	10 12 30.8	
	comp=E,234nm,0.3s,baz=119,slow=8.8,SNR=4.4							
LVC	**Limon Verde**	**3.21**	**143**	*eP*		**Pn**	**10 11 40.4**	**+1.5**
LVC				*eS*		**Sn**	**10 12 19.7**	**+2.8**
PB15	**IPOC Station P**	**3.46**	**156**	*eP*		**Pn**	**10 11 41.7**	**-0.5**
PB15	**IPOC Station P**	**3.46**	**156**	Pn		**Pn**	**10 11 41.7**	**-0.5**
PB10	**IPOC Station P**	**3.48**	**173**⇑	*eP*		**Pn**	**10 11 40.9**	**-1.4**
PB10	**IPOC Station P**	**3.48**	**173**			**Pn**	**10 11 41.0**	**-1.4**
PB14	**IPOC Station P**	**4.60**	**173**			**Pn**	**10 11 57.0**	**-0.9**
LPAZ	**La Paz**	**4.62**	**37**	Pn		**Pn**	**10 12 00.3**	**+1.8**
	comp=E,0.4nm,0.3s,baz=237,slow=7.8,SNR=17							
LPAZ	**La Paz**	**4.62**	**37**			**Pn**	**10 12 01.5**	**+2.9**
GO02	**Mina Guanaco**	**5.26**	**166**	Pn		**Pn**	**10 12 07.4**	**+0.3**
AC02	**Maricunga**	**6.98**	**166**	Pn		**Pn**	**10 12 31.2**	**+0.4**
GO03	**Copiap**	**7.55**	**175**	Pn		**Pn**	**10 12 39.1**	**+0.8**
AC04	**Llanos de Chal**	**8.13**	**180**	Pn		**Pn**	**10 12 46.0**	**-0.2**
AC05	**El Transito**	**8.78**	**176**	Pn		**Pn**	**10 12 57.4**	**+2.1**
LCO	**Las Campanas**	**8.94**	**178**			**Pn**	**10 12 57.7**	**+0.2**
NNA	**Nana**	**9.78**	**324**	Pn		**Pn**	**10 13 08.3**	**-0.6**
	comp=E,1.0nm,0.3s,baz=160,slow=15,SNR=1.4							
NNA				LR		LR	10 17 05.8	
	comp=E,384nm,19.9s,baz=156,slow=39							
CO01	**Juntas del Tor**	**9.93**	**175**			**Pn**	**10 13 12.7**	**+1.6**
SIV	**San Ignacio**	**10.26**	**68**	Pn		**Pn**	**10 13 13.2**	**-2.4**
	comp=E,1.2nm,0.3s,baz=264,slow=9.8,SNR=28							
ETMB	**Extrema**	**11.16**	**25**	*eP*		**Pn**	**10 13 27.6**	**-0.2**
ETMB				*eS*		**Sn**	**10 15 32.3**	**+0.1**
PTLB	**Pontes e Lacer**	**12.18**	**70**	*eP*		**Pn**	**10 13 40.8**	**-0.9**
CZSB	**Cruzeiro do Su**	**12.35**	**352**	*eP*		**Pn**	**10 13 44.4**	**+0.3**
VILB	**Vilhena**	**12.52**	**57**	*eP*		**Pn**	**10 13 46.0**	**-0.4**
VILB				*eS*		**Sn**	**10 16 03.5**	**-2.0**
SAML	**Samuel**	**13.37**	**36**			**Pn**	**10 13 56.2**	**-1.8**
SAML	**Samuel**	**13.37**	**36**	*eP*		**Pn**	**10 13 56.0**	**-1.9**
CPUP	**Villa Florida**	**14.04**	**119**	Pn		**Pn**	**10 14 07.0**	**-0.1**
	comp=E,0.1nm,0.3s,baz=6.7,slow=9.3,SNR=1.9							
CPUP				LR		LR	10 20 09.3	
	comp=E,571nm,18.8s,baz=298,slow=40							
CPUP	**Villa Florida**	**14.04**	**119**			**Pn**	**10 14 06.6**	**-0.4**
CPUP	**Villa Florida**	**14.04**	**119**	*eP*		**Pn**	**10 14 07.6**	**+0.6**
BO01	**Tunca**	**14.30**	**180**	Pn		**Pn**	**10 14 09.5**	**-1.1**
AQDB	**Aquidauana**	**14.36**	**94**	*eP*		**Pn**	**10 14 11.0**	**-0.6**
ATAH	**Atahualpa**	**14.70**	**330**	LR		LR	10 19 33.7	
	comp=E,194nm,19.8s,baz=165,slow=36							
GO05	**Huala**	**14.94**	**183**	Pn		**Pn**	**10 14 20.6**	**+1.3**
H03N1	**Juan Fernandez**	**15.10**	**206**	T		T	10 30 13.1	
	baz=33,slow=72,SNR=254							
H03N2	**Juan Fernandez**	**15.10**	**206**	T		T	10 30 13.2	
	baz=33,slow=72,SNR=279							
H03N3	**Juan Fernandez**	**15.11**	**206**	T		T	10 30 12.3	
	baz=33,slow=72,SNR=242							
SALV	**Santo Antonio**	**15.13**	**77**	*eP*		**Pn**	**10 14 21.9**	**0.0**
VA04	**Juan Fernndez**	**15.24**	**206**	Pn		**Pn**	**10 14 22.8**	**-0.4**
VA04				IAmb		IAmb	10 14 28.9	
	comp=Z,80nm,1.1s							
BI02	**San Fabin de**	**16.57**	**181**	Pn		**Pn**	**10 14 39.4**	**-1.0**
CLDB	**Colider**	**17.24**	**60**	*eP*		**Pn**	**10 14 46.5**	**-2.5**
TRCB	**Terra Rica**	**17.32**	**102**	*eP*		**Pn**	**10 14 48.9**	**-1.1**
PCMB	**Pacaembu**	**18.52**	**98**	*eP*		**Pn**	**10 15 05.7**	**+1.0**
ITAB	**Concordia**	**18.70**	**116**	*eP*		**P**	**10 15 05.0**	**-1.5**
ARAG	**Araguaiana, MT**	**18.76**	**80**	*eP*		**P**	**10 15 05.4**	**-1.8**
LPA	**La Plata**	**18.78**	**145**	*eP*		**P**	**10 15 04.7**	**-2.6**
LPA				PP		**pwP**	**10 15 16.6**	**-0.1**
LPA				S		**S**	**10 18 39.9**	**-0.3**
LPA				SSS		SSS	10 19 01.9	
LPA				SCS		ScS	10 26 34.6	-16
LPA				PKIKP		**PKiKP**	**10 27 19.9**	**-5.1**
LC01	**Cunco**	**18.81**	**182**	P		**P**	**10 15 05.3**	**-2.3**
MACA	**Manacapuru-AM**	**19.56**	**32**	*eP*		**P**	**10 15 14.7**	**-1.3**
NPGB	**Novo Progresso**	**19.92**	**52**	*eP*		**P**	**10 15 19.4**	**-0.5**
PTLC	**Puerto Leguiza**	**20.43**	**349**	*eP*		**P**	**10 15 21.3**	**-4.2**
CNLB	**Canela**	**20.48**	**121**	*eP*		**P**	**10 15 26.3**	**+0.3**
PLCA	**Paso Flores**	**20.63**	**179**	P		**P**	**10 15 28.6**	**+1.0**
	comp=Z,8.2nm,0.9s,baz=358,slow=14,SNR=4.3							
PLCA	**Paso Flores**	**20.63**	**179**	P		**P**	**10 15 28.5**	**+1.0**
PLCA	**Paso Flores**	**20.63**	**179**	*eP*		Pn	10 15 31.0	+1.2
TIJ01	**Guaruva-PR**	**20.95**	**109**	*eP*		**P**	**10 15 31.3**	**+0.1**
PUAC	**Puerto Asis, P**	**21.18**	**344**	*eP*		**P**	**10 15 34.8**	**+1.2**
OTAV	**Otavalo**	**21.43**	**339**	*eP*		**P**	**10 15 37.8**	**+1.0**
OTAV	**Otavalo**	**21.43**	**339**	*eP*		**P**	**10 15 37.8**	**+1.0**
ITTB	**Itaituba**	**21.53**	**46**	*eP*		**P**	**10 15 36.4**	**-1.0**
IPMB	**Ipameri, GO**	**21.64**	**88**	*eP*		**P**	**10 15 37.2**	**-1.4**
FLOC	**Florencia**	**21.97**	**347**	*eP*		**P**	**10 15 43.6**	**+1.6**
FLOC	**Florencia**	**21.97**	**347**	P		**P**	**10 15 42.3**	**+0.3**
PTGA	**Pitinga**	**22.02**	**31**	P		**P**	**10 15 40.0**	**-2.5**
	comp=Z,7.1nm,0.3s,baz=194,slow=13,SNR=13							
PTGA	**Pitinga**	**22.02**	**31**	P		**P**	**10 15 41.7**	**-0.9**
PTGA				IAmb		IAmb	10 15 46.5	
	comp=Z,22nm,0.9s							
GCUF	**Volcan Galeras**	**22.03**	**343**	*eP*		**P**	**10 15 46.2**	**+3.0**
SPB	**Sao Paulo**	**22.15**	**103**	P		**P**	**10 15 44.6**	**+0.6**
SPB				IAmb		IAmb	10 15 54.5	
	comp=Z,65nm,1.3s							
SPB	**Sao Paulo**	**22.15**	**103**	*eP*		**P**	**10 15 44.9**	**+0.9**
BDFB	**Brasilia**	**22.30**	**82**	P		**P**	**10 15 43.4**	**-2.4**
	comp=Z,9.8nm,0.8s,baz=319,slow=10,SNR=3.2							
BDFB				LR		LR	10 24 57.4	
	comp=Z,526nm,20.6s,baz=276,slow=38							
BDFB	**Brasilia**	**22.30**	**82**	P		**P**	**10 15 45.6**	**-0.2**
BDFB				IAmb		IAmb	10 15 50.0	
	comp=Z,26nm,1.1s							
BBAC	**Balboa, Cauca**	**22.77**	**344**	*eP*		**P**	**10 15 53.5**	**+2.7**
PCON	**Cinco Dias**	**22.85**	**346**	*eP*		**P**	**10 15 51.8**	**-0.3**
POPC	**Popayan, Colom**	**23.12**	**345**	*eP*		**P**	**10 15 55.4**	**+0.9**
MARP	**Paez Belalcaza**	**23.25**	**347**	*eP*		**P**	**10 15 56.5**	**+0.6**
PARB	**Paraibuna**	**23.80**	**103**	*eP*		**P**	**10 16 02.1**	**+1.1**
PRAC	**Prado**	**23.91**	**350**	*eP*		**P**	**10 16 03.1**	**+1.1**
ORTC	**Ortega, Tolima**	**24.16**	**350**	*eP*		**P**	**10 16 04.5**	**+0.2**
YOTC	**Yotoco, Valle**	**24.45**	**347**	*eP*		**P**	**10 16 11.1**	**+4.0**
BSCB	**Bom Sucesso**	**24.57**	**97**	*eP*		**P**	**10 16 07.7**	**-0.5**
PRPB	**Parauapebas**	**24.76**	**59**	*eP*		**P**	**10 16 09.4**	**-0.5**
TOLC	**Tolima**	**24.84**	**350**	*eP*		**P**	**10 16 14.1**	**+3.3**
ROSC	**El Rosal**	**24.94**	**352**	LR		LR	10 26 17.3	
	comp=Z,657nm,19.0s,baz=201,slow=38							
ROSC	**El Rosal**	**24.94**	**352**	P		**P**	**10 16 11.8**	**0.0**
RREF	**El Recreo**	**25.15**	**350**	*eP*		**P**	**10 16 14.8**	**+0.8**
SMTB	**Santa Maria do**	**25.20**	**67**	*eP*		**P**	**10 16 13.2**	**-0.7**
GUY2C	**Guyana, Caldas**	**25.47**	**350**	*eP*		**P**	**10 16 18.1**	**+1.4**
SPBC	**San Pablo de B**	**25.71**	**353**	*eP*		**P**	**10 16 17.6**	**-0.9**
NORC	**Norcasia**	**25.73**	**351**	*eP*		**P**	**10 16 20.1**	**+1.5**
RUSC	**La Rusia**	**25.85**	**355**	*eP*		**P**	**10 16 20.7**	**+0.5**
RUSC	**La Rusia**	**25.85**	**355**	P		**P**	**10 16 21.0**	**+0.9**
MC01	**Montes Claros**	**25.88**	**87**	*eP*		**P**	**10 16 18.4**	**-1.6**
JANB	**Januaria**	**25.91**	**83**	*eP*		**P**	**10 16 19.0**	**-1.3**
SDBA	**SAO DESIDERIO**	**26.15**	**77**	*eP*		**P**	**10 16 22.1**	**-0.4**
CBOC	**Ciudad Bolivar**	**26.21**	**349**	*eP*		**P**	**10 16 23.2**	**+0.2**
BARC	**Barichara**	**26.55**	**355**	*eP*		**P**	**10 16 25.8**	**-0.5**
PTBC	**PUERTO BERRIO,**	**26.63**	**352**	*eP*		**P**	**10 16 24.9**	**-1.8**
MCPB	**Macapa, AP**	**26.95**	**46**	*eP*		**P**	**10 16 28.9**	**-0.7**
SDV	**Santo Domingo**	**28.75**	**1**	P		**P**	**10 16 45.9**	**0.0**
SDV				IAmb		IAmb	10 17 00.3	
	comp=Z,15nm,0.6s							
SMLC	**San Martn de**	**28.82**	**354**	*eP*		**P**	**10 16 44.4**	**-1.9**
BCIP	**Isla Barro Col**	**30.30**	**342**	P		**P**	**10 16 60.0**	**+0.6**
MDP	**Montagnes des**	**30.82**	**38**	LR		LR	10 30 07.9	
	comp=Z,801nm,19.7s,baz=212,slow=38							
RCBR	**Riachuelo**	**36.90**	**72**	P		**P**	**10 17 55.5**	**-1.5**
	comp=Z,31nm,1.1s,baz=245,slow=14,SNR=3.2							
RCBR	**Riachuelo**	**36.90**	**72**	P		**P**	**10 17 57.0**	**0.0**
154A	**Montrose**	**53.62**	**347**	P		**P**	**10 20 10.0**	**+0.8**
250A	**Grady**	**53.75**	**344**	P		**P**	**10 20 11.1**	**+0.9**
250A				IAmb		IAmb	10 20 11.2	
	comp=Z,8.4nm,0.8s							
Y57A	**Sumter**	**54.49**	**350**	P		**P**	**10 20 16.9**	**+1.3**
JSC	**Jenkinsville**	**54.90**	**350**	P		**P**	**10 20 19.5**	**+1.0**
342A	**Flagon Creek P**	**55.07**	**338**	P		**P**	**10 20 20.6**	**+0.8**
BIRD	**Birdtown, Kers**	**55.12**	**350**	P		**P**	**10 20 21.1**	**+1.0**
BIRD				IAmb		IAmb	10 20 22.2	
	comp=Z,15nm,1.3s							
X55A	**Gracelyn & Ava**	**55.14**	**349**	P		**P**	**10 20 20.1**	**-0.1**
	baz=168							
W58A	**Raeford**	**55.31**	**352**	P		**P**	**10 20 22.3**	**+0.8**
	baz=171							
X54A	**Belton**	**55.35**	**349**	P		**P**	**10 20 22.8**	**+1.0**
	baz=167							
CNNC	**Cliffs of the**	**55.36**	**353**	P		**P**	**10 20 22.7**	**+0.9**
833A	**Chaparral WMA,**	**55.36**	**329**	P		**P**	**10 20 22.6**	**+0.6**
833A				IAmb		IAmb	10 20 30.0	
	comp=Z,7.1nm,1.1s							
PAULI	**Pauline**	**55.52**	**349**	P		**P**	**10 20 23.7**	**+0.7**
PAULI				IAmb		IAmb	10 20 24.3	
	comp=Z,20nm,1.5s							
W54A	**Cherokee Point**	**55.84**	**349**	P		**P**	**10 20 26.0**	**+0.7**
	baz=167							
V59A	**Middlesex**	**55.92**	**353**	P		**P**	**10 20 26.6**	**+0.7**
	baz=172,SNR=6.9							
V58A	**Windy Hill, Pi**	**56.06**	**352**	P		**P**	**10 20 27.2**	**+0.4**
	baz=171							
V58A	**Windy Hill, Pi**	**56.06**	**352**	P		**P**	**10 20 27.3**	**+0.4**
V58A				IAmb		IAmb	10 20 28.9	
	comp=Z,11nm,1.2s							
V57A	**Coltrane Farms**	**56.24**	**351**	P		**P**	**10 20 27.8**	**-0.3**
	baz=170							
V56A	**Mocksville**	**56.27**	**351**	P		**P**	**10 20 28.9**	**+0.6**
	baz=169							
X48A	**Hartselle**	**56.30**	**344**	P		**P**	**10 20 28.6**	**0.0**
X48A				IAmb		IAmb	10 20 29.3	
	comp=Z,7.4nm,1.1s							
U61A	**Possum Corner**	**56.30**	**355**	P		**P**	**10 20 29.5**	**+0.9**
	baz=174							
V55A	**Taylorsville**	**56.42**	**350**	P		**P**	**10 20 30.1**	**+0.6**
	baz=168							
V55A	**Taylorsville**	**56.42**	**350**	P		**P**	**10 20 30.4**	**+1.0**
V55A				IAmb		IAmb	10 20 31.0	
	comp=Z,11nm,1.2s							
U59A	**Littleton**	**56.45**	**353**	P		**P**	**10 20 30.3**	**+0.6**
	baz=172							
V54A	**Nebo**	**56.47**	**349**	P		**P**	**10 20 30.0**	**+0.2**
	baz=168							
U58A	**Oxford**	**56.58**	**353**	P		**P**	**10 20 31.2**	**+0.7**
	baz=172							
CPCT	**Cooper Cave**	**56.66**	**347**	P		**P**	**10 20 31.4**	**+0.3**
TKL	**Tuckaleechee C**	**56.70**	**348**	P		**P**	**10 20 31.0**	**-0.4**
TKL				IAmb		IAmb	10 20 32.7	
	comp=Z,9.1nm,1.2s							
U57A	**Blanch**	**56.72**	**352**	P		**P**	**10 20 31.1**	**-0.4**
	baz=171							
U56A	**King**	**56.78**	**351**	P		**P**	**10 20 32.6**	**+0.6**
	baz=170							
U56A	**King**	**56.78**	**351**	P		**P**	**10 20 33.4**	**+1.4**
U56A				IAmb		IAmb	10 20 33.8	
	comp=Z,14nm,1.1s							
V52A	**Sevierville**	**56.84**	**348**	P		**P**	**10 20 33.0**	**+0.6**
V52A				IAmb		IAmb	10 20 33.8	
	comp=Z,20nm,1.4s							
T59A	**Double "B" Far**	**57.04**	**354**	P		**P**	**10 20 34.4**	**+0.6**
	baz=173,SNR=5.7							
T59A	**Double "B" Far**	**57.04**	**354**	P		**P**	**10 20 34.8**	**+1.0**
PLAL	**Pickwick Lake**	**57.07**	**343**	P		**P**	**10 20 34.4**	**+0.3**
T58A	**Grand View Acr**	**57.12**	**353**	P		**P**	**10 20 35.1**	**+0.7**
	baz=172,SNR=7.6							
U54A	**Nelsons Funny**	**57.18**	**350**	P		**P**	**10 20 34.9**	**0.0**
	baz=168							
T57A	**Hurt**	**57.26**	**352**	P		**P**	**10 20 35.9**	**+0.5**
	baz=171							
T57A	**Hurt**	**57.26**	**352**	P		**P**	**10 20 36.3**	**+0.9**
T57A				IAmb		IAmb	10 20 37.0	
	comp=Z,13nm,1.2s							
T56A	**Rocky Mt**	**57.40**	**351**	P		**P**	**10 20 37.6**	**+1.2**
	baz=170							
WLAR	**White Oak Lake**	**57.44**	**338**	P		**P**	**10 20 38.0**	**+1.3**
V48A	**Smith Brothers**	**57.47**	**345**	P		**P**	**10 20 37.1**	**+0.3**
V48A				IAmb		IAmb	10 20 38.2	
	comp=Z,14nm,1.4s							
T55A	**Pulaski**	**57.59**	**351**	P		**P**	**10 20 38.6**	**+0.8**
	baz=169							
S58A	**Poland Farm, P**	**57.73**	**353**	P		**P**	**10 20 39.7**	**+1.1**
	baz=172							
T53A	**Wise**	**57.75**	**349**	P		**P**	**10 20 38.6**	**-0.3**
	baz=167							
S57A	**Dark Hollow, R**	**57.98**	**353**	P		**P**	**10 20 41.0**	**+0.6**
	baz=171,SNR=5.5							
S57A	**Dark Hollow, R**	**57.98**	**353**	P		**P**	**10 20 41.3**	**+0.9**
S57A				IAmb		IAmb	10 20 42.2	
	comp=Z,16nm,1.3s							
R58B	**Mineral**	**58.05**	**354**	P		**P**	**10 20 41.8**	**+0.8**
	baz=172,SNR=6.1							
R58B	**Mineral**	**58.05**	**354**	P		**P**	**10 20 42.0**	**+1.1**
R58B				IAmb		IAmb	10 20 43.4	
	comp=Z,16nm,1.2s							
WVT	**Waverly**	**58.09**	**344**	P		**P**	**10 20 40.1**	**-1.1**
	baz=161							
WVT	**Waverly**	**58.09**	**344**			**P**	**10 20 40.4**	**-0.8**
WVT				IAmb		IAmb	10 20 41.2	
	comp=Z,8.8nm,1.2s							
S55A	**Lewisburg**	**58.19**	**351**	P		**P**	**10 20 42.4**	**+0.4**
	baz=170							
TXAR	**Lajitas Array**	**58.33**	**326**	P		**P**	**10 20 43.1**	**0.0**
	comp=Z,0.8nm,1.0s,baz=133,slow=9.1,SNR=6.3							
TXAR	**Lajitas Array**	**58.33**	**326**	P		**P**	**10 20 43.8**	**+0.6**
S54A	**Dingess, Beckl**	**58.34**	**350**	P		**P**	**10 20 42.9**	**-0.1**
	baz=169							
MIAR	**Mount Ida**	**58.38**	**338**	P		**P**	**10 20 43.7**	**+0.5**
	baz=155							
MIAR	**Mount Ida**	**58.38**	**338**	P		**P**	**10 20 44.1**	**+0.8**
MIAR				IAmb		IAmb	10 20 45.9	
	comp=Z,10nm,1.2s							
R57A	**Stanardsville**	**58.45**	**353**	P		**P**	**10 20 44.6**	**+0.8**
	baz=172							
W41B	**Gary Mavity, V**	**58.50**	**340**	P		**P**	**10 20 43.4**	**-0.6**
	baz=156							
R55A	**Marlinton**	**58.64**	**352**	P		**P**	**10 20 45.4**	**+0.3**
	baz=170							
R55A	**Marlinton**	**58.64**	**352**	P		**P**	**10 20 45.9**	**+0.8**
R55A				IAmb		IAmb	10 21 03.9	
	comp=Z,11nm,1.3s							
R54A	**Victor**	**58.67**	**351**	P		**P**	**10 20 45.5**	**+0.2**
	baz=169							
T47A	**Sharon Grove**	**58.72**	**345**	P		**P**	**10 20 45.7**	**+0.1**
T47A				IAmb		IAmb	10 20 46.9	
	comp=Z,13nm,1.2s							
Q58A	**Fox Den Farm,**	**59.00**	**354**	P		**P**	**10 20 48.4**	**+0.9**
	baz=173							
W39A	**Magazine**	**59.04**	**338**	P		**P**	**10 20 48.9**	**+1.1**
	baz=155							
W39A	**Magazine**	**59.04**	**338**	P		**P**	**10 20 49.0**	**+1.1**
W39A				IAmb		IAmb	10 20 58.1	
	comp=Z,12nm,1.2s							
Q57A	**Strasburg**	**59.17**	**353**	P		**P**	**10 20 49.6**	**+0.9**
	baz=172,SNR=7.3							
Q56A	**Snyder Ridge,**	**59.27**	**353**	P		**P**	**10 20 50.3**	**+0.9**
	baz=171							
Q56A	**Snyder Ridge,**	**59.27**	**353**	P		**P**	**10 20 49.6**	**+0.2**
Q53A	**Leroy**	**59.41**	**350**	P		**P**	**10 20 50.5**	**+0.2**
	baz=168							
Q54A	**Coxs Mills**	**59.43**	**351**	P		**P**	**10 20 50.1**	**-0.4**
	baz=169							
P59A	**Jarrettsville**	**59.55**	**355**	P		**P**	**10 20 52.3**	**+1.0**
	baz=174							
P57A	**Homestead Farm**	**59.57**	**354**	P		**P**	**10 20 52.5**	**+1.1**
	baz=172							
P56A	**Dayton Farm, R**	**59.68**	**353**	P		**P**	**10 20 52.8**	**+0.5**
	baz=172,SNR=5.2							
WCI	**Wyandotte Cave**	**59.72**	**346**	P		**P**	**10 20 51.9**	**-0.6**
	baz=163							
U40A	**Yellville**	**59.78**	**340**	P		**P**	**10 20 52.8**	**-0.2**
	baz=156							
U40A	**Yellville**	**59.78**	**340**	P		**P**	**10 20 53.4**	**+0.4**
U40A				IAmb		IAmb	10 20 54.9	
	comp=Z,12nm,1.4s							
P54A	**Burton**	**59.99**	**352**	P		**P**	**10 20 55.4**	**+1.0**
	baz=170							
HHAR	**Hobbs**	**60.07**	**339**	P		**P**	**10 20 55.3**	**+0.3**
HHAR				IAmb		IAmb	10 20 56.3	
	comp=Z,8.5nm,1.3s							
MGMO	**Mountain Grove**	**60.32**	**341**	P		**P**	**10 20 57.5**	**+0.9**
MGMO				IAmb		IAmb	10 20 57.7	
	comp=Z,8.6nm,1.2s							
TUL1	**Leonard**	**60.40**	**337**	P		**P**	**10 20 58.3**	**+1.1**
	baz=153							
TUL1	**Leonard**	**60.40**	**337**	P		**P**	**10 20 58.1**	**+0.9**
TUL1				IAmb		IAmb	10 20 59.8	
	comp=Z,10nm,1.0s							
O56A	**Blue Knob Stat**	**60.41**	**353**	P		**P**	**10 20 58.4**	**+1.2**
	baz=172,SNR=6.3							
O56A	**Blue Knob Stat**	**60.41**	**353**	P		**P**	**10 20 58.1**	**+0.9**
O55A	**Ligonier**	**60.43**	**353**	P		**P**	**10 20 58.3**	**+0.9**
	baz=171							
FVM	**French Village**	**60.54**	**342**	P		**P**	**10 20 59.0**	**+0.9**
FVM				IAmb		IAmb	10 20 59.6	
	comp=Z,5.3nm,0.8s							
P49A	**Miami Univ. Ec**	**60.63**	**348**	P		**P**	**10 20 58.3**	**-0.4**
	baz=165							
SSPA	**Standing Stone**	**60.70**	**354**	P		**P**	**10 20 59.6**	**+0.4**
	baz=173							
SSPA	**Standing Stone**	**60.70**	**354**	P		**P**	**10 20 59.7**	**+0.5**
SSPA				IAmb		IAmb	10 21 01.2	
	comp=Z,10nm,1.1s							
N60A	**Cedar Hill Far**	**60.72**	**356**	P		**P**	**10 20 59.7**	**+0.5**
	baz=176							
N57A	**Milroy**	**60.79**	**354**	P		**P**	**10 21 01.2**	**+1.5**
	baz=173							
N58A	**Sunbury**	**60.80**	**355**	P		**P**	**10 21 00.6**	**+0.8**
	baz=174							
N58A	**Sunbury**	**60.80**	**355**	P		**P**	**10 21 00.8**	**+1.0**
CCM	**Cathedral Cave**	**60.84**	**342**	P		**P**	**10 21 00.0**	**-0.2**
	baz=158							
N55A	**Marion Center**	**60.96**	**353**	P		**P**	**10 21 01.8**	**+0.8**
	baz=171,SNR=9.0							
MNTX	**Cornudas Mount**	**61.10**	**327**	P		**P**	**10 21 02.8**	**+0.6**
	baz=143							
MNTX	**Cornudas Mount**	**61.10**	**327**	P		**P**	**10 21 03.3**	**+1.2**
S39A	**Bolivar**	**61.15**	**340**	P		**P**	**10 21 02.9**	**+0.6**
S39A				IAmb		IAmb	10 21 04.5	
	comp=Z,8.1nm,1.1s							
M58A	**Price's Panora**	**61.31**	**355**	P		**P**	**10 21 04.6**	**+1

X16A	Lo Mia Camp, P	66.43	324	P	P	10 21 37.8	+0.3
D57A	Chemin Vers le baz=177	66.79	358	P	P	10 21 40.0	+0.8
D58A	Chemin du LacG baz=178	66.84	359	P	P	10 21 40.1	+0.5
MVCO	Mesa Verde baz=142	67.02	328	P	P	10 21 43.4	+2.2
MVCO	Mesa Verde	67.02	328	P	P	10 21 42.2	+1.0
MVCO				IAmb	IAmb	10 21 54.3	
	comp=Z,5.9nm,1.4s						
D53A	Lac Vacive, Po baz=173	67.08	355	P	P	10 21 40.9	-0.2
WUAZ	Wupatki baz=139	67.22	325	P	P	10 21 46.0	+3.6
WUAZ	Wupatki	67.22	325	P	P	10 21 43.0	+0.6
WUAZ				IAmb	IAmb	10 21 46.9	
	comp=Z,10nm,1.4s						
K31A	O'Neill	67.40	338	P	P	10 21 43.4	+0.1
ECSD	EROS Data Cent baz=154	67.67	340	P	P	10 21 45.0	0.0
ECSD	EROS Data Cent	67.67	340	P	P	10 21 45.1	+0.2
ECSD				IAmb	IAmb	10 21 46.7	
	comp=Z,8.9nm,1.2s						
ISCO	Idaho Springs baz=145	67.73	332	P	P	10 21 47.8	+2.1
ISCO	Idaho Springs	67.73	332	P	P	10 21 45.6	-0.2
PV01	Paradox Valley	67.78	329	P	P	10 21 47.0	+1.0
PV01				IAmb	IAmb	10 21 49.7	
	comp=Z,6.2nm,1.3s						
PV15	Paradox Valley	67.90	329	P	P	10 21 47.2	+0.4
PV15				IAmb	IAmb	10 21 51.0	
	comp=Z,8.2nm,1.2s						
BC3	Big Chuckawall baz=135	68.17	321	P	P	10 21 51.4	+3.0
IRM	Iron Mountain baz=135	68.34	322	P	P	10 21 51.7	+2.3
U15A	North Rim	68.39	325	P	P	10 21 50.4	+0.4
U15A				IAmb	IAmb	10 21 54.2	
	comp=Z,5.1nm,1.1s						
N23A	Red Feather La baz=145	68.77	332	P	P	10 21 54.3	+2.1
N23A	Red Feather La	68.77	332	P	P	10 21 52.9	+0.7
N23A				IAmb	IAmb	10 21 55.8	
	comp=Z,6.4nm,1.1s						
LSQQ	Lebel-sur-Quev baz=174	68.99	356	P	P	10 21 53.0	0.0
GMRC	Granite Mounta baz=135	69.09	322	P	P	10 21 56.8	+2.7
KNB	Kanab	69.11	325	P	P	10 21 54.6	+0.3
LCMT	Little Creek M	69.33	325	P	P	10 21 56.0	+0.4
SRU	San Rafael Swe	69.50	328	P	P	10 21 57.0	+0.4
Q16A	Castle Valley	69.68	328	P	P	10 21 57.6	-0.2
SZCU	Shurtz Canyon	69.68	325	P	P	10 21 57.3	-0.5
TUQ	Turquoise Moun baz=135	69.70	322	P	P	10 22 01.0	+3.1
CCUT	Cedar City	69.80	325	P	P	10 21 58.9	+0.3
LIC	Lamto	69.88	75 *eP*	P	P	10 21 57.9	-1.4
	comp=Z,17nm,1.2s						
MSU	Marysvale	69.89	327	P	P	10 21 59.7	+0.6
P17A	Butcher Ranch,	69.89	328	P	P	10 21 59.1	+0.1
SHPR	Sheep Range	70.02	323	P	P	10 22 00.5	+0.6
TIC	Toumodi	70.06	75 *eP*	P	P	10 21 57.4	-3.0
QSPA	South Pole Qui	70.14	180	P	P	10 22 01.2	+1.0
KIC	Kosan Boka	70.20	75 *eP*	P	P	10 22 00.0	-1.3
	comp=Z,30nm,1.2s						
DBIC	Dimbokro	70.22	75	P	P	10 21 60.0	-1.4
	comp=Z,12nm,1.1s,baz=202,slow=6.5,SNR=5.7						
DBIC				LR	LR	10 51 24.2	
	comp=Z,150nm,19.6s,baz=224,slow=35						
DBIC	Dimbokro	70.22	75	P	P	10 22 00.9	-0.5
PRN	Pahroc Range	70.61	324	P	P	10 22 02.6	-0.8
PSUT	Pine Spring	70.78	326	P	P	10 22 04.1	-0.5
TPNV	Topopah Spring baz=135,SNR=5.3	70.95	323	P	P	10 22 08.6	+3.0
TPNV	Topopah Spring	70.95	323	P	P	10 22 05.2	-0.3
TPNV				IAmb	IAmb	10 22 14.9	
	comp=Z,5.3nm,1.1s						
FURC	Furnace Creek, baz=135,SNR=5.8	70.96	322	P	P	10 22 08.3	+3.0
JLU	Jordanelle	71.10	329	P	P	10 22 05.7	-0.8
ISA	Isabella, Lake baz=133	71.35	321	P	P	10 22 10.9	+3.0
ISA	Isabella, Lake	71.35	321	P	P	10 22 07.8	-0.1
DUG	Dugway, Tooele baz=139	71.47	327	P	P	10 22 10.9	+2.2
DUG	Dugway, Tooele	71.47	327	P	P	10 22 08.8	+0.2
DUG				IAmb	IAmb	10 22 13.1	
	comp=Z,7.8nm,1.2s						
AGMN	Agassiz Nation baz=155	71.58	343	P	P	10 22 08.7	-0.2
AGMN	Agassiz Nation	71.58	343	P	P	10 22 09.3	+0.4
AGMN				IAmb	IAmb	10 22 11.0	
	comp=Z,7.3nm,1.2s						
R11A	Troy Canyon, C baz=136	71.58	324	P	P	10 22 12.1	+2.7
R11A	Troy Canyon, C	71.58	324	P	P	10 22 09.4	+0.1
CWC	Cottonwood Cre baz=134	71.65	322	P	P	10 22 12.3	+2.5
PDAR	Pinedale Array	71.89	331	P	P	10 22 09.6	-1.6
	comp=Z,2.1nm,1.2s,baz=146,slow=8.2,SNR=3.1						
PDAR				LR	LR	10 54 14.8	
	comp=Z,48nm,21.5s,baz=130,slow=36						
PDAR	Pinedale Array	71.89	331	P	P	10 22 10.5	-0.7
HWUT	Hardware Ranch	71.93	329	P	P	10 22 11.4	0.0
TBI	Tubuai	72.12	251 *e*	LR	LR	10 44 13.0	
	comp=Z,210nm,28.0s						
MDND	Maddock baz=152,SNR=5.2	72.29	340	P	P	10 22 14.0	+0.8
MDND	Maddock	72.29	340	P	P	10 22 13.6	+0.4
MLAC	Mammoth, Mammo baz=133	72.91	322	P	P	10 22 20.4	+3.1
REDW	Red Top Meadow	72.94	331	P	P	10 22 18.1	+0.7
REDW				IAmb	IAmb	10 22 33.4	
	comp=Z,7.0nm,1.3s						
SNOW	Snow King Moun	72.98	331	P	P	10 22 17.5	-0.2
OMMB	Old Mammoth Mi	72.99	322	P	P	10 22 18.4	+0.5
OMMB				IAmb	IAmb	10 22 22.4	
	comp=Z,5.9nm,1.1s						
LOHW	Long Hollow	73.02	331	P	P	10 22 18.1	+0.2
MDPB	Devils Postpil	73.05	322	P	P	10 22 18.0	-0.3
TPAW	Teton Pass	73.09	331	P	P	10 22 18.6	+0.2
LHV	Little Huntoon	73.14	323	P	P	10 22 18.9	+0.5
LHV				IAmb	IAmb	10 22 23.4	
	comp=Z,7.1nm,1.2s						
NVAR	Mina Array Bea	73.15	323	P	P	10 22 19.1	+0.3
	comp=Z,2.7nm,1.0s,baz=145,slow=6.4,SNR=5.0						
NVAR	Mina Array Bea	73.15	323	P	P	10 22 19.4	+0.6
FXWY	Fox Creek	73.24	331	P	P	10 22 18.6	-0.6
ULM	Lac du Bonnet	73.36	344	LR	LR	10 56 58.0	
	comp=Z,82nm,19.8s,baz=146,slow=38						
IMW	Indian Meadow	73.40	331	P	P	10 22 19.5	-0.8
RYN	Ryan	73.41	323	P	P	10 22 19.5	-0.7
FLWY	Flagg Ranch	73.43	331	P	P	10 22 20.2	-0.1
FLWY				IAmb	IAmb	10 22 24.0	
	comp=Z,6.7nm,1.0s						
KVN	Kaiserville	73.47	323	P	P	10 22 19.4	-1.2
RLMT	Red Lodge baz=143	73.62	333	P	P	10 22 23.2	+1.8
RLMT	Red Lodge	73.62	333	P	P	10 22 21.6	+0.2
RLMT				IAmb	IAmb	10 22 24.6	
	comp=Z,7.7nm,1.4s						
LAO	LASA Array baz=146	73.64	336	P	P	10 22 22.7	+1.4
LAO	LASA Array	73.64	336	P	P	10 22 21.2	-0.1
LAO				IAmb	IAmb	10 22 24.3	
	comp=Z,7.6nm,1.1s						
PPT2	Papeete2	73.75	257 *e*	S	S	10 32 03.0	+10
	comp=Z,80nm,25.0s						
PPT2	Papeete2	73.75	257 *e*	LR	LR	10 44 59.5	
	comp=Z,189nm,25.2s						
WAKR	Walker	73.85	322	P	P	10 22 21.8	-1.0
YNE	Yellowstone No	73.85	332	P	P	10 22 23.1	+0.3
YHH	Holmes Hill	74.05	332	P	P	10 22 24.0	-0.1
YERR	Yerington	74.06	323	P	P	10 22 23.9	-0.2
YERR				IAmb	IAmb	10 22 28.9	
	comp=Z,7.8nm,1.2s						
YHB	Horse Butte	74.18	331	P	P	10 22 24.4	-0.2
PNTR	Pine Nut	74.34	323	P	P	10 22 25.8	0.0
PNTR				IAmb	IAmb	10 22 30.6	
	comp=Z,7.1nm,1.1s						
DGMT	Dagmar baz=148	74.38	338	P	P	10 22 27.3	+1.8
VCNR	Virginia City	74.51	323	P	P	10 22 26.8	+0.1
PAHR	Pah Rah Range	74.64	323	P	P	10 22 26.6	-0.8
PAHR				IAmb	IAmb	10 22 32.1	
	comp=Z,7.4nm,1.1s						
SCHQ	Schefferville	74.65	2	LR	LR	10 54 45.9	
	comp=Z,71nm,21.9s,baz=146,slow=36						
HLID	Hailey baz=138,SNR=9.7	74.78	329	P	P	10 22 30.7	+2.5
HLID	Hailey	74.78	329	P	P	10 22 28.1	0.0
MCMT	McKenzie Canyo	74.99	331	P	P	10 22 28.8	-0.7
BOZ	Bozeman (W) baz=141,SNR=6.8	75.03	332	P	P	10 22 31.3	+1.8
BOZ	Bozeman (W)	75.03	332	P	P	10 22 29.0	-0.5
DLMT	Dillon	75.28	331	P	P	10 22 30.3	-0.7
MFID	Camas Ranch	75.37	328	P	P	10 22 32.2	+0.7
MFID				IAmb	IAmb	10 22 35.4	
	comp=Z,7.0nm,1.2s						
ORV	Oroville	75.74	322	P	P	10 22 32.7	-0.9
ORV				IAmb	IAmb	10 22 38.3	
	comp=Z,9.8nm,1.1s						
HRY	Holter Researc	75.98	332	P	P	10 22 34.2	-0.7
EGMT	Eagleton baz=143	76.13	334	P	P	10 22 36.9	+1.2
EGMT	Eagleton	76.13	334	P	P	10 22 34.8	-0.9
EGMT				IAmb	IAmb	10 22 37.9	
	comp=Z,11nm,1.2s						
O03E	Paynes Creek baz=132	76.41	322	P	P	10 22 37.8	+0.4
MOD	Modoc Plateau	76.65	324	P	P	10 22 38.1	-0.8
MOD				IAmb	IAmb	10 22 55.2	
	comp=Z,7.4nm,1.4s						
BMO	Blue Mountains	77.14	328	P	P	10 22 40.6	-0.9
M04C	Macdoel baz=132	77.42	324	P	P	10 22 45.2	+2.0
K05A	Summer Lake	77.53	325	P	P	10 22 43.1	-0.7
K05A				IAmb	IAmb	10 22 47.4	
	comp=Z,16nm,1.4s						
I07A	Izee	77.72	326	P	P	10 22 45.0	+0.2
VNDA	Vanda	77.94	190	P	P	10 22 48.2	+2.8
	comp=Z,1.3nm,1.1s,baz=13,slow=0.7,SNR=3.1						
J05D	Fort Rock, OR baz=132	78.09	325	P	P	10 22 48.8	+1.9
PINE	Pine Mountain	78.27	326	P	P	10 22 49.4	+1.4
PINE				IAmb	IAmb	10 23 08.8	
	comp=Z,7.0nm,1.2s						
SYO	Syowa Base	78.54	160⇑ *eP*	P	P	10 22 48.7	-0.2
SYO	Syowa Base	78.54	160⇑ *eP*	P	P	10 22 52.0	+3.1
TOA0	Torodi Ar. Sit	78.73	71 P	P	P	10 22 50.3	-0.5
TORD	Torodi Ar. Bea	78.73	71 P	P	P	10 22 49.6	-1.2
	comp=Z,27nm,1.1s,baz=256,slow=4.7,SNR=67						
TORD				LR	LR	10 56 21.0	
	comp=Z,156nm,20.2s,baz=245,slow=35						
TORD	Torodi Ar. Bea	78.73	71	P	P	10 22 50.5	-0.4
I05D	Terrebonne, OR baz=133	78.86	326	P	P	10 22 53.5	+2.5
F04A	Amboy	80.49	326	P	P	10 22 59.5	-0.3
F04A				IAmb	IAmb	10 23 06.8	
	comp=Z,8.2nm,1.1s						
LTY	Liberty	80.50	328	P	P	10 22 59.3	-0.5
TSUM	Tsumeb	82.33	108	P	P	10 23 09.6	-0.8
TSUM				IAmb	IAmb	10 23 12.2	
	comp=Z,11nm,1.1s						
FRB	Frobisher Bay	83.53	1	LR	LR	11 00 08.0	
	comp=Z,95nm,21.4s,baz=194,slow=36						
BOSA	Boshof	85.86	119	LR	LR	10 58 54.9	
	comp=Z,103nm,18.1s,baz=214,slow=34						
PAB	San Pablo	85.86	45	P	P	10 23 27.3	-0.5
PAB				IAmb	IAmb	10 23 30.4	
	comp=Z,12nm,1.2s						
TAM	Tamanrasset	85.92	64	P	P	10 23 28.6	+0.1
ESDC	Sonseca Array	86.19	45	P	P	10 23 29.6	+0.2
	comp=Z,4.9nm,1.2s,baz=245,slow=5.6,SNR=9.7						
ESDC				LR	LR	11 01 59.8	
	comp=Z,59nm,18.0s,baz=255,slow=36						
ESDC	Sonseca Array	86.19	45	P	P	10 23 28.4	-0.9
MAW	Mawson	86.28	164	P	P	10 23 30.7	+1.4
	comp=Z,6.1nm,1.1s,baz=228,slow=6.7,SNR=7.0						
MAW				LR	LR	11 03 12.1	
	comp=Z,60nm,18.1s,baz=248,slow=36						
MAW	Mawson	86.28	164	P	P	10 23 28.9	-0.4
SFJD	Kangerlussuaq	88.10	8	LR	LR	11 01 21.7	
	comp=Z,44nm,20.4s,baz=185,slow=34						
YKA	Yellowknife Ar	89.18	341	P	P	10 23 42.2	-0.8
	comp=Z,4.4nm,1.1s,baz=138,slow=4.6,SNR=11						
YKA				LR	LR	11 06 14.9	
	comp=Z,95nm,20.7s,baz=0.0,slow=37						
BORG	Borgarnes	92.68	19	LR	LR	11 03 26.5	
	comp=Z,30nm,18.8s,baz=293,slow=34						
H11S2	WAKE ISLAND Hyl	25.74	279	T	T	12 49 03.8	
	baz=102,slow=74,SNR=66						
H11S1	WAKE ISLAND Hyl	25.75	279	T	T	12 49 05.8	
	baz=102,slow=74,SNR=48						
H11S3	WAKE ISLAND Hyl	25.76	279	T	T	12 49 06.9	
	baz=102,slow=74,SNR=56						
H11N3	WAKE ISLAND Hyl	25.79	280	T	T	12 49 02.2	
	baz=101,slow=75,SNR=27						
H11N2	WAKE ISLAND Hyl	25.81	280	T	T	12 49 04.7	
	baz=101,slow=75,SNR=33						
H11N1	WAKE ISLAND Hyl	25.81	280	T	T	12 49 03.8	
	baz=101,slow=75,SNR=20						
ASAR	Alice Springs	130.24	210	PKP	PKiKP	10 29 59.6	-0.1
	comp=Z,1.7nm,1.1s,baz=168,slow=3.4,SNR=5.6						
WRA	Warramunga Arr	133.15	213	PKP	PKPdf	10 30 04.4	-0.1
	comp=Z,0.6nm,1.0s,baz=150,slow=1.8,SNR=2.5						
HRA	Herat	136.40	61	PKPdf	PKPdf	10 30 10.1	-0.2
ZALV	Zalesovo Beam	141.42	23	PKhKP	PKPpre	10 30 07.7	
	comp=Z,0.5nm,0.5s,baz=316,slow=4.0,SNR=1.7						
ZALV				PKP	PKPdf	10 30 17.7	-0.9
	comp=Z,2.0nm,0.7s,baz=316,slow=4.0,SNR=3.4						
MAKZ	Makanchi	145.37	33	PKPbc	PKPbc	10 30 25.2	-0.4
MKAR	Makanchi Array	145.54	33	PKPbc	PKPdf	10 30 25.9	-0.2
	comp=Z,12nm,1.1s,baz=306,slow=2.3,SNR=49						
MKAR	Makanchi Array	145.54	33		PKPab	10 30 26.8	+0.3
KSH	Kashi	145.65	48	PKPbc	PKPab	10 30 27.9	+0.6
KSH				PP	PP	10 33 53.9	+6.3
KSH				AMB	AMB		
	comp=Z,58nm,5.7s						
KSH				LR	LR		
	comp=Z,180nm,10.4s						
KSH				LR	LR		
	comp=Z,160nm,9.8s						
SOEI	Soe	146.80	208	PKPdf	PKPdf	10 30 29.3	0.0
USRK	Ussuriysk Ar.	149.23	327	PKP	PKPdf	10 30 32.5	+0.2
	comp=Z,1.3nm,0.7s,baz=66,slow=1.7,SNR=1.7						
USRK				PKPbc	PKPbc	10 30 36.3	-0.2
	comp=Z,3.6nm,0.8s,baz=58,slow=3.6,SNR=7.5						
MJAR	Matsushiro Arr	149.64	309	PKP	PKPdf	10 30 33.1	-0.1
	comp=Z,0.4nm,0.7s,baz=346,slow=1.5,SNR=2.8						
MJAR				PKPbc	PKPbc	10 30 38.2	+0.4
	comp=Z,4.1nm,1.1s,baz=254,slow=2.7,SNR=9.8						
WMQ	Urumqi	150.35	32 *e*	PKPbc	PKPdf	10 30 35.4	+1.2
SONM	Songino Array	152.19	4	PKP	PKPdf	10 30 37.1	+0.1
	comp=Z,0.3nm,0.4s,baz=318,slow=6.0,SNR=3.6						
SONM				PKPbc	PKPbc	10 30 43.8	+0.2
	comp=Z,3.6nm,0.9s,baz=331,slow=1.2,SNR=18						
KSRS	Korea Array	156.07	320	PKP	PKPdf	10 30 42.3	-0.2
	comp=Z,0.3nm,0.4s,baz=30,slow=1.5,SNR=1.3						
HHC	Hu-ho-hao-te	159.14	355 *e*	PKP	PKPdf	10 30 46.8	+0.4
HHC				AMB	AMB		
	comp=Z,66nm,9.6s						
HHC				LR	LR		
	comp=Z,130nm,20.3s						
HHC				LR	LR		
	comp=Z,140nm,20.1s						
LZH	Lanzhou	163.38	15 *e*	PKP	PKPdf	10 30 48.6	-2.5
LZH				pPKP	sPKPdf	10 30 57.4	-1.5
LZH				sPKP		10 31 00.6	
NJ2	Nanjing	165.13	326 *e*	PKP	PKPdf	10 30 53.3	+0.7
CMAR	Chiang Mai Arr	170.37	98	PKPab	PKPab	10 32 12.8	-0.4
	comp=Z,0.3nm,0.4s,baz=269,slow=4.7,SNR=4.2						

IDC 16 10:17:00.1±7.1, 5.68S×141.86E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.3/17, mbtmp3.3/3, ML3.0/2, Error ellipse: s-maj=253.3km s-min=36.8km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	15.95	207	Pn	Pn	10 20 45.8	-0.4
	0.1nm,0.3s,baz=25,slow=13,SNR=6.5						
WRA				Sn	Sn	10 23 30.3	-14
	0.1nm,0.3s,baz=33,slow=24,SNR=2.2						
ASAR	Alice Springs	19.46	202	P	P	10 21 28.8	+0.2
	0.0nm,0.3s,baz=33,slow=11,SNR=9.1						
MKAR	Makanchi Array	74.04	322	P	P	10 28 38.0	0.0
	0.2nm,0.4s,baz=112,slow=7.4,SNR=2.0						

*IDC **16** 10:51:07.2±2.5, 66.49N×6.20E, h0km, mb3.6/1, mb1 3.7/8, mb1mx3.4/60, mbtmp3.6/8, ML3.5/7, MS2.6/1, Ms1 2.7/1, ms1mx2.0/48, Error ellipse: s-maj=36.6km s-min=18.4km az=122.0*

*NAO **16** 10:51:09.9±1.5, 66.31N×6.79E, ML3.6*

*BER **16** 10:51:13.6±1.6, 66.28N×6.96E, h15km, ML2.8, MW2.9, ML3.6(NAO), Confirmed Earthquake*

*HEL **16** 10:51:15.9±0.2, 66.19N×7.78E, h10km, ML3.0, ML2.6(UPP), Confirmed Earthquake*

*UPP **16** 10:51:16.7±2.3, 66.17N×7.96E, h0km, ML2.6, Suspected explosion*

ISC 16 10:51:11.7±1.6, 66.18N±0.04×7.15E±0.05, h30km±14km, n141, g279/236, 1C-1D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
N2RO	R,st	2.38	53	*eP*	Pn	10 51 50.5	+2.0
N2RO				*eS*	Sn	10 52 16.9	+0.4
N2RO				IAML		10 52 19.5	
	comp=Z,53nm,0.3s						
STOK	Stokkvaagen	2.38	84	Pn	Pn	10 51 51.6	+3.1
STOK				Sn	Sn	10 52 18.3	+1.7
STOK	Stokkvaagen	2.38	84	*eP*	Pn	10 51 51.5	+2.9
STOK				*eS*	Sn	10 52 18.7	+2.0
STOK				IAML		10 52 21.1	
	comp=Z,54nm,0.1s						
NBB40	Tonnes	2.39	79	*eP*	Pn	10 51 51.5	+2.9
NBB40				*eS*	Sn	10 52 19.3	+2.5
NBB40				IAML		10 52 20.6	
	comp=Z,146nm,0.1s						
KONS	Konsvik	2.43	80	Pn	Pn	10 51 52.1	+2.8
KONS				Sn	Sn	10 52 20.7	+2.8
KONS	Konsvik	2.43	80	*eP*	Pn	10 51 52.0	+2.8
KONS				*eS*	Sn	10 52 19.5	+1.6
KONS				IAML		10 52 21.7	
	comp=Z,228nm,0.3s						
NBB14	Nordeng Farm	2.50	84	*eP*	Pb	10 51 54.9	-1.0
NBB14	Nordeng Farm	2.50	84	*eS*	Sb	10 52 24.6	-1.6
NBB14	Nordeng Farm	2.50	84	IAML		10 52 28.0	
	comp=Z,115nm,0.2s						
NBB13	Alf Garage	2.53	77	*eP*	Pn	10 51 53.6	+3.1
NBB13	Alf Garage	2.53	77	*eS*	Sn	10 52 22.3	+2.1
NBB13	Alf Garage	2.53	77	IAML		10 52 25.4	
	comp=Z,170nm,0.7s						
NSS	Namsos	2.61	127 ⇓	*iP*	Pb	10 51 55.8	-2.0
NSS				*eS*	Sn	10 52 26.5	+4.1
NSS				IAML		10 52 27.1	
	comp=Z,551nm,0.6s						
N2VA	Vr,y	2.64	53	*eP*	Pn	10 51 53.6	+1.5
N2VA				*eS*	Sn	10 52 23.4	+0.3
N2VA				IAML		10 52 25.8	
	comp=Z,42nm,0.3s						
NBB30	Finnes	2.75	70	*eP*	Pn	10 51 55.9	+2.4
NBB30				*eS*	Sn	10 52 26.7	+1.0
NBB30				IAML		10 52 28.4	
	comp=Z,126nm,0.2s						
N2SV	S,rv¥gen	2.87	51	*eP*	Pn	10 51 56.2	+1.0
N2SV				*eS*	Sn	10 52 26.5	-2.1
N2SV				IAML		10 52 32.7	
	comp=Z,21nm,0.2s						
NBB05	Inndyr	2.88	70	*eP*	Pn	10 51 58.1	+2.8
NBB05	Inndyr	2.88	70	*eS*	Sn	10 52 30.5	+1.7
NBB05				IAML		10 52 34.6	
	comp=Z,227nm,0.3s						
LOF	Lofoten	3.17	49	Pn	Pn	10 52 00.4	+1.0
LOF				Sn	Sn	10 52 34.5	-1.6
LOF	Lofoten	3.17	49	*eP*	Pn	10 52 00.4	+1.0
LOF				*eS*	Sn	10 52 33.9	-2.1
LOF				IAML		10 52 41.0	
	comp=Z,23nm,0.1s						
NBB08	Skaug oppvekst	3.20	64	*eP*	Pn	10 52 02.3	+2.4
NBB08	Skaug oppvekst	3.20	64	*eS*	Sn	10 52 37.8	+0.9
TBLU	Trondheim	3.23	154	*eP*	Pn	10 52 02.9	+2.7
TBLU				*eS*	Sn	10 52 38.3	+0.7
TBLU				IAML		10 52 41.8	
	comp=Z,165nm,0.2s						
NBB03	Karbol	3.25	70	*eP*	Pn	10 52 03.7	+3.2
NBB03	Karbol	3.25	70	*eS*	Sn	10 52 39.5	+1.4
NBB03				IAML		10 52 41.3	
	comp=Z,124nm,0.2s						
N2TV	T¥rnvik	3.44	63	*eP*	Pn	10 52 05.8	+2.7
N2TV				*eS*	Sn	10 52 42.8	0.0
N2TV				IAML		10 52 44.4	
	comp=Z,50nm,0.3s						
FAUS	Fauske	3.44	66	*eP*	Pn	10 52 05.9	+2.8
FAUS				*eS*	Sn	10 52 44.3	+1.5
FAUS				IAML		10 52 50.6	
	comp=Z,48nm,0.3s						
N2ST	Straumen	3.55	67	*eS*	Sn	10 52 48.3	+3.0
N2NF	Nordfold	3.55	60	*eP*	Pn	10 52 06.8	+2.2
N2NF				*eS*	Sn	10 52 44.5	-0.9
N2NF				IAML		10 52 46.3	
	comp=Z,23nm,0.4s						
STEI	Steigen	3.62	57	*eP*	Pn	10 52 07.8	+2.2
STEI				*eS*	Sn	10 52 47.0	-0.2
STEI				IAML		10 52 53.9	
	comp=Z,13nm,0.3s						
MOL	Molde	3.63	177	Pn	Pn	10 52 08.0	+2.3
MOL				Sn	Sn	10 52 48.0	+0.5
MOL	Molde	3.63	177	*eP*	Pn	10 52 08.3	+2.6
MOL				*eS*	Sn	10 52 48.0	+0.5
MOL				IAML		10 52 51.2	
	comp=Z,111nm,0.3s						
N2DI	Digermulen	3.72	51	*eP*	Pn	10 52 10.0	+3.1
N2DI				*eS*	Sn	10 52 49.8	+0.1
N2HS	Hamsund	3.79	56	*eP*	Pn	10 52 10.9	+3.0
N2HS				*eS*	Sn	10 52 50.6	-0.8
N2HS				IAML		10 52 56.4	
	comp=Z,22nm,0.4s						
N2IH	Innhavet	3.88	59	*eP*	Pn	10 52 10.9	+1.8
N2IH				*eS*	Sn	10 52 53.7	+0.2
N2IH				*e*		10 53 26.6	
AKN	Aaknes	4.02	181	Pn	Pn	10 52 13.7	+2.6
AKN				Sn	Sn	10 52 56.8	-0.4
AKN	Aaknes	4.02	181	Pn	Pn	10 52 13.7	+2.6
AKN				*eS*	Sn	10 52 56.9	-0.4
AKN				IAML		10 53 03.3	
	comp=Z,104nm,0.3s						
N2LO	L,dingen	4.07	53	*eP*	Pn	10 52 14.6	+2.8
N2LO				*eS*	Sn	10 52 59.1	+0.8
N2LO				IAML		10 53 04.0	
	comp=Z,22nm,0.5s						
N2SO	Sortland	4.08	48	*eP*	Pn	10 52

NB2	**NORSAR Subarra**	**5.47**	**159**	Pn		**Pn**	**10 52 34.7**	**+3.6**
	baz=333,slow=14							
NB2				Sn		**Sn**	**10 53 35.1**	**+2.2**
	baz=350,slow=28							
NB2	**NORSAR Subarra**	**5.47**	**159**	Pn		**Pn**	**10 52 34.7**	**+3.6**
	baz=333,slow=14							
NB2				Sn		**Sn**	**10 53 35.1**	**+2.2**
	baz=350,slow=28							
NOA	**NORSAR Array B**	**5.47**	**159**	Pn		**Pn**	**10 52 34.6**	**+3.6**
	comp=Z,0.2nm,0.3s,baz=318,slow=5.9,SNR=23							
NOA				Sn		**Sn**	**10 53 37.1**	**+4.2**
	comp=Z,0.9nm,0.3s,baz=3.5,slow=11,SNR=3.8							
NOA				LR		LR	10 55 15.7	
	comp=Z,46nm,18.6s,baz=350,slow=42							
SKAR	**Skarslia**	**5.55**	**174**	*e*P		**Pn**	**10 52 34.8**	**+2.7**
SKAR				*e*S		**Sn**	**10 53 33.1**	**-1.7**
SKAR				IAML			10 53 41.5	
	comp=Z,30nm,0.5s							
TRO	**Tromso**	**5.63**	**47**	Pn		**Pn**	**10 52 35.5**	**+2.4**
TRO				Sn		**Sn**	**10 53 37.6**	**+1.0**
HASU	**Hassela**	**5.78**	**130**	P		**Pn**	**10 52 38.7**	**+3.4**
HASU				S		**Sn**	**10 53 41.5**	**+1.1**
HASU	**Hassela**	**5.78**	**130**	*e*P		**Pn**	**10 52 38.7**	**+3.4**
HASU				*e*S		**Sn**	**10 53 41.5**	**+1.1**
ASK	**Askoy**	**5.79**	**190**	*e*P		**Pn**	**10 52 33.3**	**-2.0**
ASK				*e*S		Sn	10 53 32.7	-7.9
ASK				IAML			10 53 52.2	
	comp=Z,28nm,0.5s							
NRA0	**NORESS Array S**	**5.81**	**158**	Pn		**Pn**	**10 52 38.8**	**+3.1**
	baz=346,slow=14							
NRA0				Sn		**Sn**	**10 53 44.1**	**+2.9**
	baz=356,slow=28							
NRA0	**NORESS Array S**	**5.81**	**158**	Pn		**Pn**	**10 52 38.8**	**+3.1**
	baz=346,slow=14							
NRA0				Sn		**Sn**	**10 53 44.1**	**+2.9**
	baz=356,slow=28							
BER	**Bergen**	**5.88**	**189**	*e*P		**Pn**	**10 52 39.4**	**+2.8**
BER				*e*S		**Sn**	**10 53 39.6**	**-3.2**
BER				IAML			10 53 44.0	
	comp=Z,21nm,0.3s							
KIF	**Kilpisjarvi**	**5.93**	**55**	Pn		**Pn**	**10 52 40.3**	**+3.0**
KIF				Sn		**Sn**	**10 53 44.9**	**+0.7**
KIF	**Kilpisjarvi**	**5.93**	**55**	Pn		**Pn**	**10 52 40.3**	**+3.0**
KIF				Sn		**Sn**	**10 53 44.9**	**+0.7**
LANU	**Lannavaara**	**6.08**	**65**	*e*P		**Pn**	**10 52 42.9**	**+3.5**
LANU				*e*S		**Sn**	**10 53 46.5**	**-1.4**
LANU	**Lannavaara**	**6.08**	**65**	*e*P		**Pn**	**10 52 42.9**	**+3.5**
LANU				*e*S		**Sn**	**10 53 46.5**	**-1.4**
ROTU	**Roteberg**	**6.13**	**137**	P		**Pn**	**10 52 43.9**	**+4.0**
ROTU				S		**Sn**	**10 53 49.9**	**+1.0**
ROTU	**Roteberg**	**6.13**	**137**	*e*P		**Pn**	**10 52 43.9**	**+4.0**
ROTU				*e*S		**Sn**	**10 53 49.9**	**+1.0**
ODD1	**Odda**	**6.30**	**182**	*e*P		Pn	10 52 48.7	+6.2
ODD1				*e*S		**Sn**	**10 53 53.8**	**+0.5**
ODD1				IAML			10 53 57.8	
	comp=Z,16nm,0.3s							
OSL	**Oslo**	**6.48**	**164**	*e*S		**Sn**	**10 53 56.1**	**-1.4**
KONO	**Kongsberg**	**6.65**	**169**	*e*P		**Pn**	**10 52 49.9**	**+2.7**
KONO				*e*S		**Sn**	**10 53 59.6**	**-2.3**
KONO				IAML			10 54 06.0	
	comp=Z,18nm,0.6s							
HFS	**Hagfors**	**6.75**	**151**	Pn		**Pn**	**10 52 52.9**	**+4.3**
	baz=333,slow=14							
HFS				Sn		**Sn**	**10 54 05.6**	**+1.2**
	baz=334,slow=22							
HFS	**Hagfors**	**6.75**	**151**	Pn		**Pn**	**10 52 52.9**	**+4.3**
	comp=Z,5.5nm,0.3s,baz=340,slow=13,SNR=125							
HFS				Sn		**Sn**	**10 54 05.6**	**+1.2**
	comp=Z,8.1nm,0.3s,baz=344,slow=22,SNR=16							
HFS	**Hagfors**	**6.75**	**151**	Pn		**Pn**	**10 52 52.9**	**+4.3**
	baz=333,slow=14							
HFS				Sn		**Sn**	**10 54 05.6**	**+1.2**
	baz=334,slow=22							
BLS5	**Blasjo**	**6.79**	**183**	*e*P		**Pn**	**10 52 52.6**	**+3.4**
BLS5				*e*S		**Sn**	**10 54 02.0**	**-3.5**
BLS5				IAML			10 54 19.5	
	comp=Z,10nm,0.6s							
TOF	**Tornio**	**6.97**	**83**	*e*P		**Pn**	**10 52 54.0**	**+2.6**
TOF				*e*S		**Sn**	**10 54 07.8**	**-1.8**
TOF				MSN			10 54 15.0	
	comp=Z,5.4nm,0.1s							
TOF	**Tornio**	**6.97**	**83**	*e*P		**Pn**	**10 52 54.0**	**+2.6**
TOF				*e*S		**Sn**	**10 54 07.8**	**-1.8**
TOF				MSN			10 54 15.0	
	comp=Z,5.4nm,0.1s							
IGGU	**Iggoen**	**7.00**	**135**	P		**Pn**	**10 52 55.0**	**+3.1**
IGGU				S		**Sn**	**10 54 10.0**	**-0.3**
IGGU	**Iggoen**	**7.00**	**135**	*e*P		**Pn**	**10 52 55.0**	**+3.1**
IGGU				*e*S		**Sn**	**10 54 10.0**	**-0.3**
KMY	**Karmoy**	**7.05**	**188**	*e*P		**Pn**	**10 52 54.6**	**+1.9**
KMY				*e*S		**Sn**	**10 54 06.4**	**-5.3**
KMY				IAML			10 54 11.4	
	comp=Z,12nm,0.5s							
LRW	**Lerwick**	**7.14**	**216**	*e*P		**Pn**	**10 52 55.6**	**+1.8**
LRW				*e*S		**Sn**	**10 54 07.0**	**-6.9**
LRW				IAML			10 54 11.7	
	comp=Z,12nm,0.5s							
OBF0	**Syolatti, Pyha**	**7.34**	**95**	*e*P		**Pn**	**10 52 59.0**	**+2.4**
OBF0				*e*S		**Sn**	**10 54 16.7**	**-2.1**
OBF0				MSN			10 54 23.6	
	comp=Z,3.0nm,0.1s							
OBF0	**Syolatti, Pyha**	**7.34**	**95**	*e*P		**Pn**	**10 52 59.0**	**+2.4**
OBF0				*e*S		**Sn**	**10 54 16.7**	**-2.1**
OBF0				MSN			10 54 23.6	
	comp=Z,3.0nm,0.1s							
VAF	**Ylistaro**	**7.37**	**108**	*e*P		**Pn**	**10 53 00.3**	**+3.3**
VAF				*e*S		**Sn**	**10 54 18.3**	**-1.2**
VAF	**Ylistaro**	**7.37**	**108**	*e*P		**Pn**	**10 53 00.3**	**+3.3**
VAF				*e*S		**Sn**	**10 54 18.3**	**-1.2**
STRU	**Stroemstad**	**7.41**	**164**	*e*P		**Pn**	**10 52 60.0**	**+2.4**
STRU				*e*S		**Sn**	**10 54 19.0**	**-1.5**
JMIC	**Jan Mayen**	**7.47**	**317**	Pn		**Pn**	**10 52 57.6**	**-0.7**
JMIC	**Jan Mayen**	**7.47**	**317**	Pn		**Pn**	**10 52 57.6**	**-0.7**
OSTU	**Oestervaala**	**7.48**	**138**	P		**Pn**	**10 53 01.6**	**+3.1**
OSTU				S		**Sn**	**10 54 21.6**	**-0.6**
OSTU	**Oestervaala**	**7.48**	**138**	*e*P		**Pn**	**10 53 01.6**	**+3.1**
OSTU				*e*S		**Sn**	**10 54 21.6**	**-0.6**
OBF4	**Vikkela, Lumij**	**7.58**	**92**	*e*P		**Pn**	**10 53 02.3**	**+2.3**
OBF4				*e*S		**Sn**	**10 54 22.1**	**-2.7**
OBF4	**Vikkela, Lumij**	**7.58**	**92**	*e*P		**Pn**	**10 53 02.3**	**+2.3**
OBF4				*e*S		**Sn**	**10 54 22.1**	**-2.7**
OUF	**Merijarvi**	**7.59**	**96**	*e*P		**Pn**	**10 53 02.8**	**+2.7**
OUF				*e*S		**Sn**	**10 54 22.3**	**-2.5**
OUF				MSN			10 54 26.7	
	comp=Z,3.9nm,0.1s							
OUF	**Merijarvi**	**7.59**	**96**	*e*P		**Pn**	**10 53 02.8**	**+2.7**
OUF				*e*S		**Sn**	**10 54 22.3**	**-2.5**
OUF				MSN			10 54 26.7	
	comp=Z,3.8nm,0.1s							
FORU	**Forsmark**	**7.64**	**134**	S		**Sn**	**10 54 24.8**	**-1.3**
FORU	**Forsmark**	**7.64**	**134**	*e*S		**Sn**	**10 54 24.8**	**-1.3**
ARA0	**ARCESS Array S**	**7.69**	**56**	Pn		**Pn**	**10 53 02.2**	**+0.8**
	baz=245,slow=14							
ARA0				Sn		**Sn**	**10 54 26.8**	**-0.6**
	baz=238,slow=22							
ARA0	**ARCESS Array S**	**7.69**	**56**	Pn		**Pn**	**10 53 02.2**	**+0.8**
	baz=245,slow=14							
ARA0				Sn		**Sn**	**10 54 26.8**	**-0.6**
	baz=238,slow=22							
ARCES	**ARCESS Array B**	**7.69**	**56**	Pn		**Pn**	**10 53 01.8**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=245,slow=13,SNR=15							
ARCES				Sn		**Sn**	**10 54 24.2**	**-3.2**
	comp=Z,1.5nm,0.3s,baz=242,slow=21,SNR=7.0							
ARE0	**ARCESS Array S**	**7.69**	**56**	*e*P		**Pn**	**10 53 03.5**	**+2.1**
ARE0				*e*S		**Sn**	**10 54 25.1**	**-2.3**
ARE0	**ARCESS Array S**	**7.69**	**56**	*e*P		**Pn**	**10 53 03.5**	**+2.1**
ARE0				*e*S		**Sn**	**10 54 27.1**	**-0.3**
SGF	**Sodankyl**	**7.74**	**72**	*e*P		**Pn**	**10 53 04.2**	**+2.1**
SGF				*e*S		**Sn**	**10 54 25.7**	**-2.9**
SGF	**Sodankyl**	**7.74**	**72**	*e*P		**Pn**	**10 53 04.2**	**+2.1**
SGF				*e*S		**Sn**	**10 54 25.7**	**-2.9**
GRAU	**Graesoe**	**7.79**	**134**	P		**Pn**	**10 53 05.5**	**+2.8**
GRAU	**Graesoe**	**7.79**	**134**	*e*P		**Pn**	**10 53 05.5**	**+2.8**
FIBU	**Brunna**	**7.82**	**139**	P		**Pn**	**10 53 05.6**	**+2.5**
FIBU	**Brunna**	**7.82**	**139**	*e*P		**Pn**	**10 53 05.6**	**+2.5**
SNART	**Snartemo**	**7.88**	**180**	*e*P		**Pn**	**10 53 06.9**	**+3.0**
SNART	**Snartemo**	**7.88**	**180**	*e*P		**Pn**	**10 53 06.9**	**+3.0**
SNART				*i* S		**Sn**	**10 54 26.3**	**-5.6**
SNART				IAML			10 55 03.2	
	comp=Z,11nm,0.3s							
HOMB	**Homborsund**	**7.97**	**175**	*e*P		**Pn**	**10 53 07.6**	**+2.4**
HOMB				*e*S		**Sn**	**10 54 29.6**	**-4.6**
HOMB				IAML			10 54 37.9	
	comp=Z,9.1nm,0.5s							
HOMB	**Homborsund**	**7.97**	**175**	*e*		**Pn**	**10 53 06.8**	**+1.6**
	baz=346,slow=14							
HOMB				*i* P			10 53 07.7	
HOMB				*i* S		**Sn**	**10 54 29.3**	**-4.9**
HOMB				IAML			10 54 39.5	
	comp=Z,5.4nm,0.4s							
RAF	**Rauma**	**8.30**	**122**	*e*P		**Pn**	**10 53 13.4**	**+3.6**
RAF				*e*S		**Sn**	**10 54 41.2**	**-1.3**
RAF	**Rauma**	**8.30**	**122**	*e*P		**Pn**	**10 53 13.4**	**+3.6**
RAF				*e*S		**Sn**	**10 54 41.2**	**-1.3**
AAL	**Aland**	**8.35**	**130**	P		**Pn**	**10 53 12.5**	**+2.0**
AAL				S		**Sn**	**10 54 41.8**	**-1.8**
AAL	**Aland**	**8.35**	**130**	*e*P		**Pn**	**10 53 12.5**	**+2.0**
AAL				*e*S		**Sn**	**10 54 41.8**	**-1.8**
NRTU	**Norrtaelje**	**8.36**	**136**	P		**Pn**	**10 53 12.8**	**+2.3**
NRTU	**Norrtaelje**	**8.36**	**136**	*e*P		**Pn**	**10 53 12.8**	**+2.3**
MSF	**Maaselka**	**8.90**	**82**	*e*P		**Pn**	**10 53 20.2**	**+2.2**
MSF				*e*S		**Sn**	**10 54 52.6**	**-4.4**
MSF	**Maaselka**	**8.90**	**82**	*e*P		**Pn**	**10 53 20.2**	**+2.2**
MSF				*e*S		**Sn**	**10 54 52.6**	**-4.4**
FIA0	**FINESS Array S**	**9.60**	**111**	Pn		**Pn**	**10 53 30.5**	**+2.9**
	baz=312,slow=14							
FIA0				Sn		**Sn**	**10 55 11.7**	**-2.5**
	baz=304,slow=22							
FIA0	**FINESS Array S**	**9.60**	**111**	Pn		**Pn**	**10 53 30.5**	**+2.9**
	baz=312,slow=14							
FIA0				Sn		**Sn**	**10 55 11.7**	**-2.5**
	baz=304,slow=22							
FINES	**FINESS Array B**	**9.60**	**111**	Pn		**Pn**	**10 53 30.8**	**+3.2**
	comp=Z,0.7nm,0.3s,baz=312,slow=12,SNR=28							
FINES				Sn		**Sn**	**10 55 11.2**	**-2.9**
	comp=Z,2.4nm,0.3s,baz=306,slow=24,SNR=14							
APA0	**Apatity Array**	**10.22**	**70**	Pn		**Pn**	**10 53 36.8**	**+0.8**
	baz=286,slow=12							
APA0				Sn		**Sn**	**10 55 23.5**	**-5.9**
	baz=268,slow=22							
APA0	**Apatity Array**	**10.22**	**70**	Pn		**Pn**	**10 53 36.8**	**+0.8**
	baz=286,slow=12							
APA0				Sn		**Sn**	**10 55 23.5**	**-5.9**
	baz=268,slow=22							
DEL	**Delary**	**10.26**	**159**	*e*P		**Pn**	**10 53 39.6**	**+3.0**
DEL				*e*S		**Sn**	**10 55 29.7**	**-0.7**
LUNU	**Lund**	**11.01**	**161**	*e*P		Pn	10 53 51.9	+5.0
LUNU				*e*S		**Sn**	**10 55 45.1**	**-3.8**
BSD	**Bornholm Skovb**	**11.73**	**158**	*i* P		**Pn**	**10 54 00.0**	**+3.3**
BSD				*i* S		**Sn**	**10 56 01.4**	**-4.9**
BSD	**Bornholm Skovb**	**11.73**	**158**	*i* S		**Sn**	**10 56 01.4**	**-4.9**
BSD				IAML			10 56 25.6	
	comp=Z,3.2nm,0.4s							
EKA	**Eskdalemuir Ar**	**11.97**	**210**	Pn		**Pn**	**10 53 59.8**	**-0.2**
	baz=21,slow=12,SNR=5.7							
EKA				Sn		Sn	10 56 02.1	-10
	baz=16,slow=24,SNR=2.8							
SPA0	**Spitsbergen Ar**	**12.35**	**9**	Pn		**Pn**	**10 54 06.6**	**+1.5**
	baz=173,slow=16							
SPA0	**Spitsbergen Ar**	**12.35**	**9**	Pn		**Pn**	**10 54 06.6**	**+1.5**
	baz=173,slow=16							
SPITS	**Spitsbergen Ar**	**12.35**	**9**	Pn		**Pn**	**10 54 06.6**	**+1.5**
	baz=183,slow=14,SNR=1.7							
SPITS				Sn		**Sn**	**10 56 15.5**	**-5.9**
	baz=265,slow=9.9,SNR=5.7							
KLMR	**Klimovskoe**	**15.26**	**95**	*e*Pn		**Pn**	**10 54 39.9**	**-4.7**
KLMR				AMP			10 54 51.2	
	comp=Z,9.0nm,1.2s							
KLMR				*e*Sn		**Sn**	**10 57 24.7**	**-7.6**
KLMR				*e*Sn		**Sn**	**10 57 24.7**	**-7.6**
GERES	**GERESS Array B**	**17.72**	**166**	P		**P**	**10 55 20.1**	**+3.5**
	comp=Z,0.1nm,0.3s,baz=5.2,slow=12,SNR=2.1							
AKASG	**Malin Array Be**	**19.17**	**133**	P		**Pn**	**10 55 36.8**	**+3.4**
	comp=Z,0.6nm,0.3s,baz=325,slow=13,SNR=2.1							
TORD	**Torodi Ar. Bea**	**53.11**	**187**	P		**P**	**11 00 28.7**	**+2.6**
	comp=Z,0.8nm,0.9s,baz=357,slow=7.9,SNR=4.0							

IDC 16 10:56:27.6±4.7, 4°.03S×142°.05E, h134km±45km, mb3.2/3, mb1 3.4/5, mb1mx3.1/33, mbtmp3.6/5, Error ellipse: s-maj=71.3km s-min=19.5km az=104.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.02**	**318**	P	P	Pn	10 57 02.4	+0.3
	3.1nm,0.3s,baz=147,slow=12,SNR=17							
JAY				S	S	Sn	10 57 28.8	+0.4
	8.1nm,0.3s,baz=255,slow=20,SNR=8.7							
WRA	**Warramunga Arr**	**17.52**	**205**	P	P		11 00 22.4	-0.5
	0.6nm,0.3s,baz=24,slow=12,SNR=38							
ASAR	**Alice Springs**	**21.05**	**201**	P	P		11 01 01.2	0.0
	0.6nm,0.8s,baz=33,slow=10,SNR=12							
FITZ	**Fitzroy Crossi**	**21.30**	**228**	P	P		11 01 04.5	+0.6
	3.7nm,1.2s,baz=48,slow=14,SNR=1.7							
ILAR	**Eielson Array**	**85.66**	**24**	P	P		11 08 50.9	-0.1
	0.7nm,0.6s,baz=255,slow=4.0,SNR=10							

IDC 16 11:07:06.9±5.0, 39°.95N×140°.36E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/35, mbtmp3.2/3, ML1.4/1, Error ellipse: s-maj=152.7km s-min=56.3km az=129.0, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**3.80**	**207**	Pn	P	Pn	11 08 06.5	-0.2
	0.0nm,0.3s,baz=24,slow=14,SNR=2.1							
MJAR				Sn		Sn	11 08 53.9	+1.8
	0.1nm,0.3s,baz=282,slow=41,SNR=1.6							
H11N2	**WAKE ISLAND Hy**	**30.40**	**124**	T	T		11 43 53.2	
	baz=317,slow=75,SNR=31							
H11N1	**WAKE ISLAND Hy**	**30.41**	**124**	T	T		11 43 47.1	
	baz=317,slow=75,SNR=43							
H11N3	**WAKE ISLAND Hy**	**30.42**	**124**	T	T		11 43 42.7	
	baz=317,slow=75,SNR=26							
H11S1	**WAKE ISLAND Hy**	**31.18**	**126**	T	T		11 44 36.6	
	baz=318,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**31.19**	**126**	T	T		11 44 39.7	
	baz=318,slow=76,SNR=20							
H11S2	**WAKE ISLAND Hy**	**31.20**	**126**	T	T		11 44 40.7	
	baz=318,slow=76,SNR=17							
WRA	**Warramunga Arr**	**59.84**	**187**	P	P		11 17 13.9	-0.3
	1.0nm,1.2s,baz=4.5,slow=7.3,SNR=6.5							
ASAR	**Alice Springs**	**63.57**	**187**	P	P		11 17 39.7	+0.3
	0.3nm,0.9s,baz=5.9,slow=6.7,SNR=1.4							

*IDC **16** 11:11:41.5±8.3, 31°.45S×179°.87W, h387km±98km, mb2.5/2, mb1 2.8/3, mb1mx2.7/38, mbtmp3.5/3, Error ellipse: s-maj=103.2km s-min=47.4km az=3.0*

ISC 16 11:11:39.6±1.1, 31°.48S±0°.08×179°.4W±0°.1, h400km, n59, σ2°.34/75, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.54**	**30**	P	P	**Pn**	**11 12 40.8**	**+1.6**
GLKZ				S	S		**11 13 21.5**	**-5.9**
MXZ	**Matakaoa Point**	**6.36**	**197**	P	P	**Pn**	**11 13 19.6**	**+3.7**
MXZ				S	S		**11 14 30.0**	**-4.7**
WMGZ	**Waiomatatini S**	**6.58**	**196**	P	P		**11 13 21.6**	**+2.6**
WMGZ				S	S		**11 14 36.0**	**-3.2**
WMGZ	**Waiomatatini S**	**6.58**	**196**	P	P		**11 14 33.1**	**-6.0**
HAZ	**Te Kaha**	**6.69**	**200**	P	P		**11 13 20.2**	**+0.1**
HAZ				S	S		**11 14 39.4**	**-1.9**
PUZ	**Puketiti**	**6.86**	**196**	P	P		**11 13 24.8**	**+2.7**
PUZ				S	S		**11 14 41.8**	**-3.1**
WCZ	**Waipu Caves**	**6.87**	**228**	P	P		**11 13 24.3**	**+2.0**
RUGZ	**Raukumara Rang**	**6.91**	**200**	P	P		**11 13 24.2**	**+1.4**
RUGZ				S	S		**11 14 42.5**	**-3.6**
OUZ	**Omahuta**	**6.97**	**236**	P	P		**11 13 23.2**	**-0.2**
WIAZ	**Waiheke Island**	**6.99**	**219**	P	P		**11 13 27.5**	**+3.9**
TWGZ	**Tauwhareparae**	**7.03**	**197**	P	P		**11 13 26.7**	**+2.7**
TWGZ				S	S		**11 14 48.0**	**-0.3**
MBAZ	**Motutapu North**	**7.10**	**221**	P	P		**11 13 27.9**	**+3.1**
OPRZ	**Ohinepanea**	**7.18**	**207**	P	P		**11 13 29.6**	**+3.9**
CNGZ	**Carnagh Statio**	**7.26**	**195**	P	P		**11 13 27.5**	**+0.9**
CNGZ				S	S		**11 14 46.7**	**-6.5**
MWZ	**Matawai**	**7.30**	**200**	P	P		**11 13 27.2**	**+0.2**
MWZ				S	S		**11 14 53.4**	**-0.5**
TKGZ	**Te Karaka**	**7.31**	**198**	P	P		**11 13 28.5**	**+1.4**
TKGZ				S	S		**11 14 53.7**	**-0.3**
URZ	**Urewera**	**7.36**	**202**	P	P		**11 13 28.4**	**+0.8**
	2.0nm,0.3s,baz=12,slow=14,SNR=87							
URZ				S	S		**11 14 52.6**	**-2.4**
	2.1nm,0.3s,baz=280,slow=23,SNR=14							
URZ	**Urewera**	**7.36**	**202**	P	P		**11 13 28.1**	**+0.5**
URZ				S	S		**11 14 53.4**	**-1.7**
RIGZ	**Rimuhau**	**7.58**	**197**	P	P		**11 13 30.4**	**+0.2**
RIGZ				S	S		**11 14 58.7**	**-1.1**
MUGZ	**Murupara**	**7.67**	**203**	P	P		**11 13 32.8**	**+1.7**
MUGZ				S	S		**11 14 58.9**	**-2.6**
RTZ	**Ruatahuna**	**7.72**	**202**	P	P		**11 13 32.1**	**+0.3**
SNGZ	**Shannon Statio**	**7.77**	**199**	P	P		**11 13 33.9**	**+1.7**
SNGZ				S	S		**11 15 01.8**	**-1.9**
WPRZ	**Whakapapatarin**	**7.92**	**206**	P	P		**11 13 36.5**	**+2.5**
RAHZ	**Arahi**	**7.96**	**200**	P	P		**11 13 35.7**	**+1.3**
RAHZ				S	S		**11 15 04.9**	**-2.9**
MTHZ	**Maungataniwha**	**7.98**	**202**	P	P		**11 13 37.6**	**+3.0**
MTHZ				S	S		**11 15 06.8**	**-1.4**
NMHZ	**Naumai**	**8.22**	**201**	P	P		**11 13 39.7**	**+2.4**
NMHZ				S	S		**11 15 11.5**	**-1.7**
ARHZ	**Aropaoanui**	**8.31**	**200**	P	P		**11 13 41.0**	**+2.8**
BKZ	**Black Stump Fm**	**8.38**	**203**	P	P		**11 13 39.6**	**+0.5**
MCHZ	**McNeill Hill**	**8.57**	**201**	P	P		**11 13 44.0**	**+2.9**
KWHZ	**Kaweka Forest**	**8.64**	**202**	P	P		**11 13 43.6**	**+1.6**
OTVZ	**Oturere**	**8.67**	**207**	P	P		**11 13 44.5**	**+2.1**
WHVZ	**Whangaehu Hut**	**8.80**	**207**	P	P		**11 13 45.9**	**+1.9**
BHHZ	**Black Hill Sta**	**8.82**	**204**	P	P		**11 13 45.3**	**+1.3**
KAHZ	**Kahuranaki**	**8.84**	**199**	P	P		**11 13 47.4**	**+3.3**
KRHZ	**Kereru**	**8.85**	**202**	P	P		**11 13 45.7**	**+1.4**
PXZ	**Pawanui**	**9.06**	**199**	P	P		**11 13 49.0**	**+2.5**
PNHZ	**Pukenui**	**9.15**	**202**	P	Pn		**11 13 48.5**	**+0.8**
WPHZ	**Waipukurau**	**9.22**	**201**	P	Pn		**11 13 51.0**	**+2.7**
PKE	**Pukeiti**	**9.42**	**213**	P	Pn		11 14 18.5	+28
LREZ	**Lake Rotokare**	**9.44**	**211**	P	Pn		11 14 06.5	+16
DVHZ	**Dannevirke**	**9.51**	**201**	P	Pn		**11 13 53.1**	**+1.3**
BFZ	**Birch Farm**	**9.84**	**200**	P	Pn		**11 13 57.3**	**+1.7**
MRZ	**Mangatainoka R**	**10.03**	**203**	P	Pn		**11 13 58.4**	**+0.6**
TIWZ	**Tintock**	**10.04**	**201**	P	Pn		**11 13 59.5**	**+1.6**
HOWZ	**Holdsworth Sta**	**10.26**	**202**	P	Pn		**11 14 00.9**	**+0.4**
OGWZ	**Otaki Gorge**	**10.31**	**204**	P	Pn		**11 14 01.4**	**+0.4**
TMWZ	**Te Maipa**	**10.34**	**200**	P	Pn		**11 14 03.2**	**+1.9**
KIW	**Kapiti Island**	**10.44**	**205**	P	Pn		**11 14 03.3**	**+0.8**
MTW	**Mount Morrison**	**10.50**	**202**	P	Pn		**11 14 04.2**	**+0.9**
CAW	**Cannon Point**	**10.60**	**204**	P	Pn		**11 14 04.7**	**+0.3**
TCW	**Tory Channel**	**10.98**	**206**	P	Pn		**11 14 09.2**	**+0.5**
TUWZ	**Tuamarina**	**11.29**	**207**	P	Pn		**11 14 12.4**	**+0.1**
NNZ	**Nelson**	**11.34**	**209**	P	Pn		**11 14 12.8**	**-0.1**
THZ	**Tophouse**	**11.99**	**209**	P	Pn		**11 14 20.6**	**+0.1**
KHZ	**Kahutara**	**12.29**	**205**	P	Pn		**11 14 24.9**	**+1.0**
GVZ	**Greta Valley S**	**12.96**	**206**	P	Pn		**11 14 33.1**	**+1.4**
ASAR	**Alice Springs**	**41.90**	**269**	P	P		**11 18 52.2**	**-0.9**
	0.2nm,0.8s,baz=102,slow=7.4,SNR=1.2							
WRA	**Warramunga Arr**	**42.99**	**274**	P	P		**11 19 01.2**	**-0.5**
	0.2nm,0.2s,baz=112,slow=8.0,SNR=13							
FINES	**FINESS Array B**	**145.74**	**338**	PKPbc	**PKPab**		**11 30 33.2**	**+0.4**
	0.4nm,0.6s,baz=15,slow=5.8,SNR=4.2							

*IDC **16** 11:36:31.8±1.2, 5°.50N×82°.61W, h0km, mb3.5/4, mb1 4.1/9, mb1mx3.8/39, mbtmp4.0/9, ML3.6/5, MS3.3/14, Ms1 3.3/14, ms1mx3.2/25, Error ellipse: s-maj=41.8km s-min=18.5km az=56.0*

*UCR **16** 11:36:32.8±1.3, 5°.40N×82°.99W, h10km, mb4.4(NEIC)*
*NEIC **16** 11:36:32.7±1.7, 5°.51N±0°.01×82°.65W±0°.07, h10km±1km, mb4.4/17, Error ellipse: s-maj=11.6km s-min=3.0km az=270.0*

ISC 16 11:36:33.3±0.6, 5°.48N±0°.06×82°.68W±0°.08, h15km, n94, σ1°.26/86, mb4.2/12, MS3.3/10, 1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AZU	**Azuero**	**3.32**	**46**	*e*P	P	**Pn**	**11 37 22.2**	**-2.5**
EDSV	**San Vito

HKT	**Hockley**	**27.32**	**335**	P	**P**	**11 42 16.2**	**-1.3**
MNMC	**Minye Minye**	**27.64**	**153**	P	**P**	**11 42 20.1**	**-0.8**
MNMC				IAmb	IAmb	11 42 23.0	
	comp=Z,8.6nm,1.0s						
MDP	**Montagnes des**	**29.91**	**89**	LR	LR	11 54 21.8	
	comp=Z,97nm,21.0s,baz=230,slow=36						
SIV	**San Ignacio**	**30.21**	**135**	LR	LR	11 54 44.1	
	comp=Z,76nm,18.0s,baz=296,slow=36						
TX32	**Lajitas Array**	**30.93**	**323**	P	**P**	**11 42 49.1**	**-0.8**
TXAR	**Lajitas Array**	**30.93**	**323**	LR	LR	11 55 51.8	
	comp=Z,26nm,19.1s,baz=0.0,slow=38						
LCAR	**Lake Charles**	**31.43**	**347**	P	**P**	**11 42 54.5**	**+0.5**
LCAR				IAmb	IAmb	11 42 57.8	
	comp=Z,6.0nm,0.9s						
T42A	**Van Buren**	**32.33**	**347**	P	**P**	**11 43 01.4**	**-0.6**
T42A				IAmb	IAmb	11 43 04.9	
	comp=Z,5.7nm,1.1s						
CCM	**Cathedral Cave**	**33.35**	**348**	P	**P**	**11 43 11.0**	**+0.1**
CCM				IAmb	IAmb	11 43 17.8	
	comp=Z,4.2nm,0.8s						
OLIL	**Olney**	**33.47**	**352**	P	**P**	**11 43 12.4**	**+0.5**
AC02	**Maricunga**	**34.70**	**158**	P	**P**	**11 43 24.9**	**+1.6**
AC02				IAmb	IAmb	11 43 26.0	
	comp=Z,7.3nm,0.9s						
WVNY	**West Valley, N**	**36.95**	**5**	P	**P**	**11 43 41.8**	**-0.1**
T25A	**Trinidad**	**37.25**	**331**	P	**P**	**11 43 43.7**	**-1.0**
T25A				IAmb	IAmb	11 43 52.0	
	comp=Z,4.9nm,1.1s						
CPUP	**Villa Florida**	**40.05**	**143**	LR	LR	12 03 38.8	
	comp=Z,60nm,18.8s,baz=304,slow=41						
ESJX	**Sierra Juarez**	**40.78**	**314**	P	**P**	**11 44 14.5**	**+0.1**
PDAR	**Pinedale Array**	**44.11**	**331**	P	**P**	**11 44 42.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=157,slow=12,SNR=1.9						
PDAR				LR	LR	12 05 41.6	
	comp=Z,28nm,18.7s,baz=131,slow=40						
ULM	**Lac du Bonnet**	**45.98**	**348**	LR	LR	12 03 57.3	
	comp=Z,34nm,20.2s,baz=272,slow=36						
NVAR	**Mina Array Bea**	**46.03**	**321**	P	**P**	**11 44 57.0**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=144,slow=6.7,SNR=1.8						
NVAR	**Mina Array Bea**	**46.03**	**321**	P	**P**	**11 44 56.3**	**-0.4**
PLCA	**Paso Flores**	**47.31**	**167**	LR	LR	12 01 59.1	
	comp=Z,28nm,19.3s,baz=315,slow=32						
YKA	**Yellowknife Ar**	**61.56**	**344**	P	**P**	**11 46 51.0**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=138,slow=6.5,SNR=3.6						
ESDC	**Sonseca Array**	**77.84**	**51**	LR	LR	12 18 59.1	
	comp=Z,12nm,19.7s,baz=145,slow=33						

NERS 16 11:43:38.8±0.0, 61°.86N×142°.27E, h0km, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHR	**Omchak**	**2.67**	**92**	*e*Pg	Pb	11 44 26.7	-0.7
OCHR				Pgmax		11 44 28.5	
	10.0nm,0.3s						
OCHR				*e*Sg	Sb	11 45 01.8	+1.1
OCHR				Sgmax		11 45 09.8	
	20nm,0.4s						
OCHR				Sgmax		11 45 09.8	
	20nm,0.4s						
OCHR	**Omchak**	**2.67**	**92**	*e*Pg	Pb	11 44 26.7	-0.7
	10.0nm,0.3s,baz=92						
OCHR				*e*Sg	Sb	11 45 01.8	+1.1
	20nm,0.4s,baz=92						
UNR	**Ust'-Nera**	**2.75**	**9**	*i* Pn	Pb	11 44 27.0	-1.9
	baz=7.0						
UNR				*e*Pg	Pg	11 44 31.9	+0.4
	1.2nm,0.2s,baz=7.0						
UNR				*i* Sn	Sn	11 45 00.3	+2.2
	baz=7.0						
UNR				*i* Sg	Sg	11 45 06.7	-0.5
	19nm,0.6s,baz=7.0						
UNR				*i* Sg	Sg	11 45 06.7	-0.5
	6.9nm,0.2s,baz=7.0						
UNR	**Ust'-Nera**	**2.75**	**9**	*e*Pn	Pb	11 44 26.6	-2.2
UNR				*e*Pg	Pg	11 44 32.3	+0.8
	2.2nm,0.2s						
UNR				*e*Sg	Sg	11 45 06.9	-0.3
	10.0nm,0.3s						
SUUS	**Susuman**	**2.90**	**69**	*e*Pg	Pb	11 44 32.4	+1.0
SUUS				Pgmax		11 44 34.7	
	10.0nm,0.2s						
SUUS				*e*Sg	Sb	11 45 08.4	+1.0
SUUS				Sgmax		11 45 11.7	
	30nm,0.6s						
SUUS	**Susuman**	**2.90**	**69**	*e*Pg	Pb	11 44 32.4	+1.0
	10.0nm,0.2s,baz=69						
SUUS				*e*Sg	Sb	11 45 08.4	+1.0
	30nm,0.6s,baz=69						
MOMR	**Moma**	**4.64**	**5**	*e*Pg	Pb	11 45 04.2	+3.2
	0.7nm,0.2s,baz=3.8						
MOMR				*e*Sg	Sg	11 46 05.5	-2.3
	13nm,0.7s,baz=3.8						
MOMR				*e*Sg	Sg	11 46 05.5	-2.3
	15nm,0.9s,baz=3.8						
MOMR	**Moma**	**4.64**	**5**	*e*Pg	Pg	11 45 07.5	-0.2
	1.2nm,0.3s						
MOMR				*e*Sg	Sg	11 46 05.6	-2.2
	8.0nm,0.5s						
TLAR	**Talaya**	**4.91**	**94**	*e*Sg	Sg	11 46 13.9	-2.4
TLAR				Sgmax		11 46 16.7	
	10.0nm,0.2s						
TLAR				Sgmax		11 46 16.7	
	10.0nm,0.2s						
TLAR	**Talaya**	**4.91**	**94**	*e*Sg	Sg	11 46 13.9	-2.4
	10.0nm,0.2s,baz=95						
YAK	**Yakutsk**	**5.95**	**277**	*e*Sg	Sb	11 46 41.3	+6.6
	2.0nm,0.3s						

*IDC **16** 11:50:00.7±0.7,2°.81S×136°.21E, h0km, mb4.0/7, mb1 4.2/14, mb1mx4.0/41, mbtmp4.1/14, ML4.1/6, Error ellipse: s-maj=21.5km s-min=12.8km az=82.0*

*NEIC **16** 11:50:05.0±2.4,2°.85S±0°.06×136°.32E±0°.06, h38km±4km, mb4.6/34, Error ellipse: s-maj=9.2km s-min=8.0km az=206.0*

*DJA **16** 11:50:08.7±0.8,2°S±8°×13°6E±°, h29km±8km, M4.4/7, mb4.7/1, mB5.0/1, MLv4.3/7, Mw(mB)4.4/1*

ISC 16 11:50:04.9±0.4, 2°.86S±0°.05×136°.28E±0°.04, h34km, n74, σ1°98/79, mb4.5/22, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.98**	**357**	P	**Pn**	**11 50 20.4**	**-2.0**
RKPI	**Ransiki, Papua**	**2.50**	**302**	P	**Pb**	**11 50 45.3**	**-3.9**
RKPI				S	**Sn**	**11 51 13.8**	**+1.3**
SMPI	**Sarmi**	**2.57**	**70**	P	**Pb**	**11 50 45.9**	**-4.6**
GENI	**Genyem**	**3.89**	**86**	P	**Pn**	**11 51 05.7**	**+3.4**
GENI				S	**Sn**	**11 51 49.8**	**+2.9**
FAKI	**Fak Fak**	**4.03**	**269**	P	Pn	11 51 09.5	+5.2
FAKI	**Fak Fak**	**4.03**	**269**	Pn	**Pn**	**11 51 05.2**	**+0.9**
FAKI				Sn	**Sn**	**11 51 52.1**	**+1.7**
JAY	**Jayapura**	**4.43**	**86**	Pn	**Pn**	**11 51 10.9**	**+1.1**
	3.1nm,0.3s,baz=227,slow=11,SNR=15						
JAY				Sn	**Sn**	**11 51 59.9**	**-0.3**
	6.7nm,0.3s,baz=111,slow=18,SNR=5.5						
JAY	**Jayapura**	**4.43**	**86**	P	**Pn**	**11 51 12.7**	**+2.9**
SIJI	**Sorong**	**5.39**	**291**	Pn	**Pn**	**11 51 22.4**	**-0.6**
	1.9nm,0.3s,baz=250,slow=22,SNR=18						
SIJI				Sn	**Sn**	**11 52 23.8**	**-0.2**
	2.6nm,0.3s,baz=123,slow=23,SNR=1.6						
TNTI	**Ternate**	**9.62**	**292**	Pn	**Pn**	**11 52 20.8**	**-0.2**
MTN	**Manton Dam**	**11.15**	**207**	Pn	**Pn**	**11 52 43.6**	**+1.5**
MTN				Sn	**Sn**	**11 54 46.4**	**+0.7**
PMG	**Port Moresby**	**12.61**	**122**	Pn	**Pn**	**11 53 02.4**	**+0.3**
	0.4nm,0.3s,baz=257,slow=17,SNR=0.8						
PMG	**Port Moresby**	**12.61**	**122**	Pn	**Pn**	**11 52 59.7**	**-2.4**
COEN	**Coen**	**12.96**	**149**	Pn	**Pn**	**11 53 07.0**	**+0.2**
COEN				Sn	**Sn**	**11 55 29.5**	**-0.4**
BATI	**Baumata**	**14.50**	**239**	Pn	**Pn**	**11 53 28.6**	**+0.7**
	2.9nm,0.3s,baz=74,slow=18,SNR=1.3						
KNRA	**Kununurra**	**14.73**	**210**	Pn	**Pn**	**11 53 31.1**	**+0.1**
KNRA					**Sn**	**11 56 13.0**	**-0.2**
MMRI	**Maumere**	**15.10**	**247**	Pn	**Pn**	**11 53 36.2**	**+0.2**
MMRI				IAmb	IAmb	11 53 53.8	
	comp=Z,68nm,1.3s						
KAPI	**Kappang**	**16.63**	**262**		**Pn**	**11 53 55.2**	**-0.4**
WB0	**Warramunga Arr**	**16.91**	**186**	Pn	**Pn**	**11 53 59.0**	**-0.1**
WRAB	**Tennant Creek**	**17.07**	**186**	P	**Pn**	**11 54 00.3**	**-0.9**
WRAB				IAmb	IAmb	11 54 09.9	
	comp=Z,21nm,0.8s						
WR0	**Warramunga Arr**	**17.08**	**186**	P	**Pn**	**11 54 01.8**	**+0.5**
WB2	**Warramunga Arr**	**17.08**	**186**		**Pn**	**11 54 00.9**	**-0.3**
WB2				IAmb	IAmb	11 54 10.1	
	comp=Z,18nm,0.7s						
WRA	**Warramunga Arr**	**17.09**	**186**	P	**Pn**	**11 54 00.3**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=3.4,slow=13,SNR=35						
WRA				S	**Sn**	**11 57 02.0**	**-8.4**
	comp=Z,0.5nm,0.3s,baz=9.4,slow=22,SNR=8.2						
WRA	**Warramunga Arr**	**17.09**	**186**	P	**Pn**	**11 54 00.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**18.39**	**214**	P	**Pn**	**11 54 17.7**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=35,slow=11,SNR=22						
FITZ				S	**Sn**	**11 57 34.8**	**-7.2**
	comp=Z,0.7nm,0.3s,baz=185,slow=16,SNR=6.9						
FITZ	**Fitzroy Crossi**	**18.39**	**214**	P	**P**	**11 54 15.6**	**-1.6**
BKB	**Balikpapan**	**19.44**	**274**	P	**P**	**11 54 27.8**	**-0.9**
MYLDM	**Lahad Datu**	**19.48**	**294**	P	**Pn**	**11 54 29.7**	**-0.9**
MYLDM				IAmb	IAmb	11 54 36.9	
	comp=Z,33nm,1.1s						
CTA	**Charters Tower**	**19.70**	**151**	P	**Pn**	**11 54 33.6**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=329,slow=11,SNR=8.5						
CTAO	**Charters Tower**	**19.70**	**151**	P	**Pn**	**11 54 34.0**	**+0.8**
AS31	**Alice Springs**	**20.81**	**186**	P	Pn	11 54 46.5	+0.3
ASAR	**Alice Springs**	**20.81**	**186**	P	Pn	11 54 46.2	0.0
	comp=Z,10nm,0.5s,baz=10,slow=11,SNR=188						
ASAR				S	**S**	**11 58 38.0**	**+3.8**
	comp=Z,4.3nm,1.1s,baz=12,slow=13,SNR=4.7						
ANA2	**Anatahan**	**21.23**	**26**	P	**P**	**11 54 49.2**	**+1.0**
PSAD1	**Pilbara Seismi**	**24.45**	**220**	P	**P**	**11 55 22.3**	**+1.4**
PSAD1				IAmb	IAmb	11 55 24.8	
	comp=Z,19nm,0.8s						
PSAC2	**Pilbara Seismi**	**24.48**	**219**	P	**P**	**11 55 22.9**	**+1.7**
PSAB2	**Pilbara Seismi**	**24.50**	**219**	P	**P**	**11 55 22.9**	**+1.5**
PSAB2				IAmb	IAmb	11 55 25.3	
	comp=Z,20nm,0.8s						
PSAA3	**Pilbara Seismi**	**24.52**	**219**	P	**P**	**11 55 23.0**	**+1.4**
PSAA3				IAmb	IAmb	11 55 25.4	
	comp=Z,21nm,0.8s						
PSA00	**Pilbara Seismi**	**24.53**	**219**	P	**P**	**11 55 23.9**	**+2.4**
PSA00				IAmb	IAmb	11 55 25.5	
	comp=Z,20nm,0.8s						
PSAB3	**Pilbara Seismi**	**24.54**	**219**	P	**P**	**11 55 21.7**	**+0.1**
PSAB3				IAmb	IAmb	11 55 25.5	
	comp=Z,23nm,0.8s						
FORT	**Forrest**	**28.84**	**195**	P	**P**	**11 56 00.5**	**+0.3**
FORT				IAmb	IAmb	11 56 13.2	
	comp=Z,10nm,0.8s						
STKA	**Stephens Creek**	**29.29**	**171**	P	**P**	**11 56 05.5**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=355,slow=10,SNR=5.9						
STKA	**Stephens Creek**	**29.29**	**171**	P	**P**	**11 56 03.9**	**-0.4**
BBOO	**Buckleboo**	**29.80**	**180**	P	**P**	**11 56 09.4**	**+0.7**
BBOO				IAmb	IAmb	11 56 21.3	
	comp=Z,14nm,1.4s						
NJ2	**Nanjing**	**38.46**	**336**	*e*P	**P**	**11 57 25.1**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CN2	**Changchun**	**47.46**	**349**	*e*P	P	11 58 43.1	+6.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**49.01**	**335**	*e*P	**P**	**11 58 51.3**	**+2.7**
HHC				pmax	pmax		
	comp=Z,29nm,1.1s						
HHC				pmax	pmax		
	comp=Z,97nm,5.9s						
LZH	**Lanzhou**	**49.18**	**325**	*e*P	P	11 58 56.5	+6.4
LZH				pP	sP	11 59 08.3	+4.0
LZH				sP	pP	11 59 12.8	+13
LZH				pmax	pmax		
	comp=Z,13nm,1.1s						
RAO	**Raoul Island**	**50.76**	**126**	P	**P**	**11 59 01.3**	**-0.7**
TUWZ	**Tuamarina**	**51.15**	**144**	P	**P**	**11 59 03.0**	**-1.7**
KLR	**Kul'dur**	**52.03**	**356**	P	**P**	**11 59 12.1**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=146,slow=12,SNR=4.4						
GTA	**Gaotai**	**53.78**	**325**	*e*P	P	11 59 29.5	+5.1
GTA				pP	sP	11 59 39.8	+1.0
GTA				sP	pP	11 59 44.4	+10
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SONM	**Songino Array**	**56.85**	**336**	P	**P**	**11 59 46.6**	**+0.2**
WMQ	**Urumqi**	**63.64**	**323**	*e*P	**P**	**12 00 34.8**	**+1.9**
WMQ				sP	sP	12 00 51.0	+3.7
WMQ				pmax	pmax		
	comp=Z,30nm,3.6s						
WMQ				LR	LR		
	comp=N,140nm,13.9s						
WMQ				LR	LR		
	comp=E,130nm,19.7s						
WMQ				LR	LR		
	comp=Z,35nm,23.7s						
MK31	**Makanchi Array**	**68.44**	**323**	P	**P**	**12 01 02.6**	**-1.0**
MK31				IAmb	IAmb	12 01 19.4	
	comp=Z,4.3nm,1.3s						
MKAR	**Makanchi Array**	**68.44**	**323**	P	**P**	**12 01 03.3**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=115,slow=8.6,SNR=6.4						
MKAR	**Makanchi Array**	**68.44**	**323**	P	**P**	**12 01 03.1**	**-0.5**
MAKZ	**Makanchi**	**68.64**	**323**	P	**P**	**12 01 03.8**	**-1.0**
MAKZ				IAmb	IAmb	12 01 20.5	
	comp=Z,7.8nm,1.4s						
PRZ	**Przheval'sk**	**68.94**	**318**	P	**P**	**12 01 06.2**	**-0.8**
ZALV	**Zalesovo Beam**	**70.86**	**331**	P	**P**	**12 01 17.6**	**-0.7**
KURK	**Kurchatov**	**72.46**	**326**	P	**P**	**12 01 27.0**	**-1.0**
KURBB	**Kurchatov Arra**	**72.47**	**326**	P	**P**	**12 01 29.2**	**+1.2**
	comp=Z,0.8nm,0.9s,baz=124,slow=5.2,SNR=4.0						
GAR	**Garm**	**73.39**	**312**	P	**P**	**12 01 33.7**	**-0.3**
VNDA	**Vanda**	**75.86**	**174**	P	**P**	**12 01 49.0**	**+1.7**
	comp=Z,3.0nm,0.9s,baz=317,slow=4.8,SNR=11						
VNDA	**Vanda**	**75.86**	**174**	P	**P**	**12 01 50.0**	**+2.7**
VNDA				IAmb	IAmb	12 01 50.3	
	comp=Z,2.8nm,0.8s						
ABKAR	**Akbulak array**	**83.28**	**320**	P	**P**	**12 02 30.1**	**+1.9**
BPAW	**Bear Paw Mtn.**	**85.08**	**25**	P	**P**	**12 02 35.7**	**-1.4**
BPAW				IAmb	IAmb	12 02 48.9	
	comp=Z,4.0nm,1.4s						
RND	**Reindeer**	**85.81**	**26**	P	**P**	**12 02 40.2**	**-0.6**
ILAR	**Eielson Array**	**86.98**	**25**	P	**P**	**12 02 47.0**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=266,slow=4.3,SNR=6.3						
ILAR	**Eielson Array**	**86.98**	**25**	P	**P**	**12 02 45.3**	**-1.1**
QSPA	**South Pole Qui**	**87.09**	**180**	P	**P**	**12 02 49.1**	**+2.0**
DOT	**Dot Lake**	**87.95**	**26**	P	**P**	**12 02 49.8**	**-1.4**
DOT				IAmb	IAmb	12 02 56.4	
	comp=Z,4.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**133.97**	**285**	PKP	**PKiKP**	**12 09 19.7**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=94,slow=0.6,SNR=3.5						
CPUP	**Villa Florida**	**148.13**	**156**	PKPbc	**PKiKP**	**12 09 49.5**	**-0.3**
	comp=Z,2.9nm,1.0s,baz=35,slow=2.8,SNR=3.4						
LPAZ	**La Paz**	**149.27**	**129**	PKPbc	**PKiKP**	**12 09 52.0**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=241,slow=7.0,SNR=3.6						

*BJI **16** 11:57:28.9±0.0, 3°.51S×136°.94E, h40km, mB4.8/23, mb4.7/35, Ms4.4/19, Ms7 4.3/20*

*IDC **16** 11:57:30.3±0.5, 2°.77S×136°.37E, h0km, mb4.4/15, mb1 4.5/22, mb1mx4.4/34, mbtmp4.5/22, ML2.1/2, MS4.1/28, Ms1 4.1/28, ms1mx3.9/50, Error ellipse: s-maj=16.8km s-min=12.2km az=59.0*

*DJA **16** 11:57:34.0±0.2, 3°S±2°×13°6E±°, h10km, M4.8/23, mb5.0/23, mB5.3/10, MLv4.9/9, Mw(mB)4.7/10*

*NEIC **16** 11:57:36.3±2.1, 2°.82S±0°.06×136°.32E±0°.03, h39km±7km, mb4.8/57, Error ellipse: s-maj=8.7km s-min=3.9km az=162.0*

*GCMT **16** 11:57:38.3±0.2, 2°.70S±0°.02×136°.19E±0°.02, h31km, MW4.9/74, Moment Tensor Solution. s57,c76; s74,c113; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.69±.14; Mθθ-2.14±.09; Mϕϕ-0.55±.10; Mrθ-1.59±.12; Mrϕ-1.13±.06; Mθϕ-0.77±.15; Best double couple: Mo3.23400×10^16^ NP1:ϕs62.00000°, δ28.00000°, λ88.00000°. NP2: ϕs243.00000°, δ62.00000°, λ91.00000°. Principal axes: T 3.2150, Plg73.0000°, Azm156.0000°; N 0.0340, Plg1.0000°, Azm63.0000°; P -3.2520, Plg17.0000°, Azm333.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 11:57:35.6±0.3, 2°.89S±0°.03×136°.29E±0°.04, h34km, n159, σ2°18/169, mb4.7/41, MS4.2/28, 2C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.01**	**357**	P	**Pn**	**11 57 50.2**	**-3.2**
SRPI				S	**Sb**	**11 58 06.5**	**-1.2**
RKPI	**Ransiki, Papua**	**2.51**	**303**	P	**Pn**	**11 58 14.3**	**+0.3**
RKPI				S	**Sn**	**11 58 46.0**	**+2.5**
SMPI	**Sarmi**	**2.58**	**70**	P	**Pn**	**11 58 15.8**	**+0.8**
GENI	**Genyem**	**3.89**	**86**	P	**Pn**	**11 58 34.9**	**+1.9**
FAKI	**Fak Fak**	**4.03**	**269**	P	**Pn**	**11 58 36.2**	**+1.2**
FAKI				S	**Sn**	**11 59 21.2**	**+0.1**
FAKI	**Fak Fak**	**4.03**	**269**	Pn	**Pn**	**11 58 35.9**	**+0.9**
FAKI				Sn	**Sn**	**11 59 22.2**	**+1.1**
JAY	**Jayapura**	**4.43**	**85**	Pn	**Pn**	**11 58 37.7**	**-2.8**
	0.2nm,0.3s,baz=319,slow=9.3,SNR=3.1						
JAY				Sn	**Sn**	**11 59 29.6**	**-1.3**
	7.3nm,0.3s,baz=38,slow=16,SNR=1.8						
JAY	**Jayapura**	**4.43**	**85**	P	**Pn**	**11 58 42.2**	**+1.7**
SIJI	**Sorong**	**5.40**	**292**	Pn	**Pn**	**11 58 53.0**	**-0.8**
	5.4nm,0.3s,baz=273,slow=24,SNR=18						
SIJI				Sn	**Sn**	**11 59 53.1**	**-1.8**
	17nm,0.3s,baz=312,slow=21,SNR=5.6						
SIJI				LR	LR	12 01 23.1	
	comp=Z,2μm,21.0s,baz=71,slow=43						
MMPI	**Merauke**	**6.88**	**144**	P	**Pn**	**11 59 18.1**	**+4.0**
	2.8nm390nm,0.7s						
SAUI	**Saumlaki**	**7.09**	**224**	Pn	**Pn**	**11 59 19.7**	**+2.7**
TNTI	**Ternate**	**9.63**	**292**	Pn	**Pn**	**11 59 52.1**	**+0.2**
KDU	**Kakadu**	**10.44**	**201**	P	**Pn**	**12 00 04.6**	**+1.6**
	baz=10,SNR=82						
KDU				S	**Sn**	**12 01 57.1**	**-1.9**
	baz=10						
MTN	**Manton Dam**	**11.13**	**207**	P	**Pn**	**12 00 15.0**	**+2.6**
	baz=11,SNR=183						
MTN	**Manton Dam**	**11.13**	**207**	Pn	**Pn**	**12 00 15.4**	**+3.0**
MTN				Sn	**Sn**	**12 02 15.6**	**-0.2**
PMG	**Port Moresby**	**12.60**	**121**	Pn	**Pn**	**12 00 31.3**	**-1.2**
	0.3nm,0.3s,baz=251,slow=18,SNR=3.4						
PMG				Sn	**Sn**	**12 02 54.1**	**+2.4**
	0.4nm,0.3s,baz=346,slow=22,SNR=2.0						
PMG				LR	LR	12 07 02.6	
	comp=Z,1μm,18.6s,baz=307,slow=46						
PMG	**Port Moresby**	**12.60**	**121**	Pn	**Pn**	**12 00 32.5**	**-0.1**
COEN	**Coen**	**12.94**	**149**	P	**Pn**	**12 00 37.6**	**+0.5**
	baz=13,SNR=12						
COEN	**Coen**	**12.94**	**149**	Pn	**Pn**	**12 00 37.9**	**+0.7**
COEN				Sn	**Sn**	**12 02 59.2**	**-0.8**
SOEI	**Soe**	**13.75**	**240**	P	**Pn**	**12 00 50.7**	**+2.3**
	2μm144nm,1.0s						
SOEI	**Soe**	**13.75**	**240**	Pn	**Pn**	**12 00 49.5**	**+1.1**
SOEI				Sn	**Sn**	**12 03 20.3**	**+0.1**
BATI	**Baumata**	**14.49**	**239**	Pn	**Pn**	**12 00 57.4**	**-1.0**
	5.4nm,0.3s,baz=175,slow=3.4,SNR=4.8						
BATI				Sn	**Sn**	**12 03 39.6**	**+1.6**
	3.3nm,0.3s,baz=204,slow=16,SNR=1.9						
BATI	**Baumata**	**14.49**	**239**	P	**Pn**	**12 00 57.9**	**-0.5**
	927nm71nm,0.8s						
DAV	**Davao City (W)**	**14.56**	**313**	LR	LR	12 07 21.4	
	comp=Z,302nm,18.9s,baz=134,slow=41						
DAV	**Davao City (W)**	**14.56**	**313**	Sn	**Sn**	**12 03 37.2**	**-2.5**
KNRA	**Kununurra**	**14.71**	**210**	P	**Pn**	**12 01 01.5**	**+0.2**
	baz=15,SNR=81						
KNRA	**Kununurra**	**14.71**	**210**	Pn	**Pn**	**12 01 02.0**	**+0.7**
KNRA				Sn	**Sn**	**12 03 38.5**	**-4.8**
KRVT	**Keravat (AS076**	**15.77**	**96**	Pn	**Pn**	**12 01 14.2**	**-1.1**
	1.9nm,0.3s,baz=9.5,slow=18,SNR=1.4						
KRVT				LR	LR	12 07 23.5	
	comp=Z,244nm,21.7s,baz=269,slow=38						
SPSI	**Sidrap Palu**	**16.52**	**266**	P	**Pn**	**12 01 26.4**	**+1.5**
	640nm32nm,1.2s						
MPSI	**Mapaga**	**16.69**	**281**	P	**P**	**12 01 29.0**	**-0.1**
	26nm,1.4s						
WB0	**Warramunga Arr**	**16.88**	**186**		**Pn**	**12 01 28.2**	**-1.1**
WB0				IAmb	IAmb	12 01 34.8	
	comp=Z,57nm,0.9s						
WB0				Sn	**Sn**	**12 04 30.4**	**-5.7**
WRAB	**Tennant Creek**	**17.05**	**186**		**Pn**	**12 01 29.6**	**-1.9**
WRAB				IAmb	IAmb	12 01 36.4	
	comp=Z,96nm,0.9s						
WRAB				Sn	**Sn**	**12 04 34.3**	**-5.9**
WR0	**Warramunga Arr**	**17.05**	**186**		**Pn**	**12 01 32.2**	**+0.7**
WR0				IAmb	IAmb	12 01 36.8	
	comp=Z,56nm,0.8s						
WR0				Sn	**Sn**	**12 04 33.4**	**-6.9**
WB2	**Warramunga Arr**	**17.06**	**186**	P	**Pn**	**12 01 31.0**	**-0.7**
	baz=17						
WB2	**Warramunga Arr**	**17.06**	**186**	Pn	**Pn**	**12 01 30.5**	**-1.1**
WB2				IAmb	IAmb	12 01 36.5	
	comp=Z,87nm,0.9s						
WB2				Sn	**Sn**	**12 04 34.1**	**-6.3**
WRA	**Warramunga Arr**	**17.06**	**186**	P	**Pn**	**12 01 29.4**	**-2.3**
	comp=Z,1.2nm,0.3s,baz=5.0,slow=13,SNR=23						
WRA				S	**Sn**	**12 04 31.7**	**-8.7**
	comp=Z,2.2nm,0.3s,baz=8.6,slow=22,SNR=11						
WRA				LR	LR	12 08 57.5	
	comp=Z,2μm,19.5s,baz=355,slow=40						
WRA	**Warramunga Arr**	**17.06**	**186**	P	**Pn**	**12 01 29.4**	**-2.3**
WRA				Sn	**Sn**	**12 04 34.6**	**-5.8**
MTSU	**Mount Surprise**	**17.08**	**153**	P	**Pn**	**12 01 32.5**	**+0.6**
	baz=17,SNR=5.9						
QIS	**Mount Isa**	**17.86**	**170**	P	**Pn**	**12 01 41.1**	**-0.4**
	baz=18,SNR=15						
QIS				S	**Sn**	**12 04 54.1**	**-5.7**
	baz=18						

MORW					IAmb	IAmb	12 04 03.9		
	comp=Z,11nm,0.9s								
LHSI	**Lahat**	**32.72**	**267**		P	**P**	**12 04 06.9**	**+1.5**	
	comp=Z,18nm,1.3s								
MYKOM	**Kota Tinggi**	**32.76**	**278**		P	**P**	**12 04 05.2**	**-0.5**	
MYKOM					IAmb	IAmb	12 04 06.3		
	comp=Z,19nm,1.3s								
BLDU	**Ballidu**	**33.22**	**212**		P	**P**	**12 04 10.7**	**+1.2**	
	baz=33,SNR=4.7								
QIZ	**Qiongzhong**	**33.92**	**311**		P	**P**	**12 04 17.5**	**+1.7**	
QIZ					S	**S**	**12 09 41.8**	**+3.3**	
QIZ					LR	LR			
	comp=Z,140nm,15.5s								
QIZ					LR	LR			
	comp=Z,120nm,21.1s								
QIZ					LR	LR			
	comp=Z,250nm,22.0s								
QIZ	**Qiongzhong**	**33.92**	**311**		P	**P**	**12 04 14.8**	**-1.0**	
ARPS	**Mount Arapiles**	**34.10**	**172**		P	**P**	**12 04 18.7**	**+1.5**	
	baz=34,SNR=7.2								
SDSI	**Sungai Dareh**	**34.89**	**272**		P	**P**	**12 04 25.0**	**+0.7**	
DZM	**Mont Dzumac**	**34.94**	**126**	*e*LR		LR	12 13 49.0		
	comp=Z,537nm,25.4s								
JNU	**Nakatsue**	**36.18**	**352**		P	**P**	**12 04 34.0**	**-1.1**	
	comp=Z,11nm,1.1s,baz=354,slow=9.2,SNR=2.5								
JNU	**Nakatsue**	**36.18**	**352**		IAmb	IAmb	12 04 46.4		
	comp=Z,15nm,1.1s								
MNSI	**Mandailing Nat**	**36.88**	**275**		P	**P**	**12 04 43.1**	**+1.8**	
RPSI	**Rantau Prapat**	**37.76**	**278**		P	**P**	**12 04 49.5**	**+0.8**	
PSI	**Prapat**	**37.77**	**278**		P	**P**	**12 04 49.5**	**+0.5**	
	comp=Z,2.2nm,0.3s,baz=180,slow=6.9,SNR=3.6								
NJ2	**Nanjing**	**38.49**	**336**	*e*P		**P**	**12 04 56.8**	**+2.2**	
NJ2					pmax	pmax			
	comp=Z,5.0nm,0.5s								
NJ2					LR	LR			
	comp=Z,400nm,15.2s								
NJ2					LR	LR			
	comp=Z,320nm,17.0s								
NJ2					LR	LR			
	comp=Z,770nm,20.8s								
MJAR	**Matsushiro Arr**	**39.27**	**2**		LR	LR	12 19 11.2		
	comp=Z,350nm,20.1s,baz=185,slow=33								
KSAR	**Wonju Array Be**	**40.88**	**350**		P	**P**	**12 05 14.1**	**-0.3**	
KSRS	**Korea Array**	**40.88**	**350**		P	**P**	**12 05 13.6**	**-0.8**	
	comp=Z,1.9nm,1.0s,baz=160,slow=9.6,SNR=7.2								
KSRS					LR	LR	12 21 42.9		
	comp=Z,185nm,20.3s,baz=154,slow=36								
CMAR	**Chiang Mai Arr**	**42.44**	**301**		P	**P**	**12 05 26.8**	**-0.8**	
	comp=Z,2.1nm,1.0s,baz=126,slow=6.8,SNR=11								
CMAR					LR	LR	12 23 50.9		
	comp=Z,61nm,19.4s,baz=187,slow=37								
CMAR	**Chiang Mai Arr**	**42.44**	**301**		P	**P**	**12 05 28.4**	**+0.8**	
XAN	**Xi'an**	**44.87**	**327**		P	**P**	**12 05 46.5**	**-0.5**	
BJT	**Baijiatuan**	**46.52**	**339**		P	**P**	**12 06 00.3**	**+0.6**	
USRK	**Ussuriysk Ar.**	**47.03**	**356**		LR	LR	12 24 25.6		
	comp=Z,473nm,18.8s,baz=164,slow=34								
ASAJ	**Asahikawa**	**47.13**	**6**		P	**P**	**12 06 03.3**	**-1.2**	
	comp=Z,2.1nm,0.5s,baz=354,slow=2.9,SNR=6.3								
JKA	**Kamikawa-asahi**	**47.13**	**6**		P	**P**	**12 06 03.3**	**-1.2**	
HHC	**Hu-ho-hao-te**	**49.03**	**335**	*e*P		**P**	**12 06 19.8**	**+0.4**	
HHC					PP	PP	**12 08 19.3**	**+6.0**	
HHC					S	**S**	**12 13 18.0**	**-3.9**	
HHC					ScS	**ScS**	**12 15 59.5**	**-10**	
HHC					SS	**SS**	**12 16 53.5**	**+0.1**	
HHC					pmax	pmax			
	comp=Z,18nm,0.9s								
HHC					pmax	pmax			
	comp=Z,71nm,4.6s								
HHC					LR	LR			
	comp=Z,340nm,16.6s								
HHC					LR	LR			
	comp=Z,220nm,16.3s								
HHC					LR	LR			
	comp=Z,300nm,15.5s								
LZH	**Lanzhou**	**49.20**	**325**	*e*P		**P**	**12 06 21.6**	**+0.7**	
LZH					pP	pP	12 06 29.4	-1.7	
LZH					sP	sP	12 06 33.1	-2.0	
LZH					pmax	pmax			
	comp=Z,16nm,1.0s								
GTA	**Gaotai**	**53.80**	**325**	⇑P		**P**	**12 06 56.4**	**+1.2**	
GTA					pP	sP	12 07 07.4	-2.2	
GTA					sP	pP	12 07 10.6	+5.1	
GTA					pmax	pmax			
	comp=Z,8.0nm,1.0s								
GTA					pmax	pmax			
	comp=Z,60nm,4.6s								
GTA					LR	LR			
	comp=Z,85nm,17.8s								
GTA					LR	LR			
	comp=Z,150nm,17.8s								
GTA					LR	LR			
	comp=Z,200nm,20.3s								
ULN	**Ulaanbaatar**	**56.64**	**337**		P	**P**	**12 07 15.8**	**+0.2**	
ULN					IAmb	IAmb	12 07 29.9		
	comp=Z,9.3nm,1.4s								
SONM	**Songino Array**	**56.88**	**336**		P	**P**	**12 07 17.3**	**+0.1**	
	comp=Z,0.6nm,0.5s,baz=145,slow=5.4,SNR=3.9								
SONM					LR	LR	12 30 55.9		
	comp=Z,352nm,21.4s,baz=150,slow=35								
SONM	**Songino Array**	**56.88**	**336**		P	**P**	**12 07 17.4**	**+0.2**	
PETK	**Petropavlovsk-**	**58.62**	**15**		LR	LR	12 28 41.1		
	comp=Z,70nm,21.4s,baz=240,slow=32								
MA2	**Magadan**	**63.31**	**8**		LR	LR	12 34 15.7		
	comp=Z,60nm,20.6s,baz=186,slow=35								
WMQ	**Urumqi**	**63.66**	**323**	*e*P		**P**	**12 08 05.5**	**+1.8**	
WMQ					sP	sP	12 08 23.8	+5.6	
WMQ					pmax	pmax			
	comp=Z,5.0nm,0.7s								
WMQ					LR	LR			
	comp=Z,180nm,17.3s								
WMQ					LR	LR			
	comp=Z,65nm,18.9s								
WMQ					LR	LR			
	comp=Z,130nm,20.5s								
YAK	**Yakutsk**	**64.94**	**357**		LR	LR	12 34 50.8		
	comp=Z,298nm,19.2s,baz=168,slow=35								
YAK	**Yakutsk**	**64.94**	**357**		P	**P**	**12 08 11.1**	**-0.4**	
CASY	**Casey**	**65.82**	**191**		P	**P**	**12 08 18.3**	**+1.1**	
SEY	**Seymchan**	**66.77**	**8**		LR	LR	12 36 25.0		
	comp=Z,114nm,20.7s,baz=169,slow=35								
MK31	**Makanchi Array**	**68.47**	**323**		P	**P**	**12 08 35.5**	**+1.1**	
MK31					IAmb	IAmb	12 08 49.1		
	comp=Z,6.7nm,1.1s								
MKAR	**Makanchi Array**	**68.47**	**323**		P	**P**	**12 08 34.4**	**-0.1**	
	comp=Z,2.0nm,0.7s,baz=116,slow=7.8,SNR=15								
MKAR					LR	LR	12 37 54.2		
	comp=Z,88nm,22.0s,baz=100,slow=35								
MKAR	**Makanchi Array**	**68.47**	**323**		P	**P**	**12 08 34.9**	**+0.5**	
MAKZ	**Makanchi**	**68.66**	**323**		P	**P**	**12 08 36.1**	**+0.5**	
MAKZ					IAmb	IAmb	12 08 50.2		
	comp=Z,9.9nm,1.0s								
PRZ	**Przheval'sk**	**68.95**	**318**		P	**P**	**12 08 39.7**	**+1.9**	
TARG	**Taragay, Kyrgy**	**69.04**	**317**		P	**P**	**12 08 39.6**	**+1.0**	
TARG					IAmb	IAmb	12 08 53.0		
	comp=Z,11nm,1.2s								
KSH	**Kashi**	**69.46**	**314**	*e*P		**P**	**12 08 42.1**	**+1.3**	
KDJ	**Kajisay**	**69.63**	**317**		P	**P**	**12 08 42.8**	**+0.8**	
KDJ					IAmb	IAmb	12 08 57.6		
	comp=Z,11nm,1.0s								
ZAA0	**Zalesovo Array**	**70.89**	**331**		P	**P**	**12 08 48.6**	**-0.5**	
ZALV	**Zalesovo Beam**	**70.89**	**331**		P	**P**	**12 08 48.3**	**-0.8**	
	comp=Z,0.4nm,0.4s,baz=128,slow=6.0,SNR=2.1								
ZALV					LR	LR	12 39 24.8		
	comp=Z,114nm,21.1s,baz=110,slow=36								
AAK	**Ala-Archa**	**71.66**	**317**		P	**P**	**12 08 54.8**	**+0.5**	
AAK					IAmb	IAmb	12 09 10.0		
	comp=Z,12nm,1.1s								
KURK	**Kurchatov**	**72.48**	**326**		P	**P**	**12 08 58.5**	**-0.3**	
KBL	**Kabul**	**73.10**	**307**		P	**P**	**12 09 02.8**	**-0.3**	
GAR	**Garm**	**73.41**	**312**		P	**P**	**12 09 05.3**	**+0.6**	
PPT	**Papeete**	**74.01**	**107**		LR	LR	12 40 01.0		
	comp=Z,34nm,19.6s,baz=300,slow=34								
PPT2	**Papeete2**	**74.01**	**107**	*e*LR		LR	12 31 57.4		
	comp=Z,137nm,24.0s								
PPT2	**Papeete2**	**74.01**	**107**	*e*LR		LR	12 09 00.5		
	comp=Z,87nm,29.2s								
CHGR	**Chuyangaron**	**74.17**	**311**		P	**P**	**12 09 09.1**	**-0.1**	
CHGR					IAmb	IAmb	12 09 23.5		
	comp=Z,11nm,0.9s								
TBI	**Tubuai**	**74.41**	**113**	*e*LR		LR	12 32 07.0		
	comp=Z,162nm,26.5s								
KK31	**Karatay Array**	**74.57**	**316**		P	**P**	**12 09 11.6**	**+0.3**	
KK31					IAmb	IAmb	12 09 25.7		
	comp=Z,9.1nm,1.1s								
KKAR	**Karatay Array**	**74.57**	**316**		P	**P**	**12 09 12.1**	**+0.8**	
KKAR	**Karatay Array**	**74.57**	**316**		P	**P**	**12 09 12.0**	**+0.7**	
KKAR					IAmb	IAmb	12 09 25.6		
	comp=Z,9.1nm,1.1s								
VNDA	**Vanda**	**75.83**	**174**		P	**P**	**12 09 18.7**	**+0.8**	
	comp=Z,9.3nm,0.9s,baz=316,slow=5.4,SNR=31								
VNDA					LR	LR	12 41 52.8		
	comp=Z,351nm,20.0s,baz=356,slow=35								
VNDA	**Vanda**	**75.83**	**174**		P	**P**	**12 09 18.1**	**+0.2**	
VNDA					IAmb	IAmb	12 09 19.9		
	comp=Z,9.5nm,0.9s								
BRVK	**Borovoye**	**78.15**	**326**		P	**P**	**12 09 31.3**	**-0.1**	
MAW	**Mawson**	**81.06**	**202**		P	**P**	**12 09 47.2**	**+0.4**	
	comp=Z,5.9nm,0.9s,baz=61,slow=9.3,SNR=8.1								
MAW					LR	LR	12 44 33.7		
	comp=Z,149nm,18.3s,slow=35								
MAW	**Mawson**	**81.06**	**202**		P	**P**	**12 09 48.1**	**+1.2**	
GEYT	**Alibeck**	**82.45**	**309**		P	**P**	**12 09 54.7**	**-0.3**	
	comp=Z,1.8nm,0.5s,baz=164,slow=6.0,SNR=6.3								
GEYT	**Alibeck**	**82.45**	**309**		P	**P**	**12 09 56.0**	**+1.0**	
GYA0B	**ALIBECK ARRAY**	**82.45**	**309**		P	**P**	**12 09 56.0**	**+1.0**	
GYA0B					IAmb	IAmb	12 10 11.3		
	comp=Z,9.5nm,0.9s								
ABKAR	**Akbulak array**	**83.30**	**320**		P	**P**	**12 09 59.0**	**0.0**	
IMAR	**Indian Mountai**	**84.58**	**23**		P	**P**	**12 10 05.3**	**+0.2**	
COLD	**Coldfoot**	**86.31**	**22**		P	**P**	**12 10 13.7**	**-0.1**	
WRH	**Wood River Hil**	**86.42**	**25**		P	**P**	**12 10 14.5**	**+0.1**	
WRH					IAmb	IAmb	12 10 15.4		
	comp=Z,11nm,1.2s								
CCB	**Clear Creek Bu**	**86.58**	**25**		P	**P**	**12 10 15.1**	**0.0**	
CCB					IAmb	IAmb	12 10 15.9		
	comp=Z,9.3nm,1.0s								
IL31		**87.00**	**25**		P	**P**	**12 10 16.6**	**-0.5**	
IL31					IAmb	IAmb	12 10 17.4		
	comp=Z,4.3nm,0.8s								
ILAR	**Eielson Array**	**87.00**	**25**		P	**P**	**12 10 16.6**	**-0.6**	
	comp=Z,3.2nm,0.8s,baz=260,slow=4.7,SNR=26								
ILAR					LR	LR	12 45 49.8		
	comp=Z,81nm,19.9s,baz=276,slow=33								
ILAR	**Eielson Array**	**87.00**	**25**		P	**P**	**12 10 15.9**	**-1.2**	
QSPA	**South Pole Qui**	**87.06**	**180**		P	**P**	**12 10 18.3**	**+0.7**	
DOT	**Dot Lake**	**87.98**	**26**		P	**P**	**12 10 22.0**	**+0.1**	
DOT					IAmb	IAmb	12 10 24.3		
	comp=Z,9.8nm,1.3s								
BCAR	**Beaver Creek A**	**88.89**	**27**		P	**P**	**12 10 26.9**	**+0.6**	
SYO	**Syowa Base**	**89.73**	**201**	*e*P		**P**	**12 10 30.0**	**0.0**	
SYO	**Syowa Base**	**89.73**	**201**	*e*pP		pP	12 10 44.5	+3.6	
DAWY	**Dawson**	**90.08**	**26**		P	**P**	**12 10 33.5**	**+1.7**	
DAWY					IAmb	IAmb	12 10 35.0		
	comp=Z,6.2nm,1.1s								
KLMR	**Klimovskoe**	**95.81**	**331**	*e*P		**P**	**12 10 54.9**	**-3.3**	
KLMR					AMP		12 10 57.5		
	comp=Z,14nm,1.3s								
ARCES	**ARCESS Array B**	**99.87**	**341**		P	**Pdif**	**12 11 16.0**	**-0.4**	
	comp=Z,1.1nm,0.6s,baz=64,slow=8.2,SNR=3.9								
ARCES					LR	LR	12 59 04.7		
	comp=Z,125nm,21.9s,baz=90,slow=37								
ARCES	**ARCESS Array B**	**99.87**	**341**			**Pdif**	**12 11 14.6**	**-1.8**	
TORD	**Torodi Ar. Bea**	**133.97**	**285**		PKP	**PKPdf**	**12 16 50.5**	**0.0**	
	comp=Z,2.1nm,0.9s,baz=58,slow=1.7,SNR=10								
CPUP	**Villa Florida**	**148.11**	**156**		PKPbc	**PKPbc**	**12 17 17.9**	**-0.7**	
	comp=Z,7.9nm,1.0s,baz=42,slow=1.9,SNR=10								
LPAZ	**La Paz**	**149.25**	**129**		PKPbc	**PKPbc**	**12 17 20.6**	**-2.0**	
	comp=Z,4.9nm,0.9s,baz=283,slow=3.1,SNR=12								
ROSC	**El Rosal**	**149.40**	**85**		PKPbc	**PKPbc**	**12 17 22.4**	**-0.4**	
	comp=Z,6.3nm,0.4s,baz=248,slow=13,SNR=2.2								

IDC **16** *11:58:52.6±6.7,28°.49N×51°.81E,h0km,mb3.7/2, mb1 3.6/3,mb1mx3.3/40,mbtmp3.6/3,ML3.2/1,Error ellipse: s-maj=131.8km s-min=52.0km az=114.0*
TEH **16** *11:58:55.7,28°.53N×51°.67E,h8km,ML3.8*
THR **16** *11:58:56.2±0.3,28°.67N×51°.71E,h15km,ML3.5*
ISC 16 11:58:55.5±1.0,28°.47N±0°.06×51°.54E±0°.08,h10km,n19, σ0s94/19,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.45**	**332**		*e*Pg	**Pg**	**11 59 04.4**	**+0.1**
KAZ1	**Kazerun**	**1.16**	**4**		*e*Pg	**Pb**	**11 59 17.2**	**-0.4**
KAZ1					*e*		11 59 47.7	
GHIR	**Ghir-Karzin**	**1.29**	**98**		*e*Pg	**Pn**	**11 59 18.4**	**-1.3**
GHIR					IAML		11 59 40.3	
	comp=E,797nm,0.6s							
GHIR	**Ghir-Karzin**	**1.29**	**98**		*e*Pg	**Pn**	**11 59 18.4**	**-1.3**
SHI	**Shiraz**	**1.45**	**36**		*e*Pg	**Pn**	**11 59 22.0**	**+0.1**
SHI					*e*Sg	**Sb**	**11 59 41.0**	**-0.3**
SHI					*e*		11 59 45.6	
JHRM	**Jahrom**	**1.80**	**88**		*e*Pg	**Pn**	**11 59 27.9**	**+1.3**
LMD1	**Lamerd**	**1.83**	**128**		*e*Pn	**Pb**	**11 59 29.5**	**+0.5**
LMD1					*e*		12 00 13.0	
IRAM	**Ramesheh**	**3.41**	**12**		*e*Pn	**Pn**	**11 59 49.1**	**+0.2**
ISAD	**Sadrabad**	**3.91**	**28**		*e*Pn	**Pn**	**11 59 57.3**	**+1.5**
IGAR	**Gharneh**	**3.95**	**6**		*e*Pn	**Pn**	**11 59 57.3**	**+1.0**
IMEH	**Mehriz**	**3.95**	**42**		*e*Pn	**Pn**	**11 59 58.1**	**+1.7**
IPIR	**Pirpir**	**4.24**	**353**		*e*Pn	**Pn**	**12 00 00.6**	**+0.2**
SHGR	**Shooshtar-Gavs**	**4.33**	**328**		IAML		12 00 55.3	
	comp=E,47nm,0.5s							
IZEF	**Zefreh**	**4.47**	**9**		*e*Pn	**Pn**	**12 00 03.5**	**0.0**
YZKH	**Yazd**	**4.72**	**33**		*e*Pn	**Pn**	**12 00 05.7**	**-1.1**
IKLH	**Kolahrood**	**4.84**	**0**		*e*Pn	**Pn**	**12 00 08.0**	**-0.6**
BRTR	**Keskin Array B**	**18.56**	**312**		P	**P**	**12 03 13.0**	**+0.4**
	comp=E,0.1nm,0.3s,baz=125,slow=13,SNR=4.7							
FINES	**FINESS Array B**	**37.08**	**340**		P	**P**	**12 06 04.6**	**-0.9**
	comp=E,1.4nm,0.7s,baz=134,slow=8.0,SNR=5.8							
TORD	**Torodi Ar. Bea**	**48.68**	**262**		P	**P**	**12 07 40.7**	**+0.5**
	comp=E,0.5nm,0.8s,baz=66,slow=9.0,SNR=3.2							

IDC 16 12:09:20.8±1.4,4°.04S×151°.05E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/35,mbtmp3.6/4,Error ellipse: s-maj=35.9km s-min=18.0km az=173.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.01**	**106**		Pn	Pn	12 09 42.6	+0.4
	baz=11,slow=6.7							
KRVT					Sn	Sn	12 09 57.5	+0.3
	103nm,0.3s,baz=232,slow=19,SNR=5.7							
WRA	**Warramunga Arr**	**22.70**	**225**		P	P	12 14 24.5	+0.1
	0.5nm,0.8s,baz=53,slow=9.8,SNR=5.0							
ASAR	**Alice Springs**	**25.59**	**219**		P	P	12 14 52.7	+0.7
	0.4nm,0.8s,baz=54,slow=8.9,SNR=2.3							
FITZ	**Fitzroy Crossi**	**28.52**	**239**		P	P	12 15 17.2	-1.1
	4.1nm,1.0s,baz=61,slow=10,SNR=1.8							
ILAR	**Eielson Array**	**82.12**	**22**		P	P	12 21 43.1	+0.1
	0.4nm,0.7s,baz=250,slow=5.5,SNR=5.6							

IDC **16** *12:12:57.4±4.5,27°.11N×91°.24E,h0km,mb3.4/4, mb1 3.7/4,mb1mx3.3/44,mbtmp3.5/4,Error ellipse: s-maj=346.9km s-min=23.7km az=61.0*
DMN **16** *12:13:01.0±0.6,28°.01N×92°.89E,h10km,Ml4.6/5,Error ellipse: s-maj=34.6km s-min=9.8km az=6.0*
ISC 16 12:13:01.7±1.3,27°.93N±0°.09×92°.56E±0°.09,h10km,n17, σ1s33/26,mb3.9/3,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.43**	**195**	*i*	PN	**Pn**	**12 13 42.0**	**+0.4**
SHL				*i*	SN	**Sn**	**12 14 12.0**	**+0.5**
TAPN	**Taplejung**	**4.34**	**263**	*e*	Pn	**Pn**	**12 14 09.9**	**+1.9**
ODAN	**Odare**	**4.72**	**258**	*e*	Pn	**Pn**	**12 14 13.9**	**+0.8**
RAMN	**Ramite**	**5.38**	**261**	*e*	Pn	**Pn**	**12 14 23.6**	**+1.3**
JIRN	**Jiri**	**5.65**	**269**	*e*	Pn	**Pn**	**12 14 28.0**	**+2.0**
JIRN				*e*	Sn	**Sn**	**12 15 32.1**	**+0.9**
	132nm,0.3s							
GUN	**Gumba**	**5.91**	**271**	*e*	Pn	**Pn**	**12 14 31.1**	**+1.5**
PKI	**Pulchoki**	**6.35**	**268**	*e*	Pn	**Pn**	**12 14 36.9**	**+1.3**
PKI				*e*	Sn	**Sn**	**12 15 47.9**	**-0.4**
KKN	**Kakani**	**6.45**	**270**	*e*	Pn	**Pn**	**12 14 38.4**	**+1.5**
KKN				*e*	Sn	**Sn**	**12 15 49.2**	**-1.4**
DMN	**Daman**	**6.61**	**269**	*e*	Pn	**Pn**	**12 14 39.6**	**+0.4**
DMN				*e*	Sn	**Sn**	**12 15 54.5**	**-0.3**
GKN	**Gorkha**	**7.01**	**272**	*e*	Pn	**Pn**	**12 14 46.8**	**+2.3**
GKN				*e*	Sn	**Sn**	**12 16 03.8**	**-0.6**
	46nm,0.3s							
DANN	**Dangsing**	**7.78**	**275**	*e*	Pn	**Pn**	**12 14 55.6**	**+0.3**
DANN				*e*	Sn	**Sn**	**12 16 22.1**	**-1.5**
	66nm,0.4s							
KOLN	**Koldanda**	**7.93**	**271**	*e*	Pn	**Pn**	**12 14 57.4**	**+0.1**
KOLN				*e*	Sn	**Sn**	**12 16 25.3**	**-1.9**
	34nm,0.5s							
PYUN	**Piuthan**	**8.46**	**273**	*e*	Pn	**Pn**	**12 15 03.8**	**-0.7**
PYUN				*e*	Sn	**Sn**	**12 16 37.8**	**-2.4**
	74nm,0.4s							
MKAR	**Makanchi Array**	**20.49**	**340**		P	**P**	**12 17 40.3**	**+0.6**
	0.6nm,0.9s,baz=154,slow=12,SNR=3.0							
KURBB	**Kurchatov Arra**	**25.05**	**339**		P	**P**	**12 18 26.9**	**+1.0**
	0.4nm,0.5s,baz=150,slow=9.6,SNR=4.7							
WRA	**Warramunga Arr**	**62.44**	**135**		P	**P**	**12 23 24.1**	**-1.1**
	0.8nm,0.6s,baz=321,slow=7.5,SNR=12							
ASAR	**Alice Springs**	**64.97**	**138**		P	**P**	**12 23 41.1**	**-0.9**
	0.4nm,0.4s,baz=327,slow=7.3,SNR=4.0							

JMA **16** *12:15:43.7±0.2,24°.58N×122°.09E,h63km±4km,M2.2*
TAP **16** *12:15:43.7,24°.63N×122°.09E,h63km,ML2.9,D*
ISC 16 12:15:44.4±1.2,24°.64N±0°.03×122°.11E±0°.02,h58km±7km, n77,σ0s85/128,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.24**	**263**	*e*P		**Pn**	**12 15 53.8**	**-0.2**
	baz=264							
TWC				*e*S		**Sn**	**12 16 00.9**	**+0.1**
	baz=264							
NTC	**Toucheng**	**0.34**	**309**	P		Pn	**12 15 54.7**	**0.0**
	baz=323							
NTC				*e*S		**Sn**	**12 16 02.1**	**+0.1**
	baz=323							
ENAH	**Nanao**	**0.34**	**236**	P		**Pn**	**12 15 54.8**	**+0.1**
	baz=235							
ENAH				*e*S		**Sn**	**12 16 03.3**	**+1.3**
	baz=235							
ILA	**Ilan**	**0.36**	**291**	*e*P		**Pn**	**12 15 55.3**	**+0.5**
	baz=293							
ILA				*e*S		**Sn**	**12 16 03.3**	**+1.0**
	baz=293							
TWB1	**Santiao Chiao**	**0.38**	**343**	*e*P		**Pn**	**12 15 54.7**	**-0.4**
	baz=343							
TWB1				*e*S		**Sn**	**12 16 02.8**	**0.0**
	baz=343							
ENA	**Nanau**	**0.40**	**238**	P		**Pn**	**12 15 55.3**	**+0.1**
	baz=236							
ENA				*e*S		**Sn**	**12 16 03.5**	**+0.5**
	baz=236							
TWE	**Neicheng**	**0.41**	**281**	P		**Pn**	**12 15 55.4**	**0.0**
	baz=283							
TWE				*e*S		**Sn**	**12 16 03.4**	**+0.1**
	baz=283							
TIPB	**Shuangxi**	**0.42**	**322**	*e*P		**Pn**	**12 15 55.4**	**-0.1**
	baz=331							
TIPB				*e*S		**Sn**	**12 16 03.4**	**-0.1**
	baz=331							
ENTT	**Nioudou**	**0.50**	**270**	P		**Pn**	**12 15 56.7**	**+0.5**
	baz=270							
ENTT				*e*S		**Sn**	**12 16 05.4**	**+0.5**
	baz=270							
NWF	**Wu-fen Shan**	**0.53**	**325**	*e*P		**Pn**	**12 15 56.7**	**+0.1**
	baz=320							
NWF				*e*S		**Sn**	**12 16 05.2**	**-0.3**
	baz=320							
WFSB	**Wu-fen Shan**	**0.53**	**325**	*e*P		**Pn**	**12 15 56.6**	**+0.1**
	baz=320							
WFSB				*e*S		**Sn**	**12 16 05.4**	**0.0**
	baz=320							
NDT	**Datong Townshi**	**0.55**	**266**	P		**Pn**	**12 15 57.1**	**+0.3**
	baz=269							
NDT				*e*S		**Sn**	**12 16 06.8**	**+1.0**
	baz=269							
NWLT	**Wulai**	**0.57**	**284**	P		**Pn**	**12 15 57.6**	**+0.5**
	baz=294							
NWLT				*e*S		**Sn**	**12 16 06.1**	**-0.2**
	baz=294							
TWA	**Mucha**	**0.59**	**305**	*e*P		**Pn**	**12 15 57.0**	**-0.3**
	baz=314							
TWA				S		**Sn**	**12 16 06.3**	**-0.3**
	baz=314							
NHDH	**Xindian Distri**	**0.62**	**301**	*e*P		**Pn**	**12 15 58.1**	**+0.4**
	baz=310							
NHDH				*e*S		**Sn**	**12 16 06.7**	**-0.6**
	baz=310							
NACB	**Ninganchiao**	**0.66**	**226**	*e*P		**Pn**	**12 15 57.2**	**-1.0**
	baz=216							
YHNB	**Yeheng**	**0.67**	**273**	*i* P		**Pn**	**12 15 58.4**	**+0.1**
	baz=273							
YHNB				*e*S		**Sn**	**12 16 09.0**	**+0.6**
	baz=273							
NNSB	**Datong**	**0.70**	**253**	P		**Pn**	**12 15 58.5**	**-0.2**
	baz=246							
NNSB				*e*S		**Sn**	**12 16 09.1**	**0.0**
	baz=246							
NNSH	**Datong**	**0.70**	**253**	P		**Pn**	**12 15 58.5**	**-0.2**
	baz=247							
NNSH				*e*S		**Sn**	**12 16 08.9**	**-0.2**
	baz=247

WHP				eS		Sn	12 16 19.0	+0.2	
	baz=251								
EGFH	**Guangfu**	**1.15**	**213**	*eP*		**Pn**	**12 16 03.6**	**-0.8**	
	baz=223								
EGFH				eS		Sn	12 16 18.2	-1.1	
	baz=223								
NMLH	**Miaoli**	**1.21**	**265**	*eP*		**Pn**	**12 16 05.6**	**+0.4**	
	baz=265								
VWDT	**VWDT**	**1.25**	**225**	*eP*		**Pn**	**12 16 05.1**	**-0.7**	
	baz=217								
VWDT				eS		Sn	12 16 20.3	-1.4	
	baz=217								
HGSD	**Ruisui**	**1.31**	**209**	*eP*		**Pn**	**12 16 05.2**	**-1.3**	
	baz=218								
SMLT	**Sun Moon Lake**	**1.34**	**236**	P		**Pn**	**12 16 07.9**	**+0.9**	
	baz=228								
SMLT				eS		Sn	12 16 26.4	+2.4	
	baz=228								
EHY	**Hungye**	**1.34**	**213**	*eP*		**Pn**	**12 16 05.2**	**-1.8**	
	baz=211								
SSLB	**Suanglung**	**1.36**	**232**	*eP*		**Pn**	**12 16 08.0**	**+0.7**	
	baz=225								
SSLB				eS		Sn	12 16 25.6	+1.3	
	baz=225								
TYC	**Yuchr**	**1.36**	**238**	*eP*		**Pn**	**12 16 07.6**	**+0.4**	
	baz=237								
TYC				eS		Sn	12 16 26.1	+1.8	
	baz=237								
YULB	**Yu-li**	**1.45**	**211**	*eP*		**Pn**	**12 16 06.4**	**-2.1**	
	baz=218								
TWF1	**Yuli**	**1.48**	**210**	*eP*		**Pn**	**12 16 06.8**	**-2.1**	
	baz=217								
WHYT	**Xinyi Township**	**1.49**	**231**	*eP*		**Pn**	**12 16 10.1**	**+1.1**	
	baz=224								
IRIF	**Iriomote-Funau**	**1.50**	**101**	P		**Pn**	**12 16 08.7**	**-0.4**	
IRIF				S		**Sn**	**12 16 27.4**	**-0.3**	
ALS	**Alishan**	**1.64**	**227**	*eP*		**Pn**	**12 16 11.7**	**+0.4**	
	baz=218								
ALS				eS		Sn	12 16 33.7	+2.2	
	baz=218								
HATJ	**Hateruma jima**	**1.65**	**110**	*eS*		**Sn**	**12 16 31.5**	**+0.3**	
CHN5	**Tsauling**	**1.67**	**232**	*eP*		**Pn**	**12 16 12.3**	**+0.7**	
	baz=243								
CHN5				eS		Sn	12 16 33.0	+1.0	
	baz=243								
ELDTW	**Lidau**	**1.76**	**215**	*eP*		**Pn**	**12 16 11.0**	**-1.7**	
	baz=207								
JKRS	**Kuro-shima**	**1.77**	**103**	P		**Pn**	**12 16 12.8**	**0.0**	
JKRS				S		**Sn**	**12 16 34.5**	**+0.3**	
EDH	**Donghe**	**1.82**	**204**	*eP*		**Pn**	**12 16 11.6**	**-1.8**	
	baz=196								
JIJ	**Ishigaki jima**	**1.87**	**98**	P		**Pn**	**12 16 13.7**	**-0.4**	
JIJ				S		**Sn**	**12 16 35.7**	**-0.9**	
TPUB	**Ta-pu**	**1.90**	**226**	*eP*		**Pn**	**12 16 14.9**	**+0.3**	
	baz=238								
STYT	**Tauyuan**	**1.93**	**220**	*eP*		**Pn**	**12 16 15.2**	**+0.3**	
	baz=212								
WTP	**Ta-pu**	**1.95**	**225**	*eP*		**Pn**	**12 16 16.6**	**+1.3**	
	baz=237								
JISG	**Ishigakijimahi**	**2.00**	**91**	P		**Pn**	**12 16 15.7**	**-0.1**	
JISG				eS		**Sn**	**12 16 40.2**	**+0.4**	
TWK	**Hsinying**	**2.02**	**228**	*eP*		**Pn**	**12 16 17.1**	**+0.9**	
	baz=239								
CHN1	**Nanshi**	**2.05**	**225**	*eP*		**Pn**	**12 16 17.3**	**+0.7**	
	baz=226								
CHN1				eS		Sn	12 16 41.6	+0.6	
	baz=226								
ICHU	**Yijhu**	**2.11**	**233**	*eP*		**Pn**	**12 16 18.3**	**+1.0**	
	baz=243								
SLGT	**Liugui**	**2.12**	**220**	*eP*		**Pn**	**12 16 18.4**	**+0.8**	
	baz=218								
PTTC	**Pingtan**	**2.29**	**292**	*eP*		**Pn**	**12 16 19.1**	**-0.7**	
	baz=292								
TSMG	**Majia**	**2.35**	**215**	*eP*		**Pn**	**12 16 21.6**	**+1.0**	
	baz=213								
JTJ	**Tarama**	**2.35**	**89**	P		**Pn**	**12 16 21.6**	**+0.9**	
JTJ				eS		**Sn**	**12 16 49.6**	**+1.1**	
MASBT	**Mashibuluo**	**2.43**	**214**	*eP*		**Pn**	**12 16 21.4**	**-0.4**	
	baz=212								
VWUC	**VWUC**	**2.45**	**279**	*eP*		**Pn**	**12 16 20.9**	**-1.1**	
	baz=278								
MATB	**Ma-tsu**	**2.47**	**308**	*eP*		**Pn**	**12 16 21.3**	**-1.0**	
	baz=307								
EAST	**Anshuo**	**2.53**	**208**	*eP*		**Pn**	**12 16 22.8**	**-0.3**	
	baz=201								
WDGT	**Dungji**	**2.63**	**239**	*eP*		**Pn**	**12 16 23.7**	**-0.8**	
	baz=238								
JIRB	**Irabujima**	**2.79**	**86**	P		**Pn**	**12 16 27.0**	**+0.4**	
JIRB				S		**Sn**	**12 17 00.4**	**+1.3**	

*IDC **16** 12:30:43.7±1.5,6°.90S×143°.94E, h0km, mb3.5/4, mb1 3.7/7, mb1mx3.5/36, mbtmp3.6/7, ML3.3/2, Error ellipse: s-maj=35.7km s-min=25.2km az=86.0*

ISC 16 12:30:47.6±1.0, 7°.0S±0°.1×144°.0E±0°.1, h30km, n7, σ1s17/8, mb3.6/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.94**	**128**	Pn		**Pn**	**12 31 46.8**	**+0.7**
	2.0nm,0.3s,baz=22,slow=2.9,SNR=9.5							
PMG				Sn		**Sn**	**12 32 30.3**	**-1.0**
	2.9nm,0.3s,baz=47,slow=23,SNR=2.6							
WRA	**Warramunga Arr**	**15.92**	**215**	Pn		**Pn**	**12 34 28.1**	**-1.6**
	0.1nm,0.3s,baz=33,slow=13,SNR=8.6							
WRA				Sn		Sn	12 37 16.9	-8.4
	0.1nm,0.3s,baz=31,slow=24,SNR=1.7							
WRA				Lg		Lg	12 39 03.8	
	0.0nm,0.3s,baz=35,slow=31,SNR=3.0							
ASAR	**Alice Springs**	**19.20**	**209**	P		**P**	**12 35 10.8**	**+1.6**
	0.2nm,0.3s,baz=39,slow=9.6,SNR=30							
ASAR				Lg		Lg	12 40 54.0	
	0.0nm,0.3s,baz=33,slow=33,SNR=3.4							
FITZ	**Fitzroy Crossi**	**21.02**	**237**	P		**P**	**12 35 29.1**	**+0.1**
	1.8nm,0.8s,baz=74,slow=9.6,SNR=7.2							
KSRS	**Korea Array**	**46.70**	**342**	P		**P**	**12 39 13.4**	**-0.4**
	0.7nm,0.7s,baz=163,slow=8.8,SNR=4.4							
CMAR	**Chiang Mai Arr**	**51.13**	**300**	P		**P**	**12 39 48.0**	**-0.2**
	0.6nm,0.6s,baz=115,slow=6.1,SNR=4.1							
MKAR	**Makanchi Array**	**76.39**	**322**	P		**P**	**12 42 34.5**	**+0.2**
	0.2nm,0.3s,baz=100,slow=7.5,SNR=2.9							

*VAO **16** 12:38:56.4±0.5, 11°.13N×67°.89W, h8km±2km, mb4.2*
*IDC **16** 12:39:01.3±0.5, 10°.52N×67°.63W, h0km, mb4.0/19, mb1 4.3/24, mb1mx4.2/49, mbtmp4.1/24, ML3.8/5, MS3.3/7, Ms1 3.3/7, ms1mx2.9/39, Error ellipse: s-maj=16.4km s-min=13.2km az=80.0*
*CAR **16** 12:39:03.5±2.2, 10°.49N±0°.05×67°.66W±0°.06, h8km, Mwr4.0, mb4.6/121(NEIC), Error ellipse: s-maj=7.7km s-min=6.5km az=94.0*
*NEIC **16** 12:39:03.7±1.4, 10°.47N±0°.05×67°.52W±0°.06, h22km±3km, Error ellipse: s-maj=8.0km s-min=7.1km az=96.0*

ISC 16 12:39:01.4±0.3, 10°.54N±0°.04×67°.51W±0°.04, h7km, n269, σ1s57/286, mb4.5/69, MS3.2/4, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HATO	**Hato, Curacao**	**2.16**	**319**			**Pn**	**12 39 38.7**	**+0.9**
HATO				Sn		**Sn**	**12 40 02.6**	**-2.2**
SDV	**Santo Domingo**	**3.49**	**242**	Pn		**Pn**	**12 39 55.7**	**-0.6**
	26nm,0.3s,baz=75,slow=7.6,SNR=42							
SDV				Sn		**Sn**	**12 40 36.1**	**-1.9**
	72nm,0.3s,baz=43,slow=19,SNR=6.2							
SDV				Lg		Lg	12 40 48.1	
	223nm,0.3s,baz=348,slow=20,SNR=10							
SDV	**Santo Domingo**	**3.49**	**242**	*eP*		**Pn**	**12 39 56.0**	**-0.3**
SDV	**Santo Domingo**	**3.49**	**242**	Pn		**Pn**	**12 39 57.5**	**+1.3**
URIC	**Uribia, Colomb**	**4.54**	**285**	*eP*		**Pn**	**12 40 08.5**	**-2.1**
URIC	**Uribia, Colomb**	**4.54**	**285**			**Pn**	**12 40 10.1**	**-0.5**
TAMC	**Tame, Arauca**	**5.88**	**226**	*eP*		**Pn**	**12 40 27.9**	**-1.2**
GRGR	**Grenville**	**5.96**	**74**	Pn		**Pn**	**12 40 30.8**	**+0.7**
PAMC	**Pamplona, Colo**	**6.03**	**239**	*eP*		**Pn**	**12 40 31.2**	**-0.3**
OCAC	**Ocana**	**6.17**	**249**	*eP*		**Pn**	**12 40 32.6**	**-0.5**
SMRC	**Santa Marta, M**	**6.62**	**276**	*eP*		**Pn**	**12 40 36.2**	**-3.0**
ARGC	**Ariguani, Magd**	**6.66**	**265**	*eP*		**Pn**	**12 40 38.6**	**-1.2**
SMLC	**San Martn de**	**6.69**	**256**	*eP*		**Pn**	**12 40 39.3**	**-0.9**
SVB	**Belmont**	**6.70**	**66**			**Pn**	**12 40 41.8**	**+1.5**
BARC	**Barichara**	**6.84**	**235**	*eP*		**Pn**	**12 40 42.8**	**+0.3**
TOSP	**Speyside**	**6.89**	**83**	Pn		**Pn**	**12 40 42.0**	**-0.9**
BRRC	**Barranca, Sant**	**7.01**	**241**	*eP*		**Pn**	**12 40 43.7**	**-0.9**
RUSC	**La Rusia**	**7.19**	**230**	*eP*		**Pn**	**12 40 47.3**	**-0.2**
RUSC	**La Rusia**	**7.19**	**230**	Pn		**Pn**	**12 40 48.4**	**+0.9**
SLBI	**Saint Lucia, B**	**7.27**	**61**	*eP*		**Pn**	**12 40 48.2**	**+0.2**
MLPR	**Magueyes Islan**	**7.40**	**3**			**Pn**	**12 40 51.1**	**+1.3**
CRPR	**Cabo Rojo, PR**	**7.43**	**3**			**Pn**	**12 40 51.9**	**+1.7**
CRPR				Sn		**Sn**	**12 42 16.0**	**+1.1**
PML	**Morne Lenard**	**7.47**	**55**	*eP*		**Pn**	**12 40 52.0**	**+1.0**
FDF	**Fort de France**	**7.48**	**55**	*eP*		**Pn**	**12 40 51.6**	**+0.6**
FDF	**Fort de France**	**7.48**	**55**	Pn		**Pn**	**12 40 51.8**	**+0.8**
FDF				Sn		**Sn**	**12 42 12.6**	**-3.6**
ZAM	**Aeronautique**	**7.49**	**57**	*eP*		**Pn**	**12 40 51.4**	**+0.3**
GBMF	**Grand Be**	**7.50**	**55**	*eP*		**Pn**	**12 40 52.1**	**+0.8**
IGPR	**InterUniversit**	**7.50**	**10**	Pn		**Pn**	**12 40 53.0**	**+1.8**
OBIP	**Obispado Ponce**	**7.51**	**7**	Pn		**Pn**	**12 40 51.8**	**+0.4**
BAMF	**Morne Balai**	**7.52**	**55**	*eP*		**Pn**	**12 40 52.3**	**+0.7**
LPMF	**Morne Lapointe**	**7.54**	**57**	*eP*		**Pn**	**12 40 51.9**	**+0.1**
MPOM	**Morne Pois Mar**	**7.57**	**58**	*eP*		**Pn**	**12 40 52.5**	**+0.3**
PDPR	**Patillas Dam,**	**7.57**	**11**			**Pn**	**12 40 53.1**	**+0.9**
SJCC	**San Jacinto, C**	**7.57**	**266**	*eP*		**Pn**	**12 40 51.4**	**-1.0**
H05S1	**Guadeloupe/Mar**	**7.58**	**59**	Pn		**Pn**	**12 40 52.8**	**+0.5**
H05S1				Sn		**Sn**	**12 42 15.5**	**-2.9**
MPR	**Mayaguez**	**7.63**	**3**			**Pn**	**12 40 54.5**	**+1.5**
DSLB	**Salisbury**	**7.67**	**50**	*eP*		**Pn**	**12 40 54.0**	**+0.3**
HUMP	**Col San Antoni**	**7.72**	**12**			**Pn**	**12 40 55.7**	**+1.4**
MTP	**Monte Pirata**	**7.75**	**14**	Pn		**Pn**	**12 40 55.6**	**+1.0**
AOPR	**Arecibo Observ**	**7.79**	**5**			**Pn**	**12 40 57.0**	**+1.7**
PTGC	**Puerto Gaitan,**	**7.79**	**216**	*eP*		**Pn**	**12 40 54.5**	**-0.8**
GCPR	**Guaynabo City**	**7.84**	**10**	Pn		**Pn**	**12 40 57.7**	**+1.7**
CBYP	**Canovanas**	**7.85**	**12**			**Pn**	**12 40 57.4**	**+1.3**
ZARC	**Zaragoza, Cauc**	**7.86**	**248**	*eP*		**Pn**	**12 40 55.3**	**-1.0**
AGPR	**Aguadilla, PR**	**7.89**	**3**			**Pn**	**12 40 58.8**	**+2.2**
PTBC	**PUERTO BERRIO,**	**7.94**	**240**	*eP*		**Pn**	**12 40 55.2**	**-2.1**
EMPR	**Esperanza - Ma**	**7.94**	**7**	Pn		**Pn**	**12 40 58.2**	**+0.9**
PCDR	**Punta Cana, DR**	**7.97**	**354**	Pn		**Pn**	**12 40 59.9**	**+2.2**
CUPR	**Culebra, Puert**	**8.02**	**15**	Pn		**Pn**	**12 40 59.5**	**+1.1**
SPBC	**San Pablo de B**	**8.11**	**234**	*eP*		**Pn**	**12 40 59.2**	**-0.6**
STVI	**Saint Thomas**	**8.15**	**17**	Pn		**Pn**	**12 41 01.6**	**+1.4**
BANI	**BANI**	**8.28**	**341**			**Pn**	**12 41 04.2**	**+2.2**
UREC	**San Jos de Ur**	**8.39**	**251**	*eP*		**Pn**	**12 41 02.8**	**-0.8**
DR12	**Loma Pena Alta**	**8.39**	**348**			**Pn**	**12 41 06.3**	**+2.7**
H05N1	**Guadeloupe/Mar**	**8.51**	**47**	Pn		**Pn**	**12 41 06.9**	**+1.8**
H05N1				Sn		**Sn**	**12 42 38.6**	**-2.8**
CHIC	**Chingaza**	**8.51**	**227**	*eP*		**Pn**	**12 41 05.7**	**+0.2**
NORC	**Norcasia**	**8.80**	**236**	*eP*		**Pn**	**12 41 08.0**	**-1.3**
ROSC	**El Rosal**	**8.81**	**230**	Pn		**Pn**	**12 41 10.7**	**+1.2**
	16nm,0.3s,baz=106,slow=13,SNR=21							
ROSC				Sn		**Sn**	**12 42 47.5**	**-2.0**
	3.4nm,0.3s,baz=143,slow=20,SNR=1.2							
ROSC				LR		LR	12 44 39.7	
	comp=Z,216nm,20.4s,baz=46,slow=39							
ROSC	**El Rosal**	**8.81**	**230**	*eP*		**Pn**	**12 41 10.8**	**+1.2**
ROSC	**El Rosal**	**8.81**	**230**	Pn		**Pn**	**12 41 11.2**	**+1.6**
CVER	**Cruz Verde, Cu**	**8.84**	**228**	*eP*		**Pn**	**12 41 11.0**	**+1.0**
VILC	**Villavicencio,**	**8.85**	**224**	*eP*		**Pn**	**12 41 10.2**	**+0.2**
LCBC	**Los crdobas,**	**8.89**	**260**	*eP*		**Pn**	**12 41 09.7**	**-0.7**
HELC	**Santa Helena**	**9.03**	**242**	*eP*		**Pn**	**12 41 12.1**	**-0.5**
SDDR	**Presa de Saban**	**9.15**	**337**			**Pn**	**12 41 14.6**	**+0.6**
PAPH	**Port-au-Prince**	**9.19**	**330**	Pn		**Pn**	**12 41 16.3**	**+1.9**
DBBC	**Dabeiba**	**9.28**	**249**	*eP*		**Pn**	**12 41 14.0**	**-1.8**
GUY2C	**Guyana, Caldas**	**9.40**	**236**	*eP*		**Pn**	**12 41 17.4**	**-0.4**
GUVC	**San Jose del G**	**9.43**	**213**	*eP*		**Pn**	**12 41 17.4**	**-0.4**
RREF	**El Recreo**	**9.57**	**235**	*eP*		**Pn**	**12 41 18.5**	**-1.8**
CBOC	**Ciudad Bolivar**	**9.61**	**242**	*eP*		**Pn**	**12 41 20.5**	**+0.1**
TOLC	**Tolima**	**9.74**	**233**	*eP*		**Pn**	**12 41 22.2**	**-0.2**
ANIL	**Santa Ana**	**9.86**	**233**	*eP*		**Pn**	**12 41 23.7**	**-0.3**
PRAC	**Prado**	**9.98**	**228**	*eP*		**Pn**	**12 41 24.0**	**-1.3**
ORTC	**Ortega, Tolima**	**10.11**	**230**	*eP*		**Pn**	**12 41 25.4**	**-1.7**
MACC	**Macarena, Meta**	**10.45**	**217**	*eP*		**Pn**	**12 41 30.0**	**-1.8**
YOTC	**Yotoco, Valle**	**10.92**	**234**	*eP*		**Pn**	**12 41 37.7**	**-0.5**
BETC	**Betania**	**11.09**	**226**	*eP*		**Pn**	**12 41 38.7**	**-1.9**
MARP	**Paez Belalcaza**	**11.35**	**228**	*eP*		**Pn**	**12 41 41.6**	**-2.7**
GARC	**Garzon, Huila**	**11.48**	**224**	*eP*		**Pn**	**12 41 45.5**	**-0.6**
GTBY	**Guantanamo Bay**	**11.86**	**323**	Pn		**Pn**	**12 41 50.6**	**-0.5**
FLOC	**Florencia**	**12.03**	**223**	*eP*		**Pn**	**12 41 52.4**	**-1.0**
FLOC	**Florencia**	**12.03**	**223**			**Pn**	**12 41 53.3**	**-0.1**
POPC	**Popayan, Colom**	**12.08**	**229**	*eP*		**Pn**	**12 41 53.2**	**-1.1**
BCIP	**Isla Barro Col**	**12.22**	**265**	Pn		**Pn**	**12 41 54.7**	**-1.3**
PTLC	**Puerto Leguiza**	**12.60**	**216**	*eP*		Pn	12 42 10.1	+8.9
BBAC	**Balboa, Cauca**	**12.85**	**229**	*eP*		**Pn**	**12 42 04.2**	**-0.6**
PTGA	**Pitinga**	**13.48**	**146**	Pn		**Pn**	**12 42 16.1**	**+2.9**
	1.0nm,0.3s,baz=343,slow=18,SNR=11							
PTGA				Lg		Lg	12 46 01.4	
	3.3nm,0.3s,baz=251,slow=19,SNR=7.6							
PTGA				LR		LR	12 47 30.6	
	comp=Z,105nm,18.9s,baz=302,slow=38							
PTGA	**Pitinga**	**13.48**	**146**			**Pn**	**12 42 13.0**	**-0.3**
OTAV	**Otavalo**	**14.94**	**227**	*eP*		**Pn**	**12 42 30.4**	**-3.1**
OTAV	**Otavalo**	**14.94**	**227**	Pn		**Pn**	**12 42 31.8**	**-1.8**
OTAV	**Otavalo**	**14.94**	**227**	*eP*		**Pn**	**12 42 30.2**	**-3.3**
MACA	**Manacapuru-AM**	**15.22**	**153**	*eP*		**P**	**12 42 40.8**	**-1.2**
MDP	**Montagnes des**	**15.69**	**109**	Pn		**Pn**	**12 42 43.6**	**+0.5**
	1.1nm,0.3s,baz=291,slow=15,SNR=8.4							
MDP				Sn		**Sn**	**12 45 29.1**	**-8.3**
	0.8nm,0.3s,baz=36,slow=19,SNR=2.4							
MDP				Lg		Lg	12 47 24.0	
	0.9nm,0.3s,baz=165,slow=19,SNR=1.7							
MDP				LR		LR	12 48 26.3	
	comp=Z,67nm,19.4s,baz=100,slow=36							
JTS	**Las Juntas de**	**17.16**	**271**	Pn		**Pn**	**12 43 01.3**	**-0.5**
	0.4nm,0.3s,baz=72,slow=9.6,SNR=3.3							
JTS	**Las Juntas de**	**17.16**	**271**			**Pn**	**12 43 01.8**	**-0.1**
MALB	**Monte Alegre**	**18.04**	**132**	*eP*		**Pn**	**12 43 12.5**	**-0.3**
MCPB	**Macapa, AP**	**18.80**	**124**	*eP*		**Pn**	**12 43 23.1**	**+0.9**
CZCB	**Cruzeiro do Su**	**18.88**	**196**	*eP*		**Pn**	**12 43 23.3**	**+0.4**
ITTB	**Itatiuba**	**18.89**	**141**	*eP*		**Pn**	**12 43 25.7**	**+2.4**
SAML	**Samuel**	**19.84**	**167**	P		**P**	**12 43 33.6**	**+0.6**
SAML	**Samuel**	**19.84**	**167**	*eP*		**P**	**12 43 33.1**	**+0.1**
ETMB	**Extrema**	**20.27**	**176**	*eP*		**P**	**12 43 38.7**	**+1.0**
ATAH	**Atahualpa**	**20.64**	**212**	P		**P**	**12 43 43.4**	**+1.3**
	8.5nm,0.7s,baz=348,slow=6.4,SNR=3.9							
ATAH				LR		LR	12 53 03.9	
	comp=Z,150nm,19.7s,baz=68,slow=41							
NPGB	**Novo Progresso**	**21.25**	**145**	*eP*		**P**	**12 43 50.4**	**+2.0**
NPGB				eS		Sn	12 47 55.2	+3.1
MTO3	**Montecristo**	**21.67**	**282**	P		**P**	**12 43 53.5**	**+0.4**
MTO3				IAmb		IAmb	12 43 54.4	
	comp=Z,22nm,0.8s							
ESQI	**Esquipulas**	**21.67**	**283**	P		**P**	**12 43 53.9**	**+0.9**
ESQI				IAmb		IAmb	12 43 54.5	
	comp=Z,36nm,0.7s							
TEIG	**Tepich**	**22.19**	**298**	P		**P**	**12 43 58.9**	**+0.5**
	comp=Z,8.1nm,0.6s,baz=83,slow=14,SNR=3.3							
TEIG	**Tepich**	**22.19**	**298**	P		**P**	**12 43 58.2**	**-0.2**
TEIG				IAmb		IAmb	12 44 02.1	
	comp=Z,18nm,1.0s							
TMAB	**Tom-Au,PA,Br**	**23.20**	**123**	*eP*		**P**	**12 44 10.3**	**+1.2**
TMAB				eS		**S**	**12 48 29.2**	**+7.7**
PRPB	**Parauapebas**	**24.21**	**133**	*eP*		**P**	**12 44 20.4**	**+1.4**
PRPB				eS		**S**	**12 48 44.0**	**+6.2**
NNA	**Nana**	**24.23**	**203**	LR		LR	12 55 31.6	
	comp=Z,61nm,21.0s,baz=70,slow=41							
CLDB	**Colider**	**24.26**	**151**	*eP*		**P**	**12 44 20.2**	**+0.8**
CLDB				*ep*P		**sP**	**12 44 23.0**	**+0.6**
CLDB				eS		**S**	**12 48 45.7**	**+7.2**
VILB	**Vilhena**	**24.45**	**163**	*eP*		**P**	**12 44 21.4**	**+0.3**
VILB				*ep*P		**sP**	**12 44 24.4**	**+0.3**
LPAZ	**La Paz**	**26.67**	**181**	P		**P**	**12 44 42.4**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=32,slow=9.5,SNR=1.9							
LPAZ				Lg		Lg	12 52 51.9	
	comp=Z,2.3nm,0.9s,baz=17,slow=20,SNR=2.0							
LPAZ	**La Paz**	**26.67**	**181**			**P**	**12 44 42.5**	**+0.6**
LPAZ	**La Paz**	**26.67**	**181**	*eP*		**P**	**12 44 41.0**	**-0.8**
LPAZ				eS		**S**	**12 49 22.5**	**+4.5**
ROSB	**Rosrio**	**26.84**	**119**	*eP*		**P**	**12 44 43.5**	**+0.7**
SIV	**San Ignacio**	**27.12**	**166**	P		**P**	**12 44 47.4**	**+2.1**
	comp=Z,0.5nm,0.4s,baz=333,slow=9.0,SNR=2.3							
SIV				Lg		Lg	12 53 10.9	
	comp=Z,8.2nm,0.9s,baz=66,slow=20,SNR=5.6							
SIV				LR		LR	12 55 39.7	
	comp=Z,88nm,18.1s,baz=282,slow=37							
PTLB	**Pontes e Lacer**	**27.12**	**162**	*eP*		**P**	**12 44 46.4**	**+1.1**
SMTB	**Santa Maria do**	**27.65**	**132**	*eP*		**P**	**12 44 51.5**	**+1.4**
PB16	**IPOC Station P**	**28.76**	**184**	P		**P**	**12 44 59.8**	**-0.7**
SALV	**Santo Antonio**	**28.76**	**156**	eS		**S**	**12 49 56.0**	**+6.1**
BLA	**Blacksburg**	**28.99**	**338**	P		**P**	**12 45 02.5**	**+0.6**
TKL	**Tuckaleechee C**	**29.04**	**332**	LR		LR	12 58 43.9	
	comp=Z,20nm,18.7s,baz=250,slow=41							
MNMC	**Minye Minye**	**29.56**	**184**	P		**P**	**12 45 06.4**	**-0.8**
GO01	**Chusmiza**	**30.07**	**183**	P		**P**	**12 45 10.5**	**-1.5**
GO01				IAmb		IAmb	12 45 17.8	
	comp=Z,18nm,1.5s							
PB11	**IPOC Station P**	**30.19**	**184**	P		**P**	**12 45 11.5**	**-1.2**
PB11				IAmb		IAmb	12 45 27.7	
	comp=Z,9.2nm,1.0s							
ARAG	**Araguaiana, MT**	**30.36**	**149**	*eP*		**P**	**12 45 15.9**	**+1.8**
WVT	**Waverly**	**31.43**	**327**	P		**P**	**12 45 24.7**	**+1.3**
LVC	**Limon Verde**	**32.98**	**182**	P		**P**	**12 45 36.5**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=24,slow=10.0,SNR=1.9							
LVC	**Limon Verde**	**32.98**	**182**	P		**P**	**12 45 36.8**	**-0.7**
W41B	**Gary Mavity, V**	**33.29**	**321**	P		**P**	**12 45 40.7**	**+1.0**
W41B				IAmb		IAmb	12 45 42.6	
	comp=Z,11nm,1.2s							
S44A	**Carbondale**	**33.36**	**328**	P		**P**	**12 45 40.9**	**+0.6**
S44A				IAmb		IAmb	12 45 43.1	
	comp=Z,12nm,0.8s							
WHAR	**Wooly Hollow**	**33.39**	**321**	P		**P**	**12 45 40.9**	**+0.3**
WHAR				IAmb		IAmb	12 45 42.7	
	comp=Z,5.7nm,0.8s							
FCAR	**Ozark Folk Cen**	**33.69**	**322**	P		**P**	**12 45 44.5**	**+1.2**
FCAR				IAmb		IAmb	12 45 44.9	
	comp=Z,4.6nm,0.9s							
MIAR	**Mount Ida**	**33.72**	**319**	P		**P**	**12 45 44.5**	**+1.0**
MIAR				IAmb		IAmb	12 45 45.7	
	comp=Z,10nm,1.4s							
NCB	**Newcomb**	**33.81**	**351**	P		**P**	**12 45 45.4**	**+1.2**
NCB				IAmb		IAmb	12 45 48.0	
	comp=Z,5.9nm,1.1s							
T42A	**Van Buren**	**33.88**	**325**	P		**P**	**12 45 45.6**	**+0.8**
T42A				IAmb		IAmb	12 45 46.8	
	comp=Z,5.7nm,0.9s							
W39A	**Magazine**	**34.26**	**320**	P		**P**	**12 45 49.4**	**+1.2**
W39A				IAmb		IAmb	12 45 50.6	
	comp=Z,8.2nm,0.8s							
U40A	**Yellville**	**34.44**	**322**	P		**P**	**12 45 51.0**	**+1.2**
G62A	**West of Eustis**	**34.65**	**356**	P		**P**	**12 45 51.9**	**+0.5**
G62A				IAmb		IAmb	12 46 04.2	
	comp=Z,22nm,1.4s							
CCM	**Cathedral Cave**	**34.69**	**326**	P		**P**	**12 45 52.0**	**+0.1**
CCM				IAmb		IAmb	12 45 53.8	
	comp=Z,6.4nm,1.1s							
833A	**Chaparral WMA,**	**34.72**	**305**	P		**P**	**12 45 52.2**	**-0.1**
P40A	**Paris**	**36.19**	**327**	P		**P**	**12 46 04.6**	**-0.1**
P40A				IAmb		IAmb	12 46 06.3	
	comp=Z,10nm,0.9s							
X34A	**Smith Ranch, M**	**36.59**	**316**	P		**P**	**12 46 09.4**	**+1.1**
X34A				IAmb		IAmb	12 46 09.7	
	comp=Z,16nm,0.8s							
ABTX	**Abilene, Hawle**	**36.84**	**312**	P		**P**	**12 46 10.9**	**+0.4**
AB

TCUT	**Toone Canyon**	**49.12**	**316**	P	**P**	**12 47 50.3**	**+0.2**
HWUT	**Hardware Ranch**	**49.44**	**317**	P	**P**	**12 47 53.4**	**+1.0**
HWUT				IAmb	IAmb	12 47 54.6	
	comp=Z,5.7nm,0.8s						
RLMT	**Red Lodge**	**49.63**	**322**	P	**P**	**12 47 54.3**	**+0.5**
RLMT				IAmb	IAmb	12 47 55.3	
	comp=Z,2.6nm,0.6s						
LOHW	**Long Hollow**	**49.72**	**319**	P	**P**	**12 47 54.6**	**0.0**
REDW	**Red Top Meadow**	**49.76**	**319**	P	**P**	**12 47 54.9**	**0.0**
TPAW	**Teton Pass**	**49.88**	**319**	P	**P**	**12 47 55.6**	**-0.3**
FXWY	**Fox Creek**	**50.00**	**319**	P	**P**	**12 47 55.9**	**-0.5**
PLCA	**Paso Flores**	**51.09**	**183**	P	**P**	**12 48 04.8**	**+0.1**
	comp=Z,3.3nm,0.5s,baz=355,slow=8.1,SNR=8.8						
PLCA	**Paso Flores**	**51.09**	**183**	P	**P**	**12 48 04.5**	**-0.2**
PLCA				IAmb	IAmb	12 48 09.0	
	comp=Z,8.2nm,1.2s						
PLCA	**Paso Flores**	**51.09**	**183**	*e*P	**P**	**12 48 03.3**	**-1.4**
HLID	**Hailey**	**52.17**	**318**	P	**P**	**12 48 12.9**	**-0.2**
LL01	**San Ignacio de**	**52.85**	**185**	P	**P**	**12 48 17.1**	**-0.6**
LL01				IAmb	IAmb	12 48 18.6	
	comp=Z,21nm,1.4s						
NRS	**Narsarsuaq**	**53.08**	**13**	P	**P**	**12 48 20.6**	**+1.5**
NVAR	**Mina Array Bea**	**53.08**	**310**	P	**P**	**12 48 20.8**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=119,slow=6.7,SNR=9.4						
RPN	**Rapa Nui**	**55.20**	**226**	P	**P**	**12 48 33.5**	**-1.7**
I07A	**Izee**	**55.78**	**317**	P	**P**	**12 48 39.8**	**+0.5**
ASCN	**Ascension**	**56.00**	**107**	P	**P**	**12 48 39.7**	**-1.5**
PINE	**Pine Mountain**	**56.66**	**316**	P	**P**	**12 48 46.7**	**+1.1**
PINE				IAmb	IAmb	12 48 48.3	
	comp=Z,3.7nm,0.8s						
YBH	**Yreka Blue Hor**	**57.27**	**313**	P	**P**	**12 48 49.8**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=71,slow=4.7,SNR=4.8						
YBH	**Yreka Blue Hor**	**57.27**	**313**	P	**P**	**12 48 50.2**	**+0.3**
ANGG	**Ammassalik, Gr**	**58.71**	**14**	P	**P**	**12 49 00.3**	**+0.8**
PFVI	**Vila Bisbo**	**58.82**	**53**	P	**P**	**12 49 01.6**	**+0.9**
ILULI	**Ilulissat**	**59.56**	**7**	P	**P**	**12 49 05.8**	**+0.5**
COI	**Coimbra**	**59.76**	**50**	P	**P**	**12 49 07.5**	**+0.3**
RTC	**Rabat Centre**	**59.90**	**57**	P	**P**	**12 49 08.4**	**+0.1**
GO09	**Cerro Castillo**	**61.70**	**183**	P	**P**	**12 49 19.8**	**-0.3**
GO09				PcP	**PcP**	**12 50 00.1**	**-1.4**
YKA	**Yellowknife Ar**	**61.85**	**337**	P	**P**	**12 49 20.7**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=117,slow=6.8,SNR=5.5						
DBIC	**Dimbokro**	**61.99**	**88**	P	**P**	**12 49 22.8**	**0.0**
DBIC				PcP	**PcP**	**12 50 03.5**	**0.0**
EFI	**East Falkland**	**62.50**	**173**	P	**P**	**12 49 24.3**	**-1.1**
ESDC	**Sonseca Array**	**63.02**	**51**	P	**P**	**12 49 32.0**	**+2.6**
	comp=Z,0.5nm,0.8s,baz=267,slow=6.5,SNR=2.6						
ESDC	**Sonseca Array**	**63.02**	**51**	P	**P**	**12 49 29.8**	**+0.4**
SUMG	**Summit**	**64.39**	**9**	P	**P**	**12 49 39.4**	**+1.2**
SHEL	**Horse Pasture**	**66.56**	**113**	P	**P**	**12 49 51.8**	**-1.0**
DIB	**Dawson Inlet,**	**66.70**	**324**	P	**P**	**12 49 52.5**	**-0.4**
DLBC	**Dease Lake**	**66.84**	**330**	P	**P**	**12 49 54.8**	**+0.9**
	comp=Z,2.2nm,1.1s,baz=117,slow=4.9,SNR=6.1						
DLBC	**Dease Lake**	**66.84**	**330**	P	**P**	**12 49 53.9**	**0.0**
DLBC				IAmb	IAmb	12 49 55.8	
	comp=Z,2.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**67.60**	**80**	P	**P**	**12 50 01.2**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=290,slow=6.6,SNR=2.3						
TORD	**Torodi Ar. Bea**	**67.60**	**80**	P	**P**	**12 49 58.3**	**-1.1**
HOPE	**Hope Point**	**69.71**	**161**	P	**P**	**12 50 11.4**	**-0.3**
TRIS	**Tristan da Cun**	**70.14**	**136**	P	**P**	**12 50 13.6**	**-1.1**
TAM	**Tamanrasset**	**70.44**	**70**	P	**P**	**12 50 16.6**	**-0.6**
PTCN	**Pitcairn Islan**	**70.49**	**239**	P	**P**	**12 50 15.7**	**-1.5**
BCAR	**Beaver Creek A**	**73.55**	**333**	P	**P**	**12 50 35.9**	**+1.0**
NOA	**NORSAR Array B**	**75.38**	**30**	P	**P**	**12 50 47.9**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=268,slow=4.8,SNR=2.9						
ILAR	**Eielson Array**	**76.00**	**334**	P	**P**	**12 50 48.7**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=95,slow=4.0,SNR=6.2						
NRCA	**Norcia**	**76.06**	**48**	P	**P**	**12 50 50.1**	**+0.2**
NRCA				IAmb	IAmb	12 51 01.8	
	comp=Z,4.1nm,0.8s						
GERES	**GERESS Array B**	**76.37**	**42**	P	**P**	**12 50 53.1**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=298,slow=4.1,SNR=2.3						
GERES	**GERESS Array B**	**76.37**	**42**	P	**P**	**12 50 52.1**	**+0.6**
FINES	**FINESS Array B**	**82.54**	**29**	P	**P**	**12 51 26.3**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=258,slow=4.2,SNR=8.5						
FINES	**FINESS Array B**	**82.54**	**29**	P	**P**	**12 51 25.6**	**+0.8**
SNAA	**Sanae**	**92.26**	**163**	P	**P**	**12 52 10.8**	**-0.9**
SNAA				IAmb	IAmb	12 52 22.9	
	comp=Z,6.8nm,1.5s						
SUR	**Sutherland**	**94.16**	**122**	P	**P**	**12 52 20.5**	**-1.1**
LBTB	**Lobatse**	**97.17**	**114**	P	**P**	**12 52 33.4**	**-2.0**
BOSA	**Boshof**	**97.38**	**118**	P	**P**	**12 52 35.8**	**-0.5**
LSZ	**Lusaka**	**98.16**	**104**	P	**P**	**12 52 38.3**	**-1.7**
MBAR	**Mbarara**	**98.22**	**89**	P	**P**	**12 52 39.0**	**-1.5**
LZH	**Lanzhou**	**132.91**	**10**	*e*PKP	**PKPdf**	**12 58 11.3**	**-7.0**
LZH				sPKP		12 58 21.5	
AIS	**Amsterdam Isla**	**138.56**	**137**	PKPdf	**PKPdf**	**12 58 27.3**	**-1.1**
STKA	**Stephens Creek**	**145.74**	**227**	PKPdf	**PKPdf**	**12 58 40.8**	**-0.6**
CTA	**Charters Tower**	**146.14**	**250**	PKPbc	**PKPbc**	**12 58 43.3**	**0.0**
	comp=Z,2.0nm,0.7s,baz=149,slow=5.9,SNR=2.6						
CTAO	**Charters Tower**	**146.14**	**250**		**PKPdf**	**12 58 41.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**148.24**	**25**	PKPbc	**PKiKP**	**12 58 50.3**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=320,slow=4.5,SNR=6.7						
BBOO	**Buckleboo**	**148.99**	**221**	PKPbc	**PKPbc**	**12 58 50.5**	**-0.3**
BBOO				PKPab	**PKPab**	**12 58 55.3**	**+0.4**
COEN	**Coen**	**149.83**	**260**		**PKPbc**	**12 58 51.9**	**-1.4**
COEN				PKPab	**PKPab**	**12 58 59.1**	**+0.3**
ASAR	**Alice Springs**	**155.77**	**235**	PKP	**PKPdf**	**12 58 57.7**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=96,slow=1.1,SNR=2.7						
WRA	**Warramunga Arr**	**156.96**	**243**	PKPbc	PKPbc	12 59 08.9	
	comp=Z,0.7nm,0.6s,baz=105,slow=2.8,SNR=7.0						
WRA				PKPab	**PKPab**	**12 59 27.6**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=103,slow=3.5,SNR=2.3						
FAKI	**Fak Fak**	**158.98**	**290**	PKPdf	**PKPdf**	**12 59 01.0**	**-0.4**

***IDC* 16 12:47:02.6±2.8, 12°.99N×92°.48E, *h*0km, mb3.9/3, mb1 4.0/5, mb1mx3.5/66, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=56.7km s-min=38.0km az=146.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.26**	**48**	Pn	Pn	12 49 04.0	+0.1
	0.3nm,0.3s,baz=238,slow=14,SNR=5.1						
CMAR				Sn	Sn	12 50 31.0	-7.0
	0.6nm,0.3s,baz=238,slow=26,SNR=4.1						
PALK	**Pallekele**	**12.91**	**245**	Pn	Pn	12 50 07.8	+0.2
	0.2nm,0.3s,baz=105,slow=12,SNR=1.6						
PALK				Sn	Sn	12 52 22.1	-10
	0.4nm,0.3s,baz=80,slow=18,SNR=1.4						
H08S3	**Diego Garcia H**	**28.53**	**225**	T	T	13 22 43.4	
	baz=44,slow=75,SNR=60						
H08S2	**Diego Garcia H**	**28.54**	**225**	T	T	13 22 44.0	
	baz=44,slow=75,SNR=62						
H08S1	**Diego Garcia H**	**28.55**	**225**	T	T	13 22 44.0	
	baz=44,slow=75,SNR=55						
FITZ	**Fitzroy Crossi**	**44.99**	**133**	P	P	12 55 19.9	-0.1
	1.4nm,0.4s,baz=335,slow=9.0,SNR=9.5						
WRA	**Warramunga Arr**	**52.60**	**128**	P	P	12 56 18.4	-0.3
	0.8nm,0.6s,baz=307,slow=8.6,SNR=9.4						
ASAR	**Alice Springs**	**54.47**	**132**	P	P	12 56 32.4	0.0
	0.6nm,0.6s,baz=311,slow=7.0,SNR=8.0						

IDC **16** *12:47:52.7±5.0, 33°.72N×136°.76E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.1/68, mbtmp3.0/3, ML1.9/1, Error ellipse: s-maj=385.4km s-min=25.2km az=107.0*

JMA **16** *12:47:52.9±0.3, 34°.14N×140°.83E, h32km, M2.5*

ISC 16 12:47:53.2±1.5, 34°.11N±0°.07×140°.88E±0°.09, h40km, n10, σ0s53/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.55**	**8**	P	**Pn**	**12 48 03.5**	**-0.5**
BSO1				X		12 48 11.7	
BSO3	**Boso 3**	**0.75**	**336**	P	**Pn**	**12 48 06.8**	**-0.3**
BSO4	**Boso 4**	**0.98**	**333**	P	**Pn**	**12 48 10.9**	**+0.5**
BSO4				S	**Sn**	**12 48 23.6**	**+0.5**
JMKN	**Mikurajimanish**	**1.10**	**259**	P	**Pn**	**12 48 12.3**	**+0.2**
JMKN				S	**Sn**	**12 48 25.5**	**-0.5**
JKUC	**kamogawauchiur**	**1.19**	**332**	P	**Pn**	**12 48 12.9**	**-0.4**
KTJ3	**Kamata3**	**1.71**	**299**	P	**Pn**	**12 48 19.8**	**-0.6**
KTJ3				S	**Sn**	**12 48 40.5**	**-0.5**
JOD2	**Odawara 2**	**1.87**	**308**	P	**Pn**	**12 48 22.3**	**-0.4**
MJAR	**Matsushiro Arr**	**3.26**	**319**	Pn	**Pn**	**12 48 42.6**	**+0.7**
	0.2nm,0.3s,baz=155,slow=13,SNR=12						
MJAR				Sn	**Sn**	**12 49 19.6**	**+0.1**
	0.1nm,0.3s,baz=184,slow=29,SNR=2.4						
WRA	**Warramunga Arr**	**54.11**	**188**	P	**P**	**12 57 14.0**	**-0.2**
	0.3nm,0.7s,baz=1.2,slow=7.5,SNR=2.0						
ASAR	**Alice Springs**	**57.84**	**188**	P	**P**	**12 57 41.3**	**+0.5**
	0.2nm,0.7s,baz=1.9,slow=7.4,SNR=1.5						

DSN **16** *12:52:28.8±1.2, 26°.93N×52°.89E, h10km, ML4.7/9, Error ellipse: s-maj=15.4km s-min=7.1km az=162.0*

OMAN **16** *12:52:35.1±0.5, 26°.48N×53°.32E, h1km±123km, mb5.2/4, ml4.2/16, Error ellipse: s-maj=17.3km s-min=9.9km az=266.0*

IDC **16** *12:52:36.1±1.1, 26°.34N×53°.50E, h0km, mb3.9/15, mb1 4.0/18, mb1mx3.8/54, mbtmp3.9/18, ML3.5/3, MS3.3/14, Ms1 3.3/14, ms1mx3.1/44, Error ellipse: s-maj=25.1km s-min=18.6km az=20.0*

TEH **16** *12:52:38.4, 26°.37N×53°.66E, h10km, ML4.0*

NEIC **16** *12:52:39.2±1.5, 26°.24N±0°.09×53°.55E±0°.09, h31km±6km, Error ellipse: s-maj=16.3km s-min=7.4km az=221.0*

THR **16** *12:52:40.3±0.5, 26°.46N×53°.86E, h18km±25km, ML3.9*

ISC 16 12:52:38.4±1.4, 26°.39N±0°.04×53°.54E±0°.04, h17km±8km, n112, σ1s63/112, mb3.9/20, MS3.3/9, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**1.01**	**341**	*e*Pg	**Pn**	**12 52 58.9**	**+1.1**
LMD1				*e*		12 53 34.8	
LMD1	**Lamerd**	**1.01**	**341**	Pg	**Pn**	**12 52 58.2**	**+0.4**
LMD1				Sg	**Sn**	**12 53 14.2**	**+2.5**
LAR1	**LAR**	**1.48**	**30**	*e*		12 53 36.4	
LAR1				*e*Pg	**Pg**	**12 53 05.9**	**-1.0**
JRN	**Qarnain Island**	**1.57**	**204**	*e*Pn	**Pn**	**12 53 07.6**	**+2.1**
GHIR	**Ghir-Karzin**	**1.96**	**345**	*e*Pn	**Pg**	**12 53 14.8**	**-1.2**
GHIR				*e*Sg	**Sg**	**12 53 42.9**	**+1.4**
GHIR				IAML		12 53 56.6	
	comp=E,774nm,0.5s						
GHIR	**Ghir-Karzin**	**1.96**	**345**	*e*Pn	**Pg**	**12 53 14.8**	**-1.2**
UMQ	**Umm Al-Quwin**	**2.09**	**114**	P	**Pn**	**12 53 14.3**	**+1.7**
UMQ	**Umm Al-Quwin**	**2.09**	**114**	*e*Pn	**Pb**	**12 53 15.8**	**-0.1**
JHRM	**Jahrom**	**2.11**	**1**	*e*Pn	**Pb**	**12 53 15.3**	**-1.0**
JHRM	**Jahrom**	**2.11**	**1**	Pn	**Pb**	**12 53 15.5**	**-0.8**
SHME	**Shamm**	**2.36**	**98**	P	**Pn**	**12 53 17.4**	**+1.0**
SHME	**Shamm**	**2.36**	**98**	*e*Pn	**Pn**	**12 53 18.2**	**+1.8**
NAZ	**Nazwa, Dubai**	**2.36**	**126**	P	**Pn**	**12 53 19.0**	**+2.5**
NAZ	**Nazwa, Dubai**	**2.36**	**126**	P	**Pn**	**12 53 17.9**	**+1.5**
NAZ				S	**Sb**	**12 53 50.2**	**+0.8**
NAZ	**Nazwa, Dubai**	**2.36**	**126**	*e*Pn	**Pn**	**12 53 19.1**	**+2.7**
FAQ	**Al Faqa, Dubai**	**2.47**	**131**	P	**Pn**	**12 53 20.3**	**+2.5**
FAQ	**Al Faqa, Dubai**	**2.47**	**131**	P	**Pn**	**12 53 19.8**	**+1.9**
	SNR=5.0						
FAQ				S	**Sb**	**12 53 54.1**	**+1.6**
FAQ	**Al Faqa, Dubai**	**2.47**	**131**	*e*Pn	**Pn**	**12 53 20.3**	**+2.5**
BANOM	**Banah**	**2.52**	**100**	P	**Pn**	**12 53 19.7**	**+1.1**
BANOM				S	**Sg**	**12 53 58.9**	**-0.5**
BANOM	**Banah**	**2.52**	**100**	P	**Pn**	**12 53 20.0**	**+1.4**
	SNR=19						
BANOM	**Banah**	**2.52**	**100**	*e*Pn	**Pn**	**12 53 20.3**	**+1.7**
BNDS	**Bandar-Abbas**	**2.56**	**66**	*e*Sg	**Sn**	**12 53 51.7**	**+1.6**
GENO	**Geno**	**2.56**	**66**	*e*Pn	**Pn**	**12 53 20.7**	**+1.4**
GENO				*e*		12 54 19.1	
GENO	**Geno**	**2.56**	**66**	Pn	**Pn**	**12 53 19.5**	**+0.2**
MZWR	**Madinat Zayed**	**2.63**	**173**	*e*Pn	**Pn**	**12 53 22.3**	**+2.2**
MDH	**Madha**	**2.71**	**113**	P	**Pn**	**12 53 22.6**	**+1.4**
MDH	**Madha**	**2.71**	**113**	P	**Pn**	**12 53 22.9**	**+1.7**
MDH	**Madha**	**2.71**	**113**	*e*Pn	**Pn**	**12 53 23.6**	**+2.4**
UOSS	**Minazif**	**2.80**	**120**	P	**Pn**	**12 53 23.8**	**+1.3**
UOSS	**Minazif**	**2.80**	**120**	P	**Pn**	**12 53 23.8**	**+1.3**
UOSS	**Minazif**	**2.80**	**120**	*e*Pn	**Pn**	**12 53 23.7**	**+1.3**
UOSS	**Minazif**	**2.80**	**120**		**Pn**	**12 53 21.8**	**-0.6**
HATD	**Hatta, Dubai**	**2.81**	**123**	P	**Pn**	**12 53 24.6**	**+2.1**
HATD	**Hatta, Dubai**	**2.81**	**123**	P	**Pn**	**12 53 24.6**	**+2.1**
	SNR=13						
HATD	**Hatta, Dubai**	**2.81**	**123**	*e*Pn	**Pn**	**12 53 24.8**	**+2.3**
ASHO	**Ashiyiah**	**2.83**	**126**	P	**Pn**	**12 53 24.7**	**+1.7**
ASHO	**Ashiyiah**	**2.83**	**126**	P	**Pn**	**12 53 24.8**	**+1.8**
	SNR=7.8						
AHBU	**AHRAM**	**3.17**	**322**	*e*Pn	**Pb**	**12 53 33.5**	**-0.9**
SOHO	**SOHO**	**3.52**	**129**	P	**Pn**	**12 53 33.8**	**+1.5**
SOHO	**SOHO**	**3.52**	**129**	P	**Pn**	**12 53 33.6**	**+1.4**
KHNJ	**Kahnooj**	**4.02**	**66**	Pn	**Pn**	**12 53 39.4**	**+0.1**
ARQ	**Araqi**	**4.07**	**138**	P	**Pn**	**12 53 41.2**	**+1.3**
NGRK	**Negar Kerman**	**4.30**	**40**	*e*Pn	**Pn**	**12 53 46.1**	**+2.7**
NGRK				*e*		12 54 40.6	
NGRK	**Negar Kerman**	**4.30**	**40**	Pn	**Pn**	**12 53 45.4**	**+2.0**
HOQ	**Hoqain**	**4.41**	**128**	P	**Pn**	**12 53 46.1**	**+1.4**
TVBK	**TV Kerman**	**4.58**	**38**	*e*Pn	**Pn**	**12 53 49.6**	**+2.4**
TVBK				*e*		12 54 51.9	
KHGB	**Koh Gabri**	**4.74**	**32**	*e*Pn	**Pn**	**12 53 52.1**	**+2.7**
KHGB				*e*		12 54 50.9	
BSY	**Bisya**	**4.92**	**137**	P	**Pn**	**12 53 53.0**	**+1.4**
CHMN	**Cheshme madani**	**4.94**	**45**	*e*Pn	**Pn**	**12 53 55.2**	**+3.0**
BIDO	**Bidbid**	**5.04**	**123**	P	**Pn**	**12 53 54.5**	**+1.2**
IMEH	**Mehriz**	**5.08**	**10**	*e*Pn	**Pn**	**12 53 56.7**	**+2.8**
SMDO	**Samad**	**5.27**	**128**	P	**Pn**	**12 53 58.5**	**+2.0**
IBAF	**Bafgh**	**5.48**	**18**	*e*Pn	**Pn**	**12 54 01.7**	**+2.2**
IRAM	**Rameshei**	**5.50**	**350**	*e*Pn	**Pn**	**12 54 01.6**	**+1.8**
ISAD	**Sadrabad**	**5.51**	**1**	*e*Pn	**Pn**	**12 54 02.1**	**+2.1**
WSAR	**Wadi Sarin**	**5.58**	**123**	Pn	**Pn**	**12 54 02.1**	**+1.3**
	comp=E,0.8nm,0.3s,baz=317,slow=12,SNR=2.2						
WSAR				Sn	**Sn**	**12 55 02.5**	**-2.0**
	comp=E,1.3nm,0.3s,baz=224,slow=20,SNR=4.0						
WSAR				LR	LR	12 56 46.8	
	comp=E,277nm,18.1s,baz=320,slow=45						
WSAR	**Wadi Sarin**	**5.58**	**123**	P	**Pn**	**12 54 02.3**	**+1.5**
JMDO	**Jabal Madar**	**5.77**	**133**	P	**Pn**	**12 54 04.3**	**+1.0**
WBK	**Wadi Bani Khal**	**6.21**	**126**	P	**Pn**	**12 54 10.6**	**+1.2**
IZEH	**Zefreh**	**6.57**	**351**	*e*Pn	**Pn**	**12 54 16.3**	**+1.7**
MHTO	**MHTO**	**6.73**	**142**	P	**Pn**	**12 54 17.8**	**+1.3**
ANAR	**Anarak**	**6.78**	**1**	*e*Pn	**Pn**	**12 54 19.3**	**+2.0**
JLN	**Jalan Bani Buh**	**6.81**	**127**	P	**Pn**	**12 54 19.3**	**+1.7**
IKOM	**Komasi**	**9.35**	**328**	*e*Pn	**Pn**	**12 54 54.0**	**+1.4**
IDHR	**Dehrash**	**10.33**	**325**	*e*Pn	**Pn**	**12 55 06.3**	**+0.3**
GEYT	**Alibeck**	**12.14**	**17**	LR	LR	13 01 26.7	
	comp=E,196nm,18.9s,baz=105,slow=44						
ASF	**Jabal al Asfar**	**15.62**	**296**	Pn	**Pn**	**12 56 19.0**	**+1.1**
	comp=E,0.2nm,0.3s,baz=90,slow=6.1,SNR=2.7						
ASF				Sn	**Sn**	**12 59 04.7**	**-6.1**
	comp=E,0.0nm,0.3s,baz=73,slow=20,SNR=1.7						
EIL	**Elat**	**16.74**	**346**	LR	LR	13 03 19.7	
	comp=E,61nm,18.1s,baz=84,slow=38						
ATD	**Arta Tunnel**	**17.89**	**216**	LR	LR	13 04 52.7	
	comp=E,114nm,20.2s,baz=20,slow=41						
KBZ	**Khabaz**	**19.34**	**336**	Pn	**Pn**	**12 57 06.8**	**+2.7**
	comp=E,0.3nm,0.3s,baz=155,slow=7.1,SNR=7.4						
KBZ				LR	LR	13 05 53.2	
	comp=E,50nm,18.4s,baz=124,slow=41						
BR131	**Keskin Array S**	**21.28**	**314**	P	**P**	**12 57 24.0**	**-0.2**
BR131				IAmb	IAmb	12 57 30.8	
	comp=Z,5.5nm,0.8s						
BRTR	**Keskin Array B**	**21.28**	**314**	P	**P**	**12 57 25.7**	**+1.5**
	comp=Z,3.8nm,0.8s,baz=122,slow=12,SNR=14						
BRTR	**Keskin Array B**	**21.28**	**314**	P	**P**	**12 57 23.5**	**-0.6**
KK31	**Karatay Array**	**21.67**	**35**	P	**P**	**12 57 26.5**	**-1.7**
KKAR	**Karatay Array**	**21.67**	**35**	P	**P**	**12 57 26.8**	**-1.4**
KKAR	**Karatay Array**	**21.67**	**35**	P	**P**	**12 57 26.5**	**-1.7**
KKAR				IAmb	IAmb	12 57 48.7	
	comp=Z,2.2nm,0.9s						
ARSB	**Arslanbob**	**21.90**	**42**	P	**P**	**12 57 29.9**	**-0.9**
ARSB				IAmb	IAmb	12 57 34.6	
	comp=Z,6.4nm,0.8s						
ABKAR	**Akbulak array**	**23.37**	**11**	P	**P**	**12 57 46.0**	**0.0**
AAK	**Ala-Archa**	**23.59**	**41**	LR	LR	13 07 54.0	
	comp=Z,37nm,21.7s,baz=230,slow=39						
AKTO	**Aktyubinsk**	**24.26**	**7**	P	**P**	**12 57 55.6**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=180,slow=6.1,SNR=2.1						
AKTO				LR	LR	13 09 49.6	
	comp=Z,97nm,20.3s,baz=144,slow=42						
BVAR	**Borovoye Array**	**29.44**	**21**	P	**P**	**12 58 42.0**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=218,slow=9.4,SNR=4.5						
BVAR				LR	LR	13 12 44.7	
	comp=Z,99nm,20.0s,baz=236,slow=41						
MK31	**Makanchi Array**	**30.51**	**41**	P	**P**	**12 58 50.2**	**-0.5**
MKAR	**Makanchi Array**	**30.51**	**41**	P	**P**	**12 58 51.6**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=229,slow=7.2,SNR=5.0						
MKAR				LR	LR	13 13 19.0	
	comp=Z,58nm,19.8s,baz=264,slow=41						
MKAR	**Makanchi Array**	**30.51**	**41**	P	**P**	**12 58 49.9**	**-0.8**
AKASG	**Malin Array Be**	**30.58**	**329**	P	**P**	**12 58 51.8**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=139,slow=8.6,SNR=5.0						
AKASG	**Malin Array Be**	**30.58**	**329**	P	**P**	**12 58 50.9**	**-0.2**
KURBB	**Kurchatov Arra**	**30.84**	**32**	P	**P**	**12 58 54.1**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=230,slow=8.5,SNR=6.9						
KURK	**Kurchatov**	**30.94**	**32**	P	**P**	**12 58 54.3**	**-0.1**
KURK				IAmb	IAmb	12 58 59.8	
	comp=Z,3.3nm,1.3s						
KMBO	**Kilima Mbogo**	**31.55**	**212**	LR	LR	13 13 07.3	
	comp=Z,66nm,19.6s,baz=88,slow=39						
KLMR	**Klimovskoe**	**35.76**	**348**	*e*	**P**	**12 59 34.5**	**-1.7**
KLMR				AMP		12 59 40.4	
	comp=Z,10.0nm,1.1s						
ZAA0	**Zalesovo Array**	**35.93**	**32**	P	**P**	**12 59 37.1**	**-0.6**
ZAA0				IAmb	IAmb	12 59 42.2	
	comp=Z,4.3nm,0.7s						
ZALV	**Zalesovo Beam**	**35.93**	**32**	P	**P**	**12 59 38.4**	**+0.6**
	comp=Z,4.3nm,0.6s,baz=239,slow=9.4,SNR=17						
ZALV				LR	LR	13 16 42.7	
	comp=Z,96nm,18.9s,baz=243,slow=40						
ZALV	**Zalesovo Beam**	**35.93**	**32**	P	**P**	**12 59 37.8**	**+0.1**
CLL	**Collm**	**39.47**	**320**	*e*P	**P**	**13 00 08.0**	**+0.3**
FINES	**FINESS Array B**	**39.64**	**340**	P	**P**	**13 00 09.1**	**0.0**
	comp=Z,3.7nm,1.0s,baz=144,slow=7.5,SNR=6.6						
FINES	**FINESS Array B**	**39.64**	**340**	P	**P**	**13 00 09.0**	**0.0**
NC405	**NORSAR Array S**	**44.69**	**333**	P	**P**	**13 00 50.5**	**+0.3**
NOA	**NORSAR Array B**	**44.86**	**332**	P	**P**	**13 00 51.0**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=122,slow=7.8,SNR=3.6						
NOA				LR	LR	13 21 29.5	
	comp=Z,27nm,20.2s,baz=120,slow=39						
SLVN	**Son La**	**46.10**	**85**	P	**P**	**13 01 00.9**	**-1.1**
SLVN				IAmb	IAmb	13 01 18.8	
	comp=Z,2.8nm,1.1s						
ARCES	**ARCESS Array B**	**46.19**	**347**	P	**P**	**13 01 02.1**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=148,slow=8.6,SNR=3.7						
SONM	**Songino Array**	**46.24**	**48**	LR	LR	13 22 53.6	
	comp=Z,31nm,20.7s,baz=242,slow=39						
NRIK	**Noril'sk**	**47.38**	**16**	LR	LR	13 25 04.9	
	comp=Z,44nm,19.4s,baz=192,slow=41						
TORD	**Torodi Ar. Bea**	**50.23**	**265**	P	**P**	**13 01 33.4**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=57,slow=5.9,SNR=6.8						
YOJ	**Yonaguni jima**	**62.05**	**75**	P	**P**	**13 02 56.9**	**-1.4**
KSRS	**Korea Array**	**62.62**	**60**	P	**P**	**13 03 02.7**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=282,slow=7.2,SNR=3.3						
IMAR	**Indian Mountai**	**85.58**	**11**	P	**P**	**13 05 15.5**	**0.0**
ILAR	**Eielson Array**	**87.76**	**9**	P	**P**	**13 05 26.9**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=316,slow=4.9,SNR=4.7						
WB0	**Warramunga Arr**	**90.82**	**112**	P	**P**	**13 05 40.5**

ERM	**Erimo**	**39.24**	**20**	P		**P**	**13 14 36.0**	**+0.8**	
STKA	**Stephens Creek**	**39.79**	**160**	P		**P**	**13 14 40.6**	**+0.7**	
	comp=Z,1.6nm,0.4s,baz=337,slow=8.0,SNR=7.2								
STKA				PcP		**PcP**	**13 16 45.3**	**+0.4**	
STKA	**Stephens Creek**	**39.79**	**160**	P		**P**	**13 14 38.1**	**-1.8**	
STKA						**PcP**	**13 16 45.5**	**+0.6**	
ASAJ	**Asahikawa**	**40.95**	**18**	P		**P**	**13 14 49.6**	**+0.2**	
	comp=Z,2.4nm,0.7s,baz=196,slow=7.4,SNR=2.0								
H11S3	**WAKE ISLAND Hy 41.13**	**68**		T		T	13 58 59.8		
	baz=258,slow=75,SNR=6.1								
H11S1	**WAKE ISLAND Hy 41.15**	**68**		T		T	13 59 06.9		
	baz=258,slow=75,SNR=6.5								
H11S2	**WAKE ISLAND Hy 41.15**	**68**		T		T	13 58 57.1		
	baz=258,slow=75,SNR=9.2								
H11N1	**WAKE ISLAND Hy 41.61**	**66**		T		T	13 59 32.6		
	baz=255,slow=74,SNR=5.8								
H11N2	**WAKE ISLAND Hy 41.62**	**66**		T		T	13 59 31.2		
	baz=255,slow=74,SNR=3.5								
H11N3	**WAKE ISLAND Hy 41.62**	**66**		T		T	13 59 33.6		
	baz=255,slow=74,SNR=5.3								
SONM	**Songino Array**	**45.62**	**341**	P		**P**	**13 15 28.9**	**+1.8**	
	comp=Z,0.4nm,0.4s,baz=134,slow=8.3,SNR=3.1								
SONM	**Songino Array**	**45.62**	**341**	IAmb		IAmb	13 15 33.7		
	comp=Z,0.6nm,0.7s								
PETK	**Petropavlovsk-**	**53.85**	**23**	P		**P**	**13 16 30.1**	**+0.8**	
	comp=Z,1.4nm,0.7s,baz=198,slow=8.8,SNR=2.7								
MKAR	**Makanchi Array**	**56.09**	**325**	P		**P**	**13 16 44.7**	**-0.9**	
	comp=Z,1.6nm,0.5s,baz=118,slow=7.1,SNR=16								
MKAR				PcP		**PcP**	**13 17 43.0**	**+0.1**	
	comp=Z,1.8nm,0.7s,baz=115,slow=5.5,SNR=8.8								
MKAR	**Makanchi Array**	**56.09**	**325**	P		**P**	**13 16 44.8**	**-0.9**	
MKAR						**PcP**	**13 17 42.0**	**-0.9**	
ZALV	**Zalesovo Beam**	**59.00**	**333**	P		**P**	**13 17 05.4**	**-0.5**	
	comp=Z,0.4nm,0.3s,baz=128,slow=9.6,SNR=3.6								
ZALV				LR		LR	13 45 39.0		
	comp=Z,24nm,18.5s,baz=100,slow=39								
KURBB	**Kurchatov Arra**	**60.23**	**327**	P		**P**	**13 17 13.2**	**-1.2**	
	comp=Z,1.0nm,0.4s,baz=129,slow=6.3,SNR=3.8								
KURK	**Kurchatov**	**60.23**	**327**	P		**P**	**13 17 13.2**	**-1.2**	
KURK	**Kurchatov**	**60.23**	**327**	IAmb		IAmb	13 17 16.8		
	comp=Z,2.1nm,0.6s								
ILAR	**Eielson Array**	**83.57**	**25**	P		**P**	**13 19 33.6**	**-0.2**	
	comp=Z,0.7nm,0.9s,baz=256,slow=5.5,SNR=5.9								
VNDA	**Vanda**	**85.16**	**173**	P		**P**	**13 19 42.1**	**+0.5**	
	comp=Z,0.3nm,0.6s,baz=329,slow=4.7,SNR=1.9								
ARCES	**ARCESS Array B**	**88.79**	**340**	P		**P**	**13 19 59.1**	**-0.3**	
	comp=Z,1.4nm,0.6s,baz=79,slow=6.5,SNR=8.2								
BRTR	**Keskin Array B**	**88.85**	**310**	P		**P**	**13 19 58.2**	**-2.3**	
	comp=Z,0.5nm,0.5s,baz=96,slow=5.0,SNR=3.2								
FINES	**FINESS Array B**	**90.26**	**332**	P		**P**	**13 20 06.8**	**+0.5**	
	comp=Z,1.3nm,0.7s,baz=63,slow=4.5,SNR=12								
NOA	**NORSAR Array B**	**97.19**	**334**	P		**P**	**13 20 37.0**	**-1.3**	
	comp=Z,0.6nm,0.7s,baz=67,slow=4.6,SNR=2.9								
VRAC	**Vranov**	**98.73**	**322**	LR		LR	14 08 20.2		
	comp=Z,16nm,18.7s,baz=206,slow=37								
TORD	**Torodi Ar. Bea**	**122.29**	**289**	PKP		**PKPdf**	**13 26 01.1**	**-0.4**	
	comp=Z,0.3nm,0.4s,baz=84,slow=1.8,SNR=4.4								

*IDC **16** 13:10:20.1±3.7,36.92S×179.95E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.5/31,mbtmp3.5/3,ML3.6/1,Error ellipse: s-maj=97.7km s-min=50.9km az=142.0*
*WEL **16** 13:10:26.0±1.1,37.5S±7.7×18.0E±.1,h33km,M3.3/22, ML3.5/21,MLv3.3/22,Error ellipse: s-maj=0.0km s-min=0.0km az=102.8*

ISC 16 13:10:24.0±3.1,**37.08S**±0.08×**179.8E**±0.1,**h17**km±15km, **n42**,σ1=**01**/44,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.24**	**247**	P			**Pn**	**13 10 45.2**	**-1.5**
MXZ				S			**Sn**	**13 11 03.1**	**0.0**
WMGZ	**Waiomatatini S**	**1.29**	**235**	P			**Pb**	**13 10 48.3**	**+0.4**
WMGZ				S			**Sg**	**13 11 06.2**	**+0.4**
PUZ	**Puketiti**	**1.54**	**230**	P			**Pb**	**13 10 51.9**	**-0.3**
PUZ				S			**Sg**	**13 11 13.3**	**-0.5**
HAZ	**Te Kaha**	**1.70**	**246**	P			**Pn**	**13 10 53.5**	**+0.5**
HAZ				S			**Sb**	**13 11 16.2**	**+0.1**
TWGZ	**Tauwhareparae**	**1.78**	**231**	P			**Pb**	**13 10 55.7**	**-0.6**
CNGZ	**Carnagh Statio**	**1.86**	**221**	P			**Pb**	**13 10 57.7**	**+0.1**
RUGZ	**Raukumara Rang**	**1.87**	**241**	P			**Pb**	**13 10 57.0**	**-0.8**
TKGZ	**Te Karaka**	**2.03**	**227**	P			**Pb**	**13 10 59.1**	**-1.3**
TKGZ				S			**Sb**	**13 11 24.8**	**-0.5**
MWZ	**Matawai**	**2.16**	**234**	P			**Pn**	**13 11 00.2**	**+0.8**
RIGZ	**Rimuhau**	**2.26**	**223**	P			**Pn**	**13 11 02.3**	**+1.6**
PRGZ	**Paritu Road**	**2.36**	**218**	P			**Pn**	**13 11 03.8**	**+1.8**
URZ	**Urewera**	**2.40**	**240**	Pn			**Pn**	**13 11 03.3**	**+0.7**
	11nm,0.3s,baz=18,slow=3.2,SNR=27								
URZ				Sn			**Sn**	**13 11 32.4**	**+0.9**
	3.5nm,0.3s,baz=58,slow=20,SNR=2.2								
URZ	**Urewera**	**2.40**	**240**	P			**Pn**	**13 11 04.0**	**+1.4**
SNGZ	**Shannon Statio**	**2.55**	**228**	P			**Pn**	**13 11 05.5**	**+0.8**
OPRZ	**Ohinepanea**	**2.65**	**252**	P			**Pn**	**13 11 05.8**	**-0.2**
MUGZ	**Murupara**	**2.74**	**238**	P			**Pn**	**13 11 08.0**	**+0.7**
MTHZ	**Maungataniwha**	**2.90**	**231**	P			**Pn**	**13 11 10.7**	**+1.2**
NMHZ	**Naumai**	**3.07**	**228**	P			**Pn**	**13 11 12.8**	**+0.9**
ARHZ	**Aropaoanui**	**3.07**	**224**	P			**Pn**	**13 11 13.2**	**+1.4**
KUZ	**Kuaotunu**	**3.24**	**275**	P			**Pn**	**13 11 14.5**	**+0.3**
BKZ	**Black Stump Fm**	**3.30**	**230**	P			**Pn**	**13 11 15.5**	**+0.4**
MCHZ	**McNeill Hill**	**3.37**	**225**	P			**Pn**	**13 11 17.1**	**+1.2**
TOZ	**Tahuroa Road**	**3.44**	**258**	P			**Pn**	**13 11 17.8**	**+0.9**
KWHZ	**Kaweka Forest**	**3.51**	**227**	P			**Pn**	**13 11 18.4**	**+0.5**
KAHZ	**Kahuranaki**	**3.52**	**219**	P			**Pn**	**13 11 18.7**	**+0.6**
KRHZ	**Kereru**	**3.69**	**225**	P			**Pn**	**13 11 20.9**	**+0.6**
WIAZ	**Waiheke Island**	**3.71**	**273**	P			**Pn**	**13 11 21.7**	**+1.1**
BHHZ	**Black Hill Sta**	**3.77**	**229**	P			**Pn**	**13 11 22.2**	**+0.8**
ETVZ	**East Tongariro**	**3.79**	**236**	P			**Pn**	**13 11 22.8**	**+1.0**
OTVZ	**Oturere**	**3.83**	**236**	P			**Pn**	**13 11 22.8**	**+0.3**
ETAZ	**East Tamaki Re**	**3.86**	**270**	P			**Pn**	**13 11 23.9**	**+1.3**
MBAZ	**Motutapu North**	**3.90**	**273**	P			**Pn**	**13 11 24.3**	**+1.2**
HIZ	**Hauiti**	**4.13**	**248**	P			**Pn**	**13 11 28.0**	**+1.6**
RVAZ	**Riverhead Bore**	**4.15**	**273**	P			**Pn**	**13 11 28.1**	**+1.5**
WCZ	**Waipu Caves**	**4.50**	**283**	P			**Pn**	**13 11 33.3**	**+1.9**
OUZ	**Omahuta**	**5.31**	**289**	P			Pn	13 11 44.4	+1.8
ASAR	**Alice Springs**	**41.37**	**276**	P			**P**	**13 18 09.0**	**-0.4**
	0.3nm,0.5s,baz=123,slow=8.1,SNR=5.8								
WRA	**Warramunga Arr**	**42.97**	**281**	P			**P**	**13 18 22.4**	**-0.1**
	0.2nm,0.4s,baz=122,slow=7.6,SNR=5.2								
H03N3	**Juan Fernandez**	**78.58**	**123**	T			T	14 49 05.2	
	baz=235,slow=72,SNR=8.8								
H03N2	**Juan Fernandez**	**78.58**	**123**	T			T	14 49 04.0	
	baz=235,slow=72,SNR=6.5								
H03N1	**Juan Fernandez**	**78.59**	**123**	T			T	14 49 00.1	
	baz=235,slow=72,SNR=8.1								
MKAR	**Makanchi Array**	**120.50**	**308**	PKP			**PKPdf**	**13 29 13.0**	**-1.3**
	0.2nm,0.5s,baz=106,slow=3.1,SNR=1.8								

*NEIC **16** 13:11:55.8±1.9,12.9S±0.1×166.6E±0.2,h131km±11km, mb4.1/14,Error ellipse: s-maj=24.3km s-min=11.7km az=65.0*
*IDC **16** 13:11:57.6±8.0,13.06S×166.82E,h152km±83km,mb3.4/6, mb1 3.6/7,mb1mx3.3/39,mbtmp3.9/7,Error ellipse: s-maj=63.8km s-min=29.4km az=156.0*

ISC 16 13:11:58.2±1.3,**13.0S**±0.1×**166.6E**±0.1,**h150**km,**n23**, σ1=**25**/22,**mb4.0**/11,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.41**	**298**	S			**Sn**	**13 15 05.2**	**-1.4**
	4.8nm,0.3s,baz=245,slow=15,SNR=2.2								
DZM	**Mont Dzumac**	**8.99**	**181**	P			**Pn**	**13 14 04.5**	**-0.3**
	0.7nm,0.3s,baz=302,slow=19,SNR=8.3								
DZM				S			**Sn**	**13 15 43.4**	**-1.3**
	0.5nm,0.3s,baz=270,slow=20,SNR=1.0								
PMG	**Port Moresby**	**19.36**	**279**	P			**P**	**13 16 11.9**	**-0.5**
PMG						IAmb	IAmb	13 16 28.2	
	comp=Z,11nm,1.1s								
CTA	**Charters Tower**	**20.67**	**247**	P			Pn	13 16 28.8	-1.8
	comp=Z,2.4nm,0.7s,baz=63,slow=11,SNR=3.6								
CTAO	**Charters Tower**	**20.67**	**247**	P			**P**	**13 16 27.1**	**+0.6**
ARMA	**Armidale**	**22.13**	**216**	P			**P**	**13 16 40.7**	**-1.1**
ARMA						IAmb	IAmb	13 16 59.3	
	comp=Z,5.0nm,0.9s								
STKA	**Stephens Creek**	**29.60**	**227**	P			**P**	**13 17 51.2**	**+1.9**
	comp=Z,1.8nm,0.6s,baz=45,slow=11,SNR=3.6								
STKA	**Stephens Creek**	**29.60**	**227**	IAmb			IAmb	13 17 52.4	
	comp=Z,0.5nm,0.8s								
WB0	**Warramunga Arr**	**31.54**	**253**	P			**P**	**13 18 07.2**	**+0.7**
WB0						IAmb	IAmb	13 18 26.5	
	comp=Z,3.3nm,1.1s								
WB2	**Warramunga Arr**	**31.60**	**253**	P			**P**	**13 18 05.8**	**-1.2**
WB2						IAmb	IAmb	13 18 18.0	
	comp=Z,3.5nm,1.1s								
WRA	**Warramunga Arr**	**31.61**	**253**	P			**P**	**13 18 07.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=86,slow=9.1,SNR=6.2								
WRA	**Warramunga Arr**	**31.61**	**253**	P			**P**	**13 18 05.8**	**-1.3**
AS31	**Alice Springs**	**32.67**	**246**	P			**P**	**13 18 16.1**	**-0.3**
ASAR	**Alice Springs**	**32.67**	**246**	P			**P**	**13 18 16.9**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=74,slow=9.3,SNR=19								
ASAR	**Alice Springs**	**32.67**	**246**	P			**P**	**13 18 13.8**	**-2.7**
BBOO	**Buckleboo**	**34.10**	**230**	P			**P**	**13 18 30.1**	**+1.4**
KNRA	**Kununurra**	**36.68**	**261**	P			**P**	**13 18 50.8**	**0.0**
KNRA						IAmb	IAmb	13 18 57.5	
	comp=Z,4.0nm,0.9s								
FORT	**Forrest**	**39.60**	**237**	P			**P**	**13 19 16.1**	**+1.0**
NWAO	**Narrogin (SRO)**	**49.05**	**238**	P			**P**	**13 20 29.4**	**-0.8**
NWAO	**Narrogin (SRO)**	**49.05**	**238**	P			**P**	**13 20 30.9**	**+0.7**
NWAO						IAmb	IAmb	13 20 32.1	
	comp=Z,4.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**73.64**	**294**	P			**P**	**13 23 17.1**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=128,slow=3.0,SNR=4.4								
QSPA	**South Pole Qui**	**76.98**	**180**	P			**P**	**13 23 35.0**	**+0.8**
QSPA						IAmb	IAmb	13 23 35.6	
	comp=Z,2.6nm,0.8s								
ILAR	**Eielson Array**	**85.14**	**18**	P			**P**	**13 24 15.6**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=238,slow=4.9,SNR=5.1								

*NNC **16** 13:22:43.5±0.4,50.01N×78.69E,h0km,mb3.1,mpv3.0, Error ellipse: s-maj=8.4km s-min=2.0km az=74.0, Suspected Mining explosion.*
*IDC **16** 13:22:44.5±0.8,50.05N×78.75E,h0km,mb1 3.1/3, mb1mx3.0/33,mbtmp3.1/3,ML2.9/3,Error ellipse: s-maj=11.6km s-min=5.7km az=59.0*

ISC 16 13:22:40.9±0.8,**50.61N**±0.06×**79.57E**±0.04,**h0**km,**n20**, σ1=**00**/31,**18C-8D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**0.61**	**280**	⇑P			**Pn**	**13 22 57.1**	**+0.3**
	19nm,0.4s								
KURK				⇑S			**Sn**	**13 23 07.5**	**+0.2**
	35nm,0.4s								
KUR14	**Kurchatov Arra**	**0.62**	**271**	⇑P			**Pb**	**13 22 55.2**	**+0.6**
KUR14				⇑S			**Sb**	**13 23 04.0**	**+0.1**
KUR15	**Kurchatov Arra**	**0.64**	**271**	⇑P			**Pb**	**13 22 55.4**	**+0.4**
KUR15				⇑S			**Sb**	**13 23 04.4**	**0.0**
KUR04	**Kurchatov Arra**	**0.65**	**275**	⇑P			**Pb**	**13 22 56.4**	**+1.3**
KUR04				⇑S			**Sb**	**13 23 05.6**	**+0.9**
KUR05	**Kurchatov Arra**	**0.66**	**273**	⇑P			**Pb**	**13 22 55.8**	**+0.6**
KUR05				⇑S			**Sb**	**13 23 04.9**	**+0.1**
KURBB	**Kurchatov Arra**	**0.66**	**271**	Pg			**Pb**	**13 22 55.7**	**+0.4**
	5.4nm,0.3s,baz=165,slow=19,SNR=148								
KURBB				Lg			Lg	13 23 04.4	
	5.3nm,0.3s,baz=167,slow=34,SNR=18								
KURBB	**Kurchatov Arra**	**0.66**	**271**	⇑P			**Pb**	**13 22 55.7**	**+0.4**
	46nm,0.3s								
KURBB				⇑S			**Sb**	**13 23 04.9**	**-0.1**
	165nm,0.5s								
KUR06	**Kurchatov Arra**	**0.67**	**270**	⇑P			**Pb**	**13 22 55.2**	**-0.1**
KUR06				⇑S			**Sb**	**13 23 04.6**	**-0.5**
KUR07	**Kurchatov Arra**	**0.67**	**268**	⇑P			**Pb**	**13 22 55.0**	**-0.4**
KUR07				⇓S			**Sb**	**13 23 04.0**	**-1.3**
KUR16	**Kurchatov Arra**	**0.68**	**272**	⇓P			**Pb**	**13 22 55.7**	**+0.1**
KUR16				⇓S			**Sb**	**13 23 04.8**	**-0.8**
KUR17	**Kurchatov Arra**	**0.70**	**272**	⇑P			**Pb**	**13 22 55.9**	**0.0**
KUR17				⇓S			**Sb**	**13 23 05.3**	**-0.8**
MAKZ	**Makanchi**	**4.13**	**156**	⇓Lg			Lg	13 24 45.5	
	9.1nm,0.6s								
MK31	**Makanchi Array**	**4.23**	**154**	⇑Pn			**Pn**	**13 23 47.8**	**+1.3**
	0.2nm,0.2s,baz=146,slow=30,SNR=34								
MK31				⇑Pg			**Pb**	**13 23 57.0**	**+0.9**
	1.2nm,0.3s,baz=322,slow=14,SNR=23								
MK31				⇓Sn			**Sn**	**13 24 36.4**	**-0.1**
	1.8nm,0.5s,baz=349,slow=24,SNR=5.0								
MK31				Lg			Lg	13 24 51.6	
	16nm,0.6s,baz=324,slow=28,SNR=16								
MKAR	**Makanchi Array**	**4.23**	**154**	Pn			**Pn**	**13 23 47.6**	**+1.1**
	0.8nm,0.3s,baz=323,slow=10,SNR=45								
MKAR				Pg			**Pb**	**13 23 54.8**	**-1.3**
	1.5nm,0.3s,baz=326,slow=14,SNR=18								
MKAR				Sn			**Sn**	**13 24 35.7**	**-0.9**
	1.1nm,0.3s,baz=328,slow=21,SNR=5.6								
MKAR				Lg			Lg	13 24 48.6	
	3.5nm,0.3s,baz=321,slow=30,SNR=15								
ZALV	**Zalesovo Beam**	**4.64**	**42**	Pn			**Pg**	**13 24 08.2**	**-1.6**
	1.4nm,0.3s,baz=230,slow=14,SNR=13								
ZALV				Sn			**Sg**	**13 25 11.5**	**+1.6**
	0.4nm,0.3s,baz=226,slow=22,SNR=2.4								
ZALV				Lg			Lg	13 25 31.8	
	0.3nm,0.3s,baz=227,slow=27,SNR=2.3								
OTUK	**Ortayu**	**5.28**	**246**	⇓Lg			Lg	13 25 08.0	
	3.0nm,0.4s								
BVA0	**Borovoye Array**	**6.18**	**297**	⇓Lg			Lg	13 25 56.4	
	1.7nm,0.5s								
BVAR	**Borovoye Array**	**6.18**	**297**	Pn			**Pn**	**13 24 14.5**	**+1.1**
	0.3nm,0.3s,baz=110,slow=12,SNR=3.3								
BVAR				Sn			**Sn**	**13 25 21.8**	**-2.9**
	1.4nm,0.3s,baz=113,slow=23,SNR=12								
BVAR				Lg			Lg	13 25 51.5	
	0.7nm,0.3s,baz=124,slow=28,SNR=2.8								
AAK	**Ala-Archa**	**9.71**	**206**	Lg			Lg	13 26 54.0	
	0.4nm,0.3s,baz=68,slow=19,SNR=1.4								
I31KZ	**AKTYUBINSK INF**	**13.70**	**277**	*i*				14 41 20.0	
	baz=85,slow=317,SNR=1.2								

*BJI **16** 13:43:34.6±0.0,6.43N×127.10E,h102km,mB4.8/42, mb5.0/61*
*GCMT **16** 13:43:36.3±0.3,6.75N±0.02×126.67E±0.02,h67km±2km, MW4.9/85,Moment Tensor Solution. s42,c52; s85,c125; Duration: 0 Moment tensor: Scale 1016Nm; Mrr1.86±.13; Mθθ-1.59±.09; Mφφ-0.27±.11; Mrθ0.32±.06; Mθφ2.07±.07; Mφr1.25±.07; Best double couple: Mo2.98300×1016 NP1:ϕ94.00000°,δ51.00000°,λ39.00000°. NP2: ϕ337.00000°,δ61.00000°,λ133.00000°. Principal axes: T 2.8120, Plg53.0000°, Azm300.0000°; N 0.3340, Plg37.0000°, Azm132.0000°; P -3.1540, Plg6.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **16** 13:43:38.4±0.9,6.83N×126.87E,h86km±7km,mb4.5/43, mb1 4.6/46,mb1mx4.6/55,mbtmp4.9/46,MS3.5/20, Ms1 3.6/20,ms1mx3.4/35 Error ellipse: s-maj=10.7km s-min=7.5km az=65.0*
*MOS **16** 13:43:38.5±1.1,6.87N×126.74E,h97km,mb5.1/47,Error ellipse: s-maj=8.7km s-min=4.1km az=119.2*
*NEIC **16** 13:43:39.3±2.0,6.81N±0.07×126.78E±0.08,h92km±5km, mb5.0/91,Error ellipse: s-maj=12.5km s-min=8.7km az=53.0*
*DJA **16** 13:43:39.7±0.4,7.1N±.3×126.7E±.1,h78km±3km,M4.9/32, mb5.0/32,mB5.3/18,MLv5.3/6,Mw(mB)4.7/18*
*KLM **16** 13:43:40.0,6.79N×126.97E,h113km,mb5.0*

ISC 16 13:43:38.5±0.5,**6.79N**±0.03×**126.82E**±0.05,**h86**km±4km, **h85**km:**pP-P**,**n414**,σ1=**20**/424,**mb4.9**/136,**54C-14D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.26**	**283**	P			**Pn**	**13 44 01.0**	**-0.1**
	1μm,0.3s,baz=108,slow=2.1,SNR=63								
DAV				S			**Sn**	**13 44 19.3**	**+1.3**
	3μm,0.3s,baz=53,slow=20,SNR=9.8								
DAV				LR			LR	13 44 23.9	
	comp=Z,1μm,18.1s,baz=99,slow=35								
DAV	**Davao City (W)**	**1.26**	**283**				**Pn**	**13 44 01.6**	**+0.6**
DAV	**Davao City (W)**	**1.26**	**283**	⇓*e*			**Pn**	**13 44 00.5**	**-0.6**
BIP	**Bislig**	**1.53**	**339**	⇓*i*			**Pn**	**13 44 04.8**	**+0.2**
BIP				*i*			**Sn**	**13 44 23.3**	**-0.9**
KCP	**Kidapawan**	**1.73**	**277**	⇓*i*			**Pn**	**13 44 06.9**	**-0.2**
KCP				*i*			**Sn**	**13 44 28.7**	**-0.1**
TBP	**Tagbilaran**	**4.11**	**315**	⇓*i*			**Pn**	**13 44 39.8**	**+0.8**
LLP	**Lapu-Lapu**	**4.50**	**321**	⇑*e*			**Pn**	**13 44 45.6**	**+1.2**
LLP				*i*			**Sn**	**13 45 38.4**	**+2.9**
TNTI	**Ternate**	**6.00**	**175**	P			**Pn**	**13 45 05.2**	**+0.3**
	1.3nm5μm380nm,1.1s								
TNTI				S			**Sn**	**13 46 09.7**	**-2.5**
	1.3nm5μm380nm,1.1s								
TNTI	**Ternate**	**6.00**	**175**	Pn			**Pn**	**13 45 04.1**	**-0.8**
JAP	**San Jose, Anti**	**6.22**	**310**	⇓*e*			**Pn**	**13 45 09.6**	**+1.8**
KMSI	**Cibinong**	**6.79**	**205**	P			**Pn**	**13 45 15.7**	**+0.1**
	1.5nm4μm375nm,1.0s								
GTOI	**Gorontalo**	**7.20**	**212**	P			**Pn**	**13 45 19.9**	**-1.2**
	3.0nm10μm557nm,0.6s								
MYLDM	**Lahad Datu**	**8.43**	**260**	Pn			**Pn**	**13 45 41.2**	**+3.3**
LUWI	**Luwuk**	**8.77**	**208**	P			**Pn**	**13 45 43.9**	**+1.3**
	9μm793nm,1.0s								
LUWI	**Luwuk**	**8.77**	**208**	Pn			**Pn**	**13 45 43.9**	**+1.3**
SIJI	**Sorong**	**8.81**	**150**	P			**Pn**	**13 45 41.3**	**-1.9**
	20nm,0.3s,baz=339,slow=17,SNR=42								
SIJI				S			Sn	13 47 09.7	-11
	13nm,0.3s,baz=0.0,slow=20,SNR=7.9								
SANI	**Sanana**	**8.82**	**185**	P			**Pn**	**13 45 39.4**	**-3.9**
TGY	**Tagaytay City**	**9.29**	**322**	LR			LR	13 49 59.1	
	comp=Z,434nm,19.4s,baz=116,slow=41								
MPSI	**Mapaga**	**9.42**	**227**	P			**Pn**	**13 45 48.2**	**-3.3**
NLAI	**Namlea**	**9.97**	**178**	P			**Pn**	**13 45 57.0**	**-1.9**
	131nm,0.9s								
AAI	**Ambon**	**10.50**	**172**	P			**Pn**	**13 46 05.3**	**-0.9**
	2μm78nm,0.9s								
FAKI	**Fak Fak**	**11.06**	**150**	P			**Pn**	**13 46 14.6**	**+0.7**
	47nm,1.2s								
SPSI	**Sidrap Palu**	**12.79**	**214**	P			**Pn**	**13 46 36.6**	**-0.6**
	946nm60nm,0.9s								
BNSI	**Bone**	**12.98**	**211**	P			**Pn**	**13 46 40.0**	**+0.3**
	2μm79nm,1.1s								
KAPI	**Kappang**	**13.68**	**211**	P			**Pn**	**13 46 47.9**	**-1.1**
	1.4nm,0.3s,baz=22,slow=7.9,SNR=6.6								
KAPI	**Kappang**	**13.68**	**211**	P			**Pn**	**13 46 49.0**	**0.0**
KAPI	**Kappang**	**13.68**	**211**	Pn			**Pn**	**13 46 49.0**	**0.0**
SMPI	**Sarmi**	**14.73**	**126**	P			**P**	**13 47 05.1**	**-1.3**
	644nm48nm,1.4s								
SBUM	**Sibu**	**15.17**	**254**				**P**	**13 47 10.1**	**-1.2**
SBUM						IAmb	IAmb	13 47 14.7	
	comp=Z,132nm,0.8s								
SBUM	**Sibu**	**15.17**	**254**	P			**P**	**13 47 11.0**	**-0.4**
BBKI	**Banjar Baru**	**15.71**	**230**	P			**Pn**	**13 47 15.2**	**+0.2**
	comp=Z,74nm,1.1s								
MMRI	**Maumere**	**15.99**	**197**	P			**P**	**13 47 19.8**	**-0.6**
	comp=Z,108nm,1.0s								
SOEI	**Soe**	**16.63**	**189**	P			**Pn**	**13 47 26.1**	**-0.5**
	comp=Z,2μmcomp=Z,80nm,0.8s								
SOEI	**Soe**	**16.63**	**189**	P			**P**	**13 47 27.4**	**-0.3**
SOEI						IAmb	IAmb	13 47 43.2	
	comp=Z,66nm,1.0s								
JAY	**Jayapura**	**16.66**	**123**	P			**P**	**13 47 28.8**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=316,slow=4.6,SNR=4.9								
BATI	**Baumata**	**17.17**	**191**	P			**P**	**13 47 33.9**	**+0.3**
	comp=Z,21nm,0.3s,baz=306,slow=2.5,SNR=19								
BATI	**Baumata**	**17.17**	**191**	P			**P**	**13 47 34.1**	**+0.6**
	comp=Z,69nm,0.6s								
KSM	**Kuching**	**17.29**	**253**	P			**P**	**13 47 36.6**	**+1.8**
KSM						IAmb	IAmb	13 47 37.3	
	comp=Z,64nm,0.8s								
KSM	**Kuching**	**17.29**	**253**	P			**P**	**13 47 37.0**	**+2.2**
SSLB	**Suanglung**	**17.82**	**342**	Pn			**Pn**	**13 47 42.3**	**+1.3**
PLAI	**Plampang**	**17.94**

comp=Z,2.3nm,0.9s,baz=339,slow=3.4,SNR=5.2
WRA Warramunga Arr 27.58 165 *ce* P **P 13 49 17.2 -0.6**
WRA pmax pmax
comp=Z,6.0nm,0.4s
WRA Warramunga Arr 27.58 165 P **P 13 49 16.5 -1.2**
WRA **PcP 13 52 34.5 +0.7**
WB2 Warramunga Arr 27.58 165 P **P 13 49 16.7 -1.1**
WR0 Warramunga Arr 27.65 164 P **P 13 49 17.8 -0.6**
PSI Prapat 28.07 263 P **P 13 49 21.0 -1.4**
comp=Z,8.4nm,0.6s,baz=360,slow=0.5,SNR=9.9
PSI PcP **PcP 13 52 35.2 -0.1**
comp=Z,5.2nm,0.8s,baz=140,slow=2.7,SNR=4.5
PSI Prapat 28.07 263 P **P 13 49 23.5 +1.1**
PSI pmax pmax
comp=Z,24nm,1.1s
RPSI Rantau Prapat 28.09 263 P **P 13 49 23.5 +1.1**
RPSI Rantau Prapat 28.09 263 **PcP 13 52 35.2 0.0**
PSA00 Pilbara Seismi 29.00 193 P **P 13 49 30.1 -0.3**
PSA00 IAmb IAmb 13 49 31.2
comp=Z,17nm,0.7s
KMI Kunming 29.37 311⇑ *e* P **P 13 49 35.9 +1.9**
KMI pP pP 13 49 52.8 -1.1
KMI pmax pmax
comp=Z,16nm,0.8s
KMI pmax pmax
comp=Z,63nm,4.6s
KMI LR LR
comp=Z,150nm,19.7s
KMI LR LR
comp=Z,160nm,16.5s
KMI LR LR
comp=Z,260nm,20.5s
CMAR Chiang Mai Arr 29.52 296 P **P 13 49 35.2 +0.1**
comp=Z,1.9nm,0.6s,baz=96,slow=7.1,SNR=14
CMAR PcP **PcP 13 52 39.0 +0.3**
comp=Z,3.3nm,0.8s,baz=122,slow=1.1,SNR=16
CMAR ScP **ScP 13 56 14.6 +1.5**
comp=Z,0.4nm,0.3s,baz=128,slow=1.5,SNR=2.1
CMAR LR LR 14 01 17.7
comp=Z,168nm,20.4s,baz=168,slow=36
CMAR Chiang Mai Arr 29.52 296 *i* P **P 13 49 37.2 +2.1**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 29.64 296 P **P 13 49 36.3 +0.1**
GSI Gunungsitoli 29.66 261 P **P 13 49 34.5 -2.0**
QIS Mount Isa 29.94 155 P **P 13 49 39.1 +0.3**
baz=30,SNR=15
MTSU Mount Surprise 30.19 145 P **P 13 49 41.7 +0.7**
baz=30,SNR=14
KSRS Korea Array 30.54 2 P **P 13 49 42.8 -1.1**
comp=Z,1.7nm,0.8s,baz=181,slow=9.9,SNR=9.4
KSRS PcP **PcP 13 52 41.3 +0.4**
comp=Z,1.9nm,0.8s,baz=192,slow=3.0,SNR=9.4
KSRS ScP **ScP 13 56 17.1 +1.1**
comp=Z,1.3nm,1.0s,baz=216,slow=2.2,SNR=4.9
KSRS LR LR 14 04 07.2
comp=Z,66nm,19.0s,baz=192,slow=40
TIA Tai'an 30.60 344 P **P 13 49 43.0 -1.4**
TIA pmax pmax
comp=Z,8.0nm,0.7s
AS31 Alice Springs 31.05 167 P **P 13 49 48.3 -0.3**
ASAR Alice Springs 31.05 167 P **P 13 49 48.2 -0.4**
comp=Z,4.0nm,0.6s,baz=352,slow=7.7,SNR=67
ASAR PcP **PcP 13 52 42.9 +0.3**
comp=Z,6.6nm,0.6s,baz=348,slow=2.3,SNR=18
ASAR ScP **ScP 13 56 17.5 -0.5**
comp=Z,2.3nm,0.9s,baz=359,slow=3.1,SNR=7.6
ASAR LR LR 14 04 22.5
comp=Z,123nm,19.2s,baz=346,slow=40
ASAR Alice Springs 31.05 167 P **P 13 49 48.5 -0.1**
ASAR **PcP 13 52 43.0 +0.4**
ASAR **ScP 13 56 18.1 +0.1**
MAJO Matsushiro 31.39 18 *i* P **P 13 49 50.6 -0.8**
MAJO pmax pmax
comp=Z,14nm,1.0s
MAT Matsushiro 31.39 18 P **P 13 49 49.9 -1.5**
MAT S **S 13 54 55.2 +2.4**
MJAR Matsushiro Arr 31.39 18 P **P 13 49 50.0 -1.4**
comp=Z,9.1nm,0.9s,baz=202,slow=9.4,SNR=16
MJAR PcP **PcP 13 52 43.6 +0.3**
comp=Z,2.3nm,0.8s,baz=205,slow=4.3,SNR=4.6
MJAR LR 14 00 30.3
comp=Z,100nm,22.0s,baz=180,slow=32
MJAR Matsushiro Arr 31.39 18 P **P 13 49 47.8 -3.7**
MJAR **PcP 13 52 40.7 -2.6**
WRKA Warakurna 31.67 177 P **P 13 49 53.9 0.0**
baz=32,SNR=44
GIRL Giralia 31.74 202 P **P 13 49 55.5 +1.0**
baz=32,SNR=4.4
GIRL Giralia 31.74 202 P **P 13 49 55.5 +1.0**
XAN Xi'an 31.77 331 P **P 13 49 53.8 -1.0**
XAN pmax pmax
comp=Z,42nm,0.9s
XAN Xi'an 31.77 331 P **P 13 49 53.8 -1.0**
XAN pmax pmax
comp=Z,25nm,0.7s
XAN Xi'an 31.77 331 P **P 13 49 53.8 -1.0**
XAN IAmb IAmb 13 49 55.7
comp=Z,25nm,0.7s
CD2 Chengdu 32.29 321 P **P 13 49 59.4 0.0**
CD2 S **S 13 55 07.3 +0.3**
CD2 pmax pmax
comp=Z,70nm,0.7s
CD2 LR LR
comp=Z,370nm,17.7s
CD2 LR LR
comp=Z,430nm,17.2s
CD2 LR LR
comp=Z,290nm,14.7s
CTAO Charters Tower 32.85 145 P **P 13 50 05.7 +1.3**
CTAO pmax pmax
comp=Z,6.0nm,1.0s
CTAO Charters Tower 32.85 145 P **P 13 50 05.7 +1.3**
MEEK Meekatharra 34.17 193 P **P 13 50 15.4 -0.4**
baz=34,SNR=16
SNY Shenyang 35.01 356 ⇓P **P 13 50 22.8 0.0**
SNY pP **pwP 13 50 46.8 +1.1**
SNY S **S 13 55 48.3 -0.3**
SNY pmax pmax
comp=Z,14nm,0.7s
SNY pmax pmax
comp=Z,69nm,4.2s
SNY LR LR
comp=Z,73nm,12.3s
SNY LR LR
comp=Z,150nm,17.8s
SNY LR LR
comp=Z,190nm,20.3s
LZH Lanzhou 35.96 327 *e* P **P 13 50 31.6 +0.4**
LZH pP pP 13 50 51.3 +0.2
LZH pmax pmax
comp=Z,60nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.3s
LZH LR LR
comp=Z,210nm,13.6s
LZH LR LR
comp=Z,300nm,14.9s
LZH LR LR
comp=Z,350nm,16.0s
HHC Hu-ho-hao-te 36.55 340 *e* P **P 13 50 35.8 -0.4**
HHC PP **PP 13 52 01.1 +0.1**
HHC pmax pmax
comp=Z,25nm,0.9s
HHC pmax pmax
comp=Z,87nm,4.0s
HHC LR LR
comp=Z,140nm,14.1s
HHC LR LR
comp=Z,100nm,12.9s
HHC LR LR
comp=Z,79nm,12.8s
CN2 Changchun 36.88 358 *e* P **P 13 50 42.5 +3.7**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
MORW Morawa 37.13 196 P **P 13 50 41.3 +0.3**
baz=37,SNR=8.5
MORW Morawa 37.13 196 P **P 13 50 41.1 +0.1**
MORW IAmb IAmb 13 50 43.3
comp=Z,17nm,1.1s
QLP Quilpie 37.23 154 P **P 13 50 41.8 -0.1**
baz=37,SNR=11
FORT Forrest 37.37 178 P **P 13 50 43.7 +0.6**
baz=38,SNR=12
FORT Forrest 37.37 178 P **P 13 50 43.5 +0.4**
USA0B Ussuriysk Arra 37.54 6 *i* P **P 13 50 44.7 +0.4**
USA0B Ussuriysk Arra 37.54 6 IAmb IAmb 13 50 46.8
comp=Z,8.2nm,0.7s
USRK Ussuriysk Ar. 37.54 6 P **P 13 50 44.5 +0.2**
comp=Z,7.4nm,0.6s,baz=182,slow=5.8,SNR=16
USRK pP **pP 13 51 03.4 +0.1**
comp=Z,6.9nm,0.8s,baz=190,slow=9.6,SNR=5.5
USRK LR LR 14 05 42.1
comp=Z,26nm,21.0s,baz=175,slow=35
ERM Erimo 37.96 20 *ce* P **P 13 50 49.1 +1.2**
ERM pmax pmax
comp=Z,13nm,0.9s
ERM Erimo 37.96 20 P **P 13 50 49.3 +1.4**
ERM IAmb IAmb 13 50 60.0
comp=Z,25nm,1.0s
KMBL Kambalda 38.23 187 P **P 13 50 50.7 +0.3**
baz=38,SNR=11
BLDU Ballidu 38.43 194 P **P 13 50 52.3 +0.3**
baz=39,SNR=35
KLBR Kellerberrin 39.13 192 P **P 13 50 58.1 +0.2**
baz=39,SNR=12
MUN Mundaring 39.86 194 P **P 13 51 04.5 +0.6**
baz=40,SNR=16
BBOO Buckleboo 40.35 168 P **P 13 51 08.2 +0.3**
baz=40,SNR=8.8
BBOO Buckleboo 40.35 168 P **P 13 51 08.5 +0.6**
BBOO IAmb IAmb 13 51 09.1
comp=Z,34nm,0.9s
H11S3 WAKE ISLAND Hy 40.51 69 T T 14 35 31.0
baz=258,slow=75,SNR=49
H11S1 WAKE ISLAND Hy 40.52 69 T T 14 35 27.1
baz=258,slow=75,SNR=26
H11S2 WAKE ISLAND Hy 40.52 70 T T 14 35 21.3
baz=258,slow=75,SNR=37
NWAO Narrogin (SRO) 40.53 192 P **P 13 51 10.2 +0.8**
NWAO pmax pmax
comp=Z,31nm,0.8s
NWAO Narrogin (SRO) 40.53 192 P **P 13 51 10.0 +0.6**
NWAO Narrogin (SRO) 40.53 192 P **P 13 51 10.2 +0.8**
NWAO IAmb IAmb 13 51 11.1
comp=Z,31nm,0.8s
GTA Gaotai 40.56 327 ⇑P **P 13 51 10.3 +0.5**
GTA pP sP 13 51 37.0 -2.9
GTA sP pP 13 51 48.3 +18
GTA PcP **PcP 13 53 11.5 +0.9**
GTA S **S 13 57 15.6 +2.6**
GTA pmax pmax
comp=Z,21nm,1.1s
GTA pmax pmax
comp=Z,120nm,4.6s
GTA LR LR
comp=Z,140nm,19.0s
GTA LR LR
comp=Z,150nm,20.9s
GTA LR LR
comp=Z,300nm,21.9s
YUK Yuzh-Kuril'sk 40.68 21 *e* P P 13 51 03.1 -7.4
YUK *e* S S 13 57 05.1 -9.2
STKA Stephens Creek 40.96 161 P **P 13 51 13.2 +0.2**
comp=Z,12nm,0.5s,baz=343,slow=7.6,SNR=42
STKA PcP **PcP 13 53 11.9 +0.1**
comp=Z,5.4nm,0.7s,baz=301,slow=5.4,SNR=2.8
STKA Stephens Creek 40.96 161 P **P 13 51 13.5 +0.5**
STKA pmax pmax
comp=Z,5.0nm,1.0s
STKA Stephens Creek 40.96 161 P **P 13 51 13.5 +0.5**
HTT Hallett 41.62 165 P **P 13 51 19.2 +0.8**
baz=42,SNR=12
CMSA Cobar Meteorol 42.16 156 P **P 13 51 23.2 +0.4**
baz=42,SNR=6.2
YSS Yuzh-Sakhalins 42.29 16⇓ *i* P **P 13 51 24.4 +0.7**
YSS *e* S **S 13 57 40.5 +2.4**
YSS MLR MLR
comp=Z,100nm,14.0s
TAPN Taplejung 42.35 304 *e* P **P 13 51 24.2 -0.6**
comp=Z,111nm,1.2s
ODAN Odare 42.44 303 *e* P **P 13 51 25.0 -0.5**
comp=Z,45nm,0.6s
KLR Kul'dur 42.50 5 *ce* P **P 13 51 25.1 -0.2**
KLR pmax pmax
comp=Z,8.0nm,0.6s
RAMN Ramite 43.13 303 *e* P **P 13 51 30.9 -0.2**
comp=Z,55nm,0.7s
JIRN Jiri 43.72 303 *e* P **P 13 51 35.7 -0.2**
comp=Z,206nm,1.1s
ARMA Armidale 43.99 149 P **P 13 51 38.1 +0.4**
baz=44,SNR=6.8
ARMA Armidale 43.99 149 P **P 13 51 38.6 +1.0**
ULN Ulaanbaatar 44.26 341 *ce* P **P 13 51 39.3 -0.4**
ULN pmax pmax
comp=Z,16nm,1.0s
ULN Ulaanbaatar 44.26 341 P **P 13 51 40.0 +0.3**
ULN IAmb IAmb 13 51 41.1
comp=Z,13nm,0.9s
PKI Pulchoki 44.34 303 *e* P **P 13 51 39.9 -1.0**
comp=Z,68nm,1.1s
SONM Songino Array 44.45 340 P **P 13 51 40.4 -0.8**
comp=Z,5.8nm,0.9s,baz=158,slow=8.8,SNR=23
SONM PcP **PcP 13 53 23.1 -0.3**
comp=Z,2.1nm,0.8s,baz=147,slow=4.1,SNR=3.3
SONM LR LR 14 10 40.6
comp=Z,63nm,20.0s,baz=149,slow=36
SONM Songino Array 44.45 340 P **P 13 51 41.9 +0.7**
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM Songino Array 44.45 340 P **P 13 51 41.9 +0.7**
KKN Kakani 44.52 303 *e* P **P 13 51 41.6 -0.6**
comp=Z,68nm,1.0s
GRNR Gornyy 44.56 9⇑ *i* P **P 13 51 42.7 +0.8**
GRNR pmax pmax
comp=N,4.0nm,1.1s
GRNR pmax pmax
comp=Z,5.0nm,0.8s
GRNR MLR MLR
comp=E,20nm,14.0s
GRNR MLR MLR
comp=N,30nm,10.0s
DMN Daman 44.60 303 *e* P **P 13 51 42.3 -0.6**
comp=N,86nm,1.0s
GKN Gorkha 45.12 303 *e* P **P 13 51 46.1 -0.8**
comp=N,71nm,1.2s
ARPS Mount Arapiles 45.56 163 P **P 13 51 50.7 +0.8**
baz=46,SNR=14
KOLN Koldanda 45.91 302 *e* P **P 13 51 52.8 -0.4**
comp=N,139nm,1.0s
DANN Dangsing 45.97 303 *e* P **P 13 51 53.0 -0.8**
comp=N,177nm,0.9s
PYUN Piuthan 46.53 303 *e* P **P 13 51 57.9 -0.2**
comp=N,162nm,1.0s
CAN Canberra 46.81 155 P **P 13 52 00.1 +0.2**
CAN pmax pmax
comp=Z,12nm,1.0s
CAN Canberra 46.81 155 P **P 13 52 00.1 +0.2**
TOO Toolangi 47.45 160 P **P 13 52 06.3 +1.5**
baz=48,SNR=7.4
TOO Toolangi 47.45 160 P **P 13 52 06.0 +1.2**
TOO pmax pmax
comp=Z,10.0nm,1.0s
TOO Toolangi 47.45 160 P **P 13 52 06.0 +1.2**
ZAK Zakamensk 47.69 340 *e* P **P 13 52 04.8 -1.8**
ZAK pmax pmax
comp=Z,2.0nm,0.8s
DZM Mont Dzumac 48.27 128 *e* LR LR 14 05 59.3
comp=Z,424nm,33.8s
DZM Mont Dzumac 48.27 128 P **P 13 52 12.4 +1.0**
comp=Z,9.0nm,0.6s,baz=284,slow=9.2,SNR=3.2
DZM Mont Dzumac 48.27 128 P **P 13 52 11.8 +0.4**
DZM IAmb IAmb 13 52 13.0
comp=Z,13nm,0.8s
TLY Talaya 48.68 341 *i* P **P 13 52 13.7 -0.3**
TLY pmax pmax
comp=Z,14nm,0.9s
MOY Mondy 49.56 339 *e* P **P 13 52 21.0 +0.1**
MOY pmax pmax
comp=Z,17nm,2.2s
WMQ Urumqi 50.31 324 *e* P **P 13 52 27.3 +0.7**
WMQ pP pP 13 52 50.8 +3.4
WMQ pmax pmax
comp=Z,31nm,1.1s
WMQ pmax pmax
comp=Z,9.0nm,3.6s
WMQ LR LR
comp=Z,170nm,17.9s
WMQ LR LR
comp=Z,200nm,24.3s
WMQ LR LR
comp=Z,240nm,22.7s
BOD Bodaibo 51.87 351 *e* P **P 13 52 37.8 -0.2**
BOD pmax pmax
comp=Z,11nm,1.0s
PEA0B Petropavlovsk- 52.59 23 P **P 13 52 45.1 +1.7**
PEA0B pmax pmax
comp=Z,19nm,0.9s
PEA0B Petropavlovsk- 52.59 23 P **P 13 52 45.1 +1.7**
PEA0B IAmb IAmb 13 52 48.1
comp=Z,19nm,0.8s
PETK Petropavlovsk- 52.59 23 P **P 13 52 44.5 +1.1**
comp=Z,12nm,0.7s,baz=189,slow=2.7,SNR=26
PETK PcP **PcP 13 53 52.1 -0.4**
comp=Z,5.3nm,0.7s,baz=180,slow=2.2,SNR=3.6
PETK LR LR 14 12 20.7
comp=Z,27nm,21.8s,baz=240,slow=33
PETK Petropavlovsk- 52.59 23 P **P 13 52 45.0 +1.6**
PETK 13 53 52.3
PETK Petropavlovsk- 52.59 23 P **P 13 52 45.0 +1.6**
PETK **PcP 13 53 52.3 -0.2**
PET Petropavlovsk 52.90 24⇑ *e* P **P 13 52 47.3 +1.7**
PET pmax pmax
comp=Z,63nm,1.0s
DGZ Jazzator, Alta 54.01 329 *c* P **P 13 52 54.2 +0.1**
DGZ pmax pmax
comp=Z,6.0nm,1.0s
ZSN Zaisan 54.02 326 *i* P **P 13 52 54.0 0.0**
comp=Z,7.7nm,0.9s,baz=326
ZSN Zaisan 54.02 326 *i* P **P 13 52 54.0 0.0**
ZSN pmax pmax
comp=Z,8.0nm,0.9s
SHLS Shalkode 55.09 319⇑ *i* P **P 13 53 00.3 -1.7**
baz=319
SHLS Shalkode 55.09 319 *c* P **P 13 53 00.2 -1.7**
MK31 Makanchi Array 55.13 324 *e* P **P 13 53 02.1 0.0**
MKAR Makanchi Array 55.13 324 P **P 13 53 02.2 +0.1**
comp=Z,31nm,0.6s,baz=123,slow=8.1,SNR=327
MKAR PcP **PcP 13 54 02.0 -0.4**
comp=Z,5.3nm,0.8s,baz=116,slow=5.5,SNR=3.9
MKAR LR LR 14 19 25.6
comp=Z,56nm,19.4s,baz=110,slow=39
PDGK Podgornoye 55.15 319 P **P 13 53 01.9 -0.5**
YAK Yakutsk 55.17 2 *e* P **P 13 53 01.3 -0.7**
YAK *e* 13 53 59.3
YAK *e* 13 55 05.4
YAK *e* PPP PPP 13 56 16.1
YAK *e* S **S 14 00 38.5 +0.1**
YAK *e* 14 02 41.9
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,22nm,2.7s
YAK pmax pmax
comp=N,27nm,2.8s
YAK pmax pmax
comp=E,13nm,2.3s
YAK smax smax
comp=N,16nm,1.6s
YAK smax smax
comp=E,19nm,1.8s
MAKZ Makanchi 55.32 324 P **P 13 53 03.7 +0.3**
MAKZ pmax pmax
comp=Z,34nm,0.9s
MAKZ Makanchi 55.32 324 P **P 13 53 03.7 +0.3**
UZB Uzynbulak 55.37 319⇑ *i* P **P 13 53 04.1 +0.1**
comp=Z,22nm,0.7s,baz=319
UZB Uzynbulak 55.37 319 *c* P **P 13 53 04.1 +0.1**
UZB pmax pmax
comp=Z,22nm,0.7s
PRZ Przheval'sk 55.49 318 P **P 13 53 05.0 +0.1**
PRZ pmax pmax
comp=Z,70nm,0.8s
PRZ Przheval'sk 55.49 318 P **P 13 53 05.0 +0.1**
TARG Taragay, Kyrgy 55.57 317 P **P 13 53 03.3 -2.5**
TARG IAmb IAmb 13 53 16.4
comp=Z,26nm,1.0s
SATY Saty 55.73 318⇑ *i* P **P 13 53 07.0 +0.3**
comp=Z,28nm,0.8s,baz=318
SATY Saty 55.73 318 *c* P **P 13 53 06.9 +0.3**
SATY pmax pmax
comp=Z,28nm,0.8s
SATY Saty 55.73 318 *c* P **P 13 53 06.9 +0.3**
SATY pmax pmax
comp=Z,28nm,0.8s
KSH Kashi 55.98 314 P **P 13 53 10.1 +1.6**
KSH pmax pmax
comp=Z,23nm,0.8s
MSVF Nonsavu 56.15 117 *i* P **P 13 52 12.3 +2.4**
MSVF pmax pmax
comp=Z,27nm,1.0s
MSVF Nonsavu 56.15 117 P **P 13 53 09.3 -0.5**
MSVF IAmb IAmb 13 53 13.6
comp=Z,32nm,1.1s
NIL Nilore 56.17 306 P **P 13 53 09.9 +0.1**
NIL pmax pmax
comp=Z,82nm,0.9s
NIL Nilore 56.17 306 P **P 13 53 09.9 +0.1**
MDOK Medeo 56.68 318 *i* P **P 13 53 13.8 +0.4**
baz=318
MDOK Medeo 56.68 318 *i* P **P 13 53 13.8 +0.4**
TNSS Tian-Shan 56.69 318⇑ *i* P **P 13 53 14.4 +0.6**
baz=318
TNSS Tian-Shan 56.69 318 *c* P **P 13 53 14.4 +0.6**
AAA Alma-Ata 56.78 318 *e* P **P 13 53 14.4 +0.4**
comp=Z,21nm,0.6s,baz=318
AAA Alma-Ata 56.78 318 *e* P **P 13 53 14.4 +0.4**
AAA pmax pmax
comp=Z,21nm,0.6s
CHKK Chushkaly 57.01 319 *e* P **P 13 53 15.2 -0.3**
baz=319
CHKK Chushkaly 57.01 319 *e* P **P 13 53 15.2 -0.3**
MTBS Maitube 57.08 318⇑ *e* P **P 13 53 16.0 -0.1**
baz=318
MTBS Maitube 57.08 318⇑ *e* P **P 13 53 16.0 -0.1**
KUU Kurty 57.45 319⇑ *i* P **P 13 53 18.7 +0.1**
comp=Z,83nm,0.9s,baz=318
KUU Kurty 57.45 319 *c* P **P 13 53 18.7 +0.1**
KUU pmax pmax
comp=Z,83nm,0.9s
KZA Kyzart 57.45 316 P **P 13 53 19.7 +0.5**
SNR=21
TKM2 Tokmak 2 57.55 317 P **P 13 53 19.8 +0.2**
SNR=24
TKM2 Tokmak 2 57.55 317 P **P 13 53 19.6 0.0**
KBK Karagaybulak 57.88 317 P **P 13 53 22.3 +0.4**
SNR=14
ZAA0 Zalesovo Array 57.93 332 P **P 13 53 20.7 -1.0**
ZAA0 IAmb IAmb 13 53 21.2
comp=Z,7.7nm,0.8s
ZALV Zalesovo Beam 57.93 332 P **P 13 53 20.8 -1.0**
comp=Z,3.6nm,0.3s,baz=133,slow=6.8,SNR=28
ZALV LR LR 14 18 48.1
comp=Z,44nm,21.0s,baz=132,slow=36
ZALV Zalesovo Beam 57.93 332 P **P 13 53 20.9 -0.8**
ZALV Zalesovo Beam 57.93 332 P **P 13 53 20.9 -0.8**
CHMS Chumysh 58.15 317 P **P 13 53 23.3 -0.3**
SNR=11
AAK Ala-Archa 58.19 317 *ce* P **P 13 53 24.1 +0.1**
AAK pmax pmax
comp=Z,25nm,1.7s
USP Ospenovka 58.42 317 P **P 13 53 25.6 +0.1**
SNR=24
EKS2 Erkin-Say 58.69 316 P **P 13 53 27.9 +0.5**
SNR=23
SEY Seymchan 59.05 13 *i* P **P 13 53 30.7 +1.3**
KURK Kurchatov 59.24 327 P **P 13 53 30.6 -0.3**
KURK Kurchatov 59.24 327 P **P 13 53 30.9 -0.1**
BTLS Baital 59.42 319⇑ *i* P **P 13 53 31.9 -0.4**
comp=Z,9.0nm,0.7s,baz=319
BTLS Baital 59.42 319 *c* P **P 13 53 31.9 -0.4**
BTLS pmax pmax
comp=Z,9.0nm,0.7s
GAR Garm 59.95 311 P **P 13 53 36.2 0.0**
DZA Taraz 60.45 316 *e* P **P 13 53 39.2 -0.2**
comp=Z,16nm,0.8s,baz=316
DZA Taraz 60.45 316 *e* P **P 13 53 39.2 -0.2**
DZA pmax pmax
comp=Z,16nm,0.8s
CHGR Chuyangaron 60.73 311 P **P 13 53 38.7 -2.8**
KK31 Karatay Array 61.09 316 *i* P **P 13 53 43.2 -0.6**
KK31 Karatay Array 61.09 316 P **P 13 53 43.6 -0.2**
KKAR Karatay Array 61.09 316 P **P 13 53 43.8 0.0**

KKAR pmax pmax
comp=Z,37nm,0.9s
KKAR Karatay Array 61.09 316 P **P** **13 53 43.8 0.0**
KKAR Karatay Array 61.09 316 P **P** **13 53 43.7 0.0**
IUG luzhnay 61.12 315 *i* P **P** **13 53 44.2 +0.1**
comp=Z,21nm,0.9s,baz=315
IUG luzhnay 61.12 315 *i* P **P** **13 53 44.2 +0.1**
IUG pmax pmax
comp=Z,21nm,0.9s
OTUK Ortayu 61.77 322 P **P** **13 53 48.0 -0.3**
AMKA Amchitka 61.93 34 P **P** **13 53 49.1 -0.1**
BRZS Berezniki 62.27 324⇑ *i*P **P** **13 53 51.5 -0.1**
comp=Z,23nm,0.9s,baz=324
BRZS Berezniki 62.27 324 *c i*P **P** **13 53 51.5 -0.1**
BRZS pmax pmax
comp=Z,23nm,0.9s
RPZ Rata Peaks 64.21 146 P **P** **13 54 05.1 +0.6**
comp=Z,6.5nm,0.6s,baz=288,slow=3.2,SNR=1.7
RPZ Rata Peaks 64.21 146 P **P** **13 54 03.1 -1.3**
RPZ IAmb IAmb 13 54 11.2
comp=Z,32nm,1.3s
URZ Urewera 64.72 138 P **P** **13 54 08.6 +0.8**
comp=Z,5.6nm,0.6s,baz=339,slow=8.6,SNR=2.0
TIXI Tiksi 64.80 1 *ce*P **P** **13 54 06.7 -1.1**
TIXI pmax pmax
comp=Z,13nm,1.0s
TIXI Tiksi 64.80 1 P **P** **13 54 05.7 -2.1**
BVA0 Borovoye Array 64.83 326 P **P** **13 54 08.0 -0.3**
BRVK Borovoye 64.90 326 *ce*P **P** **13 54 08.5 -0.3**
BRVK pmax pmax
comp=Z,65nm,0.8s
BRVK Borovoye 64.90 326 P **P** **13 54 08.8 +0.1**
NRIK Noril'sk 67.50 346 P **P** **13 54 24.1 -1.0**
comp=Z,5.8nm,0.6s,baz=130,slow=6.1,SNR=10
NRIK LR LR 14 24 29.8
comp=Z,63nm,21.9s,baz=193,slow=36
NRIK Noril'sk 67.50 346⇑ *e*P **P** **13 54 24.4 -0.7**
NRIK pmax pmax
comp=Z,10.0nm,0.8s
GEYT Alibeck 69.08 308 P **P** **13 54 35.6 0.0**
comp=Z,13nm,0.8s,baz=147,slow=3.5,SNR=26
GEYT pP **PcP** **13 54 58.4 -0.8**
comp=Z,5.1nm,0.7s,baz=196,slow=2.8,SNR=4.8
GEYT LR LR 14 28 44.5
comp=Z,31nm,21.6s,baz=0.0,slow=39
GEYT Alibeck 69.08 308 P **P** **13 54 34.0 -1.6**
GYA0B ALIBECK ARRAY 69.08 308 P **P** **13 54 34.8 -0.8**
GYA0B IAmb IAmb 13 54 37.0
comp=Z,21nm,0.8s
AB31 Akbulak array 69.86 320 P **P** **13 54 39.3 -0.9**
ABKAR Akbulak array 69.86 320 P **P** **13 54 39.9 -0.3**
AKTO Aktyubinsk 71.34 321 P **P** **13 54 48.9 -0.3**
comp=Z,23nm,0.7s,baz=94,slow=7.6,SNR=64
SVE Sverdlovsk 71.42 328 *de*P **P** **13 54 49.3 -0.2**
SVE pmax pmax
comp=Z,68nm,1.1s
ARU Arti 72.42 327 *c i*P **P** **13 54 54.6 -0.9**
ARU 13 55 10.7
ARU *PP **pP** **13 55 17.2 +0.2**
ARU S **S** **14 04 12.6 +0.1**
ARU SS **SS** **14 08 45.5 -6.9**
ARU pmax pmax
comp=Z,33nm,0.8s
ARU Arti 72.42 327 P **P** **13 54 54.8 -0.6**
CASY Casey 73.84 187 P **P** **13 55 04.1 +0.5**
CASY IAmb IAmb 13 55 05.3
comp=Z,13nm,0.9s
AKT Akhty 77.36 311 *e*P **P** **13 55 24.5 0.0**
AKT *e* 13 55 35.6
AKT *e**PP **pP** **13 55 46.4 0.0**
AKT pmax pmax
comp=Z,27nm,0.8s
KIRV Kirov 77.67 328 P **P** **13 55 25.0 -0.6**
comp=Z,41nm,0.7s,baz=89,slow=0.8,SNR=18
KIRV Kirov 77.67 328⇑ *e*P **P** **13 55 24.7 -0.9**
LGD Lagodekhi 78.49 311 P **P** **13 55 31.6 +1.0**
IMAR Indian Mountai 79.53 24 P **P** **13 55 36.8 +1.0**
TBLG Delisi 79.61 311 P **P** **13 55 37.1 +0.4**
KZRT Kazreti 79.87 311 P **P** **13 55 38.6 +0.5**
PRGR Permogore 79.87 331 *e*P **P** **13 55 36.4 -1.2**
PRGR *e* 13 55 41.6
PRGR pmax pmax
comp=Z,30nm,0.6s
SKT Skwentna 80.12 28 P **P** **13 55 36.8 -2.2**
SKT IAmb IAmb 13 55 40.0
comp=Z,14nm,0.9s
ZEI Tsey 80.23 312 *e*P **P** **13 55 38.0 -2.3**
ZEI pmax pmax
comp=Z,42nm,1.5s
BPAW Bear Paw Mtn. 80.52 26 P **P** **13 55 42.1 +1.0**
BPAW IAmb IAmb 13 55 43.0
comp=Z,26nm,0.8s
AKH Akhalkalaki 80.55 311⇑ P **P** **13 55 43.3 +1.3**
ONI Oni 80.56 312 P **P** **13 55 43.0 +1.1**
KARS Kars 80.87 310 P **P** **13 55 45.5 +1.8**
KBZ Khabaz 80.96 313 P **P** **13 55 42.6 -1.2**
comp=Z,5.8nm,0.9s,baz=105,slow=1.2,SNR=9.8
KBZ LR LR 14 35 17.6
comp=Z,58nm,21.2s,baz=70,slow=38
COLD Coldfoot 81.06 23 IAmb IAmb 13 55 46.3
comp=Z,11nm,0.8s
KIV Kislovodsk 81.11 313⇑ P **P** **13 55 45.8 +1.0**
KIV Kislovodsk 81.11 313 *e*P **P** **13 55 44.9 +0.1**
KIV pmax pmax
comp=Z,52nm,0.9s
KIV MLR MLR
comp=Z,112nm,19.0s
PMR Palmer 81.24 29 IAmb IAmb 13 55 45.6
comp=Z,14nm,0.8s
TOLK Toolik Lake Re 81.39 22 IAmb IAmb 13 55 48.0
comp=Z,14nm,0.7s
RND Reindeer 81.43 27 IAmb IAmb 13 55 46.5
comp=Z,13nm,0.8s
SML Sawmill 81.62 29 IAmb IAmb 13 55 48.6
comp=Z,34nm,1.0s
VRH Novokhopyorsk 81.68 321 *e*P **P** **13 55 45.5 -2.0**
VRH pmax pmax
comp=Z,50nm,1.8s
WRH Wood River Hil 81.80 26 IAmb IAmb 13 55 49.5
comp=Z,11nm,0.8s
BATM Batumi 81.89 311⇑ P **P** **13 55 51.3 +2.4**
COLA College 81.91 25 P **P** **13 55 49.0 +0.6**
COLA pmax pmax
comp=Z,12nm,0.9s
COLA College 81.91 25 P **P** **13 55 49.0 +0.6**
COLA IAmb IAmb 13 55 50.1
comp=Z,12nm,0.8s
CCB Clear Creek Bu 81.93 26 IAmb IAmb 13 55 49.5
comp=Z,18nm,1.3s
HDA Harding Lake 82.29 26 IAmb IAmb 13 55 51.5
comp=Z,19nm,0.8s
IL31 82.32 26 IAmb IAmb 13 55 51.5
comp=Z,8.7nm,0.7s
ILAR Eielson Array 82.32 26 P **P** **13 55 49.6 -1.0**
comp=Z,7.9nm,0.6s,baz=240,slow=5.0,SNR=92
KLMR Klimovskoe 82.80 330 *e*P **P** **13 55 51.6 -1.5**
KLMR pmax pmax
comp=Z,30nm,0.8s
KLMR Klimovskoe 82.80 330 *e*P **P** **13 55 51.6 -1.5**
KLMR AMP 13 55 53.2
comp=Z,30nm,0.8s
VORD Divnogorie 83.22 320 *e*P **P** **13 55 53.4 -2.1**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 83.29 321 *e*P **P** **13 55 54.2 -1.7**
VSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 83.38 322 *e*P **P** **13 55 55.4 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
TMCR Tamitsa 83.41 334 *e*P **P** **13 55 54.6 -1.6**
DOT Dot Lake 83.58 27 IAmb IAmb 13 55 58.8
comp=Z,12nm,1.0s
GLB Gilahina Butte 83.79 29 IAmb IAmb 13 56 00.4
comp=Z,29nm,1.0s
VRDI Verde Repeater 83.97 29 IAmb IAmb 13 56 01.3
comp=Z,17nm,0.8s
MOS Moscow 83.99 325 *e*P **P** **13 55 56.7 -2.6**
MALT Malatya 84.58 308 P **P** **13 56 04.0 +1.1**
OBN Obninsk 84.63 325 P **P** **13 56 01.8 -0.8**
comp=Z,7.1nm,0.4s,baz=58,slow=9.5,SNR=7.5
OBN Obninsk 84.63 325 *ce*P **P** **13 56 00.9 -1.7**
OBN *e* 13 59 18.9
OBN pmax pmax
comp=Z,27nm,1.0s
OBN MLR MLR
comp=Z,61nm,21.0s
BCAR Beaver Creek A 84.63 27 P **P** **13 56 04.1 +1.6**
EGAK Eagle 84.77 25 IAmb IAmb 13 56 05.0
comp=Z,16nm,0.8s
ANN Anapa 84.83 314 *e*P **P** **13 56 01.3 -2.5**
ANN *e**PP **pP** **13 56 23.5 -2.2**
ANN *e* 13 59 15.1
ANN *e*S S 14 06 16.1 -9.2
ANN pmax pmax
comp=Z,72nm,0.8s
DAWY Dawson 85.61 26 IAmb IAmb 13 56 09.6
comp=Z,10nm,0.8s
PPT2 Papeete2 85.97 108 *e*LR LR 14 23 13.2
comp=Z,136nm,26.5s
ASF Jabal al Asfar 86.36 302 P **P** **13 56 11.7 -0.2**
comp=Z,20nm,0.9s,baz=60,slow=1.7,SNR=28
VNDA Vanda 86.43 173 P **P** **13 56 11.1 +0.1**
comp=Z,4.9nm,0.9s,baz=317,slow=6.5,SNR=19
VNDA Vanda 86.43 173 P **P** **13 56 11.3 +0.2**
VNDA pmax pmax
comp=Z,10.0nm,1.2s
VNDA Vanda 86.43 173 P **P** **13 56 11.2 +0.2**
MAW Mawson 86.64 200 P **P** **13 56 12.4 +0.2**
comp=Z,1.1nm,0.5s,baz=45,slow=11,SNR=4.3
HYT Haines Junctio 86.89 29 IAmb IAmb 13 56 16.0
comp=Z,6.6nm,0.8s
TBI Tubuai 86.93 114 *e*LR LR 14 23 41.3
comp=Z,75nm,29.8s
PMOR Pomariorio Ree 87.21 105 *e*T T 15 32 37.4
comp=Z,2.8nm,0.2s
MMAI Mount Meron Ar 87.53 303 P **P** **13 56 17.6 +0.1**
comp=Z,14nm,0.9s,baz=110,slow=7.2,SNR=14
ARCES ARCESS Array B 87.63 340 P **P** **13 56 15.9 -1.2**
comp=Z,8.3nm,1.0s,baz=58,slow=3.0,SNR=9.2
ARCES LR LR 14 37 50.0
comp=Z,26nm,19.6s,baz=279,slow=37
ARCES ARCESS Array B 87.63 340 P **P** **13 56 16.2 -0.9**
ARCES ARCESS Array B 87.63 340 P **P** **13 56 16.2 -0.9**
BRTR Keskin Array B 88.15 310 P **P** **13 56 19.1 -1.2**
comp=Z,2.8nm,0.8s,baz=110,slow=4.7,SNR=15
BRTR Keskin Array B 88.15 310 P **P** **13 56 18.1 -2.3**
EIL Elat 88.30 300 P **P** **13 56 21.0 -0.1**
comp=Z,11nm,0.9s,baz=146,slow=6.5,SNR=7.1
FINES FINESS Array B 89.19 332 P **P** **13 56 23.2 -1.4**
comp=Z,6.1nm,0.9s,baz=88,slow=6.1,SNR=12
FINES LR LR 14 38 35.2
comp=Z,46nm,18.9s,baz=60,slow=37
FINES FINESS Array B 89.19 332 *ce*P **P** **13 56 24.2 -0.4**
FINES pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 89.59 321 P **P** **13 56 25.4 -1.2**
comp=Z,4.3nm,0.7s,baz=62,slow=4.3,SNR=12
AKASG Malin Array Be 89.59 321 P **P** **13 56 25.2 -1.5**
AKBB Malin Array Si 89.59 321 *ce*P **P** **13 56 25.0 -1.7**
KMBO Kilima Mbogo 89.70 269 P **P** **13 56 29.7 +1.4**
comp=Z,8.2nm,1.0s,baz=48,slow=5.2,SNR=11
KMBO LR LR 14 32 44.4
comp=Z,28nm,21.2s,baz=93,slow=33
SORM Soroca 90.61 319⇑ P **P** **13 56 32.2 +0.7**
SORM Soroca 90.61 319⇑ P **P** **13 56 32.2 +0.7**
TOPG Topolog 91.21 315⇓ P **P** **13 56 33.9 -0.4**
CFR Carcaliu 91.32 316⇑ P **P** **13 56 32.8 -2.0**
CFR Carcaliu 91.32 316⇑ P **P** **13 56 32.8 -2.0**
VRI Vrincioaia 92.15 316⇑ P **P** **13 56 39.1 +0.3**
VRI Vrincioaia 92.15 316⇑ P **P** **13 56 39.1 +0.3**
NEHR Nehoiu 92.54 316⇑ P **P** **13 56 40.0 -0.6**
MLR Muntele Rosu 92.77 316 P **P** **13 56 40.7 -1.1**
comp=Z,3.5nm,0.7s,baz=65,slow=1.8,SNR=8.0
MLR Muntele Rosu 92.77 316⇑ P **P** **13 56 41.3 -0.5**
MLR Muntele Rosu 92.77 316⇑ P **P** **13 56 41.3 -0.5**
BURAR Bucovina Array 92.79 318⇓ P **P** **13 56 40.5 -1.3**
BURAR Bucovina Array 92.79 318⇓ P **P** **13 56 40.5 -1.3**
ALN Alexandroupoli 93.68 312 P **P** **13 56 43.2 -2.7**
ALN pmax pmax
comp=Z,5.0nm,0.7s
ALN Alexandroupoli 93.68 312 P **P** **13 56 43.2 -2.7**
ALN IAmb IAmb 13 56 45.2
comp=Z,4.9nm,0.7s
KOLS Kolonicke sedl 94.37 320 *e*P **P** **13 56 48.5 -0.4**
KOLS Kolonicke sedl 94.37 320 *e*P **P** **13 56 48.5 -0.4**
CRVS Cervenica-Dubn 94.89 320 *e*P **P** **13 56 51.6 +0.3**
CRVS Cervenica-Dubn 94.89 320 *e*P **P** **13 56 51.6 +0.3**
SYO Syowa Base 95.29 201⇑ *e*P **P** **13 56 51.7 -0.8**
SYO Syowa Base 95.29 201⇑ *e*PcP **PcP** **13 56 56.0 +3.2**
HFS Hagfors 95.37 332 P **P** **13 56 51.4 -1.7**
comp=Z,6.4nm,1.0s,baz=151,slow=6.6,SNR=4.1
MDVR Moldavita 95.86 316⇑ P **P** **13 56 51.7 -4.1**
NB2 NORSAR Subarra 96.10 334 P **P** **13 56 55.0 -1.6**
comp=Z,2.4nm,0.9s,baz=63,slow=5.1
NOA NORSAR Array B 96.10 334 P **P** **13 56 55.0 -1.6**
comp=Z,1.5nm,0.9s,baz=66,slow=4.6,SNR=3.5
NOA LR LR 14 44 30.6
comp=Z,26nm,20.6s,baz=65,slow=38
NOA NORSAR Array B 96.10 334 P **P** **13 56 55.0 -1.6**
QSPA South Pole Qui 96.67 180 P **P** **13 56 59.2 +0.1**
QSPA IAmb IAmb 13 57 00.4
comp=Z,9.2nm,1.2s
YKA Yellowknife Ar 96.69 24 P **P** **13 56 59.1 0.0**
comp=Z,3.9nm,0.7s,baz=305,slow=4.4,SNR=7.2
MORC Moravsky Berou 97.07 322⇓ P **P** **13 56 58.8 -2.4**
MORC Moravsky Berou 97.07 322 *e*P Pdif 13 57 01.6 +0.3
MORC Moravsky Berou 97.07 322⇓ P **P** **13 56 58.8 -2.4**
JAVC Velka Javorina 97.29 321 *e*P Pdif 13 57 02.9 +0.6
DPC Dobruska-Polom 97.62 323 *e*P Pdif 13 57 04.3 +0.6
DPC Dobruska-Polom 97.62 323 *e*P Pdif 13 57 04.3 +0.6
VRAC Vranov 97.81 322 P Pdif 13 57 04.9 +0.3
comp=Z,1.7nm,0.6s,baz=68,slow=4.2,SNR=4.6
VRAC Vranov 97.81 322 *e*P Pdif 13 57 04.8 +0.3
KRUC Moravsky 98.02 322 *e*P **P** **13 57 05.2 -0.2**
PDG Podgorica 98.22 315⇑ P **P** **13 57 04.9 -1.5**
GOPC GO Pecny, Ondr 98.70 323 *e*P Pdif 13 57 08.9 +0.4
GOPC GO Pecny, Ondr 98.70 323 *e*P Pdif 13 57 08.9 +0.4
BRG Berggiesshubel 98.84 324 *e*P Pdif 13 57 09.2 +0.1
comp=Z,6.1nm,1.0s
BRG Berggiesshubel 98.84 324 *e*P Pdif 13 57 09.2 +0.1
BRG pmax pmax
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 99.72 322 *e*P **Pdif** **13 57 12.0 -1.1**
KHC Kasperske Hory 99.72 322 *e*P **Pdif** **13 57 12.0 -1.1**
GERES GERESS Array B 99.75 322 P **Pdif** **13 57 12.6 -0.7**
comp=Z,1.4nm,0.8s,baz=59,slow=5.1,SNR=10.0
GERES PP **PP** **14 01 19.9 +1.7**
comp=Z,0.7nm,0.8s,baz=98,slow=6.9,SNR=3.6
GERES LR LR 14 47 20.5
comp=Z,32nm,18.4s,baz=83,slow=38
NVAR Mina Array Bea 104.80 47 Pdiff **Pdif** **13 57 36.3 +0.1**
comp=Z,0.4nm,0.8s,baz=262,slow=4.5,SNR=3.1
NVAR PP **PP** **14 01 55.0 -1.6**
comp=Z,0.6nm,0.9s,baz=278,slow=6.3,SNR=3.6
PDAR Pinedale Array 109.00 40 PKKP PKKPbc 14 13 17.1 +9.4
comp=Z,0.7nm,0.7s,baz=116,slow=6.1,SNR=6.1
ANMO Albuquerque 114.89 47 *c i*PKIKP PKPdf 14 02 10.5 +0.2
ANMO pmax pmax
comp=Z,1.0nm,1.0s
ESDC Sonseca Array 115.21 320 PP PP 14 03 11.8 +0.5
comp=Z,1.0nm,1.0s,baz=50,slow=7.3,SNR=4.3
TXAR Lajitas Array 119.64 51 PKP **PKPdf** **14 02 19.4 0.0**
comp=Z,0.8nm,0.6s,baz=2.1,slow=0.6,SNR=11
TXAR PKKPbc **PKKPbc** **14 12 29.2 -1.6**
comp=Z,0.4nm,0.9s,baz=95,slow=5.3,SNR=3.4
TOA0 Torodi Ar. Sit 122.01 290 **PKPdf** **14 02 23.9 -0.3**
TORD Torodi Ar. Bea 122.01 290 PKP **PKPdf** **14 02 23.4 -0.8**
comp=Z,4.2nm,0.7s,baz=39,slow=2.1,SNR=20
TORD Torodi Ar. Bea 122.01 290 PKPdf **PKPdf** **14 02 23.6 -0.6**
CCM Cathedral Cave 123.03 35 PKIKP **PKiKP** **14 02 26.2 +0.4**
CCM Cathedral Cave 123.03 35 PKPdf **PKiKP** **14 02 26.2 +0.4**
MIAR Mount Ida 123.92 40 PKIKP **PKiKP** **14 02 28.8 +1.1**
MIAR Mount Ida 123.92 40 PKPdf **PKiKP** **14 02 28.8 +1.1**
DBIC Dimbokro 129.97 285 PKP **PKPdf** **14 02 38.8 -0.7**
comp=Z,2.3nm,0.7s,baz=51,slow=6.5,SNR=2.2
DBIC SKPbc SKPbc 14 05 55.2 +0.5
comp=Z,6.2nm,0.9s,baz=86,slow=1.6,SNR=5.6
PLCA Paso Flores 142.81 158 PKP **PKPdf** **14 03 00.7 -1.9**
comp=Z,3.3nm,0.8s,baz=190,slow=5.9,SNR=6.3
CPUP Villa Florida 160.17 169 PKP **PKPdf** **14 03 29.4 +0.6**
comp=Z,1.9nm,0.8s,baz=124,slow=3.6,SNR=3.0
CPUP PKPab **PKPab** **14 04 09.7 +0.7**
comp=Z,4.4nm,0.9s,baz=196,slow=5.0,SNR=6.6
LPAZ La Paz 162.59 124 PKP **PKPdf** **14 03 33.3 +1.0**
comp=Z,2.2nm,0.8s,baz=239,slow=5.9,SNR=7.9

*IDC **16** 14:08:04.2±0.8, 7.°00S×155.°43E, h0km, mb4.2/12,*

mb1 4.3/13, mb1mx4.1/40, mbtmp4.2/13, ML3.6/1, MS3.6/21, Ms1 3.7/21, ms1mx3.6/31, Error ellipse: s-maj=25.3km s-min=18.1km az=104.0
*DJA **16** 14:08:08.4±1.9, 7.°S×6.°15×15.°6E±1.°5, h80km±12km, M5.1/9, mb4.4/9, mB4.5/2, MLv5.5/1, Mw(mB)3.6/2*
*NEIC **16** 14:08:09.2±1.9, 6.°9S±0.°1×155.°44E±0.°08, h35km±1km, mb4.5/14, Error ellipse: s-maj=22.4km s-min=12.6km az=167.0*

ISC 16 14:08:10.5±0.5, 6.°99S±0.°07×155.°48E±0.°07, h50km, n59, σ1°21/44, mb4.4/22, MS3.6/19, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.31**	**310**			Pn	14 09 18.5	+4.8
KRVT	**Keravat (AS076**	**4.35**	**308**	Pn	**Pn**	**Pn**	**14 09 12.1**	**-2.1**
KRVT	3.6nm,0.3s,baz=213,slow=2.4,SNR=15			Sn		**Sn**	**14 10 01.0**	**-2.6**
KRVT	25nm,0.3s,baz=65,slow=19,SNR=4.0			LR	LR	LR	14 10 54.6	
HNR	**Honiara**	**5.04**	**119**	LR	LR	LR	14 11 26.4	
HNR	comp=Z,966nm,21.0s,baz=130,slow=40 **Honiara**	**5.04**	**119**	Pn		**Pn**	**14 09 23.9**	**+0.2**
PMG	comp=Z,2μm,19.8s,baz=274,slow=40 **Port Moresby**	**8.58**	**253**	Pn		**Pn**	**14 10 11.5**	**-0.6**
PMG	1.6nm,0.3s,baz=55,slow=13,SNR=7.9			Sn		**Sn**	**14 11 48.1**	**+0.4**
PMG	3.1nm,0.3s,baz=102,slow=22,SNR=4.6			LR	LR	LR	14 13 26.4	
PMG	comp=Z,896nm,18.5s,baz=44,slow=38 **Port Moresby**	**8.58**	**253**	Pn		**Pn**	**14 10 11.2**	**-1.0**
COEN	**Coen**	**13.94**	**239**	Pn		**Pn**	**14 11 24.7**	**-0.7**
JAY	**Jayapura**	**15.38**	**286**	LR	LR	LR	14 18 07.1	
CTA	comp=Z,260nm,19.4s,baz=79,slow=39 **Charters Tower**	**15.80**	**214**	Pn		**P**	**14 11 52.0**	**-0.9**
CTAO	0.2nm,0.3s,baz=39,slow=12,SNR=9.6 **Charters Tower**	**15.80**	**214**	P		**P**	**14 11 52.2**	**-0.7**
CTAO	comp=Z,33nm,1.2s			IAmb	IAmb	IAmb	14 11 56.1	
DZM	**Mont Dzumac**	**18.35**	**146**	*e*LR	LR	LR	14 16 37.3	
DZM	comp=Z,621nm,25.9s **Mont Dzumac**	**18.35**	**146**	LR	LR	LR	14 18 09.1	
TARA	comp=Z,385nm,20.9s,baz=322,slow=33 **Tarawa**	**19.28**	**65**	P		**P**	**14 12 29.1**	**-2.2**
GUMO	**Guam**	**23.00**	**333**	LR	LR	LR	14 21 04.7	
WR0	comp=Z,87nm,21.8s,baz=149,slow=34 **Warramunga Arr**	**24.06**	**236**	P		**P**	**14 13 21.0**	**-0.3**
WR0	comp=Z,28nm,1.2s			IAmb	IAmb	IAmb	14 13 22.6	
WB0	**Warramunga Arr**	**24.09**	**236**	P		**P**	**14 13 21.5**	**-0.1**
WRAB	**Tennant Creek**	**24.21**	**236**	P		**P**	**14 13 22.5**	**-0.1**
WRAB	comp=Z,22nm,1.2s			IAmb	IAmb	IAmb	14 13 33.7	
WB2	**Warramunga Arr**	**24.21**	**236**	P		**P**	**14 13 22.7**	**0.0**
WB2	comp=Z,12nm,0.9s			IAmb	IAmb	IAmb	14 13 41.8	
WRA	**Warramunga Arr**	**24.22**	**236**	P		**P**	**14 13 22.6**	**-0.2**
WRA	comp=Z,8.1nm,0.9s,baz=59,slow=9.4,SNR=41			PcP		**PcP**	**14 17 03.4**	**+1.0**
WRA	comp=Z,0.5nm,0.6s,baz=63,slow=2.5,SNR=2.6 **Warramunga Arr**	**24.22**	**236**	P		**P**	**14 13 21.3**	**-1.5**
SIJI	**Sorong**	**24.90**	**283**	P		**P**	**14 13 29.1**	**+0.1**
AS31	comp=Z,3.1nm,0.3s,baz=63,slow=5.2,SNR=4.1 **Alice Springs**	**26.54**	**229**	P		**P**	**14 13 42.3**	**-1.6**
ASAR	**Alice Springs**	**26.54**	**229**	P		**P**	**14 13 43.3**	**-0.6**
ASAR	comp=Z,2.3nm,0.7s,baz=59,slow=9.3,SNR=31			PcP		**PcP**	**14 17 09.1**	**+1.5**
ASAR	comp=Z,0.3nm,0.6s,baz=62,slow=4.3,SNR=2.7			LR	LR	LR	14 24 02.8	
ASAR	comp=Z,171nm,18.4s,baz=48,slow=36 **Alice Springs**	**26.54**	**229**	P		**P**	**14 13 42.4**	**-1.5**
KNRA	**Kununurra**	**27.56**	**249**	P		**P**	**14 13 53.7**	**+0.7**
KNRA	comp=Z,9.0nm,0.8s			IAmb	IAmb	IAmb	14 14 06.3	
H11S3	**WAKE ISLAND Hy**	**27.63**	**23**	T		T	14 42 23.7	
H11S2	baz=203,slow=75,SNR=23 **WAKE ISLAND Hy**	**27.63**	**23**	T		T	14 42 26.7	
H11S1	baz=203,slow=75,SNR=29 **WAKE ISLAND Hy**	**27.64**	**23**	T		T	14 42 16.7	
STKA	baz=203,slow=75,SNR=16 **Stephens Creek**	**27.95**	**206**	P		**P**	**14 13 55.8**	**-0.5**
STKA	comp=Z,3.5nm,1.1s,baz=25,slow=14,SNR=3.8			LR	LR	LR	14 25 04.7	
FITZ	comp=Z,284nm,18.2s,baz=26,slow=37 **Fitzroy Crossi**	**31.10**	**246**	P		**P**	**14 14 23.3**	**-1.1**
FITZ	comp=Z,5.0nm,0.7s,baz=90,slow=6.7,SNR=20 **Fitzroy Crossi**	**31.10**	**246**	IAmb	IAmb	IAmb	14 14 24.1	
AFI	comp=Z,6.3nm,0.8s **Afiamalu**	**32.90**	**105**	LR	LR	LR	14 26 09.4	
FORT	comp=Z,214nm,18.4s,baz=290,slow=33 **Forrest**	**34.93**	**224**	P		**P**	**14 14 57.0**	**-0.7**
FORT	comp=Z,11nm,0.9s			IAmb	IAmb	IAmb	14 14 58.8	
URZ	**Urewera**	**36.78**	**151**	LR	LR	LR	14 29 53.5	
RPZ	comp=Z,149nm,18.5s,baz=355,slow=36 **Rata Peaks**	**39.05**	**162**	LR	LR	LR	14 29 37.6	
MJAR	comp=Z,214nm,20.8s,baz=292,slow=33 **Matsushiro Arr**	**46.23**	**341**	LR	LR	LR	14 37 35.6	
KSRS	comp=Z,19nm,18.1s,baz=205,slow=38 **Korea Array**	**51.16**	**332**	LR	LR	LR	14 38 58.3	
NJ2	comp=Z,12nm,18.2s,baz=128,slow=36 **Nanjing**	**52.22**	**320**	*e*P		**P**	**14 17 19.4**	**+2.8**
NJ2	comp=Z,5.0nm,0.5s			pmax	pmax			
SDSI	**Sungai Dareh**	**54.22**	**274**	P		**P**	**14 17 31.4**	**-0.4**
PPT2	comp=Z,6.3nm,0.9s **Papeete2**	**54.54**	**107**	*e*S		**S**	**14 25 07.3**	**-2.9**
PPT2	comp=Z,136nm,26.5s			*e*LR	LR	LR	14 33 23.5	
TBI	comp=Z,78nm,21.2s **Tubuai**	**55.24**	**114**	*e*LR	LR	LR	14 33 38.0	
PEA0B	comp=Z,151nm,30.8s **Petropavlovsk-**	**59.89**	**2**	P		**P**	**14 18 10.4**	**-0.7**
PETK	**Petropavlovsk-**	**59.89**	**2**	P		**P**	**14 18 12.3**	**+1.2**
PETK	comp=Z,4.0nm,0.7s,baz=122,slow=5.4,SNR=8.1			LR	LR	LR	14 39 60.0	
PETK	comp=Z,40nm,21.7s,baz=226,slow=32 **Petropavlovsk-**	**59.89**	**2**	P		**P**	**14 18 11.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**61.22**	**295**	P		**P**	**14 18 21.4**	**+0.6**
CMAR	comp=Z,3.2nm,0.8s,baz=125,slow=5.1,SNR=19			LR	LR	LR	14 44 34.0	
HHC	comp=Z,25nm,19.9s,baz=188,slow=36 **Hu-ho-hao-te**	**62.37**	**324**	*e*P		**P**	**14 18 30.4**	**+2.1**
HHC	comp=Z,12nm,1.2s			pmax	pmax			
HHC	comp=Z,78nm,6.0s			pmax	pmax			
HHC	comp=N,86nm,16.7s			LR	LR			
HHC	comp=E,100nm,17.0s			LR	LR			
LZH	comp=Z,89nm,16.3s **Lanzhou**	**64.65**	**315**	*e*P		P	14 18 48.4	+4.9
LZH				pP	sP		14 19 00.3	-2.8
LZH				sP	pP		14 19 04.0	+6.6
LZH	comp=Z,12nm,1.0s			pmax	pmax			
GTA	**Gaotai**	**69.06**	**317**	*e*P		**P**	**14 19 12.1**	**+0.6**
GTA				pP	pP		14 19 19.9	-5.6
GTA				sP	sP		14 19 23.4	-7.7
GTA	comp=Z,3.0nm,1.0s			pmax	pmax			
SONM	**Songino Array**	**69.59**	**327**	P		**P**	**14 19 14.9**	**+0.4**
SONM	comp=Z,0.6nm,0.5s,baz=123,slow=7.1,SNR=2.9			LR	LR	LR	14 49 03.1	
VNDA	comp=Z,29nm,21.4s,baz=105,slow=35 **Vanda**	**70.58**	**179**	P		**P**	**14 19 20.6**	**+0.6**
IMAR	comp=Z,0.9nm,0.9s,baz=338,slow=6.5,SNR=4.0 **Indian Mountai**	**81.56**	**19**	P		**P**	**14 20 23.4**	**+0.8**
ILAR	**Eielson Array**	**83.19**	**21**	P		**P**	**14 20 31.4**	**+0.3**
ILAR	comp=Z,0.7nm,0.8s,baz=258,slow=5.3,SNR=6.4			LR	LR	LR	14 52 54.8	
MKAR	comp=Z,80nm,20.2s,baz=268,slow=32 **Makanchi Array**	**83.72**	**319**	P		**P**	**14 20 34.0**	**-0.2**
MKAR	comp=Z,0.7nm,0.7s,baz=82,slow=5.1,SNR=3.7			LR	LR	LR	14 58 29.3	
ZALV	comp=Z,20nm,19.2s,baz=74,slow=36 **Zalesovo Beam**	**84.44**	**326**	LR	LR	LR	14 58 23.3	
MAW	comp=Z,23nm,20.9s,baz=84,slow=36 **Mawson**	**84.59**	**203**	P		**P**	**14 20 39.4**	**+1.2**
NRIK	comp=Z,1.5nm,0.6s,baz=95,slow=5.4,SNR=7.1 **Noril'sk**	**88.89**	**341**	LR	LR	LR	15 02 01.5	
YKA	comp=Z,24nm,19.1s,baz=10.0,slow=36 **Yellowknife Ar**	**96.10**	**28**	LR	LR	LR	15 02 29.8	
	comp=Z,25nm,18.4s,baz=0.0,slow=34							

BDFB	**Brasilia**	**147.64**	**134**	PKPbc	**PKiKP**	**14 27 51.9**	**-0.8**
	comp=Z,3.5nm,0.5s,baz=212,slow=3.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**153.49**	**285**	PKPbc	**PKiKP**	**14 28 04.6**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=33,slow=2.0,SNR=5.1						
TORD				PKPab	**sPKPdf**	**14 28 18.2**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=99,slow=2.8,SNR=3.0						

IDC 16 14:09:34.4±1.5, 30.47S×178.32W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.8/27, mbtmp4.1/5, ML3.1/1, Error ellipse: s-maj=42.6km s-min=33.1km az=154.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.64**	**205**	Pn	Pn	14 11 40.8	+0.1
	0.2nm,0.3s,baz=98,slow=11,SNR=2.5						
URZ				Sn	Sn	14 13 15.7	-3.1
	1.8nm,0.3s,baz=102,slow=22,SNR=15						
CTA	**Charters Tower**	**33.53**	**280**	P	P	14 16 17.1	+1.1
	0.9nm,0.3s,baz=100,slow=6.1,SNR=1.8						
STKA	**Stephens Creek**	**34.19**	**257**	P	P	14 16 22.5	+0.9
	3.5nm,0.7s,baz=90,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**42.83**	**267**	P	P	14 17 33.6	-0.7
	0.5nm,0.3s,baz=105,slow=7.2,SNR=14						
WRA	**Warramunga Arr**	**43.82**	**272**	P	P	14 17 41.5	-0.9
	1.0nm,0.3s,baz=111,slow=8.1,SNR=18						
FINES	**FINESS Array B**	**145.11**	**340**	PKPbc	PKPbc	14 29 10.9	-1.7
	1.4nm,0.3s,baz=54,slow=4.4,SNR=20						
NOA	**NORSAR Array B**	**148.78**	**351**	PKPbc	PKPbc	14 29 23.4	+0.3
	0.6nm,0.8s,baz=15,slow=4.2,SNR=3.3						
AKASG	**Malin Array Be**	**151.18**	**322**	PKPbc	PKiKP	14 29 29.6	-0.2
	0.4nm,0.5s,baz=45,slow=1.4,SNR=1.7						
TORD	**Torodi Ar. Bea**	**162.76**	**180**	PKPab	PKPab	14 30 26.9	-0.7
	0.5nm,0.8s,baz=193,slow=5.7,SNR=2.4						

IDC 16 14:17:06.8±8.3, 26.91N×100.30E, h0km, mb3.2/2, mb1 3.4/2, mb1mx3.0/39, mbtmp3.2/2, Error ellipse: s-maj=172.3km s-min=74.4km az=125.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.51**	**189**	Pg	Pg	14 19 42.0	-7.8
	0.1nm,0.3s,baz=2.0,slow=17,SNR=2.9						
CMAR				Lg	Lg	14 21 32.2	
	0.2nm,0.3s,baz=358,slow=29,SNR=1.8						
WRA	**Warramunga Arr**	**57.08**	**141**	P	P	14 26 54.9	-0.2
	0.2nm,0.5s,baz=330,slow=7.6,SNR=5.6						
ASAR	**Alice Springs**	**59.86**	**144**	P	P	14 27 14.5	+0.1
	0.1nm,0.4s,baz=326,slow=7.1,SNR=1.9						

*NNC **16** 14:17:32.6±3.0, 48.69N×7.17E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=37.5km s-min=9.9km az=70.0, Suspected Mining explosion.*

ISC 16 14:17:20.5±999.0, 48°N±45°×7°E±11°, 5, h0km, n4, σ1s67/4, 5C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.64**	**28**	⇑Pg	**Pb**	**14 18 08.5**	**-0.2**
	2.2nm,0.4s						
KURBB				⇓Lg	Lg	14 18 35.6	
	8.9nm,0.7s						
KURK	**Kurchatov**	**2.75**	**28**	⇑Pg	**Pb**	**14 18 09.8**	**-0.7**
	1.4nm,0.5s						
KURK				⇑Lg	Lg	14 18 37.2	
	2.3nm,0.5s						
MK31	**Makanchi Array**	**4.16**	**109**	⇑Pg	**Pb**	**14 18 33.4**	**-1.1**
	0.1nm,0.2s,baz=273,slow=12,SNR=7.8						
MK31				⇑Lg	Lg	14 19 20.4	
	0.2nm,0.2s,baz=311,slow=28,SNR=6.6						
WMQ	**Urumqi**	**8.94**	**116**	*e*P	**Pg**	**14 20 12.6**	**+1.0**
WMQ				LR	LR		
	comp=N,52nm,12.7s						
WMQ				LR	LR		
	comp=E,110nm,13.7s						
WMQ				LR	LR		
	comp=Z,120nm,16.1s						

*NEIC **16** 15:08:21±4.4, 0.2S±0.1×78.32W±0.10, h58km±6km, mb4.7/15, Error ellipse: s-maj=0.0km s-min=0.0km az=131.0*

*IDC **16** 15:08:22.0±0.6, 0.07S×78.45W, h0km, mb4.2/15, mb1 4.3/21, mb1mx4.2/35, mbtmp4.2/21, ML4.0/4, MS3.9/16, Ms1 3.9/16, ms1mx3.7/31, Error ellipse: s-maj=17.2km s-min=11.6km az=64.0*

*IGQ **16** 15:08:22.1±0.1, 0.5S±1.7×78.8W±.7, h4km, M4.8*

*VAO **16** 15:08:23.3±0.6, 0.09N×78.23W, h9km±7km, mb4.7*

*GCMT **16** 15:08:26.4±0.3, 0.03N±0.03×78.50W±0.02, h20km±1km, MW4.8/71, Moment Tensor Solution. s19,c21; s71,c92; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.97±.15; Mθθ 0.10±.08; Mθφ -2.06±.11; Mrθ -1.30±.20; Mφφ -0.21±.05; Mφr -0.17±.17; Best double couple: M=2.37200×10^16 NP1: φs 343.00000°, δ 46.00000°, λ 52.00000°. NP2: φs 211.00000°, δ 56.00000°, λ 123.00000°. Principal axes: T 2.6360, Plg 63.0000°, Azm 178.0000°; N -0.5230, Plg 26.0000°, Azm 11.0000°; P -2.1080, Plg 5.0000°, Azm 279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 15:08:22.5±0.8, 0.06S±0.02×78.41W±0.02, h9km±5km, n258, σ1s68/263, mb4.4/24, MS3.8/11, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FENY	**Casa Vinicio C**	**0.11**	**220**	P	**Pg**	**15 08 25.3**	**-0.2**
PRAM	**Casa Patricio**	**0.12**	**225**	P	**Pg**	**15 08 25.2**	**-0.3**
PULU	**Pululahua**	**0.12**	**311**	P	**Pg**	**15 08 24.8**	**-0.8**
C24MA	**Colegio 24 de**	**0.13**	**209**	P	**Pg**	**15 08 25.7**	**-0.1**
C24MA				S	**Sg**	**15 08 28.6**	**+0.6**
IRDE	**Institut de re**	**0.15**	**208**	P	**Pg**	**15 08 26.0**	**-0.1**
CIRC	**Crculo Milita**	**0.16**	**210**	P	**Pg**	**15 08 25.9**	**-0.2**
COMIL	**Quito-Colegio**	**0.16**	**211**	P	**Pg**	**15 08 25.9**	**-0.2**
CIVI	**Edificio de In**	**0.17**	**208**	P	**Pg**	**15 08 26.3**	**-0.1**
YANA	**Yana**	**0.17**	**250**	P	**Pg**	**15 08 25.6**	**-0.8**
EPNL	**EPN Laboratori**	**0.17**	**209**	P	**Pg**	**15 08 26.3**	**0.0**
SANF	**Convento San F**	**0.19**	**214**	P	**Pg**	**15 08 25.3**	**-1.4**
SANF				S	**Sg**	**15 08 28.8**	**-0.7**
GGP	**Refugio Guagua**	**0.22**	**238**	P	**Pg**	**15 08 26.6**	**-0.6**
VIFL	**Administracin**	**0.22**	**212**	P	**Pg**	**15 08 26.9**	**-0.3**
GGPC	**Guagua Pichinc**	**0.22**	**238**	P	**Pg**	**15 08 26.6**	**-0.7**
PINO	**Pino**	**0.22**	**244**	P	**Pg**	**15 08 26.7**	**-0.6**
TING	**Casa Alexandra**	**0.22**	**190**	P	**Pg**	**15 08 27.5**	**+0.2**
TING				S	**Sg**	**15 08 31.9**	**+1.4**
LILI	**Casa Paps Lil**	**0.24**	**210**	P	**Pg**	**15 08 27.3**	**-0.3**
LILI				S	**Sg**	**15 08 31.7**	**+0.7**
ZALD	**Colegio Gonzal**	**0.24**	**213**	P	**Pg**	**15 08 27.2**	**-0.4**
ZALD				S	**Sg**	**15 08 31.7**	**+0.6**
OTAV	**Otavalo**	**0.30**	**352**	*e*P	**Pg**	**15 08 27.8**	**-0.9**
OTAV	**Otavalo**	**0.30**	**352**	Pn	**Pg**	**15 08 27.8**	**-0.9**
OTAV	**Otavalo**	**0.30**	**352**	*e*P	**Pg**	**15 08 27.7**	**-0.9**
IMBA	**Imbabura, San**	**0.40**	**32**	P	**Pb**	**15 08 31.2**	**-0.8**
COTA	**Cotacachi**	**0.40**	**10**	P	**Pg**	**15 08 30.1**	**-0.4**
APS4	**Papallacta**	**0.43**	**136**	P	**Pg**	**15 08 30.5**	**-0.6**
ANTG	**Antisana-Guama**	**0.47**	**161**	P	**Pg**	**15 08 31.3**	**-0.5**
ANTG				S	**Sg**	**15 08 37.4**	**-0.6**
ANTS	**Antisana-Sarah**	**0.50**	**151**	P	**Pg**	**15 08 31.9**	**-0.4**
PAC1	**Pacto, Paraso**	**0.50**	**310**	P	**Pg**	**15 08 31.2**	**-1.1**
ANTM	**Antisana-La Mi**	**0.51**	**158**	P	**Pg**	**15 08 31.9**	**-0.6**
ANTM				S	**Sg**	**15 08 38.8**	**-0.5**
APR2	**Miler**	**0.57**	**284**	P	**Pg**	**15 08 32.5**	**-1.1**
VC1	**Cotopaxi 1**	**0.58**	**179**	P	**Pg**	**15 08 33.4**	**-0.5**
BREF	**Cotopaxi Volca**	**0.61**	**183**	P	**Pg**	**15 08 34.4**	**-0.1**
BREF				S	**Sg**	**15 08 42.8**	**+0.3**
BTAM	**Cotopaxi Volca**	**0.61**	**179**	P	**Pg**	**15 08 34.2**	**-0.3**
BTAM				S	**Sg**	**15 08 43.1**	**+0.5**
TAMB	**Tambo**	**0.63**	**176**	P	**Pg**	**15 08 34.7**	**-0.1**
ILLI	**Illinizas Sur**	**0.72**	**206**	P	**Pg**	**15 08 35.8**	**-0.8**
VCES	**Cotopaxi**	**0.73**	**179**	P	**Pg**	**15 08 36.8**	**0.0**
VCES				S	**Sb**	**15 08 47.2**	**-0.9**
CONE	**Cono NE Rev Vo**	**0.77**	**91**	P	**Pg**	**15 08 37.0**	**-0.3**
LAV4	**Lava4-Reventad**	**0.78**	**92**	P	**Pg**	**15 08 37.1**	**-0.5**
REVS	**Reventador Sur**	**0.79**	**93**	P	**Pg**	**15 08 37.5**	**-0.4**
CHL1	**Volcn Chiles**	**0.96**	**29**	P	**Pg**	**15 08 40.4**	**-0.8**
ECEN	**Cerro Negro**	**0.98**	**27**	P	**Pg**	**15 08 40.6**	**-0.8**
CHL2	**Volcn Chiles**	**0.99**	**30**	P	**Pg**	**15 08 40.9**	**-0.7**
CHL2				S	**Sg**	**15 08 54.3**	**-0.2**
TULM	**Tulcn-Chalpat**	**0.99**	**39**	P	**Pg**	**15 08 40.8**	**-0.8**
TULM				S	**Sb**	**15 08 55.1**	**-0.4**
PIS1	**Pisayambo**	**0.99**	**179**	P	**Pg**	**15 08 41.0**	**-0.7**
PIS1				S	**Sg**	**15 08 55.0**	**+0.3**
ATUL	**Tulcn**	**1.07**	**40**	P	**Pg**	**15 08 42.4**	**-0.9**
ATUL				S	**Sb**	**15 08 57.2**	**-0.6**
ARDO	**Archidona, Ten**	**1.11**	**147**	P	**Pg**	**15 08 43.1**	**-0.8**
ARDO				S	**Sg**	**15 08 58.0**	**-0.4**
CMBC	**Cumbal**	**1.15**	**30**	*e*P	**Pn**	**15 08 44.8**	**-0.5**
BRUN	**Tungurahua Vol**	**1.35**	**180**	P	**Pn**	**15 08 46.8**	**-1.1**
JUI6	**Juive**	**1.36**	**182**	P	**Pn**	**15 08 46.8**	**-1.1**
RETU	**Refugio**	**1.38**	**182**	P	**Pn**	**15 08 47.7**	**-0.8**
BBIL	**Ulba Tungurahu**	**1.38**	**183**	P	**Pn**	**15 08 47.6**	**-0.8**
BPAT	**Tungurahua Vol**	**1.43**	**181**	P	**Pn**	**15 08 48.7**	**-0.5**
BMAS	**Trigal station**	**1.44**	**183**	P	**Pn**	**15 08 48.2**	**-0.8**
ARRY	**Arrayan**	**1.44**	**182**	P	**Pn**	**15 08 48.4**	**-0.7**
IGUA	**Igualata**	**1.44**	**189**	P	**Pn**	**15 08 48.7**	**-0.6**
PUYO	**Puyo, Santa Ro**	**1.48**	**165**	P	**Pn**	**15 08 49.3**	**-0.1**
GCUF	**Volcan Galeras**	**1.66**	**40**	*e*P	**Pb**	**15 08 52.9**	**-0.7**
PKYU	**Pakayacu**	**1.77**	**153**	P	**Pb**	**15 08 55.5**	**+0.2**
PUAC	**Puerto Asis, P**	**1.94**	**72**	*e*P	**Pb**	**15 08 57.9**	**-0.2**
SANGA	**Volcan Sangay**	**1.98**	**179**	P	**Pb**	**15 08 58.1**	**-0.9**
CRUC	**La Cruz**	**2.18**	**42**	*e*P	**Pb**	**15 09 02.1**	**-0.2**
BBAC	**Balboa, Cauca**	**2.37**	**29**	*e*P	**Pb**	**15 09 04.8**	**-0.8**
AMIL	**Milagro (Trans**	**2.38**	**210**	P	**Pb**	**15 09 05.3**	**-0.3**
PPLP	**Puerto Lpez**	**2.79**	**238**	P	**Pn**	**15 09 06.4**	**-1.0**
GR1C	**Gorgona, Isla**	**3.05**	**5**	*e*P	**Pn**	**15 09 10.8**	**-0.2**
BOSC	**San Juan Bosco**	**3.07**	**182**	P	**Pb**	**15 09 17.1**	**-0.4**
PCON	**Cinco Dias**	**3.11**	**40**	*e*P	**Pg**	**15 09 19.8**	**-2.4**
POPC	**Popayan, Colom**	**3.11**	**34**	*e*P	**Pb**	**15 09 16.1**	**-2.1**
FLOC	**Florencia**	**3.20**	**59**	*e*P	**Pn**	**15 09 14.5**	**+1.4**
FLOC	**Florencia**	**3.20**	**59**	Pn	**Pn**	**15 09 14.1**	**+1.0**
MORR	**Playas El Morr**	**3.21**	**217**	P	**Pn**	**15 09 16.6**	**-3.0**
SALI	**Salinas**	**3.33**	**231**	P	**Pn**	**15 09 16.8**	**+1.9**
ISPG	**Isla Puna-Puer**	**3.38**	**211**	P	**Pb**	**15 09 18.9**	**-3.8**
PTLC	**Puerto Leguiza**	**3.62**	**86**	*e*P	**Pn**	**15 09 20.4**	**+1.5**
GARC	**Garzon, Huila**	**3.67**	**53**	*e*P	**Pn**	**15 09 22.5**	**+2.8**
MARP	**Paez Belalcaza**	**3.79**	**40**	*e*P	**Pb**	**15 09 27.8**	**-2.0**
ARNL	**Arenillas**	**3.84**	**206**	P	**Pn**	**15 09 24.3**	**+2.5**
BETC	**Betania**	**4.03**	**47**	*e*P	**Pb**	**15 09 34.7**	**+1.0**
MALC	**Bahia Malaga**	**4.19**	**15**	*e*P	**Pn**	**15 09 29.4**	**+2.9**
YOTC	**Yotoco, Valle**	**4.51**	**27**	*e*P	**Pn**	**15 09 33.9**	**+2.6**
MCRA	**Macar, Loja**	**4.55**	**200**	P	**Pn**	**15 09 33.4**	**+1.7**
ORTC	**Ortega, Tolima**	**5.05**	**39**	*e*P	Pn	15 09 43.9	+5.3
MACC	**Macarena, Meta**	**5.06**	**64**	*e*P	**Pn**	**15 09 40.1**	**+1.5**
PRAC	**Prado**	**5.14**	**43**	*e*P	Pn	15 09 45.5	+5.8
PLMC	**San Jos del P**	**5.37**	**23**	*e*P	**Pn**	**15 09 44.9**	**+1.9**
ANIL	**Santa Ana**	**5.43**	**34**	*e*P	**Pn**	**15 09 47.6**	**+3.7**
TOLC	**Tolima**	**5.55**	**34**	*e*P	**Pn**	**15 09 49.7**	**+4.1**
RREF	**El Recreo**	**5.80**	**32**	*e*P	**Pn**	**15 09 53.0**	**+3.6**
GUYC	**Guyana, Caldas**	**6.07**	**30**	*e*P	**Pn**	**15 09 56.3**	**+3.4**
VILC	**Villavicencio,**	**6.28**	**49**	*e*P	Pn	15 10 02.2	+6.8
GUVC	**San Jose del G**	**6.33**	**66**	*e*P	**Pn**	**15 09 58.9**	**+2.7**
CBOC	**Ciudad Bolivar**	**6.35**	**22**	*e*P	**Pn**	**15 09 59.5**	**+3.0**
ROSC	**El Rosal**	**6.35**	**40**	Pn	**Pn**	**15 09 58.7**	**+1.9**
	1.3nm,0.3s,baz=240,slow=23,SNR=2.1						
ROSC				Sn	**Sn**	**15 11 14.6**	**+4.9**
	baz=233,slow=14,SNR=1.6						
ROSC				Lg	Lg	15 11 47.8	
	2.4nm,0.3s,baz=228,slow=19,SNR=1.7						
ROSC	**El Rosal**	**6.35**	**40**	*e*P	Pn	15 10 01.7	+5.0
CHIC	**Chingaza**	**6.60**	**45**	*e*P	Pn	15 10 05.5	+5.3
NORC	**Norcasia**	**6.61**	**32**	*e*P	**Pn**	**15 10 03.5**	**+4.0**
HELC	**Santa Helena**	**6.84**	**25**	*e*P	Pn	15 10 10.2	+6.7
ATAH	**Atahualpa**	**7.03**	**180**	Pn	**Pn**	**15 10 06.9**	**+0.8**
	3.5nm,0.3s,baz=346,slow=7.9,SNR=10						
ATAH				Lg	Lg	15 12 05.4	
	0.9nm,0.3s,baz=272,slow=23,SNR=0.8						
SPBC	**San Pablo de B**	**7.14**	**37**	*e*P	**Pn**	**15 10 11.5**	**+4.3**
DBBC	**Dabeiba**	**7.37**	**17**	*e*P	Pn	15 10 17.5	+7.1
PTBC	**PUERTO BERRIO,**	**7.65**	**31**	*e*P	**Pn**	**15 10 17.7**	**+3.5**
RUSC	**La Rusia**	**7.95**	**42**	*e*P	Pn	15 10 25.1	+6.3
RUSC	**La Rusia**	**7.95**	**42**	Pn	**Pn**	**15 10 18.0**	**-0.8**
UREC	**San Jos de Ur**	**8.27**	**20**	*e*P	Pn	15 10 28.3	+5.5
ZARC	**Zaragoza, Cauc**	**8.30**	**25**	*e*P	**Pn**	**15 10 24.9**	**+1.8**
BARC	**Barichara**	**8.42**	**38**	*e*P	Pn	15 10 29.8	+4.8
CZSB	**Cruzeiro do Su**	**9.51**	**143**	*e*P	**Pn**	**15 10 40.9**	**+1.1**
SMLC	**San Martin de**	**9.81**	**26**	*e*P	Pn	15 10 38.8	-5.0
SDV	**Santo Domingo**	**11.79**	**41**	Pn	**Pn**	**15 11 12.6**	**+1.5**
	0.4nm,0.3s,baz=330,slow=22,SNR=2.4						
SDV				Lg	Lg	15 14 44.5	
	0.4nm,0.3s,baz=303,slow=14,SNR=2.7						
SDV				LR	LR	15 15 52.6	
	comp=Z,986nm,21.2s,baz=226,slow=38						
SDV	**Santo Domingo**	**11.79**	**41**	*e*P	**Pn**	**15 11 14.9**	**+3.7**
SDV	**Santo Domingo**	**11.79**	**41**	Pn	**Pn**	**15 11 12.0**	**+0.9**
SDV	**Santo Domingo**	**11.79**	**41**	*e*P	**Pn**	**15 11 11.4**	**+0.3**
NNA	**Nana**	**11.95**	**173**	Pn	**Pn**	**15 11 13.9**	**+0.7**
	1.8nm,0.3s,baz=121,slow=18,SNR=2.6						
NNA				LR	LR	15 15 56.0	
	comp=Z,820nm,18.2s,baz=348,slow=38						
JTS	**Las Juntas de**	**12.17**	**328**	LR	LR	15 15 04.8	
	comp=Z,436nm,19.3s,baz=217,slow=33						
ESPN	**Las Esperanzas**	**13.51**	**335**	Pn	**Pn**	**15 11 33.5**	**-1.0**
SAML	**Samuel**	**17.55**	**121**		**Pn**	**15 12 24.7**	**-2.9**
SAML	**Samuel**	**17.55**	**121**	*e*P	**Pn**	**15 12 27.1**	**-0.5**
MACA	**Manacapuru-AM**	**17.98**	**100**	*e*P	**Pn**	**15 12 30.1**	**-2.8**
MTO3	**Montecristo**	**18.00**	**323**		**Pn**	**15 12 31.0**	**-2.3**
MTO3					IAmb	IAmb	15 12 37.9
	comp=Z,36nm,0.8s						
PTGA	**Pitinga**	**18.45**	**92**	P	**Pn**	**15 12 40.2**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=253,slow=20,SNR=4.1						
PTGA				S	**Sn**	**15 15 59.5**	**-5.7**
	comp=Z,0.2nm,0.3s,baz=5.7,slow=15,SNR=4.6						
PTGA				Lg	Lg	15 18 04.4	
	comp=Z,1.2nm,0.3s,baz=11,slow=19,SNR=4.5						
PTGA				LR	LR	15 20 09.2	
	comp=Z,750nm,18.1s,baz=246,slow=38						
PTGA	**Pitinga**	**18.45**	**92**	P	**P**	**15 12 34.7**	**-4.0**
LPAZ	**La Paz**	**19.05**	**148**	P	**Pn**	**15 12 46.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=356,slow=9.6,SNR=5.5						
LPAZ				Lg	Lg	15 18 32.0	
	comp=Z,0.1nm,0.3s,baz=35,slow=17,SNR=1.6						
LPAZ				LR	LR	15 21 34.6	
	comp=Z,640nm,19.1s,baz=326,slow=42						
LPAZ	**La Paz**	**19.05**	**148**	*e*P	**Pn**	**15 12 46.8**	**+0.2**
SDD	**Santo Domingo**	**20.21**	**24**	P	**P**	**15 12 55.6**	**-2.2**
MNMC	**Minye Minye**	**20.83**	**156**	P	**P**	**15 13 00.5**	**-4.4**
MNMC					IAmb	IAmb	15 13 17.0
	comp=Z,60nm,0.9s						
PCDR	**Punta Cana, DR**	**20.92**	**28**	P	**P**	**15 13 00.1**	**-5.5**
PSGCX	**Pisagua**	**21.05**	**158**	P	**P**	**15 13 01.4**	**-5.6**
PSGCX					IAmb	IAmb	15 13 18.8
	comp=Z,35nm,1.2s						
OBIP	**Obispado Ponce**	**21.41**	**32**	P	**P**	**15 13 07.5**	**-3.3**
CBYP	**Canovanas**	**22.00**	**33**	P	**P**	**15 13 14.3**	**-3.0**
CBYP					IAmb	IAmb	15 13 26.0
	comp=Z,44nm,0.9s						
VILB	**Vilhena**	**22.14**	**126**	*e*P	**P**	**15 13 19.6**	**+0.9**
TEIG	**Tepich**	**22.36**	**335**	P	**P**	**15 13 22.2**	**+1.3**
	comp=Z,11nm,1.0s,baz=147,slow=8.3,SNR=2.1						
ITTB	**Itaituba**	**23.05**	**101**	*e*P	**P**	**15 13 28.6**	**+0.1**
ITTB				*e*S	**S**	**15 17 38.0**	**-1.8**
SIV	**San Ignacio**	**23.31**	**134**	P	**P**	**15 13 31.4**	**+0.3**
	comp=Z,39nm,1.1s,baz=323,slow=10,SNR=8.2						
SIV				LR	LR	15 23 17.4	
	comp=Z,701nm,20.1s,baz=326,slow=38						
CMIG	**Matias Romero**	**23.53**	**317**	P	**P**	**15 13 35.1**	**+1.9**
	comp=Z,7.5nm,1.0s,baz=100,slow=8.1,SNR=5.4						
CMIG				LR	LR	15 21 33.2	
	comp=Z,76nm,21.9s,baz=153,slow=34						
NPGB	**Novo Progresso**	**24.02**	**107**	*e*P	**P**	**15 13 38.3**	**+0.3**
NPGB				*e*S	**S**	**15 17 55.4**	**0.0**
MALB	**Monte Alegre**	**24.21**	**94**	*e*P	**P**	**15 13 39.4**	**-0.3**
MALB				*e*S	**S**	**15 17 55.9**	**-2.6**
LVC	**Limon Verde**	**24.25**	**158**	P	**P**	**15 13 41.8**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=329,slow=9.3,SNR=1.7						
LVC				LR	LR	15 24 49.4	
	comp=Z,306nm,21.3s,baz=327,slow=41						
LVC	**Limon Verde**	**24.25**	**158**	*e*P	**P**	**15 13 43.7**	**+3.3**
PTLB	**Pontes e Lacer**	**24.42**	**130**	*e*P	**P**	**15 13 41.8**	**+0.2**
CLDB	**Colider**	**24.91**	**116**	*e*P	**P**	**15 13 45.6**	**-0.5**
MDP	**Montagnes des**	**26.24**	**78**	P	**P**	**15 13 59.0**	**+0.8**
	comp=Z,6.7nm,0.9s,baz=245,slow=15,SNR=2.9						
MDP				LR	LR	15 24 24.2	
	comp=Z,1μm,19.0s,baz=250,slow=37						
MCPB	**Macapa, AP**	**26.36**	**91**	*e*P	**P**	**15 13 59.7**	**+0.4**
SALV	**Santo Antonio**	**27.39**	**126**	*e*P	**P**	**15 14 09.9**	**+1.3**
CPUP	**Villa Florida**	**33.09**	**144**	LR	LR	15 30 43.0	
	comp=Z,123nm,20.1s,baz=316,slow=40						
TRCB	**Terra Rica**	**33.76**	**134**	*e*S	**S**	**15 20 29.4**	**+0.6**
BDFB	**Brasilia**	**33.77**	**119**	P	**P**	**15 15 07.2**	**+2.1**
	comp=Z,1.9nm,0.4s						
BDFB				LR	LR	15 29 47.5	
	comp=Z,211nm,21.0s,slow=38						
LRAL	**Lakeview Retre**	**33.90**	**347**	P	**P**	**15 15 06.6**	**+0.8**
	baz=164						
X55A	**Gracelyn & Ava**	**34.48**	**355**	P	**P**	**15 15 10.6**	**-0.3**
	baz=174						
CPCT	**Cooper Cave**	**35.78**	**351**	P	**P**	**15 15 22.4**	**+0.3**
CPCT				IAmb	IAmb	15 15 29.3	
	comp=Z,5.6nm,0.8s						
U57A	**Blanch**	**36.32**	**359**	P	**P**	**15 15 28.6**	**+2.0**
	baz=178						
JCT	**Junction City**	**36.55**	**328**	P	**P**	**15 15 31.3**	**+2.5**
	baz=142						
TZTN	**Tazewell**	**36.73**	**353**	P	**P**	**15 15 31.0**	**+0.8**
	baz=171						
T59A	**Double "B" Far**	**36.85**	**1**	P	**P**	**15 15 33.5**	**+2.3**
	baz=181						
T56A	**Rocky Mt**	**36.93**	**358**	P	**P**	**15 15 32.2**	**+0.2**
	baz=177						
W41B	**Gary Mavity, V**	**37.36**	**341**	P	**P**	**15 15 35.5**	**0.0**
	baz=157						
WHAR	**Wooly Hollow**	**37.48**	**341**	P	**P**	**15 15 36.4**	**-0.1**
WHAR				IAmb	IAmb	15 15 43.2	
	comp=Z,13nm,1.2s						
S57A	**Dark Hollow, R**	**37.64**	**359**	P	**P**	**15 15 39.1**	**+1.2**
	baz=179						
TXAR	**Lajitas Array**	**37.89**	**323**	P	**P**	**15 15 41.6**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=140,slow=9.4,SNR=8.0						
TXAR				PcP	**PcP**	**15 17 57.4**	**+0.8**
	comp=Z,1.4nm,1.0s,baz=157,slow=6.8,SNR=4.4						
TXAR				LR	LR	15 30 43.8	
	comp=Z,44nm,18.3s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	**37.89**	**323**	P	**P**	**15 15 40.3**	**0.0**
W39A	**Magazine**	**37.90**	**339**	P	**P**	**15 15 40.6**	**+0.4**
	baz=154						
R58A	**Rapidan**	**38.17**	**1**	P	**P**	**15 15 44.9**	**+2.6**
	baz=180						
R55A	**Marlinton**	**38.19**	**358**	P	**P**	**15 15 44.3**	**+1.7**
	baz=177						
U40A	**Yellville**	**38.64**	**341**	P	**P**	**15 15 46.2**	**-0.2**
	baz=156						
U40A	**Yellville**	**38.64**	**341**	P	**P**	**15 15 45.5**	**-0.9**
U40A				IAmb	IAmb	15 15 47.0	
	comp=Z,9.8nm,0.8s						
T42A	**Van Buren**	**38.73**	**344**	P	**P**	**15 15 44.6**	**-2.4**
T42A				IAmb	IAmb	15 15 47.0	
	comp=Z,5.7nm,0.7s						
Q55A	**Buckhannon**	**38.90**	**358**	P	**P**	**15 15 50.4**	**+1.9**
	baz=177						
CCM	**Cathedral Cave**	**39.73**	**344**	P	**P**	**15 15 54.0**	**-1.4**
	baz=159						
MNTX	**Cornudas Mount**	**40.61**	**324**	P	**P**	**15 16 04.1**	**+1.2**
	baz=136						
MNTX	**Cornudas Mount**	**40.61**	**324**		pP	15 16 04.6	-2.0
MSTX	**Muleshoe**	**40.84**	**328**	P	**P**	**15 16 06.2**	**+1.2**
	baz=141						
AMTX	**Amarillo**	**41.01**	**330**	P	**P**	**15 16 07.3**	**+1.1**
	baz=143						
**

I03D	**Drain, OR**	**59.16**	**323**	P	**P**	15	18	24.9 +1.1
	baz=124							
J01E	**Myrtle Point**	**59.21**	**323**	P	**P**	15	18	25.7 +1.6
	baz=124							
F05D	**White Salmon**	**59.36**	**326**	P	**P**	15	18	27.5 +2.4
	baz=127							
I02D	**Swisshome**	**59.68**	**324**	P	**P**	15	18	29.2 +1.8
	baz=124							
E04D	**Cinebar**	**60.38**	**326**	P	**P**	15	18	34.4 +2.4
	baz=127							
B05A	**Bryant**	**61.16**	**328**	P	**P**	15	18	38.0 +0.7
	baz=128							
D03D	**Eldon**	**61.25**	**327**	P	**P**	15	18	39.2 +1.2
	baz=126,SNR=6.8							
A04D	**Lummi Island**	**61.76**	**328**	P	**P**	15	18	42.8 +1.4
	baz=127,SNR=7.8							
YKA	**Yellowknife Ar**	**68.05**	**343**	P	**P**	15	19	21.9 -0.3
	comp=Z,1.7nm,0.8s,baz=122,slow=6.5,SNR=3.3							
LIC	**Lamto**	**73.49**	**84**	*e*P	**P**	15	19	54.8 -1.4
	comp=Z,5.8nm,0.5s							
TIC	**Toumodi**	**73.51**	**83**	*e*P	**P**	15	19	56.2 -0.2
DBIC	**Dimbokro**	**73.67**	**83**	P	**P**	15	19	59.0 +1.7
	comp=Z,9.7nm,1.0s,baz=266,slow=4.0,SNR=4.2							
DBIC				LR	LR	15	48	27.1
	comp=Z,53nm,21.4s,baz=249,slow=33							
DBIC	**Dimbokro**	**73.67**	**83**	P	**P**	15	19	54.9 -2.5
KIC	**Kosan Boka**	**73.78**	**83**	*e*P	**P**	15	19	56.7 -1.3
	comp=Z,199nm,2.1s							
ESDC	**Sonseca Array**	**78.09**	**49**	P	**P**	15	20	22.4 +0.2
	comp=Z,0.7nm,0.7s,baz=262,slow=5.9,SNR=5.9							
BCAR	**Beaver Creek A**	**78.28**	**335**	P	**P**	15	20	24.0 +1.3
K27K	**Chicken**	**78.79**	**336**	P	**P**	15	20	26.6 +1.2
	baz=114							
TORD	**Torodi Ar. Bea**	**80.38**	**77**	P	**P**	15	20	36.2 +1.2
	comp=Z,1.3nm,1.1s,baz=268,slow=3.6,SNR=3.7							
TORD				LR	LR	15	53	42.7
	comp=Z,121nm,21.7s,baz=195,slow=34							
HDA	**Harding Lake**	**80.91**	**336**	P	**P**	15	20	36.9 -0.1
	baz=109							
ILAR	**Eielson Array**	**81.01**	**336**	P	**P**	15	20	37.5 +0.1
	comp=Z,1.9nm,0.9s,baz=115,slow=4.0,SNR=14							
ILAR	**Eielson Array**	**81.01**	**336**	P	**P**	15	20	36.1 -1.4
NEA2	**Nenana**	**81.84**	**336**	P	**P**	15	20	42.2 +0.3
	baz=107							
BPAW	**Bear Paw Mtn.**	**82.50**	**335**		**P**	15	20	45.0 -0.4
BPAW				IAmb	IAmb	15	20	54.4
	comp=Z,5.8nm,1.0s							
VNA3	**Neumayer Olymp**	**83.21**	**162**	P	**P**	15	20	45.1 -3.8
VNA2	**Neumayer--Watz**	**83.80**	**162**	P	**P**	15	20	51.7 -0.2
	baz=306,slow=6.3							
SNAA	**Sanae**	**85.42**	**162**	P	**P**	15	20	59.9 -0.3
MKAR	**Makanchi Array**	**130.48**	**17**	PKP	**PKiKP**	15	27	34.7 -0.1
	comp=Z,0.4nm,0.7s,baz=26,slow=5.0,SNR=3.7							
ASAR	**Alice Springs**	**140.76**	**231**	PKhKP	PKPpre	15	27	45.6
	comp=Z,0.2nm,0.7s,baz=122,slow=4.2,SNR=4.5							
ASAR				PKP	**PKPdf**	15	27	52.1 -1.7
	comp=Z,0.5nm,0.8s,baz=122,slow=2.7,SNR=8.6							
WRA	**Warramunga Arr**	**142.27**	**236**	PKP	**PKPdf**	15	27	55.0 -1.5
	comp=Z,1.3nm,1.0s,baz=114,slow=2.6,SNR=7.1							
CMAR	**Chiang Mai Arr**	**161.53**	**8**	PKP	**PKPdf**	15	28	24.6 -0.3
	comp=Z,0.2nm,0.4s,baz=341,slow=2.2,SNR=1.5							
CMAR				PKPab	**PKPab**	15	29	08.3 -0.8
	comp=Z,0.4nm,0.5s,baz=325,slow=5.5,SNR=6.1							

PRU ***16*** *15:13:26.0±0.0, 43.°26N×13.°70E, h0km*
LDG ***16*** *15:13:32.4±0.2, 44.°30N×13.°86E, h5km, Ml2.5/12, Error ellipse: s-maj=4.8km s-min=2.1km az=76.0*
ROM ***16*** *15:13:33.5±0.2, 44.°29N±0.°01×13.°78E±0.°02, h10km, ML2.6/19, Error ellipse: s-maj=1.5km s-min=1.4km az=303.0*

ISC 16 15:13:33.4±1.1**, 44.°30N**±0.°02×**13.°64E**±0.°02**, h9**km±10km**, n81**, σ2**s29**/93**, 1D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BRJN	**Brijuni**	**0.61**	**7**	*e*Pg		Pn	15 13 53.7	+5.4
AOI	**Ancona**	**0.75**	**182**	P		**Pb**	**15 13 48.7**	**-0.1**
COR1	**Corinaldo**	**0.82**	**215**	P		**Pg**	**15 13 49.1**	**0.0**
COR1				AML	AML			
	comp=E,305μm,1.6s							
COR1				AML	AML			
	comp=N,522μm,0.7s							
FSSB	**Fossombrone**	**0.87**	**226**	AML	AML			
	comp=E,794μm,0.7s							
FSSB				AML	AML			
	comp=N,1330μm,0.3s							
NVLJ	**Novalja**	**0.92**	**73**	*e*Pg		Pn	15 13 58.0	+5.5
NVLJ				Sg		Sn	15 14 13.6	+7.7
MPAG	**Monte Paganucc**	**0.93**	**224**	AML	AML			
	comp=N,472μm,0.6s							
MPAG				AML	AML			
	comp=E,282μm,0.6s							
MPAG				AML	AML			
	comp=N,471μm,0.6s							
MPAG				AML	AML			
	comp=E,282μm,0.6s							
ARVD	**Arcevia**	**0.95**	**212**	P		**Pg**	**15 13 51.6**	**-0.1**
ARVD				AML	AML			
	comp=E,245μm,0.6s							
ARVD				AML	AML			
	comp=N,157μm,0.2s							
CING	**Cingoli**	**0.98**	**199**	P		**Pb**	**15 13 52.2**	**-0.5**
CING				AML	AML			
	comp=N,200μm,0.9s							
CING				AML	AML			
	comp=E,222μm,1.3s							
CING				AML	AML			
	comp=N,200μm,0.9s							
FRON	**Frontone**	**1.03**	**220**	P		**Pg**	**15 13 52.9**	**-0.3**
NARO	**Abbazia di Nar**	**1.03**	**228**	AML	AML			
	comp=N,302μm,0.2s							
NARO				AML	AML			
	comp=E,284μm,0.4s							
NARO				AML	AML			
	comp=N,302μm,0.2s							
EL6	**Elcito**	**1.05**	**202**	P		**Pb**	**15 13 53.7**	**-0.2**
EL6				AML	AML			
	comp=E,510μm,1.5s							
EL6				AML	AML			
	comp=N,542μm,0.3s							
DUGI	**Dugi Otok**	**1.06**	**107**	*e*Pg		Pn	15 13 58.3	+3.8
DUGI				Sg		**Sn**	**15 14 15.1**	**+5.6**
CPGN	**Carpegna, Ital**	**1.08**	**243**	P		**Pg**	**15 13 54.1**	**0.0**
SNTG	**Esanatoglia**	**1.17**	**206**	P		**Pg**	**15 13 55.0**	**-0.8**
RIY	**Rijeka**	**1.18**	**30**	*e*Pn		Pn	15 14 02.8	+6.6
RIY				Sg		Sn	15 14 22.7	+10
FOSV	**Fossato di Vic**	**1.19**	**213**	P		**Pn**	**15 13 56.4**	**0.0**
FOSV				S		**Sb**	**15 14 12.7**	**+0.9**
PARC	**Parchiule**	**1.21**	**238**	P		**Pg**	**15 13 56.3**	**-0.2**
PARC				S		**Sg**	**15 14 13.5**	**+1.2**
PARC				AML	AML			
	comp=N,154μm,0.8s							
PARC				AML	AML			
	comp=E,236μm,0.2s							
ATFO	**Monte Foce - G**	**1.22**	**220**	P		**Pg**	**15 13 56.4**	**-0.4**
ATPI	**Pietralunga -**	**1.24**	**227**	P		**Pn**	**15 13 57.0**	**0.0**
ATPI				S		**Sn**	**15 14 14.9**	**+1.1**
CSP1	**Cessapalombo**	**1.25**	**195**	P		**Pn**	**15 13 57.3**	**0.0**
ATVO	**AVT- Monte Val**	**1.28**	**225**	P		**Pg**	**15 13 58.2**	**+0.1**
BADI	**Badiali**	**1.28**	**232**	P		**Pn**	**15 13 58.0**	**+0.4**
BADI				S		**Sn**	**15 14 16.4**	**+1.4**
BADI				AML	AML			
	comp=E,240μm,0.6s							
BADI				AML	AML			
	comp=N,242μm,0.6s							
BADI				AML	AML			
	comp=N,242μm,0.6s							
MURB	**Monte Urbino**	**1.32**	**218**	P		**Pg**	**15 13 58.9**	**+0.1**
MURB				S		**Sn**	**15 14 17.3**	**+1.4**
CDCA	**Citt' di Caste**	**1.32**	**231**	AML	AML			
	comp=E,5098μm,1.6s							
CDCA				AML	AML			
	comp=N,882μm,0.3s							
CDCA				AML	AML			
	comp=E,5075μm,1.6s							
CDCA				AML	AML			
	comp=N,880μm,0.3s							
FDMO	**Fiordimonte**	**1.33**	**198**	P		**Pg**	**15 13 58.2**	**-0.7**
FDMO				AML	AML			
	comp=E,208μm,0.4s							
FDMO				AML	AML			
	comp=N,154μm,0.5s							
ATCC	**AVT- Casa Cast**	**1.33**	**213**	P		**Pb**	**15 13 58.7**	**+0.1**
ATCC				S		**Sn**	**15 14 17.3**	**+1.1**
SFI	**Santa Sofia**	**1.35**	**253**	P		**Pg**	**15 14 00.2**	**+0.8**
SFI				AML	AML			
	comp=E,69μm,1.4s							
SFI				AML	AML			
	comp=N,129μm,0.5s							
SFI				AML	AML			
	comp=N,129μm,0.5s							
SFI				AML	AML			
	comp=E,69μm,1.4s							
CESI	**CESI - Serrava**	**1.40**	**203**	ǁP		**Pb**	**15 13 59.6**	**-0.3**
CESI				S		**Sg**	**15 14 18.5**	**-0.1**
CESI				AML	AML			
	comp=E,147μm,0.5s							
CESI				AML	AML			
	comp=N,132μm,0.5s							
CESI				AML	AML			
	comp=E,152μm,0.5s							
CESI				AML	AML			
	comp=N,132μm,0.5s							
LMD	**Lutirano**	**1.41**	**261**	*e*P		**Pb**	**15 14 00.8**	**+0.9**
LMD	**Lutirano**	**1.41**	**261**	P		**Pb**	**15 14 00.8**	**+0.9**
LMD				AML	AML			
	comp=E,102μm,0.3s							
LMD				AML	AML			
	comp=N,109μm,0.4s							
LMD				AML	AML			
	comp=N,109μm,0.4s							
LMD				AML	AML			
	comp=E,102μm,0.3s							
ASQU	**Asqua**	**1.43**	**250**	P		**Pb**	**15 14 00.9**	**+0.7**
ASQU				AML	AML			
	comp=N,117μm,0.5s							
ASQU				AML	AML			
	comp=N,118μm,0.5s							
ASQU				AML	AML			
	comp=E,102μm,0.4s							
ATTE	**AVT- Monte Tez**	**1.45**	**221**	P		**Pg**	**15 14 01.4**	**+0.3**
ASSB	**Assisi San Ben**	**1.45**	**210**	P		**Pn**	**15 14 00.1**	**+0.2**
ASSB				AML	AML			
	comp=E,180μm,0.3s							
ASSB				AML	AML			
	comp=N,266μm,1.0s							
ASSB				AML	AML			
	comp=E,277μm,0.4s							
NRCA	**Norcia**	**1.52**	**195**	P		**Pb**	**15 14 01.0**	**-0.8**
NRCA				AML	AML			
	comp=N,190μm,1.0s							
NRCA				AML	AML			
	comp=E,166μm,0.5s							
UDBI	**Udbina**	**1.54**	**81**	*e*Pn		Pg	15 14 08.7	+5.8
UDBI				Sn		Sg	15 14 31.9	+9.1
MORI	**Morici**	**1.55**	**106**	*e*Pn		Pg	15 14 06.2	+3.0
MORI				Sn		Sg	15 14 29.0	+5.8
CAFI	**Castiglion Fio**	**1.56**	**232**	P		**Pb**	**15 14 02.6**	**+0.2**
CAFI				AML	AML			
	comp=N,91μm,1.0s							
CAFI				AML	AML			
	comp=E,101μm,0.5s							
ZIRJ	**Zirje**	**1.58**	**113**	*e*Pn		**Pg**	**15 14 05.0**	**+1.2**
RUFI	**Rufina**	**1.61**	**254**	P		**Pg**	**15 14 04.5**	**+0.3**
MOMA	**Monte Martano**	**1.69**	**208**	P		**Pb**	**15 14 04.0**	**-0.7**
MOMA				AML	AML			
	comp=E,102μm,1.6s							
MOMA				AML	AML			
	comp=N,101μm,0.3s							
MOMA				AML	AML			
	comp=N,109μm,0.3s							
MOMA				AML	AML			
	comp=E,112μm,0.9s							
LNSS	**Leonessa**	**1.76**	**195**	P		**Pb**	**15 14 04.7**	**-1.2**
LNSS				AML	AML			
	comp=E,150μm,0.3s							
LNSS				AML	AML			
	comp=N,105μm,0.7s							
LNSS				AML	AML			
	comp=N,164μm,0.5s							
LNSS				AML	AML			
	comp=E,160μm,1.0s							
MGAB	**Montegabbione**	**1.78**	**219**	P		**Pb**	**15 14 05.7**	**-0.5**
MGAB				AML	AML			
	comp=E,99μm,0.8s							
MGAB				AML	AML			
	comp=N,126μm,0.4s							
MGAB				AML	AML			
	comp=E,126μm,0.6s							
MGAB				AML	AML			
	comp=N,146μm,0.4s							
OSSC	**Osservatorio P**	**1.90**	**247**	P		**Pn**	**15 14 07.7**	**+1.7**
SACS	**San Casciano d**	**1.92**	**222**	P		**Pn**	**15 14 07.2**	**+0.7**
SACS				AML	AML			
	comp=N,54μm,1.0s							
SACS				AML	AML			
	comp=E,53μm,1.2s							
KIJV	**Kijevo**	**2.01**	**98**	*e*Pn		**Pg**	**15 14 13.1**	**+1.1**
KIJV				Sn		**Sg**	**15 14 41.8**	**+3.8**
OBKA	**Obir**	**2.30**	**16**	*i* Pn		**Pg**	**15 14 18.8**	**+1.4**
	comp=E,0.6nm,0.1s							
PTJ	**Puntijarka**	**2.30**	**45**	*e*Pg		Pg	15 14 23.3	+5.8
PTJ				Sg		Sg	15 14 59.1	+12
MYKA	**Terra Mystica**	**2.33**	**360**	*i* Pg		**Pg**	**15 14 18.4**	**+0.4**
	comp=E,1.8nm,0.2s,SNR=4.1							
MOSL	**Moslavina**	**2.57**	**58**	*e*Pg		Pg	15 14 27.8	+5.2
SOKA	**Soboth**	**2.57**	**22**	*i* Pn		**Pg**	**15 14 21.8**	**-0.9**
	comp=E,0.3nm,0.2s							
SOKA				*i* Sg		Sg	15 15 07.1	+11
	comp=E,10nm,0.7s							
ABTA	**Abfaltersbach**	**2.57**	**342**	*i* Pn		**Pg**	**15 14 21.4**	**-1.3**
	comp=E,1.1nm,0.1s,SNR=5.1							
MAKA	**Makarska**	**2.65**	**111**	Sn		**Sg**	**15 14 53.7**	**-4.7**
RICI	**Ricice**	**2.65**	**107**	*e*Pn		**Pg**	**15 14 21.7**	**-2.5**
RICI				Sg		Sg	15 15 03.7	+5.2
ARSA	**Arzberg**	**3.23**	**23**	*i* Pn		**Pb**	**15 14 30.7**	**-0.2**
	comp=E,1.0nm,0.2s							
ARSA				*i* Sn		**Sb**	**15 15 10.7**	**+0.4**
	comp=E,2.5nm,0.5s							
STON	**Ston**	**3.28**	**114**	*e*Pn		**Pb**	**15 14 29.0**	**-2.8**
STON				Sn		**Sb**	**15 15 08.8**	**-2.9**
WTTA	**Wattenberg**	**3.28**	**335**	*i* Pn		**Pb**	**15 14 31.7**	**-0.1**
	comp=E,1.1nm,0.2s							
SQTA	**Sankt Quirin**	**3.38**	**331**	*i* Pn		**Pb**	**15 14 33.4**	**-0.1**
	comp=E,2.0nm,0.1s							
FETA	**Feichten**	**3.40**	**324**	*i* Pn		**Pb**	**15 14 34.6**	**+0.6**
	comp=E,0.8nm,0.2s,SNR=4.7							
MOTA	**Moosalm**	**3.52**	**331**	*i* Pn		**Pb**	**15 14 35.2**	**-0.8**
	comp=E,1.5nm,0.2s							
MOA	**Molln**	**3.57**	**7**	*i* Pn		**Pb**	**15 14 36.0**	**-0.8**
	comp=E,1.1nm,0.2s							
RETA	**Reutte**	**3.77**	**329**	*i* Pn		**Pb**	**15 14 38.6**	**-1.6**
	comp=E,1.0nm,0.2s							
PGF	**Pioggiola**	**3.81**	**244**	*e*Pn		**Pn**	**15 14 31.7**	**-0.7**
PGF				*e*Sn		**Sn**	**15 15 15.8**	**-1.6**
	comp=E,8.4nm,0.7s							
CONA	**Conrad Observa**	**3.94**	**22**	*i* Pn		**Pb**	**15 14 41.1**	**-2.1**
	comp=E,0.9nm,0.3s							
CONA				*i* Sn		**Sb**	**15 15 28.1**	**-2.8**
	comp=E,1.7nm,0.4s							
DAVA	**Damuels**	**3.98**	**320**	*e*Pn		**Pb**	**15 14 41.2**	**-2.6**
	comp=E,3.3nm,0.3s							
SBF	**Sospel**	**4.49**	**267**	*e*Pn		**Pn**	**15 14 41.1**	**-0.7**
SBF				*e*Sn		**Sn**	**15 15 32.5**	**-1.7**
	comp=E,3.3nm,0.3s							
KHC	**Kasperske Hory**	**4.83**	**359**	*e*PN		Pb	15 14 52.0	-6.2
KHC				*e*PG		**Pg**	**15 15 03.5**	**-2.4**
KHC				*e*SN		**Sn**	**15 15 49.0**	**+6.6**
KHC				*ex*		x	15 16 23.0	
LPG	**La Plagne**	**5.04**	**286**	*e*P		**Pn**	**15 14 53.2**	**+3.7**
LPG				*e*Sn		**Sn**	**15 15 45.6**	**-2.4**
	comp=E,1.2nm,0.3s							
LPL	**La Plagne**	**5.06**	**286**	*e*P		**Pn**	**15 14 53.4**	**+3.8**
LPL				*e*Sn		**Sn**	**15 15 46.0**	**-2.3**
	comp=E,1.5nm,0.3s							
FRF	**La Foret Royal**	**5.11**	**264**	*e*P		**Pn**	**15 14 53.0**	**+2.9**
FRF				*e*Sn		**Sn**	**15 15 46.9**	**-2.3**
	comp=E,0.4nm,0.2s							
LMR	**La Mourre**	**5.25**	**262**	*e*Pn		**Pn**	**15 14 51.2**	**-0.9**
LMR				*e*Sn		**Sn**	**15 15 50.9**	**-1.9**
	comp=E,0.4nm,0.3s							
ORIF	**Oris-en-Rattie**	**5.58**	**279**	*e*P		**Pn**	**15 15 00.4**	**+3.7**
ORIF				*e*Sn		**Sn**	**15 15 58.3**	**-2.6**
	comp=E,1.3nm,0.4s							
PRU	**Pruhonice**	**5.72**	**6**	*e*SN		**Sb**	**15 16 19.4**	**-2.6**
CABF	**La Chapelle**	**5.79**	**296**	*e*P		**Pn**	**15 15 03.4**	**+3.8**
CABF				*e*Sn		**Sn**	**15 16 03.5**	**-2.7**
	comp=E,0.8nm,0.3s							
SMRF	**Simiane la Rot**	**5.82**	**270**	*e*P		**Pn**	**15 15 03.5**	**+3.6**
HINF	**Hinteralfeld**	**5.89**	**309**	*e*P		**Pn**	**15 15 04.7**	**+3.8**
HINF				*e*Sn		**Sn**	**15 16 05.7**	**-2.8**
	comp=E,1.8nm,0.4s							
CDF	**Champ du Feu**	**6.02**	**315**	*e*P		**Pn**	**15 15 06.8**	**+4.0**
HAU	**Haudompre**	**6.28**	**309**	*e*P		**Pn**	**15 15 09.6**	**+3.4**
HAU				*e*Sn		**Sn**	**15 16 14.3**	**-3.7**
	comp=E,2.4nm,0.3s							
SMF	**Signal de Mont**	**7.28**	**292**	*e*P		**Pn**	**15 15 23.1**	**+3.2**
LOR	**Lormes**	**7.45**	**297**	*e*P		**Pn**	**15 15 26.8**	**+4.4**
	baz=117							
LOR				*e*Sn		**Sn**	**15 16 42.9**	**-4.1**
	comp=E,1.2nm,0.3s							
SSF	**Saint Saulge**	**7.62**	**295**	*e*P		**Pn**	**15 15 29.1**	**+4.5**
FLN	**La Foliniere**	**10.70**	**300**	*e*P		**Pn**	**15 16 11.5**	**+4.7**

BJI ***16*** *15:21:12.1±0.0, 40.°37N×145.°71E, h13km, mB4.8/35, mb4.5/45, Ms4.1/35, Ms7 3.8/31*
JMA ***16*** *15:21:14.7±0.3, 40.°15N×145.°57E, h52km, M4.7*
NIED ***16*** *15:21:14.8, 40.°15N×145.°57E, h52km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-3.55; $M_{\theta\theta}$0.10; $M_{\phi\phi}$3.45; $M_{r\theta}$-0.52; $M_{r\phi}$0.32; $M_{\theta\phi}$1.30; Fault plane solution: $M_0$3.78000×10^{15} NP1: ϕ_s176.00000°, δ55.00000°, λ-101.00000°. NP2: ϕ_s14.00000°, δ36.00000°, λ-75.00000°.*
IDC ***16*** *15:21:14.1±0.5, 40.°15N×145.°46E, h0km, mb4.3/24, mb1 4.5/31, mb1mx4.4/46, mbtmp4.3/31, ML3.6/7, MS3.3/11, Ms1 3.3/11, ms1mx3.0/42 Error ellipse: s-maj=14.1km s-min=12.1km az=108.0*
MOS ***16*** *15:21:18.2±1.2, 40.°30N×145.°38E, h36km, mb4.8/35, Error ellipse: s-maj=8.0km s-min=4.4km az=113.2*
NEIC ***16*** *15:21:18.5±2.7, 40.°12N±0.°07×145.°5E±0.°1, h34km±4km, mb4.9/21, Error ellipse: s-maj=14.3km s-min=10.1km az=104.0*

ISC 16 15:21:15.8±0.9**, 40.°22N**±0.°04×**145.°47E**±0.°04**, h12**km±5km**, n238**, σ1$66/270**, mb4.6**/83**, MS3.9**/12**, 23C-6D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERM	**Erimo**	**2.50**	**316**	*ce*P		**Pn**	**15 21 56.6**	**+0.2**
ERM				pmax	pmax			
	comp=Z,130nm,1.0s							
ERM	**Erimo**	**2.50**	**316**			**Pn**	**15 21 55.8**	**-0.6**
JEM	**Erimo**	**2.50**	**316**	P		**Pn**	**15 21 55.6**	**-0.8**
JEM				*e*S		**Sn**	**15 22 25.5**	**-1.3**
JTHR	**Tokachihiroo**	**2.64**	**322**	P		**Pn**	**15 21 58.0**	**-0.2**
JTHR				*e*S		**Sn**	**15 22 28.8**	**-1.3**
JTH	**Tanohata**	**2.79**	**265**	P		**Pn**	**15 21 58.5**	**-1.8**
JTH				*e*S		**Sn**	**15 22 28.2**	**-5.6**
JAK	**Akkeshi**	**2.83**	**348**	P		**Pn**	**15 21 59.2**	**-1.7**
JCH	**Churui**	**2.87**	**327**	P		**Pn**	**15 22 00.9**	**-0.5**
JCH				*e*S		**Sn**	**15 22 34.1**	**-1.7**
JNBK	**Urakawa-nobuka**	**2.90**	**316**	P		**Pn**	**15 22 02.1**	**+0.2**
JNBK				*e*S		**Sn**	**15 22 36.7**	**0.0**
JANG	**Nango**	**3.03**	**274**	P		**Pn**	**15 22 03.3**	**-1.4**
JANG				*e*S		**Sn**	**15 22 35.8**	**-4.1**
NEM2	**Nemuro 2**	**3.15**	**4**	P		**Pn**	**15 22 03.4**	**-1.8**
NEM2				*e*S		**Sn**	**15 22 38.8**	**-3.8**
NMR	**Nemuro--Hokkai**	**3.15**	**3**	ǁ*i*P		**Pn**	**15 22 03.4**	**-1.8**
NMR				*i* S		**Sn**	**15 22 37.4**	**-5.3**
JOM	**Ohasama**	**3.31**	**258**	P		**Pn**	**15 22 06.7**	**-0.7**
JOM				*e*S		**Sn**	**15 22 42.9**	**-3.7**
JAR	**Ashorobuto**	**3.33**	**338**	P		**Pn**	**15 22 06.4**	**-1.3**
JAR				*e*S		**Sn**	**15 22 44.5**	**-2.6**
GLVR	**Golovnino**	**3.51**	**1**	*c i*P		**Pn**	**15 22 09.5**	**-0.7**
GLVR				*e*S		**Sn**	**15 22 47.4**	**-4.3**
GLVR				pmax	pmax			
	comp=Z,250nm,0.4s							
GLVR				pmax	pmax			
	comp=N,28nm,0.2s							
GLVR				pmax	pmax			
	comp=E,68nm,0.5s							
GLVR				smax	smax			
	comp=E,304nm,0.1s							
GLVR				smax	smax			
	comp=N,1μm,0.3s							
JMK	**Ichinoseki**	**3.52**	**250**	P		**Pn**	**15 22 09.2**	**-1.2**
JOT	**Ohata**	**3.55**	**290**	P		**Pn**	**15 22 10.4**	**-0.4**
JOT				*e*S		**Sn**	**15 22 49.7**	**-3.0**
JFR	**Furan**	**3.64**	**325**	P		**Pn**	**15 22 11.3**	**-0.8**
JFR				*e*S		**Sn**	**15 22 52.4**	**-2.6**
JRA	**Rausu**	**3.72**	**356**	P		**Pn**	**15 22 11.4**	**-1.7**
JRA				*e*S		**Sn**	**15 22 53.4**	**-3.4**
JKB	**Kayabe**	**3.75**	**298**	P		**Pn**	**15 22 13.3**	**-0.2**
JKB				*e*S		**Sn**	**15 22 54.7**	**-2.8**
GRPR	**Tuman**	**3.77**	**3**	*e*P		**Pn**	**15 22 12.3**	**-1.5**
GRPR				*e*S		**Sn**	**15 22 52.1**	**-6.0**
GRPR				pmax	pmax			
	comp=Z,333nm,0.3s							
GRPR				pmax	pmax			
	comp=N,127nm,0.1s							
GRPR				pmax	pmax			
	comp=E,67nm,0.1s							
GRPR				smax	smax			
	comp=N,1μm,0.4s							
GRPR				smax	smax			
	comp=E,1μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**3.82**	**4**	*e*P		**Pn**	**15 22 13.0**	**-1.4**
YUK				*e*S		**Sn**	**15 22 53.8**	**-5.5**
YUK				pmax	pmax			
	comp=Z,333nm,0.2s							
YUK				pmax	pmax			
	comp=E,69nm,0.1s							
YUK				pmax	pmax			
	comp=N,72nm,0.2s							
YUK				smax	smax			
	comp=N,743nm,0.4s							
YUK				smax	smax			
	comp=E,551nm,0.3s							
YUK				MLR	MLR			
	comp=Z,132nm,5.0s							
YUK				MLR	MLR			
	comp=N,204nm,8.0s							
YUK				MLR	MLR			
	comp=E,243nm,9.0s							
JTKR	**Abashiri--Toko**	**3.92**	**343**	P		**Pn**	**15 22 15.4**	**-0.5**
JTKR				*e*S		**Sn**	**15 22 59.3**	**-2.5**
JEW	**Eniwo**	**4.00**	**312**	P		**Pn**	**15 22 17.3**	**+0.4**
JEW				*e*S		**Sn**	**15 23 03.4**	**-0.2**
JYK	**Kaneyama**	**4.16**	**253**	P		**Pn**	**15 22 18.1**	**-1.1**
JYK				*e*S		**Sn**	**15 23 04.0

YSS eS Sn 15 24 17.8 -0.1
YSS pmax pmax
comp=Z,200nm,5.4s
YSS smax smax
comp=N,100nm,4.6s
YSS smax smax
comp=E,100nm,4.1s
YSS Yuzh-Sakhalins 7.01 345 Pn **Pn 15 22 57.4 -0.8**
TEY Ternei 8.12 309⇑ *eP* **Pn 15 23 12.9 -0.5**
TEY pmax pmax
comp=Z,10.0nm,0.8s
TEY pmax pmax
comp=E,20nm,1.1s
TEY pmax pmax
comp=N,20nm,0.9s
JHJ Hachijo jima 2 8.43 215 Pn **Pn 15 23 15.8 -2.1**
comp=N,6.3nm,0.3s,baz=313,slow=17,SNR=11
JHJ Sn Sn 15 24 39.5 -14
comp=N,7.9nm,0.3s,baz=29,slow=14,SNR=1.7
VLA Vladivostok 10.57 290*c iP* **Pn 15 23 48.3 +1.2**
VLA pmax pmax
comp=Z,22nm,1.0s
USA0B Ussuriysk Arra 10.76 296*c iP* **Pn 15 23 50.6 +0.9**
USA0B Ussuriysk Arra 10.76 296 Pn **Pn 15 23 49.0 -0.7**
USRK Ussuriysk Ar. 10.76 296 Pn **Pn 15 23 49.5 -0.2**
baz=91,slow=14,SNR=26
USRK LR LR 15 28 24.2
comp=Z,178nm,19.0s,baz=106,slow=40
USRK Ussuriysk Ar. 10.76 296 P **Pn 15 23 50.8 +1.1**
USRK Ussuriysk Ar. 10.76 296 Pn **Pn 15 23 50.8 +1.1**
TYV Tymovskoe 10.82 350 *eP* **Pn 15 23 54.1 +3.6**
TYV *e* 15 25 54.2
TYV pmax pmax
comp=Z,6.0nm,1.3s
TYV pmax pmax
comp=Z,100nm,4.0s
GRNR Gornyy 12.30 332⇓ *iP* **Pn 15 24 10.6 -0.1**
GRNR *eS* **Sn 15 26 29.7 +2.0**
GRNR pmax pmax
comp=N,6.0nm,0.9s
GRNR pmax pmax
comp=Z,6.0nm,0.9s
GRNR smax smax
comp=E,1.0nm,0.5s
MDJ Mudanjiang 12.53 296 Pn **Pn 15 24 14.2 +0.4**
SKR Severo-Kuril's 12.84 32 *eP* Pn 15 24 11.9 -6.1
SKR pmax pmax
comp=Z,100nm,4.0s
SKR MLR MLR
comp=Z,200nm,16.0s
KLR Kul'dur 13.26 317 Pn **Pn 15 24 23.9 +0.1**
comp=Z,0.1nm,0.3s,baz=120,slow=14,SNR=14
KLR LR LR 15 29 49.8
comp=Z,74nm,22.0s,baz=132,slow=39
KLR Kul'dur 13.26 317*ce*P **Pn 15 24 23.6 -0.2**
KLR pmax pmax
comp=Z,21nm,1.7s
JCJ Chichijima 13.38 193 Sn Sn 15 26 37.7 -16
comp=Z,1.6nm,0.3s,baz=322,slow=19,SNR=2.0
JNU Nakatsue 13.68 243 Pn **Pn 15 24 27.6 -2.1**
comp=Z,0.2nm,0.3s,baz=113,slow=6.1,SNR=2.8
JNU LR LR 15 29 58.0
comp=Z,205nm,20.4s,baz=46,slow=38
JNU Nakatsue 13.68 243 Pn 15 24 24.6 -5.1
KSRS Korea Array 13.96 264 Pn **Pn 15 24 33.8 +0.4**
comp=Z,0.1nm,0.3s,baz=74,slow=14,SNR=8.9
KSRS LR LR 15 29 57.7
comp=Z,114nm,18.7s,baz=62,slow=38
KSAR Wonju Array Be 13.99 264 P **Pn 15 24 29.3 -4.6**
KSAR Wonju Array Be 13.99 264 Pn **Pn 15 24 29.3 -4.6**
CN2 Changchun 15.30 290 *eP* **Pn 15 24 54.0 +2.4**
CN2 *eS* **Sn 15 27 45.0 +4.0**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,14.0s
PETK Petropavlovsk- 15.35 29 Pn **Pn 15 24 49.4 -2.8**
comp=Z,0.1nm,0.3s,baz=182,slow=12,SNR=2.4
PETK LR LR 15 31 58.6
comp=Z,31nm,18.3s,baz=231,slow=42
PETK Petropavlovsk- 15.35 29 P **Pn 15 24 48.9 -3.3**
PETK Petropavlovsk- 15.35 29 Pn **Pn 15 24 48.9 -3.3**
PET Petropavlovsk 15.64 31 *i* P **Pn 15 24 55.6 -0.4**
ZEA Zeya 18.29 324 *eP* **Pn 15 25 27.9 -1.4**
ZEA pmax pmax
comp=N,27nm,0.9s
ZEA pmax pmax
comp=Z,31nm,0.8s
ZEA MLR MLR
comp=E,200nm,13.0s
ZEA MLR MLR
comp=Z,400nm,13.0s
ZEA MLR MLR
comp=N,200nm,14.0s
DL2 Dalian 18.43 274 P **Pn 15 25 31.3 +0.3**
DL2 S **Sn 15 28 58.9 +2.2**
DL2 pmax pmax
comp=N,95nm,4.5s
DL2 LR LR
comp=N,130nm,13.9s
DL2 LR LR
comp=N,160nm,19.2s
MA2 Magadan 19.66 8 LR LR 15 33 13.0
comp=N,55nm,18.1s,baz=271,slow=36
HIA Hailar 20.31 305 *i* P **P 15 25 51.2 -0.4**
HIA pmax pmax
comp=Z,22nm,2.0s
BJI Beijing 22.36 279 P **P 15 26 12.9 -0.8**
BJI S **S 15 30 17.1 -2.1**
BJI pmax pmax
comp=Z,9.0nm,1.1s
BJI LR LR
comp=Z,130nm,14.9s
BJI LR LR
comp=Z,170nm,14.1s
TIA Tai'an 22.59 269 P **P 15 26 15.3 -0.9**
TIA pmax pmax
comp=Z,12nm,1.1s
NJ2 Nanjing 22.93 258 *eP* **P 15 26 17.8 -2.0**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
SEY Seymchan 23.12 8 P **P 15 26 22.0 +0.6**
comp=Z,28nm,0.9s,baz=178,slow=7.2,SNR=23
SEY Seymchan 23.12 8 *i* P **P 15 26 20.6 -0.8**
YAK Yakutsk 23.85 341 P **P 15 26 26.9 -1.7**
comp=Z,31nm,0.7s,baz=76,slow=0.9,SNR=27
YAK S **S 15 30 40.3 -3.8**
comp=Z,1.3nm,0.3s,baz=241,slow=1.2,SNR=1.2
YAK Yakutsk 23.85 341 *eP* **P 15 26 26.9 -1.7**
YAK *e**PP **pwP 15 26 36.6 -1.1**
YAK *e*PPP PPP 15 27 02.7
YAK *e*S **S 15 30 41.4 -2.7**
YAK *e**SS Sn 15 31 00.6 -6.0
YAK *e*SS **SnSn 15 31 24.0 +1.0**
YAK *e*SSS SSS 15 31 38.4
YAK *e* 15 37 30.1
YAK pmax pmax
comp=Z,59nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=N,17nm,1.2s
YAK pmax pmax
comp=Z,41nm,2.1s
YAK pmax pmax
comp=N,29nm,2.0s
YAK pmax pmax
comp=E,29nm,2.0s
YAK smax smax
comp=N,33nm,2.2s
YAK smax smax
comp=E,48nm,2.0s
YAK Yakutsk 23.85 341 P **P 15 26 28.2 -0.4**
YAK IAmb IAmb 15 26 31.5
comp=Z,49nm,0.7s
HHC Hu-ho-hao-te 25.69 283 *eP* **P 15 26 47.1 +1.2**
HHC S **S 15 31 12.6 -1.7**
HHC PcS **PcS 15 33 57.8 +1.1**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,170nm,4.5s
HHC LR LR
comp=Z,120nm,10.7s
HHC LR LR
comp=Z,150nm,12.5s
HHC LR LR
comp=Z,180nm,10.2s
BOD Bodaibo 26.77 322 *eP* **P 15 26 55.5 +0.3**
BOD pmax pmax
comp=Z,10.0nm,1.5s
BTO Baotou 26.89 282 *eP* **P 15 26 57.8 +1.1**
H11N2 WAKE ISLAND Hy 27.46 132 T T 15 55 37.3
baz=324,slow=76,SNR=24
H11N1 WAKE ISLAND Hy 27.48 132 T T 15 55 41.8
baz=324,slow=76,SNR=24
H11N3 WAKE ISLAND Hy 27.48 132 T T 15 55 38.6
baz=324,slow=76,SNR=20
H11S1 WAKE ISLAND Hy 28.33 134 T T 15 56 39.4
baz=325,slow=76,SNR=13
H11S3 WAKE ISLAND Hy 28.34 134 T T 15 56 34.2
baz=325,slow=76,SNR=11
H11S2 WAKE ISLAND Hy 28.35 134 T T 15 56 39.0
baz=325,slow=76,SNR=15
ULN Ulaanbaatar 28.42 298*ce*P **P 15 27 11.8 +1.4**
ULN pmax pmax
comp=Z,18nm,1.3s
SONM Songino Array 28.86 298 P **P 15 27 15.4 +1.1**
comp=Z,9.8nm,1.2s,baz=83,slow=7.7,SNR=17
SONM LR LR 15 39 16.8
comp=Z,54nm,19.4s,baz=105,slow=38
XAN Xi'an 29.64 270 P **P 15 27 21.4 +0.2**
TLY Talaya 30.84 306 *eP* **P 15 27 33.1 +1.4**
TLY pmax pmax
comp=Z,12nm,1.1s
TLY MLR MLR
comp=Z,259nm,14.0s
ZAK Zakamensk 30.98 303 *eP* **P 15 27 32.3 -0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
TIXI Tiksi 32.59 350 P **P 15 27 46.6 -0.1**
comp=Z,5.7nm,0.8s,baz=196,slow=5.9,SNR=4.4
TIXI Tiksi 32.59 350*ce*P **P 15 27 47.6 +0.9**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 32.59 350 P **P 15 27 46.0 -0.7**
LZH Lanzhou 32.78 276 *e*PKP **P 15 27 50.6 +1.6**
LZH sPKP 15 28 28.8
LZH Lanzhou 32.78 276 *eP* **P 15 27 47.3 -1.7**
LZH pP pwP 15 27 57.0 -1.1
LZH sP sP 15 27 59.8 +8.0
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,76nm,4.3s
LZH LR LR
comp=Z,170nm,11.4s
LZH LR LR
comp=Z,120nm,12.7s
LZH LR LR
comp=Z,160nm,13.8s
GTA Gaotai 34.78 284 *eP* P 15 27 57.0 -9.4
GTA pP pP 15 28 04.6 -3.7
GTA sP sP 15 28 07.8 -1.4
GTA pmax pmax
comp=Z,1.0nm,1.4s
GTA Gaotai 34.78 284⇑ P **P 15 28 07.8 +1.4**
GTA pP pwP 15 28 14.0 -1.5
GTA sP sP 15 28 17.3 +8.1
GTA PcP **PcP 15 30 40.3 +0.7**
GTA ScP **ScP 15 34 27.4 +2.6**
GTA pmax pmax
comp=Z,11nm,1.1s
GTA pmax pmax
comp=Z,52nm,5.6s
GTA LR LR
comp=Z,70nm,14.3s
GTA LR LR
comp=Z,170nm,15.9s
GTA LR LR
comp=Z,150nm,15.6s
CD2 Chengdu 34.91 268 *eP* **P 15 28 05.6 -1.9**
CD2 S **S 15 33 35.0 -3.7**
CD2 LR LR
comp=Z,210nm,11.8s
CD2 LR LR
comp=Z,150nm,11.8s
CD2 LR LR
comp=Z,230nm,13.7s
GYA Guiyang 34.93 259⇑ P **P 15 28 08.3 +0.6**
GYA PP **PP 15 29 31.0 +4.2**
GYA S **S 15 33 37.5 -1.6**
GYA pmax pmax
comp=Z,11nm,1.0s
GYA LR LR
comp=Z,140nm,11.3s
GYA LR LR
comp=Z,140nm,10.0s
GYA LR LR
comp=Z,120nm,15.1s
DGZ Jazzator, Alta 41.21 303 *i* P **P 15 29 01.7 +1.2**
DGZ pmax pmax
comp=Z,8.0nm,1.0s
NRIK Noril'sk 41.78 333 P **P 15 29 04.5 -0.2**
comp=Z,1.5nm,0.4s,baz=92,slow=6.8,SNR=4.6
ZALV Zalesovo Beam 42.22 310 P **P 15 29 08.2 -0.2**
comp=Z,4.3nm,0.9s,baz=99,slow=7.7,SNR=13
ZALV PcP **PcP 15 31 03.1 +0.8**
comp=Z,9.8nm,0.9s,baz=77,slow=3.3,SNR=12
ZALV Zalesovo Beam 42.22 310 *i* P **P 15 29 09.5 +1.1**
ZALV pmax pmax
comp=Z,4.0nm,0.9s
IMAR Indian Mountai 42.28 32 P **P 15 29 10.1 +1.3**
IMAR PcP **PcP 15 31 04.2 +1.8**
WMQ Urumqi 42.33 295 *eP* **P 15 29 10.5 +0.9**
WMQ pP pwP 15 29 19.9 +1.1
WMQ pmax pmax
comp=Z,26nm,0.7s
WMQ pmax pmax
comp=Z,69nm,3.6s
WMQ LR LR
comp=Z,100nm,19.7s
WMQ LR LR
comp=Z,170nm,26.3s
ZSN Zaisan 43.33 300⇑ *iP* **P 15 29 18.0 +0.3**
comp=Z,2.8nm,0.8s,baz=301
ZSN Zaisan 43.33 300⇑ *iP* **P 15 29 17.9 +0.3**
MDM Murphy Dome 44.51 34 P **P 15 29 26.3 -0.6**
MDM IAmb IAmb 15 29 29.4
comp=Z,13nm,1.1s
CCB Clear Creek Bu 44.70 34 P **P 15 29 29.5 +1.2**
KRVT Keravat (AS076 44.72 171 P **P 15 29 29.6 +0.7**
comp=Z,12nm,0.5s,baz=60,slow=21,SNR=4.3
HDA Harding Lake 45.07 35 P **P 15 29 30.3 -1.0**
HDA IAmb IAmb 15 29 32.6
comp=Z,9.6nm,1.0s
IL31 45.09 34 P **P 15 29 31.3 -0.1**
ILAR Eielson Array 45.09 34 P **P 15 29 31.9 +0.4**
comp=Z,3.5nm,0.8s,baz=263,slow=6.8,SNR=32
ILAR Eielson Array 45.09 34 P **P 15 29 32.1 +0.6**
ILAR Eielson Array 45.09 34 P **P 15 29 32.1 +0.6**
CHTO Chiang Mai 45.16 256 P **P 15 29 34.1 +1.5**
CHTO pmax pmax
comp=Z,9.0nm,1.1s
MK31 Makanchi Array 45.20 300 P **P 15 29 32.8 +0.2**
MK31 pmax pmax
comp=Z,4.0nm,0.9s
MK31 Makanchi Array 45.20 300 P **P 15 29 32.8 +0.2**
MKAR Makanchi Array 45.20 300 P **P 15 29 33.0 +0.4**
comp=Z,3.1nm,0.8s,baz=84,slow=9.2,SNR=23
MKAR PcP **PcP 15 31 13.0 +0.4**
comp=Z,3.5nm,0.9s,baz=71,slow=5.3,SNR=5.2
CMAR Chiang Mai Arr 45.38 255 P **P 15 29 35.8 +1.4**
comp=Z,1.5nm,0.8s,baz=45,slow=6.3,SNR=9.2
CMAR LR LR 15 50 44.2
comp=Z,24nm,19.7s,baz=50,slow=39
MPSI Mapaga 46.02 217 P **P 15 29 40.2 +0.9**
comp=Z,12nm,1.3s
KURK Kurchatov 46.54 306*de*P **P 15 29 43.6 +0.5**
KURK pmax pmax
comp=Z,23nm,1.3s
KURK Kurchatov 46.54 306 P **P 15 29 43.2 +0.2**
KURK IAmb IAmb 15 29 44.8
comp=Z,15nm,0.9s
BCAR Beaver Creek A 47.46 36 P **P 15 29 51.6 +1.4**
TDK Taldyqorghan 48.32 299 *eP* **P 15 29 57.5 +0.5**
comp=Z,6.1nm,0.9s,baz=299
TDK Taldyqorghan 48.32 299 *eP* **P 15 29 57.5 +0.5**
UZB Uzynbulak 48.53 296 *eP* **P 15 29 57.5 -1.3**
comp=Z,3.1nm,1.1s,baz=296
CHKK Chushkaly 49.67 298 *i* P **P 15 30 07.5 +0.1**
baz=298
CHKK Chushkaly 49.67 298 *i* P **P 15 30 07.5 +0.1**
HYT Haines Junctio 49.84 39 P **P 15 30 09.5 +0.9**
HYT IAmb IAmb 15 30 21.6
comp=Z,20nm,0.9s
AAA Alma-Ata 49.95 297 *i* P **P 15 30 09.2 -0.4**
INK Inuvik 50.08 29 P **P 15 30 11.1 +1.0**
comp=Z,3.3nm,0.8s,baz=311,slow=9.3,SNR=5.5
INK Inuvik 50.08 29 IAmb IAmb 15 30 21.6
comp=Z,5.9nm,0.9s
KUU Kurty 50.09 298 *i* P **P 15 30 10.0 -0.6**
comp=Z,8.3nm,1.2s,baz=298
KUU Kurty 50.09 298 *i* P **P 15 30 10.0 -0.6**
KUU pmax pmax
comp=Z,8.0nm,1.2s
BRZS Berezniki 50.40 307 *i* P **P 15 30 13.3 +0.4**
comp=Z,6.5nm,1.0s,baz=307
BRZS Berezniki 50.40 307 *i* P **P 15 30 12.5 -0.4**
BRVK Borovoye 50.88 311*ce*P **P 15 30 18.2 +1.8**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
KIP Kipapa 51.16 94*ce*P **P 15 30 20.2 +1.3**
KIP pmax pmax
comp=Z,120nm,2.5s
BTLS Baital 51.21 300 *i* P **P 15 30 18.7 -0.3**
baz=300
BTLS Baital 51.21 300 *i* P **P 15 30 18.4 -0.6**
BBKI Banjar Baru 51.75 220 P **P 15 30 23.6 +0.2**
comp=Z,18nm,0.9s
AAK Ala-Archa 51.81 297 *i* P **P 15 30 24.3 +0.5**
AAK pmax pmax
comp=Z,3.0nm,1.0s
KSH Kashi 52.04 293 *eP* **P 15 30 27.9 +2.4**
ARSB Arslanbob 53.37 296 P **P 15 30 35.9 +0.6**
ARSB pmax pmax
comp=Z,27nm,1.1s
ARSB Arslanbob 53.37 296 P **P 15 30 35.9 +0.6**
ARSB IAmb IAmb 15 30 38.0
comp=Z,27nm,1.1s
DZA Taraz 53.84 299 *i* P **P 15 30 38.9 +0.3**
baz=299
DZA Taraz 53.84 299 *i* P **P 15 30 38.9 +0.3**
KKAR Karatay Array 54.31 299 P **P 15 30 42.3 +0.3**
KKAR Karatay Array 54.31 299 P **P 15 30 42.3 +0.3**
MTN Manton Dam 54.45 197 P **P 15 30 42.9 -0.2**
MTN IAmb IAmb 15 30 52.6
comp=Z,17nm,0.7s
SVE Sverdlovsk 54.89 318 *eP* **P 15 30 47.1 +1.2**
SVE pmax pmax
comp=Z,18nm,1.1s
IUG Iuzhnay 55.03 299 *i* P **P 15 30 47.5 +0.1**
comp=Z,5.3nm,1.3s,baz=299
IUG Iuzhnay 55.03 299 *i* P **P 15 30 47.4 +0.1**
WBSI Waikabubak, Su 55.17 212 P **P 15 30 48.7 +0.2**
comp=Z,44nm,1.3s
BASI Baing, Sumba 55.23 210 P **P 15 30 49.2 +0.4**
comp=Z,101nm,1.0s
ARU Arti 56.10 318*d iP* **P 15 30 55.4 +0.7**
ARU 15 32 59.9
ARU S **S 15 38 46.3 +3.3**
ARU SS **SS 15 42 25.1 -3.6**
ARU pmax pmax
comp=Z,15nm,0.9s
CHGR Chuyangaron 57.18 295 P **P 15 31 02.4 -0.4**
SDSI Sungai Dareh 57.33 236 P **P 15 31 03.9 0.0**
comp=Z,12nm,1.2s
ABKAR Akbulak array 58.33 310 P **P 15 31 11.3 +0.8**
AKTO Aktyubinsk 58.92 312 LR LR 15 57 41.6
comp=Z,29nm,18.2s,baz=67,slow=37
KBL Kabul 59.25 291 P **P 15 31 17.6 +0.2**
KBL pmax pmax
comp=Z,12nm,1.0s
YKA Yellowknife Ar 59.44 32 P **P 15 31 18.4 +0.4**
comp=Z,1.4nm,0.7s,baz=286,slow=5.4,SNR=3.7
KIRV Kirov 59.63 323⇑ *eP* **P 15 31 20.5 +1.2**
PRGR Permogore 59.83 327 *eP* **P 15 31 20.7 0.0**
PRGR pmax pmax
comp=Z,10.0nm,0.8s
WB0 Warramunga Arr 60.57 192 P **P 15 31 25.1 -1.1**
WR0 Warramunga Arr 60.73 192 P **P 15 31 26.3 -1.0**
WRAB Tennant Creek 60.74 192*ce*P **P 15 31 26.3 -1.1**
WRAB pmax pmax
comp=Z,15nm,0.9s
WRAB Tennant Creek 60.74 192 P **P 15 31 24.6 -2.7**
WB2 Warramunga Arr 60.75 192 P **P 15 31 26.1 -1.3**
WRA Warramunga Arr 60.75 192 P **P 15 31 26.2 -1.2**
comp=Z,7.6nm,0.6s,baz=9.3,slow=6.8,SNR=46
WRA Warramunga Arr 60.75 192 P **P 15 31 25.9 -1.5**
FITZ Fitzroy Crossi 60.89 202 P **P 15 31 26.3 -2.1**
FITZ IAmb IAmb 15 31 39.2
comp=Z,12nm,0.9s
KLMR Klimovskoe 62.75 328 *eP* **P 15 31 39.4 -1.0**
KLMR *e* 15 33 56.4
KLMR pmax pmax
comp=Z,16nm,1.3s
KLMR Klimovskoe 62.75 328 *eP* **P 15 31 39.5 -1.0**
KLMR AMP 15 31 42.1
comp=Z,16nm,1.3s
KLMR *e*PP **PP 15 33 56.4 -1.6**
ASAR Alice Springs 64.47 192 P **P 15 31 51.8 -0.5**
comp=Z,1.7nm,0.6s,baz=15,slow=7.2,SNR=13
ASAR Alice Springs 64.47 192 P **P 15 31 50.6 -1.7**
GEYT Alibeck 65.06 299 P **P 15 31 56.4 +0.2**
comp=Z,2.9nm,1.0s,baz=63,slow=0.3,SNR=6.3
NEW Newport 65.63 47 P **P 15 32 00.7 +1.0**
NEW pmax pmax
comp=Z,4.0nm,1.3s
PINE Pine Mountain 65.86 52 P **P 15 32 01.9 +0.4**
PINE IAmb IAmb 15 32 04.3
comp=Z,9.8nm,1.0s
VRH Novokhopyorsk 67.33 319 *eP* **P 15 32 09.2 -1.2**
VRH pmax pmax
comp=Z,6.0nm,0.4s
OBN Obninsk 67.42 324*ce*P **P 15 32 11.7 +0.8**
OBN *e* 15 32 40.2
OBN pmax pmax
comp=Z,27nm,1.3s
FINES FINESS Array B 67.45 333 P **P 15 32 11.3 +0.3**
comp=Z,2.9nm,0.5s,baz=52,slow=6.0,SNR=29
FINES FINESS Array B 67.45 333*ce*P **P 15 32 11.5 +0.5**
FINES pmax pmax
comp=Z,3.0nm,0.5s
LPSR Galich'ya Gora 67.87 321 *eP* **P 15 32 13.2 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
WVOR Wild Horse Val 68.02 53 P **P 15 32 16.8 +1.7**
WVOR pmax pmax
comp=Z,6.0nm,1.5s
VSR Storozhevoye 68.60 320 *eP* **P 15 32 17.8 -0.6**
VSR pmax pmax
comp=Z,6.0nm,0.8s
VORD Divnogorie 68.69 319 *eP* **P 15 32 18.0 -1.0**
VORD pmax pmax
comp=Z,10.0nm,0.4s
NVAR Mina Array Bea 70.55 56 P **P 15 32 31.7 +0.7**
comp=Z,1.1nm,0.6s,baz=293,slow=6.0,SNR=15
NVAR Mina Array Bea 70.55 56 P **P 15 32 32.4 +1.4**
KIV Kislovodsk 71.19 312 *eP* **P 15 32 35.8 +1.2**
KIV pmax pmax
comp=Z,60nm,1.1s
ZEI Tsey 71.20 310 *eP* **P 15 32 33.5 -1.3**
ZEI pmax pmax
comp=Z,20nm,1.4s
KBZ Khabaz 71.20 312 P **P 15 32 35.7 +1.2**
comp=Z,8.2nm,0.9s,baz=5.1,slow=3.9,SNR=10
KBZ Khabaz 71.20 312*de*P **P 15 32 35.9 +1.4**
KBZ pmax pmax
comp=Z,11nm,1.0s
STKA Stephens Creek 71.83 183 P **P 15 32 37.0 -1.2**
comp=Z,1.9nm,0.9s,baz=257,slow=4.0,SNR=3.5
STKA Stephens Creek 71.83 183 P **P 15 32 37.0 -1.2**
NB2 NORSAR Subarra 72.43 339 P **P 15 32 41.8 +0.1**
comp=Z,1.9nm,0.6s,baz=34,slow=6.2
NOA NORSAR Array B 72.43 339 P **P 15 32 41.9 +0.2**
comp=Z,1.9nm,0.8s,baz=36,slow=5.9,SNR=8.6
DUG Dugway, Tooele 72.88 52 P **P 15 32 46.2 +1.3**
DUG pmax pmax
comp=Z,6.0nm,1.4s
PDAR Pinedale Array 73.17 48 P **P 15 32 47.3 +0.6**
comp=Z,0.9nm,0.7s,baz=261,slow=1.9,SNR=11

PDAR	**Pinedale Array**	**73.17**	**48**	P	**P**	**15 32 46.0**	**-0.7**
AKASG	**Malin Array Be**	**73.67**	**324**	P	**P**	**15 32 49.5**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=40,slow=5.8,SNR=14						
AKBB	**Malin Array Si**	**73.67**	**324**	*ce*P	**P**	**15 32 49.8**	**+0.6**
BURAR	**Bucovina Array**	**77.72**	**323**	P	**P**	**15 33 13.9**	**+1.3**
VRI	**Vrincioaia**	**78.30**	**321**	P	**P**	**15 33 17.4**	**+1.7**
VRI				pmax	pmax		
	comp=Z,4.0nm,2.1s						
BRTR	**Keskin Array B**	**79.06**	**313**	P	**P**	**15 33 20.3**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=88,slow=3.8,SNR=13						
BRTR	**Keskin Array B**	**79.06**	**313**	*ce*P	**P**	**15 33 21.2**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR	**Keskin Array B**	**79.06**	**313**	P	**P**	**15 33 21.6**	**+1.5**
MORC	**Moravsky Berou**	**79.36**	**329**	*e*P	**P**	**15 33 22.0**	**+0.5**
MORC	**Moravsky Berou**	**79.36**	**329**	P	**P**	**15 33 22.5**	**+1.0**
MORC				pmax	pmax		
	comp=Z,4.0nm,1.2s						
DPC	**Dobruska-Polom**	**79.39**	**330**	P	**P**	**15 33 23.5**	**+1.9**
DPC				pmax	pmax		
	comp=Z,32nm,1.4s						
KRLC	**Kraliky**	**79.42**	**329**	*e*P	**P**	**15 33 23.2**	**+1.4**
KRLC	**Kraliky**	**79.42**	**329**	*e*P	**P**	**15 33 23.2**	**+1.4**
VYHS	**Vyhne**	**79.84**	**327**	*e*P	**P**	**15 33 25.4**	**+1.3**
VYHS	**Vyhne**	**79.84**	**327**	*e*P	**P**	**15 33 25.3**	**+1.2**
PSZ	**Piszkesteto**	**79.85**	**326**	P	**P**	**15 33 24.6**	**+0.4**
PSZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CLL	**Collm**	**79.85**	**332**	*i* P	**P**	**15 33 24.4**	**+0.4**
	comp=Z,5.0nm,0.9s						
CLL	**Collm**	**79.85**	**332**	*i* P	**P**	**15 33 24.4**	**+0.4**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
JAVC	**Velka Javorina**	**80.03**	**328**	*e*P	**P**	**15 33 26.9**	**+1.7**
VRAC	**Vranov**	**80.11**	**329**	*e*P	**P**	**15 33 26.5**	**+1.0**
ANMO	**Albuquerque**	**80.11**	**52**	*ce*P	**P**	**15 33 27.2**	**+1.2**
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GOPC	**GO Pecny, Ondr**	**80.32**	**330**	*e*P	**P**	**15 33 27.4**	**+0.7**
GOPC	**GO Pecny, Ondr**	**80.32**	**330**	*e*P	**P**	**15 33 27.4**	**+0.7**
KRUC	**Moravsky**	**80.38**	**329**	*e*P	**P**	**15 33 28.3**	**+1.3**
KHC	**Kasperske Hory**	**81.42**	**330**	*ce*P	**P**	**15 33 34.2**	**+1.6**
KHC				pmax	pmax		
	comp=Z,13nm,1.3s						
KHC	**Kasperske Hory**	**81.42**	**330**	*e*P	**P**	**15 33 33.2**	**+0.6**
KHC				epP	**pwP**	**15 33 42.5**	**+0.7**
GERES	**GERESS Array B**	**81.61**	**330**	P	**P**	**15 33 34.1**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=28,slow=6.0,SNR=7.2						
PPT	**Papeete**	**83.32**	**120**	LR	LR	16 04 48.7	
	comp=Z,47nm,21.7s,baz=346,slow=31						
TXAR	**Lajitas Array**	**85.67**	**55**	P	**P**	**15 33 55.7**	**+0.9**
	comp=Z,2.1nm,0.8s,baz=300,slow=3.9,SNR=26						
TXAR	**Lajitas Array**	**85.67**	**55**	P	**P**	**15 33 56.0**	**+1.1**
TORD	**Torodi Ar. Bea**	**117.15**	**320**	PKP	**PKPdf**	**15 40 00.6**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=3.9,slow=1.6,SNR=3.7						
TORD				PP	**PP**	**15 41 10.3**	**-0.2**
	comp=Z,1.5nm,1.0s,baz=18,slow=6.3,SNR=4.5						
MNMC	**Minye Minye**	**143.32**	**65**	PKPdf	PKPbc	15 40 48.9	+1.1
PB11	**IPOC Station P**	**143.70**	**66**	PKPdf	PKPab	15 40 47.7	-0.3
SNAA	**Sanae**	**144.72**	**197**	PKPdf	**PKPab**	**15 40 49.9**	**-0.3**
SNAA	**Sanae**	**144.72**	**197**	PKIKP	**PKPab**	**15 40 49.7**	**-0.5**
SNAA	**Sanae**	**144.72**	**197**	PKPdf	**PKPab**	**15 40 49.7**	**-0.5**
VNA2	**Neumayer--Watz**	**146.25**	**196**	PKPdf	**PKPdf**	**15 40 54.4**	**+0.5**
	baz=113,slow=2.6						
VNA3	**Neumayer Olymp**	**146.45**	**194**	PKPdf	**PKPbc**	**15 40 55.3**	**-0.4**
VNA1	**Neumayer--Stat**	**146.65**	**196**	PKPdf	**PKPbc**	**15 40 56.2**	**0.0**

NEIC ***16*** *15:26:24.3±2.6,24.8S±0.1×177.7W±0.1, h80km±8km, mb4.1/12, Error ellipse: s-maj=22.2km s-min=16.4km az=138.0*

IDC ***16*** *15:26:28.2±3.7,24.76S×177.58W, h112km±33km, mb3.5/7, mb1 3.8/10, mb1mx3.6/29, mbtmp4.1/10, Error ellipse: s-maj=30.1km s-min=17.8km az=141.0*

ISC 16 15:26:26.3±0.5, 24.7S±0.1×177.8W±0.1, h100km, n33, σ1°26/32, mb4.0/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.11**	**29**	P		**Pn**	**15 29 15.5**	**-0.1**
	2.7nm,0.3s,baz=210,slow=1.5,SNR=10.0							
AFI				S		Sn	15 31 17.7	-11
	1.4nm,0.3s,baz=26,slow=22,SNR=1.0							
AFI	**Afiamalu**	**12.11**	**29**			**Pn**	**15 29 14.3**	**-1.3**
URZ	**Urewera**	**14.22**	**197**	P		**Pn**	**15 29 43.6**	**+0.6**
	0.5nm,0.3s,baz=151,slow=17,SNR=2.0							
URZ				S		S	15 32 02.4	-31
	0.3nm,0.3s,baz=132,slow=20,SNR=1.0							
RAR	**Rarotonga**	**16.92**	**82**	P		**P**	**15 30 18.4**	**+1.0**
	0.7nm,0.3s,baz=74,slow=19,SNR=2.0							
RAR				S		Sn	15 33 09.2	-16
	0.6nm,0.3s,baz=245,slow=21,SNR=1.4							
RAR	**Rarotonga**	**16.92**	**82**	P		**P**	**15 30 17.2**	**-0.2**
RAR				IAmb		IAmb	15 30 36.7	
	comp=Z,15nm,1.0s							
AS31	**Alice Springs**	**43.93**	**261**	P		**P**	**15 34 22.2**	**-1.4**
ASAR	**Alice Springs**	**43.93**	**261**	P		**P**	**15 34 25.8**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=94,slow=7.8,SNR=5.7							
ASAR	**Alice Springs**	**43.93**	**261**	P		**P**	**15 34 22.5**	**-1.0**
WB2	**Warramunga Arr**	**44.38**	**266**	P		**P**	**15 34 27.4**	**+0.2**
WB2				IAmb		IAmb	15 34 36.0	
	comp=Z,4.4nm,1.1s							
WRAB	**Tennant Creek**	**44.39**	**266**	P		**P**	**15 34 27.4**	**+0.2**
WRAB				IAmb		IAmb	15 34 39.6	
	comp=Z,4.8nm,1.1s							
WB0	**Warramunga Arr**	**44.39**	**266**	P		**P**	**15 34 28.6**	**+1.3**
WB0				IAmb		IAmb	15 34 32.7	
	comp=Z,3.6nm,1.1s							
WRA	**Warramunga Arr**	**44.39**	**266**	P		**P**	**15 34 29.6**	**+2.4**
	comp=Z,0.4nm,0.5s,baz=100,slow=7.9,SNR=9.7							
WRA	**Warramunga Arr**	**44.39**	**266**	P		**P**	**15 34 28.0**	**+0.7**
KNRA	**Kununurra**	**50.73**	**270**	P		**P**	**15 35 17.3**	**+1.0**
KNRA				IAmb		IAmb	15 35 20.1	
	comp=Z,9.6nm,1.1s							
SAUI	**Saumlaki**	**51.32**	**280**	P		**P**	**15 35 18.6**	**-2.2**
VNDA	**Vanda**	**53.78**	**185**	P		**P**	**15 35 39.2**	**+1.2**
VNDA				IAmb		IAmb	15 35 45.6	
	comp=Z,1.7nm,1.1s							
QSPA	**South Pole Qui**	**65.40**	**180**	P		**P**	**15 36 55.6**	**-2.5**
MAW	**Mawson**	**77.72**	**200**	P		**P**	**15 38 12.1**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=142,slow=9.9,SNR=9.6							
MAW	**Mawson**	**77.72**	**200**	P		**P**	**15 38 11.9**	**+0.2**
MAW				IAmb		IAmb	15 38 13.2	
	comp=Z,0.6nm,0.7s							
PETK	**Petropavlovsk-**	**80.36**	**345**	P		**P**	**15 38 28.1**	**+1.9**
	comp=Z,1.8nm,0.7s,baz=180,slow=0.1,SNR=5.9							
PETK	**Petropavlovsk-**	**80.36**	**345**	P		**P**	**15 38 27.6**	**+1.4**
NVAR	**Mina Array Bea**	**83.91**	**43**	P		**P**	**15 38 46.3**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=225,slow=8.4,SNR=7.6							
TXAR	**Lajitas Array**	**89.12**	**57**	P		**P**	**15 39 11.7**	**+0.8**
	comp=Z,0.3nm,0.9s,baz=211,slow=5.1,SNR=2.2							
PDAR	**Pinedale Array**	**91.85**	**43**	P		**P**	**15 39 23.1**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=191,slow=3.0,SNR=7.7							
PDAR	**Pinedale Array**	**91.85**	**43**	P		**P**	**15 39 21.2**	**-2.2**
CO01	**Juntas del Tor**	**91.89**	**124**	P		**P**	**15 39 23.9**	**-0.2**
YAK	**Yakutsk**	**96.06**	**338**	P		**P**	**15 39 42.3**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=215,slow=0.9,SNR=4.1							
MKAR	**Makanchi Array**	**114.19**	**312**	PKP		PKPdf	15 44 52.8	-1.1
	comp=Z,0.4nm,0.6s,baz=77,slow=1.8,SNR=3.8							
ARCES	**ARCESS Array B**	**133.06**	**349**	PKP		**PKPdf**	**15 45 29.6**	**+0.3**
	comp=Z,2.3nm,1.0s,baz=14,slow=1.9,SNR=3.6							
FINES	**FINESS Array B**	**139.82**	**342**	PKhKP		PKPpre	15 45 34.2	
	comp=Z,2.2nm,1.0s,baz=29,slow=3.2,SNR=2.2							
FINES				PKP		**PKiKP**	**15 45 43.5**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=32,slow=3.9,SNR=5.4							
AKASG	**Malin Array Be**	**146.72**	**328**	PKPbc		**PKPbc**	**15 45 56.4**	**0.0**
	comp=Z,2.8nm,0.5s,baz=42,slow=3.9,SNR=12							
BRTR	**Keskin Array B**	**149.68**	**307**	PKPbc		**PKPbc**	**15 46 04.7**	**0.0**
	comp=Z,3.1nm,1.1s,baz=115,slow=2.0,SNR=7.4							
CLL	**Collm**	**152.16**	**345**	*i* PKPbc		**PKiKP**	**15 46 10.3**	**+0.1**
	comp=Z,8.0nm,1.3s							

NEIC ***16*** *15:31:07.0±2.4,22.2S±0.1×172.6W±0.1, h17km±5km, mb4.3/14, Error ellipse: s-maj=18.2km s-min=11.0km az=134.0*

IDC ***16*** *15:31:32.7±61.0,21.33S×176.65W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/23, mbtmp3.8/3, Error ellipse: s-maj=1135.0km s-min=176.8km az=85.0*

ISC 16 15:31:09.2±0.9, 22.2S±0.1×172.5W±0.1, h35km, n23, σ1°56/23, mb4.2/10, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.92**	**39**	Pn		**Pn**	**15 32 07.2**	**+0.2**
RAO	**Raoul Island**	**8.56**	**213**	Pn		**Pn**	**15 33 09.0**	**-1.8**
MSVF	**Nonsavu**	**9.88**	**295**	Pn		**Pn**	**15 33 26.3**	**-2.6**
ARMA	**Armidale**	**33.05**	**248**	P		**P**	**15 37 42.9**	**+1.2**
ARMA				IAmb		IAmb	15 37 55.0	
	comp=Z,8.2nm,1.1s							
CAN	**Canberra**	**35.96**	**240**	P		**P**	**15 38 10.0**	**+3.3**
CAN				IAmb		IAmb	15 38 21.0	
	comp=Z,2.7nm,1.0s							
CTAO	**Charters Tower**	**38.41**	**265**	P		**P**	**15 38 27.7**	**0.0**
STKA	**Stephens Creek**	**41.73**	**247**	P		**P**	**15 38 56.2**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=74,slow=7.4,SNR=1.6							
STKA	**Stephens Creek**	**41.73**	**247**	P		**P**	**15 38 55.1**	**+0.1**
COEN	**Coen**	**42.76**	**273**	P		**P**	**15 39 04.4**	**+0.7**
KHU	**Kahuku**	**44.35**	**23**	P		**P**	**15 39 16.2**	**-0.3**
BBOO	**Buckleboo**	**46.42**	**245**	P		**P**	**15 39 32.7**	**0.0**
BBOO				IAmb		IAmb	15 39 51.3	
	comp=Z,4.9nm,1.0s							
AS31	**Alice Springs**	**49.11**	**257**	P		**P**	**15 39 52.6**	**-1.0**
ASAR	**Alice Springs**	**49.11**	**257**	P		**P**	**15 39 54.5**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=93,slow=7.0,SNR=15							
ASAR	**Alice Springs**	**49.11**	**257**	P		**P**	**15 39 52.4**	**-1.3**
WR0	**Warramunga Arr**	**49.23**	**262**	P		**P**	**15 39 55.1**	**+0.5**
WR0				IAmb		IAmb	15 40 12.7	
	comp=Z,3.4nm,1.1s							
WB0	**Warramunga Arr**	**49.40**	**262**	P		**P**	**15 39 55.3**	**-0.7**
WB0				IAmb		IAmb	15 39 57.2	
	comp=Z,2.9nm,0.8s							
WB2	**Warramunga Arr**	**49.40**	**262**	P		**P**	**15 39 56.5**	**+0.5**
WRAB	**Tennant Creek**	**49.41**	**262**	P		**P**	**15 39 56.5**	**+0.5**
WRAB				IAmb		IAmb	15 39 58.9	
	comp=Z,2.6nm,1.1s							
WRA	**Warramunga Arr**	**49.41**	**262**	P		**P**	**15 39 56.8**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=95,slow=8.2,SNR=85							
WRA	**Warramunga Arr**	**49.41**	**262**	P		**P**	**15 39 55.5**	**-0.6**
FORT	**Forrest**	**53.34**	**247**	P		**P**	**15 40 27.6**	**+2.3**
KNRA	**Kununurra**	**55.62**	**266**	P		**P**	**15 40 45.0**	**+3.0**
KNRA				IAmb		IAmb	15 40 50.7	
	comp=Z,5.4nm,1.1s							
QSPA	**South Pole Qui**	**67.92**	**180**	P		**P**	**15 42 02.2**	**-2.0**

BGR ***16*** *15:50:52.7±0.0,56.67N×121.56E, h10km, mb5.0*

BJI ***16*** *15:50:53.9±0.0,57.66N×121.06E, h12km, mB5.0/50, mb4.5/53, ML5.5/2, Ms5.1/59, Ms7 4.9/57*

YARS ***16*** *15:50:54.7±0.0,57.46N×120.79E, h12km, ML4.2/7*

IDC ***16*** *15:50:55.6±0.4,57.41N×120.70E, h0km, mb4.5/34, mb1 4.6/41, mb1mx4.5/58, mbtmp4.5/41, ML4.2/5, MS3.9/34, Ms1 3.9/34, ms1mx3.8/51, Error ellipse: s-maj=9.1km s-min=7.6km az=126.0*

MOS ***16*** *15:50:55.6±0.9,57.46N×120.72E, h11km, mb4.9/74, MS4.4/36, Error ellipse: s-maj=5.8km s-min=4.2km az=107.9*

GCMT ***16*** *15:50:56.0±0.2,57.55N±0.01×120.71E±0.04, h18km, MW4.9/123, Moment Tensor Solution. s65,c81; s123,c190; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.97±.11; Mθθ2.59±.07; Mφφ0.38±.07; Mrθ0.33±.14; Mθφ-0.55±.04; Mφr0.86±.20; Best double couple: M=2.96700×10^16 NP1:φs117.00000°, δ46.00000°, λ-69.00000°. NP2:φs269.00000°, δ48.00000°, λ-110.00000°. Principal axes: T 2.7210, Plg1.0000°, Azm13.0000°; N 0.4940, Plg15.0000°, Azm282.0000°; P -3.2130, Plg75.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BYKL ***16*** *15:50:57.8±0.4,57.33N×120.73E, Mw4.9/13(IEC), #STATIONS AAK ALE COLA ENH ERM HRV INCN KMI LVZ MAJO PET SSE XAN*

NEIC ***16*** *15:50:58.0±2.1,57.45N±0.03×120.8E±0.1, h18km±4km, mb4.8/86, Error ellipse: s-maj=10.8km s-min=2.6km az=66.0*

ISC 16 15:50:56.8±0.5, 57.49N±0.02×120.89E±0.02, h11km±2km, h11km:pP-P, n482, σ2°01/562, mb4.8/170, MS4.4/60, 34C-19D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.75**	**222**	⇑*i*Pg		**Pg**	**15 51 07.9**	**-3.4**
KHNR				*e*Sg		**Sg**	**15 51 15.3**	**-5.9**
KHN	**Khani**	**0.82**	**227**	⇑*i*Pg		**Pg**	**15 51 08.0**	**-4.7**
KHN				⇓*e*Pg		**Pg**	**15 51 08.0**	**-4.7**
KHN				*i* Pg		**Pg**	**15 51 08.0**	**-4.7**
KHN				*e*Sg		**Sg**	**15 51 16.2**	**-7.2**
	6μm,0.1s							
YKLR	**Yuktali**	**0.99**	**155**	⇑*i*Pg		**Pg**	**15 51 13.9**	**-1.9**
YKLR				*e*Pb		**Pb**	**15 51 15.4**	**-0.5**
YKLR				*e*			15 51 24.0	
YKLR				*e*Sg		**Sg**	**15 51 26.6**	**-2.1**
YKLR	**Yuktali**	**0.99**	**155**	*e*P		**Pg**	**15 51 13.7**	**-2.1**
YKLR				*e*S		**Sg**	**15 51 26.6**	**-2.1**
YKLR	**Yuktali**	**0.99**	**155**	⇑*e*Pg		**Pg**	**15 51 13.6**	**-2.2**
	1μm,0.2s							
YKLR				*e*Sg		**Sg**	**15 51 26.0**	**-2.7**
	17μm,0.6s							
CRS	**Chara**	**1.54**	**249**	⇑*i*Pg		**Pn**	**15 51 22.6**	**-1.6**
CRS				Pmax			15 51 26.8	
	11μm,1.1s							
CRS				*e*Sg		**Sn**	**15 51 41.8**	**-2.5**
CRS				Smax			15 51 43.1	
	48μm,1.0s							
CRS	**Chara**	**1.54**	**249**	⇑*i*P		**Pn**	**15 51 23.0**	**-1.2**
CRS				*e*			15 51 41.1	
CRS				pmax	pmax			
	comp=Z,12μm,1.2s							
CRS				smax	smax			
	comp=N,8μm,1.3s							
CRS	**Chara**	**1.54**	**249**	⇑*e*Pg		**Pn**	**15 51 22.7**	**-1.5**
	comp=N,11μm,0.9s							
CRS				*e*Sg		**Sn**	**15 51 40.3**	**-3.9**
	comp=N,32μm,0.9s							
CLNS	**Chul'man**	**2.28**	**105**	*e*Pg		**Pb**	**15 51 36.6**	**-1.3**
	comp=N,132nm,0.1s							
CLNS				*e*Sg		**Sb**	**15 52 07.5**	**+1.6**
	comp=N,9μm,0.8s							
IENR	**Iengra**	**2.52**	**118**	Smax			15 51 38.8	
IENR				Smax			15 51 43.1	
IENR				*e*Sg		**Sb**	**15 52 15.1**	**+2.1**
IENR				*e*			15 52 17.4	
ALDR	**Aldan**	**2.65**	**63**	*e*Pg		**Pb**	**15 51 43.7**	**-0.6**
	comp=N,679nm,0.5s							
ALDR				*e*Sg		**Sb**	**15 52 19.6**	**+2.7**
	comp=N,4μm,0.2s							
NLYR	**Nelyaty**	**3.01**	**253**	⇑*i*Pn		**Pn**	**15 51 44.1**	**-0.3**
NLYR				*e*Pg		**Pb**	**15 51 49.2**	**-1.1**
NLYR				*e*PgPg		**PnPn**	**15 51 52.1**	**+0.7**
NLYR				max			15 51 52.4	
	comp=N,6μm,0.5s							
NLYR				*e*Sn		**Sn**	**15 52 16.8**	**-3.6**
NLYR				*e*Sg		**Sb**	**15 52 25.9**	**-1.1**
NLYR				Smax			15 52 27.7	
	comp=N,41μm,0.9s							
NLYR	**Nelyaty**	**3.01**	**253**	*e*P		**Pn**	**15 51 44.8**	**+0.4**
NLYR				*e*			15 52 25.4	
NLYR				pmax	pmax			
	comp=Z,6μm,0.9s							
NLYR				smax	smax			
	comp=N,41μm,1.0s							
TUP	**Tupik**	**3.11**	**190**	⇓*i*Pn		**Pn**	**15 51 44.2**	**-1.6**
TUP				*e*			15 51 48.6	
TUP				*e*Pg		**Pb**	**15 51 51.4**	**-0.7**
TUP				Pmax			15 51 53.9	
	comp=N,2μm,0.9s							
TUP				*e*Sn		**Sn**	**15 52 19.9**	**-3.1**
TUP				*e*Sg		**Sb**	**15 52 29.2**	**-0.9**
TUP				Smax			15 52 38.1	
	comp=N,11μm,1.4s							
TUP	**Tupik**	**3.11**	**190**	⇑*i*P		**Pn**	**15 51 44.4**	**-1.4**
TUP				*e*S		**Sn**	**15 52 20.1**	**-2.9**
TUP				pmax	pmax			
	comp=Z,2μm,0.6s							
TUP				smax	smax			
	comp=N,11μm,0.9s							
TUP	**Tupik**	**3.11**	**190**	⇓*e*Pn		**Pn**	**15 51 44.3**	**-1.4**
TUP				*e*Pg		**Pb**	**15 51 50.1**	**-2.0**
	comp=N,2μm,0.6s							
TUP				*e*Sn		**Sn**	**15 52 20.3**	**-2.7**
TUP				*e*Sg		**Sb**	**15 52 28.6**	**-1.4**
	comp=N,11μm,0.9s							
TNDR	**Tynda**	**3.17**	**136**	*e*Pn		**Pn**	**15 51 45.9**	**-0.7**
TNDR				*e*Pg		**Pb**	**15 51 51.2**	**-1.9**
	comp=N,701nm,0.3s							
TNDR				*e*Sn		**Sn**	**15 52 23.6**	**-0.8**
TNDR				*e*Sg		**Sb**	**15 52 34.8**	**+3.1**
	comp=N,8μm,0.6s							
BOD	**Bodaibo**	**3.72**	**278**	⇑*i*Pn		**Pn**	**15 51 53.8**	**-0.3**
BOD				Pg		**Pb**	**15 52 02.7**	**+0.3**
BOD				Pmax			15 52 06.2	
	comp=N,1μm,1.3s							
BOD				*e*Sn		**Sn**	**15 52 36.2**	**-1.5**
BOD				*e*Sg		**Sb**	**15 52 48.7**	**+1.4**
BOD				Smax			15 52 58.4	
	comp=N,14μm,1.5s							
BOD	**Bodaibo**	**3.72**	**278**	*e*P		**Pn**	**15 51 53.7**	**-0.3**
BOD				pmax	pmax			
	comp=Z,1μm,1.4s							
SVKR	**Severomuysk**	**4.26**	**254**	*e*Pn		**Pn**	**15 52 01.5**	**0.0**
SVKR				*e*Pg		**Pb**	**15 52 11.9**	**+0.3**
SVKR				Pmax			15 52 16.4	
	comp=Z,2μm,0.6s							
SVKR				*e*Sg		**Sb**	**15 53 06.6**	**+3.6**
SVKR				Smax			15 53 12.4	
	comp=Z,17μm,1.3s							
UKT	**Uakit**	**4.50**	**247**	⇑*i*Pn		**Pn**	**15 52 04.2**	**-0.7**
UKT				*e*Pg		**Pb**	**15 52 15.9**	**+0.2**
UKT				Pmax			15 52 22.4	
	comp=Z,905nm,1.4s							
UKT				*e*			15 52 24.1	
UKT				*e*Sg		**Sb**	**15 53 12.2**	**+2.3**
UKT				Smax			15 53 19.1	
	comp=Z,6μm,1.2s							
UKT	**Uakit**	**4.50**	**247**	*e*P		**Pn**	**15 52 04.7**	**-0.2**
UKT				pmax	pmax			
	comp=Z,851nm,0.6s							
KROS	**Kirovskiy**	**4.59**	**129**	*e*Pn		**Pn**	**15 52 05.9**	**-0.1**
	comp=Z,204nm,0.4s							
VTMR	**Vitim**	**4.80**	**298**	*e*Pn		**Pn**	**15 52 10.2**	**+1.3**
VTMR				*e*			15 52 18.9	
VTMR				*e*Pg		**Pb**	**15 52 24.2**	**+3.4**
VTMR				*e*Sn		**Sn**	**15 53 02.5**	**-1.9**
VTMR				*e*Sg		**Sg**	**15 53 26.3**	**-4.4**
VTMR	**Vitim**	**4.80**	**298**	*e*Pn		**Pn**	**15 52 07.7**	**-1.2**
VTMR				*e*Pg		**Pb**	**15 52 19.5**	**-1.3**
	comp=Z,305nm,0.2s							
VTMR				*e*Sn		**Sn**	**15 53 01.1**	**-3.3**
VTMR				*e*Sg		**Sb**	**15 53 23.7**	**+5.2**
	comp=Z,13μm,1.1s							
ZEA	**Zeya**	**5.21**	**133**	*e*P		**Pn**	**15 52 15.7**	**+1.2**
ZEA				*e*S		**Sn**	**15 53 13.1**	**-1.3**
ZEA				pmax	pmax			
	comp=N,24nm,0.4s							
ZEA				pmax	pmax			
	comp=E,50nm,0.4s							
ZEA				pmax	pmax			
	comp=Z,56nm,0.8s							
ZEA				smax	smax			
	comp=N,8.0nm,0.7s							
ZEA				smax	smax			
	comp=E,12nm,0.6s							
ZEA				smax	smax			
	comp=N,12μm,3.0s							
ZEA				MLR	MLR			
	comp=N,12μm,6.0s							
ZEA				MLR	MLR			
	comp=Z,13μm,6.0s							
YOA	**Uoyan**	**5.22**	**259**	*e*Pg		**Pb**	**15 52 29.0**	**+1.1**
YOA				Pmax			15 52 30.7	
	comp=Z,7μm,1.4s							
YOA				*e*			15 53 16.3	
YOA				*e*Sg		**Sb**	**15 53 35.0**	**+4.5**
YOA				Smax			15 54 02.9	
	comp=Z,48μm,2.1s							
YOA	**Uoyan**	**5.22**	**259**	*e*P		**Pn**	**15 52 15.9**	**+1.2**
YOA				pmax	pmax			
	comp=Z,2μm,1.3s							
BMKR	**Bomnak**	**5.25**	**119**	*e*Pg		**Pg**	**15 52 32.9**	**-4.3**
	comp=Z,204nm,0.4s							
BMKR				*e*Sn		**Sn**	**15 53 16.1**	**+0.6**
BMKR				*e*Sg		**Sg**	**15 53 38.6**	**-6.5**
	comp=Z,682nm,0.4s							
CGD	**Chagda**	**5.31**	**72**	*e*Pn		**Pn**	**15 52 15.1**	**-0.8**
CGD				*e*Pg		**Pb**	**15 52 31.6**	**+2.1**
	comp=Z,698nm,0.2s							
CGD				*e*Sn		**Sn**	**15 53 16.1**	**-0.9**
CGD				*e*Sg		**Sg**	**15 53 41.8**	**-5.3**
	comp=Z,14μm,0.4s							
KMO	**Kumora**	**5.58**	**257**	*e*Pn		**Pn**	**15 52 19.0**	**-0.6**
KMO				*e*			15 52 23.2	
KMO				*e*Pg		**Pb**	**15 52 35.6**	**+1.5**
KMO				Pmax			15 52 44.8	
	comp=Z,717nm,1.3s							
KMO				*e*			15 53 39.1	
KMO				*e*Sg		**Sb**	**15 53 46.3**	**+5.4**
KMO				Smax			15 53 50.9	
	comp=Z,8μm,1.1s							
KMO	**Kumora**	**5.58**	**257**	*e*P		**Pn**	**15 52 19.2**	**-0.4**
KMO				*e*S		**Sn**	**15 53 19.3**	**-4.3**
KMO				pmax	pmax			
	comp=Z,88nm,0.6s							
KMO		

SYVR eSg Sb 15 54 38.8 +9.4
SYVR Smax 15 54 51.8
comp=Z,8μm,1.6s
SYVR e 15 54 54.7
SYVR Suvo 7.27 243 eP **Pn 15 52 42.2 -0.6**
SYVR pmax pmax
comp=Z,391nm,1.2s
MXMB Maximikha 8.11 244 e Pn 15 52 43.0 -11
MXMB ePg Pb 15 53 22.2 +5.1
MXMB e 15 54 35.2
MXMB eSg Sb 15 55 04.0 +10
MXMB e 15 55 06.6
HIA Hailar 8.26 185 P **Pn 15 52 53.3 -3.2**
HIA Hailar 8.26 185 **Pn 15 52 53.3 -3.2**
OGRR Ongureny 8.46 249 ePn **Pn 15 53 00.5 +1.4**
OGRR e 15 53 06.7
OGRR ePg Pb 15 53 28.5 +5.4
OGRR Pmax 15 53 38.0
comp=Z,135nm,1.8s
OGRR e 15 54 49.1
OGRR eSg Sg 15 55 16.5 -11
OGRR Smax 15 55 33.1
comp=Z,2μm,1.9s
OGRR Ongureny 8.46 249 eP **Pn 15 52 59.7 +0.6**
OGRR pmax pmax
comp=Z,134nm,1.8s
KELR Kotokel 8.73 243 ePn **Pn 15 53 01.5 -1.4**
KELR e 15 53 13.4
KELR ePg Pg 15 53 33.1 -11
KELR e 15 54 55.4
KELR eSg Sg 15 55 23.6 -13
KPC Khapcheranga 9.29 217 ePn **Pn 15 53 08.7 -1.9**
KPC e 15 53 13.1
KPC e 15 53 24.6
KPC Pg 15 53 41.3
KPC Pmax 15 53 54.4
comp=Z,37nm,0.8s
KPC e 15 55 07.3
KPC eSg Sn 15 55 38.6 +44
KPC e 15 55 48.1
KPC max 15 55 58.2
comp=Z,2μm,1.6s
KPC Khapcheranga 9.29 217 eP **Pn 15 53 08.7 -1.9**
KPC pmax pmax
comp=Z,21nm,0.9s
UUDB Ulan-Yde 9.50 239 e **Pn 15 53 17.1 +3.7**
UUDB ePg 15 53 46.9
UUDB Pmax 15 53 48.6
comp=Z,245nm,1.5s
UUDB e 15 55 08.2
UUDB eSg Sn 15 55 46.6 +47
UUDB Smax 15 56 04.3
comp=Z,7μm,1.6s
TRG Tyrgan 9.57 247 ePn **Pn 15 53 14.9 +0.4**
TRG e 15 53 48.1
TRG e 15 53 51.4
TRG max 15 54 34.5
comp=Z,60nm,1.6s
TRG e 15 55 09.0
TRG eSg Sn 15 55 50.0 +48
TRG Smax 15 56 19.8
comp=Z,1μm,2.3s
FFNB Fofonovo 9.80 242 ePn **Pn 15 53 18.0 +0.4**
FFNB ePg 15 53 52.1
FFNB e 15 55 15.8
FFNB eSg Sn 15 55 57.0 +49
KAB Kabansk 9.86 243 e Pn 15 54 17.4 +59
KAB e 15 55 54.4
KAB eSg Sn 15 55 58.9 +50
KAB Smax 15 56 23.4
comp=Z,15μm,1.5s
STDB Stepnoy Dvoret 9.92 244 e 15 54 54.4
STDB Sg Sn 15 55 59.6 +49
STDB e 15 56 05.9
BGT Bolshoye Golou 10.46 245 ePn **Pn 15 53 28.7 +2.1**
BGT max 15 54 15.4
comp=Z,64nm,1.6s
BGT e 15 55 49.6
BGT eSg Sn 15 56 17.8 +54
BGT Smax 15 56 49.0
comp=Z,2μm,2.0s
KLR Kul'dur 10.50 137 Pn **Pn 15 53 27.7 +0.7**
comp=Z,1.4nm,0.3s,baz=326,slow=12,SNR=32
KLR Sn **Sn 15 55 16.3 -8.2**
comp=Z,11nm,0.3s,baz=153,slow=14,SNR=10
KLR Lg Lg 15 56 26.5
comp=Z,5.0nm,0.3s,baz=259,slow=20,SNR=6.8
KLR LR LR 15 57 53.4
comp=Z,492nm,19.0s,baz=326,slow=40
KLR Kul'dur 10.50 137 *i* P **Pn 15 53 28.6 +1.5**
KLR pmax pmax
comp=Z,4.0nm,0.3s
KLR MLR MLR
comp=Z,2μm,11.0s
LSTR Listvyanka 10.85 246 e **Pn 15 53 34.8 +2.9**
LSTR max 15 53 38.8
comp=Z,50nm,1.9s
LSTR e 15 53 44.2
LSTR e 15 56 26.8
LSTR eSg Sn 15 56 29.7 +56
LSTR Smax 15 57 14.5
comp=Z,2μm,2.2s
IRK Irkutsk 10.91 248 e Pn 15 53 52.6 +20
IRK max 15 54 07.1
comp=Z,60nm,0.1s
IRK eSg Sn 15 56 30.3 +56
IRK e 15 56 36.8
IRK max 15 56 47.9
comp=Z,2μm,1.2s
IRK Irkutsk 10.91 248 eP **Pn 15 53 33.1 +0.4**
IRK pmax pmax
comp=Z,49nm,0.2s
IVK Ivanovka 11.10 246 ePn **Pn 15 53 36.9 +1.6**
IVK ePg 15 54 15.4
IVK Pmax 15 54 25.6
comp=Z,34nm,1.5s
IVK eSg Sn 15 56 36.5 +57
IVK e 15 56 45.5
IVK max 15 56 57.3
comp=Z,2μm,1.9s
GRNR Gornyy 11.31 120⇑ *i* P **Pn 15 53 38.9 +0.7**
GRNR eS **Sn 15 55 47.4 +3.0**
GRNR pmax pmax
comp=Z,7.0nm,0.8s
GRNR smax smax
comp=N,2.0nm,0.9s
GRNR MLR MLR
comp=N,680nm,14.0s
GRNR MLR MLR
comp=Z,1μm,14.0s
TLY Talaya 11.55 247 Pn **Pn 15 53 41.1 -0.5**
comp=Z,0.0nm,0.3s,baz=352,slow=14,SNR=2.1
TLY Lg Lg 15 56 55.6
comp=Z,0.0nm,0.3s,baz=274,slow=21,SNR=11
TLY LR LR 15 57 57.9
comp=Z,1μm,20.8s,baz=42,slow=37
TLY Talaya 11.55 247 ePn **Pn 15 53 42.8 +1.3**
TLY e 15 54 09.3
TLY e 15 54 28.0
TLY max 15 54 33.2
comp=Z,22nm,1.5s
TLY eSg Sn 15 56 50.1 +60
TLY e 15 56 54.1
TLY max 15 57 09.4
comp=Z,792nm,1.8s
TLY Talaya 11.55 247 eP **Pn 15 53 43.4 +1.9**
TLY pmax pmax
comp=Z,16nm,1.1s
TLY MLR MLR
comp=Z,4μm,11.0s
ARS Arshan 12.03 250 ePn **Pn 15 53 50.1 +2.0**
ARS max 15 54 07.3
comp=Z,40nm,1.4s
ARS eSg 15 57 04.5
ARS e 15 57 09.5
ARS max 15 57 12.9
comp=Z,3μm,3.2s
ULN Ulaanbaatar 12.75 227 *ce* P **Pn 15 54 00.0 +2.0**
ULN pmax pmax
comp=Z,26nm,2.5s
ULN Ulaanbaatar 12.75 227 Pn **Pn 15 53 57.3 -0.7**
MOY Mondy 12.90 252 ePn **Pn 15 54 00.4 +0.4**
MOY max 15 54 05.5
comp=Z,71nm,1.6s
MOY eSn Sn 15 56 57.5 +34
MOY eSg 15 57 32.1
MOY Smax 15 57 54.2
comp=Z,1μm,2.2s
MOY Mondy 12.90 252 eP **Pn 15 54 00.4 +0.4**
SONM Songino Array 13.04 228 Pn **Pn 15 54 00.8 -1.1**
comp=Z,0.6nm,0.3s,baz=35,slow=12,SNR=29
SONM Lg Lg 15 57 42.4
comp=Z,11nm,0.3s,baz=34,slow=24,SNR=18
SONM LR 15 59 30.5
comp=Z,548nm,19.7s,baz=34,slow=40
SONM Songino Array 13.04 228 P **Pn 15 54 03.7 +1.8**
SONM Songino Array 13.04 228 Pn **Pn 15 54 03.7 +1.8**
ORL Orlik 13.05 257⇑ *i* Pn **Pn 15 54 01.5 -0.5**
ORL e 15 54 21.0
ORL max 15 54 23.6
comp=Z,50nm,1.7s
ORL e 15 54 58.8
ORL e 15 55 38.5
ORL e 15 56 34.5
ORL e 15 56 56.2
ORL eSg S 15 57 38.3 +46
ORL Smax 15 57 58.8
comp=Z,949nm,2.0s
I34MN SONGINO INFRAS 13.06 228 Lg Lg 15 57 45.4
baz=21,slow=33,SNR=2.9
OKH Okha 13.07 98 *de* P **Pn 15 54 06.0 +3.8**
OKH eS **Sn 15 56 26.1 -1.4**
OKH pmax pmax
comp=Z,100nm,9.1s
OKH MLR MLR
comp=N,2μm,10.0s
OKH MLR MLR
comp=E,2μm,14.0s
OKH MLR MLR
comp=Z,2μm,9.0s
MDJ Mudanjiang 13.98 153 P **P 15 54 25.3 +2.6**
MDJ S **S 15 57 17.3 +5.9**
MDJ pmax pmax
comp=Z,15nm,1.3s
MDJ pmax pmax
comp=Z,160nm,4.9s
MDJ LR LR
comp=N,4μm,9.5s
MDJ LR LR
comp=E,8μm,9.9s
MDJ LR LR
comp=Z,5μm,8.3s
CN2 Changchun 14.00 166 eP **P 15 54 19.0 -3.9**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
TIXI Tiksi 14.60 10 Pn **Pn 15 54 19.4 -3.6**
comp=Z,3.3nm,0.3s,baz=197,slow=10,SNR=49
TIXI Sn Sn 15 56 53.1 -11
comp=Z,11nm,0.3s,baz=79,slow=19,SNR=4.7
TIXI LR LR 16 00 27.7
comp=Z,628nm,20.0s,baz=228,slow=39
TIXI Tiksi 14.60 10 *i* P **Pn 15 54 20.4 -2.6**
TIXI pmax pmax
comp=Z,30nm,0.6s
TIXI MLR MLR
comp=Z,3μm,12.0s
TIXI Tiksi 14.60 10 Pn **Pn 15 54 20.0 -3.0**
USA0B Ussuriysk Arra 15.01 148 *i* P **P 15 54 33.2 -0.8**
USRK Ussuriysk Ar. 15.01 148 Pn **Pn 15 54 30.6 +2.0**
baz=334,slow=12,SNR=11
USRK Lg Lg 15 58 49.5
baz=320,slow=21,SNR=6.8
USRK LR LR 16 00 04.8
comp=Z,293nm,21.6s,baz=330,slow=37
MA2 Magadan 15.68 70 Pn **Pn 15 54 37.8 +0.5**
comp=Z,0.5nm,0.3s,baz=212,slow=19,SNR=1.7
MA2 Lg Lg 15 59 01.8
comp=Z,0.6nm,0.3s,baz=147,slow=14,SNR=3.8
MA2 LR LR 15 59 42.9
comp=Z,221nm,20.5s,baz=275,slow=33
MA2 Magadan 15.68 70 *i* P **P 15 54 41.2 -0.2**
MA2 pmax pmax
comp=Z,14nm,0.8s
MA2 MLR MLR
comp=Z,2μm,10.0s
SNY Shenyang 15.77 173⇑ P **Pn 15 54 33.4 -5.2**
TEY Ternei 15.82 135 eP **P 15 54 48.1 +5.0**
VLA Vladivostok 15.97 150 *i* P **P 15 54 44.5 -0.3**
VLA pmax pmax
comp=Z,63nm,1.0s
VLA MLR MLR
comp=Z,1μm,10.0s
KZLR Kyzyl 16.31 261 *e* 15 58 42.3
KZLR eSg 15 59 18.2
KZLR *e* 15 59 23.6
SEY Seymchan 16.45 58 Pn **P 15 54 50.5 +0.5**
comp=Z,1.1nm,0.3s,baz=269,slow=11,SNR=18
SEY Lg Lg 15 59 32.3
comp=Z,0.7nm,0.3s,baz=189,slow=18,SNR=4.6
SEY LR LR 16 01 41.6
comp=Z,447nm,20.8s,baz=270,slow=39
YSS Yuzh-Sakhalins 16.96 119⇓ *i* P **P 15 54 55.6 -0.1**
YSS eS **Sn 15 58 03.7 +1.6**
YSS pmax pmax
comp=Z,400nm,7.7s
YSS pmax pmax
comp=N,200nm,3.6s
YSS pmax pmax
comp=E,200nm,4.8s
YSS MLR MLR
comp=Z,2μm,13.0s
YSS MLR MLR
comp=N,800nm,10.0s
YSS MLR MLR
comp=E,2μm,11.0s
HHC Hu-ho-hao-te 17.70 204 eP **P 15 55 06.3 +2.2**
HHC PP **PnPn 15 55 23.8 +10**
HHC S **S 15 58 25.1 -2.5**
HHC pmax pmax
comp=E,28nm,1.1s
HHC pmax pmax
comp=E,660nm,4.3s
HHC LR LR
comp=E,3μm,9.2s
HHC LR LR
comp=E,3μm,8.3s
HHC LR LR
comp=E,4μm,9.1s
BJI Beijing 17.73 192 P **P 15 55 07.3 +3.1**
BJI S **S 15 58 28.9 +1.1**
BJI pmax pmax
comp=E,24nm,1.0s
BJI LR LR
comp=E,4μm,8.2s
BJI LR LR
comp=E,2μm,6.1s
BJI LR LR
comp=E,560nm,14.2s
BJT Baijiatuau 17.75 192 P **P 15 55 04.4 -0.1**
BJT pmax pmax
comp=Z,17nm,0.8s
BJT Baijiatuau 17.75 192 P **P 15 55 04.3 -0.1**
BTO Baotou 18.29 207 eP **Pn 15 55 09.9 -0.6**
BTO S **Sn 15 58 25.3 -9.3**
DL2 Dalian 18.60 178 P **Pn 15 55 14.8 +0.8**
DL2 S **Sn 15 58 39.3 -2.5**
DL2 pmax pmax
comp=Z,360nm,5.0s
DL2 LR LR
comp=Z,4μm,9.4s
DL2 LR LR
comp=Z,4μm,9.7s
NRIK Noril'sk 18.74 323 P **P 15 55 12.8 -2.4**
comp=Z,3.0nm,0.3s,baz=112,slow=11,SNR=34
NRIK S Sn 15 58 34.2 -11
comp=Z,1.5nm,0.3s,baz=352,slow=22,SNR=7.6
NRIK Lg Lg 16 00 46.9
baz=211,slow=19,SNR=1.9
NRIK LR LR 16 03 23.1
comp=Z,498nm,20.8s,baz=123,slow=40
NRIK Noril'sk 18.74 323⇑ *eP* **P 15 55 12.8 -2.4**
NRIK pmax pmax
comp=Z,80nm,1.7s
NRIK MLR MLR
comp=Z,1μm,10.2s
ASAJ Asahikawa 19.05 125 P **Pn 15 55 20.4 +0.9**
comp=Z,0.4nm,0.3s,baz=335,slow=11,SNR=15
ASAJ Asahikawa 19.05 125 P **Pn 15 55 21.2 +1.7**
ASAJ pmax pmax
comp=Z,31nm,0.9s
JKA Kamikawa-asahi 19.05 125 P **Pn 15 55 21.2 +1.7**
ZAA0 Zalesovo Array 20.47 276 P **P 15 55 34.1 0.0**
ZAA0 IAmb IAmb 15 55 40.2
comp=Z,74nm,1.4s
ZALV Zalesovo Beam 20.47 276 P **P 15 55 34.4 +0.3**
comp=Z,24nm,1.0s,baz=69,slow=8.1,SNR=31
ZALV Lg Lg 16 01 40.4
comp=Z,9.0nm,0.9s,baz=79,slow=24,SNR=3.5
ZALV LR LR 16 05 04.7
comp=Z,87nm,19.5s,baz=61,slow=42
ZALV Zalesovo Beam 20.47 276 P **P 15 55 33.8 -0.3**
TIY Taiyuan 20.56 199 eP Pn 15 55 39.8 +2.3
TIY S Sn 15 59 29.4 +0.3
TIY sS pS 15 59 35.9 -0.3
TIY pmax pmax
comp=Z,22nm,0.9s
TIY pmax pmax
comp=Z,290nm,6.8s
TIY LR LR
comp=Z,1μm,7.2s
TIY LR LR
comp=Z,1μm,6.0s
TIY LR LR
comp=Z,2μm,7.4s
KSRS Korea Array 20.58 164 P Pn 15 55 37.0 -0.6
comp=Z,23nm,0.9s,baz=351,slow=10.0,SNR=31
KSRS LR LR 16 03 46.8
comp=Z,312nm,20.9s,baz=348,slow=38
KSAR Wonju Array Be 20.58 164 P **P 15 55 36.2 +0.7**
KSAR Wonju Array Be 20.58 164 P **P 15 55 36.2 +0.7**
KUR Kuril'sk 20.67 115 eP **P 15 55 33.6 -2.7**
KUR eS Sn 15 59 31.9 +0.3
KUR pmax pmax
comp=Z,49nm,1.1s
KUR MLR MLR
comp=Z,670nm,14.0s
KUR MLR MLR
comp=N,734nm,13.0s
KUR MLR MLR
comp=E,616nm,13.0s
DGZ Jazzator, Alta 21.15 263 *d* P **P 15 55 43.2 +1.5**
DGZ pmax pmax
comp=Z,31nm,1.2s
PEA0B Petropavlovsk- 21.23 86 *ce* P **P 15 55 45.4 +3.1**
PEA0B Petropavlovsk- 21.23 86 P **P 15 55 44.1 +1.8**
PEA0B IAmb IAmb 15 55 51.0
comp=Z,35nm,1.1s
PETK Petropavlovsk- 21.23 86 P **P 15 55 44.6 +2.3**
comp=Z,10nm,0.8s,baz=300,slow=4.5,SNR=20
PETK LR LR 16 03 43.7
comp=Z,190nm,18.8s,baz=300,slow=36
PETK Petropavlovsk- 21.23 86 P **P 15 55 44.5 +2.1**
TIA Tai'an 21.43 188 P **P 15 55 45.3 +0.7**
TIA S **S 15 59 38.8 -3.4**
TIA pmax pmax
comp=Z,290nm,9.5s
TIA LR LR
comp=Z,2μm,12.8s
TIA LR LR
comp=Z,710nm,7.6s
TIA LR LR
comp=Z,2μm,12.4s
TJN Taejon 21.55 166 *ce* P **P 15 55 50.2 +4.3**
SKR Severo-Kuril's 21.56 93 eP **P 15 55 43.9 -2.0**
SKR eS Sn 15 59 51.6 -1.3
SKR eSS SnSn 16 00 23.0 +15
SKR pmax pmax
comp=Z,100nm,7.6s
SKR pmax pmax
comp=Z,200nm,4.6s
SKR MLR MLR
comp=Z,400nm,15.0s
PET Petropavlovsk 21.78 86⇑ eP **P 15 55 51.9 +3.7**
PET pmax pmax
comp=Z,33nm,0.9s
PET MLR MLR
comp=Z,2μm,12.3s
PET Petropavlovsk 21.78 86 P **P 15 55 50.1 +1.8**
PET IAmb IAmb 15 55 57.1
comp=Z,37nm,0.8s
GTA Gaotai 22.69 226⇓ P **P 15 55 57.9 -0.4**
GTA pP sP 15 56 02.8 -0.6
GTA sP pP 15 56 05.1 +3.3
GTA S **S 16 00 02.8 -3.6**
GTA sS sS 16 00 12.5 +0.1
GTA pmax pmax
comp=Z,12nm,1.3s
GTA pmax pmax
comp=Z,150nm,5.4s
GTA LR LR
comp=Z,3μm,8.9s
GTA LR LR
comp=Z,3μm,8.3s
GTA LR LR
comp=Z,3μm,8.3s
ZSN Zaisan 23.86 261 eP **P 15 56 10.1 +0.2**
comp=Z,109nm,3.9s,baz=260
ZSN LR LR 16 04 53.9
comp=Z,516nm,8.9s,baz=260
ZSN Zaisan 23.86 261 eP **P 15 56 10.0 +0.2**
ZSN pmax pmax
comp=Z,109nm,3.9s
ZSN MLR MLR
comp=Z,516nm,9.0s
MJB9 Matsu-Tunnel 23.91 144 P **P 15 56 08.8 -1.6**
MAJO Matsushiro 23.91 144 *c* P **P 15 56 10.4 0.0**
MAJO pmax pmax
comp=Z,8.0nm,0.9s
MAJO Matsushiro 23.91 144 P **P 15 56 08.9 -1.5**
MAT Matsushiro 23.91 144 P **P 15 56 10.4 0.0**
MAT S **S 16 00 27.0 +0.5**
MJAR Matsushiro Arr 23.91 144 P **P 15 56 08.3 -2.1**
comp=Z,8.1nm,1.0s,baz=327,slow=9.7,SNR=19
MJAR LR LR 16 04 22.7
comp=Z,232nm,18.6s,baz=300,slow=34
MJAR Matsushiro Arr 23.91 144 P **P 15 56 08.9 -1.6**
MJAR pmax pmax
comp=Z,4.0nm,1.0s
MJAR Matsushiro Arr 23.91 144 P **P 15 56 08.8 -1.6**
LZH Lanzhou 24.25 215 eP **P 15 56 15.0 +1.3**
LZH sP sP 15 56 19.9 +0.9
LZH eS **S 16 00 35.3 +3.2**
LZH sS sS 16 00 42.8 +4.5
LZH pmax pmax
comp=Z,29nm,1.3s
LZH pmax pmax
comp=Z,420nm,4.6s
LZH LR LR
comp=Z,2μm,10.3s
LZH LR LR
comp=Z,950nm,10.6s
LZH LR LR
comp=Z,1μm,11.7s
WMQ Urumqi 24.79 251 eP **P 15 56 19.3 +0.8**
WMQ pP sP 15 56 24.3 +0.4
WMQ pmax pmax
comp=Z,6.0nm,0.7s
WMQ pmax pmax
comp=Z,130nm,3.6s
WMQ LR LR
comp=Z,640nm,11.1s
WMQ LR LR
comp=Z,1μm,10.5s
WMQ LR LR
comp=Z,400nm,11.1s
XAN Xi'an 24.82 204 P **P 15 56 20.0 +1.2**
XAN pP sP 15 56 26.5 +2.4
XAN S **S 16 00 49.8 +8.7**
XAN pmax pmax
comp=Z,18nm,1.6s
XAN pmax pmax
comp=Z,260nm,4.5s
XAN LR LR
comp=Z,2μm,9.8s
XAN LR LR
comp=Z,1μm,10.1s
XAN LR LR
comp=Z,2μm,11.4s
JNU Nakatsue 25.30 160 P **P 15 56 24.3 +1.2**
comp=Z,22nm,0.9s,baz=26,slow=3.5,SNR=4.8
JNU LR LR 16 05 14.2
comp=Z,434nm,20.4s,baz=6.0,slow=34
JNU Nakatsue 25.30 160 P **P 15 56 22.4 -0.8**
JNU IAmb IAmb 15 56 29.9
comp=Z,34nm,1.1s
KURK Kurchatov 25.35 273 *ce* P **P 15 56 23.4 0.0**

KURK pmax pmax
comp=Z,17nm,0.8s
KURK Kurchatov 25.35 273 P **P** **15 56 24.2 +0.8**
KURK IAmb IAmb 15 56 40.3
comp=Z,17nm,0.8s
KURBB Kurchatov Arra 25.45 273 P **P** **15 56 24.1 -0.1**
comp=Z,11nm,0.8s,baz=64,slow=9.3,SNR=52
KURBB Kurchatov Arra 25.45 273 P **P** **15 56 23.5 -0.8**
NJ2 Nanjing 25.47 184 *e*P **P** **15 56 25.8 +1.2**
NJ2 sP **sP** **15 56 31.8 +1.9**
NJ2 S **S** **16 00 52.9 +1.5**
NJ2 sS **sS** **16 01 02.4 +4.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.7s
NJ2 pmax pmax
comp=Z,280nm,3.6s
NJ2 LR LR
comp=Z,1μm,11.5s
NJ2 LR LR
comp=Z,730nm,9.1s
NJ2 LR LR
comp=Z,2μm,11.4s
MK31 Makanchi Array 25.64 262 *i*P **P** **15 56 25.8 -0.4**
MK31 Makanchi Array 25.64 262 P **P** **15 56 25.0 -1.2**
MK31 IAmb IAmb 15 56 32.3
comp=Z,12nm,0.7s
MKAR Makanchi Array 25.64 262 P **P** **15 56 26.0 -0.2**
comp=Z,7.8nm,0.8s,baz=55,slow=7.6,SNR=34
MKAR LR LR 16 06 54.9
comp=Z,640nm,20.9s,baz=37,slow=38
MKAR Makanchi Array 25.64 262 P **P** **15 56 26.0 -0.2**
MKAR Makanchi Array 25.64 262 P **P** **15 56 25.8 -0.4**
WHN Wuhan 27.32 192 ⇑P **P** **15 56 41.8 +0.5**
WHN LR LR
comp=Z,2μm,9.6s
WHN LR LR
comp=Z,1μm,10.8s
WHN LR LR
comp=Z,3μm,10.8s
JHJ Hachijo jima 2 27.56 144 LR LR 16 06 48.2
comp=Z,282nm,19.8s,baz=310,slow=34
BVA0 Borovoye Array 28.57 283 P **P** **15 56 51.9 -0.5**
BVAR Borovoye Array 28.57 283 P **P** **15 56 52.3 -0.1**
comp=Z,2.2nm,0.5s,baz=66,slow=8.8,SNR=15
BVAR LR LR 16 10 08.8
comp=Z,134nm,20.4s,baz=110,slow=40
BRVK Borovoye 28.61 283*ce*P **P** **15 56 53.0 +0.3**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 28.61 283 P **P** **15 56 52.2 -0.5**
TDK Taldyqorghan 28.87 263 *e*P **P** **15 56 55.5 +0.3**
comp=Z,21nm,1.4s,baz=262
TDK LR LR 16 07 45.6
comp=Z,509nm,8.9s,baz=262
TDK Taldyqorghan 28.87 263 *e*P **P** **15 56 55.4 +0.3**
TDK pmax pmax
comp=Z,21nm,1.4s
TDK MLR MLR
comp=Z,509nm,9.0s
BRZS Berezniki 28.95 276 *e*P **P** **15 56 54.6 -1.1**
comp=Z,16nm,1.6s,baz=275
BRZS LR LR 16 08 12.9
comp=Z,349nm,8.9s,baz=275
BRZS Berezniki 28.95 276 *e*P **P** **15 56 54.6 -1.1**
BRZS pmax pmax
comp=Z,16nm,1.6s
BRZS MLR MLR
comp=Z,349nm,9.0s
CD2 Chengdu 29.10 211 *e*P **P** **15 56 57.5 +0.2**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 LR LR
comp=Z,860nm,10.3s
CD2 LR LR
comp=Z,2μm,11.8s
CD2 LR LR
comp=Z,1μm,9.2s
SHLS Shalkode 29.55 259 *e*P **P** **15 56 59.5 -1.9**
comp=Z,17nm,1.7s,baz=258
SHLS LR LR 16 08 14.6
baz=258
SHLS Shalkode 29.55 259 *e*P **P** **15 56 59.4 -1.9**
SHLS pmax pmax
comp=Z,17nm,1.7s
UZB Uzynbulak 29.79 259 *e*P **P** **15 57 03.3 -0.2**
comp=Z,5.3nm,1.1s,baz=258
UZB LR LR 16 08 43.6
comp=Z,155nm,8.6s,baz=258
UZB Uzynbulak 29.79 259 *e*P **P** **15 57 03.2 -0.2**
UZB pmax pmax
comp=Z,5.0nm,1.1s
UZB MLR MLR
comp=Z,155nm,9.0s
OTUK Ortayu 30.12 273 P **P** **15 57 05.6 -0.6**
SATY Saty 30.18 260 *e*P **P** **15 57 07.6 +0.7**
comp=Z,8.8nm,1.7s,baz=259
SATY LR LR 16 08 35.1
comp=Z,269nm,10.1s,baz=259
SATY Saty 30.18 260 *e*P **P** **15 57 07.5 +0.7**
SATY pmax pmax
comp=Z,9.0nm,1.7s
SATY MLR MLR
comp=Z,269nm,10.0s
SATY Saty 30.18 260 *e*P **P** **15 57 07.5 +0.7**
SATY pmax pmax
comp=Z,9.0nm,1.7s
SATY MLR MLR
comp=Z,269nm,10.0s
CHKK Chushkaly 30.39 263 *i*P **P** **15 57 08.4 -0.2**
baz=262
CHKK Chushkaly 30.39 263 *i*P **P** **15 57 08.4 -0.2**
KUU Kurty 30.72 263 *e*P **P** **15 57 11.1 -0.4**
comp=Z,11nm,2.1s,baz=262
KUU LR LR 16 08 38.0
comp=Z,357nm,8.8s,baz=262
KUU Kurty 30.72 263 *e*P **P** **15 57 11.1 -0.4**
KUU pmax pmax
comp=Z,11nm,2.1s
KUU MLR MLR
comp=Z,357nm,9.0s
MDOK Medeo 30.83 261 *i*P **P** **15 57 13.1 +0.4**
comp=Z,194nm,2.4s,baz=260
MDOK LR LR 16 08 57.3
comp=Z,888nm,10.5s,baz=260
MDOK Medeo 30.83 261 *i*P **P** **15 57 13.0 +0.4**
MDOK pmax pmax
comp=Z,194nm,2.4s
MDOK MLR MLR
comp=Z,887nm,11.0s
AAA Alma-Ata 30.87 262 *e*P **P** **15 57 13.6 +0.6**
baz=261
AAA LR LR 16 09 03.5
comp=Z,455nm,9.7s,baz=261
AAA Alma-Ata 30.87 262 *e*P **P** **15 57 13.5 +0.6**
AAA MLR MLR
comp=Z,455nm,10.0s
MTBS Maitube 31.18 262 *e*P **P** **15 57 16.2 +0.5**
baz=261
MTBS Maitube 31.18 262 *e*P **P** **15 57 16.2 +0.5**
BTLS Baital 31.19 267 *i*P **P** **15 57 15.5 -0.1**
comp=Z,7.3nm,1.3s,baz=266
BTLS LR LR 16 09 03.0
baz=266
BTLS Baital 31.19 267 *i*P **P** **15 57 15.5 -0.1**
BTLS pmax pmax
comp=Z,7.0nm,1.3s
SVE Sverdlovsk 31.75 295⇓*e*P **P** **15 57 21.2 +0.8**
SVE pmax pmax
comp=Z,28nm,1.1s
SVE MLR MLR
comp=Z,807nm,14.0s
GAMB Gambell 32.20 50 P **P** **15 57 22.2 -2.1**
GAMB IAmb IAmb 15 57 22.5
comp=Z,21nm,1.0s
AAK Ala-Archa 32.56 263*de*P **P** **15 57 28.7 +0.9**
AAK pmax pmax
comp=Z,22nm,1.7s
GYA Guiyang 32.62 204 ⇑P **P** **15 57 29.4 +1.0**
GYA PP **PnPn** **15 58 37.9 +1.9**
GYA SS SS 16 04 41.9 -22
GYA pmax pmax
comp=Z,10.0nm,1.3s
GYA pmax pmax
comp=Z,140nm,5.3s
GYA LR LR
comp=Z,1μm,12.3s
GYA LR LR
comp=Z,670nm,9.8s
GYA LR LR
comp=Z,1μm,12.4s
ARU Arti 32.95 295*d i*P **P** **15 57 30.7 -0.2**
ARU 15 58 36.3
ARU 16 00 16.0
ARU S **S** **16 02 49.7 +1.2**
ARU SS **SnSn** **16 04 44.9 -0.6**
ARU pmax pmax
comp=Z,11nm,1.1s
ARU MLR MLR
comp=Z,750nm,15.0s
JCJ Chichijima 33.91 145 P **P** **15 57 39.5 -0.1**
comp=Z,14nm,0.4s,baz=17,slow=23,SNR=5.6
JCJ Chichijima 33.91 145 P **P** **15 57 38.4 -1.1**
KSH Kashi 33.98 258 *e*P P 15 57 45.6 +5.3
KSH S **S** **16 03 12.5 +7.4**
KSH pmax pmax
comp=Z,23nm,1.4s
KSH pmax pmax
comp=Z,96nm,3.2s
KSH LR LR
comp=Z,350nm,9.5s
KSH LR LR
comp=Z,370nm,10.6s
KSH LR LR
comp=Z,1μm,10.6s
DZA Taraz 34.08 266 *i*P **P** **15 57 41.4 +0.3**
baz=266
DZA Taraz 34.08 266 *i*P **P** **15 57 41.3 +0.3**
ARSB Arslanbob 34.28 263 P **P** **15 57 42.6 -0.2**
ARSB pmax pmax
comp=Z,7.0nm,0.8s
ARSB Arslanbob 34.28 263 P **P** **15 57 42.6 -0.2**
ARSB IAmb IAmb 15 57 44.7
comp=Z,6.5nm,0.8s
KK31 Karatay Array 34.38 267 IAmb IAmb 15 57 48.2
comp=Z,7.7nm,0.7s
KKAR Karatay Array 34.38 267 P **P** **15 57 44.7 +1.1**
KKAR pmax pmax
comp=Z,8.0nm,0.7s
KKAR Karatay Array 34.38 267 P **P** **15 57 43.8 +0.2**
KKAR Karatay Array 34.38 267 P **P** **15 57 44.7 +1.1**
KKAR IAmb IAmb 15 57 48.2
comp=Z,7.7nm,0.7s
KMI Kunming 34.86 210⇓*e*P P 15 57 53.6 +5.6
KMI pP sP 15 57 57.8 +4.4
KMI pmax pmax
comp=Z,17nm,1.1s
KMI pmax pmax
comp=Z,100nm,4.6s
KMI LR LR
comp=Z,930nm,9.9s
KMI LR LR
comp=Z,900nm,9.6s
KMI LR LR
comp=Z,890nm,10.4s
IUG Iuzhnay 35.30 267 *e*P **P** **15 57 52.5 +0.9**
comp=Z,15nm,1.1s,baz=266
IUG Iuzhnay 35.30 267 *e*P **P** **15 57 52.5 +0.9**
IUG pmax pmax
comp=Z,15nm,1.1s
ABKAR Akbulak array 36.13 284 P **P** **15 57 58.3 -0.3**
KIRV Kirov 36.22 303 *e*P **P** **15 57 59.3 +0.2**
PRGR Permogore 36.38 309 *e*P **P** **15 57 58.2 -2.3**
PRGR *e* 15 59 17.3
PRGR pmax pmax
comp=Z,30nm,0.8s
AKTO Aktyubinsk 36.44 287 P **P** **15 58 00.2 -0.9**
comp=Z,1.8nm,0.5s,baz=62,slow=12,SNR=3.1
GAR Garm 37.37 263 P **P** **15 58 08.0 -1.3**
TAPN Taplejung 38.12 232 *e*P **P** **15 58 16.5 +0.5**
comp=Z,41nm,1.1s
SLVN Son La 38.19 206 P **P** **15 58 17.1 +0.8**
SLVN IAmb IAmb 15 58 18.2
comp=Z,23nm,1.1s
TMCR Tamitsa 38.19 315 *e*P **P** **15 58 11.5 -4.3**
IMAR Indian Mountai 38.21 41 P **P** **15 58 16.7 +0.7**
CHGR Chuyangaron 38.24 263 P **P** **15 58 15.8 -0.9**
ODAN Odare 38.69 232 *e*P **P** **15 58 21.7 +1.0**
comp=Z,43nm,0.7s
KKN Kakani 38.80 235 *e*P **P** **15 58 22.9 +1.3**
comp=Z,48nm,0.7s
GKN Gorkha 38.91 236 *e*P **P** **15 58 23.2 +0.8**
comp=Z,92nm,0.8s
PKI Pulchoki 38.93 235 *e*P **P** **15 58 23.7 +0.9**
RAMN Ramite 38.95 233 *e*P **P** **15 58 23.2 +0.3**
comp=Z,12nm,0.7s
DANN Dangsing 39.01 238 *e*P **P** **15 58 24.6 +1.2**
comp=Z,189nm,0.8s
DMN Daman 39.03 235 *e*P **P** **15 58 24.9 +1.3**
comp=Z,48nm,0.9s
KEV Kevo 39.08 327 P **P** **15 58 23.0 -0.2**
KEV pmax pmax
comp=Z,33nm,1.3s
KEV Kevo 39.08 327 P **P** **15 58 23.0 -0.2**
KEV IAmb IAmb 15 58 28.0
comp=Z,33nm,1.3s
QIZ Qiongzhong 39.27 197 P **P** **15 58 25.3 0.0**
QIZ S **S** **16 04 25.5 -0.1**
QIZ pmax pmax
comp=Z,110nm,4.3s
QIZ LR LR
comp=Z,650nm,10.0s
QIZ LR LR
comp=Z,400nm,11.0s
QIZ LR LR
comp=Z,960nm,11.1s
KLMR Klimovskoe 39.33 310 *e*P **P** **15 58 25.3 -0.1**
KLMR *e* 15 59 55.3
KLMR pmax pmax
comp=Z,34nm,0.6s
KLMR Klimovskoe 39.33 310 *e*P **P** **15 58 25.4 0.0**
KLMR AMP 15 58 26.8
comp=Z,34nm,0.6s
KLMR *e*PP **PP** **15 59 55.3 0.0**
KLMR LQ LQ 16 11 39.3
KLMR LQ LQ 16 11 39.3
KLMR LR LR 16 14 08.9
PYUN Piuthan 39.57 238 *e*P **P** **15 58 28.9 +0.9**
comp=Z,141nm,0.9s
KOLN Koldanda 39.57 237 *e*P **P** **15 58 29.1 +1.1**
comp=Z,62nm,0.9s
ARCES ARCESS Array B 39.64 327 P **P** **15 58 28.2 +0.2**
comp=Z,4.8nm,0.7s,baz=57,slow=11,SNR=12
ARCES PcP **PcP** **16 00 34.9 +0.4**
comp=Z,1.6nm,0.6s,baz=74,slow=5.2,SNR=3.7
ARCES LR LR 16 18 03.3
comp=Z,220nm,19.9s,baz=118,slow=41
ARCES ARCESS Array B 39.64 327 P **P** **15 58 27.9 0.0**
ARE0 ARCESS Array S 39.64 327 P **P** **15 58 26.5 -1.4**
BPAW Bear Paw Mtn. 40.19 43 P **P** **15 58 33.1 +0.5**
SGF Sodankyl 40.48 324 P **P** **15 58 35.9 +1.0**
SGF pmax pmax
comp=Z,21nm,1.2s
MSF Maaselka 40.51 321 P **P** **15 58 36.0 +0.8**
MSF pmax pmax
comp=Z,13nm,1.1s
MDM Murphy Dome 40.71 41 P **P** **15 58 38.4 +1.5**
CCB Clear Creek Bu 41.03 41 P **P** **15 58 40.6 +1.1**
IL31 41.29 40 P **P** **15 58 43.0 +1.5**
ILAR Eielson Array 41.29 40 P **P** **15 58 43.8 +2.2**
comp=Z,2.8nm,0.5s,baz=290,slow=4.3,SNR=25
ILAR LR LR 16 17 33.2
comp=Z,78nm,19.2s,baz=298,slow=39
RND Reindeer 41.37 43 P **P** **15 58 43.6 +1.2**
RND pmax pmax
comp=Z,4.0nm,0.8s
RND Reindeer 41.37 43 P **P** **15 58 43.6 +1.2**
KBL Kabul 41.37 259 P **P** **15 58 42.6 -0.3**
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 41.37 259 P **P** **15 58 42.6 -0.3**
KBL IAmb IAmb 15 58 47.8
comp=Z,14nm,0.8s
RSO Redoubt South 41.58 48 P **P** **15 58 42.9 -1.4**
CHTO Chiang Mai 41.90 212 P **P** **15 58 47.2 +0.1**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 41.90 212 P **P** **15 58 47.2 +0.1**
DHY Denali Highway 42.11 43 P **P** **15 58 48.5 0.0**
DHY IAmb IAmb 15 58 55.3
comp=Z,11nm,0.7s
CMAR Chiang Mai Arr 42.24 212 P **P** **15 58 50.5 +0.7**
comp=Z,3.1nm,0.7s,baz=8.2,slow=7.6,SNR=19
CMAR LR LR 16 18 05.4
comp=Z,87nm,20.7s,baz=40,slow=39
GHO Glory Hole Cre 42.30 45 P **P** **15 58 50.6 +0.6**
GHO IAmb IAmb 15 59 04.5
comp=Z,22nm,1.1s
DOT Dot Lake 42.95 41 P **P** **15 58 53.7 -1.5**
MOS Moscow 43.12 305 *e*P **P** **15 58 55.4 -1.2**
MOS *e* 16 00 34.3
MOS *e*S **S** **16 05 20.3 -1.9**
MOS pmax pmax
comp=Z,51nm,1.4s
MOS MLR MLR
comp=Z,400nm,15.0s
SUF Sumiainen 43.42 318 P **P** **15 58 59.8 +0.9**
SUF pmax pmax
comp=Z,24nm,1.6s
PBKT Sadao Pong 43.49 208 P **P** **15 59 00.7 +0.8**
PBKT IAmb IAmb 15 59 02.0
comp=Z,25nm,0.8s
KLU Klutina 43.61 44 P **P** **15 59 02.1 +1.5**
KLU IAmb IAmb 15 59 02.3
comp=Z,22nm,1.3s
OBN Obninsk 43.98 305*ce*P **P** **15 59 03.4 -0.1**
OBN *e* 16 00 46.5
OBN *e* 16 00 49.7
OBN *e*S **S** **16 05 30.0 -4.8**
OBN *e*SS **SS** **16 08 54.9 +3.9**
OBN pmax pmax
comp=Z,26nm,1.2s
OBN MLR MLR
comp=Z,536nm,13.0s
HIN Hinchinbrook I 44.08 45 P **P** **15 59 03.1 -1.2**
VRH Novokhopyorsk 44.11 297 *e*P **P** **15 59 03.2 -1.4**
VRH pmax pmax
comp=Z,30nm,0.6s
BCAR Beaver Creek A 44.12 40 P **P** **15 59 05.6 +1.0**
FIA1 FINESS Array S 44.25 317 P **P** **15 59 05.4 -0.2**
FINES FINESS Array B 44.25 317 P **P** **15 59 05.4 -0.2**
comp=Z,8.4nm,0.5s,baz=46,slow=9.3,SNR=79
FINES LR LR 16 19 08.0
comp=Z,284nm,19.7s,baz=51,slow=38
VAF Ylistaro 44.44 320 P **P** **15 59 08.3 +1.2**
VAF pmax pmax
comp=Z,22nm,1.6s
LPSR Galich'ya Gora 44.52 301 *e*P **P** **15 59 06.8 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
GEYT Alibeck 44.72 272 P **P** **15 59 11.1 +1.4**
comp=Z,10.0nm,0.8s,baz=29,slow=3.4,SNR=21
GEYT Alibeck 44.72 272 P **P** **15 59 08.9 -0.8**
GYA0B ALIBECK ARRAY 44.72 272 P **P** **15 59 08.0 -1.8**
GYA0B IAmb IAmb 15 59 15.3
comp=Z,18nm,0.9s
C36M Paulatuk 45.11 27 P **P** **15 59 12.9 +0.6**
VSR Storozhevoye 45.31 299 *e*P **P** **15 59 13.1 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.5s
MAK Makhachkala 46.77 285 *e*P **P** **15 59 21.4 -4.4**
MAK *e* 16 01 14.5
MAK *e*S **S** **16 06 09.6 -5.8**
GUMO Guam 47.44 148 P **P** **15 59 32.4 +1.1**
comp=Z,19nm,0.7s,baz=209,slow=10,SNR=2.9
KIV Kislovodsk 48.56 289 *e*P **P** **15 59 40.0 +0.2**
KIV *e*S **S** **16 06 40.4 -0.6**
KIV pmax pmax
comp=Z,87nm,4.2s
KIV pmax pmax
comp=Z,52nm,1.0s
KIV MLR MLR
comp=Z,866nm,16.0s
KBZ Khabaz 48.61 289 LR LR 16 24 08.5
comp=Z,341nm,19.5s,baz=31,slow=41
SUMG Summit 49.44 352 P **P** **15 59 46.4 -0.1**
SUMG pmax pmax
comp=Z,6.0nm,0.6s
SUMG Summit 49.44 352 P **P** **15 59 46.4 -0.1**
SUMG IAmb IAmb 15 59 56.7
comp=Z,6.1nm,0.6s
NC405 NORSAR Array S 49.49 323 P **P** **15 59 47.6 +1.0**
NC303 NORSAR Array S 49.52 323 P **P** **15 59 46.9 +0.1**
NB201 NORSAR Array S 49.67 323 P **P** **15 59 48.4 +0.4**
NB201 IAmb IAmb 15 59 52.2
comp=Z,17nm,1.1s
NC204 NORSAR Array S 49.67 323 P **P** **15 59 48.4 +0.3**
NC204 IAmb IAmb 15 59 50.4
comp=Z,16nm,1.1s
NB2 NORSAR Subarra 49.71 323 P **P** **15 59 47.9 -0.4**
comp=Z,4.6nm,0.6s,baz=40,slow=7.4
NB2 NORSAR Subarra 49.71 323 P **P** **15 59 45.4 -2.9**
NB2 pmax pmax
comp=Z,3.0nm,0.5s
NOA NORSAR Array B 49.71 323 P **P** **15 59 48.3 0.0**
comp=Z,2.1nm,0.4s,baz=43,slow=8.2,SNR=34
NOA LR LR 16 22 46.3
comp=Z,192nm,19.1s,baz=35,slow=38
NC602 NORSAR Array S 49.83 323 P **P** **15 59 48.5 -0.7**
NORES NORESS Array B 49.83 323 P **P** **15 59 48.9 -0.2**
NORES pmax pmax
comp=Z,6.0nm,0.4s
NBO00 NORSAR Array S 49.85 323 P **P** **15 59 49.2 -0.2**
AKASG Malin Array Be 50.24 304 *i*P **P** **15 59 52.1 -0.3**
comp=Z,5.6nm,0.6s,baz=40,slow=8.7,SNR=34
AKASG Malin Array Be 50.24 304 *i*P **P** **15 59 52.0 -0.3**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 50.24 304 P **P** **15 59 52.2 -0.3**
AKBB Malin Array Si 50.24 304*ce*P **P** **15 59 52.5 +0.1**
AKBB pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 50.24 304 P **P** **15 59 51.9 -0.6**
AKBB IAmb IAmb 15 59 53.2
comp=Z,12nm,1.1s
ANN Anapa 50.59 294 *e*P **P** **15 59 51.1 -4.0**
ANN *e**PP **pP** **15 59 58.4 -0.7**
ANN *e* 16 01 09.9
ANN *e*S **S** **16 07 03.2 -6.0**
ANN pmax pmax
comp=Z,30nm,0.8s
BER Bergen 52.07 325 P **P** **16 00 08.5 +2.5**
SORM Soroca 52.49 302 ⇑P **P** **16 00 09.9 +0.5**
SORM Soroca 52.49 302 P **P** **16 00 09.8 +0.5**
YKA Yellowknife Ar 52.89 29 P **P** **16 00 13.6 +1.6**
comp=Z,1.8nm,0.6s,baz=333,slow=6.9,SNR=3.4
YKA LR LR 16 24 57.0
comp=Z,61nm,21.5s,baz=0.0,slow=38
LVV L'vov 53.17 307⇓*i*P **P** **16 00 15.1 +0.8**
LVV *e*S **S** **16 07 45.3 +0.8**
LVV MLR MLR
comp=E,300nm,15.0s
LVV MLR MLR
comp=N,200nm,16.0s
LVV MLR MLR
comp=Z,300nm,16.0s
BUR08 Bucovina Ar. S 54.28 304 P **P** **16 00 22.8 +0.2**
BUR08 IAmb IAmb 16 00 24.1
comp=Z,16nm,1.1s
BURAR Bucovina Array 54.30 304 ⇑P **P** **16 00 23.4 +0.6**
BURAR Bucovina Array 54.30 304 P **P** **16 00 23.3 +0.6**
BURAR Bucovina Array 54.30 304 P **P** **16 00 23.7 +1.0**
KULM Kulim 54.43 205 P **P** **16 00 23.9 +0.1**
TESR Tescani 54.47 302 ⇑P **P** **16 00 24.4 +0.5**
KOLS Kolonicke sedl 54.60 307 *e*P **P** **16 00 24.6 -0.2**
KOLS pmax pmax
comp=Z,8.0nm,0.9s
KOLS Kolonicke sedl 54.60 307 *e*P **P** **16 00 24.6 -0.2**
OJC Ojcow 54.67 309 *e*P **P** **16 00 26.0 +0.7**
OJC Ojcow 54.67 309 P **P** **16 00 26.0 +0.7**
OJC pmax pmax
comp=Z,10.0nm,1.0s
OJC Ojcow 54.67 309 P **P** **16 00 25.9 +0.7**
OJC IAmb IAmb 16 00 26.2
comp=Z,10nm,1.0s
CFR Carcaliu 54.79 300 ⇓P **P** **16 00 26.4 +0.3**
CFR Carcaliu 54.79 300 P **P** **16 00 26.4 +0.3**
UZH Uzhgorod 54.82 307 *e*P **P** **16 00 24.3 -2.0**
UZH *e* 16 00 32.0
UZH *e*S **S** **16 07 59.3 -7.5**
UZH *e* 16 10 09.9
CRVS Cervenica-Dubn 54.97 307 *e*P **P** **16 00 28.4 +0.9**
CRVS pmax pmax
comp=Z,16nm,1.0s
CRVS Cervenica-Dubn 54.97 307 *e*P **P** **16 00 28.4 +0.9**
NIE Niedzica 55.07 308 *e*P **P** **16 00 29.8 +1.6**

ARCR	**ARCALIA**	**55.08 304**	⇓P		**P**		**16 00 29.8**	**+1.5**
DOPR	**Dopca**	**55.46 303**	⇑P		**P**		**16 00 31.6**	**+0.6**
MLR	**Muntele Rosu**	**55.57 302**	P		**P**		**16 00 33.9**	**+1.9**
LANS	**Liptovska Anna**	**55.63 309**	*e*P		**P**		**16 00 34.2**	**+1.9**
LANS			pmax	pmax				
	comp=Z,5.0nm,0.6s							
LANS	**Liptovska Anna**	**55.63 309**	*e*P		**P**		**16 00 34.2**	**+1.9**
KSP	**Ksiaz**	**55.63 312**	*e*P		**P**		**16 00 33.2**	**+1.1**
KSP	**Ksiaz**	**55.63 312**	P		**P**		**16 00 33.0**	**+0.8**
KECS	**Kecovo**	**55.71 308**	*e*P		**P**		**16 00 33.7**	**+0.9**
KECS			pmax	pmax				
	comp=Z,7.0nm,0.8s							
KECS	**Kecovo**	**55.71 308**	*e*P		**P**		**16 00 33.7**	**+0.9**
OSTC	**Ostas**	**55.88 312**	*e*P		**P**		**16 00 34.4**	**+0.4**
OSTC			*ex*	x			16 00 38.0	
OSTC			AMS	AMS			16 25 50.0	
	comp=Z,400nm,17.2s							
CHVC	**Chvalec**	**55.92 312**	*e*P		**P**		**16 00 34.2**	**-0.1**
CHVC			AMS	AMS			16 26 00.0	
	comp=Z,400nm,15.6s							
MORC	**Moravsky Berou**	**55.95 310**	⇑P		**P**		**16 00 35.7**	**+1.2**
MORC	**Moravsky Berou**	**55.95 310**	*e*P		**P**		**16 00 35.5**	**+1.0**
MORC	**Moravsky Berou**	**55.95 310**	P		**P**		**16 00 35.7**	**+1.2**
DPC	**Dobruska-Polom**	**56.00 312**	*e*P		**P**		**16 00 35.6**	**+0.7**
DPC			*e*				16 00 39.0	
DPC			MLR	MLR				
	comp=Z,400nm,15.5s							
DPC	**Dobruska-Polom**	**56.00 312**	*e*P		**P**		**16 00 35.6**	**+0.7**
DPC			*e*pP		**pP**		**16 00 39.0**	**+0.1**
DPC			AMS	AMS			16 26 00.0	
	comp=Z,400nm,15.5s							
UPC	**Upice**	**56.00 312**	*e*P		**P**		**16 00 35.2**	**+0.3**
UPC			MLR	MLR				
	comp=Z,400nm,16.2s							
UPC	**Upice**	**56.00 312**	*e*P		**P**		**16 00 35.2**	**+0.3**
UPC			AMS	AMS			16 26 00.0	
	comp=Z,400nm,16.2s							
VOIR		**56.02 302**	⇓P		**P**		**16 00 35.8**	**+0.7**
VOIR		**56.02 302**	P		**P**		**16 00 35.8**	**+0.7**
KRLC	**Kraliky**	**56.03 311**	*e*P		**P**		**16 00 36.1**	**+1.0**
KRLC			MLR	MLR				
	comp=Z,300nm,14.2s							
KRLC	**Kraliky**	**56.03 311**	*e*P		**P**		**16 00 36.1**	**+1.0**
KRLC			AMS	AMS			16 27 00.0	
	comp=Z,300nm,14.2s							
BRTR	**Keskin Array B**	**56.24 292**	P		**P**		**16 00 37.6**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=77,slow=4.7,SNR=6.8							
BRTR			LR	LR			16 29 44.0	
	comp=Z,97nm,18.7s,baz=356,slow=42							
BRTR	**Keskin Array B**	**56.24 292**	P		**P**		**16 00 35.0**	**-1.9**
PSZ	**Piszkesteto**	**56.40 308**	⇑P		**P**		**16 00 39.1**	**+1.4**
PSZ	**Piszkesteto**	**56.40 308**	P		**P**		**16 00 39.2**	**+1.4**
PSZ			pmax	pmax				
	comp=Z,22nm,1.3s							
VYHS	**Vyhne**	**56.40 309**	*e*P		**P**		**16 00 39.1**	**+1.3**
VYHS			pmax	pmax				
	comp=Z,16nm,1.3s							
VYHS	**Vyhne**	**56.40 309**	*e*P		**P**		**16 00 39.1**	**+1.3**
KSM	**Kuching**	**56.48 193**	P		**P**		**16 00 38.4**	**-0.3**
KSM			IAmb	IAmb			16 00 44.6	
	comp=Z,6.3nm,1.0s							
BRG	**Berggiesshubel**	**56.54 313**	*e*P		**P**		**16 00 39.0**	**+0.4**
	comp=Z,32nm,1.7s							
	comp=N,381nm,14.0s							
	comp=E,304nm,13.2s							
	comp=Z,454nm,16.0s							
BRG	**Berggiesshubel**	**56.54 313**	*e*P		**P**		**16 00 39.0**	**+0.4**
BRG			pmax	pmax				
	comp=Z,32nm,1.7s							
BRG			MLR	MLR				
	comp=N,381nm,14.0s							
BRG			MLR	MLR				
	comp=E,304nm,13.2s							
BRG			MLR	MLR				
	comp=Z,454nm,16.0s							
BRG	**Berggiesshubel**	**56.54 313**	*e*P		**P**		**16 00 39.4**	**+0.7**
	comp=Z,10nm,0.9s,baz=37,slow=6.9							
CLL	**Collm**	**56.56 314**	*i* P		**P**		**16 00 37.9**	**-0.9**
	comp=Z,13nm,0.5s							
CLL			*i*				16 00 41.6	
CLL			*i* pP		**sP**		**16 00 44.3**	**0.0**
CLL			*i* PP		**PP**		**16 02 42.2**	**-2.0**
CLL			*i* pPP				16 02 49.2	
CLL			*e*SS		**SS**		**16 12 18.0**	**+1.5**
CLL	**Collm**	**56.56 314**	*i* P		**P**		**16 00 37.9**	**-0.9**
CLL			*i*				16 00 41.6	
CLL			pmax	pmax				
	comp=Z,13nm,0.5s							
CLL	**Collm**	**56.56 314**	*e*P		**P**		**16 00 39.3**	**+0.5**
	comp=Z,14nm,0.8s,baz=37,slow=6.9							
PVCC	**Panska Ves**	**56.56 313**	*e*P		**P**		**16 00 39.9**	**+1.1**
PVCC			MLR	MLR				
	comp=Z,400nm,11.0s							
PVCC	**Panska Ves**	**56.56 313**	*e*P		**P**		**16 00 39.9**	**+1.1**
PVCC			AMS	AMS			16 27 00.0	
	comp=Z,400nm,11.0s							
JAVC	**Velka Javorina**	**56.61 310**	*e*P		**P**		**16 00 41.2**	**+1.9**
VRAC	**Vranov**	**56.70 311**	*e*P		**P**		**16 00 41.1**	**+1.2**
NRDL	**Niedersach Rie**	**56.72 317**	*e*P		**P**		**16 00 41.2**	**+1.4**
	comp=Z,26nm,1.6s,baz=37,slow=6.9							
FBE	**Freiberg**	**56.73 314**	*e*P		**P**		**16 00 40.8**	**+0.8**
	baz=37,slow=6.9							
ASSE	**Asse, Remlinge**	**56.80 316**	*e*P		**P**		**16 00 41.8**	**+1.4**
	comp=Z,28nm,1.3s,baz=37,slow=6.9							
GOPC	**GO Pecny, Ondr**	**56.96 312**	*e*P		**P**		**16 00 42.4**	**+0.7**
GOPC			MLR	MLR				
	comp=Z,400nm,13.3s							
GOPC	**GO Pecny, Ondr**	**56.96 312**	*e*P		**P**		**16 00 42.4**	**+0.7**
GOPC			AMS	AMS			16 26 40.0	
	comp=Z,400nm,13.3s							
KRUC	**Moravsky**	**56.97 311**	*e*P		**P**		**16 00 43.1**	**+1.3**
SMOL	**Smolenice**	**56.98 310**	*e*P		**P**		**16 00 43.1**	**+1.2**
SMOL			pmax	pmax				
	comp=Z,6.0nm,0.7s							
SMOL	**Smolenice**	**56.98 310**	*e*P		**P**		**16 00 43.0**	**+1.2**
PRA	**Prague**	**56.98 313**	AMS	AMS			16 27 10.0	
	comp=Z,200nm,12.7s							
PRU	**Pruhonice**	**57.00 312**	*e*P		**P**		**16 00 42.8**	**+0.9**
PRU			MLR	MLR				
	comp=Z,300nm,18.4s							
PRU	**Pruhonice**	**57.00 312**	*e*P		**P**		**16 00 42.8**	**+0.9**
PRU			AMS	AMS			16 26 40.0	
	comp=Z,300nm,18.4s							
CLZ	**Clausthal**	**57.14 316**	*e*P		**P**		**16 00 44.3**	**+1.3**
	comp=Z,16nm,0.9s,baz=37,slow=6.9							
MODS	**Modra-Piesok**	**57.15 310**	*e*P		**P**		**16 00 43.8**	**+0.7**
MODS			pmax	pmax				
	comp=Z,17nm,1.5s							
MODS	**Modra-Piesok**	**57.15 310**	*e*P		**P**		**16 00 43.8**	**+0.7**
TREC	**Trest**	**57.16 311**	*e*P		**P**		**16 00 44.2**	**+1.0**
TREC			MLR	MLR				
	comp=Z,400nm,12.4s							
TREC	**Trest**	**57.16 311**	*e*P		**P**		**16 00 44.2**	**+1.0**
TREC			AMS	AMS			16 27 50.0	
	comp=Z,400nm,12.4s							
PSI	**Prapat**	**57.24 206**	P		**P**		**16 00 44.4**	**+0.2**
	comp=Z,8.3nm,0.3s,baz=0.2,slow=8.6,SNR=6.4							
BZS	**Buzias**	**57.42 305**	⇓P		**P**		**16 00 45.8**	**+0.8**
BZS	**Buzias**	**57.42 305**	P		**P**		**16 00 46.0**	**+1.0**
BZS			pmax	pmax				
	comp=Z,18nm,1.3s							
PBCC	**Pribram**	**57.45 313**	*e*P		**P**		**16 00 45.8**	**+0.6**
TANN	**Tannenbergstha**	**57.48 314**	*e*P		**P**		**16 00 46.3**	**+0.9**
	comp=Z,142nm,2.4s,baz=37,slow=6.9							
GTTG	**Gottingen**	**57.53 316**	*e*P		**P**		**16 00 46.4**	**+0.8**
	comp=Z,22nm,1.3s,baz=37,slow=6.9							
GUNZ	**Gunzen**	**57.57 314**	*e*P		**P**		**16 00 47.2**	**+1.2**
	comp=Z,10nm,0.8s,baz=37,slow=6.9							
WERN	**Wernitzgruen**	**57.61 314**	*e*P		**P**		**16 00 47.5**	**+1.2**
	comp=Z,10nm,0.7s,baz=37,slow=6.9							
MOX	**Moxa**	**57.62 315**	*e*P		**P**		**16 00 47.5**	**+1.1**
	comp=Z,16nm,0.7s,baz=37,slow=6.9							
NKC	**Novy Kostel**	**57.63 314**	AMS	AMS			16 27 30.0	
	comp=Z,300nm,16.3s							
HERR	**Herculane**	**57.64 304**	⇓P		**P**		**16 00 47.4**	**+0.8**
IBBN	**Ibbenburen**	**57.72 318**	*e*P		**P**		**16 00 47.4**	**+0.4**
	comp=Z,35nm,1.5s,baz=37,slow=6.9							
MANZ	**Manzenberg**	**57.96 314**	*e*P		**P**		**16 00 49.6**	**+0.8**
	comp=Z,20nm,1.8s,baz=37,slow=6.9							
MDVR	**Moldovita**	**58.03 304**	⇓P		**P**		**16 00 50.1**	**+0.7**
KHC	**Kasperske Hory**	**58.06 312**	*e*P		**P**		**16 00 49.9**	**+0.4**
KHC			*e*				16 00 53.0	
KHC	**Kasperske Hory**	**58.06 312**	*e*P		**P**		**16 00 49.9**	**+0.4**
KHC			*e*pP		**pP**		**16 00 53.0**	**-0.5**
KHC	**Kasperske Hory**	**58.06 312**	P		**P**		**16 00 49.5**	**-0.1**
KHC			IAmb	IAmb			16 00 51.5	
	comp=Z,6.3nm,0.6s							
CONA	**Conrad Observa**	**58.09 310**	*i* pP		**P**		**16 00 51.4**	**+1.6**
	comp=Z,6.5nm,0.7s,SNR=5.9							
ROTZ	**Rotzenmuhle**	**58.09 314**	*e*P		**P**		**16 00 51.0**	**+1.3**
	comp=Z,28nm,1.7s,baz=37,slow=6.9							
GEC2	**GERESS Array S**	**58.24 312**	*e*P		**P**		**16 00 51.8**	**+1.0**
	comp=Z,8.5nm,0.8s,baz=37,slow=6.9							
GEC2	**GERESS Array S**	**58.24 312**	P		**P**		**16 00 49.8**	**-1.0**
GEC2			IAmb	IAmb			16 00 57.6	
	comp=Z,8.1nm,0.8s							
GERES	**GERESS Array B**	**58.24 312**	P		**P**		**16 00 51.1**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=44,slow=7.8,SNR=34							
GERES			LR	LR			16 27 20.6	
	comp=Z,181nm,20.7s,baz=40,slow=38							
GERES	**GERESS Array B**	**58.24 312**	P		**P**		**16 00 50.2**	**-0.7**
WET	**Wettzell**	**58.33 313**	P		**P**		**16 00 52.5**	**+1.1**
WET	**Wettzell**	**58.33 313**	*e*P		**P**		**16 00 52.7**	**+1.4**
	comp=Z,21nm,1.2s,baz=37,slow=6.9							
SBSI	**Sibolga**	**58.45 206**	P		**P**		**16 00 52.5**	**0.0**
	comp=Z,8.5nm,0.6s							
PLD	**Plovdiv**	**58.74 300**	P		**P**		**16 00 56.3**	**+2.0**
PLD			pmax	pmax				
	comp=Z,47nm,1.7s							
ARSA	**Arzberg**	**58.76 310**	*i* pP		**P**		**16 00 56.0**	**+1.6**
	comp=Z,10nm,1.3s,SNR=5.1							
SIJI	**Sorong**	**58.77 168**	P		**P**		**16 00 55.0**	**+0.3**
	comp=Z,11nm,0.7s,baz=313,slow=4.8,SNR=6.5							
MOA	**Molln**	**58.80 311**	*i* P		**P**		**16 00 55.9**	**+1.2**
	comp=Z,6.3nm,0.8s							
GSI	**Gunungsitoli**	**59.01 207**	P		**P**		**16 00 57.0**	**+0.6**
	comp=Z,85nm,0.8s							
GSI	**Gunungsitoli**	**59.01 207**	P		**P**		**16 00 56.4**	**0.0**
VTS	**Vitosha**	**59.02 301**	⇑P		**P**		**16 00 57.2**	**+0.7**
VTS	**Vitosha**	**59.02 301**	P		**P**		**16 00 57.5**	**+1.0**
VTS			pmax	pmax				
	comp=Z,11nm,1.6s							
AHRW	**Bad Neuenahr-A**	**59.41 317**	*e*P		**P**		**16 00 59.8**	**+1.0**
	baz=37,slow=6.9							
SOKA	**Soboth**	**59.42 310**	*i* P		**P**		**16 01 00.3**	**+1.2**
	comp=Z,7.9nm,1.1s,SNR=4.8							
RJOB	**Jochberg**	**59.49 312**	*e*P		**P**		**16 00 59.9**	**+0.4**
	comp=Z,13nm,0.8s,baz=37,slow=6.9							
MEM	**Membach**	**59.74 318**	⇓P		**P**		**16 01 01.4**	**+0.3**
OBKA	**Obir**	**59.76 310**	*i* pP		**P**		**16 01 03.0**	**+1.7**
	comp=Z,13nm,0.6s							
KBA	**Koelnbreinsper**	**59.80 311**	*i* pP		**P**		**16 01 03.6**	**+1.9**
	comp=Z,20nm,0.8s,SNR=9.1							
KBA	**Koelnbreinsper**	**59.80 311**	P		**P**		**16 01 03.6**	**+1.9**
BSTI	**Sart Tilman**	**59.92 318**	pP		pP		16 01 08.6	+2.2
SRS	**Serrai**	**60.03 300**	P		**P**		**16 01 03.7**	**+0.4**
SRS			pmax	pmax				
	comp=Z,16nm,1.3s							
MYKA	**Terra Mystica**	**60.03 311**	*i* pP		**P**		**16 01 04.7**	**+1.5**
	comp=Z,7.5nm,0.5s,SNR=6.6							
WATA	**Walderalm**	**60.30 312**	*e*P		**P**		**16 01 05.7**	**+0.6**
	comp=Z,9.3nm,0.5s,SNR=5.6							
WTTA	**Wattenberg**	**60.33 312**	*i* pP		**P**		**16 01 06.7**	**+1.3**
	comp=Z,12nm,0.6s,SNR=6.1							
WTTA	**Wattenberg**	**60.33 312**	P		**P**		**16 01 06.7**	**+1.3**
ABTA	**Abfaltersbach**	**60.40 311**	*i* P		**P**		**16 01 06.7**	**+0.9**
	comp=Z,5.8nm,0.9s							
MOTA	**Moosalm**	**60.48 313**	*e*pP		**P**		**16 01 07.7**	**+1.3**
	comp=Z,6.5nm,0.6s							
RETA	**Reutte**	**60.50 313**	*i* P		**P**		**16 01 07.7**	**+1.2**
	comp=Z,4.0nm,0.6s							
SQTA	**Sankt Quirin**	**60.54 313**	*i* pP		**P**		**16 01 08.2**	**+1.5**
	comp=Z,8.2nm,0.6s							
UBR	**Ueberruh**	**60.60 314**	*e*P		**P**		**16 01 08.0**	**+0.9**
	comp=Z,34nm,1.6s,baz=37,slow=6.9							
BFO	**Black Forest**	**60.76 315**	*e*P		**P**		**16 01 08.6**	**+0.4**
	comp=Z,28nm,1.6s,baz=37,slow=6.9							
FETA	**Feichten**	**60.89 313**	*i* pP		**P**		**16 01 10.6**	**+1.4**
	comp=Z,14nm,1.2s							
PDG	**Podgorica**	**60.98 304**	⇑P		**P**		**16 01 10.1**	**+0.4**
DAVA	**Damuels**	**61.01 313**	*i* P		**P**		**16 01 10.5**	**+0.4**
	comp=Z,3.3nm,0.5s							
CDF	**Champ du Feu**	**61.09 316**	*e*P		**P**		**16 01 10.3**	**-0.1**
CDF			pmax	pmax				
	comp=Z,9.0nm,1.0s							
CTI	**Castel Tesino**	**61.32 311**	P		**P**		**16 01 11.3**	**-0.8**
CTI			pmax	pmax				
	comp=Z,18nm,1.2s							
CTI	**Castel Tesino**	**61.32 311**	P		**P**		**16 01 11.2**	**-0.8**
CTI			IAmb	IAmb			16 01 12.7	
	comp=Z,18nm,1.2s							
FUORN	**Ofenpass-Fuorn**	**61.41 313**	P		**P**		**16 01 13.4**	**+0.6**
HAU	**Haudompre**	**61.77 316**	*e*P		**P**		**16 01 15.4**	**+0.4**
HAU			pmax	pmax				
	comp=Z,34nm,1.6s							
TUE	**Stuetta**	**61.89 313**	P		**P**		**16 01 16.8**	**+0.8**
JAY	**Jayapura**	**61.91 157**	LR		LR		16 24 15.6	
	comp=Z,55nm,21.8s,baz=354,slow=32							
KAPI	**Kappang**	**62.30 181**	LR		LR		16 28 17.2	
	comp=Z,51nm,21.7s,baz=348,slow=36							
LOR	**Lormes**	**63.31 317**	*e*P		**P**		**16 01 24.6**	**-0.7**
LOR			pmax	pmax				
	comp=Z,5.0nm,0.7s							
VLC	**Villacollemand**	**63.38 311**	P		**P**		**16 01 24.5**	**-1.2**
OSSC	**Osservatorio P**	**63.55 310**	P		**P**		**16 01 27.5**	**+0.6**
LDF	**La Druitiere**	**63.60 321**	*e*P		**P**		**16 01 26.3**	**-0.8**
LDF			pmax	pmax				
	comp=Z,8.0nm,0.8s							
AQU	**L'Aquila**	**63.60 308**	P		**P**		**16 01 31.4**	**+4.1**
AQU			pmax	pmax				
	comp=Z,44nm,0.8s							
LPL	**La Plagne**	**63.70 314**	*e*P		**P**		**16 01 28.5**	**+0.4**
LPL			pmax	pmax				
	comp=Z,14nm,0.9s							
LPG	**La Plagne**	**63.71 314**	*e*P		**P**		**16 01 28.8**	**+0.5**
LPG			pmax	pmax				
	comp=Z,8.0nm,0.7s							
LTY	**Liberty**	**63.83 42**	P		**P**		**16 01 29.8**	**+1.0**
SMF	**Signal de Mont**	**63.84 317**	*e*P		**P**		**16 01 28.1**	**-0.7**
SMF			pmax	pmax				
	comp=Z,4.0nm,0.5s							
AVF	**Avril sur Loir**	**63.90 317**	*e*P		**P**		**16 01 29.8**	**+0.7**
AVF			pmax	pmax				
	comp=Z,32nm,1.8s							
BNI	**Bardonecchia**	**64.11 314**	P		**P**		**16 01 30.9**	**+0.1**
BNI			pmax	pmax				
	comp=Z,11nm,0.8s							
BNI	**Bardonecchia**	**64.11 314**	P		**P**		**16 01 30.9**	**+0.1**
BNI			IAmb	IAmb			16 01 40.9	
	comp=Z,11nm,0.8s							
MBDF	**Montbardon**	**64.35 314**	*e*P		**P**		**16 01 32.3**	**0.0**
MBDF			pmax	pmax				
	comp=Z,7.0nm,0.5s							
ORIF	**Oris-en-Rattie**	**64.53 315**	*e*P		**P**		**16 01 32.6**	**-0.8**
ORIF			pmax	pmax				
	comp=Z,6.0nm,0.7s							
SGMF	**Saint Gilles**	**64.72 322**	*e*P		**P**		**16 01 34.2**	**-0.2**
SGMF			pmax	pmax				
	comp=Z,21nm,1.2s							
TCF	**Toulx Ste Croi**	**64.75 318**	*e*P		**P**		**16 01 34.2**	**-0.5**
TCF			pmax	pmax				
	comp=Z,9.0nm,1.2s							
QUIF	**Quistinic**	**65.21 322**	*e*P		**P**		**16 01 37.6**	**-0.1**
QUIF			pmax	pmax				
	comp=Z,38nm,1.4s							
I07A	**Izee**	**66.97 43**	P		**P**		**16 01 49.6**	**+0.4**
I07A			IAmb	IAmb			16 01 57.7	
	comp=Z,3.5nm,0.7s							
BMO	**Blue Mountains**	**67.10 41**	P		**P**		**16 01 51.4**	**+1.4**
BMO			pmax	pmax				
	comp=Z,5.0nm,0.8s							
BMO	**Blue Mountains**	**67.10 41**	P		**P**		**16 01 51.4**	**+1.4**
BMO			IAmb	IAmb			16 02 01.4	
	comp=Z,4.8nm,0.8s							
HRY	**Holter Researc**	**67.32 36**	P		**P**		**16 01 51.9**	**+0.5**
SCHQ	**Schefferville**	**67.86 5**	P		**P**		**16 01 55.5**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=312,slow=3.7,SNR=4.5							
SCHQ			LR	LR			16 34 25.7	
	comp=Z,69nm,18.3s,baz=360,slow=38							
DLMT	**Dillon**	**68.27 38**	P		**P**		**16 01 56.9**	**-0.5**
DLMT			IAmb	IAmb			16 02 08.2	
	comp=Z,6.6nm,1.1s							
BOZ	**Bozeman (W)**	**68.37 37**	P		**P**		**16 01 57.8**	**-0.3**
BOZ			pmax	pmax				
	comp=Z,2.0nm,0.7s							
BOZ	**Bozeman (W)**	**68.37 37**	P		**P**		**16 01 57.8**	**-0.3**
ETSF	**Etsaut**	**68.67 318**	*e*P		**P**		**16 02 00.6**	**+0.7**
ETSF			pmax	pmax				
	comp=Z,10.0nm,1.1s							
SJPF	**Ste Jean**	**68.72 318**	*e*P		**P**		**16 02 02.0**	**+1.9**
SJPF			pmax	pmax				
	comp=Z,8.0nm,1.0s							
MFID	**Camas Ranch**	**68.88 41**	P		**P**		**16 02 00.8**	**-0.4**
KCPM	**Cahto Peak**	**69.16 48**	P		**P**		**16 02 03.0**	**0.0**
HLID	**Hailey**	**69.24 40**	P		**P**		**16 02 03.3**	**-0.3**
HLID			IAmb	IAmb			16 02 11.9	
	comp=Z,2.9nm,0.6s							
KEST	**Kesra**	**70.86 307**	P		**P**		**16 02 13.6**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=36,slow=14,SNR=2.7							
KEST	**Kesra**	**70.86 307**	IAmb	IAmb			16 02 29.8	
	comp=Z,5.0nm,0.8s							
PD31	**Pinedale Array**	**71.57 37**	P		**P**		**16 02 18.6**	**+0.7**
PDAR	**Pinedale Array**	**71.57 37**	P		**P**		**16 02 18.5**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=23,slow=2.8,SNR=18							
PDAR			LR	LR			16 34 54.3	
	comp=Z,96nm,21.5s,baz=343,slow=37							
NVAR	**Mina Array Bea**	**72.32 45**	P		**P**		**16 02 24.7**	**+2.3**
	comp=Z,0.8nm,0.6s,baz=313,slow=4.3,SNR=9.9							
NVAR			LR	LR			16 35 15.9	
	comp=Z,53nm,19.5s,baz=331,slow=37							
ESDC	**Sonseca Array**	**72.72 318**	P		**P**		**16 02 25.1**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=16,slow=6.4,SNR=25							
ESDC			LR	LR			16 36 16.3	
	comp=Z,154nm,18.9s,baz=30,slow=37							
ESDC	**Sonseca Array**	**72.72 318**	P		**P**		**16 02 25.7**	**+1.1**
O20A	**White River Ci**	**74.37 37**	P		**P**		**16 02 33.4**	**-1.0**
O20A			IAmb	IAmb			16 02 45.2	
	comp=Z,10nm,1.0s							
ECSD	**EROS Data Cent**	**74.38 27**	P		**P**		**16 02 34.3**	**0.0**
FITZ	**Fitzroy Crossi**	**75.40 175**	P		**P**		**16 02 39.5**	**-0.6**
	comp=Z,6.0nm,0.6s,baz=352,slow=4.2,SNR=21							
FITZ	**Fitzroy Crossi**	**75.40 175**	IAmb	IAmb			16 02 40.4	
	comp=Z,6.3nm,0.7s							
WRAB	**Tennant Creek**	**77.94 167**	P		**P**		**16 02 53.4**	**-1.1**
WRAB			pmax	pmax				
	comp=Z,6.0nm,1.0s							
WRAB	**Tennant Creek**	**77.94 167**	P		**P**		**16 02 53.4**	**-1.1**
WRAB			IAmb	IAmb			16 02 57.6	
	comp=Z,6.4nm,0.9s							
WRA	**Warramunga Arr**	**77.95 167**	P		**P**		**16 02 53.5**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=351,slow=6.7,SNR=35							
WRA	**Warramunga Arr**	**77.95 167**	P		**P**		**16 02 53.8**	**-0.8**
WRA	**Warramunga Arr**	**77.95 167**	P		**P**		**16 02 53.8**	**-0.8**
WB2	**Warramunga Arr**	**77.95 167**	P		**P**		**16 02 52.8**	**-1.8**
WB2			IAmb	IAmb			16 02 55.0	
	comp=Z,6.7nm,0.8s							
WR0	**Warramunga Arr**	**77.99 167**	P		**P**		**16 02 53.7**	**-1.1**
WR0			IAmb	IAmb			16 02 55.3	
	comp=Z,6.4nm,0.9s							
CTA	**Charters Tower**	**80.14 156**	P		**P**		**16 03 07.0**	**+0.5**
	comp=Z,3.2nm,0.9s,baz=353,slow=6.9,SNR=2.1							
AS31	**Alice Springs**	**81.57 168**	P		**P**		**16 03 13.3**	**-0.9**
ASAR	**Alice Springs**	**81.57 168**	P		**P**		**16 03 13.5**	**-0.7**
	comp=Z,2.7nm,0.6s,baz=353,slow=4.9,SNR=67							
TXAR	**Lajitas Array**	**85.75 38**	P		**P**		**16 03 37.9**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=278,slow=3.7,SNR=7.1							
TXAR			LR	LR			16 45 20.4	
	comp=Z,78nm,19.0s,baz=0.0,slow=38							
FORT	**Forrest**	**88.13 174**	P		**P**		**16 03 45.8**	**-1.1**
STKA	**Stephens Creek**	**90.72 162**	P		**P**		**16 03 59.2**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=347,slow=14,SNR=1.6							
STKA			LR	LR			16 48 18.8	
	comp=Z,18nm,18.3s,baz=14,slow=38							
TORD	**Torodi Ar. Bea**	**93.81 302**	P		**P**		**16 04 12.8**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=9.9,slow=4.2,SNR=7.8							
TORD			PP		**PP**		**16 08 02.0**	**+3.2**
	comp=Z,1.1nm,0.9s,baz=21,slow=8.3,SNR=3.5							
TORD	**Torodi Ar. Bea**	**93.81 302**	P		**P**		**16 04 12.9**	**-1.1**
QSPA	**South Pole Qui**	**147.24 180**	PKPbc		**PKPdf**		**16 10 37.5**	**+1.3**
	comp=Z,4.4nm,0.5s,baz=288,slow=1.2,SNR=51							
CPUP	**Villa Florida**	**148.84 357**	PKPbc		**PKPbc**		**16 10 43.9**	**-0.1**
	comp=Z,2.5nm,0.5s,baz=12,slow=3.1,SNR=13							
VNA2	**Neumayer--Watz**	**154.80 217**	PKPdf		**PKPdf**		**16 10 50.3**	**+2.6**
VNA3	**Neumayer Olymp**	**155.50 216**	PKPdf		**PKPdf**

NEIC ***16*** *16:27:17.6±2.6,25.°8S±0.°1×178.°6W±0.°2,h10km±1km, mb4.3/12,Error ellipse: s-maj=27.7km s-min=17.1km az=69.0*

IDC ***16*** *16:27:18.5±2.9,26.°13S×178.°69W,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.7/41,mbtmp3.9/4,MS3.4/1,Ms1 3.4/1, ms1mx2.5/34,Error ellipse: s-maj=221.0km s-min=31.9km az=167.0*

ISC 16 16:27:18.3±0.9,25.°8S±0.°1×178.°7W±0.°1,h10km,n20, σ1ᵍ71/19,mb4.1/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**13.52**	**30**	Pn		**Pn**	**16 30 29.5**	**-0.9**
HNR	**Honiara**	**25.98**	**305**	P		**P**	**16 32 48.4**	**-2.9**
CAN	**Canberra**	**29.25**	**243**	P		**P**	**16 33 19.8**	**-0.8**
CAN					IAmb	IAmb	16 33 31.5	
	comp=Z,8.4nm,1.1s							
CTA	**Charters Tower**	**32.68**	**273**	P		**P**	**16 33 54.0**	**+3.0**
	comp=Z,2.4nm,0.4s,baz=102,slow=6.1,SNR=10							
CTAO	**Charters Tower**	**32.68**	**273**	P		**P**	**16 33 53.9**	**+3.0**
CTAO					IAmb	IAmb	16 34 13.1	
	comp=Z,6.1nm,1.1s							
COEN	**Coen**	**37.58**	**281**	P		**P**	**16 34 33.8**	**+0.6**
COEN					IAmb	IAmb	16 34 40.4	
	comp=Z,5.0nm,1.1s							
ASAR	**Alice Springs**	**42.89**	**262**	P		**P**	**16 35 19.6**	**+2.4**
	comp=Z,0.5nm,0.8s,baz=94,slow=7.2,SNR=9.1							
ASAR	**Alice Springs**	**42.89**	**262**	P		**P**	**16 35 18.4**	**+1.2**
WR0	**Warramunga Arr**	**43.27**	**268**	P		**P**	**16 35 19.4**	**-1.0**
WR0					IAmb	IAmb	16 35 32.4	
	comp=Z,2.0nm,1.1s							
WB2	**Warramunga Arr**	**43.44**	**268**	P		**P**	**16 35 22.0**	**+0.3**
WB2					IAmb	IAmb	16 35 37.4	
	comp=Z,3.4nm,1.1s							
WRA	**Warramunga Arr**	**43.45**	**268**	P		**P**	**16 35 22.4**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=106,slow=8.3,SNR=15							
WRA	**Warramunga Arr**	**43.45**	**268**	P		**P**	**16 35 21.8**	**0.0**
WB0	**Warramunga Arr**	**43.46**	**268**	P		**P**	**16 35 22.4**	**+0.6**
FORT	**Forrest**	**46.76**	**251**	P		**P**	**16 35 47.6**	**-0.4**
KNRA	**Kununurra**	**49.85**	**271**	P		**P**	**16 36 11.0**	**-1.0**
KNRA					IAmb	IAmb	16 36 25.1	
	comp=Z,8.1nm,0.9s							
FITZ	**Fitzroy Crossi**	**51.85**	**267**	LR		LR	16 56 13.9	
	comp=Z,35nm,18.4s,baz=284,slow=34							
FITZ	**Fitzroy Crossi**	**51.85**	**267**	P		**P**	**16 36 27.0**	**0.0**
FITZ					IAmb	IAmb	16 36 35.0	
	comp=Z,3.2nm,1.1s							
VNDA	**Vanda**	**52.59**	**185**	P		**P**	**16 36 30.4**	**-1.3**
QSPA	**South Pole Qui**	**64.28**	**180**	P		**P**	**16 37 53.2**	**-0.4**
TXAR	**Lajitas Array**	**90.47**	**58**	P		**P**	**16 40 23.2**	**+2.6**
	comp=Z,0.4nm,0.7s,baz=211,slow=7.0,SNR=6.1							

MOS ***16*** *16:39:53.3±1.1,24.°60N×94.°76E,h86km,mb4.7/58,Error ellipse: s-maj=7.7km s-min=3.6km az=120.4*

BJI ***16*** *16:39:54.6±0.0,24.°79N×94.°60E,h96km,mB4.8/40, mb4.9/63*

IDC ***16*** *16:39:54.7±0.4,24.°61N×94.°79E,h85km±3km,mb4.3/47, mb1 4.4/48,mb1mx4.3/62,mbtmp4.6/48,MS3.6/29, Ms1 3.6/29,ms1mx3.5/53,Error ellipse: s-maj=8.6km s-min=6.9km az=66.0*

NEIC ***16*** *16:39:55.2±1.9,24.°59N±0.°07×94.°57E±0.°08,h91km±5km, mb5.0/104,Error ellipse: s-maj=11.9km s-min=9.2km az=222.0*

NDI ***16*** *16:39:56.8±3.6,24.°93N×94.°30E,h142km±15km,mb4.8, ML4.9,mb5.0(NEIC)*

GCMT ***16*** *16:39:57.2±0.2,24.°66N±0.°01×94.°76E±0.°02,h94km±2km, MW4.9/105,Moment Tensor Solution. s35,c45; s105,c165; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.34±.09; Mθθ-3.17±.09; Mϕϕ 1.83±.09; Mrθ-0.64±.07; Mθϕ 1.07±.09; Mϕr-1.14±.06; Best double couple: Mo3.21100×10¹⁶ NP1:ϕs141.00000°,δ61.00000°, λ155.00000°. NP2:ϕs243.00000°,δ69.00000°,λ32.00000°. Principal axes: T 2.9980, Plg37.0000°, Azm104.0000°; N 0.4260, Plg52.0000°, Azm274.0000°; P -3.4240, Plg5.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 16:39:54.6±0.3,24.°59N±0.°03×94.°56E±0.°03,h87km±2km, h87km:pP-P,n483,σ2ᵍ02/568,mb4.8/185,25C-23D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JORH	**JORHAT**	**2.16**	**353**	*i*P		**Pn**	**16 40 27.9**	**-1.0**
JORH				*e*S		**Sn**	**16 40 52.5**	**-2.5**
JORH					IAML		16 40 55.8	
	comp=N,8μm,0.2s							
TEZP	**TEZPUR**	**2.57**	**322**	*e*P		**Pn**	**16 40 32.5**	**-1.7**
TEZP				*e*S		**Sn**	**16 41 00.2**	**-4.5**
TEZP					IAML		16 41 02.2	
	comp=N,21μm,0.2s							
SHL	**Shillong**	**2.61**	**292**	*e*P		**Pn**	**16 40 33.6**	**-1.4**
SHL				*i* PN		**Pn**	**16 40 34.5**	**-0.5**
SHL				*e*S		**Sn**	**16 41 01.6**	**-4.4**
SHL				*i* SN		**Sn**	**16 41 02.0**	**-4.0**
SHL					IAML		16 41 05.0	
	comp=N,16μm,0.3s							
SHL	**Shillong**	**2.61**	**292**	P		**Pn**	**16 40 33.9**	**-1.2**
SHL	**Shillong**	**2.61**	**292**			**Pn**	**16 40 33.9**	**-1.2**
ZIRO	**ZIRO**	**2.99**	**348**	⇓*i*P		**Pn**	**16 40 38.5**	**-1.6**
ZIRO				*e*S		**Sn**	**16 41 10.1**	**-5.1**
ZIRO					IAML		16 41 13.3	
	comp=N,28μm,0.6s							
GUWA	**GUWAHATI**	**3.04**	**302**	*e*P		**Pn**	**16 40 38.6**	**-2.0**
GUWA				*e*S		**Sn**	**16 41 10.9**	**-5.2**
GUWA					IAML		16 41 13.4	
	comp=N,7μm,0.1s							
LSA	**Lhasa**	**5.92**	**330**	P		**Pn**	**16 41 20.8**	**+0.6**
LSA	**Lhasa**	**5.92**	**330**	Pn		**Pn**	**16 41 20.8**	**+0.6**
GTK	**Tadong**	**6.01**	**298**	*e*P		**Pn**	**16 41 20.9**	**-0.3**
GTK				*e*S		**Sn**	**16 42 21.2**	**-7.4**
TAPN	**Taplejung**	**6.75**	**295**	*e*Pn		**Pn**	**16 41 31.2**	**-0.1**
TAPN				*e*Sn		**Sn**	**16 42 44.5**	**-2.3**
ODAN	**Odare**	**6.85**	**291**	*e*Pn		**Pn**	**16 41 31.5**	**-1.1**
ODAN				*e*Sn		**Sn**	**16 42 44.0**	**-5.2**
CHTO	**Chiang Mai**	**7.05**	**144**	P		**Pn**	**16 41 35.7**	**+0.5**
CHTO	**Chiang Mai**	**7.05**	**144**	Pn		**Pn**	**16 41 35.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**7.34**	**145**	P		**Pn**	**16 41 39.6**	**+0.4**
	comp=N,3.6nm,0.3s,baz=316,slow=13,SNR=25							
CMAR				S		**Sn**	**16 43 00.7**	**-0.4**
	baz=302,slow=18,SNR=1.0							
CMAR				LR		LR	16 44 57.5	
	comp=N,626nm,18.8s,baz=310,slow=42							
CMAR	**Chiang Mai Arr**	**7.34**	**145**	P		**Pn**	**16 41 40.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**7.34**	**145**			**Pn**	**16 41 40.1**	**+0.9**
KMI	**Kunming**	**7.45**	**84**	⇑*i*P		**Pn**	**16 41 44.8**	**+3.9**
KMI				sP			16 42 04.3	
KMI				S		**Sn**	**16 43 08.4**	**+4.4**
KMI				pmax	pmax			
	comp=N,360nm,1.0s							
KMI				pmax	pmax			
	comp=N,1μm,3.5s							
KMI				LR	LR			
	comp=N,1μm,7.7s							
KMI				LR	LR			
	comp=N,1μm,7.6s							
KMI				LR	LR			
	comp=N,1μm,10.5s							
KMI	**Kunming**	**7.45**	**84**	P		**Pn**	**16 41 44.4**	**+3.5**
KMI	**Kunming**	**7.45**	**84**			**Pn**	**16 41 44.4**	**+3.5**
RAMN	**Ramite**	**7.55**	**290**	*e*Pn		**Pn**	**16 41 40.8**	**-1.4**
BOK	**Bokaro**	**7.96**	**266**	*e*P		**Pn**	**16 41 45.7**	**-1.9**
BOK				*e*S		**Sn**	**16 43 07.5**	**-8.5**
BOK					IAML		16 43 12.1	
	comp=N,429nm,1.2s							
JIRN	**Jiri**	**8.12**	**294**	*e*Pn		**Pn**	**16 41 49.4**	**-0.7**
JIRN				*e*Sn		**Sn**	**16 43 14.8**	**-5.6**
	comp=N,722nm,0.3s							
PKI	**Pulchoki**	**8.74**	**292**	*e*Pn		**Pn**	**16 41 57.0**	**-1.6**
PKI				*e*Sn		**Sn**	**16 43 29.0**	**-6.6**
	comp=N,535nm,0.5s							
KKN	**Kakani**	**8.92**	**293**	*e*Pn		**Pn**	**16 41 59.4**	**-1.5**
KKN				*e*Sn		**Sn**	**16 43 33.6**	**-6.2**
DMN	**Daman**	**9.01**	**292**	*e*Pn		**Pn**	**16 42 00.2**	**-1.9**
DMN				*e*Sn		**Sn**	**16 43 35.5**	**-6.5**
BWNR	**Bhubaneshwar**	**9.15**	**244**	*ex*		Pn	16 41 58.5	-5.3
SLVN	**Son La**	**9.20**	**109**	Pn		**Pn**	**16 42 04.5**	**-0.1**
GKN	**Gorkha**	**9.53**	**293**	*e*Pn		**Pn**	**16 42 07.1**	**-2.0**
GKN				*e*Sn		**Sn**	**16 43 47.9**	**-6.6**
	comp=N,448nm,0.2s							
PBKT	**Sadao Pong**	**9.99**	**142**	Pn		**Pn**	**16 42 16.6**	**+1.3**
CD2	**Chengdu**	**10.29**	**50**	P		**Pn**	**16 42 20.5**	**+1.0**
CD2				PP			16 42 26.8	
CD2				S		**Sn**	**16 44 07.1**	**-5.9**
CD2				pmax	pmax			
	comp=N,20nm,0.5s							
CD2				pmax	pmax			
	comp=N,110nm,6.9s							
CD2				LR	LR			
	comp=N,950nm,7.9s							
CD2				LR	LR			
	comp=N,700nm,9.3s							
CD2				LR	LR			
	comp=N,770nm,12.2s							
KOLN	**Koldanda**	**10.34**	**290**	*e*Pn		**Pn**	**16 42 17.8**	**-2.4**
KOLN				*e*Sn		Sn	16 44 04.8	-10
DANN	**Dangsing**	**10.37**	**293**	*e*Pn		**Pn**	**16 42 18.7**	**-2.0**
DANN				*e*Sn		**Sn**	**16 44 07.4**	**-7.9**
	comp=N,806nm,0.6s							
PYUN	**Piuthan**	**10.95**	**291**	*e*Pn		**Pn**	**16 42 25.5**	**-3.0**
PYUN				*e*Sn		**Sn**	**16 44 20.7**	**-8.4**
	comp=N,513nm,0.4s							
GYA	**Guiyang**	**11.09**	**78**	⇓P		**Pn**	**16 42 30.3**	**-0.1**
GYA				PP			16 42 42.4	
GYA				sP			16 43 00.0	
GYA				S		**Sn**	**16 44 31.3**	**-1.3**
GYA				pmax	pmax			
	comp=N,27nm,1.2s							
GYA				LR	LR			
	comp=N,350nm,7.3s							
GYA				LR	LR			
	comp=N,210nm,4.4s							
GYA				LR	LR			
	comp=N,320nm,8.3s							
CHLP	**Challavanipeta**	**11.49**	**240**	*e*P		**Pn**	**16 42 34.3**	**-1.4**
CHLP				*e*S		Sn	16 44 30.3	-12
PBA	**Port Blair**	**12.98**	**188**	*ex*		Pn	16 42 55.3	-0.4
PBA	**Port Blair**	**12.98**	**188**	Pn		Pn	16 42 55.2	-0.6
JBP	**Jabalpur**	**13.41**	**267**	*e*P		**Pn**	**16 43 01.1**	**-0.3**
JBP				*ex*		x	16 45 26.1	
LZH	**Lanzhou**	**13.97**	**33**	*e*P		**Pn**	**16 43 06.6**	**-2.2**
LZH				pP		P	16 43 22.0	+8.0
LZH				*e*S		**Sn**	**16 45 47.6**	**+5.0**
LZH				SS		S	**16 45 55.3**	**-3.3**
LZH				pmax	pmax			
	comp=N,80nm,1.0s							
LZH				pmax	pmax			
	comp=N,160nm,4.3s							
LZH				LR	LR			
	comp=N,620nm,11.1s							
LZH				LR	LR			
	comp=N,930nm,11.1s							
LZH				LR	LR			
	comp=N,530nm,14.6s							
PVM	**Polavaram**	**14.11**	**241**	*e*P		**P**	**16 43 14.3**	**-1.2**
PVM				*e*			16 45 31.1	
ENH	**Enshi**	**14.41**	**64**	Pn		**Pn**	**16 43 12.5**	**-1.9**
NGP	**Nagpur**	**14.70**	**260**	*e*P		**Pn**	**16 43 16.5**	**-1.6**
NGP				*ex*		x	16 45 48.1	
MYLAV	**Mylavaram**	**15.18**	**242**	*e*P		**Pn**	**16 43 25.5**	**+1.2**
MYLAV				*e*			16 46 00.2	
QIZ	**Qiongzhong**	**15.23**	**108**	P		**Pn**	**16 43 23.5**	**-1.5**
QIZ				S		**Sn**	**16 46 12.4**	**-0.6**
QIZ				pmax	pmax			
	comp=N,15nm,1.6s							
QIZ				LR	LR			
	comp=N,450nm,13.3s							
QIZ				LR	LR			
	comp=N,290nm,13.5s							
QIZ				LR	LR			
	comp=N,300nm,12.9s							
QIZ	**Qiongzhong**	**15.23**	**108**	P		**P**	**16 43 27.8**	**-0.1**
QIZ				IAmb	IAmb	16 43 30.0		
	comp=Z,120nm,0.9s							
GTA	**Gaotai**	**15.43**	**15**	⇓P		**Pn**	**16 43 23.4**	**-4.0**
GTA				pP		pP	16 43 39.9	-7.5
GTA				sP		sP	16 43 52.8	-5.9
GTA				S		**Sn**	**16 46 17.8**	**+0.1**
GTA				PcP		**PcP**	**16 48 27.4**	**+1.7**
GTA				ScP		**ScP**	**16 51 52.0**	**-0.1**
GTA				PcS		**PcS**	**16 52 01.8**	**+0.6**
GTA				ScS		**ScS**	**16 55 29.4**	**-1.1**
GTA				pmax	pmax			
	comp=Z,14nm,1.7s							
GTA				pmax	pmax			
	comp=Z,130nm,4.5s							
GTA				LR	LR			
	comp=Z,240nm,12.7s							
GTA				LR	LR			
	comp=Z,350nm,11.4s							
GTA				LR	LR			
	comp=Z,420nm,13.3s							
XAN	**Xi'an**	**15.66**	**50**	P		**Pn**	**16 43 28.3**	**-2.0**
XAN	**Xi'an**	**15.66**	**50**	P		**P**	**16 43 32.8**	**+0.2**
XAN				pmax	pmax			
	comp=Z,31nm,0.9s							
XAN	**Xi'an**	**15.66**	**50**			**P**	**16 43 32.8**	**+0.2**
BHPL	**Bhopal**	**15.72**	**269**	*e*P		**Pn**	**16 43 28.8**	**-2.4**
BHPL				*ex*		x	16 46 10.0	
BHPL					IAML		16 46 17.1	
	comp=E,39nm,0.5s							
NDI	**New Delhi**	**16.03**	**288**	*ex*		**P**	**16 43 38.5**	**+1.8**
SRSP	**Sriramsagar**	**16.07**	**253**	*e*P		**Pn**	**16 43 36.1**	**+0.5**
SRSP				*e*S		Sn	16 46 17.2	-16
ADKI	**Addanki**	**16.21**	**240**	*e*P		**P**	**16 43 44.1**	**+5.3**
ADKI				*e*			16 46 23.7	
NJS	**Nagarjunasagar**	**16.36**	**244**	*e*P		P	16 43 52.5	+12
NJS				*e*			16 46 24.6	
HYB	**Hyderabad**	**16.55**	**248**	*i* P		**P**	**16 43 44.0**	**+1.4**
HYB				*e*S		Sn	16 46 32.0	-13
HYBB	**Hyderabad (bro**	**16.55**	**248**	*e*P		**P**	**16 43 44.5**	**+1.9**
HYBB				*e*			16 46 30.6	
SMLA	**Simla**	**16.69**	**297**	*e*P		**Pn**	**16 43 40.3**	**-2.8**
SMLA					IAmb	IAmb	16 43 45.3	
	comp=Z,53nm,0.9s							
SMLA				*ex*		x	16 46 31.8	
SMLA					IAML		16 46 44.1	
	comp=N,147nm,1.1s							
SKHT	**Srikalahasti**	**17.68**	**235**	*e*P		**Pn**	**16 43 56.3**	**+1.0**
SKHT				*e*			16 46 54.7	
DHRM	**DHARAMSHALA**	**17.77**	**300**	*ex*		**P**	**16 43 55.3**	**-0.8**
DHRM				*ex*		x	16 47 00.7	
DHRM					IAML		16 47 04.5	
	comp=E,132nm,0.7s							
KLRI	**Killari**	**17.94**	**252**	*e*P		**Pn**	**16 43 59.8**	**+1.3**
KLRI				*e*			16 47 02.1	
DLV	**T Lat**	**18.23**	**131**	P		**P**	**16 44 01.7**	**+0.4**
THN	**Thein Dam**	**18.29**	**300**	*ex*		**Pn**	**16 44 04.5**	**+1.9**
THN				*e*S		S	16 47 14.0	-12
WHN	**Wuhan**	**18.51**	**67**	⇓P		**P**	**16 44 04.3**	**+0.2**
WHN				S		**S**	**16 47 23.8**	**-6.6**
WHN				pmax	pmax			
	comp=E,190nm,1.5s							
WHN				LR	LR			
	comp=E,950nm,8.6s							
WHN				LR	LR			
	comp=E,320nm,4.7s							
WHN				LR	LR			
	comp=E,930nm,15.7s							
URV	**Uravakonda**	**18.88**	**243**	*e*P		**Pn**	**16 44 09.1**	**-0.6**
URV				*e*			16 47 27.4	
WMQ	**Urumqi**	**19.99**	**345**	*e*P		**P**	**16 44 21.3**	**+1.2**
WMQ				sP		sP	16 44 51.9	+2.9
WMQ				S		**S**	**16 47 59.1**	**-1.1**
WMQ				pmax	pmax			
	comp=E,65nm,1.1s							
WMQ				pmax	pmax			
	comp=E,60nm,3.6s							
WMQ				LR	LR			
	comp=E,170nm,6.3s							
WMQ				LR	LR			
	comp=E,140nm,7.7s							
WMQ				LR	LR			
	comp=E,22nm,12.3s							
KULM	**Kulim**	**20.06**	**162**	P		**P**	**16 44 21.0**	**0.0**
KULM	**Kulim**	**20.06**	**162**	P		Pn	16 44 23.0	-0.6
POO	**Poona**	**20.17**	**257**	*ex*		x	16 44 37.0	
	comp=E,50nm,1.2s							
POO				*ex*		x	16 44 51.9	
POO				*i* S		**S**	**16 47 55.0**	**-9.1**
MLSI	**Meulaboh, Aceh**	**20.29**	**175**	P		**P**	**16 44 24.8**	**+1.4**
	comp=E,134nm,1.1s							
NIL	**Nilore**	**20.66**	**301**	P		**P**	**16 44 27.9**	**+0.5**
NIL				pmax	pmax			
	comp=Z,94nm,1.1s							
NIL	**Nilore**	**20.66**	**301**	P		**P**	**16 44 27.9**	**+0.5**
NIL				IAmb	IAmb		16 44 29.9	
	comp=Z,94nm,1.1s							
IPM	**Ipoh**	**20.94**	**162**	P		**P**	**16 44 31.0**	**+0.4**
TSI	**Tuntungan**	**21.32**	**169**	P		**P**	**16 44 34.6**	**0.0**
	comp=Z,100nm,1.0s							
HHC	**Hu-ho-hao-te**	**21.56**	**37**	*e*P		**P**	**16 44 40.9**	**+3.8**
HHC				pP		pP	16 44 57.0	+2.5
HHC				S		**S**	**16 48 24.8**	**-6.5**
HHC				pmax	pmax			
	comp=Z,20nm,0.9s							
HHC				pmax	pmax			
	comp=Z,78nm,4.6s							
HHC				LR	LR			
	comp=Z,310nm,11.4s							
HHC				LR	LR			
	comp=Z,440nm,10.7s							
HHC				LR	LR			
	comp=Z,440nm,12.9s							
KSH	**Kashi**	**21.61**	**318**	P		**P**	**16 44 38.6**	**+1.0**
KSH				pP		pP	16 44 56.1	+0.8
KSH				S		**S**	**16 48 26.8**	**-5.4**
KSH				pmax	pmax			
	comp=Z,100nm,1.3s							
KSH				LR	LR			
	comp=Z,84nm,8.2s							
KSH				LR	LR			
	comp=Z,74nm,7.4s							
PALK	**Pallekele**	**21.74**	**220**	P		**P**	**16 44 41.4**	**+2.4**
	comp=Z,26nm,0.9s,baz=120,slow=9.7,SNR=7.3							
PALK				PcP		**PcP**	**16 48 36.5**	**-0.2**
	comp=Z,14nm,0.9s,baz=42,slow=1.4,SNR=3.9							
PALK	**Pallekele**	**21.74**	**220**	*i* P		**P**	**16 44 40.6**	**+1.5**
PALK				pmax	pmax			
	comp=Z,37nm,0.9s							
PALK	**Pallekele**	**21.74**	**220**	P		**P**	**16 44 36.2**	**-2.8**
QZH	**Quanzhou**	**21.82**	**84**	*e*P		**P**	**16 44 40.9**	**+1.0**
QZH				S		**S**	**16 48 28.0**	**-8.3**
QZH				LR	LR			
	comp=Z,470nm,10.0s							
QZH				LR	LR			
	comp=Z,300nm,13.3s							
TARG	**Taragay, Kyrgy**	**22.04**	**325**	P		**P**	**16 44 43.1**	**+0.5**
TARG				IAmb	IAmb		16 44 52.9	
	comp=Z,45nm,0.7s							
PSI	**Prapat**	**22.07**	**168**	P		**P**	**16 44 44.0**	**+1.3**
	comp=Z,14nm,0.6s,baz=360,slow=10,SNR=11							
PSI				PcP		**PcP**	**16 48 38.2**	**+0.7**
	comp=Z,8.7nm,0.9s,baz=358,slow=0.9,SNR=5.4							
PSI				LR	LR		16 54 26.9	
	comp=Z,173nm,18.4s,baz=68,slow=39							
PSI	**Prapat**	**22.07**	**168**	P		**P**	**16 44 43.7**	**+1.0**
PSI				pmax	pmax			
	comp=Z,19nm,0.7s							
RPSI	**Rantau Prapat**	**22.17**	**168**	P		**P**	**16 44 43.6**	**0.0**
RPSI	**Rantau Prapat**	**22.17**	**168**			**PcP**	**16 48 38.2**	**+0.6**
PRZ	**Przheval'sk**	**22.29**	**327**	P		**P**	**16 44 46.5**	**+1.6**
PRZ				pmax	pmax			
	comp=Z,61nm,0.8s							
PRZ	**Przheval'sk**	**22.29**	**327**	P		**P**	**16 44 46.5**	**+1.6**
PRZ				IAmb	IAmb		16 44 48.5	
	comp=Z,61nm,0.8s							
SHLS	**Shalkode**	**22.30**	**330**	⇓*i*P		**P**	**16 44 43.6**	**-1.4**
	comp=Z,61nm,1.1s,baz=330							
SHLS				*i* S		**S**	**16 48 45.1**	**+0.5**
	comp=Z,61nm,2.4s,baz=330							
SHLS				LR	LR		16 54 34.5	
	comp=Z,27nm,9.6s,baz=330							
SHLS	**Shalkode**	**22.30**	**330**	*d* iP		**P**	**16 44 43.5**	**-1.4**
SHLS				*i* S		**S**	**16 48 45.1**	**+0.5**
SHLS				pmax	pmax			
	comp=Z,61nm,1.1s							
SHLS				smax	smax			
	comp=N,61nm,2.4s							
SHLS				MLR	MLR			
	comp=Z,27nm,10.0s							
PDGK	**Podgornoye**	**22.42**	**330**	P		**P**	**16 44 46.2**	**0.0**
UZB	**Uzynbulak**	**22.49**	**329**	⇓*i*P		**P**	**16 44 47.5**	**+0.5**
	comp=Z,15nm,1.3s,baz=329							
UZB				*i* S		**S**	**16 48 49.8**	**+2.0**
	comp=Z,26nm,2.8s,baz=329							
UZB	**Uzynbulak**	**22.49**	**329**	*d* iP		**P**	**16 44 47.5**	**+0.5**
UZB				*i* S		**S**	**16 48 49.8**	**+2.0**
UZB				pmax	pmax			
	comp=Z,15nm,1.3s							
UZB				smax	smax			
	comp=E,26nm,2.8s							
TIA	**Tai'an**	**22.59**	**54**	P		**P**	**16 44 46.4**	**-1.6**
TIA				pmax	pmax			
	comp=E,5.0nm,0.7s							
NJ2	**Nanjing**	**22.61**	**65**	⇑P		**P**	**16 44 47.8**	**-0.4**
NJ2				pP		**pP**	**16 45 09.8**	**+4.0**
NJ2				pmax	pmax			
	comp=E,24nm,0.8s							
NJ2				pmax	pmax			
	comp=E,170nm,3.9s							
NJ2				LR	LR			
	comp=E,550nm,17.8s							
NJ2				LR	LR			
	comp=E,330nm,20.4s							
NJ2				LR	LR			
	comp=E,250nm,18.0s							
KDJ	**Kajisay**	**22.65**	**325**	P		**P**	**16 44 50.2**	**+1.4**
KDJ				pmax	pmax			
	comp=Z,55nm,1.1s							
KDJ	**Kajisay**	**22.65**	**325**	P		**P**	**16 44 50.2**	**+1.4**
KDJ				IAmb	IAmb		16 44 53.1	
	comp=Z,55nm,1.1s							
SATY	**Saty**	**22.72**	**328**	⇓*i*P		**P**	**16 44 50.2**	**+0.9**
	comp=Z,43nm,1.4s,baz=328							
SATY				*i* S		**S**	**16 48 54.5**	**+3.1**
	comp=Z,47nm,3.2s,baz=328							
SATY				LR	LR		16 55 35.7	
	comp=Z,31nm,10.8s,baz=328							
SATY	**Saty**	**22.72**	**328**	*d* iP		**P**	**16 44 50.2**	**+0.9**
SATY				*i* S		**S**	**16 48 54.5**	**+3.1**
SATY				pmax	pmax			
	comp=Z,43nm,1.4s							
SATY				smax	smax			
	comp=E,47nm,3.2s							
SATY				MLR	MLR			
	comp=Z,31nm,11.0s							
SATY	**Saty**	**22.72**	**328**	*d* iP		**P**	**16 44 50.2**	**+0.9**
SATY				*i* S		**S**	**16 48 54.5**	**+3.1**
SATY				pmax	pmax			
	comp=Z,43nm,1.4s							
SATY				smax	smax			
	comp=E,47nm,3.2s							
SATY				MLR	MLR			
	comp=Z,31nm,11.0s							
ULHL	**Ulahol**	**23.23**	**324**	P		**P**	**16 44 56.1**	**+1.6**
	SNR=6.5							
GSI	**Gunungsitoli**	**23.33**	**172**	P		**P**	**16 44 56.1**	**+0.7**
	comp=Z,70nm,1.2s							
GSI	**Gunungsitoli**	**23.33**	**172**	P		**P**	**16 44 56.2**	**+0.8**
GSI				IAmb	IAmb		16 44 58.9	
	comp=Z,48n

MTBS	**Maitube**	**23.75**	**326**	*e*P		**P**	**16 45 01.0**	**+2.0**
TPUB	**Ta-pu**	**23.86**	**88**	P		**P**	**16 45 00.9**	**+0.8**
TPUB				IAmb		IAmb	16 45 01.7	
	comp=Z,75nm,1.1s							
CHKK	**Chushkaly**	**24.00**	**328**	*e*P		**P**	**16 45 02.4**	**+1.3**
	baz=327							
CHKK	**Chushkaly**	**24.00**	**328**	*e*P		**P**	**16 45 02.4**	**+1.3**
TKM2	**Tokmak 2**	**24.04**	**324**	P		**P**	**16 45 03.6**	**+1.8**
	SNR=56							
TKM2	**Tokmak 2**	**24.04**	**324**	P		**P**	**16 45 03.2**	**+1.4**
ZSN	**Zaisan**	**24.08**	**344**	*i* P		**P**	**16 45 03.3**	**+1.4**
	comp=Z,35nm,1.1s,baz=344							
ZSN				*i* S		**S**	**16 49 15.5**	**+2.4**
	comp=Z,31nm,2.7s,baz=344							
ZSN	**Zaisan**	**24.08**	**344**	*i* P		**P**	**16 45 03.3**	**+1.4**
ZSN				*i* S		**S**	**16 49 15.5**	**+2.4**
ZSN				pmax	pmax			
	comp=Z,35nm,1.1s							
ZSN				smax	smax			
	comp=N,31nm,2.7s							
SSLB	**Suanglung**	**24.08**	**86**	P		**P**	**16 45 01.8**	**-0.4**
MNSI	**Mandailing Nat**	**24.15**	**168**	P		**P**	**16 45 02.1**	**-0.6**
	comp=N,27nm,0.8s							
UCH	**Uchtor**	**24.18**	**322**	P		**P**	**16 45 05.1**	**+1.8**
	SNR=31							
TDK	**Taldyqorghan**	**24.21**	**331**	*i* P		**P**	**16 45 04.6**	**+1.5**
	comp=N,30nm,1.1s,baz=331							
TDK				LR		LR	16 54 59.1	
	comp=N,129nm,13.9s,baz=331							
TDK	**Taldyqorghan**	**24.21**	**331**	*i* P		**P**	**16 45 04.6**	**+1.5**
TDK				pmax	pmax			
	comp=Z,30nm,1.1s							
TDK				MLR	MLR			
	comp=Z,129nm,14.0s							
KBK	**Karagaybulak**	**24.22**	**323**	P		**P**	**16 45 05.5**	**+2.2**
	SNR=12							
MK31	**Makanchi Array**	**24.23**	**339**	*i* P		**P**	**16 45 04.2**	**+1.0**
MK31	**Makanchi Array**	**24.23**	**339**	P		**P**	**16 45 04.9**	**+1.7**
MKAR	**Makanchi Array**	**24.23**	**339**	P		**P**	**16 45 04.4**	**+1.2**
	comp=Z,25nm,0.7s,baz=148,slow=10,SNR=231							
MKAR				PcP		**PcP**	**16 48 43.1**	**+1.6**
	comp=Z,1.4nm,0.5s,baz=150,slow=1.8,SNR=4.2							
MKAR				ScP		**ScP**	**16 52 13.3**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=104,slow=5.3,SNR=7.3							
MKAR	**Makanchi Array**	**24.23**	**339**	P		**P**	**16 45 04.6**	**+1.4**
MKAR	**Makanchi Array**	**24.23**	**339**	P		**P**	**16 45 04.6**	**+1.4**
MKAR						**PcP**	**16 48 42.8**	**+1.4**
KBL	**Kabul**	**24.25**	**300**	P		**P**	**16 45 03.6**	**-0.2**
KBL				pmax	pmax			
	comp=Z,34nm,1.2s							
KBL	**Kabul**	**24.25**	**300**	P		**P**	**16 45 03.5**	**-0.2**
TWG	**Pinlang**	**24.33**	**89**	P		**P**	**16 45 04.5**	**+0.1**
KUU	**Kurty**	**24.35**	**327**	*e*P		**P**	**16 45 06.0**	**+1.7**
	comp=Z,69nm,1.2s,baz=327							
KUU				*e*S		**S**	**16 49 22.7**	**+5.2**
	comp=Z,51nm,2.3s,baz=327							
KUU				LR		LR	16 55 05.8	
	comp=Z,57nm,11.1s,baz=327							
KUU	**Kurty**	**24.35**	**327**	*e*P		**P**	**16 45 06.0**	**+1.7**
KUU				*e*S		**S**	**16 49 22.6**	**+5.2**
KUU				pmax	pmax			
	comp=Z,69nm,1.2s							
KUU				smax	smax			
	comp=E,51nm,2.3s							
KUU				MLR	MLR			
	comp=Z,57nm,11.0s							
MAKZ	**Makanchi**	**24.35**	**339**	P		**P**	**16 45 05.7**	**+1.4**
MAKZ				pmax	pmax			
	comp=Z,83nm,1.0s							
MAKZ	**Makanchi**	**24.35**	**339**	P		**P**	**16 45 05.7**	**+1.4**
MAKZ				IAmb	IAmb		16 45 07.7	
	comp=Z,83nm,0.9s							
YHNB	**Yeheng**	**24.37**	**84**	P		**P**	**16 45 02.4**	**-2.4**
YHNB				IAmb	IAmb		16 45 06.8	
	comp=Z,49nm,1.0s							
MYKOM	**Kota Tinggi**	**24.38**	**157**	P		**P**	**16 45 04.3**	**-0.5**
MYKOM	**Kota Tinggi**	**24.38**	**157**	P		**P**	**16 45 06.0**	**+1.2**
YULB	**Yu-li**	**24.45**	**87**	P		**P**	**16 45 06.3**	**+0.9**
YULB				IAmb	IAmb		16 45 08.5	
	comp=Z,31nm,0.8s							
AAK	**Ala-Archa**	**24.45**	**322**	P		**P**	**16 45 07.7**	**+2.3**
	comp=Z,23nm,0.8s,baz=132,slow=6.3,SNR=28							
AAK				ScP		**ScP**	**16 52 14.2**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=247,slow=4.0,SNR=3.8							
AAK				LR		LR	16 56 36.9	
	comp=Z,105nm,20.4s,baz=93,slow=41							
AAK	**Ala-Archa**	**24.45**	**322**	P		**P**	**16 45 07.8**	**+2.3**
	SNR=17							
AAK	**Ala-Archa**	**24.45**	**322**	*ce*P		**P**	**16 45 07.6**	**+2.1**
AAK				pmax	pmax			
	comp=Z,46nm,1.3s							
AAK	**Ala-Archa**	**24.45**	**322**	P		**P**	**16 45 06.3**	**+0.8**
AAK				IAmb	IAmb		16 45 09.6	
	comp=Z,44nm,1.1s							
ARSB	**Arslanbob**	**24.52**	**318**	P		**P**	**16 45 07.2**	**+1.1**
ARSB				pmax	pmax			
	comp=Z,13nm,0.7s							
ARSB	**Arslanbob**	**24.52**	**318**	P		**P**	**16 45 07.2**	**+1.1**
CHMS	**Chumysh**	**24.55**	**323**	P		**P**	**16 45 07.8**	**+1.6**
	SNR=13							
AML	**Almayashu**	**24.58**	**320**	P		**P**	**16 45 09.0**	**+2.0**
	SNR=23							
NACB	**Ninganchiao**	**24.62**	**85**	P		**P**	**16 45 08.4**	**+1.4**
NACB				IAmb	IAmb		16 45 11.2	
	comp=Z,76nm,1.0s							
USP	**Ospenovka**	**24.87**	**323**	P		**P**	**16 45 10.8**	**+1.7**
	SNR=24							
EKS2	**Erkin-Say**	**24.87**	**322**	P		**P**	**16 45 11.9**	**+2.6**
	SNR=43							
GAR	**Garm**	**25.02**	**311**	P		**P**	**16 45 12.0**	**+1.4**
SONM	**Songino Array**	**25.03**	**19**	P		**P**	**16 45 11.3**	**+0.7**
	comp=Z,28nm,0.8s,baz=199,slow=9.6,SNR=107							
SONM				PcP		**PcP**	**16 48 43.8**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=188,slow=4.2,SNR=3.2							
SONM				ScP		**ScP**	**16 52 13.7**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=203,slow=3.6,SNR=5.9							
SONM	**Songino Array**	**25.03**	**19**	P		**P**	**16 45 11.9**	**+1.3**
SONM				PcP		**PcP**	**16 48 43.8**	**+0.5**
BTK	**Batken**	**25.19**	**313**	P		**P**	**16 45 13.3**	**+1.2**
BTK				pmax	pmax			
	comp=Z,51nm,0.9s							
BTK	**Batken**	**25.19**	**313**	P		**P**	**16 45 13.3**	**+1.2**
BTK				IAmb	IAmb		16 45 28.0	
	comp=Z,51nm,0.9s							
ULN	**Ulaanbaatar**	**25.25**	**20**	P		**P**	**16 45 13.9**	**+1.2**
ULN				pmax	pmax			
	comp=Z,29nm,0.8s							
ULN	**Ulaanbaatar**	**25.25**	**20**	P		**P**	**16 45 13.9**	**+1.2**
ULN				IAmb	IAmb		16 45 15.6	
	comp=Z,29nm,0.8s							
TPRI	**Tanjung Pinang**	**25.43**	**156**	P		**P**	**16 45 15.2**	**+0.8**
	comp=Z,62nm,0.9s							
CHGR	**Chuyangaron**	**25.67**	**309**	P		**P**	**16 45 17.8**	**+1.4**
CHGR				IAmb	IAmb		16 45 28.2	
	comp=Z,39nm,0.8s							
DGZ	**Jazzator, Alta**	**25.68**	**349**	*d* iP		**P**	**16 45 17.9**	**+1.4**
DGZ				pmax	pmax			
	comp=Z,19nm,1.0s							
PDSI	**Padang**	**25.99**	**166**	P		**P**	**16 45 19.5**	**+0.1**
	comp=Z,14nm,1.2s							
SDSI	**Sungai Dareh**	**26.23**	**164**	P		**P**	**16 45 23.7**	**+2.1**
	comp=Z,12nm,1.2s							
BTLS	**Baital**	**26.32**	**326**	⇓ *i* P		**P**	**16 45 23.0**	**+0.9**
	comp=Z,6.4nm,1.2s,baz=326							
BTLS	**Baital**	**26.32**	**326**	*d* iP		**P**	**16 45 23.0**	**+0.9**
BTLS				pmax	pmax			
	comp=Z,6.0nm,1.2s							
DZA	**Taraz**	**26.43**	**319**	*i* P		**P**	**16 45 24.5**	**+1.2**
	baz=319							
DZA	**Taraz**	**26.43**	**319**	*i* P		**P**	**16 45 24.5**	**+1.2**
IUG	**luzhnay**	**26.80**	**317**	*e*P		**P**	**16 45 28.4**	**+1.7**
	comp=Z,7.7nm,0.6s,baz=317							
IUG	**luzhnay**	**26.80**	**317**	*e*P		**P**	**16 45 28.4**	**+1.7**
IUG				pmax	pmax			
	comp=Z,8.0nm,0.6s							
KKAR	**Karatay Array**	**27.04**	**319**	P		**P**	**16 45 29.9**	**+1.2**
KKAR	**Karatay Array**	**27.04**	**319**	P		**P**	**16 45 29.9**	**+1.2**
KSM	**Kuching**	**27.57**	**144**	P		**P**	**16 45 34.1**	**+0.5**
KSM				IAmb	IAmb		16 45 35.6	
	comp=Z,34nm,1.1s							
KSM	**Kuching**	**27.57**	**144**	P		**P**	**16 45 35.0**	**+1.4**
SBUM	**Sibu**	**27.84**	**140**	P		**P**	**16 45 36.0**	**0.0**
SBUM	**Sibu**	**27.84**	**140**	P		**P**	**16 45 37.0**	**+0.9**
TLY	**Talaya**	**27.93**	**12**	*e*P		**P**	**16 45 39.0**	**+2.5**
TLY				*e*S		**S**	**16 50 17.7**	**+3.8**
TLY				pmax	pmax			
	comp=Z,10.0nm,0.9s							
TLY				MLR	MLR			
	comp=Z,269nm,16.0s							
KURBB	**Kurchatov Arra**	**28.80**	**339**	P		**P**	**16 45 45.0**	**+0.9**
	comp=Z,9.0nm,0.9s,baz=148,slow=8.7,SNR=39							
KURBB				PcP		**PcP**	**16 48 52.8**	**+0.8**
	comp=Z,6.2nm,0.7s,baz=162,slow=2.1,SNR=6.8							
KURBB				ScP		**ScP**	**16 52 25.9**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=159,slow=2.8,SNR=11							
KURK	**Kurchatov**	**28.84**	**339**	*i* P		**P**	**16 45 45.1**	**+0.5**
KURK				pmax	pmax			
	comp=Z,15nm,0.9s							
KURK	**Kurchatov**	**28.84**	**339**	P		**P**	**16 45 45.2**	**+0.5**
KURK	**Kurchatov**	**28.84**	**339**			**PcP**	**16 48 52.8**	**+0.7**
PPBI	**Pangkal Pinang**	**28.87**	**155**	P		**P**	**16 45 46.4**	**+1.2**
	comp=Z,944nmcomp=Z,58nm,0.8s							
KSI	**Kapahiang**	**29.14**	**163**	P		**P**	**16 45 47.5**	**-0.1**
	comp=Z,58nm,0.9s							
OTUK	**Ortayu**	**29.41**	**329**	P		**P**	**16 45 50.3**	**+0.6**
TPI	**Tanjungpandan**	**30.02**	**153**	P		**P**	**16 45 56.4**	**+1.1**
	comp=Z,52nm,1.0s							
MYLDM	**Lahad Datu**	**30.03**	**126**	P		**P**	**16 45 54.1**	**-1.4**
MYLDM				IAmb	IAmb		16 46 06.4	
	comp=Z,23nm,1.1s							
ZAA0	**Zalesovo Array**	**30.21**	**349**	P		**P**	**16 45 57.8**	**+1.1**
ZALV	**Zalesovo Beam**	**30.21**	**349**	P		**P**	**16 45 57.6**	**+0.9**
	comp=Z,4.6nm,0.4s,baz=168,slow=7.6,SNR=26							
ZALV				pP		**pP**	**16 46 17.1**	**-0.1**
	comp=Z,14nm,0.9s,baz=181,slow=7.7,SNR=6.1							
ZALV				PcP		**PcP**	**16 48 56.1**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=165,slow=5.8,SNR=2.4							
ZALV				ScP		**ScP**	**16 52 28.7**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=171,slow=3.9,SNR=5.3							
ZALV	**Zalesovo Beam**	**30.21**	**349**	P		**P**	**16 45 57.1**	**+0.4**
ZALV						**PcP**	**16 48 54.0**	**-1.5**
MDSI	**Maura Dua**	**30.38**	**161**	P		**P**	**16 45 57.5**	**-1.0**
	comp=Z,32nm,0.9s							
BRZS	**Berezniki**	**30.52**	**332**	⇓ *i* P		**P**	**16 46 01.0**	**+1.5**
	comp=Z,23nm,1.0s,baz=332							
BRZS				LR		LR	16 58 50.6	
	comp=Z,30nm,11.8s,baz=332							
BRZS	**Berezniki**	**30.52**	**332**	*d* iP		**P**	**16 46 01.0**	**+1.5**
BRZS				pmax	pmax			
	comp=Z,23nm,1.0s							
BRZS				MLR	MLR			
	comp=Z,30nm,12.0s							
LWLI	**Liwa**	**30.85**	**161**	P		**P**	**16 46 01.3**	**-1.5**
	comp=Z,106nm,0.9s							
KSRS	**Korea Array**	**31.17**	**58**	P		**P**	**16 46 03.3**	**-2.0**
	comp=Z,0.7nm,0.5s,baz=246,slow=8.0,SNR=3.4							
KSRS				PcP		**PcP**	**16 48 57.8**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=252,slow=2.6,SNR=7.7							
KSRS				S		**S**	**16 51 01.2**	**-3.8**
	comp=Z,1.8nm,1.0s,baz=249,slow=15,SNR=5.3							
KSRS				ScP		**ScP**	**16 52 32.4**	**-1.2**
	comp=Z,2.3nm,1.0s,baz=241,slow=3.8,SNR=8.9							
KSRS				LR		LR	16 59 20.9	
	comp=Z,83nm,21.3s,baz=254,slow=38							
MTKI	**Muara Teweh, K**	**32.14**	**139**	P		**P**	**16 46 15.2**	**+1.1**
	comp=Z,24nm,1.1s							
JNU	**Nakatsue**	**32.80**	**67**	P		**P**	**16 46 17.6**	**-2.1**
	comp=Z,4.5nm,0.8s,baz=236,slow=3.6,SNR=1.9							
JNU	**Nakatsue**	**32.80**	**67**	P		**P**	**16 46 17.2**	**-2.6**
JNU				IAmb	IAmb		16 46 34.0	
	comp=Z,41nm,1.5s							
GEYT	**Alibeck**	**33.65**	**302**	P		**P**	**16 46 29.8**	**+2.7**
	comp=Z,1.7nm,0.5s,baz=134,slow=6.4,SNR=6.2							
GEYT				pP		**pP**	**16 46 48.7**	**+1.2**
	comp=Z,11nm,0.9s,baz=90,slow=6.2,SNR=9.4							
GEYT				ScP		**ScP**	**16 52 42.6**	**+0.5**
	comp=Z,5.9nm,0.6s,baz=172,slow=4.3,SNR=10							
GEYT				LR		LR	17 03 09.3	
	comp=Z,132nm,19.4s,baz=100,slow=41							
BVAR	**Borovoye Array**	**33.75**	**334**	ScP		**ScP**	**16 52 42.5**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=153,slow=4.2,SNR=16							
BVAR				LR		LR	17 02 23.9	
	comp=Z,225nm,20.8s,baz=128,slow=40							
BRVK	**Borovoye**	**33.81**	**334**	*de*P		**P**	**16 46 28.8**	**+0.6**
BRVK				pmax	pmax			
	comp=Z,12nm,1.0s							
BRVK	**Borovoye**	**33.81**	**334**	P		**P**	**16 46 29.1**	**+0.9**
BRVK				IAmb	IAmb		16 46 39.6	
	comp=Z,9.6nm,0.6s							
BBKI	**Banjar Baru**	**34.15**	**142**	P		**P**	**16 46 33.1**	**+1.5**
	comp=Z,104nm,0.9s							
CISI	**Cisompet, Garu**	**34.47**	**156**	P		**P**	**16 46 35.5**	**+1.2**
SMRI	**Semarang**	**35.05**	**152**	P		**P**	**16 46 41.5**	**+2.2**
	comp=Z,215nm,0.9s							
BOD	**Bodaibo**	**36.01**	**18**	*e*P		**P**	**16 46 47.8**	**+0.8**
BOD				pmax	pmax			
	comp=Z,10.0nm,1.3s							
USA0B	**Ussuriysk Arra**	**36.15**	**48**	*i* P		**P**	**16 46 47.2**	**-1.3**
USRK	**Ussuriysk Ar.**	**36.15**	**48**	P		**P**	**16 46 46.9**	**-1.6**
	comp=Z,2.8nm,0.8s,baz=265,slow=7.2,SNR=4.2							
USRK				LR		LR	17 02 23.0	
	comp=Z,62nm,20.1s,baz=233,slow=38							
USRK	**Ussuriysk Ar.**	**36.15**	**48**	P		**P**	**16 46 45.9**	**-2.6**
USRK	**Ussuriysk Ar.**	**36.15**	**48**	P		**P**	**16 46 45.9**	**-2.6**
ABKAR	**Akbulak array**	**36.53**	**321**	P		**P**	**16 46 53.0**	**+1.4**
KMSI	**Cibinong**	**37.16**	**126**	P		**P**	**16 46 58.1**	**+0.8**
	comp=Z,80nm,1.1s							
SPSI	**Sidrap Palu**	**37.51**	**136**	P		**P**	**16 47 01.3**	**+1.0**
	comp=Z,834nmcomp=Z,65nm,1.2s							
KLR	**Kul'dur**	**38.01**	**40**	P		**P**	**16 47 02.8**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=225,slow=13,SNR=2.1							
KLR				PcP		**PcP**	**16 49 15.4**	**-2.6**
	comp=Z,0.7nm,0.5s,baz=246,slow=4.5,SNR=3.6							
KLR				LR		LR	17 04 15.2	
	comp=Z,62nm,20.1s,baz=195,slow=39							
KLR	**Kul'dur**	**38.01**	**40**	*i* P		**P**	**16 47 03.1**	**-1.0**
KLR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
JAGI	**Jajag, Banyuwa**	**38.02**	**147**	P		**P**	**16 47 04.4**	**-0.1**
BNSI	**Bone**	**38.06**	**136**	P		**P**	**16 47 05.5**	**+0.6**
	comp=Z,51nm,1.1s							
AKTO	**Aktyubinsk**	**38.20**	**322**	LR		LR	17 04 23.3	
	comp=Z,113nm,20.4s,baz=124,slow=38							
KAPI	**Kappang**	**38.31**	**137**	P		**P**	**16 47 06.9**	**-0.1**
	comp=Z,16nm,0.7s,baz=340,slow=6.0,SNR=7.2							
KAPI				LR		LR	17 05 15.5	
	comp=Z,105nm,18.3s,baz=314,slow=40							
KAPI	**Kappang**	**38.31**	**137**	P		**P**	**16 47 06.9**	**-0.1**
KAPI				pmax	pmax			
	comp=Z,21nm,0.8s							
KAPI	**Kappang**	**38.31**	**137**	P		**P**	**16 47 06.9**	**-0.1**
KAPI				IAmb	IAmb		16 47 08.0	
	comp=Z,21nm,0.8s							
MJB9	**Matsu-Tunnel**	**39.12**	**62**	P		**P**	**16 47 11.3**	**-2.4**
MAJO	**Matsushiro**	**39.12**	**62**	*i* P		**P**	**16 47 11.3**	**-2.4**
MAJO				pmax	pmax			
	comp=Z,7.0nm,0.9s							
MAJO	**Matsushiro**	**39.12**	**62**	P		**P**	**16 47 11.5**	**-2.1**
MAT	**Matsushiro**	**39.12**	**62**	P		**P**	**16 47 11.3**	**-2.4**
MAT				*e*S		**S**	**16 53 04.4**	**-2.7**
MJAR	**Matsushiro Arr**	**39.12**	**62**	P		**P**	**16 47 11.9**	**-1.8**
	comp=Z,7.7nm,1.0s,baz=266,slow=10,SNR=22							
MJAR				PcP		**PcP**	**16 49 21.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=248,slow=0.9,SNR=4.2							
MJAR				ScP		**ScP**	**16 53 00.5**	**-1.9**
	comp=Z,2.1nm,1.0s,baz=257,slow=6.3,SNR=6.0							
MJAR	**Matsushiro Arr**	**39.12**	**62**	P		**P**	**16 47 11.7**	**-2.0**
SVE	**Sverdlovsk**	**40.45**	**332**	⇑ *e*P		**P**	**16 47 26.1**	**+1.8**
SVE				pmax	pmax			
	comp=Z,28nm,0.8s							
ARU	**Arti**	**41.12**	**330**	LR		LR	17 06 47.4	
	comp=Z,192nm,20.2s,baz=56,slow=39							
ARU	**Arti**	**41.12**	**330**	*c* iP		**P**	**16 47 30.8**	**+0.9**
ARU							16 49 04.6	
ARU				PPP		PPP	16 49 35.7	
ARU				S		**S**	**16 53 43.4**	**+7.0**
ARU				SS		**SS**	**16 56 44.6**	**+2.6**
ARU				pmax	pmax			
	comp=Z,17nm,1.3s							
ARU				MLR	MLR			
	comp=Z,163nm,18.0s							
ARU	**Arti**	**41.12**	**330**	P		**P**	**16 47 30.9**	**+1.0**
WBSI	**Waikabubak, Su**	**41.77**	**142**	P		**P**	**16 47 34.2**	**-1.5**
	comp=Z,1μmcomp=Z,184nm,0.9s							
NLAI	**Namlea**	**42.01**	**127**	P		**P**	**16 47 38.9**	**+1.3**
	comp=Z,51nm,0.8s							
AKT	**Akhty**	**42.17**	**305**	*e*P		**P**	**16 47 40.4**	**+1.6**
AKT				*e**PP		**pP**	**16 48 00.5**	**+0.6**
AKT				*e**SP		**sP**	**16 48 15.4**	**+5.4**
AKT				*e*			16 49 21.9	
AKT				pmax	pmax			
	comp=Z,25nm,1.6s							
MMRI	**Maumere**	**42.66**	**137**	P		**P**	**16 47 42.1**	**-0.8**
	comp=Z,173nm,0.8s							
MMRI	**Maumere**	**42.66**	**137**	P		**P**	**16 47 41.6**	**-1.2**
JCJ	**Chichijima**	**42.74**	**76**	LR		LR	17 05 43.3	
	comp=Z,64nm,21.1s,baz=132,slow=36							
AAI	**Ambon**	**43.12**	**126**	P		**P**	**16 47 47.3**	**+0.7**
	comp=Z,105nm,0.6s							
ASAJ	**Asahikawa**	**43.49**	**51**	P		**P**	**16 47 47.3**	**-2.0**
	comp=Z,4.3nm,0.8s,baz=286,slow=5.1,SNR=4.2							
JKA	**Kamikawa-asahi**	**43.49**	**51**	P		**P**	**16 47 47.2**	**-2.1**
GROC	**Groznyy**	**43.85**	**307**	*e*P		**P**	**16 47 54.0**	**+1.8**
GROC				*e**PP		**sP**	**16 48 20.2**	**-3.2**
GROC				*e*			16 49 37.7	
GROC				pmax	pmax			
	comp=Z,40nm,1.1s							
YSS	**Yuzh-Sakhalins**	**44.18**	**47**	*e*P		**P**	**16 47 53.2**	**-1.5**
YSS				*e*			16 48 26.4	
YSS				*e*			16 50 17.8	
YSS				MLR	MLR			
	comp=Z,100nm,16.0s							
YAK	**Yakutsk**	**44.28**	**23**	P		**P**	**16 47 55.2**	**0.0**
	comp=Z,7.1nm,0.6s,baz=47,slow=2.1,SNR=13							
YAK				PcP		**PcP**	**16 49 38.4**	**+0.3**
	comp=Z,4.5nm,0.6s,baz=247,slow=4.2,SNR=2.8							
YAK	**Yakutsk**	**44.28**	**23**	*e*P		**P**	**16 47 55.1**	**-0.2**
YAK				*e**PP		**pP**	**16 48 17.4**	**+1.0**
YAK				*e*			16 49 36.9	
YAK				*e*			16 49 39.9	
YAK				*e*PPP		PPP	16 50 18.6	
YAK				*e*S		**S**	**16 54 21.6**	**-0.8**
YAK				*e*			16 57 39.4	
YAK				*e*SSS		SSS	16 58 31.8	
YAK				pmax	pmax			
	comp=Z,16nm,0.9s							
YAK				pmax	pmax			
	comp=N,7.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,8.0nm,1.3s							
YAK				pmax	pmax			
	comp=Z,7.0nm,1.4s							
YAK				pmax	pmax			
	comp=N,9.0nm,1.6s							
YAK				pmax	pmax			
	comp=E,9.0nm,1.4s							
YAK				smax	smax			
	comp=N,33nm,1.7s							
YAK				smax	smax			
	comp=E,19nm,1.5s							
BATI	**Baumata**	**44.76**	**137**	P		**P**	**16 47 58.2**	**-1.5**
	comp=E,128nm,0.7s,baz=308,slow=1.2,SNR=30							
BATI	**Baumata**	**44.76**	**137**	P		**P**	**16 47 58.1**	**-1.6**
	comp=E,97nm,0.8s							
SOEI	**Soe**	**44.79**	**136**	P		**P**	**16 47 58.8**	**-1.3**
	comp=E,2μmcomp=E,342nm,0.9s							
SOEI	**Soe**	**44.79**	**136**	P		**P**	**16 47 59.0**	**-1.1**
NRIK	**Noril'sk**	**44.96**	**356**	P		**P**	**16 48 00.8**	**+0.2**
	comp=E,1.4nm,0.3s,baz=126,slow=4.5,SNR=5.1							
NRIK				LR		LR	17 08 57.8	
	comp=E,58nm,18.4s,baz=193,slow=39							
NRIK	**Noril'sk**	**44.96**	**356**	⇓ *e*P		**P**	**16 48 01.1**	**+0.5**
NRIK				pmax	pmax			
	comp=Z,18nm,2.7s							
ZEI	**Tsey**	**45.17**	**307**	*e*P		**P**	**16 48 02.4**	**-0.6**
ZEI				pmax	pmax			
	comp=Z,15nm,0.9s							
FAKI	**Fak Fak**	**45.69**	**121**	P		**P**	**16 48 06.4**	**-0.8**
KBZ	**Khabaz**	**46.02**	**308**	P		**P**	**16 48 09.4**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=72,slow=3.2,SNR=2.8							
KBZ				LR		LR	17 10 35.8	
	comp=Z,71nm,19.5s,baz=68,slow=40							
KBZ	**Khabaz**	**46.02**	**308**	*ce*P		**P**	**16 48 10.1**	**+0.8**
KBZ				pmax	pmax			
	comp=Z,3.0nm,1.1s							
KIV	**Kislovodsk**	**46.20**	**308**	*e*P		**P**	**16 48 12.6**	**+1.7**
KIV				pmax	pmax			
	comp=Z,33nm,1.1s							
KIV				MLR	MLR			
	comp=Z,144nm,16.0s							
KIRV	**Kirov**	**46.46**	**329**	⇑ *e*P		**P**	**16 48 14.4**	**+1.9**
GUMO	**Guam**	**48.55**	**93**	LR		LR	17 10 27.1	
	comp=Z,42nm,18.7s,baz=306,slow=38							
PRGR	**Permogore**	**49.52**	**332**	*e*P		**P**	**16 48 36.3**	**+0.2**
PRGR				*e*			16 48 55.0	
PRGR				*e*S		**S**	**16 55 33.6**	**-3.4**
PRGR				pmax	pmax			
	comp=Z,15nm,0.6s							
ANN	**Anapa**	**50.03**	**309**	*e*P		P	16 48 34.1	-6.1
ANN				*e*			16 50 33.1	
ANN				*e*S		**S**	**16 55 39.6**	**-5.0**

AKASG **Malin Array Be** 55.88 316 P P 16 49 23.3 +0.1
comp=Z,0.7nm,0.3s,baz=82,slow=6.8,SNR=7.4
AKASG pP **pP** 16 49 44.6 -0.6
comp=Z,10nm,0.7s,baz=76,slow=6.7,SNR=6.2
AKASG LR LR 17 17 57.6
comp=Z,50nm,18.4s,baz=90,slow=41
AKASG Malin Array Be 55.88 316 *i* P P 16 49 23.1 0.0
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 55.88 316 *ce*P P 16 49 23.3 +0.2
AKBB pmax pmax
comp=Z,2.0nm,0.7s
ELL Elmali 55.97 299 P P 16 49 25.3 +1.1
ELL pmax pmax
comp=Z,80nm,0.8s
ELL Elmali 55.97 299 P P 16 49 25.3 +1.1
APA Apatity 56.58 336 *i* P P 16 49 35.0 +7.1
APA pmax pmax
comp=Z,6.0nm,1.4s
CFR Carcaliu 56.62 309 ⇓P P 16 49 29.7 +1.2
MORW Morawa 57.21 158 P P 16 49 32.3 -0.5
MORW IAmb IAmb 16 49 33.7
comp=Z,18nm,0.9s
VRI Vrincioaia 57.58 310 ⇓P P 16 49 36.9 +1.5
TESR Tescani 57.60 311 ⇑P P 16 49 35.9 +0.4
PLOR Plostina 57.64 310 ⇓P P 16 49 37.4 +1.6
MLR Muntele Rosu 58.15 310 ⇑P P 16 49 41.2 +1.7
FINES FINESS Array B 58.44 328 P P 16 49 42.2 +1.2
comp=Z,6.5nm,0.6s,baz=86,slow=4.9,SNR=21
FINES pP **pP** 16 50 03.6 +0.4
comp=Z,6.1nm,0.6s,baz=97,slow=7.9,SNR=6.9
FINES LR LR 17 18 36.0
comp=Z,37nm,18.2s,baz=93,slow=40
FINES FINESS Array B 58.44 328 *ce*P P 16 49 45.2 +4.2
FINES pmax pmax
comp=Z,7.0nm,0.6s
FINES FINESS Array B 58.44 328 P P 16 49 42.0 +1.0
DOPR Dopca 58.51 310 ⇓P P 16 49 42.7 +0.9
BURAR Bucovina Array 58.53 312 ⇑P P 16 49 42.9 +0.8
WB0 Warramunga Arr 58.72 135 P P 16 49 43.4 -0.2
VOIR 58.78 310 ⇑P P 16 49 44.9 +1.1
VOIR 58.78 310 P P 16 49 44.9 +1.1
WRA Warramunga Arr 58.81 135 P P 16 49 43.8 -0.4
comp=Z,29nm,0.5s,baz=323,slow=7.4,SNR=350
WRA Warramunga Arr 58.81 135 P P 16 49 43.6 -0.6
WRAB Tennant Creek 58.81 135 *ce*P P 16 49 44.1 -0.1
WRAB pmax pmax
comp=Z,72nm,1.3s
WRAB Tennant Creek 58.81 135 P P 16 49 44.0 -0.1
WB2 Warramunga Arr 58.82 135 P P 16 49 44.2 -0.1
WR0 Warramunga Arr 58.95 135 P P 16 49 44.8 -0.4
SGF Sodankyl 59.12 335 P P 16 49 46.9 +1.2
SGF pmax pmax
comp=Z,21nm,0.7s
LVV L'vov 59.21 315 *e*P P 16 49 47.3 +0.7
SUW Suwalki 59.62 320 P P 16 49 53.4 +4.1
SUW pmax pmax
comp=Z,48nm,1.6s
ARCES ARCESS Array B 59.88 338 P P 16 49 52.2 +1.3
comp=Z,6.1nm,0.6s,baz=96,slow=7.2,SNR=20
ARCES LR LR 17 19 07.2
comp=Z,63nm,19.9s,baz=330,slow=39
ARCES ARCESS Array B 59.88 338 P P 16 49 52.3 +1.4
ARCES ARCESS Array B 59.88 338 P P 16 49 52.3 +1.4
KWP Kalwaria Pacla 60.08 315 P P 16 49 54.1 +1.5
KWP pmax pmax
comp=Z,40nm,1.5s
KWP Kalwaria Pacla 60.08 315 P P 16 49 54.0 +1.5
VAF Ylistaro 60.17 330 P P 16 49 54.8 +1.9
VAF pmax pmax
comp=Z,21nm,1.1s
VTS Vitosha 60.37 306 ⇑P P 16 49 54.5 -0.3
VTS Vitosha 60.37 306 P P 16 49 56.8 +1.9
VTS pmax pmax
comp=Z,11nm,1.9s
UZH Uzhgorod 60.42 313 *e*P P 16 49 54.1 -0.8
UZH *e* 16 50 15.3
CRVS Cervenica-Dubn 60.95 314 *e*P P 16 50 01.9 +3.4
CRVS Cervenica-Dubn 60.95 314 *e*P P 16 50 01.9 +3.4
KMBO Kilima Mbogo 61.08 254 P P 16 50 02.7 +2.5
comp=Z,3.4nm,0.9s,baz=20,slow=6.0,SNR=4.3
KMBO Kilima Mbogo 61.08 254 *ce*P P 16 50 03.9 +3.7
KMBO pmax pmax
comp=Z,3.0nm,0.9s
NWAO Narrogin (SRO) 61.15 158 P P 16 49 59.3 -0.6
comp=Z,14nm,0.7s,baz=340,slow=6.2,SNR=15
NWAO Narrogin (SRO) 61.15 158 P P 16 49 59.5 -0.4
NWAO pmax pmax
comp=Z,20nm,0.9s
NWAO Narrogin (SRO) 61.15 158 P P 16 49 59.5 -0.4
NWAO IAmb IAmb 16 50 01.0
comp=Z,20nm,0.8s
NWAO Narrogin (SRO) 61.15 158 P P 16 49 59.5 -0.4
NWAO IAmb IAmb 16 50 01.0
comp=Z,16nm,0.8s
MDVR Moldovita 61.20 309 ⇑P P 16 50 02.0 +1.7
AS31 Alice Springs 61.30 138 P P 16 50 01.2 +0.1
AS31 IAmb IAmb 16 50 02.2
comp=Z,11nm,0.6s
ASAR Alice Springs 61.30 138 P P 16 50 00.9 -0.2
comp=Z,31nm,0.7s,baz=321,slow=6.9,SNR=534
ASAR PcP **PcP** 16 50 42.0 -0.8
comp=Z,3.9nm,0.6s,baz=320,slow=3.9,SNR=5.5
ASAR PKiKP **PKiKP** 16 56 56.8 -1.4
comp=Z,0.2nm,0.7s,baz=354,slow=0.7,SNR=5.0
ASAR PKP2bc 17 19 24.8
comp=Z,2.0nm,1.1s,baz=123,slow=2.4,SNR=8.7
ASAR LR LR 17 20 05.6
comp=Z,62nm,18.0s,baz=289,slow=39
ASAR Alice Springs 61.30 138 P P 16 50 01.3 +0.1
ASAR Alice Springs 61.30 138 P P 16 50 01.3 +0.1
PMG Port Moresby 61.42 117 *ce*P P 16 50 02.4 +0.3
PMG pmax pmax
comp=Z,31nm,1.0s
PMG Port Moresby 61.42 117 P P 16 50 02.3 +0.1
NIE Niedzica 61.66 314 P P 16 50 05.3 +2.0
NIE pmax pmax
comp=Z,8.0nm,1.5s
VYHS Vyhne 62.72 314 *e*P P 16 50 11.0 +0.6
VYHS Vyhne 62.72 314 *e*P P 16 50 11.0 +0.6
OPO Ambohidratompo 63.01 232 P P 16 50 13.7 +0.9
comp=Z,8.3nm,1.1s,baz=67,slow=6.5,SNR=5.0
MORC Moravsky Berou 63.40 315 ⇑P P 16 50 17.4 +2.4
MORC Moravsky Berou 63.40 315 *e*P P 16 50 18.0 +3.0
MORC *ep*P **pP** 16 50 36.8 -0.6
MORC Moravsky Berou 63.40 315 P P 16 50 17.2 +2.2
MORC pmax pmax
comp=Z,12nm,1.6s
JAVC Velka Javorina 63.44 314 *ep*P pP 16 50 37.5 -0.2
FORT Forrest 63.73 148 P P 16 50 17.2 +0.1
FORT IAmb IAmb 16 50 18.3
comp=Z,21nm,0.9s
KSP Ksiaz 64.06 316 P P 16 50 21.6 +2.4
KSP pmax pmax
comp=Z,17nm,1.5s
VRAC Vranov 64.08 315 ⇓P P 16 50 21.1 +1.7
VRAC Vranov 64.08 315 *ep*P pP 16 50 41.9 0.0
VRAC Vranov 64.08 315 P P 16 50 21.6 +2.2
VRAC pmax pmax
comp=Z,15nm,1.1s
KRUC Moravsky 64.24 314 *e*P P 16 50 23.2 +2.8
KRUC *ep*P **pP** 16 50 42.0 -0.9
KRUC Moravsky 64.24 314 P P 16 50 21.7 +1.3
KRUC pmax pmax
comp=Z,12nm,1.6s
CHVC Chvalec 64.24 316 *e*P P 16 50 22.7 +2.3
KOGS Kog 64.75 312 *ep*P pP 16 50 46.0 -0.3
CONA Conrad Observa 64.77 313 *e*P P 16 50 23.6 -0.4
comp=Z,1.5nm,0.7s
ARSA Arzberg 65.11 312 *e*P P 16 50 26.8 +0.7
comp=Z,0.8nm,0.4s
GROS Grobnik 65.26 312 *ep*P pP 16 50 48.9 -0.8
PRU Pruhonice 65.29 316 P P 16 50 27.8 +0.6
PRU pmax pmax
comp=Z,5.0nm,1.4s
NC405 NORSAR Array S 65.36 328 P P 16 50 28.1 +0.6
NC405 IAmb IAmb 16 50 33.4
comp=Z,17nm,0.8s
NORES NORESS Array B 65.49 328 P P 16 50 32.7 +4.4
NORES pmax pmax
comp=Z,6.0nm,0.4s
BRG Berggiesshubel 65.53 317 *e*P P 16 50 29.3 +0.6
comp=Z,3.4nm,1.0s
BRG *i* pP **pP** 16 50 50.6 -0.7
comp=Z,29nm,1.5s
BRG Berggiesshubel 65.53 317 *e*P P 16 50 29.3 +0.6
BRG *i* *PP **pP** 16 50 50.6 -0.7
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG pmax pmax
comp=Z,29nm,1.5s
SOKA Soboth 65.54 312 *i* P P 16 50 29.6 +0.7
comp=Z,1.5nm,0.5s
NB2 NORSAR Subarra 65.61 328 P P 16 50 29.3 +0.2
comp=Z,5.3nm,0.7s,baz=82,slow=6.5
NB2 NORSAR Subarra 65.61 328 P P 16 50 29.7 +0.6
NB2 pmax pmax
comp=Z,221nm,2.8s
NOA NORSAR Array B 65.61 328 P P 16 50 29.8 +0.6
comp=Z,3.2nm,0.5s,baz=83,slow=6.3,SNR=18
NOA pP **pP** 16 50 50.8 -0.9
comp=Z,4.9nm,0.6s,baz=84,slow=6.5,SNR=7.0
NOA LR LR 17 21 40.1
comp=Z,101nm,20.5s,baz=80,slow=38
NC204 NORSAR Array S 65.80 328 P P 16 50 31.2 +0.8
NC204 IAmb IAmb 16 50 36.0
comp=Z,17nm,0.6s
MOA Molln 65.84 313 *i* P P 16 50 31.6 +0.8
comp=Z,2.3nm,0.5s
LJU Ljubljana 66.00 311 *ep*P pP 16 50 54.4 0.0
GEC2 GERESS Array S 66.03 314 P P 16 50 32.1 0.0
GERES GERESS Array B 66.03 314 P P 16 50 32.8 +0.7
comp=Z,1.6nm,0.5s,baz=64,slow=6.3,SNR=17
GERES pP **pP** 16 50 55.1 +0.4
comp=Z,4.5nm,0.8s,baz=87,slow=6.8,SNR=5.8
GERES LR LR 17 22 52.5
comp=Z,49nm,20.3s,baz=90,slow=39
CLL Collm 66.04 317 *e*(P) P 16 50 35.0 +3.0
CLL *i* pP **pP** 16 50 53.7 -0.9
comp=Z,14nm,1.3s
CLL *e* 16 52 47.0
CLL *ePP* **PP** 16 52 57.0 -1.1
CLL *e* 16 53 37.0
CLL Collm 66.04 317 *e*P P 16 50 38.0 +6.0
KHC Kasperske Hory 66.06 315 *e*P P 16 50 32.9 +0.7
KHC *e**PP **pP** 16 50 55.0 +0.2
KHC Kasperske Hory 66.06 315 *e*P P 16 50 32.9 +0.7
KHC *ep*P **pP** 16 50 55.0 +0.2
WET Wettzell 66.51 315 P P 16 50 36.3 +1.2
WET pmax pmax
comp=Z,14nm,1.8s
MBAR Mbarara 66.59 258 P P 16 50 37.0 +0.7
comp=Z,1.5nm,0.4s,baz=53,slow=15,SNR=4.7
MBAR pP **pP** 16 50 59.4 +0.6
comp=Z,7.4nm,0.8s,baz=46,slow=11,SNR=5.3
MBAR Mbarara 66.59 258 *ce*P P 16 50 38.3 +2.0
MBAR pmax pmax
comp=Z,4.0nm,1.3s
CTAO Charters Tower 67.11 127 P P 16 50 39.2 0.0
CTAO pmax pmax
comp=Z,28nm,1.2s
CTAO Charters Tower 67.11 127 P P 16 50 39.2 0.0
CTAO IAmb IAmb 16 50 40.6
comp=Z,28nm,1.2s
WTTA Wattenberg 67.70 313 *i* P P 16 50 42.7 -0.1
comp=Z,1.9nm,0.4s
SQTA Sankt Quirin 68.00 313 *i* P P 16 50 44.6 0.0
comp=Z,2.4nm,0.3s
MOTA Moosalm 68.04 313 *i* P P 16 50 45.1 +0.1
comp=Z,2.5nm,0.6s
FETA Feichten 68.36 313 *i* P P 16 50 46.9 -0.1
comp=Z,0.8nm,0.3s
NOR Nord 68.85 352 P P 16 50 51.1 +1.9
NOR pmax pmax
comp=Z,8.0nm,1.6s
BBOO Buckleboo 69.45 143 P P 16 50 53.2 -0.4
BBOO IAmb IAmb 16 50 53.8
comp=Z,31nm,0.9s
CDF Champ du Feu 70.28 315 *e*P P 16 50 58.7 0.0
CDF pmax pmax
comp=Z,6.0nm,1.0s
WLF Walferdange 70.67 317 pP pP 16 51 24.6 +0.8
HAU Haudompre 70.99 315 *e*P P 16 51 03.0 +0.1
HAU pmax pmax
comp=Z,3.0nm,0.6s
LPG La Plagne 71.42 312 *e*P P 16 51 06.3 +0.4
LPG pmax pmax
comp=Z,5.0nm,0.7s
LPL La Plagne 71.42 312 *e*P P 16 51 06.2 +0.4
LPL pmax pmax
comp=Z,2.0nm,0.4s
CABF La Chapelle 71.55 313 *e*P P 16 51 06.5 +0.1
CABF pmax pmax
comp=Z,16nm,1.4s
MBDF Montbardon 71.62 311 *e*P P 16 51 09.1 +2.1
MBDF pmax pmax
comp=Z,33nm,1.8s
STKA Stephens Creek 71.92 139 P P 16 51 08.0 -0.6
comp=Z,16nm,0.9s,baz=322,slow=7.7,SNR=25
STKA Stephens Creek 71.92 139 P P 16 51 07.8 -0.8
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA Stephens Creek 71.92 139 P P 16 51 07.8 -0.8
ORIF Oris-en-Rattie 72.17 312 *e*P P 16 51 10.3 +0.1
ORIF pmax pmax
comp=Z,12nm,1.2s
KEST Kesra 72.39 302 P P 16 51 12.4 +0.7
comp=Z,4.7nm,0.8s,baz=258,slow=2.0,SNR=5.0
KEST pP **pP** 16 51 35.2 +0.6
comp=Z,18nm,1.0s,baz=248,slow=0.2,SNR=8.3
A21K Barrow 72.72 19 P P 16 51 14.3 +1.5
baz=296
LOR Lormes 72.81 315 *e*P P 16 51 13.5 -0.4
LOR pmax pmax
comp=Z,20nm,1.6s
AVF Avril sur Loir 73.29 314 *e*P P 16 51 16.7 +0.1
AVF pmax pmax
comp=Z,10.0nm,1.2s
TCF Toulx Ste Croi 74.20 314 *e*P P 16 51 22.5 +0.5
TCF pmax pmax
comp=Z,19nm,1.6s
EKA Eskdalemuir Ar 74.35 324 P P 16 51 22.6 0.0
CAF Calviac 74.74 313 *e*P P 16 51 25.7 +0.5
CAF pmax pmax
comp=Z,10.0nm,1.2s
MFF Saint Martin d 75.62 315 *e*P P 16 51 34.0 +3.8
MFF pmax pmax
comp=Z,16nm,1.4s
LSZ Lusaka 75.89 246 P P 16 51 33.6 +1.4
comp=Z,5.3nm,0.4s,baz=52,slow=5.3,SNR=24
LSZ Lusaka 75.89 246 P P 16 51 32.2 0.0
LSZ pmax pmax
comp=Z,12nm,1.0s
LSZ Lusaka 75.89 246 P P 16 51 32.2 0.0
IMAR Indian Mountai 76.12 23 P P 16 51 33.1 +0.4
TOLK Toolik Lake Re 76.14 20 P P 16 51 33.8 +1.0
baz=302
TOLK Toolik Lake Re 76.14 20 P P 16 51 33.8 +1.0
SGMF Saint Gilles 76.56 317 *e*P P 16 51 39.4 +4.0
SGMF pmax pmax
comp=Z,29nm,1.4s
COLD Coldfoot 76.70 21 P P 16 51 36.7 +0.8
baz=302
COLD Coldfoot 76.70 21 P P 16 51 35.4 -0.5
COLD IAmb IAmb 16 51 37.6
comp=Z,16nm,1.2s
ETSF Etsaut 77.23 311 *e*P P 16 51 40.0 +0.6
ETSF pmax pmax
comp=Z,14nm,1.4s
SVW2 Sparrevohn 77.79 28 P P 16 51 42.2 +0.1
SVW2 IAmb IAmb 16 51 43.7
comp=Z,16nm,0.9s
SUMG Summit 78.02 347 P P 16 51 44.2 +0.5
SUMG pmax pmax
comp=Z,29nm,0.9s
SUMG Summit 78.02 347 P P 16 51 44.2 +0.5
SUMG IAmb IAmb 16 51 48.4
comp=Z,29nm,0.9s
BPAW Bear Paw Mtn. 78.10 24 IAmb IAmb 16 51 46.2
comp=Z,20nm,0.9s
TOO Toolangi 78.19 141 P P 16 51 45.0 +0.4
TOO pmax pmax
comp=Z,17nm,1.5s
PPLA Purkeypile 78.27 25 IAmb IAmb 16 51 46.2
comp=Z,34nm,1.1s
NEA2 Nenana 78.53 23 P P 16 51 46.2 +0.1
baz=304
TCOL CIGO, UAF Yank 78.80 23 P P 16 51 48.0 +0.5
baz=305
POKR Poker Plat Res 78.81 22 P P 16 51 48.3 +0.7
baz=305
SKT Skwentna 79.02 26 IAmb IAmb 16 51 49.8
comp=Z,36nm,1.0s
MCK McKinley 79.06 24 P P 16 51 49.5 +0.4
MCK pmax pmax
comp=Z,15nm,1.0s
MCK McKinley 79.06 24 P P 16 51 49.5 +0.4
MCK IAmb IAmb 16 51 50.5
comp=Z,15nm,1.0s
IL31 79.20 23 P P 16 51 49.3 -0.4
IL31 IAmb IAmb 16 51 50.6
comp=Z,13nm,0.9s
ILAR Eielson Array 79.20 23 P P 16 51 49.1 -0.7
comp=Z,12nm,0.9s,baz=298,slow=5.2,SNR=59
ILAR LR LR 17 29 38.9
comp=Z,30nm,20.3s,baz=312,slow=38
ILAR Eielson Array 79.20 23 P P 16 51 49.2 -0.6
RND Reindeer 79.27 24 P P 16 51 48.7 -1.6
RND pmax pmax
comp=Z,29nm,1.2s
RND Reindeer 79.27 24 P P 16 51 48.7 -1.6
RND IAmb IAmb 16 51 50.6
comp=Z,30nm,1.2s
CUT Chulitna 79.29 25 P P 16 51 50.0 -0.3
baz=303
HDA Harding Lake 79.39 23 P P 16 51 49.8 -1.0
baz=306
A36M Sachs Harbour 79.88 12 P P 16 51 53.5 +0.3
baz=324
GHO Glory Hole Cre 80.17 26 IAmb IAmb 16 51 58.8
comp=Z,24nm,1.0s
RIDG Independent Ri 80.53 23 IAmb IAmb 16 51 57.9
comp=Z,28nm,0.8s
KDAK Kodiak Island 80.79 30 P P 16 51 57.6 -0.9
comp=Z,14nm,0.7s,baz=282,slow=3.9,SNR=11
KDAK Kodiak Island 80.79 30 P P 16 51 57.6 -0.9
KDAK pmax pmax
comp=Z,65nm,1.4s
KDAK Kodiak Island 80.79 30 P P 16 51 57.6 -0.9
ESDC Sonseca Array 80.85 309 P P 16 52 00.1 +0.9
comp=Z,1.2nm,1.1s,baz=40,slow=5.0,SNR=3.9
ESDC pP **pP** 16 52 22.1 -0.5
comp=Z,1.4nm,0.8s,baz=38,slow=6.3,SNR=4.6
ESDC Sonseca Array 80.85 309 P P 16 51 59.4 +0.2
INK Inuvik 80.91 16 P P 16 51 59.2 +0.4
comp=Z,50nm,0.9s,baz=336,slow=4.0,SNR=59
INK Inuvik 80.91 16 P P 16 51 59.5 +0.7
INK pmax pmax
comp=Z,66nm,1.0s
K27K Chicken 81.31 22 P P 16 52 02.1 +1.0
baz=310
KLU Klutina 81.50 25 P P 16 52 02.4 +0.1
KLU IAmb IAmb 16 52 04.2
comp=Z,41nm,1.1s
BCAR Beaver Creek A 82.03 23 P P 16 52 06.2 +1.2
DAWY Dawson 82.18 21 IAmb IAmb 16 52 07.8
comp=Z,32nm,1.2s
C36M Palatuk 82.27 13 P P 16 52 06.4 +0.4
baz=325
GLB Gilahina Butte 82.33 24 IAmb IAmb 16 52 08.1
comp=Z,22nm,1.0s
LBTB Lobatse 82.96 239 P P 16 52 12.1 +1.6
comp=Z,9.7nm,0.4s,baz=71,slow=4.2,SNR=43
LBTB Lobatse 82.96 239 P P 16 52 12.2 +1.7
LBTB pmax pmax
comp=Z,32nm,1.2s
LBTB Lobatse 82.96 239 P P 16 52 12.2 +1.7
LBTB IAmb IAmb 16 52 13.0
comp=Z,32nm,1.2s
BARN Barnard Glacie 83.38 24 IAmb IAmb 16 52 14.2
comp=Z,25nm,0.8s
HYT Haines Junctio 85.04 23 IAmb IAmb 16 52 22.9
comp=Z,31nm,1.0s
BOSA Boshof 85.08 236 P P 16 52 22.4 +1.3
comp=Z,26nm,0.8s,baz=58,slow=4.9,SNR=33
BOSA Boshof 85.08 236 P P 16 52 22.5 +1.3
BOSA pmax pmax
comp=Z,27nm,0.9s
BOSA Boshof 85.08 236 P P 16 52 22.5 +1.3
BOSA IAmb IAmb 16 52 23.3
comp=Z,27nm,0.8s
WHY Whitehorse 86.07 22 IAmb IAmb 16 52 27.0
comp=Z,21nm,1.0s
TORD Torodi Ar. Bea 87.18 283 P P 16 52 32.7 +1.0
comp=Z,1.4nm,0.6s,baz=55,slow=4.1,SNR=11
TORD pP **pP** 16 52 55.1 -0.1
comp=Z,6.9nm,0.9s,baz=59,slow=4.4,SNR=16
TORD PP **PP** 16 55 55.0 -1.5
comp=Z,0.7nm,0.8s,baz=53,slow=6.2,SNR=2.2
DLBC Dease Lake 89.38 22 LR LR 17 38 44.1
comp=Z,40nm,19.8s,baz=203,slow=40
YKA Yellowknife Ar 90.15 13 P P 16 52 44.5 -0.3
comp=Z,6.4nm,0.9s,baz=336,slow=4.7,SNR=7.4
YKA LR LR 17 37 23.7
comp=Z,26nm,18.3s,baz=0.0,slow=38
AFI Afiamalu 98.94 101 LR LR 17 35 32.0
comp=Z,16nm,21.4s,baz=352,slow=34
SCHQ Schefferville 99.30 349 LR LR 17 42 35.3
comp=Z,38nm,19.7s,baz=345,slow=38
VNDA Vanda 109.12 168 PKiKP **PKiKP** 16 58 13.8 +0.5
comp=Z,0.3nm,0.6s,baz=330,slow=4.8,SNR=3.7
PDAR Pinedale Array 109.38 19 PKiKP **PKiKP** 16 58 14.8 -0.5
comp=Z,1.0nm,0.7s,baz=60,slow=0.9,SNR=6.3
PDAR PP **PP** 16 58 45.6 +0.7
comp=Z,0.4nm,0.5s,baz=356,slow=4.6,SNR=4.0
NVAR Mina Array Bea 110.15 27 Pdiff **Pdif** 16 54 15.9 +0.2
comp=Z,0.1nm,0.4s,baz=318,slow=2.6,SNR=1.5
NVAR PKiKP **PKiKP** 16 58 17.4 +0.6
comp=Z,1.0nm,0.8s,baz=348,slow=0.8,SNR=7.3
NVAR PKKPbc **PKKPbc** 17 09 20.3 +1.4
comp=Z,1.4nm,1.0s,baz=156,slow=5.4,SNR=4.7
QSPA South Pole Qui 114.40 180 PKP PKPdf 16 58 23.2 -0.4
comp=Z,4.7nm,1.0s,baz=282,slow=0.9,SNR=12
SNAA Sanae 115.44 200 PKiKP **PKiKP** 16 58 25.4 -0.2
VNA2 Neumayer--Watz 116.92 201 PKiKP **PKiKP** 16 58 28.4 +0.1
VNA1 Neumayer--Stat 117.22 201 PKiKP **PKiKP** 16 58 29.1 +0.2
ANMO Albuquerque 117.53 19 *c* *i* PKiKP **PKiKP** 16 58 31.9 +0.9
ANMO pmax pmax
comp=Z,6.0nm,1.3s
VNA3 Neumayer Olymp 117.64 201 PKiKP **PKPdf** 16 58 29.6 -0.1
V53A Saluda 120.02 358 PKPdf **PKiKP** 16 58 35.6 0.0
MIAR Mount Ida 120.68 8 PKiKP **PKiKP** 16 58 37.0 +0.1
MIAR Mount Ida 120.68 8 PKPdf **PKiKP** 16 58 37.0 +0.1
MNTX Cornudas Mount 120.87 20 PKPdf **PKiKP** 16 58 37.9 +0.5
TXAR Lajitas Array 123.60 19 PKiKP **PKiKP** 16 58 42.9 -0.1
comp=Z,4.3nm,0.7s,baz=198,slow=0.9,SNR=55
TXAR pPKP **pPKPdf** 16 59 05.8 -1.4
comp=Z,1.2nm,0.7s,baz=282,slow=0.3,SNR=3.7
TXAR Lajitas Array 123.60 19 PKiKP **PKPdf** 16 58 42.5 -0.2
TXAR Lajitas Array 123.60 19 PKPdf **PKPdf** 16 58 42.5 -0.2
ROSC El Rosal 148.81 338 PKPbc **PKiKP** 16 59 35.4 +0.5
comp=Z,41nm,0.4s,baz=7.8,slow=3.7,SNR=8.7
ROSC pPKPbc **pPKPbc** 16 59 58.2 +0.5
comp=Z,52nm,0.6s,baz=50,slow=20,SNR=3.9
CPUP Villa Florida 154.57 260 PKP **PKPdf** 16 59 38.1 +0.8
comp=Z,3.6nm,0.9s,baz=241,slow=1.1,SNR=6.2
CPUP PKPbc **PKPbc** 16 59 45.6 -0.2
comp=Z,7.6nm,0.8s,baz=83,slow=2.7,SNR=13
PLCA Paso Flores 159.65 214 PKPab **PKPab** 17 00 20.9 -1.3
comp=Z,4.1nm,0.9s,baz=119,slow=1.7,SNR=5.4
LPAZ La Paz 161.81 294 PKP **PKPdf** 16 59 47.2 +0.1
comp=Z,3.1nm,0.8s,baz=61,slow=2.2,SNR=13
LPAZ pPKP **pPKPdf** 17 00 12.4 +0.7
comp=Z,1.2nm,0.8s,baz=17,slow=6.5,SNR=2.9

TEH **16** *16:47:08.4, 28.26N×51.56E, h18km, ML3.6*
THR **16** *16:47:10.5±0.4, 28.42N×51.62E, h34km±3km, ML3.6*
IDC **16** *16:47:12.1±1.1, 29.88N×53.95E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.5/57, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=46.2km s-min=24.8km az=47.0*
DSN **16** *16:47:14.3±0.8, 28.22N×51.97E, h10km, ML3.7/6, Error ellipse: s-maj=16.9km s-min=5.4km az=18.0*
OMAN **16** *16:47:38.1±0.6, 27.12N×53.40E, h18km, ml2.9/5, Error ellipse: s-maj=5.1km s-min=2.0km az=109.0*

ISC 16 16:47:10.2±1.0, **28.29N**±0.06×**51.58E**±0.07, **h24**km, **n41, σ1s47/43, mb3.9/5, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.63**	**336**	*e*Pg	**Pb**	**16 47 21.5**	**-1.1**
GHIR	**Ghir-Karzin**	**1.24**	**90**	*e*Pg	**Pb**	**16 47 33.0**	**0.0**
GHIR				*e*Sg	**Sb**	**16 47 49.1**	**+0.5**
GHIR	**Ghir-Karzin**	**1.24**	**90**	*e*Pg	**Pb**	**16 47 33.0**	**0.0**
KAZ1	**Kazerun**	**1.34**	**2**	*e*Pg	**Pn**	**16 47 34.0**	**+0.5**

SHI	**Shiraz**	**1.58**	**31**	*e*Pg	**Pb**	**16 47 38.1**	**-0.8**
SHI				*e*		16 48 01.3	
LMD1	**Lamerd**	**1.69**	**124**	*e*Pg	**Pn**	**16 47 39.4**	**+1.1**
LMD1				*e*		16 48 39.9	
JHRM	**Jahrom**	**1.77**	**82**	*e*Pn	**Pb**	**16 47 40.5**	**-1.6**
JHRM				*e*		16 48 11.9	
IRAM	**Ramesheh**	**3.58**	**11**	*e*Pn	**Pn**	**16 48 05.3**	**+0.8**
ISAD	**Sadrabad**	**4.05**	**26**	*e*Pn	**Pn**	**16 48 12.6**	**+1.6**
IMEH	**Mehriz**	**4.06**	**40**	*e*Pn	**Pn**	**16 48 13.1**	**+2.0**
IGAR	**Gharneh**	**4.12**	**5**	*e*Pn	**Pn**	**16 48 13.0**	**+1.0**
IPIR	**Pirpir**	**4.42**	**352**	*e*Pn	**Pn**	**16 48 17.5**	**+1.3**
SHME	**Shamm**	**4.63**	**118**	P	**Pn**	**16 48 20.0**	**+1.2**
IZEF	**Zefreh**	**4.64**	**8**	*e*Pn	**Pn**	**16 48 20.6**	**+1.5**
NGRK	**Negar Kerman**	**4.71**	**72**	*e*Pn	**Pn**	**16 48 21.1**	**+1.0**
NGRK				*e*		16 49 20.5	
KHGB	**Koh Gabri**	**4.75**	**63**	*e*Pn	**Pn**	**16 48 21.7**	**+1.1**
KHGB				*e*		16 49 46.8	
IBAF	**Bafgh**	**4.78**	**45**	*e*Pn	**Pn**	**16 48 22.3**	**+1.5**
BANOM	**Banah**	**4.82**	**118**	P	**Pn**	**16 48 22.3**	**+1.0**
BANOM				S	**Sn**	**16 49 15.7**	**-0.7**
BANOM	**Banah** SNR=38	**4.82**	**118**	P	**Pn**	**16 48 22.7**	**+1.4**
TVBK	**TV Kerman**	**4.84**	**68**	*e*Pn	**Pn**	**16 48 23.3**	**+1.4**
TVBK				*e*		16 48 48.8	
YZKH	**Yazd**	**4.85**	**32**	*e*Pn	**Pn**	**16 48 21.8**	**0.0**
YZKH	**Yazd**	**4.85**	**32**	*e*Pn	**Pn**	**16 48 21.8**	**0.0**
IKLH	**Kolahrood**	**5.02**	**360**	*e*Pn	**Pn**	**16 48 26.1**	**+1.8**
MSFE	**Esma-Masafi**	**5.02**	**124**	P	**Pn**	**16 48 25.4**	**+1.3**
UOSS	**Minazif**	**5.31**	**128**	P	**Pn**	**16 48 29.3**	**+1.3**
UOSS	**Minazif**	**5.31**	**128**	P	**Pn**	**16 48 29.5**	**+1.5**
HATD	**Hatta, Dubai**	**5.33**	**129**	P	**Pn**	**16 48 30.3**	**+1.8**
HATD	**Hatta, Dubai**	**5.33**	**129**	P	**Pn**	**16 48 30.2**	**+1.8**
ASHO	**Ashiyiah**	**5.38**	**131**	P	**Pn**	**16 48 30.6**	**+1.6**
ASHO	**Ashiyiah**	**5.38**	**131**	P	**Pn**	**16 48 29.8**	**+0.7**
SOHO	**SOHO**	**6.07**	**132**	P	**Pn**	**16 48 40.1**	**+1.6**
SOHO	**SOHO**	**6.07**	**132**	P	**Pn**	**16 48 40.2**	**+1.7**
ARQ	**Araqi** SNR=11	**6.64**	**137**	P	**Pn**	**16 48 49.0**	**+2.6**
BSY	**Bisya**	**7.49**	**136**	P	**Pn**	**16 49 00.4**	**+2.3**
WSAR	**Wadi Sarin** 0.6nm,0.3s,baz=314,slow=8.3,SNR=35	**8.10**	**127**	Pn	**Pn**	**16 49 07.2**	**+0.8**
WSAR				Sn	**Sn**	**16 50 32.8**	**-4.4**
WBK	**Wadi Bani Khal** SNR=11	**8.74**	**129**	P	**Pn**	**16 49 16.0**	**+0.7**
FINES	**FINESS Array B** 1.0nm,0.5s,baz=139,slow=8.6,SNR=4.6	**37.26**	**340**	P	**P**	**16 54 20.3**	**+0.5**
NOA	**NORSAR Array B** 0.7nm,0.7s,baz=122,slow=8.4,SNR=2.5	**42.37**	**332**	P	**P**	**16 55 02.6**	**+0.3**
TORD	**Torodi Ar. Bea** 3.3nm,1.0s,baz=56,slow=7.3,SNR=6.5	**48.70**	**263**	P	P	16 56 15.8	+23
WRA	**Warramunga Arr** 0.5nm,1.0s,baz=311,slow=4.3,SNR=1.6	**93.17**	**111**	P	**P**	**17 00 22.3**	**-0.5**
ASAR	**Alice Springs** 0.5nm,0.7s,baz=306,slow=4.8,SNR=8.0	**94.59**	**114**	P	**P**	**17 00 29.5**	**+0.1**

NEIC **16** *16:52:01.8±2.5, 41.°64S±0.°09×79.°30E±0.°06, h10km±1km, mb4.5/10, Error ellipse: s-maj=15.9km s-min=8.1km az=176.0*

IDC **16** *16:52:02.6±1.4, 41.°65S×79.°56E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/57, mbtmp3.9/5, MS3.8/12, Ms1 3.8/12, ms1mx3.5/31, Error ellipse: s-maj=42.5km s-min=32.2km az=93.0*

ISC 16 16:52:02.1±0.7, 41.°7S±0.°1×79.°3E±0.°1, h10km, n32, σ1§52/18, mb4.3/10, MS3.8/12, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AIS	**Amsterdam Isla**	**4.08**	**340**	Pn		**Pn**	**16 53 03.8**	**-0.6**
PAF	**Port-aux-Franc**	**9.99**	**217**	Pn		**Pn**	**16 54 25.4**	**-0.1**
MAW	**Mawson** comp=Z,237nm,21.8s,baz=54,slow=30	**27.50**	**194**	LR		LR	17 05 60.0	
H01W2	**Cape Leeuwin H** baz=246,slow=74,SNR=12	**28.03**	**88**	T		T	17 26 35.8	
H01W3	**Cape Leeuwin H** baz=246,slow=74,SNR=11	**28.04**	**88**	T		T	17 26 36.3	
H01W1	**Cape Leeuwin H** baz=246,slow=74,SNR=11	**28.05**	**88**	T		T	17 26 37.1	
BBOO	**Buckleboo** comp=Z,6.7nm,1.1s	**45.33**	**98**	P		**P**	**17 00 18.3**	**-2.0**
BBOO				IAmb		IAmb	17 00 36.4	
BOSA	**Boshof** comp=Z,7.0nm,1.2s	**45.39**	**269**	P		**P**	**17 00 18.7**	**-2.2**
BOSA				IAmb		IAmb	17 00 22.7	
VNDA	**Vanda** comp=Z,188nm,18.2s,baz=272,slow=34	**48.13**	**163**	LR		LR	17 19 31.8	
QSPA	**South Pole Qui** comp=Z,2.6nm,0.9s,baz=288,slow=5.6,SNR=4.6	**48.51**	**180**	P		**P**	**17 00 46.7**	**+1.8**
QSPA	**South Pole Qui**	**48.51**	**180**	P		**P**	**17 00 46.4**	**+1.5**
ASAR	**Alice Springs** comp=Z,1.0nm,0.8s,baz=244,slow=6.5,SNR=13	**48.53**	**86**	P		**P**	**17 00 45.9**	**+0.5**
AS31	**Alice Springs**	**48.53**	**86**	P		**P**	**17 00 45.1**	**-0.3**
STKA	**Stephens Creek** comp=Z,88nm,18.6s,baz=214,slow=33	**49.88**	**100**	LR		LR	17 19 06.2	
WRA	**Warramunga Arr** comp=Z,1.7nm,0.8s,baz=231,slow=7.5,SNR=8.8	**51.06**	**82**	P		**P**	**17 01 05.3**	**+0.6**
WRA	**Warramunga Arr** comp=Z,0.2nm,1.2s	**51.06**	**82**	IAmb		IAmb	17 01 14.2	
WRAB	**Tennant Creek** comp=Z,6.1nm,1.1s	**51.08**	**82**	P		**P**	**17 01 04.0**	**-0.9**
WRAB				IAmb		IAmb	17 01 09.2	
WR0	**Warramunga Arr** comp=Z,6.4nm,1.4s	**51.20**	**83**	P		**P**	**17 01 04.6**	**-1.2**
WR0				IAmb		IAmb	17 01 14.2	
WB0	**Warramunga Arr**	**51.21**	**82**	P		**P**	**17 01 03.8**	**-2.0**
MTN	**Manton Dam**	**53.28**	**73**	P		**P**	**17 01 20.9**	**-0.3**
PBKT	**Sadao Pong** comp=Z,4.2nm,0.8s	**61.30**	**24**	P		**P**	**17 02 17.8**	**+0.1**
PBKT				IAmb		IAmb	17 02 25.1	
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.6s,baz=212,slow=6.6,SNR=6.8	**62.51**	**21**	P		**P**	**17 02 27.2**	**+1.4**
CMAR				LR		LR	17 25 30.2	
PMG	**Port Moresby** comp=Z,63nm,19.9s,baz=220,slow=32	**67.28**	**82**	LR		LR	17 31 08.8	
HNR	**Honiara** comp=Z,78nm,18.2s,baz=66,slow=35	**76.82**	**91**	LR		LR	17 37 45.6	
GEYT	**Alibeck** comp=Z,56nm,19.1s,baz=111,slow=36	**81.53**	**343**	LR		LR	17 35 16.2	
MKAR	**Makanchi Array** comp=Z,27nm,21.1s,baz=115,slow=32	**88.11**	**2**	P		**P**	**17 04 55.7**	**+3.3**
MKAR				LR		LR	17 41 25.0	
TORD	**Torodi Ar. Bea** comp=Z,2.0nm,1.0s,baz=62,slow=31,SNR=2.8	**89.60**	**288**	LR		LR	17 42 13.8	
DBIC	**Dimbokro** comp=Z,41nm,21.6s,baz=182,slow=34	**90.03**	**279**	LR		LR	17 41 33.6	
SONM	**Songino Array** comp=Z,46nm,18.9s,baz=99,slow=33	**92.28**	**18**	LR		LR	17 47 01.3	
ZALV	**Zalesovo Beam** comp=Z,25nm,18.0s,baz=199,slow=36	**95.35**	**3**	LR		LR	17 47 16.7	
ILAR	**Eielson Array** comp=Z,15nm,19.7s,baz=5.0,slow=35	**145.14**	**33**	PKPbc		**PKPbc**	**17 11 38.2**	**-0.1**
INK	**Inuvik** comp=Z,0.5nm,0.7s,baz=284,slow=3.6,SNR=3.2	**148.08**	**22**	PKPbc		**PKiKP**	**17 11 48.2**	**-0.3**
	comp=Z,3.7nm,1.0s,baz=128,slow=6.4,SNR=3.5							

IDC **16** *16:56:05.6±1.6, 12.°34S×167.°14E, h220km±14km, mb4.0/29, mb1 4.1/30, mb1mx4.0/51, mbtmp4.5/30, Error ellipse: s-maj=12.1km s-min=9.2km az=90.0*

NEIC **16** *16:56:10.1±1.7, 12.°37S±0.°09×167.°1E±0.°1, h266km±6km, mb4.5/39, Error ellipse: s-maj=15.7km s-min=13.2km az=70.0*

ISC 16 16:56:08.7±0.3, 12.°35S±0.°06×167.°13E±0.°07, h250km, n138, σ1§22/136, mb4.4/49, 2C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara** 4.1nm,0.3s,baz=180,slow=8.1,SNR=1.2	**7.62**	**292**	P		**Pn**	**16 58 00.6**	**+3.3**
DZM	**Mont Dzumac** 2.6nm,0.3s,baz=358,slow=18,SNR=18	**9.69**	**184**	P		**Pn**	**16 58 22.1**	**-1.4**
DZM	**Mont Dzumac**	**9.69**	**184**	Pn		**Pn**	**16 58 24.7**	**+1.2**
MSVF	**Nonsavu**	**11.83**	**118**	P		**P**	**16 58 52.9**	**-0.6**
KRVT	**Keravat (AS076** 3.0nm,0.3s,baz=189,slow=19,SNR=3.6	**16.93**	**297**	P		**Pn**	**16 59 51.0**	**-0.9**
PMG	**Port Moresby** 0.4nm,0.3s,baz=71,slow=8.5,SNR=4.4	**19.83**	**276**	P		**Pn**	**17 00 23.8**	**-2.1**
PMG	**Port Moresby** comp=Z,7.8nm,0.8s	**19.83**	**276**	IAmb		IAmb	17 00 27.3	
EIDS	**Eidsvold** comp=Z,21nm,0.7s	**19.93**	**227**	P		**P**	**17 00 23.2**	**+1.2**
EIDS				IAmb		IAmb	17 00 23.9	
CTA	**Charters Tower** comp=Z,9.4nm,0.8s,baz=74,slow=11,SNR=7.1	**21.46**	**246**	P		**P**	**17 00 38.0**	**+0.2**
GLKZ	**Green Lake**	**21.84**	**143**	P		**P**	**17 00 47.3**	**+6.1**
OUZ	**Omahuta**	**23.52**	**167**	P		**P**	**17 00 59.2**	**+2.8**
KUZ	**Kuaotunu**	**25.49**	**164**	P		**P**	17 01 26.1	+12
LIRZ	**Lichensteins R**	**26.86**	**164**	P		**P**	**17 01 29.5**	**+3.1**
RUGZ	**Raukumara Rang**	**27.20**	**162**	P		**P**	**17 01 28.8**	**-0.8**
URZ	**Urewera** comp=Z,3.3nm,0.3s,baz=245,slow=5.3,SNR=9.7	**27.30**	**163**	P		**P**	**17 01 29.0**	**-1.3**
URZ	**Urewera** comp=Z,14nm,0.9s	**27.30**	**163**	P		**P**	**17 01 29.9**	**-0.5**
URZ	**Urewera** comp=Z,14nm,0.6s	**27.30**	**163**	IAmb		IAmb	17 01 31.0	
WMGZ	**Waiomatatini S**	**27.30**	**160**	P		**P**	**17 01 30.3**	**-0.1**
MUGZ	**Murupara**	**27.41**	**163**	P		**P**	**17 01 32.6**	**+1.3**
TWGZ	**Tauwhareparae**	**27.49**	**161**	P		**P**	**17 01 31.3**	**-0.8**
MWZ	**Matawai**	**27.49**	**162**	P		**P**	**17 01 32.1**	**0.0**
TKGZ	**Te Karaka**	**27.69**	**162**	P		**P**	**17 01 34.2**	**+0.4**
RAHZ	**Arahi**	**27.90**	**163**	P		**P**	**17 01 35.5**	**-0.3**
BKZ	**Black Stump Fm** comp=Z,17nm,0.6s	**27.97**	**164**	P		**P**	**17 01 36.1**	**-0.3**
BKZ				IAmb		IAmb	17 01 38.4	
QRZ	**Quartz Range**	**28.76**	**171**	P		**P**	**17 01 44.5**	**+1.2**
MRZ	**Mangatainoka R**	**29.17**	**167**	P		**P**	**17 01 46.2**	**-0.7**
DSZ	**Denniston Nort**	**29.57**	**173**	P		**P**	**17 01 52.4**	**+1.9**
TUWZ	**Tuamarina**	**29.58**	**170**	P		**P**	**17 01 50.7**	**+0.2**
THZ	**Tophouse**	**29.74**	**171**	P		**P**	**17 01 52.7**	**+0.7**
MSWZ	**Moikau Station**	**29.82**	**168**	P		**P**	**17 01 51.9**	**-0.8**
KHZ	**Kahutara**	**30.47**	**171**	P		**P**	**17 01 57.8**	**-0.6**
STKA	**Stephens Creek** comp=Z,2.5nm,0.3s,baz=55,slow=10,SNR=21	**30.48**	**226**	P		**P**	**17 01 59.4**	**+0.8**
STKA	**Stephens Creek**	**30.48**	**226**	P		**P**	**17 01 59.3**	**+0.8**
LTZ	**Lake Taylor**	**30.65**	**173**	P		**P**	**17 02 00.4**	**+0.5**
OXZ	**Oxford**	**31.16**	**173**	P		**P**	**17 02 04.4**	**+0.1**
RPZ	**Rata Peaks** comp=Z,19nm,0.5s,baz=352,slow=1.5,SNR=24	**31.44**	**175**	P		**P**	**17 02 06.8**	**-0.1**
RPZ	**Rata Peaks**	**31.44**	**175**	P		**P**	**17 02 07.2**	**+0.4**
JCZ	**Jackson Bay**	**31.65**	**178**	P		**P**	**17 02 10.4**	**+1.7**
WB0	**Warramunga Arr**	**32.27**	**253**	P		**P**	**17 02 13.2**	**-1.2**
WB0	comp=Z,10nm,0.8s			IAmb		IAmb	17 02 14.0	
WRA	**Warramunga Arr** comp=Z,4.7nm,0.5s,baz=84,slow=8.9,SNR=58	**32.34**	**252**	P		**P**	**17 02 13.8**	**-1.2**
WRA	**Warramunga Arr**	**32.34**	**252**	P		**P**	**17 02 12.7**	**-2.4**
AS31	**Alice Springs**	**33.46**	**246**	P		**P**	**17 02 23.1**	**-1.5**
ASAR	**Alice Springs** comp=Z,6.7nm,0.7s,baz=72,slow=9.6,SNR=120	**33.46**	**246**	P		**P**	**17 02 23.4**	**-1.3**
BBOO	**Buckleboo**	**34.97**	**229**	P		**P**	**17 02 37.5**	**0.0**
BBOO	comp=Z,14nm,0.7s			IAmb		IAmb	17 02 38.4	
KNRA	**Kununurra**	**37.34**	**260**	P		**P**	**17 02 57.3**	**-0.4**
KNRA	comp=Z,25nm,0.9s			IAmb		IAmb	17 02 58.2	
SIJI	**Sorong** comp=Z,7.9nm,0.9s,baz=331,slow=4.0,SNR=3.5	**37.34**	**285**	P		**P**	**17 02 57.5**	**-0.2**
FITZ	**Fitzroy Crossi** comp=Z,7.0nm,0.3s,baz=64,slow=7.2,SNR=79	**40.38**	**257**	P		**P**	**17 03 22.3**	**-0.5**
FITZ	**Fitzroy Crossi** comp=Z,8.0nm,0.5s	**40.38**	**257**	P		**P**	**17 03 22.8**	**0.0**
FITZ				IAmb		IAmb	17 03 23.5	
FORT	**Forrest**	**40.44**	**237**	P		**P**	**17 03 23.1**	**0.0**
NLAI	**Namlea**	**40.62**	**280**	P		**P**	**17 03 25.9**	**+1.0**
DAV	**Davao City (W)** comp=Z,131nm,0.4s,baz=331,slow=3.5,SNR=2.6	**45.59**	**293**	P		**P**	**17 04 04.2**	**-0.2**
DAV	**Davao City (W)** comp=Z,155nm,0.4s	**45.59**	**293**	IAmb		IAmb	17 04 05.0	
JCJ	**Chichijima** comp=Z,32nm,0.7s,baz=1.2,slow=23,SNR=7.2	**46.08**	**329**	P		**P**	**17 04 07.5**	**-0.6**
JCJ	**Chichijima** comp=Z,36nm,0.8s	**46.08**	**329**	IAmb		IAmb	17 04 10.3	
BNSI	**Bone** comp=Z,17nm,0.9s	**47.12**	**275**	P		**P**	**17 04 16.7**	**+0.3**
MPSI	**Mapaga** comp=Z,16nm,0.8s	**48.52**	**282**	P		**P**	**17 04 26.8**	**-0.3**
NWAO	**Narrogin (SRO)** comp=Z,12nm,0.7s,baz=83,slow=6.4,SNR=10	**49.88**	**237**	P		**P**	**17 04 36.6**	**-0.6**
NWAO	**Narrogin (SRO)** comp=Z,10nm,0.7s	**49.88**	**237**	IAmb		IAmb	17 04 37.3	
MORW	**Morawa** comp=Z,11nm,0.8s	**50.21**	**242**	P		**P**	**17 04 38.7**	**-0.9**
MORW				IAmb		IAmb	17 04 40.5	
MJAR	**Matsushiro Arr** comp=Z,1.3nm,0.6s,baz=173,slow=7.8,SNR=18	**55.75**	**332**	P		**P**	**17 05 18.8**	**-1.0**
MJAR	**Matsushiro Arr**	**55.75**	**332**	P		**P**	**17 05 17.1**	**-2.6**
MAT	**Matsushiro**	**55.75**	**332**	P		**P**	**17 05 19.0**	**-0.8**
JNU	**Nakatsue** comp=Z,11nm,1.2s,baz=135,slow=2.9,SNR=2.1	**56.92**	**324**	P		**P**	**17 05 27.9**	**-0.2**
JNU	**Nakatsue** comp=Z,13nm,1.1s	**56.92**	**324**	IAmb		IAmb	17 05 45.2	
ASAJ	**Asahikawa** comp=Z,2.7nm,0.5s,baz=207,slow=7.9,SNR=8.5	**60.47**	**340**	P		**P**	**17 05 52.6**	**+0.4**
KSRS	**Korea Array** comp=Z,0.3nm,0.6s,baz=134,slow=7.8,SNR=2.1	**61.71**	**325**	P		**P**	**17 06 01.5**	**+0.8**
VNDA	**Vanda** comp=Z,3.9nm,0.6s,baz=354,slow=7.5,SNR=40	**65.23**	**181**	P		**P**	**17 06 23.6**	**+0.5**
VNDA	**Vanda**	**65.23**	**181**	P		**P**	**17 06 23.6**	**+0.5**
CASY	**Casey**	**65.67**	**202**	P		**P**	**17 06 25.9**	**-0.1**
CASY	comp=Z,13nm,0.6s			IAmb		IAmb	17 06 26.4	
PETK	**Petropavlovsk-** comp=Z,1.2nm,0.7s,baz=123,slow=11,SNR=3.8	**65.69**	**354**	P		**P**	**17 06 26.6**	**+0.3**
KLR	**Kul'dur** comp=Z,0.9nm,0.6s,baz=152,slow=3.9,SNR=3.8	**68.79**	**336**	P		**P**	**17 06 47.1**	**+1.3**
RPSI	**Rantau Prapat**	**69.36**	**278**	P		**P**	**17 06 49.2**	**-0.8**
PSI	**Prapat** comp=Z,9.5nm,0.8s,baz=180,slow=0.7,SNR=9.0	**69.39**	**278**	P		**P**	**17 06 49.2**	**-1.1**
GSI	**Gunungsitoli**	**70.34**	**276**	P		**P**	**17 06 54.9**	**-1.1**
HHC	**Hu-ho-hao-te**	**73.69**	**319**	*e*P		**P**	**17 07 14.5**	**-0.9**
HHC	comp=Z,20nm,1.1s			pmax		pmax		
HHC	comp=Z,68nm,5.8s			pmax		pmax		
CMAR	**Chiang Mai Arr** comp=Z,4.3nm,0.8s,baz=121,slow=4.5,SNR=30	**73.87**	**293**	P		**P**	**17 07 17.9**	**+1.2**
SEY	**Seymchan** comp=Z,1.7nm,0.6s,baz=143,slow=10	**75.91**	**353**	P		**P**	**17 07 27.6**	**+0.1**
LZH	**Lanzhou**	**76.63**	**312**	*e*P		**P**	**17 07 33.9**	**+1.6**
LZH				pP		pP	17 08 31.1	+0.5
LZH				sP		sP	17 08 57.3	0.0
LZH	comp=Z,16nm,1.1s			pmax		pmax		
QSPA	**South Pole Qui** comp=Z,14nm,0.8s	**77.67**	**180**	P		**P**	**17 07 37.9**	**+0.4**
QSPA				IAmb		IAmb	17 07 38.4	
YAK	**Yakutsk** comp=Z,1.2nm,0.4s,baz=149,slow=2.1,SNR=1.7	**79.72**	**343**	P		**P**	**17 07 49.6**	**+1.2**
YAK	**Yakutsk** comp=Z,3.0nm,0.7s	**79.72**	**343**	IAmb		IAmb	17 07 54.9	
SONM	**Songino Array** comp=Z,0.4nm,0.3s,baz=134,slow=4.9,SNR=4.9	**80.51**	**323**	P		**P**	**17 07 53.4**	**+0.3**
SONM	**Songino Array** comp=Z,1.0nm,0.9s	**80.51**	**323**	IAmb		IAmb	17 07 55.5	
YBH	**Yreka Blue Hor** comp=Z,2.9nm,0.8s,baz=288,slow=3.2,SNR=5.4	**83.84**	**45**	P		**P**	**17 08 11.1**	**+0.7**
YBH	**Yreka Blue Hor**	**83.84**	**45**	P		**P**	**17 08 10.3**	**-0.1**
CCB	**Clear Creek Bu**	**83.95**	**18**	P		**P**	**17 08 09.8**	**-0.6**
CCB	comp=Z,4.1nm,0.7s			IAmb		IAmb	17 08 10.9	
MAW	**Mawson** comp=Z,12nm,0.9s,baz=112,slow=6.9,SNR=18	**84.03**	**202**	P		**P**	**17 08 11.2**	**+0.3**
MAW	**Mawson**	**84.03**	**202**	P		**P**	**17 08 11.1**	**+0.2**
HDA	**Harding Lake**	**84.04**	**18**	P		**P**	**17 08 11.4**	**+0.5**
MDM	**Murphy Dome**	**84.05**	**17**	P		**P**	**17 08 09.9**	**-1.0**
MDM	comp=Z,5.7nm,0.8s			IAmb		IAmb	17 08 11.2	
IL31		**84.31**	**18**	P		**P**	**17 08 12.0**	**-0.1**
IL31	comp=Z,4.5nm,0.7s			IAmb		IAmb	17 08 12.9	
ILAR	**Eielson Array** comp=Z,4.3nm,0.7s,baz=244,slow=5.5,SNR=20	**84.31**	**18**	P		**P**	**17 08 11.7**	**-0.5**
NVAR	**Mina Array Bea** comp=Z,1.1nm,0.7s,baz=235,slow=8.2,SNR=11	**85.83**	**49**	P		**P**	**17 08 20.9**	**+0.2**
I07A	**Izee**	**86.89**	**44**	P		**P**	**17 08 25.4**	**-0.1**
J08A	**Circle Bar Ran**	**87.34**	**45**	P		**P**	**17 08 28.1**	**+0.4**
J08A	comp=Z,3.8nm,0.7s			IAmb		IAmb	17 08 29.0	
SYO	**Syowa Base**	**90.94**	**197**	*e*P		**P**	**17 08 42.0**	**-1.8**
SYO	**Syowa Base**	**90.94**	**197**	*e*P		**P**	**17 08 44.3**	**+0.5**
WMQ	**Urumqi**	**90.97**	**315**	*e*P		**P**	**17 08 44.1**	**-0.5**
WMQ	comp=Z,17nm,0.8s			pmax		pmax		
WMQ	comp=Z,43nm,3.7s			pmax		pmax		
WMQ	comp=N,23nm,25.7s			LR		LR		
WMQ				LR		LR		
WMQ	comp=E,150nm,24.1s			LR		LR		
PDAR	**Pinedale Array** comp=Z,0.2nm,0.3s,baz=262,slow=6.1,SNR=2.4	**93.44**	**47**	P		**P**	**17 08 58.4**	**+2.2**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.8s,baz=229,slow=5.5,SNR=4.6	**95.26**	**61**	P		**P**	**17 09 05.3**	**+0.6**
MK31	**Makanchi Array**	**95.39**	**317**	P		**P**	**17 09 03.9**	**-0.9**
MK31				IAmb		IAmb	17 09 05.6	
MKAR	**Makanchi Array** comp=Z,3.3nm,0.7s,baz=96,slow=6.3,SNR=30	**95.39**	**317**	P		**P**	**17 09 04.9**	**+0.1**
MKAR				PKKPbc		**PKKPdf**	**17 25 54.6**	**-3.4**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.5s,baz=278,slow=3.5,SNR=5.3	**95.39**	**317**	P		**P**	**17 09 04.8**	**0.0**
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.3s,baz=97,slow=5.8,SNR=1.7	**95.40**	**324**	P		**P**	**17 09 04.1**	**-0.5**
ZALV				PKKPbc		**PKKPdf**	**17 25 55.0**	**-3.1**
YKA	**Yellowknife Ar** comp=Z,0.9nm,0.5s,baz=271,slow=4.5,SNR=1.9	**95.50**	**27**	P		**P**	**17 09 04.5**	**-0.3**
SNAA	**Sanae**	**95.91**	**183**	P		**P**	**17 09 06.1**	**-0.6**
VNA3	**Neumayer Olymp**	**96.58**	**181**	P		**P**	**17 09 08.8**	**-0.9**
VNA2	**Neumayer--Watz** baz=192,slow=3.8	**96.84**	**182**	P		**P**	**17 09 10.2**	**-0.7**
VNA1	**Neumayer--Stat**	**97.14**	**182**	P		**P**	**17 09 11.3**	**-0.9**
BVAR	**Borovoye Array** comp=Z,0.3nm,0.5s,baz=123,slow=1.1,SNR=3.9	**103.80**	**322**	PKiKP		**PKiKP**	**17 13 59.0**	**+0.3**
ARCES	**ARCESS Array B** comp=Z,3.9nm,0.6s,baz=89,slow=2.0,SNR=29	**117.92**	**346**	PKP		**PKPdf**	**17 14 24.6**	**-0.4**
ARCES	comp=Z,0.9nm,0.6s,baz=211,slow=2.1,SNR=7.0			PKKPbc		**PKKPbc**	**17 24 44.9**	**-3.9**
FINES	**FINESS Array B** comp=Z,2.1nm,0.6s,baz=71,slow=2.1,SNR=15	**123.47**	**339**	PKP		**PKPdf**	**17 14 35.3**	**-0.4**
FINES	comp=Z,1.1nm,0.8s,baz=165,slow=7.9,SNR=4.8			PKKPbc		**PKKPab**	**17 24 25.5**	**+0.3**
SIV	**San Ignacio** comp=Z,0.4nm,0.5s,baz=341,slow=13,SNR=3.8	**124.63**	**119**	PKP		**PKPdf**	**17 14 38.5**	**-0.9**
BOSA	**Boshof** comp=Z,1.9nm,0.8s,baz=117,slow=6.6,SNR=3.1	**125.07**	**222**	PKP		**PKPdf**	**17 14 39.0**	**-1.2**
NB2	**NORSAR Subarra** comp=Z,0.3nm,0.5s,baz=31,slow=1.9	**128.30**	**345**	PKPdf		**PKPdf**	**17 14 44.8**	**-0.3**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.7s,baz=31,slow=1.9,SNR=5.4	**128.30**	**345**	PKP		**PKPdf**	**17 14 45.2**	**+0.1**
AKASG	**Malin Array Be** comp=Z,0.3nm,0.3s,baz=86,slow=1.6,SNR=2.0	**128.69**	**327**	PKP		**PKPdf**	**17 14 45.0**	**-1.1**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.5s,baz=139,slow=3.9,SNR=5.3	**130.84**	**312**	PKP		**PKPdf**	**17 14 50.4**	**-0.3**
BRTR	comp=Z,0.5nm,0.7s,baz=93,slow=4.9,SNR=4.0			SKPbc		**SKPab**	**17 17 54.1**	**+2.5**
BDFB	**Brasilia**	**135.47**	**128**	PKP		**PKPdf**	**17 14 59.8**	**-0.3**
CLL	**Collm**	**135.83**	**337**	*e*PKPdf		**PKPdf**	**17 15 00.0**	**+0.5**
CONA	**Conrad Observa**	**137.18**	**332**	*i* PKiKP		**PKPdf**	**17 15 02.5**	**+0.2**
GERES	**GERESS Array B** comp=Z,1.4nm,0.7s,baz=50,slow=2.1,SNR=12	**137.46**	**334**	PKP		**PKPdf**	**17 15 02.6**	**-0.1**
GERES	comp=Z,0.8nm,0.7s,baz=11,slow=2.7,SNR=8.5			SKPbc		**SKiKP**	**17 18 15.7**	**-1.2**
GERES	**GERESS Array B**	**137.46**	**334**	PKPdf		**PKPdf**	**17 15 03.7**	**+0.9**
WTTA	**Wattenberg** comp=Z,11nm,1.4s	**139.56**	**334**	*e*PKPdf		**PKPdf**	**17 15 06.4**	**-0.4**
ABTA	**Abfaltersbach** comp=Z,6.1nm,1.2s	**139.58**	**333**	*e*PKPdf		**PKPdf**	**17 15 06.7**	**0.0**
MOTA	**Moosalm** comp=Z,2.4nm,0.8s	**139.72**	**335**	*e*PKiKP		**PKPdf**	**17 15 07.7**	**+0.7**
KEST	**Kesra** comp=Z,11nm,0.8s,baz=282,slow=4.1,SNR=12	**149.26**	**323**	PKPbc		**PKPbc**	**17 15 28.9**	**+0.6**
KEST	**Kesra**	**149.26**	**323**			**PKiKP**	**17 15 29.2**	**-0.2**
PVRL	**Vila Real**	**150.83**	**352**	*e*PKPdf		**PKPbc**	**17 15 32.1**	**+0.3**
MVO	**Moncorvo**	**150.84**	**351**	*e*PKPdf		**PKiKP**	**17 15 32.7**	**+0.3**
ESDC	**Sonseca Array

NEIC ***16*** *18:23:43.8±1.9, 14˚.90S±0˚.06×167˚.33E±0˚.04, h131km±4km, mb5.1/160, Error ellipse: s-maj=9.7km s-min=4.7km az=157.0*

BJI ***16*** *18:23:43.3±0.0, 14˚.61S×167˚.37E, h125km, mB4.7/33, mb4.8/56*

IDC ***16*** *18:23:43.5±0.5, 14˚.90S×167˚.37E, h123km±3km, mb4.6/31, mb1 4.7/34, mb1mx4.6/36, mbtmp5.0/34, MS3.7/18, Ms1 3.7/18, ms1mx3.5/31, Error ellipse: s-maj=10.1km s-min=7.6km az=74.0*

GCMT ***16*** *18:23:44.8±0.2, 14˚.88S±0˚.01×167˚.13E±0˚.01, h124km±1km, MW5.1/117, Moment Tensor Solution. s68,c88; s117,c192; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.69±.11; Mθθ3.24±.14; Mϕϕ-5.92±.12; Mrθ-3.33±.09; Mθϕ-1.22±.14; Mϕr0.86±.10; Best double couple: Mo6.29300×10¹⁶ NP1:ϕs224.00000°, δ59.00000°, λ150.00000°. NP2:ϕs331.00000°, δ64.00000°, λ35.00000°. Principal axes: T 6.4830, Plg42.0000°, Azm189.0000°; N -0.3700, Plg48.0000°, Azm3.0000°; P -6.1030, Plg3.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 18:23:43.7±0.3, 14˚.91S±0˚.04×167˚.30E±0˚.04, h129km±2km, h129km; pP-P, n449, σ1.336/509, mb5.0/116, 8C-8D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.17**	**186**	*e*Pn		**Pn**	**Pn**	**18 25 26.2**	**+0.2**
	887nm,0.8s								
DZM				*e*Sn		**Sn**	**Sn**	**18 26 38.2**	**-7.9**
	1μm,0.9s								
DZM				*e*LR		LR	LR	18 26 55.1	
	comp=Z,1μm,40.8s								
DZM	**Mont Dzumac**	**7.17**	**186**	P		**Pn**	**Pn**	**18 25 26.2**	**+0.2**
	32nm,0.3s,baz=37,slow=15,SNR=141								
DZM				S		**Sn**	**Sn**	**18 26 48.0**	**+1.9**
	7.6nm,0.3s,baz=342,slow=20,SNR=2.4								
DZM	**Mont Dzumac**	**7.17**	**186**	Pn		**Pn**	**Pn**	**18 25 26.1**	**0.0**
HNR	**Honiara**	**9.02**	**306**	P		**Pn**	**Pn**	**18 25 51.6**	**+0.6**
	102nm,0.3s,baz=187,slow=8.1,SNR=44								
HNR				S		**Sn**	**Sn**	**18 27 30.0**	**-0.8**
	baz=323,slow=20,SNR=1.3								
MSVF	**Nonsavu**	**10.70**	**107**	Pn		**Pn**	**Pn**	**18 26 16.0**	**+2.5**
LHI	**Lord Howe Isla**	**18.17**	**203**			**Pn**	**Pn**	**18 27 48.5**	**+0.7**
LHI				IAmb		IAmb	IAmb	18 27 49.8	
	comp=Z,78nm,0.8s								
RABL	**Rabaul**	**18.32**	**304**			**Pn**	**Pn**	**18 27 50.2**	**+0.5**
RABL				IAmb		IAmb	IAmb	18 28 00.3	
	comp=Z,225nm,1.4s								
KRVT	**Keravat (AS076**	**18.36**	**304**	P		**P**	**P**	**18 27 48.4**	**-0.2**
	comp=Z,3.8nm,0.3s,baz=342,slow=0.8,SNR=13								
KRVT				LR		LR	LR	18 34 49.7	
	comp=Z,178nm,21.5s,baz=118,slow=36								
EIDS	**Eidsvold**	**18.42**	**233**	P		**Pn**	**Pn**	**18 27 52.4**	**+1.5**
	baz=18,SNR=46								
EIDS	**Eidsvold**	**18.42**	**233**			**Pn**	**Pn**	**18 27 52.3**	**+1.5**
RAO	**Raoul Island**	**19.75**	**139**	P		**Pn**	**Pn**	**18 28 05.3**	**-1.0**
	comp=Z,97nm,0.3s,baz=98,slow=22,SNR=2.2								
RAO	**Raoul Island**	**19.75**	**139**			**Pn**	**Pn**	**18 28 05.4**	**-1.0**
AFI	**Afiamalu**	**20.29**	**90**	P		Pn	Pn	18 28 11.8	-1.1
	comp=Z,47nm,0.9s,baz=249,slow=5.2,SNR=2.9								
AFI	**Afiamalu**	**20.29**	**90**	P		Pn	Pn	18 28 13.4	+0.5
AFI				IAmb		IAmb	IAmb	18 28 23.7	
	comp=Z,52nm,0.8s								
PMG	**Port Moresby**	**20.43**	**283**	P		**P**	**P**	**18 28 12.4**	**+1.5**
	comp=Z,79nm,0.9s,baz=77,slow=6.6,SNR=33								
PMG	**Port Moresby**	**20.43**	**283**	P		Pn	Pn	18 28 13.2	-1.2
PMG				IAmb		IAmb	IAmb	18 28 14.0	
	comp=Z,109nm,1.0s								
CTA	**Charters Tower**	**20.71**	**253**	P		**P**	**P**	**18 28 14.9**	**+0.8**
	comp=Z,20nm,0.8s,baz=84,slow=12,SNR=31								
CTAO	**Charters Tower**	**20.71**	**253**	P		Pn	Pn	18 28 16.7	-1.1
RMQ	**Roma**	**20.79**	**233**	P		Pn	Pn	18 28 17.3	-1.2
	baz=21,SNR=100								
OUZ	**Omahuta**	**21.00**	**165**	P		**P**	**P**	**18 28 18.6**	**+1.7**
ARMA	**Armidale**	**21.11**	**220**	P		**P**	**P**	**18 28 20.7**	**+2.4**
	baz=21,SNR=32								
ARMA	**Armidale**	**21.11**	**220**	P		**P**	**P**	**18 28 20.4**	**+2.1**
NIUE	**Niue**	**22.16**	**104**	P		**P**	**P**	**18 28 30.1**	**+0.7**
	baz=22,SNR=3.2								
NIUE	**Niue**	**22.16**	**104**	P		**P**	**P**	**18 28 31.9**	**+2.6**
MTSU	**Mount Surprise**	**22.26**	**259**	P		**P**	**P**	**18 28 32.1**	**+1.7**
	baz=22,SNR=44								
GRZ	**Great Barrier**	**22.47**	**163**	P		**P**	**P**	**18 28 33.7**	**+1.5**
ABAZ	**Army Bay**	**22.62**	**164**	P		**P**	**P**	**18 28 35.8**	**+2.1**
MBAZ	**Motutapu North**	**22.80**	**164**	P		**P**	**P**	**18 28 37.0**	**+1.6**
WIAZ	**Waiheke Island**	**22.88**	**164**	P		**P**	**P**	**18 28 37.4**	**+1.1**
ETAZ	**East Tamaki Re**	**22.98**	**164**	P		**P**	**P**	**18 28 38.8**	**+1.7**
KUZ	**Kuaotunu**	**23.00**	**162**	P		**P**	**P**	**18 28 38.1**	**+0.8**
AWAZ	**Awhitu Peninsu**	**23.01**	**165**	P		**P**	**P**	**18 28 39.7**	**+2.3**
PATS	**Pohnpei**	**23.37**	**337**	P		**P**	**P**	**18 28 42.9**	**+1.9**
	baz=24,SNR=4.5								
PATS	**Pohnpei**	**23.37**	**337**	P		**P**	**P**	**18 28 41.6**	**+0.6**
PATS				IAmb		IAmb	IAmb	18 29 27.8	
	comp=Z,77nm,1.0s								
COEN	**Coen**	**23.38**	**269**	P		**P**	**P**	**18 28 42.6**	**+1.5**
	baz=24,SNR=7.9								
COEN	**Coen**	**23.38**	**269**	P		**P**	**P**	**18 28 42.4**	**+1.3**
MGCD	**Mangrove Creek**	**23.40**	**216**	P		**P**	**P**	**18 28 43.2**	**+2.1**
	baz=24,SNR=87								
MYRZ	**Mayor Island**	**23.65**	**162**	P		**P**	**P**	**18 28 45.7**	**+2.3**
RIV	**Riverview**	**23.83**	**215**	P		**P**	**P**	**18 28 47.0**	**+2.0**
	baz=24,SNR=26								
TOZ	**Tahuroa Road**	**23.86**	**164**	P		**P**	**P**	**18 28 46.2**	**+1.0**
TGRZ	**Tauranga**	**24.08**	**162**	P		**P**	**P**	**18 28 49.4**	**+2.3**
KMRZ	**Kaimai**	**24.09**	**163**	P		**P**	**P**	**18 28 49.7**	**+2.3**
HIZ	**Hauiti**	**24.44**	**166**	P		**P**	**P**	**18 28 52.0**	**+1.6**
QLP	**Quilpie**	**24.45**	**238**	P		**P**	**P**	**18 28 52.2**	**+1.5**
	baz=25,SNR=10.0								
MXZ	**Matakaoa Point**	**24.59**	**159**	P		**P**	**P**	**18 28 51.8**	**0.0**
MXZ				IAmb		IAmb	IAmb	18 28 55.0	
	comp=Z,124nm,0.8s								
URZ	**Urewera**	**24.82**	**161**	P		**P**	**P**	**18 28 54.2**	**+0.3**
	comp=Z,123nm,0.8s,baz=254,slow=3.4,SNR=23								
URZ				S		**S**	**S**	**18 33 07.3**	**+0.2**
	comp=Z,14nm,1.2s,baz=172,slow=19,SNR=2.0								
URZ				LR		LR	LR	18 36 45.4	
	comp=Z,307nm,21.4s,baz=356,slow=32								
URZ	**Urewera**	**24.82**	**161**	P		**P**	**P**	**18 28 54.0**	**+0.2**
BKZ	**Black Stump Fm**	**25.48**	**163**	P		**P**	**P**	**18 28 59.7**	**-0.3**
BKZ				IAmb		IAmb	IAmb	18 29 01.1	
	comp=Z,83nm,0.6s								
YNG	**Young**	**25.76**	**218**	P		**P**	**P**	**18 29 04.2**	**+1.7**
	baz=26,SNR=13								
CMSA	**Cobar Meteorol**	**25.77**	**226**	P		**P**	**P**	**18 29 03.7**	**+1.1**
	baz=26,SNR=75								
CNB	**Canberra Magne**	**25.93**	**215**	P		**P**	**P**	**18 29 05.5**	**+1.4**
	baz=26,SNR=73								
CAN	**Canberra**	**26.13**	**216**	P		**P**	**P**	**18 29 07.3**	**+1.4**
CAN				IAmb		IAmb	IAmb	18 30 00.3	
	comp=Z,41nm,1.1s								
QRZ	**Quartz Range**	**26.22**	**171**	P		**P**	**P**	**18 29 07.7**	**+1.2**
NNZ	**Nelson**	**26.74**	**170**	P		**P**	**P**	**18 29 11.3**	**+0.2**
NNZ				IAmb		IAmb	IAmb	18 29 42.3	
	comp=Z,234nm,1.9s								
BFZ	**Birch Farm**	**26.83**	**165**	P		**P**	**P**	**18 29 11.2**	**-0.9**
BFZ				IAmb		IAmb	IAmb	18 29 13.8	
	comp=Z,68nm,1.1s								
QIS	**Mount Isa**	**26.95**	**254**	P		**P**	**P**	**18 29 14.3**	**+1.0**
	baz=27,SNR=3.9								
TUWZ	**Tuamarina**	**27.04**	**169**	P		**P**	**P**	**18 29 13.6**	**-0.3**
SNZO	**South Karori**	**27.08**	**168**	P		**P**	**P**	**18 29 13.5**	**-0.6**
SNZO				IAmb		IAmb	IAmb	18 30 08.1	
	comp=Z,131nm,1.4s								
THZ	**Tophouse**	**27.19**	**171**	P		**P**	**P**	**18 29 15.7**	**+0.3**
THZ				IAmb		IAmb	IAmb	18 29 19.9	
	comp=Z,58nm,0.7s								
BHW	**Baring Head**	**27.21**	**167**	P		**P**	**P**	**18 29 14.4**	**-0.9**
MSWZ	**Moikau Station**	**27.29**	**167**	P		**P**	**P**	**18 29 15.4**	**-0.8**
BSWZ	**Blackbirch Sta**	**27.31**	**169**	P		**P**	**P**	**18 29 17.1**	**+0.8**
CMWZ	**Cape Campbell**	**27.40**	**169**	P		**P**	**P**	**18 29 18.2**	**+1.1**
PLWZ	**Palliser**	**27.44**	**167**	P		**P**	**P**	**18 29 16.5**	**-1.0**
KHZ	**Kahutara**	**27.93**	**170**	P		**P**	**P**	**18 29 20.5**	**-1.3**
KHZ				IAmb		IAmb	IAmb	18 29 22.8	
	comp=Z,45nm,0.7s								
LTZ	**Lake Taylor**	**28.10**	**172**	P		**P**	**P**	**18 29 23.7**	**+0.3**
FOZ	**Fox Glacier**	**28.60**	**176**	P		**P**	**P**	**18 29 28.8**	**+1.1**
OXZ	**Oxford**	**28.61**	**173**	P		**P**	**P**	**18 29 27.9**	**+0.1**
RPZ	**Rata Peaks**	**28.88**	**174**	P		**P**	**P**	**18 29 30.3**	**+0.1**
	comp=Z,94nm,0.7s,baz=287,slow=2.7,SNR=53								
RPZ				LR		LR	LR	18 39 58.2	
	comp=Z,278nm,18.1s,baz=349,slow=34								
RPZ	**Rata Peaks**	**28.88**	**174**	P		**P**	**P**	**18 29 30.4**	**+0.1**
STKA	**Stephens Creek**	**28.90**	**230**	P		**P**	**P**	**18 29 32.4**	**+1.8**
	comp=Z,131nm,0.6s,baz=45,slow=7.8,SNR=329								
STKA				PcP		**PcP**	**PcP**	**18 32 36.9**	**+0.2**
	comp=Z,17nm,0.8s,baz=61,slow=3.3,SNR=6.6								
STKA				ScP		**ScP**	**ScP**	**18 36 08.2**	**+1.8**
	comp=Z,8.2nm,0.9s,baz=57,slow=5.6,SNR=7.6								
STKA				LR		LR	LR	18 39 33.1	
	comp=Z,197nm,20.9s,baz=53,slow=33								
STKA	**Stephens Creek**	**28.90**	**230**	P		**P**	**P**	**18 29 32.3**	**+1.8**
STKA				IAmb		IAmb	IAmb	18 29 33.3	
	comp=Z,31nm,0.8s								
STKA						**PcP**	**PcP**	**18 32 36.5**	**-0.2**
STKA						**ScP**	**ScP**	**18 36 08.6**	**+2.2**
JAY	**Jayapura**	**28.98**	**293**	P		**P**	**P**	**18 29 31.4**	**-0.1**
	comp=Z,8.8nm,0.7s,baz=107,slow=6.3,SNR=12								
MQZ	**McQueen's Vall**	**29.06**	**172**	P		**P**	**P**	**18 29 31.4**	**-0.4**
MQZ				IAmb		IAmb	IAmb	18 29 32.5	
	comp=Z,50nm,0.8s								
GENI	**Genyem**	**29.43**	**292**	P		**P**	**P**	**18 29 36.1**	**+0.7**
	comp=Z,37nm,0.8s								
LBZ	**Lake Benmore**	**29.48**	**176**	P		**P**	**P**	**18 29 35.2**	**-0.4**
LBZ				IAmb		IAmb	IAmb	18 29 37.3	
	comp=Z,60nm,0.8s								
TOO	**Toolangi**	**29.72**	**217**	P		**P**	**P**	**18 29 39.2**	**+1.4**
	baz=30,SNR=34								
TOO	**Toolangi**	**29.72**	**217**	P		**P**	**P**	**18 29 38.9**	**+1.1**
TOO				IAmb		IAmb	IAmb	18 29 40.3	
	comp=Z,69nm,1.1s								
WKZ	**Wanaka**	**29.85**	**178**	P		**P**	**P**	**18 29 39.6**	**+0.7**
WKZ				IAmb		IAmb	IAmb	18 29 50.7	
	comp=Z,70nm,0.9s								
ODZ	**Otahua Downs**	**30.17**	**175**	P		**P**	**P**	**18 29 40.9**	**-0.7**
ODZ				IAmb		IAmb	IAmb	18 29 48.0	
	comp=Z,43nm,0.9s								
MLZ	**Mavora Lakes**	**30.36**	**179**	P		**P**	**P**	**18 29 43.5**	**+0.2**
MLZ				IAmb		IAmb	IAmb	18 29 45.2	
	comp=Z,76nm,1.0s								
DCZ	**Deep Cove**	**30.45**	**180**	P		**P**	**P**	**18 29 44.5**	**+0.4**
WHZ	**Wether Hill Ro**	**30.89**	**179**	P		**P**	**P**	**18 29 47.6**	**-0.3**
WHZ				IAmb		IAmb	IAmb	18 29 48.8	
	comp=Z,88nm,1.0s								
SMPI	**Sarmi**	**31.00**	**292**	P		**P**	**P**	**18 29 51.0**	**+1.7**
	comp=Z,737nmcomp=Z,75nm,1.3s								
ARPS	**Mount Arapiles**	**31.43**	**221**	P		**P**	**P**	**18 29 54.2**	**+1.4**
	baz=32,SNR=28								
WR0	**Warramunga Arr**	**31.62**	**256**	P		**P**	**P**	**18 29 54.0**	**-0.7**
HTT	**Hallett**	**31.62**	**229**	P		**P**	**P**	**18 29 56.2**	**+1.6**
	baz=32,SNR=84								
WB0	**Warramunga Arr**	**31.75**	**257**	P		**P**	**P**	**18 29 55.4**	**-0.4**
WB0				IAmb		IAmb	IAmb	18 29 58.3	
	comp=Z,21nm,1.2s								
WB2	**Warramunga Arr**	**31.80**	**256**	P		**P**	**P**	**18 29 55.4**	**-0.9**
WRAB	**Tennant Creek**	**31.80**	**256**	P		**P**	**P**	**18 29 55.9**	**-0.4**
WRA	**Warramunga Arr**	**31.81**	**256**	P		**P**	**P**	**18 29 55.7**	**-0.7**
	comp=Z,6.5nm,0.8s,baz=85,slow=8.4,SNR=46								
WRA				PcP		**PcP**	**PcP**	**18 32 45.1**	**+0.5**
	comp=Z,8.0nm,0.9s,baz=91,slow=2.7,SNR=9.3								
WRA				S		**S**	**S**	**18 34 54.1**	**-3.4**
	comp=Z,2.3nm,0.9s,baz=84,slow=15,SNR=5.5								
WRA				ScP		**ScP**	**ScP**	**18 36 18.2**	**+2.0**
	comp=Z,3.2nm,0.8s,baz=84,slow=3.2,SNR=8.6								
WRA				PKiKP		**PKiKP**	**PKiKP**	**18 40 11.9**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=360,slow=0.3,SNR=9.0								
WRA				LR		LR	LR	18 42 37.6	
	comp=Z,307nm,19.9s,baz=100,slow=36								
WRA	**Warramunga Arr**	**31.81**	**256**	P		**P**	**P**	**18 29 55.5**	**-0.9**
WRA						**PcP**	**PcP**	**18 32 43.8**	**-0.8**
WRA						**ScP**	**ScP**	**18 36 17.7**	**+1.5**
WRA						**ScS**	**ScS**	**18 40 11.1**	**-3.8**
RAR	**Rarotonga**	**31.88**	**106**	P		**P**	**P**	**18 29 56.8**	**-0.2**
	comp=Z,29nm,0.9s,baz=194,slow=5.2,SNR=5.4								
RAR	**Rarotonga**	**31.88**	**106**	P		**P**	**P**	**18 29 56.5**	**-0.5**
MOO	**Moorlands**	**32.44**	**208**	P		**P**	**P**	**18 30 03.0**	**+1.4**
	baz=33,SNR=11								
AS31	**Alice Springs**	**32.63**	**249**	P		**P**	**P**	**18 30 03.4**	**-0.2**
AS31				IAmb		IAmb	IAmb	18 30 04.8	
	comp=Z,11nm,0.7s								
ASAR	**Alice Springs**	**32.63**	**249**	P		**P**	**P**	**18 30 03.5**	**-0.1**
	comp=Z,33nm,0.7s,baz=80,slow=8.9,SNR=352								
ASAR				PcP		**PcP**	**PcP**	**18 32 46.8**	**-0.1**
	comp=Z,8.5nm,0.9s,baz=84,slow=3.0,SNR=9.4								
ASAR				S		**S**	**S**	**18 35 08.2**	**-2.1**
	comp=Z,2.7nm,1.0s,baz=78,slow=17,SNR=7.0								
ASAR				ScP		**ScP**	**ScP**	**18 36 20.9**	**+1.9**
	comp=Z,3.0nm,0.9s,baz=72,slow=3.1,SNR=8.8								
ASAR				PKiKP		**PKiKP**	**PKiKP**	**18 40 12.2**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=93,slow=1.4,SNR=8.3								
ASAR				LR		LR	LR	18 43 07.5	
	comp=Z,238nm,18.4s,baz=82,slow=36								
ASAR	**Alice Springs**	**32.63**	**249**	P		**P**	**P**	**18 30 02.3**	**-1.3**
ASAR						**PcP**	**PcP**	**18 32 46.4**	**-0.4**
ASAR						**S**	**S**	**18 35 08.4**	**-1.9**
ASAR						**ScP**	**ScP**	**18 36 20.2**	**+1.2**
TAU	**Tasmania Unive**	**32.75**	**208**	P		**P**	**P**	**18 30 04.9**	**+0.6**
TAU				IAmb		IAmb	IAmb	18 30 05.9	
	comp=Z,30nm,0.9s								
BBOO	**Buckleboo**	**33.49**	**232**	P		**P**	**P**	**18 30 12.3**	**+1.4**
	baz=34,SNR=180								
BBOO	**Buckleboo**	**33.49**	**232**	P		**P**	**P**	**18 30 12.2**	**+1.4**
MTN	**Manton Dam**	**35.15**	**269**	P		**P**	**P**	**18 30 27.4**	**+2.1**
	baz=35,SNR=3.8								
MTN	**Manton Dam**	**35.15**	**269**	P		**P**	**P**	**18 30 26.3**	**+0.9**
MTN				IAmb		IAmb	IAmb	18 31 15.3	
	comp=Z,23nm,1.1s								
SAUI	**Saumlaki**	**35.91**	**277**	P		**P**	**P**	**18 30 33.4**	**+1.5**
GUMO	**Guam**	**35.98**	**321**	LR		LR	LR	18 43 49.3	
	comp=Z,97nm,21.8s,baz=144,slow=34								
GUMO	**Guam**	**35.98**	**321**	P		**P**	**P**	**18 30 32.3**	**-0.1**
GUMO				IAmb		IAmb	IAmb	18 31 51.4	
	comp=Z,148nm,1.9s								
FAKI	**Fak Fak**	**36.55**	**286**	P		**P**	**P**	**18 30 38.9**	**+1.6**
KNRA	**Kununurra**	**37.15**	**264**	P		**P**	**P**	**18 30 42.3**	**0.0**
	baz=37,SNR=20								
KNRA	**Kununurra**	**37.15**	**264**	P		**P**	**P**	**18 30 42.3**	**0.0**
KNRA				IAmb		IAmb	IAmb	18 30 48.3	
	comp=Z,27nm,0.8s								
WRKA	**Warakurna**	**37.90**	**248**	P		**P**	**P**	**18 30 48.7**	**0.0**
	baz=38,SNR=289								
SIJI	**Sorong**	**38.23**	**288**	LR		LR	LR	18 47 14.8	
	comp=Z,144nm,19.2s,baz=58,slow=37								
FORT	**Forest**	**39.23**	**239**	P		**P**	**P**	**18 31 00.5**	**+0.8**
	baz=39,SNR=144								
FORT	**Forest**	**39.23**	**239**	P		**P**	**P**	**18 31 00.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**40.01**	**260**	P		**P**	**P**	**18 31 06.9**	**+0.7**
	comp=Z,8.4nm,0.5s,baz=90,slow=8.1								
FITZ				PcP		**PcP**	**PcP**	**18 33 09.3**	**+0.4**
	comp=Z,3.6nm,0.5s,baz=68,slow=1.7,SNR=2.3								
FITZ	**Fitzroy Crossi**	**40.01**	**260**	P		**P**	**P**	**18 31 06.9**	**+0.7**
NLAI	**Namlea**	**41.27**	**282**	P		**P**	**P**	**18 31 18.6**	**+1.9**
	comp=Z,42nm,1.3s								
PAE	**Paea**	**41.42**	**100**	*e*P		**P**	**P**	**18 31 18.5**	**+0.7**
	comp=Z,7.9nm,0.9s								
PPT2	**Papeete2**	**41.42**	**100**	*e*P		**P**	**P**	**18 31 19.2**	**+1.2**
	comp=Z,43nm,0.8s								
PPT2	**Papeete2**	**41.42**	**100**	*e*LR		LR	LR	18 43 09.6	
	comp=Z,405nm,29.5s								
PPT	**Papeete**	**41.43**	**100**	P		**P**	**P**	**18 31 19.6**	**+1.7**
	comp=Z,51nm,0.8s,baz=88,slow=14,SNR=6.3								
PPTF	**Pamatai, Papee**	**41.44**	**100**	P		**P**	**P**	**18 31 18.2**	**+0.1**
PPTF				IAmb		IAmb	IAmb	18 31 22.1	
	comp=Z,58nm,0.8s								
TBI	**Tubuai**	**41.58**	**108**	*e*LQ		LQ	LQ	18 41 22.5	
	comp=Z,396nm,28.8s								
TBI				*e*LR		LR	LR	18 43 07.4	
	comp=Z,312nm,33.8s								
TVO	**Taravao**	**41.72**	**100**	*e*P		**P**	**P**	**18 31 21.5**	**+1.1**
	comp=Z,22nm,0.9s								
BATI	**Baumata**	**42.80**	**271**	P		**P**	**P**	**18 31 31.0**	**+1.9**
	comp=Z,47nm,0.8s,baz=195,slow=5.0								
BATI				LR		LR	LR	18 49 05.7	
	comp=Z,102nm,20.0s,baz=117,slow=36								
MEH	**Mehetia**	**42.85**	**100**	*e*P		**P**	**P**	**18 31 30.4**	**+0.9**
	comp=Z,40nm,1.2s								
PMOR	**Pomariorio Ree**	**43.23**	**96**	*e*P		**P**	**P**	**18 31 34.0**	**+1.5**
	comp=Z,225nm,1.1s								
MMRI	**Maumere**	**44.49**	**273**	P		**P**	**P**	**18 31 43.8**	**+1.1**
MMRI				IAmb		IAmb	IAmb	18 33 27.5	
	comp=Z,55nm,1.0s								
KMBL	**Kambalda**	**44.53**	**240**	P		**P**	**P**	**18 31 43.1**	**+0.3**
	baz=45,SNR=12								
PSA00	**Pilbara Seismi**	**45.42**	**254**	P		**P**	**P**	**18 31 50.0**	**+0.1**
PSA00				IAmb		IAmb	IAmb	18 31 51.6	
	comp=Z,32nm,0.8s								
MEEK	**Meekatharra**	**46.74**	**247**	P		**P**	**P**	**18 32 00.8**	**+0.5**
	baz=47,SNR=48								
DAV	**Davao City (W)**	**46.77**	**295**	LR		LR	LR	18 51 15.7	
	comp=Z,61nm,19.8s,baz=75,slow=35								
KLBR	**Kellerberrin**	**48.04**	**241**	P		**P**	**P**	**18 32 10.1**	**-0.1**
	baz=48,SNR=9.8								
JCJ	**Chichijima**	**48.36**	**330**	P		**P**	**P**	**18 32 11.8**	**-0.7**
	comp=Z,40nm,0.5s,baz=285,slow=13,SNR=4.7								
JCJ	**Chichijima**	**48.36**	**330**	P		**P**	**P**	**18 32 11.7**	**-0.9**
JCJ				IAmb		IAmb	IAmb	18 32 46.6	
	comp=Z,52nm,0.8s								
NWAO	**Narrogin (SRO)**	**48.68**	**239**	P		**P**	**P**	**18 32 15.1**	**+0.1**
NWAO				IAmb		IAmb	IAmb	18 32 16.3	
	comp=Z,82nm,1.1s								
NWAO	**Narrogin (SRO)**	**48.68**	**239**	P		**P**	**P**	**18 32 14.6**	**-0.5**
NWAO				IAmb		IAmb	IAmb	18 32 16.2	
	comp=Z,72nm,1.2s								
BLDU	**Ballidu**	**48.80**	**242**	P		**P**	**P**	**18 32 15.4**	**-0.6**
	baz=49,SNR=5.6								
KEKH	**Kekaha**	**48.90**	**42**	P		**P**	**P**	**18 32 17.6**	**+0.8**
MORW	**Morawa**	**49.21**	**244**	P		**P**	**P**	**18 32 19.2**	**0.0**
	baz=49,SNR=34								
MORW	**Morawa**	**49.21**	**244**	P		**P**	**P**	**18 32 19.2**	**0.0**
MORW				IAmb		IAmb	IAmb	18 32 20.4	
	comp=Z,42nm,0.7s								
MPSI	**Mapaga**	**49.24**	**284**	P		**P**	**P**	**18 32 20.6**	**+1.0**
	comp=Z,21nm,1.1s								
MUN	**Mundaring**	**49.40**	**241**	P		**P**	**P**	**18 32 21.0**	**+0.4**
	baz=50,SNR=6.9								
TWSI	**Taliwang, Sumb**	**49.64**	**271**	P		**P**	**P**	**18 32 23.9**	**+1.2**
	comp=Z,68nm,0.9s								
OPA	**Opana**	**49.81**	**44**	P		**P**	**P**	**18 32 25.1**	**+1.4**
KHU	**Kahuku**	**49.85**	**48**	P		**P**	**P**	**18 32 25.4**	**+1.1**
AIN	**Ainahou**	**50.04**	**48**	P		**P**	**P**	**18 32 26.3**	**+0.6**
HMH	**Humu'ula Sheep**	**50.17**	**48**	P		**P**	**P**	**18 32 27.6**	**+0.7**
MLH	**Mauna Loa**	**50.17**	**48**	P		**P**	**P**	**18 32 27.4**	**+0.6**
UWE	**Uwekahuna**	**50.19**	**48**	P		**P**	**P**	**18 32 25.9**	**-0.9**
HPAH	**Hawaii Prepara**	**50.30**	**47**	P		**P**	**P**	**18 32 27.9**	**+0.4**
HLK	**Haleakala**	**50.38**	**46**	P		**P**	**P**	**18 32 29.1**	**+0.8**
GIRL	**Giralia**	**50.61**	**253**	P		**P**	**P**	**18 32 31.6**	**+1.7**
	baz=51,SNR=4.5								
GIRL	**Giralia**	**50.61**	**253**	P		**P**	**P**	**18 32 31.5**	**+1.7**
MYLDM	**Lahad Datu**	**52.32**	**289**	P		**P**	**P**	**18 32 45.9**	**+3.2**
MYLDM				IAmb		IAmb	IAmb	18 33 32.5	
	comp=Z,24nm,1.0s								
JAGI	**Jajag, Banyuwa**	**52.34**	**271**	P		**P**	**P**	**18 32 42.1**	**-0.7**
JHJ2	**Mitsune**	**54.49**	**332**	P		**P**	**P**	**18

CN2 pmax pmax
comp=Z,10.0nm,0.6s
RPSI Rantau Prapat 69.88 279 P **P** **18 34 41.3 +0.1**
RPSI IAmb IAmb 18 34 42.3
comp=Z,22nm,0.9s
TSI Tuntungan 70.46 279 P **P** **18 34 45.5 +0.7**
GSI Gunungsitoli 70.78 277 P **P** **18 34 47.8 +1.0**
GSI Gunungsitoli 70.78 277 P **P** **18 34 47.1 +0.3**
GSI IAmb IAmb 18 34 48.6
comp=Z,47nm,0.8s
KLR Kul'dur 71.19 336 P **P** **18 34 49.9 +1.5**
comp=Z,6.2nm,0.7s,baz=127,slow=4.3,SNR=25
ENH Enshi 71.50 309 P **P** **18 34 50.5 -0.3**
ENH IAmb IAmb 18 34 52.4
comp=Z,16nm,0.9s
GYA Guiyang 71.84 305 ⇑P **P** **18 34 54.0 +1.0**
GYA pP pP 18 35 26.5 +1.9
GYA S **S** **18 44 01.3 -2.3**
GYA SKS **SKSac** **18 44 38.0 -7.3**
GYA pmax pmax
comp=Z,9.0nm,0.8s
GYA pmax pmax
comp=Z,56nm,3.5s
GYA LR LR
comp=Z,63nm,3.8s
GYA LR LR
comp=Z,58nm,3.8s
GYA LR LR
comp=Z,73nm,7.6s
SLVN Son La 71.87 299 P **P** **18 34 54.1 +0.9**
BJT Baijiatuan 72.42 321 P **P** **18 34 57.3 +1.3**
BJI Beijing 72.42 321 P **P** **18 34 57.1 +1.1**
BJI LR LR
comp=Z,110nm,12.6s
BJI LR LR
comp=Z,73nm,13.3s
PBKT Sadao Pong 72.56 293 P **P** **18 34 58.9 +1.6**
PBKT **pP** **18 35 30.1 +1.3**
MLSI Meulaboh, Aceh 72.74 279 P **P** **18 34 59.1 +0.6**
comp=Z,115nm,0.9s
TIY Taiyuan 73.41 317 *e*P **P** **18 35 03.8 +1.8**
TIY pmax pmax
comp=Z,20nm,0.5s
FALS False Pass 73.81 17 P **P** **18 35 05.9 +2.2**
XAN Xi'an 73.83 313 P **P** **18 35 05.6 +1.1**
XAN pmax pmax
comp=Z,16nm,0.7s
XAN Xi'an 73.83 313 P **P** **18 35 04.7 +0.1**
XAN **pP** **pP** **18 35 36.3 +0.3**
KMI Kunming 74.43 302 P **P** **18 35 09.9 +1.5**
KMI **pP** **18 35 40.5 +0.3**
KMI IAmb IAmb 18 35 44.1
comp=Z,14nm,0.8s
CM31 Chiang Mai Arr 75.05 294 P **P** **18 35 12.8 +1.0**
CM31 pP **pP** **18 35 44.9 +1.2**
CMAR Chiang Mai Arr 75.05 294 P **P** **18 35 13.6 +1.8**
comp=Z,6.7nm,0.8s,baz=126,slow=4.7,SNR=44
CMAR pP **pP** **18 35 44.2 +0.6**
comp=Z,7.5nm,0.9s,baz=128,slow=4.5,SNR=8.2
CMAR Chiang Mai Arr 75.05 294 P **P** **18 35 12.0 +0.2**
CMAR pP **pP** **18 35 44.5 +0.8**
QSPA South Pole Qui 75.12 180 P **P** **18 35 11.2 -0.3**
CHTO Chiang Mai 75.18 294 P **P** **18 35 13.3 +0.7**
CHTO pP **pP** **18 35 43.3 -1.1**
MA2 Magadan 75.43 351 P **P** **18 35 13.4 +0.3**
comp=Z,9.6nm,0.8s,baz=346,slow=23,SNR=4.1
MA2 Magadan 75.43 351 P **P** **18 35 13.0 0.0**
MA2 IAmb IAmb 18 35 21.4
comp=Z,33nm,1.2s
HHC Hu-ho-hao-te 75.74 320 *e*P **P** **18 35 17.4 +2.0**
HHC sP sP 18 36 05.1 +4.1
HHC S **S** **18 44 44.3 -2.5**
HHC pmax pmax
comp=Z,10.0nm,1.2s
HHC pmax pmax
comp=Z,47nm,5.9s
CD2 Chengdu 76.14 308 *e*P **P** **18 35 18.0 +0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LZH Lanzhou 78.46 312 *e*P **P** **18 35 31.5 +0.7**
LZH pP pP 18 36 02.5 -0.5
LZH sP sP 18 36 16.4 -0.3
LZH pmax pmax
comp=Z,21nm,1.0s
SEY Seymchan 78.47 353 P **P** **18 35 30.1 +0.2**
comp=Z,12nm,0.9s,baz=136,slow=5.0,SNR=8.6
MAW Mawson 81.73 202 P **P** **18 35 48.2 +0.6**
comp=Z,23nm,0.9s,baz=108,slow=6.1,SNR=47
MAW LR LR 19 07 31.4
comp=Z,60nm,21.2s,baz=60,slow=32
MAW Mawson 81.73 202 P **P** **18 35 47.5 -0.1**
YAK Yakutsk 82.21 343 P **P** **18 35 50.5 +0.5**
comp=Z,25nm,0.6s,baz=332,slow=0.9,SNR=36
YAK PKKP **PKKPdf** **18 54 10.8 -0.5**
comp=Z,1.7nm,0.3s,baz=270,slow=1.0,SNR=4.5
YAK Yakutsk 82.21 343 P **P** **18 35 50.1 0.0**
YAK IAmb IAmb 18 35 52.1
comp=Z,47nm,0.7s
ULN Ulaanbaatar 82.30 324 P **P** **18 35 51.5 +0.4**
ULN IAmb IAmb 18 35 53.3
comp=Z,13nm,0.8s
ULN pP **pP** **18 36 22.2 -1.1**
SONM Songino Array 82.66 324 P **P** **18 35 53.8 +0.9**
comp=Z,4.8nm,0.7s,baz=149,slow=7.3,SNR=29
SONM Songino Array 82.66 324 P **P** **18 35 53.0 0.0**
GTA Gaotai 82.81 314 *e*P **P** **18 35 55.1 +1.2**
GTA pP pP 18 36 26.0 -0.4
GTA sP sP 18 36 41.5 +1.5
GTA S **S** **18 46 04.4 +2.7**
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,41nm,4.6s
GTA LR LR
comp=Z,52nm,19.0s
GTA LR LR
comp=Z,80nm,18.7s
GTA LR LR
comp=Z,68nm,18.1s
SHL Shillong 83.68 298 P **P** **18 35 59.1 +0.4**
SHL IAmb IAmb 18 36 00.3
comp=Z,46nm,0.9s
SHL pP **pP** **18 36 31.6 +0.6**
O02D Mt. Diablo Mer 84.83 46 P **P** **18 36 04.8 +0.7**
baz=246
N02D Trinity Center 85.22 46 P **P** **18 36 06.8 +0.8**
baz=246
TGL Tana Glacier 85.23 22 pP 18 36 38.0 +0.4
MCK McKinley 85.32 18 P **P** **18 36 05.0 -0.9**
MCK pP **pP** **18 36 39.5 +1.7**
MCK IAmb IAmb 18 36 43.9
comp=Z,19nm,1.1s
YBH Yreka Blue Hor 85.53 45 P **P** **18 36 07.2 -0.3**
YBH **pP** **18 36 38.7 -0.7**
LSA Lhasa 85.68 302 P **P** **18 36 09.8 +0.8**
LSA IAmb IAmb 18 36 11.0
comp=Z,10nm,0.8s
CMB Columbia Colle 85.70 49 P **P** **18 36 06.8 -1.6**
CMB **pP** **18 36 39.2 -1.1**
IMAR Indian Mountai 85.73 15 P **P** **18 36 07.6 -0.3**
L04D Klamath Falls 86.00 45 P **P** **18 36 10.3 +0.4**
baz=246
WRH Wood River Hil 86.12 18 P **P** **18 36 08.0 -1.8**
WRH IAmb IAmb 18 37 41.7
comp=Z,20nm,1.4s
TLY Talaya 86.16 326 P **P** **18 36 08.4 -2.0**
TLY IAmb IAmb 18 36 12.6
comp=Z,12nm,0.7s
ISA Isabella, Lake 86.24 52 P **P** **18 36 11.4 +0.3**
baz=249
CCB Clear Creek Bu 86.33 18 P **P** **18 36 09.4 -1.4**
EDW2 Edwards Air Fo 86.33 53 P **P** **18 36 12.2 +0.6**
baz=249
HDA Harding Lake 86.41 18 P **P** **18 36 11.1 -0.2**
baz=224
HDA Harding Lake 86.41 18 P **P** **18 36 10.4 -0.9**
HDA **pP** **18 36 43.8 +0.6**
HDA IAmb IAmb 18 36 48.8
comp=Z,14nm,0.8s
MDM Murphy Dome 86.43 17 P **P** **18 36 09.9 -1.4**
MDM **pP** **18 36 43.4 0.0**
MDPB Devils Postpil 86.51 50 P **P** **18 36 12.4 -0.3**
MDPB **pP** **18 36 43.3 -1.3**
WAKR Walker 86.57 49 P **P** **18 36 12.4 -0.4**
WAKR **pP** **18 36 44.2 -0.6**

IL31 86.69 18 P **P** **18 36 10.8 -1.8**
ILAR Eielson Array 86.69 18 P **P** **18 36 11.2 -1.3**
comp=Z,6.9nm,0.8s,baz=235,slow=5.8,SNR=42
ILAR LR LR 19 09 01.6
comp=Z,74nm,20.7s,baz=224,slow=31
ILAR Eielson Array 86.69 18 P **P** **18 36 11.0 -1.6**
CWC Cottonwood Cre 86.82 51 P **P** **18 36 14.7 +0.6**
baz=249
MONP2 Monument Peak 86.86 55 P **P** **18 36 14.9 +0.5**
baz=250
PFO Pinyon Flats O 87.08 54 P **P** **18 36 15.7 +0.3**
baz=250
TPFO Pinon Flats 87.08 54 P **P** **18 36 15.8 +0.4**
baz=250
MPMC Manual Prospec 87.13 52 P **P** **18 36 16.2 +0.5**
baz=249
BCAR Beaver Creek A 87.14 21 P **P** **18 36 14.2 -0.7**
J05D Fort Rock, OR 87.15 44 P **P** **18 36 15.9 +0.4**
baz=246
LHV Little Huntoon 87.16 49 P **P** **18 36 15.3 -0.1**
LHV **pP** **18 36 46.4 -1.0**
RYN Ryan 87.28 49 P **P** **18 36 15.5 -0.8**
NVAR Mina Array Bea 87.37 49 P **P** **18 36 17.1 +0.3**
comp=Z,0.9nm,0.7s,baz=231,slow=7.7,SNR=9.6
NVAR pP **pP** **18 36 46.9 -1.9**
comp=Z,2.0nm,0.8s,baz=224,slow=7.5,SNR=5.7
NVAR PKKPbc **PKKPbc** **18 54 07.4 -0.3**
comp=Z,0.4nm,0.6s,baz=111,slow=4.9,SNR=4.0
NVAR PKPPKP **P'P'df** **19 02 14.0 +0.2**
comp=Z,0.6nm,0.9s,baz=101,slow=3.0,SNR=4.2
NVAR Mina Array Bea 87.37 49 P **P** **18 36 16.2 -0.6**
NVAR pP **pP** **18 36 46.3 -2.4**
NV11 Mina Array Sit 87.48 49 P **P** **18 36 16.0 -1.2**
NV11 **pP** **18 36 48.5 -0.7**
PINE Pine Mountain 87.55 44 P **P** **18 36 16.6 -0.8**
PINE **pP** **18 36 47.6 -1.9**
BELC Belle Mtn. Jos 87.57 54 P **P** **18 36 18.3 +0.6**
baz=250
COLD Coldfoot 87.60 15 P **P** **18 36 19.0 +2.1**
baz=221
COLD Coldfoot 87.60 15 P **P** **18 36 17.6 +0.7**
D03D Eldon 87.70 39 P **P** **18 36 18.8 +1.0**
baz=245
FURC Furnace Creek, 87.75 51 P **P** **18 36 18.9 +0.6**
baz=250
TAPN Taplejung 87.79 299 *e*P **P** **18 36 19.7 +0.6**
comp=Z,16nm,0.5s
BC3 Big Chuckawall 87.88 54 P **P** **18 36 19.8 +0.6**
baz=251
ODAN Odare 87.92 298 *e*P **P** **18 36 19.6 0.0**
comp=Z,55nm,0.7s
GMRC Granite Mounta 88.10 53 P **P** **18 36 20.6 +0.4**
baz=250
TUQ Turquoise Moun 88.11 53 P **P** **18 36 20.9 +0.6**
baz=250
GLA Glamis 88.18 55 P **P** **18 36 21.0 +0.5**
baz=251
GLA Glamis 88.18 55 P **P** **18 36 21.2 +0.7**
GLA IAmb IAmb 18 36 23.1
comp=Z,8.5nm,0.7s
IRM Iron Mountain 88.29 54 P **P** **18 36 21.5 +0.5**
baz=251
TPNV Topopah Spring 88.37 51 P **P** **18 36 22.3 +0.8**
baz=250
TPNV Topopah Spring 88.37 51 P **P** **18 36 21.1 -0.4**
A04D Lummi Island 88.43 38 P **P** **18 36 22.4 +1.2**
baz=245
EGAK Eagle 88.48 20 P **P** **18 36 20.4 -0.7**
SYO Syowa Base 88.54 197 ⇓*i*P **P** **18 36 19.8 -1.7**
SYO Syowa Base 88.54 197 ⇓*i*PcP **P** **18 36 21.7 +0.2**
SYO Syowa Base 88.54 197 ⇑*e*pP pP 18 36 54.4 0.0
B05A Bryant 88.61 39 P **P** **18 36 22.9 +0.8**
baz=246
RAMN Ramite 88.61 298 *e*P **P** **18 36 23.2 +0.2**
comp=Z,16nm,0.5s
I07A Izee 88.62 44 P **P** **18 36 22.4 -0.1**
PDMCI Parker Dam,Lak 89.12 54 P **P** **18 36 26.1 +1.3**
baz=251
JIRN Jiri 89.17 299 *e*P **P** **18 36 26.0 +0.3**
R11A Troy Canyon, C 89.34 50 P **P** **18 36 26.4 +0.3**
baz=250
PRN Pahroc Range 89.43 51 P **P** **18 36 25.7 -0.7**
G08A Pilot Rock 89.43 43 P **P** **18 36 25.8 -0.4**
GUN Gumba 89.51 299 *e*P **P** **18 36 27.9 +0.6**
W13A Hualapai Mount 89.58 54 P **P** **18 36 27.2 0.0**
W13A **pP** **18 36 59.3 0.0**
PKI Pulchoki 89.81 298 *e*P **P** **18 36 28.2 -0.4**
comp=Z,31nm,0.8s
DMN Daman 90.08 298 *e*P **P** **18 36 30.1 +0.3**
comp=Z,36nm,0.9s
TIXI Tiksi 90.15 349 P **P** **18 36 27.8 -1.0**
GKN Gorkha 90.59 299 *e*P **P** **18 36 31.6 -0.4**
comp=Z,23nm,0.7s
LCMT Little Creek M 90.67 52 P **P** **18 36 32.2 0.0**
LCMT pP **pP** **18 37 03.3 -1.0**
PSUT Pine Spring 90.69 50 P **P** **18 36 32.7 +0.4**
CCUT Cedar City 90.75 51 P **P** **18 36 33.0 +0.3**
MFID Camas Ranch 90.87 45 P **P** **18 36 32.6 -0.3**
KNB Kanab 90.99 52 P **P** **18 36 31.2 -2.5**
TUC Tucson 91.20 57 P **P** **18 36 36.1 +1.4**
baz=253
X16A Lo Mia Camp, P 91.29 55 P **P** **18 36 34.5 -0.7**
KOLN Koldanda 91.40 298 *e*P **P** **18 36 35.1 -0.8**
DANN Dangsing 91.43 299 *e*P **P** **18 36 35.9 -0.2**
WUAZ Wupatki 91.66 54 P **P** **18 36 37.4 +0.5**
baz=253
WUAZ Wupatki 91.66 54 P **P** **18 36 36.1 -0.8**
MTPU Mount Pierson 91.79 51 P **P** **18 36 37.8 +0.2**
PYUN Piuthan 92.01 298 *e*P **P** **18 36 37.6 -1.1**
W18A Petrified Fore 92.83 55 P **P** **18 36 43.8 +1.5**
baz=254
WMQ Urumqi 92.88 315 *e*P **P** **18 36 43.8 +1.6**
WMQ pP pP 18 37 18.3 +3.3
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax
comp=Z,45nm,4.9s
WMQ LR LR
comp=Z,65nm,15.9s
WMQ LR LR
comp=Z,200nm,15.9s
WMQ LR LR
comp=Z,84nm,18.9s
SNAA Sanae 93.37 183 P **P** **18 36 42.8 -1.1**
SNAA Sanae 93.37 183 P **P** **18 36 42.7 -1.3**
SNAA IAmb IAmb 18 36 45.4
comp=Z,19nm,1.0s
VNA3 Neumayer Olymp 94.03 181 P **P** **18 36 45.7 -1.3**
PV23 Carpenter Ridg 94.30 51 P **P** **18 36 48.9 -0.2**
PV23 IAmb IAmb 18 37 26.1
comp=Z,5.1nm,0.8s
VNA2 Neumayer--Watz 94.30 182 P **P** **18 36 47.2 -1.0**
baz=182,slow=3.8
PV22 Blue Mesa, Par 94.49 51 P **P** **18 36 49.7 -0.1**
VNA1 Neumayer--Stat 94.60 181 P **P** **18 36 48.5 -1.0**
PDAR Pinedale Array 95.05 47 P **P** **18 36 50.9 -1.5**
comp=Z,0.1nm,0.4s,baz=291,slow=10,SNR=2.0
PDAR PKKPbc **PKKPbc** **18 53 46.6 -1.7**
comp=Z,0.7nm,0.7s,baz=91,slow=5.9,SNR=6.6
PDAR LR LR 19 17 29.8
comp=Z,21nm,18.1s,baz=305,slow=34
PDAR Pinedale Array 95.05 47 P **P** **18 36 50.4 -2.0**
PDAR **PKKPbc** **18 53 46.4 -1.9**
TXAR Lajitas Array 96.34 61 P **P** **18 36 57.9 -0.5**
comp=Z,0.5nm,0.7s,baz=223,slow=5.2,SNR=9.9
TXAR pP **pP** **18 37 31.0 +0.4**
comp=Z,0.5nm,0.7s,baz=240,slow=4.7,SNR=3.9
TXAR PP **PP** **18 40 53.6 -0.3**
comp=Z,0.2nm,0.7s,baz=289,slow=3.8,SNR=4.2
TXAR PKKPbc **PKKPbc** **18 53 43.9 -0.2**
comp=Z,0.4nm,0.8s,baz=108,slow=4.1,SNR=5.5
TXAR PKPPKP 19 01 58.7
comp=Z,0.3nm,0.9s,baz=60,slow=4.3,SNR=2.8
TXAR Lajitas Array 96.34 61 P **P** **18 36 57.5 -0.9**
TXAR **PP** **18 40 53.3 -0.5**
TXAR **PKKPbc** **18 53 43.9 -0.2**
MK31 Makanchi Array 97.36 316 P Pdif 18 37 02.8 +0.3
MK31 IAmb IAmb 18 37 04.2
comp=Z,5.1nm,0.8s
MKAR Makanchi Array 97.36 316 P Pdif 18 37 02.8 +0.3
comp=Z,7.1nm,0.8s,baz=98,slow=6.0,SNR=54
MKAR pP pP 18 37 36.2 +0.8
comp=Z,3.2nm,0.7s,baz=79,slow=8.0,SNR=4.6
MKAR Makanchi Array 97.36 316 P **P** **18 37 02.0 -0.5**
MKAR pP **pP** **18 37 34.8 -0.6**

ZAA0 Zalesovo Array 97.56 324 P **P** **18 37 02.1 -1.0**
ZAA0 IAmb IAmb 18 37 05.0
comp=Z,5.6nm,0.8s
ZALV Zalesovo Beam 97.56 324 P **P** **18 37 02.3 -0.9**
comp=Z,6.2nm,0.7s,baz=114,slow=4.4,SNR=23
ZALV pP **pP** **18 37 35.4 -0.8**
comp=Z,2.7nm,0.8s,baz=117,slow=5.6,SNR=3.1
ZALV LR LR 19 19 42.5
comp=Z,15nm,21.6s,baz=80,slow=34
ZALV Zalesovo Beam 97.56 324 P **P** **18 37 02.1 -1.0**
ZALV pP **pP** **18 37 34.8 -1.3**
MAKZ Makanchi 97.57 316 P Pdif 18 37 03.9 +0.4
MAKZ IAmb IAmb 18 37 05.2
comp=Z,6.2nm,1.1s
YKA Yellowknife Ar 97.70 27 LR LR 19 13 31.5
comp=Z,18nm,21.9s,baz=0.0,slow=31
NRIK Noril'sk 100.25 339 P **Pdif** **18 37 14.7 -0.1**
comp=Z,3.2nm,0.7s,baz=106,slow=7.8,SNR=5.8
KSH Kashi 100.33 308 *e*P **Pdif** **18 37 16.8 +0.7**
KURK Kurchatov 100.56 320 **Pdif** **18 37 17.0 +0.4**
KURK **PP** **18 41 25.4 +0.1**
KURBB Kurchatov Arra 100.60 320 P **Pdif** **18 37 17.0 +0.2**
comp=Z,0.4nm,0.8s,baz=89,slow=4.7,SNR=2.3
KURBB PP **PP** **18 41 25.4 -0.2**
comp=Z,0.4nm,0.9s,baz=98,slow=6.7,SNR=2.2
BVAR Borovoye Array 105.91 321 Pdiff **Pdif** **18 37 39.7 -0.6**
comp=Z,0.5nm,0.7s,baz=112,slow=6.6,SNR=4.5
AKTO Aktyubinsk 113.63 319 PKiKP **PKiKP** **18 42 05.8 -0.9**
comp=Z,1.1nm,0.6s,baz=100,slow=5.1,SNR=4.8
KIRV Kirov 117.04 329 PKP **PKPdf** **18 42 12.9 -0.1**
comp=Z,5.9nm,0.6s,baz=350,slow=6.1,SNR=2.3
ARCES ARCESS Array B 120.44 345 PKP **PKPdf** **18 42 18.9 -0.5**
comp=Z,4.5nm,0.5s,baz=80,slow=1.2,SNR=33
ARCES ARCESS Array B 120.44 345 **PKPdf** **18 42 18.6 -0.8**
KLMR Klimovskoe 120.86 333 *e*PKPdf **PKPdf** **18 42 18.3 -2.0**
KLMR AMP 18 42 21.2
comp=Z,9.0nm,1.0s
KLMR *e*pPKPdf **pPKPdf** **18 42 53.3 -1.3**
BOSA Boshof 123.25 220 PKP **PKPdf** **18 42 25.3 -0.9**
comp=Z,5.8nm,0.8s,baz=330,slow=18,SNR=16
BOSA Boshof 123.25 220 **PKPdf** **18 42 25.8 -0.4**
AKH Akhalkalaki 124.97 310 ⇓P **PKPdf** **18 42 25.3 -3.8**
AKH Akhalkalaki 124.97 310 **PKPdf** **18 42 28.4 -0.7**
LBTB Lobatse 125.51 224 PKPdf **PKPdf** **18 42 29.5 -1.1**
FINES FINESS Array B 125.90 338 PKP **PKPdf** **18 42 29.5 -0.5**
comp=Z,4.7nm,0.9s,baz=8.7,slow=1.8,SNR=11
FINES FINESS Array B 125.90 338 **PKPdf** **18 42 29.3 -0.7**
KMBO Kilima Mbogo 128.09 257 PKP **PKiKP** **18 42 38.4 +1.8**
comp=Z,3.0nm,0.8s,baz=43,slow=6.7,SNR=6.2
LSZ Lusaka 129.67 235 **PKPdf** **18 42 37.9 -0.9**
NB2 NORSAR Subarra 130.81 345 PKPdf **PKPdf** **18 42 39.8 +0.4**
comp=Z,0.6nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B 130.81 345 PKhKP PKPpre 18 42 34.3
comp=Z,0.4nm,0.8s,baz=59,slow=2.6,SNR=1.4
NOA PKP **PKPdf** **18 42 39.6 +0.2**
comp=Z,1.1nm,0.6s,baz=34,slow=2.0,SNR=6.3
NOA SKPbc **SKPab** **18 45 52.9 +0.9**
comp=Z,3.9nm,1.0s,baz=28,slow=3.3,SNR=8.5
AKASG Malin Array Be 130.90 326 PKP **PKPdf** **18 42 39.6 -0.2**
comp=Z,1.8nm,0.9s,baz=74,slow=1.8,SNR=6.8
AKASG pPKP **pPKPdf** **18 43 13.4 -0.7**
comp=Z,0.3nm,0.2s,baz=62,slow=1.6,SNR=2.1
AKASG SKPbc **SKPab** **18 45 53.4 +0.7**
comp=Z,2.0nm,0.7s,baz=46,slow=4.5,SNR=9.4
AKASG PKKPab 18 51 39.4
comp=Z,0.6nm,0.5s,baz=239,slow=9.3,SNR=4.4
AKASG Malin Array Be 130.90 326 **PKPdf** **18 42 38.6 -1.3**
AKASG **SKPab** **18 45 53.0 +0.4**
HFS Hagfors 130.91 343 PKP **PKPdf** **18 42 39.3 -0.3**
comp=Z,1.5nm,0.6s,baz=39,slow=9.3,SNR=4.0
ASF Jabal al Asfar 131.83 300 PKP **PKPdf** **18 42 42.5 +0.2**
comp=Z,0.6nm,0.4s,baz=355,slow=5.7,SNR=4.7
BR131 Keskin Array S 132.65 311 PKPdf **PKPdf** **18 42 43.4 -0.3**
BRTR Keskin Array B 132.65 311 PKP **PKiKP** **18 42 44.5 -0.4**
comp=Z,1.3nm,0.9s,baz=152,slow=4.8,SNR=6.8
BRTR pPKP **pPKPdf** **18 43 18.2 +0.3**
comp=Z,0.9nm,0.8s,baz=151,slow=2.8,SNR=3.2
BRTR SKPbc **SKPab** **18 46 00.9 +0.2**
comp=Z,0.9nm,0.7s,baz=114,slow=3.5,SNR=6.4
BRTR Keskin Array B 132.65 311 PKPdf **PKPdf** **18 42 43.4 -0.3**
BRTR **SKPab** **18 46 01.1 +0.3**
SORM Soroca 132.71 323 ⇑P **PKPdf** **18 42 40.0 -3.3**
MMAI Mount Meron Ar 132.93 301 PKP **PKiKP** **18 42 45.9 +0.3**
comp=Z,0.5nm,0.4s,baz=95,slow=4.6,SNR=3.7
EIL Elat 133.85 297 PKP **PKiKP** **18 42 48.0 +0.6**
comp=Z,2.0nm,0.7s,baz=141,slow=6.5,SNR=2.9
CFR Carcaliu 134.28 320 ⇓P **PKPdf** **18 42 43.3 -3.0**
BUR08 Bucovina Ar. S 134.77 324 PKPdf **PKPdf** **18 42 47.8 +0.4**
BURAR Bucovina Array 134.77 324 ⇑P **PKiKP** **18 42 49.1 +0.3**
BURAR Bucovina Array 134.77 324 PKPdf **PKPdf** **18 42 47.0 -0.5**
MLR Muntele Rosu 135.47 321 PKP **PKiKP** **18 42 50.1 -0.3**
comp=Z,1.1nm,0.6s,baz=166,slow=19,SNR=3.3
MLR Muntele Rosu 135.47 321 ⇑P **PKPdf** **18 42 45.8 -3.1**
VOIR 136.04 322 ⇓P **PKPdf** **18 42 49.1 -0.7**
ARR Arges 136.32 322 ⇑P **PKPdf** **18 42 51.2 +0.9**
MORC Moravsky Berou 137.40 331 ⇓P **PKPdf** **18 42 48.7 -3.5**
OSTC Ostas 137.45 333 *e*PKPDF **PKPdf** **18 42 51.9 -0.3**
VYHS Vyhne 137.65 329 *e*PKP **PKPdf** **18 42 52.2 -0.4**
BZS Buzias 137.95 324 ⇓P **PKPdf** **18 42 51.5 -1.7**
CLL Collm 138.23 336 *e*PKPpre PKPpre 18 42 45.0
CLL *e*PKPdf **PKiKP** **18 42 55.0 -0.6**
MDVR Moldovita 138.38 323 ⇑P **PKPdf** **18 42 53.8 -0.3**
MODS Modra-Piesok 138.50 330 *e*PKP **PKPdf** **18 42 54.2 0.0**
EKA Eskdalemuir Ar 138.99 352 PKhKP PKPpre 18 42 50.4
comp=Z,0.6nm,0.5s,baz=26,slow=3.4,SNR=1.9
KHC Kasperske Hory 139.66 333 *e*PKPpre PKPpre 18 42 50.0
KHC *e*PKPDF **PKiKP** **18 42 58.5 -0.2**
GERES GERESS Array B 139.82 333 PKhKP PKPpre 18 42 49.9
comp=Z,2.1nm,0.6s,baz=46,slow=3.9,SNR=12
GERES GERESS Array B 139.82 333 PKPdf **PKPdf** **18 42 51.4 -5.3**
IDI Anoyia 140.69 308 PKhKP PKPpre 18 42 53.9
comp=Z,3.4nm,0.5s,baz=355,slow=11,SNR=1.3
WATA Walderalm 141.89 333 *i* PKPdf **PKPdf** **18 42 55.0 -5.6**
comp=Z,3.4nm,0.6s
ABTA Abfaltersbach 141.92 332 *i* PKPdf **PKPdf** **18 42 55.8 -4.7**
comp=Z,8.0nm,1.1s
WTTA Wattenberg 141.92 333 *i* PKPdf **PKPdf** **18 42 57.0 -3.6**
comp=Z,10nm,1.0s
MOTA Moosalm 142.09 333 *i* PKPdf **PKPdf** **18 42 57.1 -3.8**
comp=Z,16nm,1.0s,SNR=6.5
RETA Reutte 142.13 334 *i* PKPdf **PKPdf** **18 42 57.8 -3.0**
comp=Z,7.2nm,1.0s
SQTA Sankt Quirin 142.14 333 *i* PKPdf **PKPdf** **18 42 57.6 -3.3**
comp=Z,15nm,1.1s
STAL STALIGIAL 142.19 331 **PKPdf** **18 42 57.8 -3.1**
FETA Feichten 142.50 333 *i* PKPdf **PKPdf** **18 42 58.4 -3.3**
comp=Z,29nm,1.3s,SNR=12
DAVA Damuels 142.66 334 *i* PKPdf **PKPdf** **18 42 59.0 -2.9**
comp=Z,20nm,1.4s
CTI Castel Tesino 142.84 332 PKPdf **PKPdf** **18 42 58.7 -3.5**
DAVOX Davos/Dischmat 143.06 334 PKP PKPbc 18 43 00.6 +0.8
comp=Z,23nm,0.6s,baz=105,slow=0.9,SNR=48
TUE Stuetta 143.53 334 PKPdf PKPbc 18 43 01.2 +0.1
SGRT San Giovanni R 143.68 323 PKPdf PKPbc 18 43 01.5 -0.1
MATE Matera 143.78 321 ⇓P PKPbc 18 43 01.6 -0.2
PRMA PARMA 144.42 331 **PKPdf** **18 43 04.5 -0.4**
SENIN Lac Senin/Sane 144.45 336 PKPdf PKPbc 18 43 04.5 +0.5
TIP Timpagrande 144.60 319 ⇑P **PKPdf** **18 43 05.2 -0.3**
TIP Timpagrande 144.60 319 PKPdf PKPbc 18 43 04.9 +0.4
AQU L'Aquila 144.60 326 PKPdf **PKPdf** **18 43 05.3 0.0**
CLF Chambon-Foret 144.74 343 **PKPdf** **18 43 04.9 -0.4**
PAOL Paolisi 144.82 323 **PKPab** **18 43 04.7 -0.4**
OSSC Osservatorio P 144.90 329 PKPbc 18 43 04.8 -0.4
CEL Celeste 145.68 318 **PKPbc** **18 43 07.7 -0.2**
BNI Bardonecchia 145.77 335 **PKPab** **18 43 08.4 -0.2**
VAE Valguarnera 147.09 318 PKPbc **PKPbc** **18 43 11.7 -0.4**
comp=Z,7.3nm,0.8s,baz=358,slow=18,SNR=2.0
CLTB Caltabellotta 147.79 319 **PKPbc** **18 43 13.4 -0.5**
VSL Villasalto 148.78 326 **PKPbc** **18 43 16.4 +0.1**
KEST Kesra 151.37 320 PKPbc **PKiKP** **18 43 23.3 +0.1**
comp=Z,13nm,0.7s,baz=244,slow=1.1,SNR=17
KEST pPKPbc **pPKPbc** **18 43 56.8 -0.1**
comp=Z,23nm,1.0s,baz=302,slow=4.8,SNR=4.7
PBRG Braganca 152.71 350 *e*PKPab **PKPab** **18 43 37.8 +1.1**
PVRL Vila Real 153.38 352 *e*PKPab **PKPab** **18 43 40.9 +1.4**
MVO Moncorvo 153.38 350 *e*PKPbc **PKiKP** **18 43 27.8 +0.6**
MVO Moncorvo 153.38 350 *e*PKPab **PKPab** **18 43 40.8 +1.2**
PVIS Viseu 153.95 352 *e*PKPab **PKPab** **18 43 41.1 -0.9**
ESDC Sonseca Array 154.17 344 PKPbc **PKiKP** **18 43 29.1 +0.2**
comp=Z,1.5nm,1.0s,baz=338,slow=1.2,SNR=5.8
ESDC PP **PP** **18 47 13.6 -3.7**
comp=Z,1.4nm,1.0s,baz=15,slow=5.2,SNR=4.6
ESDC Sonseca Array 154.17 344 PKPdf **PKPdf** **18 43 19.9 -0.7**
ESDC PKPbc **PKPbc** **18 43 28.6 -0.2**
ESDC PKPab **PKPab** **18 43 42.9 -0.1**

MTE	**Manteigas**	**154.21 351**	*e*PKPab	**PKPab**	**18 43 44.5**	**+1.4**
PAB	**San Pablo**	**154.39 345**		**PKPab**	**18 43 44.5**	**+0.6**
PCBR	**Castelo Branco**	**154.75 351**	*e*PKPab	**PKPab**	**18 43 44.4**	**-0.9**
PMRV	**Marv??o**	**155.14 350**	*e*PKPbc	PKPdf	18 43 31.2	+9.3
PMRV	**Marv??o**	**155.14 350**	*e*PKPab	**PKPab**	**18 43 49.2**	**+2.2**
EVO	**Evora**	**156.11 351**	*e*PKPab	**PKPab**	**18 43 52.0**	**+0.8**
PBEJ	**Beja**	**156.58 350**	*e*PKPab	**PKPab**	**18 43 55.1**	**+1.9**
PNCL	**Nicolau / Gran**	**156.60 352**	*e*PKPab	**PKPab**	**18 43 55.2**	**+2.0**
PCVE	**Castro Verde**	**157.00 350**	*e*PKPab	**PKPab**	**18 43 56.5**	**+1.5**
PVAQ	**Vaqueiros**	**157.16 350**	*e*PKPab	**PKPab**	**18 43 57.1**	**+1.4**
PTEO	**Sao Teotonio**	**157.18 352**	*e*PKPab	**PKPab**	**18 43 56.0**	**+0.2**
MORF	**Marmelete**	**157.41 352**	*e*PKPab	**PKPab**	**18 43 58.2**	**+1.4**
TOA0	**Torodi Ar. Sit**	**165.92 265**	PKPdf	**PKPdf**	**18 43 33.5**	**-0.7**
TOA0			PKPab	**PKPab**	**18 44 34.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**165.92 265**	PKP	**PKPdf**	**18 43 34.0**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=85,slow=0.8,SNR=17					
TORD			PKPab	**PKPab**	**18 44 34.8**	**-0.1**
	comp=Z,6.0nm,0.8s,baz=96,slow=4.2,SNR=16					
TORD	**Torodi Ar. Bea**	**165.92 265**		**PKPdf**	**18 43 33.3**	**-1.0**
TORD			PKPab	**PKPab**	**18 44 34.4**	**-0.5**
DBIC	**Dimbokro**	**168.76 224**	PKP	**PKPdf**	**18 43 34.9**	**-1.5**
	comp=Z,7.2nm,1.1s,baz=200,slow=3.1,SNR=3.8					
DBIC			PKPab	**PKPab**	**18 44 47.3**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=149,slow=3.0,SNR=5.7					

IDC 16 18:35:25.1±4.8, 29°.85S×178°.03W, h72km±36km, mb3.4/3, mb1 3.6/3, mb1mx3.2/29, mbtmp3.7/3, Error ellipse: s-maj=107.2km s-min=57.4km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.60**	**9**	P	Pn	18 35 40.1	+0.9
	41nm,0.3s,baz=330,slow=20,SNR=1.3						
RAO				S	Sn	18 35 51.3	+1.8
	178nm,0.3s,baz=127,slow=23,SNR=4.3						
STKA	**Stephens Creek**	**34.58**	**256**	P	P	18 42 07.2	+0.1
	0.8nm,0.6s,baz=93,slow=9.3,SNR=3.6						
ASAR	**Alice Springs**	**43.12**	**266**	P	P	18 43 18.0	-0.5
	0.2nm,0.4s,baz=106,slow=7.2,SNR=9.3						
WRA	**Warramunga Arr**	**44.05**	**272**	P	P	18 43 26.1	+0.1
	0.4nm,0.3s,baz=110,slow=8.1,SNR=24						
FINES	**FINESS Array B**	**144.62**	**340**	PKP	PKPbc	18 54 52.0	+0.5
	1.6nm,1.0s,baz=81,slow=1.8,SNR=3.6						

*IDC **16** 18:40:53.2±1.2, 28°.84S×62°.13E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.5/44, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=41.0km s-min=28.3km az=28.0*

ISC 16 18:40:54.9±1.0, 28°.8S±0°.2×62°.1E±0°.2, h10km, n6, σ0s52/6, mb3.8/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**17.05**	**303**	P	**Pn**	**18 44 53.9**	**+0.2**
	0.4nm,0.3s,baz=130,slow=14,SNR=2.4						
CMAR	**Chiang Mai Arr**	**58.93**	**42**	P	**P**	**18 50 55.0**	**+0.4**
	0.8nm,0.7s,baz=226,slow=6.7,SNR=6.5						
ASAR	**Alice Springs**	**63.70**	**104**	P	**P**	**18 51 26.6**	**-0.4**
	0.4nm,0.7s,baz=249,slow=5.8,SNR=7.6						
VNDA	**Vanda**	**64.17**	**166**	P	**P**	**18 51 29.6**	**+0.4**
	0.8nm,0.9s,baz=288,slow=4.1,SNR=2.3						
WRA	**Warramunga Arr**	**65.49**	**100**	P	**P**	**18 51 38.4**	**-0.3**
	0.7nm,0.9s,baz=241,slow=6.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**71.74**	**297**	P	**P**	**18 52 17.2**	**-0.4**
	0.5nm,0.9s,baz=134,slow=4.2,SNR=2.4						

*YARS **16** 19:16:36.8±0.0, 57°.46N×120°.80E, h8km, ML3.5/8*
*MOS **16** 19:16:37.3±1.3, 57°.40N×120°.71E, h8km, mb3.9/1, Error ellipse: s-maj=14.3km s-min=8.4km az=92.3*
*BYKL **16** 19:16:39.3±0.5, 57°.35N×120°.70E*
*IDC **16** 19:16:43.3±3.1, 57°.35N×120°.68E, h35km±28km, mb3.4/12, mb1 3.6/16, mb1mx3.4/50, mbtmp3.6/16, ML3.6/4, MS2.7/1, Ms1 2.7/1, ms1mx2.1/37, Error ellipse: s-maj=15.8km s-min=13.6km az=114.0*

ISC 16 19:16:39.1±1.1, 57°.32N±0°.03×120°.72E±0°.02, h9km±7km, n77, σ2s66/111, mb3.7/10, 8C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.57**	**226**	⇑*i* Pg	**Pg**	**19 16 50.0**	**-0.1**
KHNR				*e*Sg	**Sg**	**19 16 57.7**	**+0.1**
KHNR				*e*		19 17 04.0	
KHN	**Khani**	**0.65**	**232**	*i* Pg	**Pg**	**19 16 50.0**	**-1.6**
	2μm,0.2s						
KHN				*e*Sg	**Sg**	**19 16 57.8**	**-2.3**
	7μm,0.2s						
YKLR	**Yuktali**	**0.89**	**145**	⇑*i* Pg	**Pg**	**19 16 56.2**	**-0.1**
YKLR				*e*Pb	**Pn**	**19 16 58.5**	**+0.7**
YKLR				*e*Sg	**Sg**	**19 17 08.8**	**+1.0**
YKLR	**Yuktali**	**0.89**	**145**	⇑*i*P	**Pg**	**19 16 56.2**	**-0.1**
YKLR				*e*S	**Sg**	**19 17 09.1**	**+1.3**
YKLR	**Yuktali**	**0.89**	**145**	*e*Pg	**Pg**	**19 16 56.1**	**-0.2**
YKLR				*i* Pg	**Pg**	**19 16 56.1**	**-0.2**
YKLR				*i* Pg	**Pg**	**19 16 56.1**	**-0.1**
	112nm,0.3s						
YKLR				*e*Sg	**Sg**	**19 17 08.8**	**+1.0**
	569nm,0.1s						
CRS	**Chara**	**1.40**	**254**	⇑*i* Pg	**Pn**	**19 17 04.7**	**-0.2**
CRS				*e*		19 17 07.7	
CRS				max		19 17 08.5	
	482nm,0.8s						
CRS				*e*		19 17 09.4	
CRS				*e*Sg	**Sn**	**19 17 22.8**	**-0.7**
CRS				Smax		19 17 29.0	
	818nm,0.5s						
CRS	**Chara**	**1.40**	**254**	⇑*i*P	**Pn**	**19 17 04.7**	**-0.2**
CRS				*e*		19 17 22.8	
CRS				pmax	pmax		
	comp=Z,398nm,0.8s						
CRS				smax	smax		
	comp=E,745nm,0.5s						
CRS	**Chara**	**1.40**	**254**	*e*Pg	**Pn**	**19 17 04.7**	**-0.2**
	comp=E,486nm,0.4s						
CRS				*e*Sg	**Sn**	**19 17 22.1**	**-1.4**
	comp=E,820nm,0.4s						
CLNS	**Chul'man**	**2.33**	**100**	*i* Pg	**Pn**	**19 17 19.1**	**+1.5**
CLNS				*e*Sg	**Sb**	**19 17 49.5**	**-0.6**
	comp=E,500nm,0.3s						
IENR	**lengra**	**2.53**	**114**	Smax		19 17 21.4	
IENR				*e*		19 17 23.8	
IENR				*e*Pg	**Pb**	**19 17 25.2**	**+0.6**
IENR				*i* Sg	**Sb**	**19 17 57.8**	**+2.0**
ALDR	**Aldan**	**2.81**	**61**	*e*Pg	**Pn**	**19 17 25.4**	**+1.1**
	comp=E,28nm,0.3s						
ALDR				*e*Sg	**Sb**	**19 18 01.7**	**-2.3**
	comp=E,1μm,0.3s						
NLYR	**Nelyaty**	**2.88**	**255**	⇓*i* Pn	**Pn**	**19 17 25.9**	**+0.8**
NLYR				⇓*i* Pg	**Pb**	**19 17 30.8**	**+0.3**
NLYR				*e*PgPg	**PbPb**	**19 17 33.3**	**-0.4**
NLYR				max		19 17 33.6	
	comp=E,279nm,0.4s						
NLYR				*e*Sn	**Sn**	**19 17 57.9**	**-1.9**
NLYR				*e*Sg	**Sb**	**19 18 07.3**	**+1.5**
NLYR				*e*		19 18 15.5	
NLYR				max		19 18 16.1	
	comp=E,967nm,1.1s						
NLYR	**Nelyaty**	**2.88**	**255**	⇑*i*P	**Pn**	**19 17 26.2**	**+1.1**
NLYR				*e*		19 18 07.3	
NLYR				pmax	pmax		
	comp=Z,295nm,0.8s						
NLYR				smax	smax		
	comp=E,970nm,1.3s						
TUP	**Tupik**	**2.94**	**189**	*e*Pn	**Pn**	**19 17 26.4**	**+0.5**
TUP				*e*Pg	**Pb**	**19 17 31.3**	**-0.3**
TUP				Pmax		19 17 33.9	
	comp=E,127nm,0.5s						
TUP				*e*Sg	**Sb**	**19 18 10.2**	**+2.7**
TUP				Smax		19 18 11.8	
	comp=E,934nm,0.5s						
TUP	**Tupik**	**2.94**	**189**	⇑*i*P	**Pn**	**19 17 26.4**	**+0.5**
TUP				*e*S	**Sn**	**19 18 01.8**	**+0.5**
TUP				pmax	pmax		
	comp=Z,128nm,0.5s						
TUP				smax	smax		
	comp=E,935nm,0.6s						
TUP	**Tupik**	**2.94**	**189**	*e*Pn	**Pn**	**19 17 26.4**	**+0.5**
TUP				*e*Pg	**Pb**	**19 17 32.1**	**+0.5**
	comp=E,128nm,0.5s						
TUP				*e*Sn	**Sn**	**19 18 01.8**	**+0.5**
	comp=E,935nm,0.6s						
TNDR	**Tynda**	**3.12**	**133**	*e*Pn	**Pn**	**19 17 27.0**	**-1.5**
TNDR				*e*Pg	**Pb**	**19 17 34.6**	**-0.1**
	comp=E,67nm,0.3s						
TNDR				*e*Sn	**Sn**	**19 18 05.6**	**-0.2**
TNDR				*e*Sg	**Sb**	**19 18 15.8**	**+3.0**
	comp=E,1μm,0.8s						
BOD	**Bodaibo**	**3.65**	**281**	⇑*i* Pn	**Pn**	**19 17 36.0**	**+0.3**
BOD				*e*Pg	**Pb**	**19 17 44.8**	**+1.0**
BOD				Pmax		19 17 48.3	
	comp=E,49nm,1.0s						
BOD				*e*Sn	**Sn**	**19 18 16.7**	**-2.2**
BOD				*e*Sg	**Sb**	**19 18 31.2**	**+3.1**
BOD				Smax		19 18 36.8	
	comp=E,342nm,0.9s						
BOD	**Bodaibo**	**3.65**	**281**	*e*P	**Pn**	**19 17 35.5**	**-0.2**
BOD				pmax	pmax		
	comp=Z,50nm,1.0s						
SVKR	**Severomuysk**	**4.13**	**256**	*e*Pn	**Pn**	**19 17 44.6**	**+2.3**
SVKR				*e*		19 17 49.3	
SVKR				*e*Pg	**Pb**	**19 17 54.6**	**+2.7**
SVKR				Pmax		19 18 07.3	
	comp=Z,69nm,0.6s						
SVKR				*e*Sg	**Sg**	**19 18 48.6**	**-2.9**
SVKR				Smax		19 19 08.6	
	comp=Z,451nm,0.6s						
VTMR	**Vitim**	**4.80**	**300**	*e*Pn	**Pn**	**19 17 51.6**	**+0.2**
VTMR				*e*		19 18 34.4	
VTMR				*e*Sg	**Sb**	**19 19 04.7**	**+3.7**
VTMR				*e*		19 19 15.1	
VTMR	**Vitim**	**4.80**	**300**	*e*Pn	**Pn**	**19 17 49.9**	**-1.6**
VTMR				*e*Pg	**Pb**	**19 18 03.0**	**-0.2**
	comp=Z,31nm,0.2s						
VTMR				*e*Sn	**Sn**	**19 18 43.9**	**-3.1**
VTMR				*e*Sg	**Sb**	**19 19 06.2**	**+5.2**
	comp=Z,842nm,0.5s						
YOA	**Uoyan**	**5.10**	**260**	*e*Pg	**Pb**	**19 18 11.6**	**+3.2**
YOA				Pmax		19 18 22.4	
	comp=Z,150nm,1.5s						
YOA				*e*Sn	Sn	19 18 40.8	-14
YOA				*e*Sg	**Sg**	**19 19 17.4**	**-5.2**
YOA				*e*		19 19 20.1	
YOA				max		19 19 44.9	
	comp=Z,1μm,1.6s						
ZEA	**Zeya**	**5.16**	**131**	*e*P	**Pn**	**19 17 59.3**	**+2.9**
ZEA				*e*S	**Sn**	**19 18 54.3**	**-1.7**
ZEA				pmax	pmax		
	comp=Z,17nm,0.3s						
ZEA				pmax	pmax		
	comp=Z,28nm,0.8s						
ZEA				smax	smax		
	comp=E,80nm,0.7s						
ZEA				smax	smax		
	comp=Z,35nm,0.7s						
ZEA				smax	smax		
	comp=N,200nm,0.4s						
ZEA				smax	smax		
	comp=E,500nm,1.0s						
ZEA				pmax	pmax		
	comp=E,4.0nm,0.6s						
ZEA				pmax	pmax		
	comp=N,4.0nm,0.5s						
ZEA				MLR	MLR		
	comp=Z,300nm,5.0s						
ZEA				MLR	MLR		
	comp=N,400nm,6.0s						
BMKR	**Bomnak**	**5.25**	**116**	*e*Sn	**Sn**	**19 18 57.6**	**-0.7**
BMKR				*e*Sg	**Sg**	**19 19 22.3**	**-5.3**
	comp=N,252nm,0.2s						
CGD	**Chagda**	**5.45**	**71**	*e*Pn	**Pn**	**19 17 58.6**	**-1.8**
CGD				*e*Pg	**Pb**	**19 18 13.0**	**-1.3**
	comp=N,109nm,0.3s						
CGD				*e*Sn	**Sn**	**19 18 59.9**	**-3.3**
CGD				*e*Sg	**Sb**	**19 19 23.8**	**+4.1**
	comp=N,3μm,0.4s						
KMO	**Kumora**	**5.45**	**259**	*e*Pn	**Pn**	**19 18 00.0**	**-0.5**
KMO				*e*		19 18 12.6	
KMO				*e*Pg	**Pb**	**19 18 17.8**	**+3.4**
KMO				Pmax		19 18 25.1	
	comp=N,18nm,0.9s						
KMO				*e*Sg	**Sg**	**19 19 27.2**	**-6.8**
KMO				*e*		19 19 37.1	
KMO				max		19 19 37.6	
	comp=N,236nm,1.3s						
YLYR	**Ulyunkhan**	**5.88**	**249**	*e*Pn	**Pn**	**19 18 07.7**	**+1.3**
YLYR				*e*Pg	**Pb**	**19 18 25.2**	**+3.4**
YLYR				Pmax		19 18 33.5	
	comp=N,13nm,0.8s						
YLYR				*e*		19 19 14.8	
YLYR				*e*Sg	**Sg**	**19 19 40.7**	**-7.2**
YLYR				Smax		19 19 56.4	
	comp=N,130nm,1.5s						
NIZ	**Nizh Angarsk**	**6.38**	**261**	*e*	**Pn**	**19 18 09.3**	**-3.8**
NIZ				max		19 18 42.4	
	comp=N,12nm,0.9s						
NIZ				*e*		19 19 30.8	
NIZ				*e*Sg	**Sb**	**19 19 54.8**	**+8.4**
NIZ				Smax		19 20 24.8	
	comp=N,64nm,0.7s						
YAK	**Yakutsk**	**6.55**	**40**	Pn	**Pn**	**19 18 16.4**	**+1.0**
	comp=N,0.1nm,0.3s,baz=226,slow=3.7,SNR=3.4						
YAK				Sn	**Sn**	**19 19 25.1**	**-5.0**
	comp=N,0.3nm,0.3s,baz=53,slow=23,SNR=8.0						
YAK				Lg	Lg	19 19 57.5	
	comp=N,1.1nm,0.3s,baz=147,slow=23,SNR=14						
YAK	**Yakutsk**	**6.55**	**40**	*e*Pn	**Pn**	**19 18 13.1**	**-2.3**
YAK				*e*Pg	**Pb**	**19 18 32.5**	**-0.4**
	comp=N,42nm,0.8s						
YAK				*e*Sn	**Sn**	**19 19 24.7**	**-5.4**
YAK				*e*Sg	**Sb**	**19 19 57.1**	**+5.9**
	comp=N,339nm,0.6s						
CIT	**Chita**	**6.74**	**221**	*e*	Pn	19 18 12.7	-5.5
CIT				*e*		19 19 50.8	
CIT				*e*		19 20 05.6	
CIT				*e*Sg	**Sg**	**19 20 09.0**	**-6.4**
CIT				Smax		19 20 11.2	
	comp=N,428nm,1.5s						
CIT	**Chita**	**6.74**	**221**	*e*P	**Pn**	**19 18 19.1**	**+0.9**
CIT				*e*S	**Sn**	**19 19 34.2**	**-0.9**
CIT				pmax	pmax		
	comp=Z,45nm,0.3s						
CIT				smax	smax		
	comp=N,426nm,1.5s						
SYVR	**Suvo**	**7.11**	**243**	*e*	Pn	19 18 32.6	+9.4
SYVR				*e*Pg	Pb	19 18 47.8	+5.2
SYVR				Pmax		19 18 52.7	
	comp=N,19nm,1.1s						
SYVR				*e*		19 19 56.4	
SYVR				*e*Sg	**Sg**	**19 20 20.2**	**-6.9**
SYVR				*e*		19 20 36.0	
SYVR				max		19 20 36.5	
	comp=N,164nm,1.1s						
MXMB	**Maximikha**	**7.95**	**244**	*e*	**Sn**	**19 20 02.3**	**-2.4**
MXMB				*e*Sg	Sg	19 20 45.0	-9.0
MXMB				*e*		19 20 52.8	
OGRR	**Ongureny**	**8.31**	**249**	*e*Pn	**Pn**	**19 18 41.3**	**+1.6**
OGRR				*e*		19 19 04.6	
OGRR				max		19 19 29.3	
	comp=N,12nm,1.2s						
OGRR				*e*Sg	Sg	19 20 56.4	-9.3
OGRR				Smax		19 21 14.3	
	comp=N,54nm,1.6s						
KELR	**Kotokel**	**8.57**	**243**	*e*Sg	Sg	19 21 04.9	-9.1
KELR				*e*		19 21 13.6	
KPC	**Khapcheranga**	**9.10**	**217**	*e*Pn	**Pn**	**19 18 51.3**	**+0.7**
KPC				*e*Pg		19 19 22.9	
KPC				Pmax		19 19 30.7	
	comp=N,2.0nm,0.5s						
KPC				*e*		19 20 56.6	
KPC				*e*Sg	Sn	19 21 19.8	+47
KPC				*e*		19 21 30.4	
KPC				max		19 21 30.9	
	comp=N,112nm,1.1s						
KPC	**Khapcheranga**	**9.10**	**217**	*e*P	**Pn**	**19 18 50.2**	**-0.4**
KPC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
UUDB	**Ulan-Yde**	**9.34**	**240**	*e*	**Pn**	**19 18 55.1**	**+1.4**
UUDB				*e*		19 19 03.8	
UUDB				max		19 19 29.1	
	comp=Z,11nm,1.2s						
UUDB				*e*Sg	Sn	19 21 29.4	+51
UUDB				Smax		19 21 51.7	
	comp=Z,166nm,1.5s						
TRG	**Tyrgan**	**9.43**	**247**	*e*	Pn	19 19 31.7	+37
TRG				max		19 20 05.7	
	comp=Z,4.0nm,0.8s						
TRG				*e*Sg	Sn	19 21 30.9	+50
TRG				Smax		19 21 55.5	
	comp=Z,35nm,1.3s						
FFNB	**Fofonovo**	**9.65**	**243**	*e*Sg	Sn	19 21 38.5	+52
FFNB				*e*		19 21 47.9	
KAB	**Kabansk**	**9.70**	**243**	*e*Sg	Sn	19 21 38.8	+51
KAB				Smax		19 22 13.0	
	comp=Z,490nm,1.4s						
STDB	**Stepnoy Dvoret**	**9.77**	**244**	*e*Sg	Sn	19 21 40.4	+51
HRMR	**Khuramsha**	**9.83**	**240**	*e*Pg	Pn	19 19 37.4	+37
HRMR				Pmax		19 19 44.5	
	comp=Z,9.0nm,0.8s						
HRMR				*e*Sn	**Sn**	**19 20 47.8**	**-3.0**
HRMR				*e*		19 21 29.1	
HRMR				*e*Sg		19 21 43.3	
HRMR				Smax		19 21 57.9	
	comp=Z,277nm,1.2s						
BGT	**Bolshoye Golou**	**10.31**	**246**	*e*		19 21 16.7	
BGT				*e*Sg	Sn	19 21 58.3	+56
BGT				Smax		19 22 38.0	
	comp=Z,42nm,1.4s						
KLR	**Kul'dur**	**10.44**	**136**	Pn	**Pn**	**19 19 10.6**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=327,slow=15,SNR=9.0						
KLR				Sn	**Sn**	**19 20 58.3**	**-7.5**
	comp=Z,0.9nm,0.3s,baz=6.7,slow=5.8,SNR=9.8						
KLR				Lg	Lg	19 22 12.9	
	comp=Z,0.4nm,0.3s,baz=45,slow=19,SNR=6.8						
LSTR	**Listvyanka**	**10.70**	**246**	*e*Sg	Sn	19 22 10.6	+58
LSTR				Smax		19 22 55.6	
	comp=Z,34nm,2.0s						
IRK	**Irkutsk**	**10.77**	**249**	*e*Sg	Sn	19 22 09.7	+56
IRK				*e*		19 22 18.9	
IRK				max		19 22 28.9	
	comp=Z,74nm,1.2s						
IVK	**Ivanovka**	**10.95**	**247**	*e*Sg		19 22 20.0	
IVK				Smax		19 22 44.1	
	comp=Z,30nm,1.4s						
IVK				*e*		19 22 48.3	
TLY	**Talaya**	**11.41**	**248**	*e*Sg		19 22 31.2	
TLY				Smax		19 22 47.7	
	comp=Z,74nm,1.0s						
ARS	**Arshan**	**11.89**	**251**	*e*		19 22 45.1	
ARS				*e*Sg		19 22 47.5	
ARS				*e*		19 22 56.8	
ARS				max		19 23 10.9	
	comp=Z,74nm,1.0s						
ZAK	**Zakamensk**	**12.40**	**243**	*e*Sg		19 23 02.7	
ZAK				Smax		19 23 27.4	
	comp=Z,31nm,1.3s						
MOY	**Mondy**	**12.77**	**252**	*e*Sg		19 23 13.7	
MOY				Smax		19 23 54.7	
	comp=Z,36nm,1.8s						
SONM	**Songino Array**	**12.86**	**229**	Pn	**Pn**	**19 19 45.3**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=20,slow=5.1,SNR=1.9						
SONM				Lg	Lg	19 23 24.0	
	comp=Z,0.8nm,0.3s,baz=43,slow=26,SNR=12						
SONM				LR	LR	19 25 10.4	
	comp=Z,31nm,18.6s,baz=50,slow=39						
ORL	**Orlik**	**12.92**	**257**	*e*	Pn	19 19 49.3	+6.5
ORL				max		19 21 09.2	
	comp=Z,2.0nm,1.2s						
ORL				*e*		19 21 41.0	
ORL				*e*		19 22 19.0	
ORL				*e*Sg		19 23 18.6	
ORL				*e*		19 23 26.6	
ORL				max		19 23 39.6	
	comp=Z,22nm,1.8s						
USRK	**Ussuriysk Ar.**	**14.92**	**147**	Lg	Lg	19 24 35.7	
	baz=340,slow=27,SNR=4.8						
TDJR	**Todzha**	**14.97**	**261**	*e*Sg		19 24 22.2	
TDJR				*e*		19 24 31.0	
SEY	**Seymchan**	**16.62**	**57**	Pn	**P**	**19 20 35.4**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=324,slow=22,SNR=3.6						
NRIK	**Noril'sk**	**18.82**	**323**	P	**Pn**	**19 21 00.3**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=105,slow=13,SNR=5.3						
ZALV	**Zalesovo Beam**	**20.39**	**276**	P	**P**	**19 21 16.7**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=60,slow=9.0,SNR=4.1						
KSRS	**Korea Array**	**20.44**	**163**	P	Pn	19 21 19.0	+0.4
	comp=Z,1.1nm,0.7s,baz=342,slow=12,SNR=6.5						
KURK	**Kurchatov**	**25.27**	**273**	P	**P**	**19 22 07.2**	**+1.9**
KURBB	**Kurchatov Arra**	**25.36**	**273**	P	**P**	**19 22 07.2**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=60,slow=9.4,SNR=2.4						
MKAR	**Makanchi Array**	**25.53**	**262**	P	**P**	**19 22 09.2**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=62,slow=8.9,SNR=6.8						
FINES	**FINESS Array B**	**44.31**	**317**	P	**P**	**19 24 47.6**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=44,slow=8.6,SNR=12						
NB2	**NORSAR Subarra**	**49.78**	**323**	P	**P**	**19 25 29.7**	**-1.8**
	comp=Z,1.7nm,0.9s,baz=35,slow=7.9						
NOA	**NORSAR Array B**	**49.78**	**323**	P	**P**	**19 25 30.7**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=43,slow=8.2,SNR=2.1						
AKASG	**Malin Array Be**	**50.26**	**304**	P	**P**	**19 25 35.0**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=40,slow=8.8,SNR=2.2						
AKASG	**Malin Array Be**	**50.26**	**304**	P	**P**	**19 25 35.0**	**-0.2**
KHC	**Kasperske Hory**	**58.10**	**312**	*e*P	**P**	**19 26 31.5**	**-1.0**
KHC	**Kasperske Hory**	**58.10**	**312**	*e*P	**P**	**19 26 31.5**	**-1.0**
GERES	**GERESS Array B**	**58.28**	**312**	P	**P**	**19 26 32.8**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=32,slow=7.8,SNR=4.3						
NVAR	**Mina Array Bea**	**72.50**	**45**	P	**P**	**19 28 07.7**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=316,slow=3.8,SNR=1.5						
ESDC	**Sonseca Array**	**72.79**	**318**	P	**P**	**19 28 07.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=28,slow=3.3,SNR=2.4						
WRA	**Warramunga Arr**	**77.81**	**167**	P	**P**	**19 28 36.3**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=315,slow=11,SNR=2.5						
ASAR	**Alice Springs**	**81.43**	**168**	P	**P**	**19 28 55.8**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=355,slow=5.6,SNR=7.0						

*OTT **16** 19:26:34.7±0.2, 53°.01N×67°.01W, h0km, MN3.7/7, 9km northwest from Labrador City, NI, blast Mining explosion.*
*ANF **16** 19:26:40.9±0.8, 52°.52N×67°.11W, Error ellipse: s-maj=11.3km s-min=6.4km az=83.0, Mining explosion.*

ISC 16 19:26:32.4±0.8, 53°.00N±0°.04×67°.01W±0°.06, h0km, n69, σ1s99/101, Northern Quebec

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**1.84**	**3**	PN	**Pg**	**19 27 07.6**	**-0.1**
SCHQ				SG	**Sg**	**19 27 31.5**	**-0.1**
MNQ	**Manicouagan**	**2.70**	**205**	PN	**Pb**	**19 27 20.4**	**-1.1**
MNQ				LG	Lg	19 27 57.5	
MNQ				Trac		19 28 01.4	
	comp=Z,99nm,0.3s						
SMQ	**Clarke City**	**2.78**	**176**	PN	**Pn**	**19 27 20.1**	**+1.9**
SMQ				LG	Lg	19

D60A	**Saint Jean D'O**	**6.59**	**204**	P	**Pn**	**19 28 12.4 +1.9**
	baz=21					
D60A				S	**Sn**	**19 29 24.3 -2.0**
	baz=21					
E64A	**Bridgewater**	**6.61**	**185**	P	**Pn**	**19 28 12.4 +1.8**
	baz=4.3					
E64A				S	**Sn**	**19 29 25.6 -1.0**
	baz=4.3					
E63A	**Oxbow**	**6.64**	**188**	P	**Pn**	**19 28 13.2 +2.0**
	baz=7.3,SNR=33					
E63A				S	**Sn**	**19 29 26.8 -0.8**
	baz=7.3					
E61A	**Lac Etchemin**	**6.95**	**200**	P	**Pn**	**19 28 17.8 +2.4**
	baz=18					
E61A				S	**Sn**	**19 29 33.7 -1.4**
	baz=18					
D58A	**Chemin du LacG**	**7.01**	**215**	P	**Pn**	**19 28 18.8 +2.6**
	baz=30					
F64A	**Sherman**	**7.19**	**188**	P	**Pn**	**19 28 20.6 +1.9**
	baz=6.4,SNR=68					
F64A				S	**Sn**	**19 29 39.5 -1.5**
	baz=6.4					
F62A	**Pittston Farm,**	**7.36**	**196**	P	**Pn**	**19 28 23.9 +2.8**
	baz=14,SNR=7.8					
F62A				S	**Sn**	**19 29 44.7 -0.6**
	baz=14					
F63A	**Nahmakanta, Br**	**7.43**	**191**	P	**Pn**	**19 28 23.9 +1.9**
	baz=9.8,SNR=90					
F63A				S	**Sn**	**19 29 45.5 -1.3**
	baz=9.8					
D57A	**Chemin Vers le**	**7.45**	**219**	P	**Pn**	**19 28 25.0 +2.8**
	baz=34					
F61A	**St Evariste**	**7.49**	**202**	P	**Pn**	**19 28 24.7 +1.9**
	baz=19					
F60A	**Warwick**	**7.73**	**207**	P	**Pn**	**19 28 28.4 +2.2**
	baz=23					
E58A	**La Victoria**	**7.78**	**214**	P	**Pn**	**19 28 28.8 +2.1**
	baz=29					
G65A	**Princeton**	**7.81**	**183**	P	**Pn**	**19 28 28.7 +1.5**
	baz=2.4					
G65A				S	**Sn**	**19 29 52.2 -4.0**
	baz=2.4					
G64A	**Maxfield**	**7.83**	**189**	P	**Pn**	**19 28 29.0 +1.5**
	baz=7.7,SNR=25					
G64A				S	**Sn**	**19 29 54.6 -2.3**
	baz=7.7					
PKME	**Peaks-Kenny Pk**	**7.88**	**192**	P	**Pn**	**19 28 30.0 +1.8**
	baz=10,SNR=45					
PKME				S	**Sn**	**19 29 56.2 -1.8**
	baz=10					
E57A	**Chemin Saint G**	**8.05**	**218**	P	**Pn**	**19 28 32.4 +1.9**
	baz=32					
G63A	**Kingsbury**	**8.07**	**193**	P	**Pn**	**19 28 32.5 +1.7**
	baz=11,SNR=82					
G63A				S	**Sn**	**19 29 58.5 -4.2**
	baz=11					
D55A	**Sainte-Anne-du**	**8.09**	**226**	P	**Pn**	**19 28 32.5 +1.4**
	baz=39					
G62A	**West of Eustis**	**8.12**	**198**	P	**Pn**	**19 28 33.1 +1.6**
	baz=15,SNR=19					
G62A				S	**Sn**	**19 30 03.2 -0.7**
	baz=15					
H66A	**Whiting**	**8.22**	**182**	P	**Pn**	**19 28 34.8 +2.1**
	baz=1.3					
H66A				S	**Sn**	**19 30 04.7 -1.5**
	baz=1.3					
G61A	**St-Isidore-de-**	**8.27**	**203**	P	**Pn**	**19 28 36.2 +2.7**
	baz=19,SNR=37					
G61A				S	**Sn**	**19 30 07.0 -0.5**
	baz=19					
E56A	**St. Veronique**	**8.29**	**222**	P	**Pn**	**19 28 35.6 +1.9**
	baz=36					
E56A				S	**Sn**	**19 30 07.8 -0.1**
	baz=36					
H65A	**Eastbrook**	**8.35**	**186**	P	**Pn**	**19 28 36.2 +1.7**
	baz=5.1,SNR=7.4					
H65A				S	**Sn**	**19 30 06.5 -3.0**
	baz=5.1					
F58A	**St-Lin Laurent**	**8.40**	**215**	S	**Sn**	**19 30 10.8 +0.1**
	baz=29					
H64A	**Troy**	**8.49**	**191**	P	**Pn**	**19 28 38.0 +1.6**
	baz=9.0,SNR=5.9					
H64A				S	**Sn**	**19 30 09.7 -3.2**
	baz=9.0					
G60A	**Masonville**	**8.64**	**206**	P	**Pn**	**19 28 40.9 +2.3**
	baz=22					
G60A				S	**Sn**	**19 30 15.6 -1.1**
	baz=22					
E55A	**Montcerf-Lytto**	**8.78**	**225**	P	**Pn**	**19 28 44.3 +3.8**
	baz=38					
H62A	**Milan**	**8.86**	**200**	P	**Pn**	**19 28 43.6 +2.0**
	baz=16,SNR=11					
H61A	**Lyndonville**	**9.07**	**203**	P	**Pn**	**19 28 46.2 +1.8**
	baz=19					
D53A	**Lac Vacive, Po**	**9.07**	**234**	P	**Pn**	**19 28 46.9 +2.4**
	baz=45					
H60A	**Morristown**	**9.24**	**206**	P	**Pn**	**19 28 48.6 +1.8**
	baz=22					
I64A	**Boothbay**	**9.25**	**192**	P	**Pn**	**19 28 48.1 +1.2**
	baz=9.9,SNR=20					
I64A				S	**Sn**	**19 30 28.0 -3.5**
	baz=9.9					
E54A	**Lac Daplat, Po**	**9.30**	**229**	P	**Pn**	**19 28 50.7 +3.0**
	baz=41					
LBNH	**Lisbon**	**9.35**	**202**	P	**Pn**	**19 28 50.2 +2.0**
	baz=18,SNR=7.8					
H59A	**Cadyville**	**9.44**	**210**	P	**Pn**	**19 28 51.3 +1.7**
	baz=25					
G57A	**Newington**	**9.47**	**217**	P	**Pn**	**19 28 52.1 +2.1**
	baz=30					
D52A	**ZEK Kipawa Sen**	**9.49**	**235**	P	**Pn**	**19 28 51.7 +1.4**
	baz=46					
E53A	**Dumoine, Ponti**	**9.56**	**230**	P	**Pn**	**19 28 52.4 +1.1**
	baz=42					
E53A				S	**Sn**	**19 30 36.0 -3.3**
	baz=42					
I62A	**Tamworth**	**9.57**	**199**	P	**Pn**	**19 28 52.7 +1.4**
	baz=16,SNR=6.2					
I62A				S	**Sn**	**19 30 36.9 -2.6**
	baz=16					
I61A	**Oroboro, Fairl**	**9.70**	**203**	P	**Pn**	**19 28 54.9 +1.7**
	baz=19,SNR=8.7					
LONY	**Lake Ozonia**	**9.75**	**214**	P	**Pn**	**19 28 55.5 +1.7**
	baz=28					
H58A	**Gabriels**	**9.80**	**212**	P	**Pn**	**19 28 56.1 +1.6**
	baz=26					
D51A	**Lot 18 Range I**	**9.90**	**238**	P	**Pn**	**19 28 57.6 +1.7**
	baz=49					
J63A	**Strafford**	**10.09**	**197**	P	**Pn**	**19 28 59.8 +1.4**
	baz=14,SNR=6.7					
D50A	**G1974 Best Tow**	**10.10**	**240**	P	**Pn**	**19 28 59.2 +0.7**
	baz=50					
E52A	**Mattawa**	**10.10**	**233**	P	**Pn**	**19 28 60.0 +1.4**
	baz=44					
I59A	**Olmsteadville**	**10.27**	**209**	P	**Pn**	**19 29 02.2 +1.3**
	baz=24					
J62A	**Henniker**	**10.29**	**200**	P	**Pn**	**19 29 03.4 +2.3**
	baz=16,SNR=6.6					
G54A	**Lake Saint Pet**	**10.50**	**228**	P	**Pn**	**19 29 05.0 +0.9**
	baz=40					
I57A	**Carthage**	**10.72**	**216**	P	**Pn**	**19 29 09.6 +2.5**
	baz=29					
F51A	**Arnstein**	**10.97**	**235**	P	**Pn**	**19 29 12.0 +1.5**
	baz=45					
E50A	**Wahnapitae**	**11.05**	**239**	P	**Pn**	**19 29 11.6 0.0**
	baz=48					
D48A	**Paudash Townsh**	**11.14**	**244**	P	**Pn**	**19 29 14.1 +1.2**
	baz=53					
D47A	**Chapleau**	**11.93**	**247**	P	**Pn**	**19 29 23.3 -0.3**
	baz=54					
F49A	**Sandfield**	**12.17**	**240**	P	**Pn**	**19 29 26.4 -0.4**
	baz=48					

IDC 16 20:27:05.6±1.7,7°98S×157°97E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.5/25,mbtmp3.8/4,ML4.2/1,Error ellipse: s-maj=38.0km s-min=30.5km az=21.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.43**	**127**	Pn	Pn	20 27 46.2	-0.5
	51nm,0.3s,baz=243,slow=6.1,SNR=96						
HNR				Sn	Sn	20 28 07.0	-10
	150nm,0.3s,baz=319,slow=21,SNR=17						
WRA	**Warramunga Arr**	**25.79**	**240**	P	P	20 32 39.4	+0.8
	1.4nm,0.8s,baz=64,slow=8.8,SNR=13						
H11S3	**WAKE ISLAND Hy**	**27.68**	**18**	T	T	21 01 34.4	
	baz=197						
H11S2	**WAKE ISLAND Hy**	**27.68**	**18**	T	T	21 01 34.0	
	baz=197						
H11S1	**WAKE ISLAND Hy**	**27.70**	**18**	T	T	21 01 44.6	
	baz=197						
ASAR	**Alice Springs**	**27.84**	**233**	P	P	20 32 56.1	-1.0
	0.3nm,0.4s,baz=62,slow=9.9,SNR=12						
H11N1	**WAKE ISLAND Hy**	**28.89**	**18**	T	T	21 03 29.6	
	baz=196,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy**	**28.90**	**18**	T	T	21 03 29.7	
	baz=196,slow=76,SNR=24						
H11N2	**WAKE ISLAND Hy**	**28.91**	**18**	T	T	21 03 29.2	
	baz=196,slow=76,SNR=34						
SONM	**Songino Array**	**71.77**	**326**	P	P	20 38 30.4	+0.4
	0.5nm,0.6s,baz=124,slow=5.5,SNR=4.2						

*BER **16** 20:38:13.1±3.0,80°.45N×0°.62W,h10km,ML1.8*
*DNK **16** 20:38:14.3±3.6,80°.63N×0°.22W,h87km±999km,ML2.6*
*IEPN **16** 20:38:23.9,79°.99N×2°.29E,h15km*

ISC 16 20:38:10.0±1.2,80°.41N±0°.07×0°.48W±0°.04,h10km,n16, σ3s39/24,1C,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.69**	**117**	*e*P	**Pn**	**20 38 55.3**	**+2.2**
KBS				*e*S	**Sn**	**20 39 20.9**	**-4.8**
KBS	**Kingsbay**	**2.69**	**117**	*e*P	**Pn**	**20 38 55.8**	**+2.6**
KBS				*e*S	**Sn**	**20 39 22.7**	**-3.0**
KBS				IAML		20 39 25.6	
	comp=Z,5.9nm,0.2s						
KBS	**Kingsbay**	**2.69**	**117**	*e*	**Pn**	**20 38 55.5**	**+2.4**
	baz=330,slow=7.4						
KBS				*i* P	Pb	20 38 55.8	-2.2
KBS				IAML		20 39 32.4	
	comp=Z,10nm,0.3s						
NOR	**Nord**	**2.81**	**303**	*e*S	**Sn**	**20 39 25.8**	**-2.8**
NOR	**Nord**	**2.81**	**303**	*e*S	**Sn**	**20 39 25.8**	**-2.8**
SPA0	**Spitsbergen Ar**	**3.85**	**117**	*i* P	**Pn**	**20 39 12.6**	**+3.5**
SPA0				*e*S	**Sn**	**20 39 49.1**	**-5.1**
SPA0	**Spitsbergen Ar**	**3.85**	**117**	*e*P	**Pn**	**20 39 12.6**	**+3.5**
SPA0				*e*		20 39 14.0	
SPA0				*e*S	**Sn**	**20 39 52.4**	**-1.9**
SPA0				IAML		20 39 56.8	
	comp=Z,4.5nm,0.4s						
HSPB	**Hornsund (broa**	**4.63**	**129**	*e*P	**Pn**	**20 39 23.1**	**+3.3**
HSPB				*e*S	Sn	20 40 07.0	-6.5
HSPB	**Hornsund (broa**	**4.63**	**129**	*e*P	**Pn**	**20 39 23.0**	**+3.1**
HSPB				*e*S	**Sn**	**20 40 10.4**	**-3.2**
HSPB				IAML		20 40 13.8	
	comp=Z,3.3nm,0.4s						
DAG	**Danmarks Havn**	**5.11**	**234**	*i* P	**Pn**	**20 39 29.3**	**+3.0**
DAG				*i* S	**Sn**	**20 40 21.8**	**-3.4**
DAG	**Danmarks Havn**	**5.11**	**234**	*i* P	**Pn**	**20 39 29.4**	**+3.0**
DAG				*i* S	**Sn**	**20 40 21.8**	**-3.4**
DAG				IAML		20 40 27.5	
	comp=Z,3.0nm,0.3s						
DAG	**Danmarks Havn**	**5.11**	**234**	*i* P	**Pn**	**20 39 29.4**	**+3.0**
DAG				*i* S	**Sn**	**20 40 21.8**	**-3.4**
DAG				IAML		20 40 27.5	
	comp=Z,3.0nm,0.3s						
HOPEN	**Hopen**	**6.37**	**114**	*e*P	**Pn**	**20 39 46.8**	**+3.1**
HOPEN				*e*S	Sn	20 40 47.2	-9.1
DBG	**Daneborg**	**7.44**	**225**	*i* P	**Pn**	**20 40 00.9**	**+2.5**
DBG				*i* S	Sn	20 41 16.2	-6.5
DBG				IAML		20 41 21.4	
	comp=Z,2.8nm,0.3s						
DBG	**Daneborg**	**7.44**	**225**	*i* P	**Pn**	**20 40 00.9**	**+2.5**
DBG				*i* S	Sn	20 41 16.2	-6.5
DBG				IAML		20 41 21.4	
	comp=Z,2.8nm,0.3s						
ZFI2	**Zemlya Franca-**	**7.69**	**63**	*e*P	Pn	20 40 08.5	+6.7
ZFI2				*e*S	**Sn**	**20 41 26.1**	**-2.6**
	comp=Z,3.0nm,1.0s						

*IDC **16** 20:40:08.6±0.7,52°.33N×168°.59W,h0km,mb4.1/25, mb1 4.3/26,mb1mx4.2/49,mbtmp4.1/26,ML3.0/1,MS3.3/10, Ms1 3.3/10,ms1mx3.1/32,Error ellipse: s-maj=21.4km s-min=12.4km az=168.0*
*AEIC **16** 20:40:09.1±1.5,52°.19N±0°.05×168°.35W±0°.08,h8km±4km, mb4.5/66(NEIC),Error ellipse: s-maj=7.1km s-min=6.7km az=80.0*
*NEIC **16** 20:40:11.2±1.2,52°.24N±0°.05×168°.39W±0°.09,h21km±4km, Error ellipse: s-maj=8.0km s-min=6.6km az=109.0*

ISC 16 20:40:09.5±0.5,52°20N±0°.05×168°40W±0°.05,h10km, n184,σ0s87/176,mb4.5/64,MS3.4/12,2C-7D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.82**	**340**		**Pg**	**20 40 26.3**	**+1.1**
NIKH					**Sg**	**20 40 36.7**	**+0.8**
NIKH	**Nikolski High**	**0.82**	**340**		**Sn**	**20 40 38.9**	**-0.4**
OKSP	**Okmok Steeple**	**1.05**	**4**		**Pg**	**20 40 29.7**	**0.0**
OKCE	**Okmok Cone E**	**1.23**	**7**		**Pb**	**20 40 32.5**	**-0.3**
OKCE					**Sn**	**20 40 50.5**	**+1.0**
OKFG	**Magazine Ridge**	**1.24**	**14**		**Pb**	**20 40 32.7**	**-0.3**
OKFG					**Sb**	**20 40 48.6**	**-0.6**
OKNC	**Okmok New Cone**	**1.27**	**7**		**Pb**	**20 40 33.1**	**-0.4**
MAPS	**Pakushin South**	**1.83**	**28**		**Pn**	**20 40 41.5**	**+0.5**
MAPS					**Sn**	**20 41 04.8**	**+0.6**
MREP	**Makushin Rep't**	**1.89**	**31**		**Pn**	**20 40 41.8**	**-0.1**
MSW	**Makushin Switc**	**1.97**	**29**		**Pn**	**20 40 43.2**	**+0.3**
MNAT	**Makushin Natee**	**1.98**	**31**		**Pn**	**20 40 43.2**	**+0.2**
UNV	**Unalaska Valle**	**2.00**	**34**	Pn	**Pn**	**20 40 43.5**	**+0.2**
AKMO	**Akutan Morgan**	**2.38**	**36**		**Pn**	**20 40 48.9**	**+0.4**
AKBBA	**Akutan Broad B**	**2.41**	**37**		**Pn**	**20 40 49.8**	**+0.8**
AKUT	**Akutan**	**2.50**	**38**	Pn	**Pn**	**20 40 50.5**	**+0.4**
KOSE	**Korovin Southe**	**3.47**	**275**		**Pn**	**20 41 04.6**	**+1.0**
KOFP	**Korovin Flat P**	**3.50**	**273**		**Pn**	**20 41 05.5**	**+1.5**
ATKA	**Atka Island**	**3.57**	**272**	Pn	**Pn**	**20 41 05.6**	**+0.8**
ADK	**Adak**	**5.12**	**270**	Pn	**Pn**	**20 41 27.2**	**+1.0**
SDPT	**Sand Point**	**5.66**	**53**	Pn	**Pn**	**20 41 34.2**	**+0.8**
CNBA	**Chernabura Isl**	**5.87**	**60**	Pn	**Pn**	**20 41 36.4**	**-0.1**
AMKA	**Amchitka**	**7.67**	**269**	Pn	**Pn**	**20 42 02.1**	**+0.9**
SII	**Sitkinak Islan**	**9.37**	**57**	Pn	**Pn**	**20 42 25.3**	**+0.9**
KDAK	**Kodiak Island**	**10.65**	**52**	Pn	**Pn**	**20 42 41.4**	**-0.6**
	1.2nm,0.3s,baz=181,slow=3.2,SNR=17						
KDAK	**Kodiak Island**	**10.65**	**52**	Pn	**Pn**	**20 42 41.9**	**0.0**
SEW	**Seward**	**13.15**	**46**	Pn	**Pn**	**20 43 15.9**	**-0.2**
SKT	**Skwentna**	**13.37**	**36**	Pn	**Pn**	**20 43 20.4**	**+1.3**
BPAW	**Bear Paw Mtn.**	**14.98**	**31**		**Pn**	**20 43 41.0**	**-0.1**
IMAR	**Indian Mountai**	**15.67**	**23**	Pn	**Pn**	**20 43 51.7**	**+1.7**
GLB	**Gilahina Butte**	**16.23**	**46**	Pn	**Pn**	**20 43 55.9**	**-1.4**
CCB	**Clear Creek Bu**	**16.37**	**32**		**Pn**	**20 43 59.0**	**-0.1**
MDM	**Murphy Dome**	**16.44**	**31**		**Pn**	**20 43 59.3**	**-0.7**
COLA	**College**	**16.51**	**32**	Pn	**Pn**	**20 44 00.2**	**-0.5**
COLA				IAmb	IAmb	20 44 13.7	
	comp=Z,11nm,0.6s						
BALM	**Baldy**	**16.74**	**48**	Pn	**Pn**	**20 44 04.1**	**+0.2**
IL31		**16.76**	**33**		**Pn**	**20 44 02.6**	**-1.3**
ILAR	**Eielson Array**	**16.76**	**33**	Pn	**Pn**	**20 44 03.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=239,slow=12,SNR=12						
RIDG	**Independent Ri**	**16.89**	**38**	Pn	**Pn**	**20 44 05.1**	**-0.6**
BARN	**Barnard Glacie**	**17.06**	**48**	Pn	**Pn**	**20 44 07.8**	**-0.2**
CTGM	**Chitina Glacie**	**17.18**	**49**	P	**Pn**	**20 44 09.8**	**+0.3**
CTGM				IAmb	IAmb	20 44 14.3	
	comp=Z,20nm,1.0s						
COLD	**Coldfoot**	**17.52**	**24**	P	**Pn**	**20 44 14.3**	**+0.8**
BCAR	**Beaver Creek A**	**17.77**	**42**	Pn	**Pn**	**20 44 15.8**	**-0.9**
HYT	**Haines Junctio**	**18.94**	**51**		**P**	**20 44 29.9**	**-0.5**
HYT				IAmb	IAmb	20 44 37.3	
	comp=Z,18nm,1.0s						
DAWY	**Dawson**	**19.16**	**41**	P	**P**	**20 44 32.5**	**-0.3**
WHY	**Whitehorse**	**20.17**	**52**	P	**P**	**20 44 42.7**	**-1.2**
WHY				IAmb	IAmb	20 44 49.7	
	comp=Z,19nm,1.1s						
PEA0B	**Petropavlovsk-**	**20.48**	**286**	P	**P**	**20 44 46.4**	**-0.8**
PETK	**Petropavlovsk-**	**20.48**	**286**	P	**P**	**20 44 46.8**	**-0.4**
	comp=Z,5.3nm,0.6s,baz=85,slow=14,SNR=23						
PETK				LR	LR	20 53 13.0	
	comp=Z,30nm,20.3s,baz=64,slow=39						
PETK	**Petropavlovsk-**	**20.48**	**286**	P	**P**	**20 44 46.9**	**-0.2**
DLBC	**Dease Lake**	**22.46**	**59**	P	**P**	**20 45 10.6**	**+2.1**
	comp=Z,1.7nm,0.8s,baz=259,slow=15,SNR=3.2						
INK	**Inuvik**	**23.16**	**33**	P	**P**	**20 45 15.4**	**-0.2**
	comp=Z,5.6nm,0.9s,baz=232,slow=8.9,SNR=6.1						
INK	**Inuvik**	**23.16**	**33**	P	**P**	**20 45 15.1**	**-0.5**
SEY	**Seymchan**	**23.22**	**313**	P	**P**	**20 45 15.3**	**-1.0**
	comp=Z,4.8nm,1.0s,baz=114,slow=10.0,SNR=5.9						
LON	**Longmire**	**30.33**	**82**	P	**P**	**20 46 19.1**	**-1.9**
ASAJ	**Asahikawa**	**33.12**	**276**	LR	LR	20 59 54.8	
	comp=Z,66nm,20.3s,baz=112,slow=36						
MCMT	**McKenzie Canyo**	**36.73**	**79**	P	**P**	**20 47 17.5**	**+0.6**
NVAR	**Mina Array Bea**	**37.06**	**92**	P	**P**	**20 47 22.7**	**+2.9**
	comp=Z,0.4nm,0.7s,baz=298,slow=7.7,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**37.70**	**220**	T	T	21 28 23.3	
	baz=24,slow=76,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**37.71**	**220**	T	T	21 28 21.9	
	baz=24,slow=76,SNR=6.8						
H11N1	**WAKE ISLAND Hy**	**37.72**	**220**	T	T	21 28 12.3	
	baz=24,slow=76,SNR=6.8						
YHH	**Holmes Hill**	**37.95**	**78**	P	**P**	**20 47 26.9**	**-0.5**
YPP	**Pitchstone Pla**	**38.26**	**78**	P	**P**	**20 47 31.1**	**+1.2**
H11S1	**WAKE ISLAND Hy**	**38.89**	**220**	T	T	21 29 39.4	
	baz=23,slow=76,SNR=33						
H11S2	**WAKE ISLAND Hy**	**38.90**	**220**	T	T	21 29 40.5	
	baz=23,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**38.90**	**220**	T	T	21 29 21.3	
	baz=23,slow=76,SNR=18						
PD31	**Pinedale Array**	**39.85**	**80**	P	**P**	**20 47 42.4**	**-0.8**
PDAR	**Pinedale Array**	**39.85**	**80**	P	**P**	**20 47 44.4**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=307,slow=5.4,SNR=11						
PDAR	**Pinedale Array**	**39.85**	**80**	P	**P**	**20 47 43.0**	**-0.2**
MAJO	**Matsushiro**	**40.29**	**269**	P	**P**	**20 47 47.0**	**+0.4**
MAJO				IAmb	IAmb	20 47 49.0	
	comp=Z,9.4nm,1.1s						
MAT	**Matsushiro**	**40.29**	**269**	P	**P**	**20 47 46.6**	**0.0**
MAT				*e*S	**S**	**20 53 54.6**	**+0.7**
MJAR	**Matsushiro Arr**	**40.29**	**269**	P	**P**	**20 47 46.3**	**-0.3**
	comp=Z,6.2nm,1.1s,baz=44,slow=6.2,SNR=6.3						
MJAR	**Matsushiro Arr**	**40.29**	**269**	P	**P**	**20 47 46.7**	**+0.1**
MJB9	**Matsu-Tunnel**	**40.29**	**269**	P	**P**	**20 47 46.7**	**+0.1**
MJB9				IAmb	IAmb	20 47 48.8	
	comp=Z,9.5nm,1.1s						
PV13	**Radium Mtn., P**	**43.06**	**85**	P	**P**	**20 48 08.9**	**-0.6**
PV13				IAmb	IAmb	20 48 25.1	
	comp=Z,5.6nm,0.9s						
ULM	**Lac du Bonnet**	**43.70**	**62**	LR	LR	21 06 29.3	
	comp=Z,54nm,20.8s,baz=103,slow=36						
HIA	**Hailar**	**43.86**	**296**	P	**P**	**20 48 14.9**	**-0.7**
HIA				IAmb	IAmb	20 48 24.9	
	comp=Z,3.8nm,0.7s						
JCJ	**Chichijima**	**44.44**	**255**	LR	LR	21 03 41.9	
	comp=Z,48nm,21.8s,baz=124,slow=32						
KSRS	**Korea Array**	**46.02**	**278**	P	**P**	**20 48 33.4**	**+0.6**
	comp=Z,5.0nm,0.9s,baz=55,slow=7.6,SNR=27						
KSRS				LR	LR	21 09 08.4	
	comp=Z,24nm,18.9s,baz=67,slow=38						
KS19	**Wonju Array Si**	**46.02**	**278**	P	**P**	**20 48 33.4**	**+0.5**
KSAR	**Wonju Array Be**	**46.05**	**278**	P	**P**	**20 48 32.8**	**-0.4**
T25A	**Trinidad**	**46.41**	**83**	P	**P**	**20 48 34.9**	**-1.3**
T25A				IAmb	IAmb	20 48 45.7	
	comp=Z,9.9nm,1.3s						
INCN	**Inchon**	**46.78**	**278**	P	**P**	**20 48 39.1**	**+0.2**
SUMG	**Summit**	**50.76**	**17**	P	**P**	**20 49 09.6**	**+0.1**
TLY	**Talaya**	**50.92**	**307**	P	**P**	**20 49 11.1**	**+0.6**
TLY				IAmb	IAmb	20 49 11.5	
	comp=Z,4.7nm,0.9s						
ULN	**Ulaanbaatar**	**51.53**	**301**	P	**P**	**20 49 14.5**	**-0.8**
ULN				IAmb	IAmb	20 49 16.0	
	comp=Z,3.2nm,0.7s						
SONM	**Songino Array**	**51.90**	**301**	P	**P**	**20 49 17.9**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=53,slow=7.5,SNR=15						
SONM				LR	LR	21 13 53.7	
	comp=Z,67nm,18.7s,baz=50,slow=39						
SONM	**Songino Array**	**51.90**	**301**	P	**P**	**20 49 17.4**	**-0.6**
TX32	**Lajitas Array**	**52.15**	**90**	P	**P**	**20 49 20.0**	**-0.2**
TX32				IAmb	IAmb	20 49 33.0	
	comp=Z,7.1nm,1.5s						
TXAR	**Lajitas Array**	**52.15**	**90**	P	**P**	**20 49 20.8**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=294,slow=4.8,SNR=6.2						
TXAR	**Lajitas Array**	**52.15**	**90**	P	**P**	**20 49 19.5**	**-0.6**
HHC	**Hu-ho-hao-te**	**53.53**	**292**	*e*P	**P**	**20 49 31.6**	**+1.4**
HHC				pmax	pmax		
	comp=Z,16nm,1.1s						
HHC				LR	LR		
	comp=N,100nm,16.1s						
HHC				LR	LR		
	comp=E,130nm,17.9s						
HHC				LR	LR		
	comp=Z,110nm,15.9s						
SCHQ	**Schefferville**	**55.15**	**44**	P	**P**	**20 49 42.6**	**+1.0**
	comp=Z,4.6nm,0.8s,baz=284,slow=9.1,SNR=4.5						
SCHQ				LR	LR	21 15 54.7	
	comp=Z,52nm,18.1s,baz=69,slow=39						
ZALV	**Zalesovo Beam**	**57.95**	**318**	P	**P**	**20 50 00.8**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=75,slow=6.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**57.95**	**318**	P	**P**	**20 50 00.7**	**-0.8**
ARCES	**ARCESS Array B**	**58.15**	**354**	P	**P**	**20 50 01.4**	**-1.3**
	comp=Z,2.5nm,0.8s,baz=6.7,slow=8.5,SNR=4.1						
ARCES	**ARCESS Array B**	**58.15**	**354**	P	**P**	**20 50 01.9**	**-0.8**
WHN	**Wuhan**	**58.95**	**281**	⇓P	P	20 50 03.6	-5.3
LVZ	**Lovozero**	**58.98**	**350**	P	**P**	**20 50 08.4**	**-0.2**
GTA	**Gaotai**	**61.08**	**298**	*e*P	**P**	**20 50 23.0**	**-0.6**
GTA				pP	sP	20 50 29.4	+3.0
GTA				sP	pwP	20 50 32.6	+2.1
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LZH	**Lanzhou**	**61.20**	**293**	*e*P	**P**	**20 50 24.1**	**-0.3**
LZH				pP	pwP	20 50 34.0	+2.6
LZH				sP	sP	20 50 39.1	+12
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
KURK	**Kurchatov**	**62.89**	**319**	P	**P**	**20 50 34.4**	**-0.9**
KURK				IAmb	IAmb	20 50 35.5	
	comp=Z,3.3nm,0.9s						
WMQ	**Urumqi**	**64.10**	**309**	*e*P	**P**	**20 50 45.9**

GAR	Garm	75.82	317	P		P		20 51 55.5	-0.2
AKASG	Malin Array Be	76.39	349	P		P		20 51 57.8	-0.8
	comp=Z,2.4nm,0.6s,baz=15,slow=5.7,SNR=8.9								
AKBB	Malin Array Si	76.39	349	P		P		20 51 57.7	-0.8
AKBB				IAmb		IAmb		20 51 58.2	
	comp=Z,3.6nm,0.9s								
CHGR	Chuyangaron	76.59	317	P		P		20 52 00.1	0.0
CLL	Collm	76.86	359	*eP*		P		20 52 01.0	-0.2
CM31	Chiang Mai Arr	77.23	284	P		P		20 52 04.2	+0.3
CM31				IAmb		IAmb		20 52 05.2	
	comp=Z,4.1nm,0.8s								
CMAR	Chiang Mai Arr	77.23	284	P		P		20 52 04.2	+0.4
	comp=Z,4.1nm,0.9s,baz=25,slow=6.0,SNR=22								
CMAR	Chiang Mai Arr	77.23	284	P		P		20 52 03.9	+0.1
PBKT	Sadao Pong	77.47	281	P		P		20 52 05.4	+0.3
PBKT				IAmb		IAmb		20 52 06.2	
	comp=Z,5.8nm,1.2s								
DPC	Dobruska-Polom	77.74	357	*eP*		P		20 52 07.1	+0.8
KRLC	Kraliky	78.00	357	*eP*		P		20 52 08.1	+0.4
MORC	Moravsky Berou	78.27	356	⇓P		P		20 52 09.8	+0.6
MORC	Moravsky Berou	78.27	356	*eP*		P		20 52 09.6	+0.4
VRAC	Vranov	78.78	357	⇓P		P		20 52 12.7	+0.7
VRAC	Vranov	78.78	357	*eP*		P		20 52 12.5	+0.6
LANS	Liptovska Anna	78.80	355	*eP*		P		20 52 13.4	+1.3
KOLS	Kolonicke sedl	78.83	353	*eP*		P		20 52 11.8	-0.5
NIL	Nilore	78.99	312	P		P		20 52 13.7	+0.2
NIL				IAmb		IAmb		20 52 14.6	
	comp=Z,8.3nm,0.9s								
KHC	Kasperske Hory	79.03	359	*eP*		P		20 52 14.0	+0.6
KHC	Kasperske Hory	79.03	359	P		P		20 52 13.2	-0.2
KRUC	Moravsky	79.03	357	*eP*		P		20 52 13.3	0.0
JAVC	Velka Javorina	79.18	356	*eP*		P		20 52 15.7	+1.5
GEC2	GERESS Array S	79.31	359	P		P		20 52 15.0	0.0
GEC2				IAmb		IAmb		20 52 16.3	
	comp=Z,3.8nm,1.1s								
GERES	GERESS Array B	79.31	359	P		P		20 52 15.4	+0.4
	comp=Z,1.5nm,0.9s,baz=346,slow=2.8,SNR=11								
GERES	GERESS Array B	79.31	359	P		P		20 52 14.9	-0.1
VYHS	Vyhne	79.49	355	*eP*		P		20 52 16.3	+0.4
MODS	Modra-Piesok	79.68	356	*eP*		P		20 52 17.1	+0.2
BUR08	Bucovina Ar. S	79.85	351	P		P		20 52 17.2	-0.8
BURAR	Bucovina Array	79.88	351	⇓P		P		20 52 16.5	-1.6
BURAR	Bucovina Array	79.88	351	P		P		20 52 17.5	-0.6
PSZ	Piszkesteto	80.00	354	⇑P		P		20 52 20.1	+1.4
PSZ	Piszkesteto	80.00	354	P		P		20 52 19.1	+0.4
PSZ				IAmb		IAmb		20 52 20.6	
	comp=Z,5.8nm,1.1s								
KBL	Kabul	80.13	315	P		P		20 52 18.6	-1.2
KBL				IAmb		IAmb		20 52 20.1	
	comp=Z,6.2nm,1.0s								
CONA	Conrad Observa	80.18	357	*i* pP		P		20 52 20.8	+1.1
	comp=Z,8.8nm,1.3s								
MOA	Molln	80.30	358	*i* pP		P		20 52 21.3	+1.0
	comp=Z,4.7nm,1.1s								
KIV	Kislovodsk	80.53	338	⇓P		P		20 52 23.1	+1.4
KIV	Kislovodsk	80.53	338	P		P		20 52 21.6	-0.1
KIV				IAmb		IAmb		20 52 24.6	
	comp=Z,5.9nm,1.0s								
KBZ	Khabaz	80.69	338	P		P		20 52 23.1	+0.7
	comp=Z,4.3nm,0.9s,baz=42,slow=2.4,SNR=8.7								
MOTA	Moosalm	80.83	0	*i* pP		P		20 52 23.8	+0.5
	comp=Z,10nm,1.2s								
WATA	Walderalm	80.84	0	*i* pP		P		20 52 24.1	+0.8
	comp=Z,5.9nm,1.0s								
ARSA	Arzberg	80.87	357	*i* pP		P		20 52 24.0	+0.7
	comp=Z,4.2nm,0.9s								
WTTA	Wattenberg	80.91	360	*i* pP		P		20 52 24.9	+1.1
	comp=Z,7.7nm,1.0s								
SQTA	Sankt Quirin	80.95	0	*i* pP		P		20 52 24.9	+1.0
	comp=Z,7.1nm,0.8s								
KBA	Koelnbreinsper	81.08	359	*i* sP		P		20 52 26.8	+2.1
	comp=Z,11nm,0.8s								
FETA	Feichten	81.15	1	*i* sP		P		20 52 26.6	+1.6
	comp=Z,7.4nm,1.0s								
ABTA	Abfaltersbach	81.42	359	*i* pP		P		20 52 27.6	+1.2
	comp=Z,7.9nm,1.2s								
SOKA	Soboth	81.45	358	*i* sP		P		20 52 28.0	+1.5
	comp=Z,8.1nm,1.1s								
GEYT	Alibeck	81.51	325	P		P		20 52 27.2	+0.3
	comp=Z,5.2nm,0.8s,baz=328,slow=5.3,SNR=13								
GEYT	Alibeck	81.51	325	P		P		20 52 27.0	0.0
GYA0B	ALIBECK ARRAY	81.51	325	P		P		20 52 26.9	-0.1
TBLG	Delisi	82.13	336	P		P		20 52 30.2	+0.1
BZS	Buzias	82.18	353	⇑P		P		20 52 29.5	-0.7
MTUR	Matau	82.26	350	⇓P		P		20 52 35.9	+5.1
TIRR	Tirgusor	82.63	348	⇓P		P		20 52 19.7	-13
PDG	Podgorica	85.51	354	P		P		20 52 46.7	-0.6
ALN	Alexandroupoli	86.43	349	P		P		20 52 51.8	-0.1
BR131	Keskin Array S	86.46	343	P		P		20 52 52.7	+0.5
BR131				IAmb		IAmb		20 52 54.4	
	comp=Z,3.0nm,0.9s								
BRTR	Keskin Array B	86.46	343	P		P		20 52 52.9	+0.6
	comp=Z,2.1nm,0.9s,baz=60,slow=3.0,SNR=12								
BRTR				LR		LR		21 35 17.4	
	comp=Z,6.6nm,20.6s,baz=354,slow=38								
WRA	Warramunga Arr	87.37	232	P		P		20 52 56.5	-0.1
	comp=Z,0.5nm,0.8s,baz=32,slow=5.4,SNR=3.0								
ESDC	Sonseca Array	87.50	12	P		P		20 52 57.4	+0.2
	comp=Z,1.6nm,0.8s,baz=332,slow=5.1,SNR=9.5								
ESDC				LR		LR		21 35 42.6	
	comp=Z,13nm,18.0s,baz=265,slow=38								
ESDC	Sonseca Array	87.50	12	P		P		20 52 57.5	+0.2
ASAR	Alice Springs	90.75	231	P		P		20 53 12.8	+0.3
	comp=Z,0.9nm,0.8s,baz=44,slow=4.2,SNR=9.3								

IDC ***16*** *21:01:25.6±2.4, 36.°41N×70.°89E, h182km±22km, mb3.3/10, mb1 3.4/16, mb1mx3.1/46, mbtmp3.8/16, Error ellipse: s-maj=18.6km s-min=13.8km az=14.0*

NEIC ***16*** *21:01:28.8±2.4, 36.°61N±0.°05×70.°9E±0.°1, h216km±6km, mb4.2/18, Error ellipse: s-maj=13.9km s-min=7.3km az=81.0*

NNC ***16*** *21:01:33.5±4.0, 37.°02N×70.°75E, h202km±57km, mb2.8, mpv3.7, Error ellipse: s-maj=38.8km s-min=22.7km az=7.0*

ISC 16 21:01:27.3±0.5, 36.°61N±0.°05×70.°92E±0.°05, h200km, n69, σ1§**50**/81, **mb3.8**/16, **4C-3D**, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.44**	**349**				**Pn**	**21 02 13.4**	**+2.8**
GAR				S			**Sn**	**21 02 45.4**	**+0.8**
CHGR	**Chuyangaron**	**2.48**	**326**	Pn			**Pn**	**21 02 13.6**	**+2.6**
CHGR				S			**Sn**	**21 02 45.8**	**+0.5**
KBL	**Kabul**	**2.57**	**217**	Pn			**Pn**	**21 02 14.7**	**+2.5**
KBL				S			**Sn**	**21 02 49.3**	**+2.2**
NIL	**Nilore**	**3.51**	**146**				**Pn**	**21 02 26.0**	**+2.8**
ARSB	**Arslanbob**	**4.98**	**18**				**Pn**	**21 02 43.2**	**+1.7**
ARSB				S			**Sn**	**21 03 40.0**	**0.0**
THN	**Thein Dam**	**5.74**	**135**	*eP*			**Pn**	**21 02 52.5**	**+1.2**
THN				*eS*			**Sn**	**21 03 57.0**	**-0.6**
KK31	**Karatay Array**	**6.50**	**357**	P			**Pn**	**21 03 02.5**	**+1.5**
	1.5nm,0.5s,baz=179,slow=12,SNR=23								
KK31				⇑S			**Sn**	**21 04 12.4**	**-2.8**
	2.8nm,0.3s,baz=180,slow=23,SNR=13								
KK31	**Karatay Array**	**6.50**	**357**	P			**Pn**	**21 03 02.7**	**+1.8**
KK31				S			**Sn**	**21 04 12.5**	**-2.6**
KKAR	**Karatay Array**	**6.50**	**357**	Pn			**Pn**	**21 03 02.2**	**+1.3**
KKAR				S			**Sn**	**21 04 12.5**	**-2.7**
KKAR	**Karatay Array**	**6.50**	**357**				**Pn**	**21 03 02.7**	**+1.8**
KKAR				S			**Sn**	**21 04 12.5**	**-2.7**
AAK	**Ala-Archa**	**6.62**	**23**	P			**Pn**	**21 03 04.9**	**+2.2**
	1.3nm,0.3s,baz=201,slow=6.7,SNR=12								
AAK				S			**Sn**	**21 04 17.9**	**-0.5**
	1.0nm,0.3s,baz=317,slow=23,SNR=21								
AAK	**Ala-Archa**	**6.62**	**23**	⇑P			**Pn**	**21 03 04.9**	**+2.2**
	3.9nm,0.5s								
AAK				⇓S			**Sn**	**21 04 18.2**	**-0.2**
	12nm,0.7s								
AAK	**Ala-Archa**	**6.62**	**23**	Pn			**Pn**	**21 03 05.0**	**+2.2**
AAK							**Sn**	**21 04 19.0**	**+0.6**
FRU1	**Bishkek**	**6.82**	**24**	Pn			**Pn**	**21 03 07.8**	**+2.5**
TKM2	**Tokmak 2**	**7.26**	**28**	⇓P			**Pn**	**21 03 12.8**	**+1.8**
	8.2nm,0.8s								
TKM2				⇑S			**Sn**	**21 04 32.2**	**-1.2**
	10nm,1.0s								
HRA	**Herat**	**7.42**	**255**				**Pn**	**21 03 15.1**	**+2.0**
GEYT	**Alibeck**	**10.29**	**281**	P			**Pn**	**21 03 50.1**	**-0.2**
	0.7nm,0.3s,baz=91,slow=8.5,SNR=6.1								
GEYT				S			**Sn**	**21 05 41.8**	**-3.4**
	0.9nm,0.3s,baz=322,slow=35,SNR=3.9								
GEYT	**Alibeck**	**10.29**	**281**				**Pn**	**21 03 50.5**	**+0.2**
GYA0B	ALIBECK ARRAY	10.29	281	Pn			**Pn**	**21 03 50.8**	**+0.5**
MAKZ	**Makanchi**	**13.11**	**36**	Pn			**Pn**	**21 04 26.9**	**+1.0**
MK31	**Makanchi Array**	**13.24**	**36**	Pn			**Pn**	**21 04 29.1**	**-1.5**
MKAR	**Makanchi Array**	**13.24**	**36**	P			**Pn**	**21 04 28.4**	**+0.7**
	0.4nm,0.3s,baz=217,slow=11,SNR=20								
MKAR	**Makanchi Array**	**13.24**	**36**	Pn			**P**	**21 04 29.3**	**-1.3**
PYUN	**Piuthan**	**13.26**	**126**	*eP*			**Pn**	**21 04 28.2**	**-0.1**
KOLN	**Koldanda**	**13.88**	**126**	*eP*			**P**	**21 04 37.1**	**-0.9**
	5.4nm,0.3s								
GKN	**Gorkha**	**14.41**	**123**	*eP*			**P**	**21 04 43.7**	**-0.2**
AB31	**Akbulak array**	**14.96**	**331**	⇑P			**P**	**21 04 49.2**	**-0.4**
	1.2nm,0.5s								
ABKAR	**Akbulak array**	**14.96**	**331**				**Pn**	**21 04 48.1**	**-0.7**
DMN	**Daman**	**14.98**	**123**	*eP*			**P**	**21 04 50.0**	**-0.3**
	13nm,0.6s								
KKN	**Kakani**	**14.99**	**122**	*eP*			**P**	**21 04 50.6**	**+0.3**
KURBB	**Kurchatov Arra**	**15.04**	**19**	P			**P**	**21 04 50.0**	**-0.5**
	0.1nm,0.3s,baz=214,slow=8.3,SNR=10								
KURK	**Kurchatov**	**15.15**	**19**	P			**Pn**	**21 04 50.0**	**-1.2**
KURK	**Kurchatov**	**15.15**	**19**	IAmb		IAmb		21 04 56.0	
	comp=Z,1.7nm,0.8s								
PKI	**Pulchoki**	**15.21**	**122**	*eP*			**P**	**21 04 53.1**	**+0.2**
	comp=Z,19nm,0.8s								
JIRN	**Jiri**	**15.70**	**120**	*eP*			**Pn**	**21 04 58.9**	**+0.5**
BVAR	**Borovoye Array**	**16.42**	**359**	P			**Pn**	**21 05 07.6**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=178,slow=11,SNR=6.4								
RAMN	**Ramite**	**16.43**	**121**	*eP*			**Pn**	**21 05 07.4**	**+0.4**
	comp=Z,5.5nm,0.4s								
BRVK	**Borovoye**	**16.46**	**359**	P			**Pn**	**21 05 06.8**	**-0.1**
AKTO	**Aktyubinsk**	**16.66**	**330**	P			**Pn**	**21 05 09.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=136,slow=10.0,SNR=7.6								
AKTO	**Aktyubinsk**	**16.66**	**330**	⇓P			**Pn**	**21 05 10.2**	**+1.0**
	comp=Z,2.9nm,0.8s								
TAPN	**Taplejung**	**16.95**	**118**	*eP*			**Pn**	**21 05 13.9**	**+0.6**
	comp=Z,10.0nm,0.4s								
ODAN	**Odare**	**17.03**	**120**	*eP*			**Pn**	**21 05 15.3**	**+1.1**
	comp=Z,20nm,0.7s								
ZAA0	**Zalesovo Array**	**19.84**	**25**				**P**	**21 05 43.2**	**+0.5**
ZAA0						IAmb	IAmb	21 05 46.6	
	comp=Z,4.3nm,0.8s								
ZALV	**Zalesovo Beam**	**19.84**	**25**	P			**P**	**21 05 43.8**	**+1.1**
	comp=Z,6.3nm,0.6s,baz=222,slow=11,SNR=16								
SONM	**Songino Array**	**28.33**	**55**	P			**P**	**21 07 04.4**	**+2.0**
	comp=Z,0.1nm,0.4s,baz=252,slow=11,SNR=4.8								
SONM	**Songino Array**	**28.33**	**55**	P			**P**	**21 07 03.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**30.56**	**119**	P			**P**	**21 07 23.4**	**+1.0**
	comp=Z,4.0nm,0.5s,baz=304,slow=8.3,SNR=4.8								
FINES	**FINESS Array B**	**37.36**	**326**	P			**P**	**21 08 21.9**	**+1.7**
	comp=Z,1.9nm,1.0s,baz=90,slow=9.7,SNR=4.3								
ARCES	**ARCESS Array B**	**41.02**	**338**	P			**P**	**21 08 52.1**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=113,slow=8.0,SNR=8.2								
ARCES	**ARCESS Array B**	**41.02**	**338**	P			**P**	**21 08 51.7**	**+1.2**
NOA	**NORSAR Array B**	**44.26**	**323**	P			**P**	**21 09 17.7**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=97,slow=7.9,SNR=2.3								
TORD	**Torodi Ar. Bea**	**65.66**	**269**	P			**P**	**21 11 49.7**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=50,slow=6.3,SNR=1.9								
TORD	**Torodi Ar. Bea**	**65.66**	**269**	IAmb		IAmb		21 11 52.6	
	comp=Z,0.7nm,1.1s								
IMAR	**Indian Mountai**	**72.09**	**18**	P			**P**	**21 12 29.9**	**+0.6**
C36M	**Paulatuk**	**73.78**	**5**	P			**P**	**21 12 39.8**	**+0.7**
C36M				IAmb		IAmb		21 12 55.5	
	comp=Z,3.9nm,0.7s								
INK	**Inuvik**	**73.81**	**9**	P			**P**	**21 12 40.8**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=290,slow=4.0,SNR=7.5								
INK	**Inuvik**	**73.81**	**9**	P			**Pn**	**21 12 39.8**	**+0.6**
INK				IAmb		IAmb		21 12 56.3	
	comp=Z,4.0nm,1.1s								
ADK	**Adak**	**73.98**	**37**	P			**P**	**21 12 37.9**	**-2.7**
PSA00	**Pilbara Seismi**	**74.03**	**133**	P			**P**	**21 12 39.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**75.00**	**127**	P			**P**	**21 12 45.4**	**-1.5**
FITZ				IAmb		IAmb		21 12 45.4	
	comp=Z,6.3nm,1.1s								
MTN	**Manton Dam**	**75.00**	**119**	P			**P**	**21 12 47.2**	**+0.2**
KNRA	**Kununurra**	**75.34**	**123**	P			**P**	**21 12 48.2**	**-0.6**
KNRA				IAmb		IAmb		21 12 49.5	
	comp=Z,8.4nm,1.0s								
SCM	**Sheep Creek Mo**	**77.13**	**18**	P			**P**	**21 12 58.8**	**+0.5**
SCM				IAmb		IAmb		21 13 14.2	
	comp=Z,4.8nm,1.1s								
WRA	**Warramunga Arr**	**82.10**	**122**	P			**P**	**21 13 24.4**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=324,slow=4.9,SNR=11								
WRAB	**Tennant Creek**	**82.10**	**122**	P			**P**	**21 13 24.6**	**-1.0**
WRAB				IAmb		IAmb		21 13 25.8	
	comp=Z,4.2nm,1.1s								
WB2	**Warramunga Arr**	**82.11**	**122**	P			**P**	**21 13 24.7**	**-1.0**
WB2				IAmb		IAmb		21 13 25.1	
	comp=Z,3.8nm,1.1s								
WR0	**Warramunga Arr**	**82.25**	**122**	P			**P**	**21 13 24.5**	**-1.9**
ASAR	**Alice Springs**	**84.37**	**125**	P			**P**	**21 13 36.4**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=313,slow=4.8,SNR=11								
FORT	**Forrest**	**85.79**	**134**	P			**P**	**21 13 42.6**	**-1.4**
FORT				IAmb		IAmb		21 13 56.2	
	comp=Z,4.3nm,0.9s								

NEIC ***16*** *21:25:29.9±2.5, 43.°71N±0.°06×105.°44W±0.°07, h0km±2km, ML3.1/64, Error ellipse: s-maj=10.0km s-min=8.1km az=25.0*

IDC ***16*** *21:25:30.2±1.9, 43.°68N×105.°47W, h0km, mb1 3.7/3, mb1mx3.4/36, mbtmp3.4/3, ML2.6/2, Error ellipse: s-maj=48.5km s-min=10.7km az=149.0*

ISC 16 21:25:29.3±0.9, 43.°69N±0.°04×105.°45W±0.°04, h0km, n72, σ1§**44**/85, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.11**	**67**			Pg	**Pg**	**21 25 50.0**	**-0.6**
K22A	**Casper**	**1.30**	**217**				**Pn**	**21 25 56.7**	**+1.8**
K22A						IAML		21 26 19.5	
	comp=E,280nm,0.4s								
K22A						IAML		21 26 22.0	
	comp=N,431nm,0.3s								
RWWY	**Rawlins**	**2.38**	**214**				**Pb**	**21 26 14.1**	**+0.9**
RWWY						IAML		21 26 49.3	
	comp=N,136nm,0.7s								
PHWY	**Pilot Hill**	**2.38**	**180**				**Pb**	**21 26 13.1**	**-0.2**
N23A	**Red Feather La**	**2.81**	**188**	Pn		Pb	**Pb**	**21 26 19.4**	**-1.2**
N23A						IAML		21 27 01.3	
	comp=N,59nm,0.6s								
N23A						IAML		21 27 08.4	
	comp=E,57nm,0.8s								
LAO	**LASA Array**	**3.05**	**350**	Pn			**Pn**	**21 26 20.8**	**+1.9**
RLMT	**Red Lodge**	**3.09**	**299**	Pn			**Pn**	**21 26 21.3**	**+1.8**
RLMT						IAML		21 27 11.0	
	comp=E,36nm,0.7s								
RLMT						IAML		21 27 27.8	
	comp=E,39nm,0.8s								
BW06	**Boulder Array**	**3.14**	**254**				**Pb**	**21 26 24.7**	**-1.4**
BW06						IAML		21 27 13.5	
	comp=N,33nm,0.5s								
PD31	**Pinedale Array**	**3.14**	**254**	Pn		Pb	**Pb**	**21 26 23.8**	**-2.3**
PDAR	**Pinedale Array**	**3.14**	**254**	Pn		Pb	**Pb**	**21 26 24.0**	**-2.0**
	comp=N,8.3nm,0.3s,baz=76,slow=17,SNR=36								
PDAR				Lg		Lg		21 27 08.0	
	comp=N,6.3nm,0.3s,baz=77,slow=34,SNR=2.3								
PDAR	**Pinedale Array**	**3.14**	**254**	Pn			**Pb**	**21 26 23.7**	**-2.3**
YNE	**Yellowstone No**	**3.52**	**294**	Pn			**Pn**	**21 26 26.7**	**+1.2**
YMP	**Mirror Lake Pl**	**3.54**	**289**				**Pn**	**21 26 25.5**	**+0.7**
GCMT	**Greycliff**	**3.67**	**306**	Pn			**Pn**	**21 26 28.5**	**+1.1**
LKWY	**Lake**	**3.67**	**286**	Pn			**Pn**	**21 26 26.8**	**-0.7**
LKWY						IAML		21 27 07.1	
	comp=N,62nm,0.9s								
LKWY						IAML		21 28 04.7	
	comp=N,38nm,1.2s								
LOHW	**Long Hollow**	**3.74**	**271**				**Pn**	**21 26 30.7**	**+2.3**
FLWY	**Flagg Ranch**	**3.81**	**278**	Pg			**Pg**	**21 26 41.8**	**-0.6**
FLWY						IAML		21 27 41.5	
	comp=N,29nm,1.2s								
SNOW	**Snow King Moun**	**3.86**	**268**				**Pg**	**21 26 42.4**	**-0.8**
SNOW						IAML		21 27 38.7	
	comp=N,23nm,1.2s								
SNOW						IAML		21 27 52.9	
	comp=N,24nm,1.1s								
ISCO	**Idaho Springs**	**3.89**	**182**				**Pn**	**21 26 32.9**	**+2.3**
YPP	**Pitchstone Pla**	**3.91**	**280**				**Pg**	**21 26 44.1**	**0.0**
REDW	**Red Top Meadow**	**3.94**	**267**				**Pg**	**21 26 44.8**	**0.0**
REDW						IAML		21 27 41.8	
	comp=N,20nm,0.8s								
REDW						IAML		21 27 44.3	
	comp=N,33nm,0.7s								
IMW	**Indian Meadow**	**3.98**	**275**				**Pg**	**21 26 44.4**	**-1.1**
IMW						IAML		21 27 46.4	
	comp=N,18nm,0.6s								
IMW						IAML		21 28 11.3	
	comp=N,28nm,0.6s								
TPAW	**Teton Pass**	**4.00**	**269**	Pn			**Pn**	**21 26 32.3**	**+0.2**
TPAW							**Pg**	**21 26 46.6**	**+0.7**
TPAW						IAML		21 28 01.3	
	comp=N,22nm,1.1s								
YHH	**Holmes Hill**	**4.03**	**288**	Pn			**Pn**	**21 26 33.1**	**+0.5**
YHH							**Pg**	**21 26 46.1**	**-0.5**
FXWY	**Fox Creek**	**4.04**	**271**				**Pn**	**21 26 37.2**	**+4.6**
O20A	**White River Ci**	**4.11**	**211**				**Pn**	**21 26 33.4**	**-0.3**
O20A						IAML		21 27 44.9	
	comp=N,25nm,0.5s								
O20A						IAML		21 27 48.1	
	comp=E,30nm,0.7s								
AHID	**Auburn Hatcher**	**4.23**	**259**				**Pg**	**21 26 50.8**	**+0.5**
AHID						IAML		21 27 05.2	
	comp=N,19nm,0.5s								
ECR	**Eagle Creek**	**4.36**	**264**				**Pg**	**21 26 53.8**	**+0.9**
RDMU	**Red Mountain**	**4.37**	**226**				**Pg**	**21 26 53.3**	**+0.3**
E28A	**Huff**	**4.44**	**48**	Pn			**Pn**	**21 26 38.4**	**+0.5**
QLMT	**Earthquake Lak**	**4.44**	**287**	Pn			**Pn**	**21 26 38.9**	**+0.8**
Q24A	**Divide**	**4.72**	**177**	Pn			**Pn**	**21 26 42.0**	**-0.1**
Q24A						IAML		21 28 04.8	
	comp=N,9.9nm,0.7s								
Q24A						IAML		21 28 07.9	
	comp=E,21nm,0.7s								
SUSD	**Miller**	**4.74**	**79**	Pn			**Pn**	**21 26 43.9**	**+1.8**
BOZ	**Bozeman (W)**	**4.80**	**296**	Pn			**Pn**	**21 26 44.3**	**+1.3**
BOZ						IAML		21 28 03.2	
	comp=E,11nm,0.7s								
BOZ						IAML		21 28 07.3	
	comp=E,9.6nm,1.1s								
DGMT	**Dagmar**	**4.86**	**10**	Pn			**Pn**	**21 26 45.4**	**+1.7**
HWUT	**Hardware Ranch**	**4.96**	**247**	Pn			**Pn**	**21 26 45.4**	**+0.2**
HWUT						IAML		21 28 16.8	
	comp=E,17nm,0.8s								
TCUT	**Toone Canyon**	**5.10**	**242**	Pn			**Pn**	**21 26 47.3**	**+0.1**
TCUT				Pg			**Pg**	**21 27 06.9**	**-0.1**
KSCO	**Kaye Shedlock'**	**5.13**	**155**	Pn			**Pn**	**21 26 49.2**	**+1.7**
KSCO							**Pg**	**21 27 08.7**	**+1.0**
EGMT	**Eagleton**	**5.28**	**327**	Pn			**Pn**	**21 26 49.9**	**+0.4**
JLU	**Jordanelle**	**5.42**	**237**	Pg			**Pg**	**21 27 12.4**	**-0.7**
LRM	**Limekiln Ridge**	**5.42**	**296**	Pg			**Pg**	**21 27 12.1**	**-1.1**
HRY	**Holter Researc**	**5.43**	**306**	Pg			**Pg**	**21 27 12.8**	**-0.5**
MCMT	**McKenzie Canyo**	**5.43**	**285**				**Pg**	**21 27 13.2**	**-0.2**
PV22	**Blue Mesa, Par**	**5.73**	**207**				**Pn**	**21 26 56.6**	**+0.7**
PV21	**Cone Mtn., Par**	**5.77**	**209**				**Pn**	**21 26 57.2**	**+0.8**
PV07	**Paradox Valley**	**5.77**	**206**	Pn			**Pn**	**21 26 57.7**	**+1.2**
PV07				Pg			**Pg**	**21 27 20.7**	**+0.7**
P17A	**Butcher Ranch,**	**5.78**	**225**				**Pn**	**21 26 57.0**	**+0.5**
PV15	**Paradox Valley**	**5.81**	**204**	Pn			**Pn**	**21 26 57.2**	**+0.3**
MDND	**Maddock**	**5.83**	**42**	Pn			**Pn**	**21 26 56.9**	**-0.2**
BGNE	**Belgrade**	**5.86**	**110**	Pn			**Pn**	**21 26 58.3**	**+0.9**
PV23	**Carpenter Ridg**	**5.88**	**208**	Pn			**Pn**	**21 26 58.8**	**+0.8**
PV04	**Paradox Valley**	**5.90**	**207**				**Pn**	**21 26 59.4**	**+1.3**
PV12	**Saucer Basin,**	**5.93**	**206**	Pn			**Pn**	**21 26 59.5**	**+0.9**

comp=Z,22µm,6.1s
ENH Enshi 5.62 66 Pn Pn 22 09 25.0 +1.3
SLVN Son La 6.78 177 Pn Pn 22 09 40.2 +0.6
XAN Xi'an 7.48 37 Pn Pn 22 09 49.3 +0.1
XAN Sn **Sn** 22 11 10.4 -3.6
XAN Sg **Sg** 22 11 57.3 -2.7
XAN smax smax
comp=Z,4µm,1.0s
XAN smax smax
comp=Z,6µm,1.0s
XAN LR LR
comp=Z,37µm,5.2s
XAN LR LR
comp=Z,40µm,6.4s
XAN LR LR
comp=Z,17µm,3.8s
XAN Xi'an 7.48 37 P Pn 22 09 49.2 +0.1
XAN Xi'an 7.48 37 Pn Pn 22 09 49.1 0.0
LZH Lanzhou 7.93 2 *eP* **Pn 22 09 57.3 +1.9**
LZH smax smax
comp=Z,800nm,0.9s
LZH smax smax
comp=Z,1µm,0.8s
LZH LR LR
comp=Z,12µm,9.0s
LZH LR LR
comp=Z,9µm,11.4s
WHN Wuhan 9.74 73 ⇓P **Pn 22 10 21.1 +1.0**
WHN LR LR
comp=Z,9µm,6.0s
WHN LR LR
comp=Z,28µm,9.4s
GZH Guangzhou 10.18 117 P Pn 22 10 25.8 -0.4
GZH S **Sn** **22 12 20.8 +0.4**
CHTO Chiang Mai 10.19 205 P Pn 22 10 27.4 +1.1
CHTO Chiang Mai 10.19 205 Pn Pn 22 10 27.4 +1.1
CM31 Chiang Mai Arr 10.52 205 Pn Pn 22 10 33.6 +2.8
CMAR Chiang Mai Arr 10.52 205 Pn Pn 22 10 33.6 +2.9
comp=Z,0.7nm,0.3s,baz=16,slow=12,SNR=97
CMAR Lg Lg 22 13 29.1
baz=30,slow=29,SNR=2.0
CMAR LR LR 22 14 52.9
comp=Z,3µm,19.1s,baz=58,slow=40
CMAR Chiang Mai Arr 10.52 205 P Pn 22 10 32.3 +1.5
CMAR Chiang Mai Arr 10.52 205 Pn Pn 22 10 32.3 +1.5
SHL Shillong 10.71 259 *eP* **Pn 22 10 33.7 +0.1**
SHL IAmb IAmb 22 10 39.4
comp=Z,15nm,0.4s
SHL Shillong 10.71 259 P Pn 22 10 33.4 -0.2
SHL Shillong 10.71 259 Pn Pn 22 10 33.4 -0.2
QIZ Qiongzhong 10.75 146 P Pn 22 10 32.5 -1.5
QIZ S **Sn** **22 12 35.8 +1.3**
QIZ LR LR
comp=Z,14µm,10.2s
QIZ LR LR
comp=Z,18µm,11.1s
QIZ LR LR
comp=Z,10µm,8.6s
QIZ Qiongzhong 10.75 146 Pn Pn 22 10 33.3 -0.8
LSA Lhasa 10.96 281 P Pn 22 10 38.3 +1.1
LSA LR LR
comp=Z,6µm,9.3s
LSA LR LR
comp=Z,24µm,8.5s
LSA Lhasa 10.96 281 P Pn 22 10 39.4 +2.1
LSA Lhasa 10.96 281 Pn Pn 22 10 39.4 +2.1
HKPS Hong Kong Po S 11.24 119 Pn Pn 22 10 39.9 -0.8
GTA Gaotai 11.66 346 ⇓P **Pn 22 10 48.5 +2.0**
GTA pP 22 10 52.0
GTA sP 22 10 55.0
GTA S **Sn** **22 13 01.0 +4.3**
GTA SS **SnSn** **22 13 10.8 +1.8**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,210nm,4.1s
GTA LR LR
comp=Z,4µm,13.3s
GTA LR LR
comp=Z,12µm,12.4s
GTA LR LR
comp=Z,5µm,12.4s
PBKT Sadao Pong 11.75 192 Pn Pn 22 10 48.4 +0.7
BTO Baotou 13.54 22 P Pn 22 11 08.3 -3.8
BTO S **Sn** **22 13 34.8 -7.8**
NJ2 Nanjing 13.83 70 *eP* **Pn 22 11 17.3 +1.3**
NJ2 S **Sn** **22 13 52.0 +2.4**
NJ2 sS S 22 14 02.4 -10
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,250nm,3.5s
NJ2 LR LR
comp=Z,5µm,12.0s
NJ2 LR LR
comp=Z,6µm,8.9s
QZH Quanzhou 13.85 100 ⇓*i*P **Pn 22 11 18.3 +1.9**
QZH *eS* **Sn** **22 13 52.0 +1.7**
QZH SS **S** **22 14 08.0 -4.5**
QZH LR LR
comp=Z,3µm,5.7s
QZH LR LR
comp=Z,7µm,8.1s
TAPN Taplejung 14.03 270 *eP* **Pn 22 11 19.1 0.0**
TIA Tai'an 14.04 52 P Pn 22 11 20.5 +1.6
TIA S **Sn** **22 13 54.0 -0.7**
TIA pmax pmax
comp=Z,8.0nm,0.7s
TIA pmax pmax
comp=Z,76nm,4.3s
TIA LR LR
comp=Z,8µm,15.5s
TIA LR LR
comp=Z,6µm,11.8s
TIA LR LR
comp=Z,2µm,11.9s
HHC Hu-ho-hao-te 14.29 25 *eP* **Pn 22 11 20.0 -2.5**
HHC sP P 22 11 28.8 -0.9
HHC S **Sn** **22 14 01.8 +0.7**
HHC pmax pmax
comp=Z,36nm,0.9s
HHC pmax pmax
comp=Z,140nm,3.9s
HHC LR LR
comp=N,6µm,6.4s
HHC LR LR
comp=E,5µm,6.6s
HHC LR LR
comp=Z,3µm,8.5s
ODAN Odare 14.38 269 *eP* **Pn 22 11 23.0 -0.9**
RAMN Ramite 15.07 269 *eP* **Pn 22 11 31.9 -1.3**
comp=Z,227nm,1.0s
JIRN Jiri 15.34 272 *eP* **Pn 22 11 37.1 +0.2**
comp=Z,236nm,0.8s
BJT Baijiatuau 15.79 38 P Pn 22 11 42.7 +0.4
BJT pmax pmax
comp=Z,70nm,1.1s
BJT Baijiatuau 15.79 38 Pn Pn 22 11 42.7 +0.4
BJI Beijing 15.81 38 P Pn 22 11 44.3 +1.7
BJI S **Sn** **22 14 43.5 +5.7**
BJI pmax pmax
comp=Z,58nm,1.2s
BJI LR LR
comp=Z,8µm,15.9s
BJI LR LR
comp=Z,8µm,13.5s
BJI LR LR
comp=Z,1µm,19.0s
PKI Pulchoki 16.04 272 *eP* **Pn 22 11 44.8 -1.2**
comp=Z,171nm,0.7s
KKN Kakani 16.13 273 *eP* **Pn 22 11 46.7 -0.3**
comp=Z,175nm,0.7s
TPUB Ta-pu 16.14 104 Pn 22 11 46.4 -0.6
SSLB Suanglung 16.26 102 Pn Pn 22 11 47.3 -1.1
DMN Daman 16.30 272 *eP* **Pn 22 11 48.6 -0.7**
comp=Z,103nm,0.7s
YHNB Yeheng 16.36 98 Pn 22 11 49.9 +0.1
BOK Bokaro 16.44 259 *eP* **Pn 22 11 51.1 +0.3**
BOK IAmb IAmb 22 11 54.8
comp=Z,26nm,1.0s
GKN Gorkha 16.68 274 *eP* **Pn 22 11 53.5 -0.5**
comp=Z,154nm,0.7s
YULB Yu-li 16.68 102 Pn 22 11 53.2 -0.7
TWG Pinlang 16.70 105 Pn 22 11 53.6 -0.5
TWG IAmb IAmb 22 12 03.1
comp=Z,72nm,0.7s
DLV T Lat 16.77 163 P P 22 11 57.1 -0.3
DANN Dangsing 17.42 275 *eP* **Pn 22 12 02.4 -1.1**
comp=Z,216nm,0.6s
KOLN Koldanda 17.61 274 *eP* **Pn 22 12 03.4 -2.4**
comp=Z,203nm,1.3s
DGPR DIGLIPUR 17.87 216 *eP* **Pn 22 12 08.9 +0.2**
PYUN Piuthan 18.12 275 *eP* **Pn 22 12 09.0 -3.0**
comp=Z,184nm,0.8s
DL2 Dalian 18.49 50 P P 22 12 15.9 -0.1
DL2 pP **sP** **22 12 20.3 -0.7**
DL2 S **Sn** **22 15 39.4 -3.3**
DL2 pmax pmax
comp=Z,22nm,1.0s
DL2 pmax pmax
comp=Z,63nm,4.2s
DL2 LR LR
comp=Z,3µm,14.7s
DL2 LR LR
comp=Z,3µm,12.2s
PBA Port Blair 19.26 214 P P 22 12 24.6 -0.1
PBA IAmb IAmb 22 12 37.4
comp=Z,79nm,1.0s
SONM Songino Array 19.79 6 P Pn 22 12 32.0 0.0
comp=Z,1.1nm,0.3s,baz=189,slow=11,SNR=32
SONM LR LR 22 21 41.2
comp=Z,389nm,20.2s,baz=183,slow=41
SONM Songino Array 19.79 6 P Pn 22 12 32.0 0.0
SONM Songino Array 19.79 6 P P 22 12 29.8 -0.7
ULN Ulaanbaatar 19.89 *7ceP* **P 22 12 32.0 +0.5**
ULN pmax pmax
comp=Z,33nm,1.7s
ULN Ulaanbaatar 19.89 7 P P 22 12 31.7 +0.2
WMQ Urumqi 20.17 325 *eP* Pn 22 12 37.4 +1.0
WMQ sP sP 22 12 43.6 +4.1
WMQ S **S** **22 16 18.9 -2.0**
WMQ SS **SnSn** **22 16 46.4 +8.4**
WMQ pmax pmax
comp=Z,14nm,0.6s
WMQ pmax pmax
comp=Z,130nm,3.7s
WMQ LR LR
comp=Z,2µm,9.3s
WMQ LR LR
comp=Z,2µm,9.3s
WMQ Urumqi 20.17 325 P P 22 12 35.4 +0.9
WMQ pmax pmax
comp=Z,25nm,0.8s
WMQ Urumqi 20.17 325 P P 22 12 35.4 +0.9
SUJ Sinuiju 21.00 50 P P 22 12 45.4 +1.9
SUJ S **S** **22 16 36.1 -1.3**
HJU Haeju 21.01 56 P P 22 12 46.8 +3.2
TGY Tagaytay City 21.38 127 P P 22 12 49.0 +1.2
comp=Z,81nm,0.3s,baz=189,slow=11,SNR=1.0
TGY LR LR 22 20 25.1
comp=Z,1µm,19.5s,baz=296,slow=35
TGY Tagaytay City 21.38 127 P P 22 12 49.0 +1.2
PYAG Pyongyang 21.42 54 P P 22 12 50.5 +2.5
PYAG S **S** **22 16 47.2 +1.5**
INCN Inchon 21.49 58 P P 22 12 48.2 -0.7
INCN pmax pmax
comp=Z,39nm,0.9s
INCN Inchon 21.49 58 P P 22 12 48.2 -0.7
INCN IAmb IAmb 22 12 54.9
comp=Z,39nm,0.8s
PYS Pyongsong 21.57 53 P P 22 12 52.4 +2.8
TJN Taejon 21.73 62*ceP* **P 22 12 51.9 +0.6**
ZAK Zakamensk 22.21 360 *eP* **P 22 12 56.6 0.0**
ZAK pmax pmax
comp=Z,37nm,1.3s
KSAR Wonju Array Be 22.43 59 P P 22 12 58.1 -0.7
KSAR Wonju Array Be 22.43 59 P P 22 12 58.1 -0.7
KS19 Wonju Array Si 22.43 59 IAmb IAmb 22 13 02.5
comp=Z,48nm,0.7s
KSRS Korea Array 22.46 59 P P 22 12 59.3 +0.1
comp=Z,39nm,0.5s,baz=245,slow=9.6,SNR=106
KSRS S **S** **22 17 09.2 +3.6**
comp=Z,2.2nm,0.9s,baz=260,slow=18,SNR=4.2
WOSN Wonsan 22.66 55 P P 22 13 02.5 +1.2
KULM Kulim 22.89 187 P P 22 13 02.5 -1.4
KULM Kulim 22.89 187 P P 22 13 04.0 +0.2
HHU Hamhung 23.03 53 P P 22 13 07.2 +2.1
HHU S **S** **22 17 20.8 +5.0**
SMLA Simla 23.09 284 *eP* **P 22 13 04.3 -1.5**
SMLA IAmb IAmb 22 13 08.1
comp=Z,75nm,0.9s
TLY Talaya 23.52 0 P P 22 13 12.1 +2.2
comp=Z,2.9nm,0.6s,baz=260,slow=2.9,SNR=3.8
TLY LR LR 22 23 04.9
comp=Z,2µm,18.1s,baz=171,slow=38
TLY Talaya 23.52 0 *eP* **P 22 13 10.8 +0.8**
TLY *e* 22 13 36.3
TLY *eS* **S** **22 17 26.1 +2.4**
TLY pmax pmax
comp=Z,48nm,1.7s
TLY MLR MLR
comp=Z,7µm,10.0s
TLY Talaya 23.52 0 P P 22 13 09.9 -0.1
CN2 Changchun 23.54 43 *eP* **P 22 13 10.5 +0.3**
CN2 *eS* **S** **22 17 20.8 -3.4**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,3µm,11.0s
CN2 LR LR
comp=Z,3µm,11.0s
CN2 LR LR
comp=Z,2µm,12.0s
MOY Mondy 23.58 356 *eP* **P 22 13 11.2 +0.5**
MOY pmax pmax
comp=Z,56nm,3.2s
LHMI Lhok Sumawe 23.63 197 P P 22 13 10.7 -0.6
LHMI IAmb IAmb 22 13 15.3
comp=Z,99nm,1.1s
IPM Ipoh 23.65 186 P P 22 13 10.4 -1.2
IPM IAmb IAmb 22 13 11.8
comp=Z,51nm,0.9s
IPM Ipoh 23.65 186 P P 22 13 11.0 -0.6
DHRM DHARAMSHALA 23.86 287 *eP* **P 22 13 12.2 -1.6**
DHRM IAmb IAmb 22 13 14.8
comp=Z,30nm,0.7s
BHPL Bhopal 24.00 264 *eP* **P 22 13 15.1 +0.1**
JNU Nakatsue 24.02 71 P P 22 13 15.3 +0.2
comp=Z,23nm,0.7s,baz=6.8,slow=0.9,SNR=20
JNU LR LR 22 22 08.1
comp=Z,1µm,21.2s,baz=262,slow=35
JNU Nakatsue 24.02 71 P P 22 13 14.6 -0.5
JNU IAmb IAmb 22 13 29.6
comp=Z,35nm,0.9s
IRK Irkutsk 24.08 1 *eP* **P 22 13 16.3 +0.9**
IRK pmax pmax
comp=Z,81nm,2.3s
ZSN Zaisan 24.16 328 *eP* **P 22 13 16.7 +0.4**
comp=Z,55nm,2.2s,baz=328
ZSN *eS* **S** **22 17 35.8 +1.7**
baz=328
ZSN LR LR 22 22 25.8
comp=Z,498nm,10.0s,baz=328
ZSN Zaisan 24.16 328 *eP* **P 22 13 16.6 +0.4**
ZSN *eS* **S** **22 17 35.8 +1.7**
ZSN pmax pmax
comp=Z,55nm,2.2s
ZSN MLR MLR
comp=Z,498nm,10.0s
HIA Hailar 24.50 26 P P 22 13 20.0 +0.7
HIA pmax pmax
comp=Z,30nm,0.7s
HIA Hailar 24.50 26 P P 22 13 20.0 +0.7
HIA IAmb IAmb 22 13 29.8
comp=Z,30nm,0.7s
SHLS Shalkode 24.52 314 *eP* **P 22 13 17.8 -2.0**
comp=Z,68nm,1.2s,baz=314
SHLS *eS* **S** **22 17 37.4 -2.9**
baz=314
SHLS LR LR 22 23 10.4
comp=Z,237nm,10.9s,baz=314
SHLS Shalkode 24.52 314 *eP* **P 22 13 17.7 -2.0**
SHLS *eS* **S** **22 17 37.3 -2.9**
SHLS pmax pmax
comp=Z,69nm,1.2s
SHLS MLR MLR
comp=Z,237nm,11.0s
MLSI Meulaboh, Aceh 24.69 197 P P 22 13 21.6 +0.4
comp=Z,101nm,0.6s
UZB Uzynbulak 24.80 314 *i*P **P 22 13 22.6 +0.3**
comp=Z,29nm,0.8s,baz=313
UZB *i*S **S** **22 17 45.9 +1.2**
baz=313
UZB LR LR 22 24 07.3
comp=Z,306nm,12.0s,baz=313
UZB Uzynbulak 24.80 314 *i*P **P 22 13 22.5 +0.3**
UZB *i*S **S** **22 17 45.9 +1.2**
UZB pmax pmax
comp=Z,29nm,0.8s
UZB MLR MLR
comp=Z,306nm,12.0s
DGZ Jazzator, Alta 24.81 335 *eP* **P 22 13 23.5 +1.3**
DGZ pmax pmax
comp=Z,35nm,1.1s
TSI Tuntungan 24.95 192 P **P 22 13 24.1 +0.5**
comp=Z,3µmcomp=Z,385nm,0.7s
TARG Taragay, Kyrgy 24.96 310 IAmb IAmb 22 13 26.0
comp=Z,60nm,1.1s
MK31 Makanchi Array 24.98 324 P **P 22 13 23.6 -0.1**
MK31 pmax pmax
comp=Z,49nm,1.1s
MK31 Makanchi Array 24.98 324 P **P 22 13 23.6 -0.1**
MK31 IAmb IAmb 22 13 26.3
comp=Z,49nm,1.1s
MKAR Makanchi Array 24.98 324 P **P 22 13 24.8 +1.0**
comp=Z,13nm,0.4s,baz=128,slow=11,SNR=243
MKAR ScP **ScP** **22 20 35.8 -2.1**
comp=Z,0.9nm,0.6s,baz=125,slow=2.6,SNR=4.9
MKAR LR LR 22 23 49.3
comp=Z,1µm,18.4s,baz=126,slow=38
MKAR Makanchi Array 24.98 324 P **P 22 13 23.5 -0.2**
MKAR ScP **ScP** **22 20 35.6 -2.1**
CIT Chita 25.01 15 *eP* **P 22 13 24.1 +0.2**
CIT *e* 22 14 20.1
CIT pmax pmax
comp=Z,44nm,1.2s
KKM Kota Kinabalu 25.05 149 P P 22 13 24.4 -0.2
KKM IAmb IAmb 22 13 31.8
comp=Z,35nm,0.8s
SATY Saty 25.15 313 *i*P **P 22 13 25.9 +0.5**
comp=Z,48nm,0.8s,baz=313
SATY Saty 25.15 313 *i*P **P 22 13 25.9 +0.5**
SATY pmax pmax
comp=Z,48nm,0.8s
SATY Saty 25.15 313 *i*P **P 22 13 25.9 +0.5**
SATY pmax pmax
comp=Z,48nm,0.8s
MAKZ Makanchi 25.16 324 P P 22 13 25.3 0.0
MAKZ pmax pmax
comp=Z,63nm,1.0s
MAKZ Makanchi 25.16 324 P P 22 13 25.3 0.0
MAKZ IAmb IAmb 22 13 28.1
comp=Z,63nm,0.9s
HYB Hyderabad 25.33 250 *i*P **P 22 13 27.0 -0.1**
HYB Hyderabad 25.33 250 *eP* **P 22 13 28.4 +1.3**
HYB IAmb IAmb 22 13 29.2
comp=Z,22nm,0.9s
CHJN Chongjin 25.36 51 P P 22 13 28.0 +0.9
KSH Kashi 25.45 304 P P 22 13 31.4 +3.3
KSH sP sP 22 13 36.8 +3.6
KSH S **S** **22 17 58.4 +3.2**
KSH pmax pmax
comp=Z,130nm,1.6s
KSH LR LR
comp=Z,610nm,10.2s
KSH LR LR
comp=Z,680nm,10.5s
KSH LR LR
comp=Z,3µm,13.8s
PSI Prapat 25.58 191 P P 22 13 29.6 +0.2
comp=Z,54nm,0.8s,baz=360,slow=10,SNR=34
PSI ScP **ScP** **22 20 38.5 -1.5**
comp=Z,7.8nm,0.7s,baz=2.3,slow=0.8,SNR=8.6
PSI LR LR 22 23 11.0
comp=Z,738nm,18.4s,baz=271,slow=36
RPSI Rantau Prapat 25.68 191 ScP 22 20 38.5 -1.6
MDOK Medeo 26.08 312 *i*P **P 22 13 34.1 +0.2**
baz=312
MDOK *eS* **S** **22 18 07.3 +2.1**
baz=312
MDOK LR LR 22 23 33.9
comp=Z,743nm,11.4s,baz=312
MDOK Medeo 26.08 312 *i*P **P 22 13 34.9 +1.0**
MDOK *eS* **S** **22 18 07.3 +2.1**
MDOK MLR MLR
comp=Z,743nm,11.0s
TDK Taldyqorghan 26.12 317 *eP* **P 22 13 34.4 +0.4**
comp=Z,70nm,0.7s,baz=316
TDK Taldyqorghan 26.12 317 *eP* **P 22 13 34.4 +0.4**
TDK pmax pmax
comp=Z,70nm,0.7s
AAA Alma-Ata 26.19 312 *i*P **P 22 13 36.2 +1.5**
baz=312
AAA LR LR 22 24 23.8
comp=Z,503nm,10.6s,baz=312
AAA Alma-Ata 26.19 312 *i*P **P 22 13 36.2 +1.5**
AAA MLR MLR
comp=Z,503nm,11.0s
ULHL Ulahol 26.23 310 P P 22 13 37.1 +1.8
SNR=22
MDRS Chennai 26.38 240 *eP* **P 22 13 39.2 +2.7**
MDRS IAmb IAmb 22 13 42.7
comp=Z,50nm,0.9s
CHKK Chushkaly 26.43 313 *i*P **P 22 13 37.3 +0.3**
baz=313
CHKK Chushkaly 26.43 313 *i*P **P 22 13 37.2 +0.3**
MTBS Maitube 26.48 312 *i*P **P 22 13 38.5 +1.2**
baz=311
MTBS Maitube 26.48 312 *i*P **P 22 13 38.5 +1.2**
NIL Nilore 26.50 290 P P 22 13 37.9 +0.3
NIL pmax pmax
comp=Z,93nm,0.8s
NIL Nilore 26.50 290 P P 22 13 37.9 +0.3
SBSI Sibolga 26.81 190 P P 22 13 39.5 -0.9
comp=Z,819nmcomp=Z,15nm,0.8s
KZA Kyzart 26.85 309 P P 22 13 42.5 +1.4
SNR=50
SBUM Sibu 26.86 160 P P 22 13 40.1 -0.8
SBUM Sibu 26.86 160 P P 22 13 42.0 +1.1
KUU Kurty 26.87 313 *i*P **P 22 13 41.2 +0.3**
comp=Z,66nm,1.4s,baz=313
KUU *eS* **S** **22 18 18.7 +1.4**
baz=313
KUU LR LR 22 25 04.5
comp=Z,697nm,12.2s,baz=313
KUU Kurty 26.87 313 *i*P **P 22 13 41.1 +0.3**
KUU *eS* **S** **22 18 18.7 +1.4**
KUU pmax pmax
comp=Z,66nm,1.4s
KUU MLR MLR
comp=Z,697nm,12.0s
MYLDM Lahad Datu 26.90 145 P P 22 13 41.5 +0.3
MYLDM IAmb IAmb 22 13 47.0
comp=Z,46nm,1.1s
TKM2 Tokmak 2 26.94 311 P P 22 13 43.0 +1.3
SNR=11
KBK Karagaybulak 27.27 310 P P 22 13 45.7 +1.1
SNR=24
GSI Gunungsitoli 27.29 193 P P 22 13 44.0 -0.7
comp=Z,70nm,0.6s
KSM Kuching 27.30 165 P P 22 13 44.4 -0.4
KSM Kuching 27.30 165 P P 22 13 45.0 +0.2
UCH Uchtor 27.41 309 P P 22 13 48.1 +1.9
SNR=32
MNSI Mandailing Nat 27.45 189 P P 22 13 46.2 0.0
comp=Z,25nm,0.6s
CHMS Chumysh 27.54 310 P P 22 13 48.0 +1.1
SNR=6.5
FRU1 Bishkek 27.55 310 P P 22 13 46.9 -0.1
FRU1 pmax pmax
comp=Z,24nm,1.0s
FRU1 Bishkek 27.55 310 P P 22 13 46.9 -0.1
FRU1 IAmb IAmb 22 13 53.6
comp=Z,24nm,0.9s
AAK Ala-Archa 27.58 309 P P 22 13 48.3 +0.9
comp=Z,14nm,0.8s,baz=106,slow=5.9,SNR=23
AAK LR LR 22 25 52.3
comp=Z,1µm,18.4s,baz=96,slow=39
AAK Ala-Archa 27.58 309 P P 22 13 48.6 +1.2
SNR=10.0
AAK Ala-Archa 27.58 309*ceP* **P 22 13 48.6 +1.2**
AAK pmax pmax
comp=Z,30nm,1.3s
AAK Ala-Archa 27.58 309 P P 22 13 48.2 +0.9

AAK IAmb IAmb 22 13 55.2
comp=Z,17nm,0.8s
BKNI Bangkinang 27.76 185 P **P** **22 13 47.9 -1.0**
USP Ospenovka 27.82 311 P **P** **22 13 50.0 +0.6**
SNR=30
USA0B Ussuriysk Arra 27.83 47 *i* P **P** **22 13 50.9 +1.6**
USA0B Ussuriysk Arra 27.83 47 P **P** **22 13 49.6 +0.3**
USA0B IAmb IAmb 22 13 52.9
comp=Z,24nm,0.8s
USRK Ussuriysk Ar. 27.83 47 P **P** **22 13 49.8 +0.4**
comp=Z,19nm,0.7s,baz=242,slow=9.1,SNR=29
USRK LR LR 22 24 23.7
comp=Z,683nm,19.3s,baz=239,slow=35
USRK Ussuriysk Ar. 27.83 47 P **P** **22 13 49.3 -0.1**
AML Almayashu 27.95 308 P **P** **22 13 52.4 +1.4**
SNR=26
EKS2 Erkin-Say 28.08 309 P **P** **22 13 52.6 +0.9**
SNR=42
BTLS Baital 28.85 314 *eP* **P** **22 13 58.5 -0.1**
comp=Z,5.0nm,0.6s,baz=313
BTLS LR LR 22 25 40.4
comp=Z,103nm,9.5s,baz=313
BTLS Baital 28.85 314 *eP* **P** **22 13 58.4 -0.1**
BTLS pmax pmax
comp=Z,5.0nm,0.6s
BTLS MLR MLR
comp=Z,103nm,10.0s
SDSI Sungai Dareh 28.98 184 P **P** **22 13 58.9 -0.9**
comp=Z,29nm,0.7s
ZALV Zalesovo Beam 29.21 337 P **P** **22 14 01.5 -0.1**
comp=Z,6.1nm,0.5s,baz=147,slow=10,SNR=21
ZALV S **S** **22 18 53.9 +0.1**
comp=Z,2.1nm,0.8s,baz=144,slow=11,SNR=3.5
ZALV ScP **ScP** **22 20 46.5 -3.7**
comp=Z,1.0nm,0.7s,baz=93,slow=2.9,SNR=3.0
ZALV LR LR 22 27 20.7
comp=Z,326nm,19.9s,baz=138,slow=40
ZALV Zalesovo Beam 29.21 337 P **P** **22 14 00.8 -0.8**
KURBB Kurchatov Arra 29.37 327 P **P** **22 14 02.5 -0.4**
comp=Z,8.4nm,1.0s,baz=136,slow=9.1,SNR=38
KURBB ScP **ScP** **22 20 48.3 -2.6**
comp=Z,1.0nm,0.6s,baz=125,slow=3.3,SNR=9.4
KURK Kurchatov 29.39 327 *ceP* **P** **22 14 03.1 0.0**
KURK pmax pmax
comp=Z,22nm,1.3s
KURK Kurchatov 29.39 327 P **P** **22 14 02.2 -1.0**
KURK Kurchatov 29.39 327 **ScP** **22 20 48.3 -2.6**
DAV Davao City (W) 29.57 131 LR LR 22 27 32.2
comp=Z,1μm,18.5s,baz=356,slow=40
SISI Saibi 29.61 189 P **P** **22 14 04.7 -0.7**
comp=Z,19nm,0.8s
DZA Taraz 29.85 308 *i* P **P** **22 14 08.1 +0.7**
baz=308
DZA LR LR 22 25 58.6
comp=Z,198nm,12.4s,baz=308
DZA Taraz 29.85 308 *i* P **P** **22 14 08.0 +0.7**
DZA MLR MLR
comp=Z,198nm,12.0s
PALK Pallekele 29.95 230 P **P** **22 14 08.8 +0.3**
comp=Z,24nm,0.9s,baz=135,slow=8.9,SNR=9.8
PALK PcP **PcP** **22 17 10.6 -0.6**
comp=Z,6.1nm,0.8s,baz=316,slow=0.5,SNR=5.2
PALK Pallekele 29.95 230 IAmb IAmb 22 14 12.7
comp=Z,26nm,0.9s
KBL Kabul 30.04 291 P **P** **22 14 08.9 -0.5**
KBL pmax pmax
comp=Z,23nm,0.9s
KBL Kabul 30.04 291 P **P** **22 14 08.9 -0.5**
KBL IAmb IAmb 22 14 20.3
comp=Z,23nm,0.8s
KLR Kul'dur 30.19 38 LR LR 22 26 29.6
comp=Z,405nm,19.2s,baz=234,slow=37
KLR Kul'dur 30.19 38 *ceP* **P** **22 14 12.3 +2.0**
KLR pmax pmax
comp=Z,7.0nm,0.9s
MJB9 Matsu-Tunnel 30.34 65 P **P** **22 14 11.3 -0.6**
MAJO Matsushiro 30.34 65 *i* P **P** **22 14 13.2 +1.4**
MAJO pmax pmax
comp=Z,4.0nm,0.9s
MAJO Matsushiro 30.34 65 P **P** **22 14 12.0 +0.1**
MAT Matsushiro 30.34 65 P **P** **22 14 11.0 -0.8**
MAT S **S** **22 19 09.6 -2.6**
MJAR Matsushiro Arr 30.35 65 P **P** **22 14 10.8 -1.1**
comp=Z,1.4nm,0.6s,baz=267,slow=11,SNR=6.7
MJAR PcP **PcP** **22 17 11.6 -0.3**
comp=Z,1.8nm,1.0s,baz=250,slow=4.1,SNR=2.9
MJAR ScP **ScP** **22 20 57.0 +2.7**
comp=Z,1.0nm,0.8s,baz=240,slow=4.0,SNR=4.2
MJAR LR LR 22 26 06.1
comp=Z,428nm,19.8s,baz=265,slow=36
CHGR Chuyangaron 30.39 299 P **P** **22 14 11.7 -0.7**
KK31 Karatay Array 30.48 308 IAmb IAmb 22 14 14.5
comp=Z,16nm,0.9s
KKAR Karatay Array 30.48 308 P **P** **22 14 12.3 -0.7**
KKAR Karatay Array 30.48 308 P **P** **22 14 12.3 -0.7**
KKAR Karatay Array 30.48 308 IAmb IAmb 22 14 14.5
comp=Z,16nm,0.9s
IUG luznay 30.54 306 *eP* **P** **22 14 14.4 +0.8**
baz=306
IUG LR LR 22 26 28.4
comp=Z,189nm,12.1s,baz=306
IUG luznay 30.54 306 *eP* **P** **22 14 14.3 +0.8**
IUG MLR MLR
comp=Z,189nm,12.0s
BOD Bodaibo 30.57 11 *eP* **P** **22 14 13.8 +0.3**
BOD pmax pmax
comp=Z,9.0nm,1.1s
TAS Tashkent 30.85 304 P **P** **22 14 17.2 +0.9**
TAS Tashkent 30.85 304 P **P** **22 14 17.2 +0.9**
CHM Chimkent 30.89 306 *eP* **P** **22 14 17.6 +0.9**
baz=306
CHM Chimkent 30.89 306 *eP* **P** **22 14 17.5 +0.9**
MTKI Muara Teweh, K 30.90 157 P **P** **22 14 16.0 -0.9**
comp=Z,22nm,0.8s
ZEA Zeya 30.94 28 *eP* **P** **22 14 17.8 +0.9**
ZEA *eS* **S** **22 19 26.0 +5.0**
ZEA *eSSS* SSS 22 21 34.0
ZEA *e* 22 24 55.0
ZEA pmax pmax
comp=Z,37nm,0.7s
ZEA smax smax
comp=E,200nm,10.0s
ZEA MLR MLR
comp=Z,2μm,11.0s
ZEA MLR MLR
comp=E,900nm,14.0s
ZEA MLR MLR
comp=N,2μm,12.0s
TEY Ternei 31.18 48 *eP* **P** **22 14 21.6 +2.5**
JHJ Hachijo jima 2 31.48 72 LR LR 22 26 57.0
comp=N,662nm,18.2s,baz=298,slow=36
LHSI Lahat 31.78 180 P **P** **22 14 26.3 +1.7**
comp=N,25nm,0.9s
BRZS Berezniki 32.03 321 *eP* **P** **22 14 26.9 +0.3**
baz=321
BRZS LR LR 22 27 19.5
comp=N,212nm,10.6s,baz=321
BRZS Berezniki 32.03 321 *eP* **P** **22 14 26.8 +0.3**
BRZS MLR MLR
comp=Z,212nm,11.0s
MDSI Maura Dua 32.44 179 P **P** **22 14 31.0 +0.6**
comp=Z,15nm,0.8s
BBKI Banjar Baru 33.25 159 P **P** **22 14 38.1 +0.6**
comp=Z,30nm,0.8s
JCJ Chichijima 34.17 82 LR LR 22 29 50.5
comp=Z,375nm,18.9s,baz=273,slow=38
JCJ Chichijima 34.17 82 P **P** **22 14 45.7 +0.2**
LUWI Luwuk 34.39 144 P **P** **22 14 46.6 -0.8**
BVAR Borovoye Array 34.86 325 LR LR 22 30 29.4
comp=Z,1μm,18.0s,baz=117,slow=39
BRVK Borovoye 34.93 325 *ceP* **P** **22 14 52.6 +0.9**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 34.93 325 P **P** **22 14 51.3 -0.5**
ERM Erimo 34.94 56 P **P** **22 14 51.7 -0.3**
ERM pmax pmax
comp=Z,13nm,0.7s
ERM Erimo 34.94 56 P **P** **22 14 51.7 -0.3**
ERM IAmb IAmb 22 15 02.1
comp=Z,12nm,0.7s
ASAJ Asahikawa 34.98 52 LR LR 22 27 59.4
comp=Z,426nm,19.2s,baz=253,slow=34
ASAJ Asahikawa 34.98 52 P **P** **22 14 53.6 +1.3**
ASAJ pmax pmax
comp=Z,7.0nm,0.8s
JKA Kamikawa-asahi 34.99 52 P **P** **22 14 53.6 +1.2**

SPSI Sidrap Palu 35.54 151 P **P** **22 14 58.0 +0.7**
comp=Z,38nm,1.0s
HRA Herat 35.65 291 P **P** **22 14 57.1 -1.3**
YSS Yuzh-Sakhalins 35.86 48 *eP* **P** **22 15 02.7 +2.9**
YSS *e**SP **sP** **22 15 06.8 +1.8**
YSS *eS* **S** **22 20 41.9 +4.4**
YSS *e*SSS SSS 22 23 24.3
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS MLR MLR
comp=Z,2μm,13.0s
YSS MLR MLR
comp=N,1μm,12.0s
YSS MLR MLR
comp=E,500nm,11.0s
YAK Yakutsk 38.05 20 LR LR 22 32 25.7
comp=E,874nm,18.8s,baz=228,slow=38
YAK Yakutsk 38.05 20 *eP* **P** **22 15 18.6 +0.4**
YAK *e**PP **sP** **22 15 26.6 +3.2**
YAK *e* 22 16 52.7
YAK *e* 22 17 33.3
YAK *eS* **S** **22 21 09.4 -1.0**
YAK *e*SS **SnSn** **22 23 47.8 -5.0**
YAK *e* 22 25 29.2
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,116nm,4.1s
YAK smax smax
comp=E,39nm,1.9s
YAK smax smax
comp=N,38nm,2.2s
YAK MLR MLR
comp=Z,1μm,14.0s
YAK MLR MLR
comp=E,598nm,17.0s
YAK MLR MLR
comp=N,997nm,15.0s
YAK Yakutsk 38.05 20 P **P** **22 15 16.7 -1.5**
YAK IAmb IAmb 22 15 24.2
comp=Z,34nm,0.7s
GEYT Alibeck 38.98 296 P **P** **22 15 27.3 +0.9**
comp=Z,26nm,0.7s,baz=112,slow=6.6,SNR=72
GEYT LR LR 22 33 52.0
comp=Z,1μm,20.3s,baz=40,slow=40
GEYT Alibeck 38.98 296 P **P** **22 15 26.7 +0.2**
GYA0B ALIBECK ARRAY 38.98 296 P **P** **22 15 27.1 +0.7**
GYA0B IAmb IAmb 22 15 29.7
comp=Z,40nm,0.8s
ABKAR Abkulak array 39.33 315 P **P** **22 15 28.6 -0.5**
WBSI Waikabubak, Su 40.57 156 P **P** **22 15 38.4 -1.4**
comp=Z,98nm,0.9s
MMRI Maumere 40.79 151 P **P** **22 15 40.5 -1.1**
GUMO Guam 41.04 102 LR LR 22 33 08.5
comp=Z,232nm,20.5s,baz=268,slow=37
SVE Sverdlovsk 41.62 326⇓ *eP* **P** **22 15 48.8 +0.8**
SVE *eS* **S** **22 22 04.2 +0.1**
SVE pmax pmax
comp=Z,18nm,1.0s
SVE MLR MLR
comp=Z,679nm,16.0s
NRIK Noril'sk 42.27 352 P **P** **22 15 53.4 +0.2**
comp=Z,7.7nm,0.5s,baz=144,slow=7.4,SNR=20
NRIK LR LR 22 34 24.5
comp=Z,956nm,20.1s,baz=186,slow=38
NRIK Noril'sk 42.27 352⇑ *eP* **P** **22 15 53.1 -0.1**
NRIK pmax pmax
comp=Z,12nm,0.9s
ARU Arti 42.51 324 *d iP* **P** **22 15 55.2 0.0**
ARU 22 17 31.1
ARU 22 17 47.6
ARU PPP PPP 22 18 05.9
ARU S **S** **22 22 18.8 +1.6**
ARU SS **SS** **22 25 20.5 -6.0**
ARU pmax pmax
comp=Z,19nm,1.0s
ARU Arti 42.51 324 P **P** **22 15 54.4 -0.8**
SOEI Soe 42.68 149 P **P** **22 15 56.4 -0.8**
SOEI IAmb IAmb 22 16 07.0
comp=Z,23nm,0.8s
MA2 Magadan 44.85 32 P **P** **22 16 15.8 +1.7**
comp=Z,10nm,0.7s,baz=256,slow=2.2,SNR=4.7
MA2 LR LR 22 35 50.8
comp=Z,442nm,19.1s,baz=244,slow=37
MA2 Magadan 44.85 32 P **P** **22 16 14.3 +0.2**
MA2 IAmb IAmb 22 16 18.6
comp=Z,13nm,0.8s
TIXI Tiksi 45.75 11 P **P** **22 16 20.5 -0.5**
comp=Z,9.7nm,0.6s,baz=206,slow=3.2,SNR=8.0
TIXI LR LR 22 37 06.7
comp=Z,1μm,19.1s,baz=240,slow=38
TIXI Tiksi 45.75 11 *i* P **P** **22 16 21.4 +0.4**
TIXI pmax pmax
comp=Z,8.0nm,0.7s
TIXI Tiksi 45.75 11 P **P** **22 16 20.2 -0.8**
TIXI IAmb IAmb 22 16 25.6
comp=Z,12nm,0.7s
LKRN Lenkeran, Azer 46.30 298 P **P** **22 16 26.7 +0.9**
GENI Genyem 46.62 125 P **P** **22 16 29.5 +0.9**
comp=Z,53nm,0.8s
PETK Petropavlovsk- 46.69 42 P **P** **22 16 28.1 -0.6**
comp=Z,2.7nm,0.6s,baz=254,slow=5.4,SNR=12
PETK LR LR 22 38 09.9
comp=Z,350nm,18.8s,baz=256,slow=39
PETK Petropavlovsk- 46.69 42 P **P** **22 16 27.4 -1.3**
SEY Seymchan 46.92 28 P **P** **22 16 31.1 +0.8**
comp=Z,7.5nm,0.6s,baz=259,slow=9.7,SNR=12
SEY Seymchan 46.92 28 *i* P **P** **22 16 31.6 +1.3**
AKT Akhty 46.96 302 *eP* **P** **22 16 31.9 +0.8**
AKT *e* 22 18 01.8
AKT *e* 22 18 24.6
AKT pmax pmax
comp=Z,20nm,0.9s
MAK Makhachkala 47.09 304 *eP* **P** **22 16 29.3 -2.6**
MAK *eS* **S** **22 23 20.9 -3.1**
MAK pmax pmax
comp=Z,115nm,1.0s
MAK MLR MLR
comp=Z,622nm,12.0s
SEKA Sheki 47.37 301 P **P** **22 16 34.2 -0.1**
MNGR Mingechevir, A 47.47 301 P **P** **22 16 35.7 +0.7**
KIRV Kirov 47.87 325⇓ *eP* **P** **22 16 37.7 -0.1**
LGD Lagodekhi 48.06 302 P **P** **22 16 41.4 +1.9**
GANJ Ganja 48.06 301 P **P** **22 16 40.2 +0.6**
GROC Groznyy 48.34 304 *eP* **P** **22 16 42.2 +0.6**
GROC *e* 22 18 12.0
GROC *e* 22 18 35.8
GROC pmax pmax
comp=Z,18nm,0.9s
NAX Nakhchivan 48.81 299 P **P** **22 16 46.2 +0.7**
KZRT Kazreti 49.46 302 P **P** **22 16 51.8 +1.4**
ZEI Tsey 49.74 304 *eP* **P** **22 16 54.1 +1.4**
ZEI pmax pmax
comp=Z,15nm,0.9s
KNRA Kununurra 49.94 148 IAmb IAmb 22 16 54.3
comp=Z,16nm,0.7s
ONI Oni 50.09 303 P **P** **22 16 57.1 +2.0**
AKH Akhalkalaki 50.14 302 P **P** **22 16 55.8 +0.1**
AKH pmax pmax
comp=Z,32nm,1.2s
AKH Akhalkalaki 50.14 302 P **P** **22 16 55.8 +0.1**
AKH IAmb IAmb 22 16 58.5
comp=Z,32nm,1.2s
GOF Gofitskoye 50.26 307⇑ *iP* **P** **22 16 57.3 +1.0**
GOF pmax pmax
comp=Z,42nm,0.9s
KBZ Khabaz 50.42 305 P **P** **22 16 58.2 +0.7**
comp=Z,1.7nm,0.7s,baz=115,slow=5.6,SNR=6.8
KBZ LR LR 22 41 54.2
comp=Z,610nm,19.3s,baz=74,slow=40
KBZ Khabaz 50.42 305 *ceP* **P** **22 16 57.5 0.0**
KBZ pmax pmax
comp=Z,11nm,1.5s
PRGR Permogore 50.48 328⇑ *iP* **P** **22 16 57.7 0.0**
PRGR pmax pmax
comp=Z,33nm,0.9s
KARS Kars 50.52 301 P **P** **22 17 00.7 +2.1**
KIV Kislovodsk 50.56 305 *eP* **P** **22 16 59.1 +0.3**
KIV *eS* **S** **22 24 14.0 +0.9**
KIV *eSS* **SS** **22 27 49.5 +2.5**
KIV pmax pmax
comp=Z,138nm,1.1s
KIV pmax pmax
comp=Z,50nm,4.2s
KIV MLR MLR
comp=Z,1μm,16.0s
KIV Kislovodsk 50.56 305 P **P** **22 16 58.8 0.0**
FITZ Fitzroy Crossi 50.70 152 P **P** **22 16 58.4 -1.4**
GEVA Gevas 50.80 298 P **P** **22 17 01.5 +0.8**
GEVA IAmb IAmb 22 17 03.8
comp=Z,20nm,1.2s
VRH Novokhopyorsk 51.16 315 *eP* **P** **22 17 02.8 -0.2**
VRH pmax pmax
comp=Z,40nm,0.9s
VRH MLR MLR
comp=Z,220nm,10.0s
ARTV Artvin 51.34 302 P **P** **22 17 05.0 +0.2**
ARTV IAmb IAmb 22 17 09.3
comp=Z,13nm,1.0s
BATM Batumi 51.47 302 P **P** **22 17 09.6 +4.1**
KOPT Kop Dagi 52.55 300 P **P** **22 17 13.9 0.0**
MARD Mardin 52.73 297 P **P** **22 17 15.2 +0.1**
MARD IAmb IAmb 22 17 21.6
comp=Z,14nm,0.7s
VSR Storozhevoye 52.77 315 *eP* **P** **22 17 14.6 -0.4**
VSR pmax pmax
comp=Z,20nm,0.8s
VSR MLR MLR
comp=Z,410nm,12.0s
LPSR Galich'ya Gora 52.93 316 *eP* **P** **22 17 15.8 -0.3**
LPSR pmax pmax
comp=Z,50nm,0.9s
LPSR MLR MLR
comp=Z,480nm,13.0s
KLMR Klimovskoe 53.24 327 *eP* **P** **22 17 17.7 -0.5**
KLMR pmax pmax
comp=Z,40nm,0.9s
KLMR Klimovskoe 53.24 327 *eP* **P** **22 17 17.8 -0.5**
KLMR AMP 22 17 19.3
comp=Z,40nm,0.9s
KLMR LQ LQ 22 36 21.3
KLMR LQ LQ 22 36 21.3
KLMR LR LR 22 37 41.9
MOS Moscow 53.78 320 *eP* **P** **22 17 19.9 -2.5**
MOS *eS* **S** **22 24 53.8 -2.9**
MOS pmax pmax
comp=Z,85nm,1.3s
MOS pmax pmax
comp=Z,200nm,1.9s
ANN Anapa 54.25 307 *eP* **P** **22 17 24.0 -2.0**
ANN *e**PP **pP** **22 17 26.1 -3.6**
ANN *e* 22 18 27.4
ANN *e* 22 19 24.8
ANN *e*PPP PPP 22 20 34.4
ANN *eS* **S** **22 25 02.3 -1.1**
ANN *eSS* **SS** **22 28 46.0 +1.0**
ANN pmax pmax
comp=Z,35nm,0.9s
ANN MLR MLR
comp=Z,733nm,18.0s
ANN MLR MLR
comp=N,485nm,20.0s
ANN MLR MLR
comp=E,444nm,18.0s
OBN Obninsk 54.37 319 LR LR 22 42 01.6
comp=E,206nm,18.7s,baz=146,slow=38
OBN Obninsk 54.37 319 *ceP* **P** **22 17 27.0 +0.4**
OBN *e* 22 18 31.0
OBN *e* 22 19 29.0
OBN *eS* **S** **22 25 07.0 +2.4**
OBN *eSS* **SS** **22 28 50.1 +3.7**
OBN pmax pmax
comp=Z,51nm,1.1s
OBN MLR MLR
comp=Z,654nm,17.0s
OBN Obninsk 54.37 319 P **P** **22 17 26.6 0.0**
TMCR Tamitsa 54.39 331 *eP* **P** **22 17 25.2 -1.5**
TMCR pmax pmax
comp=Z,1.0nm,0.5s
MALT Malatya 54.40 299 P **P** **22 17 29.0 +1.7**
TOKA Tokat 55.55 301 P **P** **22 17 35.8 +0.2**
GAZ Gaziantep 55.56 298 P **P** **22 17 36.3 +0.6**
GAZ IAmb IAmb 22 17 39.7
comp=Z,16nm,0.9s
KVT Kavak 55.75 302 P **P** **22 17 38.2 +1.2**
PATS Pohnpei 55.86 101 P **P** **22 17 38.2 +0.2**
WB0 Warramunga Arr 56.20 144 IAmb IAmb 22 17 45.6
comp=Z,14nm,0.8s
LVZ Lovozero 56.31 335 P **P** **22 17 39.9 -0.6**
LVZ pmax pmax
comp=Z,26nm,1.1s
LVZ Lovozero 56.31 335 P **P** **22 17 39.9 -0.6**
LVZ IAmb IAmb 22 17 43.6
comp=Z,26nm,1.1s
PMG Port Moresby 56.32 125 *ceP* **P** **22 17 41.9 +0.7**
PMG pmax pmax
comp=Z,22nm,1.0s
PMG Port Moresby 56.32 125 P **P** **22 17 40.3 -0.9**
WRAB Tennant Creek 56.32 145 *ceP* **P** **22 17 41.2 +0.1**
WRAB pmax pmax
comp=Z,24nm,0.8s
WRAB Tennant Creek 56.32 145 P **P** **22 17 40.6 -0.5**
WRA Warramunga Arr 56.32 145 P **P** **22 17 40.2 -1.0**
comp=Z,19nm,0.6s,baz=332,slow=8.4,SNR=221
WRA Warramunga Arr 56.32 145 P **P** **22 17 39.9 -1.2**
WR0 Warramunga Arr 56.44 144 IAmb IAmb 22 17 42.3
comp=Z,20nm,0.7s
SIM Simferopol' 56.58 307 P **P** **22 17 41.1 -1.7**
SIM *e**PP **pP** **22 17 44.0 -2.5**
SIM pmax pmax
comp=Z,13nm,0.7s
APA Apatity 56.74 334⇑ *iP* **P** **22 17 41.3 -2.2**
APA pmax pmax
comp=Z,9.0nm,1.1s
COEN Coen 56.79 132 P **P** **22 17 43.9 -0.6**
COEN IAmb IAmb 22 17 49.9
comp=Z,8.9nm,0.8s
ILGA Ilgaz 57.49 303 IAmb IAmb 22 17 53.4
comp=Z,23nm,1.0s
BRTR Keskin Array B 57.80 301 P **P** **22 17 51.8 +0.1**
comp=Z,5.2nm,0.7s,baz=116,slow=7.5,SNR=23
BRTR LR LR 22 46 17.7
comp=Z,187nm,18.7s,baz=52,slow=40
BRTR Keskin Array B 57.80 301 P **P** **22 17 51.3 -0.4**
MMAI Mount Meron Ar 57.94 293 LR LR 22 48 09.0
comp=Z,155nm,19.2s,baz=60,slow=42
BR231 Keskin MP Arra 58.43 301 P **P** **22 17 56.5 +0.5**
BR231 IAmb IAmb 22 17 59.6
comp=Z,16nm,0.8s
AKASG Malin Array Be 59.07 314 P **P** **22 17 60.0 -0.2**
comp=Z,24nm,0.7s,baz=71,slow=6.3,SNR=56
AKASG LR LR 22 44 05.6
comp=Z,358nm,20.3s,baz=85,slow=37
AKASG Malin Array Be 59.07 314 P **P** **22 18 00.1 -0.1**
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 59.07 314 P **P** **22 18 00.1 -0.1**
AKBB Malin Array Si 59.07 314 *ceP* **P** **22 18 00.2 0.0**
CSS Mathiatis 59.11 296 IAmb IAmb 22 18 05.4
comp=Z,13nm,0.9s
KEV Kevo 59.24 337 P **P** **22 18 01.0 0.0**
KEV pmax pmax
comp=Z,23nm,1.1s
KEV Kevo 59.24 337 P **P** **22 18 01.0 0.0**
KEV IAmb IAmb 22 18 04.3
comp=Z,22nm,1.1s
AS31 Alice Springs 59.25 147 IAmb IAmb 22 18 02.3
comp=Z,9.7nm,0.5s
ASAR Alice Springs 59.25 147 P **P** **22 18 01.2 -0.4**
comp=Z,16nm,0.4s,baz=326,slow=6.8,SNR=440
ASAR LR LR 22 45 01.4
comp=Z,88nm,21.1s,baz=322,slow=38
ASAR Alice Springs 59.25 147 P **P** **22 18 00.9 -0.8**
MICGM Minsk 59.42 319 *eP* **P** **22 18 03.0 +0.5**
MICGM eLR LR 22 42 46.0
MNK Minsk 59.42 319 *eP* **P** **22 18 03.0 +0.5**
VSU Vasula 59.66 324 *eP* **P** **22 18 05.1 +1.0**
VSU Vasula 59.66 324 P **P** **22 18 04.5 +0.4**
FIA1 FINESS Array S 59.76 327 P **P** **22 18 04.1 -0.6**
FIA1 IAmb IAmb 22 18 13.5
comp=Z,15nm,0.9s
ARCES ARCESS Array B 59.76 337 P **P** **22 18 04.6 -0.1**
comp=Z,2.7nm,0.4s,baz=88,slow=7.1,SNR=26
ARCES LR LR 22 44 01.8
comp=Z,403nm,21.7s,baz=82,slow=36
FINES FINESS Array B 59.76 327 P **P** **22 18 04.6 -0.2**

comp=Z,12nm,0.8s,baz=98,slow=6.3,SNR=53
FINES LR LR 22 45 18.3
comp=Z,333nm,18.2s,baz=90,slow=37
AMKA Amchitka 59.89 45 P **P** **22 18 06.1 +0.3**
MILM Milestii Mici 59.92 310 ⇑P **P** **22 18 06.0 -0.2**
IDID Didziasalis 59.98 320 *eP* **P** **22 18 07.4 +1.1**
SORM Soroca 60.02 312 ⇓P **P** **22 18 06.9 +0.2**
SORM Soroca 60.02 312 P **P** **22 18 06.9 +0.2**
BOLV Bolvadin 60.06 301 P **P** **22 18 07.3 0.0**
IZAR Zarasai 60.21 321 *eP* **P** **22 18 09.4 +1.5**
ISAL Salakas 60.30 320 *eP* **P** **22 18 09.6 +1.1**
HAMF Hammerfest 60.38 338 *eP* **P** **22 18 09.7 +0.8**
ISP Isparta 60.60 300 P **P** **22 18 10.7 -0.4**
ISP pmax pmax
comp=Z,22nm,0.7s
ISP Isparta 60.60 300 P **P** **22 18 10.7 -0.4**
TIRR Tirgusor 60.67 307 ⇑P **P** **22 18 11.5 +0.3**
TIRR Tirgusor 60.67 307 P **P** **22 18 11.5 +0.3**
TIRR pmax pmax
comp=Z,48nm,1.1s
TIRR Tirgusor 60.67 307 P **P** **22 18 11.5 +0.3**
CFR Carcaliu 60.71 308 ⇑P **P** **22 18 12.0 +0.4**
CFR Carcaliu 60.71 308 P **P** **22 18 11.9 +0.4**
ODBI Odobesti 61.34 309 ⇑P **P** **22 18 16.0 +0.2**
ELL Elmali 61.35 299 P **P** **22 18 16.5 +0.3**
TESR Tescani 61.46 310 ⇑P **P** **22 18 17.6 +1.0**
PABE Paberze 61.52 320 *eP* **P** **22 18 17.6 +0.8**
VRI Vrincioaia 61.54 309 ⇓P **P** **22 18 17.9 +0.6**
VRI Vrincioaia 61.54 309 P **P** **22 18 17.8 +0.6**
PLOR Plostina 61.60 309 ⇓P **P** **22 18 18.1 +0.5**
PLOR Plostina 61.60 309 P **P** **22 18 18.1 +0.5**
ISR Istrita 61.83 309 ⇑P **P** **22 18 21.4 +2.2**
TRO Tromso 62.06 337 *eP* **P** **22 18 19.0 -1.2**
NWAO Narrogin (SRO) 62.11 167 P **P** **22 18 21.2 +0.2**
NWAO pmax pmax
comp=Z,16nm,0.7s
NWAO Narrogin (SRO) 62.11 167 P **P** **22 18 21.2 +0.2**
NWAO Narrogin (SRO) 62.11 167 P **P** **22 18 20.7 -0.2**
NWAO IAmb IAmb 22 18 22.0
comp=Z,12nm,0.7s
SULR 62.13 308 ⇑P **P** **22 18 21.4 +0.3**
MLR Muntele Rosu 62.16 309 ⇓P **P** **22 18 22.4 +0.9**
MLR Muntele Rosu 62.16 309 P **P** **22 18 22.8 +1.3**
MLR pmax pmax
comp=Z,26nm,1.7s
MLR Muntele Rosu 62.16 309 IAmb IAmb 22 18 40.3
comp=Z,21nm,1.1s
BURAR Bucovina Array 62.19 311 ⇑P **P** **22 18 22.0 +0.3**
BURAR Bucovina Array 62.19 311 P **P** **22 18 22.0 +0.3**
BURAR Bucovina Array 62.19 311 P **P** **22 18 22.1 +0.4**
SUW Suwalki 62.22 319 *eP* **P** **22 18 21.8 +0.3**
DOPR Dopca 62.43 310 ⇓P **P** **22 18 24.3 +1.1**
LVV L'vov 62.51 314 *eP* **P** **22 18 23.9 +0.3**
LVV *e* 22 22 17.1
LVV *eS* **S** **22 26 49.3 -1.6**
LVV MLR MLR
comp=E,300nm,18.0s
LVV MLR MLR
comp=N,300nm,17.0s
LVV MLR MLR
comp=Z,300nm,18.0s
PBUR Paburge 62.57 321 *eP* **P** **22 18 24.2 +0.3**
VOIR 62.79 309 ⇓P **P** **22 18 26.1 +0.5**
VOIR 62.79 309 P **P** **22 18 26.1 +0.5**
KBS Kingsbay 62.90 347 *eP* P **22 18 31.5 +5.7**
FORT Forrest 63.09 156 P **P** **22 18 28.1 +0.5**
ALN Alexandroupoli 63.19 304 P **P** **22 18 28.0 -0.3**
ALN pmax pmax
comp=Z,9.0nm,1.1s
ALN Alexandroupoli 63.19 304 P **P** **22 18 28.0 -0.3**
ALN IAmb IAmb 22 18 29.2
comp=Z,8.6nm,1.1s
EZN Ezine 63.26 303 P **P** **22 18 33.2 +4.4**
CTAO Charters Tower 63.28 134 P **P** **22 18 28.9 -0.2**
CTAO pmax pmax
comp=Z,20nm,0.9s
CTAO Charters Tower 63.28 134 P **P** **22 18 28.9 -0.2**
KWP Kalwaria Pacla 63.38 314 *eP* **P** **22 18 30.6 +1.2**
KWP Kalwaria Pacla 63.38 314 P **P** **22 18 29.3 -0.1**
KWP pmax pmax
comp=Z,44nm,1.0s
KWP Kalwaria Pacla 63.38 314 P **P** **22 18 29.3 -0.1**
KDZ Kurdzhali 63.45 305 *i* P **P** **22 18 31.2 +1.1**
STEI Steigen 63.62 335 *eP* **P** **22 18 30.2 -0.4**
LOT Lotru 63.66 309 ⇓P **P** **22 18 32.4 +1.0**
KARP Karpathos 63.82 298 P **P** **22 18 32.7 +0.2**
PLD Plovdiv 63.85 306 P **P** **22 18 36.0 +3.4**
PLD pmax pmax
comp=Z,46nm,2.1s
PLD Plovdiv 63.85 306 P **P** **22 18 33.8 +1.2**
UZH Uzhgorod 63.88 313 *eP* **P** **22 18 31.3 -1.4**
UZH *e*PPP PPP 22 22 32.9
UZH *eS* **S** **22 27 02.3 -5.8**
UZH *e* 22 28 19.1
UZH *e*SS **SS** **22 31 19.5 +3.6**
UZH *e*SSS SSS 22 34 09.5
RZN Rozhen 63.95 305 *i* P **P** **22 18 38.1 +4.6**
BEL Belsk 64.08 317 *eP* **P** **22 18 35.0 +1.0**
MPEP Malo Peshtene 64.21 307 P **P** **22 18 35.1 +0.1**
CRVS Cervenica-Dubn 64.35 314 *eP* **P** **22 18 38.5 +2.7**
CRVS Cervenica-Dubn 64.35 314 *eP* **P** **22 18 38.5 +2.7**
KONS Konsvik 64.71 334 *eP* **P** **22 18 38.2 +0.4**
HERR Herculane 64.73 309 ⇓P **P** **22 18 39.3 +1.0**
VTS Vitosha 64.76 306 ⇓P **P** **22 18 38.9 +0.1**
VTS Vitosha 64.76 306 P **P** **22 18 39.4 +0.6**
VTS pmax pmax
comp=Z,21nm,1.1s
VTS Vitosha 64.76 306 *i* P **P** **22 18 39.6 +0.8**
SANT Santorini 64.89 299 ⇑P **P** **22 18 40.6 +1.0**
SANT Santorini 64.89 299 P **P** **22 18 38.8 -0.8**
SRS Serrai 64.92 305 P **P** **22 18 41.4 +1.7**
SRS pmax pmax
comp=Z,10.0nm,2.0s
NIE Niedzica 64.96 314 *eP* **P** **22 18 41.3 +1.5**
OJC Ojcow 65.07 315 *eP* **P** **22 18 41.5 +1.0**
OJC *ep*P **pP** **22 18 44.0 -0.6**
OJC Ojcow 65.07 315 P **P** **22 18 42.0 +1.5**
OJC Ojcow 65.07 315 IAmb IAmb 22 18 47.5
comp=Z,12nm,0.7s
KKB Krupnik 65.08 306 *i* P **P** **22 18 42.8 +2.1**
BZS Buzias 65.08 310 ⇓P **P** **22 18 41.4 +0.7**
BZS Buzias 65.08 310 P **P** **22 18 41.3 +0.7**
BZS pmax pmax
comp=Z,11nm,0.9s
SOH Sokhos 65.17 305 P **P** **22 18 43.1 +1.7**
MDVR Moldovita 65.24 309 ⇓P **P** **22 18 43.0 +1.3**
ANM Nome 65.43 28 P **P** **22 18 41.8 -0.8**
ANM pmax pmax
comp=Z,12nm,0.9s
ANM Nome 65.43 28 P **P** **22 18 41.8 -0.8**
ANM IAmb IAmb 22 18 46.7
comp=Z,12nm,0.9s
PSZ Piszkesteto 65.61 313 P P 22 18 49.2 +5.1
PSZ pmax pmax
comp=Z,9.0nm,2.0s
PSZ Piszkesteto 65.61 313 **P** **22 18 45.8 +1.7**
NSS Namsos 65.63 332 *eP* **P** **22 18 44.3 +0.5**
IDI Anoyia 65.66 298 ⇑P **P** **22 18 45.4 +0.7**
STIP Stip 65.77 306 *i* P **P** **22 18 43.7 -1.4**
LIT Litokhoron 66.02 304 P **P** **22 18 45.9 -0.9**
LIT pmax pmax
comp=Z,9.0nm,1.0s
LIT Litokhoron 66.02 304 P **P** **22 18 45.9 -0.9**
LIT IAmb IAmb 22 18 48.5
comp=Z,8.9nm,1.0s
VYHS Vyhne 66.13 314 *eP* **P** **22 18 48.2 +0.8**
VYHS Vyhne 66.13 314 *eP* **P** **22 18 48.2 +0.8**
SKO Skopje 66.22 306 *i* P **P** **22 18 48.2 +0.1**
FRGS Fruska Gora 66.43 310 *eP* **P** **22 18 49.6 +0.2**
AGG Agios Georgios 66.46 303 P **P** **22 18 48.2 -1.5**
AGG pmax pmax
comp=Z,14nm,1.0s
AGG Agios Georgios 66.46 303 P **P** **22 18 48.2 -1.5**
AGG IAmb IAmb 22 19 02.2
comp=Z,14nm,1.0s
NOR Nord 66.50 352 *i* P **P** **22 18 47.9 -1.3**
NOR Nord 66.50 352 *i* P **P** **22 18 47.9 -1.3**
MORC Moravsky Berou 66.59 315 ⇓P **P** **22 18 50.7 +0.3**
MORC Moravsky Berou 66.59 315 *eP* **P** **22 18 51.0 +0.6**
MORC Moravsky Berou 66.59 315 P **P** **22 18 50.0 -0.4**
MORC pmax pmax
comp=Z,8.0nm,0.9s
MORC Moravsky Berou 66.59 315 P **P** **22 18 50.0 -0.4**
MORC IAmb IAmb 22 18 56.9
comp=Z,7.7nm,0.9s
DIVS Divibare 66.61 309 *eP* **P** **22 18 50.9 +0.2**
DIVS Divibare 66.61 309 P **P** **22 18 49.9 -0.8**
DIVS IAmb IAmb 22 18 54.0
comp=Z,10.0nm,1.1s
NC405 NORSAR Array S 66.64 328 P **P** **22 18 49.9 -0.5**
NC405 IAmb IAmb 22 18 58.3
comp=Z,14nm,0.9s
NC303 NORSAR Array S 66.77 328 *eP* **P** **22 18 50.2 -1.1**
JAVC Velka Javorina 66.77 314 *eP* **P** **22 18 53.3 +1.7**
NORES NORESS Array B 66.82 328 P **P** **22 18 51.3 -0.3**
NORES pmax pmax
comp=Z,1.0nm,0.3s
NB2 NORSAR Subarra 66.89 328 P **P** **22 18 51.1 -0.9**
comp=Z,7.1nm,0.8s,baz=75,slow=6.9
NB2 NORSAR Subarra 66.89 328 P **P** **22 18 51.1 -0.9**
comp=Z,7.1nm,0.8s,baz=75,slow=6.9
NOA NORSAR Array B 66.89 328 P **P** **22 18 51.2 -0.9**
comp=Z,4.2nm,0.7s,baz=74,slow=6.4,SNR=21
NOA LR LR 22 51 17.2
comp=Z,228nm,19.6s,baz=90,slow=39
MORH Mrgy, Hungar 66.91 311 *eP* **P** **22 18 52.3 0.0**
KRLC Kraliky 66.98 316 *eP* **P** **22 18 53.5 +0.7**
KRLC MLR MLR
comp=Z,400nm,16.7s
KRLC Kraliky 66.98 316 *eP* **P** **22 18 53.5 +0.7**
KRLC AMS AMS 22 48 40.0
comp=Z,400nm,16.7s
NC204 NORSAR Array S 67.03 328 P **P** **22 18 51.8 -1.2**
KSP Ksiaz 67.06 317 *eP* **P** **22 18 54.4 +1.2**
BBLS Lazići 67.09 309 *eP* **P** **22 18 55.6 +1.9**
MODS Modra-Piesok 67.16 314 *eP* **P** **22 18 55.5 +1.5**
MODS Modra-Piesok 67.16 314 *eP* **P** **22 18 55.5 +1.5**
DPC Dobruska-Polom 67.18 316 *eP* **P** **22 18 55.1 +1.0**
DPC MLR MLR
comp=Z,500nm,18.6s
DPC Dobruska-Polom 67.18 316 *eP* **P** **22 18 55.1 +1.0**
DPC AMS AMS 22 48 40.0
comp=Z,500nm,18.6s
OSTC Ostas 67.19 316 *eP* **P** **22 18 55.0 +0.9**
OSTC AMS AMS 22 48 50.0
comp=Z,400nm,14.9s
CHVC Chvalec 67.28 316 *eP* **P** **22 18 55.4 +0.7**
CHVC AMS AMS 22 48 50.0
comp=Z,400nm,16.8s
VRAC Vranov 67.32 315 ⇓P **P** **22 18 56.0 +1.0**
VRAC Vranov 67.32 315 *eP* **P** **22 18 55.8 +0.8**
VRAC Vranov 67.32 315 P **P** **22 18 56.0 +1.0**
RER Riviere de l'E 67.32 229 P **P** **22 18 53.9 -1.5**
UPC Upice 67.33 316 *eP* **P** **22 18 56.2 +1.2**
UPC MLR MLR
comp=Z,500nm,15.4s
UPC Upice 67.33 316 *eP* **P** **22 18 56.2 +1.2**
UPC AMS AMS 22 48 50.0
comp=Z,500nm,15.4s
ITM Ithomi 67.34 301 P **P** **22 18 55.4 +0.1**
ITM IAmb IAmb 22 19 10.2
comp=Z,13nm,0.8s
OSL Oslo 67.44 327 *eP* **P** **22 18 55.4 -0.1**
KRUC Moravsky 67.52 315 *eP* **P** **22 18 57.2 +1.0**
PDG Podgorica 67.63 307 ⇑P **P** **22 18 57.8 +0.7**
PDG Podgorica 67.63 307 *eP* **P** **22 18 57.4 +0.4**
PDG Podgorica 67.63 307 IAmb IAmb 22 19 01.4
comp=Z,12nm,0.9s
UPM Unac-Piva 67.64 308 *eP* **P** **22 19 00.6 +3.3**
DRME Dracevica, Mon 67.76 307 *eP* **P** **22 18 57.7 -0.1**
IGT Igoumenitsa 67.77 304 P **P** **22 18 59.7 +1.7**
IGT pmax pmax
comp=Z,27nm,1.5s
BRY Bratogost 67.98 308 *eP* **P** **22 18 59.2 -0.2**
TREC Trest 68.02 315 AMS AMS 22 51 50.0
comp=Z,300nm,13.0s
HCY Herceg Novi 68.16 307 *eP* **P** **22 19 00.3 -0.1**
PVCC Panska Ves 68.20 317 *eP* **P** **22 19 02.2 +1.7**
PVCC MLR MLR
comp=Z,400nm,12.9s
PVCC Panska Ves 68.20 317 *eP* **P** **22 19 02.2 +1.7**
PVCC AMS AMS 22 49 20.0
comp=Z,400nm,12.9s
CONA Conrad Observa 68.20 314 *i* pP **P** **22 19 01.6 +1.0**
comp=Z,12nm,1.1s,SNR=8.2
GOPC GO Pecny, Ondr 68.26 316 *eP* **P** **22 19 01.5 +0.6**
GOPC MLR MLR
comp=Z,500nm,17.1s
GOPC GO Pecny, Ondr 68.26 316 *eP* **P** **22 19 01.5 +0.6**
GOPC AMS AMS 22 49 20.0
comp=Z,500nm,17.1s
BLY Banja Luka 68.33 310 *eP* **P** **22 19 02.1 +0.7**
SKAR Skarslia 68.36 328 *eP* **P** **22 18 59.9 -1.5**
PRU Pruhonice 68.38 316 *eP* **P** **22 19 02.7 +1.1**
PRU MLR MLR
comp=Z,500nm,15.1s
PRU Pruhonice 68.38 316 *eP* **P** **22 19 02.7 +1.1**
PRU AMS AMS 22 50 20.0
comp=Z,500nm,15.1s
PRA Prague 68.42 316 AMS AMS 22 49 40.0
comp=Z,200nm,15.8s
AKN Aaknes 68.46 330 *eP* **P** **22 19 02.3 +0.3**
BRG Berggiesshubel 68.47 317 *eP* **P** **22 19 02.1 0.0**
comp=Z,7.1nm,0.9s
comp=N,568nm,19.1s
comp=E,397nm,13.2s
comp=Z,509nm,14.5s
BRG Berggiesshubel 68.47 317 *eP* **P** **22 19 02.1 0.0**
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG MLR MLR
comp=N,568nm,19.1s
BRG MLR MLR
comp=E,397nm,13.2s
BRG MLR MLR
comp=Z,509nm,14.5s
BRG Berggiesshubel 68.47 317 *eP* **P** **22 19 02.8 +0.7**
comp=Z,4.9nm,0.7s,baz=71,slow=6.1
MGRS Mrkonjic Grad 68.50 310 *eP* P 22 19 14.3 +12
ARSA Arzberg 68.63 313 *i* pP **P** **22 19 04.0 +0.7**
comp=Z,8.3nm,1.0s
FBE Freiberg 68.81 317 *eP* **P** **22 19 05.6 +1.3**
comp=Z,8.9nm,0.8s,baz=71,slow=6.1
CLL Collm 68.89 318 *i* P **P** **22 19 05.2 +0.4**
comp=Z,10.0nm,1.0s
CLL *eS* **S** **22 28 11.0 +2.1**
CLL *e*SS SS 22 32 48.0 +14
CLL *e*SSS SSS 22 35 48.0
CLL Collm 68.89 318 *i* P **P** **22 19 05.2 +0.4**
CLL *eS* **S** **22 28 11.0 +2.1**
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 68.89 318 *eP* **P** **22 19 05.6 +0.8**
comp=Z,5.7nm,0.7s,baz=71,slow=6.1
CLL Collm 68.89 318 P **P** **22 19 05.0 +0.2**
CLL IAmb IAmb 22 19 09.1
comp=Z,5.9nm,0.7s
GROS Grobnik 68.90 312 *eP* **P** **22 19 05.4 +0.4**
BISS Bistriski jare 69.08 313 *eP* **P** **22 19 06.7 +0.6**
SOKA Soboth 69.14 313 *i* pP **P** **22 19 07.1 +0.6**
comp=Z,12nm,1.1s,SNR=7.2
CRES Cresnjev 69.14 312 *eP* **P** **22 19 05.8 -0.6**
MOA Molln 69.24 314 *i* P **P** **22 19 06.6 -0.5**
comp=Z,7.5nm,1.2s
KHC Kasperske Hory 69.25 315 *eP* **P** **22 19 07.5 +0.4**
KHC *eS* **S** **22 28 12.0 -1.3**
KHC Kasperske Hory 69.25 315 *eP* **P** **22 19 07.5 +0.4**
KHC *eS* **S** **22 28 12.0 -1.3**
GEC2 GERESS Array S 69.27 315 *eP* **P** **22 19 08.1 +0.8**
comp=Z,3.3nm,0.8s,baz=71,slow=6.1
GEC2 GERESS Array S 69.27 315 P **P** **22 19 07.0 -0.3**
GERES GERESS Array B 69.27 315 P **P** **22 19 07.6 +0.3**
comp=Z,4.5nm,0.9s,baz=73,slow=5.3,SNR=26
GERES GERESS Array B 69.27 315 P **P** **22 19 07.5 +0.1**
TANN Tannenbergstha 69.51 317 *eP* **P** **22 19 09.1 +0.4**
baz=71,slow=6.1
BSEG Bad Segeberg 69.57 321 *eP* **P** **22 19 10.5 +1.6**
comp=Z,11nm,0.8s,baz=71,slow=6.1
NKC Novy Kostel 69.58 317 AMS AMS 22 50 10.0
comp=Z,600nm,15.2s
WERD Werda 69.59 317 *eP* **P** **22 19 10.2 +1.0**
comp=Z,5.2nm,0.9s,baz=71,slow=6.1
GUNZ Gunzen 69.61 317 *eP* **P** **22 19 10.0 +0.8**
comp=Z,7.5nm,0.8s,baz=71,slow=6.1
IMAR Indian Mountai 69.61 25 P **P** **22 19 08.8 -0.2**
DAG Danmarks Havn 69.62 348 *i* P **P** **22 19 11.2 +2.3**
DAG Danmarks Havn 69.62 348 *eP* **P** **22 19 11.2 +2.3**
NEUB Neuenburg 69.65 318 *eP* **P** **22 19 11.0 +1.5**
comp=Z,8.7nm,0.7s,baz=71,slow=6.1
LJU Ljubljana 69.68 312 *eP* **P** **22 19 10.3 +0.6**
WET Wettzell 69.68 316 *eP* **P** **22 19 10.8 +1.0**
comp=Z,4.9nm,0.9s,baz=71,slow=6.1
KMBO Kilima Mbogo 69.75 257 P **P** **22 19 12.1 +1.1**
comp=Z,6.5nm,0.9s,baz=37,slow=9.9,SNR=11
KMBO Kilima Mbogo 69.75 257 *i* P **P** **22 19 12.8 +1.8**
KMBO pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 69.75 257 P **P** **22 19 11.5 +0.5**
KMBO IAmb IAmb 22 19 14.5
comp=Z,17nm,1.1s
STKA Stephens Creek 69.82 146 P **P** **22 19 10.2 -0.4**
STKA pmax pmax
comp=Z,2.0nm,0.7s
STKA Stephens Creek 69.82 146 P **P** **22 19 10.2 -0.4**
CEY Cerknica 69.84 312 *eP* **P** **22 19 10.6 -0.2**
MANZ Manzenberg 69.87 317 *eP* **P** **22 19 11.8 +0.9**
comp=Z,4.7nm,1.0s,baz=71,slow=6.1
ROTZ Rotzenmuhle 69.88 316 *eP* **P** **22 19 12.1 +1.1**
comp=Z,9.9nm,0.9s,baz=71,slow=6.1
MOX Moxa 69.94 317 *eP* **P** **22 19 12.5 +1.1**
comp=Z,2.9nm,0.8s,baz=71,slow=6.1
PRED Cave del Predi 70.17 313 P **P** **22 19 12.3 -0.6**
NRDL Niedersach Rie 70.18 320 *eP* **P** **22 19 14.4 +1.7**
comp=Z,13nm,0.9s,baz=71,slow=6.1
RJOB Jochberg 70.21 314 *eP* **P** **22 19 13.0 -0.1**
comp=Z,4.7nm,0.9s,baz=71,slow=6.1
CLZ Clausthal 70.26 319 *eP* **P** **22 19 14.6 +1.3**
comp=Z,9.1nm,0.8s,baz=71,slow=6.1
COLD Coldfoot 70.38 23 P **P** **22 19 13.7 0.0**
COLD IAmb IAmb 22 19 24.8
comp=Z,10nm,1.0s
GRA1 Grafenberg Arr 70.51 317 P **P** **22 19 15.2 +0.4**
GRA1 IAmb IAmb 22 19 22.2
comp=Z,12nm,0.9s
GRF Grafenberg Arr 70.51 317 P **P** **22 19 15.2 +0.4**
GRF pmax pmax
comp=Z,12nm,0.9s
GRF Grafenberg Arr 70.51 317 *eP* **P** **22 19 16.0 +1.2**
comp=Z,7.8nm,0.8s,baz=71,slow=6.1
ABTA Abfaltersbach 70.74 313 *eP* **P** **22 19 16.4 0.0**
comp=Z,8.8nm,1.3s
STAL STALIGIAL 70.79 313 P **P** **22 19 15.2 -1.4**
UBBA Unterbreizbach 70.84 318 *eP* **P** **22 19 17.2 +0.6**
comp=Z,1.9nm,0.7s,baz=71,slow=6.1
CIMO Cimolais 70.94 313 P **P** **22 19 17.0 -0.6**
FUR Furstenfeldbru 71.02 315 *eP* **P** **22 19 18.6 +0.6**
comp=Z,17nm,0.7s,baz=71,slow=6.1
WTTA Wattenberg 71.12 314 *i* P **P** **22 19 18.9 +0.1**
comp=Z,6.5nm,0.7s
WATA Walderalm 71.13 314 *i* P **P** **22 19 18.9 +0.1**
comp=Z,4.0nm,0.8s
SQTA Sankt Quirin 71.40 314 *eP* **P** **22 19 20.0 -0.4**
comp=Z,8.8nm,0.8s,SNR=6.0
MOTA Moosalm 71.42 314 *i* pP **P** **22 19 20.9 +0.3**
comp=Z,9.7nm,0.9s,SNR=8.0
BPAW Bear Paw Mtn. 71.46 27 IAmb IAmb 22 19 31.4
comp=Z,12nm,0.8s
PPLA Purkeypile 71.50 28 IAmb IAmb 22 19 35.0
comp=Z,19nm,0.9s
CTI Castel Tesino 71.55 313 P **P** **22 19 22.7 +1.4**
CTI pmax pmax
comp=Z,6.0nm,0.9s
CTI Castel Tesino 71.55 313 P **P** **22 19 22.7 +1.4**
AQU L'Aquila 71.73 309 P **P** **22 19 22.6 +0.2**
AQU pmax pmax
comp=Z,21nm,1.0s
AQU L'Aquila 71.73 309 P **P** **22 19 22.6 +0.2**
AQU IAmb IAmb 22 19 26.7
comp=Z,21nm,1.0s
NRCA Norcia 71.75 309 P **P** **22 19 22.2 -0.4**
NRCA IAmb IAmb 22 19 28.4
comp=Z,12nm,0.9s
FETA Feichten 71.78 314 *i* P **P** **22 19 22.7 0.0**
comp=Z,11nm,1.0s
ABPO Ambohimpanom 71.84 236 P **P** **22 19 22.7 -0.7**
ABPO pmax pmax
comp=Z,16nm,1.2s
ABPO Ambohimpanom 71.84 236 P **P** **22 19 22.7 -0.7**
ABPO IAmb IAmb 22 19 25.4
comp=Z,16nm,1.1s
UBR Ueberruh 71.93 315 *eP* **P** **22 19 23.9 +0.4**
comp=Z,6.4nm,1.0s,baz=71,slow=6.1
TNS Taunus Mts 71.98 318 *eP* **P** **22 19 23.7 -0.1**
comp=Z,5.3nm,0.8s,baz=71,slow=6.1
MURB Monte Urbino 72.00 310 P **P** **22 19 24.2 +0.2**
STU Stuttgart 72.08 316 P **P** **22 19 24.0 -0.3**
STU pmax pmax
comp=Z,13nm,1.0s
STU Stuttgart 72.08 316 *eP* **P** **22 19 25.1 +0.7**
comp=Z,7.2nm,0.8s,baz=71,slow=6.1
STU Stuttgart 72.08 316 P **P** **22 19 24.0 -0.3**
STU IAmb IAmb 22 19 30.1
comp=Z,13nm,1.0s
MDM Murphy Dome 72.13 25 IAmb IAmb 22 19 28.9
comp=Z,23nm,0.9s
SKT Skwentna 72.18 29 IAmb IAmb 22 19 28.7
comp=Z,16nm,1.1s
BUG Bochum-Univer 72.20 319 *eP* **P** **22 19 26.2 +1.3**
comp=Z,14nm,1.0s,baz=71,slow=6.1
DAVA Damuels 72.22 314 *i* pP **P** **22 19 25.6 +0.2**
comp=Z,11nm,1.6s
FUORN Ofenpass-Fuorn 72.23 314 IAmb IAmb 22 19 31.6
comp=Z,9.2nm,0.8s
COLA College 72.31 25 P **P** **22 19 25.6 +0.2**
COLA pmax pmax
comp=Z,21nm,0.7s
COLA College 72.31 25 P **P** **22 19 25.6 +0.2**
WRH Wood River Hil 72.41 26 P **P** **22 19 25.9 -0.1**
CCB Clear Creek Bu 72.44 25 P **P** **22 19 26.6 +0.5**
MCK McKinley 72.44 26 P **P** **22 19 26.8 +0.6**
MCK pmax pmax
comp=Z,13nm,1.0s
MCK McKinley 72.44 26 P **P** **22 19 26.8 +0.6**
MCK IAmb IAmb 22 19 30.5
comp=Z,12nm,1.0s
SALO Salr 72.44 313 P **P** **22 19 25.3 -1.3**
SALO IAmb IAmb 22 19 43.6
comp=Z,12nm,0.8s
RND Reindeer 72.62 27 P **P** **22 19 28.0 +0.6**
RND pmax pmax
comp=Z,7.0nm,0.7s
RND Reindeer 72.62 27 P **P** **22 19 28.0 +0.6**
RND IAmb IAmb 22 19 38.3
comp=Z,7.1nm,0.7s
AHRW Bad Neuenahr-A 72.67 318 *eP* **P** **22 19 29.8 +2.0**
comp=Z,16nm,1.0s,baz=71,slow=6.1
ILAR Eielson Array 72.72 25 P **P** **22 19 28.6 +0.7**
comp=Z,3.9nm,1.1s,baz=281,slow=5.7,SNR=14
ILAR LR LR 22 53 36.9
comp=Z,313nm,18.3s,baz=296,slow=38
ILAR Eielson Array 72.72 25 P **P** **22 19 27.0 -0.8**
OSSC Osservatorio P 72.76 310 P **P** **22 19 28.1 -0.4**
OSSC IAmb IAmb 22 19 42.8
comp=Z,8.2nm,0.9s
BFO Black Forest 72.78 316 P **P** **22 19 29.3 +0.7**
BFO pmax pmax
comp=Z,11nm,1.0s
BFO Black Forest 72.78 316 *eP* **P** **22 19 29.3 +0.7**
comp=Z,6.1nm,0.9s,baz=71,slow=6.1
BFO Black Forest 72.78 316 P **P** **22 19 29.3 +0.7**
BFO IAmb IAmb 22 19 34.1
comp=Z,11nm,1.0s
TUE Stuetta 72.87 314 IAmb IAmb 22 19 36.8
comp=Z,11nm,0.6s
MEM Membach 73.27 319 pP **P** **22 19 32.4 +1.1**
PMR Palmer 73.37 28 IAmb IAmb 22 19 35.5
comp=Z,18nm,0.8s
CDF Champ du Feu 73.40 316 *eP* **P** **22 19 31.6 -0.7**
CDF pmax pmax
comp=Z,8.0nm,0.8s
WLF Walferdange 73.56 318 pP **P** **22 19 34.1 +1.0**
WLF Walferdange 73.56 318 P **P** **22 19 33.4 +0.3**
WLF pmax pmax
comp=Z,31nm,1.0s
WLF Walferdange 73.56 318 *eP* **P** **22 19 34.8 +1.7**
comp=Z,21nm,0.9s,baz=71,slow=6.1
WLF Walferdange 73.56 318 P **P** **22 19 33.4 +0.3**
SML Sawmill 73.60 28 P **P** **22 19 33.0 -0.2**
RIDG Independent Ri 74.01 25 IAmb IAmb 22 19 38.4
comp=Z,12nm,0.7s
HAU Haudompre 74.13 316 *eP* **P** **22 19 36.6 +0.1**
HAU pmax pmax
comp=Z,5.0nm,0.8s

PGF	**Pioggiola**	**74.66**	**310**	*e*P		**P**		**22 19 42.4**	**+2.6**
PGF				pmax		pmax			
	comp=Z,29nm,1.0s								
KLU	**Klutina**	**74.76**	**28**	P		**P**		**22 19 40.3**	**+0.3**
KLU				IAmb		IAmb		22 19 44.6	
	comp=Z,16nm,0.7s								
CABF	**La Chapelle**	**74.87**	**315**	*e*P		**P**		**22 19 40.1**	**-0.8**
CABF				pmax		pmax			
	comp=Z,23nm,1.6s								
LPG	**La Plagne**	**74.92**	**314**	*e*P		**P**		**22 19 41.2**	**-0.3**
LPG				pmax		pmax			
	comp=Z,14nm,0.6s								
LPL	**La Plagne**	**74.92**	**314**	*e*P		**P**		**22 19 41.1**	**-0.3**
LPL				pmax		pmax			
	comp=Z,26nm,0.8s								
INK	**Inuvik**	**75.11**	**19**	P		**P**		**22 19 41.5**	**-0.2**
INK				pmax		pmax			
	comp=Z,12nm,0.9s								
INK	**Inuvik**	**75.11**	**19**	P		**P**		**22 19 41.5**	**-0.2**
INK				IAmb		IAmb		22 19 45.9	
	comp=Z,12nm,0.9s								
MBAR	**Mbarara**	**75.15**	**261**	*c*eP		**P**		**22 19 44.1**	**+1.0**
MBAR				pmax		pmax			
	comp=Z,15nm,1.3s								
MBAR	**Mbarara**	**75.15**	**261**	P		**P**		**22 19 43.7**	**+0.6**
BNI	**Bardonecchia**	**75.15**	**313**	IAmb		IAmb		22 19 45.9	
	comp=Z,9.2nm,0.9s								
MBDF	**Montbardon**	**75.23**	**313**	*e*P		**P**		**22 19 44.5**	**+1.4**
MBDF				pmax		pmax			
	comp=Z,6.0nm,0.6s								
BCAR	**Beaver Creek A**	**75.54**	**25**	P		**P**		**22 19 44.8**	**+0.4**
ORIF	**Oris-en-Rattie**	**75.72**	**313**	*e*P		**P**		**22 19 49.0**	**+3.2**
ORIF				pmax		pmax			
	comp=Z,13nm,1.3s								
DAWY	**Dawson**	**75.84**	**24**	P		**P**		**22 19 45.8**	**-0.3**
LOR	**Lormes**	**75.97**	**316**	*e*P		**P**		**22 19 47.0**	**-0.1**
LOR				pmax		pmax			
	comp=Z,11nm,1.0s								
SUMG	**Summit**	**76.25**	**349**	*i* P		**P**		**22 19 49.0**	**+0.3**
SUMG	**Summit**	**76.25**	**349**	*i* P		**P**		**22 19 49.0**	**+0.3**
SUMG	**Summit**	**76.25**	**349**	P		**P**		**22 19 49.2**	**+0.5**
SUMG				IAmb		IAmb		22 19 51.2	
	comp=Z,10nm,0.8s								
TOO	**Toolangi**	**76.30**	**147**	IAmb		IAmb		22 19 50.3	
	comp=Z,7.9nm,0.8s								
AVF	**Avril sur Loir**	**76.49**	**316**	*e*P		**P**		**22 19 49.2**	**-0.8**
AVF				pmax		pmax			
	comp=Z,11nm,0.9s								
VIVF	**Saint-Julien-l**	**76.52**	**314**	*e*P		**P**		**22 19 51.9**	**+1.6**
VIVF				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KEST	**Kesra**	**77.27**	**304**	P		**P**		**22 19 54.9**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=0.0,slow=5.1,SNR=2.2								
KEST				LR		LR		23 02 23.2	
	comp=Z,111nm,18.1s,baz=264,slow=42								
CAF	**Calviac**	**78.14**	**315**	*e*P		**P**		**22 19 59.2**	**-0.2**
CAF				pmax		pmax			
	comp=Z,9.0nm,0.9s								
GRR	**Gorron**	**78.26**	**319**	*e*P		**P**		**22 19 59.2**	**-0.7**
GRR				pmax		pmax			
	comp=Z,16nm,1.0s								
ETSF	**Etsaut**	**80.78**	**314**	*e*P		**P**		**22 20 13.7**	**-0.2**
ETSF				pmax		pmax			
	comp=Z,4.0nm,0.6s								
SJPF	**Ste Jean**	**81.10**	**314**	*e*P		**P**		**22 20 16.7**	**+1.2**
SJPF				pmax		pmax			
	comp=Z,7.0nm,0.8s								
ESDC	**Sonseca Array**	**84.64**	**312**	P		**P**		**22 20 34.2**	**+0.2**
	comp=Z,1.7nm,1.0s,baz=47,slow=3.9,SNR=6.1								
ESDC				LR		LR		23 01 26.7	
	comp=Z,178nm,19.0s,baz=50,slow=38								
ESDC	**Sonseca Array**	**84.64**	**312**	P		**P**		**22 20 33.4**	**-0.6**
YKA	**Yellowknife Ar**	**84.66**	**17**	P		**P**		**22 20 33.8**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=333,slow=5.3,SNR=6.2								
YKA				LR		LR		23 02 54.4	
	comp=Z,291nm,18.5s,baz=0.0,slow=39								
LSZ	**Lusaka**	**84.67**	**250**	P		**P**		**22 20 33.9**	**-0.6**
LSZ				pmax		pmax			
	comp=Z,24nm,1.1s								
LSZ	**Lusaka**	**84.67**	**250**	P		**P**		**22 20 33.9**	**-0.6**
BOSA	**Boshof**	**93.77**	**240**	P		**P**		**22 21 15.7**	**-1.8**
	comp=Z,3.7nm,0.8s,baz=40,slow=2.9,SNR=11								
BOSA				LR		LR		23 03 02.4	
	comp=Z,98nm,19.5s,baz=60,slow=35								
BOSA	**Boshof**	**93.77**	**240**	IAmb		IAmb		22 21 19.1	
	comp=Z,5.9nm,1.0s								
TORD	**Torodi Ar. Bea**	**94.04**	**287**	P		**P**		**22 21 18.5**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=60,slow=3.6,SNR=8.5								
TORD				PP		**PP**		**22 25 03.9**	**-1.0**
	comp=Z,3.0nm,1.1s,baz=41,slow=8.0,SNR=6.1								
TORD				LR		LR		23 08 44.9	
	comp=Z,128nm,19.7s,baz=325,slow=39								
TORD	**Torodi Ar. Bea**	**94.04**	**287**	P		**P**		**22 21 18.7**	**-0.2**
SCHQ	**Scheffervlle**	**96.95**	**354**	LR		LR		23 08 34.2	
	comp=Z,283nm,20.6s,baz=353,slow=38								
SYO	**Syowa Base**	**107.33**	**200**⇑	*e*Pdiff		**Pdif**		**22 22 16.8**	**-0.3**
SYO	**Syowa Base**	**107.33**	**200**⇑	*e*PKiKP		**PKiKP**		**22 26 25.8**	**+0.1**
TXAR	**Lajitas Array**	**117.21**	**27**	PKP		**PKPdf**		**22 26 45.4**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=12,slow=0.7,SNR=7.9								
TXAR				PKKPbc		**PKKPbc**		**22 37 09.0**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=167,slow=7.7,SNR=4.5								
JCT	**Junction City**	**117.60**	**23**	PKIKP		**PKiKP**		**22 26 46.7**	**0.0**
JCT	**Junction City**	**117.60**	**23**	PKPdf		**PKiKP**		**22 26 46.6**	**0.0**
QSPA	**South Pole Qui**	**117.92**	**180**	PKP		**PKPdf**		**22 26 44.5**	**-1.5**
	comp=Z,3.1nm,0.7s,baz=298,slow=1.0								
SNAA	**Sanae**	**121.59**	**201**	PKiKP		**PKPdf**		**22 26 52.2**	**-0.8**
VNA2	**Neumayer--Watz**	**123.14**	**202**	PKiKP		**PKPdf**		**22 26 55.5**	**-0.4**
	baz=78,slow=1.6								
VNA1	**Neumayer--Stat**	**123.48**	**202**	PKiKP		**PKPdf**		**22 26 56.1**	**-0.4**
VNA3	**Neumayer Olymp**	**123.81**	**201**	PKiKP		**PKPdf**		**22 26 56.5**	**-0.7**
CBYP	**Canovanas**	**132.73**	**346**			PKPpre		22 27 05.6	
PAMC	**Pamplona, Colo**	**144.54**	**354**	*e*P		**PKPab**		**22 27 34.3**	**-2.1**
ZARC	**Zaragoza, Cauc**	**144.54**	**357**	*e*P		**PKPab**		**22 27 35.3**	**-0.5**
BRRC	**Barranca, Sant**	**144.86**	**355**	*e*P		**PKPab**		**22 27 36.5**	**-0.5**
DBBC	**Dabeiba**	**145.05**	**360**	*e*P		**PKPbc**		**22 27 37.1**	**-0.6**
BARC	**Barichara**	**145.33**	**354**	*e*P		**PKPbc**		**22 27 38.0**	**-0.8**
PTBC	**PUERTO BERRIO**	**145.47**	**356**	*e*P		**PKPbc**		**22 27 37.2**	**-1.8**
HELC	**Santa Helena**	**145.86**	**358**	*e*P		**PKPdf**		**22 27 40.1**	**-0.1**
RUSC	**La Rusia**	**146.01**	**354**	*e*P		**PKPdf**		**22 27 40.3**	**-0.3**
RUSC	**La Rusia**	**146.01**	**354**	PKPdf		**PKPdf**		**22 27 39.8**	**-0.9**
CBOC	**Ciudad Bolivar**	**146.19**	**359**	*e*P		**PKPdf**		**22 27 40.9**	**+0.3**
SPBC	**San Pablo de B**	**146.33**	**356**	*e*P		**PKPdf**		**22 27 40.5**	**-0.2**
NORC	**Norcasia**	**146.46**	**357**	*e*P		**PKPdf**		**22 27 41.1**	**+0.2**
GUY2C	**Guyana, Caldas**	**146.81**	**358**	*e*P		**PKPdf**		**22 27 42.2**	**+0.2**
RREF	**El Recreo**	**147.13**	**358**	*e*P		**PKPdf**		**22 27 43.2**	**+0.5**
ROSC	**El Rosal**	**147.15**	**356**	PKPbc		**PKPbc**		**22 27 44.8**	**+0.2**
	comp=Z,29nm,0.7s,baz=118,slow=20,SNR=9.1								
ROSC	**El Rosal**	**147.15**	**356**	*e*P		**PKPdf**		**22 27 40.0**	**-2.5**
CHIC	**Chingaza**	**147.32**	**355**	*e*P		**PKPdf**		**22 27 42.5**	**-0.3**
TOLC	**Tolima**	**147.45**	**358**	*e*P		**PKPbc**		**22 27 44.5**	**-0.8**
VILC	**Villavicencio,**	**147.82**	**355**	*e*P		**PKPbc**		**22 27 44.8**	**-1.3**
YOTC	**Yotoco, Valle**	**148.06**	**360**	*e*P		**PKPdf**		**22 27 43.3**	**-0.3**
PTGA	**Pitinga**	**148.50**	**327**			**PKPbc**		**22 27 47.3**	**-0.4**
MARP	**Paez Belalcaza**	**149.19**	**359**	*e*P		**PKPdf**		**22 27 47.0**	**+1.3**
POPC	**Popayan, Colom**	**149.50**	**0**	*e*P		**PKPbc**		**22 27 48.9**	**-1.6**
PCON	**Cinco Dias**	**149.71**	**360**	*e*P		**PKPbc**		**22 27 50.9**	**-0.6**
GARC	**Garzon, Huila**	**149.83**	**358**	*e*P		**PKPbc**		**22 27 49.8**	**-1.6**
BBAC	**Balboa, Cauca**	**150.00**	**2**	*e*P		**PKPbc**		**22 27 50.4**	**-1.4**
FLOC	**Florencia**	**150.44**	**358**	*e*P		**PKPbc**		**22 27 51.9**	**-0.7**
BDFB	**Brasilia**	**150.90**	**289**	PKPbc		**PKPbc**		**22 27 51.6**	**-2.1**
	comp=Z,3.2nm,0.5s,baz=214,slow=3.6,SNR=6.8								
OTAV	**Otavalo**	**151.72**	**4**	*e*P		**PKPdf**		**22 27 51.3**	**+1.5**
LPAZ	**La Paz**	**165.91**	**325**	PKP		**PKPdf**		**22 28 05.2**	**-1.3**
	comp=Z,1.5nm,1.0s,baz=63,slow=4.5,SNR=3.5								
PLCA	**Paso Flores**	**166.53**	**200**	PKPab		**PKPab**		**22 29 06.3**	**-1.2**
	comp=Z,4.8nm,0.9s,baz=174,slow=1.9,SNR=5.3								

*NNC **16** 22:15:17.3±10.0, 37˚.40N×71˚.35E, h157km±224km, mb2.9, mpv3.8, Error ellipse: s-maj=107.2km s-min=63.9km az=177.0*

ISC 16 22:15:16.6±3.6, 37˚.3N±0˚.2×71˚.4E±0˚.1, h150km, n11, σ1♀43/14, 1C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.09**	**19**	P	**Pn**	**22 16 31.8**	**+0.1**
	SNR=159						
UCH	**Uchtor**	**5.43**	**25**	P	**Pn**	**22 16 36.5**	**+0.4**
	SNR=14						
KZA	**Kyzart**	**5.57**	**31**	P	**Pn**	**22 16 37.6**	**-0.4**
	SNR=6.3						
EKS2	**Erkin-Say**	**5.61**	**18**	P	**Pn**	**22 16 38.5**	**+0.2**
	SNR=6.9						
AAK	**Ala-Archa**	**5.79**	**23**	P	**Pn**	**22 16 40.0**	**-0.6**
	SNR=6.1						
AAK	**Ala-Archa**	**5.79**	**23**	P	**Pn**	**22 16 40.8**	**+0.2**
AAK				S	**Sn**	**22 17 49.8**	**+3.5**
KK31	**Karatay Array**	**5.80**	**353**	P	**Pn**	**22 16 41.0**	**+0.4**
	3.0nm,0.4s,baz=176,slow=12,SNR=24						
KK31				⇓S	**Sn**	**22 17 44.9**	**-1.4**
	2.5nm,0.3s,baz=175,slow=21,SNR=6.1						
CHMS	**Chumysh**	**6.20**	**23**	P	**Pn**	**22 16 46.4**	**+0.5**
	SNR=12						
USP	**Ospenovka**	**6.37**	**21**	P	**Pn**	**22 16 48.4**	**+0.2**
	SNR=20						
TKM2	**Tokmak 2**	**6.42**	**29**	⇓P	**Pn**	**22 16 49.0**	**-0.2**
	7.6nm,0.6s						
TKM2				⇓S	**Sn**	**22 17 58.9**	**-2.6**
	2.4nm,0.7s						
AB31	**Akbulak array**	**14.53**	**329**	⇑P	**Pn**	**22 18 35.0**	**0.0**
	0.4nm,0.5s						

*IDC **16** 22:18:35.9±0.7, 28˚.05N×103˚.54E, h0km, mb4.0/17, mb1 4.1/18, mb1mx3.9/44, mbtmp4.0/18, ML3.9/1, MS3.4/1, Ms1 3.6/1, ms1mx2.9/51, Error ellipse: s-maj=22.7km s-min=14.0km az=53.0*

*BJI **16** 22:18:37.4±0.0, 28˚.11N×103˚.49E, h10km, mb4.1/3, ML4.3/22*

*NEIC **16** 22:18:37.2±2.4, 28˚.25N±0˚.07×103˚.65E±0˚.09, h10km±1km, mb4.3/36, Error ellipse: s-maj=13.3km s-min=10.9km az=114.0*

ISC 16 22:18:37.4±0.4, 28˚.19N±0˚.03×103˚.62E±0˚.05, h10km, n77, σ1♀39/82, mb4.2/31, 1C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.71**	**3**	Pn	**Pn**	**22 19 24.3**	**+3.2**
CD2				Pg	**Pg**	**22 19 29.6**	**+0.2**
CD2				Sn	**Sb**	**22 19 59.9**	**+0.5**
CD2				Sg	**Sg**	**22 20 04.0**	**-0.5**
CD2				smax	smax		
	comp=N,3μm,0.7s						
CD2				smax	smax		
	comp=E,5μm,0.7s						
KMI	**Kunming**	**3.16**	**195**	*i*Pg	**Pb**	**22 19 34.3**	**+0.5**
KMI				Sg	**Sb**	**22 20 10.6**	**-1.8**
KMI				smax	smax		
	comp=N,180nm,1.4s						
KMI				smax	smax		
	comp=E,170nm,1.1s						
KMI	**Kunming**	**3.16**	**195**	Pn	**Pn**	**22 19 31.0**	**+3.6**
GYA	**Guiyang**	**3.21**	**122**	⇑Pn	**Pn**	**22 19 30.8**	**+2.7**
GYA				Pg	**Pg**	**22 19 38.3**	**-0.8**
GYA				Sn	**Sn**	**22 20 10.5**	**+3.9**
GYA				smax	smax		
	comp=N,890nm,0.8s						
GYA				smax	smax		
	comp=E,650nm,0.8s						
ENH	**Enshi**	**5.53**	**67**		**Pn**	**22 20 02.3**	**+2.4**
XAN	**Xi'an**	**7.39**	**37**	Pn	**Pn**	**22 20 25.8**	**+0.4**
XAN				Sn	**Sn**	**22 21 49.8**	**+0.4**
XAN				Sg	**Sg**	**22 22 34.6**	**-0.1**
XAN				smax	smax		
	comp=N,340nm,0.8s						
XAN				smax	smax		
	comp=E,420nm,0.8s						
XAN	**Xi'an**	**7.39**	**37**		**Pn**	**22 20 27.0**	**+1.6**
CHTO	**Chiang Mai**	**10.27**	**206**	Pn	**Pn**	**22 21 06.5**	**+1.5**
CM31	**Chiang Mai Arr**	**10.60**	**205**	Pn	**Pn**	**22 21 10.8**	**+1.4**
CMAR	**Chiang Mai Arr**	**10.60**	**205**	Pn	**Pn**	**22 21 12.0**	**+2.6**
	baz=15,slow=12,SNR=21						
CMAR				Lg	Lg	22 24 10.9	
	0.2nm,0.3s,baz=13,slow=30,SNR=1.6						
CMAR				LR	LR	22 25 28.2	
	comp=Z,207nm,18.6s,baz=25,slow=40						
CMAR	**Chiang Mai Arr**	**10.60**	**205**		**Pn**	**22 21 11.1**	**+1.6**
LSA	**Lhasa**	**11.02**	**281**	Pn	**Pn**	**22 21 18.2**	**+2.5**
BJT	**Baijiatuan**	**15.70**	**38**	P	**P**	**22 22 22.2**	**-0.6**
SONM	**Songino Array**	**19.73**	**6**	P	**Pn**	**22 23 10.3**	**+1.5**
	0.4nm,0.3s,baz=176,slow=11,SNR=4.2						
SONM	**Songino Array**	**19.73**	**6**	P	**Pn**	**22 23 09.4**	**+0.6**
WMQ	**Urumqi**	**20.17**	**325**	*e*P	Pn	22 23 14.5	+0.6
KSAR	**Wonju Array Be**	**22.33**	**59**	P	**P**	**22 23 35.8**	**+0.5**
KS19	**Wonju Array Si**	**22.34**	**59**	P	**P**	**22 23 36.6**	**+1.1**
KS19				IAmb	IAmb	22 23 49.1	
	comp=Z,20nm,1.2s						
KSRS	**Korea Array**	**22.37**	**59**	P	**P**	**22 23 36.5**	**+0.9**
	comp=Z,5.4nm,0.6s,baz=243,slow=9.6,SNR=26						
IPM	**Ipoh**	**23.71**	**186**	P	**P**	**22 23 48.5**	**-1.2**
IPM				IAmb	IAmb	22 23 53.3	
	comp=Z,10nm,0.9s						
JNU	**Nakatsue**	**23.93**	**71**	P	**P**	**22 23 53.6**	**+1.8**
	comp=Z,6.6nm,0.9s,baz=240,slow=8.1,SNR=2.3						
JNU	**Nakatsue**	**23.93**	**71**	P	**P**	**22 23 52.1**	**+0.3**
PRZ	**Przheval'sk**	**24.91**	**312**	P	**P**	**22 24 00.2**	**-0.6**
PRZ				IAmb	IAmb	22 24 03.4	
	comp=Z,8.5nm,0.8s						
TARG	**Taragay, Kyrgy**	**24.98**	**309**	P	**P**	**22 24 02.1**	**+0.4**
TARG				IAmb	IAmb	22 24 06.8	
	comp=Z,6.0nm,0.9s						
MK31	**Makanchi Array**	**24.98**	**324**	P	**P**	**22 24 02.4**	**+1.2**
MKAR	**Makanchi Array**	**24.98**	**324**	P	**P**	**22 24 02.3**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=123,slow=11,SNR=20						
MKAR	**Makanchi Array**	**24.98**	**324**	P	**P**	**22 24 02.1**	**+0.9**
MAKZ	**Makanchi**	**25.16**	**323**	P	**P**	**22 24 03.8**	**+1.0**
MAKZ				IAmb	IAmb	22 24 06.1	
	comp=Z,13nm,1.4s						
PSI	**Prapat**	**25.64**	**191**	P	**P**	**22 24 07.1**	**-0.4**
	comp=Z,3.3nm,0.4s,baz=0.3,slow=6.9,SNR=4.3						
RPSI	**Rantau Prapat**	**25.75**	**191**	P	**P**	**22 24 07.1**	**-1.2**
RPSI	**Rantau Prapat**	**25.75**	**191**	P	**P**	**22 24 07.2**	**-1.2**
RPSI				IAmb	IAmb	22 24 09.9	
	comp=Z,10nm,1.1s						
NIL	**Nilore**	**26.56**	**289**	P	**P**	**22 24 16.1**	**+0.5**
AAK	**Ala-Archa**	**27.60**	**309**	P	**P**	**22 24 24.1**	**-1.0**
	comp=Z,1.3nm,0.3s,baz=135,slow=2.9,SNR=1.5						
AAK	**Ala-Archa**	**27.60**	**309**	IAmb	IAmb	22 24 29.5	
	comp=Z,9.1nm,1.5s						
ZAA0	**Zalesovo Array**	**29.19**	**337**	P	**P**	**22 24 38.3**	**-0.6**
ZALV	**Zalesovo Beam**	**29.19**	**337**	P	**P**	**22 24 39.4**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=139,slow=12,SNR=5.1						
KURBB	**Kurchatov Arra**	**29.36**	**327**	P	**P**	**22 24 41.0**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=136,slow=8.7,SNR=7.3						
KURK	**Kurchatov**	**29.38**	**327**	P	**P**	**22 24 41.0**	**+0.3**
KURK	**Kurchatov**	**29.38**	**327**	IAmb	IAmb	22 24 44.8	
	comp=Z,4.7nm,1.2s						
GAR	**Garm**	**29.61**	**300**	P	**P**	**22 24 42.0**	**-1.0**
KBL	**Kabul**	**30.09**	**291**	P	**P**	**22 24 45.5**	**-1.9**
KBL				IAmb	IAmb	22 24 59.0	
	comp=Z,5.7nm,1.3s						
MJB9	**Matsu-Tunnel**	**30.25**	**65**	P	**P**	**22 24 47.9**	**-0.7**
MJB9				IAmb	IAmb	22 24 50.6	
	comp=Z,3.3nm,0.8s						
MAJO	**Matsushiro**	**30.25**	**65**	P	**P**	**22 24 47.3**	**-1.3**
MAJO				IAmb	IAmb	22 24 50.8	
	comp=Z,5.3nm,1.1s						
MJAR	**Matsushiro Arr**	**30.25**	**65**	P	**P**	**22 24 48.7**	**+0.2**
CHGR	**Chuyangaron**	**30.43**	**299**	P	**P**	**22 24 49.8**	**-0.4**
KK31	**Karatay Array**	**30.51**	**308**	P	**P**	**22 24 50.4**	**-0.4**
KKAR	**Karatay Array**	**30.51**	**308**	P	**P**	**22 24 50.8**	**0.0**
KKAR	**Karatay Array**	**30.51**	**308**	P	**P**	**22 24 50.4**	**-0.4**
KKAR				IAmb	IAmb	22 24 51.4	
	comp=Z,1.1nm,0.7s						
BRVK	**Borovoye**	**34.93**	**325**	P	**P**	**22 25 29.1**	**-0.2**
GEYT	**Alibeck**	**39.02**	**296**	P	**P**	**22 26 06.0**	**+1.7**
	comp=Z,4.7nm,0.6s,baz=112,slow=6.7,SNR=11						
GEYT	**Alibeck**	**39.02**	**296**	P	**P**	**22 26 05.3**	**+1.0**
GYA0B	**ALIBECK ARRAY**	**39.02**	**296**	P	**P**	**22 26 04.1**	**-0.2**
GYA0B				IAmb	IAmb	22 26 06.6	
	comp=Z,6.4nm,0.8s						
ABKAR	**Akbulak array**	**39.34**	**314**	P	**P**	**22 26 07.2**	**+0.5**
NRIK	**Noril'sk**	**42.23**	**352**	P	**P**	**22 26 31.2**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=135,slow=5.7,SNR=3.2						
PETK	**Petropavlovsk-**	**46.60**	**42**	P	**P**	**22 27 03.7**	**-1.8**
AKH	**Akhalkalaki**	**50.18**	**302**	P	**P**	**22 27 32.7**	**-0.8**
AKH				IAmb	IAmb	22 27 40.5	
	comp=Z,2.7nm,0.9s						
KIV	**Kislovodsk**	**50.59**	**305**	P	**P**	**22 27 36.1**	**-0.4**
GEVA	**Gevas**	**50.84**	**298**	P	**P**	**22 27 35.6**	**-3.0**
WRA	**Warramunga Arr**	**56.32**	**145**	P	**P**	**22 28 18.0**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=333,slow=8.6,SNR=11						
BR131	**Keskin Array S**	**57.84**	**301**	P	**P**	**22 28 29.4**	**-0.1**
BRTR	**Keskin Array B**	**57.84**	**301**	P	**P**	**22 28 29.3**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=116,slow=8.5,SNR=3.6						
AKASG	**Malin Array Be**	**59.09**	**314**	P	**P**	**22 28 38.6**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=67,slow=6.5,SNR=3.8						
AKBB	**Malin Array Si**	**59.09**	**314**	P	**P**	**22 28 36.9**	**-0.9**
AKBB				IAmb	IAmb	22 28 48.0	
	comp=Z,5.6nm,1.4s						
AS31	**Alice Springs**	**59.25**	**147**	P	**P**	**22 28 38.6**	**-0.7**
ASAR	**Alice Springs**	**59.25**	**147**	P	**P**	**22 28 38.8**	**-0.5**
	comp=Z,2.0nm,0.4s,baz=325,slow=6.7,SNR=14						
ARCES	**ARCESS Array B**	**59.74**	**337**	P	**P**	**22 28 42.0**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=89,slow=7.9,SNR=5.0						
FINES	**FINESS Array B**	**59.76**	**327**	P	**P**	**22 28 42.5**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=100,slow=7.4,SNR=10						
LIT	**Litokhoron**	**66.05**	**304**	P	**P**	**22 29 23.5**	**-1.0**
NB2	**NORSAR Subarra**	**66.89**	**328**	P	**P**	**22 29 29.1**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=74,slow=6.5						
NOA	**NORSAR Array B**	**66.89**	**328**	P	**P**	**22 29 29.2**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=260,slow=3.2,SNR=2.3						
GEC2	**GERESS Array S**	**69.29**	**315**	P	**P**	**22 29 42.6**	**-2.3**
GEC2				IAmb	IAmb	22 29 53.2	
	comp=Z,3.6nm,1.3s						
GERES	**GERESS Array B**	**69.29**	**315**	P	**P**	**22 29 45.7**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=58,slow=7.3,SNR=2.4						
GERES	**GERESS Array B**	**69.29**	**315**	P	**P**	**22 29 43.8**	**-1.2**
TIP	**Timpagrande**	**70.53**	**305**	P	**P**	**22 29 51.7**	**-1.0**
IL31		**72.64**	**25**	P	**P**	**22 30 04.0**	**-0.8**
IL31				IAmb	IAmb	22 30 17.9	
	comp=Z,4.2nm,1.1s						
ILAR	**Eielson Array**	**72.64**	**25**	P	**P**	**22 30 03.3**	**-1.6**
BCAR	**Beaver Creek A**	**75.46**	**25**	P	**P**	**22 30 17.8**	**-3.7**

*IDC **16** 22:26:22.1±3.9, 55˚.11N×110˚.34E, h0km, mb3.1/1, mb1 3.5/6, mb1mx3.2/51, mbtmp3.5/6, ML2.9/5, Error ellipse: s-maj=49.8km s-min=26.8km az=105.0*

*BYKL **16** 22:26:23.5±0.2, 54˚.97N×110˚.33E*

ISC 16 22:26:22.3±0.6, 54˚.94N±0˚.02×110˚.49E±0˚.02, h10km, n42, σ2♀71/96, 3C-4D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.40**	**98**⇑	*i*Pg	**Pb**	**22 26 32.3**	**+0.9**
YLYR				*e*Sg	**Sb**	**22 26 39.0**	**+1.5**
YLYR				Pmax			
	289nm,0.6s						
YLYR				Smax			
	2μm,0.3s						
NIZ	**Nizh Angarsk**	**1.00**	**328**⇓	*i*Pg	**Pg**	**22 26 40.2**	**-1.3**
NIZ				*e*		22 26 46.3	
NIZ				*e*Sg	**Sg**	**22 26 52.6**	**-1.9**
NIZ				*e*Sb	**Sn**	**22 26 56.2**	**-0.3**
NIZ				Pmax			
	120nm,0.3s						
NIZ				Smax			
	848nm,0.3s						
KMO	**Kumora**	**1.04**	**23**	*e*Pg	**Pb**	**22 26 41.7**	**-0.6**
KMO				*e*Sg	**Sn**	**22 26 56.6**	**-0.9**
KMO				Pmax			
	146nm,0.5s						
KMO				Smax			
	561nm,0.9s						
SYVR	**Suvo**	**1.31**	**193**⇓	*i*Pg	**Pg**	**22 26 47.8**	**+0.3**
SYVR				*e*Pb	**Pb**	**22 26 49.1**	**+2.1**
SYVR				*e*Sg	**Sg**	**22 27 06.1**	**+1.6**
SYVR				*e*		22 27 09.8	
SYVR				max			
	238nm,0.5s						
SYVR				max			
	1μm,0.4s						
YOA	**Uoyan**	**1.39**	**30**	*e*Pg	**Pg**	**22 26 49.8**	**+0.

BGT					*e*Sg		**Sg**	**22 28 32.6**	**-4.2**
BGT					*e*			22 28 36.1	
BGT					max				
	33nm,0.9s								
BGT					max				
	127nm,1.1s								
LSTR	**Listvyanka**	**4.57**	**230**		*e*Pn		**Pn**	**22 27 33.7**	**+2.3**
LSTR					*e*			22 27 41.7	
LSTR					*e*Sn		**Sn**	**22 28 23.7**	**-0.9**
LSTR					*e*Sg		**Sg**	**22 28 43.1**	**-5.8**
LSTR					*e*			22 28 45.2	
LSTR					max				
	7.0nm,0.4s								
LSTR					max				
	10.0nm,1.5s								
IRK	**Irkutsk**	**4.58**	**236**		Pg		**Pb**	**22 27 44.4**	**+1.7**
IRK					*e*Sg		**Sg**	**22 28 42.8**	**-6.5**
IRK					Pmax				
	232nm,0.1s								
IRK					Smax				
	313nm,0.4s								
VTMR	**Vitim**	**4.65**	**13**		*e*Sg		**Sg**	**22 28 47.7**	**-3.9**
CRS	**Chara**	**4.80**	**63**		*e*		**Pn**	**22 27 33.1**	**-1.5**
CRS					*e*			22 27 52.3	
CRS					*e*Sg		**Sg**	**22 28 54.3**	**-2.0**
CRS					max				
	65nm,1.4s								
CRS					Smax				
	151nm,1.2s								
IVK	**Ivanovka**	**4.80**	**232**		*e*Pn		**Pn**	**22 27 36.3**	**+1.6**
IVK					*e*Pg		**Pb**	**22 27 47.7**	**+1.2**
IVK					*e*Sn		**Sn**	**22 28 29.0**	**-1.3**
IVK					*e*Sg		**Sb**	**22 28 49.5**	**+5.2**
IVK					Pmax				
	10.0nm,0.5s								
IVK					Smax				
	100nm,1.3s								
TLY	**Talaya**	**5.24**	**234**		Pn		**Pn**	**22 27 42.1**	**+1.4**
	0.0nm,0.3s,baz=45,slow=7.1,SNR=5.1								
TLY					Pg		**Pb**	**22 27 55.6**	**+1.7**
	0.0nm,0.3s,baz=335,slow=3.2,SNR=11								
TLY					Sn		**Sn**	**22 28 41.6**	**+0.5**
	0.0nm,0.3s,baz=238,slow=20,SNR=1.2								
TLY					Lg		Lg	22 29 01.1	
	0.1nm,0.3s,baz=124,slow=21,SNR=4.0								
TLY	**Talaya**	**5.24**	**234**		*e*Pn		**Pn**	**22 27 41.6**	**+0.9**
TLY					*e*Pg		**Pb**	**22 27 56.1**	**+2.2**
TLY					*e*Sn		**Sn**	**22 28 40.8**	**-0.3**
TLY					*e*Sg		**Sg**	**22 29 03.5**	**-6.9**
TLY					Pmax				
	17nm,0.6s								
TLY					Smax				
	86nm,0.9s								
KPC	**Khapcheranga**	**5.37**	**167**		*e*Pn		**Pn**	**22 27 43.9**	**+1.4**
KPC					*e*			22 27 49.4	
KPC					*e*Pg		**Pg**	**22 28 01.2**	**-3.8**
KPC					*e*			22 28 50.3	
KPC					*e*Sg		**Sg**	**22 29 11.8**	**-2.7**
KPC					Pmax				
	9.0nm,0.5s								
KPC					Smax				
	105nm,0.9s								
TUP	**Tupik**	**5.52**	**91**	⇑	*i*Pn		**Pn**	**22 27 47.0**	**+2.5**
TUP					*e*			22 27 49.5	
TUP					*e*Pg		**Pg**	**22 28 03.3**	**-4.6**
TUP					*e*Sn		**Sn**	**22 28 47.3**	**-0.6**
TUP					*e*Sg		**Sg**	**22 29 16.8**	**-2.5**
TUP					Pmax				
	10.0nm,0.6s								
TUP					Smax				
	172nm,0.8s								
ARS	**Arshan**	**5.69**	**241**		*e*Pn		**Pn**	**22 27 47.5**	**+0.7**
ARS					*e*Pg		**Pb**	**22 28 03.6**	**+2.0**
ARS					*e*Sn		**Sn**	**22 28 49.2**	**-3.0**
ARS					*e*Sg		**Sb**	**22 29 16.0**	**+6.2**
ARS					Pmax				
	33nm,0.4s								
ARS					Smax				
	276nm,0.9s								
KHNR	**Khani**	**5.70**	**66**		*e*		Sn	22 29 03.9	+12
KHNR					*e*Sg		**Sg**	**22 29 22.1**	**-2.9**
ZAK	**Zakamensk**	**6.32**	**227**		*e*Pn		**Pn**	**22 27 57.9**	**+2.3**
ZAK					*e*			22 28 05.9	
ZAK					*e*			22 28 19.8	
ZAK					*e*Sg		**Sg**	**22 29 37.7**	**-7.5**
ZAK					max				
	2.0nm,0.1s								
ZAK					Smax				
	32nm,1.3s								
YKLR	**Yuktali**	**6.52**	**71**		*e*		Pn	22 27 52.0	-6.2
YKLR					*e*			22 28 49.0	
YKLR					*e*Sg		**Sg**	**22 29 47.4**	**-3.9**
MOY	**Mondy**	**6.56**	**244**		*e*Pn		**Pn**	**22 28 01.3**	**+2.4**
MOY					*e*			22 28 05.5	
MOY					*e*Pg		Pb	22 28 21.0	+4.5
MOY					*e*Sn		**Sn**	**22 29 12.4**	**-1.4**
MOY					*e*Sg		**Sg**	**22 29 45.9**	**-6.9**
MOY					Pmax				
	17nm,0.6s								
MOY					Smax				
	93nm,1.1s								
ORL	**Orlik**	**6.77**	**254**	⇓	*i*Pn		**Pn**	**22 28 03.5**	**+1.7**
ORL					*e*			22 28 09.0	
ORL					*e*			22 29 19.1	
ORL					*e*Sg		Sg	22 29 49.3	-10
ORL					max				
	17nm,1.1s								
ORL					Smax				
	47nm,0.7s								
SONM	**Songino Array**	**7.56**	**201**		Pn		**Pn**	**22 28 15.2**	**+2.6**
	0.4nm,0.3s,baz=25,slow=13,SNR=8.4								
SONM					Pg		Pg	22 28 40.8	-6.1
	0.4nm,0.3s,baz=15,slow=16,SNR=3.9								
SONM					Lg		Lg	22 30 22.7	
	1.3nm,0.3s,baz=19,slow=27,SNR=11								
IENR	**Iengra**	**8.25**	**75**		*e*Sg		**Sg**	**22 30 41.5**	**-5.2**
IENR					*e*			22 30 52.6	
TDJR	**Todzha**	**8.91**	**259**		*e*		Pn	22 28 37.8	+6.8
TDJR					*e*Sg		Sg	22 30 56.2	-12
ZALV	**Zalesovo Beam**	**14.94**	**277**		Pn		**Pn**	**22 29 53.2**	**-0.1**
	0.2nm,0.3s,baz=76,slow=10,SNR=24								
MKAR	**Makanchi Array**	**19.46**	**257**		P		**Pn**	**22 30 49.4**	**-0.8**
	0.0nm,0.3s,baz=41,slow=9.5,SNR=3.0								
KURBB	**Kurchatov Arra**	**19.70**	**271**		P		**P**	**22 30 51.3**	**-0.2**
	0.0nm,0.3s,baz=64,slow=11,SNR=6.1								
BVAR	**Borovoye Array**	**23.43**	**282**		P		**P**	**22 31 31.5**	**+0.1**
	0.4nm,0.5s,baz=74,slow=13,SNR=1.7								

IDC ***16*** *22:27:26.3±0.9,25°.38N×142°.12E, h0km, mb4.0/16, mb1 4.0/19, mb1mx3.9/55, mbtmp3.9/19, ML3.2/3, Error ellipse: s-maj=32.8km s-min=14.8km az=86.0*
JMA ***16*** *22:27:27.3±0.2,25°.45N×142°.72E, h1km±2km, M4.8*
NEIC ***16*** *22:27:31.1±0.9,25°.39N±0°.03×142°.1E±0°.2, h31km±5km, mb4.2/9, Error ellipse: s-maj=23.3km s-min=4.7km az=85.0*

ISC 16 22:27:31.6±0.9,25°.42N±0°.07×142°.2E±0°.2, h35km, n44, σ1§25/42, mb4.2/21, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.21**	**360**		P	**Pn**	**Pn**	**22 27 51.6**	**-0.5**
JHH2					*e*S	**Sn**	**Sn**	**22 28 08.9**	**+1.7**
CBIJ	**Chichi jima**	**1.67**	**0**		P	**Pn**	**Pn**	**22 27 58.5**	**+0.1**
CBIJ					*e*S	**Sn**	**Sn**	**22 28 20.6**	**+2.0**
JCJ	**Chichijima**	**1.67**	**0**		Pn	**Pn**	**Pn**	**22 27 59.0**	**+0.6**
	141nm,0.3s,baz=309,slow=24,SNR=65								
JCJ					Sn		**Sn**	**22 28 22.4**	**+3.8**
	606nm,0.3s,baz=108,slow=24,SNR=17								
JHJ2	**Mitsune**	**7.94**	**346**		Pn	**Pn**	**Pn**	**22 29 24.7**	**+0.2**
JHU	**Hanno**	**10.69**	**347**		P	**Pn**	**Pn**	**22 30 05.0**	**+2.7**
JHU					*e*S	**Sn**	**Sn**	**22 32 00.2**	**-0.6**
JHO	**Hitachi**	**11.24**	**353**		P	**Pn**	**Pn**	**22 30 09.5**	**-0.3**
JHO					*e*S	**Sn**	**Sn**	**22 32 09.4**	**-4.8**
MJAR	**Matsushiro Arr**	**11.60**	**344**		Pn	**Pn**	**Pn**	**22 30 14.1**	**-0.5**
	0.0nm,0.3s,baz=166,slow=15,SNR=2.3								
KSRS	**Korea Array**	**17.06**	**318**		P	**Pn**	**Pn**	**22 31 28.1**	**+0.7**
	0.4nm,0.3s,baz=249,slow=9.9,SNR=8.6								
JKA	**Kamikawa-asahi**	**18.66**	**1**		P	**Pn**	**Pn**	**22 31 47.3**	**+0.3**
JKA	**Kamikawa-asahi**	**18.66**	**1**		IAmb	IAmb	IAmb	22 31 51.1	
	comp=Z,3.1nm,0.8s								
ASAJ	**Asahikawa**	**18.66**	**1**		P	**Pn**	**Pn**	**22 31 47.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=104,slow=8.3,SNR=2.5								
H11N2	**WAKE ISLAND Hy**	**23.50**	**99**		T	T	T	22 56 23.5	
	baz=289,slow=75,SNR=9.6								
H11N1	**WAKE ISLAND Hy**	**23.50**	**99**		T	T	T	22 56 26.0	
	baz=289,slow=75,SNR=7.3								
H11N3	**WAKE ISLAND Hy**	**23.52**	**99**		T	T	T	22 56 25.1	
	baz=289,slow=75,SNR=9.7								
H11S3	**WAKE ISLAND Hy**	**23.73**	**102**		T	T	T	22 56 40.1	
	baz=292,slow=75,SNR=20								
H11S1	**WAKE ISLAND Hy**	**23.74**	**102**		T	T	T	22 56 43.9	
	baz=292,slow=75,SNR=23								
H11S2	**WAKE ISLAND Hy**	**23.75**	**102**		T	T	T	22 56 41.6	
	baz=292,slow=75,SNR=34								
KLR	**Kul'dur**	**25.12**	**344**		P	**P**	**P**	**22 32 53.6**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=157,slow=5.3,SNR=11								
SONM	**Songino Array**	**35.93**	**318**		P	**P**	**P**	**22 34 28.0**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=127,slow=9.2,SNR=1.9								
WRA	**Warramunga Arr**	**45.73**	**190**		P	**P**	**P**	**22 35 49.6**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=7.9,slow=8.6,SNR=30								
WRA	**Warramunga Arr**	**45.73**	**190**		P	**P**	**P**	**22 35 50.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**46.15**	**202**		P	**P**	**P**	**22 35 53.8**	**+0.9**
ASAR	**Alice Springs**	**49.45**	**190**		P	**P**	**P**	**22 36 18.6**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=17,slow=11,SNR=12								
ZALV	**Zalesovo Beam**	**50.75**	**320**		P	**P**	**P**	**22 36 27.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=85,slow=4.6,SNR=2.0								
MKAR	**Makanchi Array**	**51.55**	**311**		P	**P**	**P**	**22 36 33.9**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=83,slow=10,SNR=5.3								
MAKZ	**Makanchi**	**51.76**	**311**		P	**P**	**P**	**22 36 36.0**	**+0.3**
MAKZ						IAmb	IAmb	22 36 47.7	
	comp=Z,1.4nm,1.0s								
KURK	**Kurchatov**	**54.16**	**315**		P	**P**	**P**	**22 36 52.9**	**-0.4**
KURK						IAmb	IAmb	22 36 55.1	
	comp=Z,3.0nm,0.9s								
NRIK	**Noril'sk**	**54.20**	**339**		P	**P**	**P**	**22 36 53.3**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=110,slow=11,SNR=2.5								
KURBB	**Kurchatov Arra**	**54.21**	**315**		P	**P**	**P**	**22 36 53.1**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=92,slow=7.7,SNR=20								
ILAR	**Eielson Array**	**59.19**	**28**		P	**P**	**P**	**22 37 28.7**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=280,slow=5.2,SNR=3.2								
BVAR	**Borovoye Array**	**59.27**	**318**		P	**P**	**P**	**22 37 29.7**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=87,slow=8.7,SNR=16								
BRVK	**Borovoye**	**59.34**	**318**		P	**P**	**P**	**22 37 30.1**	**0.0**
BRVK						IAmb	IAmb	22 37 34.2	
	comp=Z,2.0nm,0.8s								
NIL	**Nilore**	**59.56**	**295**		P	**P**	**P**	**22 37 32.1**	**+0.2**
KK31	**Karatay Array**	**60.07**	**307**		P	**P**	**P**	**22 37 35.3**	**0.0**
KK31						IAmb	IAmb	22 37 36.4	
	comp=Z,1.2nm,0.7s								
KKAR	**Karatay Array**	**60.07**	**307**		P	**P**	**P**	**22 37 35.6**	**+0.3**
KKAR	**Karatay Array**	**60.07**	**307**		P	**P**	**P**	**22 37 35.4**	**+0.1**
KKAR						IAmb	IAmb	22 37 36.4	
	comp=Z,1.2nm,0.7s								
ARCES	**ARCESS Array B**	**75.12**	**341**		P	**P**	**P**	**22 39 10.4**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=40,slow=6.4,SNR=5.2								
KBZ	**Khabaz**	**79.14**	**313**		P	**P**	**P**	**22 39 33.3**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=93,slow=1.5,SNR=7.2								
FINES	**FINESS Array B**	**79.44**	**334**		P	**P**	**P**	**22 39 34.1**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=71,slow=4.9,SNR=31								
AKASG	**Malin Array Be**	**82.36**	**324**		P	**P**	**P**	**22 39 57.6**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=52,slow=5.2,SNR=8.1								
NB2	**NORSAR Subarra**	**85.16**	**338**		P	**P**	**P**	**22 40 03.5**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=47,slow=4.6								
NOA	**NORSAR Array B**	**85.16**	**338**		P	**P**	**P**	**22 40 03.5**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=47,slow=4.5,SNR=5.7								
BRTR	**Keskin Array B**	**87.13**	**313**		P	**P**	**P**	**22 40 13.7**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=141,slow=6.1,SNR=4.0								
LPAZ	**La Paz**	**150.31**	**78**		PKPbc	**PKPbc**	**PKPbc**	**22 47 19.8**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=315,slow=2.9,SNR=4.0								

NEIC ***16*** *22:39:57.5±2.3,36°.53N±0°.04×70°.83E±0°.10, h198km±7km, mb4.2/12, Error ellipse: s-maj=12.2km s-min=3.6km az=70.0*
IDC ***16*** *22:39:59.9±2.3,36°.53N×70°.96E, h205km±22km, mb3.3/9, mb1 3.4/16, mb1mx3.1/55, mbtmp3.9/16, Error ellipse: s-maj=15.1km s-min=13.3km az=41.0*
NNC ***16*** *22:40:02.5±7.6,36°.97N×70°.54E, h154km±105km, mb3.3, mpv3.9, Error ellipse: s-maj=64.0km s-min=41.4km az=11.0*

ISC 16 22:39:56.9±0.5,36°.52N±0°.04×70°.91E±0°.05, h188km, n82, σ2§12/103, mb3.7/13, 2C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.49**	**218**		Pn	**Pn**	**Pn**	**22 40 41.4**	**+1.2**
GAR	**Garm**	**2.52**	**350**		Pn	**Pn**	**Pn**	**22 40 41.4**	**+0.9**
CHGR	**Chuyangaron**	**2.55**	**328**		Pn	**Pn**	**Pn**	**22 40 41.4**	**+0.7**
CEP	**Cherat**	**2.81**	**163**	⇓	P	**Pn**	**Pn**	**22 40 45.6**	**+1.7**
CEP					S	**Sn**	**Sn**	**22 41 21.0**	**+0.5**
CHCP	**Chirah Chowk**	**3.44**	**145**		P	**Pn**	**Pn**	**22 40 53.6**	**+2.1**
NIL	**Nilore**	**3.45**	**145**		Pn	**Pn**	**Pn**	**22 40 53.6**	**+2.2**
NIL					Sn	**Sn**	**Sn**	**22 41 32.3**	**-1.7**
BTK	**Batken**	**3.54**	**359**		Pn	**Pn**	**Pn**	**22 40 54.1**	**+1.6**
BTK					Sn	**Sn**	**Sn**	**22 41 37.0**	**+0.8**
THW	**Thamme Wali**	**3.78**	**169**		P	**Pn**	**Pn**	**22 40 57.0**	**+1.4**
SARP	**Sargodha**	**4.81**	**162**		P	**Pn**	**Pn**	**22 41 09.4**	**+0.7**
TAS	**Tashkent**	**4.96**	**346**		Pn	**Pn**	**Pn**	**22 41 11.0**	**+0.4**
TAS							**Sn**	**22 42 05.5**	**-3.0**
ARSB	**Arslanbob**	**5.07**	**18**		Pn	**Pn**	**Pn**	**22 41 12.2**	**+0.2**
ARSB					Sn	**Sn**	**Sn**	**22 42 09.4**	**-1.7**
THN	**Thein Dam**	**5.69**	**134**	*e*	P	**Pn**	**Pn**	**22 41 21.5**	**+1.5**
THN				*e*	S	**Sn**	**Sn**	**22 42 24.0**	**-1.4**
AML	**Almayashu**	**6.01**	**20**		P	**Pn**	**Pn**	**22 41 25.3**	**+0.9**
	SNR=52								
DHRM	**DHARAMSHALA**	**6.16**	**132**	*e*	P	**Pn**	**Pn**	**22 41 27.1**	**+0.7**
DHRM				*e*	S	**Sn**	**Sn**	**22 42 34.7**	**-2.3**
DHRM					IAML			22 42 37.5	
	comp=N,213nm,0.2s								
DHRM					IAML			22 42 38.0	
	comp=E,383nm,0.3s								
UCH	**Uchtor**	**6.35**	**25**		P	**Pn**	**Pn**	**22 41 29.9**	**+0.9**
	SNR=16								
KZA	**Kyzart**	**6.50**	**30**		P	**Pn**	**Pn**	**22 41 34.2**	**+3.4**
	SNR=5.6								
EKS2	**Erkin-Say**	**6.53**	**19**		P	**Pn**	**Pn**	**22 41 32.1**	**+1.2**
	SNR=9.9								
KK31	**Karatay Array**	**6.59**	**357**	⇓	P	**Pn**	**Pn**	**22 41 32.1**	**+0.5**
	comp=E,5.6nm,0.3s,baz=181,slow=14,SNR=9.6								
KK31				⇓	S	**Sn**	**Sn**	**22 42 41.6**	**-4.9**
	comp=E,21nm,0.4s,baz=186,slow=20,SNR=20								
KK31	**Karatay Array**	**6.59**	**357**		Pn	**Pn**	**Pn**	**22 41 32.2**	**+0.5**
KK31					Sn	**Sn**	**Sn**	**22 42 41.8**	**-4.7**
KKAR	**Karatay Array**	**6.59**	**357**		Pn	**Pn**	**Pn**	**22 41 32.1**	**+0.5**
KKAR	**Karatay Array**	**6.59**	**357**				**Pn**	**22 41 32.2**	**+0.5**
KKAR					Sn	**Sn**	**Sn**	**22 42 41.7**	**-4.8**
AAK	**Ala-Archa**	**6.71**	**23**		P	**Pn**	**Pn**	**22 41 34.5**	**+1.2**
	comp=E,3.0nm,0.3s,baz=205,slow=6.4,SNR=8.5								
AAK					S		**Sn**	**22 42 47.6**	**-2.1**
	comp=E,3.0nm,0.3s,baz=349,slow=18,SNR=13								
AAK	**Ala-Archa**	**6.71**	**23**		P	**Pn**	**Pn**	**22 41 35.8**	**+2.4**
	comp=E,3.0nm,0.3s								
AAK						⇓S	**Sn**	**22 42 47.4**	**-2.2**
	comp=E,25nm,0.8s								
AAK	**Ala-Archa**	**6.71**	**23**		Pn	**Pn**	**Pn**	**22 41 34.8**	**+1.4**
FRU1	**Bishkek**	**6.91**	**23**				**Pn**	**22 41 36.7**	**+0.8**
FRU1					Sn	**Sn**	**Sn**	**22 42 53.7**	**-0.6**
USP	**Ospenovka**	**7.29**	**21**		P	**Pn**	**Pn**	**22 41 41.1**	**+0.4**
	SNR=6.9								
TKM2	**Tokmak 2**	**7.35**	**28**		P	**Pn**	**Pn**	**22 41 42.8**	**+1.0**
	SNR=9.3								
TKM2	**Tokmak 2**	**7.35**	**28**	⇑	P	**Pn**	**Pn**	**22 41 42.7**	**+1.0**
	comp=E,3.2nm,0.6s								
TKM2						⇓S	**Sn**	**22 43 02.4**	**-2.3**
	comp=E,9.3nm,0.8s								
TARG	**Taragay, Kyrgy**	**7.47**	**44**		Pn	**Pn**	**Pn**	**22 41 43.3**	**-0.3**
SMLA	**Simla**	**7.48**	**134**	*e*	P	**Pn**	**Pn**	**22 41 43.7**	**+0.3**
SMLA				*e*	S	**Sn**	**Sn**	**22 43 04.7**	**-3.1**
SMLA					IAML			22 43 06.2	
	comp=N,131nm,0.6s								
SMLA					IAML			22 43 06.9	
	comp=E,136nm,0.6s								
DDI	**Dehra Dun**	**8.59**	**134**	*ex*		**Sn**	**Sn**	**22 43 29.7**	**-4.6**
KUDL	**Kundal**	**9.59**	**149**	*e*	P	**Pn**	**Pn**	**22 42 11.4**	**+0.4**
KUDL				*e*	S	**Sn**	**Sn**	**22 43 50.1**	**-8.0**
GEYT	**Alibeck**	**10.30**	**282**		P	**Pn**	**Pn**	**22 42 23.6**	**+3.4**
	comp=E,0.2nm,0.3s,baz=96,slow=13,SNR=1.6								
GEYT					S	**Sn**	**Sn**	**22 44 12.4**	**-2.5**
	comp=E,0.6nm,0.3s,baz=320,slow=27,SNR=2.5								
GEYT	**Alibeck**	**10.30**	**282**				**Pn**	**22 42 18.1**	**-2.1**
GYA0B	**ALIBECK ARRAY**	**10.30**	**282**		Pn	**Pn**	**Pn**	**22 42 21.4**	**+1.2**
MAKZ	**Makanchi**	**13.19**	**35**		Pn	**Pn**	**Pn**	**22 42 57.0**	**0.0**
PYUN	**Piuhan**	**13.21**	**126**	*e*	P	**Pn**	**Pn**	**22 42 58.0**	**+0.3**
	comp=E,26nm,0.5s								
MK31	**Makanchi Array**	**13.32**	**36**		Pn	**Pn**	**Pn**	**22 42 58.6**	**-0.1**
MKAR	**Makanchi Array**	**13.32**	**36**		P	**Pn**	**Pn**	**22 42 59.5**	**+0.7**
	comp=E,0.1nm,0.3s,baz=213,slow=11,SNR=8.5								
DANN	**Dangsing**	**13.56**	**123**	*e*	P	**P**	**P**	**22 43 04.9**	**-0.1**
	comp=E,21nm,0.5s								
KOLN	**Koldanda**	**13.83**	**125**	*e*	P	**Pn**	**Pn**	**22 43 06.0**	**+0.5**
GKN	**Gorkha**	**14.38**	**122**	*e*	P	**P**	**P**	**22 43 13.7**	**-0.2**
	comp=E,38nm,0.4s								
BHPL	**Bhopal**	**14.38**	**155**	*e*	P	**P**	**P**	**22 43 17.3**	**+3.5**
BHPL					eS	**Sn**	**Sn**	**22 45 44.3**	**-8.4**
DMN	**Daman**	**14.95**	**122**	*e*	P	**P**	**P**	**22 43 21.5**	**+1.2**
AB31	**Akbulak array**	**15.03**	**331**	⇓	P	**Pn**	**Pn**	**22 43 19.4**	**-0.5**
	comp=E,0.9nm,0.3s								
ABKAR	**Akbulak array**	**15.03**	**331**				**Pn**	**22 43 19.6**	**-0.3**
KURBB	**Kurchatov Arra**	**15.13**	**19**		P	**P**	**P**	**22 43 23.2**	**+1.4**
	comp=E,0.1nm,0.3s,baz=210,slow=10,SNR=14								
PKI	**Pulchoki**	**15.18**	**122**	*e*	P	**P**	**P**	**22 43 24.1**	**+1.2**
KURK	**Kurchatov**	**15.24**	**19**		P	**P**	**P**	**22 43 22.8**	**-0.2**
JIRN	**Jiri**	**15.66**	**120**	*e*	P	**P**	**P**	**22 43 30.2**	**+1.9**
	comp=E,54nm,0.4s								
RAMN	**Ramite**	**16.39**	**121**	*e*	P	**Pn**	**Pn**	**22 43 37.3**	**+0.5**
BVA0	**Borovoye Array**	**16.51**	**359**	⇑	P	**Pn**	**Pn**	**22 43 39.7**	**+1.9**
	comp=E,2.5nm,0.7s,baz=176,slow=12,SNR=17								
BVAR	**Borovoye Array**	**16.51**	**359**		P	**Pn**	**Pn**	**22 43 39.0**	**+1.2**
	comp=E,0.6nm,0.3s,baz=163,slow=10.0,SNR=18								
BVAR					S	**S**	**S**	**22 46 35.9**	**-3.7**
	comp=E,0.1nm,0.3s,baz=165,slow=22,SNR=4.6								
BRVK	**Borovoye**	**16.55**	**359**				**Pn**	**22 43 38.0**	**-0.1**
AKTO	**Aktyubinsk**	**16.73**	**330**		P	**Pn**	**Pn**	**22 43 41.8**	**+1.4**
	comp=E,1.6nm,0.3s,baz=145,slow=11,SNR=31								
AKTO					S	**S**	**S**	**22 46 42.3**	**-1.9**
	comp=E,0.1nm,0.3s,baz=270,slow=20,SNR=2.5								
AKTO	**Aktyubinsk**	**16.73**	**330**	⇓	P	**Pn**	**Pn**	**22 43 41.8**	**+1.4**
	comp=E,10.0nm,0.6s								
TAPN	**Taplejung**	**16.92**	**118**	*e*	P	**Pn**	**Pn**	**22 43 44.3**	**+1.1**
ZAA0	**Zalesovo Array**	**19.93**	**25**		P	**P**	**P**	**22 44 14.9**	**+0.7**
ZAA0						IAmb	IAmb	22 44 16.4	
	comp=Z,4.7nm,0.6s								
ZALV	**Zalesovo Beam**	**19.93**	**25**		P	**P**	**P**	**22 44 15.8**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=221,slow=11,SNR=22								
ZALV					S	**S**	**S**	**22 47 48.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=160,slow=30,SNR=2.1								
ZALV	**Zalesovo Beam**	**19.93**	**25**		P	**P**	**P**	**22 44 14.4**	**+0.3**
ARU	**Arti**	**21.59**	**341**		P	**P**	**P**	**22 44 33.2**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=168,slow=11,SNR=5.2								
ARU	**Arti**	**21.59**	**341**		P	**P**	**P**	**22 44 32.5**	**+0.8**
ARU						IAmb	IAmb	22 44 36.3	
	comp=Z,4.3nm,1.0s								
CMAR	**Chiang Mai Arr**	**30.53**	**119**		P	**P**	**P**	**22 45 55.5**	**+2.7**
	comp=Z,0.6nm,0.8s,baz=305,slow=9.2,SNR=6.4								
AKASG	**Malin Array Be**	**32.88**	**309**		P	**P**	**P**	**22 46 14.6**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=82,slow=6.8,SNR=5.1								
FINES	**FINESS Array B**	**37.43**	**326**		P	**P**	**P**	**22 46 53.3**	**+1.7**
	comp=Z,2.3nm,0.9s,baz=99,slow=12,SNR=5.5								
FINES	**FINESS Array B**	**37.43**	**326**		P	**P**	**P**	**22 46 52.7**	**+1.1**
ARCES	**ARCESS Array B**	**41.10**	**338**		P	**P**	**P**	**22 47 23.8**	**+1.9**

SELS				*e*Sn	**Sn**	22 44 04.5	**0.0**	
KESN	**Edirne-Kesan**	**2.41**	**125**	*i* P	**Pn**	**22 43 35.8**	**+0.8**	
KESN				*i* S	**Sn**	**22 44 00.1**	**-5.0**	
KESN				IAML		22 44 15.0		
	comp=E,37nm,0.4s							
KESN				IAML		22 44 16.0		
	comp=N,58nm,0.3s							
GADA	**Gvkgeada**	**2.46**	**146**	PN	**Pn**	**22 43 36.3**	**+0.8**	
GOKA	**anakkale-Gk**	**2.47**	**146**	*i* P	**Pn**	**22 43 35.5**	**-0.1**	
GOKA				*i* S	**Sn**	**22 44 03.4**	**-2.8**	
LIA	**Limnos Island**	**2.48**	**160**	P	**Pn**	**22 43 36.2**	**+0.4**	
SRE	**Strehaia**	**2.50**	**345**	⇑P	**Pn**	**22 43 37.4**	**+1.3**	
GELI	**Tayfur-Gelibol**	**2.57**	**135**	PN	**Pn**	**22 43 38.1**	**+1.1**	
LPK	**Lapseki**	**2.75**	**132**	PN	**Pn**	**22 43 40.5**	**+1.1**	
MAR4	**Marsite Statio**	**2.81**	**120**	PN	**Pn**	**22 43 41.7**	**+1.3**	
BOZC	**Bozcaada**	**2.82**	**148**	PN	**Pn**	**22 43 41.5**	**+1.1**	
BOZC	**Bozcaada**	**2.82**	**148**	*i* P	Pn	22 43 34.5	-6.0	
BOZC				*i* S	**Sn**	**22 44 12.6**	**-2.3**	
BOZC				IAML		22 44 26.0		
	comp=N,25nm,0.8s							
BOZC				IAML		22 44 27.0		
	comp=E,34nm,0.7s							
MAR3	**Marsite Statio**	**2.83**	**121**	PN	**Pn**	**22 43 41.7**	**+1.1**	
MAR6	**Marsite Statio**	**2.84**	**122**	PN	**Pn**	**22 43 42.1**	**+1.4**	
MAR2	**Marsite Statio**	**2.86**	**121**	PN	**Pn**	**22 43 42.3**	**+1.3**	
GRUS	**Gruza**	**2.97**	**305**	*e*Pn	**Pn**	**22 43 44.7**	**+2.2**	
GRUS				*e*Sn	**Sn**	**22 44 18.4**	**-0.2**	
MDVR	**Moldovita**	**3.07**	**327**	⇓P	**Pn**	**22 43 43.3**	**-0.7**	
AOS	**Alonnisos**	**3.07**	**183**	PN	**Pn**	**22 43 45.2**	**+1.3**	
BAYC	**CANAKKALE_Bayr**	**3.12**	**143**	*i* P	**Pn**	**22 43 45.0**	**+0.5**	
BAYC				*i* S	**Sn**	**22 44 18.4**	**-3.7**	
MAR9	**Marsite Statio**	**3.16**	**120**	PN	**Pn**	**22 43 46.4**	**+1.3**	
VOIR		**3.27**	**12**	⇑P	**Pn**	**22 43 48.9**	**+2.2**	
TRUS	**Trudelj**	**3.34**	**308**	*e*Pn	**Pn**	**22 43 49.8**	**+2.2**	
MLR	**Muntele Rosu**	**3.51**	**22**	⇑P	**Pn**	**22 43 52.4**	**+2.3**	
DIVS	**Divibare**	**3.52**	**303**	*e*Pn	**Pn**	**22 43 51.7**	**+1.5**	
BBLS	**Lazići**	**3.80**	**297**	*e*Pn	**Pn**	**22 43 56.3**	**+2.4**	
BZS	**Buzias**	**3.82**	**333**	*e*Pn	**Pn**	**22 43 57.0**	**+2.9**	
BZS				*e*Sn	**Sn**	**22 44 39.1**	**-0.3**	
BZS	**Buzias**	**3.82**	**333**	⇑P	**Pn**	**22 43 53.9**	**-0.2**	
PLOR	**Plostina**	**4.05**	**26**	⇑P	**Pn**	**22 43 59.7**	**+2.3**	
VRI	**Vrincioaia**	**4.09**	**27**	⇓P	**Pn**	**22 44 00.9**	**+3.0**	
CFR	**Carcaliu**	**4.15**	**44**	⇓P	**Pn**	**22 44 01.1**	**+2.4**	

*IDC **16** 22:52:15.2±6.8, 7°.56S×128°.81E, h146km±71km, mb3.3/1, mb1 3.3/5, mb1mx3.0/27, mbtmp3.7/5, Error ellipse: s-maj=61.5km s-min=24.1km az=41.0*

ISC 16 22:52:14.8±1.5, **7°.6S**±0°.1×**128°.9E**±0°.1, **h131**km, **n5, 2⃝36/8, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumatua**	**5.76**	**243**	P	**Pn**	**22 53 38.7**	**+0.5**
	7.7nm,0.3s,baz=75,slow=0.1,SNR=8.1						
BATI				S	**Sn**	**22 54 44.0**	**+0.7**
	9.2nm,0.3s,baz=132,slow=23,SNR=7.1						
FITZ	**Fitzroy Crossi**	**10.88**	**197**	P	**Pn**	**22 54 47.5**	**+0.6**
	0.3nm,0.3s,baz=17,slow=12,SNR=27						
FITZ				S	**Sn**	**22 56 43.9**	**-2.9**
	0.7nm,0.3s,baz=113,slow=22,SNR=8.7						
WRA	**Warramunga Arr**	**13.33**	**157**	P	**Pn**	**22 55 20.7**	**+1.7**
	0.1nm,0.3s,baz=344,slow=13,SNR=2.3						
WRA				S	**Sn**	**22 57 43.8**	**-2.5**
	0.4nm,0.3s,baz=318,slow=30,SNR=5.6						
ASAR	**Alice Springs**	**16.66**	**164**	P	**P**	**22 56 03.0**	**+2.3**
	0.1nm,0.3s,baz=337,slow=12,SNR=16						
MKAR	**Makanchi Array**	**68.15**	**327**	P	**P**	**23 02 58.8**	**-2.0**
	0.3nm,0.4s,baz=118,slow=6.9,SNR=8.2						

*WEL **16** 23:11:25.7, 42°.5±1°×17°.4E±°, h25km±2km, M3.2/20, ML3.4/20, MLv3.2/20, Error ellipse: s-maj=0.0km s-min=0.0km az=84.3*

*NEIC **16** 23:11:26.3±1.7, 42°.34S±0°.04×173°.90E±0°.06, h27km±8km, Error ellipse: s-maj=8.7km s-min=1.4km az=133.0*

ISC 16 23:11:25.9±0.9, **42°.34S**±0°.03×**173°.91E**±0°.03, **h27**km±7km, **n72, σ0⃝83/80, mb4.2/3, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.28**	**255**	P	**Pb**	**23 11 32.8**	**0.0**
KHZ				S	**Sb**	**23 11 37.1**	**-0.4**
KHZ	**Kahutara**	**0.28**	**255**	Pg	**Pb**	**23 11 32.9**	**0.0**
KHZ				S	**Sb**	**23 11 37.0**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.63**	**358**	P	**Pb**	**23 11 38.0**	**-0.2**
BSWZ				S	**Sb**	**23 11 46.6**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.63**	**358**		**Pb**	**23 11 38.0**	**-0.2**
BSWZ					**Sb**	**23 11 46.1**	**-0.7**
CMWZ	**Cape Campbell**	**0.64**	**21**	P	**Pn**	**23 11 40.4**	**+1.3**
CMWZ	**Cape Campbell**	**0.64**	**21**		**Pn**	**23 11 40.3**	**+1.2**
TUWZ	**Tuamarina**	**0.91**	**2**	P	**Pn**	**23 11 43.4**	**+0.5**
TUWZ				S	**Sn**	**23 11 56.1**	**+1.0**
TUWZ	**Tuamarina**	**0.91**	**2**		**Pn**	**23 11 43.4**	**+0.5**
THZ	**Tophouse**	**0.94**	**308**	P	**Pn**	**23 11 43.3**	**-0.1**
THZ				S	**Sb**	**23 11 55.0**	**-0.8**
THZ	**Tophouse**	**0.94**	**308**		**Pn**	**23 11 43.3**	**-0.1**
TCW	**Tory Channel**	**1.16**	**14**	P	**Pb**	**23 11 47.2**	**-0.1**
TCW				S	**Sb**	**23 12 02.6**	**+0.6**
BHW	**Baring Head**	**1.18**	**38**	P	**Pb**	**23 11 47.7**	**+0.1**
BHW	**Baring Head**	**1.18**	**38**	Pn	**Pb**	**23 11 47.5**	**-0.1**
NNZ	**Nelson**	**1.19**	**341**	P	**Pb**	**23 11 47.5**	**-0.3**
NNZ				S	**Sb**	**23 12 03.3**	**+0.5**
NNZ	**Nelson**	**1.19**	**341**		**Pb**	**23 11 47.5**	**-0.3**
SNZO	**South Karori**	**1.19**	**30**	Pn	**Pb**	**23 11 47.9**	**+0.1**
PLWZ	**Palliser**	**1.27**	**53**	P	**Pb**	**23 11 48.7**	**-0.5**
PLWZ	**Palliser**	**1.27**	**53**		**Pb**	**23 11 48.6**	**-0.5**
LTZ	**Lake Taylor**	**1.28**	**249**	P	**Pb**	**23 11 49.4**	**0.0**
LTZ	**Lake Taylor**	**1.28**	**249**		**Pb**	**23 11 49.4**	**0.0**
MSWZ	**Moikau Station**	**1.36**	**48**	P	**Pb**	**23 11 50.0**	**-0.8**
MSWZ	**Moikau Station**	**1.36**	**48**		**Pb**	**23 11 50.0**	**-0.8**
PAWZ	**Paruwai Farm**	**1.49**	**50**	P	**Pb**	**23 11 51.4**	**+0.5**
CAW	**Cannon Point**	**1.51**	**36**	P	**Pb**	**23 11 52.2**	**-1.1**
OKCZ	**Okains Bay**	**1.51**	**204**	P	**Pb**	**23 11 52.7**	**-0.6**
DUWZ	**D'Urville Isla**	**1.54**	**0**	P	**Pb**	**23 11 52.9**	**-0.8**
TRWZ	**Traveller**	**1.63**	**55**	P	**Pn**	**23 11 53.5**	**+0.6**
MQZ	**McQueen's Vall**	**1.64**	**214**	P	**Pn**	**23 11 53.6**	**+0.6**
MQZ	**McQueen's Vall**	**1.64**	**214**		**Pn**	**23 11 53.8**	**+0.8**
KIW	**Kapiti Island**	**1.66**	**27**	P	**Pb**	**23 11 54.5**	**-1.3**
DSZ	**Denniston Nort**	**1.67**	**290**	P	**Pb**	**23 11 55.0**	**-1.0**
MTW	**Mount Morrison**	**1.68**	**46**	P	**Pn**	**23 11 54.0**	**+0.5**
OXZ	**Oxford**	**1.69**	**234**	P	**Pn**	**23 11 54.3**	**+0.7**
OXZ	**Oxford**	**1.69**	**234**		**Pn**	**23 11 54.3**	**+0.7**
AKCZ	**Akaroa Harbour**	**1.69**	**205**	P	**Pb**	**23 11 55.1**	**-1.3**
OGWZ	**Otaki Gorge**	**1.79**	**32**	P	**Pn**	**23 11 56.0**	**+0.9**
QRZ	**Quartz Range**	**1.83**	**325**	P	**Pb**	**23 11 57.5**	**-1.2**
QRZ	**Quartz Range**	**1.83**	**325**		**Pb**	**23 11 57.4**	**-1.3**
INZ	**Inchbonnie**	**1.86**	**257**	P	**Pn**	**23 11 57.2**	**+1.3**
HOWZ	**Holdsworth Sta**	**1.88**	**40**	P	**Pn**	**23 11 57.5**	**+1.3**
TMWZ	**Te Maipa**	**1.93**	**51**	P	**Pn**	**23 11 57.3**	**+0.3**
MRZ	**Mangatainoka R**	**2.10**	**37**	P	**Pn**	**23 11 59.8**	**+0.6**
WACZ	**Wakanui South**	**2.20**	**223**	P	**Pn**	**23 12 01.5**	**+0.9**
BFZ	**Birch Farm**	**2.42**	**47**	P	**Pn**	**23 12 03.4**	**-0.2**
BFZ	**Birch Farm**	**2.42**	**47**	Pn	**Pn**	**23 12 04.1**	**+0.5**
RPZ	**Rata Peaks**	**2.50**	**236**	P	**Pn**	**23 12 05.4**	**+0.7**
RPZ	**Rata Peaks**	**2.50**	**236**	Pn	**Pn**	**23 12 05.5**	**+0.7**
DVHZ	**Dannevirke**	**2.66**	**41**	P	**Pn**	**23 12 07.9**	**+0.9**
GCSZ	**Gaunt Creek Bo**	**2.81**	**248**	P	**Pn**	**23 12 10.6**	**+1.6**
FOZ	**Fox Glacier**	**3.23**	**247**	Pn	**Pn**	**23 12 17.0**	**+2.2**
LBZ	**Lake Benmore**	**3.40**	**232**	Pn	**Pn**	**23 12 18.2**	**+1.1**
ODZ	**Otahua Downs**	**3.59**	**220**	P	**Pn**	**23 12 20.4**	**+0.7**
ODZ	**Otahua Downs**	**3.59**	**220**	Pn	**Pn**	**23 12 20.5**	**+0.7**
BKZ	**Black Stump Fm**	**3.73**	**33**	Pn	**Pn**	**23 12 20.3**	**-1.4**
HIZ	**Hauiti**	**3.89**	**11**	Pn	**Pn**	**23 12 25.3**	**+1.4**
JCZ	**Jackson Bay**	**4.12**	**243**	P	**Pn**	**23 12 28.4**	**+1.3**
WKZ	**Wanaka**	**4.33**	**233**	Pn	**Pn**	**23 12 30.1**	**+0.2**
TUZ	**Tuapeka**	**4.74**	**215**	P	**Pn**	**23 12 36.5**	**+1.0**
URZ	**Urewera**	**4.76**	**32**	Pn	**Pn**	**23 12 36.4**	**+0.6**
MLZ	**Mavora Lakes**	**5.16**	**232**	P	**Pn**	**23 12 41.6**	**+0.3**
MLZ	**Mavora Lakes**	**5.16**	**232**	Pn	**Pn**	**23 12 40.7**	**-0.7**
WHZ	**Wether Hill Ro**	**5.57**	**228**	Pn	**Pn**	**23 12 46.7**	**-0.2**
DCZ	**Deep Cove**	**5.79**	**235**	Pn	**Pn**	**23 12 48.9**	**-1.0**
MXZ	**Matakaoa Point**	**5.85**	**37**	Pn	**Pn**	**23 12 49.3**	**-1.4**
APZ	**The Paps**	**6.16**	**221**	P	**Pn**	**23 12 55.5**	**+0.4**
OUZ	**Omahuta**	**7.12**	**358**	Pn	**Pn**	**23 13 08.2**	**0.0**
AFI	**Afiamalu**	**30.92**	**28**	P	**P**	**23 17 40.8**	**+0.3**
BBOO	**Buckleboo**	**31.25**	**275**	P	**P**	**23 17 43.9**	**+0.6**
BBOO				IAmb	IAmb	23 17 55.9	
	comp=Z,3.5nm,0.9s						
FORT	**Forrest**	**38.17**	**272**	P	**P**	**23 18 41.7**	**-1.3**
FORT				IAmb	IAmb	23 18 44.6	
	comp=Z,5.9nm,0.9s						
WC3	**Warramunga Arr**	**40.04**	**291**	P	**P**	**23 18 58.9**	**+0.2**
WB2	**Warramunga Arr**	**40.07**	**291**	P	**P**	**23 18 58.2**	**-0.7**
WB2				IAmb	IAmb	23 19 11.8	
	comp=Z,4.4nm,1.1s						
WRA	**Warramunga Arr**	**40.07**	**291**	P	**P**	**23 18 58.9**	**-0.1**

*MOS **16** 23:35:32.2±1.0, 51°.45N×157°.17E, h116km, mb4.5/26, Error ellipse: s-maj=7.4km s-min=3.2km az=74.2*

*KRSC **16** 23:35:32.5±1.4, 51°.41N×157°.57E, h112km±11km, ML4.8*

*NEIC **16** 23:35:35.5±1.3, 51°.67N±0°.08×157°.1E±0°.1, h130km±5km, mb4.6/231, Error ellipse: s-maj=12.4km s-min=9.9km az=138.0*

*IDC **16** 23:35:36.6±0.7, 51°.73N×156°.99E, h133km±4km, mb3.9/28, mb1 4.1/34, mb1mx4.0/45, mbtmp4.4/34, MS3.0/4, Ms1 3.0/4, ms1mx2.5/53, Error ellipse: s-maj=12.2km s-min=6.8km az=142.0*

ISC 16 23:35:34.3±0.4, **51°.47N**±0°.04×**157°.32E**±0°.04, **h125**km±3km, **h125**km:**pP-P, n601, σ1⃝46/628, mb4.5**/171, **4C-4D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.32**	**269**	*i* P	**Pn**	**23 35 50.5**	**-1.3**
PAU				*e*S	**Sn**	**23 36 03.0**	**-2.1**
PAU	**Pauzhetka**	**0.32**	**269**	PN	**Pn**	**23 35 50.5**	**-1.3**
PAU				S	**Sn**	**23 36 03.0**	**-2.1**
KDTR	**Khodutka, Kamc**	**0.58**	**54**	*i* P	**Pn**	**23 35 51.1**	**-2.1**
KDTR				*i* S	**Sn**	**23 36 03.6**	**-3.9**
KDTR	**Khodutka, Kamc**	**0.58**	**54**	PN	**Pn**	**23 35 51.1**	**-2.1**
KDTR				S	**Sn**	**23 36 03.6**	**-3.9**
MIPR	**Malaya Ipel'ka**	**0.88**	**337**	*e*P	**Pn**	**23 35 54.2**	**-1.4**
MIPR				*e*S	**Sn**	**23 36 08.6**	**-3.1**
MIPR	**Malaya Ipel'ka**	**0.88**	**337**	PN	**Pn**	**23 35 54.2**	**-1.4**
MIPR				S	**Sn**	**23 36 08.6**	**-3.1**
ASAK	**Asacha**	**0.98**	**21**	*e*P	**Pn**	**23 35 55.5**	**-1.1**
ASAK	**Asacha**	**0.98**	**21**	PN	**Pn**	**23 35 55.5**	**-1.1**
SKR	**Severo-Kuril's**	**1.10**	**224**	*i* P	**Pn**	**23 35 56.9**	**-0.7**
SKR				*e*S	**Sn**	**23 36 14.0**	**-1.3**
SKR	**Severo-Kuril's**	**1.10**	**224**	PN	**Pn**	**23 35 56.9**	**-0.7**
SKR				S	**Sn**	**23 36 14.0**	**-1.3**
MTVR	**Mutnovka**	**1.15**	**27**	*e*P	**Pn**	**23 35 57.5**	**-0.8**
MTVR				*e*S	**Sn**	**23 36 14.7**	**-1.8**
MTVR	**Mutnovka**	**1.15**	**27**	PN	**Pn**	**23 35 57.5**	**-0.8**
MTVR				S	**Sn**	**23 36 14.7**	**-1.8**
GRL	**Gorelyy**	**1.18**	**23**	*e*P	**Pn**	**23 35 58.0**	**-0.6**
GRL				*e*S	**Sn**	**23 36 17.1**	**0.0**
GRL	**Gorelyy**	**1.18**	**23**	PN	**Pn**	**23 35 58.0**	**-0.6**
GRL				S	**Sn**	**23 36 17.1**	**0.0**
RUS	**Russkaya**	**1.21**	**37**	*e*P	**Pn**	**23 35 57.2**	**-1.6**
RUS				*e*S	**Sn**	**23 36 14.8**	**-2.7**
RUS	**Russkaya**	**1.21**	**37**	PN	**Pn**	**23 35 57.2**	**-1.6**
RUS				S	**Sn**	**23 36 14.8**	**-2.7**
ALID	**Alaid**	**1.27**	**242**	*i* P	**Pn**	**23 35 58.8**	**-0.8**
ALID	**Alaid**	**1.27**	**242**	PN	**Pn**	**23 35 58.8**	**-0.8**
KRMR	**Karymshinskiy**	**1.45**	**20**	*i* P	**Pn**	**23 36 00.6**	**-0.8**
KRMR				*e*S	**Sn**	**23 36 20.2**	**-1.8**
KRMR	**Karymshinskiy**	**1.45**	**20**	PN	**Pn**	**23 36 00.6**	**-0.8**
KRMR				S	**Sn**	**23 36 20.2**	**-1.8**
APC	**Apacha**	**1.46**	**356**	*i* P	**Pn**	**23 36 01.1**	**-0.4**
APC				*e*S	**Sn**	**23 36 20.7**	**-1.5**
APC	**Apacha**	**1.46**	**356**	PN	**Pn**	**23 36 01.1**	**-0.4**
APC				S	**Sn**	**23 36 20.7**	**-1.5**
PEA0B	**Petropavlovsk-**	**1.66**	**8**	*de*PN	**Pn**	**23 36 03.1**	**-0.7**
PEA0B	**Petropavlovsk-**	**1.66**	**8**	Pn	**Pn**	**23 36 03.3**	**-0.5**
PEA0B				Sn	**Sn**	**23 36 25.8**	**-0.6**
PETK	**Petropavlovsk-**	**1.66**	**8**	P	**Pn**	**23 36 03.2**	**-0.6**
	90nm,0.3s,baz=176,slow=11,SNR=839						
PETK				S	**Sn**	**23 36 25.9**	**-0.4**
	31nm,0.3s,baz=241,slow=27,SNR=7.6						
PET	**Petropavlovsk**	**1.76**	**27**	*e*P	**Pn**	**23 36 04.1**	**-0.9**
PET				*e*S	**Sn**	**23 36 26.0**	**-2.4**
PET	**Petropavlovsk**	**1.76**	**27**	*e*PN	**Pn**	**23 36 04.2**	**-0.8**
PET				pmax	pmax		
	comp=Z,531nm,0.6s						
PET	**Petropavlovsk**	**1.76**	**27**		**Pn**	**23 36 04.2**	**-0.8**
DALK	**Dalny**	**1.79**	**29**	*e*P	**Pn**	**23 36 04.6**	**-0.8**
DALK				*e*S	**Sn**	**23 36 27.9**	**-1.3**
DALK	**Dalny**	**1.79**	**29**	PN	**Pn**	**23 36 04.6**	**-0.8**
DALK				S	**Sn**	**23 36 27.9**	**-1.3**
UGLR	**Uglovaya**	**1.97**	**27**	*e*P	**Pn**	**23 36 07.9**	**+0.2**
UGLR				*e*S	**Sn**	**23 36 33.4**	**+0.2**
UGLR	**Uglovaya**	**1.97**	**27**	PN	**Pn**	**23 36 07.9**	**+0.2**
UGLR				S	**Sn**	**23 36 33.4**	**+0.2**
KOK	**Koryaka**	**1.99**	**23**	*e*P	**Pn**	**23 36 08.2**	**+0.3**
KOK				*e*S	**Sn**	**23 36 33.3**	**-0.4**
KOK	**Koryaka**	**1.99**	**23**	PN	**Pn**	**23 36 08.2**	**+0.3**
KOK				S	**Sn**	**23 36 33.3**	**-0.4**
AVH	**Avacha**	**2.00**	**25**	*e*P	**Pn**	**23 36 08.4**	**+0.4**
AVH	**Avacha**	**2.00**	**25**	PN	**Pn**	**23 36 08.4**	**+0.4**
SMAR	**Somma**	**2.01**	**26**	*e*P	**Pn**	**23 36 08.6**	**+0.3**
SMAR	**Somma**	**2.01**	**26**	PN	**Pn**	**23 36 08.6**	**+0.3**
KRER	**Koryakskii**	**2.03**	**25**	*e*P	**Pn**	**23 36 08.6**	**+0.1**
KRER				*e*S	**Sn**	**23 36 34.5**	**-0.3**
KRER	**Koryakskii**	**2.03**	**25**	PN	**Pn**	**23 36 08.6**	**+0.1**
KRER				S	**Sn**	**23 36 34.5**	**-0.3**
KRX	**Arik**	**2.06**	**23**	*e*P	**Pn**	**23 36 09.0**	**+0.2**
KRX	**Arik**	**2.06**	**23**	PN	**Pn**	**23 36 09.0**	**+0.2**
NLC	**Nalytchevo**	**2.11**	**35**	*e*P	**Pn**	**23 36 07.8**	**-1.4**
NLC				*e*S	**Sn**	**23 36 32.7**	**-3.3**
NLC	**Nalytchevo**	**2.11**	**35**	PN	**Pn**	**23 36 07.8**	**-1.4**
NLC				S	**Sn**	**23 36 32.7**	**-3.3**
SPN	**Mys Shipunski**	**2.33**	**44**	*e*P	**Pn**	**23 36 11.1**	**-0.9**
SPN				*e*S	**Sn**	**23 36 38.2**	**-2.7**
SPN	**Mys Shipunski**	**2.33**	**44**	PN	**Pn**	**23 36 11.1**	**-0.9**
SPN				S	**Sn**	**23 36 38.2**	**-2.7**
KII	**Karymskiy**	**2.88**	**26**	*e*P	**Pn**	**23 36 19.0**	**-0.1**
KII				*e*S	**Sn**	**23 36 52.6**	**-1.1**
KII	**Karymskiy**	**2.88**	**26**	PN	**Pn**	**23 36 19.0**	**-0.1**
KII				S	**Sn**	**23 36 52.6**	**-1.1**
KZV	**Kizimen**	**4.06**	**25**	*e*P	**Pn**	**23 36 34.9**	**+0.1**
KZV	**Kizimen**	**4.06**	**25**	PN	**Pn**	**23 36 34.9**	**+0.1**
TUMD	**Tumrok D**	**4.17**	**25**	*e*P	**Pn**	**23 36 36.4**	**+0.3**
TUMR	**Tumrok**	**4.18**	**23**	*e*P	**Pn**	**23 36 37.3**	**+1.0**
TUMR	**Tumrok**	**4.18**	**23**	PN	**Pn**	**23 36 36.4**	**+0.1**
KMNR	**Kamenistaya**	**4.63**	**21**	*e*P	**Pn**	**23 36 43.2**	**+0.9**
KMNR	**Kamenistaya**	**4.63**	**21**	PN	**Pn**	**23 36 43.2**	**+0.9**
KPT	**Kopyto**	**4.82**	**20**	*e*P	**Pn**	**23 36 44.9**	**0.0**
KPT	**Kopyto**	**4.82**	**20**	PN	**Pn**	**23 36 44.9**	**0.0**
KIRR	**Kirishev**	**4.83**	**21**	*e*P	**Pn**	**23 36 44.4**	**-0.7**
KIRR	**Kirishev**	**4.83**	**21**	PN	**Pn**	**23 36 44.4**	**-0.7**
KOZ	**Kozyrevsk**	**4.84**	**17**	*e*P	**Pn**	**23 36 45.6**	**+0.6**
KOZ	**Kozyrevsk**	**4.84**	**17**	PN	**Pn**	**23 36 45.6**	**+0.6**
BZWR	**Bezymyannyi-We**	**4.88**	**21**	*e*P	**Pn**	**23 36 46.5**	**+0.8**
BZWR	**Bezymyannyi-We**	**4.88**	**21**	PN	**Pn**	**23 36 46.5**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**4.91**	**23**	*e*P	**Pn**	**23 36 47.0**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**4.91**	**23**	PN	**Pn**	**23 36 47.0**	**+1.0**
ZLN	**Zelenaya**	**5.00**	**23**	*e*P	**Pn**	**23 36 47.3**	**0.0**
ZLN	**Zelenaya**	**5.00**	**23**	PN	**Pn**	**23 36 47.3**	**0.0**
SRDR	**Sredinnyy**	**5.06**	**15**	*e*P	**Pn**	**23 36 49.3**	**+1.3**
SRDR	**Sredinnyy**	**5.06**	**15**	PN	**Pn**	**23 36 49.3**	**+1.3**
KRSR	**Krestovskiy**	**5.13**	**21**	*e*P	**Pn**	**23 36 48.6**	**-0.4**
KRSR	**Krestovskiy**	**5.13**	**21**	PN	**Pn**	**23 36 48.6**	**-0.4**
KLY	**Klyuchi**	**5.24**	**21**	*e*P	**Pn**	**23 36 51.0**	**+0.7**
KLY	**Klyuchi**	**5.24**	**21**	PN	**Pn**	**23 36 51.0**	**+0.7**
BDR	**Baidarnaya**	**5.60**	**23**	*e*P	**Pn**	**23 36 56.0**	**+0.7**
BDR	**Baidarnaya**	**5.60**	**23**	PN	**Pn**	**23 36 56.0**	**+0.7**
SRKR	**Sorokina**	**5.66**	**22**	*e*P	**Pn**	**23 36 57.0**	**+0.8**
SRKR	**Sorokina**	**5.66**	**22**	PN	**Pn**	**23 36 57.0**	**+0.8**
SMKR	**Semkarok**	**5.67**	**24**	*e*P	**Pn**	**23 36 56.4**	**+0.1**
SMKR	**Semkarok**	**5.67**	**24**	PN	**Pn**	**23 36 56.4**	**+0.1**
KBG	**Krutoberegovo**	**5.75**	**31**	*e*P	**Pn**	**23 36 56.2**	**-1.1**
KBG				*e*S	**Sn**	**23 37 59.7**	**-2.3**
KBG	**Krutoberegovo**	**5.75**	**31**	PN	**Pn**	**23 36 56.2**	**-1.1**
KBG				S	**Sn**	**23 37 59.7**	**-2.3**
KBTR	**Krutoberegovo**	**5.75**	**32**	*e*P	**Pn**	**23 36 56.6**	**-0.7**
KBTR	**Krutoberegovo**	**5.75**	**32**	PN	**Pn**	**23 36 56.6**	**-0.7**
BKI	**Bering**	**6.39**	**51**	*e*P	**Pn**	**23 37 04.1**	**-1.7**
BKI				*e*S	**Sn**	**23 38 09.2**	**-8.1**
BKI	**Bering**	**6.39**	**51**	PN	**Pn**	**23 37 04.1**	**-1.7**
KUR	**Kuril'sk**	**8.86**	**229**	*i* PN	**Pn**	**23 37 38.1**	**-1.1**
MA2	**Magadan**	**8.93**	**338**	P	**Pn**	**23 37 39.4**	**-0.6**
	comp=Z,3.2nm,0.3s,baz=147,slow=14,SNR=13						
MA2	**Magadan**	**8.93**	**338**	*de*PN	**Pn**	**23 37 40.1**	**+0.1**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MA2	**Magadan**	**8.93**	**338**	Pn	**Pn**	**23 37 38.8**	**-1.3**
SMY	**Shemya**	**10.40**	**76**	PN	**Pn**	**23 38 01.3**	**+1.4**
SMY	**Shemya**	**10.40**	**76**	Pn	**Pn**	**23 38 01.3**	**+1.4**
YSS	**Yuzh-Sakhalins**	**10.54**	**250**	*e*PN	**Pn**	**23 38 04.1**	**+2.2**
YSS				*e*S	**Sn**	**23 39 59.1**	**+1.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
YSS				MLR	MLR		
	comp=Z,100nm,13.0s						
SEY	**Seymchan**	**11.79**	**349**	P	**Pn**	**23 38 17.2**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=146,slow=11,SNR=2.2						
SEY	**Seymchan**	**11.79**	**349**	*i* PN	**Pn**	**23 38 18.8**	**+0.5**
JKA	**Kamikawa-asahi**	**12.32**	**239**	Pn	**Pn**	**23 38 26.7**	**+1.4**
ASAJ	**Asahikawa**	**12.32**	**239**	P	**Pn**	**23 38 27.4**	**+2.0**
	comp=Z,2.2nm,0.3s,baz=65,slow=12,SNR=66						
ERM	**Erimo**	**13.53**	**231**	*i* PN	**Pn**	**23 38 38.2**	**-2.9**
ERM	**Erimo**	**13.53**	**231**	Pn	**Pn**	**23 38 38.8**	**-2.3**
AMKA	**Amchitka**	**13.71**	**82**		**Pn**	**23 38 45.2**	**+1.9**
ADK	**Adak**	**16.11**	**78**	P	**Pn**	**23 39 12.5**	**-0.9**
ADK				pmax	pmax		
	comp=Z,22nm,1.1s						
ADK	**Adak**	**16.11**	**78**	Pn	**Pn**	**23 39 12.5**	**-0.9**
KLR	**Kul'dur**	**16.45**	**272**	P	**P**	**23 39 18.9**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=65,slow=12,SNR=28						
KLR	**Kul'dur**	**16.45**	**272**	*e*P	**P**	**23 39 19.2**	**+1.1**
KLR				pmax	pmax		
	comp=Z,23nm,1.1s						
YAK	**Yakutsk**	**18.32**	**316**	P	**P**	**23 39 36.8**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=283,slow=2.4,SNR=15						
YAK	**Yakutsk**	**18.32**	**316**	*e*P	**P**	**23 39 37.2**	**-1.3**
YAK				*e*S	**S**	**23 42 59.8**	**-1.4**
YAK				pmax	pmax		
	comp=Z,29nm,1.0s						
YAK				pmax	pmax		
	com

GTA LR LR
comp=E,58nm,16.5s
GTA LR LR
comp=Z,65nm,15.6s
ZALV Zalesovo Beam 42.22 303 P P 23 43 12.8 -1.8
comp=Z,0.6nm,0.3s,baz=65,slow=8.4,SNR=2.3
ZALV PcP **PcP 23 45 06.7 +0.6**
comp=Z,1.9nm,0.5s,baz=81,slow=3.6,SNR=6.9
DGZ Jazzator, Alta 42.86 296 *i* P **P 23 43 20.1 +0.1**
DGZ *i* *PP **pP 23 43 48.7 +0.6**
DGZ *i* *SP **sP 23 44 02.9 +0.7**
DGZ pmax pmax
comp=Z,4.0nm,0.7s
RES Resolute Bay 45.46 21 P P 23 43 40.6 +0.5
comp=Z,1.6nm,0.4s,baz=334,slow=5.4,SNR=1.4
GYA Guiyang 45.47 257 *eP* **P 23 43 44.5 +3.5**
GYA pmax pmax
comp=Z,5.0nm,1.0s
YKA Yellowknife Ar 45.51 41 P P 23 43 42.1 +1.5
comp=Z,6.8nm,0.9s,baz=300,slow=8.1,SNR=8.9
WMQ Urumqi 45.89 289 *eP* **P 23 43 45.3 +1.2**
KURK Kurchatov 47.14 302 *ceP* **P 23 43 52.4 -1.2**
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURK Kurchatov 47.14 302 P P 23 43 52.6 -1.0
MK31 Makanchi Array 47.32 295 *eP* **P 23 43 53.8 -1.3**
MKAR Makanchi Array 47.32 295 P P 23 43 54.0 -1.1
comp=Z,1.9nm,0.5s,baz=56,slow=6.1,SNR=29
MKAR pP **pP 23 44 23.6 -0.1**
comp=Z,1.7nm,0.6s,baz=55,slow=6.7,SNR=5.0
MKAR ScP **ScP 23 49 06.5 +0.4**
comp=Z,0.4nm,0.7s,baz=23,slow=4.1,SNR=3.9
MKAR Makanchi Array 47.32 295 P P 23 43 53.8 -1.3
MAKZ Makanchi 47.49 296 P P 23 43 55.3 -1.1
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MAKZ Makanchi 47.49 296 P P 23 43 55.3 -1.1
KMI Kunming 48.85 259 *ll eP* **P 23 44 08.0 +0.7**
KMI pmax pmax
comp=Z,7.0nm,0.5s
KMI pmax pmax
comp=Z,50nm,4.1s
NLWA Neilton Lookou 49.08 62 P P 23 44 08.0 -0.6
NLWA IAmb IAmb 23 44 11.8
comp=Z,10nm,0.9s
D03D Eldon 49.43 61 P P 23 44 13.1 +1.9
baz=306
B05A Bryant 49.54 60 P P 23 44 13.7 +1.7
baz=306
E03A Lebam 49.75 63 P P 23 44 14.3 +0.7
BRVK Borovoye 50.09 308 P P 23 44 14.5 -1.6
BRVK pmax pmax
comp=Z,3.0nm,0.4s
BRVK Borovoye 50.09 308 P P 23 44 14.5 -1.6
BRVK IAmb IAmb 23 44 15.1
comp=Z,2.9nm,0.4s
F03A Seaside 50.12 63 P P 23 44 17.3 +0.8
E04D Cinebar 50.30 62 P P 23 44 20.0 +2.3
baz=307
F04A Amboy 50.75 63 P P 23 44 20.6 -0.6
F04A IAmb IAmb 23 44 24.2
comp=Z,10.0nm,0.8s
LTY Liberty 50.91 60 P P 23 44 23.1 +0.6
B08A Colville Reser 50.97 59 P P 23 44 23.4 +0.6
B08A IAmb IAmb 23 44 25.3
comp=Z,8.6nm,1.1s
H04D Lebanon 51.44 64 P P 23 44 29.0 +2.6
baz=308
I03D Drain, OR 51.60 65 P P 23 44 30.0 +2.5
baz=309
HAWA Hanford 52.06 61 P P 23 44 31.3 +0.4
I04A Tendick Farm, 52.07 65 P P 23 44 33.0 +1.9
baz=309
F07A Phinny Hill Vi 52.15 61 P P 23 44 32.9 +1.2
NEW Newport 52.20 57 P P 23 44 33.3 +1.2
baz=308
NEW Newport 52.20 57 P P 23 44 32.1 +0.1
NEW pmax pmax
comp=Z,3.0nm,0.9s
NEW Newport 52.20 57 P P 23 44 32.1 +0.1
L02E Cave Junction 52.42 67 P P 23 44 36.5 +2.8
baz=310
J04D Umpqua Nationa 52.59 65 P P 23 44 37.8 +2.7
baz=309
E09A Wood Farm, Sta 52.74 60 P P 23 44 36.7 +0.8
E09A IAmb IAmb 23 44 38.3
comp=Z,7.6nm,0.9s
PINE Pine Mountain 52.90 64 P P 23 44 38.1 +0.7
PINE IAmb IAmb 23 44 40.9
comp=Z,6.3nm,0.9s
J05D Fort Rock, OR 53.06 65 P P 23 44 41.2 +2.7
baz=310,SNR=8.9
L04D Klamath Falls 53.13 66 P P 23 44 41.7 +2.7
baz=310,SNR=6.9
YBH Yreka Blue Hor 53.20 67 P P 23 44 42.2 +2.7
comp=Z,4.8nm,0.7s,baz=316,slow=1.7,SNR=19
YBH Yreka Blue Hor 53.20 67 P P 23 44 40.7 +1.2
YBH pmax pmax
comp=Z,6.0nm,0.8s
YBH Yreka Blue Hor 53.20 67 P P 23 44 40.7 +1.2
YBH IAmb IAmb 23 44 43.0
comp=Z,6.0nm,0.8s
M02C Callahan 53.34 67 P P 23 44 43.7 +3.2
baz=310
WALA Waterton Lakes 53.38 55 IAmb IAmb 23 44 43.0
comp=Z,7.1nm,0.7s
ARU Arti 53.43 317 *c iP* **P 23 44 38.9 -1.9**
ARU *PP **pP 23 45 08.0 -2.1**
ARU 23 45 42.8
ARU S **S 23 52 03.3 +0.2**
ARU SS **SKiKP 23 55 40.8 -2.1**
ARU pmax pmax
comp=Z,3.0nm,0.4s
ARU Arti 53.43 317 P P 23 44 39.0 -1.8
I07A Izee 53.52 63 P P 23 44 43.0 +1.1
KMRM Mail Ridge 53.59 69 P P 23 44 43.3 +0.9
K05A Summer Lake 53.61 65 P P 23 44 43.7 +1.1
K05A IAmb IAmb 23 44 47.0
comp=Z,11nm,1.1s
M04C Macdoel 53.67 66 P P 23 44 45.7 +2.7
baz=310
N02D Trinity Center 53.69 68 P P 23 44 46.2 +3.1
baz=310,SNR=7.5
JTMT Jette 54.01 56 P P 23 44 44.5 -0.9
JTMT IAmb IAmb 23 44 48.8
comp=Z,5.4nm,0.9s
KCPM Cahto Peak 54.02 69 P P 23 44 45.1 -0.4
O02D Mt. Diablo Mer 54.16 69 P P 23 44 49.4 +2.9
baz=311,SNR=5.2
BMO Blue Mountains 54.24 61 P P 23 44 48.3 +1.2
BMO pmax pmax
comp=Z,3.0nm,0.7s
BMO Blue Mountains 54.24 61 P P 23 44 48.3 +1.2
AAK Ala-Archa 54.25 296 *ceP* **P 23 44 46.1 -1.1**
AAK pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 54.28 341 P P 23 44 46.5 -0.3
comp=Z,1.9nm,0.9s,baz=31,slow=7.5,SNR=6.4
ARCES PcP **PcP 23 45 50.1 +0.7**
comp=Z,2.1nm,0.8s,baz=15,slow=3.7,SNR=5.3
MOD Modoc Plateau 54.47 65 P P 23 44 50.9 +2.1
J08A Circle Bar Ran 54.56 63 P P 23 44 50.8 +1.4
O03E Paynes Creek 54.66 68 P P 23 44 51.9 +1.8
baz=311,SNR=9.7
MSO Missoula 54.78 57 P P 23 44 52.3 +1.4
baz=310
MSO Missoula 54.78 57 P P 23 44 52.4 +1.5
GDXM Geysers 55.05 70 P P 23 44 54.7 +1.8
GDXM IAmb IAmb 23 44 56.8
comp=Z,8.1nm,0.9s
WVOR Wild Horse Val 55.07 64 P P 23 44 54.4 +1.3
WVOR pmax pmax
comp=Z,11nm,1.0s
WVOR Wild Horse Val 55.07 64 P P 23 44 54.4 +1.3
WVOR IAmb IAmb 23 44 56.4
comp=Z,11nm,0.9s
ORV Oroville 55.32 68 P P 23 44 55.3 +0.6
ORV pmax pmax
comp=Z,6.0nm,0.9s
ORV Oroville 55.32 68 P P 23 44 55.3 +0.6
ORV IAmb IAmb 23 44 57.3
comp=Z,6.2nm,0.8s
FFC Flin Flon 55.38 44 P P 23 44 55.8 +0.9
FFC pmax pmax
comp=Z,9.0nm,0.9s
FFC Flin Flon 55.38 44 P P 23 44 55.8 +0.9
FFC IAmb IAmb 23 44 57.2
comp=Z,8.8nm,0.9s
CHTO Chiang Mai 55.89 257 P P 23 44 59.0 -0.1
CHTO pmax pmax
comp=Z,4.0nm,0.6s
CHTO Chiang Mai 55.89 257 P P 23 44 59.0 -0.1
CHTO IAmb IAmb 23 45 01.1
comp=Z,4.3nm,0.6s
CM31 Chiang Mai Arr 56.16 257 P P 23 45 01.4 +0.4
CM31 IAmb IAmb 23 45 04.6
comp=Z,3.7nm,0.7s
CMAR Chiang Mai Arr 56.16 257 P P 23 45 03.0 +1.9
comp=Z,2.6nm,0.6s,baz=33,slow=7.2,SNR=17
CMAR pP **pP 23 45 32.8 +2.4**
comp=Z,1.1nm,0.6s,baz=31,slow=6.9,SNR=2.1
KK31 Karatay Array 56.17 298 P P 23 45 00.0 -0.8
KK31 pmax pmax
comp=Z,2.0nm,0.9s
KK31 Karatay Array 56.17 298 P P 23 45 00.0 -0.8
KKAR Karatay Array 56.17 298 P P 23 44 59.3 -1.5
KKAR pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 56.17 298 P P 23 44 59.5 -1.3
KKAR Karatay Array 56.17 298 P P 23 44 59.3 -1.5
KKAR IAmb IAmb 23 45 00.6
comp=Z,1.7nm,0.9s
LRM Limekiln Ridge 56.22 57 P P 23 45 02.7 +1.3
PBKT Sadao Pong 56.39 253 P P 23 45 02.5 -0.1
PBKT IAmb IAmb 23 45 05.3
comp=Z,3.2nm,0.6s
PAHR Pah Rah Range 56.44 67 P P 23 45 04.0 +1.0
PAHR IAmb IAmb 23 45 06.8
comp=Z,6.9nm,1.0s
HLID Hailey 56.66 60 P P 23 45 06.4 +1.9
baz=312,SNR=5.2
MCMT McKenzie Canyo 56.67 58 P P 23 45 04.7 +0.1
BCYI Bear Canyon 56.71 59 P P 23 45 06.2 +1.3
PNTR Pine Nut 56.73 68 P P 23 45 06.0 +1.0
BOZ Bozeman (W) 56.80 57 P P 23 45 07.3 +1.9
baz=312,SNR=8.3
BOZ Bozeman (W) 56.80 57 P P 23 45 06.6 +1.2
BOZ pmax pmax
comp=Z,4.0nm,0.6s
BOZ Bozeman (W) 56.80 57 P P 23 45 06.6 +1.2
BOZ IAmb IAmb 23 45 07.7
comp=Z,4.1nm,0.6s
CMB Columbia Colle 56.98 69 P P 23 45 08.0 +1.4
CMB pmax pmax
comp=Z,3.0nm,0.8s
CMB Columbia Colle 56.98 69 P P 23 45 08.0 +1.4
YERR Yerington 57.00 67 P P 23 45 08.6 +1.6
YERR IAmb IAmb 23 45 10.3
comp=Z,8.2nm,1.0s
WAKR Walker 57.21 68 P P 23 45 09.7 +1.3
WAKR IAmb IAmb 23 45 11.9
comp=Z,7.0nm,0.7s
QLMT Earthquake Lak 57.42 58 P P 23 45 11.1 +1.3
ABKAR Akbulak array 57.53 310 P P 23 45 08.3 -1.9
YHB Horse Butte 57.59 58 P P 23 45 10.2 -0.9
KVN Kaiserville 57.62 67 P P 23 45 12.3 +1.0
KVN pmax pmax
comp=Z,11nm,1.1s
KVN Kaiserville 57.62 67 P P 23 45 12.3 +1.0
KVN IAmb IAmb 23 45 14.6
comp=Z,11nm,1.1s
RYN Ryan 57.66 67 P P 23 45 13.1 +1.6
RYN IAmb IAmb 23 45 14.8
comp=Z,6.3nm,0.9s
NVAR Mina Array Bea 57.92 67 P P 23 45 15.9 +2.5
comp=Z,4.4nm,0.6s,baz=298,slow=7.5,SNR=31
NVAR Mina Array Bea 57.92 67 P P 23 45 14.7 +1.3
LHV Little Huntoon 57.92 68 P P 23 45 14.4 +1.3
NV11 Mina Array Sit 58.00 67 P P 23 45 14.7 +0.8
OMMB Old Mammoth Mi 58.07 68 P P 23 45 15.2 +0.6
IMW Indian Meadow 58.31 58 P P 23 45 17.2 +1.1
IMW IAmb IAmb 23 45 19.8
comp=Z,4.5nm,0.9s
FLWY Flagg Ranch 58.31 58 P P 23 45 17.8 +1.7
FLWY IAmb IAmb 23 45 19.9
comp=Z,7.3nm,0.9s
RLMT Red Lodge 58.35 56 P P 23 45 18.8 +2.4
baz=313,SNR=7.8
RLMT Red Lodge 58.35 56 P P 23 45 17.3 +1.0
FXWY Fox Creek 58.44 58 P P 23 45 17.9 +1.0
FXWY IAmb IAmb 23 45 20.4
comp=Z,4.5nm,0.9s
TPAW Teton Pass 58.58 58 P P 23 45 18.2 +0.2
TPAW IAmb IAmb 23 45 20.9
comp=Z,4.2nm,0.8s
DGMT Dagmar 58.60 50 P P 23 45 18.4 +0.6
LOHW Long Hollow 58.68 58 IAmb IAmb 23 45 22.3
comp=Z,5.7nm,1.0s
SNOW Snow King Moun 58.70 58 P P 23 45 20.6 +1.8
SNOW IAmb IAmb 23 45 22.6
comp=Z,6.0nm,1.0s
REDW Red Top Meadow 58.72 59 P P 23 45 18.6 -0.3
REDW IAmb IAmb 23 45 22.7
comp=Z,6.8nm,1.1s
LAO LASA Array 58.83 53 P P 23 45 21.7 +2.2
baz=314,SNR=5.6
LAO LASA Array 58.83 53 P P 23 45 19.3 -0.1
AHID Auburn Hatcher 58.99 59 P P 23 45 22.6 +1.9
AHID IAmb IAmb 23 45 23.9
comp=Z,7.8nm,1.1s
BGU Big Grassy Mou 59.20 62 P P 23 45 22.3 +0.1
SPUT South Promonto 59.26 61 P P 23 45 23.9 +1.4
CWC Cottonwood Cre 59.41 69 P P 23 45 25.8 +2.1
baz=314
PKM Mcpherson Peak 59.46 71 P P 23 45 26.4 +2.3
baz=314
R11A Troy Canyon, C 59.53 66 P P 23 45 26.6 +2.1
baz=314,SNR=8.3
HWUT Hardware Ranch 59.53 60 P P 23 45 25.6 +1.0
HWUT IAmb IAmb 23 45 27.9
comp=Z,5.6nm,0.9s
ISA Isabella, Lake 59.72 70 P P 23 45 26.1 +0.4
ISA pmax pmax
comp=Z,4.0nm,1.1s
ISA Isabella, Lake 59.72 70 P P 23 45 26.1 +0.4
BW06 Boulder Array 59.81 58 P P 23 45 28.6 +2.2
baz=314
BW06 Boulder Array 59.81 58 IAmb IAmb 23 45 29.3
comp=Z,6.0nm,0.8s
PD31 Pinedale Array 59.81 58 P P 23 45 28.2 +1.7
PD31 IAmb IAmb 23 45 29.3
comp=Z,6.7nm,0.9s
PDAR Pinedale Array 59.81 58 P P 23 45 28.2 +1.7
comp=Z,5.4nm,0.8s,baz=319,slow=2.6,SNR=40
DUG Dugway, Tooele 59.82 62 P P 23 45 28.8 +2.4
baz=314,SNR=5.1
DUG Dugway, Tooele 59.82 62 IAmb IAmb 23 45 29.8
comp=Z,6.3nm,1.0s
CHGR Chuyangaron 59.93 295 P P 23 45 26.9 -0.2
MPMC Manual Prospec 60.02 69 P P 23 45 30.0 +2.1
baz=314,SNR=7.5
CTU Camp Tracy 60.06 61 P P 23 45 28.9 +0.8
FURC Furnace Creek, 60.10 68 P P 23 45 30.7 +2.6
baz=314,SNR=14
TPNV Topopah Spring 60.12 67 P P 23 45 30.8 +2.2
baz=314,SNR=10
TPNV Topopah Spring 60.12 67 IAmb IAmb 23 45 31.7
comp=Z,7.3nm,0.8s
OSI Osito Audit: C 60.30 71 P P 23 45 32.4 +2.7
baz=315
LRMC Laurel Mtn Rad 60.31 69 P P 23 45 31.8 +2.0
baz=315
PSUT Pine Spring 60.39 64 P P 23 45 31.8 +1.3
PRN Pahroc Range 60.49 66 P P 23 45 32.2 +1.2
PRN IAmb IAmb 23 45 33.8
comp=Z,4.3nm,0.6s
EDW2 Edwards Air Fo 60.54 70 P P 23 45 33.3 +2.0
baz=315
MPU Maple Canyon 60.60 62 P P 23 45 32.7 +0.9
FINES FINESS Array B 60.91 336 P P 23 45 32.0 -1.3
comp=Z,1.3nm,0.5s,baz=37,slow=7.9,SNR=18
FINES PcP **PcP 23 46 15.1 -0.4**
comp=Z,1.1nm,0.5s,baz=33,slow=3.3,SNR=4.7
GSC Goldstone, Bar 60.94 69 P P 23 45 36.1 +2.1
baz=315
GSC Goldstone, Bar 60.94 69 P P 23 45 34.9 +0.8
GSC pmax pmax
comp=Z,6.0nm,0.9s
GSC Goldstone, Bar 60.94 69 P P 23 45 34.9 +0.8
GSC IAmb IAmb 23 45 37.0
comp=Z,6.0nm,0.8s
NIL Nilore 61.04 289 P P 23 45 34.7 0.0
NIL pmax pmax
comp=Z,6.0nm,0.7s
NIL Nilore 61.04 289 P P 23 45 34.7 0.0
NIL IAmb IAmb 23 45 36.1
comp=Z,5.9nm,0.7s
SHPR Sheep Range 61.05 67 P P 23 45 35.8 +0.9
ULM Lac du Bonnet 61.17 45 P P 23 45 36.0 +0.7
comp=Z,4.2nm,0.7s,baz=329,slow=6.0,SNR=4.7
ULM Lac du Bonnet 61.17 45 P P 23 45 36.0 +0.7
ULM Lac du Bonnet 61.17 45 IAmb IAmb 23 45 37.1
comp=Z,5.8nm,0.8s
BFSC Mount Baldy Ra 61.19 70 P P 23 45 37.8 +2.0
baz=315
TMUT Trail Mountain 61.33 62 P P 23 45 37.4 +0.5
RDMU Red Mountain 61.34 60 P P 23 45 37.5 +0.7
MSU Marysvale 61.34 63 P P 23 45 38.1 +1.2
MSU Marysvale 61.34 63 P P 23 45 38.0 +1.2
CCUT Cedar City 61.35 65 P P 23 45 37.8 +0.9
TUQ Turquoise Moun 61.36 68 P P 23 45 38.9 +1.9
baz=315
P17A Butcher Ranch, 61.47 62 P P 23 45 39.1 +1.5
HEC Hector,Ludlow 61.55 69 P P 23 45 40.3 +2.1
baz=315,SNR=6.2
Q16A Castle Valley 61.62 62 P P 23 45 40.2 +1.5
MTPU Mount Pierson 61.67 64 P P 23 45 40.5 +1.3
RSSD Black Hills 61.73 54 P P 23 45 41.0 +1.6
baz=316
RSSD Black Hills 61.73 54 P P 23 45 40.0 +0.6
RSSD pmax pmax
comp=Z,9.0nm,0.8s
RSSD Black Hills 61.73 54 P P 23 45 40.0 +0.6
LCMT Little Creek M 61.80 65 P P 23 45 40.5 +0.7
RWWY Rawlins 61.81 58 P P 23 45 40.4 +0.3
RWWY IAmb IAmb 23 45 42.5
comp=Z,6.7nm,0.8s
SRU San Rafael Swe 61.84 62 P P 23 45 41.7 +1.5
SRU pmax pmax
comp=Z,12nm,0.9s
SRU San Rafael Swe 61.84 62 P P 23 45 41.6 +1.5
GMRC Granite Mounta 61.97 69 P P 23 45 43.2 +2.1
baz=315,SNR=5.9
KNB Kanab 62.03 65 P P 23 45 41.8 +0.3
KNB Kanab 62.03 65 P P 23 45 41.8 +0.3
BELC Belle Mtn. Jos 62.33 69 P P 23 45 45.0 +1.6
baz=316
PFO Pinyon Flats O 62.33 70 P P 23 45 45.1 +1.6
baz=316
O20A White River Ci 62.36 60 P P 23 45 45.5 +1.8
baz=316
O20A White River Ci 62.36 60 P P 23 45 44.1 +0.4
O20A IAmb IAmb 23 45 46.3
comp=Z,4.6nm,0.8s
AGMN Agassiz Nation 62.61 46 P P 23 45 45.3 +0.4
baz=318
IRM Iron Mountain 62.72 69 P P 23 45 48.0 +2.2
baz=316,SNR=7.8
W13A Hualapai Mount 62.78 67 P P 23 45 46.9 +0.3
BC3 Big Chuckawall 62.89 69 P P 23 45 48.9 +1.7
baz=316
OBN Obninsk 62.94 326 *eP* **P 23 45 45.6 -1.3**
OBN *e* 23 48 04.7
OBN pmax pmax
comp=Z,3.0nm,1.0s
N23A Red Feather La 63.05 58 P P 23 45 50.6 +2.3
baz=316,SNR=5.2
N23A Red Feather La 63.05 58 P P 23 45 49.6 +1.3
N23A IAmb IAmb 23 45 51.2
comp=Z,6.5nm,0.8s
PV21 Cone Mtn., Par 63.08 61 P P 23 45 49.6 +1.1
PV21 IAmb IAmb 23 45 51.4
comp=Z,6.8nm,0.8s
CBX Cerro Bola 63.14 71 P P 23 45 49.3 +0.5
PV23 Carpenter Ridg 63.14 61 P P 23 45 49.7 +0.8
PV10 Paradox Valley 63.18 62 P P 23 45 50.8 +1.6
PV14 Lion Creek, Pa 63.19 62 P P 23 45 49.3 +0.1
PV14 IAmb IAmb 23 45 52.0
comp=Z,8.4nm,1.0s
PV22 Blue Mesa, Par 63.20 61 P P 23 45 50.5 +1.3
PV22 IAmb IAmb 23 45 52.1
comp=Z,7.3nm,0.8s
PV04 Paradox Valley 63.24 61 P P 23 45 51.0 +1.5
PV20 West Nyswonger 63.24 61 P P 23 45 50.1 +0.6
PV20 IAmb IAmb 23 45 52.3
comp=Z,6.7nm,0.7s
PV19 Morning Glory 63.26 62 P P 23 45 50.2 +0.5
PV17 East Wray Mesa 63.29 62 P P 23 45 51.3 +1.4
PV16 Nyswonger Mesa 63.29 61 P P 23 45 51.3 +1.4
PV16 IAmb IAmb 23 45 52.7
comp=Z,9.5nm,0.9s
PV18 Skein Mesa, Pa 63.34 62 P P 23 45 51.3 +1.1
PV07 Paradox Valley 63.35 61 P P 23 45 50.8 +0.5
PV12 Saucer Basin, 63.35 61 P P 23 45 51.0 +0.7
PV12 IAmb IAmb 23 45 55.4
comp=Z,6.1nm,0.7s
PV05 Paradox Valley 63.36 62 P P 23 45 51.7 +1.4
PV03 Paradox Valley 63.37 61 P P 23 45 50.7 +0.3
PV03 IAmb IAmb 23 45 53.2
comp=Z,9.4nm,1.0s
PV13 Radium Mtn., P 63.46 62 P P 23 45 52.1 +1.1
PV02 Paradox Valley 63.47 61 P P 23 45 51.7 +0.7
PV02 IAmb IAmb 23 45 53.4
comp=Z,4.5nm,0.7s
PV15 Paradox Valley 63.51 61 P P 23 45 52.3 +0.9
PV01 Paradox Valley 63.61 61 P P 23 45 52.7 +0.7
WUAZ Wupatki 63.92 65 P P 23 45 56.6 +2.6
baz=316
WUAZ Wupatki 63.92 65 P P 23 45 55.0 +1.1
WUAZ IAmb IAmb 23 45 58.0
comp=Z,5.7nm,1.1s
ISCO Idaho Springs 64.01 58 P P 23 45 56.9 +2.2
baz=317,SNR=7.5
ISCO Idaho Springs 64.01 58 P P 23 45 55.6 +0.9
ISCO pmax pmax
comp=Z,6.0nm,1.1s
ISCO Idaho Springs 64.01 58 P P 23 45 55.6 +0.9
ISCO IAmb IAmb 23 45 58.0
comp=Z,6.3nm,1.1s
Y14A Wickenburg 64.12 68 P P 23 45 56.8 +1.7
Y14A IAmb IAmb 23 45 58.2
comp=Z,6.1nm,1.1s
F33A 5 Mile Ranch, 64.24 48 IAmb IAmb 23 45 58.1
comp=Z,8.7nm,0.9s
MVCO Mesa Verde 64.31 62 P P 23 45 58.6 +2.0
baz=317
MVCO Mesa Verde 64.31 62 P P 23 45 57.5 +0.9
MVCO IAmb IAmb 23 45 59.4
comp=Z,7.5nm,0.9s
NB2 NORSAR Subarra 64.60 343 P P 23 45 56.2 -1.6
comp=Z,0.7nm,0.4s,baz=23,slow=6.5
NOA NORSAR Array B 64.60 343 P P 23 45 56.3 -1.5
comp=Z,0.4nm,0.3s,baz=27,slow=6.4,SNR=9.4
X16A Lo Mia Camp, P 64.67 66 P P 23 46 00.7 +1.8
X16A IAmb IAmb 23 46 02.3
comp=Z,6.3nm,0.9s
EYMN Ely 64.81 44 P P 23 45 59.8 +0.4
baz=320
EYMN Ely 64.81 44 P P 23 45 59.7 +0.4
NORES NORESS Array B 64.82 342 P P 23 45 58.7 -0.5
S22A 4UR Ranch, Cre 64.84 61 P P 23 46 02.7 +2.6
baz=317,SNR=7.5
S22A 4UR Ranch, Cre 64.84 61 P P 23 46 01.4 +1.3
S22A IAmb IAmb 23 46 03.5
comp=Z,6.1nm,1.1s
SDCO Great Sand Dun 65.56 60 P P 23 46 06.7 +2.0
baz=317
SDCO Great Sand Dun 65.56 60 P P 23 46 05.3 +0.6
214A Organ Pipe Nat 65.66 69 P P 23 46 07.0 +1.9
baz=317
214A Organ Pipe Nat 65.66 69 P P 23 46 05.5 +0.4
ECSD EROS Data Cent 65.67 50 P P 23 46 05.8 +0.8
baz=319
ECSD EROS Data Cent 65.67 50 P P 23 46 04.8 -0.2
ECSD IAmb IAmb 23 46 06.7
comp=Z,7.9nm,1.0s
SPMN Marine on St. 66.31 47 P P 23 46 09.8 +0.7
baz=320
SPMN Marine on St. 66.31 47 P P 23 46 09.3 +0.2
SPMN IAmb IAmb 23 46 11.1
comp=Z,7.7nm,0.9s
GEYT Alibeck 66.52 302 P P 23 46 09.9 -0.6
comp=Z,1.2nm,0.4s,baz=30,slow=4.4,SNR=4.7
TUC Tucson 66.58 67 P P 23 46 12.5 +1.5
TUC pmax pmax

	comp=Z,2.0nm,0.7s							
TUC	**Tucson**	**66.58**	**67**	P	**P**	**23 46 12.5**	**+1.5**
T25A	**Trinidad**	**66.60**	**60**	P	**P**	**23 46 12.9**	**+1.6**
	baz=318							
L34A	**Svendsen Farm,**	**67.11**	**51**	P	**P**	**23 46 14.2**	**0.0**
L34A				IAmb	IAmb	23 46 16.4		
	comp=Z,9.8nm,0.8s							
BNM	**Barren Site**	**67.58**	**63**	P	**P**	**23 46 18.4**	**+0.8**
LHMI	**Lhok Sumawe**	**67.76**	**249**	P	**P**	**23 46 20.4**	**+1.8**
SCHQ	**Schefferville**	**67.86**	**26**	P	**P**	**23 46 18.4**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=305,slow=7.1,SNR=5.4							
SCHQ	**Schefferville**	**67.86**	**26**	IAmb	IAmb	23 46 19.6		
	comp=Z,5.8nm,1.1s							
121A	**Cookes Peak, D**	**68.13**	**65**	P	**P**	**23 46 24.0**	**+3.1**
	baz=318							
SCIA	**State Center**	**68.68**	**49**	P	**P**	**23 46 24.6**	**+0.7**
AKASG	**Malin Array Be**	**69.10**	**328**	P	**P**	**23 46 23.8**	**-2.6**
	comp=Z,1.5nm,0.4s,baz=30,slow=6.5,SNR=5.0							
AKASG	**Malin Array Be**	**69.10**	**328**	*i* P	**P**	**23 46 24.2**	**-2.2**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.4s							
AKASG	**Malin Array Be**	**69.10**	**328**	IAmb	IAmb	23 46 31.2		
	comp=Z,0.6nm,0.6s							
AKBB	**Malin Array Si**	**69.10**	**328**	*i* P	**P**	**23 46 25.0**	**-1.4**
AKBB				pmax	pmax			
	comp=Z,1.0nm,1.0s							
MSTX	**Muleshoe**	**69.85**	**61**	P	**P**	**23 46 33.0**	**+1.6**
	baz=319							
MSTX	**Muleshoe**	**69.85**	**61**	P	**P**	**23 46 32.6**	**+1.2**
MSTX				IAmb	IAmb	23 46 34.2		
	comp=Z,10nm,1.1s							
MNTX	**Cornudas Mount**	**70.11**	**64**	P	**P**	**23 46 35.0**	**+2.1**
	baz=319,SNR=12							
MNTX	**Cornudas Mount**	**70.11**	**64**	P	**P**	**23 46 34.1**	**+1.2**
MNTX				IAmb	IAmb	23 46 35.9		
	comp=Z,5.5nm,0.8s							
P38A	**Dawn**	**70.29**	**51**	P	**P**	**23 46 33.9**	**0.0**
P38A				IAmb	IAmb	23 46 35.4		
	comp=Z,4.6nm,0.7s							
GDL2	**Guadalupe Moun**	**70.30**	**63**	P	**P**	**23 46 35.8**	**+1.6**
D53A	**Lac Vacive, Po**	**71.06**	**36**	P	**P**	**23 46 38.7**	**+0.3**
	baz=326							
P40A	**Paris**	**71.08**	**50**	P	**P**	**23 46 38.5**	**-0.2**
P40A				IAmb	IAmb	23 46 40.3		
	comp=Z,5.5nm,0.8s							
WMOK	**Wichita Mounta**	**71.41**	**58**	P	**P**	**23 46 42.1**	**+1.3**
	baz=320,SNR=6.4							
WMOK	**Wichita Mounta**	**71.41**	**58**	P	**P**	**23 46 41.3**	**+0.5**
WMOK				pmax	pmax			
	comp=Z,5.0nm,0.7s							
WMOK	**Wichita Mounta**	**71.41**	**58**	P	**P**	**23 46 41.3**	**+0.5**
WMOK				IAmb	IAmb	23 46 42.7		
	comp=Z,5.4nm,0.7s							
FNO	**Franklin**	**71.73**	**56**	P	**P**	**23 46 43.8**	**+1.1**
L46A	**Eue Claire**	**71.75**	**45**	P	**P**	**23 46 42.8**	**+0.2**
R40A	**Maddies Statio**	**71.95**	**51**	IAmb	IAmb	23 46 45.1		
	comp=Z,10nm,1.1s							
TUL1	**Leonard**	**72.05**	**55**	P	**P**	**23 46 44.4**	**-0.2**
TUL1				IAmb	IAmb	23 46 46.3		
	comp=Z,8.3nm,0.8s							
W35A	**Tecumseh**	**72.08**	**56**	P	**P**	**23 46 45.2**	**+0.4**
P43A	**Skaggs, Pawnee**	**72.19**	**48**	P	**P**	**23 46 44.9**	**-0.5**
O44A	**Mansfield**	**72.27**	**47**	P	**P**	**23 46 46.0**	**+0.2**
O44A				IAmb	IAmb	23 46 46.8		
	comp=Z,7.2nm,0.8s							
EKA	**Eskdalemuir Ar**	**72.33**	**348**	P	**P**	**23 46 48.5**	**+2.6**
U38A	**Gravette**	**72.36**	**53**	IAmb	IAmb	23 46 47.5		
	comp=Z,5.2nm,0.7s							
D57A	**Chemin Vers le**	**72.49**	**34**	P	**P**	**23 46 47.5**	**+0.5**
	baz=330							
ABTX	**Abilene, Hawle**	**72.57**	**60**	P	**P**	**23 46 49.1**	**+1.4**
	baz=321							
ABTX	**Abilene, Hawle**	**72.57**	**60**	P	**P**	**23 46 48.2**	**+0.5**
ABTX				IAmb	IAmb	23 46 49.9		
	comp=Z,6.4nm,0.8s							
CCM	**Cathedral Cave**	**72.63**	**50**	P	**P**	**23 46 48.5**	**+0.5**
	baz=323							
CCM	**Cathedral Cave**	**72.63**	**50**	P	**P**	**23 46 48.5**	**+0.5**
CCM				pmax	pmax			
	comp=Z,6.0nm,1.0s							
CCM	**Cathedral Cave**	**72.63**	**50**	P	**P**	**23 46 48.5**	**+0.5**
HHAR	**Hobbs**	**72.70**	**53**	P	**P**	**23 46 49.0**	**+0.5**
MGMO	**Mountain Grove**	**72.84**	**52**	P	**P**	**23 46 48.3**	**-1.0**
TX31	**Lajitas Ar. Si**	**72.86**	**64**	P	**P**	**23 46 50.9**	**+1.4**
TXAR	**Lajitas Array**	**72.86**	**64**	P	**P**	**23 46 51.5**	**+1.9**
	comp=Z,11nm,0.6s,baz=298,slow=4.6,SNR=184							
TXAR	**Lajitas Array**	**72.86**	**64**	P	**P**	**23 46 51.4**	**+1.8**
E57A	**Chemin Saint G**	**72.92**	**34**	P	**P**	**23 46 49.8**	**+0.3**
	baz=330							
Q44A	**Meyer Farm, Va**	**73.01**	**48**	P	**P**	**23 46 49.8**	**-0.4**
PLVO	**Plevna**	**73.02**	**37**	P	**P**	**23 46 49.5**	**-0.6**
PLVO				IAmb	IAmb	23 46 51.4		
	comp=Z,8.6nm,1.0s							
BUR08	**Bucovina Ar. S**	**73.07**	**328**	P	**P**	**23 46 49.4**	**-1.2**
FVM	**French Village**	**73.08**	**50**	P	**P**	**23 46 51.3**	**+0.6**
FVM				pmax	pmax			
	comp=Z,9.0nm,0.8s							
FVM	**French Village**	**73.08**	**50**	P	**P**	**23 46 51.3**	**+0.6**
FVM				IAmb	IAmb	23 46 52.1		
	comp=Z,8.6nm,0.8s							
U40A	**Yellville**	**73.19**	**52**	P	**P**	**23 46 51.8**	**+0.5**
	baz=322,SNR=10							
U40A	**Yellville**	**73.19**	**52**	P	**P**	**23 46 51.8**	**+0.5**
CLL	**Collm**	**73.23**	**338**	P	**P**	**23 46 50.7**	**-0.6**
CLL				pmax	pmax			
	comp=Z,3.0nm,0.4s							
CLL	**Collm**	**73.23**	**338**	P	**P**	**23 46 50.7**	**-0.6**
CLL				IAmb	IAmb	23 47 07.0		
	comp=Z,3.0nm,0.4s							
E58A	**La Victoria**	**73.26**	**34**	P	**P**	**23 46 52.1**	**+0.6**
	baz=330							
P46A	**Rosedale**	**73.28**	**47**	P	**P**	**23 46 51.6**	**-0.1**
KRLC	**Kraliky**	**73.41**	**335**	*e*P	P	23 47 00.5	+8.1
HPIG		**73.54**	**68**	P	**P**	**23 46 53.8**	**+0.1**
KOPT	**Kop Dagi**	**73.56**	**314**	P	**P**	**23 46 53.4**	**-0.3**
OLIL	**Olney**	**73.58**	**48**	P	**P**	**23 46 53.1**	**-0.4**
OLIL				IAmb	IAmb	23 46 54.9		
	comp=Z,7.5nm,0.8s							
F59A	**Saint Guilaume**	**73.88**	**34**	P	**P**	**23 46 55.4**	**+0.3**
	baz=330							
WRA	**Warramunga Arr**	**73.91**	**202**	P	**P**	**23 46 56.9**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=17,slow=6.2,SNR=7.0							
WRA	**Warramunga Arr**	**73.91**	**202**	*i* P	**P**	**23 46 56.4**	**+0.9**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
WRA	**Warramunga Arr**	**73.91**	**202**	P	**P**	**23 46 56.5**	**+0.9**
FCAR	**Ozark Folk Cen**	**73.92**	**52**	P	**P**	**23 46 55.7**	**+0.2**
JCT	**Junction City**	**74.13**	**61**	P	**P**	**23 46 58.4**	**+1.4**
	baz=321							
JCT	**Junction City**	**74.13**	**61**	P	**P**	**23 46 57.3**	**+0.4**
JCT				pmax	pmax			
	comp=Z,8.0nm,0.8s							
JCT	**Junction City**	**74.13**	**61**	P	**P**	**23 46 57.3**	**+0.4**
JCT				IAmb	IAmb	23 46 59.1		
	comp=Z,8.1nm,0.8s							
P48A	**Milroy**	**74.21**	**46**	P	**P**	**23 46 56.8**	**-0.4**
MIAR	**Mount Ida**	**74.25**	**54**	P	**P**	**23 46 58.3**	**+0.8**
	baz=322							
MIAR	**Mount Ida**	**74.25**	**54**	P	**P**	**23 46 57.6**	**+0.1**
MIAR				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MIAR	**Mount Ida**	**74.25**	**54**	P	**P**	**23 46 57.6**	**+0.1**
M52A	**Chesterland**	**74.25**	**42**	P	**P**	**23 46 58.3**	**+0.8**
	baz=327							
M52A	**Chesterland**	**74.25**	**42**	P	**P**	**23 46 57.4**	**0.0**
N51A	**Ashland**	**74.34**	**43**	P	**P**	**23 46 58.7**	**+0.8**
	baz=326							
N51A	**Ashland**	**74.34**	**43**	P	**P**	**23 46 57.9**	**0.0**
USIN	**University of**	**74.40**	**48**	P	**P**	**23 46 57.9**	**-0.4**
W41B	**Gary Mavity, V**	**74.42**	**53**	P	**P**	**23 46 59.5**	**+1.1**
	baz=323,SNR=5.5							
W41B	**Gary Mavity, V**	**74.42**	**53**	IAmb	IAmb	23 47 00.1		
	comp=Z,6.3nm,0.6s							
P49A	**Miami Univ. Ec**	**74.46**	**45**	P	**P**	**23 46 59.0**	**+0.3**
	baz=325							
MOQ	**Mont Orford**	**74.53**	**34**	P	**P**	**23 46 59.9**	**+0.8**
K55A	**Perry**	**74.59**	**39**	P	**P**	**23 46 59.7**	**+0.3**
	baz=328							
M53A	**Wi Miller and**	**74.62**	**41**	P	**P**	**23 47 00.6**	**+1.1**
	baz=327							
ACSO	**Alum Creek Sta**	**74.65**	**44**	P	**P**	**23 46 59.3**	**-0.4**
ACSO				IAmb	IAmb	23 47 01.2		
	comp=Z,9.4nm,0.9s							
G61A	**St-Isidore-de-**	**74.81**	**33**	P	**P**	**23 47 01.6**	**+1.0**
	baz=331							
WCI	**Wyandotte Cave**	**74.82**	**47**	P	**P**	**23 47 01.8**	**+1.1**
	baz=325							
WCI	**Wyandotte Cave**	**74.82**	**47**	P	**P**	**23 47 01.0**	**+0.3**
WCI				pmax	pmax			
	comp=Z,10.0nm,0.8s							
WCI	**Wyandotte Cave**	**74.82**	**47**	P	**P**	**23 47 01.0**	**+0.3**
WCI				IAmb	IAmb	23 47 02.4		
	comp=Z,10nm,0.8s							
O51A	**Pataskala**	**74.88**	**43**	P	**P**	**23 47 01.9**	**+0.8**
	baz=326							
M54A	**Oil Creek Stat**	**74.98**	**41**	P	**P**	**23 47 02.2**	**+0.6**
	baz=327							
H60A	**Morristown**	**75.03**	**35**	P	**P**	**23 47 02.3**	**+0.4**
	baz=331							
N53A	**Lisbon**	**75.08**	**42**	P	**P**	**23 47 02.8**	**+0.6**
	baz=327							
KHC	**Kasperske Hory**	**75.10**	**336**	*e*P	**P**	**23 47 01.5**	**-0.7**
KHC				*e*		23 47 09.0		
KHC	**Kasperske Hory**	**75.10**	**336**	*e*P	**P**	**23 47 01.5**	**-0.7**
KHC				*ex*	x	23 47 09.0		
WLAR	**White Oak Lake**	**75.16**	**54**	P	**P**	**23 47 02.5**	**-0.2**
WLAR				IAmb	IAmb	23 47 19.1		
	comp=Z,7.4nm,0.5s							
G62A	**West of Eustis**	**75.21**	**33**	P	**P**	**23 47 04.7**	**+1.8**
	baz=332							
P51A	**Williamsport**	**75.23**	**44**	P	**P**	**23 47 03.4**	**+0.3**
	baz=326							
O52A	**Adamsville**	**75.23**	**43**	P	**P**	**23 47 03.8**	**+0.7**
	baz=327							
L56A	**Greenwood**	**75.29**	**39**	P	**P**	**23 47 03.7**	**+0.2**
	baz=328							
N54A	**Moraine State**	**75.30**	**41**	P	**P**	**23 47 04.2**	**+0.7**
	baz=327							
N54A	**Moraine State**	**75.30**	**41**	IAmb	IAmb	23 47 05.0		
	comp=Z,15nm,0.9s							
H61A	**Lyndonville**	**75.32**	**34**	P	**P**	**23 47 04.9**	**+1.3**
	baz=331							
GERES	**GERESS Array B**	**75.34**	**336**	P	**P**	**23 47 02.5**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=34,slow=6.1,SNR=9.1							
GERES	**GERESS Array B**	**75.34**	**336**	P	**P**	**23 47 03.0**	**-0.7**
GERES	**GERESS Array B**	**75.34**	**336**	P	**P**	**23 47 03.0**	**-0.7**
M55A	**Ridgway**	**75.38**	**40**	P	**P**	**23 47 04.7**	**+0.8**
	baz=328,SNR=5.6							
M55A	**Ridgway**	**75.38**	**40**	P	**P**	**23 47 04.9**	**+1.0**
O53A	**New Philadelph**	**75.39**	**42**	P	**P**	**23 47 04.1**	**+0.2**
	baz=327							
T47A	**Sharon Grove**	**75.45**	**48**	P	**P**	**23 47 05.0**	**+0.6**
T47A				IAmb	IAmb	23 47 06.3		
	comp=Z,8.9nm,0.7s							
Q51A	**Peebles**	**75.48**	**45**	IAmb	IAmb	23 47 06.0		
	comp=Z,8.2nm,0.8s							
M56A	**Emporium**	**75.60**	**40**	P	**P**	**23 47 05.4**	**+0.3**
	baz=328							
CONA	**Conrad Observa**	**75.61**	**334**	*i* PcP	**PcP**	**23 47 11.9**	**-5.6**
	comp=Z,1.2nm,0.5s							
R50A	**Paris**	**75.66**	**46**	P	**P**	**23 47 05.0**	**-0.6**
L57A	**Andrews Acres**	**75.69**	**39**	P	**P**	**23 47 06.3**	**+0.7**
	baz=329							
K59A	**Cooperstown**	**75.79**	**37**	P	**P**	**23 47 06.5**	**+0.3**
	baz=330							
WVT	**Waverly**	**75.80**	**49**	P	**P**	**23 47 07.3**	**+0.9**
	baz=324							
WVT	**Waverly**	**75.80**	**49**	P	**P**	**23 47 06.8**	**+0.4**
WVT				pmax	pmax			
	comp=Z,5.0nm,0.7s							
WVT	**Waverly**	**75.80**	**49**	P	**P**	**23 47 06.8**	**+0.4**
N55A	**Marion Center**	**75.87**	**41**	P	**P**	**23 47 07.5**	**+0.8**
	baz=328							
NATX	**Nacogdoches**	**75.88**	**57**	P	**P**	**23 47 06.8**	**-0.1**
NATX				IAmb	IAmb	23 47 09.5		
	comp=Z,10nm,0.8s							
833A	**Chaparral WMA,**	**76.02**	**62**	P	**P**	**23 47 07.9**	**+0.1**
833A				IAmb	IAmb	23 47 11.2		
	comp=Z,8.7nm,0.9s							
N56A	**West Decatur**	**76.03**	**40**	P	**P**	**23 47 08.3**	**+0.6**
	baz=328							
L58A	**Harry Jones Me**	**76.03**	**38**	P	**P**	**23 47 08.1**	**+0.5**
	baz=329							
M57A	**Sunshine Farm,**	**76.14**	**39**	P	**P**	**23 47 08.8**	**+0.6**
	baz=329							
L59A	**Walton**	**76.22**	**37**	P	**P**	**23 47 09.0**	**+0.3**
	baz=330							
P54A	**Burton**	**76.24**	**42**	P	**P**	**23 47 09.5**	**+0.7**
	baz=327							
ARSA	**Arzberg**	**76.33**	**334**	*i* PcP	**PcP**	**23 47 14.9**	**-5.7**
	comp=Z,1.8nm,0.6s							
OXF	**Oxford**	**76.35**	**51**	P	**P**	**23 47 10.5**	**+1.0**
	baz=324							
M58A	**Price's Panora**	**76.37**	**39**	P	**P**	**23 47 09.9**	**+0.3**
	baz=329							
Q53A	**Leroy**	**76.41**	**43**	P	**P**	**23 47 10.8**	**+0.9**
	baz=327							
SSPA	**Standing Stone**	**76.43**	**40**	P	**P**	**23 47 10.6**	**+0.7**
	baz=328							
SSPA	**Standing Stone**	**76.43**	**40**	P	**P**	**23 47 10.1**	**+0.2**
SSPA				IAmb	IAmb	23 47 11.2		
	comp=Z,12nm,1.1s							
N57A	**Milroy**	**76.47**	**40**	P	**P**	**23 47 10.8**	**+0.7**
	baz=329,SNR=5.4							
T50A	**Nancy**	**76.47**	**47**	IAmb	IAmb	23 47 11.8		
	comp=Z,7.6nm,0.8s							
O56A	**Blue Knob Stat**	**76.47**	**41**	P	**P**	**23 47 10.9**	**+0.7**
	baz=328							
S51A	**Beattyville**	**76.52**	**46**	P	**P**	**23 47 10.7**	**+0.3**
CLTN	**Cedars of Leba**	**76.54**	**48**	P	**P**	**23 47 10.7**	**+0.1**
CLTN				IAmb	IAmb	23 47 12.4		
	comp=Z,10nm,0.7s							
P55A	**Reedsville**	**76.59**	**42**	P	**P**	**23 47 12.0**	**+1.2**
	baz=328							
V48A	**Smith Brothers**	**76.60**	**49**	P	**P**	**23 47 11.5**	**+0.6**
V48A				IAmb	IAmb	23 47 12.5		
	comp=Z,6.1nm,0.8s							
PLAL	**Pickwick Lake**	**76.61**	**50**	P	**P**	**23 47 11.2**	**+0.2**
L60A	**Shokan**	**76.70**	**37**	P	**P**	**23 47 11.9**	**+0.5**
	baz=330							
N58A	**Sunbury**	**76.73**	**39**	P	**P**	**23 47 12.0**	**+0.5**
	baz=329							
BRTR	**Keskin Array B**	**76.75**	**319**	P	**P**	**23 47 10.6**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=69,slow=2.3,SNR=4.2							
BRTR	**Keskin Array B**	**76.75**	**319**	*i* P	**P**	**23 47 10.0**	**-1.9**
O57A	**Amberson**	**76.90**	**40**	P	**P**	**23 47 13.5**	**+0.9**
	baz=329							
SOKA	**Soboth**	**76.99**	**334**	*i* PcP	**P**	**23 47 17.7**	**+4.7**
	comp=Z,1.8nm,0.5s							
P56A	**Dayton Farm, R**	**77.00**	**41**	P	**P**	**23 47 14.3**	**+1.2**
	baz=328							
N59A	**State Game Lan**	**77.03**	**38**	P	**P**	**23 47 13.8**	**+0.5**
	baz=329							
R54A	**Vicar**	**77.21**	**43**	P	**P**	**23 47 15.2**	**+0.9**
	baz=327							
WTTA	**Wattenberg**	**77.32**	**337**	*i* PcP	**P**	**23 47 19.3**	**+4.3**
	comp=Z,1.3nm,0.3s							
MOTA	**Moosalm**	**77.38**	**337**	*e*PcP	**P**	**23 47 18.9**	**+3.6**
	comp=Z,1.2nm,0.4s							
S54A	**Dingess, Beckl**	**77.39**	**44**	P	**P**	**23 47 16.6**	**+1.2**
	baz=327							
SWET	**Sewanee**	**77.44**	**49**	IAmb	IAmb	23 47 16.9		
	comp=Z,9.6nm,0.9s							
TZTN	**Tazewell**	**77.44**	**46**	P	**P**	**23 47 16.7**	**+1.1**
	baz=326							
R55A	**Marlinton**	**77.50**	**43**	P	**P**	**23 47 17.1**	**+1.1**
	baz=328							
T53A	**Wise**	**77.53**	**45**	P	**P**	**23 47 17.3**	**+1.1**
	baz=327							
ABTA	**Abfaltersbach**	**77.58**	**336**	*e*P	**P**	**23 47 16.8**	**+0.5**
	comp=Z,0.8nm,0.4s							
ASAR	**Alice Springs**	**77.60**	**202**	P	**P**	**23 47 18.9**	**+2.5**
	comp=Z,0.9nm,0.5s,baz=15,slow=5.2,SNR=15							
V51A	**Loudon**	**77.69**	**47**	IAmb	IAmb	23 47 18.6		
	comp=Z,7.0nm,0.8s							
R56A	**Bull Pasture M**	**77.69**	**42**	P	**P**	**23 47 17.6**	**+0.5**
	baz=328							
W50A	**Signal Mountai**	**77.74**	**48**	IAmb	IAmb	23 47 18.9		
	comp=Z,7.3nm,0.8s							
FETA	**Feichten**	**77.77**	**337**	*i* P	**P**	**23 47 17.8**	**+0.4**
	comp=Z,0.7nm,0.4s							
T54A	**Tazewell**	**77.89**	**44**	P	**P**	**23 47 19.1**	**+0.9**
	baz=327							
CPCT	**Cooper Cave**	**77.90**	**47**	IAmb	IAmb	23 47 20.1		
	comp=Z,6.5nm,0.9s							
V52A	**Sevierville**	**78.00**	**47**	IAmb	IAmb	23 47 20.4		
	comp=Z,7.2nm,0.8s							
Z47A	**Carrollton**	**78.06**	**51**	IAmb	IAmb	23 47 21.1		
	comp=Z,9.7nm,0.8s							
FPAL	**Fort Paine**	**78.14**	**49**	IAmb	IAmb	23 47 21.0		
	comp=Z,6.8nm,0.8s							
T55A	**Pulaski**	**78.19**	**44**	P	**P**	**23 47 20.9**	**+1.1**
	baz=328							
U54A	**Nelsons Funny**	**78.23**	**45**	P	**P**	**23 47 21.0**	**+0.9**
	baz=327							
BLA	**Blacksburg**	**78.27**	**44**	P	**P**	**23 47 21.1**	**+0.8**
	baz=328							
BLA	**Blacksburg**	**78.27**	**44**	IAmb	IAmb	23 47 22.8		
	comp=Z,9.8nm,1.1s							
LDF	**La Druitiere**	**78.46**	**345**	*e*P	**P**	**23 47 20.3**	**-0.7**
LDF				pmax	pmax			
	comp=Z,33nm,1.6s							
U55A	**TA2, Sparta**	**78.59**	**44**	P	**P**	**23 47 23.1**	**+1.0**
	baz=327							
LRAL	**Lakeview Retre**	**78.72**	**51**	P	**P**	**23 47 23.0**	**+0.3**
	baz=325							
GRR	**Gorron**	**78.78**	**345**	*e*P	**P**	**23 47 22.6**	**-0.2**
GRR				pmax	pmax			
	comp=Z,23nm,1.3s							
V54A	**Nebo**	**78.80**	**45**	P	**P**	**23 47 24.0**	**+0.9**
	baz=327							
T57A	**Hurt**	**78.95**	**43**	P	**P**	**23 47 24.6**	**+0.7**
	baz=328							
LOR	**Lormes**	**79.03**	**342**	*e*P	**P**	**23 47 23.4**	**-0.8**
LOR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
SGMF	**Saint Gilles**	**79.17**	**346**	*e*P	**P**	**23 47 27.3**	**+2.4**
SGMF				pmax	pmax			
	comp=Z,23nm,1.4s							
ROSF	**Rostrenen**	**79.19**	**347**	*e*P	**P**	**23 47 24.4**	**-0.6**
ROSF				pmax	pmax			
	comp=Z,61nm,1.6s							
W54A	**Cherokee Point**	**79.27**	**46**	P	**P**	**23 47 26.5**	**+0.8**
	baz=327							
T58A	**Grand View Acr**	**79.30**	**42**	P	**P**	**23 47 26.7**	**+0.9**
	baz=328							
V56A	**Mocksville**	**79.41**	**44**	P	**P**	**23 47 27.3**	**+0.8**
	baz=328							
QUIF	**Quistinic**	**79.59**	**347**	*e*P	**P**	**23 47 27.7**	**+0.6**
QUIF				pmax	pmax			
	comp=Z,23nm,1.2s							
AVF	**Avril sur Loir**	**79.59**	**342**	*e*P	**P**	**23 47 27.1**	**-0.1**
AVF				pmax	pmax			
	comp=Z,4.0nm,0.5s							
KMSC	**Kings Mountain**	**79.60**	**45**	P	**P**	**23 47 28.1**	**+0.6**
	baz=327							
X54A	**Belton**	**79.63**	**46**	P	**P**	**23 47 28.9**	**+1.2**
	baz=327							
T59A	**Double "B" Far**	**79.69**	**42**	P	**P**	**23 47 29.6**	**+1.7**
	baz=329							
U58A	**Oxford**	**79.76**	**43**	P	**P**	**23 47 29.4**	**+1.1**
	baz=329							
V58A	**Windy Hill, Pi**	**80.03**	**43**	P	**P**	**23 47 30.3**	**+0.6**
	baz=328							
LPL	**La Plagne**	**80.11**	**339**	*e*P	**P**	**23 47 31.8**	**+1.5**
LPL				pmax	pmax			
	comp=Z,2.0nm,0.4s							
U59A	**Littleton**	**80.11**	**42**	P	**P**	**23 47 31.2**	**+1.0**
	baz=329							
LPG	**La Plagne**	**80.12**	**339**	*e*P	**P**	**23 47 30.7**	**+0.2**
LPG				pmax	pmax			
	comp=Z,9.0nm,1.3s							
W57A	**Gilead**	**80.19**	**44**	P	**P**	**23 47 30.7**	**+0.1**
	baz=328							
X56A	**White Oak**	**80.28**	**46**	P	**P**	**23 47 32.1**	**+0.9**
	baz=328							
Y55A	**Saluda**	**80.38**	**46**	P	**P**	**23 47 32.7**	**+1.0**
	baz=327							
V59A	**Middlesex**	**80.42**	**43**	P	**P**	**23 47 33.4**	**+1.6**
	baz=329							
W58A	**Raeford**	**80.63**	**44**	P	**P**	**23 47 34.0**	**+1.1**
	baz=328							
RJF	**Les Rejaudoux**	**81.36**	**343**	*e*P	**P**	**23 47 37.0**	**+0.3**
RJF				pmax	pmax			
	comp=Z,10.0nm,1.2s							
CAF	**Calviac**	**81.63**	**343**	*e*P	**P**	**23 47 38.7**	**+0.5**
CAF				pmax	pmax			
	comp=Z,1.0nm,0.4s							
TIGA	**Tifton**	**81.66**	**49**	P	**P**	**23 47 40.0**	**+1.5**
	baz=327							
SJPF	**Ste Jean**	**83.97**	**344**	*e*P	**P**	**23 47 51.3**	**+1.0**
SJPF				pmax	pmax			
	comp=Z,28nm,1.6s							
ETSF	**Etsaut**	**84.06**	**344**	*e*P	**P**	**23 47 51.3**	**+0.5**
ETSF				pmax	pmax			
	comp=Z,5.0nm,0.8s							
CMIG	**Matias Romero**	**87.42**	**66**	LR	LR	00 24 56.7		
	comp=Z,29nm,19.4s,baz=285,slow=34							
ESDC	**Sonseca Array**	**87.77**	**346**	P	**P**	**23 48 08.7**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=0.6,slow=4.0,SNR=24							
ESDC	**Sonseca Array**	**87.77**	**346**	P	**P**	**23 48 08.7**	**-0.3**
KEST	**Kesra**	**88.73**	**334**	P	**P**	**23 48 13.9**	**+0.2**
	comp=Z,5.1nm,0.5s,baz=314,slow=2.6,SNR=23							
H03N2	**Juan Fernandez**	**135.93**	**88**	T	T	02 25 26.5		
	baz=314,slow=77,SNR=119							
H03N1	**Juan Fernandez**	**135.94**	**88**	T	T	02 25 33.9		
	baz=314,slow=77,SNR=109							
H03N3	**Juan Fernandez**	**135.95**	**88**	T	T	02 25 27.1		
	baz=314,slow=77,SNR=110							
PLCA	**Paso Flores**	**145.69**	**91**	PKPbc	**PKPdf**	**23 54 57.5**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=308,slow=3.3,SNR=4.4							

IDC ***16*** *23:48:01.5±1.8, 10.75S×165.98E, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.7/35, m

α2^{s}69/197, mb4.0/30, MS3.4/5, 6C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRN	**Peran**	**0.27**	**13**	*e*		23 56 09.2	
IPRN				*e*Pg	**Pb**	**23 56 03.4**	**-0.3**
IDMV	**Damavand**	**0.44**	**205**	*e*Pg	**Pg**	**23 56 06.0**	**+1.3**
IALA	**Alasht**	**0.46**	**76**	*e*Pg	**Pb**	**23 56 06.0**	**-0.9**
IFIR	**Firoozkooh**	**0.52**	**130**	*e*		23 56 14.6	
IFIR				*e*Pg	**Pg**	**23 56 06.9**	**+0.7**
TEH	**Tehran**	**0.76**	**252**	P	**Pb**	**23 56 12.1**	**+0.2**
TEH	**Tehran**	**0.76**	**252**	*e*Pg	**Pb**	**23 56 12.6**	**+0.7**
ILAS	**Lasjerd**	**0.82**	**136**	*e*Pg	**Pg**	**23 56 12.3**	**+0.4**
ILAS				*e*		23 56 24.1	
ISHM	**Shahmirzad**	**0.85**	**101**	*e*Pg	**Pb**	**23 56 13.4**	**-0.2**
ISHM				*e*		23 56 25.5	
CHTH	**Charan**	**0.93**	**266**	*e*Pg	**Pb**	**23 56 15.4**	**+0.6**
CHTH	**Charan**	**0.93**	**266**	*e*Pg	**Pb**	**23 56 15.4**	**+0.6**
IHSB	**Hasanabad**	**0.97**	**237**	*e*Pg	**Pb**	**23 56 15.8**	**+0.4**
IMHD	**Mahdasht**	**1.33**	**258**	*e*Pg	**Pg**	**23 56 23.2**	**+1.6**
IMHD				*e*		23 56 24.8	
IGLO	**Ghaloghah**	**1.37**	**67**	*e*Pg	**Pb**	**23 56 23.1**	**+0.7**
QALM	**Alamut, Qazvin**	**1.39**	**290**	*e*Pg	**Pg**	**23 56 23.6**	**+0.9**
IANJ	**Anjilo**	**1.44**	**110**	*e*Pg	**Pg**	**23 56 23.9**	**+0.2**
IANJ				*e*		23 56 49.3	
IGZV	**Ghazvin**	**1.70**	**285**	*e*Pn	**Pg**	**23 56 30.3**	**+1.5**
IGZV				*e*		23 57 11.1	
IRAZ	**Razeghan**	**1.98**	**254**	*e*Pn	**Pb**	**23 56 33.5**	**+0.6**
IRAZ				*e*		23 57 19.7	
QABG	**Abgarm-Qazvin**	**2.19**	**264**	*e*Pn	**Pb**	**23 56 36.0**	**-0.5**
QABG				*e*		23 57 11.8	
ASAO	**Ashtian**	**2.32**	**233**	*e*Pn	**Pb**	**23 56 38.5**	**-0.1**
IKLH	**Kolahrood**	**2.71**	**192**	*e*Pn	**Pn**	**23 56 43.2**	**+2.6**
HAGD	**Aghdareh**	**2.80**	**247**	*e*Pn	**Pb**	**23 56 45.2**	**-1.6**
IMND	**Minoodasht**	**2.83**	**62**	*e*Pn	**Pn**	**23 56 44.4**	**+2.3**
KHMZ	**Khomeyn**	**2.93**	**221**	*e*Pn	**Pn**	**23 56 46.9**	**+3.3**
KHMZ	**Khomeyn**	**2.93**	**221**	*e*Pn	**Pn**	**23 56 46.9**	**+3.3**
ANAR	**Anarak**	**3.03**	**156**	*e*Pn	**Pn**	**23 56 47.6**	**+2.7**
SHRO	**Shahrood**	**3.04**	**89**	*e*Pn	**Pn**	**23 56 47.3**	**+2.3**
SHRO	**Shahrood**	**3.04**	**89**	*e*Pn	**Pn**	**23 56 47.3**	**+2.3**
IZEF	**Zefreh**	**3.07**	**179**	*e*Pn	**Pn**	**23 56 47.9**	**+2.3**
HSRG	**Sareghieh**	**3.33**	**258**	*e*Pn	**Pn**	**23 56 52.3**	**+3.2**
IPIR	**Pirpir**	**3.47**	**199**	*e*Pn	**Pb**	**23 56 55.4**	**-2.9**
IPIR				*e*		23 57 04.5	
HSAM	**Samen**	**3.48**	**241**	*e*Pn	**Pb**	**23 56 55.6**	**-2.8**
IALM	**Almabolaq**	**3.52**	**253**	*e*Pn	**Pn**	**23 56 55.7**	**+3.9**
IGAR	**Gharneh**	**3.57**	**183**	*e*Pn	**Pn**	**23 56 55.9**	**+3.5**
BMDN	**Meydan**	**3.64**	**232**	*e*Pn	**Pn**	**23 56 57.9**	**+4.5**
ROKH	**ROKH**	**3.76**	**196**	*e*Pn	**Pn**	**23 56 57.9**	**+2.9**
ASTR	**Astara**	**3.79**	**314**	*e*Pn	**Pn**	**23 56 57.3**	**+2.2**
LKRN	**Lenkeran, Azer**	**3.89**	**316**	P	**Pn**	**23 56 58.9**	**+2.3**
IBZA	**Bozab**	**3.91**	**249**	*e*Pn	**Pn**	**23 57 00.8**	**+3.8**
JHBN	**Jahan bin**	**3.96**	**200**	*e*Pn	**Pn**	**23 57 01.4**	**+3.5**
IDOB	**Doab**	**4.00**	**238**	*e*Pn	**Pn**	23 57 03.3	+4.9
IKMR	**Kamar-syah**	**4.03**	**234**	*e*Pn	Pn	23 57 03.3	+4.8
YZKH	**Yazd**	**4.06**	**151**	*e*Pn	**Pn**	**23 57 02.3**	**+3.2**
YZKH				IAML		23 58 13.8	
	comp=E,1μm,0.9s						
YZKH				IAML		23 58 15.0	
	comp=N,360nm,0.6s						
YZKH	**Yazd**	**4.06**	**151**	*e*Pn	**Pn**	**23 57 02.3**	**+3.2**
TNSJ	**Nastanj**	**4.09**	**118**	*e*Pn	**Pn**	**23 57 02.0**	**+2.5**
ISRB	**Sarab**	**4.12**	**298**	*e*Pn	**Pb**	**23 57 05.8**	**-3.5**
ICHK	**Chekchek**	**4.12**	**154**	*e*Pn	**Pn**	**23 57 02.6**	**+2.6**
IRAM	**Ramesheh**	**4.16**	**179**	*e*Pn	**Pn**	**23 57 03.2**	**+2.7**
ISAD	**Sadrabad**	**4.22**	**163**	*e*Pn	**Pn**	**23 57 04.3**	**+2.9**
IKOM	**Komasi**	**4.29**	**247**	*e*Pn	Pn	23 57 07.1	+4.8
GLBA	**Cilabad**	**4.48**	**318**	*e*Pn	**Pn**	**23 57 07.0**	**+2.3**
GRMI	**Germi**	**4.48**	**310**	*e*Pn	**Pn**	**23 57 07.4**	**+2.6**
GRMI	**Germi**	**4.48**	**310**	*e*Pn	**Pn**	**23 57 07.4**	**+2.6**
KER	**Kermanshah**	**4.49**	**251**	*e*Pn	**Pn**	**23 57 09.6**	**+4.6**
KCHF	**Cheshme Sefid,**	**4.60**	**250**	*e*Pn	**Pn**	**23 57 10.4**	**+3.8**
TABS	**Tabas**	**4.62**	**119**	*e*Pn	**Pn**	**23 57 09.1**	**+2.4**
TABS				IAML		23 58 43.7	
	comp=E,60nm,0.5s						
TABS	**Tabas**	**4.62**	**119**	*e*Pn	**Pn**	**23 57 09.1**	**+2.4**
TKDS	**Koohdasht(Taba**	**4.64**	**119**	*e*Pn	**Pn**	**23 57 09.7**	**+2.7**
TPRV	**Parvadeh(Tabas**	**4.69**	**128**	*e*Pn	**Pn**	**23 57 10.8**	**+3.2**
ALIB	**Äli-Bayra**	**4.74**	**328**	*e*Pn	**Pn**	**23 57 10.0**	**+1.8**
ISFR	**Sfrayin**	**4.74**	**75**	*e*Pn	**Pn**	**23 57 12.5**	**+3.9**
IHRS	**Heris**	**4.78**	**301**	*e*Pn	**Pn**	**23 57 13.3**	**+4.2**
GOBA	**Gobu**	**4.85**	**336**	*e*Pn	**Pn**	**23 57 12.0**	**+2.3**
AHAR	**Ahar**	**4.86**	**303**	*e*Pn	Pn	23 57 14.8	+4.8
SAAT	**Saatly**	**4.93**	**323**	*e*Pn	**Pn**	**23 57 14.3**	**+3.5**
IGHG	**Ghaleghazi**	**4.95**	**252**	*e*Pn	**Pn**	**23 57 15.6**	**+4.3**
IDHR	**Dehrash**	**4.97**	**257**	*e*Pn	Pn	23 57 16.5	+4.9
IMEH	**Mehriz**	**4.97**	**156**	*e*Pn	**Pn**	**23 57 14.6**	**+2.9**
GEYT	**Alibeck**	**5.08**	**66**	P	**Pn**	**23 57 16.5**	**+3.6**
	comp=E,9.1nm,0.3s,baz=249,slow=16,SNR=85						
GEYT				S	**Sn**	**23 58 17.2**	**+5.2**
	comp=E,7.8nm,0.3s,baz=271,slow=20,SNR=2.0						
GEYT				LR	LR	23 59 26.2	
	comp=E,310nm,18.0s,baz=285,slow=39						
GEYT	**Allbeck**	**5.08**	**66**	Pn	**Pn**	**23 57 14.4**	**+1.4**
GYA0B	**ALIBECK ARRAY**	**5.08**	**66**	Pn	**Pn**	**23 57 15.8**	**+2.9**
IKFD	**Kardeh**	**5.11**	**79**	*e*Pn	**Pn**	**23 57 28.1**	**+4.0**
IBAF	**Bafgh**	**5.17**	**147**	*e*Pn	**Pn**	**23 57 17.6**	**+3.3**
QRD	**Qoradiz**	**5.24**	**313**	*e*Pn	**Pn**	**23 57 18.7**	**+3.6**
IAKL	**Akhelmad**	**5.28**	**81**	*e*Pn	**Pn**	**23 57 19.4**	**+3.4**
IAZR	**Azarshahr**	**5.32**	**290**	*e*Pn	Pn	23 57 23.0	+6.5
IEMG	**Emamgholi**	**5.33**	**72**	*e*Pn	**Pn**	**23 57 20.6**	**+3.9**
IPAY	**Payeh**	**5.46**	**83**	*e*Pn	**Pn**	**23 57 21.8**	**+3.4**
AFRZ	**Afriz**	**6.12**	**113**	*e*Pn	**Pn**	**23 57 30.6**	**+3.3**
ITEG	**Tejag**	**6.18**	**118**	*e*Pn	**Pn**	**23 57 31.1**	**+2.9**
NAX	**Nakhchivan**	**6.25**	**303**	P	**Pn**	**23 57 31.9**	**+2.8**
IMYA	**Miami**	**6.35**	**84**	*e*Pn	**Pn**	**23 57 33.7**	**+3.1**
AKT	**Akhty**	**6.54**	**329**	*e*P	**Pn**	**23 57 34.9**	**+1.8**
AKT				*e*S	**Sn**	**23 58 48.3**	**+0.2**
AKT				pmax	pmax		
	comp=Z,15nm,0.5s						
AKT				smax	smax		
	comp=N,64nm,0.4s						
AKT				smax	smax		
	comp=N,52nm,0.4s						
AKT				smax	smax		
	comp=E,35nm,0.4s						
AKT				MLR	MLR		
	comp=Z,266nm,10.0s						
SEKA	**Sheki**	**6.56**	**324**	P	**Pn**	**23 57 35.3**	**+2.0**
GANJ	**Ganja**	**6.60**	**317**	P	**Pn**	**23 57 36.2**	**+2.4**
KHGB	**Koh Gabri**	**6.61**	**147**	Pn	**Pn**	**23 57 37.2**	**+3.1**
IKOO	**Kooshah**	**6.61**	**120**	*e*Pn	**Pn**	**23 57 39.9**	**+2.7**
TVBK	**TV Kerman**	**7.07**	**146**	*e*Pn	**Pn**	**23 57 43.8**	**+3.2**
NGRK	**Negar Kerman**	**7.35**	**148**	*e*Pn	**Pn**	**23 57 48.1**	**+3.7**
CHMN	**Cheshme madani**	**7.54**	**142**	*e*Pn	**Pn**	**23 57 50.8**	**+3.8**
GEVA	**Gevas**	**7.71**	**290**	Pn	**Pn**	**23 57 45.6**	**-3.7**
MAK	**Makhachkala**	**7.89**	**334**	*e*P	**Pn**	**23 57 50.8**	**-0.6**
MAK				*e*S	**Sn**	**23 59 19.1**	**-1.9**
MAK				pmax	pmax		
	comp=Z,87nm,0.9s						
MAK				MLR	MLR		
	comp=Z,53nm,10.0s						
NHDN	**Nehbandan**	**7.94**	**123**	*e*Pn	**Pn**	**23 57 55.3**	**+3.0**
TBLG	**Delisi**	**8.21**	**317**	P	**Pn**	**23 57 54.5**	**-1.4**
TBLG	**Delisi**	**8.21**	**317**	Pn	**Pn**	**23 57 54.5**	**-1.4**
HRA	**Herat**	**8.32**	**98**		**Pn**	**23 57 54.5**	**-3.2**
AKH	**Akhalkalaki**	**8.74**	**311**	P	**Pn**	**23 58 02.2**	**-1.1**
AKH	**Akhalkalaki**	**8.74**	**311**		**Pn**	**23 58 02.2**	**-1.1**
GROC	**Groznyy**	**8.77**	**327**	*e*P	**Pn**	**23 58 04.7**	**+1.1**
GROC				*e*S	**Sn**	**23 59 43.8**	**+1.0**
GROC				pmax	pmax		
	comp=Z,11nm,0.5s						
MARD	**Mardin**	**9.33**	**282**	Pn	**Pn**	**23 58 09.0**	**-2.3**
ZEI	**Tsey**	**9.39**	**319**	*e*P	**Pn**	**23 58 15.1**	**+2.9**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ARTV	**Artvin**	**9.62**	**306**	Pn	**Pn**	**23 58 15.8**	**+0.4**
KOPT	**Kop Dagi**	**10.12**	**297**	Pn	**Pn**	**23 58 20.1**	**-2.3**
KBZ	**Khabaz**	**10.57**	**320**	P	Pn	23 58 35.9	+7.7
	comp=Z,0.1nm,0.3s,baz=21,slow=2.7,SNR=2.6						
KBZ	**Khabaz**	**10.57**	**320**	*i* P	Pn	23 58 33.1	+4.9
KVAR	**Kislovodsk Arr**	**10.83**	**320**	P	Pn	23 58 41.0	+9.1
	baz=171,slow=12,SNR=1.6						
KVAR				S	**Sn**	**00 00 31.9**	**-1.6**
	baz=329,slow=17,SNR=1.8						
KIV	**Kislovodsk**	**10.83**	**320**	*e*P	Pn	23 58 37.3	+5.4
KIV				*e*S	**Sn**	**00 00 40.6**	**+7.0**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
KIV	**Kislovodsk**	**10.83**	**320**	Pn	**Pn**	**23 58 30.7**	**-1.2**
UOSS	**Minazif**	**11.51**	**162**	Pn	Pn	23 58 36.5	-4.6
GAZ	**Gaziantep**	**12.16**	**280**	Pn	Pn	23 58 45.6	-4.5
TOKA	**Tokat**	**13.16**	**294**	Pn	**Pn**	**23 59 00.7**	**-3.0**
CHGR	**Chuyangaron**	**13.71**	**74**	Pn	**Pn**	**23 59 08.8**	**-2.5**
KBL	**Kabul**	**13.79**	**91**	P	Pn	23 59 07.6	-4.9
KBL	**Kabul**	**13.79**	**91**	Pn	Pn	23 59 07.6	-4.9
WSAR	**Wadi Sarin**	**13.84**	**155**	P	**Pn**	**23 59 14.1**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=341,slow=9.1,SNR=4.7						
MMAI	**Mount Meron Ar**	**14.22**	**263**	LR	LR	00 05 30.3	
	comp=Z,104nm,18.9s,baz=60,slow=40						
ANN	**Anapa**	**14.31**	**313**	*e*P	**Pn**	**23 59 20.1**	**+0.7**
ANN				*e*S	**Sn**	**00 02 00.8**	**+2.3**
ANN				pmax	pmax		
	comp=Z,30nm,1.0s						
ABKAR	**Akbulak array**	**14.41**	**21**	Pn	**Pn**	**23 59 19.9**	**-0.9**
GAR	**Garm**	**14.65**	**73**	Pn	**Pn**	**23 59 23.8**	**-0.4**
AKTO	**Aktyubinsk**	**15.04**	**14**	P	**Pn**	**23 59 26.9**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=204,slow=13,SNR=9.2						
AKTO				S	Sn	00 02 04.2	-12
	comp=Z,0.3nm,0.3s,baz=226,slow=20,SNR=2.8						
BR131	**Keskin Array S**	**15.18**	**290**	P	**Pn**	**23 59 28.8**	**-2.5**
BR131				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BR131	**Keskin Array S**	**15.18**	**290**	Pn	**Pn**	**23 59 28.8**	**-2.5**
BRTR	**Keskin Array B**	**15.18**	**290**	P	**P**	**23 59 38.1**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=81,slow=9.1,SNR=2.1						
BRTR				LR	LR	00 06 09.1	
	comp=Z,134nm,19.2s,baz=74,slow=40						
BRTR	**Keskin Array B**	**15.18**	**290**	P	**Pn**	**23 59 30.2**	**-1.1**
BRTR	**Keskin Array B**	**15.18**	**290**		**Pn**	**23 59 30.2**	**-1.1**
ILGA	**Ilgaz**	**15.37**	**295**	Pn	**Pn**	**23 59 29.2**	**-4.7**
ILGA				IAmb	IAmb	00 00 04.2	
	comp=Z,6.2nm,1.0s						
KK31	**Karatay Array**	**15.76**	**58**	P	**Pn**	**23 59 36.1**	**-2.6**
KK31				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KK31	**Karatay Array**	**15.76**	**58**	Pn	**Pn**	**23 59 36.1**	**-2.6**
KKAR	**Karatay Array**	**15.76**	**58**	P	**Pn**	**23 59 35.9**	**-2.9**
KKAR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KKAR	**Karatay Array**	**15.76**	**58**	Pn	**Pn**	**23 59 35.9**	**-2.9**
KKAR	**Karatay Array**	**15.76**	**58**	Pn	**Pn**	**23 59 37.0**	**-1.8**
KKAR				IAmb	IAmb	23 59 52.0	
	comp=Z,5.6nm,1.1s						
VRH	**Novokhopyorsk**	**17.00**	**337**	*e*P	**P**	**23 59 56.7**	**+0.3**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NIL	**Nilore**	**17.39**	**92**	P	**Pn**	**23 59 56.9**	**-2.7**
NIL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NIL	**Nilore**	**17.39**	**92**	Pn	**Pn**	**23 59 56.9**	**-2.7**
VSR	**Storozhevoye**	**17.90**	**332**	*e*P	**Pn**	**00 00 05.8**	**+0.1**
VSR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AAK	**Ala-Archa**	**18.42**	**62**	P	**P**	**00 00 13.3**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=249,slow=8.2,SNR=2.0						
AAK				LR	LR	00 08 23.6	
	comp=Z,65nm,19.5s,baz=240,slow=40						
AAK	**Ala-Archa**	**18.42**	**62**	*i* P	**P**	**00 00 13.5**	**+1.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
AAK	**Ala-Archa**	**18.42**	**62**	P	**Pn**	**00 00 10.3**	**-2.1**
LPSR	**Galich'ya Gora**	**19.11**	**335**	*e*P	**Pn**	**00 00 21.0**	**+0.5**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KARP	**Karpathos**	**20.36**	**276**	P	**P**	**00 00 32.0**	**-1.5**
TARG	**Taragay, Kyrgy**	**20.67**	**66**	P	**P**	**00 00 35.7**	**-1.6**
TARG				IAmb	IAmb	00 00 47.5	
	comp=Z,3.2nm,0.6s						
ARU	**Arti**	**20.90**	**10**	P	Pn	00 00 41.5	-0.2
	comp=Z,2.8nm,0.4s,baz=180,slow=9.4,SNR=17						
ARU				S	**S**	**00 04 21.9**	**-11**
	comp=Z,0.3nm,0.3s,baz=136,slow=23,SNR=1.8						
ARU	**Arti**	**20.90**	**10**	*c i* P	Pn	00 00 41.0	-0.6
ARU				PPP	PPP	00 01 06.9	
ARU				S	**S**	**00 04 34.0**	**+1.6**
ARU				SS	**SnSn**	**00 04 53.2**	**+0.6**
ARU				pmax	pmax		
	comp=Z,11nm,0.8s						
ARU	**Arti**	**20.90**	**10**	P	**P**	**00 00 39.4**	**+0.3**
ARU				IAmb	IAmb	00 00 45.2	
	comp=Z,9.8nm,0.8s						
PRZ	**Przheval'sk**	**21.22**	**64**	P	**P**	**00 00 40.6**	**-2.3**
PRZ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
PRZ	**Przheval'sk**	**21.22**	**64**	P	**P**	**00 00 40.6**	**-2.3**
PRZ				IAmb	IAmb	00 01 15.4	
	comp=Z,8.7nm,1.2s						
BRVK	**Borovoye**	**21.27**	**31**	*ce*P	**P**	**00 00 45.4**	**+2.2**
BRVK				pmax	pmax		
	comp=Z,12nm,1.3s						
BRVK	**Borovoye**	**21.27**	**31**	P	**P**	**00 00 44.2**	**+1.0**
BRVK				IAmb	IAmb	00 00 51.7	
	comp=Z,10nm,1.0s						
BVAR	**Borovoye Array**	**21.29**	**31**	P	**P**	**00 00 46.1**	**+2.7**
	comp=Z,4.2nm,0.8s,baz=212,slow=9.8,SNR=28						
BVAR				S	**S**	**00 04 33.6**	**-6.6**
	comp=Z,1.6nm,0.6s,baz=230,slow=21,SNR=6.0						
BVAR				LR	LR	00 10 47.9	
	comp=Z,138nm,18.1s,baz=190,slow=41						
APE	**Apeiranthos**	**21.49**	**281**	*i* P	**P**	**00 00 47.6**	**+1.8**
APE				pmax	pmax		
	comp=Z,17nm,1.2s						
SVE	**Sverdlovsk**	**21.61**	**13**	*e*P	**P**	**00 00 51.3**	**+4.5**
OBN	**Obninsk**	**21.98**	**335**	⇑*e*P	**P**	**00 00 50.5**	**-0.2**
OBN				*e*S	**S**	**00 04 54.1**	**+0.6**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MLR	**Muntele Rosu**	**22.01**	**304**	P	**P**	**00 00 55.7**	**+4.3**
	comp=Z,6.4nm,0.8s,baz=170,slow=7.4,SNR=12						
MLR	**Muntele Rosu**	**22.01**	**304**	P	**P**	**00 00 52.5**	**+1.1**
MLR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MLR	**Muntele Rosu**	**22.01**	**304**	P	**P**	**00 00 52.5**	**+1.1**
MLR				IAmb	IAmb	00 01 01.6	
	comp=Z,6.8nm,0.9s						
AKASG	**Malin Array Be**	**22.18**	**319**	P	**P**	**00 00 56.5**	**+3.6**
	comp=Z,1.6nm,0.6s,baz=127,slow=8.6,SNR=5.1						
AKASG	**Malin Array Be**	**22.18**	**319**	P	**P**	**00 00 50.9**	**-2.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**22.18**	**319**	P	**P**	**00 00 50.9**	**-2.0**
AKBB	**Malin Array Si**	**22.18**	**319**	P	**P**	**00 00 48.9**	**-4.0**
AKBB				pmax	pmax		
	comp=Z,11nm,1.4s						
AKBB	**Malin Array Si**	**22.18**	**319**	P	**P**	**00 00 48.9**	**-4.0**
AKBB				IAmb	IAmb	00 01 01.6	
	comp=Z,11nm,1.4s						
KIRV	**Kirov**	**22.70**	**356**	P	**P**	**00 01 02.9**	**+4.5**
	comp=Z,27nm,0.6s,baz=265,slow=2.0,SNR=8.5						
KIRV	**Kirov**	**22.70**	**356**	*i* P	**P**	**00 01 01.5**	**+3.1**
BURAR	**Bucovina Array**	**23.15**	**309**	P	**P**	**00 01 02.6**	**-0.8**
BUR08	**Bucovina Ar. S**	**23.18**	**309**	P	**P**	**00 01 00.7**	**-3.0**
KURBB	**Kurchatov Arra**	**22.91**	**44**	P	**P**	**00 01 13.2**	**+2.5**
	comp=Z,2.6nm,0.7s,baz=246,slow=9.8,SNR=12						
KURK	**Kurchatov**	**24.00**	**44**	*ce*P	**P**	**00 01 11.4**	**-0.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KURK	**Kurchatov**	**24.00**	**44**	P	**P**	**00 01 10.3**	**-1.3**
KURK				IAmb	IAmb	00 01 20.2	
	comp=Z,6.5nm,0.8s						
MAKZ	**Makanchi**	**24.64**	**55**	P	**P**	**00 01 14.9**	**-2.6**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MAKZ	**Makanchi**	**24.64**	**55**	P	**P**	**00 01 14.9**	**-2.6**
MAKZ				IAmb	IAmb	00 01 33.0	
	comp=Z,5.2nm,1.2s						
MK31	**Makanchi Array**	**24.84**	**55**	P	**P**	**00 01 17.8**	**-1.6**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MK31	**Makanchi Array**	**24.84**	**55**	P	**P**	**00 01 17.8**	**-1.6**
MK31				IAmb	IAmb	00 01 25.7	
	comp=Z,2.9nm,1.1s						
MKAR	**Makanchi Array**	**24.84**	**55**	P	**P**	**00 01 20.9**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=247,slow=8.8,SNR=10.0						
MKAR	**Makanchi Array**	**24.84**	**55**	P	**P**	**00 01 18.3**	**-1.1**
MKAR	**Makanchi Array**	**24.84**	**55**	P	**P**	**00 01 18.3**	**-1.1**
DIVS	**Divibare**	**25.88**	**298**	P	**P**	**00 01 24.8**	**-4.1**
DIVS				IAmb	IAmb	00 01 43.0	
	comp=Z,6.7nm,1.0s						
PRGR	**Permogore**	**26.02**	**353**	*e*P	**P**	**00 01 34.7**	**+4.9**
PRGR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KLMR	**Klimovskoe**	**26.20**	**346**	*e*P	**P**	**00 01 32.7**	**+1.3**
KLMR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KLMR	**Klimovskoe**	**26.20**	**346**	*e*P	**P**	**00 01 32.8**	**+1.3**
KLMR				AMP		00 01 47.9	
	comp=Z,9.0nm,0.9s						
ZALV	**Zalesovo Beam**	**28.85**	**41**	P	**P**	**00 01 57.4**	**+2.1**
	comp=Z,1.3nm,0.7s,baz=240,slow=12,SNR=5.9						
ZALV				LR	LR	00 15 00.3	
	comp=Z,73nm,18.6s,baz=252,slow=39						
ZALV	**Zalesovo Beam**	**28.85**	**41**	P	**P**	**00 01 52.0**	**-3.3**
ZALV	**Zalesovo Beam**	**28.85**	**41**	P	**P**	**00 01 52.0**	**-3.3**
DGZ	**Jazzator, Alta**	**28.91**	**51**	*i* P	**P**	**00 01 56.9**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GEC2	**GERESS Array S**	**30.90**	**307**	P	**P**	**00 02 10.0**	**-3.7**
GEC2				IAmb	IAmb	00 02 22.2	
	comp=Z,6.3nm,1.4s						
GERES	**GERESS Array B**	**30.90**	**307**	P	**P**	**00 02 16.1**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=101,slow=10,SNR=4.3						
GERES	**GERESS Array B**	**30.90**	**307**	P	**P**	**00 02 10.4**	**-3.2**
GERES	**GERESS Array B**	**30.90**	**307**	P	**P**	**00 02 10.4**	**-3.2**
CLL	**Collm**	**31.84**	**311**	P	**P**	**00 02 18.6**	**-3.2**
CLL				pmax	pmax		
	comp=Z,11nm,1.6s						
CLL	**Collm**	**31.84**	**311**	P	**P**	**00 02 18.6**	**-3.2**
VLC	**Villacollemand**	**32.78**	**297**	P	**P**	**00 02 28.2**	**-2.0**
BNI	**Bardonecchia**	**35.42**	**299**	P	P	00 02 48.7	-4.5
BNI				pmax	pmax		
	comp=Z,14nm,1.4s						
BNI	**Bardonecchia**	**35.42**	**299**	P	P	00 02 48.7	-4.5
NC602	**NORSAR Array S**	**35.76**	**327**	P	**P**	**00 02 52.0**	**-3.7**
NOA	**NORSAR Array B**	**36.04**	**327**	P	**P**	**00 02 58.3**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=119,slow=8.4,SNR=2.1						
NAO01	**NORSAR Array S**	**36.10**	**327**	P	**P**	**00 02 57.5**	**-1.1**
ARCES	**ARCESS Array B**	**36.66**	**345**	P	**P**	**00 03 05.0**	**+1.7**
ARCES	**ARCESS Array B**	**36.66**	**345**	P	**P**	**00 03 05.0**	**+1.7**
NRIK	**Noril'sk**	**38.58**	**19**	⇑*e*P	**P**	**00 03 17.2**	**-2.3**
NRIK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**41.20**	**56**	LR	LR	00 24 38.1	
	comp=Z,27nm,18.8s,baz=274,slow=42						
ESDC	**Sonseca Array**	**43.95**	**292**	P	**P**	**00 04 04.2**	**0.0**
	comp=Z,0.3nm,0.8s,baz=63,slow=7.5,SNR=1.9						
CMAR	**Chiang Mai Arr**	**44.58**	**100**	P	**P**	**00 04 08.8**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=300,slow=9.4,SNR=10						
CMAR	**Chiang Mai Arr**	**44.58**	**100**	*i* P	**P**	**00 04 11.0**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TORD	**Torodi Ar. Bea**	**50.65**	**257**	P	**P**	**00 04 56.2**	**-0.4**
	comp=Z,1.2nm,1.0s,baz=38,slow=5.3,SNR=6.6						
TORD	**Torodi Ar. Bea**	**50.65**	**257**	P	**P**	**00 04 55.4**	**-1.2**
OPO	**Ambohidratompo**	**54.46**	**186**	LR	LR	00 27 21.6	
	comp=Z,45nm,21.2s,baz=

comp=N,58nm,0.3s
BVAR Borovoye Array 15.76 357 P **P** **00 08 09.8 +0.9**
comp=N,0.2nm,0.3s,baz=160,slow=11,SNR=5.2
BRVK Borovoye 15.80 357 **P** **00 08 09.9 +0.6**
RAMN Ramite 16.23 125 *eP* **Pn** **00 08 12.4 -1.9**
comp=N,9.3nm,0.3s
AKTO Aktyubinsk 16.42 327 P **P** **00 08 18.8 +2.5**
comp=N,1.3nm,0.3s,baz=127,slow=9.4,SNR=16
AKTO Aktyubinsk 16.42 327 ⇑P **P** **00 08 19.3 +3.0**
comp=N,2.4nm,0.4s
AKTO ⇑S **S** **00 11 16.7 -1.8**
comp=N,2.5nm,0.8s
TAPN Taplejung 16.70 122 *eP* **P** **00 08 18.0 -1.9**
ODAN Odare 16.81 124 *eP* **P** **00 08 20.0 -1.0**
comp=N,16nm,0.5s
LSA Lhasa 17.83 109 P **Pn** **00 08 34.9 +1.1**
LSA IAmb IAmb 00 08 36.2
comp=Z,4.0nm,0.8s
ZAA0 Zalesovo Array 18.93 24 P **Pn** **00 08 45.8 -0.2**
ZALV Zalesovo Beam 18.93 24 P **Pn** **00 08 45.0 -1.0**
comp=Z,0.5nm,0.3s,baz=212,slow=9.9,SNR=8.5
SHL Shillong 20.72 119 P Pn 00 09 07.2 -0.3
SHL IAmb IAmb 00 09 17.5
comp=Z,13nm,0.4s
TBLG Delisi 21.29 290 P **P** **00 09 10.8 +1.6**
SONM Songino Array 27.37 56 P **P** **00 10 07.9 +2.2**
comp=Z,0.3nm,0.4s,baz=289,slow=9.0,SNR=1.2
SONM Songino Array 27.37 56 IAmb IAmb 00 10 15.3
comp=Z,0.7nm,1.0s
CMAR Chiang Mai Arr 30.31 121 LR LR 00 25 14.3
comp=Z,39nm,18.5s,baz=357,slow=41
PALK Pallekele 30.97 163 P **P** **00 10 41.0 +3.3**
PALK IAmb IAmb 00 10 55.8
comp=Z,13nm,1.1s
NRIK Noril'sk 33.23 10 P **P** **00 11 00.2 +3.4**
comp=Z,1.0nm,0.4s,baz=251,slow=2.3,SNR=2.1
BJT Baijiatuau 34.51 72 P **P** **00 11 11.0 +2.8**
BJT IAmb IAmb 00 11 28.4
comp=Z,3.2nm,0.7s
FINES FINESS Array B 37.18 325 P P 00 11 34.9 +4.2
comp=Z,1.0nm,0.8s,baz=119,slow=8.7,SNR=4.6
FINES FINESS Array B 37.18 325 P **P** **00 11 34.0 +3.4**
ARCES ARCESS Array B 40.65 337 P **P** **00 12 03.4 +3.9**
comp=Z,1.7nm,0.9s,baz=109,slow=9.8,SNR=4.7
TORD Torodi Ar. Bea 66.36 269 P **P** **00 15 09.4 +2.0**
comp=Z,0.1nm,0.4s,baz=49,slow=5.8,SNR=5.4
INK Inuvik 73.02 10 P **P** **00 15 51.2 +3.9**
comp=Z,3.6nm,1.0s,baz=4.6,slow=7.4
INK Inuvik 73.02 10 P **P** **00 15 47.5 +0.2**
INK IAmb IAmb 00 15 52.4
comp=Z,4.7nm,1.0s
PCA Pinnacle 79.43 16 P **P** **00 16 22.7 -1.1**
NWAO Narrogin (SRO) 81.72 143 P **P** **00 16 37.4 +1.3**
NWAO IAmb IAmb 00 16 38.4
comp=Z,14nm,1.1s
NWAO Narrogin (SRO) 81.72 143 P **P** **00 16 36.9 +0.7**
NWAO IAmb IAmb 00 16 38.4
comp=Z,18nm,1.1s

NEIC ***17*** *00:06:24.3±2.0, 22.8°S±0.1°×172.0°E±0.0°, 07, h35km±1km, mb4.5/22, Error ellipse: s-maj=18.2km s-min=9.3km az=338.0*
IDC ***17*** *00:06:26.7±5.9, 22.62°S×172.05°E, h57km±50km, mb3.8/6, mb1 4.0/7, mb1mx3.6/35, mbtmp4.1/7, ML4.4/1, MS3.6/11, Ms1 3.6/11, ms1mx3.3/36, Error ellipse: s-maj=40.7km s-min=32.7km az=140.0*
ISC 17 00:06:25.4±0.6, 22.77S±0.09°×172.02E±0.07°, h47km, n44,
σ0.97/38, mb4.3/15, MS3.6/8, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**5.21**	**277**	P		**Pn**	**00 07 42.0**	**+1.1**
	12nm,0.3s,baz=140,slow=13,SNR=72							
DZM				S		**Sn**	**00 08 37.5**	**-2.3**
	2.3nm,0.3s,baz=83,slow=20,SNR=1.6							
DZM				LR		LR	00 09 24.7	
	comp=Z,397nm,19.2s,baz=43,slow=34							
DZM	**Mont Dzumac**	**5.21**	**277**			**Pn**	**00 07 41.0**	**+0.1**
DZM						**Sn**	**00 08 37.8**	**-2.0**
MSVF	**Nonsavu**	**7.56**	**50**	Pn		**Pn**	**00 08 12.6**	**-0.5**
OUZ	**Omahuta**	**12.48**	**174**	Pn		**Pn**	**00 09 19.4**	**-0.9**
URZ	**Urewera**	**16.04**	**165**	LR		LR	00 14 50.2	
	comp=Z,257nm,19.2s,baz=4.0,slow=31							
NIUE	**Niue**	**17.26**	**81**			**Pn**	**00 10 22.8**	**-0.3**
HNR	**Honiara**	**17.61**	**317**	LR		LR	00 16 37.9	
	comp=Z,150nm,19.4s,baz=141,slow=35							
KHZ	**Kahutara**	**19.63**	**177**	P		**P**	**00 10 50.2**	**+0.3**
ARMA	**Armidale**	**19.75**	**243**	P		**P**	**00 10 49.7**	**-1.7**
LTZ	**Lake Taylor**	**19.96**	**179**	P		**P**	**00 10 53.5**	**-0.1**
LTZ				IAmb		IAmb	00 11 10.2	
	comp=Z,20nm,1.0s							
TOO	**Toolangi**	**27.15**	**231**	P		**P**	**00 12 05.5**	**+1.2**
TOO				IAmb		IAmb	00 12 21.1	
	comp=Z,7.0nm,1.1s							
STKA	**Stephens Creek**	**28.44**	**245**	P		**P**	**00 12 17.4**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=110,slow=8.7,SNR=4.0							
STKA				LR		LR	00 22 49.3	
	comp=Z,91nm,19.3s,baz=39,slow=34							
TAU	**Tasmania Unive**	**28.70**	**220**	P		**P**	**00 12 18.3**	**+0.3**
TAU				IAmb		IAmb	00 12 27.9	
	comp=Z,10nm,1.1s							
COEN	**Coen**	**28.70**	**283**	P		**P**	**00 12 19.5**	**+1.2**
COEN				IAmb		IAmb	00 12 27.7	
	comp=Z,11nm,1.1s							
BBOO	**Buckleboo**	**33.21**	**245**	P		**P**	**00 12 57.3**	**-0.6**
BBOO				IAmb		IAmb	00 13 08.8	
	comp=Z,14nm,1.1s							
WR0	**Warramunga Arr**	**34.96**	**267**	P		**P**	**00 13 12.8**	**-0.5**
AS31	**Alice Springs**	**34.98**	**261**	P		**P**	**00 13 14.4**	**+1.0**
ASAR	**Alice Springs**	**34.98**	**261**	P		**P**	**00 13 14.3**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=90,slow=9.6,SNR=31							
ASAR				PcP		**PcP**	**00 15 44.1**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=118,slow=3.4,SNR=3.3							
ASAR				LR		LR	00 27 37.2	
	comp=Z,92nm,18.9s,baz=112,slow=36							
ASAR	**Alice Springs**	**34.98**	**261**	P		**P**	**00 13 13.5**	**+0.1**
WB0	**Warramunga Arr**	**35.13**	**268**	P		**P**	**00 13 15.4**	**+0.7**
WB2	**Warramunga Arr**	**35.14**	**267**	P		**P**	**00 13 14.8**	**0.0**
WB2				IAmb		IAmb	00 13 18.7	
	comp=Z,4.2nm,1.1s							
WRAB	**Tennant Creek**	**35.14**	**267**	P		**P**	**00 13 15.4**	**+0.6**
WRA	**Warramunga Arr**	**35.15**	**267**	P		**P**	**00 13 14.7**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=98,slow=8.4,SNR=5.8							
WRA	**Warramunga Arr**	**35.15**	**267**	IAmb		IAmb	00 13 24.0	
	comp=Z,0.1nm,0.8s							
FORT	**Forrest**	**39.85**	**249**	P		**P**	**00 13 55.8**	**+1.3**
FITZ	**Fitzroy Crossi**	**43.58**	**267**	P		**P**	**00 14 25.6**	**+0.4**
FITZ				IAmb		IAmb	00 14 29.3	
	comp=Z,13nm,1.1s							
NWAO	**Narrogin (SRO)**	**49.02**	**246**	P		**P**	**00 15 09.2**	**+1.4**
NWAO	**Narrogin (SRO)**	**49.02**	**246**	P		**P**	**00 15 08.8**	**+1.0**
NWAO				IAmb		IAmb	00 15 14.2	
	comp=Z,8.9nm,0.9s							
MORW	**Morawa**	**50.35**	**250**	P		**P**	**00 15 18.3**	**+0.4**
MORW				IAmb		IAmb	00 15 19.9	
	comp=Z,6.6nm,0.9s							
VNDA	**Vanda**	**55.02**	**183**	LR		LR	00 35 14.1	
	comp=Z,43nm,20.1s,baz=311,slow=31							
QSPA	**South Pole Qui**	**67.30**	**180**	P		**P**	**00 17 16.0**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=57,slow=1.4,SNR=6.3							
JNU	**Nakatsue**	**68.04**	**323**	LR		LR	00 42 29.7	
	comp=Z,16nm,19.9s,baz=329,slow=32							
ADK	**Adak**	**74.99**	**7**	P		**P**	**00 18 01.5**	**+0.1**
SNAA	**Sanae**	**85.74**	**182**	P		**P**	**00 18 58.2**	**-1.0**
SNAA	**Sanae**	**85.74**	**182**	P		**P**	**00 18 59.1**	**-0.1**
SNAA				IAmb		IAmb	00 19 12.6	
	comp=Z,2.9nm,1.1s							
VNA3	**Neumayer Olymp**	**86.23**	**179**	P		**P**	**00 19 01.3**	**-0.3**
VNA2	**Neumayer--Watz**	**86.56**	**180**	P		**P**	**00 19 03.2**	**+0.1**
VNA1	**Neumayer--Stat**	**86.83**	**180**	P		**P**	**00 19 03.9**	**-0.5**
NVAR	**Mina Array Bea**	**89.22**	**47**	P		**P**	**00 19 15.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=232,slow=6.8,SNR=2.8							
BBB	**Bella Bella**	**91.03**	**32**	LR		LR	00 55 15.9	
	comp=Z,31nm,18.2s,baz=14,slow=32							
ILAR	**Eielson Array**	**92.84**	**16**	P		**P**	**00 19 33.2**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=230,slow=5.9,SNR=3.2							
DLBC	**Dease Lake**	**94.00**	**27**	LR		LR	00 56 51.0	
	comp=Z,33nm,18.6s,baz=106,slow=32							
TXAR	**Lajitas Array**	**96.18**	**61**	LR		LR	00 56 11.2	
	comp=Z,33nm,18.9s,baz=0.0,slow=31							
PDAR	**Pinedale Array**	**97.12**	**47**	LR		LR	00 59 36.3	
	comp=Z,25nm,18.2s,baz=306,slow=33							

ISK ***17*** *00:07:32.5, 33.90°N×27.87°E, h82km, ML3.1/9*
NIC ***17*** *00:07:33.2±0.0, 33.90°N×28.14°E, h100km±31km, Ml3.3/2*
HLW ***17*** *00:07:35.4, 33.55°N×28.29°E, h11km±11km, Md4.1*
DDA ***17*** *00:07:37.4, 34.54°N×28.17°E, h7km±4km, ML2.4*
ISC 17 00:07:31.8±1.1, 33.85N±0.04°×28.03E±0.04, h35km, n46,
σ2.87/66, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KARP	**Karpathos**	**1.84**	**337**	PN		**Pn**	**00 08 02.3**	**+1.4**
KARP				SN		**Sn**	**00 08 24.0**	**+1.0**
KARP	**Karpathos**	**1.84**	**337**	P		**Pn**	**00 08 03.4**	**+2.5**
ZKR	**Zakros**	**1.96**	**311**	PN		**Pn**	**00 08 03.2**	**+0.7**
ARG	**Arkhangelos**	**2.36**	**2**	PN		**Pn**	**00 08 09.9**	**+1.8**
ARG	**Arkhangelos**	**2.36**	**2**	P		**Pn**	**00 08 10.5**	**+2.4**
MATC	**Matruh**	**2.58**	**195**	P		**Pn**	**00 08 13.4**	**+2.3**
	baz=203							
MATC				S		**Sn**	**00 08 41.5**	**+0.2**
	baz=203							
AKAS	**Kas**	**2.71**	**28**	PN		**Pn**	**00 08 15.8**	**+2.8**
AKAS	**Kas**	**2.71**	**28**	*i* P		**Pn**	**00 08 14.5**	**+1.5**
AKAS				*i* S		**Sn**	**00 08 42.8**	**-1.8**
OSC1	**CSNet OBS 1**	**2.73**	**96**	P		**Pn**	**00 08 14.6**	**+1.5**
OSC1				S		**Sn**	**00 08 46.8**	**+1.9**
DAT	**Datca**	**2.90**	**353**	PN		**Pn**	**00 08 17.3**	**+1.7**
DAT	**Datca**	**2.90**	**353**	*i* P		**Pn**	**00 08 17.3**	**+1.7**
DAT				*i* S		**Sn**	**00 08 48.6**	**-0.6**
FETY	**Fethiye**	**2.91**	**17**	PN		**Pn**	**00 08 18.1**	**+2.4**
FETY	**Fethiye**	**2.91**	**17**	*i* P		**Pn**	**00 08 17.4**	**+1.7**
FETY				*i* S		**Sn**	**00 08 45.2**	**-4.3**
TURN	**Turunc**	**2.93**	**3**	PN		**Pn**	**00 08 17.9**	**+0.3**
TURN	**Turunc**	**2.93**	**3**	*i* P		**Pn**	**00 08 17.5**	**-0.1**
TURN				*i* S		**Sn**	**00 08 47.1**	**-5.7**
TURN				IAML			00 08 53.0	
	comp=N,31nm,0.4s							
IDI	**Anoyia**	**2.96**	**300**	PN		**Pn**	**00 08 17.3**	**+0.9**
DALY	**Dalyan (Mula)**	**3.01**	**10**	PN		**Pn**	**00 08 18.9**	**+2.0**
DALY	**Dalyan (Mula)**	**3.01**	**10**	*i* P		**Pn**	**00 08 19.0**	**+2.0**
DALY				*i* S		**Sn**	**00 08 46.1**	**-6.6**
AKUM	**Antalya-Kumluc**	**3.11**	**37**	*i* P		**Pn**	**00 08 22.5**	**+4.1**
AKUM				*i* S		**Sn**	**00 08 50.1**	**-4.2**
AKUM				IAML			00 08 55.0	
	comp=N,21nm,0.7s							
BODT	**Bodrum**	**3.26**	**350**	PN		**Pn**	**00 08 21.9**	**+1.5**
ELL	**Elmali**	**3.28**	**27**	PN		**Pn**	**00 08 23.8**	**+3.1**
ELL	**Elmali**	**3.28**	**27**	P		**Pn**	**00 08 23.9**	**+3.1**
ELL				S		**Sn**	**00 09 01.8**	**+3.2**
SANT	**Santorini**	**3.28**	**321**	PN		**Pn**	**00 08 21.7**	**+0.9**
YER	**Yerkesik**	**3.29**	**4**	PN		**Pn**	**00 08 22.9**	**+2.1**
KORT	**Korkueli**	**3.67**	**30**	PN		**Pn**	**00 08 29.1**	**+2.9**
KORT	**Korkueli**	**3.67**	**30**	*i* P		**Pn**	**00 08 29.1**	**+2.9**
KORT				*i* S		**Sn**	**00 09 09.0**	**+0.6**
TAVA	**DENIZLI_Tavas**	**3.68**	**11**	*i* P		**Pn**	**00 08 28.4**	**+2.2**
TAVA				*i* S		**Sn**	**00 09 09.2**	**+0.7**
TAVA				IAML			00 09 14.0	
	comp=N,14nm,0.4s							
AKMS	**Akamas**	**3.75**	**71**	P		**Pn**	**00 08 29.2**	**+2.1**
AKMS				AML	AML		00 09 14.3	
	comp=N,0.1nm,0.3s							
AKMS				AML	AML		00 09 16.9	
	comp=N,0.1nm,0.3s							
APE	**Apeiranthos**	**3.81**	**328**	PN		**Pn**	**00 08 29.1**	**+1.1**
APE				SN		**Sn**	**00 09 10.1**	**-1.4**
AYDN	**Tasoluk**	**3.81**	**358**	*i* P		**Pn**	**00 08 29.1**	**+1.1**
AYDN				*i* S		**Sn**	**00 09 10.4**	**-1.1**
AYDN				IAML			00 09 15.0	
	comp=E,12nm,0.4s							
ALFC	**Alefka**	**3.99**	**70**	P		**Pn**	**00 08 32.4**	**+1.9**
SZAC	**Souni**	**4.12**	**76**	P		**Pn**	**00 08 33.7**	**+1.4**
SZAC				AML	AML		00 09 21.3	
	comp=E,0.1nm,0.8s							
SZAC				AML	AML		00 09 23.3	
	comp=E,0.1nm,0.4s							
BRDR	**BURDUR-Merkez**	**4.18**	**23**	*i* P		**Pn**	**00 08 35.8**	**+2.7**
BRDR				*i* S		**Sn**	**00 09 18.3**	**-2.5**
KEPZ	**Antalya-Kepez**	**4.22**	**43**	*i* P		**Pn**	**00 08 35.7**	**+2.0**
KEPZ				*i* S		**Sn**	**00 09 13.5**	**-8.3**
KEPZ				IAML			00 09 25.0	
	comp=N,8.0nm,0.3s							
GAZI	**Gazipasa**	**4.25**	**55**	*i* P		**Pn**	**00 08 36.2**	**+2.2**
GAZI				*i* S		**Sn**	**00 09 14.7**	**-7.7**
GAZI				IAML			00 09 23.0	
	comp=E,18nm,0.8s							
GAZI				IAML			00 09 23.0	
	comp=N,14nm,1.2s							
ASGA	**Asgata**	**4.42**	**76**	P		**Pn**	**00 08 38.7**	**+2.3**
CSS	**Mathiatis**	**4.52**	**74**	P		**Pn**	**00 08 40.0**	**+2.3**
BAGO	**Egridir - ISPA**	**4.70**	**28**	*i* P		**Pn**	**00 08 44.0**	**+3.7**
MVOU	**Mavrovouni**	**4.78**	**74**	P		**Pn**	**00 08 43.6**	**+2.4**
USAK	**Uak-Merkez**	**4.92**	**9**	*i* P		**Pn**	**00 08 44.0**	**+0.7**
USAK				*i* S		**Sn**	**00 09 36.5**	**-2.5**
SWA2		**5.09**	**206**	P		**Pn**	**00 08 47.5**	**+1.9**
	baz=211							
GULN	**MERSIN_Gulnar**	**5.09**	**61**	*i* P		**Pn**	**00 08 48.0**	**+2.5**
GULN				*i* S		**Sn**	**00 09 40.7**	**-2.4**
DOGA	**KONYA_Doganhis**	**5.17**	**34**	*i* P		**Pn**	**00 08 50.9**	**+4.0**
DOGA				*i* S		Sn	00 09 31.5	-14
HSAF	**As Saff**	**5.18**	**144**	P		**Pn**	**00 08 45.3**	**-1.5**
	baz=143							
GLL	**Jalalah**	**5.29**	**143**	P		**Pn**	**00 08 48.8**	**+0.5**
	baz=142							
HFRF	**Wahat Farafira**	**6.68**	**178**	P		**Pn**	**00 09 09.4**	**+2.0**
	baz=179							
HFRF				S		**Sn**	**00 10 17.8**	**-4.6**
	baz=179							

TEH ***17*** *00:07:42.7, 30.76°N×56.86°E, h12km, ML3.5*
THR ***17*** *00:07:44.7±0.3, 31.01°N×56.91°E, h18km±5km, ML3.2*
ISC 17 00:07:42.5±0.9, 30.77N±0.04°×56.89E±0.04, h10km, n28,
σ1.55/30, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KHGB	**Koh Gabri**	**0.53**	**222**	*e*Pg		**Pg**	**00 07 52.5**	**-0.4**
KHGB				*e*Sg		**Sg**	**00 07 59.5**	**-0.4**
TVBK	**TV Kerman**	**0.79**	**188**	*e*Pg		**Pg**	**00 07 58.0**	**+0.1**
TVBK				*e*			00 08 14.6	
KRBR	**Kerman**	**0.80**	**188**	IAML			00 08 52.6	
	comp=E,647nm,0.3s							
KRBR				IAML			00 08 52.8	
	comp=N,601nm,0.4s							
CHMN	**Cheshme madani**	**1.07**	**148**	*e*Pg		**Pb**	**00 08 03.0**	**-0.4**
NGRK	**Negar Kerman**	**1.13**	**187**	*e*			00 08 23.4	
NGRK				*e*Pg		**Pn**	**00 08 04.2**	**-0.6**
IBAF	**Bafgh**	**1.39**	**306**	*e*			00 08 32.5	
IBAF				*e*Pg		**Pn**	**00 08 07.6**	**-0.6**
IMEH	**Mehriz**	**2.04**	**288**	*e*Pg		**Pn**	**00 08 18.6**	**+1.4**
IMEH				*e*			00 08 48.7	
BSRN	**Basiran**	**2.25**	**58**	*e*Pn		**Pn**	**00 08 21.2**	**+1.2**
BSRN				*e*Sg		**Sb**	**00 08 51.4**	**-0.1**
BSRN	**Basiran**	**2.25**	**58**	*e*Pn		**Pn**	**00 08 21.2**	**+1.2**
TPRV	**Parvadeh(Tabas**	**2.25**	**356**	*e*Pn		**Pb**	**00 08 21.1**	**-2.3**
IKOO	**Kooshah**	**2.44**	**47**	*e*Pn		**Pn**	**00 08 23.9**	**+1.1**
IKOO				*e*			00 09 02.6	
YZKH	**Yazd**	**2.54**	**310**	*e*Pn		**Pn**	**00 08 25.6**	**+1.8**
YZKH				*e*Sg		**Sb**	**00 09 00.5**	**+1.0**
YZKH	**Yazd**	**2.54**	**310**	*e*Pn		**Pn**	**00 08 25.6**	**+1.8**
ICHK	**Chekchek**	**2.58**	**305**	*e*Pn		**Pn**	**00 08 26.5**	**+2.0**
ICHK				*e*			00 09 12.9	
ITEG	**Tejag**	**2.65**	**36**	*e*Pn		**Pb**	**00 08 27.6**	**-2.5**
NHDN	**Nehbandan**	**2.79**	**76**	*e*Pn		**Pn**	**00 08 29.1**	**+1.8**
TKDS	**Koohdasht(Taba**	**2.84**	**4**	*e*Pn		**Pn**	**00 08 29.3**	**+1.3**
TKDS				*e*			00 09 23.5	
TABS	**Tabas**	**2.88**	**4**	*e*Pn		**Pn**	**00 08 28.4**	**0.0**
TABS				IAML			00 09 25.1	
	comp=N,97nm,0.5s							
TABS	**Tabas**	**2.88**	**4**	*e*Pn		**Pn**	**00 08 28.5**	**0.0**
ISAD	**Sadrabad**	**2.96**	**293**	*e*Pn		**Pn**	**00 08 31.6**	**+1.7**
ISAD				*e*			00 09 17.7	
TNSJ	**Nastanj**	**3.19**	**356**	*e*Pn		**Pn**	**00 08 34.0**	**+1.1**
AFRZ	**Afriz**	**3.20**	**34**	*e*Pn		**Pn**	**00 08 35.1**	**+2.0**
AFRZ				*e*			00 09 31.2	
IDAH	**Dahanechah**	**3.21**	**52**	*e*Pn		**Pn**	**00 08 35.6**	**+2.3**
IDAH				*e*			00 08 48.8	
ANAR	**Anarak**	**3.61**	**313**	*e*Pn		**Pn**	**00 08 40.3**	**+1.7**
IRAM	**Ramesheh**	**3.99**	**286**	*e*Pn		**Pn**	**00 08 45.4**	**+1.4**
IZEF	**Zefreh**	**4.42**	**300**	*e*Pn		**Pn**	**00 08 51.5**	**+1.6**
IANJ	**Anjilo**	**5.30**	**333**	*e*Pn		**Pn**	**00 09 03.7**	**+1.7**
ISHM	**Shahmirzad**	**5.85**	**330**	*e*Pn		**Pn**	**00 09 12.0**	**+2.4**

ISU ***17*** *00:19:10.5, 41.33°N×72.28°E, h5km*
NNC ***17*** *00:19:16.7±1.9, 41.06°N×72.40°E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=15.8km s-min=6.0km az=178.0*
KRNET ***17*** *00:19:17.2±0.1, 41.08°N×72.45°E, h12km, mb2.9*
SOME ***17*** *00:19:17.5, 41.18°N×72.45°E, h5km*
ISC 17 00:19:16.2±1.1, 41.08N±0.02°×72.51E±0.02, h4km±11km,
n56, σ1.38/90, 25C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ANR	**Andizhan**	**0.35**	**199**	*e*P		**Pg**	**00 19 23.2**	**+0.3**
ANR				*e*S		**Sb**	**00 19 32.5**	**+1.7**
ARSB	**Arslanbob**	**0.43**	**56**	⇑*i*P		**Pb**	**00 19 26.2**	**-0.3**
	baz=58							
ARSB				⇑*i*S		**Sb**	**00 19 33.0**	**-0.4**
	baz=58							
OHH	**Osh**	**0.60**	**159**	⇑*i*P		**Pg**	**00 19 28.3**	**+0.6**
	baz=55							
OHH				⇑*i*S		**Sg**	**00 19 37.1**	**+1.6**
	baz=55							
OHH	**Osh**	**0.60**	**159**	*e*P		**Pn**	**00 19 30.4**	**-1.2**
OHH				*e*S		**Sg**	**00 19 36.7**	**+1.2**
NAM	**Namangan**	**0.65**	**262**	*e*P		**Pg**	**00 19 28.2**	**-0.4**
NAM				*e*S		**Sg**	**00 19 37.3**	**+0.3**
FRG	**Fergana**	**0.65**	**238**	*e*P		**Pn**	**00 19 32.8**	**+0.6**
FRG				*e*S		**Sn**	**00 19 47.4**	**+4.5**
ARK	**Arkit**	**0.82**	**330**	⇓*i*P		**Pg**	**00 19 31.3**	**-0.7**
	baz=34							
ARK				⇓*i*S		**Sg**	**00 19 42.8**	**+0.1**
	baz=34							
AML	**Almayashu**	**1.38**	**40**	⇑*e*P		**Pg**	**00 19 43.7**	**+1.1**
	baz=41							
AML				⇑*i*S		**Sg**	**00 20 02.5**	**+2.1**
	baz=41							
AML	**Almayashu**	**1.38**	**40**	P		**Pg**	**00 19 46.3**	**+3.7**
	SNR=22							
ARLS	**Aral**	**1.57**	**60**	⇓*i*P		**Pg**	**00 19 47.4**	**+1.1**
	baz=60							
ARLS				⇓*i*S		**Sg**	**00 20 09.8**	**+3.1**
	baz=60							
BTK	**Batken**	**1.64**	**232**	⇓*i*P		**Pb**	**00 19 46.9**	**-0.2**
	baz=31							
BTK				⇓*i*S		**Sg**	**00 20 09.2**	**+0.2**
	baz=31							
BTK	**Batken**	**1.64**	**232**	*e*P		**Pn**	**00 19 45.2**	**-0.7**
BTK				*e*S		**Sb**	**00 20 07.9**	**-0.3**
MRKS	**Merke**	**1.75**	**18**	*e*P		**Pg**	**00 19 50.7**	**+1.0**
	28nm,0.4s							
MRKS				*e*S		**Sg**	**00 20 14.6**	**+2.3**
	52nm,0.4s							
MRKS	**Merke**	**1.75**	**18**	P		**Pg**	**00 19 50.5**	**+0.8**
	28nm,0.4s							
MRKS				S		**Sg**	**00 20 14.6**	**+2.3**
	52nm,0.4s							
EKS2	**Erkin-Say**	**1.84**	**31**	⇑*i*P		**Pg**	**00 19 52.1**	**+0.6**
	baz=32							
EKS2				⇑*i*S		**Sg**	**00 20 16.8**	**+1.4**
	baz=32							
EKS2	**Erkin-Say**	**1.84**	**31**	P		**Pg**	**00 19 52.8**	**+1.3**
	SNR=17							
UCH	**Uchtor**	**1.89**	**52**	⇑*i*P		**Pg**	**00 19 52.7**	**+0.3**
	baz=53							
UCH				⇑*i*S		**Sg**	**00 20 18.5**	**+1.6**
	baz=53							
UCH	**Uchtor**	**1.89**	**52**	P		**Pg**	**00 19 53.7**	**+1.3**
	SNR=48							
IUG	**Iuzhnay**	**2.14**	**301**	*e*P		**Pb**	**00 19 55.6**	**+0.1**
	12nm,0.3s							
IUG				*e*S		**Sb**	**00 20 22.4**	**-0.1**
	61nm,0.3s							
IUG	**Iuzhnay**	**2.14**	**301**	Pg		**Pb**	**00 19 55.6**	**+0.1**
	12nm,0.3s							
IUG				Lg		Lg	00 20 22.4	
	61nm,0.3s							
AAK	**Ala-Archa**	**2.15**	**43**	⇓*i*P		**Pb**	**00 19 56.4**	**+0.6**
	baz=44							
AAK				⇓*i*S		**Sg**	**00 20 24.4**	**-0.8**
	baz=44							
AAK	**Ala-Archa**	**2.15**	**43**	P		**Pg**	**00 20 00.3**	**+2.9**
	SNR=8.3							
AAK	**Ala-Archa**	**2.15**	**43**	Pg		**Pg**	**00 19 57.0**	**-0.4**
	11nm,0.5s							
AAK				Lg		Lg	00 20 28.2	
	13nm,0.5s							
KZA	**Kyzart**	**2.29**	**63**	⇑*i*P		**Pb**	**00 19 58.1**	**-0.2**
	baz=64							
KZA				⇑*i*S		**Sb**	**00 20 27.4**	**+0.4**
	baz=64							
KZA	**Kyzart**	**2.29**	**63**	P		**Pg**	**00 19 59.6**	**-0.4**
	SNR=26							
FRU1	**Bishkek**	**2.34**	**42**	⇑*i*P		**Pb**	**00 19 58.9**	**-0.1**
	baz=42							
FRU1				⇑*i*S		**Sb

MDOK					Lg	Lg	00 21 24.4		
	4.2nm,0.7s								
KUU	**Kurty**	**3.99**	**44**	*eP*	**Pg**	**Pg**	**00 20 31.4**	**-1.2**	
	3.2nm,0.4s								
KUU				*eS*	**Sg**	**Pg**	**00 21 24.0**	**-0.3**	
	6.9nm,0.5s								
KUU	**Kurty**	**3.99**	**44**	Pg	**Pg**	**Pg**	**00 20 31.4**	**-1.2**	
	3.2nm,0.4s								
KUU				Lg	Lg	Lg	00 21 24.0		
	6.9nm,0.5s								
KOTS	**Kotyrbulak**	**4.04**	**56**	*eP*	**Pg**	**Pg**	**00 20 33.1**	**-0.5**	
	12nm,0.6s								
KOTS				*eS*	**Sg**	**Pg**	**00 21 27.1**	**+1.1**	
	4.9nm,0.5s								
KOTS	**Kotyrbulak**	**4.04**	**56**	Pg	**Pg**	**Pg**	**00 20 33.2**	**-0.5**	
	12nm,0.6s								
KOTS				Lg	Lg	Lg	00 21 27.1		
	4.9nm,0.5s								
KTBS	**Karatobe**	**4.06**	**48**	*eP*	**Pg**	**Pg**	**00 20 32.2**	**-1.8**	
	1.8nm,0.5s								
KTBS				*eS*	**Sg**	**Pg**	**00 21 25.3**	**-1.2**	
	9.0nm,0.6s								
KTBS	**Karatobe**	**4.06**	**48**	Pg	**Pg**	**Pg**	**00 20 32.2**	**-1.8**	
	1.8nm,0.5s								
KTBS				Lg	Lg	Lg	00 21 25.3		
	9.0nm,0.6s								
BTLS	**Baital**	**4.11**	**15**	*eP*	**Pg**	**Pg**	**00 20 33.9**	**-1.1**	
	1.9nm,0.6s								
BTLS				*eS*	**Sg**	**Pg**	**00 21 27.9**	**-0.4**	
	5.7nm,0.5s								
BTLS	**Baital**	**4.11**	**15**	Pg	**Pg**	**Pg**	**00 20 33.9**	**-1.1**	
	1.9nm,0.6s								
BTLS				Lg	Lg	Lg	00 21 27.9		
	5.7nm,0.5s								
CHKK	**Chushkaly**	**4.32**	**49**	*eP*	**Pg**	**Pg**	**00 20 37.3**	**-1.6**	
	1.7nm,0.5s								
CHKK				*eS*	**Sg**	**Pg**	**00 21 34.7**	**-0.2**	
	5.8nm,0.6s								
CHKK	**Chushkaly**	**4.32**	**49**	Pg	**Pg**	**Pg**	**00 20 37.3**	**-1.6**	
	1.7nm,0.5s								
CHKK				Lg	Lg	Lg	00 21 34.7		
	5.8nm,0.6s								

NEIC ***17*** *00:35:41.4±1.8,5.0S±0.1°×153.8E±0.1,h93km±11km, mb4.1/10, Error ellipse: s-maj=22.3km s-min=17.7km az=55.0*
IDC ***17*** *00:35:43.7±4.9,4.8°S×153.6°E,h109km±33km,mb3.3/5, mb1 3.6/6,mb1mx3.3/39,mbtmp3.8/6, Error ellipse: s-maj=51.2km s-min=19.4km az=94.0*

ISC 17 00:35:42.5±1.1,4.9S±0.1°×153.8E±0.1,h105km,n22, σ0°99/23,mb3.8/9,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
RABL	**Rabaul**	**1.75**	**294**	Pn		**Pn**	**00 36 11.9**		**-0.1**
KRVT	**Keravat (AS076**	**1.83**	**289**	P		**Pn**	**00 36 12.9**		**-0.2**
	29nm,0.3s,baz=209,slow=0.3,SNR=16								
KRVT				S		**Sn**	**00 36 36.2**		**-0.3**
	39nm,0.3s,baz=345,slow=23,SNR=14								
PMG	**Port Moresby**	**7.93**	**235**	P		**Pn**	**00 37 36.9**		**+1.8**
	6.6nm,0.3s,baz=61,slow=11,SNR=13								
PMG				S		**Sn**	**00 39 04.2**		**+1.0**
	1.5nm,0.3s,baz=174,slow=20,SNR=1.6								
PMG	**Port Moresby**	**7.93**	**235**			**Pn**	**00 37 35.8**		**+0.7**
COEN	**Coen**	**13.78**	**229**	Pn		**Pn**	**00 38 52.6**		**-0.9**
CTAO	**Charters Tower**	**16.77**	**205**			**Pn**	**00 39 30.4**		**-0.7**
CTAO				IAmb		IAmb	00 39 39.2		
	comp=Z,8.8nm,1.1s								
MTN	**Manton Dam**	**23.69**	**249**	P		**P**	**00 40 43.9**		**-1.0**
WB0	**Warramunga Arr**	**23.96**	**230**	P		**P**	**00 40 47.9**		**+0.7**
WB0				IAmb		IAmb	00 40 58.2		
	comp=Z,6.9nm,1.1s								
WR0	**Warramunga Arr**	**23.96**	**230**	P		**P**	**00 40 47.4**		**+0.1**
WB2	**Warramunga Arr**	**24.09**	**230**	P		**P**	**00 40 49.1**		**+0.7**
WRA	**Warramunga Arr**	**24.10**	**230**	P		**P**	**00 40 49.2**		**+0.6**
	comp=Z,1.3nm,0.7s,baz=53,slow=9.8,SNR=10								
WRA	**Warramunga Arr**	**24.10**	**230**	IAmb		IAmb	00 40 56.5		
	comp=Z,0.1nm,0.8s								
ARMA	**Armidale**	**25.46**	**184**	P		**P**	**00 40 58.5**		**-2.4**
ARMA				IAmb		IAmb	00 41 06.3		
	comp=Z,13nm,1.1s								
ASAR	**Alice Springs**	**26.73**	**224**	P		**P**	**00 41 12.2**		**-0.1**
	comp=Z,0.3nm,0.4s,baz=55,slow=8.8,SNR=9.7								
STKA	**Stephens Creek**	**29.16**	**202**	P		**P**	**00 41 34.8**		**+1.0**
	comp=Z,1.5nm,0.7s,baz=13,slow=14,SNR=3.3								
FITZ	**Fitzroy Crossi**	**30.45**	**242**	P		**P**	**00 41 45.1**		**-0.3**
FITZ				IAmb		IAmb	00 41 54.7		
	comp=Z,3.1nm,0.9s								
FORT	**Forrest**	**35.32**	**220**	P		**P**	**00 42 27.0**		**-0.7**
RAO	**Raoul Island**	**36.12**	**135**			**S**	**00 48 07.7**		**+1.2**
MORW	**Morawa**	**43.03**	**232**	P		**P**	**00 43 31.2**		**-0.7**
MORW				IAmb		IAmb	00 43 41.1		
	comp=Z,5.2nm,1.1s								
MKAR	**Makanchi Array**	**81.04**	**319**	P		**P**	**00 47 46.2**		**+0.3**
	comp=Z,0.2nm,0.6s,baz=89,slow=7.6,SNR=2.1								
ZALV	**Zalesovo Beam**	**81.78**	**326**	P		**P**	**00 47 51.0**		**+1.4**
	comp=Z,0.4nm,0.4s,baz=111,slow=5.6,SNR=2.5								
TORD	**Torodi Ar. Bea**	**151.25**	**288**	PKPbc		**PKPbc**	**00 55 24.3**		**-0.4**
	comp=Z,0.2nm,0.4s,baz=56,slow=2.5,SNR=6.0								

NEIC ***17*** *00:45:23.6±1.6,5.0S±0.1°×154.1E±0.1,h104km±9km, mb4.3/14, Error ellipse: s-maj=15.1km s-min=14.2km az=218.0*
IDC ***17*** *00:45:25.0±4.9,4.8°S×153.79E,h105km±34km,mb3.5/6, mb1 3.7/7,mb1mx3.4/42,mbtmp4.0/7, Error ellipse: s-maj=49.1km s-min=19.5km az=92.0*

ISC 17 00:45:23.5±0.7,4.93S±0.07°×154.00E±0.09,h105km,n27, σ1°42/29,mb4.0/12,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
RABL	**Rabaul**	**1.97**	**292**	Pn		**Pn**	**00 45 57.0**		**+1.1**
RABL				Sn		**Sn**	**00 46 21.8**		**+1.1**
KRVT	**Keravat (AS076**	**2.06**	**287**	P		**Pn**	**00 45 55.7**		**-1.3**
	40nm,0.3s,baz=158,slow=0.6,SNR=27								
KRVT				S		**Sn**	**00 46 19.1**		**-3.6**
	62nm,0.3s,baz=166,slow=23,SNR=16								
KRVT				LR		LR	00 46 51.8		
	comp=Z,93nm,20.2s,baz=102,slow=47								
PMG	**Port Moresby**	**8.12**	**236**	P		**Pn**	**00 47 20.4**		**+1.8**
	11nm,0.3s,baz=51,slow=7.1,SNR=27								
PMG				S		**Sn**	**00 48 48.7**		**0.0**
	2.1nm,0.3s,baz=340,slow=15,SNR=1.8								
PMG	**Port Moresby**	**8.12**	**236**			**Pn**	**00 47 20.2**		**+1.6**
PATS	**Pohnpei**	**12.45**	**20**	Pn		**Pn**	**00 48 17.6**		**+0.5**
COEN	**Coen**	**13.94**	**229**	Pn		**Pn**	**00 48 37.9**		**+1.3**
DZM	**Mont Dzumac**	**20.88**	**146**	P		**P**	**00 49 56.3**		**-1.1**
DZM				IAmb		IAmb	00 49 57.0		
	comp=Z,16nm,1.1s								
FAKI	**Fak Fak**	**21.79**	**274**	P		**P**	**00 50 05.5**		**-1.6**
ANA2	**Anatahan**	**22.66**	**339**	P		**P**	**00 50 17.2**		**+1.0**
WR0	**Warramunga Arr**	**24.13**	**230**	P		**P**	**00 50 30.3**		**+0.5**
WB0	**Warramunga Arr**	**24.13**	**231**	P		**P**	**00 50 29.9**		**+0.1**
WB0				IAmb		IAmb	00 50 39.4		
	comp=Z,6.2nm,1.1s								
WB2	**Warramunga Arr**	**24.26**	**230**	P		**P**	**00 50 31.7**		**+0.6**
WRA	**Warramunga Arr**	**24.27**	**230**	P		**P**	**00 50 32.2**		**+1.1**
	comp=Z,1.8nm,0.6s,baz=54,slow=9.8,SNR=16								
WRA	**Warramunga Arr**	**24.27**	**230**	P		**P**	**00 50 31.6**		**+0.5**
ARMA	**Armidale**	**25.46**	**185**	P		**P**	**00 50 40.1**		**-1.8**
ARMA				IAmb		IAmb	00 50 40.2		
	comp=Z,5.3nm,0.9s								
ASAR	**Alice Springs**	**26.88**	**224**	P		**P**	**00 50 55.2**		**+0.5**
	comp=Z,0.4nm,0.4s,baz=54,slow=9.0,SNR=7.6								
STKA	**Stephens Creek**	**29.23**	**202**	P		**P**	**00 51 16.4**		**+0.9**
	comp=Z,1.0nm,0.5s,baz=17,slow=14,SNR=3.8								
FITZ	**Fitzroy Crossi**	**30.65**	**242**	P		**P**	**00 51 28.0**		**-0.2**
FITZ				IAmb		IAmb	00 51 42.7		
	comp=Z,3.1nm,0.9s								
FORT	**Forrest**	**35.46**	**220**	P		**P**	**00 52 09.8**		**-0.1**
FOZ	**Fox Glacier**	**40.91**	**162**	P		**P**	**00 52 52.0**		**-3.4**
FOZ				IAmb		IAmb	00 53 09.8		
	comp=Z,19nm,1.0s								
MLZ	**Mavora Lakes**	**42.13**	**165**	P		**P**	**00 53 05.3**		**-0.1**
MLZ				IAmb		IAmb	00 53 13.9		
	comp=Z,15nm,1.1s								
MORW	**Morawa**	**43.20**	**232**	P		**P**	**00 53 14.1**		**-0.3**
MORW				IAmb		IAmb	00 53 15.1		
	comp=Z,3.9nm,0.6s								
MKAR	**Makanchi Array**	**81.21**	**319**	P		**P**	**00 57 29.4**		**+1.6**
	comp=Z,0.2nm,0.5s,baz=93,slow=6.5,SNR=2.7								
ZALV	**Zalesovo Beam**	**81.92**	**326**	P		**P**	**00 57 31.8**		**+0.5**
	comp=Z,0.5nm,0.5s,baz=114,slow=3.5,SNR=2.3								
MAW	**Mawson**	**85.91**	**203**	P		**P**	**00 57 52.6**		**+1.2**
	comp=Z,1.6nm,0.8s,baz=96,slow=14,SNR=4.9								
MAW	**Mawson**	**85.91**	**203**	IAmb		IAmb	00 57 53.4		
	comp=Z,0.3nm,0.7s								
TORD	**Torodi Ar. Bea**	**151.48**	**289**	PKPbc		**PKPbc**	**01 05 06.5**		**+0.2**
	comp=Z,0.4nm,0.5s,baz=43,slow=2.0,SNR=9.6								

IDC ***17*** *00:54:44.7±50.0,16.88S×177.07W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.6/26,mbtmp3.9/3, Error ellipse: s-maj=935.0km s-min=171.2km az=78.0*
NEIC ***17*** *00:54:55.1±1.8,16.2S±0.1°×176.80W±0.09,h142km±3km, mb4.2/19, Error ellipse: s-maj=16.6km s-min=10.5km az=143.0*

ISC 17 00:54:55.6±0.6,16.16S±0.08°×176.76W±0.09,h150km, n29,σ1°04/29,mb4.1/12,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
MSVF	**Nonsavu**	**5.21**	**252**	Pn		**Pn**	**00 56 10.4**		**-1.4**
AFI	**Afiamalu**	**5.31**	**66**	Pn		**Pn**	**00 56 12.3**		**-1.0**
NIUE	**Niue**	**7.13**	**115**	Pn		**Pn**	**00 56 37.0**		**-0.4**
FUNA	**Funafuti**	**8.55**	**332**	Pn		**Pn**	**00 56 56.1**		**-0.4**
RAO	**Raoul Island**	**13.07**	**184**	Pn		**Pn**	**00 57 54.8**		**-0.9**
KNTN	**Kanton**	**14.20**	**21**			**P**	**00 58 12.5**		**-0.6**
PLWZ	**Palliser**	**26.24**	**194**	P		**P**	**01 00 17.5**		**+0.7**
KHZ	**Kahutara**	**27.46**	**196**	P		**P**	**01 00 26.8**		**-0.7**
KHZ				IAmb		IAmb	01 00 40.8		
	comp=Z,14nm,1.1s								
CAN	**Canberra**	**36.02**	**231**	P		**P**	**01 01 42.8**		**+0.3**
CAN				IAmb		IAmb	01 01 52.3		
	comp=Z,11nm,1.1s								
TOO	**Toolangi**	**39.49**	**230**	P		**P**	**01 02 11.1**		**-0.6**
TOO				IAmb		IAmb	01 02 27.0		
	comp=Z,6.0nm,1.1s								
TAU	**Tasmania Unive**	**40.59**	**221**	P		**P**	**01 02 19.9**		**-0.6**
STKA	**Stephens Creek**	**40.86**	**240**	P		**P**	**01 02 23.6**		**+0.7**
	comp=Z,0.4nm,0.2s,baz=67,slow=11,SNR=3.1								
STKA	**Stephens Creek**	**40.86**	**240**	P		**P**	**01 02 23.2**		**+0.3**
BBOO	**Buckleboo**	**45.63**	**240**	P		**P**	**01 03 00.6**		**-0.7**
BBOO				IAmb		IAmb	01 03 10.8		
	comp=Z,8.2nm,1.1s								
WR0	**Warramunga Arr**	**46.33**	**258**	P		**P**	**01 03 07.9**		**+1.0**
WR0				IAmb		IAmb	01 03 10.8		
	comp=Z,4.2nm,1.1s								
WB0	**Warramunga Arr**	**46.48**	**258**	P		**P**	**01 03 09.6**		**+1.6**
WB0				IAmb		IAmb	01 03 13.3		
	comp=Z,3.6nm,1.0s								
WB2	**Warramunga Arr**	**46.51**	**258**	P		**P**	**01 03 08.5**		**+0.2**
WRA	**Warramunga Arr**	**46.52**	**258**	P		**P**	**01 03 10.9**		**+2.5**
	comp=Z,0.6nm,0.4s,baz=94,slow=7.2,SNR=15								
WRA	**Warramunga Arr**	**46.52**	**258**	P		**P**	**01 03 08.9**		**+0.6**
ASAR	**Alice Springs**	**46.80**	**253**	P		**P**	**01 03 12.1**		**+1.6**
	comp=Z,1.9nm,0.6s,baz=87,slow=8.7,SNR=27								
ASAR	**Alice Springs**	**46.80**	**253**	P		**P**	**01 03 10.2**		**-0.3**
NWAO	**Narrogin (SRO)**	**61.42**	**241**	P		**P**	**01 04 57.2**		**+0.9**
VNDA	**Vanda**	**62.31**	**185**	P		**P**	**01 05 02.5**		**+1.1**
PAGB	**Antelope Grade**	**74.30**	**45**	P		**P**	**01 06 17.6**		**+0.9**
PAGB				IAmb		IAmb	01 06 20.8		
	comp=Z,6.4nm,1.0s								
GDXM	**Geysers**	**74.39**	**41**	P		**P**	**01 06 19.2**		**+1.9**
GDXM				IAmb		IAmb	01 06 31.6		
	comp=Z,4.4nm,1.2s								
BCPM	**Bancas Point**	**81.57**	**18**	P		**P**	**01 06 56.5**		**+0.3**
VRDI	**Verde Repeater**	**81.58**	**16**	P		**P**	**01 06 55.4**		**-1.1**
DUG	**Dugway, Tooele**	**81.64**	**44**	P		**P**	**01 06 57.8**		**+0.5**
GLB	**Gilahina Butte**	**81.67**	**15**	P		**P**	**01 06 57.1**		**+0.3**
GLB				IAmb		IAmb	01 07 10.4		
	comp=Z,7.0nm,1.2s								

KRNET ***17*** *00:56:20.4±0.1,41.82N×79.03E,h11km,mb2.1*
NNC ***17*** *00:56:30.0±3.2,41.34N×78.53E,h0km,mb2.6,mpv2.4, Error ellipse: s-maj=22.7km s-min=13.9km az=165.0*
SOME ***17*** *00:56:33.5,41.53N×78.68E,h5km*

ISC 17 00:56:28.9±2.4,41.20N±0.10°×78.17E±0.05,h7km±12km, n27,σ1°18/42,5C-9D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TARG	**Taragay, Kyrgy**	**0.59**	**333**	⇑*i*	P	**Pg**	**00 56 38.1**		**-2.4**
	baz=65								
TARG				⇑*i*	S	**Sb**	**00 56 51.2**		**+0.5**
	baz=65								
KDJ	**Kajisay**	**1.19**	**322**	⇑*i*	P	Pg	00 56 47.0		-4.7
	baz=83								
KDJ				⇑*i*	S	**Sg**	**00 57 06.5**		**-0.6**
	baz=83								
ULHL	**Ulahol**	**1.78**	**307**	⇓*i*	P	**Pn**	**00 56 59.2**		**-1.1**
	baz=83								
ULHL				⇓*i*	S	**Sg**	**00 57 27.3**		**+1.1**
	baz=83								
SATY	**Saty**	**1.86**	**5**	*eP*		**Pb**	**00 57 03.6**		**+0.2**
	1.4nm,0.1s								
SATY				*eS*		**Sn**	**00 57 25.2**		**0.0**
	7.6nm,0.2s								
SATY	**Saty**	**1.86**	**5**	P		**Pb**	**00 57 03.6**		**+0.2**
	1.4nm,0.1s								
SATY				S		**Sn**	**00 57 25.2**		**0.0**
	7.6nm,0.2s								
UZB	**Uzynbulak**	**2.04**	**18**	*eP*		**Pn**	**00 57 05.2**		**+1.3**
	0.8nm,0.4s								
UZB				*eS*		**Sn**	**00 57 28.0**		**-1.7**
	3.8nm,0.4s								
UZB	**Uzynbulak**	**2.04**	**18**	P		**Pn**	**00 57 05.1**		**+1.3**
	0.8nm,0.4s								
UZB				S		**Sn**	**00 57 28.0**		**-1.7**
	3.8nm,0.4s								
MDOK	**Medeo**	**2.13**	**337**	*eP*		**Pg**	**00 57 10.6**		**+0.8**
MDOK				*eS*		**Sg**	**00 57 37.7**		**+0.4**
MDOK	**Medeo**	**2.13**	**337**	Pg		**Pb**	**00 57 07.2**		**-0.7**
	1.7nm,0.5s								
MDOK				Lg		Lg	00 57 38.9		
	5.7nm,0.7s								
MDOK	**Medeo**	**2.13**	**337**	Pg		**Pg**	**00 57 10.6**		**+0.8**
MDOK				Lg		Lg	00 57 37.7		
SHLS	**Shalkode**	**2.18**	**26**	*eP*		**Pb**	**00 57 08.9**		**+0.2**
	1.9nm,0.5s								
SHLS				*eS*		**Sn**	**00 57 34.4**		**+1.4**
	6.1nm,0.5s								
SHLS	**Shalkode**	**2.18**	**26**	Pg		**Pb**	**00 57 08.9**		**+0.2**
	1.9nm,0.5s								
SHLS				Lg		Lg	00 57 34.4		
	6.1nm,0.5s								
PDGK	**Podgornoye**	**2.34**	**24**	Pg		**Pn**	**00 57 08.8**		**+0.8**
	0.3nm,0.3s								
PDGK				Lg		Lg	00 57 34.6		
	2.6nm,0.5s								
PDGK	**Podgornoye**	**2.34**	**24**	⇑Pg		**Pn**	**00 57 05.7**		**-2.2**
	0.4nm,0.3s								
PDGK				⇓Lg		Lg	00 57 36.3		
	3.8nm,0.6s								
KZA	**Kyzart**	**2.36**	**293**	⇓*eP*		**Pn**	**00 57 09.2**		**+0.8**
	baz=77								
KZA				⇓*iS*		**Sg**	**00 57 44.7**		**0.0**
	baz=77								
TKM2	**Tokmak 2**	**2.57**	**313**	⇓Pg		**Pb**	**00 57 14.7**		**-0.8**
	1.1nm,0.9s								
TKM2				⇓Lg		Lg	00 57 54.8		
	1.0nm,0.6s								
KTMS	**Ketmen**	**2.77**	**35**	*eP*		**Pn**	**00 57 15.1**		**+1.3**
	0.4nm,0.1s								
KTMS				*eS*		**Sn**	**00 57 44.9**		**-2.6**
	3.6nm,0.6s								
KTMS	**Ketmen**	**2.77**	**35**	Pg		**Pn**	**00 57 15.1**		**+1.3**
	0.4nm,0.1s								
KTMS				Lg		Lg	00 57 44.9		
	3.6nm,0.6s								
MNBS	**Baschi**	**2.88**	**3**	*eP*		**Pb**	**00 57 21.8**		**+1.1**
	0.5nm,0.3s								
MNBS				*eS*		**Sb**	**00 57 56.4**		**+0.2**
	3.4nm,0.2s								
MNBS	**Baschi**	**2.88**	**3**	Pg		**Pb**	**00 57 21.8**		**+1.1**
	0.5nm,0.3s								
MNBS				Lg		Lg	00 57 56.4		
	3.4nm,0.2s								
UCH	**Uchtor**	**2.92**	**292**	⇓*eP*		**Pn**	**00 57 17.0**		**+0.8**
	baz=78								
UCH				⇓*iS*		**Sb**	**00 57 58.2**		**+0.5**
	baz=78								
KUU	**Kurty**	**3.01**	**334**	*eP*		**Pg**	**00 57 27.2**		**+0.6**
KUU				*eS*		**Sg**	**00 58 06.0**		**+0.4**
KUU	**Kurty**	**3.01**	**334**	Pg		**Pg**	**00 57 27.2**		**+0.6**
KUU				Lg		Lg	00 58 06.0		
DJR	**Jarkent**	**3.35**	**20**	*eP*		**Pb**	**00 57 28.0**		**-0.7**
	0.3nm,0.2s								
DJR				*eS*		**Sb**	**00 58 07.0**		**-2.6**
	0.9nm,0.3s								
DJR	**Jarkent**	**3.35**	**20**	Pg		**Pb**	**00 57 28.0**		**-0.7**
	0.3nm,0.2s								
DJR				Lg		Lg	00 58 07.0		
	0.9nm,0.3s								
KAPS	**Kapalarasan**	**4.17**	**12**	*eP*		**Pb**	**00 57 43.6**		**+0.9**
	0.6nm,0.7s								
KAPS				*eS*		**Sb**	**00 58 33.9**		**+0.6**
	0.7nm,0.2s								
KAPS	**Kapalarasan**	**4.17**	**12**	Pg		**Pb**	**00 57 43.6**		**+0.9**
	0.6nm,0.7s								
KAPS				Lg		Lg	00 58 33.9		
	0.7nm,0.2s								

BER ***17*** *01:01:24.3±2.0,79.58N×3.33E,h10km,ML2.1, ML2.7(DNK)*
IEPN ***17*** *01:01:29.0,79.55N×4.81E,h15km*

ISC 17 01:01:18.3±1.1,79.8N±0.1°×2.92E±0.04,h10km,n14, σ3°31/31,5C,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
KBS	**Kingsbay**	**1.89**	**113**	⇑*i*	P	**Pb**	**01 01 52.1**		**-0.8**
KBS				*i*	S	**Sn**	**01 02 10.6**		**-3.9**
KBS	**Kingsbay**	**1.89**	**113**	⇑*i*	P	**Pb**	**01 01 52.6**		**-0.3**
KBS				*e*	S	**Sn**	**01 02 11.6**		**-2.9**
KBS				IAML			01 02 18.2		
	comp=Z,93nm,0.3s								
KBS	**Kingsbay**	**1.89**	**113**	⇑*i*	P	**Pb**	**01 01 52.6**		**-0.3**
KBS				*i*	S	**Sn**	**01 02 11.6**		**-2.9**
KBS				IAML			01 02 18.2		
	comp=Z,93nm,0.3s								
SPA0	**Spitsbergen Ar**	**3.05**	**116**	⇑*i*	P	**Pn**	**01 02 09.2**		**+2.7**
SPA0				*e*	S	**Sn**	**01 02 40.3**		**-2.7**
SPA0	**Spitsbergen Ar**	**3.05**	**116**	*e*	P	**Pn**	**01 02 09.2**		**+2.7**
SPA0				*e*	Pg	**Pb**	**01 02 11.3**		**-1.3**
SPA0				*e*	S	**Sn**	**01 02 42.0**		**-1.0**
SPA0				IAML			01 02 46.1		
	comp=Z,12nm,0.3s								
HSPB	**Hornsund (broa**	**3.79**	**132**	⇑*i*	P	**Pn**	**01 02 19.7**		**+3.1**
HSPB				*e*	S	**Sn**	**01 02 57.4**		**-3.8**
HSPB	**Hornsund (broa**	**3.79**	**132**	*e*	P	**Pn**	**01 02 18.9**		**+2.3**
HSPB				*e*	S	**Sn**	**01 02 58.2**		**-3.0**
HSPB				IAML			01 03 03.7		
	comp=Z,16nm,0.3s								
DAG	**Danmarks Havn**	**5.31**	**246**	*i*	P	**Pn**	**01 02 40.8**		**+3.3**
DAG				*i*	S	**Sn**	**01 03 37.3**		**-1.3**
DAG	**Danmarks Havn**	**5.31**	**246**	*i*	S	**Sn**	**01 03 37.4**		**-1.3**
DAG				*e*		**Pn**	**01 02 39.6**		**+2.1**
	baz=50,slow=18								
DAG				*i*	P	**Pn**	**01 02 40.9**		**+3.3**
DAG				IAML			01 03 38.4		
	comp=Z,2.5nm,0.4s								
DAG	**Danmarks Havn**	**5.31**	**246**	*i*	S	**Sn**	**01 03 37.4**		**-1.3**
DAG				*e*		**Pn**	**01 02 39.6**		**+2.1**
	baz=50,slow=18								
DAG				*i*	P	**Pn**	**01 02 40.9**		**+3.3**
DAG				IAML			01 03 38.4		
	comp=Z,2.5nm,0.4s								
HOPEN	**Hopen**	**5.58**	**115**	P		**Pn**	**01 02 45.7**		**+4.4**
HOPEN				*e*	S	**Sn**	**01 03 41.0**		**-4.4**
ZFI2	**Zemlya Franca-**	**7.45**	**61**	*eP*		**Pn**	**01 03 10.1**		**+3.2**
ZFI2				*e*	S	**Sn**	**01 04 25.7**		**-5.6**
	comp=Z,8.0nm,0.9s								
DBG	**Daneborg**	**7.50**	**235**	*i*	P	**Pn**	**01 03 10.8**		**+3.3**
DBG				*i*	S	**Sn**	**01 04 26.9**		**-5.6**
DBG				IAML			01 04 34.1		
	comp=Z,1.8nm,0.3s								
DBG	**Daneborg**	**7.50**	**235**	*i*	P	**Pn**	**01 03 10.8**		**+3.3**
DBG				*i*	S	**Sn**	**01 04 26.9**		**-5.6**
DBG				IAML			01 04 34.1		
	comp=Z,1.8nm,0.3s								

IDC ***17*** *01:21:50.1±1.2,36.31N×141.05E,h0km,mb3.8/9, mb1 3.9/12,mb1mx3.7/44,mbtmp3.8/12,ML3.2/3,MS3.1/11, Ms1 3.1/11,ms1mx2.8/54,Error ellipse: s-maj=25.1km s-min=20.4km az=101.0*
NEIC ***17*** *01:21:52.0±1.7,36.33N±0.03°×141.12E±0.09,h15km±4km, mb4.3/12,Error ellipse: s-maj=10.3km s-min=3.7km az=101.0*
JMA ***17*** *01:21:55.1±0.1,36.35N×140.98E,h43km±1km,MS3.9*
JMA Felt II J1.
NIED ***17*** *01:21:55.1,36.35N×140.98E,h43km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.24; Mθθ0.35; Mφφ-0.59

H11N1	**WAKE ISLAND Hy**	**28.06**	**119**	T	T	01 57 07.5	
	baz=312,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**28.07**	**119**	T	T	01 57 07.5	
	baz=312,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**28.74**	**121**	T	T	01 58 01.2	
	baz=314,slow=76,SNR=76						
H11S3	**WAKE ISLAND Hy**	**28.74**	**121**	T	T	01 58 04.0	
	baz=314,slow=76,SNR=52						
H11S2	**WAKE ISLAND Hy**	**28.75**	**121**	T	T	01 58 01.2	
	baz=314,slow=76,SNR=68						
TLY	**Talaya**	**30.57**	**312**	LR	LR	01 40 50.4	
	comp=Z,26nm,18.0s,baz=82,slow=37						
CMAR	**Chiang Mai Arr**	**41.05**	**256**	LR	LR	01 47 20.1	
	comp=Z,23nm,19.1s,baz=195,slow=37						
ZAA0	**Zalesovo Array**	**42.17**	**313**	P	**P**	**01 29 44.4**	**+0.5**
ZAA0				IAmb	IAmb	01 29 45.7	
	comp=Z,4.6nm,0.9s						
ZALV	**Zalesovo Beam**	**42.17**	**313**	P	**P**	**01 29 44.8**	**+0.9**
	comp=Z,6.4nm,0.9s,baz=90,slow=7.4,SNR=14						
ZALV	**Zalesovo Beam**	**42.17**	**313**	P	**P**	**01 29 44.5**	**+0.6**
MK31	**Makanchi Array**	**44.24**	**303**	P	**P**	**01 30 01.2**	**+0.3**
MKAR	**Makanchi Array**	**44.24**	**303**	P	**P**	**01 30 02.2**	**+1.4**
	comp=Z,1.7nm,0.9s,baz=83,slow=10,SNR=11						
MKAR				LR	LR	01 49 02.0	
	comp=Z,35nm,18.1s,baz=108,slow=37						
MKAR	**Makanchi Array**	**44.24**	**303**	P	**P**	**01 30 00.9**	**+0.1**
MAKZ	**Makanchi**	**44.45**	**303**	P	**P**	**01 30 03.4**	**+0.8**
MAKZ				IAmb	IAmb	01 30 05.4	
	comp=Z,3.3nm,1.2s						
KURK	**Kurchatov**	**46.13**	**309**	P	**P**	**01 30 16.2**	**+0.5**
KURK				IAmb	IAmb	01 30 17.9	
	comp=Z,3.9nm,0.8s						
KURBB	**Kurchatov Arra**	**46.20**	**308**	P	**P**	**01 30 16.6**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=84,slow=8.2,SNR=34						
ILAR	**Eielson Array**	**50.22**	**32**	P	**P**	**01 30 48.5**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=249,slow=6.4,SNR=5.2						
KK31	**Karatay Array**	**53.22**	**300**	P	**P**	**01 31 10.1**	**+0.3**
KK31				IAmb	IAmb	01 31 12.1	
	comp=Z,3.8nm,1.1s						
KKAR	**Karatay Array**	**53.22**	**300**	P	**P**	**01 31 10.4**	**+0.5**
WB2	**Warramunga Arr**	**56.35**	**188**	P	**P**	**01 31 31.1**	**-1.4**
WRA	**Warramunga Arr**	**56.35**	**188**	P	**P**	**01 31 33.0**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=5.2,slow=7.3,SNR=1.6						
ARU	**Arti**	**56.68**	**319**	LR	LR	01 58 45.6	
	comp=Z,20nm,18.4s,baz=80,slow=39						
ARU	**Arti**	**56.68**	**319**	P	**P**	**01 31 33.9**	**-0.7**
ABKAR	**Akbulak array**	**58.16**	**310**	P	**P**	**01 31 45.3**	**+0.1**
AKASG	**Malin Array Be**	**74.66**	**322**	P	**P**	**01 33 30.6**	**0.0**
	comp=Z,0.1nm,0.2s,baz=45,slow=6.2,SNR=5.3						
NOA	**NORSAR Array B**	**74.70**	**337**	P	**P**	**01 33 30.6**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=41,slow=5.9,SNR=3.8						
NOA				LR	LR	02 09 02.6	
	comp=Z,13nm,19.9s,baz=260,slow=38						
BRTR	**Keskin Array B**	**79.09**	**311**	P	**P**	**01 33 56.0**	**0.0**
	comp=Z,0.3nm,0.8s,baz=72,slow=5.2,SNR=2.7						
H03N2	**Juan Fernandez**	**147.23**	**97**	T	T	04 26 15.0	
	baz=291,slow=76,SNR=20						
H03N3	**Juan Fernandez**	**147.24**	**97**	T	T	04 26 15.0	
	baz=291,slow=76,SNR=96						
H03N1	**Juan Fernandez**	**147.25**	**97**	T	T	04 26 14.5	
	baz=291,slow=76,SNR=18						

IDC 17 01:24:55.2±1.5, 27°94N×103°41E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/50, mbtmp3.5/4, Error ellipse: s-maj=45.5km s-min=28.4km az=60.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.66**	**59**	P		P		01 29 57.5	-0.5
	1.0nm,0.6s,baz=246,slow=9.4,SNR=5.4								
MKAR	**Makanchi Array**	**25.08**	**324**	P		P		01 30 21.3	0.0
	0.3nm,0.4s,baz=135,slow=11,SNR=5.2								
WRA	**Warramunga Arr**	**56.23**	**144**	P		P		01 34 37.2	-0.2
	0.6nm,0.9s,baz=328,slow=8.9,SNR=2.9								
ASAR	**Alice Springs**	**59.14**	**147**	P		P		01 34 58.0	+0.2
	0.3nm,0.4s,baz=326,slow=6.8,SNR=4.9								

NEIC 17 01:35:20.4±1.0, 7°.09S±0°.05×156°.21E±0°.08, h35km±1km, mb4.1/9, Error ellipse: s-maj=13.1km s-min=8.8km az=93.0

IDC 17 01:35:33.4±2.0, 7°.15S×155°.75E, h130km±16km, mb3.7/12, mb1 3.8/17, mb1mx3.6/41, mbtmp4.1/17, MS3.0/3, Ms1 3.0/3, ms1mx2.6/26, Error ellipse: s-maj=19.3km s-min=14.9km az=82.0

ISC 17 01:35:25.1±0.7, 7°.06S±0°.09×155°.95E±0°.08, h62km, n37, σ2s21/29, mb4.1/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.60**	**121**	P		P	Pn	01 36 43.2	+11
	11nm,0.3s,baz=15,slow=2.2,SNR=2.4								
HNR				S		**Sn**		**01 37 29.8**	**+5.3**
	9.0nm,0.3s,baz=224,slow=9.3,SNR=2.0								
HNR				LR		LR		01 38 25.7	
	comp=Z,102nm,18.1s,baz=304,slow=36								
HNR	**Honiara**	**4.60**	**121**	Pn		Pn		01 36 24.2	-8.0
RABL	**Rabaul**	**4.73**	**307**	Pn		**Pn**		**01 36 32.3**	**-1.6**
KRVT	**Keravat (AS076**	**4.77**	**305**	P		Pn		01 36 40.1	+5.6
	2.8nm,0.3s,baz=239,slow=2.3,SNR=1.5								
KRVT				S		**Sn**		**01 37 35.5**	**+7.0**
	5.6nm,0.3s,baz=221,slow=16,SNR=1.7								
PMG	**Port Moresby**	**9.01**	**254**	P		Pn		01 37 39.4	+6.8
	3.2nm,0.3s,baz=63,slow=10,SNR=18								
PMG				S		**Sn**		**01 39 15.6**	**+3.0**
	0.9nm,0.3s,baz=177,slow=16,SNR=1.2								
PMG				LR		LR		01 40 55.0	
	comp=Z,95nm,18.8s,baz=52,slow=37								
PMG	**Port Moresby**	**9.01**	**254**	Pn		**Pn**		**01 37 30.4**	**-2.2**
JAY	**Jayapura**	**15.85**	**286**	P		**P**		**01 39 07.5**	**+0.3**
	0.5nm,0.3s,baz=6.4,slow=6.5,SNR=2.9								
CTA	**Charters Tower**	**16.01**	**215**	P		**P**		**01 39 08.7**	**-0.3**
	0.1nm,0.3s,baz=27,slow=16,SNR=1.8								
WB2	**Warramunga Arr**	**24.56**	**236**	P		**P**		**01 40 39.1**	**-0.3**
WB2				IAmb		IAmb		01 40 42.0	
	comp=Z,7.3nm,0.7s								
WRA	**Warramunga Arr**	**24.57**	**236**	P		**P**		**01 40 38.9**	**-0.6**
	comp=Z,5.1nm,0.7s,baz=60,slow=9.8,SNR=27								
ANA2	**Anatahan**	**25.36**	**337**	P		**P**		**01 40 44.0**	**-2.7**
ASAR	**Alice Springs**	**26.85**	**230**	P		**P**		**01 40 59.8**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=69,slow=8.8,SNR=5.7								
H11S3	**WAKE ISLAND Hy**	**27.51**	**22**	T		T		02 09 28.2	
	baz=202,slow=76,SNR=78								
H11S2	**WAKE ISLAND Hy**	**27.52**	**23**	T		T		02 09 28.5	
	baz=202,slow=76,SNR=96								
H11S1	**WAKE ISLAND Hy**	**27.53**	**23**	T		T		02 09 29.6	
	baz=202,slow=76,SNR=58								
STKA	**Stephens Creek**	**28.09**	**207**	LR		LR		01 51 56.2	
	comp=Z,51nm,19.3s,baz=29,slow=35								
H11N1	**WAKE ISLAND Hy**	**28.70**	**22**	T		T		02 10 59.4	
	baz=202,slow=76,SNR=13								
H11N3	**WAKE ISLAND Hy**	**28.71**	**22**	T		T		02 11 03.1	
	baz=202,slow=76,SNR=74								
H11N2	**WAKE ISLAND Hy**	**28.72**	**22**	T		T		02 10 56.1	
	baz=202,slow=76,SNR=51								
FITZ	**Fitzroy Crossi**	**31.50**	**247**	P		**P**		**01 41 41.4**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=118,slow=5.3,SNR=5.1								
KSRS	**Korea Array**	**51.45**	**331**	P		**P**		**01 44 24.8**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=156,slow=6.6,SNR=3.1								
USRK	**Ussuriysk Ar.**	**55.42**	**339**	P		**P**		**01 44 55.7**	**+2.5**
	comp=Z,1.4nm,0.9s,baz=170,slow=8.8,SNR=2.0								
CMAR	**Chiang Mai Arr**	**61.67**	**295**	P		**P**		**01 45 37.8**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=117,slow=5.4,SNR=7.6								
SONM	**Songino Array**	**69.91**	**327**	P		**P**		**01 46 30.7**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=135,slow=6.5,SNR=13								
SONM	**Songino Array**	**69.91**	**327**	P		**P**		**01 46 30.4**	**+0.6**
MK31	**Makanchi Array**	**84.08**	**318**	P		**P**		**01 47 48.8**	**-0.5**
MKAR	**Makanchi Array**	**84.08**	**318**	P		**P**		**01 47 49.5**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=97,slow=5.6,SNR=21								
MKAR	**Makanchi Array**	**84.08**	**318**	P		**P**		**01 47 49.1**	**-0.2**
MAKZ	**Makanchi**	**84.29**	**318**	P		**P**		**01 47 49.6**	**-0.8**
MAW	**Mawson**	**84.70**	**203**	P		**P**		**01 47 51.8**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=107,slow=4.9,SNR=7.5								
MAW	**Mawson**	**84.70**	**203**	IAmb		IAmb		01 47 52.9	
	comp=Z,0.8nm,0.9s								
ZALV	**Zalesovo Beam**	**84.77**	**326**	P		**P**		**01 47 51.7**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=103,slow=6.4,SNR=4.5								
DIB	**Dawson Inlet,**	**84.77**	**35**	P		**P**		**01 47 49.5**	**-3.1**
KURK	**Kurchatov**	**87.47**	**322**	P		**P**		**01 48 05.2**	**-0.8**
KURBB	**Kurchatov Arra**	**87.50**	**322**	P		**P**		**01 48 05.2**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=106,slow=3.7,SNR=6.3								
BVAR	**Borovoye Array**	**92.92**	**323**	P		**P**		**01 48 30.1**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=85,slow=3.7,SNR=5.8								
TORD	**Torodi Ar. Bea**	**153.96**	**285**	PKPbc		**PKPbc**		**01 55 17.9**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=90,slow=3.0,SNR=2.9								
TORD				PKPab		**PKPab**		**01 55 31.1**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=60,slow=2.2,SNR=2.2								

IDC 17 01:41:15.2±3.0, 24°.29S×67°.01W, h167km±30km, mb3.6/1, mb1 3.5/5, mb1mx3.2/35, mbtmp3.9/5, Error ellipse: s-maj=42.0km s-min=29.0km az=161.0

GUC 17 01:41:16.4±0.6, 24°.37S×67°.40W, h200km±10km, ML4.2

ISC 17 01:41:14.7±1.1, 24°.37S±0°.07×67°.3W±0°.1, h189km±16km, n17, σ1s28/30, 9C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**2.26**	**249**	⇑P		P	**Pn**	**01 41 56.5**	**+1.0**
GO02				*i* S		**Sn**		**01 42 27.8**	**+0.6**
GO02				IAML				01 42 29.0	
	comp=E,518nm,0.3s								
LVC	**Limon Verde**	**2.31**	**319**	P		**Pn**		**01 41 57.8**	**+1.6**
	comp=E,21nm,0.3s,baz=143,slow=7.7,SNR=68								
LVC				S		**Sn**		**01 42 28.3**	**-0.1**
	comp=E,57nm,0.3s,baz=300,slow=20,SNR=15								
LVC	**Limon Verde**	**2.31**	**319**	*i* P		**Pn**		**01 41 57.8**	**+1.6**
LVC				*i* S		**Sn**		**01 42 28.7**	**+0.3**
LVC				*e*				01 42 39.8	
PB15	**IPOC Station P**	**2.33**	**299**	⇑iP		**Pn**		**01 41 57.8**	**+1.6**
PB15				*i* S		**Sn**		**01 42 29.0**	**+0.6**
PB06	**IPOC Station P**	**2.69**	**307**	⇑iP		**Pn**		**01 42 01.8**	**+1.5**
PB06				*i* S		**Sn**		**01 42 35.7**	**0.0**
PB06				IAML				01 42 38.2	
	comp=N,497nm,0.5s								
PB05	**IPOC Station P**	**3.09**	**299**	⇑iP		**Pn**		**01 42 06.2**	**+1.2**
PB05				*i* S		**Sn**		**01 42 43.0**	**-1.2**
PB10	**IPOC Station P**	**3.13**	**285**	⇑iP		**Pn**		**01 42 06.6**	**+1.3**
PB10				*i* S		**Sn**		**01 42 44.1**	**-0.7**
PB03	**IPOC Station P**	**3.25**	**315**	⇑iP		**Pn**		**01 42 08.2**	**+1.2**
PB03				*i* S		**Sn**		**01 42 47.2**	**-0.6**
PB04	**IPOC Station P**	**3.34**	**307**	⇑iP		**Pn**		**01 42 09.2**	**+1.2**
PB04				*i* S		**Sn**		**01 42 48.4**	**-1.3**
AC01	**Pan de Azucar**	**3.50**	**239**	*i* P		**Pn**		**01 42 09.7**	**-0.2**
AC01				*i* S		**Sn**		**01 42 50.8**	**-2.3**
PB07	**IPOC Station P**	**3.57**	**317**	⇑iP		**Pn**		**01 42 12.0**	**+1.1**
PB07				*i* S		**Sn**		**01 42 53.6**	**-1.3**
PB02	**IPOC Station P**	**3.88**	**321**	⇑iP		**Pn**		**01 42 15.4**	**+0.6**
PB02				*i* S		**Sn**		**01 42 59.5**	**-2.3**
LPAZ	**La Paz**	**8.08**	**354**	P		**Pn**		**01 43 10.6**	**+1.0**
	comp=N,1.4nm,0.3s,baz=157,slow=10,SNR=52								
LPAZ				S		**Sn**		**01 44 40.2**	**-0.6**
	comp=N,0.1nm,0.3s,baz=351,slow=22,SNR=1.8								
SIV	**San Ignacio**	**10.16**	**36**	P		**Pn**		**01 43 34.6**	**-1.7**
	comp=N,0.7nm,0.3s,baz=226,slow=12,SNR=15								
BDFB	**Brasilia**	**20.04**	**68**	P		**P**		**01 45 33.0**	**-0.6**
	comp=N,0.4nm,0.3s,baz=243,slow=12,SNR=4.7								
TORD	**Torodi Ar. Bea**	**76.92**	**69**	P		**P**		**01 52 47.6**	**+1.0**
	comp=N,0.9nm,0.6s,baz=260,slow=5.3,SNR=22								
MKAR	**Makanchi Array**	**146.96**	**40**	PKPbc		**PKPab**		**02 00 37.8**	**+1.0**
	comp=N,0.3nm,0.5s,baz=316,slow=3.3,SNR=2.7								

IDC 17 01:53:21.6±6.1, 30°.25S×178°.16W, h73km±46km, mb3.5/2, mb1 3.7/2, mb1mx3.2/23, mbtmp3.8/2, Error ellipse: s-maj=104.6km s-min=49.5km az=146.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.02**	**12**	P		P	Pn	01 53 40.1	-0.4
	37nm,0.3s,baz=90,slow=20,SNR=1.7								
RAO				S		Sn		01 53 55.0	+0.5
	80nm,0.3s,baz=74,slow=22,SNR=2.5								
STKA	**Stephens Creek**	**34.38**	**257**	P		P		02 00 02.2	+0.5
	0.7nm,0.4s,baz=70,slow=12,SNR=3.2								
WRA	**Warramunga Arr**	**43.96**	**272**	P		P		02 01 21.1	-0.5
	0.7nm,0.7s,baz=111,slow=8.1,SNR=5.8								
H03S2	**Juan Fernandez**	**80.66**	**124**	T		T		03 34 23.0	
	baz=238,slow=74,SNR=13								
H03S1	**Juan Fernandez**	**80.67**	**124**	T		T		03 34 29.4	
	baz=238,slow=74,SNR=15								
H03S3	**Juan Fernandez**	**80.68**	**124**	T		T		03 34 30.0	
	baz=238,slow=74,SNR=14								
FINES	**FINESS Array B**	**144.96**	**340**	PKP		PKPab		02 12 49.1	+0.1
	0.4nm,0.5s,baz=64,slow=3.2,SNR=5.3								

NNC 17 01:59:34.2±3.4, 56°.36N×63°.47E, h0km, mb3.6, mpv3.2, 5C-3D, Error ellipse: s-maj=32.8km s-min=15.1km az=170.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRVK	**Borovoye**	**5.15**	**127**	⇓Pg		Pb		02 01 07.9	+2.8
	2.0nm,1.2s								
BRVK				⇑Lg		Lg		02 02 22.0	
	0.9nm,0.5s								
BVA0	**Borovoye Array**	**5.22**	**127**	⇓Pg		Pb		02 01 07.1	+0.8
	0.6nm,0.6s,baz=312,slow=15,SNR=5.7								
BVA0				⇑Lg		Lg		02 02 21.1	
	2.8nm,1.1s,baz=311,slow=27,SNR=3.5								
AKTO	**Aktyubinsk**	**6.77**	**211**	⇑Pn		Pn		02 01 14.9	+0.2
	0.8nm,0.8s								
AKTO				⇑Lg		Lg		02 03 09.8	
	2.7nm,0.8s								
AB31	**Akbulak array**	**7.43**	**198**	⇑Pn		Pn		02 01 24.5	+0.7
	5.7nm,0.3s,baz=84,slow=5.3,SNR=7.1								
AB31				⇓Lg		Lg		02 03 29.4	
	11nm,0.3s,baz=6.3,slow=24,SNR=5.9								

IDC 17 02:11:37.2±1.5, 6°.01S×150°.04E, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.3/39, mbtmp3.5/4, ML1.6/1, Error ellipse: s-maj=89.2km s-min=19.9km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.60**	**50**	Pn		Pn		02 12 21.1	+0.5
	13nm,0.3s,baz=233,slow=8.1,SNR=2.4								
KRVT				Sn		Sn		02 12 53.3	+0.4
	8.4nm,0.3s,baz=264,slow=20,SNR=2.4								
PMG	**Port Moresby**	**4.42**	**220**	Pn		Pn		02 12 45.1	-0.6
	2.2nm,0.3s,baz=54,slow=2.5,SNR=3.3								
PMG				Sn		Sn		02 13 38.3	+0.4
	4.5nm,0.3s,baz=112,slow=19,SNR=3.9								
WRA	**Warramunga Arr**	**20.61**	**226**	P		P		02 16 18.4	+0.1
	1.8nm,0.7s,baz=52,slow=11,SNR=8.7								
ASAR	**Alice Springs**	**23.44**	**220**	P		P		02 16 48.8	+0.4
	0.2nm,0.4s,baz=57,slow=9.3,SNR=6.8								
TORD	**Torodi Ar. Bea**	**148.02**	**285**	PKPbc		PKPbc		02 31 25.0	-0.9
	0.3nm,0.6s,baz=87,slow=1.2,SNR=5.8								

BJI 17 02:38:20.8±0.0, 7°.55S×125°.94E, h490km, mB4.8/53, mb5.3/82

MOS 17 02:38:26.8±0.9, 6°.99S×125°.46E, h498km, mb5.3/60, Error ellipse: s-maj=7.3km s-min=4.0km az=117.5

IDC 17 02:38:26.9±0.3, 7°.04S×125°.46E, h487km±3km, mb4.7/47, mb1 4.7/54, mb1mx4.7/56, mbtmp5.5/54, Error ellipse: s-maj=6.6km s-min=4.9km az=65.0

DJA 17 02:38:26.6±0.1, 7°.5±1°×12°.5E±°, h485km±1km, M5.3/102, mB5.7/78, mb5.5/102, MLv6.2/20, Mw(mB)5.2/78, Mwp5.3/14

GCMT 17 02:38:26.6±0.1, 7°.09S±0°.01×125°.32E±0°.02, h497km±1km, MW5.4/128, Moment Tensor Solution. s128,c231; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr=1.12±.03; Mθθ 1.03±.04; Mϕϕ 0.09±.04; Mrθ-0.84±.05; Mθϕ 0.98±.04; Mrϕ 0.49±.04; Best double couple: M0 1.75300×10^17 NP1:ϕs208.00000°, δ45.00000°, λ-140.00000°. NP2:ϕs88.00000°, δ63.00000°, λ-52.00000°. Principal axes: T 1.7300, Plg10.0000°, Azm152.0000°; N 0.0540, Plg33.0000°, Azm248.0000°; P -1.7770, Plg55.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function

NEIC 17 02:38:26.6±1.4, 7°.07S±0°.07×125°.46E±0°.08, h490km±3km, mb5.3/175 Error ellipse: s-maj=11.7km s-min=10.3km az=67.0

ISC 17 02:38:26.8±0.2, 7°.06S±0°.03×125°.47E±0°.03, h495km±2km, h497km:pP-P, n1148, σ1s52/1335, mb5.3/200, 28C-55D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.93**	**204**	P		P		**02 39 37.0**	**-0.1**
SOEI				S		**S**		**02 40 30.7**	**-3.5**
SOEI	**Soe**	**2.93**	**204**			**P**		**02 39 36.9**	**-0.3**
MMRI	**Maumere**	**3.57**	**244**	P		P		**02 39 40.0**	**-1.6**
MMRI				S		**S**		**02 40 40.6**	**-1.7**
MMRI	**Maumere**	**3.57**	**244**			**P**		**02 39 40.2**	**-1.3**
BATI	**Baumata**	**3.60**	**210**	P		P		**02 39 41.8**	**0.0**
BATI				S		**S**		**02 40 42.9**	**+0.1**
	3μm,0.3s,baz=141,slow=20,SNR=8.7								
BATI	**Baumata**	**3.60**	**210**	P		**P**		**02 39 41.8**	**0.0**
BATI				S		**S**		**02 40 41.3**	**-1.5**
EDFI	**Ende, Flores**	**4.11**	**246**	P		P		**02 39 44.3**	**-1.7**
NLAI	**Namlea**	**4.13**	**23**	P		P		**02 39 47.2**	**+1.1**
NLAI				S		**S**		**02 40 50.7**	**+0.2**
AAI	**Ambon**	**4.31**	**39**	P		P		**02 39 48.1**	**+0.5**
AAI				S		**S**		**02 40 52.4**	**-0.9**
AAI	**Ambon**	**4.31**	**39**	P		P		**02 39 48.4**	**+0.8**
SANI	**Sanana**	**5.00**	**6**	P		P		**02 39 54.1**	**+0.4**
	17nm9μm49μm3μm,1.3s								
MSAI	**Masohi**	**5.05**	**43**	P		P		**02 39 52.2**	**-1.9**
	2.0nm2μm58nm,0.5s								
BNDI	**Bandanaira**	**5.08**	**60**	P		P		**02 39 54.2**	**-0.1**
	14nm16μm2μm,1.1s								
WSI	**Waingapu**	**5.74**	**243**	P		P		**02 39 58.0**	**-2.5**
	250nm190μm21μm,0.7s								
BASI	**Baing, Sumba**	**5.77**	**237**	P		P		**02 39 59.0**	**-1.8**
	59nm7μm164μm11μm,0.6s								
SAUI	**Saumlaki**	**5.85**	**99**	P		P		**02 40 01.4**	**-0.2**
	36nm63μm8μm,1.0s								
SAUI	**Saumlaki**	**5.85**	**99**			**P**		**02 40 01.1**	**-0.4**
BNSI	**Bone**	**5.96**	**296**	P		P		**02 40 03.3**	**+0.7**
	6.6nm15μm1μm,0.9s								
KAPI	**Kappang**	**6.04**	**289**	P		P		**02 40 04.8**	**+1.4**
	150nm,0.3s,baz=128,slow=6.3,SNR=433								
KAPI				S		**S**		**02 41 22.1**	**-0.2**
	12nm,0.3s,baz=226,slow=21,SNR=8.3								
KAPI				ScS		**ScS**		**02 52 19.2**	**-0.3**
	baz=218,slow=21,SNR=0.9								
KAPI	**Kappang**	**6.04**	**289**			**P**		**02 40 04.7**	**+1.2**
SPSI	**Sidrap Palu**	**6.46**	**298**	P		P		**02 40 08.1**	**+0.6**
	3.7nm9μm1μm,0.9s								
WBSI	**Waikabubak, Su**	**6.54**	**247**	P		P		**02 40 05.3**	**-3.1**
	92nm90μm11μm,0.8s								
LUWI	**Luwuk**	**6.56**	**336**	P		P		**02 40 10.2**	**+1.7**
	32nm16μm104μm9μm,1.1s								
LUWI	**Luwuk**	**6.56**	**336**			**P**		**02 40 09.9**	**+1.4**
KMSI	**Cibinong**	**7.73**	**349**	P		P		**02 40 22.3**	**+1.9**
	17nm1μm44μm4μm,0.8s								
PLAI	**Plampang**	**7.82**	**257**	P		P		**02 40 18.6**	**-2.8**
	19nm4μm52μm6μm,0.7s								
FAKI	**Fak Fak**	**7.90**	**59**	P		P		**02 40 20.6**	**-1.6**
	3.0nm2μm9μm803nm,1.1s								
FAKI	**Fak Fak**	**7.90**	**59**	P		P		**02 40 20.7**	**-1.5**
MTN	**Manton Dam**	**8.00**	**136**	P		P		**02 40 23.1**	**-0.1**
	baz=8.1,SNR=1000								
MTN	**Manton Dam**	**8.00**	**136**			**P**		**02 40 22.8**	**-0.4**
TNTI	**Ternate**	**8.01**	**14**	P		P		**02 40 23.4**	**+0.1**
	2μm10μm1μm,1.0s								
TNTI	**Ternate**	**8.01**	**14**			**P**		**02 40 23.3**	**+0.1**
SIJI	**Sorong**	**8.44**	**43**	P		P		**02 40 28.4**	**+0.6**
	72nm,0.3s,baz=221,slow=6.8,SNR=96								
SIJI				S		**S**		**02 42 03.0**	**-4.0**
	7.3nm,0.3s,baz=140,slow=21,SNR=11								
MNI	**Manado**	**8.47**	**356**	P		P		**02 40 29.5**	**+1.3**
MNI				pmax		pmax			
	comp=Z,5μm,1.0s								
TWSI	**Taliwang, Sumb**	**8.67**	**258**	P		P		**02 40 27.2**	**-3.0**
	comp=Z,7μmcomp=Z,568nm,0.6s								
KDU	**Kakadu**	**8.88**	**130**	P		P		**02 40 31.7**	**-0.6**
	baz=8.9,SNR=625								
KNRA	**Kununurra**	**9.15**	**160**	P		P		**02 40 35.1**	**0.0**
	baz=9.2,SNR=928								
KNRA	**Kununurra**	**9.15**	**160**			**P**		**02 40 34.8**	**-0.4**
MPSI	**Mapaga**	**9.22**	**323**	P		P		**02 40 37.7**	**+1.7**
	comp=Z,27μmcomp=Z,2μm,1.1s								
KBKI	**Kotabaru**	**9.99**	**291**	P		P		**02 40 45.6**	**+1.4**

comp=Z,4.8nm,0.3s,baz=304,slow=20,SNR=2.2
LEM Lembang 17.73 270 P **P** 02 42 03.5 -1.8
comp=Z,1µmcomp=Z,107nm,0.9s
WRKA Warakurna 18.08 172 P **P** 02 42 08.0 -0.3
baz=18,SNR=1000
CNJI Cibinong 18.20 268 P **P** 02 42 07.7 -1.8
comp=Z,9µmcomp=Z,1µm,0.7s
TPI Tanjungpandan 18.26 283 P **P** 02 42 10.7 +0.7
comp=Z,3µmcomp=Z,218nm,1.3s
AS31 Alice Springs 18.39 155 P **P** 02 42 11.2 0.0
ASAR Alice Springs 18.39 155 P **P** 02 42 11.2 +0.1
comp=Z,121nm,0.3s,baz=322,slow=7.3,SNR=3504
ASAR S **S** 02 45 12.7 -1.3
comp=Z,4.3nm,0.3s,baz=342,slow=21,SNR=27
ASAR ScP **ScP** 02 49 04.6 -0.1
comp=Z,0.4nm,0.3s,baz=336,slow=2.2,SNR=8.3
ASAR ScS **ScS** 02 52 42.8 -3.5
comp=Z,0.2nm,0.3s,baz=340,slow=3.9,SNR=4.8
ASAR P3KPbc 03 16 30.6
comp=Z,0.1nm,0.3s,baz=154,slow=4.6,SNR=9.3
ASAR Alice Springs 18.39 155 P **P** 02 42 11.0 -0.1
ASAR Alice Springs 18.39 155 P **P** 02 42 11.0 -0.1
CBJI Citeko 18.51 271 P **P** 02 42 10.1 -2.2
comp=Z,778nm,0.7s
DBJI Dramaga 18.60 270 P **P** 02 42 12.0 -1.2
comp=Z,177nm,0.7s
COEN Coen 18.70 113 P **P** 02 42 14.0 0.0
baz=19,SNR=785
COEN Coen 18.70 113 P **P** 02 42 14.1 0.0
SKJI Sukabumi 18.77 269 P **P** 02 42 13.2 -1.6
comp=Z,5µmcomp=Z,563nm,0.5s
GIRL Giralia 18.90 214 P **P** 02 42 16.5 +0.7
baz=19,SNR=25
GIRL Giralia 18.90 214 P **P** 02 42 15.9 +0.2
QIS Mount Isa 19.17 136 P **P** 02 42 18.1 -0.2
baz=19,SNR=1000
PPBI Pangkal Pinang 19.87 283 P **P** 02 42 25.9 +1.1
comp=Z,14µmcomp=Z,341nm,1.0s
XMIS Christmas Isla 19.88 259 P **P** 02 42 24.5 -0.3
MEEK Meekatharra 20.54 198 P **P** 02 42 30.2 -0.4
baz=21,SNR=955
KASI Kota Agung 20.91 273 P **P** 02 42 33.3 -0.9
comp=Z,1µmcomp=Z,102nm,0.7s
PMBI Palembang 21.02 280 P **P** 02 42 36.6 +1.4
comp=Z,691nm,0.9s
MDSI Maura Dua 21.34 276 P **P** 02 42 37.8 -0.3
comp=Z,35nm,1.0s
MTSU Mount Surprise 21.41 123 P **P** 02 42 39.1 +0.5
baz=22,SNR=136
TGY Tagaytay City 21.50 348 P **P** 02 42 40.5 +0.9
comp=Z,330nm,0.4s,baz=251,slow=1.3,SNR=5.8
TGY S **S** 02 46 04.6 +0.3
comp=Z,71nm,0.3s,baz=168,slow=20,SNR=1.0
PMG Port Moresby 21.59 98 P **P** 02 42 40.9 +0.6
comp=Z,133nm,1.2s,baz=284,slow=4.6,SNR=24
PMG S **S** 02 46 05.8 +0.2
comp=Z,16nm,0.8s,baz=138,slow=11,SNR=1.2
PMG ScP **ScP** 02 49 13.4 +1.0
comp=Z,66nm,0.8s,baz=334,slow=5.0,SNR=16
PMG Port Moresby 21.59 98*ce*P **P** 02 42 40.7 +0.4
PMG pmax pmax
comp=Z,61nm,0.8s
PMG Port Moresby 21.59 98 P **P** 02 42 40.6 +0.2
PMG IAmb IAmb 02 42 41.7
comp=Z,50nm,0.8s
PMG **ScP** 02 49 14.3 +1.9
DSRI Dabo 21.84 287 P **P** 02 42 42.8 +0.2
comp=Z,28nm,0.7s
LHSI Lahat 22.08 277 P **P** 02 42 45.2 +0.4
comp=Z,127nm,0.9s
TPRI Tanjung Pinang 22.35 290 P **P** 02 42 47.9 +0.7
comp=Z,105nm,0.4s
MYKOM Kota Tinggi 23.30 291 P **P** 02 42 55.6 -0.1
MORW Morawa 23.63 201 P **P** 02 42 57.9 -0.6
baz=24,SNR=45
MORW Morawa 23.63 201 P **P** 02 42 57.9 -0.6
MORW IAmb IAmb 02 43 03.2
comp=Z,74nm,0.6s
FORT Forrest 23.72 174 P **P** 02 42 59.1 -0.1
baz=24,SNR=93
FORT Forrest 23.72 174 P **P** 02 42 59.3 +0.1
CTA Charters Tower 23.95 125 P **P** 02 43 02.0 +0.6
comp=Z,103nm,0.8s,baz=301,slow=12,SNR=73
CTA S **S** 02 46 42.6 -0.2
comp=Z,8.5nm,0.6s,baz=322,slow=22,SNR=1.1
CTA ScP **ScP** 02 49 19.1 +0.4
comp=Z,97nm,1.1s,baz=46,slow=24,SNR=7.5
CTAO Charters Tower 23.95 125 P **P** 02 43 02.1 +0.6
CTAO pmax pmax
comp=Z,134nm,1.0s
CTAO Charters Tower 23.95 125 P **P** 02 43 02.1 +0.6
CTAO IAmb IAmb 02 43 03.1
comp=Z,134nm,0.9s
KMBL Kambalda 24.41 187 P **P** 02 43 05.2 -0.2
baz=24,SNR=297
KRJI Kerinci 24.43 281 P **P** 02 43 06.2 +0.3
comp=Z,174nm,0.5s
SDSI Sungai Dareh 24.74 283 P **P** 02 43 08.4 -0.1
comp=Z,2µmcomp=Z,71nm,1.1s
BLDU Ballidu 24.83 198 P **P** 02 43 08.6 -0.5
baz=25,SNR=321
DLV T Lat 25.34 318 IAmb IAmb 02 43 15.7
comp=Z,57nm,0.8s
KLBR Kellerberrin 25.45 195 P **P** 02 43 14.3 -0.3
baz=26,SNR=94
BKNI Bangkinang 25.45 286 P **P** 02 43 15.1 +0.2
comp=Z,4µmcomp=Z,98nm,0.9s
BKNI Bangkinang 25.45 286 P **P** 02 43 14.4 -0.5
BKNI IAmb IAmb 02 43 16.9
comp=Z,125nm,1.2s
PDSI Padang 25.68 283 P **P** 02 43 15.6 -1.3
comp=Z,13nm,0.9s
MUN Mundaring 26.25 198 P **P** 02 43 21.4 -0.3
baz=26,SNR=43
QLP Quilpie 26.37 140 P **P** 02 43 23.7 +0.9
baz=26,SNR=126
KRVT Keravat (AS076 26.56 86 P **P** 02 43 24.8 +0.1
comp=Z,79nm,0.8s,baz=57,slow=0.8,SNR=7.0
RABL Rabaul 26.71 85 P **P** 02 43 26.2 +0.2
RABL IAmb IAmb 02 43 27.5
comp=Z,100nm,0.7s
RABL **PcP** 02 46 33.6 0.0
NWAO Narrogin (SRO) 26.85 195 P **P** 02 43 26.9 -0.1
comp=Z,243nm,0.5s,baz=27,slow=7.8,SNR=375
NWAO ScP **ScP** 02 49 26.8 +0.1
comp=Z,69nm,0.8s,baz=179,slow=1.7,SNR=4.9
NWAO Narrogin (SRO) 26.85 195 P **P** 02 43 26.9 -0.1
IPM Ipoh 26.96 294 P **P** 02 43 28.0 -0.2
MNSI Mandailing Nat 26.99 286 P **P** 02 43 28.2 -0.2
comp=Z,1µmcomp=Z,123nm,0.7s
BBOO Buckleboo 27.45 160 P **P** 02 43 32.3 +0.1
baz=28,SNR=165
BBOO Buckleboo 27.45 160 P **P** 02 43 32.2 +0.1
KULM Kulim 27.64 296 P **P** 02 43 33.6 -0.6
KULM Kulim 27.64 296 P **P** 02 43 34.0 -0.2
GUMO Guam 28.14 43 P **P** 02 43 38.1 -0.4
comp=Z,236nm,0.9s,baz=191,slow=5.4,SNR=21
GUMO PcP **PcP** 02 46 36.9 -0.2
comp=Z,23nm,0.5s,baz=97,slow=5.2,SNR=3.1
GUMO Guam 28.14 43 P **P** 02 43 37.6 -0.9
RPSI Rantau Prapat 28.21 289 P **P** 02 43 39.4 +0.2
RPSI **pP** 02 45 01.9 -0.9
RPSI **PcP** 02 46 37.5 +0.1
RPSI **ScP** 02 49 31.0 -0.3
RPSI Rantau Prapat 28.21 289 IAmb IAmb 02 43 40.4
comp=Z,88nm,0.9s
PSI Prapat 28.25 289 P **P** 02 43 39.4 -0.3
comp=Z,74nm,0.9s,baz=180,slow=4.4,SNR=48
PSI pP **pP** 02 45 01.9 -1.4
comp=Z,36nm,1.1s,baz=179,slow=2.7,SNR=2.7
PSI PcP **PcP** 02 46 37.5 -0.1
comp=Z,19nm,0.9s,baz=179,slow=2.1,SNR=3.0
PSI S **S** 02 47 48.4 -2.2
comp=Z,4.1nm,0.8s,baz=181,slow=22,SNR=0.8
PSI ScP **ScP** 02 49 31.0 -0.6
comp=Z,40nm,0.9s,baz=180,slow=2.4,SNR=20
PSI ScS **ScS** 02 53 23.3 -2.7
comp=Z,4.6nm,0.9s,baz=180,slow=22,SNR=9.4
RKGY Rocky Gully 28.51 195 P **P** 02 43 42.7 +1.2
baz=29,SNR=204
STKA Stephens Creek 28.91 151 P **P** 02 43 45.6 +0.5
comp=Z,540nm,0.8s,baz=319,slow=9.1,SNR=985
STKA S **S** 02 47 59.8 -0.4
comp=Z,66nm,0.9s,baz=108,slow=16,SNR=4.0
STKA ScP **ScP** 02 49 32.5 -0.8
comp=Z,62nm,1.0s,baz=314,slow=3.2,SNR=4.0
STKA Stephens Creek 28.91 151 P **P** 02 43 45.5 +0.5
STKA IAmb IAmb 02 43 46.6
comp=Z,137nm,0.8s
HTT Hallett 29.05 156 P **P** 02 43 47.1 +0.8
baz=29,SNR=1000
GSI Gunungsitoli 29.05 286 P **P** 02 43 46.6 +0.1
comp=Z,3µmcomp=Z,65nm,0.7s
GSI Gunungsitoli 29.05 286 IAmb IAmb 02 43 54.5
comp=Z,41nm,0.6s
RMQ Roma 29.40 134 P **P** 02 43 49.6 +0.3
baz=30,SNR=33
H01W3 Cape Leeuwin H 29.59 199 P **P** 02 43 52.4 +1.7
baz=34,slow=6.6,SNR=4.6
H01W1 Cape Leeuwin H 29.59 199 P **P** 02 43 53.1 +2.4
baz=34,slow=6.6,SNR=4.0
H01W2 Cape Leeuwin H 29.61 199 P **P** 02 43 52.3 +1.6
baz=34,slow=6.6,SNR=2.5
QIZ Qiongzhong 30.16 330 P **P** 02 43 55.9 -0.1
QIZ pP **pwP** 02 45 23.8 -0.2
QIZ sP **sP** 02 46 14.8 -2.1
QIZ S **S** 02 48 19.0 -0.8
QIZ sS **sS** 02 50 58.4 +2.7
QIZ pmax pmax
comp=Z,40nm,1.0s
QIZ Qiongzhong 30.16 330 P **P** 02 43 55.9 -0.1
EIDS Eidsvold 30.49 130 P **P** 02 43 57.6 -1.2
baz=31,SNR=7.5
EIDS Eidsvold 30.49 130 P **P** 02 43 57.6 -1.2
YULB Yu-li 30.54 352 IAmb IAmb 02 45 29.7
comp=Z,60nm,0.6s
CMSA Cobar Meteorol 30.82 145 P **P** 02 44 02.4 +0.9
baz=31,SNR=518
LHMI Lhok Sumawe 30.98 292 P **P** 02 44 03.1 -0.1
comp=Z,140nm,0.7s
LHMI Lhok Sumawe 30.98 292 IAmb IAmb 02 45 39.9
comp=Z,144nm,1.0s
SSLB Suanglung 30.98 352 P **P** 02 44 01.5 -1.6
MLSI Meulaboh, Aceh 31.12 290 P **P** 02 44 03.7 -0.7
comp=Z,3µmcomp=Z,127nm,0.6s
HKPS Hong Kong Po S 31.20 339 P **P** 02 44 04.8 -0.1
HKPS IAmb IAmb 02 44 07.2
comp=Z,76nm,1.0s
YOJ Yonaguni jima 31.42 356 P **P** 02 44 06.8 0.0
YOJ pmax pmax
comp=Z,707nm,0.9s
YOJ Yonaguni jima 31.42 356 P **P** 02 44 06.8 0.0
QZH Quanzhou 32.51 348⇓*i*P **P** 02 44 16.1 0.0
QZH pP **pwP** 02 45 43.9 -2.3
QZH sP **sP** 02 46 39.5 +2.4
QZH S **S** 02 48 53.5 -2.2
ARPS Mount Arapiles 33.13 156 P **P** 02 44 22.3 +1.0
baz=33,SNR=174
PBKT Sadao Pong 33.75 314 P **P** 02 44 26.9 +0.2
ARMA Armidale 33.79 137 P **P** 02 44 28.8 +1.7
baz=34,SNR=6.5
ARMA Armidale 33.79 137 P **P** 02 44 27.4 +0.3
ARMA IAmb IAmb 02 46 03.6
comp=Z,93nm,0.8s
HNR Honiara 34.19 96 P **P** 02 44 31.5 +1.0
comp=Z,272nm,0.8s,baz=291,slow=4.0,SNR=4.7
HNR S **S** 02 49 21.1 -0.5
comp=Z,138nm,0.9s,baz=97,slow=23,SNR=1.4
HNR Honiara 34.19 96 P **P** 02 44 30.4 -0.2
YNG Young 34.38 145 P **P** 02 44 33.4 +1.5
baz=34,SNR=56
TOO Toolangi 35.40 152 P **P** 02 44 42.1 +1.7
baz=36,SNR=114
TOO Toolangi 35.40 152 P **P** 02 44 41.6 +1.2
TOO pmax pmax
comp=Z,414nm,1.2s
TOO Toolangi 35.40 152 P **P** 02 44 41.6 +1.2
CAN Canberra 35.47 146 P **P** 02 44 41.9 +0.9
CAN pmax pmax
comp=Z,363nm,0.7s
CAN Canberra 35.47 146 P **P** 02 44 41.9 +0.9
PATS Pohnpei 35.55 68 P **P** 02 44 38.1 -3.8
baz=36,SNR=3.6
CNB Canberra Magne 35.67 145 P **P** 02 44 44.1 +1.4
baz=36,SNR=74
RIV Riverview 35.69 142 P **P** 02 44 44.6 +1.8
baz=36,SNR=4.1
RIV Riverview 35.69 142 P **P** 02 44 45.2 +2.4
RIV pmax pmax
comp=Z,240nm,1.0s
CM31 Chiang Mai Arr 36.44 314 IAmb IAmb 02 44 51.3
comp=Z,50nm,0.8s
CM31 **PcP** 02 47 01.6 +1.3
CMAR Chiang Mai Arr 36.44 314 P **P** 02 44 50.3 +1.0
comp=Z,36nm,0.7s,baz=143,slow=6.7,SNR=166
CMAR pP **pP** 02 46 17.3 +0.3
comp=Z,1.2nm,0.4s,baz=163,slow=6.4,SNR=1.0
CMAR PP **PP** 02 46 32.2 +4.6
comp=Z,7.4nm,0.9s,baz=138,slow=6.2,SNR=4.5
CMAR PcP **PcP** 02 47 01.9 +1.5
comp=Z,25nm,0.8s,baz=163,slow=3.4,SNR=15
CMAR S **S** 02 49 55.7 +0.3
comp=Z,1.0nm,0.3s,baz=202,slow=37,SNR=1.9
CMAR ScP **ScP** 02 50 01.2 +1.5
comp=Z,15nm,0.9s,baz=159,slow=3.5,SNR=12
CMAR ScS **ScS** 02 54 09.8 +1.8
comp=Z,1.3nm,0.3s,baz=216,slow=10,SNR=2.2
CMAR PKiKP **PKiKP** 02 54 17.8 -0.2
comp=Z,0.7nm,0.3s,baz=193,slow=1.2,SNR=5.3
CMAR Chiang Mai Arr 36.44 314 P **P** 02 44 49.7 +0.4
CHTO Chiang Mai 36.68 315 P **P** 02 44 51.7 +0.5
CHTO pmax pmax
comp=Z,53nm,0.8s
CHTO Chiang Mai 36.68 315 P **P** 02 44 51.7 +0.5
CHTO IAmb IAmb 02 44 53.2
comp=Z,54nm,0.8s
JCJ Chichijima 37.62 25 P **P** 02 44 57.6 -1.2
comp=Z,405nm,0.4s,baz=250,slow=5.0,SNR=50
JCJ Chichijima 37.62 25 P **P** 02 44 57.7 -1.1
GYA Guiyang 37.99 332⇑P **P** 02 45 02.9 +0.9
GYA pP pwP 02 46 32.3 -1.9
GYA PP **PP** 02 46 46.3 +2.4
GYA PcP **PcP** 02 47 06.5 +1.4
GYA S **S** 02 50 16.9 -1.5
GYA ScS **ScS** 02 54 17.6 +0.7
GYA pmax pmax
comp=Z,29nm,0.8s
SSE Sheshan 38.16 354 P **P** 02 45 03.6 +0.4
SSE IAmb IAmb 02 45 05.4
comp=Z,234nm,1.1s
WHN Wuhan 38.88 345⇓*i*P **P** 02 45 10.4 +1.3
WHN sP **sP** 02 47 35.8 +3.2
WHN S **S** 02 50 31.6 +0.4
WHN pmax pmax
comp=Z,230nm,0.5s
KMI Kunming 38.90 326⇓*i*P **P** 02 45 11.9 +2.3
KMI S **S** 02 50 33.5 +1.4
KMI pmax pmax
comp=Z,39nm,0.6s
KMI pmax pmax
comp=Z,110nm,3.8s
NJ2 Nanjing 39.40 351⇓*i*P **P** 02 45 14.3 +1.1
NJ2 pP **pP** 02 46 42.3 +1.1
NJ2 PcP **PcP** 02 47 10.8 +1.5
NJ2 sP **sP** 02 47 39.1 +2.4
NJ2 S **S** 02 50 38.3 -0.5
NJ2 pmax pmax
comp=Z,210nm,0.6s
MOO Moorlands 40.12 155 P **P** 02 45 20.7 +1.7
baz=40,SNR=22
ENH Enshi 40.17 338 P **P** 02 45 19.9 +0.4
ENH IAmb IAmb 02 45 20.9
comp=Z,62nm,0.8s
JNU Nakatsue 40.29 7 P **P** 02 45 20.5 0.0
comp=Z,73nm,1.0s,baz=193,slow=1.5,SNR=26
JNU PcP **PcP** 02 47 12.6 +0.3
comp=Z,18nm,0.9s,baz=82,slow=3.1,SNR=4.3
JNU S **S** 02 50 50.9 -1.0
comp=Z,2.8nm,0.7s,baz=316,slow=23,SNR=1.3
JNU Nakatsue 40.29 7 P **P** 02 45 20.4 0.0
JNU IAmb IAmb 02 45 21.9
comp=Z,145nm,1.2s
TAU Tasmania Unive 40.56 155 P **P** 02 45 23.0 +0.5
TAU pmax pmax
comp=Z,180nm,1.0s
TAU Tasmania Unive 40.56 155 P **P** 02 45 23.0 +0.5
TAU IAmb IAmb 02 45 25.1
comp=Z,180nm,1.0s
DZM Mont Dzumac 42.20 115 P **P** 02 45 36.6 +0.6
comp=Z,16nm,0.8s,baz=253,slow=9.6,SNR=12
DZM S **S** 02 51 21.0 +0.9
comp=Z,7.3nm,0.9s,baz=150,slow=18,SNR=1.9
DZM Mont Dzumac 42.20 115 P **P** 02 45 35.5 -0.5
CD2 Chengdu 43.10 332 P **P** 02 45 43.5 +0.7
CD2 pP pwP 02 47 16.8 -1.3
CD2 sP sP 02 48 10.0 +1.6
CD2 S **S** 02 51 30.0 -2.6
CD2 sS sS 02 54 23.0 +6.2
CD2 pmax pmax
comp=Z,70nm,0.5s
CD2 pmax pmax
comp=Z,100nm,4.3s
TJN Taejon 43.24 2*ce*P **P** 02 45 44.9 +1.2
TIA Tai'an 43.75 350 P **P** 02 45 47.4 -0.3
TIA S **S** 02 51 39.1 -2.5
TIA pmax pmax
comp=Z,49nm,0.6s
TIA pmax pmax
comp=Z,94nm,3.6s
XAN Xi'an 43.78 340 P **P** 02 45 47.8 -0.3
XAN pmax pmax
comp=Z,130nm,0.8s
XAN pmax pmax
comp=Z,210nm,4.2s
XAN Xi'an 43.78 340 P **P** 02 45 47.9 -0.2
XAN 02 47 24.0
XAN pmax pmax
comp=Z,213nm,1.3s
XAN Xi'an 43.78 340 P **P** 02 45 47.9 -0.2
XAN IAmb IAmb 02 45 48.6
comp=Z,213nm,1.3s
XAN PcP **PcP** 02 47 24.0 0.0
INCN Inchon 44.33 1 P **P** 02 45 52.1 -0.1
INCN pmax pmax
comp=Z,135nm,1.1s
INCN Inchon 44.33 1 P **P** 02 45 52.1 -0.1
INCN IAmb IAmb 02 45 54.2
comp=Z,135nm,1.1s
KSAR Wonju Array Be 44.33 3 P **P** 02 45 52.5 +0.3
KSAR Wonju Array Be 44.33 3 P **P** 02 45 52.5 +0.3
KSAR PcP **PcP** 02 47 25.8 +0.1
KSRS Korea Array 44.34 3 P **P** 02 45 53.4 +1.2
comp=Z,35nm,0.4s,baz=180,slow=8.9,SNR=185
KSRS PcP **PcP** 02 47 26.8 +1.0
comp=Z,22nm,0.8s,baz=186,slow=3.4,SNR=19
KS19 Wonju Array Si 44.39 3 P **P** 02 45 53.4 +0.7
KS19 IAmb IAmb 02 45 54.5
comp=Z,140nm,1.2s
KS19 **PcP** 02 47 27.2 +1.2
MAJO Matsushiro 44.99 15*d*iP **P** 02 45 57.1 -0.2
MAJO pmax pmax
comp=Z,110nm,0.6s
MAJO Matsushiro 44.99 15 P **P** 02 45 57.3 0.0
MAJO IAmb IAmb 02 45 57.8
comp=Z,123nm,0.7s
MAT Matsushiro 44.99 15 P **P** 02 45 57.1 -0.2
MAT S **S** 02 51 56.8 -2.4
MJAR Matsushiro Arr 44.99 15 P **P** 02 45 57.2 -0.1
comp=Z,88nm,0.6s,baz=198,slow=9.3,SNR=352
MJAR PcP **PcP** 02 47 28.9 +0.7
comp=Z,20nm,0.9s,baz=211,slow=5.5,SNR=7.8
MJAR ScP **ScP** 02 50 33.4 +0.2
comp=Z,0.8nm,0.5s,baz=208,slow=5.4,SNR=4.0
MJAR S **S** 02 51 57.1 -2.0
comp=Z,3.6nm,1.1s,baz=268,slow=30,SNR=7.0
MJAR Matsushiro Arr 44.99 15 P **P** 02 45 54.1 -3.2
MJAR PcP **PcP** 02 47 27.9 -0.3
DL2 Dalian 45.87 356 P **P** 02 46 03.3 -0.7
DL2 PcP **PcP** 02 47 31.5 +0.4
DL2 sP **sP** 02 48 28.8 -1.0
DL2 S **S** 02 52 09.3 -2.1
DL2 pmax pmax
comp=Z,190nm,1.1s
DL2 pmax pmax
comp=Z,170nm,4.9s
PYAG Pyongyang 45.88 0 P **P** 02 46 05.0 +1.0
PYAG S S 02 51 41.4 -30
SHL Shillong 46.02 316 *eP* **P** 02 46 08.0 +2.3
PYS Pyongsong 46.08 0 P **P** 02 46 06.7 +1.1
TIY Taiyuan 46.18 346 *eP* **P** 02 46 06.5 0.0
TIY sP **sP** 02 48 33.8 +1.1
TIY S **S** 02 52 12.1 -3.8
TIY pmax pmax
comp=Z,53nm,0.6s
HHU Hamhung 46.79 2 P **P** 02 46 11.7 +0.7
HHU S **S** 02 52 32.7 +8.5
PALK Pallekele 46.87 287 P **P** 02 46 12.2 0.0
comp=Z,12nm,0.7s,baz=206,slow=8.7,SNR=7.3
PALK PcP **PcP** 02 47 36.6 +1.3
comp=Z,18nm,0.9s,baz=81,slow=3.0,SNR=4.2
PALK Pallekele 46.87 287 IAmb IAmb 02 46 14.1
comp=Z,8.5nm,1.9s
SUJ Sinuiju 46.94 359 P **P** 02 46 12.1 0.0
SUJ S **S** 02 52 25.2 -1.0
LZH Lanzhou 47.49 336⇓P **P** 02 46 18.0 +1.4
LZH PcP **PcP** 02 47 39.0 +1.7
LZH pP pwP 02 47 52.9 -3.1
LZH S **S** 02 52 34.6 +0.2
LZH SS **SS** 02 56 15.8 +5.1
LZH pmax pmax
comp=Z,250nm,1.0s
LZH pmax pmax
comp=Z,270nm,4.1s
BJT Baijiatuan 47.63 350 P **P** 02 46 17.6 +0.3
BJT pmax pmax
comp=Z,69nm,1.1s
BJT Baijiatuan 47.63 350 P **P** 02 46 17.6 +0.3
BJT IAmb IAmb 02 46 18.6
comp=Z,138nm,1.4s
BJT **PcP** 02 47 38.4 +0.9
BJI Beijing 47.65 350 P **P** 02 46 17.5 +0.1
BJI PcP **PcP** 02 47 38.6 +1.1
BJI sP **sP** 02 48 44.9 +0.8
BJI S **S** 02 52 33.1 -3.0
BJI ScS **ScS** 02 55 17.3 +0.4
BJI sS **sS** 02 55 22.1 -1.6
BJI pmax pmax
comp=Z,56nm,0.7s
SNY Shenyang 48.68 358⇓P **P** 02 46 25.3 +0.2
SNY S **S** 02 52 48.9 -1.4
SNY pmax pmax
comp=Z,120nm,0.7s
LSA Lhasa 49.23 320 P **P** 02 46 31.0 +0.9
LSA Lhasa 49.23 320 P **P** 02 46 30.9 +0.9
LSA pmax pmax
comp=Z,109nm,0.6s
LSA Lhasa 49.23 320 P **P** 02 46 30.9 +0.8
LSA IAmb IAmb 02 46 32.9
comp=Z,108nm,0.6s
HHC Hu-ho-hao-te 49.36 346 *eP* **P** 02 46 30.9 +0.5
HHC sP sP 02 48 56.4 -1.4
HHC S **S** 02 52 59.6 -0.3
HHC ScS **ScS** 02 55 29.0 +0.2
HHC sS sS 02 55 47.8 -1.1
HHC pmax pmax
comp=Z,60nm,1.1s
HHC pmax pmax
comp=Z,270nm,5.0s
ODAN Odare 49.98 314 *eP* **P** 02 46 36.1 +0.7
comp=Z,244nm,0.6s
TAPN Taplejung 50.05 315 *eP* **P** 02 46 36.7 +0.7
comp=Z,152nm,0.4s
VLA Vladivostok 50.28 6*d iP* **P** 02 46 37.7 +0.8
VLA pmax pmax
comp=Z,216nm,1.4s
RAMN Ramite 50.60 314 *eP* **P** 02 46 41.0 +1.0
comp=Z,421nm,0.6s
CN2 Changchun 50.62 360 *eP* **P** 02 46 39.0 -0.5
CN2 PcP **PcP** 02 47 48.1 -0.3
CN2 *eS* **S** 02 53 18.9 +2.2
CN2 pmax pmax
comp=Z,30nm,0.5s
JIRN Jiri 51.32 314 *eP* **P** 02 46 45.9 +0.6
comp=Z,261nm,0.7s
USA0B Ussuriysk Arra 51.36 6*d iP* **P** 02 46 45.3 +0.5
USA0B Ussuriysk Arra 51.36 6 IAmb IAmb 02 46 46.1
comp=Z,79nm,0.7s
USRK Ussuriysk Ar. 51.36 6 P **P** 02 46 45.5 +0.7
comp=Z,70nm,0.6s,baz=190,slow=7.1,SNR=156
USRK PcP **PcP** 02 47 51.4 +0.3
comp=Z,5.8nm,0.7s,baz=248,slow=2.7,SNR=4.6
USRK pP **pP** 02 48 20.3 +0.9
comp=Z,3.9nm,0.8s,baz=188,slow=6.7,SNR=1.8
USRK Ussuriysk Ar. 51.36 6 P **P** 02 46 45.0 +0.2
USRK PcP **PcP** 02 47 50.6 -0.5
ERM Erimo 51.45 17*de*P **P** 02 46 46.6 +1.1
ERM pmax pmax

comp=Z,166nm,1.3s
ERM Erimo 51.45 17 P **P** **02 46 46.3 +0.8**
ERM IAmb IAmb 02 46 47.8
comp=Z,109nm,0.9s
MDJ Mudanjiang 51.57 4 P **P** **02 46 47.4 +1.0**
MDJ S **S** **02 53 30.6 +1.1**
MDJ pmax pmax
comp=Z,220nm,1.0s
MDJ pmax pmax
comp=Z,720nm,3.6s
MDJ Mudanjiang 51.57 4 P **P** **02 46 47.4 +1.0**
MDJ IAmb IAmb 02 46 48.6
comp=Z,222nm,0.9s
PKI Pulchoki 51.82 313 *eP* **P** **02 46 49.3 +0.4**
comp=Z,162nm,0.5s
GTA Gaotai 51.98 335 ⇓P **P** **02 46 50.6 +1.0**
GTA PcP **PcP** **02 47 55.3 +1.5**
GTA pP pwP 02 48 27.8 -2.7
GTA sP sP 02 49 21.3 +3.3
GTA S **S** **02 53 33.8 -1.7**
GTA ScS **ScS** **02 55 47.3 +0.1**
GTA pmax pmax
comp=Z,93nm,1.0s
GTA pmax pmax
comp=Z,210nm,4.9s
KKN Kakani 52.05 314 *eP* **P** **02 46 51.0 +0.6**
comp=Z,88nm,0.5s
DMN Daman 52.06 313 *eP* **P** **02 46 51.2 +0.6**
comp=Z,164nm,0.7s
MSVF Nonsavu 52.28 107 *i* P **P** **02 46 53.8 +1.7**
MSVF pmax pmax
comp=Z,89nm,0.9s
MSVF Nonsavu 52.28 107 P **P** **02 46 52.6 +0.6**
HYB Hyderabad 52.35 298 *i* P **P** **02 46 52.0 -0.5**
HYB *e*PcP **PcP** **02 47 56.0 +0.5**
HYB *e*pP **pP** **02 48 31.0 +2.2**
GKN Gorkha 52.63 313 *eP* **P** **02 46 55.1 +0.6**
comp=Z,244nm,0.3s
TEY Ternei 52.82 10 ⇓*i* P **P** **02 46 56.3 +1.0**
TEY pmax pmax
comp=Z,240nm,1.1s
TEY pmax pmax
comp=N,130nm,1.1s
TEY pmax pmax
comp=E,80nm,0.5s
WHZ Wether Hill Ro 53.22 144 IAmb IAmb 02 46 59.6
comp=Z,83nm,0.8s
JKA Kamikawa-asahi 53.24 15 IAmb IAmb 02 47 00.6
comp=Z,212nm,1.2s
KOLN Koldanda 53.25 312 *eP* **P** **02 46 59.8 +0.7**
comp=Z,515nm,0.9s
DANN Dangsing 53.46 313 *eP* **P** **02 47 01.1 +0.5**
comp=Z,453nm,0.8s
PYUN Piuthan 53.88 312 *eP* **P** **02 47 04.2 +0.7**
comp=Z,636nm,0.8s
RPZ Rata Peaks 54.00 140 P **P** **02 47 04.7 +0.8**
comp=Z,236nm,0.9s,baz=278,slow=2.8,SNR=106
RPZ Rata Peaks 54.00 140 P **P** **02 47 04.5 +0.6**
RPZ IAmb IAmb 02 47 05.5
comp=Z,192nm,0.8s
YUK Yuzh-Kuril'sk 54.10 18 *eP* **P** **02 47 01.6 -2.8**
YUK *e* 02 49 23.5
YUK *e*S **S** **02 54 02.9 -0.1**
YUK *e*SS **SS** **02 57 50.5 -3.7**
YUK pmax pmax
comp=Z,476nm,1.4s
YUK pmax pmax
comp=Z,351nm,1.4s
YUK pmax pmax
comp=N,171nm,1.3s
YUK pmax pmax
comp=E,196nm,1.0s
MQZ McQueen's Vall 55.02 140 IAmb IAmb 02 47 12.9
comp=Z,176nm,1.8s
SNZO South Karori 55.35 136 P **P** **02 47 13.2 -0.2**
SNZO IAmb IAmb 02 48 57.1
comp=Z,130nm,1.3s
KUR Kuril'sk 55.80 19*d i*P **P** **02 47 17.3 +0.9**
KUR *e* 02 48 05.2
KUR *e* 02 49 45.5
KUR *e*S **S** **02 54 25.1 -0.2**
KUR *e*SS **SS** **02 58 15.9 -5.1**
KUR pmax pmax
comp=E,50nm,1.3s
KUR pmax pmax
comp=Z,299nm,1.3s
KUR pmax pmax
comp=N,67nm,1.2s
KUR pmax pmax
comp=Z,657nm,4.1s
YSS Yuzh-Sakhalins 55.93 14k *i*P **P** **02 47 18.0 +0.8**
YSS *e* 02 48 07.6
YSS *e**SP **sP** **02 49 48.6 +0.6**
YSS *e*S **S** **02 54 28.1 +1.2**
YSS *e*SS **SS** **02 58 24.4 +1.5**
YSS *e* 03 00 58.0
YSS pmax pmax
comp=Z,400nm,4.3s
YSS pmax pmax
comp=N,200nm,3.9s
YSS pmax pmax
comp=E,100nm,3.2s
YSS pmax pmax
comp=Z,90nm,1.1s
YSS smax smax
comp=E,200nm,6.7s
YSS MLR MLR
comp=Z,100nm,15.0s
YSS MLR MLR
comp=N,100nm,14.0s
YSS Yuzh-Sakhalins 55.93 14 P **P** **02 47 17.0 -0.2**
YSS IAmb IAmb 02 47 19.1
comp=Z,270nm,1.5s
HIA Hailar 56.31 355 P **P** **02 47 20.9 +1.0**
HIA IAmb IAmb 02 47 22.2
comp=Z,176nm,1.5s
HIA **PcP** **02 48 11.3 +1.1**
KLR Kul'dur 56.32 5 P **P** **02 47 20.4 +0.5**
comp=Z,14nm,0.4s,baz=195,slow=5.8,SNR=97
KLR PcP **PcP** **02 48 10.6 +0.4**
comp=Z,18nm,0.9s,baz=276,slow=1.8,SNR=5.7
KLR PKP2bc 03 17 22.4
comp=Z,1.9nm,0.8s,baz=328,slow=7.5,SNR=5.7
KLR Kul'dur 56.32 5*de*P **P** **02 47 20.2 +0.3**
KLR pmax pmax
comp=Z,27nm,0.8s
ULN Ulaanbaatar 57.06 345*ce*P **P** **02 47 26.1 +0.9**
ULN pmax pmax
comp=Z,142nm,1.3s
ULN Ulaanbaatar 57.06 345 P **P** **02 47 26.5 +1.3**
ULN IAmb IAmb 02 47 27.4
comp=Z,135nm,1.1s
ULN PcP **PcP** **02 48 14.0 +0.6**
SONM Songino Array 57.20 345 P **P** **02 47 27.1 +0.9**
comp=Z,50nm,0.8s,baz=164,slow=7.4,SNR=194
SONM PcP **PcP** **02 48 14.5 +0.7**
comp=Z,13nm,0.8s,baz=152,slow=4.2,SNR=5.7
SONM pP **pP** **02 49 03.8 +0.4**
comp=Z,11nm,1.1s,baz=165,slow=6.4,SNR=2.3
SONM S **S** **02 54 45.0 +1.4**
comp=Z,0.9nm,0.7s,baz=179,slow=5.9,SNR=3.8
SONM PKP2bc 03 17 14.3
comp=Z,0.3nm,0.4s,baz=281,slow=1.7,SNR=4.1
SONM P4KPbc 03 24 33.5
comp=Z,1.7nm,1.1s,baz=117,slow=3.6,SNR=4.3
SONM Songino Array 57.20 345 P **P** **02 47 26.7 +0.5**
SONM PcP **PcP** **02 48 14.2 +0.3**
GRNR Gornyy 58.37 8 ⇓*i*P **P** **02 47 35.3 +1.4**
GRNR pmax pmax
comp=N,30nm,1.4s
GRNR pmax pmax
comp=Z,90nm,1.2s
NDI New Delhi 58.51 310 *eP* **P** **02 47 34.0 -1.3**
NDI *e*S **S** **02 54 56.0 -4.8**
TYV Tymovskoe 59.57 13 *eP* **P** **02 47 43.7 +1.7**
TYV *e*S **S** **02 55 15.7 +2.4**
TYV pmax pmax
comp=Z,63nm,1.2s
TYV pmax pmax
comp=Z,400nm,3.7s
TYV smax smax
comp=N,200nm,6.8s
CIT Chita 59.73 352 *eP* **P** **02 47 44.3 +1.2**
CIT *e* 02 48 24.0
CIT pmax pmax
comp=Z,148nm,1.5s

CASY Casey 60.02 187 P **P** **02 47 45.2 +0.4**
ZAK Zakamensk 60.36 344 *eP* **P** **02 47 47.4 0.0**
ZAK *e* 02 48 25.7
ZAK pmax pmax
comp=Z,28nm,1.1s
ZAK pmax pmax
comp=Z,27nm,1.0s
ZEA Zeya 60.59 1 *eP* **P** **02 47 49.8 +1.1**
ZEA *e* 02 50 22.0
ZEA *e*S **S** **02 55 26.0 +0.1**
ZEA *e* 02 56 49.0
ZEA pmax pmax
comp=N,79nm,1.2s
ZEA pmax pmax
comp=Z,140nm,1.2s
ZEA smax smax
comp=N,300nm,7.0s
ZEA smax smax
comp=E,400nm,7.0s
WMQ Urumqi 61.08 330 *eP* **P** **02 47 53.0 +0.7**
WMQ PcP **PcP** **02 48 30.5 +1.0**
WMQ pP pwP 02 49 34.8 -3.1
WMQ S **S** **02 55 32.8 +0.2**
WMQ pmax pmax
comp=E,66nm,1.3s
WMQ pmax pmax
comp=E,97nm,4.5s
WMQ Urumqi 61.08 330 P **P** **02 47 52.9 +0.7**
WMQ pmax pmax
comp=Z,115nm,1.1s
WMQ Urumqi 61.08 330 P **P** **02 47 52.9 +0.7**
WMQ IAmb IAmb 02 47 54.4
comp=Z,115nm,1.1s
TLY Talaya 61.44 345 P **P** **02 47 55.7 +1.3**
comp=Z,15nm,0.5s,baz=172,slow=5.5,SNR=29
TLY PcP **PcP** **02 48 31.4 +0.7**
comp=Z,5.8nm,0.5s,baz=166,slow=5.8,SNR=4.5
TLY Talaya 61.44 345*d i*P **P** **02 47 55.5 +1.1**
TLY *e* 02 48 28.7
TLY *e* 02 50 25.3
TLY *e*S **S** **02 55 38.3 +1.6**
TLY pmax pmax
comp=Z,39nm,0.6s
TLY Talaya 61.44 345 P **P** **02 47 55.1 +0.7**
IRK Irkutsk 61.79 345 *eP* **P** **02 47 57.2 +0.5**
IRK pmax pmax
comp=Z,115nm,2.0s
MOY Mondy 62.16 343 *eP* **P** **02 48 00.5 +1.3**
MOY pmax pmax
comp=Z,115nm,1.9s
SKR Severo-Kuril's 63.32 21*d i*P **P** **02 48 07.5 +1.0**
SKR *e**SP **sP** **02 50 38.1 -0.7**
SKR *e*S **S** **02 55 56.8 -2.8**
SKR pmax pmax
comp=Z,300nm,4.2s
SKR pmax pmax
comp=Z,81nm,1.4s
NIL Nilore 63.91 313 P **P** **02 48 11.2 +0.4**
NIL pmax pmax
comp=Z,76nm,0.7s
NIL Nilore 63.91 313 P **P** **02 48 11.2 +0.4**
NIL IAmb IAmb 02 48 12.3
comp=Z,76nm,0.7s
ZSN Zaisan 65.06 331 ⇓*i*P **P** **02 48 18.4 +0.7**
comp=Z,26nm,1.2s,baz=331
ZSN *i* S **S** **02 56 21.3 +0.4**
comp=Z,58nm,2.1s,baz=331
ZSN Zaisan 65.06 331*d i*P **P** **02 48 18.4 +0.7**
ZSN *i* S **S** **02 56 21.3 +0.4**
ZSN pmax pmax
comp=Z,26nm,1.2s
ZSN smax smax
comp=N,57nm,2.1s
KSH Kashi 65.09 320 P **P** **02 48 19.3 +1.0**
KSH sP sP 02 50 53.3 +1.5
KSH S **S** **02 56 21.5 -0.3**
KSH pmax pmax
comp=N,51nm,0.7s
SHLS Shalkode 65.09 325 ⇓*i*P **P** **02 48 17.9 -0.3**
comp=N,53nm,1.0s,baz=324
SHLS *e*PcP **PcP** **02 48 46.1 -0.1**
baz=324
SHLS *e*pP **pP** **02 50 01.0 +2.0**
baz=324
SHLS *i* S **S** **02 56 20.3 -1.4**
comp=N,90nm,2.3s,baz=324
SHLS Shalkode 65.09 325*d i*P **P** **02 48 17.9 -0.3**
SHLS *e* 02 48 46.0
SHLS *e**PP **pP** **02 50 00.9 +2.0**
SHLS *i* S **S** **02 56 20.2 -1.4**
SHLS pmax pmax
comp=Z,53nm,1.0s
SHLS smax smax
comp=N,90nm,2.3s
PDGK Podgornoye 65.18 325 P **P** **02 48 19.3 +0.5**
MIDW Midway 65.32 55 P **P** **02 48 20.4 +0.6**
BOD Bodaibo 65.33 353 *eP* **P** **02 48 19.8 +0.6**
BOD *e*S **S** **02 56 25.3 +1.7**
BOD pmax pmax
comp=Z,143nm,1.1s
UZB Uzynbulak 65.34 324 ⇓*i*P **P** **02 48 20.9 +1.0**
comp=Z,30nm,1.2s,baz=324
UZB *i* S **S** **02 56 25.5 +0.8**
comp=Z,78nm,3.5s,baz=324
UZB Uzynbulak 65.34 324*d i*P **P** **02 48 20.8 +1.0**
UZB *i* S **S** **02 56 25.4 +0.8**
UZB pmax pmax
comp=Z,30nm,1.2s
UZB smax smax
comp=N,78nm,3.5s
DGZ Jazzator, Alta 65.50 334*d i*P **P** **02 48 21.5 +0.8**
DGZ pmax pmax
comp=Z,74nm,1.1s
SATY Saty 65.64 324 ⇓*i*P **P** **02 48 22.8 +1.1**
comp=Z,36nm,1.0s,baz=324
SATY Saty 65.64 324*d i*P **P** **02 48 22.8 +1.1**
SATY pmax pmax
comp=Z,36nm,1.0s
SATY Saty 65.64 324*d i*P **P** **02 48 22.8 +1.1**
SATY pmax pmax
comp=Z,36nm,1.0s
PEA0B Petropavlovsk- 65.87 21*de*P **P** **02 48 24.1 +1.4**
PETK Petropavlovsk- 65.87 21 P **P** **02 48 24.1 +1.4**
comp=Z,105nm,0.6s,baz=201,slow=1.3,SNR=281
PETK PcP **PcP** **02 48 49.0 +0.1**
comp=Z,30nm,0.7s,baz=180,slow=4.4,SNR=6.5
PETK Petropavlovsk- 65.87 21 P **P** **02 48 23.5 +0.7**
MK31 Makanchi Array 65.89 329 *eP* **P** **02 48 23.7 +0.7**
MK31 Makanchi Array 65.89 329 P **P** **02 48 23.3 +0.3**
MK31 IAmb IAmb 02 48 24.8
comp=Z,75nm,1.0s
MKAR Makanchi Array 65.89 329 P **P** **02 48 23.8 +0.8**
comp=Z,54nm,0.7s,baz=129,slow=7.8,SNR=445
MKAR pP **pP** **02 50 03.1 -0.8**
comp=Z,4.1nm,0.7s,baz=139,slow=6.8,SNR=2.1
MKAR S **S** **02 56 30.9 0.0**
comp=Z,6.9nm,1.1s,baz=134,slow=12,SNR=15
MKAR PKPPKP **P'P'df** **03 16 50.1 -2.5**
comp=Z,0.8nm,0.8s,baz=307,slow=2.6,SNR=5.4
MKAR P4KPbc 03 25 12.0
comp=Z,0.7nm,0.7s,baz=158,slow=3.9,SNR=6.3
MKAR Makanchi Array 65.89 329 P **P** **02 48 22.8 -0.2**
MAKZ Makanchi 66.06 329 P **P** **02 48 24.7 +0.6**
MAKZ pmax pmax
comp=Z,72nm,1.1s
MAKZ Makanchi 66.06 329 P **P** **02 48 24.7 +0.6**
MAKZ IAmb IAmb 02 48 25.7
comp=Z,72nm,1.1s
PET Petropavlovsk 66.14 21 *eP* **P** **02 48 25.5 +1.1**
PET pmax pmax
comp=Z,151nm,0.5s
PET Petropavlovsk 66.14 21 P **P** **02 48 24.9 +0.5**
TNSS Tian-Shan 66.49 323 ⇓*i*P **P** **02 48 28.6 +1.3**
baz=323
TNSS Tian-Shan 66.49 323*d i*P **P** **02 48 28.6 +1.3**
MDOK Medeo 66.50 323 *i* P **P** **02 48 28.0 +0.9**
comp=Z,165nm,1.1s,baz=323
MDOK *e*pP **pP** **02 50 11.1 +2.7**
baz=323
MDOK *i* S **S** **02 56 39.9 +1.3**
baz=323
MDOK Medeo 66.50 323 *i* P **P** **02 48 28.0 +0.9**
MDOK *e**PP **pP** **02 50 11.1 +2.7**
MDOK *i* S **S** **02 56 39.8 +1.3**
MDOK pmax pmax

comp=Z,165nm,1.1s
AAA Alma-Ata 66.61 323 *eP* **P** **02 48 28.6 +0.9**
comp=Z,32nm,1.0s,baz=323
AAA Alma-Ata 66.61 323 *eP* **P** **02 48 28.5 +0.9**
AAA pmax pmax
comp=Z,32nm,1.0s
TDK Taldyqorghan 66.82 326 *i* P **P** **02 48 29.7 +0.9**
comp=Z,48nm,1.0s,baz=325
TDK Taldyqorghan 66.82 326 *i* P **P** **02 48 29.7 +0.9**
TDK pmax pmax
comp=Z,48nm,1.0s
MTBS Maitube 66.85 323 ⇓*i*P **P** **02 48 29.9 +0.7**
baz=323
MTBS Maitube 66.85 323 ⇓*i*P **P** **02 48 29.9 +0.7**
CHKK Chushkaly 66.95 324 *eP* **P** **02 48 29.9 +0.2**
baz=324
CHKK Chushkaly 66.95 324 *eP* **P** **02 48 29.8 +0.2**
KZA Kyzart 66.97 322 P **P** **02 48 31.7 +1.4**
SNR=32
TKM2 Tokmak 2 67.23 322 P **P** **02 48 32.6 +0.9**
SNR=32
TKM2 Tokmak 2 67.23 322 P **P** **02 48 32.3 +0.6**
KUU Kurty 67.35 324 ⇓*i*P **P** **02 48 33.0 +0.9**
comp=Z,133nm,1.1s,baz=323
KUU Kurty 67.35 324*d i*P **P** **02 48 33.0 +0.9**
KUU pmax pmax
comp=Z,133nm,1.1s
KBL Kabul 67.41 312 P **P** **02 48 33.3 +0.4**
KBL pmax pmax
comp=Z,80nm,1.0s
KBL Kabul 67.41 312 P **P** **02 48 33.3 +0.4**
KBL IAmb IAmb 02 48 34.3
comp=Z,80nm,1.0s
KBK Karagaybulak 67.48 322 P **P** **02 48 34.4 +1.2**
SNR=12
UCH Uchtor 67.51 321 P **P** **02 48 34.8 +1.1**
SNR=38
AAK Ala-Archa 67.75 322 P **P** **02 48 36.1 +1.3**
comp=Z,24nm,0.6s,baz=118,slow=5.4,SNR=45
AAK pP **pP** **02 50 17.5 +0.8**
comp=Z,2.4nm,0.4s,baz=127,slow=5.1,SNR=1.7
AAK S **S** **02 56 55.1 +1.9**
comp=Z,1.0nm,0.2s,baz=270,slow=21,SNR=19
AAK PKP2bc 03 16 54.3
comp=Z,1.2nm,0.3s,baz=301,slow=5.9,SNR=5.6
AAK Ala-Archa 67.75 322 P **P** **02 48 36.0 +1.3**
SNR=20
AAK Ala-Archa 67.75 322*de*P **P** **02 48 35.8 +1.0**
AAK pmax pmax
comp=Z,34nm,0.8s
AAK Ala-Archa 67.75 322 P **P** **02 48 35.3 +0.6**
CHMS Chumysh 67.79 322 P **P** **02 48 35.4 +0.6**
SNR=7.4
AML Almayashu 67.97 321 P **P** **02 48 37.5 +1.1**
SNR=53
USP Ospenovka 68.09 322 P **P** **02 48 37.6 +0.9**
SNR=40
EKS2 Erkin-Say 68.20 321 P **P** **02 48 38.7 +1.2**
SNR=35
JOHN Johnston Islan 68.47 69 P **P** **02 48 40.1 +0.7**
GAR Garm 68.57 317 P **P** **02 48 40.3 +0.4**
GAR IAmb IAmb 02 48 42.0
comp=Z,80nm,0.9s
YAK Yakutsk 68.96 2 S **S** **02 57 06.3 +0.2**
comp=Z,5.3nm,0.4s,baz=106,slow=23,SNR=19
YAK Yakutsk 68.96 2*d i*P **P** **02 48 42.0 +0.5**
YAK *e* 02 49 01.3
YAK *e**PP **pP** **02 50 22.6 -1.1**
YAK *e* 02 51 14.8
YAK *e*S **S** **02 57 05.6 -0.5**
YAK *e* 02 57 51.9
YAK pmax pmax
comp=Z,233nm,0.8s
YAK pmax pmax
comp=N,186nm,0.9s
YAK pmax pmax
comp=E,63nm,1.2s
YAK pmax pmax
comp=Z,129nm,3.5s
YAK smax smax
comp=E,308nm,1.8s
YAK smax smax
comp=N,142nm,1.5s
YAK Yakutsk 68.96 2 P **P** **02 48 42.1 +0.6**
CHGR Chuyangaron 69.20 316 IAmb IAmb 02 48 44.9
comp=Z,75nm,0.8s
BTLS Baital 69.35 324 ⇓*i*P **P** **02 48 44.7 +0.5**
comp=Z,22nm,1.4s,baz=323
BTLS *i* PcP **PcP** **02 49 04.1 +0.2**
baz=323
BTLS *i* S **S** **02 57 10.9 -0.4**
comp=Z,22nm,1.6s,baz=323
BTLS Baital 69.35 324*d i*P **P** **02 48 44.7 +0.5**
BTLS *i* 02 49 04.1
BTLS *i* S **S** **02 57 10.9 -0.4**
BTLS pmax pmax
comp=Z,22nm,1.4s
BTLS smax smax
comp=E,22nm,1.6s
MA2 Magadan 69.42 13*de*P **P** **02 48 45.6 +1.3**
MA2 pmax pmax
comp=Z,262nm,1.0s
MA2 Magadan 69.42 13 P **P** **02 48 45.7 +1.3**
ZAA0 Zalesovo Array 69.72 336 IAmb IAmb 02 48 47.2
comp=Z,194nm,1.1s
ZALV Zalesovo Beam 69.72 336 P **P** **02 48 46.1 -0.1**
comp=Z,67nm,0.4s,baz=127,slow=4.4,SNR=272
ZALV pP **pP** **02 50 30.1 +1.4**
comp=Z,9.7nm,0.9s,baz=127,slow=2.9,SNR=2.3
ZALV S **S** **02 57 11.6 -3.6**
comp=Z,5.6nm,0.9s,baz=133,slow=13,SNR=10
ZALV PKP2bc 03 16 45.1
comp=Z,1.0nm,0.6s,baz=328,slow=5.3,SNR=4.9
ZALV Zalesovo Beam 69.72 336 P **P** **02 48 45.5 -0.7**
DZA Taraz 69.85 321 ⇓*i*P **P** **02 48 47.6 +0.2**
baz=320
DZA Taraz 69.85 321*d i*P **P** **02 48 47.5 +0.2**
KURBB Kurchatov Arra 70.28 330 P **P** **02 48 50.1 +0.5**
comp=Z,53nm,0.9s,baz=137,slow=4.5,SNR=549
KURBB pP **pP** **02 50 31.4 -1.0**
comp=Z,6.9nm,1.1s,baz=136,slow=4.9,SNR=3.0
KURBB S **S** **02 57 15.4 -6.2**
comp=Z,1.5nm,1.0s,baz=130,slow=13,SNR=8.3
KURBB PKP2bc 03 16 43.2
comp=Z,1.0nm,1.0s,baz=304,slow=3.2,SNR=5.0
KURK Kurchatov 70.29 330 P **P** **02 48 50.1 +0.4**
KURK Kurchatov 70.29 330 P **P** **02 48 50.0 +0.3**
KURK IAmb IAmb 02 48 51.5
comp=Z,147nm,1.1s
IUG luzhnay 70.30 319 ⇓*i*P **P** **02 48 51.1 +0.9**
comp=Z,40nm,1.4s,baz=319
IUG *e*S **S** **02 57 22.8 +0.2**
comp=Z,83nm,2.4s,baz=319
IUG luzhnay 70.30 319*d i*P **P** **02 48 51.0 +0.9**
IUG *e*S **S** **02 57 22.8 +0.2**
IUG pmax pmax
comp=Z,40nm,1.4s
IUG smax smax
comp=N,83nm,2.4s
TAS Tashkent 70.38 318 P **P** **02 48 51.0 +0.5**
TAS pmax pmax
comp=Z,85nm,1.0s
TAS Tashkent 70.38 318 P **P** **02 48 51.0 +0.5**
TAS IAmb IAmb 02 48 51.9
comp=Z,85nm,1.0s
KKAR Karatay Array 70.48 320 P **P** **02 48 50.8 -0.3**
KKAR Karatay Array 70.48 320 P **P** **02 48 50.8 -0.3**
WSAR Wadi Sarin 71.87 297 P **P** **02 49 00.2 +0.5**
comp=Z,26nm,0.9s,baz=133,slow=5.3,SNR=7.8
OTUK Ortayu 72.11 326 P **P** **02 49 01.4 +0.9**
HRA Herat 72.48 309 P **P** **02 49 03.2 0.0**
HRA **PcP** **02 49 17.1 -0.6**
SEY Seymchan 72.77 13*d i*P **P** **02 49 04.8 +0.9**
BRZS Berezniki 72.89 327 ⇓*i*P **P** **02 49 06.0 +0.9**
comp=Z,135nm,1.0s,baz=327
BRZS Berezniki 72.89 327*d i*P **P** **02 49 05.9 +0.9**
BRZS pmax pmax
comp=Z,135nm,1.0s
VNDA Vanda 72.96 172 P **P** **02 49 05.2 +0.4**
comp=Z,9.1nm,0.7s,baz=317,slow=6.4,SNR=114
VNDA S **S** **02 57 52.5 +1.5**
comp=Z,1.4nm,1.0s,baz=71,slow=19,SNR=6.9
VNDA Vanda 72.96 172 P **P** **02 49 05.3 +0.4**
MAW Mawson 73.27 201 P **P** **02 49 07.7 +0.8**
comp=Z,4.5nm,0.6s,baz=93,slow=4.8,SNR=21
MAW S **S** **02 57 54.6 -0.1**

comp=Z,0.3nm,0.3s,baz=150,slow=23,SNR=1.3
MAW Mawson 73.27 201 P **P** **02 49 07.9 +1.1**
UOSS Minazif 74.47 298 P **P** **02 49 14.7 +0.2**
BVAR Borovoye Array 75.77 329 P **P** **02 49 21.8 +0.6**
comp=Z,42nm,0.6s,baz=134,slow=6.4,SNR=297
BVAR pP **pP** **02 51 05.6 -0.4**
comp=Z,3.1nm,0.8s,baz=152,slow=6.5,SNR=1.7
BRVK Borovoye 75.84 329 *de*P **P** **02 49 22.0 +0.4**
BRVK pmax pmax
comp=Z,179nm,1.3s
BRVK Borovoye 75.84 329 P **P** **02 49 22.3 +0.7**
BRVK lAmb lAmb 02 49 23.4
comp=Z,121nm,0.9s
OPO Ambohidratompo 76.71 253 P **P** **02 49 28.2 +0.8**
comp=Z,23nm,0.9s,baz=97,slow=4.9,SNR=22
OPO pP **pP** **02 51 12.8 +0.1**
comp=Z,14nm,0.7s,baz=90,slow=9.2,SNR=4.9
GEYT Alibeck 76.86 311 P **P** **02 49 28.6 +1.0**
comp=Z,53nm,0.9s,baz=149,slow=3.5,SNR=74
GEYT pP **pP** **02 51 13.5 -0.5**
comp=Z,2.7nm,0.7s,baz=124,slow=8.9,SNR=1.4
GEYT Alibeck 76.86 311 P **P** **02 49 28.5 +1.0**
GYA0 ALIBECK ARRAY 76.86 311 P **P** **02 49 28.6 +1.0**
XMAS Kiritimati 77.44 86 P **P** **02 49 32.5 +1.3**
XMAS lAmb lAmb 02 49 34.4
comp=Z,124nm,1.1s
AB31 Akbulak array 79.80 323 P **P** **02 49 42.9 -0.2**
ABKAR Akbulak array 79.80 323 P **P** **02 49 43.0 -0.1**
NRIK Noril'sk 80.58 347 P **P** **02 49 47.6 +0.9**
comp=Z,21nm,0.4s,baz=131,slow=5.2,SNR=69
NRIK pP **pP** **02 51 34.4 +1.4**
comp=Z,2.3nm,0.4s,baz=169,slow=17,SNR=1.3
NRIK S **S** **02 59 11.9 -0.3**
comp=Z,3.5nm,0.7s,baz=1.2,slow=18,SNR=11
NRIK Noril'sk 80.58 347 *e*P **P** **02 49 47.4 +0.7**
NRIK pmax pmax
comp=Z,93nm,1.1s
AKTO Aktyubinsk 81.41 323 P **P** **02 49 51.9 +0.4**
comp=Z,46nm,0.7s,baz=107,slow=7.1,SNR=179
AKTO pP **pP** **02 51 38.1 -1.2**
comp=Z,5.3nm,0.9s,baz=69,slow=9.0,SNR=1.8
AKTO S **S** **02 59 20.6 -0.8**
comp=Z,3.2nm,1.1s,baz=335,slow=22,SNR=27
KHLU Kahalu`u 81.74 69 P **P** **02 49 54.7 +0.8**
KHLU lAmb lAmb 02 49 56.7
comp=Z,202nm,1.0s
SYO Syowa Base 81.97 201 ⇓*e*P **P** **02 49 53.2 -0.8**
SYO Syowa Base 81.97 201 ⇑*e*PcP **PcP** **02 49 58.0 0.0**
SYO Syowa Base 81.97 201 ⇑*p*pP pP 02 51 40.4 -1.7
POHA Pohakuloa 82.10 69 P **P** **02 49 55.2 -0.7**
POHA lAmb lAmb 02 49 58.3
comp=Z,233nm,1.4s
SVE Sverdlovsk 82.53 330 *ce*P **P** **02 49 57.4 +0.4**
SVE *e*S **S** **02 59 29.7 -2.6**
SVE pmax pmax
comp=Z,162nm,1.6s
QSPA South Pole Qui 82.92 180 P **P** **02 49 59.3 +0.3**
comp=Z,9.1nm,0.7s,baz=151,slow=2.0,SNR=64
QSPA South Pole Qui 82.92 180 P **P** **02 49 59.6 +0.6**
UNV Unalaska Valle 83.01 34 P **P** **02 49 59.7 +0.2**
UNV lAmb lAmb 02 50 00.3
comp=Z,79nm,1.0s
PPT2 Papeete2 83.11 107 *e*P **P** **02 50 00.0 -0.9**
comp=Z,53nm,1.1s
PPT Papeete 83.11 107 P **P** **02 50 04.6 +3.8**
comp=Z,35nm,0.9s,baz=287,slow=11,SNR=3.7
ARU Arti 83.42 329 P **P** **02 50 01.4 -0.1**
comp=Z,7.2nm,0.5s,baz=133,slow=4.1,SNR=79
ARU Arti 83.42 329 *d*⇓*p*P **P** **02 50 01.2 -0.3**
ARU *e*PP **pP** **02 51 50.3 +0.6**
ARU 02 53 21.8
ARU S **S** **02 59 36.3 -4.8**
ARU SS **SS** **03 05 23.1 +2.2**
ARU pmax pmax
comp=Z,158nm,1.4s
ARU Arti 83.42 329 P **P** **02 50 01.3 -0.1**
ARU lAmb lAmb 02 50 02.8
comp=Z,198nm,1.4s
LKRN Lenkeran, Azer 84.11 310 P **P** **02 50 06.1 +0.8**
ATD Arta Tunnel 84.23 282 P **P** **02 50 08.3 +1.8**
comp=Z,16nm,0.7s,baz=83,slow=5.4,SNR=7.2
PMOR Pomariorio Ree 84.97 104 *e*P **P** **02 50 08.9 -1.1**
comp=Z,138nm,1.2s
AKT Akhty 85.54 313 *e*P **P** **02 50 13.1 +0.7**
AKT *e**SP **sP** **02 52 53.3 +0.8**
AKT *e* 02 53 44.1
AKT *e*S **S** **02 59 57.1 -5.6**
AKT pmax pmax
comp=Z,90nm,1.3s
MNGR Mingechevir, A 85.86 312 P **P** **02 50 14.5 +0.7**
SEKA Sheki 85.87 312 P **P** **02 50 14.3 +0.3**
MAK Makhachkala 86.05 314 *e*P **P** **02 50 15.3 +0.7**
MAK *e* 02 53 42.8
MAK *e*PPP PPP 02 55 40.9
MAK *e* 02 59 53.4
MAK pmax pmax
comp=Z,109nm,1.1s
GANJ Ganja 86.39 312 P **P** **02 50 17.1 +0.7**
LGD Lagodekhi 86.71 313 P **P** **02 50 18.7 +0.8**
NAX Nakhchivan 86.71 310 P **P** **02 50 18.5 +0.5**
GROC Groznyy 87.32 314 *e*P **P** **02 50 17.6 -3.1**
GROC *e**PP **pP** **02 52 07.3 -3.2**
GROC *e**SP **sP** **02 52 58.4 -2.7**
GROC *e*S **SKSac** **02 59 55.8 -5.0**
GROC pmax pmax
comp=Z,72nm,1.1s
TBLG Delisi 87.79 312 P **P** **02 50 22.9 0.0**
TBLG Delisi 87.79 312 P **P** **02 50 22.9 0.0**
KZRT Kazreti 87.97 312 P **P** **02 50 24.8 +1.0**
KMBO Kilima Mbogo 88.10 269 P **P** **02 50 27.5 +2.2**
comp=Z,6.8nm,0.8s,baz=72,slow=7.1,SNR=17
KMBO pP **pP** **02 52 14.9 +0.6**
comp=Z,3.2nm,1.0s,baz=73,slow=7.7,SNR=3.2
KMBO Kilima Mbogo 88.10 269 *i*P **P** **02 50 27.2 +1.9**
KMBO pmax pmax
comp=Z,7.0nm,0.8s
KMBO Kilima Mbogo 88.10 269 P **P** **02 50 24.8 -0.5**
ZEI Tsey 88.60 313 *e*P **P** **02 50 25.4 -1.6**
ZEI *e* 02 52 15.1
ZEI pmax pmax
comp=Z,26nm,0.8s
AKH Akhalkalaki 88.64 312 ⇑P **P** **02 50 28.0 +0.9**
AKH Akhalkalaki 88.64 312 P **P** **02 50 27.2 0.0**
AKH Akhalkalaki 88.64 312 P **P** **02 50 27.1 0.0**
AKH lAmb lAmb 02 50 29.6
comp=Z,59nm,1.0s
KIRV Kirov 88.78 329 P **P** **02 50 25.2 -1.9**
comp=Z,14nm,0.8s,baz=186,slow=5.4,SNR=9.7
KIRV pP **pP** **02 52 16.1 -1.2**
comp=Z,3.8nm,0.5s,baz=90,slow=2.0,SNR=1.1
KIRV Kirov 88.78 329 ⇑*e*P **P** **02 50 26.9 -0.2**
KARS Kars 88.81 311 P **P** **02 50 29.2 +1.3**
ONI Oni 88.89 313 P **P** **02 50 29.2 +1.1**
KBZ Khabaz 89.49 314 P **P** **02 50 30.9 +0.2**
comp=Z,12nm,0.9s,baz=127,slow=3.1,SNR=23
KBZ pP **pP** **02 52 20.7 -0.5**
comp=Z,3.3nm,1.0s,baz=81,slow=3.5,SNR=1.8
KBZ PKKPbc **PKKPbc** **03 08 04.5 0.0**
comp=Z,1.2nm,0.5s,baz=297,slow=4.0,SNR=4.1
KBZ Khabaz 89.49 314 *de*P **P** **02 50 30.8 0.0**
KBZ pmax pmax
comp=Z,18nm,0.9s
GOF Gofitskoye 89.63 315 ⇑*e*P **P** **02 50 31.8 +0.4**
KIV Kislovodsk 89.68 314 ⇑P **P** **02 50 31.2 -0.7**
KIV Kislovodsk 89.68 314 *e*P **P** **02 50 32.0 +0.2**
KIV pmax pmax
comp=Z,40nm,1.1s
KIV MLR MLR
comp=Z,109nm,20.0s
KIV Kislovodsk 89.68 314 P **P** **02 50 31.5 -0.3**
RDOG Red Dog Mine 89.74 21 lAmb lAmb 02 50 32.9
comp=Z,55nm,1.0s
CHVG Ch'k'valeri 89.91 313 ⇓P **P** **02 50 33.4 +0.7**
BATM Batumi 90.01 312 ⇑P **P** **02 50 34.0 +0.8**
BATM Batumi 90.01 312 ⇑P **P** **02 50 34.0 +0.8**
TTA Tatalina 91.04 27 lAmb lAmb 02 50 38.9
comp=Z,21nm,0.8s
KTUT Trabzon 91.35 311 ⇑P **P** **02 50 39.4 -0.1**
PRGR Permogore 91.36 332 *e*P **P** **02 50 36.9 -2.1**
PRGR *e**PP **pwP** **02 52 33.3 +0.3**
PRGR *e*S **SKSac** **03 00 22.5 -0.8**
PRGR *e* 03 00 53.1
PRGR pmax pmax
comp=Z,17nm,0.8s

VRH Novokhopyorsk 91.55 321 *e*P **P** **02 50 39.1 -1.0**
VRH pmax pmax
comp=Z,60nm,0.9s
MALT Malatya 92.02 308 P **P** **02 50 43.2 +0.5**
ASF Jabal al Asfar 92.51 302 P **P** **02 50 45.8 +0.7**
comp=Z,6.9nm,0.9s,baz=260,slow=4.7,SNR=11
SPU Mount Spurr 92.51 29 P **P** **02 50 43.5 -1.0**
IMAR Indian Mountai 92.66 24 P **P** **02 50 44.9 0.0**
PPLA Purkeypile 92.75 27 lAmb lAmb 02 50 46.3
comp=Z,32nm,1.2s
GAZ Gaziantep 92.83 307 P **P** **02 50 46.2 -0.2**
SKT Skwentna 92.89 28 lAmb lAmb 02 50 45.6
comp=Z,31nm,0.9s
VORD Divnogorie 93.03 321 *e*P **P** **02 50 45.3 -1.6**
VORD pmax pmax
comp=Z,30nm,0.9s
VSR Storozhevoye 93.14 321 *e*P **P** **02 50 46.5 -0.9**
VSR pmax pmax
comp=Z,40nm,1.0s
LPSR Galich'ya Gora 93.46 322 *e*P **P** **02 50 48.0 -0.8**
LPSR pmax pmax
comp=Z,40nm,1.0s
BPAW Bear Paw Mtn. 93.48 26 lAmb lAmb 02 50 49.3
comp=Z,12nm,0.6s
O22K Cooper Landing 93.53 30 P **P** **02 50 48.5 -0.5**
baz=262
ANN Anapa 93.53 315 *e*P **P** **02 50 48.0 -1.3**
ANN *e*S **SKSac** **03 00 34.7 -1.2**
ANN pmax pmax
comp=Z,39nm,0.9s
CUT Chulitna 93.55 28 P **P** **02 50 48.6 -0.4**
baz=262
MMAI Mount Meron Ar 93.86 303 P **P** **02 50 51.6 +0.4**
comp=Z,4.3nm,0.7s,baz=90,slow=5.3,SNR=12
EIL Elat 93.90 299 P **P** **02 50 51.4 0.0**
comp=Z,3.8nm,0.8s,baz=129,slow=10,SNR=3.9
PMR Palmer 93.97 29 lAmb lAmb 02 50 50.6
comp=Z,23nm,0.7s
GHO Glory Hole Cre 94.09 28 lAmb lAmb 02 50 51.5
comp=Z,28nm,1.0s
KLMR Klimovskoe 94.14 331 *e*P **P** **02 50 49.6 -2.2**
KLMR *e**PP **pP** **02 52 39.2 -3.3**
KLMR pmax pmax
comp=Z,33nm,0.9s
KLMR Klimovskoe 94.14 331 *e*P **P** **02 50 49.7 -2.1**
KLMR AMP 02 50 51.2
comp=Z,33nm,0.9s
KLMR pP **pP** **02 52 39.2 -3.3**
KVT Kavak 94.15 311 P **P** **02 50 53.0 +0.6**
COLD Coldfoot 94.26 23 P **P** **02 50 52.7 +0.5**
baz=262
MCK McKinley 94.33 26 lAmb lAmb 02 50 52.2
comp=Z,27nm,0.8s
NEA2 Nenana 94.37 26 P **P** **02 50 51.9 -0.9**
baz=263
SNAA Sanae 94.52 194 P **P** **02 50 54.2 +0.7**
SNAA Sanae 94.52 194 *ce*P **P** **02 50 54.5 +1.0**
SNAA pmax pmax
comp=Z,11nm,1.2s
MOS Moscow 94.57 325 *e*P **P** **02 50 50.4 -3.4**
MOS pmax pmax
comp=Z,45nm,1.2s
MBAR Mbarara 94.63 269 P **P** **02 50 55.7 +0.4**
comp=Z,4.0nm,0.7s,baz=79,slow=9.3,SNR=9.0
MBAR Mbarara 94.63 269 P **P** **02 50 55.9 +0.6**
MBAR pmax pmax
comp=Z,9.0nm,1.3s
MBAR Mbarara 94.63 269 P **P** **02 50 55.1 -0.2**
TOLK Toolik Lake Re 94.68 21 P **P** **02 50 54.5 +0.4**
baz=263
TOLK Toolik Lake Re 94.68 21 lAmb lAmb 02 50 55.7
comp=Z,40nm,0.9s
MDM Muy Dome 94.77 25 lAmb lAmb 02 50 56.7
comp=Z,19nm,1.0s
WRH Wood River Hil 94.78 26 lAmb lAmb 02 50 54.6
comp=Z,37nm,0.9s
TCOL CIGO, UAF Yank 94.92 25 P **P** **02 50 55.4 +0.2**
baz=264
COLA College 94.92 25 P **P** **02 50 54.0 -1.2**
COLA pmax pmax
comp=Z,13nm,0.8s
COLA College 94.92 25 P **P** **02 50 54.0 -1.2**
COLA lAmb lAmb 02 50 55.7
comp=Z,13nm,0.8s
DHY Denali Highway 94.95 27 lAmb lAmb 02 50 56.2
comp=Z,32nm,1.1s
OBN Obninsk 95.11 325 P **P** **02 50 55.7 -0.6**
comp=Z,6.6nm,0.8s,baz=88,slow=22,SNR=9.7
OBN Obninsk 95.11 325 *d*⇓*p*P **P** **02 50 55.2 -1.1**
OBN *e**PP **pP** **02 52 46.5 -0.4**
OBN *e*PPP PPP 02 57 01.8
OBN pmax pmax
comp=Z,38nm,0.9s
OBN Obninsk 95.11 325 P **P** **02 50 55.9 -0.3**
OBN lAmb lAmb 02 50 56.6
comp=Z,34nm,0.9s
POKR Poker Plat Res 95.13 25 P **P** **02 50 56.9 +0.6**
baz=264
LSZ Lusaka 95.13 254 P **P** **02 50 57.8 +0.3**
LSZ pmax pmax
comp=Z,21nm,1.4s
LSZ Lusaka 95.13 254 P **P** **02 50 57.8 +0.3**
TMCR Tamitsa 95.18 334 *e*P **P** **02 50 54.8 -1.6**
HDA Harding Lake 95.27 26 P **P** **02 50 55.2 -1.7**
baz=265
HDA Harding Lake 95.27 26 lAmb lAmb 02 50 56.4
comp=Z,32nm,1.0s
IL31 95.33 25 lAmb lAmb 02 50 56.3
comp=Z,18nm,0.9s
ILAR Eielson Array 95.33 25 P **P** **02 50 55.4 -1.7**
comp=Z,11nm,0.8s,baz=264,slow=4.3,SNR=80
ILAR PP **PP** **02 54 51.4 -4.3**
comp=Z,7.7nm,1.1s,baz=262,slow=6.2,SNR=9.5
ILAR PKKPbc **PKKPdf** **03 07 47.9 -1.8**
comp=Z,1.2nm,0.7s,baz=62,slow=1.8,SNR=8.0
ILAR Eielson Array 95.33 25 P **P** **02 50 54.6 -2.5**
ILAR Eielson Array 95.33 25 P **P** **02 50 54.6 -2.5**
BOSA Boshof 95.54 240 P **P** **02 50 59.4 +0.2**
comp=Z,7.8nm,0.7s,baz=106,slow=3.7,SNR=20
BOSA PKKPbc **PKKPbc** **03 07 48.5 0.0**
comp=Z,2.6nm,0.7s,baz=246,slow=2.2,SNR=7.4
BOSA Boshof 95.54 240 lAmb lAmb 02 51 00.2
comp=Z,8.6nm,0.8s
BZK Bozurt 95.76 311 ⇑P P 02 50 53.6 -5.9
PAX Paxson 95.81 27 lAmb lAmb 02 51 00.4
comp=Z,17nm,0.8s
BRTR Keskin Array B 95.87 309 P **P** **02 50 59.4 -1.0**
comp=Z,8.3nm,0.9s,baz=126,slow=6.0,SNR=43
BRTR pP **pP** **02 52 51.9 +0.5**
comp=Z,1.9nm,1.0s,baz=122,slow=4.7,SNR=5.1
BRTR Keskin Array B 95.87 309 P **P** **02 50 59.1 -1.2**
LBTB Lobatse 95.92 244 P **P** **02 50 59.9 -0.9**
LBTB pmax pmax
comp=Z,12nm,0.9s
LBTB Lobatse 95.92 244 P **P** **02 50 59.9 -0.9**
LBTB lAmb lAmb 02 52 55.0
comp=Z,12nm,0.9s
VNA2 Neumayer--Watz 96.12 194 P **P** **02 51 01.6 +0.9**
baz=179,slow=3.8
RIDG Independent Ri 96.14 27 lAmb lAmb 02 51 01.3
comp=Z,33nm,1.0s
DOT Dot Lake 96.48 27 lAmb lAmb 02 51 03.0
comp=Z,21nm,0.7s
GLB Gilahina Butte 96.49 29 lAmb lAmb 02 51 03.6
comp=Z,32nm,1.2s
VNA1 Neumayer--Stat 96.52 194 P **P** **02 51 03.3 +0.9**
K27K Chicken 97.37 26 Pdiff **P** **02 51 07.2 +0.9**
baz=269
BCAR Beaver Creek A 97.49 27 P **P** **02 51 07.2 +0.3**
BARN Barnard Glacie 97.52 29 lAmb lAmb 02 51 08.4
comp=Z,24nm,0.8s
CTGM Chitina Glacie 97.68 29 lAmb lAmb 02 51 09.6
comp=Z,38nm,1.2s
EGAK Eagle 97.78 26 lAmb lAmb 02 51 09.1
comp=Z,13nm,1.1s
DAWY Dawson 98.55 26 lAmb lAmb 02 51 13.0
comp=Z,15nm,0.8s
MSF Maaselka 99.03 336 P **Pdif** **02 51 12.8 -0.9**
MSF pmax pmax
comp=Z,28nm,1.0s
AKASG Malin Array Be 99.38 320 P **Pdif** **02 51 14.6 -0.9**
comp=Z,6.5nm,0.7s,baz=78,slow=4.1,SNR=22
AKASG pP **pP** **02 53 04.1 -2.7**
comp=Z,0.2nm,0.3s,baz=81,slow=3.4,SNR=2.1
AKASG PP **PP** **02 55 29.1 +2.4**
comp=Z,0.6nm,0.4s,baz=90,slow=6.3,SNR=4.1

AKASG PKiKP **PKiKP** **02 55 42.0 0.0**
comp=Z,0.5nm,0.4s,baz=62,slow=2.3,SNR=4.2
AKASG PKKPbc **PKKPbc** **03 07 36.8 -2.0**
comp=Z,1.1nm,0.5s,baz=273,slow=3.6,SNR=6.9
AKASG Malin Array Be 99.38 320 Pdif **Pdif** **02 51 14.2 -1.3**
AKBB Malin Array Si 99.38 320 *de*P **Pdif** **02 51 14.4 -1.1**
AKBB pmax pmax
comp=Z,13nm,0.9s
AKBB Malin Array Si 99.38 320 Pdif **Pdif** **02 51 13.9 -1.6**
AKBB lAmb lAmb 02 51 15.8
comp=Z,11nm,0.9s
SGF Sodankyl 99.92 337 P **Pdif** **02 51 16.1 -1.4**
SGF pmax pmax
comp=Z,17nm,1.2s
SORM Soroca 99.97 318 ⇑P **Pdif** **02 51 17.6 -0.6**
SORM Soroca 99.97 318 ⇑P **Pdif** **02 51 17.6 -0.6**
ARCES ARCESS Array B 100.06 339 P **Pdif** **02 51 16.9 -1.3**
comp=Z,5.7nm,0.8s,baz=87,slow=5.0,SNR=24
ARCES PKiKP **PKiKP** **02 55 43.4 +0.7**
comp=Z,3.8nm,0.9s,baz=132,slow=1.0,SNR=12
ARCES PKKPbc **PKKPbc** **03 07 34.2 -3.3**
comp=Z,0.8nm,0.5s,baz=253,slow=3.3,SNR=9.6
INK Inuvik 100.59 22 PKiKP **PKiKP** **02 55 44.3 +0.7**
comp=Z,3.8nm,0.8s,baz=359,slow=2.7,SNR=6.9
INK PKKPbc **PKKPbc** **03 07 32.9 -3.1**
comp=Z,2.0nm,0.6s,baz=93,slow=5.3,SNR=6.5
INK Inuvik 100.59 22 P **Pdif** **02 51 20.5 0.0**
INK Inuvik 100.59 22 Pdif **Pdif** **02 51 20.4 0.0**
FIA1 FINESS Array S 100.66 331 Pdif **Pdif** **02 51 18.6 -2.3**
FINES FINESS Array B 100.66 331 P **Pdif** **02 51 19.9 -1.1**
comp=Z,2.2nm,0.8s,baz=68,slow=4.7,SNR=8.1
FINES PP **PP** **02 55 38.6 +2.8**
comp=Z,4.8nm,0.9s,baz=90,slow=5.7,SNR=6.5
FINES PKiKP **PKiKP** **02 55 44.5 +0.5**
comp=Z,4.5nm,0.7s,baz=96,slow=3.1,SNR=6.7
FINES FINESS Array B 100.66 331 *i*P **Pdif** **02 51 21.2 +0.3**
FINES pmax pmax
comp=Z,2.0nm,0.8s
SPA0 Spitsbergen Ar 100.75 349 Pdif **Pdif** **02 51 19.3 -1.8**
VRI Vrincioaia 101.12 315 ⇑P **Pdif** **02 51 23.7 +0.3**
VRI Vrincioaia 101.12 315 ⇑P **Pdif** **02 51 23.7 +0.3**
PLOR Plostina 101.17 315 ⇑P **Pdif** **02 51 23.7 0.0**
PLOR Plostina 101.17 315 ⇑P **Pdif** **02 51 23.7 0.0**
PRAR RASCA 101.42 317 ⇑P **Pdif** **02 51 24.3 -0.4**
MLR Muntele Rosu 101.67 315 P **Pdif** **02 51 25.6 -0.4**
comp=Z,3.0nm,1.0s,baz=6.8,slow=6.0,SNR=3.8
MLR PP **PP** **02 55 44.0 -0.1**
comp=Z,5.5nm,0.8s,baz=90,slow=4.4,SNR=8.3
MLR Muntele Rosu 101.67 315 ⇑P **Pdif** **02 51 25.8 -0.3**
MLR Muntele Rosu 101.67 315 ⇑P **Pdif** **02 51 25.8 -0.3**
VAF Ylistaro 102.06 333 P **Pdif** **02 51 25.2 -1.9**
VAF pmax pmax
comp=Z,17nm,0.9s
BURAR Bucovina Array 102.09 317 ⇑P **Pdif** **02 51 28.5 +0.7**
BURAR Bucovina Array 102.09 317 P **Pdif** **02 51 28.3 +0.5**
BURAR Bucovina Array 102.09 317 Pdif **Pdif** **02 51 28.0 +0.2**
MTUR Matau 102.31 315 ⇑P **Pdif** **02 51 14.9 -14**
IDI Anoyia 102.67 304 PKiKP **PKiKP** **02 55 49.4 +0.9**
comp=Z,15nm,1.0s,baz=280,slow=1.6,SNR=11
DLBC Dease Lake 103.57 32 PP **PKiKP** **02 55 54.3 +4.8**
comp=Z,4.4nm,1.0s,baz=278,slow=9.5,SNR=4.0
KWP Kalwaria Pacla 103.61 319 P **Pdif** **02 51 34.8 +0.4**
KWP Kalwaria Pacla 103.61 319 Pdif **Pdif** **02 51 34.8 +0.4**
KOLS Kolonicke sedl 103.96 319 *e*P **Pdif** **02 51 36.2 +0.2**
KOLS Kolonicke sedl 103.96 319 *e*PDIFF **Pdif** **02 51 36.2 +0.2**
HFS Hagfors 106.86 331 Pdiff **Pdif** **02 51 47.4 -1.2**
comp=Z,1.4nm,0.4s,baz=121,slow=5.7,SNR=6.7
KRLC Kraliky 107.36 320 *e*PKP **PKiKP** **02 55 57.4 +0.7**
DPC Dobruska-Polom 107.60 321 *e*PKP **PKiKP** **02 55 58.3 +1.1**
OSTC Ostas 107.63 321 *e*PKP **PKiKP** **02 55 58.0 +0.8**
CHVC Chvalec 107.72 321 *e*PKP **PKiKP** **02 55 58.1 +0.7**
UPC Upice 107.77 321 *e*PKP **PKiKP** **02 55 57.7 +0.3**
NB2 NORSAR Subarra 107.77 332 P **Pdif** **02 51 51.0 -1.7**
comp=Z,3.5nm,0.8s,baz=76,slow=4.3
NB2 NORSAR Subarra 107.77 332 P **Pdif** **02 51 51.0 -1.7**
baz=76,slow=4.3
NOA NORSAR Array B 107.77 332 Pdiff **Pdif** **02 51 50.5 -2.1**
comp=Z,1.8nm,0.8s,baz=75,slow=4.4,SNR=4.9
NOA PKiKP **PKiKP** **02 55 57.1 0.0**
comp=Z,4.4nm,0.9s,baz=261,slow=3.2,SNR=10
KOGS Kog 108.31 317 *e*PKiKP **PKiKP** **02 55 59.0 +0.4**
PVCC Panska Ves 108.67 321 *e*PKP **PKiKP** **02 55 59.5 +0.4**
PRU Pruhonice 108.79 320 *e*PKP **PKiKP** **02 55 59.6 +0.3**
BRG Berggiesshubel 108.98 321 *e*PKP **PKiKP** **02 56 00.1 +0.4**
comp=Z,4.8nm,0.9s
PERS Pernice 109.05 317 *e*PKiKP **PKiKP** **02 56 00.1 +0.1**
SOKA Soboth 109.10 317 *e*PKiKP **PKiKP** **02 56 00.1 -0.1**
comp=Z,7.7nm,1.2s
PBCC Pribram 109.20 320 *e*PKP **PKiKP** **02 56 00.9 +0.8**
CLL Collm 109.46 322 *ep*Pdif **pPdif** **02 53 54.0 +2.5**
CLL *i*PKiKP **PKiKP** **02 56 00.7 +0.2**
comp=Z,6.0nm,0.9s
CLL *e*PP **PP** **02 56 44.0 +3.7**
CLL *e*(sPP) 02 59 16.0
CLL LmV 03 05 00.0
comp=Z,100nm,20.5s
LJU Ljubljana 109.56 316 *e*PKiKP **PKiKP** **02 56 01.7 +0.8**
GERES GERESS Array B 109.56 319 PKiKP **PKiKP** **02 56 00.9 -0.1**
comp=Z,2.3nm,0.6s,baz=69,slow=1.9,SNR=24
GERES PKKPbc **PKKPbc** **03 07 08.6 +0.1**
comp=Z,0.3nm,0.6s,baz=258,slow=4.9,SNR=3.9
GERES PKKPab **PKKPab** **03 07 21.3 +0.7**
comp=Z,0.4nm,0.8s,baz=246,slow=2.6,SNR=4.2
GERES SKKPbc SKKPbc 03 10 01.9 -3.2
comp=Z,0.8nm,0.8s,baz=279,slow=1.9,SNR=5.0
GERES GERESS Array B 109.56 319 PKiKP **PKiKP** **02 56 00.8 -0.2**
KHC Kasperske Hory 109.58 320 *e*PKP **PKiKP** **02 56 00.4 -0.5**
KHC *ex* x 02 57 07.7
D03D Eldon 109.61 42 PKiKP **PKiKP** **02 56 02.2 +1.3**
baz=281,SNR=5.7
YKA Yellowknife Ar 109.76 25 PKiKP **PKiKP** **02 56 00.7 -0.1**
comp=Z,4.7nm,0.7s,baz=322,slow=1.3,SNR=9.0
YKA PKKPbc **PKKPbc** **03 07 05.5 -2.7**
comp=Z,1.9nm,0.6s,baz=112,slow=3.9,SNR=4.1
NKC Novy Kostel 110.06 321 *e*PKP **PKiKP** **02 56 02.3 +0.5**
B05A Bryant 110.11 41 PKiKP **PKiKP** **02 56 02.6 +0.8**
baz=282,SNR=13
I03D Drain, OR 110.13 46 PKiKP **PKiKP** **02 56 03.1 +1.1**
baz=280
H04D Lebanon 110.42 45 PKiKP **PKiKP** **02 56 03.8 +1.3**
baz=280
I04A Tendick Farm, 110.78 46 PKiKP **PKiKP** **02 56 03.8 +0.4**
baz=280
ABTA Abfaltersbach 110.79 317 *e*PKiKP **PKiKP** **02 56 02.9 -0.4**
comp=Z,11nm,1.3s
M02C Callahan 110.87 48 PKiKP **PKiKP** **02 56 04.9 +1.2**
baz=279,SNR=5.2
YBH Yreka Blue Hor 110.92 48 PKiKP **PKiKP** **02 56 04.2 +0.5**
comp=Z,2.4nm,0.8s,baz=27,slow=21,SNR=8.8
N02D Trinity Center 111.05 49 PKiKP **PKiKP** **02 56 04.8 +0.8**
baz=279,SNR=5.7
J04D Umpqua Nationa 111.10 46 PKiKP **PKiKP** **02 56 05.1 +0.9**
baz=280,SNR=5.3
O02D Mt. Diablo Mer 111.11 50 PKiKP **PKiKP** **02 56 05.2 +1.0**
baz=279,SNR=7.3
L04D Klamath Falls 111.14 47 PKiKP **PKiKP** **02 56 04.7 +0.5**
baz=280,SNR=9.3
WTTA Wattenberg 111.26 318 *e*PKiKP **PKiKP** **02 56 04.3 0.0**
comp=Z,7.2nm,0.5s,SNR=17
WATA Walderalm 111.28 318 *e*PKiKP **PKiKP** **02 56 04.0 -0.4**
comp=Z,6.5nm,0.6s,SNR=6.9
I05D Terrebonne, OR 111.44 45 PKiKP **PKiKP** **02 56 05.6 +1.0**
baz=282
M04C Macdoel 111.55 48 PKiKP **PKiKP** **02 56 05.6 +0.6**
baz=280
SQTA Sankt Quirin 111.55 318 *e*PKiKP **PKiKP** **02 56 04.9 +0.1**
comp=Z,8.7nm,0.9s
MOTA Moosalm 111.59 318 *e*PKiKP **PKiKP** **02 56 04.8 -0.1**
comp=Z,4.7nm,0.6s,SNR=7.7
J05D Fort Rock, OR 111.72 46 PKiKP **PKiKP** **02 56 06.5 +1.2**
baz=281
O03E Paynes Creek 111.83 49 PKiKP **PKiKP** **02 56 05.5 0.0**
baz=280
FETA Feichten 111.92 318 *e*PKiKP **PKiKP** **02 56 05.9 +0.3**
comp=Z,7.3nm,1.1s
DAVA Damuels 112.42 318 *e*PKiKP **PKiKP** **02 56 06.5 0.0**
comp=Z,5.2nm,0.5s,SNR=8.6
DAVOX Davos/Dischmat 112.54 318 PKiKP **PKiKP** **02 56 06.6 -0.2**
comp=Z,3.1nm,0.5s,baz=145,slow=3.6,SNR=9.7
NEW Newport 113.33 40 P **PKiKP** **02 56 08.3 +0.2**
baz=286
MEM Membach 113.90 323 PKiKP **PKiKP** **02 56 08.6 -0.4**
PKM Mcpherson Peak 114.25 55 P **PKiKP** **02 56 11.9 +1.5**
baz=279,SNR=7.6
RYN Ryan 114.63 51 PKiKP **PKiKP** **02 56 11.7 +0.6**
VES Vestal, Richgr 114.69 54 P **PKiKP** **02 56 11.2 +0.2**

baz=280,SNR=6.6
LHV Little Huntoon 114.72 51 PKiKP 02 56 12.6 +1.7
BMRD Maredsous 114.75 323 PKiKP PKiKP 02 56 10.8 +0.2
NVAR Mina Array Bea 114.84 51 PKP PKiKP 02 56 12.7 +1.1
comp=Z,4.7nm,0.7s,baz=246,slow=2.0,SNR=37
NVAR PP **PP 02 57 15.5 -3.4**
comp=Z,6.5nm,1.0s,baz=274,slow=6.5,SNR=9.2
NVAR PKKPbc **PKKPbc 03 06 51.2 +0.2**
comp=Z,0.6nm,0.7s,baz=148,slow=4.3,SNR=4.8
NVAR PKKP **PKKPdf 03 07 12.8 -0.3**
comp=Z,0.2nm,0.6s,baz=134,slow=2.6,SNR=1.5
NVAR SKKPbc SKKPbc 03 09 49.9 +0.9
comp=Z,0.1nm,0.3s,baz=120,slow=3.6,SNR=4.1
NVAR Mina Array Bea 114.84 51 PKiKP 02 56 12.2 +0.6
SNF Seneffe 114.97 323 PKiKP PKiKP 02 56 11.4 +0.3
LPL La Plagne 114.99 317 *e*PKiKP PKPdf 02 56 11.3 -0.3
LPL pmax pmax
comp=Z,9.0nm,0.7s
ARVC Arvin 115.01 55 P PKiKP 02 56 13.0 +1.3
baz=279
CABF La Chapelle 115.10 318 *e*PKiKP **PKPdf 02 56 11.4 -0.2**
CABF pmax pmax
comp=Z,12nm,0.7s
WALA Waterton Lakes 115.12 39 PKPdf PKiKP 02 56 11.9 +0.3
TIN Tinemaha, Big 115.15 52 P PKiKP 02 56 13.9 +1.9
baz=281
MBDF Montbardon 115.18 316 *e*PKiKP **PKPdf 02 56 11.8 -0.1**
MBDF pmax pmax
comp=Z,7.0nm,0.8s
ISA Isabella, Lake 115.20 54 P PKiKP 02 56 13.1 +1.0
baz=280
KEST Kesra 115.25 306 PKP PKiKP 02 56 12.9 +0.7
comp=Z,11nm,0.9s,baz=160,slow=2.3,SNR=9.4
KEST PP **PP 02 57 18.4 -3.3**
comp=Z,15nm,1.0s,baz=314,slow=3.4,SNR=7.3
CWC Cottonwood Cre 115.38 53 P PKiKP 02 56 13.5 +1.0
baz=280
EDW2 Edwards Air Fo 115.72 55 P PKiKP 02 56 14.2 +1.1
baz=280,SNR=15
ORIF Oris-en-Rattie 115.73 317 *e*PKiKP **PKPdf 02 56 12.4 -0.5**
ORIF pmax pmax
comp=Z,5.0nm,0.6s
MSO Missoula 115.82 41 P PKiKP 02 56 13.1 +0.1
baz=288
MSO Missoula 115.82 41 PKPdf PKiKP 02 56 13.1 +0.1
GRAC Grapevine Rang 115.84 52 P PKiKP 02 56 14.5 +1.3
baz=281,SNR=12
LRMC Laurel Mtn Rad 115.87 54 P PKiKP 02 56 14.8 +1.3
baz=280,SNR=14
MPMC Manual Prospec 115.92 53 P PKiKP 02 56 14.8 +1.2
baz=281,SNR=24
BFSC Mount Baldy Ra 116.10 55 P PKiKP 02 56 14.3 +0.4
baz=280
FURC Furnace Creek, 116.34 53 P PKiKP 02 56 15.4 +1.3
baz=281,SNR=14
LOR Lormes 116.34 320 *e*PKiKP **PKPdf 02 56 13.5 -0.4**
LOR pmax pmax
comp=Z,8.0nm,0.8s
HLID Hailey 116.48 45 P PKiKP 02 56 15.9 +1.4
baz=286
SSB Saint Sauveur 116.53 317 PKiKP PKPdf 02 56 14.3 0.0
SSB Saint Sauveur 116.53 317 PKPdf PKPdf 02 56 14.3 0.0
RRX Edison Barstow 116.53 55 P PKiKP 02 56 15.9 +1.3
baz=280
SMF Signal de Mont 116.56 319 *e*PKiKP **PKPdf 02 56 13.7 -0.6**
SMF pmax pmax
comp=Z,16nm,1.4s
VIVF Saint-Julien-l 116.57 317 *e*PKiKP **PKPdf 02 56 14.0 -0.4**
VIVF pmax pmax
comp=Z,9.0nm,0.8s
MURC Murrieta 116.59 56 P PKiKP 02 56 15.8 +1.0
baz=280
GSC Goldstone, Bar 116.61 54 P PKiKP 02 56 16.1 +1.3
baz=281,SNR=14
SSF Saint Saulge 116.64 320 *e*PKiKP **PKPdf 02 56 14.0 -0.4**
SSF pmax pmax
comp=Z,20nm,0.8s
TPNV Topopah Spring 116.73 52 P PKiKP 02 56 16.2 +1.0
baz=282,SNR=12
AVF Avril sur Loir 116.83 319 *e*PKiKP **PKPdf 02 56 14.2 -0.6**
AVF pmax pmax
comp=Z,12nm,1.0s
R11A Troy Canyon, C 116.94 51 P PKiKP 02 56 16.6 +1.0
baz=283,SNR=17
HEC Hector,Ludlow 117.08 55 P PKiKP 02 56 17.0 +1.2
baz=281,SNR=11
CLF Chambon-Foret 117.09 321 PKPdf PKiKP 02 56 15.3 +0.1
PFO Pinyon Flats O 117.19 56 PKP PKiKP 02 56 17.2 +1.1
comp=Z,16nm,0.7s,baz=252,slow=1.4,SNR=24
PFO Pinyon Flats O 117.19 56 P PKiKP 02 56 17.4 +1.3
baz=280,SNR=13
PFO Pinyon Flats O 117.19 56 PKiKP PKiKP 02 56 16.5 +0.4
PFO Pinyon Flats O 117.19 56 PKiKP 02 56 16.5 +0.4
TPFO Pinon Flats 117.20 56 P PKiKP 02 56 17.3 +1.2
baz=280,SNR=12
TUQ Turquoise Moun 117.29 54 P PKiKP 02 56 17.4 +1.1
baz=281
MONP2 Monument Peak 117.35 57 P PKiKP 02 56 18.0 +1.5
baz=280,SNR=10.0
BELC Belle Mtn. Jos 117.50 55 P PKiKP 02 56 18.1 +1.4
baz=281,SNR=16
GMRC Granite Mounta 117.63 54 P PKiKP 02 56 18.6 +1.6
baz=281,SNR=34
IKP In-Ko-Pah, Jac 117.65 57 P PKiKP 02 56 18.4 +1.5
baz=280,SNR=7.4
BOZ Bozeman (W) 117.74 42 P PKiKP 02 56 17.6 +0.8
baz=290
SWSC Sam W. Stewart 117.85 57 P PKiKP 02 56 18.4 +1.2
baz=280,SNR=5.5
BC3 Big Chuckawall 118.01 56 P PKiKP 02 56 19.0 +1.4
baz=281,SNR=15
EGMT Eagleton 118.07 39 P PKiKP 02 56 17.7 +0.4
baz=293
IRM Iron Mountain 118.17 55 P PKiKP 02 56 19.3 +1.4
baz=281,SNR=16
CAF Calviac 118.31 318 *e*PKiKP **PKiKP 02 56 17.9 +0.1**
CAF pmax pmax
comp=Z,20nm,1.0s
RJF Les Rejaudoux 118.54 318 *e*PKiKP **PKPdf 02 56 18.1 -0.1**
RJF pmax pmax
comp=Z,29nm,1.3s
DUG Dugway, Tooele 118.56 48 P PKiKP 02 56 19.6 +1.0
baz=286
GLA Glamis 118.64 56 P PKiKP 02 56 19.8 +0.9
baz=281
MTLF Montolieu 118.72 316 *e*PKiKP **PKPdf 02 56 18.2 -0.4**
MTLF pmax pmax
comp=Z,9.0nm,0.8s
IMW Indian Meadow 118.77 43 PKPdf PKiKP 02 56 19.8 +0.7
H17A Grant Village 118.85 43 P PKiKP 02 56 21.5 +2.3
baz=290
GRR Gorron 118.88 322 *e*PKiKP **PKPdf 02 56 19.4 +0.7**
GRR pmax pmax
comp=Z,22nm,1.1s
PDMCI Parker Dam,Lak 118.95 55 P PKiKP 02 56 20.4 +1.1
baz=282
FFC Flin Flon 119.26 29 PKiKP PKiKP 02 56 19.3 0.0
FFC Flin Flon 119.26 29 PKPdf PKiKP 02 56 19.3 0.0
RLMT Red Lodge 119.47 42 P PKiKP 02 56 21.0 +0.7
baz=292
SGMF Saint Gilles 119.97 323 *e*PKiKP **PKPdf 02 56 20.3 -0.5**
SGMF pmax pmax
comp=Z,13nm,0.8s
BW06 Boulder Array 120.10 44 P PKPdf 02 56 21.3 -0.2
baz=290
PDAR Pinedale Array 120.10 44 PKP PKiKP 02 56 21.8 +0.1
comp=Z,8.8nm,0.8s,baz=180,slow=0.6,SNR=66
PDAR PKKPbc **PKKPbc 03 06 30.9 -1.9**
comp=Z,1.8nm,0.7s,baz=105,slow=5.1,SNR=14
PDAR SKKPbc SKKPbc 03 09 30.0 -2.9
comp=Z,1.3nm,0.8s,baz=101,slow=4.7,SNR=7.8
PDAR Pinedale Array 120.10 44 PKPdf PKPdf 02 56 21.6 0.0
ROSF Rostrenen 120.36 323 *e*PKiKP **PKPdf 02 56 21.0 -0.5**
ROSF pmax pmax
comp=Z,15nm,0.8s
QUIF Quistinic 120.48 322 *e*PKiKP **PKPdf 02 56 21.3 -0.5**
QUIF pmax pmax
comp=Z,11nm,0.8s
214A Organ Pipe Nat 120.52 57 P PKiKP 02 56 23.5 +1.0
baz=282,SNR=10
ETSF Etsaut 120.79 316 *e*PKiKP **PKiKP 02 56 23.1 +0.3**
ETSF pmax pmax
comp=Z,13nm,1.0s
LAO LASA Array 120.80 39 P PKiKP 02 56 23.7 +1.1
baz=295
WUAZ Wupatki 120.89 53 P PKiKP 02 56 24.5 +1.1
baz=284,SNR=28
SJPF Ste Jean 121.17 317 *e*PKiKP **PKiKP 02 56 23.7 +0.3**
SJPF pmax pmax
comp=Z,11nm,0.8s
DGMT Dagmar 121.24 36 P PKiKP 02 56 23.7 +0.2
baz=298,SNR=7.6
SRIG Santa Rosalia 121.83 62 PKiKP 02 56 25.4 +0.2
O20A White River Ci 121.92 47 P PKiKP 02 56 26.2 +0.9
baz=290
TUC Tucson 122.13 56 P PKiKP 02 56 26.7 +0.9
baz=283
TUC Tucson 122.13 56 PKiKP PKiKP 02 56 26.8 +1.1
TUC Tucson 122.13 56 PKPdf PKiKP 02 56 26.8 +1.1
K22A Casper 122.23 43 P PKPdf 02 56 25.3 -0.2
baz=292
W18A Petrified Fore 122.29 53 P PKiKP 02 56 27.1 +0.9
baz=286
MVCO Mesa Verde 122.66 50 P PKiKP 02 56 28.0 +1.1
baz=288,SNR=34
HSIG 122.66 60 PKPdf PKiKP 02 56 26.7 -0.1
RSSD Black Hills 123.29 41 P PKPdf 02 56 27.5 -0.2
baz=296
RSSD Black Hills 123.29 41 PKiKP PKPdf 02 56 26.7 -0.9
RSSD Black Hills 123.29 41 PKPdf PKPdf 02 56 26.7 -0.9
N23A Red Feather La 123.29 45 P PKiKP 02 56 28.4 +0.4
baz=292
S22A 4UR Ranch, Cre 123.75 49 P PKiKP 02 56 30.4 +1.3
baz=289,SNR=47
ISCO Idaho Springs 123.93 46 P PKiKP 02 56 29.6 +0.2
baz=292,SNR=20
MDND Maddock 124.22 35 P PKPdf 02 56 28.9 -0.1
baz=302
ESDC Sonseca Array 124.35 314 PKP **PKiKP 02 56 29.9 -0.1**
comp=Z,6.6nm,0.8s,baz=20,slow=3.2,SNR=32
ESDC PKKPbc **PKKPbc 03 06 16.3 -0.1**
comp=Z,0.5nm,0.7s,baz=310,slow=4.5,SNR=4.5
ESDC Sonseca Array 124.35 314 PKPdf **PKiKP 02 56 30.0 +0.1**
TORD Torodi Ar. Bea 124.41 281 PKP **PKPdf 02 56 30.2 -0.1**
comp=Z,31nm,0.8s,baz=63,slow=2.0,SNR=131
TORD PP **pPKPdf 02 58 25.7 -0.8**
comp=Z,3.4nm,0.8s,baz=35,slow=2.8,SNR=4.9
TORD SKP 02 59 18.8
comp=Z,5.2nm,0.9s,baz=94,slow=3.7,SNR=4.5
TORD PKKPbc **PKKPbc 03 06 14.6 -0.9**
comp=Z,1.7nm,0.9s,baz=297,slow=4.6,SNR=8.3
TORD Torodi Ar. Bea 124.41 281 PKPpre 02 56 23.4
121A Cookes Peak, D 124.53 55 P PKiKP 02 56 31.9 +1.2
baz=285,SNR=12
Q24A Divide 124.57 47 P PKiKP 02 56 31.2 +0.5
baz=291
PAB San Pablo 124.67 314 PKiKP **PKiKP 02 56 31.2 +0.6**
PAB San Pablo 124.67 314 PKiKP 02 56 31.2 +0.6
SDCO Great Sand Dun 124.74 49 P PKiKP 02 56 31.6 +0.5
baz=290,SNR=30
Y22D IRIS PASSCAL I 124.81 53 P PKiKP 02 56 32.6 +1.5
baz=287
ULM Lac du Bonnet 124.89 31 PKP **PKPdf 02 56 29.4 -0.7**
comp=Z,17nm,0.7s,baz=274,slow=1.4,SNR=18
ANMO Albuquerque 124.92 52*c* PKiKP **PKiKP 02 56 32.4 +1.0**
ANMO pmax pmax
comp=Z,27nm,1.0s
PBRG Braganca 125.43 317 *e*PKPdf **PKiKP 02 56 32.1 +0.1**
T25A Trinidad 125.77 49 P PKiKP 02 56 33.5 +0.5
baz=291,SNR=22
MVO Moncorvo 125.90 317 *e*PKPdf **PKiKP 02 56 34.1 +1.1**
AGMN Agassiz Nation 126.05 33 P PKPdf 02 56 31.9 -0.6
baz=306
PVRL Vila Real 126.32 317 *e*PKPdf **PKiKP 02 56 34.7 +0.9**
SUSD Miller 126.36 39 P PKPdf 02 56 33.4 +0.2
baz=300
KSCO Kaye Shedlock' 126.37 46 P PKiKP 02 56 34.4 +0.4
baz=294
PGAV Gavieira, Arco 126.38 318 *e*PKPdf **PKiKP 02 56 34.7 +0.8**
MTE Manteigas 126.58 316 *e*PKPdf **PKiKP 02 56 35.5 +1.2**
MTE Manteigas 126.58 316 PKiKP 02 56 34.7 +0.4
PVIS Viseu 126.68 316 *e*PKPdf **PKiKP 02 56 34.7 +0.2**
MNTX Cornudas Mount 126.72 56 P PKiKP 02 56 35.5 +0.7
baz=286,SNR=38
PCBR Castelo Branco 126.77 315 *e*PKPdf **PKiKP 02 56 35.6 +1.0**
PMRV Marv??o 126.88 315 *e*PKPdf **PKiKP 02 56 35.4 +0.5**
PTO Porto 126.98 317 *e*PKPdf **PKiKP 02 56 35.6 +0.6**
PMTG Montargil 127.62 315 *e*PKPdf **PKiKP 02 56 37.0 +0.6**
EVO Evora 127.69 314 *e*PKPdf **PKiKP 02 56 37.4 +0.9**
PBEJ Beja 127.80 313 *e*PKPdf **PKiKP 02 56 37.1 +0.3**
PVAQ Vaqueiros 127.94 313 *e*PKPdf **PKiKP 02 56 38.1 +1.1**
MSTX Muleshoe 128.11 52 P PKiKP 02 56 37.5 -0.2
baz=290
PBDV Barranco-do-Ve 128.16 312 *e*PKPdf **PKiKP 02 56 39.4 +1.9**
ECSD EROS Data Cent 128.17 38 P PKPdf 02 56 36.8 +0.1
baz=302
PNCL Nicolau / Gran 128.24 314 *e*PKPdf **PKiKP 02 56 38.9 +1.3**
BGNE Belgrade 128.38 41 P PKiKP 02 56 38.0 +0.1
baz=299
CBKS Cedar Bluff 128.50 45 P PKPdf 02 56 37.5 0.0
baz=296,SNR=7.1
CBKS Cedar Bluff 128.50 45 PKiKP PKPdf 02 56 37.7 +0.2
CBKS Cedar Bluff 128.50 45 PKPdf PKPdf 02 56 37.6 +0.2
EYMN Ely 128.57 31 P PKPdf 02 56 37.3 0.0
baz=310
AMTX Amarillo 128.64 51 P PKPdf 02 56 38.0 +0.1
baz=291
MORF Marmelete 128.66 313 *e*PKPdf **PKiKP 02 56 39.5 +0.9**
TXAR Lajitas Array 128.79 58 PKP **PKiKP 02 56 39.3 +0.1**
comp=Z,9.2nm,0.8s,baz=207,slow=2.7,SNR=28
TXAR PP **PP 02 58 52.3 -0.2**
comp=Z,2.7nm,1.0s,baz=285,slow=4.9,SNR=4.3
TXAR SKPbc SKPbc 02 59 13.9
comp=Z,25nm,0.9s,baz=270,slow=3.4,SNR=35
TXAR Lajitas Array 128.79 58 PKPpre 02 56 25.4
PFVI Vila Bisbo 128.86 313 *e*PKPdf **PKiKP 02 56 40.6 +1.7**
SPMN Marine on St. 129.57 35 P PKPdf 02 56 39.2 0.0
baz=307
PLCA Paso Flores 130.21 164 PKP **PKiKP 02 56 41.9 +0.2**
comp=Z,10nm,0.8s,baz=208,slow=2.7,SNR=14
PLCA SKPbc **SKPab 02 59 17.9 +0.2**
comp=Z,48nm,0.9s,baz=217,slow=4.3,SNR=38
PLCA Paso Flores 130.21 164 PKPdf **PKiKP 02 56 42.1 +0.4**
PLCA SKPbc **SKPab 02 59 17.6 -0.1**
PLCA Paso Flores 130.21 164 *e*P **PKiKP 02 56 42.5 +0.9**
PLCA Paso Flores 130.21 164 *e*P **PKiKP 02 56 41.4 -0.3**
KSU1 Kansas State U 130.53 43 P PKPdf 02 56 41.7 +0.4
baz=299,SNR=7.2
KIC Kosan Boka 130.57 272 *e*PKiKP **PKPdf 02 56 42.3 +0.2**
comp=Z,56nm,0.9s
DBIC Dimbokro 130.70 273 PKP **PKiKP 02 56 43.1 -0.1**
comp=Z,24nm,0.8s,baz=64,slow=1.8,SNR=25
DBIC SKPbc **SKPab 02 59 20.6 +0.1**
comp=Z,34nm,0.8s,baz=82,slow=4.3,SNR=22
DBIC Dimbokro 130.70 273 PKiKP **PKPdf 02 56 42.7 +0.4**
DBIC Dimbokro 130.70 273 PKPdf **PKPdf 02 56 42.7 +0.4**
DBIC SKPbc **SKPab 02 59 20.7 +0.2**
LIC Lamto 130.84 272 *e*PKiKP **PKPdf 02 56 42.0 -0.6**
comp=Z,90nm,0.8s
TIC Toumodi 130.86 273 *e*PKiKP **PKPdf 02 56 42.0 -0.6**
WMOK Wichita Mounta 130.90 49 P PKPdf 02 56 42.1 0.0
baz=294
ABTX Abilene, Hawle 131.04 52 P PKPdf 02 56 42.7 +0.2
baz=291
SCIA State Center 131.27 38 P PKiKP 02 56 43.1 -0.5
baz=304
SCHQ Schefferville 131.35 9 PKP **PKiKP 02 56 43.1 -0.3**
comp=Z,16nm,0.5s,baz=2.4,slow=2.3,SNR=35
SCHQ SKPbc **SKPbc 02 59 21.0 -0.1**
comp=Z,18nm,1.0s,baz=6.3,slow=9.2,SNR=7.6
SCHQ Schefferville 131.35 9 PKPdf **PKiKP 02 56 43.0 -0.4**
SCHQ SKPbc **SKPab 02 59 21.5 -0.4**
JCT Junction City 131.65 55 P PKiKP 02 56 44.8 0.0
baz=289,SNR=20
JFWS Jewell Farm 132.44 36 P PKPdf 02 56 44.1 -0.6
baz=308,SNR=6.0
TUL1 Leonard 132.60 47 P PKPdf 02 56 45.8 +0.5
baz=297
833A Chaparral WMA, 132.67 58 P PKiKP 02 56 46.9 +0.1
baz=288,SNR=7.2
D46A Sault St. Mari 132.94 27 P PKiKP 02 56 46.8 -0.1
baz=318,SNR=9.0
WHTX Lake Whitney, 132.99 52 P PKiKP 02 56 47.7 +0.3
baz=293
BI03 Tigo 133.01 160 PKPdf 02 56 45.6 -0.4
MATQ Matagami 133.23 20 P PKPdf 02 56 45.5 -0.5
baz=328
D47A Chapleau 133.24 27 P PKPdf 02 56 46.4 +0.2
baz=319,SNR=8.9
435B Jarrell 133.34 54 P PKiKP 02 56 48.8 +0.6
baz=291
X37A Clayton 133.51 48 PKPdf PKPdf 02 56 47.2 +0.2
E47A Iron Bridge 133.62 27 P PKPdf 02 56 47.2 +0.4
baz=319,SNR=8.2
D48A Paudash Townsh 133.72 26 P PKPdf 02 56 47.1 +0.1
baz=321,SNR=7.9
BI02 San Fabin de 133.76 161 PKPdf PKiKP 02 56 48.5 -0.5
D49A Beulah Townshi 133.83 25 P PKPdf 02 56 46.8 -0.5
baz=322
LSQQ Lebel-sur-Quev 134.06 20 P PKPdf 02 56 47.1 -0.5
baz=328
E48A Lockeyer 134.10 27 P PKPdf 02 56 48.0 +0.3
baz=320,SNR=9.7
CHGQ Chibougamau 134.16 18 P PKPdf 02 56 47.6 -0.2
baz=332,SNR=6.9
W39A Magazine 134.39 46 P PKPdf 02 56 48.8 +0.2
baz=299
F48A Evansville 134.39 27 P PKiKP 02 56 49.3 -0.5
baz=319
HDIL Hopedale 134.45 37 P PKPdf 02 56 48.6 0.0
baz=308
U40A Yellville 134.48 45 P PKPdf 02 56 48.7 -0.1
baz=300
D50A G1974 Best Tow 134.54 24 P PKPdf 02 56 48.5 -0.1
baz=324,SNR=9.3
CCM Cathedral Cave 134.67 42 P PKiKP 02 56 50.1 -0.5
baz=304
CCM Cathedral Cave 134.67 42 PKHKP PKPpre 02 56 35.1
CCM Cathedral Cave 134.67 42 PKPpre 02 56 35.1
F49A Sandfield 134.70 27 P PKPdf 02 56 48.9 0.0
baz=320
E50A Wahnapitae 134.76 25 P PKPdf 02 56 49.6 +0.6
baz=322,SNR=8.1
D51A Lot 18 Range I 134.79 24 P PKPdf 02 56 48.3 -0.8
baz=324
MIAR Mount Ida 134.84 47 P PKiKP 02 56 50.8 -0.3
baz=298
HKT Hockley 135.05 54 PKPdf PKiKP 02 56 50.8 -0.8
HKT SKPbc **SKPbc 02 59 36.0 +2.0**
E51A G1948 Merrick 135.20 24 P PKPdf 02 56 49.9 0.0
baz=324,SNR=5.6
NATX Nacogdoches 135.26 51 P PKiKP 02 56 51.2 -0.8
baz=295
D52A ZEK Kipawa Sen 135.27 23 P PKPdf 02 56 49.7 -0.3
baz=325
X40A Basin Creek Fa 135.41 47 P PKiKP 02 56 51.7 -0.6
baz=299
D53A Lac Vacive, Po 135.46 23 P PKPdf 02 56 49.7 -0.6
baz=326
W41B Gary Mavity, V 135.50 46 P PKiKP 02 56 52.0 -0.4
baz=300
F51A Arnstein 135.50 25 P PKPdf 02 56 49.7 -0.7
baz=323
Q44A Meyer Farm, Va 135.62 39 PKPdf PKPdf 02 56 50.5 -0.3
E52A Mattawa 135.74 24 P PKPdf 02 56 50.2 -0.6
baz=325
D54A Lac Fusel, La 135.79 22 P PKPdf 02 56 49.7 -1.2
baz=328
SFIN Lafayette 135.87 36 P PKPdf 02 56 50.9 -0.3
baz=310
Z41A Richland Creek 136.01 48 P PKPdf 02 56 52.5 +0.8
baz=298
E53A Dumoine, Ponti 136.05 23 P PKPdf 02 56 51.2 -0.2
baz=326
E54A Lac Daplat, Po 136.19 23 P PKPdf 02 56 50.5 -1.2
baz=327
ALGO Algonquin Park 136.25 24 P PKPdf 02 56 51.4 -0.4
baz=325
D55A Sainte-Anne-du 136.32 21 P PKPdf 02 56 50.6 -1.3
baz=329
D56A ZEC Mazanza, M 136.55 20 P PKPdf 02 56 52.0 -0.3
baz=330
E55A Montcerf-Lytto 136.60 22 P PKPdf 02 56 50.5 -1.9
baz=328
I51A Listowel 136.67 28 P PKPdf 02 56 51.2 -1.5
baz=320
G54A Lake Saint Pet 136.69 24 P PKPdf 02 56 51.9 -0.8
baz=325
SADO Sadowa 136.76 26 PKPdf 02 56 51.6 -1.1
D57A Chemin Vers le 136.87 19 P PKPdf 02 56 52.7 -0.2
baz=331
E56A St. Veronique 136.89 21 P PKPdf 02 56 53.2 +0.3
baz=330
LATQ La Tuque 136.90 18 P PKPdf 02 56 53.3 +0.4
baz=333,SNR=7.6
D58A Chemin du LacG 137.12 18 P PKPdf 02 56 53.3 -0.1
baz=333
H53A Bobaygeon 137.15 25 P PKPdf 02 56 53.2 -0.3
baz=324
E57A Chemin Saint G 137.31 20 P PKPdf 02 56 54.2 +0.4
baz=331
G55A Calabogie 137.36 23 P PKPdf 02 56 53.6 -0.3
baz=326
VA03 San Esteban 137.56 160 PKPdf PKPdf 02 56 52.0 -2.8
E58A La Victoria 137.63 19 P PKPdf 02 56 53.8 -0.6
baz=332
WCI Wyandotte Cave 137.72 38 P PKPdf 02 56 54.1 -0.7
baz=309
WCI Wyandotte Cave 137.72 38 PKHKP PKPpre 02 56 44.6
WCI Wyandotte Cave 137.72 38 PKPpre 02 56 44.6
H55A Tweed 137.75 24 P PKPdf 02 56 55.5 +0.9
baz=326
P49A Miami Univ. Ec 137.81 35 P PKPdf 02 56 54.6 -0.3
baz=312
D61A St Aubert, Com 137.81 16 P PKPdf 02 56 55.0 +0.4
baz=337
OXF Oxford 137.84 45 P PKPdf 02 56 53.9 -1.1
baz=302
WVT Waverly 138.01 42 P PKPdf 02 56 55.2 -0.2
baz=306
WVT Waverly 138.01 42 PKHKP PKPpre 02 56 44.9
WVT Waverly 138.01 42 PKPpre 02 56 44.9
N51A Ashland 138.13 32 P PKPdf 02 56 54.6 -0.8
baz=316
N51A Ashland 138.13 32 PKPdf 02 56 54.5 -0.9
G57A Newington 138.14 22 P PKPdf 02 56 55.3 0.0
baz=329
M52A Chesterland 138.21 31 P PKPdf 02 56 54.8 -0.7
baz=318
E60A Ste Agathe de 138.21 18 P PKPdf 02 56 54.7 -0.6
baz=334
F59A Saint Guilaume 138.25 19 P PKiKP 02 56 57.7 +0.1
baz=332
ACSO Alum Creek Sta 138.30 33 P PKPdf 02 56 56.0 +0.2
baz=315
F60A Warwick 138.42 18 P PKPdf 02 56 55.7 -0.1
baz=334
E61A Lac Etchemin 138.44 17 P PKPdf 02 56 55.8 -0.1
baz=336
G58A Ormstown 138.44 21 P PKPdf 02 56 55.1 -0.7
baz=330
D63A Stockholm 138.50 14 P PKPdf 02 56 55.5 -0.4
baz=340
E62A Clayton Lake 138.53 16 P PKPdf 02 56 56.1 +0.1
baz=337,SNR=6.0
H57A Richville 138.53 23 P PKPdf 02 56 53.8 -2.2
baz=328
O51A Pataskala 138.56 33 P PKPdf 02 56 55.9 -0.4
baz=315
N52A McGinn's Farm, 138.57 32 P PKPdf 02 56 55.2 -1.0
baz=317
M53A WI Miller and 138.62 30 P PKPdf 02 56 55.8 -0.5
baz=319
L54A Sinclairville 138.67 28 P PKPdf 02 56 55.1 -1.3
baz=321
LONY Lake Ozonia 138.70 22 P PKPdf 02 56 56.7 +0.3
baz=329
F61A St Evariste 138.70 17 P PKPdf 02 56 56.2 -0.1
baz=335
P51A Williamsport 138.78 34 P PKPdf 02 56 56.6 -0.1
baz=314
K55A Perry 138.85 27 P PKPdf 02 56 56.1 -0.6
baz=323
WVNY West Valley, N 138.87 27 PKPdf PKPdf 02 56 55.0 -1.8
I57A Carthage 138.87 23 P PKPdf 02 56 55.2 -1.5
baz=327
O52A Adamsville 139.00 32 P PKPdf 02 56 57.0 0.0
baz=316
E63A Oxbow 139.00 15 P PKPdf 02 56 56.6 -0.3
baz=339
H59A Cadyville 139.00 21 P PKPdf 02 56 55.0 -1.9
baz=330
N53A Lisbon 139.01 31 P PKPdf 02 56 56.1 -0.9
baz=318
H58A Gabriels 139.02 22 P PKPdf 02 56 57.0 0.0
baz=330
M54A Oil Creek Stat 139.07 29 P PKPdf 02 56 56.8 -0.4
baz=320
G60A Masonville 139.07 19 P PKPdf 02 56 56.0 -1.1
baz=332
F62A Pittston Farm, 139.07 16 P PKPdf 02 56 57.2 +0.2

baz=336
L55A Hinsdale 139.12 27 P PKPdf 02 56 56.9 -0.4
baz=322
E64A Bridgewater 139.15 14 P PKPdf 02 56 56.6 -0.5
baz=340
G61A St-Isidore-de- 139.16 18 P PKPdf 02 56 57.2 0.0
baz=334
P52A Corning 139.18 33 P PKPdf 02 56 57.1 -0.3
baz=315
O53A New Philadelph 139.23 32 P PKPdf 02 56 58.0 +0.5
baz=317
ZON Zonda 139.30 161 PKIKP PKPdf 02 56 53.5 -4.4
ZON Zonda 139.30 161 PKPdf PKPdf 02 56 53.5 -4.4
N54A Moraine State 139.32 30 P PKPdf 02 56 55.5 -2.1
baz=319
CMIG Matias Romero 139.38 72 SKPbc SKPbc 02 59 48.0 +1.1
comp=Z,16nm,0.9s,baz=268,slow=2.4,SNR=8.8
H60A Morristown 139.42 20 P PKPdf 02 56 57.7 0.0
baz=332
F63A Nahmakanta, Br 139.49 16 P PKPdf 02 56 56.6 -1.1
baz=338
J58A Remsen 139.50 23 P PKPdf 02 56 57.6 -0.3
baz=327
K57A Scipio Center 139.52 25 P PKPdf 02 56 56.1 -1.8
baz=325
G62A West of Eustis 139.53 17 P PKPdf 02 56 57.0 -0.8
baz=335
M55A Ridgway 139.53 28 P PKPdf 02 56 57.8 -0.2
baz=321
F64A Sherman 139.54 15 P PKPdf 02 56 56.9 -0.9
baz=339
L56A Greenwood 139.55 27 P PKPdf 02 56 57.7 -0.3
baz=323
Q52A Bidwell 139.58 34 P PKPdf 02 56 57.9 -0.2
baz=315
I59A Olmsteadville 139.67 22 P PKPdf 02 56 58.3 +0.1
baz=330
P53A Whipple 139.69 33 P PKPdf 02 56 58.5 +0.2
baz=316
J59A Piesco 139.72 23 P PKPdf 02 56 58.8 +0.6
baz=328,SNR=6.1
M56A Emporium 139.79 28 P PKPdf 02 56 58.3 -0.1
baz=322,SNR=6.6
GO04 Tololo Observa 139.82 158 PKPdf PKPdf 02 56 58.2 -1.0
GO04 SKPbc SKPbc 02 59 46.3 -1.9
PKME Peaks-Kenny Pk 139.84 16 P PKPdf 02 56 58.1 -0.3
baz=337
I60A Shoreham 139.84 21 P PKPdf 02 56 57.7 -0.7
baz=330
G63A Kingsbury 139.89 17 P PKPdf 02 56 58.0 -0.5
baz=336
L57A Andrews Acres 139.97 26 P PKPdf 02 56 58.8 0.0
baz=324
Q53A Leroy 140.06 34 P PKPdf 02 56 58.6 -0.4
baz=316
I61A Oroboro, Fairl 140.14 20 P PKPdf 02 56 57.9 -1.1
baz=332
H63A New Sharon 140.18 17 P PKPdf 02 56 59.0 0.0
baz=336
BINY Binghamton 140.18 25 P PKPdf 02 56 59.3 +0.2
baz=326
R53A Hurricane 140.20 34 P PKPdf 02 56 58.4 -0.9
baz=315
O55A Ligonier 140.23 30 P PKPdf 02 56 60.0 +0.7
baz=320
J60A Lant Hill Farm 140.31 22 P PKPdf 02 56 59.3 0.0
baz=330
LRAL Lakeview Retre 140.32 45 P PKPdf 02 57 00.1 +0.4
baz=304,SNR=50
LRAL Lakeview Retre 140.32 45 PKPdf PKPdf 02 56 55.4 -4.2
I62A Tamworth 140.48 19 PKPdf 02 56 58.2 -1.4
SSPA Standing Stone 140.59 28 PKPdf 02 56 52.7 -7.2
J63A Strafford 141.10 19 P PKPdf 02 56 55.5 -5.2
baz=333
Q56A Snyder Ridge, 141.17 31 P PKPdf 02 56 55.5 -5.6
baz=319
R55A Marlinton 141.24 33 P PKPdf 02 56 55.3 -6.0
baz=317
R55A Marlinton 141.24 33 PKPdf PKPdf 02 56 58.2 -3.1
BRAL Brewton 141.28 47 P PKPdf 02 56 57.3 -4.1
baz=302,SNR=14
T54A Tazewell 141.30 36 P PKPdf 02 56 55.8 -5.6
baz=314
N59A State Game Lan 141.33 26 P PKPdf 02 56 56.2 -5.0
baz=325
PLTB Pedras Altas 141.38 181 eP PKPdf 02 57 02.4 +0.7
S55A Lewisburg 141.40 34 P PKPdf 02 56 55.8 -5.7
baz=316,SNR=7.0
P57A Homestead Farm 141.43 30 P PKPdf 02 56 55.9 -5.6
baz=321,SNR=14
O58A Lewisberry 141.45 28 P PKPdf 02 56 55.9 -5.5
baz=323,SNR=15
K63A Dunstable 141.47 20 P PKPdf 02 56 56.7 -4.7
baz=332
M60A Port Jervis 141.47 25 P PKPdf 02 56 56.6 -4.8
baz=327
U54A Nelsons Funny 141.52 36 P PKPdf 02 56 56.4 -5.3
baz=313,SNR=8.1
R56A Bull Pasture M 141.53 32 P PKPdf 02 56 56.4 -5.4
baz=318,SNR=12
Q57A Strasburg 141.57 30 P PKPdf 02 56 56.4 -5.4
baz=320,SNR=10
HRV Adam Dziewonsk 141.62 20 P PKPdf 02 56 57.9 -3.7
baz=332
O59A Robesonia 141.63 27 P PKPdf 02 56 56.6 -5.2
baz=324
L62A Suffield 141.64 22 P PKPdf 02 56 57.9 -3.8
baz=330
N60A Cedar Hill Far 141.65 25 P PKPdf 02 56 56.8 -5.0
baz=326,SNR=14
ODNJ Ogdensburg 141.69 25 PKPdf PKPdf 02 56 58.5 -3.3
T55A Pulaski 141.71 35 P PKPdf 02 56 57.1 -4.9
baz=315,SNR=15
P58A Pank, Wackersv 141.77 29 P PKPdf 02 56 57.0 -5.0
baz=322,SNR=16
M61A Granite Spring 141.84 24 P PKPdf 02 56 58.0 -4.1
baz=328,SNR=11
BLA Blacksburg 141.85 34 P PKPdf 02 56 57.5 -4.9
baz=316,SNR=12
V54A Nebo 141.95 37 P PKPdf 02 56 58.5 -4.0
baz=312,SNR=17
O60A Telford 141.98 26 P PKPdf 02 56 57.8 -4.5
baz=325,SNR=11
S56A Natural Bridge 141.98 33 P PKPdf 02 56 58.5 -4.0
baz=317,SNR=17
U55A TA2, Sparta 141.99 36 P PKPdf 02 56 57.9 -4.7
baz=314,SNR=18
Q58A Fox Den Farm, 142.01 30 P PKPdf 02 56 58.1 -4.3
baz=321,SNR=30
PAL Palisades 142.04 24 P PKPdf 02 56 58.3 -4.1
baz=328
M62A Hamden 142.06 23 P PKPdf 02 56 58.1 -4.4
baz=330
R57A Stanardsville 142.07 31 P PKPdf 02 56 58.5 -4.1
baz=319,SNR=25
P59A Jarrettsville 142.08 28 P PKPdf 02 56 58.1 -4.4
baz=323,SNR=13
N61A South Mountain 142.09 25 P PKPdf 02 56 58.4 -4.1
baz=327
L63A North Scituate 142.17 21 P PKPdf 02 56 59.4 -3.2
baz=332
T56A Rocky Mt 142.20 34 P PKPdf 02 56 58.9 -4.0
baz=316,SNR=27
S57A Dark Hollow, R 142.25 32 P PKPdf 02 56 58.7 -4.3
baz=318,SNR=9.3
W54A Cherokee Point 142.26 38 P PKPdf 02 56 59.6 -3.4
baz=311,SNR=23
N62A Caumsett State 142.28 24 P PKPdf 02 56 58.9 -3.9
baz=328
P60A Greenville 142.29 27 P PKPdf 02 56 59.3 -3.6
baz=324,SNR=18
V55A Taylorsville 142.34 37 P PKPdf 02 56 59.7 -3.5
baz=313,SNR=23
R58A Rapidan 142.34 31 P PKPdf 02 56 59.1 -4.0
baz=320,SNR=30
L64A Middleborough 142.38 20 P PKPdf 02 56 59.5 -3.5
baz=333,SNR=5.8
M63A Gales Ferry 142.42 22 P PKPdf 02 56 59.7 -3.4
baz=331
U56A King 142.48 35 P PKPdf 02 57 00.1 -3.3
baz=315,SNR=5.5
X54A Belton 142.50 39 P PKPdf 02 57 00.7 -2.7
baz=311,SNR=35
GOGA Godfrey 142.51 42 P PKPdf 02 57 00.8 -2.7
baz=308,SNR=63
O61A Allentown 142.53 26 P PKPdf 02 56 59.9 -3.4
baz=326
Q59A Harwood 142.57 29 P PKPdf 02 57 01.5 -2.0
baz=322,SNR=5.8
M64A Tiverton 142.59 21 P PKPdf 02 57 00.8 -2.5
baz=332
T57A Hurt 142.65 34 P PKPdf 02 57 00.3 -3.3
baz=317,SNR=19
R58B Mineral 142.66 31 P PKPdf 02 57 00.1 -3.6
baz=320,SNR=20
CBN Corbin Frederi 142.73 30 P PKPdf 02 57 00.9 -2.9
baz=321,SNR=18
CPSB Cacapava Do Su 142.73 182 eP PKPdf 02 57 04.0 -0.1
KMSC Kings Mountain 142.75 38 P PKPdf 02 57 01.0 -2.9
baz=312,SNR=41
P61A Hammonton 142.77 26 P PKPdf 02 57 00.7 -3.1
baz=326,SNR=9.5
V56A Mocksville 142.79 36 P PKPdf 02 57 01.1 -2.9
baz=314,SNR=18
S58A Poland Farm, P 142.84 32 P PKPdf 02 57 00.7 -3.3
baz=319,SNR=20
Q60A Greensboro 142.84 28 P PKPdf 02 57 02.0 -2.0
baz=324
R59A King George, V 142.86 30 P PKPdf 02 57 01.5 -2.5
baz=321,SNR=18
X55A Gracelyn & Ava 143.01 39 P PKPbc 02 57 02.5 +0.3
baz=311,SNR=60
U57A Blanch 143.01 34 P PKPab 02 57 01.5 0.0
baz=316,SNR=22
R60A Leonardtown, M 143.07 29 P PKPbc 02 57 02.5 +0.2
baz=322,SNR=19
T58A Grand View Acr 143.08 33 P PKPab 02 57 01.9 +0.1
baz=318,SNR=27
S59A Mechanicsville 143.11 31 P PKPbc 02 57 02.2 -0.2
baz=320,SNR=29
V57A Coltrane Farms 143.15 35 P PKPab 02 57 02.0 -0.1
baz=315,SNR=34
Q61A Milford 143.18 28 P PKPbc 02 57 02.8 +0.3
baz=324,SNR=10
W56A Indian Trail 143.20 37 P PKPab 02 57 02.4 +0.1
baz=314,SNR=67
Y55A Saluda 143.22 40 P PKPbc 02 57 03.2 +0.4
baz=311,SNR=114
X56A White Oak 143.37 38 P PKPbc 02 57 03.4 +0.2
baz=312,SNR=51
AC02 Maricunga 143.45 158 PKPdf PKPdf 02 57 05.3 -0.7
U58A Oxford 143.47 33 P PKPab 02 57 03.2 -0.1
baz=317,SNR=48
S60A Water View 143.48 30 P PKPbc 02 57 03.8 +0.3
baz=321,SNR=47
W57A Gilead 143.54 36 P PKPbc 02 57 03.7 0.0
baz=314,SNR=85
T59A Double "B" Far 143.58 32 P PKPbc 02 57 03.9 0.0
baz=319,SNR=75
V58A Windy Hill, Pi 143.59 35 P PKPab 02 57 03.8 0.0
baz=316,SNR=76
TIGA Tifton 143.60 44 P PKPbc 02 57 04.7 +0.6
baz=306,SNR=139
R61A Willards 143.62 28 P PKPbc 02 57 04.3 +0.4
baz=324,SNR=6.2
Y56A Pelion 143.66 39 P PKPdf 02 57 05.1 -0.4
baz=311,SNR=17
T60A Surry 143.87 31 P PKPbc 02 57 05.0 +0.2
baz=321,SNR=30
U59A Littleton 143.92 33 P PKPbc 02 57 04.9 -0.1
baz=318,SNR=42
Z56A Williston 143.92 40 P PKPdf 02 57 06.1 +0.1
baz=311,SNR=72
X57A Johnson Farm, 143.96 37 P PKPdf 02 57 05.6 -0.4
baz=313,SNR=47
S61A Accomac 143.98 29 P PKPdf 02 57 06.0 +0.1
baz=323,SNR=12
W58A Raeford 144.08 36 P PKPab 02 57 05.8 +0.2
baz=315,SNR=180
Y57A Sumter 144.08 38 P PKPdf 02 57 06.1 -0.1
baz=313,SNR=39
V59A Middlesex 144.11 34 P PKPab 02 57 05.7 +0.1
baz=317,SNR=146
U60A Pendleton 144.16 32 P PKPbc 02 57 05.7 0.0
baz=319,SNR=41
X58A Rowland 144.34 36 P PKPdf 02 57 06.8 +0.1
baz=315,SNR=38
Z57A Bowman 144.36 39 P PKPdf 02 57 07.4 +0.6
baz=311,SNR=90
W59A Clinton 144.43 35 P PKPab 02 57 07.2 +0.3
baz=316,SNR=67
157A Early Branch 144.58 40 P PKPab 02 57 08.5 +1.0
baz=310,SNR=37
V60A Jim Taylor Roa 144.64 33 P PKPab 02 57 07.5 -0.1
baz=319,SNR=114
U61A Possum Corner 144.64 31 P PKPab 02 57 07.6 -0.1
baz=320,SNR=16
CNNC Cliffs of the 144.68 34 P PKPab 02 57 07.9 0.0
baz=317,SNR=56
X59A McDuffie Farm, 144.76 36 P PKPab 02 57 07.9 -0.2
baz=316,SNR=39
GO02 Mina Guanaco 144.77 156 PKPdf PKPab 02 57 09.1 +0.2
TEIG Tepich 144.78 65 PKP PKPab 02 57 08.7 +0.1
comp=Z,128nm,0.8s,baz=326,slow=7.5,SNR=13
TEIG Tepich 144.78 65 eP PKPab 02 57 09.0 +0.3
TEIG Tepich 144.78 65 PKPdf PKPbc 02 57 08.3 +0.2
NHSC New Hope 144.82 39 P PKPab 02 57 08.8 +0.3
baz=312,SNR=20
NHSC New Hope 144.82 39 PKPdf PKPab 02 57 09.0 +0.6
Z58A St. Stephen 144.89 38 P PKPab 02 57 08.9 +0.1
baz=313,SNR=40
W60A Pink Hill 144.92 34 P PKPab 02 57 08.4 -0.3
baz=317,SNR=84
V61A Roper 144.99 32 P PKPab 02 57 08.8 -0.2
baz=320,SNR=28
Y59A Loris 145.01 37 P PKPab 02 57 08.8 -0.3
baz=315,SNR=66
158A Hollywood 145.05 40 P PKPab 02 57 09.3 -0.1
baz=312,SNR=7.9
X60A Albert Glenn T 145.12 35 P PKPbc 02 57 08.8 +0.1
baz=316,SNR=125
W61A Ground Anchor 145.22 33 P PKPbc 02 57 09.2 +0.2
baz=318,SNR=14
Z59A Georgetown, SC 145.28 38 P PKPab 02 57 10.1 -0.1
baz=313,SNR=7.5
Y60A Bolivia 145.39 36 P PKPbc 02 57 09.5 0.0
baz=316,SNR=27
V62A Hyde County Ai 145.49 32 P PKPab 02 57 10.8 -0.1
baz=320,SNR=7.8
ITAB Concordia 145.83 184 eP PKPbc 02 57 10.6 -0.4
CPUP Villa Florida 146.70 175 PKPbc PKPbc 02 57 14.2 +0.8
comp=Z,65nm,0.8s,baz=174,slow=2.0,SNR=114
CPUP pPKPbc pPKPdf 02 59 06.7 -0.6
comp=Z,6.7nm,0.9s,baz=192,slow=6.8,SNR=2.8
CPUP Villa Florida 146.70 175 PKPbc PKPbc 02 57 13.0 -0.4
CPUP Villa Florida 146.70 175 eP PKPdf 02 57 11.6 +0.6
DWPF Disney Wildern 147.04 47 P PKPdf 02 57 12.4 +0.9
baz=304
DWPF Disney Wildern 147.04 47 PKPbc PKPbc 02 57 14.2 -0.1
TGUH Tegucigalpa,Un 147.09 75 eP PKPbc 02 57 15.8 +0.8
LVC Limon Verde 147.32 155 PKPbc PKiKP 02 57 17.1 -0.4
comp=Z,75nm,0.9s,baz=232,slow=1.5,SNR=41
LVC pPKPbc pPKPdf 02 59 09.4 0.0
comp=Z,13nm,1.1s,baz=135,slow=0.8,SNR=3.0
LVC Limon Verde 147.32 155 PKPbc PKPbc 02 57 14.9 -0.8
LVC Limon Verde 147.32 155 eP PKPbc 02 57 14.2 -1.5
LVC Limon Verde 147.32 155 eP PKPdf 02 57 12.8 +0.2
TIJ01 Guaruva-PR 147.37 189 eP PKPbc 02 57 14.0 -1.4
CRIN San Cristobal 147.49 77 PKPbc PKPbc 02 57 16.3 +0.3
PET01 Itanhaem-SP 148.05 193 eP PKPdf 02 57 14.2 +1.0
ESTN Estel 148.10 77 PKPbc PKiKP 02 57 18.3 -0.6
PTGB Pitanga 148.32 184 eP PKPdf 02 57 14.4 +0.6
060A Indiantown 148.43 48 PKiKP 02 57 18.9 -0.3
MAN01 Angra dos Reis 148.51 199 eP PKPdf 02 57 14.1 0.0
PARB Paraibuna 148.56 196 eP PKPdf 02 57 15.4 +1.2
CAM01 Campos-RJ 148.64 203 eP PKPdf 02 57 15.3 +1.0
061Z Ochoppi 148.66 50 PKiKP 02 57 19.7 0.0
SPB Sao Paulo 148.76 193 eP PKPdf 02 57 15.9 +1.5
VAS01 Vassouras-RJ 148.88 200 eP PKPdf 02 57 15.4 +0.8
VAO Valinhos 149.22 194 eP PKPdf 02 57 16.6 +1.4
PB08 IPOC Station P 149.38 152 PKPdf 02 57 17.2 +1.2
PB08 PKPbc PKiKP 02 57 21.9 +0.1
FRTB Fartura 149.40 189 eP PKPdf 02 57 17.0 +1.5
ACON Acoyapa 149.40 78 PKPdf 02 57 16.2 +0.6
ACON PKPbc PKiKP 02 57 22.2 +0.7
ACON PKPab PKPab 02 57 28.8 +1.3
JTS Las Juntas de 149.76 82 PKP PKPdf 02 57 16.8 +0.6
comp=Z,22nm,1.1s,baz=342,slow=12,SNR=7.1
JTS PKPbc PKiKP 02 57 22.2 0.0
comp=Z,155nm,1.0s,baz=33,slow=4.1,SNR=50
JTS Las Juntas de 149.76 82 eP PKiKP 02 57 22.4 +0.2
JTS Las Juntas de 149.76 82 PKPdf 02 57 16.5 +0.3
JTS PKPbc PKiKP 02 57 22.2 0.0
RCLB Rio Claro- Sao 149.91 193 eP PKPdf 02 57 17.3 +1.0
TRCB Terra Rica 150.27 184 eP PKPdf 02 57 17.9 +1.1
RIB01 Linhares ES 150.32 208 eP PKPdf 02 57 18.4 +1.4
BSCB Bom Sucesso 150.52 199 eP PKPdf 02 57 19.9 +2.6
NNA Nana 150.84 130 PKP PKPdf 02 57 19.0 +1.1
comp=Z,31nm,1.1s,baz=292,slow=3.8,SNR=6.3
NNA PKPbc PKiKP 02 57 24.7 +0.3
comp=Z,130nm,0.8s,baz=262,slow=4.8,SNR=46
NNA Nana 150.84 130 PKIKP PKPdf 02 57 18.7 +0.8
NNA Nana 150.84 130 PKPdf 02 57 18.6 +0.8
NNA PKiKP 02 57 24.8 +0.3
BSFB Barra de Sao F 150.95 207 eP PKPdf 02 57 18.6 +0.7
SJMB Sao Joao De Ma 151.22 207 eP PKPdf 02 57 19.5 +1.2
PCMB Pacaembu 151.33 186 eP PKPdf 02 57 19.9 +1.5
NAN01 Guarapari, ES 151.46 210 eP PKPdf 02 57 20.6 +1.9
ATAH Atahualpa 152.33 120 PKP PKPdf 02 57 21.9 +1.3
comp=Z,22nm,0.9s,baz=8.6,slow=0.5,SNR=16
ATAH PKPbc PKiKP 02 57 29.8 +1.7
comp=Z,53nm,0.7s,baz=136,slow=2.0,SNR=25
ITRB Iturama 153.09 189 eP PKPdf 02 57 22.1 +1.0
LPAZ La Paz 153.18 150 PKP PKPdf 02 57 23.5 +1.4
comp=Z,9.0nm,1.0s,baz=17,slow=1.2,SNR=26
LPAZ PKPbc PKiKP 02 57 30.9 +1.0
comp=Z,8.0nm,0.4s,baz=62,slow=2.4,SNR=21
LPAZ PKPab PKPab 02 57 45.2 +1.4
comp=Z,18nm,0.6s,baz=240,slow=1.9,SNR=15
LPAZ pPKPbc pPKPbc 02 59 26.4 -0.6
comp=Z,9.4nm,0.9s,baz=166,slow=4.1,SNR=2.8
LPAZ La Paz 153.18 150 PKPdf PKPdf 02 57 23.1 +1.1
LPAZ PKPbc PKiKP 02 57 31.0 +1.0
LPAZ PKPab PKPab 02 57 43.3 -0.5
LPAZ La Paz 153.18 150 eP PKPdf 02 57 23.4 +1.4
LPAZ La Paz 153.18 150 eP PKPdf 02 57 22.8 +0.7
MC01 Montes Claros 154.17 204 eP PKPdf 02 57 24.7 +1.9
IPMB Ipameri, GO 154.35 194 eP PKPdf 02 57 23.2 +0.3
GDU01 Guandu, BA 154.57 216 eP PKPdf 02 57 23.7 +0.4
OTAV Otavalo 155.19 105 eP PKPdf 02 57 25.6 +0.8
OTAV Otavalo 155.19 105 PKIKP PKPdf 02 57 25.5 +0.8
OTAV Otavalo 155.19 105 PKPdf 02 57 25.5 +0.7
OTAV Otavalo 155.19 105 eP PKPdf 02 57 26.7 +2.0
OTAV Otavalo 155.19 105 eP PKPdf 02 57 26.1 +1.3
NBCP Cabaceiras do 155.22 218 eP PKPdf 02 57 25.7 +1.6
JANB Januaria 155.80 205 eP PKPdf 02 57 25.0 0.0
SIV San Ignacio 156.20 164 PKP PKPdf 02 57 26.1 +0.7
comp=Z,12nm,0.8s,baz=194,slow=1.4,SNR=70
SIV PKPab PKPab 02 57 56.8 +0.8
comp=Z,8.1nm,0.6s,baz=232,slow=4.0,SNR=16
BDFB Brasilia 156.54 196 PKP PKPdf 02 57 26.6 +0.6
comp=Z,4.1nm,0.7s,baz=169,slow=3.7,SNR=6.5
BDFB PKPab PKPab 02 57 57.9 +0.3
comp=Z,6.2nm,0.9s,baz=123,slow=4.1,SNR=4.6
CZSB Cruzeiro do Su 156.66 129 eP PKPdf 02 57 26.7 +0.7
BBAC Balboa, Cauca 156.81 101 eP PKPdf 02 57 26.8 +0.2
PUAC Puerto Asis, P 157.09 105 eP PKPdf 02 57 27.6 +1.0
SALV Santo Antonio 157.16 177 eP PKPdf 02 57 27.3 +0.7
PTLB Pontes e Lacer 157.17 168 eP PKPdf 02 57 27.2 +0.6
ARAG Araguaiana, MT 157.22 187 eP PKPdf 02 57 27.6 +1.0
SOLC Bahia Solano 157.26 91 eP PKPdf 02 57 28.0 +1.2
RCBR Riachuelo 157.43 236 PKP PKPdf 02 57 27.9 +0.8
comp=Z,16nm,0.9s,baz=162,slow=2.2,SNR=3.4
RCBR PKPab PKPab 02 58 01.9 +0.2
comp=Z,25nm,1.1s,baz=208,slow=2.7,SNR=3.7
RCBR Riachuelo 157.43 236 eP PKPdf 02 57 26.4 -0.7
POPC Popayan, Colom 157.48 100 eP PKPdf 02 57 27.1 -0.3
YOTC Yotoco, Valle 158.07 97 eP PKPdf 02 57 28.2 +0.2
MARP Paez Belalcaza 158.25 100 eP PKPdf 02 57 29.2 +0.8
FLOC Florencia 158.25 104 PKPdf PKPdf 02 57 29.1 +1.1
FLOC PKPab PKPab 02 58 07.1 +1.7
PLMC San Jos del P 158.26 94 eP PKPdf 02 57 28.7 +0.6
DBBC Dabeiba 158.48 89 eP PKPdf 02 57 28.2 -0.2
CBOC Ciudad Bolivar 158.62 92 eP PKPdf 02 57 28.9 +0.2
PTLC Puerto Leguiza 158.66 108 eP PKPdf 02 57 27.3 -1.2
BETC Betania 158.72 101 eP PKPdf 02 57 27.7 -0.9
MOTC Monteria, Cord 158.99 84 eP PKPdf 02 57 29.0 +0.1
HELC Santa Helena 159.12 91 eP PKPdf 02 57 29.2 -0.2
ORTC Ortega, Tolima 159.14 98 eP PKPdf 02 57 28.9 -0.3
UREC San Jos de Ur 159.16 87 eP PKPdf 02 57 29.0 -0.1
TOLC Tolima 159.17 96 eP PKPdf 02 57 29.9 +0.3
RREF El Recreo 159.18 95 eP PKPdf 02 57 30.0 +0.1
GUY2C Guyana, Caldas 159.20 94 eP PKPdf 02 57 29.8 +0.1
VILB Vilhena 159.33 164 eP PKPdf 02 57 29.9 +0.7
SJCC San Jacinto, C 159.38 81 eP PKPdf 02 57 30.6 +1.2
PRAC Prado 159.46 98 eP PKPdf 02 57 29.3 -0.2
ETMB Extrema 159.59 145 eP PKPdf 02 57 30.2 +0.7
NORC Norcasia 159.73 93 eP PKPdf 02 57 29.6 -0.1
ZARC Zaragoza, Cauc 159.83 88 eP PKPdf 02 57 29.9 +0.1
PEXB Peixe 159.98 198 eP PKPdf 02 57 30.4 +0.4
SMRC Santa Marta, M 160.13 77 eP PKPdf 02 57 30.6 +0.5
MACC Macarena, Meta 160.14 103 eP PKPdf 02 57 30.6 +0.3
ROSC El Rosal 160.19 95 PKP PKPdf 02 57 31.4 +0.6
comp=Z,15nm,0.6s,baz=150,slow=4.8,SNR=12
ROSC PKPab PKPab 02 58 15.8 +1.5
comp=Z,31nm,0.8s,baz=141,slow=7.3,SNR=7.4
ROSC El Rosal 160.19 95 eP PKPdf 02 57 29.9 -0.8
ROSC El Rosal 160.19 95 PKPdf PKPdf 02 57 31.0 +0.2
ROSC PKPab 02 58 15.6 +1.3
PTBC PUERTO BERRIO 160.20 90 eP PKPdf 02 57 29.3 -1.0
ARGC Ariguani, Magd 160.30 81 eP PKPdf 02 57 31.3 +0.9
SPBC San Pablo de B 160.52 93 eP PKPdf 02 57 30.5 -0.2
SMLC San Martn de 160.56 84 eP PKPdf 02 57 30.5 -0.1
CHIC Chingaza 160.74 96 eP PKPdf 02 57 31.4 0.0
BRRC Barranca, Sant 160.96 89 eP PKPdf 02 57 31.3 +0.2
OCAC Ocana 161.34 85 eP PKPdf 02 57 32.0 +0.4
BARC Barichara 161.47 90 eP PKPdf 02 57 31.8 -0.1
RUSC La Rusia 161.53 93 eP PKPdf 02 57 32.0 -0.3
SAML Samuel 161.91 151 PKIKP PKPdf 02 57 32.8 +0.8
SAML Samuel 161.91 151 PKPdf 02 57 32.8 +0.8
SAML Samuel 161.91 151 eP PKPdf 02 57 32.7 +0.7
PAMC Pamplona, Colo 161.97 88 eP PKPdf 02 57 32.8 +0.1
CLDB Colider 162.14 176 eP PKPdf 02 57 31.5 +0.7
NBMO Morrinhos-CE 162.25 235 eP PKPdf 02 57 33.1 +0.7
SMTB Santa Maria do 162.74 204 eP PKPdf 02 57 33.7 +0.8
SDV Santo Domingo 163.95 82 PKP PKPdf 02 57 33.7 -0.5
comp=Z,20nm,0.4s,baz=223,slow=0.4,SNR=5.5
SDV PKPab PKPab 02 58 31.7 +1.2
comp=Z,18nm,0.3s,baz=302,slow=5.1,SNR=3.4
SDV Santo Domingo 163.95 82 eP PKPdf 02 57 34.1 -0.1
ROSB Rosario 165.66 227 eP PKPdf 02 57 36.1 +0.6
NPGB Novo Progresso 165.96 177 eP PKPdf 02 57 36.5 +0.8
PRPB Parauapebas 166.04 200 eP PKPdf 02 57 36.4 +0.7
MACA Manacapuru-AM 168.13 149 eP PKPdf 02 57 37.6 +0.4
ITTB Itaituba 168.58 174 eP PKPdf 02 57 39.8 +2.3
TMAB Tom-Au,PA,Br 168.64 215 eP PKPdf 02 57 38.7 +1.1
PTGA Pitinga 170.55 145 PKP PKPdf 02 57 38.3 -0.4
comp=Z,6.9nm,0.9s,baz=319,slow=1.3,SNR=12
PTGA Pitinga 170.55 145 PKPdf 02 57 38.6 -0.1
MALB Monte Alegre 171.14 182 eP PKPdf 02 57 40.0 +1.0
MCPB Macapa, AP 172.23 199 eP PKPdf 02 57 39.2 -0.3
TOSP Speyside 172.73 54 PKPdf PKPdf 02 57 37.3 -2.3
TOSP PKPab PKPab 02 59 09.1 +0.1
MDP Montagnes des 177.30 224 PKP PKPdf 02 57 41.1 +0.1
comp=Z,6.5nm,0.8s,baz=336,slow=2.6,SNR=5.8

IDC 17 02:43:35.1±1.7,26°16N×53°51E,h0km,mb3.6/3, mb1 3.8/5,mb1mx3.4/67,mbtmpb3.6/5,ML3.2/2,Error ellipse: s-maj=49.1km s-min=25.3km az=40.0,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	5.49	121	Pn	Pn		02 44 59.3	+1.1
	0.4nm,0.3s,baz=134,slow=16,SNR=1.9							
WSAR				Sn	Sn		02 46 01.7	-0.4
	0.5nm,0.3s,baz=151,slow=16,SNR=1.5							
KBZ	Khabaz	19.54	336	P	Pn		02 48 05.8	+0.3
	0.1nm,0.3s,baz=140,slow=8.6,SNR=5.6							
BRTR	Keskin Array B	21.41	314	P	P		02 48 25.0	+0.2
	1.7nm,0.7s,baz=135,slow=11,SNR=15							
FINES	FINESS Array B	39.84	340	P	P		02 51 09.0	-1.1
	0.4nm,0.5s,baz=128,slow=9.0,SNR=5.1							
TORD	Torodi Ar. Bea	50.19	265	P	P		02 52 32.8	-0.2
	0.6nm,0.8s,baz=53,slow=8.8,SNR=3.7							

TAP 17 02:44:24.3,24°88N×122°29E,h13km,ML3.8,D
JMA 17 02:44:24.1,24°78N×122°31E,h0km,M3.0

ISC 17 02:44:24.3±1.0,24°83N±0°02×122°31E±0°02,h8km±9km, n84,σ0°62/140,1C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.34	301	Pn/iP	Pg		02 44 31.0	0.0
	baz=286							

TWB1 S Sg 02 44 35.5 -0.1
baz=286
EGS 0.34 273 *e*P Pb 02 44 31.7 -0.9
baz=254
EGS *e*S Sb 02 44 37.3 -0.9
baz=254
NTC Toucheng 0.43 273 P Pb 02 44 33.3 -0.9
baz=266
NTC *e*S Sb 02 44 40.2 -0.7
baz=266
TIPB Shuangxi 0.46 288 P Pg 02 44 33.7 +0.4
baz=281
TIPB S Sg 02 44 39.9 +0.6
baz=281
TWC Suao 0.47 242 *e*P Pg 02 44 33.7 +0.2
baz=235
TWC *e*S Sb 02 44 40.9 -1.1
baz=235
ILA Ilan 0.51 263 *e*P Pb 02 44 35.3 -0.2
baz=244
ILA *e*S Sb 02 44 44.9 +1.8
baz=244
NWF Wu-fen Shan 0.54 297 P Pb 02 44 35.3 -0.7
baz=291
NWF S Sg 02 44 42.4 +0.6
baz=291
WFSB Wu-fen Shan 0.54 297 P Pb 02 44 35.2 -0.7
baz=291
WFSB *e*S Sb 02 44 43.0 -0.8
baz=291
ENAH Nanao 0.59 230 P Pb 02 44 36.3 -0.6
baz=226
ENAH S Sg 02 44 44.0 +0.6
baz=226
TWE Neicheng 0.59 260 P Pg 02 44 35.9 +0.2
baz=244
TWE *e*S Sb 02 44 46.2 +0.8
baz=244
ENA Nanau 0.65 232 P Pg 02 44 37.0 +0.1
baz=219
ENA *e*S Sg 02 44 45.8 +0.3
baz=219
TWA Mucha 0.67 283 P Pb 02 44 38.1 -0.2
baz=278
TWA *e*S Sb 02 44 47.3 -0.6
baz=278
JYNG Yonagunijimaku 0.69 123 P Pg 02 44 37.4 -0.3
JYNG S Sg 02 44 47.4 +0.7
ENTT Nioudou 0.70 254 *e*P Pb 02 44 38.4 -0.4
baz=250
ENTT *e*S Sb 02 44 48.5 -0.1
baz=250
NHDH Xindian Distri 0.72 281 P Pb 02 44 39.2 0.0
baz=276
NHDH S Sb 02 44 49.0 -0.2
baz=276
NWLT Wulai 0.73 266 *e*P Pb 02 44 39.1 -0.2
baz=262
NWLT *e*S Sb 02 44 48.9 -0.7
baz=262
YOJ Yonaguni jima 0.74 120 P Pg 02 44 38.3 -0.2
YOJ S Sg 02 44 47.9 -0.2
YM01 YM01 0.74 295⇓ *i*P Pb 02 44 39.0 -0.4
baz=291
YM01 S Sb 02 44 48.8 -0.9
baz=291
TAP1 Taipei 0.74 286 *e*P Pg 02 44 38.6 0.0
baz=282
TAP1 S Sb 02 44 50.0 +0.2
baz=282
YM08 YM08 0.74 299 *i*P Pg 02 44 38.8 +0.1
baz=295
YM08 S Sg 02 44 48.4 0.0
baz=295
YM11 YM11 0.74 297 *e*P Pb 02 44 39.2 -0.4
baz=293
YM11 *e*S Sb 02 44 49.4 -0.6
baz=293
YM05 YM05 0.75 296 P Pb 02 44 39.1 -0.6
baz=293
YM05 S Sg 02 44 49.0 +0.4
baz=293
YM10 YM10 0.75 296 *i*P Pb 02 44 39.2 -0.5
baz=292
YM10 S Sb 02 44 49.4 -0.6
baz=292
TAP Taipei 0.76 286 *e*P Pb 02 44 39.7 0.0
baz=282
TAP *e*S Sb 02 44 50.4 +0.2
baz=282
NDT Datong Townshi 0.76 253 P Pb 02 44 39.5 -0.2
baz=249
NDT *e*S Sb 02 44 50.1 -0.2
baz=249
YM04 YM04 0.77 295 *i*P Pg 02 44 39.3 +0.2
baz=291
YM04 *e*S Sb 02 44 50.3 -0.3
baz=291
YM03 YM03 0.78 297 *e*P Pg 02 44 39.4 +0.1
baz=293
YM03 *e*S Sb 02 44 50.3 -0.6
baz=293
TWY Chenhua 0.78 305 P Pg 02 44 39.5 +0.2
baz=288
TWY *e*S Sb 02 44 50.4 -0.4
baz=288
ANP Anpu 0.80 297 *e*P Pg 02 44 39.8 +0.1
baz=293
ANP *e*S Sb 02 44 50.6 -0.9
baz=293
PCYT Pengchaiyu 0.82 345 *e*P Pg 02 44 39.2 -1.0
baz=344
PCYT *e*S Sb 02 44 52.6 +0.4
baz=344
NTST Danshui 0.85 293 *e*P Pg 02 44 40.5 -0.1
baz=290
NTST *e*S Sb 02 44 52.6 -0.2
baz=290
YHNB Yeheng 0.86 259 P Pb 02 44 41.2 -0.3
baz=256
YHNB *e*S Sg 02 44 52.5 +0.3
baz=256
NSK Sanguang 0.88 260 P Pg 02 44 41.1 -0.1
baz=256
NSK *e*S Sg 02 44 51.6 -1.0
baz=256
NACB Ninganchiao 0.92 225 *i*P Pg 02 44 41.9 -0.2
baz=223
NACB *e*S Sg 02 44 54.0 -0.1
baz=223
NNSB Datong 0.93 245 *e*P Pg 02 44 42.2 0.0
baz=232
NNSB *e*S Sb 02 44 54.7 -0.6
baz=232
NNSH Datong 0.93 245 *e*P Pb 02 44 42.5 -0.3
baz=233
NNSH *e*S Sb 02 44 54.9 -0.4
baz=233
ETLH Xiulin Townshi 0.97 231 P Pb 02 44 43.2 -0.3
baz=218
ETLH *e*S Sb 02 44 57.0 +0.4
baz=218
TWD Chiawan 0.99 221 *e*P Pb 02 44 43.4 -0.3
baz=228
TWD *e*S Sb 02 44 56.4 -0.5
baz=228
NCUH Zhongli 1.03 278 *e*P Pb 02 44 44.5 +0.2
baz=275
FUSS Fushou 1.13 239 P Pb 02 44 46.3 0.0
baz=237
FUSS *e*S Sn 02 45 02.2 -0.2
baz=237
WHF Hehuan Shan 1.17 235 *e*P Pb 02 44 47.0 0.0
baz=233
WHF *e*S Sn 02 45 03.1 -0.5
baz=233
TWT Tachien 1.18 241 P Pn 02 44 47.5 +0.2
baz=230
TWT *e*S Sn 02 45 04.1 +0.5
baz=230
LIOB Emei 1.19 261 P Pg 02 44 46.5 -0.7
baz=260
TDCB Techi 1.19 241 P Pb 02 44 47.1 -0.1
baz=230
TDCB *e*S Sn 02 45 03.5 -0.4
baz=230
SBCB Hsinchu 1.20 268 *e*P Pg 02 44 46.6 -0.8
baz=283
SBCB *e*S Sb 02 45 02.8 -0.2
baz=283
NSTT Nanjuang 1.21 261 *e*P Pg 02 44 47.0 -0.5
baz=277
NSTT *e*S Sn 02 45 05.2 +1.2
baz=277
CHGB Renai 1.29 234 *e*P Pb 02 44 49.0 +0.2
baz=232
CHGB *e*S Sn 02 45 06.1 -0.2
baz=232
ESL Shilin 1.29 218 *e*P Pn 02 44 48.6 0.0
baz=224
ESL *e*S Sn 02 45 07.1 +1.1
baz=224
WHP Taichung City 1.36 246 *e*P Pg 02 44 50.9 +0.5
baz=244
WHP *e*S Sb 02 45 07.0 -0.5
baz=244
IRIF Iriomote-Funau 1.39 111 P Pb 02 44 50.4 0.0
IRIF S Sb 02 45 07.4 -0.9
EGFH Guangfu 1.41 215 *e*P Pn 02 44 50.2 0.0
baz=199
NMLH Miaoli 1.41 258 *e*P Pg 02 44 53.0 +1.6
baz=273
NSY Sanyi 1.47 254 *e*P Pg 02 44 53.2 +0.7
baz=269
TWQ1 Liyutan 1.48 251 *e*P Pg 02 44 53.3 +0.6
baz=267
PTSB Yuanli 1.51 256 *e*P Pb 02 44 52.1 -0.4
baz=271
VWDT VWDT 1.51 225 *e*P Pn 02 44 51.2 -0.4
baz=232
VWDT *e*S Sg 02 45 13.0 +0.1
baz=232
HGSD Ruisui 1.56 211 *e*P Pg 02 44 53.7 -0.5
baz=198
HATJ Hateruma jima 1.57 119 P Pn 02 44 52.7 +0.3
HATJ *e*S Sn 02 45 13.3 +0.4
WDJ Dajia District 1.59 253 *e*P Pg 02 44 54.8 -0.1
baz=269
SMLT Sun Moon Lake 1.59 234 *e*P Pg 02 44 54.3 -0.5
baz=233
SMLT *e*S Sg 02 45 15.2 -0.4
baz=233
EHY Hungye 1.60 215 *e*P Pb 02 44 54.1 +0.1
baz=213
SSLB Suanglung 1.61 230 *e*P Pb 02 44 54.3 -0.1
baz=230
SSLB *e*S Sg 02 45 15.4 -0.8
baz=230
TYC Yuchr 1.61 235 *e*P Pg 02 44 55.0 -0.3
baz=235
TYC *e*S Sg 02 45 15.4 -0.8
baz=235
JKRS Kuro-shima 1.66 110 P Pb 02 44 54.9 -0.2
JKRS S Sb 02 45 16.4 +0.3
YULB Yu-li 1.70 213 *e*P Pn 02 44 53.9 -0.4
baz=215
JIJ Ishigaki jima 1.73 105 P Pn 02 44 55.5 +0.8
JIJ *e*S Sn 02 45 17.5 +0.5
TWF1 Yuli 1.74 212 *e*P Pn 02 44 53.1 -1.7
baz=214
WJS Zhushan 1.76 235 *e*P Pn 02 44 55.5 +0.5
baz=236
JISG Ishigakijimahi 1.84 97 P Pb 02 44 57.7 -0.5
ALS Alishan 1.90 227 *e*P Pb 02 44 58.6 -0.8
baz=228
CHN5 Tsauling 1.93 231 *e*P Pb 02 45 00.0 +0.2
baz=232
CHN5 *e*S Sg 02 45 26.8 +0.4
baz=232
WDLH Douliu 1.98 235 *e*P Pb 02 44 59.9 -0.6
baz=236
ELDTW Lidau 2.02 216 *e*P Pn 02 44 59.3 +0.6
baz=205
EDH Donghe 2.06 207 *e*P Pn 02 44 59.7 +0.4
baz=192
WTK Tuku 2.09 237 *e*P Pn 02 45 00.7 +1.1
baz=239
CHN2 Minshiung 2.12 233 *e*P Pb 02 45 03.0 +0.2
baz=251
TPUB Ta-pu 2.16 226 *e*P Pb 02 45 03.4 -0.3
baz=211
LONT Longtian 2.20 210 *e*P Pn 02 45 02.2 +1.1
baz=212
WTP Ta-pu 2.21 225 *e*P Pb 02 45 04.2 -0.3
baz=226
TWK Hsinying 2.28 227 *e*P Pb 02 45 04.9 -0.8
baz=229
CHN1 Nanshi 2.31 225 *e*P Pn 02 45 04.0 +1.4
baz=227
SGST Jiashian 2.35 223 *e*P Pn 02 45 05.0 +1.8
baz=224
ICHU Yijhu 2.36 232 *e*P Pb 02 45 05.6 -1.5
baz=234
SLGT Liugui 2.38 220 *e*P Pb 02 45 06.0 -1.4
baz=222

NEIC ***17*** *02:45:05.2±1.6,24.°11S±0.°08×67.°3W±0.°1,h197km±13km, Error ellipse: s-maj=17.3km s-min=11.4km az=86.0*
GUC ***17*** *02:45:06.7±0.6,24.°08S×67.°51W,h211km±8km,ML4.1*
IDC ***17*** *02:45:13.3±4.5,23.°50S×66.°92W,h240km±31km, mb1 3.3/3,mb1mx3.1/32,mbtmp3.8/3,Error ellipse: s-maj=59.5km s-min=22.8km az=44.0*
ISC 17 02:45:04.3±0.9,24.°10S±0.°05×67.°26W±0.°06, h202km±10km,n48,σ1º08/64,9C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SLA	**San Lorenzo**	**1.72**	**112**	*e*P		**Pn**	**02 45 39.7**	**-0.7**
SLA				*i* S		**S**	**02 46 05.1**	**-2.9**
LVC	**Limon Verde**	**2.12**	**314**	⇓*i*P		**Pn**	**02 45 45.4**	**+0.9**
LVC				*i* S		**S**	**02 46 15.6**	**+0.2**
LVC	**Limon Verde**	**2.12**	**314**			**Pn**	**02 45 45.5**	**+0.9**
PB15	**IPOC Station P**	**2.21**	**293**	⇑*i*P		**Pn**	**02 45 46.6**	**+1.2**
PB15				*i* S		**S**	**02 46 16.2**	**-0.5**
PB15	**IPOC Station P**	**2.21**	**293**			**Pn**	**02 45 46.6**	**+1.2**
GO02	**Mina Guanaco**	**2.37**	**243**	⇑*i*P		**Pn**	**02 45 48.4**	**+1.2**
GO02				*i* S		**S**	**02 46 20.3**	**+0.3**
GO02				IAML			02 46 22.3	
	comp=N,463nm,0.7s							
GO02	**Mina Guanaco**	**2.37**	**243**			**Pn**	**02 45 47.7**	**+0.6**
PB06	**IPOC Station P**	**2.53**	**303**	⇑*i*P		**Pn**	**02 45 50.0**	**+1.1**
PB06				*i* S		**S**	**02 46 22.5**	**-0.4**
PB06				IAML			02 46 24.8	
	comp=E,645nm,0.3s							
PB06	**IPOC Station P**	**2.53**	**303**			**Pn**	**02 45 49.6**	**+0.7**
PB14	**IPOC Station P**	**2.91**	**259**			**Pn**	**02 45 54.0**	**+0.7**
PB09	**IPOC Station P**	**2.93**	**321**	⇑*i*P		**Pn**	**02 45 54.9**	**+1.5**
PB09				*i* S		**S**	**02 46 31.4**	**+0.3**
PB09				IAML			02 46 34.0	
	comp=N,202nm,0.2s							
PB09	**IPOC Station P**	**2.93**	**321**			**Pn**	**02 45 54.2**	**+0.8**
PB05	**IPOC Station P**	**2.97**	**294**	⇑*i*P		**Pn**	**02 45 54.6**	**+0.8**
PB05				*i* S		**S**	**02 46 30.8**	**-1.1**
PB03	**IPOC Station P**	**3.07**	**311**	⇑*i*P		**Pn**	**02 45 55.8**	**+0.8**
PB03				*i* S		**S**	**02 46 33.3**	**-0.8**
PB03				IAML			02 46 34.8	
	comp=N,530nm,0.1s							
PB10	**IPOC Station P**	**3.07**	**280**	⇑*i*P		**Pn**	**02 45 56.1**	**+1.2**
PB10				*i* S		**S**	**02 46 32.6**	**-1.2**
PB10	**IPOC Station P**	**3.07**	**280**			**Pn**	**02 45 55.7**	**+0.9**
PB04	**IPOC Station P**	**3.18**	**303**	⇓*i*P		**Pn**	**02 45 57.6**	**+1.2**
PB04				*i* S		**S**	**02 46 35.5**	**-1.0**
PB04				IAML			02 46 41.6	
	comp=N,356nm,0.3s							
PB04	**IPOC Station P**	**3.18**	**303**			**Pn**	**02 45 57.1**	**+0.7**
AC02	**Maricunga**	**3.21**	**211**			**Pn**	**02 45 58.0**	**+1.0**
PB07	**IPOC Station P**	**3.38**	**314**	⇑*i*P		**Pn**	**02 45 59.4**	**+0.7**
PB07				*i* S		**S**	**02 46 40.0**	**-0.7**
PB07	**IPOC Station P**	**3.38**	**314**			**Pn**	**02 45 59.5**	**+0.7**
AC01	**Pan de Azucar**	**3.65**	**235**			**Pn**	**02 46 01.8**	**0.0**
PB01	**IPOC Station P**	**3.67**	**326**	*e*P		**Pn**	**02 46 02.4**	**+0.2**
PB01				*i* S		**S**	**02 46 45.9**	**-1.1**
PB01	**IPOC Station P**	**3.67**	**326**			**Pn**	**02 46 01.9**	**-0.3**
PB02	**IPOC Station P**	**3.68**	**318**	⇑*i*P		**Pn**	**02 46 02.6**	**+0.2**
PB02				*i* S		**S**	**02 46 45.1**	**-2.1**
PATCX	**Punta Patache**	**4.21**	**320**	*e*P		**Pn**	**02 46 09.8**	**+0.9**
PATCX				*i* S		**S**	**02 46 56.9**	**-2.3**
PATCX	**Punta Patache**	**4.21**	**320**	Pn		**Pn**	**02 46 09.0**	**0.0**
PB08	**IPOC Station P**	**4.31**	**336**	*e*P		**Pn**	**02 46 11.7**	**+1.2**
PB08				*i* S		**S**	**02 47 01.1**	**-0.7**
PB08	**IPOC Station P**	**4.31**	**336**			**Pn**	**02 46 11.7**	**+1.2**
GO03	**Copiap**	**4.39**	**217**	Pn		**Pn**	**02 46 11.3**	**+0.2**
TA01	**Diego Aracena**	**4.43**	**322**	Pn		**Pn**	**02 46 11.2**	**-0.4**
GO01	**Chusmiza**	**4.76**	**338**			**Pn**	**02 46 17.5**	**+1.3**
PB11	**IPOC Station P**	**4.85**	**332**	Pn		**Pn**	**02 46 16.9**	**-0.2**
PSGCX	**Pisagua**	**5.21**	**329**	Pn		**Pn**	**02 46 22.2**	**+0.7**
AC04	**Llanos de Chal**	**5.33**	**219**	Pn		**Pn**	**02 46 23.0**	**0.0**
MNMC	**Minye Minye**	**5.40**	**336**			**Pn**	**02 46 25.6**	**+1.4**
AC05	**El Transito**	**5.44**	**209**	Pn		**Pn**	**02 46 25.1**	**+0.6**
LCO	**Las Campanas**	**5.78**	**211**	Pn		**Pn**	**02 46 29.1**	**+0.1**
PB16	**IPOC Station P**	**6.10**	**340**			**Pn**	**02 46 33.6**	**+0.1**
PB12	**IPOC Station P**	**6.16**	**332**	Pn		**Pn**	**02 46 32.7**	**-1.0**
GO04	**Tololo Observa**	**6.82**	**207**	Pn		**Pn**	**02 46 41.4**	**-1.0**
CO03	**El Pedregal**	**7.37**	**204**	Pn		**Pn**	**02 46 50.2**	**+0.8**
LPAZ	**La Paz**	**7.81**	**354**	P		**Pn**	**02 46 57.1**	**+1.4**
	comp=N,0.6nm,0.3s,baz=165,slow=4.0,SNR=22							
LPAZ				S		**S**	**02 48 23.5**	**-0.8**
	comp=N,0.1nm,0.3s,baz=335,slow=18,SNR=2.7							
LPAZ	**La Paz**	**7.81**	**354**	Pn		**Pn**	**02 46 54.9**	**-0.9**
CPUP	**Villa Florida**	**9.27**	**106**	P		**P**	**02 47 21.8**	**-1.2**
	comp=N,0.1nm,0.3s,baz=280,slow=13,SNR=4.6							
CPUP	**Villa Florida**	**9.27**	**106**			**Pn**	**02 47 16.9**	**+2.9**
BDFB	**Brasilia**	**19.95**	**69**	P		**P**	**02 49 22.2**	**+1.0**
	comp=N,0.8nm,0.3s,baz=246,slow=12,SNR=15							
MKAR	**Makanchi Array**	**146.75**	**39**	PKPbc		**PKiKP**	**03 04 24.5**	**-0.3**
	comp=N,0.5nm,1.0s,baz=222,slow=1.9,SNR=1.9							

NEIC ***17*** *02:58:17.4±1.3,19.°31S±0.°09×175.°6W±0.°1,h133km±5km, mb4.2/21,Error ellipse: s-maj=17.8km s-min=13.1km az=108.0*
IDC ***17*** *02:58:17.3±3.0,19.°31S×175.°64W,h128km±27km, mb3.9/15,mb1 4.1/17,mb1mx3.9/38,mbtmp4.3/17,Error ellipse: s-maj=19.3km s-min=12.5km az=121.0*
ISC 17 02:58:18.9±0.4,19.°38S±0.°07×175.°50W±0.°07,h150km, n89,σ1º37/86,mb4.1/19,5C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NIUE	**Niue**	**5.28**	**88**	Pn		**Pn**	**02 59 36.7**	**+0.7**
NIUE						**Sn**	**03 00 33.5**	**-2.7**
AFI	**Afiamalu**	**6.51**	**34**	P		**Pn**	**02 59 50.6**	**-1.9**
	1.6nm,0.3s,baz=337,slow=20,SNR=2.2							
AFI				S		Sn	03 00 57.8	-8.0
	11nm,0.3s,baz=25,slow=19,SNR=7.4							
AFI	**Afiamalu**	**6.51**	**34**			**Pn**	**02 59 49.8**	**-2.7**
DZM	**Mont Dzumac**	**17.10**	**258**	P		**Pn**	**03 02 11.8**	**+2.6**
	1.9nm,0.3s,baz=78,slow=19,SNR=22							
DZM	**Mont Dzumac**	**17.10**	**258**	P		**P**	**03 02 06.8**	**-1.7**
KUZ	**Kuaotunu**	**18.94**	**202**	P		**Pn**	**03 02 31.9**	**+1.3**
HAZ	**Te Kaha**	**19.22**	**196**	P		**Pn**	**03 02 33.9**	**-0.1**
PUZ	**Puketiti**	**19.40**	**195**	P		**Pn**	**03 02 38.7**	**+2.6**
RUGZ	**Raukumara Rang**	**19.45**	**196**	P		**Pn**	**03 02 35.7**	**-1.0**
TWGZ	**Tauwhareparae**	**19.57**	**195**	P		**Pn**	**03 02 38.4**	**+0.3**
MWZ	**Matawai**	**19.84**	**196**	P		**Pn**	**03 02 40.3**	**-0.9**
URZ	**Urewera**	**19.88**	**197**	P		**P**	**03 02 38.5**	**0.0**
	2.6nm,0.3s,baz=266,slow=3.3,SNR=18							
URZ				S		**S**	**03 06 05.3**	**-8.7**
	0.4nm,0.3s,baz=203,slow=22,SNR=1.3							
URZ	**Urewera**	**19.88**	**197**	P		**P**	**03 02 38.2**	**-0.3**
URZ	**Urewera**	**19.88**	**197**	P		**P**	**03 02 38.5**	**0.0**
TOZ	**Tahuroa Road**	**19.90**	**201**	P		**Pn**	**03 02 40.6**	**-1.3**
RAGZ	**Rawiri**	**20.02**	**196**	P		**P**	**03 02 40.7**	**+0.6**
MUGZ	**Murupara**	**20.18**	**198**	P		**P**	**03 02 43.3**	**+1.5**
RTZ	**Ruatahuna**	**20.25**	**197**	P		**P**	**03 02 43.7**	**+1.2**
NMHZ	**Naumai**	**20.75**	**197**	P		**P**	**03 02 48.8**	**+0.9**
BKZ	**Black Stump Fm**	**20.90**	**198**	P		**P**	**03 02 49.7**	**+0.2**
OTVZ	**Oturere**	**21.14**	**199**	P		**P**	**03 02 51.9**	**-0.4**
BHHZ	**Black Hill Sta**	**21.32**	**198**	P		**P**	**03 02 53.0**	**-1.0**
RPZ	**Rata Peaks**	**26.76**	**202**	P		**P**	**03 03 44.4**	**-0.2**
	6.7nm,0.8s,baz=326,slow=15,SNR=2.0							
RPZ	**Rata Peaks**	**26.76**	**202**	IAmb		IAmb	03 03 50.7	
	comp=Z,115nm,1.9s							
CTAO	**Charters Tower**	**35.95**	**262**	P		**P**	**03 05 04.9**	**-0.5**
STKA	**Stephens Creek**	**40.39**	**243**	P		**P**	**03 05 42.5**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=103,slow=9.7,SNR=6.9							
STKA	**Stephens Creek**	**40.39**	**243**	IAmb		IAmb	03 06 11.3	
	comp=Z,8.4nm,2.0s							
AS31	**Alice Springs**	**47.07**	**255**	P		**P**	**03 06 34.8**	**-1.1**
AS31				IAmb		IAmb	03 06 37.1	
	comp=Z,2.7nm,0.6s							
ASAR	**Alice Springs**	**47.07**	**255**	P		**P**	**03 06 35.9**	**0.0**
	comp=Z,6.4nm,0.5s,baz=90,slow=8.4,SNR=64							
ASAR				PcP		**PcP**	**03 08 05.5**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=104,slow=3.9,SNR=11							
ASAR	**Alice Springs**	**47.07**	**255**	P		**P**	**03 06 34.9**	**-1.0**
ASAR						**PcP**	**03 08 05.1**	**-0.4**
WB0	**Warramunga Arr**	**47.07**	**261**	P		**P**	**03 06 35.0**	**-0.9**
WB2	**Warramunga Arr**	**47.08**	**260**	P		**P**	**03 06 34.9**	**-1.1**
WRAB	**Tennant Creek**	**47.08**	**260**	P		**P**	**03 06 35.1**	**-0.9**
WRA	**Warramunga Arr**	**47.09**	**260**	P		**P**	**03 06 35.3**	**-0.8**
	comp=Z,4.3nm,0.5s,baz=98,slow=8.0,SNR=65							
WRA				PcP		**PcP**	**03 08 05.6**	**0.0**
	comp=Z,0.4nm,0.6s,baz=92,slow=3.7,SNR=5.3							
WRA	**Warramunga Arr**	**47.09**	**260**	P		**P**	**03 06 35.4**	**-0.7**
VNDA	**Vanda**	**59.24**	**186**	P		**P**	**03 08 05.9**	**+1.9**
	comp=Z,1.8nm,0.8s,baz=6.8,slow=6.7,SNR=11							
QSPA	**South Pole Qui**	**70.68**	**180**	P		**P**	**03 09 18.7**	**+0.4**
MJAR	**Matsushiro Arr**	**70.74**	**322**	P		**P**	**03 09 18.9**	**0.0**
	comp=Z,3.0nm,0.7s,baz=170,slow=5.7,SNR=14							
MJAR	**Matsushiro Arr**	**70.74**	**322**	IAmb		IAmb	03 09 19.0	
	comp=Z,1.0nm,0.8s							
MAJO	**Matsushiro**	**70.75**	**322**	P		**P**	**03 09 17.1**	**-1.8**
MAJO				IAmb		IAmb	03 09 20.2	
	comp=Z,4.5nm,0.9s							
MAT	**Matsushiro**	**70.75**	**322**	P		**P**	**03 09 18.8**	**-0.1**
PETK	**Petropavlovsk-**	**75.83**	**344**	P		**P**	**03 09 49.0**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=107,slow=7.9,SNR=7.2							
CMB	**Columbia Colle**	**77.06**	**42**	P		**P**	**03 09 55.4**	**-0.2**
KSRS	**Korea Array**	**77.64**	**317**	P		**P**	**03 09 59.3**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=137,slow=6.3,SNR=4.4							
YERR	**Yerington**	**78.35**	**41**	P		**P**	**03 10 03.3**	**+0.4**
YERR				IAmb		IAmb	03 10 04.5	
	comp=Z,9.3nm,1.5s							
NVAR	**Mina Array Bea**	**78.61**	**42**	P		**P**	**03 10 05.9**	**+1.5**
	comp=Z,2.1nm,0.6s,baz=222,slow=8.9,SNR=19							
NVAR	**Mina Array Bea**	**78.61**	**42**	P		**P**	**03 10 05.4**	**+1.0**
MFID	**Camas Ranch**	**83.03**	**39**	P		**P**	**03 10 28.1**	**+0.5**
MAW	**Mawson**	**83.40**	**199**	P		**P**	**03 10 29.5**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=144,slow=5.7,SNR=7.1							
HLID	**Hailey**	**83.96**	**40**	P		**P**	**03 10 32.7**	**+0.2**
HLID				IAmb		IAmb	03 10 34.8	
	comp=Z,2.4nm,0.7s							
SRU	**San Rafael Swe**	**84.06**	**45**	P		**P**	**03 10 33.8**	**+0.7**
TX31	**Lajitas Ar. Si**	**84.48**	**56**	P		**P**	**03 10 36.0**	**+0.7**
TXAR	**Lajitas Array**	**84.48**	**56**	P		**P**	**03 10 37.0**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=230,slow=9.3,SNR=5.9							
H03S2	**Juan Fernandez**	**84.67**	**124**	T		T	04 43 23.3	
	baz=248,slow=75,SNR=70							
H03S1	**Juan Fernandez**	**84.69**	**124**	T		T	04 43 24.4	
	baz=248,slow=75,SNR=68							
H03S3	**Juan Fernandez**	**84.69**	**124**	T		T	04 43 23.1	
	baz=248,slow=75,SNR=76							
H03N2	**Juan Fernandez**	**84.80**	**123**	T		T	04 43 47.3	
	baz=255							
H03N3	**Juan Fernandez**	**84.80**	**123**	T		T	04 43 46.8	
	baz=255							
H03N1	**Juan Fernandez**	**84.82**	**123**	T		T	04 43 49.6	
	baz=255							
SEY	**Seymchan**	**85.84**	**346**	P		**P**	**03 10 41.3**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=147,slow=5.6,SNR=6.2							
PDAR	**Pinedale Array**	**86.55**	**42**	P		**P**	**03 10 46.1**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=182,slow=5.6,SNR=4.8							
ILAR	**Eielson Array**	**86.72**	**12**	P		**P**	**03 10 45.1**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=228,slow=5.6,SNR=6.4							
SNAA	**Sanae**	**89.04**	**178**	P		**P**	**03 10 56.4**	**-0.2**
VNA3	**Neumayer Olymp**	**89.08**	**175**	P		**P**	**03 10 56.8**	**0.0**
VNA2	**Neumayer--Watz**	**89.55**	**176**	P		**P**	**03 10 59.5**	**+0.5**
	baz=196,slow=3.4							
VNA1	**Neumayer--Stat**	**89.77**	**176**	P		**P**	**03 11 00.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**91.97**	**289**	P		**P**	**03 11 12.4**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=115,slow=3.2,SNR=6.6							
ARCES	**ARCESS Array B**	**128.22**	**351**	PKP		**PKPdf**	**03 17 07.2**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=39,slow=0.6,SNR=4.2							
CLL	**Collm**	**147.44**	**350**	*e*PKPbc		**PKPbc**	**03 17 45.0**	**0.0**
OSTC	**Ostas**	**147.53**	**346**	⇑*e*PKP		**PKPbc**	**03 17 46.2**	**+0.9**
BR131	**Keskin Array S**	**147.77**	**315**	PKPbc		**PKPbc**	**03 17 45.6**	**-0.9**
BRTR	**Keskin Array B**	**147.77**	**315**	PKPbc		**PKPbc**	**03 17 46.5**	**0.0**
	comp=Z,1.5nm,0.8s,baz=143,slow=2.6,SNR=13							
BRTR	**Keskin Array B**	**147.77**	**315**			**PKPbc**	**03 17 45.8**	**-0.6**
KRLC	**Kraliky**	**147.84**	**345**	⇑*e*PKP		**PKPbc**	**03 17 47.0**	**+0.8**
PRU	**Pruhonice**	**148.43**	**348**	⇑*e*PKP		**PKiKP**	**03 17 48.7**	**-0.4**
PBCC	**Pribram**	**148.82**	**348**	⇑*e*PKP		**PKPbc**	**03 17 48.5**	**-0.2**
MDUB	**Mudurnu**	**148.94**	**318**	PKPbc		**PKiKP**	**03 17 50.8**	**+0.1**

KHC	**Kasperske Hory**	**149.43 348**	⇑	*e*PKP		**PKPbc**	**03 17 50.6**	**+0.3**
KHC	**Kasperske Hory**	**149.43 348**		PKPbc		**PKiKP**	**03 17 51.2**	**-0.2**
GERES	**GERESS Array B**	**149.68 348**		PKPbc		**PKPbc**	**03 17 50.8**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=28,slow=3.2,SNR=9.3							
GERES	**GERESS Array B**	**149.68 348**				**PKPbc**	**03 17 51.0**	**0.0**
CONA	**Conrad Observa**	**150.06 345**		*e*PKiKP		**PKPbc**	**03 17 52.4**	**+0.5**
	comp=Z,4.1nm,1.0s							
MOA	**Molln**	**150.51 347**		*e*PKPbc		**PKPbc**	**03 17 52.5**	**-0.4**
	comp=Z,2.1nm,0.8s							
WATA	**Walderalm**	**151.52 350**		*e*PKPbc		**PKPbc**	**03 17 55.2**	**-0.3**
	comp=Z,1.8nm,0.7s							
WTTA	**Wattenberg**	**151.58 350**		*e*PKiKP		**PKPbc**	**03 17 55.6**	**0.0**
	comp=Z,5.9nm,0.7s							
SQTA	**Sankt Quirin**	**151.69 350**		*e*PKiKP		**PKPbc**	**03 17 55.8**	**+0.1**
	comp=Z,3.4nm,0.8s							
DAVA	**Damuels**	**151.82 352**		*e*PKiKP		**PKiKP**	**03 17 56.7**	**+0.2**
	comp=Z,4.2nm,1.0s							
ABTA	**Abfaltersbach**	**151.92 348**		*e*PKPbc		**PKPbc**	**03 17 55.7**	**-0.6**
	comp=Z,4.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**173.24 156**		PKP		**PKPdf**	**03 18 09.9**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=347,slow=1.7,SNR=3.3							
TORD				PKPab		**PKPab**	**03 19 41.3**	**+1.7**
	comp=Z,0.8nm,0.9s,baz=187,slow=4.0,SNR=3.6							

DRS ***17*** *03:22:35.8±0.0, 42.29N×46.29E, h14km*
MOS ***17*** *03:22:36.2±0.0, 42.58N×46.45E, h47km, MPVA3.3*
ISC 17 03:22:39.0±1.3, 42.58N±0.05×46.46E±0.05, h41km±10km, n10,σ1§51/17, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XNZR	**Khunzakh**	**0.18**	**101**	*e*Pg	**Pn**	**03 22 45.9**	**-0.6**
XNZR				*i* Sg	**Sn**	**03 22 52.8**	**+1.0**
BTLR	**Botlikh**	**0.20**	**296**	*i* Pg	Pn	03 22 45.3	-1.2
BTLR				*i* Sg	**Sn**	**03 22 52.5**	**+0.7**
GNBR	**Gunib**	**0.42**	**117**	*e*Pg	**Pn**	**03 22 47.5**	**-1.3**
GNBR				*i* Sg	**Sn**	**03 22 56.5**	**+0.8**
DBC	**Dubki**	**0.52**	**32**	*e*Pg	Pn	03 22 49.0	-1.2
DBC				*e*Sg	**Sn**	**03 22 59.0**	**+1.0**
LGD	**Lagodekhi**	**0.76**	**192**	P	Pn	03 22 50.7	-2.6
LGD				S	**Sn**	**03 23 02.5**	**-1.1**
GROC	**Groznyy**	**0.79**	**322**	*e*Pg	**Pn**	**03 22 52.4**	**-1.3**
GROC				*i* Sg	**Sn**	**03 23 05.8**	**+1.4**
DDFL	**Dedoflistskaro**	**1.16**	**193**	P	**Pn**	**03 22 57.7**	**-1.2**
DDFL				S	**Sn**	**03 23 17.1**	**+3.6**
AKT	**Akhty**	**1.45**	**139**	*e*Pg	**Pn**	**03 23 01.8**	**-1.0**
AKT				*e*Sg	**Sn**	**03 23 21.7**	**+1.0**
DRN	**Derbent**	**1.49**	**111**	*e*Pg	**Pn**	**03 23 02.6**	**-0.7**
DRN				*e*Sg	**Sn**	**03 23 22.8**	**+1.3**
BTKR	**Batakoyurt**	**1.62**	**300**	*e*Pg	**Pn**	**03 23 04.6**	**-0.5**
BTKR				*i* Sg	**Sn**	**03 23 25.5**	**+0.8**

IDC 17 04:09:21.9±4.1, 15.05S×172.70W, h176km±44km, mb3.5/3, mb1 3.6/3, mb1mx3.1/40, mbtmp3.9/3, Error ellipse: s-maj=230.2km s-min=50.0km az=126.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.45**	**38**	P	Pn	04 09 53.3	+0.2
	28nm,0.3s,baz=214,slow=3.0,SNR=28						
AFI				S	Sn	04 10 17.2	0.0
	54nm,0.3s,baz=106,slow=20,SNR=14						
H11S2	**WAKE ISLAND Hy**	**39.02**	**328**	T	T	04 57 48.6	
	baz=149,slow=76,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**39.03**	**328**	T	T	04 57 49.5	
	baz=149,slow=76,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**39.04**	**328**	T	T	04 57 49.9	
	baz=149,slow=76,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**39.95**	**329**	T	T	04 59 03.4	
	baz=150,slow=76,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**39.96**	**329**	T	T	04 59 00.3	
	baz=150,slow=76,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**39.97**	**329**	T	T	04 59 02.7	
	baz=150,slow=76,SNR=5.1						
WRA	**Warramunga Arr**	**50.58**	**256**	P	P	04 18 03.1	+0.1
	0.6nm,0.9s,baz=95,slow=6.9,SNR=5.1						
ASAR	**Alice Springs**	**50.86**	**252**	P	P	04 18 04.8	-0.3
	1.8nm,0.6s,baz=87,slow=7.9,SNR=34						
SONM	**Songino Array**	**95.04**	**318**	P	P	04 22 24.6	-0.1
	0.2nm,0.4s,baz=98,slow=4.4,SNR=1.6						

IDC 17 04:13:31.2±3.1, 61.37S×155.33E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/37, mbtmp3.8/5, MS3.6/8, Ms1 3.6/8, ms1mx3.4/15, Error ellipse: s-maj=197.7km s-min=27.7km az=75.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**16.37**	**175**	Pn	Pn	04 17 17.3	-4.6
	0.6nm,0.3s,baz=350,slow=14,SNR=34						
VNDA				LR	LR	04 23 03.1	
	comp=Z,283nm,19.4s,baz=356,slow=35						
RPZ	**Rata Peaks**	**20.00**	**35**	LR	LR	04 24 35.0	
	comp=Z,309nm,20.1s,baz=178,slow=33						
URZ	**Urewera**	**26.81**	**40**	LR	LR	04 28 13.5	
	comp=Z,130nm,18.3s,baz=204,slow=33						
QSPA	**South Pole Qui**	**28.73**	**180**	P	P	04 19 29.6	-0.3
	0.7nm,0.8s,baz=5.9,slow=4.0,SNR=1.8						
STKA	**Stephens Creek**	**30.84**	**337**	P	P	04 19 48.6	0.0
	1.1nm,0.8s,baz=163,slow=18,SNR=2.5						
MAW	**Mawson**	**36.73**	**220**	LR	LR	04 35 41.8	
	comp=Z,197nm,18.4s,baz=68,slow=36						
H01W1	**Cape Leeuwin H**	**37.15**	**296**	T	T	04 59 49.6	
	baz=148,slow=75,SNR=150						
H01W2	**Cape Leeuwin H**	**37.15**	**296**	T	T	04 59 50.0	
	baz=148,slow=75,SNR=130						
H01W3	**Cape Leeuwin H**	**37.16**	**296**	T	T	04 59 50.9	
	baz=148,slow=75,SNR=123						
ASAR	**Alice Springs**	**40.45**	**329**	P	P	04 21 11.1	-0.2
	1.4nm,1.0s,baz=156,slow=8.3,SNR=6.6						
ASAR				LR	LR	04 35 43.3	
	comp=Z,50nm,19.2s,baz=154,slow=33						
WRA	**Warramunga Arr**	**43.93**	**331**	P	P	04 21 38.8	-0.8
	0.7nm,0.5s,baz=163,slow=7.2,SNR=7.1						
WRA				PcP	PcP	04 23 26.4	+0.9
	0.2nm,0.5s,baz=165,slow=2.9,SNR=1.3						
FITZ	**Fitzroy Crossi**	**48.04**	**321**	P	P	04 22 12.0	0.0
	2.3nm,0.8s,baz=157,slow=13,SNR=1.8						
PPT	**Papeete**	**58.27**	**67**	LR	LR	04 45 18.6	
	comp=Z,23nm,18.4s,baz=212,slow=33						
H03S2	**Juan Fernandez**	**75.43**	**136**	T	T	05 48 54.0	
	baz=202,slow=74,SNR=34						
H03S1	**Juan Fernandez**	**75.43**	**136**	T	T	05 49 04.3	
	baz=202,slow=74,SNR=36						
H03S3	**Juan Fernandez**	**75.45**	**136**	T	T	05 49 02.6	
	baz=202,slow=74,SNR=36						
H08S2	**Diego Garcia H**	**79.90**	**273**	T	T	05 53 23.6	
	baz=151,slow=76,SNR=25						
H08S1	**Diego Garcia H**	**79.91**	**273**	T	T	05 53 24.5	
	baz=151,slow=76,SNR=24						
H08S3	**Diego Garcia H**	**79.92**	**273**	T	T	05 53 25.2	
	baz=151,slow=76,SNR=24						
CMAR	**Chiang Mai Arr**	**91.30**	**308**	LR	LR	05 09 43.3	
	comp=Z,20nm,18.1s,baz=198,slow=37						
MJAR	**Matsushiro Arr**	**98.56**	**346**	LR	LR	05 10 51.9	
	comp=Z,11nm,18.4s,baz=195,slow=35						
H02S1	**DAWSON INLET T**	**127.69**	**46**	T	T	06 51 45.4	
	SNR=49						
H02N1	**VAN INLET T-PH**	**127.71**	**46**	T	T	06 51 45.6	
	SNR=19						

IDC 17 04:16:41.4±6.2, 17.21S×177.34W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.7/44, mbtmp4.0/3, Error ellipse: s-maj=289.4km s-min=46.2km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.76**	**259**	P	P	04 25 04.7	-0.4
	0.3nm,0.2s,baz=95,slow=7.8,SNR=12						
ASAR	**Alice Springs**	**45.96**	**254**	P	P	04 25 07.0	+0.4
	3.5nm,0.5s,baz=88,slow=8.1,SNR=52						
FITZ	**Fitzroy Crossi**	**54.15**	**260**	P	P	04 26 08.2	-0.6
	1.7nm,0.9s,baz=90,slow=7.1,SNR=1.2						
BRTR	**Keskin Array B**	**145.00**	**316**	PKPbc	PKPbc	04 36 18.7	-1.8
	0.3nm,0.5s,baz=63,slow=4.0,SNR=2.3						
GERES	**GERESS Array B**	**147.19**	**346**	PKPbc	PKPbc	04 36 26.9	+0.1
	0.3nm,0.5s,baz=8.5,slow=2.0,SNR=2.5						

VAO ***17*** *04:19:53.5±3.8, 21.15S×69.82W, h66km±19km, mb4.3*

GUC ***17*** *04:20:05.7±0.6, 20.86S×68.97W, h112km±3km, ML3.8*
IDC ***17*** *04:20:07.5±1.0, 20.91S×68.62W, h111km±12km, mb3.8/3, mb1 3.7/6, mb1mx3.4/29, mbtmp4.1/6, Error ellipse: s-maj=34.1km s-min=10.1km az=98.0*
ISC 17 04:20:05.3±0.7, 20.86S±0.03×69.01W±0.07, h112km±7km, n41,σ1§11/60, 10C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.48**	**247**	⇑ *i*P	**Pn**	**04 20 22.2**	**-0.1**
PB01				*i* S	**Sn**	**04 20 35.1**	**0.0**
PB01				IAML		04 20 36.4	
	comp=E,4μm,0.2s						
PB08	**IPOC Station P**	**0.73**	**349**	⇑ *i*P	**Pn**	**04 20 25.0**	**+0.5**
PB08				*i* S	**Sn**	**04 20 39.3**	**+0.4**
PB08				IAML		04 20 40.1	
	comp=N,2μm,0.3s						
PB02	**IPOC Station P**	**0.95**	**241**	⇑ *i*P	**Pn**	**04 20 26.7**	**+0.5**
PB02				*i* S	**Sn**	**04 20 42.9**	**+0.9**
PB09	**IPOC Station P**	**0.96**	**193**	⇑ *i*P	**Pn**	**04 20 27.1**	**+0.6**
PB09				*i* S	**Sn**	**04 20 43.0**	**+0.6**
PATCX	**Punta Patache**	**1.07**	**272**	⇑ *i*P	**Pn**	**04 20 28.0**	**+0.5**
PATCX				*i* S	**Sn**	**04 20 44.9**	**+0.7**
TA01	**Diego Aracena**	**1.13**	**285**	⇑ *i*P	**Pn**	**04 20 28.3**	**+0.3**
TA01				*i* S	**Sn**	**04 20 45.7**	**+0.5**
TA01				IAML		04 20 47.4	
	comp=E,1μm,0.3s						
PB07	**IPOC Station P**	**1.19**	**223**	⇑ *i*P	**Pn**	**04 20 29.2**	**+0.4**
PB07				*i* S	**Sn**	**04 20 47.5**	**+0.8**
PB07				IAML		04 20 49.2	
	comp=E,4μm,0.2s						
GO01	**Chusmiza**	**1.20**	**352**	⇓ *i*P	**Pn**	**04 20 29.7**	**+0.5**
GO01				*e*S	**Sn**	**04 20 48.2**	**+0.9**
TA02	**Huaiquique**	**1.20**	**299**	⇑ *i*P	**Pn**	**04 20 29.4**	**+0.6**
TA02				*i* S	**Sn**	**04 20 47.0**	**+0.4**
PB11	**IPOC Station P**	**1.25**	**331**	⇓ *i*P	**Pn**	**04 20 29.9**	**+0.4**
PB11				*i* S	**Sn**	**04 20 48.5**	**+0.7**
PB03	**IPOC Station P**	**1.37**	**210**	⇑ *i*P	**Pn**	**04 20 31.2**	**+0.3**
PB03				*i* S	**Sn**	**04 20 50.6**	**+0.3**
PB03				IAML		04 20 53.0	
	comp=N,2μm,0.4s						
PSGC	**Pisagua**	**1.63**	**320**	⇓ *i*P	**Pn**	**04 20 34.2**	**+0.2**
PSGC				*i* S	**Sn**	**04 20 55.8**	**+0.1**
LVC	**Limon Verde**	**1.75**	**177**	P	**Pn**	**04 20 36.5**	**+0.9**
	comp=N,21nm,0.3s,baz=0.7,slow=9.5,SNR=171						
LVC				S	**Sn**	**04 20 60.0**	**+1.4**
	comp=N,187nm,0.3s,baz=110,slow=23,SNR=55						
MNMC	**Minye Minye**	**1.80**	**342**	⇓ *i*P	**Pn**	**04 20 37.1**	**+0.9**
MNMC				*e*S	**Sn**	**04 21 01.1**	**+1.4**
PB04	**IPOC Station P**	**1.81**	**216**	*e*P	**Pn**	**04 20 36.7**	**+0.6**
PB04				IAML		04 21 07.3	
	comp=N,1μm,0.2s						
PB06	**IPOC Station P**	**1.91**	**196**	⇓ *i*P	**Pn**	**04 20 38.0**	**+0.6**
PB06				*e*S	**Sn**	**04 21 02.0**	**+0.1**
PB06				IAML		04 21 05.3	
	comp=E,1μm,0.3s						
PB05	**IPOC Station P**	**2.27**	**209**	*e*P	**Pn**	**04 20 42.1**	**+0.2**
PB15	**IPOC Station P**	**2.38**	**190**	⇑ *i*P	**Pn**	**04 20 44.5**	**+1.1**
PB15				*i* S	**Sn**	**04 21 13.4**	**+0.8**
PB16	**IPOC Station P**	**2.55**	**349**	⇓ *i*P	**Pn**	**04 20 47.4**	**+1.3**
PB16				*i* S	**Sn**	**04 21 19.5**	**+2.3**
PB12	**IPOC Station P**	**2.55**	**331**	⇓ *i*P	**Pn**	**04 20 45.3**	**-0.3**
PB12				*i* S	**Sn**	**04 21 14.8**	**-1.8**
LPAZ	**La Paz**	**4.62**	**11**	P	**Pn**	**04 21 16.4**	**+2.7**
	comp=E,3.9nm,0.3s,baz=197,slow=7.2,SNR=55						
LPAZ				S	**Sn**	**04 22 09.6**	**+3.0**
	comp=E,0.5nm,0.3s,baz=208,slow=7.4,SNR=3.8						
SIV	**San Ignacio**	**8.95**	**59**	P	**Pn**	**04 22 08.7**	**-3.1**
	comp=E,2.3nm,0.3s,baz=257,slow=11,SNR=56						
VILB	**Vilhena**	**11.52**	**48**	*e*P	**Pn**	**04 22 46.0**	**-0.5**
CPUP	**Villa Florida**	**12.01**	**119**	P	**Pn**	**04 22 52.1**	**-0.7**
	comp=E,0.1nm,0.3s,baz=294,slow=10.0,SNR=2.3						
CLDB	**Colider**	**16.12**	**54**	*e*P	**Pn**	**04 23 45.2**	**-0.3**
ARAG	**Araguaiana, MT**	**17.11**	**75**	*e*P	**P**	**04 23 59.2**	**+1.5**
NPGB	**Novo Progresso**	**19.06**	**46**	*e*P	**P**	**04 24 17.3**	**-1.7**
MACA	**Manacapuru-AM**	**19.37**	**26**	*e*P	**P**	**04 24 21.6**	**-0.8**
IPMB	**Ipameri, GO**	**19.82**	**85**	*e*P	**P**	**04 24 26.9**	**-0.4**
VAO	**Valinhos**	**20.56**	**100**	*e*P	**P**	**04 24 33.7**	**-1.5**
BDFB	**Brasilia**	**20.60**	**79**	P	**P**	**04 24 35.0**	**-0.8**
	comp=E,1.8nm,0.3s,baz=287,slow=12,SNR=5.0						
PEXB	**Peixe**	**21.66**	**70**	*e*P	**P**	**04 24 47.9**	**+0.8**
MALB	**Monte Alegre**	**23.74**	**39**	*e*P	**P**	**04 25 06.1**	**-1.3**
SMTB	**Santa Maria do**	**23.86**	**63**	*e*P	**P**	**04 25 08.9**	**+0.4**
JANB	**Januaria**	**24.18**	**80**	*e*P	**P**	**04 25 10.9**	**-0.6**
SDBA	**SAO DESIDERIO**	**24.55**	**74**	*e*P	**P**	**04 25 14.8**	**-0.1**
MCPB	**Macapa, AP**	**26.26**	**41**	*e*P	**P**	**04 25 28.7**	**-1.5**
NAN01	**Guarapari, ES**	**27.40**	**89**	*e*P	**P**	**04 25 40.4**	**-0.1**
DBIC	**Dimbokro**	**68.64**	**74**	P	**P**	**04 30 57.1**	**+0.1**
	comp=E,8.4nm,1.1s,baz=217,slow=5.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**77.23**	**71**	P	**P**	**04 31 47.8**	**+0.2**
	comp=E,0.7nm,0.5s,baz=255,slow=5.4,SNR=14						
MKAR	**Makanchi Array**	**145.17**	**35**	PKPbc	**PKPdf**	**04 39 31.3**	**+1.6**
	comp=E,0.7nm,0.7s,baz=309,slow=3.9,SNR=6.3						

KRNET 17 05:42:39.0±0.1, 39.37N×74.98E, mb2.6, 10C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**2.04**	**305**	⇑ *i*P	Pn	05 43 07.5	-7.2
	baz=30						
OHH				⇑ *i*S	Sn	05 43 23.5	-17
	baz=30						
ARSB	**Arslanbob**	**2.48**	**323**	⇑ *e*P	Pn	05 43 19.4	-1.3
	baz=47						
ARSB				⇑ *i*S	Sn	05 43 44.5	-7.2
	baz=47						
ARLS	**Aral**	**2.54**	**349**	⇑ *i*P	Pg	05 43 27.2	-0.4
	baz=14						
ARLS				⇑ *i*S	Sb	05 43 58.1	+0.8
	baz=14						
KZA	**Kyzart**	**2.71**	**4**	⇑ *i*P	Pn	05 43 22.8	-1.4
	baz=4.0						
KZA				⇑ *i*S	Sn	05 43 55.1	-2.8
	baz=4.0						
UCH	**Uchtor**	**2.88**	**353**	⇓ *i*P	Pn	05 43 25.1	-1.4
	baz=53						
UCH				⇓ *i*S	Sn	05 43 59.0	-3.0
	baz=53						
AML	**Almayashu**	**2.92**	**341**	⇓ *i*P	Pn	05 43 26.1	-1.0
	baz=41						
AML				⇓ *i*S	Sn	05 44 00.0	-3.2
	baz=41						
BTK	**Batken**	**3.28**	**283**	⇑ *i*P	Pn	05 43 23.8	-7.9
	baz=86						
BTK				⇑ *i*S	Sn	05 43 51.8	-20
	baz=86						

NEIC ***17*** *05:43:37.1±2.0, 20.06S±0.04×69.33W±0.05, h110km±5km, Error ellipse: s-maj=6.4km s-min=5.1km az=78.0*
GUC ***17*** *05:43:37.7±0.6, 20.07S×69.25W, h105km±2km, ML4.2*
VAO ***17*** *05:43:39.4±0.7, 20.13S×69.06W, h120km±6km, mb4.1*
IDC ***17*** *05:43:42.1±2.6, 19.88S×69.06W, h146km±31km, mb3.7/3, mb1 3.6/4, mb1mx3.3/21, mbtmp4.1/4, Error ellipse: s-maj=63.2km s-min=24.7km az=113.0*
ISC 17 05:43:36.9±0.6, 20.08S±0.03×69.25W±0.05, h102km±5km, n80,σ1§41/107, 7C-8D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.10**	**123**	⇓ *i*P	**Pn**	**05 43 52.5**	**+0.9**
PB08				*i* S	**Sn**	**05 44 03.4**	**+0.8**
PB08				IAML		05 44 04.0	
	comp=N,13μm,0.2s						
PB08	**IPOC Station P**	**0.10**	**123**		**Pn**	**05 43 51.6**	**-0.1**
PB08				Sn	**Sn**	**05 44 03.3**	**+0.6**
GO01	**Chusmiza**	**0.42**	**7**	⇓ *i*P	**Pn**	**05 43 53.6**	**+0.6**
GO01				*i* S	**Sn**	**05 44 05.5**	**+0.6**
GO01	**Chusmiza**	**0.42**	**7**		**Pn**	**05 43 53.3**	**+0.3**
GO01				Sn	**Sn**	**05 44 05.2**	**+0.2**
PB11	**IPOC Station P**	**0.50**	**310**	⇓ *i*P	**Pn**	**05 43 53.7**	**+0.6**
PB11				*i* S	**Sn**	**05 44 05.8**	**+0.5**
PB11	**IPOC Station P**	**0.50**	**310**		**Pn**	**05 43 53.0**	**-0.2**
PB11				Sn	**Sn**	**05 44 06.0**	**+0.7**
TA02	**Huaiquique**	**0.85**	**257**	⇑ *i*P	**Pn**	**05 43 56.6**	**+0.7**
TA02				*i* S	**Sn**	**05 44 11.0**	**+0.7**
TA02				IAML		05 44 12.9	
	comp=N,27μm,0.1s						
PSGC	**Pisagua**	**0.96**	**300**	⇑ *i*P	**Pn**	**05 43 57.6**	**+0.4**
PSGC				*i* S	**Sn**	**05 44 12.7**	**+0.3**
PSGCX	**Pisagua**	**0.96**	**300**		**Pn**	**05 43 57.6**	**+0.4**
PSGCX				Sn	**Sn**	**05 44 12.9**	**+0.5**
PB01	**IPOC Station P**	**0.98**	**193**	⇑ *i*P	**Pn**	**05 43 58.4**	**+1.0**
PB01				*i* S	**Sn**	**05 44 14.1**	**+1.2**
PB01				IAML		05 44 14.9	
	comp=N,12μm,0.3s						
PB01	**IPOC Station P**	**0.98**	**193**		**Pn**	**05 43 58.0**	**+0.5**
PB01				Sn	**Sn**	**05 44 14.5**	**+1.6**
TA01	**Diego Aracena**	**1.00**	**241**	⇑ *i*P	**Pn**	**05 43 58.0**	**+0.5**
TA01				*i* S	**Sn**	**05 44 13.4**	**+0.4**
TA01	**Diego Aracena**	**1.00**	**241**	Pn	**Pn**	**05 43 58.0**	**+0.5**
TA01				Sn	**Sn**	**05 44 14.0**	**+1.0**
MNMC	**Minye Minye**	**1.00**	**341**	⇓ *i*P	**Pn**	**05 43 58.9**	**+1.0**
MNMC				*i* S	**Sn**	**05 44 14.5**	**+0.9**
MNMC	**Minye Minye**	**1.00**	**341**		**Pn**	**05 43 58.4**	**+0.5**
MNMC				Sn	**Sn**	**05 44 15.4**	**+1.8**
PATCX	**Punta Patache**	**1.12**	**229**	⇑ *i*P	**Pn**	**05 43 59.5**	**+0.5**
PATCX				*i* S	**Sn**	**05 44 16.4**	**+0.9**
PATCX	**Punta Patache**	**1.12**	**229**		**Pn**	**05 43 59.5**	**+0.5**
PATCX				Sn	**Sn**	**05 44 16.6**	**+1.0**
PB02	**IPOC Station P**	**1.37**	**206**	⇑ *i*P	**Pn**	**05 44 02.8**	**+0.9**
PB02				*i* S	**Sn**	**05 44 21.8**	**+1.0**
PB09	**IPOC Station P**	**1.70**	**180**	⇓ *i*P	**Pn**	**05 44 07.4**	**+1.4**
PB09				*i* S	**Sn**	**05 44 30.6**	**+2.5**
PB09				IAML		05 44 32.4	
	comp=E,1μm,0.4s						
PB09	**IPOC Station P**	**1.70**	**180**		**Pn**	**05 44 07.5**	**+1.4**
PB09				Sn	**Sn**	**05 44 30.7**	**+2.6**
PB07	**IPOC Station P**	**1.74**	**200**	*e*P	**Pn**	**05 44 07.5**	**+1.0**
PB07				*i* S	**Sn**	**05 44 30.1**	**+1.1**
PB07				IAML		05 44 33.0	
	comp=E,3μm,0.2s						
PB07	**IPOC Station P**	**1.74**	**200**		**Pn**	**05 44 07.5**	**+1.0**
PB07				Sn	**Sn**	**05 44 28.6**	**-0.3**
PB16	**IPOC Station P**	**1.76**	**352**	⇓ *i*P	**Pn**	**05 44 08.6**	**+1.5**
PB16				*i* S	**Sn**	**05 44 31.6**	**+1.7**
PB16	**IPOC Station P**	**1.76**	**352**		**Pn**	**05 44 08.6**	**+1.5**
PB16				Sn	**Sn**	**05 44 31.6**	**+1.7**
PB12	**IPOC Station P**	**1.78**	**325**	⇓ *i*P	**Pn**	**05 44 07.3**	**+0.3**
PB12				*i* S	**Sn**	**05 44 29.5**	**-0.3**
PB12	**IPOC Station P**	**1.78**	**325**		**Pn**	**05 44 07.1**	**+0.1**
PB12				Sn	**Sn**	**05 44 29.3**	**-0.4**
AP01	**Chacalluta**	**1.99**	**329**	⇓ *i*P	**Pn**	**05 44 10.1**	**+0.6**
AP01				*i* S	**Sn**	**05 44 35.0**	**+0.6**
AP01	**Chacalluta**	**1.99**	**329**		**Pn**	**05 44 10.0**	**+0.5**
AP01				Sn	**Sn**	**05 44 34.0**	**-0.4**
PB03	**IPOC Station P**	**2.01**	**194**	⇑ *i*P	**Pn**	**05 44 10.7**	**+0.8**
PB03				*i* S	**Sn**	**05 44 35.2**	**+0.1**
PB04	**IPOC Station P**	**2.39**	**200**	*e*P	**Pn**	**05 44 16.2**	**+1.3**
PB04	**IPOC Station P**	**2.39**	**200**		**Pn**	**05 44 16.0**	**+1.1**
LVC	**Limon Verde**	**2.53**	**173**	Pn	**Pn**	**05 44 18.6**	**+1.7**
LVC	**Limon Verde**	**2.53**	**173**	*e*P	**Pn**	**05 44 18.6**	**+1.7**
PB06	**IPOC Station P**	**2.63**	**187**	*e*P	**Pn**	**05 44 18.5**	**+0.5**
PB06				IAML		05 44 49.3	
	comp=E,780nm,0.4s						
PB06	**IPOC Station P**	**2.63**	**187**		**Pn**	**05 44 19.1**	**+1.1**
PB15	**IPOC Station P**	**3.12**	**184**		**Pn**	**05 44 25.7**	**+1.2**
PB10	**IPOC Station P**	**3.62**	**199**	Pn	**Pn**	**05 44 31.2**	**+0.2**
LPAZ	**La Paz**	**3.92**	**16**	P	**Pn**	**05 44 38.6**	**+3.0**
	comp=E,2.1nm,0.3s,baz=187,slow=7.8,SNR=68						
LPAZ	**La Paz**	**3.92**	**16**		**Pn**	**05 44 38.9**	**+3.1**
LPAZ	**La Paz**	**3.92**	**16**	*e*P	**Pn**	**05 44 38.8**	**+3.1**
PB14	**IPOC Station P**	**4.65**	**193**	Pn	**Pn**	**05 44 45.2**	**0.0**
GO02	**Mina Guanaco**	**5.07**	**184**	Pn	**Pn**	**05 44 51.0**	**+0.2**
AC01	**Pan de Azucar**	**6.16**	**191**	Pn	**Pn**	**05 45 03.8**	**-1.6**
AC02	**Maricunga**	**6.72**	**179**	Pn	**Pn**	**05 45 13.4**	**-0.1**
AC04	**Llanos de Chal**	**8.26**	**191**	Pn	**Pn**	**05 45 29.8**	**-4.0**
AC05	**El Transito**	**8.77**	**186**	Pn	**Pn**	**05 45 38.4**	**-2.6**
LCO	**Las Campanas**	**8.99**	**188**	Pn	**Pn**	**05 45 40.5**	**-3.5**
CO01	**Juntas del Tor**	**9.88**	**184**	Pn	**Pn**	**05 45 54.2**	**-2.0**
PTLB

DZM	**Mont Dzumac**	**19.04**	**146**	P	**P**	**06 06 43.0**	**-0.3**
DZM				IAmb	IAmb	06 06 49.3	
	comp=Z,36nm,1.3s						
EIDS	**Eidsvold**	**19.25**	**191**	P	**Pn**	**06 06 46.5**	**-0.6**
GUMO	**Guam**	**22.32**	**333**	LR	LR	06 15 44.8	
	comp=Z,31nm,19.7s,baz=160,slow=36						
WR0	**Warramunga Arr**	**24.10**	**234**	P	**P**	**06 07 36.8**	**+0.7**
ARMA	**Armidale**	**24.11**	**187**	P	**P**	**06 07 35.1**	**-1.2**
ARMA				IAmb	IAmb	06 07 48.1	
	comp=Z,31nm,1.4s						
WB0	**Warramunga Arr**	**24.12**	**235**	P	**P**	**06 07 36.9**	**+0.7**
WB0				IAmb	IAmb	06 07 38.9	
	comp=Z,35nm,1.5s						
WRAB	**Tennant Creek**	**24.24**	**234**	P	**P**	**06 07 37.9**	**+0.5**
WRAB				IAmb	IAmb	06 07 57.2	
	comp=Z,23nm,1.4s						
WB2	**Warramunga Arr**	**24.24**	**234**	P	**P**	**06 07 37.7**	**+0.3**
WB2				IAmb	IAmb	06 07 57.4	
	comp=Z,30nm,1.4s						
WRA	**Warramunga Arr**	**24.25**	**234**	P	**P**	**06 07 37.8**	**+0.3**
	comp=Z,7.0nm,0.5s,baz=58,slow=9.6,SNR=86						
WRA				PcP	**PcP**	**06 11 16.8**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=58,slow=2.6,SNR=8.2						
WRA				LR	LR	06 16 53.6	
	comp=Z,192nm,20.9s,baz=40,slow=36						
WRA	**Warramunga Arr**	**24.25**	**234**	P	**P**	**06 07 37.0**	**-0.4**
AS31	**Alice Springs**	**26.65**	**228**	P	**P**	**06 07 58.9**	**-0.4**
ASAR	**Alice Springs**	**26.66**	**228**	P	**P**	**06 07 59.0**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=57,slow=9.1,SNR=39						
ASAR				pP	**pP**	**06 08 13.6**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=62,slow=9.1,SNR=6.4						
ASAR				PcP	**PcP**	**06 11 22.5**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=50,slow=2.9,SNR=4.0						
ASAR				LR	LR	06 18 15.8	
	comp=Z,184nm,19.7s,baz=92,slow=36						
ASAR	**Alice Springs**	**26.66**	**228**	P	**P**	**06 07 59.3**	**0.0**
H11S3	**WAKE ISLAND Hy**	**27.25**	**25**	T	T	06 36 21.8	
	baz=205,slow=76,SNR=50						
H11S2	**WAKE ISLAND Hy**	**27.25**	**25**	T	T	06 36 15.3	
	baz=205,slow=76,SNR=56						
H11S1	**WAKE ISLAND Hy**	**27.26**	**25**	T	T	06 36 15.4	
	baz=205,slow=76,SNR=36						
STKA	**Stephens Creek**	**28.32**	**205**	P	**P**	**06 08 14.2**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=29,slow=12,SNR=3.7						
STKA				LR	LR	06 19 22.6	
	comp=Z,257nm,19.1s,baz=30,slow=36						
STKA	**Stephens Creek**	**28.32**	**205**	P	**P**	**06 08 14.5**	**+0.5**
H11N1	**WAKE ISLAND Hy**	**28.42**	**24**	T	T	06 37 58.0	
	baz=191,slow=76						
H11N3	**WAKE ISLAND Hy**	**28.43**	**24**	T	T	06 37 59.5	
	baz=191,slow=76						
H11N2	**WAKE ISLAND Hy**	**28.44**	**24**	T	T	06 38 04.9	
	baz=191						
FITZ	**Fitzroy Crossi**	**31.00**	**245**	P	**P**	**06 08 36.5**	**-1.4**
	comp=Z,5.9nm,1.0s,baz=45,slow=7.6,SNR=8.9						
FITZ				LR	LR	06 21 56.9	
	comp=Z,166nm,18.4s,baz=86,slow=38						
FITZ	**Fitzroy Crossi**	**31.00**	**245**	P	**P**	**06 08 37.2**	**-0.8**
FITZ				IAmb	IAmb	06 08 52.1	
	comp=Z,12nm,1.2s						
BBOO	**Buckleboo**	**31.70**	**212**	P	**P**	**06 08 43.8**	**-0.1**
DAV	**Davao City (W)**	**32.36**	**294**	LR	LR	06 19 39.2	
	comp=Z,46nm,21.2s,baz=342,slow=32						
FORT	**Forrest**	**35.10**	**223**	P	**P**	**06 09 13.4**	**-0.1**
FORT				IAmb	IAmb	06 09 18.0	
	comp=Z,12nm,0.9s						
JCJ	**Chichijima**	**35.58**	**340**	LR	LR	06 21 20.8	
	comp=Z,47nm,18.8s,baz=110,slow=32						
PSAC2	**Pilbara Seismi**	**37.22**	**243**	P	**P**	**06 09 30.9**	**-0.9**
PSAC2				IAmb	IAmb	06 09 42.0	
	comp=Z,21nm,1.4s						
PSAD1	**Pilbara Seismi**	**37.25**	**243**	P	**P**	**06 09 31.0**	**-1.0**
PSAD1				IAmb	IAmb	06 09 33.1	
	comp=Z,20nm,1.1s						
PSAB2	**Pilbara Seismi**	**37.25**	**243**	P	**P**	**06 09 31.2**	**-0.9**
PSAA3	**Pilbara Seismi**	**37.27**	**243**	P	**P**	**06 09 31.8**	**-0.4**
PSAA3				IAmb	IAmb	06 09 34.1	
	comp=Z,19nm,1.3s						
PSA00	**Pilbara Seismi**	**37.27**	**243**	P	**P**	**06 09 32.0**	**-0.2**
PSA00				IAmb	IAmb	06 09 49.7	
	comp=Z,14nm,1.1s						
URZ	**Urewera**	**37.46**	**151**	P	**P**	**06 09 36.1**	**+2.6**
	comp=Z,3.7nm,0.4s,baz=131,slow=10,SNR=1.6						
URZ	**Urewera**	**37.46**	**151**	P	**P**	**06 09 34.0**	**+0.4**
URZ				IAmb	IAmb	06 09 43.2	
	comp=Z,9.8nm,1.0s						
BKZ	**Black Stump Fm**	**37.90**	**153**	P	**P**	**06 09 37.8**	**+0.5**
BKZ				IAmb	IAmb	06 09 53.9	
	comp=Z,20nm,1.2s						
NNZ	**Nelson**	**38.31**	**158**	P	**P**	**06 09 40.9**	**+0.3**
THZ	**Tophouse**	**38.60**	**159**	P	**P**	**06 09 43.1**	**-0.1**
SNZO	**South Karori**	**38.90**	**159**	P	**P**	**06 09 45.8**	**+0.2**
BSWZ	**Blackbirch Sta**	**38.93**	**157**	P	**P**	**06 09 44.3**	**-1.6**
BFZ	**Birch Farm**	**39.02**	**154**	P	**P**	**06 09 44.9**	**-1.7**
LTZ	**Lake Taylor**	**39.28**	**160**	P	**P**	**06 09 47.8**	**-1.1**
PLWZ	**Palliser**	**39.34**	**156**	P	**P**	**06 09 47.6**	**-1.8**
KHZ	**Kahutara**	**39.41**	**158**	P	**P**	**06 09 48.1**	**-1.7**
KHZ				IAmb	IAmb	06 09 58.8	
	comp=Z,13nm,1.1s						
RPZ	**Rata Peaks**	**39.72**	**162**	P	**P**	**06 09 54.3**	**+1.9**
	comp=Z,6.4nm,0.7s,baz=254,slow=22,SNR=2.2						
RPZ	**Rata Peaks**	**39.72**	**162**	P	**P**	**06 09 51.7**	**-0.8**
LBZ	**Lake Benmore**	**40.07**	**163**	P	**P**	**06 09 55.3**	**-0.1**
LBZ				IAmb	IAmb	06 10 01.4	
	comp=Z,31nm,1.4s						
MLZ	**Mavora Lakes**	**40.43**	**166**	P	**P**	**06 09 57.7**	**-0.6**
YULB	**Yu-li**	**44.36**	**313**	P	**P**	**06 10 29.5**	**-1.1**
YULB				IAmb	IAmb	06 10 32.1	
	comp=Z,6.9nm,1.0s						
TATO	**Taipei**	**45.21**	**315**	P	**P**	**06 10 37.5**	**+0.3**
MJAR	**Matsushiro Arr**	**45.56**	**341**	LR	LR	06 28 09.6	
	comp=Z,17nm,21.3s,baz=165,slow=34						
KSRS	**Korea Array**	**50.47**	**332**	P	**P**	**06 11 16.7**	**-1.0**
	comp=Z,1.7nm,0.9s,baz=152,slow=8.9,SNR=6.4						
KSRS				LR	LR	06 33 08.9	
	comp=Z,14nm,18.0s,baz=153,slow=37						
ASAJ	**Asahikawa**	**51.54**	**348**	P	**P**	**06 11 26.7**	**+1.1**
	comp=Z,3.6nm,0.9s,baz=74,slow=18,SNR=2.3						
USRK	**Ussuriysk Ar.**	**54.52**	**340**	P	**P**	**06 11 47.6**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=157,slow=28,SNR=2.5						
PPT2	**Papeete2**	**55.05**	**107**	*e*LR	LR	06 28 03.4	
	comp=Z,52nm,23.0s						
TBI	**Tubuai**	**55.80**	**114**	*e*LR	LR	06 28 25.5	
	comp=Z,192nm,29.5s						
PBKT	**Sadao Pong**	**58.21**	**294**	P	**P**	**06 12 14.0**	**-0.3**
PBKT				IAmb	IAmb	06 12 32.2	
	comp=Z,4.8nm,0.9s						
KLR	**Kul'dur**	**59.04**	**342**	P	**P**	**06 12 19.4**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=180,slow=5.4,SNR=5.1						
LHMI	**Lhok Sumawe**	**59.20**	**280**	P	**P**	**06 12 20.1**	**-1.2**
PETK	**Petropavlovsk-**	**59.32**	**2**	P	**P**	**06 12 22.2**	**+0.8**
	comp=Z,5.3nm,0.8s,baz=144,slow=5.5,SNR=12						
PETK				LR	LR	06 33 48.7	
	comp=Z,38nm,20.8s,baz=239,slow=32						
PETK	**Petropavlovsk-**	**59.32**	**2**	P	**P**	**06 12 21.8**	**+0.4**
CM31	**Chiang Mai Arr**	**60.64**	**295**	P	**P**	**06 12 31.4**	**+0.3**
CM31				IAmb	IAmb	06 12 33.2	
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**60.64**	**295**	P	**P**	**06 12 31.2**	**+0.1**
	comp=Z,7.7nm,0.8s,baz=116,slow=5.0,SNR=42						
CMAR				pP	**pP**	**06 12 47.3**	**-0.3**
	comp=Z,5.6nm,0.8s,baz=117,slow=5.8,SNR=7.6						
CMAR				LR	LR	06 36 09.1	
	comp=Z,16nm,21.9s,baz=202,slow=34						
CMAR	**Chiang Mai Arr**	**60.64**	**295**	P	**P**	**06 12 31.0**	**-0.1**
CHTO	**Chiang Mai**	**60.75**	**296**	P	**P**	**06 12 31.9**	**0.0**
CHTO				IAmb	IAmb	06 12 33.5	
	comp=Z,6.2nm,1.0s						
ADK	**Adak**	**62.87**	**19**	P	**P**	**06 12 44.6**	**-0.8**
HIA	**Hailar**	**63.44**	**335**	P	**P**	**06 12 49.4**	**0.0**
HIA				IAmb	IAmb	06 13 07.7	
	comp=Z,6.7nm,0.4s						
SONM	**Songino Array**	**68.91**	**327**	P	**P**	**06 13 24.3**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=129,slow=5.5,SNR=12						
SONM				pP	**pP**	**06 13 41.4**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=131,slow=5.7,SNR=2.9						
SONM	**Songino Array**	**68.91**	**327**	P	**P**	**06 13 23.8**	**-0.7**
SEY	**Seymchan**	**69.17**	**359**	P	**P**	**06 13 27.1**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=145,slow=4.9,SNR=3.5						
VNDA	**Vanda**	**71.17**	**178**	P	**P**	**06 13 39.1**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=333,slow=5.9,SNR=5.9						
VNDA				pP	**pP**	**06 13 53.9**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=6.0,slow=6.2,SNR=3.4						
VNDA				LR	LR	06 40 19.9	
	comp=Z,37nm,18.7s,baz=297,slow=32						
ILAR	**Eielson Array**	**82.78**	**21**	P	**P**	**06 14 43.2**	**0.0**
	comp=Z,0.4nm,0.6s,baz=219,slow=7.0,SNR=4.2						
ILAR				pP	**pP**	**06 15 00.2**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=251,slow=6.0,SNR=6.3						
ILAR				LR	LR	06 46 16.3	
	comp=Z,78nm,20.8s,baz=268,slow=32						
MK31	**Makanchi Array**	**83.04**	**319**	P	**P**	**06 14 44.0**	**-0.8**
MKAR	**Makanchi Array**	**83.04**	**319**	P	**P**	**06 14 44.2**	**-0.7**
	comp=Z,4.2nm,0.8s,baz=101,slow=5.5,SNR=38						
MKAR				pP	**pP**	**06 15 00.7**	**-1.4**
	comp=Z,2.6nm,0.7s,baz=100,slow=5.7,SNR=9.0						
MKAR				LR	LR	06 53 21.9	
	comp=Z,9.4nm,18.6s,baz=150,slow=37						
MKAR	**Makanchi Array**	**83.04**	**319**	P	**P**	**06 14 44.0**	**-0.8**
MAKZ	**Makanchi**	**83.25**	**319**	P	**P**	**06 14 45.3**	**-0.7**
MAKZ				IAmb	IAmb	06 14 46.7	
	comp=Z,5.3nm,0.8s						
QSPA	**South Pole Qui**	**83.57**	**180**	P	**P**	**06 14 48.0**	**+0.6**
	comp=Z,5.7nm,0.9s,baz=14,slow=6.8,SNR=29						
QSPA				pP	**pP**	**06 15 02.8**	**-1.9**
	comp=Z,3.8nm,0.8s,baz=211,slow=1.5,SNR=4.6						
QSPA				LR	LR	06 45 00.5	
	comp=Z,69nm,19.5s,baz=22,slow=30						
QSPA	**South Pole Qui**	**83.57**	**180**	P	**P**	**06 14 47.3**	**-0.1**
QSPA				IAmb	IAmb	06 14 51.2	
	comp=Z,7.9nm,1.1s						
ZAA0	**Zalesovo Array**	**83.76**	**326**	P	**P**	**06 14 47.2**	**-1.1**
ZALV	**Zalesovo Beam**	**83.76**	**326**	P	**P**	**06 14 47.0**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=104,slow=4.7,SNR=7.9						
ZALV				pP	**pP**	**06 15 03.3**	**-2.4**
	comp=Z,2.5nm,0.7s,baz=125,slow=7.6,SNR=3.1						
ZALV				LR	LR	06 54 19.3	
	comp=Z,12nm,18.3s,baz=332,slow=37						
MAW	**Mawson**	**84.99**	**203**	P	**P**	**06 14 54.1**	**-0.3**
	comp=Z,2.2nm,0.4s,baz=93,slow=5.1,SNR=14						
MAW				LR	LR	06 48 22.2	
	comp=Z,30nm,21.2s,baz=62,slow=32						
MAW	**Mawson**	**84.99**	**203**	P	**P**	**06 14 53.1**	**-1.2**
KURK	**Kurchatov**	**86.44**	**322**	P	**P**	**06 15 00.2**	**-1.6**
KURBB	**Kurchatov Arra**	**86.47**	**322**	P	**P**	**06 15 00.7**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=102,slow=4.4,SNR=5.6						
KURBB				pP	**pP**	**06 15 16.9**	**-2.5**
	comp=Z,0.5nm,0.5s,baz=100,slow=4.6,SNR=5.3						
BBB	**Bella Bella**	**86.98**	**37**	LR	LR	06 46 52.4	
	comp=Z,43nm,21.2s,baz=209,slow=31						
DLBC	**Dease Lake**	**87.57**	**31**	LR	LR	06 48 11.3	
	comp=Z,35nm,20.4s,baz=250,slow=31						
NRIK	**Noril'sk**	**88.22**	**341**	LR	LR	06 56 43.4	
	comp=Z,14nm,18.7s,baz=194,slow=37						
NVAR	**Mina Array Bea**	**91.26**	**52**	P	**P**	**06 15 27.0**	**+1.8**
	comp=Z,1.7nm,0.9s,baz=256,slow=6.2,SNR=9.9						
NVAR				pP	**pP**	**06 15 43.6**	**+0.9**
	comp=Z,1.7nm,1.0s,baz=257,slow=5.1,SNR=4.6						
NVAR	**Mina Array Bea**	**91.26**	**52**	P	**P**	**06 15 24.0**	**-1.3**
NV11	**Mina Array Sit**	**91.38**	**52**	P	**P**	**06 15 24.9**	**-0.8**
BVAR	**Borovoye Array**	**91.90**	**323**	P	**P**	**06 15 26.2**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=103,slow=6.4,SNR=5.7						
YKA	**Yellowknife Ar**	**95.76**	**28**	P	**P**	**06 15 46.4**	**+1.3**
	comp=Z,2.1nm,0.9s,baz=250,slow=3.7,SNR=2.6						
YKA				LR	LR	06 55 33.7	
	comp=Z,16nm,19.9s,baz=0.0,slow=33						
PDAR	**Pinedale Array**	**98.22**	**48**	P	Pdif	06 15 58.9	+1.9
	comp=Z,0.1nm,0.5s,baz=243,slow=4.0,SNR=2.4						
PDAR				LR	LR	06 55 46.8	
	comp=Z,31nm,19.1s,baz=296,slow=32						
PDAR	**Pinedale Array**	**98.22**	**48**	P	**P**	**06 15 54.9**	**-2.0**
LPAZ	**La Paz**	**131.63**	**118**	PKP	**PKPdf**	**06 21 33.9**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=202,slow=8.4,SNR=10						
PTGA	**Pitinga**	**144.28**	**100**	PKPdf	**PKPab**	**06 21 54.2**	**0.0**
TOA0	**Torodi Ar. Sit**	**152.98**	**286**	PKPbc	**PKPbc**	**06 22 16.4**	**-1.0**
TOA0				PKPab	**pPKPdf**	**06 22 28.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**152.98**	**286**	PKPbc	**PKPbc**	**06 22 16.2**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=82,slow=2.2,SNR=13						
TORD				pPKPbc	**sPKPdf**	**06 22 33.4**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=58,slow=2.1,SNR=6.3						
TORD	**Torodi Ar. Bea**	**152.98**	**286**		**PKPbc**	**06 22 16.3**	**-1.2**
TORD					**PKPab**	**06 22 28.5**	**-0.5**
RCBR	**Riachuelo**	**163.62**	**138**	PKPab	**PKPab**	**06 23 12.8**	**-2.1**

*IDC **17** 06:04:32.1±1.9,36°.90S×179°.33E,h0km,mb4.0/2, mb1 4.2/4,mb1mx3.8/44,mbtmp4.0/4,ML3.6/2,MS3.3/4, Ms1 3.3/4,ms1mx3.0/24,Error ellipse: s-maj=57.6km s-min=26.7km az=136.0*

*WEL **17** 06:04:32.1,37°.S±10°×18°.0E±1°.0,h12km,M3.7/12, ML4.0/12,MLv3.7/12,Error ellipse: s-maj=0.0km s-min=0.0km az=146.3*

ISC 17 06:04:32.4±2.2,37°.24S±0°.07×179°.76E±0°.08,h16km±10km, n104,σ1$57/103,MS3.5/4,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.20**	**254**	P	**Pg**	**06 04 55.0**	**-0.5**
MXZ				S	**Sn**	**06 05 11.1**	**+0.6**
WMGZ	**Waiomatatini S**	**1.21**	**241**	P	**Pg**	**06 04 56.0**	**+0.3**
WMGZ				S	**Sn**	**06 05 13.6**	**+2.8**
PUZ	**Puketiti**	**1.45**	**235**	P	**Pb**	**06 04 59.5**	**+0.4**
PUZ				S	**Sg**	**06 05 20.2**	**+1.1**
HAZ	**Te Kaha**	**1.65**	**251**	P	**Pn**	**06 05 01.6**	**+0.9**
HAZ				S	**Sg**	**06 05 24.0**	**-1.6**
TWGZ	**Tauwhareparae**	**1.69**	**236**	P	**Pb**	**06 05 03.3**	**+0.1**
TWGZ				S	**Sg**	**06 05 28.7**	**+1.9**
CNGZ	**Carnagh Statio**	**1.74**	**224**	P	**Pg**	**06 05 03.3**	**-0.5**
RUGZ	**Raukumara Rang**	**1.80**	**246**	P	**Pn**	**06 05 04.1**	**+1.2**
TKGZ	**Te Karaka**	**1.93**	**231**	P	**Pb**	**06 05 06.8**	**-0.3**
MWZ	**Matawai**	**2.08**	**238**	P	**Pn**	**06 05 07.6**	**+1.0**
RIGZ	**Rimuhau**	**2.15**	**227**	P	**Pn**	**06 05 09.1**	**+1.5**
PRGZ	**Paritu Road**	**2.23**	**221**	P	**Pb**	**06 05 11.5**	**-1.0**
RAGZ	**Rawiri**	**2.23**	**235**	P	**Pn**	**06 05 10.6**	**+1.8**
WHRZ	**Whale Island**	**2.29**	**254**	P	**Pn**	**06 05 11.2**	**+1.6**
URZ	**Urewera**	**2.33**	**243**	Pn	**Pn**	**06 05 11.0**	**+0.9**
	47nm,0.3s,baz=59,slow=8.6,SNR=201						
URZ				LR	LR	06 05 39.2	
	comp=Z,178nm,21.3s,baz=36,slow=30						
URZ				Sn	**Sn**	**06 05 40.3**	**+2.0**
	18nm,0.3s,baz=260,slow=21,SNR=6						
URZ	**Urewera**	**2.33**	**243**	P	**Pn**	**06 05 11.2**	**+1.1**
KNZ	**Kokohu**	**2.42**	**222**	P	**Pn**	**06 05 12.7**	**+1.4**
SNGZ	**Shannon Statio**	**2.45**	**230**	P	**Pn**	**06 05 13.6**	**+1.9**
EDRZ	**Edgecumbe**	**2.54**	**249**	P	**Pn**	**06 05 15.1**	**+2.0**
MARZ	**Manawahe**	**2.56**	**252**	P	**Pn**	**06 05 13.8**	**+0.5**
RTZ	**Ruatahuna**	**2.59**	**237**	P	**Pn**	**06 05 15.9**	**+2.2**
OPRZ	**Ohinepanea**	**2.62**	**256**	P	**Pn**	**06 05 14.8**	**+0.9**
MUGZ	**Murupara**	**2.67**	**242**	P	**Pn**	**06 05 15.8**	**+1.1**
WHHZ	**Waihua**	**2.70**	**227**	P	**Pn**	**06 05 17.1**	**+1.9**
WHHZ				S	**Sn**	**06 05 50.7**	**+3.1**
MKRZ	**Makatiti**	**2.76**	**250**	P	**Pn**	**06 05 15.0**	**-1.0**
TARZ	**Mount Tarawera**	**2.76**	**248**	P	**Pn**	**06 05 18.2**	**+2.2**
MYRZ	**Mayor Island**	**2.81**	**268**	P	**Pn**	**06 05 16.7**	**+0.1**
MTHZ	**Maungataniwha**	**2.81**	**234**	P	**Pn**	**06 05 18.1**	**+1.5**
MTHZ				S	**Sb**	**06 05 54.1**	**-2.2**
OMRZ	**Omania**	**2.82**	**251**	P	**Pn**	**06 05 19.3**	**+2.4**
TGRZ	**Tauranga**	**2.82**	**259**	P	**Pn**	**06 05 17.4**	**+0.6**
KARZ	**Kaharoa**	**2.90**	**253**	P	**Pn**	**06 05 19.2**	**+1.4**
NGRZ	**Ngongotaha**	**2.96**	**252**	P	**Pn**	**06 05 20.9**	**+2.2**
ARHZ	**Aropaoanui**	**2.96**	**226**	P	**Pn**	**06 05 21.1**	**+2.3**
NMHZ	**Naumai**	**2.97**	**231**	P	**Pn**	**06 05 20.8**	**+1.8**
ALRZ	**Allen Road**	**3.00**	**243**	P	**Pn**	**06 05 20.9**	**+1.5**
KMRZ	**Kaimai**	**3.09**	**258**	P	**Pn**	**06 05 21.2**	**+0.6**
WPRZ	**Whakapapatarin**	**3.12**	**245**	P	**Pn**	**06 05 23.2**	**+2.3**
CKHZ	**Cape Kidnapper**	**3.20**	**220**	P	**Pn**	**06 05 24.2**	**+2.2**
BKZ	**Black Stump Fm**	**3.21**	**232**	P	**Pn**	**06 05 23.6**	**+1.4**
MCHZ	**McNeill Hill**	**3.26**	**227**	P	**Pn**	**06 05 24.2**	**+1.4**
KUZ	**Kuaotunu**	**3.27**	**278**	P	**Pn**	**06 05 21.7**	**-1.2**
KAHZ	**Kahuranaki**	**3.40**	**221**	P	**Pn**	**06 05 25.9**	**+1.1**
KWHZ	**Kaweka Forest**	**3.41**	**229**	P	**Pn**	**06 05 26.0**	**+1.0**
TOZ	**Tahuroa Road**	**3.42**	**261**	P	**Pn**	**06 05 25.3**	**+0.3**
RITZ	**Rihia Road**	**3.53**	**239**	P	**Pn**	**06 05 28.7**	**+2.1**
RATZ	**Rangitukua**	**3.54**	**242**	P	**Pn**	**06 05 29.5**	**+2.8**
KRHZ	**Kereru**	**3.58**	**227**	P	**Pn**	**06 05 28.6**	**+1.3**
PXZ	**Pawanui**	**3.59**	**218**	P	**Pn**	**06 05 28.4**	**+1.1**
GRZ	**Great Barrier**	**3.59**	**285**	P	**Pn**	**06 05 27.3**	**-0.1**
KATZ	**Kakaramea**	**3.64**	**240**	P	**Pn**	**06 05 30.8**	**+2.6**
BHHZ	**Black Hill Sta**	**3.67**	**231**	P	**Pn**	**06 05 29.6**	**+1.1**
ETVZ	**East Tongariro**	**3.71**	**238**	P	**Pn**	**06 05 30.4**	**+1.3**
WIAZ	**Waiheke Island**	**3.73**	**276**	P	**Pn**	**06 05 29.4**	**+0.1**
KRVZ	**Karewarewa**	**3.73**	**239**	P	**Pn**	**06 05 31.2**	**+1.7**
OTVZ	**Oturere**	**3.75**	**238**	P	**Pn**	**06 05 30.4**	**+0.6**
WTVZ	**West Tongariro**	**3.78**	**239**	P	**Pn**	**06 05 31.8**	**+1.7**
MOVZ	**Moawhango**	**3.82**	**234**	P	**Pn**	**06 05 32.4**	**+1.8**
WPHZ	**Waipukurau**	**3.83**	**222**	P	**Pn**	**06 05 31.5**	**+0.8**
PNHZ	**Pukenui**	**3.86**	**225**	P	**Pn**	**06 05 31.5**	**+0.4**
WHVZ	**Whangaehu Hut**	**3.86**	**237**	P	**Pn**	**06 05 32.9**	**+1.5**
TWVZ	**Taurewa**	**3.86**	**241**	P	**Pn**	**06 05 33.2**	**+2.0**
ETAZ	**East Tamaki Re**	**3.87**	**273**	P	**Pn**	**06 05 31.9**	**+0.7**
PRHZ	**Porangahau**	**3.88**	**218**	P	**Pn**	**06 05 31.6**	**+0.2**
TRVZ	**Turoa**	**3.90**	**237**	P	**Pn**	**06 05 33.2**	**+1.4**
MBAZ	**Motutapu North**	**3.92**	**275**	P	**Pn**	**06 05 32.1**	**+0.2**
ABAZ	**Army Bay**	**4.00**	**278**	P	**Pn**	**06 05 33.5**	**+0.5**
EPAZ	**Eden Park BICE**	**4.03**	**274**	P	**Pn**	**06 05 34.7**	**+1.3**
HIZ	**Hauiti**	**4.08**	**250**	P	**Pn**	**06 05 36.4**	**+2.3**
AWAZ	**Awhitu Peninsu**	**4.09**	**271**	P	**Pn**	**06 05 35.1**	**+0.9**
TSZ	**Takapari Road**	**4.09**	**225**	P	**Pn**	**06 05 34.8**	**+0.5**
ANWZ	**Angora Road**	**4.11**	**218**	P	**Pn**	**06 05 36.0**	**+1.5**
DVHZ	**Dannevirke**	**4.14**	**222**	P	**Pn**	**06 05 35.3**	**+0.2**
RVAZ	**Riverhead Bore**	**4.17**	**275**	P	**Pn**	**06 05 36.3**	**+1.0**
VRZ	**Vera Road**	**4.36**	**243**	P	**Pn**	**06 05 40.2**	**+2.2**
BFZ	**Birch Farm**	**4.39**	**217**	P	**Pn**	**06 05 38.4**	**0.0**
POWZ	**Post Office Ro**	**4.42**	**224**	P	**Pn**	**06 05 39.4**	**+0.5**
PRWZ	**Pori Road**	**4.43**	**221**	P	**Pn**	**06 05 39.8**	**+0.8**
WAZ	**Wanganui**	**4.50**	**235**	P	**Pn**	**06 05 42.2**	**+2.2**
WCZ	**Waipu Caves**	**4.55**	**285**	P	**Pn**	**06 05 41.0**	**+0.5**
TIWZ	**Tintock**	**4.64**	**219**	P	**Pn**	**06 05 42.6**	**+0.7**
HOWZ	**Holdsworth Sta**	**4.92**	**221**	P	**Pn**	**06 05 45.5**	**-0.2**
OGWZ	**Otaki Gorge**	**5.05**	**224**	P	**Pn**	**06 05 47.8**	**+0.4**
KIW	**Kapiti Island**	**5.22**	**225**	P	**Pn**	**06 05 49.6**	**-0.2**
OUZ	**Omahuta**	**5.37**	**290**	P	**Pn**	**06 05 52.2**	**+0.3**
DUWZ	**D'Urville Isla**	**5.77**	**230**	P	**Pn**	**06 05 57.1**	**-0.2**
NNZ	**Nelson**	**6.34**	**229**	P	**Pn**	**06 06 05.1**	**-0.1**
QRZ	**Quartz Range**	**6.67**	**235**	P	**Pn**	**06 06 09.0**	**-0.6**
KHZ	**Kahutara**	**7.04**	**221**	P	**Pn**	**06 06 14.6**	**-0.1**
CTZ	**Chatham Island**	**7.05**	**158**	P	**Pn**	**06 06 16.3**	**+1.5**
RPZ	**Rata Peaks**	**9.26**	**223**	Pn	**Pn**	**06 06 45.1**	**0.0**
	0.2nm,0.3s,baz=55,slow=16,SNR=1.1						
RPZ				Sn	**Sn**	**06 08 22.0**	**-7.0**
	0.6nm,0.3s,baz=24,slow=16,SNR=1.3						
RPZ				LR	LR	06 10 00.8	
	comp=Z,224nm,19.3s,baz=30,slow=35						
RAR	**Rarotonga**	**23.89**	**54**	LR	LR	06 16 35.3	
	comp=Z,115nm,21.1s,baz=144,slow=30						
TBI	**Tubuai**	**29.82**

	baz=20								
WMOK					S		Sb	06 19 50.7	-1.7
	baz=20								
WMOK	**Wichita Mounta**	**2.23**	**200**				**Pn**	06 19 21.1	-0.2
X34A	**Smith Ranch, M**	**2.23**	**180**		Pn		**Pn**	06 19 22.3	+0.9
KSU1	**Kansas State U**	**2.46**	**23**		Pn		**Pn**	06 19 24.8	+0.4
	baz=204,SNR=52								
KSU1					Pb		**Pb**	06 19 29.5	+0.9
	baz=204								
KSU1					S		**Sb**	06 19 58.8	-0.2
	baz=204								
KSU1	**Kansas State U**	**2.46**	**23**		Pn		**Pn**	06 19 24.9	+0.4
CBKS	**Cedar Bluff**	**2.47**	**323**		P		**Pn**	06 19 24.9	+0.2
	baz=142								
CBKS					S		**Sb**	06 19 58.5	-0.9
	baz=142								
CBKS	**Cedar Bluff**	**2.47**	**323**		Pn		**Pn**	06 19 24.8	+0.1
U38A	**Gravette**	**2.81**	**97**		Pn		**Pn**	06 19 30.1	+0.7
X37A	**Clayton**	**3.02**	**137**				**Pn**	06 19 32.4	+0.2
HHAR	**Hobbs**	**3.20**	**99**		Pn		**Pn**	06 19 35.4	+0.8
Z35A	**Perchaven, San**	**3.54**	**172**				**Pn**	06 19 39.5	+0.2
AMTX	**Amarillo**	**3.67**	**239**		Pn		**Pn**	06 19 42.1	+0.8
	baz=57								
AMTX					Pb		**Pb**	06 19 49.4	0.0
	baz=57								
AMTX					Sb		**Sb**	06 20 38.2	+4.2
	baz=57								
AMTX	**Amarillo**	**3.67**	**239**		Pn		**Pn**	06 19 42.1	+0.8
W39A	**Magazine**	**3.68**	**115**		Pn		**Pn**	06 19 42.6	+1.3
	baz=298,SNR=13								
W39A					Pb		**Pb**	06 19 50.4	+1.0
	baz=298								
W39A					Sn		**Sn**	06 20 26.2	+1.4
	baz=298								
W39A					Sb		**Sb**	06 20 39.1	+4.9
	baz=298								
W39A	**Magazine**	**3.68**	**115**				**Pn**	06 19 43.0	+1.7
S39A	**Bolivar**	**3.71**	**75**		Pn		**Pn**	06 19 41.8	+0.1
N33A	**J Bar K, Exete**	**3.91**	**4**		Pn		**Pn**	06 19 43.3	-1.0
U40A	**Yellville**	**4.05**	**95**		Pn		**Pn**	06 19 46.4	+0.1
	baz=278,SNR=19								
U40A					Pb		**Pb**	06 19 56.2	+0.5
	baz=278								
U40A					Sn		**Sn**	06 20 33.8	-0.1
	baz=278								
U40A					Sb		**Sb**	06 20 49.2	+4.4
	baz=278								
U40A	**Yellville**	**4.05**	**95**		Pn		**Pn**	06 19 46.6	+0.3
MIAR	**Mount Ida**	**4.16**	**122**		P		**Pn**	06 19 49.0	+1.1
	baz=305								
MIAR					Sb		**Sb**	06 20 53.9	+5.8
	baz=305								
MIAR	**Mount Ida**	**4.16**	**122**		Pn		**Pn**	06 19 49.5	+1.6
Z38A	**Mt. Pleasant**	**4.28**	**146**				**Pn**	06 19 50.4	+1.0
KSCO	**Kaye Shedlock'**	**4.35**	**301**		Pn		**Pn**	06 19 50.6	-0.1
	baz=118								
KSCO					Pb		**Pb**	06 20 02.3	+1.4
	baz=118,SNR=11								
KSCO					Sn		**Sn**	06 20 41.7	+0.1
	baz=118								
KSCO					Sb		**Sb**	06 20 59.0	+5.3
	baz=118								
KSCO	**Kaye Shedlock'**	**4.35**	**301**				**Pn**	06 19 50.8	+0.1
N35A	**Tabor**	**4.37**	**23**		Pn		**Pn**	06 19 51.5	+0.7
P38A	**Dawn**	**4.39**	**49**		Pn		**Pn**	06 19 51.6	+0.6
ABTX	**Abilene, Hawle**	**4.46**	**200**		P		**Pn**	06 19 52.0	0.0
	baz=19								
ABTX					Sn		**Sn**	06 20 42.8	-1.2
	baz=19								
ABTX					Sb		**Sb**	06 20 59.3	+2.8
	baz=19								
ABTX	**Abilene, Hawle**	**4.46**	**200**		Pn		**Pn**	06 19 51.6	-0.4
MGMO	**Mountain Grove**	**4.48**	**84**				**Pn**	06 19 52.9	+0.7
BGNE	**Belgrade**	**4.57**	**357**		P		**Pn**	06 19 53.1	-0.4
	baz=177,SNR=5.5								
BGNE					Sb		**Sb**	06 21 06.3	+6.6
	baz=177								
BGNE	**Belgrade**	**4.57**	**357**				**Pn**	06 19 53.1	-0.4
R40A	**Maddies Statio**	**4.67**	**70**		Pn		**Pn**	06 19 54.4	-0.4
X40A	**Basin Creek Fa**	**4.71**	**118**		P		**Pn**	06 19 55.8	+0.4
	baz=302,SNR=7.4								
X40A					Sb		**Sb**	06 21 09.3	+5.6
	baz=302								
FCAR	**Ozark Folk Cen**	**4.72**	**100**		Pn		**Pn**	06 19 56.7	+1.2
WHAR	**Wooly Hollow**	**4.76**	**107**		Pn		**Pn**	06 19 58.8	+2.7
W41B	**Gary Mavity, V**	**4.84**	**108**		P		**Pn**	06 19 58.4	+1.2
	baz=292,SNR=16								
W41B					Sn		**Sn**	06 20 52.1	-1.2
	baz=292								
W41B					Sb		**Sb**	06 21 13.5	+6.2
	baz=292								
W41B	**Gary Mavity, V**	**4.84**	**108**				**Pn**	06 19 59.1	+2.0
WHTX	**Lake Whitney,**	**4.85**	**176**		Pn		**Pn**	06 19 57.2	-0.1
	baz=356								
WHTX					Pb		**Pb**	06 20 10.8	+1.5
	baz=356								
WHTX					Sb		**Sb**	06 21 13.5	+5.8
	baz=356								
WHTX	**Lake Whitney,**	**4.85**	**176**		Pn		**Pn**	06 19 58.6	+1.3
MSTX	**Muleshoe**	**4.94**	**236**		P		**Pn**	06 19 58.4	-0.3
	baz=53								
MSTX					Sb		**Sb**	06 21 15.9	+5.6
	baz=53								
MSTX	**Muleshoe**	**4.94**	**236**		Pn		**Pn**	06 19 58.6	0.0
WLAR	**White Oak Lake**	**4.99**	**128**		Pn		**Pn**	06 19 58.9	-0.4
237A	**Washetta, Mont**	**5.11**	**160**		Pn		**Pn**	06 20 00.2	-0.8
T25A	**Trinidad**	**5.26**	**275**		Pn		**Pn**	06 20 03.1	-0.1
	baz=91								
T25A					Pb		**Pb**	06 20 19.7	+3.3
	baz=91,SNR=18								
T25A					Sn		**Sn**	06 21 03.1	-1.0
	baz=91								
T25A					Sb		**Sb**	06 21 24.6	+4.8
	baz=91								
T25A	**Trinidad**	**5.26**	**275**		Pn		**Pn**	06 20 03.3	+0.1
P40A	**Paris**	**5.30**	**58**		Pn		**Pn**	06 20 02.4	-1.1
N38A	**Joes South For**	**5.34**	**41**		Pn		**Pn**	06 20 04.3	+0.2
CCM	**Cathedral Cave**	**5.39**	**75**		Pn		**Pn**	06 20 05.2	+0.4
	baz=259								
CCM					Pb		**Pb**	06 20 21.8	+3.2
	baz=259								
CCM					Sn		**Sn**	06 21 06.6	-0.5
	baz=259								
CCM					Sb		**Sb**	06 21 31.1	+7.7
	baz=259								
CCM	**Cathedral Cave**	**5.39**	**75**		Pn		**Pn**	06 20 04.4	-0.4
T42A	**Van Buren**	**5.42**	**86**		Pn		**Pn**	06 20 05.9	+0.8
Z41A	**Richland Creek**	**5.47**	**129**		S		**Sn**	06 21 06.1	-2.7
	baz=312								
Z41A	**Richland Creek**	**5.47**	**129**		Pn		**Pn**	06 20 04.6	-1.2
435B	**Jarrell**	**6.05**	**178**		P		**Pn**	06 20 13.2	-0.6
	baz=358								
435B					Sb		**Sb**	06 21 50.5	+8.3
	baz=358								
X43A	**Marvell**	**6.13**	**110**		Sb		Sb	06 21 53.9	+9.4
	baz=294								
Q24A	**Divide**	**6.15**	**292**		P		**Pn**	06 20 15.6	+0.1
	baz=108								
Q24A					S		**Sn**	06 21 24.0	-2.1
	baz=108								
SDCO	**Great Sand Dun**	**6.17**	**281**		Pn		**Pn**	06 20 16.6	+0.9
	baz=96								
SDCO					Pb		**Pb**	06 20 36.6	+4.7
	baz=96,SNR=7.8								
SCIA	**State Center**	**6.20**	**34**		S		**Sn**	06 21 25.7	-1.2
	baz=217								
JCT	**Junction City**	**6.55**	**195**		P		**Pn**	06 20 20.7	-0.1
	baz=14								
JCT					Sb		**Sg**	06 22 07.0	-7.4
	baz=14								
S44A	**Carbondale**	**6.91**	**80**				**Pn**	06 20 26.2	+0.6
ECSD	**EROS Data Cent**	**6.95**	**7**		P		**Pn**	06 20 24.6	-1.6
	baz=188,SNR=5.5								
ECSD					S		**Sn**	06 21 42.7	-2.6
	baz=188								
ECSD	**EROS Data Cent**	**6.95**	**7**		Pn		**Pn**	06 20 24.8	-1.4
W45A	**Hickory Valley**	**7.22**	**101**		Pn		**Pn**	06 20 29.6	-0.3
OXF	**Oxford**	**7.25**	**106**		P		**Pn**	06 20 31.2	+0.9
	baz=291								
OXF					S		**Sn**	06 21 50.9	-1.9
	baz=291								
OXF	**Oxford**	**7.25**	**106**		Pn		**Pn**	06 20 30.4	+0.1
L40A	**Anamosa**	**7.31**	**42**		Pn		**Pn**	06 20 30.2	-0.9
N23A	**Red Feather La**	**7.50**	**305**		P		**Pn**	06 20 35.0	+1.1
	baz=120								
HDIL	**Hopedale**	**7.65**	**58**		P		**Pn**	06 20 36.0	+0.2
	baz=244,SNR=5.3								
HDIL	**Hopedale**	**7.65**	**58**				**Pn**	06 20 35.4	-0.4
OLIL	**Olney**	**7.95**	**73**				**Pn**	06 20 39.8	0.0
MNTX	**Cornudas Mount**	**8.07**	**233**		P		**Pn**	06 20 41.4	-0.2
	baz=48								
WVT	**Waverly**	**8.10**	**92**		P		**Pn**	06 20 41.7	-0.3
	baz=278								
WVT					S		**Sn**	06 22 07.6	-6.1
	baz=278								
WVT	**Waverly**	**8.10**	**92**		Pn		**Pn**	06 20 41.7	-0.3
L42A	**Oliver, Polo**	**8.16**	**48**				**Pn**	06 20 42.7	-0.1
JFWS	**Jewell Farm**	**8.42**	**42**		P		**Pn**	06 20 45.6	-0.7
	baz=226,SNR=6.7								
JFWS					S		**Sn**	06 22 17.1	-4.4
	baz=226								
JFWS	**Jewell Farm**	**8.42**	**42**		Pn		**Pn**	06 20 45.4	-0.9
T47A	**Sharon Grove**	**8.61**	**86**				**Pn**	06 20 49.2	+0.3
TXAR	**Lajitas Array**	**8.93**	**215**		Pn		**Pn**	06 20 52.2	-1.3
SFIN	**Lafayette**	**9.13**	**64**		P		**Pn**	06 20 56.2	+0.1
	baz=250								
SFIN	**Lafayette**	**9.13**	**64**		Pn		**Pn**	06 20 55.7	-0.4
SPMN	**Marine on St.**	**9.20**	**23**		Pn		**Pn**	06 20 56.7	-0.3
121A	**Cookes Peak, D**	**9.24**	**245**		Pn		**Pn**	06 20 57.4	-0.4
BLO	**Bloomington**	**9.24**	**72**		Pn		**Pn**	06 20 57.1	-0.5
WCI	**Wyandotte Cave**	**9.29**	**78**		P		**Pn**	06 20 58.7	+0.5
	baz=265								
WCI	**Wyandotte Cave**	**9.29**	**78**		Pn		**Pn**	06 20 59.0	+0.8
CLTN	**Cedars of Leba**	**9.31**	**91**		Pn		**Pn**	06 20 58.9	+0.3
K43A	**Burlington**	**9.38**	**48**		Pn		**Pn**	06 20 58.9	-0.6
U49A	**Red Boiling Sp**	**9.70**	**88**		Pn		**Pn**	06 21 04.0	0.0
I42A	**Draeger Farm,**	**9.80**	**41**		Pn		**Pn**	06 21 04.0	-1.2
P48A	**Milroy**	**10.13**	**71**				**Pn**	06 21 08.6	-1.1
G40A	**Rib Lake**	**10.21**	**32**		Pn		**Pn**	06 21 10.5	-0.3
FPAL	**Fort Paine**	**10.22**	**99**		Pn		**Pn**	06 21 11.1	0.0
R50A	**Paris**	**10.83**	**78**		Pn		**Pn**	06 21 18.9	-0.6
CPCT	**Cooper Cave**	**10.87**	**93**				**Pn**	06 21 20.1	+0.2
O49A	**Covington**	**11.10**	**68**		Pn		**Pn**	06 21 22.0	-1.2
COWI	**Conover**	**11.32**	**32**		Pn		**Pn**	06 21 25.4	-0.7
N49A	**Columbus Grove**	**11.40**	**65**		Pn		**Pn**	06 21 26.1	-1.2
TKL	**Tuckaleechee C**	**11.43**	**92**				**Pn**	06 21 27.1	-0.5
F42A	**Maple Grove Fa**	**11.51**	**36**		Pn		**Pn**	06 21 26.8	-1.9
V52A	**Sevierville**	**11.54**	**91**				**Pn**	06 21 29.3	+0.2
L48A	**N Adams**	**11.56**	**60**		Pn		**Pn**	06 21 28.4	-0.9
B35A	**Bob, Littlefor**	**11.90**	**13**		Pn		**Pn**	06 21 31.5	-2.6

NEIC ***17*** *06:29:22.3±1.2, 17.4S±0.1×167.1E±0.1, h10km±8km, mb4.3/9, Error ellipse: s-maj=19.6km s-min=18.1km az=49.0*

IDC ***17*** *06:29:32.0±7.2, 17.83S×167.05E, h90km±76km, mb3.6/3, mb1 3.9/5, mb1mx3.4/34, mbtmp4.0/5, ML4.0/2, MS2.6/1, Ms1 2.6/1, ms1mx2.3/33, Error ellipse: s-maj=58.6km s-min=32.9km az=168.0*

ISC 17 06:29:23.6±1.3, 17.52S±0.10×167.0E±0.2, h12km, n17, σ0.99/19, mb4.1/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.57**	**187**	P		**Pn**	**06 30 34.3**	**+1.7**
	8.4nm,0.3s,baz=66,slow=13,SNR=314							
DZM				S		**Sn**	**06 31 24.1**	**-1.6**
	6.1nm,0.3s,baz=316,slow=21,SNR=7.9							
DZM				LR		LR	06 31 29.0	
	comp=Z,64nm,19.4s,baz=28,slow=28							
DZM	**Mont Dzumac**	**4.57**	**187**			**Pn**	**06 30 34.0**	**+1.4**
DZM						**Sn**	**06 31 23.9**	**-1.8**
CTA	**Charters Tower**	**19.84**	**259**	P		**Pn**	**06 33 55.9**	**-0.2**
	0.3nm,0.3s,baz=85,slow=12,SNR=7.9							
CTAO	**Charters Tower**	**19.84**	**259**	P		**P**	**06 33 55.1**	**+0.6**
WB0	**Warramunga Arr**	**30.99**	**261**	P		**P**	**06 35 40.5**	**-0.7**
WB2	**Warramunga Arr**	**31.02**	**260**	P		**P**	**06 35 40.9**	**-0.5**
WB2				IAmb		IAmb	06 36 07.7	
	comp=Z,9.9nm,1.3s							
WRA	**Warramunga Arr**	**31.04**	**260**	P		**P**	**06 35 41.0**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=92,slow=9.3,SNR=8.9							
WRA	**Warramunga Arr**	**31.04**	**260**	P		**P**	**06 35 40.7**	**-0.8**
AS31	**Alice Springs**	**31.57**	**253**	P		**P**	**06 35 45.8**	**-0.4**
ASAR	**Alice Springs**	**31.57**	**253**	P		**P**	**06 35 45.5**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=79,slow=9.1,SNR=15							
ASAR	**Alice Springs**	**31.57**	**253**	P		**P**	**06 35 46.5**	**+0.2**
BBOO	**Buckleboo**	**31.76**	**235**	P		**P**	**06 35 48.6**	**+0.8**
BBOO				IAmb		IAmb	06 35 51.9	
	comp=Z,9.5nm,1.4s							
KNRA	**Kununurra**	**36.69**	**267**	P		**P**	**06 36 29.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**39.36**	**263**	P		**P**	**06 36 53.2**	**0.0**
FITZ				IAmb		IAmb	06 37 04.6	
	comp=Z,6.7nm,1.4s							
QSPA	**South Pole Qui**	**72.53**	**180**	P		**P**	**06 40 50.2**	**-0.1**
QSPA				IAmb		IAmb	06 40 51.3	
	comp=Z,2.2nm,1.2s							
ILAR	**Eielson Array**	**89.23**	**18**	P		**P**	**06 42 18.8**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=237,slow=4.6,SNR=6.1							
ILAR	**Eielson Array**	**89.23**	**18**	P		**P**	**06 42 18.1**	**-0.9**

MOS ***17*** *07:03:47.9±1.2, 50.54N×158.12E, h57km, mb4.2/4, Error ellipse: s-maj=14.9km s-min=3.5km az=81.8*

KRSC ***17*** *07:03:52.5±1.9, 51.13N×157.57E, h125km±25km, ML4.4*

NEIC ***17*** *07:03:55.8±0.4, 51.48N±0.08×156.8E±0.2, h127km±8km, mb4.1/17, Error ellipse: s-maj=19.7km s-min=6.3km az=122.0*

IDC ***17*** *07:03:55.9±1.6, 51.46N×156.82E, h127km±15km, mb3.5/11, mb1 3.8/15, mb1mx3.5/50, mbtmp4.0/15, Error ellipse: s-maj=31.3km s-min=9.8km az=142.0*

ISC 17 07:03:55.1±0.7, 51.30N±0.06×157.10E±0.07, h125km±5km, n138, σ1.9/30/171, mb4.0/18, 1C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.88**	**225**	*e*P		**Pn**	**07 04 17.1**	**+0.7**
SKR				eS		**Sn**	**07 04 33.7**	**+1.3**
SKR	**Severo-Kuril's**	**0.88**	**225**	*i*PN		**Pn**	**07 04 17.0**	**+0.7**
SKR				pmax		pmax		
	comp=Z,839nm,0.6s							
MIPR	**Malaya Ipel'ka**	**1.00**	**348**	*i* P		**Pn**	**07 04 16.8**	**-0.7**
MIPR	**Malaya Ipel'ka**	**1.00**	**348**	PN		**Pn**	**07 04 16.8**	**-0.7**
ALID	**Alaid**	**1.07**	**247**	*i* P		**Pn**	**07 04 18.5**	**+0.1**
ALID				eS		**Sn**	**07 04 35.9**	**-0.1**
ALID	**Alaid**	**1.07**	**247**	PN		**Pn**	**07 04 18.5**	**+0.1**
ALID				S		**Sn**	**07 04 35.9**	**-0.1**
ASAK	**Asacha**	**1.19**	**24**	*i* P		**Pn**	**07 04 19.5**	**0.0**
ASAK				eS		**Sn**	**07 04 37.9**	**-0.1**
ASAK	**Asacha**	**1.19**	**24**	PN		**Pn**	**07 04 19.5**	**0.0**
ASAK				S		**Sn**	**07 04 37.9**	**-0.1**
MTVR	**Mutnovka**	**1.36**	**29**	*e*P		**Pn**	**07 04 21.5**	**+0.2**
MTVR				eS		**Sn**	**07 04 40.5**	**-0.8**
MTVR	**Mutnovka**	**1.36**	**29**	PN		**Pn**	**07 04 21.5**	**+0.2**
MTVR				S		**Sn**	**07 04 40.5**	**-0.8**
GRL	**Gorelyy**	**1.39**	**25**	*i* P		**Pn**	**07 04 21.9**	**+0.3**
GRL				eS		**Sn**	**07 04 42.9**	**+1.0**
GRL	**Gorelyy**	**1.39**	**25**	PN		**Pn**	**07 04 21.9**	**+0.3**
GRL				S		**Sn**	**07 04 42.9**	**+1.0**
RUS	**Russkaya**	**1.43**	**37**	*i* P		**Pn**	**07 04 21.5**	**-0.4**
RUS				eS		**Sn**	**07 04 42.0**	**-0.4**
RUS	**Russkaya**	**1.43**	**37**	PN		**Pn**	**07 04 21.5**	**-0.4**
RUS				S		**Sn**	**07 04 42.0**	**-0.4**
KRMR	**Karymshinskiy**	**1.66**	**22**	*e*P		**Pn**	**07 04 24.3**	**-0.2**
KRMR				eS		**Sn**	**07 04 47.6**	**+0.5**
KRMR	**Karymshinskiy**	**1.66**	**22**	PN		**Pn**	**07 04 24.3**	**-0.2**
KRMR				S		**Sn**	**07 04 47.6**	**+0.5**
PEA0B	**Petropavlovsk-**	**1.84**	**11**	PN		**Pn**	**07 04 26.4**	**-0.5**
PEA0B	**Petropavlovsk-**	**1.84**	**11**			**Pn**	**07 04 26.4**	**-0.5**
PEA0B				Sn		**Sn**	**07 04 49.7**	**-1.4**
PETK	**Petropavlovsk-**	**1.84**	**11**	P		**Pn**	**07 04 26.4**	**-0.5**
	comp=Z,22nm,0.3s,baz=170,slow=11,SNR=633							
PETK				S		**Sn**	**07 04 50.1**	**-1.0**
	comp=Z,7.9nm,0.3s,baz=136,slow=14,SNR=7.0							
PETK	**Petropavlovsk-**	**1.84**	**11**			**Pn**	**07 04 26.3**	**-0.5**
PETK						**Sn**	**07 04 49.5**	**-1.6**
PET	**Petropavlovsk**	**1.97**	**28**	*e*P		**Pn**	**07 04 28.1**	**-0.2**
PET	**Petropavlovsk**	**1.97**	**28**	PN		**Pn**	**07 04 28.1**	**-0.2**
PET				S		**Sn**	**07 04 54.7**	**+0.9**
PET	**Petropavlovsk**	**1.97**	**28**			**Pn**	**07 04 28.0**	**-0.2**
PET				Sn		**Sn**	**07 04 53.6**	**-0.2**
DALK	**Dalny**	**2.01**	**30**	*e*P		**Pn**	**07 04 28.6**	**-0.2**
DALK				eS		**Sn**	**07 04 54.9**	**+0.3**
DALK	**Dalny**	**2.01**	**30**	PN		**Pn**	**07 04 28.6**	**-0.2**
DALK				S		**Sn**	**07 04 54.9**	**+0.3**
UGLR	**Uglovaya**	**2.18**	**28**	*i* P		**Pn**	**07 04 31.8**	**+0.7**
UGLR				eS		**Sn**	**07 04 57.4**	**-1.3**
UGLR	**Uglovaya**	**2.18**	**28**	PN		**Pn**	**07 04 31.8**	**+0.7**
UGLR				S		**Sn**	**07 04 57.4**	**-1.3**
KOK	**Koryaka**	**2.20**	**25**	*i* P		**Pn**	**07 04 32.3**	**+1.0**
KOK				eS		**Sn**	**07 05 01.7**	**+2.6**
KOK	**Koryaka**	**2.20**	**25**	PN		**Pn**	**07 04 32.3**	**+1.0**
KOK				S		**Sn**	**07 05 01.7**	**+2.6**
AVH	**Avacha**	**2.21**	**26**	*i* P		**Pn**	**07 04 32.3**	**+0.9**
AVH				eS		**Sn**	**07 05 01.1**	**+1.9**
AVH	**Avacha**	**2.21**	**26**	PN		**Pn**	**07 04 32.3**	**+0.9**
AVH				S		**Sn**	**07 05 01.1**	**+1.9**
SMAR	**Somma**	**2.22**	**27**	*e*P		**Pn**	**07 04 32.3**	**+0.6**
SMAR				eS		**Sn**	**07 04 58.9**	**-0.9**
SMAR	**Somma**	**2.22**	**27**	PN		**Pn**	**07 04 32.3**	**+0.6**
SMAR				S		**Sn**	**07 04 58.9**	**-0.9**
KRER	**Koryakskii**	**2.24**	**26**	*i* P		**Pn**	**07 04 32.7**	**+0.8**
KRER				eS		**Sn**	**07 05 02.1**	**+1.9**
KRER	**Koryakskii**	**2.24**	**26**	PN		**Pn**	**07 04 32.7**	**+0.8**
KRER				S		**Sn**	**07 05 02.1**	**+1.9**
SDLR	**Sedlovina**	**2.26**	**28**	*i* P		**Pn**	**07 04 32.3**	**+0.2**
SDLR				eS		**Sn**	**07 05 00.9**	**+0.4**
SDLR	**Sedlovina**	**2.26**	**28**	PN		**Pn**	**07 04 32.3**	**+0.2**
SDLR				S		**Sn**	**07 05 00.9**	**+0.4**
KRX	**Arik**	**2.27**	**24**	*i* P		**Pn**	**07 04 32.8**	**+0.6**
KRX				eS		**Sn**	**07 04 59.3**	**-1.3**
KRX	**Arik**	**2.27**	**24**	PN		**Pn**	**07 04 32.8**	**+0.6**
KRX				S		**Sn**	**07 04 59.3**	**-1.3**
NLC	**Nalytchevo**	**2.32**	**36**	*e*P		**Pn**	**07 04 31.7**	**-1.0**
NLC				eS		**Sn**	**07 04 58.5**	**-3.1**
NLC	**Nalytchevo**	**2.32**	**36**	PN		**Pn**	**07 04 31.7**	**-1.0**
NLC				S		**Sn**	**07 04 58.5**	**-3.1**
KII	**Karymskiy**	**3.09**	**27**	*e*P		**Pn**	**07 04 43.1**	**+0.5**
KII	**Karymskiy**	**3.09**	**27**	PN		**Pn**	**07 04 43.1**	**+0.5**
KZV	**Kizimen**	**4.27**	**25**	*i* P		**Pn**	**07 04 58.8**	**+0.4**
KZV				eS		**Sn**	**07 05 47.9**	**+0.4**
KZV	**Kizimen**	**4.27**	**25**	PN		**Pn**	**07 04 58.8**	**+0.4**
TUMR	**Tumrok**	**4.38**	**23**	*i* P		**Pn**	**07 05 00.8**	**+1.0**
TUMR				eS		**Sn**	**07 05 52.6**	**+2.5**
TUMR	**Tumrok**	**4.38**	**23**	PN		**Pn**	**07 05 00.8**	**+1.0**
KMNR	**Kamenistaya**	**4.84**	**22**	*e*P		**Pn**	**07 05 06.0**	**+0.1**
KMNR	**Kamenistaya**	**4.84**	**22**	PN		**Pn**	**07 05 06.0**	**+0.1**
KPT	**Kopyto**	**5.03**	**20**	*e*P		**Pn**	**07 05 09.0**	**+0.6**
KPT	**Kopyto**	**5.03**	**20**	PN		**Pn**	**07 05 09.0**	**+0.6**
KOZ	**Kozyrevsk**	**5.04**	**18**	*e*P		**Pn**	**07 05 08.3**	**-0.2**
KOZ	**Kozyrevsk**	**5.04**	**18**	PN		**Pn**	**07 05 08.3**	**-0.2**
KIRR	**Kirishev**	**5.04**	**21**	*e*P		**Pn**	**07 05 09.0**	**+0.3**
KIRR	**Kirishev**	**5.04**	**21**	PN		**Pn**	**07 05 09.0**	**+0.3**
BZWR	**Bezymyannyi-We**	**5.09**	**22**	*e*P		**Pn**	**07 05 10.1**	**+0.8**
BZWR	**Bezymyannyi-We**	**5.09**	**22**	PN		**Pn**	**07 05 10.1**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**5.11**	**23**	*e*P		**Pn**	**07 05 10.2**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**5.11**	**23**	PN		**Pn**	**07 05 10.2**	**+0.6**
ZLN	**Zelenaya**	**5.21**	**24**	*e*P		**Pn**	**07 05 12.9**	**+2.0**
ZLN	**Zelenaya**	**5.21**	**24**	PN		**Pn**	**07 05 12.9**	**+2.0**
SRDR	**Sredinnyy**	**5.26**	**16**	*e*P		**Pn**	**07 05 12.4**	**+0.9**
SRDR	**Sredinnyy**	**5.26**	**16**	PN		**Pn**	**07 05 12.4**	**+0.9**
KRSR	**Krestovskiy**	**5.33**	**21**	*e*P		**Pn**	**07 05 13.6**	**+1.1**
KRSR	**Krestovskiy**	**5.33**	**21**	PN		**Pn**	**07 05 13.6**	**+1.1**
BDR	**Baidarnaya**	**5.80**	**23**	*e*P		**Pn**	**07 05 20.2**	**+1.4**
BDR				eS		**Sn**	**07 06 25.5**	**+1.3**
BDR	**Baidarnaya**	**5.80**	**23**	PN		**Pn**	**07 05 20.2**	**+1.4**
SRKR	**Sorokina**	**5.87**	**22**	*e

PDAR	**Pinedale Array**	**60.02**	**58**	P	**P**	**07 13 49.5**	**+0.9**
SCIA	**State Center**	**68.89**	**49**	P	**P**	**07 14 46.6**	**+0.5**
AMTX	**Amarillo**	**69.95**	**59**	P	**P**	**07 14 54.1**	**+1.3**
AMTX				IAmb	IAmb	07 14 54.5	
	comp=Z,3.1nm,0.8s						
TX31	**Lajitas Ar. Si**	**73.05**	**64**	P	**P**	**07 15 12.5**	**+1.0**
TX31				IAmb	IAmb	07 15 13.4	
	comp=Z,6.2nm,0.8s						
TX32	**Lajitas Array**	**73.05**	**64**	P	**P**	**07 15 12.5**	**+1.0**
TX32				IAmb	IAmb	07 15 13.4	
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**73.05**	**64**	P	**P**	**07 15 12.7**	**+1.1**
	comp=Z,4.1nm,1.0s,baz=303,slow=4.7,SNR=21						
WRA	**Warramunga Arr**	**73.70**	**202**	P	**P**	**07 15 15.6**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=19,slow=6.1,SNR=2.0						
ASAR	**Alice Springs**	**77.39**	**202**	P	**P**	**07 15 37.3**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=16,slow=5.2,SNR=7.2						
ASAR	**Alice Springs**	**77.39**	**202**	P	**P**	**07 15 37.2**	**+1.1**
H03N2	**Juan Fernandez**	**136.07**	**88**	T	T	09 53 56.9	
	baz=314,slow=77,SNR=157						
H03N1	**Juan Fernandez**	**136.09**	**88**	T	T	09 53 58.2	
	baz=314,slow=77,SNR=134						
H03N3	**Juan Fernandez**	**136.09**	**88**	T	T	09 53 57.6	
	baz=314,slow=77,SNR=140						
PLCA	**Paso Flores**	**145.82**	**91**	PKPbc	**PKPdf**	**07 23 19.8**	**+1.5**
	comp=Z,2.0nm,0.8s,baz=283,slow=5.2,SNR=5.4						

ROM 17 07:15:09.7±0.1, 42°.395N±0°.003×13°.154E±0°.005, h11km, ML1.7/1, 1D, Error ellipse: s-maj=0.3km s-min=0.3km az=226.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.12**	**21**	P	Pg	07 15 13.3	+0.5
RM33				S	Sg	07 15 15.6	+0.6
RM33				AML	AML		
	comp=E,2565μm,0.3s						
RM33				AML	AML		
	comp=N,1530μm,0.7s						
RM33				AML	AML		
	comp=E,2560μm,0.3s						
RM33				AML	AML		
	comp=N,1525μm,0.7s						
FIAM	**Fiamignano**	**0.13**	**192**	P	Pg	07 15 13.4	+0.6
FIAM				S	Sg	07 15 15.9	+0.8
AQU	**L'Aquila**	**0.19**	**102**	P	Pg	07 15 14.4	+0.6
AQU				S	Sg	07 15 17.8	+1.2
AQU				AML	AML		
	comp=E,296μm,0.3s						
AQU				AML	AML		
	comp=N,346μm,0.3s						
AQU				AML	AML		
	comp=N,324μm,0.3s						
AQU				AML	AML		
	comp=E,314μm,0.8s						
LNSS	**Leonessa**	**0.22**	**338**	P	Pg	07 15 14.9	+0.5
LNSS				S	Sg	07 15 18.5	+0.8
LNSS				AML	AML		
	comp=E,594μm,1.0s						
LNSS				AML	AML		
	comp=N,623μm,1.4s						
LNSS				AML	AML		
	comp=N,622μm,1.4s						
LNSS				AML	AML		
	comp=E,594μm,1.0s						
CAMP	**Campotosto**	**0.24**	**53**	P	Pg	07 15 15.2	+0.6
CAMP				S	Sg	07 15 19.1	+1.1
CAMP				AML	AML		
	comp=E,191μm,0.9s						
CAMP				AML	AML		
	comp=N,234μm,0.9s						
ARRO	**Arrone**	**0.34**	**303**	P	Pg	07 15 16.7	+0.2
ARRO				AML	AML		
	comp=E,194μm,0.6s						
ARRO				AML	AML		
	comp=N,154μm,0.2s						
FAGN	**Fagnano**	**0.34**	**112**	P	Pb	07 15 17.6	-0.3
FAGN				S	Sb	07 15 22.7	-0.7
TERO	**Teramo**	**0.40**	**55**	P	Pg	07 15 17.8	+0.1
TERO				S	Sg	07 15 23.8	+0.8
TERO				AML	AML		
	comp=E,65μm,1.5s						
TERO				AML	AML		
	comp=N,77μm,0.5s						
TERO				AML	AML		
	comp=E,65μm,1.5s						
PTQR	**Pietraquaria**	**0.41**	**154**	P	Pg	07 15 18.3	+0.4
NRCA	**Norcia**	**0.44**	**356**	P	Pg	07 15 18.6	+0.2
NRCA				S	Sg	07 15 25.1	+0.9
CERT	**Cerreto**	**0.46**	**196**	P	Pg	07 15 18.8	0.0
CERT				S	Sb	07 15 25.9	-0.9
CESX	**Cesi**	**0.48**	**297**	P	Pg	07 15 19.0	0.0
CESX				S	Sb	07 15 26.3	-0.9
MOMA	**Monte Martano**	**0.59**	**314**	P	Pg	07 15 21.3	0.0
MOMA				S	Sb	07 15 29.9	-0.8
CESI	**CESI - Serrava**	**0.64**	**343**	P	Pg	07 15 22.3	+0.3
CESI				S	Sb	07 15 31.7	-0.2
FDMO	**Fiordimonte**	**0.64**	**356**	P	Pg	07 15 22.1	-0.1
FDMO				S	Sb	07 15 31.8	-0.2
FDMO				AML	AML		
	comp=E,108μm,0.2s						
FDMO				AML	AML		
	comp=N,68μm,1.5s						
CSP1	**Cessapalombo**	**0.70**	**3**	⇓P	Pg	07 15 23.1	-0.1
CSP1				S	Sb	07 15 33.1	-0.6
EL6	**Elcito**	**0.94**	**358**	S	Sn	07 15 43.0	+0.6
CPGN	**Carpegna, Ital**	**1.53**	**337**	P	Pn	07 15 35.5	-1.7
CSNT	**Castellina Chi**	**1.74**	**309**	S	Sg	07 16 05.0	-0.7
PII	**Pisa**	**2.34**	**305**	S	Sn	07 16 16.0	-0.8
VULT	**Monte Vulture**	**2.34**	**127**	S	Sn	07 16 18.0	+1.0
EUCT	**Pavia**	**4.04**	**315**	S	Sn	07 16 58.0	-0.8

NEIC 17 07:19:05.2±1.2, 23°.3S±0°.1×179°.8W±0°.1, h531km±9km, mb4.6/51, Error ellipse: s-maj=19.6km s-min=15.3km az=90.0
IDC 17 07:19:06.1±1.7, 23°.16S×179°.87W, h538km±17km, mb3.5/15, mb1 3.7/16, mb1mx3.5/39, mbtmp4.4/16, Error ellipse: s-maj=16.8km s-min=15.8km az=146.0
ISC 17 07:19:05.2±0.5, 23°.27S±0°.07×179°.83W±0°.09, h532km, n77, σ0°.97/81, mb4.5/33, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.85**	**340**	P	**P**	**07 20 44.4**	**+2.5**
RAO	**Raoul Island**	**6.20**	**164**	P	**P**	**07 20 43.0**	**-1.8**
RAO				S	**S**	**07 22 05.8**	**-0.5**
DZM	**Mont Dzumac**	**12.73**	**273**	P	P	07 21 57.5	+6.0
	0.4nm,0.3s,baz=81,slow=19,SNR=5.0						
DZM	**Mont Dzumac**	**12.73**	**273**	P	**P**	**07 21 49.9**	**-1.5**
URZ	**Urewera**	**15.17**	**189**	P	**P**	**07 22 17.3**	**+0.8**
	1.4nm,0.3s,baz=281,slow=3.5,SNR=13						
URZ	**Urewera**	**15.17**	**189**	P	Pg	**07 22 16.5**	**-0.1**
URZ				IAmb	IAmb	07 22 25.3	
	comp=Z,25nm,1.4s						
BKZ	**Black Stump Fm**	**16.15**	**190**	P	**P**	**07 22 25.7**	**-0.9**
QRZ	**Quartz Range**	**18.65**	**198**	P	**P**	**07 22 51.2**	**+1.5**
QRZ				IAmb	IAmb	07 22 56.8	
	comp=Z,49nm,1.4s						
NNZ	**Nelson**	**18.78**	**196**	P	**P**	**07 22 51.9**	**+1.0**
NNZ				IAmb	IAmb	07 23 09.4	
	comp=Z,39nm,1.5s						
TUWZ	**Tuamarina**	**18.85**	**195**	P	**P**	**07 22 50.7**	**-0.8**
THZ	**Tophouse**	**19.42**	**197**	P	**P**	**07 22 56.9**	**+0.1**
THZ				IAmb	IAmb	07 23 02.5	
	comp=Z,21nm,1.2s						
KHZ	**Kahutara**	**19.88**	**195**	P	**P**	**07 23 00.3**	**-0.5**
KHZ				IAmb	IAmb	07 23 12.4	
	comp=Z,33nm,1.3s						
LTZ	**Lake Taylor**	**20.54**	**197**	P	**P**	**07 23 06.6**	**-0.3**
LTZ				IAmb	IAmb	07 23 08.6	
	comp=Z,9.8nm,0.8s						
OXZ	**Oxford**	**21.11**	**197**	P	**P**	**07 23 12.0**	**0.0**
OXZ				IAmb	IAmb	07 23 14.1	
	comp=Z,17nm,1.2s						
RPZ	**Rata Peaks**	**21.74**	**198**	P	**P**	**07 23 18.0**	**+0.3**
	comp=Z,2.3nm,0.4s,baz=348,slow=18,SNR=1.3						
RPZ	**Rata Peaks**	**21.74**	**198**	P	**P**	**07 23 17.4**	**-0.3**
RPZ				IAmb	IAmb	07 23 19.0	
	comp=Z,13nm,1.2s						
LBZ	**Lake Benmore**	**22.60**	**199**	P	**P**	**07 23 25.3**	**-0.2**
LBZ				IAmb	IAmb	07 23 43.0	
	comp=Z,46nm,1.5s						

WKZ	**Wanaka**	**23.36**	**200**	P	**P**	**07 23 31.8**	**-0.5**
WKZ				IAmb	IAmb	07 23 36.9	
	comp=Z,36nm,1.3s						
WHZ	**Wether Hill Ro**	**24.65**	**201**	P	**P**	**07 23 42.5**	**-1.2**
WHZ				IAmb	IAmb	07 23 46.0	
	comp=Z,12nm,0.7s						
ARMA	**Armidale**	**26.39**	**248**	P	**P**	**07 24 01.3**	**+1.9**
ARMA				IAmb	IAmb	07 24 16.5	
	comp=Z,40nm,1.4s						
EIDS	**Eidsvold**	**26.57**	**260**	P	**P**	**07 24 02.3**	**+1.4**
EIDS				IAmb	IAmb	07 24 02.6	
	comp=Z,18nm,1.0s						
CAN	**Canberra**	**29.59**	**239**	P	**P**	**07 24 29.1**	**+1.9**
CAN				IAmb	IAmb	07 24 29.6	
	comp=Z,13nm,0.7s						
CTA	**Charters Tower**	**31.63**	**269**	P	**P**	**07 24 45.8**	**+0.9**
	comp=Z,28nm,0.4s,baz=94,slow=11,SNR=84						
CTAO	**Charters Tower**	**31.63**	**269**	P	**P**	**07 24 45.9**	**+1.0**
TOO	**Toolangi**	**32.92**	**236**	P	**P**	**07 24 57.2**	**+1.5**
TOO				IAmb	IAmb	07 24 57.3	
	comp=Z,7.1nm,0.7s						
PMG	**Port Moresby**	**34.44**	**288**	P	**P**	**07 25 08.8**	**+0.1**
	comp=Z,29nm,0.7s,baz=113,slow=3.3,SNR=16						
PMG	**Port Moresby**	**34.44**	**288**	P	**P**	**07 25 09.0**	**+0.4**
PMG				IAmb	IAmb	07 25 09.7	
	comp=Z,29nm,0.8s						
STKA	**Stephens Creek**	**35.10**	**247**	P	**P**	**07 25 14.8**	**+0.8**
	comp=Z,7.8nm,0.6s,baz=91,slow=11,SNR=17						
STKA	**Stephens Creek**	**35.10**	**247**	P	**P**	**07 25 15.2**	**+1.2**
COEN	**Coen**	**36.17**	**278**	P	**P**	**07 25 23.6**	**+0.5**
COEN				IAmb	IAmb	07 25 24.9	
	comp=Z,8.2nm,0.9s						
BBOO	**Buckleboo**	**39.84**	**246**	P	**P**	**07 25 52.5**	**-0.2**
BBOO				IAmb	IAmb	07 25 53.0	
	comp=Z,7.5nm,0.6s						
AS31	**Alice Springs**	**42.29**	**260**	P	**P**	**07 26 12.7**	**+0.3**
ASAR	**Alice Springs**	**42.29**	**260**	P	**P**	**07 26 12.4**	**0.0**
	comp=Z,12nm,0.6s,baz=101,slow=6.9,SNR=125						
ASAR				ScP	**ScP**	**07 30 54.4**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=112,slow=4.4,SNR=7.6						
ASAR	**Alice Springs**	**42.29**	**260**	P	**P**	**07 26 12.3**	**-0.1**
WR0	**Warramunga Arr**	**42.42**	**265**	P	**P**	**07 26 12.9**	**-0.5**
WB2	**Warramunga Arr**	**42.59**	**265**	P	**P**	**07 26 14.4**	**-0.4**
WB2				IAmb	IAmb	07 26 15.1	
	comp=Z,20nm,0.8s						
WB0	**Warramunga Arr**	**42.60**	**266**	P	**P**	**07 26 14.4**	**-0.4**
WB0				IAmb	IAmb	07 26 15.0	
	comp=Z,19nm,0.7s						
WRAB	**Tennant Creek**	**42.60**	**265**	P	**P**	**07 26 14.4**	**-0.5**
WRAB				IAmb	IAmb	07 26 15.0	
	comp=Z,16nm,0.8s						
WRA	**Warramunga Arr**	**42.61**	**265**	P	**P**	**07 26 14.3**	**-0.6**
	comp=Z,14nm,0.7s,baz=91,slow=8.4,SNR=125						
WRA				ScP	**ScP**	**07 30 55.5**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=102,slow=3.7,SNR=7.2						
WRA	**Warramunga Arr**	**42.61**	**265**	P	**P**	**07 26 14.2**	**-0.7**
JAY	**Jayapura**	**43.41**	**292**	P	**P**	**07 26 20.7**	**-0.5**
	comp=Z,9.5nm,0.7s,baz=172,slow=5.6,SNR=4.5						
FORT	**Forrest**	**46.68**	**249**	P	**P**	**07 26 45.7**	**-0.3**
MTN	**Manton Dam**	**47.56**	**274**	P	**P**	**07 26 52.8**	**-0.1**
MTN				IAmb	IAmb	07 27 00.9	
	comp=Z,35nm,1.4s						
KKO	**Keanakako'i**	**48.72**	**31**	P	**P**	**07 27 01.9**	**+0.4**
PUH	**Pauahi**	**48.72**	**32**	P	**P**	**07 27 01.9**	**+0.4**
UWE	**Uwekahuna**	**48.72**	**31**	P	**P**	**07 27 02.2**	**+0.6**
OBL	**Observatory Le**	**48.72**	**31**	P	**P**	**07 27 01.2**	**-0.3**
SBLHI	**Steaming Bluff**	**48.74**	**31**	P	**P**	**07 27 01.9**	**+0.2**
KNRA	**Kununurra**	**48.85**	**269**	P	**P**	**07 27 02.6**	**+0.1**
KNRA				IAmb	IAmb	07 27 03.3	
	comp=Z,15nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.03**	**265**	P	**P**	**07 27 18.8**	**+0.3**
FITZ				IAmb	IAmb	07 27 19.6	
	comp=Z,7.2nm,0.6s						
VNDA	**Vanda**	**55.02**	**185**	P	**P**	**07 27 47.9**	**+2.0**
	comp=Z,0.7nm,1.0s,baz=7.6,slow=7.6,SNR=2.3						
PSA00	**Pilbara Seismi**	**55.43**	**259**	P	**P**	**07 27 49.3**	**-0.4**
NWAO	**Narrogin (SRO)**	**55.64**	**245**	P	**P**	**07 27 50.8**	**-0.3**
NWAO	**Narrogin (SRO)**	**55.64**	**245**	P	**P**	**07 27 50.5**	**-0.5**
NWAO				IAmb	IAmb	07 28 07.9	
	comp=Z,26nm,1.5s						
MORW	**Morawa**	**57.24**	**250**	P	**P**	**07 28 02.1**	**0.0**
GIRL	**Giralia**	**60.21**	**256**	P	**P**	**07 28 22.9**	**+0.7**
CASY	**Casey**	**60.74**	**206**	P	**P**	**07 28 24.9**	**0.0**
BKB	**Balikpapan**	**65.03**	**280**	P	**P**	**07 28 51.1**	**-2.3**
QSPA	**South Pole Qui**	**66.81**	**180**	P	**P**	**07 29 05.2**	**+1.4**
UGM	**Wanagama**	**68.25**	**271**	P	**P**	**07 29 12.7**	**-0.7**
KKM	**Kota Kinabalu**	**68.87**	**287**	P	**P**	**07 29 17.4**	**+0.2**
KKM				IAmb	IAmb	07 29 25.2	
	comp=Z,21nm,1.1s						
MJAR	**Matsushiro Arr**	**71.47**	**325**	P	**P**	**07 29 31.3**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=165,slow=5.5,SNR=5.5						
KSM	**Kuching**	**72.15**	**280**	P	**P**	**07 29 35.9**	**-0.6**
YOJ	**Yonaguni jima**	**72.98**	**307**	P	**P**	**07 29 40.1**	**-0.9**
MAW	**Mawson**	**78.39**	**200**	P	**P**	**07 30 11.0**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=153,slow=4.5,SNR=2.2						
MAW	**Mawson**	**78.39**	**200**	P	**P**	**07 30 11.4**	**+1.1**
PETK	**Petropavlovsk-**	**78.52**	**346**	P	**P**	**07 30 10.6**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=127,slow=9.4,SNR=5.1						
PETK	**Petropavlovsk-**	**78.52**	**346**	P	**P**	**07 30 10.8**	**-0.3**
NVAR	**Mina Array Bea**	**84.19**	**44**	P	**P**	**07 30 41.3**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=223,slow=7.4,SNR=4.3						
SNAA	**Sanae**	**85.29**	**179**	P	**P**	**07 30 45.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**89.45**	**290**	P	**P**	**07 31 07.6**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=138,slow=3.4,SNR=8.6						
TXAR	**Lajitas Array**	**89.97**	**58**	P	**P**	**07 31 09.2**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=211,slow=7.1,SNR=11						
PDAR	**Pinedale Array**	**92.13**	**44**	P	**P**	**07 31 17.8**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=209,slow=2.7,SNR=4.5						
FINES	**FINESS Array B**	**137.90**	**342**	PKP	**PKPdf**	**07 37 27.9**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=116,slow=4.4,SNR=3.9						
FINES				SKPbc	**SKPbc**	**07 40 09.7**	**-2.9**
	comp=Z,1.0nm,0.5s,baz=35,slow=4.7,SNR=9.1						
AKASG	**Malin Array Be**	**144.52**	**328**	PKP	**PKPdf**	**07 37 39.5**	**-1.4**
	comp=Z,1.2nm,0.4s,baz=44,slow=4.3,SNR=11						
BRTR	**Keskin Array B**	**147.31**	**308**	PKPbc	**PKPbc**	**07 37 48.4**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=98,slow=3.7,SNR=4.1						
BRTR				PKPab	**PKPab**	**07 37 52.3**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=98,slow=6.3,SNR=4.4						
GERES	**GERESS Array B**	**152.32**	**341**	PKPab	**PKPab**	**07 38 12.5**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=48,slow=2.9,SNR=1.6						

BJI 17 07:36:49.9±0.0, 28°.10N×103°.52E, h5km, mb3.7/1, ML3.8/17
IDC 17 07:36:49.3±1.0, 28°.03N×103°.51E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.4/44, mbtmp3.6/6, Error ellipse: s-maj=37.2km s-min=19.9km az=47.0
ISC 17 07:36:51.6±0.7, 28°.21N±0°.04×103°.63E±0°.07, h10km, n12, σ2°.93/18, mb3.6/6, 1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.70**	**2**	Pn	**Pn**	**07 37 37.4**	**+2.3**
CD2				Pg	**Pb**	**07 37 41.8**	**+1.8**
CD2				Sn	**Sb**	**07 38 12.8**	**-0.4**
CD2				Sg	**Sg**	**07 38 17.0**	**-1.3**
CD2				smax	smax		
	comp=N,890nm,0.6s						
CD2				smax	smax		
	comp=E,1μm,0.8s						
KMI	**Kunming**	**3.17**	**195**	⇓*e*Pg	**Pb**	**07 37 47.0**	**-1.2**
KMI				smax	smax		
	comp=N,48nm,0.8s						
KMI				smax	smax		
	comp=E,40nm,0.8s						
GYA	**Guiyang**	**3.21**	**122**	Pn	**Pn**	**07 37 45.3**	**+3.1**
GYA				Pg	**Pg**	**07 37 52.4**	**-0.7**
GYA				Sn	**Sn**	**07 38 22.6**	**+2.0**
GYA				smax	smax		
	comp=N,160nm,0.8s						
GYA				smax	smax		
	comp=E,200nm,0.8s						
XAN	**Xi'an**	**7.37**	**37**	Pn	**Pn**	**07 38 40.4**	**+1.0**
XAN				Pg	Pb	07 39 06.1	+6.4
XAN				Sn	**Sn**	**07 40 03.8**	**+0.7**
XAN				Sg	**Sg**	**07 40 43.3**	**-4.9**
XAN				smax	smax		
	comp=N,85nm,1.0s						
XAN				smax	smax		
	comp=E,93nm,1.1s						
CMAR	**Chiang Mai Arr**	**10.62**	**205**	Pn	**Pn**	**07 39 24.8**	**+0.9**
	baz=18,slow=12,SNR=2.8						
WMQ	**Urumqi**	**20.17**	**325**	*e*P	Pn	07 41 28.1	0.0
KSRS	**Korea Array**	**22.35**	**59**	P	**P**	**07 41 51.0**	**+1.3**
	2.0nm,0.6s,baz=247,slow=9.8,SNR=11						

MKAR	**Makanchi Array**	**24.98**	**324**	P	**P**	**07 42 15.3**	**-0.1**
	0.6nm,0.6s,baz=129,slow=11,SNR=8.6							
KURBB	**Kurchatov Arra**	**29.36**	**327**	P	**P**	**07 42 53.2**	**-1.4**
	0.2nm,0.5s,baz=136,slow=9.9,SNR=2.7							
GEYT	**Alibeck**	**39.03**	**296**	P	**P**	**07 44 18.8**	**+0.2**
	1.6nm,0.6s,baz=96,slow=7.6,SNR=3.8							
WRA	**Warramunga Arr**	**56.33**	**145**	P	**P**	**07 46 30.7**	**-2.2**
	0.2nm,0.4s,baz=332,slow=8.6,SNR=8.1							
ASAR	**Alice Springs**	**59.26**	**147**	P	**P**	**07 46 52.7**	**-0.8**
	0.4nm,0.6s,baz=324,slow=6.8,SNR=9.0							

NNC 17 07:52:06.1±2.2, 47°.87N×83°.43E, h0km, mb2.7, mpv2.5, Error ellipse: s-maj=16.5km s-min=10.9km az=171.0
SOME 17 07:51:57.9, 48°.40N×83°.30E, h5km, 6C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**1.42**	**131**	*e*P	Pn	07 52 21.7	-2.7
	4.2nm,0.6s						
ZSN				*e*S	Sb	07 52 34.8	-8.4
	32nm,0.4s						
ZSN	**Zaisan**	**1.42**	**131**	P	Pn	07 52 21.7	-2.7
	4.2nm,0.6s						
ZSN				S	Sb	07 52 34.8	-8.4
	32nm,0.4s						
MK31	**Makanchi Array**	**1.75**	**203**	⇑P	Pb	07 52 30.2	-0.2
	1.0nm,0.4s,baz=39,slow=12,SNR=117						
MK31				⇑S	Sn	07 52 49.6	-1.9
	3.3nm,0.3s,baz=48,slow=30,SNR=5.6						
MAKZ	**Makanchi**	**1.83**	**210**	⇑P	Pb	07 52 32.2	+0.4
	0.8nm,0.3s						
MAKZ				⇓S	Sn	07 52 52.6	-0.9
	5.1nm,0.4s						
KURBB	**Kurchatov Arra**	**3.82**	**307**	⇑Pn	Pg	07 53 09.7	-1.4
	0.4nm,0.4s						
KURBB				⇑Lg	Lg	07 54 23.0	
	19nm,0.8s						
KURK	**Kurchatov**	**3.83**	**309**	⇓Pn	Pg	07 53 09.4	-1.8
	0.5nm,0.8s						
KURK				⇑Lg	Lg	07 54 21.4	
	5.9nm,0.6s						
KAPS	**Kapalarasan**	**4.13**	**222**	*e*P	Pg	07 53 16.1	-0.9
	0.5nm,0.2s						
KAPS				*e*S	Sg	07 54 08.0	-2.4
	4.0nm,0.7s						
KAPS	**Kapalarasan**	**4.13**	**222**	Pg	Pg	07 53 16.1	-0.9
	0.5nm,0.2s						
KAPS				Lg	Lg	07 54 08.0	
	4.0nm,0.7s						
DJR	**Jarkent**	**4.74**	**212**	*e*P	Pg	07 53 25.4	-3.3
	0.8nm,0.5s						
DJR				*e*S	Sb	07 54 22.9	+4.1
	1.8nm,0.6s						
DJR	**Jarkent**	**4.74**	**212**	Pg	Pg	07 53 25.4	-3.3
	0.8nm,0.5s						
DJR				Lg	Lg	07 54 22.9	
	1.8nm,0.6s						

IDC 17 07:55:18.9±1.5, 50°.19N×157°.11E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.3/54, mbtmp3.4/5, ML2.5/1, MS2.4/1, Ms1 2.4/1, ms1mx2.1/42, Error ellipse: s-maj=35.7km s-min=27.5km az=112.0
KRSC 17 07:55:22.1±2.6, 50°.26N×157°.60E, h51km±31km, ML4.2
ISC 17 07:55:19.3±2.4, 50°.16N±0°.08×157°.53E±0°.07, h6km±14km, n42, σ2°.21/52, mb3.7/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.04**	**301**	*e*P	**Pn**	**07 55 41.1**	**+0.6**
SKR				*e*S	**Sg**	**07 55 52.8**	**0.0**
PAU	**Pauzhetka**	**1.38**	**341**	*e*P	**Pb**	**07 55 46.1**	**+0.5**
PAU				*e*S	**Sg**	**07 56 02.0**	**-1.8**
ALID	**Alaid**	**1.45**	**300**	*e*P	**Pg**	**07 55 47.5**	**+0.4**
ALID				*e*S	**Sg**	**07 56 03.7**	**-2.1**
MIPR	**Malaya Ipel'ka**	**2.17**	**347**	*e*P	**Pb**	**07 55 57.9**	**-1.1**
ASAK	**Asacha**	**2.24**	**6**	*e*P	**Pn**	**07 55 58.0**	**+1.0**
ASAK				*e*S	**Sn**	**07 56 25.0**	**+0.1**
RUS	**Russkaya**	**2.36**	**15**	*e*P	**Pn**	**07 55 59.1**	**+0.6**
RUS				*e*S	**Sn**	**07 56 25.5**	**-2.2**
MTVR	**Mutnovka**	**2.36**	**10**	*e*P	**Pn**	**07 56 00.1**	**+1.4**
MTVR				*e*S	**Sn**	**07 56 26.7**	**-1.4**
GRL	**Gorelyy**	**2.42**	**8**	*e*P	**Pn**	**07 56 00.8**	**+1.3**
GRL				*e*S	**Sn**	**07 56 27.4**	**-2.1**
KRMR	**Karymshinskiy**	**2.70**	**8**	*e*P	**Pn**	**07 56 05.0**	**+1.8**
KRMR				*e*S	**Sn**	**07 56 35.8**	**-0.4**
APC	**Apacha**	**2.78**	**355**	*e*P	**Pn**	**07 56 06.2**	**+1.9**
PET	**Petropavlovsk**	**2.95**	**13**	*e*P	**Pn**	**07 56 07.8**	**+1.1**
PET				*e*S	**Sn**	**07 56 39.8**	**-2.6**
PETK	**Petropavlovsk-**	**2.95**	**2**	Pn	**Pn**	**07 56 08.6**	**+1.8**
	3.3nm,0.3s,baz=170,slow=16,SNR=38						
PETK				Sn	**Sn**	**07 56 45.0**	**+2.5**
	2.1nm,0.3s,baz=186,slow=10,SNR=2.0						
PETK				LR	LR	07 57 29.2	
	comp=Z,60nm,20.2s,baz=240,slow=44						
DALK	**Dalny**	**2.97**	**14**	*e*P	**Pn**	**07 56 08.2**	**+1.2**
DALK				*e*S	**Sn**	**07 56 41.1**	**-1.8**
UGLR	**Uglovaya**	**3.16**	**14**	*e*P	**Pn**	**07 56 12.1**	**+2.5**
UGLR				*e*S	**Sn**	**07 56 47.0**	**-0.6**
AVH	**Avacha**	**3.20**	**13**	*e*P	**Pn**	**07 56 12.8**	**+2.6**
SMAR	**Somma**	**3.21**	**14**	*e*P	**Pn**	**07 56 13.2**	**+2.8**
KOK	**Koryaka**	**3.21**	**12**	*e*P	**Pn**	**07 56 13.1**	**+2.8**
KO

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.17**	**155**	Pn	**Pn**	**07 57 06.1**	**-1.5**
	25nm,0.3s,baz=353,slow=5.6,SNR=80						
PMG				Pg	**Pn**	**07 57 10.2**	**+2.6**
	106nm,0.3s,baz=7.2,slow=5.8,SNR=40						
PMG				Sn	**Sn**	**07 57 34.0**	**+0.7**
	53nm,0.3s,baz=141,slow=12,SNR=8.5						
PMG				Lg	Lg	07 57 40.3	
	112nm,0.3s,baz=350,slow=22,SNR=8.9						
KRVT	**Keravat (AS076**	**6.53**	**62**	Pn	**Pn**	**07 58 08.7**	**+1.1**
	11nm,0.3s,baz=355,slow=3.1,SNR=3.7						
KRVT				LR	LR	08 00 41.5	
	comp=Z,462nm,20.5s,baz=256,slow=40						
RABL	**Rabaul**	**6.71**	**62**	Pn	**Pn**	**07 58 11.2**	**+1.2**
COEN	**Coen**	**7.16**	**205**	Pn	**Pn**	**07 58 16.5**	**+0.2**
COEN				Sn	**Sn**	**07 59 36.1**	**-0.3**
SMPI	**Sarmi**	**9.24**	**305**	P	Pn	07 59 08.2	+23
CTA	**Charters Tower**	**12.60**	**180**	Pn	**Pn**	**07 59 31.4**	**+0.7**
	0.5nm,0.3s,baz=348,slow=13,SNR=8.0						
CTAO	**Charters Tower**	**12.60**	**180**	Pn	**Pn**	**07 59 31.9**	**+1.2**
MTN	**Manton Dam**	**15.81**	**249**		**Pn**	**08 00 14.3**	**+0.2**
MTN				IAmb	IAmb	08 00 21.2	
	comp=Z,43nm,0.7s						
SIJI	**Sorong**	**16.28**	**293**	LR	LR	08 08 25.1	
	comp=Z,106nm,18.6s,baz=155,slow=44						
WB0	**Warramunga Arr**	**16.82**	**222**		**Pn**	**08 00 26.6**	**-0.2**
WR0	**Warramunga Arr**	**16.86**	**221**		**Pn**	**08 00 26.9**	**-0.4**
WRAB	**Tennant Creek**	**16.96**	**222**		**Pn**	**08 00 28.4**	**-0.3**
WB2	**Warramunga Arr**	**16.97**	**222**		**Pn**	**08 00 28.2**	**-0.5**
WRA	**Warramunga Arr**	**16.98**	**222**	P	**Pn**	**08 00 28.8**	**0.0**
	comp=Z,0.7nm,0.3s,baz=46,slow=11,SNR=25						
WRA	**Warramunga Arr**	**16.98**	**222**		**Pn**	**08 00 28.1**	**-0.7**
EIDS	**Eidsvold**	**18.44**	**166**	P	**P**	**08 00 45.9**	**-0.6**
KNRA	**Kununurra**	**18.98**	**243**	P	**P**	**08 00 51.8**	**-0.6**
KNRA				IAmb	IAmb	08 00 58.5	
	comp=Z,56nm,0.7s						
AS31	**Alice Springs**	**20.03**	**215**	P	**P**	**08 01 04.3**	**+0.3**
ASAR	**Alice Springs**	**20.03**	**215**	P	Pn	08 01 05.3	-0.6
	comp=Z,31nm,0.9s,baz=45,slow=9.8,SNR=157						
ASAR				LR	LR	08 09 33.3	
	comp=Z,128nm,18.4s,baz=34,slow=39						
ASAR	**Alice Springs**	**20.03**	**215**	P	**P**	**08 01 03.5**	**-0.5**
GUMO	**Guam**	**20.91**	**356**	LR	LR	08 09 22.0	
	comp=Z,53nm,18.5s,baz=148,slow=37						
GUMO	**Guam**	**20.91**	**356**	P	**P**	**08 01 12.9**	**-0.7**
GUMO				IAmb	IAmb	08 01 19.0	
	comp=Z,60nm,1.1s						
FITZ	**Fitzroy Crossi**	**22.70**	**240**	P	**P**	**08 01 33.4**	**+0.7**
	comp=Z,13nm,0.9s,baz=54,slow=8.7,SNR=24						
FITZ				LR	LR	08 11 34.5	
	comp=Z,122nm,19.6s,baz=70,slow=40						
FITZ	**Fitzroy Crossi**	**22.70**	**240**	P	**P**	**08 01 32.4**	**-0.3**
FITZ				IAmb	IAmb	08 01 35.1	
	comp=Z,14nm,0.9s						
ARMA	**Armidale**	**23.43**	**168**	P	**P**	**08 01 42.8**	**+2.6**
ARMA				IAmb	IAmb	08 01 44.8	
	comp=Z,40nm,1.4s						
DZM	**Mont Dzumac**	**24.32**	**129**	LR	LR	08 08 45.2	
	comp=Z,139nm,21.5s,baz=28,slow=30						
DZM	**Mont Dzumac**	**24.32**	**129**	P	**P**	**08 01 48.2**	**-0.4**
DZM				IAmb	IAmb	08 02 06.6	
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**24.72**	**189**	P	**P**	**08 01 52.5**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=344,slow=10,SNR=5.6						
STKA				LR	LR	08 11 05.5	
	comp=Z,111nm,20.6s,baz=15,slow=35						
STKA	**Stephens Creek**	**24.72**	**189**	P	**P**	**08 01 51.5**	**-0.5**
LHI	**Lord Howe Isla**	**26.80**	**155**	P	**P**	**08 02 07.8**	**-3.0**
BBOO	**Buckleboo**	**26.98**	**199**	P	**P**	**08 02 10.9**	**-1.5**
BBOO				IAmb	IAmb	08 02 22.0	
	comp=Z,14nm,1.4s						
FORT	**Forrest**	**28.81**	**214**	P	**P**	**08 02 30.6**	**+1.7**
FORT				IAmb	IAmb	08 02 48.1	
	comp=Z,11nm,1.1s						
TUWZ	**Tuamarina**	**41.86**	**148**	P	**P**	**08 04 21.2**	**+0.6**
MJAR	**Matsushiro Arr**	**44.37**	**351**	P	**P**	**08 04 39.5**	**-1.5**
	comp=Z,1.7nm,0.6s,baz=186,slow=9.8,SNR=8.6						
MJAR				LR	LR	08 22 49.7	
	comp=Z,32nm,18.3s,baz=85,slow=36						
MJAR	**Matsushiro Arr**	**44.37**	**351**	P	**P**	**08 04 40.8**	**-0.3**
MAJO	**Matsushiro**	**44.37**	**351**	P	**P**	**08 04 39.9**	**-1.2**
MAJO				IAmb	IAmb	08 04 41.2	
	comp=Z,6.7nm,0.8s						
MAT	**Matsushiro**	**44.37**	**351**	P	**P**	**08 04 39.4**	**-1.6**
MJB9	**Matsu-Tunnel**	**44.38**	**351**	P	**P**	**08 04 39.9**	**-1.2**
MJB9				IAmb	IAmb	08 04 41.0	
	comp=Z,6.8nm,0.8s						
NJ2	**Nanjing**	**47.15**	**328**	*e*P	**P**	**08 05 04.6**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
KSRS	**Korea Array**	**47.81**	**340**	P	**P**	**08 05 08.1**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=158,slow=8.6,SNR=8.9						
KSRS				LR	LR	08 22 46.3	
	comp=Z,31nm,21.8s,baz=185,slow=33						
USA0B	**Ussuriysk Arra**	**52.97**	**347**	P	**P**	**08 05 46.7**	**-0.3**
USA0B				IAmb	IAmb	08 05 47.5	
	comp=Z,4.1nm,0.7s						
USRK	**Ussuriysk Ar.**	**52.97**	**347**	P	**P**	**08 05 46.9**	**0.0**
	comp=Z,3.7nm,0.6s,baz=181,slow=7.4,SNR=11						
USRK				LR	LR	08 26 04.5	
	comp=Z,37nm,21.9s,baz=94,slow=34						
USRK	**Ussuriysk Ar.**	**52.97**	**347**	P	**P**	**08 05 46.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**53.27**	**300**	P	**P**	**08 05 51.3**	**+1.7**
	comp=Z,2.0nm,0.6s,baz=119,slow=5.9,SNR=9.2						
CMAR	**Chiang Mai Arr**	**53.27**	**300**	P	**P**	**08 05 50.0**	**+0.4**
KMI	**Kunming**	**53.28**	**309**	⇓*e*P	P	08 05 58.8	+8.9
KMI				pP	sP	08 06 04.8	-0.5
KMI				sP	pP	08 06 13.0	+12
KMI				pmax	pmax		
	comp=Z,17nm,0.5s						
KMI				pmax	pmax		
	comp=Z,62nm,4.3s						
HHC	**Hu-ho-hao-te**	**57.65**	**329**	*e*P	**P**	**08 06 22.0**	**+1.1**
HHC				pmax	pmax		
	comp=Z,18nm,0.5s						
HHC				pmax	pmax		
	comp=Z,130nm,5.4s						
KLR	**Kul'dur**	**57.82**	**349**	P	**P**	**08 06 21.1**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=22,slow=2.4,SNR=4.7						
LZH	**Lanzhou**	**58.80**	**320**	*e*P	**P**	**08 06 30.3**	**+1.2**
LZH				pP	pP	08 06 40.4	+0.1
LZH				sP	sP	08 06 44.8	+0.2
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
PEA0B	**Petropavlovsk-**	**61.08**	**8**	P	**P**	**08 06 44.0**	**-0.2**
PEA0B				IAmb	IAmb	08 06 45.2	
	comp=Z,8.1nm,0.8s						
PETK	**Petropavlovsk-**	**61.08**	**8**	P	**P**	**08 06 44.5**	**+0.3**
	comp=Z,5.9nm,0.8s,baz=178,slow=8.0,SNR=14						
PETK				LR	LR	08 29 36.6	
	comp=Z,32nm,21.3s,baz=237,slow=33						
PETK	**Petropavlovsk-**	**61.08**	**8**	P	**P**	**08 06 43.3**	**-0.9**
SHL	**Shillong**	**62.16**	**304**	P	**P**	**08 06 50.0**	**-2.3**
SHL				IAmb	IAmb	08 06 53.6	
	comp=Z,5.9nm,0.9s						
GTA	**Gaotai**	**63.35**	**321**	*e*P	**P**	**08 07 04.4**	**+4.5**
GTA				pP	pP	08 07 09.4	-1.8
GTA				sP	sP	08 07 12.6	-2.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ULN	**Ulaanbaatar**	**64.99**	**332**	P	**P**	**08 07 10.3**	**-0.2**
ULN				IAmb	IAmb	08 07 12.4	
	comp=Z,3.5nm,1.0s						
SONM	**Songino Array**	**65.28**	**332**	P	**P**	**08 07 13.3**	**+1.0**
	comp=Z,2.3nm,0.9s,baz=154,slow=6.3,SNR=11						
SONM	**Songino Array**	**65.28**	**332**	P	**P**	**08 07 13.2**	**+1.0**
MA2	**Magadan**	**66.87**	**3**	P	**P**	**08 07 21.6**	**-0.6**
	comp=Z,7.9nm,0.8s,baz=173,slow=5.1,SNR=4.2						
MA2	**Magadan**	**66.87**	**3**	P	**P**	**08 07 21.6**	**-0.6**
MA2				IAmb	IAmb	08 07 22.4	
	comp=Z,10nm,0.9s						
TLY	**Talaya**	**69.26**	**333**	P	**P**	**08 07 36.0**	**-1.3**
TLY				IAmb	IAmb	08 07 39.2	
	comp=Z,4.9nm,1.0s						
SEY	**Seymchan**	**70.30**	**3**	P	**P**	**08 07 43.0**	**-0.4**
	comp=Z,4.7nm,0.8s,baz=133,slow=4.0,SNR=6.9						
VNDA	**Vanda**	**70.55**	**176**	P	**P**	**08 07 46.5**	**+1.6**
	comp=Z,1.4nm,0.8s,baz=324,slow=5.9,SNR=9.6						
WMQ	**Urumqi**	**73.38**	**320**	*e*P	**P**	**08 08 03.8**	**+1.3**
WMQ				pP	sP	08 08 17.5	-0.4
WMQ				pmax	pmax		
	comp=Z,21nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,29nm,6.9s						
MK31	**Makanchi Array**	**78.11**	**321**	P	**P**	**08 08 29.1**	**-0.3**
MKAR	**Makanchi Array**	**78.11**	**321**	P	**P**	**08 08 29.9**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=99,slow=7.1,SNR=18						
MKAR	**Makanchi Array**	**78.11**	**321**	P	**P**	**08 08 29.8**	**+0.4**
MAKZ	**Makanchi**	**78.31**	**321**	P	**P**	**08 08 31.2**	**+0.7**
MAKZ				IAmb	IAmb	08 08 32.6	
	comp=Z,3.1nm,0.8s						
KDJ	**Kajisay**	**79.75**	**315**	P	**P**	**08 08 38.8**	**+0.1**
KDJ				IAmb	IAmb	08 08 42.8	
	comp=Z,4.6nm,0.9s						
ZAA0	**Zalesovo Array**	**79.81**	**328**	P	**P**	**08 08 38.0**	**-0.5**
ZALV	**Zalesovo Beam**	**79.81**	**328**	P	**P**	**08 08 38.6**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=116,slow=6.2,SNR=7.1						
ZALV	**Zalesovo Beam**	**79.81**	**328**	P	**P**	**08 08 37.4**	**-1.1**
NIL	**Nilore**	**80.14**	**306**	P	**P**	**08 08 40.1**	**-0.7**
NIL				IAmb	IAmb	08 08 42.0	
	comp=Z,7.2nm,0.5s						
MAW	**Mawson**	**80.66**	**203**	P	**P**	**08 08 43.6**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=72,slow=6.6,SNR=4.7						
MAW	**Mawson**	**80.66**	**203**	P	**P**	**08 08 41.5**	**-1.4**
KURK	**Kurchatov**	**81.89**	**324**	P	**P**	**08 08 48.9**	**-0.8**
KURBB	**Kurchatov Arra**	**81.91**	**323**	P	**P**	**08 08 49.5**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=110,slow=4.2,SNR=9.0						
QSPA	**South Pole Qui**	**82.56**	**180**	P	**P**	**08 08 52.5**	**-0.6**
QSPA				IAmb	IAmb	08 09 09.7	
	comp=Z,5.8nm,1.0s						
RDOG	**Red Dog Mine**	**83.31**	**17**	P	**P**	**08 08 57.2**	**+0.5**
RDOG				IAmb	IAmb	08 08 58.0	
	comp=Z,5.8nm,0.6s						
KK31	**Karatay Array**	**84.74**	**315**	P	**P**	**08 09 04.8**	**+0.2**
KKAR	**Karatay Array**	**84.74**	**315**	P	**P**	**08 09 04.8**	**+0.2**
IMAR	**Indian Mountai**	**85.08**	**21**	P	**P**	**08 09 05.7**	**0.0**
RND	**Reindeer**	**85.71**	**24**	P	**P**	**08 09 07.9**	**-1.2**
MCK	**McKinley**	**85.82**	**24**	P	**P**	**08 09 08.3**	**-1.2**
DHY	**Denali Highway**	**86.18**	**25**	P	**P**	**08 09 10.6**	**-0.9**
NRIK	**Noril'sk**	**86.39**	**342**	P	**P**	**08 09 12.4**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=124,slow=7.3,SNR=7.0						
WRH	**Wood River Hil**	**86.48**	**23**	P	**P**	**08 09 11.5**	**-1.3**
WRH				IAmb	IAmb	08 09 12.4	
	comp=Z,9.1nm,0.8s						
CCB	**Clear Creek Bu**	**86.66**	**23**	P	**P**	**08 09 12.4**	**-1.3**
COLA	**College**	**86.74**	**23**	P	**P**	**08 09 12.7**	**-1.2**
HDA	**Harding Lake**	**86.90**	**24**	P	**P**	**08 09 13.1**	**-1.7**
HDA				IAmb	IAmb	08 09 15.6	
	comp=Z,7.4nm,0.6s						
IL31		**87.07**	**23**	P	**P**	**08 09 14.0**	**-1.6**
ILAR	**Eielson Array**	**87.07**	**23**	P	**P**	**08 09 13.9**	**-1.8**
	comp=Z,10nm,0.7s,baz=252,slow=5.3,SNR=91						
ILAR	**Eielson Array**	**87.07**	**23**	P	**P**	**08 09 14.1**	**-1.6**
MENT	**Mentasta**	**87.66**	**25**	P	**P**	**08 09 18.3**	**-0.3**
DOT	**Dot Lake**	**87.78**	**25**	P	**P**	**08 09 18.5**	**-0.6**
CTGM	**Chitina Glacie**	**88.05**	**28**	P	**P**	**08 09 19.0**	**-1.6**
BCAR	**Beaver Creek A**	**88.53**	**26**	P	**P**	**08 09 22.4**	**-0.3**
SYO	**Syowa Base**	**89.01**	**200**	⇓*e*PcP	**PcP**	**08 09 28.0**	**+1.7**
EGAK	**Eagle**	**89.36**	**24**	P	**P**	**08 09 26.0**	**-0.5**
DAWY	**Dawson**	**89.87**	**25**	P	**P**	**08 09 28.9**	**0.0**
INK	**Inuvik**	**93.24**	**22**	P	**P**	**08 09 43.3**	**-1.1**
	comp=Z,4.2nm,1.0s,baz=195,slow=3.2,SNR=3.7						
INK	**Inuvik**	**93.24**	**22**	P	**P**	**08 09 43.1**	**-1.3**
INK				IAmb	IAmb	08 09 45.0	
	comp=Z,3.9nm,1.0s						
NVAR	**Mina Array Bea**	**98.83**	**52**	P	**P**	**08 10 10.1**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=274,slow=4.2,SNR=5.3						
LPAZ	**La Paz**	**138.62**	**125**	PKhKP	PKPpre	08 15 46.7	
	comp=Z,0.5nm,0.8s,baz=311,slow=4.5,SNR=2.4						
LPAZ				PKP	**PKPdf**	**08 15 58.3**	**+0.3**
	comp=Z,1.7nm,1.0s,baz=218,slow=9.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	**144.68**	**282**	PKP	PKPbc	08 16 07.1	+0.2
	comp=Z,4.0nm,0.8s,baz=70,slow=3.5,SNR=23						
HUMP	**Col San Antoni**	**147.00**	**68**		**PKPbc**	**08 16 13.8**	**0.0**
KIC	**Kosan Boka**	**151.17**	**270**	*e*PKP1	**PKiKP**	**08 16 24.9**	**-0.3**
	comp=Z,23nm,1.0s						
DBIC	**Dimbokro**	**151.31**	**270**	PKPbc	**PKPbc**	**08 16 24.4**	**-0.6**
	comp=Z,6.4nm,0.7s,baz=95,slow=3.7,SNR=13						
DBIC	**Dimbokro**	**151.31**	**270**	PKPbc	**PKiKP**	**08 16 25.6**	**+0.1**
LIC	**Lamto**	**151.45**	**269**	*e*PKP1	**PKiKP**	**08 16 25.6**	**-0.2**
	comp=Z,35nm,0.7s						
TIC	**Toumodi**	**151.47**	**270**	*e*PKP1	**PKiKP**	**08 16 25.6**	**-0.2**
BDFB	**Brasilia**	**153.09**	**148**	PKPbc	**PKiKP**	**08 16 29.0**	**-0.2**
	comp=Z,4.4nm,0.6s,baz=186,slow=1.9,SNR=14						

*IDC **17** 08:25:33.4±3.3,36.67S×179.29E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.5/24,mbtmp3.4/3,ML3.3/1,Error ellipse: s-maj=77.3km s-min=33.2km az=126.0*
*WEL **17** 08:25:33.6,37.5±13×18.0E±1.2,h12km,M3.1/15, ML3.4/15,MLv3.1/15,Error ellipse: s-maj=0.0km s-min=0.0km az=146.5*

ISC 17 08:25:33.1±1.6,37.08S±0.07×179.66E±0.10,h10km,n49, σ1s18/50,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.18**	**246**	P	**Pb**	**08 25 53.3**	**-2.4**
MXZ				S	**Sn**	**08 26 12.1**	**+0.2**
WMGZ	**Waiomatatini S**	**1.24**	**233**	P	**Pg**	**08 25 57.2**	**+0.3**
WMGZ				S	**Sn**	**08 26 15.2**	**+1.9**
PUZ	**Puketiti**	**1.49**	**228**	P	**Pn**	**08 26 00.8**	**+0.8**
HAZ	**Te Kaha**	**1.64**	**245**	P	**Pn**	**08 26 02.6**	**+0.6**
HAZ				S	**Sg**	**08 26 25.1**	**-0.8**
TWGZ	**Tauwhareparae**	**1.73**	**230**	P	**Pb**	**08 26 04.6**	**-0.3**
RUGZ	**Raukumara Rang**	**1.81**	**240**	P	**Pn**	**08 26 05.6**	**+1.2**
CNGZ	**Carnagh Statio**	**1.81**	**219**	P	**Pb**	**08 26 06.6**	**+0.2**
TKGZ	**Te Karaka**	**1.98**	**226**	P	**Pn**	**08 26 08.1**	**+1.5**
MWZ	**Matawai**	**2.11**	**233**	P	**Pn**	**08 26 09.0**	**+0.5**
RIGZ	**Rimuhau**	**2.21**	**222**	P	**Pn**	**08 26 10.7**	**+0.8**
RAGZ	**Rawiri**	**2.27**	**231**	P	**Pn**	**08 26 12.0**	**+1.2**
PRGZ	**Paritu Road**	**2.31**	**217**	P	**Pn**	**08 26 12.8**	**+1.5**
URZ	**Urewera**	**2.34**	**239**	Pn	**Pn**	**08 26 12.9**	**+1.3**
	8.2nm,0.3s,baz=274,slow=2.4,SNR=28						
URZ				Sn	**Sb**	**08 26 43.5**	**-0.9**
	3.3nm,0.3s,baz=180,slow=22,SNR=7.0						
URZ	**Urewera**	**2.34**	**239**	P	**Pn**	**08 26 13.0**	**+1.3**
SNGZ	**Shannon Statio**	**2.50**	**227**	S	**Sn**	**08 26 46.1**	**+1.7**
OPRZ	**Ohinepanea**	**2.59**	**252**	P	**Pn**	**08 26 16.0**	**+1.0**
RTZ	**Ruatahuna**	**2.62**	**233**	P	**Pn**	**08 26 16.9**	**+1.4**
MUGZ	**Murupara**	**2.68**	**238**	P	**Pn**	**08 26 17.3**	**+0.9**
RAHZ	**Arahi**	**2.74**	**227**	P	**Pn**	**08 26 18.7**	**+1.5**
MYRZ	**Mayor Island**	**2.74**	**265**	P	**Pn**	**08 26 18.1**	**+1.0**
MTHZ	**Maungataniwha**	**2.85**	**231**	P	**Pn**	**08 26 19.9**	**+1.3**
KARZ	**Kaharoa**	**2.88**	**250**	P	**Pn**	**08 26 20.2**	**+1.2**
NMHZ	**Naumai**	**3.02**	**227**	P	**Pn**	**08 26 23.1**	**+1.0**
KMRZ	**Kaimai**	**3.06**	**254**	P	**Pn**	**08 26 23.1**	**+1.5**
KUZ	**Kuaotunu**	**3.18**	**275**	P	**Pn**	**08 26 23.1**	**0.0**
BKZ	**Black Stump Fm**	**3.25**	**229**	P	**Pn**	**08 26 24.6**	**+0.4**
MCHZ	**McNeill Hill**	**3.32**	**224**	P	**Pn**	**08 26 24.8**	**-0.3**
TOZ	**Tahuroa Road**	**3.38**	**258**	P	**Pn**	**08 26 26.4**	**+0.6**
KWHZ	**Kaweka Forest**	**3.46**	**226**	P	**Pn**	**08 26 27.4**	**+0.3**
KAHZ	**Kahuranaki**	**3.48**	**218**	P	**Pn**	**08 26 27.5**	**+0.1**
WIAZ	**Waiheke Island**	**3.64**	**273**	P	**Pn**	**08 26 30.4**	**+0.9**
BHHZ	**Black Hill Sta**	**3.72**	**229**	P	**Pn**	**08 26 31.7**	**+1.1**
OTVZ	**Oturere**	**3.78**	**235**	P	**Pn**	**08 26 31.8**	**+0.2**
ETAZ	**East Tamaki Re**	**3.79**	**270**	P	**Pn**	**08 26 33.0**	**+1.4**
MBAZ	**Motutapu North**	**3.83**	**273**	P	**Pn**	**08 26 33.4**	**+1.3**
WPHZ	**Waipukurau**	**3.91**	**219**	P	**Pn**	**08 26 32.6**	**-0.5**
PNHZ	**Pukenui**	**3.92**	**223**	P	**Pn**	**08 26 33.1**	**-0.3**
AWAZ	**Awhitu Peninsu**	**4.01**	**269**	P	**Pn**	**08 26 36.4**	**+1.7**
HIZ	**Hauiti**	**4.07**	**248**	P	**Pn**	**08 26 37.2**	**+1.8**
RVAZ	**Riverhead Bore**	**4.08**	**273**	P	**Pn**	**08 26 37.0**	**+1.4**
VRZ	**Vera Road**	**4.37**	**241**	P	**Pn**	**08 26 41.3**	**+1.8**
WCZ	**Waipu Caves**	**4.43**	**283**	P	**Pn**	**08 26 41.6**	**+1.2**
OUZ	**Omahuta**	**5.25**	**289**	P	**Pn**	**08 26 53.1**	**+1.5**
ASAR	**Alice Springs**	**41.30**	**276**	P	**P**	**08 33 17.5**	**-1.5**
	0.3nm,0.6s,baz=118,slow=7.7,SNR=8.5						
WRA	**Warramunga Arr**	**42.90**	**281**	P	**P**	**08 33 31.3**	**-0.7**
	0.2nm,0.4s,baz=120,slow=7.7,SNR=8.7						
H03N3	**Juan Fernandez**	**78.63**	**123**	T	T	10 04 06.9	
	baz=235,slow=72,SNR=18						
H03N2	**Juan Fernandez**	**78.64**	**123**	T	T	10 04 08.4	
	baz=235,slow=72,SNR=14						
H03N1	**Juan Fernandez**	**78.65**	**123**	T	T	10 04 08.4	
	baz=235,slow=72,SNR=18						
FINES	**FINESS Array B**	**150.54**	**334**	PKPbc	**PKPbc**	**08 45 24.5**	**+0.3**
	1.2nm,1.0s,baz=319,slow=4.0,SNR=4.2						

*IDC **17** 08:26:31.4±1.9,59.11S×25.81W,h0km,mb4.4/1, mb1 4.4/1,mb1mx3.6/20,mbtmp4.4/1,Error ellipse: s-maj=114.5km s-min=68.0km az=133.0*

*NEIC **17** 08:26:37.0±0.6,59.25S±0.07×25.4W±0.4,h36km±8km, mb4.3/8,Error ellipse: s-maj=28.4km s-min=10.3km az=95.0.*

ISC 17 08:26:37.3±0.7,59.2S±0.1×25.5W±0.2,h35km,n17, σ0s85/19,mb4.4/6,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.57**	**155**	P	**Pn**	**08 29 48.2**	**+1.2**
VNA3	**Neumayer Olymp**	**13.75**	**158**	P	**Pn**	**08 29 50.3**	**+0.9**
VNA2	**Neumayer--Watz**	**13.97**	**155**	P	**Pn**	**08 29 53.3**	**+0.9**
SNAA	**Sanae**	**15.54**	**153**	P	**Pn**	**08 30 14.1**	**+0.7**
SNAA	**Sanae**	**15.54**	**153**		**Pn**	**08 30 11.6**	**-1.8**
AC05	**El Transito**	**42.92**	**295**	P	**P**	**08 34 33.2**	**+0.7**
AC05				IAmb	IAmb	08 34 41.6	
	comp=Z,9.3nm,1.3s						
LCO	**Las Campanas**	**42.97**	**294**	P	**P**	**08 34 33.5**	**+0.4**
LCO				IAmb	IAmb	08 34 51.4	
	comp=Z,13nm,1.4s						
VNDA	**Vanda**	**43.49**	**182**	P	**P**	**08 34 35.3**	**-1.0**
VNDA				IAmb	IAmb	08 34 48.9	
	comp=Z,3.6nm,1.5s						
LPAZ	**La Paz**	**52.91**	**305**	P	**P**	**08 35 49.8**	**-0.7**
LPAZ				IAmb	IAmb	08 36 13.8	
	comp=Z,2.6nm,1.4s						
RCBR	**Riachuelo**	**53.80**	**347**	P	**P**	**08 35 57.2**	**+0.9**
TOA0	**Torodi Ar. Sit**	**75.38**	**27**	P	**P**	**08 38 16.9**	**0.0**
TOA0				IAmb	IAmb	08 38 43.9	
	comp=Z,6.4nm,1.2s						
TORD	**Torodi Ar. Bea**	**75.38**	**27**	P	**P**	**08 38 16.6**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=200,slow=6.3,SNR=26						
TORD	**Torodi Ar. Bea**	**75.38**	**27**	P	**P**	**08 38 16.7**	**-0.3**
ARCES	**ARCESS Array B**	**133.51**	**22**	PKP	**PKPdf**	**08 45 47.4**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=177,slow=1.7,SNR=3.4						
SONM	**Songino Array**	**149.92**	**91**	PKPbc	**PKPbc**	**08 46 22.6**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=225,slow=0.2,SNR=2.0						
ILAR	**Eielson Array**	**152.78**	**307**	PKPbc	**PKPbc**	**08 46 28.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=154,slow=1.9,SNR=11						
ILAR	**Eielson Array**	**152.78**	**307**	PKPdf	**PKPdf**	**08 46 21.1**	**-0.4**
ILAR					**PKiKP**	**08 46 29.0**	**+0.1**
ILAR				PKPab	**PKPab**	**08 46 40.8**	**+0.9**

*IDC **17** 08:30:37.6±1.1,36.14N×71.46E,h0km,mb3.9/13, mb1 4.0/18,mb1mx3.8/47,mbtmp3.9/18,ML3.9/4,MS3.0/5, Ms1 3.0/5,ms1mx2.5/46,Error ellipse: s-maj=22.8km s-min=16.9km az=159.0*
*BJI **17** 08:30:49.8±0.0,36.32N×71.88E,h73km,mB4.5/5, mb4.8/8*
*NEIC **17** 08:30:49.2±2.2,36.53N±0.06×71.37E±0.08,h86km±7km, mb4.3/12,Error ellipse: s-maj=9.0km s-min=8.5km az=64.0*
*NNC **17** 08:30:53.6±6.3,36.91N×70.99E,h106km±156km,mb3.8, mpv4.1,Error ellipse: s-maj=57.1km s-min=32.8km az=151.0*

ISC 17 08:30:50.2±0.6,36.58N±0.06×71.31E±0.05,h100km,n79, σ2s00/89,mb4.0/15,5C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.54**	**342**	Pn	**Pn**	**08 31 30.7**	**+0.7**
CHGR	**Chuyangaron**	**2.69**	**321**	Pn	**Pn**	**08 31 32.2**	**+0.4**
CHGR				Sn	**Sn**	**08 32 04.2**	**+0.3**
KBL	**Kabul**	**2.74**	**223**		**Pn**	**08 31 33.5**	**+0.9**

comp=Z,7.1nm,0.5s,baz=222,slow=11,SNR=23
ZALV Zalesovo Beam 19.75 24 P **P** **08 35 11.8 0.0**
ARU Arti 21.64 341 P **P** **08 35 33.6 +1.5**
comp=Z,1.0nm,0.3s,baz=44,slow=2.8,SNR=6.1
ARU Arti 21.64 341 P **P** **08 35 34.0 +1.9**
ARU IAmb IAmb 08 35 36.8
comp=Z,10nm,1.3s
LZH Lanzhou 26.15 81 *eP* **P** **08 36 16.8 +1.6**
LZH pP pP 08 36 34.1 -4.8
LZH sP sP 08 36 41.8 -9.4
LZH pmax pmax
comp=Z,14nm,1.1s
SONM Songino Array 28.09 55 P **P** **08 36 32.8 +0.4**
comp=Z,1.3nm,0.7s,baz=256,slow=9.7,SNR=5.8
SONM Songino Array 28.09 55 P **P** **08 36 33.2 +0.8**
BRTR Keskin Array B 29.64 288 P **P** **08 36 47.0 +0.7**
comp=Z,0.4nm,0.5s,baz=102,slow=9.2,SNR=1.9
HHC Hu-ho-hao-te 31.51 70 *eP* **P** **08 37 05.0 +2.4**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,91nm,6.8s
AKASG Malin Array Be 33.09 309 P **P** **08 37 18.5 +2.3**
comp=Z,1.4nm,0.5s,baz=82,slow=6.4,SNR=5.3
AKASG Malin Array Be 33.09 309 P **P** **08 37 17.9 +1.8**
NRIK Noril'sk 34.01 10 P **P** **08 37 25.6 +1.7**
comp=Z,1.5nm,0.5s,baz=182,slow=6.0,SNR=5.2
MLR Muntele Rosu 34.96 299 P **P** **08 37 32.1 -0.5**
MLR IAmb IAmb 08 37 32.9
comp=Z,20nm,1.4s
FINES FINESS Array B 37.56 326 P **P** **08 37 56.9 +2.6**
comp=Z,3.5nm,0.9s,baz=118,slow=8.3,SNR=17
FINES FINESS Array B 37.56 326 P **P** **08 37 54.9 +0.5**
ARCES ARCESS Array B 41.17 337 P **P** **08 38 26.8 +2.5**
comp=Z,2.1nm,0.5s,baz=114,slow=8.6,SNR=14
ARCES ARCESS Array B 41.17 337 P **P** **08 38 25.9 +1.6**
ARE0 ARCESS Array S 41.17 337 P **P** **08 38 25.9 +1.6**
NC303 NORSAR Array S 44.41 323 P **P** **08 38 53.4 +2.8**
NB2 NORSAR Subarra 44.47 323 P **P** **08 38 52.9 +1.9**
comp=Z,3.6nm,0.7s,baz=95,slow=7.9
NOA NORSAR Array B 44.47 323 P **P** **08 38 53.1 +2.1**
comp=Z,2.5nm,0.6s,baz=96,slow=7.8,SNR=14
KSRS Korea Array 44.62 71 P **P** **08 38 52.5 -0.1**
comp=Z,0.8nm,0.8s,baz=273,slow=5.4,SNR=3.0
KSRS LR LR 08 58 44.8
comp=Z,60nm,19.3s,baz=246,slow=38
NBO00 NORSAR Array S 44.68 323 P **P** **08 38 55.2 +2.5**
NC204 NORSAR Array S 44.71 323 P **P** **08 38 55.3 +2.3**
MJAR Matsushiro Arr 52.70 69 LR LR 09 03 13.6
comp=Z,11nm,18.9s,baz=255,slow=37
ESDC Sonseca Array 57.64 298 P **P** **08 40 32.9 +3.0**
comp=Z,0.6nm,0.9s,baz=51,slow=6.8,SNR=4.5
ESDC Sonseca Array 57.64 298 P **P** **08 40 31.0 +1.1**
TORD Torodi Ar. Bea 65.97 269 P **P** **08 41 26.2 +0.2**
comp=Z,0.7nm,0.5s,baz=53,slow=6.1,SNR=9.6
TORD Torodi Ar. Bea 65.97 269 P **P** **08 41 26.9 +0.9**
IMAR Indian Mountai 72.03 18 P **P** **08 42 03.5 +0.8**
JAY Jayapura 75.10 105 LR LR 09 17 26.7
comp=Z,54nm,19.4s,baz=332,slow=38
ASAR Alice Springs 84.10 125 P **P** **08 43 08.6 -1.4**
comp=Z,0.4nm,0.9s,baz=298,slow=4.7,SNR=2.6
ASAR Alice Springs 84.10 125 P **P** **08 43 09.6 -0.5**

*MOS **17** 08:45:52.4±1.2, 28.°12N×103.°59E, h19km, mb4.4/22, Error ellipse: s-maj=8.7km s-min=6.4km az=103.6*
*NEIC **17** 08:45:53.0±0.8, 28.°11N±0.°06×103.°58E±0.°09, h10km±1km, mb4.4/33, Error ellipse: s-maj=13.5km s-min=9.5km az=109.0*
*BJI **17** 08:45:53.6±0.0, 28.°11N×103.°54E, h12km, mB4.3/8, mb4.4/22, ML4.4/20, Ms4.1/28, Ms7 3.9/23*
*IDC **17** 08:45:54.4±4.5, 28.°06N×103.°63E, h18km±28km, mb4.0/18, mb1 4.0/19, mb1mx3.9/46, mbtmp4.1/19, ML3.7/1, MS3.5/13, Ms1 3.5/13, ms1mx3.3/35, Error ellipse: s-maj=21.7km s-min=12.8km az=56.0*

ISC 17 08:45:53.3±0.4, 28.°19N±0.°03×103.°66E±0.°04, h10km, n122, σ1§40/135, mb4.2/44, MS3.4/13, 7C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.71**	**2**	Pn	**Pb**	**08 46 40.1**	**-1.9**
CD2				Pg	**Pg**	**08 46 45.3**	**0.0**
CD2				Sn	**Sb**	**08 47 16.0**	**+0.6**
CD2				Sg	**Sg**	**08 47 20.0**	**-0.5**
CD2				smax	smax		
	comp=N,4μm,0.7s						
CD2				smax	smax		
	comp=E,5μm,0.6s						
KMI	**Kunming**	**3.16**	**195** ⇓	*i*Pg	**Pb**	**08 46 50.0**	**+0.3**
KMI				Sg	**Sg**	**08 47 37.8**	**+2.9**
KMI				smax	smax		
	comp=N,200nm,1.1s						
KMI				smax	smax		
	comp=E,220nm,1.0s						
KMI				LR	LR		
	comp=N,2μm,4.5s						
KMI				LR	LR		
	comp=Z,1μm,6.5s						
KMI	**Kunming**	**3.16**	**195**	P	**Pn**	**08 46 43.4**	**+0.1**
KMI	**Kunming**	**3.16**	**195**		**Pn**	**08 46 43.4**	**+0.1**
GYA	**Guiyang**	**3.18**	**122**	Pg	**Pg**	**08 46 54.1**	**-0.1**
GYA				Sn	**Sb**	**08 47 25.6**	**-3.1**
GYA				Sg	**Sg**	**08 47 38.3**	**+3.0**
GYA				smax	smax		
	comp=N,1μm,1.0s						
GYA				smax	smax		
	comp=E,770nm,0.8s						
ENH	**Enshi**	**5.50**	**66**	Pn	**Pn**	**08 47 18.9**	**+3.7**
SLVN	**Son La**	**6.83**	**178**	Pn	**Pn**	**08 47 30.7**	**-2.9**
SLVN				Sn	**Sn**	**08 48 49.5**	**-1.9**
XAN	**Xi'an**	**7.37**	**36**	Pn	**Pn**	**08 47 42.6**	**+1.6**
XAN				Pg	**Pg**	**08 48 11.3**	**-3.1**
XAN				Sn	**Sn**	**08 49 04.9**	**+0.2**
XAN				Sg	**Sg**	**08 49 50.6**	**+0.7**
XAN				smax	smax		
	comp=N,420nm,1.0s						
XAN				smax	smax		
	comp=E,620nm,1.0s						
XAN				LR	LR		
	comp=N,1μm,5.7s						
XAN				LR	LR		
	comp=E,2μm,6.7s						
XAN				LR	LR		
	comp=Z,1μm,5.4s						
XAN	**Xi'an**	**7.37**	**36**	P	**Pn**	**08 47 42.1**	**+1.1**
XAN						08 49 05.3	
XAN	**Xi'an**	**7.37**	**36**	Pn	**Pn**	**08 47 42.0**	**+1.1**
XAN				Sn	**Sn**	**08 49 05.3**	**+0.5**
LZH	**Lanzhou**	**7.88**	**1**	Pg	**Pg**	**08 48 24.6**	**+0.5**
LZH				Sg	**Sg**	**08 50 07.5**	**+1.4**
LZH				smax	smax		
	comp=N,190nm,1.0s						
LZH				smax	smax		
	comp=E,210nm,1.1s						
LZH				LR	LR		
	comp=N,800nm,7.9s						
LZH				LR	LR		
	comp=E,2μm,7.6s						
LZH				LR	LR		
	comp=Z,570nm,8.7s						
WHN	**Wuhan**	**9.62**	**73** ⇑	*i*P	**Pn**	**08 48 16.3**	**+4.6**
WHN				LR	LR		
	comp=Z,1μm,5.0s						
WHN				LR	LR		
	comp=Z,3μm,7.6s						
WHN				LR	LR		
	comp=Z,3μm,8.5s						
CHTO	**Chiang Mai**	**10.28**	**206**	P	**Pn**	**08 48 23.6**	**+2.6**
CHTO	**Chiang Mai**	**10.28**	**206**	Pn	**Pn**	**08 48 23.6**	**+2.6**
CMAR	**Chiang Mai Arr**	**10.61**	**205**	Pn	**Pn**	**08 48 27.8**	**+2.3**
	comp=Z,0.6nm,0.3s,baz=15,slow=12,SNR=35						
CMAR				Lg	Lg	08 51 29.4	
	comp=Z,0.5nm,0.3s,baz=23,slow=22,SNR=2.0						
CMAR				LR	LR	08 52 53.9	
	comp=Z,250nm,19.1s,baz=58,slow=40						
QIZ	**Qiongzhong**	**10.73**	**147**	P	**Pn**	**08 48 24.3**	**-2.8**
QIZ				S	**Sn**	**08 50 24.8**	**-2.5**
QIZ				LR	LR		
	comp=N,960nm,8.9s						
QIZ				LR	LR		
	comp=E,1μm,11.1s						
QIZ				LR	LR		
	comp=Z,570nm,8.0s						
SHL	**Shillong**	**10.84**	**259**	P	**Pn**	**08 48 27.4**	**-1.2**
SHL	**Shillong**	**10.84**	**259**	Pn	**Pn**	**08 48 27.4**	**-1.2**
LSA	**Lhasa**	**11.06**	**281**	P	**Pn**	**08 48 33.4**	**+1.4**
LSA	**Lhasa**	**11.06**	**281**	Pn	**Pn**	**08 48 33.4**	**+1.4**
GTA	**Gaotai**	**11.64**	**345**	*e*P	Pn	08 48 50.8	+11
GTA				pP		08 48 55.1	
GTA				sP		08 48 57.8	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,14nm,4.0s						
GTA				LR	LR		
	comp=N,610nm,11.4s						
GTA				LR	LR		
	comp=E,2μm,13.0s						
GTA				LR	LR		
	comp=Z,250nm,13.0s						
BTO	**Baotou**	**13.45**	**21**	*e*P	**P**	**08 49 11.9**	**-1.8**
TIA	**Tai'an**	**13.91**	**52**	P	**P**	**08 49 17.6**	**-1.2**
TIA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TIA				pmax	pmax		
	comp=Z,79nm,2.7s						
TIA				LR	LR		
	comp=Z,150nm,10.0s						
TIA				LR	LR		
	comp=Z,540nm,10.0s						
TIA				LR	LR		
	comp=Z,400nm,10.7s						
HHC	**Hu-ho-hao-te**	**14.20**	**25**	*e*P	**Pn**	**08 49 15.3**	**+0.8**
HHC				S	**Sn**	**08 51 56.0**	**+3.8**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				LR	LR		
	comp=Z,180nm,8.9s						
HHC				LR	LR		
	comp=Z,310nm,7.2s						
HHC				LR	LR		
	comp=Z,290nm,7.2s						
BJI	**Beijing**	**15.70**	**38**	P	**Pn**	**08 49 36.5**	**+2.0**
BJI				S	**Sn**	**08 52 30.0**	**+1.5**
SONM	**Songino Array**	**19.73**	**5**	P	**Pn**	**08 50 24.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=198,slow=14,SNR=11						
SONM				LR	LR	08 58 49.3	
	comp=Z,165nm,20.4s,baz=190,slow=39						
SONM	**Songino Array**	**19.73**	**5**		**Pn**	**08 50 25.3**	**+0.7**
ULN	**Ulaanbaatar**	**19.82**	**7**	*ce*P	**Pn**	**08 50 26.8**	**+1.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ULN	**Ulaanbaatar**	**19.82**	**7**	P	**P**	**08 50 24.8**	**+0.6**
WMQ	**Urumqi**	**20.20**	**325**	*e*P	Pn	08 50 30.6	+0.5
WMQ				LR	LR		
	comp=Z,200nm,14.7s						
WMQ				LR	LR		
	comp=Z,140nm,15.1s						
WMQ				LR	LR		
	comp=Z,180nm,20.3s						
INCN	**Inchon**	**21.37**	**58**	P	**P**	**08 50 41.5**	**+0.7**
INCN				pmax	pmax		
	comp=Z,16nm,0.9s						
INCN	**Inchon**	**21.37**	**58**	P	**P**	**08 50 41.5**	**+0.7**
INCN				IAmb	IAmb	08 50 48.8	
	comp=Z,16nm,0.9s						
ZAK	**Zakamensk**	**22.17**	**359**	*e*P	**P**	**08 50 48.7**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KSAR	**Wonju Array Be**	**22.30**	**59**	P	**P**	**08 50 51.5**	**+0.7**
KSAR	**Wonju Array Be**	**22.30**	**59**	P	**P**	**08 50 51.5**	**+0.7**
KS19	**Wonju Array Si**	**22.31**	**59**	P	**P**	**08 50 51.5**	**+0.6**
KS19				IAmb	IAmb	08 50 57.9	
	comp=Z,10nm,0.9s						
KSRS	**Korea Array**	**22.33**	**59**	P	**P**	**08 50 52.1**	**+1.0**
	comp=Z,5.0nm,0.6s,baz=244,slow=10,SNR=19						
TLY	**Talaya**	**23.47**	**360**	LR	LR	09 01 07.4	
	comp=Z,108nm,18.0s,baz=167,slow=39						
IPM	**Ipoh**	**23.71**	**187**	P	**P**	**08 51 03.7**	**-1.8**
IPM				IAmb	IAmb	08 51 08.8	
	comp=Z,9.8nm,0.8s						
JNU	**Nakatsue**	**23.89**	**71**	P	**P**	**08 51 09.2**	**+1.9**
JNU				IAmb	IAmb	08 51 23.9	
	comp=Z,20nm,1.3s						
HIA	**Hailar**	**24.41**	**26**	P	**P**	**08 51 13.2**	**+1.4**
HIA				pmax	pmax		
	comp=Z,14nm,1.1s						
HIA	**Hailar**	**24.41**	**26**	P	**P**	**08 51 13.2**	**+1.4**
HIA				IAmb	IAmb	08 51 16.6	
	comp=Z,14nm,1.1s						
DGZ	**Jazzator, Alta**	**24.81**	**334**	*i*P	**P**	**08 51 16.2**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MK31	**Makanchi Array**	**25.02**	**324**	P	**P**	**08 51 17.3**	**0.0**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MK31	**Makanchi Array**	**25.02**	**324**	P	**P**	**08 51 17.3**	**0.0**
MK31				IAmb	IAmb	08 51 24.0	
	comp=Z,5.7nm,0.9s						
MKAR	**Makanchi Array**	**25.02**	**324**	P	**P**	**08 51 18.1**	**+0.8**
	comp=Z,3.8nm,0.7s,baz=128,slow=11,SNR=22						
MKAR				PcP	**PcP**	**08 52 54.6**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=110,slow=3.8,SNR=3.9						
MKAR				ScP	**ScP**	**08 58 29.4**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=126,slow=4.1,SNR=2.0						
MKAR				LR	LR	09 01 13.9	
	comp=Z,77nm,18.8s,baz=126,slow=37						
MKAR	**Makanchi Array**	**25.02**	**324**	P	**P**	**08 51 17.1**	**-0.2**
TARG	**Taragay, Kyrgy**	**25.02**	**309**	P	**P**	**08 51 16.1**	**-1.8**
TARG				IAmb	IAmb	08 51 19.2	
	comp=Z,16nm,1.4s						
MAKZ	**Makanchi**	**25.19**	**323**	P	**P**	**08 51 19.0**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,11nm,1.1s						
MAKZ	**Makanchi**	**25.19**	**323**	P	**P**	**08 51 19.0**	**+0.1**
MAKZ				IAmb	IAmb	08 51 25.1	
	comp=Z,11nm,1.1s						
KDJ	**Kajisay**	**25.61**	**310**	P	**P**	**08 51 22.9**	**-0.1**
KDJ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KDJ	**Kajisay**	**25.61**	**310**	P	**P**	**08 51 22.9**	**-0.1**
KDJ				IAmb	IAmb	08 51 26.6	
	comp=Z,7.4nm,0.9s						
PSI	**Prapat**	**25.65**	**191**	P	**P**	**08 51 22.0**	**-1.4**
	comp=Z,3.6nm,0.4s,baz=0.7,slow=5.1,SNR=4.2						
PSI				LR	LR	09 02 18.3	
	comp=Z,142nm,19.3s,baz=270,slow=38						
RPSI	**Rantau Prapat**	**25.75**	**191**	P	**P**	**08 51 23.1**	**-1.1**
RPSI				IAmb	IAmb	08 51 24.8	
	comp=Z,7.5nm,1.1s						
RPSI	**Rantau Prapat**	**25.75**	**191**	P	**P**	**08 51 22.0**	**-2.2**
NIL	**Nilore**	**26.60**	**289**	P	**P**	**08 51 30.9**	**-0.9**
NIL				pmax	pmax		
	comp=Z,17nm,1.0s						
NIL	**Nilore**	**26.60**	**289**	P	**P**	**08 51 30.9**	**-0.9**
AAK	**Ala-Archa**	**27.64**	**309**	P	**P**	**08 51 41.8**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=149,slow=5.6,SNR=3.7						
AAK				LR	LR	09 05 18.8	
	comp=Z,422nm,21.5s,baz=232,slow=42						
AAK	**Ala-Archa**	**27.64**	**309**	*ce*P	**P**	**08 51 40.4**	**-0.9**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
AAK	**Ala-Archa**	**27.64**	**309**	P	**P**	**08 51 42.1**	**+0.9**
USA0B	**Ussuriysk Arra**	**27.71**	**47**	P	**P**	**08 51 42.4**	**+0.7**
USA0B				pmax	pmax		
	comp=Z,3.0nm,0.8s						
USA0B	**Ussuriysk Arra**	**27.71**	**47**	P	**P**	**08 51 42.4**	**+0.7**
USRK	**Ussuriysk Ar.**	**27.71**	**47**	P	**P**	**08 51 42.3**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=252,slow=8.0,SNR=5.2						
USRK				LR	LR	09 04 28.7	
	comp=Z,88nm,18.2s,baz=130,slow=40						
ZAA0	**Zalesovo Array**	**29.21**	**337**	P	**P**	**08 51 54.8**	**-0.2**
ZALV	**Zalesovo Beam**	**29.21**	**337**	P	**P**	**08 51 55.1**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=146,slow=8.1,SNR=6.4						
ZALV	**Zalesovo Beam**	**29.21**	**337**	*i*P	**P**	**08 51 57.7**	**+2.8**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**29.21**	**337**	P	**P**	**08 51 54.5**	**-0.4**
KURBB	**Kurchatov Arra**	**29.39**	**327**	P	**P**	**08 51 57.2**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=132,slow=10.0,SNR=9.2						
KURK	**Kurchatov**	**29.41**	**327**	*ce*P	**P**	**08 51 56.5**	**-0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KURK	**Kurchatov**	**29.41**	**327**	P	**P**	**08 51 57.0**	**+0.3**
KURK				IAmb	IAmb	08 52 01.1	
	comp=Z,5.8nm,1.4s						
GAR	**Garm**	**29.65**	**300**	P	**P**	**08 51 58.7**	**-0.5**
KBL	**Kabul**	**30.13**	**291**	P	**P**	**08 52 03.2**	**-0.4**
KBL				IAmb	IAmb	08 52 14.8	
	comp=Z,8.1nm,1.2s						
CHGR	**Chuyangaron**	**30.48**	**299**	P	**P**	**08 52 06.1**	**-0.3**
KK31	**Karatay Array**	**30.55**	**308**	P	**P**	**08 52 06.9**	**0.0**
KK31				pmax	pmax		
	comp=Z,5.0nm,1.5s						
KK31	**Karatay Array**	**30.55**	**308**	P	**P**	**08 52 06.9**	**0.0**
KKAR	**Karatay Array**	**30.55**	**308**	P	**P**	**08 52 06.5**	**-0.4**
KKAR	**Karatay Array**	**30.55**	**308**	P	**P**	**08 52 06.5**	**-0.4**
KKAR	**Karatay Array**	**30.55**	**308**	P	**P**	**08 52 06.6**	**-0.3**
KKAR				IAmb	IAmb	08 52 08.1	
	comp=Z,5.4nm,1.5s						
BRVK	**Borovoye**	**34.96**	**325**	*i*P	**P**	**08 52 45.6**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
GEYT	**Alibeck**	**39.06**	**296**	P	**P**	**08 53 21.8**	**+1.3**
	comp=Z,6.5nm,0.7s,baz=121,slow=7.1,SNR=14						
GEYT				LR	LR	09 12 04.6	
	comp=Z,58nm,19.6s,baz=55,slow=40						
GEYT	**Alibeck**	**39.06**	**296**	P	**P**	**08 53 21.4**	**+0.9**
GYA0B	**ALIBECK ARRAY**	**39.06**	**296**	P	**P**	**08 53 20.8**	**+0.3**
ABKAR	**Akbulak array**	**39.38**	**314**	P	**P**	**08 53 23.1**	**+0.2**
NRIK	**Noril'sk**	**42.24**	**352**	P	**P**	**08 53 46.3**	**0.0**
	comp=Z,1.6nm,0.5s,baz=132,slow=7.0,SNR=2.3						
NRIK				LR	LR	09 11 44.5	
	comp=Z,60nm,20.4s,baz=194,slow=37						
NRIK	**Noril'sk**	**42.24**	**352** ‖	*eP*	**P**	**08 53 46.4**	**+0.1**
ARU	**Arti**	**42.54**	**324**	*i*P	**P**	**08 53 48.8**	**0.0**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PETK	**Petropavlovsk-**	**46.57**	**42**	LR	LR	09 15 21.7	
	comp=Z,27nm,18.8s,baz=240,slow=38						
KIV	**Kislovodsk**	**50.63**	**305**	*eP*	**P**	**08 54 49.8**	**-2.8**
KIV				pmax	pmax		
	comp=Z,23nm,1.1s						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s						
KLMR	**Klimovskoe**	**53.26**	**327**	*eP*	**P**	**08 55 09.6**	**-2.2**
KLMR				pmax	pmax		
	comp=Z,11nm,1.5s						
KLMR	**Klimovskoe**	**53.26**	**327**	*eP*	**P**	**08 55 09.7**	**-2.1**
KLMR				AMP		08 55 10.8	
	comp=Z,11nm,1.5s						
WRAB	**Tennant Creek**	**56.29**	**145**	P	**P**	**08 55 33.9**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRAB	**Tennant Creek**	**56.29**	**145**	P	**P**	**08 55 33.9**	**-0.4**
WRA	**Warramunga Arr**	**56.30**	**145**	P	**P**	**08 55 32.8**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=317,slow=12,SNR=28						
WRA	**Warramunga Arr**	**56.30**	**145**	P	**P**	**08 55 32.6**	**-1.7**
WB2	**Warramunga Arr**	**56.30**	**145**	P	**P**	**08 55 33.5**	**-0.8**
WB2				IAmb	IAmb	08 55 40.9	
	comp=Z,6.1nm,1.1s						
WR0	**Warramunga Arr**	**56.41**	**145**	P	**P**	**08 55 34.2**	**-1.0**
BRTR	**Keskin Array B**	**57.88**	**301**	P	**P**	**08 55 48.2**	**+2.6**
	comp=Z,1.2nm,0.8s,baz=108,slow=7.9,SNR=5.5						
BRTR				LR	LR	09 23 11.6	
	comp=Z,19nm,20.6s,baz=112,slow=39						
BRTR	**Keskin Array B**	**57.88**	**301**	P	**P**	**08 55 45.0**	**-0.6**
BRTR	**Keskin Array B**	**57.88**	**301**	P	**P**	**08 55 45.0**	**-0.6**
AKASG	**Malin Array Be**	**59.12**	**314**	P	**P**	**08 55 53.9**	**0.0**
	comp=Z,0.4nm,0.4s,baz=70,slow=6.0,SNR=4.1						
AKASG	**Malin Array Be**	**59.12**	**314** ‖	*eP*	**P**	**08 55 53.9**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**59.12**	**314**	P	**P**	**08 55 53.7**	**-0.2**
AS31	**Alice Springs**	**59.23**	**147**	P	**P**	**08 55 54.7**	**-0.2**
ASAR	**Alice Springs**	**59.23**	**147**	P	**P**	**08 55 54.6**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=325,slow=6.6,SNR=32						
ASAR	**Alice Springs**	**59.23**	**147**	P	**P**	**08 55 54.9**	**0.0**
ARCES	**ARCESS Array B**	**59.76**	**337**	P	**P**	**08 55 58.4**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=93,slow=8.1,SNR=1.6						
FINES	**FINESS Array B**	**59.78**	**327**	P	**P**	**08 55 57.7**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=90,slow=8.2,SNR=8.6						
FINES				LR	LR	09 23 25.5	
	comp=Z,60nm,18.4s,baz=81,slow=38						
FINES	**FINESS Array B**	**59.78**	**327**	*i*P	**P**	**08 56 00.5**	**+2.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**59.78**	**327**	P	**P**	**08 55 58.2**	**0.0**
NC405	**NORSAR Array S**	**66.66**	**328**	P	**P**	**08 56 43.4**	**-0.5**
NB2	**NORSAR Subarra**	**66.91**	**328**	P	**P**	**08 56 45.1**	**-0.5**
	comp=Z,2.9nm,1.0s,baz=74,slow=6.5						
NOA	**NORSAR Array B**	**66.91**	**328**	P	**P**	**08 56 45.0**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=74,slow=6.5,SNR=5.5						
NOA				LR	LR	09 25 15.6	
	comp=Z,31nm,19.0s,baz=85,slow=35						
GERES	**GERESS Array B**	**69.32**	**315**	P	**P**	**08 57 01.3**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=99,slow=4.2,SNR=4.6						
GERES	**GERESS Array B**	**69.32**	**315**	P	**P**	**08 57 01.1**	**+0.1**
GERES	**GERESS Array B**	**69.32**	**315**	P	**P**	**08 57 01.1**	**+0.1**
IMAR	**Indian Mountai**	**69.51**	**25**	P	**P**	**08 57 02.0**	**+0.3**
STKA	**Stephens Creek**	**69.79**	**146**	P	**P**	**08 57 03.3**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=330,slow=13,SNR=3.2						
STKA	**Stephens Creek**	**69.79**	**146**	P	**P**	**08 57 03.3**	**-0.5**
MBAR	**Mbarara**	**75.27**	**261**	*ce*P	**P**	**08 57 34.5**	**-2.7**
MBAR				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TORD	**Torodi Ar. Bea**	**94.14**	**287**	P	**P**	**08 59 12.6**	**-0.2**
	comp=Z,0.3nm,0.9s,baz=28,slow=3.9,SNR=1.4						
ROSC	**El Rosal**	**147.11**	**356**	PKPbc	**PKPab**	**09 05 38.7**	**-0.6**
	comp=Z,6.4nm,0.5s,baz=142,slow=19,SNR=4.4						

KRSC 17 08:49:56.5±2.6, 49.°49N×156.°91E, h17km±43km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.30**	**337**	*e*P	Pn	08 50 19.9	0.0
SKR				*e*S	Sn	08 50 35.7	-1.2
ALID	**Alaid**	**1.64**	**328**	*e*P	Pn	08 50 23.2	-1.5
PAU	**Pauzhetka**	**1.98**	**358**	*e*P	Pb	08 50 31.6	-0.5
PAU				*e*S	Sn	08 50 55.1	+1.4
KDTR	**Khodutka, Kamc**	**2.44**	**17**	*e*P	Pb	08 50 38.7	-1.2
KDTR				*e*S	Sb	08 51 08.4	-1.2
ASAK	**Asacha**	**2.97**	**12**	*e*P	Pb	08 50 46.1	-2.8
MTVR	**Mutnovka**	**3.11**	**14**	*e*P	Pb	08 50 48.4	-2.9
MTVR				*e*S	Sn	08 51 24.6	+3.0
RUS	**Russkaya**	**3.12**	**18**	*e*P	Pn	08 50 47.0	+2.2
RUS				*e*S	Sn	08 51 23.9	+2.2
GRL	**Gorelyy**	**3.16**	**13**	*e*P	Pb	08 50 49.3	-2.9
GRL				*e*S	Sn	08 51 26.5	+3.7
KRMR	**Karymshinskiy**	**3.44**	**12**	*e*S	Sb	08 51 35.2	-3.0
DALK	**Dalny**	**3.73**	**17**	*e*P	Pn	08 50 56.8	+3.5
DALK				*e*S	Sn	08 51 40.9	+4.1
UGLR	**Uglovaya**	**3.92**	**17

DZM	**Mont Dzumac**	**12.33**	**160**	*e*Pn		**Pn**	**09 05 17.2**	**+0.1**
	7.4nm,0.7s								
DZM				*e*LR		LR	09 07 46.2		
DZM	**Mont Dzumac**	**12.33**	**160**	Pn		**Pn**	**09 05 15.4**	**-1.7**
	0.5nm,0.3s,baz=303,slow=23,SNR=8.3								
DZM				LR		LR	09 09 11.7		
	comp=Z,181nm,18.2s,baz=16,slow=33								
DZM	**Mont Dzumac**	**12.33**	**160**	Pn		**Pn**	**09 05 16.9**	**-0.2**
PMG	**Port Moresby**	**14.50**	**273**	LR		LR	09 11 05.5		
	comp=Z,230nm,19.4s,baz=129,slow=37								
PMG	**Port Moresby**	**14.50**	**273**	P		**P**	**09 05 52.5**	**+0.7**
CTA	**Charters Tower**	**17.79**	**236**	P		**P**	**09 06 28.4**	**+0.1**
	0.7nm,0.3s,baz=68,slow=12,SNR=16								
CTAO	**Charters Tower**	**17.79**	**236**	P		**Pn**	**09 06 27.3**	**-0.8**
EIDS	**Eidsvold**	**17.98**	**213**	P		**Pn**	**09 06 31.2**	**+0.9**
COEN	**Coen**	**18.56**	**257**	P		**Pn**	**09 06 40.5**	**+3.0**
COEN				IAmb		IAmb	09 06 52.1		
	comp=Z,29nm,1.4s								
AFI	**Afiamalu**	**26.00**	**100**	LR		LR	09 17 09.3		
	comp=Z,50nm,20.0s,baz=268,slow=34								
WR0	**Warramunga Arr**	**27.93**	**247**	P		**P**	**09 08 13.1**	**+3.5**
WR0				IAmb		IAmb	09 08 16.9		
	comp=Z,5.0nm,0.8s								
WB0	**Warramunga Arr**	**28.02**	**248**	P		**P**	**09 08 09.0**	**-1.3**
WB0				IAmb		IAmb	09 08 25.7		
	comp=Z,10nm,1.1s								
WB2	**Warramunga Arr**	**28.10**	**247**	P		**P**	**09 08 12.8**	**+1.8**
WB2				IAmb		IAmb	09 08 25.9		
	comp=Z,17nm,1.4s								
WRA	**Warramunga Arr**	**28.11**	**247**	P		**P**	**09 08 08.2**	**-3.0**
	comp=Z,0.5nm,0.6s,baz=78,slow=9.2,SNR=2.7								
WRA				LR		LR	09 19 13.4		
	comp=Z,108nm,19.4s,baz=90,slow=36								
WRA	**Warramunga Arr**	**28.11**	**247**	P		**P**	**09 08 11.4**	**+0.2**
STKA	**Stephens Creek**	**28.34**	**218**	LR		LR	09 19 34.8		
	comp=Z,134nm,18.5s,baz=28,slow=37								
H11S2	**WAKE ISLAND Hy**	**29.19**	**10**	T		T	09 39 21.0		
	baz=189,slow=76,SNR=29								
H11S3	**WAKE ISLAND Hy**	**29.20**	**9**	T		T	09 39 21.1		
	baz=189,slow=76,SNR=22								
H11S1	**WAKE ISLAND Hy**	**29.21**	**9**	T		T	09 39 22.4		
	baz=189,slow=76,SNR=20								
GUMO	**Guam**	**29.25**	**324**	LR		LR	09 19 30.2		
	comp=Z,49nm,18.6s,baz=133,slow=35								
ASAR	**Alice Springs**	**29.67**	**240**	P		**P**	**09 08 22.3**	**-2.7**
	comp=Z,0.5nm,0.5s,baz=65,slow=9.8,SNR=8.6								
ASAR				LR		LR	09 19 26.8		
	comp=Z,142nm,18.7s,baz=39,slow=35								
ASAR	**Alice Springs**	**29.67**	**240**	P		**P**	**09 08 22.0**	**-3.1**
H11N1	**WAKE ISLAND Hy**	**30.42**	**9**	T		T	09 40 51.3		
	baz=188,slow=76,SNR=13								
H11N3	**WAKE ISLAND Hy**	**30.43**	**9**	T		T	09 40 54.9		
	baz=188,slow=76,SNR=18								
H11N2	**WAKE ISLAND Hy**	**30.44**	**9**	T		T	09 40 54.6		
	baz=188,slow=76,SNR=13								
KNRA	**Kununurra**	**32.60**	**257**	P		**P**	**09 08 49.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**35.83**	**254**	P		**P**	**09 09 17.4**	**-1.4**
PPT	**Papeete**	**47.55**	**104**	LR		LR	09 27 32.2		
	comp=Z,35nm,19.2s,baz=318,slow=32								
PPT2	**Papeete2**	**47.55**	**104**	*e*LR		LR	09 24 33.2		
	comp=Z,47nm,24.0s								
MJAR	**Matsushiro Arr**	**51.80**	**336**	P		**P**	**09 11 26.5**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=165,slow=8.2,SNR=1.9								
MJAR				pP		**pP**	**09 11 36.0**	**-5.1**
	comp=Z,1.4nm,0.7s,baz=170,slow=9.1,SNR=5.0								
USRK	**Ussuriysk Ar.**	**60.80**	**336**	P		**P**	**09 12 32.3**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=164,slow=12,SNR=2.8								
USRK				pP		**pP**	**09 12 42.4**	**-3.0**
	comp=Z,4.0nm,0.8s,baz=136,slow=5.8,SNR=7.7								
USRK	**Ussuriysk Ar.**	**60.80**	**336**	P		**P**	**09 12 33.0**	**+2.4**
PETK	**Petropavlovsk-**	**63.44**	**357**	P		**P**	**09 12 51.4**	**+3.3**
	comp=Z,1.0nm,0.8s,baz=208,slow=18,SNR=2.6								
PETK				pP		**pP**	**09 13 00.3**	**-2.6**
	comp=Z,2.0nm,0.8s,baz=171,slow=10,SNR=4.1								
PETK	**Petropavlovsk-**	**63.44**	**357**	P		**P**	**09 12 50.0**	**+1.9**
VNDA	**Vanda**	**67.01**	**180**	P		**P**	**09 13 11.4**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=341,slow=6.7,SNR=11								
SONM	**Songino Array**	**75.98**	**325**	P		**P**	**09 14 07.2**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=123,slow=3.0,SNR=3.6								
SONM				pP		**PcP**	**09 14 16.6**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=134,slow=5.2,SNR=6.1								
SONM	**Songino Array**	**75.98**	**325**	P		**P**	**09 14 06.2**	**+0.6**
LSA	**Lhasa**	**78.82**	**303**	P		**P**	**09 14 23.3**	**+1.0**
ILAR	**Eielson Array**	**84.25**	**20**	P		**P**	**09 14 51.5**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=233,slow=4.4,SNR=2.3								
ILAR				pP		**pP**	**09 15 01.8**	**-3.3**
	comp=Z,0.4nm,0.5s,baz=242,slow=5.7,SNR=4.1								
NVAR	**Mina Array Bea**	**88.62**	**51**	P		**P**	**09 15 15.8**	**+3.9**
	comp=Z,0.5nm,0.6s,baz=240,slow=8.4,SNR=6.1								
NVAR				pP		**pP**	**09 15 26.4**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=268,slow=6.3,SNR=3.8								
NVAR	**Mina Array Bea**	**88.62**	**51**	P		**P**	**09 15 13.3**	**+1.4**
MKAR	**Makanchi Array**	**90.51**	**317**	P		**P**	**09 15 20.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=97,slow=5.7,SNR=3.3								
MKAR				pP		**pP**	**09 15 30.5**	**-5.4**
	comp=Z,0.7nm,0.5s,baz=93,slow=6.0,SNR=8.6								
MKAR	**Makanchi Array**	**90.51**	**317**	P		**P**	**09 15 19.6**	**-0.7**

MOS **17** *09:11:43.5± 1.4, 28.˚06N× 103.˚58E, h10km, mb4.8/38, Error ellipse: s-maj=7.1km s-min=5.1km az=110.6*

IDC **17** *09:11:45.0± 4.4, 28.˚06N× 103.˚56E, h16km± 27km, mb4.2/23, mb1 4.3/24, mb1mx4.2/35, mbtmp4.3/24, ML4.0/1, MS3.5/21, Ms1 3.5/21, ms1mx3.4/37, Error ellipse: s-maj=17.1km s-min=11.9km az=43.0*

NEIC **17** *09:11:45.5± 2.6, 28.˚19N± 0.˚07× 103.˚71E± 0.˚09, h10km± 1km, mb4.7/67, Error ellipse: s-maj=13.3km s-min=10.6km az=118.0*

BJI **17** *09:11:47.0± 0.0, 28.˚13N× 103.˚56E, h13km, mB4.5/24, mb4.5/32, ML4.5/22, Ms4.2/41, Ms7 4.0/30*

ISC 17 09:11:45.5±0.3**, 28.˚14N**±0.˚03×**103.˚57E**±0.˚04**, h10**km**, n217, σ1**s**45/225, mb4.6/85, MS3.5/22, 10C-1D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op	ISC		h m s	ISC
CD2	**Chengdu**	**2.77**	**3**	Pn	**Pn**		**09 12 31.3**	**+1.3**
CD2				Pg	**Pg**		**09 12 39.6**	**+1.0**
CD2				Sn	**Sb**		**09 13 07.0**	**-2.2**
CD2				Sg	**Sg**		**09 13 18.8**	**+4.3**
CD2				smax	smax			
	comp=N,6μm,0.7s							
CD2				smax	smax			
	comp=E,8μm,0.8s							
KMI	**Kunming**	**3.09**	**194**	⇑*i*Pn	**Pb**		**09 12 40.5**	**-0.2**
KMI				Sg	**Sg**		**09 13 25.8**	**+0.9**
KMI				smax	smax			
	comp=N,400nm,1.1s							
KMI				smax	smax			
	comp=E,380nm,1.2s							
KMI				LR	LR			
	comp=N,3μm,6.0s							
KMI				LR	LR			
	comp=Z,2μm,7.1s							
KMI	**Kunming**	**3.09**	**194**	Pn	**Pb**		**09 12 40.0**	**-0.8**
GYA	**Guiyang**	**3.22**	**121**	Pn	**Pn**		**09 12 37.4**	**+1.1**
GYA				Pg	**Pb**		**09 12 45.4**	**+2.5**
GYA				Sn	**Sn**		**09 13 16.9**	**+2.0**
GYA				Sg	**Sg**		**09 13 30.8**	**+1.7**
GYA				smax	smax			
	comp=N,2μm,0.9s							
GYA				smax	smax			
	comp=E,1μm,0.7s							
ENH	**Enshi**	**5.60**	**66**	Pn	**Pn**		**09 13 09.3**	**+0.5**
SLVN	**Son La**	**6.78**	**177**	Pn	**Pn**		**09 13 25.5**	**+0.3**
XAN	**Xi'an**	**7.46**	**37**	Pg	Pg		09 14 04.3	-4.1
XAN				Sn	**Sn**		**09 14 56.0**	**-3.2**
XAN				Sg	**Sg**		**09 15 39.9**	**-5.1**
XAN				smax	smax			
	comp=N,620nm,0.9s							
XAN				smax	smax			
	comp=E,690nm,1.0s							
XAN				LR	LR			
	comp=N,2μm,3.8s							
XAN				LR	LR			
	comp=E,2μm,4.6s							
XAN				LR	LR			
	comp=Z,2μm,5.0s							
XAN	**Xi'an**	**7.46**	**37**	P	**Pn**		**09 13 33.4**	**-1.1**
XAN	**Xi'an**	**7.46**	**37**	Pn	**Pn**		**09 13 33.4**	**-1.1**
LZH	**Lanzhou**	**7.93**	**2**	P	**Pn**		**09 13 45.8**	**+4.8**
LZH				smax	smax			
	comp=Z,240nm,0.7s							
LZH				smax	smax			
	comp=Z,250nm,0.9s							
LZH				LR	LR			
	comp=Z,1μm,7.3s							
LZH				LR	LR			
	comp=Z,750nm,8.9s							
WHN	**Wuhan**	**9.71**	**73**	⇓P	**Pn**		**09 14 07.5**	**+2.2**
WHN				sP			09 14 22.3	
WHN				LR	LR			
	comp=Z,1μm,5.8s							
WHN				LR	LR			
	comp=Z,4μm,6.2s							
WHN				LR	LR			
	comp=Z,4μm,7.5s							
CHTO	**Chiang Mai**	**10.20**	**206**	P	**Pn**		**09 14 14.0**	**+1.9**
CHTO	**Chiang Mai**	**10.20**	**206**	Pn	**Pn**		**09 14 14.0**	**+1.9**
CMAR	**Chiang Mai Arr**	**10.53**	**205**	Pn	**Pn**		**09 14 18.5**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=16,slow=12,SNR=40							
CMAR				Pg			09 15 00.4	
	comp=Z,0.1nm,0.3s,baz=13,slow=16,SNR=7.2							
CMAR				Lg	Lg		09 17 21.4	
	baz=20,slow=27,SNR=1.9							
CMAR				LR	LR		09 18 44.0	
	comp=Z,484nm,18.0s,baz=20,slow=40							
CMAR	**Chiang Mai Arr**	**10.53**	**205**	P	**Pn**		**09 14 18.8**	**+2.2**
CMAR	**Chiang Mai Arr**	**10.53**	**205**	Pn	**Pn**		**09 14 18.8**	**+2.2**
SHL	**Shillong**	**10.74**	**259**	P	**Pn**		**09 14 21.9**	**+2.3**
SHL	**Shillong**	**10.74**	**259**	Pn	**Pn**		**09 14 21.9**	**+2.3**
GTA	**Gaotai**	**11.67**	**345**	⇑P	Pn		09 14 43.5	+11
GTA				pP			09 14 47.9	
GTA				sP			09 14 50.5	
GTA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,25nm,3.8s							
GTA				LR	LR			
	comp=N,970nm,11.7s							
GTA				LR	LR			
	comp=E,2μm,13.3s							
GTA				LR	LR			
	comp=Z,330nm,13.6s							
PBKT	**Sadao Pong**	**11.76**	**192**	Pn	**Pn**		**09 14 32.6**	**-0.8**
BTO	**Baotou**	**13.53**	**21**	*e*P	**Pn**		**09 14 58.3**	**+0.8**
HHC	**Hu-ho-hao-te**	**14.28**	**25**	*e*P	**Pn**		**09 15 08.9**	**+1.0**
HHC				S	**Sn**		**09 17 47.8**	**+1.3**
HHC				pmax	pmax			
	comp=Z,24nm,0.8s							
HHC				pmax	pmax			
	comp=Z,86nm,4.7s							
HHC				LR	LR			
	comp=Z,270nm,8.9s							
HHC				LR	LR			
	comp=Z,500nm,7.7s							
HHC				LR	LR			
	comp=Z,420nm,8.1s							
BJT	**Baijiatuau**	**15.77**	**38**	P	**P**		**09 15 30.6**	**-1.0**
BJT				pmax	pmax			
	comp=Z,39nm,1.4s							
BJT	**Baijiatuau**	**15.77**	**38**	P	**P**		**09 15 30.6**	**-1.0**
BJT				IAmb	IAmb		09 15 37.1	
	comp=Z,39nm,1.4s							
BJI	**Beijing**	**15.79**	**38**	P	**Pn**		**09 15 28.3**	**+0.4**
BJI				pmax	pmax			
	comp=Z,8.0nm,0.8s							
BJI				LR	LR			
	comp=Z,250nm,12.4s							
BJI				LR	LR			
	comp=Z,270nm,12.9s							
SSLB	**Suanglung**	**16.22**	**102**	P	**Pn**		**09 15 34.6**	**+1.0**
YULB	**Yu-li**	**16.65**	**102**	Pn	**Pn**		**09 15 37.1**	**-2.0**
NACB	**Ninganchiao**	**16.66**	**100**	Pn	**Pn**		**09 15 36.4**	**-2.8**
SONM	**Songino Array**	**19.79**	**6**	P	**P**		**09 16 16.7**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=196,slow=14,SNR=13							
SONM				LR	LR		09 24 09.6	
	comp=Z,193nm,18.8s,baz=185,slow=38							
SONM	**Songino Array**	**19.79**	**6**	P	**Pn**		**09 16 17.2**	**-0.3**
ULN	**Ulaanbaatar**	**19.88**	**7**	*ce*P	**Pn**		**09 16 20.8**	**+2.1**
ULN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ULN	**Ulaanbaatar**	**19.88**	**7**	P	**Pn**		**09 16 18.6**	**0.0**
WMQ	**Urumqi**	**20.19**	**325**	*e*P	Pn		09 16 23.6	+1.3
WMQ				LR	LR			
	comp=Z,250nm,16.9s							
WMQ				LR	LR			
	comp=Z,250nm,16.1s							
INCN	**Inchon**	**21.47**	**58**	P	**P**		**09 16 34.4**	**+0.2**
INCN				pmax	pmax			
	comp=Z,30nm,1.0s							
INCN	**Inchon**	**21.47**	**58**	P	**P**		**09 16 34.4**	**+0.2**
INCN				IAmb	IAmb		09 16 40.5	
	comp=Z,30nm,0.9s							
TJN	**Taejon**	**21.70**	**62**	*ce*P	**P**		**09 16 39.2**	**+2.6**
ZAK	**Zakamensk**	**22.22**	**360**	*e*P	**P**		**09 16 41.7**	**-0.5**
ZAK				pmax	pmax			
	comp=Z,9.0nm,1.1s							
KSAR	**Wonju Array Be**	**22.40**	**59**	P	**P**		**09 16 44.1**	**-0.1**
KSAR	**Wonju Array Be**	**22.40**	**59**	P	**P**		**09 16 44.1**	**-0.1**
KS19	**Wonju Array Si**	**22.41**	**59**	P	**P**		**09 16 44.5**	**+0.3**
KS19				IAmb	IAmb		09 16 47.5	
	comp=Z,52nm,1.4s							
KSRS	**Korea Array**	**22.43**	**59**	P	**P**		**09 16 43.6**	**-0.9**
	comp=Z,19nm,0.8s,baz=243,slow=9.6,SNR=50							
KSRS				LR	LR		09 26 36.8	
	comp=Z,104nm,20.4s,baz=254,slow=40							
TLY	**Talaya**	**23.52**	**0**	LR			09 27 20.0	
	comp=Z,107nm,19.1s,baz=166,slow=40							
MOY	**Mondy**	**23.58**	**356**	*e*P	P		09 16 46.9	-9.5
IPM	**Ipoh**	**23.65**	**186**	P	**P**		**09 16 54.6**	**-2.6**
JNU	**Nakatsue**	**23.99**	**71**	P	**P**		**09 17 00.3**	**-0.1**
	comp=Z,32nm,1.2s,baz=248,slow=1.4,SNR=5.3							
JNU				LR	LR		09 25 33.3	
	comp=Z,80nm,21.6s,baz=257,slow=34							
JNU	**Nakatsue**	**23.99**	**71**	P	**P**		**09 17 00.0**	**-0.4**
JNU				IAmb	IAmb		09 17 04.0	
	comp=Z,42nm,1.2s							
IRK	**Irkutsk**	**24.09**	**1**	*e*P	**P**		**09 17 03.2**	**+2.2**
IRK				pmax	pmax			
	comp=Z,21nm,3.0s							
HIA	**Hailar**	**24.49**	**26**	P	**P**		**09 17 05.5**	**+0.7**
HIA				pmax	pmax			
	comp=Z,35nm,1.2s							
HIA	**Hailar**	**24.49**	**26**	P	**P**		**09 17 05.5**	**+0.7**
HIA				IAmb	IAmb		09 17 08.1	
	comp=Z,35nm,1.2s							
DGZ	**Jazzator, Alta**	**24.82**	**335**	*i*P	**P**		**09 17 09.6**	**+1.6**
DGZ				pmax	pmax			
	comp=Z,9.0nm,0.7s							
TARG	**Taragay, Kyrgy**	**24.98**	**310**	P	**P**		**09 17 08.2**	**-1.6**
TARG				IAmb	IAmb		09 17 13.2	
	comp=Z,16nm,1.0s							
MK31	**Makanchi Array**	**25.00**	**324**	P	**P**		**09 17 08.7**	**-0.8**
MK31				pmax	pmax			
	comp=Z,12nm,0.9s							
MK31	**Makanchi Array**	**25.00**	**324**	P	**P**		**09 17 08.7**	**-0.8**
MK31				IAmb	IAmb		09 17 16.2	
	comp=Z,12nm,0.9s							
MKAR	**Makanchi Array**	**25.00**	**324**	P	**P**		**09 17 09.1**	**-0.4**
	comp=Z,6.2nm,0.6s,baz=130,slow=13,SNR=34							
MKAR				PcP	**PcP**		**09 20 42.9**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=101,slow=7.5,SNR=3.6							
MKAR				ScP	**ScP**		**09 24 21.1**	**-2.4**
	comp=Z,0.4nm,0.7s,baz=138,slow=5.9,SNR=4.0							
MKAR				LR	LR		09 27 05.0	
	comp=Z,122nm,19.7s,baz=127,slow=37							
MKAR	**Makanchi Array**	**25.00**	**324**	P	**P**		**09 17 08.9**	**-0.6**
MAKZ	**Makanchi**	**25.18**	**324**	P	**P**		**09 17 11.1**	**0.0**
MAKZ				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MAKZ	**Makanchi**	**25.18**	**324**	P	**P**		**09 17 11.1**	**0.0**
MAKZ				IAmb	IAmb		09 17 17.8	
	comp=Z,10nm,0.9s							
KSH	**Kashi**	**25.48**	**304**	P	**P**		**09 17 15.8**	**+1.8**
KSH				sP	sP		09 17 25.8	+6.6
KSH				S	**S**		**09 21 41.9**	**+0.6**
KSH				pmax	pmax			
	comp=Z,15nm,1.0s							
KSH				pmax	pmax			
	comp=Z,89nm,4.9s							
KSH				LR	LR			
	comp=Z,640nm,19.1s							
KSH				LR	LR			
	comp=Z,190nm,13.1s							
KDJ	**Kajisay**	**25.57**	**310**	P	**P**		**09 17 14.7**	**-0.2**
KDJ				pmax	pmax			
	comp=Z,23nm,1.1s							
KDJ	**Kajisay**	**25.57**	**310**	P	**P**		**09 17 14.7**	**-0.2**
KDJ				IAmb	IAmb		09 17 20.0	
	comp=Z,23nm,1.1s							
PSI	**Prapat**	**25.58**	**191**	P	**P**		**09 17 13.1**	**-1.9**
	comp=Z,5.4nm,0.7s,baz=0.2,slow=12,SNR=6.2							
PSI				LR	LR		09 27 26.4	
	comp=Z,182nm,18.8s,baz=270,slow=37							
RPSI	**Rantau Prapat**	**25.68**	**191**	P	**P**		**09 17 15.3**	**-0.5**
RPSI				IAmb	IAmb		09 17 19.3	
	comp=Z,10nm,0.9s							
RPSI	**Rantau Prapat**	**25.68**	**191**	P	**P**		**09 17 13.1**	**-2.7**
NIL	**Nilore**	**26.53**	**290**	P	**P**		**09 17 23.6**	**+0.1**
NIL				pmax	pmax			
	comp=Z,36nm,1.2s							
NIL	**Nilore**	**26.53**	**290**	P	**P**		**09 17 23.6**	**+0.1**
AAK	**Ala-Archa**	**27.60**	**309**	P	**P**		**09 17 32.7**	**-0.5**
	comp=Z,3.5nm,0.5s,baz=80,slow=6.6,SNR=4.9							
AAK				LR	LR		09 29 48.2	
	comp=Z,114nm,18.9s,baz=76,slow=39							
AAK	**Ala-Archa**	**27.60**	**309**	*ce*P	**P**		**09 17 33.6**	**+0.4**
AAK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
AAK	**Ala-Archa**	**27.60**	**309**	P	**P**		**09 17 33.4**	**+0.2**
AAK				IAmb	IAmb		09 17 41.1	
	comp=Z,14nm,1.3s							
USA0B	**Ussuriysk Arra**	**27.80**	**47**	*i*P	**P**		**09 17 36.1**	**+1.4**
USA0B	**Ussuriysk Arra**	**27.80**	**47**	P	**P**		**09 17 35.4**	**+0.6**
USA0B				IAmb	IAmb		09 17 36.9	
	comp=Z,8.6nm,0.8s							
USRK	**Ussuriysk Ar.**	**27.80**	**47**	P	**P**		**09 17 33.6**	**-1.1**
	comp=Z,5.3nm,0.6s,baz=244,slow=8.6,SNR=20							
USRK				LR	LR		09 30 20.9	
	comp=Z,122nm,19.0s,baz=210,slow=40							
USRK	**Ussuriysk Ar.**	**27.80**	**47**	P	**P**		**09 17 33.3**	**-1.5**
SDSI	**Sungai Dareh**	**28.98**	**184**	P	**P**		**09 17 43.6**	**-1.8**
ZAA0	**Zalesovo Array**	**29.22**	**337**	P	**P**		**09 17 48.7**	**+1.4**
ZALV	**Zalesovo Beam**	**29.22**	**337**	P	**P**		**09 17 45.9**	**-1.4**
	comp=Z,3.5nm,0.7s,baz=147,slow=9.4,SNR=8.6							
ZALV				LR	LR		09 29 30.1	
	comp=Z,125nm,18.9s,baz=120,slow=36							
ZALV	**Zalesovo Beam**	**29.22**	**337**	*i*P	**P**		**09 17 49.5**	**+2.2**
ZALV				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ZALV	**Zalesovo Beam**	**29.22**	**337**	P	**P**		**09 17 48.2**	**+0.9**
KURBB	**Kurchatov Arra**	**29.39**	**327**	P	**P**		**09 17 47.2**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=134,slow=9.7,SNR=12							
KURK	**Kurchatov**	**29.41**	**327**	*ce*P	**P**		**09 17 48.9**	**0.0**
KURK				pmax	pmax			
	comp=Z,9.0nm,1.7s							
KURK	**Kurchatov**	**29.41**	**327**	P	**P**		**09 17 48.2**	**-0.7**
PALK	**Pallekele**	**29.97**	**230**	LR	LR		09 32 07.0	
	comp=Z,80nm,19.4s,baz=147,slow=41							
KBL	**Kabul**	**30.07**	**291**	P	**P**		**09 17 54.5**	**-0.7**
KBL				pmax	pmax			
	comp=Z,17nm,1.3s							
KBL	**Kabul**	**30.07**	**291**	P	**P**		**09 17 54.5**	**-0.7**
KBL				IAmb	IAmb		09 18 01.2	
	comp=Z,17nm,1.2s							
KLR	**Kul'dur**	**30.17**	**38**	*i*P	**P**		**09 17 57.7**	**+2.0**
KLR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
MJAR	**Matsushiro Arr**	**30.32**	**65**	P	**P**		**09 17 56.0**	**-1.2**
	comp=Z,1.2nm,0.9s,baz=263,slow=10.0,SNR=5.0							
MJAR				LR	LR		09 29 49.1	
	comp=Z,39nm,18.9s,baz=235,slow=36							
MJAR	**Matsushiro Arr**	**30.32**	**65**	P	**P**		**09 17 56.0**	**-1.2**
MJAR	**Matsushiro Arr**	**30.32**	**65**	P	**P**		**09 17 57.4**	**+0.1**
KK31	**Karatay Array**	**30.51**	**308**	P	**P**		**09 17 57.4**	**-1.5**
KK31				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KK31	**Karatay Array**	**30.51**	**308**	P	**P**		**09 17 57.4**	**-1.5**
KKAR	**Karatay Array**	**30.51**	**308**	P	**P**		**09 17 57.8**	**-1.1**
KKAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KKAR	**Karatay Array**	**30.51**	**308**	P	**P**		**09 17 57.2**	**-1.6**
KKAR	**Karatay Array**	**30.51**	**308**	P	**P**		**09 17 57.8**	**-1.1**
KKAR				IAmb	IAmb		09 18 01.2	
	comp=Z,3.7nm,0.8s							
BRVK	**Borovoye**	**34.95**	**325**	*ce*P	**P**		**09 18 40.1**	**+2.6**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
BRVK	**Borovoye**	**34.95**	**325**	P	**P**		**09 18 39.4**	**+1.9**
YAK	**Yakutsk**	**38.04**	**20**	*e*P	**P**		**09 19 03.9**	**+0.2**
YAK				*e*			09 21 21.7	
YAK				*e*S	**S**		**09 24 56.2**	**+0.3**
YAK				*e*			09 29 12.0	
YAK				pmax	pmax			
	comp=Z,10.0nm,0.9s							
YAK				pmax	pmax			
	comp=N,3.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,3.0nm,1.0s							
YAK				smax	smax			
	comp=E,34nm,2.3s							
YAK				smax	smax			
	comp=N,21nm,1.8s							
GEYT	**Alibeck**	**39.01**	**296**	P	**P**		**09 19 12.7**	**+0.5**
	comp=N,14nm,0.9s,baz=104,slow=6.3,SNR=16							
GEYT				LR	LR		09 38 23.8	
	comp=N,85nm,18.4s,baz=25,slow=41							
GEYT	**Alibeck**	**39.01**	**296**	P	**P**		**09 19 11.9**	**-0.4**
GYA0B	**ALIBECK ARRAY**	**39.01**	**296**	P	**P**		**09 19 12.3**	**+0.1**
GYA0B				IAmb	IAmb		09 19 18.1	
	comp=

comp=Z,9.3nm,1.1s
WB0 Warramunga Arr 56.19 144 P **P** 09 21 24.3 -1.5
WB0 IAmb IAmb 09 21 30.3
comp=Z,5.6nm,0.9s
WRAB Tennant Creek 56.30 145 P **P** 09 21 27.2 +0.6
WRAB pmax pmax
comp=Z,6.0nm,0.7s
WRAB Tennant Creek 56.30 145 P **P** 09 21 27.2 +0.6
WRAB IAmb IAmb 09 21 32.0
comp=Z,5.6nm,0.7s
WRA Warramunga Arr 56.30 145 P **P** 09 21 24.7 -1.9
comp=Z,3.1nm,0.5s,baz=334,slow=8.3,SNR=32
WRA Warramunga Arr 56.30 145 *i* P **P** 09 21 26.7 +0.1
WRA pmax pmax
comp=Z,3.0nm,0.5s
WRA Warramunga Arr 56.30 145 P **P** 09 21 26.5 -0.2
WB2 Warramunga Arr 56.31 145 P **P** 09 21 26.3 -0.3
WR0 Warramunga Arr 56.42 144 P **P** 09 21 27.0 -0.5
WR0 IAmb IAmb 09 21 34.7
comp=Z,6.8nm,1.0s
BR131 Keskin Array S 57.83 301 P **P** 09 21 36.9 -0.6
BR131 pmax pmax
comp=Z,6.0nm,1.3s
BR131 Keskin Array S 57.83 301 P **P** 09 21 36.9 -0.6
BR131 IAmb IAmb 09 21 44.7
comp=Z,6.0nm,1.2s
BRTR Keskin Array B 57.83 301 P **P** 09 21 35.3 -2.2
comp=Z,1.1nm,0.8s,baz=114,slow=6.5,SNR=5.6
BRTR LR LR 09 51 28.7
comp=Z,23nm,18.3s,baz=84,slow=41
BRTR Keskin Array B 57.83 301 *i* P **P** 09 21 40.4 +2.9
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 57.83 301 P **P** 09 21 37.0 -0.6
AKASG Malin Array Be 59.09 314 P **P** 09 21 44.4 -1.5
comp=Z,6.6nm,0.7s,baz=70,slow=6.3,SNR=13
AKASG Malin Array Be 59.09 314 P **P** 09 21 45.6 -0.3
AKBB Malin Array Si 59.09 314 *ce*P **P** 09 21 46.7 +0.8
AKBB Malin Array Si 59.09 314 P **P** 09 21 45.5 -0.5
AKBB IAmb IAmb 09 21 49.8
comp=Z,6.1nm,0.7s
AS31 Alice Springs 59.23 147 P **P** 09 21 48.1 +1.0
AS31 IAmb IAmb 09 21 50.8
comp=Z,1.8nm,0.5s
ASAR Alice Springs 59.23 147 P **P** 09 21 45.6 -1.5
comp=Z,3.9nm,0.5s,baz=328,slow=6.7,SNR=50
ASAR Alice Springs 59.23 147 P **P** 09 21 46.6 -0.6
SUF Sumiainen 59.67 329 P **P** 09 21 52.8 +3.1
SUF pmax pmax
comp=Z,13nm,0.9s
VSU Vasula 59.68 324 P **P** 09 21 49.8 0.0
VSU pmax pmax
comp=Z,69nm,0.8s
ARCES ARCESS Array B 59.77 337 P **P** 09 21 49.2 -1.1
comp=Z,5.2nm,1.1s,baz=94,slow=7.9,SNR=7.3
ARCES ARCESS Array B 59.77 337 P **P** 09 21 51.1 +0.8
FIA1 FINESS Array S 59.78 327 P **P** 09 21 51.4 +0.9
FIA1 IAmb IAmb 09 21 54.9
comp=Z,7.0nm,0.9s
FINES FINESS Array B 59.78 327 P **P** 09 21 48.6 -1.8
comp=Z,0.8nm,0.4s,baz=94,slow=6.1,SNR=13
FINES LR LR 09 47 42.5
comp=Z,64nm,18.9s,baz=93,slow=36
FINES FINESS Array B 59.78 327 *i* P **P** 09 21 49.6 -0.9
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 59.78 327 P **P** 09 21 49.5 -1.0
NACGM Naroch 60.03 320 *e* P **P** 09 21 56.0 +3.7
ISP Isparta 60.63 300 P **P** 09 21 57.5 +0.6
ISP pmax pmax
comp=Z,12nm,1.0s
ISP Isparta 60.63 300 P **P** 09 21 57.5 +0.6
VRI Vrincioaia 61.57 309 P **P** 09 22 04.7 +1.7
VRI pmax pmax
comp=Z,8.0nm,1.1s
MLR Muntele Rosu 62.19 309 P **P** 09 22 08.0 +0.7
MLR pmax pmax
comp=Z,8.0nm,1.2s
BURAR Bucovina Array 62.22 311 P **P** 09 22 07.7 +0.2
SUW Suwalki 62.24 319 P **P** 09 22 07.6 +0.3
SUW pmax pmax
comp=Z,56nm,1.1s
SUW Suwalki 62.24 319 P **P** 09 22 07.6 +0.3
FORT Forrest 63.08 156 P **P** 09 22 13.8 +0.7
CTAO Charters Tower 63.26 134 P **P** 09 22 14.5 0.0
CTAO pmax pmax
comp=Z,7.0nm,1.1s
CTAO Charters Tower 63.26 134 P **P** 09 22 14.5 0.0
CTAO IAmb IAmb 09 22 24.3
comp=Z,6.6nm,1.1s
NIE Niedzica 64.98 314 P **P** 09 22 28.6 +3.0
NIE pmax pmax
comp=Z,2.0nm,1.2s
OJC Ojcow 65.09 315 P **P** 09 22 26.9 +0.6
OJC pmax pmax
comp=Z,9.0nm,1.1s
OJC Ojcow 65.09 315 P **P** 09 22 27.3 +1.0
VYHS Vyhne 66.16 314 *eP* **P** 09 22 34.2 +1.0
VYHS Vyhne 66.16 314 *eP* **P** 09 22 34.2 +1.0
MORC Moravsky Berou 66.62 315 P **P** 09 22 37.7 +1.6
MORC pmax pmax
comp=Z,5.0nm,1.2s
NC405 NORSAR Array S 66.66 328 P **P** 09 22 34.7 -1.4
NORES NORESS Array B 66.84 328 P **P** 09 22 36.7 -0.6
NORES pmax pmax
comp=Z,1.0nm,0.4s
NB201 NORSAR Array S 66.87 328 P **P** 09 22 37.3 -0.3
NB2 NORSAR Subarra 66.91 328 P **P** 09 22 35.4 -2.4
comp=Z,1.6nm,0.6s,baz=75,slow=6.5
NOA NORSAR Array B 66.91 329 P **P** 09 22 35.6 -2.1
comp=Z,1.4nm,0.8s,baz=78,slow=5.8,SNR=3.5
NOA LR LR 09 53 47.5
comp=Z,34nm,18.3s,baz=75,slow=38
VRAC Vranov 67.34 315 P **P** 09 22 41.0 +0.3
VRAC pmax pmax
comp=Z,5.0nm,0.8s
ITM Ithomi 67.37 301 P **P** 09 22 42.9 +1.8
KRUC Moravsky 67.54 315 P **P** 09 22 44.7 +2.7
KRUC pmax pmax
comp=Z,5.0nm,1.7s
BBOO Buckleboo 68.02 151 P **P** 09 22 45.1 +0.1
BBOO IAmb IAmb 09 23 02.2
comp=Z,3.5nm,0.8s
CONA Conrad Observa 68.22 314 *eP* **P** 09 22 46.6 +0.2
comp=Z,1.2nm,0.7s
CLL Collm 68.92 318 *eP* **P** 09 22 51.0 +0.5
CLL Collm 68.92 318 *eP* **P** 09 22 51.0 +0.5
MOA Molln 69.27 314 *eP* **P** 09 22 52.7 -0.1
comp=Z,1.6nm,0.8s
GERES GERESS Array B 69.29 315 P **P** 09 22 52.2 -0.9
comp=Z,0.9nm,0.6s,baz=76,slow=5.6,SNR=7.4
GERES LR LR 09 58 21.9
comp=Z,33nm,20.6s,baz=88,slow=40
GERES GERESS Array B 69.29 315 P **P** 09 22 52.5 -0.6
IMAR Indian Mountai 69.59 25 P **P** 09 22 54.2 -0.3
STKA Stephens Creek 69.80 146 P **P** 09 22 54.4 -1.8
comp=Z,1.3nm,0.5s,baz=311,slow=9.3,SNR=1.5
STKA Stephens Creek 69.80 146 **P** 09 22 55.0 -1.1
KBA Koelnbreinsper 70.12 313 *eP* **P** 09 22 56.7 -1.6
comp=Z,1.2nm,0.6s
COLD Coldfoot 70.37 23 P **P** 09 22 59.8 +0.6
SQTA Sankt Quirin 71.43 314 *eP* **P** 09 23 04.9 -1.3
comp=Z,2.3nm,0.8s
BPAW Bear Paw Mtn. 71.45 27 P **P** 09 23 06.6 +0.8
BPAW IAmb IAmb 09 23 11.9
comp=Z,14nm,1.3s
MOTA Moosalm 71.45 314 *eP* **P** 09 23 05.2 -1.1
comp=Z,3.3nm,0.8s
PPLA Purkeypile 71.49 28 P **P** 09 23 06.5 +0.2
FETA Feichten 71.81 314 *eP* **P** 09 23 07.3 -1.2
comp=Z,2.9nm,0.8s
MDM Murphy Dome 72.12 25 P **P** 09 23 12.0 +2.2
MDM IAmb IAmb 09 23 20.2
comp=Z,10.0nm,1.1s
SKT Skwentna 72.17 29 P **P** 09 23 09.0 -1.2
SKT IAmb IAmb 09 23 12.7
comp=Z,14nm,1.4s
WRH Wood River Hil 72.40 26 P **P** 09 23 14.6 +3.0
ILAR Eielson Array 72.71 25 P **P** 09 23 11.9 -1.5
comp=Z,0.3nm,0.4s,baz=289,slow=4.1,SNR=4.4
ILAR Eielson Array 72.71 25 P **P** 09 23 14.2 +0.8
OHAK Old Harbor 73.48 34 P **P** 09 23 20.0 +2.0
RIDG Independent Ri 74.00 25 P **P** 09 23 22.6 +1.4
RIDG IAmb IAmb 09 23 27.7
comp=Z,16nm,1.5s
KLU Klutina 74.74 28 P **P** 09 23 26.6 +1.1
KLU IAmb IAmb 09 23 33.8
comp=Z,12nm,1.1s
EGAK Eagle 74.79 24 P **P** 09 23 27.9 +2.3
BCAR Beaver Creek A 75.53 25 P **P** 09 23 30.1 +0.2
ESDC Sonseca Array 84.66 312 LR LR 10 04 45.0
comp=Z,11nm,18.0s,baz=0.0,slow=38
TORD Torodi Ar. Bea 94.07 287 P **P** 09 25 04.4 -0.3
comp=Z,0.6nm,0.8s,baz=63,slow=6.0,SNR=3.4
TORD LR LR 10 12 06.1
comp=Z,30nm,19.1s,baz=35,slow=38
TORD Torodi Ar. Bea 94.07 287 P **P** 09 25 05.4 +0.7
TXAR Lajitas Array 117.19 27 PKP **PKPdf** 09 30 30.4 -1.2
comp=Z,0.2nm,0.6s,baz=336,slow=6.2,SNR=4.2
TXAR Lajitas Array 117.19 27 **PKPdf** 09 30 31.2 -0.4
RUSC La Rusia 146.01 354 **PKPdf** 09 31 25.2 -1.1
ROSC El Rosal 147.15 356 PKPbc **PKPbc** 09 31 29.4 -0.8
comp=Z,11nm,0.5s,baz=86,slow=14,SNR=6.3
ROSC El Rosal 147.15 356 PKPbc **PKPbc** 09 31 30.0 -0.1
FLOC Florencia 150.44 358 PKPbc **PKPbc** 09 31 37.3 -0.9
OTAV Otavalo 151.72 4 **PKiKP** 09 31 43.4 +1.3

*NNC **17** 09:45:14.5±5.5, 40.93N×71.51E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=50.5km s-min=22.2km az=9.0*
*KRNET **17** 09:45:16.6±0.1, 40.78N×71.53E, h7km, mb2.3*
ISC 17 09:45:15.4±1.4, 40.85N±0.05×71.50E±0.06, h4km±14km, n12, σ0.97/21, 15C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
BTK	**Batken**	**0.95**	**213**	⇓*i*P	**Pg**	**09 45 33.8**	**+0.2**
	baz=17						
BTK				⇓*i*S	**Sg**	**09 45 46.2**	**+0.3**
	baz=17						
ARK	**Arkit**	**1.01**	**20**	⇓*i*P	**Pn**	**09 45 36.5**	**+0.1**
	baz=19						
ARK				⇓*i*S	**Sn**	**09 45 51.0**	**-0.1**
	baz=19						
OHH	**Osh**	**1.03**	**108**	⇑*i*P	**Pb**	**09 45 35.5**	**-0.4**
	baz=5.0						
OHH				⇑*i*S	**Sb**	**09 45 49.0**	**-0.8**
	baz=5.0						
ARSB	**Arslanbob**	**1.22**	**67**	⇑*i*P	**Pn**	**09 45 39.7**	**+0.4**
	baz=63						
ARSB				⇑*i*S	**Sn**	**09 45 56.7**	**+0.4**
	baz=63						
AML	**Almayashu**	**2.08**	**52**	⇑*i*P	**Pg**	**09 45 55.0**	**-0.4**
	baz=50						
AML				⇑*i*S	**Sg**	**09 46 23.0**	**+0.6**
	baz=50						
ARLS	**Aral**	**2.35**	**64**	⇑*e*P	**Pb**	**09 45 58.4**	**0.0**
	baz=62						
ARLS				⇑*i*S	**Sb**	**09 46 29.0**	**+1.1**
	baz=62						
KK31	**Karatay Array**	**2.37**	**342**	⇑Pn	**Pn**	**09 45 54.6**	**-0.5**
	2.5nm,0.4s,baz=170,slow=12,SNR=17						
KK31				⇑Lg	Lg	09 46 26.3	
	4.8nm,0.3s,baz=173,slow=26,SNR=19						
EKS2	**Erkin-Say**	**2.48**	**43**	⇑*i*P	**Pb**	**09 46 00.7**	**0.0**
	baz=41						
EKS2				⇑*i*S	**Sb**	**09 46 32.4**	**+0.8**
	baz=41						
UCH	**Uchtor**	**2.65**	**58**	⇑*e*P	**Pb**	**09 46 03.2**	**-0.4**
	baz=56						
UCH				⇑*e*S	**Sb**	**09 46 36.4**	**-0.2**
	baz=56						
AAK	**Ala-Archa**	**2.86**	**50**	⇓Pg	**Pn**	**09 46 03.8**	**+1.8**
	2.1nm,0.9s						
AAK				⇑Lg	Lg	09 46 45.9	
	1.2nm,0.4s						
KZA	**Kyzart**	**3.07**	**65**	⇓*i*P	**Pb**	**09 46 09.2**	**-1.7**
	baz=64						
KZA				⇓*i*S	**Sb**	**09 46 46.4**	**-2.5**
	baz=64						
TKM2	**Tokmak 2**	**3.69**	**55**	⇓Pg	**Pb**	**09 46 21.6**	**+0.3**
	1.3nm,1.0s						
TKM2				⇓Lg	Lg	09 47 12.7	
	0.6nm,0.4s						

IDC 17 09:51:17.7±1.6, 28.04N×103.70E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.2/39, mbtmp3.2/4, Error ellipse: s-maj=46.9km s-min=29.6km az=63.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
KSRS	**Korea Array**	**22.38**	**59**	P	P	09 56 17.3	-0.3
	0.7nm,0.6s,baz=243,slow=9.4,SNR=4.3						
MKAR	**Makanchi Array**	**25.15**	**324**	P	P	09 56 44.5	-0.1
	0.2nm,0.4s,baz=124,slow=9.1,SNR=2.8						
WRA	**Warramunga Arr**	**56.16**	**145**	P	P	10 00 59.7	+0.3
	0.3nm,0.9s,baz=334,slow=8.5,SNR=5.2						
ASAR	**Alice Springs**	**59.08**	**147**	P	P	10 01 19.6	-0.4
	0.1nm,0.4s,baz=328,slow=6.7,SNR=5.2						

IDC 17 10:00:39.0±1.7, 41.97S×88.24E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/38, mbtmp3.8/4, MS3.5/10, Ms1 3.5/10, ms1mx3.3/26, Error ellipse: s-maj=48.9km s-min=34.1km az=88.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**21.43**	**79**	T	T	10 27 35.0	
	baz=243,slow=74,SNR=120						
H01W3	**Cape Leeuwin H**	**21.44**	**79**	T	T	10 27 33.2	
	baz=243,slow=74,SNR=129						
H01W1	**Cape Leeuwin H**	**21.45**	**79**	T	T	10 27 34.7	
	baz=243,slow=74,SNR=98						
NWAO	**Narrogin (SRO)**	**24.63**	**78**	LR	LR	10 13 24.8	
	comp=Z,97nm,20.0s,baz=276,slow=31						
MAW	**Mawson**	**29.12**	**200**	LR	LR	10 15 30.6	
	comp=Z,199nm,21.2s,baz=54,slow=31						
H08S2	**Diego Garcia H**	**36.92**	**333**	T	T	10 46 55.8	
	baz=160,slow=76,SNR=183						
H08S1	**Diego Garcia H**	**36.92**	**333**	T	T	10 46 57.5	
	baz=160,slow=76,SNR=154						
H08S3	**Diego Garcia H**	**36.94**	**333**	T	T	10 46 57.3	
	baz=160,slow=76,SNR=168						
ASAR	**Alice Springs**	**41.95**	**79**	P	P	10 08 31.9	+0.2
	1.2nm,0.7s,baz=225,slow=7.1,SNR=19						
ASAR				PcP	PcP	10 10 26.1	-1.0
	1.0nm,0.8s,baz=221,slow=2.2,SNR=12						
ASAR				LR	LR	10 24 02.3	
	comp=Z,123nm,19.8s,baz=230,slow=34						
STKA	**Stephens Creek**	**43.21**	**94**	LR	LR	10 22 58.7	
	comp=Z,80nm,20.5s,baz=207,slow=31						
WRA	**Warramunga Arr**	**44.57**	**75**	P	P	10 08 52.4	-0.5
	1.2nm,0.8s,baz=229,slow=8.4,SNR=6.1						
VNDA	**Vanda**	**45.89**	**163**	P	P	10 09 02.9	+0.3
	0.6nm,0.6s,baz=292,slow=8.8,SNR=4.4						
VNDA				LR	LR	10 27 29.4	
	comp=Z,28nm,19.5s,baz=314,slow=35						
BOSA	**Boshof**	**52.03**	**264**	LR	LR	10 26 52.9	
	comp=Z,53nm,21.9s,baz=183,slow=30						
CMAR	**Chiang Mai Arr**	**60.93**	**12**	P	P	10 10 54.1	+0.4
	0.4nm,0.3s,baz=212,slow=7.9,SNR=5.2						
CMAR				LR	LR	10 35 24.8	
	comp=Z,25nm,18.2s,baz=206,slow=34						
MKAR	**Makanchi Array**	**88.54**	**356**	LR	LR	10 52 59.0	
	comp=Z,22nm,18.8s,baz=174,slow=36						
ZALV	**Zalesovo Beam**	**95.59**	**358**	LR	LR	10 55 26.5	
	comp=Z,11nm,19.9s,baz=16,slow=34						
DBIC	**Dimbokro**	**96.71**	**273**	LR	LR	10 51 36.8	
	comp=Z,15nm,18.8s,baz=115,slow=32						
INK	**Inuvik**	**145.62**	**26**	PKPbc	PKPdf	10 20 17.2	-0.8
	5.0nm,0.9s,baz=332,slow=3.7,SNR=6.6						

IDC 17 10:05:01.3±8.3, 19.56S×177.82W, h597km±96km, mb2.7/4, mb1 3.0/4, mb1mx2.7/27, mbtmp3.7/4, Error ellipse: s-maj=122.3km s-min=43.9km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
STKA	**Stephens Creek**	**38.36**	**243**	P	P	10 11 32.5	-0.3
	0.4nm,0.3s,baz=45,slow=10.0,SNR=1.8						
ASAR	**Alice Springs**	**44.91**	**256**	P	P	10 12 24.4	0.0
	1.2nm,0.6s,baz=88,slow=8.2,SNR=17						
ASAR				PcP	PcP	10 13 52.8	-0.1
	0.3nm,0.6s,baz=98,slow=5.5,SNR=5.6						
WRA	**Warramunga Arr**	**44.91**	**261**	P	P	10 12 24.2	-0.2
	0.3nm,0.3s,baz=97,slow=7.5,SNR=9.8						
TXAR	**Lajitas Array**	**86.41**	**57**	P	P	10 16 41.9	+0.1
	0.3nm,0.8s,baz=207,slow=5.2,SNR=3.7						

ARCES ARCESS Array B 128.03 350 PKP PKPdf 10 22 58.5 -1.2
2.9nm,1.0s,baz=54,slow=6.2,SNR=4.0
GERES GERESS Array B 149.35 345 PKPbc PKPbc 10 23 43.8 0.0
0.4nm,0.6s,baz=48,slow=2.0,SNR=4.9

*KRSC **17** 10:07:17.9±1.9, 53.13N×160.06E, h60km±18km, ML4.4*
*MOS **17** 10:07:19.5±0.9, 53.12N×159.90E, h62km, mb4.4/9, Error ellipse: s-maj=7.8km s-min=4.1km az=76.5*
*IDC **17** 10:07:20.6±0.7, 53.22N×159.95E, h62km±6km, mb3.4/15, mb1 3.7/17, mb1mx3.6/43, mbtmp3.8/17, MS2.7/2, Ms1 2.8/2, ms1mx2.4/23, Error ellipse: s-maj=20.1km s-min=7.5km az=166.0*
*NEIC **17** 10:07:20.9±1.9, 53.11N±0.08×159.8E±0.1, h62km±7km, mb4.3/25, Error ellipse: s-maj=12.8km s-min=8.3km az=156.0*
ISC 17 10:07:20.2±0.5, 53.14N±0.03×159.96E±0.03, h56km±4km, n185, σ1.827/231, mb4.2/29, 2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.05**	**133**	*e*P	**Pn**	**10 07 28.5**	**0.0**
SPN				*e*S	**Sn**	**10 07 34.6**	**0.0**
SPN	**Mys Shipunski**	**0.05**	**133**	PN	**Pn**	**10 07 28.5**	**0.0**
SPN				S	**Sn**	**10 07 34.6**	**0.0**
NLC	**Nalytchevo**	**0.37**	**276**	*e*P	**Pn**	**10 07 30.7**	**+0.3**
NLC				*e*S	**Sn**	**10 07 38.3**	**+0.5**
NLC	**Nalytchevo**	**0.37**	**276**	PN	**Pn**	**10 07 30.7**	**+0.3**
NLC				S	**Sn**	**10 07 38.3**	**+0.5**
SDLR	**Sedlovina**	**0.66**	**283**	*e*P	**Pn**	**10 07 33.9**	**+0.1**
SDLR	**Sedlovina**	**0.66**	**283**	PN	**Pn**	**10 07 33.9**	**+0.1**
UGLR	**Uglovaya**	**0.69**	**277**	*i* P	**Pn**	**10 07 34.7**	**+0.6**
UGLR				*e*S	**Sn**	**10 07 45.5**	**+1.2**
UGLR	**Uglovaya**	**0.69**	**277**	PN	**Pn**	**10 07 34.7**	**+0.6**
UGLR				S	**Sn**	**10 07 45.5**	**+1.2**
SMAR	**Somma**	**0.71**	**281**	*e*P	**Pn**	**10 07 34.4**	**-0.1**
SMAR				*e*S	**Sn**	**10 07 44.9**	**0.0**
SMAR	**Somma**	**0.71**	**281**	PN	**Pn**	**10 07 34.4**	**-0.1**
SMAR				S	**Sn**	**10 07 44.9**	**0.0**
DALK	**Dalny**	**0.73**	**262**	*e*P	**Pn**	**10 07 34.5**	**0.0**
DALK				*e*S	**Sn**	**10 07 44.8**	**-0.3**
DALK	**Dalny**	**0.73**	**262**	PN	**Pn**	**10 07 34.5**	**0.0**
DALK				S	**Sn**	**10 07 44.8**	**-0.3**
AVH	**Avacha**	**0.75**	**281**	*i* P	**Pn**	**10 07 35.3**	**+0.5**
AVH				*e*S	**Sn**	**10 07 46.6**	**+1.1**
AVH	**Avacha**	**0.75**	**281**	PN	**Pn**	**10 07 35.3**	**+0.5**
AVH				S	**Sn**	**10 07 46.6**	**+1.1**
KRER	**Koryakskii**	**0.75**	**284**	*e*P	**Pn**	**10 07 35.2**	**+0.3**
KRER				*e*S	**Sn**	**10 07 46.7**	**+1.0**
KRER	**Koryakskii**	**0.75**	**284**	PN	**Pn**	**10 07 35.2**	**+0.3**
KRER				S	**Sn**	**10 07 46.7**	**+1.0**
PET	**Petropavlovsk**	**0.80**	**263**	*i* PN	**Pn**	**10 07 35.3**	**0.0**
PET	**Petropavlovsk**	**0.80**	**263**		**Pn**	**10 07 35.3**	**0.0**
PET				Sn	**Sn**	**10 07 46.6**	**+0.2**
KOK	**Koryaka**	**0.81**	**282**	*e*P	**Pn**	**10 07 35.9**	**+0.2**
KOK				*e*S	**Sn**	**10 07 46.8**	**-0.4**
KOK	**Koryaka**	**0.81**	**282**	PN	**Pn**	**10 07 35.9**	**+0.2**
KOK				S	**Sn**	**10 07 46.6**	**-0.4**
KRX	**Arik**	**0.82**	**286**	*e*P	**Pn**	**10 07 35.7**	**-0.1**
KRX				*e*S	**Sn**	**10 07 47.0**	**-0.3**
KRX	**Arik**	**0.82**	**286**	PN	**Pn**	**10 07 35.7**	**-0.1**
KRX				S	**Sn**	**10 07 47.0**	**-0.3**
KII	**Karymskiy**	**0.95**	**342**	*e*P	**Pn**	**10 07 37.7**	**+0.2**
KII	**Karymskiy**	**0.95**	**342**	PN	**Pn**	**10 07 37.7**	**+0.2**
RUS	**Russkaya**	**1.12**	**232**	*i* P	**Pn**	**10 07 39.5**	**-0.2**
RUS				*e*S	**Sn**	**10 07 54.0**	**-0.1**
RUS	**Russkaya**	**1.12**	**232**	PN	**Pn**	**10 07 39.5**	**-0.2**
RUS				S	**Sn**	**10 07 54.0**	**-0.1**
KRMR	**Karymshinskiy**	**1.15**	**255**	*e*P	**Pn**	**10 07 41.0**	**+1.0**
KRMR				*e*S	**Sn**	**10 07 55.7**	**+1.0**
KRMR	**Karymshinskiy**	**1.15**	**255**	PN	**Pn**	**10 07 41.0**	**+1.0**
KRMR				S	**Sn**	**10 07 55.7**	**+1.0**
MTVR	**Mutnovka**	**1.26**	**240**	*e*P	**Pn**	**10 07 42.0**	**+0.4**
MTVR				*e*S	**Sn**	**10 07 57.8**	**+0.2**
MTVR	**Mutnovka**	**1.26**	**240**	PN	**Pn**	**10 07 42.0**	**+0.4**
MTVR				S	**Sn**	**10 07 57.8**	**+0.2**
GRL	**Gorelyy**	**1.28**	**244**	*i* P	**Pn**	**10 07 42.7**	**+0.8**
GRL				*e*S	**Sn**	**10 07 59.3**	**+1.1**
GRL	**Gorelyy**	**1.28**	**244**	PN	**Pn**	**10 07 42.7**	**+0.8**
GRL				S	**Sn**	**10 07 59.3**	**+1.1**
I44RU	**PETROPAVLOVSK-**	**1.35**	**270**	P	**Pn**	**10 07 42.7**	**0.0**
	baz=87,slow=17,SNR=2.6						
I44RU				S	**Sn**	**10 08 01.1**	**+1.5**
	baz=86,slow=187						
PEA0B	**Petropavlovsk-**	**1.36**	**270**	*i* PN	**Pn**	**10 07 43.5**	**+0.6**
PEA0B	**Petropavlovsk-**	**1.36**	**270**	Pn	**Pn**	**10 07 43.5**	**+0.6**
PEA0B				Sn	**Sn**	**10 08 00.8**	**+0.9**
PETK	**Petropavlovsk-**	**1.36**	**270**	P	**Pn**	**10 07 43.5**	**+0.6**
	222nm,0.3s,baz=92,slow=18,SNR=3213						
PETK				S	**Sn**	**10 08 01.2**	**+1.3**
	212nm,0.3s,baz=53,slow=45,SNR=6.0						
PETK				LR	LR	10 08 19.3	
	comp=Z,80nm,18.8s,baz=95,slow=43						
PETK	**Petropavlovsk-**	**1.36**	**270**	*e*PN	**Pn**	**10 07 43.5**	**+0.6**
PETK				pmax	pmax		
	comp=Z,221nm,0.3s						
PETK	**Petropavlovsk-**	**1.36**	**270**	Pn	**Pn**	**10 07 43.2**	**+0.4**
ASAK	**Asacha**	**1.46**	**240**	*e*P	**Pn**	**10 07 45.1**	**+0.8**
ASAK				*e*S	**Sn**	**10 08 04.1**	**+1.7**
ASAK	**Asacha**	**1.46**	**240**	PN	**Pn**	**10 07 45.1**	**+0.8**
ASAK				S	**Sn**	**10 08 04.1**	**+1.7**
KDTR	**Khodutka, Kamc**	**1.76**	**222**	*e*P	**Pn**	**10 07 48.5**	**+0.3**
KDTR				*e*S	**Sn**	**10 08 09.9**	**+0.5**
KDTR	**Khodutka, Kamc**	**1.76**	**222**	PN	**Pn**	**10 07 48.5**	**+0.3**
KDTR				S	**Sn**	**10 08 09.9**	**+0.5**
KZV	**Kizimen**	**1.99**	**6**	*i* P	**Pn**	**10 07 52.4**	**+0.8**
KZV				*e*S	**Sn**	**10 08 15.9**	**+0.5**
KZV	**Kizimen**	**1.99**	**6**	PN	**Pn**	**10 07 52.4**	**+0.8**
KZV				S	**Sn**	**10 08 15.9**	**+0.5**
TUMD	**Tumrok D**	**2.09**	**7**	*e*P	**Pn**	**10 07 53.2**	**+0.4**
TUMD				*e*S	**Sn**	**10 08 15.3**	**-2.3**
MIPR	**Malaya Ipel'ka**	**2.13**	**247**	*i* P	**Pn**	**10 07 54.7**	**+1.4**
MIPR	**Malaya Ipel'ka**	**2.13**	**247**	PN	**Pn**	**10 07 54.7**	**+1.4**
TUMR	**Tumrok**	**2.16**	**3**	*e*P	**Pn**	**10 07 54.9**	**+1.1**
TUMR				*e*S	**Sn**	**10 08 19.5**	**+0.1**
TUMR	**Tumrok**	**2.16**	**3**	PN	**Pn**	**10 07 54.9**	**+1.1**
TUMR				S	**Sn**	**10 08 19.5**	**+0.1**
PAU	**Pauzhetka**	**2.55**	**230**	*e*P	**Pn**	**10 08 00.8**	**+1.7**
PAU				*e*S	**Sn**	**10 08 33.1**	**+4.2**
PAU	**Pauzhetka**	**2.55**	**230**	PN	**Pn**	**10 08 00.8**	**+1.7**
KMNR	**Kamenistaya**	**2.63**	**3**	*e*P	**Pn**	**10 08 01.7**	**+1.5**
KMNR	**Kamenistaya**	**2.63**	**3**	PN	**Pn**	**10 08 01.7**	**+1.5**
KIRR	**Kirishev**	**2.83**	**4**	*e*P	**Pn**	**10 08 04.6**	**+1.6**
KIRR	**Kirishev**	**2.83**	**4**	PN	**Pn**	**10 08 04.6**	**+1.6**
KPT	**Kopyto**	**2.84**	**3**	*e*P	**Pn**	**10 08 04.5**	**+1.4**
KPT	**Kopyto**	**2.84**	**3**	PN	**Pn**	**10 08 04.5**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**2.84**	**8**	*e*P	**Pn**	**10 08 05.2**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**2.84**	**8**	PN	**Pn**	**10 08 05.2**	**+2.1**
BZWR	**Bezymyannyi-We**	**2.85**	**6**	*e*P	**Pn**	**10 08 05.1**	**+1.8**
BZWR	**Bezymyannyi-We**	**2.85**	**6**	PN	**Pn**	**10 08 05.1**	**+1.8**
ESO	**Esso**	**2.89**	**346**	*e*P	**Pn**	**10 08 04.5**	**+0.8**
ESO	**Esso**	**2.89**	**346**	PN	**Pn**	**10 08 04.5**	**+0.8**
KOZ	**Kozyrevsk**	**2.93**	**359**	*e*P	**Pn**	**10 08 04.8

KBG	**Krutoberegovo**	**3.51**	**26**	*e*P		**Pn**	**10 08 15.2 +3.1**
KBG				*e*S		**Sn**	**10 08 55.7 +3.4**
KBG	**Krutoberegovo**	**3.51**	**26**	PN		**Pn**	**10 08 15.2 +3.1**
KBG				S		**Sn**	**10 08 55.7 +3.4**
BDR	**Baidarnaya**	**3.52**	**11**	*e*P		**Pn**	**10 08 14.7 +2.4**
BDR	**Baidarnaya**	**3.52**	**11**	PN		**Pn**	**10 08 14.7 +2.4**
ALID	**Alaid**	**3.54**	**232**	*e*P		**Pn**	**10 08 13.9 +1.1**
ALID	**Alaid**	**3.54**	**232**	PN		**Pn**	**10 08 13.9 +1.1**
SMKR	**Semkarok**	**3.56**	**14**	*e*P		**Pn**	**10 08 14.6 +1.7**
SMKR	**Semkarok**	**3.56**	**14**	PN		**Pn**	**10 08 14.6 +1.7**
SRKR	**Sorokina**	**3.60**	**11**	*e*P		**Pn**	**10 08 15.6 +2.2**
SRKR	**Sorokina**	**3.60**	**11**	PN		**Pn**	**10 08 15.6 +2.2**
BKI	**Bering**	**4.10**	**57**	*e*P		**Pn**	**10 08 20.1 0.0**
BKI				*e*S		**Sn**	**10 09 02.3 -4.4**
BKI	**Bering**	**4.10**	**57**	PN		**Pn**	**10 08 20.1 0.0**
MA2	**Magadan**	**8.22**	**325**	LR		LR	10 12 35.3
	comp=N,55nm,19.6s,baz=142,slow=39						
MA2	**Magadan**	**8.22**	**325**	*e*PN		**Pn**	**10 09 16.1 -0.5**
SMY	**Shemya**	**8.56**	**87**	PN		**Pn**	**10 09 22.2 +1.0**
SMY	**Shemya**	**8.56**	**87**			**Pn**	**10 09 22.2 +1.0**
SEY	**Seymchan**	**10.60**	**341**	*e*PN		**Pn**	**10 09 48.3 -0.8**
JKA	**Kamikawa-asahi**	**14.57**	**239**			**Pn**	**10 10 45.1 +2.2**
ASAJ	**Asahikawa**	**14.57**	**239**	P		**Pn**	**10 10 44.3 +1.4**
	comp=N,0.4nm,0.3s,baz=54,slow=7.6,SNR=6.4						
ERM	**Erimo**	**15.84**	**232**	*i* P		**Pn**	**10 10 59.7 +0.4**
ERM	**Erimo**	**15.84**	**232**	P		**Pn**	**10 11 00.0 +0.7**
ERM				IAmb		IAmb	10 11 15.1
	comp=Z,22nm,1.2s						
KLR	**Kul'dur**	**18.05**	**269**	P		**P**	**10 11 26.5 -0.1**
	comp=Z,0.3nm,0.3s,baz=60,slow=9.9,SNR=6.1						
KLR	**Kul'dur**	**18.05**	**269**	ǁ *i*P		**P**	**10 11 25.4 -1.2**
KLR				pmax		pmax	
	comp=Z,4.0nm,2.0s						
YAK	**Yakutsk**	**18.35**	**311**	*i* P		**P**	**10 11 28.4 -1.3**
YAK				pmax		pmax	
	comp=Z,7.0nm,0.5s						
NIKH	**Nikolski High**	**18.68**	**78**	P		**P**	**10 11 33.3 -0.1**
USA0B	**Ussuriysk Arra**	**20.41**	**255**	*i* P		**P**	**10 11 50.3 -2.0**
USRK	**Ussuriysk Ar.**	**20.41**	**255**	P		**P**	**10 11 50.7 -1.7**
	comp=Z,0.7nm,0.5s,baz=72,slow=6.2,SNR=4.2						
USRK	**Ussuriysk Ar.**	**20.41**	**255**	P		**P**	**10 11 51.2 -1.1**
USRK	**Ussuriysk Ar.**	**20.41**	**255**	P		**P**	**10 11 51.2 -1.1**
MJA0	**Matsu Arr-Jizo**	**22.49**	**231**	*e*P		**P**	**10 12 14.9 +0.1**
MJA0				pmax		pmax	
	comp=Z,6.0nm,0.7s						
MJB9	**Matsu-Tunnel**	**22.51**	**231**	P		**P**	**10 12 14.6 -0.4**
MJB9				IAmb		IAmb	10 12 15.1
	comp=Z,10nm,0.6s						
MAJO	**Matsushiro**	**22.51**	**231**	*i* P		**P**	**10 12 14.7 -0.3**
MAJO				pmax		pmax	
	comp=Z,8.0nm,0.4s						
MAJO	**Matsushiro**	**22.51**	**231**	P		**P**	**10 12 14.7 -0.3**
MAJO				IAmb		IAmb	10 12 15.3
	comp=Z,11nm,0.6s						
MAT	**Matsushiro**	**22.51**	**231**	P		**P**	**10 12 14.5 -0.5**
MJAR	**Matsushiro Arr**	**22.51**	**231**	P		**P**	**10 12 14.3 -0.6**
	comp=Z,5.6nm,0.7s,baz=14,slow=11,SNR=24						
MJAR	**Matsushiro Arr**	**22.51**	**231**	P		**P**	**10 12 14.7 -0.3**
MJAR				pmax		pmax	
	comp=Z,2.0nm,0.7s						
MJAR	**Matsushiro Arr**	**22.51**	**231**	P		**P**	**10 12 14.7 -0.3**
HIA	**Hailar**	**25.25**	**278**	*e*P		**P**	**10 12 40.5 -0.3**
HIA				pmax		pmax	
	comp=Z,4.0nm,0.5s						
IMAR	**Indian Mountai**	**26.03**	**42**	P		**P**	**10 12 50.0 +2.4**
KDAK	**Kodiak Island**	**26.85**	**61**	*i* P		**P**	**10 12 54.2 -0.9**
KDAK				pmax		pmax	
	comp=Z,11nm,1.0s						
KSRS	**Korea Array**	**27.16**	**248**	P		**P**	**10 12 59.4 +1.5**
	comp=Z,0.7nm,0.7s,baz=44,slow=12,SNR=2.4						
WRH	**Wood River Hil**	**28.33**	**46**	P		**P**	**10 13 09.6 +1.3**
ILAR	**Eielson Array**	**28.84**	**45**	P		**P**	**10 13 12.9 +0.2**
	comp=Z,0.7nm,0.9s,baz=253,slow=8.1,SNR=5.4						
ILAR	**Eielson Array**	**28.84**	**45**	P		**P**	**10 13 14.1 +1.3**
H11N2	**WAKE ISLAND Hy**	**33.77**	**168**	T		T	10 49 52.8
	baz=352,slow=76,SNR=275						
H11N3	**WAKE ISLAND Hy**	**33.79**	**168**	T		T	10 49 47.1
	baz=352,slow=76,SNR=261						
H11N1	**WAKE ISLAND Hy**	**33.79**	**168**	T		T	10 49 52.3
	baz=352,slow=76,SNR=258						
INK	**Inuvik**	**33.88**	**38**	P		**P**	**10 13 56.9 -0.1**
	comp=Z,1.4nm,0.8s,baz=299,slow=13,SNR=1.4						
INK	**Inuvik**	**33.88**	**38**	P		**P**	**10 13 57.3 +0.3**
INK				pmax		pmax	
	comp=Z,3.0nm,1.1s						
INK	**Inuvik**	**33.88**	**38**	P		**P**	**10 13 57.2 +0.3**
INK				IAmb		IAmb	10 13 59.0
	comp=Z,3.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**34.56**	**269**	*e*P		**P**	**10 14 04.4 +1.1**
HHC				pmax		pmax	
	comp=Z,15nm,0.7s						
HHC				pmax		pmax	
	comp=Z,65nm,3.7s						
H11S1	**WAKE ISLAND Hy**	**34.95**	**169**	T		T	10 51 16.7
	baz=353						
H11S3	**WAKE ISLAND Hy**	**34.97**	**169**	T		T	10 51 22.5
	baz=353,slow=74,SNR=91						
H11S2	**WAKE ISLAND Hy**	**34.97**	**169**	T		T	10 51 12.7
	baz=353,slow=74,SNR=26						
EUNU	**Eureka**	**41.93**	**14**	P		**P**	**10 15 05.4 +0.7**
WMQ	**Urumqi**	**46.88**	**289**	*e*P		**P**	**10 15 46.5 +1.9**
KURK	**Kurchatov**	**47.64**	**302**	P		**P**	**10 15 47.4 -2.9**
KURK				pmax		pmax	
	comp=Z,2.0nm,0.5s						
KURK	**Kurchatov**	**47.64**	**302**	P		**P**	**10 15 47.4 -2.9**
KURK				IAmb		IAmb	10 15 49.5
	comp=Z,1.8nm,0.5s						
MK31	**Makanchi Array**	**48.06**	**296**	ǁ *e*P		**P**	**10 15 53.9 +0.2**
MKAR	**Makanchi Array**	**48.06**	**296**	P		**P**	**10 15 52.4 -1.4**
	comp=Z,0.5nm,0.6s,baz=62,slow=6.9,SNR=6.8						
MKAR	**Makanchi Array**	**48.06**	**296**	*e*P		**P**	**10 15 52.8 -0.9**
MKAR				pmax		pmax	
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**48.06**	**296**	P		**P**	**10 15 52.1 -1.6**
BMO	**Blue Mountains**	**52.03**	**64**	P		**P**	**10 16 25.4 +1.5**
BMO				pmax		pmax	
	comp=Z,2.0nm,1.3s						
BMO	**Blue Mountains**	**52.03**	**64**	P		**P**	**10 16 25.4 +1.5**
SUMG	**Summit**	**53.93**	**7**	P		**P**	**10 16 38.1 +0.3**
SUMG				pmax		pmax	
	comp=Z,7.0nm,0.9s						
SUMG	**Summit**	**53.93**	**7**	P		**P**	**10 16 38.1 +0.3**
BOZ	**Bozeman (W)**	**54.55**	**59**	P		**P**	**10 16 44.5 +2.1**
BOZ	**Bozeman (W)**	**54.55**	**59**	P		**P**	**10 16 44.5 +2.1**
WAKR	**Walker**	**55.11**	**71**	P		**P**	**10 16 48.7 +2.1**
KVN	**Kaiserville**	**55.49**	**69**	P		**P**	**10 16 51.3 +2.0**
KVN	**Kaiserville**	**55.49**	**69**	P		**P**	**10 16 51.3 +2.0**
NVAR	**Mina Array Bea**	**55.80**	**70**	P		**P**	**10 16 52.1 +0.5**
	comp=Z,0.5nm,0.6s,baz=308,slow=7.2,SNR=6.6						
NVAR				pP		**pP**	**10 17 07.4 +1.5**
	comp=Z,0.3nm,0.5s,baz=309,slow=7.9,SNR=3.3						
NVAR	**Mina Array Bea**	**55.80**	**70**	P		**P**	**10 16 52.7 +1.1**
KKAR	**Karatay Array**	**56.79**	**299**	P		**P**	**10 16 58.0 -0.4**
KKAR	**Karatay Array**	**56.79**	**299**	P		**P**	**10 16 58.0 -0.4**
PDAR	**Pinedale Array**	**57.57**	**61**	P		**P**	**10 17 04.1 0.0**
	comp=Z,0.7nm,0.6s,baz=298,slow=2.7,SNR=11						
PDAR				pP		**pP**	**10 17 19.2 +0.3**
	comp=Z,0.5nm,0.6s,baz=319,slow=3.2,SNR=4.7						
PDAR	**Pinedale Array**	**57.57**	**61**	P		**P**	**10 17 05.0 +0.9**
RSSD	**Black Hills**	**59.45**	**56**	P		**P**	**10 17 18.0 +0.8**
RSSD				pmax		pmax	
	comp=Z,5.0nm,0.9s						
RSSD	**Black Hills**	**59.45**	**56**	P		**P**	**10 17 18.0 +0.8**
FINES	**FINESS Array B**	**60.05**	**336**	P		**P**	**10 17 18.6 -2.1**
	comp=Z,0.9nm,0.7s,baz=33,slow=7.3,SNR=5.7						
FINES	**FINESS Array B**	**60.05**	**336**	*e*P		**P**	**10 17 18.9 -1.8**
FINES				pmax		pmax	
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**60.05**	**336**	P		**P**	**10 17 19.8 -0.8**
PV17	**East Wray Mesa**	**61.09**	**64**	P		**P**	**10 17 28.9 +0.5**
PV17				IAmb		IAmb	10 17 35.3
	comp=Z,4.5nm,1.2s						
ECSD	**EROS Data Cent**	**63.36**	**52**	P		**P**	**10 17 43.1 -0.2**
ECSD				IAmb		IAmb	10 17 57.8
	comp=Z,2.3nm,1.1s						
NB2	**NORSAR Subarra**	**63.48**	**344**	P		**P**	**10 17 41.6 -2.2**
	comp=Z,2.0nm,0.8s,baz=24,slow=6.9						
NOA	**NORSAR Array B**	**63.48**	**344**	P		**P**	**10 17 42.3 -1.5**
	comp=Z,0.5nm,0.6s,baz=23,slow=6.0,SNR=4.1						
NOA				LR		LR	10 47 43.1
	comp=Z,5.7nm,18.1s,baz=245,slow=38						
TX31	**Lajitas Ar. Si**	**70.69**	**67**	P		**P**	**10 18 30.6 +0.4**
TX31				IAmb		IAmb	10 18 46.1
	comp=Z,2.5nm,0.7s						
TXAR	**Lajitas Array**	**70.70**	**67**	P		**P**	**10 18 30.9 +0.8**
	comp=Z,0.6nm,0.6s,baz=299,slow=4.5,SNR=14						
TXAR				pP		**pP**	**10 18 45.7 +0.4**
	comp=Z,0.7nm,0.7s,baz=296,slow=4.1,SNR=7.0						
TXAR	**Lajitas Array**	**70.70**	**67**	P		**P**	**10 18 30.1 0.0**
BURAR	**Bucovina Array**	**72.50**	**330**	P		**P**	**10 18 39.7 -1.0**
BURAR	**Bucovina Array**	**72.50**	**330**	P		**P**	**10 18 39.4 -1.3**
WVT	**Waverly**	**73.49**	**51**	P		**P**	**10 18 46.5 -0.1**
WVT				pmax		pmax	
	comp=Z,2.0nm,0.7s						
WVT	**Waverly**	**73.49**	**51**	P		**P**	**10 18 46.5 -0.1**
WVT				IAmb		IAmb	10 18 47.2
	comp=Z,2.1nm,0.7s						
CLTN	**Cedars of Leba**	**74.23**	**50**	P		**P**	**10 18 50.7 -0.2**
CLTN				IAmb		IAmb	10 18 51.4
	comp=Z,2.9nm,0.8s						
GERES	**GERESS Array B**	**74.44**	**338**	P		**P**	**10 18 50.5 -1.6**
	comp=Z,0.3nm,0.6s,baz=19,slow=4.5,SNR=3.8						
GERES	**GERESS Array B**	**74.44**	**338**	*e*P		**P**	**10 18 51.1 -1.0**
GERES	**GERESS Array B**	**74.44**	**338**	P		**P**	**10 18 51.4 -0.6**
SWET	**Sewanee**	**75.13**	**51**	P		**P**	**10 18 54.7 -1.5**
SWET				IAmb		IAmb	10 18 55.8
	comp=Z,3.7nm,0.7s						
CPCT	**Cooper Cave**	**75.59**	**50**	P		**P**	**10 18 58.3 -0.5**
CPCT				IAmb		IAmb	10 19 11.8
	comp=Z,5.6nm,1.4s						
WRA	**Warramunga Arr**	**76.08**	**205**	P		**P**	**10 19 00.8 -0.8**
	comp=Z,0.2nm,0.3s,baz=19,slow=6.0,SNR=6.3						
WRA	**Warramunga Arr**	**76.08**	**205**	*e*P		**P**	**10 19 01.1 -0.5**
WRA	**Warramunga Arr**	**76.08**	**205**	P		**P**	**10 19 00.2 -1.4**
PRED	**Cave del Predi**	**76.73**	**337**	P		**P**	**10 19 04.3 -0.8**
PRED				IAmb		IAmb	10 19 13.6
	comp=Z,8.4nm,1.3s						
ASAR	**Alice Springs**	**79.76**	**204**	P		**P**	**10 19 22.2 +0.3**
	comp=Z,0.4nm,0.5s,baz=19,slow=5.4,SNR=5.5						
ASAR	**Alice Springs**	**79.76**	**204**	P		**P**	**10 19 22.0 +0.1**
MURB	**Monte Urbino**	**79.97**	**336**	P		**P**	**10 19 23.6 +0.5**
ESDC	**Sonseca Array**	**86.52**	**348**	P		**P**	**10 19 56.0 -0.8**
	comp=Z,1.4nm,0.6s,baz=360,slow=4.9,SNR=9.5						

IDC ***17*** *10:09:37.1±63.0, 21.01S×177.27W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.6/3, Error ellipse: s-maj=1152.0km s-min=175.1km az=84.0*
NEIC ***17*** *10:10:39.4±1.9, 21.80S±0.08×179.0W±0.2, h544km±18km, mb4.4/15, Error ellipse: s-maj=32.6km s-min=10.1km az=101.0*

ISC 17 10:10:39.6±1.3, 21.75S±0.10×178.9W±0.2, h550km, n25, σ1°27/24, mb4.3/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.90**	**324**	P	**P**	**10 12 07.0**	**-1.9**
RAO	**Raoul Island**	**7.53**	**173**	P	**P**	**10 12 33.7**	**+1.1**
FUNA	**Funafuti**	**13.27**	**352**	P	**P**	**10 13 31.9**	**+0.5**
OUZ	**Omahuta**	**14.93**	**204**	P	**P**	**10 13 47.0**	**-1.3**
URZ	**Urewera**	**16.80**	**191**	P	**P**	**10 14 05.3**	**-1.0**
URZ				IAmb	IAmb	10 14 12.5	
	comp=Z,17nm,1.1s						
BKZ	**Black Stump Fm**	**17.80**	**192**	P	**P**	**10 14 15.1**	**-0.4**
BKZ				IAmb	IAmb	10 14 23.1	
	comp=Z,20nm,1.4s						
BFZ	**Birch Farm**	**19.31**	**191**	P	**P**	**10 14 28.3**	**-1.0**
TUWZ	**Tuamarina**	**20.52**	**195**	P	**P**	**10 14 40.1**	**-0.1**
THZ	**Tophouse**	**21.10**	**197**	P	**P**	**10 14 46.0**	**+0.5**
LTZ	**Lake Taylor**	**22.23**	**197**	P	**P**	**10 14 54.5**	**-1.1**
LTZ				IAmb	IAmb	10 15 03.7	
	comp=Z,19nm,1.4s						
RPZ	**Rata Peaks**	**23.43**	**198**	P	**P**	**10 15 06.1**	**-0.2**
RPZ				IAmb	IAmb	10 15 24.1	
	comp=Z,15nm,1.1s						
WHZ	**Wether Hill Ro**	**26.36**	**201**	P	**P**	**10 15 32.5**	**+0.3**
ARMA	**Armidale**	**27.75**	**246**	P	**P**	**10 15 43.8**	**-0.9**
ARMA				IAmb	IAmb	10 15 45.9	
	comp=Z,27nm,1.5s						
CTAO	**Charters Tower**	**32.52**	**266**	P	**P**	**10 16 27.8**	**+2.0**
CTAO				IAmb	IAmb	10 16 46.1	
	comp=Z,11nm,1.3s						
TOO	**Toolangi**	**34.46**	**235**	P	**P**	**10 16 40.5**	**-1.4**
TOO				IAmb	IAmb	10 16 43.2	
	comp=Z,7.8nm,1.1s						
STKA	**Stephens Creek**	**36.47**	**245**	P	**P**	**10 16 57.7**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=110,slow=12,SNR=3.0						
BBOO	**Buckleboo**	**41.22**	**245**	P	**P**	**10 17 35.9**	**-1.1**
ASAR	**Alice Springs**	**43.40**	**258**	P	**P**	**10 17 55.1**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=98,slow=7.1,SNR=6.2						
ASAR	**Alice Springs**	**43.40**	**258**	P	**P**	**10 17 57.3**	**+3.1**
WB0	**Warramunga Arr**	**43.56**	**264**	P	**P**	**10 17 57.1**	**+1.6**
WB2	**Warramunga Arr**	**43.57**	**264**	P	**P**	**10 17 56.5**	**+0.9**
WB2				IAmb	IAmb	10 18 09.1	
	comp=Z,10.0nm,1.5s						
WRA	**Warramunga Arr**	**43.58**	**264**	P	**P**	**10 17 56.7**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=95,slow=8.2,SNR=18						
FORT	**Forrest**	**48.01**	**248**	P	**P**	**10 18 29.0**	**-0.2**
FORT				IAmb	IAmb	10 18 38.7	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**68.32**	**180**	P	P	10 20 55.0	+9.0
KSAR	**Wonju Array Be**	**77.27**	**319**	P	**P**	**10 21 37.5**	**0.0**

IDC 17 10:11:05.2±3.2, 29.91S×177.18W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/19, mbtmp3.4/2, Error ellipse: s-maj=67.2km s-min=40.6km az=68.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.92**	**316**	Pn	Pn	10 11 25.4	+0.1
	153nm,0.3s,baz=93,slow=14,SNR=9.5						
RAO				Sn	Sg	10 11 35.5	+0.7
	472nm,0.3s,baz=25,slow=23,SNR=21						
ASAR	**Alice Springs**	**43.84**	**266**	P	P	10 19 13.3	-0.1
	0.2nm,0.4s,baz=101,slow=7.5,SNR=4.8						
WRA	**Warramunga Arr**	**44.79**	**271**	P	P	10 19 20.8	-0.2
	0.2nm,0.3s,baz=110,slow=8.1,SNR=8.2						
FINES	**FINESS Array B**	**144.93**	**341**	PKP	PKPbc	10 30 43.0	+0.2
	0.6nm,0.4s,baz=58,slow=4.3,SNR=11						

IDC ***17*** *10:44:18.5±0.7, 33.87N×136.67E, h377km±9km, mb2.8/4, mb1 3.0/11, mb1mx2.8/40, mbtmp3.7/11, Error ellipse: s-maj=19.2km s-min=12.6km az=73.0*
JMA ***17*** *10:44:18.0±0.3, 33.84N×136.76E, h379km±3km, M2.3*

ISC 17 10:44:18.5±0.8, 33.89N±0.08×136.71E±0.07, h375km±7km, n27, σ0°85/33, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTO1	**TONANKAI O.B.S**	**0.27**	**166**	P	**Pn**	**10 45 05.7**	**+0.7**
JKN2	**Miekihoku**	**0.50**	**314**	P	**Pn**	**10 45 05.8**	**+0.3**
JIE	**Ise**	**0.50**	**0**	P	**Pn**	**10 45 06.0**	**+0.5**
JIE				S	**S**	**10 45 43.2**	**-0.2**
JMMH	**Miemihama**	**0.57**	**263**	P	**Pn**	**10 45 05.7**	**0.0**
JMMH				S	**S**	**10 45 42.7**	**-0.9**
JTNC	**Tanabenakahech**	**0.91**	**266**	P	**Pn**	**10 45 06.9**	**+0.2**
JTNC				S	**S**	**10 45 44.6**	**-0.8**
JWY	**Kouya**	**0.98**	**290**	P	**Pn**	**10 45 07.4**	**+0.5**
JYTA	**Yamagatataniai**	**1.70**	**1**	P	**Pn**	**10 45 10.8**	**+0.6**
JWT	**Wachi**	**1.76**	**323**	P	**Pn**	**10 45 11.0**	**+0.4**
JAI	**Aioi**	**1.88**	**268**	P	**Pn**	**10 45 11.5**	**+0.1**
JYN	**Shimodate**	**2.21**	**43**	P	**Pn**	**10 45 13.9**	**+0.3**
JOD2	**Odawara 2**	**2.40**	**54**	P	**Pn**	**10 45 15.2**	**+0.3**
JKG	**Kaga**	**2.40**	**353**	P	**Pn**	**10 45 15.4**	**+0.5**
JHJ	**Hachijo jima 2**	**2.68**	**106**	P	**Pn**	**10 45 17.1**	**-0.1**
JHJ		8.7nm,0.3s,baz=83,slow=19,SNR=11		S	**S**	**10 46 07.1**	**+2.6**
	2.2nm,0.3s,baz=88,slow=20,SNR=1.3						
JRY	**Ryogami san**	**2.79**	**40**	P	**Pn**	**10 45 18.3**	**+0.3**
JRY				S	**S**	**10 46 05.8**	**-0.2**
MAT	**Matsushiro**	**2.92**	**24**	P	**Pn**	**10 45 19.2**	**+0.2**
MAT				S	**S**	**10 46 07.3**	**-0.7**
MJAR	**Matsushiro Arr**	**2.92**	**25**	P	**Pn**	**10 45 19.1**	**+0.1**
	0.3nm,0.3s,baz=197,slow=8.5,SNR=34						
MJAR				S	**S**	**10 46 07.9**	**-0.1**
	0.1nm,0.3s,baz=194,slow=15,SNR=6.3						
BSO1	**Boso 1**	**3.62**	**77**	S	**S**	**10 46 15.8**	**-2.5**
JNU	**Nakatsue**	**4.93**	**263**	P	**Pn**	**10 45 39.0**	**+0.4**
	1.4nm,0.3s,baz=145,slow=16,SNR=14						
KSRS	**Korea Array**	**7.98**	**299**	P	**P**	**10 46 13.9**	**+0.4**
	0.5nm,0.3s,baz=117,slow=12,SNR=17						
JCJ	**Chichijima**	**8.26**	**144**	S	S	10 47 40.3	-12
	12nm,0.3s,baz=291,slow=22,SNR=7.6						
USRK	**Ussuriysk Ar.**	**10.93**	**342**	P	**Pn**	**10 46 47.4**	**+0.2**
	baz=164,slow=12,SNR=23						
ASAJ	**Asahikawa**	**11.19**	**22**	P	**Pn**	**10 46 50.4**	**+0.1**
	0.8nm,0.3s,baz=255,slow=11,SNR=13						
KLR	**Kul'dur**	**15.77**	**348**	P	**P**	**10 47 39.6**	**-0.4**
	0.1nm,0.3s,baz=152,slow=17,SNR=2.3						
WRA	**Warramunga Arr**	**53.58**	**183**	P	**P**	**10 53 01.2**	**-1.2**
	0.2nm,0.3s,baz=360,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**57.30**	**183**	P	**P**	**10 53 28.3**	**-0.3**
	0.2nm,0.4s,baz=358,slow=4.7,SNR=7.5						
FINES	**FINESS Array B**	**69.76**	**331**	P	**P**	**10 54 48.4**	**-0.3**
	1.7nm,1.0s,baz=56,slow=8.1,SNR=4.0						
NVAR	**Mina Array Bea**	**79.95**	**50**	P	**P**	**10 55 48.3**	**+1.0**
	0.1nm,0.3s,baz=324,slow=4.5,SNR=2.5						

IDC ***17*** *10:57:49.7±3.9, 24.62N×94.80E, h92km±39km, mb3.1/6, mb1 3.2/7, mb1mx3.0/42, mbtmp3.4/7, Error ellipse: s-maj=59.1km s-min=17.4km az=61.0*

ISC 17 10:57:47.8±0.9, 24.6N±0.2×94.6E±0.2, h75km, n8, σ1°07/8, mb3.4/6, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.62**	**293**	*e*PN	Pn	10 58 19.0	-9.1
SHL				*e*SN	**Sn**	**10 58 58.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**7.33**	**145**	P	**Pn**	**10 59 32.8**	**+0.6**
	0.3nm,0.3s,baz=321,slow=13,SNR=6.3						
MKAR	**Makanchi Array**	**24.25**	**339**	P	**P**	**11 02 59.0**	**+1.4**
	1.0nm,0.5s,baz=151,slow=9.6,SNR=16						
SONM	**Songino Array**	**25.03**	**19**	P	**P**	**11 03 04.0**	**-0.9**
	0.2nm,0.4s,baz=192,slow=13,SNR=2.0						
KURBB	**Kurchatov Arra**	**28.81**	**339**	P	**P**	**11 03 39.1**	**+0.5**
	0.3nm,0.5s,baz=147,slow=9.8,SNR=1.8						
WRA	**Warramunga Arr**	**58.80**	**135**	P	**P**	**11 07 37.3**	**-1.3**
	0.2nm,0.6s,baz=322,slow=7.3,SNR=1.3						
ASAR	**Alice Springs**	**61.28**	**138**	P	**P**	**11 07 55.3**	**-0.2**
	0.2nm,0.5s,baz=316,slow=6.2,SNR=7.7						
GERES	**GERESS Array B**	**66.04**	**314**	P	**P**	**11 08 27.1**	**+0.4**
	0.2nm,0.3s,baz=90,slow=7.8,SNR=1.9						

IDC ***17*** *11:10:23.0±0.7, 54.53S×119.87W, h0km, mb3.9/11, mb1 4.1/11, mb1mx4.0/35, mbtmp3.9/11, MS3.7/5, Ms1 3.7/5, ms1mx3.4/19, Error ellipse: s-maj=27.7km s-min=20.0km az=130.0*

ISC 17 11:10:24.7±0.8, 54.5S±0.1×119.8W±0.2, h10km, n37, σ0°88/14, mb3.9/11, MS3.8/7, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**28.99**	**133**	LR	LR	11 25 13.6	
	comp=Z,124nm,19.6s,baz=256,slow=31						
PLCA	**Paso Flores**	**35.20**	**88**	LR	LR	11 29 05.4	
	comp=Z,64nm,20.6s,baz=146,slow=32						
H03S2	**Juan Fernandez**	**35.21**	**71**	T	T	11 54 14.3	
	baz=219,slow=74,SNR=518						
H03S1	**Juan Fernandez**	**35.22**	**71**	T	T	11 54 18.4	
	baz=219,slow=74,SNR=510						
H03S3	**Juan Fernandez**	**35.23**	**71**	T	T	11 54 17.6	
	baz=219,slow=74,SNR=569						
H03N3	**Juan Fernandez**	**35.50**	**71**	T	T	11 54 33.3	
	baz=222,slow=72,SNR=643						
H03N2	**Juan Fernandez**	**35.51**	**70**	T	T	11 54 32.2	
	baz=222,slow=72,SNR=897						
H03N1	**Juan Fernandez**	**35.52**	**71**	T	T	11 54 32.2	
	baz=222,slow=72,SNR=435						
QSPA	**South Pole Qui**	**35.65**	**180**	P	**P**	**11 17 23.4**	**+0.8**
	2.1nm,0.9s,baz=115,slow=3.0,SNR=8.0						
TBI	**Tubuai**	**38.20**	**313**	*e*LR	LR	11 28 14.9	
	comp=Z,239nm,27.0s						
TBI	**Tubuai**	**38.20**	**313**	*e*T	T	11 58 15.7	
	3.6nm,0.3s						
MEH	**Mehetia**	**42.53**	**318**	*e*T	T	12 03 32.0	
	5.1nm,0.2s						
PPT2	**Papeete2**	**43.39**	**316**	*e*LR	LR	11 30 37.8	
	comp=Z,333nm,25.5s						
PPT	**Papeete**	**43.41**	**316**	LR	LR	11 31 34.1	
	comp=Z,114nm,20.5s,baz=141,slow=29						
VAH	**Vaihoa**	**44.78**	**320**	*e*T	T	12 06 15.5	
	6.6nm,0.3s						
PMOR	**Pomariorio Ree**	**45.09**	**320**	*e*T	T	12 06 51.2	
	2.9nm,0.3s						
SNAA	**Sanae**	**46.59**	**157**	P	**P**	**11 18 53.1**	**+0.9**
	1.0nm,0.9s,baz=187,slow=3.6,SNR=4.0						
SNAA				PcP	**PcP**	**11

BMDN *e* 11 24 47.7
BMDN Meydan 1.32 43 Pg Pg 11 24 42.0 -0.4
IKOM Komasi 1.48 352 *e*Pg **Pg 11 24 44.5 -0.9**
IKOM *e* 11 25 15.1
IKOM Komasi 1.48 352 Pg Pg 11 24 45.0 -0.4
AHWZ Ahwaz 1.56 151 *e*Pg **Pg 11 24 47.6 +0.7**
AHWZ *e*Sg **Sg 11 25 10.4 +3.2**
AHWZ Ahwaz 1.56 151 Pg **Pg 11 24 47.0 +0.1**
IBDR Badra 1.58 285 *e*Pg **Pn 11 24 43.0 -1.6**
IBDR *e*Sg **Sb 11 25 05.0 -0.9**
IBDR AML AML 11 25 10.6
comp=N,4µm,0.8s
IBDR AML AML 11 25 14.0
comp=E,5µm,0.8s
HSAM Samen 1.67 25 *e*Pg **Pg 11 24 47.9 -1.1**
HSAM *e* 11 24 53.0
HSAM Samen 1.67 25 Pb 11 24 47.0 -0.6
KCHF Cheshme Sefid, 1.68 340 *e*Pg **Pg 11 24 47.6 -1.5**
KCHF *e* 11 25 15.8
KCHF Cheshme Sefid, 1.68 340 Pg Pg 11 24 48.0 -1.1
KCHF Sg **Sg 11 25 12.0 +1.0**
KER Kermanshah 1.76 343 P Pg 11 24 49.0 -1.7
KER Kermanshah 1.76 343 *e*Pn **Pg 11 24 48.9 -1.7**
IBZA Bozab 1.77 3 *e*Pg **Pg 11 24 49.7 -1.2**
IBZA *e* 11 24 53.1
IBZA Bozab 1.77 3 Pg Pg 11 24 50.0 -0.9
IGHG Ghaleghazi 1.90 329 *e*Pn **Pb 11 24 50.9 -0.6**
IGHG Ghaleghazi 1.90 329 Pn Pb 11 24 51.0 -0.6
IVIS Veis 1.97 338 *e*Pn **Pb 11 24 51.5 -1.2**
IVIS *e* 11 24 58.7
IVIS Veis 1.97 338 Pb 11 24 52.0 -0.7
IVIS Sg **Sg 11 25 20.0 -0.3**
NSR Nassriya 2.17 219 *e*Pg **Pn 11 24 53.0 +0.3**
NSR *e*Sg **Sn 11 25 21.0 +1.6**
IALM Almabolaq 2.18 9 *e*Pn **Pb 11 24 55.7 -0.7**
IDHR Dehrash 2.29 331 *e*Pn **Pb 11 24 55.8 -2.5**
IDHR *e* 11 25 02.1
IDHR Dehrash 2.29 331 Pn Pb 11 24 56.0 -2.3
ILIN Lien 2.31 344 *e*Pn **Pb 11 24 56.7 -1.8**
ILIN *e* 11 25 39.8
ILIN Lien 2.31 344 Pn Pb 11 24 57.0 -1.5
HAGD Aghdareh 2.41 28 *e*Pn **Pb 11 24 59.1 -1.3**
HAGD *e* 11 25 07.3
HAGD Aghdareh 2.41 28 Pn Pb 11 24 59.0 -1.3
JHBN Jahan bin 2.51 100 Pn Pb 11 25 00.4 +2.7
JHBN Jahan bin 2.51 100 Pn Pn 11 25 00.0 +2.3
HSRG Sareghieh 2.57 10 *e*Pn **Pb 11 25 01.8 -1.3**
HSRG *e* 11 25 20.1
ASAO Ashtian 2.65 45 *e*Pn **Pb 11 25 02.3 -2.0**
ASAO Ashtian 2.65 45 *e*Pn **Pb 11 25 02.3 -2.0**
ASAO Ashtian 2.65 45 Pn Pb 11 25 02.0 -2.3
IPIR Pirpir 2.65 89 *e*Pn **Pb 11 25 02.6 -1.8**
IPIR *e* 11 25 48.4
IPIR Pirpir 2.65 89 Pn Pb 11 25 03.0 -1.4
ROKH ROKH 2.80 96 *e*Pn **Pn 11 25 04.1 +2.5**
ROKH *e* 11 26 06.8
BHD Baghdad 2.89 282 *e*Pn **Pn 11 25 02.0 -0.5**
BHD *e*Sn **Sn 11 25 37.0 -0.1**
BHD AML AML 11 25 54.1
comp=E,2µm,0.6s
IBRJ Brojen 3.08 104 *e*Pn **Pn 11 25 07.9 +2.5**
IRAZ Razeghan 3.25 33 *e*Pn **Pb 11 25 11.5 -3.1**
IKLH Kolahrood 3.28 78 *e*Pn **Pn 11 25 11.8 +3.6**
QABG Abgarm-Qazvin 3.37 26 *e*Pn **Pn 11 25 11.6 +2.2**
IGAR Gharneh 3.64 93 *e*Pn **Pn 11 25 15.4 +2.3**
IMHD Mahdasht 3.84 38 *e*Pn **Pn 11 25 18.8 +3.1**
IZEF Zefreh 3.86 86 *e*Pn **Pn 11 25 18.8 +2.6**
QSDN Sirdan 3.97 17 *e*Pn **Pn 11 25 20.9 +3.2**
IHSB Hasanabad 4.00 46 *e*Pn **Pn 11 25 21.1 +3.1**
IRAM Ramesheh 4.03 102 *e*Pn **Pn 11 25 20.1 +1.7**
IGZV Ghazvin 4.21 28 *e*Pn **Pn 11 25 23.3 +2.4**
CHTH Charan 4.25 40 *e*Pn **Pn 11 25 24.1 +2.6**
CHTH *e*Sg **Sg 11 26 30.0 -3.4**
CHTH Charan 4.25 40 *e*Pn **Pn 11 25 24.2 +2.6**
CHTH Charan 4.25 40 Pn Pn 11 25 24.0 +2.5
CHTH Sg **Sg 11 26 30.0 -3.4**
MAHB Mahabad 4.39 338 *e*Pn **Pn 11 25 24.9 +1.5**
QALM Alamut, Qazvin 4.42 32 *e*Pn **Pn 11 25 26.9 +3.0**
IDMV Damavand 4.57 50 *e*Pn **Pn 11 25 28.5 +2.6**
AHBU AHRAM 4.89 140 *e*Pn **Pn 11 25 32.3 +2.2**
ANAR Anarak 5.05 83 *e*Pn **Pn 11 25 34.1 +1.6**
IFIR Firoozkooh 5.08 53 *e*Pn **Pn 11 25 35.8 +2.8**
ILAS Lasjerd 5.09 57 *e*Pn **Pn 11 25 34.6 +1.6**
ISAD Sadrabad 5.09 97 *e*Pn **Pn 11 25 35.3 +2.2**
IPRN Peran 5.18 46 *e*Pn **Pn 11 25 38.1 +3.9**
ISHM Shahmirzad 5.54 54 *e*Pn **Pn 11 25 41.3 +2.0**
ICHK Chekchek 5.65 93 *e*Pn **Pn 11 25 42.6 +1.9**
IANJ Anjilo 5.81 60 *e*Pn **Pn 11 25 44.3 +1.3**
HAKT HAKKARI 5.87 327 *e*Pn **Pn 11 25 44.0 +0.2**
IMEH Mehriz 5.97 101 *e*Pn **Pn 11 25 46.7 +1.5**
LKRN Lenkeran, Azer 6.06 8 P **Pn 11 25 50.2 +4.1**
IGLO Ghaloghah 6.29 51 *e*Pn **Pn 11 25 53.3 +3.8**
GHIR Ghir-Karzin 6.31 133 *e*Pn **Pn 11 25 52.0 +2.3**
GHIR *e*S **Sn 11 27 01.4 -0.4**
GHIR IAML 11 27 22.6
comp=E,111nm,0.4s
GHIR Ghir-Karzin 6.31 133 *e*Pn **Pn 11 25 52.0 +2.3**
GHIR Ghir-Karzin 6.31 133 Pn Pn 11 25 52.0 +2.3
GHIR **Sn 11 27 01.0 -0.7**
NAX Nakhchivan 6.71 345 P Pn 11 25 56.9 +1.7
IBAF Bafgh 6.72 97 *e*Pn **Pn 11 25 57.4 +1.9**
GEVA Gevas 6.78 327 Pn Pn 11 25 57.9 +1.6
TPRV Parvadeh(Tabas 7.53 85 *e*Pn **Pn 11 26 09.1 +2.7**
SVAN Silvan-Diyarba 7.62 317 *e*Pn **Pn 11 26 07.3 -0.4**
MAZI Mazidag 7.64 310 *e*Pn **Pn 11 26 10.4 +2.5**
TKDS Koohdasht(Taba 7.91 81 *e*Pn **Pn 11 26 14.1 +2.3**
MNGR Mingechevir, A 8.07 356 P Pn 11 26 16.8 +3.0
SEKA Sheki 8.51 357 P Pn 11 26 22.8 +3.0
AKT Akhty 8.76 360 *i*P **Pn 11 26 27.1 +3.7**
SBZV Sabzevar 8.93 63 *e*Pn **Pn 11 26 28.2 +2.4**
BNDS Bandar-Abbas 9.01 124 IAML 11 28 18.4
comp=N,79nm,0.5s
ASF Jabal al Asfar 9.19 270 Pn Pn 11 26 26.8 -2.4
comp=N,3.5nm,0.3s,baz=41,slow=10,SNR=16
ASF Sn **Sn 11 28 10.3 -2.2**
comp=N,2.0nm,0.3s,baz=299,slow=22,SNR=1.9
ASF Lg Lg 11 29 08.5
comp=N,1.0nm,0.3s,baz=131,slow=11,SNR=3.5
ITEG Tejag 9.26 86 *e*Pn **Pn 11 26 32.9 +2.6**
TBLG Delisi 9.33 346 P Pn 11 26 34.5 +3.5
TBLG Delisi 9.33 346 Pn Pn 11 26 34.5 +3.5
AKH Akhalkalaki 9.33 340 P Pn 11 26 34.6 +3.4
AKH Akhalkalaki 9.33 340 Pn Pn 11 26 34.6 +3.4
KOPT Kop Dagi 9.35 323 Pn Pn 11 26 35.7 +4.1
MALT Malatya 9.44 309 P Pn 11 26 37.6 +5.0
ISFR Sfrayin 9.48 60 *e*Pn **Pn 11 26 36.4 +3.1**
AFRZ Afriz 9.48 83 *e*Pn **Pn 11 26 35.1 +1.8**
ARTV Artvin 9.66 333 Pn Pn 11 26 38.2 +2.4
GAZ Gaziantep 9.73 300 Pn Pn 11 26 40.5 +3.9
IKRD Kardeh 9.75 62 *e*Pn **Pn** 11 26 50.8 +14
IAKL Akhelmad 9.87 64 *e*Pn **Pn 11 26 42.0 +3.3**
GEYT Alibeck 9.95 55 Pn Pn 11 26 39.4 -0.1
comp=N,0.2nm,0.3s,baz=226,slow=12,SNR=1.3
GEYT Alibeck 9.95 55 Pn Pn 11 26 42.9 +3.3
GYA0B ALIBECK ARRAY 9.95 55 Pn Pn 11 26 43.3 +3.7
BANOM Banah 10.06 130 P Pn 11 26 42.1 +1.0
SNR=18
BANOM S **Sn 11 28 30.8 -3.2**
MAK Makhachkala 10.25 359 *e*P **Pn 11 26 43.0 -0.5**
MAK *e*S **Sn 11 28 37.9 -0.3**
MAK pmax pmax
comp=Z,162nm,1.7s
MAK MLR MLR
comp=Z,425nm,13.0s
NAZ Nazwa, Dubai 10.35 136 P Pn 11 26 46.2 +1.1
MMAI Mount Meron Ar 10.39 275 Pn Pn 11 26 45.2 -0.4
comp=Z,1.2nm,0.3s,baz=93,slow=15,SNR=2.3
MMAI Lg Lg 11 29 46.1
comp=Z,2.5nm,0.3s,baz=118,slow=31,SNR=2.2
MMAI LR LR 11 31 46.3
comp=Z,170nm,21.2s,baz=95,slow=43
MDH Madha 10.50 132 P Pn 11 26 47.5 +0.4
MDH S **Sn 11 28 38.6 -6.2**
ZEI Tsey 10.52 344 *e*P Pn 11 26 52.5 +5.0
ZEI pmax pmax
comp=Z,7.0nm,0.3s
GROC Groznyy 10.60 352 P Pn 11 26 50.3 +1.9
GROC *e*S **Sn 11 28 51.6 +4.7**
GROC pmax pmax
comp=Z,17nm,0.4s
UOSS Minazif 10.71 134 P Pn 11 26 50.9 +1.0

UOSS S **Sn 11 28 42.7 -6.9**
UOSS Minazif 10.71 134 Pn Pn 11 26 52.4 +2.4
HATD Hatta, Dubai 10.75 135 P Pn 11 26 51.7 +1.1
HATD S **Sn 11 28 46.6 -4.2**
ASHO Ashiyiah 10.81 135 P Pn 11 26 51.9 +0.5
SNR=15
ASHO S **Sn 11 28 49.1 -3.3**
IMYA Miami 10.82 67 *e*Pn **Pn 11 26 55.0 +3.4**
EIL Elat 11.37 258 Pn Pn 11 26 59.2 +0.2
comp=Z,1.5nm,0.3s,baz=39,slow=10,SNR=6.6
EIL Lg Lg 11 30 20.6
comp=Z,1.7nm,0.3s,baz=7.1,slow=8.1,SNR=2.7
EIL LR LR 11 32 24.8
comp=Z,402nm,18.4s,baz=82,slow=43
SOHO SOHO 11.51 136 P Pn 11 27 02.2 +1.2
SOHO S **Sn 11 29 04.5 -4.9**
KBZ Khabaz 11.65 342 Pn Pn 11 27 06.5 +3.7
comp=Z,0.1nm,0.3s,baz=227,slow=4.6,SNR=2.8
KBZ LR LR 11 32 37.1
comp=Z,140nm,18.3s,baz=148,slow=43
KBZ Khabaz 11.65 342 *i*P Pn 11 27 07.8 +5.1
KIV Kislovodsk 11.92 342 *e*P Pn 11 27 11.0 +4.5
KIV pmax pmax
comp=Z,84nm,1.1s
KIV MLR MLR
comp=Z,246nm,11.0s
KIV Kislovodsk 11.92 342 Pn Pn 11 27 10.0 +3.5
ARQ Araqi 12.12 138 P Pn 11 27 10.0 +0.6
SNR=16
ARQ S **Sn 11 29 19.0 -5.4**
HOQ Hoqain 12.39 135 P Pn 11 27 15.4 +2.4
HOQ S **Sn 11 29 26.9 -4.1**
SOC Sochi 12.56 332 *e*P **Pn 11 27 17.7 +2.5**
SOC *e* 11 29 33.2
SOC pmax pmax
comp=Z,28nm,1.0s
SOC smax smax
comp=N,25nm,0.9s
SOC smax smax
comp=E,28nm,0.9s
BSY Bisya 12.97 138 P Pn 11 27 20.8 -0.1
BSY S Sn 11 29 36.2 -9.0
SMDO Samad 13.23 134 P Pn 11 27 24.9 +0.4
SNR=5.0
BR131 Keskin Array S 13.37 306 P Pn 11 27 28.6 +2.2
BR131 Keskin Array S 13.37 306 Pn 11 27 28.6 +2.2
BRTR Keskin Array B 13.37 306 Pn Pn 11 27 28.7 +2.3
comp=E,0.1nm,0.3s,baz=123,slow=14,SNR=17
BRTR LR LR 11 34 12.5
comp=E,82nm,20.7s,baz=99,slow=45
BRTR Keskin Array B 13.37 306 P Pn 11 27 27.7 +1.3
BRTR Keskin Array B 13.37 306 Pn Pn 11 27 27.7 +1.3
WSAR Wadi Sarin 13.46 132 Pn Pn 11 27 25.9 -1.7
comp=E,2.2nm,0.3s,baz=313,slow=14,SNR=15
WSAR LR LR 11 33 24.2
comp=E,171nm,20.4s,baz=304,slow=40
WSAR Wadi Sarin 13.46 132 P Pn 11 27 27.8 +0.2
WSAR S Sn 11 29 48.5 -8.5
JMDO Jabal Madar 13.78 136 P Pn 11 27 32.0 -0.1
JMDO S **Sn 11 30 01.6 -3.4**
ILGA Ilgaz 13.97 311 Pn 11 27 34.2 -0.5
WBK Wadi Bani Khal 14.13 133 P Pn 11 27 36.2 -0.5
WBK S **Sn 11 30 10.9 -2.5**
ANN Anapa 14.50 329 *e*P **Pn 11 27 43.4 +1.7**
ANN *e*S **Sn 11 30 26.4 +4.2**
ANN pmax pmax
comp=Z,30nm,1.0s
ANN MLR MLR
comp=Z,261nm,14.0s
JLN Jalan Bani Buh 14.74 133 P Pn 11 27 48.0 +2.9
SNR=7.6
MHTO MHTO 14.80 140 P Pn 11 27 45.3 -0.6
MHTO S **Sn 11 30 22.6 -7.2**
BOLV Bolvadin 14.90 298 Pn P 11 27 49.7 -3.3
ISP Isparta 14.97 295 P P 11 27 54.8 +1.1
ISP Isparta 14.97 295 P 11 27 54.8 +1.1
ELL Elmali 15.21 290 P P 11 27 57.4 +0.9
ELL pmax pmax
comp=Z,148nm,1.4s
ELL Elmali 15.21 290 P 11 27 57.4 +0.9
MDUB Mudurnu 15.38 305 P P 11 27 57.0 -1.3
MDUB IAmb IAmb 11 28 11.4
comp=Z,56nm,0.9s
DQM DQM 15.44 143 P Pn 11 27 52.7 -1.8
DQM S Sn 11 30 34.5 -11
ABTO Aybut 16.08 161 P Pn 11 27 60.0 -2.8
RBK Rabkut 16.21 157 P Pn 11 28 01.7 -2.8
SNR=6.3
DMTO DMTO 16.27 155 P Pn 11 28 01.7 -3.5
MANT Manisa 16.63 296 P P 11 28 12.6 +0.3
KBL Kabul 17.83 78 P P 11 28 27.4 +1.8
KBL pmax pmax
comp=Z,45nm,1.2s
KBL Kabul 17.83 78 P 11 28 27.4 +1.8
CHGR Chuyangaron 18.37 65 P P 11 28 32.0 +0.7
CHGR IAmb IAmb 11 28 39.3
comp=Z,39nm,0.8s
ABKAR Akbulak array 18.89 25 P P 11 28 37.0 +0.1
VRH Novokhopyorsk 19.01 348 *e*P **Pn 11 28 39.6 +0.7**
VRH pmax pmax
comp=Z,100nm,1.0s
TIRR Tirgusor 19.09 314 ⇓P Pn 11 28 40.3 +0.3
TIRR Tirgusor 19.09 314 P Pn 11 28 40.2 +0.3
IDI Anoyia 19.12 284 P Pn 11 28 40.0 -0.5
comp=Z,3.6nm,0.3s,baz=65,slow=6.2,SNR=26
ALN Alexandroupoli 19.18 301 P Pn 11 28 40.9 -0.1
ALN pmax pmax
comp=Z,32nm,1.1s
ALN Alexandroupoli 19.18 301 P Pn 11 28 40.9 -0.1
TLCR 19.24 316 ⇑P Pn 11 28 41.8 0.0
TLCR 19.24 316 P Pn 11 28 41.7 0.0
AKTO Aktyubinsk 19.28 20 P P 11 28 41.5 +0.3
comp=Z,3.0nm,0.3s,baz=203,slow=13,SNR=20
AKTO LR LR 11 38 49.1
comp=Z,217nm,18.0s,baz=202,slow=45
VORD Divnogorie 19.28 344 *e*P **Pn 11 28 42.9 +0.7**
VORD pmax pmax
comp=Z,60nm,1.3s
GAR Garm 19.32 65 P Pn 11 28 44.6 +1.7
GAR IAmb IAmb 11 28 50.0
comp=Z,57nm,0.9s
TOPG Topolog 19.33 315 ⇓P Pn 11 28 43.9 +1.0
VSR Storozhevoye 19.55 344 *e*P **P 11 28 44.4 +0.3**
VSR pmax pmax
comp=Z,120nm,1.1s
CFR Carcaliu 19.64 315 ⇑P Pn 11 28 46.1 -0.4
CFR Carcaliu 19.64 315 P Pn 11 28 46.0 -0.5
CFR pmax pmax
comp=Z,25nm,1.2s
RAZG Razgrad 19.86 309 ⇓P Pn 11 28 49.1 -0.2
IUG luzhnay 20.01 56 *e*P Pn 11 28 51.1 +0.1
comp=Z,50nm,2.0s,baz=56
IUG LR LR 11 37 32.9
comp=Z,44nm,10.0s,baz=56
IUG luzhnay 20.01 56 *e*P Pn 11 28 51.1 0.0
IUG pmax pmax
comp=Z,50nm,2.0s
BIR Birlad 20.53 317 ⇓P P 11 28 53.0 -1.9
VASR Vaslui 20.65 318 ⇓P Pn 11 28 58.5 0.0
KK31 Karatay Array 20.69 53 P P 11 28 57.9 +1.3
KK31 pmax pmax
comp=Z,26nm,1.2s
KK31 Karatay Array 20.69 53 P P 11 28 57.9 +1.3
KKAR Karatay Array 20.69 53 P P 11 28 56.6 0.0
KKAR Karatay Array 20.69 53 P P 11 28 56.6 0.0
SECR 20.82 313 ⇑P Pn 11 28 59.6 -0.9
VRI Vrincioaia 20.84 315 ⇓P Pn 11 28 59.7 -1.0
VRI Vrincioaia 20.84 315 P Pn 11 29 02.2 +1.5
VRI pmax pmax
comp=Z,17nm,1.0s
PLOR Plostina 20.88 315 ⇑P Pn 11 29 00.8 -0.4
PLOR Plostina 20.88 315 P Pn 11 29 00.8 -0.4
LPSR Galich'ya Gora 20.89 345 *e*P **P 11 28 58.1 -0.6**
LPSR pmax pmax
comp=Z,160nm,0.8s
SRS Serrai 21.01 300 P P 11 29 01.6 +1.4
SRS pmax pmax
comp=Z,16nm,1.4s
MLR Muntele Rosu 21.12 314 P P 11 29 02.6 +1.2
comp=Z,17nm,0.8s,baz=142,slow=19,SNR=11
MLR Muntele Rosu 21.12 314 ⇑P P 11 29 02.8 +1.4
MLR Muntele Rosu 21.12 314 P P 11 29 03.3 +1.9
MLR IAmb IAmb 11 29 12.7
comp=Z,25nm,0.8s

DZA Taraz 21.17 55 ⇓*i*P **P 11 29 02.9 +1.1**
baz=55
DZA LR LR 11 38 04.9
comp=Z,211nm,13.8s,baz=55
TESR Tescani 21.23 317 ⇑P P 11 29 03.0 +0.5
SORM Soroca 21.26 322 ⇑P P 11 29 03.9 +1.2
SORM Soroca 21.26 322 P P 11 29 03.8 +1.2
NIL Nilore 21.36 80 P P 11 29 04.4 +0.5
NIL pmax pmax
comp=Z,48nm,1.2s
NIL Nilore 21.36 80 P P 11 29 04.4 +0.5
NIL IAmb IAmb 11 29 13.6
comp=Z,48nm,1.1s
OZUR 21.52 315 ⇓P P 11 29 06.5 +1.0
ATD Arta Tunnel 21.55 193 P P 11 29 06.0 0.0
comp=Z,3.7nm,0.4s,baz=72,slow=20,SNR=2.0
ATD LR LR 11 38 10.4
comp=Z,161nm,19.3s,baz=10,slow=39
ITM Ithomi 21.61 289 P P 11 29 06.4 -0.2
VOIR 21.64 313 ⇓P P 11 29 07.9 +0.9
VOIR 21.64 313 P P 11 29 08.0 +1.0
VOIR pmax pmax
comp=Z,78nm,1.0s
DOPR Dopca 21.69 314 ⇑P P 11 29 08.4 +0.9
ARSB Arslanbob 21.86 60 P P 11 29 09.9 +0.5
ARSB pmax pmax
comp=Z,36nm,1.2s
ARSB Arslanbob 21.86 60 P P 11 29 09.9 +0.5
ARSB IAmb IAmb 11 29 25.2
comp=Z,36nm,1.2s
ARR Arges 21.87 312 ⇑P P 11 29 10.8 +1.4
PRAR RASCA 21.94 318 ⇑P P 11 29 10.9 +0.8
AKASG Malin Array Be 22.58 328 P P 11 29 15.3 -1.5
comp=Z,3.4nm,0.4s,baz=137,slow=9.0,SNR=16
AKASG Malin Array Be 22.58 328 P P 11 29 15.8 -1.0
AKASG pmax pmax
comp=Z,6.0nm,1.2s
AKASG Malin Array Be 22.58 328 P P 11 29 15.8 -1.0
AKBB Malin Array Si 22.58 328 *ce*P **P 11 29 16.2 -0.6**
AKBB Malin Array Si 22.58 328 P P 11 29 15.1 -1.7
AKBB IAmb IAmb 11 29 20.6
comp=Z,21nm,1.0s
BURAR Bucovina Array 22.65 318 ⇑P P 11 29 19.1 +1.3
BURAR Bucovina Array 22.65 318 P P 11 29 19.0 +1.3
BURAR Bucovina Array 22.65 318 P P 11 29 17.1 -0.7
BUR08 Bucovina Ar. S 22.68 318 P P 11 29 18.0 0.0
DEV Deva 23.19 312 P P 11 29 27.3 +4.1
DEV pmax pmax
comp=Z,18nm,1.5s
AAK Ala-Archa 23.30 57 P P 11 29 24.0 -0.6
comp=Z,2.0nm,0.4s,baz=245,slow=5.0,SNR=2.0
AAK LR LR 11 39 53.6
comp=Z,277nm,18.3s,baz=258,slow=40
AAK Ala-Archa 23.30 57 *i*P **P 11 29 25.5 +0.9**
AAK pmax pmax
comp=Z,7.0nm,1.1s
AAK Ala-Archa 23.30 57 P P 11 29 27.8 +3.2
MDVR Moldovita 23.51 308 ⇑P P 11 29 26.1 -0.5
BMR Baia Mare 23.68 316 P P 11 29 30.8 +2.7
BMR pmax pmax
comp=Z,78nm,1.2s
KSH Kashi 23.74 65 P P 11 29 25.8 -3.1
KSH S S 11 33 32.3 -12
KSH pmax pmax
comp=Z,70nm,1.4s
KSH pmax pmax
comp=Z,160nm,4.9s
KSH LR LR
comp=N,400nm,9.5s
KSH LR LR
comp=E,540nm,11.5s
KSH LR LR
comp=Z,880nm,17.8s
OBN Obninsk 23.75 344 P P 11 29 28.2 -0.4
comp=Z,3.3nm,0.4s,baz=169,slow=6.0,SNR=7.9
OBN LR LR 11 39 27.0
comp=Z,34nm,20.4s,baz=213,slow=38
OBN Obninsk 23.75 344 *d*i*P* **P 11 29 28.4 -0.3**
OBN *e* 11 29 59.1
OBN pmax pmax
comp=Z,100nm,1.5s
OBN MLR MLR
comp=Z,110nm,15.0s
OBN Obninsk 23.75 344 P P 11 29 28.0 -0.7
BTLS Baital 23.78 51 ⇓*i*P **P 11 29 30.8 +1.7**
comp=Z,25nm,2.1s,baz=51
BTLS LR LR 11 39 51.2
comp=Z,30nm,10.2s,baz=51
BTLS Baital 23.78 51 *d*i*P* **P 11 29 30.8 +1.7**
BTLS pmax pmax
comp=Z,25nm,2.1s
BZS Buzias 23.90 310 ⇑P P 11 29 30.5 +0.3
BZS Buzias 23.90 310 P P 11 29 31.2 +1.0
BZS pmax pmax
comp=Z,18nm,1.3s
MOS Moscow 24.10 346 *e*P **P 11 29 30.6 -1.3**
MOS *e* 11 30 14.0
MOS *e*S **S 11 33 49.9 +0.9**
MOS pmax pmax
comp=Z,77nm,1.4s
DIVS Divibare 24.43 306 P P 11 29 34.4 -0.9
LVV L'vov 24.54 321 *e*P **P 11 29 36.8 +0.7**
MTBS Maitube 24.80 57 *e*P **P 11 29 40.8 +2.2**
baz=57
UZH Uzhgorod 24.86 317 *de*P **P 11 29 40.4 +1.5**
UZH *e* 11 29 43.6
UZH *e* 11 30 20.3
ARU Arti 24.89 14 P P 11 29 39.6 +0.5
comp=Z,3.4nm,0.6s,baz=193,slow=10.0,SNR=16
ARU LR LR 11 41 49.1
comp=Z,96nm,20.4s,baz=127,slow=42
ARU Arti 24.89 14 *c i*P **P 11 29 39.7 +0.5**
ARU PPP PPP 11 30 20.0
ARU *e* 11 33 14.1
ARU S **S 11 34 03.9 +2.2**
ARU pmax pmax
comp=Z,32nm,1.3s
ARU Arti 24.89 14 P P 11 29 39.7 +0.5
ARU IAmb IAmb 11 29 46.1
comp=Z,23nm,1.0s
KUU Kurty 24.95 55 ⇓*i*P **P 11 29 41.4 +1.5**
comp=Z,17nm,1.1s,baz=55
KUU LR LR 11 40 26.7
comp=Z,117nm,10.6s,baz=55
KOLS Kolonicke sedl 25.02 318 *e*P **P 11 29 40.7 +0.2**
KOLS pmax pmax
comp=Z,22nm,1.2s
KOLS Kolonicke sedl 25.02 318 *e*P **P 11 29 40.7 +0.2**
KDJ Kajisay 25.10 60 P P 11 29 43.2 +1.8
KDJ pmax pmax
comp=Z,14nm,1.0s
KDJ Kajisay 25.10 60 P P 11 29 43.2 +1.8
KDJ IAmb IAmb 11 29 50.8
comp=Z,14nm,0.9s
TNSS Tian-Shan 25.14 57 ⇓*i*P **P 11 29 43.8 +1.7**
baz=58
KWP Kalwaria Pacla 25.15 320 P P 11 29 41.6 0.0
KWP pmax pmax
comp=Z,26nm,0.9s
KWP Kalwaria Pacla 25.15 320 P P 11 29 41.6 0.0
AAA Alma-Ata 25.16 57 *e*P **P 11 29 43.5 +1.6**
baz=57
AAA LR LR 11 40 32.5
baz=57
MDOK Medeo 25.25 57 *i*P **P 11 29 44.0 +1.3**
baz=57
MDOK LR LR 11 40 25.8
comp=Z,204nm,13.1s,baz=57
MDOK Medeo 25.25 57 *i*P **P 11 29 44.0 +1.3**
MDOK pmax pmax
comp=Z,138nm,0.9s
BRZS Berezniki 25.28 40 *e*P **P 11 29 44.2 +1.3**
comp=Z,17nm,1.2s,baz=40
BRZS Berezniki 25.28 40 *e*P **P 11 29 44.1 +1.3**
BRZS pmax pmax
comp=Z,17nm,1.2s
CHKK Chushkaly 25.39 56 ⇓*i*P **P 11 29 45.4 +1.6**
baz=56
TARG Taragay, Kyrgy 25.47 61 P P 11 29 45.7 +0.5
TARG IAmb IAmb 11 29 54.2
comp=Z,16nm,0.9s
SVE Sverdlovsk 25.71 16 *e*P **P 11 29 47.0 +0.4**
SVE pmax pmax
comp=Z,26nm,1.0s
KIRV Kirov 25.91 2 P P 11 29 48.4 0.0

comp=Z,14nm,0.4s,baz=185,slow=7.9,SNR=7.7
KIRV LR LR 11 42 22.0
comp=Z,190nm,18.4s,baz=178,slow=42
KIRV Kirov 25.91 2⇓ *e*P **P 11 29 49.0 +0.6**
PSZ Piszkesteto 25.93 314 P **P 11 29 49.7 +0.9**
PSZ pmax pmax
comp=Z,31nm,0.8s
PSZ Piszkesteto 25.93 314 P **P 11 29 49.7 +0.9**
BRVK Borovoye 26.01 32 *ce*P **P 11 29 50.1 +0.7**
BRVK pmax pmax
comp=Z,27nm,1.3s
BRVK Borovoye 26.01 32 P **P 11 29 49.4 0.0**
BRVK IAmb IAmb 11 29 55.5
comp=Z,22nm,1.0s
BVAR Borovoye Array 26.03 32 P **P 11 29 50.4 +0.8**
comp=Z,5.7nm,0.4s,baz=222,slow=8.6,SNR=56
BVAR PcP **PcP 11 33 17.1 -0.2**
comp=Z,1.0nm,0.4s,baz=192,slow=4.3,SNR=6.7
BVAR ScP **ScP 11 36 54.7 -2.0**
comp=Z,1.2nm,0.6s,baz=256,slow=3.2,SNR=8.7
BVAR LR LR 11 42 09.6
comp=Z,149nm,20.1s,baz=232,slow=41
SATY Saty 26.19 58 *e*P **P 11 29 52.9 +1.6**
comp=Z,18nm,1.4s,baz=58
SATY Saty 26.19 58 *e*P **P 11 29 52.8 +1.6**
SATY pmax pmax
comp=Z,18nm,1.4s
SATY Saty 26.19 58 *e*P **P 11 29 52.8 +1.6**
SATY pmax pmax
comp=Z,18nm,1.4s
BUD Budapest 26.29 313 P **P 11 29 57.3 +5.4**
BUD pmax pmax
comp=Z,37nm,1.4s
UZB Uzynbulak 26.64 58⇓ *i*P **P 11 29 57.4 +2.0**
comp=Z,5.4nm,1.4s,baz=58
VYHS Vyhne 26.82 315 *e*P **P 11 29 57.5 +0.7**
VYHS pmax pmax
comp=Z,15nm,1.5s
VYHS Vyhne 26.82 315 *e*P **P 11 29 57.5 +0.7**
SHLS Shalkode 26.96 58 *e*P **P 11 30 02.8 +4.5**
comp=Z,4.0nm,1.9s,baz=58
SHLS LR LR 11 41 53.1
comp=Z,70nm,13.4s,baz=58
OJC Ojcow 27.06 319 P **P 11 29 58.9 0.0**
OJC pmax pmax
comp=Z,23nm,1.0s
OJC Ojcow 27.06 319 P **P 11 29 58.9 0.0**
OJC IAmb IAmb 11 30 04.5
comp=Z,23nm,1.0s
SUW Suwalki 27.55 328 P **P 11 30 04.3 +1.1**
SUW pmax pmax
comp=Z,85nm,1.3s
SUW Suwalki 27.55 328 P **P 11 30 04.3 +1.1**
JAVC Velka Javorina 27.68 315 *e*P **P 11 30 05.7 +1.2**
MODS Modra-Piesok 27.72 313 *e*P **P 11 30 04.2 -0.6**
MODS pmax pmax
comp=Z,32nm,1.6s
MODS Modra-Piesok 27.72 313 *e*P **P 11 30 04.2 -0.6**
MORC Moravsky Berou 28.14 316 *e*P **P 11 30 07.7 -1.0**
MORC Moravsky Berou 28.14 316 P **P 11 30 09.8 +1.1**
MORC pmax pmax
comp=Z,34nm,1.7s
ARSA Arzberg 28.41 310 *e*P **P 11 30 11.2 +0.1**
comp=Z,3.1nm,0.8s
CONA Conrad Observa 28.43 312 *e*P **P 11 30 11.0 -0.3**
comp=Z,6.8nm,1.1s
VRAC Vranov 28.50 315 P **P 11 30 11.7 -0.2**
comp=Z,1.1nm,0.4s,baz=133,slow=10,SNR=4.1
VRAC LR LR 11 43 56.3
comp=Z,30nm,18.5s,baz=102,slow=41
VRAC Vranov 28.50 315 *e*P **P 11 30 11.5 -0.3**
KRUC Moravsky 28.53 314 *e*P **P 11 30 11.0 -1.0**
SOKA Soboth 28.55 309 *e*P **P 11 30 12.4 0.0**
comp=Z,5.2nm,1.3s
KLMR Klimovskoe 28.68 352 *e*P **P 11 30 11.4 -1.7**
KLMR *e* 11 31 01.5
KLMR pmax pmax
comp=Z,32nm,1.1s
KLMR Klimovskoe 28.68 352 *e*P **P 11 30 11.5 -1.7**
KLMR AMP 11 30 17.5
comp=Z,32nm,1.1s
KLMR *e*PP **PnPn 11 31 01.6 -1.8**
OBKA Obir 28.82 308 *e*P **P 11 30 14.4 -0.4**
comp=Z,7.8nm,0.9s
KURBB Kurchatov Arra 28.85 43 P **P 11 30 16.2 +1.3**
comp=Z,2.5nm,0.2s,baz=250,slow=9.5,SNR=17
KURBB ScP **ScP 11 37 03.1 -2.1**
comp=Z,0.3nm,0.3s,baz=232,slow=4.6,SNR=1.8
KURK Kurchatov 28.94 42 *ce*P **P 11 30 17.2 +1.5**
KURK pmax pmax
comp=Z,20nm,1.3s
KURK Kurchatov 28.94 42 P **P 11 30 16.6 +0.9**
KURK IAmb IAmb 11 30 22.5
comp=Z,20nm,1.1s
PRGR Permogore 28.98 358 *e*P **P 11 30 13.8 -2.1**
PRGR pmax pmax
comp=Z,14nm,0.8s
DPC Dobruska-Polom 29.10 317 *e*P **P 11 30 17.7 +0.5**
DPC Dobruska-Polom 29.10 317 *e*P **P 11 30 17.7 +0.5**
OSTC Ostas 29.25 317 *e*P **P 11 30 20.8 +2.3**
CHVC Chvalec 29.36 317 *e*P **P 11 30 19.2 -0.2**
MOA Molln 29.41 311 *e*P **P 11 30 20.2 +0.3**
comp=Z,4.4nm,0.6s
MAKZ Makanchi 29.59 51 P **P 11 30 22.9 +1.4**
MAKZ pmax pmax
comp=Z,11nm,1.4s
MAKZ Makanchi 29.59 51 P **P 11 30 22.9 +1.4**
KBA Koelnbreinsper 29.78 309 *e*P **P 11 30 22.9 -0.5**
comp=Z,3.2nm,0.6s
MK31 Makanchi Array 29.79 52 P **P 11 30 24.4 +1.1**
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 29.79 52 P **P 11 30 24.4 +1.1**
MKAR Makanchi Array 29.79 52 P **P 11 30 24.4 +1.1**
comp=Z,6.8nm,0.9s,baz=246,slow=7.3,SNR=21
MKAR ScP **ScP 11 37 08.0 -0.4**
comp=Z,0.3nm,0.4s,baz=240,slow=1.2,SNR=2.0
MKAR LR LR 11 43 29.8
comp=Z,58nm,19.1s,baz=251,slow=39
MKAR Makanchi Array 29.79 52 P **P 11 30 24.1 +0.8**
MKAR Makanchi Array 29.79 52 P **P 11 30 24.1 +0.8**
GERES GERESS Array B 30.10 312 P **P 11 30 25.8 -0.3**
comp=Z,1.1nm,0.9s,baz=222,slow=1.8,SNR=4.7
GERES PcP **PcP 11 33 26.9 -0.5**
comp=Z,0.9nm,0.6s,baz=132,slow=2.0,SNR=6.3
CIMO Cimolais 30.18 307 P **P 11 30 26.2 -0.5**
CIMO IAmb IAmb 11 30 31.7
comp=Z,8.7nm,0.7s
PBCC Pribram 30.21 314 *e*P **P 11 30 27.8 +0.8**
ABTA Abfaltersbach 30.24 308 *e*P **P 11 30 27.3 0.0**
comp=Z,7.2nm,1.2s
KHC Kasperske Hory 30.27 313 *e*P **P 11 30 31.4 +3.8**
KHC Kasperske Hory 30.27 313 *e*P **P 11 30 31.4 +3.8**
CTI Castel Tesino 30.65 306 P **P 11 30 30.5 -0.5**
CTI pmax pmax
comp=Z,16nm,0.7s
CTI Castel Tesino 30.65 306 P **P 11 30 30.5 -0.5**
WTTA Wattenberg 30.95 309 *e*P **P 11 30 33.1 -0.6**
comp=Z,23nm,1.2s
WATA Walderalm 31.01 309 *e*P **P 11 30 33.1 -1.1**
comp=Z,20nm,1.2s
VLC Villacollemand 31.17 302 P **P 11 30 35.8 +0.3**
VLC IAmb IAmb 11 30 48.7
comp=Z,18nm,1.0s
SQTA Sankt Quirin 31.22 308 *e*P **P 11 30 34.7 -1.3**
comp=Z,4.4nm,0.4s
MOTA Moosalm 31.32 309 *e*P **P 11 30 36.2 -0.8**
comp=Z,17nm,0.9s
CLL Collm 31.41 317 *e*P **P 11 30 38.0 +0.5**
comp=Z,5.0nm,0.9s
CLL *e*(pP) **sP 11 30 43.0 -0.4**
CLL Collm 31.41 317 *e*P **P 11 30 38.0 +0.5**
CLL *e* 11 30 43.0
CLL pmax pmax
comp=Z,5.0nm,0.9s
FETA Feichten 31.49 308 *e*P **P 11 30 37.4 -1.1**
comp=Z,11nm,1.2s
RETA Reutte 31.58 309 *e*P **P 11 30 38.3 -0.8**
comp=Z,2.5nm,0.4s
FUORN Ofenpass-Fuorn 31.71 307 P **P 11 30 43.0 +2.5**
FUORN IAmb IAmb 11 30 55.1
comp=Z,18nm,1.4s
FIA1 FINESS Array S 32.00 340 P **P 11 30 42.9 +0.3**
FIA1 IAmb IAmb 11 30 47.8
comp=Z,13nm,1.1s
FINES FINESS Array B 32.00 340 P **P 11 30 41.8 -0.7**
comp=Z,3.6nm,0.7s,baz=141,slow=9.5,SNR=21
FINES LR LR 11 45 03.5
comp=Z,84nm,18.3s,baz=136,slow=39
FINES FINESS Array B 32.00 340 P **P 11 30 44.2 +1.6**
TMCR Tamitsa 32.06 352 *e*P **P 11 30 41.3 -1.7**
DAVA Damuels 32.12 308 *e*P **P 11 30 42.7 -1.3**
comp=Z,21nm,0.6s
WMQ Urumqi 32.98 59 *e*P **P 11 30 54.3 +2.8**
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ pmax pmax
comp=Z,120nm,4.3s
WMQ LR LR
comp=N,110nm,19.9s
WMQ LR LR
comp=E,230nm,16.5s
WMQ LR LR
comp=Z,84nm,25.9s
SBF Sospel 33.25 301 *e*P **P 11 30 54.1 +0.3**
SBF pmax pmax
comp=Z,38nm,1.1s
SENIN Lac Senin/Sane 33.67 306 P **P 11 30 57.3 -0.3**
ZAA0 Zalesovo Array 33.76 40 P **P 11 30 57.9 -0.2**
ZAA0 IAmb IAmb 11 31 03.8
comp=Z,11nm,0.9s
ZALV Zalesovo Beam 33.76 40 P **P 11 30 58.5 +0.5**
comp=Z,5.5nm,0.4s,baz=249,slow=9.0,SNR=25
ZALV PcP **PcP 11 33 35.6 -1.6**
comp=Z,0.9nm,0.4s,baz=232,slow=4.7,SNR=2.2
ZALV LR LR 11 45 13.6
comp=Z,50nm,18.4s,baz=264,slow=37
ZALV Zalesovo Beam 33.76 40 P **P 11 30 57.8 -0.3**
ZALV Zalesovo Beam 33.76 40 P **P 11 30 57.8 -0.3**
MBDF Montbardon 33.81 303 *e*P **P 11 30 58.0 -0.8**
MBDF pmax pmax
comp=Z,19nm,0.6s
DGZ Jazzator, Alta 33.88 48 *i*P **P 11 31 00.5 +1.2**
DGZ pmax pmax
comp=Z,13nm,1.4s
BNI Bardonecchia 33.92 303 P **P 11 30 59.4 -0.3**
BNI pmax pmax
comp=Z,37nm,0.8s
BNI Bardonecchia 33.92 303 P **P 11 30 59.4 -0.3**
LPG La Plagne 33.92 304 *e*P **P 11 30 59.4 -0.5**
LPG pmax pmax
comp=Z,28nm,0.5s
LPL La Plagne 33.94 304 *e*P **P 11 30 59.0 -1.0**
LPL pmax pmax
comp=Z,29nm,0.7s
ORIF Oris-en-Rattie 34.47 303 *e*P **P 11 31 06.3 +1.9**
ORIF pmax pmax
comp=Z,4.0nm,0.5s
CABF La Chapelle 34.54 306 *e*P **P 11 31 04.1 -0.9**
CABF pmax pmax
comp=Z,42nm,0.7s
VIVF Saint-Julien-l 35.31 303 *e*P **P 11 31 11.1 -0.6**
VIVF pmax pmax
comp=Z,5.0nm,0.7s
LOR Lormes 36.14 307 *e*P **P 11 31 18.1 -0.6**
LOR pmax pmax
comp=Z,7.0nm,0.7s
AVF Avril sur Loir 36.43 306 *e*P **P 11 31 19.6 -1.5**
AVF pmax pmax
comp=Z,10.0nm,0.7s
NORES NORESS Array B 36.62 331 P **P 11 31 24.8 +2.2**
BGF Bois d'Agland 36.75 306 *e*P **P 11 31 25.5 +1.6**
BGF pmax pmax
comp=Z,12nm,0.7s
NOA NORSAR Array B 36.92 331 P **P 11 31 23.6 -1.6**
comp=Z,0.8nm,0.6s,baz=119,slow=9.1,SNR=4.6
NOA LR LR 11 48 08.8
comp=Z,72nm,18.3s,baz=115,slow=39
RJF Les Rejaudoux 37.58 303 *e*P **P 11 31 30.2 -0.7**
RJF pmax pmax
comp=Z,48nm,1.9s
TAM Tamanrasset 38.44 266 P **P 11 31 40.6 +2.0**
TAM pmax pmax
comp=Z,14nm,1.2s
TAM Tamanrasset 38.44 266 P **P 11 31 40.6 +2.0**
ARCES ARCESS Array B 38.94 348 P **P 11 31 41.5 -0.6**
comp=Z,2.2nm,0.4s,baz=158,slow=9.7,SNR=39
ARCES PcP **PcP 11 33 51.1 -1.3**
comp=Z,2.5nm,0.8s,baz=126,slow=3.3,SNR=3.8
ARCES LR LR 11 48 50.0
comp=Z,69nm,20.1s,baz=172,slow=38
ARCES ARCESS Array B 38.94 348 P **P 11 31 42.3 +0.2**
ARCES ARCESS Array B 38.94 348 P **P 11 31 42.3 +0.2**
LDF La Druitiere 38.96 308 *e*P **P 11 31 42.7 +0.2**
LDF pmax pmax
comp=Z,11nm,1.0s
SHL Shillong 38.98 89 P **P 11 31 43.5 +0.3**
SHL pmax pmax
comp=Z,29nm,1.3s
SHL Shillong 38.98 89 P **P 11 31 43.5 +0.3**
SHL IAmb IAmb 11 31 45.1
comp=Z,29nm,1.3s
ETSF Etsaut 39.03 299 *e*P **P 11 31 43.3 0.0**
ETSF pmax pmax
comp=Z,4.0nm,0.9s
FLN La Foliniere 39.21 309 *e*P **P 11 31 45.6 +1.0**
FLN pmax pmax
comp=Z,10.0nm,0.7s
GRR Gorron 39.43 308 *e*P **P 11 31 46.7 +0.3**
GRR pmax pmax
comp=Z,12nm,0.8s
SJPF Ste Jean 39.52 300 *e*P **P 11 31 46.4 -0.9**
SJPF pmax pmax
comp=Z,7.0nm,0.9s
QUIF Quistinic 40.94 307 *e*P **P 11 32 02.9 +4.0**
QUIF pmax pmax
comp=Z,34nm,1.4s
ESDC Sonseca Array 41.83 295 P **P 11 32 05.6 -0.9**
comp=Z,2.2nm,0.7s,baz=78,slow=7.9,SNR=14
ESDC Sonseca Array 41.83 295 P **P 11 32 05.5 -1.0**
EKA Eskdalemuir Ar 41.84 318 P **P 11 32 05.5 -0.7**
GUD Guadarrama 41.86 296 P **P 11 32 06.6 -0.3**
GUD pmax pmax
comp=Z,10.0nm,1.3s
GTA Gaotai 42.14 66 *e*P **P 11 32 10.5 +1.4**
GTA pP sP 11 32 15.3 +0.3
GTA sP pP 11 32 17.8 +4.5
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,48nm,4.4s
GTA LR LR
comp=N,93nm,14.9s
GTA LR LR
comp=E,210nm,16.8s
GTA LR LR
comp=Z,160nm,14.9s
PAB San Pablo 42.14 295 P **P 11 32 08.9 -0.2**
PAB pmax pmax
comp=Z,11nm,2.0s
MOY Mondy 42.70 47 *e*P **P 11 32 15.4 +1.9**
MOY pmax pmax
comp=Z,23nm,1.8s
NRIK Noril'sk 42.90 19 P **P 11 32 14.0 -0.7**
comp=Z,1.4nm,0.3s,baz=235,slow=10.0,SNR=4.8
NRIK LR LR 11 54 30.5
comp=Z,116nm,18.4s,baz=191,slow=42
NRIK Noril'sk 42.90 19⇑ *e*P **P 11 32 16.6 +1.9**
NRIK pmax pmax
comp=Z,1.0nm,0.3s
PBRG Braganca 43.68 298 *e*P **P 11 32 21.6 +0.2**
comp=Z,20nm,1.6s
MVO Moncorvo 43.97 297 *e*P **P 11 32 20.9 -2.9**
comp=Z,21nm,1.3s
ZAK Zakamensk 44.07 49 *e*P **P 11 32 25.9 +1.4**
ZAK *e* 11 34 09.9
ZAK pmax pmax
comp=Z,5.0nm,1.5s
ZAK pmax pmax
comp=Z,3.0nm,1.4s
PVRL Vila Real 44.47 298 *e*P **P 11 32 28.0 +0.2**
comp=Z,28nm,1.8s
PMRV Marv??o 44.49 295 *e*P **P 11 32 28.0 0.0**
comp=Z,28nm,1.4s
PCBR Castelo Branco 44.49 296 *e*P **P 11 32 28.3 +0.4**
comp=Z,28nm,1.7s
PCAB Cabril 44.64 298 *e*P **P 11 32 32.9 +3.7**
comp=Z,28nm,1.3s
PVIS Viseu 44.68 297 *e*P **P 11 32 29.6 +0.1**
comp=Z,22nm,1.8s
PGAV Gavieira, Arco 44.79 299 *e*P **P 11 32 30.9 +0.5**
comp=Z,41nm,1.4s
PBEJ Beja 45.10 293 *e*P **P 11 32 32.9 +0.1**
comp=Z,28nm,1.8s
COI Coimbra 45.14 296 P **P 11 32 34.0 +0.9**
COI pmax pmax
comp=Z,17nm,0.9s
COI Coimbra 45.14 296 P **P 11 32 34.0 +0.9**
PNCL Nicolau / Gran 45.59 293 *e*P **P 11 32 37.2 +0.5**
comp=Z,41nm,1.7s
LZH Lanzhou 45.87 69 *e*P **P 11 32 38.4 -0.8**
LZH pP pP 11 32 41.5 -1.9
LZH sP sP 11 32 43.9 -1.2
LZH pmax pmax
comp=Z,14nm,1.3s
LZH LR LR
comp=N,160nm,13.0s
LZH LR LR
comp=E,170nm,16.8s
LZH LR LR
comp=Z,200nm,17.4s
PMAFR Mafra 46.02 295 *e*P P 11 32 34.3 -5.8
comp=Z,116nm,1.9s
SONM Songino Array 46.14 53 P **P 11 32 41.2 +0.1**
comp=Z,1.4nm,0.5s,baz=284,slow=8.6,SNR=9.7
SONM LR LR 11 55 17.4
comp=Z,65nm,18.8s,baz=264,slow=40
SONM Songino Array 46.14 53 P **P 11 32 42.4 +1.3**
TOA0 Torodi Ar. Sit 46.25 256 P **P 11 32 42.0 -0.1**
TOA0 IAmb IAmb 11 32 44.3
comp=Z,6.9nm,1.1s
TORD Torodi Ar. Bea 46.25 256 P **P 11 32 41.7 -0.4**
comp=Z,1.6nm,0.4s,baz=65,slow=7.2,SNR=29
TORD LR LR 11 52 45.1
comp=Z,73nm,18.4s,baz=55,slow=37
TORD Torodi Ar. Bea 46.25 256 P **P 11 32 41.2 -1.0**
ULN Ulaanbaatar 46.58 53 *i*P **P 11 32 45.3 +0.7**
ULN pmax pmax
comp=Z,15nm,1.3s
ULN Ulaanbaatar 46.58 53 P **P 11 32 45.0 +0.4**
ULN IAmb IAmb 11 32 51.1
comp=Z,14nm,1.2s
CHTO Chiang Mai 47.71 94 P **P 11 32 53.2 -0.4**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 47.71 94 P **P 11 32 53.2 -0.4**
CMAR Chiang Mai Arr 47.88 94 P **P 11 32 54.4 -0.4**
comp=Z,1.9nm,0.9s,baz=291,slow=8.5,SNR=12
CMAR PcP **PcP 11 34 23.7 +0.3**
comp=Z,0.4nm,0.3s,baz=299,slow=4.0,SNR=1.9
CMAR LR LR 11 57 40.8
comp=Z,41nm,18.9s,baz=332,slow=42
CMAR Chiang Mai Arr 47.88 94 P **P 11 32 53.8 -1.1**
CMAR Chiang Mai Arr 47.88 94 P **P 11 32 53.8 -1.1**
KMI Kunming 48.28 84⇑ *e*P **P 11 32 59.3 +1.1**
KMI pP sP 11 33 08.4 +4.3
KMI pmax pmax
comp=Z,11nm,1.1s
KMI pmax pmax
comp=Z,97nm,3.8s
PBKT Sadao Pong 50.47 95 P **P 11 33 14.6 0.0**
PBKT IAmb IAmb 11 33 16.0
comp=Z,15nm,1.5s
HHC Hu-ho-hao-te 50.76 62 *e*P **P 11 33 17.3 +0.5**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,77nm,4.7s
HHC LR LR
comp=N,100nm,12.3s
HHC LR LR
comp=E,140nm,11.1s
SLVN Son La 50.78 88 P **P 11 33 17.9 +0.8**
SLVN IAmb IAmb 11 33 19.1
comp=Z,14nm,1.4s
GYA Guiyang 51.06 81 *e*P **P 11 33 21.3 +2.1**
GYA pmax pmax
comp=Z,12nm,0.9s
DBIC Dimbokro 55.20 254 P **P 11 33 47.8 -1.9**
comp=Z,3.7nm,0.8s,baz=38,slow=3.9,SNR=5.4
DBIC LR LR 12 00 17.7
comp=Z,113nm,18.5s,baz=32,slow=39
KIC Kosan Boka 55.29 254 *e*P **P 11 33 49.4 -0.9**
comp=Z,9.2nm,0.6s
TIC Toumodi 55.35 254 *e*P **P 11 33 50.6 -0.2**
LIC Lamto 55.60 254 *e*P **P 11 33 52.1 -0.5**
comp=Z,29nm,1.0s
IPM Ipoh 57.02 108 P **P 11 34 02.3 -0.5**
ZEA Zeya 58.41 43 *e*P **P 11 34 13.1 +1.1**
NJ2 Nanjing 58.95 70 *e*P **P 11 34 15.6 -0.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
TSUM Tsumeb 59.13 214 P **P 11 34 18.2 +0.8**
comp=Z,2.6nm,0.8s,baz=333,slow=4.0,SNR=4.3
TSUM Tsumeb 59.13 214 P **P 11 34 17.1 -0.4**
LBTB Lobatse 61.16 203 P **P 11 34 31.9 +0.7**
comp=Z,4.7nm,0.7s,baz=355,slow=3.6,SNR=6.8
LBTB Lobatse 61.16 203 P **P 11 34 30.9 -0.3**
LBTB pmax pmax
comp=Z,11nm,1.1s
LBTB Lobatse 61.16 203 P **P 11 34 30.9 -0.3**
LBTB IAmb IAmb 11 34 35.8
comp=Z,11nm,1.1s
KLR Kul'dur 62.37 47 *ce*P **P 11 34 39.5 +0.4**
KLR pmax pmax
comp=Z,2.0nm,0.6s
KSRS Korea Array 63.89 61 P **P 11 34 48.7 -0.7**
comp=Z,0.9nm,0.5s,baz=282,slow=7.0,SNR=7.5
KSRS LR LR 12 06 33.4
comp=Z,49nm,18.6s,baz=286,slow=40
USRK Ussuriysk Ar. 64.25 53 P **P 11 34 50.2 -1.5**
comp=Z,1.6nm,0.6s,baz=276,slow=5.6,SNR=5.0
USRK LR LR 12 05 30.2
comp=Z,61nm,21.4s,baz=287,slow=38
USRK Ussuriysk Ar. 64.25 53 P **P 11 34 50.4 -1.3**
USRK Ussuriysk Ar. 64.25 53 P **P 11 34 50.4 -1.3**
BOSA Boshof 64.61 202 P **P 11 34 55.1 +1.0**
comp=Z,5.3nm,0.8s,baz=10,slow=6.6,SNR=6.6
BOSA LR LR 12 03 48.8
comp=Z,103nm,18.9s,baz=16,slow=37
BOSA Boshof 64.61 202 P **P 11 34 54.4 +0.3**
BOSA pmax pmax
comp=Z,8.0nm,1.0s
BOSA Boshof 64.61 202 P **P 11 34 54.4 +0.3**
BOSA IAmb IAmb 11 34 58.2
comp=Z,7.9nm,0.9s
YSS Yuzh-Sakhalins 70.05 47⇓ *e*P **P 11 35 28.3 -0.1**
YSS *e* 11 35 35.1
YSS pmax pmax
comp=Z,10.0nm,1.3s
YSS MLR MLR
comp=E,100nm,15.0s
YSS MLR MLR
comp=Z,100nm,15.0s
YSS MLR MLR
comp=N,100nm,11.0s
JHJ Hachijo jima 2 74.50 60 LR LR 12 11 55.7
comp=N,35nm,20.2s,baz=286,slow=38
PETK Petropavlovsk- 75.20 36 LR LR 12 14 17.4
comp=N,59nm,18.5s,baz=209,slow=40
SCHQ Schefferville 76.37 327 P **P 11 36 05.8 +0.1**
comp=N,3.4nm,0.9s,baz=61,slow=19,SNR=2.4
SCHQ Schefferville 76.37 327 P **P 11 36 07.2 +1.6**
SCHQ IAmb IAmb 11 36 27.2
comp=Z,5.4nm,0.9s
IMAR Indian Mountai 80.24 9 P **P 11 36 26.7 -0.2**
ILAR Eielson Array 82.17 6 P **P 11 36 36.6 -0.5**
comp=Z,0.5nm,0.9s,baz=335,slow=4.0,SNR=3.5
ILAR LR LR 12 19 20.5
comp=Z,37nm,18.1s,baz=68,slow=40
BATI Baumata 83.84 106 LR LR 12 17 38.5
comp=Z,132nm,18.0s,baz=163,slow=38
YKA Yellowknife Ar 84.08 352 LR LR 12 14 35.3
comp=Z,20nm,19.7s,baz=0.0,slow=36
BCAR Beaver Creek A 84.26 4 P **P 11 36 48.6 +0.6**
FITZ Fitzroy Crossi 89.88 112 P **P 11 37 15.2 -0.7**
comp=Z,1.9nm,0.8s,baz=330,slow=12,SNR=1.8
ULM Lac du Bonnet 91.35 338 LR LR 12 20 36.4
comp=Z,35nm,18.5s,baz=251,slow=37
WRA Warramunga Arr 97.77 109 P **P 11 37 49.5 -2.6**
comp=Z,0.5nm,0.8s,baz=315,slow=3.9,SNR=2.0
WRA Warramunga Arr 97.77 109 P **P 11 37 51.8 -0.3**
WRA Warramunga Arr 97.77 109 P **P 11 37 51.8 -0.3**
ASAR Alice Springs 99.37 112 P **Pdif 11 37 57.8 -1.5**
comp=Z,0.3nm,0.5s,baz=307,slow=5.0,SNR=5.6
ASAR Alice Springs 99.37 112 P **Pdif 11 37 57.6 -1.7**
ASAR Alice Springs 99.37 112 P **Pdif 11 37 57.5 -1.7**

WEL 17 11:51:08.4, 45°S±9°×16°E±°, h12km, M3.5/11, ML3.6/11, MLv3.5/11, Error ellipse: s-maj=0.0km s-min=0.0km az=1.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLZ	**Mavora Lakes**	**0.63**	**108**	P	Pb	11 51 22.2	+0.8
MLZ				S	Sn	11 51 31.9	-1.4
MSZ	**Milford Sound**	**0.69**	**44**	P	Pg	11 51 21.5	-0.2
MSZ				S	Sb	11 51 31.3	-0.4
WHZ	**Wether Hill Ro**	**0.86**	**147**	P	Pn	11 51 25.9	-0.5
WHZ				S	Sn	11 51 38.9	-0.1
WKZ	**Wanaka**	**1.29**	**75**	P	Pn	11 51 32.0	-0.2
WKZ				S	Sb	11 51 49.2	0.0
JCZ	**Jackson Bay**	**1.54**	**45**	P	Pn	11 51 36.0	+0.2
JCZ				S	Sn	11 51 54.7	-1.1
APZ	**The Paps**	**1.73**	**163**	P	Pn	11 51 38.9	+0.5
APZ				S	Sb	11 52 01.3	-0.6
TUZ	**Tuapeka**	**1.84**	**116**	P	Pn	11 51 40.0	+0.3
TUZ				S	Sn	11 52 02.1	-0.8
SYZ	**Scrubby Hill**	**1.89**	**137**	P	Pn	11 51 40.8	+0.3
SYZ				S	Sn	11 52 04.3	+0.1
LBZ	**Lake Benmore**	**2.22**	**70**	P	Pn	11 51 43.8	-1.3
LBZ				S	Sn	11 52 12.3	-0.2
ODZ	**Otahua Downs**	**2.40**	**88**	P	Pn	11 51 46.5	-1.0
ODZ				S	Sn	11 52 15.0	-1.7
FOZ	**Fox Glacier**	**2.46**	**49**	P	Pn	11 51 47.6	-0.6
GCSZ	**Gaunt Creek Bo**	**2.88**	**51**	P	Pn	11 51 52.7	-1.3
RPZ	**Rata Peaks**	**3.08**	**63**	P	Pn	11 51 54.9	-2.0
INZ	**Inchbonnie**	**3.88**	**52**	P	Pn	11 52 06.0	-1.9
OXZ	**Oxford**	**3.89**	**63**	P	Pn	11 52 05.1	-2.9
MQZ	**McQueen's Vall**	**4.13**	**71**	P	Pn	11 52 08.6	-2.6
AMCZ	**Amberley**	**4.36**	**65**	P	Pn	11 52 12.3	-2.1
OKCZ	**Okains Bay**	**4.39**	**73**	P	Pn	11 52 13.6	-1.4
GVZ	**Greta Valley S**	**4.71**	**64**	P	Pn	11 52 16.7	-2.5
DSZ	**Denniston Nort**	**4.76**	**46**	P	Pn	11 52 16.9	-3.0
THZ	**Tophouse**	**5.33**	**52**	P	Pn	11 52 27.6	-0.2
QRZ	**Quartz Range**	**5.81**	**43**	P	Pn	11 52 32.6	-1.8
NNZ	**Nelson**	**5.96**	**51**	P	Pn	11 52 36.7	+0.2
TRWZ	**Traveller**	**7.21**	**61**	P	Pn	11 52 55.9	+2.3
HOWZ	**Holdsworth Sta**	**7.40**	**58**	P	Pn	11 52 54.9	-1.3
PKE	**Pukeiti**	**7.78**	**42**	P	Pn	11 53 02.3	+0.8

WEL 17 11:51:13.5, 42°S±1°×17°4E±°, h18km±2km, M2.1/11, ML2.3/10, MLv2.1/11, Error ellipse: s-maj=0.0km s-min=0.0km az=113.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.13**	**188**	P	Pg	11 51 18.0	+0.4
BSWZ	**Blackbirch Sta**	**0.29**	**251**	P	Pg	11 51 19.7	-0.2
TUWZ	**Tuamarina**	**0.29**	**311**	P	Pb	11 51 20.3	+0.1
TCW	**Tory Channel**	**0.41**	**4**	P	Pb	11 51 22.4	+0.1
NNZ	**Nelson**	**0.76**	**302**	P	Pb	11 51 28.3	+0.1
PLWZ	**Palliser**	**0.77**	**86**	P	Pn	11 51 29.2	-0.3
MSWZ	**Moikau Station**	**0.79**	**75**	P	Pb	11 51 26.0	-2.7
CAW	**Cannon Point**	**0.81**	**51**	P	Pg	11 51 29.4	+0.1
DUWZ	**D'Urville Isla**	**0.85**	**344**	P	Pg	11 51 30.2	0.0
KIW	**Kapiti Island**	**0.91**	**34**	P	Pg	11 51 31.2	-0.1
PAWZ	**Paruwai Farm**	**0.93**	**75**	P	Pg	11 51 31.5	0.0
KHZ	**Kahutara**	**0.95**	**213**	P	Pb	11 51 31.6	+0.2
THZ	**Tophouse**	**1.01**	**261**	P	Pb	11 51 32.4	-0.1
MRZ	**Mangatainoka R**	**1.40**	**47**	P	Pb	11 51 38.6	-0.5
QRZ	**Quartz Range**	**1.51**	**301**	P	Pb	11 51 41.2	+0.1
LTZ	**Lake Taylor**	**1.86**	**231**	P	Pn	11 51 44.8	+0.2
OTVZ	**Oturere**	**2.69**	**24**	P	Pb	11 52 01.2	0.0
KAHZ	**Kahuranaki**	**2.71**	**49**	P	Pn	11 51 54.4	-1.8
WACZ	**Wakanui South**	**2.92**	**216**	P	Pn	11 52 00.3	+1.3
WVZ	**Waitaha Valley**	**2.97**	**240**	P	Pn	11 51 57.8	-2.0
EAZ	**Earnscleugh**	**5.09**	**223**	P	Pn	11 52 32.2	+3.3

ISN 17 11:55:58.4±1.3, 32°.72N×47°.68E, h14km±8km, ML2.6
TEH 17 11:55:59.5, 32°.74N×47°.63E, h18km, ML2.6
ISC 17 11:56:00.5±1.9, 32°.77N±0°.07×47°.64E±0°.07, h11km±16km, n7, σ0§94/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.77**	**13**	*e*Pg	**Pg**	**11 56 15.4**	**-0.1**
IKFM				*e*	**Sn**	**11 56 29.3**	**+0.4**
IKMR	**Kamar-syah**	**0.97**	**40**	*e*Pg	**Pb**	**11 56 18.3**	**-1.0**
IKMR				*e*		11 56 21.2	
BMDN	**Meydan**	**1.34**	**48**	*e*Pg	**Pb**	**11 56 25.7**	**-0.1**
BMDN				*e*		11 56 27.1	
BMDN				*e*Sg	**Sg**	**11 56 45.0**	**+1.2**
IBDR	**Badra**	**1.48**	**284**	*e*Pg	**Pn**	**11 56 26.0**	**-0.9**
IBDR				*e*Sg	**Sn**	**11 56 46.0**	**-0.2**
IBDR				AML	AML	11 56 46.3	
	comp=N,36nm,0.5s						
IBDR				AML	AML	11 56 52.7	
	comp=E,43nm,0.8s						
IVIS	**Veis**	**1.87**	**340**	*e*Pg	**Pb**	**11 56 34.4**	**-0.3**
IVIS				*e*		11 57 07.5	
NSR	**Nassriya**	**2.17**	**216**	*e*Pg	**Pn**	**11 56 36.0**	**-0.4**
NSR				*e*Sg	**Sn**	**11 57 04.0**	**+0.8**
BHD	**Baghdad**	**2.78**	**281**	*e*Pn	**Pn**	**11 56 45.0**	**+0.1**
BHD				*e*Sn	**Sn**	**11 57 20.0**	**+1.6**
BHD				AML	AML	11 57 54.8	
	comp=E,226nm,0.6s						

DJA 17 12:08:20.2±0.9, 3°S±4°×14°0E±°, h62km±13km, M3.3/4, MLv3.3/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.56**	**60**	P	Pn	12 08 33.9	+0.9
GENI				S	Sn	12 08 45.5	+3.1
JAY	**Jayapura**	**1.09**	**71**	P	Pn	12 08 39.7	+0.2
JAY				S	Sn	12 08 53.9	+0.1
SMPI	**Sarmi**	**1.31**	**312**	P	Pn	12 08 42.9	+0.5
SMPI				S	Sn	12 08 59.9	+0.8
WAMI	**Wamena**	**1.39**	**224**	P	Pn	12 08 43.6	+0.1
WAMI				S	Sn	12 09 02.1	+1.2

IDC 17 12:08:42.9±3.0, 7°.10S×129°.15E, h118km±42km, mb3.1/1, mb1 3.2/5, mb1mx3.0/36, mbtmp3.6/5, Error ellipse: s-maj=67.6km s-min=17.8km az=94.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.54**	**19**	P	Pn	12 10 18.6	+1.9
	0.9nm,0.3s,baz=220,slow=23,SNR=6.6						
SIJI				S	Sn	12 11 29.1	-0.9
	0.7nm,0.3s,baz=266,slow=23,SNR=2.4						
FITZ	**Fitzroy Crossi**	**11.45**	**197**	P	Pn	12 11 22.3	-0.6
	0.1nm,0.3s,baz=20,slow=13,SNR=1.6						
FITZ				S	Sn	12 13 24.6	-4.5
	0.1nm,0.3s,baz=356,slow=13,SNR=1.6						
WRA	**Warramunga Arr**	**13.72**	**159**	P	Pn	12 11 50.7	-1.9
	0.1nm,0.3s,baz=338,slow=12,SNR=2.2						
WRA				S	Sn	12 14 13.0	-11
	0.2nm,0.3s,baz=334,slow=22,SNR=2.9						
ASAR	**Alice Springs**	**17.09**	**165**	P	Pn	12 12 36.0	+1.2
	0.3nm,0.3s,baz=347,slow=11,SNR=58						
ASAR				S	Sn	12 15 35.0	-10
	0.1nm,0.3s,baz=347,slow=25,SNR=2.2						
MKAR	**Makanchi Array**	**67.85**	**327**	P	P	12 19 28.4	-0.1
	0.2nm,0.3s,baz=119,slow=6.2,SNR=4.2						

ISN 17 12:12:44.6±1.1, 32°.76N×47°.55E, h14km±7km, ML2.5
TEH 17 12:12:45.3, 32°.79N×47°.50E, h10km, ML2.7
ISC 17 12:12:44.9±1.7, 32°.71N±0°.07×47°.53E±0°.07, h7km±15km, n8, σ0§83/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.86**	**18**	*e*Pg	**Pg**	**12 13 00.9**	**-0.4**
IKFM				*e*	**Sn**	**12 13 15.9**	**-0.2**
IKMR	**Kamar-syah**	**1.08**	**41**	*e*		12 13 07.2	
IKMR				*e*Pg	**Pn**	**12 13 06.4**	**0.0**
IDOB	**Doab**	**1.21**	**27**	*e*		12 13 11.6	
IDOB				*e*Pg	**Pb**	**12 13 07.6**	**-0.6**
IBDR	**Badra**	**1.40**	**287**	*e*Pg	**Pn**	**12 13 11.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**12 13 29.0**	**-0.7**
IBDR				AML	AML	12 13 37.5	
	comp=N,85nm,0.5s						
IBDR				AML	AML	12 13 38.0	
	comp=E,85nm,0.8s						
BMDN	**Meydan**	**1.45**	**48**	*e*Pg	**Pn**	**12 13 11.8**	**+0.1**
BMDN				*e*		12 13 12.9	
BMDN				*e*Sg	**Sg**	**12 13 33.1**	**+1.6**
HSAM	**Samen**	**1.75**	**31**	*e*Pg	**Pb**	**12 13 16.8**	**-0.6**
HSAM				*e*		12 13 20.4	
NSR	**Nassriya**	**2.07**	**215**	*e*Pg	**Pb**	**12 13 22.0**	**-0.7**
NSR				*e*Sg	**Sb**	**12 13 49.0**	**+0.4**
BHD	**Baghdad**	**2.71**	**283**	*e*Pn	**Pn**	**12 13 29.0**	**+0.2**
BHD				*e*Sn	**Sn**	**12 14 03.0**	**+1.2**

IDC 17 12:32:47.8±1.6, 7°.07S×121°.22E, h481km±16km, mb2.9/4, mb1 2.9/7, mb1mx2.7/34, mbtmp3.7/7, Error ellipse: s-maj=116.0km s-min=18.4km az=59.0
ISC 17 12:32:49.0±1.2, 7°.1S±0°.3×121°.5E±0°.5, h500km, n7, σ1§19/9, mb3.5/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.80**	**146**	P	**P**	**12 34 05.2**	**-0.7**
	19nm,0.3s,baz=245,slow=4.6,SNR=15						
BATI				S	**S**	**12 35 06.7**	**-1.8**
	5.6nm,0.3s,baz=280,slow=22,SNR=2.0						
FITZ	**Fitzroy Crossi**	**11.71**	**160**	P	**P**	**12 35 24.4**	**0.0**
	0.5nm,0.3s,baz=342,slow=8.3,SNR=30						
WRA	**Warramunga Arr**	**17.88**	**137**	P	**P**	**12 36 29.7**	**+1.4**
	0.2nm,0.3s,baz=315,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**20.38**	**146**	P	**P**	**12 36 52.5**	**+1.3**
	0.5nm,0.5s,baz=318,slow=8.4,SNR=18						
ASAR				PcP	**PcP**	**12 40 42.0**	**+0.6**
	0.3nm,0.9s,baz=347,slow=1.6,SNR=4.5						
STKA	**Stephens Creek**	**31.02**	**145**	P	**P**	**12 38 25.5**	**+0.4**
	0.6nm,0.3s,baz=320,slow=13,SNR=4.4						
MKAR	**Makanchi Array**	**63.90**	**331**	P	**P**	**12 42 32.4**	**+0.2**
	0.4nm,0.5s,baz=137,slow=8.2,SNR=4.8						
ZALV	**Zalesovo Beam**	**68.14**	**338**	P	**P**	**12 42 57.6**	**-0.9**
	0.5nm,0.4s,baz=138,slow=7.3,SNR=2.3						

IDC 17 12:51:25.1±2.0, 14°.06N×119°.65E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.3/51, mbtmp3.8/3, Error ellipse: s-maj=41.1km s-min=22.5km az=175.0
MAN 17 12:51:26.8, 15°.00N×120°.05E, h14km, MS3.2
NEIC 17 12:51:30.8±0.9, 14°.01N±0°.06×119°.65E±0°.08, h43km±13km, mb4.3/5, Error ellipse: s-maj=12.3km s-min=7.9km az=108.0
ISC 17 12:51:28.5±1.5, 14°.96N±0°.05×120°.0E±0°.1, h66km±19km, n21, σ1§90/22, mb4.2/4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.23**	**134**	Pn	**Pn**	**12 51 50.2**	**+0.4**
	110nm,0.3s,baz=248,slow=5.4,SNR=6.1						
TGY				Sn	**Sn**	**12 52 07.5**	**+1.6**
	193nm,0.3s,baz=311,slow=18,SNR=9.8						
SMPP	**San Manuel, Pa**	**1.34**	**28**	*e*P	**Pn**	**12 51 49.3**	**-2.0**
SMPP				*e*S	**Sn**	**12 52 06.2**	**-2.2**
BOLP	**Bolinao**	**1.42**	**356**	*e*P	Pn	12 51 50.2	-2.0
BOLP				*e*S	Sn	12 52 04.5	-5.5
BCP	**Baguio City**	**1.56**	**21**	*i*P	**Pn**	**12 51 52.1**	**-2.1**
BALP	**Baler**	**1.69**	**62**	*e*P	**Pn**	**12 51 55.5**	**-0.4**
BALP				*e*S	**Sn**	**12 52 16.3**	**-0.4**
CAUP	**Cauayan**	**2.63**	**41**	*e*P	**Pn**	**12 52 09.3**	**+0.8**
CAUP				*e*S	**Sn**	**12 52 43.2**	**+3.9**
ABRA	**Dolores**	**2.75**	**14**	*e*P	**Pn**	**12 52 11.0**	**+0.7**
ABRA				*e*S	**Sn**	**12 52 44.5**	**+2.1**
APYP	**Conner**	**3.12**	**22**	*e*P	**Pn**	**12 52 15.2**	**0.0**
APYP				*e*S	**Sn**	**12 52 53.5**	**+2.2**
KKM	**Kota Kinabalu**	**9.62**	**203**	Pn	Pn	12 53 32.6	-12
MYLDM	**Lahad Datu**	**9.83**	**189**	Pn	Pn	12 53 31.7	-15
CMAR	**Chiang Mai Arr**	**20.48**	**283**	P	**P**	**12 56 03.2**	**+2.0**
	0.5nm,0.3s,baz=95,slow=8.2,SNR=2.3						
CMAR	**Chiang Mai Arr**	**20.48**	**283**	P	Pn	12 56 04.1	+0.2
WB0	**Warramunga Arr**	**37.29**	**157**	P	**P**	**12 58 32.9**	**-1.5**
WRA	**Warramunga Arr**	**37.44**	**157**	P	**P**	**12 58 34.0**	**-1.6**
	1.1nm,0.4s,baz=330,slow=10.0,SNR=25						
WRA	**Warramunga Arr**	**37.44**	**157**	P	**P**	**12 58 33.4**	**-2.2**
WB2	**Warramunga Arr**	**37.44**	**157**	P	**P**	**12 58 34.2**	**-1.4**
WB2				IAmb	IAmb	12 58 34.9	
	comp=Z,3.1nm,0.9s						
WR0	**Warramunga Arr**	**37.52**	**157**	P	**P**	**12 58 34.9**	**-1.5**
WR0				IAmb	IAmb	12 58 53.5	
	comp=Z,7.1nm,1.4s						
AS31	**Alice Springs**	**40.72**	**160**	P	**P**	**12 59 01.4**	**-1.7**
ASAR	**Alice Springs**	**40.72**	**160**	P	**P**	**12 59 02.2**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=337,slow=7.2,SNR=34						
ASAR	**Alice Springs**	**40.72**	**160**	P	**P**	**12 59 01.7**	**-1.3**
KKAR	**Karatay Array**	**50.63**	**314**	P	P	13 00 26.7	+5.7

IDC 17 12:55:17.6±0.7, 27°.64N×140°.13E, h332km±7km, mb3.2/14, mb1 3.4/17, mb1mx3.2/49, mbtmp3.9/17, Error ellipse: s-maj=20.1km s-min=10.4km az=81.0
JMA 17 12:55:19.1±0.1, 27°.81N×140°.62E, h350km, M3.9
ISC 17 12:55:19.3±0.7, 27°.81N±0°.08×140°.4E±0°.1, h350km, n34, σ1§96/41, mb3.4/14, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.76**	**113**	P	**Pn**	**12 56 07.8**	**-1.2**
CBIJ				S	**S**	**12 56 45.6**	**-3.2**
JCJ	**Chichijima**	**1.76**	**113**	P	**Pn**	**12 56 07.8**	**-1.1**
	38nm,0.3s,baz=4.7,slow=9.2,SNR=54						
JCJ				S	**S**	**12 56 45.5**	**-3.3**
	102nm,0.3s,baz=266,slow=22,SNR=23						
JHH2	**Haha-jima-NKT2**	**1.98**	**126**	P	**Pn**	**12 56 09.4**	**-1.1**
JHH2				*e*S	**S**	**12 56 48.4**	**-3.2**
JHCJ	**Hachijojimakas**	**5.27**	**355**	P	**Pn**	**12 56 43.0**	**+1.2**
JHJ2	**Mitsune**	**5.31**	**355**	P	**Pn**	**12 56 43.0**	**+0.8**
JHJ	**Hachijo jima 2**	**5.32**	**355**	P	**Pn**	**12 56 43.1**	**+0.8**
	34nm,0.3s,baz=265,slow=22,SNR=53						
JHJ				S	**S**	**12 57 41.9**	**-7.7**
	1.3nm,0.3s,baz=246,slow=20,SNR=1.1						
BSO1	**Boso 1**	**6.87**	**4**	P	**Pn**	**12 56 59.9**	**+0.8**
BSO3	**Boso 3**	**6.97**	**1**	P	**Pn**	**12 57 01.4**	**+0.5**
BSO4	**Boso 4**	**7.16**	**360**	P	**Pn**	**12 57 04.4**	**+1.1**
JOD2	**Odawara 2**	**7.51**	**352**	P	**Pn**	**12 57 08.0**	**+0.4**
JOD2				*e*S	**S**	**12 58 33.6**	**-2.2**
JAO	**Obara**	**7.90**	**341**	P	**Pn**	**12 57 13.5**	**+1.4**
JHU	**Hanno**	**8.07**	**354**	P	**Pn**	**12 57 13.9**	**-0.3**
JRY	**Ryogami san**	**8.28**	**352**	P	**Pn**	**12 57 16.7**	**+0.1**
JAG	**Ashikaga**	**8.63**	**355**	P	**Pn**	**12 57 19.3**	**-1.4**
JHO	**Hitachi**	**8.78**	**1**	P	**Pn**	**12 57 22.0**	**-0.5**
MJAR	**Matsushiro Arr**	**8.90**	**349**	P	**Pn**	**12 57 23.2**	**-0.8**
	0.1nm,0.3s,baz=78,slow=18,SNR=13						
KSRS	**Korea Array**	**14.22**	**316**	P	**Pn**	**12 58 29.8**	**+2.8**
	0.2nm,0.3s,baz=132,slow=12,SNR=12						
ASAJ	**Asahikawa**	**16.37**		P	**Pn**	**12 58 51.7**	**-0.1**
	0.1nm,0.3s,baz=120,slow=16,SNR=1.6						
KLR	**Kul'dur**	**22.40**	**345**	P	**P**	**12 59 50.1**	**+1.3**
	0.8nm,0.4s,baz=207,slow=9.0,SNR=2.7						
SEY	**Seymchan**	**36.00**	**9**	P	**P**	**13 01 49.7**	**+1.8**
	1.4nm,0.8s,baz=288,slow=19,SNR=4.8						
WRA	**Warramunga Arr**	**47.83**	**188**	P	**P**	**13 03 22.0**	**-1.1**
	0.6nm,0.4s,baz=6.8,slow=8.2,SNR=33						
WRA				ScP	**ScP**	**13 08 05.3**	**-0.5**
	0.3nm,0.5s,baz=356,slow=4.7,SNR=5.5						
MKAR	**Makanchi Array**	**48.78**	**309**	P	**P**	**13 03 28.8**	**-1.2**
	0.2nm,0.3s,baz=99,slow=8.2,SNR=2.6						
KURBB	**Kurchatov Arra**	**51.39**	**314**	P	**P**	**13 03 48.5**	**-0.8**
NRIK	**Noril'sk**	**51.40**	**339**	P	**P**	**13 03 49.3**	**+0.2**
	0.6nm,0.3s,baz=114,slow=10.0,SNR=3.5						
ASAR	**Alice Springs**	**51.56**	**188**	P	**P**	**13 03 49.7**	**-1.1**
	0.2nm,0.4s,baz=356,slow=4.2,SNR=12						
ASAR				ScP	**ScP**	**13 08 19.8**	**-1.9**
	0.2nm,0.8s,baz=353,slow=5.0,SNR=1.7						
ILAR	**Eielson Array**	**57.86**	**29**	P	**P**	**13 04 36.5**	**+1.4**
	0.6nm,0.9s,baz=280,slow=6.8,SNR=5.3						
INK	**Inuvik**	**63.05**	**25**	P	**P**	**13 05 11.2**	**+1.5**
	2.8nm,1.0s,baz=318,slow=4.3,SNR=4.5						
ARCES	**ARCESS Array B**	**72.34**	**340**	P	**P**	**13 06 08.2**	**+1.0**
	2.4nm,0.5s,baz=73,slow=8.7,SNR=24						
FINES	**FINESS Array B**	**76.59**	**333**	P	**P**	**13 06 31.9**	**+0.2**
	2.4nm,0.4s,baz=74,slow=5.2,SNR=39						
AKASG	**Malin Array Be**	**81.09**	**323**	P	**P**	**13 06 55.5**	**-0.6**
	0.3nm,0.3s,baz=41,slow=22,SNR=1.8						
NVAR	**Mina Array Bea**	**81.33**	**51**	P	**P**	**13 07 00.2**	**+2.3**
	0.7nm,0.6s,baz=287,slow=5.4,SNR=6.9						
NB2	**NORSAR Subarra**	**82.35**	**338**	P	**P**	**13 07 01.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=51,slow=4.6						
NOA	**NORSAR Array B**	**82.35**	**338**	P	**P**	**13 07 01.9**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=46,slow=4.9,SNR=5.3						
PDAR	**Pinedale Array**	**84.83**	**44**	P	**P**	**13 07 17.6**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=274,slow=5.3,SNR=2.6						

IDC 17 13:10:35.3±1.4, 4°.35S×150°.96E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/40, mbtmp3.6/5, ML1.8/1, Error ellipse: s-maj=42.2km s-min=15.0km az=157.0
ISC 17 13:10:40.0±1.3, 4°.2S±0°.2×150°.93E±0°.1, h35km, n6, σ1§52/8, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.10**	**95**	Pn	**Pn**	**13 10 58.2**	**-0.7**
	113nm,0.3s,baz=210,slow=2.9,SNR=388						
KRVT				Sn	**Sn**	**13 11 13.9**	**+1.0**
	920nm,0.3s,baz=229,slow=5.4,SNR=29						
PMG	**Port Moresby**	**6.37**	**216**	Pn	**Pn**	**13 12 10.4**	**-1.1**
	1.3nm,0.3s,baz=36,slow=18,SNR=2.7						
PMG				Sn	**Sn**	**13 13 25.1**	**+2.0**
	0.4nm,0.3s,baz=103,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**22.49**	**225**	P	**P**	**13 15 36.4**	**-0.3**
	1.0nm,0.6s,baz=53,slow=10,SNR=14						
ASAR	**Alice Springs**	**25.38**	**219**	P	**P**	**13 16 02.3**	**-1.9**
	0.5nm,0.5s,baz=58,slow=9.7,SNR=26						
FITZ	**Fitzroy Crossi**	**28.33**	**239**	P	**P**	**13 16 31.4**	**+0.6**
	1.6nm,0.8s,baz=45,slow=10.0,SNR=1.5						
ILAR	**Eielson Array**	**82.33**	**22**	P	**P**	**13 22 58.6**	**+0.7**
	0.3nm,0.7s,baz=243,slow=6.0,SNR=2.9						

IDC 17 13:16:53.7±1.6, 7°.16S×146°.59E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.4/39, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=38.0km s-min=25.2km az=99.0
NEIC 17 13:16:59.7±2.4, 7°.4S±0°.1×146°.5E±0°.2, h43km±5km, mb4.0/8, Error ellipse: s-maj=24.6km s-min=18.3km az=118.0
ISC 17 13:16:58.9±1.3, 7°.3S±0°.1×146°.4E±0°.1, h35km, n17, σ1§08/16, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.24**	**161**	Pn	**Pn**	**13 17 32.5**	**-1.0**
	11nm,0.3s,baz=325,slow=7.9,SNR=22						
PMG				Sn	**Sn**	**13 18 01.4**	**+1.5**
	4.7nm,0.3s,baz=307,slow=20,SNR=6.6						
PMG	**Port Moresby**	**2.24**	**161**		**Pn**	**13 17 32.4**	**-1.1**
COEN	**Coen**	**7.37**	**205**	Pn	**Pn**	**13 18 42.9**	**-1.1**
MTN	**Manton Dam**	**16.04**	**249**	P	**P**	**13 20 46.0**	**+1.0**
WR0	**Warramunga Arr**	**17.08**	**221**	P	**P**	**13 20 57.6**	**+1.0**
WR0				IAmb	IAmb	13 21 23.5	
	comp=Z,15nm,1.6s						
WRAB	**Tennant Creek**	**17.19**	**222**	Pn	**Pn**	**13 20 54.6**	**-1.8**
WRAB				IAmb	IAmb	13 21 20.4	
	comp=Z,15nm,1.5s						
WB2	**Warramunga Arr**	**17.20**	**222**	Pn	**Pn**	**13 20 55.7**	**-0.9**
WB2				IAmb	IAmb	13 21 39.5	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**17.20**	**222**	P	**P**	**13 20 58.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=44,slow=11,SNR=5.4						
WRA	**Warramunga Arr**	**17.20**	**222**	P	**Pn**	**13 20 56.5**	**-0.1**
KNRA	**Kununurra**	**19.20**	**243**	P	**P**	**13 21 20.8**	**+0.8**
KNRA				IAmb	IAmb	13 21 37.0	
	comp=Z,47nm,1.5s						
AS31	**Alice Springs**	**20.25**	**215**	P	**P**	**13 21 32.2**	**+0.8**
ASAR	**Alice Springs**	**20.25**	**215**	P	Pn	13 21 33.0	-0.5
	comp=Z,1.7nm,0.9s,baz=33,slow=13,SNR=14						
ASAR	**Alice Springs**	**20.25**	**215**	P	**P**	**13 21 31.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**22.92**	**240**	P	**P**	**13 22 01.2**	**+1.1**
	comp=Z,3.6nm,1.0s,baz=51,slow=13,SNR=2.9						
FITZ	**Fitzroy Crossi**	**22.92**	**240**	IAmb	IAmb	13 22 08.3	
	comp=Z,12nm,1.4s						
ILAR	**Eielson Array**	**86.87**	**23**	P	**P**	**13 29 39.7**	**0.0**
	comp=Z,0.6nm,0.7s,baz=263,slow=5.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**144.83**	**282**	PKP	**PKPdf**	**13 36 33.2**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=92,slow=4.9,SNR=2.9						

IDC 17 13:45:58.1±4.9, 4°.69N×75°.24W, h0km, Error ellipse: s-maj=640.9km s-min=12.4km az=168.0
UPA 17 13:45:59.7±0.8, 3°.97N×74°.70W, h227km±15km, MW4.2
*RSNC 17 13:46:00.7±1.3, 4°.03N×74°.08W, h4km±5km, ML3.4, Mw3.5, Fault plane solution: NP1:φs140.00000°, δ28.

CBOC				*e*S	**Sg**	**13 47 21.0**	**-1.2**
CBOC				*i*		13 47 22.8	
	comp=Z,82nm,0.4s						
PCON	**Cinco Dias**	**2.77**	**234**	*e*P	**Pg**	**13 46 50.3**	**-0.4**
PCON				*e*S	**Sg**	**13 47 28.0**	**+1.4**
PCON				*i*		13 47 32.4	
	comp=Z,224nm,0.3s						
BARC	**Barichara**	**2.78**	**21**	*e*P	**Pb**	**13 46 45.9**	**-2.3**
BARC				*e*S	**Sb**	**13 47 23.4**	**+0.5**
BARC				*i*		13 47 34.9	
	comp=Z,83nm,0.4s						
FLOC	**Florencia**	**2.80**	**212**	*e*P	**Pb**	**13 46 47.3**	**-1.1**
FLOC				*e*S	**Sg**	**13 47 25.9**	**-1.8**
FLOC				*i*		13 47 29.8	
	comp=Z,183nm,0.4s						
POPC	**Popayan, Colom**	**2.88**	**240**	*e*P	**Pb**	**13 46 49.4**	**-0.6**
BRRC	**Barranca, Sant**	**3.15**	**8**	*e*P	**Pn**	**13 46 49.2**	**+0.9**
BRRC				*i*		13 47 42.8	
	comp=Z,50nm,0.6s						
TAMC	**Tame, Arauca**	**3.40**	**44**	*e*P	**Pn**	**13 46 52.9**	**+1.1**
ZARC	**Zaragoza, Cauc**	**3.56**	**349**	*e*P	**Pn**	**13 46 54.6**	**+0.6**
ZARC				*i*		13 47 51.2	
	comp=Z,52nm,0.3s						
BBAC	**Balboa, Cauca**	**3.64**	**238**	*e*P	**Pb**	**13 47 01.2**	**-1.6**
PTLC	**Puerto Leguiza**	**3.83**	**190**	*e*P	**Pb**	**13 47 04.6**	**-1.4**
UREC	**San Jos de Ur**	**3.99**	**340**	*e*P	**Pn**	**13 47 02.2**	**+2.2**
PUAC	**Puerto Asis, P**	**4.16**	**215**	*e*P	**Pn**	**13 47 04.0**	**+1.7**
SMLC	**San Martn de**	**4.80**	**1**	*e*P	**Pn**	**13 47 11.8**	**+0.8**
UPD2	**Meteti**	**5.94**	**320**	*e*P	Pn	13 47 21.3	-5.4
UPD2				*e*S	Sn	13 48 24.3	-11
SJCC	**San Jacinto, C**	**5.97**	**350**	*e*P	**Pn**	**13 47 26.6**	**-0.6**
SJCC	**San Jacinto, C**	**5.97**	**350**	*e*P	**Pn**	**13 47 26.7**	**-0.5**
TABO3	**Taboga, Panama**	**7.18**	**312**	*e*P	Pn	13 47 38.3	-5.5
UPA	**Univ. de Panam**	**7.29**	**313**	*e*P	Pn	13 47 39.9	-5.4
ZANG	**Zanguenga, Cho**	**7.52**	**311**	*e*P	**Pn**	**13 47 44.5**	**-4.0**
MLIR	**Monte Lirio**	**7.70**	**313**	*e*P	Pn	13 47 44.7	-6.2
ASAR	**Alice Springs**	**146.57**	**232**	PKPbc	**PKPbc**	**14 05 40.1**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=118,slow=3.7,SNR=8.3						
WRA	**Warramunga Arr**	**148.01**	**238**	PKPbc	**PKPbc**	**14 05 44.3**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=116,slow=2.6,SNR=9.3						

TAP 17 14:00:45.1,24°.41N×121°.79E,h12km,ML1.6,1C,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.05**	**296**	⇑P	Pg	14 00 48.0	+0.7
	baz=298						
ENA				*e*S	Sg	14 00 49.4	+0.4
	baz=298						
ENAH	**Nanao**	**0.05**	**28**	*i* P	Pg	14 00 47.7	+0.3
	baz=27						
ENAH				*e*S	Sg	14 00 49.1	+0.1
	baz=27						
TWC	**Suao**	**0.21**	**16**	P	Pg	14 00 50.1	+0.5
	baz=18						
TWC				*e*S	Sg	14 00 53.0	+0.4
	baz=18						
NACB	**Ninganchiao**	**0.29**	**217**	*i* P	Pb	14 00 51.8	-0.5
	baz=216						
NACB				*e*S	Sb	14 00 56.2	-0.9
	baz=216						
ENTT	**Nioudou**	**0.31**	**319**	P	Pb	14 00 52.6	0.0
	baz=319						
ENTT				*e*S	Sb	14 00 57.8	+0.2
	baz=319						
NDT	**Datong Townshi**	**0.32**	**308**	P	Pb	14 00 52.8	+0.1
	baz=307						
NDT				*e*S	Sb	14 00 57.3	-0.6
	baz=307						
TWE	**Neicheng**	**0.33**	**341**	*e*P	Pb	14 00 52.8	-0.2
	baz=343						
TWE				*e*S	Sb	14 00 57.3	-0.9
	baz=343						
ETLH	**Xiulin Townshi**	**0.34**	**234**	*i* P	Pb	14 00 52.8	-0.4
	baz=234						
ETLH				*e*S	Sg	14 00 57.5	+0.9
	baz=234						
NNSB	**Datong**	**0.37**	**273**	P	Pb	14 00 53.7	0.0
	baz=273						
NNSB				*e*S	Sb	14 00 58.8	-0.7
	baz=273						
NNSH	**Datong**	**0.37**	**273**	*e*P	Pb	14 00 53.9	+0.2
	baz=273						
NNSH				*e*S	Sb	14 00 58.7	-0.8
	baz=273						
NNS	**Nan Shan**	**0.38**	**275**	*e*P	Pb	14 00 53.7	-0.2
	baz=274						
NNS				*e*S	Sb	14 00 59.1	-0.6
	baz=274						
NWLT	**Wulai**	**0.45**	**325**	*e*P	Pb	14 00 55.1	+0.1
	baz=324						
YHNB	**Yeheng**	**0.46**	**305**	*e*P	Pb	14 00 55.5	+0.3
	baz=304						
YHNB				*e*S	Sb	14 01 01.7	-0.3
	baz=304						
NSK	**Sanguang**	**0.47**	**304**	*e*P	Pb	14 00 55.5	+0.1
	baz=304						
NSK				*e*S	Sb	14 01 02.0	-0.5
	baz=304						
FUSS	**Fushou**	**0.52**	**252**	*e*P	Pb	14 00 56.4	+0.1
	baz=252						
FUSS				*e*S	Sb	14 01 03.7	-0.2
	baz=252						
WHF	**Hehuan Shan**	**0.54**	**241**	*e*P	Pb	14 00 56.6	-0.2
	baz=240						
WHF				*e*S	Sb	14 01 04.3	-0.5
	baz=240						
TIPB	**Shuangxi**	**0.56**	**4**	*e*S	Sg	14 01 03.9	+0.3
	baz=3.0						
CHGB	**Renai**	**0.66**	**238**	*e*P	Pb	14 00 59.0	+0.3
	baz=238						
CHGB				*e*S	Sb	14 01 08.3	+0.5
	baz=238						
WHP	**Taichung City**	**0.78**	**261**	*e*S	Sb	14 01 12.0	+0.8
	baz=260						

JMA 17 14:01:44.9±0.1,24°.36N×123°.66E,h17km±1km,M1.4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.07**	**111**	P	Pg	14 01 48.0	-0.1
IRIF				S	Sg	14 01 50.7	+0.4
HATJ	**Hateruma jima**	**0.33**	**156**	P	Pg	14 01 51.6	-0.3
HATJ				*e*S	Sg	14 01 56.6	0.0
JKRS	**Kuro-shima**	**0.34**	**111**	P	Pg	14 01 52.2	+0.1
JKRS				S	Sb	14 01 57.8	+0.1
JIJ	**Ishigaki jima**	**0.44**	**89**	P	Pg	14 01 53.5	-0.3
JIJ				S	Sg	14 01 59.8	-0.1
YOJ	**Yonaguni jima**	**0.60**	**280**	P	Pg	14 01 56.6	-0.2
YOJ				*e*S	Sg	14 02 04.6	-0.2
JISG	**Ishigakijimahi**	**0.64**	**69**	P	Pg	14 01 57.0	-0.4
JISG				S	Sb	14 02 06.3	+0.2
JYNG	**Yonagunijimaku**	**0.66**	**278**	P	Pg	14 01 57.8	-0.1
JYNG				*e*S	Sg	14 02 06.7	+0.1
JTJ	**Tarama**	**0.99**	**73**	P	Pb	14 02 03.5	-0.1
JTJ				S	Sg	14 02 17.2	+0.1

*SKHL **17** 14:06:29.5±0.2,43°.54N×147°.79E,h30km±5km,mb3.7/2*
*JMA **17** 14:06:30.1±0.3,43°.49N×147°.52E,h12km,M2.9*
ISC 17 14:06:30.8±3.0,43°.6N±0°.1×147°.7E±0°.1,h45km,n7, σ0s86/12,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.41**	**288**	*i* P	**Pn**	**14 06 53.6**	**-0.4**
YUK				AMB	AMB	14 06 54.0	
	60nm,0.4s						
YUK				*i* S	**Sn**	**14 07 11.8**	**+0.3**
YUK				A	A	14 07 14.0	
	120nm,0.3s						
YUK				A	A	14 07 14.0	
	150nm,0.3s						
NEM2	**Nemuro 2**	**1.46**	**261**	P	**Pn**	**14 06 53.9**	**-0.7**
NEM2				*e*S	**Sn**	**14 07 11.0**	**-1.6**
GRPR	**Tuman**	**1.47**	**286**	*e*S	**Sn**	**14 07 13.0**	**+0.3**
KUR	**Kuril'sk**	**1.63**	**4**	*e*P	**Pn**	**14 06 56.8**	**-0.2**
KUR				AMB	AMB	14 06 58.3	
	10.0nm,0.2s						
KUR				*e*S	**Sn**	**14 07 17.1**	**+0.3**
KUR				A	A	14 07 19.4	
	30nm,0.2s						
KUR				A	A	14 07 19.4	
	40nm,0.2s						
JNK	**Nakash**	**2.18**	**271**	P	**Pn**	**14 07 04.6**	**0.0**
JNK				*e*S	**Sn**	**14 07 29.6**	**-0.7**
JAK	**Akkeshi**	**2.29**	**256**	P	**Pn**	**14 07 06.5**	**+0.5**
JAR	**Ashorobuto**	**2.89**	**265**	P	**Pn**	**14 07 15.6**	**+1.3**
JAR				*e*S	**Sn**	**14 07 48.8**	**+0.9**

MEX 17 14:39:08.0±0.3,14°.51N×92°.79W,h16km±999km,MD3.5, Near coast of Chiapas

*IDC **17** 14:40:60.0±1.2,52°.37N×175°.52E,h0km,mb3.5/7, mb1 3.7/8,mb1mx3.5/60,mbtmp3.6/8,ML2.5/1,MS2.9/11, Ms1 2.9/11,ms1mx2.8/37,Error ellipse: s-maj=36.1km s-min=24.0km az=166.0*
*AEIC **17** 14:41:01±1.4,52°.02N±0°.06×174°.76E±0°.09,h48km±7km, Error ellipse: s-maj=9.9km s-min=6.6km az=220.0*
*NEIC **17** 14:41:03.6±1.1,52°.4N±0°.1×175°.20E±0°.08,h20km±7km, mb4.4/10,Error ellipse: s-maj=19.9km s-min=3.8km az=197.0*
ISC 17 14:41:03.0±0.8,52°.5N±0°.2×175°.28E±0°.06,h10km,n37, σ1s24/27,mb3.6/11,MS2.8/8,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**0.77**	**291**		**Pg**	**14 41 17.6**	**-0.2**
SMY					**Sg**	**14 41 28.8**	**+1.0**
LSNW	**Little Sitkin**	**2.05**	**103**		**Pn**	**14 41 37.5**	**-0.1**
LSNW					**Sn**	**14 42 05.1**	**+1.9**
LSSA	**Little Sitkin**	**2.06**	**103**		**Pn**	**14 41 37.4**	**-0.2**
LSPA	**Little Sitkin**	**2.09**	**103**		**Pn**	**14 41 38.8**	**+0.7**
LSPA					**Sn**	**14 42 07.5**	**+3.4**
LSSE	**Little Sitkin**	**2.09**	**103**		**Pn**	**14 41 38.1**	**0.0**
CESW	**Semis' Southwe**	**2.70**	**100**		**Pn**	**14 41 46.7**	**+0.3**
AMKA	**Amchitka**	**2.72**	**112**		**Pn**	**14 41 46.3**	**-0.3**
AMKA					**Sn**	**14 42 18.8**	**-0.8**
ADK	**Adak**	**4.98**	**94**	Pn	**Pn**	**14 42 17.4**	**-0.3**
PETK	**Petropavlovsk-**	**10.67**	**280**	Pn	**Pn**	**14 43 36.6**	**+0.8**
	0.2nm,0.3s,baz=85,slow=20,SNR=7.4						
PETK				LR	LR	14 48 34.6	
	comp=Z,23nm,18.1s,baz=68,slow=42						
SEY	**Seymchan**	**16.01**	**320**	LR	LR	14 51 03.1	
	comp=Z,62nm,18.7s,baz=186,slow=37						
KDAK	**Kodiak Island**	**19.01**	**61**	LR	LR	14 51 54.6	
	comp=Z,78nm,18.8s,baz=244,slow=35						
MCK	**McKinley**	**21.69**	**45**	P	**P**	**14 45 53.3**	**-0.4**
MCK				IAmb	IAmb	14 45 55.7	
	comp=Z,22nm,1.6s						
SCM	**Sheep Creek Mo**	**22.04**	**50**	P	**P**	**14 45 57.9**	**+0.4**
MDM	**Murphy Dome**	**22.31**	**42**	P	**P**	**14 46 00.3**	**-0.1**
MDM				IAmb	IAmb	14 46 04.4	
	comp=Z,24nm,2.0s						
FID	**Port Fidalgo**	**22.33**	**53**	P	**P**	**14 46 00.1**	**-0.4**
ILAR	**Eielson Array**	**22.82**	**43**	P	**P**	**14 46 02.5**	**-3.2**
	comp=Z,0.4nm,0.6s,baz=246,slow=9.0,SNR=6.3						
ILAR				LR	LR	14 54 32.2	
	comp=Z,31nm,18.7s,baz=262,slow=36						
PAX	**Paxson**	**23.06**	**48**	P	**P**	**14 46 08.9**	**+0.5**
PAX				IAmb	IAmb	14 47 04.6	
	comp=Z,39nm,1.8s						
ASAJ	**Asahikawa**	**23.13**	**262**	LR	LR	14 57 34.7	
	comp=Z,28nm,18.4s,baz=19,slow=43						
RIDG	**Independent Ri**	**23.47**	**46**	P	**P**	**14 46 11.7**	**-0.7**
DOT	**Dot Lake**	**23.80**	**46**	P	**P**	**14 46 14.5**	**-1.1**
KLR	**Kul'dur**	**27.36**	**281**	LR	LR	14 57 58.1	
	comp=Z,25nm,18.1s,baz=80,slow=37						
INK	**Inuvik**	**28.74**	**37**	LR	LR	14 58 18.0	
	comp=Z,66nm,18.1s,baz=184,slow=36						
MJAR	**Matsushiro Arr**	**30.45**	**253**	LR	LR	14 58 07.3	
	comp=Z,8.6nm,21.2s,baz=180,slow=34						
H11N2	**WAKE ISLAND Hy**	**33.32**	**194**	T	T	15 22 55.5	
	baz=9.6,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**33.33**	**194**	T	T	15 22 51.4	
	baz=9.6,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**33.33**	**194**	T	T	15 22 56.4	
	baz=9.6,slow=76,SNR=18						
JCJ	**Chichijima**	**35.38**	**237**	LR	LR	15 01 44.6	
	comp=Z,19nm,19.4s,baz=106,slow=35						
KSRS	**Korea Array**	**36.02**	**265**	LR	LR	15 01 13.6	
	comp=Z,14nm,22.0s,baz=65,slow=34						
JNU	**Nakatsue**	**37.15**	**256**	LR	LR	15 02 00.5	
	comp=Z,23nm,19.7s,baz=50,slow=34						
SONM	**Songino Array**	**42.86**	**292**	P	**P**	**14 49 02.6**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=64,slow=6.6,SNR=2.5						
PDAR	**Pinedale Array**	**49.42**	**70**	P	**P**	**14 49 52.3**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=326,slow=4.7,SNR=2.8						
KURK	**Kurchatov**	**55.56**	**310**	P	**P**	**14 50 37.8**	**-0.4**
KURK	**Kurchatov**	**55.56**	**310**	IAmb	IAmb	14 51 00.4	
	comp=Z,2.8nm,1.1s						
KURBB	**Kurchatov Arra**	**55.67**	**310**	P	**P**	**14 50 37.8**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=44,slow=6.8,SNR=9.3						
MKAR	**Makanchi Array**	**56.44**	**305**	P	**P**	**14 50 44.5**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=51,slow=7.0,SNR=4.3						
WRA	**Warramunga Arr**	**80.41**	**219**	P	P	14 53 12.5	-2.1
	comp=Z,0.5nm,0.8s,baz=30,slow=6.0,SNR=1.9						
ASAR	**Alice Springs**	**83.96**	**218**	P	**P**	**14 53 31.7**	**-1.4**
	comp=Z,0.4nm,1.0s,baz=21,slow=5.4,SNR=2.2						

*MOS **17** 14:47:17.9±1.1,32°.56N×47°.63E,h13km,mb5.0/79,Error ellipse: s-maj=4.5km s-min=3.1km az=109.2*
*BJI **17** 14:47:18.0±0.0,32°.60N×47°.60E,h10km,mB4.8/41, mb4.8/49,Ms4.5/37,Ms7 4.3/36*
*GII **17** 14:47:19.0±0.0,32°.56N×47°.59E,h10km*
*NEIC **17** 14:47:19.3±1.7,32°.62N±0°.06×47°.70E±0°.06,h10km±1km, Error ellipse: s-maj=10.7km s-min=8.8km az=348.0*
*GCMT **17** 14:47:20.3±0.4,32°.62N±0°.03×47°.34E±0°.04,h20km±1km, MW4.8/69,Moment Tensor Solution. s16,c16; s69,c94; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr1.43±.13; Mθθ-1.12±.09; Mφφ-0.31±.07; Mrθ0.96±.16; Mrφ0.72±.05; Mθφ-0.23±.16; Best double couple: Mo1.78300×10^16^ NP1:φs311.00000°,δ30.00000°,λ107.00000°. NP2: φs111.00000°,δ62.00000°,λ80.00000°. Principal axes: T 1.7490, Plg71.0000°, Azm359.0000°; N 0.0660, Plg9.0000°, Azm115.0000°; P -1.8170, Plg16.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*ISN **17** 14:47:20.2±1.0,32°.71N×47°.71E,h14km±7km, ML4.4*
*TEH **17** 14:47:20.0,32°.74N×47°.64E,h20km, ML4.7*
*THR **17** 14:47:20.3±0.3,32°.70N×47°.64E,h16km±7km, ML5.1*
*IDC **17** 14:47:21.7±2.1,32°.69N×47°.64E,h25km±13km, mb4.3/35, mb1 4.3/44,mb1mx4.3/60,mbtmp4.4/44,ML4.6/6,MS3.8/32, Ms1 3.8/32,ms1mx3.7/44,Error ellipse: s-maj=12.4km s-min=8.9km az=172.0*
*OMAN **17** 14:47:27.8±0.5,32°.21N×47°.79E,h81km±5km,mb5.4/26, Error ellipse: s-maj=13.7km s-min=10.4km az=228.0*
*DSN **17** 14:47:29.8±1.6,32°.12N×48°.29E,h10km,ML4.8/1,Error ellipse: s-maj=26.4km s-min=12.8km az=20.0*
ISC 17 14:47:20.1±0.6,32°.65N±0°.02×47°.73E±0°.03,h14km±3km, n649,σ1s67/685,mb4.9/181,MS4.0/43,28C-22D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.88**	**6**	*e*Pg	**Pg**	**14 47 35.6**	**-1.4**
IKMR	**Kamar-syah**	**1.02**	**32**	*e*Pg	**Pg**	**14 47 38.4**	**-1.4**
IKMR				*e*		14 48 00.2	
SHGR	**Shooshtar-Gavs**	**1.05**	**121**	*e*P	**Pn**	**14 47 41.3**	**+0.9**
SHGR				*e*Sg	**Sn**	**14 47 57.0**	**+2.1**
SHGR				IAML		14 48 04.1	
	comp=E,18μm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.05**	**121**	*e*Pg	**Pn**	**14 47 41.3**	**+0.9**
IDOB	**Doab**	**1.19**	**18**	*e*Pg	**Pn**	**14 47 41.9**	**-0.6**
BMDN	**Meydan**	**1.37**	**42**	*e*Pg	**Pn**	**14 47 44.8**	**-0.1**
BMDN				*e*		14 48 12.2	
AHWZ	**Ahwaz**	**1.53**	**149**	*e*Pg	**Pg**	**14 47 50.5**	**+1.0**
AHWZ				*e*Sg	**Sg**	**14 48 14.2**	**+4.9**
IKOM	**Komasi**	**1.53**	**353**	*e*Pg	**Pn**	**14 47 47.8**	**+0.7**
IKOM				*e*		14 48 14.0	
IBDR	**Badra**	**1.58**	**287**	*e*Pg	**Pb**	**14 47 48.0**	**-1.1**
IBDR				*e*Sg	**Sb**	**14 48 09.0**	**0.0**
IBDR				AML	AML	14 48 13.7	
	comp=N,5μm,1.5s						
IBDR				AML	AML	14 48 23.6	
	comp=E,5μm,0.5s						
HSAM	**Samen**	**1.72**	**25**	*e*Pg	**Pb**	**14 47 52.0**	**+0.4**
HSAM				*e*		14 48 20.5	
KCHF	**Cheshme Sefid,**	**1.72**	**340**	*e*Pg	**Pb**	**14 47 50.8**	**-0.8**
KCHF				*e*		14 48 17.5	
KER	**Kermanshah**	**1.80**	**344**	P	**Pb**	**14 47 52.5**	**-0.4**
KER	**Kermanshah**	**1.80**	**344**	*e*Pg	**Pb**	**14 47 52.0**	**-0.9**
IBZA	**Bozab**	**1.81**	**3**	*e*Pg	**Pb**	**14 47 52.9**	**-0.4**
IBZA				*e*		14 48 24.7	
IGHG	**Ghaleghazi**	**1.94**	**330**	*e*Pg	**Pb**	**14 47 54.7**	**-0.6**
IGHG				*e*		14 48 38.2	
IVIS	**Veis**	**2.01**	**339**	*e*Pn	**Pn**	**14 47 54.8**	**+1.1**
IVIS				*e*		14 48 32.6	
NSR	**Nassriya**	**2.13**	**220**	*e*Pn	**Pb**	**14 47 57.0**	**-1.4**
NSR				*e*Sn	**Sb**	**14 48 23.0**	**-1.6**
IDHR	**Dehrash**	**2.33**	**332**	*e*Pn	**Pn**	**14 47 59.0**	**+0.8**
IDHR				*e*		14 48 41.5	
ILIN	**Lien**	**2.35**	**344**	*e*Pn	**Pn**	**14 47 58.9**	**+0.4**
ILIN				*e*		14 48 43.4	
HAGD	**Aghdareh**	**2.46**	**28**	*e*Pn	**Pb**	**14 48 02.5**	**-1.7**
HAGD				*e*		14 48 47.3	
JHBN	**Jahan bin**	**2.52**	**99**	*e*Pn	**Pb**	**14 48 03.7**	**-1.5**
JHBN				*e*		14 48 50.4	
HSRG	**Sareghieh**	**2.62**	**10**	*e*Pn	**Pb**	**14 48 05.2**	**-1.8**
HSRG				*e*		14 48 51.3	
IPIR	**Pirpir**	**2.66**	**88**	*e*Pn	**Pb**	**14 48 05.6**	**-2.1**
ASAO	**Ashtian**	**2.69**	**45**	*e*Pn	**Pn**	**14 48 05.6**	**+2.4**
ASAO	**Ashtian**	**2.69**	**45**	*e*Pn	**Pn**	**14 48 05.6**	**+2.4**
ROKH	**ROKH**	**2.81**	**95**	*e*		14 48 57.8	
ROKH				*e*Pn	**Pb**	**14 48 07.7**	**-2.4**
BHD	**Baghdad**	**2.88**	**283**	*e*Pn	**Pn**	**14 48 07.0**	**+1.4**
BHD				*e*Sn	**Sn**	**14 48 42.0**	**+1.9**
BHD				AML	AML	14 48 55.4	
	comp=E,3μm,0.4s						
IBRJ	**Brojen**	**3.08**	**103**	*e*Pn	**Pn**	**14 48 11.1**	**+2.6**
IRAZ	**Razeghan**	**3.29**	**33**	*e*Pn	**Pn**	**14 48 14.5**	**+3.0**
IKLH	**Kolahrood**	**3.30**	**77**	*e*Pn	**Pn**	**14 48 14.3**	**+2.7**
IKLH				*e*		14 48 17.6	
QABG	**Abgarm-Qazvin**	**3.41**	**26**	*e*Pn	**Pn**	**14 48 14.7**	**+1.6**
IGAR	**Gharneh**	**3.65**	**93**	*e*Pn	**Pn**	**14 48 19.0**	**+2.7**
IGAR				*e*		14 48 22.6	
IZEF	**Zefreh**	**3.88**	**85**	*e*Pn	**Pn**	**14 48 22.1**	**+2.6**
IZEF				*e*		14 48 41.2	
IMHD	**Mahdasht**	**3.88**	**38**	*e*Pn	**Pn**	**14 48 22.3**	**+2.9**
QSDN	**Sirdan**	**4.02**	**17**	*e*Pn	**Pn**	**14 48 23.9**	**+2.4**
IRAM	**Ramesheh**	**4.03**	**101**	*e*Pn	**Pn**	**14 48 23.1**	**+1.5**
IHSB	**Hasanabad**	**4.05**	**46**	*e*Pn	**Pn**	**14 48 24.2**	**+2.5**
IGZV	**Ghazvin**	**4.25**	**28**	*e*Pn	**Pn**	**14 48 26.8**	**+2.2**
CHTH	**Charan**	**4.29**	**40**	*e*Pn	**Pn**	**14 48 27.6**	**+2.4**
CHTH				*e*Sg	**Sg**	**14 49 34.1**	**-3.8**
CHTH	**Charan**	**4.29**	**40**	*e*Pn	**Pn**	**14 48 27.6**	**+2.4**
MAHB	**Mahabad**	**4.43**	**338**	*e*Pn	**Pn**	**14 48 28.4**	**+1.4**
QALM	**Alamut, Qazvin**	**4.47**	**32**	*e*Pn	**Pn**	**14 48 29.9**	**+2.2**
IDMV	**Damavand**	**4.61**	**50**	*e*Pn	**Pn**	**14 48 31.5**	**+1.9**
AHBU	**AHRAM**	**4.86**	**140**	*e*Pn	**Pn**	**14 48 36.1**	**+3.3**
ANAR	**Anarak**	**5.07**	**82**	*e*Pn	**Pn**	**14 48 38.1**	**+2.3**
SHI	**Shiraz**	**5.08**	**125**	*e*Pn	**Pn**	**14 48 38.6**	**+2.6**
ISAD	**Sadrabad**	**5.09**	**97**	*e*Pn	**Pn**	**14 48 38.5**	**+2.2**
IFIR	**Firoozkooh**	**5.12**	**53**	*e*Pn	**Pn**	**14 48 38.5**	**+1.9**
ILAS	**Lasjerd**	**5.12**	**56**	*e*Pn	**Pn**	**14 48 38.9**	**+2.3**
ISRB	**Sarab**	**5.16**	**359**	*e*Pn	**Pn**	**14 48 40.1**	**+3.0**
IPRN	**Peran**	**5.22**	**45**	*e*Pn	**Pn**	**14 48 40.5**	**+2.6**
ISHM	**Shahmirzad**	**5.58**	**54**	*e*Pn	**Pn**	**14 48 45.2**	**+2.3**
IHSH	**Hashtrud**	**5.66**	**356**	*e*Pn	Pn	14 48 33.2	-11
CUKT	**Cukurca**	**5.70**	**325**	P	**Pn**	**14 48 42.8**	**-1.6**
CUKT	**Cukurca**	**5.70**	**325**	*e*Pn	**Pn**	**14 48 43.4**	**-1.0**
ITBZ	**Tabriz**	**5.72**	**347**	*e*Pn	**Pn**	**14 48 46.1**	**+1.4**
YZKH	**Yazd**	**5.80**	**91**	*e*Pn	**Pn**	**14 48 49.2**	**+3.4**
YZKH	**Yazd**	**5.80**	**91**	*e*Pn	**Pn**	**14 48 49.2**	**+3.4**
IANJ	**Anjilo**	**5.85**	**60**	*e*Pn	**Pn**	**14 48 38.3**	**+1.7**
AHAR	**Ahar**	**5.85**	**355**	*e*Pn	**Pn**	**14 48 48.9**	**+2.4**
HAKT	**HAKKARI**	**5.90**	**327**	*e*Pn	**Pn**	**14 48 47.2**	**-0.1**
IMEH	**Mehriz**	**5.98**	**100**	*e*Pn	**Pn**	**14 48 50.4**	**+2.0**
LKRN	**Lenkeran, Azer**	**6.10**	**8**	P	**Pn**	**14 48 53.1**	**+3.3**
IMRD	**Marand**	**6.27**	**345**	*e*Pn	**Pn**	**14 48 55.3**	**+3.0**
IGLO	**Ghaloghah**	**6.33**	**51**	*e*Pn	**Pn**	**14 48 56.4**	**+3.3**
SIRT	**Sirnak**	**6.50**	**320**	*e*P	**Pn**	**14 48 52.1**	**-3.3**
IBAF	**Bafgh**	**6.73**	**97**	*e*Pn	**Pn**	**14 49 00.5**	**+1.9**
NAX	**Nakhchivan**	**6.76**	**345**	P	**Pn**	**14 49 00.9**	**+2.0**
GEVA	**Gevas**	**6.81**	**327**	Pn	**Pn**	**14 48 57.9**	**-1.9**
AKDM	**Akdamar-Van**	**6.86**	**327**	*e*P	**Pn**	**14 48 58.9**	**-1.5**
VANB	**Van**	**6.90**	**330**	*e*P	**Pn**	**14 48 59.1**	**-1.8**
VANB	**Van**	**6.90**	**330**	*e*Pn	**Pn**	**14 49 00.5**	**-0.4**
CLDR	**Caldiran**	**7.18**	**336**	*e*P	**Pn**	**14 49 04.7**	**-0.1**
CLDR	**Caldiran**	**7.18**	**336**	*e*Pn	**Pn**	**14 49 06.7**	**+1.9**
MARD	**Mardin**	**7.36**	**311**	Pn	**Pn**	**14 49 05.9**	**+1.3**
GURO	**Guroymak-BITLI**	**7.50**	**323**	*e*P	**Pn**	**14 49 06.2**	**-2.9**
TNSJ	**Nastanj**	**7.54**	**78**	*e*Pn	**Pn**	**14 49 12.3**	**+2.5**
TPRV	**Parvadeh(Tabas**	**7.54**	**85**	*e*Pn	**

MMAI LR LR 14 54 49.5
comp=Z,424nm,19.2s,baz=90,slow=44
GHAJ Ghor Haditha 10.42 266 Pn **Pn 14 49 49.7 +0.6**
FAQ Al Faqa, Dubai 10.47 137 P **Pn 14 49 50.6 +0.8**
FAQ Al Faqa, Dubai 10.47 137 P **Pn 14 49 49.9 +0.2**
FAQ S **Sn 14 51 43.1 -3.8**
MDH Madha 10.48 132 P **Pn 14 49 50.5 +0.5**
MDH Madha 10.48 132 P **Pn 14 49 50.2 +0.2**
MDH S **Sn 14 51 42.3 -4.9**
DSI Dead Sea 10.53 267 Pn **Pn 14 49 51.5 +0.9**
ZEI Tsey 10.56 344 *eP* Pn 14 49 57.4 +6.2
ZEI pmax pmax
comp=Z,30nm,1.3s
GROC Groznyy 10.64 352 P **Pn 14 49 53.5 +1.4**
GROC S **Sn 14 51 53.6 +2.6**
GROC pmax pmax
comp=Z,30nm,0.6s
UOSS Minazif 10.68 134 *i* P **Pn 14 49 53.1 +0.4**
SNR=8.7
UOSS Minazif 10.68 134 P **Pn 14 49 52.8 +0.1**
UOSS S **Sn 14 51 45.2 -6.9**
UOSS Minazif 10.68 134 Pn **Pn 14 49 52.6 -0.1**
HATD Hatta, Dubai 10.73 135 *i* P **Pn 14 49 54.3 +1.0**
SNR=8.6
HATD Hatta, Dubai 10.73 135 P **Pn 14 49 53.9 +0.6**
SNR=8.4
HATD S **Sn 14 51 49.2 -4.0**
ASHO Ashiyiah 10.79 135 *i* P **Pn 14 49 55.3 +1.1**
SNR=11
ASHO Ashiyiah 10.79 135 P **Pn 14 49 55.2 +1.0**
SNR=48
ASHO S **Sn 14 51 50.1 -4.7**
SNR=7.5
IMYA Miami 10.85 67 *e*Pn **Pn 14 49 58.6 +3.5**
ZFRI Zfri 10.91 262 Pn **Pn 14 49 56.3 +0.6**
ALNE Al Ain 10.11 0 139 *i* P **Pn 14 49 59.1 +0.7**
SNR=14
PRNI Paran 11.10 261 Pn **Pn 14 49 58.4 -0.1**
HRFI Mount Harif 11.16 260 *e*P Pn 14 49 45.2 -14
HRFI Mount Harif 11.16 260 Pn **Pn 14 50 00.1 +0.8**
EIL Elat 11.35 258 Pn **Pn 14 49 60.0 -1.8**
comp=Z,1.5nm,0.3s,baz=110,slow=5.5,SNR=10.0
EIL Lg Lg 14 53 15.9
comp=Z,2.0nm,0.3s,baz=60,slow=20,SNR=1.4
EIL LR LR 14 55 28.0
comp=Z,784nm,18.6s,baz=78,slow=43
EIL Elat 11.35 258 Pn **Pn 14 50 01.1 -0.7**
SOHO SOHO 11.48 135 *i* P **Pn 14 50 03.5 -0.2**
SNR=6.7
SOHO SOHO 11.48 135 P **Pn 14 50 03.6 0.0**
SOHO S **Sn 14 52 07.2 -4.6**
KBZ Khabaz 11.69 342 Pn **Pn 14 50 08.8 +2.4**
comp=Z,0.2nm,0.3s,baz=162,slow=6.4,SNR=2.9
KBZ LR LR 14 55 18.3
comp=Z,453nm,18.3s,baz=146,slow=41
KBZ Khabaz 11.69 342 *e*P **Pn 14 50 08.2 +1.8**
KVAR Kislovodsk Arr 11.96 342 Pn **Pn 14 50 11.6 +1.4**
baz=73,slow=20,SNR=1.5
KIV Kislovodsk 11.96 342 *e*P **Pn 14 50 14.1 +4.0**
KIV pmax pmax
comp=Z,94nm,1.1s
KIV MLR MLR
comp=Z,555nm,12.0s
KIV Kislovodsk 11.96 342 Pn **Pn 14 50 09.9 -0.2**
ARQ Araqi 12.09 138 P **Pn 14 50 12.5 +0.4**
SNR=6.4
ARQ S **Sn 14 52 22.8 -4.0**
CSS Mathiatis 12.20 285 Pn **Pn 14 50 14.2 +0.7**
HOQ Hoqain 12.37 135 P **Pn 14 50 16.0 +0.2**
HOQ S **Sn 14 52 29.3 -4.1**
SOC Sochi 12.60 332 *e*P **Pn 14 50 19.7 +0.9**
SOC *e* 14 52 41.4
SOC pmax pmax
comp=Z,47nm,1.7s
GOF Gofitskoye 12.91 345⇑ *e*P Pn 14 50 34.9 +12
BIDO Bidbid 12.91 132 P **Pn 14 50 23.6 +0.4**
BSY Bisya 12.94 137 P **Pn 14 50 23.9 +0.2**
SNR=9.2
BSY S **Sn 14 52 41.5 -6.1**
SMDO Samad 13.21 134 P **Pn 14 50 27.3 0.0**
SNR=14
BR131 Keskin Array S 13.38 306 P **Pn 14 50 31.5 +1.8**
BR131 Keskin Array S 13.38 306 **Pn 14 50 31.5 +1.8**
BRTR Keskin Array B 13.38 306 Pn **Pn 14 50 30.7 +1.0**
comp=Z,0.1nm,0.3s,baz=126,slow=13,SNR=25
BRTR LR LR 14 57 15.6
comp=Z,161nm,21.1s,baz=101,slow=45
BRTR Keskin Array B 13.38 306 *i* P **Pn 14 50 31.8 +2.1**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
WSAR Wadi Sarin 13.43 132 Pn **Pn 14 50 29.7 -0.7**
comp=Z,5.5nm,0.3s,baz=313,slow=13,SNR=38
WSAR Sn Sn 14 52 50.6 -8.9
comp=Z,1.1nm,0.3s,baz=293,slow=7.7,SNR=2.4
WSAR LR LR 14 56 39.2
comp=Z,344nm,20.3s,baz=322,slow=41
WSAR Wadi Sarin 13.43 132 P **Pn 14 50 30.2 -0.1**
SNR=32
ILGA Ilgaz 13.99 311 Pn **Pn 14 50 40.1 +2.0**
WBK Wadi Bani Khal 14.11 132 P **Pn 14 50 39.4 -0.2**
SNR=12
ANN Anapa 14.54 330 *e*P **Pn 14 50 46.8 +1.5**
ANN *e*S **Sn 14 53 31.2 +5.1**
ANN pmax pmax
comp=Z,61nm,1.5s
ANN MLR MLR
comp=Z,488nm,14.0s
JLN Jalan Bani Buh 14.72 132 P **Pn 14 50 48.1 +0.2**
MHTO MHTO 14.77 139 P **Pn 14 50 48.2 -0.4**
SNR=8.9
ISP Isparta 14.98 295 P **Pn 14 50 52.7 +1.3**
ISP Isparta 14.98 295 Pn **Pn 14 50 52.7 +1.3**
ISP P **P 14 50 57.9 +1.0**
ELL Elmali 15.22 291 P **P 14 51 00.8 +1.2**
ELL pmax pmax
comp=Z,263nm,1.4s
ELL Elmali 15.22 291 P **P 14 51 00.8 +1.2**
MDUB Mudurnu 15.39 305 P **P 14 51 02.2 +0.7**
MDUB IAmb IAmb 14 51 09.6
comp=Z,119nm,1.0s
DQM DQM 15.41 143 P **Pn 14 50 56.4 -0.8**
ABTO Aybut 16.04 160 P **Pn 14 51 05.6 +0.3**
RBK Rabkut 16.18 157 P **Pn 14 51 05.2 -1.8**
SNR=8.1
DMTO DMTO 16.23 155 P **Pn 14 51 05.6 -2.2**
SNR=24
KARP Karpathos 17.28 285 P **P 14 51 23.5 +1.1**
KARP IAmb IAmb 14 51 37.6
comp=Z,74nm,1.1s
KBL Kabul 17.85 78 P **P 14 51 30.7 +1.8**
SNR=26
KBL Kabul 17.85 78 P **P 14 51 29.9 +1.0**
KBL pmax pmax
comp=Z,78nm,1.3s
KBL Kabul 17.85 78 **P 14 51 29.9 +1.0**
CHGR Chuyangaron 18.40 65 P **Pn 14 51 35.8 +1.0**
CHGR IAmb IAmb 14 51 43.6
comp=Z,71nm,1.0s
SANT Santorini 18.72 288 P **Pn 14 51 38.6 -0.1**
SANT IAmb IAmb 14 51 45.6
comp=Z,87nm,1.3s
AB31 Akbulak array 18.94 25 P **P 14 51 40.6 +0.1**
ABKAR Akbulak array 18.94 25 P **P 14 51 41.0 +0.6**
VRH Novokhopyorsk 19.05 348 *eP* **P 14 51 41.6 -0.2**
VRH pmax pmax
comp=Z,130nm,1.4s
TIRR Tirgusor 19.11 314 P **P 14 51 42.0 -0.4**
TIRR pmax pmax
comp=Z,249nm,1.9s
TIRR Tirgusor 19.11 314 P **P 14 51 42.0 -0.4**
TIRR IAmb IAmb 14 51 44.8
comp=Z,249nm,1.9s
IDI Anoyia 19.12 284 P **Pn 14 51 42.9 -0.7**
comp=Z,6.7nm,0.3s,baz=69,slow=9.4,SNR=38
IDI LR LR 15 02 39.3
comp=Z,112nm,20.3s,baz=88,slow=48
IDI Anoyia 19.12 284 ⇑P **Pn 14 51 44.3 +0.7**
IDI Anoyia 19.12 284 P **P 14 51 42.7 0.0**
IDI IAmb IAmb 14 52 31.7
comp=Z,197nm,2.0s
ALN Alexandroupoli 19.19 302 P **Pn 14 51 43.6 -0.7**
ALN pmax pmax
comp=Z,32nm,1.1s
ALN Alexandroupoli 19.19 302 P **Pn 14 51 43.6 -0.7**
NEF NEVSHA 19.25 309 P **Pn 14 51 45.2 +0.2**

TLCR 19.26 316 ⇑P **P 14 51 44.4 +0.3**
TLCR 19.26 316 P **P 14 51 44.4 +0.3**
VORD Divnogorie 19.33 344 *eP* **P 14 51 45.2 +0.5**
VORD pmax pmax
comp=Z,80nm,1.3s
AKTO Aktyubinsk 19.33 20 P **P 14 51 45.1 +0.4**
comp=Z,4.4nm,0.3s,baz=203,slow=12,SNR=66
AKTO LR LR 15 01 52.5
comp=Z,418nm,18.1s,baz=192,slow=45
AKTO Aktyubinsk 19.33 20 *i* P **P 14 51 44.8 0.0**
AKTO pmax pmax
comp=Z,25nm,0.6s
TOPG Topolog 19.35 315 ⇓P **Pn 14 51 45.9 -0.3**
GAR Garm 19.35 65 P **Pn 14 51 46.4 0.0**
GAR IAmb IAmb 14 51 54.3
comp=Z,55nm,0.7s
VSR Storozhevoye 19.59 344 *eP* **P 14 51 47.1 -0.5**
VSR pmax pmax
comp=Z,180nm,1.3s
CFR Carcaliu 19.66 315 ⇓P **P 14 51 48.9 +0.5**
CFR Carcaliu 19.66 315 P **Pn 14 51 49.4 -0.4**
CFR pmax pmax
comp=Z,27nm,1.1s
RAZG Razgrad 19.89 309 ⇑P **Pn 14 51 53.1 +0.5**
IUG luzhnay 20.04 55 *eP* Pn 14 51 54.5 -0.1
comp=Z,73nm,2.4s,baz=56
IUG *eS* Sn 14 55 40.8 +1.0
baz=56
IUG LR LR 15 00 31.6
comp=Z,92nm,10.3s,baz=56
IUG luzhnay 20.04 55 *eP* Pn 14 51 54.4 -0.2
IUG *eS* Sn 14 55 40.7 +0.9
IUG pmax pmax
comp=Z,73nm,2.4s
IUG MLR MLR
comp=Z,92nm,10.0s
RZN Rozhen 20.39 303 P **P 14 51 55.6 -1.1**
SGRR Singureni 20.52 311 ⇓P Pn 14 51 59.4 -0.7
PLD Plovdiv 20.54 304 P Pn 14 52 00.2 -0.1
PLD pmax pmax
comp=Z,2.0nm,1.6s
ISR Istrita 20.59 313 P Pn 14 52 02.1 +1.2
ISR pmax pmax
comp=Z,73nm,1.2s
KK31 Karatay Array 20.73 53 P **P 14 52 00.5 +0.4**
KK31 Karatay Array 20.73 53 P **P 14 51 01.3 +1.2**
KKAR Karatay Array 20.73 53 P **P 14 52 01.3 +1.2**
KKAR Karatay Array 20.73 53 P **P 14 52 01.3 +1.2**
KKAR Karatay Array 20.73 53 P **P 14 52 01.5 +1.4**
KKAR IAmb IAmb 14 52 09.8
comp=Z,55nm,1.5s
VRI Vrincioaia 20.86 315 ⇑P **P 14 52 02.0 +0.4**
NEHR Nehoiu 20.90 314 ⇓P Pn 14 52 04.1 -0.4
PLOR Plostina 20.90 315 ⇑P Pn 14 52 03.8 -0.8
PLOR Plostina 20.90 315 P Pn 14 52 03.7 -0.8
LPSR Galich'ya Gora 20.93 345 *eP* **P 14 52 01.5 -0.7**
LPSR pmax pmax
comp=Z,380nm,1.2s
SRS Serrai 21.03 301 P **P 14 52 04.6 +1.2**
SRS pmax pmax
comp=Z,29nm,1.4s
PGB Panagyurishte 21.06 305 P **P 14 52 01.2 -2.6**
MMB Musomiste 21.07 302 P **P 14 52 02.4 -1.4**
MLR Muntele Rosu 21.14 314 P **P 14 52 04.6 -0.1**
comp=Z,3.3nm,0.5s,baz=31,slow=12,SNR=4.9
MLR Muntele Rosu 21.14 314 ⇓P **P 14 52 07.0 +2.3**
MLR Muntele Rosu 21.14 314 P **P 14 52 05.6 +0.9**
MLR IAmb IAmb 14 52 12.0
comp=Z,34nm,0.8s
SOCY Socotra 21.16 163 P **P 14 51 01.9 -3.2**
SOCY IAmb IAmb 14 52 29.8
comp=Z,142nm,1.4s
DZA Taraz 21.21 54 *eP* **P 14 52 07.0 +1.6**
comp=Z,18nm,1.1s,baz=55
DZA LR LR 15 01 14.1
comp=Z,104nm,10.8s,baz=55
DZA Taraz 21.21 54 *eP* **P 14 52 06.9 +1.6**
DZA pmax pmax
comp=Z,18nm,1.1s
DZA MLR MLR
comp=Z,104nm,11.0s
TESR Tescani 21.26 317 ⇑P **P 14 52 06.1 +0.3**
SORM Soroca 21.29 322 ⇓P **P 14 52 05.7 -0.4**
SORM Soroca 21.29 322 P **P 14 52 05.6 -0.4**
HUMR Humele 21.30 310 ⇑P **P 14 52 06.7 +0.4**
NIL Nilore 21.38 80 P **P 14 52 08.4 +1.2**
NIL pmax pmax
comp=Z,106nm,1.2s
NIL Nilore 21.38 80 P **P 14 52 08.3 +1.2**
NIL IAmb IAmb 14 52 15.1
comp=Z,106nm,1.1s
ATD Arta Tunnel 21.50 193 LR LR 15 01 13.9
comp=Z,289nm,21.8s,baz=2.0,slow=39
AGG Agios Georgios 21.52 294 P **P 14 52 08.8 +0.2**
AGG pmax pmax
comp=Z,28nm,0.8s
AGG Agios Georgios 21.52 294 P **P 14 52 08.8 +0.2**
LIT Litokhoron 21.60 297 P **P 14 52 07.7 -1.8**
LIT pmax pmax
comp=Z,39nm,1.2s
LIT Litokhoron 21.60 297 P **P 14 52 07.7 -1.8**
ITM Ithomi 21.61 289 P **P 14 52 09.2 -0.5**
MPEP Malo Peshtene 21.64 306 P **P 14 52 08.9 -1.1**
VOIR 21.67 313 ⇑P **P 14 52 11.8 +1.5**
VOIR 21.67 313 P **P 14 52 11.1 +0.8**
VOIR pmax pmax
comp=Z,100nm,1.3s
DOPR Dopca 21.72 314 ⇑P **P 14 52 11.3 +0.6**
VTS Vitosha 21.73 304 P **P 14 52 11.5 +0.4**
ARR Arges 21.89 312 ⇑P **P 14 52 13.9 +1.2**
MDB Medias 22.42 314 ⇓P **P 14 52 18.8 +0.6**
LOT Lotru 22.48 312 ⇓P **P 14 52 18.9 -0.1**
AKASG Malin Array Be 22.61 328 P **P 14 52 18.5 -1.7**
comp=Z,3.6nm,0.5s,baz=137,slow=9.2,SNR=17
AKASG PcP **PcP 14 56 12.2 -0.8**
comp=Z,0.7nm,0.4s,baz=83,slow=1.9,SNR=2.4
AKASG Malin Array Be 22.61 328 P **P 14 52 18.8 -1.4**
AKBB Malin Array Si 22.61 328 *i* P **P 14 52 18.8 -1.4**
AKBB Malin Array Si 22.61 328 P **P 14 52 18.1 -2.2**
AKBB IAmb IAmb 14 52 24.0
comp=Z,54nm,1.3s
AML Almayashu 22.62 58 P **P 14 52 22.7 +1.8**
SNR=16
BURAR Bucovina Array 22.68 318 ⇑P **P 14 52 22.6 +1.4**
BURAR Bucovina Array 22.68 318 P **P 14 52 22.5 +1.4**
BURAR Bucovina Array 22.68 318 P **P 14 52 21.2 0.0**
BUR08 Bucovina Ar. S 22.71 318 P **P 14 52 21.7 +0.3**
EKS2 Erkin-Say 22.83 57 P **P 14 52 24.8 +2.0**
SNR=7.5
HERR Herculane 23.11 309 ⇓P **P 14 52 25.7 +0.2**
IGT Igoumenitsa 23.13 295 P **P 14 52 25.9 +0.1**
IGT pmax pmax
comp=Z,32nm,1.2s
DEV Deva 23.21 312 P **P 14 52 30.2 +3.7**
DEV pmax pmax
comp=Z,21nm,1.5s
UCH Uchtor 23.23 58 P **P 14 52 30.7 +3.4**
SNR=15
AAK Ala-Archa 23.33 57 P **P 14 52 28.3 +0.3**
comp=Z,2.2nm,0.3s,baz=240,slow=7.6,SNR=6.7
AAK LR LR 15 02 57.3
comp=Z,552nm,18.3s,baz=255,slow=40
AAK Ala-Archa 23.33 57 *i* P **P 14 52 30.1 +2.1**
AAK pmax pmax
comp=Z,15nm,1.2s
AAK Ala-Archa 23.33 57 P **P 14 52 29.7 +1.7**
USP Ospenovka 23.52 56 P **P 14 52 33.7 +4.0**
SNR=16
MDVR Moldovita 23.53 309 ⇓P **P 14 52 30.1 +0.3**
CHMS Chumysh 23.62 56 P **P 14 52 33.9 +3.3**
SNR=12
KBK Karagaybulak 23.66 57 P **P 14 52 35.0 +3.8**
SNR=8.0
BMR Baia Mare 23.70 316 P **P 14 52 34.2 +2.8**
BMR pmax pmax
comp=Z,84nm,1.2s
KSH Kashi 23.77 65 P **P 14 52 30.3 -1.9**
KSH sP pP 14 52 35.3 -1.3
KSH S **S 14 56 38.6 -8.7**
KSH pmax pmax
comp=Z,43nm,0.9s
KSH pmax pmax
comp=Z,190nm,4.6s
KSH LR LR
comp=Z,530nm,11.4s
KSH LR LR
comp=Z,490nm,10.6s
KSH LR LR
comp=Z,2µm,17.1s
OBN Obninsk 23.79 344 P **P 14 52 30.4 -1.7**
comp=Z,2.8nm,0.4s,baz=93,slow=1.8,SNR=13
OBN LR LR 15 02 29.7
comp=Z,64nm,18.2s,baz=174,slow=38
OBN Obninsk 23.79 344 *d* iP **P 14 52 31.9 -0.2**
OBN *e* 14 53 01.1
OBN *i* S **S 14 56 53.2 +6.1**
OBN pmax pmax
comp=Z,90nm,1.6s
OBN MLR MLR
comp=Z,229nm,15.0s
OBN Obninsk 23.79 344 P **P 14 52 32.1 0.0**
BTLS Baital 23.82 51 ⇓*i* P **P 14 52 34.1 +1.6**
comp=Z,43nm,2.3s,baz=51
BTLS LR LR 15 02 50.0
comp=Z,51nm,9.1s,baz=51
BTLS Baital 23.82 51 *d* iP **P 14 52 34.1 +1.6**
BTLS pmax pmax
comp=Z,43nm,2.3s
BTLS MLR MLR
comp=Z,51nm,9.0s
BZS Buzias 23.92 310 ⇑P **P 14 52 32.6 -0.8**
BZS Buzias 23.92 310 P **P 14 52 33.9 +0.4**
BZS pmax pmax
comp=Z,14nm,1.6s
MOS Moscow 24.14 346 *eP* **P 14 52 33.7 -1.7**
MOS *e* 14 53 05.2
MOS *eS* **S 14 56 53.1 +0.4**
MOS pmax pmax
comp=Z,100nm,1.1s
MOS pmax pmax
comp=Z,92nm,1.7s
TKM2 Tokmak 2 24.19 57 P **P 14 52 38.1 +1.9**
SNR=25
DIVS Divibare 24.45 306⇑ *i* P **P 14 52 37.9 -0.6**
DIVS Divibare 24.45 306 P **P 14 52 37.9 -0.6**
DRME Dracevica, Mon 24.49 301⇑ *i* P **P 14 52 38.1 -0.7**
PDG Podgorica 24.50 302 *eP* **P 14 52 38.7 -0.2**
PDG Podgorica 24.50 302 P **P 14 52 38.1 -0.7**
LVV L'vov 24.57 321 *eP* **P 14 52 39.5 +0.1**
SCTE Santa Cesarea 24.63 296 P **P 14 52 39.1 -0.9**
RUDO Rudo 24.73 304 *eP* **P 14 52 38.2 -2.8**
BBLS Lazići 24.78 305⇑ *i* P **P 14 52 39.3 -2.2**
UZH Uzhgorod 24.88 317 *eP* **P 14 52 43.3 +1.1**
UZH *e* 14 52 48.6
UZH *eS* **S 14 57 04.5 -0.3**
FRGS Fruska Gora 24.93 308⇑ *i* P **P 14 52 42.8 +0.1**
ARU Arti 24.93 14 P **P 14 52 43.1 +0.5**
comp=Z,5.3nm,0.5s,baz=190,slow=10.0,SNR=16
ARU LR LR 15 04 53.0
comp=Z,181nm,20.6s,baz=166,slow=42
ARU Arti 24.93 14 *d* iP **P 14 52 43.5 +0.9**
ARU PPP PPP 14 53 23.2
ARU 14 56 18.9
ARU S **S 14 57 07.9 +2.4**
ARU pmax pmax
comp=Z,23nm,0.8s
ARU MLR MLR
comp=Z,190nm,14.0s
ARU Arti 24.93 14 P **P 14 52 42.6 0.0**
ARU IAmb IAmb 14 52 50.2
comp=Z,58nm,1.4s
KUU Kurty 24.98 55 ⇓*i* P **P 14 52 45.0 +1.8**
comp=Z,27nm,1.2s,baz=55
KUU LR LR 15 03 29.6
comp=Z,220nm,11.1s,baz=55
KUU Kurty 24.98 55 *d* iP **P 14 52 45.0 +1.8**
KUU pmax pmax
comp=Z,27nm,1.2s
KUU MLR MLR
comp=Z,220nm,11.0s
KOLS Kolonicke sedl 25.05 318 *eP* **P 14 52 44.7 +0.9**
KOLS Kolonicke sedl 25.05 318 *eP* **P 14 52 44.7 +0.9**
HCY Herceg Novi 25.05 301 *eP* **P 14 52 41.9 -2.0**
BRY Bratogost 25.13 302 *eP* **P 14 52 43.4 -1.3**
KDJ Kajisay 25.13 59 P **P 14 52 47.4 +2.6**
KDJ pmax pmax
comp=Z,13nm,0.7s
KDJ Kajisay 25.13 59 P **P 14 52 47.4 +2.6**
KDJ IAmb IAmb 14 52 52.7
comp=Z,13nm,0.7s
KWP Kalwaria Pacla 25.18 320 P **P 14 52 44.6 -0.4**
KWP pmax pmax
comp=Z,54nm,0.5s
KWP Kalwaria Pacla 25.18 320 P **P 14 52 44.5 -0.4**
TNSS Tian-Shan 25.18 57 ⇓*i* P **P 14 52 47.2 +1.8**
baz=58
TNSS Tian-Shan 25.18 57 *d* iP **P 14 52 47.2 +1.8**
TREB Trebinje 25.22 302 *eP* **P 14 52 44.2 -1.2**
MDOK Medeo 25.28 57 *eP* **P 14 52 48.1 +1.9**
baz=57
MDOK LR LR 15 03 28.1
comp=Z,370nm,12.1s,baz=57
MDOK Medeo 25.28 57 *eP* **P 14 52 48.0 +1.9**
MDOK MLR MLR
comp=Z,370nm,12.0s
BRZS Berezniki 25.33 40 *i* P **P 14 52 47.9 +1.6**
comp=Z,16nm,1.0s,baz=40
BRZS Berezniki 25.33 40 *i* P **P 14 52 47.8 +1.6**
BRZS pmax pmax
comp=Z,16nm,1.0s
CHKK Chushkaly 25.42 55 *eP* **P 14 52 48.8 +1.6**
baz=56
CHKK Chushkaly 25.42 55 *eP* **P 14 52 48.8 +1.6**
CRVS Cervenica-Dubn 25.49 317 *eP* **P 14 52 48.1 +0.3**
CRVS Cervenica-Dubn 25.49 317 *eP* **P 14 52 48.1 +0.3**
TARG Taragay, Kyrgy 25.51 61 P **P 14 52 49.1 +0.6**
TARG IAmb IAmb 14 52 50.9
comp=Z,20nm,0.6s
SVE Sverdlovsk 25.76 16 *eP* **P 14 52 50.6 +0.5**
SVE pmax pmax
comp=Z,27nm,1.0s
TIP Timpagrande 25.84 293 P **P 14 52 51.1 0.0**
TIP IAmb IAmb 14 52 53.4
comp=Z,22nm,0.6s
KECS Kecovo 25.86 316 *eP* **P 14 52 52.5 +1.4**
KECS Kecovo 25.86 316 *eP* **P 14 52 52.5 +1.4**
PSZ Piszkesteto 25.96 314 ⇑P **P 14 52 52.8 +0.7**
PSZ Piszkesteto 25.96 314 P **P 14 52 52.6 +0.5**
PSZ pmax pmax
comp=Z,29nm,0.9s
PSZ Piszkesteto 25.96 314 P **P 14 52 52.5 +0.5**
PSZ IAmb IAmb 14 52 59.4
comp=Z,29nm,0.9s
KIRV Kirov 25.96 2 P **P 14 52 52.3 +0.4**
comp=Z,44nm,0.5s,baz=181,slow=2.5,SNR=12
KIRV LR LR 15 05 25.1
comp=Z,381nm,18.5s,baz=177,slow=42
MICGM Minsk 25.98 333 *e* **P 14 52 48.0 -4.1**
MNK Minsk 25.98 333 *eP* **P 14 52 48.0 -4.1**
BRVK Borovoye 26.05 32 *ceP* **P 14 52 53.6 +0.8**
BRVK pmax pmax
comp=Z,23nm,1.3s
BRVK Borovoye 26.05 32 P **P 14 52 54.1 +1.3**
BRVK IAmb IAmb 14 52 59.6
comp=Z,78nm,1.7s
MORH Mrgy, Hungar 26.07 310⇑ *i* P **P 14 52 53.2 +0.2**
BVA0 Borovoye Array 26.08 32 *i* P **P 14 52 53.6 +0.5**
BVAR Borovoye Array 26.08 32 P **P 14 52 53.6 +0.5**
comp=Z,12nm,0.5s,baz=222,slow=8.5,SNR=60
BVAR PcP **PcP 14 56 20.8 +0.3**
comp=Z,2.2nm,0.4s,baz=178,slow=4.0,SNR=6.5
BVAR ScP **ScP 14 59 59.0 -0.7**
comp=Z,2.1nm,0.6s,baz=231,slow=0.9,SNR=9.7
BVAR LR LR 15 05 03.1
comp=Z,320nm,19.1s,baz=250,slow=41
SATY Saty 26.22 58 *i* P **P 14 52 56.9 +2.2**
comp=Z,21nm,1.6s,baz=58
SATY Saty 26.22 58 *i* P **P 14 52 56.8 +2.2**
SATY pmax pmax
comp=Z,21nm,1.6s
SATY Saty 26.22 58 *i* P **P 14 52 56.8 +2.2**
SATY pmax pmax
comp=Z,21nm,1.6s
BUD Budapest 26.31 313 P **P 14 52 58.6 +3.4**
BUD pmax pmax
comp=Z,50nm,1.1s
MGRS Mrkonjic Grad 26.54 305 *eP* P 14 53 05.9 +8.5
BLY Banja Luka 26.57 306⇑ *i* P **P 14 52 57.2 -0.3**
UZB Uzynbulak 26.68 58 *eP* **P 14 53 00.7 +1.8**

comp=Z,33nm,2.6s,baz=58
UZB LR LR 15 04 31.1
comp=Z,58nm,10.4s,baz=58
UZB Uzynbulak 26.68 58 *e*P **P 14 53 00.6 +1.8**
UZB pmax pmax
comp=Z,33nm,2.6s
UZB MLR MLR
comp=Z,58nm,10.0s
TDK Taldyqorghan 26.72 54 *e*P **P 14 53 00.1 +1.0**
comp=Z,16nm,0.6s,baz=54
TDK LR LR 15 04 40.0
comp=Z,484nm,12.1s,baz=54
TDK Taldyqorghan 26.72 54 *e*P **P 14 53 00.0 +1.0**
TDK pmax pmax
comp=Z,16nm,0.6s
TDK MLR MLR
comp=Z,484nm,12.0s
VYHS Vyhne 26.84 315 *e*P **P 14 53 02.0 +1.9**
VYHS Vyhne 26.84 315 *e*P **P 14 53 02.0 +1.9**
SGRT San Giovanni R 26.93 299 P **P 14 53 02.5 +1.6**
SGRT IAmb IAmb 14 53 28.7
comp=Z,40nm,1.0s
SHLS Shalkode 27.00 58 *e*P **P 14 53 06.1 +4.4**
baz=58
SHLS LR LR 15 04 59.5
comp=Z,99nm,11.4s,baz=58
SHLS Shalkode 27.00 58 *e*P **P 14 53 06.0 +4.4**
SHLS MLR MLR
comp=Z,99nm,11.0s
IDID Didziasalis 27.02 333 *e*P **P 14 53 02.3 +0.8**
OJC Ojcow 27.09 319 *e*P **P 14 53 02.3 0.0**
OJC Ojcow 27.09 319 P **P 14 53 01.8 -0.4**
OJC pmax pmax
comp=Z,42nm,1.1s
OJC Ojcow 27.09 319 P **P 14 53 01.8 -0.4**
OJC IAmb IAmb 14 53 08.5
comp=Z,42nm,1.1s
ISAL Salakas 27.45 333 *e*P **P 14 53 06.5 +1.1**
IZAR Zarasai 27.54 333 *e*P **P 14 53 07.1 +1.0**
SUW Suwalki 27.58 328 P **P 14 53 06.1 -0.5**
SUW pmax pmax
comp=Z,56nm,0.9s
SUW Suwalki 27.58 328 P **P 14 53 06.1 -0.5**
PAOL Paolisi 27.70 297 P **P 14 53 08.0 +0.1**
PAOL IAmb IAmb 14 53 15.0
comp=Z,32nm,1.3s
JAVC Velka Javorina 27.70 315 *e*P **P 14 53 09.9 +2.1**
KOGS Kog 27.70 309 *e*P **P 14 53 08.9 +1.1**
SOP Sopron 27.93 312 P **P 14 53 12.6 +2.9**
SOP pmax pmax
comp=Z,19nm,0.9s
GCIS Gornji Cirnik 27.94 308 *e*P **P 14 53 11.1 +1.3**
CRES Cresnjev 28.04 307 *e*P **P 14 53 09.8 -1.0**
MORC Moravsky Berou 28.17 316 *e*P **P 14 53 12.0 +0.1**
MORC Moravsky Berou 28.17 316 P **P 14 53 12.1 +0.1**
MORC pmax pmax
comp=Z,11nm,1.2s
MORC Moravsky Berou 28.17 316 P **P 14 53 12.1 +0.1**
PABE Paberze 28.25 331 *e*P **P 14 53 13.7 +1.1**
ARSA Arzberg 28.44 310 *e*P **P 14 53 14.5 +0.2**
comp=Z,2.6nm,0.6s
CONA Conrad Observa 28.45 312 *e*P **P 14 53 14.6 0.0**
comp=Z,12nm,1.5s,SNR=7.1
VRAC Vranov 28.53 315 P **P 14 53 14.7 -0.4**
comp=Z,3.3nm,0.7s,baz=95,slow=6.8,SNR=7.3
VRAC LR LR 15 05 20.6
comp=Z,58nm,20.1s,baz=118,slow=38
VRAC Vranov 28.53 315 *e*P **P 14 53 15.5 +0.4**
KRUC Moravsky 28.55 314 *e*P **P 14 53 15.7 +0.4**
SOKA Soboth 28.57 309 *e*pP **P 14 53 17.0 +1.4**
comp=Z,6.7nm,1.3s
SOKA *e*PcP **PcP 14 56 27.8 +1.2**
comp=Z,6.0nm,1.3s
CEY Cerknica 28.71 307 *e*P **P 14 53 12.2 -4.6**
KLMR Klimovskoe 28.72 352 *e*P **P 14 53 14.3 -2.3**
KLMR *e* 14 54 05.0
KLMR pmax pmax
comp=Z,33nm,0.9s
KLMR Klimovskoe 28.72 352 *e*P **P 14 53 14.4 -2.2**
KLMR AMP 14 53 21.4
comp=Z,33nm,0.9s
KLMR *e*PP **PnPn 14 54 05.0 -2.1**
KLMR LQ LQ 15 02 44.0
KLMR LQ LQ 15 02 44.0
KLMR LR LR 15 04 56.4
LJU Ljubljana 28.73 307 *e*P **P 14 53 18.2 +1.4**
LJU Ljubljana 28.73 307 *e*P **P 14 53 16.7 -0.2**
AQU L'Aquila 28.74 300 P **P 14 53 19.2 +2.1**
AQU pmax pmax
comp=Z,23nm,1.9s
OBKA Obir 28.84 308 *i* P **P 14 53 19.0 +1.0**
comp=Z,13nm,1.6s
KURBB Kurchatov Arra 28.89 42 P **P 14 53 19.5 +1.2**
comp=Z,10nm,0.6s,baz=248,slow=9.2,SNR=53
KURBB PcP **PcP 14 56 28.0 +0.7**
comp=Z,0.6nm,0.2s,baz=243,slow=3.0,SNR=2.4
KURBB ScP **ScP 15 00 07.0 -1.2**
comp=Z,0.5nm,0.6s,baz=238,slow=3.7,SNR=5.7
KURBB Kurchatov Arra 28.89 42 P **P 14 53 19.1 +0.8**
KURK Kurchatov 28.99 42 *ce*P **P 14 53 20.3 +1.2**
KURK pmax pmax
comp=Z,22nm,1.3s
KURK Kurchatov 28.99 42 P **P 14 53 18.9 -0.2**
KURK IAmb IAmb 14 53 26.1
comp=Z,38nm,1.4s
KURK Kurchatov 28.99 42 PcP 14 56 28.0 +0.5
KURK **ScP 15 00 07.0 -1.5**
NRCA Norcia 29.02 301 P **P 14 53 19.5 -0.2**
NRCA IAmb IAmb 14 53 32.8
comp=Z,56nm,1.8s
PRGR Permogore 29.03 358 *e*P **P 14 53 17.3 -2.0**
PRGR pmax pmax
comp=Z,38nm,1.4s
DPC Dobruska-Polom 29.13 317 *e*P **P 14 53 20.7 +0.3**
DPC Dobruska-Polom 29.13 317 *e*P **P 14 53 20.7 +0.3**
OSTC Ostas 29.28 317 *e*P **P 14 53 22.0 +0.2**
UPC Upice 29.37 317 *e*P **P 14 53 23.2 +0.6**
UPC Upice 29.37 317 *e*P **P 14 53 23.2 +0.6**
CHVC Chvalec 29.38 317 *e*P **P 14 53 23.2 +0.5**
MOA Molln 29.44 311 *e*P **P 14 53 23.6 +0.4**
comp=Z,2.5nm,0.5s,SNR=6.6
MOA *e*PcP **PcP 14 56 28.7 0.0**
comp=Z,0.9nm,0.5s
VSU Vasula 29.45 337 *e*P **P 14 53 23.6 +0.5**
MYKA Terra Mystica 29.48 308 *i* pP **P 14 53 25.4 +1.8**
comp=Z,2.5nm,0.4s
PRED Cave del Predi 29.48 308 P **P 14 53 24.2 +0.6**
MURB Monte Urbino 29.52 301 P **P 14 53 24.7 +0.7**
MURB IAmb IAmb 14 53 32.1
comp=Z,42nm,1.2s
MAKZ Makanchi 29.63 51 P **P 14 53 26.2 +1.3**
MAKZ pmax pmax
comp=Z,7.0nm,1.0s
MAKZ Makanchi 29.63 51 P **P 14 53 26.2 +1.3**
KBA Koelnbreinsper 29.80 309 *i* P **P 14 53 27.5 +0.9**
comp=Z,7.5nm,0.7s
MK31 Makanchi Array 29.83 52 P **P 14 53 27.1 +0.4**
MK31 pmax pmax
comp=Z,11nm,0.7s
MK31 Makanchi Array 29.83 52 P **P 14 53 27.1 +0.4**
MK31 IAmb IAmb 14 53 29.4
comp=Z,11nm,0.7s
MKAR Makanchi Array 29.83 52 P **P 14 53 27.9 +1.2**
comp=Z,10nm,0.6s,baz=248,slow=8.7,SNR=124
MKAR PcP **PcP 14 56 29.3 -0.5**
comp=Z,0.5nm,0.5s,baz=246,slow=1.5,SNR=2.4
MKAR ScP **ScP 15 00 08.4 -3.0**
comp=Z,0.4nm,0.7s,baz=251,slow=4.4,SNR=3.5
MKAR Makanchi Array 29.83 52 P **P 14 53 27.0 +0.3**
ZOU Zoufplan 29.90 308 P **P 14 53 28.0 +0.4**
STAL STALIGIAL 30.00 307 P **P 14 53 28.1 -0.1**
GEC2 GERESS Array S 30.12 313 P **P 14 53 29.1 -0.3**
GERES GERESS Array B 30.12 313 P **P 14 53 29.0 -0.3**
comp=Z,1.4nm,0.6s,baz=120,slow=7.9,SNR=8.9
GERES PcP **PcP 14 56 30.2 -0.4**
comp=Z,0.7nm,0.5s,baz=132,slow=1.5,SNR=4.4
GERES LR LR 15 07 13.5
comp=Z,55nm,18.3s,baz=100,slow=40
GERES GERESS Array B 30.12 313 P **P 14 53 29.0 -0.3**
CIMO Cimolais 30.20 307 P **P 14 53 30.0 +0.1**
CIMO IAmb IAmb 14 53 36.4
comp=Z,21nm,1.4s
PBCC Pribram 30.24 314 *e*P **P 14 53 31.3 +1.0**
ABTA Abfaltersbach 30.26 308 *e*pP **P 14 53 31.6 +1.0**
comp=Z,3.9nm,0.7s

KHC Kasperske Hory 30.30 313 *e*P **P 14 53 31.0 +0.2**
KHC Kasperske Hory 30.30 313 *e*P **P 14 53 31.0 +0.2**
KHC Kasperske Hory 30.30 313 P **P 14 53 31.2 +0.4**
PYUN Piuthan 30.66 89 *e*P **P 14 53 36.4 +1.9**
CTI Castel Tesino 30.67 306 P **P 14 53 34.4 +0.2**
CTI pmax pmax
comp=Z,17nm,0.6s
CTI Castel Tesino 30.67 306 P **P 14 53 34.4 +0.2**
CTI IAmb IAmb 14 53 38.5
comp=Z,17nm,0.6s
BRG Berggiesshubel 30.72 316 *e*P **P 14 53 34.1 -0.4**
comp=Z,9.4nm,1.3s
BRG *e* 14 53 38.6
comp=Z,7.4nm,1.1s
BRG Berggiesshubel 30.72 316 *e*P **P 14 53 34.1 -0.4**
BRG *e* 14 53 38.6
BRG pmax pmax
comp=Z,9.0nm,1.3s
BRG pmax pmax
comp=Z,7.0nm,1.1s
ZCCA Zocca 30.80 303 P **P 14 53 34.9 -0.5**
WTTA Wattenberg 30.97 309 *e*P **P 14 53 36.3 -0.7**
comp=Z,9.1nm,0.7s,SNR=7.5
WTTA *e*PcP **PcP 14 56 33.7 +0.8**
comp=Z,1.7nm,0.5s
WATA Walderalm 31.03 309 *e*P **P 14 53 36.8 -0.6**
comp=Z,18nm,1.2s,SNR=8.6
WATA *e*PcP **PcP 14 56 33.8 +0.7**
comp=Z,1.2nm,0.4s
VLC Villacollemand 31.19 303 P **P 14 53 38.5 -0.3**
VLC IAmb IAmb 14 53 40.0
comp=Z,13nm,0.7s
DANN Dangsing 31.24 88 *e*P **P 14 53 41.2 +1.5**
SQTA Sankt Quirin 31.24 309 *e*P **P 14 53 38.7 -0.6**
comp=Z,9.5nm,0.5s,SNR=11
SQTA *e*PcP **PcP 14 56 30.8 -2.8**
comp=Z,1.2nm,0.4s
KOLN Koldanda 31.28 89 *e*P **P 14 53 41.6 +1.7**
MOTA Moosalm 31.34 309 *e*P **P 14 53 39.7 -0.5**
comp=Z,13nm,0.9s,SNR=7.4
MOTA *e*PcP **PcP 14 56 32.4 -1.5**
comp=Z,1.9nm,0.5s
CLL Collm 31.44 317 *i* P **P 14 53 40.6 -0.2**
comp=Z,10.0nm,1.2s
CLL *i* pP **sP 14 53 44.9 -2.2**
comp=Z,12nm,1.2s
CLL LmV 15 08 00.0
comp=Z,100nm,18.4s
CLL Collm 31.44 317 *i* P **P 14 53 40.6 -0.2**
CLL *i* 14 53 44.9
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 31.44 317 P **P 14 53 40.8 0.0**
FETA Feichten 31.51 308 *i* P **P 14 53 41.9 +0.2**
comp=Z,5.0nm,0.6s,SNR=5.8
VSL Villasalto 31.57 293 P **P 14 53 42.6 +0.5**
VSL IAmb IAmb 14 54 04.4
comp=Z,57nm,1.8s
RETA Reutte 31.60 309 *e*P **P 14 53 41.9 -0.5**
comp=Z,4.8nm,0.8s
ZSN Zaisan 31.70 51 *e*P **P 14 53 44.4 +1.2**
comp=Z,1.7nm,0.9s,baz=51
ZSN Zaisan 31.70 51 *e*P **P 14 53 44.4 +1.2**
ZSN pmax pmax
comp=Z,2.0nm,0.9s
FUORN Ofenpass-Fuorn 31.73 307 P **P 14 53 44.1 +0.3**
KEST Kesra 31.77 286 P **P 14 53 43.3 -0.7**
comp=Z,1.6nm,0.7s,baz=76,slow=8.3,SNR=1.5
KEST Kesra 31.77 286 P **P 14 53 45.7 +1.7**
MSSA Maissana 31.83 303 P **P 14 53 43.8 -0.6**
MSSA IAmb IAmb 14 53 56.8
comp=Z,30nm,1.1s
GRA1 Grafenberg Arr 31.93 313 P **P 14 53 44.5 -0.7**
GRA1 IAmb IAmb 14 53 54.4
comp=Z,28nm,1.2s
GRF Grafenberg Arr 31.93 313 P **P 14 53 44.5 -0.7**
GRF pmax pmax
comp=Z,28nm,1.2s
PGF Pioggiola 32.00 299 *e*P **P 14 53 44.8 -1.2**
PGF pmax pmax
comp=Z,86nm,1.8s
FIA1 FINESS Array S 32.04 340 P **P 14 53 45.0 -0.9**
FIA1 IAmb IAmb 14 53 51.4
comp=Z,40nm,1.2s
FINES FINESS Array B 32.04 340 P **P 14 53 45.2 -0.7**
comp=Z,3.2nm,0.4s,baz=144,slow=8.4,SNR=26
FINES LR LR 15 08 06.8
comp=Z,184nm,18.3s,baz=141,slow=39
FINES FINESS Array B 32.04 340 *i* P **P 14 53 45.7 -0.3**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 32.04 340 P **P 14 53 45.0 -1.0**
GKN Gorkha 32.08 88 *e*P **P 14 53 48.7 +1.8**
DAVA Damuels 32.13 308 *e*P **P 14 53 46.3 -0.9**
comp=Z,15nm,0.5s,SNR=14
DAVA *e*PcP **PcP 14 56 37.0 +1.0**
comp=Z,2.0nm,0.5s
TUE Stuetta 32.32 307 P **P 14 53 48.5 -0.4**
TUE IAmb IAmb 14 53 58.2
comp=Z,21nm,1.3s
DMN Daman 32.60 89 *e*P **P 14 53 53.1 +1.5**
PKI Pulchoki 32.87 89 *e*P **P 14 53 55.2 +1.2**
comp=Z,23nm,0.6s
WMQ Urumqi 33.02 59 *e*P **P 14 53 56.3 +1.5**
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ pmax pmax
comp=Z,30nm,4.5s
WMQ LR LR
comp=Z,150nm,19.5s
WMQ LR LR
comp=Z,140nm,20.3s
JIRN Jiri 33.50 88 *e*P **P 14 54 01.2 +1.6**
comp=Z,32nm,0.4s
SENIN Lac Senin/Sane 33.69 306 P **P 14 54 00.0 -0.8**
SENIN IAmb IAmb 14 54 04.2
comp=Z,15nm,1.1s
ZAA0 Zalesovo Array 33.81 40 P **P 14 54 01.0 -0.5**
ZAA0 IAmb IAmb 14 54 04.1
comp=Z,15nm,0.6s
ZALV Zalesovo Beam 33.81 40 P **P 14 54 01.8 +0.2**
comp=Z,16nm,0.5s,baz=248,slow=9.5,SNR=48
ZALV PcP **PcP 14 56 39.7 -0.6**
comp=Z,1.4nm,0.5s,baz=225,slow=1.0,SNR=3.8
ZALV ScP **ScP 15 00 20.0 -4.7**
comp=Z,0.8nm,0.6s,baz=270,slow=4.3,SNR=2.3
ZALV Zalesovo Beam 33.81 40 P **P 14 54 01.2 -0.3**
DGZ Jazzator, Alta 33.92 48 *d* iP **P 14 54 05.0 +2.3**
DGZ pmax pmax
comp=Z,7.0nm,0.6s
BNI Bardonecchia 33.93 303 P **P 14 54 01.9 -1.0**
BNI pmax pmax
comp=Z,39nm,0.6s
BNI Bardonecchia 33.93 303 P **P 14 54 01.9 -1.0**
LPG La Plagne 33.94 304 *e*P **P 14 54 02.7 -0.4**
LPG pmax pmax
comp=Z,35nm,0.6s
LPL La Plagne 33.95 304 *e*P **P 14 54 02.7 -0.5**
LPL pmax pmax
comp=Z,30nm,0.6s
RAMN Ramite 34.07 89 *e*P **P 14 54 05.7 +1.3**
comp=Z,27nm,0.6s
ECH Echery 34.13 309 P **P 14 54 03.7 -0.7**
ECH pmax pmax
comp=Z,25nm,1.8s
ECH Echery 34.13 309 P **P 14 54 03.7 -0.7**
ECH IAmb IAmb 14 54 24.4
comp=Z,25nm,1.8s
HAU Haudompre 34.62 309 *e*P **P 14 54 08.3 -0.4**
HAU pmax pmax
comp=Z,10.0nm,1.1s
ODAN Odare 34.76 89 *e*P **P 14 54 11.6 +1.2**
TAPN Taplejung 34.88 88 *e*P **P 14 54 13.3 +1.9**
comp=Z,20nm,0.5s
KMBO Kilima Mbogo 35.03 198 LR LR 15 09 14.8
comp=Z,220nm,18.8s,baz=86,slow=38
VIVF Saint-Julien-I 35.33 303 *e*P **P 14 54 13.9 -0.9**
VIVF pmax pmax
comp=Z,9.0nm,0.8s
SSB Saint Sauveur 35.46 304 P **P 14 54 14.6 -1.4**
SSB pmax pmax
comp=Z,11nm,1.2s
SSB Saint Sauveur 35.46 304 P **P 14 54 14.6 -1.4**
APA Apatity 35.95 351 *j* iP **P 14 54 22.9 +3.1**
APA pmax pmax
comp=Z,8.0nm,0.8s

APA MLR MLR
comp=Z,300nm,12.0s
LVZ Lovozero 36.10 352 P **P 14 54 21.2 +0.1**
LVZ pmax pmax
comp=Z,82nm,1.6s
LVZ Lovozero 36.10 352 P **P 14 54 21.2 +0.1**
AVF Avril sur Loir 36.45 306 *e*P **P 14 54 23.4 -0.9**
AVF pmax pmax
comp=Z,20nm,1.0s
NC405 NORSAR Array S 36.80 332 P **P 14 54 26.6 -0.6**
NC405 IAmb IAmb 14 55 05.5
comp=Z,54nm,1.4s
NB201 NORSAR Array S 36.93 331 P **P 14 54 27.1 -1.2**
NB2 NORSAR Subarra 36.96 331 P **P 14 54 27.3 -1.3**
comp=Z,1.2nm,0.6s,baz=124,slow=8.6
NB2 NORSAR Subarra 36.96 331 P **P 14 54 27.3 -1.3**
comp=Z,1.2nm,0.6s,baz=124,slow=8.6
NOA NORSAR Array B 36.96 331 P **P 14 54 27.7 -0.9**
comp=Z,1.7nm,0.7s,baz=124,slow=8.4,SNR=8.9
NOA PcP **PcP 14 56 50.3 +0.8**
comp=Z,0.3nm,0.5s,baz=130,slow=1.6,SNR=1.5
NOA LR LR 15 11 21.5
comp=Z,123nm,18.5s,baz=110,slow=39
NC303 NORSAR Array S 37.00 332 P **P 14 54 28.0 -0.9**
LSA Lhasa 37.08 83 P **P 14 54 29.7 -0.8**
LSA pmax pmax
comp=Z,9.0nm,0.7s
LSA Lhasa 37.08 83 P **P 14 54 29.6 -0.8**
NBO00 NORSAR Array S 37.13 331 P **P 14 54 28.9 -1.2**
NBO00 IAmb IAmb 14 55 49.0
comp=Z,71nm,1.8s
CAF Calviac 37.18 303 *e*P **P 14 54 30.1 -0.6**
CAF pmax pmax
comp=Z,8.0nm,1.1s
NC204 NORSAR Array S 37.27 331 P **P 14 54 30.2 -1.1**
NC204 IAmb IAmb 14 55 50.0
comp=Z,66nm,1.7s
RJF Les Rejaudoux 37.59 303 *e*P **P 14 54 33.7 -0.4**
RJF pmax pmax
comp=Z,4.0nm,0.5s
NSS Namsos 38.73 336 *e*P **P 14 54 43.3 -0.1**
KEV Kevo 38.92 349 P **P 14 54 44.7 -0.3**
KEV pmax pmax
comp=Z,92nm,1.8s
KEV Kevo 38.92 349 P **P 14 54 44.6 -0.3**
KEV IAmb IAmb 14 54 49.8
comp=Z,92nm,1.8s
ARCES ARCESS Array B 38.98 348 P **P 14 54 45.1 -0.5**
comp=Z,5.6nm,0.4s,baz=153,slow=9.1,SNR=32
ARCES PcP **PcP 14 56 55.5 -0.1**
comp=Z,3.4nm,0.7s,baz=160,slow=3.9,SNR=4.2
ARE0 ARCESS Array S 38.98 348 P **P 14 54 45.4 -0.1**
ARE0 ARCESS Array S 38.98 348 *e*P **P 14 54 45.4 -0.1**
SHL Shillong 39.00 89 P **P 14 54 48.2 +1.8**
SNR=8.0
SHL Shillong 39.00 89 P **P 14 54 46.4 0.0**
SHL pmax pmax
comp=Z,39nm,1.2s
SHL Shillong 39.00 89 P **P 14 54 46.4 0.0**
SHL IAmb IAmb 14 54 53.7
comp=Z,38nm,1.2s
FLN La Foliniere 39.23 309 *e*P **P 14 54 46.7 -1.2**
FLN pmax pmax
comp=Z,12nm,0.7s
GRR Gorron 39.45 308 *e*P **P 14 54 49.2 -0.4**
GRR pmax pmax
comp=Z,57nm,1.5s
SJPF Ste Jean 39.53 300 *e*P **P 14 54 49.7 -0.7**
SJPF pmax pmax
comp=Z,4.0nm,0.5s
STOK Stokkvaagen 39.54 339 *e*P **P 14 54 50.6 +0.5**
KONS Konsvik 39.62 339 *e*P **P 14 54 50.2 -0.6**
STEI Steigen 40.00 342 *e*P **P 14 54 53.2 -0.8**
HAMF Hammerfest 40.26 348 *e*P **P 14 54 56.3 +0.2**
TRO Tromso 40.38 345 *e*P **P 14 54 56.1 -1.0**
SGMF Saint Gilles 40.57 308 *e*P **P 14 54 58.0 -0.9**
SGMF pmax pmax
comp=Z,37nm,1.4s
QUIF Quistinic 40.95 307 *e*P **P 14 55 00.8 -1.3**
QUIF pmax pmax
comp=Z,8.0nm,0.6s
ROSF Rostrenen 41.05 308 *e*P **P 14 55 01.9 -1.0**
ROSF pmax pmax
comp=Z,55nm,1.4s
ESBB Sonseca Array 41.84 295 P **P 14 55 09.3 -0.3**
ESDC Sonseca Array 41.84 295 P **P 14 55 09.2 -0.4**
comp=Z,2.5nm,0.5s,baz=76,slow=7.8,SNR=48
ESDC PcP **PcP 14 57 06.2 +0.8**
comp=Z,0.6nm,0.5s,baz=40,slow=3.6,SNR=7.8
ESDC Sonseca Array 41.84 295 P **P 14 55 09.2 -0.4**
GUD Guadarrama 41.88 296 P **P 14 55 10.1 +0.1**
GUD pmax pmax
comp=Z,18nm,1.2s
PAB San Pablo 42.15 295 P **P 14 55 11.9 -0.3**
PAB pmax pmax
comp=Z,56nm,2.0s
PAB San Pablo 42.15 295 P **P 14 55 11.9 -0.3**
PAB IAmb IAmb 14 55 18.2
comp=Z,56nm,2.0s
GTA Gaotai 42.17 66 ⇓P **P 14 55 14.5 +2.1**
GTA pP sP 14 55 20.1 +1.4
GTA sP pP 14 55 23.3 +6.4
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,38nm,5.4s
GTA LR LR
comp=Z,190nm,14.3s
GTA LR LR
comp=Z,220nm,16.5s
GTA LR LR
comp=Z,290nm,15.6s
MOY Mondy 42.74 47 *e*P **P 14 55 18.3 +1.4**
MOY pmax pmax
comp=Z,27nm,1.8s
NRIK Noril'sk 42.95 19 P **P 14 55 18.6 +0.5**
comp=Z,3.8nm,0.7s,baz=229,slow=7.8,SNR=8.7
NRIK LR LR 15 17 34.0
comp=Z,268nm,18.3s,baz=192,slow=42
NRIK Noril'sk 42.95 19 ⇓*e*P **P 14 55 19.6 +1.5**
NRIK pmax pmax
comp=Z,8.0nm,1.0s
DSB Dublin 43.41 315 P **P 14 55 22.1 -0.1**
PBRG Braganca 43.69 298 *e*P **P 14 55 24.9 +0.3**
comp=Z,23nm,1.5s
MVO Moncorvo 43.98 297 *e*P **P 14 55 28.1 +1.1**
comp=Z,16nm,1.3s
ZAK Zakamensk 44.11 49 *e*P **P 14 55 29.0 +1.1**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
TLY Talaya 44.39 47 *e*P **P 14 55 33.3 +3.2**
TLY pmax pmax
comp=Z,5.0nm,0.4s
TLY MLR MLR
comp=Z,507nm,17.0s
MTE Manteigas 44.47 296 *e*P **P 14 55 33.3 +2.4**
comp=Z,35nm,1.6s
PVRL Vila Real 44.48 298 *e*P **P 14 55 31.2 +0.3**
comp=Z,33nm,1.5s
PMRV Marv??o 44.50 295 *e*P **P 14 55 31.6 +0.5**
comp=Z,20nm,1.4s
PCBR Castelo Branco 44.50 296 *e*P **P 14 55 31.4 +0.3**
comp=Z,35nm,1.3s
PVIS Viseu 44.69 297 *e*P **P 14 55 33.5 +0.9**
comp=Z,27nm,1.7s
PGAV Gavieira, Arco 44.80 299 *e*P **P 14 55 34.5 +0.9**
comp=Z,48nm,1.7s
PBEJ Beja 45.10 293 *e*P **P 14 55 36.6 +0.7**
comp=Z,34nm,1.9s
PVAQ Vaqueiros 45.11 292 *e*P **P 14 55 32.1 -3.8**
comp=Z,36nm,1.8s
PVAQ Vaqueiros 45.11 292 P **P 14 55 36.0 +0.1**
EVO Evora 45.13 294 *e*P **P 14 55 35.3 -0.8**
comp=Z,24nm,1.6s
COI Coimbra 45.15 296 P **P 14 55 36.8 +0.6**
COI pmax pmax
comp=Z,32nm,0.7s
COI Coimbra 45.15 296 *e*P **P 14 55 37.3 +1.1**
comp=Z,46nm,0.8s
COI Coimbra 45.15 296 P **P 14 55 36.8 +0.6**
PCVE Castro Verde 45.31 293 *e*P **P 14 55 37.3 -0.3**
comp=Z,43nm,2.5s
PSBE So Bento 45.56 295 *e*P **P 14 55 40.5 +1.0**
comp=Z,41nm,2.0s
PNCL Nicolau / Gran 45.60 293 *e*P **P 14 55 40.5 +0.7**
comp=Z,30nm,1.5s

LZH	**Lanzhou**	**45.90**	**69**	*e*P		**P**		**14 55 45.0**	**+2.6**
LZH				pP		sP		14 55 48.8	0.0
LZH				sP		pP		14 55 51.4	+4.4
LZH				pmax		pmax			
	comp=Z,18nm,1.2s								
LZH				LR		LR			
	comp=Z,210nm,16.0s								
LZH				LR		LR			
	comp=Z,300nm,17.1s								
LZH				LR		LR			
	comp=Z,280nm,19.0s								
SONM	**Songino Array**	**46.18**	**53**	P		**P**		**14 55 45.6**	**+1.2**
	comp=Z,1.9nm,0.4s,baz=282,slow=9.6,SNR=16								
SONM				PcP		**PcP**		**14 57 20.5**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=248,slow=0.8,SNR=1.9								
SONM				LR		LR		15 17 55.1	
	comp=Z,144nm,18.5s,baz=270,slow=40								
SONM	**Songino Array**	**46.18**	**53**	P		**P**		**14 55 44.9**	**+0.4**
TOA0	**Torodi Ar. Sit**	**46.23**	**256**	P		**P**		**14 55 44.5**	**-0.6**
TOA0				IAmb		IAmb		14 57 21.9	
	comp=Z,37nm,2.0s								
TORD	**Torodi Ar. Bea**	**46.23**	**256**	P		**P**		**14 55 44.1**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=69,slow=6.6,SNR=28								
TORD				PcP		**PcP**		**14 57 20.8**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=57,slow=3.1,SNR=1.5								
TORD				LR		LR		15 17 57.3	
	comp=Z,166nm,18.6s,baz=45,slow=40								
TORD	**Torodi Ar. Bea**	**46.23**	**256**	P		**P**		**14 55 44.7**	**-0.3**
ULN	**Ulaanbaatar**	**46.62**	**53**	*ce*P		**P**		**14 55 49.1**	**+1.2**
ULN				pmax		pmax			
	comp=Z,15nm,0.8s								
ULN	**Ulaanbaatar**	**46.62**	**53**	P		**P**		**14 55 48.9**	**+1.0**
ULN				IAmb		IAmb		14 55 50.5	
	comp=Z,13nm,0.8s								
CD2	**Chengdu**	**47.18**	**76**	*e*P		**P**		**14 55 51.4**	**-1.0**
CD2				S		**S**		**15 02 44.4**	**-0.5**
CD2				LR		LR			
	comp=Z,240nm,15.2s								
CD2				LR		LR			
	comp=Z,260nm,14.7s								
SPA0	**Spitsbergen Ar**	**47.63**	**352**	P		**P**		**14 55 56.0**	**+0.8**
SPA0	**Spitsbergen Ar**	**47.63**	**352**	*e*P		**P**		**14 55 56.5**	**+1.4**
CHTO	**Chiang Mai**	**47.72**	**94**	P		**P**		**14 55 56.9**	**+0.2**
CHTO				pmax		pmax			
	comp=Z,12nm,1.2s								
CHTO	**Chiang Mai**	**47.72**	**94**	P		**P**		**14 55 56.9**	**+0.2**
CHTO				IAmb		IAmb		14 55 59.0	
	comp=Z,12nm,1.2s								
CMAR	**Chiang Mai Arr**	**47.88**	**94**	P		**P**		**14 55 58.1**	**+0.1**
	comp=Z,4.1nm,0.9s,baz=294,slow=8.0,SNR=16								
CMAR				PcP		**PcP**		**14 57 27.7**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=290,slow=5.0,SNR=3.2								
CMAR	**Chiang Mai Arr**	**47.88**	**94**	*i* P		**P**		**14 55 58.0**	**+0.1**
CMAR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**47.88**	**94**	P		**P**		**14 55 57.7**	**-0.3**
KMI	**Kunming**	**48.30**	**84**⇑	*e*P		**P**		**14 56 03.0**	**+1.7**
KMI				pP		pP		14 56 04.6	-1.3
KMI				sP		sP		14 56 09.5	+1.9
KMI				pmax		pmax			
	comp=Z,12nm,0.5s								
KMI				pmax		pmax			
	comp=Z,110nm,3.6s								
KMI				LR		LR			
	comp=Z,150nm,16.6s								
KMI				LR		LR			
	comp=Z,110nm,15.2s								
KMI				LR		LR			
	comp=Z,140nm,19.3s								
PBKT	**Sadao Pong**	**50.48**	**95**	P		**P**		**14 56 17.9**	**+0.2**
HHC	**Hu-ho-hao-te**	**50.79**	**61**	*e*P		**P**		**14 56 20.6**	**+0.5**
HHC				S		**S**		**15 03 32.8**	**-2.7**
HHC				pmax		pmax			
	comp=Z,21nm,0.8s								
HHC				pmax		pmax			
	comp=Z,110nm,5.2s								
HHC				LR		LR			
	comp=Z,170nm,16.2s								
HHC				LR		LR			
	comp=Z,210nm,14.5s								
HHC				LR		LR			
	comp=Z,210nm,16.2s								
SLVN	**Son La**	**50.80**	**88**	P		**P**		**14 56 21.5**	**+1.2**
GYA	**Guiyang**	**51.08**	**81**	⇑P		**P**		**14 56 22.9**	**+0.5**
GYA				S		**S**		**15 03 45.0**	**+5.1**
GYA				pmax		pmax			
	comp=Z,17nm,0.6s								
GYA				LR		LR			
	comp=Z,110nm,14.7s								
GYA				LR		LR			
	comp=Z,150nm,13.5s								
GYA				LR		LR			
	comp=Z,130nm,16.7s								
ENH	**Enshi**	**52.07**	**75**	P		**P**		**14 56 30.1**	**+0.4**
ENH				IAmb		IAmb		14 56 43.1	
	comp=Z,11nm,0.9s								
DAG	**Danmarks Havn**	**53.10**	**345**	*i* P		**P**		**14 56 36.6**	**0.0**
	comp=Z,3.9nm,0.6s								
DAG	**Danmarks Havn**	**53.10**	**345**	*i* P		**P**		**14 56 36.6**	**0.0**
DAG				pmax		pmax			
	comp=Z,4.0nm,0.6s								
HIA	**Hailar**	**54.80**	**50**	P		**P**		**14 56 49.8**	**+0.3**
HIA				pmax		pmax			
	comp=Z,12nm,0.7s								
HIA	**Hailar**	**54.80**	**50**	P		**P**		**14 56 49.8**	**+0.3**
HIA				IAmb		IAmb		14 56 51.8	
	comp=Z,12nm,0.7s								
DBIC	**Dimbokro**	**55.18**	**254**	P		**P**		**14 56 51.8**	**-0.8**
	comp=Z,3.1nm,0.5s,baz=23,slow=8.6,SNR=11								
DBIC				LR		LR		15 22 40.6	
	comp=Z,150nm,18.2s,baz=30,slow=38								
DBIC	**Dimbokro**	**55.18**	**254**	P		**P**		**14 56 51.5**	**-1.1**
DBIC				pmax		pmax			
	comp=Z,36nm,1.5s								
DBIC	**Dimbokro**	**55.18**	**254**	P		**P**		**14 56 51.5**	**-1.1**
DBIC				IAmb		IAmb		14 58 33.1	
	comp=Z,36nm,1.5s								
KIC	**Kosan Boka**	**55.26**	**254**	*e*P		**P**		**14 56 52.9**	**-0.3**
	comp=Z,12nm,0.7s								
TIC	**Toumodi**	**55.33**	**254**	*e*P		**P**		**14 56 52.8**	**-0.9**
LIC	**Lamto**	**55.57**	**254**	*e*P		**P**		**14 56 55.1**	**-0.3**
	comp=Z,26nm,0.7s								
GSI	**Gunungsitoli**	**56.22**	**113**	P		**P**		**14 57 01.0**	**+1.0**
KULM	**Kulim**	**56.24**	**107**	P		**P**		**14 56 59.8**	**-0.4**
KULM				IAmb		IAmb		14 57 04.0	
	comp=Z,15nm,0.6s								
PSI	**Prapat**	**56.35**	**111**	P		**P**		**14 57 01.6**	**+0.4**
	comp=Z,6.7nm,0.5s,baz=0.1,slow=8.1,SNR=7.1								
RPSI	**Rantau Prapat**	**56.41**	**111**	P		**P**		**14 57 01.0**	**-0.4**
RPSI				IAmb		IAmb		14 57 04.8	
	comp=Z,8.3nm,0.5s								
RPSI	**Rantau Prapat**	**56.41**	**111**	P		**P**		**14 57 01.6**	**+0.1**
IPM	**Ipoh**	**57.02**	**108**	P		**P**		**14 57 04.6**	**-1.1**
YAK	**Yakutsk**	**58.04**	**33**	P		**P**		**14 57 12.8**	**+0.5**
	comp=Z,2.2nm,0.3s,baz=66,slow=2.3,SNR=6.4								
YAK	**Yakutsk**	**58.04**	**33**	*e*P		**P**		**14 57 12.1**	**-0.2**
YAK				*e**PP		**pP**		**14 57 16.3**	**-0.6**
YAK				*e*				14 58 02.4	
YAK				*e*				14 59 24.8	
YAK				*e*S		**S**		**15 05 14.6**	**+2.3**
YAK				*e**SS		**sS**		**15 05 20.8**	**+0.9**
YAK				*e*				15 07 03.2	
YAK				*e*SS		**SS**		**15 09 01.2**	**-1.8**
YAK				pmax		pmax			
	comp=Z,8.0nm,1.3s								
YAK				pmax		pmax			
	comp=E,4.0nm,1.3s								
YAK				pmax		pmax			
	comp=N,3.0nm,1.3s								
YAK				pmax		pmax			
	comp=Z,30nm,3.3s								
YAK				pmax		pmax			
	comp=N,27nm,2.9s								
YAK				smax		smax			
	comp=E,31nm,3.6s								
YAK				smax		smax			
	comp=N,20nm,2.3s								
YAK	**Yakutsk**	**58.04**	**33**	P		**P**		**14 57 11.4**	**-0.9**
YAK				IAmb		IAmb		14 57 41.0	
	comp=Z,11nm,0.6s								
SUMG	**Summit**	**58.07**	**339**	*i* P		**P**		**14 57 13.0**	**+0.2**
	comp=Z,22nm,1.0s								
SUMG	**Summit**	**58.07**	**339**	*i* P		**P**		**14 57 13.0**	**+0.2**
SUMG				pmax		pmax			
	comp=Z,22nm,1.0s								
SUMG	**Summit**	**58.07**	**339**	P		**P**		**14 57 12.2**	**-0.6**
	comp=Z,39nm,1.7s								
ZEA	**Zeya**	**58.46**	**43**	*e*P		**P**		**14 57 17.0**	**+1.7**
ZEA				pmax		pmax			
	comp=Z,18nm,0.8s								
NJ2	**Nanjing**	**58.98**	**70**	*e*P		**P**		**14 57 19.0**	**-0.3**
NJ2				pmax		pmax			
	comp=Z,6.0nm,0.5s								
DLV	**T Lat**	**59.09**	**96**	P		**P**		**14 57 19.8**	**-0.6**
CN2	**Changchun**	**59.98**	**55**	*e*P		**P**		**14 57 25.5**	**-0.5**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.9s								
CN2				pmax		pmax			
	comp=Z,100nm,3.4s								
CN2				LR		LR			
	comp=Z,130nm,14.0s								
CN2				LR		LR			
	comp=Z,200nm,14.0s								
CN2				LR		LR			
	comp=Z,210nm,15.0s								
MYKOM	**Kota Tinggi**	**60.87**	**108**	P		**P**		**14 57 32.8**	**+0.3**
MYKOM				IAmb		IAmb		14 57 43.3	
	comp=Z,17nm,1.2s								
LBTB	**Lobatse**	**61.11**	**203**	P		**P**		**14 57 33.5**	**-0.4**
LBTB				pmax		pmax			
	comp=Z,41nm,1.9s								
LBTB	**Lobatse**	**61.11**	**203**	P		**P**		**14 57 33.5**	**-0.4**
LBTB				IAmb		IAmb		14 57 42.9	
	comp=Z,41nm,1.9s								
KLR	**Kul'dur**	**62.41**	**47**	P		**P**		**14 57 42.1**	**-0.3**
	comp=Z,4.6nm,0.5s,baz=289,slow=7.5,SNR=20								
KLR	**Kul'dur**	**62.41**	**47**	*ce*P		**P**		**14 57 42.5**	**+0.1**
KLR				pmax		pmax			
	comp=Z,6.0nm,0.8s								
NRS	**Narsarsuaq**	**63.44**	**327**	P		**P**		**14 57 48.9**	**-0.1**
NRS				pmax		pmax			
	comp=Z,31nm,0.6s								
NRS	**Narsarsuaq**	**63.44**	**327**	P		**P**		**14 57 48.9**	**-0.1**
KS19	**Wonju Array Si**	**63.87**	**61**	P		**P**		**14 57 52.0**	**-0.3**
KSAR	**Wonju Array Be**	**63.90**	**61**	P		**P**		**14 57 52.1**	**-0.4**
KSAR	**Wonju Array Be**	**63.90**	**61**	P		**P**		**14 57 52.1**	**-0.4**
KSRS	**Korea Array**	**63.92**	**61**	P		**P**		**14 57 52.0**	**-0.7**
	comp=Z,2.6nm,0.5s,baz=284,slow=6.7,SNR=15								
KSRS				LR		LR		15 28 49.7	
	comp=Z,100nm,21.9s,baz=291,slow=39								
KSRS	**Korea Array**	**63.92**	**61**	P		**P**		**14 57 52.0**	**-0.7**
TPUB	**Ta-pu**	**63.94**	**78**	P		**P**		**14 57 52.5**	**-0.5**
YHNB	**Yeheng**	**63.96**	**76**	P		**P**		**14 57 52.2**	**-1.0**
YHNB				IAmb		IAmb		14 58 02.9	
	comp=Z,19nm,1.0s								
USA0B	**Ussuriysk Arra**	**64.29**	**53**	P		**P**		**14 57 54.1**	**-0.8**
USA0B				pmax		pmax			
	comp=Z,5.0nm,0.7s								
USA0B	**Ussuriysk Arra**	**64.29**	**53**	P		**P**		**14 57 54.1**	**-0.8**
USA0B				IAmb		IAmb		14 57 59.0	
	comp=Z,5.1nm,0.7s								
USRK	**Ussuriysk Ar.**	**64.29**	**53**	P		**P**		**14 57 54.5**	**-0.4**
	comp=Z,4.2nm,0.6s,baz=295,slow=5.9,SNR=10								
USRK				LR		LR		15 28 53.9	
	comp=Z,131nm,19.6s,baz=290,slow=39								
USRK	**Ussuriysk Ar.**	**64.29**	**53**	P		**P**		**14 57 54.2**	**-0.8**
USRK	**Ussuriysk Ar.**	**64.29**	**53**	P		**P**		**14 57 54.2**	**-0.8**
BOSA	**Boshof**	**64.56**	**202**	P		**P**		**14 57 57.0**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=34,slow=4.1,SNR=8.9								
BOSA				LR		LR		15 27 22.5	
	comp=Z,137nm,20.4s,baz=29,slow=37								
BOSA	**Boshof**	**64.56**	**202**	P		**P**		**14 57 57.5**	**+0.6**
EUNU	**Eureka**	**64.75**	**352**	P		**P**		**14 57 57.9**	**+0.4**
KSM	**Kuching**	**66.29**	**104**	P		**P**		**14 58 09.3**	**+0.9**
KSM				IAmb		IAmb		15 00 21.5	
	comp=Z,19nm,1.3s								
SBUM	**Sibu**	**67.31**	**102**	P		**P**		**14 58 15.9**	**+1.1**
MA2	**Magadan**	**68.57**	**32**	P		**P**		**14 58 22.7**	**+0.6**
MA2				pmax		pmax			
	comp=Z,56nm,1.7s								
MA2	**Magadan**	**68.57**	**32**	P		**P**		**14 58 22.7**	**+0.6**
KKM	**Kota Kinabalu**	**68.66**	**97**	P		**P**		**14 58 23.7**	**+0.2**
SUR	**Sutherland**	**69.50**	**204**	P		**P**		**14 58 29.2**	**+0.9**
CISI	**Cisompet, Garu**	**69.70**	**114**	P		**P**		**14 58 29.1**	**-0.6**
YSS	**Yuzh-Sakhalins**	**70.09**	**47**⇓	*e*P		**P**		**14 58 31.0**	**-0.7**
YSS				pmax		pmax			
	comp=Z,20nm,1.0s								
YSS	**Yuzh-Sakhalins**	**70.09**	**47**	P		**P**		**14 58 30.9**	**-0.7**
YSS				IAmb		IAmb		14 58 33.8	
	comp=Z,18nm,1.0s								
ASAJ	**Asahikawa**	**71.28**	**49**	P		**P**		**14 58 38.8**	**-0.2**
	comp=Z,2.7nm,0.4s,baz=343,slow=10,SNR=11								
JKA	**Kamikawa-asahi**	**71.28**	**49**	P		**P**		**14 58 38.8**	**-0.2**
MJAR	**Matsushiro Arr**	**71.78**	**58**	P		**P**		**14 58 42.1**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=273,slow=11,SNR=4.2								
MJAR				LR		LR		15 32 44.6	
	comp=Z,59nm,18.2s,baz=275,slow=38								
MJAR	**Matsushiro Arr**	**71.78**	**58**	IAmb		IAmb		14 58 43.9	
	comp=Z,1.4nm,1.2s								
ERM	**Erimo**	**72.62**	**51**	P		**P**		**14 58 45.5**	**-1.6**
ERM				pmax		pmax			
	comp=Z,30nm,1.4s								
ERM	**Erimo**	**72.62**	**51**	P		**P**		**14 58 45.5**	**-1.6**
ERM				IAmb		IAmb		14 59 44.2	
	comp=Z,30nm,1.4s								
DRLN	**Deer Lake**	**74.91**	**319**	P		**P**		**14 58 59.6**	**-0.8**
PETK	**Petropavlovsk-**	**75.24**	**36**	LR		LR		15 35 39.1	
	comp=Z,58nm,19.4s,baz=246,slow=38								
PETK	**Petropavlovsk-**	**75.24**	**36**	P		**P**		**14 59 01.0**	**-1.2**
PETK	**Petropavlovsk-**	**75.24**	**36**	P		**P**		**14 59 01.0**	**-1.2**
SCHQ	**Schefferville**	**76.41**	**327**	P		**P**		**14 59 07.1**	**-1.8**
	comp=Z,5.3nm,1.0s,baz=97,slow=7.4,SNR=3.1								
SCHQ				LR		LR		15 34 47.6	
	comp=Z,39nm,18.4s,baz=69,slow=37								
SCHQ	**Schefferville**	**76.41**	**327**	P		**P**		**14 59 06.9**	**-2.0**
SCHQ				IAmb		IAmb		15 01 57.8	
	comp=Z,26nm,1.6s								
GBN	**Guysborough**	**79.33**	**317**	P		**P**		**14 59 25.4**	**+0.1**
INK	**Inuvik**	**79.34**	**0**	P		**P**		**14 59 24.9**	**0.0**
	comp=Z,2.1nm,0.8s,baz=334,slow=4.7,SNR=4.3								
INK	**Inuvik**	**79.34**	**0**	P		**P**		**14 59 24.6**	**-0.3**
INK				pmax		pmax			
	comp=Z,12nm,1.4s								
INK	**Inuvik**	**79.34**	**0**	P		**P**		**14 59 24.6**	**-0.3**
COLD	**Coldfoot**	**79.50**	**7**	P		**P**		**14 59 26.2**	**+0.4**
COLD				IAmb		IAmb		14 59 47.6	
	comp=Z,20nm,1.9s								
IMAR	**Indian Mountai**	**80.29**	**9**	P		**P**		**14 59 29.5**	**-0.7**
ILAR	**Eielson Array**	**82.22**	**6**	P		**P**		**14 59 40.0**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=326,slow=3.3,SNR=8.1								
ILAR				PP		**PP**		**15 02 52.5**	**+4.5**
	comp=Z,1.0nm,1.1s,baz=346,slow=7.2,SNR=5.1								
ILAR				LR		LR		15 39 57.7	
	comp=Z,39nm,20.9s,baz=18,slow=38								
ILAR	**Eielson Array**	**82.22**	**6**	P		**P**		**14 59 40.0**	**-0.5**
YKA	**Yellowknife Ar**	**84.12**	**352**	P		**P**		**14 59 49.1**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=4.4,slow=5.5,SNR=1.7								
YKA				LR		LR		15 39 47.5	
	comp=Z,54nm,18.5s,baz=0.0,slow=37								
BCAR	**Beaver Creek A**	**84.31**	**4**	P		**P**		**14 59 51.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**89.87**	**112**	LR		LR		15 44 17.5	
	comp=Z,38nm,21.9s,baz=200,slow=38								
ULM	**Lac du Bonnet**	**91.39**	**338**	LR		LR		15 42 15.6	
	comp=Z,35nm,18.2s,baz=350,slow=36								
WRA	**Warramunga Arr**	**97.76**	**109**	P		**P**		**15 00 54.9**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=315,slow=4.1,SNR=11								
WRA				PKKPbc		**PKKPbc**		**15 17 30.6**	**+0.9**
	comp=Z,0.6nm,1.0s,baz=124,slow=2.9,SNR=6.6								
WRA	**Warramunga Arr**	**97.76**	**109**	*i* P		Pdif		15 00 58.0	+2.8
ASAR	**Alice Springs**	**99.36**	**112**	P		**Pdif**		**15 01 01.3**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=305,slow=4.4,SNR=12								

*BJI **17** 14:48:01.9±0.0,28.°10N×103.°52E, h10km, mb3.6/1, ML3.7/21*
*IDC **17** 14:48:02.0±2.1,27.°98N×103.°95E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/58, mbtmp3.5/5, MS2.6/1, Ms1 2.8/1, ms1mx2.4/27, Error ellipse: s-maj=54.7km s-min=25.4km az=106.0*

ISC 17 14:48:03.6±0.8, 28.°27N±0.°04×103.°66E±0.°07, h10km, n10, σ1.°75/19, mb3.7/3, 1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.63**	**2**	Pn	**Pn**	**14 48 46.0**	**-0.2**
CD2				Pg	**Pg**	**14 48 53.3**	**-0.8**
CD2				Sn	**Sn**	**14 49 19.5**	**+1.2**
CD2				Sg	**Sg**	**14 49 29.0**	**+0.8**
CD2				smax	smax		
	comp=N,670nm,0.8s						
CD2				smax	smax		
	comp=E,1μm,0.9s						
GYA	**Guiyang**	**3.23**	**123**	Pn	**Pn**	**14 48 54.5**	**0.0**
GYA				Pg	**Pb**	**14 49 02.4**	**+1.3**
GYA				Sn	**Sn**	**14 49 33.4**	**+0.4**
GYA				Sg	**Sg**	**14 49 47.4**	**+0.1**
GYA				smax	smax		
	comp=N,170nm,0.9s						
GYA				smax	smax		
	comp=E,120nm,1.2s						
KMI	**Kunming**	**3.24**	**195**⇓	*i* Pg	**Pn**	**14 48 57.8**	**+3.1**
KMI				Sg	**Sb**	**14 49 41.8**	**+0.8**
KMI				smax	smax		
	comp=N,56nm,0.8s						
KMI				smax	smax		
	comp=E,64nm,0.9s						
XAN	**Xi'an**	**7.31**	**37**	Pn	**Pn**	**14 49 53.1**	**+2.6**
XAN				Sn	**Sn**	**14 51 15.3**	**+1.7**
XAN				Sg	**Sg**	**14 51 56.3**	**-1.9**
XAN				smax	smax		
	comp=N,94nm,1.0s						
XAN				smax	smax		
	comp=E,110nm,1.0s						
CMAR	**Chiang Mai Arr**	**10.68**	**205**	Pn	**Pn**	**14 50 36.0**	**-0.7**
	baz=11,slow=12,SNR=7.2						
CMAR				LR	LR	14 54 52.7	
	comp=Z,32nm,18.8s,baz=40,slow=39						
SONM	**Songino Array**	**19.65**	**5**	P	**Pn**	**14 52 34.9**	**+0.9**
	baz=186,slow=13,SNR=1.7						
WMQ	**Urumqi**	**20.13**	**325**	*e*P	**P**	**14 52 37.5**	**-0.3**
KSRS	**Korea Array**	**22.30**	**60**	P	**P**	**14 53 00.6**	**-0.6**
	2.2nm,0.5s,baz=247,slow=9.5,SNR=17						
WRA	**Warramunga Arr**	**56.37**	**145**	P	**P**	**14 57 41.7**	**-3.5**
	0.4nm,0.5s,baz=332,slow=8.6,SNR=15						
ASAR	**Alice Springs**	**59.30**	**148**	P	**P**	**14 58 03.2**	**-2.6**
	0.3nm,0.4s,baz=325,slow=6.5,SNR=12						

*ISK **17** 14:49:51.7, 39.°34N×25.°45E, h8km, ML2.6/13*
*ATH **17** 14:49:52.5, 39.°33N×25.°48E, h30km±1km, ML2.5/4, Error ellipse: s-maj=1.7km s-min=1.0km az=59.0*
*DDA **17** 14:49:53.6, 39.°36N×25.°60E, h7km±2km, ML2.3*
*THE **17** 14:49:53.8, 39.°36N×25.°53E, h20km±1km, ML2.4/4, Error ellipse: s-maj=2.0km s-min=0.6km az=51.0*

ISC 17 14:49:53.5±1.1, 39.°36N±0.°02×25.°50E±0.°02, h23km±12km, n40, σ0.°81/64, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFSA	**Agios Efstrati**	**0.44**	**295**	P	**Pb**	**14 50 02.5**	**-0.1**
EFSA				S	**Sb**	**14 50 09.2**	**+0.4**
LIA	**Limnos Island**	**0.59**	**335**	P	**Pb**	**14 50 05.0**	**-0.3**
LIA				S	**Sb**	**14 50 14.5**	**+1.3**
	350nm,0.3s						
LIA	**Limnos Island**	**0.59**	**335**	P	**Pb**	**14 50 05.2**	**0.0**
LIA				S	**Sb**	**14 50 13.5**	**+0.3**
LIA				AML	AML	14 50 17.6	
	comp=N,760μm,0.3s						
LIA				AML	AML	14 50 17.7	
	comp=E,646μm,0.3s						
PRK	**Paraskevi**	**0.61**	**100**	P	**Pb**	**14 50 05.5**	**0.0**
PRK				S	**Sb**	**14 50 13.9**	**+0.3**
	comp=E,948nm,0.4s						
PRK	**Paraskevi**	**0.61**	**100**	P	**Pb**	**14 50 05.5**	**0.0**
PRK				S	**Sb**	**14 50 13.9**	**+0.3**
PRK				AML	AML	14 50 14.1	
	comp=E,1113μm,0.4s						
PRK				AML	AML	14 50 14.4	
	comp=N,1414μm,0.4s						
BOZC	**Bozcaada**	**0.64**	**41**	PG	**Pb**	**14 50 05.3**	**-0.8**
BOZC				SG	**Sb**	**14 50 15.2**	**+0.5**
BOZC	**Bozcaada**	**0.64**	**41**	*i* P	**Pb**	**14 50 04.1**	**-2.0**
BOZC				*i* P	**Pn**	**14 50 05.0**	**-2.2**
BOZC				IAML		14 50 10.0	
	comp=E,587nm,2.0s						
BOZC				*i* S	**Sb**	**14 50 13.9**	**-0.8**
BOZC				*i* S	**Sn**	**14 50 14.2**	**-2.5**
BOZC				IAML		14 50 17.0	
	comp=E,172nm,0.3s						
EZN	**Ezine**	**0.79**	**53**	P	**Pb**	**14 50 07.7**	**-0.8**
EZN				S	**Sb**	**14 50 19.4**	**+0.6**
	comp=E,195nm,0.3s						
EZN	**Ezine**	**0.79**	**53**	PG	**Pb**	**14 50 07.6**	**-0.9**
EZN				SG	**Sn**	**14 50 20.2**	**0.0**
PSRA	**Psara**	**0.82**	**177**	P	**Pb**	**14 50 08.1**	**-0.9**
PSRA				S	**Sb**	**14 50 19.3**	**-0.3**
PSRA				AML	AML	14 50 21.4	
	comp=N,969μm,0.2s						
PSRA				AML	AML	14 50 21.7	
	comp=E,1038μm,0.2s						
SKY	**Skiros Island**	**0.88**	**237**	P	**Pb**	**14 50 09.9**	**-0.3**
GADA	**Gvkgeada**	**0.89**	**20**	P	**Pb**	**14 50 09.6**	**-0.6**
GADA				S	**Sn**	**14 50 22.5**	**-0.2**
GADA	**Gvkgeada**	**0.89**	**20**	PG	**Pb**	**14 50 09.8**	**-0.4**
GADA				SG	**Sn**	**14 50 22.9**	**+0.2**
GOKA	**anakkale-Gk**	**0.89**	**20**	*i* P	**Pb**	**14 50 09.9**	**-0.4**
GOKA				IAML		14 50 19.0	
	comp=N,168nm,0.8s						
GOKA				*i* S	**Sn**	**14 50 22.6**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.89**	**64**	*i* P	**Pb**	**14 50 09.3**	**-1.0**
BAYC				*i* S	**Sb**	**14 50 20.8**	**-1.1**
BAYC				IAML		14 50 24.0	
	comp=E,84nm,0.2s						
BAYC				IAML		14 50 24.0	
	comp=N,108nm,0.2s						
AYVA	**Ayvalik**	**0.92**	**93**	*i* P	**Pb**	**14 50 09.7**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIY	**Rijeka**	**0.27**	**312**	*e*Pg	**Pg**	**15 04 55.4**	**-0.1**
RIY				Sg	**Sg**	**15 04 59.7**	**+0.6**
GBRS	**Gornja Briga**	**0.39**	**4**	*i* Pg	**Pg**	**15 04 57.3**	**-0.3**
GBRS				*i* Sg	**Sg**	**15 05 03.5**	**+0.7**
KNDS	**Knezji Dol**	**0.47**	**325**	*e*Sg	**Sb**	**15 05 07.4**	**-0.1**
	comp=Z,5.0nm,0.2s						
BOJS	**Bojanci**	**0.49**	**43**	*i* Pg	**Pg**	**15 04 59.0**	**-0.6**
BOJS				*i* Sg	**Sg**	**15 05 06.3**	**+0.2**
NVLJ	**Novalja**	**0.58**	**173**	*e*Pg	**Pg**	**15 04 59.9**	**-1.3**
NVLJ				Sg	**Sg**	**15 05 09.1**	**+0.2**
CEY	**Cerknica**	**0.64**	**338**	*i* Pg	**Pg**	**15 05 02.4**	**0.0**
CEY				*e*Sg	**Sb**	**15 05 12.8**	**+0.4**
VISS	**Visnje**	**0.66**	**4**	*i* Pg	**Pg**	**15 05 02.0**	**-0.7**
VISS				*i* Sg	**Sb**	**15 05 12.0**	**-0.9**
UDBI	**Udbina**	**0.94**	**131**	Sg	**Sg**	**15 05 19.9**	**-0.3**
DUGI	**Dugi Otok**	**1.17**	**170**	Sg	**Sg**	**15 05 27.8**	**+0.2**
MORI	**Morici**	**1.44**	**152**	*e*Pn	**Pn**	**15 05 15.7**	**-0.4**
MORI				Sn	**Sg**	**15 05 37.6**	**+1.3**
MOSL	**Moslavina**	**1.48**	**71**	*e*Pg	**Pg**	**15 05 18.6**	**+0.4**
MOSL				Sg	**Sg**	**15 05 37.2**	**-0.2**
ZIRJ	**Zirje**	**1.61**	**157**	Sn	**Sb**	**15 05 41.7**	**+1.5**
KIJV	**Kijevo**	**1.63**	**134**	*e*Pn	**Pn**	**15 05 18.6**	**-0.1**
KIJV				Sg	**Sg**	**15 05 43.2**	**+0.9**

IDC 17 15:20:26.5±8.5, 32°29S×179°36W, h132km±76km, mb3.1/2, mb1 3.3/3, mb1mx3.1/22, mbtmp3.6/3, Error ellipse: s-maj=70.9km s-min=49.7km az=6.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.62**	**205**	P	Pn	15 22 01.7	+0.5
	1.1nm,0.3s,baz=314,slow=16,SNR=18						
URZ				S	Sn	15 23 15.2	-0.1
	1.0nm,0.3s,baz=110,slow=18,SNR=1.5						
ASAR	**Alice Springs**	**41.89**	**270**	P	P	15 28 04.0	0.0
	0.4nm,0.7s,baz=109,slow=7.7,SNR=8.4						
ASAR				PcP	PcP	15 29 56.5	-0.8
	0.3nm,1.0s,baz=111,slow=5.1,SNR=2.1						
WRA	**Warramunga Arr**	**43.05**	**275**	P	P	15 28 13.3	-0.1
	0.5nm,0.4s,baz=113,slow=7.7,SNR=9.3						
FINES	**FINESS Array B**	**146.49**	**338**	PKPbc	PKPbc	15 39 50.8	-0.7
	0.8nm,0.5s,baz=35,slow=3.4,SNR=8.9						

NEIC 17 15:32:29.4±2.0, 4°.09S±0°.09×142°.08E±0°.05, h110km±8km, mb4.2/12, Error ellipse: s-maj=14.1km s-min=4.8km az=206.0
DJA 17 15:32:29.9±1.8, 4°.5S±6°×14°.2E±°, h27km±19km, M4.0/5, mb4.4/1, MLv3.9/5
IDC 17 15:32:30.4±1.8, 4°.03S×141°.95E, h109km±16km, mb3.3/3, mb1 3.7/6, mb1mx3.3/28, mbtmp4.0/6, Error ellipse: s-maj=29.7km s-min=15.6km az=67.0
ISC 17 15:32:29.4±0.7, 4°.09S±0°.07×142°.05E±0°.08, h109km, n29, σ1s12/34, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.06**	**319**	P	**Pn**	**15 33 03.4**	**+0.3**
	21nm,0.3s,baz=151,slow=11,SNR=264						
JAY				S	**Sn**	**15 33 27.9**	**-1.0**
	12nm,0.3s,baz=96,slow=21,SNR=9.9						
JAY	**Jayapura**	**2.06**	**319**	P	**Pn**	**15 33 03.4**	**+0.3**
JAY				S	**Sn**	**15 33 29.3**	**+0.4**
GENI	**Genyem**	**2.39**	**308**	P	**Pn**	**15 33 39.1**	**+0.6**
GENI				S	**Sn**	**15 33 36.3**	**-1.3**
SMPI	**Sarmi**	**3.93**	**302**	P	**Pn**	**15 33 28.6**	**+0.8**
SMPI				S	**Sn**	**15 34 13.9**	**+0.8**
PMG	**Port Moresby**	**7.33**	**136**	P	**Pn**	**15 34 16.7**	**+3.0**
	1.8nm,0.3s,baz=286,slow=2.4,SNR=10						
PMG				S	**Sn**	**15 35 33.2**	**-2.2**
	0.3nm,0.3s,baz=311,slow=20,SNR=1.9						
PMG	**Port Moresby**	**7.33**	**136**		**Pn**	**15 34 15.7**	**+1.9**
FAKI	**Fak Fak**	**9.85**	**276**	Pn	**Pn**	**15 34 47.3**	**-0.7**
COEN	**Coen**	**9.87**	**174**	Pn	**Pn**	**15 34 48.6**	**+0.2**
MTN	**Manton Dam**	**13.86**	**230**	Pn	**Pn**	**15 35 40.5**	**-0.8**
CTAO	**Charters Tower**	**16.43**	**166**	Pn	**Pn**	**15 36 12.3**	**-1.2**
CTAO				IAmb	IAmb	15 36 52.2	
	comp=Z,34nm,1.9s						
WB0	**Warramunga Arr**	**17.29**	**205**	P	**P**	**15 36 22.9**	**-1.0**
WB0				IAmb	IAmb	15 37 07.8	
	comp=Z,26nm,1.8s						
WR0	**Warramunga Arr**	**17.39**	**204**	P	**P**	**15 36 24.2**	**-0.8**
WR0				IAmb	IAmb	15 36 31.4	
	comp=Z,35nm,2.0s						
KNRA	**Kununurra**	**17.42**	**228**	P	**P**	**15 36 25.5**	**+0.2**
WRAB	**Tennant Creek**	**17.45**	**205**	P	**P**	**15 36 26.3**	**+0.6**
WB2	**Warramunga Arr**	**17.46**	**205**	P	**P**	**15 36 25.9**	**+0.1**
WB2				IAmb	IAmb	15 36 44.0	
	comp=Z,30nm,1.9s						
WRA	**Warramunga Arr**	**17.46**	**205**	P	**P**	**15 36 25.5**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=23,slow=12,SNR=37						
WRA	**Warramunga Arr**	**17.46**	**205**	P	**P**	**15 36 25.2**	**-0.6**
SOEI	**Soe**	**18.53**	**251**	Pn	**Pn**	**15 36 39.0**	**-0.1**
BATI	**Baumata**	**19.23**	**251**	P	**P**	**15 36 46.4**	**+1.2**
	comp=Z,2.6nm,0.3s,baz=76,slow=2.9,SNR=3.1						
ANA2	**Anatahan**	**20.61**	**10**	P	**P**	**15 36 57.3**	**-2.9**
AS31	**Alice Springs**	**21.00**	**201**	P	**P**	**15 37 04.6**	**+0.4**
ASAR	**Alice Springs**	**21.00**	**201**	P	**P**	**15 37 05.1**	**+0.9**
	comp=Z,3.0nm,0.8s,baz=37,slow=12,SNR=28						
ASAR	**Alice Springs**	**21.00**	**201**	P	**P**	**15 37 04.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**21.26**	**228**	P	**P**	**15 37 08.4**	**+1.4**
	comp=Z,4.2nm,0.6s,baz=49,slow=8.7,SNR=19						
MORW	**Morawa**	**35.02**	**222**	P	**P**	**15 39 11.6**	**-0.1**
BKZ	**Black Stump Fm**	**46.84**	**143**	P	**P**	**15 40 48.7**	**+0.2**
MKAR	**Makanchi Array**	**72.92**	**322**	P	**P**	**15 43 47.5**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=121,slow=6.9,SNR=3.1						
LPAZ	**La Paz**	**143.94**	**125**	PKP	**PKPdf**	**15 51 53.4**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=258,slow=4.9,SNR=5.0						
DBIC	**Dimbokro**	**146.96**	**276**	PKPbc	**PKPbc**	**15 52 00.3**	**-0.1**
	comp=Z,6.0nm,1.1s,baz=90,slow=4.0,SNR=3.6						

TEH 17 15:35:12.8, 32°.76N×47°.70E, h12km, ML3.2
THR 17 15:35:13.9±0.4, 32°.78N×47°.69E, h18km±6km, ML3.0
ISN 17 15:35:13.6±0.8, 32°.78N×47°.71E, h14km±5km, ML3.0
ISC 17 15:35:12.7±1.2, 32°.75N±0°.03×47°.68E±0°.03, h6km±11km, n33, σ1s43/41, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.79**	**10**	*e*Pg	**Pg**	**15 35 27.4**	**-0.4**
IKMR	**Kamar-syah**	**0.97**	**37**	*e*Pg	**Pg**	**15 35 30.6**	**-0.6**
IKMR				*e*	**Sn**	**15 35 49.1**	**+2.3**
IDOB	**Doab**	**1.12**	**22**	*e*Pg	**Pb**	**15 35 33.9**	**-0.6**
SHGR	**Shooshtar-Gavs**	**1.15**	**124**	*e*Pg	**Pg**	**15 35 35.5**	**+0.9**
SHGR				*e*Sg	**Sn**	**15 35 50.9**	**-0.3**
SHGR				IAML		15 35 57.0	
	comp=E,322nm,0.6s						
SHGR				IAML		15 36 01.3	
	comp=N,239nm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.15**	**124**	*e*Pg	**Pg**	**15 35 35.5**	**+0.9**
BMDN	**Meydan**	**1.33**	**46**	*e*Pg	**Pg**	**15 35 38.1**	**-0.1**
BMDN				*e*		15 36 06.5	
IKOM	**Komasi**	**1.43**	**354**	*e*Pg	**Pg**	**15 35 40.0**	**-0.1**
IKOM				*e*		15 35 41.6	
IBDR	**Badra**	**1.51**	**284**	*e*Pg	**Pg**	**15 35 42.0**	**+0.3**
IBDR				*e*Sg	**Sg**	**15 36 02.0**	**+0.7**
IBDR				AML	AML	15 36 04.7	
	comp=N,206nm,0.4s						
IBDR				AML	AML	15 36 06.2	
	comp=E,272nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.61**	**341**	*e*Pg	**Pb**	**15 35 42.2**	**-0.7**
KCHF				*e*	**Sg**	**15 36 08.2**	**+3.7**
AHWZ	**Ahwaz**	**1.64**	**150**	*e*Pg	**Pg**	**15 35 44.0**	**-0.1**
AHWZ				*e*Sg	**Sg**	**15 36 05.9**	**+0.6**
HSAM	**Samen**	**1.65**	**28**	*e*Pg	**Pg**	**15 35 43.9**	**-0.4**
KER	**Kermanshah**	**1.69**	**345**	*e*Pg	**Pb**	**15 35 44.1**	**-0.2**
IBZA	**Bozab**	**1.72**	**5**	*e*Pg	**Pg**	**15 35 45.1**	**-0.6**
IBZA				*e*		15 35 50.1	
IVIS	**Veis**	**1.90**	**339**	*e*Pn	**Pb**	**15 35 46.4**	**-1.4**
IALM	**Almabolaq**	**2.14**	**11**	*e*Pn	**Pb**	**15 35 50.5**	**-1.6**
KHMZ	**Khomeyn**	**2.15**	**62**	*e*Pn	**Pb**	**15 35 50.8**	**-1.4**
KHMZ	**Khomeyn**	**2.15**	**62**	*e*Pn	**Pb**	**15 35 50.8**	**-1.4**
NSR	**Nassriya**	**2.17**	**217**	*e*Pn	**Pb**	**15 35 51.0**	**-1.4**
NSR				*e*Sn	**Sb**	**15 36 18.0**	**-1.6**
IDHR	**Dehrash**	**2.22**	**331**	*e*Pn	**Pb**	**15 35 52.2**	**-1.2**
IDHR				*e*		15 36 32.3	
ILIN	**Lien**	**2.24**	**345**	*e*Pn	**Pb**	**15 35 51.9**	**-1.9**
ILIN				*e*		15 36 30.7	
HAGD	**Aghdareh**	**2.40**	**30**	*e*Pn	**Pn**	**15 35 53.2**	**+0.5**
HAGD				*e*		15 35 59.3	
HSRG	**Sareghieh**	**2.54**	**11**	*e*Pn	**Pn**	**15 35 55.8**	**+1.2**
HSRG				*e*		15 36 38.6	
JHBN	**Jahan bin**	**2.58**	**101**	*e*Pn	**Pn**	**15 35 56.0**	**+0.8**
JHBN				*e*		15 36 45.2	
ASAO	**Ashtian**	**2.66**	**47**	*e*Pn	**Pn**	**15 35 57.6**	**+1.4**
ASAO				*e*Sg	**Sg**	**15 36 36.4**	**-1.6**
ASAO				IAML		15 36 45.3	
	comp=N,59nm,0.6s						
ASAO	**Ashtian**	**2.66**	**47**	*e*Pn	**Pn**	**15 35 57.6**	**+1.4**
IPIR	**Pirpir**	**2.71**	**91**	*e*Pn	**Pn**	**15 35 58.3**	**+1.3**
IPIR				*e*		15 36 43.5	
BHD	**Baghdad**	**2.82**	**281**	*e*Pn	**Pn**	**15 36 00.0**	**+1.8**
BHD				*e*Sn	**Sb**	**15 36 35.0**	**-3.2**
ROKH	**ROKH**	**2.86**	**97**	*e*Pn	**Pn**	**15 36 00.0**	**+0.9**
ROKH				*e*		15 36 56.2	
IRAZ	**Razeghan**	**3.24**	**35**	*e*Pn	**Pn**	**15 36 05.3**	**+1.1**
IKLH	**Kolahrood**	**3.33**	**79**	*e*		15 36 08.8	
IKLH				*e*Pn	**Pn**	**15 36 07.0**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.35**	**28**	*e*Pn	**Pn**	**15 36 06.9**	**+1.2**
CHTH	**Charan**	**4.25**	**41**	*e*Pn	**Pn**	**15 36 19.8**	**+1.6**
CHTH	**Charan**	**4.25**	**41**	*e*Pn	**Pn**	**15 36 19.8**	**+1.6**

UCR 17 15:41:07.4±1.8, 8°.69N×83°.28W, h20km±5km, MD3.6
UPA 17 15:41:07.3±1.8, 8°.72N×83°.21W, h10km±5km, MW4.1
ISC 17 15:41:06.4±0.9, 8°.69N±0°.03×83°.27W±0°.03, h28km±9km, n26, σ0s70/44, 4C-11D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIOS	**Rincon, Osa**	**0.25**	**273**	*i*P	**Pb**	**15 41 12.2**	**-0.8**
RIOS				*e*S	**Sb**	**15 41 16.3**	**-1.1**
PIRO	**Carate, Puerto**	**0.29**	**194**	*i*P	**Pb**	**15 41 13.6**	**+0.1**
PIRO				*i* S	**Sb**	**15 41 19.5**	**+1.1**
PIRO	**Carate, Puerto**	**0.29**	**194**	*i*P	**Pb**	**15 41 13.6**	**+0.1**
PIRO				*e*S	**Sn**	**15 41 20.6**	**+0.2**
EDSV	**San Vito**	**0.32**	**65**	*e*P	**Pn**	**15 41 15.0**	**-0.4**
EDSV				*e*S	**Sn**	**15 41 21.5**	**+0.3**
EDPN	**Palmar Norte**	**0.33**	**325**	*e*P	**Pb**	**15 41 14.1**	**-0.1**
EDPN				*e*S	**Sb**	**15 41 19.8**	**+0.4**
CDITO	**Canoas**	**0.40**	**106**	*i*P	**Pb**	**15 41 15.6**	**+0.3**
CDITO				*e*S	**Sn**	**15 41 22.3**	**-0.9**
MLIR3	**Monte Lirio, C**	**0.45**	**76**	*i*P	**Pn**	**15 41 17.1**	**0.0**
MLIR3				*i* S	**Sn**	**15 41 25.5**	**+1.1**
EDBA	**Buenos Aires**	**0.47**	**359**	*i*P	**Pb**	**15 41 17.0**	**+0.6**
EDBA				*e*S	**Sn**	**15 41 24.5**	**-0.4**
DRK0	**Durika**	**0.57**	**2**	*i* P	**Pb**	**15 41 18.3**	**+0.2**
DRK0	**Durika**	**0.57**	**2**	*i*P	**Pb**	**15 41 18.3**	**+0.2**
DRK0				*e*S	**Sb**	**15 41 26.4**	**+0.3**
BRU2	**Volcan**	**0.58**	**79**	*i*P	**Pn**	**15 41 18.9**	**-0.1**
	baz=295,slow=3.6						
BRU2				*i* S	**Sn**	**15 41 28.1**	**+0.5**
BRU2	**Volcan**	**0.58**	**79**	*i*P	**Pn**	**15 41 18.9**	**-0.1**
BRU2				*e*S	**Sn**	**15 41 27.9**	**+0.2**
BC3P	**Paso Ancho**	**0.66**	**79**	*i*P	**Pn**	**15 41 19.9**	**-0.2**
BC3P				*i* S	**Sb**	**15 41 28.9**	**+0.3**
EDLM	**Las Mercedes**	**0.67**	**332**	*e*P	**Pb**	**15 41 19.9**	**+0.2**
EDLM				*e*S	**Sn**	**15 41 29.8**	**0.0**
BCO2	**Palmira**	**0.73**	**87**	*i*P	**Pn**	**15 41 21.3**	**+0.2**
BCO2				*i* S	**Sn**	**15 41 30.9**	**-0.6**
PTAR3	**Potrerillos Ar**	**0.76**	**89**	*i*eP	**Pn**	**15 41 21.7**	**+0.3**
PTAR3				*e*S	**Sn**	**15 41 32.0**	**-0.2**
PEZE	**Perez Zeledon,**	**0.80**	**330**	*e*P	**Pb**	**15 41 21.5**	**-0.4**
EDDO	**Dominical**	**0.82**	**314**	*e*S	**Sb**	**15 41 33.1**	**+0.4**
LOCO3	**Loma Colorada,**	**0.88**	**108**	*i*eP	**Pb**	**15 41 21.8**	**-1.3**
PSOM3	**Paja de Sombre**	**0.93**	**90**	*i*P	**Pb**	**15 41 24.1**	**0.0**
PSOM3				*i* S	**Sn**	**15 41 36.4**	**+0.1**
CHIR3	**Chiriqui UPA,**	**0.97**	**107**	*e*P	**Pb**	**15 41 25.2**	**+0.6**
CHGR2	**Aguacate**	**1.14**	**77**	*i*P	**Pb**	**15 41 27.3**	**-0.2**
CHGR2				*i* S	**Sb**	**15 41 41.9**	**0.0**
BATAN	**Batan**	**1.41**	**356**	*e*P	**Pb**	**15 41 32.1**	**0.0**
CNAZ3	**Canazas, Verag**	**2.06**	**99**	*e*P	**Pb**	**15 41 42.4**	**-0.8**
CNAZ3				*e*S	**Sb**	**15 42 06.4**	**-2.1**
CALO3	**Calobre, Verag**	**2.43**	**98**	*e*P	**Pn**	**15 41 44.1**	**-0.2**
CACAO	**El Cacao, Vera**	**2.73**	**119**	*e*P	**Pn**	**15 41 50.6**	**+2.1**

NEIC 17 15:46:03.5±1.5, 18°.1S±0°.2×177°.6W±0°.2, h473km±13km, mb4.6/14, Error ellipse: s-maj=29.7km s-min=24.9km az=187.0
IDC 17 15:46:07.5±40.0, 18°.25S×177°.78W, h500km±363km, mb3.2/2, mb1 3.5/2, mb1mx2.8/26, mbtmp4.1/2, Error ellipse: s-maj=329.9km s-min=105.2km az=118.0
ISC 17 15:46:04.0±1.0, 18°.0S±0°.2×177°.4W±0°.1, h500km, n19, σ1s16/21, mb4.5/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.20**	**100**	P	**P**	**15 47 52.6**	**+0.3**
SNZO	**South Karori**	**24.21**	**195**	P	**P**	**15 50 40.7**	**+0.4**
EIDS	**Eidsvold**	**30.12**	**250**	P	**P**	**15 51 30.8**	**-1.8**
EIDS				IAmb	IAmb	15 52 16.7	
	comp=Z,28nm,1.4s						
COEN	**Coen**	**38.04**	**270**	P	**P**	**15 52 40.9**	**+1.5**
COEN				IAmb	IAmb	15 53 22.7	
	comp=Z,19nm,1.4s						
STKA	**Stephens Creek**	**39.41**	**241**	P	**P**	**15 52 52.6**	**+2.4**
MCQ	**Macquarie Isla**	**40.71**	**201**	P	**P**	**15 52 58.6**	**-1.7**
BBOO	**Buckleboo**	**44.19**	**241**	P	**P**	**15 53 29.2**	**+1.2**
BBOO				IAmb	IAmb	15 53 33.6	
	comp=Z,50nm,2.0s						
WR0	**Warramunga Arr**	**45.34**	**259**	P	**P**	**15 53 37.8**	**+0.6**
WR0				IAmb	IAmb	15 53 57.2	
	comp=Z,30nm,2.0s						
WB0	**Warramunga Arr**	**45.50**	**260**	P	**P**	**15 53 38.6**	**+0.2**
WB0				IAmb	IAmb	15 54 24.7	
	comp=Z,24nm,1.7s						
WB2	**Warramunga Arr**	**45.52**	**259**	P	**P**	**15 53 38.4**	**-0.2**
WRA	**Warramunga Arr**	**45.53**	**259**	P	**P**	**15 53 38.8**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=96,slow=7.3,SNR=29						
WRA	**Warramunga Arr**	**45.53**	**259**	P	**P**	**15 53 38.5**	**-0.2**
AS31	**Alice Springs**	**45.67**	**254**	P	**P**	**15 53 40.0**	**+0.4**
ASAR	**Alice Springs**	**45.67**	**254**	P	**P**	**15 53 40.3**	**+0.7**
	comp=Z,3.6nm,0.6s,baz=87,slow=8.6,SNR=83						
ASAR				PcP	**PcP**	**15 55 08.9**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=105,slow=4.0,SNR=1.8						
ASAR	**Alice Springs**	**45.67**	**254**	P	**P**	**15 53 39.8**	**+0.1**
ASAR					**PcP**	**15 55 08.6**	**+1.1**
KNRA	**Kununurra**	**51.41**	**264**	P	**P**	**15 54 23.2**	**+0.8**
KNRA				IAmb	IAmb	15 56 17.3	
	comp=Z,62nm,1.8s						
FAKI	**Fak Fak**	**51.51**	**281**	P	**P**	**15 54 21.8**	**-1.4**
SOEI	**Soe**	**57.00**	**270**	P	**P**	**15 55 01.3**	**-0.9**
SOEI				IAmb	IAmb	15 55 06.1	
	comp=Z,80nm,1.6s						
GERES	**GERESS Array B**	**147.92**	**346**	PKPbc	**PKPab**	**16 04 56.1**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=0.0,slow=3.9,SNR=4.1						

WEL 17 15:53:27.5, 38°S±4°×17°8E±°, h79km±3km, M3.3/29, ML3.6/29, MLv3.3/29, Error ellipse: s-maj=0.0km s-min=0.0km az=165.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.23**	**226**	P	Pn	15 53 39.8	+0.5
HAZ				S	Sn	15 53 48.4	+0.5
MXZ	**Matakaoa Point**	**0.25**	**83**	P	Pn	15 53 39.4	+0.1
MXZ				S	Sn	15 53 48.0	0.0
WMGZ	**Waiomatatini S**	**0.40**	**124**	P	Pn	15 53 40.8	+0.5
WMGZ				S	Sn	15 53 50.3	+0.5
RUGZ	**Raukumara Rang**	**0.45**	**214**	P	Pn	15 53 40.9	0.0
PUZ	**Puketiti**	**0.52**	**156**	P	Pn	15 53 41.5	+0.2
TWGZ	**Tauwhareparae**	**0.58**	**181**	P	Pn	15 53 42.8	+0.9
TWGZ				S	Sn	15 53 54.9	+2.3
MWZ	**Matawai**	**0.82**	**206**	P	Pn	15 53 45.2	+0.8
WHRZ	**Whale Island**	**0.85**	**252**	P	Pn	15 53 45.2	+0.5
TKGZ	**Te Karaka**	**0.85**	**188**	P	Pn	15 53 45.4	+0.7
CNGZ	**Carnagh Statio**	**0.90**	**169**	P	Pn	15 53 46.2	+0.8
URZ	**Urewera**	**0.96**	**226**	P	Pn	15 53 46.3	+0.3
RAGZ	**Rawiri**	**1.01**	**207**	P	Pn	15 53 47.4	+0.7
MARZ	**Manawahe**	**1.11**	**249**	P	Pn	15 53 48.2	+0.4
EDRZ	**Edgecumbe**	**1.12**	**242**	P	Pn	15 53 48.6	+0.6
RIGZ	**Rimuhau**	**1.12**	**189**	P	Pn	15 53 48.5	+0.5
OPRZ	**Ohinepanea**	**1.17**	**257**	P	Pn	15 53 48.8	+0.3
SNGZ	**Shannon Statio**	**1.29**	**203**	P	Pn	15 53 50.9	+0.8
RTZ	**Ruatahuna**	**1.29**	**218**	P	Pn	15 53 50.6	+0.4
MUGZ	**Murupara**	**1.31**	**227**	P	Pn	15 53 50.7	+0.4
MKRZ	**Makatiti**	**1.32**	**245**	P	Pn	15 53 51.7	+1.2
PRGZ	**Paritu Road**	**1.33**	**184**	P	Pn	15 53 50.5	0.0
LIRZ	**Lichensteins R**	**1.34**	**252**	P	Pn	15 53 51.6	+1.0
TARZ	**Mount Tarawera**	**1.34**	**241**	P	Pn	15 53 51.7	+0.9
OMRZ	**Omania**	**1.38**	**248**	P	Pn	15 53 52.5	+1.2
TGRZ	**Tauranga**	**1.38**	**264**	P	Pn	15 53 51.6	+0.4
RRRZ	**Republican Roa**	**1.38**	**237**	P	Pn	15 53 51.9	+0.6
MYRZ	**Mayor Island**	**1.43**	**282**	P	Pn	15 53 50.9	-0.9
KNZ	**Kokohu**	**1.45**	**190**	P	Pn	15 53 52.0	-0.1
KARZ	**Kaharoa**	**1.45**	**252**	P	Pn	15 53 52.7	+0.6
HLRZ	**Highlands Stat**	**1.45**	**243**	P	Pn	15 53 53.2	+1.0
RAHZ	**Arahi**	**1.50**	**208**	P	Pn	15 53 53.4	+0.7
NGRZ	**Ngongotaha**	**1.52**	**250**	P	Pn	15 53 54.1	+1.1
MTHZ	**Maungataniwha**	**1.55**	**216**	P	Pn	15 53 53.9	+0.4
PRRZ	**Plateau Road**	**1.55**	**234**	P	Pn	15 53 54.0	+0.6
HSRZ	**Hossack Road**	**1.56**	**242**	P	Pn	15 53 55.0	+1.5
HRRZ	**Handcock Road**	**1.57**	**239**	P	Pn	15 53 54.6	+1.0
WHHZ	**Waihua**	**1.59**	**202**	P	Pn	15 53 54.6	+0.6
ALRZ	**Allen Road**	**1.62**	**233**	P	Pn	15 53 55.0	+0.6
KMRZ	**Kaimai**	**1.65**	**261**	P	Pn	15 53 55.2	+0.5
GRRZ	**Galatos Road**	**1.67**	**243**	P	Pn	15 53 56.0	+1.0
WPRZ	**Whakapapatarin**	**1.71**	**237**	P	Pn	15 53 56.5	+0.9
NMHZ	**Naumai**	**1.77**	**212**	P	Pn	15 53 57.1	+0.8
ARHZ	**Aropaoanui**	**1.84**	**205**	P	Pn	15 53 57.4	+0.2
WHTZ	**Whakaora**	**1.93**	**236**	P	Pn	15 53 59.8	+1.4
KUTZ	**Kaahu Road**	**1.93**	**242**	P	Pn	15 53 59.6	+1.1
BKZ	**Black Stump Fm**	**1.96**	**216**	P	Pn	15 53 59.1	+0.3
TOZ	**Tahuroa Road**	**1.98**	**265**	P	Pn	15 53 59.7	+0.6
KUZ	**Kuaotunu**	**2.00**	**294**	P	Pn	15 53 59.7	+0.4
TLZ	**Tolley Road**	**2.07**	**249**	P	Pn	15 54 01.2	+0.8
WATZ	**Wairara**	**2.10**	**237**	P	Pn	15 54 02.3	+1.6
MCHZ	**McNeill Hill**	**2.11**	**208**	P	Pn	15 54 01.0	+0.2
RATZ	**Rangitukua**	**2.16**	**233**	P	Pn	15 54 02.6	+1.0
RITZ	**Rihia Road**	**2.17**	**230**	P	Pn	15 54 02.9	+1.2
CKHZ	**Cape Kidnapper**	**2.18**	**199**	P	Pn	15 54 01.2	-0.5
KWHZ	**Kaweka Forest**	**2.20**	**214**	P	Pn	15 54 01.9	-0.2
KATZ	**Kakaramea**	**2.27**	**232**	P	Pn	15 54 04.1	+1.0
ETVZ	**East Tongariro**	**2.36**	**229**	P	Pn	15 54 04.7	+0.4
KAHZ	**Kahuranaki**	**2.36**	**201**	P	Pn	15 54 03.5	-0.8
KRVZ	**Karewarewa**	**2.38**	**230**	P	Pn	15 54 05.0	+0.5
KRHZ	**Kereru**	**2.41**	**211**	P	Pn	15 54 04.1	-0.7
OTVZ	**Oturere**	**2.41**	**229**	P	Pn	15 54 05.2	+0.3
WIAZ	**Waiheke Island**	**2.42**	**288**	P	Pn	15 54 06.0	+1.0
BHHZ	**Black Hill Sta**	**2.42**	**218**	P	Pn	15 54 05.0	-0.1
WTVZ	**West Tongariro**	**2.42**	**230**	P	Pn	15 54 05.8	+0.7
GRZ	**Great Barrier**	**2.44**	**303**	P	Pn	15 54 06.0	+0.8
NGZ	**Ngauruhoe**	**2.45**	**229**	P	Pn	15 54 06.0	+0.5
TUVZ	**Tukino**	**2.48**	**227**	P	Pn	15 54 06.3	+0.3
TWVZ	**Taurewa**	**2.49**	**233**	P	Pn	15 54 06.7	+0.7
MOVZ	**Moawhango**	**2.52**	**223**	P	Pn	15 54 06.0	-0.4
ETAZ	**East Tamaki Re**	**2.53**	**284**	P	Pn	15 54 07.8	+1.5
WHVZ	**Whangaehu Hut**	**2.53**	**228**	P	Pn	15 54 06.7	+0.1
FWVZ	**Far West T-bar**	**2.53**	**228**	P	Pn	15 54 07.1	+0.

ZALV	Zalesovo Beam	61.51	324	P		P	16 14 15.0	+0.1
KURK	Kurchatov	64.45	320	P		P	16 14 34.3	-0.2
KURBB	Kurchatov Arra	64.50	320	P		P	16 14 34.3	-0.4
	comp=Z,1.0nm,0.7s,baz=108,slow=6.1,SNR=5.8							
ILAR	Eielson Array	68.66	25	P		P	16 14 58.0	-2.9
	comp=Z,0.5nm,0.4s,baz=246,slow=6.0,SNR=10							
BVAR	Borovoye Array	69.80	322	P		P	16 15 08.5	+0.3
	comp=Z,0.5nm,0.6s,baz=95,slow=10,SNR=2.6							
BCAR	Beaver Creek A	70.54	28	P		P	16 15 12.1	-0.4
NVAR	Mina Array Bea	87.09	51	P		P	16 16 43.4	-0.2
	comp=Z,0.1nm,0.4s,baz=270,slow=7.4,SNR=4.4							
MFID	Camas Ranch	87.55	46	P		P	16 16 45.9	+0.3
LPAZ	La Paz	148.23	99	PKPbc		PKPbc	16 23 45.0	+0.6
	comp=Z,1.8nm,0.6s,baz=332,slow=1.3,SNR=9.2							

BJI ***17*** *16:04:45.1±0.0,21˚.13S×68˚.28E,h13km,mB5.2/50, mb5.0/64,Ms4.9/56,Ms7 4.7/53*
IDC ***17*** *16:04:48.0±0.4,20˚.79S×68˚.51E,h0km,mb4.6/36, mb1 4.7/36,mb1mx4.6/51,mbtmp4.6/36,MS4.4/24, Ms1 4.4/24,ms1mx4.2/40,Error ellipse: s-maj=14.4km s-min=11.7km az=27.0*
NEIC ***17*** *16:04:48.7±1.3,20˚.78S±0˚.10×68˚.43E±0˚.09,h10km±1km, mb5.2/89,Error ellipse: s-maj=16.4km s-min=14.1km az=163.0*
GCMT ***17*** *16:04:50.7±0.2,20˚.73S±0˚.01×68˚.55E±0˚.01,h12km, MW5.1/127,Moment Tensor Solution. s69,c87; s127,c221; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-5.86±.09; Mθθ2.76±.09; Mϕϕ3.10±.08; Mrθ-0.30±.28; Mθϕ-2.27±.07; Mϕr2.35±.28; Best double couple: M₀5.99500×10¹⁶ NP1:ϕs308.00000°,δ36.00000°, λ-107.00000°. NP2:ϕs149.00000°,δ56.00000°, λ-78.00000°. Principal axes: T 5.5440, Plg10.0000°, Azm230.0000°; N 0.9020, Plg10.0000°, Azm322.0000°; P -6.4460, Plg76.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 16:04:49.7±0.3,20˚.82S±0˚.06×68˚.42E±0˚.06,h13km,n384, σ1§14/386,mb5.0/116,MS4.6/40,14C-6D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RER	Riviere de l'E	11.84	266	Pn	Pn	16 07 35.9	-2.6
H08S1	Diego Garcia H	13.67	17	T	T	16 21 55.7	
	baz=197,slow=76,SNR=553						
H08S2	Diego Garcia H	13.68	17	T	T	16 21 57.7	
	baz=197,slow=76,SNR=1329						
H08S3	Diego Garcia H	13.69	17	T	T	16 21 57.2	
	baz=197,slow=76,SNR=510						
DGAR	Diego Garcia	13.89	17	Pn	Pn	16 08 07.0	+0.6
ABPO	Ambohimpanom	20.00	271	P	Pn	16 09 23.6	-0.6
OPO	Ambohidratompo	20.11	273	P	Pn	16 09 26.2	+0.8
	1.6nm,0.8s,baz=281,slow=20,SNR=1.3						
PALK	Pallekele	30.41	25	LR	LR	16 20 05.5	
	comp=Z,1μm,21.3s,baz=298,slow=30						
KMBO	Kilima Mbogo	36.17	299	P	P	16 11 55.0	+2.4
	3.7nm,0.9s,baz=97,slow=6.0,SNR=6.8						
KMBO				LR	LR	16 24 16.6	
	comp=Z,540nm,19.0s,baz=97,slow=32						
KMBO	Kilima Mbogo	36.17	299	P	P	16 11 51.3	-1.3
LHSI	Lahat	38.09	68	P	P	16 12 09.2	+0.6
	66nm,1.1s						
KASI	Kota Agung	38.15	72	P	P	16 12 09.7	+0.6
	53nm,1.0s						
HYB	Hyderabad	39.27	15	*i* P	P	16 12 17.0	-1.4
LBTB	Lobatse	39.54	256	P	P	16 12 22.2	+1.4
BOSA	Boshof	39.80	250	P	P	16 12 23.9	+1.0
	7.2nm,0.9s,baz=88,slow=8.0,SNR=9.0						
BOSA				LR	LR	16 26 14.9	
	comp=Z,1μm,19.5s,baz=94,slow=32						
BOSA	Boshof	39.80	250	P	P	16 12 23.7	+0.8
LEM	Lembang	40.40	76	P	P	16 12 30.8	+2.7
	56nm,0.9s,baz=120,slow=3.7,SNR=10.0						
IPM	Ipoh	40.69	56	P	P	16 12 29.6	-0.7
IPM	Ipoh	40.69	56	P	P	16 12 31.0	+0.7
KULM	Kulim	40.92	54	P	P	16 12 32.1	0.0
KULM	Kulim	40.92	54	P	P	16 12 33.0	+0.9
MYKOM	Kota Tinggi	41.33	61	P	P	16 12 36.0	+0.4
MYKOM				IAmb	IAmb	16 12 43.6	
	comp=Z,45nm,0.9s						
MYKOM	Kota Tinggi	41.33	61	P	P	16 12 37.0	+1.4
JAGI	Jajag, Banyuwa	45.76	81	P	P	16 13 11.2	-0.2
KSM	Kuching	46.60	67	P	P	16 13 19.0	+1.1
MAW	Mawson	46.91	183	P	P	16 13 20.8	+1.2
	comp=Z,7.7nm,0.9s,baz=5.3,slow=9.7,SNR=18						
MAW				LR	LR	16 28 19.7	
	comp=Z,510nm,21.6s,baz=20,slow=30						
MAW	Mawson	46.91	183	P	P	16 13 20.6	+1.0
TSUM	Tsumeb	47.63	263	P	P	16 13 27.8	+1.7
PSA00	Pilbara Seismi	47.78	101	P	P	16 13 26.4	-0.7
SBUM	Sibu	48.73	67	P	P	16 13 34.4	-0.1
SBUM				IAmb	IAmb	16 13 42.5	
	comp=Z,25nm,1.0s						
SBUM	Sibu	48.73	67	P	P	16 13 36.0	+1.5
PBKT	Sadao Pong	49.00	43	P	P	16 13 36.0	-0.4
CM31	Chiang Mai Arr	49.18	40	P	P	16 13 37.5	-0.3
CMAR	Chiang Mai Arr	49.18	40	P	P	16 13 38.8	+1.0
	comp=Z,8.8nm,0.9s,baz=235,slow=8.0,SNR=40						
CMAR				LR	LR	16 32 44.1	
	comp=Z,454nm,19.3s,baz=254,slow=34						
CMAR	Chiang Mai Arr	49.18	40	P	P	16 13 37.2	-0.6
CHTO	Chiang Mai	49.45	39	P	P	16 13 39.2	-0.7
CHTO				IAmb	IAmb	16 13 48.1	
	comp=Z,19nm,1.0s						
KOLN	Koldanda	50.48	18	*e*P	P	16 13 48.3	+0.5
	comp=Z,118nm,1.0s						
PYUN	Piuthan	50.63	17	*e*P	P	16 13 49.3	+0.4
	comp=Z,126nm,1.1s						
RAMN	Ramite	50.65	21	*e*P	P	16 13 49.8	+0.7
	comp=Z,77nm,1.0s						
DMN	Daman	50.78	19	*e*P	P	16 13 50.7	+0.6
	comp=Z,98nm,1.0s						
ODAN	Odare	50.84	22	*e*P	P	16 13 51.0	+0.5
	comp=Z,64nm,1.0s						
PKI	Pulchoki	50.84	20	*e*P	P	16 13 50.7	+0.1
	comp=Z,81nm,1.1s						
GKN	Gorkha	51.00	19	*e*P	P	16 13 51.8	+0.1
	comp=Z,109nm,1.1s						
DANN	Dangsing	51.08	17	*e*P	P	16 13 52.5	+0.1
DLV	T Lat	51.10	54	P	P	16 13 52.2	-0.4
DLV				IAmb	IAmb	16 14 00.1	
	comp=Z,28nm,0.9s						
JIRN	Jiri	51.17	20	*e*P	P	16 13 53.5	+0.3
	comp=Z,143nm,1.1s						
SYO	Syowa Base	51.33	193⇓	*e*P	P	16 13 53.2	-0.2
SYO	Syowa Base	51.33	193⇑	*i*pP	pP	16 13 55.4	-1.2
SYO	Syowa Base	51.33	193⇑	*e*PP	PP	16 15 52.0	+1.7
TAPN	Taplejung	51.40	22	*e*P	P	16 13 55.2	+0.4
	comp=Z,107nm,0.9s						
SHL	Shillong	51.43	27	P	P	16 13 54.8	-0.2
KAPI	Kappang	52.20	80	P	P	16 14 00.6	-0.1
	comp=Z,19nm,1.0s,baz=242,slow=8.1,SNR=3.0						
MMRI	Maumere	53.22	85	P	P	16 14 08.9	+0.6
SPMM	Sapulut	53.52	67	P	P	16 14 10.0	-0.6
BATI	Baumata	54.05	88	P	P	16 14 15.6	+1.2
	comp=Z,14nm,0.5s,baz=229,slow=2.3,SNR=5.0						
FORT	Forrest	54.07	113	P	P	16 14 14.1	-0.2
FORT				IAmb	IAmb	16 14 21.5	
	comp=Z,28nm,0.9s						
NIL	Nilore	54.36	5	P	P	16 14 15.8	-0.4
NIL				IAmb	IAmb	16 14 28.6	
	comp=Z,38nm,1.6s						
SLVN	Son La	54.38	42	P	P	16 14 16.8	+0.1
SOEI	Soe	54.75	87	P	P	16 14 18.3	-1.4
LSA	Lhasa	54.79	24	P	P	16 14 18.5	-1.5
LSA				IAmb	IAmb	16 14 29.0	
	comp=Z,30nm,1.1s						
KBL	Kabul	55.05	1	P	P	16 14 21.1	-0.3
KBL				IAmb	IAmb	16 14 34.6	
	comp=Z,21nm,1.2s						
HRA	Herat	55.21	354	P	P	16 14 22.4	-0.3
MYLDM	Lahad Datu	55.52	68	P	P	16 14 24.1	-0.8
LUWI	Luwuk	56.53	77	P	P	16 14 31.9	-0.4
KMI	Kunming	56.55	38⇑	*i*P	P	16 14 34.3	+1.9
KMI				pP	pwP	16 14 38.6	-1.0
KMI				sP	sP	16 14 43.6	+6.8
KMI				PP	PP	16 16 41.5	+3.0
KMI				S	S	16 22 24.5	+0.3
KMI				pmax	pmax		
	comp=Z,17nm,0.9s						
KMI				pmax	pmax		
	comp=Z,150nm,3.8s						
KMI				LR	LR		
	comp=Z,360nm,18.4s						
KMI				LR	LR		
	comp=Z,640nm,16.8s						
KMI				LR	LR		
	comp=Z,550nm,18.7s						
KNRA	Kununurra	57.27	96	P	P	16 14 37.6	+0.1
CHGR	Chuyangaron	59.16	1	P	P	16 14 49.6	-0.7
GEYT	Alibeck	59.23	351	LR	LR	16 37 17.4	
	comp=Z,272nm,21.8s,baz=205,slow=33						
GYA0B	ALIBECK ARRAY	59.23	351	P	P	16 14 51.1	+0.4
GYA	Guiyang	59.86	40	⇑P	P	16 14 55.6	+0.1
GYA				PP	PP	16 17 13.6	+5.7
GYA				SS	SS	16 27 04.3	+0.4
GYA				pmax	pmax		
	comp=Z,19nm,1.3s						
GYA				LR	LR		
	comp=Z,260nm,17.4s						
GYA				LR	LR		
	comp=Z,250nm,20.4s						
GYA				LR	LR		
	comp=Z,400nm,20.9s						
ASAR	Alice Springs	60.21	106	P	P	16 14 57.0	-1.0
	comp=Z,13nm,0.9s,baz=260,slow=6.1,SNR=87						
ASAR				LR	LR	16 37 08.3	
	comp=Z,615nm,21.1s,baz=274,slow=32						
ASAR	Alice Springs	60.21	106	P	P	16 14 56.8	-1.1
AS31	Alice Springs	60.21	106	P	P	16 14 57.0	-1.0
KSH	Kashi	60.43	7	P	P	16 14 56.4	-2.7
KSH				sP	pwP	16 15 07.4	+1.1
KSH				S	S	16 23 08.8	-5.2
KSH				pmax	pmax		
	comp=Z,23nm,0.8s						
KSH				pmax	pmax		
	comp=Z,150nm,2.7s						
KSH				LR	LR		
	comp=Z,590nm,13.7s						
KSH				LR	LR		
	comp=Z,300nm,14.2s						
BBOO	Buckleboo	60.65	117	P	P	16 15 00.1	-0.7
BBOO				IAmb	IAmb	16 15 07.2	
	comp=Z,16nm,0.9s						
WRA	Warramunga Arr	61.39	102	P	P	16 15 05.4	-0.7
	comp=Z,17nm,1.0s,baz=259,slow=6.7,SNR=46						
WRA				LR	LR	16 38 29.4	
	comp=Z,412nm,20.9s,baz=250,slow=33						
WRA	Warramunga Arr	61.39	102	P	P	16 15 05.4	-0.7
WB2	Warramunga Arr	61.40	102	P	P	16 15 05.2	-0.9
WRAB	Tennant Creek	61.40	102	P	P	16 15 04.6	-1.5
WB0	Warramunga Arr	61.48	102	P	P	16 15 05.9	-0.8
WB0				IAmb	IAmb	16 15 13.4	
	comp=Z,23nm,0.9s						
WR0	Warramunga Arr	61.57	102	P	P	16 15 06.4	-0.9
WR0				IAmb	IAmb	16 15 13.6	
	comp=Z,16nm,0.8s						
CD2	Chengdu	61.62	34	P	P	16 15 07.1	-0.2
CD2				S	S	16 23 31.3	+1.9
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
CD2				pmax	pmax		
	comp=Z,190nm,5.7s						
CD2				LR	LR		
	comp=Z,490nm,21.6s						
CD2				LR	LR		
	comp=Z,440nm,18.6s						
CD2				LR	LR		
	comp=Z,460nm,18.6s						
ARSB	Arslanbob	61.97	4	P	P	16 15 09.6	+0.1
IUG	Iuzhnay	62.66	1	*e*P	P	16 15 13.8	-0.3
	comp=Z,3.0nm,1.0s,baz=1.0						
AAK	Ala-Archa	63.38	5	P	P	16 15 19.8	+0.9
	comp=Z,1.8nm,0.4s,baz=184,slow=8.5,SNR=6.3						
AAK	Ala-Archa	63.38	5	P	P	16 15 18.9	0.0
AAK				IAmb	IAmb	16 15 31.1	
	comp=Z,19nm,1.2s						
KK31	Karatay Array	63.63	2	P	P	16 15 20.0	-0.4
KKAR	Karatay Array	63.63	2	P	P	16 15 20.0	-0.5
KKAR	Karatay Array	63.63	2	P	P	16 15 19.9	-0.5
KKAR				IAmb	IAmb	16 15 33.2	
	comp=Z,19nm,1.2s						
MDOK	Medeo	64.15	7	*e*P	P	16 15 23.5	-0.6
	baz=6.7						
MDOK				LR	LR	16 40 07.0	
	comp=Z,224nm,20.1s,baz=6.7						
SATY	Saty	64.22	8	*e*P	P	16 15 24.6	+0.1
	comp=Z,4.8nm,1.2s,baz=7.8						
SATY				LR	LR	16 42 15.8	
	comp=Z,50nm,14.0s,baz=7.8						
ENH	Enshi	64.35	39	P	P	16 15 24.7	-0.7
UZB	Uzynbulak	64.39	9	*e*P	P	16 15 25.1	-0.5
	baz=8.3						
SIJI	Sorong	64.40	81	P	P	16 15 26.7	+0.6
	comp=Z,38nm,1.0s,baz=233,slow=2.1,SNR=8.4						
SHLS	Shalkode	64.46	9	*e*P	P	16 15 26.6	+0.6
	comp=Z,5.6nm,1.1s,baz=9.0						
CSS	Mathiatis	64.71	329	P	P	16 15 27.2	-0.5
GAZ	Gaziantep	64.75	333	P	P	16 15 28.7	+0.8
GAZ				IAmb	IAmb	16 15 41.9	
	comp=Z,30nm,1.4s						
KUU	Kurty	64.80	6	*e*P	P	16 15 27.4	-0.7
	comp=Z,10nm,1.3s,baz=6.0						
KUU				LR	LR	16 44 13.6	
	comp=Z,65nm,12.9s,baz=6.0						
CHKK	Chushkaly	64.83	7	*e*P	P	16 15 27.7	-0.6
	baz=6.5						
STKA	Stephens Creek	65.42	116	P	P	16 15 31.9	-0.7
	comp=Z,3.3nm,0.8s,baz=305,slow=4.3,SNR=7.3						
STKA	Stephens Creek	65.42	116	P	P	16 15 32.0	-0.5
BTLS	Baital	65.74	4	*e*P	P	16 15 33.8	-0.3
	comp=Z,3.2nm,1.1s,baz=4.1						
LZH	Lanzhou	65.78	31	*e*P	P	16 15 36.0	+1.2
LZH				sP	pwP	16 15 41.3	-0.7
LZH				eS	S	16 24 16.3	-4.9
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,120nm,4.9s						
LZH				LR	LR		
	comp=Z,490nm,15.5s						
LZH				LR	LR		
	comp=Z,370nm,16.0s						
LZH				LR	LR		
	comp=Z,620nm,19.0s						
VNA2	Neumayer--Watz	65.86	200	P	P	16 15 35.5	+0.8
AKH	Akhalkalaki	66.08	340	P	P	16 15 37.2	+0.6
AKH				IAmb	IAmb	16 15 46.7	
	comp=Z,22nm,1.2s						
VNA1	Neumayer--Stat	66.11	201	P	P	16 15 38.0	+1.7
TDK	Taldyqorghan	66.13	8	*e*P	P	16 15 36.3	-0.4
	baz=7.4						
TDK				LR	LR	16 39 24.4	
	comp=Z,397nm,20.9s,baz=7.4						
VNA3	Neumayer Olymp	66.62	200	P	P	16 15 40.5	+0.9
WMQ	Urumqi	66.71	15	*e*P	P	16 15 42.1	+1.6
WMQ				sP	pwP	16 15 48.0	+0.3
WMQ				pmax	pmax		
	comp=Z,15nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,130nm,4.7s						
WMQ				LR	LR		
	comp=Z,220nm,20.5s						
WMQ				LR	LR		
	comp=Z,250nm,23.7s						
WMQ				LR	LR		
	comp=Z,280nm,21.5s						
GTA	Gaotai	66.72	26	P	P	16 15 40.3	-0.4
GTA				pP	sP	16 15 46.4	+1.3
GTA				sP	pwP	16 15 50.3	+2.4
GTA				S	S	16 24 33.4	+1.0
GTA				sS	sS	16 24 42.6	+4.8
GTA				pmax	pmax		
	comp=Z,22nm,1.1s						
GTA				pmax	pmax		
	comp=Z,97nm,4.3s						
GTA				LR	LR		
	comp=Z,260nm,18.7s						
GTA				LR	LR		
	comp=Z,270nm,21.9s						
GTA				LR	LR		
	comp=Z,330nm,19.7s						
XAN	Xi'an	66.81	36	P	P	16 15 40.5	-0.8
XAN				pP	sP	16 15 46.9	+1.2
XAN				S	S	16 24 32.8	-0.7
XAN				pmax	pmax		
	comp=Z,22nm,1.0s						
XAN				pmax	pmax		
	comp=Z,130nm,4.0s						
XAN				LR	LR		
	comp=Z,420nm,19.5s						
XAN				LR	LR		
	comp=Z,420nm,21.9s						
XAN				LR	LR		
	comp=Z,620nm,21.7s						
XAN	Xi'an	66.81	36	P	P	16 15 39.9	-1.4
WHN	Wuhan	67.50	42	⇓P	P	16 15 46.8	+1.1
WHN				S	S	16 24 47.8	+5.9
WHN				LR	LR		
	comp=Z,920nm,22.2s						
SSLB	Suanglung	67.69	52	P	P	16 15 47.2	+0.1
SSLB				IAmb	IAmb	16 15 56.0	
	comp=Z,21nm,1.0s						
KBZ	Khabaz	68.36	340	P	P	16 15 51.7	+0.9
	comp=Z,1.9nm,0.6s,baz=63,slow=4.3,SNR=4.9						
KBZ				LR	LR	16 44 46.7	
	comp=Z,120nm,18.5s,baz=158,slow=35						
NACB	Ninganchiao	68.39	52	P	P	16 15 50.6	-0.9
MAKZ	Makanchi	68.41	10	P	P	16 15 50.2	-0.9
MAKZ				IAmb	IAmb	16 16 03.1	
	comp=Z,16nm,1.3s						
BRTR	Keskin Array B	68.42	332	P	P	16 15 52.1	+0.6
	comp=Z,5.3nm,0.9s,baz=153,slow=7.8,SNR=24						
BRTR				LR	LR	16 43 51.5	
	comp=Z,122nm,20.3s,baz=120,slow=34						
BRTR	Keskin Array B	68.42	332	P	P	16 15 51.2	-0.3
BR131	Keskin Array S	68.42	332	P	P	16 15 51.0	-0.5
BR131				IAmb	IAmb	16 16 04.3	
	comp=Z,14nm,1.1s						
MK31	Makanchi Array	68.45	10	P	P	16 15 50.2	-1.2
MK31				IAmb	IAmb	16 16 03.3	
	comp=Z,25nm,1.4s						
MKAR	Makanchi Array	68.45	10	P	P	16 15 50.4	-1.0
	comp=Z,7.3nm,1.1s,baz=196,slow=7.1,SNR=24						
MKAR				LR	LR	16 43 54.4	
	comp=Z,346nm,21.0s,baz=188,slow=34						
MKAR	Makanchi Array	68.45	10	P	P	16 15 49.6	-1.7
QSPA	South Pole Qui	69.30	180	P	P	16 15 56.7	+0.1
ZSN	Zaisan	69.54	12	*e*P	P	16 15 57.8	-0.3
	comp=Z,4.0nm,1.2s,baz=12						
ABKAR	Akbulak array	70.16	354	P	P	16 16 00.8	-1.1
VNDA	Vanda	70.57	167	P	P	16 16 04.1	0.0
	comp=Z,4.9nm,0.9s,baz=269,slow=7.7,SNR=22						
VNDA				LR	LR	16 44 42.5	
	comp=Z,181nm,18.1s,baz=254,slow=34						
VNDA	Vanda	70.57	167	P	P	16 16 04.1	0.0
VNDA				IAmb	IAmb	16 16 12.0	
	comp=Z,15nm,1.2s						
BRZS	Berezniki	70.58	3	*e*P	P	16 16 04.6	+0.1
	comp=Z,2.6nm,0.9s,baz=2.6						
NJ2	Nanjing	71.37	44	*e*P	P	16 16 10.4	+0.8
NJ2				pmax	pmax		
	comp=Z,11nm,1.1s						
NJ2				LR	LR		
	comp=Z,350nm,20.8s						
NJ2				LR	LR		
	comp=Z,330nm,20.8s						
NJ2				LR	LR		
	comp=Z,550nm,20.8s						
AKTO	Aktyubinsk	71.53	353	P	P	16 16 10.0	-0.1
	comp=Z,5.7nm,1.0s,baz=153,slow=4.5,SNR=3.5						
KURBB	Kurchatov Arra	71.68	7	P	P	16 16 11.0	0.0
	comp=Z,5.9nm,1.0s,baz=203,slow=6.7,SNR=16						
KURK	Kurchatov	71.78	7	P	P	16 16 10.8	-0.9
KURK				IAmb	IAmb	16 16 24.0	
	comp=Z,25nm,1.0s						
CTAO	Charters Tower	72.19	105	P	P	16 16 13.2	-1.7
CTAO				IAmb	IAmb	16 16 16.7	
	comp=Z,26nm,1.2s						
BTO	Baotou	72.33	32	*e*P	P	16 16 15.0	-0.3
JAY	Jayapura	72.56	86	LR	LR	16 47 31.8	
	comp=Z,109nm,19.8s,baz=176,slow=35						
TIA	Tai'an	73.06	39	P	P	16 16 19.5	-0.1
TIA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC	Hu-ho-hao-te	73.29	33	*e*P	P	16 16 19.3	-1.7
HHC				S	S	16 25 47.3	-2.1
HHC				pmax	pmax		
	comp=Z,33nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,6.0s						
HHC				LR	LR		
	comp=Z,280nm,16.2s						
HHC				LR	LR		
	comp=Z,230nm,16.2s						
HHC				LR	LR		
	comp=Z,210nm,17.0s						
BVAR	Borovoye Array	73.55	1	P	P	16 16 22.1	0.0
	comp=Z,6.3nm,1.0s,baz=152,slow=6.5,SNR=11						
BRVK	Borovoye	73.58	1	P	P	16 16 21.2	-1.1
BRVK				IAmb	IAmb	16 16 29.6	
	comp=Z,17nm,1.0s						
TOA0	Torodi Ar. Sit	73.72	291	P	P	16 16 23.5	-0.5
TORD	Torodi Ar. Bea	73.72	291	P	P	16 16 24.4	+0.5
	comp=Z,3.9nm,0.9s,baz=113,slow=6.4,SNR=17						
TORD				LR	LR	16 47 50.5	
	comp=Z,140nm,18.6s,baz=155,slow=35						
TORD	Torodi Ar. Bea	73.72	291	P	P	16 16 23.5	-0.5
TAM	Tamanrasset	75.09	302	P	P	16 16 32.9	+0.9
BJI	Beijing	75.14	36	P	P	16 16 31.8	+0.1
BJI				S	S	16 26 13.8	+3.9
BJI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BJI				LR	LR		
	comp=Z,330nm,21.8s						
BJI				LR	LR		
	comp=Z,190nm,19.9s						
CFR	Carcaliu	75.22	332	⇓P	P	16 16 32.4	+0.4
ZAA0	Zalesovo Array	75.79	10	P	P	16 16 33.9	-1.2
ZAA0				IAmb	IAmb	16 16 46.2	
	comp=Z,22nm,1.1s						
ZALV	Zalesovo Beam	75.79	10	P	P	16 16 34.2	-0.8
	comp=Z,4.8nm,0.8s,baz=197,slow=4.5,SNR=18						
ZALV				LR	LR	16 48 25.4	
	comp=Z,187nm,19.5s,baz=212,slow=35						
ZALV	Zalesovo Beam	75.79	10	P	P	16 16 33.7	-1.4
PMG	Port Moresby	76.26	95	P	P	16 16 39.2	+0.5
	comp=Z,12nm,0.8s,baz=297,slow=6.1,SNR=4.3						
PMG				LR	LR	16 47 26.6	
	comp=Z,322nm,20.7s,baz=233,slow=34						
PMG	Port Moresby	76.26	95	P	P	16 16 38.3	-0.4
PMG				IAmb	IAmb	16 16 46.9	
	comp=Z,24nm,0.9s						
SONM	Songino Array	76.36	25	P	P	16 16 38.9	+0.2
	comp=Z,14nm,1.0s,baz=216,slow=5.0,SNR=40						
SONM				LR	LR	16 49 41.1	
	comp=Z,468nm,20.0s,baz=202,slow=35						
SONM	Songino Array	76.36	25	P	P	16 16 37.9	-0.8
VRI	Vrincioaia	76.38	331	⇑P	P	16 16 38.3	-0.4
PLOR	Plostina	76.41	331	⇑P	P	16 16 39.8	+1.0
MLR	Muntele Rosu	76.45	331	⇑P	P	16 16 40.3	+1.0
ULN	Ulaanbaatar	76.65	26	P	P	16 16 39.2	-1.2
ULN				IAmb	IAmb	16 16 48.0	
	comp=Z,25nm,1.0s						
MTUR	Matau	76.66	330	⇓P	P	16 16 41.6	+1.3
KIC	Kosan Boka	76.67	282	*e*P	P	16 16 41.9	+0.9
	comp=Z,76nm,1.5s						
VOIR		76.82	330	⇑P	P	16 16 40.9	-0.4
LIC	Lamto	76.88	282	*e*P	P	16 16 43.0	+0.8
	comp=Z,75nm,1.2s

BZS Buzias 78.59 329 ⇑P P 16 16 51.5 +0.5
AKASG Malin Array Be 79.14 336 P P 16 16 53.5 -0.4
comp=Z,8.6nm,0.9s,baz=141,slow=4.6,SNR=19
AKASG Malin Array Be 79.14 336 P P 16 16 51.1 -2.8
AKBB Malin Array Si 79.14 336 P P 16 16 52.4 -1.5
AKBB IAmb IAmb 16 17 01.6
comp=Z,22nm,0.9s
KEST Kesra 79.29 315 P P 16 16 56.2 +1.0
comp=Z,4.9nm,0.9s,baz=248,slow=5.0,SNR=4.7
KEST LR LR 16 52 50.2
comp=Z,120nm,18.7s,baz=305,slow=36
INTR Introdacqua 80.26 322 P P 16 16 59.8 -0.6
INTR IAmb IAmb 16 17 07.6
comp=Z,29nm,1.1s
KSAR Wonju Array Be 80.54 44 P P 16 17 00.7 -1.1
KSRS Korea Array 80.57 44 P P 16 17 01.9 -0.1
comp=Z,3.8nm,1.0s,baz=231,slow=4.7,SNR=11
KSRS LR LR 16 52 55.7
comp=Z,406nm,18.9s,baz=232,slow=36
CRVS Cervenica-Dubn 81.03 331 eP P 16 17 06.1 +1.9
NRCA Norcia 81.23 322 P P 16 17 05.0 -0.5
GCIS Gornji Cirnik 81.80 326 eP P 16 17 09.5 +1.2
VYHS Vyhne 81.97 329 eP P 16 17 09.5 +0.3
LANS Liptovska Anna 82.13 330 eP P 16 17 11.0 +0.9
GROS Grobnik 82.26 326 eP P 16 17 10.7 -0.1
LJU Ljubljana 82.50 325 eP P 16 17 10.2 -1.9
MODS Modra-Piesok 82.64 328 eP P 16 17 11.9 -0.8
SOKA Soboth 82.64 326 eP P 16 17 13.1 +0.2
comp=Z,4.9nm,1.4s
OJC Ojcow 82.73 331 P P 16 17 11.9 -1.2
OJC IAmb IAmb 16 17 25.6
comp=Z,15nm,1.1s
ARSA Arzberg 82.77 327 eP P 16 17 13.6 +0.2
comp=Z,5.3nm,1.0s
JAVC Velka Javorina 82.78 329 eP P 16 17 14.6 +1.1
OBKA Obir 82.79 326 eP P 16 17 15.1 +1.5
comp=Z,5.3nm,1.3s
CN2 Changchun 82.82 38 eP P 16 17 13.1 -0.6
CN2 pP sP 16 17 18.3 +0.1
CN2 eS S 16 27 20.6 -11
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,70nm,4.6s
CN2 LR LR
comp=Z,180nm,18.0s
CN2 LR LR
comp=Z,220nm,18.0s
CN2 LR LR
comp=Z,220nm,20.0s
CONA Conrad Observa 83.04 327 eP P 16 17 14.9 0.0
comp=Z,8.7nm,1.2s
MYKA Terra Mystica 83.35 325 eP P 16 17 17.7 +1.2
comp=Z,5.5nm,1.0s
MORC Moravsky Berou 83.47 330 ⇑P P 16 17 17.5 +0.5
MORC Moravsky Berou 83.47 330 eP P 16 17 17.0 0.0
MORC Moravsky Berou 83.47 330 P P 16 17 16.6 -0.4
MORC IAmb IAmb 16 17 29.8
comp=Z,22nm,1.2s
KRUC Moravsky 83.54 329 eP P 16 17 17.4 +0.1
VRAC Vranov 83.61 329 eP P 16 17 18.1 +0.4
ZOU Zoufplan 83.66 325 P P 16 17 17.6 -0.7
ZOU IAmb IAmb 16 17 31.4
comp=Z,17nm,1.2s
MOA Molln 83.80 327 eP P 16 17 18.9 +0.1
comp=Z,8.7nm,1.0s
ABTA Abfaltersbach 84.02 325 i P P 16 17 20.4 +0.5
comp=Z,6.1nm,1.1s
KRLC Kraliky 84.03 329 eP P 16 17 20.5 +0.6
KRLC ex x 16 17 26.7
SUW Suwalki 84.05 335 P P 16 17 18.8 -1.0
OSTC Ostas 84.62 330 eP P 16 17 23.6 +0.7
KLMR Klimovskoe 84.67 346 eP P 16 17 21.9 -0.9
KLMR AMP 16 17 35.3
comp=Z,66nm,1.2s
UPC Upice 84.69 329 eP P 16 17 24.5 +1.3
CHVC Chvalec 84.72 330 eP P 16 17 24.5 +1.1
CHVC ex x 16 17 30.7
GEC2 GERESS Array S 84.73 327 P P 16 17 22.4 -1.2
GERES GERESS Array B 84.73 327 P P 16 17 23.5 0.0
comp=Z,1.4nm,1.0s,baz=133,slow=7.5,SNR=7.7
GERES GERESS Array B 84.73 327 P P 16 17 22.4 -1.2
WTTA Wattenberg 84.81 325 eP P 16 17 24.1 0.0
comp=Z,4.8nm,1.1s
WATA Walderalm 84.89 325 eP P 16 17 24.4 -0.1
comp=Z,5.0nm,1.2s
KHC Kasperske Hory 84.98 327 eP P 16 17 24.5 -0.2
KHC ex x 16 17 30.5
KHC Kasperske Hory 84.98 327 P P 16 17 24.2 -0.5
SQTA Sankt Quirin 85.02 325 eP P 16 17 25.2 +0.1
comp=Z,9.7nm,1.1s
PRU Pruhonice 85.06 328 eP P 16 17 25.5 +0.5
PRU ex x 16 17 31.8
MOTA Moosalm 85.15 325 eP P 16 17 26.2 +0.4
comp=Z,3.7nm,0.7s
FETA Feichten 85.15 325 eP P 16 17 25.8 +0.1
comp=Z,5.6nm,0.9s
FUORN Ofenpass-Fuorn 85.16 324 P P 16 17 24.4 -1.5
FUORN IAmb IAmb 16 17 38.3
comp=Z,14nm,1.1s
OXZ Oxford 85.37 135 P P 16 17 27.1 +0.1
OXZ IAmb IAmb 16 17 34.9
comp=Z,20nm,0.9s
RETA Reutte 85.42 325 eP P 16 17 26.3 -0.7
comp=Z,2.3nm,0.6s
TUE Stuetta 85.58 324 P P 16 17 27.4 -0.6
TUE IAmb IAmb 16 17 43.3
comp=Z,18nm,1.1s
LTZ Lake Taylor 85.75 134 P P 16 17 28.5 -0.4
LTZ IAmb IAmb 16 17 36.9
comp=Z,21nm,1.0s
DAVA Damuels 85.78 324 eP P 16 17 29.2 +0.3
comp=Z,7.2nm,0.8s
BRG Berggiesshubel 85.92 329 eP P 16 17 28.9 -0.4
comp=Z,23nm,1.8s
BRG e 16 17 36.5
comp=Z,5.0nm,1.1s
BNI Bardonecchia 86.28 321 P P 16 17 30.9 -0.5
CLL Collm 86.66 329 i P P 16 17 34.5 +1.6
comp=Z,25nm,1.6s
CLL i 16 17 40.0
CLL i 16 17 44.4
comp=Z,25nm,1.3s
SENIN Lac Senin/Sane 86.67 323 P P 16 17 33.3 -0.1
SENIN IAmb IAmb 16 17 50.6
comp=Z,22nm,1.4s
USRK Ussuriysk Ar. 86.90 40 P P 16 17 32.8 -1.5
comp=Z,1.6nm,0.6s,baz=298,slow=3.1,SNR=4.7
USRK LR LR 16 57 11.8
comp=Z,146nm,18.8s,baz=211,slow=36
MJB9 Matsu-Tunnel 87.09 49 P P 16 17 34.2 -1.2
MJB9 IAmb IAmb 16 17 47.1
comp=Z,21nm,1.2s
MAJO Matsushiro 87.09 49 P P 16 17 34.4 -1.0
MAJO IAmb IAmb 16 17 47.3
comp=Z,19nm,1.2s
MAT Matsushiro 87.09 49 P P 16 17 34.2 -1.2
MAT eS S 16 28 10.0 -4.5
MJAR Matsushiro Arr 87.09 49 P P 16 17 35.1 -0.4
comp=Z,8.0nm,1.0s,baz=230,slow=6.4,SNR=25
MJAR LR LR 16 53 39.8
comp=Z,323nm,21.8s,baz=235,slow=34
MJAR Matsushiro Arr 87.09 49 P P 16 17 34.1 -1.3
BFO Black Forest 87.23 325 P P 16 17 35.6 -0.2
BFO IAmb IAmb 16 17 48.2
comp=Z,20nm,1.2s
ECH Echery 87.81 324 P P 16 17 38.4 -0.2
ECH IAmb IAmb 16 17 51.3
comp=Z,13nm,1.1s
DZM Mont Dzumac 89.38 113 eP P 16 17 41.5 -5.4
comp=Z,83nm,1.6s
DZM Mont Dzumac 89.38 113 eLR LR 16 45 47.1
comp=Z,484nm,23.4s
DZM eLR LR 16 46 19.2
comp=Z,432nm,22.4s
KLR Kul'dur 89.52 36 P P 16 17 45.9 -0.7
comp=Z,6.3nm,0.8s,baz=268,slow=5.6,SNR=20
ESDC Sonseca Array 90.35 313 P P 16 17 52.0 +1.1
comp=Z,3.6nm,1.0s,baz=116,slow=4.1,SNR=15
ESDC LR LR 16 58 20.2
comp=Z,83nm,19.8s,baz=140,slow=36
ESDC Sonseca Array 90.35 313 P P 16 17 50.6 -0.2
PAB San Pablo 90.56 312 P P 16 17 51.7 -0.1
PAB IAmb IAmb 16 18 05.7
comp=Z,22nm,1.4s

NRIK Noril'sk 90.95 7 P P 16 17 53.7 +0.9
comp=Z,1.8nm,0.9s,baz=338,slow=3.8,SNR=3.5
NRIK LR LR 16 59 07.3
comp=Z,242nm,19.7s,baz=191,slow=36
ARCES ARCESS Array B 95.15 346 P P 16 18 12.4 +0.2
comp=Z,4.2nm,0.9s,baz=116,slow=4.1,SNR=9.1
YAK Yakutsk 95.71 25 P P 16 18 16.4 +1.5
comp=Z,1.2nm,0.4s,baz=286,slow=3.4,SNR=1.6
TBI Tubuai 122.65 138 eLR LR 17 01 41.2
comp=Z,107nm,24.8s
PPT2 Papeete2 126.67 133 eLR LR 17 03 23.8
comp=Z,174nm,28.2s
IMAR Indian Mountai 127.31 20 PKPdf 16 23 53.1 -0.5
ILAR Eielson Array 130.27 19 PKP PKPdf 16 23 59.6 +0.4
comp=Z,0.8nm,1.0s,baz=287,slow=2.8,SNR=6.4
ILAR Eielson Array 130.27 19 PKPdf 16 23 58.7 -0.5
INK Inuvik 130.59 11 PKP PKPdf 16 23 58.8 -0.9
comp=Z,2.4nm,1.0s,baz=234,slow=1.9,SNR=4.0
SADO Sadowa 144.13 319 PKP PKPbc 16 24 23.8 +0.4
comp=Z,5.9nm,0.9s,baz=64,slow=6.5,SNR=3.4
SADO Sadowa 144.13 319 PKPbc 16 24 23.6 +0.2
MMNY Mt. Morris Dam 144.34 316 PKPbc 16 24 24.1 +0.1
N58A Sunbury 144.34 312 PKPab 16 24 23.6 -0.3
L56A Greenwood 144.37 314 PKPbc 16 24 24.2 -0.1
MVL Millersville 144.41 310 PKPab 16 24 24.1 0.0
M57A Sunshine Farm, 144.42 313 PKPbc 16 24 24.4 -0.1
PAGS Pennsylvania G 144.58 311 PKPbc 16 24 24.9 -0.1
WVNY West Valley, N 144.94 315 PKPab 16 24 25.7 -0.4
SDMD Soldier's Deli 144.98 310 PKPbc 16 24 26.4 +0.2
M56A Emporium 145.08 314 PKPbc 16 24 26.4 -0.1
SSPA Standing Stone 145.24 312 PKPbc 16 24 25.3 -1.8
FFC Flin Flon 145.37 350 PKPbc 16 24 26.1 -0.9
M55A Ridgway 145.48 314 PKPdf 16 24 26.7 -1.2
O56A Blue Knob Stat 145.86 312 PKPdf 16 24 27.0 -1.5
M54A Oil Creek Stat 146.06 315 PKPbc PKPdf 16 24 29.1 +0.3
E46A Sault Ste Mari 146.16 325 PKPbc PKPdf 16 24 29.1 +0.3
N54A Moraine State 146.53 314 PKPdf 16 24 30.1 +0.5
MCWV Mont Chateau 147.01 312 PKPbc 16 24 31.7 -0.7
O54A Avella 147.15 313 PKPbc 16 24 32.0 -0.9
N53A Lisbon 147.17 314 PKPdf 16 24 31.8 +1.1
E43A Lone Tree Farm 147.55 328 PKPdf 16 24 31.9 +0.8
T57A Hurt 147.62 307 PKPbc 16 24 33.4 -0.8
O53A New Philadelph 147.69 314 PKPbc 16 24 33.9 -0.4
R55A Marlinton 147.77 310 PKPbc 16 24 34.0 -0.8
D41A Chassel 147.83 330 PKPbc 16 24 33.9 -0.6
V58A Windy Hill, Pi 147.93 305 PKPdf 16 24 33.2 +1.1
Q54A Coxs Mills 147.99 311 PKPbc 16 24 33.8 -1.4
ULM Lac du Bonnet 148.10 341 PKPbc PKPdf 16 24 33.2 +1.3
comp=Z,12nm,0.9s,baz=77,slow=3.1,SNR=6.0
ULM Lac du Bonnet 148.10 341 PKPbc 16 24 34.3 -0.8
P53A Whipple 148.16 312 PKPdf PKPdf 16 24 32.4 +0.1
O52A Adamsville 148.17 314 PKPbc 16 24 35.1 -0.5
BLA Blacksburg 148.41 308 PKPbc 16 24 35.5 -0.9
EYMN Ely 148.45 334 PKPbc 16 24 35.8 -0.3
P52A Corning 148.60 313 PKPbc 16 24 36.3 -0.5
U56A King 148.70 306 PKPbc 16 24 37.0 -0.1
COWI Conover 148.80 329 PKPbc 16 24 36.7 -0.4
P51A Williamsport 149.30 314 PKPbc 16 24 37.4 -1.2
BIRD Birdtown, Kers 149.34 303 PKPbc 16 24 38.3 -0.4
V55A Taylorsville 149.51 306 PKPdf PKPdf 16 24 34.2 -0.5
Q51A Peebles 149.71 313 PKPdf PKPdf 16 24 34.6 -0.3
O49A Covington 149.79 316 PKPbc 16 24 38.9 -0.9
AGMN Agassiz Nation 149.80 339 PKPbc 16 24 38.8 -0.7
G40A Rib Lake 149.92 329 PKPbc 16 24 39.3 -0.6
G40A PKPab 16 24 45.2 -0.2
I42A Draeger Farm, 150.25 326 PKPab 16 24 46.4 -0.4
N47A Urbana 150.28 318 PKPbc 16 24 39.9 -1.0
PAULI Pauline 150.33 304 PKPbc 16 24 40.0 -1.2
P49A Miami Univ. Ec 150.38 315 PKPbc 16 24 38.9 -2.2
S51A Beattyville 150.53 311 PKPbc 16 24 39.9 -1.7
R50A Paris 150.75 312 PKPbc 16 24 40.9 -1.2
V53A Saluda 150.78 307 PKPbc 16 24 41.6 -0.7
HODGE Hodges 150.88 304 PKPbc 16 24 41.8 -0.7
P48A Milroy 150.89 315 PKPbc 16 24 41.1 -1.3
F36A Milaca 150.95 333 PKPbc 16 24 41.5 -0.8
TZTN Tazewell 150.98 309 PKPbc 16 24 41.3 -1.4
I40A Norwalk 151.12 328 PKPbc 16 24 41.5 -1.3
BG3 Lake Jocassee 151.13 305 PKPbc 16 24 42.3 -0.8
D32A Dogwood Acres, 151.20 339 PKPbc 16 24 42.5 -0.3
B06A Marblemount 151.24 14 PKPbc 16 24 42.5 -0.4
R49A Shelbyville 151.32 313 PKPbc 16 24 42.0 -1.4
MDND Maddock 151.34 343 PKPbc 16 24 42.4 -0.7
SFIN Lafayette 151.44 319 PKPbc 16 24 42.1 -1.5
TKL Tuckaleechee C 151.51 307 PKPbc PKPbc 16 24 43.0 -0.9
comp=Z,1.9nm,0.7s,baz=67,slow=5.0,SNR=4.1
JFWS Jewell Farm 151.62 326 PKPbc 16 24 42.6 -1.3
NLWA Neilton Lookou 151.68 18 PKPab PKPab 16 24 50.8 -1.8
T50A Nancy 151.69 311 PKPab PKPab 16 24 52.6 -0.4
WALA Waterton Lakes 151.76 3 PKPbc 16 24 43.8 -0.4
DGMT Dagmar 151.78 350 PKPbc 16 24 43.2 -1.0
DGMT PKPab PKPab 16 24 51.2 -1.8
B08A Colville Reser 151.82 11 PKPbc 16 24 43.6 -0.7
L42A Oliver, Polo 151.93 324 PKPbc 16 24 43.0 -1.7
F33A 5 Mile Ranch, 152.06 337 PKPbc 16 24 43.4 -1.5
NEW Newport 152.25 8 PKiKP PKPab 16 24 45.8 +0.2
I37A Lemond, Waseca 152.36 331 PKPbc 16 24 44.6 -0.9
D05A Enumclaw 152.37 15 PKiKP 16 24 45.6 -0.1
E03A Lebam 152.53 18 PKPbc 16 24 44.6 -1.2
C09A Chrisman Ranch 152.54 10 PKPbc 16 24 44.6 -1.3
LTY Liberty 152.61 14 PKPbc 16 24 44.4 -0.8
L40A Anamosa 152.73 326 PKPbc 16 24 45.1 -1.4
E28A Huff 152.81 343 PKPbc 16 24 45.2 -1.4
LON Longmire 152.82 15 PKPbc 16 24 46.0 -0.7
W50A Signal Mountai 152.84 307 PKPbc 16 24 46.1 -0.9
OLIL Olney 153.03 317 PKPbc 16 24 46.2 -1.0
SCIA State Center 153.87 328 PKPbc 16 24 48.1 -0.9
ECSD EROS Data Cent 153.96 335 PKPbc 16 24 48.1 -1.1
MSO Missoula 153.98 4 PKPab 16 24 48.5 -0.8
BCYI Bear Canyon 156.52 3 PKPab 16 25 13.0 -0.5
LCAR Lake Charles 156.54 315 PKPdf PKPdf 16 24 43.2 -1.6
LCAR PKPab 16 25 13.0 -0.6
YBH Yreka Blue Hor 157.12 22 PKPab PKPab 16 25 16.1 +0.1
comp=Z,2.0nm,0.9s,baz=85,slow=11,SNR=3.6
TPAW Teton Pass 157.38 359 PKPdf 16 24 45.0 -1.0
BW06 Boulder Array 158.05 356 PKPdf 16 24 45.0 -1.8
PDAR Pinedale Array 158.05 356 PKP PKPdf 16 24 46.4 -0.5
comp=Z,1.4nm,1.0s,baz=48,slow=2.2,SNR=8.9
PDAR PKPab PKPab 16 25 20.7 +0.6
comp=Z,1.9nm,0.9s,baz=4.7,slow=3.6,SNR=3.7
PDAR PP PP 16 28 59.5 +0.6
comp=Z,0.3nm,0.7s,baz=66,slow=3.1,SNR=2.9
PDAR Pinedale Array 158.05 356 PKPdf PKPdf 16 24 45.2 -1.7
WDC Whiskeytown Da 158.20 23 PKPab PKPab 16 25 20.3 -0.2
HWUT Hardware Ranch 159.27 360 PKPdf PKPdf 16 24 47.9 -0.4
ORV Oroville 159.48 22 PKPab PKPab 16 25 24.9 -1.2
RDMU Red Mountain 160.23 355 PKPab 16 25 28.7 -0.9
PNTR Pine Nut 160.53 19 PKPab 16 25 30.7 -0.7
O22A White River Ci 160.53 352 PKPab 16 25 30.4 -0.5
DUG Dugway, Tooele 160.65 3 PKPab PKPab 16 25 31.1 -0.3
KVN Kaiserville 160.98 16 PKPab PKPab 16 25 32.0 -0.9
WAKR Walker 161.11 19 PKPab 16 25 32.9 -0.6
CMB Columbia Colle 161.22 22 PKPab 16 25 32.9 -0.9
RYN Ryan 161.26 17 PKPab 16 25 33.4 -0.8
NVAR Mina Array Bea 161.51 17 PKP PKPdf 16 24 51.9 +1.0
comp=Z,1.2nm,1.0s,baz=318,slow=1.2,SNR=4.6
NVAR PKPab PKPab 16 25 35.1 -0.2
comp=Z,2.8nm,1.0s,baz=331,slow=3.2,SNR=7.5
NVAR PP PP 16 29 18.2 +0.5
comp=Z,0.8nm,0.9s,baz=319,slow=5.0,SNR=3.5
NVAR Mina Array Bea 161.51 17 PKPab 16 25 33.8 -1.5
NV11 Mina Array Sit 161.55 16 PKPab 16 25 34.4 -0.9
LHV Little Huntoon 161.62 18 PKPab 16 25 35.1 -0.3
Q16A Castle Valley 161.96 359 PKPab 16 25 37.2 +0.1
MDPB Devils Postpil 162.02 20 PKPab 16 25 37.1 -0.5
OMMB Old Mammoth Mi 162.07 19 PKPab PKPab 16 25 37.9 0.0
WMOK Wichita Mounta 162.12 324 PKPab 16 25 36.6 -1.3
PV21 Cone Mtn., Par 162.17 353 PKPab 16 25 37.9 -0.3
PV22 Blue Mesa, Par 162.18 353 PKPab 16 25 38.0 -0.1
PSUT Pine Spring 162.23 6 PKPab PKPab 16 25 38.3 -0.1
SDCO Great Sand Dun 162.32 344 PKPab 16 25 38.4 -0.6
PV15 Paradox Valley 162.33 352 PKPab 16 25 38.6 -0.2
PV04 Paradox Valley 162.33 353 PKPab 16 25 38.8 0.0
PV14 Lion Creek, Pa 162.36 353 PKPab 16 25 38.9 -0.1
PV12 Saucer Basin, 162.39 353 PKPab 16 25 39.1 -0.1
PV16 Nyswonger Mesa 162.41 353 PKPab 16 25 39.2 0.0
PV11 David Mesa, Pa 162.42 353 PKPab 16 25 39.1 -0.1
PV03 Paradox Valley 162.46 353 PKPab 16 25 39.2 -0.2
PV18 Skein Mesa, Pa 162.47 353 PKPab PKPab 16 25 38.1 -1.4
PV13 Radium Mtn., P 162.55 353 PKPab 16 25 39.9 +0.1
BNM Barren Site 166.01 343 PKPab PKPab 16 25 55.0 -0.2
TXAR Lajitas Array 168.90 321 PKP PKPdf 16 24 58.3 +1.1
comp=Z,1.3nm,0.9s,baz=234,slow=1.1,SNR=10.0
TXAR PKPab PKPab 16 26 08.3 +0.3
comp=Z,1.8nm,0.8s,baz=48,slow=3.7,SNR=9.2
TXAR PP PP 16 30 01.3 +4.6
comp=Z,0.5nm,1.1s,baz=67,slow=6.9,SNR=2.3
TXAR Lajitas Array 168.90 321 PKPdf 16 24 56.9 -0.4
TXAR PKPab PKPab 16 26 07.7 -0.3

*JMA **17** 16:07:28.7±0.1, 39.°20N×142.°39E, h31km±1km, M3.9*
JMA Felt I J1.
*NIED **17** 16:07:28.8, 39.°20N×142.°39E, h31km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=0.61; Mθθ=0.50; Mϕϕ=1.11; Mrθ=1.28; Mθϕ=0.38; Mϕr=1.78; Fault plane solution: M₀2.41000×10¹⁴ NP1: ϕs=216.00000°, δ81.00000°, λ-75.00000°. NP2: ϕs=337.00000°, δ18.00000°, λ-148.00000°.*
*IDC **17** 16:07:30.7±2.6, 39.°15N×142.°60E, h52km±22km, mb3.5/4, mb1 3.5/8, mb1mx3.3/60, mbtmp3.7/8, ML3.1/3, MS2.8/3, Ms1 2.8/3, ms1mx2.3/45 Error ellipse: s-maj=42.4km s-min=15.5km az=99.0*
ISC 17 16:07:28.7±1.8, 39.°16N±0.°04×142.°32E±0.°08, h25km±12km, n26, σ0892/26, mb3.8/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.51	261	P		Pn	16 07 40.1	-0.4
OFUJ				S		Sn	16 07 47.9	-0.6
MIYJ	Miyakonagasawa	0.57	317	P		Pb	16 07 40.2	+0.1
MIYJ				S		Sb	16 07 47.9	+0.1
JKMT	Kesennumamotoy	0.75	242	P		Pn	16 07 43.5	-0.2
JTH	Tanohata	0.85	336	P		Pb	16 07 44.1	-0.8
JOM	Ohasama	0.86	292	P		Pn	16 07 45.3	+0.1
JOM				eS		Sn	16 07 57.1	+0.1
JMK	Ichinoseki	0.88	257	P		Pn	16 07 45.8	+0.3
JMK				eS		Sn	16 07 57.9	+0.3
JIO	Ouri	1.04	227	P		Pn	16 07 47.5	-0.2
JIO				eS		Sb	16 08 00.8	-0.3
JKZ	Kuzumaki	1.12	317	P		Pn	16 07 49.0	0.0
JKZ				eS		Sn	16 08 03.6	0.0
JRG	Rokugo	1.33	281	P		Pb	16 07 52.9	-0.1
JANG	Nango	1.36	333	P		Pn	16 07 51.9	-0.3
JANG				S		Sn	16 08 09.2	-0.2
MJAR	Matsushiro Arr	4.17	232	P		Pn	16 08 33.6	+2.7
	0.3nm,0.3s,baz=40,slow=10,SNR=21							
ASAJ	Asahikawa	4.96	2	P		Pn	16 08 42.7	+1.2
	baz=225,slow=11							
ASAJ				S		Sn	16 09 39.4	+1.3
	0.7nm,0.3s,baz=99,slow=34,SNR=1.8							
ASAJ				LR		LR	16 11 10.0	
	comp=Z,54nm,20.4s,baz=178,slow=44							
JHJ	Hachijo jima 2	6.37	200	P		Pn	16 09 02.6	+1.6
	5.5nm,0.3s,baz=317,slow=21,SNR=6.7							
JHJ				S		Sn	16 10 11.3	-1.7
	2.7nm,0.3s,baz=256,slow=23,SNR=1.2							
KSRS	Korea Array	11.44	266	P		Pn	16 10 15.9	+5.4
	0.1nm,0.3s,baz=67,slow=14,SNR=4.7							
KLR	Kul'dur	12.59	327	LR		LR	16 14 59.7	
	comp=Z,35nm,19.1s,baz=146,slow=35							
H11N2	WAKE ISLAND Hy 28.71	125		T		T	16 43 49.5	
	baz=318,slow=76,SNR=234							
H11N1	WAKE ISLAND Hy 28.72	125		T		T	16 44 01.2	
	baz=318,slow=76,SNR=160							
H11N3	WAKE ISLAND Hy 28.73	125		T		T	16 43 46.7	
	baz=318,slow=76,SNR=180							
H11S1	WAKE ISLAND Hy 29.50	127		T		T	16 44 55.2	
	baz=319,slow=76,SNR=22							
H11S3	WAKE ISLAND Hy 29.50	127		T		T	16 44 53.4	
	baz=319,slow=76,SNR=26							
H11S2	WAKE ISLAND Hy 29.51	127		T		T	16 44 56.1	
	baz=319,slow=76,SNR=27							
TLY	Talaya	29.53	308	LR		LR	16 26 14.9	
	comp=Z,28nm,18.6s,baz=106,slow=38							
ZALV	Zalesovo Beam	41.04	311	P		P	16 15 10.3	+0.5
	0.7nm,0.5s,baz=95,slow=10,SNR=4.1							
MKAR	Makanchi Array	43.63	300	P		P	16 15 31.0	-0.1
	0.4nm,0.6s,baz=91,slow=6.8,SNR=4.0							
KURBB	Kurchatov Arra	45.29	306	P		P	16 15 44.3	+0.1
	1.3nm,0.5s,baz=82,slow=8.3,SNR=5.7							
WRA	Warramunga Arr	59.27	189	P		P	16 17 27.2	-0.9
	0.4nm,0.3s,baz=5.2,slow=7.0,SNR=2.3							

*IDC **17** 16:08:26.9±1.4, 1.°41N×96.°82E, h0km, mb4.0/7, mb1 4.0/8, mb1mx3.6/51, mbtmp3.9/8, ML3.2/1, Error ellipse: s-maj=40.2km s-min=22.8km az=53.0*
*DJA **17** 16:08:29.9±1.3, 2.°N±4.°×9.°7E±.°, h27km±10km, M3.9/12, mb4.0/3, MLv3.8/12*
*NEIC **17** 16:08:30.7±1.2, 1.°4N±0.°1×96.°9E±0.°1, h26km±6km, mb4.4/11, Error ellipse: s-maj=19.6km s-min=8.0km az=47.0*
ISC 17 16:08:30.9±0.8, 1.°46N±0.°06×96.°89E±0.°08, h28km, n41, σ1900/37, mb4.2/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.70	103	P		Pn	16 08 44.4	-0.6
GSI				S		Sn	16 08 54.9	0.0
GSI	Gunungsitoli	0.70	103	Pn		Pn	16 08 44.6	-0.4
TPTI		1.81	9	P		Pn	16 08 58.7	-1.5
TPTI				S		Sn	16 09 20.3	-1.9
PBSI	Pulau Batu	2.05	137	P		Pn	16 09 02.5	-1.0
RPSI	Rantau Prapat	2.37	59			Pn	16 09 07.9	0.0
PSI	Prapat	2.43	57	Pn		Pn	16 09 08.9	+0.1
	4.8nm,0.3s,baz=0.2,slow=15,SNR=16							
TSI	Tuntungan	2.62	40	P		Pn	16 09 11.7	+0.3
MLSI	Meulaboh, Aceh	2.83	350	P		Pn	16 09 14.0	-0.2
MLSI				S		Sn	16 09 44.8	-2.5
LHMI	Lhok Sumawe	3.74	1	Pn		Pn	16 09 27.5	+0.7
PDSI	Padang	4.28	123	P		Pn	16 09 33.3	-0.9
BKNI	Bangkinang	4.30	105	P		Pn	16 09 34.5	0.0
BKNI	Bangkinang	4.30	105	Pn		Pn	16 09 32.9	-1.5
IPM	Ipoh	5.10	54			Pn	16 09 45.9	+0.4
SDSI	Sungai Dareh	5.12	118	P		Pn	16 09 46.6	+0.8
	0.1nm10nm,0.7s							
KULM	Kulim	5.34	45	Pn		Pn	16 09 49.0	+0.3
MYKOM	Kota Tinggi	6.96	87	Pn		Pn	16 10 10.1	-1.0
SLVN	Son La	20.90	19	P		P	16 13 11.5	+0.3
H08S2	Diego Garcia H	25.96	249	T		T	16 41 07.9	
	baz=70,slow=75,SNR=383							
H08S3	Diego Garcia H	25.97	249	T		T	16 41 04.2	
	baz=70,slow=75,SNR=322							
H08S1	Diego Carcia H	25.98	249	T		T	16 41 04.6	
	baz=70,slow=75,SNR=742							
FITZ	Fitzroy Crossi	34.33	126	P		P	16 15 15.4	0.0
FITZ				IAmb		IAmb	16 15 15.9	
	comp=Z,9.4nm,1.2s							
H01W3	Cape Leeuwin H	39.61	158	T		T	16 58 21.1	
	baz=333,slow=76,SNR=11							
H01W2	Cape Leeuwin H	39.62	158	T		T	16 58 31.7	
	baz=333,slow=76,SNR=8.2							
H01W1	Cape Leeuwin H	39.62	158	T		T	16 58 26.1	
	baz=333,slow=76,SNR=8.6							
WB0	Warramunga Arr	42.41	122	P		P	16 16 22.3	-1.1
WB0				IAmb		IAmb	16 16 30.3	
	comp=Z,7.5nm,1.1s							
WRA	Warramunga Arr	42.44	122	P		P	16 16 22.0	-1.6
WRAB	Tennant Creek	42.44	122	P		P	16 16 23.2	-0.4
WB2	Warramunga Arr	42.45	122	P		P	16 16 21.8	-1.9
WR0	Warramunga Arr	42.61	122	P		P	16 16 24.5	-0.6
WR0				IAmb		IAmb	16 17 58.2	
	comp=Z,10nm,1.3s							
ASAR	Alice Springs	43.80	127	P		P	16 16 35.0	+0.4
	comp=Z,0.9nm,0.6s,baz=301,slow=8.1,SNR=6.8							
KSRS	Korea Array	45.81	35	P		P	16 16 50.0	-0.3
	comp=Z,0.6nm,0.4s,baz=239,slow=7.9,SNR=5.9							
MK31	Makanchi Array	46.91	346	P		P	16 17 00.4	+1.4
MK31				IAmb		IAmb	16 17 07.6	
	comp=Z,3.7nm,1.2s							
MKAR	Makanchi Array	46.91	346	P		P	16 17 00.5	+1.6
	comp=Z,0.9nm,0.6s,baz=160,slow=8.1,SNR=4.6							
BBOO	Buckleboo	50.28	136	P		P	16 17 26.0	+0.9
ZALV	Zalesovo Beam	53.25	351	P		P	16 17 47.7	+0.9
	comp=Z,0.8nm,0.4s,baz=170,slow=6.3,SNR=4.6							
STKA	Stephens Creek	53.76	132	P		P	16 17 51.5	+0.5
	comp=Z,1.3nm,0.6s,baz=327,slow=9.7,SNR=3.6							
STKA	Stephens Creek	53.76	132	IAmb		IAmb	16 18 08.2	
	comp=Z,7.9nm,1.9s							
ABKAR	Akbulak array	57.14	332	P		P	16 18 15.0	+0.1
PET	Petropavlovsk	72.19	34	P		P	16 19 53.3	+0.2

FINES	**FINES Array B**	**79.62**	**333**	P		**P**	**16 20 35.6**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=131,slow=5.7,SNR=1.7							
ARCES	**ARCESS Array B**	**82.18**	**340**	P		**P**	**16 20 49.1**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=93,slow=4.7,SNR=4.7							

PPT 17 16:13:02.8±1.6, 18°10S×149°42W, h10km, MI0.0/6, Error ellipse: s-maj=26.4km s-min=2.6km az=3.0, Society Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TVO	**Taravao**	**0.35**	**26**	*e*Sn		Sg	16 13 13.9	-0.6
	1.7nm,0.1s							
TVO	**Taravao**	**0.35**	**26**	*e*Sn		Sb	16 13 19.7	+2.9
	2.5nm,0.1s							
PAE	**Paea**	**0.46**	**340**	*e*Pn		Pb	16 13 12.7	-0.3
	0.2nm,0.1s							
PAE				*e*Sn		Sg	16 13 16.3	-1.7
	0.4nm,0.1s							
PAE	**Paea**	**0.46**	**340**	*e*Sn		Sb	16 13 22.0	+2.0
	0.4nm,0.1s							
PPT2	**Papeete2**	**0.53**	**343**	*e*Pn		Pg	16 13 12.0	-1.1
	0.4nm,0.1s							
PPT2				*e*Sn		Sg	16 13 18.0	-2.1
	1.2nm,0.1s							
PPT2	**Papeete2**	**0.53**	**343**	*e*Sn		Sb	16 13 23.6	+1.6
	0.9nm,0.1s							
TIAR	**Tiarei**	**0.54**	**7**	*e*Sn		Sg	16 13 18.3	-2.2
	1.3nm,0.1s							
TIAR	**Tiarei**	**0.54**	**7**	*e*Sn		Sn	16 13 24.2	-1.6
	0.6nm,0.1s							

IDC ***17*** *16:17:04.7±6.8, 6°34N×72°56W, h168km±46km, mb1 3.1/1, mb1mx2.7/33, mbtmp3.6/1, Error ellipse: s-maj=89.7km s-min=83.0km az=144.0*

RSNC ***17*** *16:17:05.8±1.0, 6°82N×73°18W, h139km±5km, ML2.9, Mw3.4*

ISC 17 16:17:05.6±1.2, 6°84N±0°04×73°17W±0°05, h140km±8km, n25, σ1§29/45, 2C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**182**	⇓*i*P		**Pn**	**16 17 24.8**	**-0.4**
BARC				*e*S		**Sn**	**16 17 39.4**	**-0.6**
BARC				*i*			16 17 40.6	
	comp=Z,163nm,0.2s							
BRRC	**Barranca, Sant**	**0.60**	**296**	⇑*i*P		**Pn**	**16 17 26.7**	**+0.3**
BRRC				*e*S		**Sn**	**16 17 43.7**	**+1.5**
BRRC				*i*			16 17 48.4	
	comp=Z,147nm,0.1s							
PAMC	**Pamplona, Colo**	**0.68**	**44**	⇑*i*P		**Pn**	**16 17 27.8**	**+0.3**
PAMC				*e*S		**Sn**	**16 17 44.6**	**+0.5**
PAMC				*i*			16 17 47.0	
	comp=Z,182nm,0.6s							
RUSC	**La Rusia**	**0.95**	**175**	*e*P		**Pn**	**16 17 28.8**	**-0.8**
RUSC				*e*S		**Sn**	**16 17 47.0**	**-0.8**
RUSC				*i*			16 17 48.6	
	comp=Z,94nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.31**	**257**	*e*P		**Pn**	**16 17 31.6**	**-0.8**
PTBC				*e*S		**Sn**	**16 17 52.4**	**-0.5**
PTBC				*i*			16 17 56.0	
	comp=Z,98nm,0.2s							
TAMC	**Tame, Arauca**	**1.43**	**106**	⇓*i*P		**Pn**	**16 17 33.1**	**-0.6**
TAMC				*e*S		**Sn**	**16 17 54.5**	**-0.7**
TAMC				*i*			16 17 55.3	
	comp=Z,62nm,0.4s							
SPBC	**San Pablo de B**	**1.48**	**217**	*e*P		**Pn**	**16 17 33.7**	**-0.7**
SPBC				*e*S		**Sn**	**16 17 55.9**	**-0.4**
SPBC				*i*			16 17 58.1	
	comp=Z,93nm,0.4s							
ZARC	**Zaragoza, Cauc**	**1.79**	**291**	*e*P		**Pn**	**16 17 37.8**	**+0.1**
ZARC				*e*S		**Sn**	**16 18 04.2**	**+1.9**
ZARC				*i*			16 18 11.9	
	comp=Z,79nm,0.3s							
NORC	**Norcasia**	**2.11**	**233**	*e*P		**Pn**	**16 17 40.9**	**-0.7**
NORC				*e*S		**Sn**	**16 18 07.9**	**-1.2**
NORC				*i*			16 18 15.7	
	comp=Z,57nm,0.5s							
SMLC	**San Martn de**	**2.14**	**335**	*e*P		**Pn**	**16 17 41.4**	**-0.5**
SMLC				*e*S		**Sn**	**16 18 09.1**	**-0.6**
SMLC				*i*			16 18 18.7	
	comp=Z,76nm,0.3s							
CHIC	**Chingaza**	**2.27**	**194**	*e*P		**Pn**	**16 17 43.2**	**-0.6**
CHIC				*e*S		**Sn**	**16 18 12.7**	**-0.5**
CHIC				*i*			16 18 22.4	
	comp=Z,18nm,0.4s							
ROSC	**El Rosal**	**2.29**	**210**	P		**Pn**	**16 17 44.9**	**+0.8**
	comp=Z,11nm,0.3s,baz=50,slow=22,SNR=13							
ROSC				S		**Sn**	**16 18 16.2**	**+2.6**
	comp=Z,9.7nm,0.3s,baz=201,slow=23,SNR=15							
ROSC	**El Rosal**	**2.29**	**210**	*e*P		**Pn**	**16 17 44.9**	**+0.8**
ROSC				*e*S		**Sn**	**16 18 16.2**	**+2.6**
ROSC				*i*			16 18 20.9	
	comp=Z,35nm,0.5s							
HELC	**Santa Helena**	**2.43**	**255**	*e*P		**Pn**	**16 17 47.3**	**+1.6**
HELC				*e*S		**Sn**	**16 18 15.7**	**-0.8**
HELC				*i*			16 18 23.7	
	comp=Z,66nm,0.5s							
UREC	**San Jos de Ur**	**2.51**	**291**	*e*P		**Pn**	**16 17 45.4**	**-1.0**
UREC				*e*S		**Sn**	**16 18 17.6**	**-0.2**
UREC				*i*			16 18 18.7	
	comp=Z,69nm,0.1s							
GUY2C	**Guyana, Caldas**	**2.71**	**234**	*e*P		**Pn**	**16 17 50.1**	**+0.8**
GUY2C				*e*S		**Sn**	**16 18 24.6**	**+1.6**
GUY2C				*i*			16 18 32.1	
	comp=Z,46nm,0.5s							
RREF	**El Recreo**	**2.90**	**228**	*e*P		**Pn**	**16 17 50.2**	**-1.6**
RREF				*e*S		**Sn**	**16 18 24.8**	**-2.7**
RREF				*i*			16 18 31.2	
	comp=Z,23nm,0.4s							
CBOC	**Ciudad Bolivar**	**2.98**	**251**	*e*P		**Pn**	**16 17 53.2**	**+0.6**
DBBC	**Dabeiba**	**3.02**	**273**	⇓*e*P		**Pn**	**16 17 52.8**	**-0.2**
DBBC				*e*S		**Sn**	**16 18 25.5**	**-4.0**
TOLC	**Tolima**	**3.10**	**224**	*e*P		**Pn**	**16 17 55.0**	**+0.8**
ANIL	**Santa Ana**	**3.22**	**224**	*e*P		**Pn**	**16 17 56.1**	**+0.4**
PRAC	**Prado**	**3.54**	**209**	*e*P		**Pn**	**16 17 59.7**	**0.0**
PRAC				*e*S		**Sn**	**16 18 39.9**	**-1.8**
PRAC				*i*			16 18 47.0	
	comp=Z,22nm,0.4s							
ORTC	**Ortega, Tolima**	**3.57**	**215**	*e*P		**Pn**	**16 17 59.2**	**-0.9**
ORTC				*e*S		**Sn**	**16 18 42.6**	**+0.4**
ORTC				*i*			16 18 49.6	
	comp=Z,14nm,0.5s							
ASAR	**Alice Springs**	**149.08**	**234**	PKPbc		**PKPdf**	**16 36 34.1**	**+0.2**
	comp=Z,0.5nm,1.0s,baz=126,slow=3.9,SNR=5.6							
WRA	**Warramunga Arr**	**150.30**	**241**	PKPbc		**PKPdf**	**16 36 37.3**	**+1.3**
	comp=Z,0.5nm,1.0s,baz=108,slow=2.6,SNR=5.2							

IDC ***17*** *16:30:30.0±1.6, 0°22S×78°83W, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.7/36, mbtmp3.8/5, ML3.6/1, MS3.7/2, Ms1 3.8/2, ms1mx2.9/23, Error ellipse: s-maj=49.8km s-min=31.7km az=52.0*

NEIC ***17*** *16:30:31.2±2.5, 0°01N±0°04×78°4W±0°1, h10km±1km, mb4.2/9, Error ellipse: s-maj=23.0km s-min=5.9km az=264.0*

ISC 17 16:30:30.6±2.0, 0°05S±0°07×78°47W±0°06, h6km±12km, n36, σ1§36/34, mb4.0/5, 1D, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OTAV	**Otavalo**	**0.28**	**4**	⇓*i*P		**Pg**	**16 30 36.1**	**-0.2**
OTAV				*e*S		**Sb**	**16 30 40.4**	**-3.2**
OTAV				*i*			16 30 43.9	
	comp=Z,1μm,0.5s							
OTAV	**Otavalo**	**0.28**	**4**			**Pg**	**16 30 36.1**	**-0.2**
PUAC	**Puerto Asis, P**	**1.99**	**73**	*e*P		**Pn**	**16 31 05.7**	**+0.8**
PUAC				*e*S		**Sb**	**16 31 32.1**	**-0.3**
PUAC				*i*			16 31 38.1	
	comp=Z,352nm,0.7s							
BBAC	**Balboa, Cauca**	**2.39**	**31**	*e*P		**Pb**	**16 31 13.8**	**-0.4**
BBAC				*e*S		**Sg**	**16 31 48.0**	**+0.4**
BBAC				*i*			16 31 53.1	
	comp=Z,88nm,0.7s							
SOTA	**Rioblanco**	**2.86**	**41**	*e*P		**Pg**	**16 31 25.6**	**+0.1**
POPC	**Popayan, Colom**	**3.14**	**35**	*e*P		**Pb**	**16 31 26.1**	**-0.8**
PCON	**Cinco Dias**	**3.14**	**41**	*e*P		**Pb**	**16 31 28.2**	**+1.0**
FLOC	**Florencia**	**3.25**	**60**	*e*P		**Pb**	**16 31 26.8**	**-2.0**
FLOC				*e*S		**Sb**	**16 32 08.0**	**-0.7**
FLOC				*i*			16 32 11.7	
	comp=Z,167nm,0.4s							
FLOC	**Florencia**	**3.25**	**60**	Pn		**Pn**	**16 31 22.6**	**+0.4**
PTLC	**Puerto Leguiza**	**3.68**	**87**	*e*P		**Pn**	**16 31 28.4**	**+0.3**
PTLC				*e*S		**Sn**	**16 32 11.5**	**-0.4**
PTLC				*i*			16 32 35.8	
	comp=Z,235nm,0.5s							
GARC	**Garzon, Huila**	**3.72**	**53**	*e*P		**Pn**	**16 31 30.6**	**+1.8**
MARP	**Paez Belalcaza**	**3.82**	**41**	*e*P		**Pb**	**16 31 38.0**	**-0.6**
BETC	**Betania**	**4.07**	**48**	*e*P		**Pb**	**16 31 44.6**	**+1.9**
YOTC	**Yotoco, Valle**	**4.53**	**28**	*e*P		Pn	16 31 44.6	+4.6
ORTC	**Ortega, Tolima**	**5.08**	**39**	*e*P		Pn	16 31 52.3	+4.8
PRAC	**Prado**	**5.18**	**44**	*e*P		Pb	16 31 56.6	-5.1
TOLC	**Tolima**	**5.58**	**34**	*e*P		Pb	16 32 01.9	-6.7
RREF	**El Recreo**	**5.82**	**32**	*e*P		**Pn**	**16 32 02.5**	**+4.3**
GUY2C	**Guyana, Caldas**	**6.09**	**31**	*e*P		Pn	16 32 08.2	+6.6
CBOC	**Ciudad Bolivar**	**6.37**	**23**	*e*P		**Pn**	**16 32 05.5**	**+0.3**
ROSC	**El Rosal**	**6.39**	**40**	Pn		Pn	16 32 11.4	+5.8
CHIC	**Chingaza**	**6.63**	**45**	*e*P		Pn	16 32 15.7	+6.6
RUSC	**La Rusia**	**7.99**	**42**	Pn		**Pn**	**16 32 28.3**	**+0.6**
SAML	**Samuel**	**17.61**	**121**	P		**Pn**	**16 34 36.1**	**-0.7**
LPAZ	**La Paz**	**19.09**	**148**	P		**P**	**16 34 55.9**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=337,slow=14,SNR=5.2							
LPAZ				LR		LR	16 43 52.0	
	comp=Z,70nm,19.1s,baz=319,slow=42							
LPAZ	**La Paz**	**19.09**	**148**	P		**P**	**16 34 52.9**	**-1.9**
PB12	**IPOC Station P**	**20.11**	**157**			**P**	**16 35 05.6**	**+0.2**
PB12						IAmb	IAmb	16 35 06.8
	comp=Z,23nm,1.5s							
PB16	**IPOC Station P**	**20.20**	**155**			**P**	**16 35 07.2**	**+0.4**
PB16						IAmb	IAmb	16 35 09.2
	comp=Z,6.3nm,0.9s							
MNMC	**Minye Minye**	**20.87**	**156**	P		**P**	**16 35 14.6**	**+0.8**
NVAR	**Mina Array Bea**	**52.94**	**321**	P		**P**	**16 39 48.5**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=124,slow=7.9,SNR=8.0							
NVAR	**Mina Array Bea**	**52.94**	**321**	P		**P**	**16 39 48.9**	**+0.7**
YHB	**Horse Butte**	**53.21**	**331**	P		**P**	**16 39 49.8**	**-0.3**
BOZ	**Bozeman (W)**	**54.04**	**332**	P		**P**	**16 39 57.1**	**+1.1**
BOZ						IAmb	IAmb	16 39 58.2
	comp=Z,2.3nm,0.9s							
WVOR	**Wild Horse Val**	**55.59**	**325**	P		**P**	**16 40 08.8**	**+1.5**
WVOR						IAmb	IAmb	16 40 10.5
	comp=Z,3.0nm,0.9s							
YBH	**Yreka Blue Hor**	**57.61**	**322**	P		**P**	**16 40 21.5**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=95,slow=11,SNR=3.5							
ILAR	**Eielson Array**	**80.97**	**336**	P		**P**	**16 42 45.1**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=104,slow=3.8,SNR=4.9							
ILAR				LR		LR	17 24 35.7	
	comp=Z,120nm,18.4s,baz=316,slow=40							

IDC ***17*** *16:31:47.9±1.5, 20°94S×68°37E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/48, mbtmp3.9/8, MS3.6/8, Ms1 3.6/8, ms1mx3.2/40, Error ellipse: s-maj=46.1km s-min=25.8km az=33.0*

NEIC ***17*** *16:31:50.5±1.2, 20°9S±0°2×68°4E±0°1, h16km±5km, mb4.0/3, Error ellipse: s-maj=31.5km s-min=16.9km az=185.0*

ISC 17 16:31:50.0±1.3, 20°9S±0°3×68°4E±0°1, h13km, n25, σ0§73/13, mb4.0/8, MS3.5/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RODM	**Citronelle, R**	**4.78**	**284**	Pn		**Pn**	**16 33 01.6**	**-0.2**
H08S1	**Diego Carcia H**	**13.79**	**17**	T		T	16 48 59.9	
	baz=197,slow=76,SNR=96							
H08S2	**Diego Garcia H**	**13.79**	**17**	T		T	16 48 50.5	
	baz=197,slow=76,SNR=129							
H08S3	**Diego Garcia H**	**13.81**	**17**	T		T	16 48 51.5	
	baz=197,slow=76,SNR=76							
PALK	**Pallekele**	**30.53**	**25**	LR		LR	16 47 23.7	
	comp=Z,107nm,18.2s,baz=325,slow=31							
PSI	**Prapat**	**38.11**	**55**	LR		LR	16 51 05.6	
	comp=Z,94nm,19.2s,baz=88,slow=30							
BOSA	**Boshof**	**39.72**	**250**	LR		LR	16 52 45.1	
	comp=Z,86nm,18.5s,baz=90,slow=32							
LEM	**Lembang**	**40.47**	**75**	LR		LR	16 55 37.3	
	comp=Z,71nm,18.6s,baz=274,slow=35							
MAW	**Mawson**	**46.80**	**183**	LR		LR	16 56 20.1	
	comp=Z,56nm,20.4s,baz=58,slow=32							
CMAR	**Chiang Mai Arr**	**49.29**	**40**	P		**P**	**16 40 40.0**	**+1.1**
	0.5nm,0.3s,baz=225,slow=9.3,SNR=7.9							
CMAR				LR		LR	17 00 21.9	
	comp=Z,46nm,18.2s,baz=188,slow=35							
CMAR	**Chiang Mai Arr**	**49.29**	**40**	P		**P**	**16 40 38.9**	**0.0**
ASAR	**Alice Springs**	**60.22**	**106**	P		**P**	**16 41 58.6**	**+0.3**
	1.4nm,0.9s,baz=270,slow=5.6,SNR=11							
WRA	**Warramunga Arr**	**61.41**	**102**	P		**P**	**16 42 05.8**	**-0.6**
	1.8nm,1.0s,baz=254,slow=6.4,SNR=5.4							
WRA	**Warramunga Arr**	**61.41**	**102**	IAmb		IAmb	16 42 08.2	
	comp=Z,0.3nm,1.2s							
BRTR	**Keskin Array B**	**68.50**	**332**	P		**P**	**16 42 53.1**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=97,slow=5.2,SNR=3.7							
MKAR	**Makanchi Array**	**68.57**	**10**	P		**P**	**16 42 51.4**	**-1.0**
	comp=Z,1.3nm,1.1s,baz=200,slow=6.2,SNR=4.5							
MKAR	**Makanchi Array**	**68.57**	**10**	P		**P**	**16 42 52.0**	**-0.3**
ABKAR	**Akbulak array**	**70.27**	**354**	P		**P**	**16 43 02.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**73.72**	**291**	P		**P**	**16 43 24.5**	**+0.3**
	comp=Z,0.8nm,1.0s,baz=88,slow=4.5,SNR=3.4							
ZALV	**Zalesovo Beam**	**75.90**	**10**	P		**P**	**16 43 35.0**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=198,slow=4.1,SNR=1.7							
SONM	**Songino Array**	**76.48**	**25**	P		**P**	**16 43 40.0**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=220,slow=3.9,SNR=5.4							
SONM	**Songino Array**	**76.48**	**25**	IAmb		IAmb	16 43 41.1	
	comp=Z,1.3nm,1.0s							
KSRS	**Korea Array**	**80.68**	**44**	LR		LR	17 20 15.1	
	comp=Z,34nm,18.1s,baz=250,slow=36							
MJAR	**Matsushiro Arr**	**87.20**	**49**	LR		LR	17 20 49.3	
	comp=Z,20nm,21.3s,baz=230,slow=34							
FFC	**Flin Flon**	**145.47**	**350**			**PKPab**	**16 51 27.5**	**-0.2**

IDC ***17*** *16:39:27.8±1.4, 11°32S×165°29E, h0km, mb3.9/7, mb1 4.2/9, mb1mx3.8/39, mbtmp4.1/9, ML4.6/2, MS3.5/4, Ms1 3.5/4, ms1mx3.0/35, Error ellipse: s-maj=30.6km s-min=24.0km az=16.0*

NEIC ***17*** *16:39:28.3±2.7, 11°2S±0°1×165°29E±0°10, h10km±1km, mb4.6/15, Error ellipse: s-maj=19.5km s-min=14.1km az=148.0*

ISC 17 16:39:31.4±0.9, 11°1S±0°1×165°3E±0°1, h30km, n35, σ1§86/25, mb4.2/10, MS3.5/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**5.48**	**287**	Pn		**Pn**	**16 40 50.6**	**-0.5**
	48nm,0.3s,baz=132,slow=8.6,SNR=27							
HNR				Sn		**Sn**	**16 41 57.0**	**+3.9**
	8.6nm,0.3s,baz=256,slow=6.3,SNR=1.0							
HNR				LR		LR	16 43 11.7	
	comp=Z,326nm,19.9s,baz=104,slow=40							
HNR	**Honiara**	**5.48**	**287**			**Pn**	**16 40 50.0**	**-1.1**
DZM	**Mont Dzumac**	**10.99**	**174**	Pn		**Pn**	**16 42 09.3**	**+2.6**
	1.6nm,0.3s,baz=91,slow=21,SNR=10							
DZM	**Mont Dzumac**	**10.99**	**174**	Pn		**Pn**	**16 42 08.1**	**+1.4**
RABL	**Rabaul**	**14.67**	**297**	Pn		**Pn**	**16 42 56.3**	**-0.7**
KRVT	**Keraudren (AS076**	**14.74**	**296**	Pn		**P**	**16 43 01.4**	**-2.2**
	0.9nm,0.3s,baz=154,slow=14,SNR=4.9							
PATS	**Pohnpei**	**19.09**	**338**	P		**P**	**16 43 50.6**	**-1.2**
CTA	**Charters Tower**	**20.37**	**242**	P		Pn	16 44 06.6	-1.4
	5.8nm,0.9s,baz=70,slow=13,SNR=4.4							
CTAO	**Charters Tower**	**20.37**	**242**			**P**	**16 44 05.3**	**-0.4**
CTAO						IAmb	IAmb	16 44 10.6
	comp=Z,18nm,1.2s							
AFI	**Afiamalu**	**22.59**	**100**	LR		LR	16 50 39.5	
	comp=Z,174nm,19.6s,baz=270,slow=30							
RAO	**Raoul Island**	**23.95**	**141**	LR		LR	16 51 58.3	
	comp=Z,156nm,20.2s,baz=274,slow=32							
URZ	**Urewera**	**29.07**	**161**	P		**P**	**16 45 27.5**	**-1.7**
	comp=Z,2.8nm,0.3s,baz=293,slow=3.2,SNR=7.2							
H11S2	**WAKE ISLAND Hy**	**29.41**	**3**	T		T	17 15 22.3	
	baz=181,slow=76,SNR=72							
H11S3	**WAKE ISLAND Hy**	**29.42**	**3**	T		T	17 15 32.9	
	baz=181,slow=76,SNR=53							
H11S1	**WAKE ISLAND Hy**	**29.43**	**3**	T		T	17 15 31.4	
	baz=181,slow=76,SNR=64							
BKZ	**Black Stump Fm**	**29.71**	**162**	P		**P**	**16 45 33.3**	**-1.6**
STKA	**Stephens Creek**	**30.09**	**223**	P		**P**	**16 45 39.3**	**+0.9**
	comp=Z,2.1nm,0.9s,baz=80,slow=12,SNR=3.5							
STKA				LR		LR	16 57 12.7	
	comp=Z,64nm,19.7s,baz=25,slow=36							
STKA	**Stephens Creek**	**30.09**	**223**	IAmb		IAmb	16 45 42.8	
	comp=Z,5.0nm,1.8s							
H11N1	**WAKE ISLAND Hy**	**30.64**	**3**	T		T	17 17 01.8	
	baz=183							
H11N3	**WAKE ISLAND Hy**	**30.64**	**3**	T		T	17 17 01.7	
	baz=183							
H11N2	**WAKE ISLAND Hy**	**30.66**	**3**	T		T	17 17 02.7	
	baz=183							
WB0	**Warramunga Arr**	**30.94**	**250**	P		**P**	**16 45 45.5**	**-0.5**
WB0				IAmb		IAmb	16 46 51.8	
	comp=Z,14nm,1.6s							
WRA	**Warramunga Arr**	**31.03**	**250**	P		**P**	**16 45 46.1**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=81,slow=8.9,SNR=4.9							
WRA	**Warramunga Arr**	**31.03**	**250**	IAmb		IAmb	16 45 55.8	
	comp=Z,0.2nm,1.1s							
BFZ	**Birch Farm**	**31.04**	**164**	P		**P**	**16 45 44.3**	**-2.3**
LTZ	**Lake Taylor**	**32.17**	**170**	P		**P**	**16 45 53.5**	**-3.0**
ASAR	**Alice Springs**	**32.36**	**243**	P		**P**	**16 45 57.6**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=67,slow=10,SNR=11							
BBOO	**Buckleboo**	**34.46**	**227**	P		**P**	**16 46 17.1**	**+0.4**
KNRA	**Kununurra**	**35.77**	**259**	P		**P**	**16 46 27.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**38.91**	**255**	P		**P**	**16 46 53.6**	**-1.1**
FITZ				IAmb		IAmb	16 47 57.2	
	comp=Z,14nm,1.5s							
FORT	**Forrest**	**39.64**	**235**	P		**P**	**16 47 00.3**	**-0.4**
FORT				IAmb		IAmb	16 48 06.6	
	comp=Z,20nm,1.1s							
VNDA	**Vanda**	**66.45**	**181**	P		**P**	**16 50 19.1**	**+1.7**
VNDA				IAmb		IAmb	16 50 25.0	
	comp=Z,6.3nm,0.7s							
QSPA	**South Pole Qui**	**78.93**	**180**	P		**P**	**16 51 30.2**	**-1.7**
NVAR	**Mina Array Bea**	**86.41**	**50**	P		**P**	**16 52 12.8**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=223,slow=7.4,SNR=3.5							
MKAR	**Makanchi Array**	**93.22**	**317**	P		**P**	**16 52 46.5**	**+3.5**
	comp=Z,0.2nm,0.5s,baz=98,slow=2.9,SNR=2.8							

IDC 17 16:42:48.2±2.3, 12°38N×95°23E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/52, mbtmp3.3/5, ML3.5/1, Error ellipse: s-maj=76.6km s-min=24.5km az=70.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.03**	**30**	Pn		Pn	16 44 32.2	-0.3
	0.2nm,0.3s,baz=212,slow=12,SNR=2.2							
MKAR	**Makanchi Array**	**36.00**	**345**	P		P	16 49 50.3	-0.7
	0.4nm,0.9s,baz=168,slow=9.4,SNR=3.5							
SONM	**Songino Array**	**36.56**	**13**	P		P	16 49 56.4	+0.6
	0.3nm,0.4s,baz=202,slow=7.4,SNR=2.0							
WRA	**Warramunga Arr**	**50.14**	**129**	P		P	16 51 45.4	-0.3
	0.6nm,0.9s,baz=312,slow=8.3,SNR=6.6							
ASAR	**Alice Springs**	**52.10**	**133**	P		P	16 52 00.7	+0.2
	0.3nm,0.6s,baz=311,slow=7.2,SNR=4.7							

KRNET ***17*** *16:50:24.7±0.1, 43°07N×78°12E, h16km, mb2.6*

NNC ***17*** *16:50:24.9±0.4, 43°09N×78°10E, h1km±3km, mpv2.9, Error ellipse: s-maj=4.2km s-min=2.1km az=179.0*

SOME ***17*** *16:50:25.6, 43°15N×78°13E, h15km*

ISC 17 16:50:25.9±0.8, 43°10N±0°02×78°06E±0°02, h10km, n36, σ1§80/71, 6C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SATY	**Saty**	**0.26**	**98**	*e*P		**Pg**	**16 50 30.0**	**-1.1**
	30nm,0.1s							
SATY				*e*S		**Sg**	**16 50 33.5**	**-1.3**
	413nm,0.1s							
SATY	**Saty**	**0.26**	**98**	P		**Pg**	**16 50 30.0**	**-1.1**
	30nm,0.1s							
SATY				S		**Sg**	**16 50 33.5**	**-1.3**
	413nm,0.1s							
KURS	**Kuram**	**0.40**	**12**	*e*P		**Pg**	**16 50 32.9**	**-0.9**
	baz=5.0							
KURS				*e*S		**Sg**	**16 50 38.2**	**-0.9**
	baz=5.0							
KURS	**Kuram**	**0.40**	**12**	*e*P		**Pg**	**16 50 32.9**	**-0.9**
	1.5nm,0.1s							
KURS				*e*S		**Sg**	**16 50 38.2**	**-0.9**
	2.5nm,0.1s							
KURS	**Kuram**	**0.40**	**12**	P		**Pg**	**16 50 32.9**	**-0.9**
	1.5nm,0.1s							
KURS				S		**Sg**	**16 50 38.2**	**-0.9**
	2.5nm,0.1s							
ANVS	**Anan'yevo**	**0.43**	**223**	⇑*i*P		**Pg**	**16 50 33.5**	**-0.8**
	baz=29							
ANVS				⇑*i*S		**Sg**	**16 50 39.6**	**-0.3**
	baz=29							
PRZ	**Przheval'sk**	**0.66**	**158**	⇑*i*P		**Pg**	**16 50 36.9**	**-1.8**
	baz=60							
PRZ				⇑*i*S		**Sg**	**16 50 45.2**	**-2.3**
	baz=60							
KOTS	**Kotyrbulak**	**0.71**	**281**	*e*P		**Pb**	**16 50 39.6**	**-0.8**
	baz=82							
KOT

baz=3.0
KUU eS Sg 16 51 12.6 -1.0
baz=3.0
KUU Kurty 1.48 303 eP Pb 16 50 53.0 -0.5
0.9nm,0.1s
KUU eS Sg 16 51 12.6 -1.0
5.2nm,0.2s
KUU Kurty 1.48 303 P Pb 16 50 53.0 -0.5
0.9nm,0.1s
KUU S Sg 16 51 12.6 -1.0
5.2nm,0.2s
DGS Degeres 1.68 276 eP Pg 16 50 57.0 -1.1
baz=76
DGS eS Sg 16 51 19.2 -0.7
baz=76
DGS Degeres 1.68 276 eP Pg 16 50 57.0 -1.1
0.6nm,0.1s
DGS eS Sg 16 51 19.1 -0.7
3.4nm,0.3s
DGS Degeres 1.68 276 P Pg 16 50 57.0 -1.1
0.6nm,0.1s
DGS S Sg 16 51 19.1 -0.7
3.4nm,0.3s
DJR Jarkent 1.76 45 eP Pb 16 50 57.1 -1.2
1.1nm,0.1s
DJR eS Sb 16 51 19.6 -0.9
2.2nm,0.2s
DJR Jarkent 1.76 45 P Pb 16 50 57.1 -1.2
1.1nm,0.1s
DJR S Sb 16 51 19.6 -0.9
2.2nm,0.2s
KAPS Kapalarasan 2.38 23 eP Pb 16 51 07.0 -1.9
0.2nm,0.2s
KAPS eS Sb 16 51 36.5 -1.7
1.8nm,0.3s

*IDC **17** 17:11:24.4±1.1, 11°.77S×165°.13E, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.0/38, mbtmp4.1/10, ML4.7/2, MS3.4/4, Ms1 3.4/4, ms1mx2.9/27, Error ellipse: s-maj=28.6km s-min=23.8km az=141.0*

ISC 17 17:11:29.6±0.9, 11°.8S±0°.1×165°.1E±0°.1, h35km, n14, σ0s.95/11, mb3.9/8, MS3.3/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.60**	**295**	Pn	**Pn**	**17 12 49.4**	**-1.1**
	21nm,0.3s,baz=194,slow=7.5,SNR=7.1						
HNR				Sn	**Sn**	**17 13 54.3**	**+0.6**
	4.0nm,0.3s,baz=188,slow=22,SNR=2.0						
DZM	**Mont Dzumac**	**10.26**	**173**	Pn	**Pn**	**17 13 54.4**	**-0.1**
	5.2nm,0.3s,baz=357,slow=12,SNR=45						
DZM				LR	LR	17 17 42.4	
	comp=Z,268nm,18.1s,baz=14,slow=37						
STKA	**Stephens Creek**	**29.44**	**224**	LR	LR	17 28 38.1	
	comp=Z,67nm,18.4s,baz=27,slow=35						
WRA	**Warramunga Arr**	**30.63**	**251**	P	**P**	**17 17 40.9**	**+0.2**
	1.6nm,0.8s,baz=82,slow=8.9,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**31.40**	**3**	T	T	17 50 50.1	
	baz=182,slow=76,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**31.40**	**3**	T	T	17 50 29.6	
	baz=182,slow=76,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**31.41**	**3**	T	T	17 50 28.8	
	baz=182,slow=76,SNR=3.2						
ASAR	**Alice Springs**	**31.88**	**244**	P	**P**	**17 17 51.2**	**-0.6**
	0.7nm,0.7s,baz=63,slow=10,SNR=8.8						
ASAR				LR	LR	17 29 04.3	
	comp=Z,57nm,19.0s,baz=41,slow=33						
MJAR	**Matsushiro Arr**	**54.38**	**333**	P	**P**	**17 20 51.9**	**-1.2**
	1.2nm,0.8s,baz=168,slow=9.2,SNR=8.3						
CMAR	**Chiang Mai Arr**	**71.85**	**294**	P	**P**	**17 22 50.8**	**+1.4**
	0.8nm,0.4s,baz=120,slow=5.0,SNR=8.3						
SONM	**Songino Array**	**78.93**	**324**	P	**P**	**17 23 31.0**	**+1.3**
	0.6nm,0.7s,baz=139,slow=7.7,SNR=2.8						
SONM				LR	LR	17 58 51.0	
	comp=Z,12nm,18.1s,baz=70,slow=36						
ILAR	**Eielson Array**	**84.46**	**19**	P	**P**	**17 23 57.9**	**-0.4**
	1.2nm,0.6s,baz=234,slow=5.6,SNR=14						
NVAR	**Mina Array Bea**	**87.01**	**50**	P	**P**	**17 24 12.0**	**+0.1**
	0.4nm,0.8s,baz=222,slow=8.8,SNR=4.2						
MKAR	**Makanchi Array**	**93.66**	**317**	P	**P**	**17 24 42.5**	**-0.1**
	0.9nm,0.7s,baz=96,slow=7.1,SNR=11						

*IDC **17** 17:33:11.6±2.1, 11°.00N×62°.62W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.7/31, mbtmp3.7/8, ML3.9/1, Error ellipse: s-maj=66.3km s-min=24.5km az=23.0*

*TRN **17** 17:33:23.0, 10°.58N×62°.54W, h108km, MD4.1*

ISC 17 17:33:22.6±1.1, 10°.60N±0°.05×62°.48W±0°.09, h110km±9km, n39, σ1s.94/54, mb3.5/7, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**1.06**	**87**	eP	**Pn**	**17 33 46.7**	**+2.3**
TRN				eS	**Sn**	**17 34 01.6**	**+0.8**
TBH	**Brigand Hill**	**1.39**	**94**	eP	**Pn**	**17 33 51.1**	**+3.0**
TBH				eS	**Sn**	**17 34 08.3**	**+0.8**
GRGR	**Grenville**	**1.73**	**28**	eP	**Pn**	**17 33 52.2**	**0.0**
GRGR				eS	**Sn**	**17 34 13.6**	**-1.1**
GRHS	**Sauteurs**	**1.81**	**27**	eP	**Pn**	**17 33 55.7**	**+2.4**
GRHS				eS	**Sn**	**17 34 17.3**	**+0.6**
GRSS	**Sisters**	**1.89**	**27**	eP	**Pn**	**17 33 56.7**	**+2.4**
GRSS				eS	**Sn**	**17 34 20.8**	**+2.4**
TOSP	**Speyside**	**2.03**	**70**	eP	**Pn**	**17 33 56.4**	**+0.4**
TOSP				eS	**Sn**	**17 34 22.2**	**+0.7**
GCMP	**Grenada, Carri**	**2.14**	**29**	eP	**Pn**	**17 33 57.5**	**+0.1**
GCMP				eS	**Sn**	**17 34 23.4**	**-0.7**
SVB	**Belmont**	**2.92**	**24**	eP	**Pn**	**17 34 08.9**	**+1.3**
SVB				eS	**Sn**	**17 34 43.0**	**+0.8**
SVV	**Soufriere Volc**	**2.97**	**24**	eP	**Pn**	**17 34 09.2**	**+0.9**
SVV				eS	**Sn**	**17 34 42.7**	**-0.8**
MCLT	**Moule a Chique**	**3.44**	**26**	eP	**Pn**	**17 34 14.5**	**+0.1**
MCLT				eS	**Sn**	**17 34 54.6**	**0.0**
SLB	**Belfond**	**3.50**	**23**	eP	**Pn**	**17 34 16.2**	**+0.8**
SLB				eS	**Sn**	**17 34 55.1**	**-1.1**
SLAC	**Saint Lucia, A**	**3.63**	**25**	eP	**Pn**	**17 34 17.1**	**+0.1**
SLAC				eS	**Sn**	**17 34 58.9**	**-0.2**
SLBI	**Saint Lucia, B**	**3.71**	**23**	eP	**Pn**	**17 34 17.7**	**-0.3**
SLBI				eS	**Sn**	**17 35 00.9**	**-0.1**
SLW	**Petit Monier**	**3.72**	**24**	eP	**Pn**	**17 34 21.2**	**+3.0**
SLW				eS	**Sn**	**17 35 00.3**	**-1.1**
BIM	**Bigot**	**4.13**	**19**	eP	**Pn**	**17 34 23.8**	**0.0**
MPOM	**Morne Pois Mar**	**4.14**	**22**	eP	**Pn**	**17 34 24.6**	**+0.8**
MPOM	**Morne Pois Mar**	**4.14**	**22**	eS	**Sn**	**17 35 10.1**	**-1.2**
GBMF	**Grand Be**	**4.37**	**17**	eP	**Pn**	**17 34 27.1**	**+0.1**
PCM	**Pelee Case Pet**	**4.37**	**16**	eP	**Pn**	**17 34 27.0**	**0.0**
BAMF	**Morne Balai**	**4.39**	**17**	eP	**Pn**	**17 34 27.4**	**+0.2**
DSLB	**Salisbury**	**4.92**	**12**	eP	**Pn**	**17 34 36.0**	**+1.6**
DSLB	**Salisbury**	**4.92**	**12**	eS	**Sn**	**17 35 28.5**	**-1.8**
MAGL	**Barre de l'ile**	**5.45**	**12**	eP	**Pn**	**17 34 42.6**	**+1.1**
MAGL	**Barre de l'ile**	**5.45**	**12**	eS	**Sn**	**17 35 41.2**	**-1.8**
CBE	**Ff, Capester**	**5.51**	**9**	eP	**Pn**	**17 34 43.9**	**+1.5**
CBE	**Ff, Capester**	**5.51**	**9**	eS	**Sn**	**17 35 43.2**	**-1.3**
BAUV	**El Baul**	**5.73**	**254**	eP	**Pn**	**17 34 44.9**	**-0.4**
BAUV	**El Baul**	**5.73**	**254**	eS	**Sn**	**17 35 44.4**	**-5.3**
ABD	**La Joyeuse, An**	**5.92**	**9**	eP	**Pn**	**17 34 49.9**	**+1.9**
ABD	**La Joyeuse, An**	**5.92**	**9**	eS	**Sn**	**17 35 51.0**	**-3.4**
ANWB	**Willy Bob**	**7.06**	**5**	eP	**Pn**	**17 35 03.8**	**+0.5**
MDP	**Montagnes des**	**11.16**	**119**	Pn	**Pn**	**17 35 57.9**	**-1.2**
	0.9nm,0.3s,baz=302,slow=14,SNR=6.7						
MDP				Sn	**Sn**	**17 37 54.3**	**-7.7**
	7.1nm,0.3s,baz=59,slow=22,SNR=29						
TXAR	**Lajitas Array**	**42.69**	**302**	P	**P**	**17 41 08.7**	**-0.2**
	0.1nm,0.5s,baz=116,slow=10,SNR=3.0						
SCHQ	**Schefferville**	**44.26**	**356**	P	**P**	**17 41 20.4**	**-0.6**
	1.0nm,0.4s,baz=215,slow=12,SNR=1.6						
PDAR	**Pinedale Array**	**51.93**	**317**	P	**P**	**17 42 19.9**	**-0.6**
	0.3nm,0.5s,baz=109,slow=9.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**62.71**	**81**	P	**P**	**17 43 39.3**	**+2.9**
	0.8nm,0.7s,baz=290,slow=7.2,SNR=5.6						
GERES	**GERESS Array B**	**73.00**	**42**	P	**P**	**17 44 42.5**	**+2.0**
	0.3nm,0.5s,baz=258,slow=4.8,SNR=2.1						
ILAR	**Eielson Array**	**78.11**	**334**	P	**P**	**17 45 08.6**	**-0.6**
	0.4nm,0.6s,baz=91,slow=4.6,SNR=6.2						
FINES	**FINESS Array B**	**80.09**	**29**	P	**P**	**17 45 21.5**	**+1.5**
	0.4nm,0.4s,baz=264,slow=4.0,SNR=8.0						

*IDC **17** 17:43:11.5±2.3, 32°.56N×47°.78E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.4/42, mbtmp3.7/5, MS3.4/1, Ms1 3.6/1, ms1mx2.4/45, Error ellipse: s-maj=59.3km s-min=30.1km az=155.0*

*ISN **17** 17:43:12.8±0.8, 32°.69N×47°.68E, h14km±5km, ML3.1*

*TEH **17** 17:43:13.6, 32°.70N×47°.61E, h16km, ML3.3*

ISC 17 17:43:14.8±1.7, 32°.68N±0°.03×47°.63E±0°.04, h16km±13km, n32, σ0s.88/36, mb3.7/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKMR	**Kamar-syah**	**1.04**	**37**	ePg	**Pb**	**17 43 33.1**	**-1.4**
IKMR				e		17 43 38.0	
IDOB	**Doab**	**1.19**	**22**	ePg	**Pn**	**17 43 36.3**	**-0.8**
BMDN	**Meydan**	**1.41**	**45**	ePg	**Pn**	**17 43 39.9**	**-0.1**
BMDN				e		17 43 42.3	
IBDR	**Badra**	**1.49**	**287**	ePg	**Pn**	**17 43 41.0**	**0.0**
IBDR				eSg	**Sb**	**17 44 01.0**	**+0.1**
IBDR				AML	AML	17 44 06.5	
	comp=N,344nm,0.3s						
IBDR				AML	AML	17 44 07.0	
	comp=E,281nm,0.8s						
IKOM	**Komasi**	**1.49**	**356**	ePg	**Pn**	**17 43 41.6**	**+0.5**
IKOM				e		17 43 43.2	
IKOM				eSg	**Sg**	**17 44 02.5**	**-0.5**
AHWZ	**Ahwaz**	**1.60**	**147**	ePg	**Pb**	**17 43 44.0**	**0.0**
AHWZ				eSg	**Sg**	**17 44 06.9**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.66**	**343**	ePg	**Pn**	**17 43 44.4**	**+0.9**
KCHF				e		17 44 10.1	
HSAM	**Samen**	**1.73**	**28**	ePg	**Pn**	**17 43 45.5**	**+1.0**
HSAM				e		17 44 13.0	
KER	**Kermanshah**	**1.75**	**346**	ePg	**Pn**	**17 43 45.4**	**+0.8**
IBZA	**Bozab**	**1.79**	**6**	ePg	**Pb**	**17 43 46.6**	**-0.9**
IBZA				e		17 44 20.3	
IGHG	**Ghaleghazi**	**1.87**	**332**	ePg	**Pn**	**17 43 47.6**	**+1.2**
IGHG				e		17 44 21.9	
IVIS	**Veis**	**1.95**	**341**	ePn	**Pn**	**17 43 48.0**	**+0.6**
IVIS				e		17 44 23.6	
NSR	**Nassriya**	**2.09**	**218**	ePn	**Pn**	**17 43 49.0**	**-0.2**
NSR				eSn	**Sn**	**17 44 15.0**	**0.0**
IALM	**Almabolaq**	**2.22**	**12**	ePn	**Pn**	**17 43 52.3**	**+1.1**
IDHR	**Dehrash**	**2.26**	**333**	ePn	**Pn**	**17 43 52.7**	**+0.9**
IDHR				e		17 44 33.0	
ILIN	**Lien**	**2.30**	**346**	ePn	**Pn**	**17 43 52.9**	**+0.6**
ILIN				e		17 44 32.3	
HAGD	**Aghdareh**	**2.48**	**30**	ePn	**Pn**	**17 43 55.4**	**+0.6**
HAGD				e		17 44 03.6	
JHBN	**Jahan bin**	**2.61**	**99**	ePn	**Pn**	**17 43 57.1**	**+0.5**
JHBN				e		17 44 50.8	
HSRG	**Sareghieh**	**2.61**	**12**	e	**Sg**	**17 44 40.0**	**+1.3**
IPIR	**Pirpir**	**2.75**	**89**	ePn	**Pn**	**17 43 59.4**	**+0.8**
IPIR				e		17 44 42.3	
BHD	**Baghdad**	**2.79**	**283**	ePn	**Pn**	**17 43 59.0**	**+0.2**
BHD				eSn	**Sn**	**17 44 34.0**	**+1.8**
ROKH	**ROKH**	**2.90**	**96**	ePn	**Pn**	**17 44 01.1**	**+0.6**
ROKH				e		17 44 57.7	
IRAZ	**Razeghan**	**3.32**	**34**	ePn	**Pn**	**17 44 07.9**	**+1.6**
IKLH	**Kolahrood**	**3.38**	**78**	e		17 44 10.2	
IKLH				ePn	**Pn**	**17 44 08.4**	**+1.2**
IGAR	**Gharneh**	**3.74**	**93**	ePn	**Pn**	**17 44 12.5**	**+0.4**
IDMV	**Damavand**	**4.66**	**50**	ePn	**Pn**	**17 44 25.3**	**+0.6**
MKAR	**Makanchi Array**	**29.88**	**52**	P	**P**	**17 49 20.8**	**-0.9**
	comp=E,0.5nm,0.6s,baz=257,slow=9.0,SNR=6.5						
FINES	**FINESS Array B**	**31.98**	**341**	P	**P**	**17 49 40.1**	**+0.2**
	comp=E,1.1nm,0.8s,baz=138,slow=11,SNR=1.3						
ZALV	**Zalesovo Beam**	**33.84**	**40**	P	**P**	**17 49 54.9**	**-1.4**
	comp=E,0.3nm,0.3s,baz=242,slow=9.3,SNR=1.9						
ARCES	**ARCESS Array B**	**38.94**	**348**	P	**P**	**17 50 40.1**	**+0.6**
	comp=E,1.9nm,0.8s,baz=145,slow=9.6,SNR=1.7						
TORD	**Torodi Ar. Bea**	**46.15**	**256**	P	**P**	**17 51 38.6**	**-0.2**
	comp=E,0.2nm,0.3s,baz=72,slow=6.9,SNR=1.6						
CMAR	**Chiang Mai Arr**	**47.97**	**94**	LR	LR	18 16 53.1	
	comp=E,36nm,18.1s,baz=220,slow=42						

IDC 17 17:48:45.1±1.0, 27°.70N×141°.13E, h283km±22km, mb3.0/3, mb1 3.2/4, mb1mx2.7/49, mbtmp3.7/4, Error ellipse: s-maj=95.2km s-min=21.7km az=79.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.12**	**123**	P	Pn	17 49 25.4	+1.0
	17nm,0.3s,baz=345,slow=20,SNR=45						
JCJ				S	S	17 49 55.6	+0.1
	26nm,0.3s,baz=235,slow=23,SNR=17						
KSRS	**Korea Array**	**14.76**	**314**	P	P	17 52 00.6	+0.3
	0.1nm,0.3s,baz=126,slow=12,SNR=5.8						
WRA	**Warramunga Arr**	**47.82**	**189**	P	P	17 56 54.6	-0.2
	0.5nm,0.3s,baz=6.6,slow=7.8,SNR=30						
ASAR	**Alice Springs**	**51.55**	**188**	P	P	17 57 22.6	0.0
	0.3nm,0.9s,baz=7.8,slow=7.5,SNR=5.2						
FINES	**FINESS Array B**	**76.98**	**333**	P	P	18 00 06.3	-0.1
	1.1nm,0.8s,baz=67,slow=6.4,SNR=4.8						

JMA 17 18:15:47.9, 36°.52N×139°.36E, h5km±1km, M0.3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAG	**Ashikaga**	**0.12**	**142**	P	Pg	18 15 50.5	+0.1
JAG				S	Sg	18 15 52.1	+0.1
JKT	**Katashina**	**0.26**	**340**	S	Sg	18 15 57.0	+0.5

*BJI **17** 18:15:52.4±0.0, 36°.81N×142°.17E, h9km, mB4.7/52, mb4.8/71, Ms4.3/67, Ms7 4.1/62*

*IDC **17** 18:15:52.4±0.5, 36°.80N×142°.40E, h0km, mb4.5/35, mb1 4.5/43, mb1mx4.4/67, mbtmp4.5/43, ML4.1/6, MS3.7/23, Ms1 3.8/23, ms1mx3.5/51, Error ellipse: s-maj=13.0km s-min=9.6km az=104.0*

*NIED **17** 18:15:53.5, 36°.87N×142°.35E, h19km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.76; Mθθ-2.57; Mφφ 1.81; Mrθ 0.71; Mrφ 3.15; Mθ-r-2.81; Fault plane solution: M0 4.85000×10^15 NP1: ϕs=160.00000°, δ83.00000°, λ142.00000°. NP2: ϕs=255.00000°, δ52.00000°, λ8.00000°.*

*MOS **17** 18:15:53.7±1.1, 36°.89N×142°.46E, h25km, mb5.0/19 Error ellipse: s-maj=7.1km s-min=4.7km az=111.5*

*NEIC **17** 18:15:53.1±2.0, 36°.83N±0°.05×142°.47E±0°.09, h10km±1km, mb4.8/55, Error ellipse: s-maj=12.7km s-min=8.8km az=104.0*

*JMA **17** 18:15:53.5±0.3, 36°.87N×142°.35E, h19km, M4.7*

JMA Felt I J1.

ISC 17 18:15:53.4±0.9, 36°.81N±0°.04×142°.46E±0°.04, h13km±5km, n242, σ1s.92/258, mb4.8/82, MS4.0/32, 15C-8D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.36**	**283**	P	**Pn**	**18 16 15.9**	**-2.3**
JFK	**Kawauchi**	**1.39**	**294**	P	**Pn**	**18 16 16.1**	**-2.4**
JFK				eS	**Sn**	**18 16 32.6**	**-4.1**
JHO	**Hitachi**	**1.53**	**263**	P	**Pn**	**18 16 18.6**	**-1.8**
JFFD	**Fukushimafurud**	**1.55**	**281**	P	**Pn**	**18 16 18.5**	**-2.2**
JFFD				eS	**Sn**	**18 16 37.1**	**-3.5**
JMST	**Minamisoumatoc**	**1.56**	**307**	P	**Pn**	**18 16 18.7**	**-2.0**
JMST				eS	**Sn**	**18 16 37.8**	**-3.0**
JMM	**Marumori**	**1.70**	**309**	P	**Pn**	**18 16 20.9**	**-1.8**
JFT	**Otama**	**1.84**	**293**	P	**Pn**	**18 16 23.8**	**-0.9**
JFT				eS	**Sn**	**18 16 46.0**	**-1.8**
JIO	**Ouri**	**1.87**	**332**	P	**Pn**	**18 16 23.4**	**-1.6**
JOU	**Okura**	**2.11**	**318**	P	**Pn**	**18 16 27.9**	**-0.6**
JOU				eS	**Sn**	**18 16 52.4**	**-2.2**
JFY	**Yanaizu**	**2.28**	**286**	P	**Pn**	**18 16 30.4**	**-0.4**
JMK	**Ichinoseki**	**2.36**	**336**	P	**Pn**	**18 16 31.3**	**-0.5**
JYS	**Shirataka**	**2.37**	**307**	P	**Pn**	**18 16 32.0**	**0.0**
JAG	**Ashikaga**	**2.45**	**262**	P	**Pn**	**18 16 32.3**	**-0.8**
JAG				eS	**Sn**	**18 17 01.1**	**-1.7**
BSO1	**Boso 1**	**2.46**	**210**	P	**Pn**	**18 16 34.0**	**+1.3**
JYK	**Kaneyama**	**2.69**	**322**	P	**Pn**	**18 16 36.0**	**-0.3**
JNS	**Sasagawa**	**2.70**	**293**	P	**Pn**	**18 16 36.4**	**-0.1**
JOM	**Ohasama**	**2.82**	**341**	P	**Pn**	**18 16 37.5**	**-0.6**
MJAR	**Matsushiro Arr**	**3.43**	**267**	Pn	**Pn**	**18 16 45.4**	**-1.1**
	8.1nm,0.3s,baz=93,slow=26,SNR=575						
MJAR				LR	LR	18 18 11.4	
	comp=Z,917nm,20.5s,baz=90,slow=42						
MJAR	**Matsushiro Arr**	**3.43**	**267**	Pn	**Pn**	**18 16 43.6**	**-2.9**
MAJO	**Matsushiro**	**3.43**	**267**	d iP	**Pn**	**18 16 47.2**	**+0.6**
MAJO	**Matsushiro**	**3.43**	**267**	Pn	**Pn**	**18 16 47.3**	**+0.8**
MAT	**Matsushiro**	**3.43**	**267**	P	**Pn**	**18 16 47.1**	**+0.5**
MAT				eS	**Sn**	**18 17 27.2**	**+0.1**
MJB9	**Matsu-Tunnel**	**3.43**	**267**		**Pn**	**18 16 47.1**	**+0.5**
JHJ2	**Mitsune**	**4.28**	**211**	Pn	**Pn**	**18 16 57.9**	**-0.2**
JHJ	**Hachijo jima 2**	**4.28**	**212**	Pn	**Pn**	**18 16 58.3**	**0.0**
	48nm,0.3s,baz=330,slow=22,SNR=136						
JHJ				Sn	**Sn**	**18 17 45.5**	**-2.6**
	69nm,0.3s,baz=319,slow=23,SNR=5.9						
JHJ				LR	LR	18 18 25.9	
	comp=Z,265nm,18.4s,baz=30,slow=36						
ERM	**Erimo**	**5.23**	**6**	d iP	**Pn**	**18 17 09.7**	**-1.6**
ERM	**Erimo**	**5.23**	**6**	Pn	**Pn**	**18 17 09.5**	**-1.8**
JKA	**Kamikawa-asahi**	**7.30**	**1**	Pn	**Pn**	**18 17 39.4**	**-0.4**
JKA	**Kamikawa-asahi**	**7.30**	**1**		**Sn**	**18 18 58.5**	**-3.9**
ASAJ	**Asahikawa**	**7.30**	**1**	Pn	**Pn**	**18 17 39.0**	**-0.8**
	3.9nm,0.3s,baz=226,slow=9.0,SNR=47						
ASAJ				Sn	**Sn**	**18 18 58.5**	**-3.9**
	baz=108,slow=33,SNR=1.7						
ASAJ				LR	LR	18 21 02.9	
	comp=Z,414nm,18.6s,baz=192,slow=42						
ASAJ	**Asahikawa**	**7.30**	**1**	P	**Pn**	**18 17 39.4**	**-0.3**
ASAJ						18 18 58.5	
GRPR	**Tuman**	**7.61**	**18**	eP	**Pn**	**18 17 42.2**	**-1.7**
GRPR				eS	**Sn**	**18 19 02.4**	**-7.6**
GRPR				pmax	pmax		
	comp=Z,73nm,0.4s						
GRPR				pmax	pmax		
	comp=E,71nm,0.3s						
GRPR				pmax	pmax		
	comp=N,39nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**7.67**	**19**	d iP	**Pn**	**18 17 42.6**	**-2.2**
YUK				i S	**Sn**	**18 19 04.4**	**-7.1**
YUK				pmax	pmax		
	comp=N,26nm,0.2s						
YUK				pmax	pmax		
	comp=Z,99nm,0.2s						
YUK				pmax	pmax		
	comp=E,75nm,0.3s						
TEY	**Ternei**	**9.34**	**334**	i eP	**Pn**	**18 18 09.2**	**+1.6**
TEY				pmax	pmax		
	comp=E,10.0nm,0.8s						
TEY				pmax	pmax		
	comp=N,10.0nm,0.6s						
TEY				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KUR	**Kuril'sk**	**9.36**	**24**	eP	**Pn**	**18 18 07.2**	**-0.6**
KUR				eS	**Sn**	**18 19 44.6**	**-8.2**
KUR				pmax	pmax		
	comp=N,18nm,0.7s						
KUR				pmax	pmax		
	comp=Z,43nm,0.7s						
KUR				pmax	pmax		
	comp=E,13nm,0.3s						
KUR				smax	smax		
	comp=N,60nm,0.4s						
KUR				smax	smax		
	comp=E,21nm,0.5s						
JCJ	**Chichijima**	**9.68**	**181**	Pn	**Pn**	**18 18 10.9**	**-1.5**
	comp=E,6.2nm,0.3s,baz=273,slow=23,SNR=8.0						
JCJ				Sn	**Sn**	**18 19 55.1**	**-5.9**
	comp=E,14nm,0.3s,baz=282,slow=22,SNR=7.1						
JCJ	**Chichijima**	**9.68**	**181**	Pn	**Pn**	**18 18 11.9**	**-0.5**
JCJ					**Sn**	**18 19 56.8**	**-4.3**
YSS	**Yuzh-Sakhalins**	**10.14**	**1**	ll eP	**Pn**	**18 18 18.0**	**-0.6**
YSS				eS	**Sn**	**18 20 08.4**	**-3.8**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
YSS				MLR	MLR		
	comp=N,400nm,12.0s						
YSS	**Yuzh-Sakhalins**	**10.14**	**1**	Pn	**Pn**	**18 18 17.3**	**-1.3**
JNU	**Nakatsue**	**10.19**	**252**	Pn	**Pn**	**18 18 21.2**	**+1.8**
	comp=N,1.5nm,0.3s,baz=55,slow=7.2,SNR=23						
JNU				LR	LR	18 22 15.1	
	comp=N,272nm,20.9s,baz=79,slow=38						
JNU	**Nakatsue**	**10.19**	**252**	Pn	**Pn**	**18 18 22.1**	**+2.7**
VLA	**Vladivostok**	**10.28**	**311**	i P	**Pn**	**18 18 21.8**	**+1.4**
USA0B	**Ussuriysk Arra**	**10.86**	**316**	i P	**Pn**	**18 18 28.9**	**+0.4**
USRK	**Ussuriysk Ar.**	**10.86**	**316**	Pn	**Pn**	**18 18 29.5**	**+1.0**
	baz=225,slow=40,SNR=4.7						
KSRS	**Korea Array**	**11.63**	**278**	Pn	**Pn**	**18 18 42.4**	**+3.4**
	comp=N,0.4nm,0.3s,baz=86,slow=13,SNR=25						
KSAR	**Wonju Array Be**	**11.66**	**278**	P	**Pn**	**18 18 40.3**	**+0.9**
KSAR	**Wonju Array Be**	**11.66**	**278**	Pn	**Pn**	**18 18 40.3**	**+0.9**
KS19	**Wonju Array Si**	**11.67**	**278**		**Pn**	**18 18 41.4**	**+1.8**
TJN	**Taejon**	**12.15**	**272**	ceP	**Pn**	**18 18 46.8**	**+0.7**
MDJ	**Mudanjiang**	**12.49**	**313**	P	Pn	18 18 55.9	+5.2
MDJ				pmax	pmax		
	comp=N,3.0nm,0.9s						
MDJ				pmax	pmax		
	comp=N,110nm,7.1s						
MDJ				LR	LR		
	comp=N,450nm,11.0s						
MDJ				LR	LR		
	comp=N,380nm,11.4s						
MDJ				LR	LR		
	comp=N,430nm,13.2s						
TYV	**Tymovskoe**	**14.05**	**1**	eP	**P**	**18 19 21.0**	**+1.1**
TYV				pmax	pmax		
	comp=Z,13nm,1.5s						
TYV				pmax	pmax		
	comp=Z,100nm,3.7s						
TYV				MLR	MLR		
	comp=Z,600nm,13.0s						
GRNR	**Gornyy**	**14.62**	**345**	i iP	**P**	**18 19 25.1**	**-1.1**
GRNR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GRNR				MLR	MLR		
	comp=E,70nm,10.0s						
GRNR				MLR	MLR		
	comp=N,170nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,220nm,16.0s						
KLR	**Kul'dur**	**14.66**	**331**	Pn	**Pn**	**18 19 19.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=134,slow=11,SNR=4.9						
KLR				LR	LR	18 24 42.9	
	comp=Z,255nm,19.6s,baz=146,slow=36						
KLR	**Kul'dur**	**14.66**	**331**

NJ2 Nanjing 20.03 263 *e*P P **18 20 25.4 -0.5**
NJ2 pmax pmax
comp=E,14nm,0.7s
NJ2 LR LR
comp=E,310nm,11.8s
NJ2 LR LR
comp=E,520nm,15.2s
NJ2 LR LR
comp=E,400nm,12.3s
TIA Tai'an 20.36 276 P P **18 20 26.8 -2.8**
TIA pmax pmax
comp=E,79nm,3.5s
TIA LR LR
comp=E,420nm,13.5s
TIA LR LR
comp=E,410nm,13.5s
TIA LR LR
comp=E,460nm,12.1s
BJI Beijing 20.82 287 P P **18 20 34.3 -0.2**
BJI S S **18 24 25.3 -1.1**
BJI pmax pmax
comp=E,12nm,0.7s
BJI LR LR
comp=E,370nm,12.4s
BJI LR LR
comp=E,260nm,13.3s
BJT Baijiatuao 20.83 287 P P **18 20 28.2 -6.4**
BJT pmax pmax
comp=Z,36nm,1.3s
BJT Baijiatuao 20.83 287 P P **18 20 28.2 -6.4**
BJT IAmb IAmb 18 20 44.8
comp=Z,36nm,1.3s
TATO Taipei 21.47 243 P P **18 20 39.0 -2.6**
TATO IAmb IAmb 18 20 44.0
comp=Z,46nm,1.2s
YHNB Yeheng 21.73 242 P P **18 20 43.0 -1.5**
NACB Ninganchiao 21.89 241 P P **18 20 43.9 -2.3**
SSLB Suanglung 22.59 241 P P **18 20 50.0 -3.7**
YULB Yu-li 22.61 240 P P **18 20 50.1 -3.8**
TPUB Ta-pu 23.13 241 P P **18 20 54.9 -4.5**
TPUB IAmb IAmb 18 21 02.2
comp=Z,70nm,1.4s
TWG Pinlang 23.14 239 P P **18 20 55.4 -4.0**
MA2 Magadan 23.41 11 P P **18 21 02.8 +0.9**
comp=Z,17nm,0.8s,baz=191,slow=9.3,SNR=7.8
MA2 Magadan 23.41 11 *ce*P P **18 21 01.6 -0.2**
MA2 pmax pmax
comp=Z,19nm,1.0s
MA2 Magadan 23.41 11 P P **18 20 59.4 -2.5**
MA2 IAmb IAmb 18 21 04.1
comp=Z,19nm,0.8s
WHN Wuhan 24.16 263 ⇓P P **18 21 08.8 -0.5**
WHN sP **pwP** **18 21 18.5 +2.2**
WHN S S **18 25 24.8 -2.2**
WHN LR LR
comp=Z,580nm,10.5s
WHN LR LR
comp=Z,910nm,9.6s
WHN LR LR
comp=Z,1μm,11.5s
HHC Hu-ho-hao-te 24.34 289 *e*P P **18 21 12.1 +1.1**
HHC S S **18 25 30.8 +0.9**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,66nm,6.1s
HHC LR LR
comp=Z,380nm,13.6s
HHC LR LR
comp=Z,190nm,12.8s
HHC LR LR
comp=Z,250nm,13.6s
CIT Chita 25.43 316 *e*P P **18 21 21.3 +0.7**
CIT *e* 18 21 29.3
CIT *e* 18 21 33.1
CIT pmax pmax
comp=Z,85nm,1.2s
BTO Baotou 25.52 289 *e*P P 18 21 14.5 -7.2
BTO S S **18 25 57.6 +8.8**
YAK Yakutsk 26.48 346 P P **18 21 30.9 +0.9**
comp=Z,10nm,0.7s,baz=157,slow=0.7,SNR=13
YAK Yakutsk 26.48 346 *e*P P **18 21 31.0 +1.0**
YAK *e**PP **pwP** **18 21 36.6 -0.8**
YAK *e* 18 22 17.5
YAK *e* 18 24 54.1
YAK *e*S S **18 26 08.2 +4.9**
YAK *e**SS sS 18 26 16.6 +8.4
YAK *e* 18 32 24.8
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,85nm,3.7s
YAK smax smax
comp=E,53nm,2.8s
YAK smax smax
comp=N,32nm,2.8s
YAK MLR MLR
comp=Z,158nm,15.0s
YAK MLR MLR
comp=N,197nm,17.0s
YAK MLR MLR
comp=E,95nm,16.0s
SEY Seymchan 26.86 10 P P **18 21 34.9 +1.5**
comp=E,5.7nm,0.5s,baz=191,slow=9.5,SNR=35
SEY Seymchan 26.86 10 *i*P P **18 21 34.4 +1.0**
XAN Xi'an 27.39 274 P P **18 21 38.8 +0.2**
XAN pP pwP 18 21 46.3 +0.7
XAN pmax pmax
comp=E,21nm,0.9s
XAN Xi'an 27.39 274 P P **18 21 38.3 -0.3**
XAN pmax pmax
comp=Z,20nm,0.8s
XAN Xi'an 27.39 274 P P **18 21 38.3 -0.3**
XAN IAmb IAmb 18 21 51.6
comp=Z,20nm,0.8s
H11S1 WAKE ISLAND Hy 28.03 124 T T 18 51 22.5
baz=318
H11S3 WAKE ISLAND Hy 28.03 124 T T 18 51 30.5
baz=318
H11S2 WAKE ISLAND Hy 28.05 124 T T 18 51 40.7
baz=318
ENH Enshi 28.15 266 P P **18 21 45.4 0.0**
ULN Ulaanbaatar 28.18 304 *ce*P P **18 21 46.1 +0.5**
ULN pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 28.18 304 P P **18 21 42.2 -3.4**
ULN IAmb IAmb 18 21 47.9
comp=Z,13nm,0.9s
SONM Songino Array 28.61 304 P P **18 21 50.0 +0.6**
comp=Z,18nm,1.0s,baz=105,slow=8.7,SNR=71
SONM LR LR 18 33 23.2
comp=Z,118nm,18.1s,baz=100,slow=37
SONM Songino Array 28.61 304 P P **18 21 47.6 -1.8**
LZH Lanzhou 30.93 280 *e*P P **18 22 10.8 +0.6**
LZH pP pwP 18 22 18.9 +1.7
LZH sP sP 18 22 22.8 +8.6
LZH PP **PnPn** **18 23 09.6 -1.2**
LZH pmax pmax
comp=Z,62nm,1.1s
LZH pmax pmax
comp=Z,100nm,5.4s
LZH LR LR
comp=Z,340nm,16.3s
LZH LR LR
comp=Z,460nm,16.3s
LZH LR LR
comp=Z,440nm,17.3s
ZAK Zakamensk 31.07 308 *e*P P **18 22 11.5 +0.4**
ZAK pmax pmax
comp=Z,15nm,1.1s
TLY Talaya 31.11 311 P P **18 22 13.0 +1.6**
comp=Z,5.9nm,0.7s,baz=101,slow=8.8,SNR=7.3
TLY Talaya 31.11 311 *c*P P **18 22 12.6 +1.2**
TLY pmax pmax
comp=Z,16nm,1.1s
GYA Guiyang 32.01 262 ⇓P P **18 22 19.4 -0.3**
GYA S S **18 27 24.9 -6.3**
GYA pmax pmax
comp=Z,30nm,0.9s
GYA LR LR
comp=Z,270nm,14.5s
GYA LR LR
comp=Z,180nm,13.1s
GYA LR LR
comp=Z,310nm,14.9s
CD2 Chengdu 32.52 271 P P **18 22 23.1 -0.9**
CD2 S S **18 27 37.0 -1.8**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 LR LR
comp=Z,670nm,13.7s
CD2 LR LR
comp=Z,530nm,17.7s
CD2 LR LR
comp=Z,480nm,17.7s
MOY Mondy 32.73 310 *e*P P **18 22 26.3 +0.6**
MOY pmax pmax
comp=Z,19nm,0.9s
GTA Gaotai 33.43 288 P P **18 22 32.8 +0.8**
GTA pP pwP 18 22 40.5 +1.5
GTA sP sP 18 22 43.8 +7.7
GTA sS sS 18 28 01.4 +3.0
GTA pmax pmax
comp=Z,13nm,1.0s
GTA pmax pmax
comp=Z,50nm,6.4s
GTA LR LR
comp=Z,230nm,15.9s
GTA LR LR
comp=Z,140nm,15.5s
GTA LR LR
comp=Z,130nm,15.9s
QIZ Qiongzhong 33.61 247 P P **18 22 33.8 +0.3**
QIZ S S **18 27 55.8 0.0**
QIZ pmax pmax
comp=Z,14nm,1.6s
QIZ LR LR
comp=Z,240nm,16.0s
QIZ LR LR
comp=Z,150nm,18.5s
QIZ LR LR
comp=Z,160nm,14.5s
KMI Kunming 35.76 262⇑ *i*P P **18 22 52.8 +0.4**
KMI pP pwP 18 23 00.3 +0.8
KMI sP sP 18 23 04.9 +8.4
KMI pmax pmax
comp=Z,24nm,0.8s
KMI pmax pmax
comp=Z,85nm,3.9s
KMI LR LR
comp=Z,210nm,15.8s
KMI LR LR
comp=Z,180nm,12.4s
KMI LR LR
comp=Z,140nm,13.2s
KWAJ Kwajalein Atol 36.03 134 P P **18 22 54.2 -0.2**
KWAJ pmax pmax
comp=Z,71nm,0.9s
KWAJ Kwajalein Atol 36.03 134 P P **18 22 54.2 -0.2**
MYLDM Lahad Datu 38.37 221 P P **18 23 14.9 +0.5**
TNTI Ternate 38.48 205 P P 18 23 20.4 +5.2
comp=Z,26nm,1.1s
DLV T Lat 39.28 240 P P **18 23 22.7 +0.4**
DLV IAmb IAmb 18 23 36.0
comp=Z,26nm,0.9s
KMSI Cibinong 39.90 210 P P **18 23 25.4 -1.7**
comp=Z,70nm,0.8s
DGZ Jazzator, Alta 41.20 306 *d i*P P **18 23 39.1 +1.3**
DGZ pmax pmax
comp=Z,35nm,0.8s
WMQ Urumqi 41.69 297 *e*P P **18 23 43.8 +2.0**
WMQ sP pwP 18 23 53.6 +4.8
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ pmax pmax
comp=Z,95nm,4.7s
WMQ LR LR
comp=Z,150nm,24.3s
WMQ LR LR
comp=Z,200nm,21.5s
WMQ LR LR
comp=Z,110nm,25.1s
PBKT Sadao Pong 41.79 252 P P **18 23 43.6 +0.9**
PBKT IAmb IAmb 18 24 00.3
comp=Z,10nm,0.8s
CHTO Chiang Mai 42.05 257 P P **18 23 44.8 -0.1**
CHTO pmax pmax
comp=Z,12nm,1.0s
CHTO Chiang Mai 42.05 257 P P **18 23 44.8 -0.1**
CHTO IAmb IAmb 18 23 55.4
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 42.26 256 P P **18 23 47.4 +0.8**
comp=Z,2.2nm,0.8s,baz=46,slow=7.8,SNR=14
CMAR LR LR 18 43 03.6
comp=Z,107nm,19.3s,baz=76,slow=39
ZAA0 Zalesovo Array 42.69 313 P P **18 23 48.6 -1.1**
ZAA0 IAmb IAmb 18 23 59.6
comp=Z,19nm,1.1s
ZALV Zalesovo Beam 42.69 313 P P **18 23 50.2 +0.5**
comp=Z,8.0nm,0.7s,baz=100,slow=7.9,SNR=26
ZALV LR LR 18 42 11.8
comp=Z,77nm,18.6s,baz=85,slow=37
ZALV Zalesovo Beam 42.69 313 P P **18 23 48.4 -1.2**
LSA Lhasa 43.07 276 P P 18 23 39.3 -14
LSA pmax pmax
comp=Z,24nm,0.6s
LSA Lhasa 43.07 276 P P **18 23 53.5 -0.1**
LSA pmax pmax
comp=Z,19nm,0.9s
LSA Lhasa 43.07 276 P P **18 23 53.5 -0.1**
LSA IAmb IAmb 18 24 06.1
comp=Z,19nm,0.9s
NRIK Noril'sk 43.83 335 LR LR 18 42 55.3
comp=Z,96nm,19.9s,baz=16,slow=37
NRIK Noril'sk 43.83 335 *i*P P **18 23 59.3 +0.7**
NRIK pmax pmax
comp=Z,1.0nm,0.5s
MK31 Makanchi Array 44.95 302 P P **18 24 08.5 +0.5**
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 44.95 302 P P **18 24 08.5 +0.5**
MK31 IAmb IAmb 18 24 17.4
comp=Z,8.3nm,0.7s
MKAR Makanchi Array 44.95 302 P P **18 24 08.2 +0.2**
comp=Z,5.1nm,0.7s,baz=85,slow=9.7,SNR=41
MKAR LR LR 18 44 01.8
comp=Z,64nm,18.3s,baz=82,slow=38
MAKZ Makanchi 45.16 303 P P **18 24 09.9 +0.2**
MAKZ pmax pmax
comp=Z,10.0nm,0.8s
MAKZ Makanchi 45.16 303 P P **18 24 09.9 +0.2**
MAKZ IAmb IAmb 18 24 19.1
comp=Z,9.6nm,0.8s
KSM Kuching 46.01 228 P P **18 24 17.4 +0.7**
KSM IAmb IAmb 18 24 34.1
comp=Z,7.8nm,0.7s
IMAR Indian Mountai 46.42 30 P P **18 24 19.8 +0.5**
IMAR **PcP** **18 25 56.3 +2.4**
KAPI Kappang 46.70 212 P P **18 24 23.4 +1.4**
comp=Z,5.8nm,0.2s,baz=349,slow=9.7,SNR=3.8
KAPI Kappang 46.70 212 P P **18 24 23.5 +1.4**
KAPI pmax pmax
comp=Z,33nm,1.2s
KAPI Kappang 46.70 212 IAmb IAmb 18 24 27.4
comp=Z,33nm,1.2s
KDAK Kodiak Island 46.71 42 P P **18 24 22.6 +0.9**
comp=Z,3.1nm,0.7s,baz=136,slow=6.7,SNR=5.2
KDAK Kodiak Island 46.71 42 P P **18 24 21.3 -0.4**
KURK Kurchatov 46.73 308 *ce*P P **18 24 21.9 -0.1**
KURK pmax pmax
comp=Z,16nm,0.7s
KURK Kurchatov 46.73 308 P P **18 24 22.2 +0.2**
TAPN Taplejung 46.80 275 *e*P P **18 24 23.8 +0.7**
KURBB Kurchatov Arra 46.80 308 P P **18 24 22.6 +0.1**
comp=Z,14nm,0.6s,baz=82,slow=7.9,SNR=108
KURBB Kurchatov Arra 46.80 308 P P **18 24 20.8 -1.7**
ODAN Odare 47.27 274 *e*P P **18 24 27.3 +0.5**
comp=Z,47nm,0.8s
BPAW Bear Paw Mtn. 47.45 33 P P **18 24 28.7 +1.3**
RAMN Ramite 47.86 275 *e*P P **18 24 32.1 +0.7**
comp=Z,54nm,0.8s
JIRN Jiri 47.88 276 *e*P P **18 24 31.7 +0.1**
PKI Pulchoki 48.54 276 *e*P P **18 24 36.8 +0.1**
comp=Z,29nm,0.8s
MDM Murphy Dome 48.66 32 P P **18 24 37.5 +0.7**
MDM IAmb IAmb 18 24 39.6
comp=Z,11nm,0.9s
WRH Wood River Hil 48.72 33 P P **18 24 35.9 -1.3**
WRH **PcP** **18 26 03.6 +1.5**
GKN Gorkha 48.97 277 *e*P P **18 24 40.4 +0.6**
comp=Z,157nm,1.1s
ILAR Eielson Array 49.24 32 P P **18 24 42.2 +1.0**
comp=Z,4.4nm,0.8s,baz=266,slow=6.4,SNR=47
ILAR Eielson Array 49.24 32 P P **18 24 40.8 -0.4**
TARG Taragay, Kyrgy 49.25 297 P P **18 24 41.1 -1.1**
TARG IAmb IAmb 18 24 54.7
comp=Z,14nm,1.0s
DANN Dangsing 49.51 278 *e*P P **18 24 45.1 +1.0**
comp=Z,250nm,0.8s
KOLN Koldanda 49.89 277 *e*P P **18 24 47.7 +0.8**
comp=Z,104nm,1.3s
BATI Baumata 49.99 204 P P **18 24 49.0 +1.6**
comp=Z,25nm,0.9s,baz=165,slow=20,SNR=2.3
BATI LR LR 18 46 19.2
comp=Z,45nm,19.2s,baz=168,slow=37
RIDG Independent Ri 50.17 34 P P **18 24 48.7 +0.3**
PYUN Piuthan 50.23 278 *e*P P **18 24 50.3 +0.8**
comp=Z,60nm,0.5s
TKM2 Tokmak 2 50.48 299 P P **18 24 50.8 -0.4**
DOT Dot Lake 50.53 34 P P **18 24 51.0 0.0**
KSH Kashi 51.27 295 *e*P P 18 25 02.3 +5.2
AAK Ala-Archa 51.34 299 P P **18 24 58.7 +1.1**
comp=Z,4.5nm,0.8s,baz=79,slow=6.4,SNR=7.0
AAK Ala-Archa 51.34 299 *ce*P P **18 24 59.3 +1.7**
AAK pmax pmax
comp=Z,6.0nm,1.0s
BVA0 Borovoye Array 51.35 313 *i*P P **18 24 57.5 +0.2**
BVAR Borovoye Array 51.35 313 P P **18 24 57.8 +0.5**
comp=Z,2.1nm,0.5s,baz=78,slow=7.6,SNR=24
BRVK Borovoye 51.40 313 *ce*P P **18 24 58.7 +1.0**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 51.40 313 P P **18 24 58.3 +0.6**
BRVK IAmb IAmb 18 25 07.5
comp=Z,7.4nm,1.1s
BCAR Beaver Creek A 51.61 34 P P **18 25 00.4 +1.2**
PSI Prapat 52.40 240 P P **18 25 06.5 +0.7**
comp=Z,6.2nm,0.6s,baz=360,slow=6.7,SNR=7.2
KNRA Kununurra 53.77 196 P P **18 25 17.3 +1.7**
KK31 Karatay Array 53.97 301 *i*P P **18 25 17.4 +0.5**
KKAR Karatay Array 53.97 301 P P **18 25 16.8 -0.1**
KKAR Karatay Array 53.97 301 P P **18 25 16.8 -0.1**
INK Inuvik 54.21 27 P P **18 25 19.5 +1.3**
comp=Z,4.0nm,0.9s,baz=342,slow=9.3,SNR=3.6
LEM Lembang 54.29 224 P P **18 25 20.7 +1.0**
comp=Z,22nm,0.8s,baz=332,slow=13,SNR=6.9
GSI Gunungsitoli 54.41 240 P P **18 25 20.9 +0.5**
NIL Nilore 55.48 289 P P **18 25 27.9 -0.1**
NIL pmax pmax
comp=Z,17nm,0.8s
NIL Nilore 55.48 289 P P **18 25 27.9 -0.1**
GAR Garm 55.55 296 P P **18 25 28.1 -0.5**
SVE Sverdlovsk 55.87 319 *e*P P **18 25 31.7 +1.3**
SVE pmax pmax
comp=Z,12nm,0.8s
CTA Charters Tower 56.70 176 P P **18 25 37.4 +0.7**
comp=Z,3.8nm,1.0s,baz=46,slow=11,SNR=2.4
WB0 Warramunga Arr 56.78 189 P P **18 25 38.0 +0.8**
WB0 IAmb IAmb 18 25 49.5
comp=Z,9.1nm,0.7s
FITZ Fitzroy Crossi 56.87 199 P P **18 25 39.2 +1.3**
comp=Z,4.0nm,1.0s,baz=336,slow=8.0,SNR=4.1
FITZ Fitzroy Crossi 56.87 199 P P **18 25 38.6 +0.8**
WRAB Tennant Creek 56.95 189 *ce*P P **18 25 40.4 +2.0**
WRAB pmax pmax
comp=Z,10.0nm,1.3s
WRAB Tennant Creek 56.95 189 P P **18 25 38.7 +0.3**
WRAB IAmb IAmb 18 25 40.5
comp=Z,11nm,0.9s
WR0 Warramunga Arr 56.95 189 P P **18 25 39.0 +0.6**
WR0 IAmb IAmb 18 25 50.3
comp=Z,24nm,1.4s
WB2 Warramunga Arr 56.96 189 P P **18 25 39.4 +0.9**
WB2 IAmb IAmb 18 25 40.6
comp=Z,15nm,1.0s
WRA Warramunga Arr 56.96 189 P P **18 25 39.1 +0.6**
comp=Z,8.1nm,0.9s,baz=6.0,slow=7.3,SNR=34
WRA Warramunga Arr 56.96 189 P P **18 25 38.4 -0.1**
ARU Arti 57.09 319 P P **18 25 39.6 +0.6**
comp=Z,1.4nm,0.5s,baz=73,slow=4.5,SNR=8.4
ARU Arti 57.09 319 *d i*P P **18 25 40.1 +1.0**
ARU 18 27 41.3
ARU S S **18 33 34.0 +0.6**
ARU pmax pmax
comp=Z,8.0nm,0.8s
ARU Arti 57.09 319 P P **18 25 38.0 -1.1**
ARU IAmb IAmb 18 25 49.3
comp=Z,9.5nm,0.7s
KBL Kabul 58.28 292 P P **18 25 48.6 +0.5**
KBL pmax pmax
comp=Z,14nm,0.9s
AB31 Akbulak array 58.73 311 P P **18 25 50.3 -0.4**
ABKAR Akbulak array 58.73 311 P P **18 25 50.9 +0.2**
AKTO Aktyubinsk 59.45 312 P P **18 25 53.7 -2.0**
AS31 Alice Springs 60.68 189 P P **18 26 04.5 +0.1**
ASAR Alice Springs 60.69 189 P P **18 26 05.3 +0.9**
comp=Z,3.4nm,0.8s,baz=11,slow=6.4,SNR=32
ASAR Alice Springs 60.69 189 P P **18 26 05.0 +0.7**
KIRV Kirov 60.94 323 *i*P P **18 26 07.4 +1.7**
PRGR Permogore 61.41 327 *e*P P **18 26 10.0 +1.1**
PRGR pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 64.50 340 P P **18 26 31.2 +1.8**
comp=Z,3.1nm,1.0s,baz=70,slow=8.8,SNR=1.8
ARCES LR LR 18 59 55.5
comp=Z,71nm,18.4s,baz=336,slow=41
GEYT Alibeck 64.68 299 P P **18 26 31.7 +0.6**
comp=Z,2.3nm,0.7s,baz=351,slow=2.0,SNR=6.4
GEYT LR LR 18 57 51.4
comp=Z,49nm,18.2s,baz=90,slow=39
AFI Afiamalu 66.34 131 LR LR 18 54 06.7
comp=Z,68nm,18.8s,baz=198,slow=35
STKA Stephens Creek 68.33 181 P P **18 26 54.0 -0.1**
comp=Z,1.9nm,0.8s,baz=315,slow=9.3,SNR=3.6
FINES FINESS Array B 69.41 333 P P **18 27 02.1 +1.5**
comp=Z,1.4nm,0.6s,baz=40,slow=7.4,SNR=6.2
FINES LR LR 19 00 04.9
comp=Z,112nm,18.3s,baz=37,slow=38
FINES FINESS Array B 69.41 333 *i*P P **18 27 02.0 +1.4**
FINES pmax pmax
comp=Z,1.0nm,0.6s
AKT Akhty 69.89 307 *e*P P **18 27 04.1 0.0**
AKT *e* 18 27 27.3
AKT pmax pmax
comp=Z,5.0nm,0.6s
KBZ Khabaz 71.69 311 P P **18 27 16.6 +1.8**
comp=Z,3.0nm,0.8s,baz=329,slow=4.1,SNR=5.8
KBZ LR LR 19 03 26.1
comp=Z,104nm,18.4s,baz=41,slow=40
KIV Kislovodsk 71.69 311 *e*P P **18 27 17.0 +2.0**
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,133nm,18.0s
KIV Kislovodsk 71.69 311 P P **18 27 14.3 -0.7**
KIV IAmb IAmb 18 27 28.1
comp=Z,9.2nm,0.9s
LRM Limekiln Ridge 73.72 45 P P **18 27 27.5 +0.2**
BOZ Bozeman (W) 74.32 45 P P **18 27 30.9 +0.2**
BOZ pmax pmax
comp=Z,7.0nm,0.9s
BOZ Bozeman (W) 74.32 45 P P **18 27 30.9 +0.2**
BOZ IAmb IAmb 18 27 33.2
comp=Z,7.0nm,0.8s
NVAR Mina Array Bea 74.45 54 P P **18 27 33.9 +2.2**
comp=Z,4.4nm,0.9s,baz=285,slow=6.3,SNR=30
NB2 NORSAR Subarra 74.72 338 P P 18 27 41.7 +9.2
comp=Z,11nm,1.2s,baz=39,slow=6.2
NOA NORSAR Array B 74.72 338 P P **18 27 33.8 +1.3**
comp=Z,0.6nm,0.7s,baz=213,slow=14,SNR=1.7
NOA LR LR 19 03 17.9
comp=Z,64nm,19.7s,baz=355,slow=38
AKASG Malin Array Be 74.99 323 P P **18 27 34.8 +0.6**
comp=Z,1.6nm,0.5s,baz=45,slow=6.2,SNR=15
AKASG LR LR 19 02 05.9
comp=Z,55nm,19.6s,baz=40,slow=37
AKASG Malin Array Be 74.99 323 P P **18 27 34.8 +0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKBB Malin Array Si 74.99 323 P P **18 27 34.3 +0.1**
AKBB pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 74.99 323 P P **18 27 34.3 +0.1**

TPNV	**Topopah Spring**	**76.64**	**54**	P	**P**	**18 27 43.5**	**-0.6**
TPNV				pmax	pmax			
	comp=Z,8.0nm,1.2s							
TPNV	**Topopah Spring**	**76.64**	**54**	P	**P**	**18 27 43.5**	**-0.6**
TPNV				IAmb	IAmb	18 27 49.2		
	comp=Z,7.8nm,1.2s							
PD31	**Pinedale Array**	**77.22**	**46**	P	**P**	**18 27 47.1**	**-0.3**
PDAR	**Pinedale Array**	**77.22**	**46**	P	**P**	**18 27 48.8**	**+1.3**
	comp=Z,2.1nm,0.7s,baz=279,slow=2.3,SNR=21							
PDAR	**Pinedale Array**	**77.22**	**46**	P	**P**	**18 27 47.7**	**+0.3**
SRU	**San Rafael Swe**	**78.93**	**49**	P	**P**	**18 27 56.0**	**-0.9**
SRU				pmax	pmax			
	comp=Z,9.0nm,0.9s							
SRU	**San Rafael Swe**	**78.93**	**49**	P	**P**	**18 27 56.0**	**-0.9**
BRTR	**Keskin Array B**	**79.63**	**312**	P	**P**	**18 28 01.9**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=72,slow=4.0,SNR=4.8							
VRAC	**Vranov**	**81.77**	**328**	LR	LR	19 07 09.3		
	comp=Z,39nm,20.7s,baz=12,slow=38							
KHC	**Kasperske Hory**	**83.17**	**329**	*ceP*	**P**	**18 28 21.5**	**+2.4**
KHC				pmax	pmax			
	comp=Z,11nm,1.7s							
KHC	**Kasperske Hory**	**83.17**	**329**	*eP*	**P**	**18 28 20.0**	**+0.9**
GERES	**GERESS Array B**	**83.34**	**329**	P	**P**	**18 28 20.8**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=55,slow=5.1,SNR=5.7							
GERES				LR	LR	19 07 52.9		
	comp=Z,75nm,19.0s,slow=37							
PPT	**Papeete**	**83.78**	**117**	LR	LR	19 01 01.2		
	comp=Z,77nm,20.9s,baz=248,slow=32							
ANMO	**Albuquerque**	**84.09**	**50**	*ceP*	**P**	**18 28 27.1**	**+2.8**
ANMO				pmax	pmax			
	comp=Z,10.0nm,1.7s							
DAVOX	**Davos/Dischmat**	**86.55**	**330**	LR	LR	19 10 33.8		
	comp=Z,93nm,18.6s,baz=34,slow=38							
TXAR	**Lajitas Array**	**89.59**	**53**	P	**P**	**18 28 52.7**	**+1.6**
	comp=Z,2.4nm,0.8s,baz=302,slow=3.8,SNR=32							
TXAR	**Lajitas Array**	**89.59**	**53**	P	**P**	**18 28 52.1**	**+1.0**
TXAR	**Lajitas Array**	**89.59**	**53**	P	**P**	**18 28 52.1**	**+1.0**
ESDC	**Sonseca Array**	**97.86**	**334**	LR	LR	19 17 52.0		
	comp=Z,60nm,19.1s,baz=15,slow=38							

IDC ***17*** *18:19:22.3±1.8,6°.13S×128°.94E, h248*$_{km}$*±26*$_{km}$*, mb2.8/1, mb1 3.0/6, mb1mx2.8/44, mbtmp3.6/6, Error ellipse: s-maj=34.5km s-min=19.0km az=92.0*

ISC 17 18:19:21.6±0.9, 6°.11S±0°.08×128°.9E±0°.1, h264km, n6, σ3°23/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.73**	**25**	P	**Pn**	**18 20 47.4**	**+0.6**
	0.5nm,0.3s,baz=63,slow=23,SNR=11						
SIJI				S	**S**	**18 21 50.4**	**-4.6**
	1.8nm,0.3s,baz=247,slow=23,SNR=12						
BATI	**Baumata**	**6.56**	**231**	P	**Pn**	**18 20 57.3**	**+0.2**
	1.8nm,0.3s,baz=312,slow=14,SNR=2.7						
BATI				S	**S**	**18 22 11.1**	**-2.7**
	1.9nm,0.3s,baz=326,slow=20,SNR=2.2						
FITZ	**Fitzroy Crossi**	**12.33**	**195**	P	**Pn**	**18 22 11.4**	**+2.4**
	0.1nm,0.3s,baz=22,slow=11,SNR=1.8						
FITZ				S	**S**	**18 24 22.1**	**-4.2**
	0.1nm,0.3s,baz=204,slow=16,SNR=1.7						
WRA	**Warramunga Arr**	**14.75**	**159**	P	**P**	**18 22 37.3**	**-0.6**
	0.2nm,0.3s,baz=340,slow=12,SNR=13						
ASAR	**Alice Springs**	**18.12**	**165**	P	**P**	**18 23 16.4**	**+1.7**
	0.2nm,0.3s,baz=345,slow=11,SNR=33						
MKAR	**Makanchi Array**	**66.87**	**327**	P	**P**	**18 29 48.2**	**+2.7**
	0.2nm,0.6s,baz=114,slow=6.5,SNR=2.2						

IDC ***17*** *18:30:22.6±0.7, 19°.96S×70°.41W, h0*$_{km}$*, mb3.9/7, mb1 4.2/10, mb1mx4.0/28, mbtmp4.1/10, ML4.3/3, MS3.4/4, Ms1 3.4/4, ms1mx3.1/21, Error ellipse: s-maj=21.7km s-min=17.8km az=65.0*

GUC ***17*** *18:30:26.8±0.8, 20°.14S×70°.37W, h40*$_{km}$*±1*$_{km}$*, ML4.2*

NEIC ***17*** *18:30:27.4±1.8, 20°.16S±0°.03×70°.36W±0°.06, h33*$_{km}$*±2*$_{km}$*, Error ellipse: s-maj=7.9km s-min=4.5km az=102.0*

NEIC ***17*** *18:30:27.6, 20°.20S×70°.43W, h31*$_{km}$*, Moment Tensor Solution. Moment tensor: Scale 10*^{15}*Nm; Mrr0.04; Mθθ-0.20; Mφφ0.16; Mrθ0.46; Mrφ0.33; Mθφ-1.11; Fault plane solution: Mo1.26000×10*^{15} *NP1:φ*$_1$*254.12000°, δ16.77000°, λ5.85000°. NP2:φ*$_2$*158.52000°, δ88.31000°, λ106.69000°. Principal axes: T 1.2218, Plg44.0000°, Azm85.0000°; N 0.0768, Plg17.0000°, Azm338.0000°; P -1.2986, Plg41.0000°, Azm233.0000°;*

VAO ***17*** *18:30:28.2±0.7, 20°.11S×70°.42W, h26*$_{km}$*, mb4.4*

ISC 17 18:30:26.9±1.1, 20°.15S±0°.02×70°.46W±0°.05, h28km±7km, n90, σ1°09/96, 1C-12D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TA02	**Huaiquique**	**0.33**	**112**	*i*P	**Pb**	**18 30 34.7**	**+0.1**
TA02				*i* S	**Sb**	**18 30 40.0**	**+0.3**
TA02				IAML		18 30 40.3	
	comp=N,40μm,0.1s						
TA01	**Diego Aracena**	**0.49**	**148**	*i*P	**Pb**	**18 30 37.0**	**-0.1**
TA01				*e*S	**Sb**	**18 30 43.7**	**-0.3**
TA01	**Diego Aracena**	**0.49**	**148**		**Pb**	**18 30 37.0**	**-0.1**
PSGC	**Pisagua**	**0.63**	**30**	*i* P	**Pb**	**18 30 38.7**	**-0.8**
PSGC				*i* S	**Sb**	**18 30 47.2**	**-0.9**
PSGC				IAML		18 30 48.3	
	comp=N,13μm,0.7s						
PSGCX	**Pisagua**	**0.63**	**30**		**Pb**	**18 30 38.5**	**-1.0**
PSGCX				Sn	**Sb**	**18 30 47.5**	**-0.5**
PATCX	**Punta Patache**	**0.73**	**157**	*i*P	**Pb**	**18 30 40.6**	**-0.5**
PATCX				*i* S	**Sb**	**18 30 50.5**	**-0.3**
PATCX	**Punta Patache**	**0.73**	**157**		**Pb**	**18 30 40.2**	**-0.9**
PB11	**IPOC Station P**	**0.85**	**63**	*i*P	**Pn**	**18 30 41.9**	**-1.2**
PB11				*e*S	**Sb**	**18 30 51.9**	**-2.2**
PB11				IAML		18 30 53.9	
	comp=N,14μm,0.2s						
PB11	**IPOC Station P**	**0.85**	**63**		**Pn**	**18 30 41.7**	**-1.4**
PB11				Sn	**Sb**	**18 30 52.0**	**-2.2**
PB08	**IPOC Station P**	**1.23**	**90**	*e*P	**Pn**	**18 30 48.0**	**-0.5**
PB08	**IPOC Station P**	**1.23**	**90**		**Pn**	**18 30 48.0**	**-0.5**
PB01	**IPOC Station P**	**1.27**	**135**	*i*P	**Pn**	**18 30 48.7**	**-0.3**
PB01				*i* S	**Sn**	**18 31 04.7**	**-0.5**
PB01				IAML		18 31 08.7	
	comp=E,17μm,0.8s						
PB01	**IPOC Station P**	**1.27**	**135**		**Pn**	**18 30 48.5**	**-0.4**
GO01	**Chusmiza**	**1.28**	**68**	*e*P	**Pn**	**18 30 49.0**	**-0.4**
GO01				*e*S	**Sn**	**18 31 05.2**	**-0.7**
GO01				IAML		18 31 05.9	
	comp=N,19μm,0.2s						
GO01	**Chusmiza**	**1.28**	**68**		**Pn**	**18 30 48.9**	**-0.4**
GO01					**Sn**	**18 31 05.7**	**-0.2**
PB02	**IPOC Station P**	**1.28**	**156**	*i*P	**Pn**	**18 30 49.0**	**-0.1**
PB02				*e*S	**Sn**	**18 31 05.2**	**-0.2**
PB02				IAML		18 31 07.7	
	comp=E,11μm,0.3s						
MNMC	**Minye Minye**	**1.30**	**39**	*i*P	**Pn**	**18 30 49.2**	**-0.2**
MNMC				*i* S	**Sn**	**18 31 05.8**	**-0.2**
MNMC				IAML		18 31 10.0	
	comp=E,17μm,0.7s						
MNMC	**Minye Minye**	**1.30**	**39**		**Pn**	**18 30 48.4**	**-1.0**
PB12	**IPOC Station P**	**1.53**	**5**	*i*P	**Pn**	**18 30 52.5**	**0.0**
PB12				*i* S	**Sn**	**18 31 11.9**	**+0.3**
PB12				IAML		18 31 16.8	
	comp=E,4μm,0.3s						
PB12	**IPOC Station P**	**1.53**	**5**	Pn	**Pn**	**18 30 52.5**	**0.0**
PB07	**IPOC Station P**	**1.66**	**161**	*i*P	**Pn**	**18 30 54.9**	**+0.6**
PB07				*i* S	**Sn**	**18 31 16.3**	**+1.4**
PB07				IAML		18 31 25.8	
	comp=N,2μm,0.4s						
PB07	**IPOC Station P**	**1.66**	**161**		**Pn**	**18 30 54.0**	**-0.3**
AP01	**Chacalluta**	**1.77**	**4**	*e*P	**Pn**	**18 30 56.5**	**+0.8**
AP01				*e*S	**Sn**	**18 31 18.7**	**+1.4**
AP01				IAML		18 31 26.5	
	comp=N,8μm,0.6s						
AP01	**Chacalluta**	**1.77**	**4**		**Pn**	**18 30 56.5**	**+0.8**
PB09	**IPOC Station P**	**2.00**	**146**	*i*P	**Pn**	**18 31 00.7**	**+1.7**
PB09				*e*S	**Sb**	**18 31 26.0**	**-1.1**
PB09				IAML		18 31 31.5	
	comp=E,3μm,0.4s						
PB09	**IPOC Station P**	**2.00**	**146**		**Pn**	**18 31 00.7**	**+1.7**
PB03	**IPOC Station P**	**2.00**	**161**	*i*P	**Pn**	**18 30 59.7**	**+0.6**
PB03				*i* S	**Sn**	**18 31 24.6**	**+1.3**
PB03				IAML		18 31 31.9	
	comp=E,2μm,0.6s						
PB16	**IPOC Station P**	**2.01**	**27**	*i*P	**Pn**	**18 31 00.1**	**+0.5**
PB16				*e*S	**Sn**	**18 31 25.8**	**+1.7**
PB16				IAML		18 31 30.8	
	comp=N,2μm,0.5s						
PB16	**IPOC Station P**	**2.01**	**27**		**Pn**	**18 31 00.2**	**+0.6**
PB04	**IPOC Station P**	**2.19**	**173**	*i*P	**Pn**	**18 31 01.3**	**-0.4**
PB04				*e*S	**Sn**	**18 31 28.5**	**+0.4**
PB04	**IPOC Station P**	**2.19**	**173**		**Pn**	**18 31 01.1**	**-0.6**
PB06	**IPOC Station P**	**2.68**	**162**		**Pn**	**18 31 08.3**	**0.0**
LVC	**Limon Verde**	**2.84**	**150**	Pn	**Pn**	**18 31 12.7**	**+1.9**
	comp=N,47nm,0.3s,baz=10,slow=6.6,SNR=276						
LVC				Sn	**Sb**	**18 31 49.5**	**-2.3**
	comp=N,48nm,0.3s,baz=55,slow=14,SNR=7.1						
LVC	**Limon Verde**	**2.84**	**150**	*eP*	**Pn**	**18 31 12.7**	**+1.9**
PB15	**IPOC Station P**	**3.18**	**163**		**Pn**	**18 31 15.0**	**-0.3**
PB10	**IPOC Station P**	**3.35**	**182**	Pn	**Pn**	**18 31 16.1**	**-1.4**
LPAZ	**La Paz**	**4.43**	**30**	Pn	Pn	18 31 38.1	+5.2
	comp=N,5.4nm,0.3s,baz=188,slow=6.9,SNR=108						
LPAZ				LR	LR	18 33 37.1		
	comp=N,437nm,19.0s,baz=236,slow=46						
LPAZ	**La Paz**	**4.43**	**30**		**Pn**	18 31 37.9	+5.1
PB14	**IPOC Station P**	**4.46**	**179**	Pn	**Pn**	**18 31 31.1**	**-1.9**
GO02	**Mina Guanaco**	**5.06**	**171**	Pn	**Pn**	**18 31 40.5**	**-0.7**
AC02	**Maricunga**	**6.77**	**170**		**Pn**	**18 32 04.5**	**-0.4**
SIV	**San Ignacio**	**9.84**	**67**	Pn	**Pn**	**18 32 46.0**	**-0.6**
	comp=N,8.8nm,0.3s,baz=270,slow=9.8,SNR=127						
SIV				LR	LR	18 37 23.7		
	comp=N,180nm,20.4s,baz=285,slow=43						
ETMB	**Extrema**	**11.06**	**22**	*eP*	**Pn**	**18 33 05.2**	**+1.9**
PTLB	**Pontes e Lacer**	**11.75**	**68**	*eP*	**Pn**	**18 33 13.6**	**+0.8**
VILB	**Vilhena**	**12.16**	**56**	*eP*	**Pn**	**18 33 18.8**	**+0.4**
VILB				*e*S	**Sn**	**18 35 34.6**	**+1.5**
SAML	**Samuel**	**13.17**	**33**	Pn	**Pn**	**18 33 32.4**	**+0.2**
SAML	**Samuel**	**13.17**	**33**	*eP*	**Pn**	**18 33 32.0**	**-0.1**
CPUP	**Villa Florida**	**13.54**	**119**	Pn	**Pn**	**18 33 38.6**	**+1.4**
	comp=N,0.1nm,0.3s,baz=313,slow=13,SNR=3.0						
AQDB	**Aquidauana**	**13.85**	**94**	*eP*	**Pn**	**18 33 42.5**	**+1.0**
SALV	**Santo Antonio**	**14.66**	**76**	*eP*	**Pn**	**18 33 52.7**	**+0.1**
H03N1	**Juan Fernandez**	**15.23**	**208**	T	T	18 49 35.4		
	baz=33,slow=72,SNR=547							
H03N2	**Juan Fernandez**	**15.24**	**208**	T	T	18 49 37.1		
	baz=33,slow=72,SNR=549							
H03N3	**Juan Fernandez**	**15.25**	**208**	T	T	18 49 39.5		
	baz=33,slow=72,SNR=523							
MACA	**Manacapuru-AM**	**19.39**	**31**	*eP*	**P**	**18 34 51.2**	**+0.4**
NPGB	**Novo Progresso**	**19.60**	**50**	*eP*	**Pn**	**18 34 55.4**	**+0.8**
PLCA	**Paso Flores**	**20.52**	**180**	P	**P**	**18 35 03.6**	**+0.5**
	comp=N,3.0nm,0.6s,baz=359,slow=14,SNR=7.9						
PLCA	**Paso Flores**	**20.52**	**180**	IAmb	IAmb	18 35 20.2		
	comp=Z,2nm,1.4s							
IPMB	**Ipameri, GO**	**21.13**	**88**	*eP*	**P**	**18 35 11.3**	**+1.5**
BDFB	**Brasilia**	**21.82**	**82**	P	**P**	**18 35 17.2**	**-0.1**
	comp=Z,4.5nm,0.5s,baz=254,slow=8.5,SNR=7.7							
BDFB				LR	LR	18 45 25.2		
	comp=Z,114nm,18.5s,baz=304,slow=42							
BDFB	**Brasilia**	**21.82**	**82**	IAmb	IAmb	18 35 20.6		
	comp=Z,5.5nm,0.6s							
PTGA	**Pitinga**	**21.86**	**29**	P	**P**	**18 35 14.8**	**-2.7**
	comp=Z,2.5nm,0.3s,baz=215,slow=16,SNR=9.3							
PTGA	**Pitinga**	**21.86**	**29**	P	**P**	**18 35 15.2**	**-2.3**
PEXB	**Peixe**	**22.72**	**73**	*eP*	**P**	**18 35 27.3**	**+0.5**
MALB	**Monte Alegre**	**24.10**	**43**	*eP*	**P**	**18 35 39.9**	**-0.5**
SMTB	**Santa Maria do**	**24.78**	**66**	*eP*	**P**	**18 35 48.3**	**+1.6**
ROSC	**El Rosal**	**25.12**	**351**	P	**P**	**18 35 47.7**	**-2.4**
	comp=Z,4.4nm,0.3s							
ROSC	**El Rosal**	**25.12**	**351**	IAmb	IAmb	18 36 28.1		
	comp=Z,9.8nm,0.5s							
JANB	**Januaria**	**25.41**	**83**	*eP*	**P**	**18 35 52.1**	**-0.3**
RUSC	**La Rusia**	**26.00**	**354**	P	**P**	**18 35 58.5**	**+0.3**
MCPB	**Macapa, AP**	**26.66**	**45**	*eP*	**P**	**18 36 05.6**	**+1.9**
TXAR	**Lajitas Array**	**58.70**	**326**	P	**P**	**18 40 21.9**	**-0.4**
	comp=Z,0.1nm,0.6s,baz=150,slow=10,SNR=1.8							
VNA3	**Neumayer Olymp**	**61.81**	**161**	P	**P**	**18 40 43.8**	**+0.8**
VNA2	**Neumayer--Wätz**	**62.40**	**161**	P	**P**	**18 40 45.4**	**-1.5**
NVAR	**Mina Array Bea**	**73.54**	**323**	P	**P**	**18 41 58.2**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=148,slow=5.3,SNR=5.0							
TORD	**Torodi Ar. Bea**	**78.28**	**71**	P	**P**	**18 42 22.8**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=252,slow=5.2,SNR=15							
TORD				LR	LR	19 15 16.0		
	comp=Z,32nm,20.9s,baz=230,slow=34							
RAR	**Rarotonga**	**82.32**	**250**	P	**P**	**18 42 48.3**	**+1.7**
	comp=Z,30nm,0.6s,baz=3.3,slow=21,SNR=5.1							
RAR	**Rarotonga**	**82.32**	**250**	IAmb	IAmb	18 42 53.0		
	comp=Z,333nm,2.0s							
H11S2	**WAKE ISLAND Hyl**	**26.26**	**279**	T	T	21 08 35.0		
	baz=102,slow=75,SNR=98							
H11S1	**WAKE ISLAND Hyl**	**26.27**	**279**	T	T	21 08 42.4		
	baz=102,slow=75,SNR=110							
H11S3	**WAKE ISLAND Hyl**	**26.28**	**279**	T	T	21 08 43.1		
	baz=102,slow=75,SNR=95							
H11N3	**WAKE ISLAND Hyl**	**26.31**	**280**	T	T	21 08 49.9		
	baz=101,slow=75,SNR=55							
H11N2	**WAKE ISLAND Hyl**	**26.33**	**280**	T	T	21 08 50.6		
	baz=101,slow=75,SNR=38							
H11N1	**WAKE ISLAND Hyl**	**26.33**	**280**	T	T	21 08 51.3		
	baz=101,slow=75,SNR=36							
ASAR	**Alice Springs**	**130.40**	**210**	PKP	**PKPdf**	**18 49 34.8**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=121,slow=2.2,SNR=4.1							
WRA	**Warramunga Arr**	**133.34**	**213**	PKP	**PKPdf**	**18 49 40.9**	**-0.4**
	comp=Z,0.9nm,1.1s,baz=142,slow=1.9,SNR=2.1							
ZALV	**Zalesovo Beam**	**141.32**	**23**	PKP	**PKPdf**	**18 49 54.2**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=296,slow=4.4,SNR=3.6							
MKAR	**Makanchi Array**	**145.35**	**34**	PKPbc	**PKPbc**	**18 50 01.8**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=333,slow=4.4,SNR=14							
MJAR	**Matsushiro Arr**	**150.10**	**309**	PKPbc	**PKPbc**	**18 50 14.6**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=131,slow=0.9,SNR=6.6							
WMQ	**Urumqi**	**150.17**	**33**	*eP*	**PKPdf**	**18 50 09.9**	**-0.4**
SONM	**Songino Array**	**152.26**	**5**	PKPbc	**PKPbc**	**18 50 19.9**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=6.6,slow=1.1,SNR=2.5							

IDC ***17*** *18:38:17.4±1.0, 6°.32S×150°.71E, h0*$_{km}$*, mb4.0/9, mb1 4.2/11, mb1mx3.9/34, mbtmp4.0/11, ML1.7/1, Error ellipse: s-maj=39.6km s-min=15.3km az=121.0*

ISC 17 18:38:22.3±0.9, 6°.3S±0°.2×150°.7E±0°.2, h33km, n13, σ0°91/15, mb3.9/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.38**	**33**	Pn	**Pn**	**18 38 60.0**	**+0.9**
	88nm,0.3s,baz=180,slow=0.8,SNR=204						
KRVT				Sn	**Sb**	**18 39 32.8**	**-0.9**
	33nm,0.3s,baz=206,slow=15,SNR=5.6						
PMG	**Port Moresby**	**4.67**	**229**	Pn	**Pn**	**18 39 30.7**	**+0.1**
	2.6nm,0.3s,baz=31,slow=4.0,SNR=15						
PMG				Sn	**Sn**	**18 40 24.9**	**+1.1**
	7.1nm,0.3s,baz=316,slow=23,SNR=10						
WRA	**Warramunga Arr**	**20.89**	**228**	P	**P**	**18 43 01.6**	**-0.5**
	6.0nm,0.8s,baz=54,slow=11,SNR=25						
ASAR	**Alice Springs**	**23.64**	**221**	P	**P**	**18 43 29.9**	**-1.0**
	2.8nm,0.8s,baz=57,slow=8.5,SNR=46						
STKA	**Stephens Creek**	**26.82**	**197**	P	**P**	**18 43 59.6**	**0.0**
	6.5nm,0.8s,baz=1.8,slow=10,SNR=11						
FITZ	**Fitzroy Crossi**	**27.12**	**242**	P	**P**	**18 44 02.4**	**-0.2**
	4.2nm,0.7s,baz=60,slow=7.2,SNR=11						
KSRS	**Korea Array**	**48.47**	**336**	P	**P**	**18 47 02.5**	**+0.7**
	0.8nm,0.7s,baz=157,slow=8.9,SNR=5.4						
SONM	**Songino Array**	**66.53**	**329**	P	**P**	**18 49 09.4**	**+0.3**
	0.3nm,0.4s,baz=145,slow=5.3,SNR=2.5						
ZALV	**Zalesovo Beam**	**81.28**	**327**	P	**P**	**18 50 34.0**	**-1.0**
	0.6nm,0.6s,baz=106,slow=7.8,SNR=2.7						
ILAR	**Eielson Array**	**84.34**	**22**	P	**P**	**18 50 49.2**	**-1.5**
	1.0nm,0.8s,baz=246,slow=4.9,SNR=8.1						
NVAR	**Mina Array Bea**	**94.64**	**52**	P	**P**	**18 51 41.8**	**+1.2**
	0.3nm,0.8s,baz=270,slow=3.6,SNR=2.0						
GERES	**GERESS Array B**	**124.23**	**327**	PKP	**PKPdf**	**18 57 18.0**	**+0.1**
	0.3nm,0.5s,baz=79,slow=2.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**148.75**	**285**	PKPbc	**PKPbc**	**18 58 08.1**	**+0.7**
	1.6nm,0.7s,baz=73,slow=2.2,SNR=13						

NAO ***17*** *19:01:14.8±0.7, 67°.16N×20°.80E, ML3.0*

HEL ***17*** *19:01:15.6±0.1, 67°.19N×20°.67E, h1*$_{km}$*, ML1.9, ML2.5(UPP), Confirmed Induced event*

IDC ***17*** *19:01:15.3±0.9, 67°.17N×20°.78E, h0*$_{km}$*, mb1 3.3/4, mb1mx3.0/41, mbtmp3.2/4, ML2.6/4, Error ellipse: s-maj=14.8km s-min=7.7km az=114.0*

BER ***17*** *19:01:17.5±3.4, 67°.10N×20°.77E, h0*$_{km}$*, ML2.4, ML3.0(NAO), Suspected explosion*

ISC 17 19:01:13.9±0.7, 67°.10N±0°.02×20°.62E±0°.03, h0km, n41, σ1°84/81, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.82**	**332**	*i* P	**Pg**	**19 01 29.1**	**-0.6**
RATU				*i* S	**Sg**	**19 01 39.5**	**-0.8**
ERTU	**Ertsjaerv**	**0.83**	**131**	*e*P	**Pg**	**19 01 30.8**	**+1.1**
ERTU				*e*S	**Sg**	**19 01 42.3**	**+1.8**
LANU	**Lannavaara**	**1.09**	**28**	*e*P	**Pg**	**19 01 33.5**	**-1.2**
LANU				*e*S	**Sg**	**19 01 46.1**	**-2.6**
KOVU	**Salmi**	**1.14**	**351**	*e*P	**Pg**	**19 01 34.3**	**-1.3**
KOVU				*e*S	**Sg**	**19 01 48.5**	**-1.9**
TOF	**Tornio**	**1.80**	**123**	*e*P	**Pb**	**19 01 48.0**	**+0.4**
TOF				*e*S	**Sb**	**19 02 11.9**	**+1.1**
KIF	**Kilpisjarvi**	**1.91**	**2**	Pn	**Pn**	**19 01 48.4**	**+0.7**
KIF				Sn	**Sb**	**19 02 13.8**	**-0.1**
KIF	**Kilpisjarvi**	**1.91**	**2**	*e*P	**Pn**	**19 01 48.5**	**+0.9**
KIF				*e*S	**Sn**	**19 02 12.3**	**0.0**
KIF	**Kilpisjarvi**	**1.91**	**2**	*e*P	**Pn**	**19 01 48.3**	**+0.7**
KIF				*e*S	**Sb**	**19 02 13.5**	**-0.4**
N2IH	**Innhavet**	**2.00**	**298**	*e*P	**Pb**	**19 01 51.1**	**+0.1**
N2IH				*e*S	**Sg**	**19 02 18.0**	**+0.1**
N2IH				IAML		19 02 19.6	
	comp=Z,102nm,0.5s						
N2TV	**TÝrnvik**	**2.18**	**285**	*e*	**Pb**	**19 01 54.0**	**0.0**
STEI	**Steigen**	**2.23**	**294**	Pn	**Pb**	**19 01 54.5**	**-0.4**
STEI				Sn	**Sb**	**19 02 24.6**	**+1.6**
STEI	**Steigen**	**2.23**	**294**	*e*P	**Pn**	**19 01 53.8**	**+1.8**
STEI				*e*S	**Sb**	**19 02 24.1**	**+1.2**
STEI				IAML		19 02 26.9	
	comp=Z,41nm,0.5s						
SGF	**Sodankyl**	**2.32**	**79**	*e*P	**Pn**	**19 01 54.4**	**+1.2**
SGF				*e*S	**Sn**	**19 02 22.9**	**+0.5**
BURU	**Burvik**	**2.55**	**173**	*e*P	**Pb**	**19 01 59.5**	**-0.9**
BURU				*e*S	**Sn**	**19 02 30.9**	**+2.8**
TRO	**Tromso**	**2.62**	**347**	*e*P	**Pn**	**19 01 58.6**	**+1.3**
TRO				*e*S	**Sn**	**19 02 31.8**	**+2.1**
TRO				IAML		19 02 35.4	
	comp=Z,40nm,0.5s						
NBB30	**Finnes**	**2.70**	**270**	*e*P	**Pn**	**19 02 00.3**	**+1.8**
LOF	**Lofoten**	**2.90**	**294**	Pn	**Pn**	**19 02 02.0**	**+0.8**
LOF				Pg	**Pb**	**19 02 07.7**	**+1.3**
LOF				Lg	Lg	19 02 47.0	
LOF	**Lofoten**	**2.90**	**294**	*e*P	**Pn**	**19 02 02.6**	**+1.4**
OBF4	**Vikkela, Lumij**	**2.94**	**139**	*e*P	**Pn**	**19 02 04.2**	**+2.5**
OBF4				*e*S	**Sn**	**19 02 40.3**	**+2.6**
OBF4				MSG		19 02 52.3	
	comp=Z,2.1nm,0.1s						
OBF0	**Syolatti, Pyha**	**3.01**	**149**	*e*P	**Pn**	**19 02 04.9**	**+2.2**
OBF0				*e*S	**Sn**	**19 02 41.8**	**+2.4**
OBF0				MSG		19 02 56.8	
	comp=Z,3.9nm,0.2s						
KONS	**Konsvik**	**3.03**	**262**	*e*P	**Pn**	**19 02 06.0**	**+3.0**
N2SV	**S rvÝgen**	**3.03**	**289**	*e*	Pn	19 01 53.6	-9.4
ARE0	**ARCESS Array S**	**3.04**	**34**	*e*P	**Pn**	**19 02 03.6**	**+0.4**
ARE0				*e*S	**Sn**	**19 02 39.6**	**-0.7**
ARE0	**ARCESS Array S**	**3.04**	**34**	*e*P	**Pn**	**19 02 03.8**	**+0.6**
ARE0				*e*S	**Sn**	**19 02 41.6**	**+1.3**
ARE0				IAML		19 02 46.9	
	comp=Z,15nm,0.4s						
ARA0	**ARCESS Array S**	**3.04**	**34**	Pn	**Pn**	**19 02 03.5**	**+0.3**
	baz=213,slow=14						
ARA0				Sn	**Sn**	**19 02 39.3**	**-0.9**
	baz=214,slow=28						
ARA0	**ARCESS Array S**	**3.04**	**34**	Pn	**Pn**	**19 02 03.5**	**+0.3**
	baz=213,slow=14						
ARA0				Sn	**Sn**	**19 02 39.3**	**-0.9**
	baz=214,slow=28						
ARCES	**ARCESS Array B**	**3.04**	**34**	Pn	**

WRA	**Warramunga Arr**	**21.74 226**	P	P	19 08 34.4	-0.2
	0.6nm,0.6s,baz=52,slow=10,SNR=2.9					
ASAR	**Alice Springs**	**24.57 220**	P	P	19 09 03.2	-0.1
	0.4nm,0.7s,baz=55,slow=8.3,SNR=6.6					
FITZ	**Fitzroy Crossi**	**27.73 240**	P	P	19 09 32.0	+0.1
	0.6nm,0.5s,baz=67,slow=7.7,SNR=1.3					
MJAR	**Matsushiro Arr**	**43.09 345**	LR	LR	19 27 55.2	
	comp=Z,62nm,20.1s,baz=80,slow=34					
TORD	**Torodi Ar. Bea**	**148.48 287**	PKPbc	PKPbc	19 23 30.5	-0.7
	0.2nm,0.6s,baz=75,slow=4.0,SNR=1.7					

IDC ***17*** *19:24:00.3±0.8,39.°55N×143.°69E,h0km,mb3.8/13, mb1 3.9/17,mb1mx3.8/42,mbtmp3.8/17,ML3.4/4,MS3.2/8, Ms1 3.2/8,ms1mx2.8/57,Error ellipse: s-maj=22.7km s-min=15.2km az=104.0*

MOS ***17*** *19:24:00.5±0.9,39.°63N×143.°76E,h15km,mb4.4/8,Error ellipse: s-maj=12.1km s-min=6.8km az=96.6*

JMA ***17*** *19:24:01.3±0.2,39.°61N×143.°77E,h27km,M4.2*

NIED ***17*** *19:24:01.3,39.°61N×143.°77E,h27km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.98; Mθθ0.08; Mϕϕ-1.06; Mrθ0.18; Mθϕ-0.37; Mϕr0.32; Fault plane solution: M₀1.14000×10¹⁵ NP1:ϕs21.00000°, δ54.00000°, λ96.00000°. NP2:ϕs191.00000°, δ36.00000°, λ81.00000°.*

ISC 17 19:24:00.7±0.6,39.°56N±0.°05×143.°89E±0.°06,h11km,n66, σ2§04/77,mb3.9/20,MS3.3/6,7C-1D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.60**	**271**	P	**Pn**	**19 24 27.2**	**-1.7**
JTH	**Tanohata**	**1.60**	**284**	P	**Pn**	**19 24 27.0**	**-2.0**
OFUJ	**Ofunato**	**1.78**	**255**	P	**Pn**	**19 24 30.0**	**-1.4**
JANG	**Nango**	**2.00**	**295**	P	**Pn**	**19 24 32.4**	**-1.9**
JOM	**Ohasama**	**2.01**	**268**	P	**Pn**	**19 24 33.6**	**-0.9**
JOM				S	**Sn**	**19 24 57.0**	**-2.6**
JMK	**Ichinoseki**	**2.16**	**255**	P	**Pn**	**19 24 35.5**	**-1.0**
JMK				eS	**Sn**	**19 25 00.8**	**-2.5**
ERM	**Erimo**	**2.52**	**348**	*ce*P	**Pn**	**19 24 40.9**	**-0.6**
ERM				pmax	pmax		
	comp=Z,33nm,0.7s						
JYK	**Kaneyama**	**2.81**	**258**	P	**Pn**	**19 24 45.0**	**-0.6**
JOT	**Ohata**	**2.83**	**311**	P	**Pn**	**19 24 45.0**	**-0.8**
JNBK	**Urakawa-nobuka**	**2.85**	**343**	P	**Pn**	**19 24 46.6**	**+0.5**
JNBK				eS	**Sn**	**19 25 19.5**	**-0.9**
JCH	**Churui**	**3.08**	**353**	P	**Pn**	**19 24 49.1**	**-0.1**
JCH				eS	**Sn**	**19 25 23.9**	**-2.1**
JFT	**Otama**	**3.45**	**235**	P	**Pn**	**19 24 53.6**	**-0.7**
JAK	**Akkeshi**	**3.49**	**10**	P	**Pn**	**19 24 54.9**	**+0.1**
JAK				eS	**Sn**	**19 25 34.7**	**-1.4**
JOMM	**Oshimamatsumae**	**3.55**	**305**	P	**Pn**	**19 24 55.6**	**-0.1**
JFR	**Furan**	**3.73**	**345**	P	**Pn**	**19 24 59.4**	**+1.2**
JAR	**Ashorobuto**	**3.74**	**359**	P	**Pn**	**19 24 57.9**	**-0.4**
JAR				S	**Sn**	**19 25 39.9**	**-2.3**
JEW	**Eniwo**	**3.76**	**332**	P	**Pn**	**19 24 59.7**	**+1.1**
JEW				eS	**Sn**	**19 25 41.2**	**-1.6**
JAW	**Awa shima**	**3.78**	**255**	P	**Pn**	**19 24 58.6**	**-0.2**
GRPR	**Tuman**	**4.65**	**17**	*e*P	**Pn**	**19 25 11.0**	**+0.2**
GRPR				eS	**Sn**	**19 26 02.0**	**-2.8**
GRPR				pmax	pmax		
	comp=Z,95nm,0.2s						
GRPR				pmax	pmax		
	comp=N,53nm,0.1s						
GRPR				pmax	pmax		
	comp=E,38nm,0.1s						
GRPR				smax	smax		
	comp=N,465nm,0.2s						
GRPR				smax	smax		
	comp=E,77nm,0.2s						
ASAJ	**Asahikawa**	**4.66**	**348**	Pn	**Pn**	**19 25 11.9**	**+1.0**
	comp=E,2.0nm,0.3s,baz=193,slow=18,SNR=42						
ASAJ				Sn	**Sn**	**19 26 01.4**	**-3.4**
	comp=E,1.9nm,0.3s,baz=300,slow=20,SNR=4.3						
YUK	**Yuzh-Kuril'sk**	**4.71**	**18**	*e*P	**Pn**	**19 25 12.3**	**+0.7**
YUK				eS	**Sn**	**19 26 03.4**	**-2.8**
YUK				pmax	pmax		
	comp=E,38nm,0.2s						
YUK				pmax	pmax		
	comp=Z,145nm,0.2s						
YUK				pmax	pmax		
	comp=N,26nm,0.1s						
YUK				smax	smax		
	comp=N,239nm,0.2s						
YUK				smax	smax		
	comp=E,446nm,0.5s						
MAJO	**Matsushiro**	**5.40**	**238**	*c*P	**Pn**	**19 25 21.8**	**+0.7**
MAT	**Matsushiro**	**5.40**	**238**	P	**Pn**	**19 25 21.6**	**+0.5**
MAT				eS	**Sn**	**19 26 22.3**	**-1.0**
MJAR	**Matsushiro Arr**	**5.40**	**238**	Pn	**Pn**	**19 25 21.7**	**+0.5**
	comp=E,0.4nm,0.3s,baz=39,slow=11,SNR=130						
KUR	**Kuril'sk**	**6.39**	**26**	P	**Pn**	**19 25 35.9**	**+1.2**
KUR				*i* S	**Sn**	**19 26 44.6**	**-3.0**
KUR				pmax	pmax		
	comp=Z,18nm,0.4s						
KUR				pmax	pmax		
	comp=N,14nm,0.2s						
KUR				pmax	pmax		
	comp=E,15nm,0.2s						
KUR				smax	smax		
	comp=E,66nm,0.6s						
JHJ	**Hachijo jima 2**	**7.23**	**208**	Pn	**Pn**	**19 25 45.4**	**-0.8**
	comp=E,4.4nm,0.3s,baz=126,slow=22,SNR=12						
JHJ				Sn	**Sn**	**19 27 00.8**	**-7.5**
	comp=E,9.0nm,0.3s,baz=54,slow=23,SNR=8.9						
YSS	**Yuzh-Sakhalins**	**7.44**	**354**	*e*P	**Pn**	**19 25 46.7**	**-2.4**
YSS				eS	**Sn**	**19 27 06.3**	**-7.1**
YSS				MLR	MLR		
	comp=Z,200nm,12.0s						
YSS				MLR	MLR		
	comp=N,100nm,11.0s						
TEY	**Ternei**	**7.69**	**318**	*e*P	**Pn**	**19 25 52.9**	**+0.4**
USRK	**Ussuriysk Ar.**	**10.01**	**301**	Pn	**Pn**	**19 26 26.6**	**+2.3**
	baz=87,slow=15,SNR=5.2						
JNU	**Nakatsue**	**12.29**	**243**	Pn	**Pn**	**19 26 51.0**	**-4.6**
	comp=N,0.2nm,0.3s,baz=196,slow=5.0,SNR=7.4						
JNU				LR	LR	19 31 54.4	
	comp=N,106nm,18.8s,baz=66,slow=39						
GRNR	**Gornyy**	**12.38**	**337**	*e*P	**Pn**	**19 26 54.0**	**-2.7**
GRNR				MLR	MLR		
	comp=N,50nm,16.0s						
GRNR				MLR	MLR		
	comp=E,60nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,70nm,16.0s						
JCJ	**Chichijima**	**12.51**	**187**	Pn	**Pn**	**19 26 56.5**	**-2.1**
	comp=Z,1.8nm,0.3s,baz=299,slow=19,SNR=1.9						
KSRS	**Korea Array**	**12.68**	**266**	Pn	**Pn**	**19 27 03.4**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=94,slow=13,SNR=7.4						
KSRS				LR	LR	19 31 11.3	
	comp=Z,49nm,19.5s,baz=73,slow=34						
KLR	**Kul'dur**	**12.97**	**322**	Pn	**Pn**	**19 27 05.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=145,slow=8.7,SNR=4.2						
KLR	**Kul'dur**	**12.97**	**322**	*i* P	**Pn**	**19 27 05.1**	**+0.2**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZEA	**Zeya**	**18.14**	**327**	*e*P	**Pn**	**19 28 07.8**	**-4.6**
ZEA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MA2	**Magadan**	**20.51**	**10**	P	Pn	19 28 40.5	-0.3
	comp=Z,5.9nm,0.8s,baz=147,slow=15,SNR=2.3						
SEY	**Seymchan**	**23.96**	**10**	P	**P**	**19 29 15.6**	**+0.9**
	comp=Z,2.5nm,0.7s,baz=172,slow=8.4,SNR=7.5						
SEY	**Seymchan**	**23.96**	**10**	*i* P	**P**	**19 29 17.1**	**+2.4**
YAK	**Yakutsk**	**24.11**	**344**	P	**P**	**19 29 14.0**	**-2.2**
	comp=Z,2.1nm,0.4s,baz=351,slow=1.1,SNR=3.4						
YAK	**Yakutsk**	**24.11**	**344**	*e*P	**P**	**19 29 15.6**	**-0.5**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ULN	**Ulaanbaatar**	**27.67**	**300**	*ce*P	**P**	**19 29 48.8**	**+0.1**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SONM	**Songino Array**	**28.11**	**300**	P	**P**	**19 29 53.4**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=94,slow=9.3,SNR=8.1						
SONM				LR	LR	19 40 19.7	
	comp=Z,20nm,18.8s,baz=76,slow=35						
H11S1	**WAKE ISLAND Hy**	**28.80**	**130**	T	T	20 00 21.3	
	baz=322,slow=76,SNR=5.7						
H11S3	**WAKE ISLAND Hy**	**28.80**	**130**	T	T	20 00 20.4	
	baz=322,slow=76,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**28.81**	**130**	T	T	20 00 21.6	
	baz=322,slow=76,SNR=5.8						
ZAK	**Zakamensk**	**30.34**	**304**	*e*P	**P**	**19 30 12.4**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
DGZ	**Jazzator, Alta**	**40.55**	**304**	*i* P	**P**	**19 31 41.0**	**+1.0**
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ZALV	**Zalesovo Beam**	**41.71**	**310**	P	**P**	**19 31 49.1**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=87,slow=7.2,SNR=5.9						
CMAR	**Chiang Mai Arr**	**44.03**	**255**	P	**P**	**19 32 08.6**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=46,slow=6.9,SNR=9.6						
CMAR				LR	LR	19 52 26.2	
	comp=Z,25nm,18.8s,baz=195,slow=39						
CMAR	**Chiang Mai Arr**	**44.03**	**255**	*i* P	**P**	**19 32 09.1**	**+0.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MK31	**Makanchi Array**	**44.47**	**300**	*e*P	**P**	**19 32 11.9**	**+0.1**
MKAR	**Makanchi Array**	**44.47**	**300**	P	**P**	**19 32 12.0**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=83,slow=9.5,SNR=23						
MKAR				LR	LR	19 53 11.6	
	comp=Z,23nm,18.1s,baz=324,slow=40						
KURK	**Kurchatov**	**45.95**	**307**	*ce*P	**P**	**19 32 23.4**	**0.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ILAR	**Eielson Array**	**46.32**	**34**	P	**P**	**19 32 29.2**	**+3.0**
	comp=Z,0.4nm,0.8s,baz=248,slow=7.7,SNR=5.7						
BRVK	**Borovoye**	**50.40**	**311**	*ce*P	**P**	**19 32 58.1**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARU	**Arti**	**55.77**	**318**	*d i*P	**P**	**19 33 38.3**	**+1.0**
ARU						19 35 37.8	
ARU				S	**S**	**19 41 24.3**	**+0.5**
ARU				SS	**SS**	**19 45 08.5**	**-0.2**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WRA	**Warramunga Arr**	**59.86**	**190**	P	**P**	**19 34 06.4**	**0.0**
	comp=Z,0.4nm,0.5s,baz=8.8,slow=7.0,SNR=8.0						
ASAR	**Alice Springs**	**63.58**	**190**	P	**P**	**19 34 33.4**	**+2.0**
	comp=Z,0.6nm,0.8s,baz=355,slow=6.1,SNR=6.7						
FINES	**FINESS Array B**	**67.48**	**333**	P	**P**	**19 34 57.0**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=101,slow=9.9,SNR=4.5						
FINES				LR	LR	20 07 22.4	
	comp=Z,33nm,19.7s,baz=342,slow=39						
FINES	**FINESS Array B**	**67.48**	**333**	*i* P	**P**	**19 34 57.0**	**+0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KIV	**Kislovodsk**	**70.71**	**311**	*e*P	**P**	**19 35 18.2**	**+1.5**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
NVAR	**Mina Array Bea**	**71.93**	**55**	P	**P**	**19 35 26.7**	**+2.3**
	comp=Z,0.4nm,0.7s,baz=297,slow=8.0,SNR=1.2						
NOA	**NORSAR Array B**	**72.60**	**338**	P	**P**	**19 35 28.8**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=38,slow=5.8,SNR=3.2						
NOA				LR	LR	20 11 31.7	
	comp=Z,18nm,18.1s,baz=25,slow=39						
AKASG	**Malin Array Be**	**73.48**	**323**	P	**P**	**19 35 33.8**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=45,slow=5.8,SNR=4.4						
GERES	**GERESS Array B**	**81.56**	**329**	LR	LR	20 16 00.9	
	comp=Z,28nm,18.6s,slow=38						

ATH ***17*** *19:45:57.4,34.°84N×24.°15E,h22km±3km,ML2.5/1,Error ellipse: s-maj=4.5km s-min=1.5km az=213.0*

THE ***17*** *19:45:57.1,34.°78N×24.°08E,h25km,ML2.4/5,Error ellipse: s-maj=1.7km s-min=0.6km az=218.0*

ISC 17 19:45:56.6±2.0,34.°8N±0.°1×24.°1E±0.°1,h27km±11km,n10, σ0§35/20,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.06**	**314**	P	**Pb**	**19 46 01.4**	**0.0**
GVD				S	**Sb**	**19 46 04.7**	**+0.1**
	2µm,0.1s						
GVD	**Gavdhos**	**0.06**	**314**	P	**Pb**	**19 46 01.4**	**0.0**
GVD				S	**Sb**	**19 46 04.1**	**-0.5**
GVD				AML	AML	19 46 04.9	
	comp=E,3302µm,0.1s						
GVD				AML	AML	19 46 05.2	
	comp=N,6146µm,0.2s						
GVDS	**Gavdos**	**0.07**	**318**	P	**Pb**	**19 46 01.5**	**+0.1**
GVDS				S	**Sb**	**19 46 04.8**	**+0.2**
	comp=N,3µm,0.1s						
SIVA	**Sivas**	**0.59**	**68**	P	**Pn**	**19 46 09.1**	**-0.1**
SIVA				S	**Sn**	**19 46 18.9**	**+1.0**
	comp=N,325nm,0.8s						
SIVA	**Sivas**	**0.59**	**68**	P	**Pn**	**19 46 09.0**	**-0.2**
SIVA				S	**Sn**	**19 46 17.3**	**-0.6**
VAM	**Vamos**	**0.61**	**4**	P	**Pb**	**19 46 08.9**	**+0.1**
VAM				S	**Sn**	**19 46 18.2**	**-0.3**
	comp=N,255nm,0.3s						
VAM	**Vamos**	**0.61**	**4**	P	**Pb**	**19 46 08.5**	**-0.3**
VAM				S	**Sb**	**19 46 17.2**	**+0.1**
IMMV	**Iera Moni Meta**	**0.68**	**349**	P	**Pb**	**19 46 09.9**	**+0.1**
IMMV				S	**Sn**	**19 46 20.1**	**0.0**
	comp=N,235nm,1.2s						
IMMV	**Iera Moni Meta**	**0.68**	**349**	P	**Pb**	**19 46 10.0**	**+0.1**
IMMV				S	**Sb**	**19 46 19.2**	**+0.3**
IDI	**Anoyia**	**0.79**	**51**	P	**Pn**	**19 46 12.0**	**0.0**
IDI				S	**Sn**	**19 46 22.6**	**-0.2**

IDC ***17*** *19:50:20.2±0.9,9.°91N×127.°37E,h0km,mb3.8/9, mb1 3.9/10,mb1mx3.7/48,mbtmp3.9/10,ML4.3/1,MS2.8/3, Ms1 2.8/3,ms1mx2.4/43,Error ellipse: s-maj=54.7km s-min=16.1km az=78.0*

MAN ***17*** *19:50:28.9,9.°43N×126.°36E,h25km,MS3.6*

ISC 17 19:50:31.8±1.1,9.°39N±0.°05×126.°23E±0.°08,h82km±10km, n23,σ1§59/28,mb3.9/9,1C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIP	**Bislig**	**1.16**	**179**	*i* P	**Pn**	**19 50 52.9**	**-0.1**
BIP				*i* S	**Sn**	**19 51 09.4**	**+0.6**
MSLP	**Maasin**	**1.54**	**299**	*e*P	**Pn**	**19 50 56.4**	**-1.3**
MSLP				eS	**Sn**	**19 51 18.1**	**+0.7**
OCLP	**Ormoc**	**2.29**	**316**	*e*P	**Pn**	**19 51 07.5**	**-0.2**
OCLP				eS	**Sn**	**19 51 37.9**	**+2.7**
TBP	**Tagbilaran**	**2.35**	**277**	*i* P	**Pn**	**19 51 07.8**	**-0.7**
TBP				eS	**Sn**	**19 51 37.9**	**+1.2**
DAV	**Davao City (W)**	**2.40**	**196**	Pn	Pn	19 51 14.2	+5.1
	30nm,0.3s,baz=133,slow=1.7,SNR=1.7						
DAV				LR	LR	19 52 31.1	
	comp=Z,175nm,19.3s,baz=346,slow=39						
LLP	**Lapu-Lapu**	**2.41**	**293**	*e*P	**Pn**	**19 51 09.2**	**-0.1**
LLP				*i* S	**Sn**	**19 51 39.3**	**+1.3**
MATI	**Mati**	**2.43**	**179**	*e*P	**Pn**	**19 51 08.0**	**-1.6**
MATI				eS	**Sn**	**19 51 38.0**	**-0.5**
KCP	**Kidapawan**	**2.62**	**206**	*i* P	**Pn**	**19 51 12.4**	**+0.2**
KCP				*i* S	**Sn**	**19 51 44.4**	**+1.2**
PAGZ	**Pagadian**	**3.21**	**242**	*e*P	**Pn**	**19 51 20.1**	**+0.1**
PAGZ				eS	**Sn**	**19 51 52.5**	**-4.7**
SKMP	**Bagumbayan, Su**	**3.31**	**210**	*e*P	**Pn**	**19 51 19.5**	**-1.9**
PVCP	**Virac**	**4.65**	**334**	*e*P	**Pn**	**19 51 38.6**	**-1.0**
PVCP				eS	**Sn**	**19 52 28.7**	**-3.6**
FITZ	**Fitzroy Crossi**	**27.32**	**181**	P	**P**	**19 56 10.4**	**+1.3**
	0.8nm,0.8s,baz=275,slow=21,SNR=1.1						
CMAR	**Chiang Mai Arr**	**27.94**	**292**	LR	LR	20 06 56.1	
	comp=Z,8.3nm,21.1s,baz=200,slow=35						
KSRS	**Korea Array**	**27.98**	**3**	P	P	19 56 06.2	-8.5
	0.9nm,0.8s,baz=188,slow=9.7,SNR=2.7						
WRA	**Warramunga Arr**	**30.22**	**165**	P	**P**	**19 56 35.0**	**+0.1**
	0.6nm,0.9s,baz=192,slow=19,SNR=1.2						
ASAR	**Alice Springs**	**33.70**	**167**	P	**P**	**19 57 05.5**	**+0.2**
	0.3nm,0.3s,baz=341,slow=7.3,SNR=11						
SONM	**Songino Array**	**41.82**	**340**	LR	LR	20 16 43.3	
	comp=Z,16nm,18.2s,baz=135,slow=38						
STKA	**Stephens Creek**	**43.59**	**161**	P	**P**	**19 58 28.2**	**+0.3**
	2.2nm,1.0s,baz=345,slow=8.8,SNR=4.0						
MKAR	**Makanchi Array**	**52.70**	**323**	P	**P**	**19 59 38.5**	**+0.4**
	0.9nm,0.5s,baz=128,slow=8.3,SNR=10						
ZALV	**Zalesovo Beam**	**55.37**	**332**	P	**P**	**19 59 56.4**	**-0.9**
	0.6nm,0.4s,baz=127,slow=8.1,SNR=3.0						
ARCES	**ARCESS Array B**	**85.00**	**340**	P	**P**	**20 02 58.3**	**+0.4**
	0.8nm,0.4s,baz=79,slow=6.6,SNR=12						
FINES	**FINESS Array B**	**86.64**	**332**	P	**P**	**20 03 06.2**	**+0.1**
	1.0nm,0.6s,baz=95,slow=4.4,SNR=6.6						
TORD	**Torodi Ar. Bea**	**120.55**	**291**	PKP	**PKPdf**	**20 09 15.4**	**+0.4**
	0.3nm,0.6s,baz=77,slow=3.2,SNR=2.1						

IDC 17 19:56:27.1±28.0,23.°51S×179.°82W,h458km±321km, mb3.1/5,mb1 3.3/5,mb1mx2.9/35,mbtmp3.9/5,Error ellipse: s-maj=221.2km s-min=78.9km az=153.0,South of Fiji Islands

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

CTA	**Charters Tower**	**31.65**	**270**	P	P	20 02 11.5	0.0
	1.7nm,0.5s,baz=104,slow=13,SNR=1.7						
ASAR	**Alice Springs**	**42.27**	**260**	P	P	20 03 39.3	0.0
	1.0nm,0.7s,baz=98,slow=7.9,SNR=15						
WRA	**Warramunga Arr**	**42.60**	**266**	P	P	20 03 41.5	-0.5
	1.7nm,0.6s,baz=103,slow=8.0,SNR=40						
FITZ	**Fitzroy Crossi**	**51.03**	**265**	P	P	20 04 46.2	+0.2
	1.5nm,1.0s,baz=104,slow=4.2,SNR=1.2						
TXAR	**Lajitas Array**	**90.08**	**58**	P	P	20 08 37.5	-0.1
	0.3nm,0.7s,baz=223,slow=6.1,SNR=4.2						

IDC 17 20:01:11.9±1.8,13.°98S×169.°82E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.6/32,mbtmp3.8/5,ML3.9/1,Error ellipse: s-maj=46.1km s-min=26.7km az=6.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.66**	**201**	Pn	Pn	20 03 19.3	+0.7
	1.4nm,0.3s,baz=31,slow=18,SNR=13						
DZM				Sn	Sn	20 04 39.0	-18
	0.1nm,0.3s,baz=50,slow=17,SNR=1.4						
RAR	**Rarotonga**	**29.83**	**108**	P	P	20 07 20.9	-0.1
	25nm,0.6s,baz=343,slow=11,SNR=4.5						
JAY	**Jayapura**	**30.93**	**289**	P	P	20 07 31.8	+0.9
	9.0nm,1.0s,baz=149,slow=18,SNR=3.8						
STKA	**Stephens Creek**	**31.36**	**231**	P	P	20 07 35.9	+1.4
	0.6nm,0.4s,baz=54,slow=10,SNR=1.4						
WRA	**Warramunga Arr**	**34.40**	**255**	P	P	20 07 59.6	-1.6
	0.3nm,0.6s,baz=82,slow=6.8,SNR=2.2						
ASAR	**Alice Springs**	**35.24**	**249**	P	P	20 08 07.6	-0.9
	0.3nm,0.6s,baz=84,slow=8.7,SNR=6.4						

TEH ***17*** *20:07:54.8,33.°85N×46.°06E,h12km,ML2.5*

ISN ***17*** *20:07:54.1±0.9,33.°77N×46.°01E,h0km±4km,ML2.3*

ISC 17 20:07:55.7±1.0,33.°81N±0.°04×46.°08E±0.°07,h10km,n8, σ1§40/12,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGHG	**Ghaleghazi**	**0.66**	**37**	*e*		20 08 35.6	
IGHG				*e*Pg	**Pg**	**20 08 07.8**	**-0.8**
IBDR	**Badra**	**0.70**	**191**	*e*Pg	**Pg**	**20 08 08.0**	**-1.3**
IBDR				*e*Sg	**Sg**	**20 08 17.0**	**-1.5**
IBDR				AML	AML	20 08 18.0	
	comp=E,160nm,0.3s						
IBDR				AML	AML	20 08 27.6	
	comp=N,147nm,0.4s						
IDHR	**Dehrash**	**0.93**	**16**	*e*Pg	**Pg**	**20 08 12.3**	**-1.3**
IDHR				*e*Sg	**Sg**	**20 08 25.6**	**-0.1**
IDHR				*e*		20 08 33.4	
IKOM	**Komasi**	**1.24**	**72**	*e*Pg	**Pn**	**20 08 19.3**	**0.0**
IKOM				*e*		20 08 41.8	
ILIN	**Lien**	**1.33**	**33**	*e*Pg	**Pn**	**20 08 20.2**	**-0.4**
ILIN				*e*		20 08 42.9	
BHD	**Baghdad**	**1.52**	**250**	*e*Pn	**Pn**	**20 08 23.0**	**+0.1**
BHD				*e*Sn	**Sn**	**20 08 45.0**	**+2.2**
IALM	**Almabolaq**	**2.02**	**58**	*e*Pg	**Pn**	**20 08 31.5**	**+1.4**
IALM				*e*		20 08 35.2	
NSR	**Nassriya**	**2.79**	**179**	*e*Pn	**Pn**	**20 08 41.0**	**+0.6**
NSR				*e*Sn	**Sn**	**20 09 16.0**	**+1.9**

IDC ***17*** *20:15:09.3±0.6,9.°20S×112.°54E,h0km,mb4.1/17, mb1 4.2/19,mb1mx4.2/34,mbtmp4.1/19,ML4.0/2,MS3.3/4, Ms1 3.3/4,ms1mx2.8/42,Error ellipse: s-maj=21.4km s-min=13.4km az=60.0*

DJA ***17*** *20:15:15.6±0.3,9.°5S±3.°×111.°3E±.°,h10km,M4.7/22, mb4.8/18,mB5.0/6,MLv4.8/22,Mw(mB)4.3/6*

KLM ***17*** *20:15:16.0,9.°55S×112.°52E,h36km,mb4.7*

NEIC ***17*** *20:15:16.8±2.3,9.°30S±0.°09×112.°54E±0.°06,h58km±7km, mb4.3/16,Error ellipse: s-maj=13.3km s-min=8.1km az=162.0*

ISC 17 20:15:15.9±1.0,9.°45S±0.°06×112.°60E±0.°04,h49km±10km, n90,σ2§18/91,mb4.2/30,1C,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.44**	**35**	S	**Sn**	**20 15 55.3**	**-2.0**
JAGI	**Jajag, Banyuwa**	**1.82**	**58**	P	**Pn**	**20 15 46.1**	**+1.3**
JAGI				S	**Sn**	**20 16 03.1**	**-3.6**
JAGI	**Jajag, Banyuwa**	**1.82**	**58**	Pn	**Pn**	**20 15 46.6**	**+1.9**
WOJI	**Wonogiri, Jawa**	**2.31**	**314**	P	**Pn**	**20 15 51.8**	**+0.3**
WOJI				S	**Sn**	**20 16 17.6**	**-1.1**
NGJI	**Ngawi**	**2.36**	**331**	P	**Pn**	**20 15 55.5**	**+3.3**
NGJI				S	**Sn**	**20 16 22.6**	**+2.7**
GRJI	**Gresik**	**2.52**	**357**	P	**Pn**	**20 15 56.4**	**+1.9**
GRJI				S	**Sn**	**20 16 22.0**	**-2.0**
UGM	**Wanagama**	**2.56**	**307**	P	**Pn**	**20 15 55.3**	**+0.3**
UGM				S	**Sn**	**20 16 24.1**	**-0.9**
UGM	**Wanagama**	**2.56**	**307**	Pn	**Pn**	**20 15 55.4**	**+0.4**
DNP	**Denpasar**	**2.69**	**74**	P	**Pn**	**20 16 00.1**	**+3.4**
DNP				S	**Sn**	**20 16 33.0**	**+4.9**
KMMI	**Kalianget**	**2.74**	**30**	P	**Pn**	**20 15 59.5**	**+2.0**
YOGI	**Yogyakarta**	**2.80**	**305**	P	**Pn**	**20 15 59.5**	**+1.2**
YOGI				S	**Sn**	**20 16 32.1**	**+1.2**
**S

WRA	**Warramunga Arr**	**23.44**	**119**	P		**P**	**20 20 21.8**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=302,slow=11,SNR=32							
WRA				PcP		**PcP**	**20 24 08.3**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=303,slow=1.6,SNR=2.7							
WRA				LR		LR	20 30 26.0	
	comp=Z,61nm,18.9s,baz=110,slow=39							
WRA	**Warramunga Arr**	**23.44**	**119**	P		**P**	**20 20 21.5**	**+0.4**
WRAB	**Tennant Creek**	**23.45**	**119**	P		**P**	**20 20 19.6**	**-1.5**
WRAB				IAmb		IAmb	20 20 23.8	
	comp=Z,22nm,1.4s							
WB2	**Warramunga Arr**	**23.45**	**119**	P		**P**	**20 20 22.0**	**+0.8**
WB2				IAmb		IAmb	20 20 41.2	
	comp=Z,12nm,1.3s							
WR0	**Warramunga Arr**	**23.62**	**119**	P		**P**	**20 20 24.3**	**+1.6**
WR0				IAmb		IAmb	20 20 41.7	
	comp=Z,6.5nm,0.8s							
ASAR	**Alice Springs**	**24.78**	**127**	P		**P**	**20 20 35.5**	**+2.1**
	comp=Z,2.1nm,0.9s,baz=304,slow=7.5,SNR=17							
ASAR				PcP		**PcP**	**20 24 10.6**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=300,slow=1.8,SNR=4.6							
ASAR				LR		LR	20 29 59.6	
	comp=Z,64nm,20.5s,baz=264,slow=36							
ASAR	**Alice Springs**	**24.78**	**127**	PcP		**PcP**	**20 24 10.7**	**+1.5**
FORT	**Forrest**	**25.65**	**148**	P		**P**	**20 20 42.5**	**+1.4**
FORT				IAmb		IAmb	20 20 59.5	
	comp=Z,23nm,1.0s							
CMAR	**Chiang Mai Arr**	**30.84**	**334**	P		**P**	**20 21 25.9**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=183,slow=7.2,SNR=5.9							
STKA	**Stephens Creek**	**34.92**	**134**	P		**P**	**20 22 04.8**	**+1.7**
	comp=Z,3.8nm,0.7s,baz=317,slow=10,SNR=13							
STKA				LR		LR	20 36 58.5	
	comp=Z,77nm,21.3s,baz=210,slow=37							
STKA	**Stephens Creek**	**34.92**	**134**	IAmb		IAmb	20 22 06.5	
	comp=Z,0.8nm,0.7s							
KMI	**Kunming**	**35.69**	**345**↑	*e*P		P	20 22 15.1	+5.2
KMI				pP		pP	20 22 20.0	-2.2
KMI				pmax		pmax		
	comp=Z,11nm,0.5s							
KMI				pmax		pmax		
	comp=Z,80nm,4.2s							
GYA	**Guiyang**	**36.16**	**351**	*e*P		P	20 22 21.4	+7.5
GYA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
H08S2	**Diego Garcia H**	**39.69**	**269**	T		T	21 04 44.9	
	baz=95,slow=75,SNR=12							
H08S3	**Diego Garcia H**	**39.70**	**269**	T		T	21 04 46.6	
	baz=95,slow=75,SNR=8.1							
H08S1	**Diego Carcia H**	**39.71**	**269**	T		T	21 04 52.6	
	baz=95,slow=75,SNR=5.9							
NJ2	**Nanjing**	**41.70**	**8**	*e*P		**P**	**20 23 01.8**	**+1.8**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
KSRS	**Korea Array**	**48.82**	**16**	P		**P**	**20 23 54.2**	**-2.1**
	comp=Z,0.6nm,0.8s,baz=210,slow=9.4,SNR=2.5							
BJI	**Beijing**	**49.35**	**4**	P		**P**	**20 24 02.8**	**+2.4**
BJI				S		S	20 31 15.1	+12
BJI				pmax		pmax		
	comp=Z,4.0nm,0.6s							
GTA	**Gaotai**	**50.04**	**347**	*e*P		P	20 24 12.3	+6.5
GTA				pP		sP	20 24 24.3	+0.2
GTA				sP		pwP	20 24 29.4	+8.1
GTA				pmax		pmax		
	comp=Z,2.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**50.06**	**359**	*e*P		**P**	**20 24 06.3**	**+0.4**
HHC				pmax		pmax		
	comp=Z,15nm,0.7s							
HHC				pmax		pmax		
	comp=Z,81nm,6.6s							
MAJO	**Matsushiro**	**51.70**	**26**	P		**P**	**20 24 15.8**	**-2.4**
MAJO				IAmb		IAmb	20 24 25.4	
	comp=Z,9.5nm,1.2s							
MAT	**Matsushiro**	**51.70**	**26**	P		**P**	**20 24 16.8**	**-1.4**
MJAR	**Matsushiro Arr**	**51.70**	**26**	P		**P**	**20 24 16.1**	**-2.1**
	comp=Z,3.8nm,0.8s,baz=211,slow=8.2,SNR=10							
MJB9	**Matsu-Tunnel**	**51.70**	**26**	P		**P**	**20 24 16.6**	**-1.6**
USRK	**Ussuriysk Ar.**	**56.22**	**17**	P		**P**	**20 24 48.6**	**-2.4**
	comp=Z,2.4nm,0.7s,baz=205,slow=5.3,SNR=9.2							
USRK	**Ussuriysk Ar.**	**56.22**	**17**	P		**P**	**20 24 48.9**	**-2.1**
SONM	**Songino Array**	**57.30**	**355**	P		**P**	**20 24 57.2**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=151,slow=4.1,SNR=5.7							
SONM	**Songino Array**	**57.30**	**355**	P		**P**	**20 24 57.5**	**-1.3**
WMQ	**Urumqi**	**57.65**	**339**	*e*P		**P**	**20 25 03.4**	**+2.2**
MK31	**Makanchi Array**	**62.18**	**337**	P		**P**	**20 25 30.6**	**-1.6**
MK31				IAmb		IAmb	20 25 42.1	
	comp=Z,1.1nm,0.9s							
MKAR	**Makanchi Array**	**62.18**	**337**	P		**P**	**20 25 31.0**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=152,slow=7.1,SNR=23							
MAW	**Mawson**	**66.73**	**199**	P		**P**	**20 26 01.9**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=24,slow=9.7,SNR=3.8							
MAW	**Mawson**	**66.73**	**199**	IAmb		IAmb	20 26 04.2	
	comp=Z,0.4nm,0.9s							
ZALV	**Zalesovo Beam**	**67.40**	**343**	P		**P**	**20 26 03.5**	**-2.5**
	comp=Z,1.1nm,0.5s,baz=148,slow=4.9,SNR=5.1							
VNDA	**Vanda**	**72.58**	**170**	P		**P**	**20 26 39.4**	**+1.9**
	comp=Z,1.0nm,0.7s,baz=310,slow=5.3,SNR=5.2							
PETK	**Petropavlovsk-**	**73.16**	**26**	P		**P**	**20 26 40.8**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=206,slow=1.9,SNR=1.5							
ABKAR	**Akbulak array**	**74.40**	**327**	P		**P**	**20 26 48.0**	**-0.6**
KBZ	**Khabaz**	**82.20**	**317**	P		**P**	**20 27 31.3**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=73,slow=0.9,SNR=4.0							
BOSA	**Boshof**	**83.23**	**242**	P		**P**	**20 27 39.2**	**+1.4**
	comp=Z,3.4nm,0.9s,baz=49,slow=4.7,SNR=3.8							
BOSA	**Boshof**	**83.23**	**242**	IAmb		IAmb	20 27 40.9	
	comp=Z,9.5nm,1.1s							
RAR	**Rarotonga**	**84.44**	**111**	P		**P**	**20 27 46.3**	**+2.4**
	comp=Z,23nm,0.6s,baz=312,slow=17,SNR=2.4							
BRTR	**Keskin Array B**	**87.60**	**311**	P		**P**	**20 27 59.7**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=141,slow=8.0,SNR=7.3							

JMA ***17*** *20:34:31.3,30.75N×130.85E,h52km±1km,M3.8 Broadband fault plane solution: P waves. NP1: φs180.00000°,δ13.00000°,λ55.00000°. NP2:φs37.00000°, δ79.00000°,λ98.00000°. Principal axes: T Plg55.0000°, Azm316.0000°; N Plg8.0000°, Azm215.0000°; P Plg34.0000°, Azm120.0000°;*

JMA Felt I J1.

NIED ***17*** *20:34:31.4,30.75N×130.85E,h52km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.94; Mθθ0.51; Mφφ-1.45; Mrθ0.95; Mθφ0.13; Mφr1.40; Fault plane solution: M₀2.12000×10¹⁵ NP1:φs27.00000°, δ75.00000°,λ115.00000°. NP2:φs145.00000°,δ29.00000°, λ32.00000°.*

IDC ***17*** *20:34:34.0±2.4,30.84N×131.06E,h88km±18km,mb3.7/17, mb1 3.8/23,mb1mx3.6/56,mbtmp4.0/23,MS3.0/7, Ms1 3.0/7,ms1mx2.7/45 Error ellipse: s-maj=23.2km s-min=15.9km az=35.0*

NEIC ***17*** *20:34:34.8±1.5,30.9N±0.1×131.1E±0.1,h93km±8km, mb4.4/11,Error ellipse: s-maj=17.7km s-min=11.7km az=222.0*

ISC 17 20:34:30.7±0.7,30.71N±0.04×130.87E±0.05,h58km±6km, n54,σ1ᵎ13/57,mb4.2/21,2C-9D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
JTN	**Tanegashima 3**	**0.11**	**117**	↑P	**Pn**	**20 34 39.4**		**-0.1**
JTN				*e*S	**Sn**	**20 34 45.5**		**-0.3**
JMTN	**Minamitane**	**0.31**	**174**	↑P	**Pn**	**20 34 41.2**		**+0.6**
JMTN				*e*S	**Sn**	**20 34 48.5**		**+0.7**
JTSR	**Tashiro 2**	**0.46**	**6**	↓P	**Pn**	**20 34 41.6**		**-0.5**
JTSR				*e*S	**Sn**	**20 34 49.5**		**-0.9**
JYAK	**Yakushimahirau**	**0.56**	**214**	↓P	**Pn**	**20 34 43.6**		**+0.5**
JYAK				S	**Sn**	**20 34 52.9**		**+0.8**
JKC	**Kuchinoerabu**	**0.63**	**247**	↓P	**Pn**	**20 34 44.2**		**+0.3**
JKC				*e*S	**Sn**	**20 34 53.9**		**+0.4**
JSU	**Suzuyama**	**0.87**	**336**	↓P	**Pn**	**20 34 46.8**		**-0.2**
JSU				S	**Sn**	**20 34 58.7**		**-0.3**
JNAR	**Kushima--Naru**	**0.89**	**23**	↓P	**Pn**	**20 34 47.6**		**+0.4**
JNAR				*e*S	**Sn**	**20 35 00.2**		**+0.9**
JNKG	**Nichinankitago**	**1.05**	**24**	↓P	**Pn**	**20 34 50.1**		**+0.8**
JNKG				*e*S	**Sn**	**20 35 04.6**		**+1.5**
JTZ	**Takazaki**	**1.21**	**9**	P	**Pn**	**20 34 51.6**		**+0.2**
JTZ				*e*S	**Sn**	**20 35 06.9**		**+0.1**
JNN	**Nakanoshima**	**1.22**	**225**	↓P	**Pn**	**20 34 52.4**		**+0.9**
JNN				*e*S	**Sn**	**20 35 08.1**		**+1.1**
JSJ	**Shimokoshiki**	**1.38**	**315**	↓P	**Pn**	**20 34 53.1**		**-0.6**
JSJ				S	**Sn**	**20 35 10.2**		**-0.8**
JZO	**Okuchi**	**1.45**	**351**	↓P	**Pn**	**20 34 55.0**		**+0.3**
JNU	**Nakatsue**	**2.41**	**0**	P	**Pn**	**20 35 09.0**		**+1.2**
	6.3nm,0.3s,baz=200,slow=2.5,SNR=144							
JNU				S	**Sn**	**20 35 38.0**		**+1.9**
	6.7nm,0.3s,baz=72,slow=20,SNR=9.2							
JNU	**Nakatsue**	**2.41**	**0**	Pn	**Pn**	**20 35 09.8**		**+2.1**
KSRS	**Korea Array**	**7.16**	**341**	P	**Pn**	**20 36 14.9**		**+2.2**
	0.3nm,0.3s,baz=159,slow=14,SNR=13							
KSRS				LR	LR	20 39 12.8		
	comp=Z,100nm,18.2s,baz=166,slow=39							
JHJ	**Hachijo jima 2**	**7.95**	**70**	P	**Pn**	**20 36 25.0**		**+1.4**
	12nm,0.3s,baz=134,slow=23,SNR=24							
MAJO	**Matsushiro**	**8.45**	**44**		**Pn**	**20 36 31.3**		**+0.9**
MJAR	**Matsushiro Arr**	**8.45**	**44**	P	**Pn**	**20 36 31.5**		**+1.2**
	0.1nm,0.3s,baz=242,slow=15,SNR=11							
ASAJ	**Asahikawa**	**16.29**	**31**	P	**Pn**	**20 38 15.3**		**-0.2**
	0.1nm,0.3s,baz=232,slow=17,SNR=2.6							
ASAJ				LR	LR	20 43 49.2		
	comp=Z,42nm,20.5s,baz=182,slow=34							
JKA	**Kamikawa-asahi**	**16.29**	**31**	P	**Pn**	**20 38 15.3**		**-0.3**
KLR	**Kul'dur**	**18.52**	**2**	P	**P**	**20 38 42.4**		**+0.2**
	0.4nm,0.3s,baz=177,slow=2.4,SNR=9.9							
KLR				LR	LR	20 44 35.2		
	comp=Z,30nm,20.5s,baz=180,slow=33							
GUMO	**Guam**	**21.37**	**140**	LR	LR	20 46 07.0		
	comp=Z,25nm,18.8s,baz=302,slow=32							
SONM	**Songino Array**	**25.36**	**319**	P	**P**	**20 39 51.7**		**-0.7**
	1.0nm,0.6s,baz=136,slow=9.8,SNR=9.8							
SONM				LR	LR	20 49 50.3		
	comp=Z,52nm,21.9s,baz=128,slow=36							
PETK	**Petropavlovsk-**	**29.69**	**33**	LR	LR	20 53 51.6		
	comp=Z,29nm,18.9s,baz=230,slow=39							
H11N2	**WAKE ISLAND Hy**	**34.24**	**100**	T	T	21 17 19.5		
	baz=296,slow=75,SNR=57							
H11N1	**WAKE ISLAND Hy**	**34.25**	**100**	T	T	21 17 17.1		
	baz=296,slow=75,SNR=31							
H11N3	**WAKE ISLAND Hy**	**34.25**	**100**	T	T	21 17 18.3		
	baz=296,slow=75,SNR=43							
SEY	**Seymchan**	**35.08**	**17**	LR	LR	20 55 16.0		
	comp=Z,55nm,20.0s,baz=332,slow=36							
ZALV	**Zalesovo Beam**	**40.25**	**319**	P	**P**	**20 42 02.6**		**+0.9**
	0.6nm,0.4s,baz=101,slow=7.7,SNR=4.4							
MKAR	**Makanchi Array**	**40.47**	**307**	P	**P**	**20 42 05.0**		**+1.3**
	0.9nm,0.5s,baz=89,slow=11,SNR=7.3							
BATI	**Baumata**	**41.26**	**191**	LR	LR	20 58 29.8		
	comp=Z,401nm,21.7s,baz=196,slow=35							
KURK	**Kurchatov**	**43.33**	**313**	P	**P**	**20 42 27.9**		**+1.1**
KURK				IAmb	IAmb	20 42 28.9		
	comp=Z,5.7nm,0.7s							
KURBB	**Kurchatov Arra**	**43.37**	**313**	P	**P**	**20 42 28.2**		**+1.0**
	comp=Z,3.6nm,0.7s,baz=100,slow=9.0,SNR=25							
KDJ	**Kajisay**	**44.03**	**300**	P	**P**	**20 42 33.6**		**+0.8**
KDJ				IAmb	IAmb	20 44 05.5		
	comp=Z,7.1nm,1.4s							
NRIK	**Noril'sk**	**45.78**	**340**	P	**P**	**20 42 45.4**		**-0.7**
	comp=Z,3.4nm,0.6s,baz=113,slow=8.2,SNR=7.2							
KK31	**Karatay Array**	**48.85**	**302**	P	**P**	**20 43 12.4**		**+2.0**
KK31				IAmb	IAmb	20 43 13.1		
	comp=Z,6.9nm,1.4s							
KKAR	**Karatay Array**	**48.85**	**302**	P	**P**	**20 43 11.9**		**+1.4**
KKAR	**Karatay Array**	**48.85**	**302**	P	**P**	**20 43 12.4**		**+1.9**
KKAR				IAmb	IAmb	20 43 13.1		
	comp=Z,6.9nm,1.4s							
GAR	**Garm**	**49.58**	**297**	P	**P**	**20 43 16.8**		**+0.6**
WRA	**Warramunga Arr**	**50.47**	**176**	P	**P**	**20 43 23.5**		**+0.6**
	comp=Z,0.8nm,0.8s,baz=350,slow=7.7,SNR=4.7							
ARU	**Arti**	**55.40**	**320**	P	**P**	**20 43 58.9**		**+0.1**
	comp=Z,1.4nm,0.5s,baz=134,slow=4.4,SNR=9.5							
GEYT	**Alibeck**	**59.14**	**298**	P	**P**	**20 44 27.0**		**+1.4**
	comp=Z,0.8nm,0.4s,baz=93,slow=7.4,SNR=2.2							
GEYT	**Alibeck**	**59.14**	**298**	IAmb	IAmb	20 44 27.6		
	comp=Z,0.9nm,0.7s							
ILAR	**Eielson Array**	**59.41**	**30**	P	**P**	**20 44 26.3**		**-0.6**
	comp=Z,0.6nm,0.8s,baz=249,slow=5.7,SNR=5.7							
BCAR	**Beaver Creek A**	**61.93**	**31**	P	**P**	**20 44 41.3**		**-2.9**
ARCES	**ARCESS Array B**	**66.71**	**338**	P	**P**	**20 45 14.7**		**-0.5**
	comp=Z,3.4nm,1.0s,baz=64,slow=8.2,SNR=5.9							
KBZ	**Khabaz**	**68.15**	**309**	P	**P**	**20 45 25.4**		**+0.7**
	comp=Z,5.0nm,0.9s,baz=47,slow=1.5,SNR=7.9							
FINES	**FINESS Array B**	**70.13**	**330**	P	**P**	**20 45 35.8**		**-0.8**
	comp=Z,2.6nm,0.5s,baz=72,slow=5.8,SNR=28							
AKASG	**Malin Array Be**	**73.64**	**320**	P	**P**	**20 45 57.3**		**-0.7**
	comp=Z,1.8nm,0.7s,baz=56,slow=5.8,SNR=7.3							
AKASG	**Malin Array Be**	**73.64**	**320**	IAmb	IAmb	20 45 58.5		
	comp=Z,1.7nm,1.1s							
BRTR	**Keskin Array B**	**76.12**	**308**	P	**P**	**20 46 12.7**		**0.0**
	comp=Z,3.0nm,0.9s,baz=101,slow=6.4,SNR=14							
NOA	**NORSAR Array B**	**76.32**	**334**	P	**P**	**20 46 12.2**		**-1.0**
	comp=Z,0.6nm,0.8s,baz=50,slow=5.7,SNR=1.9							
NVAR	**Mina Array Bea**	**85.76**	**47**	P	**P**	**20 47 03.0**		**-1.1**
	comp=Z,0.3nm,0.6s,baz=265,slow=5.8,SNR=4.2							
PDAR	**Pinedale Array**	**88.24**	**40**	P	**P**	**20 47 13.5**		**-2.6**
	comp=Z,0.2nm,0.2s,baz=266,slow=7.3,SNR=4.1							

NEIC ***17*** *20:34:32.4±2.3,23.67N±0.09×91.4E±0.1,h38km±7km, mb4.1/8,Error ellipse: s-maj=19.6km s-min=10.6km az=66.0*

NDI ***17*** *20:34:32.2±2.7,23.84N×91.27E,h15km±27km,mb4.3, ML3.9,mb4.1(NEIC)*

IDC ***17*** *20:34:33.9±0.7,23.65N×91.30E,h52km±6km,mb3.7/13, mb1 3.9/14,mb1mx3.5/56,mbtmp4.0/14,MS2.9/1, Ms1 2.9/1,ms1mx2.4/35,Error ellipse: s-maj=26.9km s-min=12.6km az=56.0*

DMN ***17*** *20:34:36.2±0.4,23.67N×91.02E,h10km,Ml4.9/5,Error ellipse: s-maj=19.6km s-min=7.8km az=35.0*

ISC 17 20:34:31.4±0.5,23.62N±0.05×91.26E±0.05,h29km,n57, σ2ᵎ14/71,mb4.0/18,1C-1D,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SHL	**Shillong**	**2.02**	**16**	*e*P	**Pn**	**20 35 04.0**		**+0.2**
SHL				*i* S	Sn	20 35 13.0		-15
SHL	**Shillong**	**2.02**	**16**		**Pn**	**20 35 02.7**		**-1.0**
GUWA	**GUWAHATI**	**2.59**	**9**↓	*i* P	**Pn**	**20 35 10.5**		**-0.9**
GUWA				*e*S	**Sn**	**20 35 38.2**		**-3.8**
TEZP	**TEZPUR**	**3.30**	**25**	*e*P	**Pn**	**20 35 20.2**		**-0.9**
TEZP				IAML		20 35 58.8		
	comp=N,757nm,0.1s							
ITAN	**ITANAGAR**	**4.16**	**32**	*e*P	**Pn**	**20 35 32.9**		**0.0**
ITAN				*ex*	x	20 36 17.4		
ITAN				IAML		20 36 21.6		
	comp=E,928nm,0.5s							
GTK	**Tadong**	**4.40**	**327**	*ex*	**Pn**	**20 35 38.5**		**+2.1**
GTK				*e*S	**Sn**	**20 36 23.7**		**-3.0**
ZIRO	**ZIRO**	**4.54**	**30**	*e*P	**Pn**	**20 35 38.1**		**-0.3**
ZIRO				*e*S	**Sn**	**20 36 26.2**		**-4.1**
ODAN	**Odare**	**4.76**	**313**	*e*Pn	**Pn**	**20 35 43.4**		**+1.9**
ODAN				*e*Sn	**Sn**	**20 36 34.1**		**-1.8**
	comp=E,389nm,0.4s							
TAPN	**Taplejung**	**4.91**	**320**	*e*Pn	**Pn**	**20 35 45.6**		**+2.0**
RAMN	**Ramite**	**5.36**	**309**	*e*Pn	**Pn**	**20 35 52.0**		**+2.2**
LKP	**Lekhapani**	**5.56**	**47**	*e*P	**Pn**	**20 35 52.6**		**+0.4**
LKP				*ex*	x	20 36 49.0		
BWNR	**Bhubaneshwar**	**6.04**	**238**	*ex*	**Pn**	**20 35 58.4**		**-0.5**
BWNR				*ex*	x	20 35 58.5		
BWNR				*ex*	x	20 36 58.5		
BWNR				*e*S	**Sn**	**20 37 02.4**		**-4.7**
LSA	**Lhasa**	**6.06**	**359**		**Pn**	**20 36 00.8**		**+1.3**
JIRN	**Jiri**	**6.09**	**312**	*e*Pn	**Pn**	**20 36 02.0**		**+2.1**
PKI	**Pulchoki**	**6.58**	**308**	*e*Pn	**Pn**	**20 36 08.3**		**+1.7**
PKI				*e*Sn	**Sn**	**20 37 17.5**		**-3.4**
	comp=E,49nm,0.2s							
KKN	**Kakani**	**6.80**	**309**	*e*Pn	**Pn**	**20 36 11.5**		**+1.9**
DMN	**Daman**	**6.83**	**307**	*e*Pn	**Pn**	**20 36 12.0**		**+2.1**
GKN	**Gorkha**	**7.39**	**308**	*e*Pn	**Pn**	**20 36 18.9**		**+1.3**
GKN				*e*Sn	**Sn**	**20 37 36.3**		**-4.3**
	comp=E,156nm,0.2s							
KOLN	**Koldanda**	**8.05**	**303**	*e*Pn	**Pn**	**20 36 28.2**		**+1.6**
KOLN				*e*Sn	**Sn**	**20 37 51.3**		**-5.5**
	comp=E,197nm,0.4s							
DANN	**Dangsing**	**8.23**	**307**	*e*Sn	**Sn**	**20 37 55.2**		**-6.1**
	comp=E,186nm,0.4s							
CHTO	**Chiang Mai**	**8.62**	**122**		**Pn**	**20 36 32.3**		**-2.0**
PYUN	**Piuthan**	**8.68**	**303**	*e*Pn	**Pn**	**20 36 36.3**		**+1.0**
CM31	**Chiang Mai Arr**	**8.82**	**124**	Pn	**Pn**	**20 36 35.5**		**-1.6**
CMAR	**Chiang Mai Arr**	**8.82**	**124**	P	**Pn**	**20 36 37.0**		**-0.1**
	comp=E,0.3nm,0.3s,baz=301,slow=13,SNR=28							
CMAR	**Chiang Mai Arr**	**8.82**	**124**		**Pn**	**20 36 35.5**		**-1.7**
JBP	**Jabalpur**	**10.37**	**270**↑	*ex*	Pn	20 37 10.2		+12
JBP				*ex*	**Sn**	**20 38 52.5**		**-1.0**
JBP				*ex*	x	20 39 08.0		
PBKT	**Sadao Pong**	**11.50**	**126**		**Pn**	**20 37 14.6**		**+0.8**
NGP	**Nagpur**	**11.56**	**260**	*e*P	**Pn**	**20 37 15.9**		**+1.3**
NGP				*ex*	x	20 37 17.7		
	comp=Z,12nm,0.7s							
NGP				*e*S	**Sn**	**20 39 16.4**		**-6.4**
PBA	**Port Blair**	**11.98**	**173**	Pn	Pn	20 37 22.0		+1.7
HYB	**Hyderabad**	**13.40**	**245**	*i* P	**Pn**	**20 37 38.0**		**-1.8**
TARG	**Taragay, Kyrgy**	**21.27**	**331**	P	**P**	**20 39 16.1**		**+0.3**
TARG				IAmb	IAmb	20 39 20.6		
	comp=Z,4.6nm,0.6s							
AAK	**Ala-Archa**	**23.52**	**328**	LR	LR	20 50 08.8		
	comp=Z,27nm,18.4s,baz=134,slow=40							
MK31	**Makanchi Array**	**24.22**	**345**	P	**P**	**20 39 45.9**		**+0.3**
MK31				IAmb	IAmb	20 40 02.2		
	comp=Z,2.4nm,0.7s							
MKAR	**Makanchi Array**	**24.22**	**345**	P	**P**	**20 39 45.9**		**+0.3**
	comp=Z,1.7nm,0.5s,baz=161,slow=8.6,SNR=23							
MKAR				pP	**sP**	**20 39 59.7**		**+2.0**
	comp=Z,2.8nm,0.7s,baz=159,slow=9.9,SNR=9.9							
MKAR	**Makanchi Array**	**24.22**	**345**	P	**P**	**20 39 46.3**		**+0.7**
MAKZ	**Makanchi**	**24.31**	**344**	P	**P**	**20 39 47.2**		**+0.7**
MAKZ				IAmb	IAmb	20 40 05.8		
	comp=Z,6.0nm,1.3s							
SONM	**Songino Array**	**27.01**	**23**	P	**P**	**20 40 13.9**		**+2.9**
	comp=Z,1.1nm,0.7s,baz=200,slow=11,SNR=7.7							
SONM				pP	**sP**	**20 40 24.7**		**+1.7**
	comp=Z,1.2nm,0.8s,baz=203,slow=9.7,SNR=4.2							
KURBB	**Kurchatov Arra**	**28.72**	**343**	P	**P**	**20 40 26.0**		**-0.1**
	comp=Z,0.8nm,0.8s,baz=161,slow=8.9,SNR=6.4							
ZALV	**Zalesovo Beam**	**30.67**	**353**	P	**P**	**20 40 43.5**		**+0.2**
	comp=Z,0.6nm,0.5s,baz=183,slow=9.2,SNR=3.9							
ZALV				pP	**sP**	**20 40 56.2**		**+0.9**
	comp=Z,2.1nm,0.8s,baz=166,slow=6.9,SNR=5.2							
ZALV	**Zalesovo Beam**	**30.67**	**353**	P	**P**	**20 40 42.5**		**-0.9**
PETK	**Petropavlovsk-**	**57.39**	**41**	P	**P**	**20 44 20.2**		**+3.1**
	comp=Z,2.2nm,0.8s,baz=265,slow=8.8,SNR=1.8							
ARCES	**ARCESS Array B**	**59.64**	**338**	P	**P**	**20 44 32.3**		**-0.2**
	comp=Z,1.8nm,0.8s,baz=96,slow=6.4,SNR=1.8							
ARCES				pP	**sP**	**20 44 45.2**		**+0.3**
	comp=Z,1.9nm,0.8s,baz=82,slow=8.7,SNR=2.1							
WRA	**Warramunga Arr**	**60.32**	**132**	P	**P**	**20 44 38.0**		**+0.1**
	comp=Z,5.0nm,0.5s,baz=324,slow=7.0,SNR=42							
WRA				pP	**sP**	**20 44 51.7**		**+1.4**
	comp=Z,0.9nm,0.6s,baz=322,slow=7.3,SNR=1.2							
WRA	**Warramunga Arr**	**60.32**	**132**	P	**P**	**20 44 37.8**		**-0.1**
ASAR	**Alice Springs**	**62.64**	**136**	P	**P**	**20 44 53.8**		**+0.3**
	comp=Z,1.6nm,0.6s,baz=316,slow=6.8,SNR=14							
GERES	**GERESS Array B**	**64.55**	**314**	P	**P**	**20 45 05.5**		**-0.5**
	comp=Z,0.2nm,0.7s,baz=63,slow=4.8,SNR=1.7							
GERES				pP	**sP**	**20 45 20.6**		**+2.1**
	comp=Z,0.4nm,0.7s,baz=72,slow=4.3,SNR=3.5							
NOA	**NORSAR Array B**	**64.84**	**328**	P	**P**	**20 45 06.9**		**-0.6**
	comp=Z,1.2nm,1.0s,baz=88,slow=6.5,SNR=1.6							
STKA	**Stephens Creek**	**73.22**	**137**	P	**P**	**20 45 59.7**		**-0.2**
	comp=Z,2.4nm,0.7s,baz=252,slow=4.9,SNR=3.8							
STKA	**Stephens Creek**	**73.22**	**137**	P	**P**	**20 45 59.5**		**-0.4**
ESDC	**Sonseca Array**	**79.11**	**308**	P	**P**	**20 46 33.3**		**-0.2**
	comp=Z,0.4nm,0.6s,baz=56,slow=5.4,SNR=2.6							
LBTB	**Lobatse**	**79.90**	**237**	P	**P**	**20 46 38.4**		**+0.4**
	comp=Z,1.5nm,0.5s,baz=85,slow=7.4,SNR=5.0							
LBTB	**Lobatse**	**79.90**	**237**	P	**P**	**20 46 38.3**		**+0.3**
LBT

VNA3	**Neumayer Olymp**	**53.12**	**204**	P	**P**	**20 45 22.4**	**+0.9**	
CTAO	**Charters Tower**	**53.22**	**84**	P	**P**	**20 45 21.4**	**-1.5**	
CTAO				IAmb	IAmb	20 45 23.4		
	comp=Z,10nm,0.9s							
SUR	**Sutherland**	**53.29**	**257**	P	**P**	**20 45 22.9**	**-0.7**	
	comp=Z,3.7nm,0.8s,baz=164,slow=7.9,SNR=1.5							
LBTB	**Lobatse**	**53.78**	**268**	P	**P**	**20 45 25.9**	**-1.2**	
	comp=Z,2.5nm,0.9s,baz=174,slow=3.6,SNR=2.9							
COEN	**Coen**	**54.89**	**76**	P	**P**	**20 45 35.6**	**+0.4**	
COEN				IAmb	IAmb	20 45 49.1		
	comp=Z,14nm,1.2s							
LSZ	**Lusaka**	**57.80**	**279**	P	**P**	**20 45 55.7**	**-0.3**	
PBKT	**Sadao Pong**	**59.64**	**14**	P	**P**	**20 46 08.3**	**-0.2**	
PMG	**Port Moresby**	**60.83**	**75**	P	**P**	**20 46 17.9**	**+1.1**	
	baz=304,slow=11							
CMAR	**Chiang Mai Arr**	**61.15**	**12**	P	**P**	**20 46 18.6**	**-0.3**	
	comp=Z,3.9nm,1.0s,baz=206,slow=7.0,SNR=16							
KMBO	**Kilima Mbogo**	**61.28**	**298**	P	**P**	**20 46 21.3**	**+1.0**	
	comp=Z,0.8nm,0.4s,baz=163,slow=17,SNR=3.7							
URZ	**Urewera**	**64.88**	**120**	LR	LR	21 10 46.9		
	comp=Z,222nm,19.8s,baz=252,slow=32							
DZM	**Mont Dzumac**	**66.97**	**99**	LR	LR	21 11 31.9		
	comp=Z,336nm,19.8s,baz=228,slow=32							
WSAR	**Wadi Sarin**	**70.64**	**331**	P	**P**	**20 47 19.4**	**-0.5**	
	comp=Z,5.0nm,0.8s,baz=236,slow=16,SNR=2.1							
XAN	**Xi'an**	**78.20**	**17**	P	**P**	**20 48 04.4**	**+0.7**	
XAN				pP	pwP	20 48 11.5	+0.1	
XAN				S	**S**	**20 57 54.5**	**-3.2**	
XAN				pmax	pmax			
	comp=Z,12nm,0.8s							
XAN				pmax	pmax			
	comp=Z,98nm,4.9s							
XAN				LR	LR			
	comp=N,380nm,23.9s							
XAN				LR	LR			
	comp=E,350nm,19.5s							
XAN				LR	LR			
	comp=Z,480nm,18.3s							
GTA	**Gaotai**	**81.91**	**9**	⇑P	**P**	**20 48 22.4**	**-1.3**	
GTA				pP	pP	20 48 27.8	+0.1	
GTA				sP	pwP	20 48 31.1	-0.3	
GTA				PP	**PP**	**20 51 34.5**	**+2.8**	
GTA	**Gaotai**	**81.91**	**9**	S	**S**	**20 58 35.4**	**-1.3**	
TIA	**Tai'an**	**82.38**	**23**	P	**P**	**20 48 27.3**	**+1.2**	
TIA				pmax	pmax			
	comp=Z,6.0nm,1.2s							
GEYT	**Alibeck**	**84.35**	**336**	P	**P**	**20 48 39.2**	**+3.0**	
	comp=Z,1.1nm,0.7s,baz=185,slow=8.0,SNR=3.0							
GEYT				LR	LR	21 21 01.6		
	comp=Z,207nm,21.1s,baz=155,slow=32							
MKAR	**Makanchi Array**	**88.77**	**356**	P	**P**	**20 48 56.0**	**-1.6**	
	comp=Z,0.5nm,0.9s,baz=134,slow=3.5,SNR=4.2							
MJAR	**Matsushiro Arr**	**90.67**	**38**	P	**P**	**20 49 09.0**	**+2.3**	
	comp=Z,1.2nm,0.9s,baz=202,slow=6.2,SNR=4.4							
MJAR				LR	LR	21 27 54.6		
	comp=Z,40nm,21.0s,baz=250,slow=34							
SONM	**Songino Array**	**91.08**	**12**	P	**P**	**20 49 09.6**	**+1.1**	
	comp=Z,0.6nm,0.8s,baz=224,slow=8.1,SNR=1.5							
SONM				LR	LR	21 28 03.7		
	comp=Z,315nm,21.3s,baz=186,slow=34							
KURBB	**Kurchatov Arra**	**92.83**	**354**	P	**P**	**20 49 15.6**	**-0.8**	
	comp=Z,0.1nm,0.4s,baz=175,slow=3.4,SNR=2.6							
USRK	**Ussuriysk Ar.**	**94.52**	**30**	LR	LR	21 32 01.7		
	comp=Z,70nm,19.4s,baz=212,slow=36							
KBZ	**Khabaz**	**94.74**	**329**	LR	LR	21 27 14.4		
	comp=Z,121nm,21.8s,baz=136,slow=32							
PLCA	**Paso Flores**	**95.25**	**196**	P	**P**	**20 49 27.8**	**-0.5**	
	comp=Z,2.8nm,1.1s,baz=158,slow=5.4,SNR=2.2							
PLCA				LR	LR	21 33 13.2		
	comp=Z,486nm,18.2s,baz=170,slow=36							
BRTR	**Keskin Array B**	**95.41**	**321**	P	**P**	**20 49 28.4**	**-0.3**	
	comp=Z,0.7nm,1.0s,baz=166,slow=1.2,SNR=2.2							
BRTR				LR	LR	21 29 10.6		
	comp=Z,108nm,18.9s,baz=124,slow=33							
ZALV	**Zalesovo Beam**	**95.82**	**358**	P	**P**	**20 49 27.8**	**-2.2**	
	comp=Z,0.4nm,0.4s,baz=105,slow=11,SNR=3.7							
ZALV				LR	LR	21 31 10.1		
	comp=Z,160nm,19.8s,baz=183,slow=34							
TORD	**Torodi Ar. Bea**	**96.20**	**282**	P	**P**	**20 49 32.3**	**-0.4**	
	comp=Z,0.7nm,0.8s,baz=107,slow=4.8,SNR=2.9							
TORD				LR	LR	21 29 10.4		
	comp=Z,222nm,21.8s,baz=115,slow=33							
DBIC	**Dimbokro**	**96.74**	**273**	LR	LR	21 26 49.3		
	comp=Z,151nm,21.5s,baz=121,slow=32							
ILAR	**Eielson Array**	**141.87**	**35**	PKP	**PKPdf**	**20 55 34.3**	**-0.7**	
	comp=Z,0.6nm,1.0s,baz=297,slow=4.0,SNR=3.5							
INK	**Inuvik**	**145.82**	**26**	PKPbc	**PKPdf**	**20 55 40.7**	**-1.1**	
	comp=Z,11nm,0.8s,baz=290,slow=1.7,SNR=14							
DLBC	**Dease Lake**	**151.16**	**43**	PKPbc	**PKiKP**	**20 55 56.8**	**-0.5**	
	comp=Z,4.2nm,0.9s,baz=260,slow=6.1,SNR=3.1							
NVAR	**Mina Array Bea**	**159.42**	**92**	PKPab	**PKPab**	**20 56 40.6**	**-0.2**	
	comp=Z,0.6nm,0.7s,baz=238,slow=8.1,SNR=4.9							
PDAR	**Pinedale Array**	**166.83**	**82**	PKP	**PKPdf**	**20 56 11.6**	**+1.7**	
	comp=Z,0.2nm,0.4s,baz=200,slow=1.8,SNR=2.2							
PDAR				PKPab	**PKPab**	**20 57 12.3**	**-1.0**	
	comp=Z,0.4nm,0.5s,baz=282,slow=1.4,SNR=2.6							

BJI 17 20:42:06.5±0.0, 47°.18N×121°.36E, h6km, ML3.8/9, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**23.73**	**274**	*eP*	P	20 47 20.3	+1.0

JMA 17 20:45:40.6±0.2, 24°.82N×123°.26E, h23km, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.42**	**212**	P	Pb	20 45 49.2	-0.2
YOJ				*eS*	Sb	20 45 55.0	-0.4
JYNG	**Yonagunijimaku**	**0.47**	**218**	P	Pb	20 45 50.1	-0.1
JYNG				S	Sb	20 45 56.5	-0.2
IRIF	**Iriomote-Funau**	**0.65**	**138**	P	Pb	20 45 53.1	-0.1
IRIF				S	Sb	20 46 01.9	+0.1
JKRS	**Kuro-shima**	**0.90**	**130**	P	Pb	20 45 57.3	-0.2
JIJ	**Ishigaki jima**	**0.92**	**119**	P	Pb	20 45 57.3	-0.6
JIJ				*eS*	Sb	20 46 09.8	0.0
JISG	**Ishigakijimahi**	**0.98**	**103**	P	Pb	20 45 58.4	-0.6
JISG				S	Sb	20 46 11.2	-0.3

TAP 17 20:46:32.1, 23°.88N×121°.47E, h15km, ML1.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.07**	**206**	P	Pg	20 46 35.2	+0.1
	baz=200						
ESL				*i* S	Sg	20 46 37.2	+0.1
	baz=200						
HWA	**Hwalien**	**0.16**	**51**	*eP*	Pb	20 46 37.0	+0.2
	baz=46						
EGFH	**Guangfu**	**0.21**	**190**	*i* P	Pg	20 46 36.9	-0.1
	baz=189						
EGFH				*i* S	Sg	20 46 40.3	+0.2
	baz=189						
TWD	**Chiawan**	**0.24**	**30**	*eP*	Pb	20 46 38.2	+0.1
	baz=27						
TWD				*eS*	Sg	20 46 41.2	+0.2
	baz=27						
NACB	**Ninganchiao**	**0.32**	**22**	P	Pg	20 46 39.1	+0.3
	baz=22						
NACB				*eS*	Sg	20 46 43.0	-0.4
	baz=22						
VWDT	**VWDT**	**0.32**	**248**	*eP*	Pb	20 46 39.4	-0.1
	baz=248						
VWDT				*eS*	Sb	20 46 44.4	-0.1
	baz=248						
CHGB	**Renai**	**0.33**	**305**	*eP*	Pg	20 46 39.3	+0.3
	baz=309						
CHGB				S	Sb	20 46 44.5	-0.4
	baz=309						
ETLH	**Xiulin Townshi**	**0.33**	**3**	*eP*	Pg	20 46 38.6	-0.5
	baz=3.0						
ETLH				*eS*	Sg	20 46 43.3	-0.5
	baz=3.0						
HGSD	**Ruisui**	**0.38**	**186**	*eP*	Pb	20 46 40.9	+0.3
	baz=192						
HGSD				*eS*	Sb	20 46 46.6	+0.3
	baz=192						
EHY	**Hungye**	**0.39**	**200**	P	Pg	20 46 39.7	-0.3
	baz=191						
EHY				S	Sg	20 46 45.2	-0.2
	baz=191						
FUSS	**Fushou**	**0.42**	**331**	*eP*	Pb	20 46 41.1	-0.3
	baz=332						
FUSS				S	Sg	20 46 47.1	+0.5
	baz=332						
TWT	**Tachien**	**0.46**	**325**	*eS*	Sg	20 46 47.6	-0.1
	baz=318						
TDCB	**Techi**	**0.47**	**323**	*eP*	Pb	20 46 41.9	-0.3
	baz=318						
TDCB				*eS*	Sg	20 46 47.3	-0.7
	baz=318						
SSLB	**Suanglung**	**0.48**	**260**	*eP*	Pg	20 46 41.8	+0.2
	baz=268						
SSLB				S	Sg	20 46 47.8	-0.3
	baz=268						
YULB	**Yu-li**	**0.51**	**198**	*eP*	Pg	20 46 41.9	-0.3
	baz=189						
YULB				S	Sg	20 46 48.9	-0.1
	baz=189						
SMLT	**Sun Moon Lake**	**0.52**	**271**	*eS*	Sb	20 46 50.8	+0.4
	baz=271						
TWF1	**Yuli**	**0.54**	**197**	*eP*	Pg	20 46 42.8	-0.1
	baz=195						
TWF1				*eS*	Sg	20 46 50.3	+0.2
	baz=195						
NNSB	**Datong**	**0.56**	**352**	*eP*	Pg	20 46 43.4	+0.2
	baz=352						
NNSB				*eS*	Sg	20 46 50.9	+0.2
	baz=352						
NNSH	**Datong**	**0.56**	**352**	*eP*	Pg	20 46 43.4	+0.2
	baz=357						
NNSH				*eS*	Sg	20 46 50.6	0.0
	baz=357						
NNS	**Nan Shan**	**0.57**	**351**	*eP*	Pb	20 46 43.8	-0.1
	baz=352						
NNS				*eS*	Sb	20 46 51.6	-0.2
	baz=352						
ENA	**Nanau**	**0.60**	**24**	*eS*	Sg	20 46 52.4	+0.2
	baz=25						
NDT	**Datong Townshi**	**0.73**	**3**	*eS*	Sg	20 46 55.7	-0.3
	baz=4.0						
ENTT	**Nioudou**	**0.77**	**7**	P	Pb	20 46 47.2	+0.1
	baz=8.0						
ENTT				*eS*	Sb	20 46 57.7	+0.3
	baz=8.0						
YHNB	**Yeheng**	**0.80**	**354**	*eS*	Sg	20 46 58.2	0.0
	baz=354						
NSK	**Sanguang**	**0.80**	**353**	*eP*	Pb	20 46 47.9	+0.1
	baz=354						
NSK				S	Sg	20 46 58.1	-0.3
	baz=354						

IDC 17 20:47:24.2±3.0, 2°.69N×128°.59E, h58km±30km, mb3.4/10, mb1 3.6/12, mb1mx3.5/38, mbtmp3.7/12, ML4.3/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/18, Error ellipse: s-maj=31.1km s-min=15.1km az=74.0
DJA 17 20:47:25.1±0.5, 3°.N±5°×12°.8E±°, h45km±11km, M4.3/9, mB4.5/2, mb4.4/7, MLv4.2/9, Mw(mB)3.6/2

ISC 17 20:47:22.3±0.7, 2°.65N±0°.07×128°.75E±0°.10, h35km, n29, σ2.14/24, mb3.6/9, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.32**	**217**	P	**Pn**	**20 47 58.2**	**+0.1**
SIJI	**Sorong**	**4.31**	**144**	P	**Pn**	**20 48 29.7**	**+4.3**
	19nm,0.3s,baz=99,slow=5.4,SNR=300						
SIJI				S	**Sn**	**20 49 17.4**	**+3.0**
	7.1nm,0.3s,baz=217,slow=23,SNR=8.5						
KMSI	**Cibinong**	**5.20**	**247**	P	**Pn**	**20 48 37.8**	**+0.2**
DAV	**Davao City (W)**	**5.41**	**324**	LR	LR	20 50 08.5	
	comp=Z,17nm,21.3s,baz=38,slow=31						
KCP	**Kidapawan**	**5.66**	**320**	⇑P	**Pn**	**20 48 47.6**	**+3.5**
KCP				*i* S	**Sn**	**20 49 54.3**	**+6.4**
GTOI	**Gorontalo**	**6.08**	**251**	P	**Pn**	**20 48 50.2**	**+0.5**
	0.1nm438nm33nm,0.6s						
MPSI	**Mapaga**	**9.14**	**256**	P	**Pn**	**20 49 31.4**	**-0.4**
	18nm,1.3s						
BNSI	**Bone**	**11.12**	**231**	P	**Pn**	**20 49 58.4**	**-0.5**
	26nm,0.8s						
SPSI	**Sidrap Palu**	**11.12**	**234**	P	**Pn**	**20 49 58.7**	**-0.3**
	26nm,0.7s						
KAPI	**Kappang**	**11.78**	**230**	P	**Pn**	**20 50 07.3**	**-0.6**
	1.4nm,0.3s,baz=199,slow=14,SNR=4.5						
MTKI	**Muara Teweh, K**	**14.30**	**256**	P	**Pn**	**20 50 41.0**	**-1.5**
GUMO	**Guam**	**19.29**	**55**	LR	LR	20 57 39.2	
	comp=Z,52nm,20.0s,baz=265,slow=32						
FITZ	**Fitzroy Crossi**	**20.84**	**188**	P	**P**	**20 52 01.5**	**+0.3**
	1.9nm,1.0s,baz=93,slow=11,SNR=1.7						
WRA	**Warramunga Arr**	**23.11**	**167**	P	**P**	**20 52 26.1**	**+0.7**
	2.2nm,0.6s,baz=344,slow=10,SNR=33						
ASAR	**Alice Springs**	**26.64**	**169**	P	**P**	**20 52 58.0**	**+0.1**
	0.5nm,0.5s,baz=354,slow=7.7,SNR=9.8						
ASAR				PcP	**PcP**	**20 56 20.4**	**-1.1**
	0.7nm,0.5s,baz=351,slow=2.2,SNR=10						
CMAR	**Chiang Mai Arr**	**33.15**	**300**	P	**P**	**20 53 54.9**	**-0.9**
	0.1nm,0.3s,baz=96,slow=8.3,SNR=2.3						
KSRS	**Korea Array**	**34.64**	**359**	P	**P**	**20 54 08.3**	**-0.1**
	1.8nm,1.0s,baz=172,slow=9.8,SNR=4.6						
MJAR	**Matsushiro Arr**	**34.84**	**13**	P	**P**	**20 54 08.5**	**-1.6**
	0.6nm,0.6s,baz=187,slow=9.0,SNR=2.1						
STKA	**Stephens Creek**	**36.44**	**161**	P	**P**	**20 54 23.9**	**0.0**
	1.0nm,0.4s,baz=336,slow=7.6,SNR=6.6						
H11S3	**WAKE ISLAND Hy**	**40.34**	**64**	T	T	21 38 21.1	
	baz=252,slow=75,SNR=35						
H11S2	**WAKE ISLAND Hy**	**40.36**	**64**	T	T	21 38 24.0	
	baz=252,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**40.36**	**64**	T	T	21 38 18.0	
	baz=252,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**40.92**	**63**	T	T	21 38 52.9	
	baz=250,slow=75,SNR=28						
H11N2	**WAKE ISLAND Hy**	**40.93**	**63**	T	T	21 38 56.4	
	baz=250,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**40.94**	**63**	T	T	21 38 57.4	
	baz=250,slow=75,SNR=30						
SONM	**Songino Array**	**48.97**	**340**	P	**P**	**20 56 04.1**	**-1.4**
	0.4nm,0.8s,baz=157,slow=7.8,SNR=2.6						
MKAR	**Makanchi Array**	**59.59**	**325**	P	**P**	**20 57 20.7**	**-2.0**
	0.2nm,0.4s,baz=116,slow=8.2,SNR=7.9						
ILAR	**Eielson Array**	**85.21**	**25**	P	**P**	**20 59 54.6**	**-0.3**
	0.2nm,0.6s,baz=280,slow=5.4,SNR=1.8						
TORD	**Torodi Ar. Bea**	**125.17**	**288**	PKP	**PKPdf**	**21 06 19.1**	**-1.1**
	0.2nm,0.4s,baz=70,slow=1.7,SNR=2.0						

KRSC 17 20:48:11.0±1.4, 49°.38N×156°.79E, h32km±19km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.37**	**342**	P	Pn	20 48 34.6	+0.8
SKR				S	Sn	20 48 51.4	+0.5
ALID	**Alaid**	**1.69**	**332**	S	Sn	20 48 59.7	+0.8
PAU	**Pauzhetka**	**2.09**	**0**	P	Pb	20 48 46.4	-1.7
PAU				S	Sb	20 49 12.1	-1.5
KDTR	**Khodutka, Kamc**	**2.56**	**18**	P	Pb	20 48 53.3	-2.9
KDTR				S	Sb	20 49 24.6	-2.6
MIPR	**Malaya Ipel'ka**	**2.90**	**360**	P	Pn	20 48 57.3	+2.5
ASAK	**Asacha**	**3.08**	**13**	P	Pn	20 49 01.1	+3.7
MTVR	**Mutnovka**	**3.23**	**15**	P	Pn	20 49 02.9	+3.5
MTVR				S	Sn	20 49 41.1	+4.3
RUS	**Russkaya**	**3.24**	**19**	P	Pn	20 49 02.4	+2.9
RUS				S	Sn	20 49 41.0	+4.1
GRL	**Gorelyy**	**3.27**	**14**	P	Pn	20 49 03.9	+3.8
GRL				S	Sn	20 49 42.8	+4.8
KRMR	**Karymshinskiy**	**3.55**	**13**	P	Pb	20 49 09.0	-4.0
KRMR				S	Sn	20 49 49.8	+5.2
APC	**Apacha**	**3.55**	**4**	P	Pn	20 49 07.4	+3.6
DALK	**Dalny**	**3.85**	**18**	P	Pn	20 49 11.8	+3.9
DALK				S	Sn	20 49 56.6	+4.6
AVH	**Avacha**	**4.07**	**17**	P	Pn	20 49 16.4	+5.4
KOK	**Koryaka**	**4.08**	**16**	P	Pn	20 49 15.8	+4.7
KOK				S	Sn	20 50 03.6	+5.8
KRER	**Koryakskii**	**4.11**	**17**	S	Sn	20 50 04.6	+5.9
KRX	**Arik**	**4.15**	**16**	P	Pn	20 49 16.4	+4.3
KRX				S	Sn	20 50 04.9	+5.4
SPN	**Mys Shipunski**	**4.24**	**27**	P	Pn	20 49 16.8	+3.6
SPN				S	Sn	20 50 05.8	+4.3
KZV	**Kizimen**	**6.13**	**19**	P	Pn	20 49 44.8	+5.5
KZV				S	Sn	20 50 53.3	+5.0

MDD 17 20:55:00.6±2.5, 33°.93N×8°.85W, h0km, mb3.4/5, Error ellipse: s-maj=23.0km s-min=19.1km az=73.0, PRXIMO
INMG 17 20:55:01.2±1.3, 33°.79N×8°.96W, h17km±17km, ML2.1, Error ellipse: s-maj=16.5km s-min=5.7km az=52.0
CNRM 17 20:55:01.3±1.2, 33°.82N×8°.95W, h64km±31km, Error ellipse: s-maj=11.2km s-min=5.3km az=140.0

ISC 17 20:55:01.0±1.5, 33°.87N±0°.03×8°.89W±0°.05, h31km±14km, n37, σ1.20/62, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVE	**Averroes**	**1.35**	**114**	P	**Pb**	**20 55 24.2**	**-1.6**
AVE				S	**Sb**	**20 55 42.5**	**-0.2**
SRHM	**Skhour des Reh**	**1.62**	**149**	P	**Pb**	**20 55 30.9**	**+0.6**
SRHM				S	**Sb**	**20 55 51.6**	**+1.2**
ZHG	**ZHG**	**1.92**	**102**	P	**Pn**	**20 55 29.6**	**-2.0**
ZHG				S	**Sn**	**20 55 56.2**	**+1.5**
EAH	**EAH**	**2.29**	**195**	P	**Pn**	**20 55 35.8**	**-0.9**
EAH				S	**Sn**	**20 56 02.9**	**-0.9**
OUK	**Oukaimeden**	**2.79**	**162**	P	**Pn**	**20 55 44.4**	**+0.5**
OUK				S	**Sn**	**20 56 15.8**	**-0.8**
PFVI	**Vila Bisbo**	**3.26**	**1**	*e*Sn	**Sn**	**20 56 27.5**	**-0.1**
CZD	**Col de Zad**	**3.32**	**104**	P	**Pn**	**20 55 51.4**	**+0.3**
CZD				S	**Sn**	**20 56 32.2**	**+2.6**
TTIG	**Tnine Tigouga,**	**3.33**	**173**	P	**Pn**	**20 55 52.2**	**+1.1**
TTIG				S	**Sn**	**20 56 30.4**	**+0.6**
MORF	**Marmelete**	**3.44**	**3**	S	**Sn**	**20 56 32.3**	**+0.2**
MORF	**Marmelete**	**3.44**	**3**	*e*Sn	**Sn**	**20 56 32.3**	**+0.2**
PBDV	**Barranco-do-Ve**	**3.46**	**13**	S	**Sn**	**20 56 33.7**	**+1.1**
	4.3nm,0.6s						
PBDV	**Barranco-do-Ve**	**3.46**	**13**	*e*Sn	**Sn**	**20 56 33.7**	**+1.1**
PBDV				A	A	20 56 40.9	
	4.3nm,0.6s						
OUZM	**OUZ**	**3.46**	**148**	P	**Pn**	**20 55 51.1**	**-1.7**
OUZM				S	**Sn**	**20 56 33.3**	**+0.6**
MD31	**MD31**	**3.59**	**105**	P	**Pn**	**20 55 56.2**	**+1.6**
MD31				S	**Sn**	**20 56 36.3**	**+0.2**
PVAQ	**Vaqueiros**	**3.65**	**15**	P	**Pn**	**20 55 56.3**	**+0.9**
PVAQ				S	**Sn**	**20 56 37.5**	**+0.1**
	4.1nm,1.0s						
PVAQ	**Vaqueiros**	**3.65**	**15**	*e*Pn	**Pn**	**20 55 56.3**	**+0.9**
PVAQ				*e*Sn	**Sn**	**20 56 37.5**	**+0.1**
PVAQ				A	A	20 56 50.3	
	4.1nm,1.0s						
PTEO	**Sao Teotonio**	**3.67**	**2**	P	**Pn**	**20 55 56.2**	**+0.6**
PTEO				S	**Sn**	**20 56 37.8**	**0.0**
	3.0nm,0.7s						
PTEO	**Sao Teotonio**	**3.67**	**2**	*e*Pn	**Pn**	**20 55 56.2**	**+0.6**
PTEO				*e*Sn	**Sn**	**20 56 37.8**	**0.0**
PTEO				A	A	20 56 42.5	
	5.9nm,0.7s						
PCVE	**Castro Verde**	**3.82**	**10**	P	**Pn**	**20 55 59.4**	**+1.8**
PCVE				S	**Sn**	**20 56 41.7**	**+0.3**
	2.5nm,0.7s						
PCVE	**Castro Verde**	**3.82**	**10**	*e*Pn	**Pn**	**20 55 59.4**	**+1.8**
PCVE				*e*Sn	**Sn**	**20 56 41.7**	**+0.3**
PCVE				A	A	20 56 49.8	
	2.5nm,0.7s						
EGRO	**El Granado**	**3.83**	**17**	P	**Pn**	**20 55 58.7**	**+0.9**
	0.1nm,0.0s,SNR=7.9						
EGRO				S	**Sn**	**20 56 41.3**	**-0.5**
	2.9nm,0.3s,SNR=7.9						
PNCL	**Nicolau / Gran**	**4.24**	**4**	S	**Sn**	**20 56 51.2**	**-0.7**
	2.4nm,0.8s						
PNCL	**Nicolau / Gran**	**4.24**	**4**	*e*Sn	**Sn**	**20 56 51.2**	**-0.7**
PNCL				A	A	20 56 53.8	
	2.4nm,0.8s						
EMIN	**Mina Concepcio**	**4.29**	**24**	P	**Pn**	**20 56 05.5**	**+1.4**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**20 56 52.3**	**-0.7**
	0.6nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.31**	**50**	S	**Sn**	**20 56 52.3**	**-1.3**
	1.3nm,0.4s,SNR=7.9						
EVO	**Evora**	**4.71**	**8**	S	**Sn**	**20 57 03.0**	**-0.4**
EVO	**Evora**	**4.71**	**8**	*e*Sn	**Sn**	**20 57 03.0**	**-0.4**
ECAB	**El Cabril**	**5.05**	**33**	P	**Pn**	**20 56 16.0**	**+1.4**
	0.5nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**20 57 10.0**	**-1.9**
	0.7nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**5.09**	**357**	*e*Sn	**Sn**	**20 57 11.5**	**-1.2**
PMTG	**Montargil**	**5.22**	**6**	P	**Pn**	**20 56 17.6**	**+0.8**
PMTG				S	**Sn**	**20 57 14.5**	**-1.4**
	1.2nm,0.3s						
PMTG	**Montargil**	**5.22**	**6**	*e*Pn	**Pn**	**20 56 17.6**	**+0.8**
PMTG				*e*Sn	**Sn**	**20 57 14.5**	**-1.4**
PMTG				A	A	20 57 23.4	
	1.2nm,0.3s						
EADA	**Adamuz**	**5.53**	**38**	P	**Pn**	**20 56 21.3**	**+0.1**
	0.5nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**20 57 21.0**	**-2.7**
	0.4nm,0.2s,SNR=7.9						
PSBE	**So Bento**	**5.63**	**1**	*e*Sn	**Sn**	**20 57 25.1**	**-1.2**
PMRV	**Marv??o**	**5.68**	**12**	P	**Pn**	**20 56 24.2**	**+1.0**
PMRV				S	**Sn**	**20 57 26.2**	**-1.1**
PMRV	**Marv??o**	**5.68**	**12**	*e*Pn	**Pn**	**20 56 24.2**	**+1.0**
PMRV				*e*Sn	**Sn**	**20 57 26.2**	**-1.1**
EQES	**Quesada**	**6.14**	**49**	P	**Pn**	**20 56 32.1**	**+2.5**
	0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**20 57 37.0**	**-1.9**
	0.4nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**6.58**	**19**	P	**Pn**	**20 56 34.8**	**-0.8**
	0.2nm,0.0s,SNR=7.9						
EPLA				S	**Sn**	**20 57 47.8**	**-1.7**
	0.3nm,0.2s,SNR=7.9						

TAP 17 21:24:31.4, 24°.13N×122°.31E, h21km, ML2.7, D
JMA 17 21:24:32.2±0.1, 24°.07N×122°.28E, h27km±3km, M2.1

ISC 17 21:24:31.5±0.9, 24°.09N±0°.02×122°.30E±0°.02, h22km±9km, n69, σ0.82/125, Taiwan region

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

NNSH				*e*S		**Sb**	**21 25 00.6**	**+0.3**
	baz=289									
NNSB	**Datong**	**0.91**	**292**	*i* P		**Pb**	**21 24 48.5**	**-0.1**
	baz=289									
NNSB				*e*S		**Sn**	**21 25 00.9**	**-0.5**
	baz=289									
NNS	**Nan Shan**	**0.92**	**292**	P		**Pn**	**21 24 49.1**	**0.0**
	baz=290									
NNS				S		**Sn**	**21 25 01.4**	**-0.3**
	baz=290									
WHF	**Hehuan Shan**	**0.95**	**273**	P		**Pb**	**21 24 48.9**	**-0.7**
	baz=259									
WHF				S		**Sb**	**21 25 01.4**	**-0.5**
	baz=259									
TIPB	**Shuangxi**	**0.98**	**334**	P		**Pn**	**21 24 49.7**	**-0.2**
	baz=331									
TIPB				S		**Sn**	**21 25 02.2**	**-0.8**
	baz=331									
FUSS	**Fushou**	**0.98**	**279**	P		**Pb**	**21 24 50.0**	**+0.1**
	baz=277									
FUSS				*e*S		**Sn**	**21 25 03.1**	**-0.3**
	baz=277									
NWLT	**Wulai**	**1.00**	**313**	*e*P		**Pn**	**21 24 50.1**	**0.0**
	baz=311									
NWLT				*e*S		**Sn**	**21 25 03.9**	**+0.3**
	baz=311									
HGSD	**Ruisui**	**1.00**	**234**	*e*P		**Pb**	**21 24 49.3**	**-0.8**
	baz=233									
HGSD				*e*S		**Sb**	**21 25 02.9**	**0.0**
	baz=233									
YHNB	**Yeheng**	**1.02**	**304**	P		**Pn**	**21 24 50.6**	**0.0**
	baz=302									
YHNB				*e*S		**Sn**	**21 25 03.6**	**-0.6**
	baz=302									
CHGB	**Renai**	**1.03**	**268**	P		**Pb**	**21 24 50.3**	**-0.5**
	baz=254									
CHGB				*e*S		**Sn**	**21 25 04.8**	**+0.1**
	baz=254									
NSK	**Sanguang**	**1.04**	**304**	P		**Pb**	**21 24 50.3**	**-0.5**
	baz=302									
NSK				*e*S		**Sb**	**21 25 03.9**	**-0.2**
	baz=302									
TDCB	**Techi**	**1.06**	**279**	P		**Pb**	**21 24 51.1**	**-0.1**
	baz=277									
TDCB				S		**Sn**	**21 25 05.1**	**-0.1**
	baz=277									
EHY	**Hungye**	**1.07**	**237**	*e*P		**Pn**	**21 24 50.8**	**-0.4**
	baz=227									
EHY				S		**Sb**	**21 25 04.9**	**0.0**
	baz=227									
NWF	**Wu-fen Shan**	**1.08**	**334**	P		**Pb**	**21 24 51.0**	**-0.6**
	baz=331									
NWF				S		**Sn**	**21 25 06.6**	**+0.8**
	baz=331									
WFSB	**Wu-fen Shan**	**1.08**	**334**	*e*P		**Pn**	**21 24 51.1**	**-0.2**
	baz=331									
WFSB				*e*S		**Sn**	**21 25 06.6**	**+1.0**
	baz=331									
TWA	**Mucha**	**1.10**	**324**	*e*P		**Pb**	**21 24 52.0**	**+0.2**
	baz=330									
TWA				*e*S		**Sn**	**21 25 07.8**	**+1.7**
	baz=330									
VWDT	**VWDT**	**1.12**	**253**	*e*P		**Pn**	**21 24 50.6**	**-1.1**
	baz=239									
VWDT				*e*S		**Sb**	**21 25 05.8**	**-0.4**
	baz=239									
YULB	**Yu-li**	**1.16**	**233**	*e*P		**Pn**	**21 24 52.6**	**+0.3**
	baz=250									
YULB				S		**Sb**	**21 25 06.4**	**-1.0**
	baz=250									
TWF1	**Yuli**	**1.18**	**232**	*e*P		**Pn**	**21 24 53.2**	**+0.6**
	baz=249									
TWF1				S		**Sb**	**21 25 06.7**	**-1.4**
	baz=249									
YM01	**YM01**	**1.24**	**328**	*e*P		**Pb**	**21 24 54.8**	**+0.5**
	baz=325									
YM01				*e*S		**Sn**	**21 25 10.4**	**+0.7**
	baz=325									
WHP	**Taichung City**	**1.25**	**279**	*e*P		**Pb**	**21 24 54.8**	**+0.3**
	baz=265									
WHP				*e*S		**Sb**	**21 25 10.7**	**+0.5**
	baz=265									
YM10	**YM10**	**1.25**	**328**	*e*P		**Pn**	**21 24 53.6**	**-0.1**
	baz=325									
YM10				*e*S		**Sn**	**21 25 11.1**	**+1.1**
	baz=325									
YM11	**YM11**	**1.26**	**328**	*e*P		**Pb**	**21 24 55.0**	**+0.4**
	baz=326									
YM11				*e*S		**Sn**	**21 25 09.9**	**-0.1**
	baz=326									
YM05	**YM05**	**1.26**	**328**	*e*P		**Pb**	**21 24 54.2**	**-0.4**
	baz=325									
YM05				*e*S		**Sn**	**21 25 10.3**	**+0.2**
	baz=325									
YM04	**YM04**	**1.27**	**327**	*e*P		**Pn**	**21 24 53.8**	**0.0**
	baz=324									
YM04				*e*S		**Sb**	**21 25 10.0**	**-0.5**
	baz=324									
YM08	**YM08**	**1.27**	**329**	*e*P		**Pn**	**21 24 52.4**	**-1.5**
	baz=326									
LIOB	**Emei**	**1.30**	**295**	P		**Pb**	**21 24 55.1**	**-0.1**
	baz=294									
LIOB				*e*S		**Sb**	**21 25 12.3**	**+0.8**
	baz=294									
SMLT	**Sun Moon Lake**	**1.30**	**261**	*e*P		**Pn**	**21 24 54.4**	**0.0**
	baz=260									
SMLT				*e*S		**Sb**	**21 25 13.3**	**+1.7**
	baz=260									
ANP	**Anpu**	**1.30**	**327**	*e*P		**Pb**	**21 24 55.7**	**+0.4**
	baz=324									
CHKT	**Chengkung**	**1.31**	**221**	*e*S		**Sn**	**21 25 08.7**	**-2.5**
	baz=210									
IRIF	**Iriomote-Funau**	**1.32**	**79**	P		**Pb**	**21 24 56.0**	**+0.4**
IRIF				S		**Sb**	**21 25 13.0**	**+0.8**
TWY	**Chenhua**	**1.34**	**332**	*e*P		**Pb**	**21 24 55.5**	**-0.4**
	baz=329									
TWY				*e*S		**Sn**	**21 25 10.7**	**-1.2**
	baz=329									
HATJ	**Hateruma jima**	**1.37**	**91**	S		**Sb**	**21 25 14.6**	**+1.0**
EDH	**Donghe**	**1.44**	**220**	*e*P		**Pn**	**21 24 55.5**	**-0.8**
	baz=221									
EDH				*e*S		**Sn**	**21 25 12.5**	**-2.0**
	baz=221									
NSY	**Sanyi**	**1.44**	**283**	P		**Pn**	**21 24 56.4**	**+0.1**
	baz=282									
NSY				*e*S		**Sb**	**21 25 17.2**	**+1.6**
	baz=282									
WJS	**Zhushan**	**1.47**	**260**	*e*S		**Sb**	**21 25 19.6**	**+3.3**
	baz=259									
ELDTW	**Lidau**	**1.48**	**233**	*e*P		**Pn**	**21 24 56.1**	**-0.8**
	baz=221									
ELDTW				*e*S		**Sn**	**21 25 15.1**	**-0.5**
	baz=221									
JKRS	**Kuro-shima**	**1.56**	**84**	P		**Pb**	**21 25 00.1**	**+0.4**
JKRS				S		**Sb**	**21 25 19.4**	**+0.3**
CHN5	**Tsauling**	**1.57**	**252**	*e*P		**Pb**	**21 25 00.1**	**+0.2**
	baz=241									
CHN5				*e*S		**Sb**	**21 25 20.1**	**+0.8**
	baz=241									
LONT	**Longtian**	**1.60**	**223**	*e*S		**Sn**	**21 25 19.2**	**+0.9**
	baz=214									
LDUT	**Ludao**	**1.61**	**209**	S		**Sn**	**21 25 16.3**	**-2.2**
	baz=210									
STYT	**Tauyuan**	**1.69**	**237**	*e*P		**Pb**	**21 25 02.0**	**0.0**
	baz=238									
STYT				S		**Sn**	**21 25 21.7**	**+1.0**
	baz=238									
JIJ	**Ishigaki jima**	**1.70**	**81**	P		**Pb**	**21 25 01.0**	**-1.0**
JIJ				S		**Sb**	**21 25 22.1**	**-0.9**
TPUB	**Ta-pu**	**1.73**	**243**	*e*P		**Pb**	**21 25 02.2**	**-0.3**
	baz=244									
TPUB				*e*S		**Sn**	**21 25 22.7**	**+1.2**
	baz=244									
WTP	**Ta-pu**	**1.76**	**242**	*e*P		**Pb**	**21 25 04.1**	**+1.0**
	baz=242									
WTP				*e*S		**Sb**	**21 25 25.2**	**+0.3**
	baz=242									
RLNB	**Erlin**	**1.79**	**264**	*e*S		**Sb**	**21 25 26.6**	**+1.0**
	baz=264									
WTK	**Tuku**	**1.80**	**257**	*e*S		**Sb**	**21 25 26.5**	**+0.6**
	baz=245									
CHY	**Chiayi**	**1.82**	**251**	*e*S		**Sb**	**21 25 27.4**	**+0.9**
	baz=252									
TWK	**Hsinying**	**1.86**	**244**	S		**Sb**	**21 25 27.5**	**0.0**
	baz=245									
CHN1	**Nanshi**	**1.86**	**241**	*e*P		**Pb**	**21 25 04.0**	**-0.8**
	baz=242									
CHN1				S		**Sb**	**21 25 27.9**	**+0.2**
	baz=242									
SNST	**Tainan City**	**1.87**	**243**	S		**Sb**	**21 25 28.4**	**+0.4**
	baz=244									
SGST	**Jiashian**	**1.87**	**238**	S		**Sn**	**21 25 27.3**	**+2.2**
	baz=239									
SLGT	**Liugui**	**1.87**	**235**	*e*P		**Pn**	**21 25 03.5**	**+1.3**
	baz=226									
SLGT				*e*S		**Sb**	**21 25 28.5**	**+0.5**
	baz=226									
JISG	**Ishigakijimahi**	**1.90**	**75**	P		**Pn**	**21 25 03.6**	**+1.2**
JISG				S		**Sn**	**21 25 26.0**	**+0.4**

KRNET **17** *21:53:25.3±0.1, 42.°58N×79.°24E, h16km, mb3.3*
SOME **17** *21:53:25.0, 42.°57N×79.°27E, h10km*
NNC **17** *21:53:26.0±0.8, 42.°62N×79.°25E, h0km, mb3.9, mpv3.6,*
Error ellipse: s-maj=6.0km s-min=2.7km az=157.0
ISC 17 21:53:24.7±1.4,**42.°57N**±0.°04×**79.°28E**±0.°03,**h1**km±10km,
n77,σ1§**11**/131,**31C-23D**,**Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.60**	**13**	*e*P		**Pn**		**21 53 39.6**	**-1.0**
	baz=39								
SHLS				*e*S		**Sn**		**21 53 50.4**	**-0.7**
	baz=39								
SHLS	**Shalkode**	**0.60**	**13**	*e*P		**Pn**		**21 53 39.6**	**-1.0**
	93nm,0.2s								
SHLS				*e*S		**Sn**		**21 53 50.4**	**-0.7**
	143nm,0.3s								
SHLS	**Shalkode**	**0.60**	**13**	P		**Pn**		**21 53 39.6**	**-1.0**
	93nm,0.2s								
SHLS				S		**Sn**		**21 53 50.4**	**-0.7**
	143nm,0.3s								
UZB	**Uzynbulak**	**0.61**	**342**	*e*P		**Pg**		**21 53 36.5**	**+0.1**
	baz=45								
UZB				*e*S		**Sg**		**21 53 45.0**	**+0.7**
	baz=45								
UZB	**Uzynbulak**	**0.61**	**342**	*e*P		**Pg**		**21 53 36.5**	**+0.1**
	22nm,0.1s								
UZB				*e*S		**Sg**		**21 53 45.0**	**+0.7**
	189nm,0.2s								
UZB	**Uzynbulak**	**0.61**	**342**	P		**Pg**		**21 53 36.5**	**+0.1**
	22nm,0.1s								
UZB				S		**Sg**		**21 53 44.9**	**+0.7**
	189nm,0.2s								
PRZ	**Przheval'sk**	**0.66**	**263**	⇓*i* P		**Pg**		**21 53 37.2**	**-0.1**
	baz=62								
PRZ				⇓*i* S		**Sg**		**21 53 45.6**	**-0.3**
	baz=62								
PDGK	**Podgornoye**	**0.78**	**11**	P		**Pg**		**21 53 39.6**	**0.0**
	26nm,0.1s								
PDGK				S		**Sb**		**21 53 50.4**	**-1.8**
	75nm,0.3s								
PDGK	**Podgornoye**	**0.78**	**11**	⇓P		**Pg**		**21 53 39.4**	**-0.1**
	5.9nm,0.2s								
PDGK				⇑S		**Sg**		**21 53 50.2**	**+0.6**
	87nm,0.5s								
SATY	**Saty**	**0.81**	**308**	*e*P		**Pg**		**21 53 39.7**	**-0.5**
	21nm,0.2s								
SATY				*e*S		**Sg**		**21 53 50.6**	**-0.2**
	119nm,0.1s								
SATY	**Saty**	**0.81**	**308**	P		**Pg**		**21 53 39.7**	**-0.5**
	21nm,0.2s								
SATY				S		**Sg**		**21 53 50.6**	**-0.2**
	119nm,0.1s								
KTMS	**Ketmen**	**1.18**	**41**	*e*P		**Pb**		**21 53 47.1**	**-0.8**
	baz=42								
KTMS				*e*S		**Sn**		**21 54 03.2**	**-2.0**
	baz=42								
KTMS	**Ketmen**	**1.18**	**41**	*e*P		**Pb**		**21 53 47.1**	**-0.8**
	15nm,0.1s								
KTMS				*e*S		**Sn**		**21 54 03.2**	**-2.0**
	60nm,0.4s								
KTMS	**Ketmen**	**1.18**	**41**	P		**Pb**		**21 53 47.1**	**-0.8**
	15nm,0.1s								
KTMS				S		**Sn**		**21 54 03.7**	**-1.5**
	60nm,0.4s								
ANVS	**Anan'yevo**	**1.21**	**281**	⇑*i* P		**Pb**		**21 53 47.4**	**-1.1**
	baz=81								
ANVS				⇑*i* S		**Sb**		**21 54 03.4**	**-1.4**
	baz=81								
KURS	**Kuram**	**1.23**	**319**	*e*P		**Pn**		**21 53 47.1**	**-2.0**
	baz=20								
KURS				*e*S		**Sb**		**21 54 03.2**	**-1.9**
	baz=20								
KURS	**Kuram**	**1.23**	**319**	*e*P		**Pn**		**21 53 47.1**	**-2.0**
	4.8nm,0.4s								
KURS				*e*S		**Sb**		**21 54 03.2**	**-1.9**
	17nm,0.2s								
KURS	**Kuram**	**1.23**	**319**	P		**Pn**		**21 53 47.6**	**-1.5**
	4.3nm,0.2s								
KURS				S		**Sb**		**21 54 03.2**	**-1.9**
	17nm,0.2s								
TARG	**Taragay, Kyrgy**	**1.38**	**233**	⇑*i* P		**Pn**		**21 53 50.8**	**-0.7**
	baz=32								
TARG				⇑*i* S		**Sb**		**21 54 08.1**	**-1.8**
	baz=32								
KDJ	**Kajisay**	**1.62**	**255**	⇑*i* P		**Pb**		**21 53 54.8**	**-0.7**
	baz=54								
KDJ				⇑*i* S		**Sb**		**21 54 15.5**	**-1.0**
	baz=54								
MNBS	**Baschi**	**1.64**	**337**	*e*P		**Pb**		**21 53 55.3**	**-0.6**
	49nm,0.2s								
MNBS				*e*S		**Sg**		**21 54 17.1**	**-0.4**
	301nm,0.2s								
MNBS	**Baschi**	**1.64**	**337**	P		**Pb**		**21 53 55.3**	**-0.6**
	49nm,0.2s								
MNBS				S		**Sg**		**21 54 17.1**	**-0.4**
	301nm,0.2s								
KOTS	**Kotyrbulak**	**1.73**	**293**	*e*P		**Pb**		**21 53 56.7**	**-0.6**
	baz=93								
KOTS				*e*S		**Sg**		**21 54 20.0**	**-0.2**
	baz=93								
KOTS	**Kotyrbulak**	**1.73**	**293**	*e*P		**Pb**		**21 53 56.7**	**-0.6**
	32nm,0.2s								
KOTS				*e*S		**Sg**		**21 54 20.0**	**-0.2**
	179nm,0.5s								
KOTS	**Kotyrbulak**	**1.73**	**293**	P		**Pb**		**21 53 56.7**	**-0.6**
	32nm,0.2s								
KOTS				S		**Sg**		**21 54 20.0**	**-0.2**
	179nm,0.5s								
MDOK	**Medeo**	**1.75**	**291**	*e*P		**Pb**		**21 53 56.6**	**-1.1**
	baz=91								
MDOK				*e*S		**Sb**		**21 54 19.5**	**-0.7**
	baz=91								
MDOK	**Medeo**	**1.75**	**291**	*e*P		**Pb**		**21 53 56.6**	**-1.1**
	13nm,0.1s								
MDOK				*e*S		**Sb**		**21 54 19.5**	**-0.7**
	29nm,0.4s								
MDOK	**Medeo**	**1.75**	**291**	⇑Pn		**Pb**		**21 53 56.7**	**-1.0**
	7.7nm,0.4s								
MDOK				⇓Sn		**Sb**		**21 54 19.9**	**-0.3**
	19nm,0.5s								
MDOK	**Medeo**	**1.75**	**291**	Pg		**Pb**		**21 53 56.6**	**-1.1**
	13nm,0.1s								
MDOK				Lg		Lg		21 54 19.5	
	29nm,0.4s								
DJR	**Jarkent**	**1.80**	**12**	*e*P		**Pb**		**21 53 58.2**	**-0.4**
	28nm,0.2s								
DJR				*e*S		**Sg**		**21 54 22.3**	**-0.3**
	64nm,0.2s								
DJR	**Jarkent**	**1.80**	**12**	P		**Pb**		**21 53 58.2**	**-0.4**
	28nm,0.2s								
DJR				S		**Sg**		**21 54 22.3**	**-0.3**
	64nm,0.2s								
KNDC	**Almaty**	**1.82**	**292**	⇓Pg		**Pg**		**21 54 00.8**	**+1.2**
	16nm,0.4s								
KNDC				⇓Lg		Lg		21 54 26.0	
	96nm,0.6s								
AAA	**Alma-Ata**	**1.85**	**291**	*e*P		**Pg**		**21 54 00.0**	**-0.2**
	23nm,0.1s								
AAA				*e*S		**Sg**		**21 54 25.4**	**+1.1**
	51nm,0.3s								
AAA	**Alma-Ata**	**1.85**	**291**	P		**Pg**		**21 54 00.0**	**-0.2**
	23nm,0.1s								
AAA				S		**Sg**		**21 54 24.2**	**-0.1**
	51nm,0.3s								
ARXS	**Arharly**	**1.96**	**328**	*e*P		**Pb**		**21 54 00.6**	**-0.6**
	37nm,0.2s								
ARXS				*e*S		**Sg**		**21 54 26.4**	**-1.2**
	150nm,0.3s								
ARXS	**Arharly**	**1.96**	**328**	Pg		**Pb**		**21 54 00.6**	**-0.6**
	37nm,0.2s								
ARXS				Lg		Lg		21 54 26.4	
	150nm,0.3s								
IZV	**Izvestkoviy**	**2.02**	**284**	*e*P		**Pb**		**21 54 01.7**	**-0.6**
	baz=84								
IZV				*e*S		**Sb**		**21 54 28.1**	**0.0**
	baz=84								
IZV	**Izvestkoviy**	**2.02**	**284**	*e*P		**Pb**		**21 54 01.7**	**-0.6**
	19nm,0.2s								
IZV				*e*S		**Sb**		**21 54 28.1**	**0.0**
	112nm,0.3s								
IZV	**Izvestkoviy**	**2.02**	**284**	Pg		**Pb**		**21 54 01.7**	**-0.6**
	19nm,0.2s								
IZV				Lg		Lg		21 54 28.1	
	112nm,0.3s								
CHKK	**Chushkaly**	**2.11**	**308**	*e*P		**Pb**		**21 54 03.2**	**-0.7**
	baz=9.0								
CHKK				*e*S		**Sb**		**21 54 31.1**	**+0.5**
	baz=9.0								
CHKK	**Chushkaly**	**2.11**	**308**	*e*P		**Pb**		**21 54 03.2**	**-0.7**
	22nm,0.2s								
CHKK				*e*S		**Sb**		**21 54 31.1**	**+0.5**
	105nm,0.3s								
CHKK	**Chushkaly**	**2.11**	**308**	Pg		**Pb**		**21 54 03.2**	**-0.7**
	22nm,0.2s								
CHKK				Lg		Lg		21 54 31.1	
	105nm,0.3s								
MTBS	**Maitube**	**2.17**	**286**	*e*P		**Pb**		**21 54 04.4**	**-0.5**
	23nm,0.2s								
MTBS				*e*S		**Sb**		**21 54 32.5**	**+0.2**
	46nm,0.4s								
MTBS	**Maitube**	**2.17**	**286**	Pg		**Pb**		**21 54 04.4**	**-0.5**
	23nm,0.2s								
MTBS				Lg		Lg		21 54 32.5	
	46nm,0.4s								
KTBS	**Karatobe**	**2.22**	**302**	*e*P		**Pb**		**21 54 05.2**	**-0.5**
	32nm,0.3s								
KTBS				*e*S		**Sb**		**21 54 34.3**	**+0.6**
	105nm,0.3s								
KTBS	**Karatobe**	**2.22**	**302**	Pg		**Pb**		**21 54 05.2**	**-0.5**
	32nm,0.3s								
KTBS				Lg		Lg		21 54 34.3	
	105nm,0.3s								
ULHL	**Ulahol**	**2.27**	**263**	⇑*i* P		**Pb**		**21 54 05.2**	**-1.5**
	baz=63								
ULHL				⇑*i* S		**Sb**		**21 54 33.5**	**-1.9**
	baz=63								
KST	**Kastek**	**2.49**	**282**	*e*P		**Pb**		**21 54 09.1**	**-1.2**
	7.2nm,0.5s								
KST				*e*S		**Sb**		**21 54 41.4**	**-0.1**
	51nm,0.4s								
KST	**Kastek**	**2.49**	**282**	Pg		**Pb**		**21 54 10.4**	**+0.1**
	22nm,0.3s								
KST				Lg		Lg		21 54 42.4	
	51nm,0.4s								
TDK	**Taldyqorghan**	**2.51**	**346**	*e*P		**Pb**		**21 54 10.4**	**-0.2**
	43nm,0.3s								
TDK				*e*S		**Sb**		**21 54 42.9**	**+0.8**
	95nm,0.5s								
TDK	**Taldyqorghan**	**2.51**	**346**	Pg		**Pb**		**21 54 10.4**	**-0.2**
	43nm,0.3s								
TDK				Lg		Lg		21 54 42.9	
	95nm,0.5s								
KUU	**Kurty**	**2.53**	**303**	*e*P		**Pb**		**21 54 10.5**	**-0.4**
	4.7nm,0.2s								
KUU				*e*S		**Sb**		**21 54 43.1**	**+0.7**
	73nm,0.3s								
KUU	**Kurty**	**2.53**	**303**	Pg		**Pb**		**21 54 10.5**	**-0.4**
	4.7nm,0.2s								
KUU				Lg		Lg		21 54 43.1	
	73nm,0.3s								
DGS	**Degeres**	**2.67**	**286**	*e*P		**Pb**		**21 54 13.5**	**+0.2**
	29nm,0.3s								
DGS				*e*S		**Sg**		**21 54 48.3**	**-2.0**
	87nm,0.5s								
DGS	**Degeres**	**2.67**	**286**	Pg		**Pb**		**21 54 13.9**	**+0.6**
	29nm,0.3s								
DGS				Lg		Lg		21 54 48.3	
	87nm,0.5s								
KAPS	**Kapalarasan**	**2.72**	**1**	*e*P		**Pb**		**21 54 13.8**	**-0.4**
	9.0nm,0.3s								
KAPS				*e*S		**Sb**		**21 54 48.8**	**+0.8**
	36nm,0.3s								
KAPS	**Kapalarasan**	**2.72**	**1**	Pg		**Pb**		**21 54 13.8**	**-0.4**
	9.0nm,0.3s								
KAPS				Lg		Lg		21 54 49.7	
	36nm,0.3s								
TKM2	**Tokmak 2**	**2.74**	**279**	⇑*e*P		**Pn**		**21 54 11.6**	**+1.6**
	baz=79								
TKM2				⇑*i* S		**Sn**		**21 54 44.7**	**+0.9**
	baz=79								
TKM2	**Tokmak 2**	**2.74**	**279**	⇑Pg		**Pg**		**21 54 16.1**	**-1.0**
	7.3nm,0.4s								
TKM2				⇑Lg		Lg		21 54 51.7	
	41nm,0.5s								
KZA	**Kyzart**	**3.03**	**262**	⇓*i* P		**Pn**		**21 54 15.7**	**+1.5**
	baz=62								
KZA				⇓*i* S		**Sn**		**21 54 52.0**	**+0.7**
	baz=62								
KBK	**Karagaybulak**	**3.20**	**273**	⇓*i* P		**Pn**		**21 54 18.3**	**+2.0**
	baz=73								
KBK				⇓*i* S		**Sn**		**21 54 55.7**	**+0.5**
	baz=73								
CHMS	**Chumysh**	**3.36**	**279**	⇓*e*P		**Pn**		**21 54 20.4**	**+2.0**
	baz=79								
CHMS				⇓*i* S		**Sn**		**21 54 59.6**	**+0.6**
	baz=79								
FRU1	**Bishkek**	**3.44**	**276**	⇑*e*P		**Pn**		**21 54 21.4**	**+1.9**
	baz=76								
FRU1				⇑*i* S		**Sn**		**21 55 01.6**	**+0.7**
	baz=76								
AAK	**Ala-Archa**	**3.54**	**273**	⇓*e*P		**Pn**		**21 54 22.8**	**+1.9**
	baz=73								
AAK				⇓*i* S		**Sn**		**21 55 03.6**	**+0.2**
	baz=73								
AAK	**Ala-Archa**	**3.54**	**273**	⇓Pg		**Pg**		**21 54 33.2**	**+0.7**
	1.8nm,0.3s								
AAK				⇑Lg		Lg		21 55 18.3	
	17nm,0.7s								
UCH	**Uchtor**	**3.55**	**266**	⇑*i* P		**Pn**		**21 54 23.2**	**+1.8**
	baz=66								
UCH				⇑*i* S		**Sn**		**21 55 04.3**	**+0.1**
	baz=66								
USP	**Ospenovka**	**3.58**	**283**	⇑*i* P		**Pn**		**21 54 23.3**	**+1.9**
	baz=83								
USP				⇑*e*S		**Sn**		**21 55 05.4**	**+1.0**
	baz=83								
ARLS	**Aral**	**3.75**	**261**	⇓*e*P		**Pn**		**21 54 25.6**	**+1.7**
	baz=61								
ARLS				⇓*e*S		**Sn**		**21 55 08.4**	**-0.4**
	baz=61								
EKS2	**Erkin-Say**	**4.06**	**273**	⇑*i* P		**Pn**		**21 54 29.9**	**+1.8**
	baz=73								
EKS2				⇑*i* S		**Sn**		**21 55 16.6**	**+0.2**
	baz=73								
AML	**Almayashu**	**4.17**	**266**	⇓*i* P		**Pn**		**21 54 31.8**	**+2.0**
	baz=66								
AML				⇓*i* S		**Sn**		**21 55 19.4**	**+0.1**
	baz=66								
MAKZ	**Makanchi**	**4.65**	**23**	⇓Pn		**Pn**		**21 54 39.6**	**+3.5**
	0.9nm,0.2s								
MAKZ				⇓Lg		Lg		21 55 50.2	
	1.9nm,0.8s						

KCP	Kidapawan	3.37 324	eP	Pn	22 11 44.0	+2.4
BATI	Baumata	14.77 193	Pn	Pn	22 14 17.3	-0.7
	3.0nm,0.3s,baz=20,slow=6.7,SNR=5.3					
FITZ	Fitzroy Crossi	22.26 184	P	P	22 15 44.4	-1.2
	1.0nm,0.6s,baz=22,slow=8.9,SNR=1.7					
WRA	Warramunga Arr	25.09 164	P	P	22 16 13.7	+0.7
	0.6nm,0.6s,baz=341,slow=9.1,SNR=9.1					
ASAR	Alice Springs	28.55 167	P	P	22 16 47.0	+2.8
	0.2nm,0.7s,baz=341,slow=6.7,SNR=2.2					
CMAR	Chiang Mai Arr	30.90 299	P	P	22 17 03.9	-1.2
	0.3nm,0.3s,baz=104,slow=7.7,SNR=4.1					
SONM	Songino Array	46.91 341	P	P	22 19 19.3	+0.7
	0.4nm,0.6s,baz=190,slow=6.0,SNR=2.3					
PETK	Petropavlovsk-	54.81 22	P	P	22 20 16.6	-1.3
	3.8nm,1.0s,baz=224,slow=6.2,SNR=2.4					
MKAR	Makanchi Array	57.32 325	P	P	22 20 34.2	-1.8
	0.2nm,0.4s,baz=114,slow=8.0,SNR=4.7					

*NEIC **17** 22:17:13.1±1.7, 17°.80S×0°.05×177°.9W±0°.1, h504km±10km, mb4.6/24, Error ellipse: s-maj=19.1km s-min=7.0km az=84.0*
*IDC **17** 22:17:16.6±6.4, 17°.62S×178°.09W, h522km±68km, mb3.2/7, mb1 3.4/8, mb1mx3.1/42, mbtmp4.1/8, Error ellipse: s-maj=59.1km s-min=30.8km az=140.0*

ISC 17 22:17:13.2±0.8, **17°.8S**±0°.1×**177°.8W**±0°.1, **h500**km, **n39, σ0°95/41, mb4.5/20, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	3.94	271	P	P	22 18 31.9	+0.6
FUNA	Funafuti	9.70	342	P	P	22 19 27.5	0.0
DZM	Mont Dzumac	15.38	252	P	P	22 20 28.8	+1.2
	0.8nm,0.3s,baz=86,slow=19,SNR=6.2						
DZM	Mont Dzumac	15.38	252	P	P	22 20 25.7	-1.9
DZM				IAmb	IAmb	22 20 36.2	
	comp=Z,36nm,1.4s						
KNTN	Kanton	16.12	22	P	P	22 20 34.5	-0.8
MSWZ	Moikau Station	24.24	193	P	P	22 21 49.1	-0.8
NNZ	Nelson	24.50	196	P	P	22 21 51.5	-0.7
NNZ				IAmb	IAmb	22 22 42.9	
	comp=Z,44nm,1.5s						
LBZ	Lake Benmore	28.33	198	P	P	22 22 26.1	+0.3
LBZ				IAmb	IAmb	22 22 50.6	
	comp=Z,53nm,1.6s						
WKZ	Wanaka	29.09	199	P	P	22 22 33.6	+1.1
ARMA	Armidale	30.46	240	P	P	22 22 46.6	+1.9
ARMA				IAmb	IAmb	22 23 24.6	
	comp=Z,67nm,1.8s						
CTAO	Charters Tower	34.01	260	P	P	22 23 14.9	-0.1
CTAO				IAmb	IAmb	22 23 20.8	
	comp=Z,31nm,1.6s						
TOO	Toolangi	37.65	231	P	P	22 23 46.2	+1.1
TOO				IAmb	IAmb	22 25 19.9	
	comp=Z,71nm,1.9s						
COEN	Coen	37.67	270	P	P	22 23 46.0	+0.5
STKA	Stephens Creek	39.16	241	P	P	22 23 59.0	+1.6
	comp=Z,4.5nm,0.5s,baz=97,slow=11,SNR=16						
STKA	Stephens Creek	39.16	241	P	P	22 23 56.3	-1.1
JAY	Jayapura	43.43	286	P	P	22 24 31.3	-0.3
	comp=Z,3.7nm,0.6s,baz=153,slow=6.8,SNR=2.6						
BBOO	Buckleboo	43.93	241	P	P	22 24 36.0	+0.6
BBOO				IAmb	IAmb	22 25 33.8	
	comp=Z,39nm,1.6s						
WR0	Warramunga Arr	45.01	259	P	P	22 24 42.7	-1.1
WB0	Warramunga Arr	45.16	260	P	P	22 24 44.1	-0.9
WB2	Warramunga Arr	45.19	259	P	P	22 24 43.9	-1.2
WB2				IAmb	IAmb	22 24 45.2	
	comp=Z,5.4nm,0.6s						
WRAB	Tennant Creek	45.19	259	P	P	22 24 43.8	-1.4
WRAB				IAmb	IAmb	22 26 19.7	
	comp=Z,26nm,1.8s						
WRA	Warramunga Arr	45.20	259	P	P	22 24 44.5	-0.8
	comp=Z,3.0nm,0.5s,baz=95,slow=6.9,SNR=110						
WRA	Warramunga Arr	45.20	259	P	P	22 24 44.6	-0.6
AS31	Alice Springs	45.35	254	P	P	22 24 46.5	+0.1
AS31				IAmb	IAmb	22 24 47.0	
	comp=Z,6.8nm,0.7s						
ASAR	Alice Springs	45.35	254	P	P	22 24 46.5	+0.1
	comp=Z,27nm,0.5s,baz=88,slow=8.3,SNR=269						
ASAR				PcP	PcP	22 26 16.0	+0.3
	comp=Z,0.6nm,0.5s,baz=104,slow=4.1,SNR=3.1						
ASAR	Alice Springs	45.35	254	P	P	22 24 45.9	-0.6
ASAR					PcP	22 26 14.8	-0.8
FORT	Forrest	50.55	245	P	P	22 25 24.7	-0.5
FORT				IAmb	IAmb	22 27 02.9	
	comp=Z,20nm,0.9s						
KNRA	Kununurra	51.06	264	P	P	22 25 27.5	-1.6
KNRA				IAmb	IAmb	22 25 45.4	
	comp=Z,61nm,1.8s						
FITZ	Fitzroy Crossi	53.59	260	P	P	22 25 47.1	-0.2
	comp=Z,0.8nm,0.3s,baz=106,slow=4.6,SNR=14						
FITZ	Fitzroy Crossi	53.59	260	P	P	22 25 46.7	-0.6
PSA00	Pilbara Seismi	58.47	255	P	P	22 26 20.2	-1.0
PSA00				IAmb	IAmb	22 26 28.3	
	comp=Z,42nm,1.6s						
MORW	Morawa	61.03	246	P	P	22 26 37.0	-1.1
I07A	Izee	81.40	38	P	P	22 28 36.6	-0.9
ILAR	Eielson Array	85.69	13	P	P	22 28 59.0	+0.8
	comp=Z,0.2nm,0.4s,baz=216,slow=5.3,SNR=4.5						
ILAR	Eielson Array	85.69	13	P	P	22 28 58.6	+0.3
PDAR	Pinedale Array	86.91	43	P	P	22 29 05.4	+0.5
	comp=Z,0.1nm,0.3s,baz=243,slow=4.0,SNR=1.7						
PDAR	Pinedale Array	86.91	43	P	P	22 29 04.5	-0.4
K22A	Casper	88.86	44	P	P	22 29 14.0	+0.1
SONM	Songino Array	93.86	319	P	P	22 29 38.2	+1.4
	comp=Z,0.2nm,0.5s,baz=124,slow=5.8,SNR=1.9						

IDC 17 22:26:36.3±5.2, **17°.33S**×**174°.09W, h342**km±230km, **mb3.7/4, mb1 3.8/5, mb1mx3.2/35, mbtmp4.4/5, Error ellipse: s-maj=277.1km s-min=32.9km az=69.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	4.06	34	P	Pn	22 27 46.9	+1.2
	14nm,0.3s,baz=247,slow=13,SNR=7.4						
AFI				S	S	22 28 41.3	-0.3
	10nm,0.3s,baz=130,slow=17,SNR=4.1						
URZ	Urewera	22.24	199	P	P	22 31 05.2	0.0
	5.1nm,0.3s,baz=53,slow=10,SNR=8.9						
STKA	Stephens Creek	42.52	242	P	P	22 33 58.9	-0.6
	1.6nm,0.5s,baz=88,slow=11,SNR=7.3						
WRA	Warramunga Arr	48.78	258	P	P	22 34 48.0	-0.2
	1.1nm,0.4s,baz=98,slow=6.6,SNR=34						
ASAR	Alice Springs	48.91	253	P	P	22 34 49.2	+0.1
	10.0nm,0.7s,baz=92,slow=7.7,SNR=107						

*PAS **17** 22:59:10.0±2.3, 32°.23N±0°.03×115°.23W±0°.03, h19km±6km, Error ellipse: s-maj=4.6km s-min=3.5km az=135.0*
*ECX **17** 22:59:21.4±0.6, 32°.21N×115°.28W, h1km±2km, MD3.2, ML3.4*

ISC 17 22:59:12.4±0.8, **32°.37N**±0°.02×**115°.25W**±0°.02, **h17**km±5km, **n50, σ3°21/68, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	Cerro Prieto	0.07	316		Pg	22 59 14.8	-0.8
CPBX	Cerro Prieto	0.07	316		Sg	22 59 19.2	+1.4
CPBX	Cerro Prieto	0.07	316	eP	Sg	22 59 26.0	+8.2
CPBX				IAML		22 59 30.9	
	comp=N,18μm,0.2s						
GUVIX	Guadalupe Vict	0.16	115	Pg	Pg	22 59 14.2	-2.5
GUVIX					Sg	22 59 18.3	-1.3
UABX	UABC, Campus M	0.30	328		Sb	22 59 26.8	+2.7
UABX	UABC, Campus M	0.30	328	Pg	Pg	22 59 18.7	-0.2
EMSC	East Mesa	0.43	31		Pg	22 59 21.0	-0.1
EMSC					Sb	22 59 29.6	+1.9
DREC	Desert Rsrch C	0.46	339		Pg	22 59 21.8	+0.1
SGL	Mount Signal	0.49	305		Pg	22 59 21.1	-1.0
SGL					Sg	22 59 29.4	+0.7
COA	Coachella	0.50	12		Pg	22 59 22.1	-0.4
SNR	Schaffner Ranc	0.51	342		Pg	22 59 22.9	+0.2
SNR					Sn	22 59 33.8	+0.4
WESC	Westside Schoo	0.56	314		Pg	22 59 22.8	-0.7
WESC					Sb	22 59 32.8	+1.3
COK2	Cook Ranch 2	0.62	320		Pg	22 59 23.9	-0.8
COK2					Sb	22 59 35.0	+1.7
YUH	Yuha Desert	0.63	296		Pg	22 59 22.9	-2.0
YUH					Sg	22 59 32.8	-0.5
RUN	Ruthven	0.64	21		Pg	22 59 23.7	-1.3
RUN					Sb	22 59 35.8	+1.9
ESJX	Sierra Juarez	0.70	238		Pg	22 59 22.0	-4.1
ESJX					Sg	22 59 31.2	-4.1
WEMD	Westmorland, C	0.72	337		Sn	22 59 39.9	+1.5
SWSC	Sam W. Stewart	0.73	321		Pb	22 59 25.0	-1.8
SWSC					Sb	22 59 36.7	+0.1
RMX	La Rumorosa	0.74	288		Pb	22 59 23.7	-3.2
RMX					Sg	22 59 34.0	-2.7
RMX	La Rumorosa	0.74	288	eP	Pn	22 59 34.7	+6.5
RMX				i S	Sn	22 59 44.4	+5.3
GLA	Glamis	0.77	28		Pb	22 59 25.6	-1.8
GLA					Sb	22 59 37.1	-0.4
IKP	In-Ko-Pah, Jac	0.78	291		Pb	22 59 25.2	-2.3
IKP					Sb	22 59 36.7	-1.1
IKP	In-Ko-Pah, Jac	0.78	291	eP	Pn	22 59 36.6	+7.9
CRR	Carrizo Plain	0.79	310		Pb	22 59 26.0	-1.8
CRR					Sb	22 59 38.2	0.0
SJX	San Joaquin	0.85	225	eP	Pn	22 59 32.6	+3.0
SJX				i S	Sn	22 59 41.5	-0.3
ECBX	El Chinero	0.91	169	eP	Pn	22 59 34.7	+4.2
ECBX				eS	Sn	22 59 45.8	+2.5
CBKC	Canebrake	0.99	302		Pb	22 59 29.4	-1.9
CBKC					Sb	22 59 41.2	-2.8
VTX	Valle De La Tr	1.08	205	eP	Pg	22 59 37.7	+4.4
VTX				eS	Sn	22 59 50.2	+2.8
MONP2	Monument Peak	1.12	298		Pb	22 59 31.8	-1.6
MONP2					Sb	22 59 42.9	-4.8
TKX	Tecate	1.16	280	eP	Pg	22 59 41.9	+7.0
TKX				eS	Sg	22 59 58.3	+8.2
SLH	Sleepy Hollow	1.18	314		Pn	22 59 33.4	-0.7
SLH					Sb	22 59 44.2	-5.0
CBX	Cerro Bola	1.20	268		Pn	22 59 31.0	-3.5
CBX	Cerro Bola	1.20	268	eP	Pg	22 59 42.2	+6.6
CBX				eS	Sg	22 59 58.6	+7.3
CBX				IAML		22 59 59.6	
	comp=N,1μm,0.5s						
TJIG	Tijuana	1.21	273	eP	Pg	22 59 42.9	+7.2
TJIG				eS	Sg	22 59 58.5	+7.1
BAR	Barrett	1.24	285		Sb	22 59 44.1	-7.0
BAR	Barrett	1.24	285	eS	Sg	23 00 00.8	+8.3
SPX	San Pedro Mart	1.34	188		Pn	22 59 30.6	-6.1
SFX	San Felipe	1.37	166	eP	Pg	22 59 43.0	+4.1
SFX				eS	Sg	22 59 59.6	+2.8
MATG	Mataguay Scout	1.44	305		Pn	22 59 37.9	+0.1
MATG					Sb	22 59 58.5	+1.6
SDRC	San Diego Road	1.47	285		Sn	22 59 56.9	-0.1
DPP	Dos Picos Cty	1.56	294		Sn	23 00 00.2	+1.0
DNR	Dunn Ranch,Anz	1.66	316		Pn	22 59 40.5	-0.4
POB	Polly Butte	1.92	313		Pb	22 59 47.3	+0.3
HMTC	Hemet	1.99	313		Pb	22 59 48.5	+0.4
GSC	Goldstone, Bar	3.19	337	Pn	Pn	23 00 00.8	-1.2
TUC	Tucson	3.78	90	Pn	Pn	23 00 05.8	-4.2
WUAZ	Wupatki	4.50	45	Pn	Pn	23 00 18.1	-1.8
TPNV	Topopah Spring	4.64	350	Pn	Pn	23 00 21.1	-0.8
U15A	North Rim	4.73	30	Pn	Pn	23 00 21.1	-2.1
KNB	Kanab	5.05	23	Pn	Pn	23 00 25.7	-1.8

*IDC **17** 23:10:36.8±0.9, 19°.86N×95°.77E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.7/51, mbtmp3.8/12, ML4.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/39, Error ellipse: s-maj=31.8km s-min=13.2km az=42.0*
*NEIC **17** 23:10:40.3±1.2, 19°.71N±0°.08×95°.66E±0°.08, h33km±6km, mb4.2/14, Error ellipse: s-maj=11.9km s-min=9.6km az=208.0*

ISC 17 23:10:38.6±0.6, **19°.80N**±0°.08×**95°.69E**±0°.06, **h15**km, **n51, σ1°12/49, mb3.9/15, Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MHMT	Maesarieng	2.67	127	P	Pn	23 11 19.6	-1.4
CHTO	Chiang Mai	3.23	107		Pn	23 11 27.4	-1.4
CMMT	Chiang Mai	3.23	107	P	Pn	23 11 27.4	-1.5
CMMT				S	Sb	23 12 15.7	+0.6
CM31	Chiang Mai Arr	3.36	113		Pn	23 11 30.4	-0.2
CMAR	Chiang Mai Arr	3.36	113	Pn	Pn	23 11 30.3	-0.2
	4.1nm,0.3s,baz=286,slow=13,SNR=29						
CMAR				Pg	Pb	23 11 38.8	+0.9
	14nm,0.3s,baz=294,slow=18,SNR=34						
CMAR				Lg	Lg	23 12 19.1	
	12nm,0.3s,baz=293,slow=20,SNR=6.8						
CMAR	Chiang Mai Arr	3.36	113		Pn	23 11 29.8	-0.8
SUKH	Sukhothai	4.39	123	S	Sb	23 12 50.4	+2.0
CRAI	Chiangrai	4.43	84	P	Pn	23 11 44.2	-1.2
CRAI				S	Sb	23 12 50.9	+1.5
UTTA	Uttaradit	5.04	113	P	Pn	23 11 51.7	-2.0
PBKT	Sadao Pong	5.96	122		Pn	23 12 06.0	-0.4
SHL	Shillong	6.73	329		Pn	23 12 18.0	+0.9
SLVN	Son La	7.85	77	Pn	Pn	23 12 32.5	+0.1
PBA	Port Blair	8.58	200	Pn	Pn	23 12 40.8	-1.5
TAPN	Taplejung	10.48	317	eP	Pn	23 13 10.5	+1.8
	12nm,0.4s						
RAMN	Ramite	10.96	312	eP	Pn	23 13 16.6	+1.3
	10nm,0.4s						
PKI	Pulchoki	12.18	311	eP	Pn	23 13 33.8	+1.8
	11nm,0.7s						
GKN	Gorkha	12.99	311	eP	Pn	23 13 44.3	+1.5
KOLN	Koldanda	13.61	308	eP	Pn	23 13 52.7	+1.3
	14nm,0.6s						
PYUN	Piuthan	14.24	308	eP	Pn	23 14 00.5	+0.5
	7.5nm,0.3s						
XAN	Xi'an	18.43	37	P	P	23 14 53.0	-0.6
XAN				IAmb	IAmb	23 14 56.1	
	comp=Z,7.4nm,0.6s						
KKM	Kota Kinabalu	24.19	122	P	P	23 15 53.4	-1.5
NACB	Ninganchiao	24.40	75	P	P	23 15 55.2	-1.4
ARSB	Arslanbob	28.87	323	P	P	23 16 36.2	-0.6
ARSB				IAmb	IAmb	23 16 48.6	
	comp=Z,5.2nm,0.9s						
AAK	Ala-Archa	28.95	327	P	P	23 16 35.8	-1.7
MK31	Makanchi Array	29.07	341	P	P	23 16 38.4	-0.1
MKAR	Makanchi Array	29.07	341	P	P	23 16 39.5	+1.0
	comp=Z,0.8nm,0.7s,baz=146,slow=9.6,SNR=8.9						
MKAR	Makanchi Array	29.07	341	P	P	23 16 38.5	+0.1
SONM	Songino Array	29.29	15	P	P	23 16 40.7	+0.2
	comp=Z,0.5nm,0.4s,baz=209,slow=8.3,SNR=1.6						
SONM	Songino Array	29.29	15	IAmb	IAmb	23 16 48.4	
	comp=Z,1.1nm,1.0s						
BTK	Batken	29.36	319	P	P	23 16 40.8	-0.4
KSRS	Korea Array	33.10	51	LR	LR	23 31 28.2	
	comp=Z,24nm,18.8s,baz=220,slow=38						
KURK	Kurchatov	33.68	340	P	P	23 17 18.7	-0.2
KURK				IAmb	IAmb	23 17 20.5	
	comp=Z,2.2nm,0.8s						
ZALV	Zalesovo Beam	35.10	349	P	P	23 17 31.3	+0.1
	comp=Z,0.8nm,0.5s,baz=161,slow=14,SNR=5.1						
BVAR	Borovoye Array	38.50	336	P	P	23 18 00.1	-0.1
	comp=Z,0.4nm,0.4s,baz=141,slow=9.6,SNR=4.0						
MJB9	Matsu-Tunnel	40.67	57	P	P	23 18 17.9	-0.6
MJB9				IAmb	IAmb	23 18 19.7	
	comp=Z,2.7nm,0.9s						
MAJO	Matsushiro	40.67	57	P	P	23 18 18.2	-0.3
ABKAR	Akbulak array	40.97	324	P	P	23 18 20.9	+0.2
WRA	Warramunga Arr	54.72	134	P	P	23 20 08.1	+0.4
	comp=Z,0.5nm,0.7s,baz=318,slow=7.6,SNR=5.7						
WRA	Warramunga Arr	54.72	134	IAmb	IAmb	23 20 12.5	
	comp=Z,0.2nm,1.1s						
ASAR	Alice Springs	57.05	137	P	P	23 20 25.6	+1.2
	comp=Z,0.5nm,0.8s,baz=324,slow=7.2,SNR=2.6						
BURAR	Bucovina Array	62.55	314	P	P	23 21 00.6	-1.5
FINES	FINESS Array B	63.07	330	P	P	23 21 04.8	-0.3
	comp=Z,1.8nm,0.8s,baz=46,slow=5.5,SNR=1.8						
GERES	GERESS Array B	70.15	316	P	P	23 21 51.8	+1.0
	comp=Z,0.9nm,0.6s,baz=77,slow=5.9,SNR=6.0						
GERES	GERESS Array B	70.15	316	P	P	23 21 50.5	-0.3
NOA	NORSAR Array B	70.23	329	P	P	23 21 51.1	+0.2
	comp=Z,1.1nm,1.0s,baz=86,slow=6.8,SNR=1.3						
AQU	L'Aquila	71.35	309	P	P	23 21 56.8	-1.3
LATE	Laterza	72.47	310	P	P	23 22 02.2	-2.6
LATE				IAmb	IAmb	23 22 10.7	
	comp=Z,3.0nm,1.0s						
LBTB	Lobatse	81.41	240	P	P	23 22 56.3	+0.8
	comp=Z,2.0nm,0.9s,baz=136,slow=14,SNR=1.9						
LBTB	Lobatse	81.41	240	IAmb	IAmb	23 23 01.0	
	comp=Z,3.3nm,1.0s						
ILAR	Eielson Array	83.20	23	P	P	23 23 04.0	-0.1
	comp=Z,0.2nm,0.5s,baz=290,slow=4.8,SNR=4.6						
BCAR	Beaver Creek A	86.03	23	P	P	23 23 18.2	-0.2

*AEIC **17** 23:28:23.1±1.7, 51°.8N±0°.2×178°.27E±0°.09, h126km±4km, ML3.1/16, mb3.9/32(NEIC), Error ellipse: s-maj=25.4km s-min=7.7km az=186.0*

*NEIC **17** 23:28:23.1±1.4, 51°.9N±0°.2×178°.34E±0°.09, h123km±3km, Error ellipse: s-maj=25.0km s-min=7.8km az=186.0*
*IDC **17** 23:28:24.7±6.1, 52°.05N×178°.41E, h137km±58km, mb3.1/7, mb1 3.5/9, mb1mx3.2/57, mbtmp3.7/9, Error ellipse: s-maj=43.0km s-min=18.2km az=163.0*

ISC 17 23:28:23.2±0.7, **51°.9N**±0°.1×**178°.36E**±0°.05, **h125**km±6km, **n61, σ0°89/66, mb3.7/15, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	Little Sitkin	0.10	72		Pn	23 28 39.9	-0.4
LSNW	Little Sitkin	0.11	62		Pn	23 28 39.6	-0.7
LSNW					Sn	23 28 52.7	-0.5
LSPA	Little Sitkin	0.14	74		Pn	23 28 39.8	-0.5
LSPA					Sn	23 28 53.8	+0.5
CETU	Semis' Tuman	0.71	86		Pn	23 28 43.6	+0.6
CESW	Semis' Southwe	0.75	91		Pn	23 28 43.0	-0.4
CEAP	Semis' Anvil P	0.76	83		Pn	23 28 43.5	0.0
AMKA	Amchitka	0.80	132		Pn	23 28 43.5	-0.3
AMKA					Sn	23 28 58.6	-0.8
CERAA	Semis' Rag'd T	0.82	90		Pn	23 28 43.7	-0.3
CERAA					Sn	23 28 59.5	-0.3
SMY	Shemya	2.74	289		Pn	23 29 05.0	-1.1
SMY					Sn	23 29 37.8	-1.4
ADK	Adak	3.07	89	Pn	Pn	23 29 10.1	-0.4
ADK				Sn	Sn	23 29 46.4	-0.6
ATKA	Atka Island	4.61	84		Pn	23 29 29.1	-1.7
MNAT	Makushin Natee	9.26	72		Pn	23 30 32.4	-1.0
UNV	Unalaska Valle	9.36	72	Pn	Pn	23 30 34.7	0.0
PEA0B	Petropavlovsk-	12.64	284	Pn	Pn	23 31 18.6	+0.3
PETK	Petropavlovsk-	12.64	284	P	Pn	23 31 20.4	+2.1
	0.3nm,0.3s,baz=86,slow=16,SNR=10						
PETK	Petropavlovsk-	12.64	284		Pn	23 31 17.1	-1.2
SDPT	Sand Point	13.01	66	Pn	Pn	23 31 20.9	-2.2
CNBA	Chernabura Isl	13.47	69	Pn	Pn	23 31 30.4	+1.4
SVW2	Sparrevohn	16.95	47		Pn	23 32 13.7	+1.2
OHAK	Old Harbor	17.20	61	P	P	23 32 13.6	-1.4
KDAK	Kodiak Island	17.64	59	P	P	23 32 17.9	-2.0
	1.1nm,0.3s,baz=288,slow=6.4,SNR=21						
KDAK	Kodiak Island	17.64	59	P	P	23 32 19.1	-0.7
CNPM	China Poot	18.61	54	P	P	23 32 30.9	+0.5
BRLK	Bradley Lake	18.83	53	P	P	23 32 32.9	0.0
SKT	Skwentna	19.08	46	P	Pn	23 32 37.1	-0.7
SKT				IAmb	IAmb	23 32 43.6	
	comp=Z,6.1nm,1.0s						
PPLA	Purkeypile	19.10	43	P	Pn	23 32 37.9	-0.3
PPLA				IAmb	IAmb	23 32 46.6	
	comp=Z,5.7nm,1.1s						
SUA	Susitna One	19.29	48	P	P	23 32 39.2	+1.2
SUA				IAmb	IAmb	23 32 44.5	
	comp=Z,4.2nm,1.0s						
SEW	Seward	19.60	53	P	P	23 32 41.2	+0.1
IMAR	Indian Mountai	19.88	34	P	P	23 32 44.9	+0.7
BPAW	Bear Paw Mtn.	20.06	41	P	P	23 32 47.0	+0.8
BPAW				IAmb	IAmb	23 32 50.4	
	comp=Z,5.7nm,1.2s						
TRF	Thorofare Moun	20.11	43	P	P	23 32 48.1	+1.3
GHO	Glory Hole Cre	20.21	48	P	P	23 32 48.6	+0.8
GHO				IAmb	IAmb	23 32 52.9	
	comp=Z,2.4nm,0.6s						
KNK	Knik Glacier	20.34	49	P	P	23 32 50.0	+0.7
KNK				IAmb	IAmb	23 32 50.7	
	comp=Z,7.3nm,0.9s						
SML	Sawmill	20.49	48	P	P	23 32 51.5	+0.7
SML				IAmb	IAmb	23 32 57.1	
	comp=Z,3.8nm,0.8s						
RND	Reindeer	20.70	44	P	P	23 32 54.1	+1.0
BWN	Browne	20.70	41	P	P	23 32 54.9	+1.8
GLI	Glacier Island	20.88	51	P	P	23 32 54.6	-0.4
SCM	Sheep Creek Mo	20.96	48	P	P	23 32 55.6	-0.3
SCM				IAmb	IAmb	23 33 08.9	
	comp=Z,3.2nm,0.9s						
FID	Port Fidalgo	21.16	52	P	P	23 32 57.8	-0.2
DHY	Denali Highway	21.24	45	P	P	23 32 59.4	+0.4
DHY				IAmb	IAmb	23 33 00.3	
	comp=Z,5.9nm,1.0s						
WRH	Wood River Hil	21.37	41	P	P	23 32 59.2	-1.0
MDM	Murphy Dome	21.49	40	P	P	23 33 01.3	-0.2
CCB	Clear Creek Bu	21.55	41	P	P	23 33 02.2	+0.2
IL31		21.96	41	P	P	23 33 05.9	-0.5
ILAR	Eielson Array	21.96	41	P	P	23 33 05.4	-1.0
	comp=Z,0.3nm,0.4s,baz=246,slow=8.2,SNR=7.7						
ILAR	Eielson Array	21.96	41	P	P	23 33 07.3	+0.9
PAX	Paxson	22.06	46	P	P	23 33 06.8	-0.8
PAX				IAmb	IAmb	23 33 14.3	
	comp=Z,5.5nm,1.2s						
RIDG	Independent Ri	22.52	44	P	P	23 33 11.4	-0.7
RIDG				IAmb	IAmb	23 33 11.5	
	comp=Z,5.0nm,1.1s						
GLB	Gilahina Butte	22.54	50	P	P	23 33 12.6	+0.2
GLB				IAmb	IAmb	23 33 21.0	
	comp=Z,8.0nm,1.1s						
DOT	Dot Lake	22.83	45	P	P	23 33 14.0	-1.2
DOT				IAmb	IAmb	23 33 15.8	
	comp=Z,3.2nm,0.9s						
BCAR	Beaver Creek A	23.73	46	P	P	23 33 24.0	+0.6
EGAK	Eagle	24.32	42	P	P	23

PLIG *i* S **Sn** **23 39 56.9 -0.5**
PLIG **Platanillo** **2.94 317** **Sb** **23 40 07.9 +2.5**
PPM **Popocatepetl** **3.04 337** *eP* **Pn** **23 39 24.9 +0.1**
PPM *eS* **Sn** **23 40 00.0 -0.5**
YAIG **Yautepec** **3.05 329** *i* P **Pn** **23 39 25.6 +0.9**
YAIG *i* S **Sn** **23 39 59.6 -0.7**
YAIG **Yautepec** **3.05 329** **Pb** **23 39 34.2 +2.3**
LVIG **Laguna Verde** **3.58 15** *eP* **Pn** **23 39 30.5 -1.2**
LVIG *eP* **Pn** **23 39 32.0 +0.2**
TX32 **Lajitas Array** **14.25 337** Pn **Pn** **23 41 58.4 +0.3**
TX31 **Lajitas Ar. Si** **14.25 337** Pn **Pn** **23 41 59.0 +0.9**
PAYG **Puerto Ayora** **18.22 157** P **Pn** **23 42 49.0 -0.1**
X34A **Smith Ranch, M** **18.28 359** P **Pn** **23 42 50.6 +0.9**
X34A IAmb IAmb 23 42 52.1
comp=Z,7.8nm,0.4s
WMOK **Wichita Mounta** **18.45 356** P **P** **23 42 50.3 -1.3**
L42A **Oliver, Polo** **26.51 13** P **P** **23 44 14.2 +1.0**
L42A IAmb IAmb 23 44 23.9
comp=Z,9.4nm,1.1s
L48A **N Adams** **27.93 21** P **P** **23 44 25.4 -0.5**
L48A IAmb IAmb 23 44 31.0
comp=Z,9.0nm,1.0s
BGU **Big Grassy Mou** **28.07 334** P **P** **23 44 27.6 +0.2**
PAGB **Antelope Grade** **28.14 318** P **P** **23 44 28.1 +0.2**
PAGB IAmb IAmb 23 44 32.1
comp=Z,5.6nm,0.9s
I40A **Norwalk** **28.15 10** P **P** **23 44 29.1 +1.3**
I40A IAmb IAmb 23 44 31.6
comp=Z,6.4nm,1.1s
PD31 **Pinedale Array** **28.41 341** P **P** **23 44 29.1 -1.4**
I42A **Draeger Farm,** **28.48 13** P **P** **23 44 29.4 -1.4**
I42A IAmb IAmb 23 44 39.4
comp=Z,7.9nm,1.1s
CBYP **Canovanas** **30.16 82** P **P** **23 44 46.5 +0.5**

NEIC ***18*** *00:56:52.0± 1.7, 0.29N± 0.06× 100.10E± 0.05, h166km± 4km, mb4.6/112, Error ellipse: s-maj=8.7km s-min=6.9km az=212.0*
DJA ***18*** *00:56:52.2± 0.1, 0.1N± 2.2× 10.0E± °, h156km± 2km, M4.8/48, mb4.9/48, mB5.3/18, MLv5.0/24, Mw(mB)4.7/18*
IDC ***18*** *00:56:52.6± 0.5, 0.38N× 100.20E, h166km± 3km, mb4.2/31, mb1 4.2/34, mb1mx4.2/45, mbtmp4.7/34, MS3.3/4, Ms1 3.3/4, ms1mx2.8/35, Error ellipse: s-maj=10.2km s-min=6.5km az=59.0*
KLM ***18*** *00:56:53.0, 0.31N× 100.06E, h158km, mb4.8*
BGR ***18*** *00:56:55.6± 0.0, 0.25S× 99.00E, h160km, mb4.9*
ISC 18 00:56:52.2± 0.4, **0.33N**± 0.04× **100.12E**± 0.04, **h167**km± 3km, **n335**, σ **1°27**/358, **mb4.6**/116, **14C-7D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.72**	**311**	P		**Pn**		**00 57 15.1**	**-1.6**
BKNI	**Bangkinang**	**0.92**	**90**	P		**Pn**		**00 57 17.7**	**-0.3**
BKNI	**Bangkinang**	**0.92**	**90**			**Pn**		**00 57 18.0**	**-0.1**
BKNI						Sn		**00 57 37.7**	**-0.1**
PDSI	**Padang**	**1.27**	**165**	P		**Pn**		**00 57 20.5**	**-0.5**
SDSI	**Sungai Dareh**	**1.81**	**134**	P		**Pn**		**00 57 26.3**	**0.0**
SISI	**Saibi**	**1.94**	**212**	P		**Pn**		**00 57 26.4**	**-1.3**
RPSI	**Rantau Prapat**	**2.64**	**333**	Pn		**Pn**		**00 57 35.8**	**-0.1**
RPSI						Sn		**00 58 08.8**	**-1.1**
RPSI	**Rantau Prapat**	**2.64**	**333**			**Pn**		**00 57 35.9**	**0.0**
RPSI								**00 58 09.3**	**-0.6**
GSI	**Gunungsitoli**	**2.73**	**291**	P		**Pn**		**00 57 35.9**	**-1.0**
GSI	**Gunungsitoli**	**2.73**	**291**	Pn		**Pn**		**00 57 36.4**	**-0.5**
GSI						Sn		**00 58 10.2**	**-1.5**
PSI	**Prapat**	**2.74**	**334**	P		**Pn**		**00 57 35.9**	**-1.3**
	39nm,0.3s,baz=180,slow=9.9,SNR=112								
PSI				S				**00 58 09.3**	**-2.8**
	28nm,0.3s,baz=0.1,slow=22,SNR=8.2								
PSI				LR		LR		00 58 41.0	
	comp=Z,484nm,21.1s,baz=269,slow=41								
KRJI	**Kerinci**	**2.75**	**151**	P		**Pn**		**00 57 38.3**	**+1.0**
PPSI	**Pulau Pagai**	**3.07**	**182**	P		**Pn**		**00 57 40.7**	**-0.5**
MYKOM	**Kota Tinggi**	**4.00**	**69**			**Pn**		**00 57 54.1**	**+1.1**
MYKOM						Sn		**00 58 40.3**	**-0.1**
MYKOM	**Kota Tinggi**	**4.00**	**69**	P		**Pn**		**00 57 55.0**	**+2.0**
MASI	**Maura Aman, Be**	**4.04**	**148**	P		**Pn**		**00 57 54.5**	**+1.0**
IPM	**Ipoh**	**4.22**	**12**	Pn		**Pn**		**00 57 56.9**	**+1.0**
IPM	**Ipoh**	**4.22**	**12**	P		**Pn**		**00 57 57.0**	**+1.1**
DSRI	**Dabo**	**4.53**	**100**	P		**Pn**		**00 58 01.4**	**+1.6**
KSI	**Kapahiang**	**4.66**	**148**	P		**Pn**		**00 58 01.8**	**+0.2**
KULM	**Kulim**	**4.96**	**6**	Pn		**Pn**		**00 58 05.5**	**0.0**
KULM	**Kulim**	**4.96**	**6**	P		**Pn**		**00 58 05.0**	**-0.5**
LHSI	**Lahat**	**5.34**	**141**	P		**Pn**		**00 58 11.6**	**+1.1**
	2.3nm6µm811nm,0.9s								
MLSI	**Meulaboh, Aceh**	**5.40**	**317**	P		**Pn**		**00 58 10.0**	**-1.2**
	6.5nm24µm1µm,0.5s								
MNAI	**Manna**	**5.45**	**149**			**Pn**		**00 58 11.1**	**-0.8**
MNAI						Sn		**00 59 11.3**	**-3.0**
LHMI	**Lhok Sumawe**	**5.81**	**327**	P		**Pn**		**00 58 15.6**	**-1.0**
	1.1nm4µm193nm,0.4s								
LHMI	**Lhok Sumawe**	**5.81**	**327**	Pn		**Pn**		**00 58 15.8**	**-0.9**
MDSI	**Maura Dua**	**6.27**	**140**	P		**Pn**		**00 58 22.5**	**-0.1**
	0.7nm2µm204nm,1.3s								
PPBI	**Pangkal Pinang**	**6.50**	**112**	P		**Pn**		**00 58 28.5**	**+2.8**
	0.9nm196nm,1.2s								
LWLI	**Liwa**	**6.61**	**144**	P		**Pn**		**00 58 24.8**	**-2.4**
	1.9nm257nm,0.6s								
KASI	**Kota Agung**	**7.27**	**143**	P		**Pn**		**00 58 34.8**	**-1.1**
	1.2nm2µm102nm,1.1s								
TPI	**Tanjungpandan**	**8.13**	**112**	P		**Pn**		**00 58 49.5**	**+2.2**
	2µm106nm,1.3s								
DBJI	**Dramaga**	**9.51**	**136**	P		**Pn**		**00 59 07.4**	**+1.8**
	75nm,0.9s								
KSM	**Kuching**	**10.25**	**84**			**Pn**		**00 59 14.9**	**-0.4**
KSM	**Kuching**	**10.25**	**84**	P		**Pn**		**00 59 18.0**	**+2.7**
CNJI	**Cibinong**	**10.31**	**137**	P		**Pn**		**00 59 12.2**	**-3.9**
	2µm134nm,1.2s								
LEM	**Lembang**	**10.31**	**134**	P		**Pn**		**00 59 15.6**	**-0.8**
	4.9nm,0.3s,baz=259,slow=19,SNR=3.7								
LEM				S				**01 01 11.3**	**+0.3**
	1.5nm,0.3s,baz=82,slow=17,SNR=1.8								
CISI	**Cisompet, Garu**	**10.96**	**136**	P		**Pn**		**00 59 20.1**	**-4.6**
	108nm,0.8s								
CISI	**Cisompet, Garu**	**10.96**	**136**	Pn		**Pn**		**00 59 23.4**	**-1.3**
STKI	**Sintang**	**11.36**	**91**	P		P		00 59 42.6	+5.7
CMJI	**Cimerak**	**11.57**	**134**	P		**Pn**		**00 59 28.4**	**-4.1**
	59nm,0.7s								
SBUM	**Sibu**	**12.28**	**80**	Pn		**Pn**		**00 59 43.7**	**+2.0**
SBUM	**Sibu**	**12.28**	**80**	P		**P**		**00 59 45.0**	**-2.1**
SMRI	**Semarang**	**12.63**	**126**	P		**Pn**		**00 59 45.8**	**-0.5**
	157nm,1.1s								
SMRI	**Semarang**	**12.63**	**126**			**Pn**		**00 59 46.2**	**-0.1**
PBA	**Port Blair**	**13.43**	**327**	Pn		Pn		00 59 55.4	-1.0
WOJI	**Wonogiri, Jawa**	**13.48**	**127**	P		**Pn**		**00 59 57.1**	**+0.1**
	40nm,1.3s								
NGJI	**Ngawi**	**13.65**	**124**	P		**Pn**		**00 59 59.9**	**+0.8**
	128nm,1.1s								
DLV	**T Lat**	**14.22**	**35**	Pn		**Pn**		**01 00 05.6**	**-0.9**
MTKI	**Muara Teweh, K**	**14.83**	**95**	P		**P**		**01 00 17.6**	**+2.1**
BBKI	**Banjar Baru**	**15.19**	**104**	P		**P**		**01 00 21.9**	**+2.5**
	234nm,1.0s								
KMMI	**Kalianget**	**15.63**	**118**	P		**Pn**		**01 00 21.7**	**-2.1**
	105nm,1.2s								
PBKT	**Sadao Pong**	**16.16**	**3**	P		**Pn**		**01 00 30.0**	**-0.2**
KBKI	**Kotabaru**	**16.44**	**103**	P		**Pn**		**01 00 35.8**	**+2.3**
	46nm,1.1s								
JAGI	**Jajag, Banyuwa**	**16.49**	**122**	P		**P**		**01 00 31.8**	**-2.0**
BKB	**Balikpapan**	**16.85**	**95**	P		**P**		**01 00 37.9**	**+0.1**
KKM	**Kota Kinabalu**	**17.04**	**70**			**Pn**		**01 00 41.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**18.06**	**356**	P		**P**		**01 00 51.3**	**+0.3**
	0.9nm,0.3s,baz=185,slow=11,SNR=12								
CMAR				LR		LR		01 08 06.4	
	comp=Z,80nm,18.8s,baz=216,slow=37								
CMAR				ScP		**ScP**		**01 08 37.5**	**-0.1**
	0.5nm,0.3s,baz=214,slow=3.0,SNR=12								
CMAR	**Chiang Mai Arr**	**18.06**	**356**	P		**Pn**		**01 00 52.4**	**-0.4**
CHTO	**Chiang Mai**	**18.41**	**356**	P		**P**		**01 00 55.3**	**+0.5**
TWSI	**Taliwang, Sumb**	**18.97**	**119**	P		**Pn**		**01 01 03.7**	**+0.1**
	32nm,1.4s								
MYLDM	**Lahad Datu**	**18.98**	**75**	P		**Pn**		**01 01 02.6**	**-1.0**
MPSI	**Mapaga**	**19.78**	**90**	P		**Pn**		**01 01 12.6**	**-0.5**
	1µm118nm,1.1s								
PLAI	**Plampang**	**19.80**	**118**	P		**P**		**01 01 11.6**	**+1.7**
	58nm,1.2s								
SPSI	**Sidrap Palu**	**20.09**	**102**	P		**P**		**01 01 14.4**	**+1.4**
	51nm,1.0s								
KAPI	**Kappang**	**20.31**	**105**	P		Pn		01 01 18.7	-0.8
	25nm,0.9s,baz=296,slow=8.1,SNR=8.9								
KAPI	**Kappang**	**20.31**	**105**	P		**P**		**01 01 17.2**	**+1.8**
KAPI						IAmb	IAmb	01 01 25.2	
	comp=Z,40nm,0.9s								

BNSI **Bone** **20.51** **103** P **Pn** 01 01 20.6 -1.4
comp=Z,1µmcomp=Z,112nm,1.8s
PALK **Pallekele** **20.56** **290** P **P** **01 01 19.7** **+1.6**
comp=Z,7.6nm,0.7s,baz=223,slow=12,SNR=4.5
SLVN **Son La** **21.20** **10** P **P** **01 01 25.4** **+0.4**
WBSI **Waikabubak, Su** **21.59** **118** P **P** **01 01 29.6** **+0.5**
comp=Z,71nm,1.1s
LUWI **Luwuk** **22.69** **93** P **P** **01 01 42.0** **+2.2**
comp=Z,6µmcomp=Z,447nm,1.2s
LUWI **Luwuk** **22.69** **93** P **P** **01 01 41.0** **+1.2**
GTOI **Gorontalo** **22.89** **89** P **P** **01 01 42.7** **+1.1**
comp=Z,837nmcomp=Z,78nm,1.1s
MMRI **Maumere** **23.77** **113** P **P** **01 01 49.5** **-0.1**
BATI **Baumata** **25.65** **115** P **P** **01 02 06.3** **-0.5**
comp=Z,22nm,0.4s,baz=286,slow=7.4,SNR=3.5
SOEI **Soe** **26.04** **113** P **P** **01 02 09.9** **-0.4**
GIRL **Giralia** **26.65** **150** P **P** **01 02 13.7** **-1.8**
baz=27,SNR=3.4
NLAI **Namlea** **27.20** **98** P **P** **01 02 22.0** **+1.4**
comp=Z,2µmcomp=Z,61nm,0.9s
ODAN **Odare** **29.09** **336** *eP* **P** **01 02 38.8** **+1.3**
TAPN **Taplejung** **29.40** **337** *eP* **P** **01 02 41.9** **+1.6**
comp=Z,12nm,0.5s
RAMN **Ramite** **29.49** **335** *eP* **P** **01 02 42.8** **+1.7**
comp=Z,6.5nm,0.4s
JIRN **Jiri** **30.29** **335** *eP* **P** **01 02 49.5** **+1.3**
comp=Z,25nm,0.5s
PKI **Pulchoki** **30.55** **334** *eP* **P** **01 02 51.1** **+0.6**
DMN **Daman** **30.72** **333** *eP* **P** **01 02 52.9** **+1.0**
KKN **Kakani** **30.80** **334** *eP* **P** **01 02 53.2** **+0.7**
comp=Z,18nm,0.5s
YULB **Yu-li** **30.80** **40** P **P** **01 02 51.9** **-0.5**
YULB IAmb IAmb 01 02 56.4
comp=Z,9.2nm,0.6s
FITZ **Fitzroy Crossi** **31.06** **127** P **P** **01 02 53.3** **-1.4**
baz=31,SNR=6.0
FITZ **Fitzroy Crossi** **31.06** **127** P **P** **01 02 53.1** **-1.6**
GKN **Gorkha** **31.27** **333** *eP* **P** **01 02 57.4** **+0.8**
comp=Z,13nm,0.3s
KOLN **Koldanda** **31.56** **331** *eP* **P** **01 03 00.3** **+1.1**
DANN **Dangsing** **31.97** **332** *eP* **P** **01 03 03.3** **+0.4**
PYUN **Piuthan** **32.13** **331** *eP* **P** **01 03 05.4** **+1.2**
comp=Z,16nm,0.3s
MEEK **Meekatharra** **32.19** **148** P **P** **01 03 05.5** **+1.1**
baz=32,SNR=10
FAKI **Fak Fak** **32.28** **96** P **P** **01 03 04.4** **-1.1**
MORW **Morawa** **32.95** **154** P **P** **01 03 12.9** **+1.8**
baz=33,SNR=5.3
MORW **Morawa** **32.95** **154** P **P** **01 03 12.3** **+1.2**
MORW IAmb IAmb 01 03 13.8
comp=Z,16nm,0.9s
KDU **Kakadu** **34.59** **113** P **P** **01 03 26.6** **+1.2**
baz=35,SNR=7.6
KLBR **Kellerberrin** **35.87** **154** P **P** **01 03 37.7** **+1.5**
baz=36,SNR=10
NWAO **Narrogin (SRO)** **36.80** **156** P **P** **01 03 45.6** **+1.6**
baz=37,SNR=5.7
WRKA **Warakurna** **37.13** **135** P **P** **01 03 46.0** **-0.9**
baz=37,SNR=24
KMBL **Kambalda** **37.67** **149** P **P** **01 03 52.5** **+1.1**
baz=38,SNR=11
SMPI **Sarmi** **38.65** **94** P **P** **01 04 01.6** **+1.8**
comp=Z,707nmcomp=Z,27nm,1.3s
WB0 **Warramunga Arr** **39.07** **123** P **P** **01 04 01.8** **-1.4**
WB0 IAmb IAmb 01 04 16.2
comp=Z,9.4nm,1.0s
WRA **Warramunga Arr** **39.10** **123** P **P** **01 04 02.6** **-0.9**
comp=Z,5.3nm,0.4s,baz=305,slow=8.7,SNR=70
WRA PcP **PcP** **01 06 10.7** **+0.6**
comp=Z,1.9nm,0.4s,baz=319,slow=2.5,SNR=7.9
WRA ScP **ScP** **01 09 42.3** **-0.5**
comp=Z,3.7nm,0.8s,baz=310,slow=3.2,SNR=16
WRA **Warramunga Arr** **39.10** **123** P **P** **01 04 02.7** **-0.9**
WRA **ScP** **01 09 41.7** **-1.2**
WRAB **Tennant Creek** **39.11** **123** P **P** **01 04 02.6** **-0.9**
WRAB IAmb IAmb 01 04 09.3
comp=Z,13nm,0.9s
WB2 **Warramunga Arr** **39.11** **123** P **P** **01 04 02.8** **-0.8**
WB2 IAmb IAmb 01 04 04.0
comp=Z,7.6nm,0.6s
WR0 **Warramunga Arr** **39.28** **123** P **P** **01 04 04.1** **-0.9**
WR0 IAmb IAmb 01 04 11.1
comp=Z,11nm,0.5s
ASAR **Alice Springs** **40.55** **128** P **P** **01 04 14.3** **-1.2**
comp=Z,4.2nm,0.4s,baz=292,slow=7.5,SNR=50
ASAR PcP **PcP** **01 06 14.6** **-0.1**
comp=Z,2.2nm,0.4s,baz=309,slow=2.8,SNR=4.2
ASAR ScP **ScP** **01 09 47.9** **-0.6**
comp=Z,5.3nm,0.8s,baz=307,slow=3.7,SNR=18
ASAR S **S** **01 10 05.4** **-7.0**
comp=Z,1.3nm,0.7s,baz=296,slow=14,SNR=6.9
JAY **Jayapura** **40.67** **94** P **P** **01 04 17.3** **+0.7**
comp=Z,7.3nm,0.8s
FORT **Forrest** **40.76** **142** P **P** **01 04 17.7** **+0.7**
baz=41,SNR=19
FORT **Forrest** **40.76** **142** P **P** **01 04 16.2** **-0.8**
NIL **Nilore** **41.65** **325** P **P** **01 04 24.3** **0.0**
NIL IAmb IAmb 01 04 25.5
comp=Z,28nm,0.9s
QIS **Mount Isa** **43.84** **121** P **P** **01 04 41.6** **-0.5**
baz=44,SNR=4.1
WMQ **Urumqi** **44.70** **347** P **P** **01 04 50.6** **+2.0**
COEN **Coen** **44.92** **110** P **P** **01 04 51.6** **+0.8**
baz=45,SNR=6.1
KSAR **Wonju Array Be** **44.95** **32** P **P** **01 04 50.7** **+0.1**
KSRS **Korea Array** **44.98** **32** P **P** **01 04 51.0** **+0.1**
comp=Z,5.1nm,0.6s,baz=222,slow=8.4,SNR=21
KSRS pP **pP** **01 05 28.3** **+0.5**
comp=Z,3.6nm,0.7s,baz=224,slow=8.4,SNR=4.8
KSRS ScP **ScP** **01 10 06.7** **+0.7**
comp=Z,0.4nm,0.3s,baz=198,slow=3.6,SNR=4.9
KSRS LR LR 01 26 18.2
comp=Z,31nm,19.8s,baz=204,slow=39
KS19 **Wonju Array Si** **44.99** **32** P **P** **01 04 51.0** **+0.1**
KS19 IAmb IAmb 01 04 52.6
comp=Z,7.7nm,0.7s
PRZ **Przheval'sk** **46.29** **338** P **P** **01 05 02.4** **+1.1**
KDJ **Kajisay** **46.47** **336** P **P** **01 05 03.3** **+0.7**
MTSU **Mount Surprise** **47.15** **115** P **P** **01 05 08.3** **+0.1**
baz=47,SNR=5.7
GAR **Garm** **47.18** **328** P **P** **01 05 07.8** **-0.4**
GAR IAmb IAmb 01 05 10.8
comp=Z,14nm,0.9s
KZA **Kyzart** **47.22** **335** P **P** **01 05 10.2** **+1.4**
SNR=7.0
BBOO **Buckleboo** **47.25** **138** P **P** **01 05 08.1** **-0.6**
baz=47,SNR=26
BBOO **Buckleboo** **47.25** **138** P **P** **01 05 08.2** **-0.5**
BBOO IAmb IAmb 01 05 08.5
comp=Z,14nm,0.7s
CHGR **Chuyangaron** **47.56** **327** IAmb IAmb 01 05 11.6
comp=Z,16nm,0.7s
ARSB **Arslanbob** **47.63** **332** P **P** **01 05 12.5** **+0.9**
ARSB IAmb IAmb 01 05 13.9
comp=Z,21nm,1.0s
SONM **Songino Array** **47.63** **6** P **P** **01 05 11.9** **+0.4**
comp=Z,5.5nm,0.6s,baz=188,slow=9.5,SNR=30
SONM PcP **PcP** **01 06 38.9** **+0.5**
comp=Z,2.1nm,0.5s,baz=194,slow=4.1,SNR=7.0
SONM ScP **ScP** **01 10 15.7** **-1.2**
comp=Z,1.9nm,0.6s,baz=193,slow=3.3,SNR=9.4
SONM **Songino Array** **47.63** **6** P **P** **01 05 12.0** **+0.5**
SONM ScP **ScP** **01 10 15.3** **-1.7**
UCH **Uchtor** **47.66** **334** P **P** **01 05 13.6** **+1.4**
SNR=8.8
ANA2 **Anatahan** **47.67** **68** P **P** **01 05 10.2** **-2.0**
ULN **Ulaanbaatar** **47.73** **6** P **P** **01 05 12.6** **+0.3**
TKM2 **Tokmak 2** **47.77** **336** P **P** **01 05 14.5** **+1.8**
SNR=15
PMG **Port Moresby** **47.81** **103** P **P** **01 05 13.2** **-0.1**
PMG IAmb IAmb 01 05 14.8
comp=Z,13nm,0.6s
KBK **Karagaybulak** **47.82** **335** P **P** **01 05 15.2** **+2.0**
SNR=5.4
AML **Almayashu** **47.94** **334** P **P** **01 05 15.8** **+1.4**
SNR=11
AAK **Ala-Archa** **48.00** **335** ScP **ScP** **01 10 18.6** **-0.1**
comp=Z,2.7nm,0.5s,baz=190,slow=4.3,SNR=5.7
AAK **Ala-Archa** **48.00** **335** P **P** **01 05 15.1** **+0.6**
AAK **ScP** **01 10 18.8** **+0.1**
EKS2 **Erkin-Say** **48.33** **334** P **P** **01 05 18.6** **+1.7**
SNR=14
JCJ **Chichijima** **48.37** **53** P **P** **01 05 17.3** **0.0**
comp=Z,33nm,0.6s,baz=275,slow=20,SNR=4.8
JCJ **Chichijima** **48.37** **53** IAmb IAmb 01 05 18.8
comp=Z,30nm,0.6s

USP **Ospenovka** **48.51** **335** P **P** **01 05 19.4** **+1.1**
SNR=17
MK31 **Makanchi Array** **48.84** **344** IAmb IAmb 01 05 22.3
comp=Z,11nm,0.6s
MKAR **Makanchi Array** **48.84** **344** P **P** **01 05 21.1** **+0.5**
comp=Z,15nm,0.5s,baz=149,slow=8.1,SNR=187
MKAR pP **pP** **01 05 58.5** **+0.2**
comp=Z,7.2nm,0.8s,baz=160,slow=7.8,SNR=3.6
MKAR S **S** **01 12 11.9** **+0.8**
comp=Z,1.7nm,1.0s,baz=157,slow=16,SNR=8.9
MKAR **Makanchi Array** **48.84** **344** P **P** **01 05 20.7** **+0.1**
MAKZ **Makanchi** **48.94** **344** P **P** **01 05 22.0** **+0.6**
MAKZ IAmb IAmb 01 05 23.0
comp=Z,8.1nm,0.8s
HTT **Hallett** **49.56** **136** P **P** **01 05 26.4** **0.0**
baz=50,SNR=15
KKAR **Karatay Array** **50.16** **332** P **P** **01 05 30.4** **-0.3**
KKAR **Karatay Array** **50.16** **332** IAmb IAmb 01 05 33.8
comp=Z,3.6nm,0.5s
QLP **Quilpie** **50.18** **126** P **P** **01 05 31.2** **+0.1**
baz=50,SNR=7.3
MAJO **Matsushiro** **50.42** **40** P **P** **01 05 31.9** **-0.8**
MJB9 **Matsu-Tunnel** **50.42** **40** P **P** **01 05 31.2** **-1.5**
MJAR **Matsushiro Arr** **50.42** **40** P **P** **01 05 32.8** **0.0**
comp=Z,0.9nm,0.4s,baz=248,slow=9.2,SNR=4.4
MJAR ScP **ScP** **01 10 28.9** **-0.1**
comp=Z,1.4nm,0.8s,baz=231,slow=4.6,SNR=5.5
STKA **Stephens Creek** **50.62** **133** P **P** **01 05 34.0** **-0.3**
comp=Z,12nm,0.5s,baz=312,slow=7.6,SNR=36
STKA **Stephens Creek** **50.62** **133** P **P** **01 05 34.0** **-0.3**
baz=51,SNR=26
STKA **Stephens Creek** **50.62** **133** P **P** **01 05 33.1** **-1.2**
USA0B **Ussuriysk Arra** **52.07** **29** IAmb IAmb 01 05 46.4
comp=Z,7.6nm,0.7s
USRK **Ussuriysk Ar.** **52.07** **29** P **P** **01 05 45.2** **+0.4**
comp=Z,6.9nm,0.5s,baz=243,slow=4.5,SNR=30
USRK pP **pP** **01 06 23.4** **+0.5**
comp=Z,3.8nm,0.6s,baz=206,slow=6.3,SNR=3.4
KURBB **Kurchatov Arra** **53.37** **343** P **P** **01 05 54.9** **+0.6**
comp=Z,9.7nm,0.7s,baz=160,slow=7.3,SNR=20
KURBB pP **pP** **01 06 32.5** **0.0**
comp=Z,2.6nm,0.7s,baz=164,slow=6.9,SNR=3.5
KURBB ScP **ScP** **01 10 40.5** **-0.9**
comp=Z,1.2nm,0.9s,baz=159,slow=3.3,SNR=7.6
KURBB S **S** **01 13 06.0** **-7.2**
comp=Z,0.5nm,0.8s,baz=164,slow=10,SNR=5.5
ARPS **Mount Arapiles** **53.41** **138** P **P** **01 05 56.0** **+1.1**
baz=54,SNR=5.9
KURK **Kurchatov** **53.43** **343** P **P** **01 05 54.9** **+0.2**
KURK **Kurchatov** **53.43** **343** IAmb IAmb 01 05 56.3
comp=Z,13nm,0.8s
CMSA **Cobar Meteorol** **53.50** **131** P **P** **01 05 55.7** **+0.1**
baz=54,SNR=13
GEYT **Alibeck** **53.77** **319** P **P** **01 05 58.0** **+0.5**
comp=Z,4.0nm,0.7s,baz=159,slow=8.7,SNR=13
GEYT pP **pP** **01 06 35.4** **-0.6**
comp=Z,1.9nm,0.9s,baz=134,slow=13,SNR=2.5
GEYT **Alibeck** **53.77** **319** P **P** **01 05 58.0** **+0.5**
GYA0B **ALIBECK ARRAY** **53.77** **319** P **P** **01 05 56.9** **-0.6**
ZALV **Zalesovo Beam** **54.92** **349** P **P** **01 06 05.8** **+0.3**
comp=Z,14nm,0.4s,baz=183,slow=6.6,SNR=60
ZALV pP **pP** **01 06 43.7** **-0.2**
comp=Z,6.8nm,0.7s,baz=180,slow=5.1,SNR=2.7
ZALV **Zalesovo Beam** **54.92** **349** P **P** **01 06 05.2** **-0.3**
EIDS **Eidsvold** **55.43** **121** P **P** **01 06 08.9** **-0.7**
EIDS IAmb IAmb 01 06 10.8
comp=Z,11nm,0.8s
KLR **Kul'dur** **55.78** **25** P **P** **01 06 11.8** **+0.1**
comp=Z,6.0nm,0.5s,baz=233,slow=7.1,SNR=26
KLR pP **pP** **01 06 50.5** **+0.4**
comp=Z,2.5nm,0.6s,baz=258,slow=6.9,SNR=2.9
FOMA **Nahampoana Res** **57.18** **240** P **P** **01 06 19.6** **-2.4**
JKA **Kamikawa-asahi** **57.65** **35** P **P** **01 06 24.0** **-1.0**
JKA IAmb IAmb 01 06 27.1
comp=Z,4.8nm,0.7s
ARMA **Armidale** **57.67** **127** P **P** **01 06 24.8** **-0.7**
baz=58,SNR=4.8
BVAR **Borovoye Array** **58.06** **339** P **P** **01 06 27.7** **0.0**
comp=Z,3.5nm,0.3s,baz=143,slow=9.9,SNR=7.7
BVAR pP **pP** **01 07 05.6** **-0.9**
comp=Z,4.1nm,0.8s,baz=131,slow=8.1,SNR=3.2
BVAR ScP **ScP** **01 11 00.9** **-1.1**
comp=Z,1.5nm,0.9s,baz=143,slow=5.4,SNR=5.0
BVAR S **S** **01 14 14.6** **-0.6**
comp=Z,0.7nm,0.8s,baz=138,slow=14,SNR=4.7
BRVK **Borovoye** **58.13** **339** P **P** **01 06 28.1** **0.0**
ABKAR **Akbulak array** **59.68** **331** P **P** **01 06 38.5** **-0.3**
AKTO **Aktyubinsk** **61.40** **331** ScP **ScP** **01 11 16.5** **-0.4**
comp=Z,0.5nm,0.4s,baz=131,slow=0.6,SNR=4.3
KMBO **Kilima Mbogo** **62.88** **269** P **P** **01 07 02.2** **+0.8**
comp=Z,5.2nm,0.7s,baz=62,slow=8.4,SNR=12
KMBO **Kilima Mbogo** **62.88** **269** P **P** **01 07 01.6** **+0.1**
KMBO IAmb IAmb 01 07 04.0
comp=Z,8.6nm,0.8s
GEVA **Gevas** **64.46** **313** P **P** **01 07 10.5** **-0.7**
GEVA IAmb IAmb 01 07 14.1
comp=Z,5.1nm,0.8s
TBLG **Delisi** **64.60** **317** P **P** **01 07 12.0** **+0.2**
ARU **Arti** **65.14** **336** P **P** **01 07 15.4** **+0.4**
baz=144,slow=8.7
ARU **Arti** **65.14** **336** P **P** **01 07 14.9** **-0.1**
ARU IAmb IAmb 01 07 16.6
comp=Z,7.2nm,1.1s
AKH **Akhalkalaki** **65.33** **316** P **P** **01 07 16.6** **-0.2**
AKH IAmb IAmb 01 07 20.3
comp=Z,6.4nm,1.1s
MARD **Mardin** **65.80** **311** P **P** **01 07 19.3** **-0.5**
KBZ **Khabaz** **66.65** **318** P **P** **01 07 25.6** **+0.7**
comp=Z,9.6nm,0.8s,baz=103,slow=5.3,SNR=20
CASY **Casey** **66.88** **175** P **P** **01 07 26.7** **+0.9**
KIV **Kislovodsk** **66.88** **319** P **P** **01 07 26.5** **0.0**
KIV IAmb IAmb 01 07 32.5
comp=Z,7.2nm,0.8s
KOPT **Kop Dagi** **66.92** **314** P **P** **01 07 26.8** **-0.3**
GAZ **Gaziantep** **68.46** **310** P **P** **01 07 36.8** **+0.3**
MBAR **Mbarara** **69.39** **269** P **P** **01 07 43.8** **+1.0**
MBAR IAmb IAmb 01 07 46.0
comp=Z,17nm,1.1s
TOKA **Tokat** **69.94** **313** P **P** **01 07 45.5** **-0.1**
TOKA IAmb IAmb 01 07 47.2
comp=Z,12nm,0.8s
PETK **Petropavlovsk-** **70.87** **33** P **P** **01 07 51.1** **+0.3**
comp=Z,3.4nm,0.9s,baz=185,slow=7.4,SNR=6.4
CSS **Mathiatis** **70.92** **307** P **P** **01 07 51.6** **0.0**
CSS IAmb IAmb 01 07 53.2
comp=Z,15nm,0.9s
BRTR **Keskin Array B** **71.86** **312** P **P** **01 07 56.9** **-0.4**
comp=Z,8.2nm,0.7s,baz=130,slow=7.2,SNR=60
BRTR pP **pP** **01 08 35.6** **-2.2**
comp=Z,1.5nm,0.6s,baz=131,slow=6.2,SNR=2.4
BRTR **Keskin Array B** **71.86** **312** P **P** **01 07 57.0** **-0.2**
BR131 **Keskin Array S

AKASG	**Malin Array Be**	**77.73 322**	P	**P**	**01 08 30.3**	**-0.3**
IDI	**Anoyia**	**77.77 306**	P	**P**	**01 08 31.2**	**-0.1**
IDI			IAmb	IAmb	01 08 36.1	
	comp=Z,19nm,1.1s					
KHZ	**Kahutara**	**78.02 133**	P	**P**	**01 08 32.0**	**-0.3**
KHZ			IAmb	IAmb	01 08 47.7	
	comp=Z,17nm,1.1s					
ISR	**Istrita**	**78.22 316**	⇑P	**P**	**01 08 33.8**	**+0.3**
VRI	**Vrincioaia**	**78.25 317**	⇓P	**P**	**01 08 34.6**	**+1.1**
PLOR	**Plostina**	**78.30 317**	⇑P	**P**	**01 08 34.7**	**+0.8**
TESR	**Tescani**	**78.43 317**	⇑P	**P**	**01 08 35.6**	**+1.0**
MLR	**Muntele Rosu**	**78.71 316**	⇓P	**P**	**01 08 37.2**	**+1.0**
ZIMR		**78.77 314**	⇓P	**P**	**01 08 36.8**	**+0.4**
PRAR	**RASCA**	**78.89 318**	⇑P	**P**	**01 08 37.9**	**+0.9**
VOIR		**79.32 316**	⇑P	**P**	**01 08 39.0**	**-0.4**
ARR	**Arges**	**79.59 316**	⇑P	**P**	**01 08 41.5**	**+0.5**
BURAR	**Bucovina Array**	**79.61 318**	⇓P	**P**	**01 08 42.4**	**+1.4**
BURAR	**Bucovina Array**	**79.61 318**	P	**P**	**01 08 42.3**	**+1.3**
BUR08	**Bucovina Ar. S**	**79.63 318**	IAmb	IAmb	01 08 43.5	
	comp=Z,9.1nm,0.9s					
BKZ	**Black Stump Fm**	**79.65 130**	P	**P**	**01 08 41.5**	**+0.2**
BKZ			IAmb	IAmb	01 08 41.6	
	comp=Z,9.4nm,0.6s					
BFZ	**Birch Farm**	**79.70 131**	P	**P**	**01 08 41.9**	**+0.3**
BFZ			IAmb	IAmb	01 08 53.4	
	comp=Z,20nm,1.2s					
AGG	**Agios Georgios**	**80.31 309**	P	**P**	**01 08 43.4**	**-1.5**
AGG			IAmb	IAmb	01 08 59.5	
	comp=Z,9.7nm,1.2s					
LIT	**Litokhoron**	**80.33 311**	P	**P**	**01 08 44.2**	**-0.8**
LIT			IAmb	IAmb	01 08 44.9	
	comp=Z,12nm,0.7s					
ITM	**Ithomi**	**80.40 308**	P	**P**	**01 08 45.3**	**-0.1**
CJR	**Cluj-Napoca**	**80.54 317**	⇑P	**P**	**01 08 47.3**	**+1.4**
LVZ	**Lovozero**	**80.66 340**	P	**P**	**01 08 45.8**	**-0.4**
LVZ			IAmb	IAmb	01 08 48.8	
	comp=Z,15nm,1.0s					
DEV	**Deva**	**80.88 316**	⇑P	**P**	**01 08 49.1**	**+1.4**
HERR	**Herculane**	**81.06 315**	⇑P	**P**	**01 08 48.9**	**+0.2**
SUR	**Sutherland**	**81.14 237**	P	**P**	**01 08 50.0**	**+0.3**
SUR			IAmb	IAmb	01 08 52.9	
	comp=Z,23nm,1.0s					
MDVR	**Moldovita**	**81.55 315**	⇓P	**P**	**01 08 51.5**	**+0.2**
BZS	**Buzias**	**81.73 316**	⇓P	**P**	**01 08 52.9**	**+0.7**
KOLS	**Kolonicke sedl**	**81.78 319**	*e*P	**P**	**01 08 52.9**	**+0.5**
FIA1	**FINESS Array S**	**82.12 332**	P	**P**	**01 08 54.0**	**+0.2**
FIA1			IAmb	IAmb	01 08 55.2	
	comp=Z,8.6nm,0.7s					
FINES	**FINESS Array B**	**82.12 332**	P	**P**	**01 08 54.4**	**+0.5**
	comp=Z,4.8nm,0.6s,baz=103,slow=5.5,SNR=50					
CRVS	**Cervenica-Dubn**	**82.30 319**	*e*P	**P**	**01 08 56.6**	**+1.5**
AMKA	**Amchitka**	**82.99 38**	P	**P**	**01 08 58.7**	**+0.2**
TSUM	**Tsumeb**	**83.06 251**	P	**P**	**01 09 01.8**	**+2.0**
TSUM			IAmb	IAmb	01 09 03.0	
	comp=Z,9.6nm,0.9s					
PSZ	**Piszkesteto**	**83.20 318**	⇑P	**P**	**01 09 00.2**	**+0.3**
PSZ	**Piszkesteto**	**83.20 318**	IAmb	IAmb	01 09 01.6	
	comp=Z,8.7nm,1.1s					
VYHS	**Vyhne**	**83.97 319**	*e*P	**P**	**01 09 04.0**	**+0.3**
SRO2	**Moca**	**84.19 318**	*e*P	**P**	**01 09 05.0**	**+0.2**
ARCES	**ARCESS Array B**	**84.34 340**	P	**P**	**01 09 05.5**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=102,slow=5.4,SNR=35					
ARE0	**ARCESS Array S**	**84.34 340**	P	**P**	**01 09 05.4**	**+0.2**
VNDA	**Vanda**	**84.40 169**	P	**P**	**01 09 05.4**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=321,slow=6.6,SNR=9.4					
VNDA	**Vanda**	**84.40 169**	P	**P**	**01 09 06.2**	**+0.9**
OKC	**Ostrava-Krasne**	**84.57 320**	*e*P	**P**	**01 09 07.0**	**+0.4**
JAVC	**Velka Javorina**	**84.78 319**	*e*P	**P**	**01 09 09.5**	**+1.7**
MORC	**Moravsky Berou**	**84.95 320**	⇑P	**P**	**01 09 09.7**	**+1.1**
MORC	**Moravsky Berou**	**84.95 320**	*e*P	**P**	**01 09 09.7**	**+1.1**
MORC	**Moravsky Berou**	**84.95 320**	P	**P**	**01 09 08.8**	**+0.2**
MORC			IAmb	IAmb	01 09 10.7	
	comp=Z,6.6nm,0.8s					
KRLC	**Kraliky**	**85.47 320**	*e*P	**P**	**01 09 12.7**	**+1.5**
ADK	**Adak**	**85.53 38**	P	**P**	**01 09 11.7**	**+0.3**
ADK			IAmb	IAmb	01 09 17.6	
	comp=Z,6.6nm,0.8s					
KRUC	**Moravsky**	**85.64 319**	*e*P	**P**	**01 09 12.7**	**+0.7**
DPC	**Dobruska-Polom**	**85.78 320**	*e*P	**P**	**01 09 14.6**	**+1.8**
KSP	**Ksiaz**	**85.84 321**	*e*P	**P**	**01 09 14.7**	**+1.7**
OSTC	**Ostas**	**85.87 321**	*e*P	**P**	**01 09 14.6**	**+1.5**
CONA	**Conrad Observa**	**85.90 318**	*e*P	**P**	**01 09 14.1**	**+0.6**
	comp=Z,1.5nm,0.9s					
UPC	**Upice**	**85.99 320**	*e*P	**P**	**01 09 15.6**	**+1.9**
ARSA	**Arzberg**	**86.09 317**	*i* P	**P**	**01 09 15.1**	**+0.8**
	comp=Z,5.7nm,0.9s					
SOKA	**Soboth**	**86.39 317**	*i* PcP	**P**	**01 09 17.1**	**+1.2**
	comp=Z,5.8nm,0.9s,SNR=6.2					
PRU	**Pruhonice**	**86.90 320**	*e*P	**P**	**01 09 18.5**	**+0.3**
BRG	**Berggiesshubel**	**87.33 321**	*e*PKP	**P**	**01 09 21.3**	**+1.1**
	comp=Z,10nm,1.0s					
BRG	**Berggiesshubel**	**87.33 321**	*e*P	**P**	**01 09 21.8**	**+1.6**
	comp=Z,5.6nm,0.9s,baz=92,slow=4.7					
PRED	**Cave del Predi**	**87.39 316**	P	**P**	**01 09 21.2**	**+0.6**
PRED			IAmb	IAmb	01 09 22.7	
	comp=Z,7.2nm,0.8s					
GEC2	**GERESS Array S**	**87.39 319**	*e*P	**P**	**01 09 22.0**	**+1.3**
	comp=Z,3.0nm,0.8s,baz=92,slow=4.7					
GEC2	**GERESS Array S**	**87.39 319**	P	**P**	**01 09 21.5**	**+0.8**
GEC2			IAmb	IAmb	01 09 23.5	
	comp=Z,5.1nm,0.9s					
GERES	**GERESS Array B**	**87.39 319**	P	**P**	**01 09 21.5**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=78,slow=3.3,SNR=26					
KHC	**Kasperske Hory**	**87.49 319**	*e*P	**P**	**01 09 21.8**	**+0.8**
RUE	**Ruedersdorf**	**87.51 322**	*e*P	**P**	**01 09 22.7**	**+1.8**
	comp=Z,33nm,0.7s,baz=92,slow=4.7					
FBE	**Freiberg**	**87.70 321**	*e*P	**P**	**01 09 23.9**	**+1.9**
	comp=Z,7.2nm,0.8s,baz=92,slow=4.7					
CLL	**Collm**	**87.94 321**	*i* P	**P**	**01 09 23.9**	**+0.8**
	comp=Z,11nm,1.1s					
CLL	**Collm**	**87.94 321**	*e*P	**P**	**01 09 23.0**	**-0.1**
	comp=Z,6.6nm,0.9s,baz=92,slow=4.7					
WET	**Wettzell**	**87.95 319**	*e*P	**P**	**01 09 24.7**	**+1.5**
	comp=Z,4.4nm,0.8s,baz=92,slow=4.7					
RJOB	**Jochberg**	**87.96 318**	*e*P	**P**	**01 09 22.9**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=92,slow=4.7					
TANN	**Tannenbergstha**	**88.25 320**	*e*P	**P**	**01 09 26.1**	**+1.4**
	comp=Z,4.9nm,0.9s,baz=92,slow=4.7					
NKC	**Novy Kostel**	**88.26 320**	*e*P	**P**	**01 09 26.3**	**+1.7**
WERN	**Wernitzgruen**	**88.31 320**	*e*P	**P**	**01 09 26.6**	**+1.7**
	comp=Z,3.8nm,0.9s,baz=92,slow=4.7					
GUNZ	**Gunzen**	**88.34 320**	*e*P	**P**	**01 09 26.7**	**+1.7**
	comp=Z,4.3nm,0.9s,baz=92,slow=4.7					
WERD	**Werda**	**88.36 320**	*e*P	**P**	**01 09 26.9**	**+1.8**
	comp=Z,4.2nm,0.9s,baz=92,slow=4.7					
SPA0	**Spitsbergen Ar**	**88.40 348**	P	**P**	**01 09 24.7**	**0.0**
SPA0			IAmb	IAmb	01 09 33.6	
	comp=Z,11nm,1.1s					
ROTZ	**Rotzenmuhle**	**88.40 320**	*e*P	**P**	**01 09 27.2**	**+1.9**
	comp=Z,4.1nm,0.8s,baz=92,slow=4.7					
MANZ	**Manzenberg**	**88.47 320**	*e*P	**P**	**01 09 27.6**	**+1.9**
	comp=Z,7.2nm,0.9s,baz=92,slow=4.7					
LATE	**Laterza**	**88.54 312**	IAmb	IAmb	01 09 28.4	
	comp=Z,5.1nm,0.9s					
CTI	**Castel Tesino**	**88.70 316**	P	**P**	**01 09 27.1**	**+0.2**
NEUB	**Neuenburg**	**88.71 321**	*e*P	**P**	**01 09 28.1**	**+1.4**
	comp=Z,19nm,0.8s,baz=92,slow=4.7					
WTTA	**Wattenberg**	**88.73 317**	*e*P	**P**	**01 09 26.9**	**-0.3**
	comp=Z,5.2nm,0.8s					
WATA	**Walderalm**	**88.77 317**	*e*P	**P**	**01 09 27.4**	**+0.1**
	comp=Z,1.9nm,0.6s					
MOX	**Moxa**	**88.80 320**	*e*P	**P**	**01 09 28.7**	**+1.5**
	comp=Z,3.6nm,0.8s,baz=92,slow=4.7					
NC405	**NORSAR Array S**	**88.94 331**	P	**P**	**01 09 27.7**	**+0.1**
NC405			IAmb	IAmb	01 09 30.6	
	comp=Z,6.4nm,0.9s					
SQTA	**Sankt Quirin**	**89.02 317**	*e*PcP	**P**	**01 09 29.0**	**+0.5**
	comp=Z,6.1nm,0.8s					
GRF	**Grafenberg Arr**	**89.04 320**	*e*P	**P**	**01 09 30.2**	**+1.9**
	comp=Z,8.4nm,0.8s,baz=92,slow=4.7					
MOTA	**Moosalm**	**89.10 317**	*e*PcP	**P**	**01 09 29.4**	**+0.6**
	comp=Z,7.4nm,0.9s					
NC303	**NORSAR Array S**	**89.11 331**	P	**P**	**01 09 27.8**	**-0.6**
NOA	**NORSAR Array B**	**89.19 331**	P	**P**	**01 09 29.4**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=91,slow=4.3,SNR=1.1					
RETA	**Reutte**	**89.33 317**	*e*PcP	**P**	**01 09 30.3**	**+0.5**
	comp=Z,6.2nm,0.7s					
FETA	**Feichten**	**89.35 317**	*e*PcP	**P**	**01 09 31.0**	**+0.9**
	comp=Z,4.8nm,0.9s					
SALO	**Salr**	**89.49 315**	P	**P**	**01 09 31.3**	**+0.8**
CLZ	**Clausthal**	**89.59 322**	*e*P	**P**	**01 09 32.6**	**+1.7**
	comp=Z,6.7nm,0.8s,baz=92,slow=4.7					
BSEG	**Bad Segeberg**	**89.62 324**	*e*P	**P**	**01 09 32.6**	**+1.7**
	comp=Z,6.6nm,0.9s,baz=92,slow=4.7					
FUORN	**Ofenpass-Fuorn**	**89.67 316**	P	**P**	**01 09 32.6**	**+1.0**
FUORN			IAmb	IAmb	01 09 33.9	
	comp=Z,11nm,0.9s					
NRDL	**Niedersach Rie**	**89.75 322**	*e*P	**P**	**01 09 33.0**	**+1.6**
	comp=Z,12nm,1.1s,baz=92,slow=4.7					
UBBA	**Unterbreizbach**	**89.83 321**	*e*P	**P**	**01 09 33.3**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=92,slow=4.7					
GTTG	**Gottingen**	**89.85 321**	*e*P	**P**	**01 09 33.7**	**+1.7**
	comp=Z,5.2nm,0.9s,baz=92,slow=4.7					
DAVA	**Damuels**	**89.93 317**	*e*PcP	**P**	**01 09 33.5**	**+0.8**
	comp=Z,11nm,0.8s,SNR=6.1					
QSPA	**South Pole Qui**	**90.27 180**	P	**P**	**01 09 35.1**	**+1.3**
TUE	**Stuetta**	**90.30 316**	P	**P**	**01 09 35.7**	**+1.2**
TUE			IAmb	IAmb	01 09 39.7	
	comp=Z,7.8nm,1.0s					
KEST	**Kesra**	**90.44 306**	P	**P**	**01 09 37.1**	**+1.8**
	comp=Z,8.5nm,0.9s,baz=25,slow=2.9,SNR=11					
KEST	**Kesra**	**90.44 306**	P	**P**	**01 09 36.1**	**+0.8**
TNS	**Taunus Mts**	**90.83 320**	*e*P	**P**	**01 09 38.5**	**+1.8**
	comp=Z,7.1nm,0.8s,baz=92,slow=4.7					
BFO	**Black Forest**	**90.96 318**	*e*P	**P**	**01 09 38.2**	**+0.9**
	comp=Z,3.9nm,0.9s,baz=92,slow=4.7					
IMAR	**Indian Mountai**	**96.23 23**	P	**P**	**01 10 01.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**98.13 283**	P	Pdif	01 10 11.2	+0.4
	comp=Z,0.8nm,0.9s,baz=63,slow=3.6,SNR=3.7					
NVAR	**Mina Array Bea**	**127.72 38**	PKP	**PKiKP**	**01 15 39.6**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=263,slow=0.7,SNR=2.7					
NVAR			SKPbc	SKPbc	01 18 41.2	
	comp=Z,0.9nm,0.8s,baz=280,slow=4.3,SNR=5.3					
PDAR	**Pinedale Array**	**129.49 28**	PKP	**PKPdf**	**01 15 42.0**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=106,slow=2.0,SNR=2.9					
PDAR			SKPbc	SKPab	01 18 46.9	-0.7
	comp=Z,2.2nm,0.9s,baz=349,slow=1.5,SNR=16					
PFO	**Pinyon Flats O**	**131.84 42**	SKPbc	**SKPbc**	**01 18 57.2**	**+0.4**
	comp=Z,6.3nm,0.9s,baz=288,slow=4.3,SNR=6.2					
SADO	**Sadowa**	**135.10 359**	SKPbc	**SKPbc**	**01 19 05.6**	**-1.5**
	comp=Z,4.0nm,0.7s,baz=10,slow=4.9,SNR=5.5					
PLCA	**Paso Flores**	**138.90 191**	SKPbc	**SKPbc**	**01 19 18.6**	**0.0**
	comp=Z,2.6nm,0.7s,baz=224,slow=3.3,SNR=8.1					
TXAR	**Lajitas Array**	**142.77 36**	PKP	**PKPdf**	**01 16 03.8**	**-2.7**
	comp=Z,0.8nm,0.4s,baz=222,slow=0.7,SNR=24					
TXAR			SKPbc	**SKPbc**	**01 19 28.1**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=264,slow=0.3,SNR=13					
TKL	**Tuckaleechee C**	**144.02 5**	PKP	**PKPab**	**01 16 06.1**	**0.0**
	comp=Z,1.5nm,0.3s,baz=151,slow=1.8,SNR=8.0					
TKL			SKPbc	**SKPbc**	**01 19 30.2**	**-1.5**
	comp=Z,5.8nm,0.8s,baz=141,slow=4.1,SNR=7.1					
BDFB	**Brasilia**	**145.06 243**	PKPbc	**PKPdf**	**01 16 11.9**	**+1.0**
	comp=Z,16nm,1.0s,baz=68,slow=3.1,SNR=15					
CPUP	**Villa Florida**	**146.23 218**	PKPbc	**PKPab**	**01 16 14.3**	**-0.4**
	comp=Z,12nm,0.8s,baz=104,slow=1.3,SNR=29					
CPUP			pPKPbc	**pPKPdf**	**01 16 56.1**	**-0.6**
	comp=Z,5.2nm,0.8s,baz=169,slow=4.8,SNR=3.5					
CPUP			SKPbc	**SKiKP**	**01 19 37.3**	**0.0**
	comp=Z,1.7nm,0.8s,baz=135,slow=4.3,SNR=2.8					
CPUP	**Villa Florida**	**146.23 218**		**PKPbc**	**01 16 14.0**	**+0.3**

*JMA **18** 01:13:26.0±0.1, 35.5°1N×135.65E, h351km±1km, M3.2*
*IDC **18** 01:13:26.0±0.7, 35.42N×135.65E, h361km±7km, mb2.9/10, mb1 3.1/16, mb1mx3.0/49, mbtmp3.7/16, Error ellipse: s-maj=14.3km s-min=11.3km az=57.0*

ISC 18 01:13:25.5±0.7, 35.53N±0.07°×135.65E±0.05, h352km±6km, n39, σ1°39/47, mb3.2/10, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
JFM	**Mihama**	**0.27**	**89**	P	**Pn**	**01**	**14**	**10.5**	**+0.9**
JFM				S	**S**	**01**	**14**	**45.1**	**+0.1**
JWT	**Wachi**	**0.32**	**220**	P	**Pn**	**01**	**14**	**10.2**	**+0.4**
JWT				S	**S**	**01**	**14**	**44.5**	**-0.7**
JKG	**Kaga**	**0.93**	**36**	P	**Pn**	**01**	**14**	**11.6**	**+0.5**
JWY	**Kouya**	**1.30**	**182**	P	**Pn**	**01**	**14**	**13.4**	**+0.3**
JWY				S	**S**	**01**	**14**	**50.0**	**-1.1**
JIE	**Ise**	**1.43**	**142**	P	**Pn**	**01**	**14**	**14.0**	**+0.4**
JIE				*e*S	**S**	**01**	**14**	**51.5**	**-0.5**
JTNC	**Tanabenakahech**	**1.70**	**181**	P	**Pn**	**01**	**14**	**15.2**	**0.0**
JTNC				S	**S**	**01**	**14**	**53.9**	**-1.1**
JAI	**Aioi**	**1.99**	**210**	P	**Pn**	**01**	**14**	**17.3**	**+0.3**
JOI	**OKI**	**2.09**	**292**	P	**Pn**	**01**	**14**	**18.3**	**+0.7**
TTO1	**TONANKAI O.B.S**	**2.12**	**153**	P	**Pn**	**01**	**14**	**18.7**	**+1.1**
JHS	**Saijyo**	**2.14**	**256**	P	**Pn**	**01**	**14**	**18.5**	**+0.5**
JMN	**Monobe**	**2.31**	**220**	P	**Pn**	**01**	**14**	**19.9**	**+0.5**
MJAR	**Matsushiro Arr**	**2.31**	**63**	P	**Pn**	**01**	**14**	**20.1**	**+0.8**
	0.2nm,0.3s,baz=244,slow=10,SNR=5.2								
MJAR				S	**S**	**01**	**15**	**05.6**	**+3.1**
	0.1nm,0.3s,baz=333,slow=19,SNR=6.6								
TK02	**Tokai 2**	**2.35**	**132**	P	**Pn**	**01**	**14**	**20.1**	**+0.7**
JYN	**Shimob**	**2.36**	**90**	P	**Pn**	**01**	**14**	**19.8**	**0.0**
JSZ	**Suzu**	**2.37**	**35**	P	**Pn**	**01**	**14**	**20.3**	**+0.7**
JHG	**Hegura jima**	**2.53**	**23**	P	**Pn**	**01**	**14**	**22.2**	**+1.3**
JGT2	**ShimaneMisato**	**2.61**	**261**	P	**Pn**	**01**	**14**	**21.9**	**+0.2**
JRY	**Ryogami san**	**2.69**	**79**	P	**Pn**	**01**	**14**	**23.2**	**+0.8**
JRY				*e*S	**S**	**01**	**15**	**08.0**	**-0.1**
JHT	**Toyohira**	**2.78**	**253**	P	**Pn**	**01**	**14**	**23.7**	**+0.5**
JOD2	**Odawara 2**	**2.82**	**94**	P	**Pn**	**01**	**14**	**24.3**	**+0.8**
JAG	**Ashikaga**	**3.21**	**73**	P	**Pn**	**01**	**14**	**26.3**	**-0.7**
JAG				*e*S	**S**	**01**	**15**	**13.8**	**-2.6**
JTO	**Tosashimizu**	**3.55**	**222**	P	**Pn**	**01**	**14**	**30.9**	**+0.6**
JHJ	**Hachijo jima 2**	**4.18**	**124**	P	**Pn**	**01**	**14**	**36.9**	**+0.3**
	2.9nm,0.3s,baz=60,slow=20,SNR=1.5								
JHJ				S	**S**	**01**	**15**	**36.8**	**+3.0**
	8.5nm,0.3s,baz=81,slow=22,SNR=2.1								
JNU	**Nakatsue**	**4.62**	**240**	P	**Pn**	**01**	**14**	**41.9**	**+0.7**
	5.8nm,0.3s,baz=55,slow=0.6,SNR=30								
KSRS	**Korea Array**	**6.51**	**289**	P	**P**	**01**	**15**	**03.8**	**+0.3**
	0.3nm,0.3s,baz=101,slow=13,SNR=4.1								
USRK	**Ussuriysk Ar.**	**9.11**	**343**	P	**Pn**	**01**	**15**	**34.1**	**+1.5**
	baz=172,slow=11,SNR=20								
JCJ	**Chichijima**	**10.09**	**145**	P	Pn	01	15	38.9	-5.8
	4.8nm,0.3s,baz=278,slow=21,SNR=6.6								
JCJ				S	S	01	17	26.8	-12
	7.9nm,0.3s,baz=250,slow=20,SNR=8.1								
ASAJ	**Asahikawa**	**10.10**	**30**	S	**S**	**01**	**17**	**32.7**	**-5.9**
	0.9nm,0.3s,baz=35,slow=28,SNR=5.1								
KLR	**Kul'dur**	**13.99**	**349**	P	**P**	**01**	**16**	**30.3**	**+1.5**
	0.5nm,0.3s,baz=167,slow=9.7,SNR=6.6								
SONM	**Songino Array**	**24.91**	**309**	P	**P**	**01**	**18**	**18.4**	**+0.5**
	0.5nm,0.4s,baz=116,slow=10,SNR=4.2								
ZALV	**Zalesovo Beam**	**39.54**	**314**	P	**P**	**01**	**20**	**24.1**	**+0.8**
	0.3nm,0.3s,baz=97,slow=7.6,SNR=2.8								
MKAR	**Makanchi Array**	**40.99**	**303**	P	**P**	**01**	**20**	**35.7**	**+0.4**
	0.6nm,0.6s,baz=96,slow=9.6,SNR=7.8								
KURBB	**Kurchatov Arra**	**43.28**	**309**	P	**P**	**01**	**20**	**53.4**	**0.0**
	0.5nm,0.4s,baz=90,slow=8.3,SNR=12								
ILAR	**Eielson Array**	**53.23**	**31**	P	**P**	**01**	**22**	**08.7**	**+0.1**
	0.4nm,0.6s,baz=264,slow=5.7,SNR=7.3								
WRA	**Warramunga Arr**	**55.18**	**181**	P	**P**	**01**	**22**	**21.4**	**-1.6**
	0.6nm,0.4s,baz=0.1,slow=7.6,SNR=14								
ASAR	**Alice Springs**	**58.89**	**182**	P	**P**	**01**	**22**	**47.5**	**-1.2**
	0.2nm,0.3s,baz=0.6,slow=6.2,SNR=4.8								
ARCES	**ARCESS Array B**	**63.72**	**338**	P	**P**	**01**	**23**	**20.2**	**+0.1**
	1.7nm,0.8s,baz=50,slow=8.4,SNR=1.7								
NVAR	**Mina Array Bea**	**79.57**	**50**	P	**P**	**01**	**24**	**55.3**	**+0.7**
	0.2nm,0.5s,baz=278,slow=6.3,SNR=2.7								
PDAR	**Pinedale Array**	**81.98**	**42**	P	**P**	**01**	**25**	**06.7**	**-0.4**
	0.3nm,0.7s,baz=86,slow=2.2,SNR=3.5								

*MEX **18** 01:17:33.3±0.7, 14.6°63N×92.56W, h76km±12km, MD3.6*
*GCG **18** 01:17:34.8±0.5, 14.74N×92.60W, h34km±999km, MD3.7*

ISC 18 01:17:33.7±6.9, 14.6N±0.1×92.8W±0.1, h34km±15km, n6, σ0°62/11, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
THIG		**0.56**	**55**	*i* P	**Pn**	**01**	**17**	**44.4**	**-0.8**
THIG				*e*S	**Sn**	**01**	**17**	**53.5**	**+0.1**
PCIG		**1.21**	**338**	*e*P	**Pn**	**01**	**17**	**53.9**	**-0.2**
PCIG				*e*S	**Sn**	**01**	**18**	**09.0**	**-0.2**
CCIG	**Comitan**	**1.79**	**19**	*e*P	**Pn**	**01**	**18**	**03.3**	**+1.0**
CCIG				*e*S	**Sn**	**01**	**18**	**23.5**	**-0.4**
FUG	**Fuego 3**	**1.85**	**94**	*e*P	**Pn**	**01**	**18**	**03.0**	**-0.1**
FUG				*e*S	**Sn**	**01**	**18**	**24.7**	**-0.7**
PCG	**Pacaya**	**2.08**	**95**	*e*S	**Sn**	**01**	**18**	**31.7**	**+0.5**
IXG	**Ixpaco**	**2.27**	**100**	*e*P	**Pn**	**01**	**18**	**09.2**	**+0.2**
IXG				*e*S	**Sn**	**01**	**18**	**36.0**	**+0.2**

*NEIC **18** 01:25:57.2±0.9, 36.82N±0.04×98.27W±0.04, h5km±1km, Error ellipse: s-maj=6.6km s-min=5.8km az=356.0*
*TUL **18** 01:25:57.4±0.6, 36.84N±0.04×98.25W±0.04, h3km±1km, ML3.8, Mwr3.7/31(NEIC), Error ellipse: s-maj=6.9km s-min=5.6km az=31.0*
*IDC **18** 01:25:57.5±0.7, 36.93N×98.31W, h0km, mb4.0/4, mb1 4.1/12, mb1mx3.8/44, mbtmp3.9/12, ML3.9/7, MS2.2/1, Ms1 2.2/1, ms1mx1.9/46, Error ellipse: s-maj=10.2km s-min=9.7km az=172.0*
*ANF **18** 01:25:58.9±0.1, 36.85N×98.20W, h20km, ML4.9/16, Error ellipse: s-maj=1.7km s-min=1.6km az=147.0*
*NEIC **18** 01:25:58, 36.83N×98.25W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=4.11; $M_{\theta\theta}$3.76; $M_{\phi\phi}$0.35; $M_{r\theta}$1.68; $M_{r\phi}$0.71; $M_{\theta\phi}$1.04; Fault plane solution: M_o4.47000×10^{14} NP1:$\phi_0$250.27000°, δ57.97000°, λ-98.65000°. NP2:$\phi_0$86.28000°, δ33.06000°, λ-76.48000°. Principal axes: T 4.3169, Plg13.0000°, Azm347.0000°; N 0.2953, Plg7.0000°, Azm255.0000°; P -4.6122, Plg75.0000°, Azm135.0000°;*

ISC 18 01:25:58.1±0.9, 36.85N±0.02×98.21W±0.04, h15km±6km, n217, σ1°14/239, mb4.0/4, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KAN10	**Anthony SW Sta**	**0.29**	**18**		**Pg**	**01**	**26**	**04.1**	**-0.1**
KAN10				Sg	**Sg**	**01**	**26**	**08.7**	**+0.2**
CROK	**Carrier**	**0.38**	**152**		**Pg**	**01**	**26**	**05.4**	**-0.5**
CROK				Sg	**Sg**	**01**	**26**	**11.8**	**+0.6**
KAN12	**Harper NE Stat**	**0.48**	**20**		**Pg**	**01**	**26**	**07.6**	**-0.1**
KAN12				Sg	**Sb**	**01**	**26**	**15.0**	**-0.3**
KAN13	**South Haven SW**	**0.61**	**74**		**Pg**	**01**	**26**	**09.7**	**-0.4**
KAN13				Sg	**Sg**	**01**	**26**	**18.7**	**+0.6**
OK029	**Liberty Lake**	**1.21**	**150**	Pg	**Pn**	**01**	**26**	**20.6**	**+0.1**
OK029				Sn	**Sn**	**01**	**26**	**37.0**	**+0.3**
BCOK	**Bluff Creek, N**	**1.28**	**158**		**Pn**	**01**	**26**	**21.6**	**+0.1**
T35A	**Sooner Cattle**	**1.36**	**86**	Pn	**Pb**	**01**	**26**	**23.6**	**+0.3**
ADOK	**Arcadia Dam**	**1.37**	**150**	Pn	**Pb**	**01**	**26**	**23.2**	**-0.2**
QUOK	**Quay**	**1.38**	**119**	Pn	**Pb**	**01**	**26**	**23.9**	**+0.3**
OK009	**Oakdale Elemen**	**1.41**	**153**		**Pb**	**01**	**26**	**23.9**	**-0.2**
OK005	**Luther M Schoo**	**1.44**	**145**		**Pb**	**01**	**26**	**24.6**	**-0.1**
OK005					**Sb**	**01**	**26**	**43.8**	**+0.9**
OK025	**Westminster Rd**	**1.44**	**151**		**Pb**	**01**	**26**	**24.7**	**-0.1**
OKCFA	**Oklahoma City**	**1.55**	**157**		**Pb**	**01**	**26**	**26.0**	**-0.6**
OKCSW	**OKLAHOMA CITY**	**1.56**	**156**		**Pn**	**01**	**26**	**26.0**	**+0.6**
**R32

baz=115,SNR=17
ISCO Idaho Springs 6.53 299 Pn Pn 01 27 33.8 -0.1
GDL2 Guadalupe Moun 6.88 229 Pn 01 27 38.4 -0.1
ECSD EROS Data Cent 6.99 10 P Pn 01 27 39.3 -0.6
baz=191,SNR=15
ECSD EROS Data Cent 6.99 10 Pn Pn 01 27 39.4 -0.6
PHWY Pilot Hill 7.18 310 Pn 01 27 42.8 -0.1
S44A Carbondale 7.19 81 Pn 01 27 42.8 +0.1
N23A Red Feather La 7.26 306 P Pn 01 27 45.0 +1.0
baz=122,SNR=7.9
N23A Red Feather La 7.26 306 Pn Pn 01 27 44.0 0.0
BNM Barren Site 7.38 251 Pn Pn 01 27 45.2 -0.3
P43A Skaggs, Pawnee 7.38 65 Pn 01 27 45.1 -0.2
L40A Anamosa 7.50 44 Pn 01 27 47.9 +0.9
OXF Oxford 7.53 105 P Pn 01 27 47.4 +0.1
baz=290
OXF Oxford 7.53 105 Pn 01 27 47.2 -0.1
Q44A Meyer Farm, Va 7.55 71 Pn Pn 01 27 48.2 +0.5
SUSD Miller 7.61 356 P Pn 01 27 49.1 +0.6
baz=176
Y45A Yeager Farm, C 7.68 110 Pn Pn 01 27 50.1 +0.7
MNTX Cornudas Mount 7.85 231 P Pn 01 27 51.7 0.0
baz=47,SNR=14
MNTX Cornudas Mount 7.85 231 Pn Pn 01 27 51.8 0.0
HDIL Hopedale 7.89 59 P Pn 01 27 52.7 +0.3
baz=245,SNR=14
HDIL Hopedale 7.89 59 Pn Pn 01 27 53.3 +1.0
344A Westbrook Farm 8.20 129 Pn 01 27 57.4 +0.8
L42A Oliver, Polo 8.38 49 Pn 01 27 60.0 +1.0
WVT Waverly 8.39 92 P Pn 01 27 59.2 +0.1
baz=278
WVT Waverly 8.39 92 Pn Pn 01 27 59.3 +0.1
RSSD Black Hills 8.52 330 P Pn 01 28 02.3 +1.2
baz=147
RSSD Black Hills 8.52 330 Pn Pn 01 28 01.3 +0.2
JFWS Jewell Farm 8.61 43 P Pn 01 28 02.3 +0.1
baz=228,SNR=12
JFWS Jewell Farm 8.61 43 Pn Pn 01 28 02.5 +0.3
146A Union 8.62 116 Pn 01 28 03.3 +1.0
K22A Casper 8.64 315 P Pn 01 28 02.8 +0.1
baz=130
K22A Casper 8.64 315 Pn 01 28 02.9 +0.1
TX31 Lajitas Ar. Si 8.78 213 Pn 01 28 04.7 0.0
TXAR Lajitas Array 8.78 213 Pn Pn 01 28 04.5 -0.1
1.1nm,0.3s,baz=30,slow=11,SNR=52
TXAR Lg Lg 01 30 30.3
2.2nm,0.3s,baz=36,slow=33,SNR=3.4
TXAR LR LR 01 32 17.4
comp=Z,16nm,19.8s,baz=0.0,slow=43
TXAR Lajitas Array 8.78 213 Pn Pn 01 28 04.7 0.0
TX32 Lajitas Array 8.78 213 Pn Pn 01 28 04.7 +0.1
T47A Sharon Grove 8.89 86 Pn 01 28 07.2 +1.1
Z47A Carrollton 9.07 111 Pn 01 28 09.5 +0.9
F33A 5 Mile Ranch, 9.10 8 Pn 01 28 08.6 -0.4
I40A Norwalk 9.11 37 Pn 01 28 10.0 +0.9
SPMN Marine on St. 9.31 24 P Pn 01 28 12.7 +0.9
baz=208
SPMN Marine on St. 9.31 24 Pn 01 28 12.6 +0.8
SFIN Lafayette 9.38 65 P Pn 01 28 13.7 +0.9
baz=251
BLO Bloomington 9.51 72 Pn 01 28 14.7 +0.2
WCI Wyandotte Cave 9.56 78 P Pn 01 28 15.6 +0.3
baz=265
WCI Wyandotte Cave 9.56 78 Pn Pn 01 28 16.3 +1.0
CLTN Cedars of Leba 9.60 91 Pn Pn 01 28 16.5 +0.8
F36A Milaca 9.67 20 Pn 01 28 17.2 +0.5
LRAL Lakeview Retre 9.95 109 P Pn 01 28 20.7 0.0
baz=296
LRAL Lakeview Retre 9.95 109 Pn Pn 01 28 21.0 +0.4
U49A Red Boiling Sp 9.99 88 Pn 01 28 22.1 +1.0
SWET Sewanee 10.07 96 Pn 01 28 23.2 +0.9
G40A Rib Lake 10.36 33 Pn 01 28 26.6 +0.5
P48A Milroy 10.40 72 Pn 01 28 26.2 -0.5
FPAL Fort Paine 10.50 99 Pn 01 28 28.4 +0.2
BW06 Boulder Array 10.54 308 P Pn 01 28 27.7 -1.2
baz=121
PD31 Pinedale Array 10.54 308 Pn Pn 01 28 28.1 -0.8
PDAR Pinedale Array 10.54 308 Pn Pn 01 28 28.5 -0.4
0.3nm,0.3s,baz=122,slow=14,SNR=9.2
PDAR Pg 01 29 10.5
0.8nm,0.3s,baz=118,slow=16,SNR=4.7
PDAR Lg Lg 01 31 23.1
1.1nm,0.3s,baz=106,slow=32,SNR=2.1
CPCT Cooper Cave 11.15 93 Pn 01 28 37.2 +0.2
V51A Loudon 11.23 91 Pn Pn 01 28 39.0 +0.9
O49A Covington 11.37 69 Pn 01 28 39.5 -0.5
COWI Conover 11.47 33 Pn 01 28 40.9 -0.5
AGMN Agassiz Nation 11.57 8 P Pn 01 28 40.4 -2.3
baz=190
AGMN Agassiz Nation 11.57 8 Pn Pn 01 28 40.9 -1.8
N49A Columbus Grove 11.66 65 Pn 01 28 43.0 -1.0
S51A Beattyville 11.68 82 Pn 01 28 44.8 +0.6
TKL Tuckaleechee C 11.71 92 Pn Pn 01 28 45.4 +0.6
2.5nm,0.3s,baz=226,slow=8.0,SNR=46
TKL Sn Sn 01 30 56.0 +0.8
0.7nm,0.3s,baz=112,slow=18,SNR=1.9
TKL Lg Lg 01 32 01.5
3.2nm,0.3s,baz=177,slow=23,SNR=6.1
TKL Tuckaleechee C 11.71 92 Pn 01 28 45.1 +0.4
V52A Sevierville 11.83 90 Pn 01 28 46.4 +0.1
Q51A Peebles 11.94 75 Pn 01 28 47.5 -0.3
EYMN Ely 12.15 22 P Pn 01 28 47.8 -2.8
baz=206
ACSO Alum Creek Sta 12.39 70 P Pn 01 28 52.9 -1.0
baz=259
ACSO Alum Creek Sta 12.39 70 Pn 01 28 53.0 -1.0
GOGA Godfrey 12.54 102 P Pn 01 28 55.1 -0.9
baz=290
T53A Wise 12.55 85 P Pn 01 28 55.5 -0.7
baz=274
O51A Pataskala 12.66 70 P Pn 01 28 56.0 -1.6
baz=260,SNR=6.8
E43A Lone Tree Farm 12.68 38 Pn Pn 01 28 56.2 -1.6
Q52A Bidwell 12.77 76 P Pn 01 28 58.5 -0.7
baz=265
S53A Williamson 12.84 81 P Pn 01 28 59.0 -1.2
baz=271
R53A Hurricane 12.98 79 P Pn 01 29 01.4 -0.7
baz=268
N51A Ashland 12.99 67 P Pn 01 29 00.6 -1.5
baz=257,SNR=6.7
N51A Ashland 12.99 67 Pn Pn 01 29 00.6 -1.5
X54A Belton 13.07 95 P Pn 01 29 00.3 -3.0
baz=285
W54A Cherokee Point 13.10 93 P Pn 01 29 03.2 -0.5
baz=282
V54A Nebo 13.16 90 P Pn 01 29 02.7 -1.8
baz=279
U54A Nelsons Funny 13.16 87 P Pn 01 29 01.7 -2.8
baz=276
O52A Adamsville 13.24 71 P Pn 01 29 03.8 -1.8
baz=261
T54A Tazewell 13.31 84 P Pn 01 29 05.6 -1.0
baz=274
Q53A Leroy 13.34 76 P Pn 01 29 06.5 -0.4
baz=266
S54A Dingess, Beckl 13.48 81 P Pn 01 29 07.7 -1.2
baz=271
S54A Dingess, Beckl 13.48 81 Pn Pn 01 29 07.7 -1.2
P53A Whipple 13.49 74 P Pn 01 29 06.7 -2.4
baz=264
ULM Lac du Bonnet 13.51 6 Pn Pn 01 29 04.8 -4.4
1.0nm,0.3s,baz=190,slow=8.5,SNR=2.6
ULM Sn Sn 01 31 27.5 -11
1.6nm,0.3s,baz=287,slow=20,SNR=3.7
ULM Lg Lg 01 32 52.0
1.0nm,0.3s,baz=125,slow=16,SNR=3.3
Y55A Saluda 13.65 97 P Pn 01 29 10.1 -1.1
baz=287
O53A New Philadelph 13.73 70 P Pn 01 29 10.3 -1.9
baz=261
V55A Taylorsville 13.74 89 P Pn 01 29 12.2 -0.2
baz=279
KMSC Kings Mountain 13.77 92 P Pn 01 29 12.0 -0.8
baz=282
U55A TA2, Sparta 13.78 86 P Pn 01 29 12.0 -1.0
baz=276
M52A Chesterland 13.88 65 P Pn 01 29 13.4 -0.9
baz=256
T55A Pulaski 13.94 84 P Pn 01 29 13.9 -1.2
baz=274
N53A Lisbon 14.11 68 P Pn 01 29 14.0 -3.4
baz=259
S55A Lewisburg 14.13 81 P Pn 01 29 16.8 -0.9
baz=272

P54A Burton 14.21 73 P Pn 01 29 17.6 -1.2
baz=264
BLA Blacksburg 14.22 83 P Pn 01 29 17.7 -1.2
baz=274
V56A Mocksville 14.32 89 P Pn 01 29 18.2 -2.1
baz=279
M53A Wi Miller and 14.36 66 P Pn 01 29 18.7 -2.1
baz=257
R55A Marlinton 14.42 79 P Pn 01 29 20.6 -1.2
baz=270
T56A Rocky Mt 14.54 84 P Pn 01 29 22.2 -1.2
baz=275
D46A Sault St. Mari 14.55 42 P Pn 01 29 22.4 -1.0
baz=231
E47A Iron Bridge 14.70 45 P Pn 01 29 22.9 -2.6
baz=234
F48A Evansville 14.73 48 P Pn 01 29 24.2 -1.8
baz=238
R56A Bull Pasture M 14.98 78 P Pn 01 29 27.9 -1.6
baz=270
F49A Sandfield 15.04 49 P Pn 01 29 25.8 -4.3
baz=239
M54A Oil Creek Stat 15.11 66 P Pn 01 29 29.5 -1.6
baz=258
M54A Oil Creek Stat 15.11 66 Pn Pn 01 29 29.8 -1.3
D47A Chapleau 15.15 43 P Pn 01 29 28.4 -3.2
baz=233
U57A Blanch 15.16 86 P Pn 01 29 29.5 -2.2
baz=277
T57A Hurt 15.16 84 P Pn 01 29 30.2 -1.5
baz=275
E48A Lockeyer 15.35 46 P Pn 01 29 31.6 -2.6
baz=237
S57A Dark Hollow, R 15.35 81 P Pn 01 29 32.4 -1.9
baz=272
N55A Marion Center 15.49 69 P Pn 01 29 33.8 -2.2
baz=262
NVAR Mina Array Bea 16.00 282 Pn Pn 01 29 44.2 +1.4
0.0nm,0.3s,baz=102,slow=8.7,SNR=2.8
SADO Sadowa 16.44 55 Pn Pn 01 29 46.3 -1.9
0.1nm,0.3s,baz=271,slow=19,SNR=1.7
SADO Sn Sn 01 32 47.5 -2.8
0.4nm,0.3s,baz=8.6,slow=19,SNR=2.1
SADO Lg Lg 01 34 32.3
1.0nm,0.3s,baz=341,slow=19,SNR=6.8
TEIG Tepich 18.69 150 P Pn 01 30 18.9 +2.5
0.4nm,0.3s,baz=10,slow=11,SNR=1.6
CMIG Matias Romero 19.89 171 P Pn 01 30 32.4 +1.7
0.4nm,0.3s,baz=7.0,slow=8.3,SNR=2.7
YKA Yellowknife Ar 27.61 344 P P 01 31 45.9 +1.3
0.9nm,0.6s,baz=145,slow=8.4,SNR=4.3
ILAR Eielson Array 39.96 330 P P 01 33 34.1 +2.4
1.2nm,0.8s,baz=110,slow=7.3,SNR=12
ILAR Eielson Array 39.96 330 P P 01 33 31.5 -0.2
ARCES ARCESS Array B 66.28 19 P P 01 36 46.2 +0.9
1.9nm,0.9s,baz=311,slow=6.2,SNR=5.1
FINES FINESS Array B 72.15 25 P P 01 37 23.2 +1.4
1.5nm,0.7s,baz=347,slow=5.7,SNR=3.8
MAW Mawson 147.38 167 PKPbc PKPab 01 45 41.4 -0.7
1.4nm,0.6s,baz=283,slow=3.5,SNR=7.5
MAW Mawson 147.38 167 PKPbc 01 45 40.6 +0.4

*DDA **18** 01:30:10.3,37.01N×27.46E,h8km±1km,ML2.4*
*ISK **18** 01:30:10.1,36.99N×27.45E,h2km,ML2.6/14*
ISC 18 01:30:10.2±1.0,37.04N±0.03×27.55E±0.03,h5km±10km, n23,σ1s50/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.09	284	*i* P	Pg	01 30 12.5	+0.4
BDRM				*i* S	Sg	01 30 13.5	+0.1
BDRM				IAML		01 30 14.0	
	comp=E,4μm,0.2s						
BODT	Bodrum	0.19	275	PG	Pg	01 30 13.2	-0.8
BODT				SG	Sg	01 30 15.7	-0.9
DAT	Datca	0.32	176	PG	Pg	01 30 16.7	+0.4
DAT				SG	Sg	01 30 21.3	+0.8
DAT	Datca	0.32	176	*i* P	Pg	01 30 16.6	+0.2
DAT				*i* S	Sg	01 30 21.1	+0.6
YER	Yerkesik	0.59	81	PG	Pb	01 30 24.1	+1.0
TURN	Turunc	0.62	116	PG	Pg	01 30 23.8	-2.9
TURN	Turunc	0.62	116	*i* P	Pg	01 30 23.7	-3.0
TURN				*i* S	Sg	01 30 32.9	-5.0
TURN				IAML		01 30 35.0	
	comp=N,199nm,0.5s						
TURN				IAML		01 30 36.0	
	comp=E,178nm,0.4s						
AYDN	Tasoluk	0.67	23	*i* P	Pb	01 30 24.5	0.0
AYDN				*i* S	Sb	01 30 33.4	-0.7
AYDN				IAML		01 30 41.0	
	comp=N,166nm,0.4s						
GCAM	G?zelcaml?	0.70	339	PG	Pg	01 30 24.0	+0.3
GCAM	G?zelcaml?	0.70	339	*i* P	Pg	01 30 24.2	+0.5
GCAM				*i* S	Sg	01 30 32.7	-0.1
GCAM				IAML		01 30 38.0	
	comp=E,180nm,0.3s						
DALY	Dalyan (Mula)	0.91	104	PG	Pn	01 30 29.9	+0.2
DALY	Dalyan (Mula)	0.91	104	*i* P	Pn	01 30 29.9	+0.2
DALY				*i* S	Sg	01 30 40.1	+0.6
ARG	Arkhangelos	0.95	151	PG	Pn	01 30 29.3	-0.9
DGB	zmir	1.14	332	*i* P	Pb	01 30 31.6	-0.8
DGB				*i* S	Sb	01 30 45.6	-1.8
TAVA	DENIZLI_Tavas	1.17	68	*i* P	Pn	01 30 35.6	+2.3
TAVA				*i* S	Sn	01 30 50.9	+1.3
FETY	Fethiye	1.29	108	PN	Pg	01 30 36.9	+1.9
FETY	Fethiye	1.29	108	*i* P	Pg	01 30 37.0	+1.9
FETY				*i* S	Sg	01 30 52.3	+0.5
BLCB	Balcova	1.40	343	PN	Pg	01 30 37.9	+0.9
URLA	Izmir	1.52	330	PN	Pb	01 30 39.0	+0.1
APE	Apeiranthos	1.62	271	PN	Pn	01 30 39.2	-0.3
KULA	Kula-Manisa	1.71	31	PN	Pg	01 30 43.1	+0.1
AKAS	Kas	1.84	116	PN	Pb	01 30 44.9	+0.5
ELL	Elmali	1.91	98	PN	Pb	01 30 45.8	+0.1

*UCR **18** 01:35:53.2±1.6,6.68N×82.42W,h9km±442km,MD3.8*
*UPA **18** 01:35:54.0±1.2,6.55N×82.35W,h30km±7km,MW4.2*
ISC 18 01:35:51.1±2.1,6.5N±0.1×82.38W±0.05,h10km,n35, σ1s01/53,2C-6D,South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMAL	Guarumal, Vera	1.66	43	*i* P	Pn	01 36 20.4	0.0
GMAL				*i* S	Sn	01 36 40.3	-1.5
PVID3	Puerto Vidal,	1.68	27	*e* S	Sn	01 36 40.9	-1.3
CACAO	El Cacao, Vera	1.71	62	*i* P	Pn	01 36 20.7	-0.2
CACAO				*i* S	Sn	01 36 41.4	-1.4
CHIR3	Chiriqui UPA,	1.84	2	*e* P	Pn	01 36 23.3	+0.5
CHIR3				*e* S	Sn	01 36 45.7	-0.4
LOCO3	Loma Colorada,	1.86	359	*e* S	Sn	01 36 46.1	-0.4
RSUS3	Rio de Jesus,	1.88	40	*e* P	Pn	01 36 23.7	+0.5
RSUS3				*i* S	Sn	01 36 46.4	-0.6
BAGA3	Bagala, Chiriq	1.92	356	*e* P	Pn	01 36 24.0	+0.1
BAGA3				*e* S	Sn	01 36 48.0	0.0
PONU3	Ponuga, Veragu	1.93	46	*e* P	Pn	01 36 24.6	+0.6
CDITO	Canoas	2.08	346	*e* P	Pn	01 36 25.2	-0.8
PIRO	Carate, Puerto	2.08	333	*e* P	Pn	01 36 25.9	-0.2
PIRO				*e* S	Sn	01 36 52.3	+0.3
PIRO	Carate, Puerto	2.08	333	*e* P	Pn	01 36 24.9	-1.1
PSOM3	Paja de Sombre	2.13	2	*e* S	Sn	01 36 52.4	-1.0
BCO2	Palmira	2.17	356	*i* eP	Pn	01 36 28.4	+1.0
BCO2				*e* S	Sn	01 36 53.7	-0.8
BRU2	Volcan	2.26	352	*e* P	Pn	01 36 30.2	+1.6
BRU2				*e* S	Sn	01 36 56.8	+0.1
BC3P	Paso Ancho	2.27	354	*e* P	Pn	01 36 30.5	+1.6
BC3P				*i* S	Sn	01 36 57.0	0.0
MLIR3	Monte Lirio, C	2.28	349	*e* P	Pn	01 36 29.0	+0.1
MLIR3				*e* S	Sn	01 36 56.8	-0.3
EDSV	San Vito	2.34	346	*i* eP	Pn	01 36 30.1	+0.4
EDSV				*e* S	Sn	01 36 57.4	-1.1
CHGR2	Aguacate	2.39	6	*e* P	Pn	01 36 31.3	+0.5
CHGR2				*e* S	Sn	01 36 59.3	-0.8
RIOS	Rincon, Osa	2.42	332	*e* P	Pn	01 36 29.8	-0.9
AZU	Azuero	2.43	59	*i* P	Pn	01 36 31.5	+0.6
AZU				*i* S	Sn	01 36 59.3	-1.4
EDBA	Buenos Aires	2.75	341	*e* P	Pn	01 36 35.4	+0.1
DRK0	Durika	2.83	343	*i* P	Pn	01 36 36.9	+0.2
DRK0				*i* S	Sn	01 37 10.2	-0.8
DRK0	Durika	2.83	343	*e* P	Pn	01 36 36.6	0.0
CDM	Cerro de Muert	3.29	336	*e* P	Pn	01 36 43.0	-0.2
ZANG	Zanguenga, Cho	3.46	46	*e* P	Pn	01 36 46.8	+1.8
ZANG				*e* S	Sn	01 37 22.8	-3.3
RIMA	Rio Macho	3.52	335	*e* P	Pn	01 36 46.6	+0.5

LCR2 La Lucha 2 3.56 333 *e* P Pn 01 36 47.0 +0.4
BCIP Isla Barro Col 3.63 44 *e* P Pn 01 36 49.3 +2.0
BCIP *e* S Sn 01 37 31.2 +0.9
CVTR Volcan Turrial 3.71 339 *e* P Pn 01 36 50.1 +1.1
HDC Heredia 3.84 334 *i* P Pn 01 36 51.5 +1.1
HDC *i* S Sn 01 37 36.0 +0.3
LAFE Finca La Fe, P 4.10 323 *e* P Pn 01 36 53.7 -0.1
JTS Las Juntas de 4.51 326 *e* P Pn 01 37 00.2 +0.6
JTS *i* S Sn 01 37 51.0 -1.1
JTS Las Juntas de 4.51 326 *e* P Pn 01 37 00.1 +0.6
CUI Cuipilapa 4.93 326 *e* P Pn 01 37 06.8 +1.5
SOLC Bahia Solano 4.95 93 *e* P Pn 01 37 06.7 +1.1

*TEH **18** 02:02:48.5,37.65N×48.83E,h8km,ML3.5*
*THR **18** 02:02:49.1±0.6,37.64N×48.81E,h14km±7km,ML3.3*
ISC 18 02:02:49.2±1.3,37.68N±0.03×48.80E±0.04,h1km±15km, n38,σ1s21/44,Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASTR	Astara	0.88	359	*e* P	Pb	02 03 07.0	-0.4
ISRB	Sarab	0.91	280	*e*		02 03 11.4	
ISRB				*e* Pg	Pg	02 03 06.9	+0.2
ZNJK	Zanjan	1.01	185	*e* P	Pg	02 03 07.8	-0.7
ZNJK				*e* Sg	Sg	02 03 12.6	-1.0
ZNJK	Zanjan	1.01	185	*e* P	Pg	02 03 07.8	-0.7
LKRN	Lenkeran, Azer	1.03	359	*e* P	Pg	02 03 09.8	-0.1
LRK	Lerik	1.03	339	*e* P	Pg	02 03 09.2	+0.2
QSDN	Sirdan	1.21	166	*e* P	Pb	02 03 11.3	-1.7
QSDN				*e*	Sb	02 03 28.5	-0.7
YRD	Yardimli	1.32	341	*e* Pn	Pn	02 03 14.1	-0.9
GRMI	Germi	1.34	328	*e* P	Pn	02 03 14.8	-0.5
GRMI				*e* Sg	Sg	02 03 33.0	+0.7
GRMI				IAML		02 03 34.5	
	comp=E,424nm,0.3s						
GRMI	Germi	1.34	328	*e* Pg	Pn	02 03 14.8	-0.5
IHSH	Hashtrud	1.37	298	*e* Pg	Pn	02 03 13.0	-2.9
IHRS	Heris	1.53	295	*e* Pg	Pn	02 03 18.0	0.0
IHRS				*e*		02 03 20.4	
AHAR	Ahar	1.60	301	*e* Pg	Pb	02 03 19.2	-0.6
AHAR				*e*		02 03 21.3	
IGZV	Ghazvin	1.71	138	*e* Pg	Pb	02 03 20.6	-1.1
IGZV				*e*		02 03 21.9	
QALM	Alamut, Qazvin	1.93	130	*e* Pn	Pn	02 03 23.1	-0.3
QALM				*e*	Sg	02 03 54.7	+3.5
QABG	Abgarm-Qazvin	2.06	162	*e* Pn	Pn	02 03 24.5	-0.7
QRD	Qoradiz	2.13	327	*e* Pn	Pn	02 03 26.7	+0.7
ITBZ	Tabriz	2.17	286	*e* Pn	Pb	02 03 30.2	+0.7
IAZR	Azarshahr	2.24	271	*e* Pn	Pn	02 03 28.9	+1.2
IAZR				*e*		02 04 07.6	
IRAZ	Razeghan	2.44	158	*e* Pn	Pn	02 03 30.4	-0.1
IRAZ				*e*		02 04 06.6	
HSRG	Sareghieh	2.46	190	*e* Pn	Pn	02 03 31.2	+0.3
HSRG				*e*	Sg	02 04 08.4	-0.1
IMHD	Mahdasht	2.49	142	*e* Pn	Pn	02 03 31.8	+0.8
CHTH	Charan	2.57	133	*e* Pn	Pn	02 03 32.2	0.0
CHTH				*e* Sg	Sb	02 04 08.6	+0.2
CHTH	Charan	2.57	133	*e* Pn	Pn	02 03 32.2	0.0
MAHB	Mahabad	2.63	251	*e* Pn	Pn	02 03 34.7	+1.6
IMRD	Marand	2.65	294	*e* Pn	Pb	02 03 35.8	-1.9
IMRD				*e*		02 03 43.7	
IALM	Almabolaq	2.86	191	*e* Pn	Pn	02 03 37.1	+0.9
HAGD	Aghdareh	2.86	174	*e* Pn	Pn	02 03 36.8	+0.6
ILIN	Lien	3.13	209	*e* Pn	Pn	02 03 41.0	+1.1
IPRN	Peran	3.17	116	*e* Pn	Pn	02 03 40.1	-0.3
IBZA	Bozab	3.29	194	*e* Pn	Pn	02 03 43.5	+1.3
IDHR	Dehrash	3.56	214	*e* Pn	Pn	02 03 47.0	+1.2
IKOM	Komasi	3.65	197	*e* Pn	Pn	02 03 49.0	+2.0
IFIR	Firoozkooh	3.77	121	*e* Pn	Pn	02 03 50.5	+1.7
IGHG	Ghaleghazi	3.80	209	*e* Pn	Pn	02 03 50.5	+1.3
IDOB	Doab	3.91	188	*e* Pn	Pn	02 03 52.6	+1.9
ISHM	Shahmirzad	4.06	116	*e* Pn	Pn	02 03 53.6	+0.8
IGLO	Ghaloghah	4.19	105	*e* Pn	Pn	02 03 54.5	0.0

*GII **18** 02:02:53.1±0.0,35.27N×37.26E,h1km,MD3.0/2,Mm2.8/2*
*NIC **18** 02:02:54.6±0.0,34.81N×37.73E,h30km±31km,Ml3.3/3*
*DDA **18** 02:02:57.8,35.28N×37.49E,h14km±1km,ML3.3*
*GRAL **18** 02:02:59.1±0.4,34.96N×37.25E,h8km±8km,MD3.5*
ISC 18 02:02:52.9±1.3,35.10N±0.03×37.64E±0.04,h10km±11km, n50,σ1s73/69,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YAYL	Yayladag	1.56	307	*i* P	Pg	02 03 23.8	+1.0
YAYL				*i* S	Sb	02 03 42.9	+1.2
HWQ	Hawqa	1.62	240	*e* P	Pn	02 03 21.2	-0.5
HWQ				*e* S	Sn	02 03 37.7	-4.9
KUZU	Kuzuini	1.73	345	*i* P	Pg	02 03 26.9	+0.8
KUZU				*i* S	Sg	02 03 48.3	-0.2
KUZU				IAML		02 03 55.0	
	comp=N,624nm,0.4s						
KUZU				IAML		02 03 55.0	
	comp=E,897nm,0.3s						
SURC	SANLIURFA_SURC	1.94	24	*i* P	Pg	02 03 31.3	+1.2
SURC				*i* S	Sg	02 03 56.7	+1.4
SURC				IAML		02 04 10.0	
	comp=E,256nm,0.3s						
SURC				IAML		02 04 11.0	
	comp=N,230nm,0.2s						
BHL	Bhannes	2.03	234	*e* P	Pn	02 03 27.8	+0.5
BHL				*e* S	Sn	02 03 48.6	-4.1
GAZ	Gaziantep	2.09	351	*e* P	Pg	02 03 32.5	-0.6
GAZ	Gaziantep	2.09	351	P	Pg	02 03 31.9	-1.1
GAZ				S	Sg	02 04 01.3	+1.1
GAZ				AML	AML	02 04 11.3	
	comp=N,0.5nm,0.6s						
GAZ				AML	AML	02 04 11.3	
	comp=N,0.5nm,0.6s						
GAZ				AML	AML	02 04 11.7	
	comp=N,0.8nm,0.4s						
GAZ				AML	AML	02 04 11.7	
	comp=N,0.8nm,0.4s						
RCY	Rachaya	2.19	223	*e* P	Pn	02 03 30.2	+0.7
DQRL	Deir Qamar	2.21	231	*e* P	Pn	02 03 30.3	+0.6
DQRL				*e* S	Sn	02 03 53.4	-3.6
KAMA	Osmaniye	2.22	340	*i* P	Pb	02 03 33.9	+0.6
KAMA				*i* S	Sb	02 04 01.7	+0.9
QRWL	Qaraoun	2.24	227	*e* P	Pn	02 03 31.0	+0.8
GZT	Gaziantep	2.25	358	*i* P	Pg	02 03 34.5	-1.6
GZT				*i* S	Sg	02 04 04.8	-0.4
GZT				IAML		02 04 18.0	
	comp=E,181nm,0.3s						
GZT				IAML		02 04 21.0	
	comp=N,226nm,0.5s						
SANL	SANLIURFA_Merk	2.33	28	*i* P	Pg	02 03 38.4	+0.8
SANL				*i* S	Sg	02 04 08.0	0.0
KRTS	Karatas	2.35	309	*e* P	Pn	02 03 36.9	+1.5
SHBL	Chebaa	2.35	222	*e* P	Pn	02 03 32.5	+0.7
YURE	YUREGIR	2.37	317	*i* P	Pb	02 03 36.6	+0.9
YURE				*i* S	Sb	02 04 05.6	+0.7
NATI	Neve Ativ	2.42	221	Pn	Pn	02 03 33.3	+0.8
NATI				Sn	Sn	02 04 03.2	+1.0
URFA	Urfa	2.52	22	*e* P	Pg	02 03 39.8	-1.4
ANDN	Andirin	2.68	337	*i* P	Pb	02 03 41.0	-0.1
ANDN				*i* S	Sn	02 04 10.2	+1.4
KOZT	Kozan	2.79	329	*e* P	Pb	02 03 41.8	-1.0
MMA0B	Mount Meron ar	2.79	222	Pn	Pn	02 03 38.6	+0.9
MMA0B				Sn	Sn	02 04 12.4	+1.0
SHMJ	Saham	2.84	214	Pn	Pn	02 03 39.6	+1.3
PARAL	Paralimni	2.95	269	S	Sn	02 04 16.4	+1.1
DED	Mersin	2.96	310	*i* P	Pb	02 03 43.7	-1.9
DED				*i* S	Sn	02 04 15.4	-0.1
ASF	Jabal al Asfar	2.99	192	P	Pn	02 03 42.2	+1.8
	comp=N,0.2nmcomp=N,30nm,0.7s						
KARA	Karaisali	3.00	317	*e* P	Pb	02 03 44.6	-1.8
SAIM	ADANA	3.13	337	*i* P	Pb	02 03 47.3	-1.4
SAIM				*i* S	Sb	02 04 23.3	-3.6
KIZK	Mersin	3.15	297	*e* P	Pn	02 03 45.4	+2.8
MMLI	Mount Malkishu	3.24	215	P	Pn	02 03 45.4	+1.6
	comp=N,29nm,0.5s						
MMLI	Mount Malkishu	3.24	215	Pn	Pn	02 03 44.4	+0.6
MMLI	Mount Malkishu	3.24	215	P	Pn	02 03 42.2	-1.7
MMLI				AML	AML	02 04 41.2	
	comp=N,0.2nm,0.8s						
QRNJ	Al-Qirein	3.25	212	Pn	Pn	02 03 45.2	+1.3
MVOU	Mavrovouni	3.29	270	P	Pn	02 03 46.2	+1.7
MVOU				AML	AML	02 04 49.9	
	comp=N,0.1nm,1.1s						
OFRI	`Ofer	3.32	222	Pn	Pn	02 03 46.0	+1.1

CMRD	**Camardi-Nigde**	**3.33**	**321**	*e*P	**Pb**	02 03 49.8	-2.3
HMDT	**Nahal Hemdat**	**3.34**	**212**	Pn	**Pn**	02 03 46.1	+0.9
HMDT				Sn	**Sn**	02 04 27.6	+2.6
IKL	**Isikli**	**3.41**	**291**	*e*P	**Pn**	02 03 47.7	+1.5
AKKU	**Akkuyu-Mersin**	**3.49**	**289**	*e*P	**Pn**	02 03 48.8	+1.5
YAHY	**KAYSERI_Yahyal**	**3.50**	**329**	*i* P	**Pb**	02 03 51.4	-3.7
YAHY				*i* S	**Sn**	02 04 28.9	-0.1
ELZG	**Elazig**	**3.56**	**17**	*i* P	**Pb**	02 03 54.4	-1.6
ELZG				*i* S	**Sb**	02 04 37.6	-1.6
ELZG				IAML		02 05 04.0	
	comp=E,62nm,0.8s						
ELZG				IAML		02 05 06.0	
	comp=N,58nm,0.6s						
ASGA	**Asgata**	**3.62**	**266**	P	**Pn**	02 03 50.3	+1.3
TEKE	**Tekeli-Mersin**	**3.83**	**287**	*e*P	**Pn**	02 03 53.3	+1.4
SZAC	**Souni**	**3.92**	**266**	P	**Pn**	02 03 54.3	+1.1
DSI	**Dead Sea**	**4.00**	**209**	Pn	**Pn**	02 03 55.7	+1.4
ALFC	**Alefka**	**4.13**	**272**	P	**Pn**	02 03 57.1	+1.0
GHAJ	**Ghor Haditha**	**4.17**	**205**	P	**Pb**	02 04 04.9	-1.5
GHAJ	**Ghor Haditha**	**4.17**	**205**	Pn	**Pn**	02 03 58.2	+1.6
GHAJ				Sn	**Sn**	02 04 49.1	+3.8
KARJ	**KARJ**	**4.31**	**203**	Pn	Pn	02 03 49.8	-8.7
AKMS	**Akamas**	**4.35**	**270**	P	**Pn**	02 04 00.2	+1.1
KZIT	**Kziot**	**4.99**	**214**	Pn	**Pn**	02 04 09.1	+1.2

IDC 18 02:20:38.6±8.0, 16°.83S×176°.19W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/24, mbtmp3.9/3, MS2.8/1, Ms1 2.8/1, ms1mx2.7/40, Error ellipse: s-maj=352.8km s-min=36.0km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.15**	**56**	LR	LR	02 23 32.4	
	comp=Z,94nm,18.1s,baz=129,slow=34						
WRA	**Warramunga Arr**	**46.92**	**258**	P	P	02 29 10.7	-0.6
	0.2nm,0.4s,baz=96,slow=6.1,SNR=5.4						
ASAR	**Alice Springs**	**47.13**	**253**	P	P	02 29 13.1	+0.2
	2.2nm,0.4s,baz=84,slow=8.4,SNR=34						
ILAR	**Eielson Array**	**84.38**	**12**	P	P	02 33 12.4	+0.1
	0.6nm,0.5s,baz=226,slow=5.8,SNR=7.4						

PDG ***18*** *02:32:01.8, 32°.20N×47°.60E, h33km, mb6.2/8*
MOS ***18*** *02:32:03.5±1.1, 32°.62N×47°.67E, h12km, mb6.1/140, MS6.0/100, Error ellipse: s-maj=3.9km s-min=2.4km az=115.6*
BJI ***18*** *02:32:03.0±0.0, 32°.74N×47°.63E, h10km, mB6.1/73, mb5.9/86, Ms6.4/99, Ms7 6.2/89*
TEH ***18*** *02:32:04.1, 32°.71N×47°.64E, h10km, ML6.2*
ISN ***18*** *02:32:04.8±0.8, 32°.72N×47°.63E, h14km±5km, ML6.0*
NEIC ***18*** *02:32:04.2±1.0, 32°.66N±0°.04×47°.67E±0°.05, h6km±1km, Error ellipse: s-maj=7.4km s-min=5.5km az=63.0*
TIR ***18*** *02:32:05.0, 32°.58N×47°.62E, h10km, Md6.2/7*
NEIC ***18*** *02:32:05.4, 32°.79N×47°.70E, h4km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.86; Mθθ-0.69; Mφφ-0.17; Mrθ2.00; Mrφ0.63; Mθr-1.23; Fault plane solution: M₀2.55000×10¹⁸ NP1:φs121.08000°, δ78.57000°, λ88.53000°. NP2:φs308.47000°, δ11.52000°, λ97.24000°. Principal axes: T 2.4163, Plg56.0000°, Azm29.0000°; N 0.2436, Plg1.0000°, Azm121.0000°; P -2.6599, Plg34.0000°, Azm212.0000°;*
GII ***18*** *02:32:05.2±0.0, 32°.58N×47°.62E, h10km*
IDC ***18*** *02:32:05.5±1.4, 32°.75N×47°.73E, h12km±8km, mb5.4/40, mb1 5.5/45, mb1mx5.4/47, mbtmp5.5/45, ML5.5/4, MS6.0/42, Ms1 6.0/42, ms1mx5.8/56, Error ellipse: s-maj=10.1km s-min=8.8km az=162.0*
OMAN ***18*** *02:32:06.2, 32°.40N×47°.59E, h10km, mb7.0/27, ms5.8/8, Mwp6.0/18*
THR ***18*** *02:32:06.0±0.4, 32°.65N×47°.72E, h15km±6km, ML6.2*
DSN ***18*** *02:32:08.0±0.7, 32°.56N×48°.03E, h10km, mb6.2/4, Ms5.8/5, Error ellipse: s-maj=13.7km s-min=6.8km az=53.0*
GCMT ***18*** *02:32:09.3±0.0, 32°.59N×47°.53E, h12km, MW6.2/166, Moment Tensor Solution. s153,c331; s166,c555; Duration: 3ₜ1 Moment tensor: Scale 10¹⁸Nm; Mrr1.59±.01; Mθθ-1.42±.01; Mφφ-0.17±.01; Mrθ1.49±.03; Mrφ1.44±.01; Mθr-0.65±.03; Best double couple: M₀2.57000×10¹⁸ NP1:φs317.00000°, δ27.00000°, λ111.00000°. NP2:φs114.00000°, δ65.00000°, λ80.00000°. Principal axes: T 2.2050, Plg68.0000°, Azm5.0000°; N 0.7300, Plg9.0000°, Azm119.0000°; P -2.9360, Plg20.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***18*** *02:32:12, 32°.63N×47°.52E, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.41; Mθθ-1.38; Mφφ-0.03; Mrθ1.68; Mrφ1.56; Mθr-0.62; Fault plane solution: M₀2.76000×10¹⁸ NP1:φs327.00000°, δ27.00000°, λ125.00000°. NP2:φs109.00000°, δ68.00000°, λ74.00000°. Principal axes: T 2.2043, Plg63.0000°, Azm352.0000°; N 0.8851, Plg15.0000°, Azm115.0000°; P -3.0894, Plg21.0000°, Azm211.0000°;*
BGR ***18*** *02:32:14.2±0.0, 32°.95N×45°.89E, h10km, mb5.8, Ms5.6*
NEIC ***18*** *02:32:15, 32°.64N×47°.55E, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.64; Mθθ-1.21; Mφφ-0.42; Mrθ2.04; Mrφ0.97; Mθr-1.10; Fault plane solution: M₀2.92000×10¹⁸ NP1:φs310.00000°, δ19.00000°, λ100.00000°. NP2:φs119.00000°, δ72.00000°, λ87.00000°. Principal axes: T 2.8005, Plg63.0000°, Azm24.0000°; N 0.2170, Plg3.0000°, Azm120.0000°; P -3.0175, Plg26.0000°, Azm212.0000°;*

ISC 18 02:32:05.8±0.3, 32.71N±0°.02×47.71E±0°.02, h13km±1km, h13km: pP-P, n2396, σ1985/2540, mb5.9/422, MS6.1/578, 158C-66D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.82**	**8**	*e*Pg	**Pg**	02 32 20.3	-1.5
IKFM	**Kafar-mosalman**	**0.82**	**8**	Pg	**Pg**	02 32 20.8	-1.0
IKMR	**Kamar-syah**	**0.98**	**34**	*e*Pg	**Pb**	02 32 24.0	-0.7
IKMR	**Kamar-syah**	**0.98**	**34**	Pg	**Pb**	02 32 24.7	0.0
IDOB	**Doab**	**1.15**	**20**	*e*Pg	**Pb**	02 32 26.5	-1.1
IDOB	**Doab**	**1.15**	**20**		**Pg**	02 32 28.9	+1.0
BMDN	**Meydan**	**1.34**	**44**	*e*Pg	**Pn**	02 32 30.5	+0.1
BMDN	**Meydan**	**1.34**	**44**		**Pg**	02 32 32.0	+0.4
IKOM	**Komasi**	**1.48**	**353**	*e*Pg	**Pg**	02 32 32.7	+0.5
IKOM	**Komasi**	**1.48**	**353**		**Pg**	02 32 34.4	+0.2
IBDR	**Badra**	**1.55**	**286**	*e*Pg	**Pn**	02 32 32.0	-1.1
IBDR				*e*Sg	**Sn**	02 32 51.5	-1.6
IBDR				AML	AML	02 33 02.1	
	comp=N,253μm,0.7s						
IBDR				AML	AML	02 33 02.5	
	comp=E,201μm,0.4s						
AHWZ	**Ahwaz**	**1.58**	**150**	*e*Pg	**Pg**	02 32 35.7	-0.5
AHWZ				*e*Sg	**Sg**	02 32 59.9	+3.1
AHWZ	**Ahwaz**	**1.58**	**150**	Pg	**Pg**	02 32 37.0	+0.8
KCHF	**Cheshme Sefid,**	**1.66**	**340**	*e*Pg	**Pb**	02 32 36.4	0.0
KCHF	**Cheshme Sefid,**	**1.66**	**340**	Pg	**Pb**	02 32 36.8	+0.4
HSAM	**Samen**	**1.68**	**26**	*e*Pn	**Pb**	02 32 36.3	-0.4
HSAM	**Samen**	**1.68**	**26**	Pn	**Pb**	02 32 37.2	+0.5
KER	**Kermanshah**	**1.74**	**344**	P	**Pg**	02 32 38.6	-0.7
KER	**Kermanshah**	**1.74**	**344**	*e*Pn	**Pb**	02 32 37.4	-0.4
IBZA	**Bozab**	**1.76**	**4**	*e*Pg	**Pb**	02 32 38.6	+0.4
IBZA	**Bozab**	**1.76**	**4**	Pn	**Pg**	02 32 39.3	-0.4
IGHG	**Ghaleghazi**	**1.88**	**330**	*e*Pn	**Pb**	02 32 39.1	-1.1
IGHG	**Ghaleghazi**	**1.88**	**330**	Pn	**Pb**	02 32 39.8	-0.4
IVIS	**Veis**	**1.95**	**339**	*e*Pn	**Pb**	02 32 40.3	-1.0
IVIS	**Veis**	**1.95**	**339**	Pg	**Pb**	02 32 40.7	-0.6
NSR	**Nassriya**	**2.16**	**219**	*e*Pn	**Pn**	02 32 41.0	-0.4
NSR				*e*Sn	**Sn**	02 33 07.0	-1.0
IALM	**Almabolaq**	**2.18**	**10**	*e*Pn	**Pb**	02 32 44.7	-0.6
IDHR	**Dehrash**	**2.28**	**331**	*e*Pn	**Pn**	02 32 44.3	+1.0
IDHR	**Dehrash**	**2.28**	**331**	Pn	**Pn**	02 32 44.9	+1.6
ILIN	**Lien**	**2.29**	**344**	*e*Pn	**Pn**	02 32 45.0	+1.4
ILIN	**Lien**	**2.29**	**344**	Pn	**Pb**	02 32 45.6	-1.6
HAGD	**Aghdareh**	**2.42**	**29**	*e*Pn	**Pb**	02 32 47.7	-1.7
HAGD	**Aghdareh**	**2.42**	**29**	Pn	**Pb**	02 32 48.3	-1.1
JHBN	**Jahan bin**	**2.54**	**100**	*e*Pn	**Pn**	02 32 48.9	+1.9
JHBN	**Jahan bin**	**2.54**	**100**	Pn	**Pb**	02 32 49.3	-2.1
HSRG	**Sareghieh**	**2.57**	**10**	*e*Pn	**Pn**	02 32 49.6	+2.1
HSRG	**Sareghieh**	**2.57**	**10**	Pn	**Pb**	02 32 50.2	-1.8
ASAO	**Ashtian**	**2.67**	**46**	*e*Pn	**Pb**	02 32 51.4	-2.2
ASAO				*e*Sg	**Sg**	02 33 30.7	-0.7
ASAO	**Ashtian**	**2.67**	**46**	Pn	**Pn**	02 32 51.0	+2.3
ASAO				Sg	**Sg**	02 33 30.0	-1.5
ROKH	**ROKH**	**2.83**	**96**	*e*Pn	**Pn**	02 32 53.0	+2.1
ROKH	**ROKH**	**2.83**	**96**	Pn	**Pn**	02 32 53.3	+2.4
BHD	**Baghdad**	**2.86**	**282**	*e*Pn	**Pn**	02 32 50.5	-0.6
BHD				*e*Sn	**Sn**	02 33 25.0	-0.3
IBRJ	**Brojen**	**3.11**	**104**	*e*Pn	**Pn**	02 32 56.5	+1.7
IBRJ	**Brojen**	**3.11**	**104**	Pn	**Pn**	02 32 56.7	+1.9
IRAZ	**Razeghan**	**3.26**	**34**	*e*Pn	**Pn**	02 33 00.2	+3.3
IRAZ	**Razeghan**	**3.26**	**34**	Pn	**Pb**	02 33 00.5	-3.2
QABG	**Abgarm-Qazvin**	**3.37**	**27**	*e*Pn	**Pn**	02 33 00.1	+1.7
IMHD	**Mahdasht**	**3.85**	**39**	*e*Pn	**Pn**	02 33 06.5	+1.6
IMHD	**Mahdasht**	**3.85**	**39**	Pn	**Pn**	02 33 07.4	+2.5
QSDN	**Sirdan**	**3.98**	**17**	*e*Pn	**Pn**	02 33 09.2	+2.5
IHSB	**Hasanabad**	**4.02**	**46**	*e*Pn	**Pn**	02 33 09.7	+2.5
ZNJK	**Zanjan**	**4.04**	**11**	*e*Pn	**Pn**	02 33 10.3	+2.8
ZNJK	**Zanjan**	**4.04**	**11**	*e*Pn	**Pn**	02 33 10.3	+2.8
ZNJK	**Zanjan**	**4.04**	**11**	Pn	**Pn**	02 33 10.0	+2.5
IGZV	**Ghazvin**	**4.21**	**29**	*e*Pn	**Pn**	02 33 12.3	+2.3
IGZV	**Ghazvin**	**4.21**	**29**	Pn	**Pn**	02 33 12.3	+2.3
CHTH	**Charan**	**4.26**	**41**	*e*Pn	**Pn**	02 33 13.2	+2.5
CHTH				*e*Sg	**Sg**	02 34 19.5	-3.3
CHTH	**Charan**	**4.26**	**41**	*e*Pn	**Pn**	02 33 13.2	+2.5
CHTH	**Charan**	**4.26**	**41**	Pn	**Pn**	02 33 13.0	+2.3
CHTH				Sg	**Sg**	02 34 19.0	-3.8
TEH	**Tehran**	**4.29**	**44**	P	**Pn**	02 33 13.3	+2.4
TEH	**Tehran**	**4.29**	**44**	*e*Pn	**Pn**	02 33 13.3	+2.4
MAHB	**Mahabad**	**4.38**	**338**	*e*Pn	**Pn**	02 33 13.4	+1.3
QALM	**Alamut, Qazvin**	**4.44**	**32**	*e*Pn	**Pn**	02 33 14.7	+1.7
QALM	**Alamut, Qazvin**	**4.44**	**32**	Pn	**Pn**	02 33 15.2	+2.2
KAZ1	**Kazerun**	**4.55**	**131**	*e*Pn	**Pn**	02 33 15.7	+1.2
IDMV	**Damavand**	**4.59**	**50**	*e*Pn	**Pn**	02 33 17.4	+2.3
IDMV	**Damavand**	**4.59**	**50**	Pn	**Pn**	02 33 17.5	+2.3
ANAR	**Anarak**	**5.08**	**83**	*e*Pn	**Pn**	02 33 22.6	+0.8
IFIR	**Firoozkooh**	**5.10**	**54**	*e*Pn	**Pn**	02 33 24.0	+1.8
ILAS	**Lasjerd**	**5.11**	**57**	*e*Pn	**Pn**	02 33 25.2	+2.9
ISRB	**Sarab**	**5.11**	**360**	*e*Pn	**Pn**	02 33 25.0	+2.8
ISAD	**Sadrabad**	**5.12**	**97**	*e*Pn	**Pn**	02 33 23.6	+1.2
SHI	**Shiraz**	**5.12**	**125**	*e*Pn	**Pn**	02 33 23.3	+0.9
IPRN	**Peran**	**5.20**	**46**	*e*Pn	**Pn**	02 33 26.8	+3.4
IALA	**Alasht**	**5.39**	**50**	*e*Pn	**Pn**	02 33 29.3	+3.0
TABZ	**Tabriz**	**5.46**	**348**	*e*Pn	**Pn**	02 33 29.3	+2.3
ISHM	**Shahmirzad**	**5.56**	**55**	*e*Pn	**Pn**	02 33 31.4	+2.9
IHSH	**Hashtrud**	**5.60**	**356**	*e*Pn	Pn	02 33 18.2	-11
IHRS	**Heris**	**5.63**	**355**	*e*Pn	**Pn**	02 33 31.9	+2.5
CUKT	**Cukurca**	**5.65**	**325**	P	**Pn**	02 33 29.4	-0.2
ITBZ	**Tabriz**	**5.66**	**347**	*e*Pn	**Pn**	02 33 32.3	+2.5
ICHK	**Chekchek**	**5.68**	**93**	*e*Pn	**Pn**	02 33 31.3	+1.2
AHAR	**Ahar**	**5.80**	**355**	*e*Pn	**Pn**	02 33 34.2	+2.6
IANJ	**Anjilo**	**5.84**	**60**	*e*Pn	**Pn**	02 33 33.6	+1.3
HAKT	**HAKKARI**	**5.85**	**327**	*e*Pn	**Pn**	02 33 32.3	-0.1
IMEH	**Mehriz**	**6.00**	**101**	*e*Pn	**Pn**	02 33 35.2	+0.6
LKRN	**Lenkeran, Azer**	**6.05**	**8**	P	**Pn**	02 33 38.5	+3.5
IGLO	**Ghaloghah**	**6.31**	**51**	*e*Pn	**Pn**	02 33 42.5	+3.8
GHIR	**Ghir-Karzin**	**6.33**	**133**	*e*Pn	**Pn**	02 33 40.5	+1.5
GHIR				*e*S	**Sn**	02 34 49.8	-1.5
GHIR	**Ghir-Karzin**	**6.33**	**133**	*e*Pn	**Pn**	02 33 40.5	+1.5
GHIR	**Ghir-Karzin**	**6.33**	**133**	Pn	**Pn**	02 33 40.0	+1.0
GHIR					**Sn**	02 34 49.0	-2.3
JHRM	**Jahrom**	**6.56**	**128**	*e*Pn	**Pn**	02 33 42.5	+0.4
NAX	**Nakhchivan**	**6.70**	**345**	P	**Pn**	02 33 47.9	+3.9
IBAF	**Bafgh**	**6.75**	**97**	*e*Pn	**Pn**	02 33 46.1	+1.3
AKDM	**Akdamar-Van**	**6.81**	**327**	P	**Pn**	02 33 46.5	+0.9
CLDR	**Caldiran**	**7.12**	**335**	P	**Pn**	02 33 51.4	+1.5
LMD1	**Lamerd**	**7.14**	**137**	*e*Pn	**Pn**	02 33 51.2	+1.3
TNSJ	**Nastanj**	**7.55**	**78**	*e*Pn	**Pn**	02 33 56.6	+0.9
TPRV	**Parvadeh(Tabas**	**7.56**	**85**	*e*Pn	**Pn**	02 33 56.6	+0.8
SVAN	**Silvan-Diyarba**	**7.60**	**317**	P	**Pn**	02 33 57.1	-1.3
LAR1	**LAR**	**7.64**	**129**	*e*Pn	**Pn**	02 33 55.9	+1.0
MLAZ	**Malazgirt-MUS**	**7.67**	**328**	P	**Pn**	02 33 59.6	+2.3
IMND	**Minoodasht**	**7.78**	**52**	*e*Pn	**Pn**	02 34 00.1	+1.4
TASB	**TASBURUN-IGDIR**	**7.79**	**340**	P	**Pn**	02 34 01.1	+2.3
KHGB	**Koh Gabri**	**7.83**	**105**	*e*Pn	**Pn**	02 34 00.1	+0.4
AGRB	**Hanur-Agry**	**7.85**	**332**	P	**Pn**	02 34 00.8	+1.0
GANJ	**Ganja**	**8.00**	**352**	P	**Pn**	02 34 05.9	+4.1
MNGR	**Mingechevir, A**	**8.07**	**357**	P	**Pn**	02 34 06.4	+3.8
VRTB	**Varto-Mus**	**8.20**	**324**	P	**Pn**	02 34 04.9	+0.3
TVBK	**TV Kerman**	**8.20**	**107**	*e*Pn	**Pn**	02 34 05.4	+0.6
SLWS		**8.29**	**161**	*e*Pn	**Pn**	02 34 06.2	+0.5
NGRK	**Negar Kerman**	**8.31**	**109**	*e*Pn	**Pn**	02 34 06.4	+0.1
BNGB	**Bingl**	**8.48**	**320**	P	**Pn**	02 34 07.4	-1.0
SEKA	**Sheki**	**8.50**	**357**	P	**Pn**	02 34 11.3	+2.7
KARO	**Karliova-Bingo**	**8.52**	**323**	P	**Pn**	02 34 10.5	+1.5
KOPR	**Koprukoy-ERZUR**	**8.67**	**329**	P	**Pn**	02 34 13.3	+2.2
URFA	**Urfa**	**8.68**	**305**	P	**Pn**	02 34 10.9	-0.3
KARS	**Kars**	**8.74**	**336**	P	**Pn**	02 34 14.1	+2.1
KARS	**Kars**	**8.74**	**336**	P	**Pn**	02 34 14.3	+2.3
AKT	**Akhty**	**8.76**	**0**	*e*P	**Pn**	02 34 15.0	+2.8
AKT				*e*S	**Sn**	02 35 55.0	+4.1
AKT				pmax	pmax		
	comp=Z,489nm,0.8s						
AKT				smax	smax		
	comp=E,139nm,1.0s						
AKT				smax	smax		
	comp=N,178nm,1.0s						
CHMN	**Cheshme madani**	**8.87**	**106**	*e*Pn	**Pn**	02 34 15.7	+1.6
YEDI	**Yedisu-Bingol**	**8.87**	**321**	P	**Pn**	02 34 13.5	-0.4
SVRC	**Svrice-ELAZIĞ**	**8.88**	**312**	P	**Pn**	02 34 12.8	-1.2
SENK	**Senkaya-Erzuru**	**8.94**	**333**	P	**Pn**	02 34 18.0	+3.1
SBZV	**Sabzevar**	**8.95**	**63**	*e*Pn	**Pn**	02 34 16.4	+1.4
GENO	**Geno**	**9.04**	**124**	*e*Pn	**Pn**	02 34 15.1	-1.1
BTHS		**9.06**	**161**	*e*Pn	**Pn**	02 34 15.9	-0.4
PTK	**Pertek**	**9.15**	**315**	P	**Pn**	02 34 16.7	-1.0
ASF	**Jabal al Asfar**	**9.16**	**270**	Pn	**Pn**	02 34 15.2	-2.5
	comp=N,21nm,0.3s,baz=30,slow=4.1,SNR=108						
ASF				Sn	**Sn**	02 35 57.8	-2.9
	comp=N,51nm,0.3s,baz=36,slow=20,SNR=1.9						
ASF				LR	LR	02 38 56.8	
	comp=N,48μm,19.7s,baz=38,slow=45						
LGD	**Lagodekhi**	**9.19**	**353**	P	**Pn**	02 34 21.3	+3.3
SLWR	**Sila**	**9.29**	**157**	*e*Pn	**Pn**	02 34 19.5	+0.1
ITEG	**Tejag**	**9.29**	**86**	*e*Pn	**Pn**	02 34 20.0	+0.3
TBLG	**Delisi**	**9.31**	**346**	P	**Pn**	02 34 22.9	+3.1
TBLG	**Delisi**	**9.31**	**346**	P	**Pn**	02 34 22.1	+2.3
TBLG	**Delisi**	**9.31**	**346**	Pn	**Pn**	02 34 19.4	-0.4
TBLG				Sn	**Sn**	02 36 02.8	-1.6
AKH	**Akhalkalaki**	**9.32**	**340**	P	**Pn**	02 34 23.3	+3.3
AKH	**Akhalkalaki**	**9.32**	**340**	P	**Pn**	02 34 19.3	-0.7
AKH						02 36 04.2	
AKH	**Akhalkalaki**	**9.32**	**340**	Pn	**Pn**	02 34 19.3	-0.7
AKH				Sn	**Sn**	02 36 04.2	-0.5
MALT	**Malatya**	**9.41**	**309**	P	**Pn**	02 34 21.9	+0.7
MALT	**Malatya**	**9.41**	**309**	P	**Pn**	02 34 20.6	-0.6
ERZN	**Erzincan**	**9.43**	**319**	P	Pn	02 34 26.8	+5.4
ISFR	**Sfrayin**	**9.50**	**60**	*e*Pn	**Pn**	02 34 25.0	+2.5
AFRZ	**Afriz**	**9.51**	**83**	*e*Pn	**Pn**	02 34 23.3	+0.6
IKOO	**Kooshah**	**9.54**	**89**	*e*Pn	**Pn**	02 34 24.4	+1.4
BSRN	**Basiran**	**9.69**	**91**	*e*Pn	**Pn**	02 34 27.1	+2.1
GAZ	**Gaziantep**	**9.70**	**300**	P	**Pn**	02 34 24.9	-0.3
GAZ	**Gaziantep**	**9.70**	**300**	Pn	**Pn**	02 34 24.5	-0.7
GAZ				Sn	**Sn**	02 36 13.5	-0.6
IKRD	**Kardeh**	**9.77**	**62**	*e*Pn	Pn	02 34 39.5	+13
KHNJ	**Kahnooj**	**9.85**	**116**	*e*Pn	**Pn**	02 34 25.9	-1.3
IAKL	**Akhelmad**	**9.89**	**64**	*e*Pn	**Pn**	02 34 29.4	+1.4
SHME	**Shamm**	**9.90**	**130**	*i* P	**Pn**	02 34 27.2	-0.6
	SNR=35						
SHME				S	**Sn**	02 36 14.1	-4.8
KEMA	**Kemaliye**	**9.93**	**314**	*e*Pn	**Pn**	02 34 27.8	-0.5
HWQ	**Hawqa**	**9.95**	**282**	*e*P	**Pn**	02 34 27.9	-0.7
GEYT	**Alibeck**	**9.97**	**56**	Pn	**Pn**	02 34 30.9	+2.1
	comp=N,4.6nm,0.3s,baz=243,slow=13,SNR=107						
GEYT				LR	LR	02 38 57.9	
	comp=N,228μm,21.2s,baz=255,slow=42						
GEYT	**Alibeck**	**9.97**	**56**	Pn	**Pn**	02 34 28.6	-0.2
GYA0B	**ALIBECK ARRAY**	**9.97**	**56**	Pn	**Pn**	02 34 28.5	-0.3
UMQ	**Umm Al-Quwin**	**9.97**	**134**	*i* P	**Pn**	02 34 28.3	-0.5
	SNR=8.5						
IPAY	**Payeh**	**10.02**	**65**	*e*Pn	**Pn**	02 34 32.2	+2.5
CHOM	**Cayeli-Rize**	**10.05**	**328**	P	**Pn**	02 34 32.5	+2.6
IMON	**Monand**	**10.06**	**84**	*e*Pn	**Pn**	02 34 32.5	+2.3
KMRS	**Kahramanmaras**	**10.07**	**301**	P	**Pn**	02 34 28.9	-1.2
SHBL	**Chebaa**	**10.07**	**277**	*e*P	**Pn**	02 34 30.5	+0.2
NATI	**Neve Ativ**	**10.08**	**276**	Pn	**Pn**	02 34 29.0	-1.2
BANOM	**Banah**	**10.09**	**130**	*i* P	**Pn**	02 34 29.7	-0.7
	SNR=106						
BANOM				S	**Sn**	02 36 19.0	-4.5
BANOM	**Banah**	**10.09**	**130**	P	**Pn**	02 34 30.0	-0.5
	SNR=55						
BANOM				P	**Pn**	02 34 30.0	-0.5
	SNR=55						
BANOM				S	**Sn**	02 36 21.5	-2.0
	SNR=7.0						
BANOM				S	**Sn**	02 36 21.5	-2.0
	SNR=7.0						
BATM	**Batumi**	**10.09**	**333**	P	**Pn**	02 34 33.6	+3.2
BATM	**Batumi**	**10.09**	**333**	P	**Pn**	02 34 33.1	+2.7
IEMG	**Emamgholi**	**10.12**	**59**	*e*Pn	**Pn**	02 34 32.9	+1.8
ASHT	**Ashkhabad**	**10.16**	**56**	P	**Pn**	02 34 31.3	-0.1
ASHT	**Ashkhabad**	**10.16**	**56**	Pn	**Pn**	02 34 31.2	-0.1
BHL	**Bhannes**	**10.16**	**280**	*e*P	**Pn**	02 34 33.2	+1.7
DARE	**Darende-Malaty**	**10.17**	**308**	P	**Pn**	02 34 31.9	+0.3
IMOG	**Moghan**	**10.19**	**67**	*e*Pn	**Pn**	02 34 34.5	+2.5
MAK	**Makhachkala**	**10.24**	**359**	*e*P	**Pn**	02 34 30.5	-1.9
MAK				*e*S	**Sn**	02 36 25.7	-1.3
MAK				pmax	pmax		
	comp=Z,2μm,1.1s						
MAK				MLR	MLR		
	comp=Z,230μm,19.0s						
IDAH	**Dahanechah**	**10.24**	**87**	*e*Pn	**Pn**	02 34 34.6	+1.9
HMDT	**Nahal Hemdat**	**10.30**	**271**	Pn	**Pn**	02 34 32.5	-0.8
AJN	**Ajban**	**10.32**	**140**	*i* P	**Pn**	02 34 33.4	-0.2
	SNR=51						
AJN	**Ajban**	**10.32**	**140**	P	**Pn**	02 34 34.1	+0.5
	SNR=35						
AJN				S	**Sn**	02 36 27.4	-1.8
MMA0B	**Mount Meron ar**	**10.36**	**275**	Pn	**Pn**	02 34 33.5	-0.7
MMAI	**Mount Meron Ar**	**10.36**	**275**	Pn	**Pn**	02 34 33.4	-0.8
	comp=Z,12nm,0.3s,baz=81,slow=17,SNR=22						
MMAI				LR	LR	02 39 38.3	
	comp=Z,33μm,21.3s,baz=80,slow=44						
KARJ	**KARJ**	**10.37**	**264**	Pn	**Pn**	02 34 32.3	-2.0
NAZ	**Nazwa, Dubai**	**10.37**	**136**	*i* P	**Pn**	02 34 34.6	+0.3
	SNR=177						
NAZ	**Nazwa, Dubai**	**10.37**	**136**	P	**Pn**	02 34 35.3	+0.9
	SNR=84						
NAZ				S	**Sn**	02 36 27.5	-3.0
NAZ	**Nazwa, Dubai**	**10.37**	**136**	*e*Pn	**Pn**	02 34 34.2	-0.1
MMLI	**Mount Malkishu**	**10.38**	**272**	P	**Pn**	02 34 36.9	+2.5
MMLI	**Mount Malkishu**	**10.38**	**272**	Pn	**Pn**	02 34 33.4	-1.0
MSFE	**Esma-Masafi**	**10.40**	**133**	*i* P	**Pn**	02 34 33.7	-1.0
	SNR=37						
GHAJ	**Ghor Haditha**	**10.41**	**266**	Pn	**Pn**	02 34

HOQ P Pn 02 35 00.3 -2.0
SNR=37
YESY Yesilyurt 12.49 298 P Pn 02 35 07.1 +3.8
KVT Kavak 12.52 315 P Pn 02 35 06.4 +2.7
KVT Kavak 12.52 315 P Pn 02 35 05.9 +2.2
TEKE Tekeli-Mersin 12.53 290 P Pn 02 35 06.7 +2.9
SOC Sochi 12.54 332 *c iP* Pn 02 35 05.5 +1.6
SOC *e* 02 37 21.4
SOC pmax pmax
comp=Z,598nm,1.0s
SOC MLR MLR
comp=Z,110µm,14.0s
LEF Lefka 12.55 285 P Pn 02 35 07.9 +3.9
SULT Sultanhani-AKS 12.80 299 P Pn 02 35 10.5 +2.9
GOF Gofitskoye 12.86 345⇑ *eP* P 02 35 16.8 -2.3
YAYX Yaylak 12.88 303 P Pn 02 35 11.1 +2.5
CORM Corum 12.90 309 P Pn 02 35 11.3 +2.4
BIDO Bidbid 12.96 132 P Pn 02 35 07.2 -2.5
SNR=30
BIDO P Pn 02 35 07.2 -2.5
SNR=30
BIDO P Pn 02 35 07.2 -2.5
SNR=30
BSY Bisya 12.99 137 P Pn 02 35 09.1 -1.1
SNR=186
BSY P Pn 02 35 09.1 -1.1
SNR=186
SERE Sereflikochisa 13.05 302 P Pn 02 35 12.9 +1.8
SMDO Samad 13.25 134 P Pn 02 35 11.7 -2.1
SNR=203
SMDO P Pn 02 35 11.7 -2.1
SNR=203
BR131 Keskin Array S 13.34 306 P Pn 02 35 16.8 +1.8
SNR=105
BR131 P Pn 02 35 16.8 +1.8
SNR=105
BR131 Keskin Array S 13.34 306 *c iP* Pn 02 35 16.4 +1.4
BR131 Keskin Array S 13.34 306 Pn 02 35 14.3 -0.7
BRTR Keskin Array B 13.34 306 Pn Pn 02 35 13.7 -1.3
comp=Z,0.7nm,0.3s,baz=127,slow=12,SNR=128
BRTR LR LR 02 42 04.2
comp=Z,27µm,20.0s,baz=94,slow=45
BRTR Keskin Array B 13.34 306 P Pn 02 35 16.3 +1.3
BRTR Keskin Array B 13.34 306 *ceP* Pn 02 35 16.0 +1.0
BRTR pmax pmax
comp=Z,94nm,1.0s
BRTR Keskin Array B 13.34 306 Pn 02 35 14.4 -0.5
DIKM Dikmen 13.34 316 P Pn 02 35 16.9 +2.1
WSAR Wadi Sarin 13.48 132 Pn Pn 02 35 14.9 -2.0
comp=Z,49nm,0.3s,baz=304,slow=12,SNR=170
WSAR Sn Sn 02 37 37.0 -10
comp=Z,23nm,0.3s,baz=161,slow=21,SNR=3.2
WSAR Wadi Sarin 13.48 132 P Pn 02 35 14.8 -2.0
SNR=99
KONT Konya--Tatoy 13.58 297 P Pn 02 35 21.9 +3.8
SNOP Sinop 13.60 317 P Pn 02 35 21.7 +3.3
AFSR Afar-Bala (An 13.61 304 P Pn 02 35 20.4 +1.8
LADK Ladik-KONYA 13.65 298 P Pn 02 35 21.6 +2.4
CANT Cankiri 13.78 309 P Pn 02 35 23.5 +2.6
JMDO Jabal Madar 13.81 136 P Pn 02 35 18.7 -2.6
SNR=55
JMDO P Pn 02 35 18.7 -2.6
SNR=55
ILGA Ilgaz 13.95 311 Pn 02 35 22.6 -0.7
BR231 Keskin MP Arra 13.99 305 Pn 02 35 23.2 -0.5
LOD Lodumlu 14.02 305 P Pn 02 35 25.6 +1.5
WBK Wadi Bani Khal 14.15 132 P Pn 02 35 25.4 -0.7
SNR=85
BZK Bozkurt 14.28 314 P Pn 02 35 29.1 +1.5
ANN Anapa 14.48 329 *eP* Pn 02 35 31.4 +1.0
ANN *eS* Sn 02 38 17.4 +6.7
ANN pmax pmax
comp=Z,17µm,5.6s
ANN pmax pmax
comp=N,9µm,5.7s
ANN pmax pmax
comp=E,6µm,5.4s
ANN pmax pmax
comp=Z,854nm,1.4s
ANN pmax pmax
comp=E,266nm,1.6s
ANN pmax pmax
comp=N,400nm,1.4s
ANN MLR MLR
comp=N,155µm,15.0s
ANN MLR MLR
comp=Z,85µm,14.0s
ANN MLR MLR
comp=E,46µm,11.0s
MHTO MHTO 14.82 139 P Pn 02 35 32.6 -2.5
SNR=95
MHTO P Pn 02 35 32.6 -2.5
SNR=95
ISP Isparta 14.94 295 P Pn 02 35 36.3 -0.4
ISP Isparta 14.94 295 Pn 02 35 36.3 -0.4
ELL Elmali 15.18 290 P Pn 02 35 39.4 -0.7
ELL pmax pmax
comp=Z,3µm,1.0s
ELL Elmali 15.18 290 Pn Pn 02 35 39.4 -0.7
MDUB Mudurnu 15.35 305 Pn Pn 02 35 41.5 -0.7
KSL Kastellorizon 15.35 288 P P 02 35 53.1 +6.3
DQM DQM 15.46 143 P Pn 02 35 40.9 -2.8
SNR=75
DQM P Pn 02 35 40.9 -2.8
SNR=75
FETY Fethiye 15.82 290 P P 02 35 52.5 +0.4
ABTO Aybut 16.09 160 P Pn 02 35 48.6 -3.3
SNR=52
ABTO P Pn 02 35 48.6 -3.3
SNR=52
SIM Simferopol' 16.15 323 *c iP* Pn 02 35 51.9 -0.5
SIM *eS* Sn 02 38 53.0 +1.7
SIM pmax pmax
comp=Z,233nm,0.4s
RBK Rabkut 16.23 157 P Pn 02 35 51.7 -1.9
SNR=98
RBK P Pn 02 35 51.7 -1.9
SNR=98
RBK P Pn 02 35 51.7 -1.9
SNR=98
SHAO Shalim 16.26 152 *i* P Pn 02 35 52.0 -2.1
SNR=46
SHAO Shalim 16.26 152 P Pn 02 35 51.8 -2.2
SNR=44
SHAO P Pn 02 35 51.8 -2.2
SNR=44
ARG Arkhangelos 16.53 288 P P 02 36 07.2 +7.3
ARG Arkhangelos 16.53 288 P P 02 35 59.6 -0.3
ARG pmax pmax
comp=Z,443nm,1.1s
KULA Kula-Manisa 16.53 296 P P 02 36 00.5 +0.5
YER Yerkesik 16.53 291 P P 02 36 00.6 +0.6
YER Yerkesik 16.53 291 P Pn 02 35 57.8 +0.4
MANT Manisa 16.61 296 Pn Pn 02 35 57.9 -0.7
DAT Datca 17.03 289 P P 02 36 11.1 +5.5
ISK Istanbul-Kandi 17.07 305 P P 02 36 12.4 +6.5
KARP Karpathos 17.25 285 P P 02 36 11.6 +3.7
KARP Karpathos 17.25 285 Pn Pn 02 36 05.9 -0.6
KARP IAmb IAmb 02 36 23.4
comp=Z,1µm,0.9s
BODT Bodrum 17.29 290 P P 02 36 12.1 +3.8
EDC Edincik 17.66 301 P P 02 36 13.5 +1.1
BLCB Balcova 17.74 294 P P 02 36 13.4 +0.1
SMG Samos 17.77 292 P P 02 36 18.5 +4.9
KBL Kabul 17.86 78 P P 02 36 16.3 +1.4
SNR=890
KBL P P 02 36 16.3 +1.4
SNR=890
KBL P P 02 36 16.3 +1.4
SNR=890
KBL Kabul 17.86 78 P Pn 02 36 13.9 -0.3
KBL pmax pmax
comp=Z,2µm,1.1s
KBL Kabul 17.86 78 Pn 02 36 13.9 -0.3
KBL IAmb IAmb 02 36 20.8
comp=Z,2µm,1.1s
ZKR Zakros 18.00 284 P P 02 36 21.5 +5.3
AMGA Amorgos Island 18.38 289 P Pn 02 36 29.8 +9.4
CHGR Chuyangaron 18.39 65 P 02 36 20.5 0.0
CHGR IAmb IAmb 02 36 31.7
comp=Z,1µm,0.9s
ANAF Anafi Island 18.43 287 P Pn 02 36 28.2 +7.2
CHOS Chios island 18.50 294 P Pn 02 36 28.6 +6.7
NPS Neapolis 18.50 284 P Pn 02 36 26.8 +4.9
PRK Paraskevi 18.52 297 P Pn 02 36 25.5 +3.5
LAST Lasithi 18.61 284 P Pn 02 36 27.0 +3.8
MANR Mangalia 18.62 312 ⇓P Pn 02 36 24.6 +1.3
EZN Ezine 18.63 298 P Pn 02 36 26.9 +3.5
EZN Ezine 18.63 298 P P 02 36 22.8 -0.2
SANT Santorini 18.69 287 ⇑P Pn 02 36 24.6 +0.4
SANT Santorini 18.69 287 P P 02 36 23.1 -0.7
SANT IAmb IAmb 02 36 39.5
comp=Z,836nm,0.9s
APE Apeiranthos 18.70 290 P Pn 02 36 29.4 +5.1
APE Apeiranthos 18.70 290 ⇓P Pn 02 36 26.0 +1.7
APE Apeiranthos 18.70 290⇓ *eP* Pn 02 36 24.4 +0.1
APE pmax pmax
comp=Z,537nm,1.0s
THR2 Thira island, 18.71 288 P Pn 02 36 29.0 +4.6
SNT1 Gialos, Santor 18.72 288 P Pn 02 36 29.8 +5.4
THR7 Fira-Santorini 18.72 288 P Pn 02 36 29.7 +5.2
THT2 Imerovigli 18.72 288 P Pn 02 36 31.5 +6.9
EFOR EFORIE 18.73 313 ⇑P Pn 02 36 25.4 +0.9
THR6 Thira Island, 18.74 287 P Pn 02 36 25.9 +1.2
THR3 Thira Island, 18.74 288 P Pn 02 36 29.2 +4.5
THR5 Thira Island, 18.78 288 P Pn 02 36 28.0 +2.8
SAP3 Santorini-Thir 18.78 288 P Pn 02 36 33.4 +8.1
PSN Preselentsi 18.81 311 *eP* Pn 02 36 25.8 +0.2
IOSP Ios island 18.86 289 P Pn 02 36 33.6 +7.4
AB31 Akbulak array 18.90 25 *i* P Pn 02 36 26.7 +0.2
ABKAR Akbulak array 18.90 25 P P 02 36 25.8 -0.1
MFTR Murfatlar 18.91 313 ⇓P Pn 02 36 27.4 +0.7
EDRB Edirne 18.98 305 P Pn 02 36 31.8 +4.2
VRH Novokhopyorsk 19.00 348 *eP* P 02 36 25.9 -1.1
VRH *eS* Sn 02 39 58.4 -1.9
VRH pmax pmax
comp=Z,1µm,0.7s
VRH pmax pmax
comp=Z,2µm,0.9s
VRH smax smax
comp=E,20µm,11.8s
VRH MLR MLR
comp=Z,71µm,14.0s
ENEZ Emez 19.02 301 P Pn 02 36 33.8 +5.7
TIRR Tirgusor 19.06 314 ⇑P Pn 02 36 29.1 +0.5
TIRR Tirgusor 19.06 314 ⇑P Pn 02 36 29.1 +0.5
TIRR Tirgusor 19.06 314 P P 02 36 27.4 -0.4
TIRR IAmb IAmb 02 36 41.8
comp=Z,813nm,1.0s
TIRR Tirgusor 19.06 314 *eP* P 02 36 27.6 -0.2
IDI Anoyia 19.09 284 P P 02 36 27.7 -0.6
comp=Z,19nm,0.3s,baz=85,slow=5.5,SNR=78
IDI S Sn 02 39 57.5 -5.3
comp=Z,1.8nm,0.3s,baz=110,slow=9.0,SNR=1.5
IDI Anoyia 19.09 284 P Pn 02 36 30.4 +1.3
IDI Anoyia 19.09 284 ⇓P Pn 02 36 29.6 +0.5
IDI Anoyia 19.09 284 P P 02 36 27.7 -0.6
IDI IAmb IAmb 02 36 39.5
comp=Z,1µm,1.0s
PRD Provadia 19.09 309 *eP* Pn 02 36 29.2 +0.3
ALN Alexandroupoli 19.15 301 P Pn 02 36 31.9 +2.3
ALN Alexandroupoli 19.15 301 P P 02 36 28.3 -0.4
ALN pmax pmax
comp=Z,625nm,1.2s
ALN Alexandroupoli 19.15 301 P P 02 36 28.3 -0.4
ALN IAmb IAmb 02 36 39.2
comp=Z,625nm,1.2s
SIVA Sivas 19.15 283 P Pn 02 36 34.4 +4.6
NEF NEVSHA 19.20 309 *eP* Pn 02 36 30.7 +0.4
TLCR 19.21 316 ⇑P P 02 36 29.6 +0.2
TLCR 19.21 316 ⇑P P 02 36 29.6 +0.2
TAS Tashkent 19.23 57 P P 02 36 29.5 -0.1
TAS pmax pmax
comp=Z,2µm,1.1s
TAS Tashkent 19.23 57 P P 02 36 29.5 -0.1
CVDA Cernavoda 19.23 313 ⇑P Pn 02 36 31.4 +0.9
ICOR Ion Corvin 19.27 312 ⇑P Pn 02 36 31.3 +0.3
VORD Divnogorie 19.27 344 *eP* P 02 36 28.8 -1.2
VORD *eS* Sn 02 40 02.2 -4.6
VORD pmax pmax
comp=Z,710nm,0.7s
VORD pmax pmax
comp=Z,810nm,0.7s
VORD smax smax
comp=E,6µm,7.0s
VORD MLR MLR
comp=Z,36µm,11.0s
AKTO Aktyubinsk 19.29 20 P P 02 36 30.2 0.0
comp=Z,21nm,0.3s,baz=206,slow=11,SNR=396
AKTO S Sn 02 40 05.6 -1.6
comp=Z,2.6nm,0.3s,baz=303,slow=11,SNR=1.2
AKTO LR LR 02 46 33.2
comp=Z,53µm,19.0s,baz=200,slow=45
TOPG Topolog 19.30 315 ⇓P Pn 02 36 32.4 +0.9
JMB Yambol 19.33 306 *eP* Pn 02 36 33.1 +1.3
TLBR Topalu 19.33 313 ⇓P P 02 36 31.0 +0.3
GAR Garm 19.35 65 P P 02 36 30.8 -0.3
SMTH Samothraki Isl 19.39 300 P Pn 02 36 38.1 +5.5
HARR Harsova 19.48 314 ⇓P P 02 36 32.7 +0.4
HARR Harsova 19.48 314 ⇓P P 02 36 32.7 +0.4
LIA Limnos Island 19.50 298 P Pn 02 36 39.6 +5.8
VSR Storozhevoye 19.53 344 *eP* P 02 36 31.3 -1.6
VSR *eS* S 02 40 05.1 -8.0
VSR pmax pmax
comp=Z,2µm,1.0s
VSR pmax pmax
comp=Z,4µm,2.0s
VSR smax smax
comp=E,27µm,9.0s
VSR MLR MLR
comp=Z,84µm,13.0s
SERI Serifos 19.54 290 P Pn 02 36 40.3 +5.9
MHLO Agia Marina, M 19.56 288 P Pn 02 36 39.7 +5.0
RDO Rodhopi 19.59 302 P Pn 02 36 35.1 +0.2
CFR Carcaliu 19.61 315 ⇑P Pn 02 36 34.5 -0.6
CFR Carcaliu 19.61 315 ⇑P Pn 02 36 34.5 -0.6
VAM Vamos 19.66 284 P Pn 02 36 36.0 +0.2
RASA Rasa 19.72 312 ⇓P Pn 02 36 35.8 -0.7
GIUM Giurgiulesti 19.74 316 ⇑P P 02 36 35.5 +0.4
GVD Gavdhos 19.75 283 P Pn 02 36 40.8 +3.9
AMRR Amara 19.80 313 ⇓P Pn 02 36 36.9 -0.5
AMRR Amara 19.80 313 ⇓P Pn 02 36 36.9 -0.5
IMMV Iera Moni Meta 19.84 285 P Pn 02 36 38.0 0.0
RAZG Razgrad 19.84 309 ⇓P Pn 02 36 37.9 0.0
KDZ Kurdzhali 19.84 303 *eP* Pn 02 36 38.0 +0.1
DIM Dimitrovgrad 19.90 304 *eP* P 02 36 37.7 +0.8
SCHL Schela 19.97 316 ⇑P Pn 02 36 38.9 -0.5
THAS Thassos island 20.02 300 P Pn 02 36 42.3 +2.2
IUG Iuzhnay 20.03 56 *i* P P 02 36 39.0 +0.4
comp=Z,712nm,2.0s,baz=56
IUG *eS* Sn 02 40 25.1 -0.3
baz=56
IUG LR LR 02 45 17.1
comp=Z,3µm,10.3s,baz=56
IUG Iuzhnay 20.03 56 *i* P P 02 36 38.9 +0.4
IUG *eS* Sn 02 40 25.1 -0.3
IUG pmax pmax
comp=Z,712nm,2.0s
IUG MLR MLR
comp=Z,3µm,10.0s
KYMI Kymi, Euboea I 20.05 294 P Pn 02 36 41.6 +1.2
LEHL Lehliu 20.06 312 ⇑P Pn 02 36 40.3 -0.3
SZH Strazhica 20.09 308 *eP* P 02 36 39.3 +0.3
DION Dionisos Attik 20.09 292 P Pn 02 36 41.2 +0.2
TUDR 20.11 316 ⇑P Pn 02 36 41.7 +0.6
PGOR Pogoanele 20.17 313 ⇓P Pn 02 36 41.7 -0.1
VLY Voula,Athens 20.17 291 P Pn 02 36 44.7 +2.8
VARL Varlezi 20.18 317 ⇓P Pn 02 36 41.5 -0.3
ATHU Athens Univers 20.19 292 P Pn 02 36 44.0 +1.9
BRLS Boroldav 20.23 53 *i* P P 02 36 38.7 -1.8
comp=Z,167nm,1.3s,baz=54
BRLS *eS* S 02 40 24.9 -2.3
baz=54
BRLS LR LR 02 45 21.1
comp=Z,2µm,9.1s,baz=54
BRLS Boroldav 20.23 53 *i* P P 02 36 38.7 -1.8
BRLS *eS* S 02 40 24.9 -2.3
BRLS pmax pmax
comp=Z,167nm,1.3s
ATH Athens Observa 20.25 292 P Pn 02 36 47.1 +4.4
KIS Kishinev 20.28 320 *i* P P 02 36 39.5 -1.5
comp=Z,6µm,6.7s
KIS Kishinev 20.28 320 ⇑P P 02 36 41.4 +0.4
KIS Kishinev 20.28 320 *c iP* P 02 36 39.5 -1.5
KIS *i* 02 37 04.0
KIS *i* S S 02 40 20.8 -7.3
KIS *i* 02 40 26.2
KIS pmax pmax
comp=Z,6µm,6.7s
KIS MLR MLR
comp=Z,13µm,14.0s
KAVA Kavala 20.28 301 P Pn 02 36 44.3 +1.1
AOS Alonnisos 20.32 295 P Pn 02 36 48.7 +5.1
RZN Rozhen 20.35 303 *eP* Pn 02 36 44.2 +0.1
ANKY Antikythira Is 20.40 286 P Pn 02 36 46.0 +1.4
GRER 20.41 314 ⇑P Pn 02 36 44.9 +0.2
PETR Petresti 20.44 315 ⇓P Pn 02 36 45.0 +0.1
PVL Pavlikeni 20.47 307 *eP* Pn 02 36 46.8 +1.5
SGRR Singureni 20.48 310 ⇑P Pn 02 36 44.3 -1.0
PLD Plovdiv 20.50 304 P P 02 36 43.4 0.0
PLD Plovdiv 20.50 304 *eP* P 02 36 43.7 +0.3
OUR Ouranopolis 20.50 299 P Pn 02 36 46.7 +1.1
OUR Ouranopolis 20.50 299 P P 02 36 43.6 +0.1
BUC1 Bucharest 20.50 311 ⇑P P 02 36 43.2 -0.2
BIR Birlad 20.51 317 ⇑P Pn 02 36 44.9 -0.8
BIR Birlad 20.51 317 ⇑P Pn 02 36 44.9 -0.8
SULR 20.51 312 ⇓P Pn 02 36 45.2 -0.6
GHRR 20.52 316 ⇓P P 02 36 44.6 +0.9
ISR Istrita 20.54 313 ⇓P Pn 02 36 45.6 -0.7
ISR Istrita 20.54 313 ⇓P Pn 02 36 45.6 -0.6
DID Didima 20.57 290 P Pn 02 36 46.0 -0.6
VILL Villia 20.59 292 P Pn 02 36 46.3 -0.5
KTHA Kythira Island 20.61 287 P Pn 02 36 48.1 +1.0
ZIMR 20.63 308 ⇑P P 02 36 45.2 +0.3
ZIMR 20.63 308 ⇑P P 02 36 45.2 +0.3
VASR Vaslui 20.63 318 ⇓P Pn 02 36 46.2 -0.9
SKIA Skiathos 20.63 295 P Pn 02 36 47.6 +0.3
KK31 Karatay Array 20.71 53 *i* P P 02 36 46.2 +0.4
KK31 Karatay Array 20.71 53 P P 02 36 45.7 -0.1
KK31 IAmb IAmb 02 36 59.0
comp=Z,750nm,1.1s
KKAR Karatay Array 20.71 53 P P 02 36 45.6 -0.2
KKAR pmax pmax
comp=Z,750nm,1.2s
KKAR Karatay Array 20.71 53 P P 02 36 45.6 -0.2
KKAR IAmb IAmb 02 36 59.0
comp=Z,750nm,1.1s
VLI Velial 20.74 288 P P 02 36 45.3 -0.8
PLAR PLOIESTI 20.76 312 ⇓P Pn 02 36 48.7 0.0
SECR 20.80 313 ⇑P Pn 02 36 48.8 -0.3
VRI Vrincioaia 20.82 315 ⇓P P 02 36 47.7 +0.8
VRI Vrincioaia 20.82 315 ⇓P P 02 36 47.7 +0.8
LOUT Loutraki 20.83 292 P Pn 02 36 54.0 +4.4
LTK Loutraki 20.84 292 P Pn 02 36 52.5 +2.8
NEO Neokhori 20.84 295 P Pn 02 36 57.5 +7.7
NEHR Nehoiu 20.85 314 ⇑P Pn 02 36 49.5 -0.3
PLOR Plostina 20.85 315 ⇓P Pn 02 36 49.1 -0.7
PLOR Plostina 20.85 315 ⇓P Pn 02 36 49.1 -0.7
NVR Nevrokopi 20.86 301 P P 02 36 48.1 +0.7
LPSR Galich'ya Gora 20.88 345 *eP* P 02 36 46.6 -0.9
LPSR *e* 02 36 48.2
LPSR *eS* S 02 40 36.5 -3.3
LPSR pmax pmax
comp=Z,3µm,0.7s
LPSR smax smax
comp=E,19µm,8.6s
LPSR MLR MLR
comp=Z,46µm,14.0s
XOR Xorichti 20.88 295 P Pn 02 36 49.9 -0.3
LKR Lokris 20.90 293 P Pn 02 36 51.6 +1.2
PLG Polygyros 20.90 298 P Pn 02 36 49.5 -1.0
SRS Serrai 20.99 300 P Pn 02 36 50.5 -0.9
SRS Serrai 20.99 300 P P 02 36 48.5 -0.3
SRS pmax pmax
comp=Z,561nm,1.3s
PGB Panagyurishte 21.02 305 *eP* P 02 36 49.9 +0.7
SOH Sokhos 21.08 300 P P 02 36 53.2 +3.3
SOH Sokhos 21.08 300 P P 02 36 50.5 +0.6
SOH pmax pmax
comp=Z,338nm,1.2s
MLR Muntele Rosu 21.09 314 P P 02 36 51.5 +1.4
comp=Z,74nm,0.7s,baz=14,slow=4.2,SNR=23
MLR S S 02 40 46.4 +1.8
comp=Z,42nm,1.0s,baz=114,slow=15,SNR=1.6
MLR Muntele Rosu 21.09 314 ⇑P P 02 36 52.1 +2.0
TESR Tescani 21.21 317 ⇑P P 02 36 51.7 +0.6
HORT Hortiatis 21.21 299 P P 02 36 52.4 +1.1
SOCY Socotra 21.22 163 P P 02 36 47.5 -4.0
SOCY IAmb IAmb 02 37 06.8
comp=Z,773nm,1.1s
VLX Vlachokerasia 21.23 290 P P 02 36 51.7 +0.1
DSF Desfina 21.23 293 P P 02 36 54.0 +2.5
SORM Soroca 21.24 322 ⇑P P 02 36 51.4 0.0
SORM Soroca 21.24 322 ⇑P P 02 36 51.4 0.0
HUMR Humele 21.25 310 ⇑P P 02 36 52.9 +1.3
GUR Goura 21.32 291 P P 02 36 54.5 +2.0
THE Thessaloniki 21.32 299 P P 02 36 54.6 +2.2
THE Thessaloniki 21.32 299 P P 02 36 52.6 +0.2
THE pmax pmax
comp=Z,536nm,1.2s
TRIP Tripoli 21.33 290 P P 02 36 55.5 +2.9
NIL Nilore 21.39 80 P P 02 36 53.2 0.0
NIL pmax pmax
comp=Z,2µm,0.9s
NIL MLR MLR
comp=Z,69µm,22.0s
NIL Nilore 21.39 80 P P 02 36 53.2 0.0
NIL Nilore 21.39 80 IAMs_20 IAMs_20 02 45 52.5
comp=Z,69µm,22.0s
VLAD Vladila 21.40 309 ⇓P P 02 36 54.0 +0.8
STFAR Stefanesti-Arg 21.41 311 ⇑P P 02 36 55.3 +1.9
AGG Agios Georgios 21.48 294 P P 02 36 56.2 +2.1
BHUJ Bhuj 21.51 110 *eP* P 02 36 55.9 +1.4
BHUJ IAmb IAmb 02 36 58.4
comp=Z,790nm,0.9s
BHUJ *eS* S 02 40 50.4 -2.4
MTUR Matau 21.51 312 ⇑P P 02 36 56.0 +1.5
MTUR Matau 21.51 312 ⇑P P 02 36 56.0 +1.5
ALIK Aliki, Aigiali 21.54 292 P P 02 37 00.0 +5.3
ATD Arta Tunnel 21.55 193 P P 02 36 56.6 +1.6
comp=Z,142nm,0.7s,baz=344,slow=7.6,SNR=27
ATD S Sn 02 40 57.8 -4.2
comp=Z,37nm,1.0s,baz=235,slow=15,SNR=1.9
ATD Arta Tunnel 21.55 193 P P 02 36 54.8 -0.2
SNR=29
ATD Arta Tunnel 21.55 193 ⇑ *iP* P 02 36 57.7 +2.8
ATD *i* S S 02 40 56.0 +2.3
ATD Arta Tunnel 21.55 193 P P 02 36 54.5 -0.5
ATD IAMs_20 IAMs_20 02 46 00.9
comp=Z,82µm,20.0s
ATD Arta Tunnel 21.55 193 ⇑ *iP* P 02 36 57.7 +2.8
ATD *i* S S 02 40 56.0 +2.3
LRSO Larissa Observ 21.55 296 P P 02 37 03.8 +9.0
LIT Litokhoron 21.56 297 P P 02 36 56.8 +1.9
KKB Krupnik 21.57 302 *eP* P 02 36 55.8 +0.8
ITM Ithomi 21.58 289 P P 02 36 56.6 +1.4
ITM Ithomi 21.58 289 P P 02 36 54.8 -0.5
TRIZ Trizonia 21.58 292 P P 02 36 59.0 +3.8
SERG Sergoula 21.60 293 P P 02 36 58.2 +2.7
VOIR 21.62 313 ⇓P P 02 36 57.1 +1.4
VOIR 21.62 313 ⇓P P 02 36 57.1 +1.4
DOPR Dopca 21.67 314 ⇑P P 02 36 57.4 +1.3
VTS Vitosha 21.69 304 *eP* P 02 36 56.8 +0.3
PYL PYLOS 21.71 288 P P 02 36 58.7 +2.1
TEND Ethiopian Broa 21.71 198 *eP* P 02 36 59.2 +2.5
TEND *eS* Sn 02 41 03.3 -2.6
AMT Artemida-Makis 21.78 290 P P 02 36 59.6 +2.2
THL Klokotos Trika 21.81 296 P P 02 37 00.9 +3.3
DRO Drossia 21.82 291 P P 02 36 58.3 +0.5
ARR Arges 21.85 312 ⇓P P 02 36 59.1 +1.0
ARSB Arslanbob 21.88 60 P P 02 36 58.2 -0.3
ARSB Arslanbob 21.88 60 P P 02 36 58.2 -0.3
KTI Kastanea 21.90 298 P P 02 37 09.1 +10
PRAR RASCA 21.92 318 ⇓P P 02 36 58.5 -0.3
RLS Riolos of Patr 22.02 291 P P 02 37 02.2 +2.3
PVO Paravola 22.04 293 P P 02 37 03.4 +3.3
KZN Kozani 22.14 297 P P 02 37 04.9 +3.6
MDB Medias 22.37 314 ⇓P P 02 37 05.8 +2.2
MDB Medias 22.37 314 ⇓P P 02 37 05.8 +2.2
KPRO Kipourio 22.38 296 P P 02 37 05.5 +1.7
LOT Lotru 22.43 312 ⇑P P 02 37 04.8 +0.5
SRE Strehaia 22.46 309 ⇓P P 02 37 05.8 +1.2
SRE Strehaia 22.46 309 ⇓P P 02 37 05.8 +1.2
PUNG Punghina 22.49 308 ⇑P P 02 37 06.9 +2.1
AKASG Malin Array Be 22.56 328 P P 02 37 03.1 -2.5
comp=Z,315nm,1.0s,baz=139,slow=9.0,SNR=76
AKASG S S 02 41 13.3 +0.8
comp=Z,74nm,1.1s,baz=133,slow=21,SNR=6.0
AKASG ScP ScP 02 44 37.0 +0.9
comp=Z,11nm,0.7s,baz=116,slow=1.8,SNR=6.6

AKASG LR LR 02 47 07.3
comp=Z,28µm,19.1s,baz=150,slow=40
AKASG Malin Array Be 22.56 328 P **P** **02 37 03.1 -2.5**
AKASG pmax pmax
comp=Z,101nm,0.8s
AKASG Malin Array Be 22.56 328 P **P** **02 37 03.1 -2.5**
AKASG **ScP** **02 44 35.7 -0.3**
AKBB Malin Array Si 22.56 328*c i*P **P** **02 37 03.6 -1.9**
AKBB Malin Array Si 22.56 328 P **P** **02 37 03.5 -2.1**
AKBB IAmb IAmb 02 37 13.9
comp=Z,446nm,0.8s
PENT Pentalofos 22.59 297 P **P** **02 37 08.6 +2.5**
AML Almayashu 22.61 58 P **P** **02 37 08.2 +1.5**
SNR=19
BURAR Bucovina Array 22.63 318 ⇑P **P** **02 37 07.8 +1.3**
BURAR Bucovina Array 22.63 318 ⇑P **P** **02 37 07.8 +1.3**
BURAR Bucovina Array 22.63 318 P **P** **02 37 06.1 -0.4**
BUR08 Bucovina Ar. S 22.66 318 P **P** **02 37 06.3 -0.5**
BUR08 IAmb IAmb 02 37 22.4
comp=Z,419nm,0.9s
NEST Nestorio 22.70 297 P **P** **02 37 10.4 +3.1**
JAN Janina 22.71 295 P **P** **02 37 08.5 +1.1**
EVGI Lefkada island 22.72 293 P **P** **02 37 07.5 +0.1**
VLS Valsamata 22.72 292 P **P** **02 37 08.0 +0.6**
DESE Dese 22.73 201 *e*P **P** **02 37 09.3 +1.3**
DESE *e*S **S** **02 41 21.3 +4.6**
LKD2 Lefkada island 22.74 293 P **P** **02 37 07.7 +0.1**
TSLK Tsoukalades, L 22.74 293 P **P** **02 37 08.5 +0.9**
FSK Fiskardo 22.77 292 P **P** **02 37 12.9 +5.0**
SKO Skopje 22.77 301 *i*P **P** **02 37 09.0 +1.1**
EKS2 Erkin-Say 22.82 57 P **P** **02 37 09.6 +1.1**
SNR=164
ARCR ARCALIA 22.85 316 ⇑P **P** **02 37 10.3 +1.6**
JMU Jammu 22.86 83 *e*P P 02 36 56.0 -13
LSK Leskovik 22.99 297 *i*P **P** **02 37 09.7 -0.5**
OHR Ohrid 23.03 299 *i*P **P** **02 37 11.2 +0.5**
OHR Ohrid 23.03 299 P **P** **02 37 11.3 +0.6**
OHR pmax pmax
comp=Z,417nm,1.1s
HERR Herculane 23.06 309 ⇓P **P** **02 37 11.1 +0.2**
IGT Igoumenitsa 23.09 295 P **P** **02 37 11.3 +0.1**
IGT Igoumenitsa 23.09 295 P **P** **02 37 08.9 -2.3**
IGT pmax pmax
comp=Z,352nm,1.1s
CJR Cluj-Napoca 23.12 314 ⇑P **P** **02 37 13.1 +1.6**
CJR Cluj-Napoca 23.12 314 ⇑P **P** **02 37 13.1 +1.6**
DEV Deva 23.16 312 ⇑P **P** **02 37 13.5 +1.6**
DEV Deva 23.16 312 ⇑P **P** **02 37 13.5 +1.6**
UCH Uchtor 23.22 58 P **P** **02 37 15.9 +2.8**
SNR=270
AAK Ala-Archa 23.32 57 P **P** **02 37 14.1 +0.4**
comp=Z,64nm,0.9s,baz=246,slow=8.2,SNR=56
AAK LR LR 02 47 47.3
comp=Z,52µm,20.4s,baz=262,slow=40
AAK Ala-Archa 23.32 57 P **P** **02 37 15.6 +1.9**
SNR=42
AAK Ala-Archa 23.32 57 *i*P **P** **02 37 14.3 +0.6**
SNR=44
AAK Ala-Archa 23.32 57 P **P** **02 37 13.6 -0.1**
AAK pmax pmax
comp=Z,238nm,1.1s
AAK MLR MLR
comp=Z,52µm,19.0s
AAK Ala-Archa 23.32 57 P **P** **02 37 13.6 -0.1**
AAK Ala-Archa 23.32 57 IAMs_20 IAMs_20 02 47 34.3
comp=Z,52µm,19.0s
SRN Sarande 23.40 296 P **P** **02 37 17.3 +3.0**
SRN Sarande 23.40 296 *i*P **P** **02 37 13.4 -0.9**
PHP Peshkopia 23.42 300 P **P** **02 37 16.8 +2.1**
PHP Peshkopia 23.42 300 *i*P **P** **02 37 13.9 -0.8**
FRU1 Bishkek 23.46 57 P **P** **02 37 15.0 -0.1**
FRU1 pmax pmax
comp=Z,396nm,1.1s
FRU1 Bishkek 23.46 57 P **P** **02 37 15.0 -0.1**
FRU1 IAmb IAmb 02 37 22.9
comp=Z,396nm,1.1s
MDVR Moldovita 23.48 308 ⇑P **P** **02 37 15.6 +0.4**
USP Ospenovka 23.50 56 P **P** **02 37 16.2 +0.8**
SNR=244
KEK Kerkira 23.52 295 P **P** **02 37 18.6 +3.0**
THN Thein Dam 23.58 83 *e*P **P** **02 37 18.0 +1.8**
THN *e*S **S** **02 41 34.5 +4.4**
CHMS Chumysh 23.60 56 P **P** **02 37 17.6 +1.2**
SNR=106
KBK Karagaybulak 23.64 57 P **P** **02 37 19.3 +2.3**
SNR=141
BMR Baia Mare 23.65 316 ⇑P **P** **02 37 17.8 +1.1**
BMR Baia Mare 23.65 316 ⇑P **P** **02 37 17.8 +1.1**
KZA Kyzart 23.71 59 P **P** **02 37 19.1 +1.2**
SNR=123
OBN Obninsk 23.74 344 P **P** **02 37 15.1 -2.4**
comp=Z,28nm,0.4s,baz=152,slow=2.5,SNR=28
OBN S **S** **02 41 33.9 +1.7**
comp=Z,15nm,0.6s,baz=209,slow=23,SNR=2.5
OBN Obninsk 23.74 344 ⇑P **P** **02 37 16.6 -0.9**
OBN Obninsk 23.74 344*c i*P **P** **02 37 16.5 -0.9**
OBN *i* 02 37 22.9
OBN *i* 02 37 44.2
OBN *i*S **S** **02 41 34.1 +1.9**
OBN pmax pmax
comp=Z,3µm,2.0s
OBN pmax pmax
comp=Z,264nm,1.1s
OBN MLR MLR
comp=Z,56µm,15.0s
OBN Obninsk 23.74 344 P **P** **02 37 16.2 -1.3**
OBN IAmb IAmb 02 37 30.4
comp=Z,376nm,0.9s
OBN IAMs_20 IAMs_20 02 47 06.5
comp=Z,51µm,18.0s
KSH Kashi 23.76 65 P **P** **02 37 16.3 -1.8**
KSH sP sP 02 37 23.6 -0.2
KSH S **S** **02 41 31.9 -1.3**
KSH pmax pmax
comp=Z,2µm,1.3s
KSH pmax pmax
comp=Z,7µm,3.7s
KSH LR LR
comp=Z,41µm,12.1s
KSH LR LR
comp=Z,51µm,15.4s
KSH LR LR
comp=Z,109µm,18.6s
TIR Tirane 23.77 299 P **P** **02 37 25.0 +7.0**
TIR Tirane 23.77 299 *i*P **P** **02 37 16.2 -1.8**
TIR Tirane 23.77 299 P **P** **02 37 17.8 -0.2**
TIR pmax pmax
comp=Z,467nm,0.8s
TIR MLR MLR
comp=Z,24µm,18.0s
TIR Tirane 23.77 299 P **P** **02 37 17.8 -0.2**
TIR IAmb IAmb 02 37 35.0
comp=Z,467nm,0.8s
BTLS Baital 23.80 51 *i*P **P** **02 37 18.6 +0.4**
comp=Z,966nm,2.5s,baz=52
BTLS *e*S **S** **02 41 35.5 +2.0**
baz=52
BTLS Baital 23.80 51 *i*P **P** **02 37 18.6 +0.4**
BTLS *e*S **S** **02 41 35.5 +2.0**
BTLS pmax pmax
comp=Z,966nm,2.5s
BCI Bajram Curri 23.86 302 *i*P **P** **02 37 18.5 -0.4**
BZS Buzias 23.87 310 ⇑P **P** **02 37 18.2 -0.7**
BZS Buzias 23.87 310 ⇑P **P** **02 37 18.2 -0.7**
VLO Vlora 23.88 297 P **P** **02 37 24.3 +5.3**
VLO Vlora 23.88 297 *i*P **P** **02 37 18.8 -0.1**
PUK Puka 23.91 301 *i*P **P** **02 37 18.1 -1.3**
PVY Plav 24.00 302 ⇑*i*P **P** **02 37 19.9 -0.4**
MOS Moscow 24.09 346 *e*P **P** **02 37 19.4 -1.4**
MOS *e* 02 37 53.0
MOS *e*S **S** **02 41 41.2 +3.4**
MOS *e*SS **SnSn** **02 42 25.5 +6.7**
MOS pmax pmax
comp=Z,1µm,1.2s
MOS MLR MLR
comp=Z,30µm,16.0s
MOS MLR MLR
comp=N,25µm,17.0s
BANR Banloc 24.09 309 ⇑P **P** **02 37 22.5 +1.5**
DHRM DHARAMSHALA 24.09 83 *e*P **P** **02 37 22.0 +0.6**
DHRM *e*S **S** **02 41 41.8 +3.0**
IVA Berane 24.12 303 ⇑*i*P **P** **02 37 21.3 -0.1**
ANKE Ethiopia-Afar 24.15 200 *i*P **P** **02 37 24.0 +1.8**
ANKE *i*S **S** **02 41 47.2 +7.0**

TIM Timisoara 24.17 310 ⇑P **P** **02 37 23.2 +1.5**
TIM Timisoara 24.17 310 ⇑P **P** **02 37 23.2 +1.5**
TKM2 Tokmak 2 24.18 57 P **P** **02 37 23.1 +1.1**
SNR=323
BEO Beograd 24.32 308 P **P** **02 37 24.7 +1.6**
BEO pmax pmax
comp=Z,84nm,0.8s
ULC Ulcinj 24.36 300⇑*i*P **P** **02 37 22.9 -0.6**
KOME Kolasin 24.38 303⇓*i*P **P** **02 37 23.6 -0.2**
DIVS Divibare 24.41 306⇑*i*P **P** **02 37 23.3 -0.7**
DIVS Divibare 24.41 306 P **P** **02 37 22.9 -1.1**
DRME Dracevica, Mon 24.45 301⇓*i*P **P** **02 37 24.4 +0.1**
DRME Dracevica, Mon 24.45 301⇑*i*P **P** **02 37 23.7 -0.6**
PDG Podgorica 24.46 302⇓P **P** **02 37 24.4 +0.1**
PDG Podgorica 24.46 302⇑*i*P **P** **02 37 23.3 -1.1**
PDG Podgorica 24.46 302 P **P** **02 37 23.7 -0.7**
PDG IAmb IAmb 02 37 39.0
comp=Z,263nm,0.8s
TTG Podgorica 24.46 302⇓*i*P **P** **02 37 23.7 -0.7**
ULHL Ulahol 24.47 59 P **P** **02 37 26.4 +1.7**
SNR=176
LVV L'vov 24.52 321 *e*P **P** **02 37 25.5 +0.6**
LVV *e* 02 37 57.3
LVV *e* 02 38 05.6
LVV *e*S **S** **02 41 44.5 -0.5**
LVV pmax pmax
comp=Z,2µm,1.7s
LVV smax smax
comp=E,18µm,3.4s
LVV smax smax
comp=N,22µm,4.4s
LVV MLR MLR
comp=E,21µm,15.0s
LVV MLR MLR
comp=N,23µm,14.0s
LVV MLR MLR
comp=Z,26µm,16.0s
SCTE Santa Cesarea 24.59 296 P **P** **02 37 24.5 -1.1**
SCTE IAmb IAmb 02 37 31.2
comp=Z,228nm,0.7s
PLE Pljevlja 24.60 304⇓*i*P **P** **02 37 25.2 -0.6**
BUM Brajici-Budva 24.69 301⇓*i*P **P** **02 37 25.9 -0.7**
RUDO Rudo 24.69 304 *e*P **P** **02 37 26.1 -0.4**
CEME Cevo 24.73 302⇓*i*P **P** **02 37 26.3 -0.6**
BBLS Lazići 24.74 305⇑*i*P **P** **02 37 27.0 0.0**
NKY Niksic 24.74 302⇓*i*P **P** **02 37 26.6 -0.5**
NKME Niksic 24.76 302⇓*i*P **P** **02 37 26.5 -0.7**
MTBS Maitube 24.82 57 *i*P **P** **02 37 29.2 +1.4**
baz=57
MTBS Maitube 24.82 57 *i*P **P** **02 37 29.1 +1.4**
UZH Uzhgorod 24.83 317*c i*P **P** **02 37 28.0 +0.3**
UZH *e* 02 37 35.7
UZH *e*S **S** **02 41 49.4 -0.6**
TEKS Tekeris 24.86 307⇑*i*P **S** **02 37 27.1 -1.0**
FRGS Fruska Gora 24.88 308⇑*i*P **P** **02 37 28.2 0.0**
ARU Arti 24.89 14 P **P** **02 37 28.2 +0.1**
comp=Z,118nm,1.0s,baz=195,slow=8.1,SNR=97
ARU S **S** **02 41 53.3 +2.6**
comp=Z,9.6nm,0.7s,baz=17,slow=23,SNR=1.3
ARU LR LR 02 50 48.0
comp=Z,27µm,18.1s,baz=201,slow=45
ARU Arti 24.89 14*c i*P **P** **02 37 28.1 0.0**
ARU SSS SSS 02 38 08.6
ARU S **S** **02 41 52.1 +1.4**
ARU SS **SnSn** **02 42 42.4 +4.0**
ARU SSS SSS 02 42 58.1
ARU pmax pmax
comp=Z,747nm,1.2s
ARU Arti 24.89 14 P **P** **02 37 28.0 -0.1**
UPM Unac-Piva 24.90 303⇓*i*P **P** **02 37 28.0 -0.6**
UPM Unac-Piva 24.90 303⇑*i*P **P** **02 37 27.5 -1.1**
KUU Kurty 24.97 55 *i*P **P** **02 37 29.7 +0.7**
comp=Z,757nm,1.4s,baz=56
KUU *e*S **S** **02 41 54.5 +2.2**
baz=56
KUU Kurty 24.97 55 *i*P **P** **02 37 29.7 +0.7**
KUU *e*S **S** **02 41 54.5 +2.2**
KUU pmax pmax
comp=Z,757nm,1.4s
AAE Adis Abeba 24.97 201⇓*i*P **P** **02 37 33.6 +4.1**
AAE *i*S **S** **02 41 59.9 +6.6**
AAE Adis Abeba 24.97 201⇓*i*P **P** **02 37 33.6 +4.1**
AAE *i*S **S** **02 41 59.9 +6.6**
KOLS Kolonicke sedl 25.00 318 *e*P **P** **02 37 29.1 -0.1**
KOLS pmax pmax
comp=Z,996nm,1.4s
KOLS Kolonicke sedl 25.00 318 *e*P **P** **02 37 29.1 -0.1**
KOLS *e*S **S** **02 41 56.5 +3.8**
HCY Herceg Novi 25.01 301⇓*i*P **P** **02 37 28.9 -0.5**
HCY Herceg Novi 25.01 301⇑*i*P **P** **02 37 29.3 -0.1**
SMLA Simla 25.02 86 *e*P **P** **02 37 30.8 +1.3**
SMLA IAmb IAmb 02 37 34.6
comp=Z,608nm,0.9s
SMLA *e*S **S** **02 41 55.9 +2.7**
BRY Bratogost 25.09 302⇓*i*P **P** **02 37 29.6 -0.6**
BRY Bratogost 25.09 302⇑*i*P **P** **02 37 29.3 -0.9**
KDJ Kajisay 25.12 60 IAMs_20 IAMs_20 02 49 11.1
comp=Z,50µm,18.0s
FURI Furi 25.12 201⇑*i*P **P** **02 37 32.3 +1.4**
FURI *i*S **S** **02 42 06.1 +10**
FURI Furi 25.12 201 P **P** **02 37 30.9 0.0**
FURI IAmb IAmb 02 37 41.8
comp=Z,481nm,1.1s
FURI Furi 25.12 201⇑*i*P **P** **02 37 32.3 +1.4**
FURI *i*S **S** **02 42 06.1 +10**
KWP Kalwaria Pacla 25.13 320 *e*P **P** **02 37 30.7 +0.4**
KWP *e*S **S** **02 41 56.6 +1.9**
KWP Kalwaria Pacla 25.13 320 P **P** **02 37 30.5 +0.1**
KWP pmax pmax
comp=Z,647nm,0.7s
KWP MLR MLR
comp=Z,24µm,21.0s
KWP Kalwaria Pacla 25.13 320 P **P** **02 37 30.5 +0.1**
TNSS Tian-Shan 25.16 57 *i*P **P** **02 37 32.5 +1.3**
baz=58
TNSS Tian-Shan 25.16 57 *i*P **P** **02 37 32.5 +1.3**
TREB Trebinje 25.18 302 *e*P **P** **02 37 29.9 -1.0**
AAA Alma-Ata 25.18 57 *e*P **P** **02 37 32.4 +1.3**
baz=57
AAA *e*S **S** **02 41 58.6 +2.7**
baz=57
AAA LR LR 02 47 32.6
comp=Z,16µm,12.5s,baz=57
AAA Alma-Ata 25.18 57 *e*P **P** **02 37 32.3 +1.3**
AAA *e*S **S** **02 41 58.6 +2.7**
AAA MLR MLR
comp=Z,16µm,13.0s
KNDC Almaty 25.22 57 P **P** **02 37 33.3 +1.9**
MDOK Medeo 25.27 57 *i*P **P** **02 37 32.8 +0.9**
baz=58
MDOK *e*S **S** **02 41 59.7 +2.2**
baz=58
MDOK LR LR 02 47 18.9
comp=Z,22µm,13.7s,baz=58
MDOK Medeo 25.27 57 *i*P **P** **02 37 32.7 +0.9**
MDOK *e*S **S** **02 41 59.6 +2.2**
MDOK MLR MLR
comp=Z,22µm,14.0s
BRZS Berezniki 25.30 40 *i*P **P** **02 37 32.3 +0.3**
comp=Z,278nm,1.0s,baz=40
BRZS Berezniki 25.30 40 *i*P **P** **02 37 32.2 +0.3**
BRZS pmax pmax
comp=Z,278nm,1.0s
CHKK Chushkaly 25.41 56 *e*P **P** **02 37 34.1 +1.1**
baz=56
CHKK Chushkaly 25.41 56 *e*P **P** **02 37 34.1 +1.1**
CGL1 Ceglie Messapi 25.42 297⇑*i*P **P** **02 37 32.2 -0.9**
CRVS Cervenica-Dubn 25.44 317 *e*P **P** **02 37 34.0 +0.8**
CRVS pmax pmax
comp=Z,783nm,1.0s
CRVS Cervenica-Dubn 25.44 317 *e*P **P** **02 37 34.0 +0.8**
CRVS *e*S **S** **02 42 03.5 +3.7**
TARG Taragay, Kyrgy 25.50 61 IAMs_20 IAMs_20 02 49 12.5
comp=Z,54µm,18.0s
TAR1 Taranto 25.55 296⇑*i*P **P** **02 37 33.4 -0.8**
NDI New Delhi 25.65 91 *e*P **P** **02 37 37.0 +1.7**
SVE Sverdlovsk 25.72 16*d i*P **P** **02 37 35.9 +0.3**
SVE *e*S **S** **02 42 12.4 +8.5**
SVE pmax pmax
comp=Z,439nm,1.0s
SVE pmax pmax
comp=Z,7µm,11.9s
SVE MLR MLR
comp=N,39µm,20.0s

SVE MLR MLR
comp=Z,52µm,20.0s
SVE MLR MLR
comp=E,38µm,18.0s
TIP Timpagrande 25.80 293 ⇑P **P** **02 37 37.3 +0.7**
TIP Timpagrande 25.80 293 P **P** **02 37 36.2 -0.5**
TIP IAmb IAmb 02 37 42.0
comp=Z,263nm,0.7s
KECS Kecovo 25.81 316 *e*P **P** **02 37 37.5 +0.9**
KECS pmax pmax
comp=Z,788nm,1.0s
KECS Kecovo 25.81 316 *e*P **P** **02 37 37.4 +0.9**
KECS *e*S **S** **02 42 11.3 +5.7**
KIRV Kirov 25.91 2 P **P** **02 37 37.1 -0.2**
comp=Z,418nm,0.5s,baz=188,slow=3.7,SNR=65
KIRV LR LR 02 50 04.0
comp=Z,69µm,18.9s,baz=180,slow=42
PSZ Piszkesteto 25.91 314 ⇑P **P** **02 37 38.9 +1.3**
PSZ Piszkesteto 25.91 314 ⇑P **P** **02 37 38.9 +1.3**
PSZ Piszkesteto 25.91 314 P **P** **02 37 37.2 -0.4**
MICGM Minsk 25.92 333⇓*i*P **P** **02 37 37.0 -0.5**
MICGM ⇓*i*P **P** **02 37 37.0 -0.5**
MICGM ⇓*i*P **P** **02 37 37.0 -0.5**
MICGM PM 02 37 38.0
comp=Z,0.8nm,1.0s
MICGM PM 02 37 38.0
comp=N,1.2nm,1.0s
MICGM PM 02 37 38.0
comp=Z,17nm,6.0s
MICGM PM 02 37 38.0
comp=E,5.6nm,6.0s
MICGM PM 02 37 42.0
comp=Z,22nm,8.0s
MICGM PM 02 37 42.0
comp=N,9.6nm,8.0s
MICGM *e*PP sP 02 38 16.0 +33
MICGM PPM 02 38 18.0
comp=Z,8.6nm,3.0s
MICGM *e*PPP PPP 02 38 48.0
MICGM *e*PcP PcP 02 40 54.0 -12
MICGM *e*S **S** **02 42 06.0 -1.2**
MICGM SM 02 42 12.0
comp=N,7.2nm,6.0s
MICGM SM 02 42 14.0
comp=E,9.0nm,6.0s
MICGM SM 02 42 16.0
comp=N,18nm,8.0s
MICGM SM 02 42 16.0
comp=E,42nm,8.0s
MICGM *e*SS SnSn 02 43 28.0 +24
MICGM *e*SSS SSS 02 43 52.0
MICGM *e*LQ LQ 02 44 48.0
MICGM LQM 02 46 20.0
comp=N,100nm,24.0s
MICGM LQM 02 46 36.0
comp=E,94nm,24.0s
MICGM LQM 02 46 52.0
comp=N,62nm,24.0s
MICGM *e*LR LR 02 47 00.0
MICGM LRM MLR 02 48 56.0
comp=E,35nm,16.0s
MICGM LRM MLR 02 49 04.0
comp=Z,66nm,16.0s
MICGM LRM MLR 02 49 06.0
comp=N,25nm,16.0s
MICGM LRM MLR 02 49 08.0
comp=Z,54nm,16.0s
MICGM LRM MLR 02 49 10.0
comp=E,27nm,16.0s
MICGM LRM MLR 02 49 12.0
comp=N,36nm,16.0s
MNK Minsk 25.92 333⇓*i*P **P** **02 37 37.0 -0.5**
MNK *e* 02 38 16.0
MNK *e*S **S** **02 42 06.0 -1.2**
MNK *e*SS SnSn 02 43 28.0 +24
MNK pmax pmax
comp=E,6µm,6.0s
MNK pmax pmax
comp=Z,17µm,6.0s
MNK pmax pmax
comp=N,1µm,1.0s
MNK pmax pmax
comp=Z,750nm,1.0s
MNK pmax pmax
comp=N,10µm,8.0s
MNK pmax pmax
comp=Z,22µm,8.0s
MNK pmax pmax
comp=Z,9µm,3.0s
MNK smax smax
comp=N,7µm,6.0s
MNK smax smax
comp=E,9µm,6.0s
MNK smax smax
comp=N,18µm,6.0s
MNK smax smax
comp=E,42µm,6.0s
MNK MLR MLR
comp=E,35µm,16.0s
MNK MLR MLR
comp=Z,66µm,16.0s
MNK MLR MLR
comp=N,25µm,16.0s
MNK MLR MLR
comp=Z,54µm,16.0s
MNK MLR MLR
comp=E,27µm,16.0s
MNK MLR MLR
comp=N,36µm,16.0s
DDI Dehra Dun 25.94 87 *e*P **P** **02 37 39.4 +1.4**
DDI IAmb IAmb 02 37 42.8
comp=Z,854nm,1.0s
DDI *e*S **S** **02 42 06.4 -1.6**
BAI Bari 25.94 298 *e*P **P** **02 37 38.0 +0.2**
MATE Matera 26.00 297 ⇑P **P** **02 37 37.9 -0.5**
BRVK Borovoye 26.02 32*c i*P **P** **02 37 38.6 +0.2**
BRVK pmax pmax
comp=Z,480nm,1.3s
BRVK MLR MLR
comp=Z,54µm,19.0s
BRVK Borovoye 26.02 32 P **P** **02 37 38.4 0.0**
MORH Mrgy, Hungar 26.02 310⇑*i*P **P** **02 37 39.1 +0.7**
BVA0 Borovoye Array 26.04 32 *i*P **P** **02 37 38.7 +0.1**
BVAR Borovoye Array 26.04 32 P **P** **02 37 39.0 +0.3**
comp=Z,125nm,0.6s,baz=225,slow=8.0,SNR=648
BVAR PcP **PcP** **02 41 06.9 +0.6**
comp=Z,26nm,0.6s,baz=160,slow=1.6,SNR=6.8
BVAR ScP **ScP** **02 44 43.4 -2.3**
comp=Z,19nm,0.6s,baz=201,slow=3.1,SNR=10
BVAR LR LR 02 50 03.2
comp=Z,53µm,20.7s,baz=250,slow=42
SG1 Sgolgore (BA) 26.05 297 *e*P **P** **02 37 37.8 -1.1**
PRZ Przheval'sk 26.08 59 P **P** **02 37 39.0 -0.3**
PRZ pmax pmax
comp=Z,510nm,1.1s
PRZ MLR MLR
comp=Z,48µm,21.0s
PRZ Przheval'sk 26.08 59 P **P** **02 37 39.0 -0.3**
PRZ IAMs_20 IAMs_20 02 49 44.4
comp=Z,48µm,21.0s
SATY Saty 26.21 58 *i*P **P** **02 37 41.8 +1.3**
comp=Z,394nm,1.4s,baz=58
SATY *e*S **S** **02 42 14.9 +2.7**
baz=58
SATY Saty 26.21 58 *i*P **P** **02 37 41.7 +1.3**
SATY *e*S **S** **02 42 14.9 +2.7**
SATY pmax pmax
comp=Z,394nm,1.4s
SATY Saty 26.21 58 *i*P **P** **02 37 41.7 +1.3**
SATY *e*S **S** **02 42 14.9 +2.7**
SATY pmax pmax
comp=Z,394nm,1.4s
NIE Niedzica 26.36 317 *e*P **P** **02 37 42.1 +0.5**
NIE *e*S **S** **02 42 21.8 +7.4**
CEL Celeste 26.42 291 P **P** **02 37 42.1 -0.2**
MGRS Mrkonjic Grad 26.50 305 *e*P **P** **02 37 49.6 +6.7**
BLY Banja Luka 26.52 306⇑*i*P **P** **02 37 42.9 -0.1**
NACGM Naroch 26.65 333 *e*P **P** **02 37 44.0 0.0**
NACGM *e*P **P** **02 37 44.0 0.0**
NACGM *e*PP PnPn 02 38 40.0 +15
NACGM *e*PPP PPP 02 39 05.0
NACGM *e*S **S** **02 42 14.0 -4.6**
NACGM *e*SS **SnSn** **02 43 14.0 -7.4**
NACGM *e*SSS SSS 02 44 02.0
NACGM *e*LQ LQ 02 46 20.0

NACGM eLR LR 02 48 36.0
NACGM LRM MLR 02 51 06.0
comp=Z,37nm,14.0s
UZB Uzynbulak 26.67 58 *i* P **P 02 37 45.6 +1.1**
comp=Z,375nm,1.6s,baz=58
UZB *e*S **S 02 42 22.2 +2.6**
baz=58
UZB Uzynbulak 26.67 58 *i* P **P 02 37 45.6 +1.1**
UZB *e*S **S 02 42 22.1 +2.6**
UZB pmax pmax
comp=Z,375nm,1.6s
TDK Taldyqorghan 26.70 54 *i* P **P 02 37 45.2 +0.5**
comp=Z,774nm,1.3s,baz=54
TDK *i* S **S 02 42 21.7 +1.8**
baz=54
TDK LR LR 02 48 51.4
comp=Z,27µm,13.5s,baz=54
TDK Taldyqorghan 26.70 54 *i* P **P 02 37 45.2 +0.5**
TDK *i* S **S 02 42 21.7 +1.8**
TDK pmax pmax
comp=Z,774nm,1.3s
TDK MLR MLR
comp=Z,27µm,14.0s
LANS Liptovska Anna 26.71 316 *e*P **P 02 37 45.7 +0.9**
LANS pmax pmax
comp=Z,257nm,1.0s
LANS Liptovska Anna 26.71 316 *e*P **P 02 37 45.7 +0.9**
LANS *e*S **S 02 42 26.5 +6.5**
SRO2 Moca 26.76 313 *e*P **P 02 37 45.1 -0.1**
SRO2 pmax pmax
comp=Z,311nm,0.9s
SRO2 Moca 26.76 313 *e*P **P 02 37 45.1 -0.1**
VYHS Vyhne 26.80 315 *e*P **P 02 37 45.7 +0.2**
VYHS pmax pmax
comp=Z,433nm,1.5s
VYHS Vyhne 26.80 315 *e*P **P 02 37 45.7 +0.2**
VYHS *e*S **S 02 42 21.0 -0.2**
SGRT San Giovanni R 26.88 299 P **P 02 37 46.0 -0.4**
PRIJ Prijedor 26.91 306 *e*P **P 02 37 46.1 -0.4**
IDID Didziasalis 26.97 333 *e*P **P 02 37 46.9 0.0**
SHLS Shalkode 26.98 58 *i* P **P 02 37 51.0 +3.5**
comp=Z,325nm,2.0s,baz=58
SHLS *e*S **S 02 42 31.5 +7.0**
baz=58
SHLS LR LR 02 49 03.2
comp=Z,10µm,15.6s,baz=58
SHLS Shalkode 26.98 58 *i* P **P 02 37 50.9 +3.5**
SHLS *e*S **S 02 42 31.5 +7.0**
SHLS pmax pmax
comp=Z,325nm,2.0s
SHLS MLR MLR
comp=Z,10µm,16.0s
OJC Ojcow 27.04 319 *e*P **P 02 37 47.7 0.0**
OJC *e*S **S 02 42 29.2 +4.3**
OJC Ojcow 27.04 319 P **P 02 37 47.4 -0.2**
OJC pmax pmax
comp=Z,1µm,1.1s
OJC Ojcow 27.04 319 P **P 02 37 47.4 -0.2**
BEL Belsk 27.36 322 *e*P **P 02 37 52.1 +1.6**
BEL *e*S **S 02 42 33.0 +3.1**
BEL Belsk 27.36 322 P **P 02 37 52.8 +2.3**
BEL pmax pmax
comp=Z,549nm,1.1s
ISAL Salakas 27.39 333 *e*P **P 02 37 50.9 +0.2**
IZAR Zarasai 27.48 333 *e*P **P 02 37 51.7 +0.1**
SUW Suwalki 27.53 328 *e*P **P 02 37 51.1 -0.9**
SUW *e*SP **pP 02 37 56.2 +0.1**
SUW *e*S **S 02 42 39.4 +6.9**
SUW Suwalki 27.53 328 P **P 02 37 51.7 -0.3**
SUW pmax pmax
comp=Z,823nm,1.0s
SUW MLR MLR
comp=Z,24µm,21.0s
SUW Suwalki 27.53 328 P **P 02 37 51.7 -0.3**
DILA Dilla 27.57 201 *e*P **P 02 37 56.8 +3.9**
DILA *e*S **S 02 42 44.6 +10**
DILA Dilla 27.57 201 *e*P **P 02 37 57.2 +4.3**
DILA *e*S **S 02 42 39.0 +4.9**
VAE Valguarnera 27.57 289 P **P 02 37 54.5 +1.8**
comp=Z,38nm,0.9s,baz=137,slow=7.9,SNR=14
VAE LR LR 02 51 59.4
comp=Z,10µm,18.4s,baz=28,slow=43
JAVC Velka Javorina 27.65 315⇓ *i*P **P 02 37 54.1 +0.9**
JAVC *e*S **S 02 42 40.6 +5.8**
SMOL Smolenice 27.66 314 *e*P **P 02 37 53.3 +0.1**
SMOL pmax pmax
comp=Z,226nm,1.2s
SMOL Smolenice 27.66 314 *e*P **P 02 37 53.3 +0.1**
SMOL *e*S **S 02 42 40.2 +5.5**
KOGS Kog 27.66 309⇑ *i*P **P 02 37 53.5 +0.3**
KOGS *e*S **S 02 42 35.5 +0.8**
KOGS *i* ScP **ScP 02 44 51.7 +1.1**
MODS Modra-Piesok 27.69 313 *e*P **P 02 37 52.6 -1.0**
MODS pmax pmax
comp=Z,548nm,1.4s
MODS Modra-Piesok 27.69 313 *e*P **P 02 37 52.6 -1.0**
MODS *e*S **S 02 42 39.7 +4.4**
OKC Ostrava-Krasne 27.80 317 *e*P **P 02 37 54.4 0.0**
OKC Ostrava-Krasne 27.80 317 *e*P **P 02 37 54.4 0.0**
BHPL Bhopal 27.81 102 *e*P **P 02 37 55.9 +1.1**
BHPL IAmb IAmb 02 37 59.1
comp=Z,236nm,1.4s
SOP Sopron 27.88 312 P **P 02 37 55.4 +0.2**
SOP pmax pmax
comp=Z,318nm,0.7s
CRES Cresnjev 28.00 307⇑ *i*P **P 02 37 56.8 +0.5**
BOJS Bojanci 28.04 307⇑ *i*P **P 02 37 56.9 +0.2**
BOJS *e*S **S 02 42 40.0 -0.9**
MORC Moravsky Berou 28.12 316⇑ P **P 02 37 58.2 +0.8**
MORC Moravsky Berou 28.12 316⇓ *i*P **P 02 37 57.1 -0.3**
MORC *e*S **S 02 42 46.3 +4.2**
MORC Moravsky Berou 28.12 316⇑ P **P 02 37 58.2 +0.8**
PABE Paberze 28.20 331 *e*P **P 02 37 57.9 -0.1**
INTR Introdacqua 28.28 299 P **P 02 37 58.4 -0.5**
INTR IAmb IAmb 02 38 18.0
comp=Z,141nm,0.9s
KAD Karad 28.36 116⇑ *i*P **P 02 38 02.1 +2.3**
PDKS Podkum 28.37 308 *e*P **P 02 38 00.1 +0.4**
ARSA Arzberg 28.39 310 *e*P **P 02 37 59.9 +0.1**
comp=Z,104nm,1.1s,SNR=37
ARSA *e*ScP **ScP 02 44 53.6 +0.8**
comp=Z,20nm,1.0s
VISS Visnje 28.40 307⇑ *i*P **P 02 38 00.0 +0.1**
VISS *e*S **S 02 42 48.5 +1.9**
CONA Conrad Observa 28.41 312 *e*P **P 02 37 59.7 -0.3**
comp=Z,225nm,1.2s,SNR=54
CONA *e*ScP **ScP 02 44 53.9 +0.9**
comp=Z,44nm,1.6s
CORL Corleone 28.45 290 P **P 02 38 00.5 0.0**
CORL IAmb IAmb 02 38 16.2
comp=Z,195nm,1.0s
VRAC Vranov 28.48 315 P **P 02 38 00.8 +0.2**
comp=Z,134nm,1.0s,baz=112,slow=8.6,SNR=53
VRAC S **S 02 42 45.8 -2.0**
comp=Z,6.5nm,0.8s,baz=100,slow=12,SNR=1.5
VRAC LR LR 02 52 49.7
comp=Z,24µm,18.0s,baz=107,slow=44
VRAC Vranov 28.48 315⇑ P **P 02 38 01.0 +0.4**
VRAC Vranov 28.48 315⇓ *i*P **P 02 38 00.7 +0.1**
VRAC *e*S **S 02 42 49.0 +1.3**
VRAC Vranov 28.48 315⇑ P **P 02 38 01.0 +0.4**
KRUC Moravsky 28.50 314⇓ *i*P **P 02 38 00.8 +0.1**
KRUC *e*S **S 02 42 50.8 +2.8**
KRUC Moravsky 28.50 314 P **P 02 38 01.0 +0.3**
KRUC pmax pmax
comp=Z,186nm,0.9s
CLTB Caltabellotta 28.52 290 P **P 02 38 00.7 -0.5**
SOKA Soboth 28.53 309 *e*P **P 02 38 01.1 0.0**
comp=Z,85nm,1.0s,SNR=66
SOKA *e*ScP **ScP 02 44 54.8 +1.4**
comp=Z,88nm,1.4s
CEY Cerknica 28.66 307⇑ *i*P **P 02 38 02.1 -0.2**
KLMR Klimovskoe 28.67 352*c i*P **P 02 38 00.9 -1.1**
KLMR *e*S **S 02 42 51.2 +1.0**
KLMR pmax pmax
comp=Z,382nm,0.8s
KLMR MLR MLR
comp=Z,25µm,14.0s
KLMR Klimovskoe 28.67 352⇑ *i*P **P 02 38 00.9 -1.1**
KLMR *i* P **P 02 38 00.9 -1.1**
KLMR *i* P **P 02 38 00.9 -1.1**
KLMR AMP 02 38 08.1
comp=Z,382nm,0.8s
KLMR *e*S **S 02 42 51.3 +1.0**
KLMR *e*S **S 02 42 51.3 +1.0**
KLMR LQ LQ 02 47 17.4
KLMR LQ LQ 02 47 17.4
KLMR LR LR 02 48 38.0
KLMR AMP 02 50 53.5
comp=Z,25µm,13.8s
LJU Ljubljana 28.68 307⇑ *i*P **P 02 38 02.8 +0.4**
LJU *e*S **S 02 42 51.8 +0.9**
LJU *e*ScP **ScP 02 44 55.0 +1.2**
LJU Ljubljana 28.68 307⇑ *i*P **P 02 38 02.8 +0.4**
KRLC Kraliky 28.69 316 *e*P **P 02 38 02.6 +0.1**
KRLC MLR MLR
comp=Z,23µm,14.9s
KRLC Kraliky 28.69 316 *e*P **P 02 38 02.6 +0.1**
KRLC AMS AMS 02 52 50.0
comp=Z,23µm,14.9s
AQU L'Aquila 28.70 300 P **P 02 38 02.2 -0.4**
AQU pmax pmax
comp=Z,324nm,1.1s
AQU L'Aquila 28.70 300⇑ *i*P **P 02 38 04.4 +1.8**
AQU L'Aquila 28.70 300 P **P 02 38 02.2 -0.4**
AQU IAmb IAmb 02 38 18.6
comp=Z,324nm,1.1s
OBKA Obir 28.80 308 *e*P **P 02 38 03.7 +0.2**
comp=Z,233nm,1.2s,SNR=50
KURBB Kurchatov Arra 28.87 43 P **P 02 38 04.8 +0.9**
comp=Z,154nm,0.9s,baz=248,slow=9.4,SNR=268
KURBB PcP **PcP 02 41 13.3 +0.2**
comp=Z,22nm,0.7s,baz=246,slow=2.8,SNR=4.2
KURBB ScP **ScP 02 44 51.8 -2.4**
comp=Z,16nm,0.8s,baz=236,slow=3.9,SNR=6.7
KURBB P3KPbc 03 10 16.7
comp=Z,3.4nm,0.9s,baz=65,slow=3.8,SNR=8.7
KURBB Kurchatov Arra 28.87 43 P **P 02 38 04.6 +0.7**
KURK Kurchatov 28.96 42*c i*P **P 02 38 05.6 +0.8**
KURK pmax pmax
comp=Z,495nm,1.3s
KURK MLR MLR
comp=Z,28µm,18.0s
KURK Kurchatov 28.96 42 P **P 02 38 04.7 0.0**
PRGR Permogore 28.98 358⇑ *i*P **P 02 38 03.8 -1.0**
PRGR pmax pmax
comp=Z,163nm,0.6s
NRCA Norcia 28.98 300 P **P 02 38 04.9 -0.3**
NRCA IAmb IAmb 02 38 19.6
comp=Z,143nm,0.9s
DPC Dobruska-Polom 29.08 317 *e*P **P 02 38 05.7 -0.2**
DPC MLR MLR
comp=Z,23µm,13.6s
DPC Dobruska-Polom 29.08 317 *e*P **P 02 38 05.7 -0.2**
DPC AMS AMS 02 53 00.0
comp=Z,23µm,13.6s
TREC Trest 29.14 314 *e*P **P 02 38 06.8 +0.3**
TREC *e*S **S 02 43 00.0 +1.9**
TREC MLR MLR
comp=Z,21µm,15.9s
TREC Trest 29.14 314 *e*P **P 02 38 06.8 +0.3**
TREC *e*S **S 02 43 00.0 +1.9**
TREC AMS AMS 02 53 00.0
comp=Z,21µm,15.9s
OSTC Ostas 29.23 317 *e*P **P 02 38 07.0 -0.2**
OSTC AMS AMS 02 53 30.0
comp=Z,18µm,13.4s
GOA Goa 29.23 120 *e*P **P 02 38 10.2 +2.7**
GOA IAmb IAmb 02 38 11.3
comp=Z,168nm,1.2s
GOA *e*S **S 02 42 59.8 -0.2**
KLNR Kaliningrad 29.25 327 *i* P **P 02 38 07.0 -0.3**
KLNR pmax pmax
comp=Z,944nm,1.9s
KSP Ksiaz 29.31 318 *e*P **P 02 38 07.8 -0.1**
KSP *e*S **S 02 43 04.3 +3.7**
UPC Upice 29.32 317 *e*P **P 02 38 07.9 -0.1**
UPC MLR MLR
comp=Z,22µm,17.4s
UPC Upice 29.32 317 *e*P **P 02 38 07.9 -0.1**
UPC AMS AMS 02 51 30.0
comp=Z,22µm,17.4s
CHVC Chvalec 29.33 317 *e*P **P 02 38 08.1 0.0**
CHVC AMS AMS 02 51 40.0
comp=Z,18µm,16.7s
MOA Molln 29.39 311 *e*P **P 02 38 08.7 0.0**
comp=Z,223nm,0.8s,SNR=100
VSU Vasula 29.40 337 *e*P **P 02 38 08.6 +0.1**
VSU Vasula 29.40 337*c i*P **P 02 38 07.6 -0.9**
VSU pmax pmax
comp=Z,726nm,0.8s
VSU MLR MLR
comp=Z,156µm,17.0s
PBUR Paburge 29.40 330 *e*P **P 02 38 09.4 +0.8**
MYKA Terra Mystica 29.43 308 *e*P **P 02 38 09.1 0.0**
comp=Z,46nm,0.5s,SNR=52
PRED Cave del Predi 29.43 308 P **P 02 38 09.4 +0.3**
PRED IAmb IAmb 02 38 22.3
comp=Z,236nm,1.1s
PUL Pulkovo 29.43 342 *e*P **P 02 38 09.5 +0.7**
PUL Pulkovo 29.43 342⇓ *i*P **P 02 38 08.8 -0.1**
PUL pmax pmax
comp=Z,238nm,0.8s
PUL MLR MLR
comp=Z,38µm,15.0s
MURB Monte Urbino 29.47 301 P **P 02 38 09.9 +0.4**
MAKZ Makanchi 29.61 52 P **P 02 38 10.9 +0.2**
MAKZ pmax pmax
comp=Z,97nm,1.1s
MAKZ MLR MLR
comp=Z,27µm,19.0s
MAKZ Makanchi 29.61 52 P **P 02 38 10.8 +0.2**
KBA Koelnbreinsper 29.75 309 *e*P **P 02 38 12.1 0.0**
comp=Z,270nm,0.9s,SNR=126
KBA Koelnbreinsper 29.75 309 P **P 02 38 12.3 +0.2**
KBA pmax pmax
comp=Z,335nm,0.9s
KLRI Killari 29.77 112 *e*P **P 02 38 12.9 +0.6**
KLRI IVmB_BB 02 38 14.8
comp=Z,1µm,1.9s
KLRI *e*S **S 02 43 10.5 +2.0**
KLRI IVMs_BB IVMs_BB 02 52 00.1
comp=Z,5µm,15.8s
GOPC GO Pecny, Ondr 29.80 315 *e*P **P 02 38 12.2 -0.1**
GOPC *e*S **S 02 43 08.8 +0.3**
GOPC MLR MLR
comp=Z,27µm,14.7s
GOPC GO Pecny, Ondr 29.80 315 *e*P **P 02 38 12.2 -0.1**
GOPC *e*S **S 02 43 08.8 +0.3**
GOPC AMS AMS 02 52 50.0
comp=Z,27µm,14.7s
MK31 Makanchi Array 29.81 52 P **P 02 38 12.9 +0.4**
MK31 pmax pmax
comp=Z,112nm,0.9s
MK31 Makanchi Array 29.81 52 P **P 02 38 12.9 +0.4**
MK31 IAmb IAmb 02 38 16.7
comp=Z,112nm,0.8s
MKAR Makanchi Array 29.81 52 P **P 02 38 13.3 +0.8**
comp=Z,119nm,0.7s,baz=248,slow=7.0,SNR=673
MKAR PP **PnPn 02 39 08.5 +0.4**
comp=Z,117nm,1.0s,baz=238,slow=11,SNR=4.2
MKAR ScP **ScP 02 44 55.2 -2.2**
comp=Z,24nm,1.0s,baz=278,slow=3.6,SNR=5.3
MKAR LR LR 02 51 49.3
comp=Z,27µm,19.8s,baz=252,slow=40
MKAR P3KPbc 03 10 15.2
comp=Z,1.9nm,0.8s,baz=72,slow=4.0,SNR=6.3
MKAR Makanchi Array 29.81 52 P **P 02 38 12.8 +0.4**
MKAR Makanchi Array 29.81 52 P **P 02 38 12.8 +0.4**
ZOU Zoufplan 29.86 308 P **P 02 38 12.5 -0.5**
ZOU IAmb IAmb 02 38 24.1
comp=Z,218nm,1.2s
LATE Laterza 29.91 300 P **P 02 38 13.2 -0.1**
LATE IAmb IAmb 02 38 24.8
comp=Z,162nm,1.1s
JBP Jabalpur 29.95 100⇓ *e*P **P 02 38 14.9 +1.1**
JBP *e*S **S 02 43 09.3 -2.0**
GKP Gorka Klasztor 29.96 322 *e*P **P 02 38 14.7 +1.1**
GKP *e*S **S 02 43 14.1 +3.4**
GKP Gorka Klasztor 29.96 322 P **P 02 38 17.9 +4.3**
GKP pmax pmax
comp=Z,192nm,1.2s
PRU Pruhonice 29.98 315 *e*P **P 02 38 13.7 -0.1**
PRU *e*S **S 02 43 12.3 +1.2**
PRU MLR MLR
comp=Z,25µm,15.1s
PRU Pruhonice 29.98 315 *e*P **P 02 38 13.7 -0.1**
PRU *e*S **S 02 43 12.3 +1.2**
PRU AMS AMS 02 53 00.0
comp=Z,25µm,15.1s
PRA Prague 30.07 315 *e*P **P 02 38 15.1 +0.5**
PRA *e*S **S 02 43 13.9 +1.3**
PRA MLR MLR
comp=Z,11µm,15.7s
PRA Prague 30.07 315 *e*P **P 02 38 15.1 +0.5**
PRA *e*S **S 02 43 13.9 +1.3**
PRA AMS AMS 02 53 00.0
comp=Z,11µm,15.7s
GEC2 GERESS Array S 30.07 312 *e*P **P 02 38 14.1 -0.7**
comp=Z,54nm,0.8s,baz=112,slow=8.8
GEC2 GERESS Array S 30.07 312 P **P 02 38 14.1 -0.7**
GERES GERESS Array B 30.07 312 P **P 02 38 14.1 -0.7**
comp=Z,29nm,0.9s,baz=111,slow=7.6,SNR=93
GERES PcP **PcP 02 41 16.3 0.0**
comp=Z,15nm,0.7s,baz=146,slow=2.0,SNR=5.3
GERES ScP **ScP 02 44 58.6 +0.3**
comp=Z,13nm,0.9s,baz=129,slow=4.3,SNR=8.1
GERES PKiKP **PKiKP 02 48 49.3 +1.0**
comp=Z,0.5nm,0.5s,baz=0.0,slow=1.5,SNR=4.1
GERES LR LR 02 51 53.4
comp=Z,9µm,20.3s,baz=115,slow=40
GERES GERESS Array B 30.07 312 P **P 02 38 14.2 -0.6**
NGP Nagpur 30.11 105 *e*P **P 02 38 17.0 +1.7**
NGP *ex* x 02 38 19.0
comp=Z,307nm,1.2s
NGP *e*S **S 02 43 14.7 +0.9**
CIMO Cimolais 30.15 307 P **P 02 38 14.8 -0.6**
CIMO IAmb IAmb 02 38 20.9
comp=Z,203nm,0.8s
PVCC Panska Ves 30.17 316 *e*P **P 02 38 15.3 -0.2**
PVCC MLR MLR
comp=Z,16µm,16.7s
PVCC Panska Ves 30.17 316 *e*P **P 02 38 15.3 -0.2**
PVCC AMS AMS 02 52 00.0
comp=Z,16µm,16.7s
PBCC Pribram 30.19 314 *e*P **P 02 38 15.6 -0.1**
PBCC *e*S **S 02 43 16.0 +1.4**
ABTA Abfaltersbach 30.21 308 *e*P **P 02 38 15.8 -0.3**
comp=Z,128nm,0.8s,SNR=73
ABTA *ep*PKiKP **PKiKP 02 48 53.5 +5.0**
comp=Z,12nm,1.3s
KHC Kasperske Hory 30.25 313*c i*P **P 02 38 16.0 -0.3**
KHC pmax pmax
comp=Z,158nm,1.7s
KHC Kasperske Hory 30.25 313 *e*P **P 02 38 15.7 -0.6**
KHC *ex* x 02 38 23.0
KHC *e*PP **PP 02 39 21.5 -3.0**
KHC *e*S **S 02 43 17.4 +1.9**
KHC AMS AMS 02 53 10.0
comp=Z,21µm,16.6s
KHC Kasperske Hory 30.25 313 P **P 02 38 16.0 -0.3**
RJOB Jochberg 30.30 310 *e*P **P 02 38 15.3 -1.4**
comp=Z,189nm,0.8s,baz=112,slow=8.8
SLIT Slitere, Latvi 30.35 333 *e*P **P 02 38 17.0 0.0**
OSSC Osservatorio P 30.43 301 P **P 02 38 17.5 -0.5**
OSSC IAmb IAmb 02 38 25.7
comp=Z,110nm,0.9s
CASP Castiglione de 30.61 300 P **P 02 38 18.9 -0.6**
CASP IAmb IAmb 02 38 34.3
comp=Z,120nm,0.9s
CTI Castel Tesino 30.62 306 P **P 02 38 19.2 -0.5**
CTI pmax pmax
comp=Z,423nm,0.8s
CTI MLR MLR
comp=Z,12µm,19.0s
CTI Castel Tesino 30.62 306 P **P 02 38 19.2 -0.5**
SRSP Sriramsagar 30.67 109 *e*P **P 02 38 20.1 -0.1**
SRSP IVmBBB 02 38 22.4
comp=Z,1µm,1.6s
SRSP *e*S **S 02 43 23.9 +1.2**
SRSP IVMs_BB IVMs_BB 02 53 02.4
comp=Z,3µm,12.0s
BRG Berggiesshubel 30.67 316 *i* P **P 02 38 19.3 -0.6**
comp=Z,112nm,0.9s
BRG S **S 02 43 20.0 -2.1**
BRG SCP **ScP 02 45 00.8 +0.7**
comp=Z,56nm,1.4s
comp=N,18µm,21.5s
comp=E,16µm,14.0s
comp=Z,17µm,28.0s
BRG Berggiesshubel 30.67 316 *i* P **P 02 38 19.3 -0.6**
BRG S **S 02 43 20.0 -2.1**
BRG 02 45 00.8
BRG pmax pmax
comp=Z,112nm,0.9s
BRG MLR MLR
comp=N,18µm,21.5s
BRG MLR MLR
comp=E,16µm,14.0s
BRG MLR MLR
comp=Z,17µm,26.0s
BRG Berggiesshubel 30.67 316 *e*P **P 02 38 19.8 -0.2**
comp=Z,84nm,0.9s,baz=112,slow=8.8
PYUN Piuthan 30.68 89 *e*P **P 02 38 20.9 +0.4**
comp=Z,750nm,1.0s
WET Wettzell 30.68 313 P **P 02 38 19.3 -0.8**
WET pmax pmax
comp=Z,109nm,1.1s
WET Wettzell 30.68 313 *e*P **P 02 38 19.2 -0.9**
comp=Z,83nm,0.9s,baz=112,slow=8.8
ZCCA Zocca 30.76 303 P **P 02 38 20.5 -0.4**
ZCCA IAMs_20 IAMs_20 02 51 37.1
comp=Z,29µm,18.0s
WTTA Wattenberg 30.92 309 *e*P **P 02 38 21.8 -0.7**
comp=Z,226nm,1.0s,SNR=166
WTTA *e*S **S 02 43 30.3 +3.9**
comp=Z,149nm,1.6s
WTTA pPKiKP **pPKiKP 02 48 58.7 +5.1**
comp=Z,62nm,1.5s
WTTA Wattenberg 30.92 309 P **P 02 38 22.0 -0.4**
WTTA pmax pmax
comp=Z,543nm,0.8s
WATA Walderalm 30.98 309 *e*P **P 02 38 22.0 -0.9**
comp=Z,206nm,0.8s,SNR=139
WATA S **S 02 43 30.3 +3.0**
comp=Z,87nm,1.4s
WATA *e*ScP **ScP 02 45 06.1 +4.8**
comp=Z,52nm,1.3s
WATA *ep*PKiKP **pPKiKP 02 48 55.4 +1.8**
comp=Z,20nm,1.5s
FBE Freiberg 31.04 316 *e*P **P 02 38 23.2 +0.1**
comp=Z,52nm,0.9s,baz=112,slow=8.8
VLC Villacollemand 31.14 302 P **P 02 38 23.9 -0.4**
SQTA Sankt Quirin 31.20 308 *e*P **P 02 38 24.0 -0.8**
comp=Z,472nm,0.8s,SNR=248
SQTA *e*S **S 02 43 33.8 +3.2**
comp=Z,87nm,1.2s
SQTA *e*ScP **ScP 02 45 03.6 +1.6**
comp=Z,54nm,1.1s
SQTA *ep*PKiKP **pPKiKP 02 48 57.3 +3.6**
comp=Z,12nm,1.0s
DANN Dangsing 31.26 88 *e*P **P 02 38 26.5 +0.8**
comp=Z,2µm,1.0s
PRMA PARMA 31.29 304 P **P 02 38 25.2 -0.3**
MOTA Moosalm 31.30 309 *e*P **P 02 38 24.7 -1.0**
comp=Z,306nm,0.6s,SNR=177
MOTA *e*S **S 02 43 31.6 -0.7**
comp=Z,86nm,1.2s
MOTA *e*ScP **ScP 02 45 02.8 +0.4**
comp=Z,50nm,1.2s
MOTA *ep*PKiKP **pPKiKP 02 48 56.7 +2.8**
comp=Z,9.9nm,1.0s
KOLN Koldanda 31.30 89 *e*P **P 02 38 26.0 0.0**
comp=Z,772nm,1.3s
SALO Salr 31.30 305 P **P 02 38 25.3 -0.3**
ROTZ Rotzenmuhle 31.30 314 *e*P **P 02 38 25.5 0.0**
comp=Z,142nm,0.8s,baz=112,slow=8.8
NKC Novy Kostel 31.32 314 *e*P **P 02 38 25.8 +0.1**
NKC *e*S **S 02 43 35.2 +2.9**
NKC MLR MLR
comp=Z,23µm,13.4s
NKC Novy Kostel 31.32 314 *e*P **P 02 38 25.8 +0.1**
NKC *e*S **S 02 43 35.2 +2.9**
NKC AMS AMS 02 54 30.0
comp=Z,23µm,13.4s
TANN Tannenbergstha 31.38 315 *e*P **P 02 38 25.7 -0.6**
comp=Z,84nm,0.7s,baz=112,slow=8.8
WERN Wernitzgruen 31.38 315 *e*P **P 02 38 26.3 0.0**
comp=Z,81nm,0.9s,baz=112,slow=8.8
CLL Collm 31.39 317 *e*P **P 02 38 26.0 -0.2**
comp=Z,110nm,1.0s
CLL *i* pP **pP 02 38 30.1 -0.2**
comp=Z,180nm,1.0s
CLL *e*Pmax 02 38 32.0
CLL *i* sP **sP 02 38 33.5 +1.5**

CLL ePPP PPP 02 39 39.0
CLL e 02 40 22.0
CLL eS S **02 43 36.0 +2.8**
CLL e 02 44 57.0
CLL ePcS PcS **02 45 03.0 -0.7**
CLL esPcS 02 45 10.0
CLL eSSSS 02 46 00.0
CLL eScS ScS **02 49 04.0 +4.2**
CLL LmV 02 53 00.0
comp=N,14µm,21.6s
CLL LmV 02 53 00.0
comp=E,19µm,19.1s
CLL LmV 02 53 00.0
comp=Z,23µm,18.9s
CLL Lmax 02 55 00.0
CLL Collm 31.39 317 eP P **02 38 26.0 -0.2**
CLL i 02 38 30.1
CLL eS S **02 43 36.0 +2.8**
CLL e 02 49 04.0
CLL pmax pmax
comp=Z,110nm,1.0s
CLL MLR MLR
comp=Z,23µm,18.9s
CLL Collm 31.39 317 eP P **02 38 26.1 -0.2**
comp=Z,119nm,0.9s,baz=112,slow=8.8
CLL Collm 31.39 317 P P **02 38 26.1 -0.2**
CLL IAmb IAmb 02 38 44.2
comp=Z,207nm,1.1s
CLL IAMs_20 IAMs_20 02 53 28.8
comp=Z,24µm,18.0s
FUR Furstenfeldbru 31.40 310 eP P **02 38 26.4 0.0**
comp=Z,793nm,0.8s,baz=112,slow=8.8
RUE Ruedersdorf 31.43 319 eP P **02 38 27.2 +0.6**
RUE Ruedersdorf 31.43 319 eP P **02 38 27.2 +0.6**
comp=Z,109nm,0.9s,baz=112,slow=8.8
GUNZ Gunzen 31.43 315 eP P **02 38 26.7 0.0**
comp=Z,102nm,0.9s,baz=112,slow=8.8
MANZ Manzenberg 31.44 314 eP P **02 38 26.5 -0.3**
comp=Z,63nm,0.9s,baz=112,slow=8.8
FETA Feichten 31.46 308 eP P **02 38 26.2 -1.0**
comp=Z,163nm,0.6s,SNR=151
FETA eS S **02 43 35.3 +0.4**
comp=Z,64nm,1.1s
FETA eScP ScP **02 45 08.1 +5.1**
comp=Z,63nm,1.6s
FETA epPKiKP pPKiKP **02 49 01.9 +8.0**
comp=Z,19nm,1.1s
RPR Rampur 31.47 108 eP P **02 38 27.8 +0.5**
RPR IVmB_BB 02 38 29.7
comp=Z,1µm,1.4s
RPR eS S **02 43 36.8 +1.7**
RPR IVMs_BB IVMs_BB 02 52 01.4
comp=Z,3µm,18.4s
WERD Werda 31.48 315 eP P **02 38 27.1 0.0**
comp=Z,34nm,0.9s,baz=112,slow=8.8
VSL Villasalto 31.53 293 P P **02 38 27.3 -0.4**
VSL IAmb IAmb 02 38 46.4
comp=Z,101nm,0.7s
RETA Reutte 31.55 309 eP P **02 38 26.8 -1.1**
comp=Z,70nm,0.4s,SNR=85
RETA eS S **02 43 37.0 +0.8**
comp=Z,102nm,1.1s
RETA eScP ScP **02 45 08.6 +5.4**
comp=Z,90nm,1.7s
HYBB Hyderabad (bro 31.67 111 eP P **02 38 29.9 +0.8**
HYBB IVmB_BB 02 38 31.6
comp=Z,3µm,1.5s
HYBB eS S **02 43 39.2 +1.0**
HYBB IVMsBB 02 51 44.4
comp=Z,3µm,23.1s
HYB Hyderabad 31.67 111 *i* P P **02 38 29.0 -0.1**
comp=Z,500nm,1.0s
HYB eS S **02 43 40.0 +1.7**
HYB Hyderabad 31.67 111 eP P **02 38 29.9 +0.8**
HYB IAmb IAmb 02 38 32.8
comp=Z,1µm,1.4s
HYB eS S **02 43 33.5 -4.9**
ZSN Zaisan 31.68 51 *i* P P **02 38 29.4 +0.5**
comp=Z,229nm,2.6s,baz=52
ZSN Zaisan 31.68 51 *i* P P **02 38 29.4 +0.5**
ZSN pmax pmax
comp=Z,229nm,2.6s
FUORN Ofenpass-Fuorn 31.68 307 P P **02 38 28.7 -0.5**
FUORN IAmb IAmb 02 38 36.5
comp=Z,141nm,0.8s
KEST Kesra 31.74 286 P P **02 38 31.3 +1.7**
comp=Z,32nm,0.9s,baz=301,slow=1.1,SNR=29
KEST Kesra 31.74 286 P P **02 38 29.1 -0.5**
KEST IAmb IAmb 02 38 40.5
comp=Z,208nm,1.1s
MSSA Maissana 31.79 303 P P **02 38 29.1 -0.8**
GRA1 Grafenberg Arr 31.89 313 P P **02 38 30.5 -0.2**
GRF Grafenberg Arr 31.89 313 P P **02 38 30.5 -0.2**
GRF pmax pmax
comp=Z,373nm,0.9s
GRF Grafenberg Arr 31.89 313 eP P **02 38 30.9 +0.2**
comp=Z,276nm,0.9s,baz=112,slow=8.8
GRF eL L 02 57 28.9
comp=Z,14µm,21.4s
MOX Moxa 31.96 315 P P **02 38 31.3 0.0**
MOX pmax pmax
comp=Z,73nm,1.1s
MOX Moxa 31.96 315 eP P **02 38 31.2 -0.2**
comp=Z,54nm,0.9s,baz=112,slow=8.8
MOX eL L 02 57 37.5
comp=Z,14µm,21.5s
DAVOX Davos/Dischmat 31.98 307 P P **02 38 31.2 -0.6**
comp=Z,66nm,0.8s,baz=112,slow=7.9,SNR=105
DAVOX S S **02 43 36.9 -6.1**
comp=Z,3.8nm,0.6s,baz=267,slow=13,SNR=1.0
FIA1 FINESS Array S 31.99 340 P P **02 38 30.4 -0.9**
FIA1 IAmb IAmb 02 38 40.9
comp=Z,200nm,0.9s
FINES FINESS Array B 31.99 340 P P **02 38 30.5 -0.8**
comp=Z,95nm,0.8s,baz=143,slow=9.9,SNR=108
FINES PKiKP PKiKP **02 48 50.3 +1.3**
comp=Z,4.3nm,0.9s,baz=129,slow=5.2,SNR=4.4
FINES LR LR 02 52 55.0
comp=Z,29µm,19.8s,baz=142,slow=39
FINES P3KPbc 03 10 03.8
comp=Z,3.4nm,0.6s,baz=340,slow=2.6,SNR=8.2
FINES FINESS Array B 31.99 340 P P **02 38 31.0 -0.4**
UBR Ueberruh 32.03 309 eP P **02 38 31.2 -0.8**
comp=Z,197nm,0.7s,baz=112,slow=8.8
TMCR Tamitsa 32.05 352 eP P **02 38 31.0 -0.9**
TMCR eS S **02 43 44.2 +0.9**
TMCR pmax pmax
comp=Z,13nm,0.5s
NEUB Neuenburg 32.07 316 eP P **02 38 32.0 -0.2**
comp=Z,220nm,0.8s,baz=112,slow=8.8
DAVA Damuels 32.09 308 eP P **02 38 31.8 -0.9**
comp=Z,613nm,0.5s,SNR=341
DAVA eS S **02 43 46.1 +1.5**
comp=Z,62nm,1.1s
GKN Gorkha 32.10 89 eP P **02 38 33.1 +0.1**
comp=Z,497nm,0.6s
URV Uravakonda 32.14 116 eP P **02 38 33.1 -0.1**
URV IVmB_BB 02 38 35.2
comp=Z,619nm,1.2s
URV eS S **02 43 45.4 -0.2**
URV IVMsBB 02 55 05.6
comp=Z,1µm,14.2s
TUE Stuetta 32.27 307 P P **02 38 33.9 -0.5**
RGN Rugen 32.61 322 eP P **02 38 36.3 -0.6**
RGN Rugen 32.61 322 eP P **02 38 38.8 +1.9**
comp=Z,330nm,0.9s,baz=112,slow=8.8
RGN Rugen 32.61 322 P P **02 38 36.7 -0.2**
DMN Daman 32.62 89 eP P **02 38 37.9 +0.3**
comp=Z,844nm,1.0s
SRLM Srisailam 32.69 113 eP P **02 38 39.8 +1.7**
SRLM IVmBBB 02 38 40.9
comp=Z,2µm,1.5s
SRLM eS S **02 43 55.5 +1.3**
SRLM IVMs_BB IVMs_BB 02 53 44.3
comp=Z,3µm,22.5s
KKN Kakani 32.71 89 eP P **02 38 38.5 +0.1**
comp=Z,745nm,0.8s
NJS Nagarjunasagar 32.75 112 eP P **02 38 39.2 +0.6**
NJS IVmB_BB 02 38 41.1
comp=Z,2µm,1.4s
NJS eS S **02 43 56.1 +0.9**
NJS IVMsBB 02 53 57.9
comp=Z,3µm,14.0s
PKI Pulchoki 32.88 89 eP P **02 38 40.2 +0.2**
comp=Z,2µm,1.2s
STU Stuttgart 32.90 311 P P **02 38 39.3 -0.2**
STU pmax pmax
comp=Z,85nm,0.8s
STU MLR MLR
comp=Z,11µm,21.0s
STU Stuttgart 32.90 311 P P **02 38 39.3 -0.2**
STU IAmb IAmb 02 38 51.0
comp=Z,85nm,0.8s
UBBA Unterbreizbach 32.99 315 eP P **02 38 40.3 +0.2**
comp=Z,26nm,0.8s,baz=112,slow=8.8
WMQ Urumqi 33.00 59 P P **02 38 41.8 +1.2**
WMQ pP sP 02 38 46.3 -0.1
WMQ PP **PnPn** **02 39 48.8 -1.0**
WMQ S S **02 43 59.5 +0.7**
WMQ sS sS 02 44 08.4 +2.9
WMQ pmax pmax
comp=Z,81nm,0.9s
WMQ pmax pmax
comp=Z,3µm,4.7s
WMQ LR LR
comp=Z,22µm,20.9s
WMQ LR LR
comp=Z,15µm,23.5s
WMQ LR LR
comp=Z,29µm,24.7s
WMQ Urumqi 33.00 59 P P **02 38 41.2 +0.6**
WMQ pmax pmax
comp=Z,220nm,1.0s
WMQ MLR MLR
comp=Z,17µm,18.0s
WMQ Urumqi 33.00 59 P P **02 38 41.2 +0.6**
WMQ IAmb IAmb 02 38 53.1
comp=Z,220nm,1.0s
SUF Sumiainen 33.01 342 P P **02 38 40.0 -0.3**
SUF pmax pmax
comp=Z,402nm,0.9s
ASSE Asse, Remlinge 33.04 317 eP P **02 38 40.0 -0.7**
comp=Z,65nm,0.9s,baz=112,slow=8.8
CLZ Clausthal 33.11 316 eP P **02 38 41.5 +0.1**
comp=Z,349nm,0.9s,baz=112,slow=8.8
SLE Schleitheim 33.11 309 P P **02 38 41.1 -0.4**
SLE pmax pmax
comp=Z,280nm,1.1s
GUN Gumba 33.17 88 eP P **02 38 44.1 +1.5**
CMAH Djebel Manchou 33.20 288 P P **02 38 45.3 +2.9**
GTTG Gottingen 33.25 316 eP P **02 38 42.5 0.0**
comp=Z,132nm,0.9s,baz=112,slow=8.8
BFO Black Forest 33.35 310 P P **02 38 43.2 -0.3**
BFO pmax pmax
comp=Z,92nm,0.9s
BFO MLR MLR
comp=Z,7µm,19.0s
BFO Black Forest 33.35 310 eP P **02 38 43.1 -0.4**
comp=Z,72nm,0.8s,baz=112,slow=8.8
BFO Black Forest 33.35 310 P P **02 38 43.2 -0.3**
NRDL Niedersach Rie 33.50 317 eP P **02 38 45.7 +1.0**
comp=Z,195nm,0.9s,baz=112,slow=8.8
JIRN Jiri 33.51 88 eP P **02 38 46.1 +0.5**
comp=Z,1µm,0.8s
CAEH 'Ain El Ouahch 33.64 289 P P **02 38 46.3 +0.1**
SENIN Lac Senin/Sane 33.65 306 P P **02 38 45.2 -1.1**
ADKI Addanki 33.68 112 eP P **02 38 48.1 +1.5**
ADKI IVmB_BB 02 38 49.3
comp=Z,2µm,1.6s
ADKI eS S **02 44 10.0 +0.5**
ADKI IVMsBB 02 53 04.6
comp=Z,3µm,18.4s
MYLAV Mylavaram 33.69 110 eP P **02 38 47.1 +0.4**
MYLAV IVmB_BB 02 38 49.5
comp=Z,2µm,1.5s
MYLAV eS S **02 44 11.0 +1.4**
MYLAV IVMs_BB IVMs_BB 02 55 03.1
comp=Z,3µm,19.2s
TNS Taunus Mts 33.75 313 eP P **02 38 46.9 -0.1**
comp=Z,75nm,1.0s,baz=112,slow=8.8
ZAA0 Zalesovo Array 33.78 40 P P **02 38 47.3 +0.2**
ZALV Zalesovo Beam 33.78 40 P P **02 38 47.1 0.0**
comp=Z,118nm,0.5s,baz=255,slow=8.9,SNR=269
ZALV LR LR 02 54 03.8
comp=Z,18µm,20.6s,baz=244,slow=39
ZALV P3KPbc 03 09 58.1
comp=Z,2.6nm,0.7s,baz=58,slow=4.6,SNR=4.8
ZALV Zalesovo Beam 33.78 40 *i* P P **02 38 47.2 0.0**
ZALV pmax pmax
comp=Z,116nm,0.5s
CKFL Kef-Lekhel 33.78 288 P P **02 38 49.8 +2.2**
BNI Bardonecchia 33.89 303 P P **02 38 47.9 -0.5**
BNI pmax pmax
comp=Z,783nm,0.8s
BNI MLR MLR
comp=Z,7µm,19.0s
BNI Bardonecchia 33.89 303 P P **02 38 47.9 -0.5**
LPG La Plagne 33.90 304 eP P **02 38 48.4 -0.2**
LPG pmax pmax
comp=Z,455nm,0.5s
DGZ Jazzator, Alta 33.90 48*c* *i*P P **02 38 49.3 +0.9**
DGZ pmax pmax
comp=Z,166nm,0.9s
DGZ MLR MLR
comp=Z,35µm,23.0s
LPL La Plagne 33.91 304 eP P **02 38 47.7 -1.0**
LPL pmax pmax
comp=Z,1µm,1.0s
BSEG Bad Segeberg 33.93 320 eP P **02 38 49.0 +0.6**
comp=Z,148nm,0.9s,baz=112,slow=8.8
CASM Ain Smara 33.98 288 P P **02 38 49.3 +0.1**
CTEI Djebel Teioual 34.07 287 P P **02 38 50.5 +0.4**
ECH Echery 34.09 309 P P **02 38 48.8 -1.1**
ECH pmax pmax
comp=Z,227nm,1.1s
ECH MLR MLR
comp=Z,10µm,18.0s
ECH Echery 34.09 309 P P **02 38 48.8 -1.1**
ECH IAmb IAmb 02 38 54.2
comp=Z,227nm,1.1s
RAMN Ramite 34.09 89 eP P **02 38 50.2 -0.2**
comp=Z,564nm,0.9s
PVM Polavaram 34.20 108 eP P **02 38 52.1 +1.0**
PVM IVmB_BB 02 38 54.0
comp=Z,1µm,1.8s
PVM eS S **02 44 17.7 +0.2**
PVM IVMs_BB IVMs_BB 02 53 58.8
comp=Z,3µm,13.4s
VAF Ylistaro 34.23 340 P P **02 38 50.4 -0.5**
VAF pmax pmax
comp=Z,378nm,0.7s
DFRA Djebel Bou Aff 34.44 288 P P **02 38 52.4 -0.9**
HAU Haudompre 34.58 309 eP P **02 38 51.7 -2.5**
HAU pmax pmax
comp=Z,101nm,0.7s
BOK Bokaro 34.63 95 eP P **02 38 53.4 -1.5**
BOK IAmb IAmb 02 38 57.3
comp=Z,188nm,1.0s
AHRW Bad Neuenahr-A 34.69 313 eP P **02 38 55.1 +0.1**
comp=Z,125nm,0.9s,baz=112,slow=8.8
SKHT Srikalahasti 34.74 115 eP P **02 38 56.6 +0.8**
SKHT IVmB_BB 02 38 58.2
comp=Z,1µm,2.8s
SKHT eS S **02 44 27.1 +1.2**
SKHT IVMs_BB IVMs_BB 02 54 37.1
comp=Z,2µm,14.9s
ODAN Odare 34.78 89 eP P **02 38 56.4 0.0**
comp=Z,326nm,1.2s
IBBN Ibbenburen 34.79 316 eP P **02 38 56.9 +1.0**
comp=Z,209nm,0.7s,baz=112,slow=8.8
BUG Bochum--Univer 34.82 315 P P **02 38 56.9 +0.8**
BUG pmax pmax
comp=Z,134nm,1.0s
BUG Bochum--Univer 34.82 315 eP P **02 38 54.1 -2.1**
comp=Z,81nm,1.0s,baz=112,slow=8.8
SET Setif 34.87 288 P P **02 38 58.0 +1.1**
TAPN Taplejung 34.89 88 eP P **02 38 58.3 +0.8**
comp=Z,900nm,1.0s
WLF Walferdange 35.05 311 P P **02 38 57.1 -1.1**
WLF x x 02 39 06.3
WLF Walferdange 35.05 311 P P **02 38 57.4 -0.8**
WLF pmax pmax
comp=Z,187nm,1.0s
WLF MLR MLR
comp=Z,12µm,18.0s
WLF Walferdange 35.05 311 eP P **02 38 57.3 -0.9**
comp=Z,128nm,0.8s,baz=112,slow=8.8
WLF Walferdange 35.05 311 P P **02 38 57.4 -0.8**
WLF IAmb IAmb 02 39 08.2
comp=Z,187nm,1.0s
KMBO Kilima Mbogo 35.07 198 P P **02 39 00.7 +1.7**
comp=Z,14nm,0.9s,baz=25,slow=11,SNR=28
KMBO LR LR 02 53 42.1
comp=Z,39µm,19.6s,baz=17,slow=37
KMBO Kilima Mbogo 35.07 198 *i* P P **02 39 01.2 +2.2**
SNR=20
KMBO Kilima Mbogo 35.07 198 P P **02 38 59.4 +0.4**
KMBO pmax pmax
comp=Z,32nm,1.0s
KMBO MLR MLR
comp=Z,40µm,20.0s
KMBO Kilima Mbogo 35.07 198 *i* P P **02 39 01.8 +2.8**
KMBO *i* S S **02 44 32.5 +1.1**
KMBO Kilima Mbogo 35.07 198 P P **02 38 59.4 +0.4**
KMBO Kilima Mbogo 35.07 198 IAMs_20 IAMs_20 02 53 28.4
comp=Z,40µm,20.0s
KMBO Kilima Mbogo 35.07 198 *i* P P **02 39 01.8 +2.8**
KMBO *i* S S **02 44 32.5 +1.1**
BHOU Houvegnez 35.30 312 P P **02 39 00.2 -0.2**
BHOU x x 02 39 07.4
MEM Membach 35.36 313 P P **02 39 00.9 +0.1**
MEM x x 02 39 09.0
MEM x x 02 40 31.0
HFS Hagfors 35.38 331 P P **02 39 00.2 -0.8**
comp=Z,95nm,0.6s,baz=123,slow=10,SNR=131
HFS LR LR 02 55 03.5
comp=Z,20µm,18.4s,baz=123,slow=39
SSB Saint Sauveur 35.42 304 P P **02 39 00.5 -1.0**
SSB pmax pmax
comp=Z,156nm,0.9s
SSB Saint Sauveur 35.42 304 P P **02 39 00.5 -1.0**
SSB IAmb IAmb 02 39 08.0
comp=Z,156nm,0.9s
MAHO Mahon 35.47 294⇑ *i* P P **02 39 02.7 +0.8**
MAHO *i* S S **02 44 35.1 -1.6**
CHLP Challavanipeta 35.51 104 eP P **02 39 03.0 +0.5**
CHLP IVmB_BB 02 39 05.0
comp=Z,3µm,1.4s
CHLP eS S **02 44 38.8 +1.1**
CHLP IVMs_BB IVMs_BB 02 55 14.3
comp=Z,6µm,14.2s
MDRS Chennai 35.57 116 eP P **02 39 02.6 -0.4**
MUD Monsted U'grnd 35.57 324 *i* P P **02 39 02.6 0.0**
comp=Z,17µm,13.0s
MUD Monsted U'grnd 35.57 324 *i* P P **02 39 02.6 0.0**
MUD MLR MLR
comp=Z,17µm,13.0s
BEBN Eben Emael 35.61 313⇑ P P **02 39 03.0 0.0**
BEBN x x 02 39 13.0
BEBN x x 02 40 30.7
BSTI Sart Tilman 35.63 313 P P **02 39 02.5 -0.7**
BSTI x x 02 39 13.1
BSTI x x 02 40 32.5
GTK Tadong 35.65 88 ex x 02 38 14.0
GTK eP P **02 39 04.4 +0.6**
GTK IAmb IAmb 02 39 11.2
comp=Z,176nm,0.7s
GTK eS S **02 44 42.3 +2.1**
BCLA Clavier 35.75 312⇑ P P **02 39 04.9 +0.6**
BCLA x x 02 39 11.7
BGES Gesves 35.88 312 P P **02 39 04.9 -0.4**
BGES x x 02 39 12.4
BGES x x 02 40 38.0
APA Apatity 35.90 351⇑ *i* P P **02 39 04.0 -1.2**
APA *i* S S **02 44 42.0 -0.6**
APA pmax pmax
comp=Z,148nm,0.8s
APA MLR MLR
comp=Z,35µm,14.0s
LVZ Lovozero 36.05 352*c* *i* P P **02 39 07.4 +0.8**
LVZ pmax pmax
comp=Z,561nm,1.7s
LVZ MLR MLR
comp=Z,28µm,18.0s
LVZ Lovozero 36.05 352 P P **02 39 06.5 -0.1**
LVZ IAmb IAmb 02 39 16.5
comp=Z,156nm,0.7s
BMRD Maredsous 36.06 312 P P **02 39 07.2 +0.3**
BMRD x x 02 39 16.2
BMRD x x 02 40 34.9
BWNR Bhubaneshwar 36.07 100⇑ *i* P P **02 39 05.5 -1.8**
BWNR IAmb IAmb 02 39 07.5
comp=Z,213nm,1.4s
AKET Djebel Ketaf 36.10 288 P P **02 39 08.6 +1.0**
DOU Dourbes 36.12 312⇑ P P **02 39 07.1 -0.4**
DOU x x 02 39 14.5
ABMS Boumerdes 36.34 289 P P **02 39 11.0 +1.6**
SNF Seneffe 36.41 312⇑ P P **02 39 10.5 +0.7**
SNF x x 02 39 20.9
SNF PP PP 02 40 46.9 +14
UCC Uccle 36.42 313 P P **02 39 09.7 -0.3**
UCC pP pP **02 39 11.7 -2.4**
UCC PP PP 02 40 46.9 +14
UCC Uccle 36.42 313 P P **02 39 10.1 +0.1**
UCC pmax pmax
comp=Z,110nm,0.8s
UCC MLR MLR
comp=Z,12µm,21.0s
UCC Uccle 36.42 313 P P **02 39 10.1 +0.1**
UCC IAmb IAmb 02 39 17.2
comp=Z,110nm,0.8s
ADJB Djebel Djouab 36.45 288 P P **02 39 11.7 +1.2**
OSL Oslo 36.52 329 eP P **02 39 10.1 -0.5**
OSL ePP PP **02 40 34.5 +0.8**
OSL eS S **02 44 54.7 +2.4**
OSL IVMs_BB IVMs_BB 02 57 02.0
comp=Z,11µm,12.6s
NC602 NORSAR Array S 36.60 331 P P **02 39 10.4 -1.0**
NC602 IAmb IAmb 02 39 18.2
comp=Z,113nm,0.7s
NC602 NORSAR Array S 36.60 331 eP P **02 39 12.2 +0.9**
NC602 eS S **02 44 54.4 +0.7**
NC602 IVMs_BB IVMs_BB 02 57 05.3
comp=Z,14µm,12.8s
ABA Alger-Bouzarea 36.68 289 P P **02 39 15.0 +2.6**
HOMB Homborsund 36.70 326 eP P **02 39 13.2 +1.0**
HOMB ePP PP **02 40 35.6 -0.1**
HOMB eS S **02 44 54.0 -1.2**
HOMB eScS ScS **02 49 24.7 -2.7**
HOMB IVMs_BB IVMs_BB 02 59 01.7
comp=Z,7µm,13.9s
MBAR Mbarara 36.80 209 LR LR 02 54 38.1
comp=Z,17µm,19.5s,baz=21,slow=37
MBAR Mbarara 36.80 209 *i* P P **02 39 15.0 +1.3**
MBAR pmax pmax
comp=Z,99nm,0.9s
MBAR Mbarara 36.80 209 P P **02 39 13.0 -0.7**
MBAR Mbarara 36.80 209 IAMs_20 IAMs_20 02 54 47.2
comp=Z,27µm,19.0s
KONO Kongsberg 36.86 328 P P **02 39 12.9 -0.7**
KONO pmax pmax
comp=Z,111nm,0.9s
KONO MLR MLR
comp=Z,18µm,21.0s
KONO Kongsberg 36.86 328 P P **02 39 12.9 -0.7**
KONO Kongsberg 36.86 328 eP P **02 39 12.3 -1.3**
KONO ePP PnPn **02 40 38.8 +1.3**
KONO eS S **02 44 56.1 -1.5**
KONO eSS SS **02 47 37.5 -1.1**
KONO IVMs_BB IVMs_BB 02 59 04.8
comp=Z,10µm,11.6s
NB2 NORSAR Subarra 36.91 331 P P **02 39 12.5 -1.5**
comp=Z,65nm,0.7s,baz=124,slow=8.6
NB2 NORSAR Subarra 36.91 331 P P **02 39 12.5 -1.5**
baz=124,slow=8.6
NOA NORSAR Array B 36.91 331 P P **02 39 12.4 -1.5**
comp=Z,15nm,0.6s,baz=126,slow=7.6,SNR=56
NOA PP PnPn **02 40 38.9 +0.8**
comp=Z,6.3nm,0.7s,baz=22,slow=13,SNR=1.8
NOA ScP ScP **02 45 21.2 -0.7**
comp=Z,15nm,0.8s,baz=107,slow=4.3,SNR=3.7
NC303 NORSAR Array S 36.95 332 P P **02 39 14.2 -0.1**
NBO00 NORSAR Array S 37.08 331 P P **02 39 14.7 -0.8**
NBO00 IAmb IAmb 02 39 22.5
comp=Z,104nm,0.7s
LSA Lhasa 37.09 83 P P **02 39 16.9 +0.5**
LSA S S **02 45 11.6 +9.0**
LSA pmax pmax
comp=Z,98nm,1.3s
LSA LR LR
comp=Z,49µm,17.8s
LSA LR LR
comp=Z,78µm,18.9s
LSA LR LR
comp=Z,153µm,27.8s
LSA Lhasa 37.09 83 P P **02 39 15.4 -1.0**

LSA pmax pmax
comp=Z,288nm,1.0s
LSA MLR MLR
comp=Z,20µm,22.0s
LSA Lhasa 37.09 83 P **P** **02 39 15.4 -1.0**
LSA IAmb IAmb 02 39 28.9
comp=Z,288nm,1.0s
CLF Chambon-Foret 37.29 308 P **P** **02 39 16.8 -0.6**
CLF IAmb IAmb 02 39 24.5
comp=Z,216nm,1.1s
SNART Snartemo 37.34 326 *e*P **P** **02 39 18.3 +0.6**
SNART *e*S **S** **02 45 07.3 +2.3**
MSEY Mahe Island 37.90 167 P **P** **02 39 22.4 -0.5**
MSEY pmax pmax
comp=Z,79nm,0.9s
MSEY Mahe Island 37.90 167 P **P** **02 39 22.4 -0.5**
SKAR Skarslia 37.93 329 *e*P **P** **02 39 21.9 -0.8**
SKAR *e*PP **PnPn** **02 40 50.3 -0.3**
SKAR *e*S **S** **02 45 16.2 +2.2**
SKAR IVMs_BB IVMs_BB 02 58 00.4
comp=Z,8µm,13.1s
EBNR Beni Rached 37.95 289 P **P** **02 39 24.0 +0.8**
ECHA Ech Chlef 38.11 288 P **P** **02 39 25.5 +1.1**
BLS5 Blasjo 38.17 327 *e*P **P** **02 39 25.5 +0.8**
BLS5 IVmB_BB 02 39 33.9
comp=Z,5µm,3.5s
BLS5 *e*S **S** **02 45 19.7 +2.2**
BLS5 IVMs_BB IVMs_BB 02 58 22.5
comp=Z,9µm,12.2s
ETRT Tiaret 38.28 287 P **P** **02 39 27.0 +0.9**
ODD1 Odda 38.31 328 *e*P **P** **02 39 27.6 +1.7**
ODD1 *e*S **S** **02 45 21.7 +2.1**
DOMB Dombas 38.32 332 *e*P **P** **02 39 26.3 +0.3**
DOMB IVmB_BB 02 39 33.4
comp=Z,3µm,2.6s
DOMB *e*S **S** **02 45 22.2 +2.5**
DOMB IVMs_BB IVMs_BB 02 56 42.2
comp=Z,12µm,16.8s
EANR 'Ain N'Sour 38.35 288 P **P** **02 39 28.3 +1.7**
TAM Tamanrasset 38.41 266 P **P** **02 39 26.5 -0.8**
TAM pmax pmax
comp=Z,159nm,1.1s
TAM MLR MLR
comp=Z,33µm,19.0s
TAM Tamanrasset 38.41 266 P **P** **02 39 26.5 -0.8**
TAM IAms_20 IAms_20 02 57 55.9
comp=Z,33µm,19.0s
TBLU Trondheim 38.52 334 *e*P **P** **02 39 27.7 +0.2**
TBLU *e*PP **PnPn** **02 40 57.5 0.0**
TBLU *e*S **S** **02 45 24.4 +1.8**
TBLU IVMs_BB IVMs_BB 02 57 51.7
comp=Z,12µm,15.0s
GUWA GUWAHATI 38.63 88 *e*P **P** **02 39 27.7 -1.3**
GUWA IAmb IAmb 02 39 30.9
comp=Z,624nm,1.5s
GUWA *e*S **S** **02 45 19.8 -5.4**
KMY Karmoy 38.64 326 *e*P **P** **02 39 29.5 +0.9**
KMY *e*PP **PP** **02 40 57.8 +0.9**
KMY *e*S **S** **02 45 24.7 +0.1**
NSS Namsos 38.67 336 *e*P **P** **02 39 28.3 -0.5**
NSS IVmB_BB 02 39 36.1
comp=Z,3µm,1.0s
NSS *e*PP **PP** **02 40 57.1 -0.1**
NSS *e*S **S** **02 45 27.8 +2.9**
NSS *e*SS **SnSn** **02 48 11.8 -1.2**
NSS IVMs_BB IVMs_BB 02 57 00.8
comp=Z,28µm,13.6s
KRAR Krasnoyarsk 38.85 39 ⇓ *i*P **P** **02 39 28.8 -1.6**
KEV Kevo 38.86 349 P **P** **02 39 30.5 +0.1**
KEV pmax pmax
comp=Z,148nm,0.7s
KEV MLR MLR
comp=Z,24µm,18.0s
KEV Kevo 38.86 349 P **P** **02 39 30.5 +0.1**
KEV IAmb IAmb 02 39 38.8
comp=Z,148nm,0.7s
KEV IAMs_20 IAMs_20 02 56 59.4
comp=Z,24µm,18.0s
ARCES ARCESS Array B 38.93 348 P **P** **02 39 30.3 -0.7**
comp=Z,59nm,0.7s,baz=158,slow=6.8,SNR=216
ARCES PP **PP** **02 41 01.0 +1.0**
comp=Z,60nm,0.7s,baz=149,slow=9.7,SNR=5.8
ARCES ScP **S** **02 45 28.9 +0.1**
comp=Z,30nm,0.8s,baz=134,slow=3.5,SNR=6.0
ARCES ARCESS Array B 38.93 348 P **P** **02 39 30.7 -0.3**
ARCES ARCESS Array B 38.93 348 P **P** **02 39 30.7 -0.3**
ARE0 ARCESS Array S 38.93 348 P **P** **02 39 30.5 -0.4**
ARE0 ARCESS Array S 38.93 348 *e*P **P** **02 39 30.4 -0.6**
ARE0 *e*PP **PP** **02 41 00.6 +0.5**
ARE0 *e*S **S** **02 45 32.2 +3.4**
ARE0 IVMs_BB IVMs_BB 02 56 06.1
comp=Z,11µm,20.0s
SHL Shillong 39.01 89 *e*P **P** **02 39 31.0 -1.4**
SHL *i*P **pP** **02 39 32.0 -4.6**
SHL *i*S **S** **02 45 29.5 -1.9**
SHL Shillong 39.01 89 P **P** **02 39 33.2 +0.8**
SNR=200
SHL Shillong 39.01 89 P **P** **02 39 31.7 -0.7**
SHL pmax pmax
comp=Z,361nm,0.9s
SHL MLR MLR
comp=Z,31µm,21.0s
SHL Shillong 39.01 89 P **P** **02 39 31.7 -0.7**
SHL IAmb IAmb 02 39 40.5
comp=Z,361nm,0.9s
SHL IAMs_20 IAMs_20 02 57 31.7
comp=Z,31µm,21.0s
HYA Hoyanger 39.08 329 *e*P **P** **02 39 33.2 +1.0**
HYA *e*S **S** **02 45 34.6 +3.6**
HYA *e*SS **SS** **02 48 25.4 +2.2**
KOND Kondoa 39.08 199 *i*S **P** **02 39 37.1 +4.2**
BER Bergen 39.10 328 *e*P **P** **02 39 32.9 +0.5**
BER IVmBBB 02 39 35.3
comp=Z,3µm,3.2s
BER *e*PP **PP** **02 41 02.0 0.0**
BER *e*S **S** **02 45 34.8 +3.4**
BER *e*SS **SS** **02 48 28.3 +4.7**
BER IVMs_BB IVMs_BB 02 56 08.6
comp=Z,10µm,13.5s
WACR West Acre 39.10 315 *e*P **P** **02 39 31.6 -0.9**
WACR IAmb IAmb 02 39 38.8
comp=Z,649nm,1.0s
WACR IAMs_20 IAMs_20 03 00 22.5
comp=Z,17µm,14.9s
MOL Molde 39.20 332 *e*P **P** **02 39 33.0 -0.3**
MOL IVmB_BB 02 39 39.2
comp=Z,4µm,3.5s
MOL *e*PP **PP** **02 41 03.0 0.0**
MOL *e*S **S** **02 45 37.4 +4.5**
MOL IVMs_BB IVMs_BB 02 57 11.0
comp=Z,10µm,13.2s
ASK Askoy 39.20 328 *e*P **P** **02 39 33.2 -0.1**
ASK *e*PP **PP** **02 41 04.2 +1.1**
ASK *e*ScP **S** **02 45 33.3 +0.3**
ASK *e*SS **SS** **02 48 28.7 +2.9**
ASK IVMs_BB IVMs_BB 02 56 44.9
comp=Z,8µm,25.9s
AKN Aaknes 39.22 331 *e*P **P** **02 39 34.2 +0.7**
AKN IVmB_BB 02 39 40.0
comp=Z,5µm,3.8s
AKN *e*S **S** **02 45 37.0 +3.6**
AKN *e*SS **SS** **02 48 23.6 -2.6**
AKN IVMs_BB IVMs_BB 02 59 00.8
comp=Z,10µm,10.5s
KIBA Kibaya 39.26 198 *i*S **P** **02 39 36.6 +2.2**
SINGT Singida 39.29 201 *i*S **P** **02 39 35.4 +0.7**
TEZP TEZPUR 39.42 87 *e*P **P** **02 39 34.2 -1.4**
N2ST Straumen 39.43 341 *e*P **P** **02 39 35.0 -0.2**
STOK Stokkvaagen 39.48 339 *e*P **P** **02 39 35.7 +0.2**
STOK *e*S **S** **02 45 39.4 +2.4**
FAUS Fauske 39.54 341 *e*P **P** **02 39 35.1 -0.9**
FAUS *e*PP **PP** **02 41 05.9 -0.8**
FAUS *e*S **S** **02 45 41.0 +3.0**
FAUS *e*SS **SnSn** **02 48 33.3 -0.6**
FAUS IVMs_BB IVMs_BB 02 57 21.5
comp=Z,13µm,13.3s
KONS Konsvik 39.56 339 *e*P **P** **02 39 35.5 -0.7**
KONS *e*S **S** **02 45 38.2 0.0**
NBB40 Tonnes 39.60 339 *e*P **P** **02 39 35.6 -0.9**
SUE Sulen 39.65 329 *e*P **P** **02 39 38.8 +1.9**
SUE *e*S **S** **02 45 41.8 +2.2**
SUE IVMs_BB IVMs_BB 02 59 09.6
comp=Z,8µm,4.4s
NBB05 Inndyr 39.66 340 *e*P **P** **02 39 36.8 -0.2**

N2TV T√rnvik 39.72 341 *e*P **P** **02 39 37.1 -0.4**
PALK Pallekele 39.72 122 *c i*P **P** **02 39 40.2 +2.0**
PALK pmax pmax
comp=Z,238nm,1.3s
PALK MLR MLR
comp=Z,12µm,19.0s
PALK Pallekele 39.72 122 P **P** **02 39 37.8 -0.4**
NBB08 Skaug oppvekst 39.73 341 *e*P **P** **02 39 36.9 -0.7**
FOO Floro 39.76 330 *e*P **P** **02 39 38.5 +0.5**
FOO *e*PP **PP** **02 41 10.1 +0.9**
FOO *e*S **S** **02 45 42.0 +0.7**
FOO *e*SS **SS** **02 48 40.6 +3.7**
FOO IVMs_BB IVMs_BB 02 58 52.5
comp=Z,12µm,13.9s
CART Cartagena 39.78 291 ⇑ *i*P **P** **02 39 38.7 +0.3**
CART *i*S **S** **02 45 41.0 -1.2**
N2IH Innhavet 39.79 342 *e*P **P** **02 39 37.5 -0.5**
STEI Steigen 39.94 342 *e*P **P** **02 39 38.5 -0.8**
STEI IVmB_BB 02 39 46.3
comp=Z,3µm,1.0s
STEI *e*PP **PP** **02 41 11.6 +0.5**
STEI *e*S **S** **02 45 47.4 +3.5**
STEI IVMs_BB IVMs_BB 02 57 36.3
comp=Z,19µm,13.6s
ZIRO ZIRO 40.00 85 *e*P **P** **02 39 41.1 +0.5**
ITAN ITANAGAR 40.02 86 *e*P **P** **02 39 40.7 +0.1**
ITAN IAmb IAmb 02 39 44.0
comp=Z,939nm,0.9s
ITAN *e*S **S** **02 45 42.4 -3.6**
HAMF Hammerfest 40.20 348 *e*P **P** **02 39 41.6 0.0**
HAMF IVmB_BB 02 39 43.3
comp=Z,2µm,1.8s
HAMF *e*PP **PP** **02 41 15.6 +1.7**
HAMF *e*S **S** **02 45 51.6 +3.8**
HAMF *e*SS **SS** **02 48 45.4 -0.2**
HAMF IVMs_BB IVMs_BB 02 57 35.3
comp=Z,11µm,12.9s
CWF Charnwood Fore 40.26 315 *e*P **P** **02 39 41.2 -1.1**
CWF IAmb IAmb 02 39 47.8
comp=Z,224nm,0.8s
CWF *e* 02 41 14.5
CWF IAMs_20 IAMs_20 03 00 51.4
comp=Z,20µm,15.8s
GDLE Glaisdale, N Y 40.30 317 *e*P **P** **02 39 42.1 -0.5**
GDLE IAmb IAmb 02 39 47.2
comp=Z,610nm,1.0s
GDLE IAMs_20 IAMs_20 03 02 48.4
comp=Z,23µm,16.7s
TRO Tromso 40.32 345 *e*P **P** **02 39 41.6 -0.9**
TRO *e*PP **PP** **02 41 16.7 +1.5**
TRO *e*S **S** **02 45 52.7 +3.1**
TRO IVMs_BB IVMs_BB 02 56 46.3
comp=Z,10µm,11.8s
JSA Saint Aubin 40.34 309 *e*P **P** **02 39 42.1 -0.8**
JSA IAMs_20 IAMs_20 03 00 49.6
comp=Z,15µm,14.8s
SWN1 Swindon 40.37 313 *e*P **P** **02 39 42.9 -0.3**
SWN1 IAmb IAmb 02 39 51.3
comp=Z,541nm,0.8s
SWN1 IAMs_20 IAMs_20 03 00 15.6
comp=Z,17µm,12.8s
N2VA Vr¸y 40.46 340 *e*P **P** **02 39 42.2 -1.4**
N2VI Vinje 40.50 342 *e*P **P** **02 39 44.9 +0.9**
N2SV S¸rv¥gen 40.53 341 *e*P **P** **02 39 42.8 -1.4**
N2RO R¸st 40.53 340 *e*P **P** **02 39 43.5 -0.7**
LOF Lofoten 40.54 341 *e*P **P** **02 39 43.5 -0.9**
LOF IVmB_BB 02 39 50.3
comp=Z,2µm,2.2s
LOF *e*PP **PP** **02 41 19.5 +1.9**
LOF *e*S **S** **02 45 54.0 +1.1**
LOF IVMs_BB IVMs_BB 02 58 09.6
comp=Z,11µm,12.9s
JORH JORHAT 40.60 86 *e*P **P** **02 39 44.6 -0.7**
LBWR Ladybower, Pea 40.63 316 *e*P **P** **02 39 45.0 -0.3**
LBWR IAmb IAmb 02 39 55.3
comp=Z,446nm,1.0s
LBWR IAMs_20 IAMs_20 03 00 47.5
comp=Z,18µm,16.3s
STRD Stroud 40.63 313 *e*P **P** **02 39 44.6 -0.7**
STRD IAmb IAmb 02 39 52.1
comp=Z,634nm,0.7s
HPK Haverah Park 40.67 317 *e*P **P** **02 39 44.8 -0.9**
HPK IAmb IAmb 02 39 55.0
comp=Z,493nm,1.0s
HPK *e* 02 41 18.6
HPK IAMs_20 IAMs_20 03 00 54.7
comp=Z,23µm,16.0s
OLDB Oldbury-Upon-S 40.85 313 *e*P **P** **02 39 46.3 -0.8**
OLDB IAmb IAmb 02 39 53.2
comp=Z,498nm,0.8s
OLDB IAMs_20 IAMs_20 03 00 31.0
comp=Z,16µm,13.7s
STNC Stoke 40.86 315 *e*P **P** **02 39 46.5 -0.7**
STNC IAMs_20 IAMs_20 03 01 16.0
comp=Z,17µm,17.0s
EDMD Edmundbyers 41.04 318 *e*P **P** **02 39 47.8 -0.9**
EDMD IAmb IAmb 02 39 55.0
comp=Z,306nm,0.8s
EDMD IAMs_20 IAMs_20 03 00 25.3
comp=Z,20µm,21.5s
SAIH SAIHA 41.13 93 *e*P **P** **02 39 49.4 -0.5**
MCH1 Michaelchurch 41.17 313 *e*P **P** **02 39 48.8 -1.0**
MCH1 IAmb IAmb 02 39 55.6
comp=Z,316nm,0.7s
MCH1 *e* 02 41 15.8
MCH1 IAMs_20 IAMs_20 03 02 48.5
comp=Z,16µm,17.2s
HLM1 Long Mynd 41.17 314 *e*P **P** **02 39 48.6 -1.2**
HLM1 IAmb IAmb 02 39 54.2
comp=Z,261nm,0.9s
HLM1 IAMs_20 IAMs_20 03 01 06.1
comp=Z,16µm,16.0s
UCM Universidad Co 41.18 296 ⇑ *i*P **P** **02 39 51.1 +1.0**
UCM *i*S **S** **02 46 04.1 +0.9**
FOEL Foel Wylfa 41.42 315 *e*P **P** **02 39 51.0 -0.8**
FOEL IAMs_20 IAMs_20 03 01 43.2
comp=Z,19µm,15.8s
DYA Yadsworthy 41.58 311 *e*P **P** **02 39 52.7 -0.5**
DYA IAmb IAmb 02 40 00.7
comp=Z,286nm,1.2s
DYA IAMs_20 IAMs_20 02 58 54.4
comp=Z,10µm,16.5s
ESY Stoneypath 41.63 319 *e*P **P** **02 39 52.5 -1.0**
KESW Keswick, Cumbr 41.64 317 *e*P **P** **02 39 53.2 -0.4**
KESW IAMs_20 IAMs_20 03 04 07.9
comp=Z,21µm,14.1s
MELI Melilla 41.70 288 *i*P **P** **02 39 57.0 +2.7**
MELI *e*S **S** **02 46 15.1 +4.2**
LKP Lekhapani 41.74 84 *e*P **P** **02 39 53.4 -1.4**
LKP *e*S **S** **02 46 14.0 +2.3**
ESBB Sonseca Array 41.80 295 P **P** **02 39 54.1 -1.1**
ESDC Sonseca Array 41.80 295 P **P** **02 39 54.8 -0.4**
comp=Z,37nm,0.8s,baz=74,slow=7.8,SNR=115
ESDC PcP **PcP** **02 41 51.7 +0.5**
comp=Z,14nm,0.8s,baz=52,slow=4.4,SNR=2.0
ESDC ScP **ScP** **02 45 42.2 +1.0**
comp=Z,4.9nm,0.9s,baz=61,slow=4.4,SNR=3.2
ESDC Sonseca Array 41.80 295 P **P** **02 39 54.7 -0.4**
ESDC **PcP** **02 41 50.4 -0.8**
ESDC **ScP** **02 45 40.7 -0.5**
EKA Eskdalemuir Ar 41.81 318 P **P** **02 39 54.1 -0.9**
comp=Z,78nm,0.7s,baz=104,slow=8.6,SNR=72
EKA ScP **ScP** **02 45 40.7 -0.2**
comp=Z,14nm,1.0s,baz=112,slow=6.0,SNR=4.2
EKA LR LR 03 01 15.7
comp=Z,19µm,18.3s,baz=100,slow=42
ESK Eskdalemuir 41.84 318 P **P** **02 39 54.8 -0.4**
ESK pmax pmax
comp=Z,208nm,1.1s
ESK MLR MLR
comp=Z,14µm,21.0s
ESK Eskdalemuir 41.84 318 P **P** **02 39 54.8 -0.4**
ESK IAmb IAmb 02 40 04.4
comp=Z,208nm,1.1s
EBL Broad Law 41.84 319 *e*P **P** **02 39 54.8 -0.4**
EDI Edinburgh 41.95 319 *e*P **P** **02 39 55.5 -0.6**
EDI IAMs_20 IAMs_20 02 57 47.4
comp=Z,13µm,20.6s
LRW Lerwick 42.01 326 *e*P **P** **02 39 55.3 -1.3**
LRW IAMs_20 IAMs_20 02 59 06.6
comp=Z,20µm,20.9s
YLL Llanberis 42.03 315 *e*P **P** **02 39 56.2 -0.7**
PAB San Pablo 42.11 295 P **P** **02 39 57.3 -0.5**
PAB pmax pmax
comp=Z,91nm,1.0s
PAB MLR MLR
comp=Z,7µm,21.0s
PAB San Pablo 42.11 295 P **P** **02 39 57.3 -0.5**
WME Myndd Eilian 42.15 315 *e*P **P** **02 39 57.0 -0.7**
GTA Gaotai 42.16 66 ⇑ P **P** **02 39 58.8 +0.5**
GTA pP sP 02 40 03.8 -0.3
GTA sP pP 02 40 06.6 +4.2
GTA S **S** **02 46 22.1 +4.1**
GTA sS sS 02 46 30.3 +5.5
GTA pmax pmax
comp=Z,130nm,1.5s
GTA pmax pmax
comp=Z,2µm,5.4s
GTA LR LR
comp=Z,32µm,21.3s
GTA LR LR
comp=Z,17µm,22.9s
GTA LR LR
comp=Z,16µm,24.1s
WLF1 Llynfaes 42.19 315 *e*P **P** **02 39 57.8 -0.3**
WLF1 IAmb IAmb 02 40 05.3
comp=Z,238nm,0.7s
WLF1 IAMs_20 IAMs_20 03 01 46.4
comp=Z,38µm,15.6s
RSBS Rosebush, Pemb 42.24 313 *e*P **P** **02 39 58.2 -0.3**
RSBS IAmb IAmb 02 40 02.9
comp=Z,232nm,1.0s
RSBS IAMs_20 IAMs_20 03 03 21.4
comp=Z,12µm,15.8s
WPS Cemaes, Angles 42.27 315 *e*P **P** **02 39 58.0 -0.7**
WPS IAmb IAmb 02 40 03.5
comp=Z,277nm,1.0s
WPS IAMs_20 IAMs_20 03 01 47.9
comp=Z,21µm,15.1s
NEWG New Galloway 42.38 318 *e*P **P** **02 39 58.4 -1.2**
NEWG IAmb IAmb 02 40 08.5
comp=Z,134nm,0.7s
NEWG IAMs_20 IAMs_20 03 01 25.7
comp=Z,16µm,19.9s
CCA1 Carnmenellis 42.39 310 *e*P **P** **02 39 58.6 -1.2**
CCA1 *e* 02 41 45.4
CCA1 IAMs_20 IAMs_20 03 03 54.5
comp=Z,11µm,18.4s
IOMK Kirk Michael 42.43 317 *e*P **P** **02 39 59.3 -0.7**
IOMK IAMs_20 IAMs_20 03 04 43.0
comp=Z,40µm,14.1s
WIM Isle of Man 42.48 316 *e*P **P** **02 39 59.9 -0.6**
GAL1 Galloway 42.61 317 *e*P **P** **02 40 00.8 -0.7**
GAL1 IAMs_20 IAMs_20 03 04 38.7
comp=Z,16µm,14.7s
EMAL Malaga-Limoner 42.61 291 ⇑ *i*P **P** **02 40 01.9 +0.2**
EMAL *i*S **S** **02 46 26.7 +2.4**
EAB Aberfoyle 42.63 319 *e*P **P** **02 40 00.9 -0.7**
PGBU Glenifferbraes 42.64 319 *e*P **P** **02 40 01.5 -0.2**
PGBU IAmb IAmb 02 40 11.2
comp=Z,327nm,1.1s
PGBU IAMs_20 IAMs_20 02 58 08.0
comp=Z,18µm,24.5s
MOY Mondy 42.72 47 *e*P **P** **02 40 04.2 +1.6**
MOY pmax pmax
comp=Z,591nm,1.5s
PVLZ Peæn de 42.82 288 *e*P **P** **02 40 04.1 +0.6**
PVLZ *e*S S 02 46 17.1 -10
NRIK Noril'sk 42.91 20 P **P** **02 40 04.2 +0.5**
comp=Z,56nm,0.9s,baz=232,slow=6.7,SNR=45
NRIK PcP **PcP** **02 41 54.4 +0.2**
comp=Z,76nm,1.0s,baz=232,slow=9.1,SNR=4.1
NRIK LR LR 03 02 14.1
comp=Z,42µm,18.1s,baz=233,slow=42
NRIK Noril'sk 42.91 20 *i*P **P** **02 40 03.7 0.0**
NRIK pmax pmax
comp=Z,184nm,1.3s
NRIK MLR MLR
comp=Z,40µm,17.4s
GMM Mts of Mourne 43.23 316 *e*P **P** **02 40 05.5 -1.0**
REAL Reales 43.28 290 *e*P **P** **02 40 03.0 -4.4**
DSB Dublin 43.37 315 P **P** **02 40 07.4 -0.2**
CEU Ceuta 43.53 290 ⇑ *i*P **P** **02 40 08.1 -1.1**
CEU *i*S **S** **02 46 34.8 -2.9**
KPL Plockton 43.56 321 *e*P **P** **02 40 07.4 -1.7**
KPL IAMs_20 IAMs_20 03 02 06.2
comp=Z,19µm,18.3s
ALJ Aljibe 43.62 290 *e*P **P** **02 40 09.0 -1.0**
PBRG Braganca 43.65 298 *e*P **P** **02 40 10.0 -0.2**
comp=Z,318nm,0.8s
PBRG *i*S **S** **02 46 35.9 -3.7**
MVO Moncorvo 43.94 297 *e*P **P** **02 40 12.6 +0.1**
comp=Z,392nm,0.9s
MVO *e*S **S** **02 46 44.3 +0.4**
MVO Moncorvo 43.94 297 *e*LR LR 02 58 28.6
comp=Z,6µm,18.0s
CNIL Conil 43.97 290 *e*P **P** **02 40 11.5 -1.2**
SFS San Fernando 44.07 291 P **P** **02 40 13.0 -0.5**
SFS pmax pmax
comp=Z,243nm,0.7s
SFS MLR MLR
comp=Z,4µm,21.0s
SFS San Fernando 44.07 291 ⇑ *i*P **P** **02 40 13.5 0.0**
SFS *i*S **S** **02 46 46.6 +0.9**
SFS San Fernando 44.07 291 P **P** **02 40 13.0 -0.5**
ZAK Zakamensk 44.09 49 *e*P **P** **02 40 14.7 +1.1**
ZAK *e* 02 41 56.8
ZAK pmax pmax
comp=Z,163nm,1.4s
ZAK pmax pmax
comp=Z,52nm,1.2s
BJO1 Bjornoya 44.21 349 *e*P **P** **02 40 13.9 -0.2**
BJO1 *e*PP **PcP** **02 41 58.9 +0.3**
BJO1 *e*S **S** **02 46 48.8 +1.9**
BJO1 *e*SS **SS** **02 50 04.1 -0.4**
BJO1 IVMs_BB IVMs_BB 03 00 24.2
comp=Z,10µm,13.8s
TLY Talaya 44.37 48 P **P** **02 40 17.1 +1.3**
comp=Z,56nm,0.9s,baz=251,slow=11,SNR=2.4
TLY Talaya 44.37 48 *c i*P **P** **02 40 16.9 +1.1**
TLY *e* 02 40 26.8
TLY *e* 02 42 06.0
TLY *e*PPP PPP 02 42 40.4
TLY *e*S **S** **02 46 53.5 +3.7**
TLY *e*SSS SSS 02 51 04.4
TLY pmax pmax
comp=Z,351nm,1.2s
TLY MLR MLR
comp=Z,40µm,14.0s
TLY Talaya 44.37 48 P **P** **02 40 15.7 -0.1**
TLY IAMs_20 IAMs_20 03 00 17.7
comp=Z,22µm,21.0s
MTE Manteigas 44.43 296 *e*P **P** **02 40 16.7 +0.2**
comp=Z,342nm,1.4s
MTE Manteigas 44.43 296 *e*PP PP 02 42 01.9 +1.9
MTE Manteigas 44.43 296 *e*PP PP 02 42 04.4 +4.4
MTE *e*S **S** **02 46 53.5 +2.5**
MTE A A 03 01 54.6
comp=Z,9µm,18.0s
MTE Manteigas 44.43 296 P **P** **02 40 16.0 -0.5**
MTE IAmb IAmb 02 40 25.2
comp=Z,244nm,0.9s
PVRL Vila Real 44.44 298 *e*P **P** **02 40 16.7 +0.2**
comp=Z,417nm,1.3s
PMRV Marv??o 44.46 295 *e*P **P** **02 40 16.6 -0.1**
comp=Z,235nm,1.2s
PMRV Marv??o 44.46 295 *i*PP PP 02 41 58.5 -1.8
PMRV *e*S **S** **02 46 50.7 -0.7**
PMRV *e*LR LR 02 50 13.9
comp=Z,7µm,18.0s
PCBR Castelo Branco 44.46 296 *e*P **P** **02 40 16.9 +0.3**
comp=Z,452nm,0.9s
PCAB Cabril 44.62 298 *e*P **P** **02 40 17.6 -0.3**
comp=Z,425nm,0.9s
PVIS Viseu 44.65 297 *e*P **P** **02 40 18.4 +0.2**
comp=Z,458nm,1.6s
PGAV Gavieira, Arco 44.76 299 *e*P **P** **02 40 19.7 +0.5**
comp=Z,819nm,0.9s
PGAV *e*S **S** **02 46 55.9 0.0**
PGAV Gavieira, Arco 44.76 299 *e*LR LR 02 57 09.5
comp=Z,8µm,18.0s
IRK Irkutsk 44.78 47 *e*P **P** **02 40 20.0 +0.9**
IRK pmax pmax
comp=Z,729nm,1.5s
PBEJ Beja 45.07 293 *e*P **P** **02 40 21.4 -0.1**
comp=Z,326nm,0.9s
PVAQ Vaqueiros 45.07 292 *e*P **P** **02 40 21.5 0.0**
comp=Z,225nm,1.1s
PVAQ Vaqueiros 45.07 292 *e*PP PP 02 42 10.5 +3.7

PVAQ *i* S **S** **02 46 58.5 -1.8**
PVAQ *e*LR LR 02 54 29.3
comp=Z,5µm,18.0s
PVAQ Vaqueiros 45.07 292 P **P** **02 40 20.9 -0.6**
PVAQ IAmb IAmb 02 40 30.9
comp=Z,203nm,1.0s
EVO Evora 45.09 294⇑ *i*P **P** **02 40 21.4 -0.2**
EVO *i* S **S** **02 47 00.5 0.0**
EVO Evora 45.09 294 *e*P **P** **02 40 21.7 0.0**
comp=Z,179nm,1.5s
COI Coimbra 45.12 296 P **P** **02 40 21.5 -0.3**
COI pmax pmax
comp=Z,452nm,0.8s
COI MLR MLR
comp=Z,8µm,20.0s
COI Coimbra 45.12 296 *e*P **P** **02 40 22.5 +0.7**
comp=Z,607nm,0.8s
COI *i* S **S** **02 47 02.2 +1.4**
COI Coimbra 45.12 296 P **P** **02 40 21.5 -0.3**
PTO Porto 45.12 298 *e*P **P** **02 40 22.6 +0.7**
comp=Z,480nm,0.8s
RTC Rabat Centre 45.14 287 P **P** **02 40 21.7 -0.4**
HOPEN Hopen 45.15 353 *e*P **P** **02 40 22.6 +1.1**
HOPEN IAmb IAmb 02 40 28.4
comp=Z,491nm,1.5s
HOPEN *e*PP **PP** **02 42 09.1 +2.2**
HOPEN *e*S **S** **02 47 04.8 +4.5**
HOPEN *e*ScS **SS** **02 50 20.6 -1.8**
PMTG Montargil 45.16 295 *e*P **P** **02 40 22.3 +0.1**
comp=Z,173nm,1.5s
PMTG Montargil 45.16 295 *i* PP PP 02 42 06.9 -0.8
PMTG *i* S **S** **02 46 58.2 -3.3**
PCAS Casmilo, Conde 45.20 296 *i* S **S** **02 47 00.7 -1.5**
PBDV Barranco-do-Ve 45.27 292 *e*P **P** **02 40 23.2 0.0**
comp=Z,193nm,1.1s
PBDV *i* S **S** **02 47 02.7 -0.5**
KSMZ Kasama 45.45 203⇓ *i*P **P** **02 40 27.5 +2.7**
KSMZ *i* 02 40 28.6
baz=38,slow=10
PSBE So Bento 45.52 295 *e*P **P** **02 40 25.2 +0.1**
comp=Z,322nm,1.7s
PSBE *i* S **S** **02 47 07.8 +1.0**
DGPR DIGLIPUR 45.55 104 *e*P **P** **02 40 25.1 -0.4**
DGPR *e*S **S** **02 47 04.7 -2.8**
PNCL Nicolau / Gran 45.57 293 *e*P **P** **02 40 25.1 -0.3**
comp=Z,229nm,1.2s
PNCL *i* S **S** **02 47 05.1 -2.3**
AVE Averroes 45.77 286 *i*P **P** **02 40 27.5 +0.4**
AVE *i* S **S** **02 47 10.1 -0.3**
MORF Marmelete 45.82 292 *e*P **P** **02 40 27.2 -0.3**
MORF AMb AMB 02 41 01.3
comp=Z,139nm,0.8s
MORF *e*PP **PP** **02 42 14.3 -0.5**
MORF *e*S **S** **02 47 11.5 +0.3**
MORF Marmelete 45.82 292 *e*P **P** **02 40 30.4 +2.9**
comp=Z,140nm,1.2s
MORF *i* S **S** **02 47 07.5 -3.7**
PTEO Sao Teotonio 45.83 293 *e*P **P** **02 40 27.7 +0.2**
comp=Z,225nm,1.0s
PTEO Sao Teotonio 45.83 293 *i* PP PP 02 42 06.2 -8.6
LZH Lanzhou 45.90 69 *e*P **P** **02 40 29.4 +1.1**
LZH pP pP 02 40 33.0 +0.5
LZH sP sP 02 40 35.6 +1.4
LZH ScP **ScP** **02 45 59.1 +1.0**
LZH S **S** **02 47 16.3 +3.7**
LZH sS sS 02 47 28.4 +8.9
LZH SS **ScS** **02 50 28.6 +4.3**
LZH pmax pmax
comp=Z,250nm,1.3s
LZH pmax pmax
comp=Z,3µm,5.4s
LZH LR LR
comp=Z,32µm,13.6s
LZH LR LR
comp=Z,30µm,13.6s
LZH LR LR
comp=Z,31µm,14.1s
LIS Lisbon 45.93 294 *e*P **P** **02 40 28.0 -0.3**
LIS AMb AMB 02 40 47.6
comp=Z,563nm,1.0s
LIS *e*PP **PP** **02 42 15.5 -0.4**
LIS *e*S **S** **02 47 13.1 +0.5**
LIS Lisbon 45.93 294 *e*P **P** **02 40 29.0 +0.7**
comp=Z,554nm,1.4s
PMAFR Mafra 45.99 295 *e*P **P** **02 40 29.4 +0.6**
comp=Z,561nm,0.8s
PMAFR *i* S **S** **02 47 11.3 -2.2**
PFVI Vila Bisbo 45.99 292 *e*P **P** **02 40 28.4 -0.4**
comp=Z,267nm,0.8s
PFVI *i* S **S** **02 47 10.8 -2.8**
PFVI Vila Bisbo 45.99 292 P **P** **02 40 28.4 -0.4**
SONM Songino Array 46.16 53 P **P** **02 40 30.7 +0.5**
comp=Z,62nm,0.9s,baz=275,slow=12,SNR=136
SONM PcP **PcP** **02 42 06.4 +0.4**
comp=Z,31nm,1.1s,baz=242,slow=3.2,SNR=3.9
SONM ScP **ScP** **02 45 58.3 -0.7**
comp=Z,10.0nm,1.0s,baz=291,slow=4.6,SNR=3.8
SONM LR LR 03 03 38.0
comp=Z,18µm,19.8s,baz=274,slow=41
SONM Songino Array 46.16 53 P **P** **02 40 30.0 -0.2**
SONM **PcP** **02 42 05.5 -0.5**
SONM **ScP** **02 45 57.9 -1.1**
TOC2 Torodi Ar. Sit 46.20 256 IAMs_20 IAMs_20 03 02 33.7
comp=Z,25µm,20.0s
TOC1 Torodi Ar. Sit 46.20 256 IAMs_20 IAMs_20 03 02 33.8
comp=Z,28µm,20.0s
TOC3 Torodi Ar. Sit 46.21 256 IAMs_20 IAMs_20 03 02 34.9
comp=Z,25µm,19.0s
TOB1 Torodi Ar. Sit 46.22 256 IAMs_20 IAMs_20 03 02 35.2
comp=Z,24µm,20.0s
TOA2 Torodi Ar. Sit 46.22 256 IAMs_20 IAMs_20 03 02 34.2
comp=Z,26µm,20.0s
TOB3 Torodi Ar. Sit 46.22 256 IAMs_20 IAMs_20 03 02 34.3
comp=Z,24µm,20.0s
TOA0 Torodi Ar. Sit 46.22 256 P **P** **02 40 29.9 -1.0**
SNR=63
TOA0 P **P** **02 40 29.9 -1.0**
SNR=63
TOA0 Torodi Ar. Sit 46.22 256 P **P** **02 40 30.3 -0.6**
TOA0 IAmb IAmb 02 40 34.7
comp=Z,92nm,0.8s
TOA0 IAMs_20 IAMs_20 03 02 34.3
comp=Z,25µm,20.0s
TORD Torodi Ar. Bea 46.22 256 P **P** **02 40 29.8 -1.1**
comp=Z,68nm,0.7s,baz=66,slow=7.9,SNR=144
TORD LR LR 03 02 45.4
comp=Z,22µm,19.2s,baz=40,slow=40
TORD Torodi Ar. Bea 46.22 256 P **P** **02 40 29.7 -1.1**
TOA3 Torodi Ar. Sit 46.23 256 IAMs_20 IAMs_20 03 02 34.4
comp=Z,24µm,20.0s
TOC7 Torodi Ar. Sit 46.23 256 IAMs_20 IAMs_20 03 02 34.5
comp=Z,23µm,20.0s
TOB5 Torodi Ar. Sit 46.23 256 IAMs_20 IAMs_20 03 02 34.6
comp=Z,23µm,20.0s
TOC4 Torodi Ar. Sit 46.23 256 IAMs_20 IAMs_20 03 02 34.6
comp=Z,25µm,20.0s
TOB4 Torodi Ar. Sit 46.23 256 IAMs_20 IAMs_20 03 02 34.7
comp=Z,23µm,20.0s
PBA Port Blair 46.24 106 *e*P P 02 40 31.8 +0.8
PBA Port Blair 46.24 106 P P 02 40 32.6 +1.7
SNR=13
PBA Port Blair 46.24 106 P P 02 40 30.6 -0.4
TOC5 Torodi Ar. Sit 46.25 256 IAMs_20 IAMs_20 03 02 36.0
comp=Z,26µm,20.0s
ULN Ulaanbaatar 46.60 53*c i*P **P** **02 40 34.2 +0.5**
ULN pmax pmax
comp=Z,469nm,1.2s
ULN MLR MLR
comp=Z,31µm,23.0s
ULN Ulaanbaatar 46.60 53 P **P** **02 40 33.4 -0.3**
ULN Ulaanbaatar 46.60 53 IAMs_20 IAMs_20 03 03 14.2
comp=Z,18µm,21.0s
HSPB Hornsund (broa 46.74 350 *e*P **P** **02 40 34.0 -0.1**
HSPB *e*PP **PP** **02 42 25.4 +1.5**
HSPB *e*S **S** **02 47 25.7 +2.4**
HSPB *e*SS **SS** **02 50 52.2 +3.0**
HSPB Hornsund (broa 46.74 350 *e*P **P** **02 40 34.5 +0.4**
HSPB IVmB_BB 02 40 42.2
comp=Z,2µm,2.2s
HSPB *e*PP **PP** **02 42 24.3 +0.5**
HSPB *e*ScP **ScP** **02 46 01.6 +0.9**
HSPB *e*S **S** **02 47 25.0 +1.8**
HSPB *e*SS **SS** **02 50 53.4 +4.2**
HSPB IVMs_BB IVMs_BB 03 02 09.7
comp=Z,12µm,14.2s

CD2 Chengdu 47.19 76⇑ P **P** **02 40 38.1 -0.3**
CD2 pP pP 02 40 41.3 -1.3
CD2 PP **PP** **02 42 33.4 +4.2**
CD2 S **S** **02 47 31.3 +0.4**
CD2 sS sS 02 47 42.5 +4.7
CD2 pmax pmax
comp=Z,460nm,0.8s
CD2 pmax pmax
comp=Z,2µm,6.3s
CD2 LR LR
comp=Z,64µm,29.4s
CD2 LR LR
comp=Z,30µm,19.1s
CD2 LR LR
comp=Z,25µm,20.1s
SPA0 Spitsbergen Ar 47.57 352 P **P** **02 40 40.9 +0.2**
SPA0 Spitsbergen Ar 47.57 352 *e*P **P** **02 40 40.6 0.0**
SPA0 *e*S **S** **02 47 39.8 +4.6**
SPITS Spitsbergen Ar 47.57 352 P **P** **02 40 40.6 0.0**
comp=Z,19nm,0.4s,baz=150,slow=15,SNR=67
SPITS LR LR 03 02 04.1
comp=Z,10µm,18.9s,baz=160,slow=38
CHTO Chiang Mai 47.74 94 P **P** **02 40 42.3 -0.4**
CHTO pmax pmax
comp=Z,205nm,1.1s
CHTO MLR MLR
comp=Z,10µm,22.0s
CHTO Chiang Mai 47.74 94 P **P** **02 40 42.3 -0.4**
CM31 Chiang Mai Arr 47.91 94 P **P** **02 40 43.7 -0.3**
CMAR Chiang Mai Arr 47.91 94 P **P** **02 40 43.3 -0.8**
comp=Z,71nm,0.9s,baz=293,slow=8.0,SNR=151
CMAR ScP **ScP** **02 46 06.5 -0.1**
comp=Z,11nm,1.0s,baz=290,slow=5.7,SNR=4.9
CMAR LR LR 03 05 15.6
comp=Z,7µm,20.1s,baz=324,slow=42
CMAR Chiang Mai Arr 47.91 94 *i* P **P** **02 40 43.5 -0.5**
CMAR pmax pmax
comp=Z,71nm,0.9s
CMAR Chiang Mai Arr 47.91 94 P **P** **02 40 43.5 -0.5**
CMAR ScP **ScP** **02 46 06.1 -0.5**
KMI Kunming 48.31 84⇑ P **P** **02 40 47.0 -0.3**
KMI pP sP 02 40 55.9 +2.7
KMI sP pP 02 40 59.9 +8.4
KMI PP **PP** **02 42 38.8 -1.0**
KMI ScP **ScP** **02 46 09.0 +0.5**
KMI S **S** **02 47 39.8 -7.5**
KMI sS sS 02 47 54.4 +0.2
KMI pmax pmax
comp=Z,380nm,1.4s
KMI pmax pmax
comp=Z,2µm,3.5s
KMI LR LR
comp=Z,22µm,22.8s
KMI LR LR
comp=Z,7µm,22.8s
KMI LR LR
comp=Z,14µm,21.2s
KMI Kunming 48.31 84 P **P** **02 40 46.7 -0.6**
KMI pmax pmax
comp=Z,438nm,1.2s
KMI MLR MLR
comp=Z,10µm,22.0s
KMI Kunming 48.31 84 P **P** **02 40 46.7 -0.6**
JMIC Jan Mayen 48.57 339 LR LR 03 02 21.9
comp=Z,17µm,21.4s,baz=116,slow=37
JMIC Jan Mayen 48.57 339 *e*P **P** **02 40 49.0 +0.5**
JMIC IVmBBB 02 40 56.4
comp=Z,3µm,1.5s
JMIC *e*PP **PP** **02 42 42.2 +1.2**
JMIC *e*S **S** **02 47 53.0 +3.6**
JMIC IVMs_BB IVMs_BB 03 02 00.5
comp=Z,6µm,16.6s
KBS Kingsbay 48.71 351*c i*P **P** **02 40 50.6 +1.2**
KBS pmax pmax
comp=Z,78nm,1.2s
KBS MLR MLR
comp=Z,24µm,17.0s
KBS Kingsbay 48.71 351 P **P** **02 40 49.2 -0.2**
KBS IAmb IAmb 02 41 00.0
comp=Z,124nm,1.0s
KBS Kingsbay 48.71 351 *e*P **P** **02 40 49.5 0.0**
KBS IVmBBB 02 40 51.2
comp=Z,2µm,3.5s
KBS *e*PP **PP** **02 42 41.9 -0.3**
KBS *e*S **S** **02 47 54.0 +2.8**
KBS *e*SS **SS** **02 51 27.0 +5.9**
KBS IVMs_BB IVMs_BB 03 03 29.5
comp=Z,14µm,12.9s
BTO Baotou 49.69 62 *e*P **P** **02 40 56.4 -1.2**
XAN Xi'an 50.45 71 P **P** **02 41 03.0 -0.3**
XAN pP sP 02 41 09.9 +0.6
XAN S **S** **02 48 18.8 +2.0**
XAN pmax pmax
comp=Z,340nm,0.9s
XAN pmax pmax
comp=Z,3µm,3.8s
XAN LR LR
comp=Z,36µm,21.0s
XAN LR LR
comp=Z,32µm,19.7s
XAN LR LR
comp=Z,26µm,18.3s
XAN Xi'an 50.45 71 P **P** **02 41 03.1 -0.3**
XAN pmax pmax
comp=Z,232nm,1.1s
XAN MLR MLR
comp=Z,27µm,21.0s
XAN Xi'an 50.45 71 P **P** **02 41 03.1 -0.2**
XAN IAmb IAmb 02 41 05.2
comp=Z,232nm,1.1s
PBKT Sadao Pong 50.50 95 P **P** **02 41 03.5 -0.4**
PBKT IAmb IAmb 02 41 07.1
comp=Z,215nm,1.0s
CIT Chita 50.50 47 *e*P **P** **02 41 03.2 -0.3**
CIT *e* 02 41 11.9
CIT *e* 02 43 00.5
CIT *e*S **S** **02 48 19.9 +2.8**
CIT pmax pmax
comp=Z,994nm,1.6s
BOD Bodaibo 50.53 39 *e*P **P** **02 41 03.0 -0.5**
BOD pmax pmax
comp=Z,394nm,1.6s
HHC Hu-ho-hao-te 50.78 62 *e*P **P** **02 41 08.0 +2.1**
HHC PP **PP** **02 43 05.4 +3.5**
HHC S **S** **02 48 20.1 -1.3**
HHC sS sS 02 48 30.3 +1.9
HHC SS **SS** **02 51 56.9 +1.2**
HHC pmax pmax
comp=Z,200nm,1.3s
HHC pmax pmax
comp=Z,3µm,6.9s
HHC LR LR
comp=Z,16µm,17.9s
HHC LR LR
comp=Z,20µm,17.0s
HHC LR LR
comp=Z,24µm,17.0s
SLVN Son La 50.81 88 P **P** **02 41 06.0 -0.3**
SLVN IAmb IAmb 02 41 19.4
comp=Z,168nm,1.0s
GYA Guiyang 51.09 81⇑ P **P** **02 41 07.5 -0.9**
GYA PP **PP** **02 43 05.5 +0.5**
GYA ScP **ScP** **02 46 24.3 +4.0**
GYA S **S** **02 48 17.8 -8.2**
GYA ScS **ScS** **02 50 56.5 -2.7**
GYA SS **SS** **02 51 58.3 -2.8**
GYA pmax pmax
comp=Z,260nm,1.2s
GYA pmax pmax
comp=Z,2µm,4.1s
GYA LR LR
comp=Z,16µm,19.7s
GYA LR LR
comp=Z,10µm,19.9s
GYA LR LR
comp=Z,20µm,23.9s
LSZ Lusaka 51.24 204 P **P** **02 41 08.9 -0.5**
LSZ pmax pmax
comp=Z,129nm,1.0s
LSZ MLR MLR
comp=Z,31µm,19.0s
LSZ Lusaka 51.24 204 P **P** **02 41 08.9 -0.5**
LSZ IAmb IAmb 02 41 20.5
comp=Z,129nm,0.9s
ABPO Ambohimpanom 51.43 181 P **P** **02 41 11.1 +0.2**

ABPO pmax pmax
comp=Z,132nm,1.1s
ABPO MLR MLR
comp=Z,23µm,19.0s
ABPO Ambohimpanom 51.43 181 P **P** **02 41 11.1 +0.2**
ABPO IAmb IAmb 02 41 17.5
comp=Z,132nm,1.1s
BORG Borgarnes 52.04 329 IAMs_20 IAMs_20 03 04 30.6
comp=Z,13µm,20.0s
ENH Enshi 52.07 75 P **P** **02 41 15.2 -0.4**
ENH IAmb IAmb 02 41 17.3
comp=Z,199nm,0.9s
ENH IAMs_20 IAMs_20 03 07 12.9
comp=Z,13µm,19.0s
TIY Taiyuan 52.19 65 *e*P **P** **02 41 18.4 +2.0**
TIY pP **sP** **02 41 27.1 +4.8**
TIY S **S** **02 48 43.5 +2.7**
TIY ScS **ScS** **02 51 07.9 +1.5**
TIY pmax pmax
comp=Z,56nm,0.6s
TIY pmax pmax
comp=Z,1µm,3.7s
TIY LR LR
comp=Z,31µm,22.0s
TIY LR LR
comp=Z,8µm,15.8s
TIY LR LR
comp=Z,19µm,20.4s
ITZ Itezhi-Tezhi 52.46 207 *i* Pg P 02 41 27.6 +9.1
ITZ *i* 02 41 57.9
SCO Scoresbysund 52.77 337 *i* P **P** **02 41 21.0 +0.9**
comp=Z,18µm,20.0s
SCO Scoresbysund 52.77 337 *i* P **P** **02 41 21.0 +0.9**
SCO MLR MLR
comp=Z,19µm,20.0s
SCO Scoresbysund 52.77 337 IAMs_20 IAMs_20 03 03 54.0
comp=Z,20µm,22.0s
PMPST Porto Santo, M 52.99 289 *e*P **P** **02 41 23.1 +0.8**
comp=Z,517nm,1.0s
DAG Danmarks Havn 53.05 345⇑ *i*P **P** **02 41 21.1 -1.0**
comp=Z,34nm,0.8s
comp=Z,13µm,18.0s
DAG Danmarks Havn 53.05 345⇑ *i*P **P** **02 41 21.1 -1.0**
DAG pmax pmax
comp=Z,35nm,0.8s
DAG MLR MLR
comp=Z,13µm,18.0s
MLSI Meulaboh, Aceh 53.50 111 P **P** **02 41 25.9 -0.4**
comp=Z,347nm,1.2s
PMAR Madeira 53.57 289 *e*P **P** **02 41 27.4 +0.6**
comp=Z,748nm,0.9s
FUL Funchal 53.58 289 *e*P **P** **02 41 27.4 +0.8**
comp=Z,424nm,1.6s
PMOZ Porto Moniz, M 53.76 289 *e*P **P** **02 41 27.9 -0.2**
comp=Z,423nm,1.5s
PMOZ *i* S **S** **02 49 03.1 +0.7**
PMOZ A A 03 12 53.4
comp=Z,3µm,20.0s
RER Riviere de l'E 54.11 171 P **P** **02 41 31.3 +0.8**
NOR Nord 54.16 351⇑ *i*P **P** **02 41 29.3 -0.9**
comp=Z,29nm,0.9s
comp=Z,16µm,19.0s
NOR Nord 54.16 351⇑ *i*P **P** **02 41 29.3 -0.9**
NOR pmax pmax
comp=Z,29nm,0.9s
NOR MLR MLR
comp=Z,16µm,19.0s
BJI Beijing 54.39 61 P **P** **02 41 32.8 +0.3**
BJI PP **PP** **02 43 37.9 +3.5**
BJI S **S** **02 49 13.8 +3.3**
BJI pmax pmax
comp=Z,78nm,1.1s
BJI LR LR
comp=Z,28µm,22.1s
BJI LR LR
comp=Z,8µm,22.1s
BJI LR LR
comp=Z,14µm,35.3s
BJT Baijiatuau 54.40 61 P **P** **02 41 32.3 -0.2**
BJT pmax pmax
comp=Z,68nm,0.9s
BJT MLR MLR
comp=Z,23µm,22.0s
BJT Baijiatuau 54.40 61 P **P** **02 41 32.3 -0.2**
BJT Baijiatuau 54.40 61 IAMs_20 IAMs_20 03 06 42.3
comp=Z,23µm,22.0s
HIA Hailar 54.78 50 P **P** **02 41 35.0 -0.2**
HIA pmax pmax
comp=Z,394nm,1.2s
HIA MLR MLR
comp=Z,33µm,19.0s
HIA Hailar 54.78 50 P **P** **02 41 35.0 -0.2**
DBIC Dimbokro 55.17 254 P **P** **02 41 37.3 -1.2**
comp=Z,17nm,0.5s,baz=30,slow=8.3,SNR=37
DBIC LR LR 03 08 08.7
comp=Z,33µm,18.7s,baz=30,slow=39
DBIC Dimbokro 55.17 254 P **P** **02 41 37.8 -0.7**
DBIC Dimbokro 55.17 254 P **P** **02 41 37.8 -0.7**
KIC Kosan Boka 55.26 254 *e*P **P** **02 41 37.8 -1.3**
comp=Z,420nm,1.1s
TIC Toumodi 55.32 254 *e*P **P** **02 41 39.5 0.0**
LIC Lamto 55.57 254 *e*P **P** **02 41 40.7 -0.6**
comp=Z,531nm,1.1s
BLWY Bulawayo 55.63 202 *i* P **P** **02 41 42.0 +0.3**
BLWY Bulawayo 55.63 202 *i* P **P** **02 41 42.0 +0.3**
WHN Wuhan 55.92 73⇓ P **P** **02 41 43.9 +0.3**
WHN S **S** **02 49 32.3 +1.1**
WHN pmax pmax
comp=Z,260nm,1.0s
WHN LR LR
comp=Z,44µm,21.5s
WHN LR LR
comp=Z,25µm,18.8s
WHN LR LR
comp=Z,58µm,24.1s
TIA Tai'an 56.22 66 P **P** **02 41 45.6 -0.1**
TIA PP **PP** **02 43 53.3 +2.5**
TIA S **S** **02 49 38.4 +3.3**
TIA pmax pmax
comp=Z,170nm,1.1s
TIA pmax pmax
comp=Z,2µm,10.0s
TIA LR LR
comp=Z,30µm,21.6s
TIA LR LR
comp=Z,9µm,20.6s
TIA LR LR
comp=Z,15µm,15.7s
GSI Gunungsitoli 56.26 113 P **P** **02 41 47.5 +1.3**
comp=Z,19µmcomp=Z,368nm,1.2s
GSI Gunungsitoli 56.26 113 P **P** **02 41 46.2 0.0**
KULM Kulim 56.27 107 P **P** **02 41 45.5 -0.8**
KULM Kulim 56.27 107 P **P** **02 41 45.0 -1.3**
PSI Prapat 56.38 111 LR LR 03 07 27.5
comp=Z,12µm,21.7s,baz=270,slow=38
PSI Prapat 56.38 111 P **P** **02 41 46.6 -0.7**
PSI pmax pmax
comp=Z,105nm,0.7s
PSI MLR MLR
comp=Z,13µm,22.0s
RPSI Rantau Prapat 56.45 111 P **P** **02 41 46.6 -1.0**
RPSI IAmb IAmb 02 41 59.3
comp=Z,105nm,0.7s
RPSI IAMs_20 IAMs_20 03 07 16.1
comp=Z,13µm,22.0s
QIZ Qiongzhong 56.83 88 P **P** **02 41 49.3 -1.0**
QIZ PP **PP** **02 43 55.6 -1.0**
QIZ S **S** **02 49 43.3 -0.3**
QIZ pmax pmax
comp=Z,39nm,0.9s
QIZ pmax pmax
comp=Z,2µm,2.9s
QIZ LR LR
comp=Z,7µm,20.5s
QIZ LR LR
comp=Z,6µm,16.9s
QIZ LR LR
comp=Z,8µm,25.9s
QIZ Qiongzhong 56.83 88 P **P** **02 41 50.0 -0.3**
QIZ IAmb IAmb 02 41 53.2
comp=Z,237nm,1.2s
IPM Ipoh 57.05 108 P **P** **02 41 50.4 -1.5**
IPM Ipoh 57.05 108 P **P** **02 41 51.0 -0.9**
FOMA Nahampoana Res 57.36 181 P **P** **02 41 53.7 -0.1**
FOMA IAmb IAmb 02 42 00.1
comp=Z,145nm,1.1s

GZH	**Guangzhou**	**57.99**	**82**	P	**P**	**02 41 59.5**	**+1.1**		
GZH				S	**S**	**02 49 57.3**	**-1.5**		
GZH				ScS	**ScS**	**02 51 45.5**	**-2.6**		
GZH				pmax	pmax				
	comp=Z,2μm,4.8s								
GZH				LR	LR				
	comp=Z,12μm,19.4s								
GZH				LR	LR				
	comp=Z,10μm,19.6s								
YAK	**Yakutsk**	**58.01**	**33**	*e*P	**P**	**02 41 57.0**	**-0.9**		
YAK				*e*		02 44 06.3			
YAK				*e*S	**S**	**02 49 55.3**	**-2.6**		
YAK				pmax	pmax				
	comp=Z,235nm,1.1s								
YAK				pmax	pmax				
	comp=N,62nm,1.3s								
YAK				pmax	pmax				
	comp=E,141nm,1.3s								
YAK				pmax	pmax				
	comp=Z,173nm,1.2s								
YAK				pmax	pmax				
	comp=N,197nm,1.6s								
YAK				pmax	pmax				
	comp=E,264nm,1.5s								
YAK				smax	smax				
	comp=N,2μm,3.4s								
YAK				smax	smax				
	comp=E,1μm,4.4s								
YAK				MLR	MLR				
	comp=Z,16μm,18.0s								
YAK				MLR	MLR				
	comp=N,6μm,17.0s								
YAK				MLR	MLR				
	comp=E,11μm,18.0s								
YAK	**Yakutsk**	**58.01**	**33**	P	**P**	**02 41 57.3**	**-0.6**		
YAK				IAmb	IAmb	02 42 00.4			
	comp=Z,195nm,1.0s								
SUMG	**Summit**	**58.01**	**339**	*i* P	**P**	**02 41 58.3**	**0.0**		
	comp=Z,370nm,0.8s								
	comp=Z,37μm,18.0s								
SUMG	**Summit**	**58.01**	**339**	*i* P	**P**	**02 41 58.3**	**0.0**		
SUMG				pmax	pmax				
	comp=Z,370nm,0.8s								
SUMG				MLR	MLR				
	comp=Z,37μm,18.0s								
SUMG	**Summit**	**58.01**	**339**	P	**P**	**02 41 58.3**	**0.0**		
SUMG				IAMs_20	IAMs_20	03 07 50.4			
	comp=Z,15μm,20.0s								
MNSI	**Mandailing Nat**	**58.13**	**112**	P	**P**	**02 42 00.0**	**+0.5**		
	comp=Z,5μmcomp=Z,5μmcomp=Z,128nm,1.2s								
BART	**Pico Bartolome**	**58.35**	**297**	*e*P	**P**	**02 42 02.1**	**+1.2**		
	comp=Z,538nm,1.0s								
ZEA	**Zeya**	**58.43**	**43**	*e*P	**P**	**02 42 00.5**	**-0.5**		
ZEA				*e*		02 44 14.0			
ZEA				*e*		02 45 38.0			
ZEA				*e*S	**S**	**02 50 08.0**	**+4.3**		
ZEA				pmax	pmax				
	comp=N,52nm,0.8s								
ZEA				pmax	pmax				
	comp=E,83nm,1.0s								
ZEA				pmax	pmax				
	comp=Z,180nm,1.0s								
ZEA				pmax	pmax				
	comp=E,1μm,15.0s								
ZEA				pmax	pmax				
	comp=Z,3μm,15.0s								
ZEA				pmax	pmax				
	comp=E,600nm,11.0s								
ZEA				pmax	pmax				
	comp=Z,1μm,11.0s								
ZEA				smax	smax				
	comp=N,2μm,14.0s								
ZEA				smax	smax				
	comp=E,3μm,14.0s								
ZEA				MLR	MLR				
	comp=Z,14μm,15.0s								
ZEA				MLR	MLR				
	comp=E,8μm,14.0s								
ZEA				MLR	MLR				
	comp=N,3μm,15.0s								
PSMN	**Pico do Norte,**	**58.53**	**296**	*e*P	**P**	**02 42 00.9**	**-1.1**		
	comp=N,180nm,1.2s								
CMLA	**Cha da Macela**	**58.62**	**297**	*e*P	**P**	**02 42 02.3**	**-0.4**		
	comp=N,508nm,1.4s								
PDA	**Ponta Delgada**	**58.73**	**297**	*e*P	**P**	**02 42 02.6**	**-0.8**		
	comp=N,455nm,1.0s								
PSET	**Sete Cidades**	**58.75**	**297**	*e*P	**P**	**02 42 03.0**	**-0.6**		
	comp=N,532nm,1.5s								
DL2	**Dalian**	**58.76**	**61**	P	**P**	**02 42 03.8**	**+0.2**		
DL2				PP	**PP**	**02 44 18.3**	**+5.0**		
DL2				S	**S**	**02 50 10.0**	**+1.6**		
DL2				pmax	pmax				
	comp=N,250nm,1.0s								
DL2				pmax	pmax				
	comp=N,3μm,9.9s								
DL2				LR	LR				
	comp=N,20μm,22.4s								
DL2				LR	LR				
	comp=N,8μm,19.4s								
DL2				LR	LR				
	comp=N,20μm,22.2s								
NJ2	**Nanjing**	**58.98**	**70**	*e*P	**P**	**02 42 04.5**	**-0.7**		
NJ2				PP	**PP**	**02 44 13.5**	**-1.9**		
NJ2				S	**S**	**02 50 09.9**	**-1.4**		
NJ2				ScS	**ScS**	**02 51 51.4**	**-3.7**		
NJ2				pmax	pmax				
	comp=N,130nm,1.1s								
NJ2				pmax	pmax				
	comp=N,2μm,3.7s								
NJ2				LR	LR				
	comp=N,24μm,23.7s								
NJ2				LR	LR				
	comp=N,14μm,22.3s								
NJ2				LR	LR				
	comp=N,23μm,19.9s								
HKPS	**Hong Kong Po S**	**59.01**	**82**	P	**P**	**02 42 05.3**	**-0.2**		
HKC	**Hong Kong Obse**	**59.02**	**82**	⇑P	**P**	**02 42 05.0**	**-0.6**		
SISI	**Saibi**	**59.09**	**114**	P	**P**	**02 42 09.1**	**+3.0**		
	comp=N,3μmcomp=N,127nm,1.1s								
DLV	**T Lat**	**59.11**	**96**	P	**P**	**02 42 05.3**	**-1.2**		
DLV				IAmb	IAmb	02 42 07.9			
	comp=Z,129nm,1.0s								
TSUM	**Tsumeb**	**59.12**	**214**	P	**P**	**02 42 05.6**	**-0.7**		
SNY	**Shenyang**	**59.26**	**57**	⇑P	**P**	**02 42 06.9**	**-0.1**		
SNY				pP	**sP**	**02 42 15.8**	**+2.9**		
SNY				sP	pP	02 42 19.8	+8.6		
SNY				PP	**PP**	**02 44 20.6**	**+2.9**		
SNY				S	**S**	**02 50 17.0**	**+2.3**		
SNY				pmax	pmax				
	comp=Z,34nm,2.9s								
SNY				LR	LR				
	comp=Z,17μm,17.2s								
SNY				LR	LR				
	comp=Z,12μm,24.0s								
SNY				LR	LR				
	comp=Z,16μm,25.4s								
BKNI	**Bangkinang**	**59.56**	**112**	P	**P**	**02 42 09.8**	**+0.4**		
	comp=Z,6μmcomp=Z,12μmcomp=Z,956nm,1.3s								
BKNI	**Bangkinang**	**59.56**	**112**	P	**P**	**02 42 08.7**	**-0.7**		
ADH	**Angra Heroismo**	**59.60**	**299**	*e*P	**P**	**02 42 08.9**	**-0.5**		
	comp=Z,617nm,1.8s								
PDSI	**Padang**	**59.88**	**113**	P	**P**	**02 42 12.0**	**+0.3**		
	comp=Z,3μmcomp=Z,6μmcomp=Z,180nm,1.2s								
CN2	**Changchun**	**59.96**	**55**	*e*P	**P**	**02 42 09.1**	**-2.7**		
CN2				PP	**PP**	**02 44 24.9**	**+1.1**		
CN2				*e*S	**S**	**02 50 29.0**	**+5.2**		
CN2				SS	**SS**	**02 54 18.0**	**-1.9**		
PMAN	**Manadas**	**60.24**	**299**	*e*P	**P**	**02 42 13.1**	**-0.7**		
	comp=Z,488nm,1.2s								
ALE	**Alert**	**60.32**	**352**	IAMs_20	IAMs_20	03 13 01.3			
	comp=Z,11μm,20.0s								
ROSA	**Rosais**	**60.33**	**299**	*e*P	**P**	**02 42 13.7**	**-0.7**		
	comp=Z,540nm,1.0s								
ROSA	**Rosais**	**60.33**	**299**	P	**P**	**02 42 14.5**	**+0.1**		
SUJ	**Sinuiju**	**60.47**	**59**	P	**P**	**02 42 14.4**	**-0.9**		
SUJ				pP	**pP**	**02 42 17.5**	**-2.1**		
SUJ				S	**S**	**02 50 30.4**	**+0.1**		
PICO	**Pico**	**60.54**	**299**	*e*P	**P**	**02 42 14.6**	**-1.3**		
	comp=Z,361nm,1.3s								
SDSI	**Sungai Dareh**	**60.65**	**112**	P	**P**	**02 42 15.3**	**-1.6**		
	comp=Z,6μmcomp=Z,321nm,1.1s								
PCED	**Cedros**	**60.70**	**299**	*e*P	**P**	**02 42 18.0**	**+1.1**		
	comp=Z,482nm,1.7s								
CALA	**Caldeira**	**60.71**	**299**	*e*P	**P**	**02 42 16.4**	**-0.7**		
	comp=Z,647nm,1.0s								
MYKOM	**Kota Tinggi**	**60.91**	**108**	P	**P**	**02 42 18.5**	**-0.1**		
MYKOM				IAmb	IAmb	02 42 20.7			
	comp=Z,128nm,0.9s								
MYKOM	**Kota Tinggi**	**60.91**	**108**	P	**P**	**02 42 19.0**	**+0.4**		
LBTB	**Lobatse**	**61.15**	**203**	P	**P**	**02 42 20.5**	**+0.4**		
LBTB				pmax	pmax				
	comp=Z,134nm,1.0s								
LBTB	**Lobatse**	**61.15**	**203**	P	**P**	**02 42 20.5**	**+0.4**		
LBTB				IAmb	IAmb	02 42 30.8			
	comp=Z,134nm,1.0s								
MBO	**M'Bour**	**61.16**	**269**	P	**P**	**02 42 20.3**	**-0.1**		
MBO	**M'Bour**	**61.16**	**269**	IAMs_20	IAMs_20	03 09 52.3			
	comp=Z,15μm,20.0s								
SSE	**Sheshan**	**61.18**	**70**	P	**P**	**02 42 20.4**	**+0.1**		
SSE				S	**S**	**02 50 39.3**	**-0.4**		
SSE				pmax	pmax				
	comp=Z,20nm,0.8s								
SSE				pmax	pmax				
	comp=Z,960nm,3.6s								
SSE				LR	LR				
	comp=Z,2μm,23.0s								
SSE				LR	LR				
	comp=Z,8μm,17.6s								
SSE	**Sheshan**	**61.18**	**70**	P	**P**	**02 42 20.4**	**+0.1**		
SSE				IAmb	IAmb	02 42 22.0			
	comp=Z,142nm,1.0s								
KRJI	**Kerinci**	**61.40**	**113**	P	**P**	**02 42 23.3**	**+1.2**		
	comp=Z,7μmcomp=Z,23μmcomp=Z,2μm,1.0s								
QZH	**Quanzhou**	**61.56**	**77**	⇑*i*P	**P**	**02 42 22.3**	**-0.7**		
QZH				S	**S**	**02 50 44.0**	**-0.7**		
QZH				pmax	pmax				
	comp=Z,44nm,1.3s								
QZH				LR	LR				
	comp=Z,10μm,21.8s								
QZH				LR	LR				
	comp=Z,12μm,22.1s								
QZH				LR	LR				
	comp=Z,10μm,19.8s								
KNMB	**Chin-men Tao**	**61.60**	**78**	IAMs_20	IAMs_20	03 10 52.2			
	comp=Z,10μm,20.0s								
PYAG	**Pyongyang**	**61.74**	**60**	P	**P**	**02 42 22.0**	**-2.0**		
PYAG				S	**S**	**02 50 52.0**	**+5.3**		
PYAG				sS	sS	02 51 06.0	+12		
PYS	**Pyongsong**	**61.75**	**60**	P	**P**	**02 42 23.8**	**-0.2**		
TPRI	**Tanjung Pinang**	**61.97**	**109**	P	**P**	**02 42 28.6**	**+2.8**		
HJU	**Haeju**	**62.08**	**61**	P	**P**	**02 42 26.0**	**-0.3**		
H07S1	**FLORES T-PHASE**	**62.26**	**301**	*e*P	**P**	**02 42 27.2**	**-0.4**		
KLR	**Kul'dur**	**62.39**	**47**	S	**S**	**02 50 53.2**	**-1.3**		
	comp=Z,2.1nm,0.9s,baz=183,slow=23,SNR=1.5								
KLR	**Kul'dur**	**62.39**	**47**	*c i*P	**P**	**02 42 27.5**	**-0.7**		
KLR				pmax	pmax				
	comp=Z,272nm,1.4s								
KLR				MLR	MLR				
	comp=Z,17μm,17.0s								
MDJ	**Mudanjiang**	**62.52**	**53**	P	**P**	**02 42 29.3**	**+0.2**		
MDJ				pP	sP	02 42 37.6	+2.5		
MDJ				PcS	**PcS**	**02 47 11.8**	**+0.3**		
MDJ				S	**S**	**02 50 55.8**	**-0.5**		
MDJ				sS	sS	02 51 11.0	+7.6		
MDJ				ScS	**SKKSac**	**02 52 16.9**	**-4.4**		
MDJ				pmax	pmax				
	comp=Z,48nm,1.7s								
MDJ				pmax	pmax				
	comp=Z,2μm,9.5s								
MDJ				LR	LR				
	comp=Z,36μm,24.2s								
MDJ				LR	LR				
	comp=Z,9μm,24.2s								
MDJ				LR	LR				
	comp=Z,25μm,21.4s								
MDJ	**Mudanjiang**	**62.52**	**53**	P	**P**	**02 42 28.9**	**-0.3**		
KULLO	**Kullorsuaq**	**62.61**	**343**	*i* P	**P**	**02 42 28.9**	**-0.3**		
	comp=Z,116nm,0.9s								
	comp=Z,14μm,18.0s								
KULLO	**Kullorsuaq**	**62.61**	**343**	*i* P	**P**	**02 42 28.9**	**-0.3**		
KULLO				pmax	pmax				
	comp=Z,120nm,0.9s								
KULLO				MLR	MLR				
	comp=Z,14μm,18.0s								
MASI	**Maura Aman, Be**	**62.66**	**114**	P	**P**	**02 42 32.0**	**+1.5**		
	comp=Z,10μmcomp=Z,654nm,1.1s								
HHU	**Hamhung**	**62.72**	**58**	P	**P**	**02 42 30.4**	**-0.1**		
DSRI	**Dabo**	**62.85**	**110**	P	**P**	**02 42 32.4**	**+0.7**		
	comp=Z,3μmcomp=Z,3μmcomp=Z,163nm,1.3s								
ILULI	**Ilulissat**	**62.86**	**337**	*i* P	**P**	**02 42 30.4**	**-0.6**		
	comp=Z,62nm,0.8s								
	comp=Z,18μm,20.0s								
ILULI	**Ilulissat**	**62.86**	**337**	*i* P	**P**	**02 42 30.4**	**-0.6**		
ILULI				pmax	pmax				
	comp=Z,62nm,0.8s								
ILULI				MLR	MLR				
	comp=Z,18μm,20.0s								
INCN	**Inchon**	**62.95**	**61**	P	**P**	**02 42 31.9**	**-0.3**		
INCN				pmax	pmax				
	comp=Z,62nm,0.9s								
INCN				MLR	MLR				
	comp=Z,17μm,22.0s								
INCN	**Inchon**	**62.95**	**61**	P	**P**	**02 42 31.9**	**-0.3**		
INCN				IAmb	IAmb	02 42 40.4			
	comp=Z,62nm,0.8s								
INCN	**Inchon**	**62.95**	**61**	IAMs_20	IAMs_20	03 12 11.7			
	comp=Z,17μm,22.0s								
KSI	**Kapahiang**	**63.25**	**114**	P	P	02 42 39.7	+5.2		
	comp=Z,295nm,0.9s								
NRS	**Narsarsuaq**	**63.39**	**327**	*i* P	**P**	**02 42 33.8**	**-0.8**		
	comp=Z,68nm,0.8s								
	comp=Z,9μm,18.0s								
NRS	**Narsarsuaq**	**63.39**	**327**	*i* P	**P**	**02 42 33.8**	**-0.8**		
NRS				pmax	pmax				
	comp=Z,68nm,0.8s								
NRS				MLR	MLR				
	comp=Z,9μm,18.0s								
NRS	**Narsarsuaq**	**63.39**	**327**	IAMs_20	IAMs_20	03 10 56.6			
	comp=Z,9μm,21.0s								
SFJD	**Kangerlussuaq**	**63.48**	**334**	*i* P	**P**	**02 42 33.6**	**-1.5**		
	comp=Z,1μm,20.0s								
SFJD	**Kangerlussuaq**	**63.48**	**334**	P	**P**	**02 42 34.6**	**-0.5**		
SFJD				pmax	pmax				
	comp=Z,45nm,0.7s								
SFJD				MLR	MLR				
	comp=Z,18μm,21.0s								
SFJD	**Kangerlussuaq**	**63.48**	**334**	P	**P**	**02 42 34.6**	**-0.5**		
SFJD				IAmb	IAmb	02 42 44.7			
	comp=Z,45nm,0.7s								
CHJN	**Chongjin**	**63.65**	**56**	P	**P**	**02 42 37.8**	**+1.2**		
KS19	**Wonju Array Si**	**63.85**	**61**	P	**P**	**02 42 37.7**	**-0.5**		
KS19				IAmb	IAmb	02 42 46.8			
	comp=Z,69nm,0.8s								
KSAR	**Wonju Array Be**	**63.89**	**61**	P	**P**	**02 42 37.6**	**-0.7**		
KSAR	**Wonju Array Be**	**63.89**	**61**	P	**P**	**02 42 37.6**	**-0.7**		
TJN	**Taejon**	**63.91**	**62**	*ce*P	**P**	**02 42 39.0**	**+0.5**		
KSRS	**Korea Array**	**63.91**	**61**	P	**P**	**02 42 37.1**	**-1.3**		
	comp=Z,38nm,0.6s,baz=280,slow=6.6,SNR=82								
KSRS				LR	LR	03 13 38.5			
	comp=Z,16μm,21.3s,baz=290,slow=39								
TATO	**Taipei**	**63.92**	**76**	P	**P**	**02 42 38.5**	**-0.3**		
TATO	**Taipei**	**63.92**	**76**	IAMs_20	IAMs_20	03 14 05.9			
	comp=Z,13μm,20.0s								
TPUB	**Ta-pu**	**63.95**	**78**	P	**P**	**02 42 39.2**	**+0.3**		
YHNB	**Yeheng**	**63.96**	**76**	P	**P**	**02 42 39.2**	**+0.1**		
YHNB				IAMs_20	IAMs_20	03 14 19.8			
	comp=Z,11μm,20.0s								
SSLB	**Suanglung**	**64.00**	**77**	P	**P**	**02 42 38.9**	**-0.5**		
SSLB				IAmb	IAmb	02 42 43.5			
	comp=Z,131nm,1.1s								
SSLB				IAMs_20	IAMs_20	03 14 20.9			
	comp=Z,8μm,20.0s								
LHSI	**Lahat**	**64.08**	**113**	P	**P**	**02 42 40.0**	**+0.1**		
	comp=Z,5μmcomp=Z,172nm,1.3s								
TULEG	**Thule**	**64.25**	**347**	P	**P**	**02 42 40.4**	**+0.4**		
TULEG				IAmb	IAmb	02 42 46.4			
	comp=Z,67nm,0.8s								
TULEG				IAMs_20	IAMs_20	03 11 57.9			
	comp=Z,13μm,18.0s								
USA0B	**Ussuriysk Arra**	**64.27**	**53**	*c i*P	**P**	**02 42 39.3**	**-1.4**		
USA0B	**Ussuriysk Arra**	**64.27**	**53**	P	**P**	**02 42 39.7**	**-1.1**		
USA0B				IAmb	IAmb	02 42 48.7			
	comp=Z,120nm,0.9s								
USRK	**Ussuriysk Ar.**	**64.27**	**53**	P	**P**	**02 42 39.1**	**-1.6**		
	comp=Z,32nm,0.6s,baz=275,slow=5.5,SNR=79								
USRK				LR	LR	03 12 51.7			
	comp=Z,21μm,22.0s,baz=281,slow=38								
USRK	**Ussuriysk Ar.**	**64.27**	**53**	P	**P**	**02 42 39.7**	**-1.0**		
USRK	**Ussuriysk Ar.**	**64.27**	**53**	P	**P**	**02 42 39.7**	**-1.0**		
NACB	**Ninganchiao**	**64.36**	**77**	IAMs_20	IAMs_20	03 14 36.3			
	comp=Z,13μm,20.0s								
YULB	**Yu-li**	**64.46**	**78**	IAMs_20	IAMs_20	03 14 47.0			
	comp=Z,11μm,19.0s								
TWG	**Pinlang**	**64.52**	**78**	P	**P**	**02 42 43.2**	**+0.5**		
TWG				IAmb	IAmb	02 42 45.8			
	comp=Z,133nm,1.0s								
VLA	**Vladivostok**	**64.60**	**54**	*c i*P	**P**	**02 42 42.4**	**-0.5**		
VLA				pmax	pmax				
	comp=Z,190nm,1.4s								
VLA				MLR	MLR				
	comp=Z,13μm,17.0s								
BOSA	**Boshof**	**64.61**	**202**	P	**P**	**02 42 42.2**	**-0.8**		
	comp=Z,39nm,0.8s,baz=22,slow=5.9,SNR=56								
BOSA				LR	LR	03 11 41.2			
	comp=Z,23μm,18.5s,baz=26,slow=37								
BOSA	**Boshof**	**64.61**	**202**	P	**P**	**02 42 42.7**	**-0.4**		
BOSA				pmax	pmax				
	comp=Z,116nm,0.9s								
BOSA	**Boshof**	**64.61**	**202**	P	**P**	**02 42 42.7**	**-0.4**		
BOSA				IAmb	IAmb	02 42 53.7			
	comp=Z,116nm,0.9s								
IVI	**Ivigtut**	**64.62**	**328**	P	**P**	**02 42 41.8**	**-0.9**		
IVI				IAmb	IAmb	02 42 48.1			
	comp=Z,82nm,0.8s								
EUNU	**Eureka**	**64.69**	**352**	P	**P**	**02 42 42.5**	**-0.6**		
EUNU				IAmb	IAmb	02 42 45.4			
	comp=Z,74nm,0.9s								
GRNR	**Gornyy**	**64.69**	**45**	⇑*i*P	**P**	**02 42 42.8**	**-0.6**		
GRNR				*e*S	**S**	**02 51 26.0**	**+2.8**		
GRNR				pmax	pmax				
	comp=E,20nm,1.2s								
GRNR				pmax	pmax				
	comp=Z,40nm,1.2s								
GRNR				smax	smax				
	comp=E,6.0nm,0.9s								
GRNR				MLR	MLR				
	comp=E,5μm,16.0s								
MDSI	**Maura Dua**	**65.00**	**114**	P	**P**	**02 42 44.6**	**-1.3**		
	comp=E,2μmcomp=E,125nm,1.4s								
PPBI	**Pangkal Pinang**	**65.10**	**110**	P	**P**	**02 42 47.5**	**+1.0**		
LWLI	**Liwa**	**65.25**	**114**	P	**P**	**02 42 47.9**	**+0.3**		
	comp=E,9μmcomp=E,349nm,1.1s								
YOJ	**Yonaguni jima**	**65.39**	**76**	IAMs_20	IAMs_20	03 14 48.6			
	comp=Z,9μm,21.0s								
KASI	**Kota Agung**	**65.90**	**114**	P	**P**	**02 42 51.8**	**+0.1**		
	comp=Z,3μmcomp=Z,200nm,1.1s								
KSM	**Kuching**	**66.32**	**104**	P	**P**	**02 42 53.5**	**-1.0**		
KSM				IAmb	IAmb	02 42 55.6			
	comp=Z,120nm,1.1s								
KSM	**Kuching**	**66.32**	**104**	P	**P**	**02 42 54.0**	**-0.4**		
TPI	**Tanjungpandan**	**66.66**	**110**	P	**P**	**02 42 57.5**	**+0.9**		
	comp=Z,3μmcomp=Z,112nm,1.1s								
TEY	**Ternei**	**67.00**	**50**	⇑*e*P	**P**	**02 42 56.4**	**-1.9**		
TEY				pmax	pmax				
	comp=E,10.0nm,0.8s								
TEY				pmax	pmax				
	comp=N,10.0nm,0.7s								
TEY				pmax	pmax				
	comp=Z,40nm,0.6s								
TEY				pmax	pmax				
	comp=Z,200nm,8.6s								
TEY				MLR	MLR				
	comp=Z,900nm,21.0s								
SBUM	**Sibu**	**67.33**	**102**	P	**P**	**02 43 00.5**	**-0.4**		
SBUM	**Sibu**	**67.33**	**102**	P	**P**	**02 43 01.0**	**+0.1**		
SEY	**Seymchan**	**67.64**	**29**	*c i*P	**P**	**02 43 02.6**	**+0.6**		
JNU	**Nakatsue**	**67.87**	**64**	P	**P**	**02 43 04.0**	**-0.1**		
JNU				IAmb	IAmb	02 43 18.1			
	comp=Z,68nm,1.0s								
DBJI	**Dramaga**	**68.28**	**114**	P	**P**	**02 43 06.6**	**-0.3**		
	comp=Z,136nm,1.1s								
TYV	**Tymovskoe**	**68.29**	**43**	*e*P	**P**	**02 43 07.3**	**+0.9**		
TYV				*e*S	**S**	**02 52 11.0**	**+4.3**		
TYV				pmax	pmax				
	comp=Z,177nm,1.4s								
TYV				pmax	pmax				
	comp=Z,3μm,4.3s								
TYV				smax	smax				
	comp=N,14nm,2.6s								
TYV				smax	smax				
	comp=N,5μm,8.9s								
SKJI	**Sukabumi**	**68.42**	**114**	P	**P**	**02 43 08.1**	**+0.4**		
	comp=N,7μmcomp=N,567nm,0.6s								
MA2	**Magadan**	**68.53**	**32**	*c i*P	**P**	**02 43 07.4**	**-0.4**		
MA2				pmax	pmax				
	comp=Z,224nm,1.4s								
MA2				MLR	MLR				
	comp=Z,14μm,17.0s								
MA2	**Magadan**	**68.53**	**32**	P	**P**	**02 43 07.8**	**0.0**		
KKM	**Kota Kinabalu**	**68.68**	**97**	P	**P**	**02 43 09.3**	**-0.2**		
CNJI	**Cibinong**	**69.05**	**114**	P	**P**	**02 43 10.7**	**-0.9**		
	comp=Z,6μmcomp=Z,599nm,1.0s								
SUR	**Sutherland**	**69.54**	**204**	P	**P**	**02 43 14.5**	**+0.1**		
SUR				IAmb	IAmb	02 43 25.4			
	comp=Z,128nm,1.1s								
SPMM	**Sapulut**	**69.61**	**98**	P	**P**	**02 43 15.0**	**-0.2**		
CISI	**Cisompet, Garu**	**69.73**	**114**	P	**P**	**02 43 15.0**	**-0.9**		
	comp=Z,4μmcomp=Z,6μmcomp=Z,424nm,1.2s								
CISI	**Cisompet, Garu**	**69.73**	**114**	P	**P**	**02 43 14.9**	**-1.0**		
PBKI	**Pangkalan Bun**	**69.85**	**107**	P	**P**	**02 43 18.8**	**+2.2**		
	comp=Z,7μmcomp=Z,381nm,1.2s								
YSS	**Yuzh-Sakhalins**	**70.06**	**47**	*ce*P	**P**	**02 43 16.7**	**-0.7**		
YSS				*e**SP	**pP**	**02 43 21.2**	**-0.6**		
YSS				*e*		02 45 59.0			
YSS				*e*PPP	PPP	02 47 39.6			
YSS				*e*S	**S**	**02 52 26.2**	**-1.6**		
YSS				*e*PS	**PnS**	**02 52 59.0**	**+4.8**		
YSS				*e*SS	**SS**	**02 56 54.0**	**-2.7**		
YSS				pmax	pmax				
	comp=Z,310nm,1.0s								
YSS				pmax	pmax				
	comp=Z,1μm,2.8s								
YSS				smax	smax				
	comp=N,2μm,6.5s								
YSS	**Yuzh-Sakhalins**	**70.06**	**47**	P	**P**	**02 43 16.8**	**-0.6**		
RES	**Resolute Bay**	**70.10**	**350**	P	**P**	**02 43 17.3**	**+0.1**		
RES				pmax	pmax				
	comp=Z,36nm,1.1s								
RES				MLR	MLR				
	comp=Z,12μm,19.0s								
RES	**Resolute Bay**	**70.10**	**350**	P	**P**	**02 43 17.3**	**+0.1**		
RES				IAMs_20	IAMs_20	03 15 55.5			
	comp=Z,12μm,19.0s								
CMJI	**Cimerak**	**70.36**	**113**	P	**P**	**02 43 21.0**	**+1.3**		
	comp=Z,3μmcomp=Z,135nm,1.1s								
SHEL	**Horse Pasture**	**70.37**	**235**	P	**P**	**02 43 19.6**	**-0.1**		
SHEL				pmax

ERM	**Erimo**	**72.60**	**51**	*ce*	P	**P**	**02 43 34.5**	**+1.6**		
ERM					pmax	pmax				
	comp=Z,227nm,1.7s									
ERM					MLR	MLR				
	comp=Z,19µm,21.0s									
ERM	**Erimo**	**72.60**	**51**		P	**P**	**02 43 32.6**	**-0.3**		
ERM					IAmb	IAmb	02 43 48.4			
	comp=Z,110nm,1.0s									
YUK	**Yuzh-Kuril'sk**	**73.36**	**48**	*c i*	P	**P**	**02 43 38.2**	**+0.9**		
YUK				*e*			02 46 23.5			
YUK				*e*	PPP	PPP	02 48 04.9			
YUK				*i*	S	**S**	**02 53 04.9**	**-1.1**		
YUK				*i*			02 53 45.7			
YUK					pmax	pmax				
	comp=Z,618nm,1.2s									
YUK					pmax	pmax				
	comp=N,477nm,1.1s									
YUK					pmax	pmax				
	comp=E,82nm,1.0s									
YUK					MLR	MLR				
	comp=Z,8µm,18.0s									
YUK					MLR	MLR				
	comp=N,5µm,17.0s									
YUK					MLR	MLR				
	comp=E,8µm,19.0s									
KUR	**Kuril'sk**	**74.01**	**46**	*c i*	P	**P**	**02 43 39.8**	**-1.3**		
KUR				*e*			02 46 27.9			
KUR				*e*	S	**SKiKP**	**02 53 10.9**	**+1.7**		
KUR					pmax	pmax				
	comp=Z,1µm,5.4s									
KUR					pmax	pmax				
	comp=E,711nm,5.0s									
KUR					pmax	pmax				
	comp=N,492nm,5.5s									
KUR					pmax	pmax				
	comp=Z,146nm,1.4s									
KUR					MLR	MLR				
	comp=Z,5µm,17.0s									
KUR					MLR	MLR				
	comp=E,9µm,18.0s									
KUR					MLR	MLR				
	comp=N,5µm,16.0s									
JHJ2	**Mitsune**	**74.55**	**60**		IAMs_20	IAMs_20	03 19 45.7			
	comp=Z,9µm,19.0s									
A21K	**Barrow**	**74.84**	**8**		P	**P**	**02 43 45.5**	**+0.1**		
	baz=339									
A21K					S	**S**	**02 53 23.3**	**+1.7**		
	baz=339									
DRLN	**Deer Lake**	**74.86**	**319**		P	**P**	**02 43 45.9**	**-0.1**		
DRLN					IAmb	IAmb	02 43 57.7			
	comp=Z,128nm,1.1s									
PEA0B	**Petropavlovsk-**	**75.21**	**36**	*ce*	P	**P**	**02 43 47.1**	**-0.9**		
PEA0B	**Petropavlovsk-**	**75.21**	**36**		P	**P**	**02 43 46.8**	**-1.2**		
PEA0B					IAmb	IAmb	02 43 49.2			
	comp=Z,116nm,1.1s									
PETK	**Petropavlovsk-**	**75.21**	**36**		P	**P**	**02 43 45.9**	**-2.0**		
	comp=Z,60nm,1.1s,baz=318,slow=2.0,SNR=28									
PETK					LR	LR	03 22 08.4			
	comp=Z,13µm,18.4s,baz=302,slow=40									
PETK	**Petropavlovsk-**	**75.21**	**36**		P	**P**	**02 43 46.0**	**-2.0**		
PETK	**Petropavlovsk-**	**75.21**	**36**		P	**P**	**02 43 46.0**	**-1.9**		
A36M	**Sachs Harbour**	**75.48**	**358**		P	**P**	**02 43 48.4**	**-0.8**		
	baz=6.2,SNR=9.5									
A36M					S	**S**	**02 53 28.6**	**-0.1**		
	baz=6.2									
PET	**Petropavlovsk**	**75.73**	**36**	*i*	P	**P**	**02 43 48.9**	**-2.0**		
PET					pmax	pmax				
	comp=Z,297nm,1.7s									
PET	**Petropavlovsk**	**75.73**	**36**		P	**P**	**02 43 49.8**	**-1.1**		
SKR	**Severo-Kuril's**	**75.78**	**39**	*e*	P	**P**	**02 43 50.0**	**-1.3**		
SKR				*e*			02 46 38.6			
SKR				*e*	PPP	PPP	02 48 31.3			
SKR				*e*	S	**S**	**02 53 27.3**	**-5.5**		
SKR					pmax	pmax				
	comp=Z,800nm,7.1s									
SKR					MLR	MLR				
	comp=Z,4µm,18.0s									
DAV	**Davao City (W)**	**76.02**	**91**		IAMs_20	IAMs_20	03 20 01.4			
	comp=Z,7µm,22.0s									
DAV	**Davao City (W)**	**76.02**	**91**	⇑ *i*	P	**P**	**02 43 52.3**	**-0.9**		
SCHQ	**Schefferville**	**76.35**	**327**		P	**P**	**02 43 53.6**	**-0.9**		
	comp=Z,35nm,0.7s,baz=64,slow=6.4,SNR=22									
SCHQ					LR	LR	03 19 54.5			
	comp=Z,5µm,18.0s,baz=52,slow=38									
SCHQ	**Schefferville**	**76.35**	**327**		P	**P**	**02 43 53.6**	**-0.9**		
RDOG	**Red Dog Mine**	**76.96**	**11**		P	**P**	**02 43 56.4**	**-1.3**		
RDOG					IAmb	IAmb	02 44 07.3			
	comp=Z,115nm,1.1s									
RDOG					IAMs_20	IAMs_20	03 23 33.1			
	comp=Z,10µm,20.0s									
KAPI	**Kappang**	**77.74**	**104**		P	**P**	**02 44 02.4**	**-0.5**		
KAPI					pmax	pmax				
	comp=Z,58nm,1.0s									
KAPI					MLR	MLR				
	comp=Z,3µm,22.0s									
KAPI	**Kappang**	**77.74**	**104**		P	**P**	**02 44 02.4**	**-0.5**		
LUWI	**Luwuk**	**78.02**	**99**		P	**P**	**02 44 03.7**	**-0.7**		
C36M	**Paulatuk**	**78.07**	**357**		P	**P**	**02 44 02.3**	**-1.5**		
	baz=7.1,SNR=16									
C36M					S	**S**	**02 53 56.4**	**-0.7**		
	baz=7.1									
C36M	**Paulatuk**	**78.07**	**357**		P	**P**	**02 44 02.7**	**-1.1**		
C36M					IAmb	IAmb	02 44 13.3			
	comp=Z,114nm,0.8s									
C36M					IAMs_20	IAMs_20	03 23 35.1			
	comp=Z,8µm,19.0s									
TOLK	**Toolik Lake Re**	**78.14**	**6**		P	**P**	**02 44 03.9**	**-0.5**		
	baz=345,SNR=40									
TOLK					S	**S**	**02 53 57.2**	**-0.9**		
	baz=345									
TOLK	**Toolik Lake Re**	**78.14**	**6**		P	**P**	**02 44 04.2**	**-0.2**		
TOLK					IAMs_20	IAMs_20	03 20 02.2			
	comp=Z,12µm,22.0s									
CRZF	**Crozet Islands**	**78.86**	**177**		IAMs_20	IAMs_20	03 18 04.3			
	comp=Z,7µm,20.0s									
GBN	**Guysborough**	**79.28**	**317**		P	**P**	**02 44 10.8**	**0.0**		
INK	**Inuvik**	**79.29**	**0**		P	**P**	**02 44 10.1**	**-0.4**		
INK					pmax	pmax				
	comp=Z,84nm,1.1s									
INK					MLR	MLR				
	comp=Z,11µm,21.0s									
INK	**Inuvik**	**79.29**	**0**		P	**P**	**02 44 10.1**	**-0.4**		
INK					IAMs_20	IAMs_20	03 23 40.4			
	comp=Z,11µm,21.0s									
JCJ	**Chichijima**	**79.34**	**65**		P	**P**	**02 44 09.5**	**-2.0**		
JCJ					IAmb	IAmb	02 44 16.2			
	comp=Z,108nm,1.1s									
COLD	**Coldfoot**	**79.45**	**7**		P	**P**	**02 44 10.9**	**-0.6**		
	baz=345,SNR=31									
COLD					S	**S**	**02 54 11.2**	**-0.9**		
	baz=345									
COLD	**Coldfoot**	**79.45**	**7**		P	**P**	**02 44 11.2**	**-0.3**		
COLD					IAmb	IAmb	02 44 22.4			
	comp=Z,147nm,1.2s									
COLD					IAMs_20	IAMs_20	03 21 06.8			
	comp=Z,9µm,22.0s									
ANM	**Nome**	**79.63**	**14**		P	**P**	**02 44 12.6**	**+0.1**		
ANM					pmax	pmax				
	comp=Z,156nm,1.1s									
ANM					MLR	MLR				
	comp=Z,15µm,21.0s									
ANM	**Nome**	**79.63**	**14**		P	**P**	**02 44 12.6**	**+0.1**		
ANM					IAmb	IAmb	02 44 22.6			
	comp=Z,156nm,1.1s									
IMAR	**Indian Mountai**	**80.24**	**9**		P	**P**	**02 44 15.5**	**-0.3**		
BATG	**Bathurst New B**	**80.65**	**321**		P	**P**	**02 44 18.1**	**-0.3**		
BATG					IAmb	IAmb	02 44 28.8			
	comp=Z,129nm,1.0s									
TNTI	**Ternate**	**80.88**	**95**		P	**P**	**02 44 19.7**	**-0.3**		
TNTI					IAmb	IAmb	02 44 36.5			
	comp=Z,86nm,0.9s									
HAL	**Halifax**	**80.92**	**318**		P	**P**	**02 44 20.1**	**+0.3**		
HAL					pmax	pmax				
	comp=Z,191nm,0.9s									
HAL					MLR	MLR				
	comp=Z,4µm,19.0s									
HAL	**Halifax**	**80.92**	**318**		P	**P**	**02 44 20.1**	**+0.3**		
HAL					IAmb	IAmb	02 44 22.4			
	comp=Z,191nm,0.9s									
POKR	**Poker Plat Res**	**81.78**	**6**		P	**P**	**02 44 23.7**	**-0.3**		
	baz=347,SNR=11									
MMRI	**Maumere**	**81.82**	**106**		P	**P**	**02 44 22.9**	**-2.1**		
MDM	**Murphy Dome**	**81.86**	**7**		P	**P**	**02 44 24.4**	**-0.1**		
D63A	**Stockholm**	**81.89**	**322**		P	**P**	**02 44 24.6**	**-0.3**		
	baz=50,SNR=16									
TCOL	**CIGO, UAF Yank**	**81.98**	**7**		P	**P**	**02 44 24.2**	**-0.9**		
	baz=347,SNR=8.0									
COLA	**College**	**81.98**	**7**	*c i*	P	**P**	**02 44 24.6**	**-0.4**		
COLA					pmax	pmax				
	comp=Z,63nm,1.1s									
COLA					MLR	MLR				
	comp=Z,7µm,21.0s									
COLA	**College**	**81.98**	**7**		P	**P**	**02 44 25.1**	**+0.1**		
COLA					IAmb	IAmb	02 44 35.5			
	comp=Z,169nm,1.1s									
PQI	**Presque Isle**	**82.07**	**321**		P	**P**	**02 44 25.5**	**-0.3**		
PQI					IAmb	IAmb	02 44 28.0			
	comp=Z,88nm,1.0s									
NEA2	**Nenana**	**82.13**	**7**		P	**P**	**02 44 24.9**	**-1.0**		
	baz=346,SNR=16									
E64A	**Bridgewater**	**82.14**	**321**		P	**P**	**02 44 25.4**	**-0.9**		
	baz=50,SNR=22									
IL31		**82.17**	**6**		P	**P**	**02 44 25.4**	**-0.6**		
ILAR	**Eielson Array**	**82.17**	**6**		P	**P**	**02 44 24.8**	**-1.3**		
	comp=Z,8.4nm,0.8s,baz=327,slow=3.7,SNR=48									
ILAR					PKKPbc	**PKKPbc**	**03 02 55.2**	**+0.3**		
	comp=Z,2.2nm,0.5s,baz=202,slow=2.1,SNR=17									
ILAR					PKPPKP	P'P'df	03 10 48.5	-17		
	comp=Z,0.5nm,0.7s,baz=239,slow=3.4,SNR=7.5									
ILAR					LR	LR	03 24 37.6			
	comp=Z,5µm,21.6s,baz=350,slow=38									
ILAR	**Eielson Array**	**82.17**	**6**		P	**P**	**02 44 25.2**	**-0.9**		
ILAR	**Eielson Array**	**82.17**	**6**		P	**P**	**02 44 25.2**	**-0.9**		
BPAW	**Bear Paw Mtn.**	**82.39**	**8**		P	**P**	**02 44 26.8**	**-0.5**		
BPAW					IAmb	IAmb	02 44 37.0			
	comp=Z,147nm,1.1s									
GGN	**Saint George**	**82.43**	**319**		P	**P**	**02 44 27.5**	**-0.3**		
GGN					IAMs_20	IAMs_20	03 23 52.5			
	comp=Z,6µm,19.0s									
E63A	**Oxbow**	**82.45**	**321**		P	**P**	**02 44 26.7**	**-1.1**		
	baz=50,SNR=19									
E63A	**Oxbow**	**82.45**	**321**		P	**P**	**02 44 27.4**	**-0.5**		
E63A					IAmb	IAmb	02 44 40.3			
	comp=Z,67nm,1.0s									
HDA	**Harding Lake**	**82.52**	**6**		P	**P**	**02 44 26.8**	**-1.1**		
	baz=348,SNR=9.6									
HDA	**Harding Lake**	**82.52**	**6**		P	**P**	**02 44 27.0**	**-0.9**		
EGAK	**Eagle**	**82.59**	**4**		P	**P**	**02 44 28.1**	**-0.2**		
EGAK					IAmb	IAmb	02 44 38.7			
	comp=Z,148nm,1.0s									
F64A	**Sherman**	**82.77**	**321**		P	**P**	**02 44 28.7**	**-0.9**		
	baz=50,SNR=20									
G65A	**Princeton**	**82.77**	**320**		P	**P**	**02 44 28.5**	**-1.1**		
	baz=50,SNR=8.6									
G65A	**Princeton**	**82.77**	**320**		IAMs_20	IAMs_20	03 24 01.7			
	comp=Z,6µm,18.0s									
TTA	**Tatalina**	**82.82**	**11**		P	**P**	**02 44 29.5**	**-0.1**		
TTA					pmax	pmax				
	comp=Z,64nm,1.1s									
TTA	**Tatalina**	**82.82**	**11**		P	**P**	**02 44 29.5**	**-0.1**		
D61A	**St Aubert, Com**	**82.86**	**323**		P	**P**	**02 44 29.0**	**-0.9**		
	baz=49,SNR=29									
E62A	**Clayton Lake**	**82.90**	**322**		P	**P**	**02 44 29.6**	**-0.6**		
	baz=49,SNR=21									
E62A	**Clayton Lake**	**82.90**	**322**		P	**P**	**02 44 29.1**	**-1.0**		
E62A					IAmb	IAmb	02 44 35.0			
	comp=Z,49nm,0.8s									
H66A	**Whiting**	**82.90**	**319**		P	**P**	**02 44 29.5**	**-0.7**		
	baz=50									
SMY	**Shemya**	**82.95**	**30**		P	**P**	**02 44 30.3**	**0.0**		
SMY	**Shemya**	**82.95**	**30**		IAMs_20	IAMs_20	03 26 44.3			
	comp=Z,10µm,20.0s									
MCK	**McKinley**	**82.98**	**7**		P	**P**	**02 44 29.4**	**-1.0**		
MCK					pmax	pmax				
	comp=Z,89nm,1.0s									
MCK	**McKinley**	**82.98**	**7**		P	**P**	**02 44 29.4**	**-1.0**		
MCK					IAmb	IAmb	02 44 39.7			
	comp=Z,89nm,1.0s									
EMMW	**East Machias**	**83.03**	**319**		IAMs_20	IAMs_20	03 24 10.6			
	comp=Z,6µm,19.0s									
TRF	**Thorofare Moun**	**83.10**	**8**		P	**P**	**02 44 31.4**	**+0.3**		
F63A	**Nahmakanta, Br**	**83.28**	**321**		P	**P**	**02 44 31.7**	**-0.5**		
	baz=49,SNR=10									
K27K	**Chicken**	**83.28**	**4**		P	**P**	**02 44 31.5**	**-0.4**		
	baz=352									
RND	**Reindeer**	**83.31**	**7**		IAMs_20	IAMs_20	03 26 51.8			
	comp=Z,7µm,21.0s									
G64A	**Maxfield**	**83.38**	**320**		P	**P**	**02 44 32.0**	**-0.7**		
	baz=49									
DAWY	**Dawson**	**83.39**	**3**		P	**P**	**02 44 32.5**	**+0.1**		
DAWY					IAmb	IAmb	02 44 40.9			
	comp=Z,57nm,1.0s									
PPLA	**Purkeypile**	**83.40**	**9**		IAMs_20	IAMs_20	03 26 40.2			
	comp=Z,11µm,22.0s									
D60A	**Saint Jean D'O**	**83.42**	**323**		P	**P**	**02 44 32.0**	**-0.9**		
	baz=48									
H65A	**Eastbrook**	**83.47**	**320**		P	**P**	**02 44 32.5**	**-0.7**		
	baz=50,SNR=6.1									
DOT	**Dot Lake**	**83.52**	**5**		P	**P**	**02 44 32.8**	**-0.3**		
E61A	**Lac Etchemin**	**83.52**	**322**		P	**P**	**02 44 32.7**	**-0.8**		
	baz=48,SNR=15									
F62A	**Pittston Farm,**	**83.61**	**322**		P	**P**	**02 44 33.6**	**-0.3**		
	baz=49,SNR=13									
PKME	**Peaks-Kenny Pk**	**83.66**	**321**		P	**P**	**02 44 33.5**	**-0.7**		
	baz=49									
DHY	**Denali Highway**	**83.79**	**7**		IAMs_20	IAMs_20	03 23 55.4			
	comp=Z,7µm,22.0s									
D59A	**Saint-Raymond**	**83.83**	**323**		P	**P**	**02 44 34.0**	**-1.0**		
	baz=48,SNR=8.4									
G63A	**Kingsbury**	**83.94**	**321**		P	**P**	**02 44 34.6**	**-1.0**		
	baz=49,SNR=10									
GIRL	**Giralia**	**84.00**	**122**		P	**P**	**02 44 35.5**	**-0.6**		
H64A	**Troy**	**84.03**	**320**		P	**P**	**02 44 35.6**	**-0.5**		
	baz=49									
LATQ	**La Tuque**	**84.04**	**324**		P	**P**	**02 44 35.0**	**-1.0**		
	baz=47,SNR=7.6									
LATQ	**La Tuque**	**84.04**	**324**		P	**P**	**02 44 35.8**	**-0.3**		
E60A	**Ste Agathe de**	**84.06**	**323**		P	**P**	**02 44 35.4**	**-0.7**		
	baz=48,SNR=12									
YKA	**Yellowknife Ar**	**84.07**	**352**		P	**P**	**02 44 34.6**	**-1.3**		
	comp=Z,25nm,0.8s,baz=16,slow=5.5,SNR=40									
YKA					PKKPbc	**PKKPbc**	**03 02 49.9**	**-0.6**		
	comp=Z,1.0nm,0.6s,baz=156,slow=1.4,SNR=3.5									
YKA					LR	LR	03 24 17.5			
	comp=Z,8µm,20.4s,baz=0.0,slow=37									
PAX	**Paxson**	**84.07**	**6**		P	**P**	**02 44 36.5**	**+0.4**		
PAX					pmax	pmax				
	comp=Z,39nm,1.2s									
PAX	**Paxson**	**84.07**	**6**		P	**P**	**02 44 36.5**	**+0.4**		
F61A	**St Evariste**	**84.09**	**322**		P	**P**	**02 44 35.9**	**-0.4**		
	baz=48,SNR=18									
SOEI	**Soe**	**84.10**	**105**		P	**P**	**02 44 36.7**	**-0.3**		
SOEI					IAMs_20	IAMs_20	03 25 16.6			
	comp=Z,6µm,22.0s									
CUT	**Chulitna**	**84.12**	**8**		P	**P**	**02 44 34.7**	**-1.5**		
	baz=345									
MENT	**Mentasta**	**84.25**	**5**		P	**P**	**02 44 36.9**	**0.0**		
MENT					IAmb	IAmb	02 44 47.8			
	comp=Z,72nm,1.0s									
BCAR	**Beaver Creek A**	**84.26**	**4**		P	**P**	**02 44 37.0**	**0.0**		
D58A	**Chemin du LacG**	**84.29**	**324**		P	**P**	**02 44 36.3**	**-1.1**		
	baz=47,SNR=13									
WVL	**Waterville**	**84.32**	**320**		P	**P**	**02 44 37.3**	**-0.2**		
G62A	**West of Eustis**	**84.35**	**321**		P	**P**	**02 44 36.8**	**-0.9**		
	baz=48,SNR=27									
SKT	**Skwentna**	**84.37**	**9**		IAMs_20	IAMs_20	03 27 09.8			
	comp=Z,9µm,20.0s									
H63A	**New Sharon**	**84.46**	**321**		P	**P**	**02 44 37.6**	**-0.6**		
	baz=48,SNR=5.8									
E59A	**St. Maurice**	**84.52**	**323**		P	**P**	**02 44 37.4**	**-1.1**		
	baz=47									
F60A	**Warwick**	**84.59**	**322**		P	**P**	**02 44 37.8**	**-1.0**		
	baz=47,SNR=9.9									
SVW2	**Sparrevohn**	**84.62**	**11**		IAMs_20	IAMs_20	03 28 06.0			
	comp=Z,8µm,21.0s									
MATQ	**Matagami**	**84.67**	**328**		P	**P**	**02 44 38.2**	**-0.9**		
	baz=44									
I64A	**Boothbay**	**84.73**	**320**		P	**P**	**02 44 39.4**	**-0.2**		
	baz=49									
G61A	**St-Isidore-de-**	**84.83**	**322**		P	**P**	**02 44 39.9**	**-0.3**		
	baz=48,SNR=28									
D57A	**Chemin Vers le**	**84.84**	**324**		P	**P**	**02 44 39.4**	**-0.8**		
	baz=46,SNR=21									
LSQQ	**Lebel-sur-Quev**	**84.87**	**327**		P	**P**	**02 44 38.8**	**-1.4**		
	baz=44									
SUA	**Susitna One**	**84.97**	**9**		P	**P**	**02 44 40.1**	**-0.5**		
SUA					IAmb	IAmb	02 44 53.2			
	comp=Z,77nm,0.7s									
SUA					IAMs_20	IAMs_20	03 29 11.7			
	comp=Z,7µm,20.0s									
E58A	**La Victoria**	**84.98**	**323**		P	**P**	**02 44 39.8**	**-1.1**		
	baz=46,SNR=18									
SCM	**Sheep Creek Mo**	**85.01**	**7**		IAMs_20	IAMs_20	03 25 55.7			
	comp=Z,7µm,22.0s									
PMR	**Palmer**	**85.05**	**8**		IAMs_20	IAMs_20	03 25 24.6			
	comp=Z,8µm,22.0s									
F59A	**Saint Guilaume**	**85.09**	**323**		P	**P**	**02 44 40.7**	**-0.7**		
	baz=47,SNR=11									
H62A	**Milan**	**85.11**	**321**		P	**P**	**02 44 41.0**	**-0.5**		
	baz=48,SNR=8.2									
H62A	**Milan**	**85.11**	**321**		P	**P**	**02 44 41.5**	**-0.1**		
I63A	**Otisfield**	**85.16**	**320**		P	**P**	**02 44 40.6**	**-1.2**		
	baz=48									
MOQ	**Mont Orford**	**85.19**	**322**		P	**P**	**02 44 41.8**	**-0.2**		
D56A	**ZEC Mazanza, M**	**85.25**	**325**		P	**P**	**02 44 41.3**	**-0.9**		
	baz=46,SNR=22									
KNK	**Knik Glacier**	**85.30**	**8**		P	**P**	**02 44 42.2**	**+0.1**		
KNK					IAmb	IAmb	02 44 52.2			
	comp=Z,65nm,0.7s									
KNK					IAMs_20	IAMs_20	03 29 26.3			
	comp=Z,5µm,19.0s									
G60A	**Masonville**	**85.38**	**322**		P	**P**	**02 44 42.0**	**-0.8**		
	baz=47,SNR=9.7									
E57A	**Chemin Saint G**	**85.39**	**324**		P	**P**	**02 44 42.2**	**-0.8**		
	baz=46,SNR=25									
KLU	**Klutina**	**85.48**	**7**		P	**P**	**02 44 43.5**	**+0.3**		
H61A	**Lyndonville**	**85.55**	**321**		P	**P**	**02 44 42.6**	**-1.1**		
	baz=47,SNR=17									
CAPN	**Captain Cook N**	**85.59**	**9**		P	**P**	**02 44 42.1**	**-1.5**		
	baz=344									
F58A	**St-Lin Laurent**	**85.60**	**323**		P	**P**	**02 44 43.2**	**-0.7**		
	baz=46									
D55A	**Sainte-Anne-du**	**85.62**	**325**		P	**P**	**02 44 43.3**	**-0.7**		
	baz=45,SNR=22									
I62A	**Tamworth**	**85.68**	**321**		P	**P**	**02 44 44.0**	**-0.3**		
	baz=48,SNR=8.6									
E56A	**St. Veronique**	**85.74**	**324**		P	**P**	**02 44 43.7**	**-0.9**		
	baz=45,SNR=15									
LBNH	**Lisbon**	**85.75**	**321**		P	**P**	**02 44 44.5**	**-0.3**		
	baz=47,SNR=24									
VLDQ	**Val d'Or**	**85.77**	**327**		P	**P**	**02 44 44.3**	**-0.4**		
VLDQ					IAMs_20	IAMs_20	03 26 16.9			
	comp=Z,5µm,19.0s									
G59A	**Clarenceville**	**85.83**	**322**		P	**P**	**02 44 43.9**	**-1.1**		
	baz=46									
H60A	**Morristown**	**85.93**	**322**		P	**P**	**02 44 45.3**	**-0.4**		
	baz=47,SNR=19									
J63A	**Strafford**	**85.94**	**320**		P	**P**	**02 44 45.4**	**-0.2**		
	baz=48,SNR=9.1									
O22K	**Cooper Landing**	**86.05**	**9**		P	**P**	**02 44 46.0**	**+0.1**		
	baz=345									
F57A	**Harrington**	**86.08**	**324**		P	**P**	**02 44 45.6**	**-0.7**		
	baz=45,SNR=5.1									
D54A	**Lac Fusel, La**	**86.09**	**326**		P	**P**	**02 44 45.4**	**-1.0**		
	baz=44,SNR=6.6									
I61A	**Oroboro, Fairl**	**86.10**	**321**		P	**P**	**02 44 46.1**	**-0.4**		
	baz=47,SNR=12									
VT1	**Waterbury**	**86.12**	**322**		P	**P**	**02 44 46.3**	**-0.2**		
VT1					IAmb	IAmb	02 44 58.9			
	comp=Z,66nm,1.1s									
VT1					IAMs_20	IAMs_20	03 22 49.3			
	comp=Z,7µm,21.0s									
FFD	**Franklin Falls**	**86.12**	**321**		IAMs_20	IAMs_20	03 25 46.3			
	comp=Z,6µm,19.0s									
FID	**Port Fidalgo**	**86.16**	**7**		IAMs_20	IAMs_20	03 27 46.3			
	comp=Z,5µm,20.0s									
FRNY	**Flat Rock**	**86.20**	**322**		IAMs_20	IAMs_20	03 22 49.3			
	comp=Z,8µm,22.0s									
L65A	**Cape Cod Natio**	**86.21**	**319**		P	**P**	**02 44 46.1**	**-0.9**		
	baz=48									
G58A	**Ormstown**	**86.22**	**323**		P	**P**	**02 44 46.1**	**-0.9**		
	baz=46,SNR=17									
BARN	**Barnard Glacie**	**86.26**	**5**		P	**P**	**02 44 47.1**	**-0.1**		
E55A	**Montcerf-Lytto**	**86.30**	**325**		P	**P**	**02 44 46.6**	**-0.8**		
	baz=44,SNR=6.4									
J62A	**Henniker**	**86.37**	**320**		P	**P**	**02 44 47.5**	**-0.3**		
	baz=47,SNR=11									
H59A	**Cadyville**	**86.39**	**322**		P	**P**	**02 44 47.2**	**-0.7**		
	baz=46,SNR=18									
EYAK	**Cordova Ski Ar**	**86.43**	**7**		IAMs_20	IAMs_20	03 26 41.2			
	comp=Z,10µm,22.0s									
SEW	**Seward**	**86.45**	**9**		P	**P**	**02 44 47.6**	**-0.2**		
SEW					IAmb	IAmb	02 44 58.2			
	comp=Z,147nm,1.2s									
SEW					IAMs_20	IAMs_20	03 29 57.9			
	comp=Z,8µm,21.0s									
HIN	**Hinchinbrook I**	**86.50**	**7**		IAMs_20	IAMs_20	03 29 05.2			
	comp=Z,5µm,20.0s									
K63A	**Dunstable**	**86.58**	**320**		P	**P**	**02 44 48.0**	**-0.8**		
	baz=47,SNR=14									
BRLK	**Bradley Lake**	**86.59**	**9**		P	**P**	**02 44 47

MBWA Marble Bar 87.14 117 P **P** 02 44 51.4 -0.4
MBWA IAmb IAmb 02 44 53.1
comp=Z,112nm,0.9s
MBWA Marble Bar 87.14 117 IAMs_20 IAMs_20 03 27 59.3
comp=Z,5µm,19.0s
M64A Tiverton 87.17 319 P **P** 02 44 51.5 -0.2
baz=48
L63A North Scituate 87.19 319 P **P** 02 44 51.3 -0.5
baz=47
J60A Lant Hill Farm 87.22 321 P **P** 02 44 51.2 -0.7
baz=46,SNR=12
ACCN Adirondack Com 87.25 321 IAMs_20 IAMs_20 03 23 36.1
comp=Z,7µm,21.0s
PCA Pinnacle 87.31 4 IAMs_20 IAMs_20 03 30 27.4
comp=Z,6µm,20.0s
QUA2 Belchertown 87.31 320 IAMs_20 IAMs_20 03 29 52.7
comp=Z,5µm,18.0s
L61B Northampton 87.37 320 P **P** 02 44 51.5 -1.2
baz=47,SNR=9.2
H57A Richville 87.38 323 P **P** 02 44 51.9 -0.8
baz=45,SNR=16
D51A Lot 18 Range I 87.41 327 P **P** 02 44 51.2 -1.6
baz=42,SNR=9.4
PSAD3 Pilbara Seismi 87.46 118 IAMs_20 IAMs_20 03 20 40.8
comp=Z,6µm,22.0s
PSA00 Pilbara Seismi 87.47 118 P **P** 02 44 52.9 -0.4
G55A Calabogie 87.48 324 P **P** 02 44 51.8 -1.4
baz=44,SNR=24
PSAB3 Pilbara Seismi 87.49 118 IAMs_20 IAMs_20 03 20 52.5
comp=Z,6µm,22.0s
K61A Williamstown 87.53 321 P **P** 02 44 53.7 +0.2
baz=46
D50A G1974 Best Tow 87.56 327 P **P** 02 44 52.2 -1.3
baz=42,SNR=9.8
ALGO Algonquin Park 87.62 325 P **P** 02 44 52.5 -1.3
baz=43,SNR=9.0
J59A Piesco 87.63 322 P **P** 02 44 52.9 -1.1
baz=46,SNR=16
J59A Piesco 87.63 322 P **P** 02 44 53.0 -1.0
J59A IAmb IAmb 02 45 06.1
comp=Z,72nm,1.1s
J59A IAMs_20 IAMs_20 03 23 44.1
comp=Z,8µm,22.0s
L62A Suffield 87.64 320 P **P** 02 44 53.3 -0.7
baz=47
E52A Mattawa 87.67 326 P **P** 02 44 52.4 -1.7
baz=43,SNR=12
TRY Troy 87.70 321 IAMs_20 IAMs_20 03 24 17.1
comp=Z,5µm,22.0s
I58A Old Forge 87.72 322 P **P** 02 44 53.3 -1.1
baz=45,SNR=13
I58A S **S** 02 55 36.8 +0.5
baz=45
H56A Elgin 87.73 324 P **P** 02 44 53.4 -1.0
baz=44,SNR=12
H56A S **S** 02 55 35.2 -1.1
baz=44
M63A Gales Ferry 87.74 319 P **P** 02 44 54.2 -0.2
baz=47
M63A S **S** 02 55 35.3 -1.1
baz=47
RCBR Riachuelo 87.76 262 *e*P **P** 02 44 56.1 +1.1
PLVO Plevna 87.81 324 P **P** 02 44 53.8 -0.9
PLVO IAmb IAmb 02 45 06.6
comp=Z,69nm,1.2s
E51A G1948 Merrick 87.87 327 P **P** 02 44 53.7 -1.3
baz=42,SNR=11
E51A S **S** 02 55 37.5 -0.1
baz=42
I57A Carthage 87.89 323 P **P** 02 44 54.0 -1.2
baz=45,SNR=19
I57A S **S** 02 55 37.1 -0.8
baz=45
K60A Five Rivers En 87.90 321 S **S** 02 55 39.4 +1.4
baz=46
L61A Hillsdale 1, H 88.01 321 P **P** 02 44 54.6 -1.2
baz=46
L61A S **S** 02 55 39.4 +0.2
baz=46
G54A Lake Saint Pet 88.05 325 P **P** 02 44 54.7 -1.2
baz=43,SNR=18
G54A S **S** 02 55 38.4 -1.0
baz=43
J58A Remsen 88.11 322 P **P** 02 44 55.1 -1.1
baz=45,SNR=15
J58A S **S** 02 55 38.7 -1.3
baz=45
J58A Remsen 88.11 322 P **P** 02 44 55.1 -1.1
J58A IAmb IAmb 02 45 02.2
comp=Z,37nm,0.8s
J58A IAMs_20 IAMs_20 03 23 56.8
comp=Z,7µm,21.0s
SKAG Skagway 88.14 2 P **P** 02 44 56.2 +0.2
SKAG IAmb IAmb 02 45 10.0
comp=Z,73nm,1.0s
SKAG IAMs_20 IAMs_20 03 28 37.5
comp=Z,8µm,21.0s
D49A Beulah Townshi 88.17 328 P **P** 02 44 54.3 -2.1
baz=41
D49A S **S** 02 55 39.5 -1.0
baz=41
M62A Hamden 88.17 320 P **P** 02 44 54.2 -2.3
baz=46
M62A S **S** 02 55 38.5 -2.1
baz=46
H55A Tweed 88.22 324 P **P** 02 44 54.8 -1.9
baz=44
H55A S **S** 02 55 40.3 -0.7
baz=44
KDAK Kodiak Island 88.25 11 P **P** 02 44 56.6 0.0
KDAK pmax pmax
comp=Z,115nm,1.0s
KDAK Kodiak Island 88.25 11 P **P** 02 44 56.6 0.0
KDAK Kodiak Island 88.25 11 IAMs_20 IAMs_20 03 29 02.6
comp=Z,8µm,22.0s
YLE Yale 88.29 320 IAMs_20 IAMs_20 03 27 08.6
comp=Z,6µm,19.0s
K59A Cooperstown 88.30 322 P **P** 02 44 55.6 -1.5
baz=45,SNR=10
K59A S **S** 02 55 41.8 -0.1
baz=45
J57A Williamstown 88.44 323 P **P** 02 44 57.0 -0.7
baz=44,SNR=15
J57A S **S** 02 55 42.5 -0.6
baz=44
J57A Williamstown 88.44 323 IAMs_20 IAMs_20 03 28 02.5
comp=Z,7µm,18.0s
D48A Paudash Townsh 88.44 328 P **P** 02 44 56.1 -1.7
baz=40
D48A S **S** 02 55 41.3 -1.8
baz=40
DELO Deloro Mine 88.46 324 IAMs_20 IAMs_20 03 26 36.8
comp=Z,5µm,19.0s
L60A Shokan 88.51 321 P **P** 02 44 58.3 +0.1
baz=46
L60A S **S** 02 55 44.5 +0.6
baz=46
F51A Arnstein 88.52 326 P **P** 02 44 56.9 -1.2
baz=42,SNR=9.0
F51A S **S** 02 55 42.8 -1.0
baz=42
E50A Wahnapitae 88.53 327 P **P** 02 44 57.2 -1.0
baz=41
E50A S **S** 02 55 42.3 -1.6
baz=41
PECO Prince Edward 88.57 324 IAMs_20 IAMs_20 03 25 13.8
comp=Z,6µm,22.0s
WSPT Westport, CT 88.60 320 IAMs_20 IAMs_20 03 27 27.9
comp=Z,6µm,18.0s
I55A Frankford 88.71 324 P **P** 02 44 57.3 -1.6
baz=43
I55A S **S** 02 55 44.3 -1.3
baz=43
K58A Earlville 88.72 322 P **P** 02 44 58.2 -1.0
baz=45,SNR=11
K58A S **S** 02 55 44.4 -1.5
baz=45
K58A Earlville 88.72 322 P **P** 02 44 58.0 -1.2
K58A IAMs_20 IAMs_20 03 24 16.9
comp=Z,8µm,22.0s
M61A Granite Spring 88.74 320 P **P** 02 44 57.1 -2.1
baz=46
M61A S **S** 02 55 45.6 -0.5
baz=46
L59A Walton 88.81 321 P **P** 02 44 58.6 -1.0
baz=45,SNR=5.9
L59A S **S** 02 55 45.3 -1.4
baz=45
L59A Walton 88.81 321 P **P** 02 44 59.1 -0.5
L59A IAMs_20 IAMs_20 03 24 40.3
comp=Z,6µm,20.0s
N62A Caumsett State 88.84 320 P **P** 02 44 58.1 -1.6
baz=46
N62A S **S** 02 55 45.5 -1.4
baz=46
H53A Bobcaygeon 88.89 325 P **P** 02 44 57.7 -2.1
baz=43
H53A S **S** 02 55 44.6 -2.8
baz=43
NIKH Nikolski High 88.93 21 IAMs_20 IAMs_20 03 31 37.8
comp=Z,9µm,19.0s
J56A Wolcott 88.97 323 P **P** 02 44 59.2 -1.1
baz=44,SNR=8.6
J56A S **S** 02 55 47.7 -0.4
baz=44
J56A Wolcott 88.97 323 P **P** 02 44 59.5 -0.8
J56A IAmb IAmb 02 45 12.6
comp=Z,98nm,1.1s
J56A IAMs_20 IAMs_20 03 28 18.6
comp=Z,7µm,18.0s
SADO Sadowa 89.01 325 P **P** 02 44 59.6 -0.9
SADO IAmb IAmb 02 45 12.5
comp=Z,60nm,1.1s
SADO IAMs_20 IAMs_20 03 22 30.5
comp=Z,7µm,22.0s
PAL Palisades 89.03 320 P **P** 02 44 59.2 -1.4
baz=46
PAL S **S** 02 55 47.0 -1.8
baz=46
PAL Palisades 89.03 320 IAMs_20 IAMs_20 03 28 16.3
comp=Z,4µm,19.0s
BESE Bessie Mountai 89.04 1 P **P** 02 45 00.8 +0.4
BESE IAmb IAmb 02 45 13.4
comp=Z,75nm,1.1s
BESE IAMs_20 IAMs_20 03 28 30.1
comp=Z,6µm,21.0s
FFC Flin Flon 89.09 343 P **P** 02 45 00.2 -0.4
FFC pmax pmax
comp=Z,35nm,0.8s
FFC MLR MLR
comp=Z,10µm,18.0s
FFC Flin Flon 89.09 343 P **P** 02 45 00.2 -0.4
D47A Chapleau 89.11 329 P **P** 02 44 59.7 -1.1
baz=40,SNR=5.9
D47A S **S** 02 55 48.3 -1.1
baz=40
E48A Lockeyer 89.13 328 P **P** 02 44 59.6 -1.4
baz=40,SNR=7.9
E48A S **S** 02 55 48.4 -1.2
baz=40
DLBC Dease Lake 89.19 359 P **P** 02 45 00.7 -0.4
DLBC IAmb IAmb 02 45 19.5
comp=Z,72nm,1.1s
DLBC IAMs_20 IAMs_20 03 29 59.0
comp=Z,9µm,20.0s
K57A Scipio Center 89.19 322 P **P** 02 44 59.9 -1.4
baz=44,SNR=13
K57A S **S** 02 55 47.7 -2.6
baz=44
M60A Port Jervis 89.19 320 P **P** 02 45 00.4 -1.0
baz=45
M60A S **S** 02 55 48.8 -1.5
baz=45
CPNY Central Park 89.21 320 IAMs_20 IAMs_20 03 27 45.0
comp=Z,5µm,19.0s
MORW Morawa 89.28 126 P **P** 02 45 01.3 -0.5
MORW IAMs_20 IAMs_20 03 23 20.7
comp=Z,5µm,19.0s
BINY Binghamton 89.30 322 P **P** 02 45 00.9 -1.0
baz=44,SNR=6.1
BINY Binghamton 89.30 322 P **P** 02 45 01.4 -0.5
BINY IAMs_20 IAMs_20 03 24 45.2
comp=Z,10µm,22.0s
L58A Harry Jones Me 89.33 322 P **P** 02 45 00.3 -1.7
baz=44
L58A S **S** 02 55 50.0 -1.7
baz=44
JIS Juneau Island 89.35 1 IAMs_20 IAMs_20 03 30 14.3
comp=Z,8µm,22.0s
N61A South Mountain 89.42 320 P **P** 02 45 01.7 -0.7
baz=46
N61A S **S** 02 55 51.0 -1.4
baz=46
J55A Hilton 89.46 324 P **P** 02 45 01.4 -1.2
baz=43,SNR=9.5
J55A S **S** 02 55 50.0 -2.7
baz=43
J55A Hilton 89.46 324 P **P** 02 45 01.8 -0.8
J55A IAmb IAmb 02 45 14.1
comp=Z,46nm,0.9s
J55A IAMs_20 IAMs_20 03 28 35.5
comp=Z,7µm,18.0s
M59A Waymart 89.47 321 P **P** 02 45 01.5 -1.3
baz=45
M59A S **S** 02 55 50.7 -2.3
baz=45
CHIR Chirikof Islan 89.60 13 IAMs_20 IAMs_20 03 30 28.1
comp=Z,9µm,21.0s
F49A Sandfield 89.62 327 P **P** 02 45 02.3 -1.0
baz=40,SNR=5.8
F49A S **S** 02 55 52.9 -1.2
baz=40
K56A Middlesex 89.63 323 P **P** 02 45 02.4 -1.0
baz=44,SNR=21
D46A Sault St. Mari 89.64 329 P **P** 02 45 02.2 -1.1
baz=39,SNR=12
D46A S **S** 02 55 54.1 -0.2
baz=39
KSPA Keystone Colle 89.64 321 IAMs_20 IAMs_20 03 25 07.3
comp=Z,5µm,19.0s
E47A Iron Bridge 89.64 329 P **P** 02 45 01.9 -1.5
baz=40
E47A S **S** 02 55 54.1 -0.2
baz=40
CNBA Chernabura Isl 89.72 15 IAMs_20 IAMs_20 03 33 24.1
comp=Z,8µm,19.0s
N60A Cedar Hill Far 89.77 320 P **P** 02 45 02.9 -1.2
baz=45,SNR=6.2
N60A S **S** 02 55 52.1 -3.6
baz=45
F48A Evansville 89.83 328 P **P** 02 45 02.6 -1.7
baz=40
F48A S **S** 02 55 52.8 -3.3
baz=40
MEDO Medina 89.86 324 IAMs_20 IAMs_20 03 28 46.9
comp=Z,5µm,18.0s
J54A Appleton 89.87 324 P **P** 02 45 02.3 -2.1
baz=43
J54A S **S** 02 55 53.6 -2.9
baz=43
J54A Appleton 89.87 324 IAMs_20 IAMs_20 03 24 55.2
comp=Z,5µm,20.0s
NBMO Morrinhos-CE 89.88 266 *e*P **P** 02 45 05.3 +0.3
L57A Andrews Acres 89.89 322 P **P** 02 45 03.3 -1.3
baz=44,SNR=14
L57A S **S** 02 55 52.6 -4.3
baz=44
MMNY Mt. Morris Dam 89.90 323 IAMs_20 IAMs_20 03 28 49.0
comp=Z,7µm,18.0s
FITZ Fitzroy Crossi 89.90 112 P **P** 02 45 04.6 -0.3
K55A Perry 89.98 323 P **P** 02 45 04.0 -1.1
baz=43,SNR=18
K55A S **S** 02 55 55.8 -1.9
baz=43
O61A Allentown 90.02 320 P **P** 02 45 04.3 -1.0
baz=45
O61A S **S** 02 55 56.5 -1.4
baz=45
N59A State Game Lan 90.09 321 P **P** 02 45 04.6 -1.0
baz=45
N59A S **S** 02 55 56.3 -2.5
baz=45
N59A State Game Lan 90.09 321 IAMs_20 IAMs_20 03 27 12.4
comp=Z,5µm,21.0s
LUPA Lehigh Univers 90.11 320 IAMs_20 IAMs_20 03 29 46.7
comp=Z,4µm,18.0s
M58A Price's Panora 90.13 321 P **P** 02 45 04.5 -1.3
baz=44
M58A S **S** 02 55 56.5 -2.6
baz=44
L56A Greenwood 90.15 323 P **P** 02 45 04.7 -1.3
baz=43,SNR=14
L56A Greenwood 90.15 323 P **P** 02 45 05.0 -0.9
L56A IAmb IAmb 02 45 14.7
comp=Z,81nm,1.1s
L56A IAMs_20 IAMs_20 03 31 18.8
comp=Z,5µm,18.0s
O60A Telford 90.32 320 P **P** 02 45 05.4 -1.2
baz=45
O60A S **S** 02 55 56.9 -4.0
baz=45
K54A Basiliko Farm, 90.38 324 P **P** 02 45 05.8 -1.2
baz=43,SNR=19
K54A S **S** 02 55 57.6 -3.7
baz=43
P61A Hammonton 90.44 319 P **P** 02 45 06.0 -1.2
baz=45
P61A S **S** 02 56 01.8 -0.1
baz=45
P61A Hammonton 90.44 319 IAMs_20 IAMs_20 03 28 32.7
comp=Z,6µm,19.0s
WVNY West Valley, N 90.49 323 P **P** 02 45 06.7 -0.8
WVNY IAmb IAmb 02 45 17.0
comp=Z,102nm,1.1s
WVNY IAMs_20 IAMs_20 03 29 06.6
comp=Z,8µm,18.0s
M57A Sunshine Farm, 90.51 322 P **P** 02 45 06.2 -1.4
baz=44,SNR=6.9
M57A S **S** 02 56 02.7 +0.1
baz=44
M57A Sunshine Farm, 90.51 322 IAMs_20 IAMs_20 03 25 32.3
comp=Z,9µm,22.0s
SIT Sitka 90.55 2 IAMs_20 IAMs_20 03 29 16.1
comp=Z,5µm,20.0s
L55A Hinsdale 90.57 323 P **P** 02 45 06.6 -1.2
baz=43,SNR=57
L55A S **S** 02 56 02.9 -0.2
baz=43
PSUB Penn St. - Bra 90.62 320 IAMs_20 IAMs_20 03 28 11.5
comp=Z,5µm,19.0s
I51A Listowel 90.63 326 P **P** 02 45 07.0 -1.0
baz=41
I51A S **S** 02 56 02.1 -1.5
baz=41
N58A Sunbury 90.65 321 P **P** 02 45 06.8 -1.4
baz=44,SNR=10
N58A S **S** 02 56 01.1 -2.7
baz=44
N58A Sunbury 90.65 321 IAMs_20 IAMs_20 03 25 39.1
comp=Z,6µm,20.0s
O59A Robesonia 90.75 321 P **P** 02 45 07.4 -1.3
baz=44
O59A S **S** 02 56 03.2 -1.6
baz=44
P60A Greenville 90.81 320 P **P** 02 45 07.2 -1.7
baz=45
P60A S **S** 02 56 02.4 -2.9
baz=45
P60A Greenville 90.81 320 IAMs_20 IAMs_20 03 28 17.3
comp=Z,5µm,19.0s
M56A Emporium 90.95 323 P **P** 02 45 08.6 -1.0
baz=43,SNR=26
M56A S **S** 02 56 04.7 -1.9
baz=43
M56A Emporium 90.95 323 IAMs_20 IAMs_20 03 32 37.9
comp=Z,6µm,19.0s
L54A Sinclairville 90.97 324 P **P** 02 45 08.4 -1.2
baz=42,SNR=25
L54A S **S** 02 56 04.8 -2.0
baz=42
KNRA Kununurra 91.03 108 P **P** 02 45 10.0 -0.2
PAGS Pennsylvania G 91.09 321 IAMs_20 IAMs_20 03 26 02.8
comp=Z,6µm,20.0s
N57A Milroy 91.15 322 P **P** 02 45 09.4 -1.1
baz=43,SNR=12
N57A S **S** 02 56 06.7 -1.7
baz=43
WRAK Wrangell Islan 91.23 0 IAMs_20 IAMs_20 03 28 52.0
comp=Z,8µm,22.0s
M55A Ridgway 91.26 323 P **P** 02 45 09.9 -1.2
baz=43,SNR=28
M55A S **S** 02 56 07.2 -2.2
baz=43
M55A Ridgway 91.26 323 IAMs_20 IAMs_20 03 32 02.0
comp=Z,6µm,19.0s
O58A Lewisberry 91.28 321 P **P** 02 45 10.1 -1.0
baz=44
O58A S **S** 02 56 05.7 -3.9
baz=44
Q61A Milford 91.30 319 P **P** 02 45 10.2 -1.0
baz=45
Q61A S **S** 02 56 08.0 -1.7
baz=45
E43A Lone Tree Farm 91.30 331 IAMs_20 IAMs_20 03 32 34.6
comp=Z,5µm,20.0s
ULM Lac du Bonnet 91.33 338 P **P** 02 45 10.2 -1.0
comp=Z,28nm,1.0s,baz=21,slow=4.9,SNR=15
ULM PKKPbc **PKKPbc** 03 02 33.5 +0.8
comp=Z,2.2nm,0.5s,baz=190,slow=2.0,SNR=4.5
ULM LR LR 03 28 16.5
comp=Z,8µm,18.1s,baz=24,slow=37
ULM Lac du Bonnet 91.33 338 *c i*P **P** 02 45 09.7 -1.5
I49A Point Hope 91.38 327 P **P** 02 45 10.6 -0.9
I49A IAmb IAmb 02 45 12.8
comp=Z,62nm,1.1s
I49A IAMs_20 IAMs_20 03 27 45.9
comp=Z,5µm,19.0s
P59A Jarrettsville 91.38 320 P **P** 02 45 10.1 -1.5
baz=44
P59A S **S** 02 56 07.3 -3.3
baz=44
D41A Chassel 91.38 332 P **P** 02 45 11.3 -0.1
D41A IAmb IAmb 02 45 20.2
comp=Z,63nm,0.9s
D41A IAMs_20 IAMs_20 03 28 29.8
comp=Z,9µm,20.0s
ERPA Erie 91.39 324 P **P** 02 45 10.4 -1.2
baz=42,SNR=6.8
ERPA Erie 91.39 324 IAMs_20 IAMs_20 03 34 10.6
comp=Z,5µm,19.0s
SSPA Standing Stone 91.41 322 P **P** 02 45 10.2 -1.5
baz=43
SSPA Standing Stone 91.41 322 P **P** 02 45 11.3 -0.4
SSPA Standing Stone 91.41 322 IAMs_20 IAMs_20 03 26 10.2
comp=Z,7µm,20.0s
N56A West Decatur 91.42 322 P **P** 02 45 10.7 -1.1
baz=43,SNR=13
N56A S **S** 02 56 06.9 -4.1
baz=43
Q60A Greensboro 91.49 319 P **P** 02 45 10.4 -1.7
baz=44
Q60A S **S** 02 56 08.4 -3.2
baz=44
Q60A Greensboro 91.49 319 IAMs_20 IAMs_20 03 29 03.5
comp=Z,5µm,18.0s
GLMI Grayling 91.50 328 P **P** 02 45 10.1 -2.0
baz=38
GLMI Grayling 91.50 328 IAMs_20 IAMs_20 03 27 54.2
comp=Z,8µm,20.0s
O57A Amberson 91.59 321 P **P** 02 45 11.2 -1.4
baz=43,SNR=17
O57A S **S** 02 56 09.3 -3.1
baz=43
L53A Girard 91.65 324 P **P** 02 45 11.7 -1.1
baz=42,SNR=26
L53A S **S** 02 56 08.5 -4.5
baz=42
M54A Oil Creek Stat 91.68 323 P **P** 02 45 11.8 -1.2
baz=42,SNR=32
M54A S **S** 02 56 08.6 -4.7
baz=42
M54A Oil Creek Stat 91.68 323 P **P** 02 45 12.4 -0.6
M54A IAMs_20 IAMs_20 03 29 52.3
comp=Z,7µm,18.0s
R61A Willards 91.69 319 P **P** 02 45 12.0 -1.0
baz=45
R61A S **S** 02 56 10.9 -2.4
baz=45
EYMN Ely 91.78 334 P **P** 02 45 12.1 -1.2
baz=33,SNR=9.1
G45A Suttons Bay 91.79 329 P **P** 02 45 13.0 -0.4
G45A IAmb IAmb 02 45 21.2
comp=Z,62nm,1.1s
G45A IAMs_20 IAMs_20 03 30 11.8
comp=Z,7µm,20.0s
N55A Marion Center 91.88 322 P **P** 02 45 12.7 -1.2
baz=42,SNR=24
N55A S **S** 02 56 10.6 -4.5
baz=42
P58A Pank, Wackersv 91.93 321 P **P** 02 45 12.9 -1.2
baz=44,SNR=6.4
P58A S **S** 02 56 12.0 -3.5
baz=44
O56A Blue Knob Stat 92.03 322 P **P** 02 45 13.4 -1.3

baz=43,SNR=9.9
O56A S S 02 56 12.5 -4.1
baz=43
O56A Blue Knob Stat 92.03 322 IAMs_20 IAMs_20 03 26 18.7
comp=Z,6µm,21.0s
Q59A Harwood 92.03 320 P P 02 45 13.2 -1.5
baz=44
Q59A S S 02 56 13.1 -3.4
baz=44
K50A Casco 92.17 326 IAMs_20 IAMs_20 03 31 35.1
comp=Z,5µm,19.0s
M53A WI Miller and 92.24 324 P P 02 45 14.5 -1.1
baz=41
M53A S S 02 56 12.8 -5.4
baz=41
M53A WI Miller and 92.24 324 IAMs_20 IAMs_20 03 31 55.0
comp=Z,5µm,18.0s
N54A Moraine State 92.25 323 P P 02 45 14.4 -1.3
baz=42,SNR=6.5
N54A S S 02 56 12.9 -5.5
baz=42
N54A Moraine State 92.25 323 IAMs_20 IAMs_20 03 33 31.4
comp=Z,6µm,19.0s
F42A Maple Grove Fa 92.26 331 P P 02 45 15.1 -0.5
F42A IAMs_20 IAMs_20 03 33 24.2
comp=Z,6µm,20.0s
P57A Homestead Farm 92.32 321 P P 02 45 14.9 -1.1
baz=43,SNR=11
P57A S S 02 56 13.8 -5.2
baz=43
P57A Homestead Farm 92.32 321 IAMs_20 IAMs_20 03 26 29.2
comp=Z,6µm,22.0s
S61A Accomac 92.34 318 P P 02 45 15.0 -1.0
baz=45
S61A S S 02 56 20.5 +1.3
baz=45
S61A Accomac 92.34 318 IAMs_20 IAMs_20 03 29 57.9
comp=Z,5µm,19.0s
COWI Conover 92.39 332 IAMs_20 IAMs_20 03 29 08.6
comp=Z,8µm,20.0s
R60A Leonardtown, M 92.42 319 P P 02 45 14.9 -1.5
baz=44
R60A S S 02 56 20.9 +1.0
baz=44
O55A Ligonier 92.46 322 P P 02 45 15.3 -1.4
baz=42,SNR=18
O55A S S 02 56 13.9 -6.4
baz=42
M52A Chesterland 92.50 324 P P 02 45 15.7 -1.1
baz=41,SNR=6.5
M52A Chesterland 92.50 324 IAMs_20 IAMs_20 03 34 55.9
comp=Z,5µm,19.0s
Q58A Fox Den Farm, 92.53 320 P P 02 45 15.2 -1.7
baz=43
Q58A S S 02 56 15.4 -5.6
baz=43
P56A Dayton Farm, R 92.74 322 P P 02 45 16.6 -1.3
baz=43,SNR=17
P56A S S 02 56 21.2 -1.5
baz=43
R59A King George, V 92.76 320 P P 02 45 16.3 -1.7
baz=44
R59A S S 02 56 21.4 -1.6
baz=44
N53A Lisbon 92.80 324 P P 02 45 17.0 -1.2
baz=41,SNR=11
N53A Lisbon 92.80 324 IAMs_20 IAMs_20 03 29 11.7
comp=Z,5µm,20.0s
J47A Sunmer 92.84 327 IAMs_20 IAMs_20 03 28 27.5
comp=Z,9µm,22.0s
I45A Fountain 92.84 329 IAMs_20 IAMs_20 03 28 34.5
comp=Z,6µm,21.0s
Q57A Strasburg 92.85 321 P P 02 45 17.3 -1.1
baz=43,SNR=11
S60A Water View 92.86 319 P P 02 45 16.8 -1.7
baz=44
CBN Corbin Frederi 92.90 320 P P 02 45 17.1 -1.5
baz=44
E38A The Farm, Brul 92.92 333 IAMs_20 IAMs_20 03 31 01.4
comp=Z,5µm,18.0s
AGMN Agassiz Nation 93.02 337 P P 02 45 18.4 -0.6
baz=30
AAM Ann Arbor 93.03 326 P P 02 45 18.1 -1.1
baz=39
O54A Avella 93.03 323 P P 02 45 18.2 -1.0
baz=42,SNR=13
O54A Avella 93.03 323 IAMs_20 IAMs_20 03 30 46.0
comp=Z,8µm,18.0s
M51A Elyria 93.06 325 P P 02 45 18.0 -1.3
baz=40
ROSB Rosrio 93.09 269 eP P 02 45 20.3 +0.4
ROSB epP pP 02 45 23.6 -0.7
MCWV Mont Chateau 93.15 322 P P 02 45 18.8 -0.9
baz=42,SNR=15
H43A Windswept, Lux 93.15 330 IAMs_20 IAMs_20 03 29 35.8
comp=Z,8µm,21.0s
R58A Rapidan 93.17 320 P P 02 45 19.5 -0.4
baz=43
S59A Mechanicsville 93.18 319 P P 02 45 17.7 -2.2
baz=44
N52A McGinn's Farm, 93.22 324 P P 02 45 18.8 -1.3
baz=41,SNR=7.1
P55A Reedsville 93.25 322 P P 02 45 18.8 -1.5
baz=42,SNR=9.0
Q56A Snyder Ridge, 93.26 321 P P 02 45 18.8 -1.6
baz=42
Q56A Snyder Ridge, 93.26 321 P P 02 45 19.5 -0.9
Q56A IAMs_20 IAMs_20 03 27 08.2
comp=Z,7µm,22.0s
T60A Surry 93.31 319 P P 02 45 18.8 -1.7
baz=44
T60A Surry 93.31 319 P P 02 45 19.7 -0.9
T60A IAmb IAmb 02 45 29.2
comp=Z,61nm,1.1s
T60A IAMs_20 IAMs_20 03 30 25.8
comp=Z,5µm,19.0s
R58B Mineral 93.35 320 P P 02 45 19.1 -1.6
baz=43,SNR=9.4
R58B Mineral 93.35 320 P P 02 45 19.5 -1.2
R58B IAmb IAmb 02 45 32.0
comp=Z,38nm,1.1s
O53A New Philadelph 93.40 323 P P 02 45 19.6 -1.4
baz=41,SNR=17
O53A New Philadelph 93.40 323 P P 02 45 20.1 -0.9
O53A IAmb IAmb 02 45 22.3
comp=Z,53nm,1.0s
O53A IAMs_20 IAMs_20 03 29 56.8
comp=Z,6µm,18.0s
M50A Fremont 93.43 325 IAMs_20 IAMs_20 03 29 51.3
comp=Z,6µm,20.0s
R57A Stanardsville 93.45 321 P P 02 45 19.9 -1.3
baz=43,SNR=13
N51A Ashland 93.47 324 P P 02 45 19.7 -1.6
baz=40
P54A Burton 93.52 323 P P 02 45 20.3 -1.2
baz=42,SNR=17
L48A N Adams 93.67 326 P P 02 45 20.9 -1.2
L48A IAMs_20 IAMs_20 03 29 40.6
comp=Z,5µm,19.0s
S58A Poland Farm, P 93.70 320 P P 02 45 21.1 -1.3
baz=43,SNR=12
S58A Poland Farm, P 93.70 320 P P 02 45 21.1 -1.3
S58A IAmb IAmb 02 45 33.7
comp=Z,44nm,1.0s
U61A Possum Corner 93.73 318 P P 02 45 21.5 -1.0
baz=44
U61A Possum Corner 93.73 318 IAMs_20 IAMs_20 03 31 50.9
comp=Z,8µm,19.0s
Q55A Buckhannon 93.76 322 P P 02 45 21.3 -1.4
baz=42,SNR=9.4
O52A Adamsville 93.82 324 P P 02 45 21.6 -1.3
baz=41,SNR=15
O52A Adamsville 93.82 324 P P 02 45 22.0 -0.9
O52A IAmb IAmb 02 45 34.3
comp=Z,54nm,0.9s
O52A IAMs_20 IAMs_20 03 29 51.7
comp=Z,5µm,20.0s
R56A Bull Pasture M 93.84 321 P P 02 45 21.9 -1.2
baz=42,SNR=10
T59A Double "B" Far 93.89 319 P P 02 45 21.5 -1.7
baz=44
T59A Double "B" Far 93.89 319 IAMs_20 IAMs_20 03 31 17.0
comp=Z,5µm,18.0s
V62A Hyde County Ai 94.00 317 IAMs_20 IAMs_20 03 30 18.1
comp=Z,5µm,20.0s
U60A Pendleton 94.03 318 P P 02 45 22.6 -1.3
baz=44
P53A Whipple 94.07 323 P P 02 45 23.3 -0.7
baz=41,SNR=23
P53A Whipple 94.07 323 P P 02 45 23.3 -0.7
P53A IAmb IAmb 02 45 35.9
comp=Z,69nm,0.9s
P53A IAMs_20 IAMs_20 03 31 09.4
comp=Z,7µm,18.0s
S57A Dark Hollow, R 94.08 320 P P 02 45 23.0 -1.1
baz=43
S57A Dark Hollow, R 94.08 320 IAMs_20 IAMs_20 03 28 03.9
comp=Z,5µm,21.0s
I42A Draeger Farm, 94.10 330 IAMs_20 IAMs_20 03 32 47.9
comp=Z,6µm,21.0s
Q54A Coxs Mills 94.16 322 P P 02 45 23.6 -0.9
baz=41
Q54A S S 02 56 31.6 -3.7
baz=41
Q54A Coxs Mills 94.16 322 P P 02 45 23.6 -0.9
Q54A IAMs_20 IAMs_20 03 28 17.9
comp=Z,4µm,20.0s
O51A Pataskala 94.17 324 P P 02 45 23.2 -1.3
baz=40,SNR=27
V61A Roper 94.19 318 P P 02 45 23.3 -1.3
baz=44
V61A S S 02 56 35.1 -0.5
baz=44
V61A Roper 94.19 318 IAMs_20 IAMs_20 03 32 41.1
comp=Z,6µm,18.0s
ACSO Alum Creek Sta 94.30 324 P P 02 45 23.9 -1.1
baz=40,SNR=8.5
R55A Marlinton 94.31 321 P P 02 45 24.0 -1.2
baz=42,SNR=10
R55A S S 02 56 35.1 -1.8
baz=42
R55A Marlinton 94.31 321 IAMs_20 IAMs_20 03 27 40.0
comp=Z,8µm,22.0s
P52A Corning 94.33 324 P P 02 45 23.9 -1.3
baz=40,SNR=18
P52A S S 02 56 33.5 -3.3
baz=40
P52A Corning 94.33 324 IAMs_20 IAMs_20 03 27 32.3
comp=Z,5µm,22.0s
N49A Columbus Grove 94.34 326 IAMs_20 IAMs_20 03 30 35.6
comp=Z,6µm,18.0s
T58A Grand View Acr 94.45 320 P P 02 45 24.5 -1.3
baz=43,SNR=25
T58A S S 02 56 35.7 -2.1
baz=43
S56A Natural Bridge 94.47 321 P P 02 45 24.7 -1.2
baz=42,SNR=6.0
S56A S S 02 56 35.8 -2.3
baz=42
U59A Littleton 94.47 319 P P 02 45 24.8 -1.1
baz=43
U59A S S 02 56 33.6 -4.4
baz=43
L46A Eue Claire 94.47 327 IAMs_20 IAMs_20 03 29 24.8
comp=Z,7µm,21.0s
MOBC Moresby Island 94.51 360 IAMs_20 IAMs_20 03 32 07.8
comp=Z,5µm,19.0s
SPMN Marine on St. 94.55 333 P P 02 45 24.9 -1.3
baz=32,SNR=13
SPMN S S 02 56 38.8 +0.2
baz=32
SPMN Marine on St. 94.55 333 P P 02 45 25.0 -1.1
SPMN IAmb IAmb 02 45 38.3
comp=Z,51nm,1.1s
SPMN IAMs_20 IAMs_20 03 30 58.7
comp=Z,7µm,22.0s
V60A Jim Taylor Roa 94.60 318 P P 02 45 25.0 -1.5
baz=44
V60A Jim Taylor Roa 94.60 318 P P 02 45 25.5 -1.0
V60A IAmb IAmb 02 45 35.8
comp=Z,71nm,1.1s
V60A IAMs_20 IAMs_20 03 30 06.8
comp=Z,7µm,21.0s
Q53A Leroy 94.61 323 P P 02 45 25.4 -1.1
baz=41,SNR=15
MDND Maddock 94.62 339 P P 02 45 24.8 -1.6
baz=27
MDND S S 02 56 39.0 0.0
baz=27
MDND Maddock 94.62 339 P P 02 45 24.8 -1.6
MDND IAmb IAmb 02 45 34.1
comp=Z,77nm,1.1s
MDND IAMs_20 IAMs_20 03 30 27.1
comp=Z,7µm,18.0s
T57A Hurt 94.80 320 P P 02 45 26.2 -1.2
baz=42,SNR=6.0
T57A Hurt 94.80 320 IAMs_20 IAMs_20 03 28 38.0
comp=Z,5µm,21.0s
I40A Norwalk 94.81 331 P P 02 45 27.1 -0.2
I40A IAMs_20 IAMs_20 03 28 34.5
comp=Z,7µm,21.0s
K43A Burlington 94.82 329 IAMs_20 IAMs_20 03 30 37.9
comp=Z,5µm,22.0s
R54A Victor 94.84 322 P P 02 45 27.1 -0.5
baz=41
U58A Oxford 94.86 319 P P 02 45 26.6 -1.1
baz=43
W61A Ground Anchor 94.86 317 P P 02 45 26.2 -1.5
baz=44
S55A Lewisburg 94.89 321 P P 02 45 26.5 -1.4
baz=42
Q52A Bidwell 94.91 323 P P 02 45 26.6 -1.3
baz=40,SNR=18
Q52A S S 02 56 39.4 -2.4
baz=40
P51A Williamsport 94.91 324 P P 02 45 26.5 -1.4
baz=40
P51A Williamsport 94.91 324 IAMs_20 IAMs_20 03 32 11.2
comp=Z,5µm,18.0s
Q49A Covington 94.99 325 P P 02 45 26.8 -1.4
Q49A IAmb IAmb 02 45 36.6
comp=Z,68nm,1.1s
Q49A IAMs_20 IAMs_20 03 31 05.6
comp=Z,7µm,19.0s
VWCC Virginia Weste 95.01 321 P P 02 45 27.0 -1.4
L44A Lake County Fo 95.06 329 P P 02 45 27.6 -0.9
baz=36
L44A S S 02 56 43.3 +0.3
baz=36
L44A Lake County Fo 95.06 329 IAMs_20 IAMs_20 03 29 52.3
comp=Z,7µm,20.0s
N47A Urbana 95.09 326 P P 02 45 27.1 -1.6
N47A IAmb IAmb 02 45 36.5
comp=Z,42nm,1.1s
N47A IAMs_20 IAMs_20 03 29 59.2
comp=Z,7µm,20.0s
V59A Middlesex 95.14 319 P P 02 45 28.1 -0.8
baz=43
V59A S S 02 56 42.8 -1.2
baz=43
T56A Rocky Mt 95.20 321 P P 02 45 28.1 -1.2
baz=42,SNR=8.7
T56A S S 02 56 44.6 +0.2
baz=42
R53A Hurricane 95.23 323 P P 02 45 28.4 -0.9
baz=41
R53A Hurricane 95.23 323 P P 02 45 28.4 -0.9
R53A IAmb IAmb 02 45 41.1
comp=Z,58nm,1.1s
R53A IAMs_20 IAMs_20 03 28 11.1
comp=Z,5µm,20.0s
U57A Blanch 95.26 320 P P 02 45 28.1 -1.5
baz=42,SNR=14
U57A S S 02 56 41.6 -3.3
baz=42
BLA Blacksburg 95.27 321 P P 02 45 28.4 -1.2
baz=42
BLA Blacksburg 95.27 321 IAMs_20 IAMs_20 03 31 15.3
comp=Z,7µm,20.0s
S54A Dingess, Beckl 95.30 322 P P 02 45 27.9 -1.9
baz=41
S54A S S 02 56 44.5 -0.8
baz=41
S54A Dingess, Beckl 95.30 322 IAMs_20 IAMs_20 03 28 10.0
comp=Z,5µm,22.0s
CNNC Cliffs of the 95.33 318 P P 02 45 28.5 -1.3
baz=43
CNNC Cliffs of the 95.33 318 IAMs_20 IAMs_20 03 30 38.2
comp=Z,8µm,20.0s
HQIL Hanson Quary C 95.34 328 IAMs_20 IAMs_20 03 30 01.7
comp=Z,6µm,20.0s
W60A Pink Hill 95.36 318 P P 02 45 28.9 -1.1
baz=44
W60A S S 02 56 43.3 -2.6
baz=44
DGMT Dagmar 95.37 342 P P 02 45 28.6 -1.3
baz=24,SNR=6.8
DGMT Dagmar 95.37 342 P P 02 45 29.5 -0.4
DGMT IAmb IAmb 02 45 40.6
comp=Z,79nm,1.1s
BBB Bella Bella 95.39 357 IAMs_20 IAMs_20 03 33 36.1
comp=Z,9µm,22.0s
Q51A Peebles 95.40 324 IAMs_20 IAMs_20 03 36 22.6
comp=Z,4µm,19.0s
JFWS Jewell Farm 95.46 330 P P 02 45 28.9 -1.4
baz=34
JFWS Jewell Farm 95.46 330 IAMs_20 IAMs_20 03 33 38.8
comp=Z,6µm,21.0s
T55A Pulaski 95.53 321 P P 02 45 29.6 -1.2
baz=41,SNR=11
T55A S S 02 56 47.3 -0.2
baz=41
V58A Windy Hill, Pi 95.61 319 P P 02 45 29.5 -1.6
baz=43
V58A S S 02 56 45.4 -2.6
baz=43
P49A Miami Univ. Ec 95.68 325 P P 02 45 29.5 -1.9
baz=39
P49A S S 02 56 46.8 -1.8
baz=39
P49A Miami Univ. Ec 95.68 325 IAMs_20 IAMs_20 03 32 18.9
comp=Z,5µm,18.0s
W59A Clinton 95.69 318 P P 02 45 29.9 -1.6
baz=43
W59A S S 02 56 47.5 -1.3
baz=43
S53A Williamson 95.81 322 P P 02 45 30.8 -1.3
baz=40,SNR=6.9
S53A S S 02 56 47.9 -1.9
baz=40
X60A Albert Glenn T 95.86 318 P P 02 45 30.3 -2.0
baz=43
X60A S S 02 56 47.1 -3.0
baz=43
U56A King 95.89 320 P P 02 45 31.2 -1.2
baz=42,SNR=12
U56A S S 02 56 48.9 -1.6
baz=42
U56A King 95.89 320 IAMs_20 IAMs_20 03 29 07.9
comp=Z,5µm,22.0s
V57A Coltrane Farms 95.90 320 P P 02 45 31.1 -1.3
baz=42,SNR=11
V57A S S 02 56 47.3 -3.3
baz=42
L42A Oliver, Polo 95.96 330 IAMs_20 IAMs_20 03 29 34.2
comp=Z,6µm,22.0s
T54A Tazewell 95.99 321 P P 02 45 31.9 -1.0
baz=41,SNR=17
T54A S S 02 56 48.2 -3.2
baz=41
P48A Milroy 96.08 325 P P 02 45 31.4 -1.8
P48A IAMs_20 IAMs_20 03 31 47.5
comp=Z,7µm,18.0s
E28A Huff 96.09 339 P P 02 45 32.1 -1.1
E28A IAMs_20 IAMs_20 03 30 41.0
comp=Z,6µm,18.0s
U55A TA2, Sparta 96.13 321 P P 02 45 32.6 -1.0
baz=41,SNR=26
U55A S S 02 56 50.0 -2.7
baz=41
SFIN Lafayette 96.14 327 P P 02 45 31.6 -1.9
baz=37
SFIN S S 02 56 48.2 -4.2
baz=37
X59A McDuffie Farm, 96.22 318 P P 02 45 32.6 -1.3
baz=43
X59A S S 02 56 50.4 -2.9
baz=43
W58A Raeford 96.24 319 P P 02 45 32.7 -1.4
baz=42
W58A S S 02 56 48.3 -5.2
baz=42
V56A Mocksville 96.35 320 P P 02 45 33.6 -0.9
baz=42,SNR=10
V56A S S 02 56 50.4 -4.0
baz=42
Y60A Bolivia 96.41 317 P P 02 45 33.0 -1.8
baz=43
Y60A S S 02 56 51.3 -3.7
baz=43
Y60A Bolivia 96.41 317 IAMs_20 IAMs_20 03 31 51.8
comp=Z,5µm,20.0s
R50A Paris 96.46 324 IAMs_20 IAMs_20 03 27 46.7
comp=Z,5µm,22.0s
U54A Nelsons Funny 96.53 321 P P 02 45 34.3 -1.1
baz=41,SNR=8.7
U54A Nelsons Funny 96.53 321 P P 02 45 34.3 -1.1
U54A IAMs_20 IAMs_20 03 28 58.6
comp=Z,9µm,22.0s
T53A Wise 96.55 322 P P 02 45 34.6 -0.9
baz=40,SNR=9.9
T53A S S 02 56 53.5 -2.8
baz=40
W57A Gilead 96.56 319 P P 02 45 34.0 -1.5
baz=42,SNR=6.3
W57A S S 02 56 52.5 -3.8
baz=42
L40A Anamosa 96.57 331 IAMs_20 IAMs_20 03 34 24.2
comp=Z,6µm,20.0s
S51A Beattyville 96.59 323 P P 02 45 34.3 -1.2
S51A IAmb IAmb 02 45 47.1
comp=Z,30nm,1.1s
S51A IAMs_20 IAMs_20 03 28 54.2
comp=Z,5µm,20.0s
X58A Rowland 96.64 318 P P 02 45 34.7 -1.1
baz=42
X58A S S 02 56 53.4 -3.5
baz=42
X58A Rowland 96.64 318 IAMs_20 IAMs_20 03 31 26.9
comp=Z,7µm,20.0s
V55A Taylorsville 96.71 320 P P 02 45 35.3 -0.8
baz=41,SNR=9.6
V55A S S 02 56 54.8 -2.8
baz=41
V55A Taylorsville 96.71 320 IAMs_20 IAMs_20 03 29 43.5
comp=Z,5µm,21.0s
K38A Parkersburg 96.71 332 IAMs_20 IAMs_20 03 29 44.8
comp=Z,8µm,21.0s
Y59A Loris 96.79 318 P P 02 45 35.2 -1.4
baz=43
BLO Bloomington 96.83 326 IAMs_20 IAMs_20 03 32 42.3
comp=Z,5µm,21.0s
R49A Shelbyville 96.87 324 P P 02 45 35.6 -1.2
R49A IAMs_20 IAMs_20 03 32 18.5
comp=Z,6µm,18.0s
W56A Indian Trail 96.90 320 P P 02 45 35.4 -1.6
baz=42
W56A S S 02 56 54.0 -5.2
baz=42
O44A Mansfield 96.94 328 P P 02 45 36.4 -0.7
O44A IAMs_20 IAMs_20 03 30 52.2
comp=Z,6µm,22.0s
WALA Waterton Lakes 96.97 348 P P 02 45 36.5 -0.7
WALA IAMs_20 IAMs_20 03 32 07.9
comp=Z,5µm,20.0s
HDIL Hopedale 96.98 328 P P 02 45 36.7 -0.5
baz=35
HDIL Hopedale 96.98 328 IAMs_20 IAMs_20 03 29 38.2
comp=Z,6µm,21.0s
SKI Saint Kitts 97.02 296 IAMs_20 IAMs_20 03 32 08.9
comp=Z,5µm,20.0s
BBGH Gun Hill 97.03 290 IAMs_20 IAMs_20 03 35 34.8
comp=Z,5µm,20.0s
X57A Johnson Farm, 97.13 319 P P 02 45 37.3 -0.7
baz=42
EGMT Eagleton 97.13 345 P P 02 45 35.9 -2.1
baz=19
EGMT Eagleton 97.13 345 IAMs_20 IAMs_20 03 30 36.4
comp=Z,7µm,22.0s
V54A Nebo 97.16 321 P P 02 45 37.4 -0.8
baz=41,SNR=12
V54A S S 02 57 00.7 -0.8
baz=41
BIRD Birdtown, Kers 97.20 319 P P 02 45 36.8 -1.6
BIRD IAMs_20 IAMs_20 03 31 52.6
comp=Z,4µm,21.0s
ECSD EROS Data Cent 97.24 335 P Pdif 02 45 38.7 +0.2
baz=30
KMSC Kings Mountain 97.30 320 P P 02 45 37.9 -0.9
baz=41,SNR=10
KMSC S S 02 57 01.3 -1.3
baz=41
KMSC Kings Mountain 97.30 320 IAMs_20 IAMs_20 03 31 30.3
comp=Z,5µm,20.0s

TZTN	Tazewell baz=40	97.41 322	P	P	02 45 39.0	-0.3
SUSD	Miller baz=28	97.43 337	P	P	02 45 37.7	-1.5
WCI	Wyandotte Cave baz=38	97.47 325	P	P	02 45 38.5	-1.0
WCI	Wyandotte Cave comp=Z,11nm,1.0s	97.47 325	P pmax	P pmax	02 45 39.1	-0.4
WCI	comp=Z,6µm,22.0s		MLR	MLR		
WCI	Wyandotte Cave	97.47 325	P	P	02 45 39.1	-0.4
WCI	Wyandotte Cave comp=Z,6µm,22.0s	97.47 325	IAMs_20	IAMs_20	03 31 57.2	
SCIA	State Center baz=32	97.51 332	P	P	02 45 37.7	-1.9
SCIA	State Center comp=Z,7µm,20.0s	97.51 332	IAMs_20	IAMs_20	03 30 08.1	
N41A	Harden Midland comp=Z,6µm,22.0s	97.54 330	IAMs_20	IAMs_20	03 32 44.8	
LAO	LASA Array baz=22	97.55 342	P	P	02 45 39.6	-0.2
Z59A	Georgetown, SC baz=43	97.57 318	P	P	02 45 39.1	-0.9
Z59A	baz=43		S	S	02 57 02.6	-2.4
X56A	White Oak baz=41,SNR=14	97.62 319	P	P	02 45 39.2	-1.1
X56A	baz=41		S	S	02 57 03.3	-2.1
Y57A	Sumter baz=42	97.62 319	P	P	02 45 38.2	-2.1
Y57A	baz=42		S	S	02 57 03.4	-2.1
Y57A	Sumter comp=Z,5µm,19.0s	97.62 319	IAMs_20	IAMs_20	03 33 19.9	
V53A	Saluda	97.69 321	P	P	02 45 39.8	-0.9
V53A	comp=Z,27nm,1.0s		IAmb	IAmb	02 45 42.2	
V53A	comp=Z,7µm,22.0s		IAMs_20	IAMs_20	03 29 44.6	
T50A	Nancy comp=Z,4µm,19.0s	97.70 323	IAMs_20	IAMs_20	03 33 32.5	
WRA	Warramunga Arr comp=Z,14nm,1.1s,baz=315,slow=3.9,SNR=23	97.80 109	P PP	P PP	02 45 39.9 02 49 41.9	-1.4 +2.1
WRA	comp=Z,21nm,1.2s,baz=309,slow=7.9,SNR=8.4		PKKP	PKKPdf	03 02 17.3	-1.1
WRA	comp=Z,2.1nm,0.7s,baz=118,slow=2.9,SNR=12 Warramunga Arr	97.80 109	*i* P	P	02 45 40.7	-0.5
WRA	comp=Z,10.0nm,1.0s		pmax	pmax		
WRA	Warramunga Arr	97.80 109	P	P	02 45 40.7	-0.5
WRAB	Tennant Creek	97.80 109	*ce*P	P	02 45 39.9	-1.3
WRAB	comp=Z,30nm,1.7s		pmax	pmax		
PAULI	Pauline	97.81 320	P	P	02 45 40.0	-1.1
PAULI	comp=Z,26nm,0.7s		IAmb	IAmb	02 45 46.0	
PAULI	comp=Z,5µm,22.0s		IAMs_20	IAMs_20	03 29 54.6	
W54A	Cherokee Point baz=41,SNR=8.3	97.81 321	P	P	02 45 40.1	-1.0
W54A	baz=41		S	S	02 57 03.6	-3.4
Z58A	St. Stephen baz=42	97.81 318	P	P	02 45 39.9	-1.2
Z58A	baz=42		S	S	02 57 04.7	-2.2
WB2	Warramunga Arr	97.81 109	P	P	02 45 40.4	-0.8
P43A	Skaggs, Pawnee comp=Z,5µm,19.0s	97.83 328	IAMs_20	IAMs_20	03 36 01.6	
JSC	Jenkinsville	97.91 319	P	P	02 45 40.7	-0.9
JSC	comp=Z,9.0nm,1.0s		pmax	pmax		
JSC	comp=Z,2µm,20.0s		MLR	MLR		
JSC	Jenkinsville	97.91 319	P	P	02 45 40.7	-0.9
OLIL	Olney	97.92 327	P	P	02 45 40.3	-1.2
X55A	Gracelyn & Ava baz=41,SNR=9.2	97.97 320	P	P	02 45 40.8	-1.1
X55A	baz=41		S	S	02 57 04.9	-3.5
V52A	Sevierville comp=Z,7µm,19.0s	97.97 322	IAMs_20	IAMs_20	03 33 03.9	
NHSC	New Hope baz=42	98.18 318	P	P	02 45 40.7	-2.1
NHSC	New Hope comp=Z,7µm,20.0s	98.18 318	IAMs_20	IAMs_20	03 33 20.6	
Q44A	Meyer Farm, Va comp=Z,7µm,21.0s	98.20 327	IAMs_20	IAMs_20	03 31 53.6	
TKL	Tuckaleechee C	98.21 322	P	P	02 45 41.8	-1.1
TKL	comp=Z,23nm,1.0s		pmax	pmax		
TKL	comp=Z,8µm,19.0s		MLR	MLR		
TKL	Tuckaleechee C	98.21 322	P	P	02 45 41.8	-1.1
TKL	comp=Z,23nm,0.9s		IAmb	IAmb	02 45 54.5	
TKL	comp=Z,8µm,19.0s		IAMs_20	IAMs_20	03 33 11.1	
NEW	Newport baz=13	98.26 350	P	P	02 45 41.6	-1.4
NEW	Newport comp=Z,14nm,0.9s	98.26 350	P pmax	P pmax	02 45 42.0	-0.9
NEW	Newport	98.26 350	P	P	02 45 42.0	-0.9
NEW	Newport comp=Z,8µm,21.0s	98.26 350	IAMs_20	IAMs_20	03 34 48.0	
BG3	Lake Jocassee	98.27 321	P	P	02 45 42.7	-0.5
BG3	comp=Z,4µm,18.0s		IAMs_20	IAMs_20	03 32 58.9	
JTMT	Jette comp=Z,8µm,20.0s	98.30 348	IAMs_20	IAMs_20	03 38 14.1	
Y56A	Pelion baz=41	98.30 319	P	P	02 45 41.9	-1.4
X54A	Belton baz=41,SNR=13	98.31 320	P	P	02 45 42.5	-0.9
X54A	baz=41		S	S	02 57 07.5	-3.8
Z57A	Bowman baz=42,SNR=6.6	98.33 318	P	P	02 45 42.3	-1.2
MCPB	Macapa, AP	98.42 275	*e*P	Pdif	02 45 45.3	+1.0
A04D	Lummi Island baz=8.2	98.49 354	P	P	02 45 43.3	-0.6
HODGE	Hodges	98.49 320	P	P	02 45 43.5	-0.7
HODGE	comp=Z,19nm,0.8s		IAmb	IAmb	02 45 48.7	
HODGE	comp=Z,5µm,19.0s		IAMs_20	IAMs_20	03 31 55.7	
Y55A	Saluda baz=41,SNR=8.2	98.49 320	P	P	02 45 43.3	-0.9
Y55A	baz=41		S	S	02 57 09.4	-3.4
U49A	Red Boiling Sp comp=Z,6µm,20.0s	98.56 324	IAMs_20	IAMs_20	03 34 00.4	
B06A	Marblemount comp=Z,6µm,20.0s	98.57 353	IAMs_20	IAMs_20	03 39 07.1	
Z56A	Williston baz=41	98.68 319	Pdiff	P	02 45 43.8	-1.2
Z56A	baz=41		S	S	02 57 10.3	-4.2
Z56A	Williston comp=Z,5µm,19.0s	98.68 319	IAMs_20	IAMs_20	03 35 01.9	
L34A	Svendsen Farm, comp=Z,18nm,0.9s	98.69 334	P IAmb	P IAmb	02 45 43.8 02 45 49.5	-1.1
W52A	Murphy comp=Z,6µm,22.0s	98.72 322	IAMs_20	IAMs_20	03 30 16.7	
FORT	Forrest comp=Z,5µm,20.0s	98.75 121	IAMs_20	IAMs_20	03 30 55.8	
CPCT	Cooper Cave comp=Z,8µm,21.0s	98.75 322	IAMs_20	IAMs_20	03 33 16.5	
HRY	Holter Researc	98.82 346	P	Pdif	02 45 45.8	+0.2
T47A	Sharon Grove baz=9.7	98.84 325	P	P	02 45 45.3	-0.4
T47A	comp=Z,5µm,20.0s		IAMs_20	IAMs_20	03 33 25.6	
B05A	Bryant baz=8.7	98.88 353	Pdiff	P	02 45 44.3	-1.3
157A	Early Branch baz=42	98.96 318	Pdiff	P	02 45 45.3	-1.0
SLM	Saint Louis comp=Z,7µm,21.0s	98.97 328	IAMs_20	IAMs_20	03 32 03.9	
C06D	Leavenworth baz=9.7	99.09 352	Pdiff	Pdif	02 45 45.5	-1.2
MSO	Missoula baz=16	99.12 347	Pdiff	Pdif	02 45 45.9	-1.1
MSO	Missoula comp=Z,8µm,21.0s	99.12 347	IAMs_20	IAMs_20	03 33 53.9	
CLTN	Cedars of Leba	99.17 324	P	Pdif	02 45 46.4	-0.8
CLTN	comp=Z,7µm,19.0s		IAMs_20	IAMs_20	03 33 42.4	
S44A	Carbondale comp=Z,8µm,21.0s	99.29 327	IAMs_20	IAMs_20	03 32 27.5	
RSSD	Black Hills baz=24	99.31 340	Pdiff	Pdif	02 45 46.8	-1.2
RSSD	Black Hills	99.31 340	P	Pdif	02 45 47.2	-0.8
RSSD	comp=Z,14nm,1.0s		pmax	pmax		
RSSD	comp=Z,9µm,19.0s		MLR	MLR		
RSSD	Black Hills	99.31 340		Pdif	02 45 47.2	-0.8
W50A	Signal Mountai	99.35 323	P	Pdif	02 45 48.1	0.0
W50A	comp=Z,7µm,21.0s		IAMs_20	IAMs_20	03 30 40.4	
ASAR	Alice Springs comp=Z,6.6nm,0.6s,baz=306,slow=4.3,SNR=33	99.40 112	P PP	Pdif PP	02 45 46.7 02 49 50.4	-1.7 -1.6
ASAR	comp=Z,14nm,1.0s,baz=306,slow=7.0,SNR=6.5		PKKPbc	PKKPbc	03 02 11.6	+0.5
ASAR	comp=Z,2.2nm,0.7s,baz=118,slow=3.1,SNR=7.8		LR	LR	03 35 03.9	
ASAR	comp=Z,1µm,18.6s,baz=298,slow=38	99.40 112	P	Pdif	02 45 46.9	-1.4
ASAR	Alice Springs Alice Springs	99.40 112		Pdif	02 45 46.9	-1.4
AS31	Alice Springs	99.40 112		Pdif	02 45 47.1	-1.2
257A	Skidaway Islan comp=Z,5µm,18.0s	99.50 318	IAMs_20	IAMs_20	03 37 36.6	
T45A	Paducah comp=Z,7µm,22.0s	99.55 326	IAMs_20	IAMs_20	03 31 40.5	
P38A	Dawn comp=Z,6µm,20.0s	99.57 331	IAMs_20	IAMs_20	03 38 02.5	
SWET	Sewanee comp=Z,5µm,21.0s	99.66 323	IAMs_20	IAMs_20	03 34 35.4	
D03D	Eldon baz=7.9	99.70 354	Pdiff	Pdif	02 45 49.6	+0.2
Y52A	Lilburn comp=Z,5µm,20.0s	99.74 321	IAMs_20	IAMs_20	03 33 42.6	
GOGA	Godfrey baz=40	99.76 320	Pdiff	Pdif	02 45 48.8	-1.0
GOGA	Godfrey comp=Z,13nm,0.7s	99.76 320	P pmax	Pdif pmax	02 45 49.8	-0.1
GOGA	Godfrey comp=Z,7µm,22.0s	99.76 320	IAMs_20	IAMs_20	03 31 01.4	
RLMT	Red Lodge baz=20	99.76 344	Pdiff	Pdif	02 45 49.7	-0.3
BGNE	Belgrade baz=29	99.82 335	Pdiff	Pdif	02 45 48.4	-1.6
BOZ	Bozeman (W) baz=18	99.84 345	Pdiff	Pdif	02 45 49.1	-1.1
BOZ	Bozeman (W) comp=Z,6µm,18.0s	99.84 345	IAMs_20	IAMs_20	03 33 15.1	
WVT	Waverly baz=37	99.88 325	Pdiff	Pdif	02 45 49.2	-1.1
WVT	Waverly comp=Z,5µm,20.0s	99.88 325	IAMs_20	IAMs_20	03 34 07.0	
CCM	Cathedral Cave baz=34	99.90 328	Pdiff	Pdif	02 45 50.0	-0.4
CCM	Cathedral Cave comp=Z,5µm,22.0s	99.90 328	IAMs_20	IAMs_20	03 33 47.4	
D05A	Enumclaw comp=Z,6µm,19.0s	99.93 353	IAMs_20	IAMs_20	03 38 12.3	
D04E	Lakebay baz=8.1	100.02 353	Pdiff	Pdif	02 45 49.8	-0.9
FPAL	Fort Paine comp=Z,7µm,21.0s	100.02 322	IAMs_20	IAMs_20	03 31 01.1	
N33A	J Bar K, Exete comp=Z,8µm,21.0s	100.15 334	IAMs_20	IAMs_20	03 31 36.8	
R40A	Maddies Statio comp=Z,5µm,20.0s	100.15 329	IAMs_20	IAMs_20	03 33 51.0	
154A	Montrose comp=Z,5µm,21.0s	100.18 320	IAMs_20	IAMs_20	03 34 30.4	
HICK	Hickman comp=Z,6µm,19.0s	100.21 326	IAMs_20	IAMs_20	03 40 29.9	
DLMT	Dillon comp=Z,7µm,18.0s	100.27 346	IAMs_20	IAMs_20	03 33 37.3	
E08A	Dider Farm, El comp=Z,7µm,22.0s	100.27 351	IAMs_20	IAMs_20	03 37 04.2	
255A	Hazlehurst comp=Z,5µm,21.0s	100.35 319	IAMs_20	IAMs_20	03 34 27.0	
GLAT	Glass comp=Z,6µm,20.0s	100.46 326	IAMs_20	IAMs_20	03 40 36.5	
PENMO	Penman comp=Z,6µm,19.0s	100.47 326	IAMs_20	IAMs_20	03 33 15.8	
F10A	Beach Ranch, E comp=Z,7µm,21.0s	100.51 349	IAMs_20	IAMs_20	03 36 08.6	
E04D	Cinebar baz=8.3	100.62 353	Pdiff	Pdif	02 45 52.9	-0.5
MAW	Mawson comp=Z,3.9nm,0.8s,baz=247,slow=3.0,SNR=6.0	100.65 174	PKKPbc	PKKPbc	03 02 07.3	-1.8
T42A	Van Buren comp=Z,7µm,22.0s	100.67 328	IAMs_20	IAMs_20	03 33 08.0	
LNXT	Lenox comp=Z,7µm,20.0s	100.69 326	IAMs_20	IAMs_20	03 40 43.6	
E03A	Lebam comp=Z,7µm,20.0s	100.72 354	IAMs_20	IAMs_20	03 37 56.2	
Z51A	Franklin comp=Z,5µm,18.0s	100.75 321	IAMs_20	IAMs_20	03 35 19.4	
H17A	Grant Village baz=18	100.75 344	Pdiff	Pdif	02 45 52.0	-2.5
HALT	Halls comp=Z,5µm,22.0s	100.78 326	IAMs_20	IAMs_20	03 32 15.8	
PEBM	Pemiscott Bayo comp=Z,6µm,20.0s	100.86 326	IAMs_20	IAMs_20	03 33 26.0	
PLAL	Pickwick Lake comp=Z,7µm,19.0s	100.91 324	IAMs_20	IAMs_20	03 34 41.5	
Y49A	Blount Mountai comp=Z,7µm,22.0s	100.97 323	IAMs_20	IAMs_20	03 31 40.1	
152A	Waverly Hall comp=Z,7µm,20.0s	101.01 321	IAMs_20	IAMs_20	03 31 49.3	
FLWY	Flagg Ranch comp=Z,8µm,20.0s	101.08 344	IAMs_20	IAMs_20	03 36 14.8	
MGMO	Mountain Grove comp=Z,6µm,20.0s	101.10 328	IAMs_20	IAMs_20	03 35 56.1	
S39A	Bolivar comp=Z,5µm,19.0s	101.11 329	IAMs_20	IAMs_20	03 35 26.3	
F04D	Rainier, OR baz=8.0	101.13 353	Pdiff	Pdif	02 45 54.5	-1.2
F05D	White Salmon baz=9.3	101.16 352	Pdiff	Pdif	02 45 55.4	-0.5
F04A	Amboy comp=Z,6µm,20.0s	101.22 353	IAMs_20	IAMs_20	03 34 29.3	
KSU1	Kansas State U baz=30	101.25 332	Pdiff	Pdif	02 45 54.8	-1.6
W45A	Hickory Valley comp=Z,4µm,19.0s	101.31 325	IAMs_20	IAMs_20	03 35 21.0	
TIGA	Tifton baz=40	101.33 319	Pdiff	Pdif	02 45 56.3	-0.6
TIGA	Tifton comp=Z,5µm,22.0s	101.33 319	IAMs_20	IAMs_20	03 31 57.1	
K22A	Casper baz=22	101.37 341	Pdiff	Pdif	02 45 55.2	-1.9
LPAR	Lepanto comp=Z,5µm,20.0s	101.48 326	IAMs_20	IAMs_20	03 34 21.4	
LCAR	Lake Charles comp=Z,8µm,21.0s	101.49 327	IAMs_20	IAMs_20	03 33 44.7	
FXWY	Fox Creek comp=Z,8µm,22.0s	101.58 344	IAMs_20	IAMs_20	03 32 44.9	
SYO	Syowa Base	101.59 183	‖ *ep*Pdiff	pPdif	02 46 01.4	0.0
SYO	Syowa Base	101.59 183	‖ *e*X	PP	02 50 06.6	-1.0
SYO	Syowa Base	101.59 183	‖ *e*PKiKP	PKiKP	02 50 19.2	-1.2
HBAR	Harrisburg comp=Z,7µm,21.0s	101.69 326	IAMs_20	IAMs_20	03 33 51.8	
MET	Memphis--Engin comp=Z,5µm,22.0s	101.70 326	IAMs_20	IAMs_20	03 32 31.2	
TPAW	Teton Pass comp=Z,7µm,21.0s	101.70 344	IAMs_20	IAMs_20	03 36 32.2	
G05D	Wamic, OR baz=9.4	101.78 352	Pdiff	Pdif	02 45 58.1	-0.6
LRAL	Lakeview Retre baz=38	101.92 322	Pdiff	Pdif	02 45 58.3	-1.1
OXF	Oxford baz=36	101.94 325	Pdiff	Pdif	02 45 57.3	-2.3
OXF	Oxford comp=Z,4µm,20.0s	101.94 325	IAMs_20	IAMs_20	03 38 45.7	
G03D	McMinnville, O baz=7.8	102.02 353	Pdiff	Pdif	02 45 58.9	-0.7
U40A	Yellville baz=33	102.02 328	Pdiff	Pdif	02 45 59.2	-0.7
U40A	Yellville comp=Z,5µm,19.0s	102.02 328	IAMs_20	IAMs_20	03 36 23.6	
352A	Blakely comp=Z,7µm,19.0s	102.03 320	IAMs_20	IAMs_20	03 35 17.6	
BW06	Boulder Array	102.05 343	Pdiff	Pdif	02 45 58.7	-1.5
PDAR	baz=19 Pinedale Array comp=Z,1.0nm,0.9s,baz=194,slow=1.2,SNR=7.3	102.05 343	P PP	Pdif PP	02 46 00.1 02 50 07.9	-0.1 -2.7
PDAR	comp=Z,3.0nm,0.9s,baz=68,slow=5.1,SNR=4.2		PKKPbc	PKKPbc	03 02 02.9	-1.1
FCAR	comp=Z,1.4nm,0.6s,baz=168,slow=2.9,SNR=7.9 Ozark Folk Cen comp=Z,7µm,21.0s	102.08 328	IAMs_20	IAMs_20	03 34 01.3	
SDDR	Presa de Saban comp=Z,5µm,21.0s	102.29 302	IAMs_20	IAMs_20	03 36 32.1	
656A	Willston comp=Z,6µm,20.0s	102.30 317	IAMs_20	IAMs_20	03 35 55.9	
HLID	Hailey baz=15	102.36 347	Pdiff	Pdif	02 46 00.7	-0.8
HLID	Hailey comp=Z,7µm,19.0s	102.36 347	IAMs_20	IAMs_20	03 35 06.6	
250A	Grady comp=Z,5µm,20.0s	102.36 321	IAMs_20	IAMs_20	03 37 00.2	
Y45A	Yeager Farm, C comp=Z,7µm,21.0s	102.53 325	IAMs_20	IAMs_20	03 35 03.3	
HHAR	Hobbs comp=Z,6µm,21.0s	102.56 329	IAMs_20	IAMs_20	03 35 22.8	
DWPF	Disney Wildern baz=42	102.60 315	Pdiff	Pdif	02 46 01.8	-0.8
U38A	Gravette comp=Z,5µm,20.0s	102.62 329	IAMs_20	IAMs_20	03 38 09.3	
X43A	Marvell baz=35	102.64 326	Pdiff	Pdif	02 46 01.5	-1.1
X43A	Marvell comp=Z,5µm,20.0s	102.64 326	IAMs_20	IAMs_20	03 34 58.1	
COR	Corvallis comp=Z,6µm,21.0s	102.64 353	IAMs_20	IAMs_20	03 38 55.9	
H04D	Lebanon baz=8.2	102.65 353	Pdiff	Pdif	02 46 01.9	-0.5
WHAR	Wooly Hollow comp=Z,6µm,21.0s	102.66 327	IAMs_20	IAMs_20	03 34 30.4	
I05D	Terrebonne, OR baz=9.4	102.68 352	Pdiff	Pdif	02 46 01.8	-0.9
CBKS	Cedar Bluff baz=28	102.68 334	Pdiff	Pdif	02 46 02.2	-0.6
I07A	Izee comp=Z,7µm,20.0s	102.69 351	IAMs_20	IAMs_20	03 38 52.4	
W41B	Gary Mavity, V baz=34	102.73 327	Pdiff	Pdif	02 46 01.2	-1.8
W41B	Gary Mavity, V comp=Z,6µm,20.0s	102.73 327	IAMs_20	IAMs_20	03 35 28.5	
060A	Indiantown comp=Z,4µm,19.0s	102.75 314	IAMs_20	IAMs_20	03 34 48.9	
553A	Crawfordville comp=Z,6µm,21.0s	102.75 319	IAMs_20	IAMs_20	03 36 01.7	
MFID	Camas Ranch comp=Z,4µm,20.0s	102.76 348	IAMs_20	IAMs_20	03 37 14.2	
N23A	Red Feather La baz=22	102.83 340	Pdiff	Pdif	02 46 02.4	-1.4
N23A	Red Feather La comp=Z,8µm,22.0s	102.83 340	IAMs_20	IAMs_20	03 33 33.3	
PINE	Pine Mountain comp=Z,7µm,21.0s	103.17 352	IAMs_20	IAMs_20	03 38 21.8	
W39A	Magazine baz=32	103.40 328	Pdiff	Pdif	02 46 04.9	-1.2
W39A	Magazine comp=Z,5µm,22.0s	103.40 328	IAMs_20	IAMs_20	03 35 54.2	
BRAL	Brewton baz=38	103.41 321	Pdiff	Pdif	02 46 05.5	-0.7
BRAL	Brewton comp=Z,6µm,20.0s	103.41 321	IAMs_20	IAMs_20	03 37 43.0	
KSCO	Kaye Shedlock' baz=25	103.51 337	Pdiff	Pdif	02 46 06.1	-0.5
I03D	Drain, OR baz=7.8	103.53 353	Pdiff	Pdif	02 46 05.4	-1.0
CCAR	Cane Creek comp=Z,7µm,21.0s	103.55 326	IAMs_20	IAMs_20	03 35 36.3	
X40A	Basin Creek Fa baz=33	103.57 327	Pdiff	Pdif	02 46 05.6	-1.2
X40A	Basin Creek Fa comp=Z,6µm,20.0s	103.57 327	IAMs_20	IAMs_20	03 35 09.7	
HWUT	Hardware Ranch comp=Z,7µm,20.0s	103.63 344	IAMs_20	IAMs_20	03 34 47.3	
TUL1	Leonard baz=31	103.66 330	Pdiff	Pdif	02 46 06.2	-1.0
TUL1	Leonard comp=Z,6µm,21.0s	103.66 330	IAMs_20	IAMs_20	03 41 11.9	
ISCO	Idaho Springs baz=23	103.74 339	Pdiff	Pdif	02 46 07.6	-0.3
ISCO	Idaho Springs comp=Z,4.0nm,1.0s	103.74 339	P pmax	Pdif pmax	02 46 09.4	+1.5
QUOK	Quay comp=Z,6µm,20.0s	103.82 331	IAMs_20	IAMs_20	03 36 25.0	
MIAR	Mount Ida baz=33	103.86 328	Pdiff	Pdif	02 46 08.7	+0.6
MIAR	Mount Ida comp=Z,6µm,22.0s	103.86 328	IAMs_20	IAMs_20	03 35 08.2	
O20A	White River Ci baz=21	104.18 341	Pdiff	Pdif	02 46 07.9	-1.8
WVOR	Wild Horse Val comp=Z,7.0nm,2.7s	104.18 350	P pmax	Pdif pmax	02 46 10.9	+1.4
WVOR	Wild Horse Val comp=Z,7µm,20.0s	104.18 350	IAMs_20	IAMs_20	03 39 54.8	
K05A	Summer Lake comp=Z,7µm,20.0s	104.21 351	IAMs_20	IAMs_20	03 39 17.5	
VBMS	Vicksburg comp=Z,4µm,19.0s	104.34 324	IAMs_20	IAMs_20	03 35 33.3	
WLAR	White Oak Lake comp=Z,6µm,20.0s	104.36 327	IAMs_20	IAMs_20	03 35 33.7	
Q24A	Divide baz=23	104.37 338	Pdiff	Pdif	02 46 09.2	-1.5
143A	Socs Landing, comp=Z,6µm,20.0s	104.38 325	IAMs_20	IAMs_20	03 36 15.1	
K04D	Chiloquin, OR baz=9.2	104.42 352	Pdiff	Pdif	02 46 10.3	-0.3
KEBM	Edson Butte comp=Z,7µm,20.0s	104.44 354	IAMs_20	IAMs_20	03 36 39.4	
OK029	Liberty Lake comp=Z,6µm,21.0s	104.44 331	IAMs_20	IAMs_20	03 35 00.6	
346A	Big Creek Wild comp=Z,5µm,19.0s	104.49 323	IAMs_20	IAMs_20	03 37 36.2	
K02D	Willamette Mer baz=7.5	104.55 353	Pdiff	Pdif	02 46 09.9	-1.2
Z41A	Richland Creek baz=34	104.58 327	Pdiff	Pdif	02 46 10.1	-1.2
OK025	Westminster Rd comp=Z,6µm,18.0s	104.58 331	IAMs_20	IAMs_20	03 37 27.3	
X37A	Clayton comp=Z,5µm,21.0s	104.61 329	IAMs_20	IAMs_20	03 36 04.1	
344A	Westbrook Farm comp=Z,6µm,19.0s	105.07 324	IAMs_20	IAMs_20	03 36 43.6	
L02E	Cave Junction baz=7.6	105.08 353	Pdiff	Pdif	02 46 11.4	-2.0
PTGA	Pitinga comp=Z,7µm,20.0s	105.24 279	IAMs_20	IAMs_20	03 36 20.7	
M04C	Macdoel baz=9.1	105.26 352	Pdiff	Pdif	02 46 12.8	-1.5
DUG	Dugway, Tooele baz=17	105.26 345	Pdiff	Pdif	02 46 11.1	-3.3
DUG	Dugway, Tooele comp=Z,8µm,22.0s	105.26 345	IAMs_20	IAMs_20	03 35 04.4	
Z38A	Mt. Pleasant comp=Z,6µm,20.0s	105.57 328	IAMs_20	IAMs_20	03 36 00.5	
SDCO	Great Sand Dun baz=23	105.59 338	Pdiff	Pdif	02 46 14.5	-1.7
BBOO	Buckleboo comp=Z,5µm,20.0s	105.64 119	IAMs_20	IAMs_20	03 37 37.2	
T25A	Trinidad baz=24	105.80 337	Pdiff	Pdif	02 46 15.9	-1.1
WMOK	Wichita Mounta baz=29	105.90 332	Pdiff	Pdif	02 46 17.4	+0.2
WMOK	Wichita Mounta comp=Z,7µm,22.0s	105.90 332	IAMs_20	IAMs_20	03 35 14.0	
342A	Flagon Creek P comp=Z,5µm,19.0s	105.91 325	IAMs_20	IAMs_20	03 37 12.8	
S22A	4UR Ranch, Cre baz=22	106.00 339	Pdiff	Pdif	02 46 17.2	-0.7
N02D	Trinity Center baz=8.4	106.15 352	Pdiff	Pdif	02 46 18.5	+0.2
JCC	Jacoby Creek, comp=Z,4µm,20.0s	106.45 353	IAMs_20	IAMs_20	03 37 43.6	
Z35A	Perchaven, San comp=Z,6µm,20.0s	106.49 330	IAMs_20	IAMs_20	03 43 22.8	
WDC	Whiskeytown Da comp=Z,7µm,20.0s	106.53 352	IAMs_20	IAMs_20	03 40 48.7	
NATX	Nacogdoches baz=32	106.69 327	Pdiff	Pdif	02 46 19.9	-0.8
O03E	Paynes Creek baz=9.2	106.72 352	Pdiff	Pdif	02 46 19.6	-1.3
441A	DeRidder	106.84 325	IAMs_20	IAMs_20	03 37 53.4	

	comp=Z,6µm,20.0s							
AMTX	Amarillo	106.88	334	Pdiff	Pdif	02 46	22.0	+0.3
	baz=27							
PAHR	Pah Rah Range	106.97	350	IAMs_20	IAMs_20	03 38	54.3	
	comp=Z,7µm,21.0s							
MVCO	Mesa Verde	106.98	340	Pdiff	Pdif	02 46	21.4	-0.8
	baz=21							
237A	Washetta, Mont	107.00	328	IAMs_20	IAMs_20	03 37	16.4	
	comp=Z,5µm,20.0s							
VCNR	Virginia City	107.41	350	IAMs_20	IAMs_20	03 41	04.1	
	comp=Z,5µm,20.0s							
PNTR	Pine Nut	107.60	350	IAMs_20	IAMs_20	03 39	35.3	
	comp=Z,7µm,22.0s							
R11A	Troy Canyon, C	107.62	346	Pdiff	Pdif	02 46	24.0	-1.0
	baz=15							
R11A	Troy Canyon, C	107.62	346	IAMs_20	IAMs_20	03 41	58.8	
	comp=Z,5µm,20.0s							
YERR	Yerington	107.65	349	IAMs_20	IAMs_20	03 39	26.5	
	comp=Z,6µm,20.0s							
WHTX	Lake Whitney,	107.73	329	Pdiff	Pdif	02 46	24.9	-0.4
	baz=30							
WHTX	Lake Whitney,	107.73	329	IAMs_20	IAMs_20	03 43	41.7	
	comp=Z,6µm,22.0s							
RYN	Ryan	107.88	349	IAMs_20	IAMs_20	03 40	43.7	
	comp=Z,6µm,21.0s							
AFDM	Forest Hills D	107.94	351	IAMs_20	IAMs_20	03 42	18.2	
	comp=Z,5µm,20.0s							
NVAR	Mina Array Bea	108.04	348	PKiKP	PKiKP	02 50	34.4	+0.6
	comp=Z,2.6nm,0.6s,baz=196,slow=0.7,SNR=6.9							
NVAR				PKKPbc	PKKPbc	03 01	46.8	+0.9
	comp=Z,1.8nm,0.6s,baz=195,slow=5.0,SNR=11							
ABTX	Abilene, Hawle	108.09	331	Pdiff	Pdif	02 46	27.3	+0.3
	baz=28							
ABTX	Abilene, Hawle	108.09	331	IAMs_20	IAMs_20	03 37	15.1	
	comp=Z,6µm,22.0s							
MSTX	Muleshoe	108.10	334	Pdiff	Pdif	02 46	27.3	+0.2
	baz=26							
SDV	Santo Domingo	108.24	294	ePP	PKiKP	02 50	21.2	-13
LHV	Little Huntoon	108.25	349	IAMs_20	IAMs_20	03 40	55.4	
	comp=Z,7µm,21.0s							
PRN	Pahroc Range	108.42	346	IAMs_20	IAMs_20	03 38	40.0	
	comp=Z,6µm,19.0s							
CMB	Columbia Colle	108.75	350	IAMs_20	IAMs_20	03 38	10.7	
	comp=Z,7µm,22.0s							
435B	Jarrell	108.83	329	Pdiff	Pdif	02 46	29.7	-0.6
	baz=30							
MLAC	Mammoth, Mammt	108.91	349	Pdiff	Pdif	02 46	30.4	-0.4
	baz=12							
MCCM	Marconi Confer	108.97	352	IAMs_20	IAMs_20	03 42	40.4	
	comp=Z,6µm,20.0s							
TPNV	Topopah Spring	109.10	346	Pdiff	Pdif	02 46	30.5	-1.1
	baz=14							
TPNV	Topopah Spring	109.10	346	IAMs_20	IAMs_20	03 45	02.1	
	comp=Z,6µm,19.0s							
GRAC	Grapevine Rang	109.27	347	Pdiff	Pdif	02 46	32.5	+0.3
	baz=13							
W18A	Petrified Fore	109.29	341	Pdiff	Pdif	02 46	32.2	-0.3
	baz=20							
SHPR	Sheep Range	109.31	345	IAMs_20	IAMs_20	03 39	09.6	
	comp=Z,4µm,19.0s							
STKA	Stephens Creek	109.34	116	PKKPbc	PKKPbc	03 01	42.5	+1.2
	comp=Z,2.7nm,0.9s,baz=354,slow=6.1,SNR=3.3							
WUAZ	Wupatki	109.36	342	Pdiff	Pdif	02 46	32.0	-0.8
	baz=19							
WUAZ	Wupatki	109.36	342	IAMs_20	IAMs_20	03 39	07.0	
	comp=Z,7µm,21.0s							
KWAJ	Kwajalein Atol	109.49	65	IAMs_20	IAMs_20	03 36	13.0	
	comp=Z,5µm,22.0s							
FURC	Furnace Creek,	109.69	347	Pdiff	Pdif	02 46	34.0	0.0
	baz=14							
JCT	Junction City	110.03	330	Pdiff	Pdif	02 46	34.7	-1.0
	baz=29							
JCT	Junction City	110.03	330	IAMs_20	IAMs_20	03 40	14.6	
	comp=Z,6µm,20.0s							
SAO	San Andreas Ge	110.15	351	IAMs_20	IAMs_20	03 43	33.7	
	comp=Z,7µm,22.0s							
VNA2	Neumayer--Watz	110.44	197	PKiKP	PKiKP	02 50	37.5	+0.7
VNA1	Neumayer--Stat	110.47	197	PKiKP	PKiKP	02 50	38.2	+1.4
TUQ	Turquoise Moun	110.50	346	Pdiff	Pdif	02 46	36.8	-1.0
	baz=15							
735A	Kenedy	110.58	328	IAMs_20	IAMs_20	03 40	08.2	
	comp=Z,5µm,20.0s							
SMLC	San Martin de	110.93	296	ePP	PKiKP	02 50	37.4	-2.1
GMRC	Granite Mounta	111.07	345	Pdiff	Pdif	02 46	41.0	+0.6
	baz=15							
MNTX	Cornudas Mount	111.08	336	Pdiff	Pdif	02 46	40.4	+0.1
	baz=24							
121A	Cookes Peak, D	111.11	338	Pdiff	Pdif	02 46	40.4	-0.2
	baz=22							
HEC	Hector,Ludlow	111.17	346	Pdiff	Pdif	02 46	40.1	-0.6
	baz=14							
PDMCI	Parker Dam,Lak	111.20	344	Pdiff	Pdif	02 46	40.9	+0.2
	baz=16							
VNA3	Neumayer Olymp	111.21	197	PKiKP	PKiKP	02 50	38.4	+0.1
IRM	Iron Mountain	111.56	345	Pdiff	Pdif	02 46	41.9	-0.5
	baz=16							
833A	Chaparral WMA,	111.73	329	IAMs_20	IAMs_20	03 45	51.8	
	comp=Z,4µm,21.0s							
RUSC	La Rusia	112.00	293	eP	PKiKP	02 50	48.1	+6.0
MWC	Mount Wilson	112.09	347	IAMs_20	IAMs_20	03 44	30.2	
	comp=Z,6µm,20.0s							
MOTC	Monteria, Cord	112.14	297	eP	PKiKP	02 50	44.6	+2.8
PASC	Pasadena Art	112.17	347	IAMs_20	IAMs_20	03 46	22.2	
	comp=Z,6µm,20.0s							
SAML	Samuel	112.35	274	eP	PKiKP	02 50	37.6	-4.5
SAML	Samuel	112.35	274	IAMs_20	IAMs_20	03 34	47.4	
	comp=Z,7µm,22.0s							
TXAR	Lajitas Array	112.59	333	PKiKP	PKiKP	02 50	42.2	-0.2
	comp=Z,1.4nm,0.6s,baz=176,slow=1.9,SNR=7.4							
TXAR				PKPPKP	P'P'df	03 10	02.7	-4.5
	comp=Z,0.8nm,0.6s,baz=194,slow=5.1,SNR=6.4							
TXAR				PKPPKP	P'P'df	03 10	02.7	-4.5
	comp=Z,0.5nm,1.0s,baz=167,slow=7.4,SNR=3.4							
UABX	UABC, Campus M	113.10	345	IAMs_20	IAMs_20	03 48	02.9	
	comp=Z,5µm,21.0s							
109C	Camp Elliot, M	113.20	346	IAMs_20	IAMs_20	03 43	55.7	
	comp=Z,6µm,21.0s							
CHIC	Chingaza	113.28	292	eP	PKiKP	02 50	44.3	-0.2
SNCC	San Nicolas Is	113.30	348	IAMs_20	IAMs_20	03 44	19.3	
	comp=Z,4µm,21.0s							
GUVIX	Guadalupe Vict	113.33	344	IAMs_20	IAMs_20	03 41	14.1	
	comp=Z,4µm,20.0s							
CAPC	Capurgana	113.50	298	eP	PKiKP	02 50	41.0	-3.3
NORC	Norcasia	113.58	294	eP	PKiKP	02 50	45.4	+0.8
GUVC	San Jose del G	113.69	290	eP	PKiKP	02 50	43.4	-1.4
HELC	Santa Helena	113.70	295	eP	PKiKP	02 50	43.4	-1.8
ESJX	Sierra Juarez	113.81	345	IAMs_20	IAMs_20	03 42	10.8	
	comp=Z,5µm,19.0s							
GUY2C	Guyana, Caldas	114.18	294	eP	PKPdf	02 50	45.8	-0.4
CBOC	Ciudad Bolivar	114.27	295	eP	PKiKP	02 50	47.5	+1.4
RREF	El Recreo	114.37	294	eP	PKiKP	02 50	48.8	+2.0
SFX	San Felipe	114.49	344	IAMs_20	IAMs_20	03 41	40.8	
	comp=Z,5µm,21.0s							
TOLC	Tolima	114.55	293	eP	PKiKP	02 50	48.2	+1.4
TOO	Toolangi	114.66	120	IAMs_20	IAMs_20	03 39	33.0	
	comp=Z,5µm,22.0s							
PRAC	Prado	114.75	292	eP	PKPdf	02 50	45.8	-1.0
MACC	Macarena, Meta	114.90	290	eP	PKPdf	02 50	45.0	-2.1
ORTC	Ortega, Tolima	114.91	293	eP	PKPdf	02 50	45.3	-1.9
PLMC	San Jos del P	115.09	294	eP	PKPdf	02 50	45.0	-2.5
PLMC				eP	PKiKP	02 50	49.1	+1.6
CPUP	Villa Florida	115.70	254	PKP	PKPdf	02 50	47.4	-0.8
	comp=Z,4.6nm,0.8s,baz=68,slow=1.7,SNR=13							
CPUP				PKKPbc	PKKPbc	03 01	20.0	+0.1
	comp=Z,3.3nm,1.0s,baz=196,slow=1.6,SNR=4.0							
CPUP	Villa Florida	115.70	254		PKPdf	02 50	46.9	-1.2
YOTC	Yotoco, Valle	115.72	293	eP	PKPdf	02 50	47.6	-1.2
PETF	Flores	116.12	314	IAMs_20	IAMs_20	03 42	46.4	
	comp=Z,3µm,21.0s							
MARP	Paez Belalcaza	116.12	292	eP	PKPdf	02 50	45.8	-3.9
CAN	Canberra	116.39	116	IAMs_20	IAMs_20	03 42	54.0	
	comp=Z,4µm,20.0s							
ARMA	Armidale	116.49	110	IAMs_20	IAMs_20	03 39	05.1	
	comp=Z,5µm,20.0s							
MATN	Matagalpa	116.60	308	IAMs_20	IAMs_20	03 47	06.3	
	comp=Z,3µm,20.0s							
TGUH	Tegucigalpa,Un	116.65	310	eP	PKPdf	02 50	50.0	-0.5
TGUH	Tegucigalpa,Un	116.65	310	PKPdf	PKPdf	02 50	50.4	-0.1
FLOC	Florencia	116.66	291	eP	PKPdf	02 50	49.1	-1.4
BOAB	BOACO BROADBAN	116.77	307	IAMs_20	IAMs_20	03 49	30.1	
	comp=Z,4µm,20.0s							
PTLC	Puerto Leguiza	116.84	289	eP	PKPdf	02 50	48.2	-2.6
POPC	Popayan, Colom	116.88	292	eP	PKPdf	02 50	48.2	-2.9
BBAC	Balboa, Cauca	117.64	292	eP	PKiKP	02 50	53.5	+0.8
MTO3	Montecristo	117.73	312	IAMs_20	IAMs_20	03 45	57.9	
	comp=Z,3µm,20.0s							
ZAIG	Zacatecas	117.96	329	PKPdf	PKPdf	02 50	52.6	-0.5
ZAIG					IAMs_20	IAMs_20	03 46	20.7
	comp=Z,4µm,19.0s							
PUAC	Puerto Asis, P	118.02	291	eP	PKPdf	02 50	52.5	-0.6
TARA	Tarawa	118.25	68	IAMs_20	IAMs_20	03 39	59.5	
	comp=Z,3µm,22.0s							
HUEH	Huehuetenango	118.35	314	IAMs_20	IAMs_20	03 44	12.2	
	comp=Z,3µm,20.0s							
CMIG	Matias Romero	118.91	318	PKP	PKPdf	02 50	53.7	-1.0
	comp=Z,4.2nm,0.5s,baz=15,slow=3.2,SNR=19							
KEKH	Kekaha	119.64	29	IAMs_20	IAMs_20	03 44	58.3	
	comp=Z,5µm,21.0s							
OTAV	Otavalo	119.69	292	eP	PKiKP	02 50	57.1	+0.2
OTAV	Otavalo	119.69	292	PKiKP	PKPdf	02 50	56.2	-0.6
OTAV	Otavalo	119.69	292		PKPdf	02 50	56.2	-0.6
PB16	IPOC Station P	122.31	268		PKPdf	02 51	01.3	-0.6
QSPA	South Pole Qui	122.54	180	PKP	PKPdf	02 50	59.2	-1.0
	comp=Z,43nm,0.7s,baz=275,slow=1.6,SNR=39							
QSPA	South Pole Qui	122.54	180	PKPdf	PKPdf	02 50	59.7	-0.5
GO01	Chusmiza	122.65	266		PKPdf	02 51	01.9	-0.4
GO01				IAMs_20	IAMs_20	03 46	16.9	
	comp=Z,6µm,22.0s							
MNMC	Minye Minye	122.74	267		PKPdf	02 51	01.5	-0.7
PB08	IPOC Station P	122.82	266	IAMs_20	IAMs_20	03 40	59.5	
	comp=Z,6µm,22.0s							
PB11	IPOC Station P	123.08	267	IAMs_20	IAMs_20	03 46	41.3	
	comp=Z,5µm,21.0s							
PB12	IPOC Station P	123.13	268	PKPdf	PKiKP	02 51	03.1	+0.1
PSGCX	Pisagua	123.40	267	IAMs_20	IAMs_20	03 46	40.7	
	comp=Z,4µm,20.0s							
PB01	IPOC Station P	123.50	265	IAMs_20	IAMs_20	03 44	16.2	
	comp=Z,5µm,22.0s							
PB09	IPOC Station P	123.62	264		PKPdf	02 51	03.8	0.0
PB09				IAMs_20	IAMs_20	03 43	11.3	
	comp=Z,3µm,21.0s							
LVC	Limon Verde	123.69	263	PKP	PKPdf	02 51	03.8	-0.3
	comp=Z,22nm,1.0s,baz=86,slow=2.3,SNR=9.2							
LVC				PP	PP	02 52	46.0	-0.9
	comp=Z,11nm,1.0s,baz=3.8,slow=2.9,SNR=3.4							
LVC	Limon Verde	123.69	263	PKPdf	PKPdf	02 51	03.9	-0.2
LVC	Limon Verde	123.69	263	IAMs_20	IAMs_20	03 46	55.2	
	comp=Z,5µm,20.0s							
LVC	Limon Verde	123.69	263	eP	PKiKP	02 51	04.8	+0.5
TA01	Diego Aracena	123.88	266	IAMs_20	IAMs_20	03 46	57.4	
	comp=Z,5µm,20.0s							
ATAH	Atahualpa	124.01	285	PKP	PKiKP	02 51	05.9	+0.6
	comp=Z,8.5nm,0.7s,baz=148,slow=2.7,SNR=5.3							
PB07	IPOC Station P	124.13	265		PKPdf	02 51	04.8	0.0
PB06	IPOC Station P	124.28	263	IAMs_20	IAMs_20	03 42	27.9	
	comp=Z,4µm,21.0s							
PB15	IPOC Station P	124.41	263		PKPdf	02 51	05.4	+0.1
PB15				IAMs_20	IAMs_20	03 50	34.2	
	comp=Z,4µm,20.0s							
PB04	IPOC Station P	124.61	264	IAMs_20	IAMs_20	03 47	00.6	
	comp=Z,4µm,20.0s							
DZM	Mont Dzumac	125.23	95	ePKiKP	PKPdf	02 51	06.3	-0.4
	comp=Z,100nm,1.2s							
GO02	Mina Guanaco	125.30	261	PKPdf	PKPdf	02 51	06.3	-0.8
NNA	Nana	125.37	279	PKP	PKiKP	02 51	07.6	0.0
	comp=Z,13nm,0.8s,baz=49,slow=3.9,SNR=3.7							
NNA	Nana	125.37	279	PKIKP	PKPdf	02 51	06.6	-0.6
NNA	Nana	125.37	279		PKPdf	02 51	06.6	-0.6
NNA	Nana	125.37	279	IAMs_20	IAMs_20	03 50	42.3	
	comp=Z,4µm,18.0s							
PB14	IPOC Station P	125.76	262	IAMs_20	IAMs_20	03 45	47.1	
	comp=Z,6µm,22.0s							
AC01	Pan de Azucar	126.52	260	PKPdf	PKiKP	02 51	09.3	-0.1
AC01				IAMs_20	IAMs_20	03 53	38.2	
	comp=Z,5µm,19.0s							
GO03	Copiap	126.76	258		PKiKP	02 51	10.2	+0.3
VNDA	Vanda	126.86	166	PKP	PKPdf	02 51	07.9	-0.2
	comp=Z,3.0nm,0.7s,baz=286,slow=6.8,SNR=10							
VNDA	Vanda	126.86	166	PKPdf	PKiKP	02 51	08.4	-0.2
AC05	El Transito	127.24	257		PKiKP	02 51	10.8	-0.1
AC05				IAMs_20	IAMs_20	03 42	38.2	
	comp=Z,5µm,21.0s							
LCO	Las Campanas	127.65	257	PKIKP	PKPdf	02 51	10.5	-0.9
LCO				MLR	MLR			
	comp=Z,5µm,20.0s							
LCO	Las Campanas	127.65	257	PKPdf	PKPdf	02 51	10.5	-0.9
LCO	Las Campanas	127.65	257	IAMs_20	IAMs_20	03 49	19.9	
	comp=Z,5µm,20.0s							
AC04	Llanos de Chal	127.67	258	IAMs_20	IAMs_20	03 54	47.7	
	comp=Z,4µm,20.0s							
GO04	Tololo Observa	128.13	255	IAMs_20	IAMs_20	03 45	15.7	
	comp=Z,5µm,21.0s							
PMSA	Palmer Station	128.30	210		PKiKP	02 51	11.4	-0.3
PMSA	Palmer Station	128.30	210	IAMs_20	IAMs_20	03 44	43.0	
	comp=Z,4µm,20.0s							
VA03	San Esteban	128.76	252		PKPdf	02 51	13.2	0.0
ROC1	El Roble	129.19	252		PKPdf	02 51	13.4	-0.8
MT02	Curacav	129.38	252	IAMs_20	IAMs_20	03 52	57.7	
	comp=Z,5µm,20.0s							
PLCA	Paso Flores	130.76	242	PKP	PKiKP	02 51	17.2	-0.4
	comp=Z,8.6nm,0.5s,baz=268,slow=6.1,SNR=3.1							
PLCA				SKPbc	SKPab	02 54	41.1	+0.6
	comp=Z,14nm,1.2s,baz=77,slow=4.2,SNR=5.7							
PLCA	Paso Flores	130.76	242	PKIKP	PKPdf	02 51	16.4	-0.3
PLCA	Paso Flores	130.76	242	PKPdf	PKPdf	02 51	16.4	-0.3
PLCA	Paso Flores	130.76	242	eP	PKiKP	02 51	18.7	+1.1
FOZ	Fox Glacier	134.02	121		PKiKP	02 51	23.3	-0.6
RPZ	Rata Peaks	134.94	121	SKPbc	SKPbc	02 54	54.8	+0.2
	comp=Z,47nm,1.0s,baz=158,slow=0.9,SNR=8.9							
RPZ	Rata Peaks	134.94	121	PKPdf	PKPdf	02 51	24.4	0.0
RPZ				IAMs_20	IAMs_20	03 53	30.6	
	comp=Z,4µm,19.0s							
NNZ	Nelson	136.37	117	IAMs_20	IAMs_20	03 49	41.0	
	comp=Z,3µm,20.0s							
HIZ	Hauiti	137.12	113	IAMs_20	IAMs_20	03 53	16.2	
	comp=Z,3µm,20.0s							
XMAS	Kiritimati	138.04	39	IAMs_20	IAMs_20	03 54	05.0	
	comp=Z,4µm,20.0s							
BFZ	Birch Farm	138.47	116	IAMs_20	IAMs_20	03 50	45.6	
	comp=Z,4µm,21.0s							
BKZ	Black Stump Fm	138.48	114	PKPdf	PKPdf	02 51	31.0	-0.2
BKZ				IAMs_20	IAMs_20	03 53	59.1	
	comp=Z,3µm,22.0s							
URZ	Urewera	138.84	112	SKPbc	SKPbc	02 55	05.8	-0.6
	comp=Z,9.0nm,0.7s,baz=131,slow=13,SNR=4.0							
URZ	Urewera	138.84	112	PKPdf	PKPdf	02 51	31.7	-0.1
URZ				IAMs_20	IAMs_20	03 48	36.7	
	comp=Z,3µm,22.0s							
AFI	Afiamalu	139.49	72	SKPbc	SKPbc	02 55	08.9	0.0
	comp=Z,49nm,1.0s,baz=129,slow=8.0,SNR=4.2							
AFI	Afiamalu	139.49	72	IAMs_20	IAMs_20	04 01	02.8	
	comp=Z,2µm,19.0s							
MXZ	Matakaoa Point	139.68	111	IAMs_20	IAMs_20	03 47	40.9	
	comp=Z,3µm,22.0s							
TAOE	Nuku Hiva Isla	155.18	19	ePP	PP	02 55	59.7	+0.8
	comp=Z,734nm,26.4s							
TAOE	Nuku Hiva Isla	155.18	19	eLR	LR	03 43	59.7	
	comp=Z,10µm,22.4s							
PPT2	Papeete2	158.34	50	ePKPab	PKPab	02 52	35.9	-1.8
	comp=Z,74nm,1.1s							
PPT2	Papeete2	158.34	50	ePP	PP	02 56	16.5	-0.8
	comp=Z,896nm,24.8s							
PPT2	Papeete2	158.34	50	eLR	LR	03 45	23.3	
	comp=Z,6µm,23.2s							
PAE	Paea	158.39	50	ePKPab	PKPab	02 52	36.0	-1.8
	comp=Z,13nm,1.1s							
TIAR	Tiarei	158.46	50	ePKPab	PKPab	02 52	36.2	-1.9
	comp=Z,9.9nm,0.9s							
TVO	Taravao	158.69	50	ePKPab	PKPab	02 52	37.3	-1.9
	comp=Z,43nm,1.3s							
TBI	Tubuai	162.22	63	ePP	PP	02 56	31.8	-6.8
	comp=Z,647nm,26.5s							
TBI	Tubuai	162.22	63	eLR	LR	03 47	14.0	
	comp=Z,6µm,25.2s							
RKT	Rikitea	170.16	15	eLR	LR	03 50	56.3	
	comp=Z,7µm,23.8s							

NEIC ***18*** *02:43:32.2±1.0, 32°.5N±0°.1×47°.4E±0°.1, h10km±2km, mb4.7/20, Error ellipse: s-maj=19.3km s-min=17.1km az=210.0*

IDC ***18*** *02:43:33.4±5.7, 32°.58N×47°.38E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.8/58, mbtmp4.1/7, ML4.1/1, Error ellipse: s-maj=110.2km s-min=28.2km az=4.0*

ISC 18 02:43:31.6±0.9, 32°.4N±0°.1×47°.4E±0°.0, h10km, n47, σ1º02/47, mb4.6/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	6.94	330	Pn	Pn	02 45 11.9	-1.7
BRTR	Keskin Array B	13.37	307	Pn	Pn	02 46 41.1	-0.4
ELL	Elmali	15.10	292	Pn	Pn	02 47 04.6	-0.5
KARP	Karpathos	17.13	286	Pn	Pn	02 47 31.0	-0.1
ABKAR	Akbulak array	19.32	25	P	P	02 47 55.4	-1.4
TAS	Tashkent	19.61	57	P	P	02 47 59.4	-0.7
AKTO	Aktyubinsk	19.70	20	P	P	02 48 01.7	+0.7
	0.5nm,0.3s,baz=201,slow=14,SNR=5.2						
GAR	Garm	19.71	64	P	P	02 48 01.9	+0.6
GAR				IAmb	IAmb	02 48 08.4	
	comp=Z,40nm,1.0s						
SOCY	Socotra	20.95	162	P	P	02 48 12.9	-1.9
MLR	Muntele Rosu	21.18	314	P	P	02 48 16.8	-0.4
AGG	Agios Georgios	21.42	295	P	P	02 48 19.9	+0.2
AGG				IAmb	IAmb	02 48 25.4	
	comp=Z,44nm,1.2s						
LIT	Litokhoron	21.52	298	P	P	02 48 19.6	-1.2
LIT				IAmb	IAmb	02 48 25.4	
	comp=Z,38nm,1.2s						
NIL	Nilore	21.67	80	P	P	02 48 23.3	+0.8
ARSB	Arslanbob	22.26	59	P	P	02 48 27.6	-1.3
BURAR	Bucovina Array	22.74	319	P	P	02 48 33.7	-0.2
AKASG	Malin Array Be	22.74	329	P	P	02 48 34.7	+0.9
	comp=Z,2.2nm,0.5s,baz=139,slow=9.7,SNR=5.9						
AKASG	Malin Array Be	22.74	329	P	P	02 48 33.4	-0.4
OBN	Obninsk	24.02	345	P	P	02 48 46.5	+0.1
OBN				IAmb	IAmb	02 48 55.5	
	comp=Z,18nm,0.9s						
DIVS	Divibare	24.43	307	P	P	02 48 50.0	-0.5
PDG	Podgorica	24.45	302	P	P	02 48 50.0	-0.6
KWP	Kalwaria Pacla	25.25	320	P	P	02 48 57.6	-0.2
PSZ	Piszkesteto	25.99	315	P	P	02 49 04.2	-0.4
PSZ				IAmb	IAmb	02 49 12.5	
	comp=Z,13nm,1.0s						
CEL	Celeste	26.33	292	P	P	02 49 06.9	-0.8
CEL				IAmb	IAmb	02 49 11.7	
	comp=Z,11nm,0.8s						
BRVK	Borovoye	26.44	32	P	P	02 49 08.0	-0.5
BVAR	Borovoye Array	26.47	32	P	P	02 49 11.8	+3.1
	comp=Z,1.4nm,0.4s,baz=220,slow=6.6,SNR=4.7						
SGRT	San Giovanni R	26.86	300	P	P	02 49 11.2	-1.3
SGRT				IAmb	IAmb	02 49 13.1	
	comp=Z,24nm,1.0s						
PAOL	Paolisi	27.62	298	P	P	02 49 19.3	-0.1
KURBB	Kurchatov Arra	29.28	42	P	P	02 49 35.7	+1.8
	comp=Z,1.2nm,0.4s,baz=247,slow=9.1,SNR=5.2						
KURK	Kurchatov	29.38	42	P	P	02 49 34.6	-0.1
MAKZ	Makanchi	30.01	51	P	P	02 49 39.6	-0.9
MKAR	Makanchi Array	30.21	51	P	P	02 49 44.3	+2.0
	comp=Z,1.4nm,0.7s,baz=248,slow=11,SNR=1.7						
MKAR	Makanchi Array	30.21	51	P	P	02 49 42.3	+0.1
VSL	Villasalto	31.46	294	P	P	02 49 53.3	0.0
VSL				IAmb	IAmb	02 49 53.8	
	comp=Z,11nm,1.1s						
GRA1	Grafenberg Arr	31.96	314	P	P	02 49 57.1	-0.5
GRA1				IAmb	IAmb	02 50 03.5	
	comp=Z,8.4nm,0.9s						
BNI	Bardonecchia	33.90	304	P	P	02 50 15.2	+0.5
BNI				IAmb	IAmb	02 50 23.7	
	comp=Z,14nm,1.0s						
ZALV	Zalesovo Beam	34.20	40	P	P	02 50 16.7	-0.4
HFS	Hagfors	35.58	331	P	P	02 50 30.0	+1.0
	baz=139,slow=9.0						
NC602	NORSAR Array S	36.80	331	P

comp=Z,1.5nm,0.6s,baz=220,slow=8.0,SNR=4.5
OJC Ojcow 26.91 319 P **P 02 55 41.5 -0.6**
OJC IAmb IAmb 02 55 46.5
comp=Z,4.5nm,0.8s
MORC Moravsky Berou 27.99 316 P **P 02 55 50.9 -0.9**
KURBB Kurchatov Arra 28.92 43 P **P 02 56 01.0 +1.0**
comp=Z,1.5nm,0.6s,baz=248,slow=9.5,SNR=5.2
KURK Kurchatov 29.02 43 P **P 02 56 00.2 -0.7**
MK31 Makanchi Array 29.89 52 P **P 02 56 08.1 -0.6**
MKAR Makanchi Array 29.89 52 P **P 02 56 09.2 +0.5**
comp=Z,1.5nm,0.6s,baz=246,slow=7.6,SNR=8.5
MKAR Makanchi Array 29.89 52 P **P 02 56 08.2 -0.4**
GERES GERESS Array B 29.94 313 P **P 02 56 08.5 -0.7**
VLC Villacollemand 31.00 302 P **P 02 56 18.3 -0.3**
FINES FINESS Array B 31.90 341 P **P 02 56 26.5 +0.3**
comp=Z,2.2nm,0.8s,baz=139,slow=9.3,SNR=1.8
FINES FINESS Array B 31.90 341 P **P 02 56 26.1 0.0**
BNI Bardonecchia 33.75 303 P **P 02 56 43.4 +0.6**
ZALV Zalesovo Beam 33.83 40 P **P 02 56 42.8 -0.3**
comp=Z,1.4nm,0.5s,baz=240,slow=7.8,SNR=4.6
ZALV Zalesovo Beam 33.83 40 P **P 02 56 42.2 -1.0**
ARCES ARCESS Array B 38.85 348 P **P 02 57 26.6 +0.7**
comp=Z,1.8nm,0.8s,baz=158,slow=9.8,SNR=5.0
ARCES ARCESS Array B 38.85 348 P **P 02 57 25.5 -0.4**
ESDC Sonseca Array 41.66 295 P **P 02 57 50.4 +0.8**
comp=Z,0.6nm,1.0s,baz=81,slow=9.0,SNR=2.4
TORD Torodi Ar. Bea 46.10 256 P **P 02 58 26.1 +0.7**
comp=Z,0.3nm,0.5s,baz=74,slow=6.1,SNR=5.0

*NEIC **18** 02:50:09.2, 35°.37N×96°.49W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}1.87; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-1.84; $M_{r\theta}$0.83; $M_{r\phi}$0.47; $M_{\theta\phi}$-1.35; Fault plane solution: $M_0$2.48000×10^{14} NP1:ϕs358.00000°, δ27.00000°, λ110.00000°. NP2:ϕs155.00000°, δ65.00000°, λ80.00000°. Principal axes: T 2.4828, Plg68.0000°, Azm46.0000°; N 0.0017, Plg9.0000°, Azm159.0000°; P -2.4846, Plg19.0000°, Azm253.0000°;*
*TUL **18** 02:50:09.2±1.0, 35°.37N±0°.02×96°.49W±0°.03, h5km±2km, ML3.3, Mwr3.5/10(SLM) Error ellipse: s-maj=4.1km s-min=3.3km az=151.0*
NEIC 18 02:50:09.6±1.0, **35°.38N**±0°.03×**96°.50W**±0°.03, **h4**km±7km, **Error ellipse: s-maj=4.2km s-min=2.3km az=146.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK011	**Prague**	**0.18**	**305**	Pg	Pg	02 50 13.2	0.0
OK011				Sg	Sg	02 50 16.6	+1.0
W35A	**Tecumseh**	**0.38**	**234**		Pg	02 50 16.7	-0.2
W35A				Sg	Sg	02 50 22.1	+0.3
OK025	**Westminster Rd**	**0.71**	**287**		Pg	02 50 22.9	-0.3
OK025				Sg	Sg	02 50 33.2	+0.7
FNO	**Franklin**	**0.75**	**261**		Pg	02 50 24.0	+0.2
FNO				Sg	Sg	02 50 34.6	+1.0
ADOK	**Arcadia Dam**	**0.76**	**291**	Pg	Pg	02 50 23.8	-0.4
ADOK				Sg	Sg	02 50 34.7	+0.6
OKCSW	**OKLAHOMA CITY**	**0.77**	**272**		Pg	02 50 24.1	-0.2
OKCSW				Sg	Sg	02 50 35.1	+0.9
OKCFA	**Oklahoma City**	**0.78**	**273**		Pg	02 50 24.3	-0.2
OKCFA				Sg	Sg	02 50 35.1	+0.5
TUL1	**Leonard**	**0.78**	**47**		Pg	02 50 24.3	-0.3
TUL1				Sg	Sg	02 50 34.6	-0.1
QUOK	**Quay**	**0.81**	**348**		Pg	02 50 24.8	-0.3
QUOK				Sg	Sg	02 50 36.2	+0.7
OK029	**Liberty Lake**	**0.88**	**298**		Pg	02 50 26.1	-0.4
OK029				Sg	Sg	02 50 38.3	+0.4
BCOK	**Bluff Creek, N**	**0.95**	**287**		Pg	02 50 27.0	-0.7
BCOK				Sg	Sg	02 50 40.4	+0.4
X37A	**Clayton**	**1.22**	**130**		Pg	02 50 32.3	-0.5
X34A	**Smith Ranch, M**	**1.34**	**235**		Pn	02 50 34.4	-0.6
T35A	**Sooner Cattle**	**1.53**	**360**	Pn	Pn	02 50 36.8	-0.9
CROK	**Carrier**	**1.65**	**313**		Pn	02 50 39.3	0.0
KAN13	**South Haven SW**	**1.81**	**334**		Pn	02 50 41.8	+0.3
WMOK	**Wichita Mounta**	**1.98**	**252**	Pn	Pn	02 50 44.0	+0.2
U38A	**Gravette**	**2.02**	**58**		Pn	02 50 44.5	+0.1
Z35A	**Perchaven, San**	**2.14**	**197**		Pn	02 50 46.1	+0.1
KAN10	**Anthony SW Sta**	**2.17**	**324**		Pn	02 50 46.8	+0.4
W39A	**Magazine**	**2.23**	**94**	Pn	Pn	02 50 47.3	+0.1
KAN12	**Harper NE Stat**	**2.27**	**328**		Pn	02 50 47.8	+0.1
HHAR	**Hobbs**	**2.27**	**66**		Pn	02 50 48.1	+0.3
MIAR	**Mount Ida**	**2.54**	**108**	Pn	Pn	02 50 52.2	+0.6
U40A	**Yellville**	**3.12**	**71**	Pn	Pn	02 50 59.6	+0.1
WLAR	**White Oak Lake**	**3.27**	**120**	Pn	Pn	02 51 01.7	+0.2
237A	**Washetta, Mont**	**3.42**	**170**	Pn	Pn	02 51 03.2	-0.4
WHAR	**Wooly Hollow**	**3.44**	**90**	Pn	Pn	02 51 04.3	+0.3
S39A	**Bolivar**	**3.44**	**47**		Pn	02 51 04.2	+0.2
UALR	**University of**	**3.46**	**99**	Pn	Pn	02 51 05.2	+1.0
WHTX	**Lake Whitney,**	**3.47**	**194**	Pn	Pn	02 51 04.0	-0.3
W41B	**Gary Mavity, V**	**3.48**	**92**		Pn	02 51 04.8	+0.3
R32A	**Long Quarter,**	**3.52**	**330**		Pn	02 51 05.1	+0.1
FCAR	**Ozark Folk Cen**	**3.60**	**81**		Pn	02 51 06.1	0.0
KSU1	**Kansas State U**	**3.72**	**359**	Pn	Pn	02 51 07.6	-0.1
ABTX	**Abilene, Hawle**	**3.79**	**224**		Pn	02 51 08.8	0.0
AMTX	**Amarillo**	**4.28**	**265**	Pn	Pn	02 51 15.9	+0.5
CBKS	**Cedar Bluff**	**4.29**	**324**		Pn	02 51 15.4	-0.3
LCAR	**Lake Charles**	**4.40**	**79**		Pn	02 51 16.8	-0.4
R40A	**Maddies Statio**	**4.47**	**48**		Pn	02 51 17.7	-0.3
435B	**Jarrell**	**4.67**	**192**		Pn	02 51 20.5	-0.4
T42A	**Van Buren**	**4.67**	**68**		Pn	02 51 21.4	+0.5
P38A	**Dawn**	**4.85**	**28**		Pn	02 51 23.2	0.0
MSTX	**Muleshoe**	**5.36**	**257**		Pn	02 51 30.0	-0.4
N33A	**J Bar K, Exete**	**5.40**	**352**		Pn	02 51 30.0	-0.9
HKT	**Hockley**	**5.44**	**174**	Pn	Pn	02 51 30.5	-0.9
P40A	**Paris**	**5.45**	**39**		Pn	02 51 31.5	-0.1
N35A	**Tabor**	**5.51**	**7**		Pn	02 51 31.7	-0.7
FVM	**French Village**	**5.53**	**60**		Pn	02 51 32.6	0.0
JCT	**Junction City**	**5.62**	**211**		Pn	02 51 32.7	-1.2
OXF	**Oxford**	**5.89**	**96**	Pn	Pn	02 51 37.4	-0.1
W45A	**Hickory Valley**	**5.99**	**90**	Pn	Pn	02 51 38.2	-0.7

IDC 18 02:50:20.7±4.3, **32°.91N**×**47°.55E**, **h0**km, **mb3.9**/6, **mb1 4.0**/6, **mb1mx3.6**/56, **mbtmp3.9**/6, **Error ellipse: s-maj=94.8km s-min=29.4km az=173.0, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVAR	**Borovoye Array**	**25.94**	**32**	P	P	02 55 54.7	+0.1
	1.6nm,0.7s,baz=228,slow=5.8,SNR=4.2						
KURBB	**Kurchatov Arra**	**28.81**	**43**	P	P	02 56 20.7	+0.4
	1.1nm,0.8s,baz=248,slow=9.1,SNR=3.5						
MKAR	**Makanchi Array**	**29.79**	**52**	P	P	02 56 28.7	-0.5
	1.1nm,0.7s,baz=254,slow=6.4,SNR=3.9						
FINES	**FINESS Array B**	**31.75**	**340**	P	P	02 56 45.2	-0.9
	3.0nm,0.9s,baz=138,slow=19,SNR=2.0						
ARCES	**ARCESS Array B**	**38.70**	**348**	P	P	02 57 46.5	+0.5
	0.6nm,0.5s,baz=152,slow=10.0,SNR=1.4						
ESDC	**Sonseca Array**	**41.59**	**294**	P	P	02 58 10.4	0.0
	0.9nm,0.7s,baz=80,slow=8.4,SNR=5.0						

*IDC **18** 02:52:34.8±2.3, 32°.43N×47°.90E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.5/54, mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=62.2km s-min=22.9km az=154.0*
*THR **18** 02:52:38.8±0.4, 32°.75N×47°.65E, h14km±6km, ML3.4*
ISC 18 02:52:38.9±0.9, **32°.80N**±0°.09×**47°.72E**±0°.08, **h15**km, **n10**, σ1ᵍ**06**/12, **mb3.6**/6, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.14**	**127**	*e*Pg	**Pn**	**02 53 00.3**	**0.0**
SHGR				*e*Sg	**Sn**	**02 53 16.3**	**+0.6**
SHGR				IAML		02 53 27.9	
	comp=E,870nm,0.4s						
SHGR				IAML		02 53 36.9	
	comp=N,689nm,0.5s						
KHMZ	**Khomeyn**	**2.10**	**63**	*e*Pn	**Pb**	**02 53 16.6**	**-0.2**
ASAO	**Ashtian**	**2.60**	**47**	*e*Pn	**Pb**	**02 53 23.8**	**-1.6**
ASAO				*e*Sg	**Sg**	**02 54 02.5**	**0.0**
ASAO				IAML		02 54 06.4	
	comp=E,113nm,0.6s						
ASAO				IAML		02 54 11.9	
	comp=N,157nm,0.6s						
AKTO	**Aktyubinsk**	**19.20**	**20**	P	**P**	**02 57 02.6**	**+0.5**
	comp=N,0.2nm,0.3s,baz=200,slow=17,SNR=2.3						
BVAR	**Borovoye Array**	**25.96**	**32**	P	**P**	**02 58 10.6**	**-0.2**
	comp=N,0.9nm,0.6s,baz=224,slow=6.0,SNR=3.1						
KURBB	**Kurchatov Arra**	**28.80**	**43**	P	**P**	**02 58 35.5**	**-0.6**
	comp=N,1.7nm,0.3s,baz=246,slow=9.3,SNR=5.7						
MKAR	**Makanchi Array**	**29.75**	**52**	P	**P**	**02 58 44.6**	**-0.1**
	comp=N,0.5nm,0.6s,baz=251,slow=6.9,SNR=4.4						
ARCES	**ARCESS Array B**	**38.84**	**348**	P	**P**	**03 00 05.2**	**+2.1**
	comp=N,1.7nm,1.0s,baz=147,slow=7.3,SNR=4.0						
ESDC	**Sonseca Array**	**41.77**	**295**	P	**P**	**03 00 27.9**	**+0.2**
	comp=N,0.2nm,0.5s,baz=78,slow=7.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**46.25**	**256**	P	**P**	**03 01 02.5**	**-1.4**
	comp=N,0.3nm,0.5s,baz=67,slow=6.0,SNR=4.7						

*IDC **18** 02:53:08.2±1.4, 32°.62N×47°.57E, h0km, mb4.1/14, mb1 4.1/17, mb1mx3.9/57, mbtmp4.0/17, ML4.0/2, Error ellipse: s-maj=30.2km s-min=15.4km az=172.0*
*NEIC **18** 02:53:11.4±1.3, 32°.75N±0°.06×47°.62E±0°.07, h10km±1km, Error ellipse: s-maj=11.0km s-min=8.2km az=226.0*
*ISN **18** 02:53:11.9±0.3, 32°.65N×47°.62E, h25km±2km, ML4.2*
*TEH **18** 02:53:12.6, 32°.73N×47°.69E, h14km, ML4.1*
ISC 18 02:53:10.7±0.5, **32°.68N**±0°.04×**47°.59E**±0°.03, **h10**km, **n110**, σ1ᵍ**00**/112, **mb4.3**/39, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.87**	**14**	*e*Pg	**Pg**	**02 53 27.8**	**+0.3**
IKFM				*e*		02 53 48.7	
IKFM	**Kafar-mosalman**	**0.87**	**14**	Pg	**Pg**	**02 53 27.8**	**+0.3**
IKMR	**Kamar-syah**	**1.07**	**38**	*e*Pg	**Pb**	**02 53 31.4**	**+0.1**
IKMR				*e*		02 53 54.1	
IKMR	**Kamar-syah**	**1.07**	**38**	Pg	**Pb**	**02 53 31.4**	**+0.1**
IDOB	**Doab**	**1.21**	**24**	*e*Pg	**Pb**	**02 53 33.6**	**-0.3**
IDOB	**Doab**	**1.21**	**24**		**Pb**	**02 53 33.6**	**-0.3**
BMDN	**Meydan**	**1.43**	**46**	*e*	Sg	02 54 09.0	+12
IBDR	**Badra**	**1.46**	**288**	*e*Pg	**Pg**	**02 53 39.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**02 53 58.5**	**+0.7**
IBDR				AML	AML	02 54 02.6	
	comp=E,5μm,0.7s						
IBDR				AML	AML	02 54 03.2	
	comp=N,3μm,0.6s						
IKOM	**Komasi**	**1.49**	**357**	*e*Pg	**Pg**	**02 53 40.1**	**+0.6**
IKOM				*e*	**Sg**	**02 54 02.3**	**+3.5**
IKOM	**Komasi**	**1.49**	**357**	Pg	**Pg**	**02 53 40.0**	**+0.6**
AHWZ	**Ahwaz**	**1.61**	**146**	*e*Sg	**Sg**	**02 54 05.4**	**+2.8**
AHWZ	**Ahwaz**	**1.61**	**146**	Sg	**Sg**	**02 54 05.4**	**+2.8**
KER	**Kermanshah**	**1.75**	**347**	*e*Pn	**Pb**	**02 53 43.6**	**+0.6**
KER	**Kermanshah**	**1.75**	**347**		**Pb**	**02 53 43.5**	**+0.6**
HSAM	**Samen**	**1.75**	**29**	*e*Pg	**Pg**	**02 53 43.8**	**-0.5**
HSAM				*e*		02 54 14.6	
HSAM	**Samen**	**1.75**	**29**	Pg	**Pg**	**02 53 43.8**	**-0.5**
IBZA	**Bozab**	**1.80**	**7**	*e*	Sb	02 54 16.5	+10
IVIS	**Veis**	**1.94**	**342**	*e*	Sb	02 54 20.6	+10
NSR	**Nassriya**	**2.07**	**217**	*e*Pn	**Pn**	**02 53 46.0**	**+0.5**
NSR				*e*Sn	**Sn**	**02 54 11.0**	**-0.4**
IALM	**Almabolaq**	**2.23**	**12**	*e*Pn	**Pn**	**02 53 49.7**	**+1.7**
IDHR	**Dehrash**	**2.25**	**334**	*e*Pn	**Pb**	**02 53 51.5**	**-0.1**
IDHR				*e*		02 54 28.4	
ILIN	**Lien**	**2.29**	**347**	*e*Pn	**Pb**	**02 53 51.9**	**-0.5**
ILIN				*e*		02 54 29.3	
HAGD	**Aghdareh**	**2.50**	**31**	*e*Pn	**Pn**	**02 53 52.6**	**+1.0**
HAGD				*e*		02 54 36.0	
HSRG	**Sareghieh**	**2.62**	**12**	*e*Pn	**Pb**	**02 53 55.9**	**-2.0**
JHSN	**Jahan bin**	**2.64**	**99**	*e*Pn	**Pn**	**02 53 56.0**	**+2.4**
BHD	**Baghdad**	**2.76**	**283**	*e*Pn	**Pn**	**02 53 57.0**	**+2.0**
BHD				*e*Sn	**Sn**	**02 54 30.0**	**+1.5**
ROKH	**ROKH**	**2.93**	**96**	*e*	Sb	02 54 57.5	+18
IRAZ	**Razeghan**	**3.34**	**35**	*e*Pn	**Pn**	**02 54 05.5**	**+2.3**
GEVA	**Gevas**	**6.73**	**328**	Pn	**Pn**	**02 54 49.8**	**+0.1**
GEVA				Sn	**Sn**	**02 56 06.7**	**+0.2**
MARD	**Mardin**	**7.25**	**311**	Pn	**Pn**	**02 54 56.4**	**-0.5**
MARD				Sn	**Sn**	**02 56 17.8**	**-1.6**
ASF	**Jabal al Asfar**	**9.05**	**270**	Pn	**Pn**	**02 55 21.2**	**-0.4**
	comp=N,1.5nm,0.3s,baz=45,slow=8.6,SNR=2.2						
BRTR	**Keskin Array B**	**13.27**	**306**	Pn	**Pn**	**02 56 21.1**	**+1.8**
	comp=N,0.0nm,0.3s,baz=129,slow=15,SNR=5.3						
BRTR	**Keskin Array B**	**13.27**	**306**		**Pn**	**02 56 21.0**	**+1.7**
ELL	**Elmali**	**15.10**	**290**	Pn	**Pn**	**02 56 45.5**	**+1.3**
MANT	**Manisa**	**16.52**	**296**	Pn	**Pn**	**02 57 04.0**	**+1.2**
KBL	**Kabul**	**17.96**	**78**		**Pn**	**02 57 19.6**	**-1.2**
CHGR	**Chuyangaron**	**18.49**	**65**	P	**P**	**02 57 26.7**	**-0.3**
CHGR				IAmb	IAmb	02 57 43.8	
	comp=Z,23nm,1.4s						
ABKAR	**Akbulak array**	**18.96**	**26**	P	**P**	**02 57 31.3**	**-0.7**
IDI	**Anoyia**	**19.00**	**284**	P	**Pn**	**02 57 34.1**	**+0.8**
IDI				IAmb	IAmb	02 57 39.6	
	comp=Z,22nm,0.9s						
ALN	**Alexandroupoli**	**19.07**	**302**	P	**Pn**	**02 57 33.9**	**-0.2**
AKTO	**Aktyubinsk**	**19.35**	**20**	P	**P**	**02 57 36.5**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=204,slow=13,SNR=9.8						
KK31	**Karatay Array**	**20.81**	**53**	P	**P**	**02 57 52.1**	**-0.1**
KKAR	**Karatay Array**	**20.81**	**53**	P	**P**	**02 57 51.5**	**-0.7**
KKAR	**Karatay Array**	**20.81**	**53**	P	**P**	**02 57 52.4**	**+0.2**
KKAR				IAmb	IAmb	02 58 03.0	
	comp=Z,3.6nm,0.8s						
MLR	**Muntele Rosu**	**21.04**	**314**	P	**P**	**02 57 56.2**	**+1.5**
MLR				IAmb	IAmb	02 58 01.0	
	comp=Z,17nm,0.9s						
AGG	**Agios Georgios**	**21.40**	**294**	P	**P**	**02 57 59.9**	**+1.4**
AGG				IAmb	IAmb	02 58 08.5	
	comp=Z,25nm,1.3s						
NIL	**Nilore**	**21.49**	**80**	P	**P**	**02 57 59.1**	**-0.5**
NIL				IAmb	IAmb	02 58 15.0	
	comp=Z,14nm,1.0s						
ITM	**Ithomi**	**21.49**	**289**	P	**P**	**02 57 59.6**	**0.0**
ITM				IAmb	IAmb	02 58 05.2	
	comp=Z,12nm,0.8s						
AKASG	**Malin Array Be**	**22.53**	**328**	P	**P**	**02 58 10.3**	**-0.2**
AKBB	**Malin Array Si**	**22.53**	**328**	P	**P**	**02 58 10.8**	**+0.2**
AKBB				IAmb	IAmb	02 58 13.4	
	comp=Z,5.2nm,0.7s						
BURAR	**Bucovina Array**	**22.58**	**318**	P	**P**	**02 58 11.5**	**+0.2**
BUR08	**Bucovina Ar. S**	**22.61**	**318**	P	**P**	**02 58 12.1**	**+0.5**
ARU	**Arti**	**24.94**	**15**	P	**P**	**02 58 33.7**	**-0.2**
	comp=Z,2.0nm,0.2s,baz=312,slow=8.3,SNR=3.2						
ARU	**Arti**	**24.94**	**15**	P	**P**	**02 58 34.0**	**+0.1**
ARU				IAmb	IAmb	02 58 41.4	
	comp=Z,5.3nm,0.9s						
KOLS	**Kolonicke sedl**	**24.95**	**318**	*e*P	**P**	**02 58 33.8**	**-0.3**
KWP	**Kalwaria Pacla**	**25.08**	**320**	P	**P**	**02 58 36.1**	**+0.8**
CRVS	**Cervenica-Dubn**	**25.39**	**317**	*e*P	**P**	**02 58 38.5**	**+0.3**
TARG	**Taragay, Kyrgy**	**25.60**	**61**	P	**P**	**02 58 39.8**	**-0.8**
TARG				IAmb	IAmb	02 58 52.0	
	comp=Z,3.8nm,0.7s						
TIP	**Timpagrande**	**25.72**	**293**	P	**P**	**02 58 41.5**	**+0.3**
TIP				IAmb	IAmb	02 58 51.4	
	comp=Z,5.7nm,1.0s						
KECS	**Kecovo**	**25.76**	**316**	*e*P	**P**	**02 58 42.1**	**+0.7**
PSZ	**Piszkesteto**	**25.85**	**314**	P	**P**	**02 58 43.3**	**+0.9**
PSZ				IAmb	IAmb	02 58 44.8	
	comp=Z,10nm,0.8s						
BVAR	**Borovoye Array**	**26.12**	**32**	P	**P**	**02 58 44.3**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=227,slow=7.9,SNR=6.0						
LANS	**Liptovska Anna**	**26.66**	**316**	*e*P	**P**	**02 58 50.7**	**+1.0**
VYHS	**Vyhne**	**26.74**	**315**	*e*P	**P**	**02 58 50.3**	**-0.1**
OJC	**Ojcow**	**26.99**	**319**	P	**P**	**02 58 53.4**	**+0.8**
OJC				IAmb	IAmb	02 58 55.6	
	comp=Z,12nm,1.0s						
SMOL	**Smolenice**	**27.60**	**314**	*e*P	**P**	**02 58 58.3**	**+0.2**
KRLC	**Kraliky**	**28.64**	**316**	*e*P	**P**	**02 59 06.6**	**-0.8**
KURBB	**Kurchatov Arra**	**28.95**	**43**	P	**P**	**02 59 09.8**	**-0.2**
	comp=Z,3.0nm,0.5s,baz=248,slow=9.3,SNR=13						
KURK	**Kurchatov**	**29.05**	**42**	P	**P**	**02 59 11.1**	**+0.1**
CHVC	**Chvalec**	**29.28**	**317**	*e*P	**P**	**02 59 12.7**	**-0.4**
MURB	**Monte Urbino**	**29.40**	**301**	P	**P**	**02 59 15.6**	**+1.3**
MK31	**Makanchi Array**	**29.91**	**52**	P	**P**	**02 59 18.9**	**+0.3**
MKAR	**Makanchi Array**	**29.91**	**52**	P	**P**	**02 59 18.6**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=246,slow=7.5,SNR=9.0						
MKAR	**Makanchi Array**	**29.91**	**52**	P	**P**	**02 59 18.8**	**+0.2**
GERES	**GERESS Array B**	**30.02**	**313**	P	**P**	**02 59 18.8**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=90,slow=11,SNR=3.7						
CIMO	**Cimolais**	**30.08**	**307**	P	**P**	**02 59 20.4**	**+0.2**
CIMO				IAmb	IAmb	02 59 20.4	
	comp=Z,3.8nm,0.9s						
KHC	**Kasperske Hory**	**30.19**	**313**	P	**P**	**02 59 21.9**	**+0.8**
CTI	**Castel Tesino**	**30.55**	**306**	P	**P**	**02 59 24.6**	**+0.1**
CTI				IAmb	IAmb	02 59 24.9	
	comp=Z,5.9nm,0.7s						
ZCCA	**Zocca**	**30.68**	**303**	P	**P**	**02 59 27.0**	**+1.4**
WTTA	**Wattenberg**	**30.86**	**309**	*i* P	**P**	**02 59 26.4**	**-0.9**
	comp=Z,7.7nm,1.0s						
WATA	**Walderalm**	**30.92**	**309**	*e*P	**P**	**02 59 26.7**	**-1.0**
	comp=Z,3.9nm,0.6s						
SQTA	**Sankt Quirin**	**31.13**	**309**	*e*P	**P**	**02 59 28.7**	**-0.9**
	comp=Z,6.8nm,0.5s,SNR=5.5						
MOTA	**Moosalm**	**31.23**	**309**	*e*P	**P**	**02 59 29.3**	**-1.2**
	comp=Z,6.3nm,0.7s,SNR=5.1						
SALO	**Salr**	**31.23**	**305**	P	**P**	**02 59 30.6**	**+0.2**
FETA	**Feichten**	**31.40**	**308**	*e*P	**P**	**02 59 31.3**	**-0.7**
	comp=Z,6.4nm,0.9s						
RETA	**Reutte**	**31.49**	**309**	*e*P	**P**	**02 59 31.3**	**-1.3**
	comp=Z,3.7nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**31.62**	**307**	P	**P**	**02 59 34.3**	**+0.3**
FUORN				IAmb	IAmb	02 59 50.1	
	comp=Z,7.1nm,1.4s						
DAVOX	**Davos/Dischmat**	**31.91**	**307**	P	**P**	**02 59 36.0**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=174,slow=24,SNR=5.8						
FINES	**FINESS Array B**	**31.98**	**341**	P	**P**	**02 59 36.0**	**-0.6**
	comp=Z,4.8nm,0.9s,baz=168,slow=20,SNR=5.0						
FINES	**FINESS Array B**	**31.98**	**341**	P	**P**	**02 59 36.6**	**0.0**
DAVA	**Damuels**	**32.03**	**308**	*e*P	**P**	**02 59 36.3**	**-1.2**
	comp=Z,6.0nm,0.5s,SNR=8.8						
TUE	**Stuetta**	**32.21**	**307**	P	**P**	**02 59 39.6**	**+0.4**
TUE				IAmb	IAmb	02 59 47.5	
	comp=Z,5.7nm,1.0s						
SENIN	**Lac Senin/Sane**	**33.58**	**306**	P	**P**	**02 59 50.3**	**-0.9**
SENIN				IAmb	IAmb	02 59 57.2	
	comp=Z,3.6nm,0.8s						
BNI	**Bardonecchia**	**33.82**	**303**	P	**P**	**02 59 52.6**	**-0.6**
ZAA0	**Zalesovo Array**	**33.86**	**40**	P	**P**	**02 59 52.6**	**-0.7**
ZAA0				IAmb	IAmb	02 59 55.0	
	comp=Z,3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**33.86**	**40**	P	**P**	**02 59 52.1**	**-1.1**
	comp=Z,3.0nm,0.8s,baz=248,slow=7.8,SNR=7.9						
ZALV	**Zalesovo Beam**	**33.86**	**40**	P	**P**	**02 59 52.6**	**-0.6**
HFS	**Hagfors**	**35.36**	**331**	P	**P**	**03 00 05.1**	**-1.0**
	comp=Z,2.1nm,0.4s,baz=127,slow=9.4,SNR=6.7						
ARCES	**ARCESS Array B**	**38.93**	**348**	P	**P**	**03 00 35.3**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=160,slow=8.9,SNR=5.5						
ARCES	**ARCESS Array B**	**38.93**	**348**	P	**P**	**03 00 36.3**	**-0.1**
SHL	**Shillong**	**39.12**	**89**	P	**P**	**03 00 37.6**	**-1.0**
SHL				IAmb	IAmb	03 00 40.9	
	comp=Z,6.6nm,0.9s						
ESDC	**Sonseca Array**	**41.72**	**295**	P	**P**	**03 00 59.2**	**-0.7**
	comp=Z,2.0nm,1.1s,baz=70,slow=9.0,SNR=6.4						
ESDC	**Sonseca Array**	**41.72**	**295**	P	**P**	**03 01 00.1**	**+0.2**
EKA	**Eskdalemuir Ar**	**41.77**	**318**	P	**P**	**03 00 59.1**	**-0.8**
	comp=Z,4.2nm,0.9s,baz=108,slow=8.0,SNR=4.8						
TOA0	**Torodi Ar. Sit**	**46.12**	**256**	P	**P**	**03 01 36.5**	**+1.0**
TOA0				IAmb	IAmb	03 01 37.9	
	comp=Z,4.2nm,1.4s						
TORD	**Torodi Ar. Bea**	**46.12**	**256**	P	**P**	**03 01 34.1**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=76,slow=6.2,SNR=5.7						
ULN	**Ulaanbaatar**	**46.70**	**53**	P	**P**	**03 01 39.6**	**-0.2**
ULN				IAmb	IAmb	03 01 48.6	
	comp=Z,5.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**48.01**	**94**	P	**P**	**03 01 48.9**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=296,slow=9.1,SNR=4.4						
BOSA	**Boshof**	**64.54**	**202**	P	**P**	**03 03 48.9**	**+0.9**
EUNU	**Eureka**	**64.70**	**352**	P	**P**	**03 03 48.8**	**+0.3**

*IDC **18** 02:56:49.6±2.1, 32°.56N×47°.64E, h0km, mb3.9/7, mb1 3.9/8, mb1mx3.6/48, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=54.2km s-min=25.7km az=154.0*
*NEIC **18** 02:56:52.8±1.6, 32°.8N±0°.1×47°.69E±0°.04, h10km±2km, Error ellipse: s-maj=22.0km s-min=4.8km az=186.0*
*THR **18** 02:56:54.4±0.4, 32°.74N×47°.63E, h14km±7km, ML3.6*
**ISC 18 02:56

BRTR	Keskin Array B	13.37	306	Pn		Pn	03 02 35.5	-0.4
	comp=E,0.0nm,0.3s,baz=127,slow=14,SNR=7.4							
BRTR	Keskin Array B	13.37	306	Pn		Pn	03 02 36.1	+0.1
WSAR	Wadi Sarin	13.44	131	Pn		Pn	03 02 35.5	-1.3
	comp=E,0.8nm,0.3s,baz=347,slow=9.5,SNR=3.6							
ELL	Elmali	15.18	291	Pn		Pn	03 03 01.2	+0.5
MANT	Manisa	16.61	296			Pn	03 03 19.0	-0.2
MANT					IAmb	IAmb	03 03 24.0	
	comp=Z,56nm,1.0s							
KARP	Karpathos	17.24	285			Pn	03 03 26.6	-0.3
KBL	Kabul	17.92	78	P		Pn	03 03 34.6	-1.1
CHGR	Chuyangaron	18.47	65	P		P	03 03 41.8	-0.4
CHGR					IAmb	IAmb	03 03 46.3	
	comp=Z,19nm,0.7s							
ABKAR	Akbulak array	19.01	25	P		P	03 03 47.5	-0.4
IDI	Anoyia	19.08	284	P		P	03 03 50.4	+1.7
	comp=Z,1.1nm,0.3s,baz=69,slow=14,SNR=9.2							
IDI	Anoyia	19.08	284	P		P	03 03 49.6	+0.8
IDI					IAmb	IAmb	03 04 06.5	
	comp=Z,49nm,1.2s							
ALN	Alexandroupoli	19.17	302	P		P	03 03 49.5	-0.1
TAS	Tashkent	19.32	57	P		P	03 03 51.0	-0.3
AKTO	Aktyubinsk	19.40	20	P		P	03 03 52.1	-0.1
	comp=Z,0.9nm,0.3s,baz=206,slow=11,SNR=29							
GAR	Garm	19.43	64	P		P	03 03 52.2	-0.5
GAR					IAmb	IAmb	03 03 56.5	
	comp=Z,28nm,0.9s							
CFR	Carcaliu	19.66	315	⇓P		P	03 03 57.1	+2.2
RAZG	Razgrad	19.88	310	⇑P		P	03 03 58.5	+1.1
KK31	Karatay Array	20.81	53	P		P	03 04 06.4	-1.1
KKAR	Karatay Array	20.81	53	P		P	03 04 06.1	-1.4
KKAR	Karatay Array	20.81	53	P		P	03 04 06.5	-1.0
KKAR					IAmb	IAmb	03 04 15.6	
	comp=Z,6.3nm,0.8s							
VRI	Vrincioaia	20.86	315	⇑P		P	03 04 10.2	+2.1
NEHR	Nehoiu	20.89	314	⇑P		P	03 04 10.8	+2.4
MLR	Muntele Rosu	21.14	314	⇑P		P	03 04 13.3	+2.1
MLR	Muntele Rosu	21.14	314	P		P	03 04 11.8	+0.6
MLR					IAmb	IAmb	03 04 29.9	
	comp=Z,23nm,1.1s							
TESR	Tescani	21.26	317	⇑P		P	03 04 13.2	+0.9
HUMR	Humele	21.29	311	⇓P		P	03 04 14.2	+1.6
SORM	Soroca	21.30	322	⇑P		P	03 04 14.4	+1.7
NIL	Nilore	21.45	80	P		P	03 04 14.1	-0.4
NIL					IAmb	IAmb	03 04 30.8	
	comp=Z,36nm,1.1s							
AGG	Agios Georgios	21.48	294	P		P	03 04 15.5	+0.6
AGG					IAmb	IAmb	03 04 30.7	
	comp=Z,31nm,1.4s							
ITM	Ithomi	21.57	289	P		P	03 04 15.8	0.0
ITM					IAmb	IAmb	03 04 26.5	
	comp=Z,47nm,1.5s							
VOIR		21.66	313	⇑P		P	03 04 18.4	+1.7
DOPR	Dopca	21.72	314	⇑P		P	03 04 18.3	+1.0
ARR	Arges	21.89	312	⇓P		P	03 04 20.8	+1.6
ARSB	Arslanbob	21.97	59	P		P	03 04 19.5	-0.7
AKASG	Malin Array Be	22.63	328	P		P	03 04 25.7	-1.2
	comp=Z,0.8nm,0.5s,baz=138,slow=8.3,SNR=7.4							
AKASG	Malin Array Be	22.63	328	P		P	03 04 26.5	-0.4
AKBB	Malin Array Si	22.63	328	P		P	03 04 25.7	-1.3
BURAR	Bucovina Array	22.68	318	⇑P		P	03 04 28.3	+0.6
BURAR	Bucovina Array	22.68	318	P		P	03 04 27.0	-0.7
BUR08	Bucovina Ar. S	22.71	318	P		P	03 04 27.3	-0.7
HERR	Herculane	23.10	309	⇓P		P	03 04 32.0	+0.1
AAK	Ala-Archa	23.41	57	P		P	03 04 35.6	+0.3
MDVR	Moldovita	23.52	309	⇓P		P	03 04 36.8	+0.6
OBN	Obninsk	23.83	344	P		P	03 04 38.4	-0.6
BZS	Buzias	23.91	311	⇑P		P	03 04 39.6	-0.3
DIVS	Divibare	24.44	306	P		P	03 04 45.2	+0.2
PDG	Podgorica	24.48	302	P		P	03 04 44.6	-0.6
ARU	Arti	25.00	14	P		P	03 04 50.3	+0.5
	comp=Z,2.0nm,0.2s,baz=273,slow=3.9,SNR=6.1							
ARU	Arti	25.00	14	P		P	03 04 49.5	-0.3
ARU					IAmb	IAmb	03 04 55.6	
	comp=Z,20nm,1.3s							
KOLS	Kolonicke sedl	25.05	318	eP		P	03 04 51.1	+0.7
KWP	Kalwaria Pacla	25.18	320	P		P	03 04 52.2	+0.6
KWP					IAmb	IAmb	03 04 59.8	
	comp=Z,17nm,1.1s							
KDJ	Kajisay	25.21	59	P		P	03 04 51.7	-0.4
KDJ					IAmb	IAmb	03 04 56.4	
	comp=Z,13nm,1.2s							
CRVS	Cervenica-Dubn	25.50	317	eP		P	03 04 55.8	+1.4
TARG	Taragay, Kyrgy	25.59	60	P		P	03 04 54.1	-1.7
TARG					IAmb	IAmb	03 05 02.0	
	comp=Z,11nm,1.0s							
KECS	Kecovo	25.86	316	eP		P	03 04 59.2	+1.5
PSZ	Piszkesteto	25.95	314	⇓P		P	03 04 58.7	0.0
PSZ	Piszkesteto	25.95	314	P		P	03 04 57.9	-0.8
PSZ					IAmb	IAmb	03 05 02.1	
	comp=Z,14nm,0.9s							
KIRV	Kirov	26.02	2	P		P	03 04 59.1	+0.1
	comp=Z,17nm,0.7s,baz=350,slow=1.1,SNR=6.3							
BRVK	Borovoye	26.13	32	P		P	03 04 59.8	-0.3
BRVK					IAmb	IAmb	03 05 01.1	
	comp=Z,6.8nm,0.8s							
BVAR	Borovoye Array	26.16	32	P		P	03 05 00.2	-0.1
	comp=Z,6.3nm,0.7s,baz=226,slow=7.7,SNR=27							
LANS	Liptovska Anna	26.77	316	eP		P	03 05 07.3	+1.4
VYHS	Vyhne	26.84	315	eP		P	03 05 07.7	+1.1
OJC	Ojcow	27.09	319	P		P	03 05 08.2	-0.6
OJC					IAmb	IAmb	03 05 23.9	
	comp=Z,16nm,1.1s							
SMOL	Smolenice	27.70	314	eP		P	03 05 17.2	+2.9
CONA	Conrad Observa	28.45	312	i P		P	03 05 23.4	+2.4
KURBB	Kurchatov Arra	28.98	42	P		P	03 05 26.6	+1.0
	comp=Z,3.0nm,0.6s,baz=248,slow=9.2,SNR=10							
KURK	Kurchatov	29.07	42	P		P	03 05 26.6	+0.2
KURK					IAmb	IAmb	03 05 28.2	
	comp=Z,6.3nm,0.9s							
MOA	Molln	29.43	311	eP		P	03 05 30.5	+0.7
MOA					ePP	PP	03 06 44.0	+7.9
	comp=Z,4.8nm,0.9s							
	comp=Z,1.7nm,0.6s							
KBA	Koelnbreinsper	29.79	309	eP		P	03 05 33.3	+0.3
	comp=Z,3.0nm,0.7s							
MK31	Makanchi Array	29.91	52	P		P	03 05 34.2	+0.2
MK31					IAmb	IAmb	03 05 35.4	
	comp=Z,4.4nm,0.8s							
MKAR	Makanchi Array	29.91	52	P		P	03 05 34.5	+0.5
	comp=Z,4.2nm,0.7s,baz=248,slow=7.4,SNR=31							
MKAR	Makanchi Array	29.91	52	P		P	03 05 34.0	0.0
GERES	GERESS Array B	30.12	313	P		P	03 05 35.8	-0.1
	comp=Z,0.8nm,0.7s,baz=99,slow=7.0,SNR=5.9							
GERES	GERESS Array B	30.12	313	P		P	03 05 36.6	+0.7
CIMO	Cimolais	30.18	307	P		P	03 05 36.7	+0.3
CIMO					IAmb	IAmb	03 05 37.6	
	comp=Z,5.3nm,0.9s							
ABTA	Abfaltersbach	30.25	308	eP		P	03 05 37.5	+0.5
	comp=Z,2.4nm,0.7s							
CTI	Castel Tesino	30.65	307	P		P	03 05 40.9	+0.3
ZCCA	Zocca	30.78	303	P		P	03 05 43.1	+1.4
WTTA	Wattenberg	30.96	309	eP		P	03 05 43.6	+0.1
	comp=Z,6.2nm,0.9s							
WATA	Walderalm	31.02	309	eP		P	03 05 43.6	-0.3
	comp=Z,4.0nm,0.7s							
WATA					ePP	PP	03 06 57.4	+3.6
	comp=Z,6.8nm,1.4s							
VLC	Villacollemand	31.17	303	P		P	03 05 45.4	+0.3
VLC					IAmb	IAmb	03 05 57.7	
	comp=Z,6.5nm,0.8s							
SQTA	Sankt Quirin	31.23	309	eP		P	03 05 45.6	-0.1
	comp=Z,6.6nm,0.7s							
SQTA					ePP	PP	03 06 59.4	+3.2
	comp=Z,1.8nm,0.4s							
SALO	Salr	31.33	305	P		P	03 05 46.7	+0.2
MOTA	Moosalm	31.33	309	eP		P	03 05 46.4	-0.3
	comp=Z,7.9nm,0.8s							
MOTA					ePP	PP	03 06 59.4	+2.1
	comp=Z,3.8nm,0.6s							
CLL	Collm	31.44	317	eP		P	03 05 46.0	-1.4
FETA	Feichten	31.50	308	eP		P	03 05 48.4	+0.3
	comp=Z,5.6nm,0.9s							
FETA					ePP	PP	03 07 01.9	+2.7
	comp=Z,0.9nm,0.5s							
RETA	Reutte	31.59	309	eP		P	03 05 48.3	-0.6
	comp=Z,4.1nm,1.1s							
FUORN	Ofenpass-Fuorn	31.72	307	P		P	03 05 51.0	+0.8
MSSA	Maissana	31.81	303	P		P	03 05 50.6	-0.2
DAVOX	Davos/Dischmat	32.01	307	P		P	03 05 53.1	+0.4
	comp=Z,1.6nm,0.4s,baz=348,slow=13,SNR=6.1							
FINES	FINESS Array B	32.08	341	P		P	03 05 52.5	-0.3
	comp=Z,1.9nm,0.6s,baz=145,slow=8.7,SNR=12							
FINES	FINESS Array B	32.08	341	P		P	03 05 52.2	-0.6

DAVA	Damuels	32.12	308	eP		P	03 05 53.5	-0.1
	comp=Z,3.9nm,0.4s							
DAVA					ePP	PP	03 07 06.8	+0.7
	comp=Z,4.7nm,0.4s							
TUE	Stuetta	32.30	307	P		P	03 05 55.7	+0.4
TUE					IAmb	IAmb	03 06 05.2	
	comp=Z,4.3nm,0.8s							
SENIN	Lac Senin/Sane	33.68	306	P		P	03 06 06.5	-0.9
SENIN					IAmb	IAmb	03 06 12.3	
	comp=Z,4.9nm,0.8s							
ZAA0	Zalesovo Array	33.89	40	P		P	03 06 08.2	-0.6
ZAA0					IAmb	IAmb	03 06 09.4	
	comp=Z,6.8nm,1.1s							
ZALV	Zalesovo Beam	33.89	40	P		P	03 06 08.5	-0.3
	comp=Z,4.5nm,0.7s,baz=257,slow=9.1,SNR=14							
ZALV	Zalesovo Beam	33.89	40	P		P	03 06 07.8	-1.0
BNI	Bardonecchia	33.91	304	P		P	03 06 09.0	-0.3
SSB	Saint Sauveur	35.44	304	P		P	03 06 21.2	-1.2
HFS	Hagfors	35.46	331	P		P	03 06 21.4	-0.8
	comp=Z,5.4nm,0.8s,baz=104,slow=6.3,SNR=4.8							
NOA	NORSAR Array B	36.98	331	P		P	03 06 34.2	-1.1
	comp=Z,0.9nm,0.7s,baz=124,slow=8.3,SNR=2.4							
LSA	Lhasa	37.14	83	P		P	03 06 35.9	-1.7
LSA					IAmb	IAmb	03 06 52.4	
	comp=Z,4.4nm,0.6s							
ARCES	ARCESS Array B	39.03	348	P		P	03 06 52.4	-0.1
	comp=Z,1.1nm,0.5s,baz=153,slow=9.1,SNR=13							
ARCES	ARCESS Array B	39.03	348	P		P	03 06 52.0	-0.4
ARE0	ARCESS Array S	39.03	348	P		P	03 06 52.9	+0.4
ESDC	Sonseca Array	41.81	295	P		P	03 07 16.0	0.0
	comp=Z,1.4nm,0.8s,baz=80,slow=8.8,SNR=10							
ESDC	Sonseca Array	41.81	295	P		P	03 07 15.5	-0.4
EKA	Eskdalemuir Ar	41.87	318	P		P	03 07 15.7	-0.5
	comp=Z,1.0nm,0.4s,baz=106,slow=8.6,SNR=8.4							
DSB	Dublin	43.41	315	P		P	03 07 28.2	-0.5
TLY	Talaya	44.47	47	LR		LR	03 27 21.8	
	comp=Z,2µm,18.4s,baz=332,slow=38							
TOA0	Torodi Ar. Sit	46.16	256	P		P	03 07 50.5	-0.5
TORD	Torodi Ar. Bea	46.16	256	P		P	03 07 51.2	+0.2
	comp=Z,0.8nm,0.7s,baz=71,slow=6.7,SNR=8.1							
TORD	Torodi Ar. Bea	46.16	256	P		P	03 07 50.4	-0.7
SONM	Songino Array	46.26	53	P		P	03 07 52.2	+0.6
	comp=Z,0.9nm,0.8s,baz=273,slow=12,SNR=5.5							
SONM	Songino Array	46.26	53	P		P	03 07 51.2	-0.5
ULN	Ulaanbaatar	46.70	53	P		P	03 07 54.7	-0.4
ULN					IAmb	IAmb	03 07 59.0	
	comp=Z,8.7nm,1.2s							
CHTO	Chiang Mai	47.78	94	P		P	03 08 02.5	-1.2
CHTO					IAmb	IAmb	03 08 06.7	
	comp=Z,7.3nm,1.1s							
CMAR	Chiang Mai Arr	47.94	94	P		P	03 08 04.5	-0.5
	comp=Z,0.6nm,0.3s,baz=300,slow=7.6,SNR=6.9							
CMAR	Chiang Mai Arr	47.94	94	P		P	03 08 04.1	-0.9
KMI	Kunming	48.36	84	⇑P		P	03 08 09.3	+0.9
KMI					pP	sP	03 08 16.0	+3.0
KMI					pmax	pmax		
	comp=Z,11nm,1.4s							
XAN	Xi'an	50.52	71	P		P	03 08 23.7	-0.9
XAN					IAmb	IAmb	03 08 36.7	
	comp=Z,4.2nm,0.7s							
PBKT	Sadao Pong	50.53	95	P		P	03 08 24.1	-0.6
PBKT					IAmb	IAmb	03 08 28.0	
	comp=Z,4.1nm,0.9s							
SUMG	Summit	58.10	339	P		P	03 09 19.8	+0.1
IMAR	Indian Mountai	80.36	9	P		P	03 11 36.7	-0.4
BATG	Bathurst New B	80.71	321	P		P	03 11 39.4	0.0

IDC ***18*** *03:00:40.2◦1.0,32.˚78N×47.˚45E,h0km,mb4.1/17,*
mb1 4.2/19,mb1mx4.0/48,mbtmp4.1/19,ML4.3/2,Error
ellipse: s-maj=21.4km s-min=16.5km az=167.0
NEIC ***18*** *03:00:42.◦1.2,32.˚79N×47.˚6E±0.˚1,h10km±1km,*
mb4.4/45,Error ellipse: s-maj=18.0km s-min=12.7km
az=226.0

ISC 18 03:00:41.7±0.6,**32.˚71N**±0.˚08×**47.˚58E**±0.˚07,**h10km,n78,**
σ1§38/78,mb4.3/37,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	6.69	328	Pn	Pn	03 02 20.5	+0.3
MARD	Mardin	7.22	311	Pn	Pn	03 02 26.5	-1.0
UOSS	Minazif	10.82	133	Pn	Pn	03 03 17.5	+0.9
WSAR	Wadi Sarin	13.57	131	Pn	Pn	03 03 54.0	-0.3
	2.2nm,0.3s,baz=330,slow=11,SNR=4.4						
ELL	Elmali	15.07	290	Pn	Pn	03 04 15.6	+0.7
CHGR	Chuyangaron	18.49	65	P	P	03 04 58.4	+0.5
ABKAR	Akbulak array	18.94	26	P	P	03 05 02.6	-0.1
IDI	Anoyia	18.98	284	P	P	03 05 03.7	+0.3
IDI				IAmb	IAmb	03 05 20.3	
	comp=Z,52nm,1.4s						
ALN	Alexandroupoli	19.05	302	P	P	03 05 03.5	-0.4
ALN				IAmb	IAmb	03 05 21.6	
	comp=Z,20nm,1.3s						
AKTO	Aktyubinsk	19.32	21	P	P	03 05 07.4	+0.5
	comp=Z,0.7nm,0.3s,baz=205,slow=12,SNR=5.8						
GAR	Garm	19.45	65	P	P	03 05 09.2	+0.8
KK31	Karatay Array	20.80	53	P	P	03 05 23.8	+0.7
KKAR	Karatay Array	20.80	53	P	P	03 05 24.8	+1.7
MLR	Muntele Rosu	21.01	314	P	P	03 05 26.1	+0.6
MLR				IAmb	IAmb	03 05 35.0	
	comp=Z,9.2nm,0.8s						
SOCY	Socotra	21.26	162	P	P	03 05 27.9	-0.4
AGG	Agios Georgios	21.37	294	P	P	03 05 29.6	+0.3
AGG				IAmb	IAmb	03 05 33.6	
	comp=Z,23nm,1.2s						
ITM	Ithomi	21.47	289	P	P	03 05 30.0	-0.4
ITM				IAmb	IAmb	03 05 40.0	
	comp=Z,25nm,1.0s						
AKASG	Malin Array Be	22.49	328	P	P	03 05 39.8	-1.4
	comp=Z,3.8nm,0.7s,baz=137,slow=9.5,SNR=7.7						
AKASG	Malin Array Be	22.49	328	P	P	03 05 40.4	-0.8
AKBB	Malin Array Si	22.49	328	P	P	03 05 40.2	-0.9
BURAR	Bucovina Array	22.55	318	P	P	03 05 41.1	-0.8
BUR08	Bucovina Ar. S	22.57	318	P	P	03 05 40.8	-1.4
ARU	Arti	24.91	15	P	P	03 06 05.1	+0.5
	comp=Z,1.9nm,0.2s,baz=325,slow=23,SNR=3.6						
KWP	Kalwaria Pacla	25.05	320	P	P	03 06 05.9	0.0
TARG	Taragay, Kyrgy	25.59	61	P	P	03 06 11.7	+0.2
TARG				IAmb	IAmb	03 06 14.9	
	comp=Z,5.2nm,0.7s						
TIP	Timpagrande	25.69	293	P	P	03 06 11.8	-0.3
TIP				IAmb	IAmb	03 06 14.8	
	comp=Z,14nm,1.2s						
PSZ	Piszkesteto	25.82	314	P	P	03 06 12.9	-0.2
PSZ				IAmb	IAmb	03 06 15.2	
	comp=Z,9.6nm,0.9s						
BVAR	Borovoye Array	26.09	32	P	P	03 06 15.3	-0.2
	comp=Z,2.3nm,0.4s,baz=230,slow=7.5,SNR=7.0						
OJC	Ojcow	26.96	319	P	P	03 06 22.3	-1.0
OJC				IAmb	IAmb	03 06 26.4	
	comp=Z,14nm,1.2s						
ZIRJ	Zirje	27.22	303	Sg	S	03 11 09.9	+5.4
MORI	Morici	27.22	303	Sg	S	03 11 12.4	+7.8
MORC	Moravsky Berou	28.03	316	P	P	03 06 31.9	-1.0
MORC				IAmb	IAmb	03 06 34.3	
	comp=Z,3.2nm,0.8s						
KURBB	Kurchatov Arra	28.94	43	P	P	03 06 41.7	+0.8
	comp=Z,2.9nm,0.7s,baz=247,slow=9.3,SNR=6.0						
KURK	Kurchatov	29.03	42	P	P	03 06 42.1	+0.3
KURK				IAmb	IAmb	03 06 47.3	
	comp=Z,3.7nm,0.8s						
MURB	Monte Urbino	29.37	301	P	P	03 06 44.5	-0.5
MURB				IAmb	IAmb	03 07 00.6	
	comp=Z,8.3nm,1.2s						
MK31	Makanchi Array	29.89	52	P	P	03 06 50.1	+0.6
MKAR	Makanchi Array	29.89	52	P	P	03 06 50.2	+0.6
	comp=Z,2.4nm,0.7s,baz=245,slow=6.0,SNR=9.1						
MKAR	Makanchi Array	29.89	52	P	P	03 06 50.5	+1.0
GERES	GERESS Array B	29.98	313	P	P	03 06 49.6	-0.8
	comp=Z,0.5nm,0.5s,baz=98,slow=10,SNR=3.0						
CIMO	Cimolais	30.05	307	P	P	03 06 49.6	-1.3
CTI	Castel Tesino	30.52	306	P	P	03 06 54.5	-0.6
CTI				IAmb	IAmb	03 06 55.7	
	comp=Z,3.2nm,0.7s						
ZCCA	Zocca	30.66	303	P	P	03 06 56.4	+0.1
ZCCA				IAmb	IAmb	03 07 12.3	
	comp=Z,11nm,1.0s						
VLC	Villacollemand	31.04	302	P	P	03 06 59.7	0.0
VLC				IAmb	IAmb	03 07 00.5	
	comp=Z,13nm,1.5s						
VSL	Villasalto	31.42	293	P	P	03 07 02.9	-0.2
FUORN	Ofenpass-Fuorn	31.59	307	P	P	03 07 05.0	+0.3
FUORN				IAmb	IAmb	03 07 17.8	
	comp=Z,3.1nm,1.0s						

MSSA	Maissana	31.68	303	P		P	03 07 05.2	-0.1
DAVOX	Davos/Dischmat	31.88	307	P		P	03 07 06.4	-0.8
	comp=Z,1.2nm,0.4s,baz=108,slow=3.2,SNR=2.5							
FINES	FINESS Array B	31.94	341	P		P	03 07 06.3	-1.0
	comp=Z,1.4nm,0.5s,baz=143,slow=7.0,SNR=5.8							
FINES	FINESS Array B	31.94	341	P		P	03 07 06.8	-0.5
TUE	Stuetta	32.18	307	P		P	03 07 09.3	-0.6
TUE					IAmb	IAmb	03 07 24.9	
	comp=Z,4.2nm,1.1s							
SENIN	Lac Senin/Sane	33.55	306	P		P	03 07 21.1	-0.7
SENIN					IAmb	IAmb	03 07 23.2	
	comp=Z,5.6nm,1.1s							
BNI	Bardonecchia	33.79	303	P		P	03 07 23.4	-0.5
ZAA0	Zalesovo Array	33.84	40	P		P	03 07 24.1	+0.1
ZAA0					IAmb	IAmb	03 07 28.6	
	comp=Z,4.3nm,0.5s							
ZALV	Zalesovo Beam	33.84	40	P		P	03 07 23.8	-0.3
	comp=Z,3.8nm,0.5s,baz=246,slow=9.2,SNR=7.4							
HFS	Hagfors	35.32	331	P		P	03 07 35.8	-1.0
	comp=Z,3.2nm,0.4s,baz=119,slow=9.2,SNR=12							
NB2	NORSAR Subarra	36.84	331	P		P	03 07 47.8	-2.0
	comp=Z,0.6nm,0.5s,baz=124,slow=8.6							
NOA	NORSAR Array B	36.84	331	P		P	03 07 48.1	-1.8
	comp=Z,0.7nm,0.6s,baz=126,slow=8.5,SNR=4.4							
NC303	NORSAR Array S	36.88	332	P		P	03 07 48.5	-1.6
NC204	NORSAR Array S	37.16	331	P		P	03 07 50.3	-2.3
KEV	Kevo	38.83	349	P		P	03 08 06.5	0.0
KEV					IAmb	IAmb	03 08 06.8	
	comp=Z,16nm,1.2s							
ARCES	ARCESS Array B	38.90	348	P		P	03 08 06.0	-1.0
	comp=Z,1.1nm,0.5s,baz=164,slow=9.6,SNR=7.5							
ARCES	ARCESS Array B	38.90	348	P		P	03 08 06.6	-0.5
ARE0	ARCESS Array S	38.90	348	P		P	03 08 06.5	-0.6
ESDC	Sonseca Array	41.70	295	P		P	03 08 30.2	-0.5
	comp=Z,0.5nm,0.8s,baz=74,slow=7.1,SNR=1.7							
EKA	Eskdalemuir Ar	41.73	318	P		P	03 08 29.5	-1.1
	comp=Z,3.4nm,0.7s,baz=101,slow=9.0,SNR=6.7							
DSB	Dublin	43.28	315	P		P	03 08 42.6	-0.7
TOA0	Torodi Ar. Sit	46.11	256	P		P	03 09 05.3	-1.0
TORD	Torodi Ar. Bea	46.11	256	P		P	03 09 05.3	-1.1
	comp=Z,1.2nm,0.8s,baz=56,slow=8.6,SNR=3.2							
TORD	Torodi Ar. Bea	46.11	256	P		P	03 09 05.5	-0.9
SONM	Songino Array	46.25	53	P		P	03 09 07.5	+0.3
	comp=Z,1.2nm,1.0s,baz=254,slow=10,SNR=4.4							
SONM	Songino Array	46.25	53	P		P	03 09 06.9	-0.3
ULN	Ulaanbaatar	46.69	53	P		P	03 09 11.1	+0.4
ULN					IAmb	IAmb	03 09 13.2	
	comp=Z,3.8nm,0.8s							
SPA0	Spitsbergen Ar	47.55	352	P		P	03 09 16.6	-0.2
SUMG	Summit	57.96	339	P		P	03 10 33.1	-1.3
SUMG					IAmb	IAmb	03 10 49.3	
	comp=Z,5.0nm,1.1s							
USRK	Yasuriysk Ar.	64.36	53	P		P	03 11 17.7	0.0
BOSA	Boshof	64.57	202	P		P	03 11 20.1	+0.9
	comp=Z,2.0nm,0.8s,baz=26,slow=8.4,SNR=3.7							
BOSA	Boshof	64.57	202	P		P	03 11 20.4	+1.1
EUNU	Eureka	64.67	352	P		P	03 11 19.2	0.0

BJI ***18*** *03:01:32.0◦0.0,32.˚50N×47.˚50E,h10km,mb4.9/30*
IDC ***18*** *03:01:34.7◦3.1,32.˚66N×47.˚54E,h13km±18km,mb4.2/28,*
mb1 4.3/35,mb1mx4.2/53,mbtmp4.3/35,ML4.3/6,MS4.4/1,
Ms1 4.4/1,ms1mx3.8/57,Error ellipse: s-maj=15.1km
s-min=11.4km az=178.0
ISN ***18*** *03:01:34.0◦1.0,32.˚62N×47.˚59E,h18km±7km,ML4.6*
NEIC ***18*** *03:01:34.2◦1.4,32.˚61N±0.˚05×47.˚56E±0.˚07,h10km±1km,*
Error ellipse: s-maj=9.8km s-min=7.7km az=100.0
TEH ***18*** *03:01:35.3,32.˚72N×47.˚55E,h10km,ML4.6*

ISC 18 03:01:33.8±1.3,**32.˚54N**±0.˚04×**47.˚58E**±0.˚03,**h10**km±8km,
n301,σ1§00/313,mb4.7/111,9C-7D,Iran-Iraq border
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	1.01	13	ePg	Pg	03 01 52.3	-1.0
IKFM	Kafar-mosalman	1.01	13	Pg	Pg	03 01 52.

GAR IAmb IAmb 03 06 06.7
comp=Z,77nm,1.5s
CFR Carcaliu 19.65 316 ⇑P **P** **03 06 01.9 -0.8**
RAZG Razgrad 19.86 310 ⇓P **P** **03 06 05.4 +0.3**
MILM Milestii Mici 20.29 321 ⇓P **P** **03 06 09.6 -0.1**
NEHR Nehoiu 20.89 314 ⇓P **P** **03 06 16.3 +0.1**
KK31 Karatay Array 20.90 53 P P **03 06 16.8 +0.4**
KKAR Karatay Array 20.90 53 P Pn 03 06 17.8 -1.1
KKAR Karatay Array 20.90 53 P Pn 03 06 17.6 -1.2
KKAR IAmb IAmb 03 06 21.0
comp=Z,16nm,1.0s
SOCY Socotra 21.09 162 P **P** **03 06 17.2 -1.4**
SOCY IAmb IAmb 03 06 28.4
comp=Z,64nm,1.1s
MLR Muntele Rosu 21.13 314 P **P** **03 06 16.9 -2.0**
comp=Z,6.5nm,0.9s,baz=139,slow=11,SNR=2.2
MLR Muntele Rosu 21.13 314 P **P** **03 06 17.5 -1.5**
MLR IAmb IAmb 03 06 25.3
comp=Z,24nm,0.8s
TESR Tescani 21.26 317 ⇑P **P** **03 06 19.6 -0.5**
HUMR Humele 21.28 311 ⇓P **P** **03 06 19.7 -0.7**
SORM Soroca 21.30 323 ⇓P **P** **03 06 21.1 +0.5**
ATD Arta Tunnel 21.36 193 P **P** **03 06 24.6 +3.1**
ATD IAmb IAmb 03 06 31.3
comp=Z,36nm,1.3s
AGG Agios Georgios 21.45 295 P **P** **03 06 21.4 -0.9**
AGG IAmb IAmb 03 06 25.9
comp=Z,50nm,1.3s
NIL Nilore 21.52 80 P **P** **03 06 23.9 +0.8**
NIL IAmb IAmb 03 06 30.8
comp=Z,84nm,1.4s
ITM Ithomi 21.53 290 P **P** **03 06 22.6 -0.6**
ITM IAmb IAmb 03 06 31.7
comp=Z,18nm,0.7s
LIT Litokhoron 21.54 298 P **P** **03 06 22.9 -0.3**
VOIR 21.65 313 ⇑P **P** **03 06 25.1 +0.6**
DOPR Dopca 21.71 315 ⇑P **P** **03 06 24.6 -0.5**
ARR Arges 21.88 312 ⇓P **P** **03 06 27.1 +0.2**
ARSB Arslanbob 22.06 59 P **P** **03 06 29.5 +0.5**
ARSB IAmb IAmb 03 06 46.8
comp=Z,68nm,1.4s
LOT Lotru 22.46 312 ⇑P **P** **03 06 32.3 -0.9**
AKASG Malin Array Be 22.65 329 P **P** **03 06 32.9 -2.1**
comp=Z,1.3nm,0.4s,baz=135,slow=9.2,SNR=9.3
AKASG PcP **PcP** **03 10 27.6 +0.1**
comp=Z,1.6nm,0.5s,baz=77,slow=2.0,SNR=6.1
AKASG Malin Array Be 22.65 329 P **P** **03 06 34.3 -0.7**
AKBB Malin Array Si 22.65 329 P **P** **03 06 33.0 -1.9**
AKBB IAmb IAmb 03 06 33.6
comp=Z,32nm,1.5s
BURAR Bucovina Array 22.68 318 ⇑P **P** **03 06 35.5 -0.1**
BURAR Bucovina Array 22.68 318 P **P** **03 06 35.1 -0.4**
BUR08 Bucovina Ar. S 22.71 318 P **P** **03 06 35.1 -0.7**
AAK Ala-Archa 23.50 57 P **P** **03 06 44.6 +0.5**
MDVR Moldovita 23.50 309 ⇑P **P** **03 06 43.3 -0.6**
FRU1 Bishkek 23.65 57 P **P** **03 06 46.6 +1.2**
OBN Obninsk 23.87 344 P **P** **03 06 46.3 -0.9**
comp=Z,2.4nm,0.3s,baz=154,slow=8.1,SNR=12
OBN Obninsk 23.87 344 P **P** **03 06 46.4 -0.8**
BZS Buzias 23.90 311 ⇑P **P** **03 06 46.6 -1.1**
KSH Kashi 23.93 65 P **P** **03 06 46.0 -2.3**
KSH pmax pmax
comp=Z,90nm,1.9s
DIVS Divibare 24.42 306 P **P** **03 06 52.9 +0.2**
PDG Podgorica 24.45 302 P **P** **03 06 52.4 -0.5**
PDG IAmb IAmb 03 06 56.1
comp=Z,56nm,1.5s
KOLS Kolonicke sedl 25.05 318 *e*P **P** **03 06 58.8 +0.6**
ARU Arti 25.08 14 P **P** **03 06 57.8 -0.6**
comp=Z,1.9nm,0.3s,baz=199,slow=11,SNR=4.1
ARU Arti 25.08 14 P **P** **03 06 57.7 -0.7**
ARU IAmb IAmb 03 07 01.2
comp=Z,10nm,0.7s
KWP Kalwaria Pacla 25.18 320 *e*P **P** **03 06 59.7 +0.2**
KWP Kalwaria Pacla 25.18 320 P **P** **03 06 59.3 -0.1**
KDJ Kajisay 25.30 59 P **P** **03 07 02.5 +1.8**
KDJ IAmb IAmb 03 07 05.5
comp=Z,33nm,1.4s
CRVS Cervenica-Dubn 25.49 318 *e*P **P** **03 07 02.8 +0.6**
TARG Taragay, Kyrgy 25.68 60 P **P** **03 07 05.0 +0.6**
TIP Timpagrande 25.77 294 P **P** **03 07 05.3 +0.4**
TIP IAmb IAmb 03 07 06.8
comp=Z,12nm,0.8s
KECS Kecovo 25.85 316 *e*P **P** **03 07 06.6 +1.1**
PSZ Piszkesteto 25.95 314 ⇓P **P** **03 07 07.1 +0.7**
PSZ Piszkesteto 25.95 314 P **P** **03 07 06.8 +0.3**
PSZ IAmb IAmb 03 07 09.1
comp=Z,22nm,0.8s
KIRV Kirov 26.08 2 P **P** **03 07 07.2 -0.2**
comp=Z,12nm,0.6s,baz=183,slow=10,SNR=8.3
BRVK Borovoye 26.22 32 P **P** **03 07 08.7 -0.1**
BRVK IAmb IAmb 03 07 09.8
comp=Z,23nm,1.5s
BVAR Borovoye Array 26.25 32 P **P** **03 07 09.0 0.0**
comp=Z,2.0nm,0.5s,baz=222,slow=7.9,SNR=2.8
BVAR PcP **PcP** **03 10 36.2 +0.9**
comp=Z,2.4nm,0.6s,baz=191,slow=0.8,SNR=5.7
BVAR ScP **ScP** **03 14 14.5 -0.8**
comp=Z,1.8nm,0.6s,baz=219,slow=1.9,SNR=6.8
PRZ Przheval'sk 26.26 59 P **P** **03 07 10.3 +0.8**
PRZ IAmb IAmb 03 07 20.9
comp=Z,18nm,1.1s
CEL Celeste 26.38 291 P **P** **03 07 09.6 -0.8**
CEL IAmb IAmb 03 07 14.7
comp=Z,35nm,1.2s
NIE Niedzica 26.41 318 *e*P **P** **03 07 11.4 +0.8**
LANS Liptovska Anna 26.76 317 *e*P **P** **03 07 14.7 +0.9**
VYHS Vyhne 26.84 315 *e*P **P** **03 07 15.0 +0.6**
SGRT San Giovanni R 26.87 299 P **P** **03 07 15.1 +0.3**
OJC Ojcow 27.09 319 *e*P **P** **03 07 16.6 -0.1**
OJC Ojcow 27.09 319 P **P** **03 07 16.8 +0.1**
OJC IAmb IAmb 03 07 19.9
comp=Z,28nm,1.1s
SUW Suwalki 27.61 328 P **P** **03 07 19.5 -1.8**
PAOL Paolisi 27.64 297 P **P** **03 07 22.5 +0.7**
PAOL IAmb IAmb 03 07 25.2
comp=Z,15nm,1.1s
JAVC Velka Javorina 27.69 315 *e*P **P** **03 07 22.7 +0.6**
SMOL Smolenice 27.69 314 *e*P **P** **03 07 22.4 +0.3**
MODS Modra-Piesok 27.73 314 *e*P **P** **03 07 21.5 -0.9**
MORC Moravsky Berou 28.16 317 *e*P **P** **03 07 25.6 -0.7**
MORC Moravsky Berou 28.16 317 P **P** **03 07 25.7 -0.6**
INTR Introdacqua 28.27 299 P **P** **03 07 27.9 +0.5**
INTR IAmb IAmb 03 07 42.7
comp=Z,13nm,1.2s
CORL Corleone 28.41 291 P **P** **03 07 30.3 +1.7**
CORL IAmb IAmb 03 07 31.0
comp=Z,20nm,1.2s
CONA Conrad Observa 28.43 312 *e*P **P** **03 07 28.7 -0.2**
comp=Z,10nm,1.3s
CLTB Caltabellotta 28.48 290 P **P** **03 07 29.4 +0.1**
CLTB IAmb IAmb 03 07 29.8
comp=Z,16nm,1.2s
VRAC Vranov 28.52 315 P **P** **03 07 29.7 +0.2**
comp=Z,3.1nm,0.8s,baz=109,slow=8.5,SNR=8.9
VRAC Vranov 28.52 315 *e*P **P** **03 07 29.1 -0.4**
KRUC Moravsky 28.54 315 *e*P **P** **03 07 29.2 -0.4**
AQU L'Aquila 28.69 300 P **P** **03 07 31.8 +0.7**
AQU IAmb IAmb 03 07 36.2
comp=Z,15nm,1.2s
KRLC Kraliky 28.74 317 *e*P **P** **03 07 30.9 -0.5**
OBKA Obir 28.82 309 *e*P **P** **03 07 32.5 +0.2**
comp=Z,7.6nm,1.4s,SNR=5.1
NRCA Norcia 28.97 301 P **P** **03 07 36.1 +2.5**
NRCA IAmb IAmb 03 07 38.3
comp=Z,14nm,1.3s
KURBB Kurchatov Arra 29.07 42 P **P** **03 07 34.8 +0.6**
comp=Z,3.6nm,0.6s,baz=249,slow=9.6,SNR=14
KURBB PcP **PcP** **03 10 42.5 +0.2**
comp=Z,1.4nm,0.8s,baz=240,slow=3.2,SNR=4.1
KURBB ScP **ScP** **03 14 22.7 -1.2**
comp=Z,0.9nm,0.7s,baz=246,slow=3.8,SNR=2.7
DPC Dobruska-Polom 29.12 317 *e*P **P** **03 07 34.5 -0.4**
KURK Kurchatov 29.16 42 P **P** **03 07 35.3 +0.2**
KURK IAmb IAmb 03 07 36.9
comp=Z,18nm,1.3s
OSTC Ostas 29.27 317 *e*P **P** **03 07 35.8 -0.4**
KSP Ksiaz 29.36 318 *e*P **P** **03 07 37.0 +0.2**
CHVC Chvalec 29.38 317 *e*P **P** **03 07 36.9 -0.2**
MOA Molln 29.42 311 *e*P **P** **03 07 37.7 +0.3**
comp=Z,3.9nm,0.6s,SNR=5.2
PRED Cave del Predi 29.45 308 P **P** **03 07 38.2 +0.4**
MYKA Terra Mystica 29.45 309 *e*pP **P** **03 07 39.3 +1.4**
comp=Z,6.3nm,1.0s

MURB Monte Urbino 29.47 301 P **P** **03 07 38.5 +0.5**
MURB IAmb IAmb 03 07 57.4
comp=Z,14nm,1.2s
KBA Koelnbreinsper 29.77 309 *e*P **P** **03 07 40.6 -0.2**
comp=Z,4.5nm,0.5s
MAKZ Makanchi 29.80 51 P **P** **03 07 41.6 +0.7**
GOPC GO Pecny, Ondr 29.84 315 *e*P **P** **03 07 41.1 -0.1**
ZOU Zoufplan 29.87 308 P **P** **03 07 42.1 +0.4**
ZOU IAmb IAmb 03 07 43.1
comp=Z,18nm,1.4s
LATE Laterza 29.89 300 P **P** **03 07 41.9 +0.2**
STAL STALIGIAL 29.97 307 P **P** **03 07 42.2 -0.2**
MK31 Makanchi Array 30.00 51 P **P** **03 07 43.1 +0.4**
MK31 IAmb IAmb 03 07 44.4
comp=Z,18nm,1.5s
MKAR Makanchi Array 30.00 51 P **P** **03 07 43.2 +0.5**
comp=Z,3.6nm,0.6s,baz=247,slow=8.2,SNR=11
MKAR PcP **PcP** **03 10 44.2 -0.6**
comp=Z,0.9nm,0.6s,baz=247,slow=2.9,SNR=4.4
MKAR Makanchi Array 30.00 51 P **P** **03 07 43.5 +0.9**
GEC2 GERESS Array S 30.11 313 P **P** **03 07 43.0 -0.6**
GERES GERESS Array B 30.11 313 P **P** **03 07 42.7 -0.9**
comp=Z,0.6nm,0.5s,baz=108,slow=8.6,SNR=4.7
GERES PcP **PcP** **03 10 45.0 -0.1**
comp=Z,0.6nm,0.5s,baz=151,slow=1.7,SNR=6.0
GERES GERESS Array B 30.11 313 P **P** **03 07 42.9 -0.8**
CIMO Cimolais 30.16 307 P **P** **03 07 43.0 -1.1**
CIMO IAmb IAmb 03 07 44.3
comp=Z,7.3nm,0.8s
ABTA Abfaltersbach 30.23 308 *e*P **P** **03 07 44.5 -0.2**
comp=Z,8.2nm,1.0s
KHC Kasperske Hory 30.28 313 *e*P **P** **03 07 45.1 0.0**
KHC Kasperske Hory 30.28 313 P **P** **03 07 44.9 -0.3**
OSSC Osservatorio P 30.43 302 P **P** **03 07 45.6 -0.9**
CASP Castiglione de 30.60 300 P **P** **03 07 47.5 -0.5**
CASP IAmb IAmb 03 08 03.9
comp=Z,12nm,1.1s
CTI Castel Tesino 30.63 307 P **P** **03 07 48.5 +0.1**
CTI IAmb IAmb 03 07 51.7
comp=Z,13nm,0.7s
ZCCA Zocca 30.76 303 P **P** **03 07 50.3 +0.9**
ZCCA IAmb IAmb 03 08 02.5
comp=Z,21nm,1.0s
WTTA Wattenberg 30.94 309 *i* P **P** **03 07 50.7 -0.4**
SNR=6.6
WATA Walderalm 31.00 309 *i* P **P** **03 07 50.9 -0.7**
SNR=5.3
VLC Villacollemand 31.14 303 P **P** **03 07 52.8 0.0**
VLC IAmb IAmb 03 08 03.5
comp=Z,11nm,1.0s
SQTA Sankt Quirin 31.21 309 *i* P **P** **03 07 52.8 -0.7**
SNR=8.3
PRMA PARMA 31.30 304 P **P** **03 07 55.1 +1.0**
SALO Salr 31.31 306 P **P** **03 07 54.5 +0.2**
SALO IAmb IAmb 03 07 56.8
comp=Z,26nm,1.2s
MOTA Moosalm 31.32 309 *i* P **P** **03 07 53.5 -0.9**
SNR=6.3
NKC Novy Kostel 31.36 315 *e*P **P** **03 07 54.0 -0.6**
CLL Collm 31.44 317 *e*P **P** **03 07 55.0 -0.2**
CLL Collm 31.44 317 P **P** **03 07 54.6 -0.7**
CLL IAmb IAmb 03 07 55.9
comp=Z,11nm,1.3s
FETA Feichten 31.48 308 *e*P **P** **03 07 55.5 -0.4**
comp=Z,5.5nm,0.6s
VSL Villasalto 31.50 294 P **P** **03 07 56.8 +0.9**
VSL IAmb IAmb 03 07 57.2
comp=Z,7.3nm,0.9s
RETA Reutte 31.58 309 *e*P **P** **03 07 55.7 -0.9**
comp=Z,3.0nm,0.5s
KEST Kesra 31.68 286 P **P** **03 07 57.3 -0.3**
FUORN Ofenpass-Fuorn 31.70 307 P **P** **03 07 57.9 0.0**
MSSA Maissana 31.78 303 P **P** **03 07 57.6 -0.9**
GRA1 Grafenberg Arr 31.92 313 P **P** **03 07 59.0 -0.5**
GRA1 IAmb IAmb 03 07 59.9
comp=Z,22nm,1.1s
DAVOX Davos/Dischmat 31.99 308 P **P** **03 07 59.9 -0.5**
comp=Z,3.0nm,0.4s,baz=110,slow=8.9,SNR=8.8
DAVA Damuels 32.11 308 *i* P **P** **03 08 00.8 -0.6**
SNR=8.1
FIA1 FINESS Array S 32.11 341 P **P** **03 08 00.2 -0.8**
FINES FINESS Array B 32.11 341 P **P** **03 08 00.6 -0.4**
comp=Z,3.9nm,0.9s,baz=143,slow=8.1,SNR=5.4
FINES FINESS Array B 32.11 341 P **P** **03 08 00.2 -0.8**
TUE Stuetta 32.28 307 P **P** **03 08 02.1 -0.9**
TUE IAmb IAmb 03 08 03.1
comp=Z,8.3nm,0.9s
STU Stuttgart 32.92 311 P **P** **03 08 09.0 +0.6**
STU IAmb IAmb 03 08 27.4
comp=Z,8.9nm,0.9s
WMQ Urumqi 33.19 58 *e*P **P** **03 08 13.1 +2.3**
WMQ Urumqi 33.19 58 P **P** **03 08 11.5 +0.8**
BFO Black Forest 33.37 310 P **P** **03 08 12.6 +0.3**
SENIN Lac Senin/Sane 33.66 306 P **P** **03 08 14.8 -0.3**
SENIN IAmb IAmb 03 08 15.2
comp=Z,15nm,1.1s
BNI Bardonecchia 33.89 304 P **P** **03 08 17.1 +0.2**
ZAA0 Zalesovo Array 33.98 40 P **P** **03 08 18.0 +0.5**
ZAA0 IAmb IAmb 03 08 18.2
comp=Z,23nm,1.5s
ZALV Zalesovo Beam 33.98 40 P **P** **03 08 17.3 -0.1**
comp=Z,4.4nm,0.5s,baz=241,slow=8.9,SNR=9.0
ZALV Zalesovo Beam 33.98 40 P **P** **03 08 18.0 +0.5**
ECH Echery 34.11 309 P **P** **03 08 18.4 -0.3**
SSB Saint Sauveur 35.42 304 P **P** **03 08 29.1 -1.0**
HFS Hagfors 35.48 331 P **P** **03 08 29.1 -1.2**
comp=Z,4.0nm,0.4s,baz=115,slow=10.0,SNR=9.3
UCC Uccle 36.46 313 P **P** **03 08 37.6 -1.2**
UCC IAmb IAmb 03 08 49.6
comp=Z,17nm,1.3s
NOA NORSAR Array B 37.00 331 P **P** **03 08 42.0 -1.4**
comp=Z,0.4nm,0.4s,baz=118,slow=8.9,SNR=1.9
NOA PcP **PcP** **03 11 03.7 -0.5**
comp=Z,0.4nm,0.5s,baz=113,slow=3.8,SNR=3.8
LSA Lhasa 37.22 82 P **P** **03 08 46.3 +0.2**
LSA IAmb IAmb 03 08 49.2
comp=Z,11nm,0.8s
TAM Tamanrasset 38.29 266 P **P** **03 08 55.7 +0.9**
KEV Kevo 39.01 349 P **P** **03 08 59.4 -0.7**
ARCES ARCESS Array B 39.07 348 P **P** **03 08 59.6 -1.1**
comp=Z,2.0nm,0.4s,baz=161,slow=9.4,SNR=14
ARCES PcP **PcP** **03 11 10.0 -0.4**
comp=Z,2.0nm,0.6s,baz=152,slow=3.9,SNR=7.8
ARCES ARCESS Array B 39.07 348 P **P** **03 08 59.8 -0.9**
ARE0 ARCESS Array S 39.07 348 P **P** **03 08 59.6 -1.1**
SHL Shillong 39.13 88 P **P** **03 09 02.7 +0.7**
ESBB Sonseca Array 41.77 295 P **P** **03 09 23.2 -0.3**
ESBB IAmb IAmb 03 09 24.8
comp=Z,13nm,1.2s
ESDC Sonseca Array 41.77 295 P **P** **03 09 23.6 0.0**
comp=Z,2.2nm,0.9s,baz=76,slow=8.4,SNR=10
ESDC PcP **PcP** **03 11 20.0 +0.2**
comp=Z,0.7nm,0.9s,baz=34,slow=3.8,SNR=4.3
ESDC Sonseca Array 41.77 295 P **P** **03 09 22.9 -0.6**
EKA Eskdalemuir Ar 41.87 318 P **P** **03 09 23.3 -0.7**
comp=Z,3.2nm,0.6s,baz=106,slow=8.2,SNR=8.3
PAB San Pablo 42.08 295 P **P** **03 09 26.2 +0.1**
GTA Gaotai 42.33 65 P **P** **03 09 28.9 +0.7**
GTA pP sP 03 09 33.6 +1.1
GTA sP pP 03 09 36.3 +5.0
GTA pmax pmax
comp=Z,8.0nm,1.3s
PBRG Braganca 43.63 298 *e*P **P** **03 09 38.3 -0.3**
comp=Z,21nm,1.6s
MVO Moncorvo 43.92 297 *e*P **P** **03 09 41.1 +0.2**
comp=Z,18nm,1.5s
SFS San Fernando 44.03 291 P **P** **03 09 41.7 0.0**
MTE Manteigas 44.41 296 *e*P **P** **03 09 45.7 +0.9**
PVRL Vila Real 44.42 298 *e*P **P** **03 09 45.3 +0.4**
comp=Z,38nm,1.6s
PMRV Marv??o 44.43 295 *e*P **P** **03 09 44.8 -0.2**
comp=Z,24nm,2.2s
PCBR Castelo Branco 44.44 296 *e*P **P** **03 09 45.3 +0.3**
comp=Z,23nm,1.9s
TLY Talaya 44.56 47 P **P** **03 09 47.1 +1.2**
TLY IAmb IAmb 03 09 55.3
comp=Z,11nm,1.5s
PGAV Gavieira, Arco 44.75 299 *e*P **P** **03 09 48.2 +0.6**
comp=Z,54nm,1.9s
PBEJ Beja 45.03 293 *e*P **P** **03 09 50.0 +0.2**
PVAQ Vaqueiros 45.03 292 P **P** **03 09 49.4 -0.4**
LZH Lanzhou 46.06 69 *e*P **P** **03 10 00.0 +1.8**
LZH pP sP 03 10 03.6 +1.1
LZH sP pP 03 10 05.8 +4.5
LZH pmax pmax

comp=Z,28nm,1.1s
TOA0 Torodi Ar. Sit 46.07 256 P **P** **03 09 58.3 0.0**
TORD Torodi Ar. Bea 46.07 256 P **P** **03 09 58.2 -0.1**
comp=Z,1.5nm,0.6s,baz=68,slow=6.5,SNR=10
TORD Torodi Ar. Bea 46.07 256 P **P** **03 09 58.1 -0.1**
PBA Port Blair 46.30 106 P P 03 10 00.2 +0.2
SONM Songino Array 46.35 53 P **P** **03 10 00.9 +0.6**
comp=Z,1.5nm,0.5s,baz=275,slow=8.2,SNR=9.5
SONM Songino Array 46.35 53 P **P** **03 10 01.1 +0.9**
ULN Ulaanbatar 46.79 53 P **P** **03 10 03.9 +0.1**
SPA0 Spitsbergen Ar 47.72 352 P **P** **03 10 10.0 -0.4**
CHTO Chiang Mai 47.84 94 P **P** **03 10 12.4 +0.3**
CHTO IAmb IAmb 03 10 13.5
comp=Z,22nm,1.5s
CM31 Chiang Mai Arr 48.00 94 P **P** **03 10 14.2 +0.9**
CM31 IAmb IAmb 03 10 16.3
comp=Z,8.8nm,1.1s
CMAR Chiang Mai Arr 48.00 94 P **P** **03 10 13.3 0.0**
comp=Z,2.2nm,0.4s,baz=298,slow=8.8,SNR=9.1
CMAR Chiang Mai Arr 48.00 94 P **P** **03 10 13.5 +0.2**
KMI Kunming 48.44 84 ⇑P **P** **03 10 16.8 -0.1**
KMI pmax pmax
comp=Z,20nm,2.5s
KMI Kunming 48.44 84 P **P** **03 10 17.5 +0.6**
PBKT Sadao Pong 50.59 95 P **P** **03 10 33.5 +0.3**
PBKT IAmb IAmb 03 10 34.8
comp=Z,22nm,1.4s
XAN Xi'an 50.61 71 P **P** **03 10 32.9 -0.2**
XAN IAmb IAmb 03 10 36.4
comp=Z,17nm,1.2s
SLVN Son La 50.93 88 P **P** **03 10 36.0 +0.3**
SLVN IAmb IAmb 03 10 48.8
comp=Z,14nm,1.5s
HHC Hu-ho-hao-te 50.96 61 *e*P **P** **03 10 36.1 +0.3**
HHC pmax pmax
comp=Z,31nm,0.7s
LSZ Lusaka 51.04 204 P **P** **03 10 38.3 +1.8**
LSZ IAmb IAmb 03 10 42.6
comp=Z,8.2nm,1.0s
GYA Guiyang 51.23 81 *e*P **P** **03 10 38.4 +0.4**
GYA pmax pmax
comp=Z,8.0nm,1.2s
ENH Enshi 52.22 75 P **P** **03 10 46.2 +1.0**
ENH IAmb IAmb 03 11 03.7
comp=Z,15nm,1.2s
BJI Beijing 54.57 61 P **P** **03 11 01.1 -1.2**
BJI pmax pmax
comp=Z,5.0nm,1.7s
BJT Baijiatuau 54.57 61 P **P** **03 11 01.8 -0.5**
HIA Hailar 54.97 50 P **P** **03 11 05.6 +0.4**
HIA IAmb IAmb 03 11 08.8
comp=Z,9.6nm,0.9s
KULM Kulim 56.33 107 P **P** **03 11 15.3 0.0**
RPSI Rantau Prapat 56.49 111 P **P** **03 11 16.9 +0.4**
RPSI IAmb IAmb 03 11 26.8
comp=Z,9.3nm,1.1s
IPM Ipoh 57.10 107 P **P** **03 11 21.5 +0.6**
SUMG Summit 58.13 339 P **P** **03 11 27.3 -0.4**
NJ2 Nanjing 59.14 70 *e*P **P** **03 11 34.8 -0.1**
NJ2 pmax pmax
comp=Z,14nm,0.6s
BKNI Bangkinang 59.60 111 P **P** **03 11 39.1 +0.8**
LBTB Lobatse 60.95 203 P **P** **03 11 48.9 +1.6**
LBTB IAmb IAmb 03 12 00.4
comp=Z,17nm,1.3s
BOSA Boshof 64.41 202 P **P** **03 12 11.9 +1.5**
comp=Z,2.6nm,0.6s,baz=24,slow=4.2,SNR=6.0
BOSA Boshof 64.41 202 P **P** **03 12 11.8 +1.5**
BOSA IAmb IAmb 03 12 30.4
comp=Z,12nm,1.4s
USRK Ussuriysk Ar. 64.46 52 P **P** **03 12 09.5 -1.1**
comp=Z,2.5nm,0.6s,baz=280,slow=6.4,SNR=6.5
USRK Ussuriysk Ar. 64.46 52 P **P** **03 12 09.7 -0.9**
EUNU Eureka 64.84 352 P **P** **03 12 12.9 +0.3**
EUNU IAmb IAmb 03 12 19.7
comp=Z,13nm,1.5s
SUR Sutherland 69.34 204 P **P** **03 12 44.0 +2.2**
DRLN Deer Lake 74.91 319 P **P** **03 13 14.3 -0.6**
SCHQ Schefferville 76.43 327 P **P** **03 13 22.9 -0.6**
comp=Z,1.8nm,0.6s,baz=48,slow=4.1,SNR=3.8
SCHQ Schefferville 76.43 327 P **P** **03 13 23.1 -0.4**
TOLK Toolik Lake Re 78.32 6 P **P** **03 13 34.1 +0.1**
TOLK IAmb IAmb 03 13 48.2
comp=Z,9.3nm,1.2s
GBN Guysborough 79.32 317 P **P** **03 13 39.6 -0.2**
ANM Nome 79.82 14 P **P** **03 13 40.2 -1.9**
IM03 80.42 9 P **P** **03 13 43.6 -1.7**
IMAR Indian Mountai 80.42 9 P **P** **03 13 44.4 -0.9**
BATG Bathurst New B 80.71 321 P **P** **03 13 47.4 +0.1**
BATG IAmb IAmb 03 13 48.1
comp=Z,7.0nm,0.9s
HAL Halifax 80.97 318 P **P** **03 13 49.3 +0.7**
MDM Murphy Dome 82.04 7 P **P** **03 13 53.7 -0.3**
PQI Presque Isle 82.14 321 P **P** **03 13 54.1 -0.7**
PQI IAmb IAmb 03 14 06.1
comp=Z,18nm,1.4s
IL31 82.35 6 P **P** **03 13 55.4 -0.2**
ILAR Eielson Array 82.35 6 P **P** **03 13 54.6 -1.0**
comp=Z,0.3nm,0.6s,baz=328,slow=5.2,SNR=5.7
ILAR Eielson Array 82.35 6 P **P** **03 13 54.8 -0.8**
E63A Oxbow 82.51 321 P **P** **03 13 55.5 -1.3**
E63A IAmb IAmb 03 14 06.1
comp=Z,12nm,1.2s
BPAW Bear Paw Mtn. 82.58 8 P **P** **03 13 56.4 -0.4**
BPAW IAmb IAmb 03 13 56.8
comp=Z,9.4nm,1.4s
F64A Sherman 82.83 321 P **P** **03 13 58.5 +0.1**
F64A IAmb IAmb 03 14 15.5
comp=Z,6.3nm,1.4s
G65A Princeton 82.83 320 P **P** **03 13 58.8 +0.4**
G65A IAmb IAmb 03 14 03.0
comp=Z,6.7nm,1.1s
E62A Clayton Lake 82.96 322 P **P** **03 13 58.6 -0.5**
E62A IAmb IAmb 03 14 00.2
comp=Z,4.5nm,0.7s
F62A Pittston Farm, 83.67 321 P **P** **03 14 02.0 -0.8**
F62A IAmb IAmb 03 14 11.7
comp=Z,10nm,1.4s
DOT Dot Lake 83.70 5 P **P** **03 14 01.5 -1.1**
GIRL Giralia 84.01 121 P **P** **03 14 06.0 +1.2**
YKA Yellowknife Ar 84.22 352 P **P** **03 14 03.9 -1.3**
comp=Z,0.5nm,0.5s,baz=24,slow=6.1,SNR=6.0
BCAR Beaver Creek A 84.43 4 P **P** **03 14 06.5 +0.1**
LBNH Lisbon 85.81 321 P **P** **03 14 13.9 +0.3**
PSAA2 Pilbara Seismi 87.48 117 P **P** **03 14 22.0 0.0**
MORW Morawa 89.27 125 P **P** **03 14 30.3 -0.1**
FITZ Fitzroy Crossi 89.94 111 P **P** **03 14 34.1 +0.4**
M56A Emporium 91.01 322 P **P** **03 14 38.1 -0.4**
M55A Ridgway 91.32 323 P **P** **03 14 39.3 -0.7**
WRA Warramunga Arr 97.85 109 P **P** **03 15 09.9 -0.1**
comp=Z,0.6nm,0.6s,baz=315,slow=4.1,SNR=7.1
WRA Warramunga Arr 97.85 109 P Pdif 03 15 11.8 +1.6
WB2 Warramunga Arr 97.86 109 P **P** **03 15 09.7 -0.4**
ASAR Alice Springs 99.44 112 P **Pdif** **03 15 16.6 -0.6**
comp=Z,0.6nm,0.5s,baz=304,slow=4.7,SNR=10
ASAR Alice Springs 99.44 112 P **Pdif** **03 15 17.1 0.0**
PLCA Paso Flores 130.59 242 PKP **PKiKP** **03 20 46.2 +0.4**
comp=Z,0.7nm,0.6s,baz=103,slow=5.6,SNR=3.1

IDC ***18*** *03:11:29.2±0.8, 32°.74N×47°.56E, h0km, mb4.2/21, mb1 4.2/26, mb1mx4.1/45, mbtmp4.2/26, ML4.2/4, Error ellipse: s-maj=17.2km s-min=12.5km az=172.0*
MOS ***18*** *03:11:30.1±1.1, 32°.81N×47°.64E, h14km, mb4.7/42, Error ellipse: s-maj=6.6km s-min=4.5km az=113.4*
NEIC ***18*** *03:11:30.7±1.3, 32°.68N±0°.05×47°.57E±0°.07, h10km±1km, Error ellipse: s-maj=10.9km s-min=7.6km az=302.0*
TEH ***18*** *03:11:31.7, 32°.74N×47°.60E, h12km, ML4.3*
ISN ***18*** *03:11:31.5±1.1, 32°.73N×47°.55E, h15km±5km, ML3.9*
THR ***18*** *03:11:31.0±3.4, 32°.87N×47°.49E, h15km±57km, ML4.2*
ISC 18 03:11:31.3±1.3, 32°.74N±0°.03×47°.56E±0°.03, h14km±8km, n313, σ1$35/315, mb4.5/78, 21C-10D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.81**	**17**	*e*Pg	**Pb**	**03 11 47.6**	**+0.2**
IKFM				*e*		03 12 08.3	
IKFM	**Kafar-mosalman**	**0.81**	**17**	Pg	**Pb**	**03 11 47.5**	**+0.2**
IKMR	**Kamar-syah**	**1.03**	**42**	*e*Pg	**Pn**	**03 11 52.0**	**+0.5**
IKMR				*e*		03 12 09.7	
IKMR	**Kamar-syah**	**1.03**	**42**	Pg	**Pn**	**03 11 51.9**	**+0.5**
IDOB	**Doab**	**1.16**	**26**	*e*Pg	**Pb**	**03 11 53.5**	**+0.1**

IDOB Doab 1.16 26 Pb 03 11 53.5 +0.1
SHGR Shooshtar-Gavs 1.23 121 ePg Pg 03 11 55.3 +0.3
SHGR eSg Sn 03 12 15.1 +4.6
SHGR IAML 03 12 20.8
comp=N,4µm,0.7s
SHGR Shooshtar-Gavs 1.23 121 ePg Pg 03 11 55.3 +0.3
SHGR Shooshtar-Gavs 1.23 121 Pg 03 11 55.2 +0.3
BMDN Meydan 1.41 49 ePg Pn 03 11 56.9 +0.1
BMDN e 03 12 24.5
BMDN Meydan 1.41 49 Pn 03 11 56.9 +0.1
IBDR Badra 1.42 285 ePg Pn 03 11 58.0 +1.3
IBDR eSg Sn 03 12 16.0 +0.8
IBDR AML AML 03 12 27.2
comp=E,3µm,0.9s
IBDR AML AML 03 12 29.1
comp=N,2µm,0.6s
IKOM Komasi 1.43 358 ePg Pg 03 11 59.1 +0.3
IKOM e 03 12 00.7
IKOM Komasi 1.43 358 Pg 03 11 59.1 +0.3
KCHF Cheshme Sefid, 1.59 344 ePg Pb 03 12 01.0 +0.4
KCHF e 03 12 26.3
KCHF Cheshme Sefid, 1.59 344 Pb 03 12 01.0 +0.4
KER Kermanshah 1.68 348 ePg Pb 03 12 02.7 +0.6
AHWZ Ahwaz 1.68 147 ePg Pb 03 12 02.4 +0.3
HSAM Samen 1.70 30 e 03 12 07.1
HSAM ePg Pb 03 12 03.3 +0.7
IBZA Bozab 1.74 8 e 03 12 07.4
IBZA ePg Pb 03 12 04.0 +0.7
IGHG Ghaleghazi 1.79 333 ePg Pb 03 12 04.9 +0.9
IGHG e 03 12 47.0
IVIS Veis 1.87 342 e 03 12 36.6
IVIS ePn Pb 03 12 05.3 -0.2
NSR Nassriya 2.11 215 ePn Pn 03 12 07.0 +0.8
NSR eSn Sn 03 12 33.0 +0.7
IALM Almabolaq 2.17 13 ePn Pb 03 12 10.5 -0.1
IDHR Dehrash 2.18 334 ePn Pb 03 12 10.5 -0.3
IDHR e 03 12 16.2
ILIN Lien 2.23 347 ePn Pb 03 12 10.7 -0.8
ILIN e 03 12 56.6
HAGD Aghdareh 2.45 32 ePn Pb 03 12 14.0 -1.4
HAGD e 03 12 56.6
HSRG Sareghieh 2.56 13 ePn Pb 03 12 16.3 -1.0
HSRG e 03 12 56.5
JHBN Jahan bin 2.67 100 ePn Pn 03 12 15.7 +1.4
JHBN e 03 13 06.2
BHD Baghdad 2.72 282 ePn Pn 03 12 16.0 +1.3
BHD eSn Sn 03 12 50.0 +2.6
ASAO Ashtian 2.73 48 ePg Pb 03 12 18.2 -2.0
ASAO eSg Sb 03 12 55.7 +2.0
ASAO Ashtian 2.73 48 ePn Pb 03 12 18.2 -2.0
IPIR Pirpir 2.81 90 ePn Pn 03 12 17.7 +1.5
IPIR e 03 12 55.5
ROKH ROKH 2.96 97 ePn Pn 03 12 19.5 +1.3
IBRJ Brojen 3.24 104 ePn Pn 03 12 22.9 +0.8
IRAZ Razeghan 3.30 36 ePn Pn 03 12 25.2 +2.3
QABG Abgarm-Qazvin 3.40 29 ePn Pn 03 12 26.1 +1.9
IKLH Kolahrood 3.42 79 ePn Pn 03 12 27.2 +2.6
IKLH e 03 13 25.0
IQOM Qom 3.59 53 ePn Pn 03 12 28.7 +1.8
IGAR Gharneh 3.80 94 ePn Pn 03 12 30.9 +1.2
IGAR e 03 13 17.8
QSDN Sirdan 3.98 19 ePn Pn 03 12 35.2 +3.0
IZEF Zefreh 4.02 87 ePn Pn 03 12 34.6 +1.8
IHSB Hasanabad 4.09 48 ePn Pn 03 12 35.9 +2.3
IRAM Ramesheh 4.19 102 ePn Pn 03 12 35.7 +0.6
IGZV Ghazvin 4.24 30 ePn Pn 03 12 38.0 +2.2
MAHB Mahabad 4.29 340 ePn Pn 03 12 38.4 +2.0
QALM Alamut, Qazvin 4.47 34 ePn Pn 03 12 40.4 +1.4
IDMV Damavand 4.66 51 ePn Pn 03 12 43.1 +1.5
AHBU AHRAM 5.03 139 ePn Pn 03 12 48.4 +2.0
ISRB Sarab 5.07 1 ePn Pn 03 12 49.7 +2.5
IFIR Firoozkooh 5.18 55 ePn Pn 03 12 50.0 +1.2
ILAS Lasjerd 5.20 58 ePn Pn 03 12 49.6 +0.7
ANAR Anarak 5.20 83 ePn Pn 03 12 49.5 +0.6
ISAD Sadrabad 5.25 97 ePn Pn 03 12 50.6 +0.9
IPRN Peran 5.27 47 ePn Pn 03 12 51.7 +1.9
IALA Alasht 5.47 51 ePn Pn 03 12 54.9 +2.2
IHSH Hashtrud 5.55 358 ePn Pn 03 12 43.3 -11
IHRS Heris 5.58 356 ePn Pn 03 12 57.0 +2.8
ISHM Shahmirzad 5.64 56 ePn Pn 03 12 57.0 +1.9
HAKT HAKKARI 5.75 328 ePn Pn 03 13 00.8 +4.3
ICHK Chekchek 5.81 93 ePn Pn 03 12 57.9 +0.6
IANJ Anjilo 5.93 61 ePn Pn 03 13 00.5 +1.5
GRMI Germi 6.06 2 ePn Pn 03 13 03.9 +3.3
GRMI Germi 6.06 2 ePn Pn 03 13 03.9 +3.3
IMEH Mehriz 6.14 101 ePn Pn 03 13 02.0 +0.1
GEVA Gevas 6.66 328 Pn Pn 03 13 09.3 +0.3
IBAF Bafgh 6.89 97 ePn Pn 03 13 12.6 +0.5
MARD Mardin 7.19 311 Pn Pn 03 13 16.1 -0.1
TNSJ Nastanj 7.67 78 ePn Pn 03 13 23.9 +1.1
TPRV Parvadeh(Tabas 7.68 85 ePn Pn 03 13 24.0 +1.1
TVBK TV Kerman 8.33 107 ePn Pn 03 13 32.6 +0.5
NGRK Negar Kerman 8.44 109 ePn Pn 03 13 33.9 +0.3
ASF Jabal al Asfar 9.03 269 Pn Pn 03 13 40.0 -1.4
comp=N,1.3nm,0.3s,baz=69,slow=9.4,SNR=7.1
ASF Jabal al Asfar 9.03 269 P Pn 03 13 40.0 -1.4
SBZV Sabzevar 9.05 64 ePn Pn 03 13 43.4 +1.6
KOPT Kop Dagi 9.22 324 Pn Pn 03 13 43.7 -0.5
AKH Akhalkalaki 9.24 341 P Pn 03 13 43.8 -0.5
AKH Akhalkalaki 9.24 341 Pn Pn 03 13 43.8 -0.5
ITEG Tejag 9.42 86 ePn Pn 03 13 48.1 +1.3
ISFR Sfrayin 9.59 60 ePn Pn 03 13 51.1 +1.8
AFRZ Afriz 9.64 83 ePn Pn 03 13 50.4 +0.6
IKRD Kardeh 9.87 63 ePn Pn 03 14 05.8 +13
KELT Kelkit 9.96 320 ePn Pn 03 13 57.2 +2.9
IAKL Akhelmad 9.99 64 ePn Pn 03 13 56.2 +1.4
GEYT Alibeck 10.05 56 Pn Pn 03 13 58.2 +2.8
comp=N,0.8nm,0.3s,baz=254,slow=11,SNR=4.5
GEYT Alibeck 10.05 56 Pn Pn 03 13 55.9 +0.5
GYA0B ALIBECK ARRAY 10.05 56 Pn Pn 03 13 56.7 +1.4
IPAY Payeh 10.12 65 ePn Pn 03 13 58.7 +2.2
IMON Monand 10.18 84 ePn Pn 03 13 58.4 +1.0
GROC Groznyy 10.53 353 eP Pn 03 14 03.6 +1.7
UOSS Minazif 10.85 134 Pn Pn 03 14 04.7 -1.6
IMYA Miami 10.95 67 ePn Pn 03 14 09.7 +1.9
EIL Elat 11.22 257 Pn Pn 03 14 10.8 -0.6
comp=N,0.4nm,0.3s,baz=41,slow=11,SNR=1.4
KBZ Khabaz 11.56 343 ceP Pn 03 14 21.4 +5.5
TOKA Tokat 11.68 313 Pn Pn 03 14 17.6 -0.1
KIV Kislovodsk 11.82 343 eP Pn 03 14 25.8 +6.1
KIV pmax pmax
comp=Z,23nm,1.0s
KIV Kislovodsk 11.82 343 Pn Pn 03 14 22.0 +2.4
BR131 Keskin Array S 13.21 306 P Pn 03 14 40.7 +2.0
BR131 Keskin Array S 13.21 306 Pn Pn 03 14 40.7 +2.0
BRTR Keskin Array B 13.21 306 Pn Pn 03 14 41.9 +3.2
comp=Z,0.1nm,0.3s,baz=132,slow=12,SNR=8.5
BRTR Keskin Array B 13.21 306 i P Pn 03 14 42.5 +3.8
BRTR pmax pmax
comp=Z,4.0nm,1.1s
BRTR Keskin Array B 13.21 306 Pn Pn 03 14 40.9 +2.2
WSAR Wadi Sarin 13.60 131 Pn Pn 03 14 41.5 -2.5
comp=Z,3.6nm,0.3s,baz=318,slow=10,SNR=16
ILGA Ilgaz 13.82 311 Pn Pn 03 14 48.8 +1.7
ELL Elmali 15.05 290 P P 03 15 09.8 +0.7
ELL pmax pmax
comp=Z,30nm,0.9s
ELL Elmali 15.05 290 P 03 15 09.8 +0.7
ELL IAmb IAmb 03 15 18.6
comp=Z,30nm,0.9s
SIM Simferopol' 16.04 323 eP Pn 03 15 11.0 -5.5
SIM eS Sn 03 18 08.5 -5.6
SIM pmax pmax
comp=Z,39nm,0.5s
KBL Kabul 17.98 78 P Pn 03 15 41.2 +0.1
KBL pmax pmax
comp=Z,41nm,1.3s
KBL Kabul 17.98 78 Pn 03 15 41.2 +0.1
KBL IAmb IAmb 03 15 47.4
comp=Z,41nm,1.3s
CHGR Chuyangaron 18.49 65 P 03 15 46.9 -0.2
CHGR IAmb IAmb 03 15 52.1
comp=Z,24nm,0.8s
ABKAR Akbulak array 18.92 26 P P 03 15 51.0 -0.6
VRH Novokhopyorsk 18.94 349 eP P 03 15 50.4 -1.4
VRH pmax pmax
comp=Z,10.0nm,0.4s
IDI Anoyia 18.96 284 P Pn 03 15 53.6 +0.7
ALN Alexandroupoli 19.02 301 P P 03 15 53.5 +0.7
ALN pmax pmax
comp=Z,10.0nm,1.2s
ALN Alexandroupoli 19.02 301 P P 03 15 53.5 +0.7
VORD Divnogorie 19.20 344 eP Pn 03 15 56.7 +1.1
VORD pmax pmax
comp=Z,10.0nm,0.4s
AKTO Aktyubinsk 19.29 21 P P 03 15 56.0 +0.3
comp=Z,1.5nm,0.3s,baz=202,slow=11,SNR=44
AKTO Aktyubinsk 19.29 21 P P 03 15 56.0 +0.3
GAR Garm 19.45 65 P P 03 15 57.0 -0.6
GAR IAmb IAmb 03 16 02.3
comp=Z,24nm,0.9s
VSR Storozhevoye 19.46 344 eP P 03 15 56.6 -0.9
VSR pmax pmax
comp=Z,20nm,0.7s
PLOR Plostina 20.73 315 ⇑P P 03 16 13.5 +2.0
PLOR Plostina 20.73 315 ⇑P P 03 16 13.5 +2.0
KK31 Karatay Array 20.79 54 P P 03 16 10.8 -1.3
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KK31 Karatay Array 20.79 54 P P 03 16 10.8 -1.3
KKAR Karatay Array 20.79 54 P P 03 16 11.9 -0.2
KKAR pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 20.79 54 P P 03 16 11.9 -0.2
KKAR Karatay Array 20.79 54 P P 03 16 11.9 -0.2
KKAR IAmb IAmb 03 16 16.5
comp=Z,7.0nm,0.7s
LPSR Galich'ya Gora 20.81 345 eP P 03 16 11.2 -0.9
LPSR pmax pmax
comp=Z,100nm,1.3s
MLR Muntele Rosu 20.98 314 ⇓P P 03 16 15.8 +1.6
MLR Muntele Rosu 20.98 314 ⇓P P 03 16 15.8 +1.6
MLR Muntele Rosu 20.98 314 P P 03 16 15.2 +1.0
MLR IAmb IAmb 03 16 22.1
comp=Z,13nm,0.8s
TESR Tescani 21.09 317 ⇑P P 03 16 16.7 +1.3
HUMR Humele 21.13 310 ⇓P P 03 16 17.3 +1.6
SORM Soroca 21.13 322 ⇓P P 03 16 17.6 +1.9
SORM Soroca 21.13 322 ⇓P P 03 16 17.6 +1.9
SOCY Socotra 21.29 162 P P 03 16 13.6 -4.1
AGG Agios Georgios 21.34 294 P P 03 16 19.0 +0.9
AGG pmax pmax
comp=Z,5.0nm,0.8s
AGG Agios Georgios 21.34 294 P P 03 16 19.0 +0.9
ITM Ithomi 21.44 289 P P 03 16 19.2 0.0
VOIR 21.50 313 ⇓P P 03 16 21.9 +2.1
VOIR 21.50 313 ⇓P P 03 16 21.9 +2.1
NIL Nilore 21.51 81 P P 03 16 19.7 -0.2
NIL pmax pmax
comp=Z,38nm,1.0s
NIL Nilore 21.51 81 P P 03 16 19.7 -0.2
NIL IAmb IAmb 03 16 26.0
comp=Z,38nm,0.9s
DOPR Dopca 21.55 314 ⇓P P 03 16 21.7 +1.4
ARR Arges 21.73 312 ⇑P P 03 16 23.6 +1.4
ARSB Arslanbob 21.97 60 P P 03 16 24.3 -0.6
ARSB pmax pmax
comp=Z,11nm,0.8s
ARSB Arslanbob 21.97 60 P P 03 16 24.3 -0.6
ARSB IAmb IAmb 03 16 30.5
comp=Z,11nm,0.8s
LOT Lotru 22.30 312 ⇑P P 03 16 29.1 +0.6
AKASG Malin Array Be 22.46 328 P P 03 16 28.8 -1.0
comp=Z,5.3nm,0.8s,baz=138,slow=9.2,SNR=12
AKASG Malin Array Be 22.46 328 P P 03 16 28.9 -1.0
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 22.46 328 P P 03 16 28.9 -1.0
AKBB Malin Array Si 22.46 328 ceP P 03 16 28.0 -1.9
AKBB Malin Array Si 22.46 328 P P 03 16 28.6 -1.3
AKBB IAmb IAmb 03 16 31.9
comp=Z,10nm,0.9s
BURAR Bucovina Array 22.52 318 ⇑P P 03 16 32.5 +1.8
BURAR Bucovina Array 22.52 318 ⇑P P 03 16 32.5 +1.8
BURAR Bucovina Array 22.52 318 P P 03 16 30.1 -0.6
BUR08 Bucovina Ar. S 22.54 318 P P 03 16 31.6 +0.6
AML Almayashu 22.70 58 P P 03 16 33.5 +0.5
SNR=6.3
EKS2 Erkin-Say 22.90 57 P P 03 16 35.9 +1.0
SNR=6.4
HERR Herculane 22.94 309 ⇑P P 03 16 34.3 -0.8
MDVR Moldovita 23.36 308 ⇓P P 03 16 39.6 +0.1
AAK Ala-Archa 23.40 57 P P 03 16 41.6 +1.6
comp=Z,1.5nm,0.4s,baz=246,slow=5.7,SNR=5.4
AAK Ala-Archa 23.40 57 P P 03 16 40.5 +0.4
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 23.40 57 P P 03 16 40.5 +0.4
USP Ospenovka 23.59 56 P P 03 16 42.1 +0.4
SNR=8.9
OBN Obninsk 23.66 344 P P 03 16 42.1 -0.1
comp=Z,3.4nm,0.4s,baz=202,slow=15,SNR=3.6
OBN Obninsk 23.66 344 i P P 03 16 40.6 -1.6
OBN pmax pmax
comp=Z,16nm,1.0s
OBN Obninsk 23.66 344 P P 03 16 42.2 -0.1
BZS Buzias 23.75 310 ⇑P P 03 16 43.2 0.0
BZS Buzias 23.75 310 ⇑P P 03 16 43.2 0.0
KSH Kashi 23.86 65 eP P 03 16 42.4 -2.1
MOS Moscow 24.02 346 eP P 03 16 46.1 +0.5
TKM2 Tokmak 2 24.26 57 P P 03 16 49.7 +1.4
SNR=16
DIVS Divibare 24.28 306 P P 03 16 47.9 -0.4
PDG Podgorica 24.33 302 P P 03 16 48.6 0.0
ULHL Ulahol 24.56 59 P P 03 16 52.4 +1.4
SNR=7.1
ARU Arti 24.88 15 P P 03 16 53.7 +0.2
comp=Z,1.3nm,0.3s,baz=212,slow=6.2,SNR=7.5
ARU Arti 24.88 15 d i P P 03 16 53.6 +0.1
ARU 03 17 23.0
ARU S S 03 21 18.1 +2.1
ARU pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 24.88 15 P P 03 16 54.5 +1.0
ARU IAmb IAmb 03 17 02.4
comp=Z,6.5nm,0.6s
KOLS Kolonicke sedl 24.88 318 eP P 03 16 54.7 +1.1
KOLS pmax pmax
comp=Z,8.0nm,1.0s
KOLS Kolonicke sedl 24.88 318 eP P 03 16 54.7 +1.1
KWP Kalwaria Pacla 25.01 320 P P 03 16 55.2 +0.4
KWP pmax pmax
comp=Z,11nm,0.9s
KWP Kalwaria Pacla 25.01 320 P P 03 16 55.2 +0.4
KWP IAmb IAmb 03 16 58.5
comp=Z,11nm,0.9s
KDJ Kajisay 25.21 60 P P 03 16 57.3 +0.4
KDJ pmax pmax
comp=Z,9.0nm,0.8s
KDJ Kajisay 25.21 60 P P 03 16 57.3 +0.4
KDJ IAmb IAmb 03 17 00.9
comp=Z,8.6nm,0.8s
CRVS Cervenica-Dubn 25.33 317 eP P 03 16 59.2 +1.6
CRVS pmax pmax
comp=Z,15nm,1.0s
CRVS Cervenica-Dubn 25.33 317 eP P 03 16 59.2 +1.6
TARG Taragay, Kyrgy 25.59 61 P P 03 17 00.7 +0.2
TARG IAmb IAmb 03 17 07.5
comp=Z,14nm,0.8s
TIP Timpagrande 25.67 293 P P 03 17 02.1 +1.2
TIP IAmb IAmb 03 17 08.6
comp=Z,17nm,1.4s
KECS Kecovo 25.69 316 eP P 03 17 02.9 +2.0
KECS pmax pmax
comp=Z,9.0nm,0.8s
KECS Kecovo 25.69 316 eP P 03 17 02.8 +1.9
PSZ Piszkesteto 25.79 314 ⇑P P 03 17 00.6 -1.3
PSZ Piszkesteto 25.79 314 P P 03 17 02.2 +0.3
PSZ pmax pmax
comp=Z,12nm,0.9s
PSZ Piszkesteto 25.79 314 P P 03 17 02.1 +0.3
PSZ IAmb IAmb 03 17 05.4
comp=Z,12nm,0.9s
KIRV Kirov 25.87 2 P P 03 17 02.6 +0.2
comp=Z,12nm,0.6s,baz=184,slow=5.8,SNR=5.5
KIRV Kirov 25.87 2 ⇑eP P 03 17 04.6 +2.2
BRVK Borovoye 26.05 32 ceP P 03 17 04.1 -0.1
BRVK pmax pmax
comp=Z,8.0nm,1.3s
BRVK Borovoye 26.05 32 P P 03 17 04.0 -0.1
BRVK IAmb IAmb 03 17 05.4
comp=Z,15nm,1.4s
BVAR Borovoye Array 26.08 32 P P 03 17 04.5 +0.1
comp=Z,3.5nm,0.5s,baz=224,slow=7.9,SNR=19
NIE Niedzica 26.25 317 P P 03 17 07.7 +1.7
NIE pmax pmax
comp=Z,4.0nm,0.8s
LANS Liptovska Anna 26.60 316 eP P 03 17 11.0 +1.8
LANS pmax pmax
comp=Z,4.0nm,0.8s
LANS Liptovska Anna 26.60 316 eP P 03 17 10.9 +1.8
VYHS Vyhne 26.68 315 eP P 03 17 11.2 +1.3
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 26.68 315 eP P 03 17 11.2 +1.3
SGRT San Giovanni R 26.75 299 P P 03 17 11.6 +0.9
OJC Ojcow 26.92 319 P P 03 17 12.2 +0.2
OJC pmax pmax
comp=Z,9.0nm,0.8s
OJC Ojcow 26.92 319 P P 03 17 12.2 +0.2
OJC IAmb IAmb 03 17 16.0
comp=Z,9.0nm,0.8s
SMOL Smolenice 27.54 314 eP P 03 17 18.9 +1.3
SMOL Smolenice 27.54 314 eP P 03 17 18.9 +1.3
KLMR Klimovskoe 28.61 352 eP P 03 17 25.3 -1.7
KLMR pmax pmax
comp=Z,13nm,0.7s
KLMR Klimovskoe 28.61 352 eP P 03 17 25.4 -1.6
KLMR AMP 03 17 26.9
comp=Z,13nm,0.7s
NRCA Norcia 28.85 300 P P 03 17 30.8 +1.3
NRCA IAmb IAmb 03 17 36.8
comp=Z,8.7nm,1.2s
KURBB Kurchatov Arra 28.93 43 P P 03 17 30.7 +0.8
comp=Z,6.3nm,0.7s,baz=247,slow=9.3,SNR=25
PRGR Permogore 28.93 358 eP P 03 17 27.8 -2.0
KURK Kurchatov 29.02 43 ⇑eP P 03 17 31.0 +0.3
KURK pmax pmax
comp=Z,9.0nm,0.8s
KURK Kurchatov 29.02 43 P P 03 17 31.0 +0.3
KURK IAmb IAmb 03 17 32.5
comp=Z,9.7nm,0.8s
MOA Molln 29.27 311 P P 03 17 33.7 +0.7
SNR=4.4
MAKZ Makanchi 29.68 52 P P 03 17 37.7 +1.0
MAKZ pmax pmax
comp=Z,6.0nm,1.4s
MAKZ Makanchi 29.68 52 P P 03 17 37.7 +1.0
MK31 Makanchi Array 29.89 52 P P 03 17 39.1 +0.5
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MK31 Makanchi Array 29.89 52 P P 03 17 39.1 +0.5
MK31 IAmb IAmb 03 17 39.9
comp=Z,5.2nm,0.7s
MKAR Makanchi Array 29.89 52 P P 03 17 39.1 +0.5
comp=Z,5.1nm,0.6s,baz=248,slow=7.8,SNR=45
GERES GERESS Array B 29.95 313 P P 03 17 39.5 +0.3
comp=Z,0.4nm,0.5s,baz=109,slow=7.3,SNR=5.3
GERES PcP PcP 03 20 41.6 +0.2
comp=Z,0.3nm,0.5s,baz=134,slow=3.9,SNR=4.3
GERES GERESS Array B 29.95 313 P P 03 17 39.3 +0.2
CIMO Cimolais 30.02 307 P P 03 17 40.0 +0.2
CTI Castel Tesino 30.50 306 P P 03 17 44.0 0.0
CTI pmax pmax
comp=Z,7.0nm,0.8s
CTI Castel Tesino 30.50 306 P P 03 17 44.0 0.0
CTI IAmb IAmb 03 17 48.1
comp=Z,7.2nm,0.8s
ZCCA Zocca 30.63 303 P P 03 17 45.3 +0.2
ZCCA IAmb IAmb 03 17 54.7
comp=Z,8.5nm,0.9s
WTTA Wattenberg 30.80 309 P P 03 17 47.2 +0.5
SNR=4.6
VLC Villacollemand 31.02 302 P P 03 17 49.1 +0.6
VLC IAmb IAmb 03 17 53.1
comp=Z,15nm,1.4s
SQTA Sankt Quirin 31.07 308 P P 03 17 49.7 +0.6
SNR=5.2
MOTA Moosalm 31.17 309 i P P 03 17 50.0 0.0
SNR=7.3
FETA Feichten 31.34 308 P P 03 17 52.1 +0.6
SNR=5.8
VSL Villasalto 31.40 293 P P 03 17 51.7 -0.3
VSL IAmb IAmb 03 17 53.3
comp=Z,11nm,1.3s
FUORN Ofenpass-Fuorn 31.56 307 P P 03 17 54.2 +0.7
MSSA Maissana 31.66 303 P P 03 17 55.1 +0.9
FINES FINESS Array B 31.91 341 P P 03 17 55.7 -0.4
comp=Z,6.8nm,0.9s,baz=161,slow=8.1,SNR=7.1
FINES FINESS Array B 31.91 341 i P P 03 17 55.0 -1.1
FINES pmax pmax
comp=Z,7.0nm,1.0s
FINES FINESS Array B 31.91 341 P P 03 17 55.8 -0.3
TUE Stuetta 32.15 307 P P 03 17 58.8 +0.1
TUE IAmb IAmb 03 17 59.9
comp=Z,4.0nm,0.8s
WMQ Urumqi 33.09 59 eP P 03 18 09.3 +2.5
SENIN Lac Senin/Sane 33.52 306 P P 03 18 11.4 +0.7
SENIN IAmb IAmb 03 18 14.3
comp=Z,6.2nm,1.0s
MBDF Montbardon 33.66 303 eP P 03 18 12.3 +0.5
MBDF pmax pmax
comp=Z,7.0nm,0.6s
BNI Bardonecchia 33.76 303 P P 03 18 13.1 +0.4
BNI pmax pmax
comp=Z,17nm,0.7s
BNI Bardonecchia 33.76 303 P P 03 18 13.1 +0.4
LPG La Plagne 33.77 304 eP P 03 18 13.3 +0.3
LPG pmax pmax
comp=Z,17nm,0.8s
LPL La Plagne 33.78 304 eP P 03 18 13.3 +0.3
LPL pmax pmax
comp=Z,19nm,0.9s
ZAA0 Zalesovo Array 33.83 40 P P 03 18 12.8 -0.3
ZAA0 IAmb IAmb 03 18 13.7
comp=Z,6.6nm,0.8s
ZALV Zalesovo Beam 33.83 40 P P 03 18 12.9 -0.1
comp=Z,6.3nm,0.6s,baz=249,slow=8.5,SNR=20
ZALV Zalesovo Beam 33.83 40 i P P 03 18 12.8 -0.2
ZALV pmax pmax
comp=Z,6.0nm,0.6s
ZALV Zalesovo Beam 33.83 40 P P 03 18 13.2 +0.2
ECH Echery 33.96 309 P P 03 18 14.8 +0.5
ECH pmax pmax
comp=Z,11nm,1.3s
ECH Echery 33.96 309 P P 03 18 14.8 +0.5
ECH IAmb IAmb 03 18 15.4
comp=Z,11nm,1.3s
DGZ Jazzator, Alta 33.97 48 ⇑eP P 03 18 14.9 +0.4
DGZ pmax pmax
comp=Z,4.0nm,0.8s
CABF La Chapelle 34.38 306 eP P 03 18 18.6 +0.5
CABF pmax pmax
comp=Z,16nm,0.7s
HFS Hagfors 35.29 331 P P 03 18 25.6 0.0
comp=Z,8.8nm,0.8s,baz=123,slow=9.4,SNR=8.1
LOR Lormes 35.99 307 eP P 03 18 34.2 +2.4
LOR pmax pmax
comp=Z,6.0nm,1.0s
AVF Avril sur Loir 36.27 306 eP P 03 18 34.1 -0.1
AVF pmax pmax
comp=Z,5.0nm,0.8s
NB2 NORSAR Subarra 36.81 331 P P 03 18 37.5 -1.1
comp=Z,1.4nm,0.7s,baz=124,slow=8.6
NOA NORSAR Array B 36.81 331 P P 03 18 37.7 -0.9
comp=Z,1.0nm,0.7s,baz=123,slow=8.6,SNR=4.1
NC303 NORSAR Array S 36.85 332 P P 03 18 39.8 +0.9
MSEY Mahe Island 37.96 167 P P 03 18 50.1 +1.3
MSEY pmax pmax
comp=Z,39nm,1.0s
MSEY Mahe Island 37.96 167 P P 03 18 50.1 +1.3
ARCES ARCESS Array B 38.86 348 P P 03 18 55.8 0.0
comp=Z,4.2nm,1.0s,baz=156,slow=9.1,SNR=6.9
ARCES ARCESS Array B 38.86 348 P P 03 18 56.7 +0.9
ARCES ARCESS Array B 38.86 348 P P 03 18 56.7 +0.9
ARE0 ARCESS Array S 38.86 348 P P 03 18 56.0 +0.2
SHL Shillong 39.14 89 P P 03 18 58.5 -0.4
SHL pmax pmax
comp=Z,18nm,0.5s
SHL Shillong 39.14 89 P P 03 18 58.5 -0.4
GRR Gorron 39.28 308 eP P 03 19 01.9 +2.4
GRR pmax pmax
comp=Z,42nm,1.5s
SJPF Ste Jean 39.36 300 eP P 03 19 00.6 +0.3
SJPF pmax pmax
comp=Z,11nm,1.3s
QUIF Quistinic 40.78 307 eP P 03 19 11.3 -0.7
QUIF pmax pmax
comp=Z,82nm,1.9s
ESBB Sonseca Array 41.67 295 P P 03 19 20.1 +0.6

ESDC	**Sonseca Array**	**41.67**	**295**	P		**P**		**03 19 20.0**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=70,slow=8.1,SNR=8.5									
ESDC	**Sonseca Array**	**41.67**	**295**	P		**P**		**03 19 19.7**	**+0.1**
DSB	**Dublin**	**43.25**	**315**	P		**P**		**03 19 32.7**	**+0.6**
TOA0	**Torodi Ar. Sit**	**46.11**	**256**	P		**P**		**03 19 55.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**46.11**	**256**	P		**P**		**03 19 55.0**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=54,slow=7.9,SNR=12									
TORD	**Torodi Ar. Bea**	**46.11**	**256**	P		**P**		**03 19 56.7**	**+1.3**
SONM	**Songino Array**	**46.24**	**53**	P		**P**		**03 19 56.5**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=287,slow=9.4,SNR=8.9									
SONM	**Songino Array**	**46.24**	**53**	P		**P**		**03 19 57.1**	**+0.9**
SONM				pmax		pmax				
	comp=Z,1.0nm,0.8s									
SONM	**Songino Array**	**46.24**	**53**	P		**P**		**03 19 57.1**	**+0.9**
ULN				pmax		pmax				
	comp=Z,10.0nm,0.8s									
ULN	**Ulaanbaatar**	**46.68**	**53**	P		**P**		**03 20 00.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**48.04**	**94**	P		**P**		**03 20 09.6**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=291,slow=8.1,SNR=7.2									
CMAR	**Chiang Mai Arr**	**48.04**	**94**	P		**P**		**03 20 10.1**	**-0.4**
KMI	**Kunming**	**48.43**	**84**	⇑P		P		03 20 19.0	+5.3
KMI				pmax		pmax				
	comp=Z,14nm,0.9s									
BOD	**Bodaibo**	**50.58**	**39**	*e*P		**P**		**03 20 28.9**	**-0.5**
BOD				pmax		pmax				
	comp=Z,5.0nm,1.8s									
PBKT	**Sadao Pong**	**50.63**	**95**	P		**P**		**03 20 29.3**	**-0.9**
PBKT				IAmb		IAmb		03 20 33.9		
	comp=Z,5.1nm,1.2s									
HHC	**Hu-ho-hao-te**	**50.88**	**62**	*e*P		**P**		**03 20 31.8**	**-0.2**
HHC				pmax		pmax				
	comp=Z,16nm,0.5s									
HHC				pmax		pmax				
	comp=Z,3µm,6.1s									
GYA	**Guiyang**	**51.21**	**81**	*e*P		**P**		**03 20 33.6**	**-1.1**
GYA				pmax		pmax				
	comp=Z,7.0nm,0.9s									
HIA	**Hailar**	**54.85**	**50**	P		**P**		**03 21 01.4**	**+0.2**
HIA				pmax		pmax				
	comp=Z,10.0nm,1.0s									
HIA	**Hailar**	**54.85**	**50**	P		**P**		**03 21 01.4**	**+0.2**
DBIC	**Dimbokro**	**55.06**	**254**	P		**P**		**03 21 03.4**	**+0.3**
DBIC				pmax		pmax				
	comp=Z,8.0nm,1.0s									
DBIC	**Dimbokro**	**55.06**	**254**	P		**P**		**03 21 03.4**	**+0.3**
DBIC				IAmb		IAmb		03 21 04.5		
	comp=Z,7.6nm,1.0s									
PSI	**Prapat**	**56.52**	**111**	P		**P**		**03 21 13.7**	**+0.1**
PSI				pmax		pmax				
	comp=Z,8.0nm,1.1s									
RPSI	**Rantau Prapat**	**56.58**	**111**	P		**P**		**03 21 13.7**	**-0.3**
RPSI				IAmb		IAmb		03 21 21.0		
	comp=Z,8.3nm,1.1s									
IPM	**Ipoh**	**57.18**	**108**	P		**P**		**03 21 18.8**	**+0.5**
SUMG	**Summit**	**57.93**	**339**	P		**P**		**03 21 23.5**	**+0.3**
SUMG				pmax		pmax				
	comp=Z,18nm,1.3s									
SUMG	**Summit**	**57.93**	**339**	P		**P**		**03 21 23.4**	**+0.3**
YAK	**Yakutsk**	**58.05**	**33**	*e*P		P		03 21 17.8	-5.8
YAK				pmax		pmax				
	comp=Z,35nm,1.1s									
YAK				pmax		pmax				
	comp=N,137nm,1.2s									
YAK				pmax		pmax				
	comp=E,52nm,1.1s									
NJ2	**Nanjing**	**59.08**	**70**	*e*P		**P**		**03 21 30.5**	**-0.8**
NJ2				pmax		pmax				
	comp=Z,5.0nm,0.6s									
KLR	**Kul'dur**	**62.45**	**47**	*ce*P		**P**		**03 21 53.2**	**-0.8**
KLR				pmax		pmax				
	comp=Z,4.0nm,0.8s									
KSRS	**Korea Array**	**64.01**	**61**	P		**P**		**03 22 03.4**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=283,slow=7.3,SNR=4.2									
USRK	**Ussuriysk Ar.**	**64.35**	**53**	P		**P**		**03 22 05.2**	**-1.4**
	comp=Z,2.7nm,0.8s,baz=280,slow=7.8,SNR=4.8									
BOSA	**Boshof**	**64.59**	**202**	P		**P**		**03 22 09.8**	**+1.4**
	comp=Z,2.4nm,0.8s,baz=44,slow=8.0,SNR=4.7									
BOSA	**Boshof**	**64.59**	**202**	P		**P**		**03 22 09.5**	**+1.1**
SEY	**Seymchan**	**67.66**	**29**	*i* P		**P**		**03 22 28.5**	**+0.9**
YSS	**Yuzh-Sakhalins**	**70.13**	**47**	⇑*e*P		**P**		**03 22 43.0**	**-0.3**
YSS				pmax		pmax				
	comp=Z,15nm,1.0s									
IMAR	**Indian Mountai**	**80.22**	**9**	P		**P**		**03 23 40.4**	**-0.7**
BATG	**Bathurst New B**	**80.54**	**321**	P		**P**		**03 23 43.9**	**+0.7**
BATG				IAmb		IAmb		03 23 44.2		
	comp=Z,8.8nm,1.2s									
ILAR	**Eielson Array**	**82.15**	**6**	P		**P**		**03 23 51.6**	**+0.2**
ILAR	**Eielson Array**	**82.15**	**6**	P		**P**		**03 23 51.6**	**+0.2**

*NEIC **18** 03:13:09.7±1.6,32.5°N±0.1°×47.7°E±0.1°,1,h10km±2km, mb4.4/14,Error ellipse: s-maj=26.4km s-min=19.0km az=209.0*

*IDC **18** 03:13:10.8±2.2,32.78°N×47.56°E,h0km,mb3.8/7, mb1 3.9/8,mb1mx3.6/40,mbtmp3.8/8,ML3.8/1,MS4.3/1, Ms1 4.3/1,ms1mx3.7/56,Error ellipse: s-maj=51.2km s-min=24.1km az=157.0*

ISC 18 03:13:11.9±1.3,32.7N±0.2°×47.64E±0.1°,0,h15km,n31, σ0s78/30,mb4.0/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**6.70**	**327**	Pn	**Pn**	**03 14 50.8**	**+0.9**
MARD	**Mardin**	**7.25**	**311**	Pn	**Pn**	**03 14 56.9**	**-0.5**
KOPT	**Kop Dagi**	**9.27**	**324**	Pn	**Pn**	**03 15 24.7**	**-0.5**
BRTR	**Keskin Array B**	**13.27**	**306**	Pn	**Pn**	**03 16 20.5**	**+0.6**
ELL	**Elmali**	**15.12**	**290**		**Pn**	**03 16 45.2**	**+0.1**
ELL				IAmb	IAmb	03 16 47.4	
	comp=Z,31nm,1.2s						
CHGR	**Chuyangaron**	**18.43**	**65**	P	**P**	**03 17 25.9**	**-0.9**
ABKAR	**Akbulak array**	**18.89**	**26**	P	**Pn**	**03 17 32.2**	**0.0**
AKTO	**Aktyubinsk**	**19.27**	**20**	P	**Pn**	**03 17 37.5**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=199,slow=7.3,SNR=3.1						
AGG	**Agios Georgios**	**21.41**	**294**	P	**P**	**03 17 57.9**	**-1.4**
AGG				IAmb	IAmb	03 18 04.3	
	comp=Z,24nm,1.4s						
ITM	**Ithomi**	**21.51**	**289**	P	**P**	**03 17 60.0**	**-0.3**
ITM				IAmb	IAmb	03 18 01.3	
	comp=Z,11nm,0.9s						
ATD	**Arta Tunnel**	**21.57**	**193**	LR	LR	03 26 33.6	
	comp=Z,809nm,18.1s,baz=355,slow=37						
AKASG	**Malin Array Be**	**22.50**	**328**	P	**P**	**03 18 11.1**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=135,slow=9.2,SNR=4.6						
AKASG	**Malin Array Be**	**22.50**	**328**	P	**P**	**03 18 10.0**	**-0.7**
AKBB	**Malin Array Si**	**22.50**	**328**	P	**P**	**03 18 10.9**	**+0.2**
AKBB				IAmb	IAmb	03 18 11.5	
	comp=Z,9.5nm,1.3s						
BURAR	**Bucovina Array**	**22.57**	**318**	P	**P**	**03 18 11.7**	**+0.1**
BUR08	**Bucovina Ar. S**	**22.59**	**318**	P	**P**	**03 18 11.4**	**-0.5**
TIP	**Timpagrande**	**25.73**	**293**	P	**P**	**03 18 41.8**	**0.0**
TIP				IAmb	IAmb	03 18 45.9	
	comp=Z,13nm,1.4s						
PSZ	**Piszkesteto**	**25.84**	**314**	P	**P**	**03 18 43.4**	**+0.7**
PSZ				IAmb	IAmb	03 18 47.7	
	comp=Z,11nm,0.8s						
BVAR	**Borovoye Array**	**26.04**	**32**	P	**P**	**03 18 45.2**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=218,slow=16,SNR=1.8						
OJC	**Ojcow**	**26.97**	**319**	P	**P**	**03 18 52.7**	**-0.1**
OJC				IAmb	IAmb	03 18 58.4	
	comp=Z,5.1nm,0.7s						
MK31	**Makanchi Array**	**29.83**	**52**	P	**P**	**03 19 18.1**	**-0.4**
MKAR	**Makanchi Array**	**29.83**	**52**	P	**P**	**03 19 20.2**	**+1.8**
	comp=Z,1.4nm,0.7s,baz=247,slow=6.1,SNR=3.3						
MKAR	**Makanchi Array**	**29.83**	**52**	P	**P**	**03 19 17.4**	**-1.1**
SENIN	**Lac Senin/Sane**	**33.58**	**306**	P	**P**	**03 19 50.2**	**-1.3**
ZALV	**Zalesovo Beam**	**33.79**	**40**	P	**P**	**03 19 54.2**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=238,slow=8.0,SNR=2.7						
ZALV	**Zalesovo Beam**	**33.79**	**40**	P	**P**	**03 19 53.3**	**+0.2**
BNI	**Bardonecchia**	**33.82**	**303**	P	**P**	**03 19 53.2**	**-0.4**
ARCES	**ARCESS Array B**	**38.88**	**348**	P	**P**	**03 20 36.2**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=165,slow=8.3,SNR=1.6						
ESDC	**Sonseca Array**	**41.73**	**295**	P	**P**	**03 21 01.5**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=79,slow=7.3,SNR=2.2						
DSB	**Dublin**	**43.30**	**315**	P	**P**	**03 21 12.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**46.17**	**256**	P	**P**	**03 21 36.6**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=68,slow=7.5,SNR=3.0						

*IDC **18** 03:17:07.8±1.5,32.74°N×47.61°E,h0km,mb3.8/9, mb1 3.9/11,mb1mx3.7/41,mbtmp3.8/11,ML3.9/2,MS4.4/1, Ms1 4.4/1,ms1mx3.7/49,Error ellipse: s-maj=32.1km s-min=19.2km az=167.0*

*NEIC **18** 03:17:08.8±2.2,32.68N±0.04°×47.53E±0.05°,h10km±1km, Error ellipse: s-maj=6.6km s-min=6.3km az=124.0*

*ISN **18** 03:17:08.8±0.8,32.69N×47.68E,h14km±5km,ML3.6*

*TEH **18** 03:17:09.4,32.67N×47.59E,h16km,ML3.8*

ISC 18 03:17:10.3±1.1,32.66N±0.03°×47.53E±0.03,h20km±5km, n89,σ1s24/93,mb4.1/26,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.90**	**17**	*e*Pg	**Pg**	**03 17 25.8**	**-2.1**
IKFM	**Kafar-mosalman**	**0.90**	**17**		**Pg**	**03 17 25.8**	**-2.1**
IKMR	**Kamar-syah**	**1.11**	**40**	*e*Pg	**Pg**	**03 17 30.6**	**-1.3**
IKMR				*e*	**Sn**	**03 17 48.1**	**+2.6**
IKMR	**Kamar-syah**	**1.11**	**40**		**Pg**	**03 17 30.5**	**-1.3**
IDOB	**Doab**	**1.25**	**25**	*e*Pg	**Pb**	**03 17 33.1**	**-0.2**
IDOB	**Doab**	**1.25**	**25**		**Pb**	**03 17 33.0**	**-0.2**
IBDR	**Badra**	**1.42**	**289**	*e*Pg	**Pg**	**03 17 37.0**	**-0.8**
IBDR				*e*Sg	**Sg**	**03 17 57.0**	**+0.7**
IBDR				AML	AML	03 18 03.0	
	comp=N,698nm,0.3s						
IBDR				AML	AML	03 18 03.4	
	comp=E,1µm,0.6s						
BMDN	**Meydan**	**1.48**	**47**	*e*	**Sg**	**03 18 04.5**	**+6.2**
BMDN	**Meydan**	**1.48**	**47**		**Pb**	**03 17 36.7**	**-0.5**
IKOM	**Komasi**	**1.51**	**359**	*e*Pg	**Pg**	**03 17 38.4**	**-1.1**
IKOM				*e*		03 18 04.0	
IKOM	**Komasi**	**1.51**	**359**		**Pg**	**03 17 38.3**	**-1.2**
AHWZ	**Ahwaz**	**1.63**	**144**	*e*Pg	**Pb**	**03 17 40.0**	**+0.3**
AHWZ	**Ahwaz**	**1.63**	**144**		**Pb**	**03 17 40.0**	**+0.3**
AHWZ					**Sg**	**03 18 01.5**	**-1.4**
KCHF	**Cheshme Sefid,**	**1.66**	**346**	*e*Pg	**Pb**	**03 17 40.5**	**+0.1**
KCHF				*e*		03 18 07.6	
KER	**Kermanshah**	**1.75**	**349**	*e*Pg	**Pb**	**03 17 42.1**	**+0.2**
HSAM	**Samen**	**1.79**	**30**	*e*Pg	**Pb**	**03 17 41.7**	**-0.8**
HSAM				*e*		03 18 10.4	
HSAM	**Samen**	**1.79**	**30**		**Pb**	**03 17 41.7**	**-0.8**
IBZA	**Bozab**	**1.82**	**9**	*e*Pg	**Pb**	**03 17 42.5**	**-0.7**
IBZA				*e*		03 18 12.2	
IGHG	**Ghaleghazi**	**1.85**	**334**	*e*Pg	**Pb**	**03 17 43.9**	**+0.3**
IGHG				*e*		03 18 22.4	
IVIS	**Veis**	**1.95**	**343**	*e*Pn	**Pb**	**03 17 44.5**	**-0.7**
IVIS				*e*		03 18 15.5	
NSR	**Nassriya**	**2.03**	**216**	*e*Pn	**Pn**	**03 17 45.0**	**+1.6**
NSR				*e*Sn	**Sb**	**03 18 11.0**	**-0.3**
IDHR	**Dehrash**	**2.25**	**335**	*e*Pn	**Pb**	**03 17 49.3**	**-1.1**
IDHR				*e*		03 18 39.7	
IALM	**Almabolaq**	**2.26**	**13**	*e*Pn	**Pb**	**03 17 48.9**	**-1.7**
ILIN	**Lien**	**2.30**	**348**	*e*Pn	**Pn**	**03 17 48.2**	**+0.8**
ILIN				*e*		03 18 29.3	
HAGD	**Aghdareh**	**2.54**	**31**	*e*Pn	**Pn**	**03 17 52.3**	**+1.7**
HAGD				*e*		03 18 33.8	
JHBN	**Jahan bin**	**2.68**	**98**	*e*Pn	**Pn**	**03 17 52.7**	**0.0**
BHD	**Baghdad**	**2.72**	**284**	*e*Pn	**Pn**	**03 17 55.0**	**+2.1**
BHD				*e*Sn	**Sb**	**03 18 30.0**	**-1.2**
IPIR	**Pirpir**	**2.83**	**89**	*e*Pn	**Pn**	**03 17 55.1**	**+0.4**
IPIR				*e*		03 18 47.2	
ROKH	**ROKH**	**2.98**	**95**	*e*Pn	**Pn**	**03 17 57.1**	**+0.5**
IRAZ	**Razeghan**	**3.38**	**35**	*e*Pn	**Pn**	**03 18 04.5**	**+2.3**
IKLH	**Kolahrood**	**3.46**	**78**	*e*Pn	**Pn**	**03 18 04.1**	**+0.8**
QABG	**Abgarm-Qazvin**	**3.48**	**29**	*e*Pn	**Pn**	**03 18 04.7**	**+1.1**
IZEF	**Zefreh**	**4.05**	**85**	*e*Pn	**Pn**	**03 18 10.6**	**-0.8**
QSDN	**Sirdan**	**4.06**	**19**	*e*Pn	**Pn**	**03 18 13.4**	**+1.8**
IGZV	**Ghazvin**	**4.33**	**30**	*e*Pn	**Pn**	**03 18 14.4**	**-0.8**
QALM	**Alamut, Qazvin**	**4.55**	**33**	*e*Pn	**Pn**	**03 18 19.4**	**+1.0**
IDMV	**Damavand**	**4.73**	**51**	*e*Pn	**Pn**	**03 18 21.2**	**+0.4**
ANAR	**Anarak**	**5.24**	**83**	*e*Pn	**Pn**	**03 18 29.3**	**+1.7**
IPRN	**Peran**	**5.34**	**47**	*e*Pn	**Pn**	**03 18 30.6**	**+1.6**
IANJ	**Anjilo**	**5.99**	**60**	*e*Pn	**Pn**	**03 18 38.1**	**0.0**
GEVA	**Gevas**	**6.72**	**328**	Pn	**Pn**	**03 18 48.6**	**+0.6**
MARD	**Mardin**	**7.23**	**312**	Pn	**Pn**	**03 18 55.3**	**+0.4**
GEYT	**Alibeck**	**10.12**	**56**	LR	LR	03 24 32.7	
	comp=E,2µm,21.8s,baz=35,slow=44						
WSAR	**Wadi Sarin**	**13.56**	**131**	Pn	**Pn**	**03 20 23.8**	**+2.1**
	comp=E,0.6nm,0.3s,baz=1.5,slow=2.1,SNR=1.2						
KBL	**Kabul**	**18.02**	**78**		**Pn**	**03 21 18.5**	**-1.3**
IDI	**Anoyia**	**18.96**	**284**		**P**	**03 21 30.1**	**-0.3**
ABKAR	**Akbulak array**	**19.00**	**26**	P	**P**	**03 21 29.7**	**-0.9**
AKTO	**Aktyubinsk**	**19.38**	**21**	P	**P**	**03 21 34.9**	**+0.1**
	comp=E,0.4nm,0.3s,baz=198,slow=13,SNR=7.9						
KK31	**Karatay Array**	**20.86**	**53**	P	**P**	**03 21 49.4**	**-1.6**
KKAR	**Karatay Array**	**20.86**	**53**	P	**P**	**03 21 49.6**	**-1.3**
KKAR	**Karatay Array**	**20.86**	**53**	P	**P**	**03 21 50.0**	**-0.9**
KKAR				IAmb	IAmb	03 21 56.6	
	comp=Z,1.5nm,0.8s						
ITM	**Ithomi**	**21.45**	**289**	P	**P**	**03 21 57.8**	**+0.4**
NIL	**Nilore**	**21.54**	**80**	P	**P**	**03 21 57.1**	**-1.3**
NIL				IAmb	IAmb	03 22 04.7	
	comp=Z,6.9nm,0.8s						
AKASG	**Malin Array Be**	**22.52**	**329**	P	**P**	**03 22 07.8**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=141,slow=10,SNR=4.4						
AKBB	**Malin Array Si**	**22.52**	**329**	P	**P**	**03 22 07.6**	**-1.1**
AKBB				IAmb	IAmb	03 22 15.5	
	comp=Z,4.7nm,1.1s						
BURAR	**Bucovina Array**	**22.56**	**318**	P	**P**	**03 22 09.1**	**-0.2**
BUR08	**Bucovina Ar. S**	**22.59**	**318**	P	**P**	**03 22 09.7**	**+0.2**
DIVS	**Divibare**	**24.31**	**306**	P	**P**	**03 22 25.8**	**-0.8**
DIVS				IAmb	IAmb	03 22 32.5	
	comp=Z,7.1nm,1.2s						
KWP	**Kalwaria Pacla**	**25.06**	**320**	P	**P**	**03 22 33.6**	**+0.3**
KWP				IAmb	IAmb	03 22 35.5	
	comp=Z,5.6nm,0.9s						
TARG	**Taragay, Kyrgy**	**25.65**	**61**	P	**P**	**03 22 37.7**	**-1.5**
TARG				IAmb	IAmb	03 22 43.7	
	comp=Z,2.4nm,0.7s						
TIP	**Timpagrande**	**25.68**	**293**	P	**P**	**03 22 39.9**	**+0.8**
TIP				IAmb	IAmb	03 22 45.1	
	comp=Z,12nm,1.2s						
PSZ	**Piszkesteto**	**25.83**	**314**	P	**P**	**03 22 41.2**	**+0.8**
PSZ				IAmb	IAmb	03 22 44.2	
	comp=Z,6.5nm,0.8s						
BVAR	**Borovoye Array**	**26.16**	**32**	P	**P**	**03 22 42.7**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=224,slow=6.2,SNR=6.9						
KURBB	**Kurchatov Arra**	**29.00**	**43**	P	**P**	**03 23 07.6**	**-1.0**
	comp=Z,4.1nm,0.2s,baz=248,slow=9.2,SNR=4.2						
MK31	**Makanchi Array**	**29.96**	**52**	P	**P**	**03 23 16.1**	**-1.1**
MKAR	**Makanchi Array**	**29.96**	**52**	P	**P**	**03 23 16.7**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=248,slow=6.4,SNR=8.0						
MKAR	**Makanchi Array**	**29.96**	**52**	P	**P**	**03 23 16.6**	**-0.6**
GERES	**GERESS Array B**	**29.99**	**313**	P	**P**	**03 23 19.0**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=97,slow=9.5,SNR=4.0						
CIMO	**Cimolais**	**30.06**	**307**	P	**P**	**03 23 18.7**	**+0.6**
CIMO				IAmb	IAmb	03 23 25.1	
	comp=Z,9.4nm,1.5s						
CTI	**Castel Tesino**	**30.53**	**307**	P	**P**	**03 23 22.9**	**+0.6**
WTTA	**Wattenberg**	**30.83**	**309**	*i* P	**P**	**03 23 25.4**	**+0.2**
	comp=Z,2.2nm,0.7s						
VLC	**Villacollemand**	**31.04**	**303**	P	**P**	**03 23 27.4**	**+0.6**
SQTA	**Sankt Quirin**	**31.10**	**309**	*e*P	**P**	**03 23 28.1**	**+0.7**
	comp=Z,2.6nm,0.5s						
MOTA	**Moosalm**	**31.20**	**309**	*i* P	**P**	**03 23 28.0**	**-0.3**
	comp=Z,4.4nm,0.7s						
FETA	**Feichten**	**31.37**	**308**	*i* P	**P**	**03 23 30.5**	**+0.6**
	comp=Z,1.1nm,0.5s						
RETA	**Reutte**	**31.47**	**309**	*e*P	**P**	**03 23 31.2**	**+0.6**
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**31.98**	**341**	P	**P**	**03 23 34.6**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=198,slow=34,SNR=2.1						
FINES	**FINESS Array B**	**31.98**	**341**	P	**P**	**03 23 33.6**	**-1.2**
DAVA	**Damuels**	**32.00**	**308**	*e*P	**P**	**03 23 35.6**	**+0.3**
	comp=Z,5.5nm,0.7s						
TUE	**Stuetta**	**32.18**	**307**	P	**P**	**03 23 37.9**	**+0.9**
TUE				IAmb	IAmb	03 23 41.1	
	comp=Z,3.6nm,1.1s						
SENIN	**Lac Senin/Sane**	**33.55**	**306**	P	**P**	**03 23 49.1**	**+0.1**
BNI	**Bardonecchia**	**33.79**	**304**	P	**P**	**03 23 51.4**	**+0.4**
ZALV	**Zalesovo Beam**	**33.91**	**40**	P	**P**	**03 23 51.0**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=251,slow=9.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**33.91**	**40**	P	**P**	**03 23 50.2**	**-1.6**
ARCES	**ARCESS Array B**	**38.94**	**348**	P	**P**	**03 24 35.2**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=160,slow=11,SNR=2.7						
ESDC	**Sonseca Array**	**41.68**	**295**	P	**P**	**03 24 58.9**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=75,slow=8.4,SNR=9.1						
TOA0	**Torodi Ar. Sit**	**46.06**	**256**	P	**P**	**03 25 32.8**	**-0.3**
TOA0				IAmb	IAmb	03 25 37.5	
	comp=Z,3.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**46.06**	**256**	P	**P**	**03 25 33.3**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=69,slow=7.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**46.06**	**256**	P	**P**	**03 25 32.9**	**-0.2**

*IDC **18** 03:18:28.5±4.4,32.49N×47.73E,h0km,mb3.8/4, mb1 4.0/5,mb1mx3.5/43,mbtmp3.8/5,ML3.8/1,MS4.7/1,*

Ms1 4.7/1,ms1mx3.7/48,Error ellipse: s-maj=102.7km s-min=27.4km az=168.0

*NEIC **18** 03:18:31.0±1.7,32.69N±0.03°×47.64E±0.04,h10km±2km, Error ellipse: s-maj=7.2km s-min=3.0km az=55.0*

*ISN **18** 03:18:31.0±0.5,32.67N×47.69E,h14km±3km,ML3.5*

*TEH **18** 03:18:32.0,32.70N×47.73E,h17km,ML3.7*

ISC 18 03:18:32.0±1.3,32.63N±0.03°×47.67E±0.04,h16km±9km, n53,σ1s56/57,mb4.2/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.90**	**9**	*e*Sg	**Sg**	**03 18 59.1**	**-2.3**
IKFM	**Kafar-mosalman**	**0.90**	**9**	Sg	**Sg**	**03 18 59.0**	**-2.3**
IDOB	**Doab**	**1.23**	**20**	*e*Pg	**Pb**	**03 18 53.3**	**-1.7**
IDOB	**Doab**	**1.23**	**20**		**Pb**	**03 18 53.3**	**-1.7**
BMDN	**Meydan**	**1.42**	**43**	*e*Pg	**Pb**	**03 18 58.2**	**0.0**
BMDN				*e*		03 19 27.9	
BMDN	**Meydan**	**1.42**	**43**	Pg	**Pb**	**03 18 57.9**	**-0.3**
IBDR	**Badra**	**1.54**	**288**	*e*Pg	**Pn**	**03 18 59.0**	**+0.2**
IBDR				*e*Sg	**Sb**	**03 19 20.0**	**+0.6**
IBDR				AML	AML	03 19 25.0	
	comp=E,894nm,0.4s						
IBDR				AML	AML	03 19 27.7	
	comp=N,640nm,0.6s						
AHWZ	**Ahwaz**	**1.54**	**147**	*e*Sg	**Sg**	**03 19 23.2**	**+1.6**
AHWZ	**Ahwaz**	**1.54**	**147**	Sg	**Sg**	**03 19 23.1**	**+1.5**
IKOM	**Komasi**	**1.54**	**355**	*e*	**Sb**	**03 19 25.5**	**+5.8**
KCHF	**Cheshme Sefid,**	**1.72**	**342**	*e*	**Sg**	**03 19 29.1**	**+1.7**
KCHF				*e*Pg	**Pg**	**03 19 03.9**	**-1.2**
HSAM	**Samen**	**1.76**	**26**	*e*Pg	**Pb**	**03 19 03.6**	**-0.4**
HSAM				*e*		03 19 31.9	
IBZA	**Bozab**	**1.84**	**5**	*e*	**Sg**	**03 19 33.8**	**+2.5**
IBZA				*e*Pn	**Pb**	**03 19 05.2**	**-0.2**
IBZA	**Bozab**	**1.84**	**5**	Pg	**Pb**	**03 19 05.8**	**+0.4**
IGHG	**Ghaleghazi**	**1.93**	**332**	*e*		03 19 44.3	
IVIS	**Veis**	**2.01**	**340**	*e*		03 19 41.8	
IVIS				*e*Pn	**Pn**	**03 19 06.2**	**+0.8**
NSR	**Nassriya**	**2.08**	**219**	*e*Pn	**Pn**	**03 19 07.0**	**+0.8**
NSR				*e*Sn	**Sn**	**03 19 33.0**	**+1.3**
IDHR	**Dehrash**	**2.32**	**333**	*e*	**Sg**	**03 19 49.8**	**+3.1**
ILIN	**Lien**	**2.35**	**346**	*e*	**Sg**	**03 19 50.1**	**+2.4**
HAGD	**Aghdareh**	**2.50**	**29**	*e*Pn	**Pn**	**03 19 13.9**	**+1.6**
HAGD				*e*	**Sg**	**03 19 54.9**	**+2.4**
HAGD	**Aghdareh**	**2.50**	**29**	Pn	**Pn**	**03 19 13.8**	**+1.5**
BHD	**Baghdad**	**2.84**	**284**	*e*Pn	**Pn**	**03 19 18.0**	**+1.4**
BHD				*e*Sn	**Sn**	**03 19 52.0**	**+1.5**
GEVA	**Gevas**	**6.80**	**328**	Pn	**Pn**	**03 20 10.7**	**-0.6**
MARD	**Mardin**	**7.33**	**311**	Pn	**Pn**	**03 20 17.2**	**-1.3**
UOSS	**Minazif**	**10.71**	**134**	Pn	**Pn**	**03 21 05.5**	**+0.8**
ABKAR	**Akbulak array**	**18.98**	**25**	P	**P**	**03 22 51.6**	**-1.0**
IDI	**Anoyia**	**19.07**	**284**	P	**P**	**03 22 54.1**	**+0.3**
AKTO	**Aktyubinsk**	**19.37**	**20**	P	**P**	**03 22 56.9**	**+0.1**
	comp=N,0.3nm,0.3s,baz=207,slow=12,SNR=6.2						
GAR	**Garm**	**19.41**	**

	comp=E,1µm,0.5s									
SHGR					IAML			03 31 44.0		
	comp=N,1µm,0.5s									
SHGR	**Shooshtar-Gavs**	**1.05**	**122**	*e*Pg		**Pg**		**03 31 18.4**	**+0.5**	
IDOB	**Doab**	**1.16**	**17**	*e*Pg		**Pb**		**03 31 20.5**	**-0.1**	
BMDN	**Meydan**	**1.34**	**42**	*e*Pg		**Pn**		**03 31 23.1**	**-0.3**	
BMDN				*e*				03 31 49.8		
IKOM	**Komasi**	**1.51**	**352**	*e*Pg		**Pg**		**03 31 26.7**	**-0.1**	
IKOM				*e*				03 31 28.2		
AHWZ	**Ahwaz**	**1.54**	**150**	*e*Pg		**Pn**		**03 31 26.9**	**+1.0**	
IBDR	**Badra**	**1.60**	**286**	*e*Pg		**Pn**		**03 31 26.0**	**-0.8**	
IBDR				*e*Sg		**Sn**		**03 31 48.0**	**+0.2**	
IBDR					AML	AML		03 32 13.6		
	comp=E,478nm,0.5s									
IBDR					AML	AML		03 32 15.6		
	comp=N,3µm,2.3s									
HSAM	**Samen**	**1.69**	**25**	*e*Pg		**Pg**		**03 31 29.9**	**-0.3**	
HSAM				*e*				03 31 56.4		
KCHF	**Cheshme Sefid,**	**1.71**	**340**	*e*Pg		**Pb**		**03 31 29.7**	**-0.1**	
KCHF				*e*				03 32 01.0		
KER	**Kermanshah**	**1.78**	**343**	*e*Pn		**Pn**		**03 31 30.0**	**+0.5**	
IBZA	**Bozab**	**1.79**	**3**	*e*Pg		**Pg**		**03 31 31.6**	**-0.6**	
IBZA				*e*				03 31 34.6		
IGHG	**Ghaleghazi**	**1.93**	**329**	*e*Pg		**Pg**		**03 31 35.0**	**+0.3**	
IVIS	**Veis**	**2.00**	**338**	*e*Pn		**Pb**		**03 31 34.9**	**+0.2**	
IVIS				*e*				03 31 35.8		
KHMZ	**Khomeyn**	**2.13**	**59**	*e*Pn		**Pb**		**03 31 36.4**	**-0.6**	
KHMZ	**Khomeyn**	**2.13**	**59**	*e*Pn		**Pb**		**03 31 36.4**	**-0.6**	
NSR	**Nassriya**	**2.16**	**220**	*e*Pn		**Pn**		**03 31 34.0**	**-0.4**	
NSR				*e*Sn		**Sn**		**03 32 00.0**	**-1.6**	
IALM	**Almabolaq**	**2.21**	**9**	*e*Pn		**Pb**		**03 31 37.4**	**-1.0**	
IDHR	**Dehrash**	**2.32**	**331**	*e*Pn		**Pb**		**03 31 39.3**	**-1.0**	
IDHR				*e*				03 32 15.1		
ILIN	**Lien**	**2.33**	**344**	*e*Pn		**Pn**		**03 31 38.5**	**+1.4**	
ILIN				*e*				03 31 45.3		
HAGD	**Aghdareh**	**2.43**	**28**	*e*Pn		**Pb**		**03 31 40.6**	**-1.6**	
HAGD				*e*				03 32 17.5		
JHBN	**Jahan bin**	**2.50**	**99**	*e*Pn		**Pn**		**03 31 39.8**	**+0.3**	
JHBN				*e*				03 32 28.4		
HSRG	**Sareghieh**	**2.60**	**9**	*e*Pn		**Pb**		**03 31 43.5**	**-1.6**	
HSRG				*e*				03 32 35.0		
IPIR	**Pirpir**	**2.64**	**89**	*e*Pn		**Pn**		**03 31 42.9**	**+1.5**	
IPIR				*e*				03 32 27.8		
ASAO	**Ashtian**	**2.66**	**45**	*e*Pn		**Pn**		**03 31 43.4**	**+1.8**	
ASAO				*e*Sg		**Sg**		**03 32 22.0**	**-1.3**	
ASAO	**Ashtian**	**2.66**	**45**	*e*Pn		**Pn**		**03 31 43.4**	**+1.8**	
ROKH	**ROKH**	**2.79**	**96**	*e*Pn		**Pn**		**03 31 44.4**	**+1.0**	
ROKH				*e*				03 31 51.5		
BHD	**Baghdad**	**2.90**	**283**	*e*Pn		**Pn**		**03 31 45.0**	**+0.3**	
BHD				*e*Sn		**Sn**		**03 32 19.0**	**-1.0**	
IBRJ	**Brojen**	**3.06**	**104**	*e*Pn		**Pn**		**03 31 47.3**	**+0.1**	
IRAZ	**Razeghan**	**3.27**	**33**	*e*Pn		**Pn**		**03 31 52.9**	**+3.0**	
IKLH	**Kolahrood**	**3.27**	**78**	*e*Pn		**Pn**		**03 31 51.8**	**+1.7**	
IKLH				*e*				03 32 50.4		
QABG	**Abgarm-Qazvin**	**3.38**	**26**	*e*Pn		**Pn**		**03 31 53.4**	**+1.8**	
IGAR	**Gharneh**	**3.63**	**93**	*e*Pn		**Pn**		**03 31 55.5**	**+0.6**	
IZEF	**Zefreh**	**3.86**	**85**	*e*Pn		**Pn**		**03 31 59.8**	**+1.7**	
QSDN	**Sirdan**	**4.00**	**17**	*e*Pn		**Pn**		**03 32 02.2**	**+2.2**	
IRAM	**Ramesheh**	**4.01**	**101**	*e*Pn		**Pn**		**03 32 00.0**	**-0.2**	
CHTH	**Charan**	**4.26**	**40**	*e*Pn		**Pn**		**03 32 05.3**	**+1.6**	
CHTH	**Charan**	**4.26**	**40**	*e*Pn		**Pn**		**03 32 05.3**	**+1.6**	
QALM	**Alamut, Qazvin**	**4.44**	**32**	*e*Pn		**Pn**		**03 32 08.5**	**+2.4**	
IDMV	**Damavand**	**4.58**	**50**	*e*Pn		**Pn**		**03 32 09.2**	**+1.2**	
ANAR	**Anarak**	**5.05**	**83**	*e*Pn		**Pn**		**03 32 15.2**	**+0.9**	
ISAD	**Sadrabad**	**5.08**	**97**	*e*Pn		**Pn**		**03 32 15.0**	**+0.1**	
IFIR	**Firoozkooh**	**5.09**	**53**	*e*Pn		**Pn**		**03 32 16.0**	**+0.9**	
IALA	**Alasht**	**5.39**	**49**	*e*Pn		**Pn**		**03 32 20.4**	**+1.3**	
ISHM	**Shahmirzad**	**5.55**	**54**	*e*Pn		**Pn**		**03 32 22.3**	**+1.0**	
ICHK	**Chekchek**	**5.64**	**93**	*e*Pn		**Pn**		**03 32 23.2**	**+0.7**	
IANJ	**Anjilo**	**5.82**	**60**	*e*Pn		**Pn**		**03 32 25.7**	**+0.7**	
IMEH	**Mehriz**	**5.96**	**101**	*e*Pn		**Pn**		**03 32 26.5**	**-0.5**	
IBAF	**Bafgh**	**6.71**	**97**	*e*Pn		**Pn**		**03 32 36.7**	**-0.5**	
TPRV	**Parvadeh(Tabas**	**7.52**	**85**	*e*Pn		**Pn**		**03 32 48.6**	**+0.3**	
AKTO	**Aktyubinsk**	**19.30**	**20**	P		**Pn**		**03 35 24.2**	**-0.3**	
	comp=N,0.2nm,0.3s,baz=197,slow=10,SNR=5.7									
BVAR	**Borovoye Array**	**26.05**	**32**	P		**P**		**03 36 31.2**	**-0.8**	
	comp=N,0.9nm,0.6s,baz=203,slow=9.4,SNR=5.6									
FINES	**FINESS Array B**	**32.03**	**340**	P		**P**		**03 37 24.1**	**-0.9**	
	comp=N,2.3nm,0.9s,baz=134,slow=9.9,SNR=1.8									
ARCES	**ARCESS Array B**	**38.97**	**348**	P		**P**		**03 38 24.5**	**-0.1**	
	comp=N,2.6nm,1.0s,baz=156,slow=9.1,SNR=5.6									
ESDC	**Sonseca Array**	**41.85**	**295**	P		**P**		**03 38 50.9**	**+1.9**	
	comp=N,0.8nm,0.9s,baz=73,slow=7.5,SNR=4.6									

*IDC **18** 03:35:21.9±3.8, 42°.29N×84°.34E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.4/56, mbtmp3.5/6, ML2.7/2, Error ellipse: s-maj=95.8km s-min=26.4km az=92.0*
*BJI **18** 03:35:25.8±0.0, 42°.28N×84°.36E, h4km, ML3.5/5*
*NNC **18** 03:35:29.9±1.7, 42°.59N×84°.17E, h12km±6km, mb4.1, mpv3.8, Error ellipse: s-maj=12.9km s-min=6.8km az=139.0*
*SOME **18** 03:35:30.3, 42°.48N×84°.08E, h10km*
ISC 18 03:35:24.9±1.0, 42°.44N±0°.06×84°.26E±0°.04, h10km, n61, σ1§75/89, mb3.7/4, 6C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.87**	**60**	*e*Pn	**Pb**	**03 36 14.8**	**-1.3**
WMQ				Sg	**Sg**	**03 36 54.1**	**-2.8**
WMQ				smax	smax		
	comp=N,60nm,0.9s						
WMQ				smax	smax		
	comp=E,100nm,0.7s						
KTMS	**Ketmen**	**3.04**	**291**	*e*P	**Pg**	**03 36 23.5**	**+0.5**
	5.2nm,0.1s						
KTMS				*e*S	**Sg**	**03 37 02.1**	**-0.4**
	116nm,0.5s						
KTMS	**Ketmen**	**3.04**	**291**	Pg	**Pg**	**03 36 23.5**	**+0.5**
	5.2nm,0.1s						
KTMS				Lg	Lg	03 37 02.1	
	116nm,0.5s						
SHLS	**Shalkode**	**3.60**	**283**	*e*P	**Pb**	**03 36 28.0**	**-0.7**
	42nm,0.3s						
SHLS				*e*S	**Sb**	**03 37 10.2**	**-2.3**
	151nm,0.4s						
SHLS	**Shalkode**	**3.60**	**283**	Pg	**Pb**	**03 36 28.0**	**-0.7**
	42nm,0.3s						
SHLS				Lg	Lg	03 37 10.2	
	151nm,0.4s						
PDGK	**Podgornoye**	**3.62**	**286**	Pg	**Pg**	**03 36 33.0**	**-1.1**
	11nm,0.5s						
PDGK				Lg	Lg	03 37 19.2	
	25nm,0.5s						
DJR	**Jarkent**	**3.76**	**302**	*e*P	**Pg**	**03 36 36.4**	**-0.5**
	20nm,0.5s						
DJR				*e*S	**Sg**	**03 37 24.6**	**-1.1**
	49nm,0.3s						
DJR	**Jarkent**	**3.76**	**302**	Pg	**Pg**	**03 36 36.4**	**-0.5**
	20nm,0.5s						
DJR				Lg	Lg	03 37 25.1	
	49nm,0.4s						
UZB	**Uzynbulak**	**3.92**	**282**	*e*P	**Pg**	**03 36 39.3**	**-0.6**
	10nm,0.3s						
UZB				*e*S	**Sg**	**03 37 29.4**	**-1.2**
	37nm,0.4s						
UZB	**Uzynbulak**	**3.92**	**282**	Pg	**Pg**	**03 36 39.3**	**-0.6**
	10nm,0.3s						
UZB				Lg	Lg	03 37 29.4	
	37nm,0.4s						
SATY	**Saty**	**4.35**	**280**	*e*P	**Pg**	**03 36 48.7**	**+0.5**
	7.0nm,0.2s						
SATY				*e*S	**Sg**	**03 37 45.2**	**+0.6**
	50nm,0.3s						
SATY	**Saty**	**4.35**	**280**	Pg	**Pg**	**03 36 48.7**	**+0.5**
	7.0nm,0.2s						
SATY				Lg	Lg	03 37 45.2	
	34nm,0.3s						
KAPS	**Kapalarasan**	**4.54**	**310**	*e*P	**Pg**	**03 36 50.7**	**-1.1**
	5.3nm,0.4s						
KAPS				*e*S	**Sg**	**03 37 48.6**	**-2.0**
	19nm,0.2s						
KAPS	**Kapalarasan**	**4.54**	**310**	Pg	**Pg**	**03 36 50.7**	**-1.1**
	5.3nm,0.4s						
MK31	**Makanchi Array**	**4.57**	**343**	⇑Pn	**Pn**	**03 36 36.7**	**+2.7**
	0.1nm,0.1s,baz=158,slow=14						
MK31				Pg	**Pg**	**03 36 51.0**	**-1.4**
	2.0nm,0.3s,baz=156,slow=16,SNR=15						
MK31				⇓Sn	**Sn**	**03 37 28.3**	**+1.1**
	13nm,0.7s						
MK31				⇓Lg	Lg	03 37 49.9	
	48nm,0.6s,baz=155,slow=28						
MKAR	**Makanchi Array**	**4.57**	**343**	Pn	**Pn**	**03 36 36.7**	**+2.6**
	0.5nm,0.3s,baz=161,slow=14,SNR=43						
MKAR				Lg	Lg	03 37 51.3	
	14nm,0.3s,baz=159,slow=30,SNR=15						
MNBS	**Baschi**	**4.58**	**293**	*e*P	**Pg**	**03 36 50.4**	**-2.1**
	10nm,0.5s						
MNBS				*e*S	**Sg**	**03 37 48.2**	**-3.6**
	30nm,0.3s						
MNBS	**Baschi**	**4.58**	**293**	Pg	**Pg**	**03 36 50.4**	**-2.1**
	10nm,0.5s						
MNBS				Lg	Lg	03 37 48.2	
	30nm,0.3s						
MAKZ	**Makanchi**	**4.66**	**340**	⇑Pn	**Pn**	**03 36 38.6**	**+3.4**
	0.4nm,0.2s						
MAKZ				⇑Pg	**Pg**	**03 36 53.4**	**-0.6**
	3.4nm,0.5s						
MAKZ				⇓Sn	**Sn**	**03 37 30.9**	**+1.5**
	9.1nm,0.8s						
MAKZ				⇓Lg	Lg	03 37 52.0	
	14nm,0.5s						
TDK	**Taldyqorghan**	**4.95**	**303**	*e*P	**Pg**	**03 36 59.2**	**-0.5**
	64nm,0.4s						
TDK				*e*S	**Sg**	**03 38 03.5**	**-0.3**
	80nm,0.4s						
TDK	**Taldyqorghan**	**4.95**	**303**	Pg	**Pg**	**03 37 00.2**	**+0.5**
	64nm,0.4s						
TDK				Lg	Lg	03 38 04.9	
	80nm,0.4s						
ARXS	**Arharly**	**5.01**	**293**	*e*P	**Pg**	**03 36 59.0**	**-1.9**
	12nm,0.4s						
ARXS				*e*S	**Sg**	**03 38 03.2**	**-2.6**
	33nm,0.6s						
ARXS	**Arharly**	**5.01**	**293**	Pg	**Pg**	**03 36 59.0**	**-1.9**
	12nm,0.4s						
ZSN	**Zaisan**	**5.02**	**5**	*e*P	**Pg**	**03 37 01.4**	**+0.4**
	12nm,0.3s						
ZSN				*e*S	**Sg**	**03 38 06.7**	**+0.6**
	45nm,0.7s						
ZSN	**Zaisan**	**5.02**	**5**	Pg	**Pg**	**03 37 01.6**	**+0.5**
	12nm,0.3s						
ZSN				Lg	Lg	03 38 07.0	
	45nm,0.7s						
KOTS	**Kotyrbulak**	**5.31**	**281**	*e*P	**Pg**	**03 37 06.3**	**-0.3**
	17nm,0.4s						
KOTS				*e*S	**Sg**	**03 38 15.7**	**+0.2**
	32nm,0.5s						
KOTS	**Kotyrbulak**	**5.31**	**281**	Pg	**Pg**	**03 37 06.3**	**-0.3**
	17nm,0.4s						
MDOK	**Medeo**	**5.35**	**280**	*e*P	**Pg**	**03 37 06.0**	**-1.4**
	6.1nm,0.4s						
MDOK				*e*S	**Sg**	**03 38 15.0**	**-1.7**
	23nm,0.6s						
MDOK	**Medeo**	**5.35**	**280**	⇑Pn	**Pn**	**03 36 47.5**	**+2.5**
	2.3nm,0.6s						
MDOK				Pg	**Pg**	**03 37 05.8**	**-1.6**
	4.3nm,0.6s						
MDOK				Sn	**Sn**	**03 37 53.1**	**+6.4**
	7.5nm,0.7s						
MDOK				⇓Lg	Lg	03 38 17.3	
	20nm,0.6s						
MDOK	**Medeo**	**5.35**	**280**	Pg	**Pg**	**03 37 07.4**	**0.0**
	6.1nm,0.4s						
MDOK				Lg	Lg	03 38 17.3	
	23nm,0.6s						
TNSS	**Tian-Shan**	**5.42**	**279**	*e*P	**Pg**	**03 37 08.3**	**-0.3**
	6.7nm,0.5s						
TNSS				*e*S	**Sg**	**03 38 18.4**	**-0.4**
	17nm,0.5s						
TNSS	**Tian-Shan**	**5.42**	**279**	Pg	**Pg**	**03 37 05.4**	**-3.3**
	5.5nm,0.4s						
TNSS				Lg	Lg	03 38 15.4	
	17nm,0.5s						
CHKK	**Chushkaly**	**5.50**	**287**	*e*P	**Pg**	**03 37 10.3**	**+0.1**
	3.4nm,0.5s						
CHKK				*e*S	**Sg**	**03 38 22.4**	**+0.9**
	12nm,0.5s						
CHKK	**Chushkaly**	**5.50**	**287**	Pg	**Pg**	**03 37 10.3**	**+0.1**
	3.4nm,0.5s						
CHKK				Lg	Lg	03 38 22.4	
	12nm,0.5s						
IZV	**Izvestkoviy**	**5.66**	**279**	*e*P	**Pg**	**03 37 12.0**	**-1.3**
	7.9nm,0.5s						
IZV				*e*S	**Sg**	**03 38 25.4**	**-1.2**
	25nm,0.6s						
IZV	**Izvestkoviy**	**5.66**	**279**	Pg	**Pg**	**03 37 12.0**	**-1.3**
	7.9nm,0.5s						
IZV				Lg	Lg	03 38 25.4	
	25nm,0.6s						
KTBS	**Karatobe**	**5.69**	**285**	*e*P	**Pg**	**03 37 13.3**	**-0.5**
	3.5nm,0.3s						
KTBS				*e*S	**Sg**	**03 38 27.1**	**-0.5**
	24nm,0.6s						
KTBS	**Karatobe**	**5.69**	**285**	Pg	**Pg**	**03 37 11.9**	**-2.0**
	3.5nm,0.3s						
KTBS				Lg	Lg	03 38 25.0	
	24nm,0.6s						
MTBS	**Maitube**	**5.80**	**279**	*e*P	**Pg**	**03 37 14.1**	**-1.8**
	4.2nm,0.2s						
MTBS				*e*S	**Sg**	**03 38 28.8**	**-2.3**
	8.0nm,0.3s						
MTBS	**Maitube**	**5.80**	**279**	Pg	**Pg**	**03 37 14.1**	**-1.8**
	4.2nm,0.2s						
MTBS				Lg	Lg	03 38 28.8	
	8.0nm,0.3s						
KUU	**Kurty**	**5.97**	**287**	*e*P	**Pg**	**03 37 18.3**	**-0.9**
	1.2nm,0.1s						
KUU				*e*S	**Sg**	**03 38 36.0**	**-0.5**
	16nm,0.6s						
KUU	**Kurty**	**5.97**	**287**	Pg	**Pg**	**03 37 16.6**	**-2.5**
	1.1nm,0.3s						
KUU				Lg	Lg	03 38 33.1	
	16nm,0.6s						
KST	**Kastek**	**6.14**	**278**	*e*P	**Pg**	**03 37 21.3**	**-1.1**
	5.5nm,0.4s						
KST				*e*S	**Sg**	**03 38 40.4**	**-1.5**
	12nm,0.6s						
KST	**Kastek**	**6.14**	**278**	Pg	**Pg**	**03 37 19.6**	**-2.8**
	6.9nm,0.6s						
KST				Lg	Lg	03 38 38.2	
	12nm,0.6s						
DGS	**Degeres**	**6.29**	**280**	*e*P	**Pg**	**03 37 24.4**	**-0.9**
	3.7nm,0.6s						
DGS				*e*S	**Sg**	**03 38 46.5**	**-0.2**
	16nm,0.5s						
DGS	**Degeres**	**6.29**	**280**	Pg	**Pg**	**03 37 23.7**	**-1.5**
	3.7nm,0.6s						
DGS				Lg	Lg	03 38 45.5	
	16nm,0.5s						
TKM2	**Tokmak 2**	**6.40**	**277**	⇑Pn	**Pn**	**03 37 01.9**	**+2.5**
	1.3nm,0.2s						
TKM2				⇓Sn	**Sn**	**03 38 14.6**	**+2.0**
	5.3nm,0.6s						
TKM2				⇓Lg	Lg	03 38 49.8	
	12nm,0.7s						
KRBS	**Karabastau**	**6.41**	**284**	*e*P	**Pg**	**03 37 26.3**	**-1.2**
	2.8nm,0.4s						
KRBS				*e*S	**Sg**	**03 38 49.8**	**-0.8**
	5.6nm,0.4s						
KRBS	**Karabastau**	**6.41**	**284**	Pg	**Pg**	**03 37 26.3**	**-1.2**
	2.8nm,0.4s						
KRBS				Lg	Lg	03 38 49.8	
	5.6nm,0.4s						
BTLS	**Baital**	**7.84**	**293**	*e*P	**Pg**	**03 37 52.8**	**-2.1**
	1.2nm,0.4s						
BTLS				*e*S	**Sg**	**03 39 34.6**	**-1.7**
	1.8nm,0.3s						
BTLS	**Baital**	**7.84**	**293**	Pg	**Pg**	**03 37 51.3**	**-3.6**
	2.2nm,0.6s						
BTLS				Lg	Lg	03 39 34.0	
	1.9nm,0.4s						
MRKS	**Merke**	**8.15**	**276**	*e*P	**Pg**	**03 37 58.0**	**-2.8**
	2.0nm,0.3s						
MRKS				*e*S	**Sg**	**03 39 44.0**	**-2.2**
	2.9nm,0.5s						
MRKS	**Merke**	**8.15**	**276**	Pg	**Pg**	**03 37 58.0**	**-2.8**
	2.0nm,0.3s						
MRKS				Lg	Lg	03 39 44.0	
	2.9nm,0.5s						
KURBB	**Kurchatov Arra**	**9.08**	**336**	Lg	Lg	03 40 13.6	
	0.2nm,0.3s,baz=152,slow=32,SNR=5.8						
KURBB	**Kurchatov Arra**	**9.08**	**336**	⇓Lg	Lg	03 40 15.2	
	16nm,0.7s						
KURK	**Kurchatov**	**9.14**	**337**	⇑Lg	Lg	03 40 15.8	
	13nm,0.8s						
ZALV	**Zalesovo Beam**	**11.52**	**2**	Pn	**Pn**	**03 38 08.9**	**-0.3**
	0.2nm,0.3s,baz=182,slow=11,SNR=2.5						
ARCES	**ARCESS Array B**	**40.14**	**332**	P	**P**	**03 43 00.9**	**+0.4**
	1.5nm,0.8s,baz=98,slow=8.0,SNR=7.7						
NOA	**NORSAR Array B**	**46.18**	**320**	P	**P**	**03 43 49.2**	**-0.2**
	0.2nm,0.4s,baz=79,slow=7.7,SNR=1.3						
GERES	**GERESS Array B**	**48.12**	**303**	P	**P**	**03 44 05.5**	**+0.7**
	0.2nm,0.4s,baz=57,slow=11,SNR=1.6						
TORD	**Torodi Ar. Bea**	**75.80**	**275**	P	**P**	**03 47 09.6**	**-1.7**
	1.0nm,1.1s,baz=47,slow=4.0,SNR=6.4						

*IDC **18** 03:35:42.9±6.8, 10°.59S×161°.62E, h51km±52km, mb3.7/5, mb1 3.8/6, mb1mx3.5/43, mbtmp4.0/6, ML4.3/1, Error ellipse: s-maj=46.7km s-min=26.0km az=108.0*
ISC 18 03:35:44.1±1.4, 10°.6S±0°.2×161°.6E±0°.2, h61km, n6, σ0§45/7, mb3.8/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.96**	**305**	P	**Pn**	**03 36 14.5**	**-0.6**
	102nm,0.3s,baz=140,slow=5.9,SNR=8.1						
HNR				S	**Sn**	**03 36 38.9**	**+0.3**
	383nm,0.3s,baz=332,slow=14,SNR=7.3						
WRA	**Warramunga Arr**	**27.84**	**247**	P	**P**	**03 41 28.4**	**+0.4**
	1.8nm,0.7s,baz=74,slow=9.3,SNR=7.8						
ASAR	**Alice Springs**	**29.40**	**240**	P	**P**	**03 41 41.8**	**-0.1**
	0.9nm,1.0s,baz=73,slow=9.4,SNR=7.4						
USRK	**Ussuriysk Ar.**	**60.77**	**336**	P	**P**	**03 45 49.9**	**+0.4**
	1.8nm,0.9s,baz=180,slow=7.2,SNR=2.7						
SONM	**Songino Array**	**75.90**	**325**	P	**P**	**03 47 24.5**	**+0.2**
	0.8nm,0.6s,baz=134,slow=6.5,SNR=4.3						
ILAR	**Eielson Array**	**84.42**	**20**	P	**P**	**03 48 09.3**	**-0.2**
	0.7nm,0.9s,baz=252,slow=4.6,SNR=4.6						

*IDC **18** 03:37:15.7±4.4, 32°.61N×47°.63E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.4/48, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=94.8km s-min=33.3km az=169.0*
*TEH **18** 03:37:18.2, 32°.63N×47°.62E, h18km, ML3.5*
*ISN **18** 03:37:18.2±0.7, 32°.75N×47°.63E, h14km±4km, ML3.2*
ISC 18 03:37:18.5±1.3, 32°.57N±0°.03×47°.62E±0°.04, h14km±10km, n28, σ1§57/34, mb3.5/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.97**	**11**	*e*Pg	**Pg**	**03 37 36.0**	**-1.3**
IKMR	**Kamar-syah**	**1.14**	**34**	*e*Pg	**Pb**	**03 37 39.1**	**-0.9**
IKMR				*e*		03 37 59.5	
IDOB	**Doab**	**1.30**	**21**	*e*Pg	**Pn**	**03 37 41.4**	**-1.1**
BMDN	**Meydan**	**1.49**	**42**	*e*Pg	**Pb**	**03 37 45.5**	**-0.7**
BMDN				*e*	**Sg**	**03 38 08.0**	**+1.4**
AHWZ	**Ahwaz**	**1.51**	**145**	*e*Pg	**Pg**	**03 37 47.7**	**+0.1**
IBDR	**Badra**	**1.52**	**291**	*e*Pg	**Pn**	**03 37 45.0**	**-0.4**
IBDR				*e*Sg	**Sn**	**03 38 05.0**	**0.0**
IBDR				AML	AML	03 38 12.4	
	comp=E,405nm,0.5s						
IBDR				AML	AML	03 38 15.3	
	comp=N,313nm,0.6s						
IKOM	**Komasi**	**1.60**	**357**	*e*	**Sb**	**03 38 13.9**	**+5.6**
KCHF	**Cheshme Sefid,**	**1.77**	**344**	*e*	**Sb**	**03 38 16.2**	**+3.1**
HSAM	**Samen**	**1.83**	**26**	*e*Pg	**Pb**	**03 37 51.3**	**-0.7**
HSAM				*e*	**Sg**	**03 38 18.7**	**+1.2**
IBZA	**Bozab**	**1.91**	**6**	*e*Pg	**Pn**	**03 37 51.8**	**+0.9**
IBZA				*e*		03 38 00.5	
IGHG	**Ghaleghazi**	**1.96**	**334**	*e*Pg	**Pb**	**03 37 53.1**	**-1.1**
NSR	**Nassriya**	**2.00**	**219**	*e*Pn	**Pb**	**03 37 55.0**	**+0.3**
NSR				*e*Sn	**Sb**	**03 38 21.0**	**+1.5**
IVIS	**Veis**	**2.06**	**342**	*e*Pn	**Pn**	**03 37 53.7**	**+0.9**
IVIS				*e*		03 38 27.0	
IDHR	**Dehrash**	**2.36**	**334**	*e*Pn	**Pn**	**03 37 58.4**	**+1.3**
IDHR				*e*		03 38 38.1	
HAGD	**Aghdareh**	**2.58**	**29**	*e*Pn	**Pn**	**03 38 00.8**	**+0.7**
HAGD				*e*	**Sg**	**03 38 40.3**	**-1.1**
JHBN	**Jahan bin**	**2.60**	**97**	*e*Pn	**Pn**	**03 38 01.2**	**+0.8**
JHBN				*e*		03 38 50.2	
HSRG	**Sareghieh**	**2.72**	**11**	*e*Pn	**Pn**	**03 38 03.9**	**+1.8**
IPIR	**Pirpir**	**2.76**	**87**	*e*Pn	**Pn**	**03 38 03.8**	**+1.1**
BHD	**Baghdad**	**2.82**	**285**	*e*Pn	**Pn**	**03 38 04.0**	**+0.9**
BHD				*e*Sn	**Sn**	**03 38 38.0**	**+1.1**
BHD				AML	AML	03 38 55.2	
	comp=E,189nm,0.5s						
IKLH	**Kolahrood**	**3.41**	**76**	*e*Pn	**Pn**	**03 38 11.9**	**+0.3**
IKLH				*e*		03 39 13.5	
IRAZ	**Razeghan**	**3.42**	**33**	*e*Pn	**Pn**	**03 38 13.2**	**+1.6**
IZEF	**Zefreh**	**3.98**	**84**	*e*Pn	**Pn**	**03 38 20.5**	**+1.1**
QSDN	**Sirdan**	**4.13**	**18**	*e*Pn	**Pn**	**03 38 21.9**	**+0.5**
AKTO	**Aktyubinsk**	**19.44**	**20**	P	**P**	**03 41 44.0**	**-0.5**
	comp=E,0.3nm,0.3s,baz=206,slow=12,SNR=5.0						
BVAR	**Borovoye Array**	**26.20**	**32**	P	**P**	**03 42 51.3**	**-1.4**
	comp=E,0.8nm,0.6s,baz=242,slow=3.1,SNR=4.7						
MKAR	**Makanchi Array**	**29.95**	**52**	P	**P**	**03 43 25.4**	**-0.9**
	comp=E,0.1nm,0.4s,baz=241,slow=7.1,SNR=3.8						
FINES	**FINESS Array B**	**32.09**	**341**	P	**P**	**03 43 43.5**	**-1.4**
	comp=E,4.6nm,1.0s,

ASAO	**Ashtian**	**2.66**	**48**	*e*Pn	**Pb**	**03 46 15.4**	**-1.1**
IPIR	**Pirpir**	**2.76**	**91**	*e*Pn	**Pb**	**03 46 15.3**	**-2.9**
BHD	**Baghdad**	**2.77**	**281**	*e*Pn	**Pn**	**03 46 14.0**	**+1.1**
BHD				*e*Sn	**Sn**	**03 46 48.0**	**+1.7**
ROKH	**ROKH**	**2.92**	**98**	*e*Pn	**Pn**	**03 46 17.1**	**+1.9**
IRAZ	**Razeghan**	**3.23**	**36**	*e*Pn	**Pn**	**03 46 21.4**	**+1.8**
QABG	**Abgarm-Qazvin**	**3.33**	**29**	*e*Pn	**Pn**	**03 46 23.1**	**+2.2**
IKLH	**Kolahrood**	**3.36**	**80**	*e*Pn	**Pn**	**03 46 23.8**	**+2.4**
IKLH				*e*		03 47 28.4	
IGAR	**Gharneh**	**3.75**	**95**	*e*Pn	**Pn**	**03 46 28.0**	**+1.3**
QSDN	**Sirdan**	**3.92**	**19**	*e*Pn	**Pn**	**03 46 31.9**	**+2.9**
IZEF	**Zefreh**	**3.96**	**87**	*e*Pn	**Pn**	**03 46 31.1**	**+1.5**
IHSB	**Hasanabad**	**4.02**	**48**	*e*Pn	**Pn**	**03 46 32.7**	**+2.5**
IRAM	**Ramesheh**	**4.15**	**102**	*e*Pn	**Pn**	**03 46 34.4**	**+2.3**
IGZV	**Ghazvin**	**4.18**	**30**	*e*Pn	**Pn**	**03 46 36.0**	**+3.5**
MAHB	**Mahabad**	**4.27**	**339**	*e*Pn	**Pn**	**03 46 36.1**	**+2.4**
QALM	**Alamut, Qazvin**	**4.41**	**34**	*e*Pn	**Pn**	**03 46 38.3**	**+2.6**
IDMV	**Damavand**	**4.59**	**52**	*e*Pn	**Pn**	**03 46 40.6**	**+2.3**
IAZR	**Azarshahr**	**5.06**	**345**	*e*Pn	**Pn**	**03 46 47.2**	**+2.5**
IFIR	**Firoozkooh**	**5.11**	**55**	*e*Pn	**Pn**	**03 46 47.3**	**+1.9**
ILAS	**Lasjerd**	**5.13**	**58**	*e*Pn	**Pn**	**03 46 47.7**	**+2.1**
ANAR	**Anarak**	**5.15**	**84**	*e*Pn	**Pn**	**03 46 47.0**	**+1.2**
IPRN	**Peran**	**5.20**	**47**	*e*Pn	**Pn**	**03 46 49.5**	**+3.1**
ISAD	**Sadrabad**	**5.20**	**98**	*e*Pn	**Pn**	**03 46 47.8**	**+1.1**
IALA	**Alasht**	**5.40**	**51**	*e*Pn	**Pn**	**03 46 51.3**	**+1.9**
IHSH	**Hashtrud**	**5.51**	**357**	*e*Pn	Pn	03 46 40.0	-11
ISHM	**Shahmirzad**	**5.57**	**56**	*e*Pn	**Pn**	**03 46 54.6**	**+2.8**
ICHK	**Chekchek**	**5.76**	**94**	*e*Pn	**Pn**	**03 46 55.6**	**+1.3**
IANJ	**Anjilo**	**5.86**	**61**	*e*Pn	**Pn**	**03 46 57.6**	**+1.9**
IGLO	**Ghaloghah**	**6.31**	**52**	*e*Pn	**Pn**	**03 47 05.5**	**+3.6**
GEVA	**Gevas**	**6.65**	**327**	Pn	**Pn**	**03 47 06.9**	**+0.5**
IBAF	**Bafgh**	**6.84**	**98**	*e*Pn	**Pn**	**03 47 10.0**	**+0.9**
MARD	**Mardin**	**7.20**	**311**	Pn	**Pn**	**03 47 13.9**	**-0.1**
MARD				Sn	**Sn**	**03 48 34.8**	**-1.0**
TNSJ	**Nastanj**	**7.61**	**79**	*e*Pn	**Pn**	**03 47 20.8**	**+1.3**
TPRV	**Parvadeh(Tabas**	**7.62**	**86**	*e*Pn	**Pn**	**03 47 21.3**	**+1.5**
SBZV	**Sabzevar**	**8.98**	**64**	*e*Pn	**Pn**	**03 47 40.0**	**+1.5**
ASF	**Jabal al Asfar**	**9.08**	**269**	Pn	**Pn**	**03 47 39.6**	**-0.1**
	comp=N,0.7nm,0.3s,baz=27,slow=6.6,SNR=3.4						
KOPT	**Kop Dagi**	**9.22**	**323**	Pn	**Pn**	**03 47 43.0**	**+1.3**
ISFR	**Sfrayin**	**9.52**	**61**	*e*Pn	**Pn**	**03 47 48.4**	**+2.5**
BSRN	**Basiran**	**9.76**	**92**	*e*Pn	Pn	03 47 53.7	+4.6
GEYT	**Alibeck**	**9.98**	**56**	Pn	**Pn**	**03 47 50.0**	**-2.1**
UOSS	**Minazif**	**10.84**	**134**	Pn	**Pn**	**03 48 02.9**	**-0.9**
KIV	**Kislovodsk**	**11.80**	**342**	Pn	**Pn**	**03 48 18.0**	**+1.1**
WSAR	**Wadi Sarin**	**13.60**	**132**	Pn	**Pn**	**03 48 39.9**	**-1.6**
	comp=N,1.2nm,0.3s,baz=314,slow=11,SNR=6.5						
KBL	**Kabul**	**17.92**	**79**		**Pn**	**03 49 37.3**	**-0.7**
CHGR	**Chuyangaron**	**18.42**	**65**	P	**P**	**03 49 43.5**	**-0.5**
ABKAR	**Akbulak array**	**18.85**	**26**	P	**P**	**03 49 48.4**	**-0.1**
IDI	**Anoyia**	**19.00**	**284**	P	**P**	**03 49 49.5**	**-0.8**
AKTO	**Aktyubinsk**	**19.23**	**21**	P	**Pn**	**03 49 53.7**	**0.0**
	comp=N,0.3nm,0.3s,baz=203,slow=10,SNR=13						
GAR	**Garm**	**19.38**	**65**	P	**P**	**03 49 54.8**	**+0.2**
GAR				IAmb	IAmb	03 50 04.0	
	comp=Z,13nm,1.2s						
KK31	**Karatay Array**	**20.72**	**54**		**P**	**03 50 07.8**	**-1.2**
KKAR	**Karatay Array**	**20.72**	**54**	P	**P**	**03 50 08.4**	**-0.7**
KKAR	**Karatay Array**	**20.72**	**54**	P	**P**	**03 50 08.3**	**-0.7**
KKAR				IAmb	IAmb	03 50 21.9	
	comp=Z,6.0nm,1.1s						
NIL	**Nilore**	**21.45**	**81**	P	**P**	**03 50 16.2**	**-0.8**
NIL				IAmb	IAmb	03 50 34.6	
	comp=Z,14nm,1.0s						
AKASG	**Malin Array Be**	**22.45**	**328**	P	**P**	**03 50 29.1**	**+1.6**
	comp=Z,2.1nm,0.6s,baz=135,slow=9.4,SNR=9.5						
AKASG	**Malin Array Be**	**22.45**	**328**	P	**P**	**03 50 26.0**	**-1.4**
AKBB	**Malin Array Si**	**22.45**	**328**	P	**P**	**03 50 26.3**	**-1.2**
AKBB				IAmb	IAmb	03 50 31.8	
	comp=Z,5.7nm,0.8s						
BURAR	**Bucovina Array**	**22.52**	**318**	P	**P**	**03 50 28.7**	**+0.3**
BUR08	**Bucovina Ar. S**	**22.54**	**318**	P	**P**	**03 50 30.3**	**+1.6**
BUR08				IAmb	IAmb	03 50 38.2	
	comp=Z,8.8nm,1.4s						
OBN	**Obninsk**	**23.63**	**344**	P	**P**	**03 50 39.8**	**+0.2**
	comp=Z,3.3nm,0.5s,baz=165,slow=20,SNR=3.5						
ARU	**Arti**	**24.82**	**15**	P	**P**	**03 50 51.5**	**+0.9**
	comp=Z,1.7nm,0.2s,baz=168,slow=13,SNR=4.0						
ARU	**Arti**	**24.82**	**15**	P	**P**	**03 50 50.7**	**+0.1**
ARU				IAmb	IAmb	03 51 07.9	
	comp=Z,5.7nm,1.0s						
KOLS	**Kolonicke sedl**	**24.88**	**318**	*e*P	**P**	**03 50 51.6**	**+0.3**
KWP	**Kalwaria Pacla**	**25.01**	**320**	P	**P**	**03 50 52.9**	**+0.4**
KDJ	**Kajisay**	**25.14**	**60**	P	**P**	**03 50 54.2**	**+0.2**
KDJ				IAmb	IAmb	03 51 04.4	
	comp=Z,4.2nm,0.8s						
TARG	**Taragay, Kyrgy**	**25.52**	**61**	P	**P**	**03 50 57.4**	**-0.2**
TARG				IAmb	IAmb	03 51 02.5	
	comp=Z,3.9nm,0.9s						
TIP	**Timpagrande**	**25.70**	**293**	P	**P**	**03 50 59.6**	**+0.8**
TIP				IAmb	IAmb	03 51 05.3	
	comp=Z,12nm,1.3s						
PSZ	**Piszkesteto**	**25.79**	**314**	P	**P**	**03 51 00.3**	**+0.6**
PSZ				IAmb	IAmb	03 51 05.1	
	comp=Z,6.9nm,1.1s						
BRVK	**Borovoye**	**25.98**	**32**	P	**P**	**03 51 01.0**	**-0.2**
BRVK				IAmb	IAmb	03 51 12.4	
	comp=Z,2.8nm,0.9s						
BVAR	**Borovoye Array**	**26.01**	**32**	P	**P**	**03 51 02.2**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=217,slow=8.7,SNR=6.9						
VYHS	**Vyhne**	**26.68**	**314**	*e*P	**P**	**03 51 08.1**	**+0.5**
OJC	**Ojcow**	**26.92**	**319**	P	**P**	**03 51 10.0**	**+0.2**
OJC				IAmb	IAmb	03 51 13.6	
	comp=Z,5.5nm,0.8s						
KURBB	**Kurchatov Arra**	**28.85**	**43**	P	**P**	**03 51 27.7**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=248,slow=9.4,SNR=6.7						
KURK	**Kurchatov**	**28.95**	**43**	P	**P**	**03 51 28.0**	**+0.2**
KURK				IAmb	IAmb	03 51 29.6	
	comp=Z,2.6nm,0.8s						
MK31	**Makanchi Array**	**29.82**	**52**	P	**P**	**03 51 35.7**	**+0.1**
MKAR	**Makanchi Array**	**29.82**	**52**	P	**P**	**03 51 36.2**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=250,slow=6.3,SNR=8.0						
MKAR	**Makanchi Array**	**29.82**	**52**	P	**P**	**03 51 35.0**	**-0.6**
CTI	**Castel Tesino**	**30.51**	**306**	P	**P**	**03 51 41.5**	**-0.4**
CTI				IAmb	IAmb	03 51 46.1	
	comp=Z,3.4nm,0.6s						
FINES	**FINESS Array B**	**31.88**	**340**	P	**P**	**03 51 54.1**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=143,slow=8.5,SNR=8.3						
FINES	**FINESS Array B**	**31.88**	**340**	P	**P**	**03 51 53.9**	**+0.3**
SENIN	**Lac Senin/Sane**	**33.53**	**306**	P	**P**	**03 52 08.2**	**-0.3**
ZAA0	**Zalesovo Array**	**33.76**	**40**	P	**P**	**03 52 10.8**	**+0.7**
ZAA0				IAmb	IAmb	03 52 14.7	
	comp=Z,2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**33.76**	**40**	P	**P**	**03 52 10.3**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=250,slow=8.8,SNR=6.2						
ZALV	**Zalesovo Beam**	**33.76**	**40**	P	**P**	**03 52 10.2**	**0.0**
BNI	**Bardonecchia**	**33.78**	**303**	P	**P**	**03 52 10.6**	**0.0**
ARCES	**ARCESS Array B**	**38.83**	**348**	P	**P**	**03 52 53.1**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=154,slow=8.7,SNR=8.4						
MTE	**Manteigas**	**44.32**	**296**	P	**P**	**03 53 39.3**	**+0.5**
SONM	**Songino Array**	**46.17**	**53**	P	**P**	**03 53 53.9**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=276,slow=14,SNR=3.9						
SONM	**Songino Array**	**46.17**	**53**	P	**P**	**03 53 52.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**46.17**	**256**	P	**P**	**03 53 51.7**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=71,slow=6.9,SNR=5.9						
TORD	**Torodi Ar. Bea**	**46.17**	**256**	P	**P**	**03 53 53.1**	**-0.5**
ULN	**Ulaanbaatar**	**46.61**	**52**	P	**P**	**03 53 56.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**47.99**	**94**	P	**P**	**03 54 07.7**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=287,slow=6.5,SNR=1.6						

*IDC **18** 03:53:12.2±1.4,32°.58N×47°.67E, h0km, mb3.9/8, mb1 4.0/13,mb1mx3.8/47,mbtmp4.0/13,ML3.8/5,MS4.3/2, Ms1 4.3/2,ms1mx3.5/46,Error ellipse: s-maj=29.9km s-min=16.7km az=164.0*

*ISN **18** 03:53:13.9±0.7,32°.74N×47°.84E,h14km±4km, ML3.7*

*NEIC **18** 03:53:14.1±1.0,32°.70N±0°.04×47°.63E±0°.06,h10km±1km, Error ellipse: s-maj=9.2km s-min=7.0km az=69.0*

*TEH **18** 03:53:15.1,32°.70N×47°.73E,h13km, ML3.9*

*THR **18** 03:53:17.7±0.7,32°.72N×47°.90E,h15km±30km, ML3.8*

ISC 18 03:53:14.8±1.2,**32°.69N**±0°.03×**47°.73E**±0°.03,**h13**km±8km, **n115,** σ1§**45**/120,**mb4.1**/20,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.84**	**7**	*e*Pg	**Pg**	**03 53 30.6**	**-0.5**
IKFM	**Kafar-mosalman**	**0.84**	**7**	Pg	**Pg**	**03 53 30.5**	**-0.5**
IKMR	**Kamar-syah**	**0.99**	**33**	*e*Pg	**Pg**	**03 53 33.2**	**-0.7**
IKMR				*e*		03 53 54.9	
IKMR	**Kamar-syah**	**0.99**	**33**	Pg	**Pg**	**03 53 33.2**	**-0.7**
SHGR	**Shooshtar-Gavs**	**1.07**	**122**	*e*Pg	**Pb**	**03 53 36.2**	**+1.0**
SHGR				*e*Sg	**Sg**	**03 53 49.0**	**-0.5**
SHGR	**Shooshtar-Gavs**	**1.07**	**122**	*e*Pn	**Pb**	**03 53 36.2**	**+1.0**
SHGR	**Shooshtar-Gavs**	**1.07**	**122**		**Pb**	**03 53 36.2**	**+1.0**
IDOB	**Doab**	**1.16**	**19**	*e*Pg	**Pg**	**03 53 37.1**	**-0.1**
IDOB	**Doab**	**1.16**	**19**		**Pg**	**03 53 37.1**	**-0.1**
BMDN	**Meydan**	**1.34**	**43**	*e*Pg	**Pg**	**03 53 40.8**	**+0.1**
BMDN				*e*		03 54 07.6	
BMDN	**Meydan**	**1.34**	**43**		**Pg**	**03 53 41.0**	**+0.3**
IKOM	**Komasi**	**1.49**	**353**	*e*Pg	**Pb**	**03 53 43.2**	**+0.7**
IKOM				*e*		03 54 20.5	
IKOM	**Komasi**	**1.49**	**353**		**Pb**	**03 53 43.1**	**+0.6**
AHWZ	**Ahwaz**	**1.56**	**150**	*e*Pg	**Pb**	**03 53 43.9**	**+0.4**
AHWZ	**Ahwaz**	**1.56**	**150**	Pg	**Pn**	**03 53 43.8**	**+1.6**
AHWZ				Sg	**Sg**	**03 54 06.1**	**+1.0**
IBDR	**Badra**	**1.57**	**286**	*e*Pg	**Pn**	**03 53 44.0**	**+1.6**
IBDR				*e*Sg	**Sg**	**03 54 06.0**	**+0.5**
IBDR				AML	AML	03 54 09.3	
	comp=N,1μm,0.3s						
IBDR				AML	AML	03 54 10.1	
	comp=E,809nm,0.5s						
HSAM	**Samen**	**1.68**	**25**	*e*Pg	**Pg**	**03 53 47.1**	**-0.1**
HSAM				*e*		03 53 48.7	
KCHF	**Cheshme Sefid,**	**1.68**	**340**	*e*Pg	**Pb**	**03 53 46.7**	**+0.9**
KCHF				*e*		03 54 13.6	
KER	**Kermanshah**	**1.76**	**344**	*e*Pg	**Pb**	**03 53 47.4**	**+0.3**
IBZA	**Bozab**	**1.78**	**3**	*e*Pg	**Pb**	**03 53 48.0**	**+0.6**
IBZA				*e*		03 54 16.9	
IGHG	**Ghaleghazi**	**1.90**	**330**	*e*Pg	**Pb**	**03 53 50.9**	**+1.4**
IGHG				*e*		03 54 23.6	
IVIS	**Veis**	**1.98**	**338**	*e*Pn	**Pn**	**03 53 49.8**	**+1.8**
IVIS				*e*		03 54 25.1	
KHMZ	**Khomeyn**	**2.14**	**60**	*e*Pn	**Pb**	**03 53 53.1**	**-0.5**
KHMZ	**Khomeyn**	**2.14**	**60**	*e*Pn	**Pb**	**03 53 53.1**	**-0.5**
NSR	**Nassriya**	**2.15**	**219**	*e*Pn	**Pn**	**03 53 52.0**	**+1.6**
NSR				*e*Sn	**Sn**	**03 54 19.0**	**+2.1**
IALM	**Almabolaq**	**2.19**	**9**	*e*Pn	**Pb**	**03 53 53.9**	**-0.6**
IDHR	**Dehrash**	**2.30**	**331**	*e*Pn	**Pn**	**03 53 54.7**	**+2.1**
IDHR				*e*		03 54 35.4	
ILIN	**Lien**	**2.31**	**344**	*e*Pn	**Pn**	**03 53 54.9**	**+2.1**
ILIN				*e*		03 54 34.8	
SNGE	**Sanandaj**	**2.42**	**352**	*e*Pn	**Pb**	**03 53 58.5**	**+0.2**
SNGE				*e*S	**Sb**	**03 54 29.2**	**+1.1**
SNGE				IAML		03 54 39.8	
	comp=N,421nm,0.5s						
SNGE	**Sanandaj**	**2.42**	**352**	*e*Pn	**Pb**	**03 53 58.5**	**+0.2**
HAGD	**Aghdareh**	**2.43**	**28**	*e*Pn	**Pn**	**03 53 56.9**	**+2.5**
HAGD				*e*		03 54 01.2	
JHBN	**Jahan bin**	**2.52**	**100**	*e*Pn	**Pn**	**03 53 57.5**	**+1.8**
JHBN				*e*		03 54 45.4	
HSRG	**Sareghieh**	**2.59**	**10**	*e*Pn	**Pb**	**03 54 00.2**	**-1.0**
HSRG				*e*		03 54 42.6	
ASAO	**Ashtian**	**2.66**	**45**	*e*Pn	**Pn**	**03 54 00.8**	**+3.2**
ASAO	**Ashtian**	**2.66**	**45**	*e*Pn	**Pn**	**03 54 00.8**	**+3.2**
IPIR	**Pirpir**	**2.66**	**89**	*e*Pn	**Pn**	**03 53 58.8**	**+1.1**
IPIR				*e*		03 54 56.0	
ROKH	**ROKH**	**2.81**	**96**	*e*Pn	**Pn**	**03 54 01.7**	**+2.1**
BHD	**Baghdad**	**2.88**	**283**	*e*Pn	**Pn**	**03 54 02.0**	**+1.7**
BHD				*e*Sn	**Sn**	**03 54 38.0**	**+3.3**
BHD				AML	AML	03 54 54.0	
	comp=E,600nm,0.5s						
IRAZ	**Razeghan**	**3.27**	**33**	*e*Pn	**Pn**	**03 54 09.0**	**+3.1**
IKLH	**Kolahrood**	**3.29**	**78**	*e*Pn	**Pn**	**03 54 08.9**	**+2.6**
IKLH				*e*		03 55 16.8	
QABG	**Abgarm-Qazvin**	**3.38**	**26**	*e*Pn	**Pn**	**03 54 08.9**	**+1.4**
IGAR	**Gharneh**	**3.65**	**93**	*e*Pn	**Pn**	**03 54 13.1**	**+1.9**
IMHD	**Mahdasht**	**3.85**	**38**	*e*Pn	**Pn**	**03 54 15.9**	**+2.0**
IZEF	**Zefreh**	**3.88**	**86**	*e*Pn	**Pn**	**03 54 16.6**	**+2.3**
QSDN	**Sirdan**	**3.99**	**17**	*e*Pn	**Pn**	**03 54 18.2**	**+2.4**
IHSB	**Hasanabad**	**4.02**	**46**	*e*Pn	**Pn**	**03 54 18.9**	**+2.7**
IRAM	**Ramesheh**	**4.04**	**101**	*e*Pn	**Pn**	**03 54 17.2**	**+0.7**
IGZV	**Ghazvin**	**4.22**	**28**	*e*Pn	**Pn**	**03 54 21.5**	**+2.5**
MAHB	**Mahabad**	**4.40**	**338**	*e*Pn	**Pn**	**03 54 23.6**	**+2.2**
IDMV	**Damavand**	**4.58**	**50**	*e*Pn	**Pn**	**03 54 26.1**	**+2.0**
ANAR	**Anarak**	**5.07**	**83**	*e*Pn	**Pn**	**03 54 32.0**	**+1.4**
IFIR	**Firoozkooh**	**5.10**	**53**	*e*Pn	**Pn**	**03 54 32.1**	**+1.0**
ISAD	**Sadrabad**	**5.10**	**97**	*e*Pn	**Pn**	**03 54 32.3**	**+1.1**
ILAS	**Lasjerd**	**5.10**	**57**	*e*Pn	**Pn**	**03 54 32.8**	**+1.6**
IPRN	**Peran**	**5.20**	**46**	*e*Pn	**Pn**	**03 54 35.0**	**+2.6**
IALA	**Alasht**	**5.39**	**50**	*e*Pn	**Pn**	**03 54 37.8**	**+2.6**
ISHM	**Shahmirzad**	**5.55**	**54**	*e*Pn	**Pn**	**03 54 38.6**	**+1.2**
IANJ	**Anjilo**	**5.83**	**60**	*e*Pn	**Pn**	**03 54 41.9**	**+0.8**
IGLO	**Ghaloghah**	**6.30**	**51**	*e*Pn	**Pn**	**03 54 50.7**	**+3.1**
IBAF	**Bafgh**	**6.74**	**97**	*e*Pn	**Pn**	**03 54 54.7**	**+1.2**
GEVA	**Gevas**	**6.78**	**327**	Pn	**Pn**	**03 54 54.3**	**+0.2**
MARD	**Mardin**	**7.34**	**311**	Pn	**Pn**	**03 55 00.7**	**-1.0**
SBZV	**Sabzevar**	**8.94**	**63**	*e*Pn	**Pn**	**03 55 25.8**	**+1.9**
ASF	**Jabal al Asfar**	**9.17**	**270**	Pn	**Pn**	**03 55 25.1**	**-1.8**
	comp=E,0.5nm,0.3s,baz=283,slow=16,SNR=2.6						
AKH	**Akhalkalaki**	**9.34**	**340**	Pn	**Pn**	**03 55 29.1**	**-0.1**
ISFR	**Sfrayin**	**9.49**	**60**	*e*Pn	**Pn**	**03 55 33.6**	**+2.2**
GEYT	**Alibeck**	**9.96**	**55**	Pn	**Pn**	**03 55 39.0**	**+1.4**
UOSS	**Minazif**	**10.71**	**134**	Pn	**Pn**	**03 55 48.0**	**+0.2**
BRTR	**Keskin Array B**	**13.36**	**306**	Pn	**Pn**	**03 56 25.4**	**+1.2**
	comp=E,0.1nm,0.3s,baz=116,slow=14,SNR=4.1						
WSAR	**Wadi Sarin**	**13.46**	**132**	Pn	**Pn**	**03 56 22.2**	**-3.3**
	comp=E,0.5nm,0.3s,baz=325,slow=12,SNR=1.3						
ELL	**Elmali**	**15.21**	**290**	P	**Pn**	**03 56 52.4**	**+3.1**
MANT	**Manisa**	**16.63**	**296**		**Pn**	**03 57 07.5**	**-0.2**
KBL	**Kabul**	**17.85**	**78**		**Pn**	**03 57 22.9**	**-0.1**
ABKAR	**Akbulak array**	**18.90**	**25**		**P**	**03 57 34.9**	**-0.1**
IDI	**Anoyia**	**19.11**	**284**	P	**P**	**03 57 38.2**	**+0.7**
	comp=E,1.7nm,0.3s,baz=73,slow=14,SNR=9.7						
IDI				LR	LR	04 08 19.4	
	comp=E,271nm,18.6s,baz=49,slow=48						
IDI	**Anoyia**	**19.11**	**284**	P	**P**	**03 57 37.8**	**+0.4**
IDI				IAmb	IAmb	03 57 40.8	
	comp=Z,39nm,1.2s						
AKTO	**Aktyubinsk**	**19.29**	**20**	P	**P**	**03 57 39.6**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=210,slow=12,SNR=11						
GAR	**Garm**	**19.34**	**65**	P	**P**	**03 57 39.4**	**-0.6**
GAR				IAmb	IAmb	03 57 46.0	
	comp=Z,7.0nm,0.8s						
KK31	**Karatay Array**	**20.70**	**53**	P	**P**	**03 57 55.2**	**+0.5**
KKAR	**Karatay Array**	**20.70**	**53**	P	**P**	**03 57 54.9**	**+0.2**
KKAR	**Karatay Array**	**20.70**	**53**	P	**P**	**03 57 54.8**	**+0.1**
KKAR				IAmb	IAmb	03 58 00.5	
	comp=Z,7.5nm,1.4s						
NIL	**Nilore**	**21.37**	**80**	P	**P**	**03 58 02.8**	**+0.8**
NIL				IAmb	IAmb	03 58 07.9	
	comp=Z,6.8nm,0.6s						
AGG	**Agios Georgios**	**21.50**	**294**	P	**P**	**03 58 02.4**	**-0.9**
AGG				IAmb	IAmb	03 58 11.4	
	comp=Z,7.2nm,0.9s						
ITM	**Ithomi**	**21.60**	**289**	P	**P**	**03 58 03.2**	**-1.2**
ITM				IAmb	IAmb	03 58 04.2	
	comp=Z,25nm,1.0s						
AKASG	**Malin Array Be**	**22.58**	**328**	P	**P**	**03 58 15.2**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=139,slow=9.0,SNR=5.9						
AKASG	**Malin Array Be**	**22.58**	**328**	P	**P**	**03 58 14.1**	**-0.6**
AKBB	**Malin Array Si**	**22.58**	**328**	P	**P**	**03 58 14.4**	**-0.3**
AKBB				IAmb	IAmb	03 58 15.7	
	comp=Z,7.1nm,1.3s						
BURAR	**Bucovina Array**	**22.65**	**318**	P	**P**	**03 58 14.9**	**-0.8**
KWP	**Kalwaria Pacla**	**25.15**	**320**	P	**P**	**03 58 39.5**	**0.0**
KWP				IAmb	IAmb	03 58 47.5	
	comp=Z,6.2nm,0.6s						
TARG	**Taragay, Kyrgy**	**25.49**	**61**	P	**P**	**03 58 43.3**	**+0.1**
TARG				IAmb	IAmb	03 58 48.8	
	comp=Z,4.3nm,1.1s						
TIP	**Timpagrande**	**25.82**	**293**	P	**P**	**03 58 46.1**	**+0.3**
TIP				IAmb	IAmb	03 58 48.2	
	comp=Z,3.7nm,0.7s						
BVAR	**Borovoye Array**	**26.05**	**32**	P	**P**	**03 58 47.8**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=231,slow=9.2,SNR=12						
KURBB	**Kurchatov Arra**	**28.87**	**42**	P	**P**	**03 59 14.3**	**+1.4**
	comp=Z,4.4nm,0.2s,baz=248,slow=9.3,SNR=2.4						
KURK	**Kurchatov**	**28.96**	**42**	P	**P**	**03 59 14.0**	**+0.3**
KURK				IAmb	IAmb	03 59 17.7	
	comp=Z,2.9nm,1.1s						
MK31	**Makanchi Array**	**29.81**	**52**	P	**P**	**03 59 21.9**	**+0.6**
MKAR	**Makanchi Array**	**29.81**	**52**	P	**P**	**03 59 22.4**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=251,slow=7.4,SNR=12						
MKAR	**Makanchi Array**	**29.81**	**52**	P	**P**	**03 59 20.8**	**-0.6**
CIMO	**Cimolais**	**30.17**	**307**	P	**P**	**03 59 23.8**	**-0.8**
CTI	**Castel Tesino**	**30.64**	**306**	P	**P**	**03 59 28.3**	**-0.6**
CTI				IAmb	IAmb	03 59 35.9	
	comp=Z,3.6nm,0.6s						
VLC	**Villacollemand**	**31.17**	**302**	P	**P**	**03 59 32.3**	**-1.1**
VLC				IAmb	IAmb	03 59 39.9	
	comp=Z,4.4nm,0.8s						
MSSA	**Maissana**	**31.81**	**303**	P	**P**	**03 59 37.9**	**-1.2**
FINES	**FINESS Array B**	**32.01**	**340**	P	**P**	**03 59 40.1**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=143,slow=10,SNR=7.4						
FINES	**FINESS Array B**	**32.01**	**340**	P	**P**	**03 59 39.3**	**-1.2**
SENIN	**Lac Senin/Sane**	**33.67**	**306**	P	**P**	**03 59 54.4**	**-1.1**
ZALV	**Zalesovo Beam**	**33.78**	**40**	P	**P**	**03 59 56.5**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=243,slow=6.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**33.78**	**40**	P	**P**	**03 59 56.2**	**+0.1**
BNI	**Bardonecchia**	**33.91**	**303**	P	**P**	**03 59 56.7**	**-0.8**
ARCES	**ARCESS Array B**	**38.95**	**348**	P	**P**	**04 00 39.8**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=161,slow=10.0,SNR=9.0						
ESDC	**Sonseca Array**	**41.82**	**295**	P	**P**	**04 01 03.9**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=70,slow=8.1,SNR=4.3						
DSB	**Dublin**	**43.39**	**315**	P	**P**	**04 01 16.5**	**-0.3**
TOA0	**Torodi Ar. Sit**	**46.23**	**256**	P	**P**	**04 01 37.6**	**-2.3**
TOA0				IAmb	IAmb	04 01 40.8	
	comp=Z,4.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**46.23**	**256**	P	**P**	**04 01 38.5**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=54,slow=7.7,SNR=11						
TORD	**Torodi Ar. Bea**	**46.23**	**256**	P	**P**	**04 01 38.4**	**-1.5**
IMAR	**Indian Mountai**	**80.25**	**9**	P	**P**	**04 05 25.0**	**+0.2**
ULM	**Lac du Bonnet**	**91.36**	**338**	LR	LR	04 48 35.2	
	comp=Z,376nm,20.1s,baz=193,slow=36						

*IDC **18** 03:56:02.2±8.7,32°.56N×47°.46E, h0km, mb3.7/4, mb1 3.8/5,mb1mx3.5/42,mbtmp3.8/5,ML3.6/1,MS3.8/1, Ms1 3.8/1,ms1mx3.3/44,Error ellipse: s-maj=158.7km s-min=40.7km az=12.0*

*THR **18** 03:56:07.5±0.9,32°.87N×47°.48E,h14km±9km, ML3.3*

ISC 18 03:56:07.5±1.2,**32°.95N

NSR	**Nassriya**	**2.20**	**217**	*e*Pn	**Pn**	**04 09 38.0**	**-0.9**
NSR				*e*Sn	**Sn**	**04 10 03.0**	**-3.0**
IDHR	**Dehrash**	**2.21**	**331**	*e*Pn	**Pb**	**04 09 41.3**	**-1.5**
IDHR				*e*		04 10 21.6	
ILIN	**Lien**	**2.23**	**344**	*e*Pn	**Pb**	**04 09 41.7**	**-1.4**
ILIN				*e*		04 10 20.8	
SNGE	**Sanandaj**	**2.34**	**353**	*e*Pn	**Pb**	**04 09 43.4**	**-1.5**
SNGE	**Sanandaj**	**2.34**	**353**	*e*Pn	**Pb**	**04 09 43.4**	**-1.5**
HAGD	**Aghdareh**	**2.38**	**30**	*e*Pn	**Pb**	**04 09 44.2**	**-1.3**
HAGD				*e*		04 10 27.2	
HSRG	**Sareghieh**	**2.52**	**11**	*e*Pn	**Pb**	**04 09 47.3**	**-0.6**
HSRG				*e*		04 09 48.6	
JHBN	**Jahan bin**	**2.56**	**101**	*e*Pn	**Pn**	**04 09 45.1**	**+0.8**
JHBN				*e*		04 10 31.9	
ASAO	**Ashtian**	**2.63**	**47**	*e*Pn	**Pb**	**04 09 48.3**	**-1.6**
ASAO				*e*Sg	**Sg**	**04 10 27.4**	**+0.1**
ASAO	**Ashtian**	**2.63**	**47**	*e*Pn	**Pb**	**04 09 48.3**	**-1.6**
IPIR	**Pirpir**	**2.69**	**91**	*e*Pn	**Pn**	**04 09 47.4**	**+1.3**
IPIR				*e*		04 10 34.2	
BHD	**Baghdad**	**2.83**	**281**	*e*Pn	**Pn**	**04 09 48.0**	**+0.3**
BHD				*e*Sn	**Sn**	**04 10 24.0**	**+2.3**
BHD				AML	AML	04 10 26.0	
	comp=E,245nm,0.4s						
ROKH	**ROKH**	**2.85**	**98**	*e*Pn	**Pn**	**04 09 49.4**	**+1.2**
ROKH				*e*		04 10 41.0	
IRAZ	**Razeghan**	**3.22**	**35**	*e*Pn	**Pb**	**04 09 56.5**	**-3.4**
QABG	**Abgarm-Qazvin**	**3.32**	**28**	*e*Pn	**Pn**	**04 09 56.6**	**+1.9**
AKTO	**Aktyubinsk**	**19.23**	**20**	P	**Pn**	**04 13 27.6**	**0.0**
	comp=E,0.3nm,0.3s,baz=203,slow=13,SNR=7.5						
AKASG	**Malin Array Be**	**22.50**	**328**	P	**P**	**04 14 01.2**	**-0.6**
	comp=E,0.3nm,0.4s,baz=138,slow=10.0,SNR=1.1						
BVAR	**Borovoye Array**	**26.00**	**32**	P	**P**	**04 14 35.1**	**-0.1**
	comp=E,1.5nm,0.6s,baz=237,slow=6.9,SNR=7.7						
KURBB	**Kurchatov Arra**	**28.83**	**43**	P	**P**	**04 15 00.8**	**+0.3**
	comp=E,0.6nm,0.2s,baz=252,slow=9.3,SNR=4.8						
MKAR	**Makanchi Array**	**29.78**	**52**	P	**P**	**04 15 09.2**	**+0.1**
	comp=E,0.8nm,0.7s,baz=254,slow=6.5,SNR=9.2						
FINES	**FINESS Array B**	**31.92**	**340**	P	**P**	**04 15 26.7**	**-1.0**
	comp=E,2.5nm,0.8s,baz=141,slow=9.0,SNR=1.7						
ZALV	**Zalesovo Beam**	**33.74**	**40**	P	**P**	**04 15 43.6**	**-0.2**
	comp=E,0.6nm,0.4s,baz=248,slow=7.6,SNR=1.8						
ARCES	**ARCESS Array B**	**38.87**	**348**	P	**P**	**04 16 26.0**	**-1.4**
	comp=E,1.4nm,0.8s,baz=172,slow=9.1,SNR=1.7						
ESDC	**Sonseca Array**	**41.76**	**295**	P	**P**	**04 16 54.1**	**+2.2**
	comp=E,0.3nm,0.5s,baz=81,slow=8.4,SNR=2.0						
TORD	**Torodi Ar. Bea**	**46.22**	**256**	P	**P**	**04 17 27.1**	**-0.7**
	comp=E,0.2nm,0.4s,baz=60,slow=8.0,SNR=4.4						

IDC 18 04:12:50.2±2.6, 32.70N×47.44E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/42, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=108.2km s-min=28.3km az=146.0, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKTO	**Aktyubinsk**	**19.37**	**21**	P	P	04 17 17.7	+0.3
	0.1nm,0.3s,baz=206,slow=11,SNR=5.4						
BVAR	**Borovoye Array**	**26.17**	**32**	P	P	04 18 25.6	-0.6
	0.5nm,0.4s,baz=216,slow=7.3,SNR=3.6						
MKAR	**Makanchi Array**	**30.00**	**52**	P	P	04 19 00.6	+0.1
	0.5nm,0.6s,baz=247,slow=7.0,SNR=6.5						
ZALV	**Zalesovo Beam**	**33.93**	**40**	P	P	04 19 35.1	+0.2
	0.7nm,0.4s,baz=260,slow=9.7,SNR=1.9						
TORD	**Torodi Ar. Bea**	**46.00**	**256**	P	P	04 21 15.4	-0.1
	0.3nm,0.7s,baz=60,slow=7.7,SNR=2.1						

*THR **18** 04:20:40.7±0.5, 32.69N×47.31E, h18km±4km, ML5.0*
*ISN **18** 04:20:40.5±0.6, 32.71N×47.52E, h15km±4km, ML4.4*
*BJI **18** 04:20:40.0±0.0, 32.80N×47.60E, h10km, mB4.9/31, mb4.8/51, Ms4.6/21, Ms7 4.4/21*
*NEIC **18** 04:20:40.5±1.6, 32.72N±0.06×47.48E±0.07, h10km±1km, Error ellipse: s-maj=10.0km s-min=9.9km az=160.0*
*TEH **18** 04:20:41.7, 32.77N×47.52E, h13km, ML4.8*
*IDC **18** 04:20:42.4±1.5, 32.75N×47.52E, h20km±8km, mb4.4/39, mb1 4.4/47, mb1mx4.4/50, mbtmp4.4/47, ML3.8/8, MS3.9/3, Ms1 3.9/3, ms1mx3.5/37, Error ellipse: s-maj=10.7km s-min=9.0km az=159.0*
*MOS **18** 04:20:44.0±1.1, 32.76N×47.52E, h18km, mb5.0/86, Error ellipse: s-maj=4.3km s-min=2.9km az=108.3*
*OMAN **18** 04:20:48.3, 31.85N×47.57E, h10km, mb6.1/20, ms4.2/1*
*DSN **18** 04:20:48.0±1.6, 32.28N×47.98E, h10km, ML5.2/1, Error ellipse: s-maj=31.1km s-min=11.0km az=25.0*

ISC 18 04:20:41.7±0.8, 32.72N±0.03×47.52E±0.03, h17km±5km, n605, σ1s56/639, mb4.8/166, MS4.1/17, 40C-10D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.84**	**19**	*e*Pg	**Pg**	**04 20 56.9**	**-1.3**
IKFM	**Kafar-mosalman**	**0.84**	**19**	Pg	**Pg**	**04 20 56.9**	**-1.3**
IKMR	**Kamar-syah**	**1.07**	**42**	*e*Pg	**Pb**	**04 21 00.8**	**-1.0**
IKMR				*e*		04 21 22.4	
IKMR	**Kamar-syah**	**1.07**	**42**	Pg	**Pb**	**04 21 00.7**	**-1.0**
IDOB	**Doab**	**1.20**	**27**	*e*Pg	**Pg**	**04 21 04.3**	**-0.6**
IDOB	**Doab**	**1.20**	**27**		**Pg**	**04 21 04.3**	**-0.6**
SHGR	**Shooshtar-Gavs**	**1.25**	**119**	*e*Pg	**Pg**	**04 21 06.6**	**+0.8**
SHGR				*e*Sg	**Sg**	**04 21 24.8**	**+2.8**
SHGR				IAML		04 21 28.2	
	comp=E,20μm,0.2s						
SHGR				IAML		04 21 29.2	
	comp=N,22μm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.25**	**119**	*e*Pg	**Pg**	**04 21 06.6**	**+0.8**
SHGR	**Shooshtar-Gavs**	**1.25**	**119**		**Pg**	**04 21 06.5**	**+0.8**
IBDR	**Badra**	**1.39**	**287**	*e*Pg	**Pn**	**04 21 06.0**	**-0.3**
IBDR				*e*Sg	**Sb**	**04 21 25.0**	**+0.3**
IBDR				AML	AML	04 21 31.9	
	comp=N,9μm,0.5s						
IBDR				AML	AML	04 21 33.5	
	comp=E,6μm,0.7s						
BMDN	**Meydan**	**1.45**	**49**	*e*		04 21 35.9	
BMDN				*e*Pg	**Pb**	**04 21 08.0**	**-0.3**
BMDN	**Meydan**	**1.45**	**49**		**Pb**	**04 21 08.0**	**-0.3**
IKOM	**Komasi**	**1.45**	**360**	*e*		04 21 10.8	
IKOM				*e*Pg	**Pg**	**04 21 08.4**	**-1.2**
IKOM	**Komasi**	**1.45**	**360**		**Pg**	**04 21 08.3**	**-1.3**
KCHF	**Cheshme Sefid,**	**1.60**	**346**	*e*Pg	**Pb**	**04 21 11.0**	**0.0**
KCHF				*e*		04 21 36.5	
KCHF	**Cheshme Sefid,**	**1.60**	**346**	Pg	**Pb**	**04 21 10.9**	**0.0**
AHWZ	**Ahwaz**	**1.69**	**145**	*e*Pg	**Pb**	**04 21 13.7**	**+1.5**
KER	**Kermanshah**	**1.69**	**349**	P	**Pg**	**04 21 13.5**	**-0.7**
KER	**Kermanshah**	**1.69**	**349**	*e*Pg	**Pg**	**04 21 13.6**	**-0.7**
KER	**Kermanshah**	**1.69**	**349**	Pg	**Pg**	**04 21 13.5**	**-0.7**
HSAM	**Samen**	**1.74**	**31**	*e*Pg	**Pg**	**04 21 13.8**	**-1.4**
HSAM				*e*		04 21 42.1	
IBZA	**Bozab**	**1.77**	**9**	*e*Pg	**Pb**	**04 21 12.8**	**-1.0**
IBZA				*e*		04 21 49.0	
IGHG	**Ghaleghazi**	**1.79**	**334**	*e*Pn	**Pb**	**04 21 14.0**	**-0.2**
IGHG				*e*		04 22 01.6	
IVIS	**Veis**	**1.88**	**343**	*e*Pg	**Pb**	**04 21 15.0**	**-0.7**
IVIS				*e*		04 21 46.9	
NSR	**Nassriya**	**2.07**	**215**	*e*Pn	**Pn**	**04 21 16.0**	**+0.3**
NSR				*e*Sn	**Sn**	**04 21 41.0**	**-0.1**
IDHR	**Dehrash**	**2.19**	**335**	*e*Pn	**Pb**	**04 21 19.0**	**-1.9**
IDHR				*e*		04 22 05.2	
IALM	**Almabolaq**	**2.20**	**14**	*e*Pn	**Pb**	**04 21 20.4**	**-0.8**
ILIN	**Lien**	**2.24**	**348**	*e*Pn	**Pb**	**04 21 20.0**	**-1.9**
ILIN				*e*		04 21 59.3	
KHMZ	**Khomeyn**	**2.28**	**63**	*e*Pn	**Pb**	**04 21 22.1**	**-0.5**
KHMZ	**Khomeyn**	**2.28**	**63**	*e*Pn	**Pb**	**04 21 22.1**	**-0.5**
SNGE	**Sanandaj**	**2.37**	**357**	*e*Pn	**Pn**	**04 21 21.1**	**+1.1**
SNGE				*e*Sg	**Sg**	**04 21 56.2**	**-1.7**
SNGE	**Sanandaj**	**2.37**	**357**	*e*Pn	**Pn**	**04 21 21.1**	**+1.1**
HAGD	**Aghdareh**	**2.49**	**32**	*e*Pn	**Pb**	**04 21 24.4**	**-1.7**
HAGD				*e*		04 22 05.7	
HSRG	**Sareghieh**	**2.59**	**14**	*e*Pn	**Pb**	**04 21 25.4**	**-2.5**
HSRG				*e*		04 22 32.5	
BHD	**Baghdad**	**2.69**	**283**	*e*Pn	**Pn**	**04 21 25.0**	**+0.7**
BHD				*e*Sn	**Sn**	**04 21 58.0**	**+1.5**
BHD				AML	AML	04 22 16.5	
	comp=E,3μm,0.6s						
JHBN	**Jahan bin**	**2.70**	**100**	*e*Pn	**Pn**	**04 21 26.8**	**+2.1**
JHBN				*e*		04 22 13.8	
ASAO	**Ashtian**	**2.77**	**48**	*e*Pn	**Pb**	**04 21 28.6**	**-2.4**
ASAO	**Ashtian**	**2.77**	**48**	*e*Pn	**Pb**	**04 21 28.6**	**-2.4**
IPIR	**Pirpir**	**2.84**	**90**	*e*Pn	**Pn**	**04 21 29.1**	**+2.5**
IPIR				*e*		04 22 12.0	
ROKH	**ROKH**	**2.99**	**96**	*e*Pn	**Pn**	**04 21 30.5**	**+1.9**
ROKH				*e*		04 22 26.0	
IBRJ	**Brojen**	**3.27**	**103**	*e*Pn	**Pn**	**04 21 34.4**	**+2.0**
IBRJ				*e*		04 22 41.5	
IRAZ	**Razeghan**	**3.34**	**36**	*e*Pn	**Pn**	**04 21 36.7**	**+3.3**
QABG	**Abgarm-Qazvin**	**3.43**	**29**	*e*Pn	**Pn**	**04 21 36.7**	**+2.0**
IKLH	**Kolahrood**	**3.46**	**79**	*e*Pn	**Pn**	**04 21 37.8**	**+2.7**
IKLH				*e*		04 22 35.7	
IGAR	**Gharneh**	**3.83**	**94**	*e*Pn	**Pn**	**04 21 42.3**	**+2.2**
IGAR				*e*		04 22 33.0	
IMHD	**Mahdasht**	**3.94**	**41**	*e*Pn	**Pn**	**04 21 43.7**	**+2.2**
QSDN	**Sirdan**	**4.01**	**19**	*e*Pn	**Pn**	**04 21 45.5**	**+2.9**
IZEF	**Zefreh**	**4.05**	**86**	*e*Pn	**Pn**	**04 21 45.1**	**+1.9**
IZEF				*e*		04 23 01.2	
IHSB	**Hasanabad**	**4.13**	**48**	*e*Pn	**Pn**	**04 21 46.2**	**+2.1**
IRAM	**Ramesheh**	**4.22**	**101**	*e*Pn	**Pn**	**04 21 46.9**	**+1.5**
IGZV	**Ghazvin**	**4.28**	**31**	*e*Pn	**Pn**	**04 21 48.7**	**+2.4**
MAHB	**Mahabad**	**4.30**	**340**	*e*Pn	**Pn**	**04 21 48.2**	**+1.7**
QALM	**Alamut, Qazvin**	**4.51**	**34**	*e*Pn	**Pn**	**04 21 51.2**	**+1.7**
IDMV	**Damavand**	**4.70**	**51**	*e*Pn	**Pn**	**04 21 54.0**	**+1.9**
IFIR	**Firoozkooh**	**5.22**	**55**	*e*Pn	**Pn**	**04 22 01.4**	**+2.1**
ILAS	**Lasjerd**	**5.24**	**58**	*e*Pn	**Pn**	**04 22 00.7**	**+1.3**
ANAR	**Anarak**	**5.24**	**83**	*e*Pn	**Pn**	**04 22 00.8**	**+1.4**
SHI	**Shiraz**	**5.27**	**124**	*e*Pn	**Pn**	**04 22 00.8**	**+1.0**
ISAD	**Sadrabad**	**5.28**	**97**	*e*Pn	**Pn**	**04 22 01.7**	**+1.6**
IPRN	**Peran**	**5.31**	**47**	*e*Pn	**Pn**	**04 22 03.4**	**+3.1**
IALA	**Alasht**	**5.51**	**51**	*e*Pn	**Pn**	**04 22 06.4**	**+3.2**
ISHM	**Shahmirzad**	**5.68**	**56**	*e*Pn	**Pn**	**04 22 07.7**	**+2.1**
AHAR	**Ahar**	**5.77**	**356**	*e*Pn	**Pn**	**04 22 09.8**	**+3.2**
ICHK	**Chekchek**	**5.84**	**93**	*e*Pn	**Pn**	**04 22 09.0**	**+1.3**
IANJ	**Anjilo**	**5.97**	**61**	*e*Pn	**Pn**	**04 22 10.8**	**+1.3**
LKRN	**Lenkeran, Azer**	**6.06**	**9**	P	**Pn**	**04 22 12.9**	**+2.4**
IMEH	**Mehriz**	**6.17**	**101**	*e*Pn	**Pn**	**04 22 13.0**	**+0.8**
IGLO	**Ghaloghah**	**6.42**	**52**	*e*Pn	**Pn**	**04 22 18.4**	**+2.7**
GEVA	**Geas**	**6.66**	**328**	Pn	**Pn**	**04 22 19.2**	**+0.3**
IBAF	**Bafgh**	**6.92**	**97**	*e*Pn	**Pn**	**04 22 23.6**	**+1.1**
MARD	**Mardin**	**7.18**	**312**	Pn	**Pn**	**04 22 25.8**	**-0.3**
TNSJ	**Nastanj**	**7.71**	**78**	*e*Pn	**Pn**	**04 22 34.2**	**+1.0**
TPRV	**Parvadeh(Tabas**	**7.72**	**85**	*e*Pn	**Pn**	**04 22 34.5**	**+1.1**
KHGB	**Koh Gabri**	**7.99**	**105**	*e*Pn	**Pn**	**04 22 39.1**	**+1.8**
TKDS	**Koohdasht(Taba**	**8.10**	**81**	*e*Pn	**Pn**	**04 22 39.4**	**+0.7**
TVBK	**TV Kerman**	**8.36**	**107**	*e*Pn	**Pn**	**04 22 42.8**	**+0.4**
SEKA	**Sheki**	**8.47**	**358**	P	Pn	04 22 48.7	+5.0
AKT	**Akhty**	**8.74**	**1**	*i* P	**Pn**	**04 22 47.8**	**+0.4**
ASF	**Jabal al Asfar**	**8.99**	**269**	Pn	**Pn**	**04 22 49.3**	**-1.6**
	comp=E,2.0nm,0.3s,baz=232,slow=0.0,SNR=16						
ASF				Sn	**Sn**	**04 24 28.4**	**-3.5**
	comp=E,1.5nm,0.3s,baz=218,slow=18,SNR=1.6						
ASF				Lg	Lg	04 25 34.2	
	comp=E,1.1nm,0.3s,baz=225,slow=19,SNR=1.8						
KZRT	**Kazreti**	**9.00**	**345**	P	Pn	04 22 56.3	+5.4
CHMN	**Cheshme madani**	**9.04**	**106**	*e*Pn	**Pn**	**04 22 53.9**	**+2.2**
SBZV	**Sabzevar**	**9.09**	**63**	*e*Pn	**Pn**	**04 22 54.0**	**+1.7**
LGD	**Lagodekhi**	**9.15**	**354**	P	Pn	04 22 58.9	+5.9
KOPT	**Kop Dagi**	**9.22**	**324**		Pn	04 22 59.2	+5.1
AKH	**Akhalkalaki**	**9.25**	**341**	P	**Pn**	**04 22 55.6**	**+1.2**
AKH	**Akhalkalaki**	**9.25**	**341**	Pn	**Pn**	**04 22 55.6**	**+1.2**
TBLG	**Delisi**	**9.26**	**347**	P	**Pn**	**04 22 55.4**	**+0.9**
TBLG	**Delisi**	**9.26**	**347**	Pn	**Pn**	**04 22 55.4**	**+0.9**
MALT	**Malatya**	**9.27**	**310**	P	**Pn**	**04 22 57.7**	**+3.0**
SLWR	**Sila**	**9.37**	**156**	*e*Pn	**Pn**	**04 22 56.5**	**+0.5**
ITEG	**Tejag**	**9.45**	**86**	*e*Pn	**Pn**	**04 22 58.3**	**+1.0**
GAZ	**Gaziantep**	**9.55**	**301**	Pn	**Pn**	**04 23 01.1**	**+2.6**
ISFR	**Sfrayin**	**9.63**	**60**	*e*Pn	**Pn**	**04 23 02.2**	**+2.4**
AFRZ	**Afriz**	**9.67**	**83**	*e*Pn	**Pn**	**04 23 01.5**	**+1.2**
IKOO	**Kooshah**	**9.70**	**89**	*e*Pn	**Pn**	**04 23 01.6**	**+0.9**
IKRD	**Kardeh**	**9.91**	**63**	*e*Pn	Pn	04 23 16.6	+13
GHWR	**Ruwais**	**9.92**	**150**	*e*Pn	**Pn**	**04 23 05.4**	**+1.9**
BATM	**Batumi**	**10.01**	**334**	P	Pn	04 23 09.4	+4.7
IAKL	**Akhelmad**	**10.03**	**64**	*e*Pn	**Pn**	**04 23 07.0**	**+1.7**
SHME	**Shamm**	**10.04**	**129**	*i* P	**Pn**	**04 23 03.3**	**-1.8**
	SNR=6.0						
SHME				S	**Sn**	**04 24 52.5**	**-4.9**
GEYT	**Alibeck**	**10.09**	**56**	Pn	**Pn**	**04 23 07.7**	**+1.8**
	comp=E,0.4nm,0.3s,baz=240,slow=12,SNR=11						
GEYT				Lg	Lg	04 26 00.8	
	comp=E,0.6nm,0.3s,baz=200,slow=38,SNR=1.2						
GEYT	**Alibeck**	**10.09**	**56**	Pn	**Pn**	**04 23 07.4**	**+1.5**
GYA0B	**ALIBECK ARRAY**	**10.09**	**56**	Pn	**Pn**	**04 23 07.9**	**+2.0**
IPAY	**Payeh**	**10.16**	**65**	*e*Pn	**Pn**	**04 23 08.9**	**+1.8**
MMAI	**Mount Meron Ar**	**10.20**	**275**	Pn	**Pn**	**04 23 07.5**	**+0.2**
	comp=E,1.0nm,0.3s,baz=95,slow=13,SNR=1.7						
MMAI				Lg	Lg	04 26 04.9	
	comp=E,1.9nm,0.3s,baz=77,slow=33,SNR=2.7						
IMON	**Monand**	**10.22**	**84**	*e*Pn	**Pn**	**04 23 09.7**	**+1.9**
MAK	**Makhachkala**	**10.22**	**360**	*e*P	**Pn**	**04 23 04.8**	**-2.8**
MAK				*e*S	**Sn**	**04 24 58.9**	**-2.8**
MAK				pmax	pmax		
	comp=Z,480nm,1.6s						
MAK				MLR	MLR		
	comp=Z,1μm,15.0s						
BANOM	**Banah**	**10.22**	**129**	*i* P	**Pn**	**04 23 06.8**	**-0.9**
	SNR=39						
BANOM				S	**Sn**	**04 24 56.5**	**-5.6**
BANOM	**Banah**	**10.22**	**129**	P	**Pn**	**04 23 07.3**	**-0.5**
	SNR=37						
BANOM				S	**Sn**	**04 24 56.6**	**-5.5**
IEMG	**Emamgholi**	**10.25**	**60**	*e*Pn	**Pn**	**04 23 10.4**	**+2.1**
ONI	**Oni**	**10.36**	**343**	P	Pn	04 23 14.5	+4.9
IDAH	**Dahanechah**	**10.40**	**87**	*e*Pn	**Pn**	**04 23 12.4**	**+2.0**
AJN	**Ajban**	**10.44**	**139**	P	**Pn**	**04 23 12.0**	**+1.3**
AJN	**Ajban**	**10.44**	**139**	P	**Pn**	**04 23 12.0**	**+1.3**
	SNR=7.0						
AJN				S	**Sn**	**04 25 02.2**	**-5.1**
ZEI	**Tsey**	**10.45**	**345**	*e*P	**Pn**	**04 23 12.8**	**+1.9**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.4s						
NAZ	**Nazwa, Dubai**	**10.50**	**135**	*i* P	**Pn**	**04 23 11.9**	**+0.4**
	SNR=18						
NAZ	**Nazwa, Dubai**	**10.50**	**135**	P	**Pn**	**04 23 12.3**	**+0.8**
	SNR=17						
NAZ				S	**Sn**	**04 25 02.5**	**-6.3**
MSFE	**Esma-Masafi**	**10.53**	**132**	P	**Pn**	**04 23 11.1**	**-0.9**
GROC	**Groznyy**	**10.55**	**353**	*e*P	**Pn**	**04 23 16.0**	**+3.9**
GROC				*e*S	**Sn**	**04 25 13.7**	**+3.9**
GROC				pmax	pmax		
	comp=Z,40nm,1.1s						
MDH	**Madha**	**10.66**	**132**	P	**Pn**	**04 23 13.2**	**-0.5**
MDH	**Madha**	**10.66**	**132**	P	**Pn**	**04 23 14.6**	**+0.9**
MDH				S	**Sn**	**04 25 06.4**	**-6.3**
	SNR=15						
UOSS	**Minazif**	**10.86**	**133**	*i* P	**Pn**	**04 23 15.7**	**-0.7**
	SNR=9.6						
UOSS	**Minazif**	**10.86**	**133**	Pn	**Pn**	**04 23 15.7**	**-0.7**
HATD	**Hatta, Dubai**	**10.90**	**134**	*i* P	**Pn**	**04 23 16.6**	**-0.4**
	SNR=12						
HATD	**Hatta, Dubai**	**10.90**	**134**	P	**Pn**	**04 23 16.8**	**-0.2**
	SNR=10						
HATD				S	**Sn**	**04 25 14.7**	**-4.0**
ASHO	**Ashiyiah**	**10.96**	**135**	*i* P	**Pn**	**04 23 17.4**	**-0.5**
	SNR=15						
ASHO	**Ashiyiah**	**10.96**	**135**	P	**Pn**	**04 23 17.7**	**-0.2**
	SNR=15						
ASHO				S	Sn	04 25 12.5	-7.7
IMYA	**Miami**	**10.99**	**67**	*e*Pn	**Pn**	**04 23 21.2**	**+2.9**
EIL	**Elat**	**11.18**	**258**	Pn	**Pn**	**04 23 18.9**	**-2.0**
	comp=Z,1.0nm,0.3s,baz=337,slow=4.1,SNR=2.4						
EIL				Lg	Lg	04 26 35.2	
	comp=Z,0.7nm,0.3s,baz=300,slow=20,SNR=1.7						
EIL				LR	LR	04 28 09.8	
	comp=Z,486nm,20.0s,baz=88,slow=40						
ALNE	**Al Ain**	**11.27**	**138**	*i* P	**Pn**	**04 23 21.9**	**-0.1**
	SNR=11						
KBZ	**Khabaz**	**11.57**	**343**	Pn	Pn	04 23 31.5	+5.5
	comp=Z,0.2nm,0.3s,baz=180,slow=7.7,SNR=5.8						
KBZ	**Khabaz**	**11.57**	**343**	*i* P	**Pn**	**04 23 27.3**	**+1.3**
SOHO	**SOHO**	**11.66**	**135**	P	**Pn**	**04 23 25.4**	**-2.0**
SOHO	**SOHO**	**11.66**	**135**	P	**Pn**	**04 23 26.5**	**-0.8**
SOHO				S	**Sn**	**04 25 31.0**	**-6.2**
TOKA	**Tokat**	**11.67**	**314**	Pn	**Pn**	**04 23 28.5**	**+1.0**
KVAR	**Kislovodsk Arr**	**11.83**	**343**	Pn	Pn	04 23 34.6	+4.8
	baz=73,slow=20,SNR=1.4						
KIV	**Kislovodsk**	**11.84**	**343**	*e*P	**Pn**	**04 23 31.0**	**+1.2**
KIV				pmax	pmax		
	comp=Z,57nm,1.1s						
KIV	**Kislovodsk**	**11.84**	**343**	Pn	**Pn**	**04 23 30.5**	**+0.8**
ARQ	**Araqi**	**12.27**	**137**	P	**Pn**	**04 23 34.9**	**-0.8**
	SNR=15						
ARQ				S	**Sn**	**04 25 44.9**	**-7.2**
HRA	**Herat**	**12.40**	**78**	Pn	**Pn**	**04 23 37.4**	**-0.2**
SOC	**Sochi**	**12.45**	**333**	*e*P	**Pn**	**04 23 40.4**	**+2.3**
SOC				pmax	pmax		
	comp=Z,25nm,0.9s						
GOF	**Gofitskoye**	**12.80**	**346**	*e*P	**P**	**04 23 55.8**	**+2.1**
GOF				pmax	pmax		
	comp=Z,42nm,1.1s						
BIDO	**Bidbid**	**13.09**	**132**	S	**Sn**	**04 26 05.0**	**-7.3**
	SNR=5.8						
BSY	**Bisya**	**13.12**	**137**	P	**Pn**	**04 23 46.2**	**-1.1**
	SNR=9.1						
BSY				S	**Sn**	**04 26 05.6**	**-7.3**
BR131	**Keskin Array S**	**13.20**	**306**	P	**Pn**	**04 23 49.1**	**+0.7**
BR131	**Keskin Array S**	**13.20**	**306**	Pn	**Pn**	**04 23 49.1**	**+0.7**
BRTR	**Keskin Array B**	**13.20**	**306**	Pn	**Pn**	**04 23 52.0**	**+3.5**
	comp=Z,0.1nm,0.3s,baz=141,slow=20,SNR=9.2						
BRTR	**Keskin Array B**	**13.20**	**306**	P	**Pn**	**04 23 52.0**	**+3.5**
BRTR	**Keskin Array B**	**13.20**	**306**	Pn	**Pn**	**04 23 48.2**	**-0.2**
SMDO	**Samad**	**13.38**	**133**	P	**Pn**	**04 23 50.7**	**-0.4**
	SNR=12						
SMDO				S	**Sn**	**04 26 12.0**	**-7.5**
	SNR=8.1						
WSAR	**Wadi Sarin**	**13.61**	**131**	Pn	**Pn**	**04 23 52.2**	**-1.9**
	comp=Z,4.4nm,0.3s,baz=309,slow=12,SNR=18						
WSAR				Sn	Sn	04 26 15.4	-10
	comp=Z,5.0nm,0.3s,baz=17,slow=21,SNR=9.4						
WSAR	**Wadi Sarin**	**13.61**	**131**	P	**Pn**	**04 23 53.5**	**-0.6**
	SNR=6.0						
WSAR				S	Sn	04 26 15.1	-10
WBK	**Wadi Bani Khal**	**14.29**	**132**	P	**Pn**	**04 24 01.5**	**-1.8**
	SNR=8.5						
WBK				S	Sn	04 26 30.2	-11
ANN	**Anapa**	**14.38**	**330**	*e*P	**Pn**	**04 24 05.7**	**+1.2**
ANN				pmax	pmax		
	comp=Z,24nm,0.8s						
ANN				MLR	MLR		
	comp=Z,731nm,15.0s						
BOLV	**Bolvadin**	**14.72**	**299**	Pn	**Pn**	**04 24 10.2**	**+0.9**
ISP	**Isparta**	**14.78**	**295**	P	**P**	**04 24 18.1**	**+2.1**
ISP	**Isparta**	**14.78**	**295**		**P**	**04 24 14.5**	**-1.5**
JLN	**Jalan Bani Buh**	**14.90**	**132**	P	**Pn**	**04 24 09.4**	**-2.2**
	SNR=5.1						
MHTO	**MHTO**	**14.94**	**139**	P	**Pn**	**04 24 09.4**	**-2.7**
	SNR=30						
MHTO				S	Sn	04 26 47.5	-10
ELL	**Elmali**	**15.03**	**290**	P	**P**	**04 24 24.3**	**+5.6**
MDUB	**Mudurnu**	**15.21**	**305**		**P**	**04 24 19.2**	**-1.4**
DQM	**DQM**	**15.58**	**142**	P	**Pn**	**04 24 18.1**	**-2.5**
	SNR=16						
DQM				S	Sn	04 27 01.0	-12
	SNR=16						
ABTO	**Aybut**	**16.17**	**160**	S	Sn	04 27 16.5	-11
	SNR=6.1						
RBK	**Rabkut**	**16.31**	**157**	P	**Pn**	**04 24 27.0**	**-3.1**
	SNR=8.9						
RBK				S	Sn

DZA pmax pmax
comp=Z,11nm,0.7s
DZA MLR MLR
comp=Z,154nm,12.0s
AGG Agios Georgios 21.32 294 P **P 04 25 28.6 +0.8**
AGG pmax pmax
comp=Z,39nm,1.1s
AGG Agios Georgios 21.32 294 P **P 04 25 28.6 +0.8**
MTUR Matau 21.38 312 ⇑P **P 04 25 30.9 +2.5**
MTUR Matau 21.38 312 ⇑P **P 04 25 30.9 +2.5**
ITM Ithomi 21.42 289 P **P 04 25 28.0 -0.8**
ITM IAmb IAmb 04 25 43.7
comp=Z,34nm,0.8s
VOIR 21.49 313 ⇑P **P 04 25 31.6 +2.0**
VOIR 21.49 313 ⇑P **P 04 25 31.6 +2.0**
ATD Arta Tunnel 21.53 193 P **P 04 25 31.1 +1.0**
comp=Z,16nm,0.8s,baz=66,slow=17,SNR=3.8
ATD Arta Tunnel 21.53 193 P **P 04 25 30.2 +0.1**
ATD IAmb IAmb 04 25 35.8
comp=Z,46nm,1.1s
DOPR Dopca 21.54 314 ⇑P **P 04 25 31.1 +1.0**
NIL Nilore 21.54 80 P **P 04 25 30.4 +0.2**
NIL pmax pmax
comp=Z,68nm,1.0s
NIL Nilore 21.54 80 P **P 04 25 30.4 +0.2**
NIL IAmb IAmb 04 25 50.0
comp=Z,68nm,0.9s
ARR Arges 21.71 312 ⇓P **P 04 25 33.9 +1.9**
PRAR RASCA 21.80 318 ⇓P **P 04 25 35.7 +2.9**
ARSB Arslanbob 22.01 60 P **P 04 25 35.0 -0.3**
ARSB pmax pmax
comp=Z,81nm,1.2s
ARSB Arslanbob 22.01 60 P **P 04 25 35.0 -0.3**
ARSB IAmb IAmb 04 25 54.2
comp=Z,81nm,1.1s
LOT Lotru 22.29 312 ⇓P **P 04 25 39.2 +1.0**
AKASG Malin Array Be 22.46 328 P **P 04 25 39.0 -0.8**
comp=Z,8.6nm,0.7s,baz=136,slow=8.8,SNR=26
AKASG ScP **ScP 04 33 10.4 -0.1**
comp=Z,0.5nm,0.5s,baz=108,slow=1.6,SNR=2.2
AKASG Malin Array Be 22.46 328 P **P 04 25 38.5 -1.3**
AKBB Malin Array Si 22.46 328 *ce*P **P 04 25 37.7 -2.1**
AKBB Malin Array Si 22.46 328 P **P 04 25 38.8 -1.1**
BURAR Bucovina Array 22.51 318 ⇑P **P 04 25 41.6 +1.1**
BURAR Bucovina Array 22.51 318 ⇑P **P 04 25 41.6 +1.1**
BURAR Bucovina Array 22.51 318 P **P 04 25 39.5 -1.0**
BUR08 Bucovina Ar. S 22.53 318 P **P 04 25 40.3 -0.5**
SKO Skopje 22.62 302 *j* P P 04 25 49.9 +8.2
ARCR ARCALIA 22.73 316 ⇑P **P 04 25 44.6 +1.9**
AML Almayashu 22.73 58 P **P 04 25 44.3 +1.0**
SNR=55
HORU Horodok 22.79 322 P **P 04 25 41.9 -1.5**
HERR Herculane 22.92 309 ⇑P **P 04 25 46.0 +1.2**
IGT Igoumenitsa 22.93 295 P **P 04 25 48.3 +3.3**
IGT pmax pmax
comp=Z,22nm,1.1s
EKS2 Erkin-Say 22.94 57 P **P 04 25 46.5 +1.3**
SNR=16
UCH Uchtor 23.35 58 P **P 04 25 51.0 +1.3**
SNR=11
AAK Ala-Archa 23.44 57 P **P 04 25 51.4 +1.1**
comp=Z,6.5nm,0.6s,baz=236,slow=7.6,SNR=13
AAK ScP **ScP 04 33 13.3 -0.3**
comp=Z,2.1nm,0.5s,baz=216,slow=5.8,SNR=5.0
AAK Ala-Archa 23.44 57 *ce*P **P 04 25 51.7 +1.4**
AAK pmax pmax
comp=Z,33nm,1.7s
AAK Ala-Archa 23.44 57 P **P 04 25 51.2 +0.9**
FRU1 Bishkek 23.59 57 P **P 04 25 50.1 -1.5**
FRU1 pmax pmax
comp=Z,28nm,0.8s
FRU1 Bishkek 23.59 57 P **P 04 25 50.1 -1.5**
FRU1 IAmb IAmb 04 25 55.0
comp=Z,28nm,0.8s
USP Ospenovka 23.63 56 P **P 04 25 53.2 +1.2**
SNR=23
OBN Obninsk 23.68 344 P **P 04 25 51.2 -1.0**
comp=Z,4.5nm,0.4s,baz=182,slow=4.0,SNR=15
OBN Obninsk 23.68 344 *c* iP **P 04 25 50.7 -1.5**
OBN *i* 04 26 02.1
OBN *i* 04 26 21.4
OBN pmax pmax
comp=Z,50nm,1.1s
OBN MLR MLR
comp=Z,309nm,15.0s
OBN Obninsk 23.68 344 P **P 04 25 51.0 -1.2**
CHMS Chumysh 23.73 57 P **P 04 25 54.8 +1.8**
SNR=13
BZS Buzias 23.73 310 ⇑P **P 04 25 53.2 +0.3**
BZS Buzias 23.73 310 ⇑P **P 04 25 53.2 +0.3**
KBK Karagaybulak 23.77 57 P **P 04 25 56.2 +2.7**
SNR=9.4
KZA Kyzart 23.84 59 P **P 04 25 56.3 +1.9**
SNR=16
KSH Kashi 23.90 65 P **P 04 25 52.8 -1.9**
KSH pP pP 04 25 56.4 -3.7
KSH S **S 04 30 05.0 -5.4**
KSH pmax pmax
comp=Z,41nm,0.9s
KSH pmax pmax
comp=Z,320nm,5.1s
KSH LR LR
comp=Z,550nm,10.5s
KSH LR LR
comp=Z,600nm,10.0s
KSH LR LR
comp=Z,2μm,17.9s
BTLS Baital 23.92 51 *e*P **P 04 25 55.4 +0.7**
comp=Z,40nm,1.9s,baz=52
BTLS *e*S **S 04 30 12.3 +2.1**
baz=52
BTLS LR LR 04 36 03.2
comp=Z,94nm,10.9s,baz=52
BTLS Baital 23.92 51 *e*P **P 04 25 55.3 +0.7**
BTLS pmax pmax
comp=Z,39nm,1.9s
BTLS MLR MLR
comp=Z,94nm,11.0s
MOS Moscow 24.03 346 *e*P **P 04 25 55.0 -0.5**
MOS *e*S **S 04 30 13.8 +2.0**
MOS pmax pmax
comp=Z,70nm,0.8s
MORS Morshin 24.09 320 P **P 04 25 57.0 +0.8**
DIVS Divibare 24.27 306 P **P 04 25 57.7 -0.3**
OTUK Ortayu 24.28 43 P **P 04 25 57.9 -0.1**
TKM2 Tokmak 2 24.30 57 P **P 04 26 00.1 +1.6**
SNR=28
TKM2 Tokmak 2 24.30 57 P **P 04 25 58.9 +0.4**
PDG Podgorica 24.31 302 P **P 04 25 57.8 -0.6**
PDG IAmb IAmb 04 26 03.6
comp=Z,34nm,1.4s
LVV L'vov 24.41 321 *e*P **P 04 26 00.2 +1.1**
ULHL Ulahol 24.60 59 P **P 04 26 03.4 +2.2**
SNR=18
UZH Uzhgorod 24.71 317 *d* iP **P 04 26 02.6 +0.7**
UZH *e* 04 26 16.6
KOLS Kolonicke sedl 24.88 318 *e*P **P 04 26 04.9 +1.5**
KOLS pmax pmax
comp=Z,41nm,1.4s
KOLS Kolonicke sedl 24.88 318 *e*P **P 04 26 04.9 +1.5**
ARU Arti 24.91 15 P **P 04 26 03.7 +0.1**
comp=Z,2.2nm,0.5s,baz=194,slow=9.6,SNR=19
ARU Arti 24.91 15 *d* iP **P 04 26 04.1 +0.5**
ARU S **S 04 30 28.4 +2.4**
ARU SS **SnSn 04 31 19.1 +4.9**
ARU pmax pmax
comp=Z,36nm,1.1s
ARU Arti 24.91 15 P **P 04 26 03.9 +0.3**
ARU IAmb IAmb 04 26 06.9
comp=Z,48nm,1.3s
KWP Kalwaria Pacla 25.01 320 *e*P **P 04 26 05.7 +1.1**
KWP Kalwaria Pacla 25.01 320 P **P 04 26 04.8 +0.2**
KWP pmax pmax
comp=Z,58nm,1.1s
KWP Kalwaria Pacla 25.01 320 P **P 04 26 04.8 +0.2**
FURI Furi 25.08 201 P **P 04 26 06.3 +0.4**
KUU Kurty 25.09 55 *e*P **P 04 26 05.9 +0.5**
comp=Z,41nm,1.0s,baz=56
KUU LR LR 04 37 05.5
comp=Z,224nm,10.3s,baz=56
KUU Kurty 25.09 55 *e*P **P 04 26 05.9 +0.5**
KUU pmax pmax
comp=Z,41nm,1.0s
KUU MLR MLR
comp=Z,224nm,10.0s

KDJ Kajisay 25.25 60 P **P 04 26 08.3 +1.2**
KDJ pmax pmax
comp=Z,35nm,0.9s
KDJ Kajisay 25.25 60 P **P 04 26 08.3 +1.2**
KDJ IAmb IAmb 04 26 12.1
comp=Z,35nm,0.8s
AAA Alma-Ata 25.31 57 *e*P **P 04 26 08.0 +0.5**
baz=57
AAA *e*S **S 04 30 34.6 +1.7**
baz=57
AAA LR LR 04 36 50.3
comp=Z,475nm,16.7s,baz=57
AAA Alma-Ata 25.31 57 *e*P **P 04 26 08.0 +0.5**
AAA MLR MLR
comp=Z,475nm,17.0s
CRVS Cervenica-Dubn 25.32 317 *e*P **P 04 26 09.1 +1.7**
CRVS pmax pmax
comp=Z,35nm,0.9s
CRVS Cervenica-Dubn 25.32 317 *e*P **P 04 26 09.1 +1.7**
BRZS Berezniki 25.39 40 *e*P **P 04 26 08.2 +0.2**
comp=Z,20nm,1.2s,baz=40
BRZS Berezniki 25.39 40 *e*P **P 04 26 08.2 +0.2**
BRZS pmax pmax
comp=Z,20nm,1.2s
MDOK Medeo 25.39 57 *e*P **P 04 26 08.5 +0.2**
baz=57
MDOK LR LR 04 36 50.3
comp=Z,454nm,16.4s,baz=57
MDOK Medeo 25.39 57 *e*P **P 04 26 08.5 +0.2**
MDOK MLR MLR
comp=Z,454nm,16.0s
CHKK Chushkaly 25.53 56 *e*P **P 04 26 10.1 +0.7**
baz=56
CHKK Chushkaly 25.53 56 *e*P **P 04 26 10.1 +0.7**
TARG Taragay, Kyrgy 25.63 61 P **P 04 26 10.9 +0.1**
TIP Timpagrande 25.64 293 P **P 04 26 09.8 -0.7**
KECS Kecovo 25.68 316 *e*P **P 04 26 12.8 +2.1**
KECS pmax pmax
comp=Z,24nm,0.8s
KECS Kecovo 25.68 316 *e*P **P 04 26 12.8 +2.1**
SVE Sverdlovsk 25.75 17 *e*P **P 04 26 12.5 +1.3**
SVE pmax pmax
comp=Z,47nm,1.6s
PSZ Piszkesteto 25.78 314 P **P 04 26 11.8 +0.1**
PSZ pmax pmax
comp=Z,25nm,0.8s
PSZ Piszkesteto 25.78 314 P **P 04 26 11.8 +0.1**
PSZ IAmb IAmb 04 26 15.4
comp=Z,25nm,0.8s
KIRV Kirov 25.90 2 P **P 04 26 13.3 +0.8**
comp=Z,26nm,0.7s,baz=191,slow=5.3,SNR=15
KIRV Kirov 25.90 2 *e*P **P 04 26 12.9 +0.4**
BRVK Borovoye 26.09 32 *ce*P **P 04 26 14.3 0.0**
BRVK pmax pmax
comp=Z,31nm,1.7s
BRVK Borovoye 26.09 32 P **P 04 26 14.7 +0.3**
BRVK IAmb IAmb 04 26 16.3
comp=Z,26nm,1.2s
BVAR Borovoye Array 26.11 32 P **P 04 26 15.2 +0.6**
comp=Z,8.2nm,0.6s,baz=223,slow=8.1,SNR=35
BVAR PcP **PcP 04 29 42.4 +0.7**
comp=Z,3.8nm,0.8s,baz=232,slow=3.5,SNR=4.6
BVAR ScP **ScP 04 33 20.1 -0.5**
comp=Z,2.8nm,0.7s,baz=263,slow=2.4,SNR=8.8
BUD Budapest 26.13 313 P **P 04 26 18.5 +3.8**
BUD pmax pmax
comp=Z,49nm,1.1s
PRZ Przheval'sk 26.21 59 P **P 04 26 16.5 +0.7**
PRZ pmax pmax
comp=Z,54nm,1.3s
PRZ Przheval'sk 26.21 59 P **P 04 26 16.5 +0.7**
PRZ IAmb IAmb 04 26 19.1
comp=Z,54nm,1.2s
NIE Niedzica 26.24 317 P **P 04 26 19.1 +3.3**
CEL Celeste 26.26 291 P **P 04 26 15.3 -0.8**
CEL IAmb IAmb 04 26 33.7
comp=Z,57nm,1.3s
SATY Saty 26.34 58 *e*P **P 04 26 17.1 +0.3**
comp=Z,34nm,1.3s,baz=58
SATY Saty 26.34 58 *e*P **P 04 26 17.1 +0.3**
SATY pmax pmax
comp=Z,34nm,1.3s
SATY Saty 26.34 58 *e*P **P 04 26 17.1 +0.3**
SATY pmax pmax
comp=Z,34nm,1.3s
NACGM Naroch 26.56 333 *e* **P 04 26 20.0 +1.5**
LANS Liptovska Anna 26.59 316 *e*P **P 04 26 21.1 +2.1**
LANS pmax pmax
comp=Z,11nm,1.0s
LANS Liptovska Anna 26.59 316 *e*P **P 04 26 21.1 +2.1**
SRO2 Moca 26.63 313 *e*P **P 04 26 20.2 +0.9**
SRO2 pmax pmax
comp=Z,18nm,1.0s
SRO2 Moca 26.63 313 *e*P **P 04 26 20.2 +0.9**
VYHS Vyhne 26.67 315 *e*P **P 04 26 20.9 +1.3**
VYHS pmax pmax
comp=Z,8.0nm,0.9s
VYHS Vyhne 26.67 315 *e*P **P 04 26 20.9 +1.3**
UZB Uzynbulak 26.80 58 *e*P **P 04 26 21.4 +0.3**
comp=Z,24nm,1.6s,baz=58
UZB LR LR 04 37 32.8
comp=Z,159nm,13.2s,baz=58
UZB Uzynbulak 26.80 58 *e*P **P 04 26 21.3 +0.3**
UZB pmax pmax
comp=Z,24nm,1.6s
UZB MLR MLR
comp=Z,159nm,13.0s
TDK Taldyqorghan 26.83 54 *e*P **P 04 26 21.5 +0.4**
comp=Z,32nm,0.7s,baz=54
TDK LR LR 04 37 55.0
comp=Z,547nm,12.5s,baz=54
TDK Taldyqorghan 26.83 54 *e*P **P 04 26 21.5 +0.4**
TDK pmax pmax
comp=Z,32nm,0.7s
TDK MLR MLR
comp=Z,547nm,13.0s
IDID Didziasalis 26.88 333 *e*P **P 04 26 22.1 +0.6**
OJC Ojcow 26.92 319 *e*P **P 04 26 22.9 +1.1**
OJC Ojcow 26.92 319 P **P 04 26 21.8 0.0**
OJC pmax pmax
comp=Z,68nm,1.4s
OJC Ojcow 26.92 319 P **P 04 26 21.8 0.0**
SHLS Shalkode 27.11 58 *e*P **P 04 26 26.9 +3.1**
baz=58
SHLS LR LR 04 38 24.7
comp=Z,170nm,11.9s,baz=58
SHLS Shalkode 27.11 58 *e*P **P 04 26 26.9 +3.1**
SHLS MLR MLR
comp=Z,170nm,12.0s
PDGK Podgornoye 27.17 58 P **P 04 26 24.0 -0.3**
ISAL Salakas 27.30 333 *e*P **P 04 26 26.0 +0.8**
IZAR Zarasai 27.39 334 *e*P **P 04 26 26.9 +0.8**
SUW Suwalki 27.43 328 P **P 04 26 25.8 -0.6**
SUW pmax pmax
comp=Z,46nm,0.9s
SUW Suwalki 27.43 328 P **P 04 26 25.8 -0.6**
KOGS Kog 27.52 309 *e*P **P 04 26 28.6 +1.3**
JAVC Velka Javorina 27.52 315 *e*P **P 04 26 28.9 +1.5**
MODS Modra-Piesok 27.56 313 *e*P **P 04 26 28.5 +0.8**
MODS pmax pmax
comp=Z,28nm,1.4s
MODS Modra-Piesok 27.56 313 *e*P **P 04 26 28.5 +0.8**
OKC Ostrava-Krasne 27.67 317 P **P 04 26 27.3 -1.3**
GCIS Gornji Cirnik 27.75 308 *e*P **P 04 26 30.5 +1.1**
MORC Moravsky Berou 27.99 316 *e*P **P 04 26 32.3 +0.7**
MORC Moravsky Berou 27.99 316 P **P 04 26 30.9 -0.6**
MORC pmax pmax
comp=Z,20nm,1.4s
MORC Moravsky Berou 27.99 316 P **P 04 26 30.9 -0.6**
PABE Paberze 28.11 331 *e*P **P 04 26 33.0 +0.6**
INTR Introdacqua 28.13 299 P **P 04 26 31.9 -1.1**
INTR IAmb IAmb 04 26 45.0
comp=Z,23nm,1.5s
PDKS Podkum 28.23 308 *e*P **P 04 26 35.3 +1.6**
CONA Conrad Observa 28.27 312 *e*pP **P 04 26 36.1 +2.0**
comp=Z,16nm,1.6s
CORL Corleone 28.29 290 P **P 04 26 33.4 -1.0**
CORL IAmb IAmb 04 26 39.2
comp=Z,22nm,1.2s
VRAC Vranov 28.35 315 P **P 04 26 35.8 +1.1**
comp=Z,3.9nm,0.7s,baz=117,slow=8.2,SNR=7.8
VRAC Vranov 28.35 315 *e*P **P 04 26 35.5 +0.8**
KRUC Moravsky 28.37 314 *e*P **P 04 26 35.5 +0.6**
KRLC Kraliky 28.57 316 *e*P **P 04 26 37.4 +0.7**
KRLC Kraliky 28.57 316 *e*P **P 04 26 37.4 +0.7**

KLMR Klimovskoe 28.63 352 *e*P **P 04 26 35.3 -1.7**
KLMR pmax pmax
comp=Z,49nm,0.9s
KLMR Klimovskoe 28.63 352 *e*P **P 04 26 35.4 -1.6**
KLMR AMP 04 26 37.5
comp=Z,49nm,0.9s
OBKA Obir 28.66 308 *e*pP **P 04 26 39.8 +2.2**
comp=Z,10.0nm,1.6s
DPC Dobruska-Polom 28.95 317 *e*P **P 04 26 41.0 +0.9**
DPC Dobruska-Polom 28.95 317 *e*P **P 04 26 41.0 +0.9**
PRGR Permogore 28.95 358 *e*P **P 04 26 38.9 -0.9**
PRGR *e* 04 27 38.3
PRGR *e* 04 29 47.0
PRGR pmax pmax
comp=Z,11nm,0.7s
KURBB Kurchatov Arra 28.96 43 P **P 04 26 41.5 +1.4**
comp=Z,15nm,0.8s,baz=247,slow=9.3,SNR=39
KURBB ScP **ScP 04 33 27.6 -1.7**
comp=Z,1.0nm,0.6s,baz=241,slow=4.1,SNR=6.6
KURBB Kurchatov Arra 28.96 43 P **P 04 26 40.6 +0.5**
KURK Kurchatov 29.06 43 P **P 04 26 41.5 +0.6**
KURK pmax pmax
comp=Z,27nm,1.0s
KURK Kurchatov 29.06 43 P **P 04 26 41.5 +0.6**
KURK IAmb IAmb 04 26 43.4
comp=Z,27nm,0.9s
OSTC Ostas 29.10 317 *e*P **P 04 26 42.0 +0.6**
UPC Upice 29.20 317 *e*P **P 04 26 43.1 +0.9**
UPC Upice 29.20 317 *e*P **P 04 26 43.1 +0.9**
CHVC Chvalec 29.21 317 *e*P **P 04 26 42.9 +0.6**
MOA Molln 29.25 311 *e*P **P 04 26 43.6 +0.8**
comp=Z,5.4nm,0.8s
PRED Cave del Predi 29.29 308 P **P 04 26 42.8 -0.3**
VSU Vasula 29.32 338 *e*P **P 04 26 43.7 +0.6**
MURB Monte Urbino 29.33 301 P **P 04 26 42.7 -0.8**
KBA Koelnbreinsper 29.61 309 *e*P **P 04 26 47.0 +0.8**
comp=Z,6.7nm,0.8s,SNR=5.8
GOPC GO Pecny, Ondr 29.67 315 *e*P **P 04 26 47.7 +1.2**
GOPC GO Pecny, Ondr 29.67 315 *e*P **P 04 26 47.7 +1.2**
ZOU Zoufplan 29.72 308 P **P 04 26 46.4 -0.7**
MAKZ Makanchi 29.72 52 P **P 04 26 47.6 +0.6**
MAKZ Makanchi 29.72 52 P **P 04 26 47.0 +0.1**
MAKZ IAmb IAmb 04 26 49.5
comp=Z,22nm,1.4s
STAL STALIGIAL 29.82 307 P **P 04 26 46.9 -0.9**
MK31 Makanchi Array 29.93 52 P **P 04 26 49.5 +0.7**
MK31 Makanchi Array 29.93 52 P **P 04 26 49.0 +0.3**
MK31 IAmb IAmb 04 26 51.0
comp=Z,16nm,0.9s
MKAR Makanchi Array 29.93 52 P **P 04 26 49.9 +1.1**
comp=Z,15nm,0.8s,baz=250,slow=7.2,SNR=113
MKAR PcP **PcP 04 29 50.3 -0.8**
comp=Z,1.3nm,0.7s,baz=230,slow=3.4,SNR=4.7
MKAR ScP **ScP 04 33 31.6 -1.0**
comp=Z,2.8nm,1.0s,baz=262,slow=3.4,SNR=8.0
MKAR LR LR 04 41 21.7
comp=Z,124nm,18.4s,baz=324,slow=41
MKAR Makanchi Array 29.93 52 P **P 04 26 49.8 +1.0**
MKAR Makanchi Array 29.93 52 P **P 04 26 49.8 +1.0**
GERES GERESS Array B 29.94 313 P **P 04 26 48.2 -0.8**
comp=Z,1.1nm,0.6s,baz=94,slow=8.0,SNR=8.6
GERES PcP **PcP 04 29 51.9 +0.7**
comp=Z,0.7nm,0.7s,baz=132,slow=1.5,SNR=2.7
GERES ScP **ScP 04 33 32.9 +0.3**
comp=Z,0.5nm,0.6s,baz=126,slow=3.4,SNR=5.0
CIMO Cimolais 30.01 307 P **P 04 26 48.7 -0.8**
ABTA Abfaltersbach 30.07 308 *e*P **P 04 26 50.7 +0.6**
comp=Z,5.1nm,1.0s
KHC Kasperske Hory 30.12 313 *ce*P **P 04 26 52.0 +1.6**
KHC pmax pmax
comp=Z,19nm,1.7s
KHC Kasperske Hory 30.12 313 *e*P **P 04 26 50.9 +0.5**
KHC Kasperske Hory 30.12 313 P **P 04 26 49.2 -1.2**
CTI Castel Tesino 30.48 306 P **P 04 26 53.4 -0.4**
CTI pmax pmax
comp=Z,10.0nm,0.8s
CTI Castel Tesino 30.48 306 P **P 04 26 53.4 -0.4**
BRG Berggiesshubel 30.55 316 *e*P **P 04 26 54.2 +0.1**
comp=Z,5.4nm,1.1s
BRG Berggiesshubel 30.55 316 *e*P **P 04 26 54.2 +0.1**
BRG pmax pmax
comp=Z,5.0nm,1.1s
ZCCA Zocca 30.61 303 P **P 04 26 55.9 +1.1**
WTTA Wattenberg 30.79 309 *e*P **P 04 26 57.2 +0.7**
comp=Z,8.8nm,0.7s
PYUN Piuthan 30.84 89 *e*P **P 04 26 57.9 +0.6**
comp=Z,70nm,1.2s
WATA Walderalm 30.84 309 *e*P **P 04 26 57.2 +0.2**
comp=Z,7.9nm,0.7s
VLC Villacollemand 31.00 302 P **P 04 26 58.0 -0.3**
VLC IAmb IAmb 04 27 16.9
comp=Z,13nm,0.9s
SQTA Sankt Quirin 31.06 309 *e*P **P 04 26 59.3 +0.5**
comp=Z,10nm,0.6s,SNR=7.7
MOTA Moosalm 31.16 309 *e*P **P 04 26 59.1 -0.7**
comp=Z,14nm,0.9s,SNR=7.0
SALO Salr 31.16 305 P **P 04 26 58.4 -1.2**
SALO IAmb IAmb 04 27 11.8
comp=Z,22nm,0.9s
NKC Novy Kostel 31.19 315 *e*P **P 04 26 59.7 -0.2**
NKC Novy Kostel 31.19 315 *e*P **P 04 26 59.7 -0.2**
CLL Collm 31.27 317 *i* P **P 04 27 01.1 +0.7**
comp=Z,12nm,1.2s
CLL Collm 31.27 317 *i* P **P 04 27 01.1 +0.7**
CLL pmax pmax
comp=Z,12nm,1.2s
CLL Collm 31.27 317 P **P 04 27 00.2 -0.2**
FETA Feichten 31.32 308 *e*P **P 04 27 01.7 +0.5**
comp=Z,8.4nm,0.9s,SNR=11
RETA Reutte 31.42 309 *e*P **P 04 27 02.8 +0.8**
comp=Z,9.5nm,1.2s
DANN Dangsing 31.42 88 *e*P **P 04 27 03.4 +1.0**
comp=Z,81nm,0.8s
KOLN Koldanda 31.46 89 *e*P **P 04 27 03.0 +0.3**
comp=Z,40nm,1.1s
FUORN Ofenpass-Fuorn 31.54 307 P **P 04 27 03.3 0.0**
GRA1 Grafenberg Arr 31.75 313 P **P 04 27 03.6 -1.1**
GRA1 IAmb IAmb 04 27 06.8
comp=Z,21nm,1.0s
GRF Grafenberg Arr 31.75 313 P **P 04 27 03.7 -1.1**
GRF pmax pmax
comp=Z,21nm,1.0s
ZSN Zaisan 31.80 51 *e*P **P 04 27 05.6 +0.4**
baz=52
ZSN Zaisan 31.80 51 *e*P **P 04 27 05.6 +0.4**
HYB Hyderabad 31.83 111 *i* P **P 04 27 07.0 +1.2**
DAVOX Davos/Dischmat 31.84 307 P **P 04 27 05.9 +0.2**
comp=Z,2.4nm,0.5s,baz=118,slow=9.9,SNR=9.5
FINES FINESS Array B 31.91 341 P **P 04 27 05.7 -0.3**
comp=Z,10nm,0.9s,baz=126,slow=9.7,SNR=15
FINES PcP **PcP 04 29 56.1 0.0**
comp=Z,5.3nm,0.9s,baz=125,slow=7.0,SNR=3.4
FINES FINESS Array B 31.91 341 P **P 04 27 05.2 -0.8**
FIA1 FINESS Array S 31.92 341 P **P 04 27 05.7 -0.3**
DAVA Damuels 31.95 308 *e*P **P 04 27 07.0 +0.3**
comp=Z,11nm,0.6s,SNR=8.0
TMCR Tamitsa 32.02 352 *e*P **P 04 27 06.5 -0.4**
TUE Stuetta 32.13 307 P **P 04 27 08.4 0.0**
GKN Gorkha 32.26 88 *e*P **P 04 27 10.3 +0.6**
comp=Z,66nm,0.7s
DMN Daman 32.78 89 *e*P **P 04 27 15.2 +0.9**
comp=Z,38nm,0.6s
KKN Kakani 32.87 89 *e*P **P 04 27 16.0 +0.9**
comp=Z,63nm,0.6s
PKI Pulchoki 33.04 89 *e*P **P 04 27 17.3 +0.6**
comp=Z,57nm,0.7s
SBF Sospel 33.07 301 *e*P **P 04 27 17.1 +0.6**
SBF pmax pmax
comp=Z,25nm,0.9s
WMQ Urumqi 33.13 59 *e*P **P 04 27 18.5 +1.5**
WMQ pP sP 04 27 22.8 -1.7
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,29nm,5.1s
WMQ LR LR
comp=Z,290nm,17.9s
WMQ LR LR
comp=Z,350nm,18.9s
WMQ LR LR
comp=Z,300nm,20.5s
WMQ Urumqi 33.13 59 P **P 04 27 17.1 +0.1**
WMQ pmax pmax
comp=Z,19nm,0.4s
WMQ Urumqi 33.13 59 P **P 04 27 17.1 +0.1**

GUN	**Gumba**	**33.34**	**88**	*e*P		**P**	**04 27 20.4**	**+1.1**
	comp=Z,140nm,1.1s							
SENIN	**Lac Senin/Sane**	**33.50**	**306**	P		**P**	**04 27 19.2**	**-1.2**
MBDF	**Montbardon**	**33.64**	**303**	*e*P		**P**	**04 27 21.8**	**+0.2**
MBDF				pmax	pmax			
	comp=Z,10.0nm,0.6s							
JIRN	**Jiri**	**33.67**	**88**	*e*P		**P**	**04 27 23.2**	**+0.9**
	comp=Z,71nm,0.6s							
BNI	**Bardonecchia**	**33.74**	**303**	P		**P**	**04 27 23.0**	**+0.5**
BNI				pmax	pmax			
	comp=Z,28nm,0.8s							
BNI	**Bardonecchia**	**33.74**	**303**	P		**P**	**04 27 23.0**	**+0.5**
LPG	**La Plagne**	**33.75**	**304**	*e*P		**P**	**04 27 22.8**	**+0.1**
LPG				pmax	pmax			
	comp=Z,29nm,0.8s							
LPL	**La Plagne**	**33.77**	**304**	*e*P		**P**	**04 27 22.8**	**+0.1**
LPL				pmax	pmax			
	comp=Z,34nm,0.9s							
ZAA0	**Zalesovo Array**	**33.87**	**40**	P		**P**	**04 27 22.2**	**-1.0**
ZAA0				IAmb	IAmb		04 27 25.9	
	comp=Z,18nm,0.9s							
ZALV	**Zalesovo Beam**	**33.87**	**40**	P		**P**	**04 27 23.6**	**+0.4**
	comp=Z,18nm,0.8s,baz=260,slow=8.7,SNR=47							
ZALV				PcP		**PcP**	**04 30 00.5**	**-1.1**
	comp=Z,2.0nm,0.7s,baz=256,slow=4.2,SNR=2.6							
ZALV				ScP		**ScP**	**04 33 43.1**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=250,slow=2.9,SNR=3.6							
ZALV				LR		LR	04 43 29.1	
	comp=Z,329nm,18.2s,baz=282,slow=40							
ZALV	**Zalesovo Beam**	**33.87**	**40**	P		**P**	**04 27 23.4**	**+0.2**
DGZ	**Jazzator, Alta**	**34.01**	**48***c*	*i*P		**P**	**04 27 26.2**	**+1.5**
DGZ				pmax	pmax			
	comp=Z,33nm,1.7s							
RAMN	**Ramite**	**34.25**	**89**	*e*P		**P**	**04 27 27.3**	**+0.2**
	comp=Z,44nm,0.8s							
CABF	**La Chapelle**	**34.37**	**306**	*e*P		**P**	**04 27 28.1**	**+0.3**
CABF				pmax	pmax			
	comp=Z,24nm,0.7s							
HAU	**Haudompre**	**34.44**	**309**	*e*P		**P**	**04 27 27.6**	**-0.7**
HAU				pmax	pmax			
	comp=Z,4.0nm,0.7s							
ODAN	**Odare**	**34.94**	**89**	*e*P		**P**	**04 27 33.0**	**-0.1**
KMBO	**Kilima Mbogo**	**35.04**	**198**	P		**P**	**04 27 35.6**	**+1.7**
	comp=Z,4.1nm,1.0s,baz=24,slow=9.0,SNR=6.3							
KMBO	**Kilima Mbogo**	**35.04**	**198**	P		**P**	**04 27 33.3**	**-0.7**
TAPN	**Taplejung**	**35.05**	**88**	*e*P		**P**	**04 27 35.1**	**+0.9**
VIVF	**Saint-Julien-l**	**35.14**	**303**	*e*P		**P**	**04 27 34.0**	**-0.4**
VIVF				pmax	pmax			
	comp=Z,7.0nm,0.9s							
HFS	**Hagfors**	**35.29**	**331**	P		**P**	**04 27 35.6**	**+0.2**
	comp=Z,17nm,0.7s,baz=120,slow=8.8,SNR=13							
APA	**Apatity**	**35.85**	**351**	⇑*i*P		**P**	**04 27 39.4**	**-0.8**
APA				pmax	pmax			
	comp=Z,15nm,0.8s							
SMF	**Signal de Mont**	**35.91**	**306**	*e*P		**P**	**04 27 40.6**	**-0.4**
SMF				pmax	pmax			
	comp=Z,18nm,0.5s							
LOR	**Lormes**	**35.98**	**307**	*e*P		**P**	**04 27 40.9**	**-0.6**
LOR				pmax	pmax			
	comp=Z,15nm,1.3s							
LVZ	**Lovozero**	**36.00**	**352***ce*	P		**P**	**04 27 41.1**	**-0.4**
LVZ				pmax	pmax			
	comp=Z,160nm,2.5s							
AVF	**Avril sur Loir**	**36.26**	**306**	*e*P		**P**	**04 27 43.5**	**-0.4**
AVF				pmax	pmax			
	comp=Z,11nm,1.0s							
MBAR	**Mbarara**	**36.74**	**209**	P		**P**	**04 27 49.1**	**+0.6**
	comp=Z,2.2nm,0.2s,baz=18,slow=10,SNR=4.4							
MBAR	**Mbarara**	**36.74**	**209***ce*	P		**P**	**04 27 50.4**	**+1.9**
MBAR				pmax	pmax			
	comp=Z,21nm,2.5s							
MBAR	**Mbarara**	**36.74**	**209**	P		**P**	**04 27 48.3**	**-0.2**
NB2	**NORSAR Subarra**	**36.81**	**331**	P		**P**	**04 27 47.8**	**-0.7**
	comp=Z,5.6nm,0.9s,baz=123,slow=8.6							
NOA	**NORSAR Array B**	**36.81**	**331**	P		**P**	**04 27 47.9**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=124,slow=8.6,SNR=6.3							
NC303	**NORSAR Array S**	**36.85**	**332**	P		**P**	**04 27 47.5**	**-1.3**
NC303				IAmb	IAmb		04 28 06.2	
	comp=Z,30nm,1.1s							
TCF	**Toulx Ste Croi**	**36.99**	**305**	*e*P		**P**	**04 27 50.1**	**-0.1**
TCF				pmax	pmax			
	comp=Z,11nm,1.1s							
LSA	**Lhasa**	**37.24**	**83**	P		**P**	**04 27 53.8**	**+0.7**
LSA				pmax	pmax			
	comp=Z,34nm,1.1s							
LSA	**Lhasa**	**37.24**	**83**	P		**P**	**04 27 53.8**	**+0.7**
LSA				IAmb	IAmb		04 27 55.5	
	comp=Z,34nm,1.1s							
RJF	**Les Rejaudoux**	**37.40**	**303**	*e*P		**P**	**04 27 53.7**	**0.0**
RJF				pmax	pmax			
	comp=Z,18nm,1.5s							
TAM	**Tamanrasset**	**38.25**	**266**	P		**P**	**04 28 01.7**	**+0.5**
TAM				pmax	pmax			
	comp=Z,14nm,1.2s							
TAM	**Tamanrasset**	**38.25**	**266**	P		**P**	**04 28 01.7**	**+0.5**
ARCES	**ARCESS Array B**	**38.88**	**348**	P		**P**	**04 28 05.8**	**-0.1**
	comp=Z,9.4nm,0.9s,baz=148,slow=7.0,SNR=18							
ARCES				PcP		**PcP**	**04 30 16.1**	**-0.2**
	comp=Z,3.4nm,0.7s,baz=170,slow=4.1,SNR=5.5							
ARCES				ScP		**ScP**	**04 34 04.3**	**+0.4**
	comp=Z,8.6nm,1.0s,baz=50,slow=1.9,SNR=8.4							
ARCES	**ARCESS Array B**	**38.88**	**348**	P		**P**	**04 28 05.6**	**-0.2**
FLN	**La Foliniere**	**39.05**	**309**	*e*P		**P**	**04 28 07.4**	**-0.1**
FLN				pmax	pmax			
	comp=Z,41nm,1.5s							
SHL	**Shillong**	**39.17**	**89**	P		**P**	**04 28 09.6**	**+0.6**
	SNR=13							
SHL	**Shillong**	**39.17**	**89**	P		**P**	**04 28 09.0**	**-0.1**
SHL				pmax	pmax			
	comp=Z,111nm,1.5s							
SHL	**Shillong**	**39.17**	**89**	P		**P**	**04 28 08.9**	**-0.1**
GRR	**Gorron**	**39.26**	**308**	*e*P		**P**	**04 28 08.6**	**-0.7**
GRR				pmax	pmax			
	comp=Z,41nm,1.4s							
SJPF	**Ste Jean**	**39.34**	**300**	*e*P		**P**	**04 28 10.1**	**+0.1**
SJPF				pmax	pmax			
	comp=Z,3.0nm,0.6s							
QUIF	**Quistinic**	**40.77**	**307**	*e*P		**P**	**04 28 20.9**	**-0.9**
QUIF				pmax	pmax			
	comp=Z,51nm,1.6s							
ESDC	**Sonseca Array**	**41.65**	**295**	P		**P**	**04 28 29.9**	**+0.6**
	comp=Z,3.1nm,1.0s,baz=77,slow=7.8,SNR=8.1							
ESDC				PcP		**PcP**	**04 30 27.3**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=38,slow=3.9,SNR=3.4							
ESDC	**Sonseca Array**	**41.65**	**295**	P		**P**	**04 28 28.0**	**-1.3**
EKA	**Eskdalemuir Ar**	**41.69**	**318**	P		**P**	**04 28 29.2**	**-0.1**
	comp=Z,9.1nm,0.8s,baz=104,slow=9.0,SNR=14							
GTA	**Gaotai**	**42.30**	**66**	P		**P**	**04 28 36.0**	**+1.3**
GTA				pP	sP		04 28 40.8	-1.4
GTA				sP	pP		04 28 43.0	+2.8
GTA				pmax	pmax			
	comp=Z,11nm,1.2s							
GTA				pmax	pmax			
	comp=Z,38nm,4.4s							
GTA				LR	LR			
	comp=Z,340nm,17.1s							
GTA				LR	LR			
	comp=Z,270nm,17.5s							
GTA				LR	LR			
	comp=Z,350nm,16.2s							
MOY	**Mondy**	**42.83**	**47**	*e*P		**P**	**04 28 41.2**	**+2.4**
MOY				pmax	pmax			
	comp=Z,46nm,2.2s							
NRIK	**Noril'sk**	**42.94**	**20**	P		**P**	**04 28 38.8**	**-0.5**
	comp=Z,3.8nm,0.6s,baz=224,slow=8.3,SNR=10							
NRIK	**Noril'sk**	**42.94**	**20**	⇑*e*P		**P**	**04 28 40.8**	**+1.5**
NRIK				pmax	pmax			
	comp=Z,10.0nm,1.2s							
PBRG	**Braganca**	**43.50**	**298**	*e*P		**P**	**04 28 45.0**	**+0.8**
	comp=Z,15nm,1.5s							
ZAK	**Zakamensk**	**44.20**	**49**	*e*P		**P**	**04 28 50.6**	**+0.8**
ZAK				*e*			04 30 27.7	
ZAK				pmax	pmax			
	comp=Z,11nm,1.6s							
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.3s							
PCBR	**Castelo Branco**	**44.31**	**295**	*e*P		**P**	**04 28 52.0**	**+1.3**
	comp=Z,29nm,1.8s							
PGAV	**Gavieira, Arco**	**44.61**	**299**	*e*P		**P**	**04 28 55.0**	**+1.8**
	comp=Z,36nm,1.2s							
COI	**Coimbra**	**44.96**	**296**	*e*P		**P**	**04 28 58.1**	**+2.2**
	comp=Z,37nm,2.0s							
PMTG	**Montargil**	**45.00**	**295**	*e*P		**P**	**04 28 57.1**	**+0.9**
LZH	**Lanzhou**	**46.04**	**69**	*e*P		**P**	**04 29 06.0**	**+1.3**
LZH				pP	sP		04 29 10.9	-1.4
LZH				sP	pP		04 29 14.0	+3.8
LZH				pmax	pmax			
	comp=Z,26nm,1.1s							
LZH				pmax	pmax			
	comp=Z,170nm,6.5s							
LZH				LR	LR			
	comp=Z,190nm,13.6s							
LZH				LR	LR			
	comp=Z,350nm,17.4s							
LZH				LR	LR			
	comp=Z,320nm,15.7s							
TOA0	**Torodi Ar. Sit**	**46.07**	**256**	P		**P**	**04 29 04.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**46.07**	**256**	P		**P**	**04 29 05.0**	**0.0**
	comp=Z,3.7nm,0.9s,baz=49,slow=7.3,SNR=16							
TORD				ScP		**ScP**	**04 34 35.5**	**+1.8**
	comp=Z,0.5nm,0.9s,baz=83,slow=1.9,SNR=2.5							
TORD	**Torodi Ar. Bea**	**46.07**	**256**	P		**P**	**04 29 04.2**	**-0.8**
SONM	**Songino Array**	**46.28**	**53**	P		**P**	**04 29 07.3**	**+0.9**
	comp=Z,4.8nm,0.9s,baz=274,slow=11,SNR=31							
SONM				PcP		**PcP**	**04 30 41.6**	**0.0**
	comp=Z,1.8nm,0.7s,baz=239,slow=3.4,SNR=5.1							
SONM				ScP		**ScP**	**04 34 33.0**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=250,slow=4.3,SNR=6.5							
SONM	**Songino Array**	**46.28**	**53**	P		**P**	**04 29 06.9**	**+0.5**
SONM				pmax	pmax			
	comp=Z,7.0nm,1.1s							
SONM	**Songino Array**	**46.28**	**53**	P		**P**	**04 29 06.9**	**+0.5**
ULN	**Ulaanbaatar**	**46.72**	**53***ce*	P		**P**	**04 29 11.0**	**+1.1**
ULN				pmax	pmax			
	comp=Z,55nm,1.7s							
ULN	**Ulaanbaatar**	**46.72**	**53**	P		**P**	**04 29 10.3**	**+0.4**
CD2	**Chengdu**	**47.34**	**76**	*e*P		**P**	**04 29 14.0**	**-0.8**
SPITS	**Spitsbergen Ar**	**47.53**	**352**	P		**P**	**04 29 16.3**	**+0.7**
	comp=Z,7.7nm,0.7s,baz=145,slow=16,SNR=7.4							
CHTO	**Chiang Mai**	**47.91**	**94**	P		**P**	**04 29 18.6**	**-0.7**
CHTO	**Chiang Mai**	**47.91**	**94**	P		**P**	**04 29 18.6**	**-0.7**
CHTO				IAmb	IAmb		04 29 20.4	
	comp=Z,12nm,0.8s							
CM31	**Chiang Mai Arr**	**48.07**	**94**	P		**P**	**04 29 19.6**	**-0.9**
CM31				IAmb	IAmb		04 29 21.6	
	comp=Z,16nm,1.1s							
CMAR	**Chiang Mai Arr**	**48.07**	**94**	P		**P**	**04 29 20.6**	**+0.1**
	comp=Z,6.6nm,0.8s,baz=296,slow=7.7,SNR=28							
CMAR				PcP		**PcP**	**04 30 49.0**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=289,slow=4.9,SNR=9.4							
CMAR				ScP		**ScP**	**04 34 42.5**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=299,slow=5.9,SNR=5.2							
CMAR	**Chiang Mai Arr**	**48.07**	**94**	P		**P**	**04 29 19.6**	**-0.9**
KMI	**Kunming**	**48.47**	**84**	⇑P		**P**	**04 29 24.0**	**+0.2**
KMI				pmax	pmax			
	comp=Z,20nm,1.2s							
KMI				pmax	pmax			
	comp=Z,130nm,4.3s							
KMI	**Kunming**	**48.47**	**84**	P		**P**	**04 29 23.8**	**0.0**
KMI				pmax	pmax			
	comp=Z,17nm,0.9s							
KMI	**Kunming**	**48.47**	**84**	P		**P**	**04 29 23.8**	**0.0**
BTO	**Baotou**	**49.82**	**62**	*e*P		**P**	**04 29 31.8**	**-2.1**
XAN	**Xi'an**	**50.59**	**71**	P		**P**	**04 29 39.8**	**+0.1**
XAN				pP	sP		04 29 47.9	+0.5
XAN				pmax	pmax			
	comp=Z,20nm,1.3s							
XAN	**Xi'an**	**50.59**	**71**	P		**P**	**04 29 39.5**	**-0.2**
XAN				pmax	pmax			
	comp=Z,24nm,1.3s							
XAN	**Xi'an**	**50.59**	**71**	P		**P**	**04 29 39.5**	**-0.2**
XAN				IAmb	IAmb		04 29 41.6	
	comp=Z,24nm,1.3s							
BOD	**Bodaibo**	**50.62**	**39**	*e*P		**P**	**04 29 39.1**	**-0.4**
BOD				pmax	pmax			
	comp=Z,24nm,1.9s							
PBKT	**Sadao Pong**	**50.66**	**95**	P		**P**	**04 29 38.7**	**-1.6**
PBKT				IAmb	IAmb		04 29 44.4	
	comp=Z,20nm,1.3s							
HHC	**Hu-ho-hao-te**	**50.92**	**61**	*e*P		**P**	**04 29 42.0**	**-0.2**
HHC				pmax	pmax			
	comp=Z,21nm,1.0s							
HHC				pmax	pmax			
	comp=Z,260nm,8.7s							
SLVN	**Son La**	**50.98**	**88**	P		**P**	**04 29 43.2**	**+0.4**
SLVN				IAmb	IAmb		04 29 44.8	
	comp=Z,36nm,1.5s							
LSZ	**Lusaka**	**51.19**	**204**	P		**P**	**04 29 44.3**	**0.0**
LSZ				pmax	pmax			
	comp=Z,14nm,1.0s							
LSZ	**Lusaka**	**51.19**	**204**	P		**P**	**04 29 44.3**	**0.0**
LSZ				IAmb	IAmb		04 29 47.3	
	comp=Z,14nm,1.0s							
GYA	**Guiyang**	**51.25**	**81**	⇑P		**P**	**04 29 44.5**	**-0.3**
GYA				PcP		**PcP**	**04 31 00.9**	**+1.0**
GYA				pmax	pmax			
	comp=Z,13nm,0.9s							
GYA				LR	LR			
	comp=Z,210nm,21.2s							
GYA				LR	LR			
	comp=Z,180nm,17.7s							
GYA				LR	LR			
	comp=Z,240nm,18.2s							
BJI	**Beijing**	**54.53**	**61**	P		**P**	**04 30 08.9**	**+0.2**
BJI				pmax	pmax			
	comp=Z,5.0nm,0.7s							
BJT	**Baijiatuan**	**54.53**	**61**	P		**P**	**04 30 08.7**	**-0.1**
BJT				pmax	pmax			
	comp=Z,7.0nm,0.8s							
BJT	**Baijiatuan**	**54.53**	**61**	P		**P**	**04 30 08.7**	**-0.1**
BJT				IAmb	IAmb		04 30 11.8	
	comp=Z,7.0nm,0.8s							
HIA	**Hailar**	**54.89**	**50**	P		**P**	**04 30 11.4**	**+0.1**
HIA				pmax	pmax			
	comp=Z,19nm,1.0s							
HIA	**Hailar**	**54.89**	**50**	P		**P**	**04 30 11.4**	**+0.1**
HIA				IAmb	IAmb		04 30 13.3	
	comp=Z,19nm,1.0s							
DBIC	**Dimbokro**	**55.02**	**254**	P		**P**	**04 30 12.4**	**-0.3**
	comp=Z,5.8nm,0.9s,baz=66,slow=8.8,SNR=3.4							
DBIC	**Dimbokro**	**55.02**	**254**	P		**P**	**04 30 11.9**	**-0.7**
DBIC				IAmb	IAmb		04 30 31.1	
	comp=Z,28nm,1.4s							
KULM	**Kulim**	**56.43**	**107**	P		**P**	**04 30 21.8**	**-0.9**
PSI	**Prapat**	**56.54**	**111**	P		**P**	**04 30 23.5**	**-0.2**
PSI				pmax	pmax			
	comp=Z,25nm,1.4s							
TIXI	**Tiksi**	**56.60**	**22***ce*	P		**P**	**04 30 22.6**	**-0.5**
TIXI				pmax	pmax			
	comp=Z,21nm,2.5s							
TIXI	**Tiksi**	**56.60**	**22**	P		**P**	**04 30 22.0**	**-1.1**
TIXI				IAmb	IAmb		04 30 24.3	
	comp=Z,12nm,1.0s							
RPSI	**Rantau Prapat**	**56.60**	**111**	P		**P**	**04 30 23.5**	**-0.4**
RPSI				IAmb	IAmb		04 30 24.3	
	comp=Z,25nm,1.4s							
IPM	**Ipoh**	**57.21**	**108**	P		**P**	**04 30 28.7**	**+0.4**
SUMG	**Summit**	**57.94**	**339**	*i*P		**P**	**04 30 33.6**	**+0.5**
	comp=Z,59nm,1.3s							
SUMG	**Summit**	**57.94**	**339**	*i*P		**P**	**04 30 33.6**	**+0.5**
SUMG				pmax	pmax			
	comp=Z,59nm,1.3s							
SUMG	**Summit**	**57.94**	**339**	P		**P**	**04 30 32.1**	**-1.0**
SUMG				IAmb	IAmb		04 30 35.0	
	comp=Z,19nm,1.2s							
ZEA	**Zeya**	**58.53**	**43**	*e*P		**P**	**04 30 38.0**	**+1.0**
TSUM	**Tsumeb**	**59.04**	**213**	P		**P**	**04 30 41.4**	**+0.3**
NJ2	**Nanjing**	**59.12**	**70**	*e*P		**P**	**04 30 41.4**	**0.0**
NJ2				pmax	pmax			
	comp=Z,13nm,0.5s							
BKNI	**Bangkinang**	**59.72**	**111**	P		**P**	**04 30 45.8**	**0.0**
PDSI	**Padang**	**60.04**	**113**	P		**P**	**04 30 49.1**	**+1.1**
SDSI	**Sungai Dareh**	**60.80**	**112**	P		**P**	**04 30 52.8**	**-0.4**
	comp=Z,35nm,0.9s							
LBTB	**Lobatse**	**61.10**	**203**	P		**P**	**04 30 55.1**	**0.0**
LBTB				pmax	pmax			
	comp=Z,9.0nm,1.0s							
LBTB	**Lobatse**	**61.10**	**203**	P		**P**	**04 30 55.1**	**0.0**
LBTB				IAmb	IAmb		04 30 58.8	
	comp=Z,9.1nm,0.9s							
KRJI	**Kerinci**	**61.55**	**113**	P		**P**	**04 30 59.1**	**+0.7**
	comp=Z,215nm,1.0s							
KLR	**Kul'dur**	**62.49**	**47***ce*	P		**P**	**04 31 03.9**	**-0.2**
KLR				pmax	pmax			
	comp=Z,15nm,1.4s							
KSAR	**Wonju Array Be**	**64.02**	**61**	P		**P**	**04 31 12.9**	**-1.6**
KSAR	**Wonju Array Be**	**64.02**	**61**	P		**P**	**04 31 12.9**	**-1.6**
KSRS	**Korea Array**	**64.05**	**61**	P		**P**	**04 31 14.0**	**-0.6**
	comp=Z,3.1nm,0.7s,baz=285,slow=6.6,SNR=8.5							
USA0B	**Ussuriysk Arra**	**64.39**	**53**	P		**P**	**04 31 15.5**	**-1.2**
USA0B				pmax	pmax			
	comp=Z,12nm,1.0s							
USA0B	**Ussuriysk Arra**	**64.39**	**53**	P		**P**	**04 31 15.5**	**-1.2**
USA0B				IAmb	IAmb		04 31 17.0	
	comp=Z,12nm,1.0s							
USRK	**Ussuriysk Ar.**	**64.39**	**53**	P		**P**	**04 31 15.7**	**-1.0**
	comp=Z,7.9nm,0.8s,baz=268,slow=6.6,SNR=14							
USRK	**Ussuriysk Ar.**	**64.39**	**53**	P		**P**	**04 31 15.5**	**-1.2**
BOSA	**Boshof**	**64.56**	**202**	P		**P**	**04 31 18.0**	**-0.1**
	comp=Z,9.6nm,0.8s,baz=36,slow=7.4,SNR=13							
BOSA	**Boshof**	**64.56**	**202**	P		**P**	**04 31 18.4**	**+0.4**
BOSA				pmax	pmax			
	comp=Z,21nm,1.2s							
BOSA	**Boshof**	**64.56**	**202**	P		**P**	**04 31 18.4**	**+0.4**
EUNU	**Eureka**	**64.65**	**352**	P		**P**	**04 31 18.7**	**+0.7**
EUNU				IAmb	IAmb		04 31 19.9	
	comp=Z,11nm,1.1s							
SEY	**Seymchan**	**67.70**	**29**	*i*P		**P**	**04 31 38.7**	**+1.0**
TYV	**Tymovskoe**	**68.39**	**43**	*e*P		**P**	**04 31 43.1**	**+0.9**
TYV				*e*S		**S**	**04 40 45.7**	**+3.0**
TYV				pmax	pmax			
	comp=Z,13nm,0.9s							
TYV				pmax	pmax			
	comp=Z,100nm,4.9s							
TYV				smax	smax			
	comp=E,200nm,9.7s							
MA2	**Magadan**	**68.60**	**32***ce*	P		**P**	**04 31 43.7**	**+0.3**
MA2				pmax	pmax			
	comp=Z,19nm,1.7s							
KKM	**Kota Kinabalu**	**68.85**	**97**	P		**P**	**04 31 45.3**	**-0.5**
SUR	**Sutherland**	**69.49**	**204**	P		**P**	**04 31 50.5**	**+1.1**
SUR				IAmb	IAmb		04 31 58.3	
	comp=Z,7.1nm,0.9s							
YSS	**Yuzh-Sakhalins**	**70.17**	**46**	*e*P		**P**	**04 31 53.5**	**+0.2**
YSS				pmax	pmax			
	comp=Z,20nm,1.1s							
YSS	**Yuzh-Sakhalins**	**70.17**	**46**	P		**P**	**04 31 52.9**	**-0.4**
MAJO	**Matsushiro**	**71.89**	**58**	P		**P**	**04 32 03.9**	**-0.1**
MAJO				pmax	pmax			
	comp=Z,8.0nm,1.2s							
MAJO	**Matsushiro**	**71.89**	**58**	P		**P**	**04 32 03.9**	**-0.1**
MAT	**Matsushiro**	**71.89**	**58**	P		**P**	**04 32 03.5**	**-0.5**
MJAR	**Matsushiro Arr**	**71.89**	**58**	P		**P**	**04 32 03.5**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=298,slow=7.7,SNR=5.1							
MJAR	**Matsushiro Arr**	**71.89**	**58**	P		**P**	**04 32 04.0**	**0.0**
MJAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
MJAR	**Matsushiro Arr**	**71.89**	**58**	P		**P**	**04 32 04.0**	**0.0**
PETK	**Petropavlovsk-**	**75.29**	**36**	P		**P**	**04 32 22.8**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=305,slow=8.6,SNR=2.2							
SCHQ	**Schefferville**	**76.25**	**327**	P		**P**	**04 32 28.6**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=67,slow=13,SNR=2.0							
IMAR	**Indian Mountai**	**80.25**	**9**	P		**P**	**04 32 50.4**	**-0.7**
BATG	**Bathurst New B**	**80.54**	**321**	P		**P**	**04 32 53.3**	**+0.3**
BATG				IAmb	IAmb		04 32 55.1	
	comp=Z,12nm,0.9s							
MDM	**Murphy Dome**	**81.86**	**7**	P		**P**	**04 32 59.9**	**+0.2**
MDM				IAmb	IAmb		04 33 01.4	
	comp=Z,15nm,1.5s							
ILAR	**Eielson Array**	**82.17**	**6**	P		**P**	**04 33 01.1**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=327,slow=3.7,SNR=6.7							
ILAR				PP		**PP**	**04 36 08.7**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=341,slow=6.5,SNR=4.7							
ILAR	**Eielson Array**	**82.17**	**6**	P		**P**	**04 33 00.8**	**-0.5**
EGAK	**Eagle**	**82.58**	**4**	P		**P**	**04 33 03.9**	**+0.5**
YKA	**Yellowknife Ar**	**84.03**	**352**	P		**P**	**04 33 09.8**	**-1.1**
	comp=Z,2.0nm,0.9s,baz=24,slow=6.3,SNR=4.2							
GIRL	**Giralia**	**84.15**	**121**	P		**P**	**04 33 12.8**	**+0.8**
BCAR	**Beaver Creek A**	**84.25**	**4**	P		**P**	**04 33 12.3**	**+0.2**
SKT	**Skwentna**	**84.38**	**9**	P		**P**	**04 33 12.4**	**-0.4**
SKT				IAmb	IAmb		04 33 30.0	
	comp=Z,12nm,1.5s							
MOQ	**Mont Orford**	**85.08**	**322**	P		**P**	**04 33 16.8**	**+0.1**
PSAB3	**Pilbara Seismi**	**87.64**	**117**	P		**P**	**04 33 30.0**	**+0.6**
PSAC2	**Pilbara Seismi**	**87.65**	**117**	P		**P**	**04 33 28.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**90.06**	**111**	P		**P**	**04 33 41.4**	**+0.5**
M55A	**Ridgway**	**91.14**	**323**	P		**P**	**04 33 45.2**	**-0.6**
ULM	**Lac du Bonnet**	**91.26**	**337**	P		**P**	**04 33 46.0**	**0.0**
	comp=Z,1.7nm,0.4s,baz=29,slow=3.5,SNR=2.0							
ULM	**Lac du Bonnet**	**91.26**	**337**	P		**P**	**04 33 46.0**	**0.0**
ULM	**Lac du Bonnet**	**91.26**	**337**	P		**P**	**04 33 44.8**	**-1.2**
ULM				IAmb	IAmb		04 33 46.5	
	comp=Z,8.1nm,1.1s							
G40A	**Rib Lake**	**93.41**	**332**	P		**P**	**04 33 55.9**	**-0.2**
G40A				IAmb	IAmb		04 34 01.4	
	comp=Z,5.9nm,0.8s							
WRA	**Warramunga Arr**	**97.96**	**108**	P		**P**	**04 34 15.8**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=316,slow=4.0,SNR=2.5							
ASAR	**Alice Springs**	**99.56**	**112**	P		**Pdif**	**04 34 23.5**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=308,slow=4.8,SNR=7.4							
ASAR

IKLH *e* 04 29 53.0

ISN ***18*** *04:29:49.1±0.7,32.6′64N×47.7′47E,h14km±5km, ML3.2*
TEH ***18*** *04:29:50.1,32.7′7N×47.5′50E,h15km, ML3.2*
ISC 18 04:29:48.5±1.1,32°58N±0.05×47°43E±0.05,h10km,n15,
σ2.506/22,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.01**	**20**	*e*		**Sn**	**04 30 26.1**	**+3.2**
IKFM				*ePg*		**Pg**	**04 30 06.0**	**-1.9**
IKMR	**Kamar-syah**	**1.23**	**40**	*e*		**Sn**	**04 30 29.1**	**+0.7**
IKMR				*ePg*		**Pn**	**04 30 09.9**	**-1.8**
IDOB	**Doab**	**1.36**	**27**	*ePg*		**Pn**	**04 30 12.2**	**-1.5**
IDOB				*eSg*		**Sb**	**04 30 29.1**	**-2.6**
IBDR	**Badra**	**1.37**	**293**	*ePg*		**Pb**	**04 30 14.0**	**-0.2**
IBDR				*eSg*		**Sg**	**04 30 33.0**	**+0.4**
IBDR					AML	AML	04 30 38.5	
	comp=N,397nm,0.5s							
IBDR					AML	AML	04 30 39.6	
	comp=E,284nm,0.8s							
IKOM	**Komasi**	**1.59**	**2**	*ePg*		**Pn**	**04 30 16.0**	**-0.9**
IKOM				*e*			04 30 19.1	
BMDN	**Meydan**	**1.60**	**47**	*e*		**Sb**	**04 30 44.9**	**+6.3**
KCHF	**Cheshme Sefid,**	**1.73**	**349**	*ePg*		**Pn**	**04 30 18.9**	**+0.2**
KCHF				*e*			04 30 46.1	
KER	**Kermanshah**	**1.82**	**352**	*ePg*		**Pb**	**04 30 20.6**	**-1.4**
IGHG	**Ghaleghazi**	**1.89**	**338**	*ePg*		**Pb**	**04 30 23.1**	**-0.1**
HSAM	**Samen**	**1.90**	**31**	*ePn*		**Pn**	**04 30 21.5**	**+0.3**
NSR	**Nassriya**	**1.91**	**215**	*ePn*		**Pb**	**04 30 23.0**	**-0.4**
NSR				*eSn*		**Sb**	**04 30 48.0**	**+0.7**
IBZA	**Bozab**	**1.92**	**11**	*ePg*		**Pn**	**04 30 21.9**	**+0.4**
IBZA				*e*		**Sg**	**04 30 50.4**	**+0.1**
IVIS	**Veis**	**2.00**	**346**	*ePn*		**Pn**	**04 30 22.1**	**-0.4**
IDHR	**Dehrash**	**2.29**	**338**	*ePn*		**Pn**	**04 30 27.1**	**+0.6**
IDHR				*e*			04 31 05.4	
BHD	**Baghdad**	**2.66**	**286**	*ePn*		**Pb**	**04 30 34.0**	**-2.1**
BHD				*eSn*		**Sn**	**04 31 06.0**	**+2.4**
BHD					AML	AML	04 31 08.8	
	comp=E,238nm,0.4s							

GII ***18*** *04:39:27.3±0.0,32.6′64N×47.7′7E,h10km*
ISN ***18*** *04:39:29.9±1.4,32.6′65N×47.7′7E,h15km±7km, ML4.0*
MOS ***18*** *04:39:29.4±1.1,32.6′66N×47.7′3E,h16km,mb4.9/58,Error ellipse: s-maj=5.7km s-min=4.0km az=112.8*
NEIC ***18*** *04:39:29.8±1.3,32.6′3N±0.6′06×47.6′7E±0.6′07,h10km±1km, Error ellipse: s-maj=10.6km s-min=9.5km az=138.0*
TEH ***18*** *04:39:30.8,32.7′2N×47.7′1E,h10km, ML4.5*
IDC ***18*** *04:39:32.9±1.9,32.6′2N×47.6′2E,h28km±12km, mb4.2/28, mb1 4.2/36,mb1mx4.2/43,mbtmp4.3/36, ML3.9/8, MS3.8/4, Ms1 3.8/4,ms1mx3.3/43, Error ellipse: s-maj=13.1km s-min=10.1km az=147.0*
THR ***18*** *04:39:32.1±0.9,32.7′7N×47.7′3E,h14km±7km, ML4.5*
OMAN ***18*** *04:39:40.4±0.3,32.6′36N×48.2′1E,h120km,mb5.4/10, Error ellipse: s-maj=10.8km s-min=3.0km az=38.0*
ISC 18 04:39:30.7±1.0,32°65N±0.03×47°70E±0.03,h15km±6km,
n420,σ1°62/432,mb4.7/117,31C-13D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.89**	**8**	*ePg*		**Pb**	**04 39 46.9**	**-0.9**
IKFM	**Kafar-mosalman**	**0.89**	**8**	*Pg*		**Pg**	**04 39 46.8**	**-1.1**
IKMR	**Kamar-syah**	**1.04**	**33**	*ePg*		**Pg**	**04 39 49.5**	**-1.4**
IKMR				*e*			04 40 13.0	
IKMR	**Kamar-syah**	**1.04**	**33**	*Pg*		**Pg**	**04 39 49.0**	**-1.9**
SHGR	**Shooshtar-Gavs**	**1.08**	**119**	*ePg*		**Pn**	**04 39 52.9**	**+1.6**
SHGR				*eSg*		**Sn**	**04 40 08.1**	**+2.1**
SHGR					IAML		04 40 19.5	
	comp=N,10μm,0.6s							
SHGR					IAML		04 40 22.6	
	comp=E,12μm,0.6s							
SHGR	**Shooshtar-Gavs**	**1.08**	**119**	*ePg*		**Pn**	**04 39 52.9**	**+1.6**
SHGR	**Shooshtar-Gavs**	**1.08**	**119**	*Pg*		**Pn**	**04 39 52.9**	**+1.6**
IDOB	**Doab**	**1.21**	**19**	*ePg*		**Pn**	**04 39 53.1**	**-0.2**
IDOB	**Doab**	**1.21**	**19**	*Pg*		**Pn**	**04 39 53.1**	**-0.2**
BMDN	**Meydan**	**1.40**	**42**	*ePg*		**Pg**	**04 39 57.0**	**-0.7**
BMDN				*e*			04 40 24.6	
BMDN	**Meydan**	**1.40**	**42**			**Pg**	**04 39 56.9**	**-0.7**
IKOM	**Komasi**	**1.53**	**354**	*ePg*		**Pg**	**04 39 59.2**	**-1.1**
IKOM	**Komasi**	**1.53**	**354**			**Pg**	**04 39 59.2**	**-1.1**
AHWZ	**Ahwaz**	**1.54**	**148**	*ePg*		**Pb**	**04 40 00.7**	**+1.8**
IBDR	**Badra**	**1.56**	**288**	*ePg*		**Pn**	**04 39 59.0**	**+1.1**
IBDR				*eSg*		**Sg**	**04 40 21.0**	**+0.1**
IBDR					AML	AML	04 40 25.1	
	comp=E,2μm,0.6s							
IBDR					AML	AML	04 40 25.5	
	comp=N,2μm,1.1s							
KCHF	**Cheshme Sefid,**	**1.72**	**342**	*ePg*		**Pb**	**04 40 01.9**	**-0.2**
KCHF				*e*			04 40 28.7	
HSAM	**Samen**	**1.74**	**26**	*e*			04 40 04.7	
HSAM				*ePg*		**Pg**	**04 40 02.6**	**-1.6**
KER	**Kermanshah**	**1.80**	**345**	*P*		**Pb**	**04 40 03.4**	**-0.1**
KER	**Kermanshah**	**1.80**	**345**	*ePg*		**Pg**	**04 40 03.6**	**-1.7**
IBZA	**Bozab**	**1.82**	**4**	*ePg*		**Pg**	**04 40 03.9**	**-1.9**
IBZA				*e*			04 40 33.0	
IGHG	**Ghaleghazi**	**1.93**	**331**	*ePn*		**Pb**	**04 40 05.6**	**-0.1**
IVIS	**Veis**	**2.00**	**340**	*ePn*		**Pn**	**04 40 04.6**	**+0.4**
IVIS				*e*			04 40 42.5	
NSR	**Nassriya**	**2.10**	**220**	*ePn*		**Pn**	**04 40 07.0**	**+1.6**
NSR				*eSn*		**Sn**	**04 40 32.0**	**+0.8**
KHMZ	**Khomeyn**	**2.19**	**59**	*ePn*		**Pb**	**04 40 09.8**	**-0.4**
KHMZ	**Khomeyn**	**2.19**	**59**	*ePn*		**Pb**	**04 40 09.8**	**-0.4**
IALM	**Almabolaq**	**2.24**	**10**	*ePn*		**Pb**	**04 40 10.1**	**-1.1**
IDHR	**Dehrash**	**2.32**	**332**	*ePn*		**Pb**	**04 40 10.3**	**-2.2**
IDHR				*e*			04 40 57.2	
ILIN	**Lien**	**2.35**	**345**	*ePn*		**Pb**	**04 40 11.2**	**-1.7**
ILIN				*e*			04 40 49.7	
SNGE	**Sanandaj**	**2.46**	**353**	*ePn*		**Pn**	**04 40 11.8**	**+1.3**
SNGE	**Sanandaj**	**2.46**	**353**	*ePn*		**Pn**	**04 40 11.8**	**+1.3**
HAGD	**Aghdareh**	**2.48**	**29**	*ePn*		**Pb**	**04 40 13.4**	**-1.8**
HAGD				*e*			04 40 18.0	
JHBN	**Jahan bin**	**2.54**	**99**	*ePn*		**Pn**	**04 40 14.2**	**+2.4**
JHBN				*e*			04 41 02.8	
HSRG	**Sareghieh**	**2.63**	**10**	*ePn*		**Pb**	**04 40 15.8**	**-2.1**
HSRG				*e*			04 41 00.2	
IPIR	**Pirpir**	**2.70**	**88**	*ePn*		**Pn**	**04 40 16.5**	**+2.6**
IPIR				*e*			04 41 05.1	
ASAO	**Ashtian**	**2.72**	**45**	*ePn*		**Pn**	**04 40 16.2**	**+2.1**
ASAO				*eSg*		**Sb**	**04 40 53.7**	**+1.2**
ASAO	**Ashtian**	**2.72**	**45**	*ePn*		**Pn**	**04 40 16.2**	**+2.1**
ROKH	**ROKH**	**2.84**	**95**	*ePn*		**Pn**	**04 40 18.0**	**+2.3**
ROKH				*e*			04 41 15.3	
BHD	**Baghdad**	**2.86**	**284**	*ePn*		**Pn**	**04 40 17.0**	**+1.2**
BHD				*eSn*		**Sn**	**04 40 53.0**	**+3.1**
BHD					AML	AML	04 41 22.6	
	comp=E,1μm,0.5s							
IBRJ	**Brojen**	**3.11**	**103**	*ePn*		**Pn**	**04 40 21.7**	**+2.2**
IRAZ	**Razeghan**	**3.32**	**33**	*ePn*		**Pb**	**04 40 25.6**	**-3.9**
IKLH	**Kolahrood**	**3.33**	**77**	*ePn*		**Pn**	**04 40 25.0**	**+2.4**
IKLH				*e*			04 41 26.5	
QABG	**Abgarm-Qazvin**	**3.43**	**27**	*ePn*		**Pn**	**04 40 25.7**	**+1.8**
IGAR	**Gharneh**	**3.68**	**93**	*ePn*		**Pn**	**04 40 29.5**	**+2.2**
IGAR				*e*			04 41 17.3	
IMHD	**Mahdasht**	**3.91**	**38**	*ePn*		**Pn**	**04 40 32.7**	**+2.4**
IZEF	**Zefreh**	**3.91**	**85**	*ePn*		**Pn**	**04 40 32.7**	**+2.2**
IZEF				*e*			04 40 47.3	
QSDN	**Sirdan**	**4.04**	**17**	*ePn*		**Pn**	**04 40 35.0**	**+2.7**
IRAM	**Ramesheh**	**4.06**	**101**	*ePn*		**Pn**	**04 40 33.9**	**+1.4**
IHSB	**Hasanabad**	**4.07**	**46**	*ePn*		**Pn**	**04 40 35.0**	**+2.4**
IGZV	**Ghazvin**	**4.27**	**28**	*ePn*		**Pn**	**04 40 37.3**	**+1.8**
CHTH	**Charan**	**4.32**	**40**	*ePn*		**Pn**	**04 40 38.0**	**+1.8**
CHTH				*eS*		**Sn**	**04 41 26.1**	**-0.3**
CHTH	**Charan**	**4.32**	**40**	*ePn*		**Pn**	**04 40 38.0**	**+1.8**
MAHB	**Mahabad**	**4.43**	**339**	*ePn*		**Pn**	**04 40 39.3**	**+1.8**
QALM	**Alamut, Qazvin**	**4.50**	**32**	*ePn*		**Pn**	**04 40 39.7**	**+1.2**
IDMV	**Damavand**	**4.64**	**50**	*ePn*		**Pn**	**04 40 42.6**	**+2.1**
SHI	**Shiraz**	**5.10**	**125**	*ePn*		**Pn**	**04 40 48.3**	**+1.5**
ANAR	**Anarak**	**5.10**	**82**	*ePn*		**Pn**	**04 40 48.3**	**+1.5**
ISAD	**Sadrabad**	**5.12**	**97**	*ePn*		**Pn**	**04 40 49.1**	**+1.9**
IFIR	**Firoozkooh**	**5.15**	**53**	*ePn*		**Pn**	**04 40 49.7**	**+2.1**
ILAS	**Lasjerd**	**5.15**	**57**	*ePn*		**Pn**	**04 40 49.6**	**+2.0**
IAZR	**Azarshahr**	**5.21**	**345**	*ePn*		**Pn**	**04 40 50.5**	**+2.1**
IPRN	**Peran**	**5.25**	**46**	*ePn*		**Pn**	**04 40 51.5**	**+2.7**
IALA	**Alasht**	**5.45**	**50**	*ePn*		**Pn**	**04 40 54.6**	**+3.0**
ISHM	**Shahmirzad**	**5.61**	**54**	*ePn*		**Pn**	**04 40 56.0**	**+2.1**
IHSH	**Hashtrud**	**5.66**	**357**	*ePn*		Pn	04 40 42.9	-12
ICHK	**Chekchek**	**5.69**	**92**	*ePn*		**Pn**	**04 40 56.3**	**+1.4**
IANJ	**Anjilo**	**5.88**	**60**	*ePn*		**Pn**	**04 40 58.5**	**+0.9**
IMEH	**Mehriz**	**6.01**	**100**	*ePn*		**Pn**	**04 41 00.6**	**+1.3**
IMRD	**Marand**	**6.27**	**346**	*ePn*		**Pn**	**04 41 05.7**	**+2.9**
IGLO	**Ghaloghah**	**6.36**	**51**	*ePn*		**Pn**	**04 41 06.3**	**+2.2**
GEVA	**Gevas**	**6.80**	**328**	Pn		**Pn**	**04 41 11.1**	**+0.9**
GEVA				Sn		**Sn**	**04 42 28.0**	**+0.6**
TPRV	**Parvadeh(Tabas**	**7.58**	**85**	*ePn*		**Pn**	**04 41 22.9**	**+2.2**
TNSJ	**Nastanj**	**7.58**	**78**	*ePn*		**Pn**	**04 41 21.3**	**+0.5**
LAR1	**LAR**	**7.62**	**129**	*ePn*		**Pn**	**04 41 22.7**	**+1.4**
KHGB	**Koh Gabri**	**7.83**	**104**	*ePn*		**Pn**	**04 41 26.8**	**+2.4**
TKDS	**Koohdasht(Taba**	**7.97**	**80**	*ePn*		**Pn**	**04 41 26.8**	**+0.7**
TVBK	**TV Kerman**	**8.20**	**106**	*ePn*		**Pn**	**04 41 30.5**	**+1.0**
NGRK	**Negar Kerman**	**8.30**	**109**	*ePn*		**Pn**	**04 41 32.1**	**+1.2**
AKT	**Akhty**	**8.82**	**0**	*eP*		**Pn**	**04 41 41.2**	**+3.4**
AKT					pmax	pmax		
	comp=Z,13nm,0.9s							
CHMN	**Cheshme madani**	**8.87**	**106**	*ePn*		**Pn**	**04 41 42.5**	**+3.8**
SBZV	**Sabzevar**	**8.99**	**63**	*ePn*		**Pn**	**04 41 41.9**	**+1.6**
GENO	**Geno**	**9.02**	**123**	*ePn*		**Pn**	**04 41 40.5**	**-0.1**
ASF	**Jabal al Asfar**	**9.14**	**270**	Pn		**Pn**	**04 41 40.2**	**-2.0**
	comp=Z,1.5nm,0.3s,baz=49,slow=5.9,SNR=9.2							
ASF					Sn	**Sn**	**04 43 21.5**	**-3.4**
	comp=Z,0.7nm,0.3s,baz=227,slow=19,SNR=1.8							
ASF					Lg	Lg	04 44 17.5	
	comp=Z,1.0nm,0.3s,baz=241,slow=19,SNR=3.4							
ITEG	**Tejag**	**9.31**	**85**	*ePn*		**Pn**	**04 41 46.1**	**+1.5**
AKH	**Akhalkalaki**	**9.37**	**340**	P		**Pn**	**04 41 44.9**	**-0.5**
AKH	**Akhalkalaki**	**9.37**	**340**	Pn		**Pn**	**04 41 44.9**	**-0.5**
KOPT	**Kop Dagi**	**9.37**	**324**	Pn		**Pn**	**04 41 45.1**	**-0.4**
AFRZ	**Afriz**	**9.54**	**82**	*ePn*		**Pn**	**04 41 49.7**	**+2.0**
ISFR	**Sfrayin**	**9.54**	**60**	*ePn*		**Pn**	**04 41 50.5**	**+2.7**
IKOO	**Kooshah**	**9.55**	**88**	*ePn*		**Pn**	**04 41 49.2**	**+1.2**
GAZ	**Gaziantep**	**9.72**	**301**	Pn		**Pn**	**04 41 50.2**	**+0.1**
IKRD	**Kardeh**	**9.81**	**62**	*ePn*		Pn	04 42 04.0	+12
IAKL	**Akhelmad**	**9.93**	**64**	*ePn*		**Pn**	**04 41 55.1**	**+1.9**
GEYT	**Alibeck**	**10.02**	**55**	Pn		**Pn**	**04 41 56.5**	**+2.4**
	comp=Z,0.7nm,0.3s,baz=247,slow=14,SNR=10							
GEYT					Lg	Lg	04 44 51.0	
	comp=Z,0.6nm,0.3s,baz=233,slow=28,SNR=1.1							
GEYT	**Alibeck**	**10.02**	**55**	Pn		**Pn**	**04 41 56.1**	**+2.0**
GYA0B	**ALIBECK ARRAY**	**10.02**	**55**	Pn		**Pn**	**04 41 55.9**	**+1.8**
BANOM	**Banah**	**10.06**	**130**	P		**Pn**	**04 41 55.1**	**+0.3**
BANOM				S		**Sn**	**04 43 41.3**	**-6.1**
IMON	**Monand**	**10.08**	**84**	*ePn*		**Pn**	**04 41 56.5**	**+1.3**
IEMG	**Emamgholi**	**10.16**	**59**	*ePn*		**Pn**	**04 41 58.7**	**+2.3**
IDAH	**Dahanechah**	**10.26**	**86**	*ePn*		**Pn**	**04 42 00.7**	**+3.0**
AJN	**Ajban**	**10.29**	**140**	P		**Pn**	**04 41 58.7**	**+0.9**
AJN				S		**Sn**	**04 43 48.6**	**-4.3**
MMAI	**Mount Meron Ar**	**10.35**	**275**	Pn		**Pn**	**04 41 58.3**	**-0.4**
	comp=Z,3.0nm,0.3s,baz=78,slow=14,SNR=2.3							
MMAI					Sn	Sn	04 43 45.9	-8.6
	comp=Z,3.6nm,0.3s,baz=24,slow=16,SNR=5.3							
MMAI					Lg	Lg	04 44 57.3	
	comp=Z,0.5nm,0.3s,baz=100,slow=40,SNR=3.1							
GHAJ	**Ghor Haditha**	**10.39**	**266**	Pn		**Pn**	**04 41 55.8**	**-3.4**
MDH	**Madha**	**10.50**	**132**	P		**Pn**	**04 42 00.8**	**+0.1**
MDH				S		**Sn**	**04 43 51.2**	**-6.9**
GROC	**Groznyy**	**10.65**	**352**	*eP*		**Pn**	**04 42 03.4**	**+0.7**
GROC					pmax	pmax		
	comp=Z,14nm,0.5s							
UOSS	**Minazif**	**10.70**	**134**	P		**Pn**	**04 42 04.8**	**+1.3**
UOSS				S		Sn	04 43 55.0	-8.0
UOSS	**Minazif**	**10.70**	**134**	Pn		**Pn**	**04 42 03.3**	**-0.2**
HATD	**Hatta, Dubai**	**10.74**	**134**	P		**Pn**	**04 42 03.7**	**-0.4**
HATD				S		**Sn**	**04 43 58.9**	**-5.3**
ASHO	**Ashiyiah**	**10.80**	**135**	P		**Pn**	**04 42 04.5**	**-0.4**
ASHO				S		**Sn**	**04 44 00.4**	**-5.3**
IMYA	**Miami**	**10.88**	**67**	*ePn*		**Pn**	**04 42 08.7**	**+2.6**
PRNI	**Paran**	**11.07**	**261**	Pn		**Pn**	**04 42 07.6**	**-1.0**
HRFI	**Mount Harif**	**11.13**	**260**	Pn		**Pn**	**04 42 07.8**	**-1.6**
MBRI	**Mt Berech**	**11.30**	**259**	Pn		**Pn**	**04 42 10.6**	**-1.2**
EIL	**Elat**	**11.31**	**258**	Pn		**Pn**	**04 42 10.5**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=65,slow=17,SNR=2.0							
EIL					Lg	Lg	04 45 31.9	
	comp=Z,0.7nm,0.3s,baz=54,slow=12,SNR=2.6							
EIL					LR	LR	04 47 07.2	
	comp=Z,364nm,19.8s,baz=9.0,slow=40							
EIL	**Elat**	**11.31**	**258**	Pn		**Pn**	**04 42 09.8**	**-2.1**
SOHO	**SOHO**	**11.50**	**135**	P		**Pn**	**04 42 13.4**	**-1.1**
SOHO				S		Sn	04 44 14.0	-8.7
KBZ	**Khabaz**	**11.69**	**343**	Pn		Pn	04 42 21.9	+4.9
	comp=Z,0.2nm,0.3s,baz=185,slow=11,SNR=2.4							
KBZ	**Khabaz**	**11.69**	**343**	*i* P		**Pn**	**04 42 17.1**	**+0.2**
TOKA	**Tokat**	**11.83**	**314**	Pn		**Pn**	**04 42 18.5**	**-0.5**
KVAR	**Kislovodsk Arr**	**11.95**	**342**	LR		LR	04 47 45.7	
	comp=Z,333nm,20.3s,baz=90,slow=41							
KIV	**Kislovodsk**	**11.96**	**342**	*eP*		**Pn**	**04 42 19.0**	**-1.7**
KIV					pmax	pmax		
	comp=Z,19nm,1.1s							
KIV	**Kislovodsk**	**11.96**	**342**	Pn		**Pn**	**04 42 18.9**	**-1.8**
ARQ	**Araqi**	**12.11**	**138**	P		**Pn**	**04 42 23.2**	**+0.4**
	SNR=14							
ARQ				S		**Sn**	**04 44 32.0**	**-5.7**
HRA	**Herat**	**12.27**	**78**	Pn		**Pn**	**04 42 25.8**	**+0.7**
BSY	**Bisya**	**12.96**	**137**	P		**Pn**	**04 42 33.7**	**-0.7**
	SNR=9.1							
BSY				S		Sn	04 44 51.4	-7.0
BR131	**Keskin Array S**	**13.36**	**306**	P		**Pn**	**04 42 39.3**	**-0.7**
BR131	**Keskin Array S**	**13.36**	**306**	Pn		**Pn**	**04 42 39.3**	**-0.7**
BRTR	**Keskin Array B**	**13.36**	**306**	Pn		**Pn**	**04 42 42.5**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=126,slow=13,SNR=20							
BRTR	**Keskin Array B**	**13.36**	**306**			**Pn**	**04 42 41.1**	**+1.1**
WSAR	**Wadi Sarin**	**13.45**	**131**	Pn		**Pn**	**04 42 39.0**	**-2.1**
	comp=Z,2.9nm,0.3s,baz=317,slow=9.2,SNR=6.5							
WSAR					Sn	Sn	04 45 01.2	-9.3
	comp=Z,1.6nm,0.3s,baz=84,slow=20,SNR=1.7							
WSAR					LR	LR	04 48 30.5	
	comp=Z,317nm,19.4s,baz=254,slow=40							
BOLV	**Bolvadin**	**14.89**	**299**			**Pn**	**04 43 00.0**	**-0.8**
ISP	**Isparta**	**14.95**	**295**	P		**P**	**04 43 05.3**	**-1.9**
ISP	**Isparta**	**14.95**	**295**	P		**P**	**04 43 05.3**	**-1.9**
ELL	**Elmali**	**15.19**	**291**	P		**P**	**04 43 09.1**	**-0.8**
ELL					pmax	pmax		
	comp=Z,85nm,0.7s							
ELL	**Elmali**	**15.19**	**291**			**P**	**04 43 09.1**	**-0.8**
YER	**Yerkesik**	**16.54**	**291**	P		**P**	**04 43 26.3**	**+1.5**
MANT	**Manisa**	**16.62**	**296**	P		**P**	**04 43 25.3**	**-0.5**
KBL	**Kabul**	**17.89**	**78**	P		**P**	**04 43 40.9**	**+1.1**
KBL					pmax	pmax		
	comp=Z,25nm,1.0s							
KBL	**Kabul**	**17.89**	**78**			**P**	**04 43 40.9**	**+1.1**
CHGR	**Chuyangaron**	**18.43**	**65**	P		**Pn**	**04 43 45.8**	**+0.1**
CHGR					IAmb	IAmb	04 43 51.2	
	comp=Z,64nm,1.1s							
APE	**Apeiranthos**	**18.71**	**290**	⇑P		**Pn**	**04 43 50.7**	**+1.6**
APE	**Apeiranthos**	**18.71**	**290**	⇑P		**Pn**	**04 43 50.7**	**+1.6**
ABKAR	**Akbulak array**	**18.96**	**25**	P		**P**	**04 43 51.1**	**-0.1**
VRH	**Novokhopyorsk**	**19.06**	**348**	*eP*		**Pn**	**04 43 53.0**	**-0.1**
VRH					pmax	pmax		
	comp=Z,30nm,0.9s							
IDI	**Anoyia**	**19.09**	**284**	P		**P**	**04 43 51.9**	**-1.1**
	comp=Z,2.4nm,0.3s,baz=87,slow=11,SNR=14							
IDI	**Anoyia**	**19.09**	**284**	⇓P		**P**	**04 43 53.8**	**+0.9**
IDI	**Anoyia**	**19.09**	**284**	P		**P**	**04 43 52.5**	**-0.4**
IDI					IAmb	IAmb	04 43 58.3	
	comp=Z,74nm,1.2s							
VORD	**Divnogorie**	**19.32**	**344**	*eP*		**Pn**	**04 43 55.9**	**-0.4**
VORD					pmax	pmax		
	comp=Z,20nm,1.0s							
AKTO	**Aktyubinsk**	**19.35**	**20**	P		**P**	**04 43 55.7**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=208,slow=11,SNR=34							
GAR	**Garm**	**19.39**	**65**	P		**Pn**	**04 43 57.2**	**-0.1**
VSR	**Storozhevoye**	**19.59**	**344**	*eP*		**P**	**04 43 58.1**	**0.0**
VSR					pmax	pmax		
	comp=Z,40nm,0.9s							
BTK	**Batken**	**20.01**	**62**	P		**P**	**04 44 04.0**	**+1.1**
BTK					pmax	pmax		
	comp=Z,44nm,1.2s							
BTK	**Batken**	**20.01**	**62**	P		**P**	**04 44 04.0**	**+1.1**
BTK					IAmb	IAmb	04 44 10.7	
	comp=Z,44nm,1.2s							
KK31	**Karatay Array**	**20.76**	**53**	P		**P**	**04 44 10.9**	**-0.1**
KK31					pmax	pmax		
	comp=Z,17nm,0.8s							
KK31	**Karatay Array**	**20.76**	**53**	P		**P**	**04 44 10.9**	**-0.1**
KKAR	**Karatay Array**	**20.76**	**53**	P		**P**	**04 44 10.9**	**-0.1**
KKAR					pmax	pmax		
	comp=Z,17nm,0.8s							
KKAR	**Karatay Array**	**20.76**	**53**	P		**P**	**04 44 10.2**	**-0.7**
KKAR	**Karatay Array**	**20.76**	**53**	P		**P**	**04 44 10.9**	**-0.1**
KKAR					IAmb	IAmb	04 44 19.1	
	comp=Z,17nm,0.8s							
VRI	**Vrincioaia**	**20.85**	**315**	⇑P		Pn	04 44 14.5	+0.1
VRI	**Vrincioaia**	**20.85**	**315**	⇑P		Pn	04 44 14.5	+0.1
NEHR	**Nehoiu**	**20.88**	**314**	⇑P		Pn	04 44 15.3	+0.5
PLOR	**Plostina**	**20.89**	**315**	⇑P		Pn	04 44 15.2	+0.3
PLOR	**Plostina**	**20.89**	**315**	⇑P		Pn	04 44 15.2	+0.3
LPSR	**Galich'ya Gora**	**20.93**	**345**	*eP*		**P**	**04 44 12.2**	**-0.5**
LPSR					pmax	pmax		
	comp=Z,60nm,0.8s							
MLR	**Muntele Rosu**	**21.13**	**314**	P		**P**	**04 44 16.4**	**+1.4**
	comp=Z,2.4nm,0.4s,baz=152,slow=7.5,SNR=3.9							
MLR	**Muntele Rosu**	**21.13**	**314**	⇓P		**P**	**04 44 17.1**	**+2.0**
MLR	**Muntele Rosu**	**21.13**	**314**	⇓P		**P**	**04 44 17.1**	**+2.0**
MLR	**Muntele Rosu**	**21.13**	**314**	P		**P**	**04 44 15.7**	**+0.6**
MLR					IAmb	IAmb	04 44 32.0	
	comp=Z,25nm,1.1s							
SOCY	**Socotra**	**21.16**	**163**	P		**P**	**04 44 11.9**	**-3.7**
SOCY					IAmb	IAmb	04 44 12.8	
	comp=Z,40nm,0.9s							
TESR	**Tescani**	**21.24**	**317**	⇑P		**P**	**04 44 18.4**	**+2.2**
SORM	**Soroca**	**21.27**	**322**	⇑P		**P**	**04 44 18.0**	**+1.5**
SORM	**Soroca**	**21.27**	**322**	⇑P		**P**	**04 44 18.0**	**+1.5**
THE	**Thessaloniki**	**21.34**	**299**	P		**P**	**04 44 18.7**	**+1.5**
THE					pmax	pmax		
	comp=Z,18nm,1.1s							
NIL	**Nilore**	**21.41**	**80**	P		**P**	**04 44 17.9**	**-0.2**
NIL					pmax	pmax		
	comp=Z,47nm,0.7s							
NIL	**Nilore**	**21.41**	**80**	P		**P**	**04 44 17.9**	**-0.2**
ATD	**Arta Tunnel**	**21.48**	**193**	P		**P**	**04 44 19.2**	**+0.2**
	comp=Z,4.2nm,0.3s,baz=10,slow=11,SNR=5.7							
ATD	**Arta Tunnel**	**21.48**	**193**	P		**P**	**04 44 18.2**	**-0.8**
ATD					IAmb	IAmb	04 44 25.0	
	comp=Z,27nm,1.1s							
AGG	**Agios Georgios**	**21.49**	**294**	P		**P**	**04 44 18.6**	**-0.3**
AGG					pmax	pmax		
	comp=Z,42nm,1.2s							
AGG	**Agios Georgios**	**21.49**	**294**	P		**P**	**04 44 18.6**	**-0.3**
AGG					IAmb	IAmb	04 44 26.2	
	comp=Z,42nm,1.2s							
ITM	**Ithomi**	**21.59**	**289**	P		**P**	**04 44 19.4**	**-0.6**
ITM					IAmb	IAmb	04 44 34.4	
	comp=Z,25nm,0.7s							

PSZ	**Piszkesteto**		**25.94**	**314**	P	**P**	**04 45 03.5**	**+1.0**
PSZ					IAmb	IAmb	04 45 06.6	
	comp=Z,13nm,0.8s							
KIRV	**Kirov**		**25.97**	**2**	P	**P**	**04 45 03.0**	**+0.5**
	comp=Z,31nm,0.7s,baz=84,slow=10,SNR=10							
MORH	**Mrgy, Hungar**		**26.05**	**310**	*eP*	**P**	**04 45 04.1**	**+0.8**
BRVK	**Borovoye**		**26.08**	**32**	*ceP*	**P**	**04 45 04.3**	**+0.7**
BRVK					pmax	pmax		
	comp=Z,12nm,0.7s							
BRVK	**Borovoye**		**26.08**	**32**	P	**P**	**04 45 03.3**	**-0.3**
BRVK					IAmb	IAmb	04 45 07.4	
	comp=Z,12nm,0.8s							
BVAR	**Borovoye Array**		**26.10**	**32**	P	**P**	**04 45 04.6**	**+0.8**
	comp=Z,12nm,0.6s,baz=225,slow=8.2,SNR=56							
BVAR					ScP	**ScP**	**04 52 08.9**	**-1.3**
	comp=Z,5.0nm,0.6s,baz=252,slow=2.2,SNR=18							
PRZ	**Przheval'sk**		**26.12**	**59**	P	**P**	**04 45 04.0**	**-0.3**
PRZ					pmax	pmax		
	comp=Z,14nm,0.7s							
PRZ	**Przheval'sk**		**26.12**	**59**	P	**P**	**04 45 04.0**	**-0.3**
PRZ					IAmb	IAmb	04 45 09.7	
	comp=Z,14nm,0.7s							
CEL	**Celeste**		**26.43**	**291**	P	**P**	**04 45 06.3**	**-0.7**
MGRS	**Mrkonjic Grad**		**26.52**	**305**	*eP*	P	04 45 16.5	+8.8
BLY	**Banja Luka**		**26.55**	**306**	*eP*	**P**	**04 45 04.3**	**-3.6**
OJC	**Ojcow**		**27.07**	**319**	P	**P**	**04 45 13.2**	**+0.6**
OJC					pmax	pmax		
	comp=Z,20nm,0.9s							
OJC	**Ojcow**		**27.07**	**319**	P	**P**	**04 45 13.2**	**+0.6**
OJC					IAmb	IAmb	04 45 19.4	
	comp=Z,20nm,0.9s							
SUW	**Suwalki**		**27.57**	**328**	P	**P**	**04 45 16.7**	**-0.3**
SUW					pmax	pmax		
	comp=Z,97nm,1.4s							
SUW	**Suwalki**		**27.57**	**328**	P	**P**	**04 45 16.7**	**-0.3**
PAOL	**Paolisi**		**27.68**	**297**	P	**P**	**04 45 18.6**	**+0.4**
PAOL					IAmb	IAmb	04 45 26.7	
	comp=Z,21nm,1.2s							
CRES	**Cresnjev**		**28.02**	**307**	*eP*	**P**	**04 45 21.5**	**+0.3**
MORC	**Moravsky Berou**		**28.15**	**316**	P	**P**	**04 45 21.3**	**-1.0**
MORC					pmax	pmax		
	comp=Z,5.0nm,1.1s							
MORC	**Moravsky Berou**		**28.15**	**316**	P	**P**	**04 45 21.3**	**-1.0**
INTR	**Introdacqua**		**28.30**	**299**	P	**P**	**04 45 21.4**	**-2.4**
INTR					IAmb	IAmb	04 45 39.5	
	comp=Z,15nm,1.2s							
CORL	**Corleone**		**28.46**	**290**	P	**P**	**04 45 25.2**	**0.0**
CEY	**Cerknica**		**28.69**	**307**	*eP*	**P**	**04 45 27.6**	**+0.5**
KLMR	**Klimovskoe**		**28.73**	**352**	*eP*	**P**	**04 45 25.9**	**-1.3**
KLMR					pmax	pmax		
	comp=Z,15nm,0.7s							
KLMR	**Klimovskoe**		**28.73**	**352**	*eP*	**P**	**04 45 25.9**	**-1.3**
KLMR					AMP		04 45 29.6	
	comp=Z,15nm,0.7s							
KURBB	**Kurchatov Arra**		**28.92**	**42**	P	**P**	**04 45 30.5**	**+1.4**
	comp=Z,6.6nm,0.7s,baz=247,slow=9.3,SNR=41							
KURBB					ScP	**ScP**	**04 52 16.7**	**-2.1**
	comp=Z,1.1nm,0.6s,baz=238,slow=3.7,SNR=8.7							
KURK	**Kurchatov**		**29.01**	**42**	*ceP*	**P**	**04 45 31.4**	**+1.5**
KURK					pmax	pmax		
	comp=Z,12nm,0.8s							
KURK	**Kurchatov**		**29.01**	**42**	P	**P**	**04 45 29.2**	**-0.7**
KURK					IAmb	IAmb	04 45 32.6	
	comp=Z,11nm,0.9s							
PRGR	**Permogore**		**29.04**	**358**	*eP*	**P**	**04 45 29.7**	**-0.2**
PRGR					pmax	pmax		
	comp=Z,8.0nm,0.5s							
PRED	**Cave del Predi**		**29.46**	**308**	P	**P**	**04 45 33.7**	**-0.3**
MURB	**Monte Urbino**		**29.49**	**301**	P	**P**	**04 45 35.2**	**+0.9**
MURB					IAmb	IAmb	04 45 45.3	
	comp=Z,13nm,0.8s							
MAKZ	**Makanchi**		**29.66**	**51**	P	**P**	**04 45 35.9**	**+0.2**
MAKZ					pmax	pmax		
	comp=Z,8.0nm,1.4s							
MAKZ	**Makanchi**		**29.66**	**51**	P	**P**	**04 45 35.9**	**+0.2**
KBA	**Koelnbreinsper**		**29.78**	**309**	*eP*	**P**	**04 45 38.1**	**+1.2**
	comp=Z,5.3nm,1.0s							
MK31	**Makanchi Array**		**29.86**	**52**	P	**P**	**04 45 37.7**	**+0.2**
MK31					pmax	pmax		
	comp=Z,7.0nm,0.8s							
MK31	**Makanchi Array**		**29.86**	**52**	P	**P**	**04 45 37.6**	**+0.2**
MK31					IAmb	IAmb	04 45 40.3	
	comp=Z,7.3nm,0.8s							
MKAR	**Makanchi Array**		**29.86**	**52**	P	**P**	**04 45 38.5**	**+1.0**
	comp=Z,9.5nm,0.8s,baz=246,slow=7.6,SNR=65							
MKAR					ScP	**ScP**	**04 52 18.6**	**-3.3**
	comp=Z,1.8nm,1.0s,baz=263,slow=4.9,SNR=5.7							
MKAR	**Makanchi Array**		**29.86**	**52**	P	**P**	**04 45 37.6**	**+0.1**
ZOU	**Zoufplan**		**29.88**	**308**	P	**P**	**04 45 37.4**	**-0.5**
LATE	**Laterza**		**29.92**	**300**	P	**P**	**04 45 37.9**	**-0.2**
LATE					IAmb	IAmb	04 45 52.9	
	comp=Z,13nm,1.3s							
GEC2	**GERESS Array S**		**30.10**	**313**	P	**P**	**04 45 40.3**	**+0.6**
GERES	**GERESS Array B**		**30.10**	**313**	P	**P**	**04 45 41.4**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=100,slow=7.3,SNR=5.9							
GERES	**GERESS Array B**		**30.10**	**313**	P	**P**	**04 45 39.6**	**-0.1**
CIMO	**Cimolais**		**30.17**	**307**	P	**P**	**04 45 40.2**	**-0.1**
ABTA	**Abfaltersbach**		**30.24**	**308**	*eP*	**P**	**04 45 41.3**	**+0.4**
	comp=Z,5.8nm,1.2s							
KHC	**Kasperske Hory**		**30.28**	**313**	*ceP*	**P**	**04 45 45.0**	**+3.8**
KHC					pmax	pmax		
	comp=Z,9.0nm,1.7s							
CTI	**Castel Tesino**		**30.65**	**306**	P	**P**	**04 45 44.0**	**-0.6**
CTI					pmax	pmax		
	comp=Z,9.0nm,0.9s							
CTI	**Castel Tesino**		**30.65**	**306**	P	**P**	**04 45 44.0**	**-0.6**
CTI					IAmb	IAmb	04 45 48.4	
	comp=Z,9.4nm,0.9s							
ZCCA	**Zocca**		**30.78**	**303**	P	**P**	**04 45 45.4**	**-0.3**
WTTA	**Wattenberg**		**30.95**	**309**	*eP*	**P**	**04 45 47.6**	**+0.3**
	comp=Z,8.0nm,0.9s							
WATA	**Walderalm**		**31.01**	**309**	*eP*	**P**	**04 45 48.6**	**+0.8**
	comp=Z,8.8nm,1.1s							
VLC	**Villacollemand**		**31.16**	**303**	P	**P**	**04 45 47.4**	**-1.6**
SQTA	**Sankt Quirin**		**31.22**	**309**	*eP*	**P**	**04 45 49.9**	**+0.2**
	comp=Z,4.0nm,0.4s							
MOTA	**Moosalm**		**31.32**	**309**	*eP*	**P**	**04 45 50.6**	**0.0**
	comp=Z,8.4nm,0.7s							
SALO	**Salr**		**31.32**	**305**	P	**P**	**04 45 51.1**	**+0.7**
CLL	**Collm**		**31.42**	**317**	*i* P	P	04 45 57.0	+5.8
	comp=Z,5.0nm,0.9s							
CLL	**Collm**		**31.42**	**317**	P	**P**	**04 45 51.4**	**+0.2**
CLL					pmax	pmax		
	comp=Z,4.0nm,0.8s							
CLL	**Collm**		**31.42**	**317**	P	**P**	**04 45 51.4**	**+0.2**
FETA	**Feichten**		**31.49**	**308**	*eP*	**P**	**04 45 52.2**	**+0.2**
	comp=Z,6.1nm,1.0s							
HYB	**Hyderabad**		**31.66**	**111**	*i* P	P	04 45 45.0	-8.7
KEST	**Kesra**		**31.74**	**286**	P	**P**	**04 45 57.2**	**+3.0**
	comp=Z,3.2nm,0.9s,baz=248,slow=4.0,SNR=4.5							
KEST	**Kesra**		**31.74**	**286**	P	**P**	**04 45 52.9**	**-1.4**
MSSA	**Maissana**		**31.81**	**303**	P	**P**	**04 45 54.0**	**-0.8**
FINES	**FINESS Array B**		**32.04**	**341**	P	**P**	**04 45 56.1**	**-0.4**
	comp=Z,4.8nm,0.7s,baz=148,slow=7.3,SNR=9.0							
FINES	**FINESS Array B**		**32.04**	**341**	*ceP*	**P**	**04 45 57.2**	**+0.7**
FINES					pmax	pmax		
	comp=Z,5.0nm,0.7s							
FINES	**FINESS Array B**		**32.04**	**341**	P	**P**	**04 45 56.0**	**-0.5**
DAVA	**Damuels**		**32.12**	**308**	*eP*	**P**	**04 45 57.4**	**-0.1**
	comp=Z,9.4nm,0.6s							
TUE	**Stuetta**		**32.30**	**307**	P	**P**	**04 45 58.0**	**-1.2**
WMQ	**Urumqi**		**33.05**	**59**	*eP*	**P**	**04 46 08.3**	**+2.7**
SBF	**Sospel**		**33.24**	**301**	*eP*	**P**	**04 46 07.3**	**0.0**
SBF					pmax	pmax		
	comp=Z,25nm,0.9s							
SENIN	**Lac Senin/Sane**		**33.67**	**306**	P	**P**	**04 46 11.7**	**+0.5**
SENIN					IAmb	IAmb	04 46 16.5	
	comp=Z,8.3nm,0.9s							
MBDF	**Montbardon**		**33.81**	**303**	*eP*	**P**	**04 46 12.8**	**+0.4**
MBDF					pmax	pmax		
	comp=Z,19nm,0.8s							
ZAA0	**Zalesovo Array**		**33.83**	**40**	P	**P**	**04 46 11.8**	**-0.4**
ZALV	**Zalesovo Beam**		**33.83**	**40**	P	**P**	**04 46 12.5**	**+0.2**
	comp=Z,12nm,0.7s,baz=260,slow=8.9,SNR=30							
ZALV					ScP	**ScP**	**04 52 32.8**	**-2.4**
	comp=Z,1.8nm,0.6s,baz=240,slow=5.0,SNR=4.0							
ZALV	**Zalesovo Beam**		**33.83**	**40**	P	**P**	**04 46 12.1**	**-0.2**
BNI	**Bardonecchia**		**33.91**	**304**	P	**P**	**04 46 13.8**	**+0.6**
BNI					pmax	pmax		
	comp=Z,22nm,0.8s							
BNI	**Bardonecchia**		**33.91**	**304**	P	**P**	**04 46 13.8**	**+0.6**
LPG	**La Plagne**		**33.92**	**304**	*eP*	**P**	**04 46 13.8**	**+0.3**
LPG					pmax	pmax		
	comp=Z,9.0nm,0.5s							
LPL	**La Plagne**		**33.93**	**304**	*eP*	**P**	**04 46 13.0**	**-0.5**
LPL					pmax	pmax		
	comp=Z,22nm,0.8s							
ECH	**Echery**		**34.11**	**309**	P	**P**	**04 46 14.3**	**-0.5**
ECH					pmax	pmax		
	comp=Z,12nm,1.3s							
ECH	**Echery**		**34.11**	**309**	P	**P**	**04 46 14.3**	**-0.5**
ECH					IAmb	IAmb	04 46 20.0	
	comp=Z,12nm,1.3s							
CABF	**La Chapelle**		**34.54**	**306**	*eP*	**P**	**04 46 18.4**	**-0.2**
CABF					pmax	pmax		
	comp=Z,30nm,1.0s							
HAU	**Haudompre**		**34.60**	**309**	*eP*	**P**	**04 46 20.3**	**+1.2**
HAU					pmax	pmax		
	comp=Z,7.0nm,1.1s							
KMBO	**Kilima Mbogo**		**35.01**	**198**	P	**P**		
	comp=Z,0.9nm,0.3s,baz=67,slow=7.7,SNR=3.0							
VIVF	**Saint-Julien-l**		**35.31**	**303**	*eP*	**P**		
VIVF					pmax	pmax		
	comp=Z,41nm,1.9s							
LOR	**Lormes**		**36.14**	**307**	*eP*	**P**	**04 46 33.6**	**+1.3**
LOR					pmax	pmax		
	comp=Z,8.0nm,1.1s							
MBAR	**Mbarara**		**36.74**	**209**	*ceP*	**P**	**04 46 39.9**	**+2.0**
MBAR					pmax	pmax		
	comp=Z,3.0nm,0.6s							
MBAR	**Mbarara**		**36.74**	**209**	P	**P**	**04 46 38.4**	**+0.6**
MBAR					IAmb	IAmb	04 46 40.2	
	comp=Z,12nm,1.1s							
NOA	**NORSAR Array B**		**36.95**	**331**	P	**P**	**04 46 39.5**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=122,slow=8.3,SNR=3.2							
LSA	**Lhasa**		**37.11**	**83**	P	**P**	**04 46 39.6**	**-1.6**
LSA					pmax	pmax		
	comp=Z,7.0nm,0.6s							
LSA	**Lhasa**		**37.11**	**83**	P	**P**	**04 46 39.6**	**-1.6**
LSA					IAmb	IAmb	04 46 49.8	
	comp=Z,6.8nm,0.6s							
RJF	**Les Rejaudoux**		**37.57**	**303**	*eP*	**P**	**04 46 44.0**	**-0.5**
RJF					pmax	pmax		
	comp=Z,15nm,1.4s							
TAM	**Tamanrasset**		**38.39**	**266**	P	**P**	**04 46 52.7**	**+0.9**
TAM					pmax	pmax		
	comp=Z,8.0nm,1.1s							
TAM	**Tamanrasset**		**38.39**	**266**	P	**P**	**04 46 52.7**	**+0.9**
ARCES	**ARCESS Array B**		**38.99**	**348**	P	**P**	**04 46 55.9**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=160,slow=9.4,SNR=13							
ARCES					PP	**PnPn**	**04 48 26.7**	**-1.0**
	comp=Z,3.2nm,0.9s,baz=163,slow=8.9,SNR=4.6							
ARCES					ScP	**S**	**04 52 53.5**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=159,slow=2.8,SNR=2.5							
ARCES	**ARCESS Array B**		**38.99**	**348**	P	**P**	**04 46 56.6**	**+0.5**
ARCES	**ARCESS Array B**		**38.99**	**348**	P	**P**	**04 46 56.6**	**+0.5**
SHL	**Shillong**		**39.03**	**89**	P	**P**	**04 46 56.6**	**-0.6**
SHL					pmax	pmax		
	comp=Z,18nm,1.0s							
SHL	**Shillong**		**39.03**	**89**	P	**P**	**04 46 56.6**	**-0.6**
SHL					IAmb	IAmb	04 46 59.2	
	comp=Z,18nm,1.0s							
FLN	**La Foliniere**		**39.22**	**309**	*eP*	**P**	**04 46 58.6**	**+0.4**
FLN					pmax	pmax		
	comp=Z,33nm,1.5s							
PALK	**Pallekele**		**39.70**	**122**	P	**P**	**04 47 03.0**	**+0.3**
PALK					pmax	pmax		
	comp=Z,18nm,1.2s							
PALK	**Pallekele**		**39.70**	**122**	P	**P**	**04 47 03.0**	**+0.3**
PALK					IAmb	IAmb	04 47 12.8	
	comp=Z,18nm,1.1s							
QUIF	**Quistinic**		**40.94**	**307**	*eP*	**P**	**04 47 13.5**	**+1.0**
QUIF					pmax	pmax		
	comp=Z,44nm,1.5s							
ESBB	**Sonseca Array**		**41.81**	**295**	P	**P**	**04 47 19.8**	**-0.2**
ESDC	**Sonseca Array**		**41.81**	**295**	P	**P**	**04 47 20.2**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=73,slow=7.7,SNR=20							
ESDC	**Sonseca Array**		**41.81**	**295**	P	**P**	**04 47 19.9**	**0.0**
GUD	**Guadarrama**		**41.85**	**296**	P	**P**	**04 47 22.9**	**+2.6**
GUD					pmax	pmax		
	comp=Z,11nm,1.2s							
GTA	**Gaotai**		**42.20**	**66**	*eP*	**P**	**04 47 26.0**	**+2.8**
GTA					pP	sP	04 47 30.5	+0.6
GTA					sP	pP	04 47 33.3	+5.3
GTA					pmax	pmax		
	comp=Z,5.0nm,1.1s							
GTA					pmax	pmax		
	comp=Z,42nm,4.4s							
GTA					LR	LR		
	comp=N,170nm,16.5s							
GTA					LR	LR		
	comp=E,240nm,15.2s							
GTA					LR	LR		
	comp=Z,250nm,15.9s							
NRIK	**Noril'sk**		**42.97**	**19**	P	**P**	**04 47 29.6**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=230,slow=8.8,SNR=2.4							
PBRG	**Braganca**		**43.67**	**298**	*eP*	**P**	**04 47 37.9**	**+3.0**
	comp=Z,21nm,1.8s							
ZAK	**Zakamensk**		**44.14**	**49**	*eP*	**P**	**04 47 40.0**	**+1.3**
ZAK					pmax	pmax		
	comp=Z,3.0nm,1.2s							
MTE	**Manteigas**		**44.44**	**296**	*eP*	**P**	**04 47 41.6**	**+0.4**
	comp=Z,20nm,1.8s							
MTE	**Manteigas**		**44.44**	**296**	P	**P**	**04 47 41.2**	**0.0**
MTE					IAmb	IAmb	04 47 43.0	
	comp=Z,13nm,1.0s							
PMRV	**Marv??o**		**44.47**	**295**	*eP*	**P**	**04 47 38.2**	**-3.2**
	comp=Z,28nm,1.8s							
PCBR	**Castelo Branco**		**44.48**	**296**	*eP*	**P**	**04 47 42.3**	**+0.9**
	comp=Z,24nm,1.0s							
PCAB	**Cabril**		**44.63**	**298**	*eP*	**P**	**04 47 43.5**	**+0.8**
PVIS	**Viseu**		**44.66**	**297**	*eP*	**P**	**04 47 43.8**	**+0.8**
PGAV	**Gavieira, Arco**		**44.78**	**299**	*eP*	**P**	**04 47 45.9**	**+2.0**
	comp=Z,40nm,1.5s							
PBEJ	**Beja**		**45.08**	**293**	*eP*	**P**	**04 47 46.5**	**+0.3**
COI	**Coimbra**		**45.13**	**296**	*eP*	**P**	**04 47 47.8**	**+1.2**
COI					pmax	pmax		
	comp=Z,25nm,1.9s							
COI	**Coimbra**		**45.13**	**296**	*eP*	**P**	**04 47 47.8**	**+1.2**
	comp=Z,26nm,1.9s							
PMTG	**Montargil**		**45.17**	**295**	*eP*	**P**	**04 47 47.7**	**+0.8**
PNCL	**Nicolau / Gran**		**45.58**	**293**	*eP*	**P**	**04 47 51.2**	**+1.0**
TOA0	**Torodi Ar. Sit**		**46.19**	**256**	P	**P**	**04 47 55.9**	**+0.6**
TOA0					IAmb	IAmb	04 47 57.7	
	comp=Z,10nm,0.9s							
TORD	**Torodi Ar. Bea**		**46.19**	**256**	P	**P**	**04 47 54.7**	**-0.6**
	comp=Z,8.6nm,0.9s,baz=54,slow=7.5,SNR=39							
TORD	**Torodi Ar. Bea**		**46.19**	**256**	P	**P**	**04 47 54.8**	**-0.6**
SONM	**Songino Array**		**46.21**	**53**	P	**P**	**04 47 56.2**	**+1.0**
	comp=Z,2.0nm,0.9s,baz=280,slow=11,SNR=11							
SONM	**Songino Array**		**46.21**	**53**	P	**P**	**04 47 54.9**	**-0.3**
ULN	**Ulaanbaatar**		**46.65**	**53**	*ceP*	**P**	**04 47 59.8**	**+1.1**
ULN					pmax	pmax		
	comp=Z,10.0nm,0.8s							
ULN	**Ulaanbaatar**		**46.65**	**53**	P	**P**	**04 47 59.0**	**+0.3**
CHTO	**Chiang Mai**		**47.75**	**94**	P	**P**	**04 48 07.5**	**0.0**
CHTO					pmax	pmax		
	comp=Z,6.0nm,0.9s							
CHTO	**Chiang Mai**		**47.75**	**94**	P	**P**	**04 48 07.5**	**0.0**
CHTO					IAmb	IAmb	04 48 09.3	
	comp=Z,6.3nm,0.9s							
CM31	**Chiang Mai Arr**		**47.92**	**94**	P	**P**	**04 48 07.8**	**-0.9**
CM31					IAmb	IAmb	04 48 16.3	
	comp=Z,8.6nm,1.1s							
CMAR	**Chiang Mai Arr**		**47.92**	**94**	P	**P**	**04 48 08.9**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=294,slow=8.5,SNR=18							
CMAR					LR	LR	05 12 08.0	
	comp=Z,165nm,21.8s,baz=148,slow=41							
CMAR	**Chiang Mai Arr**		**47.92**	**94**	*ceP*	**P**	**04 48 09.3**	**+0.6**
CMAR					pmax	pmax		
	comp=Z,3.0nm,0.7s							
CMAR	**Chiang Mai Arr**		**47.92**	**94**	P	**P**	**04 48 08.3**	**-0.5**
KMI	**Kunming**		**48.33**	**84**	↓P	**P**	**04 48 13.3**	**+1.2**
KMI					pmax	pmax		
	comp=Z,11nm,0.6s							
XAN	**Xi'an**		**50.48**	**71**	P	**P**	**04 48 28.8**	**+0.6**
XAN					pP	sP	04 48 34.3	-0.6
XAN					pmax	pmax		
	comp=Z,10.0nm,0.7s							
XAN	**Xi'an**		**50.48**	**71**	P	**P**	**04 48 27.7**	**-0.5**
XAN					pmax	pmax		
	comp=Z,6.0nm,0.8s							
XAN	**Xi'an**		**50.48**	**71**	P	**P**	**04 48 27.7**	**-0.5**
XAN					IAmb	IAmb	04 48 29.1	
	comp=Z,6.4nm,0.8s							
PBKT	**Sadao Pong**		**50.51**	**95**	P	**P**	**04 48 28.6**	**0.0**
PBKT					IAmb	IAmb	04 48 31.9	
	comp=Z,6.2nm,0.9s							
BOD	**Bodaibo**		**50.59**	**39**	*eP*	**P**	**04 48 28.7**	**+0.1**
BOD					pmax	pmax		
	comp=Z,10.0nm,1.3s							
HHC	**Hu-ho-hao-te**		**50.83**	**61**	*eP*	**P**	**04 48 33.4**	**+2.6**
HHC					pmax	pmax		
	comp=Z,15nm,0.7s							
HHC					pmax	pmax		
	comp=Z,110nm,7.7s							
HHC					LR	LR		
	comp=N,160nm,15.3s							
HHC					LR	LR		
	comp=E,280nm,15.3s							
HHC					LR	LR		
	comp=Z,420nm,17.9s							
SLVN	**Son La**		**50.83**	**88**	P	**P**	**04 48 29.6**	**-1.4**
GYA	**Guiyang**		**51.11**	**81**	↓P	**P**	**04 48 33.3**	**+0.1**
GYA					pmax	pmax		
	comp=Z,13nm,0.9s							
GYA					LR	LR		
	comp=Z,260nm,18.9s							
LSZ	**Lusaka**		**51.18**	**204**	P	**P**	**04 48 33.8**	**+0.2**
LSZ					pmax	pmax		
	comp=Z,8.0nm,1.1s							
LSZ	**Lusaka**		**51.18**	**204**	P	**P**	**04 48 33.8**	**+0.2**
LSZ					IAmb	IAmb	04 48 36.4	
	comp=Z,7.9nm,1.1s							
DBIC	**Dimbokro**		**55.15**	**254**	P	**P**	**04 49 02.2**	**-0.7**
	comp=Z,5.1nm,0.8s,baz=25,slow=9.4,SNR=7.8							
DBIC	**Dimbokro**		**55.15**	**254**	P	**P**	**04 49 03.0**	**+0.1**
DBIC	**Dimbokro**		**55.15**	**254**	P	**P**	**04 49 03.0**	**+0.1**
KIC	**Kosan Boka**		**55.23**	**254**	*eP*	**P**	**04 49 03.6**	**+0.1**
	comp=Z,39nm,1.2s							
TIC	**Toumodi**		**55.29**	**254**	*eP*	**P**	**04 49 05.1**	**+1.1**
LIC	**Lamto**		**55.54**	**254**	*eP*	**P**	**04 49 06.0**	**+0.3**
	comp=Z,37nm,1.0s							
KULM	**Kulim**		**56.27**	**107**	P	**P**	**04 49 11.2**	**+0.3**
TIXI	**Tiksi**		**56.62**	**22**	P	**P**	**04 49 11.9**	**-0.7**
TIXI					pmax	pmax		
	comp=Z,13nm,1.5s							
TIXI	**Tiksi**		**56.62**	**22**	P	**P**	**04 49 11.9**	**-0.7**
TIXI					IAmb	IAmb	04 49 17.2	
	comp=Z,12nm,1.5s							
IPM	**Ipoh**		**57.05**	**108**	P	**P**	**04 49 16.1**	**-0.4**
NJ2	**Nanjing**		**59.01**	**70**	*eP*	**P**	**04 49 29.4**	**-0.6**
NJ2					pmax	pmax		
	comp=Z,11nm,0.5s							
SDSI	**Sungai Dareh**		**60.64**	**112**	P	**P**	**04 49 41.0**	**-0.4**
	comp=Z,14nm,0.9s							
LBTB	**Lobatse**		**61.09**	**203**	P	**P**	**04 49 45.3**	**+1.0**
LBTB					pmax	pmax		
	comp=Z,7.0nm,0.9s							
LBTB	**Lobatse**		**61.09**	**203**	P	**P**	**04 49 45.3**	**+1.0**
LBTB					IAmb	IAmb	04 49 48.6	
	comp=Z,6.5nm,0.9s							
KLR	**Kul'dur**		**62.44**	**47**	*ceP*	**P**	**04 49 53.6**	**+0.5**
KLR					pmax	pmax		
	comp=Z,6.0nm,1.2s							
KSRS	**Korea Array**		**63.96**	**61**	P	**P**	**04 50 02.6**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=282,slow=6.3,SNR=7.3							
USRK	**Ussuriysk Ar.**		**64.32**	**53**	P	**P**	**04 50 04.0**	**-1.6**
	comp=Z,3.0nm,0.8s,baz=280,slow=6.6,SNR=4.8							
BOSA	**Boshof**		**64.54**	**202**	P	**P**	**04 50 07.6**	**+0.3**
	comp=Z,7.8nm,0.8s,baz=31,slow=7.5,SNR=12							
TYV	**Tymovskoe**		**68.34**	**43**	*eP*	**P**	**04 50 32.5**	**+1.2**
TYV					pmax	pmax		
	comp=Z,9.0nm,1.0s							
YSS	**Yuzh-Sakhalins**		**70.11**	**47**	*eP*	**P**	**04 50 43.2**	**+0.8**
YSS					pmax	pmax		
	comp=Z,17nm,1.2s							
IMAR	**Indian Mountai**		**80.30**	**9**	P	**P**	**04 51 39.9**	**-0.9**
ILAR	**Eielson Array**		**82.23**	**6**	P	**P**	**04 51 50.9**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=329,slow=4.0,SNR=6.6							
ILAR					PP	**PP**	**04 55 00.1**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=352,slow=7.2,SNR=4.6							
YKA	**Yellowknife Ar**		**84.13**	**352**	P	**P**	**04 52 01.2**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=10,slow=5.7,SNR=4.3							
WRA	**Warramunga Arr**		**97.79**	**109**	P	**P**	**04 53 05.9**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=316,slow=3.6,SNR=2.0							
ASAR	**Alice Springs**		**99.39**	**112**	P	**Pdif**	**04 53 13.1**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=303,slow=5.2,SNR=2.4							
PLCA	**Paso Flores**		**130.72**	**242**	PKP	**PKPdf**	**04 58 42.2**	**+1.0**
	comp=Z,1.5nm,1.0s,baz=155,slow=6.0,SNR=3.6							

IDC ***18*** *04:45:32.1±1.3,32.66N×47.56E,h0km,mb3.8/11, mb1 4.0/14,mb1mx3.8/41,mbtmp3.9/14,ML3.8/3,MS4.5/1, Ms1 4.5/1,ms1mx3.1/46,Error ellipse: s-maj=27.0km s-min=16.

IMHD	Mahdasht	3.98	40	ePn		Pn	04 46 37.9	+3.3
QSDN	Sirdan	4.06	19	ePn		Pn	04 46 38.6	+2.8
IZEF	Zefreh	4.06	86	ePn		Pn	04 46 39.0	+3.1
IRAM	Ramesheh	4.21	100	ePn		Pn	04 46 40.6	+2.7
IGZV	Ghazvin	4.33	30	ePn		Pn	04 46 42.0	+2.6
QALM	Alamut, Qazvin	4.55	34	ePn		Pn	04 46 44.9	+2.3
IDMV	Damavand	4.74	51	ePn		Pn	04 46 47.4	+2.3
IAZR	Azarshahr	5.15	346	ePn		Pn	04 46 53.7	+2.9
ANAR	Anarak	5.25	83	ePn		Pn	04 46 54.3	+2.2
IFIR	Firoozkooh	5.26	54	ePn		Pn	04 46 54.3	+2.0
ILAS	Lasjerd	5.27	58	ePn		Pn	04 46 54.5	+2.1
ISAD	Sadrabad	5.28	97	ePn		Pn	04 46 55.3	+2.7
IHSH	Hashtrud	5.63	358	ePn		Pn	04 46 45.4	-12
IHRS	Heris	5.65	356	ePn		Pn	04 47 01.4	+3.8
ISHM	Shahmirzad	5.72	55	ePn		Pn	04 47 00.8	+2.2
ICHK	Chekchek	5.84	92	ePn		Pn	04 47 01.8	+1.5
IANJ	Anjilo	6.00	61	ePn		Pn	04 47 04.1	+1.7
GEVA	Gevas	6.70	328	Pn		Pn	04 47 11.9	-0.1
MARD	Mardin	7.21	312	Pn		Pn	04 47 19.9	+0.9
MARD				Sn		Sn	04 48 40.0	-0.9
TPRV	Parvadeh(Tabas	7.73	85	ePn		Pn	04 47 29.0	+3.0
TKDS	Koohdasht(Taba	8.11	81	ePn		Pn	04 47 33.8	+2.4
ASF	Jabal al Asfar	8.99	270	Pn		Pn	04 47 42.7	-0.6
	comp=E,0.5nm,0.3s,baz=50,slow=7.9,SNR=1.3							
ASF				Sn		Sn	04 49 23.0	-1.6
	comp=E,0.3nm,0.3s,baz=142,slow=17,SNR=1.2							
ASF				Lg		Lg	04 50 19.3	
	comp=E,0.2nm,0.3s,baz=198,slow=20,SNR=1.9							
GENO	Geno	9.16	123	ePn		Pn	04 47 48.5	+2.7
UOSS	Minazif	10.83	133	Pn		Pn	04 48 09.2	+0.7
BRTR	Keskin Array B	13.22	306	Pn		P	04 48 49.9	-1.4
	comp=E,0.1nm,0.3s,baz=101,slow=12,SNR=2.3							
WSAR	Wadi Sarin	13.59	131	Pn		Pn	04 48 46.1	-0.1
	comp=E,0.8nm,0.3s,baz=337,slow=7.7,SNR=2.0							
WSAR				Sn		Sn	04 51 09.1	-8.2
	comp=E,0.1nm,0.3s,baz=241,slow=19,SNR=1.7							
MANT	Manisa	16.47	296	Pn		Pn	04 49 25.1	+0.4
CHGR	Chuyangaron	18.56	65	P		P	04 49 49.7	-0.7
CHGR				IAmb		IAmb	04 49 50.1	
	comp=Z,4.8nm,0.7s							
ABKAR	Akbulak array	19.00	26	P		P	04 49 55.2	+0.2
AKTO	Aktyubinsk	19.38	21	P		Pn	04 50 00.7	+0.5
	comp=Z,0.4nm,0.3s,baz=208,slow=11,SNR=7.5							
KK31	Karatay Array	20.86	53	P		P	04 50 15.2	-0.2
KKAR	Karatay Array	20.86	53	P		P	04 50 15.2	-0.2
MLR	Muntele Rosu	21.00	314	P		P	04 50 18.3	+1.4
	comp=Z,2.7nm,0.9s,baz=139,slow=19,SNR=1.3							
ITM	Ithomi	21.43	289	P		P	04 50 22.6	+1.0
NIL	Nilore	21.56	80	P		P	04 50 22.7	-0.3
NIL				IAmb		IAmb	04 50 30.3	
	comp=Z,6.4nm,0.9s							
AKASG	Malin Array Be	22.50	329	P		P	04 50 33.2	+0.3
	comp=Z,1.1nm,0.4s,baz=137,slow=9.3,SNR=4.8							
AKASG	Malin Array Be	22.50	329	P		P	04 50 34.2	+1.4
AKBB	Malin Array Si	22.50	329	P		P	04 50 34.9	+2.1
AKBB				IAmb		IAmb	04 50 35.1	
	comp=Z,2.6nm,0.8s							
BURAR	Bucovina Array	22.54	318	P		P	04 50 34.0	+0.5
BUR08	Bucovina Ar. S	22.57	318	P		P	04 50 33.5	-0.3
TIP	Timpagrande	25.66	293	P		P	04 51 03.2	-0.1
TIP				IAmb		IAmb	04 51 21.9	
	comp=Z,10nm,1.3s							
TARG	Taragay, Kyrgy	25.66	61	P		P	04 51 02.8	-1.0
TARG				IAmb		IAmb	04 51 12.0	
	comp=Z,1.9nm,0.7s							
PSZ	Piszkesteto	25.81	314	P		P	04 51 04.1	-0.6
PSZ				IAmb		IAmb	04 51 10.0	
	comp=Z,8.4nm,1.4s							
BVAR	Borovoye Array	26.16	32	P		P	04 51 06.3	-1.4
	comp=Z,0.9nm,0.4s,baz=224,slow=6.0,SNR=2.1							
KURBB	Kurchatov Arra	29.00	43	P		P	04 51 33.0	-0.2
	comp=Z,0.9nm,0.6s,baz=247,slow=9.4,SNR=5.6							
KURK	Kurchatov	29.10	42	P		P	04 51 32.8	-1.2
KURK				IAmb		IAmb	04 51 36.1	
	comp=Z,1.7nm,0.8s							
MK31	Makanchi Array	29.96	52	P		P	04 51 41.7	-0.1
MKAR	Makanchi Array	29.96	52	P		P	04 51 42.7	+0.9
	comp=Z,0.8nm,0.7s,baz=251,slow=7.4,SNR=4.8							
MKAR	Makanchi Array	29.96	52	P		P	04 51 42.4	+0.6
CLL	Collm	31.30	317	P		P	04 51 53.7	+0.2
CLL				IAmb		IAmb	04 52 08.7	
	comp=Z,2.7nm,0.6s							
FINES	FINESS Array B	31.96	341	P		P	04 51 59.5	+0.4
	comp=Z,0.5nm,0.3s,baz=146,slow=8.4,SNR=1.2							
FINES	FINESS Array B	31.96	341	P		P	04 51 59.0	-0.1
SENIN	Lac Senin/Sane	33.53	306	P		P	04 52 13.2	-0.2
BNI	Bardonecchia	33.77	304	P		P	04 52 15.7	+0.4
ZALV	Zalesovo Beam	33.91	40	P		P	04 52 16.2	-0.1
	comp=Z,1.4nm,0.5s,baz=243,slow=9.2,SNR=4.6							
ZALV	Zalesovo Beam	33.91	40	P		P	04 52 15.8	-0.4
NOA	NORSAR Array B	36.85	331	P		P	04 52 42.1	+0.6
	comp=Z,0.7nm,0.7s,baz=125,slow=8.5,SNR=2.1							
TAM	Tamanrasset	38.24	266	P		P	04 52 54.7	+0.9
TAM				IAmb		IAmb	04 53 11.3	
	comp=Z,2.6nm,1.3s							
ARCES	ARCESS Array B	38.93	348	P		P	04 52 59.4	+0.4
	comp=Z,1.5nm,0.8s,baz=156,slow=8.9,SNR=6.6							
TORD	Torodi Ar. Bea	46.05	256	P		P	04 53 58.0	+0.5
	comp=Z,0.2nm,0.5s,baz=66,slow=7.9,SNR=5.1							
TORD	Torodi Ar. Bea	46.05	256	P		P	04 53 58.6	+1.0
ULN	Ulaanbaatar	46.76	53	P		P	04 54 02.3	-0.6
ULN				IAmb		IAmb	04 54 09.0	
	comp=Z,2.4nm,0.9s							
CMAR	Chiang Mai Arr	48.07	94	P		P	04 54 13.4	+0.1
	comp=Z,0.5nm,0.3s,baz=297,slow=6.0,SNR=1.1							
CMAR	Chiang Mai Arr	48.07	94	P		P	04 54 12.9	-0.4
LSZ	Lusaka	51.14	204	LR		LR	05 14 49.9	
	comp=Z,562nm,21.4s,baz=168,slow=34							

ISN ***18*** *04:54:55.0±1.7,32.°69N×47.°74E,h15km±8km, ML3.1*
TEH ***18*** *04:54:58.6,32.°75N×47.°66E,h15km, ML3.2*
ISC 18 04:54:57.4±1.1,32.°61N±0.°05×47.°59E±0.°04,h10km,n30,
σ1§38/34,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	0.93	13	ePg	Pg	04 55 13.6	-1.8
IKFM				e	Sb	04 55 28.8	+0.7
IKMR	Kamar-syah	1.12	36	ePg	Pb	04 55 16.7	-2.1
IKMR				e		04 55 20.5	
IDOB	Doab	1.27	22	ePg	Pn	04 55 20.1	-1.3
BMDN	Meydan	1.48	44	ePg	Pn	04 55 24.1	-0.1
BMDN				e		04 55 50.2	
IBDR	Badra	1.49	290	ePg	Pn	04 55 24.0	-0.1
IBDR				eSg	Sn	04 55 44.0	+0.4
IBDR				AML	AML	04 55 51.3	
	comp=N,145nm,0.6s						
IBDR				AML	AML	04 55 51.9	
	comp=E,199nm,0.4s						
IKOM	Komasi	1.56	357	ePg	Pn	04 55 26.3	+1.0
IKOM				e		04 55 27.9	
KCHF	Cheshme Sefid,	1.72	345	ePg	Pn	04 55 28.8	+1.2
KCHF				e		04 55 54.8	
HSAM	Samen	1.80	28	ePg	Pn	04 55 29.9	+1.1
HSAM				e		04 55 33.1	
KER	Kermanshah	1.81	348	ePn	Pn	04 55 30.4	+1.7
IBZA	Bozab	1.86	7	ePg	Pn	04 55 31.1	+1.5
IBZA				e		04 55 37.0	
IGHG	Ghaleghazi	1.92	334	ePg	Pb	04 55 32.2	-0.3
IGHG				e		04 56 04.8	
IVIS	Veis	2.01	342	ePn	Pn	04 55 32.8	+1.4
NSR	Nassriya	2.02	218	ePn	Pn	04 55 31.0	-0.5
NSR				eSn	Sn	04 55 58.0	+1.2
IALM	Almabolaq	2.29	12	ePn	Pn	04 55 37.3	+1.8
IDHR	Dehrash	2.31	335	ePn	Pn	04 55 37.4	+1.7
IDHR				e		04 55 43.2	
ILIN	Lien	2.36	347	ePn	Pn	04 55 37.7	+1.3
ILIN				e		04 56 16.6	
HAGD	Aghdareh	2.55	30	ePn	Pn	04 55 40.6	+1.5
HAGD				e		04 55 47.4	
JHBN	Jahan bin	2.62	98	ePn	Pn	04 55 41.8	+1.7
JHBN				e		04 56 27.7	
HSRG	Sareghieh	2.68	12	ePn	Pn	04 55 42.5	+1.6
HSRG				e		04 55 48.4	
BHD	Baghdad	2.78	285	ePn	Pn	04 55 42.0	+0.1
BHD				eSn	Sn	04 56 18.0	+2.4
BHD				AML	AML	04 56 32.9	
	comp=E,283nm,0.5s						
IPIR	Pirpir	2.78	88	ePn	Pn	04 55 43.9	+1.6
IPIR				e		04 56 29.1	
ROKH	ROKH	2.92	94	ePn	Pn	04 55 45.9	+1.8
IKLH	Kolahrood	3.42	77	ePn	Pn	04 55 52.8	+1.8
IKLH				e		04 56 50.5	
QABG	Abgarm-Qazvin	3.50	28	ePn	Pn	04 55 53.0	+0.9
IGAR	Gharneh	3.76	92	ePn	Pn	04 55 57.1	+1.4
IGAR				e		04 55 59.3	
IZEF	Zefreh	4.00	85	ePn	Pn	04 56 00.3	+1.3
IRAM	Ramesheh	4.14	100	ePn	Pn	04 56 01.8	+1.0
IVRN	Varamin	4.18	54	ePn	Pn	04 56 01.8	+0.5
IDMV	Damavand	4.72	50	ePn	Pn	04 56 09.8	+0.9
IANJ	Anjilo	5.97	60	ePn	Pn	04 56 26.1	+1.0

ANF ***18*** *04:55:55.9±0.2,34.°33N×116.°84W,h10km±1km, ML3.7/40, Error ellipse: s-maj=1.2km s-min=1.1km az=2.9*
PAS ***18*** *04:55:56.8±1.1,34.°33N±0.°01×116.°83W±0.°02,h8km±6km, ML3.7/233,Error ellipse: s-maj=2.6km s-min=1.6km az=114.0*
NEIC ***18*** *04:55:56.4±1.1,34.°33N±0.°01×116.°83W±0.°02,h8km±6km, Error ellipse: s-maj=1.9km s-min=1.6km az=99.0*
SCEDC ***18*** *04:55:56.8,34.°33N×116.°83W,h8km,M3.7,ML3.7,ML3.7*
ISC 18 04:55:55.9±0.8,34.°33N±0.°01×116.°83W±0.°01,h11km±5km,
n150,σ0.°71/194,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIL	Silver Peak	0.02	4		Pg	04 55 57.9	-0.3
BBRC	Big Bear Solar	0.10	228	P	Pg	04 55 58.7	-0.2
BBRC	baz=48,SNR=1000			S	Sg	04 56 00.9	-0.2
	baz=48						
BBRC	Big Bear Solar	0.10	228		Pg	04 55 59.0	+0.1
BBRC					Sg	04 56 01.0	-0.1
BTL	Butler Peak	0.16	243		Pg	04 56 00.1	+0.4
SVD	Seven Oaks Dam	0.32	225		Pb	04 56 02.7	-0.9
SVD					Sg	04 56 07.3	+0.7
CFT	Crafton Hills	0.38	218		Pb	04 56 03.9	-0.7
CFT					Sg	04 56 08.9	+0.4
HLNC	Highland	0.39	237		Pb	04 56 04.0	-0.7
HLNC					Sg	04 56 09.3	+0.6
GTM	Goat Mountain	0.39	95		Pg	04 56 03.7	0.0
GTM					Sg	04 56 09.1	+0.1
BBSC	Beaumont Base	0.43	197		Sb	04 56 11.5	-0.5
CFSC	Central Fire S	0.44	239		Pb	04 56 05.2	-0.5
CSP	Cedar Springs	0.44	266		Pb	04 56 04.9	-0.9
BLAC	Blackrock camp	0.45	126		Pb	04 56 05.4	-0.5
BLAC					Sb	04 56 11.6	-1.1
CLTC	Calectric	0.47	240		Pb	04 56 05.8	-0.3
CLTC					Sb	04 56 12.9	-0.2
VTV	Victorville	0.47	299		Sb	04 56 11.8	-1.5
EW2	E Wide Canyon	0.52	138		Pb	04 56 06.7	-0.4
EW2					Sb	04 56 13.7	-1.0
ADO	Adelanto Recei	0.55	294		Sb	04 56 15.1	-0.3
RSBC	Riverside Bore	0.55	229		Pb	04 56 06.9	-0.5
RSBC					Sb	04 56 14.4	-1.0
RRX	Edison Barstow	0.56	346	P	Pb	04 56 07.3	-0.4
RRX	baz=166,SNR=176			S	Sb	04 56 14.9	-0.9
	baz=166						
RRX	Edison Barstow	0.56	346		Pb	04 56 07.3	-0.4
RRX					Sb	04 56 15.3	-0.5
RVR	Riverside	0.56	233		Sg	04 56 14.8	+0.4
HMTC	Hemet	0.64	193		Sg	04 56 17.1	+0.4
HEC	Hector,Ludlow	0.64	39	P	Pb	04 56 08.8	-0.4
HEC	baz=219,SNR=139			S	Sb	04 56 17.7	-0.5
	baz=219						
HEC	Hector,Ludlow	0.64	39		Sb	04 56 17.5	-0.7
POB	Polly Butte	0.65	187		Pb	04 56 08.8	-0.4
POB					Sb	04 56 17.8	-0.6
FLSC	Flash Two Peak	0.66	345		Pb	04 56 09.0	-0.5
GVDA	Garner Valley	0.67	169		Pb	04 56 09.1	-0.6
BFSC	Mount Baldy Ra	0.69	263	P	Pb	04 56 09.5	-0.6
BFSC	baz=82,SNR=454			S	Sg	04 56 18.5	0.0
	baz=82						
BACC	Bachelor Mtn.	0.74	194		Sg	04 56 19.8	-0.1
ALV	Alvord Mountai	0.75	13		Pb	04 56 10.4	-0.5
CRNC	Corona	0.76	233		Pb	04 56 10.5	-0.6
BELC	Belle Mtn. Jos	0.76	115	P	Pb	04 56 11.0	-0.3
BELC	baz=296,SNR=395			S	Sb	04 56 21.2	-0.6
	baz=296						
CRY	Cary Ranch	0.77	174		Sg	04 56 21.2	+0.3
PMD	Palm Desert	0.78	151		Sg	04 56 21.1	0.0
CHNC	Chino	0.78	245		Sb	04 56 21.6	-0.4
DNR	Dunn Ranch,Anz	0.78	168		Sb	04 56 22.1	-0.1
PFO	Pinyon Flats O	0.78	157	P	Pb	04 56 11.0	-0.5
PFO	baz=337,SNR=202			S	Sg	04 56 21.3	0.0
	baz=337						
PFO	Pinyon Flats O	0.78	157		Pb	04 56 11.1	-0.5
PFO				Sg	Sb	04 56 21.6	-0.6
PFO	Pinyon Flats O	0.78	157		Sg	04 56 20.9	-0.3
XPFO	Pion Flat	0.78	157	Pg	Pb	04 56 11.1	-0.5
XPFO				Sg	Sb	04 56 21.8	-0.4
XPFO	Pion Flat	0.78	157		Sg	04 56 21.3	0.0
MURC	Murrieta	0.79	203	P	Pb	04 56 11.2	-0.5
MURC	baz=22,SNR=236			S	Sg	04 56 21.8	+0.3
	baz=22						
MURC	Murrieta	0.79	203		Sg	04 56 21.6	+0.1
SNDA	J Saunders Pla	0.80	167		Sb	04 56 22.3	-0.4
HYS	Haystack Butte	0.81	311		Pb	04 56 11.6	-0.4
HYS					Sb	04 56 22.5	-0.5
ELS	Elsinore Mount	0.84	216		Pg	04 56 12.1	-0.1
ELS					Sg	04 56 23.1	-0.2
BZNA	Buzz No.'s Pla	0.85	171		Sg	04 56 23.6	+0.2
HOLC	Holcomb Ridge	0.85	279		Pb	04 56 12.4	-0.4
HOLC					Sb	04 56 23.8	-0.4
FRD	Ford Ranch, An	0.86	167		Sg	04 56 23.8	+0.1
FRD	Ford Ranch, An	0.86	167		Sg	04 56 23.8	+0.1
SBB	Saddle Back Bu	0.90	294		Sb	04 56 24.9	-0.6
JNH	Juniper Hills	0.94	277		Sb	04 56 26.5	-0.2
GSC	Goldstone, Bar	0.97	1	P	Pn	04 56 14.7	-0.9
GSC	baz=181,SNR=941			Sg	Sn	04 56 30.3	+1.0
	baz=181						
GSC	Goldstone, Bar	0.97	1		Pn	04 56 14.6	-0.9
GSC				Sg	Sn	04 56 28.2	-1.1
CTCC	Cactus City	0.97	134		Pb	04 56 14.7	0.0
PLM	Palomar	0.98	182		Sg	04 56 27.4	-0.1
CHFC	Chilao Flat St	0.99	270		Sb	04 56 27.9	-0.4
DSCC	Desert Studies	1.00	36		Pn	04 56 15.2	-0.7
DSCC					Sb	04 56 28.6	0.0
LRRC	Littlerock Res	1.01	281		Pb	04 56 15.2	-0.2
LRRC					Sb	04 56 28.6	0.0
MWC	Mount Wilson	1.02	264		Pb	04 56 15.6	-0.2
MWC	Mount Wilson	1.02	264		Sb	04 56 29.1	-0.2
CTW	Cottonwood Mou	1.03	129		Pn	04 56 16.0	-0.3
CTW					Sb	04 56 29.8	+0.5
GMRC	Granite Mounta	1.06	65	P	Pb	04 56 16.1	-0.3
GMRC	baz=245,SNR=764			S	Sn	04 56 31.1	-0.6
	baz=245						
CACC	Caltech Cellar	1.09	260		Pn	04 56 16.7	-0.4
BREC	Barre Substati	1.09	242		Pn	04 56 17.5	+0.4
CJV	Casa Juvan	1.10	281		Sg	04 56 31.1	-0.5
EDW2	Edwards Air Fo	1.11	300	P	Pn	04 56 16.9	-0.5
EDW2	baz=120,SNR=146			S	Sb	04 56 31.3	-0.3
	baz=120						
EDW2	Edwards Air Fo	1.11	300		Sb	04 56 31.4	-0.1
GVRC	Garvey Reservo	1.11	256		Pn	04 56 17.0	-0.3
BORC	Borrego Spring	1.11	162		Sb	04 56 31.9	+0.2
PASC	Pasadena Art C	1.14	262		Pn	04 56 17.4	-0.3
PASC				Sn	Sn	04 56 33.5	+0.2
GORC	Green Oak Ranc	1.22	196		Sb	04 56 34.1	-0.6
DANC	Danby, Needles	1.23	75		Pg	04 56 18.9	-0.7
DECC	Green Verdugo	1.25	267	P	Pg	04 56 19.5	-0.4
DECC	baz=86,SNR=92			S	Sn	04 56 36.5	+0.3
	baz=86						
DECC	Green Verdugo	1.25	267		Pg	04 56 19.5	-0.4
LEOC	Leona Valley	1.25	284		Pg	04 56 19.4	-0.6
ALPC	Antelope	1.27	287		Pg	04 56 19.8	-0.5
CCCA	Chr Cany lake	1.27	340		Pg	04 56 19.8	-0.5
BC3	Big Chuckawall	1.33	120	P	Pn	04 56 20.4	-0.1
BC3	baz=301,SNR=299			S	Sg	04 56 38.7	0.0
	baz=301						
TUQ	Turquoise Moun	1.33	34	P	Pb	04 56 20.4	-0.5
TUQ	baz=214,SNR=218			S	Sn	04 56 39.2	+0.9
	baz=214						
LRMC	Laurel Mtn Rad	1.34	329	P	Pb	04 56 20.7	-0.5
LRMC	baz=148,SNR=58			S	Sg	04 56 39.6	+0.4
	baz=148						
FMP	Fort Macarthur	1.36	244	P	Pn	04 56 20.8	-0.1
FMP	baz=63,SNR=12			S	Sg	04 56 39.7	-0.2
	baz=63						
IRM	Iron Mountain	1.41	97	P	Pn	04 56 20.8	-0.7
109C	baz=278,SNR=580 Camp Elliot, M	1.46	189	P	Pn	04 56 22.3	+0.1
109C	baz=8.9,SNR=105 Camp Elliot, M	1.46	189		Pb	04 56 22.4	-0.6
109C					Sn	04 56 41.3	+0.1
MONP2	Monument Peak	1.48	167	P	Pb	04 56 23.2	-0.3
MONP2	baz=347,SNR=72			S	Sb	04 56 42.4	+0.1
	baz=347						
OSI	Osito Audit: C	1.59	281	P	Pb	04 56 24.7	-0.6
OSI	baz=100,SNR=78 Osito Audit: C	1.59	281		Pb	04 56 25.4	+0.1
CIS	Catalina Islan	1.61	235	P	Pn	04 56 24.3	0.0
CIS	baz=54,SNR=12			S	Sb	04 56 46.3	+0.2
	baz=54						
SWSC	Sam W. Stewart	1.63	148	P	Pn	04 56 24.1	-0.4
SWSC	baz=328,SNR=87			Sb	Sg	04 56 48.1	-0.2
	baz=328						
SHOC	Shoshone, Teco	1.63	16	P	Pb	04 56 24.8	-1.1
SHOC	baz=196,SNR=389			Sb	Sg	04 56 48.6	+0.3
	baz=196						
BAR	Barrett	1.65	175		Pb	04 56 25.6	-0.8
BAR				Sn	Sb	04 56 47.5	+0.3
TKX	Tecate	1.77	174	Pn	Pb	04 56 27.3	-1.1
TKX				Sn	Sb	04 56 50.9	+0.4
IKP	In-Ko-Pah, Jac	1.78	160	P	Pn	04 56 27.0	+0.3
MPMC	baz=340,SNR=51 Manual Prospec	1.81	343	P	Pn	04 56 27.3	+0.1
	baz=162,SNR=206						
TJX	Tijuana	1.83	186		Pn	04 56 27.9	+0.7
ARVC	Arvin	1.83	296	P	Pn	04 56 27.6	+0.3
RMX	baz=115,SNR=66 La Rumorosa	1.83	160		Pb	04 56 28.6	-0.9
NEE2	Needles Airpor	1.88	76	P	Pn	04 56 27.4	-0.4
ISA	baz=257,SNR=366 Isabella, Lake	1.89	315	P	Pn	04 56 28.0	-0.2
ISA	baz=134,SNR=134 Isabella, Lake	1.89	315		Pn	04 56 28.2	0.0
CBX	Cerro Bola	2.02	176		Pb	04 56 31.4	-1.2
GLA	Glamis	2.10	127	P	Pn	04 56 30.9	-0.1
GLA	baz=308,SNR=24			Sb	Sg	04 57 03.4	-0.1
	baz=308						
GLA	Glamis	2.10	127		Pn	04 56 30.9	-0.1
FURC	Furnace Creek,	2.13	359	Pg	Pg	04 56 36.6	-0.1
PDMCI	baz=179,SNR=124 Parker Dam,Lak	2.22	90	Pb	Pb	04 56 36.7	+0.6
ESJX	baz=271,SNR=190 Sierra Juarez	2.44	162		Pn	04 56 36.7	+1.0
CCX	Cicese	2.46	177		Pn	04 56 37.4	+1.4
SNCC	San Nicolas Is	2.49	245	P	Pn	04 56 36.6	+0.2
SNCC	baz=64 San Nicolas Is	2.49	245	Pn	Pn	04 56 36.9	+0.6
PKM	Mcpherson Peak	2.52	284	P	Pn	04 56 37.9	+0.9
W13A	baz=102,SNR=20 Hualapai Mount	2.54	72	Pn	Pn	04 56 37.4	+0.1
SHPR	Sheep Range	2.56	32		Pn	04 56 38.4	+0.9
TPNV	Topopah Spring	2.65	10	P	Pn	04 56 39.7	+1.0
TPNV	baz=190,SNR=105 Topopah Spring	2.65	10		Pn	04 56 39.8	+1.0
GRAC	Grapevine Rang	2.69	351	P	Pn	04 56 40.5	+1.2
SMMC	baz=171,SNR=50 Simmler	2.78	292	P	Pn	04 56 41.1	+0.7
VOG	baz=110,SNR=10 Valley Oaks Go	2.88	314	Pg	Pg	04 56 50.7	-0.4
TIN	baz=133 Tinemaha, Big	2.95	338	Pg	Pg	04 56 52.2	-0.2
113A	baz=157 Mohawk Valley,	3.00	121		Pn	04 56 42.6	-0.6
PAGB	Antelope Grade	3.13	297		Pn	04 56 46.1	+0.8
Y14A	Wickenburg	3.19	96		Pn	04 56 46.4	+0.3
PRN	Pahroc Range	3.39	25	Pn	Pn	04 56 50.3	+1.5
SPX	San Pedro Mart	3.48	160		Pn	04 56 52.1	+1.8
SFX	San Felipe	3.68	153		Pn	04 56 54.0	+1.2
OMMB	Old Mammoth Mi	3.72	332		Pn	04 56 55.6	+2.1
PMPB	Monarch Peak	3.75	301		Pn	04 56 54.2	+0.4
MDPB	Devils Postpil	3.77	332	Pn	Pn	04 56 55.7	+1.5
PIX	Pinacate	3.96	133	Pn	Pn	04 56 57.0	+0.5
LCMT	Little Creek M	3.96	46		Pn	04 56 58.1	+1.5
214A	Organ Pipe Nat	4.12	124	P	Pn	04 56 58.8	0.0
214A	baz=306 Organ Pipe Nat	4.12	124		Pn	04 56 59.7	+1.0
R11A	Troy Canyon, C	4.13	14	P	Pn	04 57 00.4	+1.3
R11A	baz=194 Troy Canyon, C	4.13	14	Pn	Pn	04 57 00.5	+1.4
LHV	Little Huntoon	4.14	341		Pn	04 56 59.8	+0.8
KNB	Kanab	4.22	49		Pn	04 57 01.9	+1.6
NV11	Mina Array Sit	4.23	346		Pn	04 57 02.1	+1.7
U15A	North Rim	4.26	59		Pn	04 57 02.2	+1.4
NVAR	Mina Array Bea	4.26	344	Pn	Pn	04 57 02.6	+1.7
CCUT	Cedar City	4.27

JHBN	**Jahan bin**	**2.56**	**102**	*e*			05 02 59.2	
JHBN				*ePn*		**Pn**	**05 02 07.1**	**-0.4**
BHD	**Baghdad**	**2.84**	**280**	*ePn*		**Pn**	**05 02 13.0**	**+2.0**
BHD				*eSn*		**Sn**	**05 02 46.0**	**+1.1**
ROKH	**ROKH**	**2.84**	**99**	*ePn*		**Pn**	**05 02 11.2**	**-0.1**
ROKH				*e*			05 03 05.1	
IRAZ	**Razeghan**	**3.16**	**35**	*ePn*		**Pn**	**05 02 17.5**	**+1.8**
QABG	**Abgarm-Qazvin**	**3.27**	**28**	*ePn*		**Pn**	**05 02 18.7**	**+1.5**
IKLH	**Kolahrood**	**3.28**	**80**	*ePn*		**Pn**	**05 02 19.1**	**+1.7**
IKLH				*e*			05 03 15.2	
IZEF	**Zefreh**	**3.88**	**88**	*ePn*		**Pn**	**05 02 26.6**	**+0.9**
IVRN	**Varamin**	**3.98**	**56**	*ePn*		**Pn**	**05 02 28.0**	**+1.2**
IRAM	**Ramesheh**	**4.08**	**103**	*ePn*		**Pn**	**05 02 29.0**	**+0.7**

TEH ***18*** *05:07:22.9,32°.71N×47°.77E,h11km,ML3.1*
ISN ***18*** *05:07:22.0±0.3,32°.71N×47°.83E,h17km±2km, ML2.8*
ISC 18 05:07:23.5±0.9,**32°.69N**±0°.04×**47°.73E**±0°.04,**h10km**,**n28,**
σ1§**05**/30,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.84**	**7**	*ePg*		**Pg**	**05 07 39.6**	**-0.1**
IKMR	**Kamar-syah**	**0.99**	**33**	*ePg*		**Pg**	**05 07 41.1**	**-1.5**
IKMR				*e*			05 07 50.7	
IDOB	**Doab**	**1.16**	**19**	*ePn*		**Pb**	**05 07 44.4**	**-1.4**
BMDN	**Meydan**	**1.35**	**43**	*ePn*		**Pn**	**05 07 48.4**	**-0.2**
BMDN				*e*			05 07 51.8	
IKOM	**Komasi**	**1.50**	**353**	*ePg*		**Pn**	**05 07 51.2**	**+0.6**
IKOM				*e*			05 07 59.5	
AHWZ	**Ahwaz**	**1.56**	**150**	*ePg*		**Pb**	**05 07 52.6**	**+0.2**
IBDR	**Badra**	**1.57**	**286**	*ePg*		**Pn**	**05 07 52.0**	**+0.6**
IBDR				*eSg*		**Sg**	**05 08 14.0**	**0.0**
IBDR				AML		AML	05 08 20.8	
	comp=N,146nm,0.6s							
IBDR				AML		AML	05 08 33.9	
	comp=E,152nm,0.6s							
KCHF	**Cheshme Sefid,**	**1.69**	**340**	*ePn*		**Pn**	**05 07 53.3**	**+0.1**
KCHF				*e*			05 08 24.8	
HSAM	**Samen**	**1.69**	**25**	*ePg*		**Pn**	**05 07 55.2**	**+1.9**
HSAM				*e*			05 08 22.4	
IBZA	**Bozab**	**1.78**	**4**	*ePn*		**Pn**	**05 07 54.5**	**-0.1**
IBZA				*e*			05 08 26.0	
IGHG	**Ghaleghazi**	**1.90**	**330**	*ePn*		**Pn**	**05 07 57.7**	**+1.5**
IGHG				*e*			05 08 33.2	
IVIS	**Veis**	**1.98**	**339**	*ePn*		**Pn**	**05 07 56.8**	**-0.3**
IVIS				*e*			05 08 36.7	
NSR	**Nassriya**	**2.15**	**219**	*ePn*		**Pn**	**05 07 59.0**	**-0.3**
NSR				*eSn*		**Sn**	**05 08 26.0**	**0.0**
IALM	**Almabolaq**	**2.20**	**9**	*ePn*		**Pn**	**05 08 01.3**	**+0.9**
IDHR	**Dehrash**	**2.30**	**331**	*ePn*		**Pn**	**05 08 03.1**	**+1.4**
IDHR				*e*			05 08 43.7	
ILIN	**Lien**	**2.32**	**344**	*ePn*		**Pn**	**05 08 03.0**	**+1.1**
ILIN				*e*			05 08 46.4	
HAGD	**Aghdareh**	**2.44**	**29**	*e*			05 08 12.3	
HAGD				*ePn*		**Pn**	**05 08 04.5**	**+0.9**
JHBN	**Jahan bin**	**2.53**	**100**	*e*			05 08 43.6	
JHBN				*ePn*		**Pn**	**05 08 05.7**	**+0.8**
HSRG	**Sareghieh**	**2.59**	**10**	*e*			05 08 49.4	
HSRG				*ePn*		**Pn**	**05 08 07.3**	**+1.5**
IPIR	**Pirpir**	**2.67**	**89**	*e*			05 08 48.5	
IPIR				*ePn*		**Pn**	**05 08 07.7**	**+0.9**
ROKH	**ROKH**	**2.82**	**96**	*ePn*		**Pn**	**05 08 09.6**	**+0.8**
ROKH				*e*			05 09 10.1	
BHD	**Baghdad**	**2.87**	**283**	*ePn*		**Pn**	**05 08 10.0**	**+0.7**
BHD				*eSn*		**Sn**	**05 08 45.0**	**+1.1**
IRAZ	**Razeghan**	**3.27**	**33**	*ePn*		**Pn**	**05 08 16.9**	**+1.9**
IKLH	**Kolahrood**	**3.30**	**78**	*e*		Sb	05 09 15.5	+13
QABG	**Abgarm-Qazvin**	**3.38**	**27**	*ePn*		**Pn**	**05 08 18.2**	**+1.6**
IGAR	**Gharneh**	**3.66**	**93**	*ePn*		**Pn**	**05 08 20.8**	**+0.5**
IGAR				*e*			05 08 25.5	
IDMV	**Damavand**	**4.59**	**50**	*ePn*		**Pn**	**05 08 34.1**	**+0.9**
IANJ	**Anjilo**	**5.84**	**60**	*ePn*		**Pn**	**05 08 51.2**	**+0.9**

ISN ***18*** *05:09:40.1±2.0,32°.71N×47°.77E,h15km,ML2.7*
TEH ***18*** *05:09:41.8,32°.65N×47°.51E,h18km, ML3.0*
ISC 18 05:09:43.0±1.5,**32°.62N**±0°.07×**47°.53E**±0°.05,**h10km**,**n21,**
σ1§**44**/23,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.94**	**16**	*e*		**Sn**	**05 10 14.0**	**-1.8**
IKMR	**Kamar-syah**	**1.15**	**38**	*e*		**Pb**	**05 10 04.4**	**-0.5**
IDOB	**Doab**	**1.29**	**25**	*ePg*		**Pn**	**05 10 05.2**	**-2.1**
IBDR	**Badra**	**1.44**	**290**	*ePg*		**Pn**	**05 10 08.0**	**-1.1**
	baz=104							
IBDR				*eSg*		**Sg**	**05 10 32.0**	**+2.8**
IBDR				AML		AML	05 10 35.8	
	comp=E,583nm,1.4s							
IBDR				AML		AML	05 10 41.6	
	comp=N,22nm,0.7s							
IKOM	**Komasi**	**1.55**	**359**	*ePg*		**Pn**	**05 10 10.6**	**-0.3**
IKOM				*e*		**Sg**	**05 10 35.9**	**+2.9**
KCHF	**Cheshme Sefid,**	**1.70**	**346**	*ePg*		**Pn**	**05 10 12.9**	**-0.1**
KCHF				*e*			05 10 42.3	
KER	**Kermanshah**	**1.79**	**349**	*ePn*		**Pn**	**05 10 14.4**	**+0.2**
HSAM	**Samen**	**1.82**	**29**	*ePn*		**Pn**	**05 10 14.3**	**-0.4**
HSAM				*e*			05 10 15.6	
IBZA	**Bozab**	**1.87**	**8**	*ePg*		**Pn**	**05 10 15.7**	**+0.4**
IBZA				*e*			05 10 46.4	
IGHG	**Ghaleghazi**	**1.89**	**335**	*ePg*		**Pn**	**05 10 16.4**	**+0.8**
IGHG				*e*			05 10 52.5	
IVIS	**Veis**	**1.99**	**344**	*ePn*		**Pn**	**05 10 14.3**	**-2.5**
IVIS				*e*			05 10 55.1	
IDHR	**Dehrash**	**2.29**	**336**	*ePn*		**Pn**	**05 10 19.0**	**-2.0**
IDHR				*e*			05 11 02.1	
IALM	**Almabolaq**	**2.30**	**13**	*ePn*		**Pn**	**05 10 20.1**	**-1.2**
ILIN	**Lien**	**2.34**	**348**	*ePn*		**Pn**	**05 10 20.3**	**-1.5**
HAGD	**Aghdareh**	**2.58**	**31**	*ePn*		**Pn**	**05 10 24.7**	**-0.3**
HAGD				*e*			05 10 31.5	
JHBN	**Jahan bin**	**2.68**	**97**	*ePn*		**Pn**	**05 10 25.8**	**-0.7**
JHBN				*e*			05 11 08.6	
HSRG	**Sareghieh**	**2.69**	**13**	*ePn*		**Pn**	**05 10 26.5**	**-0.1**
HSRG				*e*			05 11 09.6	
IPIR	**Pirpir**	**2.83**	**88**	*ePn*		**Pn**	**05 10 28.4**	**-0.2**
ROKH	**ROKH**	**2.97**	**94**	*ePn*		**Pn**	**05 10 30.2**	**-0.3**
ROKH				*e*			05 11 28.7	
IKLH	**Kolahrood**	**3.47**	**77**	*ePn*		**Pn**	**05 10 38.2**	**+0.8**
IKLH				*e*			05 11 45.7	
QABG	**Abgarm-Qazvin**	**3.52**	**28**	*ePn*		**Pn**	**05 10 38.1**	**+0.1**

DDA ***18*** *05:09:55.9,36°.93N×27°.57E,h7km±3km,ML1.9*
ISK ***18*** *05:09:56.4,36°.95N×27°.56E,h8km,ML2.5/7*
ISC 18 05:09:56.0±1.2,**36°.97N**±0°.03×**27°.67E**±0°.03,**h2km**±17km,
n13,σ2§**11**/21,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BDRM	**Kayabasi**	**0.20**	**298**	*iP*		**Pg**	**05 10 00.0**	**0.0**
BDRM				*iS*		**Sg**	**05 10 02.1**	**-0.5**
BDRM				IAML			05 10 03.0	
	comp=E,776nm,0.2s							
DAT	**Datca**	**0.25**	**197**	PG		**Pg**	**05 10 01.1**	**+0.3**
DAT				SG		**Sg**	**05 10 05.0**	**+0.9**
DAT	**Datca**	**0.25**	**197**	*iP*		**Pg**	**05 10 00.9**	**0.0**
DAT				*iS*		**Sg**	**05 10 03.6**	**-0.5**
BODT	**Bodrum**	**0.30**	**288**	PG		**Pg**	**05 10 01.5**	**-0.3**
BODT				SG		**Sg**	**05 10 05.5**	**-0.3**
TURN	**Turunc**	**0.50**	**112**	PG		**Pg**	**05 10 07.9**	**-2.6**
TURN	**Turunc**	**0.50**	**112**	*iP*		**Pg**	**05 10 07.4**	**-3.1**
TURN				*iS*		**Sg**	**05 10 14.9**	**-5.4**
TURN				IAML			05 10 18.0	
	comp=N,88nm,0.4s							
TURN				IAML			05 10 18.0	
	comp=E,81nm,0.5s							
YER	**Yerkesik**	**0.52**	**71**	PG		**Pb**	**05 10 08.8**	**+0.9**
GCAM	**G?zelcaml?**	**0.81**	**335**	PG		**Pb**	**05 10 12.4**	**-0.4**
GCAM	**G?zelcaml?**	**0.81**	**335**	*iP*		**Pb**	**05 10 12.3**	**-0.5**
GCAM				*iS*		**Sg**	**05 10 22.6**	**+0.5**
GCAM				IAML			05 10 26.0	
	comp=N,43nm,0.3s							
ARG	**Arkhangelos**	**0.84**	**154**	PG		**Pn**	**05 10 13.5**	**-1.3**
TAVA	**DENIZLİ_Tavas**	**1.11**	**63**	*iP*		**Pn**	**05 10 20.0**	**+1.4**
TAVA				*iS*		**Sg**	**05 10 33.2**	**+1.4**
FETY	**Fethiye**	**1.18**	**106**	PN		**Pg**	**05 10 20.9**	**+2.2**
FETY	**Fethiye**	**1.18**	**106**	*iP*		**Pg**	**05 10 22.6**	**+3.9**
FETY				*iS*		**Sg**	**05 10 35.4**	**+1.3**
FETY				IAML			05 10 45.0	
	comp=E,23nm,1.5s							

IDC ***18*** *05:11:08.5±1.3,32°.61N×47°.50E,h0km,mb3.8/11,*
mb1 3.9/15,mb1mx3.7/45,mbtmp3.8/15,ML3.6/4,Error ellipse: s-maj=27.9km s-min=17.5km az=2.0
NEIC ***18*** *05:11:11.0±2.0,32°.70N±0°.03×47°.57E±0°.06,h10km±1km, Error ellipse: s-maj=8.1km s-min=5.1km az=84.0*
TEH ***18*** *05:11:11.3,32°.74N×47°.49E,h16km, ML3.8*
ISN ***18*** *05:11:12.5±1.0,32°.87N×47°.49E,h14km±6km, ML3.8*
ISC 18 05:11:11.7±0.5,**32.78N**±0°.03×**47°.47E**±0°.03,**h15km**,**n88,**
σ1§**26**/88,**mb3.8**/13,**6D**,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.81**	**23**	*ePg*		**Pb**	**05 11 27.9**	**+0.4**
IKFM	**Kafar-mosalman**	**0.81**	**23**	*Pg*		**Pg**	**05 11 26.6**	**-0.9**
IKMR	**Kamar-syah**	**1.06**	**46**	*ePg*		**Pb**	**05 11 31.8**	**0.0**
IKMR				*e*			05 11 51.2	
IKMR	**Kamar-syah**	**1.06**	**46**	*Pg*		**Pb**	**05 11 31.8**	**0.0**
IDOB	**Doab**	**1.17**	**30**	*ePg*		**Pn**	**05 11 33.7**	**-0.1**
IDOB	**Doab**	**1.17**	**30**	*Pg*		**Pn**	**05 11 33.5**	**-0.3**
IDOB						**Sn**	**05 11 49.6**	**0.0**
IBDR	**Badra**	**1.34**	**285**	*ePg*		**Pb**	**05 11 37.0**	**+0.5**
IBDR				*eSg*		**Sg**	**05 11 55.0**	**+0.1**
IBDR				AML		AML	05 12 01.2	
	comp=N,2μm,0.8s							
IBDR				AML		AML	05 12 02.9	
	comp=E,1μm,0.6s							
IKOM	**Komasi**	**1.40**	**1**	*ePg*		**Pg**	**05 11 39.4**	**+0.8**
IKOM				*e*			05 11 39.9	
IKOM	**Komasi**	**1.40**	**1**			**Pb**	**05 11 38.2**	**+0.6**
BMDN	**Meydan**	**1.45**	**51**	*ePg*		**Pb**	**05 11 38.5**	**0.0**
BMDN				*e*			05 12 04.8	
BMDN	**Meydan**	**1.45**	**51**			**Pb**	**05 11 38.9**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.54**	**347**	*ePg*		**Pb**	**05 11 40.5**	**+0.5**
KCHF				*e*			05 12 05.4	
KCHF	**Cheshme Sefid,**	**1.54**	**347**	*Pn*		**Pb**	**05 11 40.2**	**+0.2**
KER	**Kermanshah**	**1.63**	**350**	*ePg*		**Pg**	**05 11 43.0**	**-0.1**
HSAM	**Samen**	**1.72**	**33**	*ePg*		**Pb**	**05 11 43.1**	**-0.1**
HSAM				*e*			05 12 10.9	
IBZA	**Bozab**	**1.72**	**11**	*ePg*		**Pb**	**05 11 43.8**	**+0.6**
IBZA				*e*			05 11 47.7	
IGHG	**Ghaleghazi**	**1.72**	**334**	*ePn*		**Pb**	**05 11 43.1**	**-0.1**
IGHG				*e*			05 12 30.9	
IGHG	**Ghaleghazi**	**1.72**	**334**	*Pn*		**Pg**	**05 11 44.8**	**-0.1**
AHWZ	**Ahwaz**	**1.75**	**145**	*ePg*		**Pb**	**05 11 43.1**	**-0.5**
IVIS	**Veis**	**1.82**	**344**	*ePn*		**Pb**	**05 11 45.8**	**+1.0**
IVIS				*e*			05 12 15.8	
IVIS	**Veis**	**1.82**	**344**	*Pn*		**Pg**	**05 11 46.0**	**-0.7**
NSR	**Nassriya**	**2.09**	**213**	*ePn*		**Pb**	**05 11 50.0**	**+0.7**
NSR				*eSn*		**Sb**	**05 12 16.0**	**+0.9**
IDHR	**Dehrash**	**2.12**	**335**	*ePn*		**Pb**	**05 11 50.0**	**0.0**
IDHR				*e*			05 12 26.4	
IALM	**Almabolaq**	**2.16**	**15**	*ePn*		**Pb**	**05 11 49.2**	**-1.5**
ILIN	**Lien**	**2.18**	**349**	*ePn*		**Pb**	**05 11 50.5**	**-0.5**
ILIN				*e*			05 12 32.0	
ILIN	**Lien**	**2.18**	**349**	*Pn*		**Pb**	**05 11 50.5**	**-0.5**
HAGD	**Aghdareh**	**2.47**	**34**	*ePn*		**Pn**	**05 11 53.5**	**+1.8**
HAGD				*e*			05 12 37.0	
HSRG	**Sareghieh**	**2.55**	**15**	*ePn*		**Pn**	**05 11 54.7**	**+1.9**
HSRG				*e*			05 12 34.6	
BHD	**Baghdad**	**2.64**	**282**	*ePn*		**Pn**	**05 11 56.0**	**+2.2**
BHD				*eSn*		**Sb**	**05 12 29.0**	**-2.0**
JHBN	**Jahan bin**	**2.75**	**100**	*ePn*		**Pn**	**05 11 56.9**	**+1.2**
JHBN				*e*			05 12 45.3	
IPIR	**Pirpir**	**2.89**	**91**	*ePn*		**Pn**	**05 11 58.8**	**+1.3**
ROKH	**ROKH**	**3.04**	**97**	*ePn*		**Pn**	**05 12 00.0**	**+0.5**
ROKH				*e*			05 13 02.4	
IRAZ	**Razeghan**	**3.32**	**37**	*ePn*		**Pn**	**05 12 04.9**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.41**	**30**	*ePn*		**Pn**	**05 12 04.6**	**0.0**
IKLH	**Kolahrood**	**3.49**	**80**	*ePn*		**Pn**	**05 12 06.6**	**+0.8**
IKLH				*e*			05 13 08.1	
IGAR	**Gharneh**	**3.88**	**94**	*e*		**Sn**	**05 12 59.0**	**+2.6**
IZEF	**Zefreh**	**4.09**	**87**	*ePn*		**Pn**	**05 12 14.8**	**+0.8**
IVRN	**Varamin**	**4.18**	**57**	*ePn*		**Pn**	**05 12 15.6**	**+0.6**
IDMV	**Damavand**	**4.70**	**52**	*ePn*		**Pn**	**05 12 23.4**	**+1.0**
GEVA	**Gevas**	**6.59**	**328**	*Pn*		**Pn**	**05 12 50.5**	**+2.3**
MARD	**Mardin**	**7.11**	**311**	*Pn*		**Pn**	**05 12 55.0**	**-0.3**
ASF	**Jabal al Asfar**	**8.95**	**269**	*Pn*		**Pn**	**05 13 19.7**	**-0.9**
	comp=E,0.5nm,0.3s,baz=23,slow=7.7,SNR=1.9							
ASF					Sn	**Sn**	**05 14 57.5**	**-3.7**
	comp=E,0.3nm,0.3s,baz=242,slow=20,SNR=2.0							
ASF					Lg	Lg	05 16 03.9	
	baz=261,slow=14,SNR=4.5							
KOPT	**Kop Dagi**	**9.15**	**324**	*Pn*		**Pn**	**05 13 22.2**	**-1.2**
UOSS	**Minazif**	**10.93**	**133**	*Pn*		**Pn**	**05 13 47.6**	**+0.1**
EIL	**Elat**	**11.15**	**257**	Lg		Lg	05 17 02.3	
	comp=E,0.4nm,0.3s,baz=317,slow=19,SNR=1.5							
KVAR	**Kislovodsk Arr**	**11.77**	**343**	*Pn*		**Pn**	**05 14 01.0**	**+1.9**
	baz=264,slow=9.2,SNR=1.7							
HRA	**Herat**	**12.43**	**79**	*Pn*		**Pn**	**05 14 05.0**	**-3.2**
BRTR	**Keskin Array B**	**13.13**	**306**	*Pn*		**Pn**	**05 14 22.3**	**+4.5**
	comp=E,0.1nm,0.3s,baz=130,slow=11,SNR=2.2							
BRTR	**Keskin Array B**	**13.13**	**306**			**Pn**	**05 14 18.6**	**+0.8**
WSAR	**Wadi Sarin**	**13.68**	**131**	*Pn*		**Pn**	**05 14 22.1**	**-3.1**
	comp=E,0.8nm,0.3s,baz=331,slow=12,SNR=6.1							
WSAR					Sn	Sn	05 16 43.4	-14
	comp=E,0.2nm,0.3s,baz=325,slow=22,SNR=1.4							
ABKAR	**Akbulak array**	**18.92**	**26**	*P*		**P**	**05 15 32.1**	**+0.3**
AKTO	**Aktyubinsk**	**19.29**	**21**	*P*		**Pn**	**05 15 36.6**	**-0.4**
	comp=E,0.3nm,0.3s,baz=200,slow=8.9,SNR=10							
KK31	**Karatay Array**	**20.83**	**54**	*P*		**P**	**05 15 53.7**	**+1.0**
KK31					IAmb	IAmb	05 15 57.1	
	comp=Z,8.9nm,1.4s							
KKAR	**Karatay Array**	**20.83**	**54**	*P*		**P**	**05 15 53.5**	**+0.8**
KKAR	**Karatay Array**	**20.83**	**54**	*P*		**P**	**05 15 53.3**	**+0.5**
KKAR					IAmb	IAmb	05 15 57.1	
	comp=Z,8.9nm,1.4s							
MLR	**Muntele Rosu**	**20.90**	**314**	*P*		Pn	05 15 58.3	+2.3
	comp=Z,7.1nm,1.1s,baz=39,slow=14,SNR=3.5							
MLR	**Muntele Rosu**	**20.90**	**314**	⇓*P*		Pn	05 15 58.7	+2.6
MLR	**Muntele Rosu**	**20.90**	**314**		IAmb	IAmb	05 15 59.3	
	comp=Z,12nm,1.2s							
TESR	**Tescani**	**21.02**	**317**	⇓*P*		**P**	**05 15 53.9**	**-0.7**
SORM	**Soroca**	**21.05**	**322**	⇓*P*		**P**	**05 15 56.1**	**+1.1**
VOIR		**21.42**	**313**	⇓*P*		**P**	**05 16 00.1**	**+0.9**
DOPR	**Dopca**	**21.47**	**314**	⇓*P*		**P**	**05 16 00.3**	**+0.7**
AKASG	**Malin Array Be**	**22.39**	**328**	*P*		**P**	**05 16 09.8**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=140,slow=9.8,SNR=8.4							
AKASG	**Malin Array Be**	**22.39**	**328**		IAmb	IAmb	05 16 11.3	
	comp=Z,0.8nm,0.8s							
BURAR	**Bucovina Array**	**22.44**	**318**	⇓*P*		**P**	**05 16 11.6**	**+1.5**
BURAR	**Bucovina Array**	**22.44**	**318**	*P*		**P**	**05 16 11.0**	**+0.9**
BUR08	**Bucovina Ar. S**	**22.47**	**318**	*P*		**P**	**05 16 07.3**	**-3.1**
BUR08					IAmb	IAmb	05 16 15.5	
	comp=Z,8.7nm,1.4s							
TIR	**Tirane**	**23.56**	**299**	*P*		**P**	**05 16 22.9**	**+1.4**
DIVS	**Divibare**	**24.20**	**306**	*P*		**P**	**05 16 28.3**	**+0.6**
DIVS					IAmb	IAmb	05 16 37.8	
	comp=Z,8.0nm,1.2s							
KOLS	**Kolonicke sedl**	**24.81**	**318**	*eP*		**P**	**05 16 34.3**	**+1.2**
BVAR	**Borovoye Array**	**26.09**	**32**	*P*		**P**	**05 16 45.1**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=227,slow=5.9,SNR=3.8							
KURBB	**Kurchatov Arra**	**28.95**	**43**	*P*		**P**	**05 17 10.7**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=247,slow=9.3,SNR=9.1							
KURK	**Kurchatov**	**29.05**	**43**	*P*		**P**	**05 17 11.1**	**0.0**
GERES	**GERESS Array B**	**29.87**	**313**	*P*		**P**	**05 17 18.8**	**+0.1**
	comp=Z,0.3nm,0.2s,baz=119,slow=8.0,SNR=1.8							
GERES	**GERESS Array B**	**29.87**	**313**	*P*		**P**	**05 17 18.6**	**-0.1**
MK31	**Makanchi Array**	**29.93**	**52**	*P*		**P**	**05 17 18.6**	**-0.5**
MKAR	**Makanchi Array**	**29.93**	**52**	*P*		**P**	**05 17 19.4**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=248,slow=6.4,SNR=8.7							
MKAR	**Makanchi Array**	**29.93**	**52**	*P*		**P**	**05 17 18.8**	**-0.3**
FINES	**FINESS Array B**	**31.85**	**341**	*P*		**P**	**05 17 35.9**	**+0.1**
	comp=Z,4.0nm,1.0s,baz=159,slow=4.2,SNR=3.7							
BNI	**Bardonecchia**	**33.68**	**303**	*P*		**P**	**05 17 52.8**	**+0.6**
ZALV	**Zalesovo Beam**	**33.86**	**40**	*P*		**P**	**05 17 53.0**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=258,slow=9.2,SNR=6.5							
ARCES	**ARCESS Array B**	**38.82**	**348**	*P*		**P**	**05 18 35.6**	**0.0**
	comp=Z,1.7nm,0.9s,baz=155,slow=9.0,SNR=5.1							
ARCES	**ARCESS Array B**	**38.82**	**348**	*P*		**P**	**05 18 36.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**46.04**	**256**	*P*		**P**	**05 19 34.1**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=49,slow=8.6,SNR=3.0							
TORD	**Torodi Ar. Bea**	**46.04**	**256**	*P*		**P**	**05 19 35.6**	**+0.6**
SONM	**Songino Array**	**46.28**	**53**	*P*		**P**	**05 19 37.3**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=273,slow=5.6,SNR=3.7							
CMAR	**Chiang Mai Arr**	**48.12**	**94**	*P*		**P**	**05 19 49.2**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=297,slow=7.9,SNR=1.8							
CMAR	**Chiang Mai Arr**	**48.12**	**94**	*P*		**P**	**05 19 50.9**	**-0.3**

IDC ***18*** *05:14:51.9±1.1,32°.45N×47°.62E,h0km,mb3.8/12,*
mb1 3.9/15,mb1mx3.8/43,mbtmp3.8/15,ML3.4/3,MS4.5/1,
Ms1 4.5/1,ms1mx3.2/42,Error ellipse: s-maj=28.2km s-min=15.0km az=175.0
NEIC ***18*** *05:14:54.4±2.8,32°.60N±0°.05×47°.67E±0°.06,h10km±1km, Error ellipse: s-maj=9.3km s-min=8.3km az=127.0*
ISN ***18*** *05:14:55.3±1.4,32°.86N×47°.68E, h17km±9km,ML3.5*
TEH ***18*** *05:14:56.4,32°.75N×47°.64E, h19km, ML3.5*
ISC 18 05:14:55.0±0.5,**32.71N**±0°.03×**47°.58E**±0°.03,**h10km**,**n92,**
σ1§**57**/97,**mb4.2**/21,**4C-2D**,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.85**	**15**	*ePg*		**Pg**	**05 15 11.5**	**+0.1**
IKFM				*e*			05 15 33.6	
IKFM	**Kafar-mosalman**	**0.85**	**15**	*Pg*		**Pg**	**05 15 11.0**	**-0.4**
IKMR	**Kamar-syah**	**1.05**	**40**	*ePg*		**Pg**	**05 15 14.7**	**-0.6**
IKMR				*e*			05 15 35.1	
IKMR	**Kamar-syah**	**1.05**	**40**	*Pg*		**Pg**	**05 15 15.1**	**-0.2**
IDOB	**Doab**	**1.19**	**25**	*ePg*		**Pg**	**05 15 18.8**	**+0.9**
IDOB	**Doab**	**1.19**	**25**	*Pg*		**Pg**	**05 15 18.4**	**+0.5**
BMDN	**Meydan**	**1.42**	**47**	*ePg*		**Pg**	**05 15 22.6**	**+0.3**
BMDN				*e*			05 15 49.5	
BMDN	**Meydan**	**1.42**	**47**			**Pb**	**05 15 22.0**	**+0.2**
IBDR	**Badra**	**1.44**	**287**	*ePg*		**Pb**	**05 15 22.0**	**0.0**
IBDR				*eSg*		**Sg**	**05 15 43.0**	**+1.6**
IBDR				AML		AML	05 15 47.3	
	comp=N,724nm,0.6s							
IBDR				AML		AML	05 15 50.1	
	comp=E,1000nm,0.6s							
IKOM	**Komasi**	**1.47**	**358**	*ePg*		**Pg**	**05 15 23.7**	**+0.5**
IKOM				*e*			05 15 26.8	
IKOM				*eSg*		**Sg**	**05 15 43.2**	**+1.0**
IKOM	**Komasi**	**1.47**	**358**			**Pb**	**05 15 23.0**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.63**	**344**	*ePg*		**Pg**	**05 15 26.3**	**0.0**
KCHF				*e*			05 15 51.6	
AHWZ	**Ahwaz**	**1.64**	**146**	*ePg*		**Pg**	**05 15 27.1**	**+0.5**
KER	**Kermanshah**	**1.72**	**348**	*ePg*		**Pg**	**05 15 27.9**	**-0.1**
HSAM	**Samen**	**1.73**	**29**	*ePg*		**Pb**	**05 15 28.0**	**+0.9**
HSAM				*e*			05 15 59.7	
IBZA	**Bozab**	**1.77**	**8**	*ePg*		**Pb**	**05 15 28.6**	**+0.7**
IBZA				*e*			05 15 32.3	
IBZA	**Bozab**	**1.77**	**8**	*Pn*		**Pb**	**05 15 28.5**	**+0.7**
IGHG	**Ghaleghazi**	**1.82**	**333**	*ePg*		**Pg**	**05 15 30.2**	**+0.1**
IGHG				*e*			05 16 07.5	
**IGHG

ESDC	**Sonseca Array**	**41.70**	**295**	P		**P**	**05 22 43.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**46.11**	**256**	P		**P**	**05 23 19.2**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=65,slow=7.4,SNR=5.6							
TORD	**Torodi Ar. Bea**	**46.11**	**256**	IAmb		IAmb	05 23 21.4	
	comp=Z,1.6nm,1.4s							
CMAR	**Chiang Mai Arr**	**48.02**	**94**	P		**P**	**05 23 31.0**	**-3.6**
	comp=Z,0.6nm,0.3s,baz=207,slow=0.6,SNR=5.6							
CMAR	**Chiang Mai Arr**	**48.02**	**94**	P		**P**	**05 23 31.5**	**-3.1**
BORG	**Borgarnes**	**51.98**	**329**	LR		LR	05 46 55.1	
	comp=Z,461nm,21.5s,baz=275,slow=37							

KRSC 18 05:22:36.0±2.1, 50°25'N×157°61'E, h41km±31km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.04**	**295**	*eP*		Pn	05 22 55.0	+0.9
SKR				*eS*		Sn	05 23 07.0	-0.5
PAU	**Pauzhetka**	**1.32**	**338**	*eP*		Pn	05 23 00.0	+2.1
PAU				*eS*		Sn	05 23 16.0	+1.8
ALID	**Alaid**	**1.45**	**296**	*eP*		Pn	05 23 01.5	+1.7
KDTR	**Khodutka, Kamc**	**1.59**	**11**	*eP*		Pn	05 23 03.6	+2.0
KDTR				*eS*		Sn	05 23 23.1	+2.3
MIPR	**Malaya Ipel'ka**	**2.10**	**346**	*eP*		Pn	05 23 11.7	+3.1
ASAK	**Asacha**	**2.14**	**5**	*eP*		Pn	05 23 12.1	+2.8
ASAK				*eS*		Sn	05 23 39.6	+5.0
RUS	**Russkaya**	**2.26**	**14**	*eP*		Pn	05 23 12.8	+2.0
RUS				*eS*		Sn	05 23 39.6	+2.3
MTVR	**Mutnovka**	**2.26**	**9**	*eP*		Pn	05 23 14.1	+3.1
MTVR				*eS*		Sn	05 23 41.6	+3.9
GRL	**Gorelyy**	**2.32**	**7**	*eP*		Pn	05 23 14.9	+3.1
GRL				*eS*		Sn	05 23 41.3	+2.2
KRMR	**Karymshinskiy**	**2.60**	**7**	*eP*		Pn	05 23 19.0	+3.5
KRMR				*eS*		Sn	05 23 50.6	+4.8
PET	**Petropavlovsk**	**2.85**	**13**	*eP*		Pn	05 23 19.6	+0.7
PET				*eS*		Sn	05 23 54.1	+2.1
DALK	**Dalny**	**2.87**	**14**	*eP*		Pn	05 23 22.3	+3.1
DALK				*eS*		Sn	05 23 55.3	+2.8
UGLR	**Uglovaya**	**3.06**	**14**	*eP*		Pn	05 23 24.3	+2.4
AVH	**Avacha**	**3.10**	**13**	*eP*		Pn	05 23 27.1	+4.7
SMAR	**Somma**	**3.10**	**13**	*eP*		Pn	05 23 27.0	+4.4
KOK	**Koryaka**	**3.11**	**11**	*eP*		Pn	05 23 27.2	+4.6
NLC	**Nalytchevo**	**3.12**	**20**	*eS*		Sn	05 24 00.6	+2.1
KRER	**Koryakskii**	**3.14**	**13**	*eP*		Pn	05 23 27.2	+4.1
KRER				*eS*		Sn	05 24 04.0	+4.7
KRX	**Arik**	**3.18**	**11**	*eP*		Pn	05 23 27.9	+4.3
KRX				*eS*		Sn	05 24 05.5	+5.2
SPN	**Mys Shipunski**	**3.22**	**27**	*eP*		Pn	05 23 27.7	+3.7
SPN				*eS*		Sn	05 24 04.9	+3.8
KII	**Karymskiy**	**3.96**	**16**	*eP*		Pn	05 23 39.3	+5.1
KII				*eS*		Sn	05 24 24.7	+5.4
KZV	**Kizimen**	**5.13**	**18**	*eP*		Pn	05 23 55.7	+5.3
TUMD	**Tumrok D**	**5.24**	**18**	*eP*		Pn	05 23 55.6	+3.8
TUMR	**Tumrok**	**5.27**	**16**	*eP*		Pn	05 23 57.9	+5.7
KBTR	**Krutoberegovo**	**6.74**	**26**	*eP*		Pn	05 24 15.0	+2.8

*PDG **18** 05:25:45.3, 32°.10N×47°.90E, h33km, mb5.7/7*
*BJI **18** 05:25:49.0±0.0, 32°.60N×47°.70E, h10km, mB5.8/74, mb5.5/75, Ms5.9/90, Ms7 5.7/82*
*MOS **18** 05:25:49.4±1.2, 32°.59N×47°.73E, h12km, mb5.9/117, MS5.4/63, Error ellipse: s-maj=3.8km s-min=2.4km az=115.7*
*GII **18** 05:25:49.5±0.0, 32°.61N×47°.84E, h10km*
*NEIC **18** 05:25:50.8, 32°.65N×47°.75E, h14km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr2.63; Mθθ-1.95; Mφφ-0.69; Mrθ0.23; Mrφ1.29; Mθφ0.74; Fault plane solution: M0 2.80000×10^17 NP1:φs107.22000°, δ44.97000°, λ68.08000°. NP2:φs316.85000°, δ49.03000°, λ110.45000°. Principal axes: T 2.8465, Plg75.0000°, Azm295.0000°; N -0.0856, Plg15.0000°, Azm123.0000°; P -2.7609, Plg2.0000°, Azm33.0000°;*
*THR **18** 05:25:51.3±0.4, 32°.69N×47°.61E, h14km±6km, ML5.8*
*TEH **18** 05:25:51.2, 32°.72N×47°.69E, h12km, ML5.8*
*ISN **18** 05:25:52.8±0.8, 32°.75N×47°.74E, h14km±5km, ML5.7*
*DSN **18** 05:25:53.1±0.7, 32°.54N×48°.17E, h10km, mb5.3/3, Error ellipse: s-maj=15.4km s-min=6.4km az=54.0*
*NEIC **18** 05:25:53.0±2.4, 32°.71N±0°.05×47°.70E±0°.06, h24km±3km, Error ellipse: s-maj=7.5km s-min=6.2km az=218.0*
*IDC **18** 05:25:53.0±1.5, 32°.82N×47°.71E, h20km±8km, mb5.1/37, mb1 5.2/43, mb1mx5.1/45, mbtmp5.2/43, ML5.1/5, MS5.3/41, Ms1 5.3/41, ms1mx5.3/45, Error ellipse: s-maj=10.0km s-min=8.2km az=118.0*
*GCMT **18** 05:25:54.0±0.1, 32°.59N±0°.01×47°.60E±0°.01, h18km, MW5.8/148, Moment Tensor Solution. s132,c229; s148,c291; Duration: 1ᵗ9 Moment tensor: Scale 10^17 Nm; Mrr3.96±.06; Mθθ-3.13±.05; Mφφ-0.82±.04; Mrθ3.50±.14; Mθφ3.08±.04; Mrφ0.80±.12; Best double couple: M0 5.95400×10^17 NP1:φs331.00000°, δ38.00000°, λ137.00000°. NP2:φs98.00000°, δ65.00000°, λ60.00000°. Principal axes: T 5.9830, Plg59.0000°, Azm326.0000°; N -0.0550, Plg27.0000°, Azm111.0000°; P -5.9250, Plg15.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **18** 05:25:55, 32°.66N×47°.57E, h15km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr3.12; Mθθ-2.72; Mφφ-0.41; Mrθ2.54; Mθφ3.45; Mrφ0.19; Fault plane solution: M0 5.20000×10^17 NP1:φs337.00000°, δ42.00000°, λ141.00000°. NP2:φs98.00000°, δ65.00000°, λ55.00000°. Principal axes: T 4.5819, Plg56.0000°, Azm323.0000°; N 1.0696, Plg31.0000°, Azm115.0000°; P -5.6515, Plg13.0000°, Azm213.0000°;*
*BGR **18** 05:25:57.5±0.0, 32°.69N×47°.78E, h10km, mb5.9, Ms4.9*
*OMAN **18** 05:25:60.0, 31°.84N×47°.65E, h29km, mb6.9/19, ms5.4/5, Mwp5.5/3*

ISC 18 05:25:51.2±0.3, 32°.68N±0°.02×47°.78E±0°.02, h13km±1km, h13km: pP-P, n2083, σ1988/1989, mb5.7/441, MS5.5/401, 141C-56D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.84**	**4**	*ePg*		**Pg**	**05 26 06.7**	**-0.7**
IKFM	**Kafar-mosalman**	**0.84**	**4**	Pg		**Pg**	**05 26 06.6**	**-0.8**
IKMR	**Kamar-syah**	**0.97**	**31**	*e*			05 26 25.5	
IKMR				*ePg*		**Pb**	**05 26 09.6**	**-0.3**
SHGR	**Shooshtar-Gavs**	**1.04**	**123**	*ePg*		**Pn**	**05 26 12.9**	**+1.4**
SHGR				*eSg*		**Sn**	**05 26 28.8**	**+2.9**
SHGR				IAML			05 26 43.2	
	comp=N,176μm,0.6s							
SHGR				IAML			05 26 51.9	
	comp=E,211μm,0.4s							
SHGR	**Shooshtar-Gavs**	**1.04**	**123**	*ePg*		**Pn**	**05 26 12.9**	**+1.4**
SHGR	**Shooshtar-Gavs**	**1.04**	**123**			**Pn**	**05 26 12.9**	**+1.4**
IDOB	**Doab**	**1.15**	**17**	*ePg*		**Pb**	**05 26 13.2**	**+0.1**
BMDN	**Meydan**	**1.32**	**41**	*ePg*		**Pb**	**05 26 15.9**	**0.0**
BMDN				*e*			05 26 45.2	
BMDN	**Meydan**	**1.32**	**41**			**Pb**	**05 26 15.9**	**0.0**
IKOM	**Komasi**	**1.50**	**352**	*ePg*		**Pb**	**05 26 18.9**	**-0.2**
IKOM				*e*			05 26 45.9	
AHWZ	**Ahwaz**	**1.54**	**151**	*ePg*		**Pg**	**05 26 21.7**	**+1.0**
AHWZ	**Ahwaz**	**1.54**	**151**	Pg		**Pg**	**05 26 21.7**	**+1.0**
AHWZ				Sg		**Sg**	**05 26 43.6**	**+3.0**
IBDR	**Badra**	**1.61**	**286**	*ePg*		**Pb**	**05 26 21.0**	**+0.2**
IBDR				*eSg*		**Sg**	**05 26 42.0**	**-1.0**
IBDR				AML		AML	05 26 48.7	
	comp=N,105μm,0.7s							
IBDR				AML		AML	05 26 58.8	
	comp=E,100μm,0.9s							
HSAM	**Samen**	**1.67**	**24**	*ePg*		**Pb**	**05 26 22.3**	**+0.2**
HSAM				*e*			05 26 51.2	
HSAM	**Samen**	**1.67**	**24**	Pg		**Pb**	**05 26 22.2**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.70**	**339**	*ePn*		**Pb**	**05 26 22.3**	**-0.2**
KCHF				*e*			05 26 52.7	
KCHF	**Cheshme Sefid,**	**1.70**	**339**	Pn		**Pb**	**05 26 22.2**	**-0.2**
KER	**Kermanshah**	**1.78**	**343**	P		**Pb**	**05 26 23.7**	**-0.1**
KER	**Kermanshah**	**1.78**	**343**	*ePn*		**Pb**	**05 26 23.7**	**-0.1**
KER	**Kermanshah**	**1.78**	**343**	Pn		**Pb**	**05 26 23.7**	**-0.1**
IBZA	**Bozab**	**1.78**	**2**	*ePn*		**Pb**	**05 26 24.1**	**+0.2**
IBZA				*e*			05 26 58.2	
IBZA	**Bozab**	**1.78**	**2**	Pn		**Pb**	**05 26 24.1**	**+0.2**
IGHG	**Ghaleghazi**	**1.93**	**329**	*ePn*		**Pb**	**05 26 25.6**	**-0.7**
IGHG				*e*			05 27 20.5	
IVIS	**Veis**	**1.99**	**337**	*ePn*		**Pb**	**05 26 26.3**	**-1.1**
IVIS				*e*			05 27 10.8	
KHMZ	**Khomeyn**	**2.11**	**59**	*ePn*		**Pb**	**05 26 30.3**	**+0.8**
KHMZ				*eSg*		**Sg**	**05 27 01.6**	**+2.6**
KHMZ	**Khomeyn**	**2.11**	**59**	*ePn*		**Pb**	**05 26 30.3**	**+0.8**
KHMZ	**Khomeyn**	**2.11**	**59**	Pn		**Pb**	**05 26 30.2**	**+0.8**
NSR	**Nassriya**	**2.17**	**220**	*ePn*		**Pb**	**05 26 30.0**	**-0.4**
NSR				*eSn*		**Sb**	**05 26 57.0**	**-0.3**
IALM	**Almabolaq**	**2.19**	**8**	*ePn*		**Pb**	**05 26 30.2**	**-0.7**
IDHR	**Dehrash**	**2.32**	**330**	*ePn*		**Pn**	**05 26 30.8**	**+1.4**
IDHR				*e*			05 27 17.7	
IDHR	**Dehrash**	**2.32**	**330**	Pn		**Pn**	**05 26 30.7**	**+1.4**
ILIN	**Lien**	**2.33**	**343**	*ePn*		**Pn**	**05 26 31.0**	**+1.5**
ILIN				*e*			05 27 16.9	
HAGD	**Aghdareh**	**2.42**	**28**	*ePn*		**Pb**	**05 26 33.2**	**-1.5**
HAGD				*e*			05 27 17.9	
HAGD	**Aghdareh**	**2.42**	**28**	Pn		**Pb**	**05 26 33.2**	**-1.5**
SNGE	**Sanandaj**	**2.43**	**352**	*ePn*		**Pn**	**05 26 32.3**	**+1.5**
SNGE	**Sanandaj**	**2.43**	**352**	*ePn*		**Pn**	**05 26 32.3**	**+1.5**
SNGE	**Sanandaj**	**2.43**	**352**	Pn		**Pn**	**05 26 32.3**	**+1.5**
JHBN	**Jahan bin**	**2.48**	**100**	*ePn*		**Pb**	**05 26 34.5**	**-1.4**
JHBN				*e*			05 27 41.8	
JHBN	**Jahan bin**	**2.48**	**100**	Pn		**Pb**	**05 26 34.5**	**-1.4**
HSRG	**Sareghieh**	**2.58**	**9**	*ePn*		**Pb**	**05 26 35.9**	**-1.7**
HSRG				*e*			05 27 24.5	
HSRG	**Sareghieh**	**2.58**	**9**	Pn		**Pb**	**05 26 35.9**	**-1.7**
IPIR	**Pirpir**	**2.63**	**89**	*ePn*		**Pb**	**05 26 37.1**	**-1.2**
IPIR				*e*			05 27 26.6	
IPIR	**Pirpir**	**2.63**	**89**	Pn		**Pb**	**05 26 37.0**	**-1.2**
ASAO	**Ashtian**	**2.64**	**45**	*ePn*		**Pb**	**05 26 37.3**	**-1.2**
ASAO	**Ashtian**	**2.64**	**45**	*ePn*		**Pb**	**05 26 37.3**	**-1.2**
ASAO	**Ashtian**	**2.64**	**45**	Pn		**Pb**	**05 26 37.3**	**-1.2**
ROKH	**ROKH**	**2.77**	**96**	*ePn*		**Pb**	**05 26 38.9**	**-1.8**
ROKH				*e*			05 27 39.4	
ROKH	**ROKH**	**2.77**	**96**	Pn		**Pb**	**05 26 38.8**	**-1.9**
BHD	**Baghdad**	**2.92**	**282**	*ePn*		**Pn**	**05 26 40.0**	**+2.7**
BHD				*eSn*		**Sn**	**05 27 15.0**	**+2.8**
BHD				AML		AML	05 27 38.0	
	comp=E,54μm,0.5s							
IBRJ	**Brojen**	**3.05**	**104**	*ePn*		**Pn**	**05 26 41.8**	**+2.4**
IBRJ				*e*			05 27 59.3	
IRAZ	**Razeghan**	**3.25**	**33**	*ePn*		**Pb**	**05 26 45.9**	**-3.0**
IRAZ	**Razeghan**	**3.25**	**33**	Pn		**Pb**	**05 26 45.9**	**-3.0**
IKLH	**Kolahrood**	**3.26**	**78**	*ePn*		**Pn**	**05 26 45.5**	**+3.3**
IKLH	**Kolahrood**	**3.26**	**78**	Pn		**Pn**	**05 26 45.5**	**+3.3**
QABG	**Abgarm-Qazvin**	**3.37**	**26**	*ePn*		**Pn**	**05 26 46.4**	**+2.7**
QABG	**Abgarm-Qazvin**	**3.37**	**26**	Pn		**Pn**	**05 26 46.3**	**+2.6**
IGAR	**Gharneh**	**3.61**	**93**	*ePn*		**Pn**	**05 26 50.2**	**+3.1**
IGAR				*e*			05 28 20.9	
IMHD	**Mahdasht**	**3.83**	**38**	*ePn*		**Pn**	**05 26 52.2**	**+2.2**
IMHD	**Mahdasht**	**3.83**	**38**	Pn		**Pn**	**05 26 52.2**	**+2.2**
IZEF	**Zefreh**	**3.84**	**86**	*ePn*		**Pn**	**05 26 53.7**	**+3.4**
IZEF				*e*			05 28 06.2	
QSDN	**Sirdan**	**3.98**	**16**	*ePn*		**Pn**	**05 26 54.4**	**+2.2**
IHSB	**Hasanabad**	**4.00**	**46**	*ePn*		**Pn**	**05 26 54.9**	**+2.6**
IRAM	**Ramesheh**	**4.00**	**101**	*ePn*		**Pn**	**05 26 54.7**	**+2.3**
IVRN	**Varamin**	**4.01**	**54**	*ePn*		**Pn**	**05 26 55.3**	**+2.8**
IGZV	**Ghazvin**	**4.21**	**28**	*ePn*		**Pn**	**05 26 57.9**	**+2.6**
IGZV	**Ghazvin**	**4.21**	**28**	Pn		**Pn**	**05 26 57.8**	**+2.5**
CHTH	**Charan**	**4.25**	**40**	*ePn*		**Pn**	**05 26 58.8**	**+3.0**
CHTH	**Charan**	**4.25**	**40**	*ePn*		**Pn**	**05 26 58.8**	**+3.0**
CHTH	**Charan**	**4.25**	**40**	Pn		**Pn**	**05 26 58.8**	**+3.0**
TEH	**Tehran**	**4.26**	**43**	P		**Pn**	**05 26 59.4**	**+3.4**
TEH	**Tehran**	**4.26**	**43**	*ePn*		**Pn**	**05 26 59.5**	**+3.4**
TEH	**Tehran**	**4.26**	**43**	Pn		**Pn**	**05 26 59.4**	**+3.4**
MAHB	**Mahabad**	**4.42**	**338**	*ePn*		**Pn**	**05 26 59.7**	**+1.6**
MAHB	**Mahabad**	**4.42**	**338**	Pn		**Pn**	**05 26 59.6**	**+1.5**
QALM	**Alamut, Qazvin**	**4.42**	**32**	*ePn*		**Pn**	**05 27 00.3**	**+2.0**
QALM	**Alamut, Qazvin**	**4.42**	**32**	Pn		**Pn**	**05 27 00.2**	**+2.0**
KAZ1	**Kazerun**	**4.50**	**132**	*ePn*		**Pn**	**05 27 01.3**	**+2.1**
IDMV	**Damavand**	**4.56**	**50**	*ePn*		**Pn**	**05 27 02.8**	**+2.6**
AHBU	**AHRAM**	**4.86**	**141**	*ePn*		**Pn**	**05 27 07.4**	**+3.3**
ANAR	**Anarak**	**5.03**	**83**	*ePn*		**Pn**	**05 27 09.4**	**+2.9**
ISAD	**Sadrabad**	**5.06**	**97**	*ePn*		**Pn**	**05 27 08.8**	**+1.7**
SHI	**Shiraz**	**5.07**	**126**	P		**Pn**	**05 27 09.0**	**+2.0**
SHI	**Shiraz**	**5.07**	**126**	*ePn*		**Pn**	**05 27 09.0**	**+2.0**
SHI	**Shiraz**	**5.07**	**126**	Pn		**Pn**	**05 27 09.0**	**+2.0**
IFIR	**Firoozkooh**	**5.07**	**53**	*ePn*		**Pn**	**05 27 10.2**	**+3.0**
ISRB	**Sarab**	**5.13**	**359**	*ePn*		**Pn**	**05 27 10.5**	**+2.6**
IPRN	**Peran**	**5.17**	**45**	*ePn*		**Pn**	**05 27 11.9**	**+3.4**
IPRN	**Peran**	**5.17**	**45**	Pn		**Pn**	**05 27 11.8**	**+3.3**
IAZR	**Azarshahr**	**5.20**	**344**	*ePn*		**Pn**	**05 27 10.9**	**+2.0**
IALA	**Alasht**	**5.37**	**49**	*ePn*		**Pn**	**05 27 15.3**	**+4.0**
ISHM	**Shahmirzad**	**5.53**	**54**	*ePn*		**Pn**	**05 27 16.1**	**+2.6**
IHSH	**Hashtrud**	**5.63**	**356**	*ePn*		**Pn**	**05 27 03.7**	**-11**
IHRS	**Heris**	**5.65**	**354**	*ePn*		**Pn**	**05 27 18.6**	**+3.4**
IHRS	**Heris**	**5.65**	**354**	Pn		**Pn**	**05 27 18.6**	**+3.4**
ITBZ	**Tabriz**	**5.70**	**347**	*ePn*		**Pn**	**05 27 19.2**	**+3.5**
ITBZ	**Tabriz**	**5.70**	**347**	Pn		**Pn**	**05 27 19.1**	**+3.4**
CUKT	**Cukurca**	**5.70**	**324**	P		**Pn**	**05 27 15.6**	**0.0**
IANJ	**Anjilo**	**5.80**	**60**	*ePn*		**Pn**	**05 27 19.4**	**+2.2**
IANJ	**Anjilo**	**5.80**	**60**	Pn		**Pn**	**05 27 19.1**	**+1.9**
AHAR	**Ahar**	**5.82**	**354**	*ePn*		**Pn**	**05 27 20.3**	**+2.9**
HAKT	**HAKKARI**	**5.90**	**327**	*ePn*		**Pn**	**05 27 19.1**	**+0.6**
HAKT	**HAKKARI**	**5.90**	**327**	Pn		**Pn**	**05 27 19.1**	**+0.6**
IMEH	**Mehriz**	**5.95**	**101**	*ePn*		**Pn**	**05 27 20.2**	**+1.0**
LKRN	**Lenkeran, Azer**	**6.07**	**7**	P		**Pn**	**05 27 25.1**	**+4.5**
IMRD	**Marand**	**6.25**	**345**	*ePn*		**Pn**	**05 27 26.4**	**+3.1**
IMRD	**Marand**	**6.25**	**345**	Pn		**Pn**	**05 27 26.3**	**+3.0**
IGLO	**Ghaloghah**	**6.28**	**51**	*ePn*		**Pn**	**05 27 27.9**	**+4.2**
SIRT	**Sirnak**	**6.50**	**319**	P		**Pn**	**05 27 26.6**	**0.0**
JHRM	**Jahrom**	**6.51**	**128**	*ePn*		**Pn**	**05 27 28.6**	**+1.8**
JHRM	**Jahrom**	**6.51**	**128**	Pn		**Pn**	**05 27 28.5**	**+1.8**
IBAF	**Bafgh**	**6.70**	**97**	*ePn*		**Pn**	**05 27 32.0**	**+2.6**
NAX	**Nakhchivan**	**6.74**	**345**	P		**Pn**	**05 27 34.3**	**+4.4**
GEVA	**Gevas**	**6.81**	**327**	Pn		**Pn**	**05 27 31.7**	**+0.7**
AKDM	**Akdamar-Van**	**6.86**	**327**	P		**Pn**	**05 27 33.3**	**+1.7**
VANB	**Van**	**6.89**	**330**	P		**Pn**	**05 27 33.0**	**+0.9**
CLDR	**Caldiran**	**7.17**	**335**	P		**Pn**	**05 27 37.9**	**+2.0**
MARD	**Mardin**	**7.37**	**311**	Pn		**Pn**	**05 27 38.0**	**-0.6**
GURO	**Guroymak-BITLI**	**7.49**	**323**	P		**Pn**	**05 27 40.4**	**+0.1**
TNSJ	**Nastanj**	**7.50**	**78**	*ePn*		**Pn**	**05 27 43.4**	**+3.0**
TNSJ	**Nastanj**	**7.50**	**78**	Pn		**Pn**	**05 27 43.4**	**+3.0**
TPRV	**Parvadeh(Tabas**	**7.50**	**85**	*ePn*		**Pn**	**05 27 42.3**	**+1.9**
TPRV	**Parvadeh(Tabas**	**7.50**	**85**	Pn		**Pn**	**05 27 42.3**	**+1.9**
LAR1	**LAR**	**7.59**	**129**	*ePn*		**Pn**	**05 27 41.8**	**+0.2**
SVAN	**Silvan-Diyarba**	**7.65**	**317**	P		**Pn**	**05 27 41.1**	**-1.3**
MAZI	**Mazidag**	**7.67**	**310**	P		**Pn**	**05 27 41.7**	**-1.0**
IMND	**Minoodasht**	**7.75**	**52**	*ePn*		**Pn**	**05 27 47.8**	**+4.1**
IMND	**Minoodasht**	**7.75**	**52**	Pn		**Pn**	**05 27 47.7**	**+4.1**
KHGB	**Koh Gabri**	**7.77**	**105**	*ePn*		**Pn**	**05 27 45.5**	**+1.2**
KHGB	**Koh Gabri**	**7.77**	**105**	Pn		**Pn**	**05 27 45.5**	**+1.2**
TASB	**TASBURUN-IGDIR**	**7.82**	**340**	P		**Pn**	**05 27 47.7**	**+2.9**
AGRB	**Hanur-Agry**	**7.89**	**332**	P		**Pn**	**05 27 47.5**	**+1.7**
TKDS	**Koohdasht(Taba**	**7.89**	**81**	*ePn*		**Pn**	**05 27 48.0**	**+2.2**
TKDS	**Koohdasht(Taba**	**7.89**	**81**	Pn		**Pn**	**05 27 48.0**	**+2.2**
GANJ	**Ganja**	**8.03**	**352**	P		**Pn**	**05 27 51.9**	**+4.3**
MNGR	**Mingechevir, A**	**8.09**	**356**	P		Pn	05 27 53.4	+5.0
TVBK	**TV Kerman**	**8.14**	**107**	*ePn*		**Pn**	**05 27 50.9**	**+1.5**
TVBK	**TV Kerman**	**8.14**	**107**	Pn		**Pn**	**05 27 50.9**	**+1.5**
DYBB	**Diyarbakir**	**8.16**	**312**	P		**Pn**	**05 27 48.9**	**-0.5**
NGRK	**Negar Kerman**	**8.25**	**109**	*ePn*		**Pn**	**05 27 51.8**	**+0.9**
NGRK	**Negar Kerman**	**8.25**	**109**	Pn		**Pn**	**05 27 51.8**	**+0.9**
VRTB	**Varto-Mus**	**8.25**	**323**	P		**Pn**	**05 27 49.7**	**-1.0**
SEKA	**Sheki**	**8.52**	**357**	P		**Pn**	**05 27 57.9**	**+3.5**
BNGB	**Bingl**	**8.53**	**320**	P		**Pn**	**05 27 54.8**	**+0.3**
KOPR	**Koprukoy-ERZUR**	**8.72**	**328**	P		**Pn**	**05 27 58.9**	**+1.8**
URFA	**Urfa**	**8.73**	**305**	P		**Pn**	**05 27 56.1**	**-1.3**
KARS	**Kars**	**8.78**	**336**	P		**Pn**	**05 28 01.1**	**+3.1**
KARS	**Kars**	**8.78**	**336**	P		Pn	05 28 03.0	+5.0
AKT	**Akhty**	**8.78**	**360**	*eP*		**Pn**	**05 28 01.2**	**+3.3**
AKT				*eS*		**Sn**	**05 29 41.4**	**+4.6**
AKT				pmax		pmax		
	comp=Z,740nm,1.0s							
CHMN	**Cheshme madani**	**8.81**	**106**	*ePn*		**Pn**	**05 27 58.4**	**-0.3**
SBZV	**Sabzevar**	**8.91**	**63**	*ePn*		**Pn**	**05 28 02.5**	**+2.6**
SBZV	**Sabzevar**	**8.91**	**63**	Pn		**Pn**	**05 28 02.5**	**+2.6**
YEDI	**Yedisu-Bingol**	**8.93**	**321**	P		**Pn**	**05 28 00.1**	**+0.1**
SVRC	**Sivrice-ELAZID**	**8.94**	**312**	P		**Pn**	**05 27 59.6**	**-0.6**
SENK	**Senkaya-Erzuru**	**8.99**	**333**	P		**Pn**	**05 28 03.2**	**+2.3**
PTK	**Pertek**	**9.20**	**315**	P		**Pn**	**05 28 02.9**	**-0.9**
ASF	**Jabal al Asfar**	**9.21**	**270**	Pn		**Pn**	**05 28 03.1**	**-0.8**
	comp=Z,25nm,0.3s,baz=16,slow=2.2,SNR=78							
ASF				Sn		**Sn**	**05 29 42.8**	**-4.7**
	comp=Z,12nm,0.3s,baz=48,slow=5.2,SNR=3.3							
ASF				Lg		Lg	05 30 43.7	
	comp=Z,21nm,0.3s,baz=217,slow=20,SNR=1.6							
ASF				LR		LR	05 32 40.4	
	comp=Z,17μm,19.6s,baz=42,slow=44							
LGD	**Lagodekhi**	**9.22**	**353**	*i* P		**Pn**	**05 28 07.4**	**+3.6**
ITEG	**Tejag**	**9.24**	**86**	*ePn*		**Pn**	**05 28 06.7**	**+2.4**
ITEG	**Tejag**	**9.24**	**86**	Pn		**Pn**	**05 28 06.7**	**+2.4**
TBLG	**Delisi**	**9.35**	**346**	P		**Pn**	**05 28 09.1**	**+3.4**
TBLG	**Delisi**	**9.35**	**346**	P		**Pn**	**05 28 06.9**	**+1.2**
TBLG	**Delisi**	**9.35**	**346**			**Pn**	**05 28 06.9**	**+1.2**
AKH	**Akhalkalaki**	**9.36**	**340**	P		**Pn**	**05 28 09.4**	**+3.5**
AKH	**Akhalkalaki**	**9.36**	**340**	P		**Pn**	**05 28 08.1**	**+2.2**
AKH	**Akhalkalaki**	**9.36**	**340**	Pn		**Pn**	**05 28 08.1**	**+2.2**
AFRZ	**Afriz**	**9.46**	**82**	*ePn*		**Pn**	**05 28 09.3**	**+1.9**
ISFR	**Sfrayin**	**9.46**	**60**	*ePn*		**Pn**	**05 28 10.4**	**+3.0**
MALT	**Malatya**	**9.47**	**309**	P		**Pn**	**05 28 06.8**	**-0.6**
MALT	**Malatya**	**9.47**	**309**	P		**Pn**	**05 28 08.0**	**+0.6**
IKOO	**Kooshah**	**9.48**	**89**	*ePn*		**Pn**	**05 28 09.5**	**+1.8**
IKRD	**Kardeh**	**9.73**	**62**	*ePn*		Pn	05 28 24.7	+14
GHWR	**Ruwais**	**9.78**	**151**	*ePn*		**Pn**	**05 28 14.4**	**+2.8**
KHNJ	**Kahnooj**	**9.79**	**116**	*ePn*		**Pn**	**05 28 12.6**	**+0.8**
KHNJ	**Kahnooj**	**9.79**	**116**	Pn		**Pn**	**05 28 12.6**	**+0.8**
SHME	**Shamm**	**9.84**	**130**	*i* P		**Pn**	**05 28 11.8**	**-0.7**
	SNR=21							
IAKL	**Akhelmad**	**9.85**	**64**	*ePn*		**Pn**	**05 28 15.3**	**+2.5**
UMQ	**Umm Al-Quwin**	**9.92**	**134**	P		**Pn**	**05 28 12.3**	**-1.2**
GEYT	**Alibeck**	**9.94**	**55**	Pn		**Pn**	**05 28 17.1**	**+3.3**
	comp=Z,0.8nm,0.3s,baz=229,slow=14,SNR=18							
GEYT				Lg		Lg	05 31 11.7	
	baz=259,slow=15,SNR=1.6							
GEYT				LR		LR	05 32 27.1	
	comp=Z,45μm,18.6s,baz=245,slow=40							
GEYT	**Alibeck**	**9.94**	**55**	Pn		**Pn**	**05 28 15.1**	**+1.

SNR=7.8
ZHSF Zahedan 11.55 102 *e*Pn **Pn** 05 28 40.8 +4.8
ZHSF Zahedan 11.55 102 *e*Pn **Pn** 05 28 40.8 +4.8
ZHSF Zahedan 11.55 102 Pn **Pn** 05 28 40.7 +4.8
CMRD Camardi-Nigde 11.58 299 P **Pn** 05 28 35.7 -0.6
KBZ Khabaz 11.67 342 Pn Pn 05 28 42.6 +5.2
comp=Z,0.7nm,0.3s,baz=159,slow=9.4,SNR=37
KBZ LR LR 05 34 12.7
comp=Z,12μm,21.8s,baz=150,slow=43
KBZ Khabaz 11.67 342 *e*P **Pn** 05 28 39.6 +2.2
TOKT Tokat 11.81 313 P **Pn** 05 28 42.7 +3.2
KVAR Kislovodsk Arr 11.94 342 Pn Pn 05 28 46.5 +5.4
baz=75,slow=20,SNR=8.6
KVAR LR LR 05 33 05.6
comp=Z,43μm,18.3s,baz=80,slow=37
KIV Kislovodsk 11.94 342 P **Pn** 05 28 45.2 +4.0
KIV Kislovodsk 11.94 342 P **Pn** 05 28 44.8 +3.6
KIV Kislovodsk 11.94 342 *e*P **Pn** 05 28 43.0 +1.8
KIV *e*S **Sn** 05 30 58.3 +4.0
KIV pmax pmax
comp=Z,626nm,1.1s
KIV MLR MLR
comp=Z,20μm,12.0s
KIV Kislovodsk 11.94 342 Pn **Pn** 05 28 43.0 +1.8
ARQ Araqi 12.09 138 P **Pn** 05 28 43.6 +0.3
SNR=48
HRA Herat 12.19 78 Pn **Pn** 05 28 47.2 +2.4
YOZ Yozgat 12.22 308 P **Pn** 05 28 47.7 +2.6
CSS Mathiatis 12.23 285 Pn **Pn** 05 28 44.7 -0.4
HOQ Hoqain 12.36 135 P **Pn** 05 28 47.0 0.0
SNR=16
HOQ P **Pn** 05 28 47.0 0.0
SNR=16
HOQ S **Sn** 05 30 59.6 -5.0
HOQ S **Sn** 05 30 59.6 -5.0
KVT Kavak 12.58 315 P **Pn** 05 28 53.1 +3.2
SOC Sochi 12.59 332 *e*P **Pn** 05 28 52.4 +2.5
SOC *e* 05 31 10.9
SOC pmax pmax
comp=Z,478nm,1.0s
SOC MLR MLR
comp=Z,21μm,12.0s
GOF Gofitskoye 12.89 345⇑ *e*P P 05 28 59.5 -5.4
GOF pmax pmax
comp=Z,115nm,0.9s
BIDO Bidbid 12.90 132 P **Pn** 05 28 54.4 0.0
SNR=14
BIDO P **Pn** 05 28 54.4 0.0
SNR=14
BIDO S **Sn** 05 31 12.1 -5.8
BIDO S **Sn** 05 31 12.1 -5.8
BSY Bisya 12.94 138 P **Pn** 05 28 55.0 +0.1
SNR=76
BSY S **Sn** 05 31 13.5 -5.3
SMDO Samad 13.20 134 P **Pn** 05 28 59.1 +0.6
SNR=56
SMDO S **Sn** 05 31 17.1 -8.2
BRTR Keskin Array B 13.40 306 Pn **Pn** 05 29 04.8 +3.6
comp=Z,0.7nm,0.3s,baz=125,slow=11,SNR=119
BRTR Lg Lg 05 33 02.2
comp=Z,0.1nm,0.3s,baz=145,slow=39,SNR=1.7
BRTR LR LR 05 34 33.7
comp=Z,6μm,19.6s,baz=86,slow=39
BRTR Keskin Array B 13.40 306 *i*P **Pn** 05 29 03.9 +2.7
BRTR pmax pmax
comp=Z,60nm,0.9s
BRTR Keskin Array B 13.40 306 Pn **Pn** 05 29 03.4 +2.3
BR131 Keskin Array S 13.40 306 P **Pn** 05 29 03.7 +2.5
BR131 Keskin Array S 13.40 306 Pn **Pn** 05 29 03.7 +2.5
WSAR Wadi Sarin 13.43 132 Pn **Pn** 05 28 59.9 -1.6
comp=Z,17nm,0.3s,baz=307,slow=11,SNR=64
WSAR Sn **Sn** 05 31 22.3 -8.4
comp=Z,17nm,0.3s,baz=129,slow=17,SNR=2.2
WSAR LR LR 05 36 10.4
comp=Z,25μm,18.9s,baz=330,slow=46
WSAR Wadi Sarin 13.43 132 P **Pn** 05 28 59.9 -1.6
SNR=40
WSAR S Sn 05 31 21.4 -9.3
JMDO Jabal Madar 13.75 136 P **Pn** 05 29 06.0 0.0
SNR=27
JMDO P **Pn** 05 29 06.0 0.0
SNR=27
ILGA Ilgaz 14.00 311 **Pn** 05 29 12.6 +3.1
BR231 Keskin MP Arra 14.04 305 Pn **Pn** 05 29 12.1 +2.1
WBK Wadi Bani Khal 14.10 133 P **Pn** 05 29 09.3 -1.4
SNR=31
WBK P **Pn** 05 29 09.3 -1.4
SNR=31
WBK S **Sn** 05 31 42.3 -4.8
WBK S **Sn** 05 31 42.3 -4.8
ANN Anapa 14.53 329*c i*P **Pn** 05 29 18.4 +2.0
ANN *e*S **Sn** 05 32 03.7 +6.4
ANN pmax pmax
comp=Z,420nm,1.3s
ANN pmax pmax
comp=E,110nm,1.2s
ANN pmax pmax
comp=N,170nm,1.2s
ANN MLR MLR
comp=N,20μm,15.0s
ANN MLR MLR
comp=Z,21μm,14.0s
ANN MLR MLR
comp=E,14μm,14.0s
MHTO MHTO 14.77 140 P **Pn** 05 29 18.0 -1.9
SNR=46
MHTO S Sn 05 31 54.2 -9.2
ISP Isparta 15.00 295 P **Pn** 05 29 24.6 +1.6
ISP Isparta 15.00 295 Pn **Pn** 05 29 24.6 +1.6
ELL Elmali 15.24 290 P **Pn** 05 29 24.7 -1.5
ELL pmax pmax
comp=Z,1μm,0.8s
ELL Elmali 15.24 290 Pn **Pn** 05 29 24.7 -1.5
MDUB Mudurnu 15.41 305 **Pn** 05 29 26.6 -1.8
KSL Kastellorizon 15.41 288 P **Pn** 05 29 28.7 +0.4
FETY Fethiye 15.88 290 P **Pn** 05 29 34.6 +0.2
SIM Simferopol' 16.20 323 *e*P **Pn** 05 29 36.8 -1.7
SIM *e*S **Sn** 05 32 37.0 -1.0
SIM pmax pmax
comp=Z,53nm,0.5s
SHAO Shalim 16.22 152 *i*P **Pn** 05 29 37.0 -1.9
SNR=16
ARG Arkhangelos 16.59 288 P **P** 05 29 47.1 +1.1
ARG pmax pmax
comp=Z,265nm,0.9s
KULA Kula-Manisa 16.59 296 P **P** 05 29 45.0 -1.1
YER Yerkesik 16.59 291 P **Pn** 05 29 43.1 -0.5
YER Yerkesik 16.59 291 P **Pn** 05 29 43.1 -0.5
MANT Manisa 16.66 296 **Pn** 05 29 44.7 0.0
DAT Datca 17.09 289 P **Pn** 05 29 48.1 -1.8
KARP Karpathos 17.31 285 P **P** 05 29 55.7 +1.7
KARP Karpathos 17.31 285 Pn **Pn** 05 29 51.4 -1.2
KARP IAmb IAmb 05 30 01.8
comp=Z,669nm,0.9s
BODT Bodrum 17.35 290 P **Pn** 05 29 53.3 +0.2
KBL Kabul 17.81 78 P **P** 05 30 00.9 +1.1
KBL pmax pmax
comp=Z,464nm,1.3s
KBL Kabul 17.81 78 P **P** 05 30 00.9 +1.1
SMG Samos 17.82 292 P **P** 05 30 00.4 +0.7
CHGR Chuyangaron 18.35 65 P **P** 05 30 06.5 +0.9
CHGR IAmb IAmb 05 30 21.8
comp=Z,819nm,1.3s
CHOS Chios island 18.56 294 P **Pn** 05 30 09.7 +1.7
NPS Neapolis 18.56 284 P **Pn** 05 30 09.4 +1.4
NPS Neapolis 18.56 284 P **Pn** 05 30 09.4 +1.4
PRK Paraskevi 18.58 297 P **Pn** 05 30 11.1 +2.9
LAST Lasithi 18.67 284 P **Pn** 05 30 09.5 +0.1
EZN Ezine 18.69 298 P **Pn** 05 30 10.1 +0.6
EZN Ezine 18.69 298 P **Pn** 05 30 10.1 +0.6
SANT Santorini 18.75 288⇑P **Pn** 05 30 11.1 +0.8
SANT Santorini 18.75 288 P **Pn** 05 30 10.2 -0.1
APE Apeiranthos 18.76 290 P **Pn** 05 30 15.7 +5.2
APE Apeiranthos 18.76 290⇓P **Pn** 05 30 12.0 +1.5
APE Apeiranthos 18.76 290*c i*P **Pn** 05 30 11.1 +0.6
THR6 Thira Island, 18.80 287 P **P** 05 30 09.9 -0.4
THR5 Thira Island, 18.84 288 P **P** 05 30 10.8 0.0
PSN Preselentsi 18.87 311 *e*P **Pn** 05 30 11.4 -0.3
ABKAR Akbulak array 18.89 25 P **Pn** 05 30 11.8 -0.1
ABKAR Akbulak array 18.89 25 P **P** 05 30 10.7 -0.6
ABKAR IAmb IAmb 05 30 14.0
comp=Z,140nm,0.8s
MFTR Murfatlar 18.97 313⇓P **Pn** 05 30 13.8 +1.0
JURR Jurilovca 19.00 315⇑P **Pn** 05 30 15.2 +2.0
VRH Novokhopyorsk 19.03 348 *e*P **P** 05 30 12.4 -0.4
VRH *e*S **Sn** 05 33 37.7 -8.8
VRH pmax pmax
comp=Z,570nm,0.8s
VRH pmax pmax
comp=Z,930nm,0.9s
VRH smax smax
comp=E,1μm,9.0s
VRH MLR MLR
comp=Z,16μm,15.0s
EDRB Edirne 19.04 305 P **Pn** 05 30 13.6 -0.1
ENEZ Enez 19.08 301 P **Pn** 05 30 13.9 -0.3
TIRR Tirgusor 19.12 314⇑P **Pn** 05 30 15.9 +1.3
TIRR Tirgusor 19.12 314⇑P **Pn** 05 30 15.9 +1.3
TIRR Tirgusor 19.12 314 P **P** 05 30 11.3 -2.5
TIRR IAmb IAmb 05 30 23.7
comp=Z,424nm,1.0s
TIRR Tirgusor 19.12 314 *e*P **P** 05 30 13.5 -0.3
PRD Provadia 19.15 309 *e*P **P** 05 30 14.3 +0.1
IDI Anoyia 19.15 284 P **Pn** 05 30 14.9 -0.3
comp=Z,14nm,0.3s,baz=118,slow=6.8,SNR=51
IDI S **S** 05 33 50.9 -0.4
baz=90,slow=19,SNR=1.3
IDI LR LR 05 40 25.1
comp=Z,1μm,19.5s,baz=86,slow=46
IDI Anoyia 19.15 284 P **Pn** 05 30 15.3 +0.1
IDI Anoyia 19.15 284⇑P **Pn** 05 30 16.6 +1.4
IDI Anoyia 19.15 284 P **P** 05 30 12.2 -2.1
ALN Alexandroupoli 19.21 301 P **Pn** 05 30 15.7 0.0
ALN Alexandroupoli 19.21 301 P **Pn** 05 30 15.7 0.0
SIVA Sivas 19.21 283 P **Pn** 05 30 16.0 +0.1
NEF NEVSHA 19.26 309 *e*P **Pn** 05 30 17.4 +1.0
TLCR 19.27 316⇑P **Pn** 05 30 17.0 +0.6
TLCR 19.27 316⇑P **Pn** 05 30 17.0 +0.6
AKTO Aktyubinsk 19.29 20 P **P** 05 30 16.1 +0.5
comp=Z,9.6nm,0.3s,baz=199,slow=11,SNR=189
GAR Garm 19.31 65 P **Pn** 05 30 17.3 +0.2
VORD Divnogorie 19.31 344 *e*P **P** 05 30 14.6 -1.2
VORD *e*S **Sn** 05 33 46.3 -6.8
VORD pmax pmax
comp=Z,510nm,0.9s
VORD pmax pmax
comp=Z,650nm,1.0s
VORD smax smax
comp=E,730nm,5.8s
VORD MLR MLR
comp=Z,8μm,11.0s
TOPG Topolog 19.36 315⇓P **Pn** 05 30 17.6 0.0
TLBR Topalu 19.39 313⇓P **Pn** 05 30 17.7 -0.2
JMB Yambol 19.39 306 *e*P **Pn** 05 30 17.7 -0.2
SMTH Samothraki Isl 19.45 300 P **Pn** 05 30 19.8 +1.1
HARR Harsova 19.53 314⇓P **Pn** 05 30 19.3 -0.3
HARR Harsova 19.53 314⇓P **Pn** 05 30 19.3 -0.3
VSR Storozhevoye 19.57 344 *e*P **P** 05 30 18.7 0.0
VSR *e*S **S** 05 33 51.5 -7.8
VSR pmax pmax
comp=Z,2μm,1.3s
VSR pmax pmax
comp=Z,3μm,1.4s
VSR smax smax
comp=E,2μm,7.5s
VSR MLR MLR
comp=Z,15μm,12.0s
MHLO Agia Marina, M 19.62 288 P **Pn** 05 30 21.0 +0.2
RDO Rodhopi 19.65 302 P **Pn** 05 30 21.0 0.0
CFR Carcaliu 19.66 315⇑P **Pn** 05 30 20.8 -0.4
CFR Carcaliu 19.66 315 P **Pn** 05 30 20.6 -0.6
CFR pmax pmax
comp=Z,456nm,1.7s
VAM Vamos 19.72 284 P **P** 05 30 20.8 +0.3
VAM Vamos 19.72 284 P **P** 05 30 20.8 +0.3
AMRR Amara 19.86 313⇑P **Pn** 05 30 23.3 -0.2
AMRR Amara 19.86 313⇑P **Pn** 05 30 23.3 -0.2
RAZG Razgrad 19.89 309⇑P **Pn** 05 30 24.9 +1.0
IMMV Iera Moni Meta 19.90 285 P **P** 05 30 22.7 +0.3
KDZ Kurdzhali 19.90 303 *e*P **Pn** 05 30 23.4 -0.6
DIM Dimitrovgrad 19.95 304 *e*P **Pn** 05 30 24.6 -0.1
VORR Voronezh 19.98 344⇓ *i*P **Pn** 05 30 25.0 +0.1
VORR pmax pmax
comp=Z,3μm,1.4s
IUG luznay 19.99 55 *e*P **P** 05 30 24.2 +0.7
comp=Z,32nm,0.6s,baz=56
IUG *e*S **Sn** 05 34 10.6 +0.6
baz=56
IUG LR LR 05 39 01.3
comp=Z,2μm,10.1s,baz=56
IUG luznay 19.99 55 *e*P **P** 05 30 24.2 +0.7
IUG *e*S **Sn** 05 34 10.6 +0.6
IUG pmax pmax
comp=Z,32nm,0.6s
IUG MLR MLR
comp=Z,2μm,10.0s
SCHL Schela 20.02 316⇑P Pn 05 30 25.7 +0.3
THAS Thassos island 20.08 300 P Pn 05 30 25.6 -0.6
KYMI Kymi, Euboea I 20.11 294 P Pn 05 30 27.0 +0.4
LEHL Lehliu 20.11 312⇑P Pn 05 30 27.1 +0.6
SZH Strazhica 20.15 308 *e*P **P** 05 30 25.1 0.0
DION Dionisos Attik 20.15 292 P Pn 05 30 26.9 -0.2
TUDR 20.17 316⇓P Pn 05 30 27.9 +0.8
PTL Penteli 20.20 292 P Pn 05 30 26.7 -1.0
VARL Varlezi 20.23 316⇑P Pn 05 30 28.0 +0.1
VLY Voula,Athens 20.23 291 P **P** 05 30 26.9 +0.9
ATHU Athens Univers 20.25 292 P Pn 05 30 28.4 +0.2
MILM Milestii Mici 20.28 320⇓P Pn 05 30 28.4 -0.1
ATH Athens Observa 20.31 292 P Pn 05 30 28.9 +0.1
KIS Kishinev 20.33 320⇓ *e*P **P** 05 30 26.0 -1.0
comp=Z,3μm,4.6s
KIS Kishinev 20.33 320⇓P Pn 05 30 28.9 -0.1
KIS Kishinev 20.33 320*c i*P **P** 05 30 26.0 -1.0
KIS *e* 05 30 54.0
KIS *e*S **S** 05 34 09.0 -5.5
KIS *e* 05 34 14.0
KIS pmax pmax
comp=Z,3μm,4.6s
KIS MLR MLR
comp=Z,3μm,15.0s
KAVA Kavala 20.34 301 P Pn 05 30 28.5 -0.8
AOS Alonnisos 20.38 295 P Pn 05 30 29.1 -0.6
RZN Rozhen 20.41 303 *e*P **P** 05 30 28.8 +0.7
ANKY Antikythira Is 20.46 286 P Pn 05 30 30.4 -0.3
PVL Pavlikeni 20.53 307 *e*P Pn 05 30 31.6 +0.2
SGRR Singureni 20.53 310⇓P Pn 05 30 31.1 -0.3
PLD Plovdiv 20.55 304 P Pn 05 30 31.0 -0.7
PLD pmax pmax
comp=Z,1μm,1.8s
PLD Plovdiv 20.55 304 *e*P **P** 05 30 29.0 -0.5
OUR Ouranopolis 20.56 299 P Pn 05 30 30.9 -0.8
OUR Ouranopolis 20.56 299 P Pn 05 30 30.9 -0.8
BIR Birlad 20.56 317⇓P Pn 05 30 31.0 -0.8
BIR Birlad 20.56 317 P Pn 05 30 31.0 -0.8
SULR 20.56 312⇑P Pn 05 30 32.2 +0.3
GHRR 20.57 316⇑P Pn 05 30 31.9 0.0
ISR Istrita 20.60 313⇓P Pn 05 30 32.4 +0.1
ISR Istrita 20.60 313⇓P Pn 05 30 32.4 +0.1
ODBI Odobesti 20.62 315⇓P Pn 05 30 32.8 +0.3
DID Didima 20.63 290 P **P** 05 30 30.3 -0.1
VILL Villia 20.65 292 P Pn 05 30 32.2 -0.7
KTHA Kythira Island 20.67 287 P **P** 05 30 31.0 +0.2
KK31 Karatay Array 20.68 53 *i*P Pn 05 30 32.6 -0.6
KK31 Karatay Array 20.68 53 *i*P **P** 05 30 31.7 +0.8
KKAR Karatay Array 20.68 53 P **P** 05 30 31.7 +0.8
KKAR pmax pmax
comp=Z,249nm,1.1s
KKAR Karatay Array 20.68 53 P **P** 05 30 31.7 +0.8
KKAR Karatay Array 20.68 53 P **P** 05 30 31.6 +0.8
KKAR IAmb IAmb 05 30 44.7
comp=Z,249nm,1.1s
VASR Vaslui 20.68 318⇑P Pn 05 30 32.2 -1.0
SKIA Skiathos 20.69 295 P Pn 05 30 32.8 -0.6
VLI Veliai 20.80 288 P **P** 05 30 31.3 -0.9
SECR 20.85 313⇑P Pn 05 30 35.4 +0.2
VRI Vrincioaia 20.87 315⇓P Pn 05 30 34.1 -1.3
VRI Vrincioaia 20.87 315⇓P **P** 05 30 34.1 +1.2
LTK Loutraki 20.90 292 P **P** 05 30 34.3 +1.0
NEHR Nehoiu 20.90 314⇓P Pn 05 30 35.9 +0.1
PLOR Plostina 20.91 315⇑P Pn 05 30 35.5 -0.4
PLOR Plostina 20.91 315⇑P Pn 05 30 35.5 -0.4
LPSR Galich'ya Gora 20.91 345 *e*P **P** 05 30 32.7 -0.6
LPSR *e* 05 30 34.3
LPSR *e*S **S** 05 34 17.7 -8.3
LPSR pmax pmax
comp=Z,2μm,1.0s
LPSR smax smax
comp=E,950nm,4.8s
LPSR MLR MLR
comp=Z,9μm,14.0s
XOR Xorichti 20.94 296 P **P** 05 30 34.5 +0.8
LKR Lokris 20.96 293 P Pn 05 30 35.5 -1.0
PLG Polygyros 20.96 298 P Pn 05 30 35.7 -0.9
COPA Copaceanca 20.98 310⇓P Pn 05 30 35.9 -0.8
SRS Serrai 21.05 300 P **P** 05 30 36.1 +1.2
SRS Serrai 21.05 300 P **P** 05 30 36.1 +1.2
PGB Panagyurishte 21.08 305 *e*P **P** 05 30 35.2 0.0
MMB Musomiste 21.08 302 *e*P **P** 05 30 34.7 -0.6
SOH Sokhos 21.14 300 P **P** 05 30 37.8 +1.9
SOH Sokhos 21.14 300 P **P** 05 30 37.8 +1.9
MLR Muntele Rosu 21.15 314 P **P** 05 30 38.4 +2.3
comp=Z,104nm,0.6s,baz=49,slow=0.7,SNR=51
MLR LR LR 05 41 03.7
comp=Z,9μm,19.6s,baz=146,slow=43
MLR Muntele Rosu 21.15 314⇑P **P** 05 30 38.9 +2.9
MLR Muntele Rosu 21.15 314⇑P **P** 05 30 38.9 +2.9
MLR Muntele Rosu 21.15 314 P **P** 05 30 37.1 +1.0
MLR IAmb IAmb 05 30 47.2
comp=Z,236nm,0.7s
DZA Taraz 21.16 54 *e*P **P** 05 30 37.0 +0.9
baz=55
DZA *e*S **S** 05 34 33.9 +2.7
baz=55
DZA LR LR 05 39 44.0
comp=Z,3μm,12.0s,baz=55
DZA Taraz 21.16 54 *e*P **P** 05 30 37.0 +0.9
DZA MLR MLR
comp=Z,3μm,12.0s
SOCY Socotra 21.18 163 P **P** 05 30 33.8 -2.7
SOCY IAmb IAmb 05 30 45.7
comp=Z,460nm,1.1s
TESR Tescani 21.26 317⇑P **P** 05 30 37.6 +0.5
HORT Hortiatis 21.27 299 P **P** 05 30 38.3 +0.9
SORM Soroca 21.29 322 P **P** 05 30 37.0 -0.3
VLX Vlachokerasia 21.29 290 P **P** 05 30 37.8 +0.2
HUMR Humele 21.31 310⇑P **P** 05 30 38.8 +1.2
NIL Nilore 21.34 80 P **P** 05 30 39.4 +1.3
NIL pmax pmax
comp=Z,712nm,1.1s
NIL MLR MLR
comp=Z,30μm,18.0s
NIL Nilore 21.34 80 P **P** 05 30 39.4 +1.3
GUR Goura 21.38 291 P **P** 05 30 38.5 -0.1
THE Thessaloniki 21.38 299 P **P** 05 30 39.3 +0.9
THE Thessaloniki 21.38 299 P **P** 05 30 39.3 +0.9
TRIP Tripoli 21.39 290 P **P** 05 30 38.7 0.0
BHUJ Bhuj 21.45 110 *e*P **P** 05 30 39.0 -0.2
VLAD Vladila 21.46 308⇑P **P** 05 30 40.4 +1.1
STFAR Stefanesti-Arg 21.47 311⇓P **P** 05 30 41.8 +2.5
AGG Agios Georgios 21.54 294 P **P** 05 30 41.5 +1.3
ATD Arta Tunnel 21.54 193 P **P** 05 30 43.1 +2.8
comp=Z,102nm,1.0s,baz=349,slow=9.4,SNR=16
ATD S Sn 05 34 43.1 -4.2
comp=Z,12nm,0.7s,baz=234,slow=20,SNR=2.1
ATD Lg Lg 05 37 10.8
comp=Z,37nm,0.8s,baz=139,slow=20,SNR=3.5
ATD LR LR 05 38 32.5
comp=Z,6μm,19.8s,baz=4.0,slow=35
ATD Arta Tunnel 21.54 193 *i*P **P** 05 30 42.8 +2.5
ATD *i*S Sn 05 34 44.2 -3.1
ATD Arta Tunnel 21.54 193 P **P** 05 30 40.2 -0.1
ATD Arta Tunnel 21.54 193 *i*P **P** 05 30 42.8 +2.5
ATD *i*S Sn 05 34 44.2 -3.1
OZUR 21.55 315⇑P **P** 05 30 41.3 +1.1
MTUR Matau 21.57 312⇓P **P** 05 30 42.6 +2.1
MTUR Matau 21.57 312⇓P **P** 05 30 42.6 +2.1
LIT Litokhoron 21.61 297 P **P** 05 30 41.6 +0.6
KKB Krupnik 21.62 302 *e*P **P** 05 30 41.2 +0.1
ITM Ithomi 21.64 289 P **P** 05 30 40.9 -0.4
ITM Ithomi 21.64 289 P **P** 05 30 40.7 -0.6
TRIZ Trizonia 21.64 292 P **P** 05 30 41.1 -0.1
SERG Sergoula 21.66 293 P **P** 05 30 41.4 -0.1
VOIR 21.68 313⇑P **P** 05 30 43.5 +1.8
VOIR 21.68 313⇑P **P** 05 30 43.5 +1.8
TEND Ethiopian Broa 21.70 198 *e*P **P** 05 30 44.9 +2.8
TEND *e*S Sn 05 34 50.6 -0.7
TEND Ethiopian Broa 21.70 198 *i*P **P** 05 30 45.7 +3.6
TEND *i*S Sn 05 34 51.2 -0.1
DOPR Dopca 21.72 314⇓P **P** 05 30 43.4 +1.3
VTS Vitosha 21.75 304 *e*P **P** 05 30 41.7 -0.9
PYL PYLOS 21.77 288 P **P** 05 30 41.6 -1.0
EFP Efpalio 21.78 293 P **P** 05 30 43.4 +0.7
AMT Artemida-Makis 21.84 290 P **P** 05 30 43.8 +0.4
ARSB Arslanbob 21.84 60 P **P** 05 30 44.7 +1.1
ARSB pmax pmax
comp=Z,830nm,1.5s
ARSB Arslanbob 21.84 60 P **P** 05 30 44.7 +1.1
THL Klokotos Trika 21.87 296 P **P** 05 30 43.7 0.0
DRO Drossia 21.88 291 P **P** 05 30 44.6 +0.8
ARR Arges 21.90 312⇓P **P** 05 30 46.0 +1.9
RLS Riolos of Patr 22.08 291 P **P** 05 30 46.7 +0.7
PVO Paravola 22.10 293 P **P** 05 30 47.7 +1.5
KZN Kozani 22.20 297 P **P** 05 30 47.9 +0.6
KZN Kozani 22.20 297 P **P** 05 30 47.9 +0.6
MDB Medias 22.42 314⇑P **P** 05 30 51.0 +1.4
MDB Medias 22.42 314⇑P **P** 05 30 51.0 +1.4
KPRO Kipourio 22.43 296 P **P** 05 30 50.2 +0.3
SRE Strehaia 22.51 309⇓P **P** 05 30 52.7 +2.1
SRE Strehaia 22.51 309⇓P **P** 05 30 52.7 +2.1
PUNG Punghina 22.54 308⇑P **P** 05 30 52.6 +1.7
AML Almayashu 22.57 58 P **P** 05 30 52.6 +1.0
SNR=67
AKASG Malin Array Be 22.61 328 P **P** 05 30 50.1 -1.4
comp=Z,26nm,0.5s,baz=135,slow=9.3,SNR=106
AKASG S **S** 05 35 00.0 +1.2
comp=Z,5.5nm,0.5s,baz=136,slow=15,SNR=3.7
AKASG ScP **ScP** 05 38 21.4 -0.2
comp=Z,4.7nm,0.8s,baz=114,slow=1.7,SNR=4.6
AKASG LR LR 05 40 50.0
comp=Z,8μm,18.4s,baz=145,slow=40
AKASG Malin Array Be 22.61 328 P **P** 05 30 49.4 -2.1
AKBB Malin Array Si 22.61 328*c i*P **P** 05 30 49.9 -1.6
AKBB Malin Array Si 22.61 328 P **P** 05 30 49.2 -2.2
AKBB IAmb IAmb 05 30 58.8
comp=Z,266nm,1.1s
PENT Pentalofos 22.65 297 P **P** 05 30 52.6 +0.4
BURAR Bucovina Array 22.68 318⇑P **P** 05 30 53.6 +1.1
BURAR Bucovina Array 22.68 318⇑P **P** 05 30 53.6 +1.1
BURAR Bucovina Array 22.68 318 P **P** 05 30 52.3 -0.2
BUR08 Bucovina Ar. S 22.71 318 P **P** 05 30 51.8 -0.9
BUR08 IAmb IAmb 05 31 13.5
comp=Z,338nm,1.2s
DESE Dese 22.73 201 *e*P **P** 05 30 56.7 +3.3
DESE *e*S **S** 05 35 08.7 +6.5
NEST Nestorio 22.76 297 P **P** 05 30 54.1 +0.8
JAN Janina 22.77 295 P **P** 05 30 53.9 +0.5
JAN Janina 22.77 295 P **P** 05 30 53.9 +0.5
EVGI Lefkada island 22.78 293 P **P** 05 30 53.0 -0.4
VLS Valsamata 22.78 292 P **P** 05 30 52.5 -1.0
EKS2 Erkin-Say 22.78 57 P **P** 05 30 55.4 +1.8
SNR=30
LKD2 Lefkada island 22.80 293 P **P** 05 30 53.1 -0.5
TSLK Tsoukalades, L 22.80 293 P **P** 05 30 52.5 -1.2
FSK Fiskardo 22.83 292 P **P** 05 30 52.8 -1.2
SKO Skopje 22.83 301 *i*P **P** 05 30 53.9 0.0
ARCR ARCALIA 22.90 316⇓P **P** 05 30 56.4 +1.7
HORU Horodok 22.96 322 P **P** 05 30 59.3 +4.1
OHR Ohrid 23.09 299 *i*P **P** 05 30 59.0 +2.3
HERR Herculane 23.12 309⇑P **P** 05 30 57.2 +0.3
IGT Igoumenitsa 23.15 295 P **P** 05 30 56.4 -0.9
IGT Igoumenitsa 23.15 295 P **P** 05 30 56.4 -0.9
KSV Kosov 23.16 319 P **P** 05 30 54.7 -2.6
CJR Cluj-Napoca 23.17 314⇓P **P** 05 30 59.2 +1.7
CJR Cluj-Napoca 23.17 314⇓P **P** 05 30 59.2 +1.7
UCH Uchtor 23.18 58 P **P** 05 30 59.7 +1.6
SNR=46
DEV Deva 23.22 312⇑P **P** 05 30 58.7 +0.8
DEV Deva 23.22 312⇑P **P** 05 30 58.7 +0.8
AAK Ala-Archa 23.28 57 P **P** 05 31 01.6 +2.8
comp=Z,30nm,0.8s,baz=233,slow=6.9,SNR=33
AAK ScP **ScP** 05 38 22.6 -1.2
comp=Z,14nm,0.9s,baz=169,slow=5.5,SNR=4.5
AAK LR LR 05 41 24.3
comp=Z,11μm,18.6s,baz=254,slow=40
AAK Ala-Archa 23.28 57 P **P** 05 31 02.1 +3.3
SNR=15
AAK Ala-Archa 23.28 57 P **P** 05 30 59.4 +0.6
AAK Ala-Archa 23.28 57 P **P** 05 31 00.5 +1.7
AAK Ala-Archa 23.28 57 P **P** 05 31 00.3 +1.5

AAK IAmb IAmb 05 31 34.7
comp=Z,351nm,1.7s
FRU1 Bishkek 23.43 57 P **P** **05 31 02.3 +2.2**
FRU1 pmax pmax
comp=Z,116nm,1.0s
FRU1 Bishkek 23.43 57 P **P** **05 31 02.3 +2.2**
USP Ospenovka 23.47 56 P **P** **05 31 02.4 +1.9**
SNR=66
PHP Peshkopia 23.48 300 P **P** **05 31 01.4 +0.7**
THN Thein Dam 23.53 83 *e*P **P** **05 31 04.5 +3.4**
THN *e*S **S** **05 35 19.0 +4.2**
MDVR Moldovita 23.54 308 ⇓P **P** **05 31 01.4 +0.2**
CHMS Chumysh 23.57 56 P **P** **05 31 03.7 +2.2**
SNR=28
KEK Kerkira 23.58 295 P **P** **05 31 01.3 -0.3**
KBK Karagaybulak 23.61 57 P **P** **05 31 04.8 +2.7**
SNR=47
KZA Kyzart 23.67 59 P **P** **05 31 04.5 +1.5**
SNR=50
BMR Baia Mare 23.70 316 ⇑P **P** **05 31 04.5 +1.8**
BMR Baia Mare 23.70 316 ⇑P **P** **05 31 04.5 +1.8**
KSH Kashi 23.72 65 P **P** **05 31 01.1 -2.0**
KSH sP sP 05 31 08.6 0.0
KSH S **S** **05 35 18.8 +0.8**
KSH pmax pmax
comp=Z,280nm,1.0s
KSH pmax pmax
comp=Z,2μm,3.9s
KSH LR LR
comp=Z,18μm,14.4s
KSH LR LR
comp=Z,35μm,14.3s
KSH LR LR
comp=Z,31μm,15.0s
BTLS Baital 23.77 51 *e*P **P** **05 31 04.1 +0.7**
comp=Z,354nm,2.5s,baz=51
BTLS *e*S **S** **05 35 21.1 +2.5**
baz=51
BTLS LR LR 05 41 02.0
comp=Z,2μm,9.5s,baz=51
BTLS Baital 23.77 51 *e*P **P** **05 31 04.1 +0.7**
BTLS *e*S **S** **05 35 21.0 +2.5**
BTLS pmax pmax
comp=Z,353nm,2.5s
BTLS MLR MLR
comp=Z,2μm,10.0s
OBN Obninsk 23.77 344 P **P** **05 31 01.2 -2.0**
comp=Z,31nm,0.5s,baz=74,slow=23,SNR=3.2
OBN S **S** **05 35 16.2 -2.0**
comp=Z,10nm,0.4s,baz=54,slow=23,SNR=1.4
OBN LR LR 05 41 01.4
comp=Z,3μm,18.7s,baz=152,slow=38
OBN Obninsk 23.77 344 ⇑P **P** **05 31 03.7 +0.5**
OBN Obninsk 23.77 344 *c i*P **P** **05 31 03.0 -0.2**
OBN *i* S **S** **05 35 14.7 -3.5**
OBN pmax pmax
comp=Z,406nm,1.1s
OBN MLR MLR
comp=Z,10μm,19.0s
OBN Obninsk 23.77 344 P **P** **05 31 03.7 +0.5**
TIR Tirane 23.83 299 P **P** **05 31 04.8 +0.8**
TIR Tirane 23.83 299 P **P** **05 31 04.7 +0.8**
TIR pmax pmax
comp=Z,410nm,1.0s
TIR MLR MLR
comp=Z,4μm,20.0s
TIR Tirane 23.83 299 P **P** **05 31 04.7 +0.8**
BZS Buzias 23.93 310 ⇓P **P** **05 31 04.8 -0.1**
BZS Buzias 23.93 310 ⇓P **P** **05 31 04.8 -0.1**
DHRM DHARAMSHALA 24.04 83 *e*P **P** **05 31 07.6 +1.3**
PVY Plav 24.05 302 ⇑*i*P **P** **05 31 06.1 -0.1**
MOS Moscow 24.12 346 *e*P **P** **05 31 04.0 -2.5**
MOS *e*S **S** **05 35 25.4 +1.6**
MOS *e*SS **SnSn** **05 36 07.5 +2.4**
MOS pmax pmax
comp=Z,1μm,1.9s
MOS MLR MLR
comp=Z,7μm,16.0s
TKM2 Tokmak 2 24.14 57 P **P** **05 31 09.5 +2.4**
SNR=170
TKM2 Tokmak 2 24.14 57 P **P** **05 31 09.1 +1.9**
BANR Banloc 24.15 309 ⇑P **P** **05 31 07.1 +0.2**
ANKE Ethiopia-Afar 24.15 200 *e*P **P** **05 31 10.9 +3.3**
ANKE *e*S **S** **05 35 29.8 +4.2**
ANKE Ethiopia-Afar 24.15 200 *e*P **P** **05 31 10.1 +2.5**
ANKE *e*S S 05 35 41.1 +15
OTUK Ortayu 24.16 43 P **P** **05 31 09.1 +2.1**
MORS Morshin 24.26 320 P **P** **05 31 06.4 -1.5**
BEO Beograd 24.38 308 P **P** **05 31 09.6 +0.6**
ULC Ulcinj 24.42 300 ⇑*i*P **P** **05 31 08.5 -1.0**
ULHL Ulahol 24.43 59 P **P** **05 31 12.6 +2.8**
SNR=55
KOME Kolasin 24.44 303 ⇑*i*P **P** **05 31 08.8 -0.9**
DIVS Divibare 24.46 306 ⇑*i*P **P** **05 31 09.7 -0.2**
DIVS Divibare 24.46 306 P **P** **05 31 10.2 +0.3**
DRME Dracevica, Mon 24.51 301 ⇑*i*P **P** **05 31 10.0 -0.3**
DRME Dracevica, Mon 24.51 301 ⇑*i*P **P** **05 31 09.9 -0.3**
PDG Podgorica 24.52 302 ⇓P **P** **05 31 10.2 -0.1**
PDG Podgorica 24.52 302 ⇑*i*P **P** **05 31 09.5 -0.8**
PDG Podgorica 24.52 302 P **P** **05 31 10.2 -0.1**
TTG Podgorica 24.52 302 ⇑*i*P **P** **05 31 09.7 -0.6**
LVV L'vov 24.57 321 *e*P **P** **05 31 09.2 -1.6**
LVV *e* 05 31 51.7
LVV *e*S **S** **05 35 29.8 -1.4**
LVV *e* 05 36 43.2
LVV pmax pmax
comp=Z,600nm,1.7s
LVV smax smax
comp=E,8μm,7.0s
LVV smax smax
comp=N,7μm,8.0s
SCTE Santa Cesarea 24.65 296 P **P** **05 31 11.0 -0.5**
PLE Pljevlja 24.66 304 ⇓*i*P **P** **05 31 13.0 +1.3**
BUM Brajici-Budva 24.75 301 ⇑*i*P **P** **05 31 11.6 -0.9**
RUDO Rudo 24.75 304 ⇑*i*P **P** **05 31 11.8 -0.6**
MTBS Maitube 24.79 57 *e*P **P** **05 31 14.2 +1.3**
baz=57
MTBS Maitube 24.79 57 *e*P **P** **05 31 14.1 +1.2**
CEME Cevo 24.79 302 ⇑*i*P **P** **05 31 12.3 -0.6**
BBLS Lazići 24.80 305 ⇑*i*P **P** **05 31 12.8 -0.1**
NKY Niksic 24.80 302 ⇓*i*P **P** **05 31 12.2 -0.8**
NKME Niksic 24.82 302 ⇑*i*P **P** **05 31 12.3 -0.8**
UZH Uzhgorod 24.88 317 *e*P **P** **05 31 13.0 -0.6**
UZH *e* 05 31 21.0
UZH *e* 05 31 56.7
UZH *e*S **S** **05 35 31.7 -4.6**
ARU Arti 24.89 14 P **P** **05 31 13.9 +0.4**
comp=N,59nm,0.8s,baz=192,slow=7.2,SNR=80
ARU Arti 24.89 14 *c i*P **P** **05 31 14.1 +0.5**
ARU PPP PPP 05 31 56.3
ARU S **S** **05 35 39.5 +3.2**
ARU pmax pmax
comp=Z,660nm,1.4s
ARU MLR MLR
comp=Z,7μm,16.0s
ARU Arti 24.89 14 P **P** **05 31 13.8 +0.3**
TEKS Tekeris 24.92 307 ⇑*i*P **P** **05 31 14.3 +0.3**
KUU Kurty 24.93 55 *e*P **P** **05 31 14.9 +0.8**
comp=Z,176nm,1.0s,baz=55
KUU *e*S **S** **05 35 40.0 +2.7**
baz=55
KUU LR LR 05 41 46.1
comp=Z,7μm,13.0s,baz=55
KUU Kurty 24.93 55 *e*P **P** **05 31 14.9 +0.8**
KUU *e*S **S** **05 35 40.0 +2.7**
KUU pmax pmax
comp=Z,176nm,1.0s
KUU MLR MLR
comp=Z,7μm,13.0s
FRGS Fruska Gora 24.94 308 ⇑*i*P **P** **05 31 14.9 +0.8**
UPM Unac-Piva 24.96 303 ⇓*i*P **P** **05 31 14.1 -0.5**
UPM Unac-Piva 24.96 303 ⇑*i*P **P** **05 31 13.6 -1.0**
SMLA Simla 24.96 86 *e*P **P** **05 31 15.6 +1.2**
AAE Adis Abeba 24.97 201 ⇑*i*P **P** **05 31 18.2 +3.2**
AAE *e*S **S** **05 35 48.2 +9.4**
AAE Adis Abeba 24.97 201 ⇑*i*P **P** **05 31 18.2 +3.2**
AAE *e*S **S** **05 35 48.2 +9.4**
KOLS Kolonicke sedl 25.05 318 *e*P **P** **05 31 16.1 +1.0**
KOLS pmax pmax
comp=Z,395nm,1.2s
KOLS Kolonicke sedl 25.05 318 *e*P **P** **05 31 16.1 +1.0**
HCY Herceg Novi 25.07 301 ⇑*i*P **P** **05 31 14.9 -0.4**
HCY Herceg Novi 25.07 301 ⇑*i*P **P** **05 31 15.0 -0.4**
KDJ Kajisay 25.08 59 P **P** **05 31 18.4 +2.7**
KDJ pmax pmax
comp=Z,309nm,1.3s
KDJ MLR MLR
comp=Z,13μm,20.0s
KDJ Kajisay 25.08 59 P **P** **05 31 18.4 +2.7**
KDJ IAmb IAmb 05 31 27.3
comp=Z,308nm,1.3s
KDJ IAMs_20 IAMs_20 05 42 49.6
comp=Z,13μm,20.0s
FURI Furi 25.13 202 ⇓*i*P **P** **05 31 19.8 +3.4**
FURI *i* S **S** **05 35 51.7 +10**
FURI Furi 25.13 202 P **P** **05 31 17.7 +1.3**
FURI IAmb IAmb 05 31 27.0
comp=Z,158nm,0.9s
FURI Furi 25.13 202 IAMs_20 IAMs_20 05 41 39.5
comp=Z,14μm,19.0s
FURI Furi 25.13 202 ⇓*i*P **P** **05 31 19.8 +3.4**
FURI *i* S **S** **05 35 51.7 +10**
BRY Bratogost 25.14 302 ⇑*i*P **P** **05 31 15.1 -1.1**
BRY Bratogost 25.14 302 ⇑*i*P **P** **05 31 14.9 -1.3**
AAA Alma-Ata 25.15 57 *e*P **P** **05 31 17.2 +1.1**
baz=57
AAA *e*S **S** **05 35 44.1 +3.2**
baz=57
AAA LR LR 05 41 43.4
comp=Z,7μm,11.2s,baz=57
AAA Alma-Ata 25.15 57 *e*P **P** **05 31 17.2 +1.1**
AAA MLR MLR
comp=Z,7μm,11.0s
KWP Kalwaria Pacla 25.18 320 *e*P **P** **05 31 17.3 +1.1**
KWP *e*S **S** **05 35 47.5 +6.5**
KWP Kalwaria Pacla 25.18 320 P **P** **05 31 17.1 +0.9**
KWP pmax pmax
comp=Z,589nm,1.2s
KWP Kalwaria Pacla 25.18 320 P **P** **05 31 17.1 +0.9**
MDOK Medeo 25.23 57 *e*P **P** **05 31 17.1 +0.1**
baz=57
MDOK LR LR 05 41 53.4
comp=Z,10μm,11.2s,baz=57
MDOK Medeo 25.23 57 *e*P **P** **05 31 17.9 +0.9**
MDOK MLR MLR
comp=Z,10μm,11.0s
TREB Trebinje 25.23 302 *e*P **P** **05 31 15.9 -0.9**
BRZS Berezniki 25.28 40 *e*P **P** **05 31 18.4 +1.3**
comp=Z,136nm,1.5s,baz=40
BRZS *e*S **S** **05 35 45.6 +3.0**
baz=40
BRZS LR LR 05 42 02.7
comp=Z,1μm,8.5s,baz=40
BRZS Berezniki 25.28 40 *e*P **P** **05 31 18.4 +1.3**
BRZS *e*S **S** **05 35 45.6 +3.0**
BRZS pmax pmax
comp=Z,136nm,1.5s
BRZS MLR MLR
comp=Z,1μm,9.0s
CHKK Chushkaly 25.37 55 *e*P **P** **05 31 19.6 +1.4**
baz=56
CHKK Chushkaly 25.37 55 *e*P **P** **05 31 19.5 +1.4**
TARG Taragay, Kyrgy 25.46 61 P **P** **05 31 19.9 +0.6**
TARG IAmb IAmb 05 31 27.5
comp=Z,166nm,0.8s
TARG IAMs_20 IAMs_20 05 42 51.3
comp=Z,13μm,21.0s
CGL1 Ceglie Messapi 25.48 297 ⇑*i*P **P** **05 31 18.5 -0.6**
CRVS Cervenica-Dubn 25.50 317 *e*P **P** **05 31 20.1 +1.0**
CRVS pmax pmax
comp=Z,647nm,1.0s
CRVS Cervenica-Dubn 25.50 317 *e*P **P** **05 31 20.1 +1.0**
NDI New Delhi 25.59 91 *e*P **P** **05 31 23.0 +2.8**
TAR1 Taranto 25.61 296 ⇑*i*P **P** **05 31 19.6 -0.6**
SVE Sverdlovsk 25.72 16 *de*P **P** **05 31 22.1 +1.0**
SVE *e*S **S** **05 35 48.7 -0.7**
SVE pmax pmax
comp=Z,238nm,1.1s
SVE MLR MLR
comp=Z,9μm,16.0s
TIP Timpagrande 25.86 293 ⇓P **P** **05 31 23.8 +1.2**
TIP Timpagrande 25.86 293 P **P** **05 31 21.5 -1.1**
TIP IAmb IAmb 05 31 31.2
comp=Z,201nm,0.8s
KECS Kecovo 25.86 316 *e*P **P** **05 31 23.8 +1.3**
KECS pmax pmax
comp=Z,296nm,1.2s
KECS Kecovo 25.86 316 *e*P **P** **05 31 23.8 +1.3**
DDI Dehra Dun 25.88 87 *e*P **P** **05 31 23.3 +0.4**
KIRV Kirov 25.93 2 P **P** **05 31 23.3 +0.4**
comp=Z,447nm,0.6s,baz=185,slow=2.4,SNR=74
PSZ Piszkesteto 25.96 314 ⇓P **P** **05 31 25.0 +1.5**
PSZ Piszkesteto 25.96 314 ⇓P **P** **05 31 25.0 +1.5**
PSZ Piszkesteto 25.96 314 P **P** **05 31 24.4 +0.9**
MICGM Minsk 25.96 333 ⇓*i*P **P** **05 31 23.0 -0.3**
MICGM *e*P **P** **05 31 23.0 -0.3**
MICGM PM 05 31 25.0
comp=Z,1.7nm,1.8s
MICGM PM 05 31 26.0
comp=N,2.4nm,1.5s
MICGM PM 05 31 26.0
comp=E,1.5nm,1.8s
MICGM *e*PP sP 05 32 12.0 +43
MICGM *e*S **S** **05 35 50.0 -3.3**
MICGM *e*SS **SnSn** **05 36 54.0 +3.8**
MICGM *e*SSS SSS 05 37 34.0
MICGM *e*LQ LQ 05 40 08.0
MICGM LQM 05 40 20.0
comp=N,16nm,30.0s
MICGM LQM 05 40 22.0
comp=E,14nm,28.0s
MICGM *e*LR LR 05 42 10.0
MICGM LRM MLR 05 42 40.0
comp=E,7.7nm,18.0s
MICGM LRM MLR 05 42 40.0
comp=Z,25nm,20.0s
MICGM LRM MLR 05 42 44.0
comp=Z,15nm,18.0s
MNK Minsk 25.96 333 ⇓*i*P **P** **05 31 23.0 -0.3**
MNK *e* 05 32 12.0
MNK *e*S **S** **05 35 50.0 -3.3**
MNK *e*SS **SnSn** **05 36 54.0 +3.8**
MNK pmax pmax
comp=Z,2μm,1.8s
MNK pmax pmax
comp=N,2μm,1.5s
MNK pmax pmax
comp=E,2μm,1.8s
MNK MLR MLR
comp=Z,25μm,20.0s
BAI Bari 26.00 298 *e*P **P** **05 31 24.0 +0.3**
BRVK Borovoye 26.01 32 *c i*P **P** **05 31 24.3 +0.6**
BRVK pmax pmax
comp=Z,144nm,1.2s
BRVK Borovoye 26.01 32 P **P** **05 31 24.4 +0.6**
BVAR Borovoye Array 26.03 32 P **P** **05 31 24.2 +0.3**
comp=Z,92nm,0.8s,baz=225,slow=7.8,SNR=243
BVAR PcP **PcP** **05 34 51.6 0.0**
comp=Z,10nm,0.5s,baz=178,slow=2.4,SNR=11
BVAR ScP **ScP** **05 38 29.6 -1.5**
comp=Z,24nm,0.9s,baz=239,slow=2.6,SNR=10
BVAR LR LR 05 43 33.4
comp=Z,6μm,18.9s,baz=244,slow=41
PRZ Przheval'sk 26.04 59 P **P** **05 31 26.3 +1.9**
PRZ pmax pmax
comp=Z,149nm,1.1s
PRZ MLR MLR
comp=Z,12μm,21.0s
PRZ Przheval'sk 26.04 59 P **P** **05 31 26.3 +1.9**
PRZ IAmb IAmb 05 31 34.5
comp=Z,148nm,1.1s
PRZ IAMs_20 IAMs_20 05 42 23.4
comp=Z,12μm,21.0s
MATE Matera 26.06 297 ⇓P **P** **05 31 25.7 +1.4**
MORH Mrgy, Hungar 26.07 310 ⇑*i*P **P** **05 31 24.6 +0.2**
SG1 Sgolgore (BA) 26.11 297 *e*P **P** **05 31 23.8 -1.0**
SATY Saty 26.17 58 *e*P **P** **05 31 27.0 +1.5**
SATY comp=Z,111nm,1.7s,baz=58 *e*S **S** **05 35 59.9 +2.7**
baz=58
SATY LR LR 05 42 44.1
comp=Z,2μm,11.3s,baz=58
SATY Saty 26.17 58 *e*P **P** **05 31 27.0 +1.5**
SATY *e*S **S** **05 35 59.8 +2.7**
SATY pmax pmax
comp=Z,111nm,1.7s
SATY MLR MLR
comp=Z,2μm,11.0s
BUD Budapest 26.32 313 P **P** **05 31 28.1 +1.6**
BUD pmax pmax
comp=Z,574nm,1.0s
NIE Niedzica 26.41 317 *e*P **P** **05 31 28.6 +1.2**
NIE *e*S **S** **05 36 05.1 +4.4**
NIE Niedzica 26.41 317 P **P** **05 31 28.8 +1.3**
NIE pmax pmax
comp=Z,155nm,1.0s
CEL Celeste 26.48 291 P **P** **05 31 29.3 +1.1**
MGRS Mrkonjic Grad 26.55 305 *e*P P 05 31 36.7 +7.9
BLY Banja Luka 26.58 306 ⇑*i*P **P** **05 31 28.8 -0.2**
UZB Uzynbulak 26.63 58 *e*P **P** **05 31 30.9 +1.2**
comp=Z,108nm,1.6s,baz=58
UZB LR LR 05 43 00.1
comp=Z,2μm,11.7s,baz=58
UZB Uzynbulak 26.63 58 *e*P **P** **05 31 30.9 +1.2**
UZB pmax pmax
comp=Z,108nm,1.6s
UZB MLR MLR
comp=Z,2μm,12.0s
TDK Taldyqorghan 26.67 54 *e*P **P** **05 31 30.7 +0.8**
baz=54
TDK LR LR 05 42 54.8
comp=Z,15μm,12.8s,baz=54
TDK Taldyqorghan 26.67 54 *e*P **P** **05 31 30.6 +0.8**
TDK MLR MLR
comp=Z,15μm,13.0s
NACGM Naroch 26.69 333 *e*P **P** **05 31 29.0 -0.8**
NACGM *e*P **pP** **05 31 30.0 -3.8**
NACGM PM 05 31 38.0
comp=Z,1.1nm,1.0s
NACGM *e*PP **PnPn** **05 32 06.0 -4.8**
NACGM *e*PPP PPP 05 32 54.0
NACGM *e*S **S** **05 36 10.0 +5.2**
NACGM *e*SS **SnSn** **05 37 18.0 +10**
NACGM *e*SSS SSS 05 37 36.0
NACGM *e*LQ LQ 05 40 18.0
NACGM *e*LR LR 05 42 34.0
NACGM LRM MLR 05 43 18.0
comp=Z,16nm,18.0s
LANS Liptovska Anna 26.77 316 *e*P **P** **05 31 32.5 +1.8**
LANS pmax pmax
comp=Z,112nm,1.0s
LANS Liptovska Anna 26.77 316 *e*P **P** **05 31 32.4 +1.8**
VYHS Vyhne 26.85 315 *e*P **P** **05 31 32.5 +1.1**
VYHS pmax pmax
comp=Z,147nm,1.2s
VYHS Vyhne 26.85 315 *e*P **P** **05 31 32.5 +1.1**
SGRT San Giovanni R 26.94 299 P **P** **05 31 33.1 +0.8**
SHLS Shalkode 26.95 58 *e*P **P** **05 31 36.2 +3.7**
comp=Z,69nm,1.7s,baz=58
SHLS *e*S **S** **05 36 17.0 +7.5**
baz=58
SHLS LR LR 05 43 30.8
comp=Z,2μm,10.8s,baz=58
SHLS Shalkode 26.95 58 *e*P **P** **05 31 36.2 +3.7**
SHLS *e*S **S** **05 36 16.9 +7.5**
SHLS pmax pmax
comp=Z,69nm,1.7s
SHLS MLR MLR
comp=Z,2μm,11.0s
PDGK Podgornoye 27.00 58 P **P** **05 31 34.3 +1.3**
IDID Didziasalis 27.01 333 *e*P **P** **05 31 34.0 +1.2**
OJC Ojcow 27.09 319 *e*P **P** **05 31 34.4 +0.8**
OJC *e*S **S** **05 36 14.1 +2.9**
OJC Ojcow 27.09 319 P **P** **05 31 34.6 +1.0**
OJC pmax pmax
comp=Z,500nm,1.2s
OJC Ojcow 27.09 319 P **P** **05 31 34.6 +1.0**
POO Poona 27.32 115 *e*P **P** **05 31 36.0 +0.1**
POO *e*P **pP** **05 31 39.0 -0.8**
comp=Z,120nm,1.3s
POO *ex* x 05 32 28.0
POO *ex* x 05 32 42.0
POO *ex* x 05 36 23.0
BEL Belsk 27.41 322 *e*P **P** **05 31 37.1 +0.8**
BEL Belsk 27.41 322 P **P** **05 31 38.1 +1.8**
BEL pmax pmax
comp=Z,197nm,0.8s
ISAL Salakas 27.44 333 *e*P **P** **05 31 37.8 +1.2**
IZAR Zarasai 27.52 333 *e*P **P** **05 31 38.8 +1.5**
DILA Dilla 27.57 201 *e*P P 05 31 45.7 +7.4
DILA *e*S **S** **05 36 26.4 +6.8**
SUW Suwalki 27.58 328 *e*P **P** **05 31 38.8 +0.9**
SUW Suwalki 27.58 328 P **P** **05 31 37.6 -0.2**
SUW pmax pmax
comp=Z,693nm,1.1s
SUW MLR MLR
comp=Z,5μm,20.0s
SUW Suwalki 27.58 328 P **P** **05 31 37.6 -0.2**
VAE Valguarnera 27.63 289 P **P** **05 31 42.6 +4.0**
comp=Z,49nm,0.9s,baz=174,slow=9.4,SNR=11
VAE LR LR 05 43 55.5
comp=Z,612nm,19.6s,baz=352,slow=39
JAVC Velka Javorina 27.70 315 ⇑*i*P **P** **05 31 40.4 +1.3**
JAVC *e*S **S** **05 36 29.1 +8.0**
SMOL Smolenice 27.71 314 *e*P **P** **05 31 40.0 +0.9**
SMOL Smolenice 27.71 314 *e*P **P** **05 31 40.0 +0.9**
KOGS Kog 27.71 309 *e*P **P** **05 31 39.9 +0.8**
KOGS *e*S **S** **05 36 27.9 +6.8**
PAOL Paolisi 27.72 297 P **P** **05 31 40.6 +1.3**
BHPL Bhopal 27.75 102 *e*P **P** **05 31 39.8 +0.1**
MODS Modra-Piesok 27.75 313 *e*P **P** **05 31 39.2 -0.3**
MODS Modra-Piesok 27.75 313 *e*P **P** **05 31 39.2 -0.3**
SOP Sopron 27.93 312 P **P** **05 31 42.3 +1.2**
SOP pmax pmax
comp=Z,176nm,1.1s
GCIS Gornji Cirnik 27.95 308 *e*P **P** **05 31 42.2 +0.9**
CRES Cresnjev 28.05 307 ⇑*i*P **P** **05 31 42.7 +0.5**
BOJS Bojanci 28.10 307 *e*P **P** **05 31 43.3 +0.7**
MORC Moravsky Berou 28.17 316 ⇑P **P** **05 31 43.0 -0.3**
MORC Moravsky Berou 28.17 316 ⇑*i*P **P** **05 31 43.2 -0.1**
MORC *e*S **S** **05 36 35.7 +7.3**
MORC *e* 05 42 31.6
MORC Moravsky Berou 28.17 316 P **P** **05 31 43.9 +0.6**
MORC pmax pmax
comp=Z,296nm,1.7s
MORC Moravsky Berou 28.17 316 P **P** **05 31 43.9 +0.6**
MORC IAmb IAmb 05 31 45.9
comp=Z,296nm,1.7s
PABE Paberze 28.25 331 *e*P **P** **05 31 44.9 +1.1**
KAD Karad 28.30 116 ⇓*i*P **P** **05 31 47.7 +3.0**
INTR Introdacqua 28.34 299 P **P** **05 31 45.2 +0.3**
INTR IAmb IAmb 05 31 56.3
comp=Z,201nm,1.3s
PDKS Podkum 28.43 308 *e*P **P** **05 31 46.2 +0.6**
ARSA Arzberg 28.45 310 *e*pP **P** **05 31 46.6 +0.9**
comp=Z,66nm,1.5s,SNR=16
ARSA *e*ScP **ScP** **05 38 40.1 +1.6**
comp=Z,13nm,1.1s
CONA Conrad Observa 28.46 312 *e*P **P** **05 31 45.9 0.0**
comp=Z,209nm,1.9s,SNR=44
CORL Corleone 28.51 290 P **P** **05 31 47.6 +1.1**
VRAC Vranov 28.54 315 P **P** **05 31 47.2 +0.7**
comp=Z,17nm,0.6s,baz=110,slow=8.9,SNR=57
VRAC LR LR 05 45 31.6
comp=Z,4μm,19.7s,baz=88,slow=42
VRAC Vranov 28.54 315 ⇓P **P** **05 31 47.2 +0.7**
VRAC Vranov 28.54 315 ⇑*i*P **P** **05 31 46.6 +0.1**
VRAC *e*S **S** **05 36 41.4 +7.4**
VRAC Vranov 28.54 315 ⇓P **P** **05 31 47.2 +0.7**
VRAC 05 31 56.1
KRUC Moravsky 28.56 314 ⇑*i*P **P** **05 31 47.0 +0.4**
KRUC *e*S **S** **05 36 40.7 +6.4**
KRUC *e* 05 42 31.4
KRUC Moravsky 28.56 314 P **P** **05 31 47.5 +0.9**
KRUC pmax pmax
comp=Z,116nm,1.8s
CLTB Caltabellotta 28.58 290 P **P** **05 31 45.1 -2.0**
CLTB IAmb IAmb 05 32 37.4
comp=Z,128nm,1.1s
SOKA Soboth 28.58 309 *e*P **P** **05 31 47.3 +0.3**
comp=Z,66nm,1.5s,SNR=30
SOKA *e*ScP **ScP** **05 38 40.1 +1.1**
comp=Z,42nm,1.9s
KLMR Klimovskoe 28.70 352 *c i*P **P** **05 31 46.9 -0.7**
KLMR *e*S **S** **05 36 37.6 +1.4**
KLMR pmax pmax
comp=Z,235nm,0.8s

KLMR MLR MLR
comp=Z,6µm,14.0s
KLMR Klimovskoe 28.70 352⇑ *i*P **P 05 31 47.0 -0.7**
KLMR ⇑ *i*P **P 05 31 47.0 -0.7**
KLMR ⇓ *i*P **P 05 31 47.0 -0.7**
KLMR AMP 05 31 48.9
comp=Z,235nm,0.8s
KLMR *e*S **S 05 36 37.7 +1.5**
KLMR *e*S **S 05 36 37.7 +1.5**
KLMR LQ LQ 05 41 03.3
KLMR LQ LQ 05 41 03.3
KLMR LR LR 05 42 23.9
KLMR AMP 05 44 37.2
comp=Z,6µm,13.8s
CEY Cerknica 28.72 307⇑ *i*P **P 05 31 48.3 +0.1**
LJU Ljubljana 28.74 307 *e*P **P 05 31 49.4 +1.1**
LJU *e*S **S 05 36 45.0 +7.8**
LJU *i* ScP **ScP 05 38 40.9 +1.5**
LJU Ljubljana 28.74 307⇑ *i*P **P 05 31 49.2 +0.9**
KRLC Kraliky 28.75 316 *e*P **P 05 31 49.0 +0.6**
KRLC *e* 05 31 54.8
KRLC MLR MLR
comp=Z,5µm,13.9s
KRLC Kraliky 28.75 316 *e*P **P 05 31 49.0 +0.6**
KRLC *e*pP **sP 05 31 54.8 +0.8**
KRLC AMS AMS 05 46 20.0
comp=Z,5µm,13.9s
AQU L'Aquila 28.76 300 P **P 05 31 49.8 +1.2**
AQU pmax pmax
comp=Z,194nm,1.2s
AQU MLR MLR
comp=Z,5µm,20.0s
AQU L'Aquila 28.76 300⇑ *i*P **P 05 31 49.3 +0.7**
AQU L'Aquila 28.76 300 P **P 05 31 49.8 +1.2**
AQU IAmb IAmb 05 32 18.4
comp=Z,194nm,1.2s
GBAS Gorenja Brezov 28.76 307 *e*P **P 05 31 49.4 +0.9**
KURBB Kurchatov Arra 28.84 42 P **P 05 31 51.1 +1.9**
comp=Z,50nm,0.8s,baz=248,slow=9.3,SNR=152
KURBB ScP **ScP 05 38 37.9 -1.8**
comp=Z,14nm,0.9s,baz=247,slow=3.5,SNR=11
KURBB P3KPbc 06 04 03.7
comp=Z,1.7nm,0.8s,baz=66,slow=3.5,SNR=17
KURBB Kurchatov Arra 28.84 42 P **P 05 31 49.7 +0.5**
OBKA Obir 28.85 308 *e*pP **P 05 31 50.2 +0.8**
comp=Z,110nm,1.5s,SNR=36
KURK Kurchatov 28.94 42*c i*P **P 05 31 51.2 +1.2**
KURK pmax pmax
comp=Z,140nm,1.3s
KURK Kurchatov 28.94 42 P **P 05 31 50.6 +0.6**
KURK IAmb IAmb 05 31 59.2
comp=Z,108nm,1.0s
PRGR Permogore 29.00 358⇑ *i*P **P 05 31 50.4 0.0**
PRGR pmax pmax
comp=Z,224nm,1.5s
DPC Dobruska-Polom 29.13 317 *e*P **P 05 31 52.6 +0.8**
DPC MLR MLR
comp=Z,8µm,13.0s
DPC Dobruska-Polom 29.13 317 *e*P **P 05 31 52.6 +0.8**
DPC AMS AMS 05 47 10.0
comp=Z,8µm,13.0s
VOJS Vojsko 29.16 307 *e*P **P 05 31 52.3 +0.1**
TREC Trest 29.20 314 *e*P **P 05 31 54.4 +2.0**
TREC MLR MLR
comp=Z,9µm,13.8s
TREC Trest 29.20 314 *e*P **P 05 31 54.4 +2.0**
TREC AMS AMS 05 46 40.0
comp=Z,9µm,13.8s
OSTC Ostas 29.28 317 *e*P **P 05 31 53.0 -0.1**
OSTC AMS AMS 05 47 20.0
comp=Z,7µm,14.1s
KSP Ksiaz 29.36 318 *e*P **P 05 31 54.3 +0.5**
KSP *e*S **S 05 36 49.6 +2.7**
KSP Ksiaz 29.36 318 P **P 05 31 54.6 +0.8**
KSP pmax pmax
comp=Z,88nm,1.9s
UPC Upice 29.38 317 *e*P **P 05 31 54.8 +0.9**
UPC MLR MLR
comp=Z,8µm,13.0s
UPC Upice 29.38 317 *e*P **P 05 31 54.8 +0.9**
UPC AMS AMS 05 47 20.0
comp=Z,8µm,13.0s
CHVC Chvalec 29.39 317 *e*P **P 05 31 54.1 +0.1**
CHVC AMS AMS 05 47 20.0
comp=Z,6µm,13.6s
VSU Vasula 29.44 337 *e*P **P 05 31 55.2 +0.9**
VSU Vasula 29.44 337*c i*P **P 05 31 54.2 -0.1**
VSU pmax pmax
comp=Z,376nm,1.0s
MOA Molln 29.45 311 *e*P **P 05 31 54.2 -0.4**
comp=Z,78nm,1.1s,SNR=31
PBUR Paburge 29.45 330 *e*P **P 05 31 55.9 +1.5**
PUL Pulkovo 29.47 342*c e*P **P 05 31 54.9 +0.3**
PUL pmax pmax
comp=Z,273nm,1.3s
MYKA Terra Mystica 29.49 308 *e*P **P 05 31 55.3 +0.3**
comp=Z,27nm,0.6s,SNR=24
PRED Cave del Predi 29.49 308 P **P 05 31 55.9 +0.8**
PRED IAmb IAmb 05 32 03.3
comp=Z,289nm,1.7s
MURB Monte Urbino 29.53 301 P **P 05 31 56.1 +0.6**
MURB IAmb IAmb 05 32 09.5
comp=Z,196nm,1.0s
MAKZ Makanchi 29.58 51 P **P 05 31 57.0 +1.2**
MAKZ Makanchi 29.58 51 P **P 05 31 56.5 +0.7**
MAKZ IAmb IAmb 05 32 06.0
comp=Z,165nm,1.6s
KLRI Killari 29.71 112 *e*P **P 05 31 59.0 +1.7**
KLRI IVmBBB 05 32 04.3
comp=Z,883nm,1.7s
KLRI *e*S **S 05 36 54.7 +1.6**
KLRI IVMs_BB IVMs_BB 05 45 42.9
comp=Z,2µm,14.8s
MK31 Makanchi Array 29.78 52 P **P 05 31 58.9 +1.3**
MK31 Makanchi Array 29.78 52 P **P 05 31 58.0 +0.4**
MKAR Makanchi Array 29.78 52 P **P 05 31 58.4 +0.8**
comp=Z,60nm,0.7s,baz=247,slow=6.3,SNR=273
MKAR ScP **ScP 05 38 37.4 -5.4**
comp=Z,9.9nm,0.8s,baz=244,slow=7.7,SNR=5.4
MKAR LR LR 05 46 20.3
comp=Z,6µm,19.2s,baz=251,slow=41
MKAR Makanchi Array 29.78 52 P **P 05 31 58.6 +1.0**
MKAR Makanchi Array 29.78 52 P **P 05 31 58.6 +1.0**
KBA Koelnbreinsper 29.81 309 *e*pP **P 05 31 58.5 +0.5**
comp=Z,233nm,1.1s,SNR=44
KBA *e*ScP **ScP 05 38 37.2 -5.8**
comp=Z,11nm,1.1s
KBA Koelnbreinsper 29.81 309 P **P 05 31 58.9 +0.9**
KBA pmax pmax
comp=Z,193nm,1.0s
GOPC GO Pecny, Ondr 29.85 315 *e*P **P 05 31 59.1 +0.9**
GOPC *e* 05 32 04.0
GOPC *e*S S 05 37 04.6 +10
GOPC MLR MLR
comp=Z,6µm,13.9s
GOPC GO Pecny, Ondr 29.85 315 *e*P **P 05 31 59.1 +0.9**
GOPC *e*pP **sP 05 32 04.0 +0.2**
GOPC *e*S S 05 37 04.6 +10
GOPC AMS AMS 05 48 00.0
comp=Z,6µm,13.9s
ZOU Zoufplan 29.91 308 P **P 05 31 58.6 -0.3**
LATE Laterza 29.96 300 P **P 05 31 60.0 +0.7**
GKP Gorka Klasztor 30.01 322 *e*P **P 05 32 00.4 +0.9**
GKP *e*S **S 05 36 59.1 +2.1**
PRU Pruhonice 30.03 315 *e*P **P 05 32 00.7 +1.0**
PRU *e*S S 05 37 06.5 +9.1
PRU MLR MLR
comp=Z,6µm,13.9s
PRU Pruhonice 30.03 315 *e*P **P 05 32 00.7 +1.0**
PRU *ex* x 05 37 06.5
PRU AMS AMS 05 48 00.0
comp=Z,6µm,13.9s
NGP Nagpur 30.05 105 *e*P **P 05 32 02.2 +2.0**
NGP *ex* x 05 32 08.1
comp=Z,112nm,1.6s
NGP *e*S **S 05 36 59.3 +1.0**
NGP AMP 05 46 32.0
comp=Z,8µm,16.4s
PRA Prague 30.12 315 *e*S **S 05 37 06.7 +7.8**
PRA AMS AMS 05 48 10.0
comp=Z,4µm,13.5s
GEC2 GERESS Array S 30.13 312 *e*P **P 05 32 00.8 +0.1**
comp=Z,101nm,1.4s,baz=111,slow=8.9
GEC2 GERESS Array S 30.13 312 P **P 05 32 00.7 0.0**
GERES GERESS Array B 30.13 312 P **P 05 32 01.0 +0.3**
comp=Z,8.1nm,0.5s,baz=110,slow=8.2,SNR=46
GERES PcP **PcP 05 35 03.3 +1.3**
comp=Z,5.9nm,0.8s,baz=136,slow=2.6,SNR=5.4
GERES ScP **ScP 05 38 43.8 -0.2**
comp=Z,2.8nm,0.8s,baz=123,slow=3.6,SNR=3.6
GERES LR LR 05 46 31.2
comp=Z,3µm,18.9s,baz=118,slow=41
GERES GERESS Array B 30.13 312 P **P 05 31 59.7 -1.0**
PVCC Panska Ves 30.22 316 *e*P **P 05 32 03.8 +2.4**
PVCC MLR MLR
comp=Z,7µm,13.6s
PVCC Panska Ves 30.22 316 *e*P **P 05 32 03.8 +2.4**
PVCC AMS AMS 05 47 40.0
comp=Z,7µm,13.6s
ABTA Abfaltersbach 30.27 308 *e*P **P 05 32 02.0 +0.1**
comp=Z,100nm,1.3s,SNR=31
KHC Kasperske Hory 30.30 313*ce*P **P 05 32 02.4 +0.2**
KHC pmax pmax
comp=Z,411nm,2.5s
KHC Kasperske Hory 30.30 313 *e*P **P 05 32 03.0 +0.8**
KHC *e*pP **sP 05 32 09.5 +1.7**
KHC AMS AMS 05 48 10.0
comp=Z,5µm,12.4s
RJOB Jochberg 30.35 310 *e*P **P 05 32 02.1 -0.6**
comp=Z,599nm,2.4s,baz=111,slow=8.9
SLIT Slitere, Latvi 30.39 333 *e*P **P 05 32 03.4 +0.6**
OSSC Osservatorio P 30.49 301 IAmb IAmb 05 32 40.2
comp=Z,119nm,1.2s
SRSP Sriramsagar 30.61 109 *e*P **P 05 32 05.7 +0.5**
SRSP IVmBBB 05 32 12.1
comp=Z,607nm,2.2s
SRSP *e*S **S 05 37 05.6 -1.6**
SRSP IVMs_BB IVMs_BB 05 46 19.9
comp=Z,2µm,16.3s
PYUN Piuthan 30.63 89 *e*P **P 05 32 06.1 +0.6**
CASP Castiglione de 30.67 300 P **P 05 32 04.6 -0.9**
CTI Castel Tesino 30.68 306 P **P 05 32 04.8 -0.8**
CTI pmax pmax
comp=Z,87nm,0.7s
CTI MLR MLR
comp=Z,3µm,20.0s
CTI Castel Tesino 30.68 306 P **P 05 32 04.8 -0.8**
CTI IAmb IAmb 05 32 07.9
comp=Z,87nm,0.7s
BRG Berggiesshubel 30.73 316 *i* P **P 05 32 05.7 -0.2**
comp=Z,67nm,1.3s
BRG *i* PCP **PcP 05 35 04.0 +0.7**
comp=Z,34nm,1.4s
BRG S **S 05 37 15.0 +6.6**
BRG SCP **ScP 05 38 44.4 -1.3**
comp=Z,16nm,1.5s
BRG SS **SnSn 05 38 54.0 +7.6**
comp=N,7µm,14.9s
comp=E,6µm,16.3s
comp=Z,7µm,14.4s
BRG Berggiesshubel 30.73 316 *i* P **P 05 32 05.7 -0.2**
BRG *i* 05 35 04.0
BRG S **S 05 37 15.0 +6.6**
BRG SS **SnSn 05 38 54.0 +7.6**
BRG pmax pmax
comp=Z,67nm,1.3s
BRG MLR MLR
comp=N,7µm,14.9s
BRG MLR MLR
comp=E,6µm,16.3s
BRG MLR MLR
comp=Z,7µm,14.4s
BRG Berggiesshubel 30.73 316 *e*P **P 05 32 05.6 -0.2**
comp=Z,67nm,1.3s,baz=111,slow=8.9
WET Wettzell 30.74 313 P **P 05 32 05.9 -0.1**
WET pmax pmax
comp=Z,63nm,1.6s
WET Wettzell 30.74 313 *e*P **P 05 32 05.5 -0.5**
comp=Z,69nm,1.1s,baz=111,slow=8.9
WTTA Wattenberg 30.98 309 *e*P **P 05 32 08.1 -0.3**
comp=Z,163nm,1.2s,SNR=46
WTTA *e*S **S 05 37 13.6 +0.8**
comp=Z,62nm,1.4s
WTTA *e*ScP **ScP 05 38 48.3 +1.4**
comp=Z,19nm,0.8s
WATA Walderalm 31.04 309 *e*P **P 05 32 08.5 -0.4**
comp=Z,206nm,1.4s,SNR=61
WATA *e*S **S 05 37 16.9 +3.3**
comp=Z,27nm,1.1s
WATA *e*ScP **ScP 05 38 49.2 +2.2**
comp=Z,20nm,1.0s
FBE Freiberg 31.09 316 *e*P **P 05 32 09.1 0.0**
comp=Z,166nm,1.9s,baz=111,slow=8.9
KOLN Koldanda 31.24 89 *e*P **P 05 32 11.4 +0.5**
comp=Z,222nm,1.2s
SQTA Sankt Quirin 31.25 308 *e*P **P 05 32 10.1 -0.5**
comp=Z,58nm,0.6s,SNR=45
SQTA *e*S **S 05 37 14.7 -2.2**
comp=Z,43nm,1.5s
SQTA *e*ScP **ScP 05 38 49.0 +1.2**
comp=Z,11nm,0.6s
MOTA Moosalm 31.35 309 *e*P **P 05 32 10.8 -0.8**
comp=Z,125nm,0.9s,SNR=56
MOTA *e*S **S 05 37 17.0 -1.6**
comp=Z,18nm,0.8s
MOTA *e*ScP **ScP 05 38 48.0 -0.1**
comp=Z,23nm,1.3s
ROTZ Rotzenmuhle 31.36 314 *e*P **P 05 32 11.9 +0.4**
comp=Z,630nm,1.9s,baz=111,slow=8.9
NKC Novy Kostel 31.37 314 *e*P **P 05 32 12.4 +0.8**
NKC *e* 05 32 18.6
NKC *e*S S 05 37 27.8 +9.2
NKC MLR MLR
comp=Z,6µm,13.0s
NKC Novy Kostel 31.37 314 *e*P **P 05 32 12.4 +0.8**
NKC *e*pP **sP 05 32 18.6 +1.4**
NKC *e*S S 05 37 27.8 +9.2
NKC AMS AMS 05 48 30.0
comp=Z,6µm,13.0s
RPR Rampur 31.41 108 *e*P **P 05 32 13.1 +0.9**
RPR IVmBBB 05 32 18.9
comp=Z,509nm,1.3s
RPR *e*S **S 05 37 20.8 +1.2**
RPR IVMs_BB IVMs_BB 05 46 43.8
comp=Z,2µm,15.0s
TANN Tannenbergstha 31.43 315 *e*P **P 05 32 12.2 +0.1**
comp=Z,167nm,1.7s,baz=111,slow=8.9
WERN Wernitzgruen 31.43 315 *e*P **P 05 32 12.4 +0.2**
comp=Z,107nm,1.5s,baz=111,slow=8.9
CLL Collm 31.44 317 *i* P **P 05 32 12.5 +0.4**
comp=Z,136nm,1.5s
CLL *e*(sP) **sP 05 32 19.0 +1.2**
CLL *i* 05 32 27.8
CLL *i* 05 33 41.9
CLL *e*S S **05 37 24.0 +4.5**
CLL *e* 05 38 07.0
CLL *e*PcS **PcS 05 38 48.0 -1.3**
CLL *e* 05 38 58.0
CLL *e*SSS SSS 05 39 18.0
CLL *e*SSSS 05 39 42.0
CLL *e* 05 40 30.0
CLL *e*ScS **ScS 05 42 49.0 +3.5**
CLL LmV 05 47 00.0
comp=Z,6µm,19.5s
CLL Lmax 05 48 00.0
CLL Collm 31.44 317 *i* P **P 05 32 12.5 +0.4**
CLL *e*S **S 05 37 24.0 +4.5**
CLL *e* 05 42 49.0
CLL pmax pmax
comp=Z,136nm,1.5s
CLL MLR MLR
comp=Z,6µm,19.5s
CLL Collm 31.44 317 *e*P **P 05 32 11.9 -0.3**
comp=Z,136nm,1.5s,baz=111,slow=8.9
FUR Furstenfeldbru 31.45 310 P **P 05 32 13.0 +0.7**
FUR pmax pmax
comp=Z,372nm,1.0s
FUR Furstenfeldbru 31.45 310 *e*P **P 05 32 12.1 -0.2**
comp=Z,579nm,1.3s,baz=111,slow=8.9
RUE Ruedersdorf 31.48 319 *e*P **P 05 32 14.9 +2.4**
RUE Ruedersdorf 31.48 319 *e*P **P 05 32 12.3 -0.2**
comp=Z,230nm,1.4s,baz=111,slow=8.9
GUNZ Gunzen 31.49 315 *e*P **P 05 32 12.9 +0.2**
comp=Z,245nm,2.1s,baz=111,slow=8.9
MANZ Manzenberg 31.49 314 *e*P **P 05 32 13.1 +0.4**
comp=Z,852nm,2.9s,baz=111,slow=8.9
FETA Feichten 31.52 308 *e*P **P 05 32 12.6 -0.5**
comp=Z,144nm,1.2s,SNR=76
FETA *e*S **S 05 37 20.3 -0.9**
comp=Z,39nm,1.3s
WERD Werda 31.53 315 *e*P **P 05 32 13.0 0.0**
comp=Z,18nm,1.1s,baz=111,slow=8.9
HYBB Hyderabad (bro 31.61 111 *e*P **P 05 32 15.0 +1.0**
HYBB IVmB_BB 05 32 20.0
comp=Z,1µm,1.8s
HYBB *e*S **S 05 37 23.9 +1.1**
HYBB IVMs_BB IVMs_BB 05 47 42.5
comp=Z,1µm,15.6s
HYB Hyderabad 31.61 111 *i* P **P 05 32 15.0 +1.0**
comp=Z,180nm,1.0s
HYB *e*pP **sP 05 32 20.0 +0.4**
HYB *e*S **S 05 37 24.0 +1.2**
HYB Hyderabad 31.61 111 *e*P **P 05 32 12.5 -1.5**
RETA Reutte 31.61 309 *e*P **P 05 32 13.5 -0.3**
comp=Z,64nm,1.0s,SNR=33
RETA *e*S **S 05 37 21.7 -0.8**
comp=Z,21nm,0.9s
PLN Plauen 31.64 315 *e*P **P 05 32 13.8 -0.1**
comp=Z,90nm,1.8s,baz=111,slow=8.9
ZSN Zaisan 31.65 51 *e*P **P 05 32 15.0 +0.9**
comp=Z,107nm,2.7s,baz=51
ZSN Zaisan 31.65 51 *e*P **P 05 32 15.0 +0.9**
ZSN pmax pmax
comp=Z,107nm,2.7s
FUORN Ofenpass-Fuorn 31.74 307 IAmb IAmb 05 32 40.1
comp=Z,173nm,1.4s
KEST Kesra 31.80 286 P **P 05 32 17.6 +2.1**
comp=Z,39nm,0.8s,baz=44,slow=4.9,SNR=19
KEST ScP **ScP 05 38 50.9 +1.2**
comp=Z,9.3nm,0.9s,baz=301,slow=2.7,SNR=3.7
KEST Kesra 31.80 286 P **P 05 32 16.1 +0.6**
KEST IAmb IAmb 05 32 25.1
comp=Z,101nm,1.1s
MSSA Maissana 31.84 303 P **P 05 32 15.1 -0.8**
GRA1 Grafenberg Arr 31.94 313 P **P 05 32 16.0 -0.6**
GRF Grafenberg Arr 31.94 313 P **P 05 32 16.0 -0.6**
GRF pmax pmax
comp=Z,459nm,1.6s
GRF MLR MLR
comp=Z,2µm,20.0s
GRF Grafenberg Arr 31.94 313 *e*P **P 05 32 16.7 +0.1**
comp=Z,585nm,1.8s,baz=111,slow=8.9
GRF *e*L L 05 51 01.6
comp=Z,3µm,19.3s
MOX Moxa 32.02 315 P **P 05 32 18.1 +0.9**
MOX pmax pmax
comp=Z,30nm,1.2s
MOX Moxa 32.02 315 *e*P **P 05 32 17.1 -0.2**
comp=Z,69nm,1.4s,baz=111,slow=8.9
MOX *e*L L 05 51 08.7
comp=Z,3µm,20.8s
FIA1 FINESS Array S 32.02 340 P **P 05 32 16.0 -1.2**
FINES FINESS Array B 32.02 340 P **P 05 32 16.3 -0.8**
comp=Z,52nm,0.6s,baz=144,slow=8.3,SNR=132
FINES LR LR 05 46 38.1
comp=Z,9µm,18.9s,baz=143,slow=39
FINES P3KPbc 06 03 48.4
comp=Z,1.7nm,0.7s,baz=299,slow=7.9,SNR=5.4
FINES FINESS Array B 32.02 340 P **P 05 32 15.9 -1.3**
URV Uravakonda 32.08 116 *e*P **P 05 32 18.8 +0.7**
URV IVmBBB 05 32 24.9
comp=Z,421nm,1.9s
URV *e*S **S 05 37 30.6 +0.5**
URV IVMs_BB IVMs_BB 05 45 50.8
comp=Z,661nm,10.2s
TMCR Tamitsa 32.08 352 *e*P **P 05 32 16.6 -1.0**
UBR Ueberruh 32.09 309 *e*P **P 05 32 17.5 -0.5**
comp=Z,281nm,1.4s,baz=111,slow=8.9
NEUB Neuenburg 32.12 316 *e*P **P 05 32 18.1 0.0**
comp=Z,84nm,1.0s,baz=111,slow=8.9
DAVA Damuels 32.15 308 *e*P **P 05 32 17.9 -0.7**
comp=Z,74nm,0.6s,SNR=53
DAVA *e*S **S 05 37 29.3 -1.7**
comp=Z,46nm,1.4s
TUE Stuetta 32.33 307 P **P 05 32 19.9 -0.3**
DMN Daman 32.56 89 *e*P **P 05 32 23.0 +0.4**
comp=Z,316nm,1.0s
SRLM Srisailam 32.63 113 *e*P **P 05 32 24.3 +1.3**
SRLM IVmBBB 05 32 30.4
comp=Z,910nm,1.8s
SRLM *e*S **S 05 37 41.1 +2.3**
SRLM IVMsBB 05 47 37.0
comp=Z,1µm,18.0s
KKN Kakani 32.65 89 *e*P **P 05 32 23.7 +0.4**
RGN Rugen 32.66 322 *e*P **P 05 32 26.0 +3.2**
RGN Rugen 32.66 322 *e*P **P 05 32 23.1 +0.4**
comp=Z,544nm,1.4s,baz=111,slow=8.9
RGN Rugen 32.66 322 P **P 05 32 23.6 +0.8**
NJS Nagarjunasagar 32.69 112 *e*P **P 05 32 24.3 +0.9**
NJS IVmBBB 05 32 30.4
comp=Z,847nm,1.8s
NJS *e*S **S 05 37 40.7 +1.1**
NJS IVMsBB 05 46 20.3
comp=Z,895nm,24.2s
PKI Pulchoki 32.83 89 *e*P **P 05 32 25.2 +0.2**
comp=Z,605nm,1.3s
STU Stuttgart 32.95 311 P **P 05 32 25.5 +0.1**
STU Stuttgart 32.95 311 *e*P **P 05 32 24.4 -1.1**
comp=Z,296nm,2.2s,baz=111,slow=8.9
STU Stuttgart 32.95 311 P **P 05 32 25.5 +0.1**
STU IAmb IAmb 05 32 26.6
comp=Z,184nm,1.8s
WMQ Urumqi 32.97 59 P **P 05 32 27.3 +1.6**
WMQ pP sP 05 32 32.5 +1.2
WMQ PP **PP 05 33 40.9 +0.7**
WMQ S **S 05 37 43.5 -0.2**
WMQ sS sS 05 37 51.5 +1.3
WMQ SS **SnSn 05 39 45.8 +4.7**
WMQ pmax pmax
comp=Z,56nm,1.1s
WMQ pmax pmax
comp=Z,740nm,4.5s
WMQ LR LR
comp=Z,3µm,15.1s
WMQ LR LR
comp=Z,4µm,15.1s
WMQ LR LR
comp=Z,3µm,16.7s
UBBA Unterbreizbach 33.04 315 *e*P **P 05 32 26.5 +0.4**
comp=Z,294nm,2.1s,baz=111,slow=8.9
SUF Sumiainen 33.05 342 P **P 05 32 26.3 +0.2**
SUF pmax pmax
comp=Z,276nm,1.0s
ASSE Asse, Remlinge 33.09 317 *e*P **P 05 32 26.7 +0.2**
comp=Z,119nm,1.7s,baz=111,slow=8.9
GUN Gumba 33.12 88 *e*P **P 05 32 28.2 +0.7**
comp=Z,500nm,1.1s
CLZ Clausthal 33.16 316 *e*P **P 05 32 27.4 +0.1**
comp=Z,274nm,1.6s,baz=111,slow=8.9
CMAH Djebel Manchou 33.26 288 P **P 05 32 28.7 +0.3**
GTTG Gottingen 33.30 316 *e*P **P 05 32 28.7 +0.3**
comp=Z,136nm,1.3s,baz=111,slow=8.9
BFO Black Forest 33.40 310 P **P 05 32 29.6 +0.2**
BFO pmax pmax
comp=Z,51nm,1.1s
BFO MLR MLR
comp=Z,2µm,20.0s
BFO Black Forest 33.40 310 *e*P **P 05 32 28.7 -0.8**
comp=Z,78nm,1.5s,baz=111,slow=8.9
BFO Black Forest 33.40 310 P **P 05 32 29.6 +0.2**
TOD Tromm 33.42 312 P **P 05 32 30.1 +0.6**
JIRN Jiri 33.46 88 *e*P **P 05 32 31.3 +0.8**
comp=Z,369nm,0.8s
NRDL Niedersach Rie 33.55 317 *e*P **P 05 32 31.4 +0.9**
comp=Z,361nm,1.6s,baz=111,slow=8.9
ADKI Addanki 33.62 112 *e*P **P 05 32 32.7 +1.2**
ADKI IVmBBB 05 32 38.6
comp=Z,813nm,1.8s
ADKI *e*S **S 05 37 54.8 +0.8**
ADKI IVMs_BB IVMs_BB 05 46 57.8
comp=Z,962nm,26.7s
MYLAV Mylavaram 33.63 110 *e*P **P 05 32 33.2 +1.6**
MYLAV IVmBBB 05 32 38.8
comp=Z,786nm,1.2s
MYLAV *e*S **S 05 37 55.7 +1.5**
MYLAV IVMs_BB IVMs_BB 05 48 33.9
comp=Z,2µm,17.8s
CAEH 'Ain El Ouahch 33.70 289 P **P 05 32 31.9 -0.2**
SENIN Lac Senin/Sane 33.70 306 P **P 05 32 32.3 +0.1**
SENIN IAmb IAmb 05 32 38.1
comp=Z,89nm,0.8s
ZAA0 Zalesovo Array 33.76 40 P **P 05 32 32.6 +0.3**
ZAA0 IAmb IAmb 05 32 34.9
comp=Z,89nm,1.0s
ZALV Zalesovo Beam 33.76 40 P **P 05 32 32.5 +0.1**
comp=Z,64nm,0.8s,baz=256,slow=8.7,SNR=133

ZALV ScP **ScP** **05 38 53.1 -2.9**
comp=Z,3.5nm,0.5s,baz=202,slow=2.9,SNR=4.0
ZALV LR LR 05 46 21.7
comp=Z,2μm,20.3s,baz=242,slow=36
ZALV P3KPbc 06 03 41.8
comp=Z,1.6nm,0.7s,baz=46,slow=6.4,SNR=5.7
ZALV Zalesovo Beam 33.76 40 P **P** **05 32 32.0 -0.4**
KTD Kalmit 33.80 311 P **P** **05 32 33.1 +0.2**
TNS Taunus Mts 33.81 313 P **P** **05 32 34.0 +1.0**
TNS pmax pmax
comp=Z,124nm,2.1s
TNS Taunus Mts 33.81 313 *eP* **P** **05 32 33.1 +0.1**
comp=Z,463nm,1.9s,baz=111,slow=8.9
CKFL Kef-Lekhel 33.84 288 P **P** **05 32 33.4 -0.1**
DGZ Jazzator, Alta 33.87 48⇑ *eP* **P** **05 32 35.2 +1.6**
DGZ pmax pmax
comp=Z,35nm,0.7s
DGZ MLR MLR
comp=Z,5μm,15.0s
BNI Bardonecchia 33.95 303 P **P** **05 32 34.1 -0.2**
BNI pmax pmax
comp=Z,530nm,0.9s
BSEG Bad Segeberg 33.98 320 *eP* **P** **05 32 34.8 +0.5**
comp=Z,207nm,1.5s,baz=111,slow=8.9
RAMN Ramite 34.03 89 *eP* **P** **05 32 35.2 -0.2**
comp=Z,237nm,0.8s
CTEI Djebel Teioual 34.13 287 P **P** **05 32 37.3 +1.3**
PVM Polavaram 34.14 108 *eP* **P** **05 32 37.9 +1.8**
PVM IVmBBB 05 32 43.6
comp=Z,668nm,2.0s
PVM *eS* **S** **05 38 02.9 +0.9**
PVM IVMs_BB IVMs_BB 05 48 26.4
comp=Z,2μm,19.0s
ECH Echery 34.14 309 IAmb IAmb 05 32 43.0
comp=Z,140nm,1.3s
VAF Ylistaro 34.27 340 P **P** **05 32 36.5 -0.2**
VAF pmax pmax
comp=Z,277nm,1.0s
ORIF Oris-en-Rattie 34.49 303 P **P** **05 32 38.7 -0.3**
ORIF pmax pmax
comp=Z,115nm,0.9s
DFRA Djebel Bou Aff 34.50 288 P **P** **05 32 38.9 -0.3**
BOK Bokaro 34.57 95 *eP* **P** **05 32 39.3 -0.5**
SKHT Srikalahasti 34.68 115 *eP* **P** **05 32 41.5 +0.7**
SKHT IVmBBB 05 32 48.0
comp=Z,654nm,2.4s
SKHT *eS* **S** **05 38 11.1 +0.6**
SKHT IVMs_BB IVMs_BB 05 49 40.3
comp=Z,936nm,14.9s
ODAN Odare 34.73 89 *eP* **P** **05 32 42.1 +0.7**
AHRW Bad Neuenahr-A 34.74 313 *eP* **P** **05 32 41.4 +0.5**
comp=Z,278nm,1.9s,baz=111,slow=8.9
SKMB Sankelmark Bun 34.77 321 *eP*
comp=Z,461nm,1.5s,baz=111,slow=8.9 **P** **05 32 42.1 +1.0**
TAPN Taplejung 34.84 88 *eP* **P** **05 32 42.4 0.0**
comp=Z,819nm,1.3s
IBBN Ibbenburen 34.84 316 *eP* **P** **05 32 42.8 +1.0**
comp=Z,755nm,1.8s,baz=111,slow=8.9
BUG Bochum--Univer 34.87 315 P **P** **05 32 43.7 +1.7**
BUG pmax pmax
comp=Z,92nm,2.0s
BUG Bochum--Univer 34.87 315 *eP* **P** **05 32 42.7 +0.6**
comp=Z,405nm,1.8s,baz=111,slow=8.9
SET Setif 34.92 288 P **P** **05 32 45.0 +2.1**
KMBO Kilima Mbogo 35.07 199 P **P** **05 32 46.3 +2.0**
comp=Z,9.1nm,1.1s,baz=27,slow=10,SNR=9.2
KMBO PcP **PcP** **05 35 20.3 +4.1**
comp=Z,6.4nm,0.8s,baz=46,slow=5.0,SNR=4.0
KMBO LR LR 05 47 51.1
comp=Z,4μm,18.5s,baz=6.0,slow=38
KMBO Kilima Mbogo 35.07 199 P **P** **05 32 47.1 +2.7**
KMBO Kilima Mbogo 35.07 199⇑ *iP* **P** **05 32 45.7 +1.3**
KMBO *i* S **S** **05 38 18.8 +1.9**
KMBO Kilima Mbogo 35.07 199 P **P** **05 32 44.7 +0.3**
KMBO Kilima Mbogo 35.07 199⇑ *iP* **P** **05 32 45.7 +1.3**
KMBO *i* S **S** **05 38 18.8 +1.9**
WLF Walferdange 35.10 311 P **P** **05 32 43.8 -0.3**
WLF Walferdange 35.10 311 *eP* **P** **05 32 43.5 -0.6**
comp=Z,138nm,1.4s,baz=111,slow=8.9
WLF Walferdange 35.10 311 IAmb IAmb 05 32 51.5
comp=Z,184nm,1.5s
BHOU Houvegnez 35.36 312 pP **P** **05 32 46.9 +0.6**
BHOU x x 05 34 07.5
HLG Helgoland 35.40 319 *eP* **P** **05 32 49.1 +2.5**
comp=Z,802nm,1.4s,baz=111,slow=8.9
MEM Membach 35.42 313 pP **P** **05 32 48.3 +1.5**
MEM x x 05 32 54.0
MEM Membach 35.42 313 P **P** **05 32 48.5 +1.7**
MEM pmax pmax
comp=Z,65nm,2.3s
CHLP Challavanipeta 35.45 104 *eP* **P** **05 32 48.0 +0.6**
CHLP IVmB_BB 05 32 53.5
comp=Z,984nm,1.6s
CHLP *eS* **S** **05 38 22.4 +0.2**
CHLP IVMs_BB IVMs_BB 05 49 04.7
comp=Z,3μm,16.5s
SSB Saint Sauveur 35.48 304 P **P** **05 32 45.9 -1.5**
SSB pmax pmax
comp=Z,316nm,1.9s
SSB Saint Sauveur 35.48 304 P **P** **05 32 45.9 -1.5**
SSB IAmb IAmb 05 32 48.8
comp=Z,316nm,1.9s
MAHO Mahon 35.52 294⇑ *iP* **P** **05 32 47.7 -0.1**
MAHO *i* S **S** **05 38 20.9 -2.2**
GTK Tadong 35.60 88 *eP* **P** **05 32 48.6 -0.1**
MUD Monsted U'grnd 35.62 324 *iP* **P** **05 32 50.3 +1.9**
MUD Monsted U'grnd 35.62 324 *iP* **P** **05 32 50.3 +1.9**
BEBN Eben Emael 35.67 313 P **P** **05 32 48.4 -0.5**
BEBN pP **pP** **05 32 50.7 -2.2**
BEBN x x 05 32 56.8
BEBN PnPn **PnPn** **05 34 06.7 -1.6**
BEBN x x 05 34 13.2
BSTI Sart Tilman 35.68 313 pP pP 05 32 51.1 -2.0
BCLA Clavier 35.81 312 pP **P** **05 32 51.2 +1.0**
BCLA x x 05 32 57.3
APA Apatity 35.92 351⇑ *iP* P 05 32 44.0 -6.9
APA pmax pmax
comp=Z,66nm,0.8s
APA MLR MLR
comp=Z,8μm,14.0s
BGES Gesves 35.94 312 pP **P** **05 32 52.3 +1.0**
BGES x x 05 32 58.2
BGES x x 05 34 15.0
LVZ Lovozero 36.07 352 *ceP* **P** **05 32 50.9 -1.4**
LVZ pmax pmax
comp=Z,324nm,1.3s
LVZ Lovozero 36.07 352 P **P** **05 32 49.8 -2.5**
LVZ IAmb IAmb 05 32 54.3
comp=Z,173nm,1.2s
LVZ IAMs_20 IAMs_20 05 48 46.0
comp=Z,9μm,22.0s
BMRD Maredsous 36.12 312 pP **P** **05 32 53.2 +0.5**
BMRD x x 05 33 00.1
AKET Djebel Ketaf 36.16 288 P P 05 32 58.8 +5.2
DOU Dourbes 36.18 312 pP **P** **05 32 53.7 +0.4**
DOU x x 05 33 00.3
DOU PP **PP** **05 34 16.8 +1.3**
DOU Dourbes 36.18 312 P **P** **05 32 54.4 +1.1**
DOU pmax pmax
comp=Z,49nm,1.8s
SNF Seneffe 36.46 312 pP **P** **05 32 56.8 +1.1**
SNF x x 05 33 03.5
SNF x x 05 34 20.6
UCC Uccle 36.48 313 P **P** **05 32 55.3 -0.5**
UCC pP **pP** **05 32 57.3 -2.6**
ADJB Djebel Djouab 36.51 288 P **P** **05 32 58.2 +1.8**
OSL Oslo 36.56 329 *eP* **P** **05 32 56.1 -0.3**
NC602 NORSAR Array S 36.65 331 P **P** **05 32 57.0 -0.2**
NC602 IAmb IAmb 05 33 17.6
comp=Z,262nm,1.7s
NORES NORESS Array B 36.65 331 P **P** **05 32 57.5 +0.3**
NORES pmax pmax
comp=Z,21nm,0.5s
ABA Alger-Bouzarea 36.74 289 P **P** **05 32 58.0 -0.3**
HOMB Homborsund 36.75 326 *eP* **P** **05 32 58.1 0.0**
MBAR Mbarara 36.81 209 *cP* **P** **05 33 01.0 +1.8**
MBAR pmax pmax
comp=Z,32nm,0.9s
MBAR Mbarara 36.81 209 P **P** **05 33 00.4 +1.2**
KONO Kongsberg 36.91 328 *ceP* **P** **05 32 58.9 -0.5**
KONO pmax pmax
comp=Z,72nm,1.3s
KONO Kongsberg 36.91 328 P **P** **05 32 59.2 -0.2**
KONO Kongsberg 36.91 328 *eP* **P** **05 32 59.4 0.0**

NB201 NORSAR Array S 36.92 331 P **P** **05 32 59.1 -0.5**
NB201 IAmb IAmb 05 33 19.8
comp=Z,266nm,1.6s
NB2 NORSAR Subarra 36.95 331 P **P** **05 32 59.4 -0.4**
comp=Z,214nm,1.7s,baz=123,slow=9.3
NB2 NORSAR Subarra 36.95 331 P **P** **05 32 59.4 -0.4**
baz=123,slow=9.3
NOA NORSAR Array B 36.95 331 P **P** **05 32 58.6 -1.2**
comp=Z,14nm,0.6s,baz=124,slow=8.5,SNR=62
NOA PP **PP** **05 34 23.8 -0.1**
comp=Z,4.8nm,0.7s,baz=120,slow=10,SNR=3.5
NOA LR LR 05 50 01.8
comp=Z,4μm,18.6s,baz=125,slow=39
NAO01 NORSAR Array S 36.98 331 P **P** **05 32 58.7 -1.3**
NAO01 IAmb IAmb 05 33 09.2
comp=Z,196nm,1.3s
NAO01 NORSAR Array S 36.98 331 *eP* **P** **05 32 59.9 -0.1**
NC303 NORSAR Array S 36.99 331 P **P** **05 32 59.2 -0.9**
NC303 IAmb IAmb 05 33 01.6
comp=Z,330nm,1.7s
LSA Lhasa 37.03 83 P **P** **05 33 02.1 +0.7**
LSA S **S** **05 38 40.8 -6.5**
LSA pmax pmax
comp=Z,69nm,1.3s
LSA LR LR
comp=Z,13μm,15.7s
LSA LR LR
comp=Z,25μm,15.7s
LSA LR LR
comp=Z,41μm,17.8s
LSA Lhasa 37.03 83 IAMs_20 IAMs_20 05 50 21.9
comp=Z,9μm,18.0s
NBO00 NORSAR Array S 37.12 331 IAmb IAmb 05 33 02.8
comp=Z,323nm,1.7s
NC204 NORSAR Array S 37.26 331 IAmb IAmb 05 33 17.0
comp=Z,321nm,1.8s
SKAR Skarslia 37.98 329 *eP* **P** **05 33 09.1 +0.5**
BLS5 Blasjo 38.22 327 *eP* **P** **05 33 11.6 +1.1**
ODD1 Odda 38.35 328 *eP* **P** **05 33 16.5 +4.8**
DOMB Dombas 38.36 332 *eP* **P** **05 33 12.7 +0.9**
EANR 'Ain N'Sour 38.41 288 P **P** **05 33 15.0 +2.5**
TAM Tamanrasset 38.46 266 P **P** **05 33 14.5 +1.3**
TAM pmax pmax
comp=Z,237nm,1.4s
TAM MLR MLR
comp=Z,6μm,20.0s
TAM Tamanrasset 38.46 266 P **P** **05 33 14.4 +1.3**
TAM IAmb IAmb 05 33 22.9
comp=Z,237nm,1.4s
TAM IAMs_20 IAMs_20 05 51 31.6
comp=Z,6μm,20.0s
TBLU Trondheim 38.56 334 *eP* **P** **05 33 14.2 +0.9**
GUWA GUWAHATI 38.58 88 *eP* **P** **05 33 13.2 -0.8**
NSS Namsos 38.71 336 *eP* **P** **05 33 14.4 -0.2**
KRAR Krasnoyarsk 38.83 39 *iP* **P** **05 33 13.3 -2.4**
KEV Kevo 38.90 349 P **P** **05 33 16.6 +0.5**
KEV pmax pmax
comp=Z,361nm,1.7s
KEV MLR MLR
comp=Z,4μm,18.0s
KEV Kevo 38.90 349 P **P** **05 33 16.6 +0.5**
KEV IAmb IAmb 05 33 18.4
comp=Z,360nm,1.7s
SHL Shillong 38.96 89 *eP* **P** **05 33 16.2 -1.2**
SHL *i* P **pP** **05 33 18.0 -3.4**
SHL *i* S **S** **05 39 12.0 -4.0**
SHL Shillong 38.96 89 P **P** **05 33 16.6 -0.8**
SHL pmax pmax
comp=Z,152nm,0.9s
SHL MLR MLR
comp=Z,11μm,20.0s
SHL Shillong 38.96 89 P **P** **05 33 16.6 -0.8**
SHL IAmb IAmb 05 33 20.3
comp=Z,152nm,0.9s
ARCES ARCESS Array B 38.96 348 P **P** **05 33 16.2 -0.5**
comp=Z,42nm,0.6s,baz=156,slow=8.3,SNR=105
ARCES PP **PP** **05 34 44.2 -1.6**
comp=Z,27nm,0.9s,baz=160,slow=12,SNR=5.0
ARCES PcP **PcP** **05 35 27.4 +0.5**
comp=Z,14nm,0.6s,baz=155,slow=4.0,SNR=6.2
ARCES ScP **S** **05 39 13.2 -1.5**
comp=Z,9.6nm,0.9s,baz=151,slow=5.3,SNR=4.1
ARCES LR LR 05 50 10.8
comp=Z,6μm,19.5s,baz=144,slow=38
ARE0 ARCESS Array S 38.96 348 P **P** **05 33 16.7 0.0**
ARE0 ARCESS Array S 38.96 348 *eP* **P** **05 33 16.7 0.0**
HYA Hoyanger 39.12 329 *eP* **P** **05 33 20.0 +2.0**
BER Bergen 39.15 328 P **P** **05 33 20.0 +1.8**
BER pmax pmax
comp=Z,111nm,0.8s
BER Bergen 39.15 328 *eP* **P** **05 33 19.3 +1.0**
ASK Askoy 39.25 328 *eP* **P** **05 33 15.8 -3.3**
AKN Aaknes 39.27 331 *eP* **P** **05 33 20.7 +1.4**
TEZP TEZPUR 39.37 87 *eP* **P** **05 33 20.1 -0.4**
N2ST Straumen 39.47 341 *eP* **P** **05 33 20.8 -0.1**
STOK Stokkvaagen 39.52 339 *eP* **P** **05 33 20.8 -0.5**
KONS Konsvik 39.60 339 *eP* **P** **05 33 22.1 +0.1**
NBB40 Tonnes 39.64 339 *eP* **P** **05 33 21.5 -0.8**
PALK Pallekele 39.66 122 P **P** **05 33 25.0 +1.9**
PALK pmax pmax
comp=Z,134nm,1.5s
PALK MLR MLR
comp=Z,4μm,20.0s
PALK Pallekele 39.66 122 P **P** **05 33 25.0 +1.9**
NBB05 Inndyr 39.69 340 *eP* **P** **05 33 22.5 -0.3**
NBB30 Finnes 39.74 340 *eP* **P** **05 33 22.7 -0.4**
N2TV TΨrnvik 39.76 341 *eP* **P** **05 33 22.7 -0.6**
NBB08 Skaug oppvekst 39.76 341 *eP* **P** **05 33 23.4 +0.1**
FOO Floro 39.81 330 *eP* **P** **05 33 24.6 +0.8**
N2IH Innhavet 39.82 342 *eP* **P** **05 33 23.3 -0.5**
CART Cartagena 39.84 291⇑ *iP* **P** **05 33 23.9 -0.4**
CART *i* S **S** **05 39 24.9 -3.6**
ZIRO ZIRO 39.95 85 *eP* **P** **05 33 26.5 +0.8**
ITAN ITANAGAR 39.97 86 *eP* **P** **05 33 25.7 +0.2**
STEI Steigen 39.98 342 *eP* **P** **05 33 24.3 -0.8**
STEI *eP* **P** **05 33 24.5 -0.6**
WOL Wolverton 40.04 313 *eP* **P** **05 33 26.3 +0.5**
HAMF Hammerfest 40.24 348 *eP* **P** **05 33 27.1 -0.1**
CWF Charnwood Fore 40.31 315 *eP* **P** **05 33 28.0 -0.1**
CWF IAMs_20 IAMs_20 05 56 17.3
comp=Z,5μm,15.4s
GDLE Glaisdale, N Y 40.35 317 *eP* **P** **05 33 28.9 +0.5**
GDLE IAmb IAmb 05 33 30.1
comp=Z,322nm,1.2s
TRO Tromso 40.36 345 *eP* **P** **05 33 27.4 -0.8**
JSA Saint Aubin 40.39 309 *eP* **P** **05 33 28.4 -0.4**
JSA IAMs_20 IAMs_20 05 53 03.9
comp=Z,4μm,16.2s
SWN1 Swindon 40.42 313 *eP* **P** **05 33 29.7 +0.6**
SWN1 IAmb IAmb 05 33 32.2
comp=Z,247nm,0.9s
N2VA Vr,y 40.50 340 *eP* **P** **05 33 28.9 -0.5**
JORH JORHAT 40.54 86 *eP* **P** **05 33 30.6 +0.2**
N2SV S,rvΨgen 40.56 341 *eP* **P** **05 33 29.4 -0.5**
N2RO R,st 40.57 340 *eP* **P** **05 33 28.7 -1.3**
LOF Lofoten 40.58 341 *eP* **P** **05 33 30.1 0.0**
LBWR Ladybower, Pea 40.68 316 *eP* **P** **05 33 30.7 -0.4**
LBWR IAmb IAmb 05 33 38.1
comp=Z,187nm,1.0s
STRD Stroud 40.68 313 *eP* **P** **05 33 31.0 -0.1**
STRD IAmb IAmb 05 33 33.6
comp=Z,204nm,0.7s
HPK Haverah Park 40.73 317 *eP* **P** **05 33 31.8 +0.3**
HPK IAmb IAmb 05 33 33.0
comp=Z,832nm,1.7s
HPK IAMs_20 IAMs_20 05 54 37.7
comp=Z,7μm,17.4s
STNC Stoke 40.91 315 *eP* **P** **05 33 33.2 +0.2**
SESP Santiago Espad 40.97 292 P **P** **05 33 35.7 +1.7**
SNH=11
SAIH SAIHA 41.07 93 *eP* **P** **05 33 35.1 +0.1**
EDMD Edmundbyers 41.09 318 *eP* **P** **05 33 34.1 -0.4**
HLM1 Long Mynd 41.23 314 *eP* **P** **05 33 35.4 -0.3**
MCH1 Michaelchurch 41.23 313 *eP* **P** **05 33 35.6 -0.1**
MCH1 IAmb IAmb 05 33 37.1
comp=Z,153nm,0.6s
MCH1 IAMs_20 IAMs_20 05 54 53.0
comp=Z,4μm,12.4s
UCM Universidad Co 41.24 296 *iP* **P** **05 33 36.0 0.0**
UCM *eS* S 05 39 38.1 -11
TAF Taforalt 41.44 287 P **P** **05 33 41.0 +3.3**
SNR=11
FOEL Foel Wylfa 41.47 315 *eP* **P** **05 33 38.2 +0.5**
DYA Yadsworthy 41.64 311 *eP* **P** **05 33 38.9 -0.2**

DYA IAmb IAmb 05 33 40.3
comp=Z,750nm,2.1s
JBK JBK 41.66 287 P **P** **05 33 43.0 +3.3**
SNR=19
ESY Stoneypath 41.68 319 *eP* **P** **05 33 39.3 0.0**
LKP Lekhapani 41.69 84 *eP* **P** **05 33 40.3 +0.6**
KESW Keswick, Cumbr 41.70 317 *eP* **P** **05 33 39.1 -0.4**
KESW IAmb IAmb 05 33 41.2
comp=Z,190nm,0.6s
LLW Llanuwychllyn 41.75 315 *eP* **P** **05 33 40.2 +0.4**
MELI Melilla 41.76 288⇑ *iP* **P** **05 33 40.8 +0.6**
ESBB Sonseca Array 41.86 295 P **P** **05 33 39.8 -1.3**
ESDC Sonseca Array 41.86 295 P **P** **05 33 40.9 -0.2**
comp=Z,20nm,0.6s,baz=73,slow=7.7,SNR=68
ESDC ScP **ScP** **05 39 29.6 +2.7**
comp=Z,2.2nm,1.0s,baz=67,slow=5.3,SNR=2.7
ESDC S **S** **05 39 59.5 +0.6**
comp=Z,3.4nm,1.1s,baz=76,slow=11,SNR=5.2
ESDC LR LR 05 52 03.1
comp=Z,1μm,21.5s,baz=80,slow=38
ESDC Sonseca Array 41.86 295 P **P** **05 33 41.1 0.0**
EKA Eskdalemuir Ar 41.87 318 P **P** **05 33 39.8 -1.0**
ESK Eskdalemuir 41.89 318 P **P** **05 33 40.5 -0.5**
ESK pmax pmax
comp=Z,170nm,1.5s
ESK MLR MLR
comp=Z,4μm,18.0s
ESK Eskdalemuir 41.89 318 P **P** **05 33 40.5 -0.5**
EBL Broad Law 41.89 319 *eP* **P** **05 33 41.1 +0.1**
GUD Guadarrama 41.90 296 P **P** **05 33 43.4 +1.9**
GTA Gaotai 42.12 66⇑ P **P** **05 33 44.0 +0.7**
GTA pP sP 05 33 49.9 +0.9
GTA sP pP 05 33 52.9 +5.5
GTA PP **PP** **05 35 22.1 +1.4**
GTA S **S** **05 40 07.8 +5.0**
GTA sS sS 05 40 13.8 +4.3
GTA pmax pmax
comp=Z,47nm,1.5s
GTA pmax pmax
comp=Z,800nm,5.1s
GTA LR LR
comp=Z,9μm,20.0s
GTA LR LR
comp=Z,7μm,17.1s
GTA LR LR
comp=Z,8μm,18.4s
PAB San Pablo 42.17 295 P **P** **05 33 42.7 -1.0**
PAB pmax pmax
comp=Z,120nm,1.3s
PAB San Pablo 42.17 295 P **P** **05 33 42.7 -1.0**
WLF1 Llynfaes 42.24 315 *eP* **P** **05 33 44.2 +0.3**
WLF1 IAMs_20 IAMs_20 05 55 30.6
comp=Z,9μm,14.6s
RSBS Rosebush, Pemb 42.29 313 *eP* **P** **05 33 44.5 +0.1**
WPS Cemaes, Angles 42.32 315 *eP* **P** **05 33 44.4 -0.1**
WPS IAmb IAmb 05 33 48.4
comp=Z,499nm,1.5s
WPS IAMs_20 IAMs_20 05 55 31.9
comp=Z,5μm,16.8s
YRC Rhoscolyn 42.34 315 *eP* **P** **05 33 44.6 -0.1**
NEWG New Galloway 42.43 318 *eP* **P** **05 33 45.6 +0.2**
IOMK Kirk Michael 42.48 317 *eP* **P** **05 33 46.5 +0.6**
IOMK IAMs_20 IAMs_20 05 55 38.8
comp=Z,8μm,16.7s
WIM Isle of Man 42.53 316 *eP* **P** **05 33 46.7 +0.5**
INVG Invergeldie, C 42.57 320 *eP* **P** **05 33 45.9 -0.6**
INVG IAmb IAmb 05 33 47.9
comp=Z,109nm,1.0s
INVG IAMs_20 IAMs_20 05 55 24.2
comp=Z,5μm,20.8s
GAL1 Galloway 42.66 317 *eP* **P** **05 33 46.9 -0.4**
GAL1 IAmb IAmb 05 33 49.9
comp=Z,83nm,0.8s
EMAL Malaga-Limoner 42.67 291⇑ *iP* **P** **05 33 47.0 -0.7**
EMAL *eS* S 05 40 01.1 -10
EAB Aberfoyle 42.69 319 *eP* **P** **05 33 47.0 -0.5**
MOY Mondy 42.69 47 *eP* **P** **05 33 49.8 +2.0**
MOY pmax pmax
comp=Z,196nm,1.9s
PVLZ Peæn de 42.88 288⇑ *iP* **P** **05 33 48.9 -0.4**
NRIK Noril'sk 42.91 19 P **P** **05 33 50.2 +1.1**
comp=Z,27nm,0.5s,baz=230,slow=6.7,SNR=34
NRIK LR LR 05 55 46.7
comp=Z,6μm,18.9s,baz=232,slow=42
NRIK Noril'sk 42.91 19 *iP* **P** **05 33 50.3 +1.2**
NRIK pmax pmax
comp=Z,73nm,1.1s
HORN Hornachuelos 43.13 292 P **P** **05 33 50.9 -0.5**
SNR=33
GMM Mts of Mourne 43.28 316 *eP* **P** **05 33 53.2 +0.8**
REAL Reales 43.34 290 *eP* **P** **05 33 52.8 -0.5**
DSB Dublin 43.42 315 P **P** **05 33 52.5 -1.0**
DSB IAmb IAmb 05 33 55.3
comp=Z,124nm,0.6s
CLGH Cloghs, Cushen 43.49 318 *eP* **P** **05 33 53.9 -0.1**
CLGH IAmb IAmb 05 33 56.2
comp=Z,311nm,1.4s
CEU Ceuta 43.59 290 *iP* **P** **05 33 53.0 -2.0**
SMIR Smir Dam 43.64 289 P **P** **05 33 56.0 +0.5**
SNR=20
PBRG Braganca 43.71 298⇑ *iP* **P** **05 33 56.4 +0.3**
comp=Z,199nm,1.6s
PBRG Braganca 43.71 298 *ePP* PP 05 35 38.6 +0.9
ARF Arif 43.72 283 P **P** **05 33 59.0 +2.7**
SNR=14
MVO Moncorvo 44.00 297⇑ *eP* **P** **05 33 58.7 +0.3**
comp=Z,185nm,3.2s
MVO *eS* **S** **05 40 32.0 +1.8**
MVO Moncorvo 44.00 297 *eLR* LR 05 52 06.3
comp=Z,2μm,18.0s
ZAK Zakamensk 44.06 49 *eP* **P** **05 34 00.1 +1.3**
ZAK *e* 05 35 43.2
ZAK pmax pmax
comp=Z,48nm,1.7s
ZAK pmax pmax
comp=Z,25nm,1.3s
SFS San Fernando 44.13 291 *iP* **P** **05 33 57.5 -2.0**
RSA Sarsar 44.16 288 P **P** **05 34 01.0 +1.2**
SNR=20
BJO1 Bjornoya 44.24 349 *eP* **P** **05 34 00.1 +0.3**
GOLM Goulmima 44.25 284 P **P** **05 34 04.0 +3.4**
SNR=21
TLY Talaya 44.34 48*c iP* **P** **05 34 02.1 +1.1**
TLY *e* 05 35 44.5
TLY *eS* **S** **05 40 36.0 +1.2**
TLY *eSS* **SS** **05 43 50.9 -2.3**
TLY pmax pmax
comp=Z,123nm,1.5s
TLY MLR MLR
comp=Z,9μm,11.0s
TLY Talaya 44.34 48 P **P** **05 34 01.4 +0.4**
MTE Manteigas 44.49 296⇓ *iP* **P** **05 34 02.4 0.0**
comp=Z,276nm,1.4s
MTE Manteigas 44.49 296 *ePP* PP 05 35 47.8 +1.7
MTE *eS* **S** **05 40 32.5 -4.9**
MTE Manteigas 44.49 296 *eLR* LR 05 52 15.5
comp=Z,2μm,20.0s
MTE Manteigas 44.49 296 P **P** **05 34 02.9 +0.5**
PVRL Vila Real 44.50 298 *eP* **P** **05 34 02.7 +0.3**
comp=Z,264nm,1.6s
PMRV Marv??o 44.52 295⇑ *iP* **P** **05 34 02.4 -0.2**
comp=Z,118nm,1.4s
PMRV Marv??o 44.52 295 *ePP* PP 05 35 49.3 +3.0
PMRV *eS* **S** **05 40 36.9 -0.8**
PMRV Marv??o 44.52 295 *eLR* LR 05 51 58.5
comp=Z,2μm,18.0s
PCBR Castelo Branco 44.52 296 *eP* **P** **05 34 02.9 +0.4**
comp=Z,305nm,1.5s
PCBR Castelo Branco 44.52 296 *ePP* PP 05 35 48.8 +2.5
PCAB Cabril 44.67 298⇑ *eP* **P** **05 34 03.6 -0.2**
comp=Z,227nm,1.7s
PCAB Cabril 44.67 298 *ePP* PP 05 35 52.1 +4.1
PVIS Viseu 44.71 297 *eP* **P** **05 34 04.9 +0.8**
comp=Z,270nm,1.6s
IRK Irkutsk 44.76 47 *eP* **P** **05 34 05.1 +0.8**
IRK pmax pmax
comp=Z,277nm,1.6s
PGAV Gavieira, Arco 44.82 299⇑ *iP* **P** **05 34 05.1 0.0**
comp=Z,436nm,1.3s
PGAV *eS* **S** **05 40 47.9 +5.7**
PGAV Gavieira, Arco 44.82 299 *eLR* LR 05 53 14.9
comp=Z,2μm,18.0s
PBEJ Beja 45.13 293⇑ *eP* **P** **05 34 06.1 -1.3**
comp=Z,223nm,1.3s
PVAQ Vaqueiros 45.13 292⇑ *eP* **P** **05 34 07.2 -0.2**

comp=Z,225nm,1.2s
PVAQ eS S 05 40 45.5 -1.1
PVAQ Vaqueiros 45.13 292 eLR LR 05 53 48.8
comp=Z,1μm,18.0s
EVO Evora 45.15 294 *i* P P **05 34 06.8 -0.7**
EVO eS S **05 40 45.0 -1.8**
EVO Evora 45.15 294⇑ *e*P P **05 34 07.2 -0.4**
HOPEN Hopen 45.17 353 *e*P P **05 34 08.6 +1.4**
COI Coimbra 45.17 296 *e*P P **05 34 08.9 +1.2**
comp=Z,361nm,1.1s
COI eS S **05 40 48.4 +1.3**
PMTG Montargil 45.22 295⇑ *i*P P **05 34 06.1 -2.0**
comp=Z,147nm,1.3s
PMTG Montargil 45.22 295 *e*PP PP 05 35 53.4 -0.3
PMTG eS S **05 40 47.0 -0.8**
ZGR Zagora 45.25 282 P P **05 34 11.1 +2.5**
SNR=12
PCAS Casmilo, Conde 45.26 296 eS S **05 40 47.0 -1.5**
PBDV Barranco-do-Ve 45.33 292 *e*P P **05 34 09.2 +0.1**
comp=Z,182nm,1.2s
DGPR DIGLIPUR 45.49 104 *e*P P **05 34 08.4 -2.1**
PSBE So Bento 45.58 295 *e*P P **05 34 11.7 +0.7**
comp=Z,193nm,2.6s
PSBE eS S **05 40 51.1 -2.0**
PNCL Nicolau / Gran 45.62 293⇑ *i*P P **05 34 11.4 +0.1**
comp=Z,142nm,1.2s
PNCL Nicolau / Gran 45.62 293 *e*PP PP 05 35 55.0 -3.0
AVE Averroes 45.83 287⇑ *i*P P **05 34 12.8 -0.2**
AVE eS S **05 40 49.7 -7.0**
LZH Lanzhou 45.85 69 *e*P P **05 34 14.6 +1.2**
LZH pP sP 05 34 19.8 +0.7
LZH PP PP **05 36 06.8 +6.1**
LZH S S **05 40 58.4 +1.0**
LZH sS sS 05 41 09.0 +4.9
LZH SS SS **05 44 16.8 -5.0**
LZH pmax pmax
comp=Z,110nm,1.3s
LZH pmax pmax
comp=Z,1μm,5.4s
LZH LR LR
comp=Z,7μm,15.8s
LZH LR LR
comp=Z,7μm,15.2s
LZH LR LR
comp=Z,6μm,15.5s
MORF Marmelete 45.88 292 *e*P P **05 34 13.4 0.0**
MORF AMb AMB 05 34 33.6
comp=Z,131nm,2.4s
MORF eS S **05 40 58.5 +1.0**
MORF Marmelete 45.88 292 *e*P P **05 34 14.9 +1.5**
comp=Z,134nm,2.0s
PTEO Sao Teotonio 45.89 293 *e*P P **05 34 14.7 +1.3**
comp=Z,182nm,1.4s
OUZM OUZ 45.95 283 P P **05 34 17.0 +2.8**
SNR=17
LIS Lisbon 45.99 294 *e*P P **05 34 14.1 -0.1**
LIS AMb AMB 05 34 31.8
comp=Z,316nm,1.3s
LIS *e*PP PP **05 36 01.9 0.0**
LIS eS S **05 40 59.9 +1.0**
LIS Lisbon 45.99 294⇑ *e*P P **05 34 15.0 +0.8**
comp=Z,320nm,1.3s
PMAFR Mafra 46.05 295⇑ *e*P P **05 34 15.3 +0.6**
comp=Z,334nm,1.3s
PMAFR eS S **05 40 58.1 -1.7**
PFVI Vila Bisbo 46.05 292 *e*P P **05 34 15.8 +1.1**
comp=Z,210nm,1.5s
PFVI Vila Bisbo 46.05 292 P P **05 34 14.5 -0.2**
SONM Songino Array 46.13 53 P P **05 34 16.8 +1.4**
comp=Z,14nm,0.9s,baz=275,slow=11,SNR=69
SONM PcP PcP **05 35 51.7 +0.4**
comp=Z,5.2nm,0.8s,baz=268,slow=3.8,SNR=2.3
SONM ScP ScP **05 39 43.2 -1.2**
comp=Z,4.5nm,1.0s,baz=283,slow=5.0,SNR=5.0
SONM S S **05 41 03.5 +2.5**
comp=Z,1.3nm,0.7s,baz=283,slow=9.4,SNR=1.1
SONM LR LR 05 55 23.3
comp=Z,7μm,18.0s,baz=270,slow=38
SONM Songino Array 46.13 53 P P **05 34 15.8 +0.4**
PBA Port Blair 46.18 106 *e*P P 05 34 15.5 -0.5
PBA Port Blair 46.18 106 P P 05 34 16.9 +1.0
PBA IAMs_20 IAMs_20 05 55 08.5
comp=Z,5μm,21.0s
TOC2 Torodi Ar. Sit 46.24 256 IAMs_20 IAMs_20 05 56 16.3
comp=Z,5μm,20.0s
TOC1 Torodi Ar. Sit 46.25 256 IAMs_20 IAMs_20 05 56 16.5
comp=Z,6μm,20.0s
TOC3 Torodi Ar. Sit 46.26 256 IAMs_20 IAMs_20 05 56 17.6
comp=Z,5μm,19.0s
TOB1 Torodi Ar. Sit 46.26 256 IAMs_20 IAMs_20 05 56 17.8
comp=Z,5μm,20.0s
TOA2 Torodi Ar. Sit 46.27 256 IAMs_20 IAMs_20 05 56 17.9
comp=Z,5μm,19.0s
TOB3 Torodi Ar. Sit 46.27 256 IAMs_20 IAMs_20 05 56 17.9
comp=Z,5μm,20.0s
TOA0 Torodi Ar. Sit 46.27 256 P P **05 34 16.2 -0.4**
TOA0 IAMs_20 IAMs_20 05 56 18.0
comp=Z,5μm,20.0s
TORD Torodi Ar. Bea 46.27 256 P P **05 34 15.4 -1.2**
comp=Z,20nm,0.8s,baz=51,slow=7.0,SNR=87
TORD ScP ScP **05 39 45.2 0.0**
comp=Z,3.6nm,0.8s,baz=52,slow=4.5,SNR=2.4
TORD S S **05 40 55.1 -8.4**
comp=Z,1.8nm,0.6s,baz=68,slow=7.6,SNR=5.6
TORD LR LR 05 54 54.9
comp=Z,5μm,18.7s,baz=45,slow=38
TORD Torodi Ar. Bea 46.27 256 P P **05 34 15.7 -1.0**
TOA3 Torodi Ar. Sit 46.27 256 IAMs_20 IAMs_20 05 56 18.1
comp=Z,5μm,20.0s
TOC7 Torodi Ar. Sit 46.27 256 IAMs_20 IAMs_20 05 56 18.1
comp=Z,4μm,20.0s
TOB5 Torodi Ar. Sit 46.28 256 IAMs_20 IAMs_20 05 56 17.2
comp=Z,5μm,20.0s
TOC4 Torodi Ar. Sit 46.28 256 IAMs_20 IAMs_20 05 56 17.3
comp=Z,5μm,19.0s
DGAR Diego Garcia 46.28 145 IAMs_20 IAMs_20 05 51 39.2
comp=Z,4μm,21.0s
TOB4 Torodi Ar. Sit 46.28 256 IAMs_20 IAMs_20 05 56 17.4
comp=Z,5μm,19.0s
TOC5 Torodi Ar. Sit 46.30 256 IAMs_20 IAMs_20 05 54 44.7
comp=Z,5μm,18.0s
SRHM Skhour des Reh 46.44 286 P P **05 34 19.3 +1.4**
SNR=6.1
ULN Ulaanbaatar 46.57 53*c i*P P **05 34 20.0 +1.1**
ULN pmax pmax
comp=Z,95nm,0.9s
ULN Ulaanbaatar 46.57 53 P P **05 34 19.3 +0.5**
ULN IAmb IAmb 05 34 27.8
comp=Z,110nm,1.0s
ULN Ulaanbaatar 46.57 53 IAMs_20 IAMs_20 05 55 52.5
comp=Z,7μm,22.0s
HSPB Hornsund (broa 46.77 350 *e*P P **05 34 20.5 +0.7**
HSPB *e*PP PP **05 36 10.2 +0.6**
HSPB eS S **05 41 13.5 +4.4**
HSPB Hornsund (broa 46.77 350 *e*P P **05 34 20.8 +1.0**
CD2 Chengdu 47.14 76 P P **05 34 23.8 +0.4**
CD2 sP sP 05 34 30.0 +0.9
CD2 PP PP **05 36 18.1 +4.0**
CD2 S S **05 41 15.5 -0.2**
CD2 sS sS 05 41 22.5 +0.1
CD2 pmax pmax
comp=Z,160nm,0.8s
CD2 pmax pmax
comp=Z,1μm,6.1s
CD2 LR LR
comp=Z,16μm,34.3s
CD2 LR LR
comp=Z,9μm,19.1s
CD2 LR LR
comp=Z,10μm,17.7s
SPA0 Spitsbergen Ar 47.60 352 P P **05 34 26.6 +0.3**
SPA0 Spitsbergen Ar 47.60 352 *e*P P **05 34 26.6 +0.3**
SPITS Spitsbergen Ar 47.60 352 P P **05 34 26.6 +0.3**
comp=Z,21nm,0.6s,baz=151,slow=14,SNR=33
SPITS PP PP **05 36 17.1 -0.5**
comp=Z,17nm,0.7s,baz=153,slow=20,SNR=2.6
SPITS S S 05 41 08.4 -13
comp=Z,6.0nm,0.8s,baz=147,slow=17,SNR=4.2
CHTO Chiang Mai 47.69 94 P P **05 34 27.7 0.0**
CHTO pmax pmax
comp=Z,203nm,1.5s
CHTO MLR MLR
comp=Z,3μm,20.0s
CHTO Chiang Mai 47.69 94 P P **05 34 27.7 0.0**
CM31 Chiang Mai Arr 47.85 94 P P **05 34 29.6 +0.6**
CM31 IAmb IAmb 05 34 38.0
comp=Z,64nm,1.1s
CMAR Chiang Mai Arr 47.85 94 P P **05 34 30.2 +1.2**
comp=Z,24nm,0.8s,baz=3.9,slow=23,SNR=4.9
CMAR PcP PcP **05 35 57.5 -0.1**
comp=Z,12nm,0.9s,baz=292,slow=4.8,SNR=5.4
CMAR ScP ScP **05 39 50.4 -1.4**
comp=Z,7.8nm,1.0s,baz=297,slow=5.1,SNR=8.8
CMAR LR LR 05 59 05.4
comp=Z,2μm,19.5s,baz=318,slow=42
CMAR Chiang Mai Arr 47.85 94 P P **05 34 28.9 -0.1**
CMAR **ScP 05 39 49.8 -2.0**
KMI Kunming 48.26 84⇑ P P **05 34 32.4 0.0**
KMI PP PP **05 36 26.9 +2.2**
KMI ScP ScP **05 39 54.0 +0.2**
KMI S S **05 41 29.1 -2.9**
KMI SS SS **05 44 53.8 -7.5**
KMI pmax pmax
comp=Z,130nm,1.8s
KMI pmax pmax
comp=Z,830nm,3.5s
KMI LR LR
comp=Z,7μm,21.1s
KMI LR LR
comp=Z,2μm,21.0s
KMI LR LR
comp=Z,4μm,16.9s
KMI Kunming 48.26 84 P P **05 34 31.9 -0.4**
KMI pmax pmax
comp=Z,467nm,1.7s
KMI MLR MLR
comp=Z,3μm,21.0s
KMI Kunming 48.26 84 P P **05 34 31.9 -0.4**
KBS Kingsbay 48.74 351*c i*P P **05 34 36.1 +1.0**
KBS pmax pmax
comp=Z,92nm,1.3s
KBS Kingsbay 48.74 351 P P **05 34 34.6 -0.5**
KBS IAmb IAmb 05 34 37.3
comp=Z,94nm,1.2s
KBS Kingsbay 48.74 351 IAMs_20 IAMs_20 05 57 53.5
comp=Z,4μm,19.0s
KBS Kingsbay 48.74 351 *e*P P **05 34 35.7 +0.7**
BTO Baotou 49.65 62 *e*P P **05 34 41.3 -1.4**
XAN Xi'an 50.40 71 P P **05 34 49.0 +0.6**
XAN pP sP 05 34 58.1 +3.9
XAN S S **05 42 07.5 +5.9**
XAN pmax pmax
comp=Z,81nm,1.0s
XAN pmax pmax
comp=Z,2μm,7.6s
XAN LR LR
comp=Z,9μm,17.2s
XAN LR LR
comp=Z,8μm,15.6s
XAN LR LR
comp=Z,7μm,18.0s
XAN Xi'an 50.40 71 P P **05 34 48.4 0.0**
XAN pmax pmax
comp=Z,327nm,1.5s
XAN MLR MLR
comp=Z,7μm,19.0s
XAN Xi'an 50.40 71 P P **05 34 48.4 0.0**
PBKT Sadao Pong 50.44 95 P P **05 34 48.5 -0.3**
PBKT IAmb IAmb 05 34 55.8
comp=Z,102nm,1.1s
CIT Chita 50.48 47 *e*P P **05 34 49.9 +1.1**
CIT *e* 05 34 55.7
CIT *e* 05 36 01.6
CIT *e* 05 42 02.4
CIT *e* 05 42 10.9
CIT pmax pmax
comp=Z,334nm,1.5s
BOD Bodaibo 50.51 39 *e*P P **05 34 48.2 -0.6**
BOD *e* 05 42 05.7
BOD pmax pmax
comp=Z,159nm,1.5s
HHC Hu-ho-hao-te 50.75 62 *e*P P **05 34 52.0 +1.0**
HHC PP PP **05 36 49.6 +2.6**
HHC S S **05 42 05.6 -0.8**
HHC SS SS **05 45 41.6 +1.0**
HHC pmax pmax
comp=Z,45nm,0.7s
HHC pmax pmax
comp=Z,1μm,6.6s
HHC LR LR
comp=Z,3μm,16.2s
HHC LR LR
comp=Z,4μm,16.2s
HHC LR LR
comp=Z,5μm,17.9s
SLVN Son La 50.76 88 P P **05 34 51.4 0.0**
SLVN IAmb IAmb 05 34 58.1
comp=Z,86nm,1.0s
GYA Guiyang 51.04 81⇓ P P **05 34 53.6 +0.2**
GYA PP PP **05 36 53.0 +3.1**
GYA ScP ScP **05 40 04.8 -0.7**
GYA S S **05 42 03.5 -7.2**
GYA SS SS **05 45 48.3 +2.6**
GYA pmax pmax
comp=Z,87nm,0.9s
GYA pmax pmax
comp=Z,940nm,7.4s
GYA LR LR
comp=Z,5μm,20.0s
GYA LR LR
comp=Z,3μm,19.4s
GYA LR LR
comp=Z,4μm,20.5s
LSZ Lusaka 51.24 205 P P **05 34 52.8 -2.1**
LSZ pmax pmax
comp=Z,69nm,1.3s
LSZ MLR MLR
comp=Z,9μm,19.0s
LSZ Lusaka 51.24 205 P P **05 34 52.8 -2.1**
ABPO Ambohimpanom 51.41 181 P P **05 34 54.7 -1.5**
ABPO pmax pmax
comp=Z,45nm,0.9s
ABPO MLR MLR
comp=Z,5μm,21.0s
ABPO Ambohimpanom 51.41 181 P P **05 34 54.7 -1.5**
ABPO Ambohimpanom 51.41 181 IAMs_20 IAMs_20 05 56 14.1
comp=Z,5μm,21.0s
ENH Enshi 52.02 75 IAmb IAmb 05 35 07.3
comp=Z,120nm,1.0s
ENH IAMs_20 IAMs_20 06 00 42.2
comp=Z,4μm,20.0s
BORG Borgarnes 52.09 329 P P **05 35 01.3 +0.8**
comp=Z,19nm,0.9s,baz=320,slow=1.5,SNR=4.2
BORG Borgarnes 52.09 329 P P **05 34 59.4 -1.2**
TIY Taiyuan 52.15 65 *e*P P **05 35 02.3 +0.8**
TIY S S **05 42 26.3 +0.6**
TIY pmax pmax
comp=Z,34nm,0.8s
TIY pmax pmax
comp=Z,790nm,3.8s
TIY LR LR
comp=Z,4μm,12.9s
TIY LR LR
comp=Z,1μm,9.9s
TIY LR LR
comp=Z,3μm,18.6s
ITZ Itezhi-Tezhi 52.47 207 *e*S S **05 42 27.5 -2.8**
SCO Scoresbysund 52.82 337 IAMs_20 IAMs_20 05 58 08.2
comp=Z,5μm,21.0s
PMPST Porto Santo, M 53.05 289 *e*P P **05 35 10.8 +2.6**
comp=Z,363nm,1.2s
DAG Danmarks Havn 53.08 345⇑ *i*P P **05 35 07.7 -0.1**
comp=Z,31nm,0.7s
comp=Z,3μm,18.0s
DAG Danmarks Havn 53.08 345⇑ *i*P P **05 35 07.7 -0.1**
DAG pmax pmax
comp=Z,31nm,0.7s
DAG MLR MLR
comp=Z,3μm,18.0s
MLSI Meulaboh, Aceh 53.45 111 P P **05 35 11.3 0.0**
comp=Z,120nm,0.9s
PMOZ Porto Moniz, M 53.82 289 *e*LR LR 05 54 23.6
comp=Z,909nm,18.0s
RER Riviere de l'E 54.08 171 P P **05 35 15.6 -0.2**
NOR Nord 54.19 351 *i* P P **05 35 15.6 -0.3**
comp=Z,67nm,1.2s
comp=Z,3μm,16.0s
NOR Nord 54.19 351 *i* P P **05 35 15.6 -0.3**
NOR pmax pmax
comp=Z,67nm,1.2s
NOR MLR MLR
comp=Z,3μm,16.0s
RODM Citronelle, R 54.20 162 IAMs_20 IAMs_20 05 57 28.6
comp=Z,4μm,20.0s
BJI Beijing 54.36 61 P P **05 35 17.3 -0.3**
BJI PP PP **05 37 17.8 -1.6**
BJI S S **05 42 58.6 +3.1**
BJI SS SS **05 46 39.8 +2.5**
BJI LR LR
comp=Z,6μm,19.9s
BJI LR LR
comp=Z,1μm,18.9s
BJI LR LR
comp=Z,3μm,33.8s
BJT Baijiatuau 54.36 61 P P **05 35 18.3 +0.7**
BJT pmax pmax
comp=Z,30nm,1.9s
BJT Baijiatuau 54.36 61 IAMs_20 IAMs_20 06 02 13.1
comp=Z,5μm,19.0s
TPTI 54.67 112 P P **05 35 19.6 -0.6**
comp=Z,626nmcomp=Z,38nm,1.0s
HIA Hailar 54.75 50 IAmb IAmb 05 35 23.5
comp=Z,100nm,0.9s
DBIC Dimbokro 55.22 254 P P **05 35 24.2 0.0**
comp=Z,32nm,0.8s,baz=27,slow=7.8,SNR=24
DBIC LR LR 06 00 40.6
comp=Z,6μm,18.6s,baz=29,slow=38
DBIC Dimbokro 55.22 254 P P **05 35 23.9 -0.3**
DBIC IAmb IAmb 05 35 32.4
comp=Z,73nm,1.1s
KIC Kosan Boka 55.31 254 *e*P P **05 35 24.6 -0.2**
comp=Z,213nm,1.1s
TIC Toumodi 55.37 254 *e*P P **05 35 25.6 +0.3**
LIC Lamto 55.62 254 *e*P P **05 35 26.4 -0.7**
comp=Z,286nm,1.1s
WHN Wuhan 55.87 73⇓ P P **05 35 29.5 +0.8**
WHN pP sP **05 35 34.5 0.0**
WHN S S **05 43 15.8 -0.2**
WHN pmax pmax
comp=Z,1μm,3.3s
WHN LR LR
comp=Z,7μm,14.5s
WHN LR LR
comp=Z,8μm,14.0s
WHN LR LR
comp=Z,12μm,19.2s
TIA Tai'an 56.17 66 P P **05 35 31.3 +0.5**
TIA PP PP **05 37 42.5 +6.7**
TIA S S **05 43 21.0 +1.0**
TIA pmax pmax
comp=Z,55nm,1.0s
TIA pmax pmax
comp=Z,1μm,7.5s
TIA LR LR
comp=Z,8μm,21.4s
TIA LR LR
comp=Z,2μm,19.6s
TIA LR LR
comp=Z,4μm,17.2s
KULM Kulim 56.21 107 P P **05 35 31.1 -0.3**
KULM Kulim 56.21 107 P P **05 35 31.0 -0.3**
PSI Prapat 56.32 111 P P **05 35 31.3 -1.0**
PSI pmax pmax
comp=Z,102nm,0.9s
RPSI Rantau Prapat 56.39 111 P P **05 35 31.3 -1.3**
RPSI IAmb IAmb 05 35 37.7
comp=Z,102nm,0.9s
TIXI Tiksi 56.55 22*c i*P P **05 35 32.7 -0.2**
TIXI pmax pmax
comp=Z,79nm,1.3s
TIXI Tiksi 56.55 22 P P **05 35 33.1 +0.1**
TIXI IAmb IAmb 05 35 35.0
comp=Z,65nm,1.1s
TIXI IAMs_20 IAMs_20 06 03 34.7
comp=Z,4μm,19.0s
QIZ Qiongzhong 56.77 88 P P **05 35 33.8 -1.5**
QIZ PP PP **05 37 40.1 -1.4**
QIZ S S **05 43 27.4 -0.9**
QIZ pmax pmax
comp=Z,19nm,1.5s
QIZ pmax pmax
comp=Z,750nm,4.1s
QIZ LR LR
comp=Z,2μm,23.4s
QIZ LR LR
comp=Z,1μm,19.4s
QIZ LR LR
comp=Z,3μm,17.1s
QIZ Qiongzhong 56.77 88 P P **05 35 34.8 -0.5**
IPM Ipoh 56.99 108 P P **05 35 35.3 -1.6**
IPM Ipoh 56.99 108 P P **05 35 37.0 +0.1**
GZH Guangzhou 57.94 82 P P **05 35 44.3 +0.8**
GZH S S **05 43 43.3 -0.3**
GZH pmax pmax
comp=Z,1μm,7.6s
GZH LR LR
comp=Z,3μm,19.7s
GZH LR LR
comp=Z,3μm,21.3s
YAK Yakutsk 58.00 33 *e*P P **05 35 42.8 -0.5**
YAK *e* 05 37 50.2
YAK *e*S S **05 43 41.1 -2.1**
YAK pmax pmax
comp=Z,77nm,0.9s
YAK pmax pmax
comp=N,25nm,1.0s
YAK pmax pmax
comp=E,40nm,1.0s
YAK pmax pmax
comp=Z,119nm,2.7s
YAK pmax pmax
comp=N,87nm,2.7s
YAK pmax pmax
comp=E,125nm,2.0s
YAK smax smax
comp=N,443nm,2.5s
YAK smax smax
comp=E,366nm,2.6s
YAK MLR MLR
comp=Z,3μm,15.0s
YAK MLR MLR
comp=N,878nm,17.0s
YAK MLR MLR
comp=E,2μm,15.0s
YAK Yakutsk 58.00 33 P P **05 35 42.2 -1.0**
YAK IAmb IAmb 05 35 44.8
comp=Z,101nm,1.1s
YAK IAMs_20 IAMs_20 06 05 05.1
comp=Z,3μm,19.0s
SUMG Summit 58.05 339 *i* P P **05 35 44.4 +0.4**
comp=Z,196nm,0.7s
comp=Z,10μm,17.0s
SUMG Summit 58.05 339 *i* P P **05 35 44.4 +0.4**
SUMG pmax pmax
comp=Z,200nm,0.7s
SUMG MLR MLR
comp=Z,10μm,17.0s
SUMG Summit 58.05 339 P P **05 35 43.9 -0.1**
SUMG IAMs_20 IAMs_20 06 00 58.6
comp=Z,4μm,21.0s
MNSI Mandailing Nat 58.07 112 P P **05 35 45.6 +1.1**
ZEA Zeya 58.41 43 *e*P P **05 35 46.8 +0.5**
ZEA *e*S S **05 43 52.0 +3.2**
ZEA pmax pmax
comp=E,400nm,8.0s
ZEA pmax pmax
comp=Z,1μm,8.0s
ZEA pmax pmax
comp=E,59nm,1.0s
ZEA pmax pmax
comp=N,160nm,1.8s
ZEA pmax pmax
comp=Z,310nm,2.0s
ZEA smax smax
comp=N,1μm,11.0s
BART Pico Bartolome 58.41 297 *e*P P **05 35 47.4 +0.7**
comp=N,274nm,1.2s
PSMN Pico do Norte, 58.59 296 *e*P P **05 35 47.6 -0.2**
comp=N,167nm,1.6s
PSMA Santa Maria 58.64 296 *e*P P **05 35 48.1 -0.1**
comp=N,165nm,1.9s
CMLA Cha da Macela 58.68 297 *e*P P **05 35 48.3 -0.2**
comp=N,399nm,1.8s
DL2 Dalian 58.72 61 P P **05 35 49.5 +0.8**
DL2 PP PP **05 38 05.8 +7.4**
DL2 S S **05 43 53.5 +0.2**
DL2 pmax pmax
comp=N,90nm,0.8s

DL2 pmax pmax
comp=N,840nm,7.8s
DL2 LR LR
comp=N,5µm,20.7s
DL2 LR LR
comp=N,2µm,18.5s
DL2 LR LR
comp=N,5µm,18.2s
PSET Sete Cidades 58.81 297 *e*P **P 05 35 48.6 -0.8**
comp=N,330nm,1.7s
NJ2 Nanjing 58.93 70 *e*P **P 05 35 50.8 +0.5**
NJ2 pP **pP 05 35 53.8 -0.7**
NJ2 PP **PP 05 38 00.5 +0.1**
NJ2 S **S 05 43 56.8 +0.6**
NJ2 sS **sS 05 44 03.3 +0.2**
NJ2 ScS **ScS 05 45 35.8 -4.5**
NJ2 pmax pmax
comp=N,65nm,1.5s
NJ2 pmax pmax
comp=N,990nm,5.6s
NJ2 LR LR
comp=N,4µm,15.6s
NJ2 LR LR
comp=N,5µm,18.0s
NJ2 LR LR
comp=N,7µm,19.9s
HKPS Hong Kong Po S 58.95 82 IAMs_20 IAMs_20 06 04 13.0
comp=Z,3µm,19.0s
SISI Saibi 59.03 114 P **P 05 35 52.7 +1.6**
comp=Z,2µmcomp=Z,74nm,1.1s
DLV T Lat 59.05 96 P **P 05 35 50.8 -0.8**
TSUM Tsumeb 59.13 214 P **P 05 35 53.2 +1.4**
SNY Shenyang 59.22 57 ⇑P **P 05 35 51.0 -1.2**
SNY S **S 05 44 00.3 +0.6**
SNY ScS **ScS 05 45 37.1 -5.0**
SNY pmax pmax
comp=Z,950nm,7.5s
SNY LR LR
comp=Z,3µm,22.2s
SNY LR LR
comp=Z,4µm,15.7s
SNY LR LR
comp=Z,4µm,20.4s
BKNI Bangkinang 59.51 112 P **P 05 35 54.9 +0.4**
comp=Z,6µmcomp=Z,313nm,1.2s
BKNI Bangkinang 59.51 112 P **P 05 35 53.8 -0.7**
BKNI IAMs_20 IAMs_20 06 04 15.7
comp=Z,3µm,20.0s
PDSI Padang 59.82 113 P **P 05 35 56.7 0.0**
comp=Z,127nm,1.3s
CN2 Changchun 59.93 55 *e*P **P 05 35 56.1 -0.9**
CN2 PP **PP 05 38 07.4 -1.6**
CN2 *e*S **S 05 44 05.3 -3.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,600nm,15.0s
PGRA Graciosa 60.09 299 *e*P **P 05 35 57.8 -0.4**
comp=Z,173nm,1.8s
PMAN Manadas 60.30 299 *e*P **P 05 35 59.4 -0.3**
comp=Z,309nm,1.7s
ALE Alert 60.35 352 IAMs_20 IAMs_20 06 05 08.7
comp=Z,3µm,18.0s
ROSA Rosais 60.38 299 *e*P **P 05 36 00.1 -0.1**
comp=Z,224nm,1.2s
SUJ Sinuiju 60.43 59 P **P 05 36 00.2 -0.3**
SUJ S **S 05 44 14.8 -0.5**
SDSI Sungai Dareh 60.59 112 P **P 05 36 01.2 -0.7**
comp=Z,5µmcomp=Z,343nm,1.2s
MYKOM Kota Tinggi 60.85 108 P **P 05 36 02.4 -1.3**
MYKOM Kota Tinggi 60.85 108 P **P 05 36 04.0 +0.3**
SSE Sheshan 61.13 70 P **P 05 36 01.1 -4.3**
SSE S **S 05 44 22.6 -2.0**
SSE pmax pmax
comp=Z,9.0nm,0.6s
SSE pmax pmax
comp=Z,480nm,7.8s
SSE LR LR
comp=N,3µm,22.7s
SSE LR LR
comp=E,3µm,16.7s
LBTB Lobatse 61.15 203 P **P 05 36 05.5 -0.1**
LBTB pmax pmax
comp=Z,52nm,0.9s
LBTB Lobatse 61.15 203 P **P 05 36 05.5 -0.1**
LBTB IAmb IAmb 05 36 17.1
comp=Z,52nm,0.9s
KRJI Kerinci 61.34 113 P **P 05 36 08.7 +1.6**
comp=Z,15µmcomp=Z,1µm,0.9s
QZH Quanzhou 61.51 77 P **P 05 36 08.5 +0.4**
QZH S **S 05 44 28.8 -0.7**
QZH pmax pmax
comp=Z,550nm,7.4s
QZH LR LR
comp=Z,4µm,17.7s
QZH LR LR
comp=Z,3µm,18.7s
QZH LR LR
comp=Z,4µm,15.7s
KNMB Chin-men Tao 61.55 78 P **P 05 36 09.0 +0.7**
KNMB IAmb IAmb 05 37 49.4
comp=Z,43nm,0.7s
KGE Kanggye 61.67 58 P **P 05 36 07.9 -1.0**
PYAG Pyongyang 61.71 60 P **P 05 36 10.0 +0.8**
PYAG S **S 05 44 32.0 +0.3**
PYS Pyongsong 61.71 60 P **P 05 36 09.6 +0.4**
TPRI Tanjung Pinang 61.91 109 P **P 05 36 11.0 +0.2**
comp=Z,67µmcomp=Z,163nm,1.3s
HJU Haeju 62.04 61 P **P 05 36 11.0 -0.4**
KLR Kul'dur 62.36 47*ce*P **P 05 36 13.2 -0.2**
KLR pmax pmax
comp=Z,87nm,1.5s
MDJ Mudanjiang 62.49 53 P **P 05 36 14.0 -0.3**
MDJ pP sP 05 36 20.8 +0.7
MDJ sP pP 05 36 27.8 +9.3
MDJ ScP **ScP 05 40 54.8 -0.6**
MDJ PcS **PcS 05 40 56.8 0.0**
MDJ S **S 05 44 37.1 -4.3**
MDJ sS sS 05 44 49.3 +1.0
MDJ ScS **SKKSac 05 46 04.1 -2.4**
MDJ pmax pmax
comp=Z,920nm,7.8s
MDJ LR LR
comp=Z,8µm,23.5s
MDJ LR LR
comp=Z,2µm,23.5s
MDJ LR LR
comp=Z,2µm,14.1s
MASI Maura Aman, Be 62.60 114 P **P 05 36 15.7 +0.2**
comp=Z,6µmcomp=Z,413nm,1.1s
KULLO Kullorsuaq 62.65 343 *i*P **P 05 36 15.3 +0.4**
comp=Z,72nm,1.0s
KULLO Kullorsuaq 62.65 343 *i*P **P 05 36 15.3 +0.4**
KULLO pmax pmax
comp=Z,72nm,1.0s
HHU Hamhung 62.68 58 P **P 05 36 14.9 -0.8**
DSRI Dabo 62.79 110 P **P 05 36 16.6 -0.1**
comp=Z,84nm,1.4s
WOSN Wonsan 62.88 59 P P 05 36 23.0 +6.0
ILULI Ilulissat 62.90 337 *i*P **P 05 36 16.1 -0.6**
comp=Z,21nm,0.8s
comp=Z,6µm,21.0s
ILULI Ilulissat 62.90 337 *i*P **P 05 36 16.1 -0.6**
ILULI pmax pmax
comp=Z,21nm,0.8s
ILULI MLR MLR
comp=Z,6µm,21.0s
ILULI Ilulissat 62.90 337 P **P 05 36 16.1 -0.6**
ILULI IAmb IAmb 05 36 18.7
comp=Z,57nm,1.1s
INCN Inchon 62.91 61 P **P 05 36 16.6 -0.7**
INCN pmax pmax
comp=Z,51nm,1.1s
INCN MLR MLR
comp=Z,5µm,22.0s
INCN Inchon 62.91 61 P **P 05 36 16.6 -0.7**
INCN IAmb IAmb 05 36 22.7
comp=Z,51nm,1.1s
INCN Inchon 62.91 61 IAMs_20 IAMs_20 06 06 46.2
comp=Z,5µm,22.0s

KSI Kapahiang 63.20 114 P **P 05 36 20.1 +0.6**
comp=Z,8µmcomp=Z,212nm,2.6s
NRS Narsarsuaq 63.43 327 ⇑*i*P **P 05 36 19.8 -0.5**
comp=Z,26nm,0.5s
comp=Z,2µm,16.0s
NRS Narsarsuaq 63.43 327 P **P 05 36 20.0 -0.3**
NRS pmax pmax
comp=Z,117nm,1.5s
NRS MLR MLR
comp=Z,2µm,20.0s
NRS Narsarsuaq 63.43 327 P **P 05 36 20.0 -0.3**
NRS IAmb IAmb 05 36 21.6
comp=Z,117nm,1.5s
SFJD Kangerlussuaq 63.53 334 P **P 05 36 20.4 -0.4**
comp=Z,14nm,0.5s,baz=92,slow=4.3,SNR=5.7
SFJD Kangerlussuaq 63.53 334 *i*P **P 05 36 20.3 -0.5**
comp=Z,240nm,20.0s
SFJD Kangerlussuaq 63.53 334 P **P 05 36 19.6 -1.2**
SFJD Kangerlussuaq 63.53 334 IAMs_20 IAMs_20 06 04 06.2
comp=Z,4µm,21.0s
KS19 Wonju Array Si 63.82 61 P **P 05 36 23.1 -0.2**
KS19 IAmb IAmb 05 36 29.1
comp=Z,34nm,0.8s
KSAR Wonju Array Be 63.85 61 P **P 05 36 23.2 -0.3**
KSAR Wonju Array Be 63.85 61 P **P 05 36 23.1 -0.3**
TATO Taipei 63.87 76 P **P 05 36 24.5 +0.7**
TATO Taipei 63.87 76 IAMs_20 IAMs_20 06 08 14.2
comp=Z,3µm,18.0s
KSRS Korea Array 63.88 61 P **P 05 36 23.4 -0.2**
comp=Z,25nm,0.8s,baz=283,slow=7.0,SNR=68
KSRS LR LR 06 07 19.7
comp=Z,3µm,21.5s,baz=288,slow=39
TPUB Ta-pu 63.90 78 P **P 05 36 24.6 +0.6**
YHNB Yeheng 63.91 76 P **P 05 36 24.9 +0.6**
SSLB Suanglung 63.95 77 IAmb IAmb 05 36 33.9
comp=Z,43nm,0.9s
LHSI Lahat 64.02 113 P **P 05 36 23.5 -1.4**
comp=Z,3µmcomp=Z,119nm,1.9s
USA0B Ussuriysk Arra 64.24 53*c*,*i*P **P 05 36 25.0 -1.0**
USA0B Ussuriysk Arra 64.24 53 P **P 05 36 24.8 -1.2**
USA0B IAmb IAmb 05 36 31.1
comp=Z,42nm,0.9s
USRK Ussuriysk Ar. 64.24 53 P **P 05 36 25.4 -0.6**
comp=Z,26nm,0.8s,baz=279,slow=6.0,SNR=52
USRK PKP2bc 06 05 20.7
comp=Z,0.8nm,0.7s,baz=75,slow=7.9,SNR=0.8
USRK LR LR 06 06 23.2
comp=Z,4µm,20.1s,baz=280,slow=38
YULB Yu-li 64.41 78 IAmb IAmb 05 36 35.2
comp=Z,68nm,0.8s
BOSA Boshof 64.61 202 P **P 05 36 29.7 +1.2**
comp=Z,49nm,0.9s,baz=36,slow=7.0,SNR=57
BOSA PKiKP **PKiKP 05 43 09.4 +0.7**
comp=Z,4.4nm,0.8s,baz=15,slow=5.7,SNR=3.8
BOSA LR LR 06 05 58.6
comp=Z,5µm,20.1s,baz=34,slow=37
BOSA Boshof 64.61 202 P **P 05 36 27.7 -0.8**
BOSA IAmb IAmb 05 36 31.1
comp=Z,54nm,0.9s
IVI Ivigtut 64.66 328 IAmb IAmb 05 36 30.2
comp=Z,33nm,0.8s
GRNR Gornyy 64.67 45 ⇑*i*P **P 05 36 28.4 -0.3**
GRNR *e*S **S 05 45 11.4 +3.0**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR smax smax
comp=E,20nm,0.7s
GRNR MLR MLR
comp=E,2µm,16.0s
GRNR MLR MLR
comp=N,2µm,15.0s
GRNR MLR MLR
comp=Z,3µm,16.0s
EUNU Eureka 64.72 352 P **P 05 36 28.6 0.0**
MDSI Maura Dua 64.94 114 P **P 05 36 29.1 -1.8**
comp=Z,2µmcomp=Z,71nm,1.1s
PPBI Pangkal Pinang 65.04 110 P **P 05 36 31.7 +0.1**
comp=Z,140nm,1.2s
LWLI Liwa 65.19 114 P **P 05 36 31.6 -1.0**
comp=Z,289µmcomp=Z,8µmcomp=Z,120nm,1.0s
KASI Kota Agung 65.84 114 P **P 05 36 37.4 +0.7**
comp=Z,97nm,0.8s
KSM Kuching 66.26 104 P **P 05 36 38.4 -1.0**
KSM IAmb IAmb 05 36 45.2
comp=Z,46nm,0.9s
KSM Kuching 66.26 104 P **P 05 36 40.0 +0.5**
TPI Tanjungpandan 66.60 110 P **P 05 36 42.2 +0.6**
comp=Z,1µmcomp=Z,101nm,1.2s
TEY Ternei 66.97 50 ⇑*e*P **P 05 36 42.2 -1.3**
TEY pmax pmax
comp=Z,30nm,0.8s
TEY pmax pmax
comp=E,10.0nm,0.8s
TEY pmax pmax
comp=Z,100nm,7.0s
SBUM Sibu 67.28 102 IAmb IAmb 05 36 51.9
comp=Z,87nm,1.9s
SBUM Sibu 67.28 102 P **P 05 36 47.0 +1.1**
SEY Seymchan 67.63 29*c*,*i*P **P 05 36 48.5 +1.1**
DBJI Dramaga 68.23 114 P **P 05 36 51.4 -0.5**
comp=Z,156nm,1.4s
TYV Tymovskoe 68.27 43 *e*P **P 05 36 52.7 +1.1**
TYV *e*S **S 05 45 53.7 +1.8**
TYV pmax pmax
comp=Z,1µm,4.0s
TYV pmax pmax
comp=Z,72nm,1.0s
TYV smax smax
comp=E,19nm,2.7s
TYV smax smax
comp=E,2µm,7.4s
SKJI Sukabumi 68.36 114 P **P 05 36 52.7 0.0**
comp=E,4µmcomp=E,364nm,1.1s
MA2 Magadan 68.52 32*c*,*i*P **P 05 36 53.0 -0.1**
MA2 pmax pmax
comp=Z,72nm,0.8s
MA2 Magadan 68.52 32 P **P 05 36 53.6 +0.5**
MA2 IAMs_20 IAMs_20 06 11 22.3
comp=Z,2µm,21.0s
KKM Kota Kinabalu 68.63 97 P **P 05 36 54.2 -0.4**
CNJI Cibinong 68.99 114 P **P 05 36 54.9 -1.8**
comp=Z,4µmcomp=Z,326nm,1.2s
CISI Cisompet, Garu 69.67 114 P **P 05 36 59.1 -1.9**
comp=Z,211nm,1.9s
CISI Cisompet, Garu 69.67 114 P **P 05 36 59.8 -1.2**
CISI IAMs_20 IAMs_20 06 11 13.3
comp=Z,2µm,20.0s
PBKI Pangkalan Bun 69.79 107 P **P 05 37 03.0 +1.4**
comp=Z,189nm,1.1s
YSS Yuzh-Sakhalins 70.04 47*ce*P **P 05 37 02.7 0.0**
YSS *e**SP **sP 05 37 08.4 -0.1**
YSS *e* 05 39 34.1
YSS *e*PPP PPP 05 41 19.2
YSS *e*S **S 05 46 11.0 -2.0**
YSS *e*SS **SS 05 50 39.0 -2.8**
YSS pmax pmax
comp=Z,900nm,6.2s
YSS smax smax
comp=N,800nm,5.5s
YSS MLR MLR
comp=E,3µm,16.0s
YSS MLR MLR
comp=Z,4µm,16.0s
YSS MLR MLR
comp=N,1µm,14.0s
YSS Yuzh-Sakhalins 70.04 47 P **P 05 37 02.4 -0.3**
RES Resolute Bay 70.13 350 P **P 05 37 02.8 0.0**
comp=N,11nm,1.0s,baz=10.0,slow=8.4,SNR=5.4
RES Resolute Bay 70.13 350 P **P 05 37 02.3 -0.5**
CMJI Cimerak 70.31 113 P **P 05 37 05.1 +0.3**
comp=N,1µmcomp=N,89nm,1.5s
MYLDM Lahad Datu 71.00 96 P **P 05 37 09.2 +0.1**
MYLDM IAmb IAmb 05 37 16.1
comp=Z,71nm,0.9s
ASAJ Asahikawa 71.23 49 P **P 05 37 08.7 -1.3**
ASAJ pmax pmax
comp=Z,27nm,0.9s
JKA Kamikawa-asahi 71.23 49 P **P 05 37 08.7 -1.4**
FRB Frobisher Bay 71.64 335 P **P 05 37 11.0 -1.1**
comp=Z,64nm,0.8s,baz=45,slow=6.3,SNR=17
MJB9 Matsu-Tunnel 71.72 58 P **P 05 37 12.0 -1.2**
MAJO Matsushiro 71.73 58*c*,*i*P **P 05 37 12.7 -0.5**
MAJO pmax pmax
comp=Z,60nm,2.4s
MAJO Matsushiro 71.73 58 P **P 05 37 12.2 -1.1**
MAT Matsushiro 71.73 58 P **P 05 37 12.4 -0.8**

MAT S **S 05 46 32.8 -0.3**
MJAR Matsushiro Arr 71.73 58 P **P 05 37 11.2 -2.0**
comp=Z,5.0nm,0.8s,baz=303,slow=5.0,SNR=17
MJAR LR LR 06 11 04.6
comp=Z,2µm,19.4s,baz=295,slow=38
MJAR Matsushiro Arr 71.73 58 P **P 05 37 12.2 -1.0**
MJAR pmax pmax
comp=Z,14nm,1.1s
MJAR Matsushiro Arr 71.73 58 P **P 05 37 12.2 -1.0**
NGJI Ngawi 72.40 111 P **P 05 37 18.3 +0.9**
comp=Z,66nm,1.2s
ERM Erimo 72.57 51*ce*P **P 05 37 19.0 +0.9**
ERM pmax pmax
comp=Z,89nm,1.7s
ERM Erimo 72.57 51 P **P 05 37 18.3 +0.1**
ERM IAmb IAmb 05 37 27.7
comp=Z,65nm,1.1s
ERM Erimo 72.57 51 IAMs_20 IAMs_20 06 12 34.9
comp=Z,3µm,19.0s
BBKI Banjar Baru 72.79 106 P **P 05 37 20.0 +0.2**
comp=Z,4µmcomp=Z,36nm,0.7s
YUK Yuzh-Kuril'sk 73.34 48*c*,*i*P **P 05 37 22.2 -0.4**
YUK *i* 05 37 39.3
YUK *i*S **S 05 46 48.6 -2.5**
YUK *i* 05 47 35.6
YUK pmax pmax
comp=Z,245nm,1.5s
YUK pmax pmax
comp=E,173nm,1.1s
YUK pmax pmax
comp=N,225nm,1.0s
YUK MLR MLR
comp=E,2µm,14.0s
YUK MLR MLR
comp=Z,2µm,14.0s
YUK MLR MLR
comp=N,1µm,12.0s
KBKI Kotabaru 73.78 105 P **P 05 37 25.7 +0.1**
comp=N,28nm,1.1s
KUR Kuril'sk 73.98 46*c*,*i*P **P 05 37 25.5 -0.9**
KUR 05 40 21.3
KUR *e*PPP PPP 05 41 59.7
KUR *e*S **SKiKP 05 46 54.7 +0.1**
KUR pmax pmax
comp=Z,786nm,6.7s
KUR pmax pmax
comp=E,484nm,4.4s
KUR pmax pmax
comp=N,356nm,5.3s
KUR pmax pmax
comp=Z,90nm,1.9s
KUR MLR MLR
comp=Z,2µm,19.0s
KUR MLR MLR
comp=N,3µm,16.0s
KUR MLR MLR
comp=E,2µm,16.0s
MPSI Mapaga 74.81 100 P **P 05 37 32.2 +0.5**
comp=E,2µmcomp=E,173nm,1.1s
A21K Barrow 74.85 8 P **P 05 37 31.5 +0.5**
baz=339
PEA0B Petropavlovsk- 75.19 36 IAmb IAmb 05 37 37.5
comp=Z,85nm,1.4s
PETK Petropavlovsk- 75.19 36 P **P 05 37 31.9 -1.4**
comp=Z,22nm,0.9s,baz=318,slow=2.0,SNR=16
PETK PKPPKP P'P'df 06 04 46.0 -17
comp=Z,2.4nm,0.8s,baz=265,slow=4.9,SNR=5.4
PETK LR LR 06 14 24.0
comp=Z,3µm,19.2s,baz=307,slow=39
PETK Petropavlovsk- 75.19 36 P **P 05 37 32.4 -0.9**
PETK Petropavlovsk- 75.19 36 P **P 05 37 32.4 -0.9**
A36M Sachs Harbour 75.50 358 P **P 05 37 34.2 -0.5**
baz=6.1
SKR Severo-Kuril's 75.77 39 *e*P P 05 37 30.3 -6.3
SKR *e* 05 40 25.9
SKR *e*PPP PPP 05 42 18.1
SKR *e*S **S 05 47 15.1 -3.0**
SKR pmax pmax
comp=Z,45nm,1.1s
SKR pmax pmax
comp=Z,300nm,9.4s
SKR pmax pmax
comp=Z,500nm,9.1s
SKR MLR MLR
comp=Z,800nm,17.0s
DAV Davao City (W) 75.96 91 IAMs_20 IAMs_20 06 16 14.2
comp=Z,2µm,20.0s
DAV Davao City (W) 75.96 91 ⇑*i*P **P 05 37 37.4 -1.0**
SCHQ Schefferville 76.40 327 P **P 05 37 38.9 -1.3**
comp=Z,28nm,0.9s,baz=58,slow=7.1,SNR=17
SCHQ LR LR 06 13 28.0
comp=Z,1µm,18.3s,baz=58,slow=37
SCHQ Schefferville 76.40 327 IAmb IAmb 05 37 41.8
comp=Z,136nm,1.6s
RDOG Red Dog Mine 76.97 11 P **P 05 37 41.9 -1.3**
RDOG IAmb IAmb 05 37 45.1
comp=Z,82nm,1.2s
BNSI Bone 77.63 103 P **P 05 37 47.9 +0.2**
comp=Z,1µmcomp=Z,21nm,2.1s
KAPI Kappang 77.68 104 P **P 05 37 48.4 +0.4**
KAPI pmax pmax
comp=Z,133nm,1.5s
KAPI MLR MLR
comp=Z,700nm,21.0s
KAPI Kappang 77.68 104 P **P 05 37 48.4 +0.4**
KAPI IAmb IAmb 05 37 53.4
comp=Z,133nm,1.4s
C36M Paulatuk 78.09 357 P **P 05 37 48.0 -1.4**
baz=7.0,SNR=6.4
C36M Paulatuk 78.09 357 P **P 05 37 49.0 -0.3**
C36M IAmb IAmb 05 37 51.1
comp=Z,64nm,0.9s
TOLK Toolik Lake Re 78.16 6 P **P 05 37 49.6 -0.2**
baz=345,SNR=24
TOLK S **S 05 47 40.4 -3.3**
baz=345
TOLK Toolik Lake Re 78.16 6 P **P 05 37 48.8 -1.1**
TOLK IAmb IAmb 05 37 52.6
comp=Z,101nm,1.1s
PLAI Plampang 78.28 108 P **P 05 37 51.7 +0.4**
comp=Z,62nm,1.1s
INK Inuvik 79.31 0 P **P 05 37 56.5 +0.4**
comp=Z,17nm,1.0s,baz=1.1,slow=3.8,SNR=17
INK Inuvik 79.31 0 P **P 05 37 56.3 +0.2**
GBN Guysborough 79.33 317 P **P 05 37 55.6 -1.0**
GBN IAmb IAmb 05 37 59.8
comp=Z,111nm,0.9s
COLD Coldfoot 79.47 7 P **P 05 37 56.4 -0.6**
baz=345,SNR=34
COLD S **S 05 47 55.0 -2.6**
baz=345
COLD Coldfoot 79.47 7 P **P 05 37 56.8 -0.2**
ANM Nome 79.64 14 P **P 05 37 58.5 +0.5**
ANM pmax pmax
comp=Z,113nm,1.2s
ANM Nome 79.64 14 P **P 05 37 58.5 +0.5**
ANM IAmb IAmb 05 38 00.4
comp=Z,113nm,1.2s
WBSI Waikabubak, Su 80.05 108 P **P 05 38 00.1 -0.9**
comp=Z,3µmcomp=Z,182nm,1.2s
IMAR Indian Mountai 80.25 9 P **P 05 38 01.4 +0.1**
BATG Bathurst New B 80.70 321 P **P 05 38 04.3 +0.3**
BATG IAmb IAmb 05 38 07.3
comp=Z,84nm,0.9s
TNTI Ternate 80.82 95 P **P 05 38 05.5 +0.3**
HAL Halifax 80.97 318 P **P 05 38 06.3 +0.8**
HAL pmax pmax
comp=Z,118nm,0.8s
HAL Halifax 80.97 318 P **P 05 38 06.3 +0.8**
SANI Sanana 81.19 98 P **P 05 38 05.7 -1.5**
comp=Z,1µmcomp=Z,56nm,1.2s
EDFI Ende, Flores 81.39 106 P **P 05 38 06.3 -2.0**
comp=Z,455nmcomp=Z,16nm,1.0s
MMRI Maumere 81.77 106 P **P 05 38 08.8 -1.3**
MMRI IAMs_20 IAMs_20 06 17 35.6
comp=Z,2µm,21.0s
POKR Poker Plat Res 81.80 6 P **P 05 38 09.5 0.0**
baz=347,SNR=10
MDM Murphy Dome 81.88 7 P **P 05 38 08.9 -1.1**
MDM IAmb IAmb 05 38 19.1
comp=Z,90nm,1.3s
D63A Stockholm 81.94 322 P **P 05 38 10.2 -0.4**
baz=50,SNR=11
TCOL CIGO, UAF Yank 82.00 7 P **P 05 38 10.3 -0.2**
baz=347
COLA College 82.00 7 P **P 05 38 10.5 0.0**

COLA pmax pmax
comp=Z,66nm,1.2s
COLA College 82.00 7 P P 05 38 10.5 0.0
COLA IAmb IAmb 05 38 12.7
comp=Z,66nm,1.2s
PQI Presque Isle 82.12 321 IAmb IAmb 05 38 13.9
comp=Z,128nm,1.3s
PQI IAMs_20 IAMs_20 06 18 03.4
comp=Z,2µm,18.0s
NEA2 Nenana 82.14 7 P P **05 38 10.1 -1.3**
baz=346,SNR=10
E64A Bridgewater 82.19 321 P P **05 38 11.5 -0.4**
baz=50,SNR=13
IL31 82.19 6 P P **05 38 10.5 -1.0**
ILAR Eielson Array 82.19 6 P P **05 38 11.3 -0.2**
comp=Z,8.8nm,1.0s,baz=332,slow=3.6,SNR=50
ILAR PP PP **05 41 19.4 +0.3**
comp=Z,7.6nm,1.0s,baz=345,slow=6.9,SNR=5.2
ILAR PKKPbc **PKKPbc 05 56 40.1 -0.2**
comp=Z,1.5nm,0.6s,baz=183,slow=2.3,SNR=15
ILAR LR LR 06 19 32.2
comp=Z,787nm,20.3s,baz=354,slow=39
ILAR Eielson Array 82.19 6 P P **05 38 10.2 -1.3**
BPAW Bear Paw Mtn. 82.41 8 IAmb IAmb 05 38 15.4
comp=Z,74nm,1.2s
GGN Saint George 82.48 320 IAmb IAmb 05 38 15.6
comp=Z,128nm,1.6s
E63A Oxbow 82.50 321 P P **05 38 13.6 0.0**
baz=50,SNR=11
E63A Oxbow 82.50 321 IAmb IAmb 05 38 16.0
comp=Z,61nm,1.1s
HDA Harding Lake 82.54 6 P P **05 38 12.5 -0.9**
baz=348,SNR=8.9
EGAK Eagle 82.61 4 P P **05 38 13.9 +0.2**
EGAK IAmb IAmb 05 38 22.8
comp=Z,53nm,1.1s
F64A Sherman 82.82 321 P P **05 38 15.1 -0.2**
baz=50,SNR=13
F64A Sherman 82.82 321 IAmb IAmb 05 38 17.7
comp=Z,122nm,1.4s
G65A Princeton 82.83 320 P P **05 38 15.1 -0.2**
baz=50
TTA Tatalina 82.83 11 IAMs_20 IAMs_20 06 21 56.7
comp=Z,2µm,19.0s
D61A St Aubert, Com 82.91 323 P P **05 38 15.9 +0.3**
baz=49,SNR=9.9
SMY Shemya 82.94 30 IAMs_20 IAMs_20 06 20 15.5
comp=Z,2µm,20.0s
E62A Clayton Lake 82.95 322 P P **05 38 15.9 0.0**
baz=49,SNR=16
E62A Clayton Lake 82.95 322 IAmb IAmb 05 38 18.6
comp=Z,39nm,0.8s
H66A Whiting 82.95 319 P P **05 38 16.1 +0.2**
baz=50
CHGQ Chibougamau 83.12 327 P P **05 38 16.6 -0.1**
baz=46
K27K Chicken 83.30 4 P P **05 38 17.7 +0.4**
baz=352
F63A Nahmakanta, Br 83.33 321 P P **05 38 17.9 0.0**
baz=49,SNR=8.3
F63A Nahmakanta, Br 83.33 321 IAmb IAmb 05 38 20.4
comp=Z,94nm,1.5s
RIDG Independent Ri 83.38 6 P P **05 38 18.2 +0.3**
RIDG IAmb IAmb 05 38 25.8
comp=Z,109nm,1.5s
DAWY Dawson 83.41 3 P P **05 38 16.9 -1.2**
PPLA Purkeypile 83.41 9 P P **05 38 18.8 +0.7**
G64A Maxfield 83.44 320 P P **05 38 18.7 +0.3**
baz=49,SNR=5.3
D60A Saint Jean D'O 83.47 323 P P **05 38 18.2 -0.4**
baz=48,SNR=6.0
H65A Eastbrook 83.52 320 P P **05 38 18.3 -0.5**
baz=50
DOT Dot Lake 83.53 5 P P **05 38 19.1 +0.5**
DOT IAmb IAmb 05 38 21.1
comp=Z,57nm,1.2s
E61A Lac Etchemin 83.57 322 P P **05 38 18.9 -0.2**
baz=48,SNR=11
F62A Pittston Farm, 83.66 322 P P **05 38 19.6 0.0**
baz=49,SNR=15
PKME Peaks-Kenny Pk 83.72 321 P P **05 38 20.0 +0.2**
baz=49
PKME Peaks-Kenny Pk 83.72 321 IAmb IAmb 05 38 22.5
comp=Z,84nm,1.6s
PKME IAMs_20 IAMs_20 06 22 23.5
comp=Z,1µm,18.0s
BATI Baumata 83.81 106 P P **05 38 21.1 +0.3**
comp=Z,2µmcomp=Z,120nm,1.0s
D59A Saint-Raymond 83.88 323 P P **05 38 19.8 -0.8**
baz=48,SNR=5.7
GIRL Giralia 83.94 122 P P **05 38 21.5 +0.3**
G63A Kingsbury 83.99 321 P P **05 38 21.3 0.0**
baz=49,SNR=8.0
SOEI Soe 84.05 105 P P **05 38 21.6 -0.5**
comp=Z,3µmcomp=Z,188nm,1.3s
SOEI Soe 84.05 105 P P **05 38 21.1 -1.0**
SOEI IAMs_20 IAMs_20 06 19 11.0
comp=Z,2µm,22.0s
H64A Troy 84.08 320 P P **05 38 22.2 +0.5**
baz=49,SNR=6.3
PAX Paxson 84.09 6 P P **05 38 20.2 -1.3**
PAX pmax pmax
comp=Z,73nm,2.0s
PAX Paxson 84.09 6 P P **05 38 20.2 -1.3**
LATQ La Tuque 84.09 324 P P **05 38 21.1 -0.6**
baz=47,SNR=5.4
YKA Yellowknife Ar 84.10 352 P P **05 38 20.6 -0.8**
comp=Z,22nm,0.9s,baz=16,slow=5.6,SNR=32
YKA LR LR 06 18 09.9
comp=Z,1µm,20.2s,baz=0.0,slow=37
E60A Ste Agathe de 84.11 323 P P **05 38 21.0 -0.8**
baz=48,SNR=11
CUT Chulitna 84.13 8 P P **05 38 20.4 -1.2**
baz=345
F61A St Evariste 84.14 322 P P **05 38 21.4 -0.6**
baz=48,SNR=12
MENT Mentasta 84.26 5 P P **05 38 23.0 +0.6**
MENT IAmb IAmb 05 38 25.0
comp=Z,43nm,1.2s
BCAR Beaver Creek A 84.27 4 P P **05 38 22.4 -0.1**
D58A Chemin du LacG 84.34 324 P P **05 38 22.4 -0.6**
baz=47,SNR=7.1
WVL Waterville 84.37 320 IAmb IAmb 05 38 25.5
comp=Z,80nm,1.6s
G62A West of Eustis 84.40 321 P P **05 38 22.7 -0.7**
baz=48,SNR=22
G62A West of Eustis 84.40 321 IAmb IAmb 05 38 26.7
comp=Z,75nm,1.0s
H63A New Sharon 84.51 321 P P **05 38 22.7 -1.2**
baz=48
E59A St. Maurice 84.57 323 P P **05 38 23.8 -0.4**
baz=47
SVW2 Sparrevohn 84.63 11 IAmb IAmb 05 38 26.8
comp=Z,57nm,1.5s
F60A Warwick 84.64 323 P P **05 38 24.4 -0.1**
baz=47
F60A S S **05 48 50.9 -0.7**
baz=47
MATQ Matagami 84.71 328 P P **05 38 24.7 -0.1**
baz=44
I64A Boothbay 84.78 320 P P **05 38 25.3 0.0**
baz=49
G61A St-Isidore-de- 84.88 322 P P **05 38 25.4 -0.4**
baz=48,SNR=17
G61A S S **05 48 51.8 -2.3**
baz=48
D57A Chemin Vers le 84.89 324 P P **05 38 25.2 -0.7**
baz=46,SNR=18
D57A S S **05 48 52.8 -1.3**
baz=46
GHO Glory Hole Cre 84.91 8 IAmb IAmb 05 38 31.7
comp=Z,54nm,1.0s
LSQQ Lebel-sur-Quev 84.92 327 P P **05 38 24.9 -1.0**
baz=44
SML Sawmill 84.94 8 IAmb IAmb 05 38 31.5
comp=Z,54nm,0.8s
SUA Susitna One 84.98 9 IAmb IAmb 05 38 28.0
comp=Z,70nm,1.2s
SCM Sheep Creek Mo 85.02 7 IAmb IAmb 05 38 28.5
comp=Z,63nm,1.3s
E58A La Victoria 85.03 323 P P **05 38 25.7 -0.8**
baz=46,SNR=15
E58A S S **05 48 53.2 -2.3**
baz=46
PMR Palmer 85.06 8 IAmb IAmb 05 38 28.3
comp=Z,58nm,1.2s
F59A Saint Guilaume 85.14 323 P P **05 38 26.0 -1.0**
baz=47,SNR=8.8
F59A S S **05 48 55.8 -0.7**
baz=47
H62A Milan 85.16 321 P P **05 38 27.2 0.0**
baz=48,SNR=7.2
H62A Milan 85.16 321 IAmb IAmb 05 38 29.6
comp=Z,48nm,1.2s
I63A Otisfield 85.21 320 P P **05 38 27.1 -0.3**
baz=48
I63A S S **05 48 56.5 -0.8**
baz=48
I63A Otisfield 85.21 320 IAmb IAmb 05 38 31.6
comp=Z,84nm,1.8s
MOQ Mont Orford 85.24 322 P P **05 38 27.4 -0.2**
D56A ZEC Mazanza, M 85.30 325 P P **05 38 27.4 -0.4**
baz=46,SNR=14
D56A S S **05 48 55.9 -2.2**
baz=46
KNK Knik Glacier 85.31 8 P P **05 38 27.9 +0.2**
KNK IAmb IAmb 05 38 36.1
comp=Z,57nm,1.0s
G60A Masonville 85.43 322 P P **05 38 28.4 -0.1**
baz=47
E57A Chemin Saint G 85.44 324 P P **05 38 27.7 -0.9**
baz=46,SNR=25
KLU Klutina 85.50 7 P P **05 38 28.7 0.0**
KLU IAmb IAmb 05 38 31.4
comp=Z,91nm,1.2s
H61A Lyndonville 85.60 321 P P **05 38 29.8 +0.4**
baz=47,SNR=12
F58A St-Lin Laurent 85.65 323 P P **05 38 29.4 -0.2**
baz=46
D55A Sainte-Anne-du 85.67 325 P P **05 38 29.5 -0.2**
baz=45,SNR=17
I62A Tamworth 85.73 321 P P **05 38 30.3 +0.2**
baz=48,SNR=8.1
I62A Tamworth 85.73 321 P P **05 38 29.3 -0.7**
E56A St. Veronique 85.79 324 P P **05 38 29.4 -0.9**
baz=45,SNR=14
LBNH Lisbon 85.80 321 P P **05 38 30.6 +0.2**
baz=47,SNR=12
G59A Clarenceville 85.88 322 P P **05 38 29.9 -0.8**
baz=46
H60A Morristown 85.98 322 P P **05 38 30.9 -0.5**
baz=47,SNR=16
H60A S S **05 49 02.7 -2.2**
baz=47
J63A Strafford 85.99 320 P P **05 38 31.6 +0.2**
baz=48,SNR=5.6
J63A S S **05 49 01.4 -3.6**
baz=48
O22K Cooper Landing 86.06 9 P P **05 38 31.0 -0.3**
baz=345
F57A Harrington 86.13 324 P P **05 38 31.5 -0.4**
baz=45
D54A Lac Fusel, La 86.14 326 P P **05 38 31.6 -0.5**
baz=44,SNR=5.7
I61A Oroboro, Fairl 86.16 321 P P **05 38 31.7 -0.4**
baz=47,SNR=9.2
VT1 Waterbury 86.17 322 P P **05 38 30.9 -1.4**
VT1 IAmb IAmb 05 38 34.6
comp=Z,104nm,1.6s
FFD Franklin Falls 86.17 321 IAMs_20 IAMs_20 06 19 18.5
comp=Z,2µm,19.0s
FID Port Fidalgo 86.17 7 P P **05 38 33.6 +1.7**
FID IAmb IAmb 05 38 41.1
comp=Z,54nm,1.2s
BALM Baldy 86.25 5 P P **05 38 31.7 -0.7**
BALM IAmb IAmb 05 38 35.8
comp=Z,63nm,1.0s
FRNY Flat Rock 86.25 322 P P **05 38 31.5 -1.1**
G58A Ormstown 86.27 323 P P **05 38 31.6 -1.0**
baz=46,SNR=13
E55A Montcerf-Lytto 86.35 325 P P **05 38 32.4 -0.6**
baz=44,SNR=7.2
J62A Henniker 86.42 320 P P **05 38 33.9 +0.4**
baz=47,SNR=8.4
H59A Cadyville 86.44 322 P P **05 38 33.5 0.0**
baz=46,SNR=13
EYAK Cordova Ski Ar 86.44 7 P P **05 38 33.2 0.0**
EYAK IAMs_20 IAMs_20 06 21 47.2
comp=Z,2µm,20.0s
SEW Seward 86.47 9 IAmb IAmb 05 38 39.3
comp=Z,60nm,0.8s
SEW IAMs_20 IAMs_20 06 23 37.8
comp=Z,2µm,18.0s
BRLK Bradley Lake 86.61 9 IAmb IAmb 05 38 35.6
comp=Z,50nm,1.0s
K63A Dunstable 86.63 320 P P **05 38 34.5 0.0**
baz=47
BCX Boston College 86.68 319 IAmb IAmb 05 38 37.7
comp=Z,77nm,1.1s
D53A Lac Vacive, Po 86.69 326 P P **05 38 34.0 -0.7**
baz=43,SNR=6.5
WES Weston 86.73 320 IAmb IAmb 05 38 37.3
comp=Z,72nm,1.3s
WES IAMs_20 IAMs_20 06 20 11.2
comp=Z,1µm,19.0s
HYT Haines Junctio 86.73 3 IAmb IAmb 05 38 37.7
comp=Z,77nm,1.3s
J61A Chester 86.74 321 P P **05 38 35.4 +0.4**
baz=47,SNR=7.0
L64A Middleborough 86.76 319 P P **05 38 34.9 -0.2**
baz=48
HRV Adam Dziewonsk 86.77 320 P P **05 38 35.0 -0.2**
baz=47
HRV Adam Dziewonsk 86.77 320 P P **05 38 34.8 -0.4**
HRV pmax pmax
comp=Z,39nm,1.1s
HRV MLR MLR
comp=Z,1µm,18.0s
HRV Adam Dziewonsk 86.77 320 P P **05 38 34.8 -0.4**
G57A Newington 86.78 323 P P **05 38 34.7 -0.4**
baz=45,SNR=9.6
I60A Shoreham 86.78 322 P P **05 38 35.2 0.0**
baz=46,SNR=7.8
CNPM China Poot 86.79 10 P P **05 38 33.4 -1.6**
CNPM IAmb IAmb 05 38 36.5
comp=Z,54nm,1.1s
H58A Gabriels 86.85 322 P P **05 38 34.7 -0.9**
baz=46,SNR=11
M65A Busby, Falmout 86.91 319 P P **05 38 35.2 -0.7**
baz=48
FAKI Fak Fak 86.91 95 P P **05 38 36.3 0.0**
comp=Z,3µmcomp=Z,147nm,1.7s
FAKI Fak Fak 86.91 95 P P **05 38 34.4 -1.9**
E54A Lac Daplat, Po 86.91 325 P P **05 38 35.1 -0.7**
baz=44,SNR=5.6
LONY Lake Ozonia 86.91 323 P P **05 38 35.4 -0.5**
baz=46,SNR=19
LONY Lake Ozonia 86.91 323 IAmb IAmb 05 38 38.5
comp=Z,63nm,1.1s
LONY IAMs_20 IAMs_20 06 19 28.0
comp=Z,1µm,20.0s
F55A Otter Lake 86.94 325 P P **05 38 35.1 -0.9**
baz=44,SNR=6.1
K62A Royalston 87.03 320 P P **05 38 36.7 +0.2**
baz=47,SNR=9.2
K62A Royalston 87.03 320 P P **05 38 36.0 -0.5**
K62A IAmb IAmb 05 38 39.2
comp=Z,97nm,1.4s
MBWA Marble Bar 87.08 117 IAMs_20 IAMs_20 06 21 42.5
comp=Z,2µm,18.0s
D52A ZEK Kipawa Sen 87.09 326 P P **05 38 35.8 -0.9**
baz=43
I59A Olmsteadville 87.12 322 P P **05 38 36.2 -0.7**
baz=46,SNR=13
BRYW Bryant College 87.16 319 IAmb IAmb 05 38 40.3
comp=Z,76nm,1.1s
BRYW IAMs_20 IAMs_20 06 16 55.7
comp=Z,2µm,22.0s
E53A Dumoine, Ponti 87.18 326 P P **05 38 36.2 -0.9**
baz=43,SNR=8.8
M64A Tiverton 87.23 319 P P **05 38 37.2 -0.2**
baz=48
L63A North Scituate 87.24 319 P P **05 38 37.6 +0.1**
baz=47
J60A Lant Hill Farm 87.27 321 P P **05 38 37.2 -0.5**
baz=46,SNR=10
ACCN Adirondack Com 87.30 321 IAmb IAmb 05 38 40.2
comp=Z,50nm,1.2s
PCA Pinnacle 87.32 4 IAmb IAmb 05 38 41.1
comp=Z,61nm,1.0s
QUA2 Belchertown 87.36 320 IAmb IAmb 05 38 40.5
comp=Z,85nm,1.6s
PSAB1 Pilbara Seismi 87.39 118 IAMs_20 IAMs_20 06 22 08.7
comp=Z,2µm,20.0s
PSAA3 Pilbara Seismi 87.42 118 IAMs_20 IAMs_20 06 21 59.5
comp=Z,2µm,18.0s
L61B Northampton 87.42 320 P P **05 38 38.3 0.0**
baz=47,SNR=5.8
H57A Richville 87.43 323 P P **05 38 38.2 -0.2**
baz=45,SNR=8.9
D51A Lot 18 Range I 87.45 327 P P **05 38 38.0 -0.4**
baz=42,SNR=5.1
PSAD2 Pilbara Seismi 87.52 118 IAMs_20 IAMs_20 06 16 04.3
comp=Z,2µm,21.0s
G55A Calabogie 87.53 324 P P **05 38 38.4 -0.4**
baz=44,SNR=13
K61A Williamstown 87.58 321 P P **05 38 39.1 0.0**
baz=46
D50A G1974 Best Tow 87.61 327 P P **05 38 38.3 -0.9**
baz=42,SNR=8.0
ALGO Algonquin Park 87.67 326 P P **05 38 38.2 -1.3**
baz=43,SNR=7.1
J59A Piesco 87.68 322 P P **05 38 39.1 -0.5**
baz=46,SNR=8.8
J59A Piesco 87.68 322 IAmb IAmb 05 38 41.9
comp=Z,76nm,1.4s
L62A Suffield 87.69 320 P P **05 38 39.4 -0.2**
baz=47
E52A Mattawa 87.72 326 P P **05 38 38.8 -0.9**
baz=43,SNR=15
E52A S S **05 49 19.6 -2.0**
baz=43
TRY Troy 87.75 321 IAMs_20 IAMs_20 06 21 09.3
comp=Z,2µm,18.0s
I58A Old Forge 87.77 322 P P **05 38 39.5 -0.5**
baz=45,SNR=7.3
H56A Elgin 87.78 324 P P **05 38 39.4 -0.6**
baz=44,SNR=6.3
H56A S S **05 49 21.7 -0.6**
baz=44
M63A Gales Ferry 87.79 319 P P **05 38 39.9 -0.2**
baz=47
RCBR Riachuelo 87.81 262 eP P **05 38 40.5 -0.2**
PLVO Plevna 87.86 324 IAmb IAmb 05 38 42.3
comp=Z,78nm,1.3s
E51A G1948 Merrick 87.92 327 P P **05 38 39.8 -0.9**
baz=42,SNR=7.8
E51A S S **05 49 22.0 -1.6**
baz=42
I57A Carthage 87.94 323 P P **05 38 40.4 -0.5**
baz=45,SNR=9.9
I57A S S **05 49 22.1 -1.8**
baz=45
K60A Five Rivers En 87.95 321 P P **05 38 40.3 -0.6**
baz=46
L61A Hillsdale 1, H 88.07 321 P P **05 38 41.1 -0.4**
baz=46
G54A Lake Saint Pet 88.09 325 P P **05 38 41.3 -0.3**
baz=43,SNR=13
G54A S S **05 49 23.1 -2.2**
baz=43
J58A Remsen 88.16 322 P P **05 38 41.4 -0.5**
baz=45,SNR=7.7
J58A Remsen 88.16 322 IAmb IAmb 05 38 44.0
comp=Z,66nm,1.4s
SKAG Skagway 88.16 2 IAmb IAmb 05 38 51.1
comp=Z,48nm,1.2s
SKAG IAMs_20 IAMs_20 06 22 19.6
comp=Z,2µm,21.0s
D49A Beulah Townshi 88.22 328 P P **05 38 41.4 -0.7**
baz=41
M62A Hamden 88.23 320 P P **05 38 41.2 -1.0**
baz=46
M62A S S **05 49 24.5 -2.1**
baz=46
KDAK Kodiak Island 88.26 11 P P **05 38 42.3 +0.3**
KDAK pmax pmax
comp=Z,158nm,1.7s
KDAK Kodiak Island 88.26 11 P P **05 38 42.3 +0.3**
H55A Tweed 88.27 324 P P **05 38 41.7 -0.7**
baz=44,SNR=10
H55A S S **05 49 26.0 -0.9**
baz=44
K59A Cooperstown 88.35 322 P P **05 38 42.4 -0.4**
baz=45
KSCT Kent School, K 88.35 320 P P **05 38 42.9 +0.1**
KSCT IAmb IAmb 05 38 44.6
comp=Z,59nm,1.6s
J57A Williamstown 88.49 323 P P **05 38 42.3 -1.1**
baz=44,SNR=6.4
J57A Williamstown 88.49 323 P P **05 38 42.9 -0.6**
J57A IAmb IAmb 05 38 45.4
comp=Z,57nm,1.2s
D48A Paudash Townsh 88.49 328 P P **05 38 42.4 -1.0**
baz=40
DELO Deloro Mine 88.51 324 IAmb IAmb 05 38 45.9
comp=Z,48nm,1.0s
L60A Shokan 88.56 321 P P **05 38 43.4 -0.4**
baz=46
F51A Arnstein 88.57 326 P P **05 38 43.1 -0.7**
baz=42,SNR=5.6
E50A Wahnapitae 88.58 327 P P **05 38 43.3 -0.5**
baz=41
I55A Frankford 88.76 324 P P **05 38 43.8 -0.8**
baz=43
K58A Earlville 88.77 322 P P **05 38 43.9 -0.9**
baz=45,SNR=7.7
K58A Earlville 88.77 322 IAmb IAmb 05 38 46.7
comp=Z,73nm,1.4s
FALS False Pass 88.78 17 IAMs_20 IAMs_20 06 26 24.1
comp=Z,2µm,21.0s
M61A Granite Spring 88.79 320 P P **05 38 44.6 -0.3**
baz=46
L59A Walton 88.86 321 P P **05 38 44.5 -0.8**
baz=45
L59A Walton 88.86 321 IAmb IAmb 05 38 47.2
comp=Z,42nm,1.3s
N62A Caumsett State 88.89 320 P P **05 38 44.2 -1.1**
baz=46
H53A Bobcaygeon 88.94 325 P P **05 38 44.8 -0.7**
baz=43,SNR=6.8
J56A Wolcott 89.02 323 P P **05 38 45.0 -0.9**
baz=44
SDPT Sand Point 89.03 16 IAMs_20 IAMs_20 06 25 58.9
comp=Z,2µm,18.0s
PAL Palisades 89.08 320 P P **05 38 45.3 -0.9**
baz=46
FFC Flin Flon 89.13 343 P P **05 38 46.0 -0.2**
FFC pmax pmax
comp=Z,74nm,1.5s
FFC MLR MLR
comp=Z,2µm,19.0s
FFC Flin Flon 89.13 343 P P **05 38 46.0 -0.2**
FFC IAmb IAmb 05 38 48.0
comp=Z,74nm,1.5s
FFC Flin Flon 89.13 343 IAMs_20 IAMs_20 06 20 33.0
comp=Z,2µm,19.0s
D47A Chapleau 89.15 329 P P **05 38 45.8 -0.7**
baz=40,SNR=7.7
E48A Lockeyer 89.18 328 P P **05 38 45.9 -0.7**
baz=40,SNR=7.5
DLBC Dease Lake 89.21 359 P P **05 38 47.9 +1.3**
comp=Z,11nm,0.9s,baz=355,slow=8.1,SNR=10
DLBC PP PP **05 42 19.5 +3.5**
comp=Z,5.1nm,1.0s,baz=320,slow=6.4,SNR=3.8
DLBC Dease Lake 89.21 359 P P **05 38 46.8 +0.2**
DLBC IAmb IAmb 05 38 49.7
comp=Z,81nm,1.6s
MORW Morawa 89.22 126 P P **05 38 46.2 -0.7**
K57A Scipio Center 89.24 322 P P **05 38 46.0 -1.0**
baz=44
M60A Port Jervis 89.24 321 P P **05 38 46.4 -0.6**
baz=45
M60A S S **05 49 33.7 -2.5**
baz=45
BINY Binghamton 89.35 322 P P **05 38 47.2 -0.3**
baz=44
BINY Binghamton 89.35 322 P P **05 38 46.4 -1.2**
BINY IAMs_20 IAMs_20 06 18 29.4
comp=Z,2µm,22.0s
L58A Harry Jones Me 89.39 322 P P **05 38 47.2 -0.5**
baz=44
N61A South Mountain 89.47 320 P P **05 38 47.8 -0.3**
baz=46
J55A Hilton 89.51 324 P P **05 38 47.2 -1.1**
baz=43
M59A Waymart 89.52 321 P P **05 38 47.8 -0.5**
baz=45
F49A Sandfield 89.67 327 P P **05 38 48.5 -0.5**
baz=40,SNR=5.1
K56A Middlesex 89.68 323 P P **05 38 48.8 -0.3**
baz=44,SNR=8.6
D46A Sault St. Mari 89.68 329 P P **05 38 48.5 -0.5**
baz=39

E47A	Iron Bridge	89.69 329	P	P	05 38 48.1	-1.0	
	baz=39						
N60A	Cedar Hill Far	89.82 320	P	P	05 38 49.1	-0.6	
	baz=45						
FITZ	Fitzroy Crossi	89.84 112	IAmb	IAmb	05 38 58.4		
	comp=Z,59nm,1.4s						
F48A	Evansville	89.88 328	P	P	05 38 49.2	-0.7	
	baz=40						
F48A			S	S	05 49 40.4	-1.6	
	baz=40						
J54A	Appleton	89.92 324	P	P	05 38 49.6	-0.5	
	baz=43						
L57A	Andrews Acres	89.94 322	P	P	05 38 49.8	-0.5	
	baz=44,SNR=12						
MMNY	Mt. Morris Dam	89.95 323	IAmb	IAmb	05 38 52.4		
	comp=Z,45nm,0.9s						
K55A	Perry	90.03 323	P	P	05 38 49.8	-1.0	
	baz=43,SNR=7.7						
O61A	Allentown	90.07 320	P	P	05 38 50.2	-0.7	
	baz=45						
N59A	State Game Lan	90.14 321	P	P	05 38 50.9	-0.5	
	baz=45						
M58A	Price's Panora	90.19 322	P	P	05 38 50.6	-0.9	
	baz=44						
L56A	Greenwood	90.20 323	P	P	05 38 50.4	-1.2	
	baz=43,SNR=13						
L56A	Greenwood	90.20 323	IAmb	IAmb	05 38 53.2		
	comp=Z,95nm,1.4s						
O60A	Telford	90.37 320	P	P	05 38 51.9	-0.4	
	baz=45						
K54A	Basiliko Farm,	90.43 324	P	P	05 38 52.1	-0.5	
	baz=43,SNR=11						
WVNY	West Valley, N	90.54 323	IAmb	IAmb	05 38 55.4		
	comp=Z,66nm,1.1s						
M57A	Sunshine Farm,	90.56 322	P	P	05 38 52.5	-0.7	
	baz=44,SNR=5.9						
M57A	Sunshine Farm,	90.56 322	IAmb	IAmb	05 38 55.0		
	comp=Z,80nm,1.7s						
L55A	Hinsdale	90.62 323	P	P	05 38 53.1	-0.4	
	baz=43,SNR=25						
I51A	Listowel	90.68 326	P	P	05 38 52.9	-0.8	
	baz=41						
N58A	Sunbury	90.70 321	P	P	05 38 52.5	-1.3	
	baz=44						
N58A	Sunbury	90.70 321	IAmb	IAmb	05 38 55.4		
	comp=Z,74nm,1.7s						
O59A	Robesonia	90.80 321	P	P	05 38 53.5	-0.8	
	baz=44						
O59A			S	S	05 49 47.8	-2.9	
	baz=44						
P60A	Greenville	90.86 320	P	P	05 38 53.3	-1.3	
	baz=45						
P60A	Greenville	90.86 320	P	P	05 38 53.7	-0.9	
M56A	Emporium	91.00 323	P	P	05 38 54.3	-1.0	
	baz=43,SNR=27						
M56A	Emporium	91.00 323	P	P	05 38 54.2	-1.0	
L54A	Sinclairville	91.02 324	P	P	05 38 54.6	-0.8	
	baz=42,SNR=11						
MVL	Millersville	91.11 321	IAmb	IAmb	05 38 57.4		
	comp=Z,56nm,1.5s						
N57A	Milroy	91.20 322	P	P	05 38 55.4	-0.7	
	baz=43,SNR=10						
M55A	Ridgway	91.31 323	P	P	05 38 55.7	-1.0	
	baz=43,SNR=24						
O58A	Lewisberry	91.33 321	P	P	05 38 56.1	-0.7	
	baz=44						
E43A	Lone Tree Farm	91.34 331	IAmb	IAmb	05 38 58.8		
	comp=Z,33nm,0.9s						
ULM	Lac du Bonnet	91.38 338	P	P	05 38 56.2	-0.6	
	comp=Z,20nm,0.9s,baz=47,slow=4.4,SNR=12						
ULM			LR	LR	06 20 38.8		
	comp=Z,2µm,21.1s,baz=25,slow=36						
ULM	Lac du Bonnet	91.38 338	IAmb	IAmb	05 38 57.9		
	comp=Z,33nm,1.1s						
I49A	Point Hope	91.42 327	IAmb	IAmb	05 38 58.7		
	comp=Z,59nm,1.1s						
I49A			IAMs_20	IAMs_20	06 21 30.1		
	comp=Z,2µm,21.0s						
D41A	Chassel	91.43 332	IAMs_20	IAMs_20	06 22 12.0		
	comp=Z,2µm,19.0s						
P59A	Jarrettsville	91.43 320	P	P	05 38 56.4	-0.9	
	baz=44						
ERPA	Erie	91.44 324	P	P	05 38 57.0	-0.3	
	baz=42,SNR=6.8						
ERPA	Erie	91.44 324	IAMs_20	IAMs_20	06 21 37.8		
	comp=Z,1µm,22.0s						
SSPA	Standing Stone	91.46 322	P	P	05 38 56.6	-0.8	
	baz=43						
SSPA	Standing Stone	91.46 322	P	P	05 38 56.9	-0.5	
SSPA			IAmb	IAmb	05 38 59.1		
	comp=Z,85nm,1.6s						
SSPA	Standing Stone	91.46 322	IAMs_20	IAMs_20	06 19 41.5		
	comp=Z,1µm,21.0s						
N56A	West Decatur	91.47 322	P	P	05 38 57.1	-0.4	
	baz=43,SNR=12						
Q60A	Greensboro	91.55 320	P	P	05 38 57.0	-0.7	
	baz=44						
GLMI	Grayling	91.55 328	P	P	05 38 57.0	-0.8	
	baz=38,SNR=5.7						
GLMI	Grayling	91.55 328	IAMs_20	IAMs_20	06 21 36.4		
	comp=Z,2µm,20.0s						
O57A	Amberson	91.64 321	P	P	05 38 57.7	-0.6	
	baz=43,SNR=7.4						
L53A	Girard	91.70 324	P	P	05 38 57.1	-1.4	
	baz=42,SNR=16						
M54A	Oil Creek Stat	91.73 323	P	P	05 38 57.9	-0.8	
	baz=42,SNR=22						
M54A	Oil Creek Stat	91.73 323	P	P	05 38 58.6	-0.1	
R61A	Willards	91.74 319	P	P	05 38 58.2	-0.5	
	baz=45						
SDMD	Soldier's Deli	91.80 320	P	P	05 38 58.8	-0.1	
EYMN	Ely	91.82 334	P	P	05 38 58.5	-0.5	
	baz=33						
EYMN	Ely	91.82 334	IAmb	IAmb	05 39 00.5		
	comp=Z,74nm,1.5s						
G45A	Suttons Bay	91.84 329	IAMs_20	IAMs_20	06 20 56.0		
	comp=Z,2µm,21.0s						
N55A	Marion Center	91.93 323	P	P	05 38 58.6	-1.0	
	baz=42,SNR=12						
P58A	Pank, Wackersv	91.98 321	P	P	05 38 58.8	-1.0	
	baz=44						
O56A	Blue Knob Stat	92.08 322	P	P	05 38 59.5	-0.8	
	baz=43,SNR=5.0						
O56A	Blue Knob Stat	92.08 322	IAmb	IAmb	05 39 01.9		
	comp=Z,62nm,1.6s						
Q59A	Harwood	92.09 320	P	P	05 38 59.4	-0.9	
	baz=44						
K50A	Casco	92.22 326	IAMs_20	IAMs_20	06 22 45.3		
	comp=Z,1µm,18.0s						
M53A	WI Miller and	92.29 324	P	P	05 39 00.0	-1.2	
	baz=41,SNR=5.2						
M53A	WI Miller and	92.29 324	IAmb	IAmb	05 39 02.4		
	comp=Z,46nm,1.4s						
N54A	Moraine State	92.30 323	P	P	05 39 00.3	-1.0	
	baz=42,SNR=7.9						
N54A	Moraine State	92.30 323	P	P	05 39 01.2	-0.1	
N54A			IAmb	IAmb	05 39 02.9		
	comp=Z,72nm,1.5s						
F42A	Maple Grove Fa	92.31 331	IAMs_20	IAMs_20	06 22 39.4		
	comp=Z,1µm,19.0s						
P57A	Homestead Farm	92.37 321	P	P	05 39 00.2	-1.4	
	baz=43,SNR=8.4						
P57A	Homestead Farm	92.37 321	IAmb	IAmb	05 39 03.1		
	comp=Z,34nm,1.2s						
S61A	Accomac	92.39 319	P	P	05 39 01.2	-0.5	
	baz=45						
S61A	Accomac	92.39 319	IAMs_20	IAMs_20	06 24 05.2		
	comp=Z,2µm,18.0s						
COWI	Conover	92.44 332	IAmb	IAmb	05 39 03.9		
	comp=Z,34nm,0.9s						
COWI			IAMs_20	IAMs_20	06 22 52.8		
	comp=Z,2µm,20.0s						
R60A	Leonardtown, M	92.47 319	P	P	05 39 01.3	-0.8	
	baz=44						
O55A	Ligonier	92.51 322	P	P	05 39 01.7	-0.6	
	baz=42						
M52A	Chesterland	92.55 324	P	P	05 39 01.4	-1.0	
	baz=41,SNR=5.7						
M52A	Chesterland	92.55 324	P	P	05 39 02.6	+0.2	
M52A			IAmb	IAmb	05 39 04.7		
	comp=Z,45nm,1.0s						
Q58A	Fox Den Farm,	92.58 321	P	P	05 39 01.5	-1.1	
	baz=43						
P56A	Dayton Farm, R	92.79 322	P	P	05 39 02.8	-0.8	
	baz=43,SNR=6.7						
R59A	King George, V	92.81 320	P	P	05 39 02.7	-1.0	
	baz=44						
N53A	Lisbon	92.85 324	P	P	05 39 02.2	-1.6	
	baz=41,SNR=12						
N53A	Lisbon	92.85 324	IAmb	IAmb	05 39 06.0		
	comp=Z,40nm,1.0s						
I45A	Fountain	92.89 329	IAMs_20	IAMs_20	06 21 28.7		
	comp=Z,2µm,22.0s						
Q57A	Strasburg	92.91 321	P	P	05 39 03.7	-0.4	
	baz=43,SNR=11						
S60A	Water View	92.92 319	P	P	05 39 03.5	-0.7	
	baz=44						
CBN	Corbin Frederi	92.95 320	P	P	05 39 03.2	-1.1	
	baz=44						
E38A	The Farm, Brul	92.97 333	IAMs_20	IAMs_20	06 25 26.6		
	comp=Z,1µm,19.0s						
AGMN	Agassiz Nation	93.06 337	P	P	05 39 03.5	-1.2	
	baz=30						
AGMN	Agassiz Nation	93.06 337	P	P	05 39 03.9	-0.7	
AGMN			IAmb	IAmb	05 39 05.9		
	comp=Z,32nm,1.2s						
AAM	Ann Arbor	93.07 326	P	P	05 39 03.5	-1.3	
	baz=39						
AAM	Ann Arbor	93.07 326	IAmb	IAmb	05 39 06.7		
	comp=Z,38nm,1.1s						
AAM			IAMs_20	IAMs_20	06 24 25.9		
	comp=Z,1µm,18.0s						
O54A	Avella	93.08 323	P	P	05 39 04.3	-0.6	
	baz=42,SNR=11						
O54A	Avella	93.08 323	IAmb	IAmb	05 39 07.1		
	comp=Z,33nm,1.0s						
M51A	Elyria	93.11 325	P	P	05 39 04.2	-0.8	
	baz=40,SNR=5.3						
ROSB	Rosrio	93.15 269	eP	P	05 39 05.5	-0.1	
MCWV	Mont Chateau	93.20 322	P	P	05 39 04.4	-1.0	
	baz=42,SNR=9.0						
H43A	Windswept, Lux	93.20 330	IAMs_20	IAMs_20	06 21 50.0		
	comp=Z,2µm,22.0s						
R58A	Rapidan	93.22 320	P	P	05 39 04.5	-1.0	
	baz=43						
S59A	Mechanicsville	93.23 319	P	P	05 39 04.7	-0.9	
	baz=44						
N52A	McGinn's Farm,	93.26 324	P	P	05 39 05.0	-0.7	
	baz=41						
P55A	Reedsville	93.30 322	P	P	05 39 05.3	-0.6	
	baz=42,SNR=6.3						
Q56A	Snyder Ridge,	93.31 321	P	P	05 39 04.9	-1.1	
	baz=42						
Q56A	Snyder Ridge,	93.31 321	IAmb	IAmb	05 39 19.5		
Q56A			IAMs_20	IAMs_20	06 20 40.4		
	comp=Z,2µm,22.0s						
T60A	Surry	93.37 319	P	P	05 39 05.1	-1.1	
	baz=44						
GENI	Genyem	93.40 91	P	P	05 39 05.0	-1.7	
	comp=Z,35nm,0.7s						
R58B	Mineral	93.40 320	P	P	05 39 05.4	-1.0	
	baz=43,SNR=6.8						
O53A	New Philadelph	93.45 323	P	P	05 39 05.8	-0.8	
	baz=41,SNR=13						
O53A	New Philadelph	93.45 323	IAmb	IAmb	05 39 09.0		
	comp=Z,42nm,1.1s						
M50A	Fremont	93.47 325	IAMs_20	IAMs_20	06 23 44.5		
	comp=Z,2µm,19.0s						
R57A	Stanardsville	93.50 321	P	P	05 39 06.3	-0.6	
	baz=43,SNR=11						
N51A	Ashland	93.52 325	P	P	05 39 05.7	-1.2	
	baz=40						
G40A	Rib Lake	93.55 332	IAmb	IAmb	05 39 09.1		
	comp=Z,33nm,0.9s						
G40A			IAMs_20	IAMs_20	06 23 45.1		
	comp=Z,2µm,19.0s						
P54A	Burton	93.57 323	P	P	05 39 06.4	-0.8	
	baz=42						
L48A	N Adams	93.72 326	IAMs_20	IAMs_20	06 24 28.8		
	comp=Z,2µm,18.0s						
S58A	Poland Farm, P	93.75 320	P	P	05 39 07.0	-1.0	
	baz=43,SNR=10						
U61A	Possum Corner	93.78 318	P	P	05 39 06.8	-1.4	
	baz=44						
Q55A	Buckhannon	93.81 322	P	P	05 39 07.3	-1.1	
	baz=42,SNR=8.7						
O52A	Adamsville	93.87 324	P	P	05 39 07.5	-1.0	
	baz=40,SNR=15						
O52A	Adamsville	93.87 324	IAmb	IAmb	05 39 10.6		
	comp=Z,42nm,0.9s						
R56A	Bull Pasture M	93.89 321	P	P	05 39 08.1	-0.7	
	baz=42,SNR=8.3						
T59A	Double "B" Far	93.94 319	P	P	05 39 08.0	-0.9	
	baz=44						
V62A	Hyde County Ai	94.05 317	P	P	05 39 08.6	-0.8	
	baz=45						
U60A	Pendleton	94.08 319	P	P	05 39 08.4	-1.1	
	baz=44						
P53A	Whipple	94.12 323	P	P	05 39 09.3	-0.4	
	baz=41,SNR=23						
P53A	Whipple	94.12 323	IAMs_20	IAMs_20	06 23 32.6		
	comp=Z,1µm,20.0s						
S57A	Dark Hollow, R	94.13 320	P	P	05 39 08.9	-0.8	
	baz=43,SNR=7.3						
I42A	Draeger Farm,	94.15 330	P	P	05 39 09.7	0.0	
I42A			IAMs_20	IAMs_20	06 22 29.1		
	comp=Z,2µm,22.0s						
Q54A	Coxs Mills	94.21 322	P	P	05 39 09.3	-0.8	
	baz=41,SNR=6.8						
Q54A	Coxs Mills	94.21 322	IAmb	IAmb	05 39 11.5		
	comp=Z,39nm,1.4s						
O51A	Pataskala	94.22 324	P	P	05 39 09.3	-0.8	
	baz=40,SNR=18						
V61A	Roper	94.24 318	P	P	05 39 10.0	-0.2	
	baz=44						
V61A	Roper	94.24 318	IAMs_20	IAMs_20	06 24 33.3		
	comp=Z,1µm,21.0s						
F36A	Milaca	94.33 334	P	P	05 39 10.0	-0.5	
ACSO	Alum Creek Sta	94.34 324	P	P	05 39 09.0	-1.7	
	baz=40,SNR=7.4						
ACSO	Alum Creek Sta	94.34 324	IAmb	IAmb	05 39 12.0		
	comp=Z,46nm,1.3s						
ACSO			IAMs_20	IAMs_20	06 24 23.6		
	comp=Z,1µm,18.0s						
R55A	Marlinton	94.36 321	P	P	05 39 09.8	-1.1	
	baz=42,SNR=7.1						
R55A	Marlinton	94.36 321	IAmb	IAmb	05 39 12.5		
	comp=Z,84nm,1.6s						
P52A	Corning	94.38 324	P	P	05 39 10.3	-0.6	
	baz=40,SNR=15						
P52A	Corning	94.38 324	IAmb	IAmb	05 39 12.8		
	comp=Z,49nm,0.9s						
N49A	Columbus Grove	94.39 326	IAmb	IAmb	05 39 12.8		
	comp=Z,30nm,1.0s						
N49A			IAMs_20	IAMs_20	06 24 19.8		
	comp=Z,2µm,19.0s						
T58A	Grand View Acr	94.50 320	P	P	05 39 10.6	-0.8	
	baz=43,SNR=8.6						
L46A	Eue Claire	94.52 328	IAMs_20	IAMs_20	06 22 31.0		
	comp=Z,1µm,21.0s						
S56A	Natural Bridge	94.52 321	P	P	05 39 10.9	-0.7	
	baz=42						
U59A	Littleton	94.52 319	P	P	05 39 10.5	-1.1	
	baz=43						
SPMN	Marine on St.	94.60 333	P	P	05 39 10.7	-1.1	
	baz=32,SNR=6.7						
SPMN	Marine on St.	94.60 333	IAmb	IAmb	05 39 13.9		
	comp=Z,30nm,1.1s						
SPMN			IAMs_20	IAMs_20	06 26 24.9		
	comp=Z,1µm,19.0s						
V60A	Jim Taylor Roa	94.65 318	P	P	05 39 11.1	-1.0	
	baz=44						
V60A	Jim Taylor Roa	94.65 318	IAmb	IAmb	05 39 14.3		
	comp=Z,24nm,0.8s						
MDND	Maddock	94.66 339	P	P	05 39 10.9	-1.1	
	baz=27						
MDND	Maddock	94.66 339	IAmb	IAmb	05 39 14.1		
	comp=Z,43nm,1.1s						
MDND			IAMs_20	IAMs_20	06 24 17.3		
	comp=Z,2µm,18.0s						
Q53A	Leroy	94.66 323	P	P	05 39 11.5	-0.6	
	baz=41,SNR=7.7						
T57A	Hurt	94.85 320	P	P	05 39 12.9	-0.2	
	baz=42,SNR=7.3						
T57A	Hurt	94.85 320	IAmb	IAmb	05 39 14.8		
	comp=Z,41nm,1.4s						
I40A	Norwalk	94.85 331	IAmb	IAmb	05 39 14.4		
	comp=Z,43nm,1.6s						
I40A			IAMs_20	IAMs_20	06 24 17.7		
	comp=Z,2µm,20.0s						
K43A	Burlington	94.86 329	IAMs_20	IAMs_20	06 23 48.1		
	comp=Z,1µm,20.0s						
R54A	Victor	94.89 322	P	P	05 39 12.5	-0.8	
	baz=41						
U58A	Oxford	94.91 319	P	P	05 39 12.3	-1.0	
	baz=43,SNR=6.4						
W61A	Ground Anchor	94.92 318	P	P	05 39 12.7	-0.7	
	baz=44						
S55A	Lewisburg	94.94 321	P	P	05 39 12.6	-0.9	
	baz=42,SNR=7.5						
P51A	Williamsport	94.96 324	P	P	05 39 12.3	-1.2	
	baz=40						
Q52A	Bidwell	94.96 323	P	P	05 39 12.7	-0.8	
	baz=40,SNR=9.8						
O49A	Covington	95.04 325	P	P	05 39 13.1	-0.8	
O49A			IAmb	IAmb	05 39 15.7		
	comp=Z,34nm,1.1s						
O49A			IAMs_20	IAMs_20	06 24 50.8		
	comp=Z,2µm,20.0s						
GDU01	Guandu, BA	95.10 257	eP	P	05 39 15.3	+0.8	
N47A	Urbana	95.14 326	IAmb	IAmb	05 39 15.7		
	comp=Z,47nm,1.4s						
N47A			IAMs_20	IAMs_20	06 23 42.4		
	comp=Z,2µm,21.0s						
V59A	Middlesex	95.20 319	P	P	05 39 13.6	-1.1	
	baz=43						
T56A	Rocky Mt	95.25 321	P	P	05 39 14.0	-0.9	
	baz=42						
R53A	Hurricane	95.28 323	P	P	05 39 14.2	-0.9	
	baz=41,SNR=6.6						
R53A	Hurricane	95.28 323	P	P	05 39 15.3	+0.3	
R53A			IAmb	IAmb	05 39 17.4		
	comp=Z,38nm,1.0s						
U57A	Blanch	95.31 320	P	P	05 39 14.6	-0.6	
	baz=42,SNR=8.9						
BLA	Blacksburg	95.32 321	P	P	05 39 14.1	-1.2	
	baz=42						
BLA	Blacksburg	95.32 321	IAMs_20	IAMs_20	06 22 02.6		
	comp=Z,2µm,22.0s						
S54A	Dingess, Beckl	95.35 322	P	P	05 39 14.0	-1.4	
	baz=41						
CNNC	Cliffs of the	95.38 318	P	P	05 39 14.8	-0.7	
	baz=43						
CNNC	Cliffs of the	95.38 318	IAMs_20	IAMs_20	06 24 31.4		
	comp=Z,2µm,20.0s						
DGMT	Dagmar	95.41 342	P	P	05 39 14.5	-0.9	
	baz=23,SNR=8.6						
DGMT	Dagmar	95.41 342	IAmb	IAmb	05 39 18.5		
	comp=Z,42nm,1.1s						
DGMT	Dagmar	95.41 342	IAMs_20	IAMs_20	06 24 00.1		
	comp=Z,2µm,20.0s						
W60A	Pink Hill	95.42 318	P	P	05 39 14.7	-1.0	
	baz=44						
Q51A	Peebles	95.45 324	IAmb	IAmb	05 39 17.2		
	comp=Z,31nm,1.1s						
JFWS	Jewell Farm	95.51 330	P	P	05 39 14.7	-1.3	
	baz=34						
JFWS	Jewell Farm	95.51 330	IAMs_20	IAMs_20	06 23 31.0		
	comp=Z,2µm,21.0s						
T55A	Pulaski	95.58 321	P	P	05 39 15.1	-1.4	
	baz=41,SNR=6.8						
V58A	Windy Hill, Pi	95.66 319	P	P	05 39 16.2	-0.6	
	baz=43,SNR=5.1						
P49A	Miami Univ. Ec	95.73 325	P	P	05 39 15.2	-1.8	
	baz=39						
P49A	Miami Univ. Ec	95.73 325	IAMs_20	IAMs_20	06 24 14.2		
	comp=Z,2µm,22.0s						
W59A	Clinton	95.75 318	P	P	05 39 16.1	-1.1	
	baz=43						
I37A	Lemond, Waseca	95.85 333	IAmb	IAmb	05 39 20.5		
	comp=Z,36nm,1.1s						
I37A			IAMs_20	IAMs_20	06 24 51.0		
	comp=Z,2µm,21.0s						
S53A	Williamson	95.86 322	P	P	05 39 16.8	-1.0	
	baz=40						
X60A	Albert Glenn T	95.91 318	P	P	05 39 16.8	-1.1	
	baz=43						
U56A	King	95.94 320	P	P	05 39 17.2	-0.9	
	baz=42,SNR=8.6						
U56A	King	95.94 320	IAmb	IAmb	05 39 21.4		
	comp=Z,19nm,0.8s						
V57A	Coltrane Farms	95.95 320	P	P	05 39 17.7	-0.4	
	baz=42,SNR=9.9						
L42A	Oliver, Polo	96.01 330	IAMs_20	IAMs_20	06 23 35.4		
	comp=Z,2µm,21.0s						
T54A	Tazewell	96.04 322	P	P	05 39 17.8	-0.8	
	baz=41,SNR=9.3						
P48A	Milroy	96.13 325	IAMs_20	IAMs_20	06 24 47.7		
	comp=Z,1µm,21.0s						
E28A	Huff	96.13 339	IAmb	IAmb	05 39 21.1		
	comp=Z,30nm,1.0s						
E28A			IAMs_20	IAMs_20	06 25 13.2		
	comp=Z,2µm,18.0s						
U55A	TA2, Sparta	96.18 321	P	P	05 39 18.3	-1.0	
	baz=41,SNR=17						
SFIN	Lafayette	96.18 327	P	P	05 39 17.6	-1.5	
	baz=37						
SFIN	Lafayette	96.18 327	IAMs_20	IAMs_20	06 24 24.1		
	comp=Z,2µm,20.0s						
TMAB	Tom-Au,PA,Br	96.22 271	eP	P	05 39 19.8	+0.1	
X59A	McDuffie Farm,	96.27 318	P	P	05 39 18.7	-0.9	
	baz=43						
W58A	Raeford	96.29 319	P	P	05 39 19.2	-0.4	
	baz=42						
V56A	Mocksville	96.40 320	P	P	05 39 19.8	-0.4	
	baz=42						
Y60A	Bolivia	96.46 317	P	P	05 39 19.4	-1.0	
	baz=43						
Y60A	Bolivia	96.46 317	IAMs_20	IAMs_20	06 25 34.1		
	comp=Z,1µm,20.0s						
U54A	Nelsons Funny	96.58 321	P	P	05 39 19.0	-2.1	
	baz=41						
U54A	Nelsons Funny	96.58 321	P	P	05 39 18.6	-2.4	
U54A			IAmb	IAmb	05 39 22.7		
	comp=Z,25nm,1.2s						
U54A			IAMs_20	IAMs_20	06 22 41.9		
	comp=Z,2µm,21.0s						
T53A	Wise	96.60 322	P	P	05 39 20.6	-0.6	
	baz=40						
L40A	Anamosa	96.62 331	IAMs_20	IAMs_20	06 25 22.4		
	comp=Z,1µm,18.0s						
W57A	Gilead	96.62 319	P	P	05 39 20.1	-1.0	
	baz=42						
S51A	Beattyville	96.64 323	P	P	05 39 20.4	-0.8	
S51A			IAmb	IAmb	05 39 22.8		
	comp=Z,47nm,1.6s						
X58A	Rowland	96.69 318	P	P	05 39 20.5	-1.0	
	baz=42						
K38A	Parkersburg	96.76 332	IAMs_20	IAMs_20	06 27 52.0		
	comp=Z,1µm,20.0s						
V55A	Taylorsville	96.76 321	P	P	05 39 21.1	-0.7	
	baz=41,SNR=5.8						
V55A	Taylorsville	96.76 321	P	P	05 39 20.9	-0.9	
V55A			IAmb	IAmb	05 39 23.8		
	comp=Z,34nm,1.4s						
P46A	Rosedale	96.84 327	IAMs_20	IAMs_20	06 24 43.6		
	comp=Z,2µm,20.0s						
Y59A	Loris	96.85 318	P	P	05 39 20.8	-1.3	
	baz=43						
BLO	Bloomington	96.88 326	IAMs_20	IAMs_20	06 26 34.5		
	comp=Z,1µm,18.0s						
R49A	Shelbyville	96.92 325	IAMs_20	IAMs_20	06 26 00.7		
	comp=Z,2µm,19.0s						
W56A	Indian Trail	96.95 320	P	P	05 39 21.7	-0.9	
	baz=42						
O44A	Mansfield	96.99 328	IAMs_20	IAMs_20	06 24 07.4		
	comp=Z,1µm,22.0s						
HDIL	Hopedale	97.03 328	P	P	05 39 22.4	-0.5	
	baz=35						
HDIL	Hopedale	97.03 328	IAMs_20	IAMs_20	06 23 32.4		
	comp=Z,2µm,22.0s						
EGMT	Eagleton	97.17 345	P	P	05 39 22.0	-1.6	
	baz=19						
EGMT	Eagleton	97.17 345	IAMs_20	IAMs_20	06 31 24.6		
	comp=Z,1µm,19.0s						
X57A	Johnson Farm,	97.18 319	P	P	05 39 22.7	-1.0	
	baz=42						
V54A	Nebo	97.21 321	P	P	05 39 23.1	-0.7	
	baz=41,SNR=9.4						
BIRD	Birdtown, Kers	97.25 319	IAmb	IAmb	05 39 25.6		
	comp=Z,31nm,1.6s						
ECSD	EROS Data Cent	97.28 335	P	P	05 39 23.0	-1.0	
	baz=30						
KMSC	Kings Mountain	97.36 320	P	P	05 39 24.0	-0.5	
	baz=41,SNR=7.2						
Y58A	Scranton	97.36 318	P	P	05 39 23.5	-1.0	
	baz=42						
TZTN	Tazewell	97.46 322	P	P	05 39 24.4	-0.5	
	baz=40						
TZTN	Tazewell	97.46 322	IAmb	I

SUSD Miller 97.47 337 P **P** 05 39 23.9 -0.9
baz=28
WCI Wyandotte Cave 97.51 325 P **P** 05 39 23.7 -1.4
baz=38
WCI Wyandotte Cave 97.51 325 P **P** 05 39 24.1 -1.1
WCI pmax pmax
comp=Z,26nm,1.6s
WCI MLR MLR
comp=Z,2µm,20.0s
WCI Wyandotte Cave 97.51 325 P **P** 05 39 24.1 -1.1
WCI IAmb IAmb 05 39 26.2
comp=Z,26nm,1.6s
WCI Wyandotte Cave 97.51 325 IAMs_20 IAMs_20 06 25 49.4
comp=Z,2µm,20.0s
SCIA State Center 97.56 332 P **P** 05 39 24.3 -1.0
baz=32
SCIA State Center 97.56 332 IAMs_20 IAMs_20 06 26 18.3
comp=Z,2µm,19.0s
LAO LASA Array 97.58 342 P Pdif 05 39 26.0 +0.6
baz=22,SNR=10.0
N41A Harden Midland 97.58 330 IAMs_20 IAMs_20 06 25 32.0
comp=Z,2µm,20.0s
X56A White Oak 97.68 320 P **P** 05 39 25.9 -0.1
baz=41,SNR=7.2
Y57A Sumter 97.68 319 P **P** 05 39 25.0 -0.9
baz=42,SNR=5.1
Y57A Sumter 97.68 319 IAmb IAmb 05 39 28.2
comp=Z,19nm,0.7s
Y57A IAMs_20 IAMs_20 06 26 29.2
comp=Z,2µm,20.0s
WRA Warramunga Arr 97.74 109 P **P** 05 39 25.8 -0.6
comp=Z,2.4nm,0.7s,baz=316,slow=4.2,SNR=22
WRA PP **PP** 05 43 26.4 +1.7
comp=Z,5.4nm,1.0s,baz=302,slow=8.7,SNR=4.8
WRA PKKPbc **PKKPbc** 05 55 59.9 -1.2
comp=Z,1.4nm,0.7s,baz=116,slow=3.1,SNR=9.8
WRA LR LR 06 25 59.7
comp=Z,787nm,21.9s,baz=320,slow=37
WRA Warramunga Arr 97.74 109 P **P** 05 39 25.6 -0.7
V53A Saluda 97.75 321 P **P** 05 39 25.0 -1.3
V53A IAmb IAmb 05 39 29.2
comp=Z,17nm,0.8s
V53A IAMs_20 IAMs_20 06 23 27.8
comp=Z,2µm,22.0s
WB2 Warramunga Arr 97.75 109 P **P** 05 39 26.0 -0.5
PAULI Pauline 97.86 320 P **P** 05 39 26.2 -0.6
PAULI IAmb IAmb 05 39 29.2
comp=Z,22nm,0.8s
W54A Cherokee Point 97.86 321 P **P** 05 39 26.2 -0.5
baz=41
OLIL Olney 97.97 327 IAMs_20 IAMs_20 06 26 33.3
comp=Z,2µm,18.0s
X55A Gracelyn & Ava 98.02 320 P **P** 05 39 27.3 -0.2
baz=41
V52A Sevierville 98.02 322 IAmb IAmb 05 39 29.9
comp=Z,16nm,1.0s
NHSC New Hope 98.23 318 P **P** 05 39 27.6 -0.8
baz=42
NHSC New Hope 98.23 318 IAMs_20 IAMs_20 06 28 16.9
comp=Z,1µm,18.0s
Q44A Meyer Farm, Va 98.25 327 IAMs_20 IAMs_20 06 25 26.8
comp=Z,2µm,21.0s
TKL Tuckaleechee C 98.26 322 IAmb IAmb 05 39 30.8
comp=Z,17nm,1.0s
NEW Newport 98.29 350 P **P** 05 39 28.3 -0.2
baz=13
NEW Newport 98.29 350 P Pdif 05 39 29.6 +1.1
NEW pmax pmax
comp=Z,12nm,1.1s
NEW Newport 98.29 350 IAMs_20 IAMs_20 06 28 40.2
comp=Z,2µm,21.0s
JTMT Jette 98.33 348 IAMs_20 IAMs_20 06 26 32.3
comp=Z,1µm,21.0s
Y56A Pelion 98.35 319 P **P** 05 39 28.1 -0.9
baz=41
X54A Belton 98.36 320 P **P** 05 39 28.1 -1.0
baz=41,SNR=7.7
Z57A Bowman 98.39 318 P **P** 05 39 28.7 -0.4
baz=42
V51A Loudon 98.44 322 IAMs_20 IAMs_20 06 27 48.2
comp=Z,1µm,19.0s
MCPB Macapa, AP 98.48 275 *e*P Pdif 05 39 32.2 +2.3
B08A Colville Reser 98.50 351 P **P** 05 39 28.2 -1.2
A04D Lummi Island 98.52 354 P **P** 05 39 28.7 -0.6
baz=8.1
HODGE Hodges 98.54 320 IAmb IAmb 05 39 32.3
comp=Z,13nm,0.8s
Y55A Saluda 98.55 320 P **P** 05 39 28.9 -1.0
baz=41,SNR=7.9
U49A Red Boiling Sp 98.61 324 IAMs_20 IAMs_20 06 26 57.6
comp=Z,1µm,19.0s
Z56A Williston 98.73 319 P **P** 05 39 30.1 -0.7
baz=41
Z56A Williston 98.73 319 IAMs_20 IAMs_20 06 28 54.1
comp=Z,1µm,18.0s
W52A Murphy 98.77 322 IAMs_20 IAMs_20 06 24 23.9
comp=Z,1µm,22.0s
CPCT Cooper Cave 98.81 322 IAMs_20 IAMs_20 06 23 53.8
comp=Z,1µm,22.0s
T47A Sharon Grove 98.89 325 IAMs_20 IAMs_20 06 26 11.8
comp=Z,2µm,22.0s
B05A Bryant 98.91 353 Pdiff **P** 05 39 30.7 -0.5
baz=8.6
P40A Paris 99.07 330 IAMs_20 IAMs_20 06 26 26.4
comp=Z,2µm,21.0s
MSO Missoula 99.15 347 Pdiff **Pdif** 05 39 32.0 -0.5
baz=16
MSO Missoula 99.15 347 IAMs_20 IAMs_20 06 25 34.1
comp=Z,2µm,20.0s
CLTN Cedars of Leba 99.22 324 IAMs_20 IAMs_20 06 27 25.6
comp=Z,1µm,18.0s
GCMT Greycliff 99.26 344 P **Pdif** 05 39 32.0 -1.0
ASAR Alice Springs 99.34 112 P **Pdif** 05 39 32.7 -0.8
comp=Z,3.0nm,0.7s,baz=305,slow=4.6,SNR=25
ASAR PP **PP** 05 43 34.5 -2.5
comp=Z,3.2nm,1.0s,baz=306,slow=6.6,SNR=3.8
ASAR PKKPbc **PKKPbc** 05 55 57.2 +0.5
comp=Z,1.8nm,0.9s,baz=135,slow=2.7,SNR=8.1
ASAR LR LR 06 30 46.9
comp=Z,996nm,18.0s,baz=294,slow=39
ASAR Alice Springs 99.34 112 **Pdif** 05 39 32.1 -1.4
AS31 Alice Springs 99.34 112 **Pdif** 05 39 34.0 +0.5
S44A Carbondale 99.34 327 IAMs_20 IAMs_20 06 26 11.7
comp=Z,2µm,20.0s
RSSD Black Hills 99.35 340 Pdiff **Pdif** 05 39 33.3 -0.3
baz=24
RSSD Black Hills 99.35 340 P **Pdif** 05 39 31.8 -1.7
RSSD pmax pmax
comp=Z,23nm,1.6s
RSSD MLR MLR
comp=Z,2µm,22.0s
RSSD Black Hills 99.35 340 **Pdif** 05 39 31.8 -1.7
W50A Signal Mountai 99.40 323 IAMs_20 IAMs_20 06 28 36.6
comp=Z,1µm,20.0s
T45A Paducah 99.60 326 IAMs_20 IAMs_20 06 27 26.7
comp=Z,1µm,19.0s
P38A Dawn 99.61 331 IAMs_20 IAMs_20 06 25 57.7
comp=Z,2µm,21.0s
SWET Sewanee 99.71 323 IAMs_20 IAMs_20 06 29 07.6
comp=Z,1µm,19.0s
D03D Eldon 99.73 354 Pdiff **Pdif** 05 39 34.4 -0.4
baz=7.8
V48A Smith Brothers 99.74 324 IAMs_20 IAMs_20 06 27 41.4
comp=Z,2µm,19.0s
Y52A Lilburn 99.79 321 IAMs_20 IAMs_20 06 28 47.9
comp=Z,1µm,19.0s
RLMT Red Lodge 99.80 344 Pdiff **Pdif** 05 39 34.7 -0.8
baz=20
GOGA Godfrey 99.82 320 Pdiff **Pdif** 05 39 35.3 -0.2
baz=40
GOGA Godfrey 99.82 320 P **Pdif** 05 39 35.4 -0.1
GOGA pmax pmax
comp=Z,10.0nm,0.9s
GOGA Godfrey 99.82 320 IAMs_20 IAMs_20 06 28 18.7
comp=Z,1µm,20.0s
BOZ Bozeman (W) 99.88 345 IAMs_20 IAMs_20 06 28 26.3
comp=Z,1µm,20.0s
WVT Waverly 99.92 325 Pdiff **Pdif** 05 39 35.2 -0.7
baz=37
WVT Waverly 99.92 325 IAMs_20 IAMs_20 06 26 42.3
comp=Z,2µm,21.0s
NLWA Neilton Lookou 99.94 354 IAMs_20 IAMs_20 06 31 21.8
comp=Z,2µm,21.0s
CCM Cathedral Cave 99.94 328 IAMs_20 IAMs_20 06 25 59.6
comp=Z,2µm,22.0s
FPAL Fort Paine 100.07 322 IAMs_20 IAMs_20 06 24 55.3
comp=Z,2µm,22.0s
R40A Maddies Statio 100.20 329 IAMs_20 IAMs_20 06 27 01.2
comp=Z,2µm,19.0s
154A Montrose 100.23 320 IAMs_20 IAMs_20 06 29 33.6
comp=Z,1µm,18.0s
HENM Henderson Moun 100.23 326 IAMs_20 IAMs_20 06 27 26.4
comp=Z,2µm,20.0s
HICK Hickman 100.26 326 IAMs_20 IAMs_20 06 27 55.1
comp=Z,1µm,18.0s
DLMT Dillon 100.30 346 IAMs_20 IAMs_20 06 27 37.5
comp=Z,2µm,18.0s
255A Hazlehurst 100.40 319 IAMs_20 IAMs_20 06 28 30.2
comp=Z,2µm,20.0s
PARMO Parma 100.41 326 IAMs_20 IAMs_20 06 27 21.9
comp=Z,2µm,20.0s
GLAT Glass 100.51 326 IAMs_20 IAMs_20 06 33 11.7
comp=Z,1µm,19.0s
PENMO Penman 100.52 326 IAMs_20 IAMs_20 06 27 45.0
comp=Z,2µm,18.0s
PVMO Portageville 100.59 326 IAMs_20 IAMs_20 06 27 37.7
comp=Z,2µm,20.0s
MAW Mawson 100.63 174 P **Pdif** 05 39 40.4 +2.3
comp=Z,1.6nm,0.9s,baz=14,slow=8.1,SNR=4.0
MAW PKKPbc **PKKPbc** 05 55 52.5 -2.1
comp=Z,1.0nm,0.6s,baz=225,slow=5.7,SNR=2.9
MAW Mawson 100.63 174 **Pdif** 05 39 39.5 +1.4
T42A Van Buren 100.72 328 IAMs_20 IAMs_20 06 26 24.2
comp=Z,1µm,21.0s
LNXT Lenox 100.74 326 IAMs_20 IAMs_20 06 33 27.8
comp=Z,1µm,19.0s
Z51A Franklin 100.80 321 IAMs_20 IAMs_20 06 29 11.6
comp=Z,2µm,18.0s
X48A Hartselle 100.87 323 IAMs_20 IAMs_20 06 29 06.4
comp=Z,2µm,18.0s
PEBM Pemiscott Bayo 100.91 326 IAMs_20 IAMs_20 06 28 14.2
comp=Z,1µm,18.0s
PLAL Pickwick Lake 100.96 324 IAMs_20 IAMs_20 06 28 16.7
comp=Z,1µm,19.0s
Y49A Blount Mountai 101.02 323 IAMs_20 IAMs_20 06 25 12.3
comp=Z,2µm,22.0s
152A Waverly Hall 101.06 321 IAMs_20 IAMs_20 06 29 05.5
comp=Z,1µm,19.0s
FLWY Flagg Ranch 101.11 344 IAMs_20 IAMs_20 06 27 06.0
comp=Z,2µm,21.0s
MGMO Mountain Grove 101.14 328 IAMs_20 IAMs_20 06 28 14.3
comp=Z,2µm,20.0s
S39A Bolivar 101.15 329 IAMs_20 IAMs_20 06 27 32.5
comp=Z,2µm,20.0s
KSU1 Kansas State U 101.30 332 IAMs_20 IAMs_20 06 28 11.1
comp=Z,2µm,20.0s
W45A Hickory Valley 101.36 325 IAMs_20 IAMs_20 06 26 18.3
comp=Z,1µm,22.0s
TIGA Tifton 101.39 319 Pdiff **Pdif** 05 39 42.9 +0.3
baz=40
TIGA Tifton 101.39 319 IAMs_20 IAMs_20 06 30 35.3
comp=Z,2µm,18.0s
K22A Casper 101.41 341 Pdiff **Pdif** 05 39 42.5 -0.1
baz=22
LOHW Long Hollow 101.54 344 IAMs_20 IAMs_20 06 30 32.2
comp=Z,1µm,20.0s
SYO Syowa Base 101.57 183 *e*Pdiff **Pdif** 05 39 44.0 +1.8
SYO Syowa Base 101.57 183 *e*PPdiff pPdif 05 39 47.6 +1.1
FXWY Fox Creek 101.61 344 IAMs_20 IAMs_20 06 27 43.1
comp=Z,2µm,21.0s
SNOW Snow King Moun 101.72 344 IAMs_20 IAMs_20 06 30 28.9
comp=Z,1µm,20.0s
TPAW Teton Pass 101.73 344 IAMs_20 IAMs_20 06 27 47.4
comp=Z,2µm,22.0s
MET Memphis--Engin 101.75 326 IAMs_20 IAMs_20 06 28 50.4
comp=Z,1µm,19.0s
REDW Red Top Meadow 101.83 344 IAMs_20 IAMs_20 06 30 12.0
comp=Z,2µm,20.0s
LRAL Lakeview Retre 101.97 322 Pdiff **Pdif** 05 39 45.6 +0.5
baz=38
U40A Yellville 102.07 328 IAMs_20 IAMs_20 06 28 51.8
comp=Z,1µm,20.0s
352A Blakely 102.09 320 IAMs_20 IAMs_20 06 28 30.8
comp=Z,1µm,20.0s
PDAR Pinedale Array 102.09 343 PKKPbc PKKPbc 05 55 49.3 0.0
comp=Z,1.3nm,0.7s,baz=175,slow=3.4,SNR=16
FCAR Ozark Folk Cen 102.13 328 IAMs_20 IAMs_20 06 27 05.5
comp=Z,2µm,22.0s
656A Willston 102.36 317 IAMs_20 IAMs_20 06 29 29.2
comp=Z,1µm,19.0s
Z47A Hailey 102.38 323 IAMs_20 IAMs_20 06 30 10.4
comp=Z,2µm,18.0s
HLID Hailey 102.39 347 IAMs_20 IAMs_20 06 28 50.8
comp=Z,1µm,18.0s
250A Grady 102.42 321 IAMs_20 IAMs_20 06 30 10.5
comp=Z,2µm,18.0s
AHID Auburn Hatcher 102.46 344 IAMs_20 IAMs_20 06 27 16.5
comp=Z,2µm,22.0s
Y45A Yeager Farm, C 102.58 325 IAMs_20 IAMs_20 06 28 57.5
comp=Z,1µm,19.0s
U38A Gravette 102.66 330 IAMs_20 IAMs_20 06 28 37.5
comp=Z,2µm,21.0s
COR Corvallis 102.67 353 IAMs_20 IAMs_20 06 32 48.1
comp=Z,1µm,22.0s
X43A Marvell 102.69 326 IAMs_20 IAMs_20 06 28 42.4
comp=Z,2µm,20.0s
R32A Long Quarter, 102.69 334 IAMs_20 IAMs_20 06 28 28.0
comp=Z,2µm,19.0s
WHAR Hooly Hollow 102.70 327 IAMs_20 IAMs_20 06 27 43.6
comp=Z,2µm,20.0s
W41B Gary Mavity, V 102.78 327 IAMs_20 IAMs_20 06 28 15.7
comp=Z,2µm,20.0s
MFID Camas Ranch 102.80 348 IAMs_20 IAMs_20 06 32 51.4
comp=Z,1µm,18.0s
553A Crawfordville 102.81 319 IAMs_20 IAMs_20 06 29 35.0
comp=Z,1µm,20.0s
N23A Red Feather La 102.87 340 IAMs_20 IAMs_20 06 28 36.5
comp=Z,2µm,21.0s
BDFB Brasilia 103.06 260 PP **PP** 05 44 04.4 -0.8
comp=Z,7.8nm,1.0s,baz=56,slow=6.7,SNR=6.8
UALR University of 103.16 327 IAMs_20 IAMs_20 06 28 38.6
comp=Z,2µm,20.0s
146A Union 103.33 324 IAMs_20 IAMs_20 06 29 01.4
comp=Z,2µm,19.0s
W39A Magazine 103.45 328 IAMs_20 IAMs_20 06 32 37.4
comp=Z,2µm,20.0s
BRAL Brewton 103.46 321 IAMs_20 IAMs_20 06 30 44.2
comp=Z,2µm,19.0s
CCAR Cane Creek 103.60 326 IAMs_20 IAMs_20 06 28 51.5
comp=Z,2µm,20.0s
X40A Basin Creek Fa 103.62 327 IAMs_20 IAMs_20 06 29 57.9
comp=Z,1µm,18.0s
HWUT Hardware Ranch 103.66 344 IAMs_20 IAMs_20 06 31 10.5
comp=Z,2µm,20.0s
TUL1 Leonard 103.71 330 IAMs_20 IAMs_20 06 28 52.1
comp=Z,1µm,20.0s
QUOK Quay 103.86 331 IAMs_20 IAMs_20 06 30 09.2
comp=Z,2µm,21.0s
VBMS Vicksburg 104.39 324 IAMs_20 IAMs_20 06 29 17.5
comp=Z,1µm,20.0s
143A Socs Landing, 104.42 325 IAMs_20 IAMs_20 06 30 36.4
comp=Z,1µm,18.0s
346A Big Creek Wild 104.54 323 IAMs_20 IAMs_20 06 27 34.5
comp=Z,2µm,22.0s
344A Westbrook Farm 105.12 324 IAMs_20 IAMs_20 06 28 20.8
comp=Z,2µm,21.0s
PTGA Pitinga 105.30 279 PP **PP** 05 44 23.0 +1.4
comp=Z,3.7nm,0.8s,baz=74,slow=10,SNR=7.2
PTGA Pitinga 105.30 279 IAMs_20 IAMs_20 06 28 06.1
comp=Z,1µm,19.0s
YBH Yreka Blue Hor 105.43 353 IAMs_20 IAMs_20 06 30 44.3
comp=Z,1µm,20.0s
Z38A Mt. Pleasant 105.61 328 IAMs_20 IAMs_20 06 29 25.7
comp=Z,2µm,21.0s
KRMB Red Mountain 105.76 354 IAMs_20 IAMs_20 06 35 18.0
comp=Z,1µm,20.0s
WMOK Wichita Mounta 105.94 332 IAMs_20 IAMs_20 06 28 57.2
comp=Z,1µm,22.0s
342A Flagon Creek P 105.96 325 IAMs_20 IAMs_20 06 31 05.0
comp=Z,1µm,19.0s
KHMM Horse Mountain 106.39 353 IAMs_20 IAMs_20 06 35 39.5
comp=Z,2µm,19.0s
JCC Jacoby Creek, 106.47 354 IAMs_20 IAMs_20 06 31 43.8
comp=Z,1µm,19.0s
Z35A Perchaven, San 106.54 330 IAMs_20 IAMs_20 06 30 41.0
comp=Z,1µm,21.0s
WDC Whiskeytown Da 106.55 352 IAMs_20 IAMs_20 06 35 58.9
comp=Z,1µm,20.0s
441A DeRidder 106.89 325 IAMs_20 IAMs_20 06 37 07.6
comp=Z,1µm,20.0s
PAHR Pah Rah Range 107.00 350 IAMs_20 IAMs_20 06 34 24.5
comp=Z,1µm,20.0s
KMRM Mail Ridge 107.03 353 IAMs_20 IAMs_20 06 33 35.1
comp=Z,2µm,19.0s
KVN Kaiserville 107.43 349 IAMs_20 IAMs_20 06 34 10.2
comp=Z,1µm,19.0s
VCNR Virginia City 107.44 350 IAMs_20 IAMs_20 06 36 52.3
comp=Z,1µm,18.0s
ORV Oroville 107.44 351 IAMs_20 IAMs_20 06 37 08.4
comp=Z,2µm,19.0s
KCPM Cahto Peak 107.55 353 IAMs_20 IAMs_20 06 32 51.3
comp=Z,1µm,19.0s
PNTR Pine Nut 107.63 350 IAMs_20 IAMs_20 06 33 27.5
comp=Z,1µm,21.0s
R11A Troy Canyon, C 107.65 346 IAMs_20 IAMs_20 06 38 17.0
comp=Z,1µm,19.0s
YERR Yerington 107.68 349 IAMs_20 IAMs_20 06 33 18.7
comp=Z,1µm,19.0s
RYN Ryan 107.92 349 IAMs_20 IAMs_20 06 33 41.9
comp=Z,1µm,20.0s
AFDM Forest Hills D 107.97 351 IAMs_20 IAMs_20 06 34 47.4
comp=Z,1µm,20.0s
NV11 Mina Array Sit 108.05 348 IAMs_20 IAMs_20 06 38 10.4
comp=Z,1µm,20.0s
NVAR Mina Array Bea 108.07 349 PKiKP **PKiKP** 05 44 21.2 +1.9
comp=Z,1.3nm,0.9s,baz=22,slow=1.0,SNR=5.6
NVAR PP **PP** 05 44 40.2 -0.3
comp=Z,0.8nm,0.6s,baz=53,slow=3.5,SNR=2.5
NVAR PKKPbc **PKKPbc** 05 55 29.8 -1.4
comp=Z,1.4nm,0.8s,baz=195,slow=6.1,SNR=9.0
ABTX Abilene, Hawle 108.14 331 IAMs_20 IAMs_20 06 31 15.3
comp=Z,2µm,19.0s
HOPS Hopland Field 108.18 353 IAMs_20 IAMs_20 06 31 54.0
comp=Z,1µm,21.0s
ANMO Albuquerque 108.51 338 IAMs_20 IAMs_20 06 32 00.9
comp=Z,2µm,20.0s
CMB Columbia Colle 108.78 350 IAMs_20 IAMs_20 06 31 52.9
comp=Z,1µm,21.0s
435B Jarrell 108.87 329 IAMs_20 IAMs_20 06 38 10.9
comp=Z,1µm,20.0s
MDPB Devils Postpil 108.98 349 IAMs_20 IAMs_20 06 34 20.1
comp=Z,1µm,19.0s
OMMB Old Mammoth Mi 108.98 349 IAMs_20 IAMs_20 06 34 11.2
comp=Z,1µm,19.0s
MCCM Marconi Confer 109.00 352 IAMs_20 IAMs_20 06 36 53.6
comp=Z,1µm,20.0s
TPNV Topopah Spring 109.14 347 IAMs_20 IAMs_20 06 38 35.3
comp=Z,1µm,19.0s
STKA Stephens Creek 109.28 116 PKiKP **PKiKP** 05 44 21.9 +0.7
comp=Z,0.5nm,0.3s,baz=275,slow=3.3,SNR=4.0
SHPR Sheep Range 109.34 345 IAMs_20 IAMs_20 06 39 23.8
comp=Z,1µm,19.0s
JCT Junction City 110.08 330 IAMs_20 IAMs_20 06 34 37.8
comp=Z,1µm,20.0s
SAO San Andreas Ge 110.18 351 IAMs_20 IAMs_20 06 35 04.9
comp=Z,1µm,19.0s
VNA2 Neumayer--Watz 110.44 197 PKiKP **PKiKP** 05 44 23.5 +1.3
VNA1 Neumayer--Stat 110.47 197 PKiKP **PKiKP** 05 44 24.0 +1.8
735A Kenedy 110.62 328 IAMs_20 IAMs_20 06 33 52.4
comp=Z,1µm,21.0s
PMPB Monarch Peak 110.63 350 IAMs_20 IAMs_20 06 36 39.8
comp=Z,1µm,18.0s
GSC Goldstone, Bar 110.84 347 IAMs_20 IAMs_20 06 36 12.4
comp=Z,852nm,18.0s
PAGB Antelope Grade 111.02 350 IAMs_20 IAMs_20 06 35 34.2
comp=Z,1µm,21.0s
121A Cookes Peak, D 111.16 338 IAMs_20 IAMs_20 06 33 45.9
comp=Z,2µm,21.0s
VNA3 Neumayer Olymp 111.21 197 PKiKP **PKiKP** 05 44 24.7 +1.1
833A Chaparral WMA, 111.78 329 IAMs_20 IAMs_20 06 37 35.0
comp=Z,927nm,20.0s
OSI Osito Audit: C 111.86 348 IAMs_20 IAMs_20 06 40 44.5
comp=Z,1µm,20.0s
MWC Mount Wilson 112.13 347 IAMs_20 IAMs_20 06 39 03.4
comp=Z,1µm,19.0s
PASC Pasadena Art C 112.20 347 IAMs_20 IAMs_20 06 38 53.4
comp=Z,1µm,20.0s
SAML Samuel 112.40 274 IAMs_20 IAMs_20 06 34 29.8
comp=Z,1µm,20.0s
TXAR Lajitas Array 112.63 333 PKiKP **PKiKP** 05 44 26.8 -1.1
comp=Z,1.9nm,1.1s,baz=101,slow=2.6,SNR=6.3
TXAR PKKPbc **PKKPbc** 05 55 16.9 +0.8
comp=Z,0.5nm,0.7s,baz=184,slow=6.7,SNR=7.2
TEIG Tepich 112.67 315 PP **PP** 05 45 12.9 -1.4
comp=Z,15nm,0.8s,baz=51,slow=4.6,SNR=3.2
109C Camp Elliot, M 113.24 346 IAMs_20 IAMs_20 06 37 39.9
comp=Z,2µm,21.0s
CPBX Cerro Prieto 113.31 344 IAMs_20 IAMs_20 06 41 56.7
comp=Z,1µm,22.0s
BAR Barrett 113.35 346 IAMs_20 IAMs_20 06 41 36.9
comp=Z,1µm,19.0s
ROSC El Rosal 113.67 293 IAMs_20 IAMs_20 06 38 23.0
comp=Z,1µm,19.0s
ESJX Sierra Juarez 113.85 345 IAMs_20 IAMs_20 06 37 21.0
comp=Z,1µm,19.0s
CCX Cicese 114.13 346 IAMs_20 IAMs_20 06 37 55.6
comp=Z,990nm,21.0s
SIV San Ignacio 114.16 266 PKP **PKiKP** 05 44 31.0 0.0
comp=Z,2.0nm,0.8s,baz=58,slow=4.1,SNR=10
SIV PP **PP** 05 45 25.7 -0.3
comp=Z,3.3nm,1.0s,baz=65,slow=9.2,SNR=5.3
SIV PKKPbc **PKKPbc** 05 55 09.9 -0.6
comp=Z,1.6nm,1.1s,baz=175,slow=3.7,SNR=4.3
CPUP Villa Florida 115.74 254 PKP **PKiKP** 05 44 34.0 +0.3
comp=Z,3.6nm,0.8s,baz=97,slow=1.2,SNR=10.0
CPUP PP **PP** 05 45 37.1 0.0
comp=Z,1.6nm,0.8s,baz=81,slow=4.9,SNR=3.5
CPUP PKKPbc **PKKPbc** 05 55 03.4 -1.7
comp=Z,0.9nm,0.8s,baz=194,slow=4.2,SNR=2.0
CPUP Villa Florida 115.74 254 PKiKP **PKiKP** 05 44 34.0 +0.3
CPUP Villa Florida 115.74 254 **PKiKP** 05 44 33.8 +0.1
TGUH Tegucigalpa,Un 116.71 310 PKPdf **PKPdf** 05 44 34.6 -1.5
BOAB BOACO BROADBAN 116.83 307 IAMs_20 IAMs_20 06 37 25.4
comp=Z,2µm,21.0s
ZAIG Zacatecas 118.01 329 IAMs_20 IAMs_20 06 41 04.9
comp=Z,1µm,20.0s
SNET Serv Nac Est T 118.24 311 **PKPdf** 05 44 38.8 -0.2
CMIG Matias Romero 118.97 318 PKP **PKPdf** 05 44 39.7 -0.5
comp=Z,3.6nm,0.7s,baz=320,slow=3.0,SNR=7.0
OTAV Otavalo 119.75 292 PKiKP **PKPdf** 05 44 40.5 -1.9
OTAV Otavalo 119.75 292 **PKPdf** 05 44 40.5 -1.9
PB16 IPOC Station P 122.36 268 **PKPdf** 05 44 46.5 -0.9
QSPA South Pole Qui 122.52 180 **PKPdf** 05 44 45.1 -0.5
GO01 Chusmiza 122.70 266 **PKPdf** 05 44 47.5 -0.3
GO01 IAMs_20 IAMs_20 06 41 31.1
comp=Z,1µm,19.0s
MNMC Minye Minye 122.80 267 **PKiKP** 05 44 48.0 0.0
MNMC IAMs_20 IAMs_20 06 36 16.6
comp=Z,1µm,22.0s
PB08 IPOC Station P 122.88 266 IAMs_20 IAMs_20 06 35 13.8
comp=Z,1µm,21.0s
PB11 IPOC Station P 123.13 267 PKPdf **PKPdf** 05 44 47.8 -0.5
PB12 IPOC Station P 123.18 268 PKPdf **PKiKP** 05 44 48.4 -0.1
PSGCX Pisagua 123.45 267 IAMs_20 IAMs_20 06 41 54.0
comp=Z,1µm,18.0s
PB01 IPOC Station P 123.55 265 IAMs_20 IAMs_20 06 40 54.8
comp=Z,1µm,19.0s
LVC Limon Verde 123.74 263 PKP **PKiKP** 05 44 50.9 +1.0
comp=Z,13nm,1.0s,baz=25,slow=2.8,SNR=7.7
LVC Limon Verde 123.74 263 PKPdf **PKPdf** 05 44 48.4 -1.2
LVC Limon Verde 123.74 263 IAMs_20 IAMs_20 06 37 00.8
comp=Z,1µm,21.0s
LVC Limon Verde 123.74 263 *e*P **PKPdf** 05 44 48.9 -0.8
ATAH Atahualpa 124.07 285 PKP **PKiKP** 05 44 51.4 +0.5
comp=Z,5.6nm,0.7s,baz=76,slow=8.7,SNR=3.4
PB07 IPOC Station P 124.18 265 **PKPdf** 05 44 48.6 -1.7
PB07 IAMs_20 IAMs_20 06 36 51.5
comp=Z,1µm,20.0s
PB15 IPOC Station P 124.46 263 IAMs_20 IAMs_20 06 37 17.8
comp=Z,990nm,19.0s
DZM Mont Dzumac 125.17 95 *e*LR LR 06 23 58.6
comp=Z,1µm,26.0s
DZM Mont Dzumac 125.17 95 IAMs_20 IAMs_20 06 45 53.5
comp=Z,1µm,20.0s
GO02 Mina Guanaco 125.35 261 IAMs_20 IAMs_20 06 43 22.4
comp=Z,1µm,20.0s
NNA Nana 125.43 279 PKP **PKiKP** 05 44 53.3 +0.3
comp=Z,9.9nm,0.7s,baz=39,slow=1.4,SNR=7.8
NNA Nana 125.43 279 **PKPdf** 05 44 52.5 -0.2
NNA Nana 125.43 279 IAMs_20 IAMs_20 06 40 53.8
comp=Z,1µm,20.0s
PB10 IPOC Station P 125.49 263 IAMs_20 IAMs_20 06 42 56.1
comp=Z,1µm,20.0s
VNDA Vanda 126.83 166 PKP **PKiKP** 05 44 53.9 -0.1
comp=Z,1.9nm,0.9s,baz=304,slow=5.0,SNR=11
VNDA Vanda 126.83 166 PKiKP **PKiKP** 05 44 54.2 +0.2
VNDA Vanda 126.83 166 **PKiKP** 05 44 54.1 +0.2
LCO Las Campanas 127.70 257 PKiKP **PKPdf** 05 44 56.6 -0.3
LCO MLR MLR
comp=Z,1µm,18.0s
LCO Las Campanas 127.70 257 PKPdf **PKPdf** 05 44 56.6 -0.3
PMSA Palmer Station 128.31 210 *e*P **PKPdf** 05 44 56.6 0.0
VA03 San Esteban 128.80 252 **PKiKP** 05 44 59.4 0.0

PEL	**Peldehue**	**129.02**	**252**		IAMs_20	IAMs_20	06 48 05.7	
	comp=Z,1µm,19.0s							
MT02	**Curacav**	**129.42**	**252**			**PKiKP**	**05 45 00.7**	**+0.2**
MT02					IAMs_20	IAMs_20	06 42 46.5	
	comp=Z,1µm,20.0s							
BO02	**Sierra Bellavi**	**129.57**	**250**			**PKPdf**	**05 44 58.8**	**-1.3**
BI02	**San Fabin de**	**130.45**	**247**	PKPdf		**PKPdf**	**05 45 01.5**	**-0.1**
GO05	**Huala**	**130.54**	**250**		IAMs_20	IAMs_20	06 42 46.1	
	comp=Z,1µm,19.0s							
PLCA	**Paso Flores**	**130.80**	**242**	PKP		**PKiKP**	**05 45 04.0**	**+0.9**
	comp=Z,12nm,1.0s,baz=100,slow=3.8,SNR=17							
PLCA				SKPbc		**SKPab**	**05 48 27.2**	**+1.0**
	comp=Z,8.0nm,0.9s,baz=118,slow=4.4,SNR=10.0							
PLCA	**Paso Flores**	**130.80**	**242**	*eP*		**PKPdf**	**05 45 02.0**	**-0.2**
LC01	**Cunco**	**131.43**	**245**	PKPdf		**PKPdf**	**05 45 02.8**	**-0.6**
LC01					IAMs_20	IAMs_20	06 40 18.1	
	comp=Z,1µm,20.0s							
PPT2	**Papeete2**	**158.31**	**50**	*eLR*		LR	06 39 10.0	
	comp=Z,3µm,41.0s							
TBI	**Tubuai**	**162.18**	**63**	*eLR*		LR	06 41 01.8	
	comp=Z,928nm,36.8s							
RKT	**Rikitea**	**170.17**	**15**	*eLR*		LR	06 44 43.8	
	comp=Z,1µm,32.2s							

*ISN **18** 05:32:28.2±1.4, 32.°61N×47.°72E, h15km±7km, ML4.2*
*TEH **18** 05:32:30.3, 32.°68N×47.°73E, h12km, ML4.3*
ISC 18 05:32:30.1±1.4, **32.°59N**±0.°04×**47.°65E**±0.°04, **h10**km±11km, **n49**,σ1≈**07**/57, **5C-2D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.94**	**10**	*e*Pg	**Pg**	**05 32 47.0**	**-1.3**
IKMR	**Kamar-syah**	**1.11**	**33**	*e*Pg	**Pb**	**05 32 49.0**	**-2.4**
IKMR				*e*		05 33 10.2	
IDOB	**Doab**	**1.27**	**20**	*e*Pg	**Pn**	**05 32 53.2**	**-1.0**
IDOB				*e*Sg	**Sb**	**05 33 09.7**	**-1.1**
BMDN	**Meydan**	**1.46**	**42**	*e*Pg	**Pn**	**05 32 55.9**	**-0.8**
BMDN				*e*		05 33 22.5	
AHWZ	**Ahwaz**	**1.52**	**146**	*e*Pg	**Pg**	**05 32 59.5**	**+0.3**
IBDR	**Badra**	**1.54**	**290**	*e*Pg	**Pn**	**05 32 57.0**	**-0.6**
IBDR				*e*Sg	**Sn**	**05 33 18.0**	**+0.3**
IBDR				AML	AML	05 33 24.3	
	comp=N,3µm,0.6s						
IBDR				AML	AML	05 33 24.8	
	comp=E,4µm,0.7s						
IKOM	**Komasi**	**1.58**	**356**	*e*Pg	**Pn**	**05 32 58.7**	**+0.3**
IKOM				*e*		05 33 03.6	
KCHF	**Cheshme Sefid,**	**1.75**	**343**	*e*Pg	**Pn**	**05 33 01.3**	**+0.5**
KCHF				*e*	**Sg**	**05 33 28.0**	**+1.5**
HSAM	**Samen**	**1.80**	**26**	*e*Pg	**Pb**	**05 33 02.2**	**-1.2**
HSAM				*e*	**Sg**	**05 33 30.2**	**+2.1**
KER	**Kermanshah**	**1.84**	**346**	*e*Pn	**Pn**	**05 33 01.1**	**-0.8**
IBZA	**Bozab**	**1.88**	**5**	*e*		05 33 10.6	
IBZA				*e*Pg	**Pn**	**05 33 03.0**	**+0.4**
IGHG	**Ghaleghazi**	**1.95**	**333**	*e*		05 33 42.4	
IGHG				*e*Pg	**Pb**	**05 33 06.6**	**+0.6**
NSR	**Nassriya**	**2.04**	**220**	*e*Pn	**Pn**	**05 33 04.0**	**-0.5**
NSR				*e*Sn	**Sn**	**05 33 29.0**	**-1.0**
IVIS	**Veis**	**2.04**	**341**	*e*	**Sg**	**05 33 36.0**	**+0.2**
IVIS				*e*Pn	**Pn**	**05 33 04.8**	**+0.1**
IALM	**Almabolaq**	**2.30**	**11**	*e*Pn	**Pn**	**05 33 09.0**	**+0.6**
IDHR	**Dehrash**	**2.35**	**334**	*e*Pn	**Pb**	**05 33 11.3**	**-1.4**
IDHR				*e*	**Sg**	**05 33 46.6**	**+0.9**
ILIN	**Lien**	**2.39**	**346**	*e*Pn	**Pn**	**05 33 10.1**	**+0.5**
ILIN				*e*		05 33 53.2	
HAGD	**Aghdareh**	**2.55**	**29**	*e*Pn	**Pn**	**05 33 12.5**	**+0.8**
HAGD				*e*		05 33 51.0	
JHBN	**Jahan bin**	**2.58**	**97**	*e*Pn	**Pn**	**05 33 12.9**	**+0.7**
JHBN				*e*		05 33 59.3	
HSRG	**Sareghieh**	**2.69**	**11**	*e*Pn	**Pn**	**05 33 14.8**	**+1.0**
IPIR	**Pirpir**	**2.73**	**87**	*e*Pn	**Pn**	**05 33 14.5**	**+0.1**
IPIR				*e*		05 34 00.4	
BHD	**Baghdad**	**2.83**	**285**	*e*Pn	**Pn**	**05 33 15.0**	**-0.4**
BHD				*e*Sn	**Sn**	**05 33 51.0**	**+1.4**
BHD				AML	AML	05 34 06.5	
	comp=E,1µm,0.1s						
IKLH	**Kolahrood**	**3.38**	**77**	*e*Pn	**Pn**	**05 33 24.4**	**+1.2**
IKLH				*e*		05 34 26.2	
IRAZ	**Razeghan**	**3.38**	**33**	*e*Pn	**Pn**	**05 33 24.7**	**+1.5**
IQOM	**Qom**	**3.63**	**51**	*e*Pn	**Pn**	**05 33 26.8**	**+0.2**
IGAR	**Gharneh**	**3.71**	**92**	*e*Pn	**Pn**	**05 33 28.3**	**+0.5**
IZEF	**Zefreh**	**3.95**	**84**	*e*Pn	**Pn**	**05 33 31.7**	**+0.6**
IMHD	**Mahdasht**	**3.97**	**38**	*e*Pn	**Pn**	**05 33 32.2**	**+1.0**
IHSB	**Hasanabad**	**4.14**	**46**	*e*Pn	**Pn**	**05 33 33.4**	**-0.1**
IGZV	**Ghazvin**	**4.34**	**29**	*e*Pn	**Pn**	**05 33 36.2**	**-0.2**
MAHB	**Mahabad**	**4.46**	**339**	*e*Pn	**Pn**	**05 33 38.3**	**+0.3**
IDMV	**Damavand**	**4.70**	**49**	*e*Pn	**Pn**	**05 33 41.7**	**+0.3**
ILAS	**Lasjerd**	**5.21**	**56**	*e*Pn	**Pn**	**05 33 48.2**	**-0.2**
IPRN	**Peran**	**5.32**	**45**	*e*Pn	**Pn**	**05 33 50.5**	**+0.8**
IALA	**Alasht**	**5.51**	**49**	*e*Pn	**Pn**	**05 33 53.3**	**+0.8**
ISHM	**Shahmirzad**	**5.67**	**54**	*e*Pn	**Pn**	**05 33 54.6**	**-0.1**
IANJ	**Anjilo**	**5.94**	**59**	*e*Pn	**Pn**	**05 33 58.5**	**+0.1**
IBAF	**Bafgh**	**6.79**	**96**	*e*Pn	**Pn**	**05 34 09.7**	**-0.3**
MLR	**Muntele Rosu**	**21.14**	**314**	⇑P	**P**	**05 37 17.3**	**+2.0**
TESR	**Tescani**	**21.25**	**317**	⇑P	**P**	**05 37 18.9**	**+2.5**
SORM	**Soroca**	**21.29**	**322**	⇓P	**P**	**05 37 17.8**	**+1.1**
VOIR		**21.66**	**313**	⇓P	**P**	**05 37 21.5**	**+0.7**
DOPR	**Dopca**	**21.71**	**314**	⇑P	**P**	**05 37 21.6**	**+0.2**
LOT	**Lotru**	**22.46**	**312**	⇑P	**P**	**05 37 28.4**	**-1.1**
BURAR	**Bucovina Array**	**22.68**	**318**	⇑P	**P**	**05 37 34.8**	**+3.0**
KOLS	**Kolonicke sedl**	**25.05**	**318**	*e*P	**P**	**05 37 53.8**	**-0.7**
KECS	**Kecovo**	**25.85**	**316**	*e*P	**P**	**05 38 02.2**	**+0.4**
VYHS	**Vyhne**	**26.84**	**315**	*e*P	**P**	**05 38 10.8**	**+0.1**
CLL	**Collm**	**31.43**	**317**	*e*P	**P**	**05 38 50.0**	**-1.5**
CLL				*e*		05 38 59.0	

*MEX **18** 05:33:36.4±1.9, 16.°31N×99.°69W, h16km±23km, MD4.2*
*NEIC **18** 05:33:36.6±2.4, 16.°36N±0.°09×99.°64W±0.°08, h17km±8km, Error ellipse: s-maj=14.4km s-min=10.4km az=209.0*
ISC 18 05:33:35.6±1.5, **16.°37N**±0.°06×**99.°63W**±0.°04, **h14**km±8km, **n58**,σ1≈**69**/85, **mb4.0**/6, **1C-1D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACP2	**Acapulco**	**0.56**	**334**	*e*P	**Pg**	**05 33 46.5**	**-0.1**
ACP2				*e*S	**Sg**	**05 33 53.7**	**-0.5**
CRIG	**Cruz Grande**	**0.60**	**52**	⇓*e*P	**Pg**	**05 33 47.3**	**-0.1**
	baz=228,slow=16						
CRIG				*i* S	**Sg**	**05 33 56.2**	**+0.8**
CAIG	**El Cayaco**	**0.91**	**318**	⇑*i*P	**Pb**	**05 33 51.3**	**-1.9**
	baz=141,slow=16						
CAIG				*i* S	**Sb**	**05 34 01.2**	**-4.0**
PNIG	**Pinotepa**	**1.44**	**89**	*e*P	**Pn**	**05 33 59.0**	**-2.3**
PNIG				*i* S	**Sn**	**05 34 16.6**	**-3.4**
TLIG	**Tlapa**	**1.56**	**40**	*e*P	**Pn**	**05 34 02.0**	**-1.1**
TLIG				*i* S	**Sn**	**05 34 20.7**	**-2.5**
TLIG	**Tlapa**	**1.56**	**40**		**Pn**	**05 34 02.0**	**-1.1**
TLIG	**Tlapa**	**1.56**	**40**	Sn	**Sn**	**05 34 24.3**	**+1.1**
TXIG	**Tlaxiaco**	**1.99**	**63**	*e*P	**Pn**	**05 34 08.1**	**-1.0**
TXIG				*e*S	**Sn**	**05 34 30.9**	**-3.0**
PLIG	**Platanillo**	**2.02**	**3**	*e*P	**Pn**	**05 34 08.2**	**-1.1**
PLIG				*i* S	**Sn**	**05 34 32.1**	**-2.3**
ARIG	**Puente Sto Nin**	**2.02**	**340**	*e*P	**Pn**	**05 34 08.9**	**-0.4**
ARIG				*e*S	**Sn**	**05 34 33.0**	**-1.4**
YOIG	**Yosondua**	**2.06**	**76**	*e*P	**Pn**	**05 34 08.9**	**-1.1**
YOIG				*e*S	**Sn**	**05 34 33.6**	**-1.9**
FTIG	**Fresnillo de T**	**2.10**	**43**	*e*P	**Pn**	**05 34 09.5**	**-0.9**
FTIG				*e*S	**Sn**	**05 34 34.3**	**-2.1**
HLIG	**Huajuapan de L**	**2.27**	**50**	*e*P	**Pn**	**05 34 11.7**	**-1.2**
HLIG				*e*S	**Sn**	**05 34 39.0**	**-1.8**
PEIG	**Puerto Escondi**	**2.41**	**98**	*e*P	**Pn**	**05 34 12.5**	**-2.1**
PEIG				*e*S	**Sn**	**05 34 41.1**	**-2.9**
YAIG	**Yautepec**	**2.54**	**12**	*e*P	**Pn**	**05 34 15.6**	**-1.0**
YAIG				*e*S	**Sn**	**05 34 45.6**	**-1.7**
MAVM	**Malinalco, Edo**	**2.58**	**3**	*e*P	**Pn**	**05 34 15.5**	**-1.6**
MAVM				*i* S	**Sn**	**05 34 46.7**	**-1.8**
PPM	**Popocatepetl**	**2.85**	**19**	*e*S	**Sn**	**05 34 53.5**	**-2.0**
PPM				*e*S	Sb	05 34 54.2	-7.3
AMVM	**AMECAMECA**	**2.86**	**16**	*e*P	**Pn**	**05 34 20.1**	**-1.0**
AMVM				*i* S	**Sn**	**05 34 55.7**	**+0.1**
TOVM	**TOLUCA**	**2.90**	**359**	*e*P	**Pn**	**05 34 20.2**	**-1.5**
TOVM				*e*S	**Sn**	**05 34 55.1**	**-1.5**
UNM	**Universidad Na**	**2.98**	**8**	*e*P	**Pn**	**05 34 21.5**	**-1.1**
UNM				*i* S	**Sn**	**05 34 57.4**	**-0.9**
UNM	**Universidad Na**	**2.98**	**8**	Pn	**Pn**	**05 34 23.5**	**+0.8**
TOIG	**Toxpalan**	**2.99**	**55**	*e*P	**Pn**	**05 34 21.5**	**-1.2**
TOIG				*e*S	**Sn**	**05 34 57.1**	**-1.4**
TOIG				*e*S	**Sn**	**05 34 57.3**	**-1.2**
CVM	**Colonia del Va**	**3.03**	**8**	*e*P	**Pn**	**05 34 21.0**	**-2.2**
CVM				*i* S	**Sn**	**05 34 57.9**	**-1.4**
AZVM	**Cuida Lopez Ma**	**3.22**	**6**	*e*P	**Pn**	**05 34 24.6**	**-1.4**
AZVM				*i* S	**Sn**	**05 35 02.8**	**-1.5**
ATVM	**ATLACOMULCO**	**3.38**	**357**	*e*P	**Pn**	**05 34 27.3**	**-1.0**
ATVM				*e*S	**Sn**	**05 35 07.2**	**-1.2**
HUIG	**Huatulco**	**3.44**	**99**	*e*S	**Sn**	**05 35 07.1**	**-2.2**
ZUVM	**ZUMPANGO**	**3.48**	**9**	*e*P	**Pn**	**05 34 27.6**	**-2.0**
ZUVM				*i* S	**Sn**	**05 35 09.2**	**-1.5**
VTVM	**Tizayuca**	**3.48**	**13**	*e*P	**Pn**	**05 34 30.0**	**+0.3**
VTVM				*i* S	**Sn**	**05 35 10.1**	**-0.7**
ACIG	**Acambay**	**3.60**	**356**	*e*P	**Pn**	**05 34 30.1**	**-1.1**
ACIG				*e*S	**Sn**	**05 35 11.9**	**-1.7**
MOIG	**Morelia**	**3.61**	**336**		**Pn**	**05 34 31.4**	**+0.1**
DEIG	**Demacu**	**3.95**	**8**	*i* P	**Pn**	**05 35 21.5**	**-1.0**
DEIG				*e*S	**Sn**	**05 35 21.6**	**-0.7**
ZAIG	**Zacatecas**	**6.95**	**337**	Pn	**Pn**	**05 35 18.0**	**+0.7**
CCIG	**Comitan**	**7.19**	**90**	Pn	**Pn**	**05 35 23.1**	**+2.5**
CCIG				Sn	**Sn**	**05 36 42.5**	**+0.3**
RTAL	**Retalhuleu**	**7.87**	**102**	Pn	**Pn**	**05 35 31.1**	**+1.4**
SLBS	**Sierra La Lagu**	**12.12**	**309**	Pn	**Pn**	**05 36 31.6**	**+3.6**
Z41A	**Richland Creek**	**17.91**	**19**		**Pn**	**05 37 45.6**	**+1.3**
Z41A					lAmb	lAmb	05 37 51.0	
	comp=Z,9.6nm,0.6s							
HBAR	**Harrisburg**	**20.72**	**21**	P	**P**	**05 38 15.9**	**+0.2**
113A	**Mohawk Valley,**	**20.75**	**324**	P	**P**	**05 38 16.6**	**+0.6**
113A					lAmb	lAmb	05 38 22.9	
	comp=Z,6.0nm,1.1s							
X16A	**Lo Mia Camp, P**	**20.87**	**332**	P	**P**	**05 38 19.0**	**+1.4**
Y49A	**Blount Mountai**	**21.09**	**32**	P	**P**	**05 38 22.9**	**+3.2**
Y14A	**Wickenburg**	**21.24**	**328**	P	**P**	**05 38 23.1**	**+1.8**
Y14A					lAmb	lAmb	05 38 25.1	
	comp=Z,7.4nm,1.3s							
W13A	**Hualapai Mount**	**22.60**	**328**	P	**P**	**05 38 37.3**	**+1.2**
U15A	**North Rim**	**22.93**	**333**	P	**P**	**05 38 39.4**	**-0.3**
U15A					lAmb	lAmb	05 38 52.7	
	comp=Z,5.4nm,1.3s							
SZCU	**Shurtz Canyon**	**24.26**	**333**	P	**P**	**05 38 50.8**	**-1.8**
MTPU	**Mount Pierson**	**24.26**	**335**	P	**P**	**05 38 55.9**	**+3.1**
Q16A	**Castle Valley**	**24.64**	**338**	P	**P**	**05 38 57.9**	**+1.9**
MSU	**Marysvale**	**24.66**	**336**	P	**P**	**05 38 55.9**	**-0.4**
BGNE	**Belgrade**	**24.99**	**3**	P	**P**	**05 38 59.4**	**+0.5**
PRN	**Pahroc Range**	**25.00**	**330**	P	**P**	**05 39 00.7**	**+1.5**
PRN					lAmb	lAmb	05 39 08.2	
	comp=Z,8.1nm,1.4s							
TPNV	**Topopah Spring**	**25.24**	**327**	P	**P**	**05 39 02.8**	**+1.4**
TPNV					lAmb	lAmb	05 39 06.8	
	comp=Z,4.2nm,0.9s							
PSUT	**Pine Spring**	**25.37**	**333**	P	**P**	**05 39 03.2**	**+0.6**
R11A	**Troy Canyon, C**	**26.00**	**330**	P	**P**	**05 39 08.1**	**-0.2**
R11A					lAmb	lAmb	05 39 13.9	
	comp=Z,3.0nm,1.1s							
P49A	**Miami Univ. Ec**	**26.50**	**26**	P	**P**	**05 39 10.8**	**-1.8**
PAGB	**Antelope Grade**	**26.64**	**320**	P	**P**	**05 39 11.9**	**-2.1**
PAGB					lAmb	lAmb	05 39 22.0	
	comp=Z,17nm,1.5s							
L42A	**Oliver, Polo**	**26.95**	**17**	P	**P**	**05 39 19.0**	**+2.4**
PD31	**Pinedale Array**	**27.65**	**344**	P	**P**	**05 39 23.2**	**0.0**
PDAR	**Pinedale Array**	**27.65**	**344**	P	**P**	**05 39 24.6**	**+1.4**
BANI	**BANI**	**27.99**	**82**	P	**P**	**05 39 27.8**	**+1.5**

*UPA **18** 05:39:55.0±0.9, 3.°73N×76.°23W, h143km, MW4.3*
*RSNC **18** 05:39:55.5±1.1, 6.°82N×73.°17W, h150km±4km, ML3.6, Mw3.7, Fault plane solution: NP1:φs148.00000°, δ78.00000°, λ38.00000°.*
*IDC **18** 05:40:03.5±6.0, 6.°11N×74.°30W, h202km±23km, mb3.1/1, mb1 3.6/1, mb1mx2.9/26, mbtmp3.6/1, Error ellipse: s-maj=215.7km s-min=43.5km az=65.0*
ISC 18 05:39:54.0±1.0, **6.°84N**±0.°03×**73.°14W**±0.°04, **h161**km±6km, **n48**,σ1≈**54**/80, **9C-4D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**190**	⇑*e*P	**Pn**	**05 40 15.9**	**-0.1**
BARC				*e*S	**Sn**	**05 40 31.1**	**-1.7**
BARC				*i*		05 40 32.9	
	comp=Z,838nm,0.3s						
BRRC	**Barranca, Sant**	**0.63**	**295**	*e*P	**Pn**	**05 40 17.7**	**+0.5**
BRRC				*e*S	**Sn**	**05 40 34.2**	**-0.7**
BRRC				*i*		05 40 35.8	
	comp=Z,519nm,0.2s						
PAMC	**Pamplona, Colo**	**0.66**	**41**	⇓*i*P	**Pn**	**05 40 18.8**	**+0.8**
PAMC				*i*		05 40 19.0	
	comp=Z,1µm,0.2s						
PAMC				*e*S	**Sn**	**05 40 35.6**	**-0.7**
RUSC	**La Rusia**	**0.95**	**177**	⇑*i*P	**Pn**	**05 40 19.9**	**-0.1**
RUSC				*e*S	**Sn**	**05 40 38.3**	**-1.5**
RUSC				*i*		05 40 39.8	
	comp=Z,672nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.34**	**257**	⇑*i*P	**Pn**	**05 40 22.3**	**-0.5**
PTBC				*e*S	**Sn**	**05 40 43.2**	**-1.8**
PTBC				*i*		05 40 45.3	
	comp=Z,385nm,0.3s						
TAMC	**Tame, Arauca**	**1.40**	**107**	⇓*i*P	**Pn**	**05 40 24.4**	**+1.0**
TAMC				*i*		05 40 24.6	
	comp=Z,814nm,0.4s						
TAMC				*e*S	**Sn**	**05 40 45.6**	**-0.3**
OCAC	**Ocana**	**1.40**	**353**	⇑*e*P	**Pn**	**05 40 23.9**	**+0.4**
OCAC				*e*S	**Sn**	**05 40 45.4**	**-0.9**
OCAC				*i*		05 40 50.5	
	comp=Z,396nm,0.4s						
SPBC	**San Pablo de B**	**1.50**	**218**	⇑*i*P	**Pn**	**05 40 24.7**	**+0.1**
SPBC				*e*S	**Sn**	**05 40 46.9**	**-1.1**
SPBC				*i*		05 40 54.0	
	comp=Z,683nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	*e*P	**Pn**	**05 40 28.1**	**+0.3**
ZARC				*e*S	**Sn**	**05 40 53.0**	**-0.8**
ZARC				*i*		05 41 04.4	
	comp=Z,212nm,0.2s						
SMLC	**San Martn de**	**2.15**	**335**	*e*P	**Pn**	**05 40 32.0**	**+0.4**
SMLC				*e*S	**Sn**	**05 41 00.6**	**0.0**
SMLC				*i*		05 41 02.9	
	comp=Z,534nm,0.3s						
CHIC	**Chingaza**	**2.28**	**195**	⇑*e*P	**Pn**	**05 40 33.8**	**+0.4**
CHIC				*i*		05 40 34.7	
	comp=Z,226nm,0.2s						
CHIC				*e*S	**Sn**	**05 41 03.0**	**-0.9**
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**05 40 35.8**	**+2.0**
	comp=Z,133nm,0.3s,baz=224,slow=22,SNR=403						
ROSC				S	**Sn**	**05 41 01.1**	**-3.4**
	comp=Z,35nm,0.3s,baz=69,slow=2.5,SNR=4.0						
ROSC	**El Rosal**	**2.31**	**211**	⇑*i*P	**Pn**	**05 40 35.6**	**+1.8**
ROSC				*e*S	**Sn**	**05 41 06.4**	**+1.9**
ROSC				*i*		05 41 13.9	
	comp=Z,366nm,0.3s						
HELC	**Santa Helena**	**2.46**	**255**	*e*P	**Pn**	**05 40 35.9**	**+0.3**
HELC				*e*S	**Sn**	**05 41 07.0**	**-0.6**
HELC				*i*		05 41 14.0	
	comp=Z,190nm,0.3s						
HELC	**Santa Helena**	**2.46**	**255**	*e*P	**Pn**	**05 40 36.5**	**+0.9**
	baz=191,slow=10						
HELC				*e*S	**Sn**	**05 41 07.4**	**-0.3**
URUC	**San Jos de Ur**	**2.54**	**291**	*e*P	**Pn**	**05 40 35.6**	**-0.5**
URUC				*e*S	**Sn**	**05 41 08.0**	**-0.8**
URUC				*i*		05 41 18.5	
	comp=Z,232nm,0.2s						
SOCV	**Socops**	**2.68**	**58**	⇓*i*P	**Pn**	**05 40 38.8**	**+1.0**
SOCV				*e*S	**Sn**	**05 41 08.7**	**-3.0**
GUY2C	**Guyana, Caldas**	**2.74**	**234**	*e*P	**Pn**	**05 40 40.0**	**+0.9**
GUY2C				*e*S	**Sn**	**05 41 13.5**	**-0.3**
GUY2C				*i*		05 41 26.0	
	comp=Z,207nm,0.4s						
VILC	**Villavicencio,**	**2.77**	**192**	⇑*i*P	**Pn**	**05 40 39.2**	**+0.1**
VILC				*e*S	**Sn**	**05 41 13.4**	**-0.6**
VILC				*i*		05 41 16.5	
	comp=Z,238nm,0.5s						
RREF	**El Recreo**	**2.93**	**229**	*e*P	**Pn**	**05 40 40.7**	**-0.8**
RREF				*e*S	**Sn**	**05 41 17.8**	**-0.4**
RREF				*i*		05 41 23.3	
	comp=Z,219nm,0.2s						
CBOC	**Ciudad Bolivar**	**3.02**	**251**	*e*P	**Pn**	**05 40 43.3**	**+1.2**
CBOC				*e*S	**Sn**	**05 41 19.3**	**-0.2**
CBOC				*i*		05 41 36.6	
	comp=Z,59nm,0.7s						
DBBC	**Dabeiba**	**3.06**	**273**	⇓*i*P	**Pn**	**05 40 43.3**	**+0.7**
DBBC				*i*		05 41 23.5	
	comp=Z,478nm,0.7s						
TOLC	**Tolima**	**3.12**	**224**	*e*P	**Pn**	**05 40 44.5**	**+0.9**
TOLC				*e*S	**Sn**	**05 41 22.3**	**+0.1**
TOLC				*i*		05 41 29.4	
	comp=Z,414nm,0.5s						
MOTC	**Monteria, Cord**	**3.16**	**308**	*e*P	**Pn**	**05 40 42.9**	**-0.8**
MOTC				*e*S	**Sn**	**05 41 21.1**	**-1.3**
ARGC	**Ariguani, Magd**	**3.19**	**340**	*e*P	**Pn**	**05 40 46.0**	**+1.9**
ARGC				*i*		05 41 36.1	
	comp=Z,115nm,0.3s						
ANIL	**Santa Ana**	**3.25**	**224**	*e*P	**Pn**	**05 40 46.2**	**+1.0**
ANIL				*e*S	**Sn**	**05 41 24.4**	**-0.5**
ANIL				*i*		05 41 32.8	
	comp=Z,55nm,0.3s						
PRAC	**Prado**	**3.56**	**209**	*e*P	**Pn**	**05 40 48.8**	**-0.2**
PRAC				*i*		05 40 52.0	
	comp=Z,134nm,0.2s						
PRAC				*e*S	**Sn**	**05 41 31.3**	**-0.5**
ORTC	**Ortega, Tolima**	**3.59**	**216**	*e*P	**Pn**	**05 40 49.7**	**+0.4**
ORTC				*e*S	**Sn**	**05 41 31.6**	**-0.8**
ORTC				*i*		05 41 39.8	
	comp=Z,108nm,0.3s						
SJCC	**San Jacinto, C**	**3.65**	**326**	*e*P	**Pn**	**05 40 50.2**	**+0.2**
SJCC				*i*		05 40 51.8	
	comp=Z,55nm,0.3s						
SJCC				*e*S	**Sn**	**05 41 30.5**	**-3.1**
PLMC	**San Jos del P**	**3.67**	**239**	*e*P	**Pn**	**05 40 51.7**	**+1.3**
PLMC				*e*S	**Sn**	**05 41 33.7**	**-0.6**
PLMC				*i*		05 41 38.1	
	comp=Z,207nm,0.2s						
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P	**Pn**	**05 40 58.4**	**+0.2**
YOTC				*e*S	**Sn**	**05 41 47.1**	**-1.2**
GUVC	**San Jose del G**	**4.30**	**173**	*e*P	**Pn**	**05 40 58.0**	**-0.4**
GUVC				*e*S	**Sn**	**05 41 46.6**	**-2.2**
GUVC				*i*		05 41 51.9	
	comp=Z,150nm,0.3s						
SMRC	**Santa Marta, M**	**4.42**	**346**	*e*P	**Pn**	**05 41 00.4**	**+0.4**
SMRC				*e*S	**Sn**	**05 41 47.0**	**-4.6**
SMRC				*i*		05 41 51.7	
	comp=Z,55nm,0.3s						
MACC	**Macarena, Meta**	**4.72**	**189**	⇑*e*P	**Pn**	**05 41 02.6**	**-1.3**
MACC				*i*		05 41 03.5	
	comp=Z,116nm,0.4s						
MACC				*e*S	**Sn**	**05 41 54.4**	**-4.3**
MARP	**Paez Belalcaza**	**4.87**	**215**	*e*P	**Pn**	**05 41 06.7**	**+0.6**
UPD2	**Meteti**	**5.12**	**290**	*e*P	**Pn**	**05 41 07.6**	**-1.6**
UPD2				*e*S	**Sn**	**05 42 05.3**	**-2.7**
GARC	**Garzon, Huila**	**5.19**	**207**	*e*P	**Pn**	**05 41 10.1**	**-0.3**
GARC				*i*		05 41 11.4	
	comp=Z,114nm,0.4s						
GARC				*e*S	**Sn**	**05 42 05.0**	**-5.0**
POPC	**Popayan, Colom**	**5.54**	**220**	*e*P	**Pn**	**05 41 15.6**	**+0.7**
POPC				*i*		05 41 20.6	
	comp=Z,6.7nm,0.6s						
POPC				*e*S	**Sn**	**05 42 16.2**	**-2.1**
FLOC	**Florencia**	**5.80**	**206**	*e*P	**Pn**	**05 41 18.5**	**+0.3**
FLOC				*i*		05 41 20.5	
	comp=Z,15nm,0.3s						
CNTA3	**Canitas, Panam**	**6.17**	**293**	*e*P	**Pn**	**05 41 20.7**	**-2.3**
BBAC	**Balboa, Cauca**	**6.30**	**221**	*e*P	**Pn**	**05 41 26.2**	**+1.1**
BBAC				*e*S	**Sn**	**05 42 35.1**	**-1.3**
CHPO	**Chepo, Panama**	**6.36**	**292**	*e*P	**Pn**	**05 41 24.4**	**-1.1**
UPA	**Univ. de Panam**	**6.68**	**289**	*e*P	Pn	05 41 23.4	-6.5
FRIJ	**El Hiral**	**6.94**	**290**	*e*P	Pn	05 41 28.5	-4.8
ZANG	**Zanguenga, Cho**	**6.99**	**288**	*e*P	Pn	05 41 25.4	-8.5
BCIP	**Isla Barro Col**	**7.03**	**290**	*e*P	Pn	05 41 27.2	-7.2
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**05 46 46.1**	**+2.6**
	comp=Z,0.9nm,1.0s,baz=126,

ISC 18 05:57:55.1±1.6, 32.67N±0.04×47.70E±0.03, h8km±13km, n42, σ1°29/46, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.86**	**8**	*eP*g	**Pb**	**05 58 11.7**	**-0.6**
IKFM				*e*		05 58 16.6	
IKMR	**Kamar-syah**	**1.02**	**34**	*eP*g	**Pb**	**05 58 13.9**	**-1.1**
IKMR				*e*		05 58 35.3	
SHGR	**Shooshtar-Gavs**	**1.09**	**121**	*eP*	**Pg**	**05 58 17.0**	**+1.0**
SHGR				*e*Sg	**Sn**	**05 58 33.2**	**+1.4**
SHGR				IAML		05 58 35.8	
	comp=N,592nm,0.4s						
SHGR				IAML		05 58 44.3	
	comp=E,693nm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.09**	**121**	*eP*g	**Pg**	**05 58 17.0**	**+1.0**
IDOB	**Doab**	**1.18**	**20**	*eP*g	**Pg**	**05 58 18.2**	**+0.3**
BMDN	**Meydan**	**1.37**	**43**	*eP*g	**Pg**	**05 58 21.8**	**+0.3**
BMDN				*e*		05 58 24.4	
IKOM	**Komasi**	**1.51**	**354**	*eP*g	**Pg**	**05 58 24.2**	**+0.1**
IKOM				*e*		05 58 50.1	
IBDR	**Badra**	**1.55**	**287**	*eP*g	**Pn**	**05 58 22.0**	**-1.0**
IBDR				*e*Sg	**Sn**	**05 58 43.0**	**-0.3**
IBDR				AML	AML	05 58 51.6	
	comp=E,337nm,0.8s						
IBDR				AML	AML	05 58 53.3	
	comp=N,344nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.69**	**341**	*eP*n	**Pb**	**05 58 27.1**	**+0.5**
KCHF				*e*		05 58 56.6	
HSAM	**Samen**	**1.71**	**26**	*eP*g	**Pg**	**05 58 27.5**	**-0.5**
HSAM				*e*		05 58 28.6	
KER	**Kermanshah**	**1.78**	**345**	*eP*n	**Pb**	**05 58 27.8**	**-0.2**
IBZA	**Bozab**	**1.80**	**4**	*eP*g	**Pb**	**05 58 28.7**	**+0.2**
IBZA				*e*		05 58 58.6	
IGHG	**Ghaleghazi**	**1.91**	**331**	*eP*n	**Pb**	**05 58 30.4**	**+0.1**
IGHG				*e*		05 59 06.8	
IVIS	**Veis**	**1.98**	**339**	*e*	Sb	05 59 05.5	+9.1
NSR	**Nassriya**	**2.12**	**219**	*eP*n	**Pn**	**05 58 32.0**	**+1.2**
NSR				*e*Sn	**Sn**	**05 58 57.0**	**-0.3**
KHMZ	**Khomeyn**	**2.17**	**60**	*eP*n	**Pb**	**05 58 33.8**	**-1.0**
KHMZ	**Khomeyn**	**2.17**	**60**	*eP*n	**Pb**	**05 58 33.8**	**-1.0**
IALM	**Almabolaq**	**2.22**	**10**	*eP*n	**Pb**	**05 58 34.9**	**-0.7**
IDHR	**Dehrash**	**2.30**	**332**	*eP*n	**Pn**	**05 58 35.3**	**+1.8**
IDHR				*e*		05 59 15.1	
ILIN	**Lien**	**2.33**	**345**	*eP*n	**Pb**	**05 58 35.9**	**-1.5**
ILIN				*e*		05 59 18.2	
SNGE	**Sanandaj**	**2.44**	**353**	*eP*n	**Pn**	**05 58 37.1**	**+1.8**
SNGE				*e*	Sn	**05 58 57.5**	**-2.0**
SNGE	**Sanandaj**	**2.44**	**353**	*eP*n	**Pn**	**05 58 37.1**	**+1.8**
HAGD	**Aghdareh**	**2.46**	**29**	*eP*n	**Pb**	**05 58 37.6**	**-2.1**
HAGD				*e*		05 59 21.6	
JHBN	**Jahan bin**	**2.54**	**99**	*eP*n	**Pn**	**05 58 37.9**	**+0.9**
JHBN				*e*		05 59 32.3	
HSRG	**Sareghieh**	**2.61**	**10**	*e*	**Pb**	**05 58 42.5**	**+0.2**
IPIR	**Pirpir**	**2.69**	**89**	*eP*n	**Pn**	**05 58 40.3**	**+1.3**
IPIR				*e*		05 59 30.3	
ASAO	**Ashtian**	**2.70**	**45**	*eP*n	**Pb**	**05 58 41.2**	**-2.5**
ASAO	**Ashtian**	**2.70**	**45**	*eP*n	**Pb**	**05 58 41.3**	**-2.5**
ROKH	**ROKH**	**2.84**	**96**	*eP*n	**Pn**	**05 58 41.8**	**+0.9**
ROKH				*e*		05 59 27.5	
BHD	**Baghdad**	**2.85**	**283**	*eP*n	**Pn**	**05 58 41.0**	**+0.1**
BHD				*e*Sn	**Sn**	**05 59 16.0**	**+0.6**
IRAZ	**Razeghan**	**3.30**	**34**	*eP*n	**Pn**	**05 58 49.9**	**+2.7**
IKLH	**Kolahrood**	**3.32**	**78**	*eP*n	**Pn**	**05 58 49.0**	**+1.4**
QABG	**Abgarm-Qazvin**	**3.41**	**27**	*eP*n	**Pn**	**05 58 50.1**	**+1.3**
IQOM	**Qom**	**3.55**	**51**	*eP*n	**Pn**	**05 58 51.8**	**+1.1**
IGAR	**Gharneh**	**3.68**	**93**	*eP*n	**Pn**	**05 58 53.2**	**+0.8**
QSDN	**Sirdan**	**4.01**	**17**	*eP*n	**Pn**	**05 58 59.3**	**+2.2**
IRAM	**Ramesheh**	**4.06**	**101**	*eP*n	**Pn**	**05 58 57.1**	**-0.6**
IVRN	**Varamin**	**4.08**	**54**	*eP*n	**Pn**	**05 58 59.4**	**+1.6**
IDMV	**Damavand**	**4.62**	**50**	*eP*n	**Pn**	**05 59 06.5**	**+1.1**
ANAR	**Anarak**	**5.10**	**83**	*eP*n	**Pn**	**05 59 12.6**	**+0.7**
ISAD	**Sadrabad**	**5.12**	**97**	*eP*n	**Pn**	**05 59 12.4**	**0.0**
IANJ	**Anjilo**	**5.86**	**60**	*eP*n	**Pn**	**05 59 22.6**	**+0.1**

*IDC **18** 05:59:18.8±1.9, 32.°68N×47.°56E, h0km, mb3.7/12, mb1 3.9/15, mb1mx3.8/44, mbtmp3.8/15, ML3.6/3, Error ellipse: s-maj=39.8km s-min=17.7km az=168.0*
*NEIC **18** 05:59:20.2±3.2, 32.°67N±0.°06×47.°78E±0.°08, h10km±1km, Error ellipse: s-maj=12.9km s-min=9.1km az=122.0*
*ISN **18** 05:59:21.5±1.2, 32.°76N×47.°70E, h15km±6km, ML3.5*
*TEH **18** 05:59:21.3, 32.°71N×47.°71E, h17km, ML3.8*
ISC 18 05:59:20.3±1.4, 32.66N±0.04×47.67E±0.04, h9km±9km, n84, σ1°70/83, mb3.9/16, 5C-3D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.87**	**10**	*eP*g	**Pb**	**05 59 37.8**	**+0.1**
IKFM				*e*	**Sn**	**05 59 53.6**	**+1.8**
IKFM	**Kafar-mosalman**	**0.87**	**10**	Pg	**Pg**	**05 59 36.4**	**-0.8**
IKMR	**Kamar-syah**	**1.04**	**35**	*eP*g	**Pg**	**05 59 39.8**	**-0.6**
IKMR				*e*		06 00 02.2	
IKMR	**Kamar-syah**	**1.04**	**35**	Pg	**Pg**	**05 59 39.3**	**-1.1**
IDOB	**Doab**	**1.20**	**21**	*eP*g	**Pg**	**05 59 43.4**	**-0.1**
IDOB	**Doab**	**1.20**	**21**	Pg	**Pb**	**05 59 42.7**	**-0.8**
BMDN	**Meydan**	**1.40**	**44**	*e*	**Sb**	**06 00 11.9**	**+7.1**
IKOM	**Komasi**	**1.52**	**355**	*eP*g	**Pg**	**05 59 49.3**	**-0.2**
IKOM				*e*		06 00 14.7	
IKOM	**Komasi**	**1.52**	**355**		**Pg**	**05 59 49.3**	**-0.2**
IBDR	**Badra**	**1.53**	**287**	*eP*g	**Pb**	**05 59 49.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**06 00 10.0**	**+0.4**
IBDR				AML	AML	06 00 13.8	
	comp=E,780nm,0.6s						
IBDR				AML	AML	06 00 14.5	
	comp=N,700nm,0.8s						
KCHF	**Cheshme Sefid,**	**1.69**	**342**	*eP*g	**Pb**	**05 59 52.0**	**+0.2**
KCHF				*e*		06 00 18.2	
KCHF	**Cheshme Sefid,**	**1.69**	**342**	Pn	**Pn**	**05 59 50.4**	**+0.1**
HSAM	**Samen**	**1.73**	**26**	*eP*n	**Pg**	**05 59 53.5**	**-0.1**
HSAM				*e*		06 00 21.5	
KER	**Kermanshah**	**1.78**	**346**	*eP*g	**Pb**	**05 59 52.6**	**-0.6**
IBZA	**Bozab**	**1.81**	**5**	*eP*g	**Pg**	**05 59 54.6**	**-0.5**
IBZA				*e*		06 00 26.2	
IBZA	**Bozab**	**1.81**	**5**	Pn	**Pb**	**05 59 53.5**	**-0.4**
IGHG	**Ghaleghazi**	**1.90**	**331**	*eP*g	**Pg**	**05 59 56.3**	**-0.5**
IGHG				*e*		06 00 31.3	
IGHG	**Ghaleghazi**	**1.90**	**331**	Pn	**Pb**	**05 59 55.9**	**+0.5**
IVIS	**Veis**	**1.98**	**340**	*eP*n	**Pb**	**05 59 55.8**	**-0.9**
IVIS				*e*	**Sg**	**06 00 26.0**	**+1.9**
IVIS	**Veis**	**1.98**	**340**	Pn	**Pb**	**05 59 55.5**	**-1.2**
NSR	**Nassriya**	**2.10**	**219**	*eP*n	**Pb**	**05 59 59.0**	**+0.4**
NSR				*e*Sn	**Sb**	**06 00 25.0**	**+0.2**
IALM	**Almabolaq**	**2.23**	**11**	*eP*n	**Pb**	**05 59 59.5**	**-1.6**
IDHR	**Dehrash**	**2.30**	**333**	*eP*n	**Pb**	**06 00 00.5**	**-1.6**
IDHR				*e*		06 00 40.9	
ILIN	**Lien**	**2.33**	**346**	*eP*n	**Pn**	**06 00 00.3**	**+1.2**
ILIN				*e*		06 00 42.8	
HAGD	**Aghdareh**	**2.48**	**29**	*eP*n	**Pn**	**06 00 02.5**	**+1.3**
HAGD				*e*		06 00 48.0	
JHBN	**Jahan bin**	**2.57**	**99**	*eP*n	**Pn**	**06 00 04.1**	**+1.6**
JHBN				*e*		06 01 05.4	
HSRG	**Sareghieh**	**2.62**	**11**	*eP*n	**Pb**	**06 00 05.7**	**-2.0**
HSRG				*e*		06 00 52.0	
BHD	**Baghdad**	**2.83**	**283**	*eP*n	**Pn**	**06 00 08.0**	**+2.2**
BHD				*e*Sn	**Sn**	**06 00 43.0**	**+3.0**
ROKH	**ROKH**	**2.86**	**95**	*eP*n	**Pn**	**06 00 08.1**	**+1.7**
IRAZ	**Razeghan**	**3.32**	**34**	*eP*n	**Pn**	**06 00 14.8**	**+2.1**
QABG	**Abgarm-Qazvin**	**3.43**	**27**	*eP*n	**Pn**	**06 00 15.3**	**+1.1**
QSDN	**Sirdan**	**4.03**	**18**	*eP*n	**Pn**	**06 00 24.0**	**+1.5**
GEVA	**Gevas**	**6.78**	**328**	Pn	**Pn**	**06 00 59.6**	**-0.6**
MARD	**Mardin**	**7.32**	**311**	Pn	**Pn**	**06 01 06.9**	**-0.6**
ASF	**Jabal al Asfar**	**9.12**	**270**	Sn	Sn	06 03 00.3	-15
	comp=N,0.3nm,0.3s,baz=216,slow=14,SNR=2.3						
ASF				Lg	Lg	06 04 10.1	
	comp=N,0.3nm,0.3s,baz=220,slow=17,SNR=2.9						
GEYT	**Alibeck**	**10.02**	**55**	Pn	**Pn**	**06 01 42.4**	**-2.2**
MMAI	**Mount Meron Ar**	**10.33**	**275**	Lg	Lg	06 04 57.8	
	comp=N,2.1nm,0.3s,baz=136,slow=29,SNR=3.9						
EIL	**Elat**	**11.29**	**258**	Lg	Lg	06 05 27.8	
	comp=N,0.4nm,0.3s,baz=36,slow=20,SNR=2.5						
BRTR	**Keskin Array B**	**13.34**	**306**	Pn	**Pn**	**06 02 31.6**	**+1.7**
	comp=N,0.1nm,0.3s,baz=91,slow=9.9,SNR=4.6						
BRTR	**Keskin Array B**	**13.34**	**306**		**Pn**	**06 02 30.4**	**+0.4**
ABKAR	**Akbulak array**	**18.95**	**25**	P	**P**	**06 03 41.2**	**-0.5**
IDI	**Anoyia**	**19.07**	**284**	P	**P**	**06 03 43.7**	**+0.5**
	comp=N,0.7nm,0.3s,baz=42,slow=15,SNR=2.6						
IDI	**Anoyia**	**19.07**	**284**	P	**Pn**	**06 03 44.0**	**+0.1**
AKTO	**Aktyubinsk**	**19.34**	**20**	P	**P**	**06 03 46.0**	**0.0**
	comp=N,0.3nm,0.3s,baz=215,slow=14,SNR=7.9						
KKAR	**Karatay Array**	**20.77**	**53**	P	**P**	**06 04 01.5**	**-0.1**
PLOR	**Plostina**	**20.86**	**315**	⇓P	Pn	06 04 07.2	+2.1
MLR	**Muntele Rosu**	**21.10**	**314**	P	**P**	**06 04 03.3**	**-2.0**
	comp=N,1.8nm,0.6s,baz=139,slow=18,SNR=2.5						
MLR	**Muntele Rosu**	**21.10**	**314**	⇑P	**P**	**06 04 11.0**	**+5.7**
MLR	**Muntele Rosu**	**21.10**	**314**	IAmb	IAmb	06 04 11.7	
	comp=Z,8.5nm,0.7s						
TESR	**Tescani**	**21.22**	**317**	⇑P	**P**	**06 04 05.1**	**-1.3**
SORM	**Soroca**	**21.25**	**322**	⇑P	**P**	**06 04 03.4**	**-3.3**
VOIR		**21.62**	**313**	⇓P	**P**	**06 04 10.9**	**+0.1**
DOPR	**Dopca**	**21.68**	**314**	⇓P	**P**	**06 04 11.4**	**+0.1**
AKASG	**Malin Array Be**	**22.58**	**328**	P	**P**	**06 04 20.3**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=134,slow=7.9,SNR=2.3						
AKBB	**Malin Array Si**	**22.58**	**328**	P	**P**	**06 04 19.1**	**-1.8**
BURAR	**Bucovina Array**	**22.64**	**318**	⇑P	**P**	**06 04 18.0**	**-3.7**
BURAR	**Bucovina Array**	**22.64**	**318**	P	**P**	**06 04 22.1**	**+0.4**
BUR08	**Bucovina Ar. S**	**22.66**	**318**	P	**P**	**06 04 19.0**	**-3.0**
MDVR	**Moldovita**	**23.48**	**309**	⇑P	**P**	**06 04 30.1**	**-0.3**
ARU	**Arti**	**24.94**	**14**	P	**P**	**06 04 44.7**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=223,slow=6.4,SNR=3.5						
ARU	**Arti**	**24.94**	**14**	IAmb	IAmb	06 04 47.0	
	comp=Z,5.5nm,1.1s						
KWP	**Kalwaria Pacla**	**25.14**	**320**	P	**P**	**06 04 47.8**	**+2.2**
KWP				IAmb	IAmb	06 04 48.9	
	comp=Z,12nm,1.3s						
TARG	**Taragay, Kyrgy**	**25.55**	**61**	P	**P**	**06 04 47.2**	**-2.7**
TIP	**Timpagrande**	**25.78**	**293**	P	**P**	**06 04 52.4**	**+0.6**
PSZ	**Piszkesteto**	**25.91**	**314**	P	**P**	**06 04 52.5**	**-0.3**
PSZ				IAmb	IAmb	06 04 55.1	
	comp=Z,8.2nm,0.9s						
BVAR	**Borovoye Array**	**26.10**	**32**	P	**P**	**06 04 54.5**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=232,slow=7.3,SNR=7.6						
KURBB	**Kurchatov Arra**	**28.92**	**42**	P	**P**	**06 05 20.5**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=246,slow=9.3,SNR=4.9						
KURK	**Kurchatov**	**29.02**	**42**	P	**P**	**06 05 18.8**	**-1.7**
MKAR	**Makanchi Array**	**29.87**	**52**	P	**P**	**06 05 27.6**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=263,slow=7.8,SNR=4.7						
MKAR	**Makanchi Array**	**29.87**	**52**	P	**P**	**06 05 27.5**	**-0.7**
CTI	**Castel Tesino**	**30.62**	**306**	P	**P**	**06 05 33.5**	**-1.3**
CTI				IAmb	IAmb	06 05 35.4	
	comp=Z,5.2nm,0.7s						
FINES	**FINESS Array B**	**32.02**	**341**	P	**P**	**06 05 45.9**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=155,slow=13,SNR=1.1						
FINES	**FINESS Array B**	**32.02**	**341**	P	**P**	**06 05 45.1**	**-1.7**
ZALV	**Zalesovo Beam**	**33.84**	**40**	P	**P**	**06 06 02.6**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=232,slow=7.1,SNR=5.1						
ZALV	**Zalesovo Beam**	**33.84**	**40**	P	**P**	**06 06 01.2**	**-1.6**
BNI	**Bardonecchia**	**33.88**	**303**	P	**P**	**06 06 02.5**	**-1.1**
KMBO	**Kilima Mbogo**	**35.02**	**198**	P	**P**	**06 06 15.0**	**+1.2**
KMBO				IAmb	IAmb	06 06 19.4	
	comp=Z,6.2nm,0.7s						
ARCES	**ARCESS Array B**	**38.97**	**348**	P	**P**	**06 06 45.1**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=162,slow=9.7,SNR=5.9						
ARCES	**ARCESS Array B**	**38.97**	**348**	P	**P**	**06 06 44.6**	**-1.9**
ESDC	**Sonseca Array**	**41.79**	**295**	P	**P**	**06 07 09.4**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=76,slow=9.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**46.18**	**256**	P	**P**	**06 07 44.2**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=62,slow=8.9,SNR=2.6						
TORD	**Torodi Ar. Bea**	**46.18**	**256**	P	**P**	**06 07 45.1**	**-0.7**
SONM	**Songino Array**	**46.22**	**53**	P	**P**	**06 07 46.9**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=292,slow=17,SNR=1.5						
SONM	**Songino Array**	**46.22**	**53**	P	**P**	**06 07 46.4**	**+0.5**

*NEIC **18** 06:01:06.9±0.7, 12.°6N±0.°2×48.°49E±0.°08, h10km±1km, mb4.4/14, Error ellipse: s-maj=28.0km s-min=12.6km az=175.0*
*IDC **18** 06:01:06.1±0.8, 12.°63N×48.°46E, h0km, mb4.0/19, mb1 4.1/21, mb1mx4.0/51, mbtmp4.0/21, ML3.7/2, MS4.0/3, Ms1 4.1/3, ms1mx3.5/48, Error ellipse: s-maj=20.5km s-min=16.5km az=170.0*
ISC 18 06:01:06.9±0.6, 12.6N±0.1×48.47E±0.07, h10km, n45, σ0°94/46, mb4.1/24, MS4.0/3, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**5.41**	**93**	Pn	**Pn**	**06 02 26.2**	**-1.6**
ATD	**Arta Tunnel**	**5.59**	**260**	Pn	**Pn**	**06 02 30.6**	**+0.3**
	5.0nm,0.3s,baz=69,slow=13,SNR=13						
ATD				Sn	**Sn**	**06 03 34.3**	**-0.4**
	0.6nm,0.3s,baz=270,slow=20,SNR=1.1						
KMBO	**Kilima Mbogo**	**17.57**	**220**	P	**P**	**06 05 13.7**	**+0.1**
	0.1nm,0.3s,baz=20,slow=13,SNR=3.8						
EIL				LR	LR	06 14 07.5	
	comp=Z,333nm,21.2s,baz=343,slow=37						
HRA	**Herat**	**25.08**	**28**	P	**P**	**06 06 31.7**	**-0.3**
HRA				IAmb	IAmb	06 06 43.6	
	comp=Z,15nm,1.4s						
GEVA	**Gevas**	**26.09**	**350**	P	**P**	**06 06 43.7**	**+2.5**
GEVA				IAmb	IAmb	06 06 59.5	
	comp=Z,11nm,1.1s						
GEYT	**Alibeck**	**26.69**	**17**	P	**P**	**06 06 46.8**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=258,slow=7.2,SNR=1.7						
GEYT				LR	LR	06 18 45.3	
	comp=Z,461nm,19.9s,baz=190,slow=40						
GEYT	**Alibeck**	**26.69**	**17**	P	**P**	**06 06 46.6**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**26.69**	**17**	P	**P**	**06 06 47.1**	**+0.7**
GYA0B				IAmb	IAmb	06 06 55.6	
	comp=Z,5.1nm,0.6s						
BRTR	**Keskin Array B**	**30.06**	**337**	P	**P**	**06 07 18.0**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=159,slow=14,SNR=1.5						
BRTR	**Keskin Array B**	**30.06**	**337**	P	**P**	**06 07 17.6**	**+1.0**
KKAR	**Karatay Array**	**35.91**	**28**	P	**P**	**06 08 06.6**	**-0.8**
AAK	**Ala-Archa**	**37.51**	**32**	P	**P**	**06 08 22.5**	**+1.2**
	comp=Z,1.4nm,0.4s,baz=209,slow=6.6,SNR=3.8						
AAK	**Ala-Archa**	**37.51**	**32**	P	**P**	**06 08 21.8**	**+0.5**
ABKAR	**Akbulak array**	**37.80**	**12**	P	**P**	**06 08 23.6**	**+0.2**
AKTO	**Aktyubinsk**	**38.57**	**10**	P	**P**	**06 08 31.6**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=166,slow=12,SNR=1.5						
AKASG	**Malin Array Be**	**41.15**	**341**	P	**P**	**06 08 50.9**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=162,slow=7.8,SNR=4.5						
BVAR	**Borovoye Array**	**44.00**	**19**	P	**P**	**06 09 14.5**	**0.0**
	comp=Z,0.5nm,0.6s,baz=220,slow=6.6,SNR=4.0						
MAKZ	**Makanchi**	**44.26**	**33**	P	**P**	**06 09 16.8**	**+0.2**
MAKZ				IAmb	IAmb	06 09 23.3	
	comp=Z,7.5nm,1.5s						
MK31	**Makanchi Array**	**44.41**	**33**	P	**P**	**06 09 18.1**	**+0.2**
MKAR	**Makanchi Array**	**44.41**	**33**	P	**P**	**06 09 17.9**	**0.0**
	comp=Z,1.3nm,0.8s,baz=216,slow=7.5,SNR=10						
OSSC	**Osservatorio P**	**44.45**	**321**	P	**P**	**06 09 15.3**	**-2.9**
KURBB	**Kurchatov Arra**	**45.18**	**27**	P	**P**	**06 09 23.8**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=228,slow=7.9,SNR=7.8						
KURK	**Kurchatov**	**45.29**	**27**	P	**P**	**06 09 24.7**	**-0.1**
KURK				IAmb	IAmb	06 09 27.4	
	comp=Z,4.5nm,1.2s						
TOA0	**Torodi Ar. Sit**	**45.55**	**276**	P	**P**	**06 09 27.4**	**0.0**
TORD	**Torodi Ar. Bea**	**45.55**	**276**	P	**P**	**06 09 27.9**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=89,slow=7.3,SNR=19						
TORD	**Torodi Ar. Bea**	**45.55**	**276**	P	**P**	**06 09 27.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**48.87**	**76**	P	**P**	**06 09 53.8**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=273,slow=8.4,SNR=21						
CMAR	**Chiang Mai Arr**	**48.87**	**76**	P	**P**	**06 09 53.2**	**-0.1**
ZALV	**Zalesovo Beam**	**50.27**	**27**	P	**P**	**06 10 02.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=227,slow=7.3,SNR=1.6						
FINES	**FINESS Array B**	**51.44**	**346**	P	**P**	**06 10 12.2**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=132,slow=11,SNR=3.6						
ESDC	**Sonseca Array**	**53.35**	**310**	P	**P**	**06 10 26.7**	**0.0**
	comp=Z,0.5nm,0.8s,baz=106,slow=4.1,SNR=2.8						
ESDC				LR	LR	06 33 39.2	
	comp=Z,156nm,19.3s,baz=60,slow=37						
NOA	**NORSAR Array B**	**55.46**	**339**	P	**P**	**06 10 41.3**	**-0.3**
	comp=Z,2.6nm,1.2s,baz=151,slow=7.4,SNR=3.5						
SONM	**Songino Array**	**59.41**	**42**	P	**P**	**06 11 10.4**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=248,slow=7.8,SNR=7.9						
SONM	**Songino Array**	**59.41**	**42**	P	**P**	**06 11 09.2**	**-0.7**
KSRS	**Korea Array**	**74.16**	**54**	P	**P**	**06 12 43.7**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=282,slow=7.8,SNR=2.5						
WRA	**Warramunga Arr**	**90.41**	**110**	P	**P**	**06 14 10.0**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=294,slow=3.8,SNR=15						
WRA	**Warramunga Arr**	**90.41**	**110**	P	**P**	**06 14 10.2**	**+0.8**
ASAR	**Alice Springs**	**90.86**	**114**	P	**P**	**06 14 12.9**	**+1.5**
	comp=Z,1.8nm,1.0s,baz=284,slow=5.5,SNR=8.4						
ASAR	**Alice Springs**	**90.86**	**114**	P	**P**	**06 14 12.7**	**+1.3**
PDAR	**Pinedale Array**	**121.37**	**341**	PKP	**PKiKP**	**06 20 01.9**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=262,slow=4.5,SNR=3.6						
PDAR	**Pinedale Array**	**121.37**	**341**		**PKPdf**	**06 20 01.1**	**0.0**
NVAR	**Mina Array Bea**	**127.79**	**347**	PKP	**PKiKP**	**06 20 15.0**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=57,slow=3.3,SNR=1.4						
NVAR	**Mina Array Bea**	**127.79**	**347**		**PKPdf**	**06 20 12.6**	**-1.0**
TXAR	**Lajitas Array**	**130.42**	**328**	PKP	**PKPdf**	**06 20 18.7**	**0.0**
	comp=Z,0.6nm,1.1s,baz=142,slow=4.6,SNR=2.8						

*TEH **18** 06:27:59.8, 32.°63N×47.°89E, h18km, ML3.7*
*ISN **18** 06:27:59.0±0.7, 32.°64N×47.°97E, h14km±5km, ML3.3*
ISC 18 06:28:01.4±0.9, 32.61N±0.04×47.93E±0.04, h15km, n39, σ1°19/44, 4C, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.92**	**356**	*eP*g	**Pb**	**06 28 16.9**	**-2.1**
IKFM				*e*		06 28 37.4	
IKMR	**Kamar-syah**	**0.98**	**23**	*eP*g	**Pb**	**06 28 18.4**	**-1.7**
IKMR				*e*		06 28 37.7	
IDOB	**Doab**	**1.20**	**10**	*eP*g	**Pn**	**06 28 21.8**	**-2.0**
BMDN	**Meydan**	**1.30**	**35**	*eP*g	**Pn**	**06 28 24.6**	**-0.6**
BMDN				*e*		06 28 51.4	
AHWZ	**Ahwaz**	**1.41**	**154**	*eP*g	**Pb**	**06 28 26.9**	**-0.5**
IKOM	**Komasi**	**1.60**	**348**	*eP*g	**Pn**	**06 28 29.1**	**-0.2**
IKOM				*e*		06 28 32.1	
HSAM	**Samen**	**1.70**	**19**	*eP*g	**Pn**	**06 28 31.0**	**+0.3**
HSAM				*e*		06 28 34.3	
IBDR	**Badra**	**1.75**	**287**	*eP*g	**Pn**	**06 28 31.0**	**-0.2**
IBDR				*e*Sg	**Sb**	**06 28 55.0**	**-0.1**
IBDR				AML	AML	06 29 02.0	
	comp=N,438nm,0.6s						
IBDR				AML	AML	06 29 02.1	
	comp=E,341nm,0.8s						
KCHF	**Cheshme Sefid,**	**1.82**	**336**	*eP*g	**Pb**	**06 28 33.4**	**-1.1**
KCHF				*e*		06 29 04.7	
IBZA	**Bozab**	**1.86**	**358**	*eP*g	**Pn**	**06 28 33.5**	**+0.6**
IBZA				*e*		06 29 09.4	
KER	**Kermanshah**	**1.89**	**340**	*eP*n	**Pb**	**06 28 34.8**	**-0.9**
IGHG	**Ghaleghazi**	**2.06**	**327**	*eP*n	**Pn**	**06 28 35.1**	**-0.6**
IGHG				*e*		06 29 23.2	
IVIS	**Veis**	**2.11**	**335**	*eP*n	**Pn**	**06 28 37.4**	**+1.1**
NSR	**Nassriya**	**2.20**	**224**	*eP*n	**Pn**	**06 28 37.0**	**-0.4**
NSR				*e*Sn	**Sn**	**06 29 04.0**	**-0.4**
IALM	**Almabolaq**	**2.26**	**5**	*eP*n	**Pn**	**06 28 38.5**	**+0.1**
JHBN	**Jahan bin**	**2.35**	**98**	*eP*n	**Pn**	**06 28 40.0**	**+0.3**
JHBN				*e*		06 28 48.8	
HAGD	**Aghdareh**	**2.43**	**24**	*eP*n	**Pn**	**06 28 40.8**	**0.0**
HAGD				*e*	**Sg**	**06 29 21.8**	**+2.3**
ILIN	**Lien**	**2.44**	**341**	*eP*n	**Pn**	**06 28 40.7**	**-0.2**
ILIN				*e*		06 29 31.1	
IDHR	**

IDC ***18*** *06:34:45.3±1.2,32˚.75N×47˚.68E,h0km,mb4.0/12, mb1 4.1/13,mb1mx3.8/54,mbtmp4.0/13,ML3.8/1,Error ellipse: s-maj=27.9km s-min=18.7km az=139.0*
MOS ***18*** *06:34:46.9±1.4,32˚.85N×47˚.72E,h16km,mb4.3/15,Error ellipse: s-maj=12.1km s-min=6.6km az=96.6*
NEIC ***18*** *06:34:46.3±2.5,32˚.65N±0˚.03×47˚.75E±0˚.07,h10km±1km, Error ellipse: s-maj=9.8km s-min=4.8km az=89.0*
ISN ***18*** *06:34:46.0±1.4,32˚.67N×47˚.72E,h15km±7km,ML3.5*
TEH ***18*** *06:34:47.3,32˚.72N×47˚.75E,h14km,ML3.8*
OMAN ***18*** *06:34:54.6±0.4,31˚.61N×47˚.77E,h10km,mb5.2/6,Error ellipse: s-maj=12.3km s-min=7.1km az=13.0*
GII ***18*** *06:35:21.2±0.0,32˚.69N×47˚.72E,h10km*

ISC 18 06:34:45.7±0.5,32˚.57N±0˚.03×47˚.72E±0˚.03,h10km,n125, σ2s07/123,mb4.2/25,6C-2D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.96**	**6**	Pg	**Pg**		**06 35 03.0**	**-1.2**
IKMR	**Kamar-syah**	**1.09**	**30**	*e*	**Sn**		**06 35 25.3**	**+3.0**
IKMR	**Kamar-syah**	**1.09**	**30**	Pg	**Pb**		**06 35 07.7**	**+0.9**
IDOB	**Doab**	**1.27**	**17**	*e*Pg	**Pn**		**06 35 08.1**	**-1.7**
IDOB	**Doab**	**1.27**	**17**		**Pn**		**06 35 07.8**	**-2.0**
BMDN	**Meydan**	**1.44**	**40**	*e*Pg	**Pn**		**06 35 12.6**	**+0.6**
BMDN				*e*			06 35 37.7	
AHWZ	**Ahwaz**	**1.47**	**147**	*e*Pg	**Pg**		**06 35 16.7**	**+2.9**
AHWZ	**Ahwaz**	**1.47**	**147**	Pg	**Pg**		**06 35 16.6**	**+2.8**
IBDR	**Badra**	**1.60**	**290**	*e*Pg	**Pn**		**06 35 14.0**	**-0.1**
IBDR				*e*Sg	**Sn**		**06 35 36.0**	**+1.2**
IBDR				AML	AML		06 35 42.8	
	comp=N,837nm,0.9s							
IBDR				AML	AML		06 35 46.2	
	comp=E,730nm,0.7s							
IKOM	**Komasi**	**1.61**	**354**	*e*Pg	**Pn**		**06 35 15.2**	**+0.8**
IKOM				*e*			06 35 18.2	
IKOM	**Komasi**	**1.61**	**354**		**Pn**		**06 35 15.1**	**+0.7**
KCHF	**Cheshme Sefid,**	**1.79**	**342**	*e*Pg	**Pn**		**06 35 18.2**	**+1.3**
KCHF				*e*			06 35 47.7	
HSAM	**Samen**	**1.79**	**24**	*e*Pg	**Pn**		**06 35 16.8**	**+1.8**
HSAM				*e*	**Sb**		**06 35 45.7**	**+4.2**
KER	**Kermanshah**	**1.88**	**345**	*e*Pn	**Pn**		**06 35 19.3**	**+1.3**
IBZA	**Bozab**	**1.90**	**3**	*e*Pg	**Pn**		**06 35 20.8**	**+2.4**
IBZA				*e*			06 35 23.9	
IBZA	**Bozab**	**1.90**	**3**	Pn	**Pn**		**06 35 19.5**	**+1.1**
IGHG	**Ghaleghazi**	**2.00**	**332**	*e*Pn	**Pn**		**06 35 21.4**	**+1.6**
IGHG				*e*			06 36 06.8	
IGHG	**Ghaleghazi**	**2.00**	**332**	Pn	**Pn**		**06 35 21.5**	**+1.6**
NSR	**Nassriya**	**2.06**	**221**	*e*Pn	**Pn**		**06 35 23.0**	**+2.7**
NSR				*e*Sn	**Sn**		**06 35 48.0**	**+2.0**
IVIS	**Veis**	**2.08**	**340**	*e*Pn	**Pn**		**06 35 22.3**	**+1.5**
IVIS				*e*			06 35 25.6	
IVIS	**Veis**	**2.08**	**340**	Pn	**Pn**		**06 35 22.1**	**+1.3**
IALM	**Almabolaq**	**2.31**	**9**	*e*Pn	**Pn**		**06 35 25.8**	**+1.6**
IDHR	**Dehrash**	**2.40**	**333**	*e*Pn	**Pn**		**06 35 26.4**	**+1.2**
IDHR				*e*			06 35 31.2	
ILIN	**Lien**	**2.43**	**345**	*e*Pn	**Pn**		**06 35 26.8**	**+1.1**
ILIN				*e*			06 36 06.9	
ILIN	**Lien**	**2.43**	**345**	Pn	**Pn**		**06 35 26.6**	**+0.9**
JHBN	**Jahan bin**	**2.51**	**97**	*e*Pn	**Pn**		**06 35 29.7**	**+2.8**
JHBN				*e*			06 36 13.9	
HAGD	**Aghdareh**	**2.54**	**27**	*e*Pn	**Pn**		**06 35 28.7**	**+1.5**
HAGD				*e*			06 36 12.2	
IPIR	**Pirpir**	**2.68**	**87**	*e*Pn	**Pn**		**06 35 32.6**	**+3.4**
IPIR				*e*			06 36 08.3	
IPIR	**Pirpir**	**2.68**	**87**	Pn	**Pn**		**06 35 31.9**	**+2.7**
HSRG	**Sareghieh**	**2.71**	**10**	*e*Pn	**Pn**		**06 35 31.4**	**+1.9**
HSRG				*e*			06 36 18.3	
ROKH	**ROKH**	**2.81**	**94**	*e*Pn	**Pn**		**06 35 33.5**	**+2.6**
BHD	**Baghdad**	**2.90**	**285**	*e*Pn	**Pn**		**06 35 33.0**	**+1.1**
BHD				*e*Sn	**Sn**		**06 36 08.0**	**+1.3**
IBRJ	**Brojen**	**3.07**	**101**	*e*Pn	**Pn**		**06 35 37.0**	**+2.4**
IKLH	**Kolahrood**	**3.33**	**76**	*e*Pn	**Pn**		**06 35 39.7**	**+1.6**
IRAZ	**Razeghan**	**3.37**	**32**	*e*Pn	**Pn**		**06 35 41.0**	**+2.4**
QABG	**Abgarm-Qazvin**	**3.49**	**26**	*e*Pn	**Pn**		**06 35 40.5**	**+0.2**
IQOM	**Qom**	**3.60**	**50**	*e*Pn	**Pn**		**06 35 43.9**	**+2.1**
IZEF	**Zefreh**	**3.90**	**84**	*e*Pn	**Pn**		**06 35 48.8**	**+2.9**
IRAM	**Ramesheh**	**4.02**	**100**	*e*Pn	**Pn**		**06 35 49.5**	**+1.9**
QSDN	**Sirdan**	**4.10**	**17**	*e*Pn	**Pn**		**06 35 50.7**	**+2.0**
IDMV	**Damavand**	**4.67**	**49**	*e*Pn	**Pn**		**06 35 57.8**	**+1.3**
ISAD	**Sadrabad**	**5.10**	**96**	*e*Pn	**Pn**		**06 36 03.7**	**+1.3**
IPRN	**Peran**	**5.29**	**45**	*e*Pn	**Pn**		**06 36 07.0**	**+2.1**
GEVA	**Gevas**	**6.88**	**328**	Pn	**Pn**		**06 36 27.1**	**+0.3**
AKT	**Akhty**	**8.89**	**0**	*e*P	**Pn**		**06 36 56.0**	**+1.6**
GEYT	**Alibeck**	**10.04**	**55**	Pn	Pn		06 37 14.8	+4.7
	comp=E,0.5nm,0.3s,baz=255,slow=15,SNR=2.1							
HMDT	**Nahal Hemdat**	**10.31**	**272**	Pn	Pn		06 37 49.6	+36
MMA0B	**Mount Meron ar**	**10.38**	**276**	Pn	Pn		06 37 50.4	+36
UOSS	**Minazif**	**10.63**	**133**	Pn	**Pn**		**06 37 18.2**	**+0.1**
YTIR	**Yattir**	**10.77**	**267**	Pn	Pn		06 37 56.1	+36
ZFIR	**Zfri**	**10.89**	**263**	Pn	Pn		06 37 57.2	+36
PRNI	**Peran**	**11.08**	**262**	Pn	Pn		06 37 59.6	+35
HRFI	**Mount Harif**	**11.14**	**260**	Pn	Pn		06 38 01.1	+36
EIL	**Elat**	**11.32**	**259**	Lg	Lg		06 40 49.0	
	comp=E,0.3nm,0.3s,baz=94,slow=19,SNR=1.8							
EIL	**Elat**	**11.32**	**259**	Pn	Pn		06 38 03.3	+36
KBZ	**Khabaz**	**11.77**	**343**	*e*P	**Pn**		**06 37 31.9**	**-1.6**
KIV	**Kislovodsk**	**12.03**	**342**	*e*P	**Pn**		**06 37 37.0**	**-0.3**
KIV				pmax	pmax			
	comp=Z,18nm,1.0s							
BSY	**Bisya**	**12.89**	**137**	P	**Pn**		**06 37 48.6**	**-0.5**
BSY				S	**Sn**		**06 40 06.8**	**-5.9**
SMDO	**Samad**	**13.16**	**133**	P	**Pn**		**06 37 53.8**	**+1.0**
SMDO				S	**Sn**		**06 40 14.1**	**-5.1**
WSAR	**Wadi Sarin**	**13.39**	**131**	Pn	**Pn**		**06 37 54.1**	**-1.8**
	comp=Z,1.7nm,0.3s,baz=314,slow=10,SNR=9.0							
WSAR				Sn	**Sn**		**06 40 18.4**	**-6.4**
	comp=Z,0.6nm,0.3s,baz=195,slow=22,SNR=1.5							
BRTR	**Keskin Array B**	**13.42**	**306**	Pn	**Pn**		**06 37 55.6**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=133,slow=41,SNR=1.9							
JMDO	**Jabal Madar**	**13.71**	**135**	P	**Pn**		**06 38 01.9**	**+1.7**
WBK	**Wadi Bani Khal**	**14.06**	**132**	P	**Pn**		**06 38 04.1**	**-1.0**
JLN	**Jalan Bani Buh**	**14.67**	**132**	P	**Pn**		**06 38 11.5**	**-1.9**
MHTO	**MHTO**	**14.71**	**139**	P	**Pn**		**06 38 12.9**	**-1.1**
MHTO				S	**Sn**		**06 40 49.7**	**-7.5**
DQM	**DQM**	**15.35**	**143**	P	**Pn**		**06 38 21.8**	**-0.7**
DQM				S	**Sn**		**06 41 03.0**	**-10**
DMTO	**DMTO**	**16.16**	**154**	P	**Pn**		**06 38 31.3**	**-1.7**
DMTO				S	Sn		06 41 20.1	-12
CHGR	**Chuyangaron**	**18.44**	**65**	P	**P**		**06 38 58.5**	**-3.0**
CHGR				IAmb	IAmb		06 39 16.1	
	comp=Z,15nm,1.2s							
ABKAR	**Akbulak array**	**19.01**	**25**	P	**P**		**06 39 05.9**	**-1.7**
GAR	**Garm**	**19.40**	**64**	P	**P**		**06 39 10.8**	**-1.3**
GAR				IAmb	IAmb		06 39 19.5	
	comp=Z,11nm,0.9s							
AKTO	**Aktyubinsk**	**19.41**	**20**	P	**P**		**06 39 11.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=203,slow=12,SNR=14							
VSR	**Storozhevoye**	**19.66**	**344**	*e*P	**P**		**06 39 13.1**	**-1.5**
VSR				pmax	pmax			
	comp=Z,30nm,1.7s							
KK31	**Karatay Array**	**20.78**	**53**	P	**P**		**06 39 26.5**	**-0.5**
KK31				pmax	pmax			
	comp=Z,5.0nm,1.1s							
KK31	**Karatay Array**	**20.78**	**53**	P	**P**		**06 39 26.5**	**-0.5**
KKAR	**Karatay Array**	**20.78**	**53**	P	**P**		**06 39 26.2**	**-0.8**
KKAR				pmax	pmax			
	comp=Z,5.0nm,1.1s							
KKAR	**Karatay Array**	**20.78**	**53**	P	**P**		**06 39 26.2**	**-0.8**
KKAR	**Karatay Array**	**20.78**	**53**	P	**P**		**06 39 26.9**	**-0.1**
KKAR				IAmb	IAmb		06 39 35.4	
	comp=Z,4.8nm,1.1s							
LPSR	**Galich'ya Gora**	**21.01**	**345**	*e*P	**P**		**06 39 28.2**	**-1.0**
LPSR				pmax	pmax			
	comp=Z,20nm,0.7s							
MLR	**Muntele Rosu**	**21.19**	**314**	P	**P**		**06 39 31.3**	**-0.2**
MLR				pmax	pmax			
	comp=Z,12nm,0.8s							
MLR	**Muntele Rosu**	**21.19**	**314**	P	**P**		**06 39 31.2**	**-0.2**
MLR				IAmb	IAmb		06 39 38.8	
	comp=Z,12nm,0.8s							
AKASG	**Malin Array Be**	**22.68**	**328**	P	**P**		**06 39 45.4**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=134,slow=11,SNR=5.1							
AKASG	**Malin Array Be**	**22.68**	**328**	*ce*P	**P**		**06 39 49.2**	**+2.1**
AKASG	**Malin Array Be**	**22.68**	**328**	P	**P**		**06 39 45.1**	**-2.0**
AKBB	**Malin Array Si**	**22.68**	**328**	P	**P**		**06 39 47.2**	**0.0**
AKBB				pmax	pmax			
	comp=Z,9.0nm,1.2s							
AKBB	**Malin Array Si**	**22.68**	**328**	P	**P**		**06 39 47.2**	**0.0**
AKBB				IAmb	IAmb		06 39 54.3	
	comp=Z,8.9nm,1.1s							
BURAR	**Bucovina Array**	**22.73**	**318**	P	**P**		**06 39 47.9**	**0.0**
OBN	**Obninsk**	**23.87**	**344**	*i* P	**P**		**06 39 59.0**	**-0.1**
OBN				pmax	pmax			
	comp=Z,12nm,1.2s							
ARU	**Arti**	**25.02**	**14**	P	**P**		**06 40 09.3**	**-0.3**
	comp=Z,2.2nm,0.2s,baz=197,slow=11,SNR=6.3							
ARU	**Arti**	**25.02**	**14**	*c i*P	**P**		**06 40 09.6**	**0.0**
ARU							06 40 39.3	
ARU				S	**S**		**06 44 32.4**	**-1.0**
ARU				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KOLS	**Kolonicke sedl**	**25.10**	**318**	*e*P	**P**		**06 40 11.6**	**+1.1**
KOLS	**Kolonicke sedl**	**25.10**	**318**	*e*P	**P**		**06 40 11.6**	**+1.1**
TARG	**Taragay, Kyrgy**	**25.56**	**60**	P	**P**		**06 40 15.9**	**+0.7**
TARG				IAmb	IAmb		06 40 20.6	
	comp=Z,3.4nm,0.7s							
PSZ	**Piszkesteto**	**26.01**	**314**	P	**P**		**06 40 18.9**	**+0.1**
PSZ				pmax	pmax			
	comp=Z,8.0nm,0.9s							
PSZ	**Piszkesteto**	**26.01**	**314**	P	**P**		**06 40 18.9**	**+0.1**
KIRV	**Kirov**	**26.04**	**2**	P	**P**		**06 40 17.8**	**-1.1**
	comp=Z,13nm,0.6s,baz=311,slow=4.8,SNR=4.4							
KIRV	**Kirov**	**26.04**	**2**	*e*P	**P**		**06 40 20.3**	**+1.4**
BRVK	**Borovoye**	**26.13**	**32**	*i e*P	**P**		**06 40 19.7**	**-0.1**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
BRVK	**Borovoye**	**26.13**	**32**	P	**P**		**06 40 19.4**	**-0.3**
BRVK				IAmb	IAmb		06 40 20.6	
	comp=Z,3.3nm,0.8s							
BVAR	**Borovoye Array**	**26.15**	**32**	P	**P**		**06 40 20.1**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=228,slow=7.8,SNR=16							
KLMR	**Klimovskoe**	**28.80**	**352**	*e*P	**P**		**06 40 41.7**	**-1.9**
KLMR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KLMR	**Klimovskoe**	**28.80**	**352**	*e*P	**P**		**06 40 41.7**	**-1.9**
KLMR				AMP			06 40 43.1	
	comp=Z,10.0nm,0.8s							
KURK	**Kurchatov**	**29.05**	**42**	*i e*P	**P**		**06 40 47.3**	**+1.3**
KURK				pmax	pmax			
	comp=Z,9.0nm,2.5s							
MK31	**Makanchi Array**	**29.89**	**51**	P	**P**		**06 40 54.3**	**+0.8**
MK31				pmax	pmax			
	comp=Z,2.0nm,1.0s							
MK31	**Makanchi Array**	**29.89**	**51**	P	**P**		**06 40 54.3**	**+0.8**
MK31				IAmb	IAmb		06 41 00.4	
	comp=Z,1.7nm,0.9s							
MKAR	**Makanchi Array**	**29.89**	**51**	P	**P**		**06 40 54.1**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=246,slow=6.6,SNR=10							
MKAR	**Makanchi Array**	**29.89**	**51**	P	**P**		**06 40 54.3**	**+0.8**
GERES	**GERESS Array B**	**30.17**	**313**	P	**P**		**06 40 56.8**	**+0.8**
	comp=Z,0.2nm,0.2s,baz=122,slow=7.3,SNR=2.2							
GERES	**GERESS Array B**	**30.17**	**313**	P	**P**		**06 40 56.0**	**0.0**
CLL	**Collm**	**31.49**	**317**	*e*pP	pP		06 41 11.0	+0.3
CLL	**Collm**	**31.49**	**317**	*e*P	pP		06 41 11.0	+0.3
MSSA	**Maissana**	**31.86**	**303**	P	**P**		**06 41 11.9**	**+0.9**
FINES	**FINESS Array B**	**32.12**	**341**	P	**P**		**06 41 11.7**	**-1.1**
	comp=Z,4.1nm,0.8s,baz=141,slow=9.0,SNR=4.8							
FINES	**FINESS Array B**	**32.12**	**341**	P	**P**		**06 41 12.6**	**-0.3**
FINES	**FINESS Array B**	**32.12**	**341**	P	**P**		**06 41 12.6**	**-0.3**
ZALV	**Zalesovo Beam**	**33.88**	**40**	P	**P**		**06 41 28.5**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=251,slow=7.7,SNR=4.7							
ZALV	**Zalesovo Beam**	**33.88**	**40**	*i* P	**P**		**06 41 29.5**	**+1.1**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BNI	**Bardonecchia**	**33.97**	**304**	P	**P**		**06 41 29.2**	**-0.3**
BNI				pmax	pmax			
	comp=Z,9.0nm,0.9s							
BNI	**Bardonecchia**	**33.97**	**304**	P	**P**		**06 41 29.2**	**-0.3**
ARCES	**ARCESS Array B**	**39.06**	**348**	P	**P**		**06 42 11.5**	**-0.9**
	comp=Z,1.7nm,0.9s,baz=160,slow=8.2,SNR=5.2							
ESDC	**Sonseca Array**	**41.87**	**295**	P	**P**		**06 42 37.6**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=64,slow=8.7,SNR=3.6							
ESDC	**Sonseca Array**	**41.87**	**295**	IAmb	IAmb		06 42 46.9	
	comp=Z,2.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**46.20**	**256**	P	**P**		**06 43 11.8**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=59,slow=6.3,SNR=3.5							
ULN	**Ulaanbaatar**	**46.68**	**53**	*i e*P	**P**		**06 43 15.4**	**+0.7**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MATP	**Matopo**	**55.81**	**202**	P	**P**		**06 44 25.1**	**+1.7**
	comp=Z,2.0nm,0.7s,baz=37,slow=5.1,SNR=3.8							
YAK	**Yakutsk**	**58.12**	**33**	*i e*P	**P**		**06 44 40.0**	**+0.9**
YAK				pmax	pmax			
	comp=Z,5.0nm,0.7s							

NEIC ***18*** *06:49:23.6±3.1,26˚.04S±0˚.04×71˚.90W±0˚.05,h25km±5km, mb4.1/4,ML4.0(GUC),Error ellipse: s-maj=7.2km s-min=5.9km az=86.0*
GUC ***18*** *06:49:24.4±0.8,25˚.93S×71˚.63W,h29km±19km,ML4.0*
IDC ***18*** *06:49:28.3±9.3,26˚.11S×71˚.57W,h33km±65km,mb3.8/5, mb1 4.0/6,mb1mx3.7/23,mbtmp4.1/6,ML4.3/1,Error ellipse: s-maj=37.7km s-min=30.1km az=95.0*

ISC 18 06:49:22.6±2.0,26˚.04S±0˚.04×71˚.71W±0˚.07,h6km±12km, n71,σ1s43/73,9C-2D,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**1.00**	**96**	*i* P	**Pg**		**06 49 42.6**	**+0.9**
AC01				*i* S	**Sg**		**06 49 54.6**	**-0.2**
AC01	**Pan de Azucar**	**1.00**	**96**		**Pg**		**06 49 42.7**	**+0.9**
PB14	**IPOC Station P**	**1.83**	**40**	*i* P	**Pb**		**06 49 55.3**	**-1.4**
PB14	**IPOC Station P**	**1.83**	**40**	Pn	**Pn**		**06 49 55.0**	**+0.1**
PB14				Sn	**Sn**		**06 50 17.0**	**-1.6**
GO03	**Copiap**	**2.03**	**140**	*i* P	**Pn**		**06 49 57.0**	**-0.4**
GO03				*i* S	**Sn**		**06 50 19.4**	**-3.7**
GO03	**Copiap**	**2.03**	**140**		**Pn**		**06 49 56.7**	**-0.6**
GO03				Sn	**Sn**		**06 50 19.7**	**-3.4**
GO02	**Mina Guanaco**	**2.10**	**66**	*i* P	**Pb**		**06 50 00.0**	**-1.2**
GO02				*i* S	**Sb**		**06 50 25.9**	**-1.8**
GO02				IAML			06 50 29.2	
	comp=N,2µm,0.1s							
GO02	**Mina Guanaco**	**2.10**	**66**	Pn	**Pb**		**06 50 00.1**	**-1.2**
GO02				Sn	**Sn**		**06 50 24.6**	**-0.6**
AC04	**Llanos de Chal**	**2.23**	**166**	*i* P	Pn		06 49 57.9	-2.2
AC04				*i* S	Sn		06 50 21.6	-6.3
AC04	**Llanos de Chal**	**2.23**	**166**	Pn	Pn		06 49 57.8	-2.2
AC04				Sn	Sn		06 50 21.7	-6.2
AC02	**Maricunga**	**2.44**	**110**	*i* P	**Pn**		**06 50 05.4**	**+1.9**
AC02	**Maricunga**	**2.44**	**110**	Pn	**Pn**		**06 50 05.3**	**+1.9**
AC02				Sn	**Sn**		**06 50 34.2**	**+0.3**
PB10	**IPOC Station P**	**2.72**	**23**	*i* P	**Pn**		**06 50 07.0**	**+0.2**
PB10	**IPOC Station P**	**2.72**	**23**	Pn	**Pn**		**06 50 07.1**	**+0.2**
PB10				Sn	**Sn**		**06 50 37.7**	**-2.4**
AC05	**El Transito**	**3.06**	**156**	Pn	**Pn**		**06 50 11.5**	**-0.1**
AC05				Sn	**Sn**		**06 50 46.4**	**-2.3**
LCO	**Las Campanas**	**3.09**	**163**	Pn	**Pn**		**06 50 11.4**	**-0.8**
PB05	**IPOC Station P**	**3.46**	**24**	*i* P	**Pn**		**06 50 17.3**	**+0.2**
PB05				IAML			06 50 58.3	
	comp=E,262nm,0.2s							
PB15	**IPOC Station P**	**3.48**	**36**		**Pn**		**06 50 19.1**	**+1.8**
PB06	**IPOC Station P**	**3.85**	**31**	*i* P	**Pn**		**06 50 23.6**	**+1.1**
PB06				*i* S	**Sn**		**06 51 07.9**	**-0.1**
PB06	**IPOC Station P**	**3.85**	**31**		**Pn**		**06 50 24.0**	**+1.6**
PB04	**IPOC Station P**	**3.95**	**21**		**Pn**		**06 50 24.4**	**+0.5**
CO01	**Juntas del Tor**	**4.17**	**160**		**Pn**		**06 50 27.2**	**+0.2**
GO04	**Tololo Observa**	**4.20**	**169**	Pn	**Pn**		**06 50 26.3**	**-1.0**
LVC	**Limon Verde**	**4.26**	**37**	Pn	**Pn**		**06 50 31.2**	**+2.9**
	comp=E,19nm,0.3s,baz=192,slow=6.7,SNR=332							
LVC				Sn	**Sn**		**06 51 19.3**	**+0.7**
	comp=E,27nm,0.3s,baz=52,slow=19,SNR=12							
LVC	**Limon Verde**	**4.26**	**37**	Pn	**Pn**		**06 50 30.9**	**+2.6**
PB03	**IPOC Station P**	**4.36**	**25**	*e*P	**Pn**		**06 50 29.9**	**+0.5**
PB07	**IPOC Station P**	**4.60**	**22**	*i* P	**Pn**		**06 50 33.2**	**+0.3**
PB07	**IPOC Station P**	**4.60**	**22**		**Pn**		**06 50 33.0**	**+0.1**
PB09	**IPOC Station P**	**4.79**	**29**		**Pn**		**06 50 37.3**	**+1.9**
PB01	**IPOC Station P**	**5.37**	**23**	*i* P	**Pn**		**06 50 44.1**	**+0.7**
PB01				*i* S	**Sn**		**06 51 44.8**	**-0.9**
PB01	**IPOC Station P**	**5.37**	**23**	Pn	**Pn**		**06 50 44.1**	**+0.7**
TA01	**Diego Aracena**	**5.62**	**15**	Pn	**Pn**		**06 50 46.2**	**-0.5**
PB08	**IPOC Station P**	**6.32**	**22**		**Pn**		**06 50 57.9**	**+1.2**
PB11	**IPOC Station P**	**6.53**	**17**	Pn	**Pn**		**06 50 59.5**	**+0.2**
PSGCX	**Pisagua**	**6.58**	**13**		**Pn**		**06 50 58.5**	**-1.4**
GO01	**Chusmiza**	**6.75**	**21**		**Pn**		**06 51 03.0**	**+0.3**
VA03	**San Esteban**	**6.78**	**172**	Pn	**Pn**		**06 51 03.5**	**+0.8**
ROC1	**El Roble**	**6.94**	**175**	Pn	**Pn**		**06 51 04.5**	**-0.5**
PEL	**Peldehue**	**7.13**	**173**	Pn	**Pn**		**06 51 07.4**	**-0.1**
MNMC	**Minye Minye**	**7.15**	**16**		**Pn**		**06 51 07.7**	**-0.3**
PB12	**IPOC Station P**	**7.50**	**10**	Pn	**Pn**		**06 51 12.0**	**-0.6**
PB16	**IPOC Station P**	**7.93**	**15**		**Pn**		**06 51 19.2**	**+0.2**
H03N1	**Juan Fernandez**	**9.67**	**219**	Pn	Pn		06 51 38.3	-3.7
H03N1				T	T		07 02 21.4	
	baz=49,slow=72,SNR=18							
H03N2	**Juan Fernandez**	**9.69**	**219**	Pn	Pn		06 51 38.3	-3.9
H03N2				T	T		07 02 50.5	
	baz=49,slow=72,SNR=10							
H03N3	**Juan Fernandez**	**9.69**	**219**	Pn	Pn		06 51 38.1	-4.3
H03N3				T	T		07 02 44.9	
	baz=49,slow=72,SNR=20							
VA04	**Juan Fernndez**	**9.78**	**218**	Pn	Pn		06 51 39.5	-4.3
H03S3	**Juan Fernandez**	**9.96**	**217**	Pn	Pn		06 51 41.3	-4.6
H03S1	**Juan Fernandez**	**9.97**	**217**	Pn	Pn		06 51 41.2	-5.0
H03S2	**Juan Fernandez**	**9.98**	**217**	Pn	Pn		06 51 41.4	-4.8
SIV	**San Ignacio**	**14.08**	**47**	Pn	**Pn**		**06 52 39.5**	**-3.2**
	comp=E,1.7nm,0.3s,baz=250,slow=10,SNR=39							
SIV				Sn	Sn		06 55 08.1	-11
	comp=E,0.1nm,0.3s,baz=327,slow=22,SNR=1.2							
PLCA	**Paso Flores**	**14.69**	**177**	Pn	**P**		**06 52 58.2**	**+1.0**
	comp=E,0.2nm,0.3s,baz=358,slow=11,SNR=9.7							
PLCA	**Paso Flores**	**14.69**	**177**	Pn	Pn		06 52 48.7	-2.3
SAML	**Samuel**	**18.83**	**27**		**P**		**06 53 42.6**	**-0.6**
BDFB	**Brasilia**	**24.40**	**70**	P	**P**		**06 54 42.1**	**+0.1**
	comp=E,2.8nm,0.5s,baz=249,slow=11,SNR=6.1							
BDFB	**Brasilia**	**24.40**	**70**	P	**P**		**06 54 41.5**	**-0.6**
BDFB				IAmb	IAmb		06 54 47.2	
	comp=Z,7.7nm,1.1s							
PTGA	**Pitinga**	**27.59**	**26**	P	**P**		**06 55 13.0**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=274,slow=16,SNR=1.9							
PTGA	**Pitinga**	**27.59**	**26**	P	**P**		**06 55 08.3**	**-2.4**
PTGA				IAmb	IAmb		06 55 19.8	
	comp=Z,4.9nm,1.3s							
TXAR	**Lajitas Array**	**63.02**	**329**	P	**P**		**06 59 53.0**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=151,slow=7.7,SNR=2.4							
TXAR	**Lajitas Array**	**63.02**	**329**	P	**P**		**06 59 47.6**	**-3.0**
QSPA	**South Pole Qui**	**64.17**	**180**	P	**P**		**06 59 58.8**	**+1.0**
MAW	**Mawson**	**80.72**	**164**	P	**P**		**07 01 37.6**	**+1.4**
	comp=Z,3.1nm,0.6s,baz=203,slow=6.8,SNR=14							
TORD	**Torodi Ar. Bea**	**81.28**	**71**	P	**P**		**07 01 41.5**	**+1.3**
	comp=Z,1.9nm,0.5s,baz=265,slow=4.9,SNR=28							
ASAR	**Alice Springs**	**124.72**	**209**	PKP	**PKPdf**		**07 08 24.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=148,slow=2.5,SNR=4.1							
ASAR	**Alice Springs**	**124.72**	**209**	PKPdf	**PKPdf**		**07 08 22.8**	**-1.1**
WRA	**Warramunga Arr**	**127.76**	**211**	PKPdf	**PKPdf**		**07 08 30.2**	**+0.5**
	comp=Z,0.

MLR IAmb IAmb 06 54 54.8
comp=Z,15nm,1.5s
NIL Nilore 21.39 80 P **P** **06 54 47.6 -1.0**
NIL IAmb IAmb 06 54 58.5
comp=Z,7.0nm,0.8s
ITM Ithomi 21.62 289 P **P** **06 54 50.8 -0.3**
TARG Taragay, Kyrgy 25.53 61 P **P** **06 55 29.6 -0.4**
TARG IAmb IAmb 06 55 45.5
comp=Z,3.7nm,1.2s
TIP Timpagrande 25.85 293 P **P** **06 55 32.2 -0.3**
TIP IAmb IAmb 06 55 34.0
comp=Z,12nm,1.4s
BVAR Borovoye Array 26.11 32 P **P** **06 55 35.3 +0.6**
comp=Z,1.6nm,0.6s,baz=217,slow=8.6,SNR=9.6
MK31 Makanchi Array 29.86 52 P **P** **06 56 08.2 -0.1**
MKAR Makanchi Array 29.86 52 P **P** **06 56 09.2 +0.9**
comp=Z,0.8nm,0.6s,baz=248,slow=6.7,SNR=12
MKAR Makanchi Array 29.86 52 P **P** **06 56 08.2 0.0**
FINES FINESS Array B 32.08 340 P **P** **06 56 29.7 +2.1**
comp=Z,2.9nm,0.8s,baz=140,slow=11,SNR=1.6
FINES FINESS Array B 32.08 340 P **P** **06 56 27.4 -0.1**
BNI Bardonecchia 33.95 304 P **P** **06 56 43.5 -0.9**
BNI IAmb IAmb 06 56 47.5
comp=Z,4.8nm,0.8s
ARCES ARCESS Array B 39.02 348 P **P** **06 57 27.6 +0.4**
comp=Z,1.8nm,0.9s,baz=163,slow=7.5,SNR=2.1
ARCES ARCESS Array B 39.02 348 P **P** **06 57 25.9 -1.3**
ESDC Sonseca Array 41.85 295 P **P** **06 57 53.0 +1.9**
comp=Z,0.8nm,0.8s,baz=83,slow=10,SNR=4.3
TORD Torodi Ar. Bea 46.21 256 P **P** **06 58 25.9 -0.3**
comp=Z,0.3nm,0.4s,baz=65,slow=6.4,SNR=4.4
TORD Torodi Ar. Bea 46.21 256 P **P** **06 58 25.2 -1.0**

MOS ***18*** *06:58:59.0±1.3,32.°69N±47.′80E,h15km,mb4.4/28,Error ellipse: s-maj=7.1km s-min=4.5km az=110.3*
NEIC ***18*** *06:59:00.6±3.0,32.°72N±0.′02±47.′71E±0.′05,h10km±1km, Error ellipse: s-maj=7.8km s-min=3.4km az=75.0*
ISN ***18*** *06:59:00.3±0.8,32.°67N±47.′76E,h14km±5km, ML4.2*
TEH ***18*** *06:59:01.4,32.°71N±47.′75E,h16km, ML4.2*
THR ***18*** *06:59:02.2±0.5,32.°79N±47.′84E,h14km±8km, ML4.1*
IDC ***18*** *06:59:03.3±3.2,32.°75N±47.′65E,h29km±22km, mb3.9/22, mb1 4.0/31,mb1mx4.0/58,mbtmp4.1/31, ML3.8/9, MS3.1/2, Ms1 3.1/2,ms1mx2.7/48, Error ellipse: s-maj=18.4km s-min=11.1km az=155.0*
DSN ***18*** *06:59:08.8±1.7,32.°53N±48.′74E,h10km, Error ellipse: s-maj=88.4km s-min=14.7km az=45.0*
OMAN ***18*** *06:59:09.8±2.4,32.°29N±48.°51E,h10km,mb5.9/12, Error ellipse: s-maj=34.3km s-min=11.4km az=95.0*
ISC 18 06:59:00.8±1.0,32.°62N±0.′03×47.°75E±0.′03,h17km±6km, n292,σ1§81/313,mb4.3/52,12C-16D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.91**	**5**	*e*Pg	**Pb**	**06 59 17.0**	**-1.1**
IKFM				*e*Sg	**Sn**	**06 59 29.6**	**-1.8**
SHGR	**Shooshtar-Gavs**	**1.02**	**120**	*e*Pg	**Pn**	**06 59 21.9**	**+1.6**
SHGR				*e*Sg	**Sn**	**06 59 36.4**	**+2.1**
SHGR	**Shooshtar-Gavs**	**1.02**	**120**	*e*Pg	**Pn**	**06 59 22.0**	**+1.6**
SHGR	**Shooshtar-Gavs**	**1.02**	**120**		**Pn**	**06 59 21.9**	**+1.6**
IKMR	**Kamar-syah**	**1.04**	**30**	*e*Pg	**Pb**	**06 59 19.2**	**-1.1**
IKMR				*e*		06 59 41.9	
IKMR	**Kamar-syah**	**1.04**	**30**	Pg	**Pb**	**06 59 19.1**	**-1.2**
IDOB	**Doab**	**1.22**	**17**	*e*Pg	**Pb**	**06 59 22.1**	**-1.4**
IDOB	**Doab**	**1.22**	**17**	Pg	**Pb**	**06 59 22.1**	**-1.4**
BMDN	**Meydan**	**1.38**	**40**	*e*Pg	**Pb**	**06 59 25.9**	**-0.4**
BMDN				*e*		06 59 51.9	
BMDN	**Meydan**	**1.38**	**40**		**Pb**	**06 59 25.8**	**-0.5**
AHWZ	**Ahwaz**	**1.49**	**149**	*e*Pg	**Pg**	**06 59 31.0**	**+1.4**
AHWZ	**Ahwaz**	**1.49**	**149**	Pg	**Pg**	**06 59 30.9**	**+1.4**
IKOM	**Komasi**	**1.56**	**353**	*e*Pg	**Pg**	**06 59 29.6**	**-1.4**
IKOM				*e*		06 59 36.7	
IKOM	**Komasi**	**1.56**	**353**	Pg	**Pg**	**06 59 29.6**	**-1.4**
IBDR	**Badra**	**1.61**	**288**	*e*Pg	**Pn**	**06 59 29.0**	**+0.6**
IBDR				*e*Sg	**Sb**	**06 59 51.0**	**+0.9**
IBDR				AML	AML	06 59 57.8	
	comp=E,4μm,0.9s						
IBDR				AML	AML	06 59 58.1	
	comp=N,3μm,0.6s						
HSAM	**Samen**	**1.74**	**24**	*e*Pg	**Pb**	**06 59 32.0**	**-0.5**
HSAM				*e*		07 00 01.1	
HSAM	**Samen**	**1.74**	**24**	Pg	**Pb**	**06 59 32.0**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.75**	**340**	*e*Pg	**Pb**	**06 59 32.0**	**-0.7**
KCHF				*e*		07 00 02.3	
KCHF	**Cheshme Sefid,**	**1.75**	**340**	Pg	**Pb**	**06 59 32.0**	**-0.7**
KER	**Kermanshah**	**1.83**	**344**	*e*Pg	**Pb**	**06 59 33.8**	**-0.2**
IBZA	**Bozab**	**1.85**	**3**	*e*Pg	**Pg**	**06 59 34.3**	**-2.1**
IBZA				*e*	**Sg**	**07 00 01.8**	**+1.3**
IBZA	**Bozab**	**1.85**	**3**	Pg	**Pg**	**06 59 34.3**	**-2.1**
IGHG	**Ghaleghazi**	**1.97**	**330**	*e*Pg	**Pb**	**06 59 35.9**	**-0.5**
IGHG	**Ghaleghazi**	**1.97**	**330**	Pg	**Pb**	**06 59 35.8**	**-0.6**
IVIS	**Veis**	**2.04**	**339**	*e*Pn	**Pb**	**06 59 36.2**	**-1.4**
IVIS				*e*	**Sg**	**07 00 09.1**	**+2.4**
IVIS	**Veis**	**2.04**	**339**	Pn	**Pb**	**06 59 36.1**	**-1.5**
NSR	**Nassriya**	**2.11**	**221**	*e*Pn	**Pn**	**06 59 37.0**	**+1.7**
NSR				*e*Sn	**Sn**	**07 00 03.0**	**+1.9**
IALM	**Almabolaq**	**2.26**	**9**	*e*Pn	**Pb**	**06 59 39.7**	**-1.7**
IDHR	**Dehrash**	**2.37**	**332**	*e*Pn	**Pb**	**06 59 40.2**	**-2.3**
IDHR				*e*	**Sg**	**07 00 20.5**	**+3.5**
IDHR	**Dehrash**	**2.37**	**332**	Pn	**Pb**	**06 59 40.8**	**-2.3**
ILIN	**Lien**	**2.38**	**344**	*e*Pn	**Pb**	**06 59 41.3**	**-2.2**
ILIN				*e*		07 00 22.9	
ILIN	**Lien**	**2.38**	**344**	Pn	**Pb**	**06 59 41.2**	**-2.2**
HAGD	**Aghdareh**	**2.48**	**27**	*e*Pn	**Pb**	**06 59 42.7**	**-2.4**
HAGD				*e*		07 00 25.0	
HAGD	**Aghdareh**	**2.48**	**27**	Pn	**Pb**	**06 59 42.6**	**-2.5**
SNGE	**Sanandaj**	**2.49**	**352**	*e*Pn	**Pn**	**06 59 42.2**	**+1.4**
SNGE				IAML		07 00 25.1	
	comp=N,850nm,0.4s						
SNGE	**Sanandaj**	**2.49**	**352**	*e*Pn	**Pn**	**06 59 42.2**	**+1.4**
SNGE	**Sanandaj**	**2.49**	**352**	Pn	**Pn**	**06 59 42.1**	**+1.4**
JHBN	**Jahan bin**	**2.50**	**98**	*e*Pn	**Pn**	**06 59 43.1**	**+2.2**
JHBN				*e*		07 00 26.5	
JHBN	**Jahan bin**	**2.50**	**98**	Pn	**Pn**	**06 59 43.0**	**+2.2**
IPIR	**Pirpir**	**2.65**	**88**	*e*Pn	**Pn**	**06 59 45.4**	**+2.4**
IPIR				*e*	**Sg**	**07 00 24.8**	**-1.3**
IPIR	**Pirpir**	**2.65**	**88**	Pn	**Pn**	**06 59 45.4**	**+2.4**
HSRG	**Sareghieh**	**2.65**	**9**	*e*Pn	**Pb**	**06 59 45.7**	**-2.3**
HSRG				*e*	**Sg**	**07 00 29.8**	**+3.7**
HSRG	**Sareghieh**	**2.65**	**9**	Pn	**Pb**	**06 59 45.7**	**-2.3**
ASAO	**Ashtian**	**2.70**	**44**	*e*Pn	**Pn**	**06 59 45.4**	**+1.7**
ASAO				*e*Sg	**Sb**	**07 00 21.6**	**-0.2**
ASAO	**Ashtian**	**2.70**	**44**	*e*Pn	**Pn**	**06 59 45.4**	**+1.7**
ASAO	**Ashtian**	**2.70**	**44**	Pn	**Pn**	**06 59 45.4**	**+1.7**
ROKH	**ROKH**	**2.79**	**95**	*e*Pn	**Pn**	**06 59 47.2**	**+2.3**
ROKH				*e*		07 00 44.1	
ROKH	**ROKH**	**2.79**	**95**	Pn	**Pn**	**06 59 47.1**	**+2.2**
BHD	**Baghdad**	**2.91**	**284**	*e*Pn	**Pn**	**06 59 48.0**	**+1.7**
BHD				*e*Sn	**Sn**	**07 00 23.0**	**+2.2**
IBRJ	**Brojen**	**3.06**	**103**	*e*Pn	**Pn**	**06 59 50.4**	**+1.8**
IBRJ	**Brojen**	**3.06**	**103**	Pn	**Pn**	**06 59 50.4**	**+1.8**
IKLH	**Kolahrood**	**3.29**	**77**	*e*Pn	**Pn**	**06 59 54.9**	**+3.1**
IKLH				*e*		07 01 03.5	
IKLH	**Kolahrood**	**3.29**	**77**	Pn	**Pn**	**06 59 54.9**	**+3.1**
IRAZ	**Razeghan**	**3.31**	**32**	*e*Pn	**Pn**	**06 59 55.2**	**+3.1**
QABG	**Abgarm-Qazvin**	**3.43**	**26**	*e*Pn	**Pn**	**06 59 55.2**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.43**	**26**	Pn	**Pn**	**06 59 55.2**	**+1.5**
IQOM	**Qom**	**3.54**	**50**	*e*Pn	**Pn**	**06 59 57.3**	**+2.0**
IQOM	**Qom**	**3.54**	**50**	Pn	**Pn**	**06 59 57.3**	**+2.0**
IGAR	**Gharneh**	**3.63**	**92**	*e*Pn	**Pn**	**06 59 58.6**	**+2.1**
IGAR				*e*		07 01 03.2	
IGAR	**Gharneh**	**3.63**	**92**	Pn	**Pn**	**06 59 58.6**	**+2.1**
IZEF	**Zefreh**	**3.87**	**85**	*e*Pn	**Pn**	**07 00 02.3**	**+2.5**
IZEF	**Zefreh**	**3.87**	**85**	Pn	**Pn**	**07 00 02.2**	**+2.5**
IMHD	**Mahdasht**	**3.90**	**38**	*e*Pn	**Pn**	**07 00 02.1**	**+2.1**
IMHD	**Mahdasht**	**3.90**	**38**	Pn	**Pn**	**07 00 02.1**	**+2.1**
IRAM	**Ramesheh**	**4.01**	**100**	*e*Pn	**Pn**	**07 00 02.6**	**+0.9**
IRAM	**Ramesheh**	**4.01**	**100**	Pn	**Pn**	**07 00 02.5**	**+0.9**
QSDN	**Sirdan**	**4.05**	**16**	*e*Pn	**Pn**	**07 00 04.6**	**+2.4**
IHSB	**Hasanabad**	**4.06**	**45**	*e*Pn	**Pn**	**07 00 02.9**	**+0.7**
IHSB	**Hasanabad**	**4.06**	**45**	Pn	**Pn**	**07 00 02.9**	**+0.7**
IVRN	**Varamin**	**4.07**	**53**	*e*Pn	**Pn**	**07 00 04.2**	**+1.9**
IVRN	**Varamin**	**4.07**	**53**	Pn	**Pn**	**07 00 04.1**	**+1.8**
IGZV	**Ghazvin**	**4.27**	**28**	*e*Pn	**Pn**	**07 00 07.2**	**+1.9**
IGZV	**Ghazvin**	**4.27**	**28**	Pn	**Pn**	**07 00 07.2**	**+1.9**
MAHB	**Mahabad**	**4.47**	**338**	*e*Pn	**Pn**	**07 00 10.1**	**+2.3**
MAHB	**Mahabad**	**4.47**	**338**	Pn	**Pn**	**07 00 10.1**	**+2.3**
QALM	**Alamut, Qazvin**	**4.49**	**31**	*e*Pn	**Pn**	**07 00 09.9**	**+1.6**
QALM	**Alamut, Qazvin**	**4.49**	**31**	Pn	**Pn**	**07 00 09.9**	**+1.6**
IDMV	**Damavand**	**4.62**	**49**	*e*Pn	**Pn**	**07 00 11.7**	**+1.7**
IDMV	**Damavand**	**4.62**	**49**	Pn	**Pn**	**07 00 11.6**	**+1.6**
ANAR	**Anarak**	**5.06**	**82**	*e*Pn	**Pn**	**07 00 17.9**	**+1.9**
ANAR	**Anarak**	**5.06**	**82**	Pn	**Pn**	**07 00 17.9**	**+1.9**
ISAD	**Sadrabad**	**5.08**	**96**	*e*Pn	**Pn**	**07 00 18.2**	**+1.8**
ISAD	**Sadrabad**	**5.08**	**96**	Pn	**Pn**	**07 00 18.2**	**+1.8**
IFIR	**Firoozkooh**	**5.13**	**53**	*e*Pn	**Pn**	**07 00 18.9**	**+1.9**
IFIR	**Firoozkooh**	**5.13**	**53**	Pn	**Pn**	**07 00 18.9**	**+1.9**
ILAS	**Lasjerd**	**5.13**	**56**	*e*Pn	**Pn**	**07 00 18.0**	**+0.9**
ILAS	**Lasjerd**	**5.13**	**56**	Pn	**Pn**	**07 00 17.9**	**+0.9**
IPRN	**Peran**	**5.24**	**45**	*e*Pn	**Pn**	**07 00 21.1**	**+2.6**
IPRN	**Peran**	**5.24**	**45**	Pn	**Pn**	**07 00 21.0**	**+2.6**
IALA	**Alasht**	**5.42**	**49**	*e*Pn	**Pn**	**07 00 23.0**	**+1.8**
IALA	**Alasht**	**5.42**	**49**	Pn	**Pn**	**07 00 22.9**	**+1.8**
ICHK	**Chekchek**	**5.64**	**92**	*e*Pn	**Pn**	**07 00 26.2**	**+2.1**
ICHK	**Chekchek**	**5.64**	**92**	Pn	**Pn**	**07 00 26.1**	**+2.0**
IHSH	**Hashtrud**	**5.69**	**356**	*e*Pn	Pn	07 00 13.0	-12
IANJ	**Anjilo**	**5.85**	**59**	*e*Pn	**Pn**	**07 00 27.6**	**+0.6**
IANJ	**Anjilo**	**5.85**	**59**	Pn	**Pn**	**07 00 27.5**	**+0.6**
IGLO	**Ghaloghah**	**6.33**	**51**	*e*Pn	**Pn**	**07 00 36.4**	**+2.8**
IGLO	**Ghaloghah**	**6.33**	**51**	Pn	**Pn**	**07 00 36.4**	**+2.8**
TPRV	**Parvadeh(Tabas**	**7.53**	**84**	*e*Pn	**Pn**	**07 00 52.3**	**+2.3**
TPRV	**Parvadeh(Tabas**	**7.53**	**84**	Pn	**Pn**	**07 00 52.2**	**+2.3**
TKDS	**Koohdasht(Taba**	**7.92**	**80**	*e*Pn	**Pn**	**07 00 57.0**	**+1.7**
TKDS	**Koohdasht(Taba**	**7.92**	**80**	Pn	**Pn**	**07 00 57.0**	**+1.7**
AKT	**Akhty**	**8.84**	**360**	*i* P	**Pn**	**07 01 08.1**	**+0.2**
SBZV	**Sabzevar**	**8.96**	**62**	*e*Pn	**Pn**	**07 01 11.4**	**+1.7**
SBZV	**Sabzevar**	**8.96**	**62**	Pn	**Pn**	**07 01 11.3**	**+1.6**
ASF	**Jabal al Asfar**	**9.19**	**270**	Pn	**Pn**	**07 01 12.4**	**-0.2**
	comp=N,1.5nm,0.3s,baz=43,slow=7.5,SNR=14						
ASF				Sn	**Sn**	**07 02 52.0**	**-3.7**
	comp=N,1.2nm,0.3s,baz=240,slow=22,SNR=2.0						
ASF				Lg	Lg	07 03 52.9	
	comp=N,1.0nm,0.3s,baz=48,slow=22,SNR=4.9						
AKH	**Akhalkalaki**	**9.41**	**340**	P	**Pn**	**07 01 13.3**	**-2.4**
AKH	**Akhalkalaki**	**9.41**	**340**	Pn	**Pn**	**07 01 13.3**	**-2.4**
KOPT	**Kop Dagi**	**9.42**	**324**	Pn	**Pn**	**07 01 15.8**	**-0.1**
ISFR	**Sfrayin**	**9.51**	**59**	*e*Pn	**Pn**	**07 01 19.4**	**+2.2**
ISFR	**Sfrayin**	**9.51**	**59**	Pn	**Pn**	**07 01 19.4**	**+2.2**
ARTV	**Artvin**	**9.73**	**333**	Pn	**Pn**	**07 01 18.5**	**-1.7**
GAZ	**Gaziantep**	**9.77**	**301**	Pn	**Pn**	**07 01 19.1**	**-1.6**
SHME	**Shamm**	**9.82**	**130**	P	**Pn**	**07 01 20.7**	**-0.5**
GEYT	**Alibeck**	**9.99**	**55**	Pn	**Pn**	**07 01 25.6**	**+2.1**
	comp=N,0.3nm,0.3s,baz=264,slow=13,SNR=4.4						
GEYT				LR	LR	07 05 16.7	
	comp=N,71nm,18.0s,baz=300,slow=37						
GEYT	**Alibeck**	**9.99**	**55**	Pn	**Pn**	**07 01 24.6**	**+1.1**
BANOM	**Banah**	**10.01**	**130**	*i* P	**Pn**	**07 01 23.1**	**-0.8**
	SNR=10						
BANOM				S	**Sn**	**07 03 10.3**	**-5.5**
BANOM	**Banah**	**10.01**	**130**	P	**Pn**	**07 01 23.9**	**+0.1**
BANOM				S	**Sn**	**07 03 10.3**	**-5.5**
AJN	**Ajban**	**10.24**	**140**	P	**Pn**	**07 01 29.0**	**+2.1**
NAZ	**Nazwa, Dubai**	**10.29**	**136**	P	**Pn**	**07 01 30.2**	**+2.5**
NAZ	**Nazwa, Dubai**	**10.29**	**136**	Pn	**Pn**	**07 01 31.2**	**+3.5**
MMAI	**Mount Meron Ar**	**10.40**	**276**	Pn	**Pn**	**07 01 29.1**	**-0.2**
	comp=N,2.1nm,0.3s,baz=77,slow=15,SNR=1.9						
MMAI				Lg	Lg	07 04 35.1	
	comp=N,3.0nm,0.3s,baz=81,slow=38,SNR=3.7						
MDH	**Madha**	**10.45**	**132**	P	**Pn**	**07 01 28.8**	**-1.0**
MDH	**Madha**	**10.45**	**132**	P	**Pn**	**07 01 29.8**	**-0.1**
MDH				S	Sn	07 03 19.7	-6.8
UOSS	**Minazif**	**10.65**	**134**	P	**Pn**	**07 01 31.7**	**-0.9**
UOSS	**Minazif**	**10.65**	**134**	P	**Pn**	**07 01 32.3**	**-0.3**
UOSS				S	**Sn**	**07 03 25.1**	**-6.3**
HATD	**Hatta, Dubai**	**10.69**	**134**	*i* P	**Pn**	**07 01 34.7**	**+1.5**
	SNR=6.5						
HATD	**Hatta, Dubai**	**10.69**	**134**	P	**Pn**	**07 01 35.2**	**+2.0**
	SNR=6.5						
HATD				S	**Sn**	**07 03 27.4**	**-5.1**
ASHO	**Ashiyiah**	**10.75**	**135**	*i* P	**Pn**	**07 01 34.0**	**-0.1**
	SNR=11						
ASHO				S	**Sn**	**07 03 28.8**	**-5.3**
ASHO	**Ashiyiah**	**10.75**	**135**	P	**Pn**	**07 01 34.1**	**+0.1**
	SNR=11						
ASHO				S	**Sn**	**07 03 29.0**	**-5.1**
EIL	**Elat**	**11.35**	**258**	Pn	**Pn**	**07 01 41.2**	**-1.0**
	comp=N,0.4nm,0.3s,baz=315,slow=20,SNR=1.7						
EIL				Lg	Lg	07 05 01.9	
	comp=N,0.6nm,0.3s,baz=118,slow=15,SNR=2.2						
SOHO	**SOHO**	**11.45**	**135**	*i* P	**Pn**	**07 01 43.2**	**-0.3**
	SNR=9.8						
SOHO	**SOHO**	**11.45**	**135**	P	**Pn**	**07 01 43.2**	**-0.3**
SOHO				S	**Sn**	**07 03 50.5**	**-0.6**
KBZ	**Khabaz**	**11.73**	**342**	Pn	**Pn**	**07 01 48.3**	**+1.1**
	comp=N,0.2nm,0.3s,baz=142,slow=18,SNR=1.4						
KBZ	**Khabaz**	**11.73**	**342**	*e*P	**Pn**	**07 01 47.6**	**+0.4**
KVAR	**Kislovodsk Arr**	**11.99**	**342**	Pn	**Pn**	**07 01 53.6**	**+2.6**
	baz=255,slow=20,SNR=1.7						
KIV	**Kislovodsk**	**11.99**	**342**	*e*P	**Pn**	**07 01 49.8**	**-1.2**
KIV				pmax	pmax		
	comp=Z,21nm,1.1s						
ARQ	**Araqi**	**12.06**	**138**	P	**Pn**	**07 01 53.1**	**+1.1**
HOQ	**Hoqain**	**12.33**	**134**	S	**Sn**	**07 04 06.9**	**-5.8**
SOC	**Sochi**	**12.63**	**332**	*e*P	**Pn**	**07 02 01.3**	**+1.7**
SOC				*e*		07 04 19.4	
SOC				pmax	pmax		
	comp=Z,21nm,0.9s						
BSY	**Bisya**	**12.91**	**137**	P	**Pn**	**07 02 03.2**	**-0.3**
	SNR=6.2						
SMDO	**Samad**	**13.17**	**134**	P	**Pn**	**07 02 08.9**	**+1.7**
	SNR=7.1						
SMDO				S	**Sn**	**07 04 28.9**	**-4.5**
WSAR	**Wadi Sarin**	**13.40**	**131**	Pn	**Pn**	**07 02 08.7**	**-1.5**
	comp=Z,3.2nm,0.3s,baz=320,slow=12,SNR=19						
WSAR				Sn	Sn	07 04 30.8	-8.1
	comp=Z,0.4nm,0.3s,baz=180,slow=20,SNR=1.8						
WSAR				LR	LR	07 09 16.5	
	comp=Z,132nm,20.1s,baz=344,slow=45						
BRTR	**Keskin Array B**	**13.42**	**306**	Pn	**Pn**	**07 02 13.6**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=129,slow=13,SNR=5.3						
JMDO	**Jabal Madar**	**13.72**	**135**	P	**Pn**	**07 02 15.4**	**+0.7**
WBK	**Wadi Bani Khal**	**14.07**	**132**	P	**Pn**	**07 02 20.1**	**+0.7**
ABKAR	**Akbulak array**	**18.96**	**25**	P	**P**	**07 03 20.6**	**-0.4**
VRH	**Novokhopyorsk**	**19.09**	**348**	*e*P	**Pn**	**07 03 25.6**	**+2.3**
VRH				pmax	pmax		
	comp=Z,50nm,1.0s						
IDI	**Anoyia**	**19.14**	**284**	P	**Pn**	**07 03 24.6**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=66,slow=12,SNR=5.2						
IDI	**Anoyia**	**19.14**	**284**	P	**P**	**07 03 23.6**	**+0.4**
ALN	**Alexandroupoli**	**19.22**	**302**	P	**Pn**	**07 03 25.6**	**+0.7**
ALN				pmax	pmax		
	comp=Z,29nm,1.4s						
ALN	**Alexandroupoli**	**19.22**	**302**	Pn	**Pn**	**07 03 25.6**	**+0.7**
ALN				IAmb	IAmb	07 03 32.0	
	comp=Z,29nm,1.4s						
AKTO	**Aktyubinsk**	**19.35**	**20**	P	**P**	**07 03 24.9**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=206,slow=12,SNR=12						
GAR	**Garm**	**19.35**	**64**	P	**P**	**07 03 26.2**	**+0.6**
GAR				IAmb	IAmb	07 03 36.2	
	comp=Z,50nm,1.5s						
VSR	**Storozhevoye**	**19.62**	**344**	*e*P	**P**	**07 03 28.1**	**-0.2**
VSR				pmax	pmax		
	comp=Z,30nm,1.2s						
CFR	**Carcaliu**	**19.69**	**315**	P	**Pn**	**07 03 30.2**	**-0.4**
CFR	**Carcaliu**	**19.69**	**315**	P	**Pn**	**07 03 30.2**	**-0.4**
RAZG	**Razgrad**	**19.92**	**309**	⇓P	**Pn**	**07 03 33.7**	**+0.5**
KK31	**Karatay Array**	**20.73**	**53**	P	**P**	**07 03 39.0**	**-1.5**
KK31				pmax	pmax		
	comp=Z,17nm,1.5s						
KK31	**Karatay Array**	**20.73**	**53**	P	**P**	**07 03 39.0**	**-1.5**
KK31				IAmb	IAmb	07 03 50.0	
	comp=Z,17nm,1.4s						
KKAR	**Karatay Array**	**20.73**	**53**	P	**P**	**07 03 39.1**	**-1.4**
KKAR				pmax	pmax		
	comp=Z,17nm,1.5s						
KKAR	**Karatay Array**	**20.73**	**53**	P	**P**	**07 03 39.1**	**-1.4**
KKAR				IAmb	IAmb	07 03 50.0	
	comp=Z,17nm,1.4s						
KKAR	**Karatay Array**	**20.73**	**53**	P	**P**	**07 03 38.2**	**-2.3**
VRI	**Vrincioaia**	**20.90**	**315**	⇑P	Pn	07 03 43.9	-0.9
VRI	**Vrincioaia**	**20.90**	**315**	⇑P	Pn	07 03 43.9	-0.9
NEHR	**Nehoiu**	**20.93**	**314**	P	**P**	**07 03 43.9**	**+1.3**
PLOR	**Plostina**	**20.94**	**315**	⇓P	Pn	07 03 44.2	-1.0
PLOR	**Plostina**	**20.94**	**315**	⇓P	Pn	07 03 44.2	-1.0
LPSR	**Galich'ya Gora**	**20.97**	**345**	*e*P	**P**	**07 03 41.8**	**-1.0**
LPSR				pmax	pmax		
	comp=Z,30nm,0.8s						
MLR	**Muntele Rosu**	**21.18**	**314**	P	**P**	**07 03 47.8**	**+2.4**
	comp=Z,16nm,0.8s,baz=194,slow=6.3,SNR=15						
MLR	**Muntele Rosu**	**21.18**	**314**	⇑P	**P**	**07 03 47.5**	**+2.2**
MLR	**Muntele Rosu**	**21.18**	**314**	P	**P**	**07 03 44.9**	**-0.4**
MLR				pmax	pmax		
	comp=Z,17nm,0.8s						
MLR	**Muntele Rosu**	**21.18**	**314**	P	**P**	**07 03 44.9**	**-0.4**
MLR				IAmb	IAmb	07 03 52.5	
	comp=Z,17nm,0.8s						
TESR	**Tescani**	**21.29**	**317**	⇑P	**P**	**07 03 47.4**	**+1.0**
SORM	**Soroca**	**21.32**	**322**	⇓P	**P**	**07 03 45.9**	**-0.8**
SORM	**Soroca**	**21.32**	**322**	⇓P	**P**	**07 03 45.9**	**-0.8**
NIL	**Nilore**	**21.37**	**80**	P	**P**	**07 03 46.2**	**-1.2**
NIL				pmax	pmax		
	comp=Z,15nm,0.7s						
NIL	**Nilore**	**21.37**	**80**	P	**P**	**07 03 46.2**	**-1.2**
NIL				IAmb	IAmb	07 03 55.4	
	comp=Z,15nm,0.7s						
AGG	**Agios Georgios**	**21.54**	**294**	P	**P**	**07 03 48.2**	**-1.0**
AGG				pmax	pmax		
	comp=Z,33nm,1.2s						
AGG	**Agios Georgios**	**21.54**	**294**	P	**P**	**07 03 48.2**	**-1.0**
AGG				IAmb	IAmb	07 04 01.3	
	comp=Z,33nm,1.2s						
OZUR		**21.58**	**315**	⇑P	**P**	**07 03 50.8**	**+1.2**
ITM	**Ithomi**	**21.64**	**289**	P	**P**	**07 03 50.9**	**+0.6**
VOIR		**21.70**	**313**	⇓P	**P**	**07 03 53.0**	**+2.1**
VOIR		**21.70**	**313**	⇓P	**P**	**07 03 53.0**	**+2.1**
DOPR	**Dopca**	**21.75**	**314**	⇓P	**P**	**07 03 52.9**	**+1.5**
ARSB	**Arslanbob**	**21.89**	**59**	P	**P**	**07 03 51.3**	**-1.8**
ARSB				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ARSB	**Arslanbob**	**21.89**	**59**	P	**P**	**07 03 51.3**	**-1.8**
KMPD	**K-Podol'skiy**	**22.58**	**321**	P	**P**	**07 03 58.0**	**-2.2**
AKASG	**Malin Array Be**	**22.65**	**328**	P	**P**	**07 03 58.5**	**-2.4**
	comp=Z,2.7nm,0.5s,baz=137,slow=9.4,SNR=12						
AKASG	**Malin Array Be**	**22.65**	**328**	P	**P**	**07 03 59.5**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,3.0nm,1.1s						
AKASG	**Malin Array Be**	**22.65**	**328**	P	**P**	**07 03 59.5**	**-1.4**
AKBB	**Malin Array Si**	**22.65**	**328**	⇓*e*P	**P**	**07 03 59.0**	**-1.9**
AKBB	**Malin Array Si**	**22.65**	**328**	P	**P**	**07 03 59.2**	**-1.7**
KIEV	**Kiev**	**22.65**	**328**	P	**P**	**07 03 59.0**	**-1.9**
BURAR	**Bucovina Array**	**22.72**	**318**	⇑P	**P**	**07 04 01.8**	**0.0**
BURAR	**Bucovina Array**	**22.72**	**318**	⇑P	**P**	**07 04 01.8**	**0.0**
BURAR	**Bucovina Array**	**22.72**	**318**	P	**P**	**07 04 01.2**	**-0.5**
BUR08	**Bucovina Ar. S**	**22.74**	**318**	P	**P**	**07 04 01.1**	**-0.9**
HERR	**Herculane**	**23.14**	**309**	⇓P	**P**	**07 04 07.0**	**+0.9**
CJR	**Cluj-Napoca**	**23.20**	**314**	P	**P**

CTI					pmax	pmax		
	comp=Z,7.0nm,0.8s							
CTI	**Castel Tesino**	**30.70**	**307**	P	**P**		**07 05 15.5**	**+0.8**
CTI				IAmb	IAmb		07 05 18.9	
	comp=Z,6.6nm,0.8s							
CLL	**Collm**	**31.47**	**317**	*i* P	**P**		**07 05 21.9**	**+0.6**
	comp=Z,9.0nm,1.1s							
CLL	**Collm**	**31.47**	**317**	*i* P	**P**		**07 05 21.9**	**+0.6**
CLL				pmax	pmax			
	comp=Z,9.0nm,1.1s							
FINES	**FINES Array B**	**32.08**	**340**	P	**P**		**07 05 26.4**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=138,slow=6.9,SNR=9.9							
ZALV	**Zalesovo Beam**	**33.82**	**40**	P	**P**		**07 05 42.2**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=248,slow=7.6,SNR=4.6							
ZALV	**Zalesovo Beam**	**33.82**	**40**	P	**P**		**07 05 40.2**	**-1.6**
DGZ	**Jazzator, Alta**	**33.93**	**48**⇑	*eP*	**P**		**07 05 42.1**	**-1.0**
BNI	**Bardonecchia**	**33.96**	**304**	P	**P**		**07 05 43.5**	**+0.1**
BNI				pmax	pmax			
	comp=Z,17nm,0.7s							
BNI	**Bardonecchia**	**33.96**	**304**	P	**P**		**07 05 43.5**	**+0.1**
NOA	**NORSAR Array B**	**37.00**	**331**	P	**P**		**07 06 07.4**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=121,slow=8.6,SNR=3.2							
ARCES	**ARCESS Array B**	**39.02**	**348**	P	**P**		**07 06 25.6**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=156,slow=9.5,SNR=13							
ARCES				PcP	**PcP**		**07 08 36.5**	**+0.6**
	comp=Z,2.5nm,0.9s,baz=142,slow=6.6,SNR=2.2							
ARCES	**ARCESS Array B**	**39.02**	**348**	P	**P**		**07 06 26.3**	**+0.2**
ARCES	**ARCESS Array B**	**39.02**	**348**	P	**P**		**07 06 26.3**	**+0.2**
ESDC	**Sonseca Array**	**41.87**	**295**	P	**P**		**07 06 50.8**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=73,slow=8.5,SNR=9.7							
ESDC	**Sonseca Array**	**41.87**	**295**	P	**P**		**07 06 49.4**	**-0.7**
NRIK	**Noril'sk**	**42.97**	**19**	P	**P**		**07 06 59.9**	**+1.3**
	comp=Z,3.5nm,0.7s,baz=34,slow=4.0,SNR=2.0							
NRIK	**Noril'sk**	**42.97**	**19**⇑	*eP*	**P**		**07 06 58.4**	**-0.2**
SONM	**Songino Array**	**46.19**	**53**	P	**P**		**07 07 28.5**	**+3.8**
	comp=Z,0.6nm,0.6s,baz=284,slow=12,SNR=2.5							
SONM	**Songino Array**	**46.19**	**53**	P	**P**		**07 07 24.9**	**+0.2**
SONM				pmax	pmax			
	comp=Z,1.0nm,1.3s							
SONM	**Songino Array**	**46.19**	**53**	P	**P**		**07 07 24.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**46.23**	**256**	P	**P**		**07 07 25.4**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=69,slow=7.0,SNR=21							
TORD	**Torodi Ar. Bea**	**46.23**	**256**	P	**P**		**07 07 25.7**	**+0.4**
ULN	**Ulaanbaatar**	**46.63**	**53**⇑	*eP*	**P**		**07 07 28.3**	**+0.1**
ULN				pmax	pmax			
	comp=Z,1.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**47.87**	**94**	P	**P**		**07 07 39.1**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=317,slow=5.2,SNR=1.7							
CMAR	**Chiang Mai Arr**	**47.87**	**94**	P	**P**		**07 07 38.3**	**+0.3**
BOD	**Bodaibo**	**50.57**	**39**	*eP*	**P**		**07 07 57.7**	**-0.5**
BOD				pmax	pmax			
	comp=Z,6.0nm,1.2s							
DBIC	**Dimbokro**	**55.18**	**254**	P	**P**		**07 08 31.8**	**-1.0**
	comp=Z,6.7nm,1.1s,baz=45,slow=8.6,SNR=2.1							
DBIC	**Dimbokro**	**55.18**	**254**	P	**P**		**07 08 32.2**	**-0.6**
DBIC				pmax	pmax			
	comp=Z,14nm,1.3s							
DBIC	**Dimbokro**	**55.18**	**254**	P	**P**		**07 08 32.2**	**-0.6**
KLR	**Kul'dur**	**62.42**	**47**⇓	*eP*	**P**		**07 09 22.0**	**-0.7**
KLR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
KSRS	**Korea Array**	**63.93**	**61**	P	**P**		**07 09 32.1**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=297,slow=5.3,SNR=2.1							
USRK	**Ussuriysk Ar.**	**64.30**	**53**	P	**P**		**07 09 35.0**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=262,slow=10.0,SNR=2.3							
USRK	**Ussuriysk Ar.**	**64.30**	**53**	P	**P**		**07 09 35.0**	**-0.2**
BOSA	**Boshof**	**64.54**	**202**	P	**P**		**07 09 38.7**	**+1.7**
	comp=Z,2.3nm,0.7s,baz=360,slow=8.0,SNR=4.3							
BOSA	**Boshof**	**64.54**	**202**	P	**P**		**07 09 38.3**	**+1.3**
BOSA				IAmb	IAmb		07 09 44.9	
	comp=Z,4.4nm,0.8s							
SEY	**Seymchan**	**67.69**	**29**⇓	*eP*	**P**		**07 09 57.1**	**+0.4**
PETK	**Petropavlovsk-**	**75.26**	**36**	P	**P**		**07 10 43.2**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=278,slow=9.9,SNR=2.7							
ILAR	**Eielson Array**	**82.25**	**6**	P	**P**		**07 11 20.3**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=329,slow=3.4,SNR=2.8							

ROM 18 07:02:16.9±0.3, 41°.98N±0°.01×12°.762E±0°.009, h18km±1km, ML1.3/2, Error ellipse: s-maj=1.2km s-min=0.7km az=3.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTCE	**Montecelio**	**0.05**	**341**	P	Pg	07 02 20.2	+0.1
MTCE				S	Sg	07 02 22.6	+0.2
CERT	**Cerreto**	**0.17**	**100**	P	Pg	07 02 21.6	+0.2
CERT				S	Sg	07 02 25.1	+0.6
CERT				AML	AML		
	comp=E,64μm,0.8s						
CERT				AML	AML		
	comp=N,41μm,0.6s						
RMP	**Rome, Mte Porz**	**0.17**	**195**	P	Pg	07 02 21.7	+0.2
RMP				AML	AML		
	comp=E,270μm,0.9s						
RMP				AML	AML		
	comp=N,280μm,0.4s						
RDP	**Rocca di Papa**	**0.22**	**189**	P	Pb	07 02 22.7	+0.4
GIUL	**Giuliano Di Ro**	**0.56**	**139**	P	Pg	07 02 28.0	-0.1
GIUL				S	Sg	07 02 35.7	+0.1

TEH 18 07:09:59.1, 32°.69N×47°.76E, h20km, ML3.0, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.84**	**5**	*e*Pg	Pn	07 10 15.7	0.0
IKMR	**Kamar-syah**	**0.98**	**32**	*e*Pg	Pb	07 10 17.1	-0.2
IDOB	**Doab**	**1.15**	**17**	*e*Pg	Pn	07 10 20.1	-0.2
BMDN	**Meydan**	**1.33**	**42**	*e*Pg	Pb	07 10 23.5	+0.1
BMDN				*e*		07 10 26.4	
IKOM	**Komasi**	**1.50**	**352**	*e*Pg	Pb	07 10 27.1	+0.7
IKOM				*e*Sg	Sb	07 10 46.3	+1.3
HSAM	**Samen**	**1.68**	**25**	*e*Pg	Pb	07 10 29.8	+0.4
KCHF	**Cheshme Sefid,**	**1.70**	**339**	*e*Pg	Pb	07 10 29.9	+0.2
IBZA	**Bozab**	**1.78**	**3**	*e*Pg	Pb	07 10 32.4	+1.2
IBZA				*e*Sg	Sb	07 10 57.4	+4.2
IBZA				*e*		07 10 58.4	
IGHG	**Ghaleghazi**	**1.92**	**329**	*e*Pg	Pb	07 10 34.2	+0.6
IGHG				*e*		07 11 18.8	
IVIS	**Veis**	**1.99**	**338**	*e*Pn	Pb	07 10 34.1	-0.5
IDHR	**Dehrash**	**2.31**	**331**	*e*Pn	Pb	07 10 38.8	-1.5
IDHR				*e*		07 10 42.1	
HAGD	**Aghdareh**	**2.42**	**28**	*e*Pn	Pb	07 10 39.9	-2.2
JHBN	**Jahan bin**	**2.50**	**100**	*e*Pn	Pn	07 10 39.8	+1.0
JHBN				*e*		07 11 25.0	
HSRG	**Sareghieh**	**2.58**	**9**	*e*	Sb	07 11 28.8	+12
IRAZ	**Razeghan**	**3.25**	**33**	*e*Pn	Pn	07 10 52.3	+3.1
IZEF	**Zefreh**	**3.85**	**86**	*e*Pn	Pn	07 10 59.7	+2.3

ISN 18 07:10:51.2±0.8, 32°.87N×47°.99E, h18km, ML2.9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**1.75**	**279**	*e*Pn	Pb	07 11 22.0	-0.7
IBDR				*e*Sn	Sb	07 11 45.0	+0.7
IBDR				AML	AML	07 11 57.8	
	comp=N,125nm,0.4s						
IBDR				AML	AML	07 12 01.3	
	comp=E,182nm,0.3s						
NSR	**Nassriya**	**2.43**	**221**	*e*Pn	Pn	07 11 31.0	+1.0
NSR				*e*Sn	Sn	07 12 00.0	+0.8
BHD	**Baghdad**	**3.06**	**279**	*e*Pn	Pn	07 11 41.0	+2.4
BHD				*e*Sn	Sn	07 12 17.0	+2.3

*IDC **18** 07:10:53.8±0.8, 2°.20S×139°.12E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.8/46, mbtmp3.9/11, ML3.7/1, Error ellipse: s-maj=22.0km s-min=17.6km az=46.0*
*NEIC **18** 07:10:55.3±1.2, 2°.2S±0°.1×139°.11E±0°.06, h10km±1km, mb4.1/10, Error ellipse: s-maj=22.0km s-min=9.8km az=187.0*

ISC 18 07:10:59.2±0.6, 2°.36S±0°.07×139°.06E±0°.06, h37km, n33, σ1s70/33, mb3.9/10, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.65**	**95**	Pn	**Pn**	**07 11 23.9**	**-1.7**
	11nm,0.3s,baz=243,slow=12,SNR=16						
JAY				Sn	**Sn**	**07 11 46.6**	**+1.0**
	14nm,0.3s,baz=244,slow=22,SNR=6.5						

FAKI	**Fak Fak**	**6.83**	**265**	Pn	**Pn**		**07 12 37.0**	**+0.1**
MTN	**Manton Dam**	**13.04**	**217**	Pn	**Pn**		**07 14 03.3**	**+1.3**
KNRA	**Kununurra**	**16.67**	**217**	Pn	**Pn**		**07 14 48.5**	**-1.7**
WB0	**Warramunga Arr**	**17.89**	**194**		**P**		**07 15 05.7**	**+0.1**
WR0	**Warramunga Arr**	**18.04**	**194**		**P**		**07 15 08.8**	**+1.6**
WR0				IAmb	IAmb		07 15 17.7	
	comp=Z,21nm,1.6s							
WB2	**Warramunga Arr**	**18.07**	**194**	P	**P**		**07 15 08.5**	**+0.9**
WB2				IAmb	IAmb		07 15 28.5	
	comp=Z,14nm,1.2s							
WRA	**Warramunga Arr**	**18.07**	**194**	P	**P**		**07 15 09.2**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=18,slow=11,SNR=7.0							
WRA				S	**Sn**		**07 18 22.9**	**-5.3**
	comp=Z,0.1nm,0.3s,baz=10,0,slow=22,SNR=5.6							
WRA	**Warramunga Arr**	**18.07**	**194**	P	**P**		**07 15 08.6**	**+0.9**
CTA	**Charters Tower**	**18.97**	**159**	P	**Pn**		**07 15 22.1**	**+3.7**
	comp=Z,0.2nm,0.3s,baz=304,slow=7.3,SNR=1.8							
FITZ	**Fitzroy Crossi**	**20.44**	**219**	P	Pn		07 15 35.0	-0.8
	comp=Z,1.9nm,0.9s,baz=89,slow=20,SNR=1.7							
FITZ				S	**S**		**07 19 16.9**	**-3.6**
	comp=Z,2.3nm,0.8s,baz=129,slow=12,SNR=2.2							
FITZ	**Fitzroy Crossi**	**20.44**	**219**	P	Pn		07 15 35.4	-0.4
FITZ				IAmb	IAmb		07 15 46.1	
	comp=Z,20nm,1.5s							
AS31	**Alice Springs**	**21.76**	**193**	P	**P**		**07 15 49.2**	**+1.5**
ASAR	**Alice Springs**	**21.76**	**193**	P	**P**		**07 15 48.6**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=24,slow=9.9,SNR=18							
ASAR				S	**S**		**07 19 48.1**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=17,slow=16,SNR=4.3							
ASAR	**Alice Springs**	**21.76**	**193**	P	**P**		**07 15 48.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**44.57**	**299**	P	**P**		**07 19 07.2**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=117,slow=7.4,SNR=7.7							
CMAR	**Chiang Mai Arr**	**44.57**	**299**	P	**P**		**07 19 06.9**	**-1.1**
MK31	**Makanchi Array**	**69.73**	**322**	P	**P**		**07 22 04.7**	**-0.8**
MK31				IAmb	IAmb		07 22 12.8	
	comp=Z,1.6nm,1.1s							
MKAR	**Makanchi Array**	**69.73**	**322**	P	**P**		**07 22 05.4**	**0.0**
	comp=Z,0.7nm,0.8s,baz=108,slow=9.3,SNR=5.8							
MKAR	**Makanchi Array**	**69.73**	**322**	P	**P**		**07 22 05.0**	**-0.5**
ZALV	**Zalesovo Beam**	**71.81**	**330**	P	**P**		**07 22 17.5**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=152,slow=4.3,SNR=1.7							
KURK	**Kurchatov**	**73.64**	**325**	P	**P**		**07 22 28.1**	**-0.7**
KURK	**Kurchatov**	**73.64**	**325**	IAmb	IAmb		07 22 29.4	
	comp=Z,4.6nm,1.5s							
KURBB	**Kurchatov Arra**	**73.65**	**325**	P	**P**		**07 22 28.1**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=113,slow=5.2,SNR=2.4							
VNDA	**Vanda**	**76.09**	**175**	P	**P**		**07 22 43.0**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=319,slow=4.0,SNR=2.6							
KKAR	**Karatay Array**	**76.13**	**315**	P	**P**		**07 22 43.6**	**+0.1**
BVAR	**Borovoye Array**	**79.23**	**325**	P	**P**		**07 23 00.4**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=108,slow=9.5,SNR=7.1							
GEYT	**Alibeck**	**84.30**	**308**	P	**P**		**07 23 29.6**	**+2.0**
	comp=Z,0.8nm,0.2s,baz=140,slow=7.5,SNR=2.3							
GEYT	**Alibeck**	**84.30**	**308**	IAmb	IAmb		07 23 33.7	
	comp=Z,1.2nm,0.7s							
ABKAR	**Akbulak array**	**84.68**	**320**	P	**P**		**07 23 28.8**	**-0.4**
ILAR	**Eielson Array**	**85.38**	**24**	P	**P**		**07 23 31.2**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=251,slow=5.3,SNR=6.1							
TORD	**Torodi Ar. Bea**	**136.49**	**287**	PKP	**PKPdf**		**07 30 18.7**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=82,slow=3.1,SNR=2.8							
TORD	**Torodi Ar. Bea**	**136.49**	**287**		**PKiKP**		**07 30 19.5**	**-0.6**

*NEIC **18** 07:15:52.5±1.5, 19°.2S±0°.1×169°.1E±0°.1, h123km±11km, mb4.4/16, Error ellipse: s-maj=22.1km s-min=5.4km az=129.0*
*IDC **18** 07:15:54.1±7.1, 19°.26S×168°.96E, h124km±50km, mb3.8/6, mb1 3.9/7, mb1mx3.5/37, mbtmp4.2/7, Error ellipse: s-maj=61.2km s-min=30.8km az=28.0*

ISC 18 07:15:50.4±1.1, 19°.1S±0°.1×169°.1E±0°.1, h100km, n25, σ1s01/27, mb4.4/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.90**	**220**	P	**Pn**	**07 16 49.8**	**+1.4**
	18nm,0.3s,baz=79,slow=11,SNR=318						
DZM				S	**Sn**	**07 17 31.9**	**-1.4**
	22nm,0.3s,baz=120,slow=21,SNR=9.7						
DZM	**Mont Dzumac**	**3.90**	**220**		**Pn**	**07 16 49.6**	**+1.2**
DZM					**Sn**	**07 17 33.6**	**+0.3**
NIUE	**Niue**	**19.80**	**93**	P	**P**	**07 20 13.8**	**+0.7**
URZ	**Urewera**	**20.35**	**162**	P	**P**	**07 20 19.0**	**+0.2**
	3.5nm,0.7s,baz=38,slow=21,SNR=3.0						
URZ	**Urewera**	**20.35**	**162**	P	**P**	**07 20 18.7**	**-0.1**
URZ				IAmb	IAmb	07 20 21.4	
	comp=Z,14nm,1.2s						
BKZ	**Black Stump Fm**	**21.02**	**164**	P	**P**	**07 20 25.6**	**-0.5**
BKZ				IAmb	IAmb	07 20 28.4	
	comp=Z,13nm,1.4s						
CTA	**Charters Tower**	**21.57**	**263**	P	**P**	**07 20 33.9**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=67,slow=7.9,SNR=3.6						
TUWZ	**Tuamarina**	**22.66**	**171**	P	**P**	**07 20 44.1**	**+0.8**
THZ	**Tophouse**	**22.85**	**173**	P	**P**	**07 20 45.2**	**-0.1**
LTZ	**Lake Taylor**	**23.79**	**174**	P	**P**	**07 20 52.8**	**-1.2**
STKA	**Stephens Creek**	**27.84**	**237**	P	**P**	**07 21 31.1**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=72,slow=9.5,SNR=5.8						
STKA	**Stephens Creek**	**27.84**	**237**	P	**P**	**07 21 30.3**	**-0.3**
WR0	**Warramunga Arr**	**32.58**	**263**	P	**P**	**07 22 11.2**	**-1.3**
WR0				IAmb	IAmb	07 22 13.8	
	comp=Z,5.7nm,1.1s						
BBOO	**Buckleboo**	**32.58**	**239**	P	**P**	**07 22 12.0**	**-0.4**
WB0	**Warramunga Arr**	**32.73**	**263**	P	**P**	**07 22 12.7**	**-1.2**
WB0				IAmb	IAmb	07 22 24.7	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**32.76**	**263**	P	**P**	**07 22 12.8**	**-1.3**
WB2				IAmb	IAmb	07 22 13.4	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**32.77**	**263**	P	**P**	**07 22 12.8**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=89,slow=7.9,SNR=10						
WRA	**Warramunga Arr**	**32.77**	**263**	P	**P**	**07 22 12.6**	**-1.6**
AS31	**Alice Springs**	**33.06**	**256**	P	**P**	**07 22 16.1**	**-0.7**
AS31				IAmb	IAmb	07 22 16.4	
	comp=Z,3.7nm,0.4s						
ASAR	**Alice Springs**	**33.06**	**256**	P	**P**	**07 22 15.9**	**-0.9**
	comp=Z,4.4nm,0.4s,baz=82,slow=8.6,SNR=86						
KNRA	**Kununurra**	**38.61**	**269**	P	**P**	**07 23 03.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**41.15**	**264**	P	**P**	**07 23 25.0**	**-0.2**
	comp=Z,4.2nm,0.5s,baz=102,slow=7.9,SNR=16						
FITZ	**Fitzroy Crossi**	**41.15**	**264**	P	**P**	**07 23 25.6**	**+0.4**
FITZ				IAmb	IAmb	07 23 25.9	
	comp=Z,6.5nm,0.7s						
PSA00	**Pilbara Seismi**	**46.13**	**258**	P	**P**	**07 24 05.4**	**+0.3**
PSA00				IAmb	IAmb	07 24 05.9	
	comp=Z,14nm,1.1s						
QSPA	**South Pole Qui**	**70.98**	**180**	P	**P**	**07 26 56.1**	**-1.0**
QSPA				IAmb	IAmb	07 26 57.6	
	comp=Z,4.0nm,1.1s						

*SJA **18** 07:34:10.9±0.8, 19°.57S×69°.44W, h75km±8km, ML4.0, MW3.9*
*NEIC **18** 07:34:14.2±1.7, 19°.84S±0°.04×69°.17W±0°.07, h109km±5km, Error ellipse: s-maj=9.9km s-min=5.9km az=78.0*
*IDC **18** 07:34:15.0±1.8, 19°.80S×69°.03W, h109km±19km, mb3.5/3, mb1 3.6/7, mb1mx3.4/29, mbtmp4.0/7, Error ellipse: s-maj=29.5km s-min=16.4km az=99.0*
*GUC **18** 07:34:15.5±0.7, 19°.87S×69°.21W, h103km±2km, ML4.1*

ISC 18 07:34:14.5±0.7, 19°.83S±0°.03×69°.25W±0°.05, h106km±5km, n71, σ1s38/101, 8C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO01	**Chusmiza**	**0.17**	**17**⇓	*i*P	**Pn**	**07 34 30.2**	**+0.3**
GO01				*i* S	**Sn**	**07 34 41.7**	**+0.3**
GO01	**Chusmiza**	**0.17**	**17**	Pn	**Pn**	**07 34 30.3**	**+0.3**
GO01				Sn	**Sn**	**07 34 42.0**	**+0.6**
PB08	**IPOC Station P**	**0.32**	**164**⇓	*i*P	**Pn**	**07 34 30.5**	**+0.2**
PB08				*i* S	**Sn**	**07 34 42.0**	**-0.2**
PB08				IAML		07 34 42.6	
	comp=N,10μm,0.3s						
PB08	**IPOC Station P**	**0.32**	**164**	Pn	**Pn**	**07 34 30.1**	**-0.2**
PB08				Sn	**Sn**	**07 34 41.9**	**-0.2**
PB11	**IPOC Station P**	**0.39**	**280**⇓	*i*P	**Pn**	**07 34 30.9**	**+0.5**
PB11				*i* S	**Sn**	**07 34 42.9**	**+0.6**
PB11	**IPOC Station P**	**0.39**	**280**	Pn	**Pn**	**07 34 31.0**	**+0.6**
PB11				Sn	**Sn**	**07 34 43.1**	**+0.7**
PB11	**IPOC Station P**	**0.39**	**280**	*i* P	**Pn**	**07 34 30.9**	**+0.5**
PB11				*e*S	**Sn**	**07 34 43.0**	**+0.7**
PB11				IAML		07 34 44.5	
	comp=Z,1μm,0.1s						
MNMC	**Minye Minye**	**0.77**	**335**⇓	*i*P	**Pn**	**07 34 34.9**	**+1.5**
MNMC				*i* S	**Sn**	**07 34 49.4**	**+1.8**
MNMC	**Minye Minye**	**0.77**	**335**	Pn	**Pn**	**07 34 34.1**	**+0.6**
MNMC				Sn	**Sn**	**07 34 49.6**	**+2.0**
MNMCX	**Minye Minye**	**0.77**	**335**	*i* P	**Pn**	**07 34 34.9**	**+1.4**
MNMCX				*e*S	**Sn**	**07 34 49.2**	**+1.6**
MNMCX				IAML		07 34 50.3	
	comp=Z,15μm,0.4s						
PSGC	**Pisagua**	**0.86**	**286**⇓	*i*P	**Pn**	**07 34 34.9**	**+0.9**
PSGC				*i* S	**Sn**	**07 34 49.8**	**+1.1**
PSGCX	**Pisagua**	**0.86**	**286**	Pn	**Pn**	**07 34 35.1**	**+1.1**
PSGCX				Sn	**Sn**	**07 34 49.7**	**+1.0**
PSGCX	**Pisagua**	**0.86**	**286**	*i* P	**Pn**	**07 34 35.0**	**+1.0**
PSGCX				*e*S	**Sn**	**07 34 50.1**	**+1.4**
PSGCX				IAML		07 34 53.3	
	comp=Z,2μm,0.6s						
TA02	**Huaiquique**	**0.94**	**242**	*e*P	**Pn**	**07 34 35.1**	**+0.4**
TA02				*e*S	**Sn**	**07 34 50.4**	**+0.5**
TA01	**Diego Aracena**	**1.14**	**230**	*e*P	**Pn**	**07 34 37.4**	**+0.5**
TA01				*i* S	**Sn**	**07 34 53.6**	**-0.1**
TA01	**Diego Aracena**	**1.14**	**230**	Sn	**Sn**	**07 34 54.6**	**+0.9**
PB01	**IPOC Station P**	**1.23**	**191**⇑	*i*P	**Pn**	**07 34 38.5**	**+0.5**
PB01				*i* S	**Sn**	**07 34 55.9**	**+0.2**
PB01				IAML		07 34 57.4	
	comp=N,5μm,0.3s						
PB01	**IPOC Station P**	**1.23**	**191**	Pn	**Pn**	**07 34 38.1**	**+0.2**
PB01				Sn	**Sn**	**07 34 56.5**	**+0.8**
PB01	**IPOC Station P**	**1.23**	**191**	*i* P	**Pn**	**07 34 38.5**	**+0.5**
PB01				*e*S	**Sn**	**07 34 56.5**	**+0.8**
PB01				IAML		07 34 58.8	
	comp=Z,2μm,0.5s						
PB16	**IPOC Station P**	**1.51**	**351**⇑	*i*P	**Pn**	**07 34 43.8**	**+2.0**
PB16				*i* S	**Sn**	**07 35 05.2**	**+2.8**
PB16	**IPOC Station P**	**1.51**	**351**	Pn	**Pn**	**07 34 43.8**	**+2.0**
PB16	**IPOC Station P**	**1.51**	**351**	*i* P	**Pn**	**07 34 43.9**	**+2.0**
PB16				*e*S	**Sn**	**07 35 05.2**	**+2.8**
PB16				IAML		07 35 06.3	
	comp=Z,677nm,1.2s						
PB12	**IPOC Station P**	**1.58**	**320**⇑	*i*P	**Pn**	**07 34 43.1**	**+0.9**
PB12				*i* S	**Sn**	**07 35 04.9**	**+1.6**
PB12	**IPOC Station P**	**1.58**	**320**	Pn	**Pn**	**07 34 43.1**	**+0.9**
PB12	**IPOC Station P**	**1.58**	**320**	*i* P	**Pn**	**07 34 43.1**	**+0.9**
PB12				*e*S	**Sn**	**07 35 04.3**	**+1.1**
PB12				IAML		07 35 08.7	
	comp=Z,1μm,0.2s						
PB02	**IPOC Station P**	**1.60**	**202**⇑	*i*P	**Pn**	**07 34 43.0**	**+0.6**
PB02				*i* S	**Sn**	**07 35 03.8**	**+0.2**
AP01	**Chacalluta**	**1.79**	**324**⇑	*i*P	**Pn**	**07 34 45.9**	**+1.3**
AP01	**Chacalluta**	**1.79**	**324**	Pn	**Pn**	**07 34 45.9**	**+1.3**
PB09	**IPOC Station P**	**1.95**	**180**⇑	*i*P	**Pn**	**07 34 48.0**	**+1.1**
PB09				*i* S	**Sn**	**07 35 12.3**	**+0.7**
PB09				IAML		07 35 17.7	
	comp=N,2μm,0.5s						
PB09	**IPOC Station P**	**1.95**	**180**	Pn	**Pn**	**07 34 47.9**	**+1.1**
PB09	**IPOC Station P**	**1.95**	**180**	*i* P	**Pn**	**07 34 48.0**	**+1.1**
PB09				*e*S	**Sn**	**07 35 14.3**	**+2.7**
PB09				IAML		07 35 16.8	
	comp=Z,1μm,0.7s						
PB07	**IPOC Station P**	**1.98**	**197**⇑	*i*P	**Pn**	**07 34 47.6**	**+0.4**
PB07				*i* S	**Sn**	**07 35 12.7**	**+0.6**
PB07				IAML		07 35 20.4	
	comp=E,2μm,0.5s						
PB07	**IPOC Station P**	**1.98**	**197**	Pn	**Pn**	**07 34 48.0**	**+0.8**
PB03	**IPOC Station P**	**2.25**	**192**⇑	*i*P	**Pn**	**07 34 51.7**	**+1.0**
PB03				*i* S	**Sn**	**07 35 18.9**	**+0.5**
PB03				IAML		07 35 27.9	
	comp=N,914nm,0.2s						
PB04	**IPOC Station P**	**2.63**	**199**	*e*P	**Pn**	**07 34 56.6**	**+0.9**
PB04				IAML		07 35 38.0	
	comp=N,784nm,0.3s						
PB04	**IPOC Station P**	**2.63**	**199**	Pn	**Pn**	**07 34 56.9**	**+1.2**
LVC	**Limon Verde**	**2.78**	**174**	P	**Pn**	**07 35 00.1**	**+2.3**
	comp=N,54nm,0.3s,baz=353,slow=11,SNR=278

NTC	**Toucheng**	**1.02**	**300**	*e*P	**Pn**	07 35 12.1	0.0
	baz=296						
NTC				*e*S	**Sn**	07 35 26.3	0.0
	baz=296						
ILA	**Ilan**	**1.05**	**294**	*e*S	**Sn**	07 35 26.7	-0.2
	baz=290						
TIPB	**Shuangxi**	**1.09**	**305**	P	**Pn**	07 35 12.1	-0.8
	baz=302						
TIPB				S	**Sn**	07 35 26.7	-1.1
	baz=302						
TWE	**Neicheng**	**1.10**	**290**	P	**Pn**	07 35 13.1	+0.1
	baz=287						
TWE				S	**Sn**	07 35 28.1	+0.1
	baz=287						
JKRS	**Kuro-shima**	**1.10**	**96**	P	**Pn**	07 35 12.8	-0.2
JKRS				S	**Sn**	07 35 28.9	+0.8
NACB	**Ninganchiao**	**1.12**	**261**	P	**Pn**	07 35 13.1	-0.2
	baz=259						
NACB				S	**Sn**	07 35 28.3	-0.1
	baz=259						
TWD	**Chiawan**	**1.14**	**257**	P	**Pn**	07 35 13.3	-0.2
	baz=254						
TWD				*e*S	**Sn**	07 35 28.3	-0.5
	baz=254						
ENTT	**Nioudou**	**1.17**	**285**	P	**Pn**	07 35 14.4	+0.6
	baz=287						
ENTT				S	**Sn**	07 35 29.8	+0.2
	baz=287						
NWF	**Wu-fen Shan**	**1.18**	**308**	S	**Sn**	07 35 30.2	+0.3
	baz=298						
WFSB	**Wu-fen Shan**	**1.18**	**308**	*e*S	**Sn**	07 35 29.9	+0.2
	baz=298						
NDT	**Datong Townshi**	**1.21**	**282**	P	**Pn**	07 35 14.9	+0.6
	baz=285						
NDT				S	**Sn**	07 35 31.0	+0.6
	baz=285						
ETLH	**Xiulin Townshi**	**1.22**	**264**	P	**Pn**	07 35 14.4	-0.2
	baz=255						
ETLH				S	**Sn**	07 35 30.6	-0.2
	baz=255						
JIJ	**Ishigaki jima**	**1.22**	**89**	P	**Pn**	07 35 14.5	0.0
JIJ				S	**Sn**	07 35 29.9	-0.8
NWLT	**Wulai**	**1.26**	**290**	*e*P	**Pn**	07 35 15.9	+0.8
	baz=287						
NWLT				*e*S	**Sn**	07 35 30.6	-1.1
	baz=287						
TWA	**Mucha**	**1.28**	**300**	*e*P	**Pn**	07 35 15.3	0.0
	baz=288						
NNSB	**Datong**	**1.30**	**274**	P	**Pn**	07 35 15.1	-0.5
	baz=271						
NNSB				*e*S	**Sn**	07 35 32.0	-0.8
	baz=271						
NNSH	**Datong**	**1.30**	**274**	*e*P	**Pn**	07 35 15.5	-0.1
	baz=271						
NNSH				*e*S	**Sn**	07 35 32.2	-0.6
	baz=271						
NNS	**Nan Shan**	**1.31**	**274**	P	**Pn**	07 35 15.9	+0.1
	baz=272						
NNS				*e*S	**Sn**	07 35 32.8	-0.2
	baz=272						
YHNB	**Yeheng**	**1.34**	**284**	P	**Pn**	07 35 16.5	+0.4
	baz=281						
YHNB				S	**Sn**	07 35 33.6	0.0
	baz=281						
NSK	**Sanguang**	**1.36**	**284**	P	**Pn**	07 35 16.3	0.0
	baz=281						
NSK				S	**Sn**	07 35 33.8	-0.2
	baz=281						
ESL	**Shilin**	**1.36**	**247**	*e*P	**Pn**	07 35 16.5	+0.2
	baz=239						
ESL				*e*S	**Sn**	07 35 34.2	+0.2
	baz=239						
TAP	**Taipei**	**1.37**	**300**	*e*P	**Pn**	07 35 16.1	-0.3
	baz=288						
TAP				*e*S	**Sn**	07 35 34.2	+0.1
	baz=288						
YM01	**YM01**	**1.38**	**305**	*e*S	**Sn**	07 35 33.4	-0.9
	baz=303						
YM11	**YM11**	**1.38**	**306**	*e*P	**Pn**	07 35 17.6	+0.8
	baz=295						
YM11				*e*S	**Sn**	07 35 34.8	+0.2
	baz=295						
YM08	**YM08**	**1.39**	**307**	*e*P	**Pn**	07 35 17.8	+1.1
	baz=296						
YM10	**YM10**	**1.39**	**306**	*e*P	**Pn**	07 35 17.1	+0.4
	baz=296						
YM10				*e*S	**Sn**	07 35 33.6	-1.0
	baz=296						
JISG	**Ishigakijimahi**	**1.39**	**80**	P	**Pn**	07 35 16.7	0.0
JISG				*e*S	**Sn**	07 35 33.5	-1.1
WHF	**Hehuan Shan**	**1.42**	**262**	*e*S	**Sn**	07 35 35.2	-0.7
	baz=260						
FUSS	**Fushou**	**1.43**	**266**	*e*P	**Pn**	07 35 17.9	+0.4
	baz=264						
TWY	**Chenhua**	**1.43**	**310**	*e*S	**Sn**	07 35 36.2	+0.7
	baz=300						
TWT	**Tachien**	**1.49**	**267**	*e*P	**Pn**	07 35 19.4	+1.2
	baz=264						
TWT				*e*S	**Sn**	07 35 37.9	+0.7
	baz=264						
TDCB	**Techi**	**1.51**	**267**	P	**Pn**	07 35 18.4	+0.1
	baz=265						
TDCB				S	**Sn**	07 35 37.5	-0.1
	baz=265						
CHGB	**Renai**	**1.52**	**259**	*e*P	**Pn**	07 35 19.0	+0.4
	baz=251						
CHGB				*e*S	**Sn**	07 35 37.5	-0.4
	baz=251						
HGSD	**Ruisui**	**1.52**	**236**	*e*P	**Pn**	07 35 18.2	-0.3
	baz=235						
HGSD				*e*S	**Sn**	07 35 37.9	+0.1
	baz=235						
VWDT	**VWDT**	**1.63**	**249**	P	**Pn**	07 35 20.6	+0.7
	baz=248						
VWDT				*e*S	**Sn**	07 35 40.5	+0.3
	baz=248						
LIOB	**Emei**	**1.66**	**281**	*e*S	**Sn**	07 35 40.9	0.0
	baz=278						
YULB	**Yu-li**	**1.68**	**236**	P	**Pn**	07 35 20.6	+0.1
	baz=245						
YULB				*e*S	**Sn**	07 35 40.9	-0.4
	baz=245						
WHP	**Taichung City**	**1.70**	**268**	*e*P	**Pn**	07 35 22.2	+1.4
	baz=261						
TWF1	**Yuli**	**1.70**	**235**	P	**Pn**	07 35 21.0	+0.2
	baz=245						
TWF1				S	**Sn**	07 35 41.9	0.0
	baz=245						
SSLB	**Suanglung**	**1.78**	**252**	*e*P	**Pn**	07 35 22.4	+0.5
	baz=256						
SSLB				*e*S	**Sn**	07 35 43.4	-0.5
	baz=256						
FULB	**Fuli**	**1.80**	**231**	*e*P	**Pn**	07 35 22.0	-0.1
	baz=230						
FULB				*e*S	**Sn**	07 35 44.4	+0.2
	baz=230						
SMLT	**Sun Moon Lake**	**1.80**	**255**	*e*P	**Pn**	07 35 22.4	+0.2
	baz=249						
SMLT				S	**Sn**	07 35 44.4	-0.1
	baz=249						
TYC	**Yuchr**	**1.83**	**256**	*e*P	**Pn**	07 35 23.1	+0.5
	baz=250						
TYC				*e*S	**Sn**	07 35 45.8	+0.8
	baz=250						
EDH	**Donghe**	**1.94**	**225**	*e*S	**Sn**	07 35 46.4	-1.2
	baz=221						

ISN ***18*** *07:37:31.2±1.2,32°.69N×47°.55E,h15km±6km, ML3.2*
TEH ***18*** *07:37:33.4,32°.80N×47°.62E,h14km, ML3.2*

ISC 18 07:37:30.9±1.7,32°.60N±0°.05×47°.57E±0°.04,h8km±13km, n24,σ1°39/30,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.95**	**14**	*e*Pg	**Pg**	**07 37 47.8**	**-1.3**
IKFM				*e*	**Sn**	**07 38 02.7**	**-1.6**
IKMR	**Kamar-syah**	**1.14**	**37**	*e*Pg	**Pb**	**07 37 51.9**	**-1.0**
IKMR				*e*		07 38 11.3	
IDOB	**Doab**	**1.29**	**23**	*e*Pg	**Pn**	**07 37 54.2**	**-1.2**
IBDR	**Badra**	**1.47**	**291**	*e*Pg	**Pb**	**07 37 58.0**	**-0.5**
IBDR				*e*Sg	**Sn**	**07 38 16.0**	**-1.2**
IBDR				AML	AML	07 38 23.7	
	comp=N,241nm,0.6s						
IBDR				AML	AML	07 38 24.0	
	comp=E,196nm,0.6s						
BMDN	**Meydan**	**1.50**	**44**	*e*Pg	**Pb**	**07 37 58.6**	**-0.5**
BMDN				*e*		07 45 40.0	
IKOM	**Komasi**	**1.57**	**358**	*e*Pg	**Pb**	**07 37 59.6**	**-0.7**
IKOM				*e*		07 38 02.4	
KCHF	**Cheshme Sefid,**	**1.72**	**345**	*e*Pg	**Pb**	**07 38 02.4**	**-0.6**
KCHF				*e*	**Sg**	**07 38 28.0**	**+1.7**
KER	**Kermanshah**	**1.81**	**349**	*e*Pg	**Pb**	**07 38 04.2**	**-0.3**
HSAM	**Samen**	**1.82**	**28**	*e*		07 38 08.4	
HSAM				*e*Pg	**Pb**	**07 38 03.9**	**-0.8**
IBZA	**Bozab**	**1.88**	**7**	*e*		07 38 09.1	
IBZA				*e*Pg	**Pb**	**07 38 05.2**	**-0.4**
IGHG	**Ghaleghazi**	**1.91**	**334**	*e*		07 38 53.2	
IGHG				*e*Pg	**Pb**	**07 38 06.3**	**+0.1**
NSR	**Nassriya**	**2.00**	**218**	*e*Pn	**Pn**	**07 38 06.0**	**+1.0**
NSR				*e*Sn	**Sb**	**07 38 32.0**	**-0.7**
IVIS	**Veis**	**2.01**	**343**	*e*Pn	**Pb**	**07 38 07.2**	**-0.6**
IALM	**Almabolaq**	**2.31**	**12**	*e*Pn	**Pb**	**07 38 11.7**	**-1.3**
IDHR	**Dehrash**	**2.31**	**335**	*e*Pn	**Pb**	**07 38 11.2**	**-1.8**
IDHR				*e*	**Sg**	**07 38 47.2**	**+2.0**
ILIN	**Lien**	**2.36**	**348**	*e*Pn	**Pn**	**07 38 11.3**	**+1.0**
ILIN				*e*		07 38 55.9	
HAGD	**Aghdareh**	**2.57**	**30**	*e*Pn	**Pn**	**07 38 14.7**	**+1.6**
JHBN	**Jahan bin**	**2.65**	**97**	*e*Pn	**Pb**	**07 38 17.7**	**-1.1**
JHBN				*e*		07 39 12.4	
HSRG	**Sareghieh**	**2.70**	**12**	*e*Pn	**Pn**	**07 38 16.9**	**+2.0**
HSRG				*e*		07 39 01.2	
BHD	**Baghdad**	**2.76**	**285**	*e*Pn	**Pn**	**07 38 16.0**	**+0.5**
BHD				*e*Sn	**Sn**	**07 38 50.0**	**+0.9**
BHD				AML	AML	07 38 51.1	
	comp=E,402nm,0.3s						
IRAZ	**Razeghan**	**3.41**	**34**	*e*Pn	**Pn**	**07 38 27.6**	**+2.9**
IKLH	**Kolahrood**	**3.45**	**77**	*e*Pn	**Pn**	**07 38 27.6**	**+2.4**
IKLH				*e*		07 39 26.9	
QABG	**Abgarm-Qazvin**	**3.52**	**28**	*e*Pn	**Pn**	**07 38 27.6**	**+1.4**
QSDN	**Sirdan**	**4.11**	**18**	*e*Pn	**Pn**	**07 38 35.0**	**+0.7**

IDC ***18*** *07:37:35.6±2.9,36°.72N×71°.50E,h242km±26km, mb3.3/4, mb1 3.2/10,mb1mx3.0/46,mbtmp3.7/10,Error ellipse: s-maj=25.5km s-min=23.3km az=54.0*
NNC ***18*** *07:37:39.7±10.0,37°.55N×70°.45E,h0km,mb4.1, mpv3.7, Error ellipse: s-maj=96.0km s-min=67.8km az=158.0*

ISC 18 07:37:31.0±1.1,36°.6N±0°.1×71°.0E±0°.1,h200km,n23, σ1°61/25,mb3.5/4,3C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.56**	**352**	Pg	**Pn**	**07 38 53.7**	**+1.0**
	19nm,0.2s						
IUG				Lg	Lg	07 39 55.1	
	99nm,0.3s						
AML	**Almayashu**	**5.87**	**20**	P	**Pn**	**07 38 57.9**	**+1.0**
	SNR=64						
UCH	**Uchtor**	**6.21**	**25**	P	**Pn**	**07 39 02.5**	**+1.2**
	SNR=30						
DZA	**Taraz**	**6.26**	**2**	Lg	Lg	07 40 11.1	
	131nm,0.3s						
MRKS	**Merke**	**6.34**	**15**	Pg	**Pn**	**07 39 03.8**	**+1.2**
	22nm,0.5s						
MRKS				Lg	Lg	07 40 13.1	
	35nm,0.7s						
EKS2	**Erkin-Say**	**6.38**	**19**	P	**Pn**	**07 39 04.4**	**+1.1**
	SNR=14						
KK31	**Karatay Array**	**6.47**	**357**	P	**Pn**	**07 39 05.0**	**+0.7**
	1.9nm,0.5s,baz=179,slow=14,SNR=24						
KK31				⇑S	**Sn**	**07 40 13.4**	**-5.0**
	11nm,0.4s,baz=181,slow=25						
AAK	**Ala-Archa**	**6.57**	**23**	P	**Pn**	**07 39 07.3**	**+1.6**
	3.3nm,0.3s,baz=165,slow=6.3,SNR=11						
AAK				S	**Sn**	**07 40 21.0**	**+0.2**
	1.5nm,0.3s,baz=321,slow=23,SNR=3.1						
AAK	**Ala-Archa**	**6.57**	**23**	P	**Pn**	**07 39 07.1**	**+1.4**
	SNR=7.0						
AAK	**Ala-Archa**	**6.57**	**23**	⇑P	**Pn**	**07 39 07.2**	**+1.5**
	5.2nm,0.5s						
AAK				S	**Sn**	**07 40 20.4**	**-0.4**
	18nm,0.8s						
ULHL	**Ulahol**	**6.91**	**34**	P	**Pn**	**07 39 11.3**	**+1.1**
	SNR=7.1						
USP	**Ospenovka**	**7.14**	**21**	P	**Pn**	**07 39 14.3**	**+1.2**
	SNR=5.1						
TKM2	**Tokmak 2**	**7.20**	**28**	P	**Pn**	**07 39 15.2**	**+1.2**
	SNR=22						
TKM2	**Tokmak 2**	**7.20**	**28**	⇑S	**Pn**	**07 39 14.9**	**+0.9**
	9.5nm,0.7s						
GEYT	**Ailibeck**	**10.36**	**281**	P	**P**	**07 40 03.4**	**+1.0**
	0.4nm,0.3s,baz=96,slow=13,SNR=2.9						
MKAR	**Makanchi Array**	**13.17**	**36**	P	**Pn**	**07 40 31.6**	**+1.1**
	0.1nm,0.3s,baz=214,slow=13,SNR=4.8						
KURBB	**Kurchatov Arra**	**14.99**	**19**	P	**P**	**07 40 54.5**	**+0.9**
	0.0nm,0.3s,baz=206,slow=11,SNR=2.1						
BVAR	**Borovoye Array**	**16.40**	**359**	P	**Pn**	**07 41 11.2**	**+1.3**
	0.3nm,0.3s,baz=166,slow=13,SNR=5.1						
ZALV	**Zalesovo Beam**	**19.79**	**25**	P	**P**	**07 41 45.9**	**+0.1**
	1.1nm,0.3s,baz=223,slow=14,SNR=2.3						
ARCES	**ARCESS Array B**	**41.03**	**338**	P	**P**	**07 44 55.6**	**+1.3**
	1.4nm,0.9s,baz=108,slow=7.8,SNR=6.5						
ILAR	**Eielson Array**	**74.65**	**16**	P	**P**	**07 48 45.9**	**-2.0**
	0.6nm,0.8s,baz=338,slow=6.5,SNR=5.5						
WRA	**Warramunga Arr**	**82.05**	**122**	P	**P**	**07 49 27.6**	**-1.4**
	0.5nm,0.5s,baz=324,slow=4.9,SNR=12						
ASAR	**Alice Springs**	**84.32**	**125**	P	**P**	**07 49 39.4**	**-1.3**
	0.7nm,0.5s,baz=309,slow=5.0,SNR=13						

BEO ***18*** *07:48:48.7±0.2,44°.00N×19°.50E,h0km, ML2.5/13*
RHSSO ***18*** *07:48:48.3±0.2,44°.00N×19°.52E,h2km±1km, ML2.6/8*

ISC 18 07:48:48.2±1.1,44°.00N±0°.02×19°.54E±0°.02,h3km±9km, n43,σ0°71/77,6C-7D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBLS	**Lazići**	**0.16**	**217**	*e*Pg	**Pg**	**07 48 51.3**	**-0.1**
BBLS				*e*Sg	**Sg**	**07 48 53.8**	**+0.2**
BBLS	**Lazići**	**0.16**	**217**	*e*Pg	**Pg**	**07 48 51.4**	**0.0**
BBLS				*e*Sg	**Sg**	**07 48 53.8**	**+0.2**
DIVS	**Divibare**	**0.34**	**73**	*e*Pg	**Pg**	**07 48 54.9**	**+0.1**
DIVS				*e*Sg	**Sg**	**07 48 59.9**	**+0.7**
DIVS	**Divibare**	**0.34**	**73**	⇑*i*Pg	**Pg**	**07 48 54.9**	**+0.1**
DIVS				*e*Sg	**Sg**	**07 48 59.9**	**+0.7**
RUDO	**Rudo**	**0.40**	**198**	⇑*i*Pg	**Pg**	**07 48 54.6**	**-1.3**
RUDO				*e*Sg	**Sg**	**07 49 01.1**	**+0.1**
TEKS	**Tekeris**	**0.55**	**359**	*e*Pg	**Pg**	**07 48 59.0**	**+0.2**
TEKS				*e*Sg	**Sg**	**07 49 05.8**	**-0.2**
TEKS	**Tekeris**	**0.55**	**359**	⇓*i*Pg	**Pg**	**07 48 58.7**	**-0.1**
TEKS				*e*Sg	**Sg**	**07 49 05.8**	**-0.2**
TRUS	**Trudelj**	**0.66**	**70**	*e*Pg	**Pg**	**07 49 01.0**	**+0.1**
TRUS				*e*Sg	**Sg**	**07 49 10.8**	**+1.3**
SJES	**Sjenica**	**0.80**	**157**	*e*Pg	**Pg**	**07 49 03.0**	**-0.5**
SJES				*e*Sg	**Sg**	**07 49 13.5**	**-0.4**
GRUS	**Gruza**	**0.85**	**97**	*e*Pg	**Pg**	**07 49 04.5**	**-0.1**
GRUS				*e*Sg	**Sb**	**07 49 17.5**	**-0.1**
UPM	**Unac-Piva**	**0.92**	**210**	*e*Pg	**Pg**	**07 49 05.0**	**-0.8**
UPM				*e*Sg	**Sg**	**07 49 17.5**	**-0.2**
FRGS	**Fruska Gora**	**1.18**	**9**	*e*Pg	**Pg**	**07 49 09.7**	**-1.1**
FRGS				*e*Sg	**Sb**	**07 49 26.3**	**-0.6**
FRGS	**Fruska Gora**	**1.18**	**9**	⇓*i*Pg	**Pg**	**07 49 09.6**	**-1.2**
FRGS				*e*Sg	**Sg**	**07 49 25.5**	**-0.5**
BRY	**Bratogost**	**1.32**	**214**	⇑*i*Pg	**Pg**	**07 49 11.8**	**-1.6**
BRY				*e*Sg	**Sg**	**07 49 29.8**	**-0.7**
SELS	**Selova**	**1.39**	**124**	*e*Pg	**Pn**	**07 49 13.3**	**-1.2**
SELS				*e*Sg	**Sb**	**07 49 33.4**	**+0.5**
TREB	**Trebinje**	**1.55**	**215**	*e*Pg	**Pn**	**07 49 16.2**	**-0.5**
TREB	**Trebinje**	**1.55**	**215**	*e*Pg	**Pn**	**07 49 15.7**	**-1.0**
PDG	**Podgorica**	**1.58**	**188**	*e*Pg	**Pn**	**07 49 17.2**	**+0.1**
PDG				*e*Sg	**Sn**	**07 49 39.1**	**+1.0**
PDG	**Podgorica**	**1.58**	**188**	⇓P	**Pn**	**07 49 17.4**	**+0.2**
PDG				⇑S	**Sn**	**07 49 37.7**	**-0.4**
PDG	**Podgorica**	**1.58**	**188**	*e*Pn	**Pn**	**07 49 17.1**	**0.0**
PDG				*e*Sn	**Sn**	**07 49 38.3**	**+0.2**
BOVS	**Bovan**	**1.61**	**102**	*e*Pg	**Pb**	**07 49 18.7**	**+0.1**
BOVS				*e*Sg	**Sb**	**07 49 39.8**	**+0.5**
DBRK	**Dubrovnik**	**1.67**	**218**	*e*Pn	**Pn**	**07 49 18.1**	**-0.3**
DBRK				Sn	**Sg**	**07 49 42.8**	**+0.9**
HCY	**Herceg Novi**	**1.73**	**207**	*e*Pn	**Pn**	**07 49 19.3**	**+0.1**
MDVR	**Moldovita**	**1.74**	**63**	⇓S	**Sg**	**07 49 44.4**	**+0.2**
STON	**Ston**	**1.75**	**231**	*e*Pn	**Pn**	**07 49 18.8**	**-0.7**
STON				Sn	**Sn**	**07 49 43.3**	**+1.0**
RICI	**Ricice**	**1.82**	**255**	*e*Pn	**Pn**	**07 49 21.5**	**+1.1**
RICI				Sn	**Sg**	**07 49 47.1**	**+0.6**
DRME	**Dracevica, Mon**	**1.83**	**188**	⇓*i*Pn	**Pn**	**07 49 21.0**	**+0.4**
DRME				*e*Sn	**Sn**	**07 49 44.2**	**-0.1**
BLY	**Banja Luka**	**1.85**	**295**	*e*Pg	**Pn**	**07 49 21.8**	**+0.9**
BLY				*e*Sg	**Sb**	**07 49 46.8**	**+0.6**
BLY	**Banja Luka**	**1.85**	**295**	*e*Pn	**Pn**	**07 49 21.0**	**+0.1**
BLY				*e*Sn	**Sn**	**07 49 44.5**	**-0.3**
ZAGS	**Zajecar**	**1.95**	**94**	*e*Pg	**Pb**	**07 49 25.0**	**+0.5**
MAKA	**Makarska**	**1.96**	**250**	*e*Pn	**Pn**	**07 49 22.9**	**+0.5**
MAKA				Sn	**Sb**	**07 49 49.4**	**-0.1**
BARS	**Barje**	**2.04**	**125**	*e*Pg	**Pb**	**07 49 26.2**	**+0.4**
BARS				*e*Sg	**Sg**	**07 49 55.1**	**+1.5**
BZS	**Buzias**	**2.19**	**42**	*e*Pg	**Pb**	**07 49 28.8**	**+0.3**
BZS	**Buzias**	**2.19**	**42**	⇓P	**Pg**	**07 49 29.6**	**-0.6**
BZS				⇑S	**Sg**	**07 49 58.8**	**+0.2**
HERR	**Herculane**	**2.24**	**66**	⇑P	**Pb**	**07 49 28.0**	**-1.4**
HERR				S	**Sb**	**07 49 57.4**	**-0.1**
KUV	**Kijevo**	**2.26**	**271**	*e*Pn	**Pb**	**07 49 27.4**	**+0.8**
BLKB	**Belogradchik**	**2.30**	**98**	⇓S	**Sn**	**07 49 54.1**	**-1.9**
MORH	**Mrgy, Hungar**	**2.31**	**344**	*e*Pn	**Pn**	**07 49 27.0**	**-0.1**
MORH				*e*Sn	**Sn**	**07 49 55.3**	**-0.7**
ZAPS	**Zavoj**	**2.36**	**107**	*e*Pg	**Pb**	**07 49 31.8**	**+0.4**
ZAPS				*e*Sg	**Sg**	**07 50 04.2**	**+0.2**
BOSS	**Bosilegrad**	**2.62**	**124**	*e*Pg	**Pb**	**07 49 36.2**	**+0.4**
BOSS				*e*Sg	**Sg**	**07 50 13.1**	**+0.8**
MORI	**Morici**	**2.77**	**269**	*e*Pn	**Pn**	**07 49 33.8**	**+0.2**
MORI				Sn	**Sn**	**07 50 08.0**	**+0.4**
ZIRJ	**Zirje**	**2.84**	**264**	*e*Pn	**Pn**	**07 49 34.7**	**+0.3**
ZIRJ				Sn	**Sn**	**07 50 10.2**	**+1.0**
DUGI	**Dugi Otok**	**3.23**	**271**	*e*Pn	**Pn**	**07 49 41.4**	**+1.5**

IDC ***18*** *07:54:19.6±2.2,32°.70N×47°.67E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.5/36,mbtmp3.6/6, Error ellipse: s-maj=48.9km s-min=24.6km az=160.0*
ISN ***18*** *07:54:19.8±0.8,32°.69N×47°.68E,h14km±5km,ML3.3*
TEH ***18*** *07:54:21.6,32°.78N×47°.62E,h14km,ML3.5*

ISC 18 07:54:21.4±3.1,32°.71N±0°.04×47°.61E±0°.04,h10km±22km, n43,σ1°07/48,mb3.5/6,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.83**	**14**	*e*Pg	**Pb**	**07 54 36.4**	**-1.6**
IKFM				*e*	**Sn**	**07 54 52.3**	**+0.8**
IKMR	**Kamar-syah**	**1.03**	**39**	*e*Pg	**Pb**	**07 54 39.7**	**-1.6**
IKMR				*e*		07 54 43.7	
IDOB	**Doab**	**1.17**	**24**	*e*Pg	**Pn**	**07 54 43.8**	**-0.3**
BMDN	**Meydan**	**1.40**	**46**	*e*Pg	**Pn**	**07 54 47.8**	**+0.7**
BMDN				*e*		07 55 13.6	
IKOM	**Komasi**	**1.46**	**357**	*e*Pg	**Pb**	**07 54 48.9**	**+0.1**
IKOM				*e*		07 54 50.6	
IKOM				*e*Sg	**Sn**	**07 55 07.0**	**-0.3**
IBDR	**Badra**	**1.47**	**286**	*e*Pg	**Pn**	**07 54 48.0**	**+0.1**
IBDR				*e*Sg	**Sb**	**07 55 08.0**	**+0.5**
IBDR				AML	AML	07 55 12.9	
	comp=E,353nm,0.7s						
IBDR				AML	AML	07 55 13.8	
	comp=N,539nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.63**	**343**	*e*Pg	**Pn**	**07 54 51.3**	**+1.0**
KCHF				*e*		07 55 16.9	
AHWZ	**Ahwaz**	**1.63**	**147**	*e*Pg	**Pb**	**07 54 52.7**	**+1.1**
HSAM	**Samen**	**1.71**	**29**	*e*Pg	**Pb**	**07 54 53.2**	**+0.1**
HSAM				*e*		07 54 56.8	
KER	**Kermanshah**	**1.71**	**347**	*e*Pg	**Pb**	**07 54 53.1**	**0.0**
IBZA	**Bozab**	**1.77**	**7**	*e*Pg	**Pb**	**07 54 53.7**	**-0.4**
IBZA				*e*		07 54 57.8	
IGHG	**Ghaleghazi**	**1.83**	**332**	*e*Pg	**Pb**	**07 54 54.6**	**-0.6**
IVIS	**Veis**	**1.92**	**341**	*e*Pn	**Pn**	**07 54 55.3**	**+1.1**
IVIS				*e*		07 55 25.2	
NSR	**Nassriya**	**2.11**	**217**	*e*Pn	**Pn**	**07 54 56.0**	**-0.7**
NSR				*e*Sn	**Sn**	**07 55 22.0**	**-1.0**
IALM	**Almabolaq**	**2.19**	**12**	*e*Pn	**Pn**	**07 55 00.1**	**+1.9**
IDHR	**Dehrash**	**2.23**	**333**	*e*Pn	**Pn**	**07 54 59.5**	**+0.9**
IDHR				*e*		07 55 44.2	
ILIN	**Lien**	**2.27**	**346**	*e*Pn	**Pn**	**07 55 00.3**	**+1.1**
ILIN				*e*		07 55 39.2	
HAGD	**Aghdareh**	**2.46**	**31**	*e*		07 55 11.4	
HAGD				*e*Pn	**Pn**	**07 55 03.2**	**+1.4**
HSRG	**Sareghieh**	**2.58**	**12**	*e*		07 55 47.5	
HSRG				*e*Pn	**Pn**	**07 55 05.8**	**+2.2**
JHBN	**Jahan bin**	**2.63**	**100**	*e*		07 55 47.5	
JHBN				*e*Pn	**Pn**	**07 55 05.1**	**+0.9**
IPIR	**Pirpir**	**2.77**	**90**	*e*		07 55 53.2	
IPIR				*e*Pn	**Pn**	**07 55 07.6**	**+1.5**
BHD	**Baghdad**	**2.77**	**282**	*e*Pn	**Pn**	**07 55 06.0**	**+0.2**
BHD				*e*Sn	**Sn**	**07 55 41.0**	**+1.7**
ROKH	**ROKH**	**2.92**	**96**	*e*Pn	**Pn**	**07 55 08.9**	**+0.8**
ROKH				*e*		07 56 04.4	
IRAZ	**Razeghan**	**3.30**	**35**	*e*Pn	**Pn**	**07 55 15.4**	**+2.0**
IKLH	**Kolahrood**	**3.39**	**79**	*e*Pn	**Pn**	**07 55 16.3**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.41**	**28**	*e*Pn	**Pn**	**07 55 15.7**	**+0.9**
IQOM	**Qom**	**3.58**	**53**	*e*Pn	**Pn**	**07 55 18.2**	**+1.0**
IZEF	**Zefreh**	**3.98**	**86**	*e*Pn	**Pn**	**07 55 23.6**	**+0.9**
QSDN	**Sirdan**	**4.00**	**18**	*e*Pn	**Pn**	**07 55 24.2**	**+1.3**
IVRN	**Varamin

SHGR IAML 08 06 14.7
comp=N,7µm,0.5s
SHGR Shooshtar-Gavs 1.22 116 *e*Pg **Pb 08 05 51.5 +0.4**
SHGR Shooshtar-Gavs 1.22 116 **Pb 08 05 51.4 +0.4**
IDOB Doab 1.27 26 *e*Pg **Pn 08 05 50.5 -0.2**
IDOB Doab 1.27 26 Pg **Pn 08 05 50.4 -0.2**
IBDR Badra 1.40 289 *e*Pg **Pn 08 05 53.0 +0.7**
IBDR *e*Sg **Sb 08 06 13.0 +1.5**
IBDR AML AML 08 06 17.7
comp=N,23µm,0.8s
IBDR AML AML 08 06 18.0
comp=E,21µm,0.6s
BMDN Meydan 1.50 47 *e*Pg **Pn 08 05 54.0 +0.1**
BMDN *e* 08 06 23.2
BMDN Meydan 1.50 47 **Pn 08 05 54.0 +0.1**
IKOM Komasi 1.52 0 *e*Pg **Pn 08 05 54.5 +0.4**
IKOM *e* 08 05 56.6
IKOM Komasi 1.52 0 **Pn 08 05 54.5 +0.4**
AHWZ Ahwaz 1.63 143 *e*Pg **Pb 08 05 59.1 +1.1**
AHWZ Ahwaz 1.63 143 Pg **Pb 08 05 59.1 +1.1**
AHWZ Sg **Sb 08 06 22.9 +4.7**
KCHF Cheshme Sefid, 1.67 347 *e*Pg **Pn 08 05 57.0 +0.9**
KCHF *e* 08 06 22.4
KCHF Cheshme Sefid, 1.67 347 Pg **Pn 08 05 57.0 +0.9**
KER Kermanshah 1.76 350 P **Pn 08 05 58.3 +1.0**
KER Kermanshah 1.76 350 *e*Pg **Pn 08 05 58.4 +1.1**
HSAM Samen 1.81 30 *e*Pg **Pn 08 05 59.4 +1.3**
HSAM *e* 08 06 28.4
HSAM Samen 1.81 30 Pg **Pn 08 05 59.4 +1.3**
IBZA Bozab 1.84 9 *e*Pg **Pn 08 05 59.8 +1.3**
IBZA *e* 08 06 33.3
IGHG Ghaleghazi 1.85 335 *e*Pn **Pn 08 06 00.1 +1.4**
IGHG *e* 08 06 47.1
IGHG Ghaleghazi 1.85 335 Pn **Pn 08 06 00.0 +1.4**
IVIS Veis 1.95 344 *e*Pn **Pn 08 06 00.6 +0.7**
IVIS *e* 08 06 33.3
IVIS Veis 1.95 344 Pn **Pn 08 06 00.6 +0.7**
NSR Nassriya 2.01 216 *e*Pn **Pb 08 06 03.0 -1.4**
NSR *e*Sn **Sb 08 06 29.0 +0.1**
IDHR Dehrash 2.25 336 *e*Pn **Pn 08 06 04.9 +0.8**
IDHR *e* 08 06 42.6
IALM Almabolaq 2.27 14 *e*Pn **Pn 08 06 05.5 +1.0**
ILIN Lien 2.31 349 *e*Pn **Pn 08 06 05.9 +0.9**
ILIN *e* 08 06 50.2
ILIN Lien 2.31 349 Pn **Pn 08 06 05.8 +0.8**
KHMZ Khomeyn 2.33 62 *e*Pn **Pb 08 06 07.6 -2.4**
KHMZ Khomeyn 2.33 62 *e*Pn **Pb 08 06 07.6 -2.4**
KHMZ Khomeyn 2.33 62 **Pb 08 06 07.5 -2.4**
SNGE Sanandaj 2.44 357 *e*Pn **Pn 08 06 07.1 +0.3**
SNGE *e*Sg **Sb 08 06 39.0 -2.5**
SNGE IAML 08 06 48.8
comp=N,2µm,0.7s
SNGE Sanandaj 2.44 357 *e*Pn **Pn 08 06 07.1 +0.3**
SNGE Sanandaj 2.44 357 Pn **Pn 08 06 07.0 +0.3**
HAGD Aghdareh 2.56 32 *e*
HAGD *e*Pn **Pn 08 06 09.6 +1.2**
HSRG Sareghieh 2.66 14 *e*Pn **Pn 08 06 10.7 +0.8**
HSRG *e* 08 06 53.3
HSRG Sareghieh 2.66 14 Pn **Pn 08 06 11.3 +1.4**
BHD Baghdad 2.70 284 *e*Pn **Pn 08 06 12.0 +1.9**
BHD *e*Sn **Sb 08 06 46.0 -2.8**
JHBN Jahan bin 2.70 98 *e*Pn **Pn 08 06 12.0 +1.5**
JHBN *e* 08 07 18.4
JHBN Jahan bin 2.70 98 Pn **Pn 08 06 11.4 +0.9**
ASAO Ashtian 2.83 47 *e*Pn **Pn 08 06 13.7 +1.6**
ASAO *e*Sg **Sb 08 06 53.6 +0.9**
ASAO Ashtian 2.83 47 *e*Pn **Pn 08 06 13.7 +1.6**
ASAO Ashtian 2.83 47 Pn **Pn 08 06 13.7 +1.6**
ROKH ROKH 3.00 95 *e*Pn **Pn 08 06 15.5 +1.1**
ROKH *e* 08 07 12.3
ROKH ROKH 3.00 95 Pn **Pn 08 06 15.5 +1.1**
IBRJ Brojen 3.27 102 *e*Pn **Pn 08 06 19.3 +1.1**
IRAZ Razeghan 3.40 36 *e*Pn **Pn 08 06 21.8 +1.8**
IRAZ Razeghan 3.40 36 Pn **Pn 08 06 21.8 +1.8**
QABG Abgarm-Qazvin 3.50 29 *e*Pn **Pn 08 06 22.1 +0.7**
QABG Abgarm-Qazvin 3.50 29 Pn **Pn 08 06 22.0 +0.7**
IQOM Qom 3.69 53 *e*Pn **Pn 08 06 25.2 +1.3**
KLNJ Kolanjah 3.84 114 *e*Pn **Pn 08 06 27.9 +1.7**
KLNJ Kolanjah 3.84 114 Pn **Pn 08 06 27.9 +1.7**
IMHD Mahdasht 4.00 40 *e*Pn **Pn 08 06 27.6 -0.6**
QSDN Sirdan 4.08 19 *e*Pn **Pn 08 06 31.3 +1.9**
IHSB Hasanabad 4.18 47 *e*Pn **Pn 08 06 31.9 +1.2**
IVRN Varamin 4.22 55 *e*Pn **Pn 08 06 32.1 +0.9**
IVRN Varamin 4.22 55 Pn **Pn 08 06 32.0 +0.9**
IGZV Ghazvin 4.35 30 *e*Pn **Pn 08 06 33.9 +0.9**
MAHB Mahabad 4.37 341 *e*Pn **Pn 08 06 34.1 +0.9**
TEH Tehran 4.45 45 *e*Pn **Pn 08 06 36.3 +2.0**
QALM Alamut, Qazvin 4.58 34 *e*Pn **Pn 08 06 36.9 +0.7**
IDMV Damavand 4.75 51 *e*Pn **Pn 08 06 39.7 +1.0**
ISRB Sarab 5.16 1 *e*Pn **Pn 08 06 46.3 +2.1**
ISRB Sarab 5.16 1 Pn **Pn 08 06 46.2 +2.1**
IAZR Azarshahr 5.17 346 *e*Pn **Pn 08 06 45.9 +1.6**
SHI Shiraz 5.24 124 *e*Pn **Pn 08 06 46.5 +1.3**
ANAR Anarak 5.26 82 *e*Pn **Pn 08 06 46.2 +0.7**
ANAR Anarak 5.26 82 Pn **Pn 08 06 46.1 +0.6**
IFIR Firoozkooh 5.28 54 *e*Pn **Pn 08 06 46.9 +1.1**
ILAS Lasjerd 5.28 57 *e*Pn **Pn 08 06 46.5 +0.6**
ISAD Sadrabad 5.29 96 *e*Pn **Pn 08 06 46.4 +0.4**
IPRN Peran 5.36 47 *e*Pn **Pn 08 06 48.8 +1.9**
IALA Alasht 5.56 51 *e*Pn **Pn 08 06 51.8 +2.0**
IHSH Hashtrud 5.65 358 *e*Pn Pn 08 06 39.0 -12
IHRS Heris 5.67 356 *e*Pn **Pn 08 06 54.0 +2.9**
ISHM Shahmirzad 5.73 55 *e*Pn **Pn 08 06 53.4 +1.3**
ICHK Chekchek 5.85 92 *e*Pn **Pn 08 06 55.4 +1.8**
IANJ Anjilo 6.01 60 *e*Pn **Pn 08 06 56.3 +0.4**
LKRN Lenkeran, Azer 6.13 9 P **Pn 08 06 58.6 +1.3**
IMEH Mehriz 6.17 100 *e*Pn **Pn 08 06 58.1 +0.1**
IMRD Marand 6.22 347 *e*Pn **Pn 08 06 59.0 +0.3**
IGLO Ghaloghah 6.48 52 *e*Pn **Pn 08 07 04.3 +2.0**
GEVA Gevas 6.71 329 Pn **Pn 08 07 05.8 +0.4**
GEVA Sn **Sn 08 08 22.6 +1.6**
IBAF Bafgh 6.92 97 *e*Pn **Pn 08 07 08.7 +0.4**
MARD Mardin 7.22 312 Pn **Pn 08 07 11.0 -1.3**
MARD Sn **Sn 08 08 31.5 -2.0**
TNSJ Nastanj 7.73 78 *e*Pn **Pn 08 07 19.3 -0.1**
TPRV Parvadeh(Tabas 7.74 85 *e*Pn **Pn 08 07 20.4 +1.0**
GANJ Ganja 8.04 354 P **Pn 08 07 27.5 +4.1**
TKDS Koohdasht(Taba 8.12 81 *e*Pn **Pn 08 07 25.7 +0.9**
NGRK Negar Kerman 8.45 108 *e*Pn **Pn 08 07 30.2 +0.6**
SEKA Sheki 8.54 358 P **Pn 08 07 32.6 +2.1**
AKT Akhty 8.81 1 *e*P **Sn 08 09 17.1 +4.5**
AKT *e*S **Sn 08 09 17.1 +4.5**
AKT pmax pmax
comp=Z,34nm,1.0s
AKT smax smax
comp=N,10.0nm,1.0s
AKT smax smax
comp=E,12nm,0.8s
ASF Jabal al Asfar 8.98 270 Pn **Pn 08 07 34.5 -2.0**
comp=E,3.6nm,0.3s,baz=36,slow=7.3,SNR=13
ASF Lg Lg 08 10 09.9
comp=E,6.0nm,0.3s,baz=38,slow=24,SNR=3.6
ASF LR LR 08 12 16.6
comp=E,725nm,20.7s,baz=42,slow=46
SBZV Sabzevar 9.13 63 *e*Pn **Pn 08 07 39.7 +1.0**
MALT Malatya 9.31 310 P **Pn 08 07 42.1 +1.1**
TBLG Delisi 9.33 347 P **Pn 08 07 43.5 +2.3**
TBLG Delisi 9.33 347 Pn **Pn 08 07 43.5 +2.3**
ITEG Tejag 9.47 85 *e*Pn **Pn 08 07 43.8 +0.5**
GAZ Gaziantep 9.58 301 Pn **Pn 08 07 44.4 -0.3**
ISFR Sfrayin 9.68 60 *e*Pn **Pn 08 07 47.4 +1.2**
AFRZ Afriz 9.69 82 *e*Pn **Pn 08 07 46.9 +0.6**
GHWR Ruwais 9.86 150 *e*Pn **Pn 08 07 49.5 +1.0**
GEM Giv'at Ha'Em 9.97 276 Pn Pn 08 08 44.3 +54
SHME Shamm 10.00 129 *i*P **Pn 08 07 49.3 -1.2**
SNR=8.7
HMDT Nahal Hemdat 10.13 271 Pn Pn 08 08 46.3 +54
GEYT Alibeck 10.14 56 Pn **Pn 08 07 52.8 +0.4**
comp=E,0.5nm,0.3s,baz=225,slow=23,SNR=9.3
GEYT Lg Lg 08 10 44.3
comp=E,0.2nm,0.3s,baz=254,slow=16,SNR=1.3
GEYT Alibeck 10.14 56 Pn **Pn 08 07 53.3 +0.9**
GYA0B ALIBECK ARRAY 10.14 56 Pn **Pn 08 07 52.5 +0.1**
BANOM Banah 10.19 129 *i*P **Pn 08 07 51.7 -1.3**
SNR=21
BANOM S **Sn 08 09 42.1 -4.3**
BANOM Banah 10.19 129 P **Pn 08 07 52.4 -0.7**
SNR=21
BANOM S **Sn 08 09 42.0 -4.4**
MMA0B Mount Meron ar 10.19 275 Pn Pn 08 08 47.6 +55
MMAI Mount Meron Ar 10.19 275 Pn **Pn 08 07 51.2 -1.8**
comp=E,1.1nm,0.3s,baz=77,slow=14,SNR=1.6
MMAI Lg Lg 08 10 46.9
comp=E,2.6nm,0.3s,baz=78,slow=15,SNR=2.1
MMAI LR LR 08 12 44.0
comp=E,453nm,18.0s,baz=75,slow=43
IMON Monand 10.24 84 *e*Pn **Pn 08 07 55.2 +1.3**
MAK Makhachkala 10.29 360 *e*P **Pn 08 07 52.6 -1.7**
MAK *e*S **Sn 08 09 50.1 +1.4**
MAK pmax pmax
comp=Z,387nm,1.5s
MAK MLR MLR
comp=Z,1µm,18.0s
NAZ Nazwa, Dubai 10.46 135 *i*P **Pn 08 07 56.1 -0.5**
SNR=7.5
NAZ Nazwa, Dubai 10.46 135 P **Pn 08 07 56.7 0.0**
NAZ S **Sn 08 09 48.8 -4.2**
NAZ S 08 09 52.0
SNR=6.7
MSFE Esma-Masafi 10.49 132 P **Pn 08 07 55.0 -2.2**
ZEI Tsey 10.51 345 *e*P **Pn 08 08 01.4 +3.9**
ZEI pmax pmax
comp=Z,29nm,1.1s
YTIR Yattir 10.60 266 Pn Pn 08 08 52.8 +54
GROC Groznyy 10.62 353 *e*P **Pn 08 07 58.8 0.0**
GROC pmax pmax
comp=Z,23nm,0.7s
GROC MLR MLR
comp=Z,752nm,11.0s
MDH Madha 10.62 131 P **Pn 08 07 56.6 -2.3**
MDH Madha 10.62 131 P **Pn 08 07 59.9 +1.0**
MDH S **Sn 08 09 51.3 -5.7**
ZFRI Zfri 10.72 262 Pn Pn 08 08 54.6 +54
UOSS Minazif 10.82 133 P **Pn 08 08 00.1 -1.6**
UOSS Minazif 10.82 133 P **Pn 08 08 01.5 -0.1**
UOSS Minazif 10.82 133 Pn **Pn 08 08 01.1 -0.6**
HATD Hatta, Dubai 10.86 134 *i*P **Pn 08 08 00.3 -1.9**
SNR=7.0
HATD S **Sn 08 09 56.5 -6.4**
HATD Hatta, Dubai 10.86 134 P **Pn 08 08 01.9 -0.4**
SNR=7.1
HATD S **Sn 08 09 58.1 -4.8**
SNR=7.8
PRNI Paran 10.91 261 Pn Pn 08 08 57.6 +55
ASHO Ashiyiah 10.92 134 *i*P **Pn 08 08 04.0 +0.9**
SNR=8.7
ASHO Ashiyiah 10.92 134 P **Pn 08 08 02.8 -0.3**
SNR=11
ASHO S **Sn 08 09 59.9 -4.6**
HRFI Mount Harif 10.97 260 Pn Pn 08 08 56.1 +52
EIL Elat 11.16 258 Pn **Pn 08 08 05.0 -1.3**
comp=E,1.7nm,0.3s,baz=76,slow=9.4,SNR=8.0
EIL Lg Lg 08 11 18.9
comp=E,1.4nm,0.3s,baz=288,slow=19,SNR=1.7
EIL LR LR 08 13 34.5
comp=E,924nm,18.7s,baz=78,slow=44
EIL Elat 11.16 258 Pn Pn 08 09 00.3 +54
ALNE Al Ain 11.22 138 *i*P **Pn 08 08 05.6 -1.6**
SNR=11
SOHO SOHO 11.62 135 *i*P **Pn 08 08 10.7 -1.8**
SNR=7.8
KBZ Khabaz 11.63 343 Pn **Pn 08 08 15.1 +2.5**
comp=E,0.1nm,0.3s,baz=168,slow=11,SNR=2.1
KBZ LR LR 08 13 05.6
comp=E,502nm,21.9s,baz=148,slow=40
KBZ Khabaz 11.63 343 *ce*P **Pn 08 08 15.9 +3.2**
KIV Kislovodsk 11.90 343 *e*P **Pn 08 08 19.2 +2.8**
KIV pmax pmax
comp=Z,133nm,1.1s
KIV MLR MLR
comp=Z,550nm,11.0s
KIV Kislovodsk 11.90 343 Pn **Pn 08 08 20.2 +3.7**
CSS Mathiatis 12.02 285 Pn **Pn 08 08 20.6 +2.7**
ARQ Araqi 12.22 137 P **Pn 08 08 20.0 -0.8**
SNR=16
ARQ S **Sn 08 10 31.5 -4.8**
HRA Herat 12.42 78 Pn **Pn 08 08 20.5 -3.2**
SOC Sochi 12.51 333 *e*P **Pn 08 08 22.8 -1.9**
SOC *e* 08 10 44.9
SOC pmax pmax
comp=Z,31nm,0.8s
GOF Gofitskoye 12.86 346 *ce*P **P 08 08 41.8 +1.8**
BSY Bisya 13.07 137 P **Pn 08 08 31.4 -1.1**
SNR=6.6
BSY S **Sn 08 10 50.7 -6.4**
SNR=5.7
BR131 Keskin Array S 13.23 306 P **Pn 08 08 38.5 +3.9**
SNR=6.1
BR131 Keskin Array S 13.23 306 *d*P **Pn 08 08 37.2 +2.5**
BR131 Keskin Array S 13.23 306 Pn **Pn 08 08 35.0 +0.4**
BRTR Keskin Array B 13.23 306 Pn **Pn 08 08 35.6 +0.9**
comp=Z,0.1nm,0.3s,baz=130,slow=12,SNR=24
BRTR LR LR 08 15 15.1
comp=Z,178nm,21.1s,slow=45
BRTR Keskin Array B 13.23 306 *ce*P **Pn 08 08 37.0 +2.3**
BRTR pmax pmax
comp=Z,12nm,1.1s
BRTR Keskin Array B 13.23 306 Pn **Pn 08 08 35.2 +0.5**
SMDO Samad 13.34 133 P **Pn 08 08 35.4 -0.8**
SNR=14
WSAR Wadi Sarin 13.58 131 Pn **Pn 08 08 37.0 -2.4**
comp=E,4.2nm,0.3s,baz=311,slow=9.8,SNR=24
WSAR Sn **Sn 08 11 00.9 -8.5**
comp=Z,1.4nm,0.3s,baz=358,slow=13,SNR=3.2
WSAR LR LR 08 14 38.2
comp=Z,399nm,20.3s,baz=312,slow=41
WSAR Wadi Sarin 13.58 131 P **Pn 08 08 37.0 -2.4**
SNR=7.4
WBK Wadi Bani Khal 14.25 132 P **Pn 08 08 47.0 -1.6**
SNR=16
ANN Anapa 14.44 330 *e*P **Pn 08 08 51.4 +0.4**
ANN *e*S **Sn 08 11 37.2 +7.1**
ANN pmax pmax
comp=Z,99nm,1.2s
ANN MLR MLR
comp=N,602nm,13.0s
ANN MLR MLR
comp=Z,608nm,15.0s
ANN MLR MLR
comp=E,275nm,11.0s
BOLV Bolvadin 14.75 299 Pn **Pn 08 08 54.2 -1.1**
MHTO MHTO 14.89 139 P **Pn 08 08 55.5 -1.7**
SNR=9.0
MHTO S **Sn 08 11 36.0 -5.4**
SNR=15
ELL Elmali 15.04 291 P **P 08 09 04.3 -0.1**
ELL pmax pmax
comp=Z,137nm,1.1s
ELL Elmali 15.04 291 P **P 08 09 04.3 -0.1**
MDUB Mudurnu 15.24 305 P **P 08 09 06.3 -0.2**
DQM DQM 15.53 142 P **Pn 08 09 03.1 -2.5**
SNR=12
ABTO Aybut 16.11 160 P **Pn 08 09 11.0 -2.2**
SNR=5.7
ABTO S **Sn 08 12 04.0 -7.0**
SNR=7.1
RBK Rabkut 16.25 157 P **Pn 08 09 11.7 -3.2**
SNR=7.4
SHAO Shalim 16.30 151 *i*P **Pn 08 09 14.0 -1.6**
SNR=10
DMTO DMTO 16.32 154 P **Pn 08 09 13.0 -2.7**
SNR=12
MANT Manisa 16.47 296 P **P 08 09 19.7 -0.7**
KBL Kabul 18.04 78 P **P 08 09 39.0 +1.3**
SNR=27
KBL Kabul 18.04 78 P **P 08 09 38.3 +0.6**
KBL pmax pmax
comp=Z,68nm,1.2s
KBL Kabul 18.04 78 P **P 08 09 38.3 +0.6**
CHGR Chuyangaron 18.57 65 P **P 08 09 43.1 -0.3**
CHGR IAmb IAmb 08 09 55.5
comp=Z,124nm,1.5s
MFTR Murfatlar 18.82 313 ⇑P **Pn 08 09 46.8 +0.2**
IDI Anoyia 18.94 284 P **P 08 09 47.5 +0.1**
comp=Z,0.4nm,0.3s,baz=352,slow=19,SNR=1.8
IDI Anoyia 18.94 284 IAmb IAmb 08 09 51.2
comp=Z,86nm,1.2s
TIRR Tirgusor 18.97 314 ⇑P **P 08 09 47.9 +0.3**
TIRR Tirgusor 18.97 314 P **Pn 08 09 49.8 +1.3**
TIRR pmax pmax
comp=Z,51nm,0.8s
TIRR Tirgusor 18.97 314 P **Pn 08 09 49.8 +1.3**
TIRR IAmb IAmb 08 09 50.8
comp=Z,51nm,0.8s
PRD Provadia 18.99 309 *e*P **Pn 08 09 51.9 +3.2**
VRH Novokhopyorsk 19.02 349 *e*P **P 08 09 46.9 -1.2**
VRH pmax pmax
comp=Z,120nm,0.8s
ABKAR Akbulak array 19.02 26 P **P 08 09 47.8 -0.3**
ABKAR Akbulak array 19.02 26 P **P 08 09 48.2 +0.1**
ABKAR IAmb IAmb 08 10 04.8
comp=Z,29nm,0.8s
ALN Alexandroupoli 19.03 302 P **Pn 08 09 49.8 +0.7**
ALN pmax pmax
comp=Z,26nm,0.9s
ALN Alexandroupoli 19.03 302 P **Pn 08 09 49.8 +0.7**
NEF NEVSHA 19.10 309 *e*P **Pn 08 09 50.8 +0.7**
TLCR 19.13 316 ⇓P **P 08 09 49.8 +0.4**
TLCR 19.13 316 ⇓P **P 08 09 49.8 +0.4**
TOPG Topolog 19.22 315 ⇓P **P 08 09 50.7 +0.4**
VORD Divnogorie 19.27 344 *e*P **P 08 09 49.5 -1.4**
VORD pmax pmax
comp=Z,50nm,0.8s
HARR Harsova 19.39 314 ⇑P **P 08 09 52.6 +0.4**
HARR Harsova 19.39 314 ⇑P **P 08 09 52.6 +0.4**
AKTO Aktyubinsk 19.40 21 LR LR 08 20 03.4
comp=Z,534nm,18.7s,baz=205,slow=45
TAS Tashkent 19.40 57 P **Pn 08 09 53.2 -0.5**
TAS pmax pmax
comp=Z,63nm,0.8s
TAS Tashkent 19.40 57 P **Pn 08 09 53.2 -0.5**
TAS IAmb IAmb 08 09 56.4
comp=Z,63nm,0.8s
CFR Carcaliu 19.53 315 ⇑P **P 08 09 53.8 +0.1**
CFR Carcaliu 19.53 315 ⇑P **P 08 09 53.8 +0.1**
GAR Garm 19.53 65 P **P 08 09 54.4 +0.5**
VSR Storozhevoye 19.54 344 *e*P **P 08 09 52.6 -1.2**
VSR pmax pmax
comp=Z,290nm,1.7s
RAZG Razgrad 19.74 310 ⇓P **Pn 08 09 57.3 -0.4**
SZH Strazhica 19.99 308 *e*P **Pn 08 10 00.2 -0.4**
BTK Batken 20.14 62 P **P 08 10 01.5 +0.9**
BTK Batken 20.14 62 P **P 08 10 01.5 +0.9**
IUG Iuzhnay 20.20 56 *e*P **P 08 10 01.1 -0.2**
comp=Z,52nm,1.8s,baz=55
IUG *e*S Sn 08 13 49.0 -0.9
baz=55
IUG LR LR 08 18 07.2
comp=Z,119nm,13.8s,baz=55
IUG Iuzhnay 20.20 56 *e*P **P 08 10 01.0 -0.2**
IUG *e*S Sn 08 13 49.0 -0.9
IUG pmax pmax
comp=Z,52nm,1.8s
IUG MLR MLR
comp=Z,119nm,14.0s
KIS Kishinev 20.21 321 *i*P **P 08 10 01.0 -0.1**
KIS *e* 08 10 29.0
RZN Rozhen 20.23 303 *e*P **P 08 10 02.5 +0.9**
PLD Plovdiv 20.38 304 P **P 08 10 04.1 +1.1**
PLD pmax pmax
comp=Z,2.0nm,1.7s
SULR 20.41 312 ⇑P Pn 08 10 04.8 -0.8
ISR Istrita 20.45 314 P Pn 08 10 06.2 +0.1
ISR pmax pmax
comp=Z,190nm,1.3s
VASR Vaslui 20.55 319 ⇑P **P 08 10 05.9 +1.0**
VRI Vrincioaia 20.73 316 ⇑P Pn 08 10 08.4 -0.9
VRI Vrincioaia 20.73 316 ⇑P Pn 08 10 08.4 -0.9
NEHR Nehoiu 20.76 314 ⇓P Pn 08 10 09.1 -0.6
PLOR Plostina 20.77 315 ⇑P Pn 08 10 08.6 -1.1
PLOR Plostina 20.77 315 ⇑P Pn 08 10 08.6 -1.2
COPA Copaceanca 20.83 310 ⇑P Pn 08 10 09.8 -0.6
SRS Serrai 20.86 301 P Pn 08 10 10.7 -0.2
SRS pmax pmax
comp=Z,32nm,1.5s
KK31 Karatay Array 20.88 53 P **P 08 10 08.1 -0.4**
KK31 pmax pmax
comp=Z,58nm,1.4s
KK31 Karatay Array 20.88 53 P **P 08 10 08.1 -0.4**
KK31 IAmb IAmb 08 10 13.7
comp=Z,58nm,1.4s
KKAR Karatay Array 20.88 53 P **P 08 10 08.3 -0.2**
KKAR Karatay Array 20.88 53 P **P 08 10 08.3 -0.2**
KKAR Karatay Array 20.88 53 P **P 08 10 07.9 -0.6**
KKAR IAmb IAmb 08 10 13.7
comp=Z,58nm,1.4s
LPSR Galich'ya Gora 20.88 345 *e*P **P 08 10 07.2 -1.2**
LPSR pmax pmax
comp=Z,290nm,0.8s
PGB Panagyurishte 20.91 305 *e*P **P 08 10 10.1 +1.3**
SOH Sokhos 20.96 300 P Pn 08 10 10.9 -1.1
SOH pmax pmax
comp=Z,19nm,1.3s
MLR Muntele Rosu 21.01 314 P **P 08 10 10.6 +0.7**
comp=Z,32nm,1.0s,baz=355,slow=4.1,SNR=15
MLR LR LR 08 20 27.4
comp=Z,213nm,20.9s,baz=120,slow=43
MLR Muntele Rosu 21.01 314 ⇓P **P 08 10 11.9 +2.0**
MLR Muntele Rosu 21.01 314 ⇓P **P 08 10 11.9 +2.0**
MLR Muntele Rosu 21.01 314 P **P 08 10 11.4 +1.5**
MLR IAmb IAmb 08 10 19.9
comp=Z,81nm,1.0s
TESR Tescani 21.13 317 ⇓P **P 08 10 11.6 +0.5**
HUMR Humele 21.15 311 ⇑P **P 08 10 12.9 +1.6**
SORM Soroca 21.17 323 ⇓P **P 08 10 12.5 +1.0**
SORM Soroca 21.17 323 ⇓P **P 08 10 12.5 +1.0**
THE Thessaloniki 21.20 299 P **P 08 10 13.0 +1.2**
THE pmax pmax
comp=Z,26nm,1.2s
VLAD Vladila 21.30 309 ⇑P **P 08 10 14.8 +1.8**
AGG Agios Georgios 21.34 294 P **P 08 10 15.0 +1.5**
AGG pmax pmax
comp=Z,78nm,1.3s
AGG Agios Georgios 21.34 294 P **P 08 10 15.0 +1.5**
AGG IAmb IAmb 08 10 21.1
comp=Z,78nm,1.3s
DZA Taraz 21.36 55 *e*P **P 08 10 13.4 -0.4**
baz=54
DZA *e*S **S 08 14 11.5 +2.0**
baz=54
DZA LR LR 08 19 04.0
comp=Z,70nm,11.3s,baz=54
DZA Taraz 21.36 55 *e*P **P 08 10 13.3 -0.4**
DZA *e*S **S 08 14 11.5 +2.0**
DZA MLR MLR
comp=Z,70nm,11.0s
OZUR 21.41 315 ⇓P **P 08 10 15.2 +1.0**
MTUR Matau 21.42 312 ⇑P **P 08 10 16.2 +1.9**
MTUR Matau 21.42 312 P **P 08 10 18.7 +4.4**
ITM Ithomi 21.43 289 P **P 08 10 15.1 +0.7**
ITM IAmb IAmb 08 10 24.3
comp=Z,78nm,1.1s
KKB Krupnik 21.45 302 *e*P **P 08 10 13.3 -1.3**
ATD Arta Tunnel 21.45 193 P **P 08 10 18.0 +3.2**
comp=Z,9.6nm,0.3s,baz=66,slow=12,SNR=3.1
ATD LR LR 08 19 23.8
comp=Z,776nm,19.1s,baz=348,slow=39
ATD Arta Tunnel 21.45 193 IAmb IAmb 08 10 22.8
comp=Z,74nm,1.3s
NIL Nilore 21.57 80 P **P 08 10 15.7 -0.2**
NIL pmax pmax
comp=Z,64nm,1.0s
NIL Nilore 21.57 80 P **P 08 10 15.7 -0.2**
NIL IAmb IAmb 08 10 21.3
comp=Z,64nm,0.9s
VTS Vitosha 21.58 304 *e*P **P 08 10 18.8 +2.7**
DOPR Dopca 21.58 314 ⇓P **P 08 10 17.0 +1.0**
ARR Arges 21.75 312 ⇓P **P 08 10 19.5 +1.6**
PRAR RASCA 21.84 318 ⇑P **P 08 10 18.7 -0.1**
ARSB Arslanbob 22.05 60 P **P 08 10 21.0 -0.3**
ARSB pmax pmax
comp=Z,43nm,1.0s
ARSB Arslanbob 22.05 60 P **P 08 10 21.0 -0.3**
ARSB IAmb IAmb 08 10 30.0
comp=Z,43nm,0.9s
LOT Lotru 22.33 312 ⇓P **P 08 10 24.7 +0.5**
SRE Strehaia 22.36 309 ⇓P **P 08 10 26.1 +1.8**
SRE Strehaia 22.36 309 ⇓P **P 08 10 26.1 +1.8**
KMPD K-Podol'skiy 22.42 321 P **P 08 10 24.0 -1.0**
AKASG Malin Array Be 22.51 329 P **P 08 10 24.2 -1.7**
comp=Z,22nm,0.8s,baz=137,slow=9.1,SNR=38
AKASG PcP **PcP 08 14 18.8 -0.2**
comp=Z,1.3nm,0.6s,baz=84,slow=1.9,SNR=2.2
AKASG Malin Array Be 22.51 329 *ce*P **P 08 10 24.5 -1.4**
AKASG pmax pmax
comp=Z,22nm,0.8s
AKASG Malin Array Be 22.51 329 P **P 08 10 23.1 -2.8**
AKASG **PcP 08 14 19.9 +0.9**
AKBB Malin Array Si 22.51 329 *i*P **P 08 10 23.7 -2.2**
AKBB Malin Array Si 22.51 329 P **P 08 10 24.5 -1.4**
AKBB IAmb IAmb 08 10 30.7

comp=Z,42nm,0.9s
KIEV Kiev 22.52 329 P **P** **08 10 23.0 -2.9**
BURAR Bucovina Array 22.55 318 ⇑P **P** **08 10 27.3 +0.8**
BURAR Bucovina Array 22.55 318 ⇑P **P** **08 10 27.3 +0.8**
BURAR Bucovina Array 22.55 318 P **P** **08 10 25.6 -0.9**
BUR08 Bucovina Ar. S 22.58 318 P **P** **08 10 26.1 -0.7**
BUR08 IAmb IAmb 08 10 32.1
comp=Z,38nm,1.0s
ARCR ARCALIA 22.77 316 ⇓P **P** **08 10 29.4 +0.7**
AML Almayashu 22.78 58 P **P** **08 10 29.8 +0.4**
SNR=26
HORU Horodok 22.84 323 P **P** **08 10 28.4 -1.0**
IGT Igoumenitsa 22.95 295 P **P** **08 10 34.8 +4.1**
IGT pmax pmax
comp=Z,31nm,1.6s
HERR Herculane 22.96 309 ⇓P **P** **08 10 31.1 +0.5**
EKS2 Erkin-Say 22.99 57 P **P** **08 10 32.3 +1.2**
SNR=9.1
DEV Deva 23.07 312 P **P** **08 10 31.6 -0.2**
DEV pmax pmax
comp=Z,31nm,1.1s
MDVR Moldovita 23.38 309 ⇓P **P** **08 10 35.4 +0.5**
UCH Uchtor 23.39 58 P **P** **08 10 37.5 +1.9**
SNR=8.5
AAK Ala-Archa 23.49 57 P **P** **08 10 37.2 +1.0**
comp=Z,4.3nm,0.6s,baz=240,slow=5.8,SNR=10
AAK LR LR 08 21 09.3
comp=Z,761nm,18.4s,baz=259,slow=40
AAK Ala-Archa 23.49 57 P **P** **08 10 37.8 +1.6**
AAK Ala-Archa 23.49 57 ⇓*e*P **P** **08 10 37.6 +1.4**
AAK pmax pmax
comp=Z,23nm,1.7s
AAK Ala-Archa 23.49 57 P **P** **08 10 36.0 -0.2**
USP Ospenovka 23.68 56 P **P** **08 10 39.8 +1.9**
SNR=24
OBN Obninsk 23.74 344 P **P** **08 10 38.6 +0.4**
comp=Z,8.8nm,0.4s,baz=153,slow=10,SNR=19
OBN LR LR 08 20 37.8
comp=Z,76nm,20.3s,baz=177,slow=38
OBN Obninsk 23.74 344*c i*P **P** **08 10 38.0 -0.2**
OBN *i* 08 10 45.7
OBN *i* 08 11 07.8
OBN *i* S **S** **08 14 42.8 -8.8**
OBN pmax pmax
comp=Z,101nm,1.2s
OBN MLR MLR
comp=Z,298nm,15.0s
OBN Obninsk 23.74 344 P **P** **08 10 38.3 +0.1**
BZS Buzias 23.77 311 ⇓P **P** **08 10 39.4 +0.7**
BZS Buzias 23.77 311 ⇓P **P** **08 10 39.4 +0.7**
CHMS Chumysh 23.78 56 P **P** **08 10 40.2 +1.4**
SNR=9.1
KBK Karagaybulak 23.82 57 P **P** **08 10 41.4 +2.1**
SNR=9.2
KZA Kyzart 23.89 59 P **P** **08 10 41.8 +1.5**
SNR=14
KSH Kashi 23.94 65 P **P** **08 10 37.9 -2.6**
KSH sP pP 08 10 43.9 -4.7
KSH S **S** **08 14 54.8 -0.7**
KSH pmax pmax
comp=Z,39nm,1.0s
KSH LR LR
comp=Z,470nm,11.8s
KSH LR LR
comp=Z,470nm,10.1s
KSH LR LR
comp=Z,2µm,21.5s
BTLS Baital 23.97 51 *e*P **P** **08 10 40.7 +0.1**
comp=Z,48nm,2.3s,baz=51
BTLS *e*S **S** **08 14 59.4 +3.8**
baz=51
BTLS Baital 23.97 51 *e*P **P** **08 10 40.6 +0.1**
BTLS *e*S **S** **08 14 59.4 +3.8**
BTLS pmax pmax
comp=Z,48nm,2.3s
MOS Moscow 24.09 346 *e*P **P** **08 10 40.6 -1.0**
MOS *e* 08 11 13.1
MOS *e*S **S** **08 14 59.2 +1.9**
MOS pmax pmax
comp=Z,152nm,1.5s
MOS MLR MLR
comp=Z,400nm,17.0s
MORS Morshin 24.13 320 P **P** **08 10 43.0 +1.0**
DIVS Divibare 24.30 306 *e*P **P** **08 10 43.3 -0.4**
DIVS Divibare 24.30 306 P **P** **08 10 44.4 +0.7**
DRME Dracevica, Mon 24.33 301 *e*P **P** **08 10 42.2 -1.7**
TKM2 Tokmak 2 24.35 57 P **P** **08 10 45.6 +1.3**
SNR=26
LVV L'vov 24.45 321 *e*P **P** **08 10 44.6 -0.3**
LVV *e* 08 11 24.5
LVV *e*S **S** **08 14 59.0 -4.2**
LVV pmax pmax
comp=Z,100nm,1.4s
BBLS Lazići 24.63 305 *e*P **P** **08 10 46.5 -0.2**
ULHL Ulahol 24.64 59 P **P** **08 10 50.4 +3.4**
SNR=6.9
UZH Uzhgorod 24.75 318 *e*P **P** **08 10 46.8 -0.8**
FRGS Fruska Gora 24.78 308 *e*P **P** **08 10 47.6 -0.3**
UPM Unac-Piva 24.79 303 *e*P **P** **08 10 47.4 -0.9**
HCY Herceg Novi 24.89 301 *e*P **P** **08 10 48.8 -0.2**
KOLS Kolonicke sedl 24.92 318 *e*P **P** **08 10 50.3 +1.1**
KOLS pmax pmax
comp=Z,42nm,1.1s
KOLS Kolonicke sedl 24.92 318 *e*P **P** **08 10 50.3 +1.1**
BRY Bratogost 24.97 303 P **P** **08 10 54.2 +4.4**
ARU Arti 24.98 15 P **P** **08 10 49.5 -0.2**
comp=Z,4.7nm,0.6s,baz=191,slow=9.8,SNR=19
ARU ScP **ScP** **08 18 02.1 +0.9**
comp=Z,0.7nm,0.3s,baz=313,slow=3.4,SNR=5.1
ARU Arti 24.98 15*d i*P **P** **08 10 50.3 +0.7**
ARU 08 11 25.8
ARU S **S** **08 15 17.4 +5.8**
ARU SS **SnSn** **08 16 05.2 +4.0**
ARU pmax pmax
comp=Z,54nm,1.1s
ARU Arti 24.98 15 P **P** **08 10 49.6 -0.1**
ARU IAmb IAmb 08 10 54.4
comp=Z,40nm,1.0s
KWP Kalwaria Pacla 25.05 320 *e*P **P** **08 10 51.6 +1.1**
KWP Kalwaria Pacla 25.05 320 P **P** **08 10 51.5 +1.1**
KWP pmax pmax
comp=Z,66nm,1.0s
KWP Kalwaria Pacla 25.05 320 P **P** **08 10 51.5 +1.1**
KUU Kurty 25.14 55 *e*P **P** **08 10 51.2 -0.1**
comp=Z,48nm,1.0s,baz=55
KUU LR LR 08 21 30.7
comp=Z,168nm,11.4s,baz=55
KUU Kurty 25.14 55 *e*P **P** **08 10 51.1 -0.1**
KUU pmax pmax
comp=Z,48nm,1.0s
KUU MLR MLR
comp=Z,168nm,11.0s
KDJ Kajisay 25.30 60 P **P** **08 10 52.2 -0.7**
KDJ Kajisay 25.30 60 P **P** **08 10 52.2 -0.7**
AAA Alma-Ata 25.36 57 *e*P **P** **08 10 53.3 0.0**
comp=Z,8.1nm,0.4s,baz=56
AAA *e*S **S** **08 15 20.6 +2.6**
baz=56
AAA LR LR 08 21 32.6
comp=Z,226nm,14.1s,baz=56
AAA Alma-Ata 25.36 57 *e*P **P** **08 10 53.3 0.0**
AAA *e*S **S** **08 15 20.6 +2.6**
AAA pmax pmax
comp=Z,8.0nm,0.4s
AAA MLR MLR
comp=Z,226nm,14.0s
CRVS Cervenica-Dubn 25.36 317 *e*P **P** **08 10 54.7 +1.5**
CRVS pmax pmax
comp=Z,66nm,0.9s
CRVS Cervenica-Dubn 25.36 317 *e*P **P** **08 10 54.7 +1.5**
MDOK Medeo 25.44 57 *e*P **P** **08 10 54.2 +0.1**
baz=57
MDOK LR LR 08 21 25.7
comp=Z,278nm,13.6s,baz=57
MDOK Medeo 25.44 57 *e*P **P** **08 10 54.2 +0.1**
MDOK MLR MLR
comp=Z,278nm,14.0s
STON Ston 25.56 302 *i*P **P** **08 10 54.6 -0.4**
CHKK Chushkaly 25.58 56 *e*P **P** **08 10 55.3 0.0**
baz=55
CHKK Chushkaly 25.58 56 *e*P **P** **08 10 55.2 0.0**
TIP Timpagrande 25.66 293 ⇑P **P** **08 10 57.5 +1.4**
TIP Timpagrande 25.66 293 P **P** **08 10 56.4 +0.3**
TIP IAmb IAmb 08 10 59.6
comp=Z,20nm,1.0s

TARG Taragay, Kyrgy 25.68 61 P **P** **08 10 56.5 0.0**
TARG IAmb IAmb 08 11 01.0
comp=Z,20nm,0.7s
KECS Kecovo 25.73 316 *e*P **P** **08 10 58.3 +1.8**
KECS pmax pmax
comp=Z,75nm,1.2s
KECS Kecovo 25.73 316 *e*P **P** **08 10 58.3 +1.8**
SVE Sverdlovsk 25.82 17 *e*P **P** **08 10 50.3 -6.9**
SVE pmax pmax
comp=Z,46nm,1.7s
PSZ Piszkesteto 25.82 314 ⇓P **P** **08 10 58.9 +1.4**
PSZ Piszkesteto 25.82 314 ⇓P **P** **08 10 58.9 +1.4**
PSZ Piszkesteto 25.82 314 P **P** **08 10 58.4 +1.0**
MICGM Minsk 25.89 333 *e* **P** **08 10 56.0 -1.9**
MNK Minsk 25.89 333 *e*P **P** **08 10 56.0 -1.9**
MORH Mrgy, Hungar 25.92 310 *e*P **P** **08 10 58.9 +0.7**
KIRV Kirov 25.97 2 P **P** **08 10 58.3 -0.2**
comp=Z,16nm,0.4s,baz=189,slow=7.9,SNR=19
KIRV Kirov 25.97 2 *i*P **P** **08 10 58.2 -0.3**
RICI Ricice 26.11 303 P **P** **08 10 59.8 -0.3**
BRVK Borovoye 26.16 32*c i*P **P** **08 11 00.2 -0.1**
BRVK pmax pmax
comp=Z,27nm,1.3s
BRVK Borovoye 26.16 32 P **P** **08 10 59.6 -0.7**
BRVK IAmb IAmb 08 11 06.9
comp=Z,33nm,1.2s
BUD Budapest 26.17 313 P **P** **08 11 03.6 +3.1**
BUD pmax pmax
comp=Z,98nm,1.3s
BVAR Borovoye Array 26.18 32 P **P** **08 11 00.8 +0.3**
comp=Z,9.8nm,0.7s,baz=225,slow=8.2,SNR=34
BVAR PcP **PcP** **08 14 27.5 +0.5**
comp=Z,2.2nm,0.6s,baz=163,slow=2.2,SNR=3.2
BVAR ScP **ScP** **08 18 05.9 +1.1**
comp=Z,4.8nm,0.8s,baz=241,slow=1.5,SNR=14
BVAR LR LR 08 23 14.0
comp=Z,489nm,20.5s,baz=237,slow=41
PRZ Przheval'sk 26.26 59 P **P** **08 11 03.2 +1.6**
PRZ pmax pmax
comp=Z,23nm,0.9s
PRZ Przheval'sk 26.26 59 P **P** **08 11 03.2 +1.6**
PRZ IAmb IAmb 08 11 09.1
comp=Z,22nm,0.9s
CEL Celeste 26.27 291 P **P** **08 11 02.8 +1.2**
CEL IAmb IAmb 08 11 09.7
comp=Z,18nm,0.8s
NIE Niedzica 26.28 318 *e*P **P** **08 11 02.9 +1.4**
NIE Niedzica 26.28 318 P **P** **08 11 03.0 +1.4**
SATY Saty 26.38 58 *e*P **P** **08 11 02.3 -0.4**
comp=Z,30nm,1.5s,baz=58
SATY Saty 26.38 58 *e*P **P** **08 11 02.2 -0.4**
SATY pmax pmax
comp=Z,30nm,1.5s
SATY Saty 26.38 58 *e*P **P** **08 11 02.2 -0.4**
SATY pmax pmax
comp=Z,30nm,1.5s
MGRS Mrkonjic Grad 26.39 305 *e*P P 08 11 11.5 +9.0
BLY Banja Luka 26.41 306 *e*P **P** **08 11 01.6 -1.1**
NACGM Naroch 26.61 333 *e* **P** **08 11 04.0 -0.4**
LANS Liptovska Anna 26.63 316 *e*P **P** **08 11 06.4 +1.7**
LANS pmax pmax
comp=Z,17nm,0.8s
LANS Liptovska Anna 26.63 316 *e*P **P** **08 11 06.4 +1.7**
VYHS Vyhne 26.71 315 *e*P **P** **08 11 06.6 +1.2**
VYHS pmax pmax
comp=Z,21nm,1.0s
VYHS Vyhne 26.71 315 *e*P **P** **08 11 06.6 +1.2**
KIJV Kijevo 26.75 304 *i*P **P** **08 11 05.4 -0.4**
UZB Uzunbulak 26.84 58 *e*P **P** **08 11 06.5 -0.3**
comp=Z,23nm,1.4s,baz=58
UZB Uzunbulak 26.84 58 *e*P **P** **08 11 06.5 -0.3**
UZB pmax pmax
comp=Z,23nm,1.4s
TDK Taldyqorghan 26.88 54 *e*P **P** **08 11 06.5 -0.5**
comp=Z,25nm,0.6s,baz=53
TDK LR LR 08 22 36.7
comp=Z,418nm,12.6s,baz=53
TDK Taldyqorghan 26.88 54 *e*P **P** **08 11 06.5 -0.5**
TDK pmax pmax
comp=Z,25nm,0.6s
TDK MLR MLR
comp=Z,417nm,13.0s
IDID Didziasalis 26.94 333 *e*P **P** **08 11 08.5 +1.2**
MOSL Moslavina 26.96 308 *i*P **P** **08 11 08.0 +0.3**
OJC Ojcow 26.96 319 *e*P **P** **08 11 08.4 +0.7**
OJC Ojcow 26.96 319 P **P** **08 11 07.6 0.0**
OJC pmax pmax
comp=Z,64nm,1.2s
OJC Ojcow 26.96 319 P **P** **08 11 07.6 0.0**
SHLS Shalkode 27.16 58 *e*P **P** **08 11 12.1 +2.4**
baz=58
SHLS LR LR 08 23 00.6
comp=Z,92nm,11.0s,baz=58
SHLS Shalkode 27.16 58 *e*P **P** **08 11 12.0 +2.4**
SHLS MLR MLR
comp=Z,92nm,11.0s
ZIRJ Zirje 27.20 303 *i*P **P** **08 11 08.8 -1.0**
MORI Morici 27.20 304 *i*P **P** **08 11 09.3 -0.5**
ISAL Salakas 27.36 333 *e*P **P** **08 11 12.1 +1.0**
IZAR Zarasai 27.45 334 *e*P **P** **08 11 13.3 +1.4**
SUW Suwalki 27.48 328 P **P** **08 11 12.4 +0.2**
SUW pmax pmax
comp=Z,112nm,1.1s
SUW Suwalki 27.48 328 P **P** **08 11 12.4 +0.2**
KOGS Kog 27.55 309 *e*P **P** **08 11 14.1 +1.1**
JAVC Velka Javorina 27.56 315 *e*P **P** **08 11 14.8 +1.7**
SMOL Smolenice 27.57 314 *e*P **P** **08 11 14.2 +1.1**
SMOL pmax pmax
comp=Z,13nm,1.2s
SMOL Smolenice 27.57 314 *e*P **P** **08 11 14.2 +1.1**
MODS Modra-Piesok 27.60 314 *e*P **P** **08 11 13.7 +0.3**
MODS pmax pmax
comp=Z,61nm,1.5s
MODS Modra-Piesok 27.60 314 *e*P **P** **08 11 13.7 +0.3**
DUGI Dugi Otok 27.69 304 *i*P **P** **08 11 14.6 +0.4**
OKC Ostrava-Krasne 27.71 317 *e*P **P** **08 11 15.2 +0.8**
OKC Ostrava-Krasne 27.71 317 *e*P **P** **08 11 15.2 +0.8**
SOP Sopron 27.78 312 P **P** **08 11 18.0 +3.0**
GCIS Gornji Cirnik 27.79 308 *e*P **P** **08 11 15.5 +0.4**
CRES Cresnjev 27.89 308 *e*P **P** **08 11 16.9 +0.9**
BOJS Bojanci 27.94 307 *e*P **P** **08 11 17.3 +0.9**
NVLJ Novalja 27.95 305 *i*P **P** **08 11 15.1 -1.4**
MORC Moravsky Berou 28.04 316 ⇓P **P** **08 11 17.7 +0.4**
MORC Moravsky Berou 28.04 316 *e*P **P** **08 11 17.6 +0.3**
MORC Moravsky Berou 28.04 316 ⇓P **P** **08 11 17.7 +0.4**
MORC 08 11 20.3
MORC Moravsky Berou 28.04 316 P **P** **08 11 17.2 -0.1**
PABE Paberze 28.16 331 *e*P **P** **08 11 19.1 +0.9**
PDKS Podkum 28.26 308 *e*P **P** **08 11 20.4 +1.0**
ARSA Arzberg 28.29 310 *e*pP **P** **08 11 20.8 +1.2**
comp=Z,14nm,1.6s
CONA Conrad Observa 28.31 312 *e*P **P** **08 11 20.6 +0.8**
comp=Z,20nm,1.5s,SNR=11
VRAC Vranov 28.39 315 P **P** **08 11 21.4 +0.9**
comp=Z,10nm,0.9s,baz=114,slow=9.4,SNR=14
VRAC LR LR 08 24 39.8
comp=Z,132nm,19.0s,baz=76,slow=41
VRAC Vranov 28.39 315 *e*P **P** **08 11 21.0 +0.5**
KRUC Moravsky 28.41 314 *e*P **P** **08 11 21.3 +0.7**
SOKA Soboth 28.43 309 *e*pP **P** **08 11 22.2 +1.3**
comp=Z,10nm,1.3s,SNR=5.8
CEY Cerknica 28.56 307 *e*P **P** **08 11 23.1 +1.1**
LJU Ljubljana 28.57 308 *e*P **P** **08 11 23.4 +1.3**
LJU Ljubljana 28.57 308 *e*P **P** **08 11 23.1 +1.0**
KRLC Kraliky 28.61 317 *e*P **P** **08 11 23.0 +0.6**
KRLC Kraliky 28.61 317 *e*P **P** **08 11 23.0 +0.6**
OBKA Obir 28.69 309 *e*pP **P** **08 11 25.0 +1.7**
comp=Z,26nm,1.9s,SNR=6.6
KLMR Klimovskoe 28.70 352 *e*P **P** **08 11 20.8 -2.2**
KLMR *e*S **S** **08 16 10.0 -0.1**
KLMR pmax pmax
comp=Z,65nm,1.0s
KLMR Klimovskoe 28.70 352 *e*P **P** **08 11 20.9 -2.1**
KLMR AMP 08 11 25.2
comp=Z,65nm,1.0s
KLMR *e*S **S** **08 16 10.0 -0.1**
KLMR *e*S **S** **08 16 10.0 -0.1**
KLMR LQ LQ 08 20 34.5
KLMR LQ LQ 08 20 34.5
KLMR LR LR 08 23 04.2
NRCA Norcia 28.86 301 P **P** **08 11 24.8 +0.1**
NRCA IAmb IAmb 08 11 37.0
comp=Z,40nm,1.5s
DPC Dobruska-Polom 29.00 317 *e*P **P** **08 11 26.5 +0.7**

DPC Dobruska-Polom 29.00 317 *e*P **P** **08 11 26.5 +0.7**
PRGR Permogore 29.02 358 *e*P **P** **08 11 22.9 -3.0**
PRGR *e* 08 12 15.7
PRGR pmax pmax
comp=Z,36nm,1.5s
KURBB Kurchatov Arra 29.02 43 P **P** **08 11 26.4 +0.4**
comp=Z,12nm,0.8s,baz=248,slow=9.3,SNR=58
KURBB PcP **PcP** **08 14 33.9 0.0**
comp=Z,1.5nm,0.7s,baz=246,slow=3.0,SNR=5.2
KURBB ScP **ScP** **08 18 13.8 +0.3**
comp=Z,3.2nm,0.9s,baz=247,slow=4.1,SNR=14
KURK Kurchatov 29.12 42*c i*P **P** **08 11 27.6 +0.8**
KURK pmax pmax
comp=Z,36nm,1.3s
KURK Kurchatov 29.12 42 P **P** **08 11 26.8 0.0**
KURK IAmb IAmb 08 11 28.9
comp=Z,25nm,0.9s
KURK Kurchatov 29.12 42 **PcP** **08 14 33.9 -0.2**
OSTC Ostas 29.15 317 *e*P **P** **08 11 27.9 +0.7**
KSP Ksiaz 29.23 318 *e*P **P** **08 11 28.6 +0.7**
KSP Ksiaz 29.23 318 P **P** **08 11 28.8 +0.9**
UPC Upice 29.24 317 *e*P **P** **08 11 28.9 +0.9**
UPC Upice 29.24 317 *e*P **P** **08 11 28.9 +0.9**
CHVC Chvalec 29.25 317 *e*P **P** **08 11 29.0 +0.9**
MOA Molln 29.29 311 *e*pP **P** **08 11 29.5 +1.0**
comp=Z,11nm,0.7s
PRED Cave del Predi 29.33 308 P **P** **08 11 29.8 +0.9**
MYKA Terra Mystica 29.33 308 *e*pP **P** **08 11 31.2 +2.3**
comp=Z,3.7nm,0.8s
MURB Monte Urbino 29.35 301 P **P** **08 11 30.0 +0.9**
MURB IAmb IAmb 08 11 34.0
comp=Z,30nm,1.3s
VSU Vasula 29.38 338 *e*P **P** **08 11 30.1 +1.0**
VSU Vasula 29.38 338⇑ *e*P **P** **08 11 28.5 -0.5**
VSU pmax pmax
comp=Z,54nm,0.9s
KBA Koelnbreinsper 29.65 309 *e*pP **P** **08 11 32.9 +1.1**
comp=Z,15nm,0.9s,SNR=8.0
KBA Koelnbreinsper 29.65 309 P **P** **08 11 32.9 +1.1**
GOPC GO Pecny, Ondr 29.71 315 *e*P **P** **08 11 32.9 +0.7**
GOPC GO Pecny, Ondr 29.71 315 *e*P **P** **08 11 32.9 +0.7**
ZOU Zoufplan 29.75 308 P **P** **08 11 33.0 +0.2**
MAKZ Makanchi 29.78 52 P **P** **08 11 32.1 -0.7**
MAKZ pmax pmax
comp=Z,25nm,1.5s
MAKZ Makanchi 29.78 52 P **P** **08 11 32.1 -0.7**
MAKZ IAmb IAmb 08 11 34.9
comp=Z,24nm,1.4s
LATE Laterza 29.78 300 P **P** **08 11 34.0 +1.1**
PRU Pruhonice 29.89 315 AMS AMS 08 25 00.0
comp=Z,200nm,19.1s
GEC2 GERESS Array S 29.98 313 P **P** **08 11 34.8 +0.2**
GERES GERESS Array B 29.98 313 P **P** **08 11 34.4 -0.3**
comp=Z,1.6nm,0.5s,baz=104,slow=9.7,SNR=9.2
GERES PcP **PcP** **08 14 36.1 -0.4**
comp=Z,1.0nm,0.7s,baz=87,slow=5.5,SNR=4.3
GERES ScP **ScP** **08 18 16.9 +0.1**
comp=Z,0.4nm,0.3s,baz=177,slow=3.5,SNR=5.6
GERES GERESS Array B 29.98 313 P **P** **08 11 34.1 -0.5**
MK31 Makanchi Array 29.98 52 P **P** **08 11 34.8 +0.2**
MK31 pmax pmax
comp=Z,15nm,1.0s
MK31 Makanchi Array 29.98 52 P **P** **08 11 34.8 +0.2**
MK31 IAmb IAmb 08 11 36.5
comp=Z,15nm,0.9s
MKAR Makanchi Array 29.98 52 P **P** **08 11 35.5 +0.9**
comp=Z,11nm,0.8s,baz=250,slow=7.2,SNR=93
MKAR PcP **PcP** **08 14 36.0 -0.5**
comp=Z,1.2nm,0.7s,baz=248,slow=3.3,SNR=2.3
MKAR ScP **ScP** **08 18 17.4 +0.7**
comp=Z,1.6nm,0.9s,baz=241,slow=2.5,SNR=6.4
MKAR LR LR 08 25 19.7
comp=Z,428nm,18.1s,baz=252,slow=40
MKAR Makanchi Array 29.98 52 P **P** **08 11 34.6 0.0**
MKAR Makanchi Array 29.98 52 P **PcP** **08 14 36.0 -0.5**
CIMO Cimolais 30.04 307 P **P** **08 11 35.2 0.0**
ABTA Abfaltersbach 30.11 308 *e*P **P** **08 11 36.6 +0.8**
comp=Z,7.4nm,0.8s
KHC Kasperske Hory 30.16 313*ce*P **P** **08 11 36.0 -0.1**
KHC pmax pmax
comp=Z,44nm,1.7s
KHC Kasperske Hory 30.16 313 *e*P **P** **08 11 37.1 +1.0**
KHC Kasperske Hory 30.16 313 P **P** **08 11 35.8 -0.3**
CASP Castiglione de 30.49 300 P **P** **08 11 38.8 -0.3**
CTI Castel Tesino 30.51 307 P **P** **08 11 39.4 0.0**
CTI pmax pmax
comp=Z,20nm,0.9s
CTI Castel Tesino 30.51 307 P **P** **08 11 39.4 0.0**
CTI IAmb IAmb 08 11 43.7
comp=Z,20nm,0.9s
BRG Berggiesshubel 30.59 317 *e*P **P** **08 11 40.0 +0.1**
comp=Z,12nm,1.0s
BRG Berggiesshubel 30.59 317 *e*P **P** **08 11 40.0 +0.1**
BRG pmax pmax
comp=Z,12nm,1.0s
ZCCA Zocca 30.64 303 P **P** **08 11 41.6 +1.1**
WTTA Wattenberg 30.82 309 *e*P **P** **08 11 42.7 +0.5**
comp=Z,35nm,1.1s
WATA Walderalm 30.88 309 *e*P **P** **08 11 42.9 +0.2**
comp=Z,42nm,1.2s,SNR=13
VLC Villacollemand 31.03 303 P **P** **08 11 44.2 +0.4**
VLC IAmb IAmb 08 11 58.9
comp=Z,32nm,1.2s
SQTA Sankt Quirin 31.09 309 *i*P **P** **08 11 44.8 +0.3**
comp=Z,18nm,0.7s,SNR=8.8
SALO Salr 31.19 305 P **P** **08 11 45.6 +0.3**
SALO IAmb IAmb 08 11 53.8
comp=Z,23nm,0.8s
MOTA Moosalm 31.19 309 *e*P **P** **08 11 45.4 -0.1**
comp=Z,23nm,0.7s,SNR=11
NKC Novy Kostel 31.23 315 *e*P **P** **08 11 46.7 +1.1**
NKC MLR MLR
comp=Z,200nm,17.9s
NKC Novy Kostel 31.23 315 *e*P **P** **08 11 46.7 +1.1**
NKC AMS AMS 08 26 10.0
comp=Z,200nm,17.9s
CLL Collm 31.31 317 *i*P **P** **08 11 46.5 +0.3**
comp=Z,39nm,1.6s
CLL *e*PPPP 08 13 07.0
CLL *e*PcS **PcS** **08 18 24.0 +0.2**
CLL Collm 31.31 317 *i*P **P** **08 11 46.5 +0.3**
CLL pmax pmax
comp=Z,39nm,1.6s
CLL Collm 31.31 317 P **P** **08 11 46.5 +0.3**
CLL IAmb IAmb 08 11 47.6
comp=Z,21nm,1.2s
FETA Feichten 31.36 308 *e*P **P** **08 11 47.4 +0.5**
comp=Z,16nm,0.8s,SNR=12
DANN Dangsing 31.43 88 *e*P **P** **08 11 48.3 +0.4**
comp=Z,81nm,0.8s
RETA Reutte 31.45 309 *e*P **P** **08 11 47.4 -0.2**
comp=Z,5.3nm,0.7s
KOLN Koldanda 31.47 89 *e*P **P** **08 11 48.2 0.0**
comp=Z,18nm,0.8s
FUORN Ofenpass-Fuorn 31.58 307 P **P** **08 11 47.9 -1.1**
HYB Hyderabad 31.81 111 *i*P **P** **08 11 52.0 +1.0**
ZSN Zaisan 31.85 51 *e*P **P** **08 11 50.8 -0.3**
baz=51
ZSN Zaisan 31.85 51 *e*P **P** **08 11 50.7 -0.3**
FINES FINESS Array B 31.98 341 P **P** **08 11 51.5 -0.5**
comp=Z,20nm,1.0s,baz=132,slow=11,SNR=14
FINES LR LR 08 27 31.5
comp=Z,229nm,18.2s,baz=130,slow=42
FINES FINESS Array B 31.98 341 *i*P **P** **08 11 51.9 -0.1**
FINES pmax pmax
comp=Z,15nm,0.9s
FINES FINESS Array B 31.98 341 P **P** **08 11 51.2 -0.7**
DAVA Damuels 31.98 308 *e*P **P** **08 11 52.6 +0.2**
comp=Z,28nm,0.7s,SNR=12
TUE Stuetta 32.16 307 P **P** **08 11 53.2 -0.9**
TUE IAmb IAmb 08 12 04.0
comp=Z,11nm,0.7s
GKN Gorkha 32.27 88 *e*P **P** **08 11 55.5 +0.3**
comp=Z,17nm,0.3s
DMN Daman 32.79 89 *e*P **P** **08 12 00.2 +0.4**
comp=Z,52nm,0.9s
KKN Kakani 32.88 88 *e*P **P** **08 12 01.2 +0.6**
comp=Z,36nm,0.7s
PKI Pulchoki 33.06 89 *e*P **P** **08 12 02.5 +0.3**
comp=Z,101nm,1.2s
WMQ Urumqi 33.18 59 *e*P **P** **08 12 01.0 -1.8**
WMQ pP pP 08 12 07.8 -3.3
WMQ pmax pmax
comp=Z,20nm,0.9s
WMQ pmax pmax

comp=Z,85nm,4.1s
WMQ LR LR
comp=Z,250nm,19.1s
WMQ LR LR
comp=Z,200nm,18.3s
WMQ LR LR
comp=Z,320nm,25.3s
BFO Black Forest 33.25 310 P **P 08 12 04.4 +1.1**
BFO pmax pmax
comp=Z,12nm,1.1s
BFO Black Forest 33.25 310 P **P 08 12 04.4 +1.1**
GUN Gumba 33.35 88 *eP* **P 08 12 05.2 +0.4**
comp=Z,126nm,1.1s
SENIN Lac Senin/Sane 33.54 306 P **P 08 12 06.4 +0.4**
JIRN Jiri 33.69 88 *eP* **P 08 12 08.4 +0.6**
comp=Z,68nm,0.7s
BNI Bardonecchia 33.77 304 P **P 08 12 08.7 +0.6**
BNI pmax pmax
comp=Z,49nm,0.7s
BNI Bardonecchia 33.77 304 P **P 08 12 08.7 +0.6**
LPG La Plagne 33.78 304 *eP* **P 08 12 07.9 -0.4**
LPG pmax pmax
comp=Z,35nm,0.7s
LPL La Plagne 33.80 304 *eP* **P 08 12 07.9 -0.5**
LPL pmax pmax
comp=Z,51nm,0.9s
ZAA0 Zalesovo Array 33.93 40 P **P 08 12 06.6 -2.5**
ZAA0 IAmb IAmb 08 12 12.4
comp=Z,22nm,1.1s
ZALV Zalesovo Beam 33.93 40 P **P 08 12 09.1 -0.1**
comp=Z,14nm,0.7s,baz=255,slow=9.1,SNR=36
ZALV LR LR 08 27 24.6
comp=Z,187nm,21.7s,baz=254,slow=39
ZALV Zalesovo Beam 33.93 40 P **P 08 12 08.6 -0.6**
CDF Champ du Feu 33.95 310 *eP* **P 08 12 09.5 0.0**
CDF pmax pmax
comp=Z,6.0nm,0.7s
ECH Echery 33.98 309 P **P 08 12 09.6 -0.1**
ECH pmax pmax
comp=Z,31nm,1.5s
ECH Echery 33.98 309 P **P 08 12 09.6 -0.1**
ECH IAmb IAmb 08 12 10.6
comp=Z,31nm,1.5s
DGZ Jazzator, Alta 34.06 48 *ceP* **P 08 12 11.3 +0.8**
DGZ pmax pmax
comp=Z,13nm,0.9s
RAMN Ramite 34.26 89 *eP* **P 08 12 12.5 -0.1**
comp=Z,32nm,0.7s
ORIF Oris-en-Rattie 34.32 303 *eP* **P 08 12 12.4 -0.4**
ORIF pmax pmax
comp=Z,5.0nm,0.6s
CABF La Chapelle 34.40 306 *eP* **P 08 12 13.2 -0.2**
CABF pmax pmax
comp=Z,55nm,0.8s
HAU Haudompre 34.47 309 *eP* **P 08 12 12.8 -1.1**
HAU pmax pmax
comp=Z,10.0nm,0.8s
WLF Walferdange 34.95 311 P **P 08 12 18.1 +0.1**
WLF pmax pmax
comp=Z,15nm,1.0s
WLF Walferdange 34.95 311 P **P 08 12 18.1 +0.1**
WLF IAmb IAmb 08 12 24.4
comp=Z,16nm,1.0s
ODAN Odare 34.96 89 *eP* **P 08 12 18.6 0.0**
KMBO Kilima Mbogo 34.97 198 LR LR 08 26 56.9
comp=Z,410nm,20.0s,baz=82,slow=37
KMBO Kilima Mbogo 34.97 198 P **P 08 12 19.3 +0.6**
KMBO pmax pmax
comp=Z,11nm,1.5s
KMBO Kilima Mbogo 34.97 198 P **P 08 12 19.3 +0.6**
TAPN Taplejung 35.07 88 *eP* **P 08 12 20.4 +0.8**
comp=Z,80nm,1.0s
VIVF Saint-Julien-l 35.17 303 *eP* **P 08 12 19.2 -0.8**
VIVF pmax pmax
comp=Z,48nm,1.5s
SSB Saint Sauveur 35.30 304 P **P 08 12 21.2 0.0**
SSB pmax pmax
comp=Z,19nm,1.4s
SSB Saint Sauveur 35.30 304 P **P 08 12 21.2 0.0**
SSB IAmb IAmb 08 12 22.9
comp=Z,19nm,1.4s
LOR Lormes 36.01 307 *eP* **P 08 12 26.0 -1.2**
LOR pmax pmax
comp=Z,19nm,1.0s
AVF Avril sur Loir 36.29 306 *eP* **P 08 12 28.7 -0.9**
AVF pmax pmax
comp=Z,26nm,1.1s
MBAR Mbarara 36.67 209 P **P 08 12 33.8 +0.5**
comp=Z,3.0nm,0.2s,baz=27,slow=16,SNR=1.7
MBAR Mbarara 36.67 209‖ *eP* **P 08 12 34.1 +0.8**
MBAR pmax pmax
comp=Z,7.0nm,1.3s
MBAR Mbarara 36.67 209 IAmb IAmb 08 12 36.4
comp=Z,1.3nm,1.5s
NB2 NORSAR Subarra 36.87 331 P **P 08 12 33.5 -0.9**
comp=Z,4.7nm,0.8s,baz=122,slow=8.6
NOA NORSAR Array B 36.87 331 P **P 08 12 33.4 -1.0**
comp=Z,2.6nm,0.7s,baz=125,slow=8.6,SNR=10
NOA LR LR 08 29 01.8
comp=Z,135nm,18.8s,baz=125,slow=38
CAF Calviac 37.02 303 *eP* **P 08 12 35.6 -0.3**
CAF pmax pmax
comp=Z,12nm,1.2s
LSA Lhasa 37.27 83 P **P 08 12 37.8 -0.8**
LSA pmax pmax
comp=Z,20nm,0.9s
LSA Lhasa 37.27 83 P **P 08 12 37.8 -0.8**
LSA IAmb IAmb 08 12 41.3
comp=Z,20nm,0.9s
RJF Les Rejaudoux 37.43 303 *eP* **P 08 12 39.2 -0.1**
RJF pmax pmax
comp=Z,15nm,1.1s
TAM Tamanrasset 38.23 266 P **P 08 12 45.9 -0.6**
TAM pmax pmax
comp=Z,14nm,1.3s
TAM Tamanrasset 38.23 266 P **P 08 12 45.9 -0.6**
ARCES ARCESS Array B 38.95 348 P **P 08 12 51.4 -0.3**
comp=Z,6.4nm,0.6s,baz=159,slow=9.4,SNR=30
ARCES PcP **PcP 08 15 02.4 +0.6**
comp=Z,2.4nm,0.6s,baz=156,slow=2.9,SNR=3.7
ARCES ScP **S 08 18 48.6 +0.3**
comp=Z,4.0nm,0.9s,baz=156,slow=4.6,SNR=5.4
ARCES LR LR 08 30 50.4
comp=Z,171nm,18.3s,baz=172,slow=39
ARCES ARCESS Array B 38.95 348 P **P 08 12 51.6 -0.1**
ARE0 ARCESS Array S 38.95 348 P **P 08 12 51.4 -0.4**
FLN La Foliniere 39.09 309 *eP* **P 08 12 51.7 -1.5**
FLN pmax pmax
comp=Z,13nm,0.7s
SHL Shillong 39.19 89 P **P 08 12 54.0 -0.5**
SHL pmax pmax
comp=Z,65nm,1.2s
SHL Shillong 39.19 89 P **P 08 12 54.0 -0.5**
GRR Gorron 39.30 308 *eP* **P 08 12 53.7 -1.2**
GRR pmax pmax
comp=Z,19nm,0.8s
BRDH Bariadhala 40.09 93 P **P 08 13 00.7 -1.1**
comp=Z,120nm,0.6s,baz=90,slow=0.3,SNR=1.6
ROSF Rostrenen 40.90 308 *eP* **P 08 13 06.9 -1.3**
ROSF pmax pmax
comp=Z,20nm,0.8s
ESDC Sonseca Array 41.67 295 P **P 08 13 15.0 +0.3**
comp=Z,7.1nm,1.2s,baz=69,slow=7.5,SNR=17
ESDC ScP **ScP 08 19 01.1 +1.6**
comp=Z,0.5nm,0.4s,baz=38,slow=2.3,SNR=3.7
ESDC LR LR 08 34 39.0
comp=Z,55nm,18.2s,baz=320,slow=42
ESDC Sonseca Array 41.67 295 P **P 08 13 15.1 +0.4**
GUD Guadarrama 41.70 296 P **P 08 13 17.2 +2.1**
GUD pmax pmax
comp=Z,12nm,1.1s
EKA Eskdalemuir Ar 41.74 318 P **P 08 13 14.8 -0.2**
EKA pmax pmax
comp=Z,1.0nm,0.6s
GTA Gaotai 42.34 66 *eP* **P 08 13 21.3 +1.0**
GTA pP pP 08 13 25.9 -2.9
GTA sP sP 08 13 28.4 -3.9
GTA S **S 08 19 44.1 +4.2**
GTA sS sS 08 19 53.5 -0.3
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA pmax pmax
comp=Z,58nm,4.6s
GTA LR LR
comp=Z,250nm,17.5s
GTA LR LR
comp=Z,320nm,18.7s
GTA LR LR
comp=Z,280nm,15.9s
MOY Mondy 42.88 47 *eP* **P 08 13 26.6 +2.0**
MOY pmax pmax
comp=Z,38nm,1.6s
NRIK Noril'sk 43.01 20 P **P 08 13 25.6 +0.4**
comp=Z,4.1nm,0.5s,baz=237,slow=5.8,SNR=10
NRIK LR LR 08 35 34.9
comp=Z,304nm,18.3s,baz=194,slow=42
NRIK Noril'sk 43.01 20‖ *eP* **P 08 13 26.0 +0.8**
NRIK pmax pmax
comp=Z,26nm,1.6s
MDT Midelt 43.46 285 P **P 08 13 30.9 +1.5**
comp=Z,1.5nm,0.7s,baz=63,slow=18,SNR=2.8
PBRG Braganca 43.52 298 *eP* **P 08 13 30.4 +0.7**
comp=Z,32nm,0.9s
MVO Moncorvo 43.81 297 *eP* **P 08 13 33.6 +1.5**
comp=Z,24nm,1.5s
ZAK Zakamensk 44.25 49 *eP* **P 08 13 36.4 +0.8**
ZAK *e* 08 15 16.9
ZAK pmax pmax
comp=Z,12nm,1.5s
ZAK pmax pmax
comp=Z,3.0nm,1.1s
PMRV Marv??o 44.33 295 *eP* **P 08 13 40.1 +3.9**
comp=Z,26nm,2.0s
PCBR Castelo Branco 44.33 296 *eP* **P 08 13 37.7 +1.5**
comp=Z,34nm,1.5s
PCAB Cabril 44.49 298 *eP* **P 08 13 39.0 +1.5**
comp=Z,47nm,1.5s
TLY Talaya 44.53 47 P **P 08 13 38.7 +1.0**
comp=Z,2.3nm,0.4s,baz=245,slow=11,SNR=4.6
TLY LR LR 08 34 04.1
comp=Z,236nm,19.8s,baz=273,slow=39
TLY Talaya 44.53 47 *deP* **P 08 13 39.4 +1.7**
TLY pmax pmax
comp=Z,6.0nm,1.0s
TLY Talaya 44.53 47 IAmb IAmb 08 13 40.5
comp=Z,15nm,1.3s
PGAV Gavieira, Arco 44.64 299 *eP* **P 08 13 40.2 +1.4**
comp=Z,77nm,1.4s
PBEJ Beja 44.93 293 *eP* **P 08 13 42.5 +1.5**
comp=Z,44nm,2.0s
PMTG Montargil 45.02 295 *eP* **P 08 13 40.3 -1.4**
comp=Z,20nm,1.7s
TORD Torodi Ar. Bea 46.04 256 P **P 08 13 50.0 0.0**
comp=Z,2.3nm,0.8s,baz=51,slow=6.8,SNR=16
TORD LR LR 08 35 25.4
comp=Z,178nm,18.3s,baz=25,slow=39
TORD Torodi Ar. Bea 46.04 256 P **P 08 13 50.6 +0.6**
LZH Lanzhou 46.08 69 *eP* **P 08 13 51.4 +1.0**
LZH pP pP 08 13 55.0 -3.9
LZH sP sP 08 13 58.0 -4.4
LZH pmax pmax
comp=Z,21nm,1.1s
LZH pmax pmax
comp=Z,110nm,5.4s
LZH LR LR
comp=Z,400nm,14.3s
LZH LR LR
comp=Z,310nm,16.3s
LZH LR LR
comp=Z,400nm,15.7s
SONM Songino Array 46.33 53 P **P 08 13 51.9 -0.3**
comp=Z,5.0nm,1.0s,baz=273,slow=10,SNR=30
SONM PcP **PcP 08 15 26.2 -0.8**
comp=Z,1.5nm,0.6s,baz=251,slow=5.0,SNR=3.7
SONM ScP **ScP 08 19 19.8 +1.3**
comp=Z,0.7nm,0.7s,baz=273,slow=2.7,SNR=2.4
SONM LR LR 08 35 05.9
comp=Z,263nm,19.8s,baz=292,slow=38
SONM Songino Array 46.33 53 P **P 08 13 51.7 -0.4**
ULN Ulaanbaatar 46.77 53 *c iP* **P 08 13 56.0 +0.4**
ULN pmax pmax
comp=Z,28nm,0.8s
ULN Ulaanbaatar 46.77 53 P **P 08 13 55.9 +0.2**
CD2 Chengdu 47.37 76 P **P 08 14 00.0 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SPITS Spitsbergen Ar 47.60 352 P **P 08 14 02.1 +0.6**
SPITS pmax pmax
comp=Z,2.0nm,0.2s
CHTO Chiang Mai 47.91 94 P **P 08 14 04.2 -0.5**
CHTO pmax pmax
comp=Z,17nm,1.0s
CHTO Chiang Mai 47.91 94 P **P 08 14 04.2 -0.5**
CHTO IAmb IAmb 08 14 05.7
comp=Z,17nm,1.0s
CMAR Chiang Mai Arr 48.08 94 P **P 08 14 05.8 -0.1**
comp=Z,5.4nm,0.9s,baz=295,slow=8.0,SNR=32
CMAR PcP **PcP 08 15 34.1 +0.6**
comp=Z,2.0nm,0.6s,baz=292,slow=4.6,SNR=5.5
CMAR LR LR 08 37 00.5
comp=Z,52nm,22.0s,baz=310,slow=40
CMAR Chiang Mai Arr 48.08 94 P **P 08 14 05.3 -0.6**
CMAR **PcP 08 15 33.9 +0.4**
KMI Kunming 48.49 84 ⇑P **P 08 14 09.1 -0.2**
KMI pP sP 08 14 20.9 -0.2
KMI pmax pmax
comp=Z,24nm,1.4s
XAN Xi'an 50.63 71 P **P 08 14 25.5 +0.2**
XAN pP pP 08 14 30.4 -3.5
XAN pmax pmax
comp=Z,21nm,1.5s
XAN Xi'an 50.63 71 P **P 08 14 24.5 -0.8**
XAN pmax pmax
comp=Z,16nm,1.1s
XAN Xi'an 50.63 71 P **P 08 14 24.5 -0.8**
XAN IAmb IAmb 08 14 27.0
comp=Z,16nm,1.1s
PBKT Sadao Pong 50.67 95 P **P 08 14 25.2 -0.5**
PBKT IAmb IAmb 08 14 26.9
comp=Z,23nm,1.3s
BOD Bodaibo 50.68 39 *eP* **P 08 14 25.1 -0.2**
BOD pmax pmax
comp=Z,20nm,1.8s
HHC Hu-ho-hao-te 50.96 61 *eP* **P 08 14 28.9 +1.1**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,100nm,4.3s
HHC LR LR
comp=Z,250nm,16.2s
HHC LR LR
comp=Z,230nm,14.5s
HHC LR LR
comp=Z,210nm,14.5s
SLVN Son La 50.99 88 P **P 08 14 27.9 -0.3**
SLVN IAmb IAmb 08 14 30.0
comp=Z,23nm,1.4s
LSZ Lusaka 51.12 204 P **P 08 14 29.8 +0.7**
LSZ pmax pmax
comp=Z,24nm,1.3s
LSZ Lusaka 51.12 204 P **P 08 14 29.8 +0.7**
LSZ IAmb IAmb 08 14 34.1
comp=Z,24nm,1.2s
GYA Guiyang 51.27 81 ⇓P **P 08 14 30.0 -0.3**
GYA S **S 08 21 43.6 -4.1**
GYA SS **SS 08 25 16.8 -6.5**
GYA pmax pmax
comp=Z,15nm,1.1s
BJI Beijing 54.57 61 P **P 08 14 53.8 -0.5**
BJI pmax pmax
comp=Z,3.0nm,0.8s
BJI LR LR
comp=Z,220nm,19.8s
BJI LR LR
comp=Z,91nm,25.5s
HIA Hailar 54.95 50 P **P 08 14 57.3 +0.3**
HIA pmax pmax
comp=Z,23nm,1.0s
HIA Hailar 54.95 50 P **P 08 14 57.3 +0.3**
DBIC Dimbokro 54.99 254 P **P 08 14 57.8 +0.1**
comp=Z,7.2nm,1.0s,baz=48,slow=6.1,SNR=4.5
DBIC LR LR 08 41 19.1
comp=Z,278nm,18.0s,baz=30,slow=39
KIC Kosan Boka 55.08 253 *e*PKP1 **P 08 14 59.7 +1.4**
comp=Z,32nm,1.3s
TIC Toumodi 55.14 254 *e*PKP1 **P 08 15 00.3 +1.5**
LIC Lamto 55.39 253 *e*PKP1 **P 08 15 00.4 -0.2**
comp=Z,20nm,0.8s
KULM Kulim 56.42 107 P **P 08 15 07.5 -0.5**
PSI Prapat 56.53 111 LR LR 08 40 55.4
comp=Z,116nm,19.0s,baz=274,slow=38
PSI Prapat 56.53 111 P **P 08 15 07.6 -1.2**
PSI pmax pmax
comp=Z,32nm,1.4s
RPSI Rantau Prapat 56.59 111 P **P 08 15 07.6 -1.6**
RPSI IAmb IAmb 08 15 09.6
comp=Z,32nm,1.4s
IPM Ipoh 57.20 108 P **P 08 15 12.4 -1.1**
SUMG Summit 58.00 339 *i* P **P 08 15 19.0 +0.2**
comp=Z,122nm,1.5s
SUMG Summit 58.00 339 *i* P **P 08 15 19.0 +0.2**
SUMG pmax pmax
comp=Z,120nm,1.5s
SUMG Summit 58.00 339 P **P 08 15 18.5 -0.3**
ZEA Zeya 58.59 43 *eP* **P 08 15 23.6 +0.9**
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
TSUM Tsumeb 58.97 213 P **P 08 15 25.6 -0.3**
NJ2 Nanjing 59.16 70 *eP* **P 08 15 26.1 -0.9**
NJ2 pmax pmax
comp=Z,15nm,0.5s
BKNI Bangkinang 59.71 111 P **P 08 15 31.3 +0.3**
comp=Z,7μmcomp=Z,51nm,1.2s
BKNI Bangkinang 59.71 111 P **P 08 15 31.1 +0.1**
CN2 Changchun 60.13 55 *eP* **P 08 15 33.3 -0.2**
CN2 *eS* **S 08 23 43.8 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
SDSI Sungai Dareh 60.79 112 P **P 08 15 37.9 -0.5**
comp=Z,29nm,1.2s
KLR Kul'dur 62.55 47 LR LR 08 45 53.9
comp=Z,140nm,19.0s,baz=284,slow=39
KLR Kul'dur 62.55 47 *c iP* **P 08 15 49.1 -0.7**
KLR pmax pmax
comp=Z,16nm,1.4s
KSAR Wonju Array Be 64.07 61 P **P 08 15 59.2 -0.8**
KSAR Wonju Array Be 64.07 61 P **P 08 15 59.2 -0.8**
KSRS Korea Array 64.09 61 P **P 08 15 59.0 -1.2**
comp=Z,4.0nm,0.8s,baz=280,slow=7.0,SNR=10
KSRS LR LR 08 47 00.3
comp=Z,133nm,19.9s,baz=294,slow=39
KSRS Korea Array 64.09 61 P **P 08 15 59.0 -1.2**
USA0B Ussuriysk Arra 64.44 53 *ceP* **P 08 16 01.2 -1.2**
USA0B Ussuriysk Arra 64.44 53 P **P 08 16 01.0 -1.4**
USA0B IAmb IAmb 08 16 02.4
comp=Z,9.8nm,0.9s
USRK Ussuriysk Ar. 64.44 53 P **P 08 16 01.2 -1.1**
comp=Z,5.9nm,0.8s,baz=286,slow=5.7,SNR=12
USRK Ussuriysk Ar. 64.44 53 P **P 08 16 00.7 -1.7**
BOSA Boshof 64.49 202 P **P 08 16 03.6 +0.8**
comp=Z,4.2nm,0.8s,baz=359,slow=4.0,SNR=6.6
BOSA LR LR 08 44 54.4
comp=Z,122nm,18.2s,baz=24,slow=37
BOSA Boshof 64.49 202 P **P 08 16 02.7 -0.2**
BOSA IAmb IAmb 08 16 07.0
comp=Z,16nm,1.3s
EUNU Eureka 64.72 352 P **P 08 16 04.2 +0.5**
EUNU IAmb IAmb 08 16 09.3
comp=Z,7.7nm,0.9s
TEY Ternei 67.17 50 *eP* **P 08 16 18.4 -1.5**
TEY *e* 08 16 20.8
SEY Seymchan 67.77 29 *c iP* **P 08 16 24.2 +0.8**
TYV Tymovskoe 68.45 43 *eP* **P 08 16 28.6 +0.8**
TYV pmax pmax
comp=Z,15nm,1.0s
TYV pmax pmax
comp=Z,100nm,3.0s
MA2 Magadan 68.67 32 *deP* **P 08 16 29.3 +0.2**
MA2 pmax pmax
comp=Z,8.0nm,1.3s
KKM Kota Kinabalu 68.85 97 P **P 08 16 31.7 +0.7**
YSS Yuzh-Sakhalins 70.23 46 *ceP* **P 08 16 38.8 -0.2**
YSS *e* 08 16 44.0
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 70.23 46 P **P 08 16 38.7 -0.2**
MJB9 Matsu-Tunnel 71.94 58 P **P 08 16 48.1 -1.5**
MJB9 IAmb IAmb 08 16 48.9
comp=Z,8.2nm,1.1s
MAJO Matsushiro 71.94 58 *deP* **P 08 16 48.6 -1.0**
MAJO pmax pmax
comp=Z,6.0nm,1.5s
MAJO Matsushiro 71.94 58 P **P 08 16 48.4 -1.2**
MAJO IAmb IAmb 08 16 49.1
comp=Z,8.4nm,1.1s
MAT Matsushiro 71.94 58 P **P 08 16 48.4 -1.2**
MJAR Matsushiro Arr 71.94 58 P **P 08 16 48.7 -0.9**
MJAR pmax pmax
comp=Z,2.0nm,1.1s
MJAR Matsushiro Arr 71.94 58 P **P 08 16 48.7 -0.9**
SCHQ Schefferville 76.30 327 P **P 08 17 13.8 -0.9**
comp=Z,5.8nm,0.9s,baz=38,slow=10,SNR=4.4
SCHQ Schefferville 76.30 327 IAmb IAmb 08 17 27.6
comp=Z,20nm,1.4s
RDOG Red Dog Mine 77.05 11 P **P 08 17 17.6 -1.0**
TOLK Toolik Lake Re 78.22 6 P **P 08 17 26.4 +1.1**
TOLK IAmb IAmb 08 17 29.3
comp=Z,9.7nm,0.8s
INK Inuvik 79.35 0 P **P 08 17 30.5 -0.8**
comp=Z,1.6nm,0.7s,baz=21,slow=14,SNR=1.6
INK Inuvik 79.35 0 P **P 08 17 30.7 -0.6**
INK pmax pmax
comp=Z,10.0nm,1.5s
INK Inuvik 79.35 0 P **P 08 17 30.7 -0.6**
COLD Coldfoot 79.53 7 P **P 08 17 32.5 +0.1**
IMAR Indian Mountai 80.32 9 P **P 08 17 36.5 -0.2**
BATG Bathurst New B 80.58 321 P **P 08 17 39.7 +1.2**
HAL Halifax 80.84 318 P **P 08 17 41.4 +1.5**
HAL pmax pmax
comp=Z,26nm,0.8s
HAL Halifax 80.84 318 P **P 08 17 41.4 +1.5**
MDM Murphy Dome 81.93 7 P **P 08 17 45.9 +0.5**
MDM IAmb IAmb 08 17 46.8
comp=Z,15nm,1.4s
COLA College 82.05 7⇑ *eP* **P 08 17 46.7 +0.8**
COLA pmax pmax
comp=Z,3.0nm,1.0s
ILAR Eielson Array 82.24 6 P **P 08 17 46.0 -0.9**
comp=Z,0.9nm,0.7s,baz=330,slow=3.6,SNR=8.9
D62A Allapoint, All 82.28 322 P **P 08 17 47.3 -0.1**
BPAW Bear Paw Mtn. 82.47 8 P **P 08 17 48.5 +0.3**
BPAW IAmb IAmb 08 17 49.2
comp=Z,14nm,1.4s
F64A Sherman 82.70 321 P **P 08 17 49.9 +0.3**
F64A IAmb IAmb 08 17 53.0
comp=Z,8.2nm,0.9s
E62A Clayton Lake 82.83 322 P **P 08 17 50.9 +0.5**
E62A IAmb IAmb 08 17 51.5
comp=Z,8.6nm,0.8s
DOT Dot Lake 83.59 5 P **P 08 17 54.5 +0.6**
YKA Yellowknife Ar 84.10 352 P **P 08 17 55.9 -0.6**
comp=Z,1.7nm,0.7s,baz=317,slow=6.4,SNR=5.8
YKA Yellowknife Ar 84.10 352⇑ *eP* **P 08 17 56.1 -0.4**
YKA pmax pmax
comp=Z,2.0nm,0.7s
SOEI Soe 84.26 105 P **P 08 17 58.8 +0.6**
comp=Z,50nm,1.4s
MENT Mentasta 84.32 5 P **P 08 17 58.3 +0.7**
MENT IAmb IAmb 08 17 58.7
comp=Z,8.2nm,1.2s
BCAR Beaver Creek A 84.32 4 P **P 08 17 58.2 +0.5**
MOQ Mont Orford 85.12 322 P **P 08 18 02.8 +0.7**
LONY Lake Ozonia 86.80 323 P **P 08 18 11.1 +0.8**
PSA00 Pilbara Seismi 87.60 117 P **P 08 18 14.6 +0.1**
KDAK Kodiak Island 88.34 11 P **P 08 18 17.8 +0.4**
comp=Z,8.6nm,0.9s,baz=37,slow=7.5,SNR=5.4
KDAK Kodiak Island 88.34 11 P **P 08 18 17.3 -0.2**
DLBC Dease Lake 89.23 359 P **P 08 18 19.8 -2.0**
comp=Z,1.4nm,0.4s,baz=79,slow=10,SNR=6.0
DLBC Dease Lake 89.23 359 P **P 08 18 20.3 -1.5**
DLBC IAmb IAmb 08 18 34.0
comp=Z,16nm,1.5s
ULM Lac du Bonnet 91.32 337‖ *eP* **P 08 18 31.4 -0.1**
G40A Rib Lake 93.47 332 P **P 08 18 41.4 -0.2**
G40A IAmb IAmb 08 18 42.5
comp=Z,6.8nm,0.8s
O52A Adamsville 93.76 324 P **P 08 18 42.9 -0.1**
P53A Whipple 94.00 323 P **P 08 18 44.6 +0.4**
P53A IAmb IAmb 08 18 45.1
comp=Z,11nm,1.1s
V53A Saluda 97.63 321 P **P 08 19 00.8 0.0**
V53A IAmb IAmb 08 19 02.2
comp=Z,4.6nm,0.9s

WRA	**Warramunga Arr**	**97.94**	**108**	P	**P**	**08 19 00.6**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=319,slow=4.1,SNR=3.6						
WRA	**Warramunga Arr**	**97.94**	**108**	*i* P	Pdif	08 19 04.9	+2.5
WRA	**Warramunga Arr**	**97.94**	**108**	P	**P**	**08 19 01.8**	**-0.5**
ASAR	**Alice Springs**	**99.54**	**112**	P	**Pdif**	**08 19 08.6**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=306,slow=5.0,SNR=6.7						
ASAR	**Alice Springs**	**99.54**	**112**	P	**Pdif**	**08 19 08.7**	**-0.7**
ASAR	**Alice Springs**	**99.54**	**112**	P	**Pdif**	**08 19 08.7**	**-0.7**
QSPA	**South Pole Qui**	**122.49**	**180**		**PKiKP**	**08 24 21.2**	**+0.6**

ATH 18 08:07:41.8, 37°.93N × 22°.42E, *h*14 km ± 4 km, ML2.1/1, Error ellipse: s-maj=5.1km s-min=1.6km az=285.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUR	**Goura**	**0.06**	**273**	P	Pg	08 07 44.8	+0.1
GUR				S	Sg	08 07 45.9	-0.6
GUR				AML	AML	08 07 46.4	
	comp=E,3607μm,0.2s						
GUR				AML	AML	08 07 46.6	
	comp=N,1929μm,0.2s						
TRIP	**Tripoli**	**0.42**	**196**	P	Pg	08 07 50.1	-0.2
LTK	**Loutraki**	**0.44**	**78**	P	Pg	08 07 50.3	-0.3
DSF	**Desfina**	**0.48**	**10**	P	Pg	08 07 51.4	-0.1
DSF				S	Sg	08 07 57.8	-0.2
VLX	**Vlachokerasia**	**0.56**	**183**	P	Pg	08 07 52.5	-0.4
DID	**Didima**	**0.78**	**123**	P	Pb	08 07 57.3	+0.1
DID				S	Sg	08 08 06.2	-0.9

*IDC **18** 08:07:59.1±1.9, 32°.83N × 47°.47E, h0 km, mb4.0/10, mb1 4.1/12, mb1mx3.9/55, mbtmp4.0/12, ML3.5/2, Error ellipse: s-maj=44.0km s-min=19.3km az=168.0*

ISC 18 08:08:01.1±1.6, 32°.8N±0°.2 × 47°.5E±0°.1, *h*15 km, n12, σ 0s 50/12, mb3.9/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**13.17**	**306**	Pn	**Pn**	**08 11 08.6**	**+0.8**
	0.1nm,0.3s,baz=118,slow=15,SNR=2.3						
AKTO	**Aktyubinsk**	**19.26**	**21**	P	**Pn**	**08 12 25.5**	**-0.4**
	0.3nm,0.3s,baz=195,slow=12,SNR=3.6						
AKASG	**Malin Array Be**	**22.41**	**328**	P	**P**	**08 12 58.3**	**-0.7**
	4.2nm,0.7s,baz=135,slow=11,SNR=3.1						
BVAR	**Borovoye Array**	**26.05**	**32**	P	**P**	**08 13 34.0**	**+0.3**
	1.8nm,0.7s,baz=242,slow=9.2,SNR=2.5						
KURBB	**Kurchatov Arra**	**28.90**	**43**	P	**P**	**08 14 00.0**	**+0.7**
	2.7nm,0.7s,baz=246,slow=9.5,SNR=4.4						
MKAR	**Makanchi Array**	**29.87**	**52**	P	**P**	**08 14 07.9**	**-0.1**
	2.5nm,0.8s,baz=248,slow=6.9,SNR=3.9						
GERES	**GERESS Array B**	**29.91**	**312**	P	**P**	**08 14 08.4**	**0.0**
	0.4nm,0.4s,baz=91,slow=8.8,SNR=1.9						
ZALV	**Zelesovo Beam**	**33.81**	**40**	P	**P**	**08 14 42.6**	**+0.2**
	5.5nm,0.8s,baz=242,slow=7.9,SNR=5.2						
ARCES	**ARCESS Array B**	**38.82**	**348**	P	**P**	**08 15 24.8**	**-0.2**
	1.5nm,0.6s,baz=159,slow=10,SNR=3.5						
ESDC	**Sonseca Array**	**41.64**	**295**	P	**P**	**08 15 48.5**	**-0.3**
	1.7nm,1.0s,baz=77,slow=8.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**46.10**	**256**	P	**P**	**08 16 24.8**	**-0.1**
	1.0nm,0.8s,baz=74,slow=6.7,SNR=1.8						
SONM	**Songino Array**	**46.23**	**53**	P	**P**	**08 16 26.0**	**+0.3**
	1.5nm,0.9s,baz=279,slow=9.8,SNR=3.2						

PRU 18 08:11:39.7±0.0, 51°.49N × 16°.12E, *h*0 km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.66**	**170**	*e*Pg	Pg	08 11 51.8	-0.5
KSP				*e*Sg	Sg	08 12 01.0	+0.3
CHVC	**Chvalec**	**0.90**	**183**	*e*PG	Pg	08 11 56.5	-0.5
CHVC				*e*SG	Sg	08 12 09.2	+0.5
	comp=Z,9.8nm,0.5s						
OSTC	**Ostas**	**0.94**	**176**	*e*PG	Pg	08 11 58.0	+0.4
OSTC				*e*SG	Sg	08 12 09.8	+0.1
	10.0nm,0.3s						
UPC	**Upice**	**0.99**	**184**	*e*SG	Sg	08 12 11.2	-0.1
	comp=Z,20nm,0.3s						
DPC	**Dobruska-Polom**	**1.15**	**174**	*e*PG	Pg	08 12 00.3	-1.4
DPC				*e*SG	Sg	08 12 16.0	-0.5
	comp=Z,4.0nm,0.3s						
DPC	**Dobruska-Polom**	**1.15**	**174**	*e*	Sg	08 12 16.0	-0.5
PVCC	**Panska Ves**	**1.37**	**226**	*e*SG	Sg	08 12 23.6	-0.2
	comp=Z,20nm,0.2s						
KRLC	**Kraliky**	**1.48**	**163**	*e*SG	Sg	08 12 26.7	-0.4
	comp=Z,5.6nm,0.4s						
KRLC	**Kraliky**	**1.48**	**163**	*e*	Sg	08 12 26.7	-0.4
BRG	**Berggiesshubel**	**1.50**	**247**	PG	Pn	08 12 07.4	-0.5
BRG				SG	Sg	08 12 26.4	-1.6
	10nm,0.4s						
NKC	**Novy Kostel**	**2.65**	**243**	*e*SG	Sg	08 13 04.7	+0.1
KHC	**Kasperske Hory**	**2.87**	**216**	*e*SG	Sg	08 13 10.1	-1.7

*NEIC **18** 08:17:44.5, 50°.50N × 130°.21W, h10 km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=4.85; Mθθ=1.41; Mφφ=5.41; Mrθ=-2.41; Mrφ=2.24; Mθφ=2.69; Fault plane solution: M0=6.70000×10^15 NP1:φs=34.00000°, δ=63.00000°, λ=-70.00000°. NP2:φs=175.00000°, δ=33.00000°, λ=-124.00000°. Principal axes: T 7.2845, Plg=16.0000°, Azm=109.0000°; N -1.2901, Plg=18.0000°, Azm=205.0000°; P -5.9944, Plg=66.0000°, Azm=341.0000°;*

*OTT **18** 08:17:44.5±3.2, 50°.50N±0°.04 × 130°.22W±0°.08, h10 km±1 km, Mwr=4.5, mb4.0/23(NEIC) Error ellipse: s-maj=9.2km s-min=5.3km az=239.0*

*PGC **18** 08:17:44.5±0.6, 50°.50N × 130°.22W, h10 km, MLSn3.5/47, Mw4.5, Mw4.1/47, 198km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

*NEIC **18** 08:17:45.3±2.9, 50°.57N±0°.04 × 130°.07W±0°.08, h16 km±5 km, Error ellipse: s-maj=8.1km s-min=4.4km az=63.0*

*IDC **18** 08:17:46.9±1.1, 50°.63N × 129°.69W, h0 km, mb3.8/4, mb1 4.1/9, mb1mx3.7/55, mbtmp3.9/9, ML3.8/4, MS3.4/11, Ms1 3.4/11, ms1mx3.2/47, Error ellipse: s-maj=20.3km s-min=11.7km az=77.0*

ISC 18 08:17:45.0±3.0, 50°.55N±0°.05 × 130°.12W±0°.05, *h*15 km±20 km, n274, σ 19s 49/309, mb3.8/9, MS3.3/5, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.27**	**85**	P	**Pb**	**08 18 07.3**	**-1.2**
HOLB				S	**Sb**	**08 18 22.6**	**-2.2**
HOLB	**Holberg**	**1.27**	**85**		**Pn**	**08 18 07.0**	**-1.2**
HOLB					**Sb**	**08 18 22.0**	**-2.7**
BPBC	**Brooks Peninsu**	**1.56**	**104**	P	**Pn**	**08 18 10.4**	**-1.7**
BPBC	**Brooks Peninsu**	**1.56**	**104**		**Pn**	**08 18 10.0**	**-2.1**
PACB	**Port Alice, BC**	**1.68**	**93**	Pn	**Pn**	**08 18 12.8**	**-0.9**
PACB				Sn	**Sn**	**08 18 33.2**	**-1.8**
PACB	**Port Alice, BC**	**1.68**	**93**	Pn	**Pn**	**08 18 12.0**	**-1.8**
PACB				Sn	**Sn**	**08 18 33.0**	**-2.0**
PHC	**Port Hardy**	**1.72**	**84**	Pn	**Pn**	**08 18 13.9**	**-0.4**
PHC				Sn	**Sn**	**08 18 34.5**	**-1.4**
MAYB	**Maynard**	**1.89**	**93**	Pn	**Pn**	**08 18 16.0**	**-0.8**
MAYB	**Maynard**	**1.89**	**93**	Pn	**Pn**	**08 18 15.0**	**-1.8**
FHRB	**Fair Harbour**	**1.99**	**103**	Pn	**Pn**	**08 18 16.6**	**-1.4**
FHRB	**Fair Harbour**	**1.99**	**103**	Pn	**Pn**	**08 18 16.0**	**-2.0**
EDB	**Eliza Dome**	**2.04**	**108**	Pn	**Pn**	**08 18 17.1**	**-1.7**
EDB				Sn	**Sn**	**08 18 40.8**	**-3.1**
EDB	**Eliza Dome**	**2.04**	**108**	Pn	**Pn**	**08 18 17.0**	**-1.7**
EDB				Sn	**Sn**	**08 18 40.0**	**-3.9**
BBB	**Bella Bella**	**2.07**	**37**	Pn	**Pn**	**08 18 18.3**	**-0.7**
	23nm,0.3s,baz=217,slow=6.8,SNR=730						
BBB				Sn	**Sn**	**08 18 41.5**	**-3.0**
	63nm,0.3s,baz=286,slow=20,SNR=5.7						
BBB				LR	LR	08 19 11.2	
	comp=Z,503nm,18.4s,baz=69,slow=46						
BBB	**Bella Bella**	**2.07**	**37**	Pn	**Pn**	**08 18 18.7**	**-0.3**
BBB				Sn	**Sn**	**08 18 42.7**	**-1.8**
BBB	**Bella Bella**	**2.07**	**37**	Pn	**Pn**	**08 18 18.0**	**-1.1**
BBB				Sn	**Sn**	**08 18 42.0**	**-2.5**
TLCB	**Telegraph Cove**	**2.10**	**89**	Pn	**Pn**	**08 18 19.3**	**-0.2**
TLCB				Sn	**Sn**	**08 18 44.0**	**-1.2**
TLCB	**Telegraph Cove**	**2.10**	**89**	Pn	**Pn**	**08 18 19.0**	**-0.5**
TLCB				Sn	**Sn**	**08 18 44.0**	**-1.2**
HG3B	**Hotspring**	**2.19**	**338**	Pn	**Pn**	**08 18 19.0**	**-1.8**
HG3B				Sn	**Sn**	**08 18 45.2**	**-2.4**
HG3B	**Hotspring**	**2.19**	**338**	Pn	**Pn**	**08 18 19.0**	**-1.8**
HG3B				Sn	**Sn**	**08 18 45.0**	**-2.6**
BNB	**Barry Inlet**	**2.27**	**334**	Pn	**Pn**	**08 18 20.9**	**-1.0**
WOSB	**Woss**	**2.31**	**98**	Pn	**Pn**	**08 18 22.1**	**-0.4**
WOSB	**Woss**	**2.31**	**98**	Pn	**Pn**	**08 18 22.0**	**-0.4**
NTKA	**Nootka**	**2.45**	**112**	Pn	**Pn**	**08 18 22.9**	**-1.4**
NTKA				Sn	**Sn**	**08 18 51.4**	**-2.6**
ETB	**Estevan Point**	**2.59**	**115**	Pn	**Pn**	**08 18 25.1**	**-1.1**
ETB	**Estevan Point**	**2.59**	**115**	Pn	**Pn**	**08 18 25.0**	**-1.3**
NCRB	**Newcastle Ridg**	**2.60**	**92**	Pn	**Pn**	**08 18 26.2**	**-0.3**
NCRB	**Newcastle Ridg**	**2.60**	**92**	Pn	**Pn**	**08 18 26.0**	**-0.5**
HG1B	**Mitchell Dam**	**2.70**	**333**	Pn	**Pn**	**08 18 26.3**	**-1.4**
HG1B	**Mitchell Dam**	**2.70**	**333**	Pn	**Pn**	**08 18 26.0**	**-1.7**
GDR	**Gold River**	**2.74**	**105**	Pn	**Pn**	**08 18 27.5**	**-0.8**
GDR	**Gold River**	**2.74**	**105**	Pn	**Pn**	**08 18 27.0**	**-1.3**
SPLB	**Strathcona Par**	**2.94**	**101**	Pn	**Pn**	**08 18 31.1**	**-0.1**
SPLB	**Strathcona Par**	**2.94**	**101**	Pn	**Pn**	**08 18 31.0**	**-0.1**
BNAB	**Bonilla**	**2.97**	**354**	Pn	**Pn**	**08 18 30.1**	**-1.3**
BNAB				Sn	**Sn**	**08 19 03.5**	**-3.2**
BNAB	**Bonilla**	**2.97**	**354**	Pn	**Pn**	**08 18 30.0**	**-1.4**
BNAB				Sn	**Sn**	**08 19 03.0**	**-3.7**
DIB	**Dawson Inlet,**	**3.03**	**332**	Pn	**Pn**	**08 18 30.7**	**-1.7**
DIB				Sn	**Sn**	**08 19 05.7**	**-2.6**
DIB	**Dawson Inlet,**	**3.03**	**332**	Pn	**Pn**	**08 18 30.9**	**-1.5**
TOFB	**Tofino**	**3.06**	**115**	Pn	**Pn**	**08 18 31.9**	**-0.9**
TOFB	**Tofino**	**3.06**	**115**	Pn	**Pn**	**08 18 31.0**	**-1.7**
CBB	**Campbell River**	**3.09**	**98**	Pn	**Pn**	**08 18 33.4**	**+0.2**
CBB	**Campbell River**	**3.09**	**98**	Pn	**Pn**	**08 18 33.0**	**-0.2**
VIB	**Van Inlet**	**3.10**	**332**	Pn	**Pn**	**08 18 31.8**	**-1.6**
VIB				Sn	**Sn**	**08 19 05.3**	**-4.7**
VIB	**Van Inlet**	**3.10**	**332**	Pn	**Pn**	**08 18 31.0**	**-2.3**
BTB	**Buttle Lake**	**3.16**	**108**	Pn	**Pn**	**08 18 33.7**	**-0.6**
BTB	**Buttle Lake**	**3.16**	**108**	Pn	**Pn**	**08 18 33.0**	**-1.2**
MWAB	**Mount Washingt**	**3.20**	**103**	Pn	**Pn**	**08 18 34.8**	**0.0**
MWAB	**Mount Washingt**	**3.20**	**103**	Pn	**Pn**	**08 18 34.0**	**-0.8**
B012	**Ucluelet**	**3.38**	**117**	Pn	**Pn**	**08 18 36.1**	**-1.1**
B012				Sn	**Sn**	**08 19 13.2**	**-3.8**
B012	**Ucluelet**	**3.38**	**117**	Pn	**Pn**	**08 18 36.0**	**-1.1**
B012				Sn	**Sn**	**08 19 13.0**	**-4.0**
OZB	**Mount Ozzard**	**3.40**	**116**	Pn	**Pn**	**08 18 36.3**	**-1.1**
OZB	**Mount Ozzard**	**3.40**	**116**	Pn	**Pn**	**08 18 36.0**	**-1.4**
BFSB	**Bamfield**	**3.66**	**116**	Pn	**Pn**	**08 18 40.8**	**-0.2**
B928	**Bamfield**	**3.66**	**116**	Pn	**Pn**	**08 18 40.5**	**-0.5**
B928	**Bamfield**	**3.66**	**116**	Pn	**Pn**	**08 18 40.0**	**-1.0**
MASB	**Masset**	**3.66**	**342**	Pn	**Pn**	**08 18 41.0**	**0.0**
MASB	**Masset**	**3.66**	**342**	Pn	**Pn**	**08 18 41.0**	**0.0**
B927	**Port Alberni**	**3.68**	**109**	Pn	**Pn**	**08 18 41.0**	**-0.2**
B927	**Port Alberni**	**3.68**	**109**	Pn	**Pn**	**08 18 40.0**	**-1.2**
TXB	**Texada**	**3.76**	**101**	Pn	**Pn**	**08 18 42.2**	**-0.1**
TXB	**Texada**	**3.76**	**101**	Pn	**Pn**	**08 18 42.0**	**-0.3**
RUBB	**Prince Rupert**	**3.79**	**359**	Pn	**Pn**	**08 18 42.5**	**-0.2**
RUBB				Sn	**Sn**	**08 19 25.4**	**-1.4**
RUBB	**Prince Rupert**	**3.79**	**359**	Pn	**Pn**	**08 18 42.0**	**-0.7**
RUBB				Sn	**Sn**	**08 19 25.0**	**-1.9**
MGB	**Mount Grey**	**3.84**	**112**	Pn	**Pn**	**08 18 42.7**	**-0.9**
MGB	**Mount Grey**	**3.84**	**112**	Pn	**Pn**	**08 18 42.0**	**-1.6**
GHNB	**Nanoose**	**4.00**	**106**	Pn	**Pn**	**08 18 45.2**	**-0.4**
GHNB	**Nanoose**	**4.00**	**106**	Pn	**Pn**	**08 18 45.0**	**-0.6**
SHB	**Sechelt**	**4.13**	**101**	Pn	**Pn**	**08 18 47.8**	**+0.2**
SHB	**Sechelt**	**4.13**	**101**	Pn	**Pn**	**08 18 47.0**	**-0.6**
YOUB	**Youbou, Lake C**	**4.14**	**111**	Pn	**Pn**	**08 18 47.6**	**-0.1**
YOUB	**Youbou, Lake C**	**4.14**	**111**	Pn	**Pn**	**08 18 47.0**	**-0.7**
NLLB	**Nanaimo Lost L**	**4.18**	**106**	Pn	**Pn**	**08 18 47.5**	**-0.6**
NLLB	**Nanaimo Lost L**	**4.18**	**106**	Pn	**Pn**	**08 18 47.0**	**-1.1**
PFB	**Port Renfrew**	**4.19**	**116**	Pn	**Pn**	**08 18 48.1**	**-0.2**
PFB	**Port Renfrew**	**4.19**	**116**	Pn	**Pn**	**08 18 48.0**	**-0.3**
OCP	**Olym-Cheeka Pk**	**4.24**	**120**	Pn	**Pn**	**08 18 49.3**	**+0.4**
OCP	**Olym-Cheeka Pk**	**4.24**	**120**	Pn	**Pn**	**08 18 49.0**	**+0.1**
B926	**Mesachie Lake**	**4.26**	**112**	Pn	**Pn**	**08 18 49.5**	**+0.3**
B926	**Mesachie Lake**	**4.26**	**112**	Pn	**Pn**	**08 18 49.0**	**-0.1**
WPB	**Watts Point**	**4.54**	**99**	Pn	**Pn**	**08 18 53.1**	**+0.6**
WPB	**Watts Point**	**4.54**	**99**	Pn	**Pn**	**08 18 53.0**	**0.0**
BIB	**Bowen Island**	**4.54**	**102**	Pn	**Pn**	**08 18 53.0**	**-0.1**
BIB	**Bowen Island**	**4.54**	**102**	Pn	**Pn**	**08 18 53.0**	**-0.1**
GOBB	**Galiano Island**	**4.58**	**108**	Pn	**Pn**	**08 18 54.0**	**+0.5**
GOBB	**Galiano Island**	**4.58**	**108**	Pn	**Pn**	**08 18 53.0**	**-0.5**
WSLR	**Whistler**	**4.63**	**92**	Pn	**Pn**	**08 18 54.9**	**+0.5**
WSLR	**Whistler**	**4.63**	**92**	Pn	**Pn**	**08 18 54.0**	**-0.4**
OBC	**Olympics--Boni**	**4.69**	**120**	Pn	**Pn**	**08 18 56.0**	**+0.9**
OBC	**Olympics--Boni**	**4.69**	**120**	Pn	**Pn**	**08 18 56.0**	**+0.9**
SOKB	**Sooke**	**4.72**	**115**	Pn	**Pn**	**08 18 55.6**	**+0.1**
SOKB				Sn	**Sn**	**08 19 47.5**	**-2.5**
SOKB	**Sooke**	**4.72**	**115**	Pn	**Pn**	**08 18 55.0**	**-0.6**
SOKB				Sn	**Sn**	**08 19 47.0**	**-3.0**
B010	**North Saanich**	**4.74**	**111**	Pn	**Pn**	**08 18 56.0**	**+0.2**
B010				Sn	**Sn**	**08 19 48.6**	**-1.6**
B010	**North Saanich**	**4.74**	**111**	Pn	**Pn**	**08 18 55.0**	**-0.7**
B010				Sn	**Sn**	**08 19 48.0**	**-2.3**
PGC	**Sidney**	**4.74**	**111**	Pn	**Pn**	**08 18 55.8**	**+0.1**
PGC				Sn	**Sn**	**08 19 47.7**	**-2.5**
PGC	**Sidney**	**4.74**	**111**	Pn	**Pn**	**08 18 55.0**	**-0.7**
PGC				Sn	**Sn**	**08 19 47.0**	**-3.3**
B009	**North Saanich**	**4.74**	**111**	Pn	**Pn**	**08 18 55.7**	**0.0**
B009	**North Saanich**	**4.74**	**111**	Pn	**Pn**	**08 18 55.0**	**-0.7**
PA01	**PA01 North**	**4.74**	**111**	Pn	**Pn**	**08 18 55.4**	**-0.4**
PA01				Sn	**Sn**	**08 19 50.2**	**-0.1**
PA01	**PA01 North**	**4.74**	**111**	Pn	**Pn**	**08 18 55.0**	**-0.7**
PA01				Sn	**Sn**	**08 19 50.0**	**-0.3**
PA02	**PA02 Ocean**	**4.74**	**111**	Pn	**Pn**	**08 18 55.9**	**+0.2**
PA02	**PA02 Ocean**	**4.74**	**111**	Pn	**Pn**	**08 18 55.0**	**-0.7**
B011	**North Saanich**	**4.74**	**111**	Pn	**Pn**	**08 18 56.0**	**+0.3**
B011	**North Saanich**	**4.74**	**111**	Pn	**Pn**	**08 18 56.0**	**+0.3**
PA12	**PA12 Sannich**	**4.74**	**111**	Pn	**Pn**	**08 18 55.1**	**-0.7**
PA12	**PA12 Sannich**	**4.74**	**111**	Pn	**Pn**	**08 18 55.0**	**-0.7**
PA04	**PA04 Cage**	**4.74**	**111**	Pn	**Pn**	**08 18 56.0**	**+0.3**
PA04	**PA04 Cage**	**4.74**	**111**	Pn	**Pn**	**08 18 56.0**	**+0.3**
SNB	**Saturna Island**	**4.85**	**109**	Pn	**Pn**	**08 18 57.9**	**+0.6**
SNB				Sn	**Sn**	**08 19 51.2**	**-2.0**
SNB	**Saturna Island**	**4.85**	**109**	Pn	**Pn**	**08 18 57.0**	**-0.3**
SNB				Sn	**Sn**	**08 19 51.0**	**-2.2**
STW	**Striped Peak**	**4.85**	**117**	Pn	**Pn**	**08 18 58.0**	**+0.6**
STW	**Striped Peak**	**4.85**	**117**	Pn	**Pn**	**08 18 57.0**	**-0.3**
VGZ	**Gonzales**	**4.92**	**113**	Pn	**Pn**	**08 18 58.9**	**+0.7**
VGZ				Sn	**Sn**	**08 19 54.4**	**-0.4**
VGZ	**Gonzales**	**4.92**	**113**	Pn	**Pn**	**08 18 58.0**	**-0.2**
VGZ				Sn	**Sn**	**08 19 54.0**	**-0.8**
OSD	**Olympics--Snow**	**5.02**	**120**	Pn	**Pn**	**08 19 00.7**	**+0.8**
OSD	**Olympics--Snow**	**5.02**	**120**	Pn	**Pn**	**08 19 00.0**	**+0.2**
HNBB	**Haney**	**5.04**	**102**	Pn	**Pn**	**08 19 00.5**	**+0.6**
HNBB				Sn	**Sn**	**08 19 55.7**	**-2.1**
MCW	**Mount Constitu**	**5.09**	**109**	Pn	**Pn**	**08 19 01.6**	**+0.8**
MCW	**Mount Constitu**	**5.09**	**109**	Pn	**Pn**	**08 19 01.0**	**+0.3**
NLWA	**Neilton Lookou**	**5.19**	**125**	Pn	**Pn**	**08 19 02.5**	**+0.5**
LLLB	**Lillooet**	**5.25**	**86**	Pn	**Pn**	**08 19 04.3**	**+1.1**
LLLB	**Lillooet**	**5.25**	**86**	Pn	**Pn**	**08 19 03.0**	**+0.1**
FSB	**Fort Saint Jam**	**5.29**	**40**	Pn	**Pn**	**08 19 05.1**	**+1.6**
FSB	**Fort Saint Jam**	**5.29**	**40**	Pn	**Pn**	**08 19 05.0**	**+1.6**
BLN	**Blyn Mountain**	**5.33**	**116**	Pn	**Pn**	**08 19 04.7**	**+0.8**
BLN	**Blyn Mountain**	**5.33**	**116**	Pn	**Pn**	**08 19 04.0**	**+0.1**
SVOH	**Skagit Valley**	**5.38**	**112**	Pn	**Pn**	**08 19 06.0**	**+1.4**
SVOH	**Skagit Valley**	**5.38**	**112**	Pn	**Pn**	**08 19 06.0**	**+1.4**
WISH	**Wishkah**	**5.42**	**127**	Pn	**Pn**	**08 19 06.3**	**+1.2**
WISH				Sn	**Sn**	**08 20 07.2**	**+0.1**
WISH	**Wishkah**	**5.42**	**127**	Pn	**Pn**	**08 19 06.0**	**+0.9**
WISH				Sn	**Sn**	**08 20 07.0**	**-0.1**
HDW	**Hoodsport**	**5.47**	**119**	Pn	**Pn**	**08 19 06.5**	**+0.5**
HDW	**Hoodsport**	**5.47**	**119**	Pn	**Pn**	**08 19 06.0**	**0.0**
SMW	**South Mountain**	**5.51**	**123**	Pn	**Pn**	**08 19 07.4**	**+0.9**
SMW	**South Mountain**	**5.51**	**123**	Pn	**Pn**	**08 19 07.0**	**+0.5**
MBW	**Mount Baker**	**5.62**	**105**	Pn	**Pn**	**08 19 09.7**	**+1.6**
MBW	**Mount Baker**	**5.62**	**105**	Pn	**Pn**	**08 19 09.0**	**+0.9**
CMW	**Cultus Mountai**	**5.63**	**109**	Pn	**Pn**	**08 19 09.5**	**+1.4**
CMW	**Cultus Mountai**	**5.63**	**109**	Pn	**Pn**	**08 19 09.0**	**+0.8**
GNW	**Green Mountain**	**5.65**	**119**	Pn	**Pn**	**08 19 09.7**	**+1.4**
GNW				Sn	**Sn**	**08 20 11.8**	**-1.0**
GNW	**Green Mountain**	**5.65**	**119**	Pn	**Pn**	**08 19 09.0**	**+0.7**
GNW				Sn	**Sn**	**08 20 11.0**	**-1.8**
HOPB	**Hope**	**5.73**	**98**	Pn	**Pn**	**08 19 10.4**	**+0.9**
HOPB	**Hope**	**5.73**	**98**	Pn	**Pn**	**08 19 10.0**	**+0.6**
JCW	**Jim Creek**	**5.85**	**111**	Pn	**Pn**	**08 19 12.6**	**+1.5**
JCW	**Jim Creek**	**5.85**	**111**	Pn	**Pn**	**08 19 12.0**	**+1.0**
E03A	**Lebam**	**5.91**	**130**	Pn	**Pn**	**08 19 12.9**	**+1.0**
E03A	**Lebam**	**5.91**	**130**	Pn	**Pn**	**08 19 13.7**	**+1.8**
B06A	**Marblemount**	**5.98**	**107**	Pn	**Pn**	**08 19 13.8**	**+1.0**
B06A	**Marblemount**	**5.98**	**107**			**08 19 13.8**	**+1.0**
RPW	**Rockport**	**5.99**	**107**	Pn	**Pn**	**08 19 14.3**	**+1.3**
RPW	**Rockport**	**5.99**	**107**	Pn	**Pn**	**08 19 14.0**	**+1.0**
WRAK	**Wrangell Islan**	**6.03**	**348**	Pn	**Pn**	**08 19 13.2**	**-0.2**
C05A	**Tolt Reservoir**	**6.23**	**114**	Sn	**Sn**	**08 20 27.3**	**+0.2**
C05A	**Tolt Reservoir**	**6.23**	**114**	Sn	**Sn**	**08 20 27.0**	**-0.1**
D05A	**Enumclaw**	**6.33**	**119**	Pn	**Pn**	**08 19 18.8**	**+1.2**
D05A				Sn	**Sn**	**08 20 30.2**	**+0.6**
D05A	**Enumclaw**	**6.33**	**119**		**Pn**	**08 19 20.6**	**+2.9**
GPW	**Glacier Peak**	**6.36**	**109**	Pn	**Pn**	**08 19 19.7**	**+1.5**
GPW	**Glacier Peak**	**6.36**	**109**	Pn	**Pn**	**08 19 19.0**	**+0.8**
F03A	**Seaside**	**6.37**	**134**	Pn	**Pn**	**08 19 19.2**	**+1.1**
FMW	**Mount Fremont**	**6.66**	**120**	Pn	**Pn**	**08 19 24.0**	**+1.7**
FMW	**Mount Fremont**	**6.66**	**120**	Pn	**Pn**	**08 19 24.0**	**+1.7**
LON	**Longmire**	**6.69**	**121**	Pn	**Pn**	**08 19 23.7**	**+1.0**
LON	**Longmire**	**6.69**	**121**	Pn	**Pn**	**08 19 23.0**	**+0.4**
PNT	**Penticton**	**6.89**	**96**	Pn	**Pn**	**08 19 26.8**	**+1.4**
PNT	**Penticton**	**6.89**	**96**	Pn	**Pn**	**08 19 26.0**	**+0.6**
F04A	**Amboy**	**6.91**	**129**		**Pn**	**08 19 27.2**	**+1.6**
LTY	**Liberty**	**7.04**	**114**	Pn	**Pn**	**08 19 29.4**	**+1.8**
LTY				Sn	**Sn**	**08 20 45.9**	**-1.4**
LTY	**Liberty**	**7.04**	**114**	Pn	**Pn**	**08 19 29.0**	**+1.5**
LTY				Sn	**Sn**	**08 20 45.0**	**-2.3**
BMBC	**Bull Mountain**	**7.29**	**38**	Pn	**Pn**	**08 19 33.4**	**+2.4**
BMBC				Sn	**Sn**	**08 20 52.9**	**-0.5**
BMBC	**Bull Mountain**	**7.29**	**38**	Pn	**Pn**	**08 19 33.0**	**+2.1**
BMBC				Sn	**Sn**	**08 20 52.0**	**-1.4**
B08A	**Colville Reser**	**7.37**	**103**	Pn	**Pn**	**08 19 33.6**	**+1.7**
B08A	**Colville Reser**	**7.37**	**103**	Pn	**Pn**	**08 19 33.0**	**+1.1**
COR	**Corvallis**	**7.54**	**140**	Pn	**Pn**	**08 19 35.6**	**+1.4**
SLEB	**Sale Mountain**	**7.62**	**81**	Pn	**Pn**	**08 19 36.8**	**+1.3**
SLEB	**Sale Mountain**	**7.62**	**81**	Pn	**Pn**	**08 19 36.0**	**+0.5**
NBC4	**NorthernBC 4**	**7.67**	**44**	Pn	**Pn**	**08 19 37.8**	**+1.7**
NBC4				Sn	**Sn**	**08 21 02.2**	**-0.4**
NBC4	**NorthernBC 4**	**7.67**	**44**	Pn	**Pn**	**08 19 37.0**	**+0.9**
NBC4				Sn	**Sn**	**08 21 02.0**	**-0.6**
E07A	**Sunnyside**	**7.89**	**116**	Pn	**Pn**	**08 19 41.6**	**+2.5**
DLBC	**Dease Lake**	**7.91**	**0**

NRIK	**Noril'sk**	**57.27**	**345**	P	P	08 27 36.2	+5.0
	comp=Z,1.3nm,0.3s,baz=58,slow=9.5,SNR=2.3						
NRIK	**Noril'sk**	**57.27**	**345**	P	P	08 27 36.2	+5.0
H11N2	**WAKE ISLAND Hy**	**57.90**	**262**	T	T	09 30 10.7	
	baz=42,slow=76						
H11N3	**WAKE ISLAND Hy**	**57.90**	**262**	T	T	09 30 22.1	
	baz=42,slow=76						
H11N1	**WAKE ISLAND Hy**	**57.91**	**262**	T	T	09 30 13.3	
	baz=42,slow=76						
H11S1	**WAKE ISLAND Hy**	**58.93**	**261**	T	T	09 31 30.7	
	baz=46,slow=75						
H11S2	**WAKE ISLAND Hy**	**58.94**	**261**	T	T	09 31 37.0	
	baz=46,slow=75						
H11S3	**WAKE ISLAND Hy**	**58.95**	**261**	T	T	09 31 36.7	
	baz=46,slow=75						
KURK	**Kurchatov**	**76.18**	**342**	P	**P**	**08 29 33.4**	**+1.4**
KURK				IAmb	IAmb	08 29 52.1	
	comp=Z,2.2nm,1.2s						
KURBB	**Kurchatov Arra**	**76.29**	**342**	P	P	08 29 37.1	+4.5
	comp=Z,0.7nm,0.8s,baz=18,slow=5.7,SNR=4.2						
MK31	**Makanchi Array**	**79.08**	**338**	P	**P**	**08 29 47.6**	**-0.7**
MK31				IAmb	IAmb	08 29 56.3	
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**79.08**	**338**	P	P	08 29 53.0	+4.7
	comp=Z,0.5nm,0.7s,baz=38,slow=5.4,SNR=4.4						
MKAR	**Makanchi Array**	**79.08**	**338**	P	**P**	**08 29 47.0**	**-1.4**
MLR	**Muntele Rosu**	**82.12**	**17**	LR	LR	09 07 38.0	
	comp=Z,85nm,19.7s,baz=123,slow=36						

TEH ***18*** *08:19:26.5, 32°.70N×47°.67E, h10km, ML2.9*
ISN ***18*** *08:19:26.7±1.4, 32°.67N×47°.67E, h15km±7km, ML2.7*
ISC 18 08:19:25.5±1.3**, 32°.53N**±0°.09×**47°.81E**±0°.09**, h15km, n8,**
σ0s63/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKMR	**Kamar-syah**	**1.10**	**26**	*e*Pg	**Pb**	**08 19 45.8**	**-0.5**
IKMR				*e*		08 20 05.7	
IDOB	**Doab**	**1.30**	**14**	*e*Pg	**Pn**	**08 19 49.2**	**-0.1**
BMDN	**Meydan**	**1.43**	**36**	*e*Pg	**Pg**	**08 19 52.8**	**-0.2**
BMDN				*e*Sg	**Sg**	**08 20 12.7**	**+1.1**
BMDN				*e*		08 20 18.2	
IBDR	**Badra**	**1.69**	**291**	*e*Pg	**Pn**	**08 19 54.0**	**-0.5**
IBDR				*e*Sg	**Sn**	**08 20 15.0**	**-0.8**
IBDR				AML	AML	08 20 20.5	
	comp=E,103nm,0.8s						
IBDR				AML	AML	08 20 24.5	
	comp=N,124nm,0.7s						
HSAM	**Samen**	**1.81**	**21**	*e*Pn	**Pb**	**08 19 58.4**	**-0.1**
HSAM				*e*		08 20 27.1	
NSR	**Nassriya**	**2.07**	**224**	*e*Pn	**Pb**	**08 20 03.0**	**+0.1**
NSR				*e*Sn	**Sb**	**08 20 28.0**	**-0.4**
IVIS	**Veis**	**2.15**	**338**	*e*Pn	**Pn**	**08 20 31.6**	**+0.6**
BHD	**Baghdad**	**2.98**	**285**	*e*Pn	**Pn**	**08 20 13.0**	**+0.8**
BHD				*e*Sn	**Sn**	**08 20 48.0**	**+0.3**

NEIC ***18*** *08:20:09.2±1.5, 5°.65S±0°.08×153°.84E±0°.07, h43km±7km, mb4.5/24, Error ellipse: s-maj=12.1km s-min=9.5km az=222.0*
IDC ***18*** *08:20:10.1±1.6, 5°.71S×153°.77E, h46km±15km, mb3.9/17, mb1 4.1/21, mb1mx3.9/53, mbtmp4.2/21, ML3.2/3, MS3.5/12, Ms1 3.5/12, ms1mx3.3/38, Error ellipse: s-maj=16.1km s-min=9.9km az=69.0*
ISC 18 08:20:08.9±0.5**, 5°.65S**±0°.05×**153°.81E**±0°.06**, h35km, n85,**
σ1s22/80, mb4.2/24, MS3.4/9, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.19**	**311**	Pn	**Pn**	**08 20 43.5**	**+0.7**
KRVT	**Keravat (AS076**	**2.22**	**307**	P	**Pn**	**08 20 43.9**	**+0.7**
	22nm,0.3s,baz=178,slow=1.2,SNR=4.6						
KRVT				S	**Sn**	**08 21 11.3**	**+1.9**
	136nm,0.3s,baz=212,slow=23,SNR=17						
KRVT				LR	LR	08 21 12.2	
	comp=Z,76nm,20.6s,baz=128,slow=28						
HNR	**Honiara**	**7.15**	**122**	P	**Pn**	**08 21 51.4**	**+0.2**
	16nm,0.3s,baz=248,slow=11,SNR=1.7						
HNR				S	**Sn**	**08 23 14.2**	**+3.0**
	7.9nm,0.3s,baz=331,slow=2.5,SNR=1.8						
HNR				LR	LR	08 25 01.7	
	comp=Z,359nm,18.1s,baz=280,slow=41						
HNR	**Honiara**	**7.15**	**122**		**Pn**	**08 21 51.3**	**+0.2**
HNR					**Sn**	**08 23 10.9**	**-0.3**
PMG	**Port Moresby**	**7.57**	**240**	P	**Pn**	**08 21 57.9**	**+1.1**
	5.6nm,0.3s,baz=63,slow=6.5,SNR=13						
PMG				S	**Sn**	**08 23 23.3**	**+1.9**
	9.4nm,0.3s,baz=128,slow=24,SNR=12						
PMG				LR	LR	08 24 47.8	
	comp=Z,398nm,21.7s,baz=82,slow=37						
PMG	**Port Moresby**	**7.57**	**240**		**Pn**	**08 21 59.0**	**+2.2**
PATS	**Pohnpei**	**13.20**	**20**	Pn	**Pn**	**08 23 12.8**	**-1.1**
JAY	**Jayapura**	**13.43**	**283**	LR	LR	08 27 55.9	
	comp=Z,126nm,18.0s,baz=191,slow=35						
CTA	**Charters Tower**	**16.12**	**206**	P	**Pn**	**08 23 52.3**	**-0.7**
	0.1nm,0.3s,baz=31,slow=16,SNR=4.6						
CTAO	**Charters Tower**	**16.12**	**206**		**Pn**	**08 23 52.6**	**-0.4**
DZM	**Mont Dzumac**	**20.39**	**144**	P	**P**	**08 24 43.5**	**+0.5**
	18nm,0.5s,baz=248,slow=7.0,SNR=45						
DZM				LR	LR	08 31 43.0	
	comp=Z,108nm,21.3s,baz=256,slow=34						
DZM	**Mont Dzumac**	**20.39**	**144**	P	**P**	**08 24 42.5**	**-0.5**
DZM				IAmb	IAmb	08 24 45.5	
	comp=Z,20nm,0.6s						
GUMO	**Guam**	**21.07**	**335**	LR	LR	08 33 46.4	
	comp=Z,41nm,18.2s,baz=170,slow=39						
MTN	**Manton Dam**	**23.48**	**251**	P	**P**	**08 25 14.4**	**-1.2**
MTN				IAmb	IAmb	08 25 27.8	
	comp=Z,18nm,1.1s						
WR0	**Warramunga Arr**	**23.52**	**231**	P	**P**	**08 25 16.0**	**0.0**
WR0				IAmb	IAmb	08 25 17.1	
	comp=Z,9.7nm,1.0s						
WB0	**Warramunga Arr**	**23.53**	**232**	P	**P**	**08 25 15.7**	**-0.4**
WB0				IAmb	IAmb	08 25 17.1	
	comp=Z,6.7nm,0.8s						
WRAB	**Tennant Creek**	**23.65**	**231**	P	**P**	**08 25 17.3**	**0.0**
WB2	**Warramunga Arr**	**23.66**	**231**	P	**P**	**08 25 16.6**	**-0.7**
WB2				IAmb	IAmb	08 25 17.9	
	comp=Z,8.7nm,1.1s						
WRA	**Warramunga Arr**	**23.67**	**231**	P	**P**	**08 25 16.7**	**-0.7**
	comp=Z,5.3nm,0.7s,baz=56,slow=9.9,SNR=26						
WRA				PcP	**PcP**	**08 29 01.0**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=62,slow=2.4,SNR=6.6						
WRA	**Warramunga Arr**	**23.67**	**231**	P	**P**	**08 25 16.2**	**-1.2**
AS31	**Alice Springs**	**26.23**	**225**	P	**P**	**08 25 40.6**	**-0.2**
ASAR	**Alice Springs**	**26.23**	**225**	P	**P**	**08 25 40.3**	**-0.5**
	comp=Z,6.8nm,1.0s,baz=57,slow=8.8,SNR=33						
ASAR				PcP	**PcP**	**08 29 07.0**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=59,slow=2.4,SNR=12						
ASAR				LR	LR	08 35 48.1	
	comp=Z,147nm,19.3s,baz=118,slow=36						
ASAR	**Alice Springs**	**26.23**	**225**	P	**P**	**08 25 40.6**	**-0.3**
KNRA	**Kununurra**	**26.52**	**246**	P	**P**	**08 25 40.4**	**-3.0**
KNRA				IAmb	IAmb	08 25 41.9	
	comp=Z,29nm,1.5s						
H11S3	**WAKE ISLAND Hy**	**27.15**	**28**	T	T	08 54 09.1	
	baz=208,slow=76						
H11S2	**WAKE ISLAND Hy**	**27.15**	**28**	T	T	08 54 09.5	
	baz=208,slow=76						
H11S1	**WAKE ISLAND Hy**	**27.17**	**28**	T	T	08 54 08.7	
	baz=208,slow=76						
STKA	**Stephens Creek**	**28.48**	**202**	P	**P**	**08 26 00.0**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=25,slow=11,SNR=4.2						
STKA				LR	LR	08 36 23.2	
	comp=Z,154nm,18.3s,baz=84,slow=34						
STKA	**Stephens Creek**	**28.48**	**202**	IAmb	IAmb	08 26 08.1	
	comp=Z,0.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**30.15**	**243**	P	**P**	**08 26 14.9**	**-1.0**
	comp=Z,11nm,0.7s,baz=62,slow=7.8,SNR=18						
FITZ				LR	LR	08 38 04.3	
	comp=Z,100nm,20.7s,baz=96,slow=36						
FITZ	**Fitzroy Crossi**	**30.15**	**243**	P	**P**	**08 26 15.6**	**-0.3**
FITZ				IAmb	IAmb	08 26 16.5	
	comp=Z,10nm,0.8s						
BATI	**Baumata**	**30.18**	**259**	LR	LR	08 40 34.4	
	comp=Z,144nm,18.5s,baz=118,slow=41						
DAV	**Davao City (W)**	**30.87**	**294**	LR	LR	08 38 45.5	
	comp=Z,53nm,18.6s,baz=148,slow=36						
BBOO	**Buckleboo**	**31.68**	**209**	P	**P**	**08 26 27.2**	**-2.0**
BBOO				IAmb	IAmb	08 26 28.9	
	comp=Z,4.2nm,0.9s						
KAPI	**Kappang**	**33.91**	**269**	LR	LR	08 42 26.0	
	comp=Z,55nm,18.5s,baz=81,slow=39						
FORT	**Forrest**	**34.78**	**221**	P	**P**	**08 26 55.8**	**-0.5**

WCZ	**Waipu Caves**	**35.57**	**151**	P	P	08 27 07.9	+5.0
TOZ	**Tahuroa Road**	**37.55**	**151**	P	**P**	**08 27 20.4**	**+0.6**
HAZ	**Te Kaha**	**38.70**	**149**	P	**P**	**08 27 30.2**	**+0.7**
URZ	**Urewera**	**38.75**	**150**	P	**P**	**08 27 29.8**	**-0.2**
	comp=Z,3.3nm,0.5s,baz=277,slow=3.4,SNR=7.2						
URZ	**Urewera**	**38.75**	**150**	P	**P**	**08 27 30.0**	**0.0**
URZ	**Urewera**	**38.75**	**150**	P	**P**	**08 27 30.2**	**+0.2**
URZ				IAmb	IAmb	08 27 44.8	
	comp=Z,20nm,1.3s						
MXZ	**Matakaoa Point**	**38.83**	**148**	P	**P**	**08 27 31.0**	**+0.4**
MXZ	**Matakaoa Point**	**38.83**	**148**	P	**P**	**08 27 31.2**	**+0.6**
RTZ	**Ruatahuna**	**38.97**	**151**	P	**P**	**08 27 32.9**	**+1.1**
MWZ	**Matawai**	**39.02**	**150**	P	**P**	**08 27 33.3**	**+1.1**
WMGZ	**Waiomatatini S**	**39.08**	**148**	P	**P**	**08 27 33.1**	**+0.4**
MTHZ	**Maungataniwha**	**39.09**	**151**	P	**P**	**08 27 33.4**	**+0.6**
RAGZ	**Rawiri**	**39.09**	**150**	P	**P**	**08 27 34.9**	**+2.0**
TWGZ	**Tauwhareparae**	**39.13**	**149**	P	**P**	**08 27 34.2**	**+1.0**
BKZ	**Black Stump Fm**	**39.16**	**152**	P	**P**	**08 27 33.0**	**-0.5**
PUZ	**Puketiti**	**39.19**	**149**	P	**P**	**08 27 33.8**	**+0.2**
RAHZ	**Arahi**	**39.25**	**151**	P	**P**	**08 27 35.7**	**+1.5**
NMHZ	**Naumai**	**39.26**	**151**	P	**P**	**08 27 36.1**	**+1.8**
TKGZ	**Te Karaka**	**39.26**	**150**	P	**P**	**08 27 34.9**	**+0.7**
SNGZ	**Shannon Statio**	**39.27**	**150**	P	**P**	**08 27 34.5**	**+0.1**
RIGZ	**Rimuhau**	**39.42**	**150**	P	**P**	**08 27 36.1**	**+0.5**
CNGZ	**Carnagh Statio**	**39.48**	**149**	P	**P**	**08 27 36.3**	**+0.3**
KAHZ	**Kahuranaki**	**39.84**	**152**	P	**P**	**08 27 39.6**	**+0.4**
TUWZ	**Tuamarina**	**39.91**	**156**	P	**P**	**08 27 39.8**	**+0.3**
BFZ	**Birch Farm**	**40.27**	**153**	P	**P**	**08 27 42.2**	**-0.3**
LTZ	**Lake Taylor**	**40.43**	**159**	P	**P**	**08 27 44.4**	**+0.4**
LTZ				IAmb	IAmb	08 27 59.9	
	comp=Z,18nm,1.3s						
RPZ	**Rata Peaks**	**40.84**	**161**	P	**P**	**08 27 47.3**	**0.0**
	comp=Z,3.4nm,0.8s,baz=65,slow=14,SNR=2.2						
RPZ	**Rata Peaks**	**40.84**	**161**	P	**P**	**08 27 52.1**	**+4.8**
RPZ	**Rata Peaks**	**40.84**	**161**	IAmb	IAmb	08 27 54.3	
	comp=Z,15nm,1.4s						
MORW	**Morawa**	**42.61**	**232**	P	**P**	**08 28 01.7**	**-0.3**
KLR	**Kul'dur**	**57.94**	**343**	P	**P**	**08 29 58.8**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=199,slow=2.8,SNR=3.3						
PETK	**Petropavlovsk-**	**58.63**	**3**	P	**P**	**08 30 03.6**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=162,slow=7.3,SNR=5.5						
PETK	**Petropavlovsk-**	**58.63**	**3**	P	**P**	**08 30 04.2**	**+1.8**
CMAR	**Chiang Mai Arr**	**59.14**	**295**	P	**P**	**08 30 07.7**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=118,slow=5.4,SNR=8.4						
CMAR	**Chiang Mai Arr**	**59.14**	**295**	P	**P**	**08 30 07.2**	**+0.6**
SONM	**Songino Array**	**67.57**	**328**	P	**P**	**08 31 02.3**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=140,slow=5.6,SNR=4.5						
SONM	**Songino Array**	**67.57**	**328**	P	**P**	**08 31 02.2**	**+0.2**
VNDA	**Vanda**	**71.95**	**178**	P	**P**	**08 31 28.6**	**+0.3**
	comp=Z,0.4nm,1.0s,baz=324,slow=6.1,SNR=1.6						
MK31	**Makanchi Array**	**81.62**	**319**	P	**P**	**08 32 22.5**	**-0.9**
MKAR	**Makanchi Array**	**81.62**	**319**	P	**P**	**08 32 22.8**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=97,slow=6.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**82.41**	**326**	P	**P**	**08 32 27.3**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=140,slow=4.2,SNR=2.2						
ZALV	**Zalesovo Beam**	**82.41**	**326**	P	**P**	**08 32 25.4**	**-2.0**
ILAR	**Eielson Array**	**82.57**	**22**	P	**P**	**08 32 27.3**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=227,slow=6.0,SNR=12						
QSPA	**South Pole Qui**	**84.31**	**180**	P	**P**	**08 32 36.8**	**-0.4**
QSPA				IAmb	IAmb	08 32 38.3	
	comp=Z,9.6nm,1.5s						
MAW	**Mawson**	**85.17**	**203**	P	**P**	**08 32 40.9**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=68,slow=5.0,SNR=2.4						
NVAR	**Mina Array Bea**	**91.82**	**52**	P	**P**	**08 33 15.2**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=249,slow=7.6,SNR=2.7						
NVAR				LR	LR	09 12 15.3	
	comp=Z,49nm,18.1s,baz=50,slow=34						
SYO	**Syowa Base**	**93.20**	**199**	*e*P	**P**	**08 33 16.0**	**-3.3**
TORD	**Torodi Ar. Bea**	**151.52**	**287**	PKPbc	**PKPbc**	**08 39 58.9**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=88,slow=2.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**151.52**	**287**		**PKPbc**	**08 39 59.5**	**-0.9**

IDC 18 08:22:54.2±2.9**, 53°.53N**×**87°.77E, h0km, mb1 3.0/2,**
mb1mx3.0/50, mbtmp3.0/2, ML2.7/2, Error ellipse:
s-maj=23.9km s-min=14.8km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**285**	*i*		08 34 19.5	
	baz=98,slow=296,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.80**	**285**	Pg	Pn	08 23 26.3	-0.2
	1.7nm,0.3s,baz=101,slow=14,SNR=12						
ZALV				Lg	Lg	08 23 51.6	
	3.0nm,0.3s,baz=104,slow=25,SNR=12						
KURBB	**Kurchatov Arra**	**6.39**	**247**	Pn	Pn	08 24 30.4	+0.8
	0.1nm,0.3s,baz=60,slow=14,SNR=9.2						
KURBB				Sn	Sn	08 25 43.1	-0.1
	0.0nm,0.3s,baz=32,slow=3.6,SNR=1.8						
KURBB				Lg	Lg	08 26 14.7	
	baz=62,slow=33,SNR=9.0						
MKAR	**Makanchi Array**	**7.60**	**210**	Pn	Pn	08 24 47.5	+1.3
	0.2nm,0.3s,baz=25,slow=10,SNR=6.5						
MKAR				Sn	Sn	08 26 12.2	-0.8
	0.1nm,0.3s,baz=30,slow=26,SNR=3.0						
MKAR				Lg	Lg	08 26 53.8	
	0.0nm,0.3s,baz=28,slow=28,SNR=2.9						

ISN ***18*** *08:23:36.8±1.2, 32°.69N×47°.69E, h15km±6km, ML3.2*
TEH ***18*** *08:23:38.6, 32°.69N×47°.67E, h10km, ML3.2*
ISC 18 08:23:38.8±1.0**, 32°.63N**±0°.05×**47°.59E**±0°.04**, h10km, n26,**
σ1s22/32, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.92**	**13**	*e*Pg	**Pg**	**08 23 54.2**	**-2.2**
IKMR	**Kamar-syah**	**1.10**	**37**	*e*Pn	**Pb**	**08 23 58.1**	**-1.9**
IKMR				*e*		08 24 01.5	
IDOB	**Doab**	**1.25**	**23**	*e*Pg	**Pn**	**08 24 00.9**	**-1.7**
BMDN	**Meydan**	**1.47**	**45**	*e*		08 24 11.9	
BMDN				*e*Pg	**Pn**	**08 24 05.0**	**-0.4**
IBDR	**Badra**	**1.48**	**289**	*e*Pg	**Pn**	**08 24 05.0**	**-0.4**
IBDR				*e*Sg	**Sb**	**08 24 25.0**	**-0.2**
IBDR				AML	AML	08 24 31.9	
	comp=N,183nm,0.4s						
IBDR				AML	AML	08 24 32.3	
	comp=E,191nm,0.3s						
IKOM	**Komasi**	**1.54**	**357**	*e*		08 24 32.5	
IKOM				*e*Pn	**Pb**	**08 24 07.3**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.70**	**344**	*e*	**Sg**	**08 24 35.6**	**+2.0**
KCHF				*e*Pn	**Pn**	**08 24 09.2**	**+0.5**
HSAM	**Samen**	**1.79**	**28**	*e*Pg	**Pb**	**08 24 11.0**	**-0.8**
HSAM				*e*	**Sg**	**08 24 38.4**	**+2.1**
KER	**Kermanshah**	**1.79**	**348**	*e*Pn	**Pb**	**08 24 11.1**	**-0.7**
IBZA	**Bozab**	**1.85**	**7**	*e*Pn	**Pb**	**08 24 11.9**	**-0.9**
IBZA				*e*		08 24 16.8	
IGHG	**Ghaleghazi**	**1.90**	**333**	*e*Pn	**Pb**	**08 24 13.7**	**0.0**
IGHG				*e*		08 24 48.7	
IVIS	**Veis**	**1.99**	**342**	*e*Pn	**Pn**	**08 24 13.5**	**+0.9**
IVIS				*e*	**Sg**	**08 24 44.0**	**+1.2**
NSR	**Nassriya**	**2.03**	**218**	*e*Pn	**Pn**	**08 24 13.0**	**-0.1**
NSR				*e*Sn	**Sn**	**08 24 39.0**	**+0.5**
IALM	**Almabolaq**	**2.27**	**12**	*e*Pn	**Pb**	**08 24 18.5**	**-1.6**
IDHR	**Dehrash**	**2.30**	**334**	*e*Pn	**Pn**	**08 24 17.6**	**+0.7**
ILIN	**Lien**	**2.34**	**347**	*e*Pn	**Pn**	**08 24 18.5**	**+0.9**
ILIN				*e*		08 24 27.2	
HAGD	**Aghdareh**	**2.54**	**30**	*e*Pn	**Pn**	**08 24 21.6**	**+1.4**
HAGD				*e*		08 24 29.1	
JHBN	**Jahan bin**	**2.63**	**98**	*e*Pn	**Pn**	**08 24 22.4**	**+0.8**
HSRG	**Sareghieh**	**2.67**	**12**	*e*Pn	**Pn**	**08 24 23.1**	**+1.0**
HSRG				*e*		08 25 09.3	
BHD	**Baghdad**	**2.77**	**284**	*e*Pn	**Pn**	**08 24 23.0**	**-0.3**
BHD				*e*Sn	**Sn**	**08 24 58.5**	**+1.7**
BHD				AML	AML	08 25 02.8	
	comp=E,445nm,0.5s						
IPIR	**Pirpir**	**2.78**	**88**	*e*Pn	**Pn**	**08 24 24.9**	**+1.2**
IPIR				*e*		08 25 09.2	
ROKH	**ROKH**	**2.92**	**95**	*e*Pn	**Pn**	**08 24 26.6**	**+1.1**
ROKH				*e*		08 25 22.8	
IKLH	**Kolahrood**	**3.42**	**77**	*e*Pn	**Pn**	**08 24 34.1**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.49**	**28**	*e*Pn	**Pn**	**08 24 33.4**	**+0.1**
IGAR	**Gharneh**	**3.77**	**92**	*e*Pn	**Pn**	**08 24 38.1**	**+1.0**
QSDN	**Sirdan**	**4.08**	**18**	*e*Pn	**Pn**	**08 24 42.6**	**+1.2**

IDC 18 08:26:33.2±1.6**, 6°.03S×123°.86E, h0km, mb3.7/3,**
mb1 3.9/6, mb1mx3.6/50, mbtmp3.8/6, ML3.6/3, Error
ellipse: s-maj=63.4km s-min=21.9km az=53.0, Banda
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.21**	**284**	Pn	Pn	08 27 38.6	-0.3
	5.3nm,0.3s,baz=120,slow=8.9,SNR=9.0						
FITZ	**Fitzroy Crossi**	**12.12**	**172**	Pn	Pn	08 29 25.4	-1.9
	0.3nm,0.3s,baz=30,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**17.17**	**145**	P	Pn	08 30 34.8	0.0
	0.2nm,0.3s,baz=322,slow=12,SNR=11						
ASAR	**Alice Springs**	**20.02**	**152**	P	P	08 31 07.2	-0.6
	1.6nm,0.8s,baz=333,slow=12,SNR=11						
STKA	**Stephens Creek**	**30.59**	**149**	P	P	08 32 50.2	+1.1
	0.7nm,0.3s,baz=306,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	**64.19**	**330**	P	P	08 37 09.9	0.0
	0.4nm,0.6s,baz=120,slow=7.9,SNR=4.9						

IDC 18 08:27:25.9±1.9**, 6°.09S×123°.88E, h0km, mb3.4/1,**
mb1 3.8/5, mb1mx3.5/51, mbtmp3.6/5, ML3.5/4, Error
ellipse: s-maj=56.2km s-min=23.3km az=47.0, Banda
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.25**	**284**	Pn	Pn	08 28 32.2	+0.2
	5.1nm,0.3s,baz=100,slow=6.1,SNR=11						
KAPI				Sn	Sn	08 29 24.1	+1.9
	0.7nm,0.3s,baz=37,slow=20,SNR=1.6						
FITZ	**Fitzroy Crossi**	**12.05**	**172**	Pn	Pn	08 30 17.8	-1.4
	0.2nm,0.3s,baz=340,slow=12,SNR=1.7						
WRA	**Warramunga Arr**	**17.11**	**145**	P	P	08 31 27.7	-0.8
	0.2nm,0.3s,baz=320,slow=13,SNR=5.3						
ASAR	**Alice Springs**	**19.96**	**152**	P	P	08 32 00.2	+0.3
	0.1nm,0.3s,baz=322,slow=10,SNR=4.3						
MKAR	**Makanchi Array**	**64.25**	**330**	P	P	08 38 02.8	-0.2
	0.2nm,0.6s,baz=127,slow=5.8,SNR=2.0						

NNC ***18*** *08:36:56.9±2.9, 54°.21N×87°.23E, h9km±26km, mb3.1, mpv2.8, Error ellipse: s-maj=18.6km s-min=13.5km az=56.0, Suspected Mining explosion.*
IDC ***18*** *08:36:56.1±2.7, 54°.12N×87°.23E, h0km, mb1 3.1/2, mb1mx3.0/60, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=23.0km s-min=16.1km az=65.0*
ISC 18 08:36:57.9±3.9**, 54°.1N**±0°.2×**87°.0E**±0°.2**, h0km, n8, σ2s01/12,**
4C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**263**	*i*		08 46 00.0	
	baz=78,slow=311,SNR=3.6						
ZAA0	**Zalesovo Array**	**1.29**	**263**	⇓P	**Pn**	**08 37 22.4**	**-0.8**
	0.6nm,0.3s,baz=78,slow=13						
ZAA0				⇓S	**Sb**	**08 37 42.5**	**+2.3**
	1.0nm,0.3s,baz=79,slow=22						
ZALV	**Zalesovo Beam**	**1.29**	**263**	Pg	**Pn**	**08 37 22.0**	**-1.2**
	5.8nm,0.3s,baz=79,slow=16,SNR=40						
ZALV				Lg	Lg	08 37 42.4	
	2.1nm,0.3s,baz=81,slow=25,SNR=6.3						
KURK	**Kurchatov**	**6.15**	**240**	⇑Pn	**Pn**	**08 38 31.4**	**+1.5**
	0.9nm,0.8s						
KURK				⇓Sn	**Sn**	**08 39 37.2**	**-3.8**
	1.5nm,0.9s						
KURK				⇑Lg	Lg	08 40 15.9	
	3.4nm,0.8s						
KURBB	**Kurchatov Arra**	**6.26**	**239**	Pn	**Pn**	**08 38 32.5**	**+1.2**
	0.2nm,0.3s,baz=54,slow=13,SNR=15						
KURBB				Sn	**Sn**	**08 39 42.2**	**-1.2**
	0.0nm,0.3s,baz=54,slow=21,SNR=2.0						
KURBB				Lg	Lg	08 40 19.7	
	0.0nm,0.3s,baz=57,slow=36,SNR=3.2						
KURBB	**Kurchatov Arra**	**6.26**	**239**	⇑Pn	**Pn**	**08 38 32.9**	**+1.6**
	1.2nm,0.3s						
KURBB				⇑Sn	**Sn**	**08 39 43.8**	**+0.3**
	2.3nm,0.7s						
KURBB				⇓Lg	Lg	08 40 23.7	
	5.1nm,0.8s						
MK31	**Makanchi Array**	**7.93**	**204**	⇓Pn	**Pn**	**08 38 55.6**	**+1.3**
	0.1nm,0.3s,baz=28,slow=14,SNR=5.7						
MKAR	**Makanchi Array**	**7.93**	**204**	Pn	**Pn**	**08 38 54

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.84**	**8**	*e*Pg	**Pg**	**08 42 45.9**	**-0.5**
IKFM	**Kafar-mosalman**	**0.84**	**8**	Pg	**Pg**	**08 42 45.9**	**-0.5**
IKMR	**Kamar-syah**	**0.99**	**34**	*e*Pg	**Pg**	**08 42 48.8**	**-0.6**
IKMR				*e*		08 43 09.1	
IKMR	**Kamar-syah**	**0.99**	**34**	Pg	**Pg**	**08 42 48.8**	**-0.6**
SHGR	**Shooshtar-Gavs**	**1.09**	**122**	*e*Pg	**Pn**	**08 42 51.6**	**+0.4**
SHGR				*e*Sg	**Sn**	**08 43 08.8**	**+2.6**
SHGR	comp=E,2μm,0.3s			IAML		08 43 13.6	
SHGR	comp=N,2μm,0.7s			IAML		08 43 17.9	
SHGR	**Shooshtar-Gavs**	**1.09**	**122**	*e*Pg	**Pn**	**08 42 51.6**	**+0.4**
SHGR	**Shooshtar-Gavs**	**1.09**	**122**	Pg	**Pn**	**08 42 51.6**	**+0.4**
IDOB	**Doab**	**1.16**	**19**	*e*Pg	**Pn**	**08 42 52.3**	**-0.1**
IDOB	**Doab**	**1.16**	**19**		**Pn**	**08 42 52.3**	**-0.1**
BMDN	**Meydan**	**1.35**	**43**	*e*Pg	**Pg**	**08 42 55.9**	**-0.3**
BMDN				*e*		08 43 19.6	
BMDN	**Meydan**	**1.35**	**43**		**Pg**	**08 42 55.8**	**-0.4**
IKOM	**Komasi**	**1.49**	**353**	*e*Pg	**Pg**	**08 42 59.1**	**+0.3**
IKOM				*e*		08 43 24.0	
IKOM	**Komasi**	**1.49**	**353**		**Pg**	**08 42 59.5**	**+0.7**
IBDR	**Badra**	**1.56**	**286**	*e*Pg	**Pn**	**08 42 59.0**	**+1.3**
IBDR				*e*Sg	**Sg**	**08 43 21.0**	**+0.7**
IBDR	comp=E,2μm,0.3s			AML	AML	08 43 23.8	
IBDR	comp=N,3μm,0.5s			AML	AML	08 43 24.0	
AHWZ	**Ahwaz**	**1.57**	**150**	*e*Pg	**Pg**	**08 43 00.3**	**-0.1**
AHWZ	**Ahwaz**	**1.57**	**150**	Pg	**Pg**	**08 43 00.2**	**-0.1**
AHWZ				Sg	**Sg**	**08 43 23.0**	**+2.3**
KCHF	**Cheshme Sefid,**	**1.68**	**341**	*e*Pg	**Pg**	**08 43 01.9**	**-0.5**
KCHF				*e*		08 43 26.9	
KCHF	**Cheshme Sefid,**	**1.68**	**341**	Pg	**Pg**	**08 43 01.9**	**-0.5**
HSAM	**Samen**	**1.69**	**26**	*e*		08 43 03.6	
HSAM				*e*Pg	**Pg**	**08 43 02.2**	**-0.4**
KER	**Kermanshah**	**1.76**	**344**	*e*Pg	**Pg**	**08 43 03.5**	**-0.4**
IBZA	**Bozab**	**1.78**	**4**	*e*		08 43 34.1	
IBZA				*e*Pg	**Pg**	**08 43 04.0**	**-0.3**
IGHG	**Ghaleghazi**	**1.89**	**330**	*e*Pg	**Pg**	**08 43 06.8**	**+0.3**
IVIS	**Veis**	**1.97**	**339**	*e*Pn	**Pb**	**08 43 05.6**	**-0.4**
IVIS	**Veis**	**1.97**	**339**	Pn	**Pb**	**08 43 05.5**	**-0.4**
NSR	**Nassriya**	**2.15**	**219**	*e*Pn	**Pn**	**08 43 08.0**	**+2.2**
NSR				*e*Sn	**Sn**	**08 43 34.0**	**+1.7**
KHMZ	**Khomeyn**	**2.15**	**60**	*e*Pn	**Pb**	**08 43 09.2**	**-0.1**
KHMZ	**Khomeyn**	**2.15**	**60**	*e*Pn	**Pb**	**08 43 09.2**	**-0.1**
KHMZ	**Khomeyn**	**2.15**	**60**	Pn	**Pb**	**08 43 09.1**	**-0.1**
IDHR	**Dehrash**	**2.29**	**331**	*e*Pn	**Pb**	**08 43 10.8**	**-0.7**
IDHR	**Dehrash**	**2.29**	**331**	Pn	**Pb**	**08 43 10.8**	**-0.7**
ILIN	**Lien**	**2.31**	**344**	*e*		08 43 52.3	
ILIN				*e*Pn	**Pn**	**08 43 09.8**	**+1.6**
SNGE	**Sanandaj**	**2.41**	**353**	*e*Pn	**Pn**	**08 43 09.7**	**0.0**
SNGE				*e*Sg	**Sb**	**08 43 43.9**	**+0.4**
SNGE	**Sanandaj**	**2.41**	**353**	*e*Pn	**Pn**	**08 43 09.7**	**0.0**
SNGE	**Sanandaj**	**2.41**	**353**	Pn	**Pn**	**08 43 09.6**	**0.0**
HAGD	**Aghdareh**	**2.43**	**29**	*e*Pn	**Pb**	**08 43 13.0**	**-1.0**
HAGD				*e*		08 43 16.8	
JHBN	**Jahan bin**	**2.54**	**100**	*e*Pn	**Pn**	**08 43 13.4**	**+1.9**
JHBN				*e*		08 43 59.7	
JHBN	**Jahan bin**	**2.54**	**100**	Pn	**Pn**	**08 43 13.3**	**+1.8**
HSRG	**Sareghieh**	**2.59**	**10**	*e*Pn	**Pb**	**08 43 14.5**	**-2.2**
HSRG				*e*		08 43 57.6	
HSRG	**Sareghieh**	**2.59**	**10**	Pn	**Pb**	**08 43 14.4**	**-2.2**
ASAO	**Ashtian**	**2.67**	**46**	*e*Pn	**Pb**	**08 43 16.1**	**-2.0**
ASAO				*e*S	**Sb**	**08 43 51.0**	**0.0**
ASAO	**Ashtian**	**2.67**	**46**	*e*Pn	**Pb**	**08 43 16.1**	**-2.0**
ASAO	**Ashtian**	**2.67**	**46**	Pn	**Pb**	**08 43 16.1**	**-2.0**
IPIR	**Pirpir**	**2.68**	**89**	*e*Pn	**Pb**	**08 43 16.1**	**-2.2**
IPIR				*e*		08 44 03.3	
ROKH	**ROKH**	**2.83**	**96**	*e*Pn	**Pn**	**08 43 17.6**	**+2.2**
ROKH				*e*		08 44 16.6	
ROKH	**ROKH**	**2.83**	**96**	Pn	**Pn**	**08 43 17.5**	**+2.2**
BHD	**Baghdad**	**2.86**	**283**	*e*Pn	**Pn**	**08 43 18.0**	**+2.4**
BHD				*e*Sn	**Sn**	**08 43 53.0**	**+3.1**
IBRJ	**Brojen**	**3.10**	**104**	*e*Pn	**Pn**	**08 43 20.4**	**+1.2**
IBRJ	**Brojen**	**3.10**	**104**	Pn	**Pn**	**08 43 20.3**	**+1.1**
IRAZ	**Razeghan**	**3.27**	**34**	*e*Pn	**Pn**	**08 43 24.3**	**+2.8**
IRAZ	**Razeghan**	**3.27**	**34**	Pn	**Pn**	**08 43 24.8**	**+3.5**
IKLH	**Kolahrood**	**3.31**	**78**	*e*Pn	**Pn**	**08 43 24.2**	**+2.2**
IKLH				*e*		08 44 22.3	
IKLH	**Kolahrood**	**3.31**	**78**	Pn	**Pn**	**08 43 24.1**	**+2.1**
QABG	**Abgarm-Qazvin**	**3.38**	**27**	*e*Pn	**Pn**	**08 43 25.4**	**+2.4**
QABG	**Abgarm-Qazvin**	**3.38**	**27**	Pn	**Pn**	**08 43 25.3**	**+2.3**
IQOM	**Qom**	**3.52**	**52**	*e*Pn	**Pn**	**08 43 27.4**	**+2.4**
IQOM	**Qom**	**3.52**	**52**	Pn	**Pn**	**08 43 27.4**	**+2.4**
IGAR	**Gharneh**	**3.67**	**93**	*e*Pn	**Pn**	**08 43 28.8**	**+1.8**
IGAR	**Gharneh**	**3.67**	**93**	Pn	**Pn**	**08 43 28.7**	**+1.8**
KLNJ	**Kolanjah**	**3.70**	**116**	*e*Pn	**Pn**	**08 43 29.3**	**+1.8**
KLNJ	**Kolanjah**	**3.70**	**116**	Pn	**Pn**	**08 43 29.3**	**+1.8**
IZEF	**Zefreh**	**3.89**	**86**	*e*Pn	**Pn**	**08 43 32.3**	**+2.2**
IZEF	**Zefreh**	**3.89**	**86**	Pn	**Pn**	**08 43 32.6**	**+2.5**
QSDN	**Sirdan**	**3.99**	**17**	*e*Pn	**Pn**	**08 43 33.6**	**+2.3**
IHSB	**Hasanabad**	**4.03**	**46**	*e*Pn	**Pn**	**08 43 34.3**	**+2.5**
IRAM	**Rameshеh**	**4.05**	**101**	*e*Pn	**Pn**	**08 43 33.4**	**+1.2**
IRAM	**Rameshеh**	**4.05**	**101**	Pn	**Pn**	**08 43 33.4**	**+1.1**
IVRN	**Varamin**	**4.05**	**54**	*e*Pn	**Pn**	**08 43 34.2**	**+2.1**
IVRN	**Varamin**	**4.05**	**54**	Pn	**Pn**	**08 43 34.1**	**+2.0**
MAHB	**Mahabad**	**4.39**	**338**	*e*Pn	**Pn**	**08 43 40.5**	**+3.8**
MAHB	**Mahabad**	**4.39**	**338**	Pn	**Pn**	**08 43 40.5**	**+3.8**
QALM	**Alamut, Qazvin**	**4.45**	**32**	*e*Pn	**Pn**	**08 43 41.1**	**+3.4**
QALM	**Alamut, Qazvin**	**4.45**	**32**	Pn	**Pn**	**08 43 41.0**	**+3.4**
IDMV	**Damavand**	**4.59**	**50**	*e*Pn	**Pn**	**08 43 41.7**	**+2.0**
IDMV	**Damavand**	**4.59**	**50**	Pn	**Pn**	**08 43 41.7**	**+2.0**
ANAR	**Anarak**	**5.08**	**83**	*e*Pn	**Pn**	**08 43 48.6**	**+2.3**
ANAR	**Anarak**	**5.08**	**83**	Pn	**Pn**	**08 43 48.6**	**+2.3**
IFIR	**Firoozkooh**	**5.11**	**53**	*e*Pn	**Pn**	**08 43 49.4**	**+2.6**
IFIR	**Firoozkooh**	**5.11**	**53**	Pn	**Pn**	**08 43 49.4**	**+2.6**
ILAS	**Lasjerd**	**5.12**	**57**	*e*Pn	**Pn**	**08 43 48.4**	**+1.6**
ILAS	**Lasjerd**	**5.12**	**57**	Pn	**Pn**	**08 43 48.3**	**+1.5**
ISAD	**Sadrabad**	**5.12**	**97**	*e*Pn	**Pn**	**08 43 48.0**	**+1.1**
ISAD	**Sadrabad**	**5.12**	**97**	Pn	**Pn**	**08 43 48.0**	**+1.1**
IAZR	**Azarshahr**	**5.17**	**345**	*e*Pn	**Pn**	**08 43 50.1**	**+2.5**
IAZR	**Azarshahr**	**5.17**	**345**	Pn	**Pn**	**08 43 50.1**	**+2.5**
IPRN	**Peran**	**5.21**	**46**	*e*Pn	**Pn**	**08 43 50.8**	**+2.7**
IPRN	**Peran**	**5.21**	**46**	Pn	**Pn**	**08 43 50.7**	**+2.7**
ISHM	**Shahmirzad**	**5.57**	**55**	*e*Pn	**Pn**	**08 43 54.4**	**+1.3**
ISHM	**Shahmirzad**	**5.57**	**55**	Pn	**Pn**	**08 43 54.3**	**+1.2**
IANJ	**Anjilo**	**5.84**	**60**	*e*Pn	**Pn**	**08 43 57.8**	**+0.9**
IANJ	**Anjilo**	**5.84**	**60**	Pn	**Pn**	**08 43 57.7**	**+0.9**
IMEH	**Mehriz**	**6.00**	**101**	*e*Pn	**Pn**	**08 43 59.7**	**+0.7**
IMEH	**Mehriz**	**6.00**	**101**	Pn	**Pn**	**08 43 59.6**	**+0.6**
IGLO	**Ghaloghah**	**6.32**	**51**	*e*Pn	**Pn**	**08 44 06.6**	**+3.3**
IGLO	**Ghaloghah**	**6.32**	**51**	Pn	**Pn**	**08 44 06.5**	**+3.3**
TPRV	**Parvadeh(Tabas**	**7.56**	**85**	*e*Pn	**Pn**	**08 44 22.1**	**+1.9**
TPRV	**Parvadeh(Tabas**	**7.56**	**85**	Pn	**Pn**	**08 44 22.1**	**+1.9**
TKDS	**Koohdasht(Taba**	**7.94**	**81**	*e*Pn	**Pn**	**08 44 27.5**	**+1.9**
TKDS	**Koohdasht(Taba**	**7.94**	**81**	Pn	**Pn**	**08 44 27.5**	**+1.9**
ASF	**Jabal al Asfar**	**9.16**	**270**	Pn	**Pn**	**08 44 39.5**	**-2.7**
ASF	comp=N,0.7nm,0.3s,baz=58,slow=9.5,SNR=2.7			Sn	**Sn**	**08 46 19.7**	**-5.6**
ASF	comp=N,0.4nm,0.3s,baz=30,slow=20,SNR=2.2			Lg	Lg	08 47 13.8	
MMAI	**Mount Meron Ar**	**10.36**	**275**	Lg	Lg	08 47 59.5	
UOSS	**Minazif**	**10.72**	**134**	Pn	**Pn**	**08 45 02.2**	**-1.4**
EIL	**Elat**	**11.34**	**258**	Lg	Lg	08 48 28.1	
BRTR	**Keskin Array B**	**13.35**	**306**	Pn	**Pn**	**08 45 42.1**	**+2.6**
BRTR	**Keskin Array B**	**13.35**	**306**		**Pn**	**08 45 40.0**	**+0.4**
WSAR	**Wadi Sarin**	**13.47**	**132**	Pn	**Pn**	**08 45 37.9**	**-3.3**
WSAR	comp=N,0.8nm,0.3s,baz=6.6,slow=19,SNR=6.6			Sn	Sn	08 48 02.0	-8.8
ABKAR	**Akbulak array**	**18.91**	**25**	P	**P**	**08 46 49.9**	**-0.6**
IDI	**Anoyia**	**19.10**	**284**	P	**P**	**08 46 52.8**	**-0.1**
IDI	**Anoyia**	**19.10**	**284**	IAmb	IAmb	08 46 56.1	
AKTO	**Aktyubinsk**	**19.30**	**20**	P	**P**	**08 46 54.8**	**0.0**
GAR	**Garm**	**19.35**	**65**	P	**P**	**08 46 54.9**	**-0.8**
GAR				IAmb	IAmb	08 46 59.3	
KK31	**Karatay Array**	**20.72**	**53**	P	**P**	**08 47 07.3**	**-3.1**
KK31				IAmb	IAmb	08 47 07.3	
KKAR	**Karatay Array**	**20.72**	**53**	P	**P**	**08 47 07.3**	**-3.0**
KKAR	comp=Z,7.9nm,0.3s			IAmb	IAmb	08 47 07.3	
MLR	**Muntele Rosu**	**21.11**	**314**	P	**P**	**08 47 14.2**	**-0.4**
MLR	**Muntele Rosu**	**21.11**	**314**	⇑P	**P**	**08 47 19.1**	**+4.5**
TESR	**Tescani**	**21.22**	**317**	⇓P	**P**	**08 47 18.3**	**+2.6**
VOIR		**21.63**	**313**	⇓P	**P**	**08 47 21.4**	**+1.2**
DOPR	**Dopca**	**21.68**	**314**	⇓P	**P**	**08 47 19.1**	**-1.6**
LOT	**Lotru**	**22.44**	**312**	⇑P	**P**	**08 47 28.6**	**-0.4**
AKASG	**Malin Array Be**	**22.57**	**328**	P	**P**	**08 47 32.9**	**+2.7**
AKASG	**Malin Array Be**	**22.57**	**328**	P	**P**	**08 47 30.4**	**+0.2**
AKBB	**Malin Array Si**	**22.57**	**328**	P	**P**	**08 47 28.9**	**-1.3**
BURAR	**Bucovina Array**	**22.64**	**318**	⇓P	**P**	**08 47 31.4**	**+0.3**
BURAR	**Bucovina Array**	**22.64**	**318**	P	**P**	**08 47 30.9**	**-0.2**
BUR08	**Bucovina Ar. S**	**22.67**	**318**	P	**P**	**08 47 31.7**	**+0.3**
BUR08	comp=Z,8.3nm,1.5s			IAmb	IAmb	08 47 37.3	
MDVR	**Moldovita**	**23.49**	**308**	⇓P	**P**	**08 47 39.5**	**-0.4**
TIP	**Timpagrande**	**25.81**	**293**	P	**P**	**08 48 01.3**	**+0.1**
TIP	comp=Z,21nm,1.5s			IAmb	IAmb	08 48 02.2	
BVAR	**Borovoye Array**	**26.05**	**32**	P	**P**	**08 48 02.6**	**-0.6**
KURBB	**Kurchatov Array**	**28.88**	**43**	P	**P**	**08 48 29.6**	**+1.1**
KURK	**Kurchatov**	**28.97**	**42**	P	**P**	**08 48 28.5**	**-0.8**
MK31	**Makanchi Array**	**29.82**	**52**	P	**P**	**08 48 37.5**	**+0.4**
MKAR	**Makanchi Array**	**29.82**	**52**	P	**P**	**08 48 37.3**	**+0.3**
MKAR	**Makanchi Array**	**29.82**	**52**	P	**P**	**08 48 36.6**	**-0.4**
MSSA	**Maissana**	**31.79**	**303**	P	**P**	**08 48 56.1**	**+1.6**
FINES	**FINESS Array B**	**32.00**	**340**	P	**P**	**08 48 56.9**	**+0.9**
SENIN	**Lac Senin/Sane**	**33.65**	**306**	P	**P**	**08 49 11.3**	**+0.4**
SENIN				IAmb	IAmb	08 49 13.4	
ZALV	**Zalesovo Beam**	**33.79**	**40**	P	**P**	**08 49 11.3**	**-0.4**
BNI	**Bardonecchia**	**33.90**	**303**	P	**P**	**08 49 12.4**	**-0.5**
NC405	**NORSAR Array S**	**36.76**	**332**	P	**P**	**08 49 38.6**	**+1.4**
ARCES	**ARCESS Array B**	**38.94**	**348**	P	**P**	**08 49 57.5**	**+1.9**
ESDC	**Sonseca Array**	**41.81**	**295**	P	**P**	**08 50 19.2**	**-0.6**
ESDC	**Sonseca Array**	**41.81**	**295**	IAmb	IAmb	08 50 23.9	
TORD	**Torodi Ar. Bea**	**46.22**	**256**	P	**P**	**08 50 54.2**	**-1.1**
DBIC	**Dimbokro**	**55.17**	**254**	LR	LR	09 18 12.8	
BOSA	**Boshof**	**64.59**	**202**	LR	LR	09 22 41.4	

comp=Z,4.3nm,0.6s,baz=114,slow=13,SNR=2.5
comp=Z,52nm,18.2s,baz=35,slow=38
comp=Z,1.8nm,0.7s,baz=239,slow=11,SNR=7.7
comp=Z,0.5nm,0.6s,baz=246,slow=9.3,SNR=4.3
comp=Z,0.7nm,0.7s,baz=249,slow=7.1,SNR=8.1
comp=Z,0.6nm,0.7s,baz=80,slow=8.2,SNR=2.8
comp=Z,1.3nm,0.7s,baz=163,slow=9.4,SNR=5.8
comp=Z,0.4nm,0.4s,baz=69,slow=7.6,SNR=6.9
comp=Z,31nm,18.7s,baz=330,slow=39
comp=Z,1.4nm,0.4s,baz=253,slow=9.0,SNR=3.1
comp=Z,0.6nm,0.4s,baz=69,slow=7.6,SNR=6.9
comp=Z,7.6nm,1.4s
comp=Z,2.7nm,0.7s
comp=Z,0.6nm,0.5s,baz=134,slow=11,SNR=4.6
comp=Z,1.5nm,0.5s,baz=134,slow=11,SNR=4.6
comp=Z,0.4nm,0.3s,baz=58,slow=9.5,SNR=2.7
comp=N,0.4nm,0.3s,baz=30,slow=20,SNR=2.2
comp=N,0.8nm,0.3s,baz=246,slow=20,SNR=3.0
comp=N,0.9nm,0.3s,baz=110,slow=42,SNR=1.9
comp=N,0.6nm,0.3s,baz=168,slow=19,SNR=3.6
comp=N,0.8nm,0.3s,baz=6.6,slow=19,SNR=6.6
comp=N,0.3nm,0.3s,baz=49,slow=20,SNR=1.4
comp=N,0.6nm,0.3s,baz=101,slow=16,SNR=1.8
comp=Z,52nm,1.3s
comp=Z,0.2nm,0.3s,baz=208,slow=13,SNR=7.2
comp=Z,27nm,0.9s
comp=Z,7.9nm,0.3s

*TEH **18** 08:49:15.2, 32°.74N×47°.59E, h13km, ML3.4*
*ISN **18** 08:49:16.3±1.4, 32°.81N×47°.59E, h15km±7km, ML3.3*
*THR **18** 08:49:18.0±0.9, 32°.84N×47°.68E, h18km±7km, ML3.2*

ISC 18 08:49:15.7±1.7, 32°.77N±0°.04×47°.60E±0°.04, h1km±13km, n40, σ0s79/46, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.78**	**15**	*e*Pg	**Pg**	**08 49 29.9**	**-0.7**
IKFM				*e*		08 49 44.9	
IKMR	**Kamar-syah**	**0.99**	**41**	*e*Pg	**Pg**	**08 49 34.3**	**-0.3**
IKMR				*e*		08 49 54.6	
IDOB	**Doab**	**1.12**	**25**	*e*Pg	**Pg**	**08 49 37.7**	**+0.5**
SHGR	**Shooshtar-Gavs**	**1.21**	**123**	*e*Pg	**Pg**	**08 49 40.3**	**+1.4**
SHGR				*e*Sg	**Sn**	**08 49 56.4**	**-0.4**
SHGR	comp=E,512nm,0.3s			IAML		08 50 01.3	
SHGR	comp=N,377nm,0.5s			IAML		08 50 05.1	
BMDN	**Meydan**	**1.36**	**49**	*e*Pg	**Pb**	**08 49 42.0**	**-0.1**
BMDN				*e*		08 50 10.8	
IKOM	**Komasi**	**1.40**	**357**	*e*Pg	**Pb**	**08 49 42.8**	**+0.1**
IKOM				*e*		08 49 46.6	
IBDR	**Badra**	**1.45**	**284**	*e*Pg	**Pn**	**08 49 43.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**08 50 01.0**	**-1.5**
IBDR	comp=N,551nm,0.6s			AML	AML	08 50 05.8	
IBDR	comp=E,600nm,0.6s			AML	AML	08 50 06.2	
KCHF	**Cheshme Sefid,**	**1.57**	**343**	*e*Pg	**Pn**	**08 49 45.4**	**+0.6**
KCHF				*e*		08 50 10.4	
KER	**Kermanshah**	**1.65**	**346**	*e*Pg	**Pb**	**08 49 46.9**	**-0.1**
HSAM	**Samen**	**1.66**	**30**	*e*Pg	**Pb**	**08 49 47.4**	**+0.2**
HSAM				*e*		08 50 16.0	
AHWZ	**Ahwaz**	**1.69**	**148**	*e*Pg	**Pn**	**08 49 46.3**	**0.0**
IBZA	**Bozab**	**1.71**	**7**	*e*Pg	**Pb**	**08 49 47.9**	**-0.1**
IBZA				*e*		08 50 16.5	
IGHG	**Ghaleghazi**	**1.77**	**331**	*e*Pn	**Pn**	**08 49 47.9**	**+0.2**
IGHG				*e*		08 50 35.2	
IVIS	**Veis**	**1.86**	**340**	*e*Pn	**Pn**	**08 49 49.2**	**+0.5**
IVIS				*e*		08 50 21.8	
IALM	**Almabolaq**	**2.13**	**13**	*e*Pn	**Pn**	**08 49 53.1**	**+0.4**
NSR	**Nassriya**	**2.15**	**216**	*e*Pn	**Pn**	**08 49 53.0**	**+0.3**
NSR				*e*Sn	**Sn**	**08 50 20.0**	**0.0**
IDHR	**Dehrash**	**2.17**	**333**	*e*Pn	**Pn**	**08 49 54.0**	**+0.9**
KHMZ	**Khomeyn**	**2.20**	**63**	*e*Pn	**Pb**	**08 49 55.0**	**-1.3**
ILIN	**Lien**	**2.20**	**346**	*e*Pn	**Pn**	**08 49 54.0**	**+0.4**
ILIN				*e*		08 50 33.2	
SNGE	**Sanandaj**	**2.32**	**355**	*e*Pn	**Pn**	**08 49 56.1**	**+0.9**
SNGE				*e*Sg	**Sg**	**08 50 29.7**	**-0.6**
HAGD	**Aghdareh**	**2.41**	**32**	*e*Pn	**Pn**	**08 49 57.7**	**+1.2**
HAGD				*e*		08 50 39.8	
HSRG	**Sareghieh**	**2.52**	**13**	*e*Pn	**Pb**	**08 50 00.4**	**-1.6**
HSRG				*e*		08 50 41.6	
JHBN	**Jahan bin**	**2.65**	**101**	*e*Pn	**Pn**	**08 49 59.9**	**+0.1**
ASAO	**Ashtian**	**2.69**	**48**	*e*Pn	**Pn**	**08 50 01.7**	**+1.4**
ASAO				*e*Sg	**Sb**	**08 50 39.2**	**+0.9**
BHD	**Baghdad**	**2.75**	**281**	*e*Pn	**Pn**	**08 50 01.0**	**+0.1**
BHD				*e*Sn	**Sn**	**08 50 35.5**	**+0.7**
IPIR	**Pirpir**	**2.77**	**91**	*e*Pn	**Pn**	**08 50 02.0**	**+0.5**
IPIR				*e*		08 50 50.2	
ROKH	**ROKH**	**2.93**	**97**	*e*Pn	**Pn**	**08 50 03.8**	**+0.2**
ROKH				*e*		08 51 07.6	
IRAZ	**Razeghan**	**3.26**	**36**	*e*Pn	**Pn**	**08 50 10.3**	**+2.2**
QABG	**Abgarm-Qazvin**	**3.36**	**29**	*e*Pn	**Pn**	**08 50 09.5**	**0.0**
IKLH	**Kolahrood**	**3.38**	**80**	*e*Pn	**Pn**	**08 50 10.3**	**+0.4**
IKLH				*e*		08 51 16.6	
IQOM	**Qom**	**3.55**	**54**	*e*Pn	**Pn**	**08 50 12.6**	**+0.5**
IGAR	**Gharneh**	**3.77**	**94**	*e*Pn	**Pn**	**08 50 14.7**	**-0.4**
IGAR				*e*		08 51 02.6	
KLNJ	**Kolanjah**	**3.82**	**116**	*e*Pn	**Pn**	**08 50 15.3**	**-0.7**
KLNJ				*e*		08 51 28.3	
QSDN	**Sirdan**	**3.94**	**19**	*e*Pn	**Pn**	**08 50 18.8**	**+1.3**
IZEF	**Zefreh**	**3.98**	**87**	*e*Pn	**Pn**	**08 50 18.4**	**+0.3**
IVRN	**Varamin**	**4.08**	**56**	*e*Pn	**Pn**	**08 50 18.9**	**-0.4**
IDMV	**Damavand**	**4.62**	**51**	*e*Pn	**Pn**	**08 50 26.9**	**+0.1**
ISHM	**Shahmirzad**	**5.60**	**56**	*e*Pn	**Pn**	**08 50 41.0**	**+0.7**
IANJ	**Anjilo**	**5.88**	**61**	*e*Pn	**Pn**	**08 50 43.8**	**-0.4**
TPRV	**Parvadeh(Tabas**	**7.64**	**86**	*e*Pn	**Pn**	**08 51 07.8**	**-0.5**

*NAO **18** 08:54:06.0±2.1, 79°.29N×2°.97E, ML4.1*
*BER **18** 08:54:07.5±3.2, 79°.37N×3°.24E, h10km, ML2.9, ML4.1(NAO)*
*DNK **18** 08:54:07.8±5.5, 79°.42N×3°.56E, h124km±77km, ML3.4*
*NEIC **18** 08:54:07.8±2.8, 79°.05N±0°.09×3°.3E±0°.2, h10km±1km, mb4.4/9, Error ellipse: s-maj=15.0km s-min=4.9km az=344.0*
*IDC **18** 08:54:07.1±0.7, 79°.02N×2°.93E, h0km, mb3.7/11, mb1 3.9/15, mb1mx3.7/60, mbtmp3.7/15, ML3.0/3, MS3.2/18, Ms1 3.2/18, ms1mx3.0/45, Error ellipse: s-maj=18.5km s-min=12.5km az=27.0*
*IEPN **18** 08:54:13.2, 79°.06N×4°.27E, h15km*
ISC 18 08:54:07.3±0.5, 79°.02N±0°.06×2°.85E±0°.04, h10km, n104, σ2s52/121, mb3.8/16, MS3.2/14, 5C-1D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.75**	**89**	⇑*i*P	**Pn**	**08 54 35.8**	**-1.7**
KBS				*i* S	**Sn**	**08 54 54.3**	**-5.6**
KBS	**Kingsbay**	**1.75**	**89**	Pn	**Pn**	**08 54 35.9**	**-1.7**
KBS				Sn	**Sn**	**08 54 54.6**	**-5.4**
KBS	**Kingsbay**	**1.75**	**89**	*e*	**Pn**	**08 54 35.5**	**-2.1**
KBS	baz=314,slow=6.5			⇑*i*P	**Pn**	**08 54 35.9**	**-1.7**
KBS				*i* S	**Sn**	**08 54 54.5**	**-5.4**
KBS				IAML		08 54 56.6	
BRBA	**Barentsburg A**	**2.47**	**107**	Pn	**Pn**	**08 54 47.8**	**+0.4**
BRBA				Sn	**Sn**	**08 55 13.9**	**-3.6**
BRBA	**Barentsburg A**	**2.47**	**107**	Pn	**Pn**	**08 54 47.8**	**+0.4**
BRBA				Sn	**Sn**	**08 55 13.9**	**-3.6**
SPA0	**Spitsbergen Ar**	**2.81**	**101**	Pn	**Pn**	**08 54 51.8**	**-0.4**
SPA0	baz=295,slow=7.9			Sn	**Sn**	**08 55 23.8**	**-2.3**
SPA0	**Spitsbergen Ar**	**2.81**	**101**	⇑*i*P	**Pn**	**08 54 51.8**	**-0.4**
SPA0				*i* S	**Sn**	**08 55 23.1**	**-3.0**
SPA0	**Spitsbergen Ar**	**2.81**	**101**		**Pn**	**08 54 52.0**	**-0.2**
SPA0				Sn	**Sn**	**08 55 23.7**	**-2.4**
SPA0	**Spitsbergen Ar**	**2.81**	**101**	Pn	**Pn**	**08 54 51.8**	**-0.4**
SPA0	baz=295,slow=7.9			Sn	**Sn**	**08 55 23.8**	**-2.3**
SPITS	**Spitsbergen Ar**	**2.81**	**101**	Pn	**Pn**	**08 54 51.5**	**-0.7**
SPITS	baz=259,slow=6.5,SNR=3010			Sn	**Sn**	**08 55 24.0**	**-2.1**
SPITS	baz=257,slow=23,SNR=13			LR	LR	08 56 04.6	
HSPB	**Hornsund (broa**	**3.33**	**121**	Pn	**Pn**	**08 54 58.4**	**-0.8**
HSPB				Sn	**Sn**	**08 55 35.5**	**-3.3**
HSPB	**Hornsund (broa**	**3.33**	**121**	*e*P	**Pn**	**08 54 58.1**	**-1.1**
HSPB				*i* S	**Sn**	**08 55 34.4**	**-4.4**
HSPB	**Hornsund (broa**	**3.33**	**121**	*e*P	**Pn**	**08 54 58.8**	**-0.5**
HSPB				*e*S	**Sn**	**08 55 34.6**	**-4.2**
NOR	**Nord**	**4.17**	**317**	Pn	**Pn**	**08 55 08.2**	**-2.5**
NOR	**Nord**	**4.17**	**317**	*i* P	**Pn**	**08 55 08.3**	**-2.5**
NOR	**Nord**	**4.17**	**317**	⇑*i*P	**Pn**	**08 55 08.2**	**-2.5**
NOR	comp=Z,15nm,0.4s			IAML		08 55 56.3	
NOR	**Nord**	**4.17**	**317**	*i* P	**Pn**	**08 55 08.3**	**-2.5**
NOR	comp=Z,15nm,0.4s			IAML		08 55 56.3	
DAG	**Danmarks Havn**	**5.03**	**254**	*i* P	**Pn**	**08 55 21.8**	**-0.8**
DAG				*i* S	**Sn**	**08 56 15.0**	**-5.6**
DAG	**Danmarks Havn**	**5.03**	**254**	*e*	**Pn**	**08 55 20.8**	**-1.8**
DAG	baz=50,slow=14			*i* P	**Pn**	**08 55 21.9**	**-0.8**
DAG				*i* S	**Sn**	**08 56 15.0**	**-5.6**
DAG				IAML		08 56 17.1	
DAG

comp=Z,0.7nm,0.6s,baz=340,slow=11,SNR=1.9
BVAR LR LR 09 17 28.2
comp=Z,106nm,20.1s,baz=314,slow=41
AKTO Aktyubinsk 34.46 112 P **P 09 00 54.3 -0.3**
comp=Z,0.7nm,0.5s,baz=326,slow=3.6,SNR=2.1
IL31 35.33 338 P **P 09 01 02.8 +0.9**
IL31 IAmb IAmb 09 02 16.6
comp=Z,24nm,1.9s
ILAR Eielson Array 35.33 338 P **P 09 01 04.2 +2.2**
comp=Z,0.7nm,0.8s,baz=1.7,slow=6.8,SNR=9.1
ILAR PcP **PcP 09 03 32.2 +0.4**
comp=Z,0.4nm,0.6s,baz=333,slow=3.9,SNR=5.6
ILAR Eielson Array 35.33 338 P **P 09 01 03.0 +1.0**
ILAR **PcP 09 03 32.9 +1.1**
KURK Kurchatov 38.04 91 P **P 09 01 27.0 +1.8**
KURK Kurchatov 38.04 91 IAmb IAmb 09 01 39.6
comp=Z,5.6nm,1.1s
KURBB Kurchatov Arra 38.11 91 P **P 09 01 27.0 +1.2**
comp=Z,0.4nm,0.4s,baz=342,slow=7.6,SNR=5.5
ESDC Sonseca Array 39.56 188 P **P 09 01 38.7 +0.6**
comp=Z,0.5nm,0.5s,baz=3.7,slow=7.5,SNR=2.8
BRTR Keskin Array B 41.26 143 LR LR 09 23 27.9
comp=Z,6.7nm,18.1s,slow=43
D53A Lac Vacive, Po 42.44 273 P **P 09 02 02.3 +0.6**
MK31 Makanchi Array 42.50 89 P **P 09 02 01.1 -1.1**
MKAR Makanchi Array 42.50 89 P **P 09 02 04.0 +1.8**
comp=Z,0.8nm,0.7s,baz=332,slow=8.4,SNR=8.2
MKAR LR LR 09 24 12.3
comp=Z,34nm,18.4s,baz=336,slow=42
MKAR Makanchi Array 42.50 89 P **P 09 02 03.2 +1.1**
ULM Lac du Bonnet 42.79 291 LR LR 09 19 50.7
comp=Z,70nm,19.0s,baz=1.5,slow=36
MCMT McKenzie Canyo 50.92 304 P **P 09 03 09.2 +0.8**
FXWY Fox Creek 51.79 302 P **P 09 03 16.9 +2.0**
FXWY IAmb IAmb 09 03 26.9
comp=Z,3.1nm,1.3s
PDAR Pinedale Array 52.40 301 P **P 09 03 22.0 +2.6**
comp=Z,0.1nm,0.5s,baz=23,slow=9.8,SNR=2.6
PDAR Pinedale Array 52.40 301 P **P 09 03 21.4 +2.0**
PFO Pinyon Flats O 62.45 305 LR LR 09 34 23.0
comp=Z,37nm,19.1s,baz=224,slow=39
TX32 Lajitas Array 64.48 292 P **P 09 04 44.7 +1.0**
TX32 IAmb IAmb 09 04 56.9
comp=Z,13nm,1.9s
TXAR Lajitas Array 64.48 292 P **P 09 04 44.6 +0.9**
comp=Z,0.2nm,0.6s,baz=31,slow=5.5,SNR=6.0
TXAR Lajitas Array 64.48 292 P **P 09 04 44.3 +0.6**
TORD Torodi Ar. Bea 65.89 181 P **P 09 04 54.5 +1.6**
comp=Z,1.0nm,0.6s,baz=3.6,slow=6.5,SNR=5.8
TORD Torodi Ar. Bea 65.89 181 P **P 09 04 54.0 +1.2**
CMAR Chiang Mai Arr 73.17 80 P **P 09 05 38.9 +1.1**
comp=Z,0.5nm,0.3s,baz=349,slow=7.1,SNR=4.3
CMAR LR LR 09 41 11.7
comp=Z,13nm,19.8s,baz=315,slow=39
CMAR Chiang Mai Arr 73.17 80 P **P 09 05 38.6 +0.9**
CMIG Matias Romero 74.81 281 LR LR 09 38 53.6
comp=Z,8.0nm,21.7s,baz=356,slow=36
JTS Las Juntas de 79.55 270 LR LR 09 42 23.6
comp=Z,24nm,18.9s,baz=58,slow=36

*IDC **18** 08:57:30.0±7.0, 31°.77N×47°.78E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/55, mbtmp3.6/6, ML2.9/1, Error ellipse: s-maj=125.4km s-min=37.0km az=7.0*
*ISN **18** 08:57:40.8±1.1, 32°.82N×47°.58E, h15km±5km, ML3.4*
*TEH **18** 08:57:41.7, 32°.81N×47°.62E, h14km, ML3.5*
ISC 18 08:57:42.5±0.8, 32°.81N±0°.05×47°.59E±0°.04, h15km, n50, σ1°29/52, mb3.5/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.75**	**17**	*e*Pg	**Pg**	**08 57 55.5**	**-1.6**
IKMR	**Kamar-syah**	**0.97**	**43**	*e*Pg	**Pb**	**08 57 59.9**	**-1.1**
IKMR				*e*		08 58 20.4	
IDOB	**Doab**	**1.09**	**26**	*e*Pg	**Pb**	**08 58 03.0**	**-0.3**
BMDN	**Meydan**	**1.35**	**50**	*e*		08 58 32.4	
BMDN				*e*Pg	**Pb**	**08 58 07.8**	**+0.2**
IKOM	**Komasi**	**1.37**	**357**	*e*		08 58 09.5	
IKOM				*e*Pg	**Pg**	**08 58 08.1**	**-0.8**
IBDR	**Badra**	**1.43**	**283**	*e*Pg	**Pn**	**08 58 06.0**	**-1.9**
IBDR				*e*Sg	**Sn**	**08 58 26.0**	**-0.4**
IBDR				AML	AML	08 58 31.3	
	comp=E,550nm,0.4s						
IBDR				AML	AML	08 58 31.4	
	comp=N,767nm,0.6s						
KCHF	**Cheshme Sefid,**	**1.54**	**343**	*e*Pg	**Pb**	**08 58 10.8**	**0.0**
KER	**Kermanshah**	**1.62**	**346**	*e*Pn	**Pb**	**08 58 11.8**	**-0.4**
HSAM	**Samen**	**1.64**	**31**	*e*Pg	**Pb**	**08 58 12.7**	**+0.1**
HSAM				*e*		08 58 39.8	
IBZA	**Bozab**	**1.68**	**8**	*e*Pg	**Pb**	**08 58 13.4**	**+0.2**
IBZA				*e*		08 58 16.7	
AHWZ	**Ahwaz**	**1.72**	**148**	*e*Pg	**Pn**	**08 58 13.8**	**+1.9**
IGHG	**Ghaleghazi**	**1.74**	**331**	*e*Pg	**Pb**	**08 58 14.2**	**-0.2**
IGHG				*e*		08 58 48.0	
IVIS	**Veis**	**1.82**	**340**	*e*Pn	**Pb**	**08 58 15.5**	**-0.2**
IVIS				*e*		08 58 46.6	
IALM	**Almabolaq**	**2.10**	**13**	*e*Pn	**Pb**	**08 58 19.3**	**-1.3**
IDHR	**Dehrash**	**2.14**	**332**	*e*Pn	**Pn**	**08 58 18.7**	**+0.8**
IDHR				*e*		08 58 56.1	
ILIN	**Lien**	**2.17**	**346**	*e*Pn	**Pn**	**08 58 19.4**	**+1.0**
ILIN				*e*		08 58 56.7	
NSR	**Nassriya**	**2.17**	**215**	*e*Pn	**Pn**	**08 58 18.0**	**-0.1**
NSR				*e*Sn	**Sn**	**08 58 44.0**	**-0.8**
HAGD	**Aghdareh**	**2.39**	**32**	*e*Pn	**Pb**	**08 58 23.4**	**-2.0**
HAGD				*e*		08 59 06.4	
HSRG	**Sareghieh**	**2.50**	**13**	*e*Pn	**Pb**	**08 58 26.1**	**-1.1**
HSRG				*e*		08 59 03.2	
JHBN	**Jahan bin**	**2.66**	**102**	*e*Pn	**Pn**	**08 58 26.0**	**+0.9**
JHBN				*e*		08 59 17.9	
BHD	**Baghdad**	**2.74**	**281**	*e*Pn	**Pn**	**08 58 26.0**	**+0.1**
BHD				*e*Sn	**Sn**	**08 58 59.0**	**+0.3**
IPIR	**Pirpir**	**2.78**	**92**	*e*Pn	**Pn**	**08 58 28.3**	**+1.5**
IPIR				*e*		08 59 05.6	
ROKH	**ROKH**	**2.94**	**98**	*e*Pn	**Pn**	**08 58 30.1**	**+1.1**
IRAZ	**Razeghan**	**3.24**	**36**	*e*Pn	**Pn**	**08 58 35.6**	**+2.6**
QABG	**Abgarm-Qazvin**	**3.33**	**29**	*e*Pn	**Pn**	**08 58 35.3**	**+1.0**
IKLH	**Kolahrood**	**3.39**	**80**	*e*Pn	**Pn**	**08 58 37.1**	**+2.0**
IKLH				*e*		08 58 39.4	
IQOM	**Qom**	**3.54**	**54**	*e*Pn	**Pn**	**08 58 38.9**	**+1.7**
IGAR	**Gharneh**	**3.78**	**95**	*e*Pn	**Pn**	**08 58 41.7**	**+1.3**
IGAR				*e*		08 58 45.0	
KLNJ	**Kolanjah**	**3.84**	**117**	*e*Pn	**Pn**	**08 58 42.0**	**+0.5**
KLNJ				*e*		08 59 56.9	
QSDN	**Sirdan**	**3.91**	**19**	*e*Pn	**Pn**	**08 58 44.3**	**+2.0**
IZEF	**Zefreh**	**3.99**	**87**	*e*Pn	**Pn**	**08 58 45.1**	**+1.7**
IVRN	**Varamin**	**4.07**	**56**	*e*Pn	**Pn**	**08 58 45.9**	**+1.5**
IRAM	**Ramesheh**	**4.18**	**102**	*e*Pn	**Pn**	**08 58 46.4**	**+0.5**
IGZV	**Ghazvin**	**4.18**	**31**	*e*Pn	**Pn**	**08 58 48.0**	**+2.1**
QALM	**Alamut, Qazvin**	**4.41**	**34**	*e*Pn	**Pn**	**08 58 50.0**	**+0.9**
IDMV	**Damavand**	**4.60**	**52**	*e*Pn	**Pn**	**08 58 52.8**	**+1.0**
ILAS	**Lasjerd**	**5.14**	**59**	*e*Pn	**Pn**	**08 59 00.3**	**+1.1**
ANAR	**Anarak**	**5.17**	**84**	*e*Pn	**Pn**	**08 59 00.0**	**+0.5**
ISHM	**Shahmirzad**	**5.59**	**56**	*e*Pn	**Pn**	**08 59 07.0**	**+1.7**
IANJ	**Anjilo**	**5.88**	**61**	*e*Pn	**Pn**	**08 59 10.6**	**+1.3**
IGLO	**Ghaloghah**	**6.33**	**53**	*e*Pn	**Pn**	**08 59 16.2**	**+0.8**
TNSJ	**Nastanj**	**7.63**	**79**	*e*Pn	**Pn**	**08 59 35.0**	**+1.8**
TPRV	**Parvadeh(Tabas**	**7.65**	**86**	*e*Pn	**Pn**	**08 59 34.6**	**+1.1**
TKDS	**Koohdasht(Taba**	**8.03**	**82**	*e*Pn	**Pn**	**08 59 39.3**	**+0.6**
BRTR	**Keskin Array B**	**13.20**	**305**	Pn	**Pn**	**09 00 52.5**	**+3.0**
	comp=N,0.1nm,0.3s,baz=119,slow=44,SNR=1.8						
AKTO	**Aktyubinsk**	**19.23**	**21**	P	**P**	**09 02 05.9**	**-0.1**
	comp=N,1.1nm,0.5s,baz=218,slow=13,SNR=4.3						
AKASG	**Malin Array Be**	**22.42**	**328**	P	**P**	**09 02 39.4**	**-1.0**
	comp=N,0.4nm,0.4s,baz=136,slow=9.0,SNR=4.2						
MKAR	**Makanchi Array**	**29.83**	**52**	P	P	09 03 43.2	-5.8
	comp=N,0.2nm,0.5s,baz=238,slow=11,SNR=1.8						
FINES	**FINESS Array B**	**31.86**	**340**	P	**P**	**09 04 05.8**	**-0.9**
	comp=N,2.6nm,0.9s,baz=134,slow=8.0,SNR=1.5						
ARCES	**ARCESS Array B**	**38.81**	**348**	P	**P**	**09 05 05.1**	**-1.3**
	comp=N,1.4nm,0.8s,baz=160,slow=11,SNR=1.6						

WEL 18 08:58:00.3±1.0, 35°S±7°×18°0E±1°0, h33km, M4.2/17, mB4.4/1, ML4.5/17, MLv4.2/17, Mw(mB)3.6/1, Error ellipse: s-maj=0.0km s-min=0.0km az=114.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.87**	**208**	P	Pn	08 58 42.4	-1.3
HAZ	**Te Kaha**	**3.25**	**213**	P	Pn	08 58 48.9	0.0
RUGZ	**Raukumara Rang**	**3.47**	**212**	P	Pn	08 58 52.8	+0.7
TWGZ	**Tauwhareparae**	**3.53**	**207**	P	Pn	08 58 53.1	+0.2
TWGZ				S	Sn	08 59 36.0	+2.4
WHRZ	**Whale Island**	**3.73**	**220**	P	Pn	08 58 58.0	+2.5
CNGZ	**Carnagh Statio**	**3.73**	**202**	P	Pn	08 58 55.5	-0.1
CNGZ				S	Sn	08 59 39.4	+1.0
TKGZ	**Te Karaka**	**3.81**	**206**	P	Pn	08 58 56.3	-0.3
TKGZ				S	Sn	08 59 40.9	+0.6
MWZ	**Matawai**	**3.85**	**210**	P	Pn	08 58 56.7	-0.5
KUZ	**Kuaotunu**	**3.87**	**243**	P	Pn	08 58 58.0	+0.6
KUZ				S	Sn	08 59 41.3	-0.4
URZ	**Urewera**	**3.97**	**215**	P	Pn	08 58 59.1	+0.3
RAGZ	**Rawiri**	**4.03**	**210**	P	Pn	08 58 59.2	-0.6
RAGZ				S	Sn	08 59 47.6	+1.8
RIGZ	**Rimuhau**	**4.08**	**205**	P	Pn	08 59 00.1	-0.3
RIGZ				S	Sn	08 59 46.4	-0.6
PRGZ	**Paritu Road**	**4.24**	**203**	P	Pn	08 59 01.6	-1.0
PRGZ				S	Sn	08 59 51.3	+0.4
MUGZ	**Murupara**	**4.30**	**216**	P	Pn	08 59 03.8	+0.4
SNGZ	**Shannon Statio**	**4.30**	**209**	P	Pn	08 59 03.8	+0.4
SNGZ				S	Sn	08 59 52.7	+0.1
RTZ	**Ruatahuna**	**4.32**	**213**	P	Pn	08 59 03.8	+0.1
RTZ				S	Sn	08 59 55.9	+3.0
RAHZ	**Arahi**	**4.52**	**210**	P	Pn	08 59 07.0	+0.6
RAHZ				S	Sn	08 59 57.4	-0.5
MTHZ	**Maungataniwha**	**4.57**	**213**	P	Pn	08 59 07.7	+0.5
MTHZ				S	Sn	09 00 00.2	+1.0
NMHZ	**Naumai**	**4.79**	**211**	P	Pn	08 59 10.4	+0.2
BKZ	**Black Stump Fm**	**4.99**	**213**	P	Pn	08 59 12.6	-0.3
BKZ				S	Sn	09 00 08.9	-0.4
RATZ	**Rangitukua**	**5.11**	**220**	P	Pn	08 59 14.7	+0.2
MCHZ	**McNeill Hill**	**5.13**	**210**	P	Pn	08 59 14.7	-0.1
KWHZ	**Kaweka Forest**	**5.23**	**212**	P	Pn	08 59 15.1	-1.1
ETVZ	**East Tongariro**	**5.34**	**219**	P	Pn	08 59 18.2	+0.4
KAHZ	**Kahuranaki**	**5.36**	**207**	P	Pn	08 59 16.0	-2.0
BHHZ	**Black Hill Sta**	**5.44**	**214**	P	Pn	08 59 19.5	+0.3
FWVZ	**Far West T-bar**	**5.51**	**219**	P	Pn	08 59 21.3	+1.0
MOVZ	**Moawhango**	**5.53**	**217**	P	Pn	08 59 21.8	+1.5
BFZ	**Birch Farm**	**6.37**	**207**	P	Pn	08 59 29.1	-2.8
BFZ				S	Sn	09 00 38.1	-5.3

*ISN **18** 09:02:09.6±0.6, 32°.77N×47°.61E, h18km±3km, ML3.9*
*TEH **18** 09:02:10.4, 32°.79N×47°.52E, h10km, ML3.6*
ISC 18 09:02:12.3±1.8, 32°.70N±0°.05×47°.48E±0°.04, h17km±13km, n23, σ1°63/30, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKMR	**Kamar-syah**	**1.11**	**43**	*e*Pg	**Pb**	**09 02 30.3**	**-2.8**
IKMR				*e*	**Sn**	**09 02 51.0**	**+2.9**
IDOB	**Doab**	**1.23**	**28**	*e*Pg	**Pb**	**09 02 32.2**	**-3.1**
IBDR	**Badra**	**1.36**	**288**	*e*Pg	**Pn**	**09 02 36.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**09 02 56.0**	**-0.4**
IBDR				AML	AML	09 02 59.6	
	comp=N,2μm,0.7s						
IBDR				AML	AML	09 03 01.4	
	comp=E,2μm,0.6s						
IKOM	**Komasi**	**1.47**	**1**	*e*Pg	**Pn**	**09 02 36.3**	**-2.0**
IKOM				*e*		09 03 04.0	
BMDN	**Meydan**	**1.49**	**49**	*e*	**Sg**	**09 03 03.9**	**+3.5**
KCHF	**Cheshme Sefid,**	**1.61**	**347**	*e*Pn	**Pn**	**09 02 39.2**	**-1.0**
KCHF				*e*	**Sb**	**09 03 03.9**	**+1.9**
KER	**Kermanshah**	**1.70**	**350**	*e*Pn	**Pn**	**09 02 41.7**	**+0.2**
HSAM	**Samen**	**1.78**	**32**	*e*Pg	**Pn**	**09 02 42.3**	**-0.3**
HSAM				*e*		09 03 09.9	
IBZA	**Bozab**	**1.79**	**10**	*e*Pg	**Pn**	**09 02 43.1**	**+0.3**
IBZA				*e*		09 02 46.9	
IGHG	**Ghaleghazi**	**1.79**	**335**	*e*Pg	**Pb**	**09 02 43.9**	**-1.0**
IGHG				*e*		09 03 18.4	
IVIS	**Veis**	**1.90**	**344**	*e*Pn	**Pn**	**09 02 44.2**	**+0.2**
IVIS				*e*	**Sg**	**09 03 14.2**	**+0.8**
NSR	**Nassriya**	**2.03**	**214**	*e*Pn	**Pn**	**09 02 46.0**	**+0.2**
NSR				*e*Sn	**Sn**	**09 03 12.0**	**+1.2**
IDHR	**Dehrash**	**2.19**	**336**	*e*Pn	**Pb**	**09 02 50.0**	**-1.7**
IDHR				*e*	**Sg**	**09 03 24.8**	**+1.9**
IALM	**Almabolaq**	**2.23**	**15**	*e*Pn	**Pn**	**09 02 47.5**	**-1.3**
IALM				*e*		09 03 27.8	
ILIN	**Lien**	**2.25**	**349**	*e*Pn	**Pn**	**09 02 50.4**	**+1.3**
ILIN				*e*		09 03 28.2	
HAGD	**Aghdareh**	**2.53**	**33**	*e*Pn	**Pn**	**09 02 52.0**	**-0.9**
HAGD				*e*		09 03 34.6	
BHD	**Baghdad**	**2.67**	**283**	*e*Pn	**Pn**	**09 02 55.0**	**+0.5**
BHD				*e*Sn	**Sn**	**09 03 28.0**	**+1.6**
IPIR	**Pirpir**	**2.88**	**89**	*e*Pn	**Pn**	**09 02 58.2**	**+0.5**
IPIR				*e*		09 03 57.0	
ROKH	**ROKH**	**3.03**	**96**	*e*Pn	**Pn**	**09 03 00.0**	**+0.3**
QABG	**Abgarm-Qazvin**	**3.47**	**30**	*e*Pn	**Pn**	**09 03 04.5**	**-1.3**
IKLH	**Kolahrood**	**3.50**	**79**	*e*Pn	**Pn**	**09 03 06.1**	**-0.2**
IKLH				*e*		09 04 11.6	
QSDN	**Sirdan**	**4.04**	**20**	*e*Pn	**Pn**	**09 03 12.7**	**-1.0**
KOLS	**Kolonicke sedl**	**24.87**	**318**	*e*P	**P**	**09 07 32.6**	**-1.4**

*TEH **18** 09:12:43.5, 32°.89N×47°.63E, h9km, ML2.9*
*ISN **18** 09:12:43.2±1.5, 32°.91N×47°.64E, h15km±7km, ML2.8*
ISC 18 09:12:44.0±1.2, 32°.92N±0°.07×47°.65E±0°.06, h15km, n11, σ0°89/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.62**	**15**	*e*Pg	**Pg**	**09 12 55.3**	**-0.9**
IKFM				*e*		09 13 14.2	
IKMR	**Kamar-syah**	**0.85**	**46**	*e*		09 13 18.2	
IKMR				*e*Pg	**Pn**	**09 13 02.0**	**+0.6**
IDOB	**Doab**	**0.97**	**27**	*e*		09 13 26.0	
IDOB				*e*Pg	**Pn**	**09 13 03.2**	**+0.4**
BMDN	**Meydan**	**1.24**	**53**	*e*Pg	**Pn**	**09 13 07.0**	**+0.1**
BMDN				*e*		09 18 33.2	
IKOM	**Komasi**	**1.25**	**355**	*e*		09 13 10.2	
IKOM				*e*Pg	**Pg**	**09 13 08.3**	**+0.1**
IBDR	**Badra**	**1.46**	**278**	*e*Pg	**Pb**	**09 13 10.0**	**-0.8**
IBDR				*e*Sg	**Sb**	**09 13 29.0**	**-0.1**
IBDR				AML	AML	09 13 32.1	
	comp=N,162nm,0.4s						
IBDR				AML	AML	09 13 32.4	
	comp=E,162nm,0.4s						
IBZA	**Bozab**	**1.55**	**6**	*e*Pn	**Pb**	**09 13 12.9**	**+0.3**
IBZA				*e*		09 13 15.1	
IVIS	**Veis**	**1.73**	**338**	*e*Pn	**Pg**	**09 13 16.4**	**-0.9**
IVIS				*e*		09 13 44.7	
IDHR	**Dehrash**	**2.06**	**330**	*e*Pn	**Pb**	**09 13 20.4**	**-0.8**
IDHR				*e*		09 13 56.3	
NSR	**Nassriya**	**2.30**	**214**	*e*Pn	**Pn**	**09 13 22.0**	**+0.7**
NSR				*e*Sn	**Sn**	**09 13 49.0**	**-0.3**
BHD	**Baghdad**	**2.77**	**278**	*e*Pn	**Pn**	**09 13 28.0**	**+0.3**
BHD				*e*Sn	**Sn**	**09 14 03.0**	**+2.1**

*TEH **18** 09:28:48.3, 32°.68N×47°.88E, h8km, ML3.3*
*ISN **18** 09:28:49.0±1.2, 32°.86N×48°.01E, h33km, ML3.0*
ISC 18 09:28:49.5±1.5, 32°.66N±0°.04×47°.83E±0°.04, h7km±14km, n33, σ1°31/38, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.87**	**1**	*e*Pg	**Pg**	**09 29 04.5**	**-1.7**
IKMR	**Kamar-syah**	**0.97**	**28**	*e*Pg	**Pg**	**09 29 06.6**	**-1.6**
IDOB	**Doab**	**1.17**	**14**	*e*Pg	**Pg**	**09 29 10.0**	**-1.9**
BMDN	**Meydan**	**1.31**	**39**	*e*Pg	**Pg**	**09 29 13.1**	**-1.6**
BMDN				*e*		09 29 39.0	
AHWZ	**Ahwaz**	**1.49**	**152**	*e*Pg	**Pb**	**09 29 17.0**	**-0.5**
IKOM	**Komasi**	**1.54**	**350**	*e*Pg	**Pn**	**09 29 17.2**	**-0.3**
IKOM				*e*		09 29 19.4	
IBDR	**Badra**	**1.66**	**286**	*e*Pn	**Pn**	**09 29 19.0**	**0.0**
IBDR				*e*Sn	**Sn**	**09 29 40.5**	**-0.1**
IBDR				AML	AML	09 29 44.0	
	comp=N,182nm,0.5s						
IBDR				AML	AML	09 29 45.7	
	comp=E,221nm,0.4s						
HSAM	**Samen**	**1.68**	**22**	*e*Pg	**Pn**	**09 29 19.5**	**0.0**
HSAM				*e*		09 29 21.6	
KCHF	**Cheshme Sefid,**	**1.75**	**338**	*e*Pn	**Pn**	**09 29 21.0**	**+0.7**
KCHF				*e*	**Sg**	**09 29 48.5**	**+2.8**
IBZA	**Bozab**	**1.81**	**1**	*e*Pg	**Pn**	**09 29 22.1**	**+0.8**
IBZA				*e*		09 29 24.5	
KER	**Kermanshah**	**1.82**	**341**	*e*Pn	**Pn**	**09 29 21.3**	**0.0**
IGHG	**Ghaleghazi**	**1.98**	**328**	*e*Pn	**Pn**	**09 29 24.5**	**+1.0**
IGHG				*e*		09 30 05.2	
IVIS	**Veis**	**2.04**	**337**	*e*Pn	**Pn**	**09 29 25.6**	**+1.3**
IVIS				*e*	Sg	09 30 05.7	+11
NSR	**Nassriya**	**2.18**	**222**	*e*Pn	**Pn**	**09 29 27.0**	**+0.9**
NSR				*e*Sn	**Sb**	**09 29 56.0**	**-0.5**
IALM	**Almabolaq**	**2.22**	**7**	*e*Pn	**Pb**	**09 29 28.6**	**-1.4**
IDHR	**Dehrash**	**2.37**	**330**	*e*Pn	**Pn**	**09 29 30.1**	**+1.2**
IDHR				*e*		09 30 10.4	
ILIN	**Lien**	**2.37**	**342**	*e*Pn	**Pn**	**09 29 28.4**	**-0.6**
ILIN				*e*		09 30 20.2	
HAGD	**Aghdareh**	**2.42**	**26**	*e*Pn	**Pn**	**09 29 30.7**	**+1.0**
HAGD				*e*		09 29 35.0	
JHBN	**Jahan bin**	**2.43**	**99**	*e*Pn	**Pn**	**09 29 29.5**	**-0.4**
JHBN				*e*		09 30 18.0	
IPIR	**Pirpir**	**2.58**	**89**	*e*	**Sg**	**09 30 16.4**	**+3.9**
HSRG	**Sareghieh**	**2.61**	**8**	*e*Pn	**Pn**	**09 29 33.7**	**+1.4**
HSRG				*e*	**Sg**	**09 30 15.3**	**+2.1**
ROKH	**ROKH**	**2.72**	**96**	*e*Pn	**Pn**	**09 29 34.1**	**+0.3**
ROKH				*e*		09 29 42.4	
BHD	**Baghdad**	**2.97**	**283**	*e*Pn	**Pn**	**09 29 38.0**	**+1.1**
BHD				*e*Sn	**Sn**	**09 30 13.0**	**+0.3**
IKLH	**Kolahrood**	**3.22**	**77**	*e*Pn	**Pn**	**09 29 41.2**	**+0.6**
IKLH				*e*		09 30 35.5	
IRAZ	**Razeghan**	**3.25**	**32**	*e*Pn	**Pn**	**09 29 42.4**	**+1.4**
QABG	**Abgarm-Qazvin**	**3.37**	**25**	*e*Pn	**Pn**	**09 29 42.8**	**0.0**
IQOM	**Qom**	**3.47**	**50**	*e*Pn	**Pn**	**09 29 44.3**	**+0.2**
KLNJ	**Kolanjah**	**3.60**	**116**	*e*Pn	**Pn**	**09 29 46.0**	**+0.1**
KLNJ				*e*		09 30 00.3	
IZEF	**Zefreh**	**3.79**	**85**	*e*Pn	**Pn**	**09 29 49.0**	**+0.4**
IRAM	**Ramesheh**	**3.95**	**101**	*e*Pn	**Pn**	**09 29 50.0**	**-0.6**
IVRN	**Varamin**	**3.99**	**53**	*e*Pn	**Pn**	**09 29 52.9**	**+1.8**
QSDN	**Sirdan**	**4.00**	**16**	*e*Pn	**Pn**	**09 29 51.4**	**+0.1**
IDMV	**Damavand**	**4.54**	**49**	*e*Pn	**Pn**	**09 29 59.2**	**+0.3**

*ISN **18** 09:37:29.2±1.4, 32°.61N×47°.72E, h15km±7km, ML3.3*
*TEH **18** 09:37:30.7, 32°.74N×47°.68E, h15km, ML3.6*
*THR **18** 09:37:30.1±0.5, 32°.74N×47°.52E, h18km±6km, ML3.6*
ISC 18 09:37:30.0±1.3, 32°.68N±0°.04×47°.60E±0°.03, h8km±12km, n44, σ1°19/49, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.86**	**14**	*e*Pg	**Pg**	**09 37 45.9**	**-0.7**
IKFM				*e*		09 38 01.7	
IKMR	**Kamar-syah**	**1.06**	**38**	*e*Pg	**Pg**	**09 37 48.7**	**-1.6**
IKMR				*e*		09 38 15.2	
SHGR	**Shooshtar-Gavs**	**1.17**	**119**	*e*Pg	**Pn**	**09 37 53.2**	**+0.6**
SHGR				*e*Sg	**Sn**	**09 38 10.4**	**+1.8**
SHGR				IAML		09 38 13.5	
	comp=N,1μm,0.3s						
SHGR				IAML		09 38 13.9	
	comp=E,1μm,0.5s						
IDOB	**Doab**	**1.20**	**24**	*e*Pg	**Pg**	**09 37 52.1**	**-1.0**
BMDN	**Meydan**	**1.42**	**46**	*e*Pg	**Pg**	**09 37 56.8**	**-0.5**
BMDN				*e*		09 38 22.3	
IBDR	**Badra**	**1.47**	**287**	*e*Pg	**Pg**	**09 37 58.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**09 38 19.0**	**+1.9**
IBDR				AML	AML	09 38 21.6	
	comp=N,455nm,0.2s						
IBDR				AML	AML	09 38 22.4	
	comp=E,456nm,0.7s						
IKOM	**Komasi**	**1.49**	**357**	*e*Pg	**Pg**	**09 37 58.1**	**-0.4**
IKOM				*e*		09 37 60.0	
AHWZ	**Ahwaz**	**1.62**	**146**	*e*Pg	**Pg**	**09 38 01.5**	**+0.6**
KCHF	**Cheshme Sefid,**	**1.65**	**344**	*e*Pg	**Pb**	**09 38 00.1**	**-0.7**
KCHF				*e*		09 38 26.3	
HSAM	**Samen**	**1.74**	**29**	*e*		09 38 08.2	
HSAM				*e*Pn	**Pb**	**09 38 01.9**	**-0.4**
KER	**Kermanshah**	**1.74**	**347**	*e*Pn	**Pb**	**09 38 02.0**	**-0.3**
IBZA	**Bozab**	**1.79**	**7**	*e*Pg	**Pb**	**09 38 02.8**	**-0.4**
IBZA				*e*		09 38 34.6	
IGHG	**Ghaleghazi**	**1.85**	**333**	*e*Pn	**Pb**	**09 38 04.4**	**+0.2**
IVIS	**Veis**	**1.94**	**341**	*e*		09 38 35.9	
IVIS				*e*Pn	**Pn**	**09 38 04.1**	**+0.8**
NSR	**Nassriya**	**2.08**	**217**	*e*Pn	**Pn**	**09 38 05.0**	**-0.1**
NSR				*e*Sn	**Sn**	**09 38 30.0**	**-1.2**
IALM	**Almabolaq**	**2.22**	**12**	*e*Pn	**Pn**	**09 38 08.4**	**+1.0**
KHMZ	**Khomeyn**	**2.24**	**61**	*e*Pn	**Pn**	**09 38 08.9**	**+1.3**
IDHR	**

IPIR	**Pirpir**	**2.75**	**91**	*e*Pn	**Pn**	**09 52 26.8**	**+1.2**
IPIR				*e*		09 53 14.1	
BHD	**Baghdad**	**2.77**	**281**	*e*Pn	**Pn**	**09 52 26.0**	**+0.4**
BHD				*e*Sn	**Sn**	**09 53 00.5**	**+1.4**
ROKH	**ROKH**	**2.91**	**98**	*e*Pn	**Pn**	**09 52 28.5**	**+0.8**
ROKH				*e*		09 53 16.2	
IRAZ	**Razeghan**	**3.24**	**35**	*e*Pn	**Pn**	**09 52 33.8**	**+1.6**
QABG	**Abgarm-Qazvin**	**3.34**	**28**	*e*Pn	**Pn**	**09 52 34.8**	**+1.2**
IKLH	**Kolahrood**	**3.36**	**80**	*e*Pn	**Pn**	**09 52 35.8**	**+1.9**
IKLH				*e*		09 53 39.0	
IQOM	**Qom**	**3.53**	**53**	*e*Pn	**Pn**	**09 52 38.0**	**+1.8**
IGAR	**Gharneh**	**3.74**	**95**	*e*Pn	**Pn**	**09 52 40.1**	**+0.9**
KLNJ	**Kolanjah**	**3.81**	**117**	*e*Pn	**Pn**	**09 52 41.0**	**+0.8**
KLNJ				*e*		09 54 00.6	
QSDN	**Sirdan**	**3.93**	**18**	*e*Pn	**Pn**	**09 52 43.3**	**+1.6**
IZEF	**Zefreh**	**3.96**	**87**	*e*Pn	**Pn**	**09 52 43.4**	**+1.2**
IVRN	**Varamin**	**4.06**	**56**	*e*Pn	**Pn**	**09 52 44.4**	**+1.0**
IRAM	**Ramesheh**	**4.14**	**102**	*e*Pn	**Pn**	**09 52 44.9**	**+0.3**
IDMV	**Damavand**	**4.59**	**51**	*e*Pn	**Pn**	**09 52 50.7**	**-0.2**
ANAR	**Anarak**	**5.14**	**84**	*e*Pn	**Pn**	**09 52 58.6**	**+0.3**
ISHM	**Shahmirzad**	**5.57**	**56**	*e*Pn	**Pn**	**09 53 05.8**	**+1.4**
IANJ	**Anjilo**	**5.86**	**61**	*e*Pn	**Pn**	**09 53 08.6**	**+0.3**
TNSJ	**Nastanj**	**7.60**	**79**	*e*Pn	**Pn**	**09 53 33.0**	**+0.9**
TPRV	**Parvadeh(Tabas**	**7.62**	**86**	*e*Pn	**Pn**	**09 53 32.9**	**+0.6**

*TEH **18** 10:03:53.5,32˚.71N×47˚.56E,h8km,ML3.4*
*ISN **18** 10:03:54.4±0.8,32˚.73N×47˚.61E,h14km±6km,ML3.0*
ISC 18 10:03:55.6±1.0,**32˚.69N**±0˚.04×**47˚.58E**±0˚.04,**h10**km,**n34,**
σ1§**53**/37,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.86**	**15**	*e*		10 04 32.0	
IKFM				*e*Pg	**Pg**	**10 04 09.7**	**-2.5**
IKMR	**Kamar-syah**	**1.06**	**39**	*e*Pg	**Pg**	**10 04 14.0**	**-2.0**
IKMR				*e*		10 04 39.0	
IDOB	**Doab**	**1.20**	**24**	*e*Pg	**Pb**	**10 04 16.7**	**-1.9**
BMDN	**Meydan**	**1.43**	**46**	*e*Pg	**Pn**	**10 04 21.6**	**-0.2**
BMDN				*e*		10 04 51.9	
IBDR	**Badra**	**1.45**	**287**	*e*Pg	**Pn**	**10 04 21.0**	**-0.9**
IBDR				*e*Sg	**Sn**	**10 04 41.0**	**0.0**
IBDR				AML	AML	10 04 44.8	
	comp=E,231nm,0.6s						
IBDR				AML	AML	10 04 45.2	
	comp=N,313nm,0.2s						
IKOM	**Komasi**	**1.48**	**358**	*e*Pg	**Pn**	**10 04 21.9**	**-0.6**
IKOM				*e*		10 04 53.2	
AHWZ	**Ahwaz**	**1.63**	**146**	*e*Pg	**Pn**	**10 04 25.4**	**+1.0**
KCHF	**Cheshme Sefid,**	**1.64**	**344**	*e*Pg	**Pn**	**10 04 24.5**	**-0.3**
KCHF				*e*		10 04 54.6	
KER	**Kermanshah**	**1.73**	**348**	*e*Pn	**Pn**	**10 04 26.9**	**+1.0**
HSAM	**Samen**	**1.74**	**29**	*e*Pn	**Pn**	**10 04 26.3**	**+0.2**
HSAM				*e*		10 04 58.4	
IBZA	**Bozab**	**1.79**	**7**	*e*Pg	**Pn**	**10 04 27.5**	**+0.7**
IBZA				*e*		10 05 00.5	
IGHG	**Ghaleghazi**	**1.84**	**333**	*e*Pg	**Pn**	**10 04 28.5**	**+1.0**
IGHG				*e*		10 05 10.5	
IVIS	**Veis**	**1.93**	**342**	*e*Pn	**Pn**	**10 04 28.7**	**+0.1**
IVIS				*e*		10 05 06.1	
NSR	**Nassriya**	**2.08**	**217**	*e*Pn	**Pn**	**10 04 31.0**	**+0.4**
NSR				*e*Sn	**Sn**	**10 04 56.5**	**0.0**
IALM	**Almabolaq**	**2.21**	**13**	*e*Pn	**Pn**	**10 04 33.0**	**+0.3**
IDHR	**Dehrash**	**2.24**	**334**	*e*Pn	**Pn**	**10 04 33.8**	**+0.8**
IDHR				*e*		10 05 27.6	
ILIN	**Lien**	**2.28**	**347**	*e*	**Sb**	**10 05 12.0**	**+6.6**
HAGD	**Aghdareh**	**2.49**	**31**	*e*Pn	**Pn**	**10 04 37.1**	**+0.7**
HAGD				*e*		10 04 47.0	
HSRG	**Sareghieh**	**2.61**	**13**	*e*Pn	**Pn**	**10 04 39.4**	**+1.3**
HSRG				*e*		10 05 27.2	
JHBN	**Jahan bin**	**2.65**	**99**	*e*Pn	**Pn**	**10 04 39.4**	**+0.7**
JHBN				*e*		10 05 26.8	
BHD	**Baghdad**	**2.75**	**283**	*e*Pn	**Pn**	**10 04 40.0**	**+0.2**
BHD				*e*Sn	**Sn**	**10 05 14.0**	**+0.8**
IPIR	**Pirpir**	**2.79**	**89**	*e*Pn	**Pn**	**10 04 41.0**	**+0.4**
IPIR				*e*		10 05 24.4	
ROKH	**ROKH**	**2.94**	**96**	*e*Pn	**Pn**	**10 04 42.0**	**+1.4**
ROKH				*e*		10 05 42.2	
IKLH	**Kolahrood**	**3.41**	**78**	*e*Pn	**Pn**	**10 04 50.2**	**+1.0**
IKLH				*e*		10 05 05.2	
QABG	**Abgarm-Qazvin**	**3.43**	**28**	*e*Pn	**Pn**	**10 04 51.1**	**+1.7**
IQOM	**Qom**	**3.61**	**53**	*e*Pn	**Pn**	**10 04 52.7**	**+0.8**
IGAR	**Gharneh**	**3.78**	**93**	*e*Pn	**Pn**	**10 04 54.9**	**+0.8**
IGAR				*e*		10 05 09.4	
KLNJ	**Kolanjah**	**3.80**	**115**	*e*Pn	**Pn**	**10 04 55.8**	**+1.2**
KLNJ				*e*		10 06 15.1	
IZEF	**Zefreh**	**4.00**	**86**	*e*Pn	**Pn**	**10 04 58.9**	**+1.6**
QSDN	**Sirdan**	**4.02**	**19**	*e*Pn	**Pn**	**10 04 57.8**	**+0.3**
IRAM	**Ramesheh**	**4.16**	**101**	*e*Pn	**Pn**	**10 04 59.5**	**+0.1**
IDMV	**Damavand**	**4.68**	**51**	*e*Pn	**Pn**	**10 05 06.2**	**-0.4**
ANAR	**Anarak**	**5.19**	**83**	*e*Pn	**Pn**	**10 05 13.3**	**-0.2**
IANJ	**Anjilo**	**5.94**	**60**	*e*Pn	**Pn**	**10 05 24.5**	**+0.7**

*TEH **18** 10:14:45.7,32˚.73N×47˚.55E,h18km,ML3.5*
*ISN **18** 10:14:45.2±1.5,32˚.69N×47˚.59E,h15km±7km,ML3.5*
ISC 18 10:14:46.2±0.9,**32˚.71N**±0˚.04×**47˚.55E**±0˚.04,**h10**km,**n34,**
σ0§**92**/38,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.85**	**17**	*e*Pg	**Pg**	**10 15 01.6**	**-1.0**
IKFM				*e*		10 15 21.6	
IKMR	**Kamar-syah**	**1.06**	**41**	*e*		10 15 24.3	
IKMR				*e*Pg	**Pg**	**10 15 05.8**	**-0.9**
IDOB	**Doab**	**1.20**	**26**	*e*Pg	**Pb**	**10 15 07.9**	**-1.2**
IBDR	**Badra**	**1.42**	**287**	*e*Pg	**Pn**	**10 15 12.0**	**0.0**
IBDR				*e*Sg	**Sb**	**10 15 31.0**	**+0.1**
IBDR				AML	AML	10 15 35.7	
	comp=N,848nm,0.4s						
IBDR				AML	AML	10 15 36.1	
	comp=E,709nm,0.6s						
BMDN	**Meydan**	**1.44**	**48**	*e*Pg	**Pn**	**10 15 12.5**	**0.0**
BMDN				*e*		10 15 40.7	
IKOM	**Komasi**	**1.46**	**359**	*e*Pg	**Pn**	**10 15 12.9**	**+0.1**
IKOM				*e*		10 15 16.5	
KCHF	**Cheshme Sefid,**	**1.61**	**345**	*e*Pg	**Pb**	**10 15 15.6**	**-0.7**
KCHF				*e*	**Sg**	**10 15 40.3**	**+2.1**
AHWZ	**Ahwaz**	**1.66**	**146**	*e*Pg	**Pb**	**10 15 16.9**	**0.0**
KER	**Kermanshah**	**1.70**	**348**	*e*Pg	**Pb**	**10 15 17.6**	**-0.1**
HSAM	**Samen**	**1.74**	**30**	*e*Pg	**Pb**	**10 15 17.8**	**-0.6**
HSAM				*e*		10 15 45.4	
IBZA	**Bozab**	**1.77**	**8**	*e*Pg	**Pb**	**10 15 18.6**	**-0.4**
IBZA				*e*		10 15 23.9	
IGHG	**Ghaleghazi**	**1.81**	**333**	*e*Pg	**Pb**	**10 15 19.0**	**-0.6**
IGHG				*e*		10 16 05.5	
IVIS	**Veis**	**1.90**	**342**	*e*Pn	**Pb**	**10 15 20.0**	**-1.1**
IVIS				*e*		10 15 51.7	
NSR	**Nassriya**	**2.08**	**216**	*e*Pn	**Pn**	**10 15 21.0**	**-0.1**
NSR				*e*Sn	**Sn**	**10 15 46.0**	**-1.0**
IALM	**Almabolaq**	**2.20**	**13**	*e*Pn	**Pn**	**10 15 23.8**	**+0.7**
IDHR	**Dehrash**	**2.21**	**334**	*e*Pn	**Pn**	**10 15 23.8**	**+0.7**
ILIN	**Lien**	**2.25**	**348**	*e*Pn	**Pn**	**10 15 23.0**	**-0.8**
ILIN				*e*		10 16 06.8	
HAGD	**Aghdareh**	**2.49**	**32**	*e*Pn	**Pn**	**10 15 27.6**	**+0.6**
HSRG	**Sareghieh**	**2.59**	**13**	*e*Pn	**Pn**	**10 15 29.7**	**+1.2**
HSRG				*e*		10 16 11.5	
JHBN	**Jahan bin**	**2.68**	**99**	*e*Pn	**Pn**	**10 15 30.6**	**+0.9**
JHBN				*e*		10 16 35.2	
BHD	**Baghdad**	**2.72**	**283**	*e*Pn	**Pn**	**10 15 30.0**	**0.0**
BHD				*e*Sn	**Sn**	**10 16 05.0**	**+2.1**
IPIR	**Pirpir**	**2.82**	**90**	*e*Pn	**Pn**	**10 15 31.5**	**-0.1**
IPIR				*e*		10 16 20.2	
ROKH	**ROKH**	**2.97**	**96**	*e*Pn	**Pn**	**10 15 36.1**	**+2.5**
IRAZ	**Razeghan**	**3.33**	**36**	*e*Pn	**Pn**	**10 15 39.9**	**+1.3**
QABG	**Abgarm-Qazvin**	**3.43**	**29**	*e*Pn	**Pn**	**10 15 40.5**	**+0.5**
IKLH	**Kolahrood**	**3.44**	**79**	*e*Pn	**Pn**	**10 15 40.4**	**+0.3**
IQOM	**Qom**	**3.62**	**53**	*e*Pn	**Pn**	**10 15 42.8**	**+0.2**
KLNJ	**Kolanjah**	**3.84**	**115**	*e*Pn	**Pn**	**10 15 46.4**	**+0.7**
QSDN	**Sirdan**	**4.01**	**19**	*e*Pn	**Pn**	**10 15 48.7**	**+0.7**
IZEF	**Zefreh**	**4.03**	**86**	*e*Pn	**Pn**	**10 15 48.4**	**+0.1**
IVRN	**Varamin**	**4.16**	**56**	*e*Pn	**Pn**	**10 15 50.2**	**+0.4**
IDMV	**Damavand**	**4.69**	**51**	*e*Pn	**Pn**	**10 15 56.9**	**-0.4**
ANAR	**Anarak**	**5.22**	**83**	*e*Pn	**Pn**	**10 16 04.0**	**-0.5**
IANJ	**Anjilo**	**5.95**	**61**	*e*Pn	**Pn**	**10 16 14.2**	**-0.5**

*IDC **18** 10:17:09.4±0.8,52˚.06N×171˚.20W,h0km,mb3.8/16,*
mb1 4.0/19,mb1mx3.8/63,mbtmp3.8/19,ML3.5/3,MS3.0/9,
Ms1 3.1/9,ms1mx2.8/49,Error ellipse: s-maj=24.0km
s-min=13.6km az=176.0
*AEIC **18** 10:17:12.7±2.7,51˚.8N±0˚.1×171˚.05W±0˚.09,h25km±5km,*
ML3.8/36,mb3.9/19(NEIC),Error ellipse: s-maj=16.1km
s-min=6.7km az=165.0
*NEIC **18** 10:17:16.8±1.2,52˚.2N±0˚.1×171˚.26W±0˚.08,h49km±6km,*
Error ellipse: s-maj=18.1km s-min=6.4km az=169.0
ISC 18 10:17:15.9±0.7,**52˚.1N**±0˚.1×**171˚.22W**±0˚.06,**h42**km,**n89,**
σ1§**24**/81,**mb4.0**/20,**MS3.1**/6,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.70**	**58**		**Pn**	**10 17 42.1**	**-0.9**
NIKH	**Nikolski High**	**1.70**	**58**		**Sn**	**10 18 04.1**	**+0.7**
KOSE	**Korovin Southe**	**1.76**	**280**		**Pn**	**10 17 44.5**	**+0.7**
KOFP	**Korovin Flat P**	**1.78**	**277**		**Pn**	**10 17 44.4**	**+0.2**
KONE	**Korovin Northe**	**1.81**	**281**		**Pn**	**10 17 45.4**	**+0.9**
ATKA	**Atka Island**	**1.83**	**275**		**Pn**	**10 17 44.1**	**-0.7**
KOKL	**Mount Kliuchef**	**1.85**	**278**		**Pn**	**10 17 45.4**	**+0.3**
KOWE	**Korovin West**	**1.88**	**280**		**Pn**	**10 17 46.5**	**+0.9**
OKSP	**Okmok Steeple**	**2.13**	**56**		**Pn**	**10 17 48.9**	**-0.1**
OKWR	**Okmok West Rim**	**2.28**	**52**		**Pn**	**10 17 52.1**	**+1.1**
OKWE	**Okmok W'ng Wal**	**2.28**	**51**		**Pn**	**10 17 51.8**	**+0.8**
OKCE	**Okmok Cone E**	**2.29**	**53**		**Pn**	**10 17 52.1**	**+0.9**
OKNC	**Okmok New Cone**	**2.33**	**53**		**Pn**	**10 17 52.4**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**2.33**	**55**		**Pn**	**10 17 52.2**	**+0.5**
OKFG	**Magazine Ridge**	**2.41**	**55**		**Pn**	**10 17 53.1**	**+0.4**
OKFG					**Sn**	**10 18 24.2**	**+3.2**
MAPS	**Pakushin South**	**3.11**	**55**		**Pn**	**10 18 02.9**	**+0.5**
MAPS					**Sn**	**10 18 41.5**	**+3.2**
MREP	**Makushin Rep't**	**3.21**	**56**		**Pn**	**10 18 04.7**	**+0.9**
MSW	**Makushin Switc**	**3.25**	**54**		**Pn**	**10 18 05.5**	**+1.2**
MNAT	**Makushin Natee**	**3.28**	**55**		**Pn**	**10 18 05.5**	**+0.8**
MNAT					**Sn**	**10 18 45.3**	**+2.8**
UNV	**Unalaska Valle**	**3.35**	**56**		**Pn**	**10 18 06.1**	**+0.4**
ADK	**Adak**	**3.38**	**269**	Pn	**Pn**	**10 18 05.9**	**-0.2**
AKMO	**Akutan Morgan**	**3.73**	**55**		**Pn**	**10 18 11.5**	**+0.6**
AKUT	**Akutan**	**3.87**	**56**		**Pn**	**10 18 15.5**	**+2.7**
AKSA	**Akutan Strait**	**3.91**	**56**		**Pn**	**10 18 15.3**	**+1.9**
FALS	**False Pass**	**5.42**	**56**		**Pn**	**10 18 37.7**	**+3.6**
CESW	**Semis' Southwe**	**5.70**	**272**		**Pn**	**10 18 38.9**	**+1.0**
AMKA	**Amchitka**	**5.93**	**267**		**Pn**	**10 18 41.0**	**-0.1**
DT1	**Dutton Round H**	**6.12**	**57**		**Pn**	**10 18 45.6**	**+1.9**
LSPA	**Little Sitkin**	**6.30**	**273**		**Pn**	**10 18 48.5**	**+2.3**
SDPT	**Sand Point**	**7.16**	**59**	Pn	**Pn**	**10 18 58.7**	**+0.8**
CNBA	**Chernabura Isl**	**7.47**	**64**		**Pn**	**10 19 03.0**	**+0.9**
CHIR	**Chirikof Islan**	**9.92**	**62**	Pn	**Pn**	**10 19 36.1**	**+0.3**
SII	**Sitkinak Islan**	**10.90**	**59**	Pn	**Pn**	**10 19 49.0**	**-0.1**
OHAK	**Old Harbor**	**11.58**	**57**	Pn	**Pn**	**10 19 57.6**	**-0.7**
KDAK	**Kodiak Island**	**12.12**	**55**	Pn	**Pn**	**10 20 05.3**	**-0.4**
	0.8nm,0.3s,baz=252,slow=5.7,SNR=15						
KDAK				Sn	**Sn**	**10 22 14.3**	**-5.0**
	0.1nm,0.3s,baz=212,slow=13,SNR=2.6						
KDAK				LR	LR	10 24 52.3	
	comp=Z,77nm,21.3s,baz=224,slow=38						
SVW2	**Sparrevohn**	**12.45**	**37**	Pn	**Pn**	**10 20 10.1**	**-0.1**
PMR	**Palmer**	**15.30**	**43**	Pn	**Pn**	**10 20 50.1**	**+1.4**
PMR				IAmb	IAmb	10 21 06.9	
	comp=Z,4.4nm,1.1s						
SCM	**Sheep Creek Mo**	**16.18**	**44**	Pn	**Pn**	**10 20 59.8**	**-0.2**
SCM				IAmb	IAmb	10 21 06.5	
	comp=Z,7.4nm,0.6s						
CCB	**Clear Creek Bu**	**17.44**	**35**	Pn	**Pn**	**10 21 15.2**	**-0.4**
CCB					**pP**	**10 21 26.7**	**+0.2**
GLB	**Gilahina Butte**	**17.57**	**47**		**Pn**	**10 21 17.6**	**+0.2**
GLB				IAmb	IAmb	10 21 31.2	
	comp=Z,4.8nm,0.9s						
IL31		**17.83**	**35**		**Pn**	**10 21 21.1**	**+0.6**
ILAR	**Eielson Array**	**17.83**	**35**	P	**Pn**	**10 21 19.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=237,slow=9.4,SNR=4.5						
ILAR				LR	LR	10 27 41.4	
	comp=Z,50nm,19.4s,baz=234,slow=35						
RIDG	**Independent Ri**	**18.07**	**40**		**P**	**10 21 23.2**	**-0.3**
MENT	**Mentasta**	**18.17**	**43**		**P**	**10 21 24.9**	**+0.3**
BARN	**Barnard Glacie**	**18.44**	**49**	P	**P**	**10 21 27.9**	**+0.1**
PETK	**Petropavlovsk-**	**18.84**	**285**	P	**P**	**10 21 30.7**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=85,slow=15,SNR=12						
PETK				LR	LR	10 27 47.3	
	comp=Z,27nm,21.2s,baz=70,slow=34						
PETK	**Petropavlovsk-**	**18.84**	**285**	P	**P**	**10 21 31.5**	**-0.4**
BCAR	**Beaver Creek A**	**19.04**	**43**	P	**P**	**10 21 34.5**	**+0.4**
EGAK	**Eagle**	**19.97**	**39**	P	**P**	**10 21 44.9**	**+0.7**
EGAK				IAmb	IAmb	10 21 59.4	
	comp=Z,8.0nm,1.4s						
DAWY	**Dawson**	**20.40**	**42**	P	**P**	**10 21 49.4**	**+0.5**
SEY	**Seymchan**	**22.03**	**314**	P	**P**	**10 22 06.3**	**0.0**
	comp=Z,0.7nm,0.4s,baz=156,slow=20,SNR=2.2						
MA2	**Magadan**	**22.36**	**305**	LR	LR	10 31 09.9	
	comp=Z,29nm,19.6s,baz=128,slow=38						
DLBC	**Dease Lake**	**24.01**	**58**	P	**P**	**10 22 26.2**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=190,slow=9.8,SNR=7.5						
DLBC	**Dease Lake**	**24.01**	**58**	IAmb	IAmb	10 22 44.5	
	comp=Z,8.0nm,1.4s						
INK	**Inuvik**	**24.21**	**34**	P	**P**	**10 22 28.2**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=243,slow=6.7,SNR=10						
INK				LR	LR	10 33 07.1	
	comp=Z,50nm,18.4s,baz=332,slow=40						
INK	**Inuvik**	**24.21**	**34**	IAmb	IAmb	10 22 35.0	
	comp=Z,4.8nm,1.2s						
YKA	**Yellowknife Ar**	**31.28**	**48**	LR	LR	10 36 38.3	
	comp=Z,59nm,18.1s,baz=0.0,slow=37						
H11N2	**WAKE ISLAND Hy**	**36.54**	**216**	T	T	11 02 53.3	
	baz=22,slow=75						
H11N3	**WAKE ISLAND Hy**	**36.55**	**216**	T	T	11 02 53.2	
	baz=22,slow=75						
H11N1	**WAKE ISLAND Hy**	**36.56**	**216**	T	T	11 02 50.9	
	baz=22,slow=75						
PNTR	**Pine Nut**	**37.60**	**89**	P	**P**	**10 24 26.9**	**+0.4**
H11S1	**WAKE ISLAND Hy**	**37.73**	**216**	T	T	11 04 22.4	
	baz=22,slow=76						
H11S2	**WAKE ISLAND Hy**	**37.75**	**216**	T	T	11 04 20.9	
	baz=22,slow=76						
H11S3	**WAKE ISLAND Hy**	**37.75**	**216**	T	T	11 04 26.0	
	baz=22,slow=76						
NVAR	**Mina Array Bea**	**38.80**	**89**	P	**P**	**10 24 35.1**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=296,slow=7.7,SNR=9.5						
NVAR	**Mina Array Bea**	**38.80**	**89**	P	**P**	**10 24 36.8**	**+0.2**
TPNV	**Topopah Spring**	**41.00**	**89**	P	**P**	**10 24 56.3**	**+1.5**
TPNV				IAmb	IAmb	10 24 57.2	
	comp=Z,2.4nm,0.8s						
PRN	**Pahroc Range**	**41.45**	**88**	P	**P**	**10 24 59.0**	**+0.6**
PRN				IAmb	IAmb	10 25 02.8	
	comp=Z,2.2nm,0.8s						
PDAR	**Pinedale Array**	**41.58**	**78**	P	**P**	**10 24 59.5**	**0.0**
	comp=Z,0.5nm,0.4s,baz=322,slow=2.8,SNR=9.7						
PDAR	**Pinedale Array**	**41.58**	**78**	P	**P**	**10 25 00.1**	**+0.5**
GSC	**Goldstone, Bar**	**41.72**	**92**	P	**P**	**10 25 01.4**	**+0.7**
GSC				IAmb	IAmb	10 25 02.8	
	comp=Z,3.9nm,0.8s						
KSRS	**Korea Array**	**44.30**	**276**	P	**P**	**10 25 21.1**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=280,slow=26,SNR=2.0						
KSRS				LR	LR	10 46 12.5	
	comp=Z,9.6nm,18.0s,baz=135,slow=39						
PV01	**Paradox Valley**	**44.97**	**82**	P	**P**	**10 25 27.1**	**+0.1**
SONM	**Songino Array**	**50.46**	**300**	LR	LR	10 49 09.5	
	comp=Z,26nm,18.0s,baz=81,slow=38						
TX31	**Lajitas Ar. Si**	**53.90**	**87**	P	**P**	**10 26 35.4**	**+0.4**
TXAR	**Lajitas Array**	**53.90**	**87**	P	**P**	**10 26 35.1**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=301,slow=5.6,SNR=14						
TXAR	**Lajitas Array**	**53.90**	**87**	P	**P**	**10 26 35.3**	**+0.3**
ZALV	**Zalesovo Beam**	**56.85**	**317**	LR	LR	10 52 38.1	
	comp=Z,15nm,19.5s,baz=66,slow=37						
ARCES	**ARCESS Array B**	**59.07**	**353**	P	**P**	**10 27 03.6**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=19,slow=8.7,SNR=8.8						
KURK	**Kurchatov**	**61.82**	**317**	P	**P**	**10 27 30.6**	**+0.6**
KURK	**Kurchatov**	**61.82**	**317**	IAmb	IAmb	10 27 33.3	
	comp=Z,1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**61.92**	**317**	P	**P**	**10 27 30.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=46,slow=6.5,SNR=4.0						
MKAR	**Makanchi Array**	**63.16**	**312**	P	**P**	**10 27 38.8**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=34,slow=8.1,SNR=2.7						
BVAR	**Borovoye Array**	**63.26**	**323**	P	**P**	**10 27 40.2**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=80,slow=3.5,SNR=3.6						
FINES	**FINESS Array B**	**65.98**	**351**	P	**P**	**10 27 56.2**	**-1.0**
	comp=Z,4.7nm,1.0s,baz=350,slow=7.5,SNR=2.4						
AKTO	**Aktyubinsk**	**69.67**	**329**	P	**P**	**10 28 19.9**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=49,slow=4.3,SNR=5.0						
CMAR	**Chiang Mai Arr**	**75.56**	**281**	P	**P**	**10 28 57.0**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=22,slow=6.6,SNR=7.2						
WRA	**Warramunga Arr**	**85.94**	**230**	P	**P**	**10 29 49.9**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=33,slow=5.8,SNR=2.0						
ASAR	**Alice Springs**	**89.35**	**229**	P	**P**	**10 30 07.2**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=32,slow=4.9,SNR=16						

*IDC **18** 10:18:01.2±1.6,32˚.58N×47˚.68E,h0km,mb3.7/6,*
mb1 3.8/9,mb1mx3.5/53,mbtmp3.8/9,ML3.7/3,Error
ellipse: s-maj=35.4km s-min=23.3km az=158.0
*ISN **18** 10:18:04.1±1.2,32˚.69N×47˚.75E,h15km±6km,ML3.3*
*TEH **18** 10:18:05.0,32˚.71N×47˚.76E,h14km,ML3.2*
ISC 18 10:18:03.3±0.6,**32˚.66N**±0˚.03×**47˚.66E**±0˚.03,**h10**km,**n48,**
σ1§**49**/53,**mb3.6**/6,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.88**	**10**	*e*Pg	**Pg**	**10 18 29.9**	**+0.2**
IKMR	**Kamar-syah**	**1.05**	**35**	*e*Pg	**Pg**	**10 18 22.6**	**-1.0**
IKMR				*e*	**Sn**	**10 18 39.6**	**+0.8**
IDOB	**Doab**	**1.21**	**21**	*e*Pg	**Pn**	**10 18 26.9**	**+0.4**
BMDN	**Meydan**	**1.41**	**44**	*e*Pg	**Pb**	**10 18 29.9**	**+0.1**
BMDN				*e*		10 18 32.9	
IKOM	**Komasi**	**1.52**	**355**	*e*Pg	**Pg**	**10 18 33.2**	**+0.7**
IKOM				*e*		10 18 37.2	
IBDR	**Badra**	**1.52**	**288**	*e*Pg	**Pb**	**10 18 33.0**	**+1.3**
IBDR				*e*Sg	**Sg**	**10 18 54.0**	**+1.7**
IBDR				AML	AML	10 19 00.1	
	comp=N,483nm,0.6s						
IBDR				AML	AML	10 19 06.1	
	comp=E,473nm,0.4s						
AHWZ	**Ahwaz**	**1.57**	**147**	*e*Pg	**Pg**	**10 18 34.6**	**+1.2**
KCHF	**Cheshme Sefid,**	**1.69**	**342**	*e*Pg	**Pb**	**10 18 35.6**	**+0.9**
KCHF				*e*		10 19 06.9	
HSAM	**Samen**	**1.74**	**27**	*e*Pg	**Pb**	**10 18 36.1**	**+0.5**
HSAM				*e*		10 18 38.3	
KER	**Kermanshah**	**1.78**	**346**	*e*Pg	**Pb**	**10 18 36.6**	**+0.5**
IBZA	**Bozab**	**1.82**	**5**	*e*Pg	**Pb**	**10 18 37.5**	**+0.7**
IBZA				*e*		10 18 41.2	
IGHG	**Ghaleghazi**	**1.90**	**332**	*e*Pn	**Pb**	**10 18 39.0**	**+0.7**
IGHG				*e*		10 19 16.9	
IVIS	**Veis**	**1.98**	**340**	*e*Pn	**Pb**	**10 18 39.4**	**-0.2**
IVIS				*e*		10 19 14.2	
NSR	**Nassriya**	**2.09**	**219**	*e*Pn	**Pb**	**10 18 41.0**	**-0.3**
NSR				*e*Sn	**Sb**	**10 19 07.0**	**-0.3**
IALM	**Almabolaq**	**2.24**	**11**	*e*Pn	**Pb**	**10 18 43.5**	**-0.6**
IDHR	**Dehrash**	**2.30**	**333**	*e*Pn	**Pn**	**10 18 43.5**	**+2.0**
IDHR				*e*		10 18 48.3	
ILIN	**Lien**	**2.33**	**346**	*e*Pn	**Pb**	**10 18 44.3**	**-1.3**
ILIN				*e*		10 19 24.7	
HAGD	**Aghdareh**	**2.49**	**29**	*e*Pn	**

IBZA				*e*			10 26 10.6
IGHG	**Ghaleghazi**	**1.93**	**328**	*e*Pn	**Pn**	**10 25 45.2**	**+1.1**
IGHG				*e*		10 26 21.2	
IVIS	**Veis**	**1.99**	**336**	*e*Pn	**Pn**	**10 25 45.5**	**+0.6**
IVIS				*e*		10 26 19.9	
IALM	**Almabolaq**	**2.17**	**8**	*e*Pn	**Pb**	**10 25 49.4**	**-1.5**
NSR	**Nassriya**	**2.21**	**221**	*e*Pn	**Pn**	**10 25 48.0**	**+0.2**
NSR				*e*Sn	**Sn**	**10 26 16.0**	**+1.2**
IDHR	**Dehrash**	**2.32**	**330**	*e*Pn	**Pn**	**10 25 49.7**	**+0.2**
IDHR				*e*		10 26 29.5	
HAGD	**Aghdareh**	**2.39**	**27**	*e*Pn	**Pn**	**10 25 52.1**	**+1.6**
HAGD				*e*		10 26 35.9	
JHBN	**Jahan bin**	**2.46**	**100**	*e*Pn	**Pn**	**10 25 52.3**	**+0.7**
JHBN				*e*		10 26 33.0	
HSRG	**Sareghieh**	**2.56**	**9**	*e*Pn	**Pn**	**10 25 54.6**	**+1.6**
IPIR	**Pirpir**	**2.60**	**90**	*e*Pn	**Pn**	**10 25 54.6**	**+1.1**
IPIR				*e*		10 26 44.4	
BHD	**Baghdad**	**2.94**	**282**	*e*Pn	**Pn**	**10 25 59.0**	**+1.2**
BHD				*e*Sn	**Sn**	**10 26 34.0**	**+1.2**
IRAZ	**Razeghan**	**3.22**	**33**	*e*Pn	**Pn**	**10 26 04.0**	**+2.1**
IKLH	**Kolahrood**	**3.23**	**78**	*e*		10 26 19.0	
IKLH				*e*Pn	**Pn**	**10 26 03.5**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.34**	**26**	*e*Pn	**Pn**	**10 26 04.5**	**+0.9**
IZEF	**Zefreh**	**3.81**	**86**	*e*Pn	**Pn**	**10 26 10.6**	**+0.5**
QSDN	**Sirdan**	**3.96**	**16**	*e*Pn	**Pn**	**10 26 13.1**	**+1.0**
IRAM	**Ramesheh**	**3.97**	**102**	*e*Pn	**Pn**	**10 26 12.1**	**-0.2**
IVRN	**Varamin**	**3.98**	**54**	*e*Pn	**Pn**	**10 26 13.8**	**+1.5**

TEH ***18*** *10:27:16.7, 32.˚89N×47.˚61E, h8km, ML2.9*
ISN ***18*** *10:27:16.0±1.7, 32.˚88N×47.˚67E, h16km±11km, ML2.8*
ISC 18 10:27:16.3±1.1**, 32.˚90N**±0.˚05×**47.˚75E**±0.˚05**, h15km, n12, σ0⁰60/15, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.62**	**7**	*e*Pg	**Pn**	**10 27 30.3**	**-0.3**
IKFM				*e*		10 27 44.1	
IDOB	**Doab**	**0.95**	**22**	*e*Pg	**Pn**	**10 27 35.4**	**+0.1**
IDOB				*e*		10 27 58.3	
IKOM	**Komasi**	**1.28**	**351**	*e*Pg	**Pg**	**10 27 41.0**	**0.0**
IKOM				*e*		10 28 07.2	
KCHF	**Cheshme Sefid,**	**1.49**	**337**	*e*Pn	**Pb**	**10 27 44.1**	**+0.3**
KCHF				*e*		10 28 16.6	
IBDR	**Badra**	**1.54**	**278**	*e*Pg	**Pn**	**10 27 43.0**	**-0.2**
IBDR				*e*Sg	**Sn**	**10 28 03.0**	**0.0**
IBDR				AML	AML	10 28 12.3	
	comp=N,116nm,0.7s						
IBDR				AML	AML	10 28 14.1	
	comp=E,178nm,0.9s						
IBZA	**Bozab**	**1.56**	**3**	*e*Pg	**Pg**	**10 27 47.0**	**+0.6**
IBZA				*e*		10 28 02.9	
IGHG	**Ghaleghazi**	**1.73**	**326**	*e*Pg	**Pg**	**10 27 49.1**	**-0.4**
IGHG				*e*		10 28 33.5	
IVIS	**Veis**	**1.78**	**335**	*e*Pn	**Pb**	**10 27 48.8**	**+0.1**
IVIS				*e*		10 27 51.1	
NSR	**Nassriya**	**2.33**	**216**	*e*Pn	**Pn**	**10 27 55.0**	**+1.0**
NSR				*e*Sn	**Sn**	**10 28 21.0**	**-1.4**
HSRG	**Sareghieh**	**2.37**	**11**	*e*Pn	**Pb**	**10 27 58.8**	**-0.1**
HSRG				*e*		10 28 44.3	
IPIR	**Pirpir**	**2.66**	**94**	*e*Pn	**Pb**	**10 28 03.6**	**-0.1**
IPIR				*e*		10 28 54.1	
BHD	**Baghdad**	**2.85**	**278**	*e*Pn	**Pn**	**10 28 01.0**	**-0.2**
BHD				*e*Sn	**Sn**	**10 28 36.0**	**+0.7**

ISN ***18*** *10:31:03.6±0.9, 32.˚75N×47.˚73E, h16km±6km, ML2.5*
TEH ***18*** *10:31:04.5, 32.˚77N×47.˚68E, h10km, ML2.9*
ISC 18 10:31:05.6±1.6**, 32.˚70N**±0.˚05×**47.˚80E**±0.˚05**, h24km**±18km**, n15, σ1⁰74/20, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.82**	**3**	*e*Pg	**Pb**	**10 31 18.6**	**-2.7**
IKFM				*e*	**Sn**	**10 31 32.3**	**-0.8**
IKMR	**Kamar-syah**	**0.95**	**31**	*e*Pg	**Pn**	**10 31 21.0**	**-2.5**
IKMR				*e*		10 31 42.3	
IDOB	**Doab**	**1.13**	**16**	*e*Pg	**Pn**	**10 31 25.5**	**-0.7**
IDOB				*e*		10 31 28.5	
IDOB				*e*Sg	**Sb**	**10 31 42.2**	**+1.2**
BMDN	**Meydan**	**1.30**	**41**	*e*Pg	**Pb**	**10 31 30.1**	**+0.7**
BMDN				*e*		10 31 51.5	
IKOM	**Komasi**	**1.49**	**351**	*e*Pg	**Pb**	**10 31 31.5**	**-1.2**
IKOM				*e*		10 31 32.6	
IBDR	**Badra**	**1.62**	**285**	*e*Pg	**Pn**	**10 31 32.0**	**-0.7**
IBDR				*e*Sg	**Sn**	**10 31 53.0**	**+0.2**
IBDR				AML	AML	10 31 56.2	
	comp=N,70nm,0.3s						
IBDR				AML	AML	10 31 57.6	
	comp=E,63nm,0.5s						
HSAM	**Samen**	**1.65**	**24**	*e*	**Sb**	**10 32 00.0**	**+3.9**
IGHG	**Ghaleghazi**	**1.92**	**328**	*e*Pn	**Pn**	**10 31 38.0**	**+1.0**
IGHG				*e*		10 32 22.2	
IVIS	**Veis**	**1.99**	**337**	*e*	**Pb**	**10 31 41.2**	**+0.1**
NSR	**Nassriya**	**2.19**	**220**	*e*Pn	**Pn**	**10 31 41.0**	**+0.5**
NSR				*e*Sn	**Sn**	**10 32 07.0**	**+0.1**
IDHR	**Dehrash**	**2.32**	**330**	*e*Pn	**Pn**	**10 31 43.3**	**+0.9**
IDHR				*e*		10 31 47.8	
HAGD	**Aghdareh**	**2.40**	**27**	*e*Pn	**Pn**	**10 31 45.4**	**+1.9**
HAGD				*e*		10 31 49.5	
HSRG	**Sareghieh**	**2.57**	**9**	*e*Pn	**Pb**	**10 31 48.5**	**-2.7**
HSRG				*e*		10 32 34.8	
IPIR	**Pirpir**	**2.61**	**89**	*e*Pn	**Pb**	**10 31 50.5**	**-1.4**
IPIR				*e*		10 31 55.6	
BHD	**Baghdad**	**2.93**	**282**	*e*Pn	**Pn**	**10 31 50.0**	**-0.6**
BHD				*e*Sn	**Sn**	**10 32 25.0**	**0.0**

IDC ***18*** *10:37:16.1±1.1, 39.˚13N×106.˚46E, h0km, mb3.5/7, mb1 3.6/9, mb1mx3.5/38, mbtmp3.5/9, ML3.1/2, Error ellipse: s-maj=39.3km s-min=16.2km az=64.0*
ISC 18 10:37:21.1±1.1**, 39.˚1N**±0.˚1×**106.˚4E**±0.˚2**, h35km, n9, σ1⁰09/9, mb3.7/6, Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**8.69**	**0**	Pn	**Pn**	**10 39 24.8**	**+0.3**
	0.1nm,0.3s,baz=181,slow=14,SNR=2.9						
SONM				Lg	Lg	10 41 53.6	
	0.3nm,0.3s,baz=190,slow=26,SNR=1.7						
MKAR	**Makanchi Array**	**19.15**	**301**	P	**P**	**10 41 40.4**	**-0.9**
	0.1nm,0.3s,baz=96,slow=13,SNR=4.2						
ZALV	**Zalesovo Beam**	**20.82**	**322**	P	**P**	**10 41 59.8**	**+0.4**
	0.7nm,0.4s,baz=115,slow=10,SNR=2.8						
CMAR	**Chiang Mai Arr**	**21.59**	**199**	P	**P**	**10 42 09.0**	**+1.1**
	0.4nm,0.3s,baz=9.8,slow=7.9,SNR=4.7						
KURBB	**Kurchatov Arra**	**22.67**	**310**	P	**P**	**10 42 21.2**	**+1.9**
	1.3nm,0.6s,baz=108,slow=13,SNR=6.7						
BVAR	**Borovoye Array**	**28.21**	**311**	P	**P**	**10 43 10.1**	**-0.3**
	0.8nm,0.5s,baz=97,slow=12,SNR=4.7						
AKASG	**Malin Array Be**	**53.46**	**310**	P	**P**	**10 46 37.3**	**-0.2**
	0.5nm,0.4s,baz=96,slow=9.2,SNR=4.3						
WRA	**Warramunga Arr**	**64.35**	**151**	P	**P**	**10 47 52.4**	**-1.0**
	0.9nm,1.1s,baz=344,slow=6.6,SNR=2.8						
ASAR	**Alice Springs**	**67.59**	**153**	P	**P**	**10 48 14.4**	**+0.3**
	0.7nm,0.6s,baz=334,slow=6.3,SNR=22						

DJA 18 10:38:37.5±0.4**, 8˚S**±3˚×**107˚E**±˚**, h10km, M4.3/9, mB5.6/1, mb5.0/2, MLv4.0/9, Mw(mB)5.1/1, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.88**	**11**	P	Pb	10 38 55.2	+0.3
CNJI				S	Sg	10 39 06.1	+0.1
CISI	**Cisompet, Garu**	**1.05**	**54**	P	Pb	10 38 58.0	+0.2
CISI				S	Sg	10 39 11.0	-0.4
SKJI	**Sukabumi**	**1.23**	**341**	P	Pn	10 39 00.6	-0.2
LEM	**Lembang**	**1.49**	**26**	P	Pb	10 39 05.3	-0.2
LEM				S	Sb	10 39 24.8	+0.2
CMJI	**Cimerak**	**1.53**	**75**	P	Pn	10 39 04.9	+0.1
CMJI				S	Sn	10 39 23.4	-1.4
DBJI	**Dramaga**	**1.63**	**353**	S	Sn	10 39 27.4	+0.1
UGM	**Wanagama**	**3.54**	**86**	P	Pn	10 39 33.5	+0.9
KASI	**Kota Agung**	**3.60**	**317**	P	Pn	10 39 33.3	-0.1
MNAI	**Manna**	**5.50**	**313**	P	Pn	10 39 59.3	-0.2

ISN ***18*** *10:39:42.2±1.9, 32.˚89N×47.˚74E, h15km, ML2.4*
TEH ***18*** *10:39:44.7, 32.˚86N×47.˚74E, h10km, ML2.6*
ISC 18 10:39:42.7±2.3**, 32.˚8N**±0.˚2×**47.˚69E**±0.˚06**, h15km, n9, σ0⁰54/11, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKMR	**Kamar-syah**	**0.92**	**39**	*e*Pg	**Pn**	**10 40 01.3**	**+0.3**
IKMR				*e*Sg	**Sn**	**10 40 14.1**	**+0.1**
IKMR				*e*		10 40 19.6	
IDOB	**Doab**	**1.06**	**22**	*e*		10 40 06.5	
IDOB				*e*Pg	**Pn**	**10 40 03.7**	**+0.4**
BMDN	**Meydan**	**1.29**	**47**	*e*		10 40 29.1	
BMDN				*e*Pg	**Pg**	**10 40 07.8**	**+0.3**
IKOM	**Komasi**	**1.38**	**354**	*e*Pg	**Pg**	**10 40 10.0**	**+0.8**
IKOM				*e*		10 40 37.3	
IBDR	**Badra**	**1.51**	**282**	*e*Pg	**Pn**	**10 40 09.0**	**-0.2**
	baz=98						
IBDR				*e*Sg	**Sg**	**10 40 32.0**	**+0.6**
IBDR				AML	AML	10 40 35.3	
	comp=E,64nm,0.5s						
IBDR				AML	AML	10 40 35.6	
	comp=N,46nm,0.3s						
HSAM	**Samen**	**1.60**	**28**	*e*Pn	**Pg**	**10 40 13.2**	**-0.2**
HSAM				*e*		10 40 14.2	
IVIS	**Veis**	**1.86**	**338**	*e*Pn	**Pg**	**10 40 18.2**	**-0.1**
IVIS				*e*		10 40 49.3	
IALM	**Almabolaq**	**2.09**	**11**	*e*Pn	**Pg**	**10 40 22.2**	**-0.6**
IALM				*e*		10 40 56.4	
HSRG	**Sareghieh**	**2.48**	**11**	*e*Pn	**Pb**	**10 40 26.5**	**-0.6**
HSRG				*e*		10 40 27.6	

ISN ***18*** *10:45:31.9±0.7, 32.˚74N×47.˚84E, h14km±4km, ML2.8*
TEH ***18*** *10:45:32.3, 32.˚70N×47.˚69E, h18km, ML3.1*
ISC 18 10:45:33.1±1.6**, 32.˚66N**±0.˚04×**47.˚78E**±0.˚03**, h8km**±13km**, n35, σ1⁰01/42, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.86**	**4**	*e*Pg	**Pg**	**10 45 48.3**	**-1.3**
IKFM				*e*	**Sn**	**10 46 03.5**	**-0.9**
IKMR	**Kamar-syah**	**0.99**	**30**	*e*Pg	**Pb**	**10 45 50.5**	**-2.0**
SHGR	**Shooshtar-Gavs**	**1.02**	**122**	*e*Pg	**Pn**	**10 45 53.9**	**+0.1**
IDOB	**Doab**	**1.17**	**16**	*e*Pg	**Pb**	**10 45 54.5**	**-1.2**
BMDN	**Meydan**	**1.33**	**41**	*e*Pg	**Pb**	**10 45 58.1**	**-0.4**
BMDN				*e*		10 46 22.4	
IKOM	**Komasi**	**1.52**	**352**	*e*Pg	**Pb**	**10 46 00.8**	**-0.9**
IKOM				*e*		10 46 25.2	
IBDR	**Badra**	**1.62**	**286**	*e*Pg	**Pn**	**10 46 02.0**	**0.0**
IBDR				*e*Sg	**Sb**	**10 46 24.0**	**+0.1**
IBDR				AML	AML	10 46 44.3	
	comp=N,131nm,0.5s						
IBDR				AML	AML	10 46 45.5	
	comp=E,134nm,0.9s						
HSAM	**Samen**	**1.69**	**24**	*e*		10 46 06.0	
HSAM				*e*Pg	**Pb**	**10 46 04.4**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.72**	**339**	*e*Pg	**Pn**	**10 46 03.3**	**-0.3**
KCHF				*e*		10 46 48.5	
KER	**Kermanshah**	**1.80**	**343**	*e*Pg	**Pn**	**10 46 04.9**	**+0.3**
IBZA	**Bozab**	**1.80**	**2**	*e*		10 46 38.1	
IBZA				*e*Pg	**Pb**	**10 46 05.4**	**-1.1**
IGHG	**Ghaleghazi**	**1.95**	**329**	*e*Pg	**Pn**	**10 46 07.1**	**+0.4**
IGHG				*e*		10 47 01.5	
IVIS	**Veis**	**2.01**	**338**	*e*		10 46 55.9	
IVIS				*e*Pn	**Pn**	**10 46 07.5**	**0.0**
KHMZ	**Khomeyn**	**2.12**	**59**	*e*Pn	**Pb**	**10 46 10.8**	**-1.1**
NSR	**Nassriya**	**2.16**	**221**	*e*Pn	**Pn**	**10 46 10.0**	**+0.6**
NSR				*e*Sn	**Sn**	**10 46 37.0**	**+0.6**
IALM	**Almabolaq**	**2.21**	**8**	*e*Pn	**Pn**	**10 46 11.0**	**+0.6**
IDHR	**Dehrash**	**2.34**	**331**	*e*Pn	**Pn**	**10 46 12.5**	**+0.4**
IDHR				*e*		10 47 09.5	
ILIN	**Lien**	**2.35**	**343**	*e*Pn	**Pn**	**10 46 12.5**	**+0.2**
ILIN				*e*	**Sg**	**10 46 51.7**	**+3.1**
HAGD	**Aghdareh**	**2.43**	**27**	*e*Pn	**Pn**	**10 46 14.6**	**+1.2**
HAGD				*e*	**Sg**	**10 46 53.6**	**+2.3**
SNGE	**Sanandaj**	**2.45**	**352**	*e*Pn	**Pn**	**10 46 13.6**	**0.0**
JHBN	**Jahan bin**	**2.48**	**99**	*e*Pn	**Pn**	**10 46 14.5**	**+0.4**
JHBN				*e*		10 47 03.5	
HSRG	**Sareghieh**	**2.60**	**9**	*e*	**Pb**	**10 46 19.0**	**-1.3**
IPIR	**Pirpir**	**2.62**	**89**	*e*Pn	**Pn**	**10 46 17.0**	**+0.9**
IPIR				*e*	**Sg**	**10 46 58.2**	**+0.8**
ASAO	**Ashtian**	**2.65**	**44**	*e*Pn	**Pn**	**10 46 18.1**	**+1.7**
ROKH	**ROKH**	**2.77**	**96**	*e*Pn	**Pn**	**10 46 18.6**	**+0.6**
ROKH				*e*		10 47 41.4	
BHD	**Baghdad**	**2.92**	**283**	*e*Pn	**Pn**	**10 46 20.0**	**+0.1**
BHD				*e*Sn	**Sn**	**10 46 56.0**	**+0.8**
IKLH	**Kolahrood**	**3.26**	**77**	*e*Pn	**Pn**	**10 46 25.5**	**+0.7**
IKLH				*e*		10 46 28.7	
IRAZ	**Razeghan**	**3.26**	**33**	*e*Pn	**Pn**	**10 46 25.0**	**+0.2**
QABG	**Abgarm-Qazvin**	**3.38**	**26**	*e*Pn	**Pn**	**10 46 27.1**	**+0.6**
IQOM	**Qom**	**3.50**	**51**	*e*Pn	**Pn**	**10 46 27.4**	**-0.6**
KLNJ	**Kolanjah**	**3.64**	**116**	*e*Pn	**Pn**	**10 46 30.5**	**+0.4**
KLNJ				*e*		10 47 49.0	
IZEF	**Zefreh**	**3.84**	**85**	*e*Pn	**Pn**	**10 46 33.5**	**+0.8**
IRAM	**Ramesheh**	**3.99**	**101**	*e*Pn	**Pn**	**10 46 34.4**	**-0.4**
QSDN	**Sirdan**	**4.00**	**16**	*e*Pn	**Pn**	**10 46 35.2**	**+0.3**
IVRN	**Varamin**	**4.02**	**54**	*e*Pn	**Pn**	**10 46 35.8**	**+0.7**

RHSSO ***18*** *10:46:53.9±0.9, 41.˚83N×20.˚23E, h8km±4km, ML2.4/4*
TIR ***18*** *10:46:55.7, 41.˚90N×20.˚13E, h13km, Md2.9/4*
PDG ***18*** *10:46:55.1±0.1, 41.˚88N×20.˚09E, h9km, MD4.3/1, ML2.2/13, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0*
BEO ***18*** *10:46:56.4±0.5, 41.˚91N×20.˚12E, h9km±2km, ML2.0/11*
SKO ***18*** *10:46:56.6, 41.˚86N×20.˚09E, h4km*
ISC 18 10:46:55.8±0.9**, 41.˚90N**±0.˚02×**20.˚12E**±0.˚02**, h13km**±7**km, n48, σ0⁰96/90, 6C-3D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUK	**Puka**	**0.22**	**311**	*i* Pg	**Pg**	**10 47 00.8**	**+0.2**
PUK				*i* Sg	**Sg**	**10 47 04.8**	**+0.3**
PHP	**Peshkopia**	**0.33**	**131**	*i* Pg	**Pg**	**10 47 02.2**	**-0.3**
PHP				*i* Sg	**Sb**	**10 47 07.7**	**-0.9**
BCI	**Bajram Curri**	**0.47**	**356**	*i* Pg	**Pb**	**10 47 05.4**	**-0.4**
BCI				*i* Sg	**Sb**	**10 47 12.9**	**+0.2**
TIR	**Tirane**	**0.58**	**199**	*i* Pg	**Pb**	**10 47 06.7**	**-1.2**
TIR				*i* Sg	**Sb**	**10 47 16.6**	**+0.5**
TIR	**Tirane**	**0.58**	**199**	*e*Pg	**Pb**	**10 47 07.7**	**-0.1**
TIR				*e*Sg	**Sb**	**10 47 16.0**	**0.0**
ULC	**Ulcinj**	**0.65**	**276**	⇑*i*Pg	**Pg**	**10 47 07.0**	**-1.5**
ULC				*i* Sg	**Sb**	**10 47 17.0**	**-1.0**
PVY	**Plav**	**0.70**	**351**	*e*Pg	**Pg**	**10 47 08.6**	**-0.9**
PVY				*i* Sg	**Sb**	**10 47 19.8**	**+0.2**
DRME	**Dracevica, Mon**	**0.75**	**293**	⇑*i*Pg	**Pg**	**10 47 08.9**	**-1.4**
DRME				*i* Sg	**Sb**	**10 47 20.6**	**-0.2**
DRME	**Dracevica, Mon**	**0.75**	**293**	*e*Pg	**Pg**	**10 47 09.1**	**-1.2**
DRME				*e*Sg	**Sb**	**10 47 21.4**	**+0.6**
PDG	**Podgorica**	**0.83**	**310**	*e*Pg	**Pg**	**10 47 10.7**	**-1.2**
PDG				*e*Sg	**Sb**	**10 47 23.6**	**+0.5**
PDG	**Podgorica**	**0.83**	**310**	*e*Pg	**Pg**	**10 47 10.5**	**-1.4**
PDG				*e*Sg	**Sb**	**10 47 23.9**	**+0.8**
TTG	**Podgorica**	**0.83**	**310**	⇓*i*Pg	**Pg**	**10 47 10.5**	**-1.4**
TTG				*i* Sg	**Sb**	**10 47 23.6**	**+0.5**
OHR	**Ohrid**	**0.94**	**147**	⇑*i*Pg	**Pg**	**10 47 13.1**	**-0.9**
OHR				*i* Sg	**Sb**	**10 47 26.8**	**+0.4**
OHR				*e*Lg	Lg	10 47 30.6	
	comp=N,55nm,0.3s						
IVA	**Berane**	**0.98**	**350**	⇑*i*Pg	**Pg**	**10 47 13.7**	**-1.1**
IVA				*i* Sg	**Sn**	**10 47 29.3**	**+0.1**
SKO	**Skopje**	**0.99**	**85**	*e*Pg	**Pb**	**10 47 14.9**	**+0.1**
SKO				*e*Sg	**Sg**	**10 47 27.4**	**-0.5**
SKO	**Skopje**	**0.99**	**85**	*i* Pg	**Pb**	**10 47 14.9**	**+0.1**
SKO				*i* Sg	**Sb**	**10 47 28.1**	**+0.3**
BUM	**Brajici-Budva**	**0.99**	**294**	*e*Pg	**Pg**	**10 47 13.6**	**-1.4**
BUM				*i* Sg	**Sn**	**10 47 28.8**	**-0.6**
KOME	**Kolasin**	**1.05**	**335**	*e*Pg	**Pg**	**10 47 14.6**	**-1.4**
KOME				*i* Sg	**Sn**	**10 47 31.3**	**+0.5**
CEME	**Cevo**	**1.10**	**306**	⇓*i*Pg	**Pg**	**10 47 15.4**	**-1.6**
CEME				*i* Sg	**Sn**	**10 47 32.6**	**+0.6**
NKME	**Niksic**	**1.22**	**316**	*e*Pg	**Pn**	**10 47 17.6**	**-1.0**
NKME				*i* Sg	**Sn**	**10 47 36.9**	**+1.9**
NKY	**Niksic**	**1.23**	**318**	*e*Pg	**Pn**	**10 47 18.1**	**-0.7**
NKY				*i* Sg	**Sn**	**10 47 37.5**	**+2.1**
HCY	**Herceg Novi**	**1.32**	**295**	⇑*i*Pg	**Pn**	**10 47 19.6**	**-0.3**
HCY				*i* Sg	**Sg**	**10 47 40.0**	**+1.6**
HCY	**Herceg Novi**	**1.32**	**295**	⇑*i*Pg	**Pn**	**10 47 19.4**	**-0.5**
HCY				*e*Sg	**Sg**	**10 47 40.0**	**+1.6**
SJES	**Sjenica**	**1.36**	**356**	*e*Pg	**Pb**	**10 47 21.1**	**-0.1**
SJES				*e*Sg	**Sg**	**10 47 39.4**	**-0.4**
SELS	**Selova**	**1.51**	**29**	*e*Pg	**Pn**	**10 47 22.8**	**+0.2**
SELS				*e*Sg	**Sg**	**10 47 44.8**	**+0.3**
PLE	**Pljevlja**	**1.52**	**340**	⇓*i*Pg	**Pb**	**10 47 23.5**	**-0.5**
PLE				*i* Sg	**Sg**	**10 47 46.4**	**+1.5**
BRY	**Bratogost**	**1.54**	**311**	*e*Pg	**Pb**	**10 47 23.9**	**-0.3**
BRY				*i* Sg	**Sg**	**10 47 46.5**	**+1.2**
BRY	**Bratogost**	**1.54**	**311**	*e*Pn	**Pn**	**10 47 23.3**	**+0.3**
BRY				*e*Sn	**Sg**	**10 47 45.1**	**-0.2**
TREB	**Trebinje**	**1.54**	**303**	*e*Pg	**Pb**	**10 47 23.4**	**-0.8**
TREB				*e*Sg	**Sg**	**10 47 46.5**	**+1.1**
TREB	**Trebinje**	**1.54**	**303**	*e*Pn	**Pn**	**10 47 23.1**	**+0.1**
TREB				*e*Sn	**Sb**	**10 47 43.8**	**+0.2**
BARS	**Barje**	**1.56**	**53**	*e*Pg	**Pb**	**10 47 24.3**	**-0.2**
BARS				*e*Sg	**Sg**	**10 47 46.5**	**+0.6**
UPM	**Unac-Piva**	**1.58**	**326**	*e*Pn	**Pb**	**10 47 24.4**	**-0.5**
UPM				*i* Sn	**Sg**	**10 47 47.6**	**+0.9**
UPM	**Unac-Piva**	**1.58**	**326**	*e*Pn	**Pb**	**10 47 24.2**	**-0.7**
UPM				*e*Sn	**Sg**	**10 47 45.6**	**-1.1**
DBRK	**Dubrovnik**	**1.65**	**298**	*e*Pn	**Pb**	**10 47 25.1**	**-1.0**
DBRK				Sn	**Sg**	**10 47 50.7**	**+1.8**
RUDO	**Rudo**	**1.80**	**343**	*e*Pn	**Pn**	**10 47 26.1**	**-0.4**
RUDO				*e*Sn	**Sb**	**10 47 50.7**	**-0.4**
BOSS	**Bosilegrad**	**1.85**	**71**	*e*Pg	**Pb**	**10 47 29.4**	**-0.1**
BOSS				*e*Sg	**Sg**	**10 47 55.4**	**-0.1**
BBLS	**Lazići**	**2.03**	**345**	*e*Pg	**Pb**	**10 47 32.8**	**+0.2**
BBLS				*e*Sg	**Sg**	**10 48 00.5**	**-0.6**
BBLS	**Lazići**	**2.03**	**345**	*e*Pn	**Pn**	**10 47 29.6**	**-0.2**
BBLS				*e*Sn	**Sn**	**10 47 56.3**	**+1.3**
GRUS	**Gruza**	**2.04**	**12**	*e*Pg	**Pb**	**10 47 32.3**	**-0.3**
GRUS				*e*Sg	**Sg**	**10 48 00.9**	**-0.3**
STON	**Ston**	**2.04**	**299**	*i* Pn	**Pn**	**10 47 28.7**	**-1.0**
DIVS	**Divibare**	**2.20**	**358**	*e*Pg	**Pb**	**10 47 36.0**	**+0.6**
DIVS				*e*Sg	**Sg**	**10 48 05.2**	**-1.2**
DIVS	**Divibare**	**2.20**	**358**	*e*Pn	**Pn**	**10 47 32.1**	**0.0**
DIVS				*e*Sn	**Sn**	**10 47 59.0**	**+0.5**
ZAPS	**Zavoj**	**2.31**	**53**	*e*Pg	**Pb**	**10 47 36.8**	**-0.5**
ZAPS				*e*Sg	**Sg**	**10 48 10.5**	**+0.4**
MAKA	**Makarska**	**2.67**	**302**	*e*Pn	**Pn**	**10 47 40.5**	**+2.0**
RICI	**Ricice**	**2.71**	**307**	*e*Pn	**Pb**	**10 47 42.2**	**-1.9**
KIJV	**Kijevo**	**3.44**	**309**	*e*Pn	**Pn**	**10 47 51.3**	**+2.2**
ZIRJ	**Zirje**	**3.73**	**300**	*e*Pn	**Pn**	**10 47 54.7**	**+1.7**
DUGI	**Dugi Otok**	**4.26**	**301**	*e*Pn	**Pn**	**10 48 01.6**	**+1.3**

TEH ***18*** *10:55:26.9, 32.˚74N×47.˚77E, h10km, ML2.9*
ISN ***18*** *10:55:29.0±1.9, 32.˚79N×47.˚65E, h24km±21km, ML2.7*
ISC 18 10:55:27.8±0.9**, 32.˚80N**±0.˚04×**47.˚71E**±0.˚04**, h15km, n15, σ1⁰01/19, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.74**	**9**	*e*Pg	**Pg**	**10 55 41.0**	**-1.1**
IKFM				*e*	**Sn**	**10 55 56.9**	**+2.3**
IKMR	**Kamar-syah**	**0.91**	**38**	*e*Pg	**Pb**	**10 55 44.5**	**-0.8**
IKMR				*e*Sg	**Sn**	**10 55 59.2**	**+0.3**
IKMR				*e*		10 56 03.9	
IDOB	**Doab**	**1.06**	**21**	*e*Pg	**Pb**	**10 55 47.6**	**-0.4**
IDOB				*e*		10 55 48.7	
BMDN	**Meydan**	**1.28**	**47**	*e*Pn	**Pb**	**10 55 51.5**	**-0.2**
BMDN				*e*		10 56 15.8	
IBDR	**Badra**	**1.53**	**282**	*e*Pg	**Pn**	**10 55 55.0**	**+0.4**
	baz=102						
IBDR				*e*Sg	**S

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.07**	**316**		**Pn**	**11 01 56.5**	**+0.1**
ADK	**Adak**	**2.34**	**282**	Pn	**Pn**	**11 02 14.5**	**+0.7**
KIWB	**Kanaga Island**	**2.62**	**281**	Pn	**Pn**	**11 02 16.0**	**-1.7**
NIKH	**Nikolski High**	**2.97**	**57**		**Pn**	**11 02 21.2**	**-1.3**
UNV	**Unalaska Valle**	**4.63**	**56**	Pn	**Pn**	**11 02 44.8**	**-0.4**
AMKA	**Amchitka**	**4.83**	**272**	Pn	**Pn**	**11 02 46.6**	**-1.3**
SCM	**Sheep Creek Mo**	**17.41**	**43**	Pn	**Pn**	**11 05 35.6**	**-2.0**
SCM				IAmb	IAmb	11 05 45.9	
	comp=Z,6.6nm,1.0s						
IMAR	**Indian Mountai**	**17.55**	**27**	P	**P**	**11 05 41.0**	**+0.9**
CCB	**Clear Creek Bu**	**18.60**	**35**	P	**P**	**11 05 51.2**	**-0.4**
CCB				IAmb	IAmb	11 05 51.7	
	comp=Z,2.0nm,1.0s						
IL31		**19.00**	**35**	P	**P**	**11 05 54.7**	**-1.3**
ILAR	**Eielson Array**	**19.00**	**35**	P	**P**	**11 05 54.4**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=233,slow=9.5,SNR=13						
RIDG	**Independent Ri**	**19.27**	**39**	P	**P**	**11 05 59.3**	**+0.3**
RIDG				IAmb	IAmb	11 06 12.8	
	comp=Z,1.9nm,1.0s						
BCAR	**Beaver Creek A**	**20.26**	**43**	P	Pn	11 06 11.9	0.0
EGAK	**Eagle**	**21.17**	**39**	P	**P**	**11 06 18.5**	**-1.0**
EGAK				IAmb	IAmb	11 06 22.5	
	comp=Z,5.3nm,1.1s						
DAWY	**Dawson**	**21.61**	**41**	P	**P**	**11 06 26.3**	**+1.9**
DAWY				IAmb	IAmb	11 06 43.0	
	comp=Z,1.2nm,0.9s						
INK	**Inuvik**	**25.36**	**33**	P	**P**	**11 07 00.3**	**-0.7**
H11N2	**WAKE ISLAND Hy** baz=18	**35.38**	**214**	T	T	11 46 47.0	
H11N3	**WAKE ISLAND Hy** baz=18	**35.38**	**214**	T	T	11 46 42.5	
H11N1	**WAKE ISLAND Hy** baz=18	**35.39**	**214**	T	T	11 46 43.3	
NVAR	**Mina Array Bea**	**39.92**	**87**	P	**P**	**11 09 06.9**	**-1.6**
PDAR	**Pinedale Array**	**42.79**	**76**	P	**P**	**11 09 36.4**	**+4.4**
	comp=Z,0.1nm,0.3s,baz=284,slow=5.4,SNR=2.5						
PDAR	**Pinedale Array**	**42.79**	**76**	P	**P**	**11 09 32.4**	**+0.4**
TXAR	**Lajitas Array**	**55.03**	**85**	P	**P**	**11 11 09.3**	**+3.5**
	comp=Z,0.2nm,0.8s,baz=335,slow=6.2,SNR=1.8						
TXAR	**Lajitas Array**	**55.03**	**85**	P	**P**	**11 11 05.0**	**-0.7**

MOS ***18*** *11:01:37.6±1.3, 32.52N×47.66E, h10km, mb4.9/30, Error ellipse: s-maj=7.5km s-min=4.6km az=122.9*
THR ***18*** *11:01:37.8±0.7, 32.50N×47.35E, h18km±6km, ML4.6*
IDC ***18*** *11:01:37.9±0.7, 32.60N×47.64E, h0km, mb4.1/23, mb1 4.1/31, mb1mx4.0/59, mbtmp4.1/31, ML3.9/8, MS3.7/19, Ms1 3.7/19, ms1mx3.5/56, Error ellipse: s-maj=16.6km s-min=11.8km az=169.0*
BJI ***18*** *11:01:38.8±0.0, 32.60N×47.70E, h10km, mB4.8/7, mb4.5/15, Ms4.3/4, Ms7 4.2/5*
TEH ***18*** *11:01:39.1, 32.64N×47.63E, h8km, ML4.5*
ISN ***18*** *11:01:40.5±1.5, 32.65N×47.72E, h15km±8km, ML4.5*
NEIC ***18*** *11:01:40.6±1.8, 32.59N±0.06×47.66E±0.07, h18km±3km, Error ellipse: s-maj=8.9km s-min=8.0km az=156.0*
GCMT ***18*** *11:01:44.3±0.4, 32.63N±0.03×47.33E±0.05, h17km±1km, MW4.8/68, Moment Tensor Solution. s17,c17; s68,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.65±.14; $M_{\theta\theta}$-1.24±.10; $M_{\phi\phi}$-0.41±.07; $M_{r\theta}$1.14±.26; $M_{\theta\phi}$0.38±.05; $M_{r\phi}$0.14±.26; Best double couple: M_o1.89300×10^{16} NP1:ϕ_s300.00000°, δ29.00000°, λ111.00000°. NP2: ϕ_s96.00000°, δ63.00000°, λ79.00000°. Principal axes: T 2.0730, Plg69.0000°, Azm343.0000°; N -0.3630, Plg10.0000°, Azm101.0000°; P -1.7130, Plg18.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 11:01:39.4±1.2, 32.63N±0.03×47.64E±0.03, h8km±8km, n234, σ1°48/224, mb4.5/71, MS3.7/12, 18C-4D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.91**	**11**	*e*Pg	**Pg**	**11 01 56.3**	**-0.5**
IKMR	**Kamar-syah**	**1.08**	**35**	*e*Pg	**Pg**	**11 01 59.1**	**-1.0**
IKMR				*e*		11 02 26.9	
SHGR	**Shooshtar-Gavs**	**1.11**	**118**	*e*Pg	**Pn**	**11 02 01.7**	**+0.5**
SHGR				*e*Sg	**Sn**	**11 02 19.1**	**+2.5**
SHGR				IAML		11 02 29.3	
	comp=N,9μm,0.3s						
SHGR				IAML		11 02 30.1	
	comp=E,9μm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.11**	**118**	*e*Pg	**Pn**	**11 02 01.7**	**+0.5**
IDOB	**Doab**	**1.24**	**21**	*e*Pg	**Pn**	**11 02 03.5**	**+0.4**
BMDN	**Meydan**	**1.43**	**43**	*e*		11 02 42.4	
BMDN				*e*Pg	**Pg**	**11 02 06.7**	**-0.2**
IBDR	**Badra**	**1.52**	**289**	*e*Pg	**Pg**	**11 02 09.0**	**+0.5**
IBDR				*e*Sg	**Sg**	**11 02 30.0**	**+1.8**
IBDR				AML	AML	11 02 34.8	
	comp=N,6μm,0.6s						
IBDR				AML	AML	11 02 35.7	
	comp=E,7μm,0.7s						
IKOM	**Komasi**	**1.54**	**356**	*e*		11 02 38.8	
IKOM				*e*Pg	**Pg**	**11 02 09.4**	**+0.4**
AHWZ	**Ahwaz**	**1.55**	**147**	*e*Pg	**Pg**	**11 02 09.0**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.71**	**343**	*e*Pg	**Pg**	**11 02 11.5**	**-0.8**
KCHF				*e*		11 02 39.9	
HSAM	**Samen**	**1.77**	**27**	*e*Pg	**Pg**	**11 02 12.7**	**-0.6**
HSAM				*e*		11 02 44.5	
KER	**Kermanshah**	**1.80**	**346**	*e*Pn	**Pg**	**11 02 12.9**	**-1.0**
IBZA	**Bozab**	**1.84**	**6**	*e*Pn	**Pb**	**11 02 13.6**	**+0.1**
IBZA				*e*		11 02 46.9	
IGHG	**Ghaleghazi**	**1.92**	**332**	*e*Pn	**Pb**	**11 02 14.7**	**0.0**
IGHG				*e*		11 03 00.4	
IVIS	**Veis**	**2.00**	**341**	*e*Pn	**Pb**	**11 02 15.4**	**-0.7**
IVIS				*e*		11 02 50.9	
NSR	**Nassriya**	**2.06**	**219**	*e*Pn	**Pb**	**11 02 17.0**	**0.0**
NSR				*e*Sn	**Sb**	**11 02 42.0**	**-0.8**
KHMZ	**Khomeyn**	**2.23**	**60**	*e*Pn	**Pb**	**11 02 19.7**	**-0.4**
KHMZ	**Khomeyn**	**2.23**	**60**	*e*Pn	**Pb**	**11 02 19.7**	**-0.4**
IALM	**Almabolaq**	**2.27**	**11**	*e*Pn	**Pb**	**11 02 19.3**	**-1.4**
IDHR	**Dehrash**	**2.31**	**333**	*e*Pn	**Pb**	**11 02 20.2**	**-1.3**
IDHR				*e*		11 03 01.2	
ILIN	**Lien**	**2.35**	**346**	*e*Pn	**Pb**	**11 02 20.5**	**-1.6**
ILIN				*e*		11 03 02.3	
SNGE	**Sanandaj**	**2.47**	**354**	*e*Pn	**Pn**	**11 02 21.0**	**+0.9**
SNGE				*e*Sg	**Sg**	**11 02 58.9**	**+0.2**
SNGE	**Sanandaj**	**2.47**	**354**	*e*Pn	**Pn**	**11 02 21.0**	**+0.9**
HAGD	**Aghdareh**	**2.52**	**29**	*e*Pn	**Pb**	**11 02 23.0**	**-1.9**
HAGD				*e*		11 03 14.7	
JHBN	**Jahan bin**	**2.59**	**98**	*e*Pn	**Pn**	**11 02 23.3**	**+1.5**
JHBN				*e*		11 03 19.8	
HSRG	**Sareghieh**	**2.66**	**11**	*e*Pn	**Pb**	**11 02 26.0**	**-1.4**
HSRG				*e*		11 03 10.6	
IPIR	**Pirpir**	**2.74**	**88**	*e*Pn	**Pn**	**11 02 25.7**	**+1.8**
IPIR				*e*		11 03 23.6	
ASAO	**Ashtian**	**2.76**	**45**	*e*Pn	**Pb**	**11 02 27.6**	**-1.4**
ASAO	**Ashtian**	**2.76**	**45**	*e*Pn	**Pb**	**11 02 27.7**	**-1.4**
BHD	**Baghdad**	**2.82**	**284**	*e*Pn	**Pb**	**11 02 27.0**	**-2.9**
BHD				*e*Sn	**Sb**	**11 03 03.0**	**-1.5**
ROKH	**ROKH**	**2.88**	**95**	*e*Pn	**Pn**	**11 02 27.6**	**+1.9**
ROKH				*e*		11 03 22.9	
IBRJ	**Brojen**	**3.15**	**102**	*e*Pn	**Pn**	**11 02 30.8**	**+1.4**
IRAZ	**Razeghan**	**3.35**	**34**	*e*Pn	**Pn**	**11 02 35.1**	**+2.8**
IKLH	**Kolahrood**	**3.38**	**77**	*e*Pn	**Pn**	**11 02 35.5**	**+2.9**
IKLH				*e*		11 03 38.5	
QABG	**Abgarm-Qazvin**	**3.46**	**27**	*e*Pn	**Pn**	**11 02 35.6**	**+1.8**
IQOM	**Qom**	**3.61**	**51**	*e*Pn	**Pn**	**11 02 37.6**	**+1.8**
IGAR	**Gharneh**	**3.72**	**92**	*e*Pn	**Pn**	**11 02 38.6**	**+1.3**
IGAR				*e*		11 03 54.3	
KLNJ	**Kolanjah**	**3.73**	**115**	*e*Pn	**Pn**	**11 02 39.2**	**+1.7**
KLNJ				*e*		11 04 03.3	
IMHD	**Mahdasht**	**3.94**	**39**	*e*Pn	**Pn**	**11 02 41.4**	**+1.1**
IZEF	**Zefreh**	**3.96**	**85**	*e*Pn	**Pn**	**11 02 42.5**	**+1.9**
QSDN	**Sirdan**	**4.06**	**18**	*e*Pn	**Pn**	**11 02 44.6**	**+2.6**
IRAM	**Ramesheh**	**4.10**	**100**	*e*Pn	**Pn**	**11 02 43.7**	**+1.2**
IHSB	**Hasanabad**	**4.11**	**46**	*e*Pn	**Pn**	**11 02 44.4**	**+1.8**
IVRN	**Varamin**	**4.14**	**54**	*e*Pn	**Pn**	**11 02 45.0**	**+2.1**
IGZV	**Ghazvin**	**4.31**	**29**	*e*Pn	**Pn**	**11 02 47.7**	**+2.3**
CHTH	**Charan**	**4.36**	**40**	*e*Pn	**Pn**	**11 02 49.0**	**+2.9**
CHTH	**Charan**	**4.36**	**40**	*e*Pn	**Pn**	**11 02 49.0**	**+2.9**
MAHB	**Mahabad**	**4.42**	**339**	*e*Pn	**Pn**	**11 02 48.9**	**+2.0**
QALM	**Alamut, Qazvin**	**4.53**	**32**	*e*Pn	**Pn**	**11 02 49.9**	**+1.5**
IDMV	**Damavand**	**4.68**	**50**	*e*Pn	**Pn**	**11 02 52.4**	**+1.9**
ANAR	**Anarak**	**5.15**	**82**	*e*Pn	**Pn**	**11 02 58.6**	**+1.8**
ISAD	**Sadrabad**	**5.17**	**96**	*e*Pn	**Pn**	**11 02 58.4**	**+1.2**
IFIR	**Firoozkooh**	**5.19**	**53**	*e*Pn	**Pn**	**11 02 59.2**	**+1.6**
ILAS	**Lasjerd**	**5.20**	**57**	*e*Pn	**Pn**	**11 02 59.4**	**+1.8**
IAZR	**Azarshahr**	**5.22**	**345**	*e*Pn	**Pn**	**11 03 00.5**	**+2.6**
IPRN	**Peran**	**5.29**	**46**	*e*Pn	**Pn**	**11 03 00.1**	**+1.3**
IALA	**Alasht**	**5.49**	**50**	*e*Pn	**Pn**	**11 03 04.7**	**+3.1**
ISHM	**Shahmirzad**	**5.65**	**54**	*e*Pn	**Pn**	**11 03 05.6**	**+1.7**
IHSH	**Hashtrud**	**5.67**	**357**	*e*Pn	Pn	11 02 52.8	-11
IHRS	**Heris**	**5.70**	**355**	*e*Pn	**Pn**	**11 03 07.4**	**+3.0**
IANJ	**Anjilo**	**5.92**	**60**	*e*Pn	**Pn**	**11 03 08.9**	**+1.3**
IGLO	**Ghaloghah**	**6.40**	**51**	*e*Pn	**Pn**	**11 03 17.1**	**+3.0**
GEVA	**Gevas**	**6.79**	**328**	Pn	**Pn**	**11 03 18.7**	**-0.7**
MARD	**Mardin**	**7.32**	**312**	Pn	**Pn**	**11 03 26.6**	**-0.1**
TPRV	**Parvadeh(Tabas**	**7.62**	**85**	*e*Pn	**Pn**	**11 03 32.2**	**+1.4**
TKDS	**Koohdasht(Taba**	**8.01**	**80**	*e*Pn	**Pn**	**11 03 37.7**	**+1.6**
AKT	**Akhty**	**8.83**	**0**	*e*P	Pn	11 03 52.8	+5.4
AKT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SBZV	**Sabzevar**	**9.04**	**63**	*e*Pn	**Pn**	**11 03 51.7**	**+1.4**
ASF	**Jabal al Asfar**	**9.10**	**270**	Pn	**Pn**	**11 03 49.4**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=42,slow=15,SNR=6.8						
ASF				Sn	**Sn**	**11 05 31.0**	**-2.7**
	comp=Z,1.7nm,0.3s,baz=108,slow=23,SNR=6.0						
ASF				Lg	Lg	11 06 26.9	
	comp=Z,0.6nm,0.3s,baz=17,slow=20,SNR=1.6						
ITEG	**Tejag**	**9.36**	**85**	*e*Pn	**Pn**	**11 03 55.8**	**+1.1**
ISFR	**Strayin**	**9.59**	**60**	*e*Pn	**Pn**	**11 03 59.7**	**+1.8**
KEMA	**Kemaliye**	**9.94**	**314**	*e*Pn	**Pn**	**11 04 04.2**	**+1.7**
GEYT	**Alibeck**	**10.06**	**55**	Pn	**Pn**	**11 04 03.4**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=267,slow=16,SNR=1.7						
GEYT				LR	LR	11 08 36.9	
	comp=Z,1μm,19.8s,baz=250,slow=42						
MMAI	**Mount Meron Ar**	**10.31**	**275**	Pn	**Pn**	**11 04 09.1**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=72,slow=15,SNR=2.4						
MMAI				Lg	Lg	11 07 04.6	
	comp=Z,2.0nm,0.3s,baz=95,slow=28,SNR=2.8						
MMAI				LR	LR	11 09 02.8	
	comp=Z,285nm,18.5s,baz=95,slow=43						
UOSS	**Minazif**	**10.72**	**133**		**Pn**	**11 04 12.0**	**-1.2**
UOSS					**Sn**	**11 06 14.9**	**+1.5**
IMYA	**Miami**	**10.93**	**67**	*e*Pn	**Pn**	**11 04 18.3**	**+2.2**
EIL	**Elat**	**11.27**	**258**	Pn	**Pn**	**11 04 20.4**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=49,slow=11,SNR=1.7						
EIL				Lg	Lg	11 07 39.0	
	comp=Z,1.5nm,0.3s,baz=294,slow=16,SNR=2.4						
EIL				LR	LR	11 09 52.1	
	comp=Z,541nm,18.7s,baz=78,slow=44						
KBZ	**Khabaz**	**11.69**	**343**	LR	LR	11 09 35.5	
	comp=Z,421nm,21.5s,baz=153,slow=41						
KIV	**Kislovodsk**	**11.95**	**342**	*e*P	Pn	11 04 17.5	-13
KIV				pmax	pmax		
	comp=Z,27nm,1.0s						
BRTR	**Keskin Array B**	**13.34**	**306**	Pn	**Pn**	**11 04 51.9**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=135,slow=12,SNR=6.1						
BRTR				LR	LR	11 10 32.0	
	comp=Z,134nm,19.4s,slow=40						
WSAR	**Wadi Sarin**	**13.48**	**131**	Pn	**Pn**	**11 04 48.4**	**-2.5**
	comp=Z,0.9nm,0.3s,baz=346,slow=16,SNR=7.9						
WSAR				Sn	**Sn**	**11 07 16.8**	**-4.2**
	comp=Z,0.6nm,0.3s,baz=270,slow=20,SNR=1.4						
WSAR				LR	LR	11 11 27.1	
	comp=Z,205nm,18.9s,baz=324,slow=44						
KBL	**Kabul**	**17.93**	**78**	P	**P**	**11 05 51.0**	**+1.1**
KBL				pmax	pmax		
	comp=Z,14nm,1.2s						
ABKAR	**Akbulak array**	**18.99**	**25**	P	Pn	**11 06 01.4**	**-0.4**
IDI	**Anyia**	**19.05**	**284**	Pn	**Pn**	**11 06 04.1**	**+1.3**
	comp=Z,1.5nm,0.3s,baz=25,slow=21,SNR=6.0						
IDI	**Anoyia**	**19.05**	**284**	P	**Pn**	**11 06 03.5**	**+0.7**
IDI				IAmb	IAmb	11 06 08.3	
	comp=Z,88nm,1.5s						
VRH	**Novokhopyorsk**	**19.06**	**349**	*e*P	**Pn**	**11 06 02.8**	**+0.1**
VRH				pmax	pmax		
	comp=Z,40nm,1.7s						
VORD	**Divnogorie**	**19.33**	**344**	*e*P	**P**	**11 06 04.3**	**-0.5**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AKTO	**Aktyubinsk**	**19.38**	**20**	P	**Pn**	**11 06 06.1**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=207,slow=12,SNR=23						
AKTO				LR	LR	11 16 21.1	
	comp=Z,281nm,18.8s,baz=204,slow=46						
VSR	**Storozhevoye**	**19.59**	**344**	*e*P	**Pn**	**11 06 08.2**	**-0.8**
VSR				pmax	pmax		
	comp=Z,30nm,1.0s						
CFR	**Carcaliu**	**19.62**	**315**	↑↑P	**Pn**	**11 06 08.6**	**-0.8**
CFR	**Carcaliu**	**19.62**	**315**	P	**Pn**	**11 06 10.2**	**+0.7**
CFR				pmax	pmax		
	comp=Z,16nm,1.3s						
SGRR	**Singureni**	**20.48**	**311**	↑P	Pn	11 06 19.1	-0.6
KK31	**Karatay Array**	**20.80**	**53**	P	Pn	11 06 23.3	-0.1
KK31				pmax	pmax		
	comp=Z,14nm,1.0s						
KK31	**Karatay Array**	**20.80**	**53**		Pn	11 06 23.3	-0.1
KKAR	**Karatay Array**	**20.80**	**53**	P	Pn	11 06 22.2	-1.2
KKAR				pmax	pmax		
	comp=Z,14nm,1.0s						
KKAR	**Karatay Array**	**20.80**	**53**	P	**P**	**11 06 21.5**	**+0.5**
KKAR	**Karatay Array**	**20.80**	**53**	P	Pn	11 06 22.2	-1.2
KKAR				IAmb	IAmb	11 06 31.4	
	comp=Z,14nm,0.9s						
VRI	**Vrincioaia**	**20.83**	**315**	↑P	**P**	**11 06 22.0**	**+0.7**
VRI	**Vrincioaia**	**20.83**	**315**	↑P	**P**	**11 06 22.0**	**+0.7**
PLOR	**Plostina**	**20.86**	**315**	↑P	Pn	11 06 24.1	-0.1
PLOR	**Plostina**	**20.86**	**315**	↑P	Pn	11 06 24.1	-0.1
LPSR	**Galich'ya Gora**	**20.93**	**345**	*e*P	**P**	**11 06 22.0**	**-0.3**
LPSR				pmax	pmax		
	comp=Z,60nm,0.6s						
MLR	**Muntele Rosu**	**21.10**	**314**	P	**P**	**11 06 26.8**	**+2.5**
	comp=Z,13nm,0.7s,baz=187,slow=8.1,SNR=8.8						
MLR	**Muntele Rosu**	**21.10**	**314**	↑P	**P**	**11 06 26.9**	**+2.5**
MLR	**Muntele Rosu**	**21.10**	**314**	P	**P**	**11 06 26.2**	**+1.9**
MLR				IAmb	IAmb	11 06 31.7	
	comp=Z,18nm,0.8s						
TESR	**Tescani**	**21.22**	**317**	↓P	**P**	**11 06 26.3**	**+0.8**
HUMR	**Humele**	**21.25**	**311**	↑P	**P**	**11 06 27.7**	**+1.8**
SORM	**Soroca**	**21.26**	**322**	↑P	**P**	**11 06 28.1**	**+2.3**
SORM	**Soroca**	**21.26**	**322**	↑P	**P**	**11 06 28.1**	**+2.3**
NIL	**Nilore**	**21.45**	**80**	P	**P**	**11 06 28.2**	**+0.1**
NIL				pmax	pmax		
	comp=Z,16nm,0.6s						
NIL	**Nilore**	**21.45**	**80**	P	**P**	**11 06 28.2**	**+0.1**
NIL				IAmb	IAmb	11 06 37.3	
	comp=Z,16nm,0.6s						
AGG	**Agios Georgios**	**21.46**	**294**	P	**P**	**11 06 28.3**	**+0.2**
AGG				pmax	pmax		
	comp=Z,24nm,1.2s						
AGG	**Agios Georgios**	**21.46**	**294**	P	**P**	**11 06 28.3**	**+0.2**
AGG				IAmb	IAmb	11 06 37.9	
	comp=Z,24nm,1.2s						
ATD	**Arta Tunnel**	**21.46**	**193**	LR	LR	11 15 39.5	
	comp=Z,499nm,18.6s,baz=358,slow=39						
ITM	**Ithomi**	**21.55**	**289**	P	**P**	**11 06 29.2**	**+0.1**
ITM				IAmb	IAmb	11 06 47.3	
	comp=Z,19nm,0.8s						
VOIR		**21.63**	**313**	↑P	**P**	**11 06 31.6**	**+1.7**
VOIR		**21.63**	**313**	↑P	**P**	**11 06 31.6**	**+1.7**
DOPR	**Dopca**	**21.68**	**314**	↑P	**P**	**11 06 31.6**	**+1.2**
LOT	**Lotru**	**22.43**	**312**	↑P	**P**	**11 06 38.7**	**+0.1**
AKASG	**Malin Array Be**	**22.59**	**328**	P	**P**	**11 06 38.4**	**-1.7**
	comp=Z,2.0nm,0.6s,baz=136,slow=9.0,SNR=4.4						
AKASG	**Malin Array Be**	**22.59**	**328**	P	**P**	**11 06 39.6**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**22.59**	**328**	P	**P**	**11 06 39.6**	**-0.5**
AKBB	**Malin Array Si**	**22.59**	**328**	P	**P**	**11 06 39.5**	**-0.6**
AKBB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AKBB	**Malin Array Si**	**22.59**	**328**	P	**P**	**11 06 39.5**	**-0.6**
BURAR	**Bucovina Array**	**22.65**	**318**	↓P	**P**	**11 06 43.1**	**+2.3**
BURAR	**Bucovina Array**	**22.65**	**318**	↓P	**P**	**11 06 43.2**	**+2.3**
BURAR	**Bucovina Array**	**22.65**	**318**	P	**P**	**11 06 42.8**	**+1.9**
BUR08	**Bucovina Ar. S**	**22.67**	**318**	P	**P**	**11 06 43.5**	**+2.3**
HORU	**Horodok**	**22.93**	**322**	P	**P**	**11 06 44.0**	**+0.3**
HERR	**Herculane**	**23.06**	**309**	↑P	**P**	**11 06 45.8**	**+0.7**
KSV	**Kosov**	**23.12**	**319**	P	**P**	**11 06 48.1**	**+2.4**
AAK	**Ala-Archa**	**23.41**	**57**	P	**P**	**11 06 49.9**	**+1.1**
	comp=Z,1.3nm,0.4s,baz=217,slow=10,SNR=1.5						
AAK				LR	LR	11 17 27.0	
	comp=Z,348nm,19.1s,baz=256,slow=40						
MDVR	**Moldovita**	**23.48**	**309**	↑P	**P**	**11 06 49.4**	**-0.1**
OBN	**Obninsk**	**23.79**	**344**	LR	LR	11 17 33.1	
	comp=Z,32nm,20.7s,baz=180,slow=40						
MOS	**Moscow**	**24.14**	**346**	*e*P	**P**	**11 06 58.9**	**+3.3**
MOS				pmax	pmax		
	comp=Z,41nm,0.7s						
MORS	**Morshin**	**24.22**	**320**	P	**P**	**11 06 57.9**	**+1.5**
ARU	**Arti**	**24.97**	**14**	P	**P**	**11 07 02.7**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=191,slow=6.3,SNR=3.6						
ARU				LR	LR	11 19 32.3	
	comp=Z,193nm,20.8s,baz=201,slow=43						
ARU	**Arti**	**24.97**	**14**	*d* / P	**P**	**11 07 03.6**	**+0.5**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KOLS	**Kolonicke sedl**	**25.01**	**318**	*e*P	**P**	**11 07 04.5**	**+0.9**
KOLS				pmax	pmax		
	comp=Z,36nm,1.6s						
KOLS	**Kolonicke sedl**	**25.01**	**318**	*e*P	**P**	**11 07 04.5**	**+0.9**
CRVS	**Cervenica-Dubn**	**25.46**	**317**	*e*P	**P**	**11 07 09.0**	**+1.3**
CRVS				pmax	pmax		
	comp=Z,29nm,1.3s						
CRVS	**Cervenica-Dubn**	**25.46**	**317**	*e*P	**P**	**11 07 09.0**	**+1.3**
TARG	**Taragay, Kyrgy**	**25.58**	**61**	P	**P**	**11 07 09.4**	**+0.1**
TARG				IAmb	IAmb	11 07 17.0	
	comp=Z,7.6nm,0.8s						
TIP	**Timpagrande**	**25.78**	**293**	P	**P**	**11 07 11.5**	**+0.8**
TIP				IAmb	IAmb	11 07 15.6	
	comp=Z,20nm,1.5s						
KECS	**Kecovo**	**25.82**	**316**	*e*P	**P**	**11 07 12.3**	**+1.4**
KECS				pmax	pmax		
	comp=Z,14nm,0.6s						
KECS	**Kecovo**	**25.82**	**316**	*e*P	**P**	**11 07 12.3**	**+1.4**
PSZ	**Piszkesteto**	**25.92**	**314**	↑↑P	**P**	**11 07 14.2**	**+2.3**
PSZ	**Piszkesteto**	**25.92**	**314**	↑↑P	**P**	**11 07 14.2**	**+2.3**
PSZ	**Piszkesteto**	**25.92**	**314**	P	**P**	**11 07 13.1**	**+1.2**
PSZ				IAmb	IAmb	11 07 20.3	
	comp=Z,16nm,0.9s						
KIRV	**Kirov**	**25.98**	**2**	P	**P**	**11 07 12.5**	**+0.3**
	comp=Z,11nm,0.4s,baz=143,slow=4.6,SNR=1.9						
KIRV				LR	LR	11 19 53.8	
	comp=Z,214nm,18.3s,baz=181,slow=42						
BVAR	**Borovoye Array**	**26.14**	**32**	P	**P**	**11 07 14.0**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=225,slow=8.2,SNR=14						
BVAR				PcP	**PcP**	**11 10 40.9**	**0.0**
	comp=Z,1.3nm,0.6s,baz=263,slow=2.5,SNR=2.8						
BVAR				LR	LR	11 19 30.3	
	comp=Z,248nm,21.9s,baz=258,slow=41						
NIE	**Niedzica**	**26.38**	**318**	P	**P**	**11 07 19.9**	**+3.9**
NIE				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LANS	**Liptovska Anna**	**26.73**	**316**	*e*P	**P**	**11 07 20.7**	**+1.5**
LANS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LANS	**Liptovska Anna**	**26.73**	**316**	*e*P	**P**	**11 07 20.7**	**+1.5**
VYHS	**Vyhne**	**26.81**	**315**	*e*P	**P**	**11 07 21.4**	**+1.5**
VYHS				pmax	pmax		
	comp=Z,22nm,1.8s						
VYHS	**Vyhne**	**26.81**	**315**	*e*P	**P**	**11 07 21.4**	**+1.5**
OJC	**Ojcow**	**27.05**	**319**	*e*P	**P**	**11 07 22.6**	**+0.5**
OJC	**Ojcow**	**27.05**	**319**	P	**P**	**11 07 21.6**	**-0.5**
OJC				pmax	pmax		
	comp=Z,15nm,0.7s						
OJC	**Ojcow**	**27.05**	**319**	P	**P**	**11 07 21.6**	**-0.5**
OJC				IAmb	IAmb	11 07 28.9	
	comp=Z,15nm,0.7s						
JAVC	**Velka Javorina**	**27.66**	**315**	*e*P	**P**	**11 07 29.9**	**+2.3**
MORC	**Moravsky Berou**	**28.13**	**316**	*e*P	**P**	**11 07 34.9**	**+3.1**
VRAC	**Vranov**	**28.49**	**315**	*e*P	**P**	**11 07 39.1**	**+4.1**
KRUC	**Moravsky**	**28.51**	**314**	*e*P	**P**	**11

FLN	**La Foliniere**	**39.19**	**309**	*e*P		**P**	**11 09 08.7**	**+1.0**
FLN				pmax	pmax				
	comp=Z,143nm,2.0s								
GRR	**Gorron**	**39.40**	**308**	*e*P		**P**	**11 09 11.0**	**+1.6**
GRR				pmax	pmax				
	comp=Z,21nm,1.1s								
SJPF	**Ste Jean**	**39.47**	**300**	*e*P		**P**	**11 09 09.6**	**-0.6**
SJPF				pmax	pmax				
	comp=Z,2.0nm,0.5s								
SGMF	**Saint Gilles**	**40.52**	**308**	*e*P		**P**	**11 09 20.9**	**+2.2**
SGMF				pmax	pmax				
	comp=Z,44nm,1.4s								
QUIF	**Quistinic**	**40.91**	**307**	*e*P		**P**	**11 09 23.7**	**+1.8**
QUIF				pmax	pmax				
	comp=Z,12nm,0.8s								
ESDC	**Sonseca Array**	**41.78**	**295**	P		**P**	**11 09 29.3**	**0.0**
	comp=Z,0.7nm,0.5s,baz=76,slow=8.1,SNR=5.7								
GTA	**Gaotai**	**42.25**	**66**	*e*P		P	11 09 38.3	+5.1	
GTA				pmax	pmax				
	comp=Z,7.0nm,0.9s								
NRIK	**Noril'sk**	**42.99**	**20**	P		**P**	**11 09 39.7**	**+1.0**
	comp=Z,2.5nm,0.6s,baz=230,slow=5.9,SNR=4.4								
DSB	**Dublin**	**43.38**	**315**	P		**P**	**11 09 41.5**	**-0.5**
ZAK	**Zakamensk**	**44.18**	**49**	*e*P		**P**	**11 09 48.3**	**-0.4**
ZAK				pmax	pmax				
	comp=Z,5.0nm,1.8s								
TORD	**Torodi Ar. Bea**	**46.15**	**256**	P		**P**	**11 10 03.9**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=64,slow=6.7,SNR=7.4								
TORD				LR		LR	11 30 27.2		
	comp=Z,114nm,19.0s,baz=45,slow=38								
TORD	**Torodi Ar. Bea**	**46.15**	**256**	IAmb		IAmb	11 10 09.2		
	comp=Z,1.2nm,0.8s								
SONM	**Songino Array**	**46.25**	**53**	P		**P**	**11 10 05.7**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=284,slow=7.5,SNR=6.6								
CHTO	**Chiang Mai**	**47.80**	**94**	P		**P**	**11 10 17.3**	**-0.2**
CHTO				pmax	pmax				
	comp=Z,4.0nm,0.8s								
CHTO	**Chiang Mai**	**47.80**	**94**	P		**P**	**11 10 17.3**	**-0.2**
CHTO				IAmb	IAmb		11 10 22.3		
	comp=Z,4.2nm,0.8s								
CMAR	**Chiang Mai Arr**	**47.96**	**94**	P		**P**	**11 10 18.1**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=293,slow=8.1,SNR=10.0								
CMAR				PcP		**PcP**	**11 11 46.9**	**-0.1**	
	comp=Z,0.7nm,0.3s,baz=287,slow=5.6,SNR=1.4								
BOD	**Bodaibo**	**50.62**	**39**	*e*P		**P**	**11 10 38.0**	**-0.6**
BOD				pmax	pmax				
	comp=Z,9.0nm,1.9s								
GYA	**Guiyang**	**51.16**	**81**	*e*P		**P**	**11 10 42.5**	**-0.7**
GYA				pmax	pmax				
	comp=Z,6.0nm,0.9s								
DBIC	**Dimbokro**	**55.10**	**254**	P		**P**	**11 11 12.9**	**+0.7**
	comp=Z,4.1nm,1.0s,baz=30,slow=8.1,SNR=1.7								
KSRS	**Korea Array**	**64.00**	**61**	P		**P**	**11 12 11.8**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=286,slow=7.9,SNR=4.3								
USRK	**Ussuriysk Ar.**	**64.36**	**53**	P		**P**	**11 12 17.4**	**+1.8**
USRK	**Ussuriysk Ar.**	**64.36**	**53**	P		**P**	**11 12 17.4**	**+1.8**
BOSA	**Boshof**	**64.52**	**202**	P		**P**	**11 12 16.9**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=25,slow=9.7,SNR=1.4								
BOSA	**Boshof**	**64.52**	**202**	P		**P**	**11 12 16.9**	**+0.1**
BOSA				pmax	pmax				
	comp=Z,16nm,1.3s								
YSS	**Yuzh-Sakhalins**	**70.16**	**47**	*e*P		P	11 12 58.1	+5.8	
ILAR	**Eielson Array**	**82.25**	**6**	P		**P**	**11 14 00.5**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=328,slow=3.2,SNR=2.3								
D62A	**Allapoint, All**	**82.37**	**322**	P		**P**	**11 14 02.5**	**+0.7**
WRA	**Warramunga Arr**	**97.83**	**109**	P		**P**	**11 15 15.2**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=315,slow=4.3,SNR=1.8								
WRA	**Warramunga Arr**	**97.83**	**109**	IAmb		IAmb	11 15 22.4		
	comp=Z,0.3nm,1.4s								
ASAR	**Alice Springs**	**99.42**	**112**	P		**Pdif**	**11 15 21.1**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=309,slow=4.4,SNR=2.3								

IDC 18 11:06:06.7±41.0, **20.°55S**×**178.°05W**, **h616**km±401km, **mb3.1**/4, **mb1 3.2**/4, **mb1mx2.8**/30, **mbtmp4.2**/4, **Error ellipse: s-maj=311.9km s-min=76.9km az=94.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**33.44**	**264**	P		P	11 11 56.6	-0.2
	1.3nm,0.7s,baz=82,slow=8.5,SNR=5.1							
JAY	**Jayapura**	**44.01**	**289**	P		P	11 13 22.0	+0.2
	6.6nm,0.9s,baz=136,slow=4.9,SNR=4.1							
ASAR	**Alice Springs**	**44.46**	**257**	P		P	11 13 25.6	+0.4
	1.7nm,0.5s,baz=95,slow=7.6,SNR=41							
WRA	**Warramunga Arr**	**44.55**	**262**	P		P	11 13 25.0	-0.8
	1.0nm,0.6s,baz=98,slow=8.1,SNR=5.3							
AKASG	**Malin Array Be**	**143.03**	**331**	PKP		PKPdf	11 24 30.7	-0.7
	0.2nm,0.3s,baz=46,slow=4.5,SNR=2.0							

*MOS **18** 11:06:51.1±1.1, 32.°53N×47.°61E, h14km, mb4.8/42, Error ellipse: s-maj=7.3km s-min=4.3km az=121.5*
*IDC **18** 11:06:51.1±0.7, 32.°64N×47.°59E, h0km, mb4.1/22, mb1 4.2/27, mb1mx4.1/55, mbtmp4.1/27, ML4.2/4, Error ellipse: s-maj=18.2km s-min=12.6km az=1.0*
*ISN **18** 11:06:52.4±0.8, 32.°64N×47.°68E, h14km±4km, ML4.0*
*TEH **18** 11:06:53.3, 32.°69N×47.°62E, h8km, ML4.3*
*THR **18** 11:06:54.0±0.4, 32.°69N×47.°55E, h14km±4km, ML4.2*
*NEIC **18** 11:06:55.9±2.3, 32.°6N±0.°1×47.°61E±0.°09, h35km±8km, Error ellipse: s-maj=16.1km s-min=9.4km az=199.0*

ISC 18 11:06:53.1±1.2, **32.°66N**±0.°03×**47.°62E**±0.°03, **h12**km±7km, **n243**, **σ1s55**/240, **mb4.5**/78, **24C-15D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.88**	**12**	*e*			11 07 35.0	
IKFM				*e*Pg		**Pg**	**11 07 09.8**	**-0.4**
IKMR	**Kamar-syah**	**1.07**	**36**	*e*Pg		**Pg**	**11 07 13.2**	**-0.5**
IKMR				*e*			11 07 33.4	
SHGR	**Shooshtar-Gavs**	**1.14**	**119**	*e*Pg		**Pn**	**11 07 16.3**	**+1.4**
SHGR				IAML			11 07 57.6	
	comp=E,5μm,0.5s							
SHGR				IAML			11 07 58.2	
	comp=N,5μm,0.8s							
SHGR	**Shooshtar-Gavs**	**1.14**	**119**	*e*Pg		**Pn**	**11 07 16.3**	**+1.4**
IDOB	**Doab**	**1.22**	**22**	*e*Pg		**Pn**	**11 07 16.9**	**+0.7**
BMDN	**Meydan**	**1.43**	**45**	*e*Pg		**Pb**	**11 07 20.0**	**+0.2**
BMDN				*e*			11 07 51.6	
IBDR	**Badra**	**1.49**	**288**	*e*Pg		**Pb**	**11 07 21.0**	**+0.2**
IBDR				*e*Sg		**Sg**	**11 07 41.0**	**-0.1**
IBDR				AML		AML	11 07 46.6	
	comp=N,2μm,0.6s							
IBDR				AML		AML	11 07 46.9	
	comp=E,2μm,0.7s							
IKOM	**Komasi**	**1.51**	**357**	*e*Pg		**Pg**	**11 07 22.0**	**-0.2**
IKOM				*e*			11 07 47.2	
AHWZ	**Ahwaz**	**1.58**	**146**	*e*Pg		**Pg**	**11 07 24.0**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.68**	**343**	*e*Pg		**Pg**	**11 07 24.8**	**-0.6**
KCHF				*e*			11 07 50.6	
HSAM	**Samen**	**1.75**	**28**	*e*Pg		**Pg**	**11 07 26.2**	**-0.6**
HSAM				*e*			11 07 55.1	
KER	**Kermanshah**	**1.77**	**347**	*e*Pg		**Pb**	**11 07 25.8**	**+0.2**
IBZA	**Bozab**	**1.82**	**6**	*e*Pg		**Pg**	**11 07 27.1**	**-0.9**
IBZA				*e*			11 07 58.9	
IGHG	**Ghaleghazi**	**1.88**	**332**	*e*Pn		**Pb**	**11 07 27.5**	**-0.1**
IGHG				*e*			11 08 13.9	
IVIS	**Veis**	**1.97**	**341**	*e*Pn		**Pn**	**11 07 27.5**	**+1.1**
IVIS				*e*			11 07 59.1	
NSR	**Nassriya**	**2.07**	**218**	*e*Pg		**Pn**	**11 07 29.0**	**+1.3**
NSR				*e*Sn		**Sn**	**11 07 54.0**	**+0.5**
KHMZ	**Khomeyn**	**2.24**	**61**	*e*Pn		**Pb**	**11 07 33.5**	**-0.1**
KHMZ	**Khomeyn**	**2.24**	**61**	*e*Pn		**Pb**	**11 07 33.5**	**-0.1**
IALM	**Almabolaq**	**2.24**	**12**	*e*Pn		**Pb**	**11 07 33.1**	**-0.6**
IDHR	**Dehrash**	**2.28**	**333**	*e*Pn		**Pb**	**11 07 33.0**	**-1.3**
IDHR				*e*			11 08 13.8	
ILIN	**Lien**	**2.32**	**346**	*e*Pn		**Pb**	**11 07 33.6**	**-1.4**
ILIN				*e*			11 08 14.7	
SNGE	**Sanandaj**	**2.44**	**355**	*e*Pn		**Pn**	**11 07 34.8**	**+1.9**
SNGE				*e*Sg		**Sg**	**11 08 09.7**	**-1.7**
SNGE	**Sanandaj**	**2.44**	**355**	*e*Pn		**Pn**	**11 07 34.8**	**+1.9**
HAGD	**Aghdareh**	**2.50**	**30**	*e*Pn		**Pb**	**11 07 36.6**	**-1.5**
HAGD				*e*			11 08 22.2	
JHBN	**Jahan bin**	**2.61**	**99**	*e*Pn		**Pn**	**11 07 37.7**	**+2.3**
JHBN				*e*			11 08 26.6	
HSRG	**Sareghieh**	**2.63**	**12**	*e*Pn		**Pb**	**11 07 39.4**	**-1.0**
HSRG				*e*			11 08 22.4	
ASAO	**Ashtian**	**2.75**	**46**	*e*Pn		**Pb**	**11 07 40.4**	**-2.0**
ASAO				*e*Sg		**Sg**	**11 08 20.9**	**-0.7**
ASAO	**Ashtian**	**2.75**	**46**	*e*Pn		**Pb**	**11 07 40.4**	**-2.0**
IPIR	**Pirpir**	**2.76**	**89**	*e*Pn		**Pn**	**11 07 39.9**	**+2.4**
IPIR				*e*			11 08 34.8	
BHD	**Baghdad**	**2.79**	**283**	*e*Pn		**Pn**	**11 07 39.0**	**+1.4**
BHD				*e*Sn		**Sn**	**11 08 14.0**	**+2.8**
BHD				AML		AML	11 08 37.8	
	comp=E,1μm,0.7s							
ROKH	**ROKH**	**2.90**	**95**	*e*Pn		**Pn**	**11 07 41.7**	**+2.3**
ROKH				*e*			11 08 42.4	
IBRJ	**Brojen**	**3.17**	**103**	*e*Pn		**Pn**	**11 07 45.2**	**+2.1**
IRAZ	**Razeghan**	**3.34**	**34**	*e*Pn		**Pn**	**11 07 49.0**	**+3.6**
IKLH	**Kolahrood**	**3.39**	**78**	*e*Pn		**Pn**	**11 07 49.4**	**+3.3**
IKLH				*e*			11 08 58.5	
QABG	**Abgarm-Qazvin**	**3.45**	**28**	*e*Pn		**Pn**	**11 07 49.2**	**+2.3**
IQOM	**Qom**	**3.60**	**52**	*e*Pn		**Pn**	**11 07 51.7**	**+2.6**
IGAR	**Gharneh**	**3.74**	**93**	*e*Pn		**Pn**	**11 07 52.8**	**+1.9**
IGAR				*e*			11 09 07.3	
KLNJ	**Kolanjah**	**3.76**	**115**	*e*Pn		**Pn**	**11 07 53.6**	**+2.3**
IMHD	**Mahdasht**	**3.94**	**39**	*e*Pn		**Pn**	**11 07 55.7**	**+2.2**
IZEF	**Zefreh**	**3.97**	**85**	*e*Pn		**Pn**	**11 07 56.0**	**+1.9**
QSDN	**Sirdan**	**4.04**	**18**	*e*Pn		**Pn**	**11 07 58.1**	**+3.0**
IHSB	**Hasanabad**	**4.11**	**47**	*e*Pn		**Pn**	**11 07 58.3**	**+2.5**
IRAM	**Ramesheh**	**4.12**	**101**	*e*Pn		**Pn**	**11 07 57.8**	**+1.6**
IVRN	**Varamin**	**4.14**	**55**	*e*Pn		**Pn**	**11 07 58.2**	**+2.0**
IGZV	**Ghazvin**	**4.29**	**29**	*e*Pn		**Pn**	**11 08 01.3**	**+2.8**
MAHB	**Mahabad**	**4.39**	**339**	*e*Pn		**Pn**	**11 08 02.1**	**+2.4**
QALM	**Alamut, Qazvin**	**4.51**	**33**	*e*Pn		**Pn**	**11 08 04.2**	**+2.6**
IDMV	**Damavand**	**4.67**	**50**	*e*Pn		**Pn**	**11 08 06.0**	**+2.2**
ISRB	**Sarab**	**5.15**	**0**	*e*Pn		**Pn**	**11 08 13.8**	**+3.5**
ANAR	**Anarak**	**5.16**	**82**	*e*Pn		**Pn**	**11 08 12.0**	**+1.6**
IAZR	**Azarshahr**	**5.18**	**345**	*e*Pn		**Pn**	**11 08 13.1**	**+2.3**
ISAD	**Sadrabad**	**5.19**	**97**	*e*Pn		**Pn**	**11 08 12.3**	**+1.4**
IFIR	**Firoozkooh**	**5.19**	**54**	*e*Pn		**Pn**	**11 08 13.1**	**+2.2**
ILAS	**Lasjerd**	**5.20**	**57**	*e*Pn		**Pn**	**11 08 13.6**	**+2.7**
IPRN	**Peran**	**5.29**	**46**	*e*Pn		**Pn**	**11 08 15.3**	**+3.2**
IALA	**Alasht**	**5.48**	**50**	*e*Pn		**Pn**	**11 08 17.0**	**+2.1**
IHSH	**Hashtrud**	**5.64**	**357**	*e*Pn		Pn	11 08 06.2	-11
ISHM	**Shahmirzad**	**5.65**	**55**	*e*Pn		**Pn**	**11 08 19.5**	**+2.3**
ICHK	**Chekchek**	**5.75**	**92**	*e*Pn		**Pn**	**11 08 21.4**	**+2.9**
IANJ	**Anjilo**	**5.93**	**60**	*e*Pn		**Pn**	**11 08 23.2**	**+2.3**
IMEH	**Mehriz**	**6.07**	**100**	*e*Pn		**Pn**	**11 08 24.1**	**+1.1**
IGLO	**Ghaloghah**	**6.40**	**51**	*e*Pn		**Pn**	**11 08 30.6**	**+3.2**
MARD	**Mardin**	**7.29**	**311**	Pn		**Pn**	**11 08 39.7**	**+0.2**
AKT	**Akhty**	**8.80**	**1**	‖*e*P		**Pn**	**11 09 04.6**	**+4.3**
SBZV	**Sabzevar**	**9.04**	**63**	*e*Pn		**Pn**	**11 09 05.7**	**+2.0**
ASF	**Jabal al Asfar**	**9.08**	**270**	Pn		**Pn**	**11 09 03.6**	**-0.5**
	comp=E,0.5nm,0.3s,baz=45,slow=4.3,SNR=1.3							
ASF				Sn		**Sn**	**11 10 41.5**	**-4.8**
	comp=E,0.7nm,0.3s,baz=41,slow=19,SNR=1.8							
ASF				Lg		Lg	11 11 41.0	
	comp=E,0.3nm,0.3s,baz=200,slow=22,SNR=1.5							
ISFR	**Sfrayin**	**9.59**	**60**	*e*Pn		**Pn**	**11 09 13.7**	**+2.5**
MAK	**Makhachkala**	**10.28**	**360**	‖*e*P		**Pn**	**11 09 22.6**	**+2.2**
UOSS	**Minazif**	**10.75**	**133**	Pn		**Pn**	**11 09 26.5**	**-0.5**
UOSS						**Sn**	**11 11 22.0**	**-5.4**
KBZ	**Khabaz**	**11.65**	**343**	‖*e*P		**Pn**	**11 09 39.8**	**+0.6**
KIV	**Kislovodsk**	**11.92**	**342**	*e*P		Pn	11 09 49.0	+6.0
KIV				pmax	pmax			
	comp=Z,24nm,1.0s							
SOC	**Sochi**	**12.55**	**333**	*e*P		Pn	11 10 02.0	+11
SOC				*e*			11 12 09.9	
SOC				pmax	pmax			
	comp=Z,14nm,0.5s							
BR131	**Keskin Array S**	**13.30**	**306**	‖*e*P		**Pn**	**11 10 02.4**	**+0.5**
BRTR	**Keskin Array B**	**13.30**	**306**	Pn		**Pn**	**11 10 04.5**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=121,slow=12,SNR=5.9							
BRTR	**Keskin Array B**	**13.30**	**306**	*i* P		**Pn**	**11 10 05.5**	**+3.6**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
WSAR	**Wadi Sarin**	**13.51**	**131**	Pn		**Pn**	**11 10 03.5**	**-1.2**
	comp=Z,1.6nm,0.3s,baz=266,slow=11,SNR=7.8							
WSAR				Sn		Sn	11 12 23.9	-11
	comp=Z,0.4nm,0.3s,baz=285,slow=20,SNR=2.9							
ABKAR	**Akbulak array**	**18.97**	**25**	P		**P**	**11 11 14.6**	**+0.4**
IDI	**Anoyia**	**19.03**	**284**	P		**P**	**11 11 15.7**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=72,slow=14,SNR=7.6							
IDI	**Anoyia**	**19.03**	**284**	P		**P**	**11 11 15.3**	**+0.3**
IDI				IAmb	IAmb		11 11 22.9	
	comp=Z,95nm,1.5s							
VRH	**Novokhopyorsk**	**19.03**	**349**	*e*P		**P**	**11 11 14.5**	**-0.3**
VRH				pmax	pmax			
	comp=Z,30nm,1.4s							
ALN	**Alexandroupoli**	**19.11**	**302**	P		**Pn**	**11 11 16.8**	**+0.2**
ALN				pmax	pmax			
	comp=Z,28nm,1.2s							
ALN	**Alexandroupoli**	**19.11**	**302**	P		**Pn**	**11 11 16.8**	**+0.2**
ALN				IAmb	IAmb		11 11 18.2	
	comp=Z,28nm,1.2s							
VORD	**Divnogorie**	**19.29**	**344**	*e*P		**P**	**11 11 15.8**	**-1.9**
VORD				pmax	pmax			
	comp=Z,10.0nm,0.8s							
AKTO	**Aktyubinsk**	**19.35**	**20**	P		**P**	**11 11 18.5**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=207,slow=12,SNR=17							
GAR	**Garm**	**19.44**	**65**	P		**P**	**11 11 20.5**	**+1.0**
GAR				IAmb	IAmb		11 11 25.2	
	comp=Z,25nm,0.9s							
VSR	**Storozhevoye**	**19.55**	**344**	*e*P		**P**	**11 11 19.4**	**-1.2**
VSR				pmax	pmax			
	comp=Z,40nm,1.2s							
CFR	**Carcaliu**	**19.59**	**315**	⇑P		**Pn**	**11 11 22.6**	**+0.3**
CFR	**Carcaliu**	**19.59**	**315**	⇑P		**Pn**	**11 11 22.6**	**+0.3**
ISR	**Istrita**	**20.52**	**313**	⇑P		**P**	**11 11 31.6**	**+0.4**
ISR	**Istrita**	**20.52**	**313**	⇑P		**P**	**11 11 31.6**	**+0.4**
VRI	**Vrincioaia**	**20.79**	**315**	⇓P		**P**	**11 11 35.8**	**+1.6**
VRI	**Vrincioaia**	**20.79**	**315**	⇓P		Pn	11 11 35.8	-0.8
KK31	**Karatay Array**	**20.80**	**53**	P		**P**	**11 11 35.4**	**+1.2**
KK31				pmax	pmax			
	comp=Z,14nm,1.2s							
KK31	**Karatay Array**	**20.80**	**53**	P		**P**	**11 11 35.4**	**+1.2**
KKAR	**Karatay Array**	**20.80**	**53**	P		**P**	**11 11 35.7**	**+1.5**
KKAR				pmax	pmax			
	comp=Z,14nm,1.2s							
KKAR	**Karatay Array**	**20.80**	**53**	P		**P**	**11 11 34.0**	**-0.2**
KKAR	**Karatay Array**	**20.80**	**53**	P		**P**	**11 11 35.7**	**+1.5**
KKAR				IAmb	IAmb		11 11 42.1	
	comp=Z,14nm,1.1s							
PLOR	**Plostina**	**20.83**	**315**	⇑P		Pn	11 11 36.3	-0.7
PLOR	**Plostina**	**20.83**	**315**	⇑P		Pn	11 11 36.3	-0.7
LPSR	**Galich'ya Gora**	**20.90**	**345**	*e*P		**P**	**11 11 33.8**	**-1.4**
LPSR				pmax	pmax			
	comp=Z,80nm,1.3s							
MLR	**Muntele Rosu**	**21.07**	**314**	P		**P**	**11 11 39.6**	**+2.3**
	comp=Z,14nm,0.7s,baz=114,slow=20,SNR=13							
MLR	**Muntele Rosu**	**21.07**	**314**	⇑P		**P**	**11 11 39.3**	**+2.1**
MLR	**Muntele Rosu**	**21.07**	**314**	P		**P**	**11 11 40.7**	**+3.4**
MLR				pmax	pmax			
	comp=Z,17nm,0.7s							
MLR	**Muntele Rosu**	**21.07**	**314**			**P**	**11 11 40.7**	**+3.4**
MLR				IAmb	IAmb		11 11 45.0	
	comp=Z,17nm,0.7s							
TESR	**Tescani**	**21.19**	**317**	⇓P		**P**	**11 11 39.3**	**+0.9**
HUMR	**Humele**	**21.22**	**310**	⇑P		**P**	**11 11 39.4**	**+0.7**
SORM	**Soroca**	**21.23**	**322**	⇑P		**P**	**11 11 40.5**	**+1.8**
SORM	**Soroca**	**21.23**	**322**	⇑P		**P**	**11 11 40.5**	**+1.8**
NIL	**Nilore**	**21.47**	**80**	P		**P**	**11 11 42.3**	**+0.7**
NIL				pmax	pmax			
	comp=Z,45nm,1.1s							
NIL	**Nilore**	**21.47**	**80**	P		**P**	**11 11 42.3**	**+0.7**
OZUR		**21.47**	**315**	⇑P		**P**	**11 11 43.2**	**+1.7**
VOIR		**21.59**	**313**	⇑P		**P**	**11 11 44.6**	**+1.8**
VOIR		**21.59**	**313**	⇑P		**P**	**11 11 44.6**	**+1.8**
DOPR	**Dopca**	**21.65**	**314**	⇓P		**P**	**11 11 44.8**	**+1.4**
KMPD	**K-Podol'skiy**	**22.48**	**321**	P		**P**	**11 11 51.0**	**-1.2**
AKASG	**Malin Array Be**	**22.56**	**328**	P		**P**	**11 11 51.5**	**-1.5**
	comp=Z,1.3nm,0.5s,baz=140,slow=9.1,SNR=10							
AKASG	**Malin Array Be**	**22.56**	**328**	*i* P		**P**	**11 11 54.4**	**+1.4**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**22.56**	**328**	P		**P**	**11 11 51.8**	**-1.2**
AKBB	**Malin Array Si**	**22.56**	**328**	‖*e*P		**P**	**11 11 51.6**	**-1.4**
AKBB	**Malin Array Si**	**22.56**	**328**	P		**P**	**11 11 52.0**	**-1.1**
BURAR	**Bucovina Array**	**22.61**	**318**	⇑P		**P**	**11 11 54.7**	**+0.9**
BURAR	**Bucovina Array**	**22.61**	**318**	⇑P		**P**	**11 11 54.7**	**+0.9**
BURAR	**Bucovina Array**	**22.61**	**318**	P		**P**	**11 11 53.5**	**-0.3**
BUR08	**Bucovina Ar. S**	**22.64**	**318**	P		**P**	**11 11 55.5**	**+1.4**
HORU	**Horodok**	**22.90**	**322**	P		**P**	**11 11 55.2**	**-1.4**
KSV	**Kosov**	**23.09**	**319**	P		**P**	**11 12 00.0**	**+1.4**
AAK	**Ala-Archa**	**23.41**	**57**	P		**P**	**11 12 04.0**	**+2.0**
	comp=Z,1.0nm,0.3s,baz=233,slow=10,SNR=1.7							
AAK	**Ala-Archa**	**23.41**	**57**	‖*e*P		**P**	**11 12 03.3**	**+1.2**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.9s							
AAK	**Ala-Archa**	**23.41**	**57**	P		**P**	**11 12 03.6**	**+1.5**
MDVR	**Moldovita**	**23.45**	**309**	⇑P		**P**	**11 12 03.3**	**+0.9**
OBN	**Obninsk**	**23.76**	**344**	*i* P		**P**	**11 12 04.0**	**-1.2**
OBN				*i*			11 12 09.9	
OBN				pmax	pmax			
	comp=Z,26nm,1.8s							
OBN				MLR	MLR			
	comp=Z,67nm,16.0s							
MOS	**Moscow**	**24.11**	**346**	*e*P		**P**	**11 12 08.4**	**-0.1**
MOS				*e*			11 12 39.7	
MOS				pmax	pmax			
	comp=Z,38nm,0.7s							
TRSU	**Trosnyk**	**24.16**	**317**	P		**P**	**11 12 10.7**	**+1.7**
MORS	**Morshin**	**24.19**	**320**	P		**P**	**11 12 11.0**	**+1.7**
DIVS	**Divibare**	**24.37**	**306**	P		**P**	**11 12 12.1**	**+0.9**
DIVS				IAmb	IAmb		11 12 13.7	
	comp=Z,16nm,1.4s							
ARU	**Arti**	**24.95**	**14**	P		**P**	**11 12 16.9**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=250,slow=3.3,SNR=4.8							
ARU	**Arti**	**24.95**	**14**	*c i*P		**P**	**11 12 16.0**	**-0.1**
ARU				S		**S**	**11 16 40.5**	**+1.2**
ARU				pmax	pmax			
	comp=Z,8.0nm,1.0s							
ARU	**Arti**	**24.95**	**14**	P		**P**	**11 12 16.3**	**+0.1**
ARU				IAmb	IAmb		11 12 20.9	
	comp=Z,6.8nm,0.8s							
KOLS	**Kolonicke sedl**	**24.98**	**318**	*e*P		**P**	**11 12 17.6**	**+1.1**
KOLS				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KOLS	**Kolonicke sedl**	**24.98**	**318**	*e*P		**P**	**11 12 17.6**	**+1.1**
KDJ	**Kajisay**	**25.21**	**59**	P		**P**	**11 12 19.9**	**+1.0**
KDJ				pmax	pmax			
	comp=Z,13nm,1.0s							
KDJ	**Kajisay**	**25.21**	**59**	P		**P**	**11 12 19.9**	**+1.0**
KDJ				IAmb	IAmb		11 12 25.9	
	comp=Z,13nm,1.0s							
CRVS	**Cervenica-Dubn**	**25.42**	**317**	*e*P		**P**	**11 12 22.1**	**+1.5**
CRVS				pmax	pmax			
	comp=Z,44nm,1.5s							
CRVS	**Cervenica-Dubn**	**25.42**	**317**	*e*P		**P**	**11 12 22.1**	**+1.5**
TARG	**Taragay, Kyrgy**	**25.59**	**61**	IAmb		IAmb	11 12 26.4	
	comp=Z,13nm,1.0s							
TIP	**Timpagrande**	**25.75**	**293**	⇑P		**P**	**11 12 24.7**	**+1.0**
TIP	**Timpagrande**	**25.75**	**293**	P		**P**	**11 12 23.0**	**-0.6**
TIP				IAmb	IAmb		11 12 27.2	
	comp=Z,9.0nm,1.0s							
KECS	**Kecovo**	**25.79**	**316**	*e*P		**P**	**11 12 25.4**	**+1.6**
KECS				pmax	pmax			
	comp=Z,20nm,0.7s							
KECS	**Kecovo**	**25.79**	**316**	*e*P		**P**	**11 12 25.4**	**+1.6**
PSZ	**Piszkesteto**	**25.89**	**314**	⇑P		**P**	**11 12 26.6**	**+1.8**
PSZ	**Piszkesteto**	**25.89**	**314**	P		**P**	**11 12 28.0**	**+3.2**
PSZ	**Piszkesteto**	**25.89**

HAU pmax pmax
comp=Z,5.0nm,0.8s
SMF Signal de Mont 36.01 306 *e*P **P 11 13 53.4 -0.7**
SMF pmax pmax
comp=Z,31nm,0.6s
LOR Lormes 36.08 307 *e*P **P 11 13 53.7 -0.9**
LOR pmax pmax
comp=Z,8.0nm,0.8s
AVF Avril sur Loir 36.37 306 *e*P **P 11 13 56.1 -0.9**
AVF pmax pmax
comp=Z,7.0nm,0.8s
NOA NORSAR Array B 36.91 331 P **P 11 14 00.6 -1.0**
comp=Z,0.6nm,0.6s,baz=135,slow=9.0,SNR=2.1
TCF Toulx Ste Croi 37.10 305 *e*P **P 11 14 02.8 -0.5**
TCF pmax pmax
comp=Z,63nm,2.2s
RJF Les Rejaudoux 37.51 303 *e*P **P 11 14 06.5 -0.3**
RJF pmax pmax
comp=Z,6.0nm,0.8s
LDF La Druitiere 38.90 309 *e*P **P 11 14 18.0 -0.5**
LDF pmax pmax
comp=Z,6.0nm,0.8s
ARCES ARCESS Array B 38.96 348 P **P 11 14 18.2 -0.4**
comp=Z,1.0nm,0.4s,baz=157,slow=9.0,SNR=13
ARCES PcP **PcP 11 16 29.0 +0.1**
comp=Z,1.1nm,0.6s,baz=149,slow=4.2,SNR=6.4
ARCES ARCESS Array B 38.96 348 P **P 11 14 17.5 -1.2**
ARE0 ARCESS Array S 38.96 348 P **P 11 14 18.5 -0.2**
FLN La Foliniere 39.16 309 *e*P **P 11 14 19.4 -1.2**
FLN pmax pmax
comp=Z,8.0nm,0.7s
GRR Gorron 39.37 308 *e*P **P 11 14 21.5 -0.9**
GRR pmax pmax
comp=Z,20nm,1.2s
SJPF Ste Jean 39.44 300 *e*P **P 11 14 22.8 -0.3**
SJPF pmax pmax
comp=Z,4.0nm,0.7s
QUIF Quistinic 40.88 307 *e*P **P 11 14 33.7 -1.2**
QUIF pmax pmax
comp=Z,61nm,1.8s
ROSF Rostrenen 40.97 308 *e*P **P 11 14 36.2 +0.5**
ROSF pmax pmax
comp=Z,37nm,1.3s
ESDC Sonseca Array 41.75 295 P **P 11 14 42.5 +0.3**
comp=Z,1.2nm,0.5s,baz=72,slow=6.9,SNR=9.0
DSB Dublin 43.34 315 P **P 11 14 55.6 +0.7**
TORD Torodi Ar. Bea 46.14 256 P **P 11 15 17.2 -0.4**
comp=Z,0.4nm,0.4s,baz=72,slow=6.0,SNR=7.8
TORD Torodi Ar. Bea 46.14 256 IAmb IAmb 11 15 19.4
comp=Z,1.8nm,1.2s
SONM Songino Array 46.25 53 P **P 11 15 19.2 +0.8**
comp=Z,1.6nm,0.7s,baz=279,slow=9.6,SNR=3.8
ULN Ulaanbaatar 46.69 53 ⇓*i*P **P 11 15 23.0 +1.1**
ULN pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 47.98 94 P **P 11 15 32.0 -0.1**
comp=Z,1.4nm,0.5s,baz=290,slow=8.3,SNR=11
CMAR PcP **PcP 11 17 00.8 +0.6**
comp=Z,0.8nm,0.3s,baz=286,slow=4.4,SNR=5.0
KMI Kunming 48.39 84 ⇑P **P 11 15 35.1 -0.4**
KMI pmax pmax
comp=Z,10.0nm,1.2s
XAN Xi'an 50.53 71 P **P 11 15 51.6 +0.1**
XAN pP sP 11 15 59.5 +2.6
XAN pmax pmax
comp=Z,7.0nm,1.0s
BOD Bodaibo 50.61 39 *e*P **P 11 15 51.6 -0.1**
BOD pmax pmax
comp=Z,6.0nm,1.3s
GYA Guiyang 51.17 81 *e*P **P 11 15 56.0 -0.5**
GYA pmax pmax
comp=Z,8.0nm,1.4s
DBIC Dimbokro 55.09 254 P **P 11 16 25.1 -0.2**
comp=Z,1.1nm,0.5s,baz=35,slow=12,SNR=1.3
DBIC Dimbokro 55.09 254 P **P 11 16 25.1 -0.2**
DBIC pmax pmax
comp=Z,19nm,1.5s
KLR Kul'dur 62.47 47 *de*P **P 11 17 16.0 -0.3**
KLR pmax pmax
comp=Z,7.0nm,1.3s
KSRS Korea Array 64.00 61 P **P 11 17 25.6 -0.9**
comp=Z,0.9nm,0.5s,baz=285,slow=7.4,SNR=4.2
SEY Seymchan 67.71 29 *de*P **P 11 17 51.0 +1.0**
YSS Yuzh-Sakhalins 70.15 47 ⇓*e*P **P 11 18 04.0 -1.5**
YSS pmax pmax
comp=Z,14nm,1.7s
ILAR Eielson Array 82.23 6 P **P 11 19 12.6 -1.3**
comp=Z,0.3nm,0.8s,baz=326,slow=4.4,SNR=3.2
FITZ Fitzroy Crossi 89.96 112 P **P 11 19 52.4 -0.3**
comp=Z,1.0nm,0.6s,baz=337,slow=7.7,SNR=1.8
WRA Warramunga Arr 97.86 109 P **P 11 20 27.2 -1.8**
comp=Z,0.3nm,0.7s,baz=317,slow=4.0,SNR=2.3
WRA Warramunga Arr 97.86 109 IAmb IAmb 11 20 36.1
comp=Z,0.1nm,1.2s
ASAR Alice Springs 99.45 112 P **Pdif 11 20 34.5 -1.6**
comp=Z,0.2nm,0.5s,baz=314,slow=5.5,SNR=4.8

*IDC **18** 11:10:07.0±9.7,6.6ˢ65S×129.09E,h193km±100km,mb3.2/1, mb1 3.2/5,mb1mx3.0/43,mbtmp3.7/5,Error ellipse: s-maj=107.2km s-min=29.7km az=48.0*
ISC 18 11:10:05.3±1.0,**6.74S**±0.07×**129.3E**±0.1,**h200**km,**n6,** σ3**s59**/10,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.17**	**19**	S	**Sn**	**11 12 41.9**	**-3.9**
	1.8nm,0.3s,baz=270,slow=23,SNR=1.5						
BATI	**Baumata**	**6.51**	**238**	P	**Pn**	**11 11 40.9**	**+1.6**
	3.9nm,0.3s,baz=329,slow=15,SNR=1.4						
BATI				S	**Sn**	**11 12 51.2**	**-2.6**
	7.9nm,0.3s,baz=128,slow=16,SNR=2.7						
FITZ	**Fitzroy Crossi**	**11.82**	**197**	P	**Pn**	**11 12 49.0**	**+0.9**
	0.2nm,0.3s,baz=18,slow=11,SNR=12						
FITZ				S	**Sn**	**11 14 53.9**	**-6.1**
	0.8nm,0.3s,baz=163,slow=17,SNR=10						
WRA	**Warramunga Arr**	**14.02**	**160**	P	**P**	**11 13 18.0**	**+0.5**
	0.3nm,0.3s,baz=341,slow=13,SNR=26						
WRA				S	**S**	**11 15 49.5**	**-2.3**
	0.3nm,0.3s,baz=332,slow=23,SNR=6.5						
ASAR	**Alice Springs**	**17.41**	**166**	P	**Pn**	**11 14 00.2**	**+3.6**
	0.2nm,0.3s,baz=340,slow=9.8,SNR=15						
ASAR				S	**S**	**11 17 08.3**	**+2.6**
	0.1nm,0.3s,baz=341,slow=26,SNR=2.5						
MKAR	**Makanchi Array**	**67.61**	**327**	P	**P**	**11 20 41.8**	**+1.3**
	0.4nm,0.5s,baz=119,slow=8.2,SNR=3.4						

*TEH **18** 11:15:15.7,32.˚73N×47.˚51E,h9km,ML3.3*
*ISN **18** 11:15:19.6±1.1,32.˚84N×47.˚53E,h26km±7km,ML3.2*
ISC 18 11:15:18.1±1.6,**32.˚77N**±0.˚04×**47.˚60E**±0.˚04,**h11**km±13km, **n23,** σ0**s99**/28,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.78**	**16**	*e*Pg	**Pg**	**11 15 32.7**	**-0.5**
IKFM				*e*	**Sn**	**11 15 47.5**	**+0.7**
IKMR	**Kamar-syah**	**0.99**	**41**	*e*Pg	**Pb**	**11 15 36.0**	**-1.3**
IKMR				*e*		11 16 02.7	
IDOB	**Doab**	**1.12**	**26**	*e*Pg	**Pb**	**11 15 38.3**	**-1.4**
IKOM	**Komasi**	**1.40**	**357**	*e*Pg	**Pn**	**11 15 42.8**	**-1.0**
IKOM				*e*		11 15 44.7	
IBDR	**Badra**	**1.44**	**284**	*e*Pg	**Pn**	**11 15 44.0**	**-0.2**
IBDR				*e*Sg	**Sb**	**11 16 03.0**	**-0.3**
IBDR				AML	AML	11 16 05.5	
	comp=N,360nm,0.6s						
IBDR				AML	AML	11 16 05.9	
	comp=E,451nm,0.6s						
KCHF	**Cheshme Sefid,**	**1.57**	**343**	*e*Pg	**Pn**	**11 15 45.6**	**-0.5**
KCHF				*e*		11 16 12.9	
KER	**Kermanshah**	**1.66**	**347**	*e*Pg	**Pb**	**11 15 47.8**	**-0.9**
HSAM	**Samen**	**1.66**	**30**	*e*Pg	**Pb**	**11 15 48.4**	**-0.6**
HSAM				*e*		11 16 20.5	
IGHG	**Ghaleghazi**	**1.77**	**331**	*e*Pg	**Pb**	**11 15 50.3**	**-0.5**
IGHG				*e*		11 16 20.2	
IVIS	**Veis**	**1.86**	**341**	*e*Pn	**Pn**	**11 15 50.3**	**+0.3**
IVIS				*e*		11 16 21.0	
IALM	**Almabolaq**	**2.14**	**13**	*e*Pn	**Pn**	**11 15 53.9**	**-0.1**
NSR	**Nassriya**	**2.15**	**216**	*e*Pn	**Pb**	**11 15 56.0**	**-1.0**
NSR				*e*Sn	**Sn**	**11 16 21.0**	**+0.5**
IDHR	**Dehrash**	**2.17**	**333**	*e*Pn	**Pn**	**11 15 55.1**	**+0.7**
IDHR				*e*	**Sg**	**11 16 30.1**	**+2.2**
ILIN	**Lien**	**2.21**	**346**	*e*Pn	**Pn**	**11 15 55.6**	**+0.7**
ILIN				*e*		11 16 32.1	
HAGD	**Aghdareh**	**2.42**	**32**	*e*Pn	**Pn**	**11 15 58.4**	**+0.6**
HAGD				*e*		11 16 44.4	
HSRG	**Sareghieh**	**2.53**	**13**	*e*Pn	**Pn**	**11 16 00.8**	**+1.4**
HSRG				*e*		11 16 47.3	
JHBN	**Jahan bin**	**2.65**	**101**	*e*Pn	**Pn**	**11 16 01.0**	**-0.1**
JHBN				*e*		11 16 54.3	
BHD	**Baghdad**	**2.75**	**281**	*e*Pn	**Pn**	**11 16 03.0**	**+0.9**
BHD				*e*Sn	**Sn**	**11 16 35.0**	**-0.3**
IPIR	**Pirpir**	**2.78**	**91**	*e*Pn	**Pn**	**11 16 03.9**	**+1.0**
IPIR				*e*		11 16 51.9	
IRAZ	**Razeghan**	**3.26**	**36**	*e*Pn	**Pn**	**11 16 08.3**	**-1.1**
QABG	**Abgarm-Qazvin**	**3.36**	**29**	*e*Pn	**Pn**	**11 16 11.1**	**+0.3**
IKLH	**Kolahrood**	**3.39**	**80**	*e*Pn	**Pn**	**11 16 12.9**	**+1.7**
IKLH				*e*		11 16 17.4	
QSDN	**Sirdan**	**3.94**	**19**	*e*Pn	**Pn**	**11 16 19.6**	**+0.8**

*MOS **18** 11:22:59.9±1.1,32.˚46N×47.˚57E,h8km,mb5.3/96, MS4.4/29,Error ellipse: s-maj=4.1km s-min=2.8km az=114.2*
*BJI **18** 11:23:00.0±0.0,32.˚50N×47.˚60E,h10km,mB5.3/49, mb5.0/58,Ms5.0/55,Ms7 4.7/53*
*NEIC **18** 11:23:02.8±2.7,32.˚64N±0.˚07×47.˚58E±0.˚07,h10km,Error ellipse: s-maj=11.3km s-min=9.9km az=174.0*
*TEH **18** 11:23:03.7,32.˚76N×47.˚63E,h20km,ML5.0*
*GCMT **18** 11:23:03.2±0.1,32.˚56N±0.˚01×47.˚45E±0.˚01,h12km, MW5.2/140,Moment Tensor Solution. s70,c102; s140,c255; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}6.44±.09; $M_{\theta\theta}$-6.25±.09; $M_{\phi\phi}$-0.19±.09; $M_{r\theta}$3.16±.29; $M_{\theta\phi}$1.28±.07; $M_{\phi r}$-1.57±.31; Best double couple: $M_0$7.37400×10^{16} NP1:ϕ_s274.00000°,δ32.00000°, λ78.00000°. NP2:ϕ_s109.00000°,δ59.00000°,λ97.00000°. Principal axes: T 7.3890, Plg75.0000°, Azm38.0000°; N -0.0370, Plg6.0000°, Azm285.0000°; P -7.3590, Plg14.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **18** 11:23:03.4±1.5,32.˚71N×47.˚59E,h15km±8km,mb4.5/43, mb1 4.6/53,mb1mx4.5/59,mbtmp4.6/53,ML4.1/10, MS4.5/35,Ms1 4.5/35,ms1mx4.3/62 Error ellipse: s-maj=11.1km s-min=9.0km az=166.0*
*THR **18** 11:23:03.9±0.6,32.˚72N×47.˚56E,h14km±8km,ML5.0*
*GII **18** 11:23:04.3±0.0,32.˚53N×47.˚56E,h10km*
*ISN **18** 11:23:04.0±1.6,32.˚72N×47.˚67E,h15km±8km,ML5.0*
*DSN **18** 11:23:05.0±0.7,32.˚46N×47.˚86E,h10km,mb5.4/5,Error ellipse: s-maj=12.2km s-min=6.5km az=54.0*
*OMAN **18** 11:23:10.1±0.2,32.˚15N×47.˚62E,h52km±1km,mb5.8/29, Error ellipse: s-maj=2.8km s-min=1.8km az=320.0*
ISC 18 11:23:03.3±0.6,**32.˚66N**±0.˚02×**47.˚60E**±0.˚02,**h13**km±3km, **n826,** σ1**s96**/896,**mb5.1**/216,**MS4.5**/68,**58C-18D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.89**	**14**	*e*Pg	**Pg**	**11 23 18.5**	**-2.0**
IKMR	**Kamar-syah**	**1.08**	**37**	*e*Pg	**Pb**	**11 23 22.0**	**-1.9**
IKMR				*e*		11 23 48.7	
SHGR	**Shooshtar-Gavs**	**1.16**	**118**	*e*Pg	**Pg**	**11 23 26.5**	**+1.0**
SHGR				*e*Sg	**Sn**	**11 23 42.9**	**+2.1**
SHGR				IAML		11 23 49.1	
	comp=E,28μm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.16**	**118**	*e*Pg	**Pg**	**11 23 26.5**	**+1.0**
IDOB	**Doab**	**1.23**	**23**	*e*Pg	**Pn**	**11 23 25.2**	**-1.2**
BMDN	**Meydan**	**1.45**	**45**	*e*Pg	**Pn**	**11 23 29.8**	**+0.5**
BMDN				*e*		11 23 59.0	
IBDR	**Badra**	**1.47**	**288**	*e*Pg	**Pg**	**11 23 31.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**11 23 52.0**	**+1.2**
IBDR				AML	AML	11 23 56.1	
	comp=E,23μm,0.9s						
IBDR				AML	AML	11 23 56.5	
	comp=N,23μm,0.8s						
IKOM	**Komasi**	**1.52**	**357**	*e*Pg	**Pb**	**11 23 31.0**	**-0.4**
IKOM				*e*		11 24 00.9	
AHWZ	**Ahwaz**	**1.59**	**146**	*e*Pg	**Pg**	**11 23 34.7**	**+0.9**
KCHF	**Cheshme Sefid,**	**1.68**	**344**	*e*Pg	**Pn**	**11 23 33.1**	**+0.5**
KCHF				*e*		11 24 00.9	
HSAM	**Samen**	**1.77**	**28**	*e*Pg	**Pb**	**11 23 35.3**	**-0.4**
HSAM				*e*		11 24 06.0	
KER	**Kermanshah**	**1.77**	**347**	P	**Pb**	**11 23 36.1**	**+0.4**
KER	**Kermanshah**	**1.77**	**347**	*e*Pn	**Pb**	**11 23 35.6**	**-0.1**
IBZA	**Bozab**	**1.82**	**7**	*e*Pg	**Pb**	**11 23 35.8**	**-0.9**
IBZA				*e*		11 24 13.0	
IGHG	**Ghaleghazi**	**1.88**	**333**	*e*Pn	**Pn**	**11 23 36.3**	**+1.0**
IGHG				*e*		11 24 19.9	
IVIS	**Veis**	**1.97**	**342**	*e*Pn	**Pn**	**11 23 36.5**	**0.0**
IVIS				*e*		11 24 14.4	
NSR	**Nassriya**	**2.06**	**217**	*e*Pn	**Pb**	**11 23 41.0**	**+0.5**
NSR				*e*Sn	**Sb**	**11 24 06.0**	**+0.1**
IALM	**Almabolaq**	**2.25**	**12**	*e*Pn	**Pn**	**11 23 41.8**	**+1.3**
KHMZ	**Khomeyn**	**2.26**	**61**	*e*Pn	**Pb**	**11 23 43.4**	**-0.6**
KHMZ	**Khomeyn**	**2.26**	**61**	*e*Pn	**Pb**	**11 23 43.4**	**-0.6**
IDHR	**Dehrash**	**2.27**	**334**	*e*Pn	**Pn**	**11 23 41.4**	**+0.6**
IDHR				*e*		11 24 26.3	
ILIN	**Lien**	**2.32**	**347**	*e*Pn	**Pn**	**11 23 42.2**	**+0.8**
ILIN				*e*		11 24 26.1	
SNGE	**Sanandaj**	**2.44**	**355**	*e*Pn	**Pn**	**11 23 44.3**	**+1.3**
SNGE	**Sanandaj**	**2.44**	**355**	*e*Pn	**Pn**	**11 23 44.3**	**+1.3**
HAGD	**Aghdareh**	**2.51**	**30**	*e*Pn	**Pn**	**11 23 45.0**	**+0.9**
HAGD				*e*		11 24 41.5	
JHBN	**Jahan bin**	**2.63**	**98**	*e*Pn	**Pn**	**11 23 46.8**	**+1.1**
JHBN				*e*		11 24 37.3	
HSRG	**Sareghieh**	**2.64**	**12**	*e*Pn	**Pn**	**11 23 47.6**	**+1.7**
HSRG				*e*		11 24 40.0	
ASAO	**Ashtian**	**2.77**	**46**	*e*Pn	**Pn**	**11 23 50.1**	**+2.5**
ASAO				*e*Sg	**Sg**	**11 24 30.0**	**-2.3**
ASAO	**Ashtian**	**2.77**	**46**	*e*Pn	**Pn**	**11 23 50.1**	**+2.5**
BHD	**Baghdad**	**2.77**	**284**	*e*Pn	**Pb**	**11 23 50.0**	**-2.7**
BHD				*e*Sn	**Sb**	**11 24 25.0**	**-1.6**
IPIR	**Pirpir**	**2.78**	**89**	*e*Pn	**Pn**	**11 23 49.3**	**+1.5**
IPIR				*e*		11 24 36.0	
ROKH	**ROKH**	**2.92**	**95**	*e*Pn	**Pn**	**11 23 51.2**	**+1.5**
ROKH				*e*		11 24 48.8	
IBRJ	**Brojen**	**3.19**	**103**	*e*Pn	**Pn**	**11 23 54.4**	**+1.0**
IRAZ	**Razeghan**	**3.36**	**35**	*e*Pn	**Pn**	**11 23 59.1**	**+3.5**
IKLH	**Kolahrood**	**3.41**	**78**	*e*Pn	**Pn**	**11 23 57.3**	**+0.9**
IKLH				*e*		11 24 58.1	
QABG	**Abgarm-Qazvin**	**3.46**	**28**	*e*Pn	**Pn**	**11 23 58.0**	**+0.9**
IQOM	**Qom**	**3.62**	**52**	*e*Pn	**Pn**	**11 24 00.8**	**+1.4**
IGAR	**Gharneh**	**3.76**	**93**	*e*Pn	**Pn**	**11 24 02.2**	**+1.0**
IGAR				*e*		11 25 14.3	
KLNJ	**Kolanjah**	**3.78**	**115**	*e*Pn	**Pn**	**11 24 02.7**	**+1.2**
KLNJ				*e*		11 25 28.4	
IMHD	**Mahdasht**	**3.95**	**39**	*e*Pn	**Pn**	**11 24 04.5**	**+0.8**
IZEF	**Zefreh**	**3.99**	**85**	*e*Pn	**Pn**	**11 24 05.9**	**+1.5**
IZEF				*e*		11 25 21.0	
IHSB	**Hasanabad**	**4.13**	**47**	*e*Pn	**Pn**	**11 24 07.5**	**+1.4**
IRAM	**Ramesheh**	**4.14**	**100**	*e*Pn	**Pn**	**11 24 07.3**	**+0.9**
IVRN	**Varamin**	**4.16**	**55**	*e*Pn	**Pn**	**11 24 08.0**	**+1.5**
IGZV	**Ghazvin**	**4.30**	**29**	*e*Pn	**Pn**	**11 24 09.7**	**+1.0**
MAHB	**Mahabad**	**4.39**	**340**	*e*Pn	**Pn**	**11 24 10.5**	**+0.8**
QALM	**Alamut, Qazvin**	**4.53**	**33**	*e*Pn	**Pn**	**11 24 13.9**	**+2.1**
KAZ1	**Kazerun**	**4.60**	**130**	*e*Pn	**Pn**	**11 24 14.4**	**+1.8**
IDMV	**Damavand**	**4.69**	**50**	*e*Pn	**Pn**	**11 24 14.8**	**+0.7**
ANAR	**Anarak**	**5.18**	**82**	*e*Pn	**Pn**	**11 24 21.0**	**+0.3**
IAZR	**Azarshahr**	**5.18**	**346**	*e*Pn	**Pn**	**11 24 20.8**	**0.0**
ISAD	**Sadrabad**	**5.21**	**97**	*e*Pn	**Pn**	**11 24 22.1**	**+0.9**
IFIR	**Firoozkooh**	**5.21**	**54**	*e*Pn	**Pn**	**11 24 21.8**	**+0.6**
ILAS	**Lasjerd**	**5.22**	**57**	*e*Pn	**Pn**	**11 24 22.8**	**+1.6**
IALA	**Alasht**	**5.50**	**50**	*e*Pn	**Pn**	**11 24 26.3**	**+1.1**
IHSH	**Hashtrud**	**5.65**	**357**	*e*Pn	**Pn**	**11 24 15.0**	**-12**
IHRS	**Heris**	**5.67**	**356**	*e*Pn	**Pn**	**11 24 29.6**	**+2.2**
ICHK	**Chekchek**	**5.77**	**92**	*e*Pn	**Pn**	**11 24 29.2**	**+0.3**
IANJ	**Anjilo**	**5.95**	**60**	*e*Pn	**Pn**	**11 24 31.5**	**+0.3**
IMEH	**Mehriz**	**6.09**	**100**	*e*Pn	**Pn**	**11 24 33.5**	**+0.3**
LKRN	**Lenkeran, Azer**	**6.12**	**9**	P	**Pn**	**11 24 36.1**	**+2.8**
IGLO	**Ghaloghah**	**6.42**	**52**	*e*Pn	**Pn**	**11 24 39.8**	**+2.1**
NAX	**Nakhchivan**	**6.72**	**346**	P	**Pn**	**11 24 46.4**	**+4.6**
GEVA	**Gevas**	**6.75**	**328**	Pn	**Pn**	**11 24 43.7**	**+1.5**
IBAF	**Bafgh**	**6.84**	**97**	*e*Pn	**Pn**	**11 24 44.6**	**+1.1**
MARD	**Mardin**	**7.27**	**312**	Pn	**Pn**	**11 24 48.4**	**-1.0**
LAR1	**LAR**	**7.69**	**129**	*e*Pn	**Pn**	**11 24 55.2**	**+0.2**
IMND	**Minoodasht**	**7.88**	**52**	*e*Pn	**Pn**	**11 24 57.0**	**-0.6**
KHGB	**Koh Gabri**	**7.91**	**104**	*e*Pn	**Pn**	**11 24 58.1**	**-0.2**
GANJ	**Ganja**	**8.04**	**353**	P	**Pn**	**11 25 03.9**	**+4.1**
SEKA	**Sheki**	**8.54**	**358**	P	**Pn**	**11 25 10.2**	**+3.5**
AKT	**Akhty**	**8.81**	**1**	⇑*i*P	**Pn**	**11 25 13.2**	**+2.8**
JRN	**Qarnain Island**	**8.96**	**148**	*e*Pn	**Pn**	**11 25 13.4**	**+1.0**
ASF	**Jabal al Asfar**	**9.06**	**270**	Pn	**Pn**	**11 25 11.8**	**-2.0**
	comp=N,3.1nm,0.3s,baz=2.9,slow=0.8,SNR=21						
ASF				Sn	**Sn**	**11 26 50.8**	**-5.0**
	comp=N,5.6nm,0.3s,baz=23,slow=14,SNR=3.5						
ASF				Lg	Lg	11 27 46.5	
	comp=N,3.4nm,0.3s,baz=210,slow=20,SNR=2.7						
GENO	**Geno**	**9.09**	**123**	*e*Pn	**Pn**	**11 25 14.3**	**-0.1**
LGD	**Lagodekhi**	**9.23**	**354**	P	**Pn**	**11 25 20.6**	**+4.6**
SLWR	**Sila**	**9.28**	**156**	*e*Pn	**Pn**	**11 25 17.7**	**+0.9**
AKH	**Akhalkalaki**	**9.33**	**341**	P	**Pn**	**11 25 19.6**	**+1.9**
AKH	**Akhalkalaki**	**9.33**	**341**	Pn	**Pn**	**11 25 19.6**	**+1.9**
TBLG	**Delisi**	**9.34**	**347**	P	**Pn**	**11 25 16.8**	**-0.8**
TBLG	**Delisi**	**9.34**	**347**	Pn	**Pn**	**11 25 16.8**	**-0.8**
MALT	**Malatya**	**9.37**	**310**	P	**Pn**	**11 25 20.4**	**+2.3**
AFRZ	**Afriz**	**9.62**	**82**	*e*Pn	**Pn**	**11 25 22.5**	**+1.0**
IKOO	**Kooshah**	**9.63**	**88**	*e*Pn	**Pn**	**11 25 21.8**	**-0.1**
GAZ	**Gaziantep**	**9.64**	**301**	Pn	**Pn**	**11 25 18.5**	**-3.3**
IKRD	**Kardeh**	**9.88**	**62**	*e*Pn	Pn	11 25 36.6	+11
KEMA	**Kemaliye**	**9.89**	**314**	*e*Pn	**Pn**	**11 25 26.4**	**+1.1**
KHNJ	**Kahnooj**	**9.91**	**116**	*e*Pn	**Pn**	**11 25 26.8**	**+1.3**
SHME	**Shamm**	**9.94**	**129**	*i*P	**Pn**	**11 25 24.6**	**-1.3**
	SNR=13						
SHME				S	**Sn**	**11 27 14.0**	**-3.4**
NATI	**Neve Ativ**	**9.98**	**277**	Pn	**Pn**	**11 25 26.5**	**+0.1**
IAKL	**Akhelmad**	**10.00**	**64**	*e*Pn	**Pn**	**11 25 27.0**	**+0.1**
GEYT	**Alibeck**	**10.08**	**56**	Pn	**Pn**	**11 25 29.3**	**+1.5**
	comp=N,0.6nm,0.3s,baz=248,slow=11,SNR=27						
GEYT				Lg	Lg	11 28 25.4	
	comp=N,0.3nm,0.3s,baz=232,slow=27,SNR=2.1						
GEYT	**Alibeck**	**10.08**	**56**		**Pn**	**11 25 30.4**	**+2.7**
GYA0B	**ALIBECK ARRAY**	**10.08**	**56**		**Pn**	**11 25 31.2**	**+3.5**
BANOM	**Banah**	**10.13**	**129**	*i*P	**Pn**	**11 25 26.6**	**-1.9**
	SNR=43						
BANOM				S	**Sn**	**11 27 16.6**	**-5.4**
BANOM	**Banah**	**10.13**	**129**	P	**Pn**	**11 25 29.1**	**+0.6**
	SNR=43						
BANOM				S	**Sn**	**11 27 17.1**	**-5.0**
QRNJ	**Al-Qirein**	**10.16**	**271**	Pn	**Pn**	**11 25 30.2**	**+1.4**
IEMG	**Emamgholi**	**10.23**	**59**	*e*Pn	**Pn**	**11 25 32.3**	**+2.2**
MMAI	**Mount Meron Ar**	**10.27**	**275**	Pn	**Pn**	**11 25 30.1**	**-0.2**
	comp=N,1.9nm,0.3s,baz=91,slow=15,SNR=7.8						
MMAI				Sn	**Sn**	**11 27 24.1**	**-1.3**
	comp=N,3.6nm,0.3s,baz=93,slow=23,SNR=1.8						
MMAI				Lg	Lg	11 28 28.0	
	comp=N,3.3nm,0.3s,baz=95,slow=32,SNR=4.0						
MMAI				LR	LR	11 30 45.2	
	comp=N,253nm,18.9s,baz=25,slow=45						
MMLI	**Mount Malkishu**	**10.28**	**272**	Pn	**Pn**	**11 25 32.2**	**+1.7**
MAK	**Makhachkala**	**10.29**	**360**	*e*P	**Pn**	**11 25 28.1**	**-2.4**
MAK				*e*S	**Sn**	**11 27 24.2**	**-1.5**
MAK				pmax	pmax		
	comp=Z,907nm,1.6s						
MAK				MLR	MLR		
	comp=Z,5μm,17.0s						
GHAJ	**Ghor Haditha**	**10.31**	**266**	Pn	**Pn**	**11 25 31.7**	**+0.9**
NAZ	**Nazwa, Dubai**	**10.40**	**135**	*i*P	**Pn**	**11 25 31.6**	**-0.6**
	SNR=33						
NAZ	**Nazwa, Dubai**	**10.40**	**135**	P	**Pn**	**11 25 33.2**	**+0.9**
	SNR=33						
NAZ				S	**Sn**	**11 27 24.6**	**-4.2**
	SNR=13						
DSI	**Dead Sea**	**10.42**	**267**	Pn	**Pn**	**11 25 33.4**	**+1.0**
MSFE	**Esma-Masafi**	**10.44**	**132**	*i*P	**Pn**	**11 25 31.6**	**-1.1**
	SNR=10						
ONI	**Oni**	**10.45**	**343**	P	**Pn**	**11 25 37.0**	**+4.2**
ZEI	**Tsey**	**10.53**	**345**	*e*P	**Pn**	**11 25 38.5**	**+4.4**
ZEI				pmax	pmax		
	comp=Z,48nm,1.1s						
FAQ	**Al Faqa, Dubai**	**10.55**	**136**	P	**Pn**	**11 25 35.4**	**+1.2**
	SNR=5.1						
FAQ				S	**Sn**	**11 27 28.1**	**-4.2**
MDH	**Madha**	**10.57**	**132**	P	**Pn**	**11 25 32.6**	**-1.9**
MDH	**Madha**	**10.57**	**132**	P	**Pn**	**11 25 35.2**	**+0.7**
MDH				S	**Sn**	**11 27 25.9**	**-6.9**
UOSS	**Minazif**	**10.77**	**133**	*i*P	**Pn**	**11 25 35.9**	**-1.3**
	SNR=7.1						
UOSS	**Minazif**	**10.77**	**133**	P	**Pn**	**11 25 37.3**	**0.0**
UOSS				S	**Sn**	**11 27 29.1**	**-8.5**
UOSS	**Minazif**	**10.77**	**133**	Pn	**Pn**	**11 25 37.2**	**0.0**
HATD	**Hatta, Dubai**	**10.81**	**134**	*i*P	**Pn**	**11 25 36.6**	**-1.2**
	SNR=12						
HATD	**Hatta, Dubai**	**10.81**	**134**	P	**Pn**	**11 25 38.5**	**+0.7**
	SNR=6.9						
HATD				S	**Sn**	**11 27 34.9**	**-3.8**
	SNR=8.0						
ASHO	**Ashiyiah**	**10.87**	**135**	*i*P	**Pn**	**11 25 37.3**	**-1.3**
	SNR=26						
ASHO	**Ashiyiah**	**10.87**	**135**	P	**Pn**	**11 25 39.0**	**+0.3**
	SNR=27						
ASHO				S	**Sn**	**11 27 36.2**	**-4.0**
	SNR=9.7						
PRNI	**

WSAR Wadi Sarin 13.52 131 Pn **Pn** **11 26 13.3 -1.5**
comp=Z,6.6nm,0.3s,baz=340,slow=6.7,SNR=32
WSAR Sn Sn 11 28 35.0 -10
comp=Z,1.8nm,0.3s,baz=0.0,slow=20,SNR=2.4
WSAR LR LR 11 32 14.0
comp=Z,3μm,21.0s,baz=323,slow=41
WSAR Wadi Sarin 13.52 131 P **Pn** **11 26 13.4 -1.5**
SNR=24
JMDO Jabal Madar 13.84 135 P **Pn** **11 26 18.7 -0.5**
SNR=6.5
WBK Wadi Bani Khal 14.19 132 P **Pn** **11 26 24.0 -0.1**
SNR=14
WBK S **Sn** **11 28 58.2 -3.3**
ANN Anapa 14.47 330 *e*P **Pn** **11 26 29.7 +1.9**
ANN *e*S **Sn** **11 29 16.0 +8.0**
ANN pmax pmax
comp=Z,141nm,1.6s
ANN MLR MLR
comp=N,3μm,14.0s
ANN MLR MLR
comp=Z,2μm,16.0s
ANN MLR MLR
comp=E,1μm,11.0s
JLN Jalan Bani Buh 14.80 132 P **Pn** **11 26 30.1 -2.3**
MHTO MHTO 14.85 139 P **Pn** **11 26 31.0 -2.0**
SNR=27
MHTO S **Sn** **11 29 10.1 -7.2**
SNR=14
ELL Elmali 15.11 291 P **P** **11 26 43.0 +1.2**
ELL pmax pmax
comp=Z,307nm,1.4s
ELL Elmali 15.11 291 P **P** **11 26 43.0 +1.2**
MDUB Mudurnu 15.30 305 P **P** **11 26 45.5 +1.7**
DQM DQM 15.48 143 P **Pn** **11 26 38.9 -2.6**
SNR=19
DQM S Sn 11 29 21.3 -12
ABTO Aybut 16.08 160 P **Pn** **11 26 45.8 -3.5**
SNR=31
ABTO S **Sn** **11 29 39.1 -8.4**
SNR=5.5
SIM Simferopol' 16.13 323 *e*P **Pn** **11 26 48.2 -1.5**
SIM *e*S **Sn** **11 29 47.0 -1.4**
SIM pmax pmax
comp=Z,500nm,3.6s
RBK Rabkut 16.22 157 P **Pn** **11 26 47.4 -3.6**
SNR=13
SHAO Shalim 16.27 152 *i* P **Pn** **11 26 48.3 -3.2**
SNR=10.0
SHAO Shalim 16.27 152 P **Pn** **11 26 48.3 -3.2**
SNR=10
SHAO S **Sn** **11 29 43.7 -8.3**
DMTO DMTO 16.29 154 P **Pn** **11 26 48.4 -3.3**
SNR=24
DMTO S **Sn** **11 29 43.1 -9.3**
SNR=9.4
YER Yerkesik 16.46 291 P **P** **11 26 57.0 +0.3**
MANT Manisa 16.54 296 P **P** **11 26 57.2 -0.5**
MANT IAmb IAmb 11 27 46.1
comp=Z,231nm,0.8s
AYDN Tasoluk 16.87 293 IAML 11 27 15.0
comp=E,491nm,0.5s
AYDN Tasoluk 16.87 293 *i* P **Pn** **11 26 58.4 -0.8**
AYDN Tasoluk 16.87 293 IAML 11 27 14.0
comp=N,1μm,0.5s
KBL Kabul 17.96 78 P **P** **11 27 15.3 +1.8**
SNR=38
KBL Kabul 17.96 78 P **P** **11 27 14.1 +0.6**
KBL pmax pmax
comp=Z,69nm,1.1s
KBL Kabul 17.96 78 **P** **11 27 14.1 +0.6**
CHGR Chuyangaron 18.50 65 P **P** **11 27 19.3 +0.1**
APE Apeiranthos 18.63 290 ⇑P **P** **11 27 20.0 -0.6**
ABKAR Akbulak array 18.98 26 P **P** **11 27 23.9 -0.5**
ABKAR Akbulak array 18.98 26 P **Pn** **11 27 24.9 -0.2**
ABKAR IAmb IAmb 11 27 30.6
comp=Z,31nm,0.7s
IDI Anoyia 19.01 284 P **Pn** **11 27 25.7 +0.1**
comp=Z,4.6nm,0.3s,baz=132,slow=8.5,SNR=15
IDI Anoyia 19.01 284 ⇓P **Pn** **11 27 25.8 +0.2**
IDI Anoyia 19.01 284 P **Pn** **11 27 26.4 +0.9**
TIRR Tirgusor 19.03 314 ⇓P **Pn** **11 27 25.5 -0.1**
TIRR Tirgusor 19.03 314 P **Pn** **11 27 25.8 +0.2**
TIRR pmax pmax
comp=Z,58nm,0.8s
TIRR Tirgusor 19.03 314 P **Pn** **11 27 25.8 +0.2**
TIRR Tirgusor 19.03 314 *e*P **P** **11 27 23.8 -1.1**
VRH Novokhopyorsk 19.03 349 *e*P **P** **11 27 23.4 -1.4**
VRH *e*S **Sn** **11 30 52.6 -5.8**
VRH pmax pmax
comp=Z,30nm,0.5s
VRH smax smax
comp=E,220nm,7.2s
VRH MLR MLR
comp=Z,2μm,15.0s
PRD Provadia 19.05 309 *e*P **P** **11 27 25.1 0.0**
ALN Alexandroupoli 19.09 302 P **Pn** **11 27 26.7 +0.3**
ALN pmax pmax
comp=Z,241nm,1.9s
ALN Alexandroupoli 19.09 302 P **Pn** **11 27 26.7 +0.3**
ALN IAmb IAmb 11 27 30.4
comp=Z,242nm,1.9s
NEF NEVSHA 19.16 309 *e*P **Pn** **11 27 28.2 +0.9**
TOPG Topolog 19.27 315 ⇓P **Pn** **11 27 29.2 +0.6**
VORD Divnogorie 19.29 344 *e*P **Pn** **11 27 29.6 +0.9**
VORD pmax pmax
comp=Z,50nm,0.4s
AKTO Aktyubinsk 19.37 20 P **P** **11 27 28.6 0.0**
comp=Z,1.5nm,0.3s,baz=204,slow=11,SNR=84
AKTO ScP **ScP** **11 35 24.5 -1.3**
comp=Z,0.1nm,0.3s,baz=140,slow=4.8,SNR=4.8
AKTO LR LR 11 37 31.7
comp=Z,2μm,18.5s,baz=194,slow=45
AKTO Aktyubinsk 19.37 20 P **Pn** **11 27 29.6 -0.1**
HARR Harsova 19.44 314 ⇑P **P** **11 27 29.9 +0.5**
HARR Harsova 19.44 314 ⇑P **P** **11 27 29.9 +0.5**
GAR Garm 19.46 65 P **Pn** **11 27 31.2 +0.2**
GAR IAmb IAmb 11 27 34.7
comp=Z,346nm,1.8s
VSR Storozhevoye 19.55 344 *e*P **P** **11 27 29.9 -0.7**
VSR *e*S **S** **11 31 02.2 -8.8**
VSR pmax pmax
comp=Z,80nm,0.4s
VSR smax smax
comp=N,460nm,9.0s
VSR MLR MLR
comp=Z,2μm,13.0s
CFR Carcaliu 19.58 315 ⇑P **Pn** **11 27 31.8 -0.4**
CFR Carcaliu 19.58 315 ⇑P **Pn** **11 27 31.8 -0.4**
KDZ Kurdzhali 19.79 303 *e*P **P** **11 27 33.6 +0.4**
VORR Voronezh 19.97 345 *e*P **Pn** **11 27 37.0 +0.2**
VORR pmax pmax
comp=Z,750nm,1.6s
IUG Iuzhnay 20.14 56 *i* P **P** **11 27 37.8 +0.6**
comp=Z,193nm,1.9s,baz=56
IUG *e*S **S** **11 31 24.4 +1.3**
baz=56
IUG LR LR 11 36 16.9
comp=Z,301nm,11.5s,baz=56
IUG Iuzhnay 20.14 56 *i* P **P** **11 27 37.7 +0.6**
IUG *e*S **S** **11 31 24.3 +1.3**
IUG pmax pmax
comp=Z,193nm,1.9s
IUG MLR MLR
comp=Z,301nm,12.0s
KIS Kishinev 20.25 320 ⇑*i*P **P** **11 27 37.0 -1.3**
comp=Z,500nm,4.0s
KIS Kishinev 20.25 320 LRM MLR 11 36 33.0
comp=Z,330nm,19.0s
KIS Kishinev 20.25 320*c i*P **P** **11 27 37.0 -1.3**
KIS *i* 11 27 56.0
KIS *i* 11 28 07.0
KIS *i* S **S** **11 31 18.0 -7.1**
KIS *i* 11 31 21.0
KIS pmax pmax
comp=Z,500nm,4.0s
KIS pmax pmax
comp=E,560nm,8.0s
KIS Kishinev 20.25 320 *i* PP Pn 11 28 07.0 +27
KIS Kishinev 20.25 320 *i* S **S** **11 31 18.0 -7.1**
comp=E,560nm,8.0s
KIS Kishinev 20.25 320 *e*Lg Lg 11 35 09.0
comp=E,500nm,24.0s
PLD Plovdiv 20.44 304 P **P** **11 27 41.0 +0.7**
ISR Istrita 20.51 313 ⇑P Pn 11 27 42.3 -1.0
ISR Istrita 20.51 313 ⇑P Pn 11 27 42.3 -1.0

VASR Vaslui 20.60 318 ⇓P Pn 11 27 43.3 -1.0
VRI Vrincioaia 20.78 315 ⇑P **P** **11 27 44.9 +0.8**
VRI Vrincioaia 20.78 315 ⇑P **P** **11 27 44.9 +0.8**
KK31 Karatay Array 20.82 53 *i* P **P** **11 27 44.1 -0.3**
KK31 Karatay Array 20.82 53 P **P** **11 27 45.0 +0.6**
KK31 IAmb IAmb 11 27 51.5
comp=Z,346nm,1.9s
KKAR Karatay Array 20.82 53 P **P** **11 27 44.4 0.0**
KKAR pmax pmax
comp=Z,346nm,2.0s
KKAR Karatay Array 20.82 53 P **P** **11 27 44.7 +0.3**
KKAR IAmb IAmb 11 27 51.5
comp=Z,346nm,1.9s
KKAR Karatay Array 20.82 53 P **P** **11 27 44.4 0.0**
PLOR Plostina 20.82 315 ⇑P Pn 11 27 46.2 -0.7
PLOR Plostina 20.82 315 ⇑P **Pn** 11 27 46.2 -0.7
LPSR Galich'ya Gora 20.90 345 *e*P **P** **11 27 44.0 -1.2**
LPSR *e*S **S** **11 31 31.6 -6.2**
LPSR pmax pmax
comp=Z,610nm,1.3s
LPSR smax smax
comp=E,540nm,7.8s
LPSR MLR MLR
comp=Z,650nm,10.0s
SRS Serrai 20.93 301 P **P** **11 27 46.4 +0.7**
SRS pmax pmax
comp=Z,40nm,1.6s
MMB Musomiste 20.97 302 P **P** **11 27 46.4 +0.3**
MMB Musomiste 20.97 302 *e*P **P** **11 27 44.9 -1.2**
PGB Panagyurishte 20.97 305 *e*P **P** **11 27 46.2 +0.1**
SOH Sokhos 21.02 300 P **P** **11 27 48.0 +1.3**
SOH pmax pmax
comp=Z,31nm,1.9s
MLR Muntele Rosu 21.06 314 P **P** **11 27 48.5 +1.3**
comp=Z,35nm,1.1s,baz=90,slow=5.9,SNR=19
MLR LR LR 11 38 06.2
comp=Z,1μm,19.5s,baz=116,slow=43
MLR Muntele Rosu 21.06 314 ⇑P **P** **11 27 49.4 +2.2**
MLR Muntele Rosu 21.06 314 ⇑P **P** **11 27 49.4 +2.2**
MLR Muntele Rosu 21.06 314 P **P** **11 27 49.0 +1.9**
MLR IAmb IAmb 11 27 55.0
comp=Z,79nm,0.8s
TESR Tescani 21.18 317 ⇑P **P** **11 27 49.2 +0.9**
SOCY Socotra 21.20 162 P **P** **11 27 47.5 -1.3**
SORM Soroca 21.22 322 ⇑P **P** **11 27 47.9 -0.7**
THE Thessaloniki 21.26 299 P **P** **11 27 50.4 +1.2**
THE pmax pmax
comp=Z,30nm,1.7s
DZA Taraz 21.30 55 *e*P **P** **11 27 50.3 +0.6**
baz=55
DZA *e*S **S** **11 31 47.2 +1.2**
baz=55
DZA LR LR 11 36 29.7
comp=Z,160nm,9.3s,baz=55
DZA Taraz 21.30 55 *e*P **P** **11 27 50.2 +0.6**
DZA *e*S **S** **11 31 47.2 +1.2**
DZA MLR MLR
comp=Z,160nm,9.0s
AGG Agios Georgios 21.41 294 P **P** **11 27 51.6 +0.7**
AGG pmax pmax
comp=Z,49nm,1.0s
AGG Agios Georgios 21.41 294 P **P** **11 27 51.5 +0.7**
OZUR 21.46 315 ⇑P **P** **11 27 52.3 +0.9**
ATD Arta Tunnel 21.48 193 P **P** **11 27 55.1 +3.4**
comp=Z,20nm,0.7s,baz=25,slow=4.2,SNR=7.5
ATD LR LR 11 36 59.9
comp=Z,3μm,19.3s,baz=11,slow=39
ATD Arta Tunnel 21.48 193 IAmb IAmb 11 28 07.3
comp=Z,108nm,1.4s
ATD Arta Tunnel 21.48 193 *e*P **P** **11 27 48.8 -2.9**
ATD *e*S Sn 11 31 55.1 -2.7
MTUR Matau 21.48 312 ⇑P **P** **11 27 53.0 +1.4**
MTUR Matau 21.48 312 ⇑P **P** **11 27 53.0 +1.4**
NIL Nilore 21.49 80 P **P** **11 27 52.9 +1.1**
NIL pmax pmax
comp=Z,156nm,1.2s
NIL Nilore 21.49 80 P **P** **11 27 52.9 +1.1**
NIL IAmb IAmb 11 28 23.3
comp=Z,156nm,1.2s
ITM Ithomi 21.50 289 P **P** **11 27 50.9 -1.0**
ITM IAmb IAmb 11 28 09.8
comp=Z,59nm,0.9s
VOIR 21.58 313 ⇑P **P** **11 27 54.1 +1.4**
VOIR 21.58 313 ⇑P **P** **11 27 54.1 +1.4**
TEND Ethiopian Broa 21.63 198 *e*P **P** **11 27 53.6 +0.2**
TEND *e*S **S** **11 31 52.6 -0.1**
DOPR Dopca 21.64 314 ⇓P **P** **11 27 54.3 +1.1**
VTS Vitosha 21.64 304 *e*P **P** **11 27 51.2 -2.2**
AKASG Malin Array Be 22.55 328 P **P** **11 28 01.4 -1.5**
comp=Z,6.2nm,0.3s,baz=138,slow=8.5,SNR=29
AKASG ScP **ScP** **11 35 34.0 +0.5**
comp=Z,0.3nm,0.3s,baz=109,slow=1.7,SNR=5.3
AKASG LR LR 11 38 27.5
comp=Z,1μm,18.3s,baz=140,slow=41
AKASG Malin Array Be 22.55 328*c e*P **P** **11 28 01.3 -1.6**
AKASG pmax pmax
comp=Z,6.0nm,0.3s
AKASG Malin Array Be 22.55 328 P **P** **11 28 01.1 -1.9**
AKBB Malin Array Si 22.55 328 P **P** **11 28 01.3 -1.6**
AKBB pmax pmax
comp=Z,104nm,1.4s
AKBB Malin Array Si 22.55 328 P **P** **11 28 01.3 -1.6**
AKBB IAmb IAmb 11 28 08.7
comp=Z,104nm,1.4s
BURAR Bucovina Array 22.60 318 ⇑P **P** **11 28 04.6 +0.9**
BURAR Bucovina Array 22.60 318 ⇑P **P** **11 28 04.6 +0.9**
BURAR Bucovina Array 22.60 318 P **P** **11 28 03.8 +0.1**
BUR08 Bucovina Ar. S 22.63 318 P **P** **11 28 03.7 -0.3**
DESE Dese 22.65 201 *e*P **P** **11 28 06.7 +2.1**
DESE *e*S Sn 11 32 20.8 -5.7
AML Almayashu 22.72 58 P **P** **11 28 05.6 +0.4**
SNR=38
HORU Horodok 22.89 322 P **P** **11 28 06.1 -0.4**
EKS2 Erkin-Say 22.93 57 P **P** **11 28 08.4 +1.3**
SNR=9.5
HERR Herculane 23.02 309 ⇑P **P** **11 28 08.7 +0.8**
IGT Igoumenitsa 23.02 295 P **P** **11 28 08.4 +0.4**
IGT pmax pmax
comp=Z,37nm,0.9s
KSV Kosov 23.08 319 P **P** **11 28 09.4 +0.9**
DEV Deva 23.12 312 P **P** **11 28 12.0 +3.0**
DEV pmax pmax
comp=Z,35nm,1.0s
UCH Uchtor 23.33 58 P **P** **11 28 14.9 +3.2**
SNR=18
AAK Ala-Archa 23.43 57 P **P** **11 28 13.5 +1.2**
comp=Z,5.6nm,0.6s,baz=244,slow=7.7,SNR=12
AAK ScP **ScP** **11 35 35.5 -0.7**
comp=Z,1.7nm,0.4s,baz=190,slow=2.4,SNR=5.5
AAK LR LR 11 37 54.9
comp=Z,2μm,21.9s,baz=254,slow=38
AAK Ala-Archa 23.43 57 *i* P **P** **11 28 12.4 +0.2**
SNR=11
AAK Ala-Archa 23.43 57 *i* P **P** **11 28 14.0 +1.8**
AAK pmax pmax
comp=Z,29nm,1.4s
AAK Ala-Archa 23.43 57 P **P** **11 28 14.1 +1.8**
MDVR Moldovita 23.44 309 ⇑P **P** **11 28 12.2 0.0**
FRU1 Bishkek 23.57 57 P **P** **11 28 16.1 +2.5**
FRU1 pmax pmax
comp=Z,64nm,1.3s
FRU1 Bishkek 23.57 57 P **P** **11 28 16.1 +2.5**
FRU1 IAmb IAmb 11 28 41.7
comp=Z,64nm,1.2s
USP Ospenovka 23.61 56 P **P** **11 28 16.4 +2.4**
SNR=23
CHMS Chumysh 23.71 56 P **P** **11 28 16.8 +1.9**
SNR=12
KBK Karagaybulak 23.75 57 P **P** **11 28 17.5 +2.0**
SNR=14
OBN Obninsk 23.76 344 P **P** **11 28 13.8 -1.4**
comp=Z,9.5nm,0.4s,baz=160,slow=7.3,SNR=32
OBN LR LR 11 38 17.9
comp=Z,340nm,21.9s,baz=156,slow=39
OBN Obninsk 23.76 344*c i*P **P** **11 28 14.0 -1.2**
OBN *i* S **S** **11 32 27.5 -2.5**
OBN pmax pmax
comp=Z,156nm,1.3s
OBN MLR MLR
comp=Z,1μm,16.0s
OBN Obninsk 23.76 344 P **P** **11 28 15.3 +0.2**
KZA Kyzart 23.82 59 P **P** **11 28 18.4 +2.0**
SNR=30
KSH Kashi 23.87 65 P **P** **11 28 14.3 -2.3**
KSH sP pP 11 28 19.9 -0.7

KSH S **S** **11 32 31.8 -0.7**
KSH pmax pmax
comp=Z,78nm,1.1s
KSH pmax pmax
comp=Z,770nm,3.7s
KSH LR LR
comp=Z,1μm,11.3s
KSH LR LR
comp=Z,1μm,10.4s
KSH LR LR
comp=Z,6μm,19.4s
BTLS Baital 23.91 51 *i* P **P** **11 28 17.2 +0.4**
comp=Z,83nm,1.8s,baz=52
BTLS *e*S **S** **11 32 34.2 +1.4**
baz=52
BTLS Baital 23.91 51 *i* P **P** **11 28 17.2 +0.4**
BTLS *e*S **S** **11 32 34.1 +1.4**
BTLS pmax pmax
comp=Z,83nm,1.8s
MOS Moscow 24.11 346 *e*P **P** **11 28 16.5 -2.0**
MOS *e* 11 28 49.9
MOS *e*S **S** **11 32 35.5 -0.2**
MOS pmax pmax
comp=Z,216nm,1.5s
MOS MLR MLR
comp=Z,900nm,19.0s
TRSU Trosnyk 24.15 317 P **P** **11 28 21.0 +2.1**
OTUK Ortayu 24.28 43 *i* P **P** **11 28 18.4 -1.8**
OTUK pmax pmax
comp=Z,98nm,1.3s
TKM2 Tokmak 2 24.28 57 P **P** **11 28 21.8 +1.3**
SNR=52
TKM2 Tokmak 2 24.28 57 P **P** **11 28 21.1 +0.6**
DIVS Divibare 24.36 306 ⇑*i*P **P** **11 28 20.9 -0.1**
DIVS Divibare 24.36 306 P **P** **11 28 21.2 +0.1**
DIVS IAmb IAmb 11 28 25.1
comp=Z,132nm,2.0s
DRME Dracevica, Mon 24.39 301 *e*P **P** **11 28 18.2 -3.1**
PDG Podgorica 24.40 302 *e*P **P** **11 28 19.7 -1.6**
LVV L'vov 24.50 321*d i*P **P** **11 28 22.3 +0.1**
LVV *i* S **S** **11 32 38.8 -3.3**
LVV MLR MLR
comp=Z,600nm,14.5s
ULHL Ulahol 24.57 59 P **P** **11 28 24.8 +1.6**
SNR=13
BBLS Lazići 24.69 305 ⇑*i*P **P** **11 28 24.7 +0.7**
UZH Uzhgorod 24.80 317 *e*P **P** **11 28 24.7 -0.2**
UZH *e*S **S** **11 32 43.5 -3.5**
FRGS Fruska Gora 24.83 308 ⇑*i*P **P** **11 28 26.0 +0.7**
UPM Unac-Piva 24.85 303 *e*P **P** **11 28 25.7 +0.1**
AAE Adis Abeba 24.89 201 ⇓*i*P **P** **11 28 29.6 +3.3**
AAE Adis Abeba 24.89 201 *i* S S 11 33 00.1 +11
AAE Adis Abeba 24.89 201 *e*P **P** **11 28 27.4 +1.1**
AAE *i* S S 11 33 00.1 +11
MTBS Maitube 24.93 57 *e*P **P** **11 28 26.8 +0.6**
baz=57
MTBS Maitube 24.93 57 *e*P **P** **11 28 26.8 +0.6**
HCY Herceg Novi 24.95 301 *e*P **P** **11 28 25.2 -1.1**
ARU Arti 24.96 15 P **P** **11 28 26.3 0.0**
comp=Z,3.2nm,0.4s,baz=191,slow=11,SNR=18
ARU ScP **ScP** **11 35 39.1 -0.9**
comp=Z,1.1nm,0.4s,baz=281,slow=2.3,SNR=5.5
ARU LR LR 11 40 41.4
comp=Z,1μm,21.4s,baz=182,slow=42
ARU Arti 24.96 15*c i*P **P** **11 28 26.5 +0.3**
ARU PPP PPP 11 29 06.8
ARU 11 32 00.0
ARU S **S** **11 32 52.6 +3.2**
ARU SS **SnSn** **11 33 48.5 +11**
ARU SSS SSS 11 34 00.7
ARU pmax pmax
comp=Z,86nm,1.7s
ARU Arti 24.96 15 P **P** **11 28 26.7 +0.5**
ARU IAmb IAmb 11 28 56.6
comp=Z,85nm,1.2s
ARU **ScP** **11 35 39.0 -0.9**
KOLS Kolonicke sedl 24.97 318 *e*P **P** **11 28 27.4 +1.0**
KOLS pmax pmax
comp=Z,150nm,1.5s
KOLS Kolonicke sedl 24.97 318 *e*P **P** **11 28 27.4 +1.0**
BRY Bratogost 25.03 302 *e*P **P** **11 28 25.7 -1.5**
FURI Furi 25.04 201 *e*P **P** **11 28 31.3 +3.6**
FURI Furi 25.04 201 *e*S **S** **11 33 00.8 +8.8**
FURI Furi 25.04 201 *e*P **P** **11 28 31.3 +3.6**
FURI *e*S **S** **11 33 00.8 +8.8**
KUU Kurty 25.08 55 *i* P **P** **11 28 28.1 +0.6**
comp=Z,65nm,1.1s,baz=56
KUU LR LR 11 38 18.7
comp=Z,579nm,11.6s,baz=56
KUU Kurty 25.08 55 *i* P **P** **11 28 28.1 +0.6**
KUU pmax pmax
comp=Z,65nm,1.1s
KUU MLR MLR
comp=Z,579nm,12.0s
KWP Kalwaria Pacla 25.10 320 *e*P **P** **11 28 28.8 +1.2**
KWP Kalwaria Pacla 25.10 320 P **P** **11 28 28.8 +1.2**
KWP pmax pmax
comp=Z,615nm,2.0s
KWP Kalwaria Pacla 25.10 320 P **P** **11 28 28.8 +1.2**
TREB Trebinje 25.12 302 *e*P **P** **11 28 27.5 -0.3**
KDJ Kajisay 25.23 59 P **P** **11 28 31.2 +2.1**
KDJ pmax pmax
comp=Z,117nm,1.5s
KDJ Kajisay 25.23 59 P **P** **11 28 31.2 +2.1**
KDJ IAmb IAmb 11 28 35.1
comp=Z,117nm,1.5s
DBRK Dubrovnik 25.25 302 *i* P **P** **11 28 29.0 -0.1**
TNSS Tian-Shan 25.27 57 *e*P **P** **11 28 29.8 +0.1**
baz=58
TNSS Tian-Shan 25.27 57 *e*P **P** **11 28 29.8 +0.1**
AAA Alma-Ata 25.29 57 *e*P **P** **11 28 30.2 +0.7**
comp=Z,14nm,0.4s,baz=57
AAA *e*S **S** **11 32 56.7 +1.5**
baz=57
AAA LR LR 11 38 34.1
comp=Z,620nm,12.2s,baz=57
AAA Alma-Ata 25.29 57 *e*P **P** **11 28 30.2 +0.7**
AAA *e*S **S** **11 32 56.6 +1.5**
AAA pmax pmax
comp=Z,15nm,0.4s
AAA MLR MLR
comp=Z,620nm,12.0s
MDOK Medeo 25.38 57 *e*P **P** **11 28 30.9 +0.6**
baz=58
MDOK LR LR 11 38 32.4
comp=Z,998nm,11.0s,baz=58
MDOK Medeo 25.38 57 *e*P **P** **11 28 30.9 +0.6**
MDOK MLR MLR
comp=Z,998nm,11.0s
BRZS Berezniki 25.40 40 *i* P **P** **11 28 29.9 -0.5**
comp=Z,42nm,1.4s,baz=40
BRZS Berezniki 25.40 40 *i* P **P** **11 28 29.8 -0.5**
BRZS pmax pmax
comp=Z,42nm,1.4s
CRVS Cervenica-Dubn 25.41 317 *e*P **P** **11 28 31.9 +1.4**
CRVS pmax pmax
comp=Z,254nm,1.6s
CRVS Cervenica-Dubn 25.41 317 *e*P **P** **11 28 31.9 +1.4**
CHKK Chushkaly 25.52 56 *e*P **P** **11 28 31.9 +0.5**
baz=56
CHKK Chushkaly 25.52 56 *e*P **P** **11 28 31.9 +0.5**
TARG Taragay, Kyrgy 25.61 61 P **P** **11 28 33.4 +0.7**
TARG IAmb IAmb 11 28 37.2
comp=Z,35nm,0.9s
TARG ScP **ScP** **11 35 40.6 -2.1**
STON Ston 25.62 302 *i* P **P** **11 28 32.8 +0.5**
TIP Timpagrande 25.73 293 ⇑P **P** **11 28 34.4 +0.9**
TIP Timpagrande 25.73 293 P **P** **11 28 34.5 +1.0**
TIP IAmb IAmb 11 28 39.1
comp=Z,37nm,1.0s
KECS Kecovo 25.78 316 *e*P **P** **11 28 35.5 +1.8**
KECS pmax pmax
comp=Z,63nm,0.8s
KECS Kecovo 25.78 316 *e*P **P** **11 28 35.5 +1.8**
SVE Sverdlovsk 25.79 17*de*P **P** **11 28 34.4 +0.6**
SVE *e*S **S** **11 33 06.6 +4.0**
SVE pmax pmax
comp=Z,71nm,1.3s
SVE MLR MLR
comp=Z,1μm,21.0s
PSZ Piszkesteto 25.87 314 ⇑P **P** **11 28 35.6 +0.9**
PSZ Piszkesteto 25.87 314 ⇑P **P** **11 28 35.6 +0.9**
PSZ 11 28 38.0
PSZ Piszkesteto 25.87 314 P **P** **11 28 35.5 +0.8**

MICGM Minsk 25.92 333 *eP* **P 11 28 35.0 0.0**
MICGM PM 11 28 36.0
comp=Z,0.5nm,1.2s
MICGM *eS* **S 11 33 04.0 -0.7**
MNK Minsk 25.92 333 *eP* **P 11 28 35.0 0.0**
MNK *eS* **S 11 33 04.0 -0.7**
MNK pmax pmax
comp=Z,540nm,1.2s
KIRV Kirov 25.96 2 P **P 11 28 34.3 -0.9**
comp=Z,51nm,0.8s,baz=182,slow=5.4,SNR=32
KIRV LR LR 11 41 14.2
comp=Z,2μm,18.9s,baz=179,slow=42
KIRV Kirov 25.96 2 *i* P **P 11 28 35.3 0.0**
MORH Mrgy, Hungar 25.98 310 ⇑ *iP* **P 11 28 34.9 -0.6**
BRVK Borovoye 26.11 32 P **P 11 28 37.4 +0.7**
BRVK pmax pmax
comp=Z,55nm,1.2s
BRVK Borovoye 26.11 32 P **P 11 28 37.4 +0.7**
BRVK IAmb IAmb 11 28 38.8
comp=Z,55nm,1.2s
BRVK ScP **ScP 11 35 42.4 -1.0**
BVAR Borovoye Array 26.14 32 P **P 11 28 37.3 +0.3**
comp=Z,17nm,0.8s,baz=224,slow=8.1,SNR=54
BVAR PcP **PcP 11 32 04.5 +0.5**
comp=Z,2.7nm,0.5s,baz=210,slow=3.3,SNR=5.7
BVAR ScP **ScP 11 35 42.5 -1.0**
comp=Z,10nm,0.8s,baz=222,slow=2.0,SNR=29
BVAR LR LR 11 40 50.4
comp=Z,2μm,20.1s,baz=248,slow=41
RICI Ricice 26.17 303 P **P 11 28 37.3 -0.1**
PRZ Przheval'sk 26.19 59 P **P 11 28 37.2 -0.6**
PRZ pmax pmax
comp=Z,87nm,1.5s
PRZ Przheval'sk 26.19 59 P **P 11 28 37.2 -0.6**
PRZ IAmb IAmb 11 28 58.3
comp=Z,87nm,1.5s
BUD Budapest 26.22 313 P **P 11 28 39.9 +2.1**
BUD pmax pmax
comp=Z,169nm,1.1s
SATY Saty 26.32 58 *eP* **P 11 28 39.2 +0.3**
comp=Z,77nm,1.9s,baz=58
SATY *eS* **S 11 33 12.5 +1.0**
baz=58
SATY Saty 26.32 58 *eP* **P 11 28 39.2 +0.3**
SATY *eS* **S 11 33 12.5 +1.0**
SATY pmax pmax
comp=Z,77nm,1.9s
SATY Saty 26.32 58 *eP* **P 11 28 39.2 +0.3**
SATY *eS* **S 11 33 12.5 +1.0**
SATY pmax pmax
comp=Z,77nm,1.9s
NIE Niedzica 26.33 318 *eP* **P 11 28 40.3 +1.5**
NIE Niedzica 26.33 318 P **P 11 28 40.3 +1.5**
CEL Celeste 26.34 291 IAmb IAmb 11 28 48.5
comp=Z,34nm,0.7s
MGRS Mrkonjic Grad 26.45 305 *eP* P 11 28 47.9 +8.0
BLY Banja Luka 26.47 306 *eP* **P 11 28 39.4 -0.7**
NACGM Naroch 26.64 333 *e* **P 11 28 40.0 -1.5**
NACGM *e*LR LR 11 39 50.0
LANS Liptovska Anna 26.68 316 *eP* **P 11 28 43.7 +1.7**
LANS pmax pmax
comp=Z,27nm,0.8s
LANS Liptovska Anna 26.68 316 *eP* **P 11 28 43.7 +1.7**
VYHS Vyhne 26.76 315 *eP* **P 11 28 43.8 +1.1**
VYHS pmax pmax
comp=Z,38nm,1.4s
VYHS Vyhne 26.76 315 *eP* **P 11 28 43.8 +1.1**
UZB Uzynbulak 26.77 58 *eP* **P 11 28 43.7 +0.7**
comp=Z,53nm,1.9s,baz=58
UZB *eS* **S 11 33 20.1 +1.4**
baz=58
UZB Uzynbulak 26.77 58 *eP* **P 11 28 43.7 +0.7**
UZB *eS* **S 11 33 20.1 +1.4**
UZB pmax pmax
comp=Z,53nm,1.9s
KIJV Kijevo 26.81 304 *i* P **P 11 28 42.6 -0.6**
TDK Taldyqorghan 26.81 54 *eP* **P 11 28 43.6 +0.3**
comp=Z,45nm,1.0s,baz=54
TDK LR LR 11 39 05.9
comp=Z,1μm,12.4s,baz=54
TDK Taldyqorghan 26.81 54 *eP* **P 11 28 43.5 +0.3**
TDK pmax pmax
comp=Z,45nm,1.0s
TDK MLR MLR
comp=Z,1μm,12.0s
IDID Didziasalis 26.97 333 *eP* **P 11 28 45.8 +1.4**
OJC Ojcow 27.01 319 *eP* **P 11 28 45.6 +0.7**
OJC Ojcow 27.01 319 IAmb IAmb 11 28 53.9
comp=Z,64nm,1.0s
MOSL Moslavina 27.02 308 *i* P **P 11 28 45.2 +0.2**
SHLS Shalkode 27.09 58 *eP* **P 11 28 48.8 +2.9**
baz=58
SHLS LR LR 11 40 23.1
comp=Z,517nm,14.7s,baz=58
SHLS Shalkode 27.09 58 *eP* **P 11 28 48.7 +2.9**
SHLS MLR MLR
comp=Z,517nm,15.0s
PDGK Podgornoye 27.15 58 P **P 11 28 47.2 +0.8**
ZIRJ Zirje 27.26 303 *i* P **P 11 28 47.0 -0.2**
MORI Morici 27.27 303 *i* P **P 11 28 47.5 +0.2**
ISAL Salakas 27.39 333 *eP* **P 11 28 49.4 +1.1**
IZAR Zarasai 27.48 334 *eP* **P 11 28 50.2 +1.2**
KOGS Kog 27.61 309 *i* P **P 11 28 51.5 +1.1**
JAVC Velka Javorina 27.62 315 *eP* **P 11 28 51.7 +1.3**
SMOL Smolenice 27.62 314 *eP* **P 11 28 51.1 +0.7**
SMOL Smolenice 27.62 314 *eP* **P 11 28 51.1 +0.7**
PTJ Puntijarka 27.63 308 P **P 11 28 51.0 +0.4**
MODS Modra-Piesok 27.66 314 *eP* **P 11 28 50.4 -0.3**
MODS pmax pmax
comp=Z,86nm,1.5s
MODS Modra-Piesok 27.66 314 *eP* **P 11 28 50.4 -0.3**
DUGI Dugi Otok 27.75 304 *i* P **P 11 28 49.9 -1.7**
CRES Cresnjev 27.95 307 *eP* **P 11 28 53.1 -0.3**
BOJS Bojanci 28.00 307 *eP* **P 11 28 54.3 +0.6**
NVLJ Novalja 28.02 305 *i* P **P 11 28 53.5 -0.4**
MORC Moravsky Berou 28.09 316 ⇑P **P 11 28 54.5 -0.1**
MORC Moravsky Berou 28.09 316 *eP* **P 11 28 54.8 +0.2**
MORC Moravsky Berou 28.09 316 ⇑P **P 11 28 54.5 -0.1**
MORC 11 29 01.2
MORC Moravsky Berou 28.09 316 IAmb IAmb 11 28 59.1
comp=Z,136nm,1.9s
PABE Paberze 28.20 331 *eP* **P 11 28 56.0 +0.6**
ARSA Arzberg 28.35 310 *eP* **P 11 28 57.7 +0.8**
comp=Z,7.2nm,0.8s
CONA Conrad Observa 28.37 312 *eP* **P 11 28 57.8 +0.6**
comp=Z,29nm,1.6s,SNR=14
VRAC Vranov 28.45 315 P **P 11 28 57.4 -0.3**
comp=Z,9.1nm,0.9s,baz=108,slow=8.4,SNR=17
VRAC LR LR 11 42 07.6
comp=Z,565nm,19.4s,baz=102,slow=40
VRAC Vranov 28.45 315 *eP* **P 11 28 58.4 +0.6**
KRUC Moravsky 28.47 314 *eP* **P 11 28 58.3 +0.4**
SOKA Soboth 28.48 309 *eP* **P 11 28 58.9 +0.7**
comp=Z,13nm,1.5s,SNR=7.1
CEY Cerknica 28.62 307 *eP* **P 11 28 59.0 -0.3**
LJU Ljubljana 28.63 308 *eP* **P 11 29 00.7 +1.2**
LJU Ljubljana 28.63 308 *eP* **P 11 29 00.3 +0.9**
AQU L'Aquila 28.64 300 P **P 11 29 01.6 +2.0**
AQU pmax pmax
comp=Z,30nm,1.1s
AQU L'Aquila 28.64 300 *eP* **P 11 29 00.4 +0.8**
KRLC Kraliky 28.66 317 *eP* **P 11 29 00.4 +0.7**
KRLC MLR MLR
comp=Z,600nm,15.1s
KRLC Kraliky 28.66 317 *eP* **P 11 29 00.4 +0.7**
KRLC AMS AMS 11 43 30.0
comp=Z,600nm,15.1s
KLMR Klimovskoe 28.70 352 *eP* **P 11 28 57.9 -1.9**
KLMR *eS* **S 11 33 47.4 -1.0**
KLMR pmax pmax
comp=Z,109nm,1.3s
KLMR Klimovskoe 28.70 352 *eP* **P 11 28 58.0 -1.9**
KLMR AMP 11 29 02.6
comp=Z,109nm,1.3s
KLMR *eS* **S 11 33 47.4 -1.0**
KLMR *eS* **S 11 33 47.4 -1.0**
KLMR LQ LQ 11 38 22.2
KLMR LQ LQ 11 38 22.2
KLMR LR LR 11 40 40.3
OBKA Obir 28.75 308 *eP* **P 11 29 01.7 +1.1**
comp=Z,24nm,1.2s,SNR=7.9
KURBB Kurchatov Arra 28.97 43 P **P 11 29 02.4 0.0**
comp=Z,24nm,0.9s,baz=248,slow=9.4,SNR=58
KURBB PcP **PcP 11 32 10.9 +0.1**
comp=Z,3.4nm,0.9s,baz=249,slow=3.0,SNR=5.0
KURBB ScP **ScP 11 35 50.5 -1.6**
comp=Z,1.6nm,1.0s,baz=250,slow=4.0,SNR=4.3
PRGR Permogore 29.02 358 *eP* **P 11 29 01.6 -1.1**
PRGR pmax pmax
comp=Z,15nm,0.5s
DPC Dobruska-Polom 29.05 317 *eP* **P 11 29 04.1 +1.0**
DPC *eS* **S 11 33 56.6 +2.5**
DPC MLR MLR
comp=Z,500nm,18.7s
DPC Dobruska-Polom 29.05 317 *eP* **P 11 29 04.1 +1.0**
DPC *eS* **S 11 33 56.6 +2.5**
DPC AMS AMS 11 42 10.0
comp=Z,500nm,18.7s
KURK Kurchatov 29.06 42 *c iP* **P 11 29 04.4 +1.3**
KURK pmax pmax
comp=Z,58nm,1.0s
KURK Kurchatov 29.06 42 P **P 11 29 04.4 +1.3**
KURK IAmb IAmb 11 29 05.8
comp=Z,48nm,0.9s
KURK Kurchatov 29.06 42 **PcP 11 32 10.9 -0.1**
KURK Kurchatov 29.06 42 ScP **ScP 11 35 51.1 -1.2**
VOJS Vojsko 29.06 307 *eP* **P 11 29 04.0 +0.6**
OSTC Ostas 29.20 317 *eP* **P 11 29 05.3 +0.9**
OSTC *eP* **pP 11 29 05.4 -3.1**
OSTC AMS AMS 11 45 00.0
comp=Z,500nm,14.7s
KSP Ksiaz 29.28 318 *eP* **P 11 29 05.7 +0.6**
KSP Ksiaz 29.28 318 P **P 11 29 05.8 +0.7**
UPC Upice 29.29 317 *eP* **P 11 29 06.1 +0.9**
UPC MLR MLR
comp=Z,500nm,18.5s
UPC Upice 29.29 317 *eP* **P 11 29 06.1 +0.9**
UPC AMS AMS 11 42 30.0
comp=Z,500nm,18.5s
CHVC Chvalec 29.30 317 *eP* **P 11 29 05.0 -0.4**
CHVC AMS AMS 11 45 10.0
comp=Z,500nm,14.1s
MOA Molin 29.35 311 *eP* **P 11 29 06.6 +0.8**
comp=Z,17nm,0.7s,SNR=12
MYKA Terra Mystica 29.39 308 *eP* **P 11 29 06.9 +0.7**
comp=Z,10nm,0.7s,SNR=8.3
MURB Monte Urbino 29.42 301 IAmb IAmb 11 29 09.6
comp=Z,114nm,1.8s
KBA Koelnbreinsper 29.71 309 *eP* **P 11 29 09.8 +0.6**
comp=Z,22nm,0.8s,SNR=12
KBA Koelnbreinsper 29.71 309 P **P 11 29 10.0 +0.8**
MAKZ Makanchi 29.71 51 P **P 11 29 10.3 +1.2**
MAKZ pmax pmax
comp=Z,74nm,1.8s
MAKZ Makanchi 29.71 51 P **P 11 29 10.3 +1.2**
MAKZ IAmb IAmb 11 29 11.8
comp=Z,74nm,1.8s
GOPC GO Pecny, Ondr 29.77 315 *eP* **P 11 29 10.5 +1.0**
GOPC MLR MLR
comp=Z,900nm,16.6s
GOPC GO Pecny, Ondr 29.77 315 *eP* **P 11 29 10.5 +1.0**
GOPC AMS AMS 11 43 40.0
comp=Z,900nm,16.6s
MK31 Makanchi Array 29.92 52 P **P 11 29 10.0 -0.9**
MK31 Makanchi Array 29.92 52 ScP **ScP 11 35 53.8 -1.4**
MKAR Makanchi Array 29.92 52 P **P 11 29 10.9 +0.1**
comp=Z,17nm,0.7s,baz=248,slow=7.6,SNR=137
MKAR PcP **PcP 11 32 13.0 -0.4**
comp=Z,2.2nm,0.9s,baz=243,slow=3.3,SNR=3.3
MKAR ScP **ScP 11 35 53.5 -1.8**
comp=Z,4.3nm,1.0s,baz=257,slow=4.4,SNR=9.7
MKAR LR LR 11 42 55.7
comp=Z,1μm,18.3s,baz=251,slow=40
MKAR Makanchi Array 29.92 52 *ceP* **P 11 29 11.6 +0.7**
MKAR pmax pmax
comp=Z,17nm,0.7s
MKAR Makanchi Array 29.92 52 P **P 11 29 10.6 -0.3**
PRU Pruhonice 29.94 315 *eP* **P 11 29 11.4 +0.4**
PRU *eS* **S 11 34 09.2 +1.1**
PRU MLR MLR
comp=Z,900nm,16.5s
PRU Pruhonice 29.94 315 *eP* **P 11 29 11.4 +0.4**
PRU *eS* **S 11 34 09.2 +1.1**
PRU AMS AMS 11 43 50.0
comp=Z,900nm,16.5s
GERES GERESS Array B 30.04 313 P **P 11 29 11.2 -0.7**
comp=Z,2.0nm,0.5s,baz=112,slow=8.8,SNR=16
GERES PcP **PcP 11 32 14.4 +0.7**
comp=Z,1.0nm,0.7s,baz=113,slow=2.6,SNR=2.4
GERES LR LR 11 43 01.9
comp=Z,459nm,19.4s,baz=109,slow=40
GERES GERESS Array B 30.04 313 P **P 11 29 11.8 -0.1**
GERES 11 32 14.4
GERES GERESS Array B 30.04 313 P **P 11 29 11.8 -0.1**
PRA Prague 30.04 315 AMS AMS 11 44 00.0
comp=Z,500nm,15.4s
CIMO Cimolais 30.10 307 IAmb IAmb 11 29 16.5
comp=Z,116nm,1.9s
ABTA Abfaltersbach 30.16 308 *eP* **P 11 29 13.7 +0.6**
comp=Z,12nm,0.9s,SNR=8.4
KHC Kasperske Hory 30.21 313 *deP* **P 11 29 14.1 +0.6**
KHC pmax pmax
comp=Z,72nm,1.7s
KHC Kasperske Hory 30.21 313 *eP* **P 11 29 14.0 +0.6**
KHC *ex* x 11 29 22.5
KHC *eS* **S 11 34 13.9 +1.5**
KHC AMS AMS 11 42 50.0
CTI Castel Tesino 30.57 307 IAmb IAmb 11 29 18.3
comp=Z,28nm,0.6s
BRG Berggiesshubel 30.64 316 *eP* **P 11 29 17.0 -0.2**
comp=Z,16nm,1.0s
BRG S **S 11 34 26.0 +6.9**
comp=N,22nm,19.0s
comp=E,384nm,14.2s
comp=Z,521nm,11.1s
BRG Berggiesshubel 30.64 316 *eP* **P 11 29 17.0 -0.2**
BRG S **S 11 34 26.0 +6.9**
BRG pmax pmax
comp=Z,16nm,1.0s
BRG MLR MLR
comp=N,22nm,19.0s
BRG MLR MLR
comp=E,384nm,14.2s
BRG MLR MLR
comp=Z,521nm,11.1s
PYUN Piuthan 30.78 89 *eP* **P 11 29 19.3 +0.4**
comp=Z,22nm,0.6s
WTTA Wattenberg 30.88 309 *eP* **P 11 29 19.9 +0.3**
comp=Z,22nm,0.5s,SNR=12
WTTA Wattenberg 30.88 309 P **P 11 29 20.2 +0.7**
WATA Walderalm 30.94 309 *eP* **P 11 29 19.7 -0.3**
comp=Z,17nm,0.8s,SNR=14
VLC Villacollemand 31.09 303 IAmb IAmb 11 29 41.0
comp=Z,22nm,0.8s
SQTA Sankt Quirin 31.15 309 *eP* **P 11 29 20.9 -0.9**
comp=Z,32nm,0.5s,SNR=19
MOTA Moosalm 31.25 309 *eP* **P 11 29 21.8 -1.0**
comp=Z,30nm,0.6s,SNR=16
NKC Novy Kostel 31.28 315 *eP* **P 11 29 23.7 +0.8**
NKC MLR MLR
comp=Z,700nm,16.4s
NKC Novy Kostel 31.28 315 *eP* **P 11 29 23.7 +0.8**
NKC AMS AMS 11 45 10.0
comp=Z,700nm,16.4s
DANN Dangsing 31.36 88 *eP* **P 11 29 24.9 +0.8**
comp=Z,79nm,0.7s
CLL Collm 31.36 317 *i* P **P 11 29 23.5 0.0**
comp=Z,25nm,1.1s
CLL *i* pP **pP 11 29 26.6 -1.0**
CLL *i* 11 30 20.5
CLL *e*PP 11 30 29.0
CLL *e*PPPP 11 30 45.0
CLL *e*S **S 11 34 39.0 +8.7**
CLL *e*PcS **PcS 11 36 01.0 -0.1**
CLL *e*SS **SnSn 11 36 18.0 +4.2**
CLL *e* 11 37 06.0
CLL Lm MLR 11 43 00.0
comp=N,500nm,21.4s
CLL Lm MLR 11 43 00.0
comp=E,500nm,21.2s
CLL Lm MLR 11 43 00.0
comp=Z,500nm,21.1s
CLL Collm 31.36 317 *i* P **P 11 29 23.5 0.0**
CLL *i* 11 29 26.6
CLL *e*S **S 11 34 39.0 +8.7**
CLL pmax pmax
comp=Z,25nm,1.1s
CLL MLR MLR
comp=Z,500nm,21.1s

KOLN Kolkanda 31.39 89 *eP* **P 11 29 24.6 +0.3**
comp=Z,19nm,0.8s
FETA Feichten 31.42 308 *eP* **P 11 29 24.3 +0.1**
comp=Z,23nm,0.7s,SNR=12
RETA Reutte 31.51 309 *eP* **P 11 29 24.8 -0.2**
comp=Z,16nm,0.8s,SNR=9.4
FUORN Ofenpass-Fuorn 31.64 307 IAmb IAmb 11 29 32.3
comp=Z,55nm,1.8s
HYB Hyderabad 31.74 111 *i* P **P 11 29 28.0 +0.8**
ZSN Zaisan 31.79 51 *eP* **P 11 29 27.6 +0.3**
baz=52
ZSN Zaisan 31.79 51 *eP* **P 11 29 27.6 +0.3**
FINES FINESS Array B 32.00 341 P **P 11 29 27.5 -1.5**
comp=Z,6.6nm,0.3s,baz=146,slow=9.1,SNR=41
FINES LR LR 11 43 53.3
comp=Z,1μm,19.7s,baz=146,slow=39
FINES FINESS Array B 32.00 341 *i* P **P 11 29 28.8 -0.2**
FINES pmax pmax
comp=Z,7.0nm,0.3s
FINES FINESS Array B 32.00 341 P **P 11 29 28.6 -0.4**
DAVA Damuels 32.04 308 *eP* **P 11 29 28.6 -1.1**
comp=Z,46nm,0.5s,SNR=26
TMCR Tamitsa 32.09 352 *eP* **P 11 29 29.7 0.0**
GKN Gorkha 32.20 88 *eP* **P 11 29 31.7 +0.4**
comp=Z,23nm,0.3s
TUE Stuetta 32.22 307 IAmb IAmb 11 29 36.7
comp=Z,18nm,0.6s
DMN Daman 32.71 89 *eP* **P 11 29 36.7 +0.7**
comp=Z,34nm,0.8s
KKN Kakani 32.80 88 *eP* **P 11 29 37.3 +0.6**
comp=Z,130nm,1.3s
PKI Pulchoki 32.98 89 *eP* **P 11 29 39.0 +0.6**
comp=Z,94nm,1.2s
WMQ Urumqi 33.11 59 *eP* **P 11 29 40.1 +1.0**
WMQ pP sP 11 29 44.8 0.0
WMQ PP **PnPn 11 30 49.9 +1.3**
WMQ S **S 11 34 59.9 +2.0**
WMQ SS **SnSn 11 36 57.1 +0.4**
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,150nm,4.3s
WMQ LR LR
comp=Z,400nm,16.3s
WMQ LR LR
comp=Z,290nm,17.7s
WMQ LR LR
comp=Z,850nm,26.3s
SBF Sospel 33.16 301 *eP* **P 11 29 39.4 -0.1**
SBF pmax pmax
comp=Z,37nm,0.8s
GUN Gumba 33.27 88 *eP* **P 11 29 41.6 +0.6**
comp=Z,81nm,0.8s
BFO Black Forest 33.30 310 P **P 11 29 41.7 +1.1**
BFO pmax pmax
comp=Z,32nm,1.6s
BFO Black Forest 33.30 310 P **P 11 29 41.7 +1.1**
BFO IAmb IAmb 11 30 24.4
comp=Z,32nm,1.6s
JIRN Jiri 33.61 88 *eP* **P 11 29 44.6 +0.7**
comp=Z,65nm,0.7s
FRF La Foret Royal 33.70 301 *eP* **P 11 29 46.0 +1.9**
FRF pmax pmax
comp=Z,33nm,1.4s
BNI Bardonecchia 33.84 304 P **P 11 29 45.4 0.0**
LPG La Plagne 33.84 304 *eP* **P 11 29 45.1 -0.6**
LPG pmax pmax
comp=Z,63nm,0.7s
LPL La Plagne 33.86 304 *eP* **P 11 29 44.6 -1.1**
LPL pmax pmax
comp=Z,48nm,0.7s
ZAA0 Zalesovo Array 33.88 40 IAmb IAmb 11 29 47.1
comp=Z,32nm,0.9s
ZALV Zalesovo Beam 33.88 40 P **P 11 29 45.0 -0.5**
comp=Z,23nm,0.8s,baz=260,slow=8.9,SNR=59
ZALV PcP **PcP 11 32 23.2 -0.8**
comp=Z,1.5nm,0.5s,baz=246,slow=4.3,SNR=2.5
ZALV ScP **ScP 11 36 05.6 -2.9**
comp=Z,0.9nm,0.6s,baz=266,slow=4.2,SNR=3.7
ZALV LR LR 11 45 01.0
comp=Z,760nm,20.5s,baz=238,slow=39
ZALV Zalesovo Beam 33.88 40 *i* P **P 11 29 45.7 +0.2**
ZALV pmax pmax
comp=Z,23nm,0.8s
ZALV Zalesovo Beam 33.88 40 P **P 11 29 44.6 -0.9**
DGZ Jazzator, Alta 34.00 48 *c iP* **P 11 29 47.8 +1.0**
DGZ pmax pmax
comp=Z,30nm,1.7s
ECH Echery 34.04 309 IAmb IAmb 11 29 50.2
comp=Z,35nm,1.4s
HINF Hinteralfeld 34.16 308 *eP* **P 11 29 47.1 -1.0**
HINF pmax pmax
comp=Z,58nm,1.4s
RAMN Ramite 34.18 89 *eP* **P 11 29 48.8 0.0**
comp=Z,37nm,0.7s
ORIF Oris-en-Rattie 34.38 303 *eP* **P 11 29 48.4 -1.7**
ORIF pmax pmax
comp=Z,9.0nm,0.8s
CABF La Chapelle 34.46 306 *eP* **P 11 29 50.4 -0.4**
CABF pmax pmax
comp=Z,78nm,0.6s
HAU Haudompre 34.53 309 *eP* **P 11 29 49.4 -1.9**
HAU pmax pmax
comp=Z,9.0nm,0.6s
ODAN Odare 34.88 89 *eP* **P 11 29 55.0 +0.2**
TAPN Taplejung 34.99 88 *eP* **P 11 29 56.6 +0.8**
KMBO Kilima Mbogo 34.99 198 LR LR 11 44 32.3
comp=Z,1μm,20.3s,baz=64,slow=37
KMBO Kilima Mbogo 34.99 198 P **P 11 29 58.6 +2.8**
WLF Walferdange 35.01 311 P **P 11 29 55.8 +0.5**
WLF pmax pmax
comp=Z,93nm,1.2s
VIVF Saint-Julien-l 35.23 303 *eP* **P 11 29 56.1 -1.3**
VIVF pmax pmax
comp=Z,43nm,1.4s
APA Apatity 35.93 351 ⇑ *iP* **P 11 30 00.6 -2.4**
APA *i* 11 31 19.8
APA *i* S **S 11 35 37.0 -3.7**
APA pmax pmax
comp=Z,20nm,1.0s
GIVF Givet 35.94 312 *eP* **P 11 30 03.4 0.0**
GIVF pmax pmax
comp=Z,57nm,1.5s
SMF Signal de Mont 36.00 306 *eP* **P 11 30 03.0 -0.9**
SMF pmax pmax
comp=Z,59nm,0.5s
LOR Lormes 36.07 307 *eP* **P 11 30 03.3 -1.2**
LOR pmax pmax
comp=Z,8.0nm,0.4s
LVZ Lovozero 36.08 352 ‖ *eP* **P 11 30 03.8 -0.6**
LVZ pmax pmax
comp=Z,91nm,1.7s
SSF Saint Saulge 36.28 306 *eP* **P 11 30 05.4 -0.9**
SSF pmax pmax
comp=Z,29nm,0.7s
AVF Avril sur Loir 36.35 306 *eP* **P 11 30 05.2 -1.7**
AVF pmax pmax
comp=Z,43nm,1.2s
BGF Bois d'Agland 36.67 306 *eP* **P 11 30 08.7 -1.0**
BGF pmax pmax
comp=Z,14nm,0.4s
MBAR Mbarara 36.71 209 P **P 11 30 11.3 +0.9**
comp=Z,2.6nm,0.2s,baz=359,slow=5.8,SNR=4.9
MBAR Mbarara 36.71 209 *ceP* **P 11 30 11.8 +1.4**
MBAR pmax pmax
comp=Z,13nm,1.3s
MBAR Mbarara 36.71 209 P **P 11 30 11.3 +0.9**
KONO Kongsberg 36.85 329 ⇑ *eP* **P 11 30 13.1 +2.1**
KONO pmax pmax
comp=Z,17nm,1.2s
NB2 NORSAR Subarra 36.90 331 P **P 11 30 09.9 -1.6**
comp=Z,34nm,1.7s,baz=123,slow=8.6
NB2 NORSAR Subarra 36.90 331 P **P 11 30 09.9 -1.6**
comp=Z,34nm,1.7s,baz=123,slow=8.6
NOA NORSAR Array B 36.90 331 P **P 11 30 09.1 -2.4**
comp=Z,5.1nm,0.9s,baz=124,slow=8.6,SNR=9.7
NOA LR LR 11 46 41.4
comp=Z,694nm,19.3s,baz=125,slow=38
NBO00 NORSAR Array S 37.08 331 *eP* **P 11 30 12.8 -0.1**
TCF Toulx Ste Croi 37.08 305 *eP* **P 11 30 12.4 -0.8**
TCF pmax pmax
comp=Z,12nm,0.9s
CAF Calviac 37.09 303 *eP* **P 11 30 12.8 -0.4**
CAF pmax pmax
comp=Z,34nm,1.8s
LSA Lhasa 37.19 83 P **P 11 30 15.8 +1.0**

CLF Chambon-Foret 37.24 308 lAmb lAmb 11 30 15.7
comp=Z,92nm,1.7s
RJF Les Rejaudoux 37.49 303 *e*P **P** **11 30 16.0 -0.7**
RJF pmax pmax
comp=Z,13nm,0.9s
LFF La Frestale 38.02 303 *e*P **P** **11 30 20.3 -0.8**
LFF pmax pmax
comp=Z,12nm,0.6s
TAM Tamanrasset 38.31 266 P **P** **11 30 24.5 +0.5**
TAM pmax pmax
comp=Z,13nm,1.2s
TAM Tamanrasset 38.31 266 P **P** **11 30 24.4 +0.5**
DOMB Dombas 38.31 332 *e*P **P** **11 30 24.3 +0.9**
NSS Namsos 38.68 336 *e*P **P** **11 30 26.8 +0.4**
KEV Kevo 38.89 349 P **P** **11 30 28.6 +0.5**
KEV pmax pmax
comp=Z,41nm,1.4s
KEV Kevo 38.89 349 P **P** **11 30 28.6 +0.5**
MOR8 Moi Rana 38.96 339 *e*P **P** **11 30 28.7 0.0**
ARCES ARCESS Array B 38.96 348 P **P** **11 30 27.7 -1.0**
comp=Z,7.3nm,0.4s,baz=158,slow=8.9,SNR=119
ARCES PcP **PcP** **11 32 39.4 +0.5**
comp=Z,2.5nm,0.5s,baz=158,slow=3.8,SNR=4.8
ARCES ScP **S** **11 36 26.3 -0.4**
comp=Z,5.9nm,0.9s,baz=128,slow=1.5,SNR=9.4
ARCES LR LR 11 47 49.4
comp=Z,801nm,19.8s,baz=138,slow=38
ARCES ARCESS Array B 38.96 348 P **P** **11 30 28.5 -0.2**
ARCES 11 32 39.4
ARCES S **S** **11 36 26.3 -0.4**
ARCES ARCESS Array B 38.96 348 P **P** **11 30 28.5 -0.2**
ARE0 ARCESS Array S 38.96 348 *e*P **P** **11 30 28.0 -0.7**
SHL Shillong 39.11 89 P **P** **11 30 31.6 +0.8**
SNR=9.7
SHL Shillong 39.11 89 P **P** **11 30 29.6 -1.1**
SHL pmax pmax
comp=Z,52nm,1.0s
SHL Shillong 39.11 89 P **P** **11 30 29.6 -1.1**
SHL lAmb lAmb 11 30 34.9
comp=Z,52nm,1.0s
FLN La Foliniere 39.14 309 *e*P **P** **11 30 29.0 -1.5**
FLN pmax pmax
comp=Z,14nm,0.5s
GRR Gorron 39.35 308 *e*P **P** **11 30 31.0 -1.3**
GRR pmax pmax
comp=Z,26nm,0.7s
SJPF Ste Jean 39.43 300 *e*P **P** **11 30 32.4 -0.6**
SJPF pmax pmax
comp=Z,8.0nm,0.7s
STOK Stokkvaagen 39.49 339 *e*P **P** **11 30 33.4 +0.3**
KONS Konsvik 39.57 339 *e*P **P** **11 30 33.0 -0.8**
NBB05 Inndyr 39.67 340 *e*P **P** **11 30 34.3 -0.3**
NBB30 Finnes 39.71 340 *e*P **P** **11 30 35.0 0.0**
N2TV TVrnvik 39.73 341 *e*P **P** **11 30 35.2 +0.1**
PALK Pallekele 39.77 122 LR LR 11 48 28.5
comp=Z,472nm,18.4s,baz=38,slow=38
N2IH Innhavet 39.80 342 *e*P **P** **11 30 35.8 +0.1**
STEI Steigen 39.96 342 *e*P **P** **11 30 36.5 -0.5**
HAMF Hammerfest 40.23 348 *e*P **P** **11 30 39.5 +0.3**
TRO Tromso 40.34 345 *e*P **P** **11 30 40.1 -0.1**
SGMF Saint Gilles 40.47 308 *e*P **P** **11 30 40.3 -1.3**
SGMF pmax pmax
comp=Z,25nm,0.8s
N2VA Vr_y 40.48 340 *e*P **P** **11 30 40.4 -0.9**
N2VI Vinje 40.52 342 *e*P **P** **11 30 40.8 -0.8**
N2SV S_rvVgen 40.54 341 *e*P **P** **11 30 41.0 -0.8**
LOF Lofoten 40.56 341 *e*P **P** **11 30 40.9 -1.0**
QUIF Quistinic 40.86 307 *e*P **P** **11 30 43.3 -1.5**
QUIF pmax pmax
comp=Z,23nm,0.8s
ROSF Rostrenen 40.96 308 *e*P **P** **11 30 44.2 -1.4**
ROSF pmax pmax
comp=Z,23nm,0.7s
ESDC Sonseca Array 41.73 295 P **P** **11 30 51.9 -0.3**
comp=Z,1.6nm,0.5s,baz=73,slow=8.5,SNR=13
ESDC Sonseca Array 41.73 295 P **P** **11 30 52.1 -0.1**
GUD Guadarrama 41.77 296 P **P** **11 30 54.9 +2.4**
GUD pmax pmax
comp=Z,30nm,1.9s
EKA Eskdalemuir Ar 41.79 318 P **P** **11 30 51.8 -0.4**
EKA pmax pmax
comp=Z,2.0nm,0.5s
PAB San Pablo 42.05 295 P **P** **11 30 56.5 +1.8**
PAB pmax pmax
comp=Z,41nm,1.4s
GTA Gaotai 42.27 66 ⇑P **P** **11 30 57.6 +1.0**
GTA pP sP 11 31 02.4 +0.1
GTA sP pP 11 31 04.6 +3.8
GTA PP **PP** **11 32 40.5 +6.1**
GTA S **S** **11 37 17.8 +0.7**
GTA sS sS 11 37 25.3 +1.4
GTA pmax pmax
comp=Z,15nm,1.6s
GTA pmax pmax
comp=Z,210nm,4.9s
GTA LR LR
comp=Z,1μm,17.5s
GTA LR LR
comp=Z,670nm,16.8s
GTA LR LR
comp=Z,610nm,16.2s
NRIK Noril'sk 42.98 20 P **P** **11 31 02.8 +0.9**
comp=Z,7.5nm,0.6s,baz=233,slow=7.4,SNR=18
NRIK LR LR 11 53 03.0
comp=Z,1μm,18.2s,baz=202,slow=42
MDT Midelt 43.53 285 P **P** **11 31 07.7 +0.8**
comp=Z,1.4nm,0.8s,baz=56,slow=3.6,SNR=2.1
PBRG Braganca 43.59 298 *e*P **P** **11 31 07.4 +0.2**
comp=Z,43nm,2.0s
MVO Moncorvo 43.88 297 *e*P **P** **11 31 10.4 +0.9**
comp=Z,30nm,1.4s
MVO *e*S **S** **11 37 47.6 +7.1**
MVO Moncorvo 43.88 297 *e*LR LR 12 11 45.4
comp=Z,826nm,17.7s
ZAK Zakamensk 44.19 49 *e*P **P** **11 31 12.8 +0.8**
ZAK pmax pmax
comp=Z,19nm,1.6s
BJO1 Bjornoya 44.24 349 *e*P **P** **11 31 12.4 +0.5**
MTE Manteigas 44.37 296 *e*P **P** **11 31 15.5 +2.1**
comp=Z,37nm,2.0s
MTE *e*S **S** **11 37 40.4 -7.2**
MTE Manteigas 44.37 296 *e*LR LR 12 13 51.1
MTE Manteigas 44.37 296 P **P** **11 31 14.7 +1.2**
PMRV Marv??o 44.39 295 *e*P **P** **11 31 13.9 +0.3**
comp=Z,26nm,1.6s
PMRV *e*S **S** **11 37 53.1 +5.2**
PMRV Marv??o 44.39 295 *e*LR LR 12 10 02.3
comp=Z,817nm,20.0s
PCBR Castelo Branco 44.40 296 *e*P **P** **11 31 14.2 +0.6**
comp=Z,45nm,1.7s
TLY Talaya 44.47 47 *e*P **P** **11 31 16.0 +1.9**
TLY *e* 11 33 03.1
TLY *e*S **S** **11 37 50.4 +1.6**
TLY pmax pmax
comp=Z,18nm,0.9s
TLY MLR MLR
comp=Z,1μm,14.0s
TLY Talaya 44.47 47 P **P** **11 31 13.5 -0.6**
TLY lAmb lAmb 11 31 17.4
comp=Z,48nm,1.8s
PGAV Gavieira, Arco 44.70 299 *e*P **P** **11 31 17.2 +1.0**
comp=Z,91nm,1.2s
PGAV *e*S S 11 38 03.8 +11
PGAV Gavieira, Arco 44.70 299 *e*LR LR 12 15 18.3
comp=Z,1μm,17.7s
IRK Irkutsk 44.89 47 *e*P **P** **11 31 17.2 -0.2**
IRK pmax pmax
comp=Z,100nm,1.4s
PBEJ Beja 45.00 293 *e*P **P** **11 31 19.3 +0.9**
comp=Z,37nm,1.9s
PVAQ Vaqueiros 45.00 292 *e*P **P** **11 31 18.3 -0.2**
comp=Z,45nm,1.9s
PVAQ *e*S **S** **11 37 48.7 -8.0**
PVAQ Vaqueiros 45.00 292 *e*LR LR 12 14 27.3
COI Coimbra 45.05 296 *e*S **S** **11 37 57.8 +0.4**
PMTG Montargil 45.09 295 *e*P **P** **11 31 19.8 +0.6**
PBDV Barranco-do-Ve 45.20 292 *e*S **S** **11 38 00.8 +1.1**
PCVE Castro Verde 45.21 293 *e*P **P** **11 31 20.8 +0.7**
PNCL Nicolau / Gran 45.50 293 *e*P **P** **11 31 23.5 +1.1**
comp=Z,38nm,1.7s
PNCL *e*S **S** **11 38 02.4 -1.5**
PFVI Vila Bisbo 45.92 292 *e*P **P** **11 31 26.5 +0.7**
PFVI *e*S S 11 38 19.3 +9.3
LZH Lanzhou 46.01 69 *e*P **P** **11 31 27.8 +1.1**
LZH pP sP 11 31 32.4 0.0
LZH S **S** **11 38 11.6 0.0**
LZH sS sS 11 38 22.5 +3.9
LZH pmax pmax
comp=Z,28nm,1.2s
LZH pmax pmax
comp=Z,320nm,5.4s
LZH LR LR
comp=Z,1μm,15.2s
LZH LR LR
comp=Z,910nm,16.8s
LZH LR LR
comp=Z,1μm,17.4s
TOA0 Torodi Ar. Sit 46.12 256 P **P** **11 31 28.5 +1.0**
TORD Torodi Ar. Bea 46.12 256 P **P** **11 31 25.5 -2.0**
comp=Z,1.9nm,0.6s,baz=69,slow=7.3,SNR=15
TORD LR LR 11 52 54.9
comp=Z,491nm,19.3s,baz=40,slow=39
TORD Torodi Ar. Bea 46.12 256 P **P** **11 31 27.2 -0.3**
TORD **P** **11 31 27.8 +0.3**
SONM Songino Array 46.27 53 P **P** **11 31 28.7 +0.1**
comp=Z,6.7nm,1.0s,baz=271,slow=10,SNR=35
SONM PcP **PcP** **11 33 03.5 -0.3**
comp=Z,2.4nm,0.6s,baz=254,slow=4.7,SNR=4.1
SONM ScP **ScP** **11 36 56.2 -0.7**
comp=Z,0.9nm,0.4s,baz=270,slow=5.2,SNR=5.6
SONM LR LR 11 52 41.4
comp=Z,1μm,19.1s,baz=271,slow=38
SONM Songino Array 46.27 53 P **P** **11 31 28.9 +0.4**
SONM pmax pmax
comp=Z,14nm,1.2s
SONM Songino Array 46.27 53 P **P** **11 31 28.9 +0.4**
ULN Ulaanbaatar 46.71 53*c i*P **P** **11 31 32.9 +0.9**
ULN pmax pmax
comp=Z,69nm,1.7s
ULN Ulaanbaatar 46.71 53 P **P** **11 31 31.9 -0.1**
ULN lAmb lAmb 11 31 34.4
comp=Z,43nm,1.1s
CD2 Chengdu 47.29 76 P **P** **11 31 37.3 +0.6**
CD2 S **S** **11 38 30.8 +0.9**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 LR LR
comp=Z,980nm,17.2s
CD2 LR LR
comp=Z,890nm,18.6s
CD2 LR LR
comp=Z,730nm,19.6s
SPA0 Spitsbergen Ar 47.61 352 P **P** **11 31 38.5 0.0**
SPA0 Spitsbergen Ar 47.61 352 *e*P **P** **11 31 38.9 +0.5**
SPITS Spitsbergen Ar 47.61 352 P **P** **11 31 37.9 -0.5**
comp=Z,3.1nm,0.4s,baz=149,slow=15,SNR=24
CHTO Chiang Mai 47.84 94 P **P** **11 31 39.7 -1.3**
CHTO pmax pmax
comp=Z,23nm,0.9s
CHTO Chiang Mai 47.84 94 P **P** **11 31 39.7 -1.3**
CHTO lAmb lAmb 11 31 44.5
comp=Z,23nm,0.8s
CM31 Chiang Mai Arr 48.00 94 P **P** **11 31 42.1 -0.2**
CMAR Chiang Mai Arr 48.00 94 P **P** **11 31 41.2 -1.0**
comp=Z,6.9nm,0.7s,baz=293,slow=8.4,SNR=40
CMAR PcP **PcP** **11 33 10.3 +0.1**
comp=Z,3.5nm,0.7s,baz=287,slow=5.4,SNR=5.9
CMAR ScP **ScP** **11 37 04.3 -0.2**
comp=Z,0.8nm,0.3s,baz=296,slow=5.6,SNR=9.7
CMAR LR LR 11 56 04.5
comp=Z,239nm,18.8s,baz=335,slow=41
CMAR Chiang Mai Arr 48.00 94 P **P** **11 31 41.5 -0.7**
CMAR 11 33 10.2
CMAR Chiang Mai Arr 48.00 94 P **P** **11 31 41.5 -0.7**
CMAR **PcP** **11 33 10.2 -0.1**
CMAR ScP **ScP** **11 37 03.4 -1.1**
KMI Kunming 48.41 84 ⇑P **P** **11 31 45.6 0.0**
KMI PP **PP** **11 33 39.3 +1.1**
KMI S **S** **11 38 41.1 -5.2**
KMI pmax pmax
comp=Z,27nm,1.2s
KMI pmax pmax
comp=Z,240nm,3.5s
KMI LR LR
comp=Z,520nm,17.6s
KMI LR LR
comp=Z,210nm,20.3s
KMI LR LR
comp=Z,370nm,18.3s
KBS Kingsbay 48.75 351*de*P **P** **11 31 47.5 +0.3**
KBS pmax pmax
comp=Z,33nm,1.3s
KBS Kingsbay 48.75 351 P **P** **11 31 47.2 0.0**
BTO Baotou 49.80 62 *e*P **P** **11 31 54.4 -1.5**
XAN Xi'an 50.55 71 P **P** **11 32 01.4 -0.3**
XAN S **S** **11 39 17.1 +1.3**
XAN pmax pmax
comp=Z,23nm,1.0s
XAN pmax pmax
comp=Z,230nm,4.0s
XAN LR LR
comp=Z,1μm,16.7s
XAN LR LR
comp=Z,1μm,20.1s
XAN LR LR
comp=Z,830nm,19.6s
PBKT Sadao Pong 50.59 95 lAmb lAmb 11 32 06.5
comp=Z,54nm,1.5s
PBKT ScP **ScP** **11 37 15.5 -0.1**
CIT Chita 50.61 47 *e*P **P** **11 32 02.3 +0.5**
CIT pmax pmax
comp=Z,113nm,1.6s
BOD Bodaibo 50.63 39 *e*P **P** **11 32 01.5 -0.3**
BOD pmax pmax
comp=Z,48nm,1.7s
HHC Hu-ho-hao-te 50.89 61 *e*P **P** **11 32 05.3 +1.1**
HHC S **S** **11 39 20.9 +0.5**
HHC pmax pmax
comp=Z,33nm,0.9s
HHC pmax pmax
comp=Z,340nm,4.8s
HHC LR LR
comp=Z,1μm,17.9s
HHC LR LR
comp=Z,610nm,17.0s
HHC LR LR
comp=Z,740nm,15.3s
SLVN Son La 50.91 88 lAmb lAmb 11 32 09.5
comp=Z,60nm,1.6s
OPO Ambohidratompo 50.94 180 P **P** **11 32 05.7 +1.1**
comp=Z,3.1nm,0.7s,baz=354,slow=8.5,SNR=2.1
OPO LR LR 11 54 15.0
comp=Z,991nm,19.6s,baz=162,slow=37
LSZ Lusaka 51.15 204 P **P** **11 32 08.3 +2.0**
LSZ pmax pmax
comp=Z,65nm,2.0s
LSZ Lusaka 51.15 204 P **P** **11 32 08.3 +2.0**
LSZ lAmb lAmb 11 32 10.9
comp=Z,65nm,1.9s
GYA Guiyang 51.19 81 ⇓P **P** **11 32 06.5 -0.1**
GYA PcP **PcP** **11 33 16.1 -5.9**
GYA PP **PP** **11 34 05.4 +2.0**
GYA S S 11 39 14.5 -10
GYA pmax pmax
comp=Z,23nm,0.9s
GYA pmax pmax
comp=Z,150nm,4.2s
GYA LR LR
comp=Z,470nm,25.6s
GYA LR LR
comp=Z,380nm,22.2s
GYA LR LR
comp=Z,510nm,24.8s
DAG Danmarks Havn 53.07 345 *i* P **P** **11 32 19.3 -0.4**
comp=Z,7.2nm,0.7s
DAG Danmarks Havn 53.07 345 *i* P **P** **11 32 19.3 -0.4**
DAG pmax pmax
comp=Z,7.0nm,0.7s
PMOZ Porto Moniz, M 53.69 289 *e*LR LR 12 19 50.7
comp=Z,365nm,25.2s
NOR Nord 54.20 351 *i* P **P** **11 32 27.4 -0.5**
NOR Nord 54.20 351 *i* P **P** **11 32 27.4 -0.5**
BJI Beijing 54.50 61 P **P** **11 32 31.0 +0.3**
BJI S **S** **11 40 13.8 +4.3**
BJI pmax pmax
comp=Z,7.0nm,0.4s
BJI LR LR
comp=Z,960nm,19.1s
BJI LR LR
comp=Z,230nm,16.2s
BJI LR LR
comp=Z,350nm,32.2s
DBIC Dimbokro 55.07 254 P **P** **11 32 34.7 -0.4**
comp=Z,1.2nm,0.3s,baz=32,slow=6.7,SNR=5.3
DBIC LR LR 11 58 57.7
comp=Z,574nm,18.3s,baz=30,slow=39
DBIC Dimbokro 55.07 254 lAmb lAmb 11 32 45.2
comp=Z,53nm,1.6s
MATP Matopo 55.85 202 LR LR 11 57 06.7
comp=Z,727nm,20.1s,baz=28,slow=37
TIA Tai'an 56.33 66 P **P** **11 32 43.1 -0.9**
TIA pmax pmax
comp=Z,16nm,1.1s
TIA LR LR
comp=Z,900nm,22.6s
TIA LR LR
comp=Z,320nm,20.1s
TIA LR LR
comp=Z,520nm,15.9s
KULM Kulim 56.35 107 P **P** **11 32 43.4 -1.0**
KULM lAmb lAmb 11 32 47.2
comp=Z,26nm,1.0s
PSI Prapat 56.46 111 LR LR 11 58 11.1
comp=Z,293nm,21.5s,baz=272,slow=37
RPSI Rantau Prapat 56.52 111 lAmb lAmb 11 32 49.3
comp=Z,64nm,1.6s
SUMG Summit 58.02 339 *i* P **P** **11 32 56.3 +0.4**
SUMG pmax pmax
comp=Z,46nm,0.8s
SUMG Summit 58.02 339 *i* P **P** **11 32 56.3 +0.4**
SUMG pmax pmax
comp=Z,46nm,0.8s
SUMG Summit 58.02 339 P **P** **11 32 55.5 -0.4**
YAK Yakutsk 58.10 33 P **P** **11 32 54.8 -1.3**
comp=Z,7.8nm,0.5s,baz=270,slow=1.3,SNR=8.0
YAK Yakutsk 58.10 33 *e*P **P** **11 32 55.4 -0.7**
YAK *e*S **S** **11 40 53.4 -3.2**
YAK *e* 11 42 40.3
YAK pmax pmax
comp=Z,23nm,1.1s
YAK pmax pmax
comp=N,11nm,1.3s
YAK pmax pmax
comp=E,20nm,1.1s
YAK pmax pmax
comp=Z,60nm,2.0s
YAK pmax pmax
comp=N,21nm,1.9s
YAK pmax pmax
comp=E,32nm,1.6s
YAK smax smax
comp=N,106nm,2.0s
YAK smax smax
comp=E,21nm,1.9s
YAK MLR MLR
comp=Z,312nm,20.0s
YAK MLR MLR
comp=N,370nm,20.0s
YAK MLR MLR
comp=E,232nm,19.0s
YAK Yakutsk 58.10 33 lAmb lAmb 11 32 59.0
comp=Z,19nm,0.7s
ZEA Zeya 58.53 43 *e*P **P** **11 33 00.5 +1.3**
ZEA pmax pmax
comp=Z,28nm,1.2s
DL2 Dalian 58.87 61 P **P** **11 33 02.1 +0.3**
DL2 S **S** **11 41 07.3 0.0**
DL2 pmax pmax
comp=Z,23nm,1.1s
DL2 pmax pmax
comp=Z,210nm,4.4s
DL2 LR LR
comp=Z,670nm,20.2s
DL2 LR LR
comp=Z,250nm,20.6s
DL2 LR LR
comp=Z,570nm,25.1s
NJ2 Nanjing 59.08 70 *e*P **P** **11 33 00.4 -3.0**
NJ2 pmax pmax
comp=Z,14nm,0.7s
NJ2 LR LR
comp=Z,710nm,22.7s
NJ2 LR LR
comp=Z,550nm,19.9s
NJ2 LR LR
comp=Z,520nm,23.1s
CN2 Changchun 60.07 55 *e*P **P** **11 33 09.5 -0.5**
CN2 *e*S **S** **11 41 22.5 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
SDSI Sungai Dareh 60.72 112 P **P** **11 33 15.4 +0.6**
comp=Z,37nm,0.7s
LBTB Lobatse 61.07 203 P **P** **11 33 16.5 -0.6**
LBTB pmax pmax
comp=Z,53nm,1.8s
LBTB Lobatse 61.07 203 P **P** **11 33 16.4 -0.6**
LBTB lAmb lAmb 11 33 48.4
comp=Z,53nm,1.8s
KLR Kul'dur 62.49 47 P **P** **11 33 25.2 -1.2**
comp=Z,7.1nm,0.7s,baz=289,slow=6.8,SNR=25
KLR Kul'dur 62.49 47*d i*P **P** **11 33 25.4 -1.0**
KLR pmax pmax
comp=Z,30nm,1.5s
KSI Kapahiang 63.32 114 P **P** **11 33 34.9 +2.5**
KSAR Wonju Array Be 64.00 61 P **P** **11 33 35.3 -1.2**
KSAR Wonju Array Be 64.00 61 P **P** **11 33 35.3 -1.2**
KSRS Korea Array 64.02 61 P **P** **11 33 35.5 -1.1**
comp=Z,3.7nm,0.7s,baz=283,slow=6.7,SNR=16
KSRS LR LR 12 04 35.7
comp=Z,471nm,20.8s,baz=293,slow=39
USA0B Ussuriysk Arra 64.38 53*c i*P **P** **11 33 38.0 -0.9**
USA0B Ussuriysk Arra 64.38 53 lAmb lAmb 11 33 38.6
comp=Z,13nm,0.9s
USRK Ussuriysk Ar. 64.38 53 P **P** **11 33 37.4 -1.5**
comp=Z,7.0nm,0.7s,baz=280,slow=5.6,SNR=15
USRK LR LR 12 03 48.6
comp=Z,703nm,20.5s,baz=280,slow=38
USRK Ussuriysk Ar. 64.38 53 P **P** **11 33 37.7 -1.2**
USRK Ussuriysk Ar. 64.38 53 P **P** **11 33 37.7 -1.2**
BOSA Boshof 64.52 202 P **P** **11 33 40.9 +0.8**
comp=Z,4.4nm,0.7s,baz=358,slow=5.2,SNR=9.1
BOSA LR LR 12 02 30.1
comp=Z,466nm,19.8s,baz=31,slow=37
VLA Vladivostok 64.71 54⇑ *e*P **P** **11 33 42.2 +1.1**
VLA pmax pmax
comp=Z,18nm,1.0s
EUNU Eureka 64.73 352 lAmb lAmb 11 33 44.9
comp=Z,19nm,1.1s
GRNR Gornyy 64.80 45⇑ *i*P **P** **11 33 41.4 -0.2**
GRNR pmax pmax
comp=Z,8.0nm,1.1s
GRNR MLR MLR
comp=N,210nm,16.0s
TEY Ternei 67.10 50⇓ *e*P **P** **11 33 54.4 -2.1**
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=Z,10.0nm,1.0s
TEY pmax pmax
comp=E,10.0nm,1.0s
SEY Seymchan 67.72 29 P **P** **11 33 59.6 -0.5**
comp=E,26nm,0.8s,baz=278,slow=6.5,SNR=65
SEY Seymchan 67.72 29*c i*P **P** **11 34 00.9 +0.8**
TYV Tymovskoe 68.39 43 *e*P **P** **11 34 05.3 +0.8**
TYV pmax pmax
comp=Z,22nm,1.5s
TYV pmax pmax
comp=Z,300nm,4.6s
MA2 Magadan 68.63 32 P **P** **11 34 05.5 -0.3**
comp=Z,13nm,0.9s,baz=328,slow=5.8,SNR=6.9
MA2 Magadan 68.63 32⇑ *e*P **P** **11 34 05.8 0.0**
MA2 pmax pmax
comp=Z,39nm,1.7s
MA2 Magadan 68.63 32 lAmb lAmb 11 34 07.2
comp=Z,22nm,1.0s
KKM Kota Kinabalu 68.77 97 P **P** **11 34 07.9 +0.3**
RES Resolute Bay 70.13 350 P **P** **11 34 15.1 +0.2**
comp=Z,4.2nm,0.9s,baz=29,slow=8.2,SNR=5.0
RES Resolute Bay 70.13 350 lAmb lAmb 11 36 33.9
comp=Z,40nm,1.8s
YSS Yuzh-Sakhalins 70.17 46*ce*P **P** **11 34 15.1 -0.5**
YSS *e*S **S** **11 43 24.1 -2.4**
YSS pmax pmax
comp=Z,200nm,3.8s
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=N,100nm,16.0s

YSS					MLR	MLR			
	comp=E,300nm,15.0s								
YSS	**Yuzh-Sakhalins**	**70.17**	**46**		P	**P**	**11 34 15.3**	**-0.2**	
MYLDM	**Lahad Datu**	**71.15**	**96**		P	**P**	**11 34 23.2**	**+1.1**	
MYLDM					IAmb	IAmb	11 34 28.3		
	comp=Z,42nm,1.4s								
ASAJ	**Asahikawa**	**71.36**	**49**		P	**P**	**11 34 22.3**	**-0.6**	
	comp=Z,5.5nm,0.8s,baz=328,slow=3.5,SNR=8.9								
MAT	**Matsushiro**	**71.87**	**58**		P	**P**	**11 34 24.9**	**-1.3**	
MAT					S	**S**	**11 43 43.0**	**-3.8**	
MJAR	**Matsushiro Arr**	**71.87**	**58**		P	**P**	**11 34 25.9**	**-0.3**	
	comp=Z,2.8nm,0.9s,baz=287,slow=7.5,SNR=7.7								
MJAR					LR	LR	12 08 42.4		
	comp=Z,297nm,19.9s,baz=255,slow=38								
MJAR	**Matsushiro Arr**	**71.87**	**58**		P	**P**	**11 34 26.8**	**+0.6**	
MJAR					pmax	pmax			
	comp=Z,4.0nm,1.1s								
MJAR	**Matsushiro Arr**	**71.87**	**58**		P	**P**	**11 34 26.8**	**+0.6**	
ERM	**Erimo**	**72.71**	**51**	*eP*	P	**P**	**11 34 32.5**	**+1.5**	
ERM					pmax	pmax			
	comp=Z,36nm,1.7s								
ERM	**Erimo**	**72.71**	**51**		P	**P**	**11 34 31.9**	**+0.9**	
YUK	**Yuzh-Kuril'sk**	**73.47**	**48**	*eP*	P	**P**	**11 34 35.1**	**-0.3**	
YUK					S	**S**	**11 44 01.6**	**-3.1**	
YUK					MLR	MLR			
	comp=Z,171nm,13.0s								
MPSI	**Mapaga**	**74.95**	**99**		P	**P**	**11 34 45.4**	**+0.8**	
	comp=Z,995nmcomp=Z,19nm,0.8s								
PETK	**Petropavlovsk-**	**75.31**	**36**		P	**P**	**11 34 43.9**	**-2.1**	
	comp=Z,4.1nm,0.8s,baz=285,slow=3.9,SNR=2.5								
SCHQ	**Schefferville**	**76.34**	**327**		P	**P**	**11 34 51.1**	**-0.8**	
	comp=Z,10nm,1.0s,baz=65,slow=9.5,SNR=4.1								
SCHQ	**Schefferville**	**76.34**	**327**		P	**P**	**11 34 52.2**	**+0.3**	
TOLK	**Toolik Lake Re**	**78.20**	**6**		P	**P**	**11 35 02.6**	**+0.5**	
	baz=345								
TOLK	**Toolik Lake Re**	**78.20**	**6**		IAmb	IAmb	11 35 23.4		
	comp=Z,20nm,1.1s								
INK	**Inuvik**	**79.34**	**0**		P	**P**	**11 35 06.8**	**-1.5**	
	comp=Z,2.2nm,0.9s,baz=339,slow=18,SNR=4.2								
COLD	**Coldfoot**	**79.52**	**7**		P	**P**	**11 35 09.0**	**-0.3**	
	baz=345								
IMAR	**Indian Mountai**	**80.31**	**9**		P	**P**	**11 35 12.2**	**-1.4**	
BATG	**Bathurst New B**	**80.63**	**321**		P	**P**	**11 35 17.0**	**+1.3**	
BATG					IAmb	IAmb	11 35 17.7		
	comp=Z,38nm,1.2s								
HAL	**Halifax**	**80.89**	**318**		P	**P**	**11 35 18.6**	**+1.5**	
HAL					pmax	pmax			
	comp=Z,53nm,1.2s								
HAL	**Halifax**	**80.89**	**318**		P	**P**	**11 35 18.6**	**+1.5**	
POKR	**Poker Plat Res**	**81.84**	**6**		P	**P**	**11 35 21.5**	**-0.4**	
	baz=347								
D63A	**Stockholm**	**81.86**	**321**		P	**P**	**11 35 22.7**	**+0.5**	
	baz=50								
TCOL	**CIGO, UAF Yank**	**82.04**	**7**		P	**P**	**11 35 23.3**	**+0.5**	
	baz=347								
E64A	**Bridgewater**	**82.11**	**321**		P	**P**	**11 35 24.7**	**+1.1**	
	baz=50								
NEA2	**Nenana**	**82.19**	**7**		P	**P**	**11 35 23.9**	**+0.3**	
	baz=346								
ILAR	**Eielson Array**	**82.23**	**6**		P	**P**	**11 35 22.8**	**-1.1**	
	comp=Z,1.3nm,0.8s,baz=346,slow=4.4,SNR=11								
ILAR					PP	**PP**	**11 38 29.3**	**-2.2**	
	comp=Z,1.0nm,0.9s,baz=345,slow=6.5,SNR=4.3								
ILAR	**Eielson Array**	**82.23**	**6**		P	**P**	**11 35 21.3**	**-2.6**	
D62A	**Allapoint, All**	**82.33**	**322**		P	**P**	**11 35 25.1**	**+0.4**	
	baz=49								
E63A	**Oxbow**	**82.43**	**321**		P	**P**	**11 35 25.8**	**+0.6**	
	baz=50								
E63A	**Oxbow**	**82.43**	**321**		IAmb	IAmb	11 35 27.1		
	comp=Z,22nm,1.2s								
BPAW	**Bear Paw Mtn.**	**82.46**	**8**		IAmb	IAmb	11 35 28.7		
	comp=Z,22nm,1.2s								
HDA	**Harding Lake**	**82.58**	**6**		P	**P**	**11 35 26.6**	**+0.9**	
	baz=348								
EGAK	**Eagle**	**82.65**	**4**		IAmb	IAmb	11 35 46.3		
	comp=Z,18nm,1.2s								
F64A	**Sherman**	**82.75**	**321**		P	**P**	**11 35 26.6**	**-0.3**	
	baz=50								
D61A	**St Aubert, Com**	**82.84**	**323**		P	**P**	**11 35 27.8**	**+0.5**	
	baz=49								
E62A	**Clayton Lake**	**82.88**	**322**		P	**P**	**11 35 28.0**	**+0.4**	
	baz=49								
E62A	**Clayton Lake**	**82.88**	**322**		P	**P**	**11 35 28.3**	**+0.7**	
E62A					IAmb	IAmb	11 35 29.1		
	comp=Z,34nm,1.4s								
MCK	**McKinley**	**83.05**	**7**		IAmb	IAmb	11 35 40.3		
	comp=Z,15nm,1.3s								
CHGQ	**Chibougamau**	**83.06**	**326**		P	**P**	**11 35 28.7**	**+0.3**	
	baz=46								
K27K	**Chicken**	**83.34**	**4**		P	**P**	**11 35 29.4**	**-0.2**	
	baz=352								
G64A	**Maxfield**	**83.36**	**320**		P	**P**	**11 35 32.2**	**+2.1**	
	baz=50								
RIDG	**Independent Ri**	**83.42**	**6**		IAmb	IAmb	11 35 31.4		
	comp=Z,15nm,1.4s								
H65A	**Eastbrook**	**83.44**	**320**		P	**P**	**11 35 31.0**	**+0.5**	
	baz=50								
DAWY	**Dawson**	**83.45**	**3**		IAmb	IAmb	11 35 31.6		
	comp=Z,29nm,1.8s								
E61A	**Lac Etchemin**	**83.50**	**322**		P	**P**	**11 35 30.6**	**-0.2**	
	baz=48								
G63A	**Kingsbury**	**83.91**	**321**		P	**P**	**11 35 33.7**	**+0.7**	
	baz=49								
H64A	**Troy**	**84.01**	**320**		P	**P**	**11 35 32.8**	**-0.7**	
	baz=49								
E60A	**Ste Agathe de**	**84.04**	**323**		P	**P**	**11 35 34.0**	**+0.4**	
	baz=48								
F61A	**St Evariste**	**84.07**	**322**		P	**P**	**11 35 34.6**	**+0.9**	
	baz=48								
YKA	**Yellowknife Ar**	**84.11**	**352**		P	**P**	**11 35 32.9**	**-0.6**	
	comp=Z,1.9nm,0.5s,baz=5.6,slow=5.6,SNR=12								
D58A	**Chemin du LacG**	**84.27**	**324**		P	**P**	**11 35 35.2**	**+0.4**	
	baz=47								
BCAR	**Beaver Creek A**	**84.31**	**4**		P	**P**	**11 35 34.2**	**-0.5**	
G62A	**West of Eustis**	**84.33**	**321**		P	**P**	**11 35 35.8**	**+0.7**	
	baz=48								
G62A	**West of Eustis**	**84.33**	**321**		IAmb	IAmb	11 35 37.2		
	comp=Z,26nm,1.1s								
F60A	**Warwick**	**84.57**	**322**		P	**P**	**11 35 36.2**	**0.0**	
	baz=47								
MATQ	**Matagami**	**84.66**	**328**		P	**P**	**11 35 37.0**	**+0.4**	
	baz=44								
G61A	**St-Isidore-de-**	**84.81**	**322**		P	**P**	**11 35 37.9**	**+0.4**	
	baz=48								
D57A	**Chemin Vers le**	**84.83**	**324**		P	**P**	**11 35 37.9**	**+0.4**	
	baz=46								
LSQQ	**Lebel-sur-Quev**	**84.86**	**327**		P	**P**	**11 35 38.1**	**+0.4**	
	baz=44								
E58A	**La Victoria**	**84.97**	**323**		P	**P**	**11 35 38.2**	**-0.1**	
	baz=46								
F59A	**Saint Guilaume**	**85.07**	**323**		P	**P**	**11 35 39.0**	**+0.3**	
	baz=47								
PMR	**Palmer**	**85.11**	**8**		IAmb	IAmb	11 35 42.3		
	comp=Z,20nm,1.3s								
D56A	**ZEC Mazanza, M**	**85.23**	**325**		P	**P**	**11 35 39.8**	**+0.2**	
	baz=45								
G60A	**Masonville**	**85.36**	**322**		P	**P**	**11 35 40.3**	**+0.1**	
	baz=47								
E57A	**Chemin Saint G**	**85.38**	**324**		P	**P**	**11 35 40.4**	**0.0**	
	baz=46								
H61A	**Lyndonville**	**85.53**	**321**		P	**P**	**11 35 42.6**	**+1.5**	
	baz=47								
KLU	**Klutina**	**85.54**	**6**		IAmb	IAmb	11 35 45.3		
	comp=Z,28nm,1.2s								
D55A	**Sainte-Anne-du**	**85.60**	**325**		P	**P**	**11 35 41.3**	**-0.1**	
	baz=45								
I62A	**Tamworth**	**85.66**	**321**		P	**P**	**11 35 41.8**	**+0.1**	
	baz=48								
E56A	**St. Veronique**	**85.72**	**324**		P	**P**	**11 35 41.8**	**-0.2**	
	baz=45								
LBNH	**Lisbon**	**85.72**	**321**		P	**P**	**11 35 42.6**	**+0.6**	
	baz=47								
H60A	**Morristown**	**85.91**	**322**		P	**P**	**11 35 43.9**	**+0.9**	
	baz=47								
J62A	**Henniker**	**86.35**	**320**		P	**P**	**11 35 46.4**	**+1.2**	
	baz=47								
H59A	**Cadyville**	**86.37**	**322**		P	**P**	**11 35 46.0**	**+0.7**	
	baz=46								
K63A	**Dunstable**	**86.56**	**320**		P	**P**	**11 35 45.8**	**-0.4**	
	baz=48								
LONY	**Lake Ozonia**	**86.84**	**323**		P	**P**	**11 35 48.0**	**+0.4**	
	baz=46								
I59A	**Olmsteadville**	**87.05**	**322**		P	**P**	**11 35 48.7**	**+0.1**	
	baz=46								
E53A	**Dumoine, Ponti**	**87.11**	**326**		P	**P**	**11 35 48.3**	**-0.6**	
	baz=44								
M64A	**Tiverton**	**87.15**	**319**		P	**P**	**11 35 49.1**	**0.0**	
	baz=48								
J60A	**Lant Hill Farm**	**87.19**	**321**		P	**P**	**11 35 50.0**	**+0.7**	
	baz=46								
G55A	**Calabogie**	**87.47**	**324**		P	**P**	**11 35 50.8**	**+0.2**	
	baz=44								
ALGO	**Algonquin Park**	**87.61**	**325**		P	**P**	**11 35 50.5**	**-0.7**	
	baz=43								
J59A	**Piesco**	**87.61**	**322**		P	**P**	**11 35 51.9**	**+0.5**	
	baz=46								
E52A	**Mattawa**	**87.65**	**326**		P	**P**	**11 35 52.0**	**+0.5**	
	baz=43								
H56A	**Elgin**	**87.71**	**324**		P	**P**	**11 35 51.7**	**-0.1**	
	baz=44								
E51A	**G1948 Merrick**	**87.86**	**327**		P	**P**	**11 35 53.3**	**+0.8**	
	baz=42								
I57A	**Carthage**	**87.87**	**323**		P	**P**	**11 35 52.8**	**+0.2**	
	baz=45								
G54A	**Lake Saint Pet**	**88.03**	**325**		P	**P**	**11 35 53.0**	**-0.3**	
	baz=43								
H55A	**Tweed**	**88.20**	**324**		P	**P**	**11 35 54.3**	**+0.2**	
	baz=44								
K59A	**Cooperstown**	**88.28**	**322**		P	**P**	**11 35 52.8**	**-1.8**	
	baz=45								
K58A	**Earlville**	**88.70**	**322**		P	**P**	**11 35 57.0**	**+0.5**	
	baz=45								
L57A	**Andrews Acres**	**89.87**	**322**		P	**P**	**11 36 02.0**	**0.0**	
	baz=44								
K55A	**Perry**	**89.96**	**323**		P	**P**	**11 36 02.1**	**-0.3**	
	baz=43								
L56A	**Greenwood**	**90.13**	**323**		P	**P**	**11 36 03.6**	**+0.3**	
	baz=44								
O60A	**Telford**	**90.30**	**320**		P	**P**	**11 36 03.9**	**-0.1**	
	baz=45								
K54A	**Basiliko Farm,**	**90.36**	**323**		P	**P**	**11 36 04.2**	**-0.2**	
	baz=43								
L55A	**Hinsdale**	**90.55**	**323**		P	**P**	**11 36 05.2**	**-0.1**	
	baz=43								
M56A	**Emporium**	**90.93**	**322**		P	**P**	**11 36 07.0**	**0.0**	
	baz=43								
L54A	**Sinclairville**	**90.95**	**324**		P	**P**	**11 36 07.2**	**+0.1**	
	baz=42								
KNRA	**Kununurra**	**91.11**	**108**		P	**P**	**11 36 08.3**	**+0.2**	
KNRA					IAmb	IAmb	11 36 09.0		
	comp=Z,13nm,0.8s								
N57A	**Milroy**	**91.13**	**322**		P	**P**	**11 36 07.3**	**-0.6**	
	baz=44								
M55A	**Ridgway**	**91.24**	**323**		P	**P**	**11 36 07.9**	**-0.5**	
	baz=43								
M55A	**Ridgway**	**91.24**	**323**		IAmb	IAmb	11 36 09.4		
	comp=Z,24nm,1.2s								
ULM	**Lac du Bonnet**	**91.34**	**338**		P	**P**	**11 36 08.6**	**-0.1**	
	comp=Z,6.2nm,0.9s,baz=14,slow=5.5,SNR=3.5								
O57A	**Amberson**	**91.57**	**321**		P	**P**	**11 36 09.9**	**0.0**	
	baz=44								
L53A	**Girard**	**91.63**	**324**		P	**P**	**11 36 10.2**	**0.0**	
	baz=42								
M54A	**Oil Creek Stat**	**91.67**	**323**		P	**P**	**11 36 09.9**	**-0.5**	
	baz=42								
N55A	**Marion Center**	**91.86**	**322**		P	**P**	**11 36 10.8**	**-0.5**	
	baz=42								
COWI	**Conover**	**92.39**	**331**		IAmb	IAmb	11 36 16.2		
	comp=Z,13nm,1.2s								
O55A	**Ligonier**	**92.44**	**322**		P	**P**	**11 36 13.6**	**-0.4**	
	baz=42								
Q57A	**Strasburg**	**92.83**	**321**		P	**P**	**11 36 15.3**	**-0.5**	
	baz=43								
O54A	**Avella**	**93.01**	**323**		IAmb	IAmb	11 36 20.1		
	comp=Z,15nm,1.1s								
P53A	**Whipple**	**94.05**	**323**		P	**P**	**11 36 21.5**	**+0.1**	
	baz=41								
O51A	**Pataskala**	**94.16**	**324**		P	**P**	**11 36 22.0**	**+0.1**	
	baz=40								
P52A	**Corning**	**94.31**	**323**		P	**P**	**11 36 21.9**	**-0.7**	
	baz=40								
T58A	**Grand View Acr**	**94.42**	**320**		P	**P**	**11 36 23.1**	**-0.1**	
	baz=43								
Q52A	**Bidwell**	**94.89**	**323**		P	**P**	**11 36 25.0**	**-0.3**	
	baz=40								
U57A	**Blanch**	**95.24**	**320**		P	**P**	**11 36 26.7**	**-0.2**	
	baz=42								
U55A	**TA2, Sparta**	**96.11**	**321**		P	**P**	**11 36 31.4**	**+0.4**	
	baz=41								
T53A	**Wise**	**96.53**	**322**		P	**P**	**11 36 31.7**	**-1.2**	
	baz=40								
V54A	**Nebo**	**97.13**	**321**		P	**P**	**11 36 35.0**	**-0.5**	
	baz=41								
LAO	**LASA Array**	**97.56**	**342**		P	Pdif	11 36 38.7	+1.3	
	baz=22								
Z58A	**St. Stephen**	**97.78**	**318**		P	Pdif	11 36 38.8	+0.3	
	baz=42								
WRA	**Warramunga Arr**	**97.87**	**109**		P	**P**	**11 36 37.7**	**-1.3**	
	comp=Z,1.0nm,0.6s,baz=316,slow=4.0,SNR=12								
WRA	**Warramunga Arr**	**97.87**	**109**		IAmb	IAmb	11 36 38.6		
	comp=Z,0.2nm,1.1s								
ASAR	**Alice Springs**	**99.47**	**112**		P	**Pdif**	**11 36 44.4**	**-1.8**	
	comp=Z,0.9nm,0.5s,baz=307,slow=4.8,SNR=29								
ASAR					PP	**PP**	**11 40 51.4**	**+1.3**	
	comp=Z,0.7nm,0.9s,baz=304,slow=6.5,SNR=4.2								
KSU1	**Kansas State U**	**101.25**	**332**		Pdif	**Pdif**	**11 36 54.9**	**+1.0**	
PLCA	**Paso Flores**	**130.65**	**242**		PKP	**PKiKP**	**11 42 14.8**	**-0.1**	
	comp=Z,2.2nm,1.0s,baz=343,slow=5.5,SNR=5.1								

DDA 18 11:25:44.3, 38.99N×28.06E, h7km±3km, ML2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.22**	**241**	*i* P	Pg	11 25 49.4	+0.7
AKHS				*i* S	Sg	11 25 52.9	+1.2
STEP	**BALIKESIR_Sava**	**0.47**	**326**	*i* P	Pg	11 25 53.3	-0.2
STEP				*i* S	Sg	11 26 00.3	+0.6
STEP				IAML		11 26 01.0	
	comp=E,166nm,0.7s						
MANT	**Manisa**	**0.63**	**142**	*i* P	Pg	11 25 56.9	+0.5
MANT				*i* S	Sg	11 26 05.4	+0.8
MANT				IAML		11 26 06.0	
	comp=E,129nm,0.3s						
DURS	**Dursunbey**	**0.69**	**27**	*i* P	Pg	11 25 57.2	-0.4
DURS				*i* S	Sb	11 26 08.1	-0.4
DURS				IAML		11 26 11.0	
	comp=E,86nm,0.2s						
USAK	**Uak-Merkez**	**0.79**	**110**	*i* P	Pb	11 26 00.1	-0.4
USAK				*i* S	Sg	11 26 08.2	-1.6
USAK				IAML		11 26 20.0	
	comp=N,185nm,0.5s						
USAK				IAML		11 26 22.0	
	comp=E,187nm,0.7s						

*NEIC **18** 11:28:20.4±1.0, 58.30N±0.01×136.77W±0.06, h3km±8km, Error ellipse: s-maj=4.8km s-min=2.0km az=98.0*
*AEIC **18** 11:28:23.1±1.5, 58.32N±0.03×136.81W±0.07, h8km±1km, Error ellipse: s-maj=5.4km s-min=3.8km az=56.0*
*OTT **18** 11:28:23±1.6, 58.34N±0.04×136.76W±0.08, h4km±6km, Mwr3.5, ML2.9/23(AEIC), Error ellipse: s-maj=6.7km s-min=3.5km az=52.0*
*PGC **18** 11:28:23.1±2.1, 58.34N×136.76W, h4km, MLSn2.9/10, Mw3.5/10, 123km Wsw of Haines, Ak Southeastern Alaska*

ISC 18 11:28:20.8±2.0, 58.30N±0.04×136.78W±0.03, h7km±14km, n57, σ1°17/81, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESE	**Bessie Mountai**	**1.05**	**74**	P	**Pb**	**11 28 41.6**	**+0.2**
BESE				S	**Sb**	**11 28 54.8**	**-0.7**
BESE	**Bessie Mountai**	**1.05**	**74**		**Pb**	**11 28 41.8**	**+0.4**
BESE					**Sn**	**11 28 56.5**	**-0.6**
PLBC	**Pleasant Camp**	**1.18**	**10**	P	**Pb**	**11 28 42.7**	**-0.8**
PLBC				S	**Sb**	**11 28 57.4**	**-1.6**
PLBC	**Pleasant Camp**	**1.18**	**10**		**Pb**	**11 28 42.7**	**-0.8**
PLBC					**Sg**	**11 28 58.3**	**-0.4**
JIS	**Juneau Island**	**1.27**	**90**		**Pn**	**11 28 45.2**	**+0.3**
JIS					**Sn**	**11 29 02.3**	**+0.1**
SKAG	**Skagway**	**1.39**	**32**		**Pb**	**11 28 46.9**	**-0.2**
SKAG					**Sg**	**11 29 05.8**	**+0.4**
SIT	**Sitka**	**1.47**	**147**		**Pn**	**11 28 47.3**	**-0.4**
SIT					**Sn**	**11 29 07.6**	**+0.4**
PNL	**Peninsula**	**1.93**	**317**	Pn	**Pn**	**11 28 53.7**	**-0.3**
PNL				Sn	**Sn**	**11 29 17.2**	**-1.3**
PNL	**Peninsula**	**1.93**	**317**		**Pn**	**11 28 53.7**	**-0.3**
PNL					**Sn**	**11 29 19.0**	**+0.5**
BCPM	**Bancas Point**	**2.21**	**320**		**Pn**	**11 28 57.5**	**-0.5**
PCA	**Pinnacle**	**2.54**	**317**	Pn	**Pn**	**11 29 02.7**	**+0.2**
PCA				Sn	**Sn**	**11 29 31.2**	**-2.4**
PCA	**Pinnacle**	**2.54**	**317**		**Pn**	**11 29 02.4**	**-0.1**
WHY	**Whitehorse**	**2.56**	**22**	Pn	**Pn**	**11 29 03.8**	**+0.9**
WHY				Sn	**Sn**	**11 29 32.4**	**-1.8**
WHY				Sg	**Sb**	**11 29 38.7**	**-0.1**
WHY	**Whitehorse**	**2.56**	**22**		**Pn**	**11 29 03.9**	**+1.1**
HYT	**Haines Junctio**	**2.56**	**352**	Pn	**Pn**	**11 29 03.7**	**+0.9**
HYT				Sn	**Sn**	**11 29 33.0**	**-1.2**
HYT				Sg	**Sb**	**11 29 39.7**	**+0.9**
HYT	**Haines Junctio**	**2.56**	**352**		**Pn**	**11 29 04.2**	**+1.3**
SAMH	**Samovar Hills**	**2.75**	**313**	Pn	**Pn**	**11 29 07.2**	**+1.7**
SAMH				Sn	**Sn**	**11 29 38.0**	**-1.1**
SAMH				Sg	**Sb**	**11 29 45.4**	**+1.0**
YUK6	**Outpost Mounta**	**2.77**	**344**	Pn	**Pn**	**11 29 07.2**	**+1.4**
YUK6				Sn	**Sn**	**11 29 37.1**	**-2.5**
YUK6				Sg	**Sb**	**11 29 46.2**	**+1.2**
CHX	**Chaix Hills**	**2.84**	**310**		**Pn**	**11 29 07.6**	**+0.9**
YUK5	**Granite Creek**	**2.89**	**350**	Pn	**Pn**	**11 29 08.7**	**+1.3**
YUK5	**Granite Creek**	**2.89**	**350**		**Pn**	**11 29 08.8**	**+1.4**
WRAK	**Wrangell Islan**	**3.06**	**126**	Pn	**Pn**	**11 29 10.1**	**+0.6**
RKAV	**Rock Avalanche**	**3.08**	**313**	Pn	**Pn**	**11 29 11.9**	**+1.8**
YUK4	**Talbot Arm**	**3.19**	**344**	Pn	**Pn**	**11 29 13.7**	**+2.1**
MESA	**MESA**	**3.25**	**308**		**Pn**	**11 29 13.7**	**+1.3**
MESA	**MESA**	**3.25**	**308**		**Pn**	**11 29 13.4**	**+1.0**
YAH	**Yahtse**	**3.28**	**311**	Pn	**Pn**	**11 29 13.4**	**+0.6**
GRNC	**Granite Creek**	**3.52**	**316**	Pn	**Pn**	**11 29 17.0**	**+0.9**
CTGM	**Chitina Glacie**	**3.53**	**321**	Pn	**Pn**	**11 29 17.0**	**+0.8**
CTGM	**Chitina Glacie**	**3.53**	**321**		**Pn**	**11 29 16.7**	**+0.5**
DLBC	**Dease Lake**	**3.56**	**85**	Pn	**Pn**	**11 29 18.1**	**+1.5**
DLBC				Sn	**Sn**	**11 29 58.3**	**-0.7**
DLBC				Sg	**Sg**	**11 30 12.5**	**-2.6**
DLBC	**Dease Lake**	**3.56**	**85**		**Pn**	**11 29 17.6**	**+1.0**
ISLE	**Juniper Island**	**3.66**	**312**	Pn	**Pn**	**11 29 20.1**	**+2.1**
BARN	**Barnard Glacie**	**3.71**	**320**		**Pn**	**11 29 18.8**	**+0.1**
KIAG	**Kiagna River**	**3.87**	**315**	Pn	**Pn**	**11 29 21.9**	**+1.1**
BALM	**Baldy**	**3.93**	**317**	Pn	**Pn**	**11 29 22.4**	**+0.7**
BALM	**Baldy**	**3.93**	**317**	Pn	**Pn**	**11 29 21.6**	**-0.1**
TGL	**Tana Glacier**	**3.94**	**311**	Pn	**Pn**	**11 29 21.0**	**-0.8**
YUK3	**Moose Creek**	**3.94**	**334**	Pn	**Pn**	**11 29 23.3**	**+1.4**
SUCK	**Suckling Hills**	**4.01**	**299**	Pn	**Pn**	**11 29 22.8**	**+0.1**
YUK2	**White River**	**4.05**	**332**	Pn	**Pn**	**11 29 25.0**	**+1.8**
YUK2				Sg	**Sb**	**11 30 25.0**	**+3.5**
CRQM	**Cirque**	**4.07**	**310**	Pn	**Pn**	**11 29 23.1**	**-0.5**
KAIM	**Kayak Island**	**4.26**	**296**	Pn	**Pn**	**11 29 26.3**	**+0.2**
RAGM	**Ragged Mountai**	**4.55**	**301**		**Pn**	**11 29 29.8**	**-0.3**
BVCY	**Beaver Creek**	**4.60**	**336**	Pn	**Pn**	**11 29 33.1**	**+2.4**
BVCY				Pg	**Pb**	**11 29 43.0**	**+1.2**
GLB	**Gilahina Butte**	**4.74**	**315**	Pn	**Pn**	**11 29 32.7**	**0.0**
BCAR	**Beaver Creek A**	**5.37**	**335**	Pn	**Pn**	**11 29 41.0**	**-0.4**
RUBB	**Prince Rupert**	**5.39**	**135**	Sn	**Sn**	**11 30 44.6**	**+0.8**
KLU	**Klutina**	**5.60**	**309**	Pn	**Pn**	**11 29 43.1**	**-1.4**
DAWY	**Dawson**	**5.92**	**349**	Pn	**Pn**	**11 29 49.9**	**+1.0**
DAWY				Sn	**Sn**	**11 30 56.6**	**-0.3**
DAWY				Sg	**Sb**	**11 31 15.8**	**+0.4**
DAWY	**Dawson**	**5.92**	**349**		**Pn**	**11 29 49.6**	**+0.7**
SCM	**Sheep Creek Mo**	**6.35**	**308**	Pn	**Pn**	**11 29 55.2**	**+0.4**
EGAK	**Eagle**	**6.83**	**344**		**Pn**	**11 30 02.0**	**+0.7**
PMR	**Palmer**	**7.02**	**303**	Pn	**Pn**	**11 30 04.1**	**+0.1**
NBC5	**NorthernBC 5**	**7.56**	**90**	Sg	**Sg**	**11 32 23.0**	**-0.1**
SKT	**Skwentna**	**8.23**	**303**	Pn	**Pn**	**11 30 20.4**	**-0.1**
IMAR	**Indian Mountai**	**11.02**	**321**	Pn	**Pn**	**11 30 59.2**	**+0.4**

*IDC **18** 11:40:02.2±0.8, 45.83S×35.05E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.9/43, mbtmp4.0/11, ML4.2/2, MS3.8/3, Ms1 3.8/3, ms1mx3.2/45, Error ellipse: s-maj=39.7km s-min=17.3km az=55.0*

ISC 18 11:40:03.5±0.7, 45.59S±0.2×34.9E±0.2, h10km, n14, σ0°89/12, mb4.0/9, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**17.30**	**316**	P	**Pn**	**11 44 04.5**	**-0.8**
SUR				LR	LR	11 49 42.8	
	comp=Z,339nm,18.4s,baz=152,slow=33						
BOSA	**Boshof**	**18.82**	**333**	P	**P**	**11 44 22.4**	**-1.0**
	0.4nm,0.3s,baz=145,slow=13,SNR=1.1						
MAW	**Mawson**	**26.21**	**156**	P	**P**	**11 45 39.1**	**+1.1**
	2.2nm,0.8s,baz=308,slow=8.7,SNR=5.6						
MAW				LR	LR	11 54 05.0	
	comp=Z,99nm,19.4s,baz=319,slow=32						
QSPA	**South Pole Qui**	**44.37**	**180**	P	**P**	**11 48 13.3**	**-0.4**
	0.3nm,0.5s,baz=232,slow=1.9,SNR=1.5						
VNDA	**Vanda**	**52.65**	**167**	P	**P**	**11 49 17.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.88**	**18**	*e*Pg	**Pg**	**11 48 23.1**	**+0.2**
IKMR	**Kamar-syah**	**1.10**	**41**	*e*Pg	**Pg**	**11 48 26.9**	**-0.2**
IKMR				*e*		11 48 46.9	
IDOB	**Doab**	**1.23**	**27**	*e*Pg	**Pb**	**11 48 28.6**	**-1.5**
IBDR	**Badra**	**1.40**	**288**	*e*Pg	**Pn**	**11 48 32.0**	**-0.5**
IBDR				*e*Sg	**Sn**	**11 48 51.0**	**-0.5**
IBDR				AML	AML	11 48 56.3	
	comp=E,286nm,0.7s						
IBDR				AML	AML	11 49 04.0	
	comp=N,196nm,0.5s						
BMDN	**Meydan**	**1.47**	**48**	*e*Pg	**Pn**	**11 48 32.9**	**-0.8**
BMDN				*e*		11 49 00.8	
IKOM	**Komasi**	**1.48**	**360**	*e*Pg	**Pn**	**11 48 33.1**	**-0.7**
IKOM				*e*		11 48 35.9	
KCHF	**Cheshme Sefid,**	**1.63**	**346**	*e*Pn	**Pn**	**11 48 35.4**	**-0.5**
KCHF				*e*		11 49 05.5	
KER	**Kermanshah**	**1.72**	**349**	*e*Pg	**Pn**	**11 48 37.2**	**+0.1**
KER				*e*Sg	**Sg**	**11 49 01.6**	**+0.2**
HSAM	**Samen**	**1.77**	**31**	*e*Pg	**Pb**	**11 48 38.7**	**-0.6**
HSAM				*e*		11 49 06.6	
IBZA	**Bozab**	**1.80**	**9**	*e*Pg	**Pn**	**11 48 38.8**	**+0.5**
IBZA				*e*		11 49 09.0	
IGHG	**Ghaleghazi**	**1.82**	**334**	*e*Pn	**Pn**	**11 48 38.3**	**-0.2**
IGHG				*e*		11 49 20.7	
IVIS	**Veis**	**1.92**	**343**	*e*Pn	**Pb**	**11 48 41.0**	**-0.7**
IVIS				*e*		11 48 43.5	
NSR	**Nassriya**	**2.04**	**215**	*e*Pn	**Pn**	**11 48 42.0**	**+0.7**
NSR				*e*Sn	**Sn**	**11 49 07.0**	**-0.4**
IDHR	**Dehrash**	**2.22**	**335**	*e*Pn	**Pb**	**11 48 46.1**	**-0.8**
IDHR				*e*		11 49 24.0	
IALM	**Almabolaq**	**2.23**	**14**	*e*Pn	**Pn**	**11 48 44.9**	**+0.6**
ILIN	**Lien**	**2.27**	**348**	*e*Pn	**Pn**	**11 48 45.6**	**+0.8**
ILIN				*e*	**Sg**	**11 49 20.2**	**+1.1**
HAGD	**Aghdareh**	**2.52**	**32**	*e*Pn	**Pn**	**11 48 49.0**	**+0.8**
HAGD				*e*		11 49 34.8	
HSRG	**Sareghieh**	**2.62**	**14**	*e*Pn	**Pn**	**11 48 51.2**	**+1.5**
HSRG				*e*		11 49 37.3	
BHD	**Baghdad**	**2.70**	**283**	*e*Pn	**Pn**	**11 48 51.0**	**+0.6**
BHD				*e*Sn	**Sn**	**11 49 25.0**	**+1.4**
JHBN	**Jahan bin**	**2.70**	**99**	*e*Pn	**Pn**	**11 48 51.1**	**+0.4**
JHBN				*e*		11 49 36.4	
IPIR	**Pirpir**	**2.85**	**89**	*e*Pn	**Pn**	**11 48 52.7**	**0.0**
IPIR				*e*		11 49 43.1	
ROKH	**ROKH**	**2.99**	**96**	*e*Pn	**Pn**	**11 48 54.8**	**+0.1**
ROKH				*e*		11 50 01.7	
IRAZ	**Razeghan**	**3.37**	**36**	*e*Pn	**Pn**	**11 49 01.5**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.46**	**29**	*e*Pn	**Pn**	**11 49 00.9**	**-0.3**
IKLH	**Kolahrood**	**3.47**	**78**	*e*Pn	**Pn**	**11 49 02.4**	**+1.1**
IKLH				*e*		11 50 07.8	
IQOM	**Qom**	**3.66**	**53**	*e*Pn	**Pn**	**11 49 04.3**	**+0.5**
KLNJ	**Kolanjah**	**3.85**	**115**	*e*Pn	**Pn**	**11 49 07.3**	**+0.7**
KLNJ				*e*		11 50 35.4	
QSDN	**Sirdan**	**4.04**	**19**	*e*Pn	**Pn**	**11 49 10.1**	**+1.0**
IZEF	**Zefreh**	**4.06**	**86**	*e*Pn	**Pn**	**11 49 09.7**	**+0.3**
IVRN	**Varamin**	**4.19**	**56**	*e*Pn	**Pn**	**11 49 11.5**	**+0.5**
IANJ	**Anjilo**	**5.99**	**61**	*e*Pn	**Pn**	**11 49 35.4**	**-0.5**
TPRV	**Parvadeh(Tabas**	**7.72**	**85**	*e*Pn	**Pn**	**11 50 00.1**	**+0.6**

PDG ***18*** *11:51:30.4, 32°.20N×47°.40E, h33km, mb5.7/7*
BJI ***18*** *11:51:31.0±0.0, 32°.60N×47°.50E, h10km, mB5.8/62, mb5.5/77, Ms5.6/90, Ms7 5.3/81*
MOS ***18*** *11:51:32.2±1.1, 32°.59N×47°.53E, h13km, mb5.8/113, MS5.0/62, Error ellipse: s-maj=4.0km s-min=2.5km az=113.6*
ISN ***18*** *11:51:33.8±0.4, 32°.80N×47°.67E, h14km±3km, ML5.4*
IDC ***18*** *11:51:33.4±1.3, 32°.70N×47°.57E, h8km±7km, mb5.1/55, mb1 5.1/64, mb1mx5.1/71, mbtmp5.2/64, ML4.3/9, MS5.1/46, Ms1 5.1/46, ms1mx4.9/63, Error ellipse: s-maj=8.9km s-min=7.5km az=0.0*
TEH ***18*** *11:51:33.0, 32°.73N×47°.53E, h7km, ML5.7*
DSN ***18*** *11:51:33.9±0.4, 32°.48N×47°.50E, h10km, mb6.2/5, Error ellipse: s-maj=7.2km s-min=5.4km az=53.0*
GII ***18*** *11:51:33.1±0.0, 32°.62N×47°.54E, h10km*
NEIC ***18*** *11:51:34.1±1.9, 32°.69N±0°.07×47°.50E±0°.07, h10km±1km, Error ellipse: s-maj=11.4km s-min=9.9km az=190.0*
OMAN ***18*** *11:51:35.2, 32°.06N×47°.19E, h10km, mb6.7/28, ms5.1/2, Mwp5.4/9*
GCMT ***18*** *11:51:36.0±0.1, 32°.68N±0°.01×47°.38E±0°.01, h16km, MW5.4/144, Moment Tensor Solution. s117,c185; s144,c282; Duration: 1ŧ3 Moment tensor: Scale 10^17 Nm; Mrr0.27±.02; Mθθ-1.21±.02; Mφφ0.94±.02; Mrθ0.81±.06; Mθφ1.12±.02; Mφr0.47±.05; Best double couple: Mo1.82700×10^17 NP1:φs336.00000°, δ59.00000°, λ171.00000°. NP2:φs70.00000°, δ83.00000°, λ31.00000°. Principal axes: T 1.8070, Plg27.0000°, Azm298.0000°; N 0.0420, Plg58.0000°, Azm82.0000°; P -1.8460, Plg16.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***18*** *11:51:37, 32°.72N×47°.36E, h19km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.12; Mθθ-1.13; Mφφ1.01; Mrθ0.50; Mθφ1.37; Mφr0.42; Fault plane solution: Mo1.86000×10^17 NP1:φs340.00000°, δ71.00000°, λ172.00000°. NP2:φs72.00000°, δ83.00000°, λ19.00000°. Principal axes: T 1.8836, Plg19.0000°, Azm297.0000°; N -0.0469, Plg69.0000°, Azm92.0000°; P -1.8367, Plg8.0000°, Azm205.0000°;*
TIR ***18*** *11:51:43.2, 32°.62N×47°.54E, h10km, Md5.7/6*
BGR ***18*** *11:51:57.0±0.0, 34°.39N×44°.77E, h10km, mb5.8, Ms4.8*

ISC 18 11:51:35.0±0.4, 32°.67N±0°.02×47°.57E±0°.02, h16km±1km, h17km:pP-P, n1848, σ1ŧ69/1861, mb5.8/408, MS5.1/417, 123C-57D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.88**	**15**	*e*Pg	**Pb**	**11 51 48.9**	**-3.0**
IKMR	**Kamar-syah**	**1.08**	**39**	*e*Pg	**Pb**	**11 51 53.2**	**-2.2**
IKMR				*e*		11 52 19.9	
SHGR	**Shooshtar-Gavs**	**1.19**	**118**	*e*Pg	**Pg**	**11 51 57.9**	**0.0**
IDOB	**Doab**	**1.22**	**24**	*e*Pg	**Pn**	**11 51 55.5**	**-2.2**
IBDR	**Badra**	**1.45**	**288**	*e*Pg	**Pn**	**11 52 01.0**	**+0.5**
IBDR				*e*Sg	**Sg**	**11 52 21.0**	**-0.7**
IBDR				AML	AML	11 52 27.5	
	comp=N,79μm,0.6s						
IBDR				AML	AML	11 52 34.0	
	comp=E,51μm,0.7s						
BMDN	**Meydan**	**1.45**	**46**	*e*Pg	**Pn**	**11 51 59.9**	**-0.9**
BMDN				*e*		11 52 31.4	
IKOM	**Komasi**	**1.50**	**358**	*e*Pg	**Pn**	**11 52 00.9**	**-0.5**
IKOM				*e*		11 52 05.7	
AHWZ	**Ahwaz**	**1.62**	**145**	*e*Pg	**Pg**	**11 52 05.6**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.66**	**345**	*e*Pg	**Pn**	**11 52 03.7**	**+0.1**
KCHF				*e*		11 52 30.7	
KER	**Kermanshah**	**1.75**	**348**	P	**Pb**	**11 52 06.3**	**-0.5**
KER	**Kermanshah**	**1.75**	**348**	*e*Pg	**Pb**	**11 52 06.2**	**-0.5**
HSAM	**Samen**	**1.76**	**29**	*e*		11 52 36.2	
HSAM				*e*Pg	**Pb**	**11 52 06.5**	**-0.6**
IBZA	**Bozab**	**1.81**	**8**	*e*		11 52 36.0	
IBZA				*e*Pg	**Pn**	**11 52 05.9**	**+0.1**
IGHG	**Ghaleghazi**	**1.85**	**333**	*e*Pn	**Pn**	**11 52 07.2**	**+0.9**
IVIS	**Veis**	**1.94**	**342**	*e*		11 52 39.8	
IVIS				*e*Pn	**Pn**	**11 52 08.2**	**+0.7**
NSR	**Nassriya**	**2.06**	**217**	*e*Pn	**Pb**	**11 52 11.0**	**-1.0**
NSR				*e*Sn	**Sb**	**11 52 38.0**	**+0.7**
IALM	**Almabolaq**	**2.24**	**13**	*e*Pn	**Pn**	**11 52 13.4**	**+1.7**
IDHR	**Dehrash**	**2.25**	**334**	*e*Pn	**Pn**	**11 52 11.7**	**-0.1**
IDHR				*e*		11 52 53.1	
KHMZ	**Khomeyn**	**2.27**	**61**	*e*Pn	**Pb**	**11 52 14.4**	**-1.3**
ILIN	**Lien**	**2.29**	**347**	*e*Pn	**Pn**	**11 52 13.3**	**+0.8**
ILIN				*e*		11 52 53.0	
SNGE	**Sanandaj**	**2.42**	**356**	*e*Pn	**Pn**	**11 52 15.4**	**+1.2**
HAGD	**Aghdareh**	**2.51**	**31**	*e*Pn	**Pn**	**11 52 17.1**	**+1.7**
HAGD				*e*		11 52 57.7	
HSRG	**Sareghieh**	**2.63**	**13**	*e*Pn	**Pn**	**11 52 18.3**	**+1.2**
HSRG				*e*		11 53 09.2	
JHBN	**Jahan bin**	**2.66**	**99**	*e*Pn	**Pn**	**11 52 19.4**	**+1.9**
JHBN				*e*		11 53 23.4	
BHD	**Baghdad**	**2.75**	**283**	*e*Pn	**Pn**	**11 52 20.0**	**+1.6**
BHD				*e*Sn	**Sn**	**11 52 54.0**	**+2.7**
BHD				AML	AML	11 53 10.9	
	comp=E,19μm,0.8s						
ASAO	**Ashtian**	**2.77**	**47**	*e*Pn	**Pn**	**11 52 20.7**	**+1.6**
IPIR	**Pirpir**	**2.80**	**89**	*e*Pn	**Pn**	**11 52 21.2**	**+1.7**
IPIR				*e*		11 53 10.0	
ROKH	**ROKH**	**2.95**	**95**	*e*Pn	**Pn**	**11 52 23.1**	**+1.7**
ROKH				*e*		11 53 27.5	
IBRJ	**Brojen**	**3.22**	**103**	*e*Pn	**Pn**	**11 52 26.8**	**+1.6**
IRAZ	**Razeghan**	**3.36**	**35**	*e*Pn	**Pn**	**11 52 28.7**	**+1.7**
IKLH	**Kolahrood**	**3.43**	**78**	*e*Pn	**Pn**	**11 52 30.3**	**+2.2**
IKLH				*e*		11 53 46.1	
QABG	**Abgarm-Qazvin**	**3.46**	**28**	*e*Pn	**Pn**	**11 52 29.4**	**+1.0**
IQOM	**Qom**	**3.63**	**52**	*e*Pn	**Pn**	**11 52 32.2**	**+1.4**
IGAR	**Gharneh**	**3.79**	**93**	*e*Pn	**Pn**	**11 52 34.5**	**+1.5**
IGAR				*e*		11 53 49.3	
KLNJ	**Kolanjah**	**3.81**	**115**	*e*Pn	**Pn**	**11 52 34.5**	**+1.2**
KLNJ				*e*		11 53 51.4	
IMHD	**Mahdasht**	**3.95**	**40**	*e*Pn	**Pn**	**11 52 35.0**	**-0.1**
IZEF	**Zefreh**	**4.02**	**86**	*e*Pn	**Pn**	**11 52 37.6**	**+1.5**
QSDN	**Sirdan**	**4.04**	**19**	*e*Pn	**Pn**	**11 52 38.5**	**+2.0**
IHSB	**Hasanabad**	**4.13**	**47**	*e*Pn	**Pn**	**11 52 39.2**	**+1.6**
QCNT	**Qazvin**	**4.13**	**29**	*e*Pn	**Pn**	**11 52 33.1**	**-4.5**
IVRN	**Varamin**	**4.16**	**55**	*e*Pn	**Pn**	**11 52 39.2**	**+1.2**
IRAM	**Ramesheh**	**4.17**	**101**	*e*Pn	**Pn**	**11 52 38.8**	**+0.6**
IGZV	**Ghazvin**	**4.30**	**30**	*e*Pn	**Pn**	**11 52 41.5**	**+1.5**
MAHB	**Mahabad**	**4.36**	**340**	*e*Pn	**Pn**	**11 52 41.3**	**+0.5**
TEH	**Tehran**	**4.39**	**45**	*e*Pn	**Pn**	**11 52 42.5**	**+1.3**
QALM	**Alamut, Qazvin**	**4.53**	**33**	*e*Pn	**Pn**	**11 52 44.3**	**+1.1**
KAZ1	**Kazerun**	**4.63**	**130**	*e*Pn	**Pn**	**11 52 45.7**	**+1.3**
IDMV	**Damavand**	**4.70**	**51**	*e*Pn	**Pn**	**11 52 47.1**	**+1.5**
ISRB	**Sarab**	**5.14**	**1**	*e*Pn	**Pn**	**11 52 53.9**	**+2.4**
IAZR	**Azarshahr**	**5.16**	**346**	*e*Pn	**Pn**	**11 52 53.5**	**+1.6**
ANAR	**Anarak**	**5.21**	**83**	*e*Pn	**Pn**	**11 52 52.9**	**+0.5**
SHI	**Shiraz**	**5.21**	**124**	*e*Pn	**Pn**	**11 52 52.5**	**+0.1**
IFIR	**Firoozkooh**	**5.22**	**54**	*e*Pn	**Pn**	**11 52 54.3**	**+1.6**
ILAS	**Lasjerd**	**5.23**	**57**	*e*Pn	**Pn**	**11 52 54.3**	**+1.5**
ISAD	**Sadrabad**	**5.24**	**97**	*e*Pn	**Pn**	**11 52 53.8**	**+0.9**
IPRN	**Peran**	**5.31**	**47**	*e*Pn	**Pn**	**11 52 56.3**	**+2.5**
IALA	**Alasht**	**5.51**	**50**	*e*Pn	**Pn**	**11 52 58.7**	**+2.0**
CUKT	**Cukurca**	**5.60**	**326**	*e*P	**Pn**	**11 52 56.5**	**-1.3**
IHSH	**Hashtrud**	**5.63**	**358**	*e*Pn	Pn	11 52 47.3	-11
IHRS	**Heris**	**5.65**	**356**	*e*Pn	**Pn**	**11 53 00.6**	**+2.1**
ITBZ	**Tabriz**	**5.67**	**349**	*e*Pn	**Pn**	**11 53 01.2**	**+2.5**
ISHM	**Shahmirzad**	**5.68**	**55**	*e*Pn	**Pn**	**11 53 00.7**	**+1.7**
ICHK	**Chekchek**	**5.80**	**92**	*e*Pn	**Pn**	**11 53 01.3**	**+0.7**
HAKT	**HAKKARI**	**5.81**	**328**	*e*Pn	**Pn**	**11 53 00.0**	**-0.8**
AHAR	**Ahar**	**5.82**	**356**	*e*Pn	**Pn**	**11 53 02.9**	**+2.1**
IANJ	**Anjilo**	**5.96**	**60**	*e*Pn	**Pn**	**11 53 03.9**	**+1.1**
LKRN	**Lenkeran, Azer**	**6.10**	**9**	P	**Pn**	**11 53 06.9**	**+2.4**
IMEH	**Mehriz**	**6.12**	**100**	*e*Pn	**Pn**	**11 53 05.7**	**+0.7**
IMRD	**Marand**	**6.21**	**346**	*e*Pn	**Pn**	**11 53 07.7**	**+1.4**
SIRT	**Sirnak**	**6.39**	**320**	*e*P	**Pn**	**11 53 08.1**	**-0.5**
IGLO	**Ghaloghah**	**6.42**	**52**	*e*Pn	**Pn**	**11 53 11.4**	**+2.2**
JHRM	**Jahrom**	**6.64**	**127**	*e*Pn	**Pn**	**11 53 11.8**	**-0.2**
NAX	**Nakhchivan**	**6.70**	**346**	P	**Pn**	**11 53 13.9**	**+1.1**
GEVA	**Gevas**	**6.72**	**328**	Pn	**Pn**	**11 53 14.0**	**+0.8**
AKDM	**Akdamar-Van**	**6.77**	**328**	*e*P	**Pn**	**11 53 14.2**	**+0.3**
VANB	**Van**	**6.82**	**331**	*e*P	**Pn**	**11 53 15.2**	**+0.7**
IBAF	**Bafgh**	**6.87**	**97**	*e*Pn	**Pn**	**11 53 16.1**	**+0.8**
CLDR	**Caldiran**	**7.10**	**336**	*e*P	**Pn**	**11 53 19.7**	**+1.2**
LMD1	**Lamerd**	**7.20**	**136**	*e*Pn	**Pn**	**11 53 21.4**	**+1.8**
MARD	**Mardin**	**7.24**	**312**	Pn	**Pn**	**11 53 18.4**	**-1.9**
GURO	**Guroymak-BITLI**	**7.40**	**324**	*e*P	**Pn**	**11 53 21.7**	**-0.7**
MAZI	**Mazidag**	**7.54**	**311**	*e*P	**Pn**	**11 53 22.4**	**-2.0**
SVAN	**Silvan-Diyarba**	**7.54**	**318**	*e*P	**Pn**	**11 53 23.0**	**-1.4**
MLAZ	**Malazgirt-MUS**	**7.63**	**329**	*e*P	**Pb**	**11 53 50.2**	**+3.2**
TNSJ	**Nastanj**	**7.67**	**78**	*e*Pn	**Pn**	**11 53 26.8**	**+0.5**
TPRV	**Parvadeh(Tabas**	**7.68**	**85**	*e*Pn	**Pn**	**11 53 26.5**	**+0.2**
LAR1	**LAR**	**7.72**	**128**	*e*Pn	**Pn**	**11 53 29.1**	**+2.3**
TASB	**TASBURUN-IGDIR**	**7.77**	**341**	*e*P	**Pn**	**11 53 30.3**	**+2.7**
AGRB	**Hanur-Agry**	**7.82**	**333**	*e*P	**Pn**	**11 53 28.6**	**+0.3**
IMND	**Minoodasht**	**7.89**	**52**	*e*Pn	**Pn**	**11 53 29.6**	**+0.5**
KHGB	**Koh Gabri**	**7.94**	**104**	*e*Pn	**Pn**	**11 53 29.3**	**-0.8**
GANJ	**Ganja**	**8.02**	**353**	P	**Pn**	**11 53 32.3**	**+1.4**
DYBB	**Diyarbakir**	**8.04**	**313**	*e*P	**Pn**	**11 53 29.9**	**-1.3**
TKDS	**Koohdasht(Taba**	**8.07**	**81**	*e*Pn	**Pn**	**11 53 32.0**	**+0.3**
MNGR	**Mingechevir, A**	**8.09**	**357**	P	**Pn**	**11 53 33.6**	**+1.8**
VRTB	**Varto-Mus**	**8.15**	**324**	*e*P	**Pn**	**11 53 34.5**	**+1.7**
TVBK	**TV Kerman**	**8.31**	**106**	*e*Pn	**Pn**	**11 53 35.2**	**0.0**
NGRK	**Negar Kerman**	**8.41**	**109**	*e*Pn	**Pn**	**11 53 37.1**	**+0.5**
BNGB	**Bingl**	**8.43**	**320**	*e*P	**Pn**	**11 53 35.3**	**-1.3**
SEKA	**Sheki**	**8.53**	**358**	P	**Pn**	**11 53 39.5**	**+1.6**
URFA	**Urfa**	**8.60**	**306**	*e*P	**Pn**	**11 53 37.4**	**-1.6**
KOPR	**Koprukoy-ERZUR**	**8.63**	**329**	*e*P	**Pn**	**11 53 40.6**	**+1.1**
KARS	**Kars**	**8.72**	**337**	*e*P	**Pn**	**11 53 43.0**	**+2.4**
AKT	**Akhty**	**8.79**	**1**	*e*P	**Pn**	**11 53 45.4**	**+3.8**
AKT				*e*S	Sn	11 55 29.7	+9.3
AKT				pmax	pmax		
	comp=Z,123nm,1.2s						
AKT				smax	smax		
	comp=E,51nm,1.1s						
AKT				smax	smax		
	comp=N,56nm,0.8s						
SVRC	**Sivrice-ELAZID**	**8.81**	**313**	*e*P	**Pn**	**11 53 40.4**	**-1.6**
YEDI	**Yedisu-Bingol**	**8.82**	**322**	*e*P	**Pn**	**11 53 41.5**	**-0.5**
SENK	**Senkaya-Erzuru**	**8.92**	**333**	*e*P	**Pn**	**11 53 45.1**	**+1.7**
CHMN	**Cheshme madani**	**8.98**	**106**	*e*Pn	**Pn**	**11 53 45.9**	**+1.5**
JRN	**Qarnain Island**	**8.99**	**148**	*e*Pn	**Pn**	**11 53 44.2**	**0.0**
ASF	**Jabal al Asfar**	**9.04**	**270**	Pn	**Pn**	**11 53 42.9**	**-2.0**
	comp=N,9.8nm,0.3s,baz=40,slow=5.0,SNR=32						
ASF				Sn	**Sn**	**11 55 22.9**	**-3.5**
	comp=N,5.8nm,0.3s,baz=186,slow=18,SNR=1.1						
ASF				Lg	Lg	11 56 23.4	
	comp=N,5.8nm,0.3s,baz=218,slow=19,SNR=1.4						
ASF				LR	LR	11 58 06.1	
	comp=N,8μm,20.3s,baz=41,slow=43						
SBZV	**Sabzevar**	**9.07**	**63**	*e*Pn	**Pn**	**11 53 46.3**	**+0.7**
PTK	**Pertek**	**9.09**	**315**	*e*P	**Pn**	**11 53 43.6**	**-2.1**
GENO	**Geno**	**9.12**	**123**	*e*Pn	**Pn**	**11 53 44.8**	**-1.4**
LGD	**Lagodekhi**	**9.21**	**354**	P	**Pn**	**11 53 51.4**	**+4.3**
AKH	**Akhalkalaki**	**9.31**	**341**	*e*P	**Pn**	**11 53 51.4**	**+2.4**
AKH	**Akhalkalaki**	**9.31**	**341**	P	**Pn**	**11 53 50.5**	**+1.8**
AKH	**Akhalkalaki**	**9.31**	**341**	Pn	**Pn**	**11 53 50.5**	**+1.8**
SLWR	**Sila**	**9.31**	**156**	*e*Pn	**Pn**	**11 53 49.4**	**+0.8**
TBLG	**Delisi**	**9.32**	**347**	*e*P	**Pn**	**11 53 51.6**	**+2.9**
TBLG	**Delisi**	**9.32**	**347**	P	**Pn**	**11 53 51.6**	**+2.9**
TBLG	**Delisi**	**9.32**	**347**	Pn	**Pn**	**11 53 51.6**	**+2.9**
MALT	**Malatya**	**9.34**	**310**	*e*P	**Pn**	**11 53 48.3**	**-0.7**
MALT	**Malatya**	**9.34**	**310**	P	**Pn**	**11 53 49.2**	**+0.2**
DRN	**Derbent**	**9.36**	**3**	ǁ*i*P	**Pn**	**11 53 48.4**	**-0.8**
ERZN	**Erzincan**	**9.37**	**320**	*e*P	**Pn**	**11 53 51.9**	**+2.4**
ITEG	**Tejag**	**9.42**	**86**	*e*Pn	**Pn**	**11 53 51.2**	**+1.0**
GAZ	**Gaziantep**	**9.61**	**301**	*e*P	**Pn**	**11 53 53.1**	**+0.3**
GAZ	**Gaziantep**	**9.61**	**301**	Pn	**Pn**	**11 53 52.3**	**-0.5**
ISFR	**Sfrayin**	**9.62**	**60**	*e*Pn	**Pn**	**11 53 54.5**	**+1.4**
AFRZ	**Afriz**	**9.64**	**82**	*e*Pn	**Pn**	**11 53 53.3**	**+0.1**
IKOO	**Kooshah**	**9.66**	**88**	*e*Pn	**Pn**	**11 53 54.4**	**+0.8**
HWQ	**Hawqa**	**9.84**	**283**	*e*P	**Pn**	**11 53 52.9**	**-3.0**
ARPR	**Arapgir-MALATY**	**9.85**	**313**	*e*P	**Pn**	**11 53 59.4**	**+3.8**
GHWR	**Ruwas**	**9.86**	**150**	*e*Pn	**Pn**	**11 53 55.9**	**-0.2**
KEMA	**Kemaliye**	**9.87**	**314**	*e*Pn	**Pn**	**11 53 56.2**	**-0.1**
RCY	**Rachaya**	**9.88**	**278**	*e*P	**Pn**	**11 53 56.7**	**+0.2**
IKRD	**Kardeh**	**9.89**	**63**	*e*Pn	Pn	11 54 09.0	+12
KHNJ	**Kahnooj**	**9.94**	**116**	*e*Pn	**Pn**	**11 53 56.4**	**-0.9**
SHBL	**Chebaa**	**9.95**	**277**	*e*P	**Pn**	**11 53 56.3**	**-1.3**
NATI	**Neve Ativ**	**9.96**	**277**	Pn	**Pn**	**11 53 56.6**	**-0.9**
SHME	**Shamm**	**9.97**	**129**	*i*P	**Pn**	**11 53 55.5**	**-2.2**
	SNR=30						
QRWL	**Qaraoun**	**10.01**	**278**	*e*P	**Pn**	**11 53 58.6**	**+0.4**
IAKL	**Akhelmad**	**10.01**	**64**	*e*Pn	**Pn**	**11 53 59.4**	**+0.9**
CHOM	**Cayeli-Rize**	**10.02**	**329**	*e*P	**Pn**	**11 53 59.3**	**+1.1**
KELT	**Kelkit**	**10.02**	**320**	*e*Pn	**Pn**	**11 53 59.6**	**+1.1**
UMQ	**Umm Al-Quwin**	**10.04**	**133**	P	**Pn**	**11 53 59.6**	**+1.0**
	SNR=6.7						
BHL	**Bhannes**	**10.05**	**280**	*e*P	**Pn**	**11 53 58.1**	**-0.7**
BATM	**Batumi**	**10.07**	**334**	*e*P	**Pn**	**11 54 00.5**	**+1.5**
GEYT	**Alibeck**	**10.09**	**56**	Pn	**Pn**	**11 53 59.8**	**+0.5**
	comp=N,1.0nm,0.3s,baz=250,slow=7.7,SNR=27						
GEYT				LR	LR	11 58 38.7	
	comp=N,17μm,21.3s,baz=245,slow=42						
GEYT	**Alibeck**	**10.09**	**56**	Pn	**Pn**	**11 54 01.2**	**+2.0**
GYA0B	**ALIBECK ARRAY**	**10.09**	**56**	Pn	**Pn**	**11 54 01.5**	**+2.2**
DQRL	**Deir Qamar**	**10.11**	**279**	*e*P	**Pn**	**11 53 58.9**	**-0.7**
IPAY	**Payeh**	**10.15**	**65**	*e*Pn	**Pn**	**11 54 02.5**	**+2.2**
BANOM	**Banah**	**10.16**	**129**	*i*P	**Pn**	**11 53 59.0**	**-1.3**
	SNR=88						
BANOM	**Banah**	**10.16**	**129**	P	**Pn**	**11 53 59.7**	**-0.6**
	SNR=40						
IMON	**Monand**	**10.18**	**84**	*e*Pn	**Pn**	**11 54 02.2**	**+1.4**
HMDT	**Nahal Hemdat**	**10.18**	**271**	Pn	**Pn**	**11 53 59.0**	**-1.6**
IEMG	**Emamgholi**	**10.24**	**59**	*e*Pn	**Pn**	**11 54 02.8**	**+1.2**
MMA0B	**Mount Meron ar**	**10.24**	**275**	Pn	**Pn**	**11 53 59.8**	**-1.6**
MMAI	**Mount Meron Ar**	**10.24**	**275**	Pn	**Pn**	**11 54 00.4**	**-1.0**
	comp=N,4.7nm,0.3s,baz=81,slow=16,SNR=17						
MMAI				Sn	**Sn**	**11 55 59.2**	**+3.2**
	comp=N,4.9nm,0.3s,baz=98,slow=24,SNR=1.4						
MMAI				Lg	Lg	11 56 59.7	
	comp=N,7.7nm,0.3s,baz=98,slow=30,SNR=3.0						
MMAI				LR	LR	11 58 55.6	
	comp=N,10μm,21.6s,baz=85,slow=43						
MMLI	**Mount Malkishu**	**10.26**	**272**	Pn	**Pn**	**11 54 00.4**	**-1.2**
MAK	**Makhachkala**	**10.27**	**360**	*e*P	**Pn**	**11 54 06.1**	**+4.4**
MAK				*e*S	Sn	11 56 06.5	+10
MAK				pmax	pmax		
	comp=Z,310nm,1.3s						
MAK				MLR	MLR		
	comp=Z,6μm,6.0s						
IDAH	**Dahanechah**	**10.36**	**86**	*e*Pn	**Pn**	**11 54 04.1**	**+0.8**
KTUT	**Trabzon**	**10.38**	**325**	*e*P	**Pn**	**11 54 06.1**	**+2.8**
DSI	**Dead Sea**	**10.39**	**267**	Pn	**Pn**	**11 54 01.8**	**-1.7**
ONI	**Oni**	**10.42**	**343**	P	**Pn**	**11 54 07.4**	**+3.6**
BLGI	**Bet Lehem HaGe**	**10.43**	**274**	Pn	**Pn**	**11 54 02.1**	**-1.8**
NAZ	**Nazwa, Dubai**	**10.44**	**135**	*i*P	**Pn**	**11 54 02.6**	**-1.4**
	SNR=62						
NAZ	**Nazwa, Dubai**	**10.44**	**135**	P	**Pn**	**11 54 04.3**	**+0.3**
	SNR=62						
NAZ				P	**Pn**	**11 54 04.3**	**+0.3**
	SNR=62						
NAZ				S	**Sn**	**11 55 58.5**	**-2.1**
NAZ				S	**Sn**	**11 55 58.5**	**-2.1**
MSFE	**Esma-Masafi**	**10.47**	**132**	*i*P	**Pn**	**11 54 03.2**	**-1.3**
	SNR=12						
ZEI	**Tsey**	**10.51**	**345**	*e*P	**Pn**	**11 54 09.0**	**+3.9**
ZEI				pmax	pmax		
	comp=Z,105nm,1.1s						
FAQ	**Al Faqa, Dubai**	**10.58**	**136**	*i*P	**Pn**	**11 54 04.8**	**-1.2**
	SNR=8.0						
FAQ	**Al Faqa, Dubai**	**10.58**	**136**	P	**Pn**	**11 54 06.1**	**+0.1**
	S

SMDO S **Sn** 11 57 07.1 -4.3
SMDO S **Sn** 11 57 07.1 -4.3
WSAR Wadi Sarin 13.55 131 Pn **Pn** 11 54 43.8 -2.9
comp=Z,26nm,0.3s,baz=337,slow=11,SNR=61
WSAR Sn Sn 11 57 07.2 -10
comp=Z,2.8nm,0.3s,baz=300,slow=20,SNR=1.9
WSAR LR LR 12 01 20.1
comp=Z,16μm,18.2s,baz=334,slow=43
WSAR Wadi Sarin 13.55 131 P **Pn** 11 54 44.3 -2.3
SNR=47
JMDO Jabal Madar 13.87 135 P **Pn** 11 54 48.5 -2.5
SNR=63
ILGA Ilgaz 13.88 311 Pn **Pn** 11 54 53.8 +2.6
BR231 Keskin MP Arra 13.91 305 Pn **P** 11 54 55.8 -3.9
WBK Wadi Bani Khal 14.22 132 P **Pn** 11 54 54.3 -1.5
SNR=28
ANN Anapa 14.45 330 *e*P **Pn** 11 54 59.5 +0.7
ANN *e*S **Sn** 11 57 44.6 +6.0
ANN pmax pmax
comp=Z,512nm,1.9s
ANN pmax pmax
comp=N,293nm,1.9s
ANN pmax pmax
comp=E,151nm,1.9s
ANN MLR MLR
comp=E,8μm,19.0s
ANN MLR MLR
comp=Z,12μm,19.0s
JLN Jalan Bani Buh 14.83 132 P **Pn** 11 55 02.0 -2.2
SNR=19
ISP Isparta 14.84 295 P **Pn** 11 55 06.7 +2.4
ISP Isparta 14.84 295 Pn **Pn** 11 55 06.7 +2.4
MHTO MHTO 14.88 139 P **Pn** 11 55 02.0 -2.8
SNR=95
MHTO P **Pn** 11 55 02.0 -2.8
SNR=95
MHTO P **Pn** 11 55 02.0 -2.8
SNR=43
MHTO P **Pn** 11 55 02.0 -2.8
SNR=43
MHTO S **Sn** 11 57 46.6 -2.7
SNR=5.9
MHTO S **Sn** 11 57 46.6 -2.7
SNR=5.9
ELL Elmali 15.08 291 P **Pn** 11 55 10.1 +2.5
ELL pmax pmax
comp=Z,994nm,1.0s
ELL Elmali 15.08 291 Pn **Pn** 11 55 10.1 +2.5
MDUB Mudurnu 15.27 305 Pn **Pn** 11 55 10.8 +0.8
DQM DQM 15.51 142 P **Pn** 11 55 09.9 -3.3
SNR=87
DQM S **Sn** 11 57 57.1 -7.7
SIM Simferopol' 16.10 323 *ce*P **Pn** 11 55 17.4 -3.3
SIM *e*S **Sn** 11 58 24.0 +5.1
SIM pmax pmax
comp=Z,3μm,3.3s
ABTO Aybut 16.11 160 P **Pn** 11 55 16.6 -4.3
SNR=31
ABTO S **Sn** 11 58 11.5 -7.9
SNR=5.5
RBK Rabkut 16.25 157 P **Pn** 11 55 19.1 -3.7
SNR=29
RBK P **Pn** 11 55 19.1 -3.7
SNR=29
RBK P **Pn** 11 55 19.1 -3.7
SNR=29
RBK S **Sn** 11 58 13.1 -10
RBK S **Sn** 11 58 13.1 -10
RBK S **Sn** 11 58 13.1 -10
SHAO Shalim 16.29 152 *i* P **Pn** 11 55 19.7 -3.5
SNR=33
SHAO Shalim 16.29 152 P **Pn** 11 55 20.9 -2.3
SNR=33
SHAO S **Sn** 11 58 17.7 -6.1
DMTO DMTO 16.31 154 P **Pn** 11 55 20.4 -3.0
SNR=32
DMTO S **Sn** 11 58 16.5 -7.7
SNR=11
ARG Arkhangelos 16.42 288 P **Pn** 11 55 25.3 +0.5
ARG pmax pmax
comp=Z,175nm,0.9s
YER Yerkesik 16.43 291 P **Pn** 11 55 26.1 +1.1
MANT Manisa 16.51 296 P **Pn** 11 55 26.5 +0.4
KARP Karpathos 17.14 285 P **Pn** 11 55 33.6 -0.3
KARP Karpathos 17.14 285 P **P** 11 55 35.0 -0.6
SMG Samos 17.67 292 P **Pn** 11 55 34.8 -5.6
KBL Kabul 17.98 78 P **P** 11 55 45.9 +0.8
KBL pmax pmax
comp=Z,1μm,1.4s
KBL Kabul 17.98 78 P **P** 11 55 45.9 +0.8
KBL IAmb IAmb 11 55 48.6
comp=Z,1μm,1.4s
NPS Neapolis 18.39 284 P **P** 11 55 48.7 -0.6
PRK Paraskevi 18.43 297 P **P** 11 55 48.4 -1.2
LAST Lasithi 18.50 284 P **P** 11 55 49.8 -0.8
CHGR Chuyangaron 18.51 65 IAmb IAmb 11 56 02.5
comp=Z,609nm,1.1s
EZN Ezine 18.54 299 P **P** 11 55 49.6 -1.3
EZN Ezine 18.54 299 P **Pn** 11 55 53.3 +2.2
SANT Santorini 18.58 288 ⇑P **Pn** 11 55 51.7 0.0
SANT Santorini 18.58 288 IAmb IAmb 11 55 54.0
comp=Z,552nm,1.0s
APE Apeiranthos 18.60 290 P **P** 11 55 48.3 -3.3
APE Apeiranthos 18.60 290 ⇑P **Pn** 11 55 51.9 0.0
APE Apeiranthos 18.60 290 *de*P **P** 11 55 51.4 -0.2
APE pmax pmax
comp=Z,378nm,1.1s
THR5 Thira Island, 18.68 288 P **Pn** 11 55 53.0 +0.2
PSN Preselentsi 18.74 311 *e*P **Pn** 11 55 53.8 +0.2
JURR Jurilovca 18.88 315 ⇑P **Pn** 11 55 55.2 0.0
EDRB Edirne 18.90 305 P **P** 11 55 52.6 -2.2
GADA Gvkgeada 18.95 299 P **P** 11 55 53.2 -2.2
ABKAR Akbulak array 18.98 26 P **P** 11 55 54.5 -1.1
ABKAR Akbulak array 18.98 26 P **Pn** 11 55 56.4 +0.1
ABKAR IAmb IAmb 11 56 01.4
comp=Z,172nm,1.1s
IDI Anoyia 18.98 284 P **P** 11 55 54.6 -1.3
comp=Z,5.7nm,0.3s,baz=70,slow=15,SNR=31
IDI LR LR 12 06 53.4
comp=Z,2μm,20.1s,baz=96,slow=48
IDI Anoyia 18.98 284 P **P** 11 55 56.1 +0.2
IDI Anoyia 18.98 284 ⇑P **Pn** 11 55 57.2 +0.6
IDI Anoyia 18.98 284 P **P** 11 55 55.5 -0.4
IDI IAmb IAmb 11 56 07.3
comp=Z,424nm,0.9s
TIRR Tirgusor 19.00 314 ⇓P **Pn** 11 55 56.5 -0.1
TIRR Tirgusor 19.00 314 ⇓P **Pn** 11 55 56.5 -0.1
TIRR Tirgusor 19.00 314 *e*P **P** 11 55 54.3 -1.5
VRH Novokhopyorsk 19.01 349 *e*P **P** 11 55 55.7 -0.2
VRH *e*S **Sn** 11 59 26.5 -2.6
VRH pmax pmax
comp=Z,2μm,1.8s
VRH smax smax
comp=E,1μm,3.7s
VRH MLR MLR
comp=Z,7μm,13.0s
PRD Provadia 19.02 309 *e*P **P** 11 55 56.2 +0.1
SIVA Sivas 19.04 283 P **P** 11 55 55.3 -1.2
ALN Alexandroupoli 19.06 302 P **P** 11 55 56.2 -0.4
ALN Alexandroupoli 19.06 302 P **P** 11 55 56.0 -0.6
ALN pmax pmax
comp=Z,240nm,1.0s
ALN Alexandroupoli 19.06 302 P **P** 11 55 56.0 -0.6
NEF NEVSHA 19.13 309 *e*P **Pn** 11 55 57.9 -0.4
TLCR ⇓P **Pn** 11 55 58.2 -0.3
TLCR ⇓P **Pn** 11 55 58.2 -0.3
TOPG Topolog 19.24 315 ⇑P **Pn** 11 55 59.6 +0.1
JMB Yambol 19.25 307 *e*P **P** 11 55 56.9 -1.8
VORD Divnogorie 19.27 344 *e*P **P** 11 55 56.8 -2.0
VORD *e*S **Sn** 11 59 29.4 -6.0
VORD pmax pmax
comp=Z,470nm,1.0s
VORD smax smax
comp=E,390nm,4.4s
SMTH Samothraki Isl 19.30 300 P **P** 11 55 58.1 -1.2
AKTO Aktyubinsk 19.36 20 P **P** 11 55 58.9 -0.9
comp=E,3.2nm,0.3s,baz=205,slow=12,SNR=69
AKTO ScP **ScP** 12 03 56.3 -0.4
comp=E,0.1nm,0.3s,baz=180,slow=3.6,SNR=3.0
AKTO LR LR 12 06 01.3
comp=E,8μm,18.2s,baz=191,slow=45
AKTO Aktyubinsk 19.36 20 P **P** 11 55 59.5 -0.3
HARR Harsova 19.41 314 ⇓P **Pn** 11 56 01.2 -0.4
HARR Harsova 19.41 314 ⇓P **Pn** 11 56 01.2 -0.4
MHLO Agia Marina, M 19.46 288 P **P** 11 55 59.8 -1.2

GAR Garm 19.47 65 P **P** 11 56 01.4 +0.1
GAR IAmb IAmb 11 56 13.9
comp=Z,503nm,1.2s
RDO Rodhopi 19.50 302 P **P** 11 56 00.1 -1.4
VSR Storozhevoye 19.53 344 *e*P **P** 11 55 59.4 -2.2
VSR *e*S **S** 11 59 33.7 -7.9
VSR pmax pmax
comp=Z,570nm,1.3s
VSR smax smax
comp=E,820nm,3.2s
VSR MLR MLR
comp=Z,7μm,14.0s
CFR Carcaliu 19.55 315 ⇓P **Pn** 11 56 03.1 -0.1
CFR Carcaliu 19.55 315 ⇓P **Pn** 11 56 03.1 -0.1
VAM Vamos 19.55 284 P **P** 11 56 00.9 -1.1
IMMV Iera Moni Meta 19.73 285 P **P** 11 56 02.6 -1.4
KDZ Kurdzhali 19.76 303 *e*P **P** 11 56 04.1 -0.1
RAZG Razgrad 19.77 309 ⇑P **P** 11 56 04.9 +0.6
DIM Dimitrovgrad 19.81 304 *e*P **P** 11 56 05.2 +0.4
THAS Thassos island 19.93 300 P **P** 11 56 02.2 -4.0
VORR Voronezh 19.95 345 *e*P **Pn** 11 56 08.0 +0.1
VORR pmax pmax
comp=Z,2μm,1.6s
KYMI Kymi, Euboea I 19.95 294 P **P** 11 56 06.0 -0.4
DION Dionisos Attik 19.99 292 P **P** 11 56 04.3 -2.6
SZH Strazhica 20.01 308 *e*P **P** 11 56 06.7 -0.3
PTL Penteli 20.04 292 P **P** 11 56 05.5 -1.9
ATHU Athens Univers 20.09 292 P **P** 11 56 05.2 -2.7
VARL Varlezi 20.11 317 ⇑P **P** 11 56 08.6 +0.6
IUG Iuzhnay 20.14 56 *i* P **P** 11 56 08.5 -0.2
comp=Z,418nm,1.7s,baz=56
IUG *i* S **S** 11 59 55.5 +1.1
comp=Z,466nm,2.5s,baz=56
IUG LR LR 12 04 35.2
comp=Z,927nm,10.7s,baz=56
IUG Iuzhnay 20.14 56 *i* P **P** 11 56 08.4 -0.2
IUG *i* S **S** 11 59 55.4 +1.1
IUG pmax pmax
comp=Z,418nm,1.7s
IUG MLR MLR
comp=Z,927nm,11.0s
ATH Athens Observa 20.15 292 P **P** 11 56 07.7 -0.8
MILM Milestii Mici 20.18 320 ⇑P **P** 11 56 09.2 +0.5
KAVA Kavala 20.20 301 P **P** 11 56 07.2 -1.8
RZN Rozhen 20.26 303 *e*P **P** 11 56 09.3 -0.7
SGRR Singureni 20.41 311 ⇑P Pn 11 56 13.3 -0.1
OUR Ouranopolis 20.41 299 P **P** 11 56 09.0 -2.3
PLD Plovdiv 20.41 304 P **P** 11 56 11.2 -0.1
PLD Plovdiv 20.41 304 *e*P **P** 11 56 10.9 -0.4
SULR 20.44 312 ⇑P Pn 11 56 12.8 -0.9
GHRR 20.46 317 ⇑P Pn 11 56 13.6 -0.4
DID Didima 20.47 290 P **P** 11 56 09.9 -2.1
ISR Istrita 20.48 313 ⇑P Pn 11 56 13.8 -0.5
ISR Istrita 20.48 313 ⇑P Pn 11 56 13.8 -0.5
VILL Villia 20.49 292 P **P** 11 56 11.0 -1.3
ODBI Odobesti 20.50 316 ⇑P Pn 11 56 14.3 -0.2
KTHA Kythira Island 20.50 287 P **P** 11 56 11.3 -1.1
SKIA Skiathos 20.54 295 P **P** 11 56 12.6 -0.1
VASR Vaslui 20.57 318 ⇑P **P** 11 56 13.9 +0.8
VLI Veliai 20.63 288 P **P** 11 56 10.9 -2.9
LOUT Loutraki 20.73 292 P **P** 11 56 13.0 -1.8
LTK Loutraki 20.74 292 P **P** 11 56 12.7 -2.3
VRI Vrincioaia 20.75 315 ⇑P **P** 11 56 15.7 +0.7
VRI Vrincioaia 20.75 315 ⇑P **P** 11 56 15.7 +0.7
NVR Nevrokopi 20.77 301 P **P** 11 56 13.2 -2.1
NEHR Nehoiu 20.78 314 ⇑P Pn 11 56 17.0 -0.9
XOR Xorichti 20.78 296 P **P** 11 56 14.2 -1.9
PLOR Plostina 20.79 315 ⇑P **P** 11 56 16.5 +1.0
PLOR Plostina 20.79 315 ⇑P **P** 11 56 16.5 +1.0
LKR Lokris 20.80 294 P **P** 11 56 14.3 -1.3
PLG Polygyros 20.81 299 P **P** 11 56 14.7 -1.1
KK31 Karatay Array 20.82 53 *i* P **P** 11 56 15.4 -0.5
KKAR Karatay Array 20.82 53 P **P** 11 56 15.3 -0.6
KKAR Karatay Array 20.82 53 P **P** 11 56 15.3 -0.6
KKAR Karatay Array 20.82 53 IAmb IAmb 11 56 22.1
comp=Z,397nm,1.4s
LPSR Galich'ya Gora 20.88 345 *e*P **P** 11 56 14.2 -2.1
LPSR *e*S **S** 12 00 01.3 -7.1
LPSR pmax pmax
comp=Z,2μm,0.7s
LPSR smax smax
comp=N,870nm,3.7s
LPSR MLR MLR
comp=Z,5μm,14.0s
SRS Serrai 20.90 301 P **P** 11 56 15.1 -1.6
SRS Serrai 20.90 301 P **P** 11 56 15.7 -1.0
SRS pmax pmax
comp=Z,326nm,1.2s
PGB Panagyurishte 20.94 305 *e*P **P** 11 56 16.8 -0.3
SOH Sokhos 20.99 300 P **P** 11 56 16.8 -0.9
SOH Sokhos 20.99 300 P **P** 11 56 17.6 -0.1
SOH pmax pmax
comp=Z,178nm,1.4s
MLR Muntele Rosu 21.03 314 P **P** 11 56 17.9 -0.3
comp=Z,50nm,0.7s,baz=177,slow=3.0,SNR=42
MLR ScP **ScP** 12 04 02.2 +1.3
comp=Z,7.2nm,0.7s,baz=148,slow=4.5,SNR=5.8
MLR LR LR 12 06 39.3
comp=Z,5μm,19.9s,baz=118,slow=43
MLR Muntele Rosu 21.03 314 ⇓P **P** 11 56 20.1 +2.0
MLR Muntele Rosu 21.03 314 ⇓P **P** 11 56 20.1 +2.0
MLR Muntele Rosu 21.03 314 P **P** 11 56 19.0 +0.8
MLR IAmb IAmb 11 56 28.5
comp=Z,649nm,1.0s
HORT Hortiatis 21.12 299 P **P** 11 56 18.2 -1.0
VLX Vlachokerasia 21.13 290 P **P** 11 56 16.4 -2.9
DSF Desfina 21.14 293 P **P** 11 56 17.0 -2.3
TESR Tescani 21.15 317 ⇑P **P** 11 56 19.5 +0.2
HUMR Humele 21.18 310 ⇑P **P** 11 56 20.6 +1.0
SORM Soroca 21.19 322 ⇑P **P** 11 56 20.0 +0.3
SORM Soroca 21.19 322 ⇑P **P** 11 56 20.0 +0.3
GUR Goura 21.22 291 P **P** 11 56 16.8 -3.4
SOCY Socotra 21.23 162 P **P** 11 56 18.4 -2.0
SOCY IAmb IAmb 11 56 25.0
comp=Z,306nm,0.9s
THE Thessaloniki 21.23 299 P **P** 11 56 19.5 -0.7
THE Thessaloniki 21.23 299 P **P** 11 56 20.4 +0.2
THE pmax pmax
comp=Z,373nm,1.1s
TRIP Tripoli 21.23 290 P **P** 11 56 17.8 -2.5
DZA Taraz 21.31 55 *i* P **P** 11 56 20.9 -0.2
comp=Z,156nm,1.3s,baz=55
DZA *e*S **S** 12 00 18.3 +1.0
baz=55
DZA LR LR 12 04 52.7
comp=Z,580nm,8.6s,baz=55
DZA Taraz 21.31 55 *i* P **P** 11 56 20.9 -0.2
DZA *e*S **S** 12 00 18.2 +1.0
DZA pmax pmax
comp=Z,156nm,1.3s
DZA MLR MLR
comp=Z,580nm,9.0s
VLAD Vladila 21.33 309 ⇑P **P** 11 56 22.0 +0.8
STFAR Stefanesti-Arg 21.34 311 ⇑P **P** 11 56 23.0 +1.6
AGG Agios Georgios 21.38 294 P **P** 11 56 21.0 -0.9
AGG Agios Georgios 21.38 294 P **P** 11 56 21.6 -0.3
AGG pmax pmax
comp=Z,306nm,1.1s
AGG Agios Georgios 21.38 294 IAmb IAmb 11 56 30.6
comp=Z,1μm,1.7s
OZUR 21.43 315 ⇓P **P** 11 56 22.6 +0.3
MTUR Matau 21.45 312 ⇓P **P** 11 56 24.5 +1.9
MTUR Matau 21.45 312 ⇓P **P** 11 56 24.5 +1.9
ITM Ithomi 21.47 289 P **P** 11 56 20.6 -2.3
ITM Ithomi 21.47 289 IAmb IAmb 11 56 26.1
comp=Z,341nm,0.8s
KKB Krupnik 21.48 302 *e*P **P** 11 56 22.0 -0.9
TRIZ Trizonia 21.48 292 P **P** 11 56 20.1 -2.8
ATD Arta Tunnel 21.49 193 P **P** 11 56 24.6 +1.4
comp=Z,15nm,0.7s,baz=12,slow=6.1,SNR=7.4
ATD LR LR 12 05 32.5
comp=Z,9μm,18.1s,baz=11,slow=39
ATD Arta Tunnel 21.49 193 P **P** 11 56 25.2 +2.1
NIL Nilore 21.51 80 P **P** 11 56 23.3 0.0
NIL pmax pmax
comp=Z,1μm,1.4s
NIL MLR MLR
comp=Z,8μm,20.0s
NIL Nilore 21.51 80 P **P** 11 56 23.3 0.0
NIL Nilore 21.51 80 IAMs_20 IAMs_20 12 04 02.0
comp=Z,8μm,20.0s
MAKR Makrakomi, Fth 21.53 294 P **P** 11 56 23.7 +0.2
VOIR 21.55 313 ⇑P **P** 11 56 24.4 +0.7

VOIR 21.55 313 ⇑P **P** 11 56 24.4 +0.7
PYL PYLOS 21.60 288 P **P** 11 56 20.6 -3.6
DOPR Dopca 21.61 314 ⇓P **P** 11 56 24.4 +0.2
BHUJ Bhuj 21.61 110 *e*P **P** 11 56 24.8 +0.4
BHUJ IAmb IAmb 11 56 27.7
comp=Z,166nm,0.8s
EFP Efpalio 21.62 293 P **P** 11 56 21.1 -3.3
ANX Ano Chora 21.63 293 P **P** 11 56 22.3 -2.4
AMT Artemida-Makis 21.68 290 P **P** 11 56 22.3 -2.8
THL Klokotos Trika 21.72 296 P **P** 11 56 23.0 -2.4
DRO Drossia 21.72 291 P **P** 11 56 23.4 -2.1
EVR Evrytania 21.77 294 P **P** 11 56 22.9 -3.2
ARR Arges 21.78 312 ⇓P **P** 11 56 26.8 +0.6
PRAR RASCA 21.86 318 ⇑P **P** 11 56 28.1 +1.1
RLS Riolos of Patr 21.92 292 P **P** 11 56 22.7 -4.9
PVO Paravola 21.94 293 P **P** 11 56 26.2 -1.7
KZN Kozani 22.05 298 P **P** 11 56 25.9 -3.2
STIP Stip 22.07 301 *i* P **P** 11 56 26.4 -2.8
VTN Vitineika 22.13 291 P **P** 11 56 26.8 -3.0
KPRO Kipourio 22.28 296 P **P** 11 56 29.2 -2.4
LOT Lotru 22.36 312 ⇓P **P** 11 56 33.0 +0.6
SRE Strehaia 22.38 309 ⇑P **P** 11 56 34.3 +1.7
SRE Strehaia 22.38 309 ⇑P **P** 11 56 34.3 +1.7
PUNG Punghina 22.41 308 ⇑P **P** 11 56 33.5 +0.6
PENT Pentalofos 22.50 297 P **P** 11 56 32.0 -1.9
AKASG Malin Array Be 22.52 328 P **P** 11 56 31.2 -2.8
comp=Z,11nm,0.7s,baz=136,slow=9.7,SNR=39
AKASG PcP **PcP** 12 00 28.0 +0.6
comp=Z,1.5nm,0.4s,baz=103,slow=1.7,SNR=4.4
AKASG ScP **ScP** 12 04 05.4 +1.1
comp=Z,0.5nm,0.2s,baz=96,slow=1.8,SNR=7.1
AKASG LR LR 12 06 30.3
comp=Z,3μm,21.8s,baz=145,slow=40
AKASG Malin Array Be 22.52 328 *ce*P **P** 11 56 31.3 -2.7
AKASG Malin Array Be 22.52 328 P **P** 11 56 31.3 -2.7
AKBB Malin Array Si 22.52 328 *ce*P **P** 11 56 31.4 -2.6
AKBB Malin Array Si 22.52 328 IAmb IAmb 11 56 39.8
comp=Z,213nm,0.8s
BURAR Bucovina Array 22.57 318 ⇑P **P** 11 56 36.0 +1.3
BURAR Bucovina Array 22.57 318 ⇑P **P** 11 56 36.0 +1.3
BURAR Bucovina Array 22.57 318 P **P** 11 56 33.2 -1.5
NEST Nestorio 22.61 298 P **P** 11 56 33.1 -2.0
JAN Janina 22.62 296 P **P** 11 56 33.5 -1.6
LKD2 Lefkada island 22.64 293 P **P** 11 56 31.8 -3.6
TSLK Tsoukalades, L 22.64 293 P **P** 11 56 33.3 -2.1
DESE Dese 22.66 201 *i* P **P** 11 56 38.7 +2.6
DESE *i* S **S** 12 00 48.7 +4.8
FSK Fiskardo 22.67 292 P **P** 11 56 37.7 +2.0
SKO Skopje 22.69 302 *i* P **P** 11 56 37.0 +1.2
AML Almayashu 22.73 58 P **P** 11 56 37.3 +0.6
SNR=90
ARCR ARCALIA 22.79 316 ⇓P **P** 11 56 38.2 +1.3
LSK Leskovik 22.89 297 *i* P **P** 11 56 36.3 -1.8
EKS2 Erkin-Say 22.94 57 P **P** 11 56 39.4 +0.8
SNR=44
OHR Ohrid 22.94 299 *i* P **P** 11 56 39.6 +1.1
OHR Ohrid 22.94 299 P **P** 11 56 41.1 +2.5
OHR pmax pmax
comp=Z,376nm,1.1s
HERR Herculane 22.99 309 ⇑P **P** 11 56 39.0 +0.1
IGT Igoumenitsa 22.99 295 P **P** 11 56 35.5 -3.6
IGT Igoumenitsa 22.99 295 P **P** 11 56 37.5 -1.6
IGT pmax pmax
comp=Z,179nm,0.8s
KSV Kosov 23.05 319 P **P** 11 56 37.6 -1.9
CJR Cluj-Napoca 23.05 314 ⇓P **P** 11 56 41.5 +1.9
CJR Cluj-Napoca 23.05 314 ⇓P **P** 11 56 41.5 +1.9
DEV Deva 23.09 312 ⇑P **P** 11 56 41.2 +1.2
DEV Deva 23.09 312 ⇑P **P** 11 56 41.2 +1.2
SRN Sarande 23.30 296 *i* P **P** 11 56 40.1 -2.0
PHP Peshkopia 23.34 300 P **P** 11 56 40.5 -2.1
PHP Peshkopia 23.34 300 *i* P **P** 11 56 40.1 -2.4
UCH Uchtor 23.34 58 P **P** 11 56 44.8 +1.7
SNR=66
MDVR Moldovita 23.41 309 ⇑P **P** 11 56 44.9 +1.6
KEK Kerkira 23.43 295 P **P** 11 56 41.1 -2.3
AAK Ala-Archa 23.44 57 P **P** 11 56 43.5 -0.2
comp=Z,10nm,0.5s,baz=251,slow=8.7,SNR=21
AAK ScP **ScP** 12 04 06.9 -0.3
comp=Z,7.1nm,1.0s,baz=200,slow=5.4,SNR=5.3
AAK LR LR 12 06 25.9
comp=Z,6μm,19.2s,baz=256,slow=38
AAK Ala-Archa 23.44 57 P **P** 11 56 47.8 +4.1
SNR=16
AAK Ala-Archa 23.44 57 *i* P **P** 11 56 44.4 +0.8
SNR=50
AAK Ala-Archa 23.44 57 *d* *i* P **P** 11 56 44.1 +0.4
AAK pmax pmax
comp=Z,181nm,2.5s
AAK Ala-Archa 23.44 57 P **P** 11 56 44.5 +0.8
AAK Ala-Archa 23.44 57 IAMs_20 IAMs_20 12 06 13.8
comp=Z,6μm,19.0s
FRU1 Bishkek 23.58 57 IAMs_20 IAMs_20 12 06 43.6
comp=Z,7μm,21.0s
BMR Baia Mare 23.59 316 ⇑P **P** 11 56 46.6 +1.6
BMR Baia Mare 23.59 316 ⇑P **P** 11 56 46.6 +1.6
USP Ospenovka 23.62 56 P **P** 11 56 47.1 +1.7
SNR=82
TIR Tirane 23.68 299 *i* P **P** 11 56 43.6 -2.3
TIR Tirane 23.68 299 P **P** 11 56 45.7 -0.2
TIR pmax pmax
comp=Z,328nm,1.0s
TIR MLR MLR
comp=Z,4μm,22.0s
TIR Tirane 23.68 299 P **P** 11 56 45.7 -0.2
TIR IAmb IAmb 11 56 59.8
comp=Z,328nm,1.0s
THN Thein Dam 23.70 83 *e*P **P** 11 56 49.0 +2.8
THN *e*S **S** 12 01 07.0 +6.4
CHMS Chumysh 23.72 56 P **P** 11 56 49.5 +3.2
SNR=55
OBN Obninsk 23.73 344 P **P** 11 56 44.9 -1.4
comp=Z,67nm,1.0s,baz=156,slow=5.3,SNR=51
OBN LR LR 12 07 36.4
comp=Z,1μm,18.1s,baz=154,slow=41
OBN Obninsk 23.73 344 ⇓P **P** 11 56 46.7 +0.5
OBN Obninsk 23.73 344 *c* *i* P **P** 11 56 45.1 -1.1
OBN *i* S **S** 12 00 57.9 -2.8
OBN pmax pmax
comp=Z,676nm,1.5s
OBN MLR MLR
comp=Z,5μm,16.0s
OBN Obninsk 23.73 344 P **P** 11 56 45.3 -0.9
OBN IAMs_20 IAMs_20 12 07 08.2
comp=Z,6μm,18.0s
KBK Karagaybulak 23.76 57 P **P** 11 56 49.1 +2.2
SNR=22
BCI Bajram Curri 23.77 302 *i* P **P** 11 56 50.4 +3.6
BZS Buzias 23.80 310 ⇑P **P** 11 56 46.8 -0.2
BZS Buzias 23.80 310 ⇑P **P** 11 56 46.8 -0.2
PUK Puka 23.82 301 *i* P **P** 11 56 44.5 -2.8
KZA Kyzart 23.83 59 P **P** 11 56 48.9 +1.1
SNR=86
KSH Kashi 23.88 65 P **P** 11 56 45.8 -2.2
KSH sP pP 11 56 52.5 -0.4
KSH S **S** 12 01 02.1 -1.6
KSH pmax pmax
comp=Z,240nm,1.0s
KSH LR LR
comp=Z,5μm,11.3s
KSH LR LR
comp=Z,6μm,12.1s
KSH LR LR
comp=Z,13μm,18.1s
PVY Plav 23.91 302 ⇑P **P** 11 56 46.4 -1.9
BTLS Baital 23.92 51 *i* P **P** 11 56 48.2 0.0
comp=Z,415nm,2.0s,baz=51
BTLS *i* S **S** 12 01 05.4 +1.5
comp=Z,221nm,3.5s,baz=51
BTLS LR LR 12 05 54.4
comp=Z,631nm,10.0s,baz=51
BTLS Baital 23.92 51 *i* P **P** 11 56 48.1 0.0
BTLS *i* S **S** 12 01 05.4 +1.5
BTLS pmax pmax
comp=Z,415nm,2.0s
BTLS MLR MLR
comp=Z,631nm,10.0s
BANR Banloc 24.02 310 ⇓P **P** 11 56 50.5 +1.5
IVA Berane 24.03 303 ⇑P **P** 11 56 47.7 -1.6
MOS Moscow 24.09 346 *e*P **P** 11 56 47.7 -1.9
MOS *e* 11 57 17.5
MOS *e*S **S** 12 01 03.7 -2.6
MOS pmax pmax
comp=N,648nm,1.8s

MOS pmax pmax
comp=E,180nm,1.5s
MOS pmax pmax
comp=Z,2µm,1.9s
MOS MLR MLR
comp=Z,2µm,14.0s
MOS MLR MLR
comp=N,3µm,15.0s
MORS Morshin 24.15 320 P **P** **11 56 50.7 +0.4**
BEO Beograd 24.24 308 P **P** **11 56 52.5 +1.4**
ULC Ulcinj 24.27 301⇑ *i*P **P** **11 56 49.4 -2.1**
OTUK Ortayu 24.29 43 P **P** **11 56 52.2 +0.6**
KOME Kolasin 24.29 303⇑ *i*P **P** **11 56 49.3 -2.5**
TKM2 Tokmak 2 24.29 57 P **P** **11 56 52.9 +1.0**
SNR=170
TKM2 Tokmak 2 24.29 57 P **P** **11 56 51.6 -0.3**
DIVS Divibare 24.33 306⇑ *i*P **P** **11 56 50.6 -1.5**
DIVS Divibare 24.33 306 P **P** **11 56 51.0 -1.1**
DIVS IAmb IAmb 11 56 59.2
comp=Z,224nm,1.2s
DRME Dracevica, Mon 24.36 301⇑ *i*P **P** **11 56 50.0 -2.3**
DRME Dracevica, Mon 24.36 301⇑ *i*P **P** **11 56 49.3 -3.0**
PDG Podgorica 24.37 302⇓ *i*P **P** **11 56 53.5 +1.2**
PDG Podgorica 24.37 302⇑ *i*P **P** **11 56 50.6 -1.8**
TTG Podgorica 24.37 302⇓ *i*P **P** **11 56 50.8 -1.6**
LVV L'vov 24.47 321 *d* *i*P **P** **11 56 52.5 -0.7**
LVV *i* S **S** **12 01 09.1 -3.5**
SCTE Santa Cesarea 24.49 296 IAmb IAmb 11 57 06.7
comp=Z,179nm,1.0s
PLE Pljevlja 24.51 304⇓ *i*P **P** **11 56 51.2 -2.6**
ULHL Ulahol 24.59 59 P **P** **11 56 57.8 +3.2**
SNR=57
BUM Brajici-Budva 24.60 301⇑ *i*P **P** **11 56 52.4 -2.1**
RUDO Rudo 24.61 305 *e*P **P** **11 56 54.3 -0.2**
CEME Cevo 24.64 302⇑ *i*P **P** **11 56 52.9 -2.0**
NKY Niksic 24.66 302⇑ *i*P **P** **11 56 52.9 -2.2**
BBLS Lazići 24.66 305⇑ *i*P **P** **11 56 54.3 -0.7**
NKME Niksic 24.67 302⇑ *i*P **P** **11 56 53.0 -2.2**
UZH Uzhgorod 24.77 317 *e*P **P** **11 56 55.3 -0.6**
UZH *e*S **S** **12 01 12.3 -5.2**
TEKS Tekeris 24.79 307 *e*P **P** **11 56 55.7 -0.4**
FRGS Fruska Gora 24.80 308⇑ *i*P **P** **11 56 55.8 -0.5**
UPM Unac-Piva 24.82 303 *e*P **P** **11 56 56.8 +0.2**
HCY Herceg Novi 24.92 301⇑ *i*P **P** **11 56 55.4 -2.0**
HCY Herceg Novi 24.92 301 *e*P **P** **11 56 56.6 -0.8**
MTBS Maitube 24.94 57 *e*P **P** **11 56 58.5 +0.9**
baz=57
MTBS Maitube 24.94 57 *e*P **P** **11 56 58.5 +0.9**
KOLS Kolonicke sedl 24.94 318 *e*P **P** **11 56 57.6 +0.1**
KOLS pmax pmax
comp=Z,881nm,1.5s
KOLS Kolonicke sedl 24.94 318 *e*P **P** **11 56 57.6 +0.1**
KOLS *e*S **S** **12 01 21.9 +1.6**
ARU Arti 24.95 15 P **P** **11 56 57.2 -0.2**
comp=Z,9.8nm,0.7s,baz=196,slow=10,SNR=32
ARU LR LR 12 09 12.2
comp=Z,5µm,20.0s,baz=184,slow=42
ARU Arti 24.95 15*c* *i*P **P** **11 56 57.5 +0.1**
ARU PPP PPP 11 57 38.3
ARU 12 00 26.0
ARU S **S** **12 01 20.9 +0.7**
ARU SSS SSS 12 02 17.8
ARU pmax pmax
comp=Z,322nm,1.4s
ARU MLR MLR
comp=Z,4µm,18.0s
ARU Arti 24.95 15 P **P** **11 56 57.6 +0.1**
BRY Bratogost 25.00 302 *e*P **P** **11 56 55.7 -2.5**
BRY Bratogost 25.00 302 *e*P **P** **11 56 56.9 -1.3**
FURI Furi 25.05 201 IAMs_20 IAMs_20 12 07 20.2
comp=Z,7µm,18.0s
KWP Kalwaria Pacla 25.07 320 *e*P **P** **11 56 59.1 +0.4**
KWP *e*pP **pP** **11 57 01.8 -1.8**
KWP *e*S **S** **12 01 22.5 +0.1**
KWP Kalwaria Pacla 25.07 320 P **P** **11 56 59.0 +0.4**
KUU Kurty 25.09 55 *i* P **P** **11 56 59.5 +0.6**
comp=Z,439nm,2.2s,baz=55
KUU *i* S **S** **12 01 25.0 +2.2**
comp=Z,413nm,3.5s,baz=55
KUU LR LR 12 06 31.4
comp=Z,2µm,11.8s,baz=55
KUU Kurty 25.09 55 *i* P **P** **11 56 59.4 +0.6**
KUU *i* S **S** **12 01 24.9 +2.2**
KUU pmax pmax
comp=Z,439nm,2.2s
KUU MLR MLR
comp=Z,2µm,12.0s
TREB Trebinje 25.09 302 *e*P **P** **11 56 59.4 +0.5**
SMLA Simla 25.14 86 *e*P **P** **11 57 00.3 +0.9**
DBRK Dubrovnik 25.23 302 *i*P **P** **11 56 59.5 -0.6**
KDJ Kajisay 25.24 60 P **P** **11 57 01.6 +1.1**
KDJ pmax pmax
comp=Z,489nm,1.5s
KDJ MLR MLR
comp=Z,5µm,22.0s
KDJ Kajisay 25.24 60 P **P** **11 57 01.6 +1.1**
KDJ IAmb IAmb 11 57 06.8
comp=Z,489nm,1.4s
TNSS Tian-Shan 25.28 57 *e*P **P** **11 57 01.6 +0.5**
baz=58
TNSS Tian-Shan 25.28 57 *e*P **P** **11 57 01.6 +0.5**
AAA Alma-Ata 25.30 57 *e*P **P** **11 57 01.6 +0.7**
baz=57
AAA *e*S **S** **12 01 28.5 +2.1**
baz=57
AAA LR LR 12 07 05.4
comp=Z,1µm,10.0s,baz=57
AAA Alma-Ata 25.30 57 *e*P **P** **11 57 01.5 +0.7**
AAA *e*S **S** **12 01 28.4 +2.1**
AAA MLR MLR
comp=Z,1µm,10.0s
CGL1 Ceglie Messapi 25.33 297⇑ *i*P **P** **11 56 58.3 -2.8**
CRVS Cervenica-Dubn 25.39 317 *e*P **P** **11 57 02.1 +0.6**
CRVS pmax pmax
comp=Z,391nm,1.0s
CRVS Cervenica-Dubn 25.39 317 *e*P **P** **11 57 02.1 +0.6**
CRVS *e*S **S** **12 01 29.7 +2.3**
MDOK Medeo 25.39 57 *i* P **P** **11 57 02.5 +0.8**
baz=57
MDOK *i* S **S** **12 01 30.0 +2.2**
baz=57
MDOK LR LR 12 07 00.5
comp=Z,3µm,11.6s,baz=57
MDOK Medeo 25.39 57 *i* P **P** **11 57 02.5 +0.8**
MDOK *i* S **S** **12 01 29.9 +2.2**
MDOK MLR MLR
comp=Z,3µm,12.0s
BRZS Berezniki 25.40 40 *e*P **P** **11 57 02.6 +1.0**
comp=Z,117nm,1.3s,baz=40
BRZS *e*S **S** **12 01 30.2 +2.6**
baz=40
BRZS LR LR 12 07 19.4
comp=Z,605nm,9.9s,baz=40
BRZS Berezniki 25.40 40 *e*P **P** **11 57 02.6 +1.0**
BRZS *e*S **S** **12 01 30.2 +2.6**
BRZS pmax pmax
comp=Z,117nm,1.3s
BRZS MLR MLR
comp=Z,605nm,10.0s
TAR1 Taranto 25.45 297⇑ *i*P **P** **11 56 59.4 -2.8**
CHKK Chushkaly 25.52 56 *e*P **P** **11 57 03.7 +0.8**
baz=56
CHKK Chushkaly 25.52 56 *e*P **P** **11 57 03.6 +0.8**
STON Ston 25.59 302 *i*P **P** **11 57 02.7 -0.7**
TARG Taragay, Kyrgy 25.62 61 IAmb IAmb 11 57 11.4
comp=Z,159nm,1.1s
TIP Timpagrande 25.70 293⇓ P **P** **11 57 04.7 +0.2**
TIP Timpagrande 25.70 293 P **P** **11 57 03.8 -0.8**
TIP IAmb IAmb 11 57 09.6
comp=Z,186nm,1.0s
KECS Kecovo 25.75 316 *e*P **P** **11 57 05.4 +0.6**
KECS pmax pmax
comp=Z,641nm,1.2s
KECS Kecovo 25.75 316 *e*P **P** **11 57 05.4 +0.6**
NDI New Delhi 25.77 91 *e*P **P** **11 57 06.5 +1.4**
SVE Sverdlovsk 25.78 17 *de*P **P** **11 57 06.3 +1.3**
SVE *e*S **S** **12 01 33.6 +0.2**
SVE pmax pmax
comp=Z,326nm,1.7s
SVE MLR MLR
comp=Z,6µm,20.0s
PSZ Piszkesteto 25.84 314⇓ P **P** **11 57 07.5 +1.7**
PSZ Piszkesteto 25.84 314⇓ P **P** **11 57 07.5 +1.7**
BAI Bari 25.85 298 *e*P **P** **11 57 07.1 +1.4**

MICGM Minsk 25.89 333⇓ *i*P **P** **11 57 05.0 -1.0**
MICGM *e*P **pP** **11 57 06.0 -4.9**
MICGM PM 11 57 09.0
comp=Z,2.7nm,1.0s
MICGM PM 11 57 09.0
comp=N,2.5nm,1.2s
MICGM PM 11 57 10.0
comp=E,1.9nm,1.0s
MICGM *e*S **S** **12 01 32.0 -3.2**
MICGM *e*SS SnSn 12 03 10.0 +38
MICGM *e*LQ LQ 12 05 42.0
MICGM LQM 12 06 00.0
comp=E,5.8nm,26.0s
MICGM *e*LR LR 12 08 30.0
MICGM LRM MLR 12 09 02.0
comp=Z,5.1nm,16.0s
MNK Minsk 25.89 333⇓ *i*P **P** **11 57 05.0 -1.0**
MNK *e*S **S** **12 01 32.0 -3.2**
MNK pmax pmax
comp=E,2µm,1.0s
MNK MLR MLR
comp=Z,5µm,16.0s
MATE Matera 25.91 297⇑ P **P** **11 57 06.6 +0.4**
KIRV Kirov 25.95 2 P **P** **11 57 05.7 -0.7**
comp=Z,180nm,1.0s,baz=185,slow=6.2,SNR=70
KIRV LR LR 12 09 42.7
comp=Z,7µm,18.2s,baz=187,slow=42
KIRV Kirov 25.95 2 *e*P **P** **11 57 06.1 -0.3**
MORH Mrgy, Hungar 25.95 310⇑ *i*P **P** **11 57 06.6 0.0**
SG1 Sgolgore (BA) 25.96 297 *e*P **P** **11 57 06.9 +0.1**
DDI Dehra Dun 26.06 87 *e*P **P** **11 57 10.1 +2.3**
BRVK Borovoye 26.11 32 *d* *i*P **P** **11 57 07.8 -0.2**
BRVK pmax pmax
comp=Z,291nm,1.6s
BRVK MLR MLR
comp=Z,8µm,19.0s
BRVK Borovoye 26.11 32 P **P** **11 57 08.1 +0.1**
BRVK IAmb IAmb 11 57 11.8
comp=Z,451nm,1.6s
BVAR Borovoye Array 26.13 32 P **P** **11 57 08.2 0.0**
comp=Z,31nm,0.7s,baz=225,slow=8.0,SNR=60
BVAR PcP **PcP** **12 00 35.9 +0.7**
comp=Z,5.5nm,0.7s,baz=174,slow=2.6,SNR=6.7
BVAR ScP **ScP** **12 04 13.3 -1.0**
comp=Z,14nm,0.7s,baz=245,slow=2.8,SNR=15
BVAR LR LR 12 09 22.0
comp=Z,8µm,20.4s,baz=234,slow=41
RICI Ricice 26.14 303 P **P** **11 57 06.8 -1.6**
MAKA Makarska 26.17 303 *i* P **P** **11 57 08.2 -0.5**
BUD Budapest 26.19 313 P **P** **11 57 09.7 +0.9**
BUD pmax pmax
comp=Z,628nm,0.9s
PRZ Przheval'sk 26.20 59 IAmb IAmb 11 57 13.1
comp=Z,228nm,1.2s
NIE Niedzica 26.30 318 *e*P **P** **11 57 10.3 +0.5**
NIE *e*S **S** **12 01 45.3 +3.4**
NIE Niedzica 26.30 318 P **P** **11 57 10.4 +0.6**
NIE pmax pmax
comp=Z,116nm,1.1s
CEL Celeste 26.32 291 P **P** **11 57 10.3 +0.2**
CEL IAmb IAmb 11 57 19.9
comp=Z,304nm,0.9s
SATY Saty 26.33 58 *i* P **P** **11 57 10.7 +0.5**
comp=Z,331nm,1.6s,baz=58
SATY *e*S **S** **12 01 44.5 +1.9**
baz=58
SATY Saty 26.33 58 *i* P **P** **11 57 10.7 +0.5**
SATY *e*S **S** **12 01 44.5 +1.9**
SATY pmax pmax
comp=Z,331nm,1.6s
SATY Saty 26.33 58 *i* P **P** **11 57 10.7 +0.5**
SATY *e*S **S** **12 01 44.5 +1.9**
SATY pmax pmax
comp=Z,331nm,1.6s
MGRS Mrkonjic Grad 26.42 305⇑ *i*P P 11 57 19.6 +8.7
BLY Banja Luka 26.44 306⇑ *i*P **P** **11 57 10.6 -0.5**
NACGM Naroch 26.62 333 *e*P **P** **11 57 12.0 -0.6**
NACGM *e*P **P** **11 57 12.0 -0.6**
NACGM PM 11 57 19.0
comp=Z,1.3nm,1.0s
NACGM *e*PP sP 11 58 06.0 +47
NACGM *e*PPP PPP 11 58 24.0
NACGM *e*S **S** **12 01 44.0 -2.7**
NACGM *e*SS **SnSn** **12 02 42.0 -7.4**
NACGM *e*SSS SSS 12 03 20.0
NACGM *e*LQ LQ 12 05 52.0
NACGM *e*LR LR 12 09 18.0
NACGM LRM MLR 12 10 33.0
comp=Z,6.4nm,12.0s
LANS Liptovska Anna 26.65 316 *e*P **P** **11 57 14.0 +1.0**
LANS pmax pmax
comp=Z,175nm,1.1s
LANS Liptovska Anna 26.65 316 *e*P **P** **11 57 14.0 +1.0**
SRO2 Moca 26.70 313 *e*P **P** **11 57 13.3 0.0**
SRO2 pmax pmax
comp=Z,287nm,1.0s
SRO2 Moca 26.70 313 *e*P **P** **11 57 13.3 0.0**
VYHS Vyhne 26.73 315 *e*P **P** **11 57 13.8 +0.1**
VYHS pmax pmax
comp=Z,342nm,1.7s
VYHS Vyhne 26.73 315 *e*P **P** **11 57 13.8 +0.1**
VYHS *e*S **S** **12 01 49.9 +1.2**
KIJV Kijevo 26.78 304 *i*P **P** **11 57 13.0 -1.2**
UZB Uzynbulak 26.79 58 *i* P **P** **11 57 14.8 +0.4**
comp=Z,338nm,2.0s,baz=58
UZB *i* S **S** **12 01 51.8 +1.8**
comp=Z,189nm,4.3s,baz=58
UZB Uzynbulak 26.79 58 *i* P **P** **11 57 14.8 +0.4**
UZB *i* S **S** **12 01 51.7 +1.8**
UZB pmax pmax
comp=Z,338nm,2.0s
SGRT San Giovanni R 26.79 299 IAmb IAmb 11 57 21.9
comp=Z,276nm,1.6s
TDK Taldyqorghan 26.82 54 *e*P **P** **11 57 15.0 +0.5**
comp=Z,617nm,1.7s,baz=54
TDK *e*S **S** **12 01 52.3 +2.0**
baz=54
TDK Taldyqorghan 26.82 54 *e*P **P** **11 57 15.0 +0.5**
TDK *e*S **S** **12 01 52.2 +2.0**
TDK pmax pmax
comp=Z,617nm,1.7s
IDID Didziasalis 26.94 333 *e*P **P** **11 57 16.7 +1.2**
OJC Ojcow 26.98 319 *e*P **P** **11 57 15.8 -0.1**
OJC *e*pP **pP** **11 57 15.9 -1.9**
OJC *e*S **S** **12 01 53.2 +0.6**
OJC Ojcow 26.98 319 P **P** **11 57 15.3 -0.6**
OJC pmax pmax
comp=Z,784nm,1.4s
OJC Ojcow 26.98 319 P **P** **11 57 15.3 -0.6**
MOSL Moslavina 26.99 308 *i*P **P** **11 57 15.5 -0.5**
SHLS Shalkode 27.10 58 *e*P **P** **11 57 20.1 +2.8**
comp=Z,254nm,2.4s,baz=58
SHLS *i* S **S** **12 02 01.1 +6.2**
baz=58
SHLS Shalkode 27.10 58 *e*P **P** **11 57 20.0 +2.8**
SHLS *i* S **S** **12 02 01.0 +6.2**
SHLS pmax pmax
comp=Z,254nm,2.4s
PDGK Podgornoye 27.16 58 P **P** **11 57 17.7 -0.1**
ZIRJ Zirje 27.23 303 *i*P **P** **11 57 17.5 -0.8**
MORI Morici 27.24 303 *i*P **P** **11 57 17.3 -0.9**
BEL Belsk 27.31 322 *e*P **P** **11 57 18.7 -0.1**
BEL *e*S **S** **12 01 57.3 -0.3**
BEL Belsk 27.31 322 P **P** **11 57 18.2 -0.6**
BEL pmax pmax
comp=Z,341nm,1.5s
KALN Kalnik 27.35 309 *i*P **P** **11 57 18.9 -0.4**
UDBI Udbina 27.36 305 *i*P **P** **11 57 19.5 0.0**
ISAL Salakas 27.37 333 *e*P **P** **11 57 20.5 +1.2**
IZAR Zarasai 27.45 334 *e*P **P** **11 57 21.6 +1.6**
VAE Valguarnera 27.47 289 P **P** **11 57 21.2 +0.7**
comp=Z,61nm,0.9s,baz=117,slow=2.0,SNR=16
POO Poona 27.47 114 *ex* **P** **11 57 23.0 +2.3**
SUW Suwalki 27.49 328 *e*P **P** **11 57 21.0 +0.6**
SUW *e*S **S** **12 01 59.4 -1.0**
SUW Suwalki 27.49 328 P **P** **11 57 19.8 -0.6**
SUW pmax pmax
comp=Z,473nm,1.0s
SUW Suwalki 27.49 328 P **P** **11 57 19.8 -0.6**
KOGS Kog 27.58 309 *e*P **P** **11 57 21.2 -0.1**
KOGS *e*ScP **ScP** **12 04 19.5 +0.7**
JAVC Velka Javorina 27.59 315⇑ *i*P **P** **11 57 22.2 +0.8**
JAVC *e*S **S** **12 02 00.7 -1.5**
JAVC *e* 12 04 20.4

JAVC *e*SCS **ScS** **12 08 12.7 +2.2**
SMOL Smolenice 27.59 314 *e*P **P** **11 57 21.9 +0.5**
SMOL pmax pmax
comp=Z,95nm,1.2s
SMOL Smolenice 27.59 314 *e*P **P** **11 57 21.9 +0.5**
SMOL *e*S **S** **12 02 04.4 +2.2**
PTJ Puntijarka 27.60 308 P **P** **11 57 20.7 -0.9**
MODS Modra-Piesok 27.63 314 *e*P **P** **11 57 20.7 -1.0**
MODS pmax pmax
comp=Z,357nm,1.4s
MODS Modra-Piesok 27.63 314 *e*P **P** **11 57 20.6 -1.1**
DUGI Dugi Otok 27.72 303 *i*P **P** **11 57 21.4 -1.2**
OKC Ostrava-Krasne 27.73 317 *e*P **P** **11 57 24.2 +1.5**
OKC Ostrava-Krasne 27.73 317 *e*P **P** **11 57 24.2 +1.5**
SOP Sopron 27.81 312 P **P** **11 57 23.2 -0.2**
SOP pmax pmax
comp=Z,208nm,1.5s
GCIS Gornji Cirnik 27.82 308 *e*P **P** **11 57 23.4 0.0**
BHPL Bhopal 27.92 102 *e*P **P** **11 57 25.0 +0.4**
BHPL IAmb IAmb 11 57 28.0
comp=Z,117nm,1.4s
CRES Cresnjev 27.92 307⇑ *i*P **P** **11 57 24.0 -0.4**
BOJS Bojanci 27.97 307 *e*P **P** **11 57 24.7 -0.1**
NVLJ Novalja 27.98 305 *i*P **P** **11 57 23.9 -1.0**
MORC Moravsky Berou 28.06 316⇑ *i*P **P** **11 57 25.5 -0.1**
MORC Moravsky Berou 28.06 316⇑ *i*P **P** **11 57 25.3 -0.3**
MORC *e*S **S** **12 02 07.1 -2.5**
MORC *e* 12 04 21.3
MORC *e*SCS **ScS** **12 08 14.1 +1.5**
MORC Moravsky Berou 28.06 316⇑ P **P** **11 57 25.5 -0.1**
PABE Paberze 28.17 331 *e*P **P** **11 57 27.6 +1.1**
INTR Introdacqua 28.19 299 P **P** **11 57 26.2 -0.7**
INTR IAmb IAmb 11 57 59.1
comp=Z,187nm,1.4s
ARSA Arzberg 28.32 310 *i* P **P** **11 57 28.7 +0.8**
SNR=29
ARSA *i* ScP **ScP** **12 04 22.5 +1.4**
comp=Z,28nm,1.3s
CONA Conrad Observa 28.34 312 *i* P **P** **11 57 28.0 -0.1**
SNR=76
CONA *i* ScP **ScP** **12 04 21.5 +0.3**
comp=Z,23nm,2.2s
CORL Corleone 28.35 290 P **P** **11 57 29.3 +0.9**
CORL IAmb IAmb 11 58 09.7
comp=Z,252nm,1.4s
VRAC Vranov 28.42 315 P **P** **11 57 28.5 -0.3**
comp=Z,47nm,0.9s,baz=112,slow=8.7,SNR=44
VRAC LR LR 12 12 32.4
comp=Z,2µm,19.2s,baz=100,slow=44
VRAC Vranov 28.42 315⇑ P **P** **11 57 29.8 +1.0**
VRAC Vranov 28.42 315⇑ *i*P **P** **11 57 28.5 -0.3**
VRAC *e*S **S** **12 02 13.2 -2.0**
VRAC *e* 12 04 23.8
VRAC *e*SCS **ScS** **12 08 16.0 +1.9**
VRAC Vranov 28.42 315⇑ P **P** **11 57 29.8 +1.0**
KRUC Moravsky 28.44 314⇑ *i*P **P** **11 57 28.8 -0.1**
KRUC *e*S **S** **12 02 11.9 -3.6**
KRUC *e* 12 04 24.4
KRUC *e*SCS **ScS** **12 08 14.8 +0.6**
KRUC Moravsky 28.44 314 P **P** **11 57 29.0 +0.1**
KRUC pmax pmax
comp=Z,134nm,1.5s
SOKA Soboth 28.45 309 *i* P **P** **11 57 29.2 0.0**
SNR=42
SOKA *i* PcP **PcP** **12 00 41.4 +0.4**
comp=Z,9.1nm,0.8s
SOKA *i* ScP **ScP** **12 04 22.3 +0.8**
comp=Z,23nm,1.2s
SOKA *i* sPKiKP **PKiKP** **12 08 19.6 +3.6**
comp=Z,4.8nm,1.3s
CEY Cerknica 28.59 307⇑ *i*P **P** **11 57 29.9 -0.5**
LJU Ljubljana 28.60 308 *e*P **P** **11 57 30.9 +0.4**
LJU *e*S **S** **12 02 18.8 +0.6**
LJU *e*ScP **ScP** **12 04 22.9 +0.9**
LJU Ljubljana 28.60 308⇑ *i*P **P** **11 57 30.7 +0.2**
AQU L'Aquila 28.61 300 P **P** **11 57 30.5 -0.1**
AQU pmax pmax
comp=Z,158nm,1.2s
AQU L'Aquila 28.61 300⇑ *i*P **P** **11 57 30.7 +0.1**
AQU L'Aquila 28.61 300 IAmb IAmb 11 57 54.5
comp=Z,164nm,1.1s
KRLC Kraliky 28.63 317 *e*P **P** **11 57 31.6 +0.9**
KRLC *e*S **S** **12 02 17.5 -1.1**
KRLC MLR MLR
comp=Z,3µm,14.2s
KRLC Kraliky 28.63 317 *e*P **P** **11 57 31.6 +0.9**
KRLC *e*S **S** **12 02 17.5 -1.1**
KRLC AMS AMS 12 12 10.0
comp=Z,3µm,14.2s
KLMR Klimovskoe 28.68 352*c* *i*P **P** **11 57 29.5 -1.4**
KLMR *e*S **S** **12 02 19.3 +0.3**
KLMR pmax pmax
comp=Z,385nm,1.0s
KLMR MLR MLR
comp=Z,2µm,13.0s
KLMR Klimovskoe 28.68 352⇑ *i*P **P** **11 57 29.5 -1.4**
KLMR *i*P **P** **11 57 29.5 -1.4**
KLMR *i*P **P** **11 57 29.5 -1.4**
KLMR AMP 11 57 33.1
comp=Z,385nm,1.0s
KLMR *e*S **S** **12 02 19.3 +0.3**
KLMR *e*S **S** **12 02 19.3 +0.3**
KLMR LQ LQ 12 06 45.8
KLMR LQ LQ 12 06 45.8
KLMR LR LR 12 08 29.4
KLMR AMP 12 10 18.6
comp=Z,2µm,13.2s
OBKA Obir 28.72 308 *i* P **P** **11 57 32.5 +0.9**
SNR=33
OBKA *i* ScP **ScP** **12 04 24.2 +1.8**
comp=Z,7.8nm,1.1s
JAVS Javornik 28.87 307⇑ *i*P **P** **11 57 32.4 -0.6**
JAVS *i* S **S** **12 02 22.9 +0.2**
KURBB Kurchatov Arra 28.97 43 P **P** **11 57 33.9 +0.3**
comp=Z,46nm,0.8s,baz=249,slow=9.5,SNR=142
KURBB ScP **ScP** **12 04 21.1 -1.8**
comp=Z,3.3nm,0.3s,baz=254,slow=3.8,SNR=8.5
KURBB P3KPbc 12 29 43.5
comp=Z,1.3nm,0.8s,baz=62,slow=3.0,SNR=7.5
KURBB Kurchatov Arra 28.97 43 P **P** **11 57 34.0 +0.3**
PRGR Permogore 29.00 358 *e*P **P** **11 57 33.4 -0.4**
PRGR *e* 11 58 22.2
PRGR pmax pmax
comp=Z,136nm,0.9s
DPC Dobruska-Polom 29.02 317 *e*P **P** **11 57 33.9 -0.2**
DPC MLR MLR
comp=Z,2µm,12.5s
DPC Dobruska-Polom 29.02 317 *e*P **P** **11 57 33.9 -0.2**
DPC AMS AMS 12 12 10.0
comp=Z,2µm,12.5s
KURK Kurchatov 29.06 42 *d* *i*P **P** **11 57 35.1 +0.6**
KURK pmax pmax
comp=Z,179nm,1.5s
KURK MLR MLR
comp=Z,4µm,16.0s
KURK Kurchatov 29.06 42 P **P** **11 57 34.7 +0.2**
KURK IAmb IAmb 11 57 38.1
comp=Z,356nm,1.8s
TREC Trest 29.08 314 *e*P **P** **11 57 35.1 +0.4**
TREC MLR MLR
comp=Z,6µm,14.4s
TREC Trest 29.08 314 *e*P **P** **11 57 35.1 +0.4**
TREC AMS AMS 12 12 20.0
comp=Z,6µm,14.4s
OSTC Ostas 29.17 317 *e*P **P** **11 57 36.9 +1.5**
OSTC AMS AMS 12 14 10.0
comp=Z,2µm,12.2s
KSP Ksiaz 29.25 318 *e*P **P** **11 57 35.9 -0.2**
KSP *e*pP **pP** **11 57 38.7 -2.4**
KSP *e*S **S** **12 02 26.8 -1.4**
KSP Ksiaz 29.25 318 P **P** **11 57 36.0 -0.2**
KSP pmax pmax
comp=Z,149nm,1.5s
UPC Upice 29.26 317 *e*P **P** **11 57 36.2 -0.1**
UPC MLR MLR
comp=Z,2µm,11.8s
UPC Upice 29.26 317 *e*P **P** **11 57 36.2 -0.1**
UPC AMS AMS 12 13 30.0
comp=Z,2µm,11.8s
CHVC Chvalec 29.27 317 *e*P **P** **11 57 35.8 -0.6**
CHVC AMS AMS 12 13 40.0
comp=Z,2µm,14.1s
MOA Molln 29.32 311 *i* P **P** **11 57 36.8 0.0**
SNR=56

MOA *i* ScP **ScP** **12 04 26.5 +2.3**
comp=Z,9.0nm,1.4s
GOA **Goa** **29.32 119** *ex* **P** **11 57 38.0 +1.0**
PRED **Cave del Predi** **29.35 308** P **P** **11 57 37.1 -0.1**
MYKA **Terra Mystica** **29.36 308** *i* P **P** **11 57 38.0 +0.8**
SNR=24
MYKA *i* PcP **PcP** **12 00 43.4 +0.2**
comp=Z,40nm,2.2s
MYKA *i* ScP **ScP** **12 04 25.9 +1.5**
comp=Z,32nm,1.9s
PBUR **Paburge** **29.37 330** *e*P **P** **11 57 38.4 +1.4**
VSU **Vasula** **29.38 338** *e*P **P** **11 57 37.9 +0.7**
VSU **Vasula** **29.38 338**⇩ *e*P **P** **11 57 36.9 -0.2**
VSU pmax pmax
comp=Z,380nm,1.2s
VSU MLR MLR
comp=Z,14µm,18.0s
MURB **Monte Urbino** **29.39 301** IAmb IAmb 11 58 09.7
comp=Z,242nm,1.2s
PUL **Pulkovo** **29.43 342**⇩ *e*P **P** **11 57 38.2 +0.6**
PUL pmax pmax
comp=Z,119nm,0.8s
PUL MLR MLR
comp=Z,4µm,16.0s
KBA **Koelnbreinsper** **29.68 309** *i* P **P** **11 57 40.2 0.0**
SNR=69
KBA **Koelnbreinsper** **29.68 309** P **P** **11 57 40.3 +0.1**
KBA pmax pmax
comp=Z,150nm,1.1s
MAKZ **Makanchi** **29.72 52** P **P** **11 57 41.1 +0.7**
MAKZ pmax pmax
comp=Z,432nm,1.9s
MAKZ MLR MLR
comp=Z,2µm,21.0s
MAKZ **Makanchi** **29.72 52** P **P** **11 57 41.1 +0.7**
MAKZ IAmb IAmb 11 57 44.3
comp=Z,432nm,1.9s
GOPC **GO Pecny, Ondr** **29.74 315** *e*P **P** **11 57 41.9 +1.4**
GOPC MLR MLR
comp=Z,3µm,14.2s
GOPC **GO Pecny, Ondr** **29.74 315** *e*P **P** **11 57 41.9 +1.4**
GOPC AMS AMS 12 12 30.0
comp=Z,3µm,14.2s
ZOU **Zoufplan** **29.78 308** P **P** **11 57 40.6 -0.5**
ZOU IAmb IAmb 11 57 45.1
comp=Z,154nm,1.2s
KLRI **Killari** **29.87 112** *e*P **P** **11 57 42.6 +0.6**
KLRI IVmB_BB 11 57 45.2
comp=Z,1µm,3.2s
KLRI *e*S **S** **12 02 41.3 +2.6**
KLRI IVMs_BB IVMs_BB 12 11 38.4
comp=Z,976nm,13.9s
GKP **Gorka Klasztor** **29.91 323** *e*P **P** **11 57 42.1 +0.2**
GKP *e*S **S** **12 02 40.3 +1.8**
PRU **Pruhonice** **29.91 315** *e*P **P** **11 57 42.7 +0.7**
PRU *e*S **S** **12 02 35.6 -3.1**
PRU MLR MLR
comp=Z,3µm,14.9s
PRU **Pruhonice** **29.91 315** *e*P **P** **11 57 42.7 +0.7**
PRU *e*S **S** **12 02 35.6 -3.1**
PRU AMS AMS 12 12 20.0
comp=Z,3µm,14.9s
MK31 **Makanchi Array** **29.93 52** P **P** **11 57 42.5 +0.3**
MKAR **Makanchi Array** **29.93 52** P **P** **11 57 42.8 +0.5**
comp=Z,56nm,0.9s,baz=250,slow=7.2,SNR=106
MKAR ScP **ScP** **12 04 24.4 -1.8**
comp=Z,4.6nm,1.0s,baz=270,slow=1.2,SNR=4.8
MKAR LR LR 12 10 30.1
comp=Z,3µm,20.2s,baz=251,slow=38
MKAR **Makanchi Array** **29.93 52** P **P** **11 57 42.4 +0.1**
GEC2 **GERESS Array S** **30.00 313** *e*P **P** **11 57 42.0 -1.0**
comp=Z,56nm,1.1s,baz=111,slow=8.9
GERES **GERESS Array B** **30.00 313** P **P** **11 57 41.7 -1.3**
comp=Z,16nm,0.9s,baz=108,slow=8.6,SNR=43
GERES PcP **PcP** **12 00 46.0 +1.1**
comp=Z,3.7nm,0.7s,baz=99,slow=4.2,SNR=3.9
GERES ScP **ScP** **12 04 27.2 +0.8**
comp=Z,4.6nm,0.9s,baz=132,slow=3.8,SNR=8.5
GERES LR LR 12 11 44.0
comp=Z,1µm,18.4s,baz=105,slow=40
PRA **Prague** **30.01 315** AMS AMS 12 12 30.0
comp=Z,1µm,13.4s
JBP **Jabalpur** **30.07 100** *e*P **P** **11 57 43.7 0.0**
JBP IAmb IAmb 11 57 48.6
comp=Z,34nm,0.6s
JBP *ex* x 12 02 46.4
CIMO **Cimolais** **30.07 307** IAmb IAmb 11 57 47.1
comp=Z,299nm,1.4s
PVCC **Panska Ves** **30.11 316** *e*P **P** **11 57 45.2 +1.4**
PVCC MLR MLR
comp=Z,4µm,14.2s
PVCC **Panska Ves** **30.11 316** *e*P **P** **11 57 45.2 +1.4**
PVCC AMS AMS 12 13 20.0
comp=Z,4µm,14.2s
PBCC **Pribram** **30.12 314** *e*P **P** **11 57 45.4 +1.5**
ABTA **Abfaltersbach** **30.14 308** *i* P **P** **11 57 44.6 +0.4**
SNR=41
ABTA *i* PcP **PcP** **12 00 45.7 +0.5**
comp=Z,35nm,1.7s
ABTA *i* S **S** **12 02 43.1 +0.6**
comp=Z,14nm,1.3s
ABTA *i* ScP **ScP** **12 04 27.7 +0.7**
comp=Z,22nm,1.4s
ABTA *i* sPKiKP **sPKiKP** **12 08 21.3 -3.3**
comp=Z,14nm,1.4s
KHC **Kasperske Hory** **30.18 313***c* *i*P **P** **11 57 43.6 -0.9**
KHC pmax pmax
comp=Z,301nm,1.7s
KHC MLR MLR
comp=Z,4µm,17.0s
KHC **Kasperske Hory** **30.18 313** *e*P **P** **11 57 44.0 -0.5**
KHC *ex* x 11 57 56.0
KHC *e*S **S** **12 02 40.8 -2.2**
KHC AMS AMS 12 13 20.0
comp=Z,2µm,15.9s
NGP **Nagpur** **30.22 104** *e*P **P** **11 57 45.9 +0.9**
NGP *ex* x 11 57 49.1
comp=Z,131nm,1.3s
NGP *ex* x 12 02 48.5
RJOB **Jochberg** **30.23 310** *e*P **P** **11 57 43.3 -1.6**
comp=Z,95nm,0.9s,baz=111,slow=8.9
CASP **Castiglione de** **30.52 300** P **P** **11 57 47.1 -0.4**
CTI **Castel Tesino** **30.54 306** IAmb IAmb 11 57 50.9
comp=Z,159nm,0.7s
BRG **Berggiesshubel** **30.61 316** *e*P **P** **11 57 47.7 -0.5**
comp=Z,150nm,1.5s
BRG SCP **ScP** **12 04 27.9 -0.4**
comp=Z,180nm,2.2s
comp=N,3µm,15.5s
comp=E,2µm,14.9s
comp=Z,4µm,13.2s
BRG **Berggiesshubel** **30.61 316** *e*P **P** **11 57 47.7 -0.5**
BRG 12 04 27.9
BRG pmax pmax
comp=Z,150nm,1.5s
BRG MLR MLR
comp=N,3µm,15.5s
BRG MLR MLR
comp=E,2µm,14.9s
BRG MLR MLR
comp=Z,4µm,13.2s
BRG **Berggiesshubel** **30.61 316** *e*P **P** **11 57 47.3 -0.9**
comp=Z,149nm,1.5s,baz=111,slow=8.9
WET **Wettzell** **30.62 313** P **P** **11 57 47.9 -0.4**
WET pmax pmax
comp=Z,71nm,1.9s
WET **Wettzell** **30.62 313** *e*P **P** **11 57 47.1 -1.2**
comp=Z,123nm,1.3s,baz=111,slow=8.9
SRSP **Sriramsagar** **30.77 109** *e*P **P** **11 57 49.7 -0.3**
SRSP IVmB_BB 11 57 52.9
comp=Z,751nm,3.1s
SRSP *e*S **S** **12 02 54.0 +1.2**
SRSP IVMs_BB IVMs_BB 12 10 41.0
comp=Z,746nm,26.0s
PYUN **Piuthan** **30.80 89** *e*P **P** **11 57 50.7 +0.3**
comp=Z,257nm,1.0s
WTTA **Wattenberg** **30.85 309** *i* P **P** **11 57 50.4 -0.1**
SNR=26
WATA **Walderalm** **30.91 309** *i* P **P** **11 57 50.1 -0.9**
SNR=76
WATA *i* PcP **PcP** **12 00 48.9 +1.5**
comp=Z,12nm,0.6s
WATA *i* S **S** **12 02 54.9 +0.3**
comp=Z,37nm,1.4s
WATA *i* ScP **ScP** **12 04 30.8 +1.3**
comp=Z,14nm,1.3s
WATA *i* sPKiKP **sPKiKP** **12 08 27.6 +2.3**
comp=Z,1.8nm,0.5s
FBE **Freiberg** **30.97 316** *e*P **P** **11 57 50.7 -0.7**
comp=Z,163nm,1.6s,baz=111,slow=8.9
VLC **Villacollemand** **31.06 303** IAmb IAmb 11 58 07.7
comp=Z,233nm,1.1s
SQTA **Sankt Quirin** **31.12 309** *i* P **P** **11 57 52.1 -0.7**
SNR=77
SQTA *i* PcP **PcP** **12 00 49.2 +1.3**
comp=Z,20nm,0.7s
SQTA *i* S **S** **12 02 57.5 -0.4**
comp=Z,37nm,1.4s
SQTA *i* ScP **ScP** **12 04 31.9 +1.7**
comp=Z,40nm,1.2s
SQTA *i* sPKiKP **sPKiKP** **12 08 23.4 -2.0**
comp=Z,20nm,1.7s
PRMA **PARMA** **31.21 304** P **P** **11 57 54.5 +1.0**
PRMA IAmb IAmb 11 57 58.0
comp=Z,160nm,0.9s
MOTA **Moosalm** **31.22 309** *i* P **P** **11 57 52.6 -1.2**
SNR=93
MOTA *i* PcP **PcP** **12 00 49.6 +1.4**
comp=Z,36nm,1.3s
MOTA *i* S **S** **12 02 57.3 -2.2**
comp=Z,24nm,1.2s
MOTA *i* ScP **ScP** **12 04 31.3 +0.7**
comp=Z,25nm,1.1s
MOTA *i* sPKiKP **sPKiKP** **12 08 24.2 -1.3**
comp=Z,4.1nm,1.0s
SALO **Salr** **31.22 305** P **P** **11 57 53.6 -0.1**
ROTZ **Rotzenmuhle** **31.24 314** *e*P **P** **11 57 53.4 -0.4**
comp=Z,590nm,1.7s,baz=111,slow=8.9
NKC **Novy Kostel** **31.25 315** *e*P **P** **11 57 55.3 +1.4**
NKC MLR MLR
comp=Z,4µm,14.7s
NKC **Novy Kostel** **31.25 315** *e*P **P** **11 57 55.3 +1.4**
NKC AMS AMS 12 13 50.0
comp=Z,4µm,14.7s
TANN **Tannenbergstha** **31.31 315** *e*P **P** **11 57 53.8 -0.7**
comp=Z,738nm,2.4s,baz=111,slow=8.9
WERN **Wernitzgruen** **31.32 315** *e*P **P** **11 57 53.9 -0.6**
comp=Z,131nm,1.3s,baz=111,slow=8.9
FUR **Furstenfeldbru** **31.33 310** P **P** **11 57 54.3 -0.3**
FUR pmax pmax
comp=Z,666nm,0.9s
FUR **Furstenfeldbru** **31.33 310** *e*P **P** **11 57 53.6 -1.0**
comp=Z,463nm,0.8s,baz=111,slow=8.9
CLL **Collm** **31.33 317** *i* P **P** **11 57 53.9 -0.6**
comp=Z,216nm,1.5s
CLL *e*Pmax 11 57 57.0
CLL *e*sP **sP** **11 58 01.0 -0.5**
CLL *e* 11 58 07.0
CLL *e*PPP PPP 11 59 06.0
CLL *e*S **S** **12 03 01.0 +0.2**
CLL *i* ScP **ScP** **12 04 31.3 +0.7**
CLL *i* PcS **PcS** **12 04 33.3 +1.1**
comp=Z,92nm,1.9s
CLL *e*SS **SnSn** **12 04 48.0 +3.8**
CLL *e*SSSS 12 05 18.0
CLL *e* 12 05 36.0
CLL *e*ScS **ScS** **12 08 29.0 +1.1**
CLL LmV 12 13 00.0
comp=Z,2µm,19.4s
CLL Lmax 12 13 00.0
CLL **Collm** **31.33 317** *i* P **P** **11 57 53.9 -0.6**
CLL *e*S **S** **12 03 01.0 +0.2**
CLL *e* 12 08 29.0
CLL pmax pmax
comp=Z,216nm,1.5s
CLL MLR MLR
comp=Z,2µm,19.4s
CLL **Collm** **31.33 317** *e*P **P** **11 57 53.6 -0.9**
comp=Z,216nm,1.5s,baz=111,slow=8.9
CLL **Collm** **31.33 317** IAmb IAmb 11 57 58.6
comp=Z,116nm,1.1s
GUNZ **Gunzen** **31.37 315** *e*P **P** **11 57 54.4 -0.5**
comp=Z,464nm,2.4s,baz=111,slow=8.9
MANZ **Manzenberg** **31.37 314** *e*P **P** **11 57 54.5 -0.4**
comp=Z,166nm,1.5s,baz=111,slow=8.9
RUE **Ruedersdorf** **31.38 319** *e*P **P** **11 57 56.4 +1.5**
RUE **Ruedersdorf** **31.38 319** *e*P **P** **11 57 54.0 -0.8**
comp=Z,230nm,1.3s,baz=111,slow=8.9
DANN **Dangsing** **31.38 88** *e*P **P** **11 57 56.0 +0.4**
comp=Z,963nm,1.1s
FETA **Feichten** **31.39 308** *i* P **P** **11 57 54.7 -0.6**
SNR=83
FETA *i* PcP **PcP** **12 00 50.7 +2.0**
comp=Z,25nm,0.9s
FETA *i* S **S** **12 03 01.4 -0.8**
comp=Z,21nm,1.1s
FETA *i* ScP **ScP** **12 04 32.6 +1.5**
comp=Z,28nm,1.5s
FETA *i* sPKiKP **PKiKP** **12 08 21.8 +3.7**
comp=Z,8.7nm,1.3s
WERD **Werda** **31.42 315** *e*P **P** **11 57 54.2 -1.2**
comp=Z,45nm,1.4s,baz=111,slow=8.9
KOLN **Koldanda** **31.42 89** *e*P **P** **11 57 55.9 +0.1**
comp=Z,610nm,1.5s
RETA **Reutte** **31.48 309** *i* P **P** **11 57 54.8 -1.2**
SNR=31
RETA *i* PcP **PcP** **12 00 49.6 +0.8**
comp=Z,22nm,1.3s
RETA *i* S **S** **12 03 03.3 -0.1**
comp=Z,37nm,1.3s
RETA *i* ScP **ScP** **12 04 31.7 +0.4**
comp=Z,43nm,1.9s
RETA *i* sPKiKP PKiKP 12 08 29.8 +12
comp=Z,4.6nm,1.0s
PLN **Plauen** **31.52 315** *e*P **P** **11 57 55.2 -1.0**
comp=Z,76nm,1.7s,baz=111,slow=8.9
RPR **Rampur** **31.57 108** *e*P **P** **11 57 57.1 +0.2**
RPR IVmBBB 11 57 59.8
comp=Z,549nm,1.4s
RPR *e*S **S** **12 03 06.8 +1.6**
RPR IVMsBB 12 11 31.6
comp=Z,678nm,19.1s
KEST **Kesra** **31.63 286** P **P** **11 57 58.0 +0.5**
comp=Z,68nm,1.0s,baz=12,slow=2.3,SNR=32
KEST LR LR 12 14 03.0
comp=Z,1µm,20.6s,baz=36,slow=43
HYBB **Hyderabad (bro** **31.77 111** *e*P **P** **11 57 59.0 +0.2**
HYBB IVmBBB 11 58 01.8
comp=Z,1µm,1.4s
HYBB *e*S **S** **12 03 10.6 +2.2**
HYBB IVMs_BB IVMs_BB 12 13 30.0
comp=Z,695nm,12.7s
HYB **Hyderabad** **31.77 111** *i* P **P** **11 57 59.0 +0.2**
comp=Z,180nm,1.0s
HYB *e*S **S** **12 03 08.0 -0.4**
HYB **Hyderabad** **31.77 111** *ex* **P** **11 57 59.6 +0.8**
HYB IAmb IAmb 11 58 02.9
comp=Z,205nm,1.2s
ZSN **Zaisan** **31.79 51** *e*P **P** **11 57 58.7 0.0**
comp=Z,90nm,2.3s,baz=51
ZSN *e*S **S** **12 03 09.8 +1.5**
baz=51
ZSN **Zaisan** **31.79 51** *e*P **P** **11 57 58.7 0.0**
ZSN *e*S **S** **12 03 09.7 +1.5**
ZSN pmax pmax
comp=Z,90nm,2.3s
GRF **Grafenberg Arr** **31.82 313** P **P** **11 57 58.8 -0.1**
GRF pmax pmax
comp=Z,279nm,1.3s
GRF **Grafenberg Arr** **31.82 313** *e*P **P** **11 57 58.3 -0.6**
comp=Z,560nm,1.5s,baz=111,slow=8.9
GRF *e*L L 12 13 42.4
comp=Z,2µm,18.4s
MOX **Moxa** **31.90 315** P **P** **11 57 59.0 -0.5**
MOX pmax pmax
comp=Z,43nm,1.8s
MOX **Moxa** **31.90 315** *e*P **P** **11 57 58.7 -0.8**
comp=Z,62nm,1.3s,baz=111,slow=8.9
MOX *e*L L 12 12 57.2
comp=Z,2µm,21.8s
DAVOX **Davos/Dischmat** **31.90 307** P **P** **11 57 59.0 -0.8**
comp=Z,66nm,0.8s,baz=112,slow=8.5,SNR=52
DAVOX ScP **ScP** **12 04 34.6 +1.6**
comp=Z,6.4nm,0.8s,baz=51,slow=4.0,SNR=3.1
DAVOX LR LR 12 13 22.2
comp=Z,2µm,20.9s,baz=88,slow=41
DAVOX **Davos/Dischmat** **31.90 307** P **P** **11 57 59.0 -0.8**
UBR **Ueberruh** **31.96 309** *e*P **P** **11 57 58.9 -1.3**
comp=Z,285nm,1.4s,baz=111,slow=8.9
FINES **FINESS Array B** **31.98 341** P **P** **11 57 58.8 -1.2**
comp=Z,73nm,0.9s,baz=146,slow=9.6,SNR=55
FINES ScP **ScP** **12 04 33.6 +1.0**
comp=Z,7.3nm,0.8s,baz=122,slow=7.2,SNR=3.7
FINES LR LR 12 12 38.9
comp=Z,4µm,20.1s,baz=144,slow=40
FINES **FINESS Array B** **31.98 341** *i* P **P** **11 57 59.5 -0.5**
FINES pmax pmax
comp=Z,73nm,0.9s
FINES **FINESS Array B** **31.98 341** P **P** **11 57 59.1 -1.0**
DAVA **Damuels** **32.01 308** *i* P **P** **11 57 59.9 -0.9**
SNR=83
DAVA *i* PcP **PcP** **12 00 53.9 +3.5**
comp=Z,32nm,1.0s
DAVA *i* S **S** **12 03 11.9 0.0**
comp=Z,32nm,1.4s
TMCR **Tamitsa** **32.07 352** *e*P **P** **11 58 00.4 -0.4**
TUE **Stuetta** **32.19 307** IAmb IAmb 11 58 14.2
comp=Z,102nm,0.9s
GKN **Gorkha** **32.22 88** *e*P **P** **11 58 03.0 +0.2**
URV **Uravakonda** **32.23 116** *e*P **P** **11 58 02.4 -0.4**
URV IVmB_BB 11 58 05.7
comp=Z,489nm,2.5s
URV *e*S **S** **12 03 17.1 +1.6**
URV IVMsBB 12 15 18.6
comp=Z,416nm,5.5s
RGN **Rugen** **32.56 322** *e*P **P** **11 58 07.2 +1.9**
RGN **Rugen** **32.56 322** *e*P **P** **11 58 05.0 -0.2**
comp=Z,848nm,1.5s,baz=111,slow=8.9
DMN **Daman** **32.74 89** *e*P **P** **11 58 07.7 +0.2**
comp=Z,464nm,1.1s
SRLM **Srisailam** **32.79 113** *e*P **P** **11 58 08.7 +1.0**
SRLM IVmB_BB 11 58 11.3
comp=Z,1µm,2.9s
SRLM *e*S **S** **12 03 27.2 +2.9**
SRLM IVMsBB 12 13 16.2
comp=Z,582nm,10.4s
STU **Stuttgart** **32.83 311** P **P** **11 58 05.7 -2.0**
STU pmax pmax
comp=Z,63nm,1.5s
KKN **Kakani** **32.83 88** *e*P **P** **11 58 09.0 +0.8**
comp=Z,166nm,0.9s
NJS **Nagarjunasagar** **32.85 112** *e*P **P** **11 58 08.4 +0.2**
NJS IVmBBB 11 58 11.3
comp=Z,719nm,1.7s
NJS *e*S **S** **12 03 27.4 +2.2**
NJS IVMs_BB IVMs_BB 12 13 43.7
comp=Z,555nm,22.1s
UBBA **Unterbreizbach** **32.92 315** *e*P **P** **11 58 08.1 -0.3**
comp=Z,264nm,1.9s,baz=111,slow=8.9
ASSE **Asse, Remlinge** **32.98 317** *e*P **P** **11 58 08.4 -0.5**
comp=Z,148nm,1.5s,baz=111,slow=8.9
PKI **Pulchoki** **33.00 89** *e*P **P** **11 58 10.0 +0.1**
comp=Z,3µm,1.9s
SUF **Sumiainen** **33.00 342** P **P** **11 58 09.1 +0.1**
SUF pmax pmax
comp=Z,219nm,1.4s
SLE **Schleitheim** **33.04 309** P **P** **11 58 08.7 -0.9**
SLE pmax pmax
comp=Z,206nm,1.3s
CLZ **Clausthal** **33.05 317** *e*P **P** **11 58 09.1 -0.5**
comp=Z,333nm,1.5s,baz=111,slow=8.9
CMAH **Djebel Manchou** **33.10 288** P **P** **11 58 10.4 +0.1**
WMQ **Urumqi** **33.12 59** *e*P **P** **11 58 11.5 +1.1**
WMQ pP pP 11 58 15.8 +0.4
WMQ S **S** **12 03 30.1 +1.0**
WMQ sS sS 12 03 38.3 +0.7
WMQ SS **SnSn** **12 05 30.3 +2.2**
WMQ ScS **ScS** **12 08 37.0 -0.4**
WMQ pmax pmax
comp=Z,71nm,1.7s
WMQ pmax pmax
comp=Z,240nm,3.9s
WMQ LR LR
comp=Z,4µm,18.3s
WMQ LR LR
comp=Z,2µm,17.3s
WMQ LR LR
comp=Z,3µm,25.3s
GTTG **Gottingen** **33.19 316** *e*P **P** **11 58 10.4 -0.4**
comp=Z,169nm,1.2s,baz=111,slow=8.9
BFO **Black Forest** **33.27 310** P **P** **11 58 10.5 -1.2**
BFO pmax pmax
comp=Z,80nm,1.1s
BFO MLR MLR
comp=Z,1µm,20.0s
BFO **Black Forest** **33.27 310** *e*P **P** **11 58 10.4 -1.3**
comp=Z,80nm,1.1s,baz=111,slow=8.9
BFO **Black Forest** **33.27 310** P **P** **11 58 10.5 -1.2**
GUN **Gumba** **33.30 88** *e*P **P** **11 58 13.0 +0.6**
comp=Z,539nm,1.0s
NRDL **Niedersach Rie** **33.44 318** *e*P **P** **11 58 13.1 +0.2**
comp=Z,460nm,1.5s,baz=111,slow=8.9
CAEH **'Ain El Ouahch** **33.54 289** P **P** **11 58 13.2 -0.9**
SENIN **Lac Senin/Sane** **33.57 306** IAmb IAmb 11 58 18.0
comp=Z,129nm,1.1s
JIRN **Jiri** **33.63 88** *e*P **P** **11 58 16.1 +0.7**
comp=Z,1µm,1.4s
CKFL **Kef-Lekhel** **33.68 288** P **P** **11 58 14.9 -0.5**
TNS **Taunus Mts** **33.69 313** *e*P **P** **11 58 14.8 -0.5**
comp=Z,442nm,1.9s,baz=111,slow=8.9
ADKI **Addanki** **33.78 112** *e*P **P** **11 58 17.2 +0.9**
ADKI IVmB_BB 11 58 19.8
comp=Z,850nm,2.7s
ADKI *e*S **S** **12 03 41.8 +2.2**
ADKI IVMsBB 12 14 10.6
comp=Z,481nm,10.7s
MYLAV **Mylavaram** **33.79 110** *e*P **P** **11 58 16.3 0.0**
MYLAV IVmB_BB 11 58 19.9
comp=Z,1µm,2.8s
MYLAV *e*S **S** **12 03 42.3 +2.6**
MYLAV IVMs_BB IVMs_BB 12 14 43.7
comp=Z,619nm,14.9s
LPG **La Plagne** **33.81 304** *e*P **P** **11 58 14.7 -2.0**
LPG pmax pmax
comp=Z,348nm,0.8s
LPL **La Plagne** **33.83 304** *e*P **P** **11 58 14.7 -2.1**
LPL pmax pmax
comp=Z,478nm,0.9s
BSEG **Bad Segeberg** **33.88 320** *e*P **P** **11 58 16.6 -0.2**
comp=Z,378nm,1.6s,baz=111,slow=8.9
ZAA0 **Zalesovo Array** **33.88 40** IAmb IAmb 11 58 22.2
comp=Z,92nm,0.9s
ZALV **Zalesovo Beam** **33.88 40** P **P** **11 58 16.5 -0.3**
comp=Z,73nm,0.8s,baz=252,slow=9.4,SNR=50
ZALV ScP **ScP** **12 04 40.0 +0.6**
comp=Z,2.6nm,0.5s,baz=235,slow=5.2,SNR=3.8
ZALV LR LR 12 14 56.7
comp=Z,1µm,19.7s,baz=243,slow=41
ZALV P3KPbc 12 29 24.4
comp=Z,1.2nm,0.7s,baz=60,slow=5.8,SNR=4.4
ZALV **Zalesovo Beam** **33.88 40** *i* P **P** **11 58 16.5 -0.3**
ZALV pmax pmax
comp=Z,30nm,0.5s
MOF **Molkenrain** **33.95 309** P **P** **11 58 17.2 -0.4**
CDF **Champ du Feu** **33.98 310** *e*P **P** **11 58 16.4 -1.4**
CDF pmax pmax
comp=Z,45nm,0.9s
DGZ **Jazzator, Alta** **34.01 48***d* *i*P **P** **11 58 18.7 +0.5**
DGZ pmax pmax
comp=Z,67nm,1.2s
DGZ MLR MLR
comp=Z,4µm,22.0s
ECH **Echery** **34.01 309** IAmb IAmb 11 58 20.9
comp=Z,182nm,1.3s
HINF **Hinteralfeld** **34.13 308** *e*P **P** **11 58 18.3 -0.8**
HINF pmax pmax
comp=Z,127nm,1.2s
RAMN **Ramite** **34.21 89** *e*P **P** **11 58 19.9 -0.4**
comp=Z,252nm,0.7s
VAF **Ylistaro** **34.22 340** P **P** **11 58 18.8 -0.8**
VAF pmax pmax
comp=Z,222nm,1.3s
PVM **Polavaram** **34.30 108** *e*P **P** **11 58 21.2 +0.4**
PVM IVmB_BB 11 58 24.5
comp=Z,916nm,3.3s
PVM *e*S **S** **12 03 50.3 +2.6**
PVM IVMs_BB IVMs_BB 12 13 44.8
comp=Z,643nm,15.7s
DFRA **Djebel Bou Aff** **34.34 288** P **P** **11 58 20.4 -0.8**
ORIF **Oris-en-Rattie** **34.35 303** P **P** **11 58 19.8 -1.4**
ORIF pmax pmax
comp=Z,80nm,0.9s
CABF **La Chapelle** **34.43 306** *e*P **P** **11 58 20.0 -1.8**
CABF pmax pmax
comp=Z,844nm,1.1s
HAU **Haudompre** **34.50 309** *e*P **P** **11 58 20.5 -1.8**
HAU pmax pmax
comp=Z,101nm,1.0s
AHRW **Bad Neuenahr-A** **34.62 313** *e*P **P** **11 58 23.1 -0.2**

comp=Z,139nm,1.3s,baz=111,slow=8.9
SKMB Sankelmark Bun 34.66 321 *e*P **P** **11 58 23.8 +0.3**
comp=Z,936nm,1.6s,baz=111,slow=8.9
IBBN Ibbenburen 34.73 316 *e*P **P** **11 58 24.5 +0.3**
comp=Z,939nm,1.7s,baz=111,slow=8.9
BOK Bokaro 34.74 95 *e*P **P** **11 58 23.2 -1.5**
BOK IAmb IAmb 11 58 26.7
comp=Z,57nm,0.7s
BUG Bochum--Univer 34.75 315 P P **11 58 24.4 0.0**
BUG pmax pmax
comp=Z,133nm,2.5s
BUG Bochum--Univer 34.75 315 *e*P **P** **11 58 24.4 0.0**
comp=Z,444nm,1.8s,baz=111,slow=8.9
SKHT Srikalahasti 34.84 115 *e*P **P** **11 58 26.1 +0.6**
SKHT IVmB_BB 11 58 28.8
comp=Z,803nm,3.0s
SKHT *e*S **S** **12 03 57.5 +1.6**
SKHT IVMs_BB IVMs_BB 12 14 17.1
comp=Z,508nm,10.4s
ODAN Odare 34.90 89 *e*P **P** **11 58 26.1 -0.2**
comp=Z,338nm,1.4s
WLF Walferdange 34.98 311 P **P** **11 58 26.4 0.0**
WLF Walferdange 34.98 311 *e*P **P** **11 58 25.0 -1.3**
comp=Z,126nm,1.1s,baz=111,slow=8.9
WLF Walferdange 34.98 311 IAmb IAmb 11 58 29.3
comp=Z,101nm,1.0s
KMBO Kilima Mbogo 35.00 198 P **P** **11 58 27.5 +0.3**
comp=Z,1.1nm,0.3s,baz=22,slow=10,SNR=13
KMBO LR LR 12 13 15.8
comp=Z,3µm,19.7s,baz=18,slow=37
KMBO Kilima Mbogo 35.00 198 P **P** **11 58 27.1 -0.1**
KMBO Kilima Mbogo 35.00 198 P **P** **11 58 29.3 +2.2**
KMBO pmax pmax
comp=Z,12nm,1.0s
KMBO MLR MLR
comp=Z,4µm,19.0s
KMBO Kilima Mbogo 35.00 198 P **P** **11 58 29.3 +2.2**
KMBO Kilima Mbogo 35.00 198 IAMs_20 IAMs_20 12 13 01.9
comp=Z,3µm,19.0s
TAPN Taplejung 35.01 88 *e*P **P** **11 58 27.8 +0.5**
comp=Z,3µm,1.7s
VIVF Saint-Julien-l 35.20 303 *e*P **P** **11 58 25.9 -2.5**
VIVF pmax pmax
comp=Z,168nm,1.2s
MEM Membach 35.30 313 P **P** **11 58 29.4 +0.3**
MEM Membach 35.30 313 P **P** **11 58 28.5 -0.6**
HFS Hagfors 35.35 331 P **P** **11 58 28.6 -0.8**
comp=Z,103nm,0.8s,baz=124,slow=9.6,SNR=54
MAHO Mahon 35.37 294⇑ *i*P **P** **11 58 28.9 -0.9**
MAHO *e*S S 12 03 53.4 -10
MUD Monsted U'grnd 35.53 324 *i*P **P** **11 58 31.5 +0.5**
comp=Z,252nm,1.1s
MUD Monsted U'grnd 35.53 324 P **P** **11 58 32.1 +1.1**
MUD pmax pmax
comp=Z,226nm,1.4s
BSTI Sart Tilman 35.56 313 P **P** **11 58 32.1 +0.8**
CHLP Challavanipeta 35.62 104 *e*P **P** **11 58 31.8 -0.4**
CHLP IVmB_BB 11 58 35.1
comp=Z,2µm,3.2s
CHLP *e*S **S** **12 04 09.3 +1.5**
CHLP IVMs_BB IVMs_BB 12 14 45.2
comp=Z,1µm,12.7s
BCLA Clavier 35.69 312 P **P** **11 58 32.6 +0.1**
GTK Tadong 35.77 88 *e*P **P** **11 58 35.2 +1.6**
BGES Gesves 35.81 312 pP **P** **11 58 36.4 +2.9**
APA Apatity 35.91 351⇑ *i*P **P** **11 58 32.7 -1.4**
APA *i* 11 59 51.2
APA *i*S **S** **12 04 09.0 -2.3**
APA pmax pmax
comp=Z,80nm,0.8s
BMRD Maredsous 35.99 312 P **P** **11 58 35.0 0.0**
AKET Djebel Ketaf 36.00 288 P **P** **11 58 38.0 +2.5**
LOR Lormes 36.04 307 P **P** **11 58 34.4 -1.2**
LOR pmax pmax
comp=Z,124nm,1.0s
DOU Dourbes 36.06 312 P **P** **11 58 35.6 0.0**
DOU pP **pP** **11 58 38.3 -2.3**
LVZ Lovozero 36.06 352*d* *i*P **P** **11 58 35.1 -0.4**
LVZ pmax pmax
comp=Z,130nm,1.1s
LVZ MLR MLR
comp=Z,3µm,16.0s
LVZ Lovozero 36.06 352 P **P** **11 58 35.4 -0.1**
LVZ IAmb IAmb 11 58 38.5
comp=Z,199nm,1.2s
TRD Trivandrum 36.31 125 *e*P **P** **11 58 40.5 +2.4**
TRD IAmb IAmb 11 58 46.5
comp=Z,495nm,1.7s
ADJB Djebel Djouab 36.34 288 P **P** **11 58 40.0 +1.6**
SNF Seneffe 36.34 312 pP **P** **11 58 40.7 +2.7**
OSL Oslo 36.48 329 *e*P **P** **11 58 39.4 +0.2**
NC602 NORSAR Array S 36.57 331 P **P** **11 58 39.1 -0.8**
NC405 NORSAR Array S 36.71 332 IAmb IAmb 11 58 43.8
comp=Z,368nm,1.4s
MBAR Mbarara 36.72 209 P **P** **11 58 42.2 +0.4**
comp=Z,3.1nm,0.4s,baz=19,slow=7.8,SNR=16
MBAR Mbarara 36.72 209⇑ *e*P **P** **11 58 42.9 +1.1**
MBAR pmax pmax
comp=Z,20nm,1.5s
MBAR MLR MLR
comp=Z,2µm,15.0s
MBAR Mbarara 36.72 209 P **P** **11 58 43.4 +1.6**
MBAR Mbarara 36.72 209 IAMs_20 IAMs_20 12 14 07.4
comp=Z,3µm,18.0s
KONO Kongsberg 36.82 329*ce*P **P** **11 58 40.9 -1.1**
KONO pmax pmax
comp=Z,80nm,1.0s
KONO Kongsberg 36.82 329 P **P** **11 58 41.8 -0.2**
KONO Kongsberg 36.82 329 *e*P **P** **11 58 42.0 -0.1**
NB201 NORSAR Array S 36.85 331 IAmb IAmb 11 58 44.9
comp=Z,193nm,1.3s
NB2 NORSAR Subarra 36.88 331 P **P** **11 58 40.9 -1.6**
comp=Z,268nm,1.7s,baz=124,slow=8.6
NB2 NORSAR Subarra 36.88 331 P **P** **11 58 40.9 -1.6**
baz=124,slow=8.6
NOA NORSAR Array B 36.88 331 P **P** **11 58 40.6 -2.0**
comp=Z,25nm,0.9s,baz=123,slow=8.4,SNR=26
NOA PP **PnPn** **12 00 07.1 +0.6**
comp=Z,5.7nm,0.7s,baz=126,slow=11,SNR=4.4
NOA S **S** **12 04 27.1 +0.7**
comp=Z,5.3nm,0.9s,baz=131,slow=15,SNR=3.9
NOA ScP **ScP** **12 04 51.1 +0.9**
comp=Z,2.5nm,0.7s,baz=107,slow=4.3,SNR=3.4
NOA LR LR 12 16 06.3
comp=Z,2µm,18.4s,baz=120,slow=40
NAO01 NORSAR Array S 36.90 331 IAmb IAmb 11 58 45.4
comp=Z,224nm,1.3s
NBO00 NORSAR Array S 37.05 331 IAmb IAmb 11 58 46.7
comp=Z,163nm,1.4s
NC204 NORSAR Array S 37.19 331 IAmb IAmb 11 58 47.9
comp=Z,198nm,1.5s
NC204 NORSAR Array S 37.19 331 *e*P **P** **11 58 44.2 -1.1**
LSA Lhasa 37.21 83 P **P** **11 58 46.5 +0.2**
LSA pmax pmax
comp=Z,89nm,1.0s
LSA Lhasa 37.21 83 P **P** **11 58 46.7 +0.4**
LSA Lhasa 37.21 83 IAmb IAmb 11 58 50.0
comp=Z,253nm,1.2s
CLF Chambon-Foret 37.21 308 IAmb IAmb 11 58 48.6
comp=Z,124nm,1.0s
SNART Snartemo 37.30 326 *e*P **P** **11 58 48.8 +2.7**
SKAR Skarslia 37.90 330 *e*P **P** **11 58 51.7 +0.5**
BLS5 Blasjo 38.13 327 *e*P **P** **11 58 54.3 +1.2**
ODD1 Odda 38.27 328 *e*P P 11 58 59.4 +5.1
TAM Tamanrasset 38.28 266 P **P** **11 58 55.2 +0.1**
TAM pmax pmax
comp=Z,116nm,1.0s
TAM MLR MLR
comp=Z,2µm,20.0s
TAM Tamanrasset 38.28 266 P **P** **11 58 55.2 +0.1**
DOMB Dombas 38.29 332 *e*P **P** **11 58 57.0 +2.5**
NSS Namsos 38.65 336 *e*P **P** **11 58 57.5 +0.1**
GUWA GUWAHATI 38.75 88 *e*P **P** **11 58 58.2 -0.6**
KEV Kevo 38.87 349 P **P** **11 58 59.0 -0.2**
KEV pmax pmax
comp=Z,356nm,1.7s
KEV MLR MLR
comp=Z,2µm,18.0s
KEV Kevo 38.87 349 P **P** **11 58 59.0 -0.2**
KEV IAmb IAmb 11 59 02.6
comp=Z,356nm,1.7s
MOR8 Moi Rana 38.93 339 *e*P **P** **11 58 59.2 -0.6**
ARCES ARCESS Array B 38.94 348 P **P** **11 58 59.0 -0.8**
comp=Z,67nm,0.9s,baz=163,slow=6.4,SNR=104
ARCES PP **PP** **12 00 28.4 -0.5**
comp=Z,20nm,0.7s,baz=148,slow=9.7,SNR=5.9
ARCES ScP **ScP** **12 04 59.3 +1.5**
comp=Z,12nm,0.9s,baz=144,slow=2.3,SNR=7.3
ARCES ARCESS Array B 38.94 348 P **P** **11 58 59.1 -0.7**
ARCES ARCESS Array B 38.94 348 P **P** **11 58 59.1 -0.7**
ARE0 ARCESS Array S 38.94 348 P **P** **11 58 58.6 -1.2**
ARE0 ARCESS Array S 38.94 348 *e*P **P** **11 58 59.8 0.0**
HYA Hoyanger 39.04 329 *e*P **P** **11 59 03.0 +2.2**
BER Bergen 39.06 328 *e*P **P** **11 59 03.3 +2.5**
FLN La Foliniere 39.11 309 *e*P **P** **11 58 59.6 -1.9**
FLN pmax pmax
comp=Z,95nm,0.7s
SHL Shillong 39.13 89 *e*P **P** **11 59 01.8 -0.4**
SHL *i*P **P** **11 59 02.0 -0.2**
SHL IAmb IAmb 11 59 07.2
comp=Z,311nm,1.2s
SHL *i*S **S** **12 05 01.0 -0.7**
SHL Shillong 39.13 89 P **P** **11 59 01.8 -0.4**
SHL pmax pmax
comp=Z,873nm,1.4s
SHL MLR MLR
comp=Z,6µm,19.0s
SHL Shillong 39.13 89 P **P** **11 59 01.8 -0.4**
ASK Askoy 39.17 328 *e*P **P** **11 58 59.7 -2.1**
MOL Molde 39.17 332 *e*P **P** **11 59 02.3 +0.6**
AKN Aaknes 39.19 331 *e*P **P** **11 59 03.4 +1.3**
GRR Gorron 39.33 308 *e*P **P** **11 59 00.5 -2.8**
GRR pmax pmax
comp=Z,225nm,1.0s
SJPF Ste Jean 39.40 300 *e*P **P** **11 59 02.0 -2.0**
SJPF pmax pmax
comp=Z,52nm,0.8s
TEZP TEZPUR 39.54 87 *e*P **P** **11 59 05.0 -0.3**
KONS Konsvik 39.55 339 *e*P **P** **11 59 06.5 +1.6**
NBB05 Inndyr 39.64 340 *e*P **P** **11 59 06.3 +0.6**
CART Cartagena 39.67 291⇑ *i*P **P** **11 59 04.9 -1.5**
CART *e*S **S** **12 05 06.2 -2.9**
NBB30 Finnes 39.69 340 *e*P **P** **11 59 07.0 +1.0**
N2TV T▼rnvik 39.71 341 *e*P **P** **11 59 06.4 +0.2**
N2IH Innhavet 39.78 342 *e*P **P** **11 59 06.7 -0.1**
PALK Pallekele 39.80 122 P **P** **11 59 08.6 +0.9**
PALK pmax pmax
comp=Z,43nm,1.2s
PALK MLR MLR
comp=Z,2µm,20.0s
PALK Pallekele 39.80 122 P **P** **11 59 08.6 +0.9**
STEI Steigen 39.94 342 *e*P **P** **11 59 07.9 -0.2**
BRDH Bariadhala 40.04 93 P **P** **11 59 08.2 -1.3**
comp=Z,89nm,0.6s,baz=12,slow=2.1,SNR=3.8
ZIRO ZIRO 40.12 85 *e*P **P** **11 59 10.4 -0.1**
ITAN ITANAGAR 40.14 85 *e*P **P** **11 59 10.5 +0.2**
HAMF Hammerfest 40.21 348 *e*P **P** **11 59 10.7 +0.4**
TRO Tromso 40.32 345 *e*P **P** **11 59 10.7 -0.5**
N2SV S▼rv▼gen 40.52 341 *e*P **P** **11 59 12.0 -0.9**
QUIF Quistinic 40.83 307 *e*P **P** **11 59 14.6 -1.2**
QUIF pmax pmax
comp=Z,126nm,0.8s
ROSF Rostrenen 40.93 308 *e*P **P** **11 59 15.7 -0.9**
ROSF pmax pmax
comp=Z,203nm,1.0s
UCM Universidad Co 41.09 296⇑ *i*P **P** **11 59 17.5 -0.6**
UCM *i*S **S** **12 05 29.1 -1.2**
MELI Melilla 41.60 288⇑ *i*P **P** **11 59 21.8 -0.4**
ESDC Sonseca Array 41.70 295 P **P** **11 59 22.4 -0.8**
comp=Z,51nm,1.0s,baz=74,slow=4.6,SNR=34
ESDC PcP **PcP** **12 01 20.7 +1.1**
comp=Z,6.4nm,0.8s,baz=72,slow=2.8,SNR=4.7
ESDC ScP **ScP** **12 05 11.3 +2.0**
comp=Z,2.4nm,0.8s,baz=77,slow=3.9,SNR=5.2
ESDC LR LR 12 19 19.9
comp=Z,1µm,18.1s,baz=95,slow=40
ESDC Sonseca Array 41.70 295 P **P** **11 59 22.4 -0.8**
GUD Guadarrama 41.74 296 P **P** **11 59 26.4 +2.8**
EKA Eskdalemuir Ar 41.76 318 P **P** **11 59 21.8 -1.5**
comp=Z,50nm,0.7s,baz=106,slow=8.5,SNR=46
EKA ScP **ScP** **12 05 10.2 +1.1**
comp=Z,4.2nm,0.7s,baz=112,slow=5.5,SNR=6.7
ESK Eskdalemuir 41.78 318 P **P** **11 59 22.9 -0.6**
ESK pmax pmax
comp=Z,130nm,1.1s
ESK Eskdalemuir 41.78 318 P **P** **11 59 22.9 -0.6**
PAB San Pablo 42.02 295 P **P** **11 59 25.7 -0.1**
PAB pmax pmax
comp=Z,106nm,1.2s
PAB San Pablo 42.02 295 P **P** **11 59 25.7 -0.1**
GTA Gaotai 42.29 66 ‖P **P** **11 59 28.5 +0.5**
GTA pP pP 11 59 33.4 +0.3
GTA sP sP 11 59 35.5 +0.4
GTA PP **PP** **12 01 13.5 +7.6**
GTA S **S** **12 05 50.3 +2.0**
GTA sS sS 12 05 56.6 0.0
GTA pmax pmax
comp=Z,83nm,1.4s
GTA pmax pmax
comp=Z,800nm,5.1s
GTA LR LR
comp=Z,4µm,16.8s
GTA LR LR
comp=Z,2µm,18.4s
GTA LR LR
comp=Z,3µm,16.2s
EMAL Malaga-Limoner 42.51 291⇑ *i*P **P** **11 59 28.0 -1.6**
EMAL *i*S **S** **12 05 48.8 -2.5**
PVLZ Peæn de 42.72 288 *e*P **P** **11 59 30.3 -1.1**
NRIK Noril'sk 42.98 20 P **P** **11 59 33.0 0.0**
comp=Z,63nm,1.2s,baz=230,slow=6.6,SNR=72
NRIK LR LR 12 21 52.1
comp=Z,4µm,18.0s,baz=230,slow=42
NRIK Noril'sk 42.98 20 *e*P **P** **11 59 34.6 +1.6**
NRIK pmax pmax
comp=Z,298nm,1.7s
NRIK MLR MLR
comp=Z,5µm,17.0s
REAL Reales 43.18 290 *e*P **P** **11 59 34.5 -0.8**
DSB Dublin 43.30 315 IAmb IAmb 11 59 39.2
comp=Z,112nm,0.9s
MDT Midelt 43.51 285 P **P** **11 59 37.8 -0.1**
comp=Z,30nm,1.0s,baz=78,slow=6.3,SNR=32
PBRG Braganca 43.56 298⇑ *i*P **P** **11 59 37.3 -0.9**
comp=Z,195nm,1.2s
MVO Moncorvo 43.85 297⇑ *i*P **P** **11 59 40.2 -0.4**
comp=Z,213nm,1.1s
MVO *e*S **S** **12 06 11.4 +0.4**
MVO A A 12 25 17.0
comp=Z,843nm,16.0s
CNIL Conil 43.87 290 *e*P **P** **11 59 40.0 -0.7**
SFS San Fernando 43.97 290 *e*P **P** **11 59 39.6 -1.9**
ZAK Zakamensk 44.20 49 *e*P **P** **11 59 44.0 +0.7**
ZAK pmax pmax
comp=Z,93nm,1.7s
BJO1 Bjornoya 44.22 349 *e*P **P** **11 59 43.5 +0.6**
MTE Manteigas 44.34 296⇑ *i*P **P** **11 59 44.6 +0.1**
comp=Z,274nm,1.1s
MTE *e*S **S** **12 06 17.8 -0.3**
MTE A A 12 26 21.2
comp=Z,873nm,16.0s
MTE Manteigas 44.34 296 P **P** **11 59 43.8 -0.7**
MTE IAmb IAmb 11 59 49.4
comp=Z,179nm,1.0s
PVRL Vila Real 44.35 298 *e*P **P** **11 59 44.2 -0.3**
comp=Z,286nm,1.2s
PMRV Marv??o 44.36 295⇑ *i*P **P** **11 59 43.9 -0.8**
comp=Z,124nm,1.2s
PMRV *e*S **S** **12 06 18.9 +0.4**
PMRV A A 12 25 25.0
comp=Z,803nm,18.0s
PCBR Castelo Branco 44.37 296⇑ *e*P **P** **11 59 44.4 -0.2**
comp=Z,338nm,1.1s
TLY Talaya 44.48 48 P **P** **11 59 45.8 +0.4**
comp=Z,12nm,0.8s,baz=262,slow=8.4,SNR=18
TLY LR LR 12 19 28.7
comp=Z,2µm,19.9s,baz=272,slow=38
TLY Talaya 44.48 48*d* *i*P **P** **11 59 46.4 +1.0**
TLY *e* 12 01 31.0
TLY *e*S **S** **12 06 21.1 +1.2**
TLY *e*SS **ScS** **12 09 41.0 -1.8**
TLY pmax pmax
comp=Z,244nm,1.7s
TLY MLR MLR
comp=Z,6µm,14.0s
TLY Talaya 44.48 48 P **P** **11 59 48.0 +2.6**
PCAB Cabril 44.52 298⇑ *i*P **P** **11 59 45.7 -0.2**
comp=Z,252nm,1.3s
PVIS Viseu 44.56 297⇑ *e*P **P** **11 59 46.2 0.0**
comp=Z,266nm,1.3s
PGAV Gavieira, Arco 44.67 299⇑ *i*P **P** **11 59 47.5 +0.3**
comp=Z,595nm,1.2s
PGAV *e*S **S** **12 06 24.4 +1.3**
PGAV A A 12 24 42.3
comp=Z,1µm,18.0s
IRK Irkutsk 44.89 47 *e*P **P** **11 59 49.6 +0.9**
IRK pmax pmax
comp=Z,423nm,1.6s
PBEJ Beja 44.97 293 *e*P **P** **11 59 48.7 -0.8**
comp=Z,219nm,2.0s
PVAQ Vaqueiros 44.97 292 *e*P **P** **11 59 50.7 +1.2**
comp=Z,150nm,1.1s
PVAQ *e*S **S** **12 06 26.0 -1.3**
PVAQ A A 12 22 02.0
comp=Z,566nm,18.0s
PVAQ Vaqueiros 44.97 292 IAmb IAmb 11 59 53.4
comp=Z,120nm,1.1s
EVO Evora 44.99 294⇑ *i*P **P** **11 59 48.7 -0.9**
EVO *i*S **S** **12 06 26.8 -0.7**
EVO Evora 44.99 294⇑ *i*P **P** **11 59 49.1 -0.6**
comp=Z,107nm,1.7s
COI Coimbra 45.02 296 *e*P **P** **11 59 50.1 +0.3**
comp=Z,315nm,1.1s
COI *e*S **S** **12 06 30.8 +2.9**
PMTG Montargil 45.06 295 *e*P **P** **11 59 47.9 -2.3**
comp=Z,132nm,1.7s
PMTG *e*S **S** **12 06 26.5 -2.1**
PCAS Casmilo, Conde 45.11 296 *e*S **S** **12 06 29.8 +0.5**
HOPEN Hopen 45.16 353 *e*P **P** **11 59 52.5 +2.1**
PCVE Castro Verde 45.18 293 *e*P **P** **11 59 50.1 -1.1**
comp=Z,148nm,1.3s
PSBE So Bento 45.42 295⇑ *i*P **P** **11 59 53.1 0.0**
comp=Z,271nm,2.0s
PSBE *e*S **S** **12 06 31.1 -2.8**
PNCL Nicolau / Gran 45.47 293⇑ *i*P **P** **11 59 53.3 -0.1**
comp=Z,150nm,1.2s
PNCL *e*S **S** **12 06 33.8 -0.6**
AVE Averroes 45.66 286⇑ *i*P **P** **11 59 54.0 -1.1**
AVE *i*S **S** **12 06 36.6 -0.7**
DGPR DIGLIPUR 45.66 104 *e*P **P** **11 59 56.6 +1.4**
MORF Marmelete 45.72 292 *e*P **P** **11 59 55.2 -0.3**
MORF AMb AMB 12 00 07.5
comp=Z,126nm,2.4s
MORF *e*S **S** **12 06 39.3 +1.1**
MORF Marmelete 45.72 292 *e*S **S** **12 06 36.0 -2.2**
PTEO Sao Teotonio 45.73 293 *e*P **P** **11 59 55.0 -0.5**
comp=Z,178nm,1.2s
LIS Lisbon 45.83 294 *e*P **P** **11 59 56.1 -0.2**
LIS AMb AMB 12 00 08.2
comp=Z,430nm,1.7s
LIS *e*S **S** **12 06 40.8 +1.1**
PFVI Vila Bisbo 45.89 292 IAmb IAmb 12 00 02.0
comp=Z,244nm,1.5s
PMAFR Mafra 45.89 295 *e*P **P** **11 59 56.2 -0.6**
comp=Z,315nm,2.1s
LZH Lanzhou 46.02 69 *e*P **P** **12 00 00.1 +2.0**
LZH pP sP 12 00 04.8 -0.4
LZH sP pP 12 00 07.8 +4.6
LZH ScP **ScP** **12 05 27.4 +0.3**
LZH S **S** **12 06 42.8 -0.1**
LZH sS sS 12 06 51.0 -0.2
LZH pmax pmax
comp=Z,140nm,1.1s
LZH pmax pmax
comp=Z,1µm,4.3s
LZH LR LR
comp=Z,5µm,13.6s
LZH LR LR
comp=Z,3µm,16.3s
LZH LR LR
comp=Z,5µm,16.8s
TOA0 Torodi Ar. Sit 46.10 256 P **P** **11 59 56.8 -1.9**
TOA0 **P** **11 59 57.3 -1.3**
TORD Torodi Ar. Bea 46.10 256 P **P** **11 59 57.4 -1.3**
comp=Z,44nm,1.0s,baz=40,slow=1.4,SNR=36
TORD LR LR 12 21 55.0
comp=Z,1µm,18.0s,baz=50,slow=40
TORD Torodi Ar. Bea 46.10 256 P **P** **11 59 57.2 -1.5**
TORD **P** **11 59 57.3 -1.3**
TOC5 Torodi Ar. Sit 46.12 256 IAMs_20 IAMs_20 12 20 40.9
comp=Z,2µm,19.0s
SONM Songino Array 46.28 53 P **P** **12 00 00.4 +0.6**
comp=Z,26nm,1.1s,baz=273,slow=7.1,SNR=84
SONM PcP **PcP** **12 01 35.1 0.0**
comp=Z,5.1nm,0.7s,baz=255,slow=2.9,SNR=3.7
SONM ScP **ScP** **12 05 26.7 -1.2**
comp=Z,3.5nm,1.0s,baz=252,slow=4.3,SNR=2.9
SONM LR LR 12 22 41.1
comp=Z,2µm,21.0s,baz=274,slow=40
SONM Songino Array 46.28 53 P **P** **11 59 59.8 -0.1**
PBA Port Blair 46.34 106 P P 12 00 02.3 +1.7
PBA IAMs_20 IAMs_20 12 20 39.1
comp=Z,2µm,20.0s
ULN Ulaanbaatar 46.72 53*d* *i*P **P** **12 00 03.7 +0.4**
ULN pmax pmax
comp=Z,316nm,1.7s
ULN MLR MLR
comp=Z,3µm,22.0s
ULN Ulaanbaatar 46.72 53 P **P** **12 00 03.8 +0.4**
ULN Ulaanbaatar 46.72 53 IAMs_20 IAMs_20 12 21 16.6
comp=Z,3µm,22.0s
HSPB Hornsund (broa 46.75 351 *e*P **P** **12 00 03.5 +0.5**
HSPB *e*PP **PP** **12 01 53.2 +0.4**
HSPB *e*S **S** **12 06 53.8 +2.0**
HSPB Hornsund (broa 46.75 351 *e*P **P** **12 00 04.1 +1.2**
CD2 Chengdu 47.31 76 P **P** **12 00 08.3 +0.2**
CD2 sP pP 12 00 13.5 +0.3
CD2 S **S** **12 07 01.8 +0.6**
CD2 sS pS 12 07 08.4 +1.2
CD2 ScS **ScS** **12 09 59.1 -2.8**
CD2 pmax pmax
comp=Z,130nm,0.9s
CD2 pmax pmax
comp=Z,490nm,4.1s
CD2 LR LR
comp=Z,7µm,25.5s
CD2 LR LR
comp=Z,5µm,22.1s
CD2 LR LR
comp=Z,4µm,19.6s
SPA0 Spitsbergen Ar 47.59 352 P **P** **12 00 09.6 +0.1**
SPITS Spitsbergen Ar 47.59 352 P **P** **12 00 10.0 +0.5**
comp=Z,53nm,0.7s,baz=148,slow=15,SNR=35
CHTO Chiang Mai 47.86 94 P **P** **12 00 12.1 -0.3**
CHTO Chiang Mai 47.86 94 P **P** **12 00 12.1 -0.3**
CHTO IAmb IAmb 12 00 15.2
comp=Z,104nm,1.1s
CM31 Chiang Mai Arr 48.02 94 P **P** **12 00 11.9 -1.8**
CM31 IAmb IAmb 12 00 19.7
comp=Z,72nm,0.9s
CMAR Chiang Mai Arr 48.02 94 P **P** **12 00 13.3 -0.4**
comp=Z,41nm,1.0s,baz=296,slow=7.5,SNR=88
CMAR PcP **PcP** **12 01 42.5 +0.8**
comp=Z,6.8nm,0.7s,baz=291,slow=5.2,SNR=5.0
CMAR PP **PP** **12 02 06.6 +0.8**
comp=Z,17nm,1.1s,baz=292,slow=11,SNR=4.6
CMAR ScP **ScP** **12 05 35.7 +0.2**
comp=Z,2.6nm,0.9s,baz=302,slow=4.9,SNR=5.2
CMAR Chiang Mai Arr 48.02 94*ce* **P** **12 00 13.3 -0.4**
CMAR pmax pmax
comp=Z,40nm,1.0s
CMAR Chiang Mai Arr 48.02 94 P **P** **12 00 13.0 -0.7**
KMI Kunming 48.43 84 ‖P **P** **12 00 16.8 -0.3**
KMI PcP **PcP** **12 01 44.9 +1.6**
KMI PP **PP** **12 02 10.6 +0.9**
KMI ScP **ScP** **12 05 37.4 0.0**
KMI S **S** **12 07 11.5 -6.1**
KMI ScS **ScS** **12 10 09.4 -0.5**
KMI SS **SS** **12 10 41.9 -5.3**
KMI pmax pmax
comp=Z,140nm,1.5s
KMI pmax pmax
comp=Z,1µm,3.5s
KMI LR LR
comp=Z,3µm,20.1s
KMI LR LR
comp=Z,1µm,22.4s
KMI LR LR
comp=Z,1µm,19.4s
KBS Kingsbay 48.72 351*de*P **P** **12 00 18.4 +0.1**
KBS pmax pmax
comp=Z,162nm,1.7s
KBS MLR MLR
comp=Z,2µm,15.0s
KBS Kingsbay 48.72 351 P **P** **12 00 16.1 -2.2**

KBS IAmb IAmb 12 00 21.6
comp=Z,152nm,1.4s
BTO Baotou 49.81 62 *e*P **P 12 00 24.6 -2.7**
XAN Xi'an 50.57 71 P **P 12 00 32.8 -0.3**
XAN pP sP 12 00 41.6 +1.4
XAN S **S 12 07 47.4 +0.4**
XAN pmax pmax
comp=Z,59nm,2.0s
XAN pmax pmax
comp=Z,930nm,4.5s
XAN LR LR
comp=Z,6μm,14.7s
XAN LR LR
comp=Z,6μm,19.4s
XAN LR LR
comp=Z,4μm,18.1s
XAN Xi'an 50.57 71 IAmb IAmb 12 00 35.7
comp=Z,215nm,1.3s
CIT Chita 50.61 47 *e*P **P 12 00 34.8 +1.7**
CIT *e* 12 01 52.2
CIT *e* 12 02 32.3
CIT *e* 12 07 49.7
CIT pmax pmax
comp=Z,524nm,1.7s
PBKT Sadao Pong 50.62 95 P **P 12 00 33.3 -0.2**
PBKT IAmb IAmb 12 00 36.5
comp=Z,129nm,1.1s
BOD Bodaibo 50.63 39 *e*P **P 12 00 32.7 -0.4**
BOD *e* 12 07 45.8
BOD pmax pmax
comp=Z,191nm,1.8s
HHC Hu-ho-hao-te 50.91 61 *e*P **P 12 00 37.3 +1.7**
HHC S **S 12 07 52.8 +1.2**
HHC ScS **ScS 12 10 20.0 -5.9**
HHC SS **SS 12 11 24.6 -1.5**
HHC pmax pmax
comp=Z,140nm,1.5s
HHC pmax pmax
comp=Z,940nm,5.5s
HHC LR LR
comp=Z,2μm,14.5s
HHC LR LR
comp=Z,2μm,15.5s
HHC LR LR
comp=Z,3μm,14.5s
SLVN Son La 50.94 88 P **P 12 00 36.0 0.0**
SLVN IAmb IAmb 12 00 38.6
comp=Z,284nm,1.6s
OPO Ambohidratompo 50.95 180 LR LR 12 22 49.6
comp=Z,3μm,19.8s,baz=186,slow=37
LSZ Lusaka 51.16 204 LR LR 12 23 05.6
comp=Z,3μm,18.3s,baz=25,slow=37
LSZ Lusaka 51.16 204 P **P 12 00 38.8 +1.2**
LSZ pmax pmax
comp=Z,86nm,1.5s
LSZ MLR MLR
comp=Z,3μm,18.0s
LSZ Lusaka 51.16 204 P **P 12 00 38.8 +1.2**
GYA Guiyang 51.21 81 ⇑P **P 12 00 37.5 -0.6**
GYA PcP **PcP 12 01 54.5 +1.2**
GYA PP **PP 12 02 38.1 +3.2**
GYA ScP **ScP 12 05 48.5 -0.7**
GYA S **S 12 07 47.8 -8.4**
GYA ScS **ScS 12 10 23.8 -4.7**
GYA pmax pmax
comp=Z,88nm,1.4s
GYA pmax pmax
comp=Z,720nm,3.5s
GYA LR LR
comp=Z,2μm,21.8s
GYA LR LR
comp=Z,2μm,25.4s
GYA LR LR
comp=Z,2μm,21.6s
ABPO Ambohimpanom 51.40 180 P **P 12 00 41.1 +1.7**
ABPO pmax pmax
comp=Z,36nm,0.9s
ABPO MLR MLR
comp=Z,4μm,19.0s
ABPO Ambohimpanom 51.40 180 P **P 12 00 41.1 +1.7**
ENH Enshi 52.20 75 IAmb IAmb 12 00 47.1
comp=Z,164nm,1.4s
TIY Taiyuan 52.31 65 *e*P **P 12 00 47.4 +1.3**
TIY S **S 12 08 13.5 +2.6**
TIY pmax pmax
comp=Z,38nm,0.4s
TIY pmax pmax
comp=Z,490nm,4.7s
TIY LR LR
comp=Z,1μm,13.3s
TIY LR LR
comp=Z,1μm,11.0s
TIY LR LR
comp=Z,3μm,19.8s
PMPST Porto Santo, M 52.89 289 *e*P **P 12 00 50.4 +0.1**
comp=Z,404nm,1.9s
PMPS Porto Santo 52.90 289 *e*P **P 12 00 52.3 +2.0**
comp=Z,342nm,1.3s
DAG Danmarks Havn 53.05 345 *i* P **P 12 00 50.4 -0.4**
comp=Z,138nm,1.4s
DAG Danmarks Havn 53.05 345 *i* P **P 12 00 50.4 -0.4**
DAG pmax pmax
comp=Z,140nm,1.4s
PMAR Madeira 53.46 289 *e*P **P 12 00 56.5 +1.7**
comp=Z,432nm,1.2s
MLSI Meulaboh, Aceh 53.61 111 P **P 12 00 53.5 -2.3**
comp=Z,104nm,0.9s
PMOZ Porto Moniz, M 53.66 289 *e*P **P 12 00 56.8 +0.7**
comp=Z,310nm,1.5s
PMOZ *e*S **S 12 08 33.0 +3.5**
PMOZ A A 12 31 54.9
comp=Z,384nm,18.0s
NOR Nord 54.17 351 *i* P **P 12 00 59.0 -0.1**
comp=Z,145nm,1.6s
NOR Nord 54.17 351 *i* P **P 12 00 59.0 -0.1**
NOR pmax pmax
comp=Z,150nm,1.6s
BJI Beijing 54.52 61 P **P 12 01 02.4 +0.3**
BJI S **S 12 08 42.6 +2.0**
BJI SS **SS 12 12 26.0 +3.1**
BJI pmax pmax
comp=Z,31nm,1.4s
BJI LR LR
comp=Z,4μm,18.1s
BJI LR LR
comp=Z,830nm,15.2s
BJT Baijiatuan 54.52 61 IAMs_20 IAMs_20 12 27 08.4
comp=Z,2μm,21.0s
TPTI 54.83 112 P **P 12 01 02.0 -2.7**
comp=Z,820nmcomp=Z,35nm,2.0s
HIA Hailar 54.89 50 *d i*P **P 12 01 05.7 +0.9**
HIA pmax pmax
comp=Z,87nm,1.2s
HIA Hailar 54.89 50 P **P 12 01 04.9 +0.1**
HIA IAmb IAmb 12 01 07.3
comp=Z,186nm,1.4s
DBIC Dimbokro 55.05 254 P **P 12 01 05.1 -1.2**
comp=Z,25nm,0.9s,baz=30,slow=6.8,SNR=18
DBIC LR LR 12 26 08.8
comp=Z,2μm,20.9s,baz=24,slow=38
DBIC Dimbokro 55.05 254 IAmb IAmb 12 01 08.3
comp=Z,110nm,1.5s
KIC Kosan Boka 55.13 253 *e*P **P 12 01 05.8 -1.1**
comp=Z,152nm,1.2s
TIC Toumodi 55.20 254 *e*P **P 12 01 07.9 +0.5**
LIC Lamto 55.45 254 *e*P **P 12 01 07.9 -1.3**
comp=Z,191nm,1.2s
TSI Tuntungan 55.78 110 P **P 12 01 09.3 -2.2**
comp=Z,92nm,1.4s
WHN Wuhan 56.04 73 ⇑P **P 12 01 14.6 +1.3**
WHN S **S 12 09 03.8 +2.5**
WHN pmax pmax
comp=Z,130nm,1.1s
WHN pmax pmax
comp=Z,1μm,4.5s
WHN LR LR
comp=Z,3μm,12.3s
WHN LR LR
comp=Z,6μm,14.9s
WHN LR LR
comp=Z,6μm,19.6s
TIA Tai'an 56.34 66 P **P 12 01 15.3 0.0**
TIA S **S 12 09 07.0 +1.8**
TIA pmax pmax
comp=Z,80nm,1.4s
TIA pmax pmax
comp=Z,480nm,3.6s
TIA LR LR
comp=Z,4μm,19.7s
TIA LR LR
comp=Z,2μm,19.0s
TIA LR LR
comp=Z,2μm,16.2s
GSI Gunungsitoli 56.35 113 P **P 12 01 15.8 +0.1**
comp=Z,223nm,1.5s
KULM Kulim 56.38 107 IAmb IAmb 12 01 17.9
comp=Z,104nm,0.9s
KULM Kulim 56.38 107 P **P 12 01 15.0 -0.9**
PSI Prapat 56.48 111 P **P 12 01 15.8 -0.9**
comp=Z,31nm,0.7s,baz=359,slow=2.8,SNR=35
RPSI Rantau Prapat 56.55 111 IAMs_20 IAMs_20 12 26 55.9
comp=Z,2μm,21.0s
TIXI Tiksi 56.63 22 *c i*P **P 12 01 17.4 +0.6**
TIXI pmax pmax
comp=Z,57nm,1.3s
TIXI MLR MLR
comp=Z,3μm,19.0s
TIXI Tiksi 56.63 22 P **P 12 01 17.2 +0.4**
TIXI IAmb IAmb 12 01 19.1
comp=Z,271nm,1.8s
QIZ Qiongzhong 56.95 87 P **P 12 01 19.3 -0.6**
QIZ S **S 12 09 13.4 -0.3**
QIZ pmax pmax
comp=Z,12nm,0.9s
QIZ pmax pmax
comp=Z,550nm,3.7s
QIZ LR LR
comp=Z,1μm,19.6s
QIZ LR LR
comp=Z,1μm,16.9s
QIZ LR LR
comp=Z,1μm,23.7s
QIZ Qiongzhong 56.95 87 IAmb IAmb 12 01 21.7
comp=Z,126nm,1.4s
IPM Ipoh 57.16 108 P **P 12 01 21.0 -0.4**
SUMG Summit 58.00 339 *i* P **P 12 01 27.0 +0.1**
comp=Z,490nm,1.3s
SUMG Summit 58.00 339 *i* P **P 12 01 27.0 +0.1**
SUMG pmax pmax
comp=Z,490nm,1.3s
SUMG Summit 58.00 339 P **P 12 01 27.1 +0.1**
SUMG IAmb IAmb 12 01 30.8
comp=Z,154nm,1.2s
YAK Yakutsk 58.10 33 P **P 12 01 26.3 -1.0**
comp=Z,5.8nm,0.4s,baz=309,slow=2.4,SNR=24
YAK LR LR 12 30 32.1
comp=Z,2μm,20.0s,baz=274,slow=40
YAK Yakutsk 58.10 33 *c i*P **P 12 01 27.5 +0.2**
YAK *e**PP **sP 12 01 36.0 +1.5**
YAK *e* 12 03 33.6
YAK *e*S **S 12 09 26.0 -1.6**
YAK *e**SS **sS 12 09 38.7 +2.5**
YAK *e* 12 11 09.9
YAK pmax pmax
comp=Z,61nm,1.3s
YAK pmax pmax
comp=N,34nm,1.2s
YAK pmax pmax
comp=E,72nm,1.3s
YAK pmax pmax
comp=Z,113nm,1.8s
YAK pmax pmax
comp=N,71nm,1.6s
YAK pmax pmax
comp=E,93nm,1.5s
YAK smax smax
comp=E,140nm,2.8s
YAK smax smax
comp=N,1μm,3.0s
YAK MLR MLR
comp=Z,3μm,21.0s
YAK MLR MLR
comp=N,910nm,16.0s
YAK MLR MLR
comp=E,1μm,19.0s
YAK Yakutsk 58.10 33 P **P 12 01 27.2 -0.1**
YAK IAmb IAmb 12 01 29.9
comp=Z,86nm,1.2s
GZH Guangzhou 58.12 81 P **P 12 01 29.0 +0.9**
GZH S **S 12 09 29.0 +0.1**
GZH LR LR
comp=Z,2μm,15.5s
GZH LR LR
comp=Z,2μm,18.0s
BART Pico Bartolome 58.26 297 *e*P **P 12 01 30.8 +1.8**
comp=Z,431nm,1.3s
PSMA Santa Maria 58.48 296 *e*P **P 12 01 32.8 +2.4**
comp=Z,312nm,1.7s
PCALD Caldeiras da R 58.49 297 *e*P **P 12 01 31.6 +1.1**
comp=Z,338nm,1.7s
CMLA Cha da Macela 58.53 297 *e*P **P 12 01 32.5 +1.7**
comp=Z,405nm,2.1s
ZEA Zeya 58.54 43 *e*P **P 12 01 32.0 +1.5**
ZEA *e*S **S 12 09 36.0 +2.5**
ZEA *e* 12 11 24.0
ZEA pmax pmax
comp=E,56nm,1.4s
ZEA pmax pmax
comp=Z,260nm,1.8s
ZEA smax smax
comp=N,1μm,12.0s
ZEA MLR MLR
comp=Z,3μm,15.0s
ZEA MLR MLR
comp=N,2μm,16.0s
ZEA MLR MLR
comp=E,2μm,16.0s
PDA Ponta Delgada 58.64 297 *e*P **P 12 01 32.7 +1.2**
comp=E,451nm,2.0s
PSET Sete Cidades 58.66 297 *e*P **P 12 01 32.9 +1.2**
comp=E,386nm,1.7s
DL2 Dalian 58.88 61 P **P 12 01 33.0 -0.2**
DL2 S **S 12 09 39.1 +0.7**
DL2 SS **SS 12 13 36.9 +5.3**
DL2 pmax pmax
comp=E,110nm,1.5s
DL2 LR LR
comp=E,3μm,20.4s
DL2 LR LR
comp=E,860nm,15.3s
DL2 LR LR
comp=E,3μm,19.6s
TSUM Tsumeb 59.02 213 P **P 12 01 34.8 +0.4**
NJ2 Nanjing 59.10 70 ⇑ *i*P **P 12 01 35.4 +0.6**
NJ2 S **S 12 09 38.8 -2.6**
NJ2 sS **sS 12 09 49.1 -0.9**
NJ2 ScS **ScS 12 11 21.4 -3.1**
NJ2 pmax pmax
comp=E,62nm,1.5s
NJ2 pmax pmax
comp=E,710nm,3.6s
NJ2 LR LR
comp=E,3μm,22.3s
NJ2 LR LR
comp=E,2μm,16.1s
NJ2 LR LR
comp=E,720nm,3.8s
HKPS Hong Kong Po S 59.13 82 IAMs_20 IAMs_20 12 31 21.0
comp=Z,2μm,18.0s
DLV T Lat 59.23 95 IAmb IAmb 12 01 37.7
comp=Z,145nm,1.5s
SNY Shenyang 59.38 57 ⇑P **P 12 01 35.5 -1.1**
SNY LR LR
comp=Z,2μm,15.7s
SNY LR LR
comp=Z,2μm,18.6s
SNY LR LR
comp=Z,2μm,23.6s
BKNI Bangkinang 59.66 111 P **P 12 01 38.4 -0.5**
comp=Z,6μmcomp=Z,323nm,1.3s
PDSI Padang 59.98 113 P **P 12 01 40.3 -0.8**
comp=Z,46nm,0.9s
CN2 Changchun 60.08 55 *e*P **P 12 01 40.8 -0.6**
CN2 *e*S **S 12 09 50.1 -3.7**
CN2 pmax pmax
comp=Z,100nm,4.0s
PMAN Manadas 60.15 299 *e*P **P 12 01 44.2 +2.2**
comp=Z,269nm,1.1s
ROSA Rosais 60.24 299 *e*P **P 12 01 45.2 +2.6**
comp=Z,270nm,1.1s
ALE Alert 60.34 352 IAMs_20 IAMs_20 12 32 16.6
comp=Z,1μm,19.0s
SUJ Sinuiju 60.59 59 P **P 12 01 44.6 -0.3**
SUJ S **S 12 09 58.8 -1.6**
SDSI Sungai Dareh 60.75 112 P **P 12 01 45.7 -0.6**
comp=Z,170nm,1.2s
MYKOM Kota Tinggi 61.01 108 P **P 12 01 49.0 +0.9**
MBO M'Bour 61.04 269 IAMs_20 IAMs_20 12 26 29.2
comp=Z,2μm,18.0s
LBTB Lobatse 61.07 203 P **P 12 01 49.5 +1.2**
LBTB pmax pmax
comp=Z,41nm,1.2s
LBTB Lobatse 61.07 203 P **P 12 01 49.5 +1.2**
SSE Sheshan 61.30 70 P **P 12 01 49.8 -0.1**
SSE S **S 12 10 09.3 -0.4**
SSE pmax pmax
comp=Z,360nm,4.1s
SSE LR LR
comp=Z,2μm,20.0s
SSE LR LR
comp=Z,1μm,16.9s
KRJI Kerinci 61.50 113 P **P 12 01 51.3 -0.2**
comp=Z,8μmcomp=Z,564nm,1.0s
QZH Quanzhou 61.69 77 *e*P **P 12 01 53.0 +0.4**
QZH S **S 12 10 14.5 -0.2**
QZH LR LR
comp=Z,920nm,18.6s
QZH LR LR
comp=Z,1μm,14.9s
QZH LR LR
comp=Z,1μm,19.4s
KNMB Chin-men Tao 61.72 78 IAMs_20 IAMs_20 12 30 23.3
comp=Z,2μm,18.0s
KGE Kanggye 61.82 58 P **P 12 01 53.7 +0.4**
PYAG Pyongyang 61.87 60 P **P 12 01 53.8 +0.2**
PYAG S **S 12 10 20.0 +3.4**
PYS Pyongsong 61.87 60 P **P 12 01 53.7 +0.1**
TPRI Tanjung Pinang 62.07 108 P **P 12 01 55.4 +0.1**
comp=Z,26μmcomp=Z,98nm,0.4s
HJU Haeju 62.20 61 P **P 12 01 55.2 -0.6**
KLR Kul'dur 62.50 47 P **P 12 01 56.9 -0.8**
baz=286,slow=8.4
KLR LR LR 12 31 52.1
comp=Z,2μm,19.3s,baz=282,slow=39
KLR Kul'dur 62.50 47 *de*P **P 12 01 57.2 -0.5**
KLR pmax pmax
comp=Z,165nm,2.0s
KLR MLR MLR
comp=Z,2μm,17.0s
MDJ Mudanjiang 62.63 53 P **P 12 01 58.0 -0.7**
MDJ sP sP 12 02 10.4 +4.5
MDJ PcS **PcS 12 06 38.8 -1.9**
MDJ S **S 12 10 25.3 -0.9**
MDJ sS sS 12 10 42.3 +7.5
MDJ ScS **SKKSac 12 11 47.0 -3.6**
MDJ pmax pmax
comp=Z,37nm,2.1s
MDJ pmax pmax
comp=Z,320nm,3.1s
MDJ LR LR
comp=Z,4μm,12.8s
MDJ LR LR
comp=Z,3μm,17.1s
MDJ LR LR
comp=Z,3μm,19.4s
MDJ Mudanjiang 62.63 53 P **P 12 01 58.6 0.0**
MDJ IAmb IAmb 12 02 00.5
comp=Z,75nm,1.5s
MASI Maura Aman, Be 62.76 114 P **P 12 01 59.8 -0.1**
comp=Z,5μmcomp=Z,311nm,1.5s
DSRI Dabo 62.95 110 P **P 12 02 00.8 -0.3**
comp=Z,2μmcomp=Z,52nm,1.1s
NRS Narsarsuaq 63.35 327 *i* P P 12 02 09.8 +6.7
NRS Narsarsuaq 63.35 327 *i* P P 12 02 09.8 +6.7
NRS Narsarsuaq 63.35 327 IAMs_20 IAMs_20 12 31 24.6
comp=Z,1μm,19.0s
KSI Kapahiang 63.35 114 P **P 12 02 03.8 -0.1**
comp=Z,5μmcomp=Z,124nm,0.8s
SFJD Kangerlussuaq 63.46 334 P **P 12 02 03.0 -0.7**
comp=Z,9.6nm,0.5s,baz=126,slow=5.6,SNR=4.8
SFJD Kangerlussuaq 63.46 334 P **P 12 02 06.1 +2.4**
SFJD pmax pmax
comp=Z,35nm,1.1s
SFJD MLR MLR
comp=Z,2μm,20.0s
SFJD Kangerlussuaq 63.46 334 P **P 12 02 06.1 +2.4**
SFJD Kangerlussuaq 63.46 334 IAMs_20 IAMs_20 12 30 40.4
comp=Z,2μm,20.0s
CHJN Chongjin 63.76 56 P **P 12 02 07.0 +0.8**
KS19 Wonju Array Si 63.98 61 IAmb IAmb 12 02 09.2
comp=Z,102nm,1.5s
KSAR Wonju Array Be 64.01 61 P **P 12 02 06.8 -1.1**
KSAR Wonju Array Be 64.01 61 P **P 12 02 06.8 -1.1**
TJN Taejon 64.03 62 ‖ *e*P **P 12 02 06.8 -1.2**
KSRS Korea Array 64.03 61 P **P 12 02 06.9 -1.1**
comp=Z,12nm,0.8s,baz=279,slow=6.7,SNR=33
KSRS LR LR 12 33 16.9
comp=Z,2μm,19.1s,baz=290,slow=39
TATO Taipei 64.05 76 IAMs_20 IAMs_20 12 33 53.0
comp=Z,1μm,18.0s
TPUB Ta-pu 64.07 78 IAmb IAmb 12 02 11.2
comp=Z,124nm,1.4s
YHNB Yeheng 64.09 76 IAMs_20 IAMs_20 12 32 39.9
comp=Z,1μm,19.0s
SSLB Suanglung 64.12 77 P **P 12 02 09.5 +0.6**
SSLB IAmb IAmb 12 02 12.7
comp=Z,117nm,1.6s
LHSI Lahat 64.18 113 P **P 12 02 08.3 -1.0**
comp=Z,3μmcomp=Z,110nm,2.2s
USA0B Ussuriysk Arra 64.39 53 *d i*P **P 12 02 09.5 -0.7**
USA0B Ussuriysk Arra 64.39 53 IAmb IAmb 12 02 11.0
comp=Z,106nm,1.4s
USRK Ussuriysk Ar. 64.39 53 P **P 12 02 09.0 -1.3**
comp=Z,24nm,1.0s,baz=270,slow=5.7,SNR=59
USRK LR LR 12 32 20.9
comp=Z,3μm,20.9s,baz=277,slow=38
USRK Ussuriysk Ar. 64.39 53 P **P 12 02 08.7 -1.5**
USRK Ussuriysk Ar. 64.39 53 P **P 12 02 08.7 -1.5**
BOSA Boshof 64.53 202 P **P 12 02 11.1 -0.3**
comp=Z,8.4nm,0.6s,baz=23,slow=5.1,SNR=16
BOSA LR LR 12 32 36.3
comp=Z,1μm,21.2s,baz=25,slow=38
BOSA Boshof 64.53 202 P **P 12 02 11.9 +0.6**
BOSA pmax pmax
comp=Z,93nm,1.5s
BOSA Boshof 64.53 202 P **P 12 02 11.9 +0.6**
BOSA IAmb IAmb 12 02 14.4
comp=Z,93nm,1.4s
IVI Ivigtut 64.58 328 IAmb IAmb 12 03 04.3
comp=Z,79nm,0.8s
YULB Yu-li 64.58 78 IAmb IAmb 12 02 15.5
comp=Z,92nm,1.3s
EUNU Eureka 64.71 352 IAmb IAmb 12 02 15.7
comp=Z,101nm,1.2s
VLA Vladivostok 64.72 54 *de*P **P 12 02 11.1 -1.3**
VLA pmax pmax
comp=Z,50nm,1.1s
GRNR Gornyy 64.80 45 ⇑ *i*P **P 12 02 13.8 +0.9**
GRNR *e*S **S 12 10 58.6 +5.6**
GRNR pmax pmax
comp=E,9.0nm,1.1s
GRNR pmax pmax
comp=Z,20nm,1.2s
GRNR smax smax
comp=N,4.0nm,0.9s
GRNR MLR MLR
comp=N,470nm,12.0s
MDSI Maura Dua 65.10 113 P **P 12 02 13.3 -2.0**
comp=N,2μmcomp=N,29nm,1.6s
PPBI Pangkal Pinang 65.20 110 P **P 12 02 16.3 +0.3**
LWLI Liwa 65.34 114 P **P 12 02 16.9 -0.1**
comp=N,73nm,0.8s
KASI Kota Agung 66.00 114 P **P 12 02 21.3 +0.2**
comp=N,67nm,1.3s
KSM Kuching 66.43 104 P **P 12 02 23.6 -0.2**
KSM IAmb IAmb 12 02 25.5
comp=Z,179nm,1.8s
KSM IAMs_20 IAMs_20 12 36 19.2
comp=Z,1μm,19.0s
KSM Kuching 66.43 104 P **P 12 02 25.0 +1.1**
TEY Ternei 67.11 50 ⇓ *i*P **P 12 02 26.8 -1.0**
TEY *e* 12 02 36.7
TEY *e* 12 12 17.0
TEY pmax pmax
comp=N,10.0nm,1.7s
TEY pmax pmax
comp=E,10.0nm,1.7s
TEY pmax pmax
comp=Z,40nm,1.3s

SBUM Sibu 67.44 102 P **P** **12 02 32.0 +1.7**
SEY Seymchan 67.72 29 P **P** **12 02 31.7 +0.3**
comp=Z,62nm,0.9s,baz=290,slow=7.3,SNR=50
SEY Seymchan 67.72 29*c i* P **P** **12 02 31.9 +0.6**
JNU Nakatsue 68.00 64 P **P** **12 02 34.6 +1.0**
comp=Z,13nm,0.9s,baz=164,slow=5.5,SNR=5.5
JNU LR LR 12 35 09.3
comp=Z,2µm,20.4s,baz=296,slow=38
JNU Nakatsue 68.00 64 IAMs_20 IAMs_20 12 34 27.4
comp=Z,2µm,20.0s
TYV Tymovskoe 68.39 43 *e*P **P** **12 02 36.6 +0.8**
TYV *e*S **S** **12 11 39.3 +2.9**
TYV pmax pmax
comp=Z,79nm,1.4s
TYV pmax pmax
comp=Z,600nm,2.3s
TYV smax smax
comp=E,34nm,3.8s
TYV smax smax
comp=E,2µm,4.5s
MA2 Magadan 68.62 32 P **P** **12 02 36.9 -0.2**
comp=E,27nm,0.9s,baz=312,slow=9.8,SNR=15
MA2 Magadan 68.62 32*d i* P **P** **12 02 37.4 +0.3**
MA2 pmax pmax
comp=Z,53nm,1.1s
MA2 Magadan 68.62 32 IAmb IAmb 12 02 40.6
comp=Z,102nm,1.2s
MA2 IAMs_20 IAMs_20 12 36 26.2
comp=Z,1µm,21.0s
KKM Kota Kinabalu 68.80 97 IAMs_20 IAMs_20 12 35 27.5
comp=Z,1µm,22.0s
CNJI Cibinong 69.15 114 P **P** **12 02 38.5 -2.5**
comp=Z,3µmcomp=Z,184nm,1.1s
LEM Lembang 69.22 113 P **P** **12 02 41.6 0.0**
comp=Z,16nm,0.5s,baz=339,slow=5.4,SNR=4.5
LEM LR LR 12 35 16.7
comp=Z,815nm,18.7s,baz=336,slow=38
CISI Cisompet, Garu 69.83 114 P **P** **12 02 43.2 -2.1**
comp=Z,5µmcomp=Z,146nm,2.4s
PBKI Pangkalan Bun 69.95 107 P P 12 02 41.1 -4.9
RES Resolute Bay 70.11 350 P **P** **12 02 46.4 +0.4**
comp=Z,2.5nm,0.4s,baz=31,slow=6.9,SNR=9.8
RES Resolute Bay 70.11 350 P **P** **12 02 46.1 +0.1**
RES IAmb IAmb 12 02 49.9
comp=Z,102nm,1.8s
RES IAMs_20 IAMs_20 12 35 44.7
comp=Z,978nm,19.0s
YSS Yuzh-Sakhalins 70.17 46*de*P **P** **12 02 46.1 -0.7**
YSS *e*'SP **pP** **12 02 52.7 +0.6**
YSS *e* 12 05 22.2
YSS *e*S **S** **12 11 55.4 -2.2**
YSS *e*SS **SS** **12 16 23.3 -3.6**
YSS pmax pmax
comp=Z,300nm,2.2s
YSS pmax pmax
comp=Z,100nm,1.2s
YSS smax smax
comp=N,800nm,5.1s
YSS MLR MLR
comp=Z,2µm,15.0s
YSS MLR MLR
comp=E,1µm,16.0s
YSS Yuzh-Sakhalins 70.17 46 P **P** **12 02 46.4 -0.4**
ASAJ Asahikawa 71.37 49 P **P** **12 02 52.0 -2.2**
comp=E,7.1nm,0.7s,baz=272,slow=13,SNR=17
JKA Kamikawa-asahi 71.37 49 IAmb IAmb 12 03 15.7
comp=Z,210nm,1.9s
MTKI Muara Teweh, K 71.56 103 P **P** **12 02 55.7 -0.1**
MJB9 Matsu-Tunnel 71.88 58 P **P** **12 02 56.7 -0.8**
MAJO Matsushiro 71.88 58*d i* P **P** **12 02 56.1 -1.4**
MAJO pmax pmax
comp=Z,24nm,1.3s
MAJO MLR MLR
comp=Z,1µm,20.0s
MAJO Matsushiro 71.88 58 P **P** **12 02 57.4 -0.1**
MAT Matsushiro 71.88 58 P **P** **12 02 57.2 -0.3**
MAT S **S** **12 12 15.6 -2.3**
MJAR Matsushiro Arr 71.89 58 P **P** **12 02 55.2 -2.3**
comp=Z,7.6nm,1.1s,baz=295,slow=5.9,SNR=24
MJAR LR LR 12 36 53.3
comp=Z,1µm,20.8s,baz=275,slow=38
MJAR Matsushiro Arr 71.89 58 P **P** **12 02 56.6 -0.9**
MJAR pmax pmax
comp=Z,58nm,2.0s
MJAR Matsushiro Arr 71.89 58 P **P** **12 02 56.6 -0.9**
ERM Erimo 72.72 51*d i* P **P** **12 03 01.9 -0.4**
ERM pmax pmax
comp=Z,119nm,1.7s
ERM Erimo 72.72 51 P **P** **12 03 02.8 +0.5**
ERM IAmb IAmb 12 03 22.1
comp=Z,77nm,1.1s
YUK Yuzh-Kuril'sk 73.47 48*d i* P **P** **12 03 06.7 0.0**
YUK *e* 12 03 22.8
YUK *i* S **S** **12 12 34.0 -1.7**
YUK *i* 12 13 14.6
YUK *e*SS **SS** **12 17 18.7 +1.2**
YUK *e*SSS SSS 12 20 26.7
YUK pmax pmax
comp=Z,191nm,1.4s
YUK MLR MLR
comp=N,433nm,16.0s
YUK MLR MLR
comp=E,850nm,16.0s
YUK MLR MLR
comp=E,659nm,14.0s
KUR Kuril'sk 74.12 46 *e*P **P** **12 03 09.6 -0.9**
KUR *i* S **SKiKP** **12 12 38.8 +1.0**
KUR pmax pmax
comp=Z,79nm,1.5s
KUR pmax pmax
comp=Z,235nm,3.4s
KUR MLR MLR
comp=E,943nm,13.0s
KUR MLR MLR
comp=E,650nm,13.0s
KUR MLR MLR
comp=N,801nm,15.0s
DRLN Deer Lake 74.80 319 P **P** **12 03 13.1 -1.3**
A21K Barrow 74.89 8 P **P** **12 03 14.9 +0.4**
baz=339
A21K S **S** **12 12 49.9 -0.7**
baz=339
MPSI Mapaga 74.98 99 P **P** **12 03 16.0 0.0**
comp=N,2µmcomp=N,98nm,1.4s
PEA0B Petropavlovsk- 75.31 36*ce*P **P** **12 03 16.1 -1.2**
PEA0B Petropavlovsk- 75.31 36 IAMs_20 IAMs_20 12 40 26.0
comp=Z,1µm,19.0s
PETK Petropavlovsk- 75.31 36 P **P** **12 03 15.8 -1.4**
comp=Z,12nm,1.0s,baz=221,slow=5.9,SNR=7.9
PETK LR LR 12 41 37.3
comp=Z,1µm,18.1s,baz=296,slow=40
PETK Petropavlovsk- 75.31 36 P **P** **12 03 16.0 -1.3**
PETK Petropavlovsk- 75.31 36 P **P** **12 03 16.0 -1.3**
A36M Sachs Harbour 75.51 358 P **P** **12 03 17.3 -0.7**
baz=6.3
A36M S **S** **12 12 54.4 -3.1**
baz=6.3
PET Petropavlovsk 75.82 36 IAMs_20 IAMs_20 12 40 42.7
comp=Z,1µm,20.0s
SKR Severo-Kuril's 75.89 38 *e*P P 12 03 06.7 -14
SKR *e*SS SS 12 17 59.3 +5.6
SKR pmax pmax
comp=Z,100nm,6.7s
SKR MLR MLR
comp=Z,600nm,17.0s
DAV Davao City (W) 76.14 90 IAMs_20 IAMs_20 12 39 53.4
comp=Z,960nm,20.0s
DAV Davao City (W) 76.14 90⇑ *i* P **P** **12 03 23.3 +0.7**
SCHQ Schefferville 76.31 327 P **P** **12 03 22.4 -0.6**
comp=Z,19nm,0.7s,baz=48,slow=4.4,SNR=15
SCHQ Schefferville 76.31 327 IAMs_20 IAMs_20 12 39 44.4
comp=Z,797nm,19.0s
RDOG Red Dog Mine 77.02 11 IAmb IAmb 12 03 29.1
comp=Z,112nm,1.5s
RDOG IAMs_20 IAMs_20 12 42 25.8
comp=Z,818nm,20.0s
GTOI Gorontalo 77.41 97 P **P** **12 03 28.3 -1.5**
comp=Z,596nmcomp=Z,20nm,1.4s
KAPI Kappang 77.85 104 P **P** **12 03 30.3 -1.9**
comp=Z,3.2nm,0.3s,baz=315,slow=8.6,SNR=7.7
KAPI Kappang 77.85 104 P **P** **12 03 33.4 +1.1**
KAPI pmax pmax
comp=Z,177nm,1.9s
KAPI MLR MLR
comp=Z,400nm,22.0s
KAPI Kappang 77.85 104 P **P** **12 03 33.4 +1.1**
KAPI IAmb IAmb 12 03 33.7
comp=Z,177nm,1.9s
C36M Paulatuk 78.09 357 S **S** **12 13 19.7 -6.1**
baz=7.2
C36M Paulatuk 78.09 357 IAmb IAmb 12 04 05.0
comp=Z,114nm,1.4s
TOLK Toolik Lake Re 78.19 6 P **P** **12 03 33.5 +0.2**
baz=345,SNR=38
TOLK S **S** **12 13 25.4 -1.7**
baz=345
TOLK Toolik Lake Re 78.19 6 P **P** **12 03 33.2 -0.1**
TOLK IAmb IAmb 12 03 38.1
comp=Z,47nm,0.7s
COLD Coldfoot 79.50 7 P **P** **12 03 40.2 -0.3**
baz=345,SNR=31
COLD S **S** **12 13 38.4 -2.6**
baz=345
COLD Coldfoot 79.50 7 IAmb IAmb 12 03 44.6
comp=Z,217nm,2.0s
COLD IAMs_20 IAMs_20 12 43 05.5
comp=Z,1µm,20.0s
WBSI Waikabubak, Su 80.21 108 P **P** **12 03 43.3 -1.9**
comp=Z,2µmcomp=Z,87nm,1.6s
IMAR Indian Mountai 80.29 9 P **P** **12 03 43.4 -1.4**
BATG Bathurst New B 80.60 321 P **P** **12 03 46.6 -0.2**
TNTI Ternate 80.99 95 P **P** **12 03 50.2 +0.8**
comp=Z,2µmcomp=Z,41nm,1.2s
TNTI Ternate 80.99 95 pP 12 03 53.0 -1.8
EDFI Ende, Flores 81.55 106 P **P** **12 03 50.3 -2.2**
comp=Z,455nmcomp=Z,24nm,1.4s
POKR Poker Plat Res 81.83 6 P **P** **12 03 52.8 -0.2**
baz=347,SNR=12
POKR S **S** **12 14 04.7 -0.7**
baz=347
D63A Stockholm 81.84 321 P **P** **12 03 53.3 0.0**
baz=50
D63A S **S** **12 14 05.9 -0.2**
baz=50
MDM Murphy Dome 81.91 7 IAmb IAmb 12 03 56.2
comp=Z,137nm,1.6s
TCOL CIGO, UAF Yank 82.03 7 P **P** **12 03 53.3 -0.7**
baz=347,SNR=13
TCOL S **S** **12 14 06.6 -0.8**
baz=347
COLA College 82.03 7*d i* P **P** **12 03 54.0 0.0**
COLA pmax pmax
comp=Z,27nm,1.5s
COLA MLR MLR
comp=Z,859nm,22.0s
COLA College 82.03 7 P **P** **12 03 54.6 +0.7**
E64A Bridgewater 82.08 321 P **P** **12 03 54.1 -0.6**
baz=50,SNR=9.3
E64A S **S** **12 14 07.2 -1.5**
baz=50
NEA2 Nenana 82.18 7 P **P** **12 03 54.9 0.0**
baz=346
NEA2 S **S** **12 14 05.9 -3.1**
baz=346
ILAR Eielson Array 82.22 6 P **P** **12 03 54.5 -0.5**
comp=Z,2.5nm,0.7s,baz=327,slow=3.4,SNR=22
ILAR PP **PP** **12 07 04.7 +2.1**
comp=Z,7.3nm,1.1s,baz=347,slow=7.3,SNR=7.6
ILAR PKKPbc **PKKPbc** **12 22 24.0 +0.5**
comp=Z,0.5nm,0.6s,baz=195,slow=2.8,SNR=6.6
ILAR LR LR 12 43 53.4
comp=Z,592nm,21.6s,baz=350,slow=38
ILAR Eielson Array 82.22 6 P **P** **12 03 53.8 -1.2**
CCB Clear Creek Bu 82.25 7 P **P** **12 03 54.6 -0.6**
D62A Allapoint, All 82.30 322 S **S** **12 14 10.0 -0.8**
baz=50
D62A Allapoint, All 82.30 322 IAMs_20 IAMs_20 12 42 33.9
comp=Z,777nm,19.0s
E63A Oxbow 82.40 321 P **P** **12 03 55.6 -0.7**
baz=50,SNR=8.6
E63A Oxbow 82.40 321 IAmb IAmb 12 04 00.3
comp=Z,249nm,1.9s
BPAW Bear Paw Mtn. 82.44 8 IAmb IAmb 12 03 59.6
comp=Z,186nm,1.8s
BPAW IAMs_20 IAMs_20 12 43 29.2
comp=Z,1µm,22.0s
BWN Browne 82.55 7 IAMs_20 IAMs_20 12 43 41.4
comp=Z,843nm,22.0s
HDA Harding Lake 82.57 6 P **P** **12 03 56.9 0.0**
baz=348
EGAK Eagle 82.63 4 IAmb IAmb 12 04 17.5
comp=Z,92nm,1.4s
F64A Sherman 82.72 321 P **P** **12 03 58.0 0.0**
baz=50,SNR=12
F64A Sherman 82.72 321 IAmb IAmb 12 04 02.2
comp=Z,198nm,1.7s
F64A IAMs_20 IAMs_20 12 39 50.3
comp=Z,792nm,21.0s
G65A Princeton 82.72 320 P **P** **12 03 57.3 -0.7**
baz=50
G65A Princeton 82.72 320 IAMs_20 IAMs_20 12 40 47.4
comp=Z,895nm,22.0s
D61A St Aubert, Com 82.81 323 P **P** **12 03 58.4 0.0**
baz=49
E62A Clayton Lake 82.85 322 P **P** **12 03 58.2 -0.5**
baz=49,SNR=9.8
E62A Clayton Lake 82.85 322 IAMs_20 IAMs_20 12 44 41.6
comp=Z,760nm,19.0s
H66A Whiting 82.85 319 P **P** **12 03 58.8 +0.1**
baz=50
TTA Tatalina 82.87 11 P **P** **12 03 58.3 -0.3**
TTA pmax pmax
comp=Z,99nm,1.9s
TTA Tatalina 82.87 11 P **P** **12 03 58.3 -0.3**
TTA IAmb IAmb 12 04 02.4
comp=Z,99nm,1.9s
TTA IAMs_20 IAMs_20 12 47 40.5
comp=Z,1µm,22.0s
CHGQ Chibougamau 83.03 326 P **P** **12 03 59.3 -0.3**
baz=46
MCK McKinley 83.03 7 IAmb IAmb 12 04 01.3
comp=Z,100nm,1.7s
MCK IAMs_20 IAMs_20 12 43 46.8
comp=Z,947nm,22.0s
TRF Thorofare Moun 83.15 8 IAmb IAmb 12 04 04.7
comp=Z,80nm,1.6s
TRF IAMs_20 IAMs_20 12 47 11.0
comp=Z,767nm,19.0s
F63A Nahmakanta, Br 83.22 321 P **P** **12 03 59.7 -1.0**
baz=49,SNR=7.6
F63A Nahmakanta, Br 83.22 321 IAmb IAmb 12 04 04.8
comp=Z,163nm,1.8s
K27K Chicken 83.32 4 P **P** **12 04 00.5 -0.3**
baz=352
G64A Maxfield 83.33 320 P **P** **12 04 01.5 +0.3**
baz=50,SNR=7.8
RND Reindeer 83.36 7 IAmb IAmb 12 04 02.6
comp=Z,76nm,1.6s
RND IAMs_20 IAMs_20 12 43 56.4
comp=Z,939nm,22.0s
D60A Saint Jean D'O 83.38 323 P **P** **12 04 00.9 -0.5**
baz=48
RIDG Independent Ri 83.41 6 IAmb IAmb 12 04 03.8
comp=Z,96nm,1.6s
H65A Eastbrook 83.42 320 P **P** **12 04 01.4 -0.2**
baz=50
DAWY Dawson 83.43 3 IAmb IAmb 12 04 04.0
comp=Z,82nm,1.6s
DAWY IAMs_20 IAMs_20 12 47 38.5
comp=Z,1µm,20.0s
PPLA Purkeypile 83.45 9 IAmb IAmb 12 04 26.5
comp=Z,82nm,1.6s
PPLA IAMs_20 IAMs_20 12 46 05.9
comp=Z,1µm,22.0s
E61A Lac Etchemin 83.47 322 P **P** **12 04 01.9 -0.1**
baz=48,SNR=8.0
F62A Pittston Farm, 83.55 321 P **P** **12 04 01.7 -0.6**
baz=49,SNR=8.6
F62A Pittston Farm, 83.55 321 P **P** **12 04 02.7 +0.4**
F62A IAMs_20 IAMs_20 12 45 13.3
comp=Z,745nm,20.0s
DOT Dot Lake 83.56 5 IAmb IAmb 12 04 05.0
comp=Z,70nm,1.5s
PKME Peaks-Kenny Pk 83.61 321 P **P** **12 04 02.3 -0.4**
baz=49,SNR=5.7
PKME Peaks-Kenny Pk 83.61 321 IAmb IAmb 12 04 07.0
comp=Z,147nm,1.8s
D59A Saint-Raymond 83.78 323 P **P** **12 04 03.2 -0.3**
baz=48
G63A Kingsbury 83.88 321 P **P** **12 04 04.3 +0.3**
baz=49
BATI Baumata 83.98 106 P **P** **12 04 04.9 0.0**
comp=Z,69nm,0.7s,baz=302,slow=2.6,SNR=8.1
BATI Baumata 83.98 106 P **P** **12 04 05.3 +0.3**
comp=Z,2µmcomp=Z,76nm,1.5s
H64A Troy 83.98 320 P **P** **12 04 04.4 -0.1**
baz=49
LATQ La Tuque 84.00 324 P **P** **12 04 05.0 +0.4**
baz=47
E60A Ste Agathe de 84.01 322 P **P** **12 04 03.9 -0.7**
baz=48,SNR=8.3
F61A St Evariste 84.04 322 P **P** **12 04 04.5 -0.3**
baz=48,SNR=12
YKA Yellowknife Ar 84.08 352 P **P** **12 04 04.5 -0.2**
comp=Z,12nm,0.9s,baz=17,slow=5.7,SNR=14
GIRL Giralia 84.09 121 P **P** **12 04 08.0 +2.7**
CUT Chulitna 84.17 8 P **P** **12 04 03.9 -1.2**
baz=345
SOEI Soe 84.21 105 P **P** **12 04 06.4 +0.1**
comp=Z,2µmcomp=Z,127nm,1.4s
D58A Chemin du LacG 84.24 324 P **P** **12 04 05.3 -0.5**
baz=47
WVL Waterville 84.27 320 IAmb IAmb 12 04 09.8
comp=Z,177nm,2.0s
MENT Mentasta 84.29 5 IAmb IAmb 12 04 08.9
comp=Z,70nm,1.6s
BCAR Beaver Creek A 84.30 4 P **P** **12 04 05.3 -0.6**
G62A West of Eustis 84.30 321 P **P** **12 04 06.0 -0.2**
baz=48,SNR=10
H63A New Sharon 84.41 321 P **P** **12 04 06.4 -0.3**
baz=49
SKT Skwentna 84.42 9 IAmb IAmb 12 04 09.5
comp=Z,94nm,1.6s
SKT IAMs_20 IAMs_20 12 46 45.5
comp=Z,1µm,22.0s
E59A St. Maurice 84.48 323 P **P** **12 04 06.4 -0.6**
baz=47
F60A Warwick 84.54 322 P **P** **12 04 06.7 -0.6**
baz=47
MATQ Matagami 84.63 328 P **P** **12 04 07.0 -0.7**
baz=44
SVW2 Sparrevohn 84.67 11 IAmb IAmb 12 04 10.9
comp=Z,78nm,1.8s
SVW2 IAMs_20 IAMs_20 12 46 37.7
comp=Z,877nm,22.0s
I64A Boothbay 84.68 320 P **P** **12 04 07.8 -0.2**
baz=49
G61A St-Isidore-de- 84.78 322 P **P** **12 04 08.3 -0.3**
baz=48
D57A Chemin Vers le 84.80 324 P **P** **12 04 08.2 -0.4**
baz=46,SNR=16
LSQQ Lebel-sur-Quev 84.83 327 P **P** **12 04 07.7 -1.1**
baz=44
E58A La Victoria 84.94 323 P **P** **12 04 08.8 -0.5**
baz=46,SNR=6.4
GHO Glory Hole Cre 84.94 8 IAMs_20 IAMs_20 12 46 29.3
comp=Z,679nm,19.0s
SUA Susitna One 85.02 9 IAmb IAmb 12 04 12.1
comp=Z,140nm,1.7s
SUA IAMs_20 IAMs_20 12 47 16.4
comp=Z,1µm,21.0s
F59A Saint Guilaume 85.04 323 P **P** **12 04 09.7 -0.1**
baz=47
SCM Sheep Creek Mo 85.06 7 IAmb IAmb 12 07 13.8
comp=Z,36nm,0.7s
H62A Milan 85.06 321 P **P** **12 04 09.0 -1.0**
baz=48
H62A Milan 85.06 321 IAmb IAmb 12 04 14.0
comp=Z,129nm,1.9s
PMR Palmer 85.09 8 IAmb IAmb 12 04 13.2
comp=Z,177nm,2.0s
PMR IAMs_20 IAMs_20 12 48 11.3
comp=Z,832nm,20.0s
I63A Otisfield 85.10 320 P **P** **12 04 10.1 -0.2**
baz=48
MOQ Mont Orford 85.14 322 P **P** **12 04 09.9 -0.6**
SIJI Sorong 85.15 94 P **P** **12 04 09.2 -1.8**
comp=Z,43nm,0.9s,baz=326,slow=8.4,SNR=17
D56A ZEC Mazanza, M 85.20 325 P **P** **12 04 10.2 -0.5**
baz=46,SNR=12
G60A Masonville 85.33 322 P **P** **12 04 10.6 -0.8**
baz=47
KNK Knik Glacier 85.34 8 IAmb IAmb 12 04 34.6
comp=Z,165nm,1.7s
E57A Chemin Saint G 85.35 324 P **P** **12 04 10.7 -0.8**
baz=46,SNR=13
H61A Lyndonville 85.50 321 P **P** **12 04 12.0 -0.2**
baz=47,SNR=8.9
KLU Klutina 85.53 6 IAmb IAmb 12 04 15.4
comp=Z,135nm,1.6s
KLU IAMs_20 IAMs_20 12 45 05.9
comp=Z,735nm,21.0s
F58A St-Lin Laurent 85.56 323 P **P** **12 04 11.9 -0.5**
baz=46
D55A Sainte-Anne-du 85.57 325 P **P** **12 04 12.1 -0.4**
baz=45,SNR=15
D55A S **S** **12 14 43.1 -0.6**
baz=45
I62A Tamworth 85.63 321 P **P** **12 04 12.9 +0.1**
baz=48,SNR=8.1
I62A Tamworth 85.63 321 IAMs_20 IAMs_20 12 47 16.2
comp=Z,763nm,20.0s
CAPN Captain Cook N 85.64 9 P **P** **12 04 12.3 -0.2**
baz=344
E56A St. Veronique 85.69 324 P **P** **12 04 12.8 -0.3**
baz=45,SNR=7.0
E56A S **S** **12 14 44.0 -0.9**
baz=45
LBNH Lisbon 85.69 321 P **P** **12 04 12.5 -0.6**
baz=47,SNR=9.8
VLDQ Val d'Or 85.73 327 IAmb IAmb 12 04 17.1
comp=Z,80nm,1.6s
GLB Gilahina Butte 85.76 5 IAMs_20 IAMs_20 12 45 24.1
comp=Z,799nm,22.0s
G59A Clarenceville 85.78 322 P **P** **12 04 12.5 -1.1**
baz=46
H60A Morristown 85.88 322 P **P** **12 04 13.6 -0.6**
baz=47,SNR=9.5
H60A S **S** **12 14 46.7 -0.2**
baz=47
MCARA McCarthy VSAT 85.88 5 IAmb IAmb 12 04 17.7
comp=Z,76nm,1.5s
J63A Strafford 85.89 320 P **P** **12 04 14.3 +0.2**
baz=48
J63A S **S** **12 14 47.7 +0.7**
baz=48
GLI Glacier Island 86.01 7 IAMs_20 IAMs_20 12 45 07.7
comp=Z,1µm,22.0s
F57A Harrington 86.04 324 P **P** **12 04 14.8 -0.1**
baz=46
D54A Lac Fusel, La 86.05 326 P **P** **12 04 13.7 -1.2**
baz=44,SNR=7.1
D54A S **S** **12 14 47.5 -0.9**
baz=44
I61A Oroboro, Fairl 86.05 321 P **P** **12 04 15.0 0.0**
baz=47
I61A S **S** **12 14 49.0 +0.5**
baz=47
FFD Franklin Falls 86.07 320 IAMs_20 IAMs_20 12 47 28.0
comp=Z,792nm,19.0s
O22K Cooper Landing 86.10 8 P **P** **12 04 14.4 -0.4**
baz=346
O22K S **S** **12 14 47.8 -0.6**
baz=346
FRNY Flat Rock 86.16 322 IAmb IAmb 12 04 18.9
comp=Z,147nm,1.9s
FRNY IAMs_20 IAMs_20 12 43 24.1
comp=Z,694nm,20.0s
G58A Ormstown 86.18 323 P **P** **12 04 15.0 -0.5**
baz=46,SNR=6.9
FID Port Fidalgo 86.20 7 IAMs_20 IAMs_20 12 46 49.0
comp=Z,769nm,21.0s
E55A Montcerf-Lytto 86.26 325 P **P** **12 04 15.3 -0.6**
baz=45
BALM Baldy 86.28 5 IAmb IAmb 12 04 19.0
comp=Z,130nm,1.5s
BARN Barnard Glacie 86.30 4 P **P** **12 04 16.0 -0.1**
BARN IAmb IAmb 12 04 20.1
comp=Z,144nm,1.8s
BARN IAMs_20 IAMs_20 12 50 20.3
comp=Z,797nm,21.0s
J62A Henniker 86.32 320 P **P** **12 04 15.0 -1.3**
baz=47
H59A Cadyville 86.34 322 P **P** **12 04 16.2 -0.2**
baz=46,SNR=12
CTGM Chitina Glacie 86.42 4 IAmb IAmb 12 04 19.7
comp=Z,154nm,1.7s
EYAK Cordova Ski Ar 86.47 7 IAmb IAmb 12 04 19.9
comp=Z,122nm,1.7s
CRQM Cirque 86.50 5 IAMs_20 IAMs_20 12 45 47.7
comp=Z,742nm,21.0s
SEW Seward 86.50 8 IAmb IAmb 12 04 19.4

comp=Z,102nnm,1.6s
K63A Dunstable 86.53 320 P **P** 12 04 16.9 -0.4
baz=48
K63A S **S** 12 14 53.1 -0.1
baz=48
D53A Lac Vacive, Po 86.59 326 P **P** 12 04 17.1 -0.4
baz=44
D53A S **S** 12 14 53.1 -0.7
baz=44
WES Weston 86.62 319 IAmb IAmb 12 04 21.7
comp=Z,125nnm,1.6s
WES IAMs_20 IAMs_20 12 46 14.6
comp=Z,758nnm,18.0s
J61A Chester 86.63 321 P **P** 12 04 17.5 -0.3
baz=47
J61A S **S** 12 14 56.2 +2.0
baz=47
BRLK Bradley Lake 86.64 9 IAMs_20 IAMs_20 12 47 52.6
comp=Z,1µm,20.0s
L64A Middleborough 86.66 319 P **P** 12 04 17.2 -0.7
baz=48
L64A S **S** 12 14 55.8 +1.3
baz=48
HRV Adam Dziewonsk 86.67 320 P **P** 12 04 18.2 +0.2
baz=48
HRV Adam Dziewonsk 86.67 320 P **P** 12 04 19.3 +1.3
HRV pmax pmax
comp=Z,34nm,1.1s
HRV Adam Dziewonsk 86.67 320 P **P** 12 04 19.3 +1.3
G57A Newington 86.68 323 P **P** 12 04 17.3 -0.7
baz=45,SNR=6.7
G57A S **S** 12 14 53.8 -0.8
baz=45
I60A Shoreham 86.68 322 P **P** 12 04 17.4 -0.6
baz=46
I60A S **S** 12 14 55.6 +0.9
baz=46
ORIO Orleans, Innes 86.70 324 P **P** 12 04 17.1 -1.0
baz=45
ISLE Juniper Island 86.71 5 IAmb IAmb 12 04 33.3
comp=Z,49nm,1.1s
HYT Haines Junctio 86.75 2 IAmb IAmb 12 04 21.5
comp=Z,122nm,1.5s
H58A Gabriels 86.75 322 P **P** 12 04 17.4 -1.0
baz=46,SNR=7.8
H58A S **S** 12 14 55.9 +0.5
baz=46
M65A Busby, Falmout 86.80 319 IAMs_20 IAMs_20 12 48 53.4
comp=Z,944nm,18.0s
LONY Lake Ozonia 86.81 323 P **P** 12 04 18.4 -0.3
baz=46,SNR=10
LONY Lake Ozonia 86.81 323 IAmb IAmb 12 04 22.1
comp=Z,83nm,1.4s
LONY IAMs_20 IAMs_20 12 45 24.5
comp=Z,704nm,19.0s
E54A Lac Daplat, Po 86.82 325 P **P** 12 04 17.7 -1.0
baz=44
E54A S **S** 12 14 55.0 -0.9
baz=44
CNPM China Poot 86.83 9 P **P** 12 04 18.1 -0.4
F55A Otter Lake 86.84 324 P **P** 12 04 18.2 -0.6
baz=44
F55A S **S** 12 14 54.9 -1.3
baz=44
K62A Royalston 86.93 320 P **P** 12 04 18.0 -1.3
baz=47
K62A S **S** 12 14 58.3 +1.1
baz=47
K62A Royalston 86.93 320 IAmb IAmb 12 04 23.6
comp=Z,197nm,1.9s
K62A IAMs_20 IAMs_20 12 48 29.7
comp=Z,876nm,19.0s
D52A ZEK Kipawa Sen 87.00 326 P **P** 12 04 18.2 -1.4
baz=43
D52A S **S** 12 14 56.8 -0.9
baz=43
I59A Olmsteadville 87.02 322 P **P** 12 04 19.3 -0.4
baz=46,SNR=8.2
I59A S **S** 12 14 59.0 +0.9
baz=46
BRYW Bryant College 87.05 319 IAMs_20 IAMs_20 12 43 05.0
comp=Z,736nm,22.0s
FAKI Fak Fak 87.08 95 P **P** 12 04 18.8 -1.7
comp=Z,117nm,1.6s
E53A Dumoine, Ponti 87.08 326 P **P** 12 04 19.8 -0.2
baz=44,SNR=8.2
E53A S **S** 12 14 58.9 +0.4
baz=44
M64A Tiverton 87.12 319 P **P** 12 04 19.7 -0.5
baz=48
M64A S **S** 12 15 00.9 +2.0
baz=48
L63A North Scituate 87.13 319 P **P** 12 04 19.6 -0.6
baz=47
L63A S **S** 12 15 00.1 +1.1
baz=47
J60A Lant Hill Farm 87.17 321 P **P** 12 04 20.0 -0.4
baz=46
J60A S **S** 12 14 59.4 0.0
baz=46
QUA2 Belchertown 87.25 320 IAMs_20 IAMs_20 12 47 55.3
comp=Z,656nm,20.0s
L61B Northampton 87.31 320 P **P** 12 04 20.8 -0.4
baz=47
L61B S **S** 12 15 01.3 +0.4
baz=47
H57A Richville 87.34 323 P **P** 12 04 20.8 -0.4
baz=45,SNR=9.8
H57A S **S** 12 15 00.8 -0.2
baz=45
D51A Lot 18 Range I 87.37 327 P **P** 12 04 20.3 -1.0
baz=42
D51A S **S** 12 15 00.3 -0.9
baz=42
G55A Calabogie 87.44 324 P **P** 12 04 21.3 -0.4
baz=44,SNR=9.2
G55A S **S** 12 15 01.2 -0.7
baz=44
K61A Williamstown 87.48 321 P **P** 12 04 21.3 -0.7
baz=46
K61A S **S** 12 15 03.8 +1.3
baz=46
D50A G1974 Best Tow 87.53 327 P **P** 12 04 21.1 -1.0
baz=42
D50A S **S** 12 15 01.3 -1.4
baz=42
PSA00 Pilbara Seismi 87.56 117 IAmb IAmb 12 04 25.1
comp=Z,100nm,1.2s
ALGO Algonquin Park 87.58 325 P **P** 12 04 21.7 -0.6
baz=43,SNR=6.0
J59A Piesco 87.58 322 P **P** 12 04 22.2 -0.2
baz=46,SNR=5.6
J59A S **S** 12 15 04.0 +0.5
baz=46
J59A Piesco 87.58 322 IAmb IAmb 12 04 26.3
comp=Z,149nm,1.8s
L62A Suffield 87.59 320 P **P** 12 04 21.9 -0.6
baz=47
E52A Mattawa 87.62 326 P **P** 12 04 21.7 -0.9
baz=43
E52A S **S** 12 15 03.6 -0.1
baz=43
TRY Troy 87.65 321 IAMs_20 IAMs_20 12 47 40.8
comp=Z,704nm,18.0s
I58A Old Forge 87.67 322 P **P** 12 04 22.5 -0.4
baz=45
I58A S **S** 12 15 03.8 -0.5
baz=45
H56A Elgin 87.68 324 P **P** 12 04 22.7 -0.2
baz=44,SNR=5.5
H56A S **S** 12 15 03.9 -0.4
baz=44
M63A Gales Ferry 87.68 319 P **P** 12 04 22.4 -0.5
baz=47
M63A S **S** 12 15 05.4 +1.0
baz=47
PLVO Plevna 87.77 324 IAmb IAmb 12 04 26.9
comp=Z,153nm,1.8s
PLVO IAMs_20 IAMs_20 12 46 18.6
comp=Z,610nm,18.0s
E51A G1948 Merrick 87.83 327 P **P** 12 04 22.9 -0.7
baz=42
E51A S **S** 12 15 04.0 -1.7
baz=42
I57A Carthage 87.84 323 P **P** 12 04 23.1 -0.5
baz=45
I57A S **S** 12 15 05.5 -0.4
baz=45

K60A Five Rivers En 87.85 321 P **P** 12 04 23.1 -0.6
baz=46
K60A S **S** 12 15 07.0 +1.1
baz=46
L61A Hillsdale 1, H 87.96 320 P **P** 12 04 23.6 -0.6
baz=46
L61A S **S** 12 15 07.9 +0.8
baz=46
G54A Lake Saint Pet 88.00 325 P **P** 12 04 23.9 -0.6
baz=43,SNR=6.9
G54A S **S** 12 15 07.4 0.0
baz=43
J58A Remsen 88.06 322 P **P** 12 04 24.2 -0.6
baz=45,SNR=6.4
J58A S **S** 12 15 06.6 -1.5
baz=45
J58A Remsen 88.06 322 IAMs_20 IAMs_20 12 43 18.5
comp=Z,765nm,21.0s
M62A Hamden 88.12 320 P **P** 12 04 24.6 -0.4
baz=46
M62A S **S** 12 15 08.3 -0.2
baz=46
D49A Beulah Townshi 88.13 328 P **P** 12 04 24.7 -0.3
baz=41
D49A S **S** 12 15 06.8 -1.7
baz=41
H55A Tweed 88.17 324 P **P** 12 04 24.8 -0.4
baz=44,SNR=6.1
H55A S **S** 12 15 07.9 -1.0
baz=44
SKAG Skagway 88.18 1 IAmb IAmb 12 04 34.0
comp=Z,73nm,1.5s
K59A Cooperstown 88.25 322 P **P** 12 04 24.8 -0.8
baz=45
K59A S **S** 12 15 09.8 -0.1
baz=45
KSCT Kent School, K 88.25 320 P **P** 12 04 25.5 -0.1
KSCT IAmb IAmb 12 04 29.2
comp=Z,126nm,1.9s
KDAK Kodiak Island 88.31 11 IAMs_20 IAMs_20 12 48 17.3
comp=Z,892nm,20.0s
J57A Williamstown 88.39 323 P **P** 12 04 25.6 -0.6
baz=45
J57A S **S** 12 15 10.4 -0.7
baz=45
J57A Williamstown 88.39 323 IAmb IAmb 12 04 28.8
comp=Z,86nm,1.6s
D48A Paudash Townsh 88.41 328 S **S** 12 15 10.7 -0.5
baz=41
DELO Deloro Mine 88.41 324 IAMs_20 IAMs_20 12 46 37.7
comp=Z,720nm,18.0s
L60A Shokan 88.46 321 P **P** 12 04 26.1 -0.6
baz=46
L60A S **S** 12 15 10.2 -1.6
baz=46
F51A Arnstein 88.48 326 P **P** 12 04 25.5 -1.1
baz=42
F51A S **S** 12 15 10.2 -1.6
baz=42
E50A Wahnapitae 88.49 327 P **P** 12 04 25.8 -0.9
baz=41
E50A S **S** 12 15 10.5 -1.4
baz=41
PECO Prince Edward 88.52 323 IAMs_20 IAMs_20 12 43 57.6
comp=Z,940nm,22.0s
I55A Frankford 88.66 324 P **P** 12 04 26.9 -0.6
baz=43
I55A S **S** 12 15 12.3 -1.3
baz=43
K58A Earlville 88.67 322 P **P** 12 04 27.1 -0.6
baz=45
K58A S **S** 12 15 12.0 -1.8
baz=45
K58A Earlville 88.67 322 IAmb IAmb 12 04 30.3
comp=Z,62nm,1.4s
K58A IAMs_20 IAMs_20 12 43 36.6
comp=Z,845nm,21.0s
M61A Granite Spring 88.69 320 P **P** 12 04 26.9 -0.9
baz=46
M61A S **S** 12 15 12.2 -1.8
baz=46
L59A Walton 88.76 321 P **P** 12 04 27.4 -0.7
baz=45
L59A S **S** 12 15 13.9 -0.8
baz=45
L59A Walton 88.76 321 IAMs_20 IAMs_20 12 47 30.0
comp=Z,810nm,20.0s
N62A Caumsett State 88.79 320 P **P** 12 04 27.0 -1.2
baz=46
H53A Bobcaygeon 88.84 325 P **P** 12 04 27.7 -0.7
baz=43,SNR=5.3
H53A S **S** 12 15 13.1 -2.2
baz=43
J56A Wolcott 88.92 323 P **P** 12 04 28.1 -0.6
baz=44
J56A S **S** 12 15 16.7 +0.6
baz=44
J56A Wolcott 88.92 323 IAMs_20 IAMs_20 12 47 32.4
comp=Z,722nm,20.0s
SADO Sadowa 88.97 325 IAmb IAmb 12 04 31.1
comp=Z,87nm,1.7s
SADO IAMs_20 IAMs_20 12 49 26.4
comp=Z,740nm,20.0s
PAL Palisades 88.97 320 P **P** 12 04 27.8 -1.3
baz=46
PAL S **S** 12 15 14.7 -2.0
baz=46
PAL Palisades 88.97 320 IAMs_20 IAMs_20 12 47 31.9
comp=Z,732nm,20.0s
NIKH Nikolski High 89.00 21 IAMs_20 IAMs_20 12 51 47.7
comp=Z,990nm,20.0s
D47A Chapleau 89.07 329 P **P** 12 04 28.7 -0.7
baz=40
D47A S **S** 12 15 18.4 +1.0
baz=40
BESE Bessie Mountai 89.07 1 IAmb IAmb 12 04 51.0
comp=Z,78nm,1.3s
FFC Flin Flon 89.09 343 P **P** 12 04 30.0 +0.7
FFC pmax pmax
comp=Z,54nm,1.4s
FFC MLR MLR
comp=Z,900nm,18.0s
FFC Flin Flon 89.09 343 P **P** 12 04 30.0 +0.7
FFC IAmb IAmb 12 04 31.8
comp=Z,54nm,1.4s
FFC IAMs_20 IAMs_20 12 46 06.6
comp=Z,878nm,18.0s
E48A Lockeyer 89.09 328 P **P** 12 04 29.2 -0.3
baz=40
E48A S **S** 12 15 17.7 +0.1
baz=40
M60A Port Jervis 89.14 320 P **P** 12 04 29.1 -0.8
baz=45
M60A S **S** 12 15 16.9 -1.4
baz=45
K57A Scipio Center 89.14 322 P **P** 12 04 28.8 -1.0
baz=44
K57A S **S** 12 15 17.4 -0.8
baz=44
DLBC Dease Lake 89.21 359 IAmb IAmb 12 04 33.6
comp=Z,105nm,1.6s
BINY Binghamton 89.25 322 P **P** 12 04 29.6 -0.8
baz=44
BINY Binghamton 89.25 322 IAmb IAmb 12 04 33.9
comp=Z,97nm,1.8s
BINY IAMs_20 IAMs_20 12 44 17.9
comp=Z,888nm,22.0s
L58A Harry Jones Me 89.28 322 P **P** 12 04 29.5 -1.0
baz=45
L58A S **S** 12 15 20.4 +0.8
baz=45
ODNJ Ogdensburg 89.30 320 IAmb IAmb 12 04 34.1
comp=Z,110nm,2.0s
ODNJ IAMs_20 IAMs_20 12 47 43.5
comp=Z,608nm,18.0s
MORW Morawa 89.36 125 P **P** 12 04 31.0 +0.1
MORW IAmb IAmb 12 04 39.0
comp=Z,57nm,1.4s
N61A South Mountain 89.36 320 P **P** 12 04 30.6 -0.3
baz=46
JIS Juneau Island 89.38 1 IAmb IAmb 12 04 34.5
comp=Z,78nm,1.4s
J55A Hilton 89.42 323 P **P** 12 04 30.1 -1.0
baz=43
J55A S **S** 12 15 19.0 -1.7
baz=43
J55A Hilton 89.42 323 IAMs_20 IAMs_20 12 44 32.4
comp=Z,785nm,20.0s

M59A Waymart 89.42 321 P **P** 12 04 30.3 -0.9
baz=45
BRNJ Basking Ridge 89.56 320 IAMs_20 IAMs_20 12 44 32.3
comp=Z,722nm,21.0s
K56A Middlesex 89.58 323 P **P** 12 04 31.1 -0.8
baz=44
F49A Sandfield 89.58 327 P **P** 12 04 31.1 -0.8
baz=40
F49A S **S** 12 15 20.0 -2.2
baz=40
D46A Sault St. Mari 89.60 329 P **P** 12 04 31.4 -0.5
baz=39,SNR=5.7
D46A S **S** 12 15 22.9 +0.6
baz=39
E47A Iron Bridge 89.61 328 P **P** 12 04 31.1 -0.8
baz=40
E47A S **S** 12 15 23.6 +1.1
baz=40
N60A Cedar Hill Far 89.72 320 P **P** 12 04 31.6 -1.0
baz=45
F48A Evansville 89.80 328 P **P** 12 04 32.1 -0.7
baz=40
F48A S **S** 12 15 21.6 -2.6
baz=40
J54A Appleton 89.82 324 P **P** 12 04 32.1 -0.9
baz=43
J54A S **S** 12 15 22.0 -2.5
baz=43
J54A Appleton 89.82 324 IAMs_20 IAMs_20 12 44 35.1
comp=Z,675nm,20.0s
L57A Andrews Acres 89.84 322 P **P** 12 04 32.4 -0.7
baz=44
L57A S **S** 12 15 24.2 -0.7
baz=44
MMNY Mt. Morris Dam 89.85 323 IAMs_20 IAMs_20 12 46 57.8
comp=Z,787nm,19.0s
K55A Perry 89.94 323 P **P** 12 04 32.2 -1.4
baz=43
K55A S **S** 12 15 22.3 -3.4
baz=43
FITZ Fitzroy Crossi 90.00 111 P **P** 12 04 33.8 -0.3
comp=Z,6.6nm,0.7s,baz=262,slow=4.3,SNR=14
N59A State Game Lan 90.04 321 P **P** 12 04 33.4 -0.7
baz=45
N59A State Game Lan 90.04 321 IAmb IAmb 12 04 37.5
comp=Z,76nm,1.8s
N59A IAMs_20 IAMs_20 12 49 41.1
comp=Z,641nm,20.0s
M58A Price's Panora 90.08 321 P **P** 12 04 33.9 -0.4
baz=44
M58A S **S** 12 15 27.6 +0.5
baz=44
L56A Greenwood 90.11 323 P **P** 12 04 33.6 -0.9
baz=44,SNR=7.3
L56A S **S** 12 15 27.1 -0.2
baz=44
L56A Greenwood 90.11 323 IAmb IAmb 12 04 37.5
comp=Z,202nm,1.9s
L56A IAMs_20 IAMs_20 12 48 55.6
comp=Z,893nm,20.0s
O60A Telford 90.27 320 P **P** 12 04 34.6 -0.5
baz=45
K54A Basiliko Farm, 90.33 323 P **P** 12 04 34.7 -0.7
baz=43,SNR=8.1
K54A S **S** 12 15 27.6 -1.8
baz=43
P61A Hammonton 90.39 319 P **P** 12 04 34.6 -1.1
baz=45
WVNY West Valley, N 90.44 323 IAMs_20 IAMs_20 12 45 03.4
comp=Z,848nm,21.0s
M57A Sunshine Farm, 90.46 322 P **P** 12 04 35.0 -1.0
baz=44
M57A S **S** 12 15 31.1 +0.6
baz=44
M57A Sunshine Farm, 90.46 322 IAmb IAmb 12 04 38.5
comp=Z,97nm,1.9s
M57A IAMs_20 IAMs_20 12 45 05.0
comp=Z,805nm,20.0s
L55A Hinsdale 90.52 323 P **P** 12 04 35.5 -0.9
baz=43,SNR=14
PSUB Penn St. - Bra 90.57 320 IAMs_20 IAMs_20 12 45 00.1
comp=Z,867nm,22.0s
I51A Listowel 90.59 326 P **P** 12 04 35.4 -1.2
baz=41
N58A Sunbury 90.60 321 P **P** 12 04 36.0 -0.7
baz=44
N58A S **S** 12 15 32.0 +0.2
baz=44
N58A Sunbury 90.60 321 IAmb IAmb 12 04 39.9
comp=Z,88nm,1.9s
P60A Greenville 90.75 320 P **P** 12 04 36.1 -1.3
baz=45
P60A Greenville 90.75 320 IAMs_20 IAMs_20 12 47 59.0
comp=Z,777nm,19.0s
M56A Emporium 90.90 322 P **P** 12 04 37.1 -1.0
baz=43,SNR=13
M56A Emporium 90.90 322 IAMs_20 IAMs_20 12 49 18.6
comp=Z,731nm,19.0s
L54A Sinclairville 90.92 324 P **P** 12 04 37.1 -1.1
baz=42,SNR=6.4
MVL Millersville 91.00 320 IAMs_20 IAMs_20 12 44 29.6
comp=Z,798nm,22.0s
N57A Milroy 91.10 322 P **P** 12 04 38.3 -0.7
baz=44,SNR=9.9
KNRA Kununurra 91.14 108 P **P** 12 04 39.8 +0.3
M55A Ridgway 91.21 323 P **P** 12 04 38.7 -0.9
baz=43,SNR=10.0
M55A S **S** 12 15 34.3 -3.2
baz=43
O58A Lewisberry 91.22 321 P **P** 12 04 38.7 -0.9
baz=44
E43A Lone Tree Farm 91.26 330 IAMs_20 IAMs_20 12 45 59.4
comp=Z,825nm,22.0s
ULM Lac du Bonnet 91.32 338 P **P** 12 04 39.2 -0.6
comp=Z,7.5nm,0.8s,baz=5.7,slow=3.6,SNR=7.7
ULM Lac du Bonnet 91.32 338 ePP **P** 12 04 39.4 -0.4
ULM Lac du Bonnet 91.32 338 IAmb IAmb 12 04 42.3
comp=Z,106nm,1.9s
ULM IAMs_20 IAMs_20 12 49 59.8
comp=Z,884nm,20.0s
P59A Jarrettsville 91.33 320 P **P** 12 04 38.8 -1.2
baz=44
I49A Point Hope 91.33 327 IAMs_20 IAMs_20 12 48 22.9
comp=Z,634nm,19.0s
ERPA Erie 91.35 324 P **P** 12 04 39.0 -1.2
baz=42
ERPA Erie 91.35 324 IAMs_20 IAMs_20 12 45 20.4
comp=Z,658nm,20.0s
D41A Chassel 91.35 332 IAMs_20 IAMs_20 12 46 06.0
comp=Z,819nm,21.0s
SSPA Standing Stone 91.36 322 P **P** 12 04 39.6 -0.6
baz=43
SSPA Standing Stone 91.36 322 P **P** 12 04 40.2 0.0
SSPA IAmb IAmb 12 04 43.5
comp=Z,99nm,1.6s
SSPA Standing Stone 91.36 322 IAMs_20 IAMs_20 12 45 41.0
comp=Z,732nm,19.0s
N56A West Decatur 91.37 322 P **P** 12 04 39.2 -1.1
baz=43
Q60A Greensboro 91.44 319 P **P** 12 04 39.9 -0.7
baz=45
Q60A Greensboro 91.44 319 IAMs_20 IAMs_20 12 49 10.2
comp=Z,720nm,19.0s
GLMI Grayling 91.47 328 P **P** 12 04 39.6 -1.1
baz=39
GLMI Grayling 91.47 328 IAMs_20 IAMs_20 12 51 21.2
comp=Z,676nm,20.0s
O57A Amberson 91.54 321 P **P** 12 04 40.1 -1.0
baz=44,SNR=6.0
O57A S **S** 12 15 36.7 -3.7
baz=44
L53A Girard 91.60 324 P **P** 12 04 40.2 -1.2
baz=42
L53A S **S** 12 15 37.8 -3.1
baz=42
R61A Willards 91.64 319 P **P** 12 04 41.2 -0.3
baz=45
R61A Willards 91.64 319 IAMs_20 IAMs_20 12 50 49.4
comp=Z,753nm,18.0s
M54A Oil Creek Stat 91.64 323 P **P** 12 04 40.8 -0.8
baz=42,SNR=11
M54A S **S** 12 15 37.4 -3.9
baz=42
M54A Oil Creek Stat 91.64 323 IAMs_20 IAMs_20 12 49 19.1
comp=Z,897nm,19.0s
EYMN Ely 91.75 334 P **P** 12 04 40.7 -1.2
baz=34,SNR=6.5
G45A Suttons Bay 91.75 329 IAMs_20 IAMs_20 12 49 13.8

comp=Z,792nm,20.0s
N55A Marion Center 91.83 322 P **P** **12 04 41.7 -0.8**
baz=43,SNR=9.7
N55A S **S** **12 15 38.9 -4.2**
baz=43
P58A Pank, Wackersv 91.88 321 P **P** **12 04 41.6 -1.0**
baz=44
P58A S **S** **12 15 40.3 -3.2**
baz=44
Q59A Harwood 91.98 320 P **P** **12 04 42.1 -1.0**
baz=44
O56A Blue Knob Stat 91.98 322 P **P** **12 04 42.3 -0.9**
baz=43
O56A S **S** **12 15 39.9 -4.7**
baz=43
O56A Blue Knob Stat 91.98 322 IAmb IAmb 12 04 46.4
comp=Z,105nm,1.8s
O56A IAMs_20 IAMs_20 12 45 39.4
comp=Z,662nm,19.0s
K50A Casco 92.13 326 IAMs_20 IAMs_20 12 47 11.0
comp=Z,868nm,20.0s
M53A WI Miller and 92.19 324 P **P** **12 04 43.0 -1.1**
baz=41
M53A WI Miller and 92.19 324 IAmb IAmb 12 04 47.6
comp=Z,138nm,1.9s
M53A IAMs_20 IAMs_20 12 45 56.8
comp=Z,739nm,22.0s
N54A Moraine State 92.20 323 P **P** **12 04 43.5 -0.7**
baz=42
N54A Moraine State 92.20 323 P **P** **12 04 43.5 -0.7**
N54A IAMs_20 IAMs_20 12 50 01.2
comp=Z,877nm,19.0s
B35A Bob, Littlefor 92.21 335 IAmb IAmb 12 04 46.7
comp=Z,124nm,1.9s
P57A Homestead Farm 92.27 321 P **P** **12 04 43.3 -1.2**
baz=43
P57A Homestead Farm 92.27 321 IAMs_20 IAMs_20 12 46 19.9
comp=Z,835nm,22.0s
COWI Conover 92.36 331 IAMs_20 IAMs_20 12 46 11.8
comp=Z,952nm,22.0s
R60A Leonardtown, M 92.37 319 P **P** **12 04 43.8 -1.1**
baz=44
O55A Ligonier 92.41 322 P **P** **12 04 43.8 -1.3**
baz=42
O55A S **S** **12 15 45.3 -3.0**
baz=42
M52A Chesterland 92.46 324 P **P** **12 04 44.3 -1.0**
baz=41
M52A S **S** **12 15 45.8 -2.9**
baz=41
M52A Chesterland 92.46 324 IAMs_20 IAMs_20 12 47 48.7
comp=Z,685nm,20.0s
Q58A Fox Den Farm, 92.48 320 P **P** **12 04 44.3 -1.2**
baz=44
Q58A S **S** **12 15 46.5 -2.4**
baz=44
NWAO Narrogin (SRO) 92.53 128 P **P** **12 04 44.4 -1.1**
comp=Z,6.1nm,0.6s,baz=283,slow=5.3,SNR=1.5
NWAO Narrogin (SRO) 92.53 128 P **P** **12 04 44.4 -1.1**
NWAO pmax pmax
comp=Z,160nm,1.9s
P56A Dayton Farm, R 92.69 321 P **P** **12 04 45.2 -1.2**
baz=43
R59A King George, V 92.71 320 P **P** **12 04 45.2 -1.3**
baz=44
N53A Lisbon 92.75 323 P **P** **12 04 46.0 -0.6**
baz=41,SNR=6.7
N53A S **S** **12 15 46.9 -4.4**
baz=41
N53A Lisbon 92.75 323 IAMs_20 IAMs_20 12 50 39.5
comp=Z,770nm,20.0s
J47A Sunmer 92.80 327 IAMs_20 IAMs_20 12 47 51.5
comp=Z,1µm,22.0s
Q57A Strasburg 92.80 321 P **P** **12 04 45.3 -1.7**
baz=43
Q57A S **S** **12 15 49.2 -2.6**
baz=43
S60A Water View 92.81 319 P **P** **12 04 45.9 -1.0**
baz=44
S60A S **S** **12 15 50.1 -1.7**
baz=44
CBN Corbin Frederi 92.85 320 P **P** **12 04 46.1 -1.0**
baz=44
O54A Avella 92.98 323 P **P** **12 04 47.2 -0.5**
baz=42
AAM Ann Arbor 92.98 326 IAMs_20 IAMs_20 12 49 13.6
comp=Z,637nm,19.0s
AGMN Agassiz Nation 93.00 337 P **P** **12 04 46.5 -1.1**
baz=30,SNR=5.4
AGMN Agassiz Nation 93.00 337 IAMs_20 IAMs_20 12 47 06.4
comp=Z,1µm,21.0s
M51A Elyria 93.02 325 P **P** **12 04 46.7 -1.2**
baz=40
MCWV Mont Chateau 93.10 322 P **P** **12 04 47.5 -0.8**
baz=42
H43A Windswept, Lux 93.12 330 IAMs_20 IAMs_20 12 48 51.9
comp=Z,795nm,18.0s
R58A Rapidan 93.12 320 P **P** **12 04 47.7 -0.7**
baz=43
S59A Mechanicsville 93.12 319 P **P** **12 04 47.3 -1.0**
baz=44
S59A S **S** **12 15 51.8 -2.8**
baz=44
N52A McGinn's Farm, 93.17 324 P **P** **12 04 47.6 -1.0**
baz=41
P55A Reedsville 93.20 322 P **P** **12 04 48.1 -0.7**
baz=42
Q56A Snyder Ridge, 93.21 321 IAMs_20 IAMs_20 12 46 38.6
comp=Z,729nm,20.0s
T60A Surry 93.26 319 P **P** **12 04 48.2 -0.8**
baz=44
R58B Mineral 93.30 320 P **P** **12 04 47.9 -1.3**
baz=43
R58B Mineral 93.30 320 IAmb IAmb 12 04 52.0
comp=Z,46nm,1.6s
O53A New Philadelph 93.36 323 P **P** **12 04 48.8 -0.7**
baz=41,SNR=5.3
O53A S **S** **12 15 52.5 -4.1**
baz=41
O53A New Philadelph 93.36 323 P **P** **12 04 49.3 -0.1**
O53A IAMs_20 IAMs_20 12 50 45.6
comp=Z,746nm,20.0s
M50A Fremont 93.38 325 IAMs_20 IAMs_20 12 51 53.2
comp=Z,791nm,19.0s
R57A Stanardsville 93.40 320 P **P** **12 04 48.7 -1.0**
baz=43
R57A S **S** **12 15 54.8 -2.3**
baz=43
N51A Ashland 93.43 324 P **P** **12 04 48.7 -1.1**
baz=40
N51A S **S** **12 15 52.8 -4.4**
baz=40
N51A Ashland 93.43 324 IAMs_20 IAMs_20 12 46 03.4
comp=Z,661nm,21.0s
P54A Burton 93.47 322 P **P** **12 04 48.4 -1.6**
baz=42
P54A S **S** **12 15 52.8 -4.9**
baz=42
G40A Rib Lake 93.47 332 IAMs_20 IAMs_20 12 47 21.1
comp=Z,750nm,22.0s
GENI Genyem 93.57 91 P **P** **12 04 51.5 +0.6**
L48A N Adams 93.63 326 IAMs_20 IAMs_20 12 49 33.5
comp=Z,668nm,19.0s
S58A Poland Farm, P 93.64 320 P **P** **12 04 49.7 -1.1**
baz=43
S58A S **S** **12 15 55.4 -3.9**
baz=43
S58A Poland Farm, P 93.64 320 IAmb IAmb 12 04 53.7
comp=Z,60nm,1.6s
U61A Possum Corner 93.67 318 P **P** **12 04 50.4 -0.6**
baz=44
U61A S **S** **12 15 59.3 -0.2**
baz=44
U61A Possum Corner 93.67 318 IAMs_20 IAMs_20 12 48 53.4
comp=Z,660nm,20.0s
Q55A Buckhannon 93.71 322 P **P** **12 04 50.4 -0.8**
baz=42
Q55A S **S** **12 15 57.1 -2.9**
baz=42
O52A Adamsville 93.77 324 P **P** **12 04 50.4 -1.0**
baz=41
O52A S **S** **12 15 56.7 -3.6**
baz=41
O52A Adamsville 93.77 324 IAmb IAmb 12 04 54.1
comp=Z,78nm,1.4s
O52A IAMs_20 IAMs_20 12 46 18.5
comp=Z,769nm,22.0s
R56A Bull Pasture M 93.79 321 P **P** **12 04 51.1 -0.5**
baz=42
R56A S **S** **12 15 56.6 -4.1**
baz=42
T59A Double "B" Far 93.83 319 P **P** **12 04 50.6 -1.1**
baz=44
T59A Double "B" Far 93.83 319 IAMs_20 IAMs_20 12 50 04.6
comp=Z,626nm,19.0s
V62A Hyde County Ai 93.94 317 P **P** **12 04 51.7 -0.5**
baz=45
V62A Hyde County Ai 93.94 317 IAMs_20 IAMs_20 12 50 12.6
comp=Z,648nm,20.0s
U60A Pendleton 93.97 318 P **P** **12 04 51.7 -0.6**
baz=44
U60A S **S** **12 15 59.5 -2.6**
baz=44
P53A Whipple 94.02 323 P **P** **12 04 52.0 -0.6**
baz=41,SNR=10
P53A Whipple 94.02 323 IAMs_20 IAMs_20 12 49 17.2
comp=Z,893nm,20.0s
S57A Dark Hollow, R 94.03 320 P **P** **12 04 51.6 -1.0**
baz=43
S57A Dark Hollow, R 94.03 320 IAmb IAmb 12 04 55.6
comp=Z,57nm,1.9s
I42A Draeger Farm, 94.07 330 IAMs_20 IAMs_20 12 50 37.0
comp=Z,862nm,20.0s
Q54A Coxs Mills 94.11 322 P **P** **12 04 52.2 -0.8**
baz=41
Q54A Coxs Mills 94.11 322 IAmb IAmb 12 04 55.9
comp=Z,75nm,1.8s
Q54A IAMs_20 IAMs_20 12 52 12.7
comp=Z,752nm,18.0s
O51A Pataskala 94.13 324 P **P** **12 04 52.0 -1.0**
baz=40,SNR=5.9
V61A Roper 94.13 318 P **P** **12 04 52.3 -0.8**
baz=44
V61A Roper 94.13 318 IAMs_20 IAMs_20 12 47 19.6
comp=Z,719nm,22.0s
ACSO Alum Creek Sta 94.25 324 P **P** **12 04 52.4 -1.1**
baz=40
ACSO Alum Creek Sta 94.25 324 IAmb IAmb 12 04 56.4
comp=Z,89nm,1.7s
ACSO IAMs_20 IAMs_20 12 49 56.2
comp=Z,632nm,20.0s
F36A Milaca 94.26 334 P **P** **12 04 53.1 -0.4**
R55A Marlinton 94.26 321 P **P** **12 04 53.0 -0.8**
baz=42
R55A Marlinton 94.26 321 IAmb IAmb 12 04 57.1
comp=Z,81nm,1.9s
R55A IAMs_20 IAMs_20 12 47 31.7
comp=Z,628nm,20.0s
P52A Corning 94.28 323 P **P** **12 04 52.6 -1.1**
baz=40,SNR=5.5
P52A Corning 94.28 323 IAmb IAmb 12 04 56.4
comp=Z,49nm,1.1s
P52A IAMs_20 IAMs_20 12 46 55.1
comp=Z,856nm,21.0s
N49A Columbus Grove 94.30 325 IAMs_20 IAMs_20 12 50 09.5
comp=Z,866nm,20.0s
T58A Grand View Acr 94.39 320 P **P** **12 04 53.6 -0.6**
baz=43
U59A Littleton 94.41 319 P **P** **12 04 53.7 -0.6**
baz=44
U59A Littleton 94.41 319 IAMs_20 IAMs_20 12 50 24.0
comp=Z,594nm,19.0s
S56A Natural Bridge 94.42 321 P **P** **12 04 53.6 -0.8**
baz=42
SPMN Marine on St. 94.53 333 P **P** **12 04 54.0 -0.7**
baz=33
SPMN Marine on St. 94.53 333 IAmb IAmb 12 04 57.6
comp=Z,59nm,1.5s
SPMN IAMs_20 IAMs_20 12 51 19.0
comp=Z,706nm,21.0s
Q53A Leroy 94.56 323 P **P** **12 04 54.7 -0.3**
baz=41
MDND Maddock 94.60 339 P **P** **12 04 54.0 -1.1**
baz=27,SNR=7.2
MDND Maddock 94.60 339 IAmb IAmb 12 04 57.8
comp=Z,78nm,1.3s
T57A Hurt 94.75 320 P **P** **12 04 55.6 -0.3**
baz=42
T57A S **S** **12 16 05.3 -3.6**
baz=42
T57A Hurt 94.75 320 IAmb IAmb 12 04 59.2
comp=Z,43nm,1.5s
T57A IAMs_20 IAMs_20 12 49 27.7
comp=Z,571nm,20.0s
K43A Burlington 94.78 329 IAMs_20 IAMs_20 12 49 54.0
comp=Z,877nm,19.0s
R54A Victor 94.79 322 P **P** **12 04 54.9 -1.2**
baz=41
R54A S **S** **12 16 06.6 -2.8**
baz=41
W61A Ground Anchor 94.81 317 P **P** **12 04 55.6 -0.6**
baz=44
S55A Lewisburg 94.84 321 P **P** **12 04 55.6 -0.7**
baz=42
S55A S **S** **12 16 07.7 -2.1**
baz=42
Q52A Bidwell 94.86 323 P **P** **12 04 55.2 -1.1**
baz=40,SNR=8.9
Q52A S **S** **12 16 06.3 -3.5**
baz=40
P51A Williamsport 94.86 324 P **P** **12 04 56.1 -0.2**
baz=40
P51A Williamsport 94.86 324 IAMs_20 IAMs_20 12 46 50.4
comp=Z,725nm,22.0s
L44A Lake County Fo 95.02 328 IAMs_20 IAMs_20 12 49 51.4
comp=Z,658nm,19.0s
N47A Urbana 95.05 326 IAmb IAmb 12 04 59.4
comp=Z,120nm,1.9s
N47A IAMs_20 IAMs_20 12 51 58.2
comp=Z,631nm,18.0s
V59A Middlesex 95.09 319 P **P** **12 04 56.5 -1.0**
baz=43
T56A Rocky Mt 95.14 320 S **S** **12 16 08.8 -3.6**
baz=42
R53A Hurricane 95.18 322 P **P** **12 04 57.0 -0.8**
baz=41
R53A Hurricane 95.18 322 IAMs_20 IAMs_20 12 50 03.9
comp=Z,871nm,20.0s
U57A Blanch 95.21 320 P **P** **12 04 57.1 -0.9**
baz=42
S54A Dingess, Beckl 95.25 322 P **P** **12 04 57.3 -1.0**
baz=41
S54A S **S** **12 16 09.9 -3.5**
baz=41
S54A Dingess, Beckl 95.25 322 IAMs_20 IAMs_20 12 51 10.8
comp=Z,690nm,19.0s
CNNC Cliffs of the 95.27 318 IAMs_20 IAMs_20 12 48 48.8
comp=Z,669nm,21.0s
HQIL Hanson Quary C 95.30 328 IAMs_20 IAMs_20 12 51 34.8
comp=Z,666nm,21.0s
Q51A Peebles 95.35 324 IAmb IAmb 12 05 01.5
comp=Z,61nm,1.4s
Q51A IAMs_20 IAMs_20 12 47 15.5
comp=Z,816nm,21.0s
DGMT Dagmar 95.36 342 P **P** **12 04 57.6 -0.9**
baz=24
JFWS Jewell Farm 95.43 330 P **P** **12 04 57.6 -1.3**
baz=35
T55A Pulaski 95.48 321 P **P** **12 04 58.9 -0.4**
baz=42
P49A Miami Univ. Ec 95.64 325 P **P** **12 04 58.5 -1.4**
baz=39
P49A S **S** **12 16 14.2 -2.4**
baz=39
S53A Williamson 95.76 322 P **P** **12 04 59.6 -1.0**
baz=41
I37A Lemond, Waseca 95.78 333 P **P** **12 05 01.0 +0.5**
I37A IAMs_20 IAMs_20 12 52 07.0
comp=Z,714nm,19.0s
U56A King 95.84 320 IAMs_20 IAMs_20 12 47 47.5
comp=Z,684nm,22.0s
V57A Coltrane Farms 95.85 320 P **P** **12 05 00.0 -0.9**
baz=42
T54A Tazewell 95.94 321 P **P** **12 05 00.3 -1.2**
baz=41
U55A TA2, Sparta 96.08 321 P **P** **12 05 01.3 -0.8**
baz=41
U55A S **S** **12 16 17.4 -3.3**
baz=41
SFIN Lafayette 96.10 327 P **P** **12 05 01.5 -0.5**
baz=37
SFIN S **S** **12 16 16.5 -4.0**
baz=37
SFIN Lafayette 96.10 327 IAMs_20 IAMs_20 12 54 23.9
comp=Z,772nm,18.0s
V56A Mocksville 96.30 320 P **P** **12 05 01.3 -1.7**
baz=42
V56A S **S** **12 16 19.3 -3.2**
baz=42
Y60A Bolivia 96.35 317 P **P** **12 05 02.5 -0.8**
baz=43
Y60A Bolivia 96.35 317 IAMs_20 IAMs_20 12 50 39.3
comp=Z,555nm,20.0s
R50A Paris 96.42 324 IAmb IAmb 12 05 06.6
comp=Z,54nm,1.8s
R50A IAMs_20 IAMs_20 12 48 09.6
comp=Z,709nm,21.0s
U54A Nelsons Funny 96.47 321 P **P** **12 05 02.9 -0.9**
baz=41
U54A Nelsons Funny 96.47 321 IAMs_20 IAMs_20 12 52 52.3
comp=Z,593nm,20.0s
T53A Wise 96.50 322 P **P** **12 05 02.7 -1.3**
baz=40
W57A Gilead 96.51 319 P **P** **12 05 02.7 -1.3**
baz=42
L40A Anamosa 96.54 330 IAmb IAmb 12 05 06.1
comp=Z,50nm,1.8s
L40A IAMs_20 IAMs_20 12 52 12.3
comp=Z,866nm,20.0s
S51A Beattyville 96.54 323 IAmb IAmb 12 05 07.3
comp=Z,75nm,1.9s
S51A IAMs_20 IAMs_20 12 52 46.0
comp=Z,719nm,20.0s
V55A Taylorsville 96.66 320 IAMs_20 IAMs_20 12 48 13.2
comp=Z,722nm,22.0s
P46A Rosedale 96.75 326 IAMs_20 IAMs_20 12 52 17.3
comp=Z,551nm,19.0s
R49A Shelbyville 96.83 324 IAMs_20 IAMs_20 12 52 29.4
comp=Z,532nm,18.0s
W56A Indian Trail 96.85 320 P **P** **12 05 04.4 -1.1**
baz=42
W56A S **S** **12 16 23.8 -3.4**
baz=42
O44A Mansfield 96.90 328 IAMs_20 IAMs_20 12 50 05.2
comp=Z,928nm,21.0s
HDIL Hopedale 96.95 328 IAMs_20 IAMs_20 12 50 27.3
comp=Z,624nm,21.0s
V54A Nebo 97.10 321 P **P** **12 05 05.8 -0.9**
baz=41
EGMT Eagleton 97.13 345 P **P** **12 05 05.1 -1.5**
baz=19
ECSD EROS Data Cent 97.22 335 P **P** **12 05 06.2 -0.9**
baz=30
KMSC Kings Mountain 97.25 320 P **P** **12 05 05.1 -2.2**
baz=41
TZTN Tazewell 97.36 322 P **P** **12 05 07.3 -0.6**
baz=40
TZTN Tazewell 97.36 322 IAmb IAmb 12 05 11.3
comp=Z,56nm,1.7s
SUSD Miller 97.41 337 P **P** **12 05 07.1 -0.8**
baz=28
SUSD S **S** **12 16 28.9 -2.8**
baz=28
N41A Harden Midland 97.50 329 IAMs_20 IAMs_20 12 57 20.9
comp=Z,782nm,20.0s
LAO LASA Array 97.54 342 P **P** **12 05 08.2 -0.3**
baz=22,SNR=6.2
LAO LASA Array 97.54 342 IAMs_20 IAMs_20 12 57 39.2
comp=Z,795nm,19.0s
Y57A Sumter 97.57 319 IAMs_20 IAMs_20 12 52 08.5
comp=Z,708nm,19.0s
V53A Saluda 97.64 321 IAmb IAmb 12 05 11.8
comp=Z,57nm,2.0s
V53A IAMs_20 IAMs_20 12 49 05.3
comp=Z,765nm,21.0s
T50A Nancy 97.65 323 IAmb IAmb 12 05 11.2
comp=Z,26nm,1.4s
T50A IAMs_20 IAMs_20 12 52 34.3
comp=Z,737nm,20.0s
PAULI Pauline 97.75 320 IAmb IAmb 12 05 12.8
comp=Z,42nm,1.5s
W54A Cherokee Point 97.75 320 S **S** **12 16 31.6 -3.4**
baz=41
P43A Skaggs, Pawnee 97.79 328 IAMs_20 IAMs_20 12 50 53.7
comp=Z,641nm,20.0s
WB9 Warramunga Arr 97.86 108 IAMs_20 IAMs_20 12 58 33.5
comp=Z,611nm,19.0s
OLIL Olney 97.88 327 IAMs_20 IAMs_20 12 54 45.0
comp=Z,527nm,19.0s
WB5 Warramunga Arr 97.89 108 IAMs_20 IAMs_20 12 50 40.3
comp=Z,656nm,18.0s
WRA Warramunga Arr 97.90 109 P **P** **12 05 09.7 -0.7**
comp=Z,1.5nm,0.6s,baz=316,slow=4.0,SNR=19
WRA PKKP **PP** **12 09 09.2 -0.1**
comp=Z,3.7nm,1.0s,baz=314,slow=7.7,SNR=7.9
WRA PKKP **PKKPdf** **12 21 46.7 -0.3**
comp=Z,1.2nm,0.8s,baz=124,slow=2.9,SNR=10
WRA LR LR 12 53 13.9
comp=Z,256nm,19.2s,baz=275,slow=38
WRA Warramunga Arr 97.90 109 P **P** **12 05 09.0 -1.4**
WRAB Tennant Creek 97.91 108↑ *e*P **P** **12 05 09.2 -1.2**
WRAB pmax pmax
comp=Z,14nm,1.6s
WRAB MLR MLR
comp=Z,415nm,23.0s
WC2 Warramunga Arr 97.91 108 IAMs_20 IAMs_20 12 43 19.9
comp=Z,813nm,22.0s
WB1 Warramunga Ar. 97.92 109 IAMs_20 IAMs_20 12 35 41.0
comp=Z,948nm,22.0s
X55A Gracelyn & Ava 97.92 320 P **P** **12 05 10.1 -0.2**
baz=41
V52A Sevierville 97.92 322 IAmb IAmb 12 05 12.8
comp=Z,25nm,1.4s
V52A IAMs_20 IAMs_20 12 53 38.6
comp=Z,564nm,19.0s
WC3 Warramunga Arr 97.94 109 IAMs_20 IAMs_20 12 43 57.5
comp=Z,691nm,22.0s
WR3 Warramunga Arr 97.94 108 IAMs_20 IAMs_20 12 48 25.7
comp=Z,689nm,21.0s
NHSC New Hope 98.12 318 IAMs_20 IAMs_20 12 52 56.2
comp=Z,651nm,19.0s
Q44A Meyer Farm, Va 98.16 327 IAMs_20 IAMs_20 12 50 41.5
comp=Z,739nm,21.0s
BG3 Lake Jocassee 98.22 321 IAmb IAmb 12 05 14.2
comp=Z,59nm,2.0s
X54A Belton 98.26 320 P **P** **12 05 11.5 -0.3**
baz=41
NEW Newport 98.27 350 P **P** **12 05 10.9 -0.9**
baz=13
NEW Newport 98.27 350 IAMs_20 IAMs_20 12 56 10.2
comp=Z,577nm,20.0s
MCPB Macapa, AP 98.30 275 *e*P Pdif 12 05 13.4 +0.9
JTMT Jette 98.30 348 IAMs_20 IAMs_20 12 51 46.2
comp=Z,881nm,22.0s
V51A Loudon 98.34 322 IAMs_20 IAMs_20 12 53 41.7
comp=Z,881nm,20.0s
HODGE Hodges 98.44 320 IAmb IAmb 12 05 15.9
comp=Z,33nm,1.5s
Y55A Saluda 98.44 320 P **P** **12 05 12.0 -0.7**
baz=41
B08A Colville Reser 98.48 351 IAMs_20 IAMs_20 12 54 27.9
comp=Z,738nm,22.0s
U49A Red Boiling Sp 98.52 324 IAMs_20 IAMs_20 12 53 00.2
comp=Z,686nm,20.0s
B06A Marblemount 98.58 353 IAMs_20 IAMs_20 12 58 33.5
comp=Z,719nm,20.0s
Z56A Williston 98.63 319 IAMs_20 IAMs_20 12 52 39.5
comp=Z,622nm,19.0s
BSFB Barra de Sao F 98.64 253 *e*P Pdif 12 05 13.9 +0.2
W52A Murphy 98.67 322 IAMs_20 IAMs_20 12 52 33.4
comp=Z,578nm,20.0s
CPCT Cooper Cave 98.70 322 IAMs_20 IAMs_20 12 53 53.3
comp=Z,750nm,19.0s
T47A Sharon Grove 98.80 325 IAMs_20 IAMs_20 12 51 27.5
comp=Z,792nm,21.0s
C09A Chrisman Ranch 98.89 350 IAMs_20 IAMs_20 12 53 55.7
comp=Z,845nm,21.0s
P40A Paris 98.99 330 IAMs_20 IAMs_20 12 52 04.3
comp=Z,825nm,19.0s
MSO Missoula 99.12 347 IAMs_20 IAMs_20 12 57 16.0
comp=Z,893nm,21.0s
S44A Carbondale 99.25 327 IAMs_20 IAMs_20 12 53 53.4
comp=Z,640nm,21.0s
RSSD Black Hills 99.30 340 Pdiff **Pdif** **12 05 16.7 0.0**
baz=24
RSSD Black Hills 99.30 340 P **Pdif** **12 05 18.0 +1.4**
RSSD pmax pmax
comp=Z,13nm,1.2s
RSSD MLR MLR
comp=Z,1µm,22.0s
RSSD Black Hills 99.30 340 **Pdif** **12 05 18.0 +1.4**
W50A Signal Mountai 99.31 323 IAMs_20 IAMs_20 12 52 31.1
comp=Z,755nm,20.0s
257A Skidaway Islan 99.44 318 IAMs_20 IAMs_20 12 55 17.1

comp=Z,642nm,20.0s
ASAR Alice Springs 99.50 112 P **Pdif 12 05 16.0 -1.5**
comp=Z,1.6nm,0.7s,baz=305,slow=4.7,SNR=33
ASAR PP **PP 12 09 22.0 +0.5**
comp=Z,3.2nm,0.9s,baz=310,slow=7.3,SNR=5.8
ASAR PKKP **PKKPbc 12 21 41.8 +2.2**
comp=Z,1.2nm,0.8s,baz=120,slow=3.6,SNR=11
ASAR Alice Springs 99.50 112 P **Pdif 12 05 16.8 -0.7**
ASAR Alice Springs 99.50 112 **Pdif 12 05 16.8 -0.7**
T45A Paducah 99.51 326 IAMs_20 IAMs_20 12 51 46.4
comp=Z,739nm,21.0s
SWET Sewanee 99.61 323 IAMs_20 IAMs_20 12 52 29.2
comp=Z,801nm,20.0s
V48A Smith Brothers 99.64 324 IAMs_20 IAMs_20 12 56 43.0
comp=Z,574nm,19.0s
Y52A Lilburn 99.68 321 IAMs_20 IAMs_20 12 52 08.3
comp=Z,655nm,19.0s
D08A Wollman Farm, 99.71 351 IAMs_20 IAMs_20 12 58 07.3
comp=Z,632nm,20.0s
D03D Eldon 99.72 354 Pdiff **Pdif 12 05 18.4 +0.3**
baz=8.0
LTY Liberty 99.73 352 IAMs_20 IAMs_20 12 54 56.0
comp=Z,592nm,20.0s
RLMT Red Lodge 99.76 344 Pdiff **Pdif 12 05 18.7 0.0**
baz=20
BOZ Bozeman (W) 99.84 345 IAMs_20 IAMs_20 12 52 33.0
comp=Z,666nm,19.0s
CCM Cathedral Cave 99.86 328 IAMs_20 IAMs_20 12 52 07.4
comp=Z,863nm,20.0s
FPAL Fort Paine 99.97 322 IAMs_20 IAMs_20 12 50 31.8
comp=Z,892nm,21.0s
R40A Maddies Statio 100.11 329 IAMs_20 IAMs_20 12 52 41.1
comp=Z,688nm,18.0s
N33A J Bar K, Exete 100.13 334 IAMs_20 IAMs_20 12 52 24.1
comp=Z,757nm,21.0s
E09A Wood Farm, Sta 100.13 350 IAMs_20 IAMs_20 12 57 25.5
comp=Z,608nm,18.0s
HENM Henderson Moun 100.14 326 IAMs_20 IAMs_20 12 50 59.1
comp=Z,620nm,22.0s
HICK Hickman 100.17 326 IAMs_20 IAMs_20 12 55 00.8
comp=Z,617nm,18.0s
DLMT Dillon 100.27 346 IAMs_20 IAMs_20 12 53 56.3
comp=Z,589nm,20.0s
E08A Dider Farm, El 100.28 351 IAMs_20 IAMs_20 12 52 04.5
comp=Z,650nm,20.0s
255A Hazlehurst 100.29 319 IAMs_20 IAMs_20 12 51 06.6
comp=Z,699nm,20.0s
PARMO Parma 100.32 326 IAMs_20 IAMs_20 12 55 19.7
comp=Z,676nm,20.0s
E07A Sunnyside 100.32 351 IAMs_20 IAMs_20 12 58 17.5
comp=Z,627nm,19.0s
LON Longmire 100.36 353 IAMs_20 IAMs_20 12 56 14.6
comp=Z,572nm,20.0s
PENMO Penman 100.43 326 IAMs_20 IAMs_20 12 53 49.7
comp=Z,575nm,19.0s
HAWA Hanford 100.44 351 IAMs_20 IAMs_20 12 52 00.7
comp=Z,646nm,21.0s
F10A Beach Ranch, E 100.52 349 IAMs_20 IAMs_20 13 00 04.8
comp=Z,545nm,20.0s
T42A Van Buren 100.64 327 IAMs_20 IAMs_20 12 52 10.0
comp=Z,729nm,21.0s
LNXT Lenox 100.65 326 IAMs_20 IAMs_20 12 56 16.5
comp=Z,610nm,18.0s
Z51A Franklin 100.69 321 IAMs_20 IAMs_20 12 52 22.1
comp=Z,552nm,21.0s
HALT Halls 100.73 326 IAMs_20 IAMs_20 12 56 17.7
comp=Z,545nm,18.0s
X48A Hartselle 100.77 323 IAMs_20 IAMs_20 12 50 45.0
comp=Z,742nm,21.0s
PEBM Pemiscott Bayo 100.82 326 IAMs_20 IAMs_20 13 00 13.9
comp=Z,546nm,20.0s
PLAL Pickwick Lake 100.87 324 IAMs_20 IAMs_20 12 54 53.4
comp=Z,668nm,18.0s
MALB Monte Alegre 100.96 275 *e*P **Pdif 12 05 22.6 -1.6**
F07A Phinny Hill Vi 100.98 351 IAMs_20 IAMs_20 12 52 07.0
comp=Z,877nm,22.0s
S39A Bolivar 101.07 329 IAMs_20 IAMs_20 12 53 10.4
comp=Z,729nm,20.0s
FLWY Flagg Ranch 101.08 344 IAMs_20 IAMs_20 12 58 30.7
comp=Z,689nm,20.0s
F04A Amboy 101.24 353 IAMs_20 IAMs_20 12 55 12.7
comp=Z,739nm,21.0s
TIGA Tifton 101.28 319 IAMs_20 IAMs_20 12 54 20.7
comp=Z,701nm,22.0s
IMW Indian Meadow 101.31 344 IAMs_20 IAMs_20 12 53 42.8
comp=Z,680nm,20.0s
PEXB Peixe 101.32 263 *e*P **Pdif 12 05 25.9 +0.1**
F03A Seaside 101.35 354 IAMs_20 IAMs_20 12 55 24.7
comp=Z,668nm,20.0s
K22A Casper 101.36 341 Pdiff **Pdif 12 05 24.8 -0.9**
baz=22
LPAR Lepanto 101.44 326 IAMs_20 IAMs_20 13 00 41.4
comp=Z,566nm,20.0s
G08A Pilot Rock 101.44 350 IAMs_20 IAMs_20 13 00 47.2
comp=Z,620nm,18.0s
LOHW Long Hollow 101.50 344 IAMs_20 IAMs_20 12 51 54.9
comp=Z,788nm,22.0s
SYO Syowa Base 101.55 183|| *e*pPdiff pPdif 12 05 34.0 +3.2
BMO Blue Mountains 101.62 349 IAMs_20 IAMs_20 12 56 08.0
comp=Z,635nm,21.0s
MET Memphis--Engin 101.66 326 IAMs_20 IAMs_20 12 52 52.1
comp=Z,644nm,19.0s
SNOW Snow King Moun 101.68 344 IAMs_20 IAMs_20 12 52 00.6
comp=Z,757nm,22.0s
TPAW Teton Pass 101.70 344 IAMs_20 IAMs_20 12 52 01.1
comp=Z,803nm,22.0s
REDW Red Top Meadow 101.80 344 IAMs_20 IAMs_20 12 52 15.7
comp=Z,770nm,21.0s
OXF Oxford 101.90 325 IAMs_20 IAMs_20 12 53 19.6
comp=Z,693nm,20.0s
352A Blakely 101.98 320 IAMs_20 IAMs_20 12 53 30.2
comp=Z,596nm,20.0s
U40A Yellville 101.98 328 IAMs_20 IAMs_20 12 57 32.6
comp=Z,784nm,21.0s
PDAR Pinedale Array 102.05 343 P **Pdif 12 05 29.0 +0.1**
comp=Z,0.1nm,0.3s,baz=3.8,slow=5.4,SNR=4.7
PDAR PP **PP 12 09 39.0 -0.3**
comp=Z,0.4nm,0.4s,baz=15,slow=7.7,SNR=7.0
PDAR PKKP **PKKPbc 12 21 34.2 +1.5**
comp=Z,0.4nm,0.7s,baz=177,slow=3.7,SNR=3.8
PDAR Pinedale Array 102.05 343 Pdif **Pdif 12 05 28.9 -0.1**
656A Willston 102.24 317 IAMs_20 IAMs_20 12 54 35.5
comp=Z,616nm,19.0s
Z47A Carrollton 102.28 323 IAMs_20 IAMs_20 12 51 43.0
comp=Z,911nm,22.0s
250A Grady 102.31 321 IAMs_20 IAMs_20 12 53 31.9
comp=Z,581nm,22.0s
HLID Hailey 102.36 347 IAMs_20 IAMs_20 12 56 42.6
comp=Z,557nm,20.0s
AHID Auburn Hatcher 102.42 344 IAMs_20 IAMs_20 12 52 37.2
comp=Z,576nm,20.0s
H04A Detroit Lake 102.45 353 IAMs_20 IAMs_20 12 56 44.4
comp=Z,699nm,22.0s
Y45A Yeager Farm, C 102.48 325 IAMs_20 IAMs_20 12 53 39.1
comp=Z,739nm,20.0s
U38A Gravette 102.58 329 IAMs_20 IAMs_20 12 54 16.4
comp=Z,736nm,20.0s
WHAR Wooly Hollow 102.62 327 IAMs_20 IAMs_20 12 53 19.4
comp=Z,900nm,22.0s
R32A Long Quarter, 102.62 333 IAMs_20 IAMs_20 12 52 17.1
comp=Z,713nm,20.0s
COR Corvallis 102.66 353 IAMs_20 IAMs_20 12 58 46.4
comp=Z,658nm,21.0s
W41B Gary Mavity, V 102.69 327 IAMs_20 IAMs_20 12 54 42.5
comp=Z,731nm,20.0s
553A Crawfordville 102.70 319 IAMs_20 IAMs_20 12 52 22.3
comp=Z,608nm,20.0s
I07A Izee 102.70 350 IAMs_20 IAMs_20 13 01 44.6
comp=Z,591nm,19.0s
MFID Camas Ranch 102.77 348 IAMs_20 IAMs_20 12 59 34.3
comp=Z,600nm,20.0s
BDFB Brasilia 102.89 260 PP **PP 12 09 50.5 +3.2**
comp=Z,6.4nm,1.0s,baz=63,slow=8.0,SNR=3.3
451A Vernon 103.09 320 IAMs_20 IAMs_20 12 55 44.7
comp=Z,758nm,20.0s
PINE Pine Mountain 103.18 351 IAMs_20 IAMs_20 12 54 00.2
comp=Z,541nm,19.0s
146A Union 103.23 323 IAMs_20 IAMs_20 12 52 02.0
comp=Z,858nm,22.0s
J08A Circle Bar Ran 103.26 350 IAMs_20 IAMs_20 12 56 21.4
comp=Z,595nm,21.0s
W39A Magazine 103.37 328 IAMs_20 IAMs_20 12 55 18.2
comp=Z,716nm,20.0s
X40A Basin Creek Fa 103.53 327 IAMs_20 IAMs_20 12 55 07.7
comp=Z,632nm,20.0s
TUL1 Leonard 103.63 330 IAMs_20 IAMs_20 12 55 14.1
comp=Z,647nm,19.0s
061Z Ochoppi 103.87 313 IAMs_20 IAMs_20 12 53 31.4
comp=Z,493nm,20.0s
O20A White River Ci 104.17 341 Pdiff **Pdif 12 05 37.5 -0.9**
baz=21
K05A Summer Lake 104.22 351 IAMs_20 IAMs_20 13 01 10.8
comp=Z,559nm,20.0s
WLAR White Oak Lake 104.32 327 IAMs_20 IAMs_20 12 54 33.7
comp=Z,765nm,21.0s
143A Socs Landing, 104.33 325 IAMs_20 IAMs_20 12 59 35.0
comp=Z,721nm,19.0s
346A Big Creek Wild 104.44 323 IAMs_20 IAMs_20 12 54 02.0
comp=Z,755nm,21.0s
Z41A Richland Creek 104.54 326 IAMs_20 IAMs_20 12 57 06.4
comp=Z,630nm,20.0s
X37A Clayton 104.58 329 IAMs_20 IAMs_20 12 55 31.2
comp=Z,698nm,20.0s
MOD Modoc Plateau 104.95 351 IAMs_20 IAMs_20 13 00 39.1
comp=Z,519nm,20.0s
DUG Dugway, Tooele 105.26 345 IAMs_20 IAMs_20 12 54 26.3
comp=Z,818nm,21.0s
YBH Yreka Blue Hor 105.42 352 IAMs_20 IAMs_20 13 00 26.5
comp=Z,554nm,20.0s
Z38A Mt. Pleasant 105.53 328 IAMs_20 IAMs_20 12 55 43.5
comp=Z,780nm,20.0s
342A Flagon Creek P 105.87 325 IAMs_20 IAMs_20 12 55 43.7
comp=Z,749nm,21.0s
PV12 Saucer Basin, 106.03 341 IAMs_20 IAMs_20 12 54 23.8
comp=Z,566nm,18.0s
Z35A Perchaven, San 106.46 330 IAMs_20 IAMs_20 13 02 39.9
comp=Z,716nm,20.0s
NATX Nacogdoches 106.65 327 IAMs_20 IAMs_20 12 57 26.2
comp=Z,668nm,19.0s
PAHR Pah Rah Range 106.97 350 IAMs_20 IAMs_20 13 01 46.5
comp=Z,693nm,19.0s
VCNR Virginia City 107.42 350 IAMs_20 IAMs_20 13 02 01.4
comp=Z,717nm,21.0s
ORV Oroville 107.42 351 IAMs_20 IAMs_20 13 02 10.5
comp=Z,585nm,19.0s
R11A Troy Canyon, C 107.62 346 IAMs_20 IAMs_20 12 58 40.5
comp=Z,691nm,20.0s
YERR Yerington 107.66 349 IAMs_20 IAMs_20 13 01 46.7
comp=Z,584nm,19.0s
WHTX Lake Whitney, 107.69 329 IAMs_20 IAMs_20 13 03 31.8
comp=Z,736nm,20.0s
RUBR Rubicon Trail 107.73 350 IAMs_20 IAMs_20 13 03 21.7
comp=Z,551nm,20.0s
RYN Ryan 107.89 349 IAMs_20 IAMs_20 13 00 06.9
comp=Z,554nm,19.0s
AFDM Forest Hills D 107.95 351 IAMs_20 IAMs_20 13 00 35.5
comp=Z,498nm,20.0s
NV11 Mina Array Sit 108.02 348 IAMs_20 IAMs_20 13 00 00.3
comp=Z,696nm,22.0s
NVAR Mina Array Bea 108.05 348 PKiKP **PKiKP 12 10 04.1 +1.6**
comp=Z,0.7nm,0.7s,baz=71,slow=1.0,SNR=5.1
NVAR PKKP **PKKPdf 12 21 28.5 +1.5**
comp=Z,1.1nm,0.9s,baz=204,slow=5.8,SNR=4.7
WAKR Walker 108.16 349 IAMs_20 IAMs_20 13 02 14.0
comp=Z,775nm,22.0s
LHV Little Huntoon 108.25 348 IAMs_20 IAMs_20 13 04 53.5
comp=Z,626nm,18.0s
PRN Pahroc Range 108.42 345 IAMs_20 IAMs_20 12 57 58.0
comp=Z,721nm,20.0s
ANMO Albuquerque 108.45 338 IAMs_20 IAMs_20 12 58 25.2
comp=Z,667nm,20.0s
U15A North Rim 108.72 343 IAMs_20 IAMs_20 12 57 50.1
comp=Z,754nm,21.0s
CMB Columbia Colle 108.76 350 IAMs_20 IAMs_20 13 02 45.0
comp=Z,520nm,20.0s
MDPB Devils Postpil 108.95 349 IAMs_20 IAMs_20 13 03 04.1
comp=Z,669nm,19.0s
MCCM Marconi Confer 108.98 352 IAMs_20 IAMs_20 12 57 22.8
comp=Z,640nm,22.0s
TPNV Topaz Jeph Spring 109.11 346 IAMs_20 IAMs_20 13 01 46.1
comp=Z,773nm,21.0s
SHPR Sheep Range 109.31 345 IAMs_20 IAMs_20 12 59 00.5
comp=Z,632nm,22.0s
Y22D IRIS PASSCAL I 109.40 338 IAMs_20 IAMs_20 12 59 07.4
comp=Z,664nm,20.0s
JCT Junction City 110.00 330 IAMs_20 IAMs_20 13 01 46.7
comp=Z,713nm,20.0s
VNA2 Neumayer--Watz 110.38 197 PKiKP **PKiKP 12 10 07.4 +2.0**
VNA1 Neumayer--Stat 110.41 197 PKiKP **PKiKP 12 10 08.7 +3.3**
GSC Goldstone, Bar 110.81 346 IAMs_20 IAMs_20 13 01 42.2
comp=Z,694nm,22.0s
VNA3 Neumayer Olymp 111.15 197 PKiKP **PKiKP 12 10 08.3 +1.4**
GLA Glamis 112.55 344 IAMs_20 IAMs_20 12 59 52.4
comp=Z,717nm,21.0s
TXAR Lajitas Array 112.56 333 PKiKP **PKiKP 12 10 11.2 0.0**
comp=Z,0.5nm,0.8s,baz=98,slow=2.7,SNR=4.4
TXAR PP **PP 12 10 57.1 +0.6**
comp=Z,1.3nm,1.0s,baz=31,slow=5.8,SNR=4.4
TXAR PKKPab **PKKPab 12 21 09.5 -1.6**
comp=Z,0.4nm,0.7s,baz=195,slow=6.5,SNR=4.6
113A Mohawk Valley, 112.57 343 IAMs_20 IAMs_20 13 00 09.9
comp=Z,669nm,19.0s
CPBX Cerro Prieto 113.27 344 IAMs_20 IAMs_20 12 48 52.2
comp=Z,577nm,21.0s
BAR Barrett 113.32 346 IAMs_20 IAMs_20 13 03 44.7
comp=Z,598nm,21.0s
GUVIX Guadalupe Vict 113.33 344 IAMs_20 IAMs_20 12 55 52.0
comp=Z,569nm,20.0s
PIX Pinacate 113.64 342 IAMs_20 IAMs_20 13 01 38.3
comp=Z,520nm,19.0s
ESJX Sierra Juarez 113.81 345 IAMs_20 IAMs_20 13 02 15.8
comp=Z,732nm,22.0s
SPX San Pedro Mart 114.63 344 IAMs_20 IAMs_20 13 01 10.3
comp=Z,646nm,22.0s
OTAV Otavalo 119.59 292 IAMs_20 IAMs_20 13 04 27.4
comp=Z,378nm,18.0s
QSPA South Pole Qui 122.51 180 PKKPbc PKKPbc 12 20 27.2 +2.0
comp=Z,8.8nm,1.0s,baz=138,slow=0.3,SNR=5.3
QSPA South Pole Qui 122.51 180 **PKPdf 12 10 28.3 -0.5**
DZM Mont Dzumac 125.35 95 *e*LR LR 12 49 35.6
comp=Z,666nm,22.9s
VNDA Vanda 126.86 166 PKP **PKiKP 12 10 38.6 +1.3**
comp=Z,2.3nm,1.1s,baz=295,slow=7.4,SNR=5.4
VNDA Vanda 126.86 166 PKPdf **PKiKP 12 10 39.2 +1.8**
PMSA Palmer Station 128.21 210 *e*P **PKiKP 12 10 40.6 +0.3**
PLCA Paso Flores 130.64 242 PKP **PKiKP 12 10 46.5 +0.4**
comp=Z,4.8nm,1.0s,baz=14,slow=4.2,SNR=12
PLCA SKPab **SKPab 12 14 10.1 +1.6**
comp=Z,4.3nm,0.9s,baz=68,slow=5.6,SNR=7.3
PLCA Paso Flores 130.64 242 PKPdf **PKiKP 12 10 47.7 +1.6**
PPT2 Papeete2 158.45 50 *e*LR LR 13 04 54.1
comp=Z,886nm,23.2s
TBI Tubuai 162.34 63 *e*LR LR 13 06 48.0
comp=Z,828nm,24.2s
RKT Rikitea 170.22 14 *e*LR LR 13 10 20.6
comp=Z,1μm,23.0s

*BJI **18** 12:05:53.6±0.0,24°.95N×97°.80E,h10km,ML3.5/4*
*IDC **18** 12:05:53.7±1.9,25°.02N×97°.91E,h0km,mb3.4/2,*
mb1 3.5/3,mb1mx3.2/60,mbtmp3.4/3,ML3.7/1,MS3.7/1,
Ms1 3.7/1,ms1mx3.1/48,Error ellipse: s-maj=67.3km
s-min=25.4km az=83.0
ISC 18 12:05:54.8±1.3,25°.0N±0°.1×97°.83E±0°.09,h10km,n6,
σ0s47/6,1D,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**4.46**	**87**	||Pg	**Pg**	**12 07 19.8**	**-0.5**
KMI				Sg	**Sg**	**12 08 18.5**	**+0.4**
KMI				smax	smax		
	comp=N,50nm,1.6s						
KMI				smax	smax		
	comp=E,41nm,1.5s						
CMAR	**Chiang Mai Arr**	**6.56**	**171**	Pn	**Pn**	**12 07 31.6**	**+0.1**
	comp=E,0.4nm,0.3s,baz=345,slow=12,SNR=4.9						
CMAR				Pg	Pg	12 07 54.8	-5.8
	comp=E,0.7nm,0.3s,baz=349,slow=18,SNR=10.0						
CMAR				Lg	Lg	12 09 17.5	
	comp=E,0.6nm,0.3s,baz=343,slow=33,SNR=4.5						
WMQ	**Urumqi**	**20.55**	**339**	*e*P	**P**	**12 10 33.6**	**0.0**
SONM	**Songino Array**	**23.81**	**14**	P	**P**	**12 11 08.3**	**+0.4**
	comp=E,0.3nm,0.4s,baz=213,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**25.06**	**334**	P	**P**	**12 11 19.1**	**-0.3**
	comp=E,0.8nm,0.8s,baz=141,slow=10,SNR=3.2						
DAV	**Davao City (W)**	**31.95**	**119**	LR	LR	12 27 22.4	
	comp=E,122nm,18.8s,baz=276,slow=40						

*DSN **18** 12:10:07.0±1.8,27°.25N×52°.70E,h10km,ML4.4/9,Error*
ellipse: s-maj=24.0km s-min=11.0km az=171.0
*IDC **18** 12:10:19.4±1.1,26°.29N×53°.46E,h0km,mb3.8/13,*
mb1 4.0/15,mb1mx3.8/48,mbtmp3.8/15,ML3.6/2,Error
ellipse: s-maj=27.4km s-min=18.3km az=31.0

*TEH **18** 12:10:22.4,26°.34N×53°.61E,h16km,ML3.8*
ISC 18 12:10:21.1±0.7,26°.28N±0°.05×53°.51E±0°.06,h10km,n35,
σ1s10/39,mb3.8/13,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMD1	**Lamerd**	**1.10**	**344**	*e*Pg	**Pn**	**12 10 42.9**	**+0.2**
LMD1				*e*		12 10 43.9	
LMD1				*e*Sg	**Sn**	**12 10 58.2**	**+0.2**
LAR1	**LAR**	**1.59**	**29**	*e*Pg	**Pb**	**12 10 50.2**	**-0.4**
JHRM	**Jahrom**	**2.22**	**2**	*e*Pn	**Pn**	**12 10 59.4**	**+1.3**
JHRM				*e*		12 11 49.6	
NAZ	**Nazwa, Dubai**	**2.33**	**123**	P	**Pb**	**12 11 01.9**	**-1.3**
SHME	**Shamm**	**2.38**	**95**	P	**Pn**	**12 10 58.8**	**-1.4**
BANOM	**Banah**	**2.54**	**97**	*i* P	**Pn**	**12 11 02.5**	**+0.2**
	SNR=8.2						
BANOM				S	**Sg**	**12 11 43.4**	**+0.8**
MSFE	**Esma-Masafi**	**2.56**	**110**	P	**Pn**	**12 11 03.1**	**+0.4**
GENO	**Geno**	**2.63**	**64**	*e*Pn	**Pn**	**12 11 04.3**	**+0.5**
GENO				*e*		12 12 02.1	
MDH	**Madha**	**2.70**	**111**	P	**Pn**	**12 11 03.6**	**-1.0**
UOSS	**Minazif**	**2.77**	**118**	*i* P	**Pn**	**12 11 07.2**	**+1.6**
	SNR=11						
HATD	**Hatta, Dubai**	**2.77**	**121**	P	**Pn**	**12 11 07.7**	**+2.1**
ASHO	**Ashiyiah**	**2.80**	**124**	*i* P	**Pn**	**12 11 07.9**	**+1.9**
	SNR=10						
SOHO	**SOHO**	**3.47**	**127**	*i* P	**Pn**	**12 11 16.3**	**+1.2**
	SNR=6.6						
NGRK	**Negar Kerman**	**4.40**	**40**	*e*Pn	**Pn**	**12 11 28.9**	**+0.5**
NGRK				*e*		12 12 28.3	
TVBK	**TV Kerman**	**4.68**	**37**	*e*Pn	**Pn**	**12 11 31.7**	**-0.5**
TVBK				*e*		12 12 34.5	
KHGB	**Koh Gabri**	**4.85**	**32**	*e*Pn	**Pn**	**12 11 35.5**	**+1.1**
KHGB				*e*	**Sb**	**12 12 44.9**	**+0.1**
CHMN	**Cheshme madani**	**5.04**	**44**	*e*Pn	**Pn**	**12 11 38.7**	**+1.6**
CHMN				*e*		12 11 39.9	
IMEH	**Mehriz**	**5.19**	**11**	*e*Pn	**Pn**	**12 11 39.8**	**+0.8**
WSAR	**Wadi Sarin**	**5.55**	**122**	Pn	**Pn**	**12 11 45.4**	**+1.6**
	1.4nm,0.3s,baz=321,slow=7.6,SNR=12						
WSAR				Sn	**Sn**	**12 12 47.6**	**-0.1**
	2.8nm,0.3s,baz=285,slow=20,SNR=6.2						
IRAM	**Ramesheh**	**5.60**	**350**	*e*Pn	**Pn**	**12 11 45.7**	**+1.0**
KBZ	**Khabaz**	**19.43**	**336**	P	**P**	**12 14 47.9**	**+0.4**
	0.2nm,0.3s,baz=137,slow=12,SNR=1.9						
BRTR	**Keskin Array B**	**21.33**	**314**	P	**P**	**12 15 09.2**	**+0.8**
	3.6nm,0.7s,baz=133,slow=12,SNR=16						
AKTO	**Aktyubinsk**	**24.37**	**7**	P	**P**	**12 15 40.9**	**+1.7**
	1.1nm,0.4s,baz=166,slow=12,SNR=2.2						
MKAR	**Makanchi Array**	**30.62**	**41**	P	**P**	**12 16 34.9**	**-0.5**
	0.8nm,0.7s,baz=220,slow=7.3,SNR=7.6						
ZALV	**Zalesovo Beam**	**36.04**	**31**	P	**P**	**12 17 22.5**	**0.0**
	4.1nm,0.6s,baz=237,slow=10,SNR=14						
FINES	**FINESS Array B**	**39.73**	**340**	P	**P**	**12 17 53.0**	**-0.4**
	1.7nm,0.6s,baz=140,slow=9.7,SNR=5.3						
CMAR	**Chiang Mai Arr**	**42.56**	**91**	P	**P**	**12 18 19.0**	**+1.6**
	0.7nm,0.3s,baz=290,slow=10,SNR=2.7						
NB2	**NORSAR Subarra**	**44.94**	**332**	P	**P**	**12 18 34.1**	**-1.9**
	comp=Z,1.2nm,0.7s,baz=124,slow=8.6						
NOA	**NORSAR Array B**	**44.94**	**332**	P	**P**	**12 18 34.3**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=119,slow=7.9,SNR=4.0						
ARCES	**ARCESS Array B**	**46.29**	**347**	P	**P**	**12 18 45.6**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=140,slow=9.6,SNR=5.7						
SONM	**Songino Array**	**46.34**	**48**	P	**P**	**12 18 47.3**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=270,slow=7.2,SNR=1.7						
TORD	**Torodi Ar. Bea**	**50.19**	**265**	P	**P**	**12 19 17.4**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=63,slow=6.6,SNR=4.8						
ILAR	**Eielson Array**	**87.87**	**9**	P	**P**	**12 23 09.8**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=329,slow=5.3,SNR=4.1						
WRA	**Warramunga Arr**	**90.84**	**112**	P	**P**	**12 23 25.0**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=311,slow=4.0,SNR=1.6						
ASAR	**Alice Springs**	**92.20**	**115**	P	**P**	**12 23 30.4**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=302,slow=4.9,SNR=4.4						

*IDC **18** 12:22:08.0±1.5,31°.44S×179°.91W,h346km±15km,mb3.1/6,*
mb1 3.3/7,mb1mx3.1/42,mbtmp3.9/7,Error ellipse:
s-maj=25.7km s-min=18.3km az=45.0
*WEL **18** 12:22:11.1±0.4,32°.5S±6°×179°.9W±1°.3,h250km,M4.0/34,*
mB4.6/23,MLv4.9/34,Mw(mB)3.8/23,Error ellipse:
s-maj=0.0km s-min=0.0km az=112.2
ISC 18 12:22:09.5±1.1,32°.02S±0°.08×179°.8W±0°.1,h350km,n88,
σ2s80/120,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.19**	**31**	P	Pn	12 23 03.5	-7.1
GLKZ				S	S	12 23 48.8	-11
RAO	**Raoul Island**	**3.20**	**31**	P	Pn	12 23 04.2	-6.5
	49nm,0.3s,baz=311,slow=19,SNR=2.4						
RAO				S	S	12 23 48.7	-11
	40nm,0.3s,baz=90,slow=20,SNR=1.7						
RIZ	**Raoul Island**	**3.20**	**31**	P	Pn	12 23 03.2	-7.5
MXZ	**Matakaoa Point**	**5.75**	**195**	P	**Pn**	**12 23 39.0**	**+1.7**
MXZ				S	**S**	**12 24 49.3**	**+0.8**
WMGZ	**Waiomatatini S**	**5.97**	**194**	P	Pn	12 23 44.9	+5.1
KUZ	**Kuaotunu**	**5.99**	**217**	P	**Pn**	**12 23 44.6**	**+4.5**
HAZ	**Te Kaha**	**6.06**	**198**	P	**Pn**	**12 23 42.2**	**+1.4**
HAZ				S	**S**	**12 24 55.5**	**+0.6**
WCZ	**Waipu Caves**	**6.24**	**230**	P	**Pn**	**12 23 46.5**	**+3.6**
PUZ	**Puketiti**	**6.25**	**194**	P	**Pn**	**12 23 44.5**	**+1.4**
PUZ				S	**S**	**12 24 59.3**	**+0.4**
RUGZ	**Raukumara Rang**	**6.28**	**198**	P	**Pn**	**12 23 44.4**	**+0.8**
RUGZ				S	**S**	**12 24 56.9**	**-3.0**
TWGZ	**Tauwhareparae**	**6.41**	**196**	P	**Pn**	**12 23 47.2**	**+2.3**
TWGZ				S	**S**	**12 25 04.7**	**+2.3**
MKAZ	**Moumakai**	**6.55**	**218**	P	**Pn**	**12 23 51.1**	**+4.5**
MARZ	**Manawahe**	**6.62**	**205**	P	**Pn**	**12 23 51.0**	**+3.7**
CNGZ	**Carnagh Statio**	**6.65**	**194**	P	**Pn**	**12 23 49.6**	**+1.9**
CNGZ				S	**S**	**12 25 01.2**	**-6.3**
MWZ	**Matawai**	**6.67**	**198**	P	**Pn**	**12 23 47.7**	**-0.2**
MWZ				S	**S**	**12 25 10.4**	**+2.4**
TKGZ	**Te Karaka**	**6.69**	**196**	P	**Pn**	**12 23 49.2**	**+1.1**
TKGZ				S	**S**	**12 25 05.5**	**-2.7**
URZ	**Urewera**	**6.72**	**201**	P	**Pn**	**12 23 49.0**	**+0.6**
	5.1nm,0.3s,baz=335,slow=3.0,SNR=34						
URZ				S	**S**	**12 25 09.9**	**+1.0**
	12nm,0.3s,baz=182,slow=23,SNR=17						
URZ	**Urewera**	**6.72**	**201**	P	**Pn**	**12 23 47.5**	**-1.0**
URZ				S	**S**	**12 25 10.1**	**+1.2**
RAGZ	**Rawiri**	**6.85**	**199**	P	**Pn**	**12 23 49.7**	**-0.4**
RAGZ				S	**S**	**12 25 12.9**	**+1.1**
TOZ	**Tahuroa Road**	**6.88**	**213**	P	**Pn**	**12 23 54.3**	**+3.9**
TARZ	**Mount Tarawera**	**6.90**	**205**	P	Pn	12 23 56.8	+6.1
RIGZ	**Rimuhau**	**6.96**	**196**	P	**Pn**	**12 23 52.0**	**+0.6**
RIGZ				S	**S**	**12 25 14.4**	**+0.2**
RRRZ	**Republican Roa**	**6.99**	**204**	P	**Pn**	**12 23 56.2**	**+4.5**
RRRZ				S	**S**	**12 25 20.3**	**+5.6**
MUGZ	**Murupara**	**7.03**	**203**	P	**Pn**	**12 23 52.6**	**+0.5**
MUGZ				S	**S**	**12 25 18.2**	**+2.7**
SNGZ	**Shannon Statio**	**7.14**	**198**	P	**Pn**	**12 23 54.4**	**+1.0**
SNGZ				S	**S**	**12 25 21.4**	**+3.4**
PRGZ	**Paritu Road**	**7.14**	**195**	P	**Pn**	**12 23 56.3**	**+2.9**
PRGZ				S	**S**	**12 25 16.4**	**-1.7**
PRRZ	**Plateau Road**	**7.17**	**205**	P	**Pn**	**12 23 57.4**	**+3.6**
PRRZ				S	**S**	**12 25 19.1**	**+0.5**
ALRZ	**Allen Road**	**7.25**	**205**	P	**Pn**	**12 23 57.8**	**+4.2**
ALRZ				S	**S**	**12 25 23.3**	**+3.0**
WPRZ	**Whakapapatarin**	**7.28**	**206**	P	**Pn**	**12 23 58.2**	**+3.2**
KNZ	**Kokohu**	**7.29**	**196**	P	**Pn**	**12 23 58.5**	**+3.5**
KNZ				S	**S**	**12 25 17.0**	**-3.9**
RAHZ	**Arahi**	**7.33**	**199**	P	**Pn**	**12 23 56.4**	**+0.7**
RAHZ				S	**S**	**12 25 22.7**	**+0.6**
MTHZ	**Maungataniwha**	**7.35**	**201**	P	**Pn**	**12 23 56.8**	**+1.0**
MTHZ				S	**S**	**12 25 24.2**	**+1.8**
TLZ	**T

OTVZ	**Oturere**	**8.03**	**206**	P	**Pn**	**12 24 02.8**	**-1.2**
OTVZ				S	**S**	**12 25 40.1**	**+2.8**
CKHZ	**Cape Kidnapper**	**8.03**	**197**	P	**S**	**12 25 41.2**	**+4.0**
NGZ	**Ngauruhoe**	**8.06**	**206**	P	**Pn**	**12 24 03.4**	**-1.0**
NGZ				S	**S**	**12 25 41.4**	**+3.3**
TUVZ	**Tukino**	**8.12**	**206**	P	**Pn**	**12 24 05.9**	**+0.8**
TUVZ				S	**S**	**12 25 39.5**	**+0.1**
FWVZ	**Far West T-bar**	**8.15**	**206**	P	**Pn**	**12 24 04.1**	**-1.5**
BHHZ	**Black Hill Sta**	**8.18**	**203**	P	**Pn**	**12 24 03.3**	**-2.3**
BHHZ				S	**S**	**12 25 38.7**	**-1.7**
MOVZ	**Moawhango**	**8.21**	**205**	P	**Pn**	**12 24 06.4**	**+0.3**
MOVZ				S	**S**	**12 25 37.9**	**-3.3**
MOVZ	**Moawhango**	**8.21**	**205**	P	**S**	**12 25 42.3**	**+1.2**
KAHZ	**Kahuranaki**	**8.21**	**198**	P	**Pn**	**12 24 06.3**	**+0.3**
KAHZ	**Kahuranaki**	**8.21**	**198**	P	**S**	**12 25 36.0**	**-5.2**
KRHZ	**Kereru**	**8.22**	**201**	P	**Pn**	**12 24 04.2**	**-2.0**
KRHZ				S	**S**	**12 25 40.0**	**-1.3**
KRHZ	**Kereru**	**8.22**	**201**	P	**S**	**12 25 39.7**	**-1.6**
PXZ	**Pawanui**	**8.44**	**198**	P	**S**	**12 25 42.6**	**-3.4**
PNHZ	**Pukenui**	**8.52**	**201**	P	**Pn**	**12 24 07.0**	**-2.7**
PNHZ				S	**S**	**12 25 46.2**	**-1.6**
PNHZ	**Pukenui**	**8.52**	**201**	P	**S**	**12 25 43.1**	**-4.8**
WPHZ	**Waipukurau**	**8.59**	**200**	P	**S**	**12 25 47.7**	**-1.6**
TSZ	**Takapari Road**	**8.72**	**202**	P	**Pn**	**12 24 10.2**	**-1.9**
TSZ				S	**S**	**12 25 49.9**	**-2.5**
TSZ	**Takapari Road**	**8.72**	**202**	P	**S**	**12 25 49.5**	**-2.9**
DVHZ	**Dannevirke**	**8.88**	**200**	P	**S**	**12 25 51.6**	**-4.2**
ANWZ	**Angora Road**	**8.94**	**199**	P	**S**	**12 25 54.8**	**-2.3**
POWZ	**Post Office Ro**	**9.09**	**202**	P	**S**	**12 25 57.9**	**-2.4**
PRWZ	**Pori Road**	**9.18**	**201**	P	**S**	**12 25 57.3**	**-4.9**
BFZ	**Birch Farm**	**9.21**	**199**	P	**S**	**12 25 58.6**	**-4.4**
MRZ	**Mangatainoka R**	**9.39**	**203**	P	**S**	**12 26 00.0**	**-6.9**
TIWZ	**Tintock**	**9.40**	**200**	P	**S**	**12 26 04.6**	**-2.7**
CPWZ	**Castlepoint**	**9.44**	**199**	P	**S**	**12 26 08.6**	**+0.7**
HOWZ	**Holdsworth Sta**	**9.63**	**202**	P	**S**	**12 26 08.3**	**-3.9**
OGWZ	**Otaki Gorge**	**9.67**	**203**	P	**S**	**12 26 11.3**	**-1.7**
KIW	**Kapiti Island**	**9.80**	**204**	P	**Pn**	**12 24 22.2**	**-2.7**
KIW				S	**S**	**12 26 12.0**	**-3.9**
CAW	**Cannon Point**	**9.96**	**203**	P	**S**	**12 26 11.7**	**-7.8**
RPZ	**Rata Peaks**	**13.72**	**209**	P	**P**	**12 25 09.9**	**0.0**
	1.3nm,0.3s,baz=319,slow=2.6,SNR=8.5						
RPZ				S	**S**	**12 27 35.2**	**-4.2**
	1.3nm,0.3s,baz=86,slow=16,SNR=12						
CTA	**Charters Tower**	**32.59**	**283**	P	**P**	**12 28 07.5**	**-2.1**
	0.7nm,0.3s,baz=95,slow=14,SNR=1.4						
STKA	**Stephens Creek**	**32.63**	**260**	P	**P**	**12 28 09.8**	**-0.1**
	1.0nm,0.3s,baz=95,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**41.51**	**270**	P	**P**	**12 29 21.6**	**-2.4**
	0.2nm,0.4s,baz=110,slow=7.6,SNR=5.7						
ASAR				ScP	**ScP**	**12 34 27.4**	**-2.6**
	0.3nm,0.7s,baz=110,slow=3.4,SNR=5.3						
WRA	**Warramunga Arr**	**42.65**	**275**	P	**P**	**12 29 30.0**	**-3.1**
	0.6nm,0.3s,baz=111,slow=8.0,SNR=17						
WRA				ScP	**ScP**	**12 34 31.8**	**-2.8**
	0.5nm,0.8s,baz=108,slow=3.7,SNR=4.8						
VNDA	**Vanda**	**46.34**	**185**	P	**P**	**12 30 04.2**	**+3.0**
	0.3nm,0.9s,baz=2.2,slow=7.3,SNR=1.6						
QSPA	**South Pole Qui**	**58.10**	**180**	P	**P**	**12 31 29.9**	**+2.9**
	4.3nm,0.7s,baz=333,slow=0.7,SNR=41						
VNA3	**Neumayer Olymp**	**76.79**	**177**	P	**P**	**12 33 24.0**	**+1.2**
VNA2	**Neumayer--Watz**	**77.21**	**177**	P	**P**	**12 33 26.7**	**+1.6**
	baz=183,slow=4.4						
VNA1	**Neumayer--Stat**	**77.45**	**177**	P	**P**	**12 33 28.0**	**+1.7**
FINES	**FINESS Array B**	**146.09**	**338**	PKPbc	**PKPdf**	**12 41 05.2**	**-1.3**
	3.2nm,0.5s,baz=45,slow=3.5,SNR=27						
TORD	**Torodi Ar. Bea**	**161.17**	**185**	PKPab	**PKPab**	**12 42 14.5**	**+0.2**
	0.4nm,0.6s,baz=188,slow=5.0,SNR=2.6						

*IDC **18** 12:25:17.3±5.1,32°.95N×47°.50E,h0km,mb3.7/3,*
mb1 3.7/3,mb1mx3.4/41,mbtmp3.7/3,Error ellipse:
s-maj=314.0km s-min=29.0km az=150.0
*ISN **18** 12:25:17.8±0.8,32°.69N×47°.68E,h14km±5km, ML2.9*
*TEH **18** 12:25:19.3,32°.76N×47°.62E,h17km, ML3.3*
ISC 18 12:25:18.6±1.3,**32°.71N**±0°.03×**47°.62E**±0°.03,**h9**km±10km,
n38,σ1°**29**/43,**mb3.8**/4,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.83**	**13**	*e*Pg	**Pg**		**12 25 34.5**	**-0.2**
IKFM				*e*			12 25 48.9	
IKMR	**Kamar-syah**	**1.03**	**38**	*e*Pg	**Pg**		**12 25 37.7**	**-0.7**
IKMR				*e*Sg	**Sn**		**12 25 53.5**	**-0.3**
IDOB	**Doab**	**1.17**	**23**	*e*Pg	**Pn**		**12 25 41.5**	**0.0**
BMDN	**Meydan**	**1.39**	**46**	*e*Pg	**Pg**		**12 25 45.3**	**-0.1**
IKOM	**Komasi**	**1.46**	**356**	*e*Pg	**Pg**		**12 25 46.9**	**+0.2**
IKOM				*e*			12 26 12.6	
IBDR	**Badra**	**1.48**	**286**	*e*Pg	**Pb**		**12 25 46.0**	**-0.2**
IBDR				*e*Sg	**Sg**		**12 26 06.0**	**-0.1**
IBDR					AML	AML	12 26 11.1	
	comp=N,178nm,0.4s							
IBDR					AML	AML	12 26 14.5	
	comp=E,236nm,0.6s							
AHWZ	**Ahwaz**	**1.63**	**147**	*e*Pg	**Pg**		**12 25 50.2**	**+0.3**
KCHF	**Cheshme Sefid,**	**1.63**	**343**	*e*	**Sg**		**12 26 14.0**	**+2.8**
HSAM	**Samen**	**1.71**	**29**	*e*Pg	**Pg**		**12 25 51.0**	**-0.4**
HSAM				*e*			12 25 54.4	
KER	**Kermanshah**	**1.72**	**346**	*e*Pg	**Pg**		**12 25 51.2**	**-0.4**
IBZA	**Bozab**	**1.77**	**7**	*e*Pg	**Pb**		**12 25 51.4**	**0.0**
IBZA				*e*Sg	**Sg**		**12 26 14.6**	**-0.9**
IBZA				*e*			12 26 22.7	
IGHG	**Ghaleghazi**	**1.84**	**332**	*e*Pg	**Pg**		**12 25 53.2**	**-0.7**
IGHG				*e*			12 26 34.4	
IVIS	**Veis**	**1.92**	**341**	*e*Pn	**Pb**		**12 25 53.5**	**-0.4**
NSR	**Nassriya**	**2.11**	**217**	*e*Pn	**Pn**		**12 25 54.0**	**-0.1**
NSR				*e*Sn	**Sn**		**12 26 20.0**	**-0.5**
IDHR	**Dehrash**	**2.23**	**333**	*e*Pn	**Pn**		**12 25 57.3**	**+1.2**
HAGD	**Aghdareh**	**2.46**	**31**	*e*Pn	**Pb**		**12 26 01.5**	**-1.7**
HSRG	**Sareghieh**	**2.58**	**12**	*e*Pn	**Pb**		**12 26 03.9**	**-1.4**
JHBN	**Jahan bin**	**2.62**	**100**	*e*Pn	**Pn**		**12 26 02.9**	**+1.5**
IPIR	**Pirpir**	**2.76**	**90**	*e*Pn	**Pn**		**12 26 05.4**	**+2.0**
BHD	**Baghdad**	**2.78**	**282**	*e*Pn	**Pn**		**12 26 04.0**	**+0.7**
BHD				*e*Sn	**Sn**		**12 26 39.0**	**+2.0**
ROKH	**ROKH**	**2.91**	**96**	*e*Pn	**Pn**		**12 26 06.8**	**+1.4**
IRAZ	**Razeghan**	**3.30**	**35**	*e*Pn	**Pn**		**12 26 13.3**	**+2.6**
IKLH	**Kolahrood**	**3.38**	**79**	*e*Pn	**Pn**		**12 26 13.6**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.41**	**28**	*e*Pn	**Pn**		**12 26 13.4**	**+1.2**
IQOM	**Qom**	**3.58**	**53**	*e*Pn	**Pn**		**12 26 15.8**	**+1.3**
IGAR	**Gharneh**	**3.75**	**93**	*e*Pn	**Pn**		**12 26 18.2**	**+1.3**
KLNJ	**Kolanjah**	**3.78**	**116**	*e*Pn	**Pn**		**12 26 19.4**	**+1.9**
IZEF	**Zefreh**	**3.97**	**86**	*e*Pn	**Pn**		**12 26 21.9**	**+1.9**
QSDN	**Sirdan**	**4.00**	**18**	*e*Pn	**Pn**		**12 26 22.5**	**+2.2**
IVRN	**Varamin**	**4.11**	**55**	*e*Pn	**Pn**		**12 26 22.8**	**+1.1**
IRAM	**Ramesheh**	**4.13**	**101**	*e*Pn	**Pn**		**12 26 22.8**	**+0.6**
QALM	**Alamut, Qazvin**	**4.47**	**33**	*e*Pn	**Pn**		**12 26 28.5**	**+1.6**
ISHM	**Shahmirzad**	**5.62**	**55**	*e*Pn	**Pn**		**12 26 43.7**	**+1.0**
IANJ	**Anjilo**	**5.99**	**61**	*e*Pn	**Pn**		**12 26 46.9**	**+0.4**
KURBB	**Kurchatov Arra**	**28.92**	**43**	P	**P**		**12 31 17.4**	**-0.5**
	comp=E,0.5nm,0.4s,baz=248,slow=9.7,SNR=1.7							
MKAR	**Makanchi Array**	**29.87**	**52**	P	**P**		**12 31 25.8**	**-0.6**
	comp=E,21nm,0.4s,baz=250,slow=6.9,SNR=1.4							
ZALV	**Zalesovo Beam**	**33.83**	**40**	P	**P**		**12 31 59.6**	**-1.4**
	comp=E,0.7nm,0.4s,baz=249,slow=7.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	**46.15**	**256**	P	**P**		**12 33 43.5**	**-0.3**
	comp=E,0.4nm,0.9s,baz=74,slow=8.8,SNR=2.1							

*IDC **18** 12:26:02.1±2.3,32°.64N×47°.60E,h0km,mb3.8/5,*
mb1 3.9/5,mb1mx3.5/39,mbtmp3.8/5,Error ellipse:
s-maj=59.1km s-min=28.7km az=156.0
*ISN **18** 12:26:04.3±0.8,32°.67N×47°.76E,h14km±5km, ML3.4*
*TEH **18** 12:26:06.9,32°.74N×47°.76E,h20km, ML3.6*
ISC 18 12:26:06.6±1.6,**32°.67N**±0°.06×**47°.73E**±0°.04,**h26**km±13km,
n19,σ1°**02**/24,**mb3.9**/6,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.86**	**7**	*e*Pg	**Pb**		**12 26 22.1**	**-0.8**
IKFM				*e*	**Sn**		**12 26 36.4**	**+1.6**
IKMR	**Kamar-syah**	**1.01**	**33**	*e*Pg	**Pb**		**12 26 25.3**	**-0.1**
IKMR				*e*Sg	**Sn**		**12 26 38.5**	**0.0**
IKMR				*e*			12 26 46.4	
IDOB	**Doab**	**1.18**	**18**	*e*Pg	**Pn**		**12 26 27.7**	**0.0**
BMDN	**Meydan**	**1.36**	**42**	*e*Pg	**Pb**		**12 26 31.5**	**0.0**
BMDN				*e*			12 26 55.2	
IKOM	**Komasi**	**1.52**	**353**	*e*Pg	**Pb**		**12 26 33.7**	**-0.4**
IKOM				*e*			12 27 03.4	
IBDR	**Badra**	**1.58**	**287**	*e*Pg	**Pn**		**12 26 33.0**	**+0.1**
IBDR				*e*Sg	**Sb**		**12 26 55.0**	**+0.4**
IBDR					AML	AML	12 26 58.0	
	comp=E,636nm,0.4s							
IBDR					AML	AML	12 26 58.0	
	comp=N,513nm,0.4s							
HSAM	**Samen**	**1.71**	**25**	*e*Pg	**Pb**		**12 26 36.8**	**-0.6**
HSAM				*e*			12 27 05.1	
IBZA	**Bozab**	**1.80**	**3**	*e*Pg	**Pb**		**12 26 38.7**	**-0.4**
IBZA				*e*			12 27 10.0	
IVIS	**Veis**	**2.00**	**339**	*e*Pn	**Pn**		**12 26 40.2**	**+1.4**
IVIS				*e*			12 27 12.8	
NSR	**Nassriya**	**2.13**	**220**	*e*Pn	**Pn**		**12 26 41.0**	**+0.4**
NSR				*e*Sn	**Sn**		**12 27 07.0**	**+0.8**
BHD	**Baghdad**	**2.88**	**283**	*e*Pn	**Pn**		**12 26 52.0**	**+1.2**
BHD				*e*Sn	**Sn**		**12 27 27.2**	**+2.4**
IGAR	**Gharneh**	**3.65**	**93**	*e*Pn	**Pn**		**12 27 03.2**	**+1.5**
IANJ	**Anjilo**	**5.84**	**60**	*e*Pn	**Pn**		**12 27 32.6**	**+0.8**
KURBB	**Kurchatov Arra**	**28.89**	**42**	P	**P**		**12 32 03.5**	**+0.4**
	comp=N,0.4nm,0.4s,baz=246,slow=9.0,SNR=2.1							
MKAR	**Makanchi Array**	**29.82**	**52**	P	**P**		**12 32 11.8**	**+0.3**
	comp=N,18nm,0.3s,baz=252,slow=7.6,SNR=1.5							
FINES	**FINESS Array B**	**32.03**	**340**	P	**P**		**12 32 29.9**	**-0.8**
	comp=N,4.6nm,1.1s,baz=152,slow=6.3,SNR=1.4							
ZALV	**Zalesovo Beam**	**33.80**	**40**	P	**P**		**12 32 46.0**	**-0.3**
	comp=N,0.4nm,0.3s,baz=243,slow=9.5,SNR=2.3							
ARCES	**ARCESS Array B**	**38.97**	**348**	P	**P**		**12 33 29.5**	**-0.7**
	comp=N,1.9nm,0.8s,baz=162,slow=8.5,SNR=3.1							
TORD	**Torodi Ar. Bea**	**46.23**	**256**	P	**P**		**12 34 28.2**	**-1.6**
	comp=N,0.2nm,0.5s,baz=73,slow=6.9,SNR=1.9							

*TEH **18** 12:27:45.4,32°.73N×47°.68E,h14km, ML3.2*
*ISN **18** 12:27:48.1±0.6,32°.84N×47°.66E,h14km±4km, ML2.9*
ISC 18 12:27:46.3±1.6,**32°.77N**±0°.05×**47°.66E**±0°.05,**h16**km±16km,
n14,σ1°**11**/19,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.77**	**12**	*e*Pg	**Pg**		**12 28 00.0**	**-1.3**
IKFM				*e*Sg	**Sb**		**12 28 12.6**	**+1.2**
IKMR	**Kamar-syah**	**0.96**	**39**	*e*			12 28 21.1	
IKMR				*e*Pg	**Pb**		**12 28 04.0**	**-0.5**
IDOB	**Doab**	**1.10**	**23**	*e*Pg	**Pb**		**12 28 06.6**	**-0.5**
BMDN	**Meydan**	**1.33**	**47**	*e*Pg	**Pb**		**12 28 11.1**	**+0.2**
BMDN				*e*			12 28 32.5	
IKOM	**Komasi**	**1.41**	**355**	*e*Pg	**Pb**		**12 28 12.9**	**+0.7**
IKOM				*e*			12 28 13.5	
IBDR	**Badra**	**1.49**	**284**	*e*Pg	**Pg**		**12 28 15.0**	**0.0**
IBDR				*e*Sg	**Sg**		**12 28 35.0**	**+0.6**
IBDR					AML	AML	12 28 38.6	
	comp=E,190nm,0.4s							
IBDR					AML	AML	12 28 43.1	
	comp=N,216nm,0.4s							
KCHF	**Cheshme Sefid,**	**1.59**	**341**	*e*Pg	**Pb**		**12 28 15.9**	**+0.6**
KCHF				*e*Sg	**Sg**		**12 28 39.2**	**+1.7**
KCHF				*e*			12 28 45.0	
HSAM	**Samen**	**1.64**	**29**	*e*Pg	**Pb**		**12 28 16.5**	**+0.2**
HSAM				*e*			12 28 42.3	
IBZA	**Bozab**	**1.70**	**6**	*e*Pg	**Pb**		**12 28 18.2**	**+0.8**
IBZA				*e*			12 28 20.7	
IGHG	**Ghaleghazi**	**1.80**	**330**	*e*Pn	**Pb**		**12 28 19.4**	**+0.4**
IGHG				*e*			12 29 05.7	
IVIS	**Veis**	**1.88**	**339**	*e*Pn	**Pb**		**12 28 20.5**	**+0.3**
IVIS				*e*			12 28 59.7	
NSR	**Nassriya**	**2.18**	**217**	*e*Pn	**Pb**		**12 28 26.0**	**+0.7**
NSR				*e*Sn	**Sb**		**12 28 27.0**	**+0.9**
HAGD	**Aghdareh**	**2.39**	**31**	*e*Pn	**Pb**		**12 28 27.8**	**-1.2**
HAGD				*e*			12 29 06.8	
BHD	**Baghdad**	**2.80**	**281**	*e*Pn	**Pb**		**12 28 34.0**	**-1.9**
BHD				*e*Sn	**Sb**		**12 29 08.0**	**-1.9**

*WEL **18** 12:29:48.6,37°.S6°×17°.8E, h182km±7km,M2.8/20,*
MLv2.8/20,Error ellipse: s-maj=0.0km s-min=0.0km
az=13.5
*IDC **18** 12:29:53.4±1.8,37°.12S×177°.27E,h195km±13km,mb3.0/2,*
mb1 3.3/3,mb1mx3.0/37,mbtmp3.6/3,Error ellipse:
s-maj=40.1km s-min=32.4km az=105.0
ISC 18 12:29:49.8±1.2,**36°.85S**±0°.06×**177°.71E**±0°.07,**h204**km±7km,
n84,σ1°**74**/130,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.86**	**146**	P	**Pn**		**12 30 18.1**	**-0.8**
MXZ				S	**S**		**12 30 37.4**	**-4.3**
HAZ	**Te Kaha**	**0.91**	**176**	P	**Pn**		**12 30 17.1**	**-2.1**
HAZ				S	**S**		**12 30 37.8**	**-4.4**
RUGZ	**Raukumara Rang**	**1.11**	**181**	P	**Pn**		**12 30 18.6**	**-2.2**
WMGZ	**Waiomatatini S**	**1.12**	**150**	P	**Pn**		**12 30 18.2**	**-2.5**
WMGZ				S	**S**		**12 30 42.2**	**-2.4**
PUZ	**Puketiti**	**1.29**	**160**	P	**Pn**		**12 30 21.6**	**-0.4**
PUZ				S	**S**		**12 30 44.9**	**-2.1**
TWGZ	**Tauwhareparae**	**1.34**	**171**	P	**Pn**		**12 30 22.3**	**-0.2**
TWGZ				S	**S**		**12 30 46.8**	**-1.0**
URZ	**Urewera**	**1.48**	**198**	P	**Pn**		**12 30 22.6**	**-1.0**
	1.1nm,0.3s,baz=357,slow=5.5,SNR=22							
URZ				S	**S**		**12 30 47.6**	**-2.1**
	6.1nm,0.3s,baz=33,slow=23,SNR=54							
URZ	**Urewera**	**1.48**	**198**	P	**Pn**		**12 30 22.6**	**-1.0**
URZ				S	**S**		**12 30 48.3**	**-1.4**
MWZ	**Matawai**	**1.49**	**185**	P	**Pn**		**12 30 22.9**	**-0.8**
MWZ				S	**S**		**12 30 48.8**	**-1.1**
TKGZ	**Te Karaka**	**1.59**	**176**	P	**Pn**		**12 30 24.2**	**-0.3**
TKGZ				S	**S**		**12 30 50.4**	**-1.0**
KUZ	**Kuaotunu**	**1.60**	**273**	P	**Pn**		**12 30 22.0**	**-2.6**
KARZ	**Kaharoa**	**1.65**	**224**	P	**Pn**		**12 30 26.7**	**+1.6**
RAGZ	**Rawiri**	**1.66**	**188**	P	**Pn**		**12 30 25.3**	**0.0**
RAGZ				S	**S**		**12 30 53.1**	**+0.4**
CNGZ	**Carnagh Statio**	**1.68**	**166**	P	**Pn**		**12 30 25.7**	**+0.3**
MUGZ	**Murupara**	**1.78**	**204**	P	**Pn**		**12 30 25.9**	**-0.4**
MUGZ				S	**S**		**12 30 54.2**	**-0.4**
RIGZ	**Rimuhau**	**1.85**	**179**	P	**Pn**		**12 30 26.9**	**-0.2**
RIGZ				S	**S**		**12 30 55.4**	**-0.4**
RTZ	**Ruatahuna**	**1.85**	**198**	P	**Pn**		**12 30 26.1**	**-1.0**
RTZ				S	**S**		**12 30 55.4**	**-0.5**
GRZ	**Great Barrier**	**1.91**	**288**	P	**Pn**		**12 30 24.3**	**-3.3**
SNGZ	**Shannon Statio**	**1.95**	**188**	P	**Pn**		**12 30 25.5**	**+0.5**
SNGZ				S	**S**		**12 30 58.3**	**+0.8**
TOZ	**Tahuroa Road**	**1.96**	**243**	P	**Pn**		**12 30 28.1**	**0.0**
MKAZ	**Moumakai**	**2.05**	**262**	P	**Pn**		**12 30 28.0**	**-1.0**
WIAZ	**Waiheke Island**	**2.06**	**271**	P	**Pn**		**12 30 27.6**	**-1.6**
MTHZ	**Maungataniwha**	**2.11**	**199**	P	**Pn**		**12 30 30.1**	**+0.4**
MTHZ				S	**S**		**12 31 00.3**	**-0.1**
RAHZ	**Arahi**	**2.12**	**193**	P	**Pn**		**12 30 29.9**	**+0.1**
RAHZ				S	**S**		**12 31 01.0**	**+0.4**
ETAZ	**East Tamaki Re**	**2.23**	**267**	P	**Pn**		**12 30 30.1**	**-0.8**
TLZ	**Tolley Road**	**2.27**	**229**	P	**Pn**		**12 30 32.1**	**+0.7**
KBAZ	**Karaka Road Bo**	**2.27**	**263**	P	**Pn**		**12 30 30.5**	**-0.8**
NMHZ	**Naumai**	**2.35**	**197**	P	**Pn**		**12 30 32.9**	**+0.6**
NMHZ				S	**S**		**12 31 06.9**	**+1.8**
AWAZ	**Awhitu Peninsu**	**2.46**	**264**	P	**Pn**		**12 30 33.1**	**-0.3**
BKZ	**Black Stump Fm**	**2.50**	**202**	P	**Pn**		**12 30 33.8**	**-0.1**
BKZ				S	**S**		**12 31 07.8**	**-0.1**
MCHZ	**McNeill Hill**	**2.71**	**197**	P	**Pn**		**12 30 36.3**	**+0.2**
MCHZ				S	**S**		**12 31 14.6**	**+2.6**
KWHZ	**Kaweka Forest**	**2.76**	**201**	P	**Pn**		**12 30 36.6**	**-0.2**
KWHZ				S	**S**		**12 31 13.5**	**+0.3**
HIZ	**Hauiti**	**2.80**	**233**	P	**Pn**		**12 30 39.0**	**+1.8**
OTVZ	**Oturere**	**2.81**	**214**	P	**Pn**		**12 30 38.0**	**+0.4**
OTVZ				S	**S**		**12 31 15.3**	**+0.9**
NGZ	**Ngauruhoe**	**2.85**	**215**	P	**Pn**		**12 30 38.5**	**+0.5**
WCZ	**Waipu Caves**	**2.86**	**288**	P	**Pn**		**12 30 35.7**	**-2.3**
BHHZ	**Black Hill Sta**	**2.93**	**206**	P	**Pn**		**12 30 38.6**	**-0.3**
BHHZ				S	**S**		**12 31 16.1**	**-0.6**
FWVZ	**Far West T-bar**	**2.94**	**215**	P	**Pn**		**12 30 39.5**	**+0.4**
KRHZ	**Kereru**	**2.98**	**200**	P	**Pn**		**12 30 38.7**	**-0.6**
KRHZ				S	**S**		**12 31 17.3**	**-0.4**
MOVZ	**Moawhango**	**2.98**	**211**	P	**Pn**		**12 30 38.8**	**-0.5**
KAHZ	**Kahuranaki**	**3.01**	**192**	P	**Pn**		**12 30 39.7**	**0.0**
MTVZ	**Mangateitei**	**3.08**	**214**	S	**S**		**12 31 23.9**	**+4.0**
PXZ	**Pawanui**	**3.24**	**192**	P	**Pn**		**12 30 42.0**	**-0.4**
PXZ				S	**S**		**12 31 27.7**	**-0.5**
PNHZ	**Pukenui**	**3.28**	**201**	P	**Pn**		**12 30 42.0**	**-0.8**
PNHZ				S	**S**		**12 31 23.4**	**-0.6**
WPHZ	**Waipukurau**	**3.36**	**197**	P	**Pn**		**12 30 43.4**	**-0.3**
WPHZ				S	**S**		**12 31 26.5**	**+0.8**
TSZ	**Takapari Road**	**3.48**	**203**	P	**Pn**		**12 30 44.3**	**-1.0**
TSZ				S	**S**		**12 31 28.6**	**+0.2**
PRHZ	**Porangahau**	**3.51**	**193**	P	**Pn**		**12 30 45.2**	**-0.4**
PRHZ				S	**S**		**12 31 29.6**	**+0.6**
WAZ	**Wanganui**	**3.60**	**216**	P	**Pn**		**12 30 47.1**	**+0.4**
WAZ				S	**S**		**12 31 32.7**	**+1.8**
DVHZ	**Dannevirke**	**3.65**	**199**	P	**Pn**		**12 30 46.5**	**-0.7**
DVHZ				S	**S**		**12 31 31.7**	**-0.3**
OUZ	**Omahuta**	**3.71**	**295**	P	**Pn**		**12 30 45.9**	**-2.2**
ANWZ	**Angora Road**	**3.73**	**195**	P	**Pn**		**12 30 47.9**	**-0.4**
ANWZ				S	**S**		**12 31 32.8**	**-0.9**
POWZ	**Post Office Ro**	**3.85**	**203**	P	**Pn**		**12 30 49.2**	**-0.5**
POWZ				S	**S**		**12 31 35.3**	**-1.1**
PRWZ	**Pori Road**	**3.94**	**200**	P	**Pn**		**12 30 50.7**	**-0.2**
BFZ	**Birch Farm**	**3.99**	**196**	P	**Pn**		**12 30 50.7**	**-0.8**
BFZ				S	**S**		**12 31 38.7**	**-0.9**
MRZ	**Mangatainoka R**	**4.15**	**203**	P	**Pn**		**12 30 52.1**	**-1.4**
MRZ				S	**S**		**12 31 41.5**	**-1.7**
TIWZ	**Tintock**	**4.17**	**199**	P	**Pn**		**12 30 53.0**	**-0.8**
TIWZ				S	**S**		**12 31 41.7**	**-1.9**
HOWZ	**Holdsworth Sta**	**4.39**	**202**	P	**Pn**		**12 30 54.8**	**-1.7**
HOWZ				S	**S**		**12 31 46.4**	**-2.2**
OGWZ	**Otaki Gorge**	**4.43**	**206**	P	**Pn**		**12 30 55.7**	**-1.2**
OGWZ				S	**S**		**12 31 48.5**	**-0.9**
TMWZ	**Te Maipa**	**4.48**	**198**	P	**Pn**		**12 30 56.4**	**-1.2**
TMWZ				S	**S**		**12 31 50.2**	**-0.5**
KIW	**Kapiti Island**	**4.56**	**208**	P	**Pn**		**12 30 57.0**	**-1.6**
KIW				S	**S**		**12 31 50.1**	**-2.4**
CAW	**Cannon Point**	**4.72**	**205**	P	**Pn**		**12 30 58.9**	**-1.7**
CAW				S	**S**		**12 31 55.2**	**-0.9**
TRWZ	**Traveller**	**4.80**	**198**	P	**Pn**		**12 31 00.2**	**-1.5**
TRWZ				S	**S**		**12 31 55.8**	**-2.2**
DUWZ	**D'Urville Isla**	**4.93**	**216**	P	**Pn**		**12 31 01.9**	**-1.3**
DUWZ				S	**S**		**12 31 59.7**	**-1.2**
MSWZ	**Moikau Station**	**4.94**	**202**	P	**Pn**		**12 31 01.8**	**-1.7**
MSWZ				S	**S**		**12 31 58.6**	**-2.6**
PLWZ	**Palliser**	**5.08**	**201**	P	**Pn**		**12 31 03.3**	**-2.0**
TCW	**Tory Channel**	**5.11**	**210**	P	**Pn**		**12 31 03.3**	**-2.2**
TCW				S	**S**		**12 32 02.8**	**-2.2**
TUWZ	**Tuamarina**	**5.43**	**211**	P	**Pn**		**12 31 07.2**	**-2.1**
NNZ	**Nelson**	**5.51**	**216**	P	**Pn**		**12 31 08.6**	**-2.1**
NNZ				S	**S**		**12 32 11.8**	**-2.5**
QRZ	**Quartz Range**	**5.66**	**224**	P	**Pn**		**12 31 10.2**	**-2.4**
BSWZ	**Blackbirch Sta**	**

comp=Z,0.5nm,0.8s,baz=117,slow=3.2,SNR=2.6
WRA ScP **ScP** **12 45 17.4 +0.5**
comp=Z,1.4nm,0.8s,baz=106,slow=3.6,SNR=10
WRA Warramunga Arr 42.77 275 P **P** **12 40 15.2 -0.6**
WB0 Warramunga Arr 42.80 275 P **P** **12 40 15.1 -0.9**
QSPA South Pole Qui 58.33 180 P **P** **12 42 14.5 +4.1**
comp=Z,7.7nm,0.8s,baz=23,slow=0.8,SNR=41
QSPA South Pole Qui 58.33 180 P **P** **12 42 14.3 +3.9**
QSPA IAmb IAmb 12 42 15.6
comp=Z,9.6nm,0.9s
VNA3 Neumayer Olymp 77.02 177 P **P** **12 44 08.7 +3.0**
VNA2 Neumayer--Watz 77.43 177 P **P** **12 44 11.1 +3.1**
baz=176,slow=4.5
VNA1 Neumayer--Stat 77.67 177 P **P** **12 44 12.6 +3.3**
PETK Petropavlovsk- 86.81 347 P **P** **12 44 56.8 +0.6**
comp=Z,3.5nm,0.9s,baz=138,slow=9.7,SNR=3.4
C09A Chrisman Ranch 96.43 37 P **P** **12 45 38.4 -2.4**
KKAR Karatay Array 124.65 303 **PKPdf** **12 51 09.8 +0.4**
BVAR Borovoye Array 126.40 315 PKP **PKiKP** **12 51 12.9 +0.1**
comp=Z,0.4nm,0.5s,baz=64,slow=3.4,SNR=4.2
KBZ Khabaz 144.68 302 PKP PKPbc 12 51 45.1 -1.1
comp=Z,3.1nm,0.8s,baz=180,slow=4.0,SNR=4.2
FINES FINESS Array B 145.93 338 PKPbc **PKPbc** **12 51 49.7 +0.4**
comp=Z,6.9nm,0.6s,baz=53,slow=3.7,SNR=29
AKASG Malin Array Be 151.50 320 PKPbc **PKPbc** **12 52 04.1 +0.4**
comp=Z,0.8nm,0.5s,baz=56,slow=1.6,SNR=4.5
AKASG Malin Array Be 151.50 320 **PKiKP** **12 52 04.3 +0.3**
BRTR Keskin Array B 151.97 296 PKPbc **PKPbc** **12 52 05.8 +0.4**
comp=Z,1.0nm,0.5s,baz=101,slow=4.6,SNR=5.0
CLL Collm 158.38 338 LmV 16 43 00.0
comp=Z,100nm,19.1s
CLL Collm 158.38 338 *e*PKPab **PKPab** **12 52 44.0 +0.9**
GERES GERESS Array B 160.20 333 PKPab **PKPab** **12 52 50.2 -1.1**
comp=Z,0.4nm,0.4s,baz=28,slow=4.8,SNR=3.7
TORD Torodi Ar. Bea 161.41 184 PKPab **PKPab** **12 52 59.1 +2.0**
comp=Z,0.2nm,0.4s,baz=176,slow=4.3,SNR=1.6

*TEH **18** 12:33:43.6, 32.°66N×47.°64E, h11km, ML3.4*
*ISN **18** 12:33:43.7±1.3, 32.°74N×47.°81E, h15km±8km, ML3.0*
ISC 18 12:33:44.8±1.3, 32.°66N±0.°03×47.°66E±0.°03, h14km±14km, n30, σ1°77/34, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.88**	**10**	*e*Pg	**Pb**	**12 34 00.9**	**-0.9**
IKMR	**Kamar-syah**	**1.05**	**35**	*e*		12 34 24.5	
IKMR				*e*Pg	**Pb**	**12 34 03.4**	**-1.3**
IDOB	**Doab**	**1.21**	**21**	*e*Pg	**Pg**	**12 34 08.2**	**+0.1**
BMDN	**Meydan**	**1.41**	**44**	*e*Pg	**Pg**	**12 34 11.1**	**-0.8**
BMDN				*e*		12 34 34.9	
IKOM	**Komasi**	**1.52**	**355**	*e*Pg	**Pg**	**12 34 12.9**	**-1.1**
IKOM				*e*		12 34 40.5	
IBDR	**Badra**	**1.52**	**288**	*e*Pg	**Pg**	**12 34 13.0**	**-1.0**
IBDR				*e*Sg	**Sg**	**12 34 35.0**	**+1.2**
IBDR				AML	AML	12 34 38.8	
	comp=N,253nm,0.5s						
IBDR				AML	AML	12 34 39.1	
	comp=E,206nm,0.4s						
AHWZ	**Ahwaz**	**1.57**	**147**	*e*Pg	**Pg**	**12 34 14.2**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.69**	**342**	*e*Pg	**Pg**	**12 34 15.5**	**-1.8**
KCHF				*e*	**Sg**	**12 34 42.7**	**+3.4**
HSAM	**Samen**	**1.74**	**27**	*e*Pg	**Pg**	**12 34 17.1**	**-1.1**
HSAM				*e*		12 34 45.9	
KER	**Kermanshah**	**1.78**	**346**	*e*Pg	**Pg**	**12 34 17.1**	**-1.8**
IBZA	**Bozab**	**1.82**	**5**	*e*Pg	**Pg**	**12 34 17.8**	**-1.9**
IBZA				*e*		12 34 47.3	
IGHG	**Ghaleghazi**	**1.90**	**332**	*e*		12 34 57.9	
IVIS	**Veis**	**1.98**	**340**	*e*Pn	**Pb**	**12 34 19.7**	**-1.0**
IVIS				*e*	**Sg**	**12 34 50.6**	**+2.1**
NSR	**Nassriya**	**2.09**	**219**	*e*Pn	**Pb**	**12 34 22.0**	**-0.4**
NSR				*e*Sn	**Sb**	**12 34 48.0**	**-0.2**
HAGD	**Aghdareh**	**2.49**	**29**	*e*Pn	**Pb**	**12 34 26.5**	**-2.9**
HAGD				*e*		12 35 08.6	
JHBN	**Jahan bin**	**2.58**	**99**	*e*Pn	**Pn**	**12 34 27.3**	**+0.9**
HSRG	**Sareghieh**	**2.63**	**11**	*e*Pn	**Pb**	**12 34 30.1**	**-1.7**
HSRG				*e*		12 35 15.1	
IPIR	**Pirpir**	**2.73**	**89**	*e*Pn	**Pn**	**12 34 30.0**	**+1.6**
IPIR				*e*		12 35 17.6	
BHD	**Baghdad**	**2.82**	**283**	*e*Pn	**Pn**	**12 34 31.0**	**+1.6**
BHD				*e*Sn	**Sb**	**12 35 07.0**	**-2.3**
ROKH	**ROKH**	**2.87**	**95**	*e*Pn	**Pn**	**12 34 31.5**	**+1.2**
ROKH				*e*		12 35 29.2	
IRAZ	**Razeghan**	**3.33**	**34**	*e*Pn	**Pn**	**12 34 39.3**	**+2.7**
IKLH	**Kolahrood**	**3.36**	**78**	*e*Pn	**Pn**	**12 34 39.6**	**+2.5**
IKLH				*e*		12 35 40.1	
QABG	**Abgarm-Qazvin**	**3.44**	**27**	*e*Pn	**Pn**	**12 34 39.9**	**+1.8**
IQOM	**Qom**	**3.58**	**52**	*e*Pn	**Pn**	**12 34 41.5**	**+1.4**
IGAR	**Gharneh**	**3.71**	**93**	*e*Pn	**Pn**	**12 34 43.0**	**+1.1**
KLNJ	**Kolanjah**	**3.73**	**115**	*e*Pn	**Pn**	**12 34 42.8**	**+0.5**
KLNJ				*e*		12 35 46.2	
IZEF	**Zefreh**	**3.94**	**85**	*e*Pn	**Pn**	**12 34 46.6**	**+1.5**
QSDN	**Sirdan**	**4.04**	**18**	*e*Pn	**Pn**	**12 34 49.0**	**+2.6**
IVRN	**Varamin**	**4.11**	**54**	*e*Pn	**Pn**	**12 34 49.0**	**+1.7**
IDMV	**Damavand**	**4.65**	**50**	*e*Pn	**Pn**	**12 34 56.2**	**+1.3**

*SNET **18** 12:36:57.4±1.4, 12.°05N×88.°11W, h17km±8km, ML3.3*
*INET **18** 12:37:00.6, 12.°17N×87.°79W, h14km, ML3.7*
*IDC **18** 12:37:02.2±2.7, 11.°92N×88.°15W, h78km±29km, mb3.4/4, mb1 3.7/6, mb1mx3.3/41, mbtmp3.7/6, Error ellipse: s-maj=57.5km s-min=18.2km az=46.0*
ISC 18 12:36:54.5±2.1, 12.°01N±0.°07×88.°03W±0.°08, h7km±12km, n21, σ1°06/31, mb3.6/4, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**1.30**	**6**	*e*P	**Pg**	**12 37 19.3**	**-0.2**
LCND				*e*S	**Sn**	**12 37 38.2**	**+1.4**
LCND				IAML		12 37 43.6	
	comp=Z,946nm,0.3s						
LCY	**Lacayo**	**1.43**	**349**	*e*P	**Pg**	**12 37 22.0**	**+0.1**
VSM	**San Miguel**	**1.43**	**350**	*e*P	**Pb**	**12 37 22.5**	**+0.8**
BLLM	**Bellamira**	**1.44**	**352**	*e*P	**Pn**	**12 37 21.8**	**+0.6**
BLLM				*e*S	**Sn**	**12 37 40.6**	**+0.2**
TECA	**Tecapa**	**1.55**	**343**	*e*P	**Pn**	**12 37 23.1**	**+0.4**
TECA				*e*S	**Sg**	**12 37 43.9**	**-0.4**
COEB	**Comit de Eme**	**1.56**	**342**	*e*P	**Pn**	**12 37 23.3**	**+0.5**
COEB				*e*S	**Sg**	**12 37 43.8**	**-0.9**
FAGO	**Alcalda de S**	**1.68**	**357**	*e*P	**Pn**	**12 37 25.1**	**+0.8**
FAGO				*e*S	**Sg**	**12 37 47.1**	**-1.4**
LFRS	**El Faro**	**1.90**	**328**	*e*P	**Pn**	**12 37 27.8**	**+0.4**
LFRS				*e*S	**Sb**	**12 37 52.6**	**-0.9**
PAVA	**Las Pavas**	**1.91**	**332**	*e*P	**Pn**	**12 37 28.4**	**+0.7**
PAVA				*e*S	**Sb**	**12 37 53.8**	**-0.2**
PAVA				IAML		12 38 02.2	
	comp=Z,344nm,0.4s						
LBRS	**Las Brisas**	**1.99**	**330**	*e*P	**Pn**	**12 37 29.9**	**+1.3**
LFU	**La Fuente**	**2.03**	**329**	*e*P	**Pn**	**12 37 30.2**	**+1.0**
TACO	**Tacachico**	**2.34**	**327**	*e*P	**Pn**	**12 37 34.5**	**+1.0**
TACO				*e*S	**Sn**	**12 38 02.0**	**-0.6**
TACO				IAML		12 38 13.0	
	comp=Z,55nm,0.5s						
NUBE	**Las Nubes**	**2.54**	**318**	*e*P	**Pn**	**12 37 37.4**	**+1.0**
NUBE				*e*S	**Sn**	**12 38 06.5**	**-1.2**
NUBE				IAML		12 38 17.5	
	comp=Z,160nm,0.4s						
MTO3	**Montecristo**	**2.71**	**331**	*e*P	**Pn**	**12 37 40.0**	**+1.3**
JTS	**Las Juntas de**	**3.46**	**119**	P	Pn	12 37 55.8	+6.9
	comp=Z,4.9nm,0.3s,baz=357,slow=9.0,SNR=10						
JTS				S	**Sn**	**12 38 30.8**	**+0.5**
	comp=Z,4.1nm,0.3s,baz=309,slow=19,SNR=2.5						
CMIG	**Matias Romero**	**8.34**	**308**	P	**Pn**	**12 38 58.5**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=139,slow=7.4,SNR=5.8						
CMIG				S	**Sn**	**12 40 29.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=190,slow=17,SNR=1.5						
TXAR	**Lajitas Array**	**22.57**	**322**	P	**P**	**12 41 56.7**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=138,slow=11,SNR=26						
TKL	**Tuckaleechee C**	**23.86**	**9**	P	**P**	**12 42 08.5**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=179,slow=9.4,SNR=4.0						
PDAR	**Pinedale Array**	**35.90**	**333**	P	**P**	**12 43 56.0**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=136,slow=9.7,SNR=5.2						
SIV	**San Ignacio**	**38.54**	**136**	P	**P**	**12 44 17.0**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=311,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**138.61**	**253**	PKP	**PKPdf**	**12 56 20.2**	**-1.9**
	comp=Z,0.4nm,0.9s,baz=86,slow=1.8,SNR=2.1						

*IDC **18** 12:40:31.5±4.3, 32.°60N×47.°44E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.5/51, mbtmp3.8/6, ML3.7/2, Error ellipse: s-maj=78.8km s-min=40.3km az=51.0*
*TEH **18** 12:40:34.7, 32.°72N×47.°59E, h8km, ML3.5*

*ISN **18** 12:40:34.1±1.4, 32.°73N×47.°61E, h15km±7km, ML3.5*
ISC 18 12:40:34.5±1.7, 32.°71N±0.°04×47.°55E±0.°03, h11km±12km, n44, σ1°57/49, mb3.6/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.85**	**17**	*e*Pg	**Pb**	**12 40 51.5**	**+0.3**
IKFM				*e*Sg	**Sb**	**12 41 03.4**	**+0.8**
IKMR	**Kamar-syah**	**1.06**	**41**	*e*Pg	**Pn**	**12 40 55.8**	**+0.5**
IKMR				*e*		12 41 12.5	
IDOB	**Doab**	**1.20**	**26**	*e*Pg	**Pn**	**12 40 57.7**	**+0.4**
IDOB				*e*Sg	**Sn**	**12 41 13.9**	**+0.2**
IBDR	**Badra**	**1.42**	**287**	*e*Pg	**Pn**	**12 41 00.0**	**-0.2**
IBDR				*e*Sg	**Sn**	**12 41 20.0**	**+1.1**
IBDR				AML	AML	12 41 25.7	
	comp=N,828nm,0.4s						
IBDR				AML	AML	12 41 26.1	
	comp=E,918nm,0.5s						
BMDN	**Meydan**	**1.44**	**48**	*e*Pg	**Pg**	**12 41 01.7**	**-0.3**
BMDN				*e*		12 41 30.0	
IKOM	**Komasi**	**1.46**	**359**	*e*Pg	**Pb**	**12 41 02.2**	**+0.4**
IKOM				*e*		12 41 26.4	
KCHF	**Cheshme Sefid,**	**1.62**	**345**	*e*		12 41 30.1	
KCHF				*e*Pg	**Pb**	**12 41 04.6**	**+0.1**
KER	**Kermanshah**	**1.71**	**348**	*e*Pg	**Pb**	**12 41 06.5**	**+0.6**
HSAM	**Samen**	**1.74**	**30**	*e*		12 41 37.8	
HSAM				*e*Pg	**Pb**	**12 41 06.9**	**+0.4**
IBZA	**Bozab**	**1.77**	**8**	*e*		12 41 11.7	
IBZA				*e*Pg	**Pb**	**12 41 07.3**	**+0.1**
IGHG	**Ghaleghazi**	**1.81**	**333**	*e*		12 41 41.4	
IGHG				*e*Pn	**Pg**	**12 41 09.0**	**-0.3**
IVIS	**Veis**	**1.91**	**342**	*e*		12 41 44.2	
IVIS				*e*Pn	**Pn**	**12 41 08.4**	**+1.4**
NSR	**Nassriya**	**2.08**	**216**	*e*Pn	**Pn**	**12 41 10.0**	**+0.8**
NSR				*e*Sn	**Sn**	**12 41 36.0**	**+1.0**
IALM	**Almabolaq**	**2.21**	**13**	*e*Pn	**Pn**	**12 41 12.8**	**+1.5**
IDHR	**Dehrash**	**2.21**	**334**	*e*Pn	**Pn**	**12 41 13.3**	**+2.0**
IDHR				*e*		12 41 51.8	
HAGD	**Aghdareh**	**2.49**	**32**	*e*Pn	**Pb**	**12 41 17.4**	**-1.9**
HAGD				*e*		12 41 59.6	
HSRG	**Sareghieh**	**2.60**	**13**	*e*Pn	**Pb**	**12 41 20.0**	**-1.2**
HSRG				*e*		12 42 01.0	
JHBN	**Jahan bin**	**2.67**	**99**	*e*Pn	**Pn**	**12 41 19.4**	**+1.7**
JHBN				*e*		12 42 07.8	
BHD	**Baghdad**	**2.72**	**283**	*e*Pn	**Pn**	**12 41 20.0**	**+1.9**
BHD				*e*Sn	**Sn**	**12 41 54.0**	**+3.0**
IPIR	**Pirpir**	**2.81**	**90**	*e*Pn	**Pn**	**12 41 21.8**	**+2.1**
IPIR				*e*		12 42 09.8	
ROKH	**ROKH**	**2.96**	**96**	*e*Pn	**Pn**	**12 41 23.7**	**+2.1**
ROKH				*e*		12 42 29.7	
IRAZ	**Razeghan**	**3.33**	**36**	*e*Pn	**Pn**	**12 41 29.0**	**+2.3**
QABG	**Abgarm-Qazvin**	**3.43**	**29**	*e*Pn	**Pn**	**12 41 29.5**	**+1.4**
IKLH	**Kolahrood**	**3.44**	**79**	*e*Pn	**Pn**	**12 41 30.7**	**+2.5**
IKLH				*e*		12 42 41.3	
IQOM	**Qom**	**3.62**	**53**	*e*Pn	**Pn**	**12 41 32.4**	**+1.7**
IGAR	**Gharneh**	**3.80**	**93**	*e*Pn	**Pn**	**12 41 34.1**	**+0.9**
KLNJ	**Kolanjah**	**3.83**	**115**	*e*Pn	**Pn**	**12 41 36.1**	**+2.4**
KLNJ				*e*		12 42 58.8	
QSDN	**Sirdan**	**4.01**	**19**	*e*Pn	**Pn**	**12 41 38.4**	**+2.3**
IZEF	**Zefreh**	**4.03**	**86**	*e*Pn	**Pn**	**12 41 38.2**	**+1.9**
IVRN	**Varamin**	**4.16**	**56**	*e*Pn	**Pn**	**12 41 38.7**	**+0.8**
IRAM	**Rameshеh**	**4.19**	**101**	*e*Pn	**Pn**	**12 41 39.6**	**+1.1**
IGZV	**Ghazvin**	**4.28**	**30**	*e*Pn	**Pn**	**12 41 40.7**	**+1.0**
QALM	**Alamut, Qazvin**	**4.51**	**34**	*e*Pn	**Pn**	**12 41 43.7**	**+0.8**
IDMV	**Damavand**	**4.69**	**51**	*e*Pn	**Pn**	**12 41 46.2**	**+0.8**
ANAR	**Anarak**	**5.21**	**83**	*e*Pn	**Pn**	**12 41 53.2**	**+0.7**
ISHM	**Shahmirzad**	**5.67**	**55**	*e*Pn	**Pn**	**12 42 00.4**	**+1.5**
IANJ	**Anjilo**	**5.95**	**61**	*e*Pn	**Pn**	**12 42 03.1**	**+0.4**
ASF	**Jabal al Asfar**	**9.02**	**269**	Sn	**Sn**	**12 44 21.2**	**-5.2**
	comp=E,0.3nm,0.3s,baz=309,slow=18,SNR=1.8						
ASF				Lg	Lg	12 45 18.1	
	comp=E,0.1nm,0.3s,baz=210,slow=20,SNR=1.4						
WSAR	**Wadi Sarin**	**13.59**	**131**	Pn	**Pn**	**12 43 45.9**	**-1.3**
	comp=E,0.3nm,0.3s,baz=315,slow=5.7,SNR=1.9						
AKTO	**Aktyubinsk**	**19.33**	**21**	P	**P**	**12 45 00.3**	**+0.8**
	comp=E,0.3nm,0.3s,baz=202,slow=12,SNR=5.8						
BVAR	**Borovoye Array**	**26.11**	**32**	P	**P**	**12 46 08.2**	**0.0**
	comp=E,0.5nm,0.5s,baz=243,slow=8.9,SNR=3.0						
MKAR	**Makanchi Array**	**29.91**	**52**	P	**P**	**12 46 42.5**	**+0.2**
	comp=E,0.5nm,0.6s,baz=238,slow=8.3,SNR=4.7						
ZALV	**Zalesovo Beam**	**33.86**	**40**	P	**P**	**12 47 16.2**	**-0.6**
	comp=E,0.5nm,0.3s,baz=246,slow=7.5,SNR=2.8						
ARCES	**ARCESS Array B**	**38.90**	**348**	P	**P**	**12 47 59.0**	**-0.6**
	comp=E,1.4nm,1.0s,baz=150,slow=6.2,SNR=1.8						

*ISN **18** 12:46:20.8±1.4, 32.°80N×47.°70E, h15km±7km, ML3.1*
*TEH **18** 12:46:21.9, 32.°87N×47.°72E, h19km, ML3.1*
ISC 18 12:46:21.8±1.1, 32.°81N±0.°06×47.°70E±0.°05, h15km, n19, σ0°86/22, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.73**	**10**	*e*Pg	**Pg**	**12 46 35.3**	**-0.7**
IKMR	**Kamar-syah**	**0.91**	**38**	*e*Pg	**Pb**	**12 46 38.2**	**-1.1**
IKMR				*e*		12 46 58.9	
IDOB	**Doab**	**1.06**	**22**	*e*Pg	**Pg**	**12 46 41.8**	**-0.5**
BMDN	**Meydan**	**1.28**	**47**	*e*Pg	**Pb**	**12 46 45.5**	**-0.2**
BMDN				*e*		12 47 16.1	
IKOM	**Komasi**	**1.38**	**353**	*e*Pg	**Pb**	**12 46 47.0**	**-0.4**
IKOM				*e*		12 47 12.2	
IBDR	**Badra**	**1.52**	**282**	*e*Pg	**Pn**	**12 46 48.0**	**-0.5**
IBDR				*e*Sg	**Sb**	**12 47 09.0**	**+0.2**
IBDR				AML	AML	12 47 11.4	
	comp=N,258nm,0.4s						
IBDR				AML	AML	12 47 11.8	
	comp=E,408nm,0.6s						
KCHF	**Cheshme Sefid,**	**1.57**	**340**	*e*Pg	**Pb**	**12 46 49.7**	**-0.9**
KCHF				*e*		12 47 15.5	
HSAM	**Samen**	**1.59**	**28**	*e*Pg	**Pb**	**12 46 51.2**	**+0.1**
HSAM				*e*		12 47 19.1	
KER	**Kermanshah**	**1.65**	**343**	*e*Pg	**Pb**	**12 46 51.3**	**-0.7**
IBZA	**Bozab**	**1.67**	**4**	*e*Pg	**Pb**	**12 46 52.0**	**-0.4**
IBZA				*e*		12 47 23.7	
IGHG	**Ghaleghazi**	**1.79**	**328**	*e*Pg	**Pb**	**12 46 54.7**	**+0.2**
IGHG				*e*		12 47 25.3	
IVIS	**Veis**	**1.86**	**338**	*e*Pn	**Pb**	**12 46 54.2**	**-1.4**
IVIS				*e*		12 47 23.4	
IDHR	**Dehrash**	**2.19**	**330**	*e*Pn	**Pn**	**12 46 57.9**	**+0.1**
IDHR				*e*		12 47 36.8	
ILIN	**Lien**	**2.20**	**344**	*e*Pn	**Pn**	**12 46 58.8**	**+0.8**
ILIN				*e*		12 47 37.9	
NSR	**Nassriya**	**2.23**	**217**	*e*Pn	**Pn**	**12 46 59.0**	**+0.8**
NSR				*e*Sn	**Sn**	**12 47 25.0**	**-0.4**
HSRG	**Sareghieh**	**2.48**	**11**	*e*Pn	**Pn**	**12 47 03.6**	**+1.7**
HSRG				*e*		12 47 50.6	
BHD	**Baghdad**	**2.83**	**280**	*e*Pn	**Pn**	**12 47 07.0**	**+0.6**
BHD				*e*Sn	**Sn**	**12 47 42.0**	**+1.7**
IRAZ	**Razeghan**	**3.18**	**35**	*e*Pn	**Pn**	**12 47 11.5**	**-0.1**
QABG	**Abgarm-Qazvin**	**3.29**	**28**	*e*Pn	**Pn**	**12 47 13.9**	**+0.9**

IDC 18 12:47:34.3±4.6, 4.°61S×153.°51E, h133km±31km, mb3.4/3, mb1 3.6/4, mb1mx3.2/39, mbtmp3.9/4, Error ellipse: s-maj=62.0km s-min=29.4km az=113.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.51**	**281**	P	Pn	12 48 02.1	-0.5
	23nm,0.3s,baz=19,slow=1.4,SNR=14						
KRVT				S	Sn	12 48 24.4	+0.1
	30nm,0.3s,baz=31,slow=14,SNR=10						
PMG	**Port Moresby**	**7.90**	**233**	P	Pn	12 49 27.3	+0.8
	3.0nm,0.3s,baz=51,slow=13,SNR=6.6						
PMG				S	Sn	12 50 55.6	+1.2
	1.0nm,0.3s,baz=72,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**24.10**	**229**	P	P	12 52 38.0	+0.2
	1.4nm,0.8s,baz=54,slow=9.9,SNR=10.0						
ASAR	**Alice Springs**	**26.77**	**223**	P	P	12 53 01.3	-0.6
	0.3nm,0.4s,baz=54,slow=9.1,SNR=12						
FITZ	**Fitzroy Crossi**	**30.37**	**242**	P	P	12 53 33.8	-0.2
	2.4nm,0.9s,baz=63,slow=9.0,SNR=2.1						
TORD	**Torodi Ar. Bea**	**150.92**	**289**	PKPbc	PKiKP	13 07 12.8	-0.2
	0.2nm,0.3s,baz=69,slow=3.5,SNR=2.0						

*TEH **18** 12:49:13.1, 32.°79N×47.°51E, h8km, ML2.5*
*ISN **18** 12:49:13.4±1.7, 32.°67N×47.°51E, h15km, ML2.4*
ISC 18 12:49:11.0±2.5, 32.°6N±0.°1×47.°60E±0.°07, h10km, n9, σ0°66/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.97**	**12**	*e*Pg	**Pg**	**12 49 29.3**	**-0.4**
IKFM				*e*		12 49 37.6	
IKMR	**Kamar-syah**	**1.15**	**34**	*e*Pg	**Pb**	**12 49 33.3**	**+0.4**
IKMR				*e*		12 49 34.8	
IDOB	**Doab**	**1.31**	**21**	*e*Pg	**Pn**	**12 49 34.6**	**-0.9**
IDOB				*e*		12 49 37.5	
BMDN	**Meydan**	**1.50**	**43**	*e*Pg	**Pb**	**12 49 40.0**	**+0.9**
BMDN				*e*		12 50 07.1	
IBDR	**Badra**	**1.51**	**291**	*e*Pg	**Pn**	**12 49 38.0**	**-0.1**
	baz=108						
IBDR				*e*Sg	**Sg**	**12 49 59.0**	**-0.5**
IBDR				AML	AML	12 50 03.2	
	comp=E,64nm,0.6s						
IBDR				AML	AML	12 50 05.2	
	comp=N,71nm,0.4s						
IKOM	**Komasi**	**1.60**	**357**	*e*Pg	**Pn**	**12 49 39.6**	**+0.1**
IKOM				*e*		12 50 10.7	
HSAM	**Samen**	**1.84**	**27**	*e*Pn	**Pb**	**12 49 45.2**	**+0.3**
HSAM				*e*		12 50 14.2	
IBZA	**Bozab**	**1.91**	**6**	*e*	**Pb**	**12 49 46.7**	**+0.6**
IVIS	**Veis**	**2.05**	**342**	*e*Sg	**Sb**	**12 50 14.5**	**+0.5**

*ISN **18** 12:59:27.4±1.5, 32.°78N×47.°52E, h15km±10km, ML2.3*
*TEH **18** 12:59:28.8, 32.°77N×47.°48E, h10km, ML2.7*
ISC 18 12:59:28.8±1.1, 32.°78N±0.°06×47.°53E±0.°06, h15km, n10, σ0°71/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.79**	**20**	*e*Pg	**Pn**	**12 59 44.8**	**-0.5**
IKFM				*e*		13 00 03.7	
IBDR	**Badra**	**1.39**	**284**	*e*Pn	**Pn**	**12 59 53.0**	**-0.6**
IBDR				*e*Sg	**Sb**	**13 00 11.0**	**-0.9**
IBDR				AML	AML	13 00 17.9	
	comp=N,82nm,0.6s						
IBDR				AML	AML	13 00 18.1	
	comp=E,44nm,0.8s						
IKOM	**Komasi**	**1.39**	**359**	*e*Pg	**Pg**	**12 59 55.7**	**+0.2**
IKOM				*e*		12 59 58.1	
BMDN	**Meydan**	**1.40**	**50**	*e*Pn	**Pg**	**12 59 55.8**	**0.0**
BMDN				*e*		13 00 24.7	
KCHF	**Cheshme Sefid,**	**1.54**	**345**	*e*Pn	**Pb**	**12 59 57.4**	**+0.2**
KCHF				*e*		13 00 24.6	
HSAM	**Samen**	**1.68**	**32**	*e*Pn	**Pb**	**13 00 00.3**	**+0.7**
HSAM				*e*		13 00 27.7	
IBZA	**Bozab**	**1.70**	**9**	*e*Pn	**Pg**	**13 00 00.9**	**-0.7**
IBZA				*e*		13 00 06.2	
IVIS	**Veis**	**1.83**	**342**	*e*Pn	**Pb**	**13 00 02.5**	**+0.5**
IVIS				*e*		13 00 31.5	
NSR	**Nassriya**	**2.13**	**214**	*e*Pn	**Pn**	**13 00 04.0**	**+0.2**
NSR				*e*Sn	**Sn**	**13 00 29.0**	**-0.9**
BHD	**Baghdad**	**2.69**	**281**	*e*Pn	**Pn**	**13 00 12.0**	**+0.5**
BHD				*e*Sn	**Sn**	**13 00 45.0**	**+1.2**

*TEH **18** 13:00:28.3, 32.°73N×47.°77E, h11km, ML2.8*
*ISN **18** 13:00:28.5±1.0, 32.°72N×47.°76E, h14km±6km, ML2.6*
ISC 18 13:00:28.6±1.3, 32.°69N±0.°07×47.°83E±0.°07, h10km, n11, σ0°71/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKMR	**Kamar-syah**	**0.95**	**29**	*e*Pg	**Pg**	**13 00 46.9**	**+0.1**
IKMR				*e*		13 01 05.7	
IDOB	**Doab**	**1.13**	**15**	*e*Pg	**Pg**	**13 00 49.6**	**-0.8**
IDOB				*e*		13 01 13.8	
BMDN	**Meydan**	**1.29**	**40**	*e*Pn	**Pn**	**13 00 52.2**	**-0.6**
BMDN				*e*		13 00 55.6	
IKOM	**Komasi**	**1.50**	**350**	*e*Pn	**Pn**	**13 00 55.4**	**-0.4**
IKOM				*e*		13 01 22.0	
HSAM	**Samen**	**1.65**	**23**	*e*Pn	**Pn**	**13 00 59.0**	**+1.1**
HSAM				*e*		13 01 27.8	
IBDR	**Badra**	**1.65**	**285**	*e*Pg	**Pn**	**13 00 57.0**	**-0.6**
IBDR				*e*Sg	**Sn**	**13 01 19.0**	**+0.1**
IBDR				AML	AML	13 01 19.4	
	comp=N,80nm,0.3s						
IBDR				AML	AML	13 01 19.7	

IKMR	**Kamar-syah**	**0.99**	**32**	*e*Pg		**Pb**	**13 04 56.4**	**-1.1**
IKMR				*e*			13 05 01.4	
IDOB	**Doab**	**1.17**	**18**	*e*Pg		**Pn**	**13 04 59.4**	**-1.1**
IDOB				*e*			13 05 01.5	
BMDN	**Meydan**	**1.34**	**42**	*e*			13 05 05.7	
BMDN				*e*Pg		**Pn**	**13 05 02.7**	**-0.2**
BMDN				*e*Sg		**Sg**	**13 05 23.4**	**+1.2**
IKOM	**Komasi**	**1.51**	**352**	*e*			13 05 07.9	
IKOM				*e*Pg		**Pn**	**13 05 05.3**	**+0.1**
IBDR	**Badra**	**1.59**	**286**	*e*Pg		**Pb**	**13 05 07.0**	**-0.7**
IBDR				*e*Sg		**Sb**	**13 05 28.0**	**+0.5**
IBDR					AML	AML	13 05 31.2	
	comp=E,80nm,0.4s							
IBDR					AML	AML	13 05 32.2	
	comp=N,65nm,0.4s							
HSAM	**Samen**	**1.69**	**25**	*e*			13 05 34.3	
HSAM				*e*Pn		**Pn**	**13 05 08.7**	**+0.9**
IBZA	**Bozab**	**1.79**	**3**	*e*Pn		**Pb**	**13 05 10.4**	**-0.9**
IBZA				*e*			13 05 39.5	
IVIS	**Veis**	**1.99**	**338**	*e*Pn		**Pn**	**13 05 12.9**	**+1.1**
IVIS				*e*			13 05 44.2	
NSR	**Nassriya**	**2.15**	**220**	*e*Pn		**Pb**	**13 05 16.0**	**-1.2**
NSR				*e*Sn		**Sn**	**13 05 41.0**	**+0.9**
IDHR	**Dehrash**	**2.32**	**331**	*e*Pn		**Pn**	**13 05 15.5**	**-0.8**
IDHR				*e*			13 05 22.2	
IPIR	**Pirpir**	**2.65**	**89**	*e*Pn		**Pn**	**13 05 21.4**	**+0.4**
IPIR				*e*			13 06 05.1	
BHD	**Baghdad**	**2.89**	**283**	*e*Pn		**Pn**	**13 05 24.0**	**0.0**
BHD				*e*Sn		**Sn**	**13 05 59.0**	**+0.6**

*TEH **18** 13:21:58.2,32.˚66N×47.˚74E,h10km,ML2.8*
*ISN **18** 13:21:58.3±0.8,32.˚67N×47.˚76E,h14km±5km,ML2.8*
ISC 18 13:21:59.4±1.0,**32.˚67N**±0.˚05×**47.˚79E**±0.˚05,**h15**km,**n13,**
σ1§05/17,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.85**	**3**	*e*Pg	**Pb**	**13 22 15.3**	**-0.6**
IKFM				*e*	**Sn**	**13 22 18.4**	**+1.7**
IKMR	**Kamar-syah**	**0.98**	**30**	*e*Pg	**Pb**	**13 22 15.8**	**-2.3**
IKMR				*e*		13 22 37.9	
IDOB	**Doab**	**1.16**	**16**	*e*Pg	**Pn**	**13 22 20.8**	**-0.5**
IDOB				*e*		13 22 22.8	
BMDN	**Meydan**	**1.32**	**41**	*e*Pg	**Pb**	**13 22 24.4**	**+0.3**
BMDN				*e*		13 22 27.0	
IKOM	**Komasi**	**1.52**	**351**	*e*Pg	**Pn**	**13 22 26.7**	**+0.6**
IKOM				*e*		13 22 29.3	
AHWZ	**Ahwaz**	**1.52**	**151**	*e*Sg	**Sg**	**13 22 49.5**	**+1.0**
IBDR	**Badra**	**1.62**	**286**	*e*Pg	**Pn**	**13 22 27.0**	**-0.4**
IBDR				*e*Sg	**Sb**	**13 22 49.0**	**-0.2**
IBDR				AML	AML	13 22 53.6	
	comp=N,68nm,0.4s						
IBDR				AML	AML	13 23 04.0	
	comp=E,64nm,0.4s						
HSAM	**Samen**	**1.68**	**24**	*e*Pn	**Pb**	**13 22 30.1**	**-0.1**
HSAM				*e*		13 22 31.2	
IBZA	**Bozab**	**1.79**	**2**	*e*Pn	**Pb**	**13 22 32.0**	**-0.1**
IBZA				*e*		13 23 00.7	
IVIS	**Veis**	**2.01**	**337**	*e*Pn	**Pb**	**13 22 34.6**	**-1.1**
IVIS				*e*		13 23 07.2	
NSR	**Nassriya**	**2.17**	**221**	*e*Pn	**Pn**	**13 22 35.0**	**+0.1**
NSR				*e*Sn	**Sn**	**13 23 01.0**	**-0.5**
HAGD	**Aghdareh**	**2.42**	**27**	*e*Pn	**Pb**	**13 22 41.3**	**-1.5**
HAGD				*e*		13 22 46.9	
BHD	**Baghdad**	**2.92**	**283**	*e*Pn	**Pn**	**13 22 46.0**	**+0.7**
BHD				*e*Sn	**Sn**	**13 23 21.0**	**+0.8**
BHD				AML	AML	13 23 26.6	
	comp=E,292nm,0.3s						

*ISN **18** 13:32:00.6±1.5,32.˚87N×47.˚81E,h18km±9km,ML2.4*
*TEH **18** 13:32:01.8,32.˚84N×47.˚80E,h8km,ML2.5*
ISC 18 13:32:01.6±1.2,**32.˚79N**±0.˚06×**47.˚78E**±0.˚06,**h10**km,**n12,**
σ0§92/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.73**	**5**	*e*Pg	**Pg**	**13 32 15.5**	**-0.2**
IKFM				*e*		13 32 30.0	
IKMR	**Kamar-syah**	**0.88**	**35**	*e*Pg	**Pg**	**13 32 17.4**	**-1.2**
IKMR				*e*		13 32 38.9	
IDOB	**Doab**	**1.05**	**19**	*e*Pg	**Pb**	**13 32 21.8**	**-0.1**
IDOB				*e*		13 32 44.9	
BMDN	**Meydan**	**1.24**	**45**	*e*Pg	**Pb**	**13 32 24.8**	**-0.4**
BMDN				*e*		13 32 48.1	
IKOM	**Komasi**	**1.40**	**351**	*e*Pg	**Pn**	**13 32 27.5**	**+0.2**
IKOM				*e*		13 32 30.1	
HSAM	**Samen**	**1.57**	**26**	*e*Pn	**Pn**	**13 32 30.1**	**+0.3**
HSAM				*e*		13 32 57.4	
IBDR	**Badra**	**1.58**	**282**	*e*Pg	**Pn**	**13 32 30.0**	**+0.3**
IBDR				*e*Sg	**Sn**	**13 32 51.0**	**+0.8**
IBDR				AML	AML	13 32 59.4	
	comp=E,56nm,0.6s						
IBDR				AML	AML	13 33 00.4	
	comp=N,45nm,0.6s						
IVIS	**Veis**	**1.89**	**336**	*e*Pn	**Pn**	**13 32 35.5**	**+1.4**
IVIS				*e*		13 32 37.1	
IDHR	**Dehrash**	**2.23**	**329**	*e*Pn	**Pb**	**13 32 41.3**	**-0.7**
IDHR				*e*		13 33 16.8	
NSR	**Nassriya**	**2.26**	**218**	*e*Pn	**Pn**	**13 32 40.0**	**+1.0**
NSR				*e*Sn	**Sn**	**13 33 07.0**	**+0.1**
HSRG	**Sareghieh**	**2.48**	**10**	*e*Pn	**Pn**	**13 32 44.1**	**+1.8**
HSRG				*e*		13 33 36.2	
BHD	**Baghdad**	**2.89**	**280**	*e*Pn	**Pn**	**13 32 47.0**	**-0.7**
BHD				*e*Sn	**Sn**	**13 33 23.0**	**+0.5**

*TEH **18** 13:33:01.5,32.˚68N×47.˚76E,h16km,ML3.4*
*ISN **18** 13:33:04.1±1.0,32.˚71N×47.˚87E,h14km±7km,ML3.1*
ISC 18 13:33:03.7±1.0,**32.˚73N**±0.˚04×**47.˚92E**±0.˚04,**h10**km,**n29,**
σ0§86/32,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKMR	**Kamar-syah**	**0.87**	**26**	*e*Pg	**Pg**	**13 33 20.2**	**-0.3**
IKMR				*e*		13 33 41.5	
IDOB	**Doab**	**1.07**	**11**	*e*Pg	**Pg**	**13 33 23.1**	**-1.3**
BMDN	**Meydan**	**1.20**	**39**	*e*Pg	**Pb**	**13 33 26.5**	**-0.2**
BMDN				*e*		13 33 51.7	
IKOM	**Komasi**	**1.48**	**347**	*e*Pg	**Pn**	**13 33 29.5**	**-1.0**
IKOM				*e*		13 33 30.8	
AHWZ	**Ahwaz**	**1.52**	**156**	*e*Pg	**Pn**	**13 33 30.4**	**-0.6**
HSAM	**Samen**	**1.58**	**21**	*e*Pg	**Pn**	**13 33 32.8**	**+0.8**
HSAM				*e*		13 33 34.3	
KCHF	**Cheshme Sefid,**	**1.71**	**335**	*e*Pg	**Pn**	**13 33 33.5**	**-0.2**
KCHF				*e*		13 34 00.5	
IBDR	**Badra**	**1.72**	**283**	*e*Pg	**Pn**	**13 33 34.0**	**+0.4**
IBDR				*e*Sg	**Sn**	**13 33 57.0**	**+1.3**
IBDR				AML	AML	13 33 57.5	
	comp=N,228nm,0.7s						
IBDR				AML	AML	13 34 01.9	
	comp=E,251nm,0.4s						
IBZA	**Bozab**	**1.73**	**358**	*e*Pg	**Pn**	**13 33 34.4**	**+0.3**
IBZA				*e*		13 34 06.0	
KER	**Kermanshah**	**1.78**	**338**	*e*Pg	**Pn**	**13 33 34.5**	**-0.1**
IGHG	**Ghaleghazi**	**1.96**	**325**	*e*Pg	**Pn**	**13 33 37.3**	**+0.2**
IGHG				*e*		13 34 11.1	
IVIS	**Veis**	**2.00**	**334**	*e*Pg	**Pn**	**13 33 38.0**	**+0.3**
IVIS				*e*		13 33 39.7	
IALM	**Almabolaq**	**2.13**	**5**	*e*Pn	**Pn**	**13 33 39.0**	**-0.6**
NSR	**Nassriya**	**2.29**	**222**	*e*Pn	**Pn**	**13 33 42.0**	**+0.5**
NSR				*e*Sn	**Sn**	**13 34 09.0**	**-0.8**
HAGD	**Aghdareh**	**2.32**	**26**	*e*Pn	**Pn**	**13 33 43.3**	**+1.2**
HAGD				*e*		13 34 23.6	
ILIN	**Lien**	**2.33**	**340**	*e*Pn	**Pn**	**13 33 40.8**	**-1.4**
ILIN				*e*		13 34 23.7	
IDHR	**Dehrash**	**2.34**	**327**	*e*Pn	**Pn**	**13 33 42.3**	**-0.2**
IDHR				*e*		13 34 20.5	
JHBN	**Jahan bin**	**2.37**	**101**	*e*Pn	**Pn**	**13 33 43.1**	**+0.2**
JHBN				*e*		13 34 29.6	
IPIR	**Pirpir**	**2.50**	**90**	*e*Pn	**Pn**	**13 33 45.2**	**+0.5**
IPIR				*e*		13 34 33.5	
HSRG	**Sareghieh**	**2.52**	**7**	*e*Pn	**Pn**	**13 33 45.5**	**+0.5**
HSRG				*e*		13 34 32.1	
ROKH	**ROKH**	**2.66**	**97**	*e*Pn	**Pn**	**13 33 47.0**	**+0.2**
BHD	**Baghdad**	**3.03**	**281**	*e*Pn	**Pn**	**13 33 53.0**	**+1.4**
BHD				*e*Sn	**Sn**	**13 34 29.0**	**+1.1**
IKLH	**Kolahrood**	**3.12**	**78**	*e*Pn	**Pn**	**13 33 55.2**	**+2.0**
IKLH				*e*		13 34 52.7	
QABG	**Abgarm-Qazvin**	**3.27**	**24**	*e*Pn	**Pn**	**13 33 56.4**	**+1.2**
KLNJ	**Kolanjah**	**3.56**	**118**	*e*Pn	**Pn**	**13 33 59.1**	**-0.2**
IZEF	**Zefreh**	**3.71**	**86**	*e*Pn	**Pn**	**13 34 02.5**	**+1.2**
QSDN	**Sirdan**	**3.90**	**15**	*e*Pn	**Pn**	**13 34 04.6**	**+0.7**
IDMV	**Damavand**	**4.43**	**49**	*e*Pn	**Pn**	**13 34 11.5**	**+0.2**
IANJ	**Anjilo**	**5.67**	**60**	*e*Pn	**Pn**	**13 34 27.9**	**-0.3**

*TEH **18** 13:45:32.4,32.˚76N×47.˚61E,h10km,ML3.5*
*ISN **18** 13:45:32.4±1.0,32.˚70N×47.˚57E,h16km±6km,ML3.3*
ISC 18 13:45:33.4±1.0,**32.˚75N**±0.˚04×**47.˚58E**±0.˚04,**h15**km,**n41,**
σ1§13/44,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.81**	**16**	*e*Pg	**Pg**	**13 45 47.8**	**-1.3**
IKMR	**Kamar-syah**	**1.02**	**41**	*e*Pg	**Pb**	**13 45 51.6**	**-1.2**
IKMR				*e*		13 46 11.9	
IDOB	**Doab**	**1.15**	**26**	*e*Pg	**Pb**	**13 45 54.6**	**-0.6**
BMDN	**Meydan**	**1.39**	**48**	*e*Pg	**Pg**	**13 45 59.5**	**-0.7**
BMDN				*e*		13 46 27.4	
IKOM	**Komasi**	**1.42**	**358**	*e*Pg	**Pn**	**13 45 59.4**	**+0.5**
IKOM				*e*		13 46 01.2	
IBDR	**Badra**	**1.43**	**285**	*e*Pg	**Pn**	**13 45 59.0**	**+0.2**
IBDR				*e*Sg	**Sn**	**13 46 18.0**	**+0.6**
IBDR				AML	AML	13 46 22.3	
	comp=N,486nm,0.5s						
IBDR				AML	AML	13 46 23.9	
	comp=E,591nm,0.6s						
KCHF	**Cheshme Sefid,**	**1.59**	**344**	*e*Pg	**Pn**	**13 46 02.0**	**+0.8**
KCHF				*e*		13 46 26.1	
KER	**Kermanshah**	**1.68**	**347**	*e*Pg	**Pn**	**13 46 03.3**	**+1.0**
AHWZ	**Ahwaz**	**1.68**	**147**	*e*Pg	**Pb**	**13 46 04.6**	**+0.6**
HSAM	**Samen**	**1.69**	**30**	*e*Pg	**Pb**	**13 46 04.1**	**-0.3**
IBZA	**Bozab**	**1.73**	**8**	*e*		13 46 37.3	
IBZA				*e*Pg	**Pb**	**13 46 05.2**	**+0.1**
IVIS	**Veis**	**1.88**	**341**	*e*		13 46 38.9	
IVIS				*e*Pn	**Pb**	**13 46 06.6**	**-0.8**
NSR	**Nassriya**	**2.12**	**216**	*e*Pn	**Pn**	**13 46 08.0**	**-0.3**
NSR				*e*Sn	**Sn**	**13 46 33.0**	**-1.4**
IALM	**Almabolaq**	**2.16**	**13**	*e*Pn	**Pn**	**13 46 14.1**	**+1.6**
IDHR	**Dehrash**	**2.19**	**333**	*e*Pn	**Pb**	**13 46 11.9**	**-0.9**
ILIN	**Lien**	**2.23**	**347**	*e*Pn	**Pn**	**13 46 11.9**	**+1.9**
ILIN				*e*		13 46 50.9	
HAGD	**Aghdareh**	**2.44**	**32**	*e*Pn	**Pn**	**13 46 13.7**	**+0.7**
HAGD				*e*		13 46 57.6	
HSRG	**Sareghieh**	**2.56**	**13**	*e*Pn	**Pn**	**13 46 16.5**	**+1.9**
HSRG				*e*		13 46 57.3	
JHBN	**Jahan bin**	**2.66**	**100**	*e*Pn	**Pn**	**13 46 17.2**	**+1.2**
JHBN				*e*		13 47 03.8	
BHD	**Baghdad**	**2.74**	**282**	*e*Pn	**Pn**	**13 46 17.0**	**+0.2**
BHD				*e*Sn	**Sn**	**13 46 51.0**	**+1.4**
IPIR	**Pirpir**	**2.79**	**90**	*e*Pn	**Pn**	**13 46 18.8**	**+1.0**
IPIR				*e*		13 47 11.5	
ROKH	**ROKH**	**2.95**	**97**	*e*Pn	**Pn**	**13 46 21.0**	**+1.1**
ROKH				*e*		13 47 14.5	
IRAZ	**Razeghan**	**3.29**	**36**	*e*Pn	**Pn**	**13 46 25.5**	**+0.9**
QABG	**Abgarm-Qazvin**	**3.39**	**29**	*e*Pn	**Pn**	**13 46 26.9**	**+0.9**
IKLH	**Kolahrood**	**3.41**	**79**	*e*Pn	**Pn**	**13 46 27.6**	**+1.3**
IKLH				*e*		13 47 32.7	
IQOM	**Qom**	**3.58**	**53**	*e*Pn	**Pn**	**13 46 29.7**	**+1.1**
IGAR	**Gharneh**	**3.78**	**94**	*e*Pn	**Pn**	**13 46 32.4**	**+1.0**
KLNJ	**Kolanjah**	**3.83**	**116**	*e*Pn	**Pn**	**13 46 33.0**	**+0.9**
KLNJ				*e*		13 47 56.2	
QSDN	**Sirdan**	**3.97**	**19**	*e*Pn	**Pn**	**13 46 35.9**	**+1.9**
IZEF	**Zefreh**	**4.00**	**87**	*e*Pn	**Pn**	**13 46 36.3**	**+1.9**
IVRN	**Varamin**	**4.12**	**56**	*e*Pn	**Pn**	**13 46 37.6**	**+1.8**
IRAM	**Ramesheh**	**4.17**	**102**	*e*Pn	**Pn**	**13 46 36.7**	**-0.1**
QALM	**Alamut, Qazvin**	**4.46**	**34**	*e*Pn	**Pn**	**13 46 42.0**	**+1.3**
IDMV	**Damavand**	**4.65**	**51**	*e*Pn	**Pn**	**13 46 44.5**	**+1.2**
ANAR	**Anarak**	**5.19**	**83**	*e*Pn	**Pn**	**13 46 50.3**	**-0.3**
IPRN	**Peran**	**5.25**	**47**	*e*Pn	**Pn**	**13 46 52.8**	**+1.3**
ISHM	**Shahmirzad**	**5.63**	**56**	*e*Pn	**Pn**	**13 46 58.5**	**+1.7**
IANJ	**Anjilo**	**5.91**	**61**	*e*Pn	**Pn**	**13 47 00.6**	**-0.1**
IGLO	**Ghaloghah**	**6.37**	**52**	*e*Pn	**Pn**	**13 47 07.3**	**+0.4**
TPRV	**Parvadeh(Tabas**	**7.67**	**85**	*e*Pn	**Pn**	**13 47 25.6**	**+1.0**
TKDS	**Koohdasht(Taba**	**8.05**	**81**	*e*Pn	**Pn**	**13 47 30.3**	**+0.4**

*TEH **18** 13:50:27.6,32.˚70N×47.˚71E,h8km,ML3.5*
*ISN **18** 13:50:28.1±1.2,32.˚69N×47.˚75E,h15km±6km,ML3.4*
ISC 18 13:50:28.6±1.0,**32.˚68N**±0.˚04×**47.˚72E**±0.˚04,**h10**km,**n39,**
σ1§33/42,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.85**	**7**	*e*Pg	**Pg**	**13 50 43.9**	**-1.1**
IKMR	**Kamar-syah**	**1.00**	**33**	*e*Pg	**Pg**	**13 50 46.4**	**-1.6**
IKMR				*e*		13 51 07.3	
IDOB	**Doab**	**1.17**	**19**	*e*Pg	**Pb**	**13 50 49.7**	**-1.4**
BMDN	**Meydan**	**1.36**	**43**	*e*Pg	**Pn**	**13 50 53.9**	**+0.1**
BMDN				*e*		13 51 18.3	
IKOM	**Komasi**	**1.50**	**353**	*e*Pg	**Pn**	**13 50 56.5**	**+0.7**
IKOM				*e*		13 50 58.2	
AHWZ	**Ahwaz**	**1.56**	**149**	*e*Pg	**Pn**	**13 50 58.1**	**+1.7**
IBDR	**Badra**	**1.56**	**286**	*e*Pg	**Pn**	**13 50 57.0**	**+0.5**
IBDR				*e*Sg	**Sn**	**13 51 18.0**	**+1.2**
IBDR				AML	AML	13 51 22.4	
	comp=E,446nm,0.4s						
IBDR				AML	AML	13 51 23.3	
	comp=N,680nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.69**	**341**	*e*Pg	**Pn**	**13 50 59.0**	**+0.6**
KCHF				*e*		13 51 01.1	
HSAM	**Samen**	**1.70**	**26**	*e*Pg	**Pn**	**13 51 00.0**	**+1.4**
HSAM				*e*		13 51 01.6	
KER	**Kermanshah**	**1.77**	**344**	*e*Pg	**Pn**	**13 51 00.7**	**+1.2**
IBZA	**Bozab**	**1.79**	**4**	*e*Pg	**Pn**	**13 51 01.6**	**+1.7**
IBZA				*e*		13 51 32.5	
IGHG	**Ghaleghazi**	**1.91**	**330**	*e*		13 51 06.0	
IGHG				*e*Pn	**Pn**	**13 51 02.5**	**+1.1**
IVIS	**Veis**	**1.98**	**339**	*e*		13 51 07.1	
IVIS				*e*Pn	**Pn**	**13 51 02.6**	**+0.3**
NSR	**Nassriya**	**2.14**	**219**	*e*Pn	**Pn**	**13 51 05.0**	**+0.7**
NSR				*e*Sn	**Sn**	**13 51 31.0**	**+0.1**
IALM	**Almabolaq**	**2.21**	**10**	*e*Pn	**Pn**	**13 51 07.7**	**+2.1**
IDHR	**Dehrash**	**2.30**	**332**	*e*		13 51 15.1	
IDHR				*e*Pn	**Pn**	**13 51 07.3**	**+0.5**
ILIN	**Lien**	**2.32**	**344**	*e*		13 51 13.6	
ILIN				*e*Pn	**Pn**	**13 51 08.2**	**+1.1**
HAGD	**Aghdareh**	**2.44**	**29**	*e*Pn	**Pn**	**13 51 10.7**	**+1.9**
HAGD				*e*		13 51 50.5	
JHBN	**Jahan bin**	**2.53**	**99**	*e*Pn	**Pn**	**13 51 11.2**	**+1.1**
HSRG	**Sareghieh**	**2.60**	**10**	*e*Pn	**Pn**	**13 51 13.3**	**+2.3**
IPIR	**Pirpir**	**2.68**	**89**	*e*Pn	**Pn**	**13 51 13.7**	**+1.6**
IPIR				*e*		13 51 58.2	
ROKH	**ROKH**	**2.82**	**96**	*e*Pn	**Pn**	**13 51 14.9**	**+0.9**
ROKH				*e*		13 52 11.9	
BHD	**Baghdad**	**2.87**	**283**	*e*Pn	**Pn**	**13 51 15.0**	**+0.6**
BHD				*e*Sn	**Sn**	**13 51 51.0**	**+2.1**
IRAZ	**Razeghan**	**3.28**	**33**	*e*Pn	**Pn**	**13 51 22.7**	**+2.4**
IKLH	**Kolahrood**	**3.31**	**78**	*e*Pn	**Pn**	**13 51 22.8**	**+2.1**
IKLH				*e*		13 51 32.7	
QABG	**Abgarm-Qazvin**	**3.40**	**27**	*e*Pn	**Pn**	**13 51 22.7**	**+0.8**
IQOM	**Qom**	**3.53**	**51**	*e*Pn	**Pn**	**13 51 24.9**	**+1.1**
IGAR	**Gharneh**	**3.66**	**93**	*e*Pn	**Pn**	**13 51 26.3**	**+0.7**
IGAR				*e*		13 52 32.2	
KLNJ	**Kolanjah**	**3.69**	**116**	*e*Pn	**Pn**	**13 51 26.7**	**+0.6**
KLNJ				*e*		13 52 38.5	
IZEF	**Zefreh**	**3.89**	**86**	*e*Pn	**Pn**	**13 51 30.2**	**+1.5**
QSDN	**Sirdan**	**4.00**	**17**	*e*Pn	**Pn**	**13 51 31.6**	**+1.4**
IRAM	**Ramesheh**	**4.05**	**101**	*e*Pn	**Pn**	**13 51 30.8**	**0.0**
IVRN	**Varamin**	**4.06**	**54**	*e*Pn	**Pn**	**13 51 32.1**	**+1.2**
IGZV	**Ghazvin**	**4.24**	**28**	*e*Pn	**Pn**	**13 51 35.0**	**+1.6**
QALM	**Alamut, Qazvin**	**4.46**	**32**	*e*Pn	**Pn**	**13 51 37.5**	**+1.0**
IDMV	**Damavand**	**4.60**	**50**	*e*Pn	**Pn**	**13 51 39.6**	**+1.1**
ANAR	**Anarak**	**5.08**	**83**	*e*Pn	**Pn**	**13 51 45.7**	**+0.7**
ISHM	**Shahmirzad**	**5.57**	**54**	*e*Pn	**Pn**	**13 51 52.8**	**+0.9**
IANJ	**Anjilo**	**5.85**	**60**	*e*Pn	**Pn**	**13 51 56.7**	**+1.1**

*TEH **18** 13:54:27.2,32.˚73N×47.˚55E,h8km,ML2.8*
*ISN **18** 13:54:27.5±1.1,32.˚73N×47.˚55E,h15km±5km,ML2.9*
ISC 18 13:54:27.2±1.9,**32.˚71N**±0.˚06×**47.˚54E**±0.˚06,**h3**km±14km,
n12,σ0§75/17,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.86**	**18**	*e*Pg	**Pg**	**13 54 43.7**	**+0.1**
IKFM				*e*	**Sn**	**13 54 58.3**	**-0.9**
IKMR	**Kamar-syah**	**1.07**	**41**	*e*Pg	**Pg**	**13 54 48.1**	**+0.3**
IKMR				*e*		13 54 49.4	
IDOB	**Doab**	**1.20**	**26**	*e*Pg	**Pg**	**13 54 49.7**	**-0.6**
IDOB				*e*		13 54 54.7	
IDOB				*e*Sg	**Sn**	**13 55 07.5**	**-0.6**
IBDR	**Badra**	**1.41**	**287**	*e*Pg	**Pn**	**13 54 54.0**	**+0.2**
IBDR				*e*Sg	**Sn**	**13 55 12.0**	**-0.9**
IBDR				AML	AML	13 55 18.1	
	comp=N,182nm,0.4s						
BMDN	**Meydan**	**1.45**	**48**	*e*Pg	**Pn**	**13 54 54.4**	**-0.1**
BMDN				*e*		13 55 20.5	
IKOM	**Komasi**	**1.46**	**359**	*e*Pg	**Pn**	**13 54 54.8**	**+0.1**
IKOM				*e*		13 54 55.7	
HSAM	**Samen**	**1.75**	**30**	*e*Pn	**Pn**	**13 54 59.5**	**+0.8**
HSAM				*e*		13 55 29.4	
IBZA	**Bozab**	**1.78**	**9**	*e*Pn	**Pn**	**13 55 00.0**	**+0.9**
IBZA				*e*		13 55 02.7	
IVIS	**Veis**	**1.90**	**343**	*e*Pn	**Pb**	**13 55 02.3**	**-0.4**
IVIS				*e*		13 55 35.6	
NSR	**Nassriya**	**2.07**	**215**	*e*Pn	**Pn**	**13 55 03.0**	**+0.2**
NSR				*e*Sn	**Sn**	**13 55 29.0**	**-0.1**
NSR				AML	AML	13 55 41.7	
	comp=Z,162nm,0.2s						
HSRG	**Sareghieh**	**2.60**	**13**	*e*Pn	**Pn**	**13 55 11.9**	**+1.4**
HSRG				*e*		13 55 53.9	
BHD	**Baghdad**	**2.71**	**283**	*e*Pn	**Pn**	**13 55 12.0**	**+0.3**
BHD				*e*Sn	**Sn**	**13 55 46.0**	**+1.0**

*SOME **18** 13:57:17.6,43.˚32N×74.˚68E*
*KNET **18** 13:57:17.5±0.4,43.˚29N×74.˚67E,h7km±3km,ml1.2,Error ellipse: s-maj=2.7km s-min=1.8km az=30.0*
*NNC **18** 13:57:18.1±0.4,43.˚26N×74.˚70E,h0km,mb2.9,mpv2.6, Error ellipse: s-maj=3.0km s-min=1.9km az=145.0, Suspected Mining explosion.*
ISC 18 13:57:17.6±0.8,**43.˚31N**±0.˚03×**74.˚70E**±0.˚02,**h0**km,**n21,**
σ0§66/37,9C-7D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USP	**Ospenovka**	**0.15**	**254**	⇑P	**Pg**	**13 57 20.3**	**-0.2**
	102nm,0.1s,SNR=166						
USP				⇑S	**Sg**	**13 57 22.4**	**-0.1**
	103nm,0.3s						
CHMS	**Chumysh**	**0.31**	**173**	⇑P	**Pg**	**13 57 23.8**	**+0.2**
	4.2nm,0.1s,SNR=8.5						
CHMS				⇑S	**Sg**	**13 57 28.1**	**+0.5**
	7.3nm,0.1s						
KBK	**Karagaybulak**	**0.68**	**164**	⇑P	**Pg**	**13 57 31.0**	**+0.4**
	3.6nm,0.1s,SNR=10						
AAK	**Ala-Archa**	**0.69**	**193**	⇓P	**Pg**	**13 57 31.0**	**+0.2**
	3.5nm,0.2s						
AAK				⇑S	**Sg**	**13 57 40.4**	**+0.7**
	5.0nm,0.3s						
AAK	**Ala-Archa**	**0.69**	**193**	⇓P	**Pg**	**13 57 30.7**	**-0.1**
	3.4nm,0.6s						
AAK				⇓S	**Sg**	**13 57 40.1**	**+0.4**
	7.9nm,0.8s						
TKM2	**Tokmak 2**	**0.76**	**120**	⇓P	**Pg**	**13 57 32.1**	**-0.2**
	0.7nm,0.1s,SNR=16						
TKM2	**Tokmak 2**	**0.76**	**120**	⇑P	**Pg**	**13 57 32.1**	**-0.2**
	0.6nm,0.5s						
TKM2				⇑S	**Sg**	**13 57 42.6**	**+0.4**
	8.2nm,0.7s						
DGS	**Degeres**	**0.79**	**94**	P	**Pg**	**13 57 33.1**	**+0.4**
	2.0nm,0.2s						
DGS				S	**Sb**	**13 57 44.5**	**-1.1**
	9.9nm,0.5s						
KRBS	**Karabastau**	**0.81**	**61**	P	**Pg**	**13 57 33.7**	**+0.5**
	0.5nm,0.1s						
KRBS				S	**Sb**	**13 57 45.3**	**-0.9**
	2.2nm,0.2s						
EKS2	**Erkin-Say**	**0.94**	**227**	⇑P	**Pg**	**13 57 34.9**	**-0.6**
	1.7nm,0.1s,SNR=9.8						
KST	**Kastek**	**0.96**	**106**	P	**Pg**	**13 57 36.4**	**+0.3**
	2.2nm,0.2s						
KST				S	**Sb**	**13 57 49.7**	**-0.9**
	7.9nm,0.7s	

YUK				pmax	pmax		
	comp=E,211nm,0.2s						
YUK				pmax	pmax		
	comp=Z,415nm,0.2s						
YUK				pmax	pmax		
	comp=N,96nm,0.1s						
YUK				smax	smax		
	comp=N,518nm,0.2s						
YUK				smax	smax		
	comp=E,650nm,0.6s						
GRPR	**Tuman**	**2.32**	**260** *i*	P	**Pn**	**13 59 09.0**	**+1.3**
GRPR				AMB	AMB	13 59 12.0	
	comp=E,30nm,0.3s						
GRPR				*i* S	**Sn**	**13 59 36.4**	**+1.4**
GRPR				A	A	13 59 39.0	
	comp=E,440nm,0.4s						
GRPR				A	A	13 59 39.0	
	comp=E,70nm,0.4s						
GRPR	**Tuman**	**2.32**	**260** ⇑ *i*	PN	**Pn**	**13 59 09.0**	**+1.3**
GRPR				*i* S	**Sn**	**13 59 36.4**	**+1.4**
GRPR				pmax	pmax		
	comp=Z,257nm,0.3s						
GRPR				pmax	pmax		
	comp=E,89nm,0.2s						
GRPR				pmax	pmax		
	comp=N,144nm,0.1s						
GRPR				smax	smax		
	comp=E,721nm,0.4s						
GRPR				smax	smax		
	comp=N,444nm,0.2s						
NEM2	**Nemuro 2**	**2.55**	**246**	P	**Pn**	**13 59 11.3**	**+0.5**
NEM2				*e*S	**Sn**	**13 59 41.3**	**+0.8**
JRA	**Rausu**	**2.79**	**261**	P	**Pn**	**13 59 16.3**	**+2.2**
JNK	**Nakash**	**3.16**	**256**	P	**Pn**	**13 59 21.0**	**+1.8**
JNK				*e*S	**Sn**	**13 59 57.3**	**+1.6**
JAK	**Akkeshi**	**3.40**	**246**	P	**Pn**	**13 59 23.4**	**+1.0**
JTKR	**Abashiri--Toko**	**3.65**	**264**	P	**Pn**	**13 59 28.1**	**+2.3**
JAR	**Ashorobuto**	**3.91**	**255**	P	**Pn**	**13 59 32.1**	**+2.7**
JAR				*e*S	**Sn**	**14 00 16.4**	**+2.4**
JOB	**Onbets**	**4.01**	**249**	P	**Pn**	**13 59 32.5**	**+1.7**
JOB				*e*S	**Sn**	**14 00 17.3**	**+0.8**
JMP	**Maruseppu**	**4.03**	**266**	P	**Pn**	**13 59 34.0**	**+2.8**
JCH	**Churui**	**4.45**	**248**	P	**Pn**	**13 59 38.3**	**+1.5**
JCH				*e*S	**Sn**	**14 00 27.5**	**+0.3**
JKK2	**Kamakawa 2**	**4.49**	**265**	P	**Pn**	**13 59 40.8**	**+3.4**
JSE	**Soyaes**	**4.56**	**279**	P	**Pn**	**13 59 40.6**	**+2.3**
JKA	**Kamikawa-asahi**	**4.56**	**268**	*e*P	**Pn**	**13 59 41.1**	**+2.7**
ASAJ	**Asahikawa**	**4.57**	**268**	P	**Pn**	**13 59 41.1**	**+2.6**
	comp=N,1.7nm,0.3s,baz=66,slow=14,SNR=25						
ASAJ	**Asahikawa**	**4.57**	**268**	P	**Pn**	**13 59 41.9**	**+3.5**
JFR	**Furan**	**4.77**	**257**	P	**Pn**	**13 59 44.7**	**+3.5**
ERM	**Erimo**	**4.87**	**242** *d* *i*	PN	**Pn**	**13 59 45.5**	**+2.9**
JNBK	**Urakawa-nobuka**	**5.00**	**247**	P	**Pn**	**13 59 45.5**	**+1.1**
YSS	**Yuzh-Sakhalins**	**5.01**	**302**	*e*P	**Pn**	**13 59 46.7**	**+2.2**
YSS				*e*S	**Sn**	**14 00 40.9**	**-0.1**
YSS				A	A	14 00 45.6	
	comp=N,30nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.01**	**302**	*e*PN	**Pn**	**13 59 46.7**	**+2.2**
YSS				*e*S	**Sn**	**14 00 40.9**	**-0.1**
YSS				smax	smax		
	comp=N,30nm,0.8s						
JSS	**Shosan**	**5.08**	**272**	P	Pn	13 59 50.8	+5.4
JWK2	**Keihoku**	**5.08**	**282**	P	Pn	13 59 50.7	+5.2
JRBN	**Rebuntou**	**5.68**	**283**	P	**Pn**	**13 59 56.9**	**+3.3**
JNB	**Noboribetsu**	**6.08**	**254**	P	**Pn**	**14 00 01.3**	**+2.1**
JNB				*e*S	**Sn**	**14 01 08.2**	**+0.9**
JKB	**Kayabe**	**6.32**	**249**	P	**Pn**	**14 00 03.8**	**+1.4**
JKB				*e*S	**Sn**	**14 01 11.8**	**-1.4**
JYM2	**Yakumo 2**	**6.67**	**253**	P	**Pn**	**14 00 09.0**	**+1.7**
JANG	**Nango**	**6.83**	**236**	*e*S	**Sn**	**14 01 20.8**	**-5.1**
JTM	**Tenmabayashi**	**6.86**	**241**	*e*S	**Sn**	**14 01 22.7**	**-3.8**
JSR	**Shiriuchi**	**6.89**	**248**	P	**Pn**	**14 00 11.5**	**+1.2**
JTH	**Tanohata**	**6.92**	**232**	P	**Pn**	**14 00 09.9**	**-0.7**
JTH				*e*S	**Sn**	**14 01 21.6**	**-6.3**
JOSM	**Okushiri--Mats**	**7.30**	**254**	P	**Pn**	**14 00 17.9**	**+2.0**
OFUJ	**Ofunato**	**7.63**	**228**	P	**Pn**	**14 00 20.5**	**+0.1**
TYV	**Tymovskoe**	**7.70**	**329**	*e*P	**Pn**	**14 00 23.7**	**+2.4**
TYV				AMB	AMB	14 00 24.7	
	comp=N,10.0nm,0.9s						
TYV				AMB	AMB	14 00 28.1	
	comp=N,100nm,4.0s						
TYV				*e*S	**Sn**	**14 01 44.5**	**-2.5**
TYV				A	A	14 01 45.7	
	comp=N,10.0nm,0.6s						
TYV				A	A	14 01 47.2	
	comp=N,200nm,9.0s						
TYV	**Tymovskoe**	**7.70**	**329**	*e*PN	**Pn**	**14 00 23.7**	**+2.4**
TYV				*e*S	**Sn**	**14 01 45.4**	**-1.6**
TYV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TYV				pmax	pmax		
	comp=Z,100nm,3.9s						
TYV				smax	smax		
	comp=N,4.0nm,1.5s						
TYV				smax	smax		
	comp=E,200nm,8.7s						
JRG	**Rokugo**	**7.98**	**234**	P	**Pn**	**14 00 25.5**	**+0.3**
JRG				*e*S	**Sn**	**14 01 49.9**	**-4.2**
JIO	**Ouri**	**8.26**	**226**	*e*S	**Sn**	**14 01 54.3**	**-6.6**
USRK	**Ussuriysk Ar.**	**12.15**	**275**	P	**Pn**	**14 01 25.9**	**+3.8**
	baz=83,slow=16,SNR=2.5						
USA0B	**Ussuriysk Arra**	**12.15**	**275** ⇓	*e*PN	**Pn**	**14 01 22.6**	**+0.5**
VLA	**Vladivostok**	**12.40**	**270**	*e*P	**Pn**	**14 01 23.4**	**-2.2**
VLA	**Vladivostok**	**12.40**	**270** ⇑	*e*PN	**Pn**	**14 01 23.4**	**-2.2**
EKMR	**Ekimchan**	**13.61**	**315**	*e*P	**Pn**	**14 01 38.8**	**-3.2**
MA2	**Magadan**	**15.20**	**4** ⇑	*e*P	**Pn**	**14 02 04.4**	**+1.4**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SEY	**Seymchan**	**18.64**	**5**	*e*P	**Pn**	**14 02 45.4**	**-0.3**
SEY	**Seymchan**	**18.64**	**5** ⇑	*e*P	**Pn**	**14 02 45.4**	**-0.3**
HIA	**Hailar**	**20.47**	**294** ⇑	*e*P	**P**	**14 03 03.1**	**-2.0**
YAK	**Yakutsk**	**20.91**	**334**	*e*P	**P**	**14 03 08.4**	**-1.2**
YAK	**Yakutsk**	**20.91**	**334** ⇓	*e*P	**P**	**14 03 08.4**	**-1.2**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.83**	**143**	T	T	14 35 15.2	
	baz=333,slow=76,SNR=412						
H11N1	**WAKE ISLAND Hy**	**28.84**	**143**	T	T	14 35 19.5	
	baz=333,slow=76,SNR=367						
H11N3	**WAKE ISLAND Hy**	**28.84**	**143**	T	T	14 35 11.5	
	baz=333,slow=76,SNR=382						
H11S1	**WAKE ISLAND Hy**	**29.83**	**144**	T	T	14 36 32.9	
	baz=334,slow=76,SNR=373						
H11S3	**WAKE ISLAND Hy**	**29.84**	**144**	T	T	14 36 26.7	
	baz=334,slow=76,SNR=270						
H11S2	**WAKE ISLAND Hy**	**29.85**	**144**	T	T	14 36 27.6	
	baz=334,slow=76,SNR=376						
ILAR	**Eielson Array**	**40.17**	**37**	P	**P**	**14 06 02.7**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=268,slow=6.1,SNR=2.0						
KURK	**Kurchatov**	**46.21**	**304**	*e*P	**P**	**14 06 50.7**	**-0.7**
KURK	**Kurchatov**	**46.21**	**304**	P	**P**	**14 06 50.7**	**-0.7**
KURBB	**Kurchatov Arra**	**46.30**	**304**	P	**P**	**14 06 50.7**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=75,slow=8.2,SNR=2.7						
BRVK	**Borovoye**	**50.11**	**310**	*e*P	**P**	**14 07 21.6**	**+0.2**
BRVK	**Borovoye**	**50.11**	**310** ⇓	*e*P	**P**	**14 07 21.6**	**+0.2**
AAK	**Ala-Archa**	**52.22**	**296**	*e*P	**P**	**14 07 35.4**	**-2.2**
AAK	**Ala-Archa**	**52.22**	**296** ⇑	*e*P	**P**	**14 07 35.4**	**-2.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.5s						
ARU	**Arti**	**54.72**	**317**	*e*P	**P**	**14 07 53.6**	**-1.9**
ARU	**Arti**	**54.72**	**317** ⇑	*e*P	**P**	**14 07 53.6**	**-1.9**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**65.44**	**195**	P	**P**	**14 09 10.8**	**+1.6**
	comp=Z,0.8nm,0.9s,baz=10,slow=6.7,SNR=3.5						
NVAR	**Mina Array Bea**	**66.12**	**59**	P	**P**	**14 09 15.3**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=299,slow=8.1,SNR=4.0						
ASAR	**Alice Springs**	**69.16**	**195**	P	**P**	**14 09 35.4**	**+2.7**
	comp=Z,0.8nm,1.1s,baz=13,slow=6.1,SNR=3.0						
TXAR	**Lajitas Array**	**81.19**	**57**	P	**P**	**14 10 43.5**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=299,slow=4.3,SNR=9.9						

ISN ***18*** *14:07:07.3±1.2,32.°66N×47.°58E, h15km±6km, ML3.1*
TEH ***18*** *14:07:08.4,32.°70N×47.°57E, h11km, ML3.3*
ISC 18 14:07:08.9±1.0, 32.°66N±0.°04×47.°50E±0.°04, h10km, n34, σ1°51/37, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.91**	**19**	*e*Pg	**Pg**	**14 07 24.2**	**-2.3**
IKMR	**Kamar-syah**	**1.13**	**41**	*e*Pg	**Pb**	**14 07 28.8**	**-1.8**
IKMR				*e*Sg	**Sb**	**14 07 45.4**	**+0.1**
IKMR				*e*		14 07 49.0	
IDOB	**Doab**	**1.26**	**27**	*e*Pg	**Pn**	**14 07 31.5**	**-1.3**
IBDR	**Badra**	**1.39**	**289**	*e*Pg	**Pn**	**14 07 34.0**	**-0.4**
IBDR				*e*Sg	**Sn**	**14 07 53.0**	**+0.1**
IBDR				AML	AML	14 08 00.8	
	comp=N,356nm,0.5s						
IBDR				AML	AML	14 08 04.0	
	comp=E,254nm,0.6s						
BMDN	**Meydan**	**1.50**	**47**	*e*	**Sb**	**14 08 02.4**	**+6.2**
IKOM	**Komasi**	**1.51**	**0**	*e*Pg	**Pn**	**14 07 37.2**	**+1.0**
IKOM				*e*		14 08 04.8	
AHWZ	**Ahwaz**	**1.65**	**143**	*e*Pg	**Pn**	**14 07 40.1**	**+2.2**
KCHF	**Cheshme Sefid,**	**1.66**	**347**	*e*Pg	**Pn**	**14 07 38.4**	**+0.2**
KCHF				*e*		14 08 04.9	
KER	**Kermanshah**	**1.75**	**350**	*e*Pn	**Pn**	**14 07 40.3**	**+0.9**
HSAM	**Samen**	**1.80**	**31**	*e*Pg	**Pn**	**14 07 41.3**	**+1.0**
HSAM				*e*		14 07 44.3	
IBZA	**Bozab**	**1.83**	**9**	*e*Pg	**Pn**	**14 07 39.8**	**-0.9**
IBZA				*e*		14 07 45.8	
IGHG	**Ghaleghazi**	**1.84**	**335**	*e*Pn	**Pn**	**14 07 42.3**	**+1.5**
IGHG				*e*		14 08 27.8	
IVIS	**Veis**	**1.94**	**344**	*e*Pn	**Pn**	**14 07 43.3**	**+1.3**
IVIS				*e*		14 08 20.0	
NSR	**Nassriya**	**2.01**	**215**	*e*Pn	**Pn**	**14 07 42.0**	**-0.9**
NSR				*e*Sn	**Sn**	**14 08 08.0**	**-0.1**
IDHR	**Dehrash**	**2.24**	**336**	*e*Pn	Pn	14 07 40.2	-6.0
IDHR				*e*		14 08 32.3	
IALM	**Almabolaq**	**2.26**	**14**	*e*Pn	**Pn**	**14 07 47.6**	**+0.9**
ILIN	**Lien**	**2.30**	**349**	*e*Pn	**Pn**	**14 07 48.6**	**+1.5**
ILIN				*e*		14 08 24.8	
HAGD	**Aghdareh**	**2.55**	**32**	*e*Pn	**Pn**	**14 07 50.7**	**+0.1**
HAGD				*e*		14 08 32.8	
HSRG	**Sareghieh**	**2.66**	**14**	*e*Pn	**Pn**	**14 07 52.7**	**+0.6**
HSRG				*e*		14 08 36.8	
BHD	**Baghdad**	**2.69**	**284**	*e*Pn	**Pn**	**14 07 53.0**	**+0.8**
BHD				*e*Sn	**Sn**	**14 08 27.0**	**+2.1**
JHBN	**Jahan bin**	**2.71**	**98**	*e*Pn	**Pn**	**14 07 53.2**	**+0.3**
JHBN				*e*		14 08 49.0	
IPIR	**Pirpir**	**2.86**	**89**	*e*Pn	**Pn**	**14 07 54.8**	**-0.1**
IPIR				*e*		14 08 43.7	
ROKH	**ROKH**	**3.00**	**95**	*e*Pn	**Pn**	**14 07 57.8**	**+1.0**
ROKH				*e*		14 08 54.5	
IRAZ	**Razeghan**	**3.40**	**36**	*e*Pn	**Pn**	**14 08 02.5**	**+0.3**
IKLH	**Kolahrood**	**3.49**	**78**	*e*Pn	**Pn**	**14 08 04.4**	**+0.9**
IKLH				*e*		14 09 09.6	
QABG	**Abgarm-Qazvin**	**3.50**	**29**	*e*Pn	**Pn**	**14 08 03.9**	**+0.3**
IQOM	**Qom**	**3.69**	**53**	*e*Pn	**Pn**	**14 08 06.3**	**-0.2**
IZEF	**Zefreh**	**4.08**	**85**	*e*Pn	**Pn**	**14 08 12.1**	**+0.5**
QSDN	**Sirdan**	**4.08**	**19**	*e*Pn	**Pn**	**14 08 13.2**	**+1.7**
QALM	**Alamut, Qazvin**	**4.57**	**34**	*e*Pn	**Pn**	**14 08 19.1**	**+0.7**
IDMV	**Damavand**	**4.75**	**51**	*e*Pn	**Pn**	**14 08 20.9**	**0.0**
ANAR	**Anarak**	**5.27**	**83**	*e*Pn	**Pn**	**14 08 27.5**	**-0.3**
ISHM	**Shahmirzad**	**5.73**	**55**	*e*Pn	**Pn**	**14 08 34.0**	**-0.4**
IANJ	**Anjilo**	**6.02**	**61**	*e*Pn	**Pn**	**14 08 37.5**	**-0.7**

IDC ***18*** *14:32:22.9±1.3,32.°67N×47.°48E, h0km, mb3.7/10, mb1 3.9/13,mb1mx3.7/44,mbtmp3.8/13,ML3.7/3,MS2.9/2, Ms1 2.9/2,ms1mx2.3/58,Error ellipse: s-maj=28.2km s-min=19.5km az=6.0*
NEIC ***18*** *14:32:24.6±1.4,32.°7N±0.°1×47.°5E±0.°1, h10km±2km, mb4.2/9,mb_Lg3.6(TEH),Error ellipse: s-maj=26.2km s-min=14.9km az=218.0*
TEH ***18*** *14:32:25.3,32.°69N×47.°62E, h7km, ML3.6*
ISN ***18*** *14:32:27.4±1.0,32.°72N×47.°63E, h37km±6km, ML3.6*
ISC 18 14:32:24.8±0.6, 32.°67N±0.°04×47.°60E±0.°03, h10km, n69, σ1°78/68, mb3.9/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.88**	**14**	*e*Pg	**Pg**	**14 32 41.7**	**0.0**
IKMR	**Kamar-syah**	**1.07**	**38**	*e*Pg	**Pg**	**14 32 44.9**	**-0.5**
IKMR				*e*		14 33 06.2	
IDOB	**Doab**	**1.22**	**23**	*e*Pg	**Pb**	**14 32 49.0**	**+1.0**
BMDN	**Meydan**	**1.43**	**46**	*e*Pg	**Pn**	**14 32 52.9**	**+1.9**
BMDN				*e*		14 33 18.6	
IBDR	**Badra**	**1.47**	**288**	*e*Pg	**Pg**	**14 32 54.0**	**+1.0**
IBDR				*e*Sg	**Sg**	**14 33 14.0**	**+1.9**
IBDR				AML	AML	14 33 17.2	
	comp=N,776nm,1.0s						
IBDR				AML	AML	14 33 18.3	
	comp=E,1μm,0.6s						
IKOM	**Komasi**	**1.50**	**357**	*e*Pg	**Pb**	**14 32 54.2**	**+1.3**
IKOM				*e*		14 32 58.8	
AHWZ	**Ahwaz**	**1.60**	**146**	*e*Pg	**Pn**	**14 32 56.1**	**+2.9**
KCHF	**Cheshme Sefid,**	**1.67**	**344**	*e*Pg	**Pb**	**14 32 56.9**	**+1.2**
KCHF				*e*		14 33 20.6	
HSAM	**Samen**	**1.75**	**28**	*e*Pg	**Pb**	**14 32 58.4**	**+1.2**
HSAM				*e*		14 33 29.5	
KER	**Kermanshah**	**1.75**	**347**	*e*Pn	**Pb**	**14 32 57.7**	**+0.5**
IBZA	**Bozab**	**1.81**	**7**	*e*Pg	**Pb**	**14 32 59.1**	**+0.9**
IBZA				*e*		14 33 04.9	
IGHG	**Ghaleghazi**	**1.86**	**333**	*e*Pn	**Pb**	**14 32 59.6**	**+0.5**
IGHG				*e*		14 33 37.7	
IVIS	**Veis**	**1.95**	**342**	*e*Pn	**Pb**	**14 33 01.1**	**+0.5**
IVIS				*e*		14 33 34.9	
NSR	**Nassriya**	**2.07**	**217**	*e*Pn	**Pn**	**14 33 01.0**	**+1.4**
NSR				Sn	**Sn**	**14 33 26.4**	**+1.0**
IDHR	**Dehrash**	**2.26**	**334**	*e*		14 33 44.0	
IDHR				*e*Pn	**Pb**	**14 33 05.4**	**-0.5**
ILIN	**Lien**	**2.30**	**347**	*e*		14 33 46.1	
ILIN				*e*Pn	**Pn**	**14 33 05.7**	**+2.6**
HAGD	**Aghdareh**	**2.50**	**30**	*e*Pn	**Pn**	**14 33 08.5**	**+2.7**
HSRG	**Sareghieh**	**2.63**	**12**	*e*Pn	**Pb**	**14 33 11.3**	**-0.8**
JHBN	**Jahan bin**	**2.63**	**99**	*e*Pn	**Pn**	**14 33 10.1**	**+2.5**
JHBN				*e*		14 34 03.4	
BHD	**Baghdad**	**2.77**	**283**	*e*Pn	**Pn**	**14 33 12.0**	**+2.8**
BHD				*e*Sn	**Sn**	**14 33 43.0**	**+0.3**
IPIR	**Pirpir**	**2.78**	**89**	*e*Pn	**Pn**	**14 33 11.9**	**+2.3**
IPIR				*e*		14 33 57.0	
ROKH	**ROKH**	**2.92**	**95**	*e*Pn	**Pn**	**14 33 14.3**	**+2.7**
ROKH				*e*		14 34 20.4	
IRAZ	**Razeghan**	**3.34**	**35**	*e*Pn	**Pn**	**14 33 19.9**	**+2.6**
IKLH	**Kolahrood**	**3.41**	**78**	*e*Pn	**Pn**	**14 33 21.6**	**+3.3**
IKLH				*e*		14 34 22.9	
QABG	**Abgarm-Qazvin**	**3.45**	**28**	*e*Pn	**Pn**	**14 33 20.9**	**+2.1**
IQOM	**Qom**	**3.61**	**52**	*e*Pn	**Pn**	**14 33 23.7**	**+2.6**
IGAR	**Gharneh**	**3.76**	**93**	*e*Pn	**Pn**	**14 33 25.6**	**+2.5**
IGAR				*e*		14 34 43.0	
KLNJ	**Kolanjah**	**3.78**	**115**	*e*Pn	**Pn**	**14 33 25.8**	**+2.3**
KLNJ				*e*		14 34 34.1	
IZEF	**Zefreh**	**3.99**	**86**	*e*Pn	**Pn**	**14 33 28.8**	**+2.5**
QSDN	**Sirdan**	**4.04**	**18**	*e*Pn	**Pn**	**14 33 29.9**	**+3.0**
IRAM	**Ramesheh**	**4.14**	**101**	*e*Pn	**Pn**	**14 33 31.3**	**+3.0**
IVRN	**Varamin**	**4.14**	**55**	*e*Pn	**Pn**	**14 33 31.2**	**+3.0**
QALM	**Alamut, Qazvin**	**4.52**	**33**	*e*Pn	**Pn**	**14 33 35.4**	**+1.9**
IDMV	**Damavand**	**4.68**	**51**	*e*Pn	**Pn**	**14 33 37.8**	**+2.0**
ANAR	**Anarak**	**5.18**	**83**	*e*Pn	**Pn**	**14 33 44.1**	**+1.6**
IFIR	**Firoozkooh**	**5.20**	**54**	*e*Pn	**Pn**	**14 33 45.4**	**+2.5**
ISAD	**Sadrabad**	**5.21**	**97**	*e*Pn	**Pn**	**14 33 45.2**	**+2.1**
IALA	**Alasht**	**5.49**	**50**	*e*Pn	**Pn**	**14 33 50.2**	**+3.3**
ISHM	**Shahmirzad**	**5.66**	**55**	*e*Pn	**Pn**	**14 33 50.9**	**+1.7**
IANJ	**Anjilo**	**5.94**	**60**	*e*Pn	**Pn**	**14 33 54.9**	**+1.9**
GEVA	**Gevas**	**6.74**	**328**	Pn	Pn	14 33 59.7	-4.3
UOSS	**Minazif**	**10.78**	**133**	Pn	**Pn**	**14 34 59.0**	**-0.2**
WSAR	**Wadi Sarin**	**13.53**	**131**	Pn	**Pn**	**14 35 35.5**	**-1.4**
	comp=E,0.6nm,0.3s,baz=302,slow=11,SNR=5.5						
WSAR				Sn	Sn	14 37 58.4	-9.0
	comp=E,0.2nm,0.3s,baz=89,slow=11,SNR=1.3						
SANT	**Santorini**	**18.61**	**288**		**P**	**14 36 41.7**	**-0.6**
ABKAR	**Akbulak array**	**18.97**	**26**	P	**P**	**14 36 45.6**	**-0.5**
IDI	**Anoyia**	**19.01**	**284**	P	**P**	**14 36 45.2**	**-1.6**
	comp=E,0.2nm,0.3s,baz=104,slow=8.3,SNR=3.5						
AKTO	**Aktyubinsk**	**19.35**	**20**	P	**P**	**14 36 50.3**	**0.0**
	comp=E,0.2nm,0.3s,baz=206,slow=10,SNR=2.5						
AKASG	**Malin Array Be**	**22.54**	**328**	P	**P**	**14 37 22.2**	**-2.6**
	comp=E,0.2nm,0.3s,baz=142,slow=9.2,SNR=1.6						
AKBB	**Malin Array Si**	**22.54**	**328**	P	**P**	**14 37 23.1**	**-1.6**
AKBB				IAmb	IAmb	14 37 28.9	
	comp=Z,3.4nm,0.7s						
OBN	**Obninsk**	**23.74**	**344**	LR	LR	14 48 11.9	
	comp=Z,14nm,18.6s,baz=330,slow=40						
BVAR	**Borovoye Array**	**26.12**	**32**	P	**P**	**14 37 58.4**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=224,slow=8.3,SNR=4.8						
VRAC	**Vranov**	**28.44**	**315**	LR	LR	14 51 48.5	
	comp=Z,44nm,18.6s,baz=312,slow=41						
KURBB	**Kurchatov Arra**	**28.96**	**43**	P	**P**	**14 38 25.2**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=247,slow=9.4,SNR=6.0						
KURK	**Kurchatov**	**29.05**	**42**	P	**P**	**14 38 25.2**	**+0.2**
KURK	**Kurchatov**	**29.05**	**42**	IAmb	IAmb	14 38 28.2	
	comp=Z,3.2nm,1.2s						
MK31	**Makanchi Array**	**29.91**	**52**	P	**P**	**14 38 33.5**	**+0.8**
MKAR	**Makanchi Array**	**29.91**	**52**	P	**P**	**14 38 34.0**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=244,slow=7.1,SNR=6.3						
MKAR	**Makanchi Array**	**29.91**	**52**	P	**P**	**14 38 33.5**	**+0.7**
GERES	**GERESS Array B**	**30.02**	**313**	P	**P**	**14 38 33.2**	**-0.6**
KHC	**Kasperske Hory**	**30.20**	**313**	P	**P**	**14 38 33.4**	**-2.0**
KHC				IAmb	IAmb	14 38 39.7	
	comp=Z,5.2nm,1.0s						
FINES	**FINESS Array B**	**31.99**	**341**	P	**P**	**14 38 49.9**	**-0.9**
	comp=Z,6.4nm,1.1s,baz=125,slow=7.0,SNR=3.8						
BNI	**Bardonecchia**	**33.83**	**303**	P	**P**	**14 39 07.4**	**+0.1**
BNI				IAmb	IAmb	14 39 12.8	
	comp=Z,20nm,1.7s						
ZALV	**Zalesovo Beam**	**33.87**	**40**	P	**P**	**14 39 07.5**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=256,slow=9.7,SNR=2.6						
ZALV	**Zalesovo Beam**	**33.87**	**40**	P	**P**	**14 39 06.9**	**-0.4**
HFS	**Hagfors**	**35.37**	**331**	P	**P**	**14 39 19.0**	**-1.2**
	comp=Z,1.2nm,0.4s,baz=126,slow=9.3,SNR=6.5						
ARCES	**ARCESS Array B**	**38.94**	**348**	P	**P**	**14 39 50.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=161,slow=10,SNR=6.8						
ARCES	**ARCESS Array B**	**38.94**	**348**	P	**P**	**14 39 50.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**46.12**	**256**	P	**P**	**14 40 49.3**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=77,slow=7.4,SNR=2.1						
CMAR	**Chiang Mai Arr**	**48.00**	**94**	P	**P**	**14 41 03.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=293,slow=9.7,SNR=4.5						

TEH ***18*** *14:36:03.6,32.°71N×47.°69E, h8km, ML2.7*
ISN ***18*** *14:36:04.3±1.8,32.°72N×47.°61E, h15km, mL2.5*
ISC 18 14:36:04.3±1.6, 32.°72N±0.°10×47.°61E±0.°05, h15km, n10, σ0°89/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.83**	**14**	*e*Pg	**Pg**	**14 36 19.3**	**-1.1**
IKFM				*e*	**Sn**	**14 36 34.5**	**+1.2**
IKMR	**Kamar-syah**	**1.02**	**39**	*e*Pg	**Pg**	**14 36 23.4**	**-0.7**
IKMR				*e*		14 36 42.0	
IDOB	**Doab**	**1.17**	**24**	*e*Pg	**Pb**	**14 36 25.7**	**-0.6**
IDOB				*e*		14 36 28.2	
BMDN	**Meydan**	**1.39**	**47**	*e*Pg	**Pb**	**14 36 29.8**	**-0.3**
BMDN				*e*		14 37 00.9	
IKOM	**Komasi**	**1.45**	**357**	*e*Pg	**Pg**	**14 36 31.0**	**-1.3**
IKOM				*e*		14 36 55.6	
IBDR	**Badra**	**1.47**	**286**	*e*Pg	**Pn**	**14 36 30.0**	**-0.2**
	baz=105						
IBDR				*e*Sg	**Sg**	**14 36 52.0**	**+0.5**
IBDR				AML	AML	14 36 55.9	
	comp=E,81nm,0.4s						
IBDR				AML	AML	14 36 56.1	
	comp=N,94nm,0.5s						
HSAM	**Samen**	**1.70**	**29**	*e*Pn	**Pb**	**14 36 35.0**	**-0.5**
HSAM				*e*		14 36 36.1	
IGHG	**Ghaleghazi**	**1.82**	**332**	*e*Pn	**Pg**	**14 36 38.9**	**-0.5**
IGHG				*e*		14 37 07.8	
IVIS	**Veis**	**1.91**	**341**	*e*Pn	**Pb**	**14 36 39.1**	**+0.2**
IVIS				*e*	**Sg**	**14 37 07.0**	**+1.2**
IPIR	**Pirpir**	**2.77**	**90**	*e*Pn	**Pn**	**14 36 49.2**	**+0.8**
IPIR				*e*		14 37 35.1	

NEIC ***18*** *14:36:24.2±1.6, 18.°0S±0.°1×178.°1W±0.°1, h555km±10km, mb4.3/18,Error ellipse: s-maj=21.0km s-min=18.3km az=190.0*
IDC ***18*** *14:36:24.4±8.1, 17.°98S×178.°05W, h553km±86km, mb3.1/6,

comp=Z,0.3nm,0.5s,baz=97,slow=3.7,SNR=2.1
WRA Warramunga Arr 44.98 259 IAmb IAmb 14 43 50.8
comp=Z,0.1nm,0.6s
AS31 Alice Springs 45.13 254 P **P** **14 43 51.7 -0.2**
ASAR Alice Springs 45.13 254 P **P** **14 43 51.9 0.0**
comp=Z,7.1nm,0.6s,baz=88,slow=8.5,SNR=111
ASAR PcP **PcP** **14 45 20.8 +0.1**
comp=Z,0.5nm,0.4s,baz=103,slow=4.0,SNR=8.4
ASAR Alice Springs 45.13 254 P **P** **14 43 51.2 -0.7**
MTN Manton Dam 49.16 268 P **P** **14 44 21.4 -0.8**
KNRA Kununurra 50.84 264 P **P** **14 44 34.4 -0.1**
FITZ Fitzroy Crossi 53.38 260 P **P** **14 44 52.6 0.0**
FITZ IAmb IAmb 14 45 42.0
comp=Z,28nm,1.9s
VNDA Vanda 60.46 185 P **P** **14 45 41.6 +1.5**
QSPA South Pole Qui 72.13 180 P **P** **14 46 53.1 +0.4**
QSPA IAmb IAmb 14 48 22.5
comp=Z,7.3nm,1.5s
NVAR Mina Array Bea 79.19 44 P **P** **14 47 31.7 -0.7**
TXAR Lajitas Array 85.70 57 P **P** **14 48 05.6 +0.3**
comp=Z,0.5nm,0.7s,baz=227,slow=4.8,SNR=3.7

*NEIC **18** 14:40:40.5±2.0, 10°.9S±0°.1×162°.10E±0°.07, h50km±8km, mb4.5/17, Error ellipse: s-maj=16.9km s-min=4.5km az=210.0*
*IDC **18** 14:40:40.6±3.2, 10°.89S×162°.09E, h53km±25km, mb3.5/5, mb1 3.8/8, mb1mx3.5/32, mbtmp3.9/8, ML3.7/3, MS3.2/5, Ms1 3.2/5, ms1mx2.8/29, Error ellipse: s-maj=28.5km s-min=18.4km az=69.0*
ISC 18 14:40:39.1±0.8, **10°.94S**±0°.09×**162°.2E**±0°.1, **h36**km, **n28**, σ1**§24/27**, **mb3.8/9**, **MS3.3/3**, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.65**	**304**	P	**Pn**	**14 41 21.2**	**+1.9**
	20nm,0.3s,baz=189,slow=6.8,SNR=11						
HNR				S	**Sn**	**14 41 49.9**	**-0.3**
	54nm,0.3s,baz=350,slow=4.1,SNR=5.7						
HNR	**Honiara**	**2.65**	**304**		**Pn**	**14 41 19.4**	**0.0**
DZM	**Mont Dzumac**	**11.80**	**160**	P	**Pn**	**14 43 26.0**	**+0.9**
	0.2nm,0.3s,baz=132,slow=16,SNR=6.3						
DZM				LR	LR	14 46 58.6	
	comp=Z,87nm,19.6s,baz=346,slow=32						
PMG	**Port Moresby**	**14.85**	**275**	LR	LR	14 49 07.4	
	comp=Z,71nm,19.0s,baz=174,slow=34						
EIDS	**Eidsvold**	**17.79**	**215**	P	**P**	**14 44 45.2**	**+0.8**
EIDS				IAmb	IAmb	14 44 56.7	
	comp=Z,40nm,1.8s						
CTA	**Charters Tower**	**17.82**	**237**	P	**P**	**14 44 46.3**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=83,slow=14,SNR=5.7						
CTAO	**Charters Tower**	**17.82**	**237**	P	**P**	**14 44 46.0**	**+1.2**
PATS	**Pohnpei**	**18.07**	**348**	Pn	**P**	**14 44 50.5**	**+2.9**
PATS				IAmb	IAmb	14 45 50.0	
	comp=Z,98nm,1.6s						
ARMA	**Armidale**	**21.72**	**205**	P	**P**	**14 45 27.9**	**+0.5**
WR0	**Warramunga Arr**	**28.06**	**248**	P	**P**	**14 46 26.1**	**-1.3**
WR0				IAmb	IAmb	14 47 22.2	
	comp=Z,24nm,1.9s						
WB0	**Warramunga Arr**	**28.15**	**248**	P	**P**	**14 46 27.0**	**-1.3**
WB0				IAmb	IAmb	14 47 05.3	
	comp=Z,16nm,1.7s						
STKA	**Stephens Creek**	**28.20**	**219**	P	**P**	**14 46 29.0**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=7.3,slow=13,SNR=4.0						
STKA				LR	LR	14 57 05.8	
	comp=Z,131nm,18.1s,baz=27,slow=35						
WB2	**Warramunga Arr**	**28.23**	**248**	P	**P**	**14 46 28.2**	**-0.8**
WB2				IAmb	IAmb	14 47 07.9	
	comp=Z,32nm,1.9s						
WRA	**Warramunga Arr**	**28.24**	**248**	P	**P**	**14 46 27.8**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=77,slow=9.3,SNR=6.1						
AS31	**Alice Springs**	**29.73**	**241**	P	**P**	**14 46 41.2**	**-1.1**
ASAR	**Alice Springs**	**29.73**	**241**	P	**P**	**14 46 40.7**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=63,slow=10,SNR=10						
ASAR				PcP	**PcP**	**14 49 45.7**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=72,slow=2.7,SNR=2.8						
BBOO	**Buckleboo**	**32.40**	**224**	P	**P**	**14 47 05.2**	**-0.5**
KNRA	**Kununurra**	**32.83**	**258**	P	**P**	**14 47 08.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**36.02**	**254**	P	**P**	**14 47 36.0**	**-1.2**
FORT	**Forrest**	**37.27**	**233**	P	**P**	**14 47 47.7**	**0.0**
ASAJ	**Asahikawa**	**57.61**	**343**	LR	LR	15 14 04.9	
	comp=Z,24nm,19.6s,baz=167,slow=35						
KSRS	**Korea Array**	**57.87**	**328**	LR	LR	15 12 47.5	
	comp=Z,7.8nm,20.9s,baz=5.0,slow=33						
SONM	**Songino Array**	**76.53**	**325**	P	**P**	**14 52 24.0**	**-1.7**
YAK	**Yakutsk**	**77.04**	**345**	P	**P**	**14 52 28.6**	**+0.6**
YAK				IAmb	IAmb	14 52 30.3	
	comp=Z,6.0nm,0.7s						
QSPA	**South Pole Qui**	**79.06**	**180**	P	**P**	**14 52 39.8**	**+0.3**
ILAR	**Eielson Array**	**84.56**	**20**	P	**P**	**14 53 07.4**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=246,slow=5.2,SNR=4.4						
MKAR	**Makanchi Array**	**91.06**	**317**	P	**P**	**14 53 39.5**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=93,slow=4.3,SNR=2.1						
NOA	**NORSAR Array B**	**125.63**	**343**	PKP	**PKPdf**	**14 59 34.7**	**-1.8**
	comp=Z,1.4nm,1.0s,baz=24,slow=1.7,SNR=2.1						

*TEH **18** 14:41:58.1, 32°.71N×47°.54E, h8km, ML2.7*
*ISN **18** 14:41:58.5±1.6, 32°.71N×47°.44E, h15km, ML2.5*
ISC 18 14:41:56.2±3.9, **32°.5N**±0°.1×**47°.52E**±0°.07, **h16**km±19km, **n11**, σ1**§63/16**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.07**	**15**	*e*Pg	**Pb**	**14 42 14.4**	**-2.0**
IKFM				*e*	**Sb**	**14 42 28.9**	**-1.3**
IKMR	**Kamar-syah**	**1.26**	**35**	*e*Pg	**Pn**	**14 42 19.7**	**+0.6**
IKMR				*e*Sg	**Sb**	**14 42 35.0**	**-0.5**
IKMR				*e*		14 42 39.4	
IDOB	**Doab**	**1.41**	**23**	*e*Pg	**Pn**	**14 42 20.3**	**-1.2**
IDOB				*e*	**Sg**	**14 42 43.6**	**+1.7**
IBDR	**Badra**	**1.48**	**295**	*e*Pg	**Pn**	**14 42 22.0**	**-0.2**
	baz=107						
IBDR				*e*Sg	**Sn**	**14 42 42.0**	**+0.8**
IBDR				AML	AML	14 42 47.4	
	comp=N,72nm,0.4s						
IBDR				AML	AML	14 42 49.0	
	comp=E,123nm,0.5s						
BMDN	**Meydan**	**1.61**	**42**	*e*Pg	**Pn**	**14 42 25.3**	**+1.1**
BMDN				*e*	**Sg**	**14 42 49.5**	**+1.3**
IKOM	**Komasi**	**1.69**	**360**	*e*Pg	**Pn**	**14 42 25.6**	**+0.4**
IKOM				*e*	**Sg**	**14 42 49.7**	**-0.9**
HSAM	**Samen**	**1.95**	**27**	*e*Pn	**Pn**	**14 42 30.4**	**+1.5**
HSAM				*e*		14 43 00.6	
IBZA	**Bozab**	**2.00**	**8**	*e*	Sg	14 43 03.3	+2.6
IGHG	**Ghaleghazi**	**2.01**	**337**	*e*Pn	**Pn**	**14 42 32.2**	**+2.5**
IGHG				*e*		14 43 14.3	
IVIS	**Veis**	**2.12**	**345**	*e*Pn	**Pn**	**14 42 33.1**	**+2.1**
IVIS				*e*		14 43 01.2	
HSRG	**Sareghieh**	**2.82**	**13**	*e*Pn	**Pn**	**14 42 42.9**	**+2.0**
HSRG				*e*		14 43 25.7	

*ISN **18** 14:46:47.6±1.1, 32°.71N×47°.60E, h14km±6km, ML2.8*
*TEH **18** 14:46:48.6, 32°.85N×47°.63E, h18km, ML3.2*
ISC 18 14:46:48.3±0.9, **32°.78N**±0°.04×**47°.62E**±0°.03, **h15**km, **n34**, σ1**§43/37**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.77**	**15**	*e*Pg	**Pg**	**14 47 01.8**	**-1.5**
IKMR	**Kamar-syah**	**0.98**	**41**	*e*		14 47 29.1	
IKMR				*e*Pg	**Pb**	**14 47 06.2**	**-0.7**
IDOB	**Doab**	**1.11**	**25**	*e*Pg	**Pg**	**14 47 09.3**	**-0.5**
BMDN	**Meydan**	**1.35**	**48**	*e*Pg	**Pg**	**14 47 13.6**	**-0.7**
BMDN				*e*		14 47 41.5	
IKOM	**Komasi**	**1.40**	**356**	*e*Pg	**Pb**	**14 47 13.8**	**-0.4**
IKOM				*e*		14 47 15.7	
IBDR	**Badra**	**1.46**	**284**	*e*Pg	**Pn**	**14 47 14.0**	**0.0**
IBDR				*e*Sg	**Sb**	**14 47 34.0**	**+0.6**
IBDR				AML	AML	14 47 36.7	
	comp=E,149nm,0.7s						
IBDR				AML	AML	14 47 36.9	
	comp=N,203nm,0.7s						
KCHF	**Cheshme Sefid,**	**1.57**	**342**	*e*Pg	**Pb**	**14 47 16.4**	**-0.8**
KCHF				*e*		14 47 41.3	
HSAM	**Samen**	**1.65**	**30**	*e*Pg	**Pg**	**14 47 18.8**	**-1.3**
HSAM				*e*		14 47 47.3	
KER	**Kermanshah**	**1.65**	**346**	*e*Pg	**Pg**	**14 47 18.9**	**-1.2**
AHWZ	**Ahwaz**	**1.69**	**149**	*e*Pg	**Pg**	**14 47 21.4**	**+0.7**
IBZA	**Bozab**	**1.70**	**7**	*e*Pg	**Pb**	**14 47 19.5**	**+0.1**
IBZA				*e*		14 47 22.6	
IGHG	**Ghaleghazi**	**1.78**	**331**	*e*Pn	**Pb**	**14 47 20.1**	**-0.6**
IGHG				*e*		14 47 54.2	
IVIS	**Veis**	**1.86**	**340**	*e*Pn	**Pb**	**14 47 21.7**	**-0.3**
IVIS				*e*		14 47 54.0	
IALM	**Almabolaq**	**2.13**	**12**	*e*Pn	**Pb**	**14 47 25.3**	**-1.4**
NSR	**Nassriya**	**2.16**	**216**	*e*Pn	**Pn**	**14 47 24.0**	**+0.2**
NSR				*e*Sn	**Sn**	**14 47 49.0**	**-1.3**
IDHR	**Dehrash**	**2.17**	**332**	*e*Pn	**Pb**	**14 47 27.2**	**-0.3**
IDHR				*e*		14 48 03.7	
ILIN	**Lien**	**2.20**	**346**	*e*Pn	**Pn**	**14 47 25.8**	**+1.2**
ILIN				*e*		14 48 09.3	
HAGD	**Aghdareh**	**2.40**	**31**	*e*Pn	**Pb**	**14 47 29.8**	**-1.6**
HAGD				*e*		14 48 17.1	
HSRG	**Sareghieh**	**2.52**	**12**	*e*Pn	**Pb**	**14 47 31.8**	**-1.6**
HSRG				*e*		14 48 16.5	
JHBN	**Jahan bin**	**2.63**	**101**	*e*Pn	**Pn**	**14 47 32.2**	**+1.6**
JHBN				*e*		14 48 22.0	
BHD	**Baghdad**	**2.76**	**281**	*e*Pn	**Pn**	**14 47 33.0**	**+1.0**
BHD				*e*Sn	**Sn**	**14 48 07.0**	**+1.9**
IPIR	**Pirpir**	**2.76**	**91**	*e*Pn	**Pb**	**14 47 34.7**	**-2.9**
IPIR				*e*		14 48 25.1	
ROKH	**ROKH**	**2.92**	**98**	*e*Pn	**Pn**	**14 47 36.4**	**+2.0**
IRAZ	**Razeghan**	**3.25**	**36**	*e*Pn	**Pn**	**14 47 41.0**	**+2.1**
QABG	**Abgarm-Qazvin**	**3.35**	**29**	*e*Pn	**Pn**	**14 47 42.3**	**+2.0**
IKLH	**Kolahrood**	**3.37**	**80**	*e*Pn	**Pn**	**14 47 42.3**	**+1.6**
IKLH				*e*		14 48 45.6	
IQOM	**Qom**	**3.54**	**53**	*e*Pn	**Pn**	**14 47 43.6**	**+0.7**
IGAR	**Gharneh**	**3.75**	**94**	*e*Pn	**Pn**	**14 47 47.4**	**+1.5**
IGAR				*e*		14 47 50.9	
KLNJ	**Kolanjah**	**3.81**	**116**	*e*Pn	**Pn**	**14 47 48.2**	**+1.4**
KLNJ				*e*		14 49 01.3	
QSDN	**Sirdan**	**3.93**	**19**	*e*Pn	**Pn**	**14 47 49.6**	**+1.2**
IZEF	**Zefreh**	**3.97**	**87**	*e*Pn	**Pn**	**14 47 50.4**	**+1.5**
QALM	**Alamut, Qazvin**	**4.42**	**34**	*e*Pn	**Pn**	**14 47 57.7**	**+2.6**
ANAR	**Anarak**	**5.15**	**84**	*e*Pn	**Pn**	**14 48 06.2**	**+1.2**
IANJ	**Anjilo**	**5.87**	**61**	*e*Pn	**Pn**	**14 48 16.6**	**+1.6**

MEX 18 14:48:02.9±0.5, **14°.45N×92°.92W**, **h15**km, **MD3.5**, **Near coast of Chiapas**

*IDC **18** 15:02:52.6±1.4, 31°.42N×139°.85E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/47, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=83.7km s-min=18.2km az=84.0*
*JMA **18** 15:02:57.2±0.1, 32°.07N×140°.98E, h14km, M3.7*
ISC 18 15:02:52.1±1.1, **31°.75N**±0°.07×**141°.0E**±0°.1, **h10**km, **n15**, σ1**§99/20**, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.28**	**304**	P	**Pg**	**15 03 17.6**	**+0.9**
JHCJ	**Hachijojimakas**	**1.68**	**322**	P	**Pb**	**15 03 22.5**	**-0.5**
JHCJ				S	**Sn**	**15 03 40.8**	**-2.3**
JHJ2	**Mitsune**	**1.70**	**324**	P	**Pb**	**15 03 23.0**	**-0.4**
JHJ	**Hachijo jima 2**	**1.72**	**323**	Pn	**Pb**	**15 03 23.1**	**-0.7**
	24nm,0.3s,baz=92,slow=22,SNR=31						
JHJ				Sn	**Sn**	**15 03 41.2**	**-2.9**
	120nm,0.3s,baz=30,slow=21,SNR=15						
JMKN	**Mikurajimanish**	**2.45**	**331**	S	**Sn**	**15 04 00.4**	**-1.8**
BSO3	**Boso 3**	**3.08**	**352**	*e*S	**Sn**	**15 04 15.5**	**-1.7**
BSO4	**Boso 4**	**3.29**	**350**	S	**Sn**	**15 04 21.0**	**-1.6**
JYN	**Shimodo**	**4.27**	**332**	P	**Pn**	**15 04 00.5**	**+3.2**
JHU	**Hanno**	**4.34**	**341**	P	**Pn**	**15 04 00.0**	**+1.8**
JHU				S	**Sn**	**15 04 46.1**	**-2.7**
JCJ	**Chichijima**	**4.74**	**167**	Pn	**Pn**	**15 04 05.5**	**+1.8**
	7.7nm,0.3s,baz=124,slow=23,SNR=28						
JCJ				Sn	**Sn**	**15 04 56.5**	**-2.3**
	4.2nm,0.3s,baz=274,slow=22,SNR=1.5						
JAG	**Ashikaga**	**4.84**	**345**	P	**Pn**	**15 04 06.4**	**+1.4**
JHO	**Hitachi**	**4.87**	**356**	P	**Pn**	**15 04 06.6**	**+1.2**
MJAR	**Matsushiro Arr**	**5.32**	**335**	Pn	**Pn**	**15 04 14.0**	**+2.4**
	0.2nm,0.3s,baz=168,slow=15,SNR=10						
MJAR				Sn	**Sn**	**15 05 12.9**	**0.0**
	0.0nm,0.3s,baz=217,slow=50,SNR=1.1						
WRA	**Warramunga Arr**	**51.79**	**188**	P	**P**	**15 11 58.1**	**-2.0**
	0.3nm,0.4s,baz=4.8,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**55.52**	**188**	P	**P**	**15 12 27.2**	**-0.3**
	0.2nm,0.7s,baz=2.2,slow=3.7,SNR=4.5						

*ISN **18** 15:03:57.8±1.5, 32°.74N×47°.64E, h15km±10km, ML2.7*
*TEH **18** 15:03:58.5, 32°.74N×47°.58E, h10km, ML2.7*
ISC 18 15:03:59.1±1.1, **32°.71N**±0°.06×**47°.58E**±0°.05, **h10**km, **n15**, σ1**§13/18**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.84**	**16**	*e*Pg	**Pg**	**15 04 14.7**	**-0.7**
IKFM				*e*		15 04 37.2	
IKMR	**Kamar-syah**	**1.05**	**40**	*e*Pg	**Pg**	**15 04 18.7**	**-0.6**
IKMR				*e*		15 04 38.0	
IDOB	**Doab**	**1.19**	**25**	*e*Pg	**Pb**	**15 04 20.4**	**-1.5**
IDOB				*e*		15 04 27.2	
BMDN	**Meydan**	**1.42**	**47**	*e*Pg	**Pn**	**15 04 24.8**	**-0.4**
BMDN				*e*		15 04 52.4	
IBDR	**Badra**	**1.44**	**287**	*e*Pg	**Pn**	**15 04 25.0**	**-0.3**
IBDR				*e*Sg	**Sn**	**15 04 45.0**	**+0.8**
IBDR				AML	AML	15 04 48.2	
	comp=E,121nm,0.4s						
IBDR				AML	AML	15 04 48.6	
	comp=N,136nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.62**	**344**	*e*Pn	**Pn**	**15 04 27.9**	**-0.1**
KCHF				*e*		15 04 53.1	
HSAM	**Samen**	**1.73**	**30**	*e*Pn	**Pb**	**15 04 30.7**	**-0.4**
HSAM				*e*		15 04 58.1	
IBZA	**Bozab**	**1.77**	**8**	*e*Pn	**Pn**	**15 04 30.9**	**+0.8**
IBZA				*e*		15 04 59.8	
IGHG	**Ghaleghazi**	**1.82**	**333**	*e*Pn	**Pn**	**15 04 32.3**	**+1.6**
IGHG				*e*		15 05 07.0	
IVIS	**Veis**	**1.91**	**342**	*e*Pn	**Pn**	**15 04 32.7**	**+0.8**
IVIS				*e*		15 05 03.2	
NSR	**Nassriya**	**2.09**	**216**	*e*Pn	**Pn**	**15 04 35.0**	**+0.8**
NSR				*e*Sn	**Sn**	**15 05 00.0**	**-0.2**
IDHR	**Dehrash**	**2.22**	**334**	*e*Pn	**Pn**	**15 04 37.0**	**+0.8**
IDHR				*e*		15 05 16.4	
HSRG	**Sareghieh**	**2.59**	**13**	*e*Pn	**Pn**	**15 04 43.6**	**+2.2**
HSRG				*e*		15 05 26.5	
BHD	**Baghdad**	**2.74**	**283**	*e*Pn	**Pn**	**15 04 43.0**	**-0.2**
BHD				*e*Sn	**Sn**	**15 05 18.0**	**+1.6**
IPIR	**Pirpir**	**2.80**	**90**	*e*Pn	**Pn**	**15 04 45.7**	**+1.5**
IPIR				*e*		15 04 52.1	

*TEH **18** 15:06:49.7, 32°.82N×47°.56E, h10km, ML3.0*
*ISN **18** 15:06:49.5±1.1, 32°.73N×47°.55E, h15km±5km, ML2.8*
ISC 18 15:06:49.5±1.8, **32°.80N**±0°.05×**47°.54E**±0°.04, **h6**km±14km, **n25**, σ1**§20/31**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.77**	**20**	*e*		15 07 21.4	
IKFM				*e*Pg	**Pg**	**15 07 03.7**	**-0.7**
IKMR	**Kamar-syah**	**1.01**	**44**	*e*Sg	**Sn**	**15 07 23.1**	**-1.6**
IKMR				*e*Pg	**Pb**	**15 07 08.4**	**-1.0**
IKMR				*e*		15 07 29.8	
IDOB	**Doab**	**1.12**	**28**	*e*Pg	**Pn**	**15 07 11.5**	**-0.6**
IDOB				*e*Sg	**Sn**	**15 07 27.3**	**-0.7**
IKOM	**Komasi**	**1.38**	**359**	*e*Pg	**Pb**	**15 07 15.6**	**-0.2**
IKOM				*e*Sg	**Sg**	**15 07 35.1**	**+1.3**
IKOM				*e*		15 07 41.4	
IBDR	**Badra**	**1.39**	**284**	*e*Pg	**Pb**	**15 07 16.0**	**+0.1**
IBDR				*e*Sg	**Sb**	**15 07 34.0**	**+0.2**
IBDR				AML	AML	15 07 45.3	
	comp=E,189nm,0.5s						
IBDR				AML	AML	15 07 46.2	
	comp=N,165nm,0.7s						
BMDN	**Meydan**	**1.39**	**51**	*e*Pg	**Pb**	**15 07 15.9**	**-0.1**
BMDN				*e*		15 07 44.3	
KCHF	**Cheshme Sefid,**	**1.53**	**344**	*e*Pg	**Pb**	**15 07 18.3**	**-0.2**
KCHF				*e*		15 07 45.4	
KER	**Kermanshah**	**1.62**	**348**	*e*Pg	**Pb**	**15 07 20.1**	**+0.1**
HSAM	**Samen**	**1.67**	**32**	*e*Pg	**Pb**	**15 07 20.5**	**-0.4**
HSAM				*e*		15 07 48.7	
IBZA	**Bozab**	**1.69**	**9**	*e*Pg	**Pb**	**15 07 21.3**	**+0.1**
IBZA				*e*		15 07 53.3	
IGHG	**Ghaleghazi**	**1.73**	**332**	*e*Pn	**Pb**	**15 07 22.1**	**+0.2**
IGHG				*e*		15 07 56.7	
IVIS	**Veis**	**1.82**	**342**	*e*Pn	**Pb**	**15 07 22.9**	**-0.4**
IVIS				*e*		15 07 52.4	
IALM	**Almabolaq**	**2.12**	**14**	*e*Pn	**Pb**	**15 07 28.0**	**-0.6**
IDHR	**Dehrash**	**2.13**	**334**	*e*Pn	**Pb**	**15 07 27.7**	**-0.9**
IDHR				*e*		15 08 04.3	
NSR	**Nassriya**	**2.14**	**214**	*e*Pn	**Pn**	**15 07 25.0**	**-0.8**
NSR				*e*Sn	**Sn**	**15 07 51.0**	**-1.6**
ILIN	**Lien**	**2.17**	**347**	*e*Pn	**Pb**	**15 07 27.8**	**-1.6**
ILIN				*e*		15 08 05.2	
HAGD	**Aghdareh**	**2.42**	**33**	*e*Pn	**Pb**	**15 07 32.4**	**-1.3**
HAGD				*e*		15 08 10.7	
HSRG	**Sareghieh**	**2.52**	**14**	*e*Pn	**Pb**	**15 07 33.3**	**-2.0**
HSRG				*e*		15 08 15.5	
BHD	**Baghdad**	**2.69**	**281**	*e*Pn	**Pn**	**15 07 34.0**	**+0.6**
BHD				*e*Sn	**Sn**	**15 08 08.0**	**+1.7**
JHBN	**Jahan bin**	**2.70**	**101**	*e*Pn	**Pn**	**15 07 35.0**	**+1.2**
JHBN				*e*		15 08 24.0	
IPIR	**Pirpir**	**2.83**	**91**	*e*Pn	**Pn**	**15 07 37.3**	**+1.7**
IPIR				*e*		15 08 28.5	
QABG	**Abgarm-Qazvin**	**3.36**	**30**	*e*Pn	**Pn**	**15 07 44.1**	**+1.3**
IKLH	**Kolahrood**	**3.43**	**80**	*e*Pn	**Pn**	**15 07 46.2**	**+2.4**
IKLH				*e*		15 07 48.5	
KLNJ	**Kolanjah**	**3.88**	**116**	*e*Pn	**Pn**	**15 07 51.2**	**+1.1**
KLNJ				*e*		15 09 14.3	
IZEF	**Zefreh**	**4.03**	**87**	*e*Pn	**Pn**	**15 07 53.8**	**+1.7**
IZEF				*e*		15 08 06.2	

*NEIC **18** 15:08:41.7±0.9, 4°.8S±0°.1×154°.0E±0°.1, h106km±8km, mb4.1/18, Error ellipse: s-maj=17.4km s-min=14.7km az=123.0*
*IDC **18** 15:08:41.9±3.8, 4°.77S×153°.91E, h104km±27km, mb3.7/8, mb1 3.9/10, mb1mx3.5/52, mbtmp4.1/10, MS2.8/1, Ms1 2.8/1, ms1mx2.3/31, Error ellipse: s-maj=37.3km s-min=15.9km az=98.0*
ISC 18 15:08:41.7±0.9, **4°.76S**±0°.08×**153°.9E**±0°.1, **h105**km, **n34**, σ0**§64/33**, **mb4.0/12**, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.85**	**288**	Pn	**Pn**	**15 09 13.0**	**+0.5**
KRVT	**Keravat (AS076**	**1.95**	**283**	P	**Pn**	**15 09 14.4**	**+0.6**
	38nm,0.3s,baz=218,slow=1.1,SNR=64						
KRVT				S	**Sn**	**15 09 38.2**	**-0.2**
	47nm,0.3s,baz=20,slow=21,SNR=4.7						
KRVT				LR	LR	15 09 39.2	
	comp=Z,97nm,18.2s,baz=132,slow=30						
HNR	**Honiara**	**7.57**	**128**	LR	LR	15 13 54.5	
	comp=Z,70nm,20.0s,baz=219,slow=41						
PMG	**Port Moresby**	**8.15**	**235**	P	**Pn**	**15 10 39.0**	**+1.7**
	11nm,0.3s,baz=59,slow=8.6,SNR=17						
PMG				S	**Sn**	**15 12 06.9**	**-0.9**
	1.6nm,0.3s,baz=166,slow=23,SNR=1.7						
PMG	**Port Moresby**	**8.15**	**235**		**Pn**	**15 10 37.9**	**+0.6**
CTA	**Charters Tower**	**16.97**	**205**	P	**P**	**15 12 33.2**	**+0.2**
	0.1nm,0.3s,baz=17,slow=14,SNR=1.7						
ANA2	**Anatahan**	**22.48**	**339**	P	**P**	**15 13 32.5**	**-0.1**
MTN	**Manton Dam**	**23.90**	**249**	P	**P**	**15 13 46.1**	**+0.1**
WB0	**Warramunga Arr**	**24.18**	**230**	P	**P**	**15 13 49.0**	**+0.5**
WB0				IAmb	IAmb	15 13 50.5	
	comp=Z,5.9nm,0.7s						
WR0	**Warramunga Arr**	**24.18**	**230**	P	**P**	**15 13 48.7**	**+0.2**
WR0				IAmb	IAmb	15 13 59.8	
	comp=Z,6.5nm,1.1s						
WRAB	**Tennant Creek**	**24.31**	**230**	P	**P**	**15 13 50.3**	**+0.6**
WRAB				IAmb	IAmb	15 13 51.8	
	comp=Z,8.0nm,0.8s						
WB2	**Warramunga Arr**	**24.32**	**230**	P	**P**	**15 13 50.5**	**+0.8**
WB2				IAmb	IAmb	15 13 51.2	
	comp=Z,6.4nm,0.8s						
WRA	**Warramunga Arr**	**24.32**	**230**	P	**P**	**15 13 49.9**	**0.0**
	comp=Z,5.9nm,0.7s,baz=54,slow=9.9,SNR=53						
WRA	**Warramunga Arr**	**24.32**	**230**	P	**P**	**15 13 49.6**	**-0.2**
ARMA	**Armidale**	**25.62**	**185**	P	**P**	**15 14 01.3**	**-0.2**
AS31	**Alice Springs**	**26.95**	**224**	P	**P**	**15 14 13.7**	**+0.2**
ASAR	**Alice Springs**	**26.95**	**224**	P	**P**	**15 14 13.8**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=54,slow=8.8,SNR=45						
KNRA	**Kununurra**	**27.00**	**244**	P	**P**	**15 14 13.9**	**-0.1**
STKA	**Stephens Creek**	**29.36**	**202**	P	**P**	**15 14 34.4**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=325,slow=18,SNR=5.9						
STKA	**Stephens Creek**	**29.36**	**202**	P	**P**	**15 14 34.3**	**-0.5**
SOEI	**Soe**	**29.83**	**259**	P	**P**	**15 14 37.6**	**-1.8**
FITZ	**Fitzroy Crossi**	**30.67**	**242**	P	**P**	**15 14 46.5**	**-0.1**
	comp=Z,3.8nm,0.6s,baz=69,slow=7.1,SNR=15						
FITZ	**Fitzroy Crossi**	**30.67**	**242**	IAmb	IAmb	15 14 47.0	
	comp=Z,4.6nm,0.8s						
FORT	**Forrest**	**

ROCH *i* S **Sn** **15 11 36.8 -1.0**
ROCH IAML 15 11 41.3
comp=N,5μm,0.2s
ROC1 El Roble 1.54 242 Pn **15 11 16.0 -0.8**
ROC1 El Roble 1.54 242 *i* P **Pn** **15 11 16.1 -0.7**
ROC1 *i* S **Sn** **15 11 36.6 -1.3**
MT03 Universidad Ad 1.55 217⇓ *iP* **Pn** **15 11 17.1 +0.3**
MT03 *i* S **Sn** **15 11 38.6 +0.7**
MT03 IAML 15 11 40.1
comp=N,10μm,0.5s
MT05 Renca 1.60 224⇑ *iP* **Pn** **15 11 17.4 +0.1**
MT05 *i* S **Sn** **15 11 39.2 +0.3**
MT05 Renca 1.60 224 Pn **15 11 17.2 -0.1**
ACCO Cerro Coronel 1.68 10 *i* P **Pn** **15 11 19.3 +0.8**
ACCO *i* S **Sn** **15 11 42.5 +1.5**
ACCO IAML 15 11 45.2
comp=Z,1μm,0.8s
RCDM Rinconada Maip 1.71 223 *eP* Pn 15 11 01.4 -17
RCDM *i* S Sn 15 11 24.4 -17
RCDM IAML 15 11 25.7
comp=E,5μm,0.2s
CO02 Combarbal 1.72 307⇑ *iP* **Pn** **15 11 18.3 -0.4**
CO02 *i* S **Sn** **15 11 41.3 -0.1**
CO02 Combarbal 1.72 307 Pn **15 11 18.3 -0.4**
LMEL Las Melosas 1.73 203 *eP* **Pn** **15 11 19.3 +0.3**
LMEL *i* S **Sn** **15 11 44.1 +2.3**
MT02 Curacav 1.78 235⇑ *iP* **Pn** **15 11 18.2 -1.1**
MT02 *i* S **Sn** **15 11 41.0 -1.5**
MT02 IAML 15 11 41.7
comp=N,2μm,0.4s
MT02 Curacav 1.78 235 Pn **15 11 18.2 -1.1**
CO03 El Pedregal 1.79 322 *eP* **Pn** **15 11 19.7 +0.2**
CO03 *i* S **Sn** **15 11 43.4 +0.6**
CO03 IAML 15 11 46.0
comp=E,3μm,0.2s
CO03 El Pedregal 1.79 322 Pn **15 11 19.6 0.0**
ACAN Cantantal 1.87 91 *eP* **Pn** **15 11 21.0 +0.5**
ACAN IAML 15 12 52.0
comp=Z,427nm,0.2s
AROD Rodeo 2.08 358 *i* P **Pn** **15 11 24.8 +1.4**
AROD *i* S **Sn** **15 11 51.1 +1.4**
ACDV Cuesta del Vie 2.08 7 *i* P **Pn** **15 11 24.4 +1.1**
ACDV *i* S **Sn** **15 11 51.5 +1.8**
ACDV IAML 15 11 52.4
comp=Z,834nm,0.5s
AVFE Valle Fertil 2.30 47 *i* P **Pn** **15 11 26.3 +0.4**
AVFE *i* S **Sn** **15 11 54.6 +0.3**
AVFE IAML 15 11 55.3
comp=Z,55nm,0.7s
CO01 Juntas del Tor 2.34 345 *eP* **Pn** **15 11 28.2 +1.5**
CO01 Juntas del Tor 2.34 345 Pn **15 11 28.3 +1.6**
GO04 Tololo Observa 2.39 330 Pn **15 11 26.9 -0.4**
BO01 Tunca 2.56 213 *eP* **Pn** **15 11 28.3 -1.0**
BO01 *i* S **Sn** **15 11 59.1 -1.2**
BO01 IAML 15 12 01.9
comp=E,865nm,0.3s
BO01 Tunca 2.56 213 Pn **15 11 28.1 -1.2**
ACHE Chepes 2.57 66 *i* P **Pn** **15 11 29.9 +0.3**
LAMA Las Malvinas 2.68 177 *i* P **Pn** **15 11 31.2 +0.3**
BO02 Sierra Bellavi 2.79 204 *eP* **Pn** **15 11 32.4 0.0**
BO02 Sierra Bellavi 2.79 204 Pn **15 11 32.3 0.0**
COIS El Sosneado 2.86 183 *i* P **Pn** **15 11 34.8 +1.7**
MORA Malargue 3.05 174 *i* P **Pn** **15 11 35.8 0.0**
MORA *i* S **Sn** **15 12 06.6 -5.3**
APLL PUNTA DE LOS L 3.08 54 *i* P **Pn** **15 11 36.0 -0.1**
APLL IAML 15 12 14.6
comp=Z,8μm,2.0s
MRA San Martin 3.12 94 *i* P **Pn** **15 11 36.5 -0.2**
MRA IAML 15 12 42.8
comp=Z,145nm,0.5s
LCO Las Campanas 3.42 341 Pn Pn **15 11 40.0 -0.9**
GO05 Huala 3.47 217 Pn **15 11 38.8 -2.5**
GO05 Huala 3.47 217 *i* P **Pn** **15 11 39.1 -2.2**
AC05 El Transito 3.48 347 Pn **15 11 41.9 +0.3**
ACLC CERRO LA CRUZ 3.51 37 *i* P **Pn** **15 11 41.9 -0.2**
ACLC IAML 15 12 45.6
comp=Z,442nm,0.6s
VCA Vinchina 3.65 17 *i* P **Pn** **15 11 44.5 +0.7**
VCA IAML 15 12 32.0
comp=Z,426nm,0.4s
TCA Tanti 4.19 79 *i* P **Pn** **15 11 50.6 -0.4**
TCA *i* S **Sn** **15 12 35.8 -3.3**
TCA IAML 15 12 53.5
comp=Z,170nm,1.1s
AC04 Llanos de Chal 4.28 340 Pn Pn **15 11 50.8 -1.3**
BI02 San Fabin de 4.67 199 Pn Pn **15 11 55.2 -2.2**
GO03 Copiap 4.70 351 Pn **15 11 56.7 -1.1**
GO03 Copiap 4.70 351 *i* P **Pn** **15 11 56.9 -0.9**
GO03 *i* S **Sn** **15 12 48.1 -3.1**
CYA Choya 4.91 40 *i* P **Pn** **15 11 59.0 -1.5**
CYA IAML 15 13 18.0
comp=Z,111nm,0.7s
AC02 Maricunga 5.40 3 Pn Pn **15 12 07.3 -0.3**
BI03 Tigo 5.47 212 Pn Pn **15 12 05.2 -2.9**
AC01 Pan de Azucar 6.17 350 Pn Pn **15 12 15.0 -2.7**
AHML Horco Molle 6.50 34 *i* P **Pn** **15 12 20.3 -1.8**
AHML IAML 15 13 34.0
comp=Z,45nm,0.8s
GO02 Mina Guanaco 7.06 359 Pn Pn **15 12 27.7 -2.3**
PB14 IPOC Station P 7.65 353 Pn Pn **15 12 35.8 -2.1**
TRQA Tornquist 8.39 136 Pn Pn **15 12 43.1 -4.6**
PLCA Paso Flores 8.52 186 P Pn **15 12 49.8 +0.4**
comp=Z,0.2nm,0.3s,baz=327,slow=5.1,SNR=3.1
PB10 IPOC Station P 8.76 353 Pn Pn **15 12 50.0 -2.8**
PB15 IPOC Station P 9.01 360 Pn Pn **15 12 54.0 -2.3**
PB06 IPOC Station P 9.51 359 Pn Pn **15 13 00.8 -2.2**
LVC Limon Verde 9.61 3 P Pn **15 13 02.3 -2.3**
comp=Z,2.1nm,0.3s,baz=148,slow=7.5,SNR=15
LVC S **Sn** **15 14 45.3 -5.6**
comp=Z,0.6nm,0.3s,baz=238,slow=12,SNR=2.1
LVC LR LR 15 16 39.7
comp=Z,44nm,20.5s,baz=218,slow=37
LVC Limon Verde 9.61 3 Pn Pn **15 13 01.8 -2.8**
LVC Limon Verde 9.61 3 *eP* **Pn** **15 13 02.1 -2.5**
PB04 IPOC Station P 9.90 356 Pn Pn **15 13 07.6 -0.7**
PB09 IPOC Station P 10.41 1 Pn Pn **15 13 12.6 -2.6**
PB07 IPOC Station P 10.49 358 Pn Pn **15 13 12.5 -3.8**
PB01 IPOC Station P 11.16 360 Pn Pn **15 13 21.0 -4.3**
PB08 IPOC Station P 12.06 1 Pn Pn **15 13 37.1 -0.4**
CPUP Villa Florida 12.07 64 P Pn **15 13 35.4 -1.8**
comp=Z,0.8nm,0.3s,baz=222,slow=12,SNR=5.9
CPUP Villa Florida 12.07 64 Pn Pn **15 13 36.1 -1.1**
CPUP Villa Florida 12.07 64 *eP* **Pn** **15 13 37.1 -0.1**
PB11 IPOC Station P 12.44 359 Pn Pn **15 13 42.1 -0.1**
GO01 Chusmiza 12.53 1 Pn Pn **15 13 43.5 -0.2**
PSGCX Pisagua 12.62 357 Pn Pn **15 13 45.3 +0.8**
MNMC Minye Minye 13.06 359 Pn **15 13 51.1 +0.6**
PLTB Pedras Altas 13.42 92 *eP* **Pn** **15 13 52.6 -2.2**
PB12 IPOC Station P 13.60 356 Pn Pn **15 13 57.2 -0.2**
PB16 IPOC Station P 13.86 360 Pn **15 14 01.3 +0.3**
ITAB Concordia 15.81 76 *eP* **P** **15 14 27.4 +0.7**
LPAZ La Paz 15.93 4 P Pn **15 14 26.8 -0.5**
comp=Z,0.6nm,0.3s,baz=171,slow=7.8,SNR=31
LPAZ La Paz 15.93 4 P **15 14 28.9 +0.2**
CNLB Canela 16.21 84 *eP* **Pn** **15 14 29.4 -0.7**
AQDB Aquidauana 16.96 50 *eP* **P** **15 14 42.3 +2.9**
SIV San Ignacio 17.87 27 P P **15 14 49.2 -0.3**
comp=Z,1.1nm,0.3s,baz=212,slow=9.2,SNR=31
GO09 Cerro Castillo 19.13 186 Pn Pn **15 15 04.8 -0.2**
TIJ01 Guaruva-PR 19.15 74 *eP* **Pn** **15 15 03.9 -1.6**
PTLB Pontes e Lacer 19.16 32 *eP* **Pn** **15 15 05.0 -0.6**
PCMB Pacaembu 19.31 61 *eP* **Pn** **15 15 06.8 -0.6**
SALV Santo Antonio 20.49 41 *eP* **P** **15 15 18.9 +0.9**
ITRB Iturama 21.15 58 *eP* **P** **15 15 28.1 +3.1**
SPB Sao Paulo 21.21 72 *eP* **P** **15 15 26.6 +1.0**
VAO Valinhos 21.87 71 *eP* **P** **15 15 34.8 +2.0**
ETMB Extrema 22.52 8 *eP* **P** **15 15 39.9 +0.6**
SAML Samuel 23.89 15 P P **15 15 53.2 +1.0**
SAML IAmb IAmb 15 15 54.1
comp=Z,13nm,0.7s
SAML Samuel 23.89 15 *eP* **P** **15 15 53.2 +1.0**
CLDB Colider 24.70 34 *eP* **P** **15 16 00.2 +0.7**
PRPB Paraupebas 31.74 39 *eP* **P** **15 17 02.2 -0.1**
MALB Monte Alegre 33.43 28 *eP* **P** **15 17 16.8 -0.2**
RUSC La Rusia 38.09 354 P P **15 17 58.5 +1.2**
QSPA South Pole Qui 57.98 180 P P **15 20 30.3 +0.9**
comp=Z,1.6nm,0.9s,baz=175,slow=0.7,SNR=18
QSPA South Pole Qui 57.98 180 P P **15 20 30.6 +1.2**
QSPA IAmb IAmb 15 20 59.9
comp=Z,4.9nm,0.9s
X48A Hartselle 68.39 344 P P **15 21 38.6 +0.5**
TXAR Lajitas Array 69.35 328 P P **15 21 45.2 +0.9**
comp=Z,0.2nm,0.5s,baz=152,slow=10,SNR=5.4
TXAR Lajitas Array 69.35 328 P P **15 21 45.1 +0.8**
V48A Smith Brothers 69.58 345 P P **15 21 45.9 +0.5**
V48A IAmb IAmb 15 23 31.3
comp=Z,8.3nm,0.8s
WVT Waverly 70.18 344 P P **15 21 49.3 +0.2**
LCAR Lake Charles 70.95 341 P P **15 21 54.2 +0.4**
LCAR IAmb IAmb 15 24 28.3
comp=Z,4.7nm,0.6s
LIC Lamto 72.11 70 *eP* **P** **15 22 01.8 +0.5**
comp=Z,47nm,1.7s
MNTX Cornudas Mount 72.13 328 P P **15 22 01.0 0.0**
MNTX IAmb IAmb 15 22 02.0
comp=Z,11nm,1.9s
TIC Toumodi 72.37 70 *eP* **P** **15 22 02.2 -0.7**
KIC Kosan Boka 72.42 70 *eP* **P** **15 22 03.8 +0.6**
comp=Z,23nm,1.0s
DBIC Dimbokro 72.51 70 P P **15 22 03.9 +0.2**
comp=Z,6.5nm,0.3s,baz=290,slow=1.1,SNR=54
DBIC Dimbokro 72.51 70 P P **15 22 03.4 -0.3**
O56A Blue Knob Stat 72.65 353 P P **15 22 04.7 +0.7**
CCM Cathedral Cave 72.85 342 P P **15 22 05.4 +0.2**
S39A Bolivar 73.07 340 P P **15 22 06.9 +0.5**
ACSO Alum Creek Sta 73.21 349 P P **15 22 06.5 -0.7**
R40A Maddies Statio 73.34 341 P P **15 22 08.3 +0.3**
R40A IAmb IAmb 15 22 09.1
comp=Z,7.9nm,0.6s
N51A Ashland 73.78 350 P P **15 22 09.1 -1.5**
BOSA Boshof 78.90 117 P P **15 22 40.5 +0.4**
comp=Z,2.9nm,0.9s,baz=207,slow=2.3,SNR=2.7
TORD Torodi Ar. Bea 81.52 69 P P **15 22 54.4 +0.3**
comp=Z,2.3nm,0.7s,baz=268,slow=4.9,SNR=9.6
TORD Torodi Ar. Bea 81.52 69 P P **15 22 54.1 0.0**
PDAR Pinedale Array 83.25 331 P P **15 23 03.3 +0.5**
comp=Z,0.3nm,0.6s,baz=123,slow=5.5,SNR=4.0
NVAR Mina Array Bea 83.76 323 P P **15 23 06.4 +0.9**
comp=Z,0.6nm,0.8s,baz=150,slow=6.3,SNR=4.9
SCHQ Schefferville 86.75 1 P P **15 23 19.9 +0.3**
comp=Z,2.5nm,0.5s,baz=181,slow=5.7,SNR=4.9
ASAR Alice Springs 120.11 205 PKP PKPdf **15 29 26.0 -0.8**
comp=Z,0.3nm,0.9s,baz=140,slow=1.6,SNR=6.5
WRA Warramunga Arr 123.34 207 PKP PKPdf **15 29 32.7 -0.5**
comp=Z,0.3nm,0.4s,baz=157,slow=1.7,SNR=12
BVAR Borovoye Array 144.50 42 PKP PKPdf **15 30 11.7 +0.3**
comp=Z,1.8nm,0.6s,baz=5.4,slow=3.1,SNR=7.7
KKAR Karatay Array 146.76 59 PKPbc **15 30 17.9 +0.4**
GAR Garm 146.77 67 PKPbc **15 30 17.9 +0.1**
YAK Yakutsk 147.76 343 PKPbc PKPbc **15 30 19.4 -0.1**
comp=Z,2.2nm,0.4s,baz=192,slow=5.6,SNR=4.5
AAK Ala-Archa 149.72 60 PKPbc PKiKP **15 30 26.4 0.0**
comp=Z,2.7nm,0.4s,baz=190,slow=2.2,SNR=7.7
AAK Ala-Archa 149.72 60 PKiKP **15 30 26.7 +0.4**
KURBB Kurchatov Arra 150.08 43 PKPbc PKiKP **15 30 26.4 -0.2**
comp=Z,2.7nm,0.5s,baz=304,slow=3.2,SNR=21
KURK Kurchatov 150.09 42 PKiKP **15 30 26.5 -0.1**
KSH Kashi 151.15 66 PKPbc PKiKP **15 30 29.8 +0.4**
KSH PKPbc PKiKP **15 30 29.8 +0.4**
ZAA0 Zalesovo Array 151.56 33 PKiKP **15 30 29.8 +0.3**
ZALV Zalesovo Beam 151.56 33 PKPbc PKiKP **15 30 30.1 +0.5**
comp=Z,6.9nm,0.5s,baz=308,slow=3.1,SNR=31
ZALV Zalesovo Beam 151.56 33 PKiKP **15 30 29.6 +0.1**
PBA Port Blair 153.73 137 PKPbc 15 30 34.5 -0.6
MKAR Makanchi Array 153.95 48 PKPbc PKiKP **15 30 35.2 +0.4**
comp=Z,0.7nm,0.8s,baz=279,slow=2.3,SNR=6.2
MKAR PKPab **PKPab** **15 30 49.0 +0.5**
comp=Z,1.2nm,0.6s,baz=292,slow=4.3,SNR=8.9

ISN ***18*** *15:23:29.1±0.8,32.65N×47.57E,h15km±5km, ML3.3*
TEH ***18*** *15:23:30.9,32.71N×47.51E,h9km, ML3.4*
THR ***18*** *15:23:33.3±0.5,32.90N×47.60E,h14km±56km, ML3.2*
ISC 18 15:23:30.7±1.4,**32.68N**±0.03×**47.45E**±0.03,**h7**km±12km,
n42,σ1f12/47,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.91**	**21**	*e*Pg	**Pg**		**15 23 47.3**	**-0.8**
IKMR	**Kamar-syah**	**1.14**	**43**	*e*Pg	**Pb**		**15 23 51.6**	**-1.1**
IKMR				*e*Sg	**Sn**		**15 24 09.0**	**+0.1**
IKMR				*e*			15 24 13.5	
IDOB	**Doab**	**1.26**	**29**	*e*Pg	**Pn**		**15 23 53.6**	**-1.3**
SHGR	**Shooshtar-Gavs**	**1.27**	**116**	IAML			15 24 17.4	
	comp=N,397nm,0.3s							
SHGR				IAML			15 24 17.5	
	comp=E,450nm,0.4s							
IBDR	**Badra**	**1.35**	**289**	*e*Pg	**Pb**		**15 23 56.0**	**-0.3**
IBDR				*e*Sg	**Sg**		**15 24 15.0**	**+0.8**
IBDR				AML	AML		15 24 21.6	
	comp=E,469nm,0.4s							
IBDR				AML	AML		15 24 21.7	
	comp=N,515nm,0.6s							
IKOM	**Komasi**	**1.49**	**2**	*e*Pg	**Pb**		**15 23 59.1**	**+0.3**
IKOM				*e*			15 24 00.6	
IKOM				*e*Sg	**Sg**		**15 24 19.8**	**+1.1**
BMDN	**Meydan**	**1.52**	**49**	*e*Pg	**Pb**		**15 23 59.0**	**-0.2**
BMDN				*e*			15 24 28.5	
KCHF	**Cheshme Sefid,**	**1.63**	**348**	*e*Pg	**Pg**		**15 24 01.6**	**-0.3**
KCHF				*e*			15 24 26.7	
AHWZ	**Ahwaz**	**1.68**	**143**	*e*Pg	**Pg**		**15 24 03.1**	**+0.1**
KER	**Kermanshah**	**1.72**	**351**	*e*Pg	**Pb**		**15 24 03.1**	**+0.4**
HSAM	**Samen**	**1.80**	**32**	*e*			15 24 06.1	
HSAM				*e*Pg	**Pb**		**15 24 03.7**	**-0.5**
IGHG	**Ghaleghazi**	**1.80**	**336**	*e*			15 24 42.1	
IGHG				*e*Pn	**Pg**		**15 24 05.2**	**-0.1**
IBZA	**Bozab**	**1.82**	**11**	*e*			15 24 06.1	
IBZA				*e*Pg	**Pb**		**15 24 04.3**	**-0.1**
IVIS	**Veis**	**1.91**	**345**	*e*			15 24 40.4	
IVIS				*e*Pn	**Pb**		**15 24 06.5**	**+0.6**
NSR	**Nassriya**	**2.00**	**214**	*e*Pn	**Pn**		**15 24 04.0**	**-0.9**
NSR				*e*Sn	**Sn**		**15 24 29.0**	**-1.2**
IDHR	**Dehrash**	**2.20**	**336**	*e*Pn	**Pb**		**15 24 10.8**	**-0.2**
IDHR				*e*			15 24 13.8	
IALM	**Almabolaq**	**2.25**	**15**	*e*Pn	**Pb**		**15 24 10.5**	**-1.4**
ILIN	**Lien**	**2.27**	**350**	*e*Pn	**Pb**		**15 24 10.4**	**-1.7**
ILIN				*e*			15 24 49.6	
KHMZ	**Khomeyn**	**2.35**	**63**	*e*Pn	**Pn**		**15 24 10.7**	**+0.8**
SNGE	**Sanandaj**	**2.41**	**358**	*e*Pn	**Pn**		**15 24 11.4**	**+0.7**
HAGD	**Aghdareh**	**2.56**	**33**	*e*Pn	**Pn**		**15 24 14.2**	**+1.4**
HAGD				*e*			15 24 59.9	
HSRG	**Sareghieh**	**2.65**	**15**	*e*Pn	**Pb**		**15 24 16.9**	**-1.7**
HSRG				*e*			15 25 03.3	
BHD	**Baghdad**	**2.65**	**284**	*e*Pn	**Pn**		**15 24 14.0**	**+0.2**
BHD				*e*Sn	**Sn**		**15 24 48.0**	**+1.9**
JHBN	**Jahan bin**	**2.75**	**98**	*e*Pn	**Pn**		**15 24 17.0**	**+1.5**
JHBN				*e*			15 25 06.1	
ASAO	**Ashtian**	**2.84**	**48**	*e*P	**Pn**		**15 24 17.4**	**+0.7**
ASAO				*e*Sg	**Sb**		**15 24 55.0**	**-1.9**
IPIR	**Pirpir**	**2.90**	**89**	*e*Pn	**Pn**		**15 24 18.9**	**+1.4**
IPIR				*e*			15 24 57.4	
ROKH	**ROKH**	**3.04**	**95**	*e*Pn	**Pn**		**15 24 20.7**	**+1.3**
ROKH				*e*			15 25 20.4	
IRAZ	**Razeghan**	**3.41**	**36**	*e*Pn	**Pn**		**15 24 26.3**	**+1.9**
QABG	**Abgarm-Qazvin**	**3.50**	**30**	*e*Pn	**Pn**		**15 24 26.8**	**+1.1**
IKLH	**Kolahrood**	**3.52**	**78**	*e*Pn	**Pn**		**15 24 27.1**	**+1.0**
IQOM	**Qom**	**3.71**	**53**	*e*Pn	**Pn**		**15 24 29.5**	**+0.9**
IGAR	**Gharneh**	**3.88**	**93**	*e*Pn	**Pn**		**15 24 32.4**	**+1.4**
IGAR				*e*			15 25 21.5	
KLNJ	**Kolanjah**	**3.90**	**114**	*e*Pn	**Pn**		**15 24 32.5**	**+1.2**
KLNJ				*e*			15 25 54.1	
QSDN	**Sirdan**	**4.07**	**20**	*e*Pn	**Pn**		**15 24 35.5**	**+1.9**
IZEF	**Zefreh**	**4.11**	**86**	*e*Pn	**Pn**		**15 24 35.7**	**+1.5**
IVRN	**Varamin**	**4.24**	**56**	*e*Pn	**Pn**		**15 24 36.8**	**+1.1**
IRAM	**Ramesheh**	**4.26**	**100**	*e*Pn	**Pn**		**15 24 37.3**	**+1.1**
QALM	**Alamut, Qazvin**	**4.58**	**34**	*e*Pn	**Pn**		**15 24 40.4**	**-0.1**
IDMV	**Damavand**	**4.77**	**51**	*e*Pn	**Pn**		**15 24 43.5**	**+0.2**
ANAR	**Anarak**	**5.30**	**83**	*e*Pn	**Pn**		**15 24 51.1**	**+0.7**
ILAS	**Lasjerd**	**5.31**	**58**	*e*Pn	**Pn**		**15 24 51.8**	**+1.2**
IANJ	**Anjilo**	**6.04**	**61**	*e*Pn	**Pn**		**15 25 00.5**	**-0.1**

NEIC ***18*** *15:25:39.6±1.3,32.7N±0.1×47.6E±0.1,h10km±2km, mb4.0/4,mb_Lg3.5(TEH),ML3.5(THR), Error ellipse: s-maj=22.1km s-min=17.7km az=157.0*
IDC ***18*** *15:25:39.3±1.8,32.78N×47.52E,h0km, mb3.7/9, mb1 3.8/11,mb1mx3.6/40,mbtmp3.7/11,ML3.7/2, MS2.8/6, Ms1 2.8/6,ms1mx2.5/49,Error ellipse: s-maj=41.2km s-min=20.0km az=165.0*
TEH ***18*** *15:25:40.5,32.77N×47.52E,h8km,ML3.6*
ISN ***18*** *15:25:40.4±0.7,32.75N×47.65E,h29km±4km,ML3.6*
THR ***18*** *15:25:43.4±0.5,32.78N×47.61E,h18km±7km,ML3.5*
ISC 18 15:25:41.9±1.3,**32.76N**±0.03×**47.56E**±0.03,**h20**km±5km,
n73,σ1f33/74,mb3.9/11,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.80**	**18**	*e*Pg	**Pb**		**15 25 56.0**	**-1.2**
IKFM				*e*Sg	**Sg**		**15 26 08.5**	**+0.1**
IKMR	**Kamar-syah**	**1.03**	**42**	*e*Pg	**Pb**		**15 26 00.1**	**-0.9**
IKMR				*e*			15 26 20.7	
IDOB	**Doab**	**1.15**	**27**	*e*Sg	**Sg**		**15 26 19.7**	**+0.2**
IDOB				*e*Pg	**Pn**		**15 26 02.9**	**-0.3**
SHGR	**Shooshtar-Gavs**	**1.24**	**121**	*e*Pg	**Pg**		**15 26 05.8**	**-0.1**
SHGR	**Shooshtar-Gavs**	**1.24**	**121**	*e*Pg	**Pg**		**15 26 05.8**	**-0.1**
BMDN	**Meydan**	**1.40**	**49**	*e*			15 26 34.7	
BMDN				*e*Pg	**Pb**		**15 26 07.4**	**-0.2**
IBDR	**Badra**	**1.41**	**285**	*e*Pg	**Pn**		**15 26 07.0**	**+0.5**
IBDR				*e*Sg	**Sg**		**15 26 27.0**	**-0.6**
IBDR				AML	AML		15 26 31.7	
	comp=N,1μm,0.8s							
IBDR				AML	AML		15 26 36.1	
	comp=E,886nm,0.5s							
IKOM	**Komasi**	**1.41**	**358**	*e*			15 26 09.9	
IKOM				*e*Pg	**Pb**		**15 26 07.7**	**-0.1**
IKOM				*e*Sg	**Sg**		**15 26 28.1**	**+0.3**
KCHF	**Cheshme Sefid,**	**1.57**	**344**	*e*Pg	**Pb**		**15 26 10.3**	**-0.2**
KCHF				*e*			15 26 35.2	
KER	**Kermanshah**	**1.66**	**348**	*e*Pg	**Pb**		**15 26 12.1**	**+0.1**
HSAM	**Samen**	**1.69**	**31**	*e*Pg	**Pb**		**15 26 12.7**	**+0.1**
HSAM				*e*			15 26 40.5	
AHWZ	**Ahwaz**	**1.70**	**147**	*e*Pg	**Pb**		**15 26 12.9**	**+0.4**
IBZA	**Bozab**	**1.73**	**8**	*e*Pg	**Pb**		**15 26 13.2**	**0.0**
IGHG	**Ghaleghazi**	**1.77**	**333**	*e*Pn	**Pb**		**15 26 13.3**	**-0.6**
IGHG				*e*			15 26 47.9	
IVIS	**Veis**	**1.86**	**342**	*e*Pn	**Pb**		**15 26 15.4**	**+0.1**
IVIS				*e*			15 26 48.2	
NSR	**Nassriya**	**2.12**	**215**	*e*Pn	**Pn**		**15 26 16.0**	**-0.2**
NSR				*e*Sn	**Sn**		**15 26 41.0**	**-1.0**
IALM	**Almabolaq**	**2.16**	**13**	*e*Pn	**Pb**		**15 26 19.4**	**-1.1**
IDHR	**Dehrash**	**2.17**	**334**	*e*Pn	**Pb**		**15 26 19.7**	**-0.9**
IDHR				*e*			15 26 55.9	
ILIN	**Lien**	**2.21**	**347**	*e*Pn	**Pb**		**15 26 20.4**	**-1.0**
ILIN				*e*			15 26 56.7	
KHMZ	**Khomeyn**	**2.24**	**63**	*e*Pn	**Pb**		**15 26 21.1**	**-0.8**
KHMZ				*e*Sg	**Sg**		**15 26 52.6**	**-1.5**
KHMZ	**Khomeyn**	**2.24**	**63**	*e*Pn	**Pb**		**15 26 21.1**	**-0.8**
SNGE	**Sanandaj**	**2.34**	**356**	*e*Pn	**Pb**		**15 26 23.1**	**-0.4**
SNGE				IAML			15 26 59.5	
	comp=N,259nm,0.5s							
SNGE	**Sanandaj**	**2.34**	**356**	*e*Pn	**Pb**		**15 26 23.1**	**-0.4**
HAGD	**Aghdareh**	**2.45**	**32**	*e*Pn	**Pb**		**15 26 23.3**	**-2.1**
HAGD				*e*			15 27 04.9	
HSRG	**Sareghieh**	**2.55**	**13**	*e*Pn	**Pb**		**15 26 25.6**	**-1.6**
HSRG				*e*			15 27 10.0	
JHBN	**Jahan bin**	**2.68**	**100**	*e*Pn	**Pn**		**15 26 26.1**	**+1.8**
JHBN				*e*			15 27 14.8	
BHD	**Baghdad**	**2.72**	**282**	*e*Pn	**Pn**		**15 26 25.0**	**+0.5**
BHD				*e*Sn	**Sn**		**15 26 58.0**	**+1.2**
ASAO	**Ashtian**	**2.73**	**48**	*e*Pn	**Pb**		**15 26 27.6**	**-2.5**
ASAO	**Ashtian**	**2.73**	**48**	*e*Pn	**Pb**		**15 26 27.7**	**-2.5**
IPIR	**Pirpir**	**2.81**	**91**	*e*Pn	**Pn**		**15 26 28.4**	**+2.3**
IPIR				*e*			15 27 21.0	
ROKH	**ROKH**	**2.97**	**97**	*e*Pn	**Pn**		**15 26 30.6**	**+2.5**
IRAZ	**Razeghan**	**3.29**	**36**	*e*Pn	**Pn**		**15 26 35.7**	**+3.1**
QABG	**Abgarm-Qazvin**	**3.39**	**29**	*e*Pn	**Pn**		**15 26 35.7**	**+1.8**
IKLH	**Kolahrood**	**3.42**	**80**	*e*Pn	**Pn**		**15 26 37.4**	**+2.9**
IKLH				*e*			15 27 38.7	
IQOM	**Qom**	**3.59**	**54**	*e*Pn	**Pn**		**15 26 38.3**	**+1.6**
IGAR	**Gharneh**	**3.80**	**94**	*e*Pn	**Pn**		**15 26 41.1**	**+1.5**
IGAR				*e*			15 26 44.8	
KLNJ	**Kolanjah**	**3.85**	**116**	*e*Pn	**Pn**		**15 26 42.2**	**+1.8**
KLNJ				*e*			15 28 05.1	
QSDN	**Sirdan**	**3.97**	**19**	*e*Pn	**Pn**		**15 26 44.6**	**+2.7**
IZEF	**Zefreh**	**4.02**	**87**	*e*Pn	**Pn**		**15 26 44.8**	**+2.1**
IZEF				*e*			15 26 59.7	
IVRN	**Varamin**	**4.13**	**56**	*e*Pn	**Pn**		**15 26 46.2**	**+2.3**
IRAM	**Ramesheh**	**4.20**	**102**	*e*Pn	**Pn**		**15 26 46.1**	**+1.1**
QALM	**Alamut, Qazvin**	**4.46**	**34**	*e*Pn	**Pn**		**15 26 51.1**	**+2.3**
IFIR	**Firoozkooh**	**5.18**	**55**	*e*Pn	**Pn**		**15 26 59.8**	**+1.2**
ILAS	**Lasjerd**	**5.19**	**58**	*e*Pn	**Pn**		**15 27 00.2**	**+1.4**
ISAD	**Sadrabad**	**5.26**	**98**	*e*Pn	**Pn**		**15 27 00.7**	**+1.0**
ISHM	**Shahmirzad**	**5.64**	**56**	*e*Pn	**Pn**		**15 27 08.4**	**+2.9**
GEVA	**Gevas**	**6.64**	**328**	Pn	**Pn**		**15 27 19.6**	**+1.0**
MARD	**Mardin**	**7.18**	**311**	Pn	**Pn**		**15 27 24.9**	**-1.0**
ASF	**Jabal al Asfar**	**9.03**	**269**	Pn	**Pn**		**15 27 50.2**	**-1.0**
	comp=N,0.5nm,0.3s,baz=90,slow=13,SNR=2.7							
GEYT	**Alibeck**	**10.05**	**56**	LR	LR		15 32 53.4	
	comp=N,37nm,20.8s,baz=165,slow=43							
EIL	**Elat**	**11.22**	**257**	LR	LR		15 33 18.2	
	comp=N,15nm,19.5s,baz=114,slow=41							
KBZ	**Khabaz**	**11.55**	**343**	LR	LR		15 33 40.9	
	comp=N,38nm,20.0s,baz=182,slow=42							
ABKAR	**Akbulak array**	**18.91**	**26**	P	**P**		**15 30 01.3**	**+0.1**
AKTO	**Aktyubinsk**	**19.28**	**21**	P	**P**		**15 30 05.7**	**+0.4**
	comp=N,0.3nm,0.3s,baz=202,slow=10,SNR=11							
AKTO				LR	LR		15 40 05.1	
	comp=N,28nm,19.7s,baz=210,slow=45							
AKASG	**Malin Array Be**

comp=Z,44nm,1.1s
TRQA Tornquist 28.61 293 *e*P **P** **15 46 40.3 +1.0**
PLTB Pedras Altas 29.68 312 *e*P **P** **15 46 49.7 +0.8**
CNLB Canela 30.74 318 *e*P **P** **15 46 58.7 +0.4**
CPSB Cacapava Do Su 30.80 314 *e*P **P** **15 46 59.9 +1.2**
PLCA Paso Flores 31.41 280 P **P** **15 47 03.8 -0.4**
comp=Z,4.0nm,1.1s,baz=120,slow=10,SNR=6.3
PLCA ScP **ScP** **15 53 37.2 -0.9**
comp=Z,1.5nm,0.7s,baz=76,slow=0.6,SNR=3.4
PLCA Paso Flores 31.41 280 *e*P **P** **15 47 03.8 -0.4**
PLCA Paso Flores 31.41 280 *e*P **P** **15 47 05.5 +1.4**
SYO Syowa Base 32.42 142‖ *e*P **P** **15 47 09.0 -3.6**
SYO Syowa Base 32.42 142‖ *e*pP pP 15 47 20.0 +1.3
ITAB Concordia 33.09 318 *e*P **P** **15 47 18.7 -0.2**
TIJ01 Guaruva-PR 33.73 324 *e*P **P** **15 47 24.6 +0.1**
TIJ01 *e*pP **pP** **15 47 28.1 -2.4**
PET01 Itanhaem-SP 34.14 328 *e*P **P** **15 47 28.6 +0.7**
PET01 *e*S **S** **15 52 54.8 +2.4**
PARB Paraibuna 34.55 331 *e*P **P** **15 47 32.0 +0.4**
PARB *e*S **S** **15 52 59.9 +1.0**
MAN01 Angra dos Reis 34.56 333 *e*P **P** **15 47 31.7 0.0**
MAN01 *e*S **S** **15 53 00.1 +1.1**
SPB Sao Paulo 34.84 328 P **P** **15 47 35.0 +0.9**
SPB IAmb IAmb 15 47 36.8
comp=Z,26nm,1.1s
SPB Sao Paulo 34.84 328 *e*P **P** **15 47 34.6 +0.6**
QSPA South Pole Qui 34.89 180 P **P** **15 47 34.9 +0.5**
comp=Z,40nm,0.6s,baz=204,slow=2.0,SNR=323
QSPA ScP **ScP** **15 53 47.6 -2.3**
comp=Z,2.3nm,0.7s,baz=204,slow=1.3,SNR=8.4
QSPA South Pole Qui 34.89 180 P **P** **15 47 34.8 +0.5**
VAS01 Vassouras-RJ 34.99 335 *e*P **P** **15 47 35.6 +0.2**
VAO Valinhos 35.25 329 *e*P **P** **15 47 38.3 +0.6**
PTGB Pitanga 35.35 320 *e*P **P** **15 47 39.2 +0.6**
BO02 Sierra Bellavi 35.77 287 P **P** **15 47 43.4 +1.3**
RCLB Rio Claro- Sao 35.97 328 *e*P **P** **15 47 44.5 +0.6**
CPUP Villa Florida 36.00 312 P **P** **15 47 44.1 +0.1**
comp=Z,18nm,1.0s,baz=151,slow=8.6,SNR=23
CPUP ScP **ScP** **15 53 54.1 -0.2**
comp=Z,4.8nm,0.8s,baz=137,slow=4.7,SNR=11
CPUP LR LR 16 04 52.5
comp=Z,119nm,18.1s,baz=167,slow=40
CPUP Villa Florida 36.00 312 P **P** **15 47 43.9 -0.2**
CPUP IAmb IAmb 15 47 45.9
comp=Z,26nm,1.0s
CPUP Villa Florida 36.00 312 *e*P **P** **15 47 44.1 +0.1**
CPUP *e*pP **pP** **15 47 48.0 -2.0**
GO05 Huala 36.23 286 P **P** **15 47 45.5 -0.6**
GO05 IAmb IAmb 15 47 49.1
comp=Z,17nm,0.8s
BSCB Bom Sucesso 36.55 333 *e*P **P** **15 47 47.3 -1.5**
PEL Peldehue 36.96 289 P **P** **15 47 52.8 +0.6**
MT02 Curacav 37.12 288 P **P** **15 47 53.1 -0.4**
MT02 IAmb IAmb 15 47 58.3
comp=Z,46nm,1.4s
VA03 San Esteban 37.18 290 P **P** **15 47 55.6 +1.4**
RIB01 Linhares ES 37.19 340 *e*P **P** **15 47 54.2 0.0**
RIB01 *e*pP **pP** **15 47 56.9 -3.3**
ROC1 El Roble 37.27 289 P **P** **15 47 56.6 +1.6**
TRCB Terra Rica 37.31 321 *e*P **P** **15 47 56.1 +0.8**
BB19B Bebedouro 37.55 328 *e*P **P** **15 47 57.1 -0.2**
BB19B *e*pP **pP** **15 48 00.5 -2.8**
BSFB Barra de Sao F 37.75 340 *e*P **P** **15 47 58.4 -0.5**
PCMB Pacaembu 37.93 323 *e*P **P** **15 48 00.8 +0.3**
SJMB Sao Joao De Ma 37.94 339 *e*P **P** **15 48 00.6 +0.1**
NAN01 Guarapari, ES 38.58 341 *e*P **P** **15 48 05.4 -0.5**
CO02 Combarbal 38.63 291 P **P** **15 48 06.7 +0.3**
CO02 IAmb IAmb 15 48 12.6
comp=Z,29nm,0.9s
CO03 El Pedregal 38.75 291 P **P** **15 48 08.0 +0.6**
CO03 IAmb IAmb 15 48 11.6
comp=Z,59nm,1.5s
CO01 Juntas del Tor 39.11 293 P **P** **15 48 11.8 +1.2**
CO01 IAmb IAmb 15 48 19.1
comp=Z,29nm,0.9s
GO04 Tololo Observa 39.33 292 P **P** **15 48 12.8 +0.4**
GO04 IAmb IAmb 15 48 17.8
comp=Z,29nm,0.8s
ITRB Iturama 39.40 326 *e*P **P** **15 48 13.1 +0.3**
ITRB *e*pP **pP** **15 48 16.4 -2.4**
AC05 El Transito 40.11 294 P **P** **15 48 18.8 -0.1**
LCO Las Campanas 40.20 293 P **P** **15 48 19.6 -0.1**
IPMB Ipameri, GO 40.36 330 *e*P **P** **15 48 21.1 +0.2**
MC01 Montes Claros 40.47 336 *e*P **P** **15 48 21.8 0.0**
AQDB Aquidauana 40.57 318 *e*P **P** **15 48 22.3 -0.2**
SUR Sutherland 40.93 77 P **P** **15 48 26.5 +0.9**
comp=Z,13nm,0.8s,baz=208,slow=11,SNR=7.5
SUR Sutherland 40.93 77 P **P** **15 48 26.0 +0.3**
SUR IAmb IAmb 15 48 27.9
comp=Z,58nm,1.2s
MAW Mawson 40.98 144 P **P** **15 48 26.0 +0.6**
comp=Z,7.6nm,0.7s,baz=214,slow=7.9,SNR=20
MAW ScP **ScP** **15 54 11.0 -1.6**
comp=Z,4.2nm,0.8s,baz=280,slow=7.8,SNR=10
MAW LR LR 16 06 06.0
comp=Z,154nm,18.1s,baz=243,slow=37
MAW Mawson 40.98 144 P **P** **15 48 25.6 +0.1**
MAW **ScP** **15 54 12.2 -0.4**
AC04 Llanos de Chal 41.04 293 P **P** **15 48 27.2 +0.9**
GO03 Copiap 41.09 295 P **P** **15 48 27.2 +0.3**
AC02 Maricunga 41.14 297 P **P** **15 48 28.5 +0.7**
JANB Januaria 42.15 336 *e*P **P** **15 48 36.0 +0.5**
AC01 Pan de Azucar 42.46 296 P **P** **15 48 38.5 +0.5**
GDU01 Guandu, BA 42.51 343 *e*P **P** **15 48 38.4 -0.1**
GDU01 *e*pP **pP** **15 48 41.4 -3.2**
GO02 Mina Guanaco 42.75 298 P **P** **15 48 41.3 +0.6**
GO02 IAmb IAmb 15 48 43.3
comp=Z,32nm,0.8s
NBCP Cabaceiras do 43.55 344 *e*P **P** **15 48 47.0 +0.1**
NBCP *e*pP **pP** **15 48 50.5 -2.5**
PB14 IPOC Station P 43.61 297 P **P** **15 48 47.4 -0.2**
ARAG Araguaiana, MT 43.61 326 *e*P **P** **15 48 47.7 +0.4**
PB15 IPOC Station P 44.32 299 P **P** **15 48 54.0 +0.7**
LVC Limon Verde 44.54 300 LR LR 16 10 38.8
comp=Z,88nm,18.4s,baz=164,slow=40
LVC Limon Verde 44.54 300 P **P** **15 48 56.5 +1.2**
LVC IAmb IAmb 15 48 59.6
comp=Z,21nm,0.7s
LVC Limon Verde 44.54 300 *e*P **P** **15 48 55.5 +0.3**
LVC *e*pP **pP** **15 48 59.2 -2.0**
SALV Santo Antonio 44.76 321 *e*P **P** **15 48 57.2 +0.7**
PB06 IPOC Station P 44.79 300 P **P** **15 48 57.2 +0.3**
PB06 IAmb IAmb 15 49 00.7
comp=Z,20nm,0.9s
SDBA SAO DESIDERIO 44.84 336 *e*P **P** **15 48 57.4 +0.2**
SDBA *e*pP **pP** **15 49 00.3 -3.1**
PB04 IPOC Station P 45.39 299 P **P** **15 49 02.1 +0.3**
PB04 IAmb IAmb 15 49 26.9
comp=Z,24nm,1.0s
PB09 IPOC Station P 45.39 301 P **P** **15 49 03.0 +1.3**
PB07 IPOC Station P 45.77 300 P **P** **15 49 05.8 +1.0**
PB07 IAmb IAmb 15 49 12.3
comp=Z,23nm,0.8s
PEXB Peixe 45.98 332 *e*P **P** **15 49 07.1 +0.8**
PB01 IPOC Station P 46.15 301 P **P** **15 49 08.8 +1.2**
BOSA Boshof 46.27 77 P **P** **15 49 08.8 +0.2**
comp=Z,19nm,1.0s,baz=217,slow=7.7,SNR=17
BOSA Boshof 46.27 77 P **P** **15 49 09.1 +0.5**
PTLB Pontes e Lacer 46.47 317 *e*P **P** **15 49 10.1 +0.1**
PTLB *e*pP **pP** **15 49 13.8 -2.3**
PB08 IPOC Station P 46.75 302 P **P** **15 49 14.3 +1.5**
GO01 Chusmiza 47.18 302 P **P** **15 49 17.2 +1.0**
VNDA Vanda 47.24 183 P **P** **15 49 16.1 +0.8**
comp=Z,24nm,0.7s,baz=190,slow=6.0,SNR=180
VNDA LR LR 16 08 21.2
comp=Z,95nm,19.1s,baz=146,slow=35
VNDA Vanda 47.24 183 P **P** **15 49 16.2 +0.8**
PB11 IPOC Station P 47.32 302 P **P** **15 49 17.7 +0.8**
PSGCX Pisagua 47.69 301 P **P** **15 49 20.0 +0.3**
MNMC Minye Minye 47.83 302 P **P** **15 49 22.2 +1.2**
PB16 IPOC Station P 48.47 303 P **P** **15 49 26.8 +0.5**
PB12 IPOC Station P 48.63 302 P **P** **15 49 27.5 +0.5**
SMTB Santa Maria do 48.91 334 *e*P **P** **15 49 30.1 +1.1**
VILB Vilhena 49.16 317 *e*P **P** **15 49 31.3 +0.4**
VILB *e*pP **pP** **15 49 34.7 -2.3**
LBTB Lobatse 49.27 75 P **P** **15 49 32.1 +0.3**
LBTB IAmb IAmb 15 49 32.8
comp=Z,20nm,0.8s
CLDB Colider 49.45 323 *e*P **P** **15 49 32.2 -1.0**
CLDB *e*pP **pP** **15 49 37.0 -2.4**
LPAZ La Paz 49.59 306 P **P** **15 49 36.0 +1.0**
comp=Z,17nm,0.5s,baz=140,slow=5.2,SNR=44
LPAZ LR LR 16 11 13.8
comp=Z,48nm,21.0s,baz=168,slow=37
LPAZ La Paz 49.59 306 P **P** **15 49 35.7 +0.8**
LPAZ La Paz 49.59 306 *e*P **P** **15 49 35.3 +0.3**
LPAZ *e*pP **pP** **15 49 37.7 -3.3**
TSUM Tsumeb 49.77 62 P **P** **15 49 36.4 +0.6**
comp=Z,10nm,0.7s,baz=194,slow=6.5,SNR=24
TSUM Tsumeb 49.77 62 P **P** **15 49 35.9 +0.1**
TSUM IAmb IAmb 15 49 36.9
comp=Z,13nm,0.8s
RCBR Riachuelo 49.80 350 LR LR 16 06 05.0
comp=Z,148nm,20.6s,baz=160,slow=30
RCBR Riachuelo 49.80 350 *e*pP **P** **15 49 38.6 +2.8**
PRPB Parauapebas 52.06 332 *e*P **P** **15 49 53.7 +0.9**
NBMO Morrinhos-CE 52.80 345 *e*P **P** **15 49 58.8 +0.5**
NPGB Novo Progresso 52.88 325 *e*P **P** **15 49 58.4 -0.5**
ROSB Rosrio 53.91 340 *e*P **P** **15 50 06.5 +0.1**
SAML Samuel 53.98 315 P **P** **15 50 06.7 -0.2**
SAML IAmb IAmb 15 50 08.0
comp=Z,24nm,1.1s
SAML Samuel 53.98 315 *e*P **P** **15 50 07.0 0.0**
ETMB Extrema 54.45 312 *e*P **P** **15 50 10.6 +0.1**
MATP Matopo 54.54 74 P **P** **15 50 11.1 -0.1**
comp=Z,19nm,1.0s,baz=220,slow=7.3,SNR=25
CASY Casey 54.72 161 P **P** **15 50 11.6 -0.1**
CASY IAmb IAmb 15 50 23.6
comp=Z,23nm,0.9s
TMAB Tom-Au,PA,Br 55.28 335 *e*P **P** **15 50 17.8 +1.4**
ITTB Itaituba 55.52 326 *e*P **P** **15 50 18.5 +0.4**
MALB Monte Alegre 57.44 328 *e*P **P** **15 50 32.5 +0.8**
MCPB Macapa, AP 58.23 331 *e*P **P** **15 50 38.0 +0.7**
MACA Manacapuru-AM 58.33 321 *e*P **P** **15 50 36.8 -1.2**
LSZ Lusaka 58.58 70 P **P** **15 50 39.8 -0.1**
comp=Z,4.8nm,0.7s,baz=162,slow=8.4,SNR=5.7
LSZ Lusaka 58.58 70 P **P** **15 50 40.0 +0.1**
CZSB Cruzeiro do Su 59.20 305 *e*P **P** **15 50 44.3 +0.2**
PTGA Pitinga 60.34 323 LR LR 16 16 50.3
comp=Z,73nm,19.1s,baz=125,slow=36
MDP Montagnes des 63.61 332 LR LR 16 16 48.8
comp=Z,187nm,19.5s,baz=142,slow=34
LIC Lamto 64.28 26 *e*P **P** **15 51 17.3 -0.9**
comp=Z,220nm,0.9s
KIC Kosan Boka 64.48 26 *e*P **P** **15 51 18.8 -0.7**
comp=Z,98nm,0.9s
TIC Toumodi 64.68 25 *e*P **P** **15 51 20.0 -0.9**
DBIC Dimbokro 64.75 26 P **P** **15 51 21.6 +0.3**
comp=Z,27nm,0.6s,baz=169,slow=7.4,SNR=68
DBIC LR LR 16 12 40.2
comp=Z,143nm,20.8s,baz=176,slow=30
DBIC Dimbokro 64.75 26 P **P** **15 51 21.5 +0.3**
OPO Ambohidratompo 66.54 89 P **P** **15 51 33.9 +0.7**
comp=Z,12nm,1.0s,baz=207,slow=8.1,SNR=5.2
FLOC Florencia 68.77 308 P **P** **15 51 46.9 -0.1**
OTAV Otavalo 68.88 304 P **P** **15 51 49.5 +1.3**
OTAV Otavalo 68.88 304 *e*P **P** **15 51 50.0 +1.8**
RUSC La Rusia 71.49 312 P **P** **15 52 03.5 -0.6**
TOSP Speyside 71.79 326 P **P** **15 52 05.4 +0.1**
TOAO Torodi Ar. Sit 72.70 30 P **P** **15 52 11.2 +0.5**
TORD Torodi Ar. Bea 72.70 30 P **P** **15 52 11.5 +0.7**
comp=Z,38nm,0.6s,baz=201,slow=6.5,SNR=211
TORD LR LR 16 17 20.6
comp=Z,342nm,21.6s,baz=195,slow=30
TORD Torodi Ar. Bea 72.70 30 P **P** **15 52 11.1 +0.3**
SDV Santo Domingo 73.19 316 *e*P **P** **15 52 14.9 +1.0**
PAYG Puerto Ayora 74.02 293 P **P** **15 52 19.9 +1.2**
WHZ Wether Hill Ro 78.22 191 P **P** **15 52 42.3 +0.1**
WHZ IAmb IAmb 15 52 44.9
comp=Z,19nm,1.0s
MLZ Mavora Lakes 78.72 192 P **P** **15 52 46.0 +1.0**
MLZ IAmb IAmb 15 52 48.1
comp=Z,33nm,1.3s
HUMP Col San Antoni 79.93 324 P **P** **15 52 52.2 +0.4**
HUMP IAmb IAmb 15 52 56.9
comp=Z,25nm,1.1s
RPZ Rata Peaks 79.97 194 P **P** **15 52 51.5 -0.3**
RPZ IAmb IAmb 15 53 01.7
comp=Z,23nm,1.3s
LTZ Lake Taylor 80.71 195 P **P** **15 52 55.6 -0.3**
LTZ IAmb IAmb 15 53 05.6
comp=Z,23nm,1.1s
JTS Las Juntas de 80.74 303 P **P** **15 52 57.4 +1.2**
JTS IAmb IAmb 15 53 04.3
comp=Z,25nm,1.1s
THZ Tophouse 81.61 196 P **P** **15 53 00.8 +0.1**
THZ IAmb IAmb 15 53 08.8
comp=Z,14nm,0.7s
ACON Acoyapa 82.30 304 P **P** **15 53 04.9 +0.4**
TAM Tamanrasset 82.94 31 P **P** **15 53 08.7 +0.9**
TAM IAmb IAmb 15 53 11.6
comp=Z,17nm,1.1s
MATN Matagalpa 83.49 304 P **P** **15 53 11.1 +0.3**
TBI Tubuai 87.14 232 *e*LR LR 16 20 55.9
comp=Z,148nm,28.8s
PPT2 Papeete2 92.19 234 *e*LR LR 16 23 18.8
comp=Z,118nm,22.8s
PPT Papeete 92.21 234 LR LR 16 29 37.1
comp=Z,142nm,18.1s,baz=140,slow=32
STKA Stephens Creek 92.66 171 P **P** **15 53 54.6 -0.1**
comp=Z,1.7nm,0.8s,baz=149,slow=5.8,SNR=3.1
STKA LR LR 16 34 56.2
comp=Z,236nm,18.4s,baz=204,slow=35
KEST Kesra 96.21 30 LR LR 16 33 18.9
comp=Z,237nm,19.5s,baz=203,slow=33
ESDC Sonseca Array 96.88 18 P **P** **15 54 15.3 +1.7**
comp=Z,1.4nm,0.8s,baz=182,slow=4.7,SNR=9.0
ESDC LR LR 16 32 30.8
comp=Z,130nm,21.4s,baz=170,slow=32
ESDC Sonseca Array 96.88 18 P **P** **15 54 15.3 +1.7**
ASAR Alice Springs 99.79 163 P **Pdif** **15 54 26.4 -0.9**
comp=Z,2.4nm,0.8s,baz=180,slow=3.9,SNR=26
ASAR LR LR 16 38 14.8
comp=Z,77nm,18.8s,baz=172,slow=34
ASAR Alice Springs 99.79 163 Pdif **Pdif** **15 54 25.5 -1.7**
DZM Mont Dzumac 101.89 194 *e*LR LR 16 27 47.5
comp=Z,238nm,23.1s
WRA Warramunga Arr 103.50 163 Pdiff **Pdif** **15 54 43.5 -0.2**
comp=Z,0.5nm,0.6s,baz=200,slow=4.4,SNR=6.3
MSU Marysvale 117.61 298 PKPdf **PKiKP** **15 59 29.9 +1.4**
PSUT Pine Spring 118.47 297 PKPdf **PKiKP** **15 59 30.8 +0.6**
TPNV Topopah Spring 118.50 294 **PKiKP** **15 59 31.1 +0.9**
TCUT Toone Canyon 119.21 301 **PKiKP** **15 59 32.1 +0.5**
PDAR Pinedale Array 119.57 303 PKP **PKPdf** **15 59 31.4 -0.7**
comp=Z,0.6nm,0.6s,baz=146,slow=5.3,SNR=8.5
HWUT Hardware Ranch 119.66 301 PKPdf **PKPdf** **15 59 32.3 +0.1**
NVAR Mina Array Bea 120.69 294 PKP **PKiKP** **15 59 35.3 +0.8**
comp=Z,0.7nm,0.6s,baz=112,slow=3.4,SNR=8.1
NVAR Mina Array Bea 120.69 294 PKPdf **PKiKP** **15 59 35.1 +0.6**
LOHW Long Hollow 120.71 303 **PKiKP** **15 59 34.5 +0.1**
TPAW Teton Pass 120.78 303 **PKPdf** **15 59 33.8 -0.7**
FXWY Fox Creek 120.93 303 **PKiKP** **15 59 35.0 +0.1**
IMW Indian Meadow 121.08 303 PKPdf **PKiKP** **15 59 35.4 +0.2**
NIL Nilore 123.09 78 PKPdf **PKiKP** **15 59 39.1 -0.1**
HRY Holter Researc 123.59 305 **PKiKP** **15 59 40.2 +0.3**
WVOR Wild Horse Val 123.81 297 **PKiKP** **15 59 41.2 +0.8**
FINES FINESS Array B 124.00 28 PKP **PKPdf** **15 59 39.7 0.0**
comp=Z,3.3nm,0.5s,baz=162,slow=3.1,SNR=20
CHGR Chuyangaron 124.52 71 **PKiKP** **15 59 42.1 +0.2**
MSO Missoula 124.67 304 PKPdf **PKiKP** **15 59 42.3 +0.3**
BMO Blue Mountains 124.89 300 PKPdf **PKiKP** **15 59 42.4 -0.1**
GAR Garm 125.39 71 PKPdf **PKiKP** **15 59 43.9 +0.3**
I07A Izee 125.43 298 PKPdf **PKiKP** **15 59 44.3 +0.8**
CMAR Chiang Mai Arr 125.75 111 PKP **PKPdf** **15 59 44.5 0.0**
comp=Z,1.4nm,0.4s,baz=237,slow=4.0,SNR=12
CMAR Chiang Mai Arr 125.75 111 PKPdf **PKiKP** **15 59 44.8 0.0**
PINE Pine Mountain 125.95 297 PKPdf **PKiKP** **15 59 45.4 +0.7**
G08A Pilot Rock 126.02 299 PKPdf **PKiKP** **15 59 45.2 +0.5**
ABKAR Akbulak array 127.37 55 PKPdf **PKPdf** **15 59 46.8 +0.3**
KLMR Klimovskoe 127.53 35 *e*PKPdf **PKPdf** **15 59 46.6 +0.2**
KLMR AMP 15 59 48.2
comp=Z,17nm,1.3s
SUMG Summit 127.86 356 PKPdf **PKiKP** **15 59 48.9 +1.0**
LTY Liberty 128.24 300 **PKiKP** **15 59 49.4 +0.4**
KK31 Karatay Array 128.40 68 PKPdf **PKPdf** **15 59 48.9 +0.2**
KKAR Karatay Array 128.40 68 **PKPdf** **15 59 48.9 +0.2**
KKAR Karatay Array 128.40 68 PKPdf **PKPdf** **15 59 48.9 +0.2**
LON Longmire 128.46 299 **PKPdf** **15 59 49.1 +0.3**
KSH Kashi 128.84 74 PKP **PKPdf** **15 59 49.8 -0.1**
KSH sPKP 16 00 01.4
KSH PP **PP** **16 01 57.3 -0.3**
KSH LR LR
comp=Z,130nm,4.7s
KSH LR LR
comp=Z,120nm,4.2s
KSH LR LR
comp=Z,320nm,5.8s

AAK Ala-Archa 130.20 71 PKPdf **PKiKP** **15 59 53.0 -0.2**
ARCES ARCESS Array B 130.48 22 PKP **PKPdf** **15 59 52.2 +0.3**
comp=Z,24nm,1.0s,baz=222,slow=1.6,SNR=24
ARCES PP **PP** **16 02 04.7 -2.9**
comp=Z,1.9nm,0.7s,baz=212,slow=4.3,SNR=4.3
ARE0 ARCESS Array S 130.48 22 PKPdf **PKiKP** **15 59 53.0 +0.2**
ARU Arti 131.59 48 PKPdf **PKiKP** **15 59 55.0 -0.3**
BRVK Borovoye 134.78 57 PKPdf **PKPdf** **16 00 00.5 0.0**
YKA Yellowknife Ar 135.34 319 PKP **PKPdf** **16 00 01.1 0.0**
comp=Z,7.0nm,0.9s,baz=128,slow=2.0,SNR=5.7
MK31 Makanchi Array 137.12 71 PKPdf **PKPdf** **16 00 05.3 +0.3**
MKAR Makanchi Array 137.12 71 PKP **PKPdf** **16 00 05.7 +0.6**
comp=Z,1.1nm,0.6s,baz=354,slow=1.2,SNR=5.4
MKAR Makanchi Array 137.12 71 PKPdf **PKPdf** **16 00 05.8 +0.8**
WMQ Urumqi 138.23 78 *e*PKP **PKiKP** **16 00 09.5 +0.2**
CD2 Chengdu 138.30 106 PKP **PKPdf** **16 00 08.0 +0.2**
GTA Gaotai 142.23 93 ‖PKP **PKPdf** **16 00 11.3 -3.5**
GTA pPKP PKiKP 16 00 17.3 -0.5
GTA sPKP 16 00 21.0
GTA LR LR
comp=Z,65nm,17.1s
GTA LR LR
comp=Z,150nm,17.1s
GTA LR LR
comp=Z,70nm,17.5s
ZALV Zalesovo Beam 142.49 63 PKhKP PKPpre 16 00 10.8
comp=Z,2.2nm,0.6s,baz=231,slow=3.3,SNR=10
ZALV Zalesovo Beam 142.49 63 PKPpre 16 00 09.9
HYT Haines Junctio 143.99 308 **PKPdf** **16 00 16.2 -0.9**
PCA Pinnacle 144.96 306 **PKPdf** **16 00 19.4 +0.7**
INK Inuvik 144.97 321 **PKPdf** **16 00 18.3 -0.1**
CTGM Chitina Glacie 145.78 307 PKPbc **PKiKP** **16 00 23.2 -1.2**
BARN Barnard Glacie 145.96 307 PKPbc **PKPab** **16 00 23.0 +1.0**
DAWY Dawson 145.98 313 PKPdf **PKPbc** **16 00 21.2 0.0**
ISLE Juniper Island 146.11 306 PKPbc **PKPab** **16 00 23.3 +0.8**
BALM Baldy 146.26 307 **PKPab** **16 00 23.9 +0.8**
TGL Tana Glacier 146.39 306 **PKPab** **16 00 24.0 +0.4**
CRQM Cirque 146.53 306 PKPbc **PKPab** **16 00 24.7 +0.5**
BCAR Beaver Creek A 146.68 311 PKPdf **PKPbc** **16 00 23.4 0.0**
MCARA McCarthy VSAT 146.69 307 PKPdf **PKPbc** **16 00 23.5 +0.2**
VRDI Verde Repeater 146.83 307 PKPdf **PKPbc** **16 00 23.7 -0.3**
EGAK Eagle 146.92 314 PKPdf **PKPbc** **16 00 23.8 -0.1**
GLB Gilahina Butte 147.07 307 PKPdf **PKPbc** **16 00 24.7 +0.2**
NJ2 Nanjing 147.10 121 *e*PKPbc **PKPbc** **16 00 25.8 +0.4**
MENT Mentasta 147.49 310 PKPdf **PKPbc** **16 00 25.5 -0.1**
EYAK Cordova Ski Ar 147.67 305 PKPdf **PKPbc** **16 00 24.8 -1.3**
DOT Dot Lake 147.84 311 **PKPbc** **16 00 27.2 +0.7**
KLU Klutina 148.05 307 **PKPbc** **16 00 27.9 +0.8**
RIDG Independent Ri 148.20 311 **PKPbc** **16 00 28.3 +0.8**
PAX Paxson 148.27 310 **PKPbc** **16 00 28.3 +0.6**
NRIK Noril'sk 148.77 38 PKPbc **PKPbc** **16 00 28.8 +0.1**
comp=Z,16nm,1.0s,baz=162,slow=2.6,SNR=16
SCM Sheep Creek Mo 148.79 307 **PKiKP** **16 00 30.0 -0.4**
BTO Baotou 148.82 101 *e*PKPbc **PKPbc** **16 00 29.1 -0.8**
SML Sawmill 149.24 307 **PKPbc** **16 00 30.7 +0.5**
HDA Harding Lake 149.25 312 **PKPbc** **16 00 30.4 +0.4**
IL31 149.30 313 **PKPbc** **16 00 30.5 +0.4**
ILAR Eielson Array 149.30 313 PKPbc **PKPbc** **16 00 30.4 +0.3**
comp=Z,37nm,1.0s,baz=115,slow=1.2,SNR=115
ILAR Eielson Array 149.30 313 PKPbc **PKPbc** **16 00 30.3 +0.1**
GHO Glory Hole Cre 149.50 306 **PKiKP** **16 00 31.5 -0.4**
PMR Palmer 149.55 306 **PKiKP** **16 00 31.7 -0.2**
CCB Clear Creek Bu 149.66 312 **PKPbc** **16 00 31.1 +0.1**
WRH Wood River Hil 149.75 312 **PKPbc** **16 00 31.5 +0.3**
HHC Hu-ho-hao-te 149.85 102 *e*PKPbc **PKPdf** **16 00 29.9 +2.3**
RND Reindeer 149.86 310 **PKPbc** **16 00 32.4 -0.2**
MDM Murphy Dome 149.90 313 **PKPbc** **16 00 31.6 -0.1**
MCK McKinley 149.97 310 **PKiKP** **16 00 32.4 -0.4**
KDAK Kodiak Island 150.08 298 **PKiKP** **16 00 32.9 -0.2**
OHAK Old Harbor 150.25 296 **PKiKP** **16 00 33.3 -0.1**
SUA Susitna One 150.26 305 **PKiKP** **16 00 33.9 +0.3**
TRF Thorofare Moun 150.50 309 **PKiKP** **16 00 34.0 -0.1**
TOLK Toolik Lake Re 150.85 320 **PKiKP** **16 00 34.6 +0.1**
JCJ Chichijima 150.87 162 PKPbc **PKPbc** **16 00 32.8 -2.3**
comp=Z,14nm,0.4s,baz=279,slow=23,SNR=9.6
BPAW Bear Paw Mtn. 150.93 311 **PKPbc** **16 00 34.1 0.0**
RSO Redoubt South 150.96 303 **PKiKP** **16 00 35.4 +0.3**
COLD Coldfoot 150.99 317 PKPbc **PKiKP** **16 00 35.2 +0.4**
SONM Songino Array 151.16 86 PKPbc **PKPbc** **16 00 35.4 +0.1**
comp=Z,15nm,0.7s,baz=225,slow=3.1,SNR=50
SONM Songino Array 151.16 86 PKPbc **PKPbc** **16 00 35.1 -0.2**
PPLA Purkeypile 151.24 308 **PKiKP** **16 00 35.5 -0.1**
TLY Talaya 151.50 77 PKPbc **PKiKP** **16 00 36.4 +0.1**
ULN Ulaanbaatar 151.55 86 **PKPbc** **16 00 36.1 -0.2**
BJT Baijiatuau 151.82 108 **PKPbc** **16 00 37.0 +0.1**
TTA Tatalina 152.97 307 **PKiKP** **16 00 39.7 +0.6**
RDOG Red Dog Mine 155.81 319 PKPab **PKPab** **16 01 03.4 +1.1**
MJAR Matsushiro Arr 158.96 148 PKPab **PKPab** **16 01 17.9 +1.3**
comp=Z,0.8nm,0.6s,baz=191,slow=5.3,SNR=4.6

ISN ***18*** *15:46:37.9±1.2, 32°.63N×47°.56E, h15km±6km, ML2.8*
TEH ***18*** *15:46:40.0, 32°.67N×47°.56E, h14km, ML3.0*
ISC 18 15:46:39.9±1.5, 32°.60N±0°.04×47°.51E±0°.04, h12km±12km, n36, σ1°.55/42, Iran-Iraq border region

Code	Station Name	Δ°	AΔ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
IKFM	**Kafar-mosalman**	**0.97**	**17**	*e*Pg		**Pg**	**15 46 56.4**	**-2.2**
IKMR	**Kamar-syah**	**1.17**	**38**	*e*Pg		**Pb**	**15 47 00.5**	**-1.7**
IKMR				*e*			15 47 03.1	
IKMR				*e*Sg		**Sg**	**15 47 16.9**	**-0.9**
SHGR	**Shooshtar-Gavs**	**1.19**	**114**	*e*Pg		**Pn**	**15 47 03.9**	**+1.4**
IDOB	**Doab**	**1.31**	**25**	*e*Sg		**Sb**	**15 47 20.9**	**-0.7**
IDOB				*e*Pg		**Pn**	**15 47 03.0**	**-1.4**
IBDR	**Badra**	**1.43**	**291**	*e*Pg		**Pn**	**15 47 04.0**	**-1.7**
IBDR				*e*Sg		**Sn**	**15 47 24.0**	**-0.5**
IBDR				AML	AML		15 47 32.2	
	comp=E,148nm,0.5s							
IBDR				AML	AML		15 47 32.4	
	comp=N,158nm,0.6s							
BMDN	**Meydan**	**1.54**	**45**	*e*			15 47 34.3	
BMDN				*e*Pg		**Pn**	**15 47 07.1**	**-0.3**
IKOM	**Komasi**	**1.57**	**360**	*e*			15 47 12.6	
IKOM				*e*Pg		**Pn**	**15 47 08.4**	**+0.5**
IKOM				*e*Sg		**Sn**	**15 47 28.6**	**+0.3**
AHWZ	**Ahwaz**	**1.59**	**142**	*e*Pg		**Pb**	**15 47 09.7**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.72**	**347**	*e*Pg		**Pb**	**15 47 11.2**	**-0.5**
KCHF				*e*			15 47 36.6	
KER	**Kermanshah**	**1.81**	**350**	*e*Pg		**Pb**	**15 47 13.0**	**-0.2**
HSAM	**Samen**	**1.85**	**29**	*e*Pg		**Pn**	**15 47 12.4**	**+0.6**
HSAM				*e*			15 47 44.1	
IBZA	**Bozab**	**1.89**	**9**	*e*Pg		**Pn**	**15 47 13.5**	**+1.1**
IBZA				*e*			15 47 45.3	
IGHG	**Ghaleghazi**	**1.90**	**336**	*e*Pn		**Pb**	**15 47 14.1**	**-0.7**
IGHG				*e*			15 47 51.6	
NSR	**Nassriya**	**1.97**	**217**	*e*Pn		**Pn**	**15 47 13.0**	**-0.1**
NSR				*e*Sn		**Sn**	**15 47 37.0**	**-0.7**
IVIS	**Veis**	**2.00**	**344**	*e*Pn		**Pb**	**15 47 15.8**	**-0.6**
IVIS				*e*			15 47 47.4	
IDHR	**Dehrash**	**2.30**	**336**	*e*		**Sg**	**15 48 01.6**	**+7.7**
KHMZ	**Khomeyn**	**2.35**	**60**	*e*Pn		**Pn**	**15 47 19.8**	**+1.2**
SNGE	**Sanandaj**	**2.49**	**357**	*e*Pn		**Pn**	**15 47 21.6**	**+1.0**
JHBN	**Jahan bin**	**2.69**	**97**	*e*Pn		**Pn**	**15 47 24.0**	**+0.6**
JHBN				*e*			15 48 17.4	
HSRG	**Sareghieh**	**2.71**	**13**	*e*Pn		**Pn**	**15 47 25.1**	**+1.4**
HSRG				*e*			15 48 07.7	
BHD	**Baghdad**	**2.72**	**285**	*e*Pn

*DJA **18** 15:53:20.5±0.4,6°N±6°×12°4E±°, h487km±7km, M4.1/17, mb4.3/17, mB4.5/10, MLv4.7/8, Mw(mB)3.7/10*
*IDC **18** 15:53:21.8±1.0,5°67N×124°01E, h535km±13km, mb3.1/14, mb1 3.3/18, mb1mx3.2/42, mbtmp4.2/18, Error ellipse: s-maj=16.5km s-min=8.5km az=78.0*
*NEIC **18** 15:53:21.2±1.3,5°70N±0.09×124°0E±0°.1, h530km±8km, mb4.5/56, Error ellipse: s-maj=15.3km s-min=12.9km az=68.0*

ISC 18 15:53:20.4±0.5,**5°73N**±0°.05×**124°03E**±0°.06,**h517**km±6km, **n114,** σ1§**28**/126, **mb4.3**/37, **1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.94**	**33**	*eP*	**P**	**P**	**15 54 22.6**	**-0.6**
SKMP				*eS*		**S**	**15 55 13.3**	**-1.0**
KCP	**Kidapawan**	**1.65**	**40**	*i/P*	**P**	**P**	**15 54 27.4**	**+1.8**
KCP				*i S*		**S**	**15 55 22.2**	**+3.6**
DDMP	**Don Marcelino,**	**1.71**	**77**	*eP*	**P**	**P**	**15 54 25.6**	**-0.2**
DDMP				*eS*		**S**	**15 55 17.3**	**-1.6**
BUKP	**Musuan**	**2.37**	**26**	*eP*	**P**	**P**	**15 54 27.0**	**-2.1**
BUKP				*eS*		**S**	**15 55 27.5**	**+2.7**
MATI	**Mati**	**2.52**	**61**	*eP*	**P**	**P**	**15 54 27.1**	**-2.7**
MATI				*eS*		**S**	**15 55 24.9**	**-1.3**
CNOP	**Candoni, Negro**	**4.30**	**341**	*eP*	**P**	**P**	**15 54 40.9**	**-1.5**
CNOP				*eS*		**S**	**15 55 46.5**	**-2.7**
GUIM	**Jordan**	**5.07**	**344**	*eP*	**P**	**P**	**15 54 46.2**	**-2.7**
GUIM				*eS*		**S**	**15 55 58.1**	**-3.1**
KMSI	**Cibinong**	**5.12**	**181**	P	**P**	**P**	**15 54 49.2**	**-0.3**
	0.3nm84nm,0.8s							
GTOI	**Gorontalo**	**5.16**	**191**	P	**P**	**P**	**15 54 46.7**	**-3.1**
	0.1nm290nm30nm,0.6s							
MYLDM	**Lahad Datu**	**5.53**	**265**	P	**P**	**P**	**15 54 54.8**	**+1.7**
CUYO	**Cuyo Island**	**5.90**	**330**	*eP*	**P**	**P**	**15 54 57.1**	**+0.6**
TNTI	**Ternate**	**5.95**	**146**	P	**P**	**P**	**15 54 56.7**	**-0.3**
TNTI	**Ternate**	**5.95**	**146**	P	**P**	**P**	**15 54 57.1**	**0.0**
MPSI	**Mapaga**	**6.76**	**218**	P	**P**	**P**	**15 55 04.8**	**-0.1**
	0.1nm397nm24nm,0.7s							
LUWI	**Luwuk**	**6.84**	**191**	P	**P**	**P**	**15 55 03.6**	**-2.1**
	0.5nm1µm55nm,0.6s							
LUWI	**Luwuk**	**6.84**	**191**	P	**P**	**P**	**15 55 06.1**	**+0.5**
ENPP	**El Nido**	**7.09**	**320**	*eP*	**P**	**P**	**15 55 07.4**	**-0.7**
KKM	**Kota Kinabalu**	**7.78**	**273**	P	**P**	**P**	**15 55 14.8**	**-0.4**
SANI	**Sanana**	**7.97**	**166**	P	**P**	**P**	**15 55 14.3**	**-2.7**
	2µm63nm,0.8s							
TGY	**Tagaytay City**	**8.86**	**340**	P	P	P	15 55 30.1	+3.9
	59nm,0.3s,baz=160,slow=21,SNR=4.0							
SIJI	**Sorong**	**9.76**	**132**	P	**P**	**P**	**15 55 37.1**	**+1.6**
	6.8nm,0.3s,baz=321,slow=13,SNR=16							
SPSI	**Sidrap Palu**	**10.53**	**204**	P	**P**	**P**	**15 55 45.2**	**+1.7**
	890nm127nm,0.8s							
BNSI	**Bone**	**10.80**	**201**	P	**P**	**P**	**15 55 49.8**	**+3.4**
	1µm167nm,0.8s							
MTKI	**Muara Teweh, K**	**11.27**	**234**	P	**P**	**P**	**15 55 52.8**	**+1.4**
	74nm,0.5s							
KAPI	**Kappang**	**11.49**	**202**	P	**P**	**P**	**15 55 54.9**	**+1.2**
	1.7nm,0.3s,baz=61,slow=5.9,SNR=4.9							
FAKI	**Fak Fak**	**11.88**	**136**	P	**P**	**P**	**15 55 59.0**	**+1.2**
SBUM	**Sibu**	**12.22**	**255**	P	**P**	**P**	**15 56 01.9**	**+0.6**
KSM	**Kuching**	**14.33**	**253**	P	**P**	**P**	**15 56 22.9**	**-0.6**
SOEI	**Soe**	**15.38**	**179**	P	**P**	**P**	**15 56 34.5**	**-0.1**
SOEI					IAmb	IAmb	15 56 54.8	
	comp=Z,24nm,1.1s							
BATI	**Baumata**	**15.83**	**181**	P	**P**	**P**	**15 56 39.5**	**+0.4**
	comp=Z,3.9nm,0.3s,baz=302,slow=3.4,SNR=5.5							
DLV	**T Lat**	**16.55**	**293**	P	**P**	**P**	**15 56 46.2**	**-0.4**
DLV					IAmb	IAmb	15 56 46.9	
	comp=Z,18nm,0.9s							
SMPI	**Sarmi**	**16.55**	**117**	P	**P**	**P**	**15 56 47.9**	**+1.5**
	comp=Z,22nm,1.4s							
JAGI	**Jajag, Banyuwa**	**17.20**	**215**	P	**P**	**P**	**15 56 52.3**	**-0.4**
TWG	**Pinlang**	**17.23**	**351**	P	**P**	**P**	**15 56 51.4**	**-1.5**
YULB	**Yu-li**	**17.76**	**352**	P	**P**	**P**	**15 56 56.0**	**-1.8**
YULB					IAmb	IAmb	15 57 10.8	
	comp=Z,37nm,1.6s							
TPUB	**Ta-pu**	**17.77**	**350**	P	**P**	**P**	**15 56 57.9**	**-0.1**
SSLB	**Suanglung**	**18.20**	**351**	P	**P**	**P**	**15 57 01.3**	**-0.5**
NACB	**Ninganchiao**	**18.49**	**353**	P	**P**	**P**	**15 57 04.5**	**+0.1**
NACB					IAmb	IAmb	15 57 25.9	
	comp=Z,28nm,1.2s							
JAY	**Jayapura**	**18.56**	**116**	P	**P**	**P**	**15 57 06.2**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=111,slow=14,SNR=8.8							
YHNB	**Yeheng**	**19.00**	**353**	P	**P**	**P**	**15 57 09.4**	**+0.2**
QIZ	**Qiongzhong**	**19.13**	**315**	P	**P**	**P**	**15 57 10.2**	**-0.1**
QIZ					IAmb	IAmb	15 57 60.0	
	comp=Z,19nm,1.1s							
MTN	**Manton Dam**	**19.75**	**159**	P	**P**	**P**	**15 57 15.5**	**-0.5**
KNRA	**Kununurra**	**21.78**	**168**	P	**P**	**P**	**15 57 35.0**	**+0.6**
KNRA					IAmb	IAmb	15 57 59.7	
	comp=Z,41nm,1.7s							
KULM	**Kulim**	**23.27**	**270**	P	**P**	**P**	**15 57 47.4**	**-0.5**
KULM					IAmb	IAmb	15 58 33.4	
	comp=Z,7.5nm,1.1s							
FITZ	**Fitzroy Crossi**	**23.73**	**176**	P	**P**	**P**	**15 57 51.0**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=14,slow=6.9,SNR=7.5							
FITZ	**Fitzroy Crossi**	**23.73**	**176**	P	**P**	**P**	**15 57 51.3**	**-0.5**
FITZ					IAmb	IAmb	15 58 28.0	
	comp=Z,19nm,1.6s							
PBKT	**Sadao Pong**	**25.02**	**297**	P	**P**	**P**	**15 58 03.6**	**+0.3**
PBKT					IAmb	IAmb	15 58 04.6	
	comp=Z,7.5nm,1.0s							
NJ2	**Nanjing**	**26.63**	**350**	*eP*	**P**	**P**	**15 58 18.4**	**+1.1**
NJ2					pmax	pmax		
	comp=Z,8.0nm,0.6s							
GSI	**Gunungsitoli**	**26.76**	**262**	P	**P**	**P**	**15 58 18.0**	**-0.7**
COEN	**Coen**	**27.27**	**136**	P	**P**	**P**	**15 58 22.9**	**-0.3**
COEN					IAmb	IAmb	15 59 13.8	
	comp=Z,16nm,1.3s							
WB0	**Warramunga Arr**	**27.31**	**158**	P	**P**	**P**	**15 58 22.5**	**-1.0**
WB0					IAmb	IAmb	15 58 23.9	
	comp=Z,26nm,1.9s							
JCJ	**Chichijima**	**27.40**	**37**	P	**P**	**P**	**15 58 24.1**	**0.0**
WRAB	**Tennant Creek**	**27.45**	**159**	P	**P**	**P**	**15 58 24.0**	**-0.7**
WRAB					IAmb	IAmb	15 58 55.4	
	comp=Z,16nm,1.6s							
WRA	**Warramunga Arr**	**27.45**	**159**	P	**P**	**P**	**15 58 24.0**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=341,slow=9.2,SNR=71							
WRA					ScP	**ScP**	**16 04 16.8**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=340,slow=3.1,SNR=9.2							
WRA	**Warramunga Arr**	**27.45**	**159**	P	**P**	**P**	**15 58 23.1**	**-1.6**
WB2	**Warramunga Arr**	**27.46**	**159**	P	**P**	**P**	**15 58 23.9**	**-0.8**
WB2					IAmb	IAmb	15 59 05.2	
	comp=Z,21nm,1.8s							
WR0	**Warramunga Arr**	**27.54**	**158**	P	**P**	**P**	**15 58 24.6**	**-0.9**
WR0					IAmb	IAmb	15 59 07.8	
	comp=Z,24nm,1.8s							
CMAR	**Chiang Mai Arr**	**27.55**	**300**	P	**P**	**P**	**15 58 26.4**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=117,slow=7.2,SNR=22							
CMAR	**Chiang Mai Arr**	**27.55**	**300**	P	**P**	**P**	**15 58 25.5**	**-0.1**
CHTO	**Chiang Mai**	**27.69**	**300**	P	**P**	**P**	**15 58 27.0**	**+0.1**
ENH	**Enshi**	**27.99**	**332**	P	**P**	**P**	**15 58 29.9**	**+0.5**
ENH					IAmb	IAmb	15 58 30.9	
	comp=Z,6.9nm,0.6s							
KMI	**Kunming**	**28.07**	**316**	⇑P	**P**	**P**	**15 58 32.0**	**+1.6**
KMI					pmax	pmax		
	comp=Z,6.0nm,1.2s							
AS31	**Alice Springs**	**30.76**	**162**	P	**P**	**P**	**15 58 53.2**	**-0.3**
ASAR	**Alice Springs**	**30.77**	**162**	P	**P**	**P**	**15 58 53.6**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=342,slow=7.1,SNR=60							
ASAR					PcP	**PcP**	**16 01 34.8**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=342,slow=2.8,SNR=4.2							
ASAR					ScP	**ScP**	**16 04 27.1**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=342,slow=2.5,SNR=6.3							
ASAR	**Alice Springs**	**30.77**	**162**	P	**P**	**P**	**15 58 54.0**	**+0.5**
KSRS	**Korea Array**	**31.78**	**6**	P	**P**	**P**	**15 59 02.4**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=176,slow=8.9,SNR=2.7							
MAJO	**Matsushiro**	**33.31**	**21**	P	**P**	**P**	**15 59 14.7**	**-0.3**
MAJO					IAmb	IAmb	15 59 52.0	
	comp=Z,15nm,1.6s							
MAT	**Matsushiro**	**33.31**	**21**	P	**P**	**P**	**15 59 14.5**	**-0.5**
MJAR	**Matsushiro Arr**	**33.31**	**21**	P	**P**	**P**	**15 59 14.6**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=201,slow=9.1,SNR=9.2							
MJAR	**Matsushiro Arr**	**33.31**	**21**		IAmb	IAmb	15 59 15.3	
	comp=Z,1.1nm,0.9s							
MJB9	**Matsu-Tunnel**	**33.31**	**21**	P	**P**	**P**	**15 59 14.7**	**-0.4**
MJB9					IAmb	IAmb	15 59 51.7	
	comp=Z,15nm,1.6s							
MORW	**Morawa**	**35.44**	**192**	P	**P**	**P**	**15 59 32.2**	**-0.8**
FORT	**Forrest**	**36.51**	**174**	P	**P**	**P**	**15 59 41.8**	**0.0**
FORT					IAmb	IAmb	16 00 28.1	
	comp=Z,17nm,0.9s							
SHL	**Shillong**	**36.53**	**306**	P	**P**	**P**	**15 59 41.8**	**-0.5**
HHC	**Hu-ho-hao-te**	**36.71**	**344**	*eP*	**P**	**P**	**15 59 44.1**	**+0.6**
HHC					pmax	pmax		
	comp=Z,32nm,0.9s							
HHC					pmax	pmax		
	comp=Z,58nm,6.2s							
USA0B	**Ussuriysk Arra**	**38.95**	**9**	P	**P**	**P**	**16 00 02.0**	**+0.4**
USRK	**Ussuriysk Ar.**	**38.95**	**9**	P	**P**	**P**	**16 00 02.0**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=188,slow=7.8,SNR=7.8							
USRK	**Ussuriysk Ar.**	**38.95**	**9**	P	**P**	**P**	**16 00 02.0**	**+0.5**
NWAO	**Narrogin (SRO)**	**38.98**	**189**	P	**P**	**P**	**16 00 01.4**	**-0.5**
NWAO	**Narrogin (SRO)**	**38.98**	**189**	P	**P**	**P**	**16 00 01.4**	**-0.5**
ERM	**Erimo**	**39.94**	**22**	P	**P**	**P**	**16 00 10.9**	**+1.3**
ERM					IAmb	IAmb	16 01 39.7	
	comp=Z,19nm,1.2s							
BBOO	**Buckleboo**	**39.99**	**164**	P	**P**	**P**	**16 00 10.7**	**+0.5**
BBOO					IAmb	IAmb	16 00 41.3	
	comp=Z,28nm,1.6s							
STKA	**Stephens Creek**	**40.98**	**157**	P	**P**	**P**	**16 00 17.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=341,slow=11,SNR=4.7							
STKA	**Stephens Creek**	**40.98**	**157**	P	**P**	**P**	**16 00 18.3**	**+0.3**
ASAJ	**Asahikawa**	**41.57**	**20**	P	**P**	**P**	**16 00 23.4**	**+0.9**
	comp=Z,3.2nm,0.4s,baz=236,slow=9.5,SNR=16							
JKA	**Kamikawa-asahi**	**41.57**	**20**	P	**P**	**P**	**16 00 23.6**	**+1.1**
WMQ	**Urumqi**	**49.56**	**326**	*eP*	**P**	**P**	**16 01 25.3**	**+1.5**
MK31	**Makanchi Array**	**54.39**	**326**	P	**P**	**P**	**16 01 58.5**	**0.0**
MKAR	**Makanchi Array**	**54.39**	**326**	P	**P**	**P**	**16 01 58.9**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=121,slow=7.9,SNR=32							
MKAR					PcP	**PcP**	**16 02 53.8**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=110,slow=2.9,SNR=4.2							
MKAR					ScP	**ScP**	**16 06 00.9**	**-2.1**
	comp=Z,0.6nm,0.7s,baz=104,slow=5.1,SNR=4.5							
MKAR	**Makanchi Array**	**54.39**	**326**	P	**P**	**P**	**16 01 58.5**	**0.0**
MAKZ	**Makanchi**	**54.58**	**326**	P	**P**	**P**	**16 01 59.8**	**0.0**
PEA0B	**Petropavlovsk-**	**54.66**	**24**	P	**P**	**P**	**16 02 01.4**	**+1.2**
PEA0B					IAmb	IAmb	16 02 35.5	
	comp=Z,61nm,1.5s							
PETK	**Petropavlovsk-**	**54.66**	**24**	P	**P**	**P**	**16 02 01.0**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=185,slow=3.1,SNR=11							
PETK	**Petropavlovsk-**	**54.66**	**24**	P	**P**	**P**	**16 02 01.2**	**+1.0**
KSH	**Kashi**	**54.74**	**315**	P	**P**	**P**	**16 02 02.8**	**+1.6**
KSH					PP	**PP**	**16 04 15.1**	**+3.8**
KSH					S	**S**	**16 09 04.8**	**+2.2**
KSH					pmax	pmax		
	comp=Z,2.0nm,0.3s							
KSH					pmax	pmax		
	comp=Z,65nm,3.7s							
KSH					LR	LR		
	comp=N,52nm,4.4s							
KSH					LR	LR		
	comp=E,81nm,5.9s							
KSH					LR	LR		
	comp=Z,260nm,4.9s							
YAK	**Yakutsk**	**56.34**	**3**	P	**P**	**P**	**16 02 11.7**	**0.0**
ZALV	**Zalesovo Beam**	**57.61**	**334**	P	**P**	**P**	**16 02 19.8**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=131,slow=7.9,SNR=2.0							
GAR	**Garm**	**58.60**	**313**	P	**P**	**P**	**16 02 27.6**	**-0.1**
KURK	**Kurchatov**	**59.62**	**328**	P	**P**	**P**	**16 02 27.2**	**-0.3**
KKAR	**Karatay Array**	**59.94**	**317**	P	**P**	**P**	**16 02 36.6**	**0.0**
BKZ	**Black Stump Fm**	**65.86**	**138**	P	**P**	**P**	**16 03 15.2**	**+0.4**
BKZ					IAmb	IAmb	16 05 11.8	
	comp=Z,19nm,1.4s							
TIXI	**Tiksi**	**65.91**	**2**	P	**P**	**P**	**16 03 14.1**	**-0.3**
TIXI					IAmb	IAmb	16 05 09.6	
	comp=Z,27nm,1.6s							
ATKA	**Atka Island**	**68.42**	**36**	P	**P**	**P**	**16 03 30.8**	**+0.6**
ATKA					IAmb	IAmb	16 05 55.2	
	comp=Z,28nm,1.4s							
ABKAR	**Akbulak array**	**68.91**	**321**	P	**P**	**P**	**16 03 32.7**	**-0.6**
SOCY	**Socotra**	**69.33**	**281**	P	**P**	**P**	**16 03 35.8**	**-0.8**
NIKH	**Nikolski High**	**71.76**	**36**	P	**P**	**P**	**16 03 50.4**	**+0.3**
ARU	**Arti**	**71.82**	**328**	P	**P**	**P**	**16 03 49.6**	**-0.7**
ARU					IAmb	IAmb	16 03 50.1	
	comp=Z,5.8nm,0.6s							
SII	**Sitkinak Islan**	**80.72**	**34**	P	**P**	**P**	**16 04 41.7**	**+2.2**
OHAK	**Old Harbor**	**81.25**	**33**	P	**P**	**P**	**16 04 43.2**	**+1.1**
IMAR	**Indian Mountai**	**81.63**	**24**	P	**P**	**P**	**16 04 45.0**	**+1.1**
BPAW	**Bear Paw Mtn.**	**82.69**	**26**	P	**P**	**P**	**16 04 50.3**	**+0.9**
ILAR	**Eielson Array**	**84.47**	**26**	P	**P**	**P**	**16 04 57.3**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=244,slow=5.9,SNR=2.2							
BRTR	**Keskin Array B**	**86.68**	**309**	P	**P**	**P**	**16 05 07.7**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=66,slow=3.5,SNR=3.9							
YKU2	**Yakutat**	**88.30**	**30**	P	**P**	**P**	**16 05 15.9**	**-0.6**

*NEIC **18** 15:57:35.3±2.2, 15°.44N±0°.06×94°.76W±0°.05, h20km±8km, mb4.1/6, Md4.1/40(MEX), Error ellipse: s-maj=9.4km s-min=4.9km az=214.0*
*MEX **18** 15:57:36.2±0.6, 15°.43N×94°.76W, h16km±6km, MD4.1*

ISC 18 15:57:32.3±2.9,**15°47N**±0°.06×**94°75W**±0°.03,**h7**km±20km, **n41,** σ1§**99**/62, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.34**	**283**	*eP*	**Pb**	**Pb**	**15 57 56.8**	**-1.0**
HUIG				*eS*		**Sb**	**15 58 12.2**	**-3.0**
HUIG	**Huatulco**	**1.34**	**283**		**Pb**	**Pb**	**15 57 56.8**	**-1.0**
HUIG						**Sb**	**15 58 12.2**	**-3.0**
PCIG		**1.50**	**81**	*eP*	**Pn**	**Pn**	**15 57 59.0**	**-0.7**
PCIG				*eS*		**Sn**	**15 58 16.6**	**-2.9**
PCIG		**1.50**	**81**		**Pn**	**Pn**	**15 57 59.0**	**-0.7**
PCIG						**Sn**	**15 58 16.6**	**-2.9**
CMIG	**Matias Romero**	**1.62**	**356**	*eP*	**Pn**	**Pn**	**15 58 01.0**	**-0.4**
CMIG				*i S*		**Sn**	**15 58 20.1**	**-2.4**
CMIG	**Matias Romero**	**1.62**	**356**		**Pn**	**Pn**	**15 58 01.0**	**-0.4**
CMIG						**Sn**	**15 58 20.0**	**-2.5**
TGIG		**2.04**	**50**	*eP*	**Pn**	**Pn**	**15 58 07.3**	**+0.1**
TGIG				*i S*		**Sn**	**15 58 31.0**	**-2.0**
TGIG		**2.04**	**50**		**Pb**	**Pb**	**15 58 08.0**	**-1.8**
TGIG						**Sn**	**15 58 30.1**	**-2.9**
TGBT	**Tuxtla Gutierr**	**2.06**	**51**	*eP*	**Pn**	**Pn**	**15 58 07.3**	**-0.1**
TGBT				*eS*		**Sn**	**15 58 31.9**	**-1.5**
TGBT	**Tuxtla Gutierr**	**2.06**	**51**		**Pb**	**Pb**	**15 58 08.4**	**-1.8**
TGBT						**Sn**	**15 58 31.9**	**-1.5**
PEIG	**Puerto Escondi**	**2.36**	**283**	*eP*	**Pn**	**Pn**	**15 58 11.3**	**-0.3**
PEIG				*i S*		**Sn**	**15 58 38.1**	**-2.9**
CCIG	**Comitan**	**2.64**	**72**	*eP*	**Pn**	**Pn**	**15 58 16.9**	**+1.2**
CCIG				*i S*		**Sn**	**15 58 46.9**	**-1.3**
CCIG	**Comitan**	**2.64**	**72**		**Pb**	**Pb**	**15 58 17.3**	**-2.9**
YOIG	**Yosondua**	**3.02**	**298**	*eP*	**Pn**	**Pn**	**15 58 21.0**	**+0.1**
YOIG				*i S*		**Sn**	**15 58 56.0**	**-1.4**
RTAL	**Retalhuleu**	**3.10**	**107**		**Pn**	**Pn**	**15 58 22.2**	**+0.4**
HUEH	**Huehuetenango**	**3.14**	**92**	Pn	**Pn**	**Pn**	**15 58 24.4**	**+1.9**
PNIG	**Pinotepa**	**3.37**	**286**	*eP*	**Pn**	**Pn**	**15 58 26.1**	**+0.5**
PNIG				*i S*		**Sn**	**15 59 04.2**	**-1.7**
PNIG	**Pinotepa**	**3.37**	**286**		**Pn**	**Pn**	**15 58 26.1**	**+0.5**
PNIG						**Sn**	**15 59 02.6**	**-3.3**
TXIG	**Tlaxiaco**	**3.39**	**302**	*eP*	**Pn**	**Pn**	**15 58 26.6**	**+0.5**
TXIG				*eS*		**Sn**	**15 59 05.3**	**-1.5**
TOIG	**Toxpalan**	**3.42**	**320**	*i P*	**Pn**	**Pn**	**15 58 27.6**	**+1.3**
TOIG				*eS*		**Sn**	**15 59 06.0**	**-1.3**
HLIG	**Huajuapan de L**	**3.75**	**309**	*eP*	**Pn**	**Pn**	**15 58 33.9**	**+3.0**
HLIG				*eS*		**Sn**	**15 59 14.0**	**-1.5**
FTIG	**Fresnillo de T**	**4.04**	**307**	*eP*	**Pn**	**Pn**	**15 58 38.0**	**+3.1**
FTIG				*eS*		**Sn**	**15 59 20.9**	**-1.8**
TLIG	**Tlapa**	**4.21**	**300**	*eP*	**Pn**	**Pn**	**15 58 40.1**	**+2.9**
TLIG				*eS*		**Sn**	**15 59 22.4**	**-4.3**
TLIG	**Tlapa**	**4.21**	**300**		**Pn**	**Pn**	**15 58 40.1**	**+2.9**
CRIG	**Cruz Grande**	**4.39**	**287**	*eP*	**Pn**	**Pn**	**15 58 40.5**	**+1.0**
CRIG				*i S*		**Sn**	**15 59 29.1**	**-2.0**
PETF	**Flores**	**4.91**	**72**	Pn	**Pn**	**Pn**	**15 58 48.1**	**+1.4**
TEIG	**Tepich**	**7.77**	**52**	Pn	**Pn**	**Pn**	**15 59 27.2**	**+1.2**
BOAB	**BOACO BROADBAN**	**10.32**	**108**	Pn	**Pn**	**Pn**	**15 59 50.5**	**+3.2**
ACON	**Acoyapa**	**9.94**	**109**	Pn	**Pn**	**Pn**	**15 59 54.5**	**-1.3**
ESPN	**Las Esperanzas**	**10.66**	**106**	Pn	**Pn**	**Pn**	**16 00 07.1**	**+1.5**
KVTX	**Kingsville**	**12.37**	**347**	Pn	**Pn**	**Pn**	**16 00 29.7**	**+0.8**
833A	**Chaparral WMA,**	**13.49**	**342**		**Pn**	**Pn**	**16 00 47.2**	**+2.9**
TXAR	**Lajitas Array**	**16.06**	**331**	Pn	**P**	**Pn**	**16 01 20.9**	**-1.5**
TX31	**Lajitas Ar. Si**	**16.06**	**331**	Pn	**P**	**Pn**	**16 01 20.4**	**-2.0**
TX31					IAmb	IAmb	16 01 50.1	
	comp=Z,27nm,1.9s							
WHTX	**Lake Whitney,**	**16.63**	**352**	P	**P**	**P**	**16 01 30.2**	**+1.7**
WHTX					IAmb	IAmb	16 01 46.7	
	comp=Z,9.6nm,0.6s							
MNTX	**Cornudas Mount**	**18.84**	**331**	P	**Pn**	**Pn**	**16 01 55.0**	**+1.5**
X37A	**Clayton**	**19.05**	**358**	P	**Pn**	**Pn**	**16 01 56.9**	**+1.0**
X37A					IAmb	IAmb	16 02 01.4	
	comp=Z,8.0nm,0.6s							
MCMT	**McKenzie Canyo**	**33.02**	**336**	P	**P**	**P**	**16 04 10.3**	**+1.7**
TA01	**Diego Aracena**	**43.19**	**145**	P	**P**	**P**	**16 05 35.7**	**+1.5**
SCHQ	**Schefferville**	**44.84**	**23**	P	**P**	**P**	**16 05 47.8**	**+0.7**
ILAR	**Eielson Array**	**60.45**	**337**	P	**P**	**P**	**16 07 42.9**	**+0.4**

*ISN **18** 15:57:40.7±0.9, 32°56N×47°64E, h14km±5km, ML2.6*
*TEH **18** 15:57:42.1, 32°58N×47°53E, h10km, ML2.9*

ISC 18 15:57:41.4±2.4,**32°46N**±0°.06×**47°58E**±0°.08,**h7**km±22km, **n10,** σ0§**90**/15, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.08**	**12**	*ePg*	**Pb**	**Pb**	**15 58 00.5**	**-2.0**
IKFM				*e*		**Sb**	**15 58 16.8**	**-0.1**
IKMR	**Kamar-syah**	**1.25**	**32**	*eSg*	**Sg**	**Sg**	**15 58 22.4**	**+0.7**
IKMR				*ePg*	**Pn**	**Pn**	**15 58 04.6**	**-0.7**
IKMR				*e*			15 58 26.4	
IDOB	**Doab**	**1.42**	**20**	*e*			15 58 32.6	
IDOB				*ePg*		**Pn**	**15 58 07.7**	**-0.1**
IBDR	**Badra**	**1.54**	**295**	*ePg*	**Pn**	**Pn**	**15 58 09.0**	**-0.2**
IBDR				*eSg*		**Sn**	**15 58 29.0**	**-0.4**
IBDR					AML	AML	15 58 35.7	
	comp=E,106nm,0.6s							
IBDR					AML	AML	15 58 39.2	
	comp=N,83nm,0.5s							
BMDN	**Meydan**	**1.60**	**40**	*ePg*	**Pb**	**Pb**	**15 58 11.6**	**+0.3**
BMDN				*e*			15 58 39.0	
IKOM	**Komasi**	**1.71**	**358**	*ePg*	**Pn**	**Pn**	**15 58 12.6**	**+0.8**
IKOM				*e*			15 58 37.3	
NSR	**Nassriya**	**1.90**	**221**	*ePg*	**Pb**	**Pb**	**15 58 16.0**	**-0.3**
NSR				*eSn*		**Sb**	**15 58 40.0**	**-0.2**
IBZA	**Bozab**	**2.02**	**7**	*ePn*	**Pn**	**Pn**	**15 58 17.4**	**+1.3**
IBZA				*e*			15 58 48.7	
IVIS	**Veis**	**2.15**	**344**	*ePn*	**Pb**	**Pb**	**15 58 20.5**	**-0.3**
IVIS				*e*			15 58 51.3	
BHD	**Baghdad**	**2.81**	**288**	*ePn*	**Pn**	**Pn**	**15 58 27.0**	**+0.2**
BHD				*eSn*		**Sn**	**15 59 02.0**	**+1.0**

*ISN **18** 16:01:02.6±0.7, 32°67N×47°63E, h18km±4km, ML2.9*
*TEH **18** 16:01:03.4, 32°64N×47°54E, h10km, ML2.8*

ISC 18 16:01:03.9±1.2,**32°61N**±0°.07×**47°56E**±0°.06,**h10**km, **n8,** σ0§**67**/12, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.94**	**15**	*ePg*	**Pg**	**Pg**	**16 01 21.4**	**-0.7**
IKFM				*e*			16 01 40.5	
IKMR	**Kamar-syah**	**1.14**	**37**	*ePg*	**Pb**	**Pb**	**16 01 25.3**	**-0.4**
IKMR				*eSg*		**Sb**	**16 01 41.5**	**+0.9**
IKMR				*e*			16 01 42.2	
IDOB	**Doab**	**1.28**	**24**	*ePg*	**Pn**	**Pn**	**16 01

MARD	**Mardin**	**7.30**	**312**	Pn	**Pn**	**16 15 18.0**	**+0.1**
TPRV	**Parvadeh(Tabas**	**7.65**	**85**	*e*Pn	**Pn**	**16 15 25.2**	**+2.5**
SBZV	**Sabzevar**	**9.07**	**63**	*e*Pn	**Pn**	**16 15 44.3**	**+2.0**
ISFR	**Sfrayin**	**9.62**	**60**	*e*Pn	**Pn**	**16 15 52.3**	**+2.5**
GYA0B	**ALIBECK ARRAY**	**10.09**	**55**	Pn	**Pn**	**16 15 56.9**	**+0.9**
UOSS	**Minazif**	**10.74**	**133**	Pn	**Pn**	**16 16 04.6**	**-0.4**
WSAR	**Wadi Sarin**	**13.49**	**131**	Pn	**Pn**	**16 16 41.0**	**-1.7**
	comp=N,0.5nm,0.3s,baz=85,slow=12,SNR=2.5						
ABKAR	**Akbulak array**	**19.01**	**25**	P	**P**	**16 17 52.9**	**0.0**
AKTO	**Aktyubinsk**	**19.39**	**20**	P	**P**	**16 17 57.5**	**+0.4**
	comp=N,0.2nm,0.3s,baz=214,slow=13,SNR=6.6						
KKAR	**Karatay Array**	**20.83**	**53**	P	**P**	**16 18 12.4**	**-0.4**
MLR	**Muntele Rosu**	**21.09**	**314**	P	**P**	**16 18 16.2**	**+0.5**
	comp=N,1.2nm,0.4s,baz=63,slow=6.8,SNR=1.4						
MLR	**Muntele Rosu**	**21.09**	**314**	IAmb	IAmb	16 18 27.3	
	comp=Z,8.6nm,1.2s						
NIL	**Nilore**	**21.49**	**80**	P	**P**	**16 18 19.4**	**-0.6**
NIL				IAmb	IAmb	16 18 40.7	
	comp=Z,5.2nm,0.8s						
AKASG	**Malin Array Be**	**22.58**	**329**	P	**P**	**16 18 33.0**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=135,slow=11,SNR=1.4						
AKASG	**Malin Array Be**	**22.58**	**329**	P	**P**	**16 18 31.7**	**+0.2**
BVAR	**Borovoye Array**	**26.16**	**32**	P	**P**	**16 19 05.9**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=232,slow=7.3,SNR=11						
KURBB	**Kurchatov Arra**	**28.99**	**42**	P	**P**	**16 19 31.4**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=248,slow=9.4,SNR=9.2						
KURK	**Kurchatov**	**29.08**	**42**	P	**P**	**16 19 32.5**	**+1.0**
KURK				IAmb	IAmb	16 19 33.9	
	comp=Z,2.5nm,1.0s						
MK31	**Makanchi Array**	**29.93**	**52**	P	**P**	**16 19 39.6**	**+0.3**
MKAR	**Makanchi Array**	**29.93**	**52**	P	**P**	**16 19 39.9**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=246,slow=6.9,SNR=15						
MKAR	**Makanchi Array**	**29.93**	**52**	P	**P**	**16 19 39.4**	**+0.1**
FUORN	**Ofenpass-Fuorn**	**31.66**	**307**	P	**P**	**16 19 53.9**	**-0.9**
FUORN				IAmb	IAmb	16 20 04.9	
	comp=Z,18nm,1.9s						
FINES	**FINESS Array B**	**32.03**	**341**	P	**P**	**16 19 57.8**	**+0.3**
	comp=Z,4.5nm,1.0s,baz=133,slow=10,SNR=1.6						
BNI	**Bardonecchia**	**33.86**	**304**	P	**P**	**16 20 14.2**	**+0.3**
ZALV	**Zalesovo Beam**	**33.90**	**40**	P	**P**	**16 20 14.5**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=246,slow=9.2,SNR=2.7						
ARCES	**ARCESS Array B**	**38.99**	**348**	P	**P**	**16 20 56.8**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=168,slow=9.8,SNR=1.6						
TORD	**Torodi Ar. Bea**	**46.12**	**256**	P	**P**	**16 21 55.6**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=54,slow=7.4,SNR=3.7						
CMAR	**Chiang Mai Arr**	**47.99**	**94**	P	**P**	**16 22 09.3**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=302,slow=8.6,SNR=4.3						
KULM	**Kulim**	**56.34**	**107**	P	**P**	**16 23 10.6**	**-1.9**

*ISN **18** 16:14:29.3±1.1, 32.°64N×47.°63E, h14km±7km, ML3.2*
*IDC **18** 16:14:29.9±8.1, 32.°84N×47.°85E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.5/43, mbtmp3.8/7, ML3.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.4/51, Error ellipse: s-maj=147.2km s-min=39.7km az=13.0*
*TEH **18** 16:14:32.3, 32.°84N×47.°70E, h8km, ML3.4*
ISC 18 16:14:29.6±0.9, 32.°63N±0.°06×47.°67E±0.°06, h10km, n20, σ1§03/21, mb3.6/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.90**	**9**	*e*Pg	**Pg**	**16 14 45.9**	**-1.1**
IKFM				*e*		16 15 16.4	
IKMR	**Kamar-syah**	**1.06**	**34**	*e*Pg	**Pg**	**16 14 49.6**	**-0.5**
IKMR				*e*		16 15 07.1	
IDOB	**Doab**	**1.23**	**20**	*e*Pg	**Pb**	**16 14 52.6**	**-0.5**
BMDN	**Meydan**	**1.42**	**43**	*e*Pg	**Pn**	**16 14 56.3**	**+0.7**
BMDN				*e*		16 15 35.8	
IBDR	**Badra**	**1.54**	**288**	*e*Pg	**Pn**	**16 14 57.0**	**-0.1**
IBDR				*e*Sg	**Sn**	**16 15 17.0**	**-0.2**
IBDR				AML	AML	16 15 22.0	
	comp=E,389nm,0.5s						
IBDR				AML	AML	16 15 22.1	
	comp=N,448nm,0.4s						
IKOM	**Komasi**	**1.54**	**355**	*e*Pg	**Pn**	**16 14 58.1**	**+0.7**
IKOM				*e*		16 15 37.9	
HSAM	**Samen**	**1.76**	**26**	*e*Pg	**Pb**	**16 15 02.2**	**+0.1**
HSAM				*e*		16 15 44.0	
IBZA	**Bozab**	**1.84**	**5**	*e*Pg	**Pn**	**16 15 03.3**	**+1.8**
IBZA				*e*		16 15 51.3	
IGHG	**Ghaleghazi**	**1.93**	**332**	*e*Pn	**Pn**	**16 15 04.9**	**+2.2**
NSR	**Nassriya**	**2.08**	**219**	*e*Pn	**Pn**	**16 15 05.0**	**+0.5**
NSR				*e*Sg	**Sn**	**16 15 32.0**	**+1.6**
BHD	**Baghdad**	**2.84**	**284**	*e*Pn	**Pn**	**16 15 15.0**	**0.0**
BHD				*e*Sn	**Sn**	**16 15 50.0**	**+0.8**
GEYT	**Alibeck**	**10.04**	**55**	LR	LR	16 20 21.9	
	comp=N,40nm,18.2s,baz=190,slow=36						
AKTO	**Aktyubinsk**	**19.37**	**20**	P	**P**	**16 18 54.6**	**-0.7**
	comp=N,0.2nm,0.3s,baz=206,slow=13,SNR=4.2						
ATD	**Arta Tunnel**	**21.47**	**193**	LR	LR	16 28 37.6	
	comp=N,164nm,20.6s,baz=188,slow=39						
BVAR	**Borovoye Array**	**26.12**	**32**	P	**P**	**16 20 03.1**	**-0.5**
	comp=N,0.6nm,0.5s,baz=224,slow=11,SNR=2.9						
KURBB	**Kurchatov Arra**	**28.94**	**42**	P	**P**	**16 20 28.6**	**-0.2**
	comp=N,0.5nm,0.7s,baz=247,slow=9.2,SNR=5.7						
MKAR	**Makanchi Array**	**29.88**	**52**	P	**P**	**16 20 37.2**	**-0.1**
	comp=N,0.8nm,0.7s,baz=248,slow=7.4,SNR=6.8						
FINES	**FINESS Array B**	**32.04**	**341**	P	**P**	**16 20 57.5**	**+1.4**
	comp=N,3.5nm,0.9s,baz=141,slow=9.0,SNR=4.0						
ZALV	**Zalesovo Beam**	**33.86**	**40**	P	**P**	**16 21 10.8**	**-1.2**
	comp=N,0.6nm,0.4s,baz=244,slow=9.0,SNR=2.2						
ARCES	**ARCESS Array B**	**38.99**	**348**	P	**P**	**16 21 55.0**	**-0.8**
	comp=N,0.9nm,0.8s,baz=164,slow=10,SNR=1.6						

IDC 18 16:14:39.7±8.4, 32.°46N×47.°40E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.6/43, mbtmp4.0/7, ML3.9/1, Error ellipse: s-maj=153.2km s-min=41.0km az=13.0, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKTO	**Aktyubinsk**	**19.61**	**21**	P	P	16 19 09.8	+0.3
	0.3nm,0.3s,baz=185,slow=9.7,SNR=4.5						
BVAR	**Borovoye Array**	**26.39**	**32**	P	P	16 20 17.8	+0.1
	1.3nm,0.6s,baz=228,slow=7.6,SNR=4.3						
KURBB	**Kurchatov Arra**	**29.23**	**42**	P	P	16 20 43.3	+0.2
	0.8nm,0.7s,baz=247,slow=9.1,SNR=4.9						
MKAR	**Makanchi Array**	**30.17**	**51**	P	P	16 20 52.1	+0.5
	0.8nm,0.6s,baz=249,slow=7.0,SNR=6.7						
FINES	**FINESS Array B**	**32.13**	**341**	P	P	16 21 09.0	+0.4
	9.4nm,1.1s,baz=141,slow=9.0,SNR=1.4						
ZALV	**Zalesovo Beam**	**34.14**	**40**	P	P	16 21 25.0	-1.2
	0.9nm,0.6s,baz=250,slow=7.5,SNR=2.9						
ARCES	**ARCESS Array B**	**39.12**	**348**	P	P	16 22 07.9	-0.6
	2.2nm,0.9s,baz=153,slow=8.6,SNR=1.6						

*TEH **18** 16:24:34.7, 32.°72N×47.°75E, h10km, ML3.1*
*ISN **18** 16:24:34.1±1.2, 32.°69N×47.°75E, h15km±6km, ML2.9*
ISC 18 16:24:35.3±1.0, 32.°67N±0.°04×47.°71E±0.°04, h10km, n25, σ1§09/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.86**	**8**	*e*Pg	**Pg**	**16 24 50.0**	**-1.8**
IKFM				*e*		16 25 06.2	
IKMR	**Kamar-syah**	**1.01**	**34**	*e*Pg	**Pg**	**16 24 53.0**	**-1.8**
IKMR				*e*		16 25 15.3	
IDOB	**Doab**	**1.18**	**19**	*e*Pg	**Pg**	**16 24 56.2**	**-1.8**
BMDN	**Meydan**	**1.37**	**43**	*e*Pg	**Pn**	**16 25 00.9**	**+0.3**
BMDN				*e*		16 25 26.0	
IKOM	**Komasi**	**1.51**	**354**	*e*Pg	**Pn**	**16 25 03.1**	**+0.6**
IKOM				*e*		16 25 31.9	
AHWZ	**Ahwaz**	**1.56**	**149**	*e*Pg	**Pb**	**16 25 05.2**	**+1.1**
IBDR	**Badra**	**1.56**	**287**	*e*Pg	**Pn**	**16 25 03.0**	**0.0**
IBDR				*e*Sg	**Sn**	**16 25 24.0**	**+0.7**
IBDR				AML	AML	16 25 27.9	
	comp=E,213nm,0.4s						
IBDR				AML	AML	16 25 30.6	
	comp=N,122nm,0.7s						
KCHF	**Cheshme Sefid,**	**1.69**	**341**	*e*		16 25 36.2	
KCHF				*e*Pg	**Pn**	**16 25 05.7**	**+0.6**
HSAM	**Samen**	**1.71**	**26**	*e*		16 25 35.0	
HSAM				*e*Pg	**Pn**	**16 25 06.5**	**+1.1**
KER	**Kermanshah**	**1.77**	**344**	*e*Pn	**Pn**	**16 25 07.0**	**+0.8**
IBZA	**Bozab**	**1.80**	**4**	*e*		16 25 42.1	
IBZA				*e*Pg	**Pb**	**16 25 08.4**	**0.0**
IGHG	**Ghaleghazi**	**1.91**	**330**	*e*		16 25 41.9	
IGHG				*e*Pn	**Pn**	**16 25 09.7**	**+1.6**
IVIS	**Veis**	**1.98**	**339**	*e*		16 25 43.8	
IVIS				*e*Pn	**Pn**	**16 25 08.8**	**-0.2**
NSR	**Nassriya**	**2.13**	**219**	*e*Pn	**Pn**	**16 25 11.0**	**+0.2**
NSR				*e*Sn	**Sn**	**16 25 37.0**	**-0.3**
IALM	**Almabolaq**	**2.22**	**10**	*e*Pn	**Pn**	**16 25 13.4**	**+1.1**
IDHR	**Dehrash**	**2.30**	**332**	*e*Pn	**Pn**	**16 25 14.4**	**+0.9**
IDHR				*e*		16 25 22.2	
ILIN	**Lien**	**2.33**	**345**	*e*Pn	**Pn**	**16 25 14.0**	**+0.2**
ILIN				*e*		16 25 53.8	
JHBN	**Jahan bin**	**2.54**	**99**	*e*Pn	**Pn**	**16 25 17.2**	**+0.4**
JHBN				*e*		16 26 05.6	
HSRG	**Sareghieh**	**2.61**	**10**	*e*Pn	**Pn**	**16 25 20.0**	**+2.3**
HSRG				*e*		16 26 05.0	
IPIR	**Pirpir**	**2.69**	**89**	*e*Pn	**Pn**	**16 25 19.8**	**+1.0**
IPIR				*e*		16 26 07.0	
ROKH	**ROKH**	**2.83**	**96**	*e*Pn	**Pn**	**16 25 21.0**	**+0.3**
BHD	**Baghdad**	**2.86**	**283**	*e*Pn	**Pn**	**16 25 21.0**	**+0.1**
BHD				*e*Sn	**Sn**	**16 25 57.0**	**+1.6**
QABG	**Abgarm-Qazvin**	**3.40**	**27**	*e*Pn	**Pn**	**16 25 29.4**	**+0.8**
IGAR	**Gharneh**	**3.67**	**93**	*e*Pn	**Pn**	**16 25 32.4**	**+0.1**
IGAR				*e*		16 25 35.0	
QSDN	**Sirdan**	**4.01**	**17**	*e*Pn	**Pn**	**16 25 38.2**	**+1.2**

*TEH **18** 16:40:00.5, 32.°65N×47.°67E, h8km, ML3.4*
*ISN **18** 16:40:00.5±1.5, 32.°65N×47.°72E, h15km±8km, ML3.1*
*THR **18** 16:40:02.4±0.4, 32.°65N×47.°71E, h14km±6km, ML3.2*
ISC 18 16:40:00.5±1.4, 32.°60N±0.°03×47.°52E±0.°03, h2km±13km, n46, σ1§34/52, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.94**	**12**	*e*Pg	**Pg**	**16 40 17.4**	**-1.2**
SHGR	**Shooshtar-Gavs**	**1.11**	**116**	*e*Pg	**Pb**	**16 40 22.2**	**-0.2**
SHGR	**Shooshtar-Gavs**	**1.11**	**116**	*e*Pg	**Pb**	**16 40 22.2**	**-0.2**
IKMR	**Kamar-syah**	**1.12**	**35**	*e*Pg	**Pb**	**16 40 20.2**	**-2.3**
IKMR				*e*	**Sn**	**16 40 40.6**	**+1.5**
IDOB	**Doab**	**1.27**	**21**	*e*Pg	**Pn**	**16 40 24.8**	**-0.7**
BMDN	**Meydan**	**1.47**	**43**	*e*Pg	**Pn**	**16 40 27.8**	**-0.4**
BMDN				*e*		16 40 36.1	
IBDR	**Badra**	**1.51**	**290**	*e*Pg	**Pb**	**16 40 29.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**16 40 50.0**	**+1.0**
IBDR				AML	AML	16 40 55.6	
	comp=E,220nm,0.7s						
IBDR				AML	AML	16 40 58.3	
	comp=N,221nm,0.7s						
AHWZ	**Ahwaz**	**1.54**	**145**	*e*Pg	**Pg**	**16 40 30.3**	**+0.4**
IKOM	**Komasi**	**1.57**	**357**	*e*Pg	**Pb**	**16 40 30.5**	**+0.1**
IKOM				*e*		16 40 35.0	
KCHF	**Cheshme Sefid,**	**1.74**	**344**	*e*Pg	**Pn**	**16 40 32.2**	**+0.3**
KCHF				*e*		16 41 02.9	
HSAM	**Samen**	**1.81**	**27**	*e*Pg	**Pb**	**16 40 33.7**	**-0.8**
KER	**Kermanshah**	**1.83**	**347**	*e*Pn	**Pb**	**16 40 34.0**	**-0.7**
IBZA	**Bozab**	**1.88**	**6**	*e*Pg	**Pb**	**16 40 35.9**	**+0.2**
IBZA				*e*		16 41 04.3	
IGHG	**Ghaleghazi**	**1.94**	**333**	*e*Pn	**Pb**	**16 40 35.8**	**-0.9**
IGHG				*e*		16 41 11.3	
NSR	**Nassriya**	**2.02**	**219**	*e*Pn	**Pb**	**16 40 37.0**	**-1.0**
NSR				*e*Sn	**Sn**	**16 41 02.0**	**+0.5**
IVIS	**Veis**	**2.03**	**342**	*e*Pn	**Pb**	**16 40 36.7**	**-1.4**
IVIS				*e*		16 41 10.5	
KHMZ	**Khomeyn**	**2.27**	**59**	*e*Pn	**Pb**	**16 40 40.5**	**-1.8**
KHMZ	**Khomeyn**	**2.27**	**59**	*e*Pn	**Pb**	**16 40 40.5**	**-1.8**
IALM	**Almabolaq**	**2.30**	**11**	*e*Pn	**Pb**	**16 40 41.0**	**-1.9**
IDHR	**Dehrash**	**2.33**	**334**	*e*Pn	**Pn**	**16 40 41.1**	**+1.0**
IDHR				*e*		16 40 48.8	
ILIN	**Lien**	**2.38**	**347**	*e*Pn	**Pn**	**16 40 41.8**	**+1.1**
ILIN				*e*		16 41 28.2	
SNGE	**Sanandaj**	**2.50**	**355**	*e*Pn	**Pb**	**16 40 44.1**	**-2.1**
SNGE	**Sanandaj**	**2.50**	**355**	*e*Pn	**Pb**	**16 40 44.1**	**-2.1**
HAGD	**Aghdareh**	**2.55**	**29**	*e*Pn	**Pn**	**16 40 43.8**	**+0.7**
HAGD				*e*		16 41 25.7	
JHBN	**Jahan bin**	**2.60**	**97**	*e*Pn	**Pn**	**16 40 44.3**	**+0.4**
JHBN				*e*		16 41 34.0	
HSRG	**Sareghieh**	**2.69**	**12**	*e*	**Sg**	**16 41 31.9**	**+4.9**
IPIR	**Pirpir**	**2.76**	**87**	*e*Pn	**Pn**	**16 40 47.0**	**+0.9**
IPIR				*e*	**Sg**	**16 41 28.3**	**-1.0**
ASAO	**Ashtian**	**2.79**	**45**	*e*Pn	**Pn**	**16 40 47.9**	**+1.4**
ASAO				*e*Sg	**Sb**	**16 41 27.1**	**+1.0**
ASAO				IAML		16 41 38.8	
	comp=N,78nm,0.6s						
ASAO	**Ashtian**	**2.79**	**45**	*e*Pn	**Pn**	**16 40 47.9**	**+1.4**
BHD	**Baghdad**	**2.81**	**285**	*e*Pn	**Pn**	**16 40 47.0**	**+0.6**
BHD				*e*Sn	**Sb**	**16 41 23.0**	**-3.1**
BHD				AML	AML	16 41 24.6	
	comp=E,238nm,0.4s						
ROKH	**ROKH**	**2.90**	**94**	*e*Pn	**Pn**	**16 40 48.3**	**+0.4**
ROKH				*e*		16 41 51.9	
IRAZ	**Razeghan**	**3.39**	**34**	*e*Pn	**Pn**	**16 40 56.0**	**+1.3**
IKLH	**Kolahrood**	**3.41**	**77**	*e*Pn	**Pn**	**16 40 55.6**	**+0.7**
IKLH				*e*		16 41 54.7	
QABG	**Abgarm-Qazvin**	**3.50**	**27**	*e*Pn	**Pn**	**16 40 56.4**	**+0.2**
KLNJ	**Kolanjah**	**3.74**	**114**	*e*Pn	**Pn**	**16 41 00.3**	**+0.8**
KLNJ				*e*		16 42 07.8	
IGAR	**Gharneh**	**3.74**	**92**	*e*Pn	**Pn**	**16 40 59.9**	**+0.4**
IGAR				*e*		16 41 57.4	
IZEF	**Zefreh**	**3.98**	**84**	*e*Pn	**Pn**	**16 41 03.5**	**+0.7**
QSDN	**Sirdan**	**4.10**	**18**	*e*Pn	**Pn**	**16 41 05.1**	**+0.7**
IRAM	**Ramesheh**	**4.11**	**100**	*e*Pn	**Pn**	**16 41 04.5**	**-0.1**
IGZV	**Ghazvin**	**4.34**	**29**	*e*Pn	**Pn**	**16 41 08.6**	**+0.8**
QALM	**Alamut, Qazvin**	**4.57**	**32**	*e*Pn	**Pn**	**16 41 12.0**	**+1.2**
IDMV	**Damavand**	**4.71**	**50**	*e*Pn	**Pn**	**16 41 13.0**	**+0.1**
ANAR	**Anarak**	**5.17**	**82**	*e*Pn	**Pn**	**16 41 19.0**	**-0.1**
ISAD	**Sadrabad**	**5.18**	**96**	*e*Pn	**Pn**	**16 41 19.2**	**-0.2**
ISHM	**Shahmirzad**	**5.69**	**54**	*e*Pn	**Pn**	**16 41 26.0**	**-0.2**
IANJ	**Anjilo**	**5.96**	**60**	*e*Pn	**Pn**	**16 41 29.3**	**-0.6**

*ISN **18** 16:46:06.5±1.3, 32.°66N×47.°55E, h6km±7km, ML3.0*
*TEH **18** 16:46:07.9, 32.°74N×47.°49E, h9km, ML3.0*
*THR **18** 16:46:10.6±0.4, 32.°79N×47.°56E, h32km±3km, ML3.2*
ISC 18 16:46:09.0±1.0, 32.°72N±0.°04×47.°49E±0.°04, h10km, n37, σ1§04/41, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.86**	**20**	*e*Pg	**Pg**	**16 46 24.7**	**-0.9**
IKMR	**Kamar-syah**	**1.09**	**43**	*e*Pg	**Pg**	**16 46 28.9**	**-1.1**
IKMR				*e*		16 46 48.8	
IDOB	**Doab**	**1.21**	**28**	*e*Pg	**Pb**	**16 46 31.0**	**-1.2**
SHGR	**Shooshtar-Gavs**	**1.26**	**118**	*e*Pg	**Pn**	**16 46 33.4**	**+0.7**
SHGR	**Shooshtar-Gavs**	**1.26**	**118**	*e*Pg	**Pn**	**16 46 33.4**	**+0.7**
IBDR	**Badra**	**1.37**	**287**	*e*Pg	**Pn**	**16 46 34.0**	**-0.2**
IBDR				*e*Sg	**Sb**	**16 46 54.0**	**+1.7**
IBDR				AML	AML	16 46 57.2	
	comp=N,248nm,0.5s						
IBDR				AML	AML	16 46 57.6	
	comp=E,294nm,0.6s						
IKOM	**Komasi**	**1.45**	**1**	*e*Pg	**Pn**	**16 46 35.1**	**-0.4**
IKOM				*e*		16 46 37.8	
BMDN	**Meydan**	**1.47**	**49**	*e*Pg	**Pn**	**16 46 35.5**	**-0.2**
BMDN				*e*		16 47 03.1	
KCHF	**Cheshme Sefid,**	**1.60**	**346**	*e*Pg	**Pn**	**16 46 37.4**	**-0.1**
KCHF				*e*		16 47 04.6	
KER	**Kermanshah**	**1.69**	**350**	*e*Pn	**Pn**	**16 46 39.9**	**+1.2**
AHWZ	**Ahwaz**	**1.69**	**144**	*e*Pg	**Pn**	**16 46 40.0**	**+1.4**
HSAM	**Samen**	**1.76**	**32**	*e*Pg	**Pn**	**16 46 40.3**	**+0.5**
HSAM				*e*		16 47 08.7	
IBZA	**Bozab**	**1.77**	**10**	*e*Pg	**Pn**	**16 46 41.0**	**+1.0**
IBZA				*e*		16 47 10.1	
IGHG	**Ghaleghazi**	**1.78**	**335**	*e*Pn	**Pn**	**16 46 41.3**	**+1.2**
IGHG				*e*		16 47 25.2	
IVIS	**Veis**	**1.88**	**344**	*e*Pn	**Pn**	**16 46 42.4**	**+1.0**
IVIS				*e*		16 46 44.6	
NSR	**Nassriya**	**2.05**	**214**	*e*Pn	**Pn**	**16 46 43.0**	**-0.6**
NSR				*e*Sn	**Sn**	**16 47 08.0**	**-1.2**
IDHR	**Dehrash**	**2.18**	**335**	*e*Pn	**Pn**	**16 46 45.7**	**+0.1**
IDHR				*e*		16 47 25.7	
IALM	**Almabolaq**	**2.21**	**15**	*e*Pn	**Pn**	**16 46 47.1**	**+1.1**
KHMZ	**Khomeyn**	**2.31**	**63**	*e*Pn	**Pn**	**16 46 47.7**	**+0.4**
KHMZ	**Khomeyn**	**2.31**	**63**	*e*Pn	**Pn**	**16 46 47.7**	**+0.4**
SNGE	**Sanandaj**	**2.37**	**357**	*e*Pn	**Pn**	**16 46 48.7**	**+0.5**
SNGE				*e*Sg	**Sb**	**16 47 21.7**	**+0.3**
SNGE	**Sanandaj**	**2.37**	**357**	*e*Pn	**Pn**	**16 46 48.7**	**+0.5**
HAGD	**Aghdareh**	**2.51**	**33**	*e*Pn	**Pn**	**16 46 50.8**	**+0.7**
HAGD				*e*		16 47 39.2	
HSRG	**Sareghieh**	**2.60**	**14**	*e*Pn	**Pn**	**16 46 53.2**	**+1.8**
HSRG				*e*		16 47 38.4	
BHD	**Baghdad**	**2.67**	**283**	*e*Pn	**Pn**	**16 46 52.0**	**-0.1**
BHD				*e*Sn	**Sn**	**16 47 27.0**	**+2.5**
JHBN	**Jahan bin**	**2.73**	**99**	*e*Pn	**Pn**	**16 46 53.3**	**+0.2**
JHBN				*e*		16 47 47.1	
ASAO	**Ashtian**	**2.79**	**48**	*e*Pn	**Pn**	**16 46 54.0**	**0.0**
ASAO				IAML		16 49 00.7	
	comp=N,77nm,0.7s						
ASAO	**Ashtian**	**2.79**	**48**	*e*Pn	**Pn**	**16 46 54.0**	**0.0**
IPIR	**Pirpir**	**2.87**	**90**	*e*Pn	**Pn**	**16 46 56.1**	**+1.0**
IPIR				*e*		16 47 49.4	
ROKH	**ROKH**	**3.02**	**96**	*e*Pn	**Pn**	**16 46 58.9**	**+1.9**
IRAZ	**Razeghan**	**3.36**	**36**	*e*Pn	**Pn**	**16 47 03.1**	**+1.4**
QABG	**Abgarm-Qazvin**	**3.45**	**30**	*e*Pn	**Pn**	**16 47 03.1**	**+0.1**
IKLH	**Kolahrood**	**3.49**	**79**	*e*Pn	**Pn**	**16 47 05.2**	**+1.7**
IKLH				*e*		16 48 08.3	
KLNJ	**Kolanjah**	**3.88**	**115**	*e*Pn	**Pn**	**16 47 10.7**	**+1.6**
QSDN	**Sirdan**	**4.02**	**20**	*e*Pn	**Pn**	**16 47 11.9**	**+1.0**
IZEF	**Zefreh**	**4.08**	**86**	*e*Pn	**Pn**	**16 47 11.3**	**-0.4**
IANJ	**Anjilo**	**5.99**	**61**	*e*Pn	**Pn**	**16 47 38.2**	**+0.2**

*ISN **18** 16:47:19.2±1.3, 32.°45N×47.°84E, h15km±7km, ML3.3*
*TEH **18** 16:47:21.1, 32.°56N×47.°53E, h10km, ML3.5*
ISC 18 16:47:22.8±1.1, 32.°50N±0.°05×47.°55E±0.°04, h10km, n30, σ1§66/32, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.05**	**14**	*e*Pg	**Pg**	**16 47 40.4**	**-2.6**
IKMR	**Kamar-syah**	**1.23**	**35**	*e*Pg	**Pn**	**16 47 44.2**	**-1.9**
IKMR				*e*		16 47 52.5	
IDOB	**Doab**	**1.39**	**22**	*e*Pg	**Pn**	**16 47 45.7**	**-2.8**
IBDR	**Badra**	**1.49**	**294**	*e*Pg	**Pn**	**16 47 50.0**	**+0.3**
IBDR				*e*Sg	**Sg**	**16 48 14.0**	**+3.3**
IBDR				AML	AML	16 48 15.5	
	comp=E,335nm,0.6s						
IBDR				AML	AML	16 48 16.8	
	comp=N,226nm,0.6s						
AHWZ	**Ahwaz**	**1.50**	**141**	*e*Pg	**Pn**	**16 47 50.1**	**+0.3**
BMDN	**Meydan**	**1.58**	**42**	*e*	**Sg**	**16 48 19.5**	**+5.6**
IKOM	**Komasi**	**1.67**	**359**	*e*Pg	**Pn**	**16 47 51.3**	**-1.0**
IKOM				*e*		16 47 52.1	
KCHF	**Cheshme Sefid,**	**1.82**	**347**	*e*Pn	**Pn**	**16 47 53.4**	**-1.0**
KCHF				*e*		16 48 18.3	
KER	**Kermanshah**	**1.91**	**350**	*e*Pn	**Pn**	**16 47 55.1**	**-0.5**
NSR	**Nassriya**	**1.91**	**219**	*e*Pn	**Pn**	**16 47 54.0**	**-1.4**
NSR				*e*Sn	**Sn**	**16 48 19.0**	**-0.5**
HSAM	**Samen**	**1.92**	**27**	*e*Pg	**Pn**	**16 47 56.0**	**+0.2**
HSAM				*e*		16 47 57.7	
IBZA	**Bozab**	**1.98**	**8**	*e*Pg	**Pn**	**16 47 57.8**	**+1.1**
IBZA				*e*		16 48 27.9	
IGHG	**Ghaleghazi**	**2.00**	**336**	*e*Pn	**Pn**	**16 47 57.1**	**+0.2**
IGHG				*e*		16 48 33.6	
IVIS	**Veis**	**2.10**	**344**	*e*Pn	**Pn**	**16 47 58.0**	**-0.2**
IVIS				*e*		16 48 28.1	
IDHR	**Dehrash**	**2.39**	**336**	*e*Pn	**Pn**	**16 48 02.7**	**+0.4**
IDHR				*e*		16 48 37.6	
IALM	**Almabolaq**	**2.41**	**

	comp=Z,21nm,0.9s								
VNDA	**Vanda**	**58.85**	**185**	P		**P**	**17 01 16.8**	**+1.0**	
	comp=Z,0.6nm,0.6s,baz=13,slow=5.8,SNR=2.6								
CASY	**Casey**	**64.98**	**205**	P		**P**	**17 01 57.2**	**+0.9**	
CASY				IAmb		IAmb	17 03 31.6		
	comp=Z,12nm,1.6s								
MJAR	**Matsushiro Arr**	**69.75**	**323**	P		**P**	**17 02 26.2**	**-0.3**	
	comp=Z,1.3nm,0.5s,baz=164,slow=5.7,SNR=7.7								
MAJO	**Matsushiro**	**69.76**	**323**	P		**P**	**17 02 26.0**	**-0.5**	
MAJO				IAmb		IAmb	17 02 36.0		
	comp=Z,20nm,1.9s								
MJB9	**Matsu-Tunnel**	**69.76**	**323**	P		**P**	**17 02 25.8**	**-0.8**	
MJB9				IAmb		IAmb	17 02 35.8		
	comp=Z,20nm,1.9s								
QSPA	**South Pole Qui**	**70.48**	**180**	P		**P**	**17 02 31.9**	**+1.3**	
QSPA				IAmb		IAmb	17 02 33.1		
	comp=Z,17nm,1.8s								
ADK	**Adak**	**71.17**	**1**	P		**P**	**17 02 34.5**	**0.0**	
ATKA	**Atka Island**	**71.54**	**2**	P		**P**	**17 02 37.3**	**+0.6**	
ATKA				IAmb		IAmb	17 03 10.2		
	comp=Z,14nm,1.0s								
PEA0B	**Petropavlovsk-**	**75.51**	**345**	P		**P**	**17 03 01.4**	**+1.7**	
PETK	**Petropavlovsk-**	**75.51**	**345**	P		**P**	**17 03 00.3**	**+0.6**	
	comp=Z,1.9nm,0.5s,baz=107,slow=7.8,SNR=17								
PETK	**Petropavlovsk-**	**75.51**	**345**	P		**P**	**17 03 00.9**	**+1.2**	
SNCC	**San Nicolas Is**	**76.29**	**47**	P		**P**	**17 03 05.6**	**+1.0**	
NVAR	**Mina Array Bea**	**80.05**	**43**	P		**P**	**17 03 26.9**	**+1.8**	
	comp=Z,0.4nm,0.6s,baz=217,slow=7.2,SNR=4.9								
SEY	**Seymchan**	**85.60**	**347**	P		**P**	**17 03 52.2**	**-0.3**	
	comp=Z,1.7nm,0.8s,baz=160,slow=9.3,SNR=5.5								
TXAR	**Lajitas Array**	**86.18**	**57**	P		**P**	**17 03 55.9**	**-0.5**	
	comp=Z,0.3nm,0.6s,baz=225,slow=5.1,SNR=4.9								
GERES	**GERESS Array B**	**149.44**	**345**	PKPbc		**PKPbc**	**17 11 01.8**	**+0.2**	
	comp=Z,0.6nm,0.6s,baz=35,slow=3.3,SNR=6.0								
GERES	**GERESS Array B**	**149.44**	**345**			**PKPbc**	**17 11 01.0**	**-0.6**	
DAVOX	**Davos/Dischmat**	**152.21**	**349**	PKPbc		**PKPbc**	**17 11 07.1**	**-1.1**	
	comp=Z,2.4nm,0.5s,baz=222,slow=8.3,SNR=5.5								

*IDC **18** 16:57:07.7±1.6, 7.60S×128.22E, h148km±18km, mb3.1/2, mb1 3.7/7, mb1mx3.3/41, mbtmp4.0/7, Error ellipse: s-maj=22.7km s-min=13.9km az=123.0*
*NEIC **18** 16:57:08.6±1.0, 7.54S±0.08×128.20E±0.07, h161km±10km, mb4.0/7, Error ellipse: s-maj=11.3km s-min=9.5km az=158.0*

ISC 18 16:57:07.0±0.6, **7.66S**±0.06×**128.23E**±0.07, **h142**km, **n28, s2905/32, mb3.5/3, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.06**	**96**	Pn	**Pn**	**16 57 57.5**	**+2.6**
SOEI	**Soe**	**4.43**	**242**	Pn	**Pn**	**16 58 15.8**	**+2.8**
BATI	**Baumata**	**5.17**	**240**	P	**Pn**	**16 58 25.3**	**+2.6**
	11nm,0.3s,baz=68,slow=1.8,SNR=9.0						
BATI				S	**Sn**	**16 59 23.4**	**+1.7**
	14nm,0.3s,baz=3.1,slow=23,SNR=14						
MTN	**Manton Dam**	**5.89**	**151**	Pn	**Pn**	**16 58 35.3**	**+3.0**
MMRI	**Maumere**	**6.01**	**260**	Pn	**Pn**	**16 58 34.8**	**+0.9**
FAKI	**Fak Fak**	**6.18**	**41**	Pn	**Pn**	**16 58 37.1**	**+0.9**
SIJI	**Sorong**	**7.39**	**24**	P	**Pn**	**16 58 52.4**	**0.0**
	3.0nm,0.3s,baz=41,slow=22,SNR=14						
SIJI				S	**Sn**	**17 00 14.5**	**-0.5**
	0.4nm,0.3s,baz=108,slow=24,SNR=1.5						
KNRA	**Kununurra**	**7.99**	**176**		**Pn**	**16 59 02.4**	**+2.0**
FITZ	**Fitzroy Crossi**	**10.68**	**193**	P	**Pn**	**16 59 35.9**	**-0.3**
	0.6nm,0.3s,baz=17,slow=15,SNR=31						
FITZ				S	**Sn**	**17 01 29.9**	**-4.4**
	1.7nm,0.3s,baz=87,slow=22,SNR=10.0						
WB0	**Warramunga Arr**	**13.44**	**154**		**Pn**	**17 00 11.7**	**-0.6**
WRAB	**Tennant Creek**	**13.57**	**155**	Pn	**Pn**	**17 00 13.8**	**-0.1**
WRA	**Warramunga Arr**	**13.57**	**155**	P	**Pn**	**17 00 14.0**	**+0.1**
	1.5nm,0.3s,baz=321,slow=14,SNR=29						
WRA				S	Sn	17 02 36.8	-7.3
	1.2nm,0.3s,baz=338,slow=21,SNR=6.9						
WRA	**Warramunga Arr**	**13.57**	**155**		**Pn**	**17 00 13.1**	**-0.9**
WB2	**Warramunga Arr**	**13.58**	**155**	P	**Pn**	**17 00 13.9**	**-0.1**
WR0	**Warramunga Arr**	**13.68**	**154**	P	**Pn**	**17 00 15.2**	**0.0**
COEN	**Coen**	**15.96**	**114**	P	**P**	**17 00 46.9**	**+2.4**
COEN				IAmb	IAmb	17 01 38.2	
	comp=Z,31nm,1.8s						
PSA00	**Pilbara Seismi**	**16.03**	**209**	P	**P**	**17 00 47.7**	**+2.5**
AS31	**Alice Springs**	**16.82**	**162**	P	**Pn**	**17 00 56.7**	**+2.4**
ASAR	**Alice Springs**	**16.82**	**162**	P	**Pn**	**17 00 56.8**	**+2.4**
	comp=Z,0.9nm,0.3s,baz=340,slow=11,SNR=58						
ASAR				S	**S**	**17 03 56.5**	**-5.6**
	comp=Z,0.6nm,0.3s,baz=341,slow=24,SNR=9.4						
SMRI	**Semarang**	**17.65**	**271**	P	**P**	**17 01 03.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**38.84**	**312**	P	**P**	**17 04 17.9**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=138,slow=7.2,SNR=4.6						
OXZ	**Oxford**	**52.23**	**140**	P	**P**	**17 06 03.8**	**+0.2**
PEA0B	**Petropavlovsk-**	**65.50**	**19**	P	**P**	**17 07 33.7**	**-1.2**
PETK	**Petropavlovsk-**	**65.50**	**19**	P	**P**	**17 07 33.6**	**-1.4**
MK31	**Makanchi Array**	**67.82**	**328**	P	**P**	**17 07 48.9**	**-1.0**
MK31				IAmb	IAmb	17 09 19.6	
	comp=Z,1.6nm,1.3s						
MKAR	**Makanchi Array**	**67.82**	**328**	P	**P**	**17 07 49.6**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=121,slow=8.2,SNR=8.0						
MKAR	**Makanchi Array**	**67.82**	**328**	P	**P**	**17 07 49.2**	**-0.6**
ZALV	**Zalesovo Beam**	**71.41**	**335**	P	**P**	**17 08 10.7**	**-0.9**

*IDC **18** 17:09:59.2±4.0, 32.65N×47.53E, h0km, mb3.7/4, mb1 3.7/6, mb1mx3.4/47, mbtmp3.7/6, ML3.3/2, Error ellipse: s-maj=73.8km s-min=31.7km az=174.0*
*ISN **18** 17:10:00.3±1.1, 32.78N×47.50E, h6km±6km, ML3.2*
*THR **18** 17:10:03.4±0.6, 32.79N×47.44E, h16km±8km, ML3.3*
*TEH **18** 17:10:03.2, 32.82N×47.62E, h8km, ML3.4*

ISC 18 17:10:01.7±1.5, **32.78N**±0.03×**47.48E**±0.03, **h6**km±11km, **n53, σ1§28/58, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.80**	**22**	*e*Pg	**Pg**	**17 10 17.3**	**+0.2**
IKMR	**Kamar-syah**	**1.05**	**45**	*e*Pg	**Pg**	**17 10 20.9**	**-1.0**
IKMR				*e*		17 10 42.4	
IDOB	**Doab**	**1.16**	**30**	*e*Pg	**Pg**	**17 10 24.3**	**+0.3**
SHGR	**Shooshtar-Gavs**	**1.30**	**121**	*e*Pg	**Pg**	**17 10 27.9**	**+1.3**
SHGR				*e*Sg	**Sn**	**17 10 46.4**	**+2.4**
SHGR	**Shooshtar-Gavs**	**1.30**	**121**	*e*Pg	**Pg**	**17 10 27.9**	**+1.3**
IBDR	**Badra**	**1.35**	**285**	*e*Pg	**Pn**	**17 10 27.0**	**0.0**
IBDR				*e*Sg	**Sb**	**17 10 45.0**	**+0.2**
IBDR				AML	AML	17 10 52.5	
	comp=N,588nm,0.6s						
IBDR				AML	AML	17 10 52.6	
	comp=E,344nm,0.8s						
IKOM	**Komasi**	**1.39**	**1**	*e*Pg	**Pg**	**17 10 29.5**	**+1.1**
IKOM				*e*		17 10 54.4	
BMDN	**Meydan**	**1.43**	**51**	*e*Pg	**Pg**	**17 10 29.2**	**0.0**
BMDN				*e*		17 10 54.4	
KCHF	**Cheshme Sefid,**	**1.54**	**346**	*e*Pg	**Pg**	**17 10 32.1**	**+0.9**
KCHF				*e*		17 10 56.1	
KER	**Kermanshah**	**1.63**	**350**	*e*Pn	**Pg**	**17 10 33.1**	**+0.2**
HSAM	**Samen**	**1.71**	**33**	*e*Pg	**Pg**	**17 10 34.4**	**0.0**
HSAM				*e*		17 10 36.9	
IBZA	**Bozab**	**1.71**	**10**	*e*Pg	**Pg**	**17 10 34.7**	**+0.1**
IBZA				*e*		17 11 04.4	
IGHG	**Ghaleghazi**	**1.72**	**334**	*e*Pn	**Pg**	**17 10 35.9**	**+1.1**
IGHG				*e*		17 11 10.5	
AHWZ	**Ahwaz**	**1.75**	**145**	*e*Pg	**Pg**	**17 10 35.8**	**+0.6**
IVIS	**Veis**	**1.82**	**343**	*e*Pn	**Pg**	**17 10 36.8**	**+0.2**
IVIS				*e*		17 11 06.7	
NSR	**Nassriya**	**2.10**	**213**	*e*Pn	**Pn**	**17 10 37.0**	**-0.3**
NSR				*e*Sn	**Sn**	**17 11 04.0**	**+0.3**
IDHR	**Dehrash**	**2.12**	**335**	*e*Pn	**Pb**	**17 10 39.8**	**-0.8**
IDHR				*e*		17 11 14.9	
IALM	**Almabolaq**	**2.15**	**15**	*e*Pn	**Pb**	**17 10 41.0**	**-0.2**
ILIN	**Lien**	**2.18**	**349**	*e*Pn	**Pb**	**17 10 40.7**	**-0.9**
ILIN				*e*		17 11 16.5	
KHMZ	**Khomeyn**	**2.28**	**65**	*e*Pn	**Pb**	**17 10 42.8**	**-0.6**
KHMZ	**Khomeyn**	**2.28**	**65**	*e*Pn	**Pb**	**17 10 42.8**	**-0.6**
SNGE	**Sanandaj**	**2.31**	**357**	*e*Pn	**Pb**	**17 10 43.0**	**-0.8**
SNGE				IAML		17 11 23.9	
	comp=N,137nm,0.8s						
SNGE	**Sanandaj**	**2.31**	**357**	*e*Pn	**Pb**	**17 10 43.0**	**-0.8**
HAGD	**Aghdareh**	**2.46**	**34**	*e*Pn	**Pb**	**17 10 44.6**	**-1.8**
HAGD				*e*		17 10 52.3	
HSRG	**Sareghieh**	**2.54**	**15**	*e*Pn	**Pb**	**17 10 47.0**	**-0.9**
HSRG				*e*		17 11 25.6	
BHD	**Baghdad**	**2.65**	**281**	*e*Pn	**Pn**	**17 10 45.0**	**+0.1**
BHD				*e*Sn	**Sn**	**17 11 19.0**	**+1.6**
JHBN	**Jahan bin**	**2.74**	**101**	*e*Pn	**Pn**	**17 10 47.9**	**+1.4**
JHBN				*e*		17 11 35.2	
ASAO	**Ashtian**	**2.76**	**50**	*e*Pn	**Pb**	**17 10 49.6**	**-1.9**
ASAO				*e*Sg	**Sg**	**17 11 30.5**	**+0.2**
ASAO	**Ashtian**	**2.76**	**50**	*e*Pn	**Pb**	**17 10 49.6**	**-1.9**
IPIR	**Pirpir**	**2.87**	**91**	*e*Pn	**Pn**	**17 10 49.7**	**+1.4**
IPIR				*e*		17 11 42.8	
ROKH	**ROKH**	**3.03**	**97**	*e*Pn	**Pn**	**17 10 51.5**	**+1.2**
QABG	**Abgarm-Qazvin**	**3.40**	**30**	*e*Pn	**Pn**	**17 10 57.3**	**+1.9**
IKLH	**Kolahrood**	**3.48**	**80**	*e*Pn	**Pn**	**17 10 58.9**	**+2.3**
IKLH				*e*		17 11 00.5	
IGAR	**Gharneh**	**3.87**	**94**	*e*Pn	**Pn**	**17 11 03.1**	**+1.3**
KLNJ	**Kolanjah**	**3.92**	**116**	*e*Pn	**Pn**	**17 11 03.6**	**+1.0**
KLNJ				*e*		17 12 34.7	
QSDN	**Sirdan**	**3.97**	**20**	*e*Pn	**Pn**	**17 11 06.2**	**+3.0**
IZEF	**Zefreh**	**4.08**	**87**	*e*Pn	**Pn**	**17 11 06.0**	**+1.2**
IGZV	**Ghazvin**	**4.25**	**91**	*e*Pn	**Pn**	**17 11 09.3**	**+2.2**
IRAM	**Ramesheh**	**4.26**	**102**	*e*Pn	**Pn**	**17 11 07.5**	**+0.3**
QALM	**Alamut, Qazvin**	**4.48**	**35**	*e*Pn	**Pn**	**17 11 13.0**	**+2.7**
IFIR	**Firoozkooh**	**5.22**	**55**	*e*Pn	**Pn**	**17 11 21.9**	**+1.5**
ILAS	**Lasjerd**	**5.23**	**59**	*e*Pn	**Pn**	**17 11 21.8**	**+1.2**
ANAR	**Anarak**	**5.26**	**84**	*e*Pn	**Pn**	**17 11 21.5**	**+0.5**
ISHM	**Shahmirzad**	**5.68**	**56**	*e*Pn	**Pn**	**17 11 28.4**	**+1.6**
IANJ	**Anjilo**	**5.97**	**62**	*e*Pn	**Pn**	**17 11 32.6**	**+1.9**
IBAF	**Bafgh**	**6.95**	**98**	*e*Pn	**Pn**	**17 11 45.3**	**+1.1**
IBAF	**Bafgh**	**6.95**	**98**	*e*Pn	**Pn**	**17 11 45.1**	**+0.9**
ASF	**Jabal al Asfar**	**8.96**	**269**	Pn	**Pn**	**17 12 10.3**	**-1.5**
	comp=N,0.2nm,0.3s,baz=311,slow=9.5,SNR=1.9						
AKTO	**Aktyubinsk**	**19.28**	**21**	P	**P**	**17 14 26.1**	**-0.9**
	comp=N,0.2nm,0.3s,baz=193,slow=11,SNR=5.0						
AKASG	**Malin Array Be**	**22.39**	**328**	P	**P**	**17 15 00.4**	**-0.2**
	comp=N,0.5nm,0.5s,baz=134,slow=9.7,SNR=5.2						
MKAR	**Makanchi Array**	**29.92**	**52**	P	**P**	**17 16 09.4**	**-0.9**
	comp=N,0.5nm,0.7s,baz=245,slow=8.8,SNR=5.7						
FINES	**FINESS Array B**	**31.85**	**341**	P	**P**	**17 16 27.3**	**+0.2**
	comp=N,3.5nm,1.0s,baz=146,slow=8.4,SNR=1.5						
ARCES	**ARCESS Array B**	**38.82**	**348**	P	**P**	**17 17 26.2**	**-0.7**
	comp=N,1.9nm,1.0s,baz=161,slow=9.3,SNR=4.4						

*OMAN **18** 17:10:38.2±0.5, 27.79N×57.34E, h10km±2km, ml3.0/6, Mwp4.8/3, Error ellipse: s-maj=10.6km s-min=4.4km az=285.0*
*TEH **18** 17:10:42.2, 27.95N×57.45E, h10km, ML3.0*

ISC 18 17:10:38.4±1.1, **27.58N**±0.07×**57.5E**±0.2, **h10**km, **n10, σ1§63/16, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.41**	**25**	*e*Pg	**Pb**	**17 10 46.8**	**-1.0**
KHNJ				*e*Sg	**Sg**	**17 10 51.0**	**-0.9**
BANOM	**Banah**	**1.97**	**214**	P	**Pn**	**17 11 13.0**	**+1.1**
	SNR=81						
BANOM				P	**Pn**	**17 11 13.0**	**+1.1**
	SNR=81						
BANOM				S	**Sb**	**17 11 39.4**	**+0.3**
BANOM				S	**Sb**	**17 11 39.4**	**+0.3**
NGRK	**Negar Kerman**	**2.17**	**342**	*e*Pn	**Pn**	**17 11 14.5**	**-0.5**
NGRK				*e*		17 11 44.1	
CHMN	**Cheshme madani**	**2.27**	**1**	*e*Pn	**Pn**	**17 11 17.4**	**+1.0**
CHMN				*e*		17 11 53.1	
TVBK	**TV Kerman**	**2.49**	**345**	*e*Pn	**Pn**	**17 11 20.9**	**+1.6**
TVBK				*e*		17 11 57.0	
MDH	**Madha**	**2.52**	**206**	P	**Pn**	**17 11 19.4**	**0.0**
MDH				P	**Pn**	**17 11 19.4**	**0.0**
UOSS	**Minazif**	**2.87**	**204**	P	**Pb**	**17 11 27.6**	**-2.2**
UOSS				S	**Sn**	**17 12 01.1**	**+2.2**
KHGB	**Koh Gabri**	**2.93**	**342**	*e*Pn	**Pn**	**17 11 26.7**	**+1.4**
KHGB				*e*		17 12 13.7	
HATD	**Hatta, Dubai**	**3.01**	**205**	P	**Pb**	**17 11 29.6**	**-2.5**
ASHO	**Ashiyiah**	**3.16**	**205**	P	**Pn**	**17 11 31.3**	**+2.9**

*IDC **18** 17:11:10.4±21.0, 32.10N×47.51E, h0km, mb4.0/4, mb1 4.0/4, mb1mx3.5/44, mbtmp4.0/4, Error ellipse: s-maj=433.3km s-min=44.7km az=13.0*
*ISN **18** 17:11:16.1±0.7, 32.62N×47.59E, h14km±4km, ML3.2*
*TEH **18** 17:11:20.3, 32.80N×47.65E, h8km, ML3.3*

ISC 18 17:11:16.3±1.0, **32.57N**±0.06×**47.59E**±0.06, **h10**km, **n20, σ1§04/24, mb3.9/4, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.98**	**13**	*e*Pg	**Pg**	**17 11 34.9**	**-0.2**
IKFM				*e*		17 11 54.9	
IKMR	**Kamar-syah**	**1.16**	**35**	*e*Pg	**Pn**	**17 11 39.4**	**+0.9**
IKMR				*e*		17 12 00.1	
IDOB	**Doab**	**1.31**	**22**	*e*Pg	**Pn**	**17 11 41.7**	**+0.8**
IDOB				*e*Sg	**Sg**	**17 11 58.7**	**+0.1**
IBDR	**Badra**	**1.50**	**292**	*e*Pg	**Pn**	**17 11 43.0**	**-0.3**
IBDR				*e*Sg	**Sn**	**17 12 03.0**	**+0.1**
IBDR				AML	AML	17 12 09.1	
	comp=N,302nm,0.3s						
IBDR				AML	AML	17 12 12.6	
	comp=E,474nm,0.6s						
BMDN	**Meydan**	**1.51**	**43**	*e*Pg	**Pn**	**17 11 44.8**	**+1.2**
BMDN				*e*		17 12 10.8	
IKOM	**Komasi**	**1.60**	**358**	*e*Pg	**Pb**	**17 11 46.9**	**+0.8**
IKOM				*e*		17 12 15.0	
KCHF	**Cheshme Sefid,**	**1.77**	**345**	*e*Pg	**Pb**	**17 11 49.3**	**+0.4**
HSAM	**Samen**	**1.84**	**27**	*e*Pg	**Pb**	**17 11 51.0**	**+0.7**
HSAM				*e*		17 12 19.4	
KER	**Kermanshah**	**1.85**	**348**	*e*Pg	**Pb**	**17 11 51.3**	**+0.9**
IBZA	**Bozab**	**1.91**	**7**	*e*Pg	**Pb**	**17 11 51.6**	**+0.2**
IBZA				*e*		17 11 55.6	
IGHG	**Ghaleghazi**	**1.96**	**334**	*e*Pn	**Pb**	**17 11 53.8**	**+1.6**
NSR	**Nassriya**	**1.98**	**219**	*e*Pn	**Pn**	**17 11 51.0**	**+1.1**
NSR				*e*Sn	**Sn**	**17 12 16.0**	**+1.2**
IVIS	**Veis**	**2.05**	**343**	*e*Pn	**Pb**	**17 11 54.4**	**+0.7**
IVIS				*e*		17 12 25.5	
IALM	**Almabolaq**	**2.34**	**12**	*e*Pn	**Pn**	**17 11 57.4**	**+2.3**
ILIN	**Lien**	**2.40**	**348**	*e*Pn	**Pb**	**17 11 59.5**	**-0.3**
ILIN				*e*		17 12 45.3	
BHD	**Baghdad**	**2.79**	**285**	*e*Pn	**Pn**	**17 12 02.0**	**+1.0**
BHD				*e*Sn	**Sn**	**17 12 36.0**	**+1.2**
MKAR	**Makanchi Array**	**29.98**	**52**	P	**P**	**17 17 23.6**	**-1.3**
	comp=E,0.4nm,0.6s,baz=251,slow=8.0,SNR=4.4						
FINES	**FINESS Array B**	**32.08**	**341**	P	**P**	**17 17 42.3**	**-0.8**
	comp=E,4.3nm,1.0s,baz=134,slow=8.0,SNR=1.5						
HFS	**Hagfors**	**35.45**	**331**	P	**P**	**17 18 11.4**	**-1.1**
	comp=E,3.9nm,0.9s,baz=106,slow=11,SNR=1.6						
ARCES	**ARCESS Array B**	**39.04**	**348**	P	**P**	**17 18 42.2**	**-0.7**
	comp=E,1.1nm,0.8s,baz=162,slow=9.7,SNR=6.6						

IDC 18 17:14:32.1±5.0, **20.26S×173.74W, h0**km, **mb3.8/2, mb1 4.1/2, mb1mx3.5/33, mbtmp3.8/2, Error ellipse: s-maj=335.9km s-min=57.8km az=154.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**48.46**	**256**	P	P	17 23 15.8	-0.9
	0.8nm,0.7s,baz=98,slow=7.3,SNR=21						
WRA	**Warramunga Arr**	**48.59**	**261**	P	P	17 23 18.5	+0.7
	0.9nm,0.5s,baz=96,slow=8.1,SNR=46						
ARCES	**ARCESS Array B**	**129.35**	**351**	PKP	PKPdf	17 33 41.6	-0.3
	1.1nm,0.8s,baz=48,slow=1.3,SNR=1.3						

*ISN **18** 17:21:35.2±0.4, 32.82N×47.57E, h16km±2km, ML2.5*
*TEH **18** 17:21:53.6, 32.84N×47.55E, h10km, ML2.8*

ISC 18 17:21:44.2±1.2, **32.48N**±0.05×**47.00E**±0.06, **h10**km, **n8, σ2§50/11, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**1.10**	**305**	*e*Pg	Pb	17 22 01.0	-4.3
IBDR				*e*Sg	**Sg**	**17 22 20.0**	**+0.4**
IBDR				AML	AML	17 22 43.5	
	comp=N,82nm,0.4s						
IBDR				AML	AML	17 22 47.4	
	comp=E,84nm,0.7s						
IKFM	**Kafar-mosalman**	**1.27**	**34**	*e*		17 22 28.3	
IKFM				*e*Pg	Pn	**17 22 07.1**	**-0.8**
IKMR	**Kamar-syah**	**1.56**	**48**	*e*Pg	**Pn**	**17 22 12.8**	**+0.8**
IKMR				*e*		17 22 14.5	
IKMR				*e*Sg	**Sn**	**17 22 27.0**	**-5.2**
NSR	**Nassriya**	**1.64**	**207**	*e*Pn	**Pn**	**17 22 12.0**	**-1.0**
NSR				*e*Sn	**Sg**	**17 22 38.5**	**+1.7**
IDOB	**Doab**	**1.64**	**37**	*e*Pg	**Pn**	**17 22 14.8**	**+1.5**
IDOB				*e*		17 22 16.5	
IKOM	**Komasi**	**1.75**	**14**	*e*Pg	**Pg**	**17 22 20.0**	**+2.3**
IKOM				*e*		17 22 21.1	
IBZA	**Bozab**	**2.11**	**20**	*e*Pg	**Pg**	**17 22 25.1**	**+0.3**
IBZA				*e*		17 22 27.8	
BHD	**Baghdad**	**2.34**	**290**	*e*Pn	**Pn**	**17 22 20.0**	**-2.7**
BHD				*e*Sn	**Sn**	**17 22 53.0**	**+1.5**

*BJI **18** 17:30:11.9±0.0, 25.01N×97.83E, h14km, ML3.5/7*
*IDC **18** 17:30:11.2±1.0, 24.98N×98.11E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/46, mbtmp3.7/8, ML4.0/1, Error ellipse: s-maj=47.2km s-min=14.5km az=74.0*

ISC 18 17:30:12.7±0.9, **24.98N**±0.10×**98.01E**±0.08, **h10**km, **n10, σ0§57/11, mb3.6/7, 1C, Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**4.29**	**87**	⇑Pg	**Pg**	**17 31 35.4**	**+0.4**
KMI				Sg	**Sg**	**17 32 30.4**	**-0.2**
KMI				smax	smax		
	comp=N,96nm,0.9s						
KMI				smax	smax		
	comp=E,59nm,0.8s						
CMAR	**Chiang Mai Arr**	**6.55**	**172**	Pn	**Pn**	**17 31 48.7**	**-0.4**
	0.9nm,0.3s,baz=346,slow=13,SNR=5.5						
CMAR				Pg	Pb	17 32 12.3	+5.6
	0.6nm,0.3s,baz=348,slow=18,SNR=8.0						
CMAR				Lg		17 33 38.0	
	1.5nm,0.3s,baz=340,slow=15,SNR=4.2						
WMQ	**Urumqi**	**20.60**	**338**	*e*P	**P**	**17 34 51.3**	**-0.7**
PSI	**Prapat**	**22.07**	**178**	P	**P**	**17 35 08.7**	**+0.7**
	3.2nm,0.4s,baz=360,slow=7.8,SNR=4.3						
SONM	**Songino Array**	**23.76**	**14**	P	**P**	**17 35 25.0**	**-0.3**
	0.7nm,0.8s,baz=199,slow=7.4,SNR=3.8						
MKAR	**Makanchi Array**	**25.13**	**334**	P	**P**	**17 35 38.2**	**+0.4**
	1.0nm,0.7s,baz=149,slow=9.3,SNR=11						
AAK	**Ala-Archa**	**26.17**	**318**	P	**P**	**17 35 48.2**	**+0.8**
	1.3nm,0.5s,baz=146,slow=11,SNR=1.4						
ZALV	**Zalesovo Beam**	**30.57**	**345**	P	**P**	**17 36 26.5**	**+0.2**
	0.8nm,0.6s,baz=168,slow=7.6,SNR=3.8						
WRA	**Warramunga Arr**	**56.95**	**138**	P	**P**	**17 39 58.4**	**0.0**
	0.5nm,0.7s,baz=326,slow=7.6,SNR=7.8						
ASAR	**Alice Springs**	**59.57**	**141**	P	**P**	**17 40 16.2**	**-0.6**
	0.3nm,0.8s,baz=311,slow=7.0,SNR=2.6						

*MOS **18** 17:40:27.8±1.0, 32.60N×47.70E, h16km, mb4.7/32, Error ellipse: s-maj=6.7km s-min=4.0km az=114.8*
*NEIC **18** 17:40:28.5±1.5, 32.53N±0.07×47.67E±0.07, h10km±1km, Error ellipse: s-maj=12.7km s-min=9.9km az=197.0*
*ISN **18** 17:40:28.9±1.4, 32.65N×47.77E, h15km±7km, ML4.3*
*TEH **18** 17:40:29.9, 32.63N×47.64E, h16km, ML4.4*
*IDC **18** 17:40:30.0±2.3, 32.63N×47.65E, h20km±14km, mb4.1/22, mb1 4.2/29, mb1mx4.0/59, mbtmp4.2/29, ML4.0/7, MS3.3/15, Ms1 3.2/15, ms1mx3.1/64, Error ellipse: s-maj=14.6km s-min=10.3km az=168.0*
*THR **18** 17:40:30.8±0.4, 32.68N×47.70E, h14km±6km, ML4.4*
*GII **18** 17:40:32.3±0.0, 32.65N×47.71E, h10km*
*OMAN **18** 17:40:42.7±7.0, 32.15N×48.22E, h237km±38km, mb4.6/10, Error ellipse: s-maj=33.0km s-min=7.7km az=298.0*

ISC 18 17:40:28.5±0.3, **32.52N**±0.03×**47.74E**±0.03, **h10**km, **n334, σ1§65/351, mb4.5/88, MS3.2/12, 41C-15D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.99**	**114**	*e*Pg	**Pn**	**17 40 51.1**	**+2.7**
SHGR				IAML		17 41 12.2	
	comp=E,8μm,0.4s						
SHGR	**Shooshtar-Gavs**	**0.99**	**114**	*e*Pg	**Pn**	**17 40 51.1**	**+2.7**
IKFM	**Kafar-mosalman**	**1.00**	**5**	*e*Pg	**Pg**	**17 40 47.5**	**-0.3**
IKMR

ISFR Sfrayin 9.57 59 *e*Pn **Pn** 17 42 49.2 +2.6
IKRD Kardeh 9.84 61 *e*Pn Pn 17 43 03.1 +13
IAKL Akhelmad 9.96 63 *e*Pn **Pn** 17 42 54.2 +2.4
BANOM Banah 9.96 129 P **Pn** 17 42 53.0 +1.3
SNR=18
BANOM S **Sn** 17 44 40.2 -3.3
GEYT Alibeck 10.06 55 Pn **Pn** 17 42 53.3 +0.3
comp=E,0.3nm,0.3s,baz=246,slow=13,SNR=10
GEYT Lg Lg 17 45 51.1
comp=E,0.2nm,0.3s,baz=239,slow=27,SNR=1.7
GEYT Alibeck 10.06 55 Pn **Pn** 17 42 55.2 +2.2
GYA0B ALIBECK ARRAY 10.06 55 Pn **Pn** 17 42 56.9 +3.9
IMON Monand 10.06 83 *e*Pn **Pn** 17 42 56.2 +3.0
KEMA Kemaliye 10.07 315 *e*Pn **Pn** 17 42 54.2 +1.0
NATI Neve Ativ 10.12 277 Pn **Pn** 17 42 57.8 +4.0
NAZ Nazwa, Dubai 10.23 135 P **Pn** 17 42 58.1 +2.7
NAZ S **Sn** 17 44 47.5 -2.7
MDH Madha 10.39 132 P **Pn** 17 42 59.9 +2.3
MDH S **Sn** 17 44 50.5 -3.6
MMAI Mount Meron Ar 10.40 276 Pn **Pn** 17 42 57.2 -0.5
comp=E,0.5nm,0.3s,baz=82,slow=16,SNR=2.3
MMAI Lg Lg 17 45 56.5
comp=E,1.1nm,0.3s,baz=94,slow=39,SNR=3.0
MMAI LR LR 17 46 45.9
comp=E,24nm,20.3s,baz=60,slow=36
MAK Makhachkala 10.42 359 *e*P **Pn** 17 42 55.7 -2.2
MAK *e*S **Sn** 17 44 52.7 -2.0
MAK pmax pmax
comp=Z,280nm,1.3s
MAK MLR MLR
comp=Z,289nm,20.0s
UOSS Minazif 10.59 133 P **Pn** 17 43 01.7 +1.4
UOSS S **Sn** 17 44 55.5 -3.5
UOSS Minazif 10.59 133 Pn **Pn** 17 43 01.5 +1.2
HATD Hatta, Dubai 10.63 134 P **Pn** 17 43 02.6 +1.7
HATD S **Sn** 17 44 58.6 -1.4
ASHO Ashiyiah 10.69 135 P **Pn** 17 43 04.0 +2.2
SNR=19
ASHO S **Sn** 17 44 59.9 -1.7
SLTI Sal'it 10.74 272 Pn **Pn** 17 43 05.9 +3.6
PRNI Paran 11.09 262 Pn **Pn** 17 43 10.8 +3.7
EIL Elat 11.32 259 Pn **Pn** 17 43 09.8 -0.5
comp=Z,0.4nm,0.3s,baz=206,slow=1.2,SNR=1.9
EIL Lg Lg 17 46 27.0
comp=Z,0.5nm,0.3s,baz=345,slow=16,SNR=2.6
EIL Elat 11.32 259 Pn **Pn** 17 43 14.2 +3.9
SOHO SOHO 11.39 135 P **Pn** 17 43 12.4 +1.1
SOHO S **Sn** 17 45 15.2 -3.4
KZIT Kziot 11.47 265 Pn **Pn** 17 43 16.0 +3.6
KBZ Khabaz 11.81 343 LR LR 17 48 11.1
comp=Z,162nm,20.5s,baz=140,slow=39
KBZ Khabaz 11.81 343⇓ *e*P **Pn** 17 43 18.9 +1.9
KIV Kislovodsk 12.08 342 *e*P **Pn** 17 43 21.5 +0.8
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,130nm,11.0s
KIV Kislovodsk 12.08 342 Pn **Pn** 17 43 17.9 -2.8
HOQ Hoqain 12.27 134 P **Pn** 17 43 23.6 +0.2
HOQ S **Sn** 17 45 34.4 -5.9
WSAR Wadi Sarin 13.35 131 Pn **Pn** 17 43 38.5 +0.4
comp=Z,1.6nm,0.3s,baz=328,slow=14,SNR=8.3
WSAR Sn **Sn** 17 45 59.8 -6.7
baz=178,slow=24,SNR=1.0
WSAR LR LR 17 49 46.0
comp=Z,182nm,19.0s,baz=318,slow=41
BR131 Keskin Array S 13.46 306⇓ *e*P **Pn** 17 43 39.1 -0.6
BRTR Keskin Array B 13.46 306 Pn **Pn** 17 43 38.7 -0.9
comp=Z,0.1nm,0.3s,baz=128,slow=11,SNR=8.3
BRTR LR LR 17 49 21.0
comp=Z,82nm,19.5s,baz=113,slow=40
BRTR Keskin Array B 13.46 306 *i* P **Pn** 17 43 41.7 +2.0
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 13.46 306 Pn **Pn** 17 43 37.8 -1.9
KBL Kabul 17.88 78 P **P** 17 44 39.6 +1.4
KBL pmax pmax
comp=Z,20nm,1.1s
KBL Kabul 17.88 78 **P** 17 44 39.5 +1.4
CHGR Chuyangaron 18.45 65 P **Pn** 17 44 45.2 +0.8
ABKAR Akbulak array 19.05 25 P **P** 17 44 50.2 -0.5
IDI Anoyia 19.16 285 P **P** 17 44 52.3 +0.3
comp=Z,2.6nm,0.3s,baz=163,slow=4.1,SNR=11
IDI Anoyia 19.16 285⇓ P **Pn** 17 44 53.5 +0.6
IDI Anoyia 19.16 285 IAmb IAmb 17 44 54.6
comp=Z,206nm,1.9s
VRH Novokhopyorsk 19.18 348 *e*P **P** 17 44 51.9 -0.2
VRH pmax pmax
comp=Z,10.0nm,0.6s
TIRR Tirgusor 19.20 314⇑ P **P** 17 44 52.7 +0.3
TIRR Tirgusor 19.20 314⇑ P **P** 17 44 52.7 +0.3
GAR Garm 19.41 64 P **Pn** 17 44 56.0 0.0
GAR IAmb IAmb 17 45 00.3
comp=Z,43nm,1.3s
TOPG Topolog 19.45 315⇑ P **Pn** 17 44 56.5 +0.3
AKTO Aktyubinsk 19.45 20 P **P** 17 44 54.3 -0.8
comp=Z,1.4nm,0.3s,baz=204,slow=11,SNR=34
AKTO LR LR 17 53 36.9
comp=Z,44nm,20.6s,baz=195,slow=41
VORD Divnogorie 19.45 344 *e*P **P** 17 44 54.2 -0.8
VORD pmax pmax
comp=Z,20nm,0.8s
HARR Harsova 19.62 314⇑ P **Pn** 17 44 57.5 -0.8
HARR Harsova 19.62 314⇑ P **Pn** 17 44 57.5 -0.8
VSR Storozhevoye 19.71 344 *e*P **P** 17 44 56.0 -1.9
VSR pmax pmax
comp=Z,20nm,0.5s
CFR Carcaliu 19.75 315⇑ P **P** 17 44 58.6 +0.2
CFR Carcaliu 19.75 315⇑ P **P** 17 44 58.6 +0.2
RAZG Razgrad 19.97 310⇑ P **Pn** 17 45 01.7 -0.8
MILM Milestii Mici 20.38 320⇑ P **P** 17 45 05.9 +0.6
ISR Istrita 20.68 314⇑ P **P** 17 45 09.0 +0.4
ISR Istrita 20.68 314⇑ P **P** 17 45 09.0 +0.4
KK31 Karatay Array 20.80 53 P **P** 17 45 10.7 +0.8
KK31 pmax pmax
comp=Z,18nm,1.3s
KK31 Karatay Array 20.80 53 P **P** 17 45 10.7 +0.8
KKAR Karatay Array 20.80 53 P **P** 17 45 09.6 -0.3
KKAR pmax pmax
comp=Z,18nm,1.3s
KKAR Karatay Array 20.80 53 P **P** 17 45 09.6 -0.3
KKAR Karatay Array 20.80 53 P **P** 17 45 10.1 +0.2
KKAR IAmb IAmb 17 45 15.1
comp=Z,18nm,1.2s
VRI Vrincioaia 20.96 316⇓ P **P** 17 45 12.1 +0.5
VRI Vrincioaia 20.96 316⇓ P **P** 17 45 12.1 +0.5
NEHR Nehoiu 20.99 314⇓ P Pn 17 45 13.6 -0.9
PLOR Plostina 21.00 315⇑ P **P** 17 45 13.0 +1.0
PLOR Plostina 21.00 315⇑ P **P** 17 45 13.0 +1.0
LPSR Galich'ya Gora 21.06 345 *e*P **P** 17 45 10.9 -1.6
LPSR pmax pmax
comp=Z,80nm,1.0s
MLR Muntele Rosu 21.23 314 P **P** 17 45 14.7 +0.1
comp=Z,18nm,0.8s,baz=181,slow=2.1,SNR=16
MLR LR LR 17 55 43.6
comp=Z,85nm,18.9s,baz=120,slow=43
MLR Muntele Rosu 21.23 314⇑ P **P** 17 45 16.0 +1.3
MLR Muntele Rosu 21.23 314⇑ P **P** 17 45 16.0 +1.3
MLR Muntele Rosu 21.23 314 P **P** 17 45 14.9 +0.3
MLR IAmb IAmb 17 45 21.6
comp=Z,19nm,0.9s
TESR Tescani 21.36 317⇑ P **P** 17 45 16.1 +0.4
ATD Arta Tunnel 21.37 193 P **P** 17 45 18.4 +2.2
comp=Z,5.1nm,0.6s,baz=73,slow=11,SNR=1.2
ATD LR LR 17 54 26.5
comp=Z,121nm,18.4s,baz=352,slow=39
ATD Arta Tunnel 21.37 193 IAmb IAmb 17 45 25.2
comp=Z,22nm,1.0s
HUMR Humele 21.38 311⇑ P **P** 17 45 17.3 +1.2
SORM Soroca 21.39 322⇑ P **P** 17 45 16.1 -0.1
SORM Soroca 21.39 322⇑ P **P** 17 45 16.1 -0.1
NIL Nilore 21.40 80 P **P** 17 45 17.1 +0.7
NIL pmax pmax
comp=Z,34nm,1.0s
NIL Nilore 21.40 80 P **P** 17 45 17.1 +0.7
NIL IAmb IAmb 17 45 22.0
comp=Z,34nm,0.9s
OZUR 21.64 315⇓ P **P** 17 45 19.5 +0.6
ITM Ithomi 21.66 290 P **P** 17 45 18.9 -0.3
ITM IAmb IAmb 17 45 25.1
comp=Z,71nm,1.5s
VOIR 21.76 313⇑ P **P** 17 45 21.3 +1.1
VOIR 21.76 313⇑ P **P** 17 45 21.3 +1.1
DOPR Dopca 21.81 314⇓ P **P** 17 45 21.2 +0.5

ARSB Arslanbob 21.95 59 P **P** 17 45 22.8 +0.4
ARSB pmax pmax
comp=Z,17nm,1.0s
ARSB Arslanbob 21.95 59 P **P** 17 45 22.8 +0.4
ARSB IAmb IAmb 17 45 41.3
comp=Z,17nm,0.9s
ARR Arges 21.98 312⇑ P **P** 17 45 23.4 +0.8
LOT Lotru 22.56 312⇑ P **P** 17 45 28.6 -0.3
SRE Strehaia 22.59 310⇑ P **P** 17 45 30.4 +1.4
SRE Strehaia 22.59 310⇑ P **P** 17 45 30.4 +1.4
KMPD K-Podol'skiy 22.65 321 P **P** 17 45 27.0 -2.6
AKASG Malin Array Be 22.73 328 P **P** 17 45 28.3 -2.1
comp=Z,1.4nm,0.3s,baz=138,slow=10,SNR=14
AKASG Malin Array Be 22.73 328 *i* P **P** 17 45 30.7 +0.3
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 22.73 328 P **P** 17 45 28.0 -2.4
AKBB Malin Array Si 22.73 328 P **P** 17 45 28.4 -2.0
AKBB pmax pmax
comp=Z,52nm,1.9s
AKBB Malin Array Si 22.73 328 P **P** 17 45 28.4 -2.0
AKBB IAmb IAmb 17 45 34.5
comp=Z,52nm,1.9s
KIEV Kiev 22.73 328 P **P** 17 45 28.0 -2.4
BURAR Bucovina Array 22.78 318⇑ P **P** 17 45 31.6 +0.5
BURAR Bucovina Array 22.78 318 P **P** 17 45 31.6 +0.5
BURAR Bucovina Array 22.78 318 P **P** 17 45 29.6 -1.6
BUR08 Bucovina Ar. S 22.80 318 P **P** 17 45 31.2 -0.2
HERR Herculane 23.19 309⇑ P **P** 17 45 34.7 -0.6
AAK Ala-Archa 23.40 57 P **P** 17 45 37.9 +0.3
comp=Z,1.7nm,0.3s,baz=234,slow=5.2,SNR=4.5
AAK ScP **ScP** 17 53 00.2 -2.0
comp=Z,1.0nm,0.3s,baz=259,slow=5.2,SNR=1.6
AAK LR LR 17 56 07.3
comp=Z,100nm,19.2s,baz=252,slow=40
AAK Ala-Archa 23.40 57 P **P** 17 45 38.6 +1.0
MDVR Moldovita 23.61 309⇑ P **P** 17 45 39.2 -0.4
OBN Obninsk 23.92 344 *i* P **P** 17 45 41.0 -1.3
comp=Z,4.4nm,0.4s,baz=160,slow=11,SNR=6.0
OBN *i* 17 45 49.1
OBN pmax pmax
comp=Z,23nm,1.2s
OBN MLR MLR
comp=Z,66nm,18.0s
OBN Obninsk 23.92 344 IAmb IAmb 17 45 42.5
comp=Z,36nm,1.1s
BZS Buzias 24.00 311⇑ P **P** 17 45 42.5 -0.7
BZS Buzias 24.00 311⇑ P **P** 17 45 42.5 -0.7
SIRR Siria 24.25 312⇓ P **P** 17 45 44.1 -1.4
MOS Moscow 24.27 346 *e*P **P** 17 45 45.1 -0.5
MOS *e* 17 46 17.7
DIVS Divibare 24.53 306 P **P** 17 45 47.9 -0.3
UZH Uzhgorod 24.98 318 *e*P **P** 17 45 55.0 +2.9
UZH *e* 17 46 03.0
ARU Arti 25.06 14 P **P** 17 45 49.4 -3.3
comp=Z,1.5nm,0.7s,baz=260,slow=19,SNR=3.0
ARU LR LR 17 58 04.7
comp=Z,58nm,19.4s,baz=187,slow=42
ARU Arti 25.06 14*d* *i*P **P** 17 45 52.4 -0.3
ARU S **S** 17 50 16.8 -0.1
ARU pmax pmax
comp=Z,17nm,1.3s
ARU Arti 25.06 14 P **P** 17 45 52.5 -0.2
ARU IAmb IAmb 17 45 55.0
comp=Z,11nm,1.0s
KOLS Kolonicke sedl 25.15 318 *e*P **P** 17 45 53.9 +0.2
KOLS pmax pmax
comp=Z,22nm,1.3s
KOLS Kolonicke sedl 25.15 318 *e*P **P** 17 45 53.9 +0.2
KDJ Kajisay 25.20 59 P **P** 17 45 54.0 -0.4
KDJ pmax pmax
comp=Z,12nm,1.1s
KDJ Kajisay 25.20 59 P **P** 17 45 54.0 -0.4
KDJ IAmb IAmb 17 45 58.7
comp=Z,12nm,1.1s
KWP Kalwaria Pacla 25.28 320 P **P** 17 45 54.7 -0.1
KWP pmax pmax
comp=Z,15nm,0.7s
KWP Kalwaria Pacla 25.28 320 P **P** 17 45 54.7 -0.1
KWP IAmb IAmb 17 46 00.6
comp=Z,15nm,0.7s
TARG Taragay, Kyrgy 25.57 60 P **P** 17 45 58.9 +0.8
TARG IAmb IAmb 17 46 02.3
comp=Z,13nm,0.9s
CRVS Cervenica-Dubn 25.59 317 *e*P **P** 17 45 58.4 +0.7
CRVS pmax pmax
comp=Z,26nm,1.0s
CRVS Cervenica-Dubn 25.59 317 *e*P **P** 17 45 58.4 +0.7
SVE Sverdlovsk 25.89 16 *e*P **P** 17 45 59.2 -1.0
SVE pmax pmax
comp=Z,18nm,1.3s
TIP Timpagrande 25.89 294⇓ P **P** 17 46 01.1 +0.5
TIP Timpagrande 25.89 294 P **P** 17 45 59.6 -1.0
TIP IAmb IAmb 17 46 02.8
comp=Z,11nm,1.2s
KECS Kecovo 25.95 316 *e*P **P** 17 46 01.9 +0.9
KECS pmax pmax
comp=Z,21nm,1.1s
KECS Kecovo 25.95 316 *e*P **P** 17 46 01.9 +0.9
PSZ Piszkesteto 26.05 314 P **P** 17 46 02.1 +0.2
PSZ pmax pmax
comp=Z,25nm,1.0s
PSZ Piszkesteto 26.05 314 P **P** 17 46 02.1 +0.2
PSZ IAmb IAmb 17 46 05.0
comp=Z,25nm,1.0s
KIRV Kirov 26.09 2 P **P** 17 46 01.3 -0.8
comp=Z,17nm,0.6s,baz=330,slow=2.1,SNR=5.2
KIRV LR LR 17 58 48.3
comp=Z,66nm,18.0s,baz=179,slow=42
KIRV Kirov 26.09 2⇑ *e*P **P** 17 46 01.6 -0.4
BRVK Borovoye 26.16 32*ce*P **P** 17 46 03.1 +0.3
BRVK pmax pmax
comp=Z,10.0nm,1.3s
BRVK Borovoye 26.16 32 P **P** 17 46 03.4 +0.6
BRVK IAmb IAmb 17 46 04.2
comp=Z,8.8nm,0.9s
BVAR Borovoye Array 26.19 32 P **P** 17 46 02.8 -0.2
comp=Z,7.3nm,0.7s,baz=224,slow=6.2,SNR=27
BVAR PcP **PcP** 17 49 29.8 0.0
comp=Z,0.9nm,0.5s,baz=224,slow=6.0,SNR=3.2
BVAR ScP **ScP** 17 53 07.8 -1.8
comp=Z,1.0nm,0.5s,baz=227,slow=3.2,SNR=7.1
BVAR LR LR 17 58 24.2
comp=Z,93nm,18.6s,baz=268,slow=41
NIE Niedzica 26.51 318 P **P** 17 46 07.1 +1.1
NIE pmax pmax
comp=Z,6.0nm,1.2s
NACGM Naroch 26.82 333 *e* **P** 17 46 08.0 -0.7
LANS Liptovska Anna 26.86 317 *e*P **P** 17 46 10.4 +1.2
LANS pmax pmax
comp=Z,6.0nm,1.0s
LANS Liptovska Anna 26.86 317 *e*P **P** 17 46 10.4 +1.2
VYHS Vyhne 26.94 315 *e*P **P** 17 46 09.8 -0.1
VYHS pmax pmax
comp=Z,8.0nm,1.3s
VYHS Vyhne 26.94 315 *e*P **P** 17 46 09.8 -0.1
OJC Ojcow 27.19 319 P **P** 17 46 12.3 +0.2
OJC pmax pmax
comp=Z,11nm,0.9s
OJC Ojcow 27.19 319 P **P** 17 46 12.3 +0.2
OJC IAmb IAmb 17 46 15.7
comp=Z,11nm,0.9s
JAVC Velka Javorina 27.79 315 *e*P **P** 17 46 18.5 +0.9
MORC Moravsky Berou 28.26 316⇑ P **P** 17 46 21.5 -0.3
MORC Moravsky Berou 28.26 316 *e*P **P** 17 46 21.3 -0.5
MORC Moravsky Berou 28.26 316⇑ P **P** 17 46 21.5 -0.3
MORC 17 46 23.0
VRAC Vranov 28.62 315 P **P** 17 46 24.1 -0.9
comp=Z,2.6nm,0.6s,baz=154,slow=3.3,SNR=5.1
VRAC Vranov 28.62 315 *e*P **P** 17 46 25.0 0.0
KRUC Moravsky 28.64 314 *e*P **P** 17 46 25.0 -0.1
SOKA Soboth 28.66 309 *i* P **P** 17 46 26.6 +1.2
comp=Z,3.2nm,1.2s
KLMR Klimovskoe 28.85 352 *e*P **P** 17 46 24.7 -2.0
KLMR pmax pmax
comp=Z,15nm,0.9s
KLMR Klimovskoe 28.85 352 *e*P **P** 17 46 24.8 -2.0
KLMR AMP 17 46 26.3
comp=Z,15nm,0.9s
OBKA Obir 28.93 309 *i* P **P** 17 46 29.1 +1.3
comp=Z,5.1nm,1.0s
KURBB Kurchatov Arra 28.99 42 P **P** 17 46 28.8 +0.7
comp=Z,4.0nm,0.7s,baz=247,slow=9.3,SNR=25

KURBB PcP **PcP** 17 49 35.3 -1.3
comp=Z,0.4nm,0.4s,baz=248,slow=2.4,SNR=4.7
KURBB ScP **ScP** 17 53 16.9 -1.2
comp=Z,0.3nm,0.4s,baz=237,slow=2.4,SNR=2.4
KURK Kurchatov 29.08 42*ce*P **P** 17 46 30.0 +1.0
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 29.08 42 P **P** 17 46 30.0 +1.0
KURK IAmb IAmb 17 46 31.2
comp=Z,7.7nm,0.9s
KURK Kurchatov 29.08 42 **PcP** 17 49 35.3 -1.5
KURK **ScP** 17 53 16.9 -1.5
DPC Dobruska-Polom 29.22 317 *e*P **P** 17 46 30.5 +0.2
DPC Dobruska-Polom 29.22 317 *e*P **P** 17 46 30.5 +0.2
CHVC Chvalec 29.48 317 *e*P **P** 17 46 32.6 0.0
MOA Molln 29.52 311 P **P** 17 46 33.4 +0.4
comp=Z,6.6nm,0.9s,SNR=4.7
PUL Pulkovo 29.61 342⇑ *e*P **P** 17 46 33.8 +0.2
PUL pmax pmax
comp=Z,32nm,0.7s
MAKZ Makanchi 29.70 51 P **P** 17 46 35.3 +0.7
MAKZ pmax pmax
comp=Z,2.0nm,1.0s
MAKZ Makanchi 29.70 51 P **P** 17 46 35.3 +0.7
KBA Koelnbreinsper 29.88 309 *e*P **P** 17 46 36.8 +0.5
comp=Z,7.8nm,0.9s,SNR=5.9
MK31 Makanchi Array 29.91 51 P **P** 17 46 37.0 +0.6
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 29.91 51 P **P** 17 46 37.0 +0.6
MK31 IAmb IAmb 17 46 38.4
comp=Z,5.4nm,0.8s
MKAR Makanchi Array 29.91 51 P **P** 17 46 37.2 +0.8
comp=Z,4.8nm,0.7s,baz=248,slow=7.5,SNR=53
MKAR PcP **PcP** 17 49 37.6 -1.4
comp=Z,0.4nm,0.7s,baz=252,slow=2.9,SNR=2.8
MKAR LR LR 17 58 37.5
comp=Z,25nm,19.2s,baz=253,slow=36
STAL STALIGIAL 30.08 307 P **P** 17 46 37.5 -0.4
GERES GERESS Array B 30.21 313 P **P** 17 46 37.9 -1.2
comp=Z,0.9nm,0.8s,baz=106,slow=8.9,SNR=5.9
GERES PcP **PcP** 17 49 38.6 -1.3
comp=Z,0.5nm,0.6s,baz=110,slow=1.1,SNR=3.7
GERES GERESS Array B 30.21 313 P **P** 17 46 38.3 -0.8
GERES 17 49 38.6
GERES GERESS Array B 30.21 313 P **P** 17 46 38.3 -0.8
CIMO Cimolais 30.28 307 P **P** 17 46 39.7 0.0
CIMO IAmb IAmb 17 46 40.5
comp=Z,6.4nm,0.9s
KHC Kasperske Hory 30.39 313 *e*P **P** 17 46 40.8 +0.2
KHC Kasperske Hory 30.39 313 *e*P **P** 17 46 40.8 +0.2
CTI Castel Tesino 30.75 307 P **P** 17 46 44.1 +0.2
CTI pmax pmax
comp=Z,11nm,0.8s
CTI Castel Tesino 30.75 307 P **P** 17 46 44.1 +0.2
CTI IAmb IAmb 17 46 44.9
comp=Z,10nm,0.8s
WTTA Wattenberg 31.05 309 *i* P **P** 17 46 46.5 -0.2
comp=Z,9.4nm,0.8s,SNR=5.9
WATA Walderalm 31.11 309 *i* P **P** 17 46 46.8 -0.4
comp=Z,8.4nm,0.7s
SQTA Sankt Quirin 31.32 309 P **P** 17 46 48.2 -0.8
comp=Z,15nm,1.1s,SNR=5.7
MOTA Moosalm 31.43 309 *i* P **P** 17 46 49.3 -0.6
comp=Z,15nm,1.0s,SNR=8.5
CLL Collm 31.54 317 *e*P **P** 17 46 51.0 +0.3
CLL Collm 31.54 317 *e*P **P** 17 46 51.0 +0.3
FETA Feichten 31.59 308 *i* P **P** 17 46 50.4 -1.0
comp=Z,10nm,0.9s,SNR=8.5
RETA Reutte 31.69 309 *i* P **P** 17 46 51.9 -0.3
comp=Z,1.8nm,0.4s
FUORN Ofenpass-Fuorn 31.81 307 P **P** 17 46 53.4 -0.1
FINES FINESS Array B 32.16 341 P **P** 17 46 55.3 -0.8
comp=Z,1.6nm,0.5s,baz=143,slow=9.2,SNR=12
FINES LR LR 18 02 37.9
comp=Z,66nm,18.2s,baz=150,slow=41
FINES FINESS Array B 32.16 341 *i* P **P** 17 46 56.2 +0.2
FINES pmax pmax
comp=Z,2.0nm,0.4s
DAVA Damuels 32.22 308 *i* P **P** 17 46 56.0 -0.9
comp=Z,7.4nm,0.5s
DAVA *i* P **P** 17 46 56.4 -0.5
comp=Z,8.4nm,0.4s
BFO Black Forest 33.48 310 P **P** 17 47 07.5 -0.3
BFO pmax pmax
comp=Z,30nm,2.0s
BFO Black Forest 33.48 310 P **P** 17 47 07.5 -0.3
SENIN Lac Senin/Sane 33.77 306 P **P** 17 47 10.2 -0.3
ZAA0 Zalesovo Array 33.91 40 P **P** 17 47 11.5 +0.1
ZAA0 IAmb IAmb 17 47 12.5
comp=Z,8.5nm,1.1s
ZALV Zalesovo Beam 33.91 40 P **P** 17 47 11.0 -0.3
comp=Z,6.3nm,0.9s,baz=248,slow=8.4,SNR=17
ZALV LR LR 18 02 24.9
comp=Z,30nm,20.8s,baz=242,slow=39
ZALV Zalesovo Beam 33.91 40 *i* P **P** 17 47 11.3 -0.1
ZALV pmax pmax
comp=Z,5.0nm,0.8s
ZALV Zalesovo Beam 33.91 40 P **P** 17 47 11.2 -0.1
DGZ Jazzator, Alta 34.00 48⇓ *e*P **P** 17 47 13.7 +1.2
DGZ pmax pmax
comp=Z,3.0nm,0.8s
BNI Bardonecchia 34.01 304 P **P** 17 47 11.9 -0.6
BNI pmax pmax
comp=Z,21nm,0.8s
BNI Bardonecchia 34.01 304 P **P** 17 47 11.9 -0.6
LPG La Plagne 34.02 304 *e*P **P** 17 47 12.0 -0.8
LPG pmax pmax
comp=Z,12nm,0.5s
LPL La Plagne 34.03 304 *e*P **P** 17 47 12.0 -0.8
LPL pmax pmax
comp=Z,12nm,0.6s
HAU Haudompre 34.70 309 *e*P **P** 17 47 16.9 -1.5
HAU pmax pmax
comp=Z,4.0nm,0.7s
KMBO Kilima Mbogo 34.91 199 LR LR 18 01 48.7
comp=Z,90nm,19.4s,baz=92,slow=37
VIVF Saint-Julien-l 35.40 303 *e*P **P** 17 47 23.2 -1.3
VIVF pmax pmax
comp=Z,7.0nm,1.0s
AVF Avril sur Loir 36.52 306 *e*P **P** 17 47 32.8 -1.2
AVF pmax pmax
comp=Z,15nm,1.2s
NB2 NORSAR Subarra 37.08 331 P **P** 17 47 36.8 -1.8
comp=Z,11nm,1.7s,baz=123,slow=8.6
NOA NORSAR Array B 37.08 331 P **P** 17 47 36.5 -2.1
comp=Z,1.9nm,1.0s,baz=123,slow=8.1,SNR=4.1
RJF Les Rejaudoux 37.67 304 *e*P **P** 17 47 43.0 -0.8
RJF pmax pmax
comp=Z,17nm,1.4s
KEV Kevo 39.05 349 P **P** 17 47 55.2 +0.2
KEV pmax pmax
comp=Z,33nm,1.6s
KEV Kevo 39.05 349 P **P** 17 47 55.2 +0.2
KEV IAmb IAmb 17 48 07.4
comp=Z,33nm,1.6s
ARCES ARCESS Array B 39.11 348 P **P** 17 47 53.8 -1.8
comp=Z,3.0nm,0.8s,baz=58,slow=14,SNR=4.6
ARCES ARCESS Array B 39.11 348 P **P** 17 47 55.7 +0.1
ARCES ARCESS Array B 39.11 348 P **P** 17 47 55.7 +0.1
ARE0 ARCESS Array S 39.11 348 P **P** 17 47 55.8 +0.2
GRR Gorron 39.53 308 *e*P **P** 17 47 57.8 -1.5
GRR pmax pmax
comp=Z,24nm,1.4s
SJPF Ste Jean 39.60 300 *e*P **P** 17 48 00.2 +0.2
SJPF pmax pmax
comp=Z,4.0nm,0.8s
QUIF Quistinic 41.04 307 *e*P **P** 17 48 15.5 +3.7
QUIF pmax pmax
comp=Z,39nm,1.4s
ESDC Sonseca Array 41.90 295 P **P** 17 48 17.3 -1.8
comp=Z,2.0nm,0.9s,baz=80,slow=7.9,SNR=10
ESK Eskdalemuir 41.98 318 P **P** 17 48 19.2 -0.3
ESK pmax pmax
comp=Z,120nm,1.8s
ESK Eskdalemuir 41.98 318 P **P** 17 48 19.2 -0.3
GTA Gaotai 42.22 65⇑ P **P** 17 48 23.0 +1.2
GTA pP sP 17 48 29.4 +3.1
GTA sP pP 17 48 33.4 +8.4
GTA pmax pmax
comp=Z,4.0nm,1.7s
GTA pmax pmax
comp=Z,23nm,5.1s
GTA LR LR
comp=N,72nm,16.5s

GTA					LR	LR			
	comp=E,130nm,16.8s								
GTA					LR	LR			
	comp=Z,66nm,16.5s								
NRIK	**Noril'sk**	**43.07**		**19**⇓	*eP*	**P**	**17 48 29.0**	**+0.9**
NRIK					pmax	pmax			
	comp=Z,5.0nm,1.4s								
DSB	**Dublin**	**43.51**	**315**		P	**P**	**17 48 31.9**	**0.0**
ZAK	**Zakamensk**	**44.19**	**49**		*eP*	**P**	**17 48 38.2**	**+0.6**
ZAK					pmax	pmax			
	comp=Z,3.0nm,1.3s								
TORD	**Torodi Ar. Bea**	**46.20**	**256**		P	**P**	**17 48 53.7**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=67,slow=6.7,SNR=9.4								
TORD	**Torodi Ar. Bea**	**46.20**	**256**		P	**P**	**17 48 52.6**	**-1.2**
SONM	**Songino Array**	**46.26**	**53**		P	**P**	**17 48 54.1**	**+0.1**
	comp=Z,1.5nm,1.0s,baz=280,slow=8.9,SNR=8.2								
SONM	**Songino Array**	**46.26**	**53**		P	**P**	**17 48 54.0**	**-0.1**
ULN	**Ulaanbaatar**	**46.70**	**53**	*c*	*eP*	**P**	**17 48 58.2**	**+0.7**
ULN					pmax	pmax			
	comp=Z,5.0nm,0.8s								
ULN	**Ulaanbaatar**	**46.70**	**53**		P	**P**	**17 48 57.0**	**-0.6**
ULN					IAmb	IAmb	17 48 59.6		
	comp=Z,9.1nm,1.2s								
CHTO	**Chiang Mai**	**47.71**	**94**		P	**P**	**17 49 05.2**	**-0.4**
CHTO					pmax	pmax			
	comp=Z,5.0nm,1.0s								
CHTO	**Chiang Mai**	**47.71**	**94**		P	**P**	**17 49 05.2**	**-0.4**
CHTO					IAmb	IAmb	17 49 07.1		
	comp=Z,5.4nm,0.9s								
CMAR	**Chiang Mai Arr**	**47.87**	**94**		P	**P**	**17 49 06.8**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=295,slow=8.6,SNR=17								
CMAR	**Chiang Mai Arr**	**47.87**	**94**		*i P*	**P**	**17 49 07.5**	**+0.6**
CMAR					pmax	pmax			
	comp=Z,3.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**47.87**	**94**		P	**P**	**17 49 06.7**	**-0.2**
KMI	**Kunming**	**48.31**	**84**	⇑	P	**P**	**17 49 10.0**	**-0.5**
KMI					pmax	pmax			
	comp=Z,10.0nm,1.1s								
PBKT	**Sadao Pong**	**50.46**	**95**		P	**P**	**17 49 27.3**	**+0.6**
BOD	**Bodaibo**	**50.66**	**39**		*eP*	**P**	**17 49 27.6**	**0.0**
BOD					pmax	pmax			
	comp=Z,9.0nm,1.8s								
SLVN	**Son La**	**50.80**	**88**		P	**P**	**17 49 29.9**	**+0.6**
SLVN					IAmb	IAmb	17 49 31.5		
	comp=Z,10.0nm,1.4s								
ENH	**Enshi**	**52.10**	**75**		P	**P**	**17 49 39.1**	**+0.2**
ENH					IAmb	IAmb	17 49 43.1		
	comp=Z,14nm,1.2s								
IPM	**Ipoh**	**56.98**	**108**		P	**P**	**17 50 13.7**	**-0.8**
YAK	**Yakutsk**	**58.15**	**33**⇓		*eP*	**P**	**17 50 21.5**	**-0.6**
YAK					pmax	pmax			
	comp=Z,8.0nm,1.7s								
YAK	**Yakutsk**	**58.15**	**33**		P	**P**	**17 50 21.4**	**-0.7**
YAK					IAmb	IAmb	17 50 22.2		
	comp=Z,8.2nm,1.1s								
SUMG	**Summit**	**58.19**	**339**		P	**P**	**17 50 22.5**	**-0.2**
SUMG					pmax	pmax			
	comp=Z,18nm,1.4s								
SUMG	**Summit**	**58.19**	**339**		P	**P**	**17 50 22.5**	**-0.2**
SDSI	**Sungai Dareh**	**60.56**	**112**		P	**P**	**17 50 38.9**	**-0.5**
KLR	**Kul'dur**	**62.49**	**47**⇓		*eP*	**P**	**17 50 51.9**	**-0.1**
KLR					pmax	pmax			
	comp=Z,7.0nm,1.6s								
NRS	**Narsarsuaq**	**63.55**	**327**		P	**P**	**17 50 58.0**	**-0.8**
NRS					pmax	pmax			
	comp=Z,28nm,0.8s								
NRS	**Narsarsuaq**	**63.55**	**327**		P	**P**	**17 50 58.0**	**-0.8**
KSRS	**Korea Array**	**63.98**	**61**		P	**P**	**17 50 59.7**	**-2.4**
	comp=Z,1.3nm,0.7s,baz=285,slow=6.9,SNR=4.3								
BOSA	**Boshof**	**64.44**	**202**		P	**P**	**17 51 06.3**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=40,slow=7.6,SNR=3.9								
BOSA	**Boshof**	**64.44**	**202**		P	**P**	**17 51 06.4**	**+1.2**
BOSA					pmax	pmax			
	comp=Z,55nm,2.0s								
SEY	**Seymchan**	**67.78**	**29**	*c*	*iP*	**P**	**17 51 26.6**	**+0.5**
YSS	**Yuzh-Sakhalins**	**70.17**	**47**		*eP*	**P**	**17 51 41.5**	**+0.3**
YSS					pmax	pmax			
	comp=Z,7.0nm,1.1s								
YSS	**Yuzh-Sakhalins**	**70.17**	**47**		P	**P**	**17 51 41.7**	**+0.4**
IMAR	**Indian Mountai**	**80.42**	**9**		P	**P**	**17 52 39.4**	**-0.5**
BCAR	**Beaver Creek A**	**84.44**	**4**		P	**P**	**17 53 00.6**	**-0.4**
WRA	**Warramunga Arr**	**97.72**	**109**		P	**P**	**17 54 03.5**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=316,slow=4.1,SNR=5.2								
ASAR	**Alice Springs**	**99.31**	**112**		P	**Pdif**	**17 54 10.6**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=301,slow=4.8,SNR=9.5								

JMA 18 17:42:39.3, 36°.07N×136°.14E, h8km, M2.8, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**0.26**	**37**	P	Pg	17 42 44.8	+0.4
JKG				S	Sg	17 42 48.6	+0.7
JFM	**Mihama**	**0.56**	**193**	P	Pg	17 42 50.1	+0.1
JFM				S	Sg	17 42 57.6	+0.3
JYTA	**Yamagatataniai**	**0.68**	**134**	P	Pg	17 42 52.2	-0.2
JYTA				S	Sg	17 43 01.6	+0.4
JKY	**Yasaka**	**0.95**	**243**	P	Pg	17 42 56.7	-0.9
JKY				S	Sg	17 43 09.4	-0.5
JWT	**Wachi**	**0.99**	**218**	P	Pg	17 42 57.8	-0.5
JWT				S	Sg	17 43 10.5	-0.6
MAT	**Matsushiro**	**1.73**	**74**	P	Pn	17 43 10.2	+0.4
MAT				S	Sb	17 43 33.1	-0.3

ATH 18 17:43:06.3, 38°.11N×23°.26E, h8km±3km, ML1.9/2, Error ellipse: s-maj=3.9km s-min=0.9km az=355.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIL2	**Platees**	**0.10**	**6**	P	Pg	17 43 08.1	-0.6
VIL2				S	Sg	17 43 09.9	-0.5
VIL2				AML	AML	17 43 12.1	
	comp=N,2707μm,0.5s						
VIL2				AML	AML	17 43 12.3	
	comp=E,3634μm,0.6s						
LTK	**Loutraki**	**0.24**	**248**	P	Pg	17 43 10.7	-0.5
LTK				S	Sg	17 43 15.0	+0.5
LOUT	**Loutraki**	**0.26**	**241**	P	Pg	17 43 11.5	+0.1
LOUT				S	Sg	17 43 15.5	+0.8
ATHU	**Athens Univers**	**0.44**	**109**	P	Pg	17 43 14.9	0.0
ATHU				S	Sg	17 43 21.4	+0.7
PTL	**Penteli**	**0.48**	**97**	P	Pg	17 43 15.8	+0.1
VLY	**Voula,Athens**	**0.50**	**121**	P	Pg	17 43 16.0	0.0
VLY				S	Sg	17 43 22.7	+0.2
DION	**Dionisos Attik**	**0.54**	**94**	P	Pg	17 43 16.8	+0.1
LKR	**Lokris**	**0.57**	**340**	P	Pg	17 43 17.4	0.0
LKR				AML	AML	17 43 28.2	
	comp=N,270μm,0.3s						
LKR				AML	AML	17 43 29.6	
	comp=E,199μm,0.2s						
DID	**Didima**	**0.61**	**181**	P	Pg	17 43 17.6	-0.3

*GCG **18** 17:54:56.4±0.3, 13°.46N×89°.78W, h138km±14km, MD3.7*
*SNET **18** 17:55:01.2±0.8, 13°.82N×89°.92W, h113km±5km, ML3.0*
*UCR **18** 17:55:09.7±0.8, 13°.31N×89°.33W, h193km±146km, MD3.8*
ISC 18 17:55:02.8±1.6, 13.80N±0.08×89.83W±0.07, h110km±9km, n23, σ1§49/32, 10C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.12**	**26**⇑	*eP*	**Pn**	**17 55 17.1**	**-1.2**
NUBE				IAML		17 55 18.1	
	comp=Z,164nm,0.2s						
NUBE				*eS*	**Sn**	**17 55 29.6**	**-0.3**
CEVE	**Cerro Verde**	**0.21**	**81**⇑	*iP*	**Pn**	**17 55 18.0**	**-0.6**
CEVE				IAML		17 55 18.8	
	comp=Z,1μm,0.4s						
RTR	**El Retiro**	**0.21**	**61**⇑	*eP*	**Pn**	**17 55 17.9**	**-0.6**
SBLS	**San Blas**	**0.21**	**78**⇑	*iP*	**Pn**	**17 55 18.0**	**-0.6**
SNJE	**San Jose**	**0.23**	**72**	*eP*	**Pn**	**17 55 18.0**	**-0.6**
TACO	**Tacachico**	**0.50**	**70**⇑	*iP*	**Pn**	**17 55 19.0**	**-0.7**
TACO				IAML		17 55 19.6	
	comp=Z,287nm,0.4s						
TACO				*eS*	**Sn**	**17 55 32.5**	**+0.1**
LALI	**Alcalda de L**	**0.58**	**121**	*i P*	**Pn**	**17 55 20.0**	**-0.2**
LALI				*eS*	**Sn**	**17 55 34.3**	**+0.9**
IXG	**Ixpaco**	**0.70**	**302**⇑	*iP*	**Pn**	**17 55 19.6**	**-1.7**
IXG	**Ixpaco**	**0.70**	**302**⇑	*eP*	**Pn**	**17 55 20.4**	**-0.9**
MTO3	**Montecristo**	**0.76**	**37**⇑	*iP*	**Pn**	**17 55 21.3**	**-0.7**
LBRS	**Las Brisas**	**0.77**	**94**⇑	*eP*	**Pn**	**17 55 21.9**	**0.0**
LFRS	**El Faro**	**0.77**	**103**	*eP*	**Pn**	**17 55 21.7**	**-0.2**
LFRS				*eS*	**Sn**	**17 55 37.8**	**+1.5**
PAVA	**Las Pavas**	**0.88**	**95**	*eP*	**Pn**	**17 55 22.8**	**0.0**
PAVA				*eS*	**Sn**	**17 55 39.9**	**+1.9**
PAVA				IAML		17 55 44.1	
	comp=Z,191nm,0.2s						
NBG	**Las Nubes**	**0.93**	**328**	*eP*	**Pn**	**17 55 23.6**	**-0.1**
PCG	**Pacaya**	**0.96**	**308**	*eP*	**Pn**	**17 55 23.3**	**-0.6**
FUG	**Fuego 3**	**1.17**	**304**	*eP*	**Pn**	**17 55 25.1**	**-1.0**
FUG				*eS*	**Sn**	**17 55 47.4**	**+3.8**
MRL	**Marmol**	**1.29**	**6**⇑	*iP*	**Pn**	**17 55 26.9**	**-0.5**
MRL				*eS*	**Sn**	**17 55 45.6**	**-0.4**
HZTE	**Horizontes, Gu**	**5.15**	**126**	*eP*	**Pn**	**17 56 19.3**	**+1.6**
ORTG	**Ortega, Santa**	**5.47**	**128**	*eP*	**Pn**	**17 56 23.3**	**+1.1**
CUI	**Cuipilapa**	**5.53**	**124**	*eP*	**Pn**	**17 56 23.4**	**+0.6**
CUI				*eS*	**Sn**	**17 57 22.1**	**-3.1**
DUNO	**Dulce Nombre,**	**5.63**	**131**	*eP*	**Pn**	**17 56 25.4**	**+1.2**
DUNO				*eS*	**Sn**	**17 57 23.7**	**-3.8**
JTS	**Las Juntas de**	**5.91**	**126**	*eP*	**Pn**	**17 56 29.1**	**+1.2**
LAFE	**Finca La Fe, P**	**6.24**	**129**	*eP*	**Pn**	**17 56 33.4**	**+1.0**

*ISN **18** 18:02:09.4±1.2, 32°.71N×47°.54E, h15km±6km, ML3.1*
*TEH **18** 18:02:11.9, 32°.70N×47°.66E, h10km, ML3.6*
*IDC **18** 18:02:11.7±2.9, 32°.73N×47°.84E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.6/46, mbtmp3.9/6, Error ellipse: s-maj=53.9km s-min=31.9km az=27.0*
ISC 18 18:02:11.2±0.7, 32.60N±0.04×47.54E±0.05, h10km, n49, σ1§50/53, mb3.8/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.96**	**16**	*ePg*	**Pg**	**18 02 28.4**	**-1.3**
IKMR	**Kamar-syah**	**1.16**	**37**	*ePg*	**Pb**	**18 02 31.1**	**-2.2**
IKMR				*e*		18 02 53.0	
IDOB	**Doab**	**1.30**	**24**	*ePg*	**Pn**	**18 02 34.6**	**-1.1**
IBDR	**Badra**	**1.45**	**291**	*ePg*	**Pn**	**18 02 35.0**	**-2.5**
IBDR				*eSg*	**Sn**	**18 02 54.0**	**-2.5**
IBDR				AML	AML	18 03 04.8	
	comp=N,302nm,0.4s						
IBDR				AML	AML	18 03 05.5	
	comp=E,412nm,0.6s						
BMDN	**Meydan**	**1.52**	**45**	*ePg*	**Pn**	**18 02 38.7**	**0.0**
IKOM	**Komasi**	**1.57**	**359**	*ePg*	**Pn**	**18 02 40.3**	**+0.9**
IKOM				*eSg*	**Sn**	**18 03 01.6**	**+1.7**
IKOM				*e*		18 03 11.4	
AHWZ	**Ahwaz**	**1.58**	**143**	*ePg*	**Pb**	**18 02 41.6**	**+1.1**
KCHF	**Cheshme Sefid,**	**1.72**	**346**	*ePg*	**Pn**	**18 02 43.2**	**+1.7**
KCHF				*e*		18 03 09.6	
KER	**Kermanshah**	**1.81**	**349**	*ePg*	**Pn**	**18 02 44.8**	**+2.1**
HSAM	**Samen**	**1.84**	**29**	*ePg*	**Pn**	**18 02 44.2**	**+1.1**
HSAM				*e*		18 03 15.0	
IBZA	**Bozab**	**1.89**	**8**	*ePg*	**Pn**	**18 02 46.0**	**+2.2**
IBZA				*e*		18 03 17.7	
IGHG	**Ghaleghazi**	**1.91**	**335**	*ePg*	**Pb**	**18 02 47.0**	**+0.7**
IGHG				*e*		18 02 58.1	
NSR	**Nassriya**	**1.98**	**217**	*ePn*	**Pn**	**18 02 45.0**	**+0.2**
NSR				*eSn*	**Sn**	**18 03 10.0**	**+0.3**
IVIS	**Veis**	**2.01**	**344**	*ePn*	**Pn**	**18 02 46.7**	**+1.4**
IDHR	**Dehrash**	**2.30**	**336**	*ePn*	**Pn**	**18 02 51.8**	**+2.3**
IDHR				*e*		18 03 29.4	
IALM	**Almabolaq**	**2.31**	**13**	*ePn*	**Pn**	**18 02 51.6**	**+1.9**
ILIN	**Lien**	**2.36**	**348**	*ePn*	**Pn**	**18 02 52.1**	**+1.8**
ILIN				*e*		18 03 32.4	
HAGD	**Aghdareh**	**2.59**	**31**	*ePn*	**Pn**	**18 02 55.3**	**+1.9**
HAGD				*e*		18 03 36.5	
JHBN	**Jahan bin**	**2.67**	**97**	*ePn*	**Pn**	**18 02 56.1**	**+1.5**
JHBN				*e*		18 03 42.0	
HSRG	**Sareghieh**	**2.71**	**13**	*ePn*	**Pn**	**18 02 57.4**	**+2.3**
HSRG				*e*		18 03 50.3	
BHD	**Baghdad**	**2.74**	**285**	*ePn*	**Pn**	**18 02 54.0**	**-1.2**
BHD				*eSn*	**Sn**	**18 03 28.0**	**-0.4**
IPIR	**Pirpir**	**2.83**	**87**	*ePn*	**Pn**	**18 02 57.9**	**+1.1**
IPIR				*e*		18 03 39.4	
ROKH	**ROKH**	**2.97**	**94**	*ePn*	**Pn**	**18 02 59.3**	**+0.7**
IRAZ	**Razeghan**	**3.43**	**35**	*ePn*	**Pn**	**18 03 07.1**	**+2.1**
IKLH	**Kolahrood**	**3.47**	**77**	*ePn*	**Pn**	**18 03 07.7**	**+2.1**
KLNJ	**Kolanjah**	**3.80**	**114**	*ePn*	**Pn**	**18 03 11.9**	**+1.7**
IMHD	**Mahdasht**	**4.03**	**39**	*ePn*	**Pn**	**18 03 14.2**	**+1.1**
IZEF	**Zefreh**	**4.05**	**85**	*ePn*	**Pn**	**18 03 14.9**	**+1.4**
QSDN	**Sirdan**	**4.12**	**19**	*ePn*	**Pn**	**18 03 16.2**	**+1.7**
IRAM	**Ramesheh**	**4.18**	**100**	*ePn*	**Pn**	**18 03 15.8**	**+0.5**
MAHB	**Mahabad**	**4.42**	**341**	*ePn*	**Pn**	**18 03 19.4**	**+0.9**
QALM	**Alamut, Qazvin**	**4.61**	**33**	*ePn*	**Pn**	**18 03 21.4**	**+0.2**
IDMV	**Damavand**	**4.77**	**50**	*ePn*	**Pn**	**18 03 24.1**	**+0.7**
ANAR	**Anarak**	**5.24**	**82**	*ePn*	**Pn**	**18 03 30.0**	**+0.2**
ISAD	**Sadrabad**	**5.25**	**96**	*ePn*	**Pn**	**18 03 30.7**	**+0.6**
ILAS	**Lasjerd**	**5.29**	**57**	*ePn*	**Pn**	**18 03 30.1**	**-0.5**
IALA	**Alasht**	**5.58**	**50**	*ePn*	**Pn**	**18 03 36.1**	**+1.5**
IHRS	**Heris**	**5.72**	**356**	*ePn*	**Pn**	**18 03 38.6**	**+2.1**
ISHM	**Shahmirzad**	**5.74**	**55**	*ePn*	**Pn**	**18 03 37.7**	**+0.9**
IANJ	**Anjilo**	**6.02**	**60**	*ePn*	**Pn**	**18 03 40.8**	**+0.2**
IGLO	**Ghaloghah**	**6.49**	**51**	*ePn*	**Pn**	**18 03 48.5**	**+1.5**
SBZV	**Sabzevar**	**9.13**	**63**	*ePn*	**Pn**	**18 04 23.4**	**+0.1**
ISFR	**Sfrayin**	**9.68**	**60**	*ePn*	**Pn**	**18 04 31.9**	**+1.1**
WSAR	**Wadi Sarin** baz=312,slow=16	**13.52**	**131**	Pn	**Pn**	**18 05 22.3**	**-0.9**
AKTO	**Aktyubinsk** baz=205,slow=12	**19.44**	**20**	P	**P**	**18 06 36.2**	**-1.5**
MLR	**Muntele Rosu**	**21.06**	**314**	P	**P**	**18 06 58.6**	**+3.1**
	comp=E,2.3nm,0.6s,baz=138,slow=19						
MKAR	**Makanchi Array**	**29.99**	**52**	P	**P**	**18 08 20.2**	**+0.2**
	comp=E,1.5nm,0.7s,baz=249,slow=6.9,SNR=19						
ZALV	**Zalesovo Beam**	**33.95**	**40**	P	**P**	**18 08 53.3**	**-1.3**
	comp=E,1.8nm,0.8s,baz=249,slow=6.7,SNR=7.6						
SONM	**Songino Array**	**46.34**	**53**	P	**P**	**18 10 37.8**	**+0.3**
	comp=E,0.4nm,0.7s,baz=268,slow=8.5,SNR=3.9						

*IDC **18** 18:03:27.7±1.5, 32°.61N×47°.67E, h0km, mb3.7/12, mb1 3.8/17, mb1mx3.7/55, mbtmp3.7/17, ML3.6/5, Error ellipse: s-maj=30.5km s-min=17.2km az=169.0*
*NEIC **18** 18:03:28.9±1.1, 32°.56N±0°.06×47°.65E±0°.08, h10km±2km, Error ellipse: s-maj=12.9km s-min=8.9km az=125.0*
*ISN **18** 18:03:30.4±1.4, 32°.74N×47°.80E, h15km±7km, ML3.7*
*TEH **18** 18:03:31.0, 32°.70N×47°.85E, h10km, ML3.8*
ISC 18 18:03:29.4±0.5, 32.63N±0.03×47.73E±0.03, h10km, n63, σ1§24/65, mb3.7/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.90**	**7**	*ePg*	**Pg**	**18 03 47.0**	**+0.3**
IKMR	**Kamar-syah**	**1.04**	**32**	*ePg*	**Pg**	**18 03 48.9**	**-0.5**
IKMR				*e*		18 04 09.2	
IDOB	**Doab**	**1.21**	**18**	*ePg*	**Pn**	**18 03 53.1**	**+0.5**
BMDN	**Meydan**	**1.39**	**41**	*ePg*	**Pb**	**18 03 56.2**	**+0.7**
BMDN				*e*	Sg	18 04 23.7	+10
BMDN	**Meydan**	**1.39**	**41**	*e*	Sg	18 04 23.7	+10
AHWZ	**Ahwaz**	**1.51**	**149**	*ePg*	**Pg**	**18 03 59.5**	**+1.1**
IKOM	**Komasi**	**1.55**	**353**	*ePg*	**Pg**	**18 03 59.3**	**+0.2**
IKOM				*e*		18 04 25.1	
IBDR	**Badra**	**1.58**	**288**	*ePg*	**Pb**	**18 03 59.0**	**+0.3**
IBDR				*eSg*	**Sg**	**18 04 22.0**	**+1.7**
IBDR				AML	AML	18 04 25.6	
	comp=E,1μm,0.4s						
IBDR				AML	AML	18 04 25.7	
	comp=N,1μm,0.4s						
KCHF	**Cheshme Sefid,**	**1.74**	**341**	*ePn*	**Pb**	**18 04 02.1**	**+0.6**
KCHF				*e*		18 04 28.8	
HSAM	**Samen**	**1.74**	**25**	*ePg*	**Pg**	**18 04 03.2**	**+0.4**
HSAM				*e*		18 04 30.9	
KER	**Kermanshah**	**1.82**	**344**	*ePn*	**Pg**	**18 04 04.8**	**+0.5**
IBZA	**Bozab**	**1.84**	**3**	*e*		18 04 36.9	
IBZA				*ePg*	**Pg**	**18 04 04.7**	**+0.1**
IGHG	**Ghaleghazi**	**1.95**	**331**	*e*		18 04 45.3	
IGHG				*ePn*	**Pg**	**18 04 07.3**	**+0.5**
IVIS	**Veis**	**2.03**	**339**	*e*		18 04 43.2	
IVIS				*ePn*	**Pn**	**18 04 05.5**	**+1.8**
NSR	**Nassriya**	**2.10**	**220**	*ePn*	**Pb**	**18 04 08.0**	**+0.4**
NSR				*eSn*	**Sb**	**18 04 35.0**	**+1.2**
IALM	**Almabolaq**	**2.25**	**9**	*ePn*	**Pb**	**18 04 10.2**	**-0.1**
IDHR	**Dehrash**	**2.35**	**332**	*ePn*	**Pb**	**18 04 11.1**	**-0.8**
IDHR				*e*		18 04 49.2	
ILIN	**Lien**	**2.37**	**345**	*ePn*	**Pb**	**18 04 11.2**	**-1.1**
HAGD	**Aghdareh**	**2.48**	**28**	*ePn*	**Pb**	**18 04 13.2**	**-1.0**
HAGD				*e*		18 04 52.6	
JHBN	**Jahan bin**	**2.52**	**98**	*ePn*	**Pb**	**18 04 13.7**	**-1.2**
JHBN				*e*		18 05 02.0	
HSRG	**Sareghieh**	**2.64**	**10**	*ePn*	**Pb**	**18 04 16.0**	**-1.0**
BHD	**Baghdad**	**2.88**	**284**	*ePn*	**Pb**	**18 04 19.0**	**-1.9**
BHD				*eSn*	**Sn**	**18 04 53.0**	**+2.9**
MAHB	**Mahabad**	**4.45**	**339**	*ePn*	**Pn**	**18 04 39.1**	**+2.1**
GEVA	**Gevas**	**6.83**	**327**	Pn	**Pn**	**18 05 10.2**	**+0.4**
MARD	**Mardin**	**7.37**	**311**	Pn	**Pn**	**18 05 17.1**	**0.0**
ASF	**Jabal al Asfar**	**9.17**	**270**	Pn	**Pn**	**18 05 40.5**	**-1.3**
	comp=N,0.4nm,0.3s,baz=57,slow=7.6,SNR=2.8						
ASF				Sn	**Sn**	**18 07 18.7**	**-6.4**
	comp=N,0.3nm,0.3s,baz=231,slow=15,SNR=2.0						
ASF				Lg	Lg	18 08 15.5	
	comp=N,0.3nm,0.3s,baz=8.5,slow=15,SNR=2.9						
MMAI	**Mount Meron Ar**	**10.38**	**275**	Pn	**Pn**	**18 05 57.1**	**-1.2**
	comp=N,0.7nm,0.3s,baz=96,slow=15,SNR=2.0						
MMAI				Lg	Lg	18 08 59.3	
	comp=N,1.2nm,0.3s,baz=93,slow=29,SNR=5.5						
UOSS	**Minazif**	**10.67**	**134**	Pn	**Pn**	**18 06 02.2**	**-0.1**
EIL	**Elat**	**11.33**	**258**	Sn	**Sn**	**18 08 18.6**	**+0.5**
	comp=N,0.3nm,0.3s,baz=290,slow=23,SNR=1.4						
EIL				Lg	Lg	18 09 24.2	
	comp=N,0.2nm,0.3s,baz=59,slow=15,SNR=2.4						
BRTR	**Keskin Array B**	**13.39**	**306**	Pn	**Pn**	**18 06 42.6**	**+3.0**
	comp=N,0.0nm,0.3s,baz=101,slow=15,SNR=4.8						
WSAR	**Wadi Sarin**	**13.42**	**131**	Pn	**Pn**	**18 06 39.6**	**-0.4**
	comp=N,0.8nm,0.3s,baz=9.0,slow=12,SNR=1.8						
ABKAR	**Akbulak array**	**18.96**	**25**	P	**P**	**18 07 50.8**	**+0.2**
IDI	**Anoyia**	**19.12**	**284**		**P**	**18 07 53.2**	**+0.6**
IDI				IAmb	IAmb	18 08 05.7	
	comp=Z,54nm,1.2s						
AKTO	**Aktyubinsk**	**19.35**	**20**	P	**P**	**18 07 55.1**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=200,slow=14,SNR=5.5						
KKAR	**Karatay Array**	**20.75**	**53**	P	**P**	**18 08 10.6**	**+0.4**
MLR	**Muntele Rosu**	**21.15**	**314**	P	**P**	**18 08 14.6**	**0.0**
	comp=Z,1.0nm,0.5s,baz=140,slow=17,SNR=1.3						
MLR	**Muntele Rosu**	**21.15**	**314**	P	**P**	**18 08 14.7**	**0.0**
MLR				IAmb	IAmb	18 08 22.0	
	comp=Z,6.2nm,0.8s						
AKASG	**Malin Array Be**	**22.63**	**328**	P	**P**	**18 08 28.9**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=138,slow=11,SNR=1.8						
BURAR	**Bucovina Array**	**22.69**	**318**	P	**P**	**18 08 30.3**	**-0.8**
BUR08	**Bucovina Ar. S**	**22.72**	**318**	P	**P**	**18 08 30.6**	**-0.9**
PSZ	**Piszkesteto**	**25.97**	**314**	P	**P**	**18 09 01.4**	**-0.7**
PSZ				IAmb	IAmb	18 09 05.4	
	comp=Z,4.5nm,0.8s						
BVAR	**Borovoye Array**	**26.10**	**32**	P	**P**	**18 09 03.8**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=233,slow=6.9,SNR=3.1						
KURBB	**Kurchatov Arra**	**28.91**	**42**	P	**P**	**18 09 28.3**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=248,slow=9.2,SNR=1.8						
KURK	**Kurchatov**	**29.01**	**42**	P	**P**	**18 09 28.3**	**-0.9**
KURK	**Kurchatov**	**29.01**	**42**	IAmb	IAmb	18 09 31.6	
	comp=Z,1.6nm,1.1s						
MK31	**Makanchi Array**	**29.85**	**52**	P	**P**	**18 09 37.2**	**+0.4**
MKAR	**Makanchi Array**	**29.85**	**52**	P	**P**	**18 09 37.5**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=247,slow=6.6,SNR=4.4						
MKAR	**Makanchi Array**	**29.85**	**52**	P	**P**	**18 09 36.7**	**-0.1**
GERES	**GERESS Array B**	**30.13**	**313**	P	**P**	**18 09 39.0**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=108,slow=8.6,SNR=2.0						
GERES	**GERESS Array B**	**30.13**	**313**	P	**P**	**18 09 38.8**	**-0.6**
CIMO	**Cimolais**	**30.20**	**307**	P	**P**	**18 09 39.8**	**-0.1**
CIMO				IAmb	IAmb	18 09 40.6	
	comp=Z,2.4nm,0.8s						
CTI	**Castel Tesino**	**30.67**	**306**	P	**P**	**18 09 45.2**	**+1.0**
CTI				IAmb	IAmb	18 09 45.4	
	comp=Z,4.8nm,0.6s						
FINES	**FINESS Array B**	**32.06**	**340**	P	**P**	**18 09 56.0**	**0.0**
	comp=Z,3.9nm,0.9s,baz=176,slow=29,SNR=3.9						
FINES	**FINESS Array B**	**32.06**	**340**	P	**P**	**18 09 55.8**	**-0.2**
FIA1	**FINESS

GAR	Garm	19.49	64	P		P	18 12 23.9	-0.1
KK31	Karatay Array	20.86	53	P		P	18 12 38.2	-0.6
KKAR	Karatay Array	20.86	53	P		P	18 12 38.2	-0.6
KKAR	Karatay Array	20.86	53	P		P	18 12 38.2	-0.6
KKAR				IAmb		IAmb	18 12 46.8	
	comp=Z,3.5nm,1.1s							
MLR	Muntele Rosu	21.10	314	P		P	18 12 43.8	+2.3
	comp=Z,5.5nm,0.7s,baz=166,slow=3.5,SNR=11							
MLR	Muntele Rosu	21.10	314	P		P	18 12 44.8	+3.3
MLR				IAmb		IAmb	18 12 52.2	
	comp=Z,7.9nm,0.6s							
NIL	Nilore	21.50	80	P		P	18 12 46.1	+0.2
NIL				IAmb		IAmb	18 12 47.4	
	comp=Z,7.4nm,0.9s							
ITM	Ithomi	21.52	289	P		P	18 12 47.4	+1.4
ITM				IAmb		IAmb	18 12 51.5	
	comp=Z,12nm,1.0s							
AKASG	Malin Array Be	22.60	329	P		P	18 12 56.5	-0.9
	comp=Z,1.5nm,0.6s,baz=136,slow=9.7,SNR=6.6							
AKBB	Malin Array Si	22.60	329	P		P	18 12 57.0	-0.4
AKBB				IAmb		IAmb	18 12 57.6	
	comp=Z,3.0nm,0.6s							
BURAR	Bucovina Array	22.64	318	P		P	18 12 58.7	+0.7
BUR08	Bucovina Ar. S	22.67	318	P		P	18 12 59.3	+1.0
ARU	Arti	25.02	14	P		P	18 13 20.9	+0.2
	comp=Z,1.3nm,0.6s,baz=352,slow=24,SNR=5.0							
ARU	Arti	25.02	14	IAmb		IAmb	18 13 25.3	
	comp=Z,3.1nm,0.7s							
TARG	Taragay, Kyrgy	25.64	61	P		P	18 13 26.1	-1.0
TARG				IAmb		IAmb	18 13 34.3	
	comp=Z,3.8nm,0.7s							
PSZ	Piszkesteto	25.91	314	P		P	18 13 31.6	+2.5
BVAR	Borovoye Array	26.19	32	P		P	18 13 31.6	+0.2
	comp=Z,2.8nm,0.7s,baz=223,slow=8.1,SNR=15							
OJC	Ojcow	27.05	319	P		P	18 13 40.6	+1.4
OJC				IAmb		IAmb	18 13 43.9	
	comp=Z,5.5nm,0.9s							
KURBB	Kurchatov Arra	29.02	42	P		P	18 13 57.6	+0.8
	comp=Z,1.2nm,0.6s,baz=247,slow=9.5,SNR=9.5							
KURK	Kurchatov	29.11	42	P		P	18 13 58.4	+0.9
KURK				IAmb		IAmb	18 13 59.9	
	comp=Z,2.6nm,0.9s							
MK31	Makanchi Array	29.96	52	P		P	18 14 05.5	+0.3
MK31				IAmb		IAmb	18 14 06.3	
	comp=Z,1.7nm,0.7s							
MKAR	Makanchi Array	29.96	52	P		P	18 14 05.4	+0.2
	comp=Z,1.9nm,0.7s,baz=248,slow=7.7,SNR=21							
MKAR	Makanchi Array	29.96	52	P		P	18 14 05.2	0.0
GERES	GERESS Array B	30.07	313	P		P	18 14 08.1	+1.9
	comp=Z,0.3nm,0.4s,baz=107,slow=9.1,SNR=5.3							
GERES	GERESS Array B	30.07	313	P		P	18 14 07.6	+1.4
CIMO	Cimolais	30.13	307	P		P	18 14 07.5	+0.7
CIMO				IAmb		IAmb	18 14 11.6	
	comp=Z,3.4nm,0.9s							
CTI	Castel Tesino	30.60	307	P		P	18 14 12.4	+1.5
FINES	FINESS Array B	32.05	341	P		P	18 14 23.3	-0.1
	comp=Z,3.1nm,0.8s,baz=164,slow=9.9,SNR=6.2							
TUE	Stuetta	32.26	307	P		P	18 14 27.7	+2.0
SENIN	Lac Senin/Sane	33.63	306	P		P	18 14 38.5	+0.8
BNI	Bardonecchia	33.86	304	P		P	18 14 40.8	+1.1
ZAA0	Zalesovo Array	33.93	40	P		P	18 14 39.0	-0.9
ZAA0				IAmb		IAmb	18 14 41.3	
	comp=Z,1.9nm,0.7s							
ZALV	Zalesovo Beam	33.93	40	P		P	18 14 39.7	-0.2
	comp=Z,2.1nm,0.7s,baz=241,slow=8.1,SNR=7.4							
HFS	Hagfors	35.43	331	P		P	18 14 52.9	+0.1
	comp=Z,3.2nm,0.7s,baz=128,slow=5.9,SNR=2.1							
ARCES	ARCESS Array B	39.01	348	P		P	18 15 23.4	+0.3
	comp=Z,1.4nm,0.6s,baz=150,slow=9.8,SNR=8.1							
ARCES	ARCESS Array B	39.01	348	P		P	18 15 23.3	+0.2
ESDC	Sonseca Array	41.75	295	P		P	18 15 45.9	-0.3
	comp=Z,0.3nm,0.5s,baz=73,slow=8.6,SNR=6.0							
EKA	Eskdalemuir Ar	41.83	318	P		P	18 15 46.2	-0.3
	comp=Z,1.0nm,0.4s,baz=104,slow=8.6,SNR=9.7							
TORD	Torodi Ar. Bea	46.09	256	P		P	18 16 22.7	+1.4
	comp=Z,0.5nm,0.4s,baz=76,slow=6.7,SNR=5.2							
TORD	Torodi Ar. Bea	46.09	256	IAmb		IAmb	18 16 27.5	
	comp=Z,0.9nm,1.3s							
ULN	Ulaanbaatar	46.75	53	P		P	18 16 24.1	-2.2
CHTO	Chiang Mai	47.84	94	P		P	18 16 34.2	-0.8
CHTO				IAmb		IAmb	18 16 37.4	
	comp=Z,2.2nm,0.9s							
CMAR	Chiang Mai Arr	48.00	94	P		P	18 16 35.3	-0.9
	comp=Z,0.7nm,0.6s,baz=298,slow=7.4,SNR=6.4							
CMAR	Chiang Mai Arr	48.00	94	P		P	18 16 35.7	-0.5
SEY	Seymchan	67.78	29	P		P	18 18 54.5	+0.1
	comp=Z,2.2nm,0.7s,baz=62,slow=22,SNR=6.2							

BJI ***18*** *18:08:20.0±0.0,32.˚50N×47.˚70E,h5km,mB6.0/78, mb5.5/79,Ms6.1/92,Ms7 5.8/85*

IDC ***18*** *18:08:21.8±0.3,32.˚63N×47.˚76E,h0km,mb5.3/57, mb1 5.4/65,mb1mx5.3/69,mbtmp5.3/65,ML4.8/6,MS5.6/4, Ms1 5.6/4,ms1mx4.8/21,Error ellipse: s-maj=8.3km s-min=7.1km az=13.0*

NEIC ***18*** *18:08:22.8±1.3,32.˚58N±0.˚07×47.˚70E±0.˚07,h5km±1km, mb5.7/403,Ms_20 5.8/810,Mwb5.8/96,Mww6.0, mb_Lg5.8(TEH),ML5.8(THR),Mwc6.0(GCMT),Error ellipse: s-maj=11.9km s-min=10.0km az=200.0*

GII ***18*** *18:08:23.7±0.0,32.˚46N×47.˚74E,h10km*

NEIC ***18*** *18:08:23.8,32.˚57N×47.˚71E,h5km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}4.68; $M_{\theta\theta}$-5.21; $M_{\phi\phi}$0.53; $M_{r\theta}$2.96; $M_{\theta\phi}$2.05; $M_{\phi r}$1.25; Fault plane solution: M_o6.26000×10^{17} NP1:ϕ_s310.19000°, δ37.06000°,λ127.20000°. NP2:ϕ_s86.61000°,δ61.32000°, λ65.46000°. Principal axes: T 6.0749, Plg65.0000°, Azm313.0000°; N 0.3601, Plg21.0000°, Azm99.0000°; P -6.4350, Plg13.0000°, Azm194.0000°;*

TEH ***18*** *18:08:24.4,32.˚59N×47.˚60E,h13km,ML5.8*

THR ***18*** *18:08:24.6±0.7,32.˚65N×47.˚64E,h14km±9km,ML5.8*

GCMT ***18*** *18:08:24.8±0.1,32.˚50N×47.˚57E,h12km,MW6.0/169, Moment Tensor Solution. s138,c267; s169,c564; Duration: 2≥3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.81±.01; $M_{\theta\theta}$-0.85±.01; $M_{\phi\phi}$0.04±.01; $M_{r\theta}$0.58±.01; $M_{\theta\phi}$0.34±.00; $M_{\phi r}$-0.04±.01; Best double couple: M_o1.06100×10^{18} NP1:ϕ_s300.00000°,δ30.00000°, λ108.00000°. NP2:ϕ_s99.00000°,δ62.00000°,λ80.00000°. Principal axes: T 0.9940, Plg71.0000°, Azm346.0000°; N 0.1340, Plg9.0000°, Azm104.0000°; P -1.1290, Plg16.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISN ***18*** *18:08:24.5±1.2,32.˚65N×47.˚71E,h14km±7km,ML5.6*

OMAN ***18*** *18:08:25.9±1.5,32.˚23N×47.˚56E,h18km±18km,mb6.5/26, ms5.5/7,Mwp6.0/24,Error ellipse: s-maj=8.2km s-min=6.6km az=157.0*

DSN ***18*** *18:08:26.2±0.6,32.˚45N×48.˚00E,h10km,mb6.1/5,ML6.8/1, Error ellipse: s-maj=11.9km s-min=6.0km az=55.0*

NEIC ***18*** *18:08:28,32.˚53N×47.˚59E,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.73; $M_{\theta\theta}$-0.81; $M_{\phi\phi}$0.08; $M_{r\theta}$0.79; $M_{\theta\phi}$0.40; $M_{\phi r}$0.15; Fault plane solution: M_o1.19000×10^{18} NP1:ϕ_s316.00000°, δ30.00000°,λ133.00000°. NP2:ϕ_s89.00000°,δ68.00000°, λ68.00000°. Principal axes: T 1.1467, Plg61.0000°, Azm326.0000°; N 0.0740, Plg20.0000°, Azm97.0000°; P -1.2206, Plg20.0000°, Azm195.0000°;*

MOS ***18*** *18:08:28.2±1.1,32.˚65N×47.˚68E,h19km,mb5.9/73, MS5.6/110 Error ellipse: s-maj=4.3km s-min=2.6km az=117.3*

NEIC ***18*** *18:08:30,32.˚55N×47.˚82E,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.64; $M_{\theta\theta}$-0.69; $M_{\phi\phi}$0.05; $M_{r\theta}$0.76; $M_{\theta\phi}$0.26; $M_{\phi r}$0.36; Fault plane solution: M_o1.10000×10^{18} NP1:ϕ_s312.00000°, δ29.00000°,λ140.00000°. NP2:ϕ_s78.00000°,δ72.00000°, λ67.00000°. Principal axes: T 1.1542, Plg57.0000°, Azm317.0000°; N -0.1093, Plg22.0000°, Azm86.0000°; P -1.0449, Plg23.0000°, Azm186.0000°;*

BGR ***18*** *18:08:40.3±0.0,33.˚54N×45.˚68E,h10km,mb5.8,Ms5.4*

ISC 18 18:08:24.4±0.4,32.˚63N±0.˚02×47.˚74E±0.˚02,h14km±1km, h14km:pP-P,n2295,σ1.˚58/2325,mb5.7/488,MS5.8/530, 195C-42D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.90**	**6**	*e*Pg	**Pn**	**18 08 42.8**	**+0.2**
IKFM				*e*		18 09 06.8	
SHGR	**Shooshtar-Gavs**	**1.04**	**120**	*e*Pg	**Pn**	**18 08 45.2**	**+0.8**
SHGR				IAML		18 09 12.9	
	comp=E,186μm,0.6s						
SHGR				IAML		18 09 27.6	
	comp=N,182μm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.04**	**120**	*e*Pg	**Pn**	**18 08 45.8**	**+1.3**
IKMR	**Kamar-syah**	**1.04**	**31**	*e*Pg	**Pn**	**18 08 45.9**	**+1.4**
IKMR				*e*		18 09 04.8	
IDOB	**Doab**	**1.21**	**18**	*e*Pg	**Pg**	**18 08 48.2**	**+0.3**
IDOB				*e*		18 09 21.8	
BMDN	**Meydan**	**1.38**	**41**	*e*Pg	**Pg**	**18 08 52.3**	**+1.2**
BMDN				*e*		18 09 18.9	
AHWZ	**Ahwaz**	**1.50**	**149**	*e*Pg	**Pg**	**18 08 53.5**	**+0.2**
IKOM	**Komasi**	**1.56**	**353**	*e*Pg	**Pg**	**18 08 54.5**	**+0.1**
IKOM				*e*		18 09 25.2	
IBDR	**Badra**	**1.60**	**288**	*e*Pg	**Pb**	**18 08 53.0**	**-0.7**
IBDR				*e*Sg	**Sb**	**18 09 14.0**	**+0.3**
IBDR				AML	AML	18 09 21.7	
	comp=N,93μm,0.6s						
IBDR				AML	AML	18 09 22.1	
	comp=E,92μm,0.6s						
HSAM	**Samen**	**1.74**	**24**	*e*Pg	**Pg**	**18 08 57.9**	**+0.1**
HSAM				*e*		18 09 33.4	
KCHF	**Cheshme Sefid,**	**1.74**	**341**	*e*Pg	**Pb**	**18 08 56.0**	**-0.3**
KCHF				*e*		18 09 25.8	
KER	**Kermanshah**	**1.82**	**344**	*e*Pn	**Pb**	**18 08 57.1**	**-0.6**
IBZA	**Bozab**	**1.84**	**3**	*e*Pg	**Pb**	**18 08 58.4**	**+0.4**
IBZA				*e*		18 09 34.5	
IGHG	**Ghaleghazi**	**1.96**	**330**	*e*Pn	**Pb**	**18 08 59.6**	**-0.4**
IGHG				*e*		18 09 37.6	
IVIS	**Veis**	**2.04**	**339**	*e*Pn	**Pb**	**18 09 00.1**	**-1.1**
IVIS				*e*		18 09 37.2	
NSR	**Nassriya**	**2.11**	**221**	*e*Pn	**Pb**	**18 09 01.0**	**-1.4**
NSR				*e*Sn	**Sn**	**18 09 26.0**	**+0.8**
KHMZ	**Khomeyn**	**2.17**	**59**	*e*Pn	**Pb**	**18 09 03.7**	**+0.1**
KHMZ	**Khomeyn**	**2.17**	**59**	*e*Pn	**Pb**	**18 09 04.1**	**+0.6**
IALM	**Almabolaq**	**2.26**	**9**	*e*Pn	**Pb**	**18 09 03.8**	**-1.3**
IDHR	**Dehrash**	**2.35**	**332**	*e*Pn	**Pb**	**18 09 05.1**	**-1.6**
IDHR				*e*		18 09 51.2	
IDHR	**Dehrash**	**2.35**	**332**	*e*	**Pb**	**18 09 05.6**	**-1.2**
ILIN	**Lien**	**2.38**	**344**	*e*Pn	**Pb**	**18 09 05.6**	**-1.5**
ILIN				*e*		18 09 50.9	
HAGD	**Aghdareh**	**2.48**	**28**	*e*		18 09 55.5	
HAGD				*e*Pn	**Pb**	**18 09 07.1**	**-1.8**
SNGE	**Sanandaj**	**2.48**	**353**	*e*Pn	**Pn**	**18 09 06.1**	**+1.5**
SNGE	**Sanandaj**	**2.48**	**353**	*e*Pn	**Pn**	**18 09 06.3**	**+1.7**
JHBN	**Jahan bin**	**2.51**	**98**	*e*		18 09 56.7	
JHBN				*e*Pn	**Pb**	**18 09 07.5**	**-1.9**
JHBN	**Jahan bin**	**2.51**	**98**	*e*	**Pb**	**18 09 08.0**	**-1.4**
HSRG	**Sareghieh**	**2.65**	**10**	*e*Pn	**Pb**	**18 09 09.5**	**-2.3**
ASAO	**Ashtian**	**2.71**	**44**	*e*Pn	**Pb**	**18 09 10.6**	**-2.1**
ASAO				*e*Sg	**Sg**	**18 09 50.4**	**-1.0**
ASAO	**Ashtian**	**2.71**	**44**	*e*Pn	**Pb**	**18 09 11.5**	**-1.2**
ROKH	**ROKH**	**2.80**	**95**	*e*Pn	**Pn**	**18 09 11.4**	**+2.4**
ROKH				*e*		18 10 10.5	
BHD	**Baghdad**	**2.90**	**284**	*e*Pn	**Pn**	**18 09 11.0**	**+1.0**
BHD				*e*Sn	**Sn**	**18 09 46.5**	**+1.9**
IBRJ	**Brojen**	**3.07**	**103**	*e*Pn	**Pn**	**18 09 14.9**	**+2.2**
IBRJ				*e*		18 10 30.5	
IKLH	**Kolahrood**	**3.30**	**77**	*e*Pn	**Pb**	**18 09 19.7**	**-3.2**
IKLH				*e*		18 10 32.2	
IRAZ	**Razeghan**	**3.31**	**33**	*e*Pn	**Pn**	**18 09 19.5**	**+3.5**
QABG	**Abgarm-Qazvin**	**3.43**	**26**	*e*Pn	**Pn**	**18 09 19.7**	**+2.0**
KLNJ	**Kolanjah**	**3.66**	**115**	*e*Pn	**Pn**	**18 09 24.2**	**+3.4**
KLNJ				*e*		18 10 37.3	
IMHD	**Mahdasht**	**3.90**	**38**	*e*Pn	**Pn**	**18 09 27.0**	**+3.0**
QSDN	**Sirdan**	**4.04**	**17**	*e*Pn	**Pn**	**18 09 29.0**	**+2.9**
IHSB	**Hasanabad**	**4.06**	**45**	*e*Pn	**Pn**	**18 09 29.0**	**+2.8**
QCNT	**Qazvin**	**4.11**	**27**	*e*Pn	**Pn**	**18 09 24.3**	**-2.6**
IGZV	**Ghazvin**	**4.27**	**28**	*e*Pn	**Pn**	**18 09 32.3**	**+3.1**
TEH	**Tehran**	**4.33**	**43**	*e*Pn	**Pn**	**18 09 32.9**	**+3.0**
MAHB	**Mahabad**	**4.46**	**338**	*e*Pn	**Pn**	**18 09 33.1**	**+1.4**
KAZ1	**Kazerun**	**4.49**	**131**	*e*Pn	**Pn**	**18 09 34.6**	**+2.6**
QALM	**Alamut, Qazvin**	**4.49**	**32**	*e*Pn	**Pn**	**18 09 34.4**	**+2.2**
IDMV	**Damavand**	**4.62**	**49**	*e*Pn	**Pn**	**18 09 36.5**	**+2.5**
SHI	**Shiraz**	**5.06**	**125**	*e*Pn	**Pn**	**18 09 42.1**	**+2.1**
ANAR	**Anarak**	**5.07**	**82**	*e*Pn	**Pn**	**18 09 42.9**	**+2.8**
ISAD	**Sadrabad**	**5.09**	**96**	*e*Pn	**Pn**	**18 09 42.1**	**+1.8**
IFIR	**Firoozkooh**	**5.13**	**53**	*e*Pn	**Pn**	**18 09 44.4**	**+3.3**
ILAS	**Lasjerd**	**5.13**	**56**	*e*Pn	**Pn**	**18 09 42.9**	**+1.8**
ISRB	**Sarab**	**5.19**	**359**	*e*Pn	**Pn**	**18 09 45.5**	**+3.7**
IPRN	**Peran**	**5.24**	**45**	*e*Pn	**Pn**	**18 09 45.9**	**+3.5**
IAZR	**Azarshahr**	**5.24**	**345**	*e*Pn	**Pn**	**18 09 44.7**	**+2.1**
IALA	**Alasht**	**5.43**	**49**	*e*Pn	**Pn**	**18 09 48.1**	**+2.9**
TABZ	**Tabriz**	**5.54**	**348**	*e*Pn	**Pn**	**18 09 48.4**	**+1.9**
ISHM	**Shahmirzad**	**5.59**	**54**	*e*Pn	**Pn**	**18 09 50.4**	**+3.1**
ICHK	**Chekchek**	**5.65**	**92**	*e*Pn	**Pn**	**18 09 50.0**	**+1.8**
IHRS	**Heris**	**5.71**	**354**	*e*Pn	**Pn**	**18 09 51.6**	**+2.7**
CUKT	**Cukurca**	**5.72**	**325**	*e*P	**Pn**	**18 09 48.4**	**-0.6**
ITBZ	**Tabriz**	**5.74**	**347**	*e*Pn	**Pn**	**18 09 51.9**	**+2.5**
IANJ	**Anjilo**	**5.86**	**59**	*e*Pn	**Pn**	**18 09 52.9**	**+1.9**
AHAR	**Ahar**	**5.88**	**355**	*e*Pn	**Pn**	**18 09 53.6**	**+2.4**
HAKT	**HAKKARI**	**5.93**	**327**	*e*Pn	**Pn**	**18 09 52.5**	**+0.6**
IMEH	**Mehriz**	**5.97**	**100**	*e*Pn	**Pn**	**18 09 53.6**	**+1.1**
LKEN	**Lenkeran, Azer**	**6.13**	**8**	P	**Pn**	**18 09 57.1**	**+2.6**
IMRD	**Marand**	**6.29**	**345**	*e*Pn	**Pn**	**18 10 00.6**	**+3.7**
IGLO	**Ghaloghah**	**6.34**	**51**	*e*Pn	**Pn**	**18 10 01.0**	**+3.4**
JHRM	**Jahrom**	**6.50**	**128**	*e*Pn	**Pn**	**18 10 00.8**	**+1.1**
SIRT	**Sirnak**	**6.52**	**320**	*e*P	**Pn**	**18 09 59.0**	**-1.0**
IBAF	**Bafgh**	**6.72**	**97**	*e*Pn	**Pn**	**18 10 04.2**	**+1.4**
GEVA	**Gevas**	**6.84**	**327**	Pn	**Pn**	**18 10 05.1**	**+0.7**
AKDM	**Akdamar-Van**	**6.89**	**327**	*e*P	**Pn**	**18 10 05.6**	**+0.5**
VANB	**Van**	**6.93**	**330**	*e*P	**Pn**	**18 10 05.6**	**0.0**
LMD1	**Lamerd**	**7.06**	**137**	*e*Pn	**Pn**	**18 10 08.1**	**+0.7**
MARD	**Mardin**	**7.38**	**311**	Pn	**Pn**	**18 10 10.7**	**-1.1**
GURO	**Guroymak-BITLI**	**7.52**	**323**	*e*P	**Pn**	**18 10 13.1**	**-0.6**
TPRV	**Parvadeh(Tabas**	**7.54**	**85**	*e*Pn	**Pn**	**18 10 14.7**	**+0.7**
TNSJ	**Nastanj**	**7.54**	**77**	*e*Pn	**Pn**	**18 10 15.2**	**+1.1**
LAR1	**LAR**	**7.58**	**129**	*e*Pn	**Pn**	**18 10 14.6**	**+0.1**
SVAN	**Silvan-Diyarba**	**7.67**	**318**	*e*P	**Pn**	**18 10 14.7**	**-1.0**
MAZI	**Mazidag**	**7.68**	**311**	*e*P	**Pn**	**18 10 14.1**	**-1.8**
MLAZ	**Malazgirt-MUS**	**7.74**	**329**	*e*P	**Pn**	**18 10 17.9**	**+1.1**
KHGB	**Koh Gabri**	**7.79**	**104**	*e*Pn	**Pn**	**18 10 17.2**	**-0.3**
IMND	**Minoodasht**	**7.81**	**52**	*e*Pn	**Pn**	**18 10 19.6**	**+2.1**
TASB	**TASBURUN-IGDIR**	**7.87**	**340**	*e*P	**Pn**	**18 10 20.9**	**+2.5**
AGRB	**Hanur-Agry**	**7.92**	**332**	*e*P	**Pn**	**18 10 20.3**	**+1.0**
TKDS	**Koohdasht(Taba**	**7.93**	**80**	*e*Pn	**Pn**	**18 10 19.1**	**-0.3**
GANJ	**Ganja**	**8.08**	**352**	P	**Pn**	**18 10 25.8**	**+4.4**
MNGR	**Mingechevir, A**	**8.15**	**356**	P	**Pn**	18 10 27.2	+5.0
TVBK	**TV Kerman**	**8.16**	**106**	*e*Pn	**Pn**	**18 10 22.6**	**0.0**
DYBB	**Diyarbakir**	**8.17**	**313**	*e*P	**Pn**	**18 10 22.6**	**0.0**
NGRK	**Negar Kerman**	**8.26**	**109**	*e*Pn	**Pn**	**18 10 24.7**	**+0.6**
VRTB	**Varto-Mus**	**8.27**	**324**	*e*P	**Pn**	**18 10 24.2**	**+0.1**
BNGB	**Bingl**	**8.55**	**320**	*e*P	**Pn**	**18 10 27.6**	**-0.3**
SEKA	**Sheki**	**8.58**	**357**	P	**Pn**	**18 10 31.4**	**+3.2**
URFA	**Urfa**	**8.75**	**306**	*e*P	**Pn**	**18 10 29.3**	**-1.2**
KOPR	**Koprukoy-ERZUR**	**8.75**	**329**	*e*P	**Pn**	**18 10 32.4**	**+1.8**
KARS	**Kars**	**8.82**	**336**	*e*P	**Pn**	**18 10 34.6**	**+3.1**
KARS	**Kars**	**8.82**	**336**	P	**Pn**	**18 10 35.9**	**+4.4**
CHMN	**Cheshme madani**	**8.83**	**106**	*e*Pn	**Pn**	**18 10 33.7**	**+1.6**
AKT	**Akhty**	**8.84**	**360**	*e*P	**Pn**	**18 10 34.4**	**+2.6**
AKT				*e*S	**Sn**	**18 12 17.9**	**+6.7**
AKT				pmax	pmax		
	comp=Z,151nm,0.6s						
AKT				smax	smax		
	comp=E,49nm,0.8s						
AKT				smax	smax		
	comp=N,57nm,0.8s						
YEDI	**Yedisu-Bingol**	**8.95**	**321**	*e*P	**Pn**	**18 10 33.2**	**-0.1**
SVRC	**Sivrice-ELAZID**	**8.95**	**312**	*e*P	**Pn**	**18 10 33.2**	**-0.2**
SBZV	**Sabzevar**	**8.97**	**63**	*e*Pn	**Pn**	**18 10 34.9**	**+1.2**
SENK	**Senkaya-Erzuru**	**9.02**	**333**	*e*P	**Pn**	**18 10 37.4**	**+3.0**
KZRT	**Kazreti**	**9.14**	**344**	P	**Pn**	18 10 41.3	+5.4
ASF	**Jabal al Asfar**	**9.18**	**270**	Pn	**Pn**	**18 10 34.5**	**-1.9**
	comp=N,12nm,0.3s,baz=24,slow=3.9,SNR=27						
ASF				Sn	**Sn**	**18 12 16.2**	**-3.4**
	comp=N,15nm,0.3s,baz=171,slow=5.9,SNR=3.7						
ASF				Lg	Lg	18 13 16.5	
	comp=N,18nm,0.3s,baz=77,slow=23,SNR=1.7						
PTK	**Pertek**	**9.22**	**315**	*e*P	**Pn**	**18 10 36.0**	**-1.1**
ITEG	**Tejag**	**9.28**	**85**	*e*Pn	**Pn**	**18 10 39.3**	**+1.4**
TBLG	**Delisi**	**9.40**	**346**	*e*P	**Pn**	**18 10 42.4**	**+3.1**
TBLG	**Delisi**	**9.40**	**346**	P	**Pn**	**18 10 42.0**	**+2.7**
TBLG	**Delisi**	**9.40**	**346**			**18 10 42.0**	**+2.7**
DRN	**Derbent**	**9.40**	**3**	*i* P	Pn	18 10 45.4	+6.1
AKH	**Akhalkalaki**	**9.40**	**340**	⇑P	**Pn**	**18 10 42.7**	**+3.2**
AKH	**Akhalkalaki**	**9.40**	**340**	*e*P	**Pn**	**18 10 42.6**	**+3.1**
AKH	**Akhalkalaki**	**9.40**	**340**	P	**Pn**	**18 10 41.3**	**+1.8**
AKH	**Akhalkalaki**	**9.40**	**340**	Pn	**Pn**	**18 10 41.3**	**+1.8**
KOPT	**Kop Dagi**	**9.41**	**324**	Pn	**Pn**	**18 10 40.0**	**+0.3**
MALT	**Malatya**	**9.48**	**309**	*e*P	**Pn**	**18 10 39.7**	**-0.8**
MALT	**Malatya**	**9.48**	**309**	P	**Pn**	**18 10 42.6**	**+2.1**
AFRZ	**Afriz**	**9.50**	**82**	*e*Pn	**Pn**	**18 10 42.7**	**+1.8**
IKOO	**Kooshah**	**9.52**	**88**	*e*Pn	**Pn**	**18 10 42.6**	**+1.4**
ISFR	**Sfrayin**	**9.52**	**60**	*e*Pn	**Pn**	**18 10 44.4**	**+3.1**
GAZ	**Gaziantep**	**9.76**	**301**	*e*P	**Pn**	**18 10 41.7**	**-2.7**
GAZ	**Gaziantep**	**9.76**	**301**	Pn	**Pn**	**18 10 43.9**	**-0.6**
IKRD	**Kardeh**	**9.79**	**62**	*e*Pn	**Pn**	18 10 57.8	+13
SHME	**Shamm**	**9.83**	**130**	*i* P	**Pn**	**18 10 43.2**	**-2.2**
	SNR=29						
SHME				S	**Sn**	**18 12 31.2**	**-4.4**
UMQ	**Umm Al-Quwin**	**9.90**	**134**	*i* P	**Pn**	**18 10 47.0**	**+0.7**
	SNR=16						
IAKL	**Akhelmad**	**9.91**	**63**	*e*Pn	**Pn**	**18 10 48.8**	**+2.2**
ARPR	**Arapgir-MALATY**	**9.99**	**313**	*e*P	**Pn**	**18 10 47.3**	**-0.3**
GEYT	**Alibeck**	**9.99**	**55**	Pn	**Pn**	**18 10 49.4**	**+1.9**
	comp=N,1.9nm,0.3s,baz=249,slow=11,SNR=52						
GEYT				Lg	Lg	18 13 42.7	
	baz=232,slow=32,SNR=1.0						
GEYT	**Alibeck**	**9.99**	**55**	Pn	**Pn**	**18 10 49.7**	**+2.1**
GYA0B	**ALIBECK ARRAY**	**9.99**	**55**	Pn	**Pn**	**18 10 50.0**	**+2.4**
KEMA	**Kemaliye**	**10.00**	**314**	*e*Pn	**Pn**	**18 10 47.8**	**+0.1**
BANOM	**Banah**	**10.02**	**130**	*i* P	**Pn**	**18 10 47.6**	**-0.4**
	SNR=26						
BANOM				S	**Sn**	**18 12 36.1**	**-4.1**
BANOM	**Banah**	**10.02**	**130**	P	**Pn**	**18 10 47.9**	**0.0**
	SNR=26						
BANOM				P	**Pn**	**18 10 47.9**	**0.0**
	SNR=26						
IPAY	**Payeh**	**10.04**	**65**	*e*Pn	**Pn**	**18 10 50.7**	**+2.4**
IMON	**Monand**	**10.04**	**84**	*e*Pn	**Pn**	**18 10 51.0**	**+2.5**
BTLR	**Botlikh**	**10.09**	**354⇑**	*e*P	Pn	18 10 54.7	+5.8
NATI	**Neve Ativ**	**10.11**	**277**	Pn	**Pn**	**18 10 48.2**	**-0.9**
KMRS	**Kahramanmaras**	**10.13**	**302**	*e*P	**Pn**	**18 10 48.8**	**-0.6**
CHOM	**Cayeli-Rize**	**10.13**	**329**	*e*P	**Pn**	**18 10 51.7**	**+2.3**
IEMG	**Emamgholi**	**10.14**	**59**	*e*Pn	**Pn**	**18 10 52.5**	**+2.7**
BATM	**Batumi**	**10.17**	**333**	⇓P	**Pn**	**18 10 52.9**	**+2.9**
BATM	**Batumi**	**10.17**	**333**	*e*P	**Pn**	**18 10 52.6**	**+2.6**
BATM	**Batumi**	**10.17**	**333**	⇓P	**Pn**	**18 10 52.

HRA	**Herat**	**12.23**	**78**	Pn		**Pn**	**18 11 19.4**	**+1.0**	**MANR**	**Mangalia**	**18.69**	**312**	⇑P		**Pn**	**18 12 43.4**	**+0.9**	**KIS**	**Kishinev**	**20.35**	**320**	*e*S		**S**	**18 16 43.0**	**-4.8**
HOQ	**Hoqain**	**12.35**	**134**	P		**Pn**	**18 11 19.1**	**-0.7**	**SANT**	**Santorini**	**18.73**	**288**	⇓P		**P**	**18 12 42.8**	**+0.1**		comp=N,6μm,13.0s								
	SNR=36								**SANT**	**Santorini**	**18.73**	**288**	P		**P**	**18 12 41.8**	**-0.9**	**KIS**	**Kishinev**	**20.35**	**320**	*e*Li			18 18 53.0	
HOQ				P		**Pn**	**18 11 19.1**	**-0.7**	SANT				IAmb		IAmb	18 12 47.1		**AOS**	**Alonnisos**	**20.37**	**295**	P		Pn	18 13 01.8	-0.8
	SNR=36									comp=Z,787nm,1.2s								**RZN**	**Rozhen**	**20.41**	**303**	*i* P		**P**	**18 13 00.5**	**-0.6**
HOQ				P		**Pn**	**18 11 19.1**	**-0.7**	**APE**	**Apeiranthos**	**18.75**	**290**	⇑P		**P**	**18 12 42.3**	**-0.6**	**RZN**	**Rozhen**	**20.41**	**303**	*i* P		**P**	**18 13 00.5**	**-0.6**
	SNR=36								**APE**	**Apeiranthos**	**18.75**	**290**	⇑P		**P**	**18 12 42.3**	**-0.6**	**ANKY**	**Antikythira Is**	**20.45**	**286**	P		**P**	**18 13 01.8**	**+0.4**
GULA	**Gulagac**	**12.39**	**301**	*e*P		**Pn**	**18 11 22.9**	**+2.5**	**THR6**	**Thira Island,**	**18.78**	**288**	P		P	**18 12 41.3**	**-1.9**	**PETR**	**Petresti**	**20.51**	**316**	⇑P		**P**	**18 13 02.8**	**+0.9**
KVT	**Kavak**	**12.59**	**315**	*e*P		**Pn**	**18 11 25.4**	**+2.3**	**THR5**	**Thira Island,**	**18.82**	**288**	P		**P**	**18 12 42.3**	**-1.4**	**PVL**	**Pavlikeni**	**20.54**	**307**	P		Pn	18 13 04.5	0.0
KVT	**Kavak**	**12.59**	**315**	P		**Pn**	**18 11 27.7**	**+4.6**	**PSN**	**Preselentsi**	**18.88**	**311**	P		**Pn**	**18 12 44.9**	**+0.1**	**SGRR**	**Singureni**	**20.54**	**311**	⇓P		Pn	18 13 04.2	-0.4
SOC	**Sochi**	**12.62**	**332**	*e*P		**Pn**	**18 11 25.5**	**+2.1**	**AVR**	**AVREN**	**18.95**	**309**	P		**Pn**	**18 12 47.0**	**+1.4**	**SGRR**	**Singureni**	**20.54**	**311**	⇑P		**ScP**	**18 20 55.5**	**+6.2**
SOC				*e*			18 13 45.1		**ABKAR**	**Akbulak array**	**18.96**	**25**	P		**Pn**	**18 12 45.4**	**-0.3**	**OUR**	**Ouranopolis**	**20.55**	**299**	P		Pn	18 13 04.5	-0.2
SOC				pmax		pmax			**ABKAR**	**Akbulak array**	**18.96**	**25**	P		**P**	**18 12 44.6**	**-0.4**	**PLD**	**Plovdiv**	**20.56**	**304**	P		Pn	18 13 04.0	-0.8
	comp=Z,278nm,1.0s								ABKAR				IAmb		IAmb	18 13 04.5		**BUC1**	**Bucharest**	**20.57**	**311**	P		Pn	18 13 06.2	+1.4
SOC				MLR		MLR				comp=Z,157nm,0.7s								BUC1				pmax		pmax		
	comp=Z,37μm,13.0s								**JURR**	**Jurilovca**	**19.02**	**315**	⇓P		**Pn**	**18 12 46.5**	**0.0**		comp=Z,677nm,1.1s								
BIDO	**Bidbid**	**12.89**	**132**	P		**Pn**	**18 11 26.5**	**-0.7**	**EDRB**	**Edirne**	**19.04**	**305**	P		**P**	**18 12 42.3**	**-3.7**	**SULR**		**20.58**	**312**	⇑P		Pn	18 13 03.9	-1.1
	SNR=20								**VRH**	**Novokhopyorsk**	**19.08**	**348**	*e*P		**P**	**18 12 45.8**	**-0.5**	**GHRR**		**20.59**	**317**	⇑P		**P**	**18 13 02.9**	**0.0**
BIDO				P		**Pn**	**18 11 26.5**	**-0.7**	VRH				*e*S		**Sn**	**18 16 17.7**	**-2.8**	**ISR**	**Istrita**	**20.61**	**313**	⇑P		**P**	**18 13 03.6**	**+0.4**
	SNR=20								VRH				pmax		pmax			**ISR**	**Istrita**	**20.61**	**313**	⇑P		**P**	**18 13 03.6**	**+0.4**
BIDO				P		**Pn**	**18 11 26.5**	**-0.7**		comp=Z,730nm,1.4s								**DID**	**Didima**	**20.62**	**290**	P		**P**	**18 13 00.7**	**-2.6**
	SNR=20								VRH				smax		smax			**VILL**	**Villia**	**20.64**	**292**	P		Pn	18 13 05.6	-0.2
BSY	**Bisya**	**12.92**	**137**	P		**Pn**	**18 11 27.0**	**-0.7**		comp=E,4μm,11.0s								**KTHA**	**Kythira Island**	**20.66**	**287**	P		**P**	**18 13 03.4**	**-0.3**
	SNR=48								VRH				MLR		MLR			**SKIA**	**Skiathos**	**20.69**	**295**	P		Pn	18 13 06.2	-0.1
BSY				P		**Pn**	**18 11 27.0**	**-0.7**		comp=Z,33μm,16.0s								**VASR**	**Vaslui**	**20.70**	**318**	⇑P		**P**	**18 13 04.1**	**0.0**
	SNR=48								**GADA**	**Gvkgeada**	**19.10**	**299**	P		**P**	**18 12 45.0**	**-1.7**	**KK31**	**Karatay Array**	**20.74**	**53**	*i* P		**P**	**18 13 05.1**	**+0.6**
CORM	**Corum**	**12.96**	**309**	*e*P		**Pn**	**18 11 30.0**	**+1.7**	**TIRR**	**Tirgusor**	**19.13**	**314**	⇑P		**P**	**18 12 46.2**	**-0.8**	**KK31**	**Karatay Array**	**20.74**	**53**	*i* P		**P**	**18 13 05.1**	**+0.6**
SMDO	**Samad**	**13.18**	**134**	P		**Pn**	**18 11 31.0**	**-0.3**	**TIRR**	**Tirgusor**	**19.13**	**314**	⇑P		**P**	**18 12 46.2**	**-0.8**	**KKAR**	**Karatay Array**	**20.74**	**53**	P		**P**	**18 13 04.7**	**+0.1**
	SNR=50								**TIRR**	**Tirgusor**	**19.13**	**314**	⇑P		**ScP**	**18 20 49.3**	**+3.2**	KKAR				pmax		pmax		
SMDO				P		**Pn**	**18 11 31.0**	**-0.3**	**TIRR**	**Tirgusor**	**19.13**	**314**	P		**P**	**18 12 46.5**	**-0.4**		comp=Z,1μm,1.9s							
	SNR=50								TIRR				pmax		pmax			**KKAR**	**Karatay Array**	**20.74**	**53**	P		**P**	**18 13 05.0**	**+0.4**
SMDO				S		**Sn**	**18 13 55.4**	**-2.4**		comp=Z,566nm,1.0s								**KKAR**	**Karatay Array**	**20.74**	**53**	P		**P**	**18 13 04.7**	**+0.1**
	SNR=5.1								**TIRR**	**Tirgusor**	**19.13**	**314**	P		**P**	**18 12 46.5**	**-0.4**	**VLI**	**Veliai**	**20.78**	**288**	P		**P**	**18 13 01.8**	**-3.2**
SMDO				S		**Sn**	**18 13 55.4**	**-2.4**	TIRR				IAmb		IAmb	18 12 51.8		**SECR**		**20.87**	**313**	⇑P		**ScP**	**18 20 53.2**	**+3.0**
	SNR=5.1									comp=Z,566nm,1.0s								**LOUT**	**Loutraki**	**20.88**	**292**	P		Pn	18 13 09.2	+0.6
BR131	**Keskin Array S**	**13.40**	**306**	P		**Pn**	**18 11 36.4**	**+2.1**	**IDI**	**Anoyia**	**19.13**	**284**	P		**P**	**18 12 47.1**	**-0.1**	**VRI**	**Vrincioaia**	**20.89**	**315**	⇑P		**P**	**18 13 06.4**	**+0.3**
	SNR=36									comp=Z,20nm,0.3s,baz=83,slow=12,SNR=43								**VRI**	**Vrincioaia**	**20.89**	**315**	⇑P		**ScS**	**18 24 38.4**	**+4.9**
BR131				P		**Pn**	**18 11 36.4**	**+2.1**	IDI				S		**Sn**	**18 16 18.0**	**-4.2**	**VRI**	**Vrincioaia**	**20.89**	**315**	⇑P		**P**	**18 13 06.4**	**+0.3**
	SNR=36									comp=Z,0.7nm,0.3s,baz=137,slow=19,SNR=0.7								**LTK**	**Loutraki**	**20.89**	**292**	P		**P**	**18 13 05.6**	**-0.6**
BR131	**Keskin Array S**	**13.40**	**306**	P		**Pn**	**18 11 35.4**	**+1.1**	IDI				ScP		**ScP**	**18 20 48.5**	**+2.1**	**NEO**	**Neokhori**	**20.90**	**296**	P		**P**	**18 13 05.0**	**-1.3**
BR131	**Keskin Array S**	**13.40**	**306**	Pn		**Pn**	**18 11 35.4**	**+1.1**		comp=Z,1.5nm,0.3s,baz=97,slow=1.1,SNR=3.3								**NVR**	**Nevrokopi**	**20.92**	**301**	P		**P**	**18 13 04.5**	**-2.0**
BRTR	**Keskin Array B**	**13.40**	**306**	Pn		**Pn**	**18 11 35.9**	**+1.6**	**IDI**	**Anoyia**	**19.13**	**284**	P		**P**	**18 12 45.6**	**-1.5**	**NEHR**	**Nehoiu**	**20.92**	**314**	⇓P		Pn	18 13 08.2	-0.8
	comp=Z,0.7nm,0.3s,baz=124,slow=11,SNR=84								**IDI**	**Anoyia**	**19.13**	**284**	⇑P		**P**	**18 12 46.9**	**-0.2**	**NEHR**	**Nehoiu**	**20.92**	**314**	⇑P		**ScP**	**18 20 52.4**	**+2.0**
BRTR				Lg		Lg	18 15 27.4		**IDI**	**Anoyia**	**19.13**	**284**	P		**P**	**18 12 46.5**	**-0.6**	**PLOR**	**Plostina**	**20.93**	**315**	⇑P		**P**	**18 13 07.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=136,slow=27,SNR=2.3								**PRD**	**Provadia**	**19.16**	**309**	P		**Pn**	**18 12 48.9**	**+0.7**	**PLOR**	**Plostina**	**20.93**	**315**	⇓P		**ScS**	**18 24 31.3**	**-2.4**
BRTR				LR		LR	18 17 17.4		**SIVA**	**Sivas**	**19.19**	**283**	P		P	**18 12 47.8**	**+0.1**	**PLOR**	**Plostina**	**20.93**	**315**	⇑P		**P**	**18 13 07.1**	**+0.6**
	comp=Z,13μm,19.3s,baz=92,slow=40								**ALN**	**Alexandroupoli**	**19.21**	**302**	P		P	**18 12 46.7**	**-1.1**	**XOR**	**Xorichti**	**20.93**	**296**	P		**P**	**18 13 05.6**	**-1.1**
BRTR	**Keskin Array B**	**13.40**	**306**	P		**Pn**	**18 11 35.4**	**+1.1**	**ALN**	**Alexandroupoli**	**19.21**	**302**	P		**P**	**18 12 48.0**	**+0.2**	**LKR**	**Lokris**	**20.95**	**294**	P		**P**	**18 13 04.5**	**-2.4**
BRTR	**Keskin Array B**	**13.40**	**306**	Pn		**Pn**	**18 11 35.4**	**+1.1**	ALN				pmax		pmax			**LPSR**	**Galich'ya Gora**	**20.96**	**345**	*e*P		**P**	**18 13 06.4**	**-0.3**
DIKM	**Dikmen**	**13.41**	**316**	⇑P		**Pn**	**18 11 36.9**	**+2.7**		comp=Z,401nm,1.2s								LPSR				*e*S		**S**	**18 16 57.7**	**-2.0**
WSAR	**Wadi Sarin**	**13.41**	**131**	Pn		**Pn**	**18 11 33.0**	**-1.3**	**ALN**	**Alexandroupoli**	**19.21**	**302**	P		**P**	**18 12 48.0**	**+0.2**	LPSR				pmax		pmax		
	comp=Z,16nm,0.3s,baz=333,slow=8.1,SNR=65								ALN				IAmb		IAmb	18 12 54.7			comp=Z,1μm,0.8s							
WSAR				Sn		Sn	18 13 53.3	-10		comp=Z,401nm,1.2s								LPSR				smax		smax		
	comp=Z,20nm,0.3s,baz=299,slow=16,SNR=1.6								**TAS**	**Tashkent**	**19.25**	**57**	P		**Pn**	**18 12 49.8**	**+0.5**		comp=N,3μm,6.9s							
WSAR				Lg		Lg	18 15 33.7		TAS				pmax		pmax			LPSR				MLR		MLR		
	comp=Z,3.7nm,0.3s,baz=172,slow=19,SNR=1.1									comp=Z,522nm,1.1s									comp=Z,16μm,14.0s							
WSAR				LR		LR	18 17 51.8		**TAS**	**Tashkent**	**19.25**	**57**	P		**Pn**	**18 12 49.8**	**+0.5**	**PLG**	**Polygyros**	**20.96**	**299**	P		**P**	**18 13 04.5**	**-2.5**
	comp=Z,43μm,19.0s,baz=332,slow=42								TAS				IAmb		IAmb	18 12 56.1		**COPA**	**Copaceanca**	**20.99**	**310**	⇑P		**P**	**18 13 07.8**	**+0.6**
WSAR	**Wadi Sarin**	**13.41**	**131**	P		**Pn**	**18 11 32.7**	**-1.7**		comp=Z,522nm,1.1s								**SRS**	**Serrai**	**21.05**	**301**	P		**P**	**18 13 05.6**	**-2.2**
	SNR=26								**ICOR**	**Ion Corvin**	**19.34**	**312**	⇓P		**P**	**18 12 49.0**	**-0.2**	**SRS**	**Serrai**	**21.05**	**301**	P		**P**	**18 13 08.1**	**+0.3**
JMDO	**Jabal Madar**	**13.74**	**135**	P		**Pn**	**18 11 38.8**	**+0.1**	**AKTO**	**Aktyubinsk**	**19.35**	**20**	P		**P**	**18 12 49.7**	**+0.4**	SRS				pmax		pmax		
	SNR=19									comp=Z,7.5nm,0.3s,baz=201,slow=12,SNR=68									comp=Z,317nm,1.2s							
JMDO				P		**Pn**	**18 11 38.8**	**+0.1**	AKTO				S		**Sn**	**18 16 22.7**	**-4.4**	**MMB**	**Musomiste**	**21.08**	**302**	P		**P**	**18 13 08.2**	**-0.1**
	SNR=19									comp=Z,0.6nm,0.3s,baz=38,slow=19,SNR=1.2								**MMB**	**Musomiste**	**21.08**	**302**	*i* P		**P**	**18 13 08.2**	**-0.1**
ILGA	**Ilgaz**	**14.02**	**311**	Pn		**Pn**	**18 11 43.6**	**+0.9**	AKTO				ScS		**ScS**	**18 24 25.7**	**-2.4**	**MMB**	**Musomiste**	**21.08**	**302**	*i* P		**P**	**18 13 08.2**	**-0.1**
BR231	**Keskin MP Arra**	**14.05**	**305**			**Pn**	**18 11 43.2**	**+0.1**		comp=Z,0.1nm,0.3s,baz=36,slow=23,SNR=2.1								**SOCY**	**Socotra**	**21.14**	**163**	P		**P**	**18 13 05.2**	**-3.8**
WBK	**Wadi Bani Khal**	**14.08**	**132**	P		**Pn**	**18 11 42.2**	**-1.3**	**VORD**	**Divnogorie**	**19.35**	**344**	*e*P		**P**	**18 12 49.6**	**+0.3**	SOCY				IAmb		IAmb	18 13 21.4	
	SNR=29								VORD				*e*S		**Sn**	**18 16 23.9**	**-3.2**		comp=Z,608nm,1.2s							
WBK				P		**Pn**	**18 11 42.2**	**-1.3**	VORD				pmax		pmax			**SOH**	**Sokhos**	**21.14**	**300**	P		**P**	**18 13 07.7**	**-1.2**
	SNR=29									comp=Z,400nm,0.8s								**SOH**	**Sokhos**	**21.14**	**300**	P		**P**	**18 13 09.8**	**+0.9**
BZK	**Bozkurt**	**14.35**	**314**	⇑P		**Pn**	**18 11 48.9**	**+1.9**	VORD				smax		smax			SOH				pmax		pmax		
ANN	**Anapa**	**14.56**	**330**	*e*P		**Pn**	**18 11 51.3**	**+1.4**		comp=E,1μm,5.7s									comp=Z,187nm,1.2s							
ANN				*e*S		**Sn**	**18 14 37.3**	**+6.3**	VORD				MLR		MLR			**MLR**	**Muntele Rosu**	**21.16**	**314**	P		**P**	**18 13 09.1**	**-0.2**
ANN				pmax		pmax				comp=Z,19μm,14.0s									comp=Z,29nm,0.6s,baz=130,slow=6.5,SNR=30							
	comp=Z,467nm,1.6s								**GAR**	**Garm**	**19.36**	**64**	P		**Pn**	**18 12 50.6**	**-0.1**	MLR				S		**S**	**18 17 04.6**	**+0.4**
ANN				pmax		pmax			GAR				IAmb		IAmb	18 13 39.5			comp=Z,21nm,0.9s,baz=320,slow=21,SNR=1.2							
	comp=N,266nm,1.8s									comp=Z,663nm,1.1s								MLR				ScP		**ScP**	**18 20 52.6**	**+1.5**
ANN				pmax		pmax			**TOPG**	**Topolog**	**19.37**	**315**	⇑P		**P**	**18 12 49.0**	**-0.6**		comp=Z,13nm,0.8s,baz=121,slow=12,SNR=4.2							
	comp=E,98nm,1.4s								**JMB**	**Yambol**	**19.39**	**306**	*i* P		**Pn**	**18 12 50.9**	**-0.1**	MLR				ScS		**ScS**	**18 24 35.1**	**+0.3**
ANN				MLR		MLR			**JMB**	**Yambol**	**19.39**	**306**	*i* P		**Pn**	**18 12 50.9**	**-0.1**		comp=Z,14nm,1.1s,baz=78,slow=17,SNR=6.0							
	comp=N,43μm,15.0s								**SMTH**	**Samothraki Isl**	**19.45**	**300**	P		**P**	**18 12 50.5**	**0.0**	**MLR**	**Muntele Rosu**	**21.16**	**314**	⇑P		**P**	**18 13 09.9**	**+0.7**
ANN				MLR		MLR			**HARR**	**Harsova**	**19.55**	**314**	⇓P		**Pn**	**18 12 52.7**	**-0.1**	**MLR**	**Muntele Rosu**	**21.16**	**314**	⇑P		**ScP**	**18 20 52.3**	**+1.3**
	comp=E,18μm,13.0s								**HARR**	**Harsova**	**19.55**	**314**	⇓P		**Pn**	**18 12 52.7**	**-0.1**	**MLR**	**Muntele Rosu**	**21.16**	**314**	⇑P		**ScS**	**18 24 35.6**	**+0.8**
ANN				MLR		MLR			**LIA**	**Limnos Island**	**19.55**	**298**	P		P	**18 12 51.5**	**-0.1**	**MLR**	**Muntele Rosu**	**21.16**	**314**	⇑P		**P**	**18 13 09.9**	**+0.7**
	comp=Z,40μm,15.0s								**SERI**	**Serifos**	**19.59**	**290**	P		**Pn**	**18 12 57.3**	**+3.9**	**MLR**	**Muntele Rosu**	**21.16**	**314**	P		**P**	**18 13 10.7**	**+1.5**
JLN	**Jalan Bani Buh**	**14.70**	**132**	P		**Pn**	**18 11 50.3**	**-1.6**	**MHLO**	**Agia Marina, M**	**19.61**	**288**	P		**P**	**18 12 52.1**	**-0.1**	**DZA**	**Taraz**	**21.22**	**54**	*e*P		**P**	**18 13 09.7**	**0.0**
	SNR=20								**VSR**	**Storozhevoye**	**19.61**	**344**	*e*P		**P**	**18 12 51.4**	**-0.8**		baz=55							
JLN				P		**Pn**	**18 11 50.3**	**-1.6**	VSR				*e*S		**S**	**18 16 28.6**	**-4.4**	DZA				*e*S		**S**	**18 17 06.7**	**+1.5**
	SNR=20								VSR				pmax		pmax				baz=55							
MHTO	**MHTO**	**14.75**	**139**	P		**Pn**	**18 11 50.3**	**-2.3**		comp=Z,660nm,0.8s								DZA				LR		LR	18 22 27.4	
	SNR=65								VSR				smax		smax				comp=Z,2μm,10.9s,baz=55							
MHTO				P		**Pn**	**18 11 50.3**	**-2.3**		comp=E,6μm,7.4s								**DZA**	**Taraz**	**21.22**	**54**	*e*P		**P**	**18 13 09.6**	**-0.1**
	SNR=65								VSR				MLR		MLR			DZA				*e*S		**S**	**18 17 06.7**	**+1.5**
MHTO				S		**Sn**	**18 14 32.6**	**-3.2**		comp=Z,21μm,13.0s								DZA				MLR		MLR		
	SNR=8.4								**RDO**	**Rodhopi**	**19.65**	**302**	P		**P**	**18 12 51.0**	**-1.7**		comp=Z,2μm,11.0s							
MHTO				S		**Sn**	**18 14 32.6**	**-3.2**	**CFR**	**Carcaliu**	**19.68**	**315**	⇑P		**P**	**18 12 51.9**	**-1.1**	**AXAR**	**Agios Charalam**	**21.24**	**294**	P		**P**	**18 13 13.0**	**+3.1**
	SNR=8.4								**CFR**	**Carcaliu**	**19.68**	**315**	⇑P		**ScP**	**18 20 48.6**	**+1.3**	**HORT**	**Hortiatis**	**21.27**	**299**	P		**P**	**18 13 08.8**	**-1.6**
BOLV	**Bolvadin**	**14.93**	**299**	Pn		**Pn**	**18 11 56.1**	**+0.9**	**CFR**	**Carcaliu**	**19.68**	**315**	⇑P		**P**	**18 12 51.9**	**-1.1**	**TESR**	**Tescani**	**21.28**	**317**	⇑P		**P**	**18 13 10.1**	**-0.2**
ISP	**Isparta**	**14.99**	**295**	P		**Pn**	**18 11 55.7**	**-0.2**	**VAM**	**Vamos**	**19.70**	**285**	P		**P**	**18 12 53.1**	**-0.2**	**TESR**	**Tescani**	**21.28**	**317**	⇓P		**ScP**	**18 20 51.7**	**+0.6**
ISP	**Isparta**	**14.99**	**295**			**Pn**	**18 11 55.7**	**-0.2**	**GVDS**	**Gavdos**	**19.79**	**283**	P		**P**	**18 12 52.6**	**-1.6**	**TESR**	**Tescani**	**21.28**	**317**	⇑P		**ScS**	**18 24 38.1**	**+3.2**
ELL	**Elmali**	**15.23**	**291**	P		**Pn**	**18 12 01.6**	**+2.5**	**RASA**	**Rasa**	**19.79**	**312**	⇓P		**P**	**18 12 54.5**	**+0.4**	**VLX**	**Vlachokerasia**	**21.28**	**290**	P		**P**	**18 13 08.8**	**-1.7**
ELL				pmax		pmax			**GIUM**	**Giurgiulesti**	**19.81**	**316**	⇑P		**Pn**	**18 12 56.0**	**+0.1**	**DSF**	**Desfina**	**21.29**	**293**	P		**P**	**18 13 08.3**	**-2.2**
	comp=Z,1μm,0.8s								**AMRR**	**Amara**	**19.87**	**313**	⇑P		**P**	**18 12 55.3**	**+0.3**	**SORM**	**Soroca**	**21.31**	**322**	⇑P		**P**	**18 13 10.5**	**-0.1**
ELL	**Elmali**	**15.23**	**291**	P		**Pn**	**18 12 01.6**	**+2.5**	**AMRR**	**Amara**	**19.87**	**313**	⇑P		**P**	**18 12 55.3**	**+0.3**	**SORM**	**Soroca**	**21.31**	**322**	P		**P**	**18 13 10.5**	**-0.1**
DQM	**DQM**	**15.39**	**143**	P		**Pn**	**18 11 59.0**	**-2.1**	**AMRR**	**Amara**	**19.87**	**313**	⇑P		**P**	**18 12 55.3**	**+0.3**	**HUMR**	**Humele**	**21.32**	**310**	⇑P		**P**	**18 13 11.4**	**+0.7**
	SNR=58								**IMMV**	**Iera Moni Meta**	**19.88**	**285**	P		**P**	**18 12 53.1**	**-2.1**	**GUR**	**Goura**	**21.37**	**291**	P		**P**	**18 13 09.4**	**-2.1**
DQM				P		**Pn**	**18 11 59.0**	**-2.1**	**KDZ**	**Kurdzhali**	**19.90**	**303**	*i* P		**P**	**18 12 55.8**	**+0.4**	**NIL**	**Nilore**	**21.38**	**80**	P		**P**	**18 13 11.7**	**+0.2**
	SNR=58								**KDZ**	**Kurdzhali**	**19.90**	**303**	*i* P		**P**	**18 12 55.8**	**+0.4**	NIL				pmax		pmax		
DQM				P		**Pn**	**18 11 59.1**	**-2.1**	**RAZG**	**Razgrad**	**19.91**	**309**	⇑P		**P**	**18 12 56.3**	**+0.8**		comp=Z,853nm,1.2s							
	SNR=64								**VORR**	**Voronezh**	**20.03**	**344**	⇓*i*P		Pn	18 12 59.0	+0.5	NIL				MLR		MLR		
DQM				P		**Pn**	**18 11 59.1**	**-2.1**	VORR				pmax		pmax				comp=Z,23μm,20.0s							
	SNR=64									comp=Z,4μm,1.4s								**NIL**	**Nilore**	**21.38**	**80**	P		**P**	**18 13 11.7**	**+0.2**
AKAS	**Kas**	**15.39**	**289**	Pn		**Pn**	**18 12 01.1**	**-0.1**	**IUG**	**luzhnay**	**20.05**	**55**	*i* P		Pn	18 12 58.1	-0.9	**THE**	**Thessaloniki**	**21.38**	**299**	P		**P**	**18 13 08.6**	**-2.8**
KSL	**Kastellorizon**	**15.39**	**288**	P		**Pn**	**18 11 59.6**	**-1.5**		comp=Z,488nm,1.7s,baz=56								**THE**	**Thessaloniki**	**21.38**	**299**	P		**P**	**18 13 11.9**	**+0.5**
MDUB	**Mudurnu**	**15.41**	**305**	P		**Pn**	**18 12 01.4**	**-0.1**	IUG				*e*S		Sn	18 16 44.7	+0.4	THE				pmax		pmax		
FETY	**Fethiye**	**15.87**	**290**	P		**Pn**	**18 12 06.1**	**-1.2**		comp=Z,1μm,5.1s,baz=56									comp=Z,404nm,1.1s							
ABTO	**Aybut**	**16.02**	**160**	P		**Pn**	**18 12 06.0**	**-3.4**	IUG				LR		LR	18 21 38.1		**TRIP**	**Tripoli**	**21.38**	**290**	P		**P**	**18 13 13.4**	**+1.8**
	SNR=29									comp=Z,2μm,10.3s,baz=56								**BHUJ**	**Bhuj**	**21.46**	**110**	*e*P		**P**	**18 13 13.3**	**+0.9**
ABTO				P		**Pn**	**18 12 06.0**	**-3.4**	**IUG**	**luzhnay**	**20.05**	**55**	*i* P		Pn	18 12 58.1	-0.9	BHUJ				IAmb		IAmb	18 13 16.4	
	SNR=29								IUG				*e*S		Sn	18 16 44.7	+0.3		comp=Z,216nm,0.7s							
RBK	**Rabkut**	**16.15**	**157**	P		**Pn**	**18 12 08.0**	**-3.1**	IUG				pmax		pmax			**VLAD**	**Vladila**	**21.47**	**309**	⇑P		**P**	**18 13 12.8**	**+0.5**
	SNR=41									comp=Z,488nm,1.7s								**ATD**	**Arta Tunnel**	**21.47**	**193**	P		**P**	**18 13 13.3**	**+0.7**
RBK				P		**Pn**	**18 12 08.0**	**-3.1**	IUG				MLR		MLR				comp=Z,52nm,0.7s,baz=5.2,slow=6.2,SNR=26							
	SNR=41									comp=Z,2μm,10.0s								ATD				S		**S**	**18 17 11.8**	**+1.3**
SHAO	**Shalim**	**16.18**	**152**	*i* P		**Pn**	**18 12 10.0**	**-1.5**	**RODP**	**Rodopos**	**20.06**	**285**	P		Pn	18 12 59.1	0.0		comp=Z,12nm,1.0s,baz=79,slow=19,SNR=1.1							
	SNR=11								**THAS**	**Thassos island**	**20.08**	**300**	P		**P**	**18 12 56.9**	**-0.5**	ATD				Lg		Lg	18 19 37.0	
SHAO	**Shalim**	**16.18**	**152**	P		**Pn**	**18 12 10.0**	**-1.5**	**KYMI**	**Kymi, Euboea I**	**20.10**	**294**	P		**P**	**18 12 56.9**	**-0.7**		comp=Z,65nm,1.2s,baz=82,slow=21,SNR=2.0							
	SNR=11								**KNDR**	**Palaiochora Ch**	**20.12**	**284**	P		**P**	**18 12 57.5**	**-0.3**	**ATD**	**Arta Tunnel**	**21.47**	**193**	⇓*i*P		**P**	**18 13 14.9**	**+2.2**
SHAO				P		**Pn**	**18 12 10.0**	**-1.5**	**LEHL**	**Lehliu**	**20.12**	**312**	⇑P		**P**	**18 12 58.4**	**+0.6**	ATD				*i* S		Sn	18 17 17.3	-1.4
	SNR=11								**DION**	**Dionisos Attik**	**20.14**	**292**	P		**P**	**18 12 58.5**	**+0.4**	**ATD**	**Arta Tunnel**	**21.47**	**193**	P		**P**	**18 13 12.8**	**+0.1**
DMTO	**DMTO**	**16.21**	**155**	P		**Pn**	**18 12 08.1**	**-3.7**	**SZH**	**Strazhica**	**20.16**	**308**	*i* P		**P**	**18 12 58.3**	**+0.1**	ATD				IAmb		IAmb	18 13 19.9	
	SNR=36								**SZH**	**Strazhica**	**20.16**	**308**	*i* P		**P**	**18 12 58.3**	**+0.1**		comp=Z,927nm,1.8s							
DMTO				P		**Pn**	**18 12 08.1**	**-3.7**	**PTL**	**Penteli**	**20.19**	**292**	P		**P**	**18 12 57.5**	**-1.1**	**ATD**	**Arta Tunnel**	**21.47**	**193**	⇓*i*P		**P**	**18 13 14.9**	**+2.2**
	SNR=36								**VLY**	**Voula,Athens**	**20.22**	**292**	P		**P**	**18 12 58.0**	**-0.9**	ATD				*i* S		Sn	18 17 17.3	-1.4
DMTO				P		**Pn**	**18 12 08.1**	**-3.7**	**ATHU**	**Athens Univers**	**20.24**	**292**	P		**P**	**18 12 58.0**	**-1.2**	**AGG**	**Agios Georgios**	**21.53**	**294**	P		**P**	**18 13 12.1**	**-1.0**
	SNR=36								**BRLS**	**Borolday**	**20.25**	**53**	*i* P		**P**	**18 12 57.3**	**-2.0**	**AGG**	**Agios Georgios**	**21.53**	**294**	P		**P**	**18 13 12.7**	**-0.4**
SIM	**Simferopol'**	**16.23**	**323**	*ce*P		**Pn**	**18 12 09.1**	**-2.7**		comp=Z,486nm,2.3s,baz=54								AGG				pmax		pmax		
SIM				*e*S

VTS	Vitosha	21.75	304	⇑P		ScP	18	20	53.5	+0.9
EFP	Efpalio	21.77	293	P		P	18	13	13.7	-1.9
ANX	Ano Chora	21.78	293	P		P	18	13	14.5	-1.4
AMT	Artemida-Makis	21.83	290	P		P	18	13	15.4	-0.9
THL	Klokotos Trika	21.86	296	P		P	18	13	12.1	-4.5
DRO	Drossia	21.87	291	P		P	18	13	12.6	-4.1
ARSB	Arslanbob	21.90	59	P		P	18	13	17.8	+0.6
ARSB	comp=Z,738nm,1.4s			pmax	pmax					
ARSB	Arslanbob	21.90	59	P		P	18	13	17.8	+0.6
ARSB	comp=Z,738nm,1.4s			IAmb	IAmb		18	13	39.3	
EVR	Evrytania	21.91	294	P		P	18	13	15.4	-1.9
ARR	Arges	21.92	312	⇑P		P	18	13	18.0	+0.8
ARR	Arges	21.92	312	⇑P		ScP	18	20	55.1	+2.3
RLS	Riolos of Patr	22.07	292	P		P	18	13	16.2	-2.7
PVO	Paravola	22.09	293	P		P	18	13	17.1	-2.0
KZN	Kozani	22.19	298	P		P	18	13	18.8	-1.5
KPRO	Kipourio	22.43	296	P		P	18	13	20.3	-2.5
LOT	Lotru	22.50	312	⇑P		P	18	13	23.3	-0.2
LOT	Lotru	22.50	312	⇑P		ScP	18	20	56.7	+2.3
SRE	Strehaia	22.52	309	⇑P		P	18	13	24.3	+0.6
SRE	Strehaia	22.52	309	P		P	18	13	24.2	+0.6
PUNG	Punghina	22.55	308	⇑P		P	18	13	23.8	-0.2
AML	Almayashu	22.63	58	P		P	18	13	26.2	+0.9
AKASG	SNR=66 **Malin Array Be**	22.64	328	P		P	18	13	23.1	-1.7
AKASG	comp=Z,132nm,0.8s,baz=140,slow=9.6,SNR=71			PcP		PcP	18	17	17.0	-0.3
AKASG	comp=Z,4.4nm,0.5s,baz=103,slow=2.2,SNR=4.2			S		S	18	17	31.1	-1.0
AKASG	comp=Z,34nm,1.1s,baz=132,slow=21,SNR=6.3			ScP		ScP	18	20	54.2	-0.3
AKASG	comp=Z,3.2nm,0.7s,baz=96,slow=2.9,SNR=4.7			ScS		ScS	18	24	39.8	+0.2
AKASG	comp=Z,0.1nm,0.3s,baz=148,slow=4.4,SNR=4.3			PKiKP		PKiKP	18	25	01.2	-0.9
AKBB	comp=Z,0.5nm,0.4s,baz=98,slow=0.8,SNR=4.2 **Malin Array Si**	22.64	328	*ce*P		P	18	13	23.0	-1.8
AKBB	**Malin Array Si**	22.64	328	P		P	18	13	23.6	-1.2
AKBB	comp=Z,332nm,1.1s			IAmb	IAmb		18	13	27.3	
PENT	**Pentalofos**	22.64	297	P		P	18	13	23.4	-1.7
DESE	**Dese**	22.67	201	*e*P		P	18	13	26.7	+0.9
DESE				*e*S		S	18	17	38.7	+4.9
BURAR	**Bucovina Array**	22.70	318	⇑P		P	18	13	25.9	+0.2
BURAR	**Bucovina Array**	22.70	318	⇑P		P	18	13	25.9	+0.2
BURAR	**Bucovina Array**	22.70	318	P		P	18	13	25.9	+0.2
BUR08	**Bucovina Ar. S**	22.73	318	P		P	18	13	26.3	+0.4
BUR08	comp=Z,266nm,1.0s			IAmb	IAmb		18	13	39.7	
NEST	**Nestorio**	22.75	298	P		P	18	13	25.0	-1.3
JAN	**Janina**	22.77	296	P		P	18	13	24.8	-1.5
TSLK	**Tsoukalades, L**	22.79	293	P		P	18	13	25.6	-1.0
SKO	**Skopje**	22.83	302	P		P	18	13	29.5	+2.5
SKO	comp=Z,209nm,1.5s			pmax	pmax					
EKS2	**Erkin-Say**	22.84	57	P		P	18	13	28.6	+1.4
OHR	SNR=37 **Ohrid**	23.09	299	P		P	18	13	31.4	+1.7
OHR	comp=Z,590nm,1.0s			pmax	pmax					
HERR	**Herculane**	23.13	309	⇓P		P	18	13	29.8	-0.2
HERR	**Herculane**	23.13	309	⇓P		ScP	18	20	56.8	+1.0
IGT	**Igoumenitsa**	23.14	295	P		P	18	13	28.6	-1.6
IGT	comp=Z,282nm,1.1s			pmax	pmax					
KSV	**Kosov**	23.18	319	P		P	18	13	28.9	-1.6
CJR	**Cluj-Napoca**	23.19	314	⇑P		P	18	13	31.0	+0.3
CJR	**Cluj-Napoca**	23.19	314	⇑P		P	18	13	31.0	+0.3
DEV	**Deva**	23.23	312	⇑P		P	18	13	30.8	-0.2
DEV	**Deva**	23.23	312	⇑P		P	18	13	30.8	-0.2
UCH	**Uchtor**	23.24	58	P		P	18	13	35.0	+3.3
AAK	SNR=28 **Ala-Archa**	23.34	57	P		P	18	13	33.3	+1.0
AAK	comp=Z,39nm,0.7s,baz=244,slow=7.7,SNR=23			PcP		PcP	18	17	18.5	-0.6
AAK	comp=Z,16nm,0.8s,baz=153,slow=2.3,SNR=2.4			ScP		ScP	18	20	56.3	-0.4
AAK	comp=Z,21nm,1.0s,baz=195,slow=4.5,SNR=6.3 **Ala-Archa**	23.34	57	P		P	18	13	34.8	+2.4
AAK	SNR=28 **Ala-Archa**	23.34	57	*i* P		P	18	13	34.2	+1.9
AAK	SNR=66 **Ala-Archa**	23.34	57	*c i* P		P	18	13	33.5	+1.1
AAK	comp=Z,95nm,1.0s			pmax	pmax					
AAK	comp=Z,24μm,21.0s			MLR	MLR					
AAK	**Ala-Archa**	23.34	57	P		P	18	13	33.7	+1.3
AAK	comp=Z,27μm,22.0s			IAMs_20	IAMs_20		18	23	05.0	
FRU1	**Bishkek**	23.49	57	P		P	18	13	35.3	+1.6
FRU1	comp=Z,249nm,1.2s			pmax	pmax					
FRU1	**Bishkek**	23.49	57	P		P	18	13	35.3	+1.6
FRU1	comp=Z,249nm,1.1s			IAmb	IAmb		18	14	25.6	
USP	**Ospenovka**	23.53	55	P		P	18	13	37.6	+3.5
MDVR	SNR=95 **Moldovita**	23.55	309	⇑P		P	18	13	33.9	-0.3
MDVR	**Moldovita**	23.55	309	⇑P		ScP	18	20	57.2	+0.1
THN	**Thein Dam**	23.57	83	*e*P		P	18	13	39.5	+5.0
THN				*e*S		S	18	17	52.0	+3.8
CHMS	**Chumysh**	23.63	56	P		P	18	13	36.3	+1.3
KBK	SNR=85 **Karagaybulak**	23.67	57	P		P	18	13	38.0	+2.4
BMR	SNR=86 **Baia Mare**	23.72	316	⇑P		P	18	13	36.4	+0.5
BMR	**Baia Mare**	23.72	316	⇑P		P	18	13	36.4	+0.5
KZA	**Kyzart**	23.73	59	P		P	18	13	38.8	+2.3
KSH	SNR=32 **Kashi**	23.77	65	P		P	18	13	33.8	-2.8
KSH				sP		pP	18	13	39.8	-1.2
KSH				S		S	18	17	43.9	-7.8
KSH				SS		SnSn	18	18	29.5	-0.5
KSH	comp=Z,1μm,2.2s			pmax	pmax					
KSH	comp=Z,5μm,4.9s			pmax	pmax					
KSH	comp=Z,197μm,20.3s			LR	LR					
KSH	comp=Z,22μm,10.9s			LR	LR					
KSH	comp=Z,82μm,24.4s			LR	LR					
OBN	**Obninsk**	23.82	344	P		P	18	13	35.1	-1.6
OBN	comp=Z,20nm,0.4s,baz=156,slow=6.3,SNR=44 **Obninsk**	23.82	344	⇑P		P	18	13	35.8	-0.9
OBN	**Obninsk**	23.82	344	*c i* P		P	18	13	35.5	-1.2
OBN				*i*			18	13	45.8	
OBN				*i*			18	14	05.6	
OBN				*i* S		S	18	17	52.2	+0.4
OBN				*i* SS		SnSn	18	18	32.2	+1.6
OBN	comp=Z,436nm,1.3s			pmax	pmax					
OBN	comp=Z,17μm,16.0s			MLR	MLR					
OBN	**Obninsk**	23.82	344	P		P	18	13	36.3	-0.3
TIR	**Tirane**	23.83	299	⇓P		P	18	13	36.2	-0.7
TIR	**Tirane**	23.83	299	⇓P		P	18	13	36.2	-0.7
TIR	**Tirane**	23.83	299	P		P	18	13	36.8	-0.1
BTLS	**Baital**	23.83	51	*i* P		P	18	13	37.2	+0.2
BTLS	comp=Z,518nm,2.4s,baz=51			*e*S		S	18	17	54.4	+2.1
BTLS	comp=Z,186nm,5.3s,baz=51			LR	LR		18	23	32.3	
BTLS	comp=Z,2μm,10.7s,baz=51 **Baital**	23.83	51	*i* P		P	18	13	37.1	+0.1
BTLS				*e*S		S	18	17	54.4	+2.1
BTLS	comp=Z,518nm,2.4s			pmax	pmax					
BTLS	comp=Z,2μm,11.0s			MLR	MLR					
BZS	**Buzias**	23.94	310	⇑P		P	18	13	37.2	-0.7
BZS	**Buzias**	23.94	310	⇑P		P	18	13	37.2	-0.7
PVY	**Plav**	24.06	302	⇑*i* P		P	18	13	39.4	+0.2
ANKE	**Ethiopia-Afar**	24.09	200	*i* P		P	18	13	41.1	+1.1
ANKE				*i* S		S	18	18	03.1	+5.7
BANR	**Banloc**	24.16	310	⇓P		P	18	13	40.5	+0.5
MOS	**Moscow**	24.17	346	*e*P		P	18	13	36.1	-3.8
MOS				*e*S		S	18	17	57.8	+0.5
MOS				*e*SS		SnSn	18	18	44.6	+5.4
MOS	comp=Z,1μm,1.9s			pmax	pmax					
MOS	comp=N,269nm,1.1s			MLR	MLR					
MOS	comp=Z,12μm,16.0s			MLR	MLR					
MOS	comp=N,8μm,15.0s									
IVA	**Berane**	24.18	303	⇑*i* P		P	18	13	39.5	-0.8
SIRR	**Siria**	24.18	312	⇓P		P	18	13	40.4	+0.2
SIRR	**Siria**	24.18	312	⇑P		ScP	18	21	03.0	+4.3
TKM2	**Tokmak 2**	24.20	57	P		P	18	13	42.0	+1.3
TKM2	SNR=122 **Tokmak 2**	24.20	57	P		P	18	13	41.5	+0.8
OTUK	**Ortayu**	24.22	43	P		P	18	13	41.5	+0.9
TRSU	**Trosnyk**	24.25	317	P		P	18	13	41.5	+0.7
MORS	**Morshin**	24.28	320	P		P	18	13	41.3	+0.2
BEO	**Beograd**	24.38	308	P		P	18	13	42.4	+0.3
ULC	**Ulcinj**	24.42	301	⇑*i* P		P	18	13	41.2	-1.2
KOME	**Kolasin**	24.44	303	⇑*i* P		P	18	13	42.2	-0.5
DIVS	**Divibare**	24.47	306	⇑*i* P		P	18	13	43.0	0.0
DIVS	**Divibare**	24.47	306	P		P	18	13	42.2	-0.8
DIVS	comp=Z,239nm,1.1s			IAmb	IAmb		18	14	00.7	
ULHL	**Ulahol**	24.49	59	P		P	18	13	45.8	+2.5
DRME	SNR=15 **Dracevica, Mon**	24.51	301	⇑*i* P		P	18	13	42.1	-1.2
DRME	**Dracevica, Mon**	24.51	301	⇑*i* P		P	18	13	42.7	-0.6
PDG	**Podgorica**	24.52	302	⇑P		P	18	13	42.2	-1.2
PDG	**Podgorica**	24.52	302	⇑P		ScP	18	21	01.6	+1.9
PDG	**Podgorica**	24.52	302	⇑*i* P		P	18	13	42.3	-1.0
PDG	**Podgorica**	24.52	302	P		P	18	13	41.5	-1.8
TTG	**Podgorica**	24.52	302	⇑*i* P		P	18	13	42.1	-1.2
LVV	**L'vov**	24.59	321	*e*P		P	18	13	45.3	+1.4
LVV				*e*			18	14	03.4	
LVV				*e*			18	14	17.3	
LVV				*i* S		S	18	18	02.1	-2.3
LVV	comp=Z,700nm,1.6s			pmax	pmax					
LVV	comp=N,9μm,5.9s			smax	smax					
LVV	comp=E,10μm,5.9s			smax	smax					
SCTE	**Santa Cesarea**	24.64	296	P		P	18	13	44.2	-0.3
PLE	**Pljevlja**	24.66	304	⇑*i* P		P	18	13	44.7	0.0
BUM	**Brajici-Budva**	24.75	301	⇑*i* P		P	18	13	44.4	-1.1
RUDO	**Rudo**	24.75	304	⇑*i* P		P	18	13	46.5	+1.0
CEME	**Cevo**	24.79	302	⇑*i* P		P	18	13	44.7	-1.2
NKY	**Niksic**	24.80	302	⇓*i* P		P	18	13	45.5	-0.5
BBLS	**Lazići**	24.80	305	⇑*i* P		P	18	13	46.2	+0.2
NKME	**Niksic**	24.82	302	⇓*i* P		P	18	13	45.8	-0.3
MTBS	**Maitube**	24.84	57	*e*P		P	18	13	48.1	+1.7
MTBS	baz=57 **Maitube**	24.84	57	*e*P		P	18	13	48.1	+1.7
UZH	**Uzhgorod**	24.90	317	*e*P		P	18	13	46.7	0.0
UZH				*e*			18	13	56.6	
UZH				*e*			18	14	09.7	
UZH				*e*			18	14	30.6	
UZH				*e*S		S	18	18	06.3	-3.1
AAE	**Adis Abeba**	24.91	201	⇓*i* P		P	18	13	50.2	+2.9
AAE				*i* S		S	18	18	18.9	+8.4
AAE	**Adis Abeba**	24.91	201	⇓*i* P		P	18	13	50.2	+2.9
AAE				*i* S		S	18	18	18.9	+8.4
FRGS	**Fruska Gora**	24.95	308	⇑*i* P		P	18	13	47.6	+0.4
ARU	**Arti**	24.96	14	P		P	18	13	47.1	0.0
ARU	comp=E,21nm,0.9s,baz=199,slow=8.1,SNR=50			ScP		ScP	18	21	00.7	0.0
ARU	comp=E,2.9nm,0.5s,baz=260,slow=5.6,SNR=4.0 **Arti**	24.96	14	*c i* P		P	18	13	47.7	+0.6
ARU				PPP	PPP		18	14	28.1	
ARU							18	17	20.2	
ARU				S		S	18	18	13.6	+3.5
ARU				SS		SnSn	18	19	02.0	+3.5
ARU				SSS	SSS		18	19	21.9	
ARU	comp=Z,322nm,1.7s			pmax	pmax					
ARU	comp=Z,20μm,22.0s			MLR	MLR					
ARU	**Arti**	24.96	14	P		P	18	13	47.0	-0.1
ARU	comp=Z,295nm,1.1s			IAmb	IAmb		18	14	17.4	
UPM	**Unac-Piva**	24.96	303	⇑*i* P		P	18	13	46.7	-0.8
UPM	**Unac-Piva**	24.96	303	⇑*i* P		P	18	13	46.8	-0.8
KUU	**Kurty**	24.99	55	*i* P		P	18	13	48.6	+0.9
KUU	comp=Z,1μm,3.2s,baz=55			*e*S		S	18	18	13.6	+2.5
KUU	baz=55 **Kurty**	24.99	55	*i* P		P	18	13	48.5	+0.9
KUU				*e*S		S	18	18	13.5	+2.5
KUU	comp=Z,1μm,3.2s			pmax	pmax					
SMLA	**Simla**	25.00	85	*e*P		P	18	13	48.8	+1.0
SMLA	comp=Z,136nm,0.8s			IAmb	IAmb		18	13	53.4	
FURI	**Furi**	25.06	202	*i* S		S	18	18	23.5	+11
FURI	**Furi**	25.06	202	P		P	18	13	47.5	-1.3
FURI	comp=Z,256nm,1.1s			IAmb	IAmb		18	14	36.2	
FURI	**Furi**	25.06	202	*i* S		S	18	18	23.5	+11
HCY	**Herceg Novi**	25.07	301	⇑*i* P		P	18	13	48.3	0.0
HCY	**Herceg Novi**	25.07	301	⇑*i* P		P	18	13	48.4	+0.1
KOLS	**Kolonicke sedl**	25.07	318	*e*P		P	18	13	48.8	+0.5
KOLS	comp=Z,534nm,1.2s			pmax	pmax					
KOLS	**Kolonicke sedl**	25.07	318	*e*P		P	18	13	48.8	+0.5
KOLS				*e*S		S	18	18	16.2	+4.1
KDJ	**Kajisay**	25.14	59	P		P	18	13	51.2	+2.0
KDJ	comp=Z,19μm,22.0s			MLR	MLR					
KDJ	**Kajisay**	25.14	59	P		P	18	13	51.2	+2.0
BRY	**Bratogost**	25.15	302	⇑*i* P		P	18	13	48.4	-0.8
BRY	**Bratogost**	25.15	302	*e*P		P	18	13	48.7	-0.5
TNSS	**Tian-Shan**	25.19	57	*i* P		P	18	13	51.0	+1.2
TNSS	baz=58 **Tian-Shan**	25.19	57	*i* P		P	18	13	51.0	+1.2
KWP	**Kalwaria Pacla**	25.20	320	*e*P		P	18	13	50.5	+1.1
KWP				*e*S		S	18	18	16.1	+2.0
KWP	**Kalwaria Pacla**	25.20	320	P		P	18	13	49.9	+0.5
KWP	comp=Z,372nm,0.7s			pmax	pmax					
KWP	**Kalwaria Pacla**	25.20	320	P		P	18	13	49.9	+0.5
AAA	**Alma-Ata**	25.21	57	*e*P		P	18	13	51.2	+1.6
AAA	comp=Z,360nm,1.6s,baz=57			*e*S		S	18	18	17.5	+3.0
AAA	baz=57			LR	LR		18	24	21.6	
AAA	comp=Z,10μm,13.8s,baz=57 **Alma-Ata**	25.21	57	*e*P		P	18	13	51.2	+1.6
AAA				*e*S		S	18	18	17.5	+3.0
AAA				pmax	pmax					
AAA	comp=Z,360nm,1.6s			MLR	MLR					
TREB	comp=Z,10μm,14.0s **Trebinje**	25.24	302	*e*P		P	18	13	48.3	-1.5
MDOK	**Medeo**	25.29	57	*i* P		P	18	13	51.4	+0.9
MDOK	baz=57			*e*S		S	18	18	18.4	+2.3
MDOK	baz=57			LR	LR		18	23	34.9	
MDOK	comp=Z,13μm,13.9s,baz=57 **Medeo**	25.29	57	*i* P		P	18	13	51.4	+0.9
MDOK				*e*S		S	18	18	18.3	+2.3
MDOK	comp=Z,13μm,14.0s			MLR	MLR					
BRZS	**Berezniki**	25.34	39	*i* P		P	18	13	51.8	+1.0
BRZS	comp=Z,569nm,3.5s,baz=40			*e*S		S	18	18	19.5	+3.1
BRZS	baz=40 **Berezniki**	25.34	39	*i* P		P	18	13	51.7	+1.0
BRZS				*e*S		S	18	18	19.5	+3.1
BRZS	comp=Z,569nm,3.5s			pmax	pmax					
DBRK	**Dubrovnik**	25.37	302	*i* P		P	18	13	49.1	-2.0
CHKK	**Chushkaly**	25.43	55	*e*P		P	18	13	52.5	+0.8
CHKK	baz=56 **Chushkaly**	25.43	55	*e*P		P	18	13	52.4	+0.8
CGL1	**Ceglie Messapi**	25.48	297	⇑*i* P		P	18	13	51.1	-0.9
CRVS	**Cervenica-Dubn**	25.52	317	*e*P		P	18	13	53.3	+1.0
CRVS	comp=Z,1μm,1.5s			pmax	pmax					
CRVS	**Cervenica-Dubn**	25.52	317	*e*P		P	18	13	53.3	+1.0
CRVS				*e*S		S	18	18	22.3	+3.1
TARG	**Taragay, Kyrgy**	25.52	61	P		P	18	13	53.0	+0.1
TARG	comp=Z,226nm,1.0s			IAmb	IAmb		18	13	58.8	
TAR1	**Taranto**	25.60	297	⇑*i* P		P	18	13	52.8	-0.3
NDI	**New Delhi**	25.62	91	*e*P		P	18	13	57.0	+3.6
STON	**Ston**	25.74	302	*i* P		P	18	13	53.1	-1.3
SVE	**Sverdlovsk**	25.79	16	*de*P		P	18	13	55.5	+0.9
SVE				*e*S		S	18	18	24.6	+1.4
SVE	comp=Z,275nm,1.4s			pmax	pmax					
SVE	comp=Z,31μm,19.0s			MLR	MLR					
TIP	**Timpagrande**	25.85	293	⇑P		P	18	13	55.4	-0.1
TIP	**Timpagrande**	25.85	293	P		P	18	13	55.6	+0.1
KECS	**Kecovo**	25.88	316	*e*P		P	18	13	57.3	+1.7
KECS	comp=Z,621nm,1.0s			pmax	pmax					
KECS	**Kecovo**	25.88	316	*e*P		P	18	13	57.3	+1.7
DDI	**Dehra Dun**	25.92	87	*e*P		P	18	13	57.0	+0.8
DDI	comp=Z,166nm,0.8s			IAmb	IAmb		18	14	01.8	
PSZ	**Piszkesteto**	25.98	314	⇑P		P	18	13	57.0	+0.4
PSZ	**Piszkesteto**	25.98	314	P		P	18	13	56.7	+0.1
PSZ	comp=Z,703nm,0.9s			pmax	pmax					
PSZ	**Piszkesteto**	25.98	314	P		P	18	13	56.7	+0.1
KIRV	**Kirov**	25.99	2	P		P	18	13	56.2	-0.2
MICGM	comp=Z,210nm,0.7s,baz=185,slow=6.0,SNR=42 **Minsk**	26.00	298	*e*P		P	18	13	58.2	+1.5
MICGM	**Minsk**	26.00	333	⇓*i* P		P	18	13	56.0	-0.6
MICGM				⇑*e*P		P	18	13	56.0	-0.6
MICGM				PM			18	14	00.0	
MICGM	comp=Z,2.7nm,1.5s			PM			18	14	01.0	
MICGM	comp=N,2.9nm,1.8s			PM			18	14	01.0	
MICGM	comp=E,1.7nm,2.0s			*e*PP	PnPn		18	15	14.0	+40
MICGM				*e*S		S	18	18	22.0	-4.7
MICGM	comp=N,2.9nm,14.0s			SM			18	18	24.0	
MICGM	comp=E,1.7nm,14.0s			SM			18	18	26.0	
MICGM				*e*SS	SnSn		18	20	10.0	+46
MICGM				*e*LQ	LQ		18	22	08.0	
MICGM	comp=N,24nm,26.0s			LQM			18	22	56.0	
MICGM	comp=N,36nm,32.0s			LQM			18	22	56.0	
MICGM	comp=E,43nm,32.0s			LQM			18	22	56.0	
MICGM	comp=E,23nm,26.0s			LQM			18	22	58.0	
MICGM				*e*LR	LR		18	24	42.0	
MICGM	comp=Z,34nm,20.0s			LRM	MLR		18	25	12.0	
MICGM	comp=E,14nm,16.0s			LRM	MLR		18	25	12.0	
MICGM	comp=Z,24nm,18.0s			LRM	MLR		18	25	16.0	
MICGM	comp=N,18nm,16.0s			LRM	MLR		18	25	32.0	
MNK	**Minsk**	26.00	333	⇑*i* P		P	18	13	56.0	-0.6
MNK				*e*S		S	18	18	22.0	-4.7
MNK				*e*			18	24	42.0	
MNK	comp=Z,3μm,1.5s			pmax	pmax					
MNK	comp=N,3μm,1.8s			pmax	pmax					
MNK	comp=E,2μm,2.0s			pmax	pmax					
MNK	comp=E,14μm,14.0s			smax	smax					
MNK	comp=Z,34μm,20.0s			MLR	MLR					
MNK	comp=E,14μm,16.0s			MLR	MLR					
MNK	comp=N,18μm,16.0s			MLR	MLR					
MATE	**Matera**	26.06	297	⇑P		P	18	13	56.1	-1.2
BRVK	**Borovoye**	26.07	32	*c i* P		P	18	13	57.8	+0.5
BRVK	comp=Z,456nm,2.2s			pmax	pmax					
BRVK	comp=Z,29μm,20.0s			MLR	MLR					
BRVK	**Borovoye**	26.07	32	P		P	18	13	57.5	+0.2
BRVK	comp=Z,131nm,0.8s			IAmb	IAmb		18	14	01.6	
MORH	**Mrgy, Hungar**	26.09	310	⇑*i* P		P	18	13	58.2	+0.7
BVAR	**Borovoye Array**	26.10	32	P		P	18	13	57.9	+0.4
BVAR	comp=Z,182nm,0.8s,baz=225,slow=8.2,SNR=69			PcP		PcP	18	17	25.0	+0.2
BVAR	comp=Z,13nm,0.6s,baz=166,slow=3.0,SNR=7.9			ScP		ScP	18	21	04.1	+0.1
PRZ	comp=Z,14nm,0.6s,baz=188,slow=3.6,SNR=10 **Przheval'sk**	26.10	59	P		P	18	13	59.2	+1.3
PRZ	comp=Z,132nm,0.8s			pmax	pmax					
PRZ	comp=Z,24μm,21.0s			MLR	MLR					
PRZ	**Przheval'sk**	26.10	59	P		P	18	13	59.2	+1.3
PRZ	comp=Z,132nm,0.8s			IAmb	IAmb		18	14	03.6	
PRZ	comp=Z,24μm,21.0s			IAMs_20	IAMs_20		18	24	51.8	
SG1	**Sgolgore (BA)**	26.10	297	*e*P		P	18	13	57.8	0.0
SATY	**Saty**	26.23	58	*e*P		P	18	14	00.4	+1.3
SATY	comp=Z,315nm,2.4s,baz=58			*e*S		S	18	18	33.9	+3.0
SATY	comp=Z,146nm,4.0s,baz=58 **Saty**	26.23	58	*e*P		P	18	14	00.3	+1.3
SATY				*e*S		S	18	18	33.9	+3.0
SATY	comp=Z,315nm,2.4s			pmax	pmax					
SATY	**Saty**	26.23	58	*e*P		P	18	14	00.3	+1.3
SATY				*e*S		S	18	18	33.9	+3.0
SATY	comp=Z,315nm,2.4s			pmax	pmax					
RICI	**Ricice**	26.29	303	*i* P		P	18	13	58.3	-1.1
MAKA	**Makarska**	26.32	303	*i* P		P	18	13	57.9	-1.7
BUD	**Budapest**	26.33	313	P		P	18	14	01.3	+1.6
BUD	comp=Z,668nm,1.0s			pmax	pmax					
NIE	**Niedzica**	26.43

LANS Liptovska Anna 26.79 316 *e*P **P 18 14 05.7 +1.9**
SRO2 Moca 26.83 313 *e*P **P 18 14 05.0 +0.8**
SRO2 pmax pmax
comp=Z,331nm,1.0s
SRO2 Moca 26.83 313 *e*P **P 18 14 05.0 +0.8**
VYHS Vyhne 26.87 315 *e*P **P 18 14 06.7 +2.2**
VYHS pmax pmax
comp=Z,228nm,1.1s
VYHS Vyhne 26.87 315 *e*P **P 18 14 06.7 +2.2**
VYHS *e*S **S 18 18 42.4 +1.8**
KIJV Kijevo 26.93 304 *i* P **P 18 14 04.5 -0.6**
SGRT San Giovanni R 26.94 299 P **P 18 14 04.0 -1.4**
SGRT IAmb IAmb 18 14 53.2
comp=Z,108nm,0.9s
PRIJ Prijedor 26.97 306 *e*P **P 18 14 06.1 +0.7**
SHLS Shalkode 27.01 58 *i* P **P 18 14 10.3 +4.2**
comp=Z,321nm,2.8s,baz=58
SHLS *e*S **S 18 18 51.1 +8.0**
baz=58
SHLS LR LR 18 25 26.4
comp=Z,3µm,12.1s,baz=58
SHLS Shalkode 27.01 58 *i* P **P 18 14 10.2 +4.2**
SHLS *e*S **S 18 18 51.1 +8.0**
SHLS pmax pmax
comp=Z,321nm,2.8s
SHLS MLR MLR
comp=Z,3µm,12.0s
IDID Didziasalis 27.05 333 *e*P **P 18 14 07.6 +1.6**
PDGK Podgornoye 27.06 58 P **P 18 14 06.5 0.0**
OJC Ojcow 27.11 319 *e*P **P 18 14 06.8 +0.1**
OJC *e*pP **pP 18 14 09.7 -1.6**
OJC *e*S **S 18 18 47.9 +3.5**
OJC Ojcow 27.11 319 P **P 18 14 06.3 -0.4**
OJC pmax pmax
comp=Z,383nm,0.8s
OJC Ojcow 27.11 319 P **P 18 14 06.3 -0.4**
MOSL Moslavina 27.13 308 *i* P **P 18 14 06.1 -0.8**
POO Poona 27.32 115 *e*P **P 18 14 11.0 +2.1**
POO *e*P **P 18 14 11.0 +2.1**
ZIRJ Zirje 27.38 303 *i* P **P 18 14 07.9 -1.2**
MORI Morici 27.38 303 *i* P **P 18 14 07.9 -1.3**
BEL Belsk 27.43 322 *e*P **P 18 14 10.6 +1.1**
BEL *e*S **S 18 18 52.8 +3.4**
ISAL Salakas 27.47 333 *e*P **P 18 14 11.7 +1.8**
KALN Kalnik 27.49 309 *i* P **P 18 14 09.5 -0.6**
UDBI Udbina 27.50 305 *i* P **P 18 14 09.3 -1.0**
DILA Dilla 27.51 201 *e*P **P 18 14 16.9 +6.2**
DILA *e*S **S 18 18 56.0 +4.6**
IZAR Zarasai 27.56 333 *e*P **P 18 14 12.3 +1.7**
SUW Suwalki 27.61 328 *e*P **P 18 14 11.2 +0.2**
SUW *e*S **S 18 18 58.6 +6.5**
SUW Suwalki 27.61 328 P **P 18 14 11.3 +0.2**
SUW pmax pmax
comp=Z,893nm,1.1s
SUW Suwalki 27.61 328 P **P 18 14 11.3 +0.2**
VAE Valguarnera 27.62 289 P **P 18 14 13.1 +1.6**
comp=Z,78nm,1.0s,baz=40,slow=5.5,SNR=15
ZAG Zagreb 27.71 308 *i* P **P 18 14 12.1 +0.1**
PAOL Paolisi 27.71 297 P **P 18 14 12.1 -0.2**
JAVC Velka Javorina 27.72 315⇑ *i* P **P 18 14 13.3 +1.0**
JAVC *e*S **S 18 18 57.4 +3.3**
JAVC *e* 18 25 04.3
KOGS Kog 27.72 309 *e*P **P 18 14 13.0 +0.8**
KOGS *e*S **S 18 18 55.4 +1.3**
SMOL Smolenice 27.73 314 *e*P **P 18 14 13.9 +1.7**
SMOL pmax pmax
comp=Z,113nm,1.1s
SMOL Smolenice 27.73 314 *e*P **P 18 14 13.9 +1.7**
SMOL *e*S **S 18 18 57.3 +3.2**
PTJ Puntijarka 27.74 308 *i* P **P 18 14 11.3 -1.2**
MODS Modra-Piesok 27.76 313 *e*P **P 18 14 13.4 +0.8**
MODS pmax pmax
comp=Z,430nm,1.5s
MODS Modra-Piesok 27.76 313 *e*P **P 18 14 13.4 +0.8**
MODS *e*S **S 18 18 56.3 +1.6**
BHPL Bhopal 27.77 102 *e*P **P 18 14 14.3 +1.4**
BHPL IAmb IAmb 18 14 16.5
comp=Z,56nm,0.9s
DUGI Dugi Otok 27.87 304 *i* P **P 18 14 13.1 -0.4**
OKC Ostrava-Krasne 27.87 317 *e*P **P 18 14 14.0 +0.5**
OKC MLR MLR
comp=Z,2µm,14.9s
OKC Ostrava-Krasne 27.87 317 *e*P **P 18 14 14.0 +0.5**
OKC AMS AMS 18 30 10.0
comp=Z,2µm,14.9s
SOP Sopron 27.95 312 P **P 18 14 15.7 +1.5**
SOP pmax pmax
comp=Z,310nm,1.1s
CRES Cresnjev 28.06 307⇑ *i* P **P 18 14 16.2 +0.9**
BOJS Bojanci 28.11 307 *e*P **P 18 14 16.0 +0.3**
NVLJ Novalja 28.13 305 *i* P **P 18 14 14.3 -1.5**
LEGS Legarje 28.19 308 *e*P **P 18 14 16.8 +0.4**
LEGS *e*S **S 18 19 02.5 +1.0**
MORC Moravsky Berou 28.19 316⇑⇑ P **P 18 14 16.4 -0.1**
MORC Moravsky Berou 28.19 316⇑⇑ P **ScP 18 21 10.6 +0.2**
MORC Moravsky Berou 28.19 316⇑ *i* P **P 18 14 16.3 -0.1**
MORC *e*S **S 18 18 55.8 -5.7**
MORC *e* 18 25 04.7
MORC Moravsky Berou 28.19 316⇑⇑ P **P 18 14 16.4 -0.1**
MORC Moravsky Berou 28.19 316 P **P 18 14 16.1 -0.3**
MORC IAmb IAmb 18 14 20.4
comp=Z,154nm,1.1s
PABE Paberze 28.28 331 *e*P **P 18 14 18.6 +1.6**
KAD Karad 28.31 116⇓ *i* P **P 18 14 20.2 +2.5**
INTR Introdacqua 28.34 299 P **P 18 14 17.6 -0.1**
GBRS Gornja Briga 28.41 307 *e*P **P 18 14 18.7 +0.2**
ARSA Arzberg 28.46 310 *i* pP **P 18 14 20.5 +1.7**
comp=Z,17nm,0.6s,SNR=48
ARSA *i* PcP **PcP 18 17 33.8 +3.3**
comp=Z,15nm,0.7s
ARSA *i* ScP **ScP 18 21 13.9 +2.6**
comp=Z,10nm,0.8s
ARSA *i* PKiKP **PKiKP 18 25 02.8 -2.8**
comp=Z,8.9nm,1.4s
CONA Conrad Observa 28.47 312 *i* pP **P 18 14 20.3 +1.3**
comp=Z,30nm,1.0s,SNR=65
CORL Corleone 28.50 290 P **P 18 14 19.5 +0.2**
CORL IAmb IAmb 18 14 31.4
comp=Z,207nm,1.1s
VRAC Vranov 28.55 315 P **P 18 14 20.8 +1.2**
comp=Z,88nm,0.9s,baz=114,slow=9.3,SNR=57
VRAC Vranov 28.55 315⇓⇓ *i* P **P 18 14 20.0 +0.4**
VRAC Vranov 28.55 315⇑ *i* P **P 18 14 19.8 +0.2**
VRAC *e*S **S 18 19 06.5 -0.6**
VRAC *e* 18 25 07.1
VRAC Vranov 28.55 315⇓ P **P 18 14 20.0 +0.4**
CLTB Caltabellotta 28.57 290 P **P 18 14 21.6 +1.6**
CLTB IAmb IAmb 18 14 44.8
comp=Z,133nm,1.1s
KRUC Moravsky 28.57 314⇑ *i* P **P 18 14 19.8 0.0**
KRUC *e*S **S 18 19 06.9 -0.5**
KRUC *e* 18 25 04.9
RIY Rijeka 28.58 306 *i* P **P 18 14 19.1 -0.8**
SOKA Soboth 28.59 309 *i* pP **P 18 14 21.4 +1.3**
comp=Z,45nm,1.2s,SNR=71
SOKA *i* PcP **PcP 18 17 32.5 +1.5**
comp=Z,28nm,0.8s
SOKA *i* ScP **ScP 18 21 13.6 +1.8**
comp=Z,17nm,0.8s
CEY Cerknica 28.73 307⇑ *i* P **P 18 14 21.8 +0.6**
LJU Ljubljana 28.74 308 *e*P **P 18 14 22.0 +0.7**
LJU Ljubljana 28.74 308⇑ *i* P **P 18 14 22.2 +0.9**
KLMR Klimovskoe 28.75 352 *c* i P **P 18 14 20.5 -0.6**
KLMR *e*S **S 18 19 11.9 +2.1**
KLMR pmax pmax
comp=Z,303nm,1.2s
KLMR MLR MLR
comp=Z,14µm,16.0s
KLMR Klimovskoe 28.75 352⇑ *i* P **P 18 14 20.6 -0.6**
KLMR ⇑ *i* P **P 18 14 20.6 -0.6**
KLMR ⇑ *i* P **P 18 14 20.6 -0.6**
KLMR AMP 18 14 29.8
comp=Z,303nm,1.2s
KLMR *e*S **S 18 19 12.0 +2.1**
KLMR *e*S **S 18 19 12.0 +2.1**
KLMR LQ LQ 18 23 41.6
KLMR LQ LQ 18 23 41.6
KLMR LR LR 18 26 05.5
KLMR AMP 18 27 08.5
comp=Z,14µm,16.1s
AQU L'Aquila 28.76 300 P **P 18 14 22.1 +0.6**
AQU pmax pmax
comp=Z,181nm,1.0s
AQU MLR MLR
comp=Z,8µm,22.0s
AQU L'Aquila 28.76 300⇑ *i* P **P 18 14 22.4 +0.8**
AQU L'Aquila 28.76 300 P **P 18 14 22.1 +0.6**
AQU IAmb IAmb 18 15 01.6
comp=Z,181nm,1.0s
KRLC Kraliky 28.76 316 *e*P **P 18 14 21.4 -0.1**
KRLC MLR MLR
comp=Z,9µm,14.5s
KRLC Kraliky 28.76 316 *e*P **P 18 14 21.4 -0.1**
KRLC AMS AMS 18 28 50.0
comp=Z,9µm,14.5s
OBKA Obir 28.86 308 *i* pP **P 18 14 24.4 +1.9**
comp=Z,20nm,0.7s,SNR=68
OBKA *i* PcP **PcP 18 17 33.9 +2.2**
comp=Z,31nm,1.1s
OBKA *i* ScP **ScP 18 21 16.2 +3.5**
comp=Z,5.5nm,0.8s
KURBB Kurchatov Arra 28.91 42 P **P 18 14 23.6 +0.8**
comp=Z,56nm,0.8s,baz=248,slow=9.5,SNR=136
KURBB PcP **PcP 18 17 31.4 -0.2**
comp=Z,6.8nm,0.7s,baz=247,slow=2.8,SNR=3.6
KURBB ScP **ScP 18 21 12.0 -0.6**
comp=Z,14nm,0.9s,baz=247,slow=3.7,SNR=8.0
KURBB P3KPbc 18 46 33.6
comp=Z,0.7nm,0.9s,baz=64,slow=3.9,SNR=5.2
KURBB Kurchatov Arra 28.91 42 P **P 18 14 23.0 +0.3**
BRJN Brijuni 28.99 305 *i* P **P 18 14 22.1 -1.3**
KURK Kurchatov 29.00 42 *c* i P **P 18 14 24.6 +1.1**
KURK pmax pmax
comp=Z,261nm,1.7s
KURK MLR MLR
comp=Z,15µm,20.0s
KURK Kurchatov 29.00 42 P **P 18 14 24.3 +0.7**
KURK IAmb IAmb 18 14 29.8
comp=Z,116nm,0.9s
JAVS Javornik 29.02 307 *e*P **P 18 14 23.9 +0.1**
JAVS *e*S **S 18 19 15.9 +1.3**
NRCA Norcia 29.04 301 P **P 18 14 24.4 +0.4**
PRGR Permogore 29.05 358⇓ *i* P **P 18 14 24.1 +0.2**
PRGR pmax pmax
comp=Z,123nm,1.0s
DPC Dobruska-Polom 29.15 317 *e*P **P 18 14 25.0 +0.1**
DPC MLR MLR
comp=Z,8µm,16.6s
DPC Dobruska-Polom 29.15 317 *e*P **P 18 14 25.0 +0.1**
DPC AMS AMS 18 27 40.0
comp=Z,8µm,16.6s
TREC Trest 29.21 314 *e*S **S 18 19 13.5 -4.0**
TREC AMS AMS 18 29 20.0
comp=Z,18µm,14.2s
OSTC Ostas 29.30 317 *e*P **P 18 14 26.2 0.0**
CADS Cadrg 29.32 308 *e*P **P 18 14 26.6 +0.1**
KSP Ksiaz 29.38 318 *e*P **P 18 14 27.2 +0.3**
KSP *e*S **S 18 19 25.3 +5.2**
KSP Ksiaz 29.38 318 P **P 18 14 27.8 +0.9**
UPC Upice 29.39 317 *e*P **P 18 14 27.6 +0.5**
UPC MLR MLR
comp=Z,10µm,18.5s
UPC Upice 29.39 317 *e*P **P 18 14 27.6 +0.5**
UPC AMS AMS 18 27 50.0
comp=Z,10µm,18.5s
CHVC Chvalec 29.41 317 *e*P **P 18 14 27.1 -0.1**
CHVC AMS AMS 18 30 40.0
comp=Z,9µm,13.8s
MOA Molln 29.46 311 *i* pP **P 18 14 28.2 +0.5**
comp=Z,147nm,0.8s,SNR=94
MOA *i* ScP **ScP 18 21 15.5 +1.1**
comp=Z,12nm,1.2s
MOA *i* PKiKP **PKiKP 18 25 06.3 +0.1**
comp=Z,7.7nm,1.3s
VSU Vasula 29.48 337 *e*P **P 18 14 29.7 +2.0**
VSU Vasula 29.48 337 *c* i P **P 18 14 27.3 -0.3**
VSU pmax pmax
comp=Z,186nm,0.9s
VSU MLR MLR
comp=Z,84µm,18.0s
PBUR Paburge 29.48 330 *e*P **P 18 14 29.5 +1.8**
MYKA Terra Mystica 29.50 308 *i* pP **P 18 14 30.1 +2.0**
comp=Z,24nm,0.5s,SNR=52
MYKA *i* ScP **ScP 18 21 15.5 +0.8**
comp=Z,25nm,1.6s
MYKA *i* pPKiKP **pPKiKP 18 25 15.9 +4.5**
comp=Z,8.0nm,1.3s
PRED Cave del Predi 29.50 308 P **P 18 14 28.6 +0.5**
PRED IAmb IAmb 18 14 32.2
comp=Z,176nm,1.2s
PUL Pulkovo 29.52 342⇓ *e*P **P 18 14 29.4 +1.4**
PUL pmax pmax
comp=Z,101nm,0.4s
PUL MLR MLR
comp=Z,14µm,15.0s
MURB Monte Urbino 29.53 301 P **P 18 14 29.6 +1.1**
MAKZ Makanchi 29.64 51 P **P 18 14 29.8 +0.5**
MAKZ Makanchi 29.64 51 P **P 18 14 29.8 +0.5**
MAKZ IAmb IAmb 18 14 32.8
comp=Z,300nm,1.8s
MAKZ IAMs_20 IAMs_20 18 28 01.5
comp=Z,17µm,20.0s
KLRI Killari 29.72 112 *e*P **P 18 14 31.1 +0.9**
KLRI IVmB_BB 18 14 34.0
comp=Z,2µm,4.0s
KLRI *e*S **S 18 19 26.9 +0.9**
KLRI IVMs_BB IVMs_BB 18 28 26.1
comp=Z,3µm,12.4s
KBA Koelnbreinsper 29.82 309 *i* pP **P 18 14 31.5 +0.5**
comp=Z,178nm,0.7s,SNR=162
KBA *i* ScP **ScP 18 21 16.9 +1.1**
comp=Z,6.6nm,0.8s
KBA *i* pPKiKP **pPKiKP 18 25 15.1 +3.3**
comp=Z,4.7nm,1.0s
KBA Koelnbreinsper 29.82 309 P **P 18 14 32.1 +1.0**
MK31 Makanchi Array 29.84 52 P **P 18 14 31.8 +0.7**
MK31 Makanchi Array 29.84 52 P **P 18 14 31.7 +0.7**
MK31 IAmb IAmb 18 14 35.6
comp=Z,87nm,0.8s
MKAR Makanchi Array 29.84 52 P **P 18 14 31.9 +0.8**
comp=Z,86nm,0.7s,baz=250,slow=7.2,SNR=104
MKAR PcP **PcP 18 17 33.3 -0.8**
comp=Z,11nm,0.8s,baz=251,slow=4.7,SNR=1.9
MKAR ScP **ScP 18 21 14.5 -1.2**
comp=Z,9.5nm,0.9s,baz=264,slow=3.0,SNR=5.4
MKAR P3KPbc 18 46 30.3
comp=Z,2.4nm,0.9s,baz=63,slow=3.6,SNR=12
MKAR Makanchi Array 29.84 52 P **P 18 14 31.0 -0.1**
MKAR Makanchi Array 29.84 52 P **P 18 14 31.0 -0.1**
GOPC GO Pecny, Ondr 29.87 315 *e*P **P 18 14 32.7 +1.4**
GOPC *e*S **S 18 19 24.0 -3.8**
GOPC MLR MLR
comp=Z,16µm,15.9s
GOPC GO Pecny, Ondr 29.87 315 *e*P **P 18 14 32.7 +1.4**
GOPC *e*S **S 18 19 24.0 -3.8**
GOPC AMS AMS 18 29 20.0
comp=Z,16µm,15.9s
ZOU Zoufplan 29.92 308 P **P 18 14 32.4 +0.4**
LATE Laterza 29.96 300 P **P 18 14 32.1 -0.1**
LATE IAmb IAmb 18 14 37.9
comp=Z,252nm,1.3s
STAL STALIGIAL 30.02 307 P **P 18 14 32.8 +0.1**
GKP Gorka Klasztor 30.04 322 *e*P **P 18 14 32.9 +0.2**
GKP *e*S **S 18 19 34.5 +4.3**
PRU Pruhonice 30.05 315 *e*P **P 18 14 34.1 +1.3**
PRU *e*S **S 18 19 26.6 -3.9**
PRU MLR MLR
comp=Z,15µm,15.8s
PRU Pruhonice 30.05 315 *e*P **P 18 14 34.1 +1.3**
PRU *e*S **S 18 19 26.6 -3.9**
PRU AMS AMS 18 29 20.0
comp=Z,15µm,15.8s
NGP Nagpur 30.07 104 *e*P **P 18 14 34.3 +1.0**
NGP *e*S **S 18 19 32.2 +0.8**
GEC2 GERESS Array S 30.14 313 *e*P **P 18 14 33.1 -0.7**
comp=Z,56nm,0.8s,baz=111,slow=8.9
GEC2 GERESS Array S 30.14 313 P **P 18 14 33.8 0.0**
GERES GERESS Array B 30.14 313 P **P 18 14 33.1 -0.7**
comp=Z,30nm,0.8s,baz=108,slow=8.6,SNR=58
GERES PcP **PcP 18 17 34.8 -0.1**
comp=Z,7.5nm,0.7s,baz=129,slow=1.9,SNR=4.6
GERES ScP **ScP 18 21 16.6 -0.2**
comp=Z,5.1nm,0.9s,baz=111,slow=2.2,SNR=7.0
GERES GERESS Array B 30.14 313 P **P 18 14 33.4 -0.4**
PRA Prague 30.14 315 *e*P **P 18 14 35.3 +1.6**
PRA *e*S **S 18 19 30.5 -1.5**
PRA MLR MLR
comp=Z,8µm,15.2s
PRA Prague 30.14 315 *e*P **P 18 14 35.3 +1.6**
PRA *e*S **S 18 19 30.5 -1.5**
PRA AMS AMS 18 29 20.0
comp=Z,8µm,15.2s
CIMO Cimolais 30.21 307 P **P 18 14 34.1 -0.3**
PVCC Panska Ves 30.24 316 *e*P **P 18 14 35.7 +1.1**
PVCC MLR MLR
comp=Z,12µm,14.4s
PVCC Panska Ves 30.24 316 *e*P **P 18 14 35.7 +1.1**
PVCC AMS AMS 18 29 40.0
comp=Z,12µm,14.4s
PBCC Pribram 30.26 314 *e*P **P 18 14 35.8 +1.1**
ABTA Abfaltersbach 30.28 308 *i* pP **P 18 14 36.0 +1.0**
comp=Z,85nm,0.7s,SNR=84
ABTA *i* PcP **PcP 18 17 37.3 +2.0**
comp=Z,35nm,1.0s
ABTA *i* ScP **ScP 18 21 22.7 +5.5**
comp=Z,20nm,1.0s
ABTA *i* pPKiKP **pPKiKP 18 25 11.8 -0.1**
comp=Z,28nm,1.8s
KHC Kasperske Hory 30.32 313 *c* i P **P 18 14 35.3 0.0**
KHC pmax pmax
comp=Z,254nm,1.7s
KHC MLR MLR
comp=Z,14µm,19.0s
KHC Kasperske Hory 30.32 313 *e*P **P 18 14 36.2 +0.9**
KHC *e*x x 18 14 43.5
KHC *e*x x 18 15 17.0
KHC *e*S **S 18 19 31.9 -3.0**
KHC AMS AMS 18 30 10.0
comp=Z,7µm,15.2s
KHC Kasperske Hory 30.32 313 P **P 18 14 35.1 -0.1**
RJOB Jochberg 30.36 310 *e*P **P 18 14 34.8 -1.0**
comp=Z,134nm,1.0s,baz=111,slow=8.9
OSSC Osservatorio P 30.49 302 P **P 18 14 37.3 +0.4**
OSSC IAmb IAmb 18 15 05.7
comp=Z,137nm,1.1s
SRSP Sriramsagar 30.62 109 *e*P **P 18 14 38.1 -0.2**
SRSP IVmB_BB 18 14 41.9
comp=Z,827nm,3.6s
SRSP *e*S **S 18 19 40.4 +0.2**
SRSP IVMs_BB IVMs_BB 18 29 51.2
comp=Z,2µm,12.3s
PYUN Piuthan 30.66 89 *e*P **P 18 14 39.4 +0.6**
CASP Castiglione de 30.67 300 P **P 18 14 38.9 +0.4**
CASP IAmb IAmb 18 14 42.4
comp=Z,146nm,1.1s
CTI Castel Tesino 30.68 306 P **P 18 14 38.5 -0.2**
CTI pmax pmax
comp=Z,332nm,0.9s
CTI MLR MLR
comp=Z,6µm,22.0s
CTI Castel Tesino 30.68 306 P **P 18 14 38.5 -0.2**
BRG Berggiesshubel 30.75 316 *i* P **P 18 14 39.8 +0.8**
comp=Z,87nm,1.0s
BRG S **S 18 19 44.0 +2.6**
comp=N,10µm,15.5s
comp=E,6µm,13.7s
comp=Z,7µm,15.0s
BRG Berggiesshubel 30.75 316 *i* P **P 18 14 39.8 +0.8**
BRG S **S 18 19 44.0 +2.6**
BRG pmax pmax
comp=Z,87nm,1.0s
BRG MLR MLR
comp=N,10µm,15.5s
BRG MLR MLR
comp=E,6µm,13.7s
BRG MLR MLR
comp=Z,7µm,15.0s
BRG Berggiesshubel 30.75 316 *e*P **P 18 14 38.5 -0.5**
comp=Z,118nm,1.2s,baz=111,slow=8.9
WET Wettzell 30.75 313 *e*P **P 18 14 38.4 -0.7**
comp=Z,104nm,1.0s,baz=111,slow=8.9
ZCCA Zocca 30.82 303 P **P 18 14 40.6 +0.8**
ZCCA IAMs_20 IAMs_20 18 29 17.2
comp=Z,20µm,18.0s
WTTA Wattenberg 30.99 309 *i* pP **P 18 14 41.4 0.0**
comp=Z,159nm,0.8s,SNR=120
WTTA *i* PcP **PcP 18 17 39.1 +1.8**
comp=Z,54nm,1.0s
WTTA *i* S **S 18 19 48.0 +2.3**
WTTA *i* pPKiKP **pPKiKP 18 25 15.4 +2.9**
comp=Z,24nm,1.2s
WATA Walderalm 31.05 309 *i* P **P 18 14 41.8 -0.1**
comp=Z,180nm,0.8s,SNR=104
WATA *i* PcP **PcP 18 17 38.5 +1.1**
comp=Z,38nm,0.9s
WATA *i* S **S 18 19 50.6 +4.1**
WATA *i* ScP **ScP 18 21 21.8 +2.0**
comp=Z,19nm,1.2s
WATA *i* pPKiKP **pPKiKP 18 25 15.3 +2.8**
comp=Z,17nm,1.3s
FBE Freiberg 31.11 316 *e*P **P 18 14 42.0 -0.1**
comp=Z,63nm,1.1s,baz=111,slow=8.9
VLC Villacollemand 31.20 303 P **P 18 14 43.2 0.0**
DANN Dangsing 31.24 88 *e*P **P 18 14 45.0 +1.1**
comp=Z,849nm,1.0s
SQTA Sankt Quirin 31.26 309 *i* P **P 18 14 43.1 -0.7**
comp=Z,100nm,0.5s,SNR=110
SQTA *i* PcP **PcP 18 17 39.1 +1.2**
comp=Z,52nm,1.0s
SQTA *i* S **S 18 19 54.2 +4.3**
SQTA *i* ScP **ScP 18 21 23.2 +2.7**
comp=Z,8.0nm,0.6s
KOLN Koldanda 31.27 89 *e*P **P 18 14 44.4 +0.2**
comp=Z,234nm,1.2s
PRMA PARMA 31.35 304 P **P 18 14 45.2 +0.8**
MOTA Moosalm 31.36 309 *i* P **P 18 14 43.9 -0.7**
comp=Z,72nm,0.6s,SNR=117
MOTA *i* PcP **PcP 18 17 39.4 +1.2**
comp=Z,39nm,1.1s
MOTA *i* S **S 18 19 55.0 +3.5**
MOTA *i* ScP **ScP 18 21 23.6 +2.8**
comp=Z,15nm,1.1s
MOTA *i* pPKiKP **pPKiKP 18 25 13.1 +0.3**
comp=Z,4.5nm,0.8s
SALO Salr 31.36 305 P **P 18 14 44.5 -0.1**
ROTZ Rotzenmuhle 31.38 314 *e*P **P 18 14 44.8 +0.2**
comp=Z,330nm,1.4s,baz=111,slow=8.9
NKC Novy Kostel 31.39 315 *e*P **P 18 14 45.3 +0.6**
NKC *e*S **S 18 19 50.2 -1.4**
NKC MLR MLR
comp=Z,12µm,14.1s
NKC Novy Kostel 31.39 315 *e*P **P 18 14 45.3 +0.6**
NKC *e*S **S 18 19 50.2 -1.4**
NKC AMS AMS 18 30 40.0
comp=Z,12µm,14.1s
RPR Rampur 31.42 108 *e*P **P 18 14 45.8 +0.5**
RPR IVmB_BB 18 14 49.0
comp=Z,905nm,4.0s
RPR *e*S **S 18 19 52.5 -0.1**
RPR IVMsBB 18 29 24.6
comp=Z,1µm,17.3s
TANN Tannenbergstha 31.45 315 *e*P **P 18 14 45.2 -0.1**
comp=Z,294nm,1.8s,baz=111,slow=8.9
WERN Wernitzgruen 31.45 315 *e*P **P 18 14 45.3 0.0**
comp=Z,98nm,1.2s,baz=111,slow=8.9
CLL Collm 31.46 317 *i* P **P 18 14 46.1 +0.8**
comp=Z,81nm,1.1s
CLL *i* (pP) **pP 18 14 48.1 -1.7**
comp=Z,155nm,1.1s
CLL *e*Pmax 18 14 50.0
CLL *i* 18 14 52.7
CLL *e*PP **PP 18 15 54.0 -2.3**
CLL *e*S **S 18 19 44.0 -8.6**
CLL *e* 18 20 42.0
CLL *e*PcS **PcS 18 21 22.0 -0.3**
CLL *e* 18 21 33.0
CLL *e*SSSS 18 22 18.0
CLL *e*ScS **ScS 18 25 22.0 +3.7**
CLL Lm MLR 18 29 00.0
comp=N,9µm,19.1s
CLL Lm MLR 18 29 00.0
comp=E,8µm,18.7s
CLL Lm MLR 18 29 00.0
comp=Z,10µm,19.4s
CLL Lmax 18 30 00.0
CLL Collm 31.46 317 *i* P **P 18 14 46.1 +0.8**
CLL *e*S **S 18 19 44.0 -8.6**
CLL pmax pmax
comp=Z,81nm,1.1s
CLL MLR MLR
comp=Z,10µm,19.4s
CLL Collm 31.46 317 *e*P **P 18 14 44.9 -0.4**
comp=Z,155nm,1.1s,baz=111,slow=8.9
CLL Collm 31.46 317 P **P 18 14 45.8 +0.5**

CLL IAmb IAmb 18 14 49.4
comp=Z,137nm,1.0s
FUR Furstenfeldbru 31.47 310 *e*P **P 18 14 45.0 -0.5**
comp=Z,1µm,0.9s,baz=111,slow=8.9
RUE Ruedersdorf 31.50 319 *e*P **P 18 14 46.3 +0.7**
RUE Ruedersdorf 31.50 319 *e*P **P 18 14 45.3 -0.3**
comp=Z,221nm,1.2s,baz=111,slow=8.9
GUNZ Gunzen 31.50 315 *e*P **P 18 14 45.9 +0.1**
comp=Z,62nm,0.9s,baz=111,slow=8.9
MANZ Manzenberg 31.51 314 *e*P **P 18 14 45.9 +0.1**
comp=Z,1µm,3.0s,baz=111,slow=8.9
FETA Feichten 31.53 308 *i* P **P 18 14 45.9 -0.2**
comp=Z,94nm,0.9s,SNR=114
FETA *i* PcP **PcP 18 17 39.9 +1.2**
comp=Z,15nm,0.8s
FETA *i* S **S 18 19 58.0 +3.8**
FETA *i* ScP **ScP 18 21 24.5 +3.1**
comp=Z,44nm,1.4s
WERD Werda 31.55 315 *e*P **P 18 14 45.7 -0.4**
comp=Z,22nm,1.1s,baz=111,slow=8.9
VSL Villasalto 31.58 294 P **P 18 14 46.9 +0.4**
VSL IAmb IAmb 18 14 51.0
comp=Z,125nm,1.0s
HYBB Hyderabad (bro 31.62 111 *e*P **P 18 14 48.0 +0.9**
HYBB IVmB_BB 18 14 50.8
comp=Z,1µm,2.6s
HYBB *e*S **S 18 19 57.5 +1.8**
HYBB IVMs_BB IVMs_BB 18 28 45.8
comp=Z,2µm,16.1s
HYB Hyderabad 31.62 111 *i* P **P 18 14 48.0 +0.9**
comp=Z,180nm,1.0s
HYB *e*S S 18 19 30.0 -26
HYB Hyderabad 31.62 111 *e*P **P 18 14 47.9 +0.8**
HYB IAmb IAmb 18 14 50.8
comp=Z,120nm,1.0s
RETA Reutte 31.62 309 *i* P **P 18 14 46.5 -0.3**
comp=Z,59nm,0.6s,SNR=60
RETA *i* S **S 18 19 58.3 +2.9**
RETA *i* ScP **ScP 18 21 24.5 +2.9**
comp=Z,46nm,1.4s
PLN Plauen 31.65 315 *e*P **P 18 14 46.4 -0.6**
comp=Z,37nm,1.0s,baz=111,slow=8.9
ZSN Zaisan 31.71 51 *i* P **P 18 14 48.7 +1.0**
comp=Z,405nm,4.4s,baz=51
ZSN *e*S **S 18 19 59.4 +2.6**
baz=51
ZSN LR LR 18 28 17.3
comp=Z,4µm,11.7s,baz=51
ZSN Zaisan 31.71 51 *i* P **P 18 14 48.6 +1.0**
ZSN *e*S **S 18 19 59.3 +2.6**
ZSN MLR MLR
comp=Z,4µm,12.0s
FUORN Ofenpass-Fuorn 31.75 307 P **P 18 14 48.6 +0.4**
FUORN IAmb IAmb 18 14 54.1
comp=Z,98nm,0.8s
KEST Kesra 31.78 286 P **P 18 14 48.8 +0.4**
comp=Z,69nm,1.0s,baz=359,slow=2.6,SNR=29
KEST ScP **ScP 18 21 22.9 +0.5**
comp=Z,11nm,1.0s,baz=153,slow=6.8,SNR=3.6
KEST Kesra 31.78 286 P **P 18 14 48.6 +0.2**
KEST IAmb IAmb 18 15 35.4
comp=Z,109nm,1.1s
MSSA Maissana 31.85 303 P **P 18 14 47.7 -1.2**
GRA1 Grafenberg Arr 31.95 313 P **P 18 14 49.6 -0.1**
GRF Grafenberg Arr 31.95 313 P **P 18 14 49.6 -0.1**
GRF pmax pmax
comp=Z,282nm,0.9s
GRF MLR MLR
comp=Z,8µm,20.0s
GRF Grafenberg Arr 31.95 313 *e*P **P 18 14 49.6 -0.1**
comp=Z,423nm,1.2s,baz=111,slow=8.9
GRF *e*L L 18 29 33.7
comp=Z,8µm,20.1s
MOX Moxa 32.03 315 *e*P **P 18 14 50.2 -0.1**
comp=Z,70nm,1.2s,baz=111,slow=8.9
MOX *e*L L 18 30 50.1
comp=Z,10µm,19.0s
DAVOX Davos/Dischmat 32.04 307 P **P 18 14 50.8 +0.1**
comp=Z,92nm,0.8s
DAVOX PcP **PcP 18 17 40.0 -0.1**
DAVOX ScP **ScP 18 21 24.6 +1.4**
FIA1 FINESS Array S 32.07 340 P **P 18 14 50.0 -0.5**
FIA1 IAmb IAmb 18 14 54.2
comp=Z,132nm,1.0s
FINES FINESS Array B 32.07 340 P **P 18 14 49.9 -0.6**
comp=Z,50nm,0.7s,baz=145,slow=9.9,SNR=94
FINES PKiKP **PKiKP 18 25 06.5 -0.9**
comp=Z,3.9nm,0.8s,baz=151,slow=3.2,SNR=3.4
FINES P3KPbc 18 46 18.1
comp=Z,4.7nm,1.0s,baz=289,slow=4.3,SNR=5.3
GKN Gorkha 32.08 88 *e*P **P 18 14 51.6 +0.4**
comp=Z,320nm,0.9s
URV Uravakonda 32.08 116 *e*P **P 18 14 51.1 -0.1**
URV IVmB_BB 18 14 54.4
comp=Z,819nm,4.2s
URV *e*S **S 18 20 03.4 +0.4**
URV IVMs_BB IVMs_BB 18 29 23.4
comp=Z,1µm,12.3s
UBR Ueberruh 32.10 309 *e*P **P 18 14 50.3 -0.8**
comp=Z,288nm,0.9s,baz=111,slow=8.9
TMCR Tamitsa 32.13 352 *e*P **P 18 14 49.2 -1.8**
TMCR *e*S **S 18 20 01.0 -1.8**
NEUB Neuenburg 32.14 316 *e*P **P 18 14 50.9 -0.4**
comp=Z,129nm,0.8s,baz=111,slow=8.9
DAVA Damuels 32.16 308 *i* P **P 18 14 51.0 -0.7**
comp=Z,81nm,0.5s,SNR=106
DAVA *i* PcP **PcP 18 17 42.4 +2.0**
comp=Z,53nm,1.0s
DAVA *i* S **S 18 20 05.7 +1.9**
TUE Stuetta 32.34 307 P **P 18 14 53.2 -0.1**
DMN Daman 32.59 89 *e*P **P 18 14 56.3 +0.5**
comp=Z,413nm,1.0s
SRLM Srisailam 32.64 113 *e*P **P 18 14 57.6 +1.6**
SRLM IVmB_BB 18 15 00.1
comp=Z,1µm,4.1s
SRLM *e*S **S 18 20 14.2 +2.4**
SRLM IVMs_BB IVMs_BB 18 30 03.2
comp=Z,2µm,15.4s
RGN Rugen 32.68 322 *e*P **P 18 14 56.3 +0.4**
RGN Rugen 32.68 322 *e*P **P 18 14 56.3 +0.4**
comp=Z,694nm,1.4s,baz=111,slow=8.9
KKN Kakani 32.69 88 *e*P **P 18 14 57.6 +1.0**
comp=Z,157nm,0.7s
NJS Nagarjunasagar 32.70 112 *e*P **P 18 14 57.4 +0.9**
NJS IVmB_BB 18 15 00.4
comp=Z,1µm,4.1s
NJS *e*S **S 18 20 14.3 +1.7**
NJS IVMs_BB IVMs_BB 18 29 27.3
comp=Z,2µm,14.1s
PKI Pulchoki 32.86 89 *e*P **P 18 14 58.4 +0.1**
STU Stuttgart 32.96 311 P **P 18 14 57.7 -0.8**
STU pmax pmax
comp=Z,83nm,1.1s
STU MLR MLR
comp=Z,7µm,18.0s
STU Stuttgart 32.96 311 *e*P **P 18 14 57.2 -1.3**
comp=Z,98nm,1.2s,baz=111,slow=8.9
STU Stuttgart 32.96 311 P **P 18 14 57.7 -0.8**
STU IAmb IAmb 18 15 07.6
comp=Z,83nm,1.1s
WMQ Urumqi 33.02 59 P **P 18 15 00.1 +0.9**
WMQ sP sP 18 15 07.8 +2.2
WMQ PP **PnPn 18 16 07.3 -1.2**
WMQ S **S 18 20 19.3 +2.0**
WMQ SS **SnSn 18 22 16.9 +1.5**
WMQ ScS **ScS 18 25 20.5 -6.2**
WMQ pmax pmax
comp=Z,47nm,1.9s
WMQ pmax pmax
comp=Z,740nm,5.3s
WMQ LR LR
comp=Z,14µm,18.9s
WMQ LR LR
comp=Z,6µm,19.9s
WMQ LR LR
comp=Z,12µm,24.7s
WMQ Urumqi 33.02 59 P **P 18 15 00.1 +0.9**
WMQ pmax pmax
comp=Z,55nm,0.7s
WMQ Urumqi 33.02 59 P **P 18 15 00.1 +0.9**
WMQ IAmb IAmb 18 15 11.2
comp=Z,55nm,0.7s
UBBA Unterbreizbach 33.06 315 *e*P **P 18 14 59.5 +0.3**
comp=Z,193nm,1.7s,baz=111,slow=8.9
ASSE Asse, Remlinge 33.11 317 *e*P **P 18 14 59.7 0.0**
comp=Z,66nm,1.1s,baz=111,slow=8.9

CLZ Clausthal 33.18 317 *e*P **P 18 15 00.5 +0.1**
comp=Z,269nm,0.9s,baz=111,slow=8.9
CMAH Djebel Manchou 33.25 288 P **P 18 15 01.2 0.0**
GTTG Gottingen 33.32 316 *e*P **P 18 15 01.8 +0.2**
comp=Z,132nm,1.0s,baz=111,slow=8.9
BFO Black Forest 33.41 310 P **P 18 15 02.2 -0.3**
BFO pmax pmax
comp=Z,85nm,0.9s
BFO MLR MLR
comp=Z,6µm,20.0s
BFO Black Forest 33.41 310 *e*P **P 18 15 01.5 -1.0**
comp=Z,138nm,1.2s,baz=111,slow=8.9
BFO Black Forest 33.41 310 P **P 18 15 02.2 -0.3**
BFO IAmb IAmb 18 15 10.2
comp=Z,85nm,0.9s
JIRN Jiri 33.49 88 *e*P **P 18 15 04.3 +0.5**
comp=Z,358nm,0.7s
NRDL Niedersach Rie 33.57 318 *e*P **P 18 15 04.5 +0.8**
comp=Z,232nm,1.0s,baz=111,slow=8.9
ADKI Addanki 33.63 112 *e*P **P 18 15 05.2 +0.6**
ADKI IVmBBB 18 15 09.8
ADKI *e*S **S 18 20 28.8 +1.8**
ADKI comp=Z,955nm,2.4s IVMs_BB IVMs_BB 18 30 04.0
comp=Z,1µm,14.1s
MYLAV Mylavaram 33.64 110 *e*P **P 18 15 05.2 +0.6**
MYLAV IVmBBB 18 15 08.8
comp=Z,1µm,2.7s
MYLAV *e*S **S 18 20 29.4 +2.2**
MYLAV IVMs_BB IVMs_BB 18 31 07.1
comp=Z,2µm,10.9s
CAEH 'Ain El Ouahch 33.69 289 P **P 18 15 06.5 +1.5**
SENIN Lac Senin/Sane 33.71 306 P **P 18 15 04.6 -0.7**
TNS Taunus Mts 33.82 313 *e*P **P 18 15 06.0 0.0**
comp=Z,291nm,1.7s,baz=111,slow=8.9
ZAA0 Zalesovo Array 33.82 40 P **P 18 15 05.8 -0.2**
ZAA0 IAmb IAmb 18 15 10.6
comp=Z,110nm,0.8s
ZALV Zalesovo Beam 33.82 40 P **P 18 15 05.8 -0.1**
comp=Z,114nm,0.8s,baz=256,slow=9.4,SNR=61
ZALV PcP **PcP 18 17 43.6 -1.1**
comp=Z,10.0nm,0.6s,baz=240,slow=3.7,SNR=1.6
ZALV ScP **ScP 18 21 26.3 -2.7**
comp=Z,3.2nm,0.6s,baz=243,slow=3.1,SNR=2.5
ZALV P3KPbc 18 46 13.0
comp=Z,1.3nm,0.6s,baz=80,slow=3.5,SNR=2.3
ZALV Zalesovo Beam 33.82 40 P **P 18 15 05.7 -0.3**
CKFL Kef-Lekhel 33.83 288 P **P 18 15 08.3 +1.9**
DGZ Jazzator, Alta 33.93 48*c* *i*P **P 18 15 08.3 +1.2**
DGZ pmax pmax
comp=Z,54nm,0.8s
DGZ MLR MLR
comp=Z,17µm,23.0s
BNI Bardonecchia 33.95 304 P **P 18 15 06.8 -0.6**
BNI pmax pmax
comp=Z,642nm,0.8s
BNI MLR MLR
comp=Z,6µm,22.0s
BNI Bardonecchia 33.95 304 P **P 18 15 06.8 -0.6**
BSEG Bad Segeberg 34.00 320 *e*P **P 18 15 07.9 +0.4**
comp=Z,191nm,1.1s,baz=111,slow=8.9
CASM Ain Smara 34.03 288 P **P 18 15 08.1 +0.1**
RAMN Ramite 34.06 89 *e*P **P 18 15 08.6 0.0**
comp=Z,250nm,0.8s
CTEI Djebel Teioual 34.12 287 P **P 18 15 10.7 +1.8**
ECH Echery 34.15 309 P **P 18 15 08.0 -0.9**
ECH pmax pmax
comp=Z,179nm,1.0s
ECH MLR MLR
comp=Z,4µm,20.0s
ECH Echery 34.15 309 P **P 18 15 08.0 -0.9**
PVM Polavaram 34.15 108 *e*P **P 18 15 10.4 +1.2**
PVM IVmB_BB 18 15 13.4
comp=Z,1µm,4.4s
PVM *e*S **S 18 20 36.2 +1.1**
PVM IVMsBB 18 31 14.2
comp=Z,2µm,11.7s
DFRA Djebel Bou Aff 34.49 288 P **P 18 15 12.3 +0.2**
BOK Bokaro 34.60 95 *e*P **P 18 15 12.6 -0.5**
BOK IAmb IAmb 18 15 17.0
comp=Z,38nm,0.9s
SKHT Srikalahasti 34.69 115 *e*P **P 18 15 14.2 +0.4**
SKHT IVmBBB 18 15 19.4
SKHT *e*S **S 18 20 44.4 +1.1**
SKHT IVMs_BB IVMs_BB 18 31 54.6
comp=Z,1µm,17.0s
AHRW Bad Neuenahr-A 34.76 313 *e*P **P 18 15 14.3 +0.2**
comp=Z,142nm,1.1s,baz=111,slow=8.9
ODAN Odare 34.76 89 *e*P **P 18 15 15.0 +0.3**
SKMB Sankelmark Bun 34.79 321 *e*P **P 18 15 15.2 +1.0**
comp=Z,429nm,1.3s,baz=111,slow=8.9
IBBN Ibbenburen 34.86 316 *e*P **P 18 15 15.9 +0.9**
comp=Z,349nm,1.1s,baz=111,slow=8.9
TAPN Taplejung 34.87 88 *e*P **P 18 15 16.7 +1.0**
comp=Z,1µm,1.7s
BUG Bochum--Univer 34.89 315 *e*P **P 18 15 15.6 +0.5**
comp=Z,326nm,1.7s,baz=111,slow=8.9
SET Setif 34.91 288 P **P 18 15 18.0 +2.3**
KMBO Kilima Mbogo 35.01 198 P **P 18 15 19.4 +2.6**
comp=Z,18nm,0.9s,baz=5.1,slow=8.9,SNR=23
KMBO PKP2ab 18 50 08.9
comp=Z,1.0nm,0.4s,baz=308,slow=3.0,SNR=4.5
KMBO Kilima Mbogo 35.01 198 *i*P **P 18 15 18.7 +1.9**
SNR=18
KMBO Kilima Mbogo 35.01 198 P **P 18 15 15.7 -1.1**
KMBO pmax pmax
comp=Z,43nm,1.1s
KMBO MLR MLR
comp=Z,25µm,20.0s
KMBO Kilima Mbogo 35.01 198↓ *i*P **P 18 15 18.7 +1.9**
KMBO Kilima Mbogo 35.01 198 P **P 18 15 15.7 -1.1**
KMBO Kilima Mbogo 35.01 198↓ *i*P **P 18 15 18.7 +1.9**
WLF Walferdange 35.12 311 P **P 18 15 16.7 -0.5**
WLF Walferdange 35.12 311 P **P 18 15 16.9 -0.3**
WLF pmax pmax
comp=Z,225nm,1.1s
WLF MLR MLR
comp=Z,7µm,20.0s
WLF Walferdange 35.12 311 *e*P **P 18 15 16.3 -0.9**
comp=Z,214nm,1.0s,baz=111,slow=8.9
WLF Walferdange 35.12 311 P **P 18 15 16.9 -0.3**
BHOU Houvegnez 35.37 313 P **P 18 15 18.5 -0.8**
BHOU pP **P 18 15 21.0 +1.7**
HLG Helgoland 35.42 319 *e*P **P 18 15 19.8 0.0**
comp=Z,327nm,1.0s,baz=111,slow=8.9
MEM Membach 35.43 313 pP **P 18 15 21.6 +1.7**
HFS Hagfors 35.46 331 P **P 18 15 19.5 -0.5**
comp=Z,81nm,0.7s,baz=126,slow=7.5,SNR=49
HFS ScP **ScP 18 21 36.5 +1.8**
comp=Z,4.7nm,0.6s,baz=111,slow=7.9,SNR=1.6
CHLP Challavanipeta 35.46 104 *e*P **P 18 15 20.1 -0.3**
CHLP IVmB_BB 18 15 24.4
comp=Z,2µm,2.5s
CHLP *e*S **S 18 20 55.5 +0.2**
CHLP IVMs_BB IVMs_BB 18 31 38.5
comp=Z,2µm,13.2s
SSB Saint Sauveur 35.48 304 P **P 18 15 18.8 -1.7**
SSB pmax pmax
comp=Z,86nm,0.9s
SSB MLR MLR
comp=Z,4µm,20.0s
SSB Saint Sauveur 35.48 304 P **P 18 15 18.8 -1.7**
SSB IAmb IAmb 18 15 25.2
comp=Z,86nm,0.9s
MDRS Chennai 35.51 116 *e*P **P 18 15 22.9 +1.9**
MDRS IAmb IAmb 18 15 26.1
comp=Z,97nm,1.2s
MAHO Mahon 35.52 294↑ *i*P **P 18 15 18.9 -1.8**
MAHO *i* S **S 18 20 54.7 -1.0**
GTK Tadong 35.63 88 *e*P **P 18 15 23.8 +1.8**
GTK IAmb IAmb 18 15 30.2
comp=Z,74nm,0.6s
MUD Monsted U'grnd 35.65 324 *i* P **P 18 15 23.0 +1.4**
comp=Z,281nm,1.2s
comp=Z,9µm,17.0s
MUD Monsted U'grnd 35.65 324 *i* P **P 18 15 23.0 +1.4**
MUD pmax pmax
comp=Z,280nm,1.2s
MUD MLR MLR
comp=Z,9µm,17.0s
BEBN Eben Emael 35.68 313 P **P 18 15 22.4 +0.4**
BEBN pP **P 18 15 23.8 +1.8**
BEBN x x 18 16 05.5
BCLA Clavier 35.82 312 pP **P 18 15 25.0 +1.7**
BCLA sP **pP 18 15 26.3 -1.5**

APA Apatity 35.98 351↑ *i*P **P 18 15 22.8 -1.5**
APA *i* 18 16 45.5
APA *i* S **S 18 20 59.0 -3.1**
APA pmax pmax
comp=Z,87nm,1.0s
APA MLR MLR
comp=Z,12µm,16.0s
LVZ Lovozero 36.12 352*c* *i*P **P 18 15 25.6 -0.1**
LVZ pmax pmax
comp=Z,156nm,1.7s
LVZ MLR MLR
comp=Z,14µm,17.0s
LVZ Lovozero 36.12 352 P **P 18 15 25.4 -0.3**
LVZ IAmb IAmb 18 15 38.0
comp=Z,94nm,0.9s
LVZ IAMs_20 IAMs_20 18 31 17.3
comp=Z,16µm,18.0s
BMRD Maredsous 36.13 312 pP **P 18 15 27.4 +1.6**
BMRD x x 18 16 10.2
TRD Trivandrum 36.16 125 *e*P **P 18 15 27.6 +1.1**
TRD IAmb IAmb 18 15 30.7
comp=Z,395nm,1.1s
DOU Dourbes 36.19 312 P **P 18 15 26.5 +0.1**
SNF Seneffe 36.48 312 pP **P 18 15 30.1 +1.3**
SNF x x 18 16 12.5
UCC Uccle 36.49 313 P **P 18 15 28.9 0.0**
UCC pP **P 18 15 30.8 +1.8**
UCC x x 18 16 11.3
UCC Uccle 36.49 313 P **P 18 15 28.6 -0.4**
UCC pmax pmax
comp=Z,151nm,1.1s
UCC MLR MLR
comp=Z,8µm,20.0s
UCC Uccle 36.49 313 P **P 18 15 28.6 -0.4**
UCC IAmb IAmb 18 15 35.7
comp=Z,152nm,1.1s
OSL Oslo 36.60 329 *e*P **P 18 15 29.8 +0.1**
NC602 NORSAR Array S 36.68 331 P **P 18 15 31.5 +1.1**
NC602 NORSAR Array S 36.68 331 *e*P **P 18 15 31.4 +0.9**
MBAR Mbarara 36.74 209 P **P 18 15 31.7 +0.1**
comp=Z,19nm,0.6s,baz=26,slow=6.7,SNR=29
MBAR Mbarara 36.74 209*d* *i*P **P 18 15 32.2 +0.6**
MBAR pmax pmax
comp=Z,46nm,1.0s
MBAR MLR MLR
comp=Z,16µm,16.0s
MBAR Mbarara 36.74 209 P **P 18 15 30.6 -1.0**
MBAR IAmb IAmb 18 15 37.4
comp=Z,172nm,1.6s
HOMB Homborsund 36.78 326 *e*P **P 18 15 31.7 +0.4**
NC405 NORSAR Array S 36.82 332 P **P 18 15 31.1 -0.6**
NC405 IAmb IAmb 18 15 42.9
comp=Z,186nm,1.1s
KONO Kongsberg 36.94 329⇑ *e*P **P 18 15 33.7 +1.1**
KONO pmax pmax
comp=Z,85nm,1.7s
KONO MLR MLR
comp=Z,9µm,17.0s
KONO Kongsberg 36.94 329 P **P 18 15 33.5 +0.9**
KONO Kongsberg 36.94 329 *e*P **P 18 15 33.2 +0.5**
NB201 NORSAR Array S 36.96 331 P **P 18 15 33.0 +0.1**
NB201 IAmb IAmb 18 15 42.5
comp=Z,246nm,1.5s
NB2 NORSAR Subarra 36.98 331 P **P 18 15 31.5 -1.6**
comp=Z,643nm,3.3s,baz=123,slow=9.3
NB2 NORSAR Subarra 36.98 331 P **P 18 15 31.5 -1.6**
baz=123,slow=9.3
NOA NORSAR Array B 36.98 331 P **P 18 15 31.5 -1.6**
comp=Z,13nm,0.7s,baz=123,slow=8.5,SNR=36
NOA PP **PP 18 16 57.0 -0.3**
comp=Z,16nm,0.8s,baz=128,slow=11,SNR=4.1
NOA ScP **ScP 18 21 41.3 +1.0**
comp=Z,2.0nm,0.7s,baz=108,slow=4.2,SNR=2.3
NAO01 NORSAR Array S 37.01 331 P **P 18 15 32.7 -0.6**
NC303 NORSAR Array S 37.03 332 P **P 18 15 34.0 +0.6**
NC303 IAmb IAmb 18 15 45.1
comp=Z,127nm,1.1s
LSA Lhasa 37.07 83 P **P 18 15 36.0 +1.3**
LSA S **S 18 21 17.1 -3.6**
LSA LR LR
comp=Z,34µm,16.0s
LSA LR LR
comp=Z,54µm,16.0s
LSA LR LR
comp=Z,68µm,17.4s
LSA Lhasa 37.07 83 *i* P **P 18 15 35.0 +0.2**
SNR=27
LSA Lhasa 37.07 83 P **P 18 15 35.5 +0.7**
LSA pmax pmax
comp=Z,105nm,1.1s
LSA MLR MLR
comp=Z,15µm,20.0s
LSA Lhasa 37.07 83 P **P 18 15 35.5 +0.7**
LSA IAMs_20 IAMs_20 18 32 56.8
comp=Z,15µm,20.0s
NBO00 NORSAR Array S 37.16 331 P **P 18 15 35.1 +0.6**
NBO00 IAmb IAmb 18 16 37.5
comp=Z,275nm,1.8s
TCF Toulx Ste Croi 37.20 305 *e*P **P 18 15 34.9 -0.2**
TCF pmax pmax
comp=Z,165nm,1.0s
CAF Calviac 37.20 303 *e*P **P 18 15 34.8 -0.3**
CAF pmax pmax
comp=Z,81nm,1.1s
NC204 NORSAR Array S 37.30 331 P **P 18 15 34.9 -0.9**
NC204 IAmb IAmb 18 15 57.2
comp=Z,317nm,1.9s
CLF Chambon-Foret 37.35 308 P **P 18 15 35.5 -0.8**
CLF IAmb IAmb 18 15 42.2
comp=Z,284nm,1.3s
RJF Les Rejaudoux 37.61 303 *e*P **P 18 15 38.5 -0.1**
RJF pmax pmax
comp=Z,201nm,1.2s
MSEY Mahe Island 37.82 167 P **P 18 15 40.3 -0.3**
MSEY pmax pmax
comp=Z,424nm,1.9s
MSEY MLR MLR
comp=Z,8µm,21.0s
MSEY Mahe Island 37.82 167 P **P 18 15 40.2 -0.3**
MSEY IAmb IAmb 18 15 43.9
comp=Z,424nm,1.9s
SKAR Skarslia 38.01 329 *e*P **P 18 15 42.9 +1.0**
BLS5 Blasjo 38.25 327 *e*P **P 18 15 44.4 +0.6**
ODD1 Odda 38.39 328 *e*P P 18 15 50.6 +5.6
DOMB Dombas 38.40 332 *e*P **P 18 15 47.0 +2.0**
TAM Tamanrasset 38.42 266 P **P 18 15 46.2 +0.4**
TAM pmax pmax
comp=Z,232nm,1.4s
TAM MLR MLR
comp=Z,13µm,18.0s
TAM Tamanrasset 38.42 266 P **P 18 15 46.2 +0.4**
TAM IAmb IAmb 18 15 54.0
comp=Z,232nm,1.4s
TAM IAMs_20 IAMs_20 18 34 11.1
comp=Z,13µm,18.0s
TBLU Trondheim 38.60 334 *e*P **P 18 15 47.1 +0.4**
GUWA GUWAHATI 38.61 88 *e*P **P 18 15 47.3 +0.1**
GUWA IAmb IAmb 18 15 49.4
comp=Z,91nm,1.1s
NSS Namsos 38.75 336 *e*P **P 18 15 47.6 -0.3**
KRAR Krasnoyarsk 38.90 39*ce*P **P 18 15 48.1 -1.1**
KEV Kevo 38.95 349 P **P 18 15 49.0 -0.4**
KEV pmax pmax
comp=Z,147nm,1.4s
KEV MLR MLR
comp=Z,10µm,19.0s
KEV Kevo 38.95 349 P **P 18 15 49.0 -0.4**
KEV IAMs_20 IAMs_20 18 33 39.8
comp=Z,10µm,19.0s
SHL Shillong 38.99 89 *e*P **P 18 15 49.7 -1.0**
SHL *i* P **pP 18 15 52.0 -3.2**
SHL IAmb IAmb 18 15 52.1
comp=Z,127nm,1.1s
SHL *i* S **S 18 21 49.0 -0.3**
SHL Shillong 38.99 89 P **P 18 15 49.9 -0.7**
SHL pmax pmax
comp=Z,681nm,1.7s
SHL MLR MLR
comp=Z,19µm,20.0s
SHL Shillong 38.99 89 P **P 18 15 49.9 -0.7**
ARCES ARCESS Array B 39.01 348 P **P 18 15 49.5 -0.5**
comp=Z,30nm,0.7s,baz=160,slow=8.1,SNR=64
ARCES PP **PP 18 17 19.3 -0.1**
comp=Z,26nm,0.8s,baz=146,slow=8.8,SNR=5.6
ARCES PcP **PcP 18 18 00.3 +0.3**

comp=Z,36nm,0.9s,baz=148,slow=4.3,SNR=2.5
ARCES ScP **ScP** **18 21 48.0 +0.1**
comp=Z,4.5nm,0.6s,baz=145,slow=3.3,SNR=8.3
ARE0 ARCESS Array S 39.01 348 P **P** **18 15 50.2 +0.2**
ARE0 ARCESS Array S 39.01 348 *e*P **P** **18 15 50.2 +0.2**
KOND Kondoa 39.02 199 *e*P **P** **18 15 52.0 +1.2**
MOR8 Moi Rana 39.02 339 *e*P **P** **18 15 49.1 -1.1**
OJBR Djebel Berber 39.06 288 P **P** **18 15 54.0 +3.0**
HYA Hoyanger 39.15 329 *e*P **P** **18 15 54.0 +2.8**
BER Bergen 39.18 328 *e*P **P** **18 15 52.1 +0.6**
SINGT Singida 39.23 201 *e*P **P** **18 15 52.4 -0.2**
FLN La Foliniere 39.25 309 *e*P **P** **18 15 50.6 -1.7**
FLN pmax pmax
comp=Z,125nm,0.8s
MOL Molde 39.28 332 *e*P **P** **18 15 53.6 +1.3**
ASK Askoy 39.28 328 *e*P **P** **18 15 49.3 -3.1**
AKN Aaknes 39.30 331 *e*P **P** **18 15 54.7 +2.2**
TEZP TEZPUR 39.40 87 *e*P **P** **18 15 53.1 -0.7**
TEZP IAmb IAmb 18 15 58.3
comp=Z,54nm,1.1s
ODJA Bouhanifia 39.50 288 P **P** **18 15 58.0 +3.4**
N2ST Straumen 39.52 341 *e*P **P** **18 15 53.3 -0.9**
STOK Stokkvaagen 39.56 339 *e*P **P** **18 15 54.1 -0.5**
KONS Konsvik 39.64 339 *e*P **P** **18 15 55.1 -0.2**
PALK Pallekele 39.66 122 P **P** **18 15 55.9 -0.2**
comp=Z,47nm,0.9s,baz=60,slow=11,SNR=18
PALK Pallekele 39.66 122⇑ *e*P **P** **18 15 57.2 +1.1**
PALK pmax pmax
comp=Z,262nm,2.2s
PALK Pallekele 39.66 122 P **P** **18 15 57.1 +1.1**
NBB28 Valnes 39.72 340 *e*P **P** **18 15 56.8 +0.9**
NBB05 Inndyr 39.74 340 *e*P **P** **18 15 55.6 -0.4**
NBB30 Finnes 39.78 340 *e*P **P** **18 15 54.8 -1.6**
N2TV TYrnvik 39.80 341 *e*P **P** **18 15 55.6 -0.9**
NBB08 Skaug oppvekst 39.81 341 *e*P **P** **18 15 55.0 -1.6**
CART Cartagena 39.83 291⇑ *i*P **P** **18 15 56.1 -1.1**
CART *i* S **S** **18 22 00.7 -0.4**
FOO Floro 39.84 330 *e*P **P** **18 15 57.9 +0.9**
N2IH Innhavet 39.87 342 *e*P **P** **18 15 57.1 -0.1**
ZIRO ZIRO 39.99 85 *e*P **P** **18 15 59.3 +0.4**
ZIRO IAmb IAmb 18 16 02.1
comp=Z,58nm,0.7s
ITAN ITANAGAR 40.00 85 *e*P **P** **18 16 00.3 +1.5**
ITAN IAmb IAmb 18 16 02.5
comp=Z,145nm,0.9s
STEI Steigen 40.02 342 *e*P **P** **18 15 58.3 -0.2**
HAMF Hammerfest 40.29 348 *e*P **P** **18 16 00.7 +0.1**
CWF Charnwood Fore 40.33 315 *e*P **P** **18 16 00.4 -0.9**
CWF IAMs_20 IAMs_20 18 39 45.5
comp=Z,6µm,15.3s
GDLE Glaisdale, N Y 40.37 317 *e*P **P** **18 16 01.6 0.0**
GDLE IAmb IAmb 18 16 03.8
comp=Z,324nm,0.9s
GDLE IAMs_20 IAMs_20 18 35 34.2
comp=Z,10µm,23.1s
JSA Saint Aubin 40.40 309 *e*P **P** **18 16 01.0 -0.8**
JSA IAmb IAmb 18 16 04.4
comp=Z,160nm,0.8s
JSA IAMs_20 IAMs_20 18 37 10.3
comp=Z,7µm,14.7s
TRO Tromso 40.40 345 *e*P **P** **18 16 01.3 -0.3**
N2VA Vr_y 40.54 340 *e*P **P** **18 16 00.4 -2.3**
N2VI Vinje 40.58 342 *e*P **P** **18 16 01.1 -1.9**
JORH JORHAT 40.58 86 *e*P **P** **18 16 05.2 +1.6**
JORH IAmb IAmb 18 16 08.6
comp=Z,181nm,0.6s
N2RO R_st 40.61 340 *e*P **P** **18 16 01.7 -1.6**
LOF Lofoten 40.62 341 *e*P **P** **18 16 02.8 -0.7**
LBWR Ladybower, Pea 40.70 316 *e*P **P** **18 16 03.8 -0.4**
LBWR IAmb IAmb 18 16 07.0
comp=Z,198nm,0.8s
LBWR IAMs_20 IAMs_20 18 37 00.5
comp=Z,9µm,18.3s
STRD Stroud 40.70 313 *e*P **P** **18 16 04.0 -0.3**
STRD IAmb IAmb 18 16 07.8
comp=Z,275nm,0.8s
HPK Haverah Park 40.74 317 *e*P **P** **18 16 04.6 0.0**
HPK IAMs_20 IAMs_20 18 36 48.7
comp=Z,12µm,17.7s
ROSF Rostrenen 41.07 308 *e*P **P** **18 16 06.6 -0.8**
ROSF pmax pmax
comp=Z,221nm,1.0s
EDMD Edmundbyers 41.11 318 *e*P **P** **18 16 07.1 -0.5**
EDMD IAMs_20 IAMs_20 18 36 17.1
comp=Z,12µm,19.3s
UCM Universidad Co 41.23 296⇑ *i*P **P** **18 16 09.1 +0.2**
UCM *i* S **S** **18 22 23.0 +0.8**
MCH1 Michaelchurch 41.24 313 *e*P **P** **18 16 07.7 -1.1**
MCH1 IAmb IAmb 18 16 12.0
comp=Z,254nm,0.8s
HLM1 Long Mynd 41.24 314 *e*P **P** **18 16 08.5 -0.3**
HLM1 IAmb IAmb 18 16 12.3
comp=Z,168nm,0.8s
HLM1 IAMs_20 IAMs_20 18 38 14.8
comp=Z,6µm,15.6s
FOEL Foel Wylfa 41.49 315 *e*P **P** **18 16 11.5 +0.7**
FOEL IAmb IAmb 18 16 16.9
comp=Z,328nm,1.0s
FOEL IAMs_20 IAMs_20 18 37 49.8
comp=Z,8µm,15.4s
ESY Stoneypath 41.70 319 *e*P **P** **18 16 12.0 -0.5**
KESW Keswick, Cumbr 41.71 317 *e*P **P** **18 16 12.4 -0.2**
KESW IAmb IAmb 18 16 14.9
comp=Z,304nm,0.8s
KESW IAMs_20 IAMs_20 18 38 00.9
comp=Z,11µm,17.6s
LKP Lekhapani 41.73 84 *e*P **P** **18 16 13.3 +0.3**
LKP IAmb IAmb 18 16 16.6
comp=Z,180nm,0.9s
MELI Melilla 41.75 288⇑ *i*P **P** **18 16 13.5 +0.4**
MELI *e*S **S** **18 22 30.4 +0.6**
LLW Llanuwchllyn 41.76 315 *e*P **P** **18 16 12.9 -0.1**
LLW IAmb IAmb 18 16 18.8
comp=Z,56nm,0.8s
ESBB Sonseca Array 41.85 295 P **P** **18 16 14.2 +0.2**
ESBB IAmb IAmb 18 16 18.4
comp=Z,120nm,1.1s
ESDC Sonseca Array 41.85 295 P **P** **18 16 14.2 +0.1**
comp=Z,87nm,1.0s,baz=73,slow=8.0,SNR=85
ESDC Sonseca Array 41.85 295 P **P** **18 16 12.6 -1.4**
EKA Eskdalemuir Ar 41.89 318 P **P** **18 16 13.1 -0.9**
comp=Z,52nm,0.5s,baz=102,slow=8.6,SNR=79
EKA PP **PP** **18 17 50.4 -0.3**
comp=Z,26nm,1.0s,baz=112,slow=7.0,SNR=1.6
EKA PcP **PcP** **18 18 08.6 -0.9**
comp=Z,13nm,0.8s,baz=102,slow=6.0,SNR=1.7
EKA ScP **ScP** **18 22 00.3 +0.9**
comp=Z,8.3nm,0.9s,baz=104,slow=7.0,SNR=4.4
GUD Guadarrama 41.89 296 P **P** **18 16 15.5 +1.1**
GUD pmax pmax
comp=Z,157nm,1.2s
ESK Eskdalemuir 41.91 318 *e*P **P** **18 16 13.7 -0.4**
ESK IAmb IAmb 18 16 15.5
comp=Z,73nm,0.9s
ESK IAMs_20 IAMs_20 18 37 09.9
comp=Z,15µm,19.3s
ESK Eskdalemuir 41.91 318 P **P** **18 16 13.6 -0.6**
ESK pmax pmax
comp=Z,84nm,0.9s
ESK MLR MLR
comp=Z,12µm,20.0s
ESK Eskdalemuir 41.91 318 P **P** **18 16 13.6 -0.6**
ESK Eskdalemuir 41.91 318 IAMs_20 IAMs_20 18 36 54.6
comp=Z,12µm,20.0s
EBL Broad Law 41.91 319 *e*P **P** **18 16 13.8 -0.4**
EDI Edinburgh 42.02 319 *e*P **P** **18 16 14.5 -0.6**
EDI IAMs_20 IAMs_20 18 37 11.5
comp=Z,8µm,23.3s
YLL Llanberis 42.11 315 *e*P **P** **18 16 15.0 -0.8**
PAB San Pablo 42.17 295 P **P** **18 16 16.6 0.0**
PAB pmax pmax
comp=Z,147nm,1.2s
PAB MLR MLR
comp=Z,3µm,20.0s
PAB San Pablo 42.17 295 P **P** **18 16 16.6 0.0**
PAB IAmb IAmb 18 16 20.9
comp=Z,147nm,1.2s
GTA Gaotai 42.17 66 ⇑P **P** **18 16 17.3 +0.6**
GTA pP pP 18 16 21.6 +0.3
GTA sP sP 18 16 24.1 +0.9
GTA ScP **ScP** **18 22 01.0 0.0**
GTA S **S** **18 22 38.9 +2.5**
GTA sS sS 18 22 45.8 +1.8
GTA SS **SS** **18 25 41.8 -2.4**
GTA ScS **ScS** **18 26 16.8 -2.1**
GTA pmax pmax
comp=Z,55nm,1.4s
GTA pmax pmax
comp=Z,2µm,4.8s
GTA LR LR
comp=Z,15µm,21.3s
GTA LR LR
comp=Z,9µm,20.6s
GTA LR LR
comp=Z,8µm,19.7s
WME Myndd Eilian 42.22 315 *e*P **P** **18 16 17.1 +0.4**
WLF1 Llynfaes 42.26 315 *e*P **P** **18 16 16.8 -0.2**
WLF1 IAMs_20 IAMs_20 18 37 50.3
comp=Z,13µm,18.1s
RSBS Rosebush, Pemb 42.31 313 *e*P **P** **18 16 17.0 -0.5**
RSBS IAmb IAmb 18 16 20.4
comp=Z,199nm,1.1s
WPS Cemaes, Angles 42.34 315 *e*P **P** **18 16 17.7 +0.1**
WPS IAmb IAmb 18 16 24.7
comp=Z,177nm,0.9s
WPS IAMs_20 IAMs_20 18 37 50.9
comp=Z,8µm,18.5s
YRC Rhoscolyn 42.36 315 *e*P **P** **18 16 17.7 -0.1**
ELO Logie Almond 42.42 320 *e*P **P** **18 16 17.5 -0.9**
MCD Coleburn Disti 42.42 322 *e*P **P** **18 16 18.2 -0.1**
NEWG New Galloway 42.45 318 *e*P **P** **18 16 18.5 -0.1**
NEWG IAMs_20 IAMs_20 18 37 46.9
comp=Z,11µm,20.4s
CCA1 Carnmenellis 42.46 311 *e*P **P** **18 16 18.9 +0.1**
CCA1 IAmb IAmb 18 16 22.2
comp=Z,561nm,1.7s
CCA1 IAMs_20 IAMs_20 18 35 44.0
comp=Z,5µm,21.3s
IOMK Kirk Michael 42.50 317 *e*P **P** **18 16 18.7 -0.3**
IOMK IAmb IAmb 18 16 20.8
comp=Z,332nm,0.8s
IOMK IAMs_20 IAMs_20 18 38 26.9
comp=Z,16µm,15.9s
WIM Isle of Man 42.55 316 *e*P **P** **18 16 19.7 +0.3**
INVG Invergeldie, C 42.59 320 *e*P **P** **18 16 19.2 -0.5**
INVG IAmb IAmb 18 16 21.9
comp=Z,169nm,0.8s
EMAL Malaga-Limoner 42.66 291⇑ *i*P **P** **18 16 20.0 -0.6**
EMAL *i* S **S** **18 22 42.4 -0.8**
GAL1 Galloway 42.68 317 *e*P **P** **18 16 20.1 -0.4**
GAL1 IAmb IAmb 18 16 24.4
comp=Z,140nm,0.7s
GAL1 IAMs_20 IAMs_20 18 37 55.6
comp=Z,9µm,16.8s
EAB Aberfoyle 42.71 319 *e*P **P** **18 16 20.4 -0.3**
PGBU Glenifferbraes 42.72 319 *e*P **P** **18 16 20.8 0.0**
PGBU IAmb IAmb 18 16 22.6
comp=Z,127nm,0.8s
PGBU IAMs_20 IAMs_20 18 37 43.5
comp=Z,12µm,20.1s
MOY Mondy 42.76 47 *e*P **P** **18 16 22.9 +1.6**
MOY pmax pmax
comp=Z,310nm,2.1s
PVLZ Pæn de 42.87 288⇑ *i*P **P** **18 16 21.3 -0.9**
PVLZ *e*S **S** **18 22 45.4 -0.9**
NRIK Noril'sk 42.97 19 P **P** **18 16 22.8 +0.2**
comp=Z,18nm,0.6s,baz=233,slow=8.2,SNR=52
NRIK Noril'sk 42.97 19 *i*P **P** **18 16 23.8 +1.2**
NRIK MLR MLR
comp=Z,18µm,18.4s
LAWE Loch Awe, Argy 43.30 319 *e*P **P** **18 16 25.2 -0.2**
LAWE IAMs_20 IAMs_20 18 38 02.5
comp=Z,8µm,19.5s
GMM Mts of Mourne 43.30 316 *e*P **P** **18 16 25.0 -0.5**
REAL Reales 43.33 290 *e*P **P** **18 16 25.5 -0.6**
DSB Dublin 43.44 315 P **P** **18 16 26.2 -0.4**
KAC Achnashellach 43.48 321 *e*P **P** **18 16 26.4 -0.5**
CLGH Cloghs, Cushen 43.51 318 *e*P **P** **18 16 27.2 0.0**
CLGH IAmb IAmb 18 16 30.8
comp=Z,306nm,1.1s
CLGH IAMs_20 IAMs_20 18 38 19.2
comp=Z,9µm,19.5s
CEU Ceuta 43.57 290⇑ *i*P **P** **18 16 25.8 -2.1**
CEU *i* S **S** **18 22 51.2 -5.5**
MDT Midelt 43.66 285 P **P** **18 16 29.0 +0.2**
comp=Z,40nm,1.0s,baz=77,slow=9.9,SNR=28
ALJ Aljibe 43.67 291 *e*P **P** **18 16 28.2 -0.5**
PBRG Braganca 43.71 298 *e*P **P** **18 16 27.5 -1.5**
comp=Z,367nm,1.6s
MVO Moncorvo 43.99 297⇑ *e*P **P** **18 16 31.0 -0.4**
comp=Z,291nm,1.4s
MVO *i* LQ LQ 18 17 14.3
MVO *e*S **S** **18 23 01.9 -1.0**
MVO A A 18 41 23.4
comp=Z,4µm,18.0s
CNIL Conil 44.02 290 *e*P **P** **18 16 29.5 -2.0**
SFS San Fernando 44.12 291 P **P** **18 16 32.5 +0.2**
SFS pmax pmax
comp=Z,176nm,0.8s
SFS MLR MLR
comp=Z,2µm,20.0s
SFS San Fernando 44.12 291 *i*P **P** **18 16 30.6 -1.7**
SFS *i* S **S** **18 23 02.8 -1.9**
SFS San Fernando 44.12 291 P **P** **18 16 32.5 +0.2**
ZAK Zakamensk 44.12 49 *e*P **P** **18 16 33.4 +1.1**
ZAK pmax pmax
comp=Z,64nm,1.6s
BJO1 Bjornoya 44.29 349 *e*P **P** **18 16 34.1 +1.0**
TLY Talaya 44.41 47 P **P** **18 16 34.4 0.0**
comp=Z,13nm,0.7s,baz=259,slow=8.3,SNR=31
TLY Talaya 44.41 47*c* *i*P **P** **18 16 35.6 +1.1**
TLY *e*S **S** **18 23 11.5 +3.0**
TLY *e*SS **ScS** **18 26 31.3 -0.8**
TLY pmax pmax
comp=Z,180nm,1.4s
TLY MLR MLR
comp=Z,10µm,10.0s
TLY Talaya 44.41 47 P **P** **18 16 36.0 +1.5**
TLY IAmb IAmb 18 16 38.6
comp=Z,180nm,1.8s
TLY IAMs_20 IAMs_20 18 36 15.1
comp=Z,12µm,21.0s
MTE Manteigas 44.48 296⇑ *e*P **P** **18 16 34.3 -1.0**
comp=Z,405nm,1.5s
MTE *i* LQ LQ 18 17 18.8
MTE *e*S **S** **18 23 10.2 +0.1**
MTE A A 18 41 34.8
comp=Z,4µm,20.0s
MTE Manteigas 44.48 296 P **P** **18 16 35.3 0.0**
PVRL Vila Real 44.49 298 *e*P **P** **18 16 36.9 +1.6**
comp=Z,446nm,1.7s
PVRL *i* LQ LQ 18 17 18.2
PMRV Marv??o 44.51 295⇑ *e*P **P** **18 16 34.1 -1.4**
comp=Z,159nm,1.6s
PMRV *e*S **S** **18 23 09.3 -1.1**
PMRV A A 18 40 39.3
comp=Z,3µm,18.0s
PCBR Castelo Branco 44.52 296 *e*P **P** **18 16 36.2 +0.7**
comp=Z,481nm,1.2s
PCBR *i* LQ LQ 18 17 18.5
PCAB Cabril 44.67 298 *e*P **P** **18 16 38.6 +1.9**
comp=Z,430nm,1.5s
PCAB *i* LQ LQ 18 17 19.2
PVIS Viseu 44.70 297 *e*P **P** **18 16 39.2 +2.2**
comp=Z,431nm,1.7s
PVIS *i* LQ LQ 18 17 20.4
PGAV Gavieira, Arco 44.82 299⇑ *e*P **P** **18 16 37.1 -0.9**
comp=Z,780nm,1.3s
PGAV *i* LQ LQ 18 17 21.0
PGAV *e*S **S** **18 23 15.9 +0.9**
PGAV A A 18 39 21.0
comp=Z,3µm,20.0s
IRK Irkutsk 44.82 47 *e*P **P** **18 16 38.1 +0.3**
IRK pmax pmax
comp=Z,398nm,1.7s
PBEJ Beja 45.12 293 *e*P **P** **18 16 41.3 +1.0**
comp=Z,290nm,1.2s
PBEJ *i* LQ LQ 18 17 22.9
PVAQ Vaqueiros 45.12 292⇑ *e*P **P** **18 16 39.6 -0.7**
comp=Z,237nm,1.3s
PVAQ *i* LQ LQ 18 17 23.7
PVAQ *e*S **S** **18 23 17.4 -1.8**
PVAQ A A 18 43 13.6
comp=Z,2µm,18.0s
PVAQ Vaqueiros 45.12 292 P **P** **18 16 40.8 +0.5**
PVAQ IAmb IAmb 18 16 44.0
comp=Z,142nm,0.9s
EVO Evora 45.14 294⇑ *i*P **P** **18 16 40.1 -0.4**
EVO *i* S **S** **18 23 18.9 -0.6**
EVO Evora 45.14 294⇑ *e*P **P** **18 16 40.0 -0.4**
comp=Z,145nm,1.5s
COI Coimbra 45.17 296 P **P** **18 16 41.6 +0.9**
COI pmax pmax
comp=Z,273nm,0.9s
COI MLR MLR
comp=Z,2µm,19.0s
COI Coimbra 45.17 296 *e*P **P** **18 16 41.2 +0.5**
comp=Z,385nm,1.8s
COI Coimbra 45.17 296 P **P** **18 16 41.6 +0.9**
PMTG Montargil 45.21 295⇑ *e*P **P** **18 16 39.1 -1.9**
comp=Z,171nm,1.3s
HOPEN Hopen 45.23 353 *e*P **P** **18 16 41.4 +0.8**
PBDV Barranco-do-Ve 45.32 292⇑ *e*P **P** **18 16 41.7 -0.2**
comp=Z,221nm,1.3s
PCVE Castro Verde 45.33 293 *e*P **P** **18 16 40.6 -1.4**
comp=Z,168nm,1.1s
DGPR DIGLIPUR 45.51 104 *e*P **P** **18 16 44.5 +0.9**
DGPR IAmb IAmb 18 16 48.6
comp=Z,161nm,0.5s
PSBE So Bento 45.57 295⇑ *e*P **P** **18 16 43.8 -0.1**
comp=Z,246nm,1.8s
PSBE *i* LQ LQ 18 17 27.3
PNCL Nicolau / Gran 45.62 293⇑ *e*P **P** **18 16 43.1 -1.1**
comp=Z,203nm,1.4s
PNCL *i* LQ LQ 18 17 27.4
AVE Averroes 45.81 287⇑ *i*P **P** **18 16 45.5 -0.3**
AVE *i* S **S** **18 23 28.8 -0.5**
MORF Marmelete 45.87 292 *e*P **P** **18 16 46.1 -0.2**
MORF AMb AMB 18 16 51.0
comp=Z,147nm,2.2s
MORF *e*S **S** **18 23 31.4 +1.3**
MORF Marmelete 45.87 292 *e*P **P** **18 16 46.2 -0.2**
comp=Z,146nm,1.7s
PTEO Sao Teotonio 45.88 293 *e*P **P** **18 16 47.7 +1.4**
comp=Z,251nm,1.2s
LZH Lanzhou 45.91 69 *e*P **P** **18 16 48.1 +1.3**
LZH pP sP 18 16 53.5 +0.3
LZH sP pP 18 16 56.6 +5.2
LZH pmax pmax
comp=Z,130nm,1.4s
LZH pmax pmax
comp=Z,1µm,6.0s
LZH LR LR
comp=Z,11µm,17.6s
LZH LR LR
comp=Z,11µm,19.0s
LIS Lisbon 45.98 294 *e*P **P** **18 16 47.1 0.0**
LIS AMb AMB 18 16 52.1
comp=Z,378nm,1.6s
LIS *e*S **S** **18 23 32.8 +1.2**
LIS Lisbon 45.98 294 *e*P **P** **18 16 47.4 +0.3**
comp=Z,380nm,1.5s
LIS *i* LQ LQ 18 17 30.5
PMAFR Mafra 46.04 295⇑ *e*P **P** **18 16 47.8 +0.2**
comp=Z,452nm,1.7s
PFVI Vila Bisbo 46.04 292⇑ *e*P **P** **18 16 46.7 -0.9**
comp=Z,258nm,1.6s
PFVI Vila Bisbo 46.04 292 P **P** **18 16 47.0 -0.6**
SONM Songino Array 46.19 53 P **P** **18 16 48.9 +0.1**
comp=Z,17nm,1.0s,baz=270,slow=7.4,SNR=61
SONM ScP **ScP** **18 22 16.6 -0.7**
comp=Z,4.7nm,0.9s,baz=305,slow=5.2,SNR=4.4
SONM Songino Array 46.19 53 P **P** **18 16 49.0 +0.1**
SONM pmax pmax
comp=Z,38nm,1.1s
SONM Songino Array 46.19 53 P **P** **18 16 49.0 +0.1**
PBA Port Blair 46.20 106 *e*P P 18 16 49.9 +0.9
PBA IAmb IAmb 18 16 52.4
comp=Z,179nm,1.4s
PBA Port Blair 46.20 106 P P 18 16 51.3 +2.3
SNR=8.3
PBA Port Blair 46.20 106 P P 18 16 49.7 +0.6
TOC2 Torodi Ar. Sit 46.20 256 IAMs_20 IAMs_20 18 38 07.2
comp=Z,10µm,21.0s
TOC3 Torodi Ar. Sit 46.21 256 IAMs_20 IAMs_20 18 38 15.4
comp=Z,12µm,18.0s
TOB1 Torodi Ar. Sit 46.22 256 IAMs_20 IAMs_20 18 38 56.7
comp=Z,11µm,18.0s
TOA2 Torodi Ar. Sit 46.22 256 IAMs_20 IAMs_20 18 38 56.7
comp=Z,12µm,18.0s
TOB3 Torodi Ar. Sit 46.22 256 IAMs_20 IAMs_20 18 38 56.8
comp=Z,12µm,18.0s
TOA0 Torodi Ar. Sit 46.22 256 P **P** **18 16 48.2 -1.0**
SNR=39
TOA0 Torodi Ar. Sit 46.22 256 P **P** **18 16 48.1 -1.2**
TOA0 IAMs_20 IAMs_20 18 38 56.8
comp=Z,12µm,18.0s
TORD Torodi Ar. Bea 46.22 256 P **P** **18 16 48.0 -1.2**
comp=Z,23nm,0.9s,baz=51,slow=9.1,SNR=42
TORD Torodi Ar. Bea 46.22 256 P **P** **18 16 47.6 -1.7**
TOA3 Torodi Ar. Sit 46.23 256 IAMs_20 IAMs_20 18 38 57.0
comp=Z,12µm,18.0s
TOC7 Torodi Ar. Sit 46.23 256 IAMs_20 IAMs_20 18 38 48.0
comp=Z,10µm,18.0s
TOB5 Torodi Ar. Sit 46.23 256 IAMs_20 IAMs_20 18 38 17.1
comp=Z,11µm,18.0s
TOC4 Torodi Ar. Sit 46.23 256 IAMs_20 IAMs_20 18 38 17.1
comp=Z,10µm,18.0s
TOB4 Torodi Ar. Sit 46.24 256 IAMs_20 IAMs_20 18 38 16.2
comp=Z,10µm,18.0s
TOC5 Torodi Ar. Sit 46.25 256 IAMs_20 IAMs_20 18 38 47.5
comp=Z,12µm,19.0s
ULN Ulaanbaatar 46.63 53*c* *i*P **P** **18 16 53.2 +0.9**
ULN pmax pmax
comp=Z,171nm,1.7s
ULN MLR MLR
comp=Z,14µm,22.0s
ULN Ulaanbaatar 46.63 53 P **P** **18 16 53.0 +0.7**
ULN Ulaanbaatar 46.63 53 IAMs_20 IAMs_20 18 38 06.1
comp=Z,14µm,22.0s
HSPB Hornsund (broa 46.82 350 *e*P **P** **18 16 54.0 +0.9**
HSPB *e*pP **pP** **18 16 56.9 -1.0**
HSPB *e*PP **PP** **18 18 42.6 -0.5**
HSPB *e*S **S** **18 23 46.8 +4.1**
HSPB Hornsund (broa 46.82 350 *e*P pP 18 16 56.1 -1.8
CD2 Chengdu 47.18 76 P **P** **18 16 57.0 +0.3**
CD2 sP sP 18 17 04.0 +0.8
CD2 PP **PP** **18 18 50.3 +2.7**
CD2 S **S** **18 23 48.9 -0.2**
CD2 sS pS 18 23 54.4 -0.2
CD2 ScS **ScS** **18 26 48.8 -2.0**
CD2 pmax pmax
comp=Z,160nm,0.9s
CD2 pmax pmax
comp=Z,1µm,4.5s
CD2 LR LR
comp=Z,15µm,20.6s
CD2 LR LR
comp=Z,17µm,21.1s
SPA0 Spitsbergen Ar 47.65 352 P **P** **18 17 00.7 +1.0**
SPA0 Spitsbergen Ar 47.65 352 *e*P **P** **18 17 00.7 +1.0**
SPITS Spitsbergen Ar 47.65 352 P **P** **18 16 59.5 -0.2**
comp=Z,14nm,0.5s,baz=139,slow=13,SNR=26
CHTO Chiang Mai 47.72 94 P **P** **18 17 00.2 -0.7**
CHTO pmax pmax
comp=Z,96nm,1.1s
CHTO MLR MLR
comp=Z,4µm,20.0s
CHTO Chiang Mai 47.72 94 P **P** **18 17 00.2 -0.7**
CHTO IAmb IAmb 18 17 03.5
comp=Z,96nm,1.1s
CM31 Chiang Mai Arr 47.88 94 P **P** **18 17 02.7 +0.5**
SNR=44
CM31 P **P** **18 17 02.7 +0.5**
SNR=44
CM31 Chiang Mai Arr 47.88 94 P **P** **18 17 01.8 -0.4**
CM31 IAmb IAmb 18 17 05.2
comp=Z,88nm,1.1s
CMAR Chiang Mai Arr 47.88 94 P **P** **18 17 01.9 -0.2**
comp=Z,47nm,1.0s,baz=292,slow=8.1,SNR=80
CMAR ScP **ScP** **18 22 25.0 +0.3**
comp=Z,11nm,1.0s,baz=292,slow=5.2,SNR=3.7
CMAR Chiang Mai Arr 47.88 94 P **P** **18 17 02.0 -0.2**
CMAR Chiang Mai Arr 47.88 94 P **P** **18 17 01.4 -0.8**
KMI Kunming 48.30 84⇓ P **P** **18 17 05.6 0.0**
KMI sP pP 18 17 10.6 +0.3
KMI PcP **PcP** **18 18 35.6 +3.2**
KMI PP **PP** **18 18 59.3 +1.3**
KMI ScP **ScP** **18 22 27.3 +0.6**
KMI S **S** **18 24 02.6 -2.8**
KMI sS pS 18 24 10.5 -0.4
KMI ScS **ScS** **18 26 58.0 -0.7**
KMI SS **SS** **18 27 34.0 -0.8**
KMI pmax pmax

comp=Z,130nm,1.3s
KMI pmax pmax
comp=Z,2μm,4.0s
KMI LR LR
comp=Z,10μm,20.1s
KMI LR LR
comp=Z,5μm,19.2s
KMI LR LR
comp=Z,6μm,16.3s
KMI Kunming 48.30 84 P **P 18 17 05.2 -0.4**
KMI pmax pmax
comp=Z,153nm,1.1s
KMI MLR MLR
comp=Z,6μm,19.0s
KMI Kunming 48.30 84 P **P 18 17 05.2 -0.4**
KBS Kingsbay 48.79 351 *ce*P **P 18 17 08.7 +0.3**
KBS pmax pmax
comp=Z,130nm,2.5s
KBS MLR MLR
comp=Z,10μm,16.0s
KBS Kingsbay 48.79 351 P **P 18 17 09.7 +1.2**
KBS IAmb IAmb 18 17 35.1
comp=Z,61nm,0.9s
KBS Kingsbay 48.79 351 IAMs_20 IAMs_20 18 41 05.8
comp=Z,7μm,19.0s
KBS Kingsbay 48.79 351 *e*P **P 18 17 10.2 +1.8**
BTO Baotou 49.71 62 *e*P **P 18 17 15.0 -1.1**
BTO *e*PP **PP 18 19 11.3 +0.8**
XAN Xi'an 50.45 71 P **P 18 17 22.1 +0.3**
XAN pP sP 18 17 27.6 -0.7
XAN S **S 18 24 34.0 -1.1**
XAN pmax pmax
comp=Z,150nm,1.1s
XAN pmax pmax
comp=Z,2μm,4.5s
XAN LR LR
comp=Z,24μm,15.6s
XAN LR LR
comp=Z,23μm,20.1s
XAN LR LR
comp=Z,10μm,18.4s
XAN Xi'an 50.45 71 P **P 18 17 21.5 -0.3**
XAN pmax pmax
comp=Z,194nm,1.2s
XAN MLR MLR
comp=Z,9μm,19.0s
XAN Xi'an 50.45 71 P **P 18 17 21.5 -0.3**
XAN IAmb IAmb 18 17 24.5
comp=Z,194nm,1.2s
XAN Xi'an 50.45 71 IAMs_20 IAMs_20 18 41 29.6
comp=Z,9μm,19.0s
PBKT Sadao Pong 50.47 95 P **P 18 17 21.7 -0.3**
PBKT IAmb IAmb 18 17 25.4
comp=Z,112nm,1.1s
CIT Chita 50.54 47 *e*P **P 18 17 22.4 +0.2**
CIT *e* 18 17 29.9
CIT *e*S **S 18 24 38.7 +2.9**
CIT pmax pmax
comp=Z,440nm,1.9s
BOD Bodaibo 50.58 39 *e*P **P 18 17 21.4 -0.9**
BOD pmax pmax
comp=Z,203nm,1.5s
SLVN Son La 50.79 88 P **P 18 17 24.6 +0.1**
SLVN IAmb IAmb 18 17 27.4
comp=Z,136nm,1.3s
HHC Hu-ho-hao-te 50.80 61 *e*P **P 18 17 26.0 +1.6**
HHC PP **PP 18 19 23.8 +3.3**
HHC S **S 18 24 40.1 +0.2**
HHC SS **SS 18 28 13.6 -0.7**
HHC pmax pmax
comp=Z,77nm,1.5s
HHC pmax pmax
comp=Z,2μm,6.0s
HHC LR LR
comp=Z,9μm,17.0s
HHC LR LR
comp=Z,9μm,15.3s
HHC LR LR
comp=Z,12μm,16.2s
OPO Ambohidratompo 50.91 181 P **P 18 17 25.8 +0.4**
comp=Z,30nm,0.9s,baz=343,slow=6.8,SNR=17
GYA Guiyang 51.08 81 ⇑P **P 18 17 25.5 -1.2**
GYA ScP **ScP 18 22 38.8 +0.4**
GYA S **S 18 24 38.3 -5.8**
GYA ScS **ScS 18 27 14.3 -3.1**
GYA pmax pmax
comp=Z,92nm,1.0s
GYA pmax pmax
comp=Z,1μm,4.0s
GYA LR LR
comp=Z,11μm,19.9s
GYA LR LR
comp=Z,5μm,21.1s
GYA LR LR
comp=Z,10μm,17.0s
LSZ Lusaka 51.17 204 P **P 18 17 27.4 +0.1**
LSZ pmax pmax
comp=Z,95nm,1.1s
LSZ MLR MLR
comp=Z,26μm,19.0s
LSZ Lusaka 51.17 204 P **P 18 17 27.4 +0.1**
LSZ IAmb IAmb 18 17 33.8
comp=Z,95nm,1.1s
ABPO Ambohimpanom 51.35 181 P **P 18 17 28.4 -0.3**
ABPO pmax pmax
comp=Z,51nm,0.9s
ABPO MLR MLR
comp=Z,17μm,20.0s
ABPO Ambohimpanom 51.35 181 P **P 18 17 28.4 -0.3**
ENH Enshi 52.07 75 P **P 18 17 33.6 -0.3**
ENH IAmb IAmb 18 17 48.5
comp=Z,144nm,1.1s
BORG Borgarnes 52.12 329 P **P 18 17 34.2 +0.5**
comp=Z,13nm,1.0s,baz=67,slow=8.1,SNR=2.5
BORG Borgarnes 52.12 329 P **P 18 17 34.2 +0.5**
BORG pmax pmax
comp=Z,210nm,2.0s
BORG MLR MLR
comp=Z,4μm,20.0s
BORG Borgarnes 52.12 329 IAmb IAmb 18 18 33.2
comp=Z,210nm,1.9s
TIY Taiyuan 52.20 65 *e*P **P 18 17 35.6 +0.7**
TIY S **S 18 25 02.5 +3.3**
TIY sS **sS 18 25 11.0 +4.0**
TIY pmax pmax
comp=Z,45nm,1.1s
TIY pmax pmax
comp=Z,1μm,5.1s
TIY LR LR
comp=Z,3μm,12.6s
TIY LR LR
comp=Z,6μm,14.8s
TIY LR LR
comp=Z,10μm,18.6s
ITZ Itezhi-Tezhi 52.40 207 *i* P **P 18 17 36.5 0.0**
ITZ *i* 18 17 36.9
baz=20,slow=11
ITZ *e*S **S 18 25 00.6 -1.6**
SCO Scoresbysund 52.85 337 *i* P **P 18 17 40.6 +1.5**
comp=Z,11μm,19.0s
SCO Scoresbysund 52.85 337 *e*P **P 18 17 40.6 +1.5**
SCO MLR MLR
comp=Z,11μm,19.0s
SCO Scoresbysund 52.85 337 IAMs_20 IAMs_20 18 40 57.3
comp=Z,11μm,20.0s
PMPST Porto Santo, M 53.04 289 *e*P **P 18 17 42.7 +1.6**
comp=Z,409nm,1.4s
PMPS Porto Santo 53.05 289 *e*P **P 18 17 42.8 +1.7**
comp=Z,379nm,1.4s
DAG Danmarks Havn 53.13 345 ⇑*i*P **P 18 17 40.7 -0.4**
comp=Z,7μm,20.0s
DAG Danmarks Havn 53.13 345 ⇑*i*P **P 18 17 40.7 -0.4**
DAG MLR MLR
comp=Z,7μm,20.0s
MLSI Meulaboh, Aceh 53.45 111 P **P 18 17 44.9 +0.6**
PMAR Madeira 53.62 289 *e*P **P 18 17 47.3 +1.8**
comp=Z,587nm,1.3s
PMOZ Porto Moniz, M 53.81 289 ⇑*e*P **P 18 17 47.4 +0.5**
comp=Z,306nm,1.3s
PMOZ *e*S **S 18 25 24.3 +3.0**
PMOZ Porto Moniz, M 53.81 289 P **P 18 17 46.4 -0.4**
RER Riviere de l'E 54.03 171 IAMs_20 IAMs_20 18 40 45.3
comp=Z,6μm,18.0s
RODM Citronelle, R 54.15 162 IAMs_20 IAMs_20 18 39 56.5
comp=Z,7μm,18.0s
NOR Nord 54.24 351 ⇑*i*P **P 18 17 48.7 -0.5**
comp=Z,7μm,20.0s
NOR Nord 54.24 351 ⇑*i*P **P 18 17 48.7 -0.5**
NOR MLR MLR
comp=Z,7μm,20.0s
BJI Beijing 54.41 61 P **P 18 17 50.9 -0.1**
BJI PP **PP 18 19 54.0 +1.1**
BJI S **S 18 25 28.5 -0.5**
BJI SS **SS 18 29 14.1 +3.1**
BJI pmax pmax
comp=Z,12nm,0.7s
BJI pmax pmax
comp=Z,460nm,6.3s
BJI LR LR
comp=Z,13μm,19.3s
BJI LR LR
comp=Z,4μm,22.3s
BJI LR LR
comp=Z,9μm,22.7s
BJT Baijiatuau 54.41 61 P **P 18 17 50.9 -0.1**
BJT pmax pmax
comp=Z,26nm,0.8s
BJT MLR MLR
comp=Z,8μm,21.0s
BJT Baijiatuau 54.41 61 P **P 18 17 50.9 -0.1**
BJT Baijiatuau 54.41 61 IAMs_20 IAMs_20 18 43 01.2
comp=Z,8μm,21.0s
TPTI 54.68 112 P **P 18 17 52.7 -0.6**
comp=Z,1μmcomp=Z,42nm,1.7s
HIA Hailar 54.81 50 P **P 18 17 54.5 +0.7**
HIA pmax pmax
comp=Z,97nm,1.0s
HIA MLR MLR
comp=Z,15μm,22.0s
HIA Hailar 54.81 50 P **P 18 17 54.5 +0.7**
HIA IAmb IAmb 18 18 40.7
comp=Z,97nm,1.0s
DBIC Dimbokro 55.17 254 P **P 18 17 56.0 -0.8**
comp=Z,17nm,0.7s,baz=25,slow=8.3,SNR=18
DBIC Dimbokro 55.17 254 P **P 18 17 55.7 -1.1**
DBIC IAmb IAmb 18 18 04.1
comp=Z,160nm,1.5s
KIC Kosan Boka 55.26 254 *e*P **P 18 17 56.3 -1.2**
comp=Z,144nm,1.0s
TIC Toumodi 55.32 254 *e*P **P 18 17 57.8 -0.1**
LIC Lamto 55.57 254 *e*P **P 18 17 57.9 -1.8**
comp=Z,128nm,0.8s
TSI Tuntungan 55.62 110 P **P 18 17 59.1 -1.0**
comp=Z,3μmcomp=Z,168nm,0.9s
WHN Wuhan 55.92 73 ⇓P **P 18 18 03.0 +1.0**
WHN S **S 18 25 50.8 +1.3**
WHN pmax pmax
comp=Z,450nm,1.8s
WHN LR LR
comp=Z,16μm,15.9s
WHN LR LR
comp=Z,17μm,15.4s
WHN LR LR
comp=Z,25μm,22.0s
GSI Gunungsitoli 56.20 113 P **P 18 18 04.4 +0.2**
comp=Z,5μmcomp=Z,285nm,0.9s
GSI Gunungsitoli 56.20 113 P **P 18 18 04.4 +0.2**
TIA Tai'an 56.23 66 P **P 18 18 04.0 -0.2**
TIA S **S 18 25 52.0 -1.5**
TIA pmax pmax
comp=Z,69nm,1.2s
TIA pmax pmax
comp=Z,1μm,6.1s
TIA LR LR
comp=Z,16μm,20.3s
TIA LR LR
comp=Z,6μm,19.7s
TIA LR LR
comp=Z,9μm,18.8s
KULM Kulim 56.23 107 P **P 18 18 03.2 -1.2**
KULM Kulim 56.23 107 P **P 18 18 04.0 -0.4**
PSI Prapat 56.34 111 P **P 18 18 04.4 -0.9**
comp=Z,44nm,0.8s,baz=358,slow=1.5,SNR=30
RPSI Rantau Prapat 56.40 111 P **P 18 18 04.1 -1.5**
RPSI IAMs_20 IAMs_20 18 43 19.2
comp=Z,7μm,22.0s
TIXI Tiksi 56.62 22 P **P 18 18 06.0 -0.4**
comp=Z,7.0nm,0.3s,baz=315,slow=2.8,SNR=34
TIXI Tiksi 56.62 22 *ce*P **P 18 18 06.0 -0.4**
TIXI pmax pmax
comp=Z,100nm,1.7s
TIXI MLR MLR
comp=Z,14μm,21.0s
TIXI Tiksi 56.62 22 P **P 18 18 05.5 -0.9**
TIXI IAmb IAmb 18 18 27.1
comp=Z,64nm,1.1s
QIZ Qiongzhong 56.81 88 P **P 18 18 07.3 -1.2**
QIZ S **S 18 26 01.1 -0.5**
QIZ pmax pmax
comp=Z,21nm,1.1s
QIZ pmax pmax
comp=Z,1μm,3.2s
QIZ LR LR
comp=Z,4μm,19.7s
QIZ LR LR
comp=Z,5μm,17.3s
QIZ LR LR
comp=Z,4μm,22.4s
QIZ Qiongzhong 56.81 88 P **P 18 18 08.9 +0.3**
QIZ IAmb IAmb 18 18 11.0
comp=Z,112nm,1.1s
IPM Ipoh 57.01 108 P **P 18 18 08.3 -1.7**
IPM Ipoh 57.01 108 P **P 18 18 09.0 -1.0**
GZH Guangzhou 57.98 82 P **P 18 18 17.0 +0.3**
GZH S **S 18 26 16.8 -0.1**
GZH pmax pmax
comp=Z,2μm,4.4s
GZH LR LR
comp=Z,6μm,17.3s
GZH LR LR
comp=Z,6μm,20.4s
YAK Yakutsk 58.06 33 P **P 18 18 16.3 -0.4**
comp=Z,43nm,0.7s,baz=303,slow=1.7,SNR=31
YAK Yakutsk 58.06 33 *ci*P **P 18 18 16.3 -0.4**
YAK *e* 18 20 23.8
YAK *e*S **S 18 26 15.0 -1.8**
YAK *e**SS sS 18 26 36.8 +12
YAK *e* 18 28 01.2
YAK pmax pmax
comp=Z,72nm,0.8s
YAK pmax pmax
comp=N,23nm,1.0s
YAK pmax pmax
comp=E,40nm,1.1s
YAK pmax pmax
comp=Z,151nm,2.0s
YAK pmax pmax
comp=N,106nm,2.1s
YAK pmax pmax
comp=E,167nm,1.9s
YAK smax smax
comp=N,2μm,5.4s
YAK smax smax
comp=E,919nm,5.4s
YAK MLR MLR
comp=Z,6μm,21.0s
YAK MLR MLR
comp=N,5μm,17.0s
YAK MLR MLR
comp=E,4μm,20.0s
YAK Yakutsk 58.06 33 P **P 18 18 16.1 -0.6**
YAK IAmb IAmb 18 18 22.4
comp=Z,88nm,0.8s
YAK IAMs_20 IAMs_20 18 47 01.9
comp=Z,7μm,21.0s
MNSI Mandailing Nat 58.08 112 P **P 18 18 16.6 -0.9**
comp=Z,3μmcomp=Z,114nm,1.9s
SUMG Summit 58.09 339 ⇑*i*P **P 18 18 17.9 +0.6**
comp=Z,241nm,0.7s
comp=Z,24μm,22.0s
SUMG Summit 58.09 339 ⇑*i*P **P 18 18 17.9 +0.6**
SUMG pmax pmax
comp=Z,240nm,0.7s
SUMG MLR MLR
comp=Z,24μm,22.0s
SUMG Summit 58.09 339 P **P 18 18 17.1 -0.1**
SUMG IAMs_20 IAMs_20 18 43 46.7
comp=Z,9μm,20.0s
BART Pico Bartolome 58.41 297 *e*P **P 18 18 19.3 -0.3**
comp=Z,509nm,1.4s
ZEA Zeya 58.47 43 *ce*P **P 18 18 20.6 +0.9**
ZEA *e*PPP PPP 18 21 53.0
ZEA *e*S **S 18 26 26.0 +3.6**
ZEA pmax pmax
comp=N,43nm,1.2s
ZEA pmax pmax
comp=E,72nm,1.2s
ZEA pmax pmax
comp=Z,110nm,1.2s
ZEA pmax pmax
comp=Z,2μm,7.0s
ZEA pmax pmax
comp=E,700nm,5.0s
ZEA smax smax
comp=E,1μm,9.0s
ZEA smax smax
comp=N,2μm,11.0s
DL2 Dalian 58.78 61 P **P 18 18 22.3 +0.2**
DL2 PP **PP 18 20 35.8 +3.9**
DL2 S **S 18 26 27.8 +1.0**
DL2 ScS **ScS 18 28 09.8 -1.9**
DL2 pmax pmax
comp=N,69nm,1.2s
DL2 pmax pmax
comp=N,2μm,4.9s
DL2 LR LR
comp=N,11μm,20.6s
DL2 LR LR
comp=N,4μm,24.3s
DL2 LR LR
comp=N,10μm,19.8s
ANGG Ammassalik, Gr 58.91 331 IAMs_20 IAMs_20 18 44 35.0
comp=Z,5μm,19.0s
NJ2 Nanjing 58.98 70 *e*P **P 18 18 22.8 -0.8**
NJ2 pP **pP 18 18 27.3 -1.0**
NJ2 sP **sP 18 18 30.5 +0.4**
NJ2 S **S 18 26 28.8 -0.9**
NJ2 ScS **ScS 18 28 10.8 -2.6**
NJ2 pmax pmax
comp=Z,42nm,1.6s
NJ2 pmax pmax
comp=Z,1μm,4.9s
NJ2 LR LR
comp=Z,7μm,24.6s
NJ2 LR LR
comp=Z,8μm,17.5s
HKPS Hong Kong Po S 58.99 82 P **P 18 18 24.2 +0.4**
HKPS IAmb IAmb 18 18 26.9
comp=Z,109nm,1.1s
TSUM Tsumeb 59.06 214 P **P 18 18 23.5 -0.8**
DLV T Lat 59.08 96 P **P 18 18 23.4 -1.3**
DLV IAmb IAmb 18 18 26.9
comp=Z,69nm,0.9s
SNY Shenyang 59.28 57 ⇑P **P 18 18 24.8 -0.7**
SNY PP **PP 18 20 38.1 +1.8**
SNY S **S 18 26 30.8 -2.5**
SNY ScS **ScS 18 28 14.8 -0.5**
SNY SS **SS 18 30 27.0 -0.5**
SNY pmax pmax
comp=Z,1μm,5.9s
SNY LR LR
comp=Z,8μm,20.2s
SNY LR LR
comp=Z,5μm,21.0s
SNY LR LR
comp=Z,8μm,24.8s
BKNI Bangkinang 59.52 112 P **P 18 18 26.4 -1.1**
comp=Z,3μmcomp=Z,7μmcomp=Z,438nm,1.1s
BKNI Bangkinang 59.52 112 P **P 18 18 26.9 -0.6**
PDSI Padang 59.83 113 P **P 18 18 28.6 -1.1**
comp=Z,1μmcomp=Z,2μmcomp=Z,97nm,1.1s
CN2 Changchun 59.99 55 *e*P **P 18 18 28.8 -1.6**
CN2 *e*S **S 18 26 38.3 -4.1**
PMAN Manadas 60.30 299 *e*P **P 18 18 32.0 -0.6**
comp=Z,247nm,1.4s
ROSA Rosais 60.38 299 *e*P **P 18 18 32.6 -0.6**
comp=Z,312nm,1.3s
ROSA Rosais 60.38 299 P **P 18 18 32.9 -0.3**
ALE Alert 60.40 352 IAMs_20 IAMs_20 18 49 12.8
comp=Z,9μm,21.0s
SUJ Sinuiju 60.49 59 P **P 18 18 33.7 -0.1**
SUJ S **S 18 26 46.4 -2.5**
PICO Pico 60.59 299 *e*P **P 18 18 33.9 -0.8**
comp=Z,157nm,1.4s
SDSI Sungai Dareh 60.60 112 P **P 18 18 33.5 -1.4**
comp=Z,5μmcomp=Z,278nm,1.0s
PCED Cedros 60.75 299 *e*P **P 18 18 35.2 -0.5**
comp=Z,218nm,1.7s
CALA Caldeira 60.77 299 *e*P **P 18 18 35.2 -0.7**
comp=Z,353nm,1.2s
MYKOM Kota Tinggi 60.86 108 P **P 18 18 36.0 -0.8**
MYKOM IAmb IAmb 18 18 39.0
comp=Z,73nm,1.0s
MYKOM Kota Tinggi 60.86 108 P **P 18 18 38.0 +1.3**
LBTB Lobatse 61.09 203 P **P 18 18 38.1 0.0**
LBTB pmax pmax
comp=Z,75nm,1.0s
LBTB Lobatse 61.09 203 P **P 18 18 38.1 0.0**
LBTB IAmb IAmb 18 18 44.7
comp=Z,75nm,1.0s
SSE Sheshan 61.18 70 P **P 18 18 37.4 -1.3**
SSE S **S 18 26 57.3 -0.7**
SSE pmax pmax
comp=Z,8.0nm,0.7s
SSE pmax pmax
comp=Z,680nm,4.9s
SSE LR LR
comp=Z,6μm,23.3s
SSE LR LR
comp=Z,3μm,17.3s
SSE Sheshan 61.18 70 P **P 18 18 38.0 -0.7**
SSE IAmb IAmb 18 19 24.0
comp=Z,58nm,0.7s
SSE Sheshan 61.18 70 IAMs_20 IAMs_20 18 48 33.8
comp=Z,8μm,20.0s
KRJI Kerinci 61.35 113 P **P 18 18 39.7 -0.4**
comp=Z,4μmcomp=Z,11μmcomp=Z,897nm,1.0s
QZH Quanzhou 61.56 77 ⇑*i*P **P 18 18 40.5 -0.8**
QZH S **S 18 27 02.3 -0.6**
QZH ScS **SKKSac 18 28 29.4 -3.3**
QZH SS **SS 18 31 05.5 +1.6**
QZH pmax pmax
comp=Z,550nm,5.1s
QZH LR LR
comp=Z,8μm,18.0s
QZH LR LR
comp=Z,8μm,19.9s
QZH LR LR
comp=Z,3μm,16.9s
KNMB Chin-men Tao 61.59 78 IAMs_20 IAMs_20 18 47 09.6
comp=Z,7μm,20.0s
PYAG Pyongyang 61.77 60 P **P 18 18 39.0 -3.5**
PYAG S **S 18 27 09.0 +3.9**
PYS Pyongsong 61.77 60 P **P 18 18 42.1 -0.4**
TPRI Tanjung Pinang 61.92 109 P **P 18 18 43.4 -0.5**
comp=Z,4μmcomp=Z,154nm,1.5s
KLR Kul'dur 62.42 47 P **P 18 18 46.1 -0.7**
comp=Z,28nm,0.8s,baz=284,slow=6.3,SNR=51
KLR Kul'dur 62.42 47 *ci*P **P 18 18 46.3 -0.5**
KLR pmax pmax
comp=Z,69nm,1.0s
KLR MLR MLR
comp=Z,7μm,17.0s
MDJ Mudanjiang 62.55 53 P **P 18 18 46.6 -1.1**
MDJ pP sP 18 18 54.6 +0.3
MDJ sP pP 18 18 59.8 +7.3
MDJ ScP **ScP 18 23 26.0 -2.4**
MDJ PcS **PcS 18 23 29.1 -0.9**
MDJ S **S 18 27 13.5 -1.4**
MDJ sS sS 18 27 27.0 +4.2
MDJ ScS **SKKSac 18 28 36.9 -2.8**
MDJ pmax pmax
comp=Z,19nm,1.6s
MDJ pmax pmax
comp=Z,1μm,7.3s
MDJ LR LR
comp=Z,8μm,12.8s
MDJ LR LR
comp=Z,7μm,19.9s
MDJ LR LR
comp=Z,10μm,20.9s
MDJ Mudanjiang 62.55 53 P **P 18 18 47.5 -0.2**
MASI Maura Aman, Be 62.61 114 P **P 18 18 49.0 +0.5**
comp=Z,7μmcomp=Z,353nm,1.3s
KULLO Kullorsuaq 62.69 343 *i* P **P 18 18 47.9 -0.3**
KULLO Kullorsuaq 62.69 343 *i* P **P 18 18 47.9 -0.3**
DSRI Dabo 62.80 110 P **P 18 18 49.3 -0.5**
comp=Z,2μmcomp=Z,82nm,2.4s

ILULI Ilulissat 62.94 337 *i* P **P** **18 18 50.8 +0.9**
comp=Z,12μm,22.0s
ILULI Ilulissat 62.94 337 *i* P **P** **18 18 50.8 +0.9**
ILULI MLR MLR
comp=Z,12μm,22.0s
ILULI Ilulissat 62.94 337 P **P** **18 18 50.2 +0.3**
ILULI IAmb IAmb 18 18 52.5
comp=Z,43nm,0.7s
INCN Inchon 62.97 61 P **P** **18 18 50.0 -0.7**
INCN pmax pmax
comp=Z,31nm,0.9s
INCN MLR MLR
comp=Z,8μm,19.0s
INCN Inchon 62.97 61 P **P** **18 18 50.0 -0.7**
INCN Inchon 62.97 61 IAMs_20 IAMs_20 18 49 03.6
comp=Z,8μm,19.0s
KSI Kapahiang 63.20 114 P **P** **18 18 52.4 -0.1**
comp=Z,6μmcomp=Z,156nm,1.2s
NRS Narsarsuaq 63.46 327 *i* P **P** **18 18 52.4 -1.1**
comp=Z,8μm,18.0s
NRS Narsarsuaq 63.46 327 P **P** **18 18 53.3 -0.2**
NRS pmax pmax
comp=Z,36nm,0.8s
NRS MLR MLR
comp=Z,8μm,20.0s
NRS Narsarsuaq 63.46 327 P **P** **18 18 53.3 -0.2**
NRS IAmb IAmb 18 19 02.7
comp=Z,36nm,0.8s
NRS IAMs_20 IAMs_20 18 47 15.7
comp=Z,8μm,20.0s
SFJD Kangerlussuaq 63.56 334 *i* P **P** **18 18 53.6 -0.4**
comp=Z,670nm,23.0s
SFJD Kangerlussuaq 63.56 334 P **P** **18 18 54.7 +0.6**
SFJD pmax pmax
comp=Z,42nm,0.9s
SFJD MLR MLR
comp=Z,10μm,22.0s
SFJD Kangerlussuaq 63.56 334 P **P** **18 18 54.7 +0.6**
SFJD IAmb IAmb 18 19 03.5
comp=Z,42nm,0.9s
KS19 Wonju Array Si 63.87 61 P **P** **18 18 56.5 -0.1**
KS19 IAmb IAmb 18 19 41.3
comp=Z,82nm,1.4s
KSAR Wonju Array Be 63.91 61 P **P** **18 18 55.8 -1.0**
KSAR Wonju Array Be 63.91 61 P **P** **18 18 55.8 -1.0**
TATO Taipei 63.92 76 P **P** **18 18 56.9 -0.2**
TATO IAmb IAmb 18 19 09.4
comp=Z,73nm,0.9s
TATO Taipei 63.92 76 IAMs_20 IAMs_20 18 50 25.5
comp=Z,5μm,20.0s
TJN Taejon 63.93 62⇑ *e*P **P** **18 18 57.3 +0.3**
KSRS Korea Array 63.93 61 P **P** **18 18 55.9 -1.1**
comp=Z,21nm,0.7s,baz=284,slow=7.2,SNR=28
TPUB Ta-pu 63.94 78 P **P** **18 18 57.2 -0.1**
YHNB Yeheng 63.96 76 P **P** **18 18 58.1 +0.7**
YHNB IAMs_20 IAMs_20 18 48 42.3
comp=Z,5μm,18.0s
SSLB Suanglung 64.00 77 P **P** **18 18 58.5 +0.8**
SSLB IAmb IAmb 18 19 02.0
comp=Z,63nm,1.1s
LHSI Lahat 64.03 113 P **P** **18 18 56.3 -1.6**
comp=Z,4μmcomp=Z,72nm,1.4s
USA0B Ussuriysk Arra 64.30 53*c i*P **P** **18 18 58.1 -1.2**
USA0B Ussuriysk Arra 64.30 53 P **P** **18 18 57.9 -1.4**
USA0B IAmb IAmb 18 19 21.7
comp=Z,60nm,1.1s
USRK Ussuriysk Ar. 64.30 53 P **P** **18 18 58.1 -1.2**
comp=Z,28nm,0.8s,baz=273,slow=7.0,SNR=42
USRK Ussuriysk Ar. 64.30 53 P **P** **18 18 57.9 -1.4**
TULEG Thule 64.33 347 IAMs_20 IAMs_20 18 48 28.4
comp=Z,5μm,19.0s
NACB Ninganchiao 64.35 77 P **P** **18 18 59.0 -1.0**
NACB IAmb IAmb 18 19 07.0
comp=Z,54nm,1.1s
NACB IAMs_20 IAMs_20 18 51 05.8
comp=Z,7μm,20.0s
PMBI Palembang 64.45 112 P **P** **18 19 00.3 -0.3**
PMBI Palembang 64.45 112 P **P** **18 19 00.0 -0.6**
YULB Yu-li 64.45 78 P **P** **18 19 01.1 +0.4**
YULB IAmb IAmb 18 19 05.0
comp=Z,77nm,1.0s
YULB IAMs_20 IAMs_20 18 49 30.4
comp=Z,6μm,22.0s
TWG Pinlang 64.52 78 P **P** **18 19 01.8 +0.7**
BOSA Boshof 64.54 202 P **P** **18 19 01.1 +0.1**
comp=Z,60nm,0.9s,baz=20,slow=5.9,SNR=36
BOSA Boshof 64.54 202 P **P** **18 19 01.0 -0.1**
BOSA IAmb IAmb 18 19 06.9
comp=Z,78nm,0.9s
VLA Vladivostok 64.63 54*c i*P **P** **18 18 59.9 -1.6**
VLA pmax pmax
comp=Z,41nm,1.0s
VLA MLR MLR
comp=Z,5μm,17.0s
IVI Ivigtut 64.69 328 P **P** **18 19 01.9 +0.3**
IVI IAmb IAmb 18 19 46.3
comp=Z,50nm,0.9s
IVI IAMs_20 IAMs_20 18 48 05.2
comp=Z,5μm,20.0s
GRNR Gornyy 64.73 45⇑ *i*P **P** **18 19 02.3 +0.3**
GRNR *e*S **S** **18 27 46.4 +4.5**
GRNR pmax pmax
comp=E,8.0nm,1.1s
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR smax smax
comp=E,3.0nm,0.6s
GRNR MLR MLR
comp=N,2μm,14.0s
EUNU Eureka 64.77 352 P **P** **18 19 02.0 +0.1**
EUNU IAmb IAmb 18 19 12.6
comp=Z,47nm,0.8s
EUNU IAMs_20 IAMs_20 18 50 12.2
comp=Z,7μm,19.0s
MDSI Maura Dua 64.95 114 P **P** **18 19 01.6 -2.3**
comp=Z,2μmcomp=Z,62nm,1.6s
PPBI Pangkal Pinang 65.05 110 P **P** **18 19 04.2 -0.4**
comp=Z,3μmcomp=Z,90nm,1.4s
LWLI Liwa 65.19 114 P **P** **18 19 04.5 -1.1**
comp=Z,4μmcomp=Z,156nm,1.1s
KASI Kota Agung 65.85 114 P **P** **18 19 08.2 -1.5**
comp=Z,3μmcomp=Z,73nm,1.4s
KSM Kuching 66.28 104 P **P** **18 19 12.1 -0.5**
KSM IAmb IAmb 18 19 17.8
comp=Z,54nm,1.1s
KSM Kuching 66.28 104 P **P** **18 19 14.0 +1.5**
BLSI Bandar Lampung 66.33 114 P **P** **18 19 11.8 -1.0**
comp=Z,66nm,0.4s
TPI Tanjungpandan 66.62 110 P **P** **18 19 13.8 -0.9**
comp=Z,2μmcomp=Z,82nm,1.5s
TEY Ternei 67.03 50⇓ *e*P **P** **18 19 15.2 -1.7**
TEY pmax pmax
comp=Z,200nm,5.0s
TEY MLR MLR
comp=E,500nm,19.0s
TEY MLR MLR
comp=N,400nm,20.0s
TEY MLR MLR
comp=Z,400nm,23.0s
SBUM Sibu 67.30 102 P **P** **18 19 18.1 -0.9**
SEY Seymchan 67.69 29 P **P** **18 19 20.2 -0.6**
comp=Z,84nm,0.8s,baz=285,slow=7.3,SNR=57
SEY Seymchan 67.69 29*c i*P **P** **18 19 21.7 +0.9**
JNU Nakatsue 67.89 64 P **P** **18 19 22.3 -0.3**
comp=Z,11nm,0.7s,baz=147,slow=4.1,SNR=6.8
JNU Nakatsue 67.89 64 IAMs_20 IAMs_20 18 51 35.9
comp=Z,6μm,21.0s
STKI Sintang 68.04 105 P **P** **18 19 26.1 +2.4**
DBJI Dramaga 68.23 113 P **P** **18 19 24.7 -0.2**
comp=Z,54nm,1.8s
TYV Tymovskoe 68.33 43 *e*P **P** **18 19 26.1 +1.1**
TYV *e*S **S** **18 28 28.8 +3.3**
TYV pmax pmax
comp=Z,55nm,1.0s
TYV pmax pmax
comp=Z,2μm,5.1s
TYV smax smax
comp=N,13nm,1.9s
TYV smax smax
comp=N,5μm,7.4s
SKJI Sukabumi 68.37 114 P **P** **18 19 25.9 +0.2**
TGY Tagaytay City 68.50 87 P **P** **18 19 26.2 -0.5**
comp=N,62nm,0.4s,baz=216,slow=2.9,SNR=5.3
MA2 Magadan 68.59 32 P **P** **18 19 25.6 -0.9**
comp=N,55nm,1.0s,baz=295,slow=7.5,SNR=22
MA2 Magadan 68.59 32*c i*P **P** **18 19 26.6 +0.2**
MA2 pmax pmax
comp=Z,144nm,1.7s
MA2 MLR MLR
comp=Z,7μm,19.0s
MA2 Magadan 68.59 32 P **P** **18 19 26.7 +0.2**
KKM Kota Kinabalu 68.65 97 P **P** **18 19 27.3 -0.4**
CNJI Cibinong 69.00 114 P **P** **18 19 29.5 -0.2**
comp=Z,4μmcomp=Z,351nm,1.3s
SUR Sutherland 69.48 204 P **P** **18 19 32.2 -0.2**
CISI Cisompet, Garu 69.68 114 P **P** **18 19 33.4 -0.6**
comp=Z,3μmcomp=Z,232nm,1.2s
CISI Cisompet, Garu 69.68 114 P **P** **18 19 32.6 -1.3**
YSS Yuzh-Sakhalins 70.10 47*ce*P **P** **18 19 35.2 -0.8**
YSS *e**SP **pP** **18 19 40.6 -0.3**
YSS *e* 18 22 10.7
YSS *e*PPP PPP 18 23 47.7
YSS *e*S **S** **18 28 38.9 -7.6**
YSS *e* 18 29 17.9
YSS *e*SS **SS** **18 33 10.8 -4.7**
YSS pmax pmax
comp=Z,2μm,5.1s
YSS pmax pmax
comp=Z,90nm,0.9s
YSS MLR MLR
comp=Z,5μm,14.0s
YSS MLR MLR
comp=E,4μm,15.0s
YSS Yuzh-Sakhalins 70.10 47 P **P** **18 19 34.9 -1.2**
YSS IAMs_20 IAMs_20 18 53 09.8
comp=Z,5μm,20.0s
RES Resolute Bay 70.18 350 P **P** **18 19 36.4 +0.3**
RES pmax pmax
comp=Z,20nm,1.0s
RES Resolute Bay 70.18 350 P **P** **18 19 36.4 +0.3**
CMJI Cimerak 70.31 113 P **P** **18 19 38.0 +0.2**
comp=Z,2μmcomp=Z,106nm,1.4s
MYLDM Lahad Datu 71.03 96 P **P** **18 19 42.1 -0.1**
MYLDM IAMs_20 IAMs_20 18 56 29.0
comp=Z,6μm,20.0s
ASAJ Asahikawa 71.29 49 P **P** **18 19 41.2 -2.2**
ASAJ pmax pmax
comp=Z,37nm,1.0s
ASAJ MLR MLR
comp=Z,8μm,20.0s
JKA Kamikawa-asahi 71.29 49 P **P** **18 19 41.2 -2.1**
MTKI Muara Teweh, K 71.41 104 P **P** **18 19 45.5 +1.0**
comp=Z,2μmcomp=Z,38nm,2.7s
ASCN Ascension 71.48 247 IAMs_20 IAMs_20 18 50 57.3
comp=Z,4μm,19.0s
MJB9 Matsu-Tunnel 71.78 58 P **P** **18 19 44.8 -1.7**
MJB9 IAMs_20 IAMs_20 18 54 00.9
comp=Z,5μm,20.0s
MAJO Matsushiro 71.79 58*c i*P **P** **18 19 45.5 -1.0**
MAJO pmax pmax
comp=Z,15nm,1.1s
MAJO MLR MLR
comp=Z,4μm,19.0s
MAJO Matsushiro 71.79 58 P **P** **18 19 45.3 -1.2**
MAJO Matsushiro 71.79 58 IAMs_20 IAMs_20 18 54 01.9
comp=Z,5μm,21.0s
MAT Matsushiro 71.79 58 P **P** **18 19 45.3 -1.2**
MAT S **S** **18 29 04.2 -2.3**
MJAR Matsushiro Arr 71.79 58 P **P** **18 19 43.9 -2.6**
comp=Z,5.0nm,0.8s,baz=295,slow=7.3,SNR=22
MJAR Matsushiro Arr 71.79 58 P **P** **18 19 45.8 -0.8**
MJAR pmax pmax
comp=Z,19nm,1.3s
MJAR Matsushiro Arr 71.79 58 P **P** **18 19 45.8 -0.8**
NGJI Ngawi 72.41 111 P **P** **18 19 51.2 +0.7**
comp=Z,69nm,1.5s
ERM Erimo 72.64 51 P **P** **18 19 51.8 +0.4**
ERM pmax pmax
comp=Z,44nm,0.9s
ERM MLR MLR
comp=Z,10μm,22.0s
ERM Erimo 72.64 51 P **P** **18 19 51.8 +0.4**
ERM IAmb IAmb 18 20 14.4
comp=Z,44nm,0.9s
BBKI Banjar Baru 72.81 106 P **P** **18 19 53.9 +1.0**
comp=Z,2μmcomp=Z,41nm,1.9s
YUK Yuzh-Kuril'sk 73.40 48*c i*P **P** **18 19 53.9 -2.0**
YUK *i* 18 22 34.9
YUK *i* PPP PPP 18 24 22.6
YUK *i* S **S** **18 29 22.2 -2.4**
YUK *i* 18 30 03.2
YUK pmax pmax
comp=Z,323nm,3.8s
YUK pmax pmax
comp=Z,158nm,1.1s
YUK pmax pmax
comp=N,53nm,0.8s
YUK pmax pmax
comp=E,91nm,0.9s
KBKI Kotabaru 73.80 105 P **P** **18 19 59.7 +1.0**
comp=E,503nmcomp=E,24nm,0.8s
KUR Kuril'sk 74.05 46*c i*P **P** **18 19 58.9 -0.8**
KUR *e* 18 20 08.9
KUR *e*S **S** **18 29 32.3 +0.5**
KUR *e*SS **SS** **18 34 14.8 -1.1**
KUR pmax pmax
comp=Z,1μm,4.8s
KUR pmax pmax
comp=E,636nm,5.0s
KUR pmax pmax
comp=N,413nm,5.1s
KUR pmax pmax
comp=Z,78nm,1.4s
KUR pmax pmax
comp=N,18nm,1.2s
KUR pmax pmax
comp=E,13nm,1.5s
GMJI Gumukmas 74.52 111 P **P** **18 20 01.0 -1.9**
comp=E,34nm,1.0s
JHJ2 Mitsune 74.57 60 IAMs_20 IAMs_20 18 56 13.7
comp=Z,4μm,19.0s
MPSI Mapaga 74.83 100 P **P** **18 20 04.8 0.0**
comp=Z,3μmcomp=Z,154nm,1.0s
A21K Barrow 74.91 8 P **P** **18 20 04.0 -0.3**
baz=339
DRLN Deer Lake 74.93 319 P **P** **18 20 04.0 -0.8**
DRLN IAmb IAmb 18 20 07.7
comp=Z,58nm,0.8s
JAGI Jajag, Banyuwa 75.20 110 P **P** **18 20 05.6 -1.3**
JAGI IAmb IAmb 18 20 08.2
comp=Z,71nm,1.1s
PEA0B Petropavlovsk- 75.26 36⇑ *e*P **P** **18 20 07.8 +1.2**
PETK Petropavlovsk- 75.26 36 P **P** **18 20 04.1 -2.5**
comp=Z,15nm,0.8s,baz=45,slow=2.2,SNR=16
PETK Petropavlovsk- 75.26 36 P **P** **18 20 04.8 -1.8**
PETK Petropavlovsk- 75.26 36 P **P** **18 20 04.8 -1.8**
A36M Sachs Harbour 75.56 358 P **P** **18 20 06.5 -1.4**
baz=6.2
PET Petropavlovsk 75.78 36⇓ *e*P **P** **18 20 11.2 +1.6**
PET pmax pmax
comp=Z,59nm,1.1s
PET MLR MLR
comp=Z,19μm,18.4s
SKR Severo-Kuril's 75.83 39 *e*P **P** **18 20 07.5 -2.4**
SKR *e* 18 23 00.9
SKR *e*S **S** **18 29 45.1 -6.4**
SKR pmax pmax
comp=Z,300nm,6.7s
SKR pmax pmax
comp=Z,500nm,5.6s
SKR MLR MLR
comp=Z,2μm,18.0s
DAV Davao City (W) 75.99 91 IAMs_20 IAMs_20 18 58 27.5
comp=Z,4μm,21.0s
SCHQ Schefferville 76.43 327 P **P** **18 20 12.3 -1.0**
comp=Z,28nm,0.7s,baz=64,slow=6.4,SNR=16
SCHQ Schefferville 76.43 327 P **P** **18 20 12.7 -0.6**
RDOG Red Dog Mine 77.03 11 P **P** **18 20 16.6 +0.1**
RDOG IAmb IAmb 18 21 01.5
comp=Z,151nm,1.6s
RDOG IAMs_20 IAMs_20 18 59 41.5
comp=Z,5μm,21.0s
GTOI Gorontalo 77.27 97 P **P** **18 20 17.5 -1.1**
comp=Z,1μmcomp=Z,20nm,0.8s
BNSI Bone 77.64 103 P **P** **18 20 21.9 +1.2**
comp=Z,1μmcomp=Z,25nm,1.2s
KAPI Kappang 77.70 104 P **P** **18 20 19.9 -1.1**
comp=Z,23nm,1.1s,baz=318,slow=3.8,SNR=7.7
KAPI Kappang 77.70 104 P **P** **18 20 19.9 -1.1**
KAPI pmax pmax
comp=Z,107nm,1.6s
KAPI MLR MLR
comp=Z,3μm,22.0s
KAPI Kappang 77.70 104 P **P** **18 20 19.9 -1.1**
KAPI IAmb IAmb 18 20 22.4
comp=Z,107nm,1.6s
KMSI Cibinong 78.11 97 P **P** **18 20 23.6 +0.2**
comp=Z,831nmcomp=Z,80nm,0.8s
C36M Paulatuk 78.15 357 P **P** **18 20 21.4 -1.2**
baz=7.1
C36M Paulatuk 78.15 357 P **P** **18 20 22.0 -0.7**
C36M IAmb IAmb 18 20 25.7
comp=Z,44nm,0.8s
TOLK Toolik Lake Re 78.22 6 P **P** **18 20 23.2 +0.1**
baz=345,SNR=22
TOLK Toolik Lake Re 78.22 6 P **P** **18 20 23.5 +0.4**
TOLK IAmb IAmb 18 20 41.4
comp=Z,65nm,0.9s
TOLK IAMs_20 IAMs_20 19 00 34.7
comp=Z,4μm,20.0s
GBN Guysborough 79.35 317 P **P** **18 20 30.1 +0.5**
INK Inuvik 79.37 0 P **P** **18 20 28.8 -0.6**
INK pmax pmax
comp=Z,45nm,1.3s
INK MLR MLR
comp=Z,6μm,21.0s
INK Inuvik 79.37 0 P **P** **18 20 28.8 -0.6**
COLD Coldfoot 79.53 7 P **P** **18 20 30.8 +0.5**
baz=345,SNR=18
COLD Coldfoot 79.53 7 P **P** **18 20 30.7 +0.4**
COLD IAMs_20 IAMs_20 19 00 28.3
comp=Z,5μm,20.0s
WBSI Waikabubak, Su 80.06 108 P **P** **18 20 33.4 -0.6**
comp=Z,2μmcomp=Z,109nm,1.3s
IMAR Indian Mountai 80.31 9 P **P** **18 20 33.5 -1.1**
BATG Bathurst New B 80.73 321 P **P** **18 20 36.5 -0.6**
BATG IAmb IAmb 18 20 39.7
comp=Z,83nm,0.9s
BATG IAMs_20 IAMs_20 19 00 38.4
comp=Z,3μm,19.0s
TNTI Ternate 80.85 95 P **P** **18 20 39.4 +1.1**
comp=Z,1μmcomp=Z,1μmcomp=Z,85nm,1.4s
TNTI Ternate 80.85 95 P **P** **18 20 37.7 -0.6**
TNTI IAmb IAmb 18 20 42.7
comp=Z,123nm,1.2s
LMN Caledonia Moun 80.93 319 P **P** **18 20 38.5 +0.2**
LMN IAmb IAmb 18 20 41.8
comp=Z,88nm,0.9s
HAL Halifax 80.99 318 P **P** **18 20 38.9 +0.3**
HAL pmax pmax
comp=Z,111nm,0.7s
HAL MLR MLR
comp=Z,2μm,18.0s
HAL Halifax 80.99 318 P **P** **18 20 38.9 +0.3**
SANI Sanana 81.22 98 P **P** **18 20 40.5 +0.3**
comp=Z,2μmcomp=Z,59nm,1.5s
BASI Baing, Sumba 81.34 108 P **P** **18 20 41.9 +1.1**
comp=Z,1μmcomp=Z,3μmcomp=Z,176nm,1.6s
EDFI Ende, Flores 81.40 106 P **P** **18 20 39.9 -1.4**
comp=Z,663nmcomp=Z,33nm,0.7s
MMRI Maumere 81.78 106 P **P** **18 20 41.7 -1.5**
comp=Z,3μmcomp=Z,140nm,1.5s
MMRI Maumere 81.78 106 P **P** **18 20 41.6 -1.6**
POKR Poker Plat Res 81.86 6 P **P** **18 20 42.4 -0.4**
baz=347
MDM Murphy Dome 81.94 7 P **P** **18 20 43.5 +0.2**
MDM IAmb IAmb 18 21 28.5
comp=Z,116nm,1.5s
D63A Stockholm 81.96 322 P **P** **18 20 44.0 +0.3**
baz=50,SNR=8.2
TCOL CIGO, UAF Yank 82.06 7 P **P** **18 20 43.4 -0.4**
baz=347
COLA College 82.06 7*ce*P **P** **18 20 43.9 +0.1**
COLA pmax pmax
comp=Z,17nm,1.0s
COLA MLR MLR
comp=Z,5μm,22.0s
COLA College 82.06 7 P **P** **18 20 44.0 +0.2**
PQI Presque Isle 82.15 321 P **P** **18 20 44.9 +0.2**
PQI IAmb IAmb 18 20 48.1
comp=Z,69nm,0.9s
NEA2 Nenana 82.21 7 P **P** **18 20 44.0 -0.6**
baz=346
E64A Bridgewater 82.21 321 P **P** **18 20 45.2 +0.3**
baz=50,SNR=9.5
IL31 82.25 6 P **P** **18 20 43.4 -1.4**
ILAR Eielson Array 82.25 6 P **P** **18 20 44.0 -0.9**
comp=Z,3.4nm,0.9s,baz=333,slow=4.1,SNR=15
ILAR PP **PP** **18 23 49.8 -2.7**
comp=Z,2.8nm,0.9s,baz=349,slow=7.2,SNR=3.2
ILAR PKKPbc **PKKPbc** **18 39 12.6 -0.5**
comp=Z,0.8nm,0.5s,baz=193,slow=2.2,SNR=8.0
ILAR PKPPKP **P'P'df** **18 47 21.6 -2.0**
comp=Z,1.0nm,0.6s,baz=150,slow=2.7,SNR=6.0
ILAR Eielson Array 82.25 6 P **P** **18 20 44.0 -0.9**
CCB Clear Creek Bu 82.28 7 P **P** **18 20 44.5 -0.5**
WRH Wood River Hil 82.43 7 P **P** **18 20 46.0 +0.3**
BPAW Bear Paw Mtn. 82.47 8 P **P** **18 20 45.9 -0.1**
BPAW IAmb IAmb 18 21 31.0
comp=Z,116nm,1.4s
BPAW IAMs_20 IAMs_20 19 02 06.0
comp=Z,5μm,20.0s
GGN Saint George 82.51 320 **P** **18 20 46.1 -0.4**
E63A Oxbow 82.52 321 P **P** **18 20 46.8 +0.2**
baz=50,SNR=9.7
E63A Oxbow 82.52 321 P **P** **18 20 46.8 +0.2**
E63A IAmb IAmb 18 20 54.6
comp=Z,44nm,0.9s
HDA Harding Lake 82.60 6 P **P** **18 20 45.7 -1.0**
baz=348,SNR=7.3
HDA Harding Lake 82.60 6 P **P** **18 20 46.5 -0.2**
EGAK Eagle 82.67 4 P **P** **18 20 46.9 -0.1**
F64A Sherman 82.84 321 P **P** **18 20 48.9 +0.6**
baz=50,SNR=14
F64A Sherman 82.84 321 P **P** **18 20 48.2 -0.1**
F64A IAmb IAmb 18 20 52.0
comp=Z,46nm,0.9s
F64A IAMs_20 IAMs_20 19 01 53.5
comp=Z,3μm,20.0s
G65A Princeton 82.85 320 P **P** **18 20 48.2 -0.1**
baz=50
G65A Princeton 82.85 320 P **P** **18 20 48.4 +0.1**
TTA Tatalina 82.89 11 P **P** **18 20 48.8 +0.5**
TTA pmax pmax
comp=Z,61nm,1.6s
TTA Tatalina 82.89 11 P **P** **18 20 48.8 +0.5**
D61A St Aubert, Com 82.93 323 P **P** **18 20 49.1 +0.4**
baz=49,SNR=16
E62A Clayton Lake 82.97 322 P **P** **18 20 48.6 -0.3**
baz=49,SNR=15
E62A Clayton Lake 82.97 322 P **P** **18 20 49.0 +0.1**
E62A IAmb IAmb 18 20 52.6
comp=Z,43nm,0.8s
E62A IAMs_20 IAMs_20 18 59 50.8
comp=Z,4μm,20.0s
H66A Whiting 82.97 319 P **P** **18 20 48.5 -0.4**
baz=50
SMY Shemya 83.01 30 P **P** **18 20 49.4 +0.4**
SMY pmax pmax
comp=Z,185nm,1.6s
SMY Shemya 83.01 30 P **P** **18 20 49.4 +0.4**
MCK McKinley 83.06 7 P **P** **18 20 49.2 +0.1**
MCK pmax pmax
comp=Z,43nm,1.1s
MCK McKinley 83.06 7 P **P** **18 20 49.2 +0.1**
MCK IAmb IAmb 18 20 59.8
comp=Z,43nm,1.1s
EMMW East Machias 83.10 319 P **P** **18 20 50.0 +0.4**
EMMW IAMs_20 IAMs_20 19 03 09.4
comp=Z,3μm,18.0s
CHGQ Chibougamau 83.14 327 P **P** **18 20 49.6 -0.2**
baz=46,SNR=32
TRF Thorofare Moun 83.18 8 P **P** **18 20 50.8 +0.8**
TRF IAmb IAmb 18 21 36.1
comp=Z,51nm,1.3s
TRF IAMs_20 IAMs_20 19 01 19.8
comp=Z,5μm,22.0s
F63A Nahmakanta, Br 83.35 321 P **P** **18 20 51.8 +0.8**
baz=49,SNR=7.0
F63A Nahmakanta, Br 83.35 321 P **P** **18 20 51.4 +0.4**
F63A IAmb IAmb 18 21 01.1
comp=Z,44nm,1.1s
K27K Chicken 83.36 4 P **P** **18 20 50.2 -0.4**
baz=352
RND Reindeer 83.39 7 P **P** **18 20 51.3 +0.4**
RND pmax pmax
comp=Z,48nm,1.3s
RND MLR MLR

comp=Z,6µm,22.0s
RND **Reindeer** **83.39** **7** P **P** **18 20 51.3 +0.4**
RND IAmb IAmb 18 21 00.5
comp=Z,48nm,1.3s
RND IAMs_20 IAMs_20 19 00 38.2
comp=Z,6µm,22.0s
RIDG **Independent Ri** **83.44** **6** P **P** **18 20 51.3 +0.2**
RIDG IAmb IAmb 18 21 36.0
comp=Z,86nm,1.4s
G64A **Maxfield** **83.46 320** P **P** **18 20 52.1 +0.6**
baz=50
DAWY **Dawson** **83.47** **3** P **P** **18 20 51.4 +0.2**
PPLA **Purkeypile** **83.47** **9** P **P** **18 20 51.8 +0.4**
D60A **Saint Jean D'O** **83.50 323** P **P** **18 20 51.8 +0.2**
baz=48,SNR=7.3
H65A **Eastbrook** **83.54 320** P **P** **18 20 51.6 -0.3**
baz=50
DOT **Dot Lake** **83.59** **5** P **P** **18 20 51.7 -0.2**
DOT IAmb IAmb 18 21 10.9
comp=Z,39nm,1.0s
E61A **Lac Etchemin** **83.60 322** P **P** **18 20 52.5 +0.3**
baz=48,SNR=9.8
F62A **Pittston Farm,** **83.68 322** P **P** **18 20 53.1 +0.5**
baz=49,SNR=6.7
F62A **Pittston Farm,** **83.68 322** P **P** **18 20 53.1 +0.5**
F62A IAmb IAmb 18 21 03.2
comp=Z,134nm,1.7s
F62A IAMs_20 IAMs_20 19 00 22.5
comp=Z,4µm,20.0s
PKME **Peaks-Kenny Pk** **83.74 321** P **P** **18 20 53.4 +0.5**
baz=49
PKME **Peaks-Kenny Pk** **83.74 321** IAMs_20 IAMs_20 19 02 21.1
comp=Z,3µm,19.0s
BATI **Baumata** **83.83 106** P **P** **18 20 53.1 -0.8**
comp=Z,95nm,0.8s,baz=272,slow=1.4,SNR=14
BATI **Baumata** **83.83 106** P **P** **18 20 54.3 +0.5**
comp=Z,1µmcomp=Z,3µmcomp=Z,104nm,0.7s
D59A **Saint-Raymond** **83.90 323** P **P** **18 20 53.5 -0.2**
baz=48
GIRL **Giralia** **83.94 122** P **P** **18 20 54.6 +0.4**
G63A **Kingsbury** **84.01 321** P **P** **18 20 54.9 +0.6**
baz=49,SNR=7.3
SOEI **Soe** **84.06 105** P **P** **18 20 55.7 +0.5**
comp=Z,3µmcomp=Z,134nm,1.2s
SOEI **Soe** **84.06 105** P **P** **18 20 53.9 -1.3**
H64A **Troy** **84.11 320** P **P** **18 20 55.0 +0.1**
baz=49
LATQ **La Tuque** **84.12 324** P **P** **18 20 54.8 -0.1**
baz=47
E60A **Ste Agathe de** **84.13 323** P **P** **18 20 55.2 +0.3**
baz=48,SNR=8.0
PAX **Paxson** **84.15** **6** P **P** **18 20 54.8 0.0**
PAX pmax pmax
comp=Z,38nm,0.5s
PAX MLR MLR
comp=Z,4µm,22.0s
PAX **Paxson** **84.15** **6** P **P** **18 20 54.8 0.0**
PAX IAmb IAmb 18 22 34.9
comp=Z,38nm,0.5s
PAX IAMs_20 IAMs_20 19 00 20.4
comp=Z,4µm,22.0s
YKA **Yellowknife Ar** **84.15 352** P **P** **18 20 53.6 -1.0**
comp=Z,17nm,0.8s,baz=16,slow=6.0,SNR=13
F61A **St Evariste** **84.16 322** P **P** **18 20 55.8 +0.7**
baz=48,SNR=8.6
CUT **Chulitna** **84.19** **8** P **P** **18 20 53.9 -1.0**
baz=345
MENT **Mentasta** **84.32** **5** P **P** **18 20 56.1 +0.5**
MENT IAmb IAmb 18 21 41.2
comp=Z,67nm,1.3s
BCAR **Beaver Creek A** **84.33** **4** P **P** **18 20 55.8 +0.1**
D58A **Chemin du LacG** **84.37 324** P **P** **18 20 55.9 -0.2**
baz=47
WVL **Waterville** **84.39 320** P **P** **18 20 55.7 -0.6**
WVL IAMs_20 IAMs_20 19 02 50.5
comp=Z,3µm,18.0s
G62A **West of Eustis** **84.43 321** P **P** **18 20 56.6 +0.1**
baz=48,SNR=16
G62A **West of Eustis** **84.43 321** P **P** **18 20 56.3 -0.2**
G62A IAmb IAmb 18 21 05.2
comp=Z,84nm,1.1s
G62A IAMs_20 IAMs_20 19 02 43.3
comp=Z,3µm,19.0s
SKT **Skwentna** **84.44** **9** P **P** **18 20 56.6 +0.4**
SKT IAmb IAmb 18 20 57.8
comp=Z,101nm,1.8s
SKT IAMs_20 IAMs_20 19 04 03.3
comp=Z,5µm,22.0s
H63A **New Sharon** **84.53 321** P **P** **18 20 57.1 +0.2**
baz=49
E59A **St. Maurice** **84.60 323** P **P** **18 20 56.8 -0.5**
baz=47
F60A **Warwick** **84.66 323** P **P** **18 20 57.8 +0.2**
baz=47,SNR=6.3
SVW2 **Sparrevohn** **84.69** **11** P **P** **18 20 57.8 +0.3**
SVW2 IAmb IAmb 18 21 43.2
comp=Z,58nm,1.4s
MATQ **Matagami** **84.74 328** P **P** **18 20 58.1 +0.1**
baz=44
I64A **Boothbay** **84.81 320** P **P** **18 20 58.4 0.0**
baz=49
G61A **St-Isidore-de-** **84.91 322** P **P** **18 20 59.3 +0.4**
baz=48,SNR=12
D57A **Chemin Vers le** **84.92 324** P **P** **18 20 58.4 -0.5**
baz=46
LSQQ **Lebel-sur-Quev** **84.95 327** P **P** **18 20 58.5 -0.5**
baz=44
GHO **Glory Hole Cre** **84.97** **8** P **P** **18 20 59.2 +0.3**
GHO IAmb IAmb 18 21 09.7
comp=Z,110nm,1.4s
GHO IAMs_20 IAMs_20 19 05 12.1
comp=Z,3µm,19.0s
SML **Sawmill** **85.00** **8** P **P** **18 20 59.0 -0.1**
SML IAmb IAmb 18 21 17.0
comp=Z,77nm,1.2s
SIJI **Sorong** **85.01** **94** P **P** **18 20 59.3 -0.6**
comp=Z,124nm,1.2s,baz=347,slow=5.8,SNR=17
SUA **Susitna One** **85.05** **9** P **P** **18 20 59.5 +0.1**
SUA IAMs_20 IAMs_20 19 04 21.2
comp=Z,5µm,21.0s
E58A **La Victoria** **85.06 323** P **P** **18 20 59.2 -0.4**
baz=46
SCM **Sheep Creek Mo** **85.08** **7** P **P** **18 20 59.9 +0.4**
SCM pmax pmax
comp=Z,63nm,1.2s
SCM MLR MLR
comp=Z,3µm,22.0s
SCM **Sheep Creek Mo** **85.08** **7** P **P** **18 20 59.9 +0.4**
SCM IAmb IAmb 18 21 45.8
comp=Z,63nm,1.2s
SCM IAMs_20 IAMs_20 19 01 40.2
comp=Z,3µm,22.0s
PMR **Palmer** **85.12** **8** P **P** **18 20 59.8 +0.2**
PMR pmax pmax
comp=Z,195nm,1.9s
PMR MLR MLR
comp=Z,3µm,19.0s
PMR **Palmer** **85.12** **8** P **P** **18 20 59.8 +0.2**
PMR IAMs_20 IAMs_20 19 05 17.1
comp=Z,3µm,19.0s
F59A **Saint Guilaume** **85.17 323** P **P** **18 21 00.1 -0.1**
baz=47,SNR=8.6
H62A **Milan** **85.19 321** P **P** **18 21 00.3 0.0**
baz=48
H62A **Milan** **85.19 321** P **P** **18 21 00.1 -0.2**
H62A IAMs_20 IAMs_20 19 03 06.4
comp=Z,3µm,19.0s
I63A **Otisfield** **85.23 320** P **P** **18 21 00.4 -0.1**
baz=48
I63A **Otisfield** **85.23 320** IAMs_20 IAMs_20 19 03 08.6
comp=Z,3µm,18.0s
MOQ **Mont Orford** **85.26 322** P **P** **18 21 00.7 -0.1**
D56A **ZEC Mazanza, M** **85.32 325** P **P** **18 21 01.0 +0.1**
baz=46,SNR=12
KNK **Knik Glacier** **85.37** **8** P **P** **18 21 01.3 +0.3**
KNK IAMs_20 IAMs_20 19 02 52.8
comp=Z,3µm,21.0s
G60A **Masonville** **85.45 322** P **P** **18 21 01.0 -0.6**
baz=47
E57A **Chemin Saint G** **85.47 324** P **P** **18 21 01.1 -0.6**
baz=46
KLU **Klutina** **85.56** **7** P **P** **18 21 02.5 +0.6**
KLU IAmb IAmb 18 21 13.8
comp=Z,60nm,1.0s
KLU IAMs_20 IAMs_20 19 01 08.7
comp=Z,4µm,22.0s
H61A **Lyndonville** **85.62 321** P **P** **18 21 03.0 +0.5**
baz=47,SNR=9.8
CAPN **Captain Cook N** **85.66** **9** P **P** **18 21 02.8 +0.5**
baz=344
F58A **St-Lin Laurent** **85.68 323** P **P** **18 21 01.9 -0.8**
baz=46
D55A **Sainte-Anne-du** **85.69 325** P **P** **18 21 02.9 +0.1**
baz=45,SNR=16
I62A **Tamworth** **85.75 321** P **P** **18 21 04.1 +1.0**
baz=48,SNR=7.3
I62A **Tamworth** **85.75 321** P **P** **18 21 04.1 +1.0**
I62A IAmb IAmb 18 21 11.6
comp=Z,42nm,1.0s
I62A IAMs_20 IAMs_20 19 00 41.4
comp=Z,3µm,22.0s
E56A **St. Veronique** **85.81 324** P **P** **18 21 03.4 0.0**
baz=45,SNR=13
LBNH **Lisbon** **85.82 321** P **P** **18 21 04.5 +1.0**
baz=47,SNR=28
LBNH **Lisbon** **85.82 321** P **P** **18 21 03.5 0.0**
LBNH pmax pmax
comp=Z,69nm,0.8s
LBNH MLR MLR
comp=Z,3µm,21.0s
LBNH **Lisbon** **85.82 321** P **P** **18 21 03.5 0.0**
LBNH IAmb IAmb 18 21 08.6
comp=Z,69nm,0.8s
VLDQ **Val d'Or** **85.85 327** P **P** **18 21 03.9 +0.4**
VLDQ IAMs_20 IAMs_20 19 00 36.2
comp=Z,4µm,22.0s
G59A **Clarenceville** **85.90 322** P **P** **18 21 03.2 -0.5**
baz=46
MCARA **McCarthy VSAT** **85.92** **5** P **P** **18 21 03.8 +0.2**
H60A **Morristown** **86.01 322** P **P** **18 21 04.9 +0.5**
baz=47,SNR=14
J63A **Strafford** **86.01 320** P **P** **18 21 04.7 +0.3**
baz=48
VRDI **Verde Repeater** **86.04** **5** P **P** **18 21 04.4 -0.1**
VRDI IAmb IAmb 18 21 49.7
comp=Z,115nm,1.9s
O22K **Cooper Landing** **86.13** **9** P **P** **18 21 04.2 -0.4**
baz=345
AMKA **Amchitka** **86.14** **28** P **P** **18 21 04.2 -0.7**
F57A **Harrington** **86.16 324** P **P** **18 21 04.9 -0.1**
baz=46
D54A **Lac Fusel, La** **86.17 326** P **P** **18 21 05.0 -0.1**
baz=44
I61A **Oroboro, Fairl** **86.18 321** P **P** **18 21 06.0 +0.8**
baz=47,SNR=6.5
VT1 **Waterbury** **86.19 322** P **P** **18 21 05.5 +0.2**
FFD **Franklin Falls** **86.20 321** P **P** **18 21 05.0 -0.3**
FFD IAMs_20 IAMs_20 19 02 23.1
comp=Z,5µm,19.0s
FRNY **Flat Rock** **86.28 322** P **P** **18 21 05.8 +0.1**
FRNY IAmb IAmb 18 21 09.1
comp=Z,40nm,0.8s
FRNY IAMs_20 IAMs_20 19 02 04.2
comp=Z,4µm,19.0s
L65A **Cape Cod Natio** **86.28 319** P **P** **18 21 06.1 +0.3**
baz=48
G58A **Ormstown** **86.30 323** P **P** **18 21 05.7 -0.1**
baz=46,SNR=20
BALM **Baldy** **86.31** **5** P **P** **18 21 06.5 +0.8**
BARN **Barnard Glacie** **86.33** **5** P **P** **18 21 06.8 +0.9**
BARN IAmb IAmb 18 21 17.7
comp=Z,69nm,1.2s
HNH **Hanover** **86.37 321** P **P** **18 21 07.2 +1.0**
HNH IAmb IAmb 18 21 14.9
comp=Z,57nm,1.1s
HNH IAMs_20 IAMs_20 19 03 59.8
comp=Z,3µm,19.0s
E55A **Montcerf-Lytto** **86.38 325** P **P** **18 21 06.1 0.0**
baz=45
J62A **Henniker** **86.45 320** P **P** **18 21 07.4 +0.9**
baz=47,SNR=8.0
CTGM **Chitina Glacie** **86.45** **4** P **P** **18 21 06.9 +0.5**
CTGM IAmb IAmb 18 21 16.9
comp=Z,45nm,1.1s
H59A **Cadyville** **86.46 322** P **P** **18 21 06.7 +0.1**
baz=46,SNR=15
SEW **Seward** **86.53** **9** P **P** **18 21 06.8 +0.2**
SEW IAmb IAmb 18 21 21.9
comp=Z,36nm,0.9s
CRQM **Cirque** **86.53** **5** IAMs_20 IAMs_20 19 04 41.5
comp=Z,3µm,22.0s
TGL **Tana Glacier** **86.55** **5** P **P** **18 21 08.6 +1.7**
K63A **Dunstable** **86.66 320** P **P** **18 21 07.5 -0.1**
baz=48
BRLK **Bradley Lake** **86.67** **9** P **P** **18 21 07.9 +0.5**
BCX **Boston College** **86.70 319** P **P** **18 21 07.7 0.0**
BCX IAmb IAmb 18 21 11.8
comp=Z,52nm,0.9s
D53A **Lac Vacive, Po** **86.71 326** P **P** **18 21 07.7 -0.1**
baz=44,SNR=11
D53A **Lac Vacive, Po** **86.71 326** P **P** **18 21 07.7 -0.1**
D53A IAMs_20 IAMs_20 19 02 40.6
comp=Z,3µm,19.0s
WES **Weston** **86.75 320** P **P** **18 21 08.5 +0.5**
WES pmax pmax
comp=Z,47nm,1.2s
WES MLR MLR
comp=Z,2µm,19.0s
WES **Weston** **86.75 320** P **P** **18 21 08.5 +0.5**
WES IAmb IAmb 18 21 15.3
comp=Z,46nm,1.2s
J61A **Chester** **86.76 321** P **P** **18 21 09.0 +0.9**
baz=47
RAGM **Ragged Mountai** **86.76** **6** IAMs_20 IAMs_20 19 03 21.8
comp=Z,4µm,22.0s
L64A **Middleborough** **86.78 319** P **P** **18 21 08.3 +0.1**
baz=48
HYT **Haines Junctio** **86.79** **3** P **P** **18 21 08.7 +0.6**
HYT IAmb IAmb 18 21 54.7
comp=Z,101nm,1.5s
HRV **Adam Dziewonsk** **86.80 320** P **P** **18 21 08.5 +0.3**
baz=48
HRV **Adam Dziewonsk** **86.80 320** P **P** **18 21 09.3 +1.0**
HRV pmax pmax
comp=Z,43nm,1.0s
HRV MLR MLR
comp=Z,3µm,18.0s
HRV **Adam Dziewonsk** **86.80 320** P **P** **18 21 09.3 +1.0**
HRV IAmb IAmb 18 21 16.2
comp=Z,43nm,1.0s
HRV **Adam Dziewonsk** **86.80 320** IAMs_20 IAMs_20 19 02 43.0
comp=Z,3µm,18.0s
G57A **Newington** **86.80 323** P **P** **18 21 08.0 -0.3**
baz=45
I60A **Shoreham** **86.81 322** P **P** **18 21 09.2 +0.9**
baz=46
ORIO **Orleans, Innes** **86.82 324** P **P** **18 21 08.2 -0.1**
baz=45
ORIO **Orleans, Innes** **86.82 324** P **P** **18 21 08.4 +0.1**
M66A **Nantucket** **86.84 318** P **P** **18 21 09.5 +1.0**
baz=48
CNPM **China Poot** **86.85** **10** P **P** **18 21 08.4 +0.1**
H58A **Gabriels** **86.87 322** P **P** **18 21 08.5 -0.1**
baz=46,SNR=11
M65A **Busby, Falmout** **86.93 319** P **P** **18 21 09.4 +0.5**
baz=48
M65A **Busby, Falmout** **86.93 319** IAMs_20 IAMs_20 19 01 29.6
comp=Z,4µm,20.0s
FAKI **Fak Fak** **86.93** **95** P **P** **18 21 09.4 0.0**
E54A **Lac Daplat, Po** **86.94 325** P **P** **18 21 08.3 -0.6**
baz=44
LONY **Lake Ozonia** **86.94 323** P **P** **18 21 09.1 +0.1**
baz=46,SNR=23
LONY **Lake Ozonia** **86.94 323** P **P** **18 21 08.8 -0.1**
LONY IAmb IAmb 18 21 17.1
comp=Z,62nm,1.1s
LONY IAMs_20 IAMs_20 19 02 13.7
comp=Z,4µm,20.0s
F55A **Otter Lake** **86.96 325** P **P** **18 21 08.7 -0.3**
baz=44
YAH **Yahtse** **87.02** **5** P **P** **18 21 10.1 +0.8**
YAH IAmb IAmb 18 22 15.4
comp=Z,60nm,1.2s
K62A **Royalston** **87.06 320** P **P** **18 21 10.3 +0.8**
baz=47,SNR=5.8
K62A **Royalston** **87.06 320** P **P** **18 21 09.8 +0.3**
K62A IAmb IAmb 18 21 13.4
comp=Z,60nm,1.3s
K62A IAMs_20 IAMs_20 19 02 04.9
comp=Z,3µm,20.0s
D52A **ZEK Kipawa Sen** **87.12 326** P **P** **18 21 09.4 -0.4**
baz=43,SNR=7.4
I59A **Olmsteadville** **87.15 322** P **P** **18 21 10.4 +0.4**
baz=46,SNR=10
BRYW **Bryant College** **87.18 319** P **P** **18 21 11.4 +1.2**
BRYW IAmb IAmb 18 21 18.7
comp=Z,45nm,0.9s
BRYW IAMs_20 IAMs_20 19 04 36.3
comp=Z,3µm,18.0s
E53A **Dumoine, Ponti** **87.20 326** P **P** **18 21 10.2 -0.1**
baz=44,SNR=16
NCB **Newcomb** **87.21 322** P **P** **18 21 10.2 -0.1**
M64A **Tiverton** **87.25 319** P **P** **18 21 10.8 +0.3**
baz=48
L63A **North Scituate** **87.26 319** P **P** **18 21 10.5 0.0**
baz=47
ADK **Adak** **87.28** **26** IAMs_20 IAMs_20 19 06 52.9
comp=Z,5µm,22.0s
J60A **Lant Hill Farm** **87.29 321** P **P** **18 21 10.3 -0.4**
baz=46
ACCN **Adirondack Com** **87.32 321** P **P** **18 21 11.8 +0.9**
ACCN IAmb IAmb 18 21 14.3
comp=Z,145nm,1.9s
PCA **Pinnacle** **87.38** **4** P **P** **18 21 11.6 +0.8**
PCA IAmb IAmb 18 22 18.5
comp=Z,52nm,1.1s
QUA2 **Belchertown** **87.38 320** IAMs_20 IAMs_20 19 03 00.5
comp=Z,4µm,19.0s
PSA00 **Pilbara Seismi** **87.41 118** P **P** **18 21 10.6 -0.8**
PSA00 **Pilbara Seismi** **87.41 118** P **P** **18 21 10.0 -1.4**
PSA00 IAmb IAmb 18 21 11.8
comp=Z,130nm,1.2s
L61B **Northampton** **87.44 320** P **P** **18 21 11.1 -0.3**
baz=47
H57A **Richville** **87.46 323** P **P** **18 21 11.6 +0.2**
baz=45,SNR=11
D51A **Lot 18 Range I** **87.48 327** P **P** **18 21 11.3 -0.2**
baz=42
G55A **Calabogie** **87.56 324** P **P** **18 21 12.0 +0.1**
baz=44,SNR=16
BCPM **Bancas Point** **87.56** **4** P **P** **18 21 12.3 +0.7**
K61A **Williamstown** **87.61 321** P **P** **18 21 12.4 +0.2**
baz=41
D50A **G1974 Best Tow** **87.64 327** P **P** **18 21 11.5 -0.8**
baz=42
ALGO **Algonquin Park** **87.70 326** P **P** **18 21 12.2 -0.3**
baz=43,SNR=9.2
J59A **Piesco** **87.70 322** P **P** **18 21 12.9 +0.2**
baz=46,SNR=12
J59A **Piesco** **87.70 322** P **P** **18 21 12.7 0.0**
J59A IAmb IAmb 18 21 16.1
comp=Z,38nm,1.1s
J59A IAMs_20 IAMs_20 19 00 04.0
comp=Z,3µm,20.0s
L62A **Suffield** **87.72 320** P **P** **18 21 12.5 -0.2**
baz=47
E52A **Mattawa** **87.74 326** P **P** **18 21 12.5 -0.3**
baz=43,SNR=13
RCBR **Riachuelo** **87.77 262** *eP* **P** **18 21 15.2 +1.7**
TRY **Troy** **87.78 321** IAMs_20 IAMs_20 19 04 45.9
comp=Z,3µm,19.0s
I58A **Old Forge** **87.79 322** P **P** **18 21 13.6 +0.5**
baz=45,SNR=13
H56A **Elgin** **87.80 324** P **P** **18 21 13.1 0.0**
baz=44,SNR=7.2
M63A **Gales Ferry** **87.81 319** P **P** **18 21 12.8 -0.4**
baz=47
PLVO **Plevna** **87.89 324** P **P** **18 21 12.8 -0.7**
PLVO IAmb IAmb 18 21 17.0
comp=Z,34nm,0.8s
PLVO IAMs_20 IAMs_20 19 01 12.7
comp=Z,3µm,21.0s
E51A **G1948 Merrick** **87.95 327** P **P** **18 21 13.5 -0.3**
baz=42,SNR=10
I57A **Carthage** **87.97 323** P **P** **18 21 14.1 +0.2**
baz=45,SNR=17
K60A **Five Rivers En** **87.97 321** P **P** **18 21 14.1 +0.1**
baz=46
L61A **Hillsdale 1, H** **88.09 321** P **P** **18 21 14.8 +0.2**
baz=46
G54A **Lake Saint Pet** **88.12 325** P **P** **18 21 14.3 -0.4**
baz=43,SNR=13
J58A **Remsen** **88.18 322** P **P** **18 21 15.2 +0.2**
baz=45,SNR=7.1
J58A **Remsen** **88.18 322** P **P** **18 21 14.9 -0.1**
J58A IAmb IAmb 18 21 22.6
comp=Z,40nm,0.9s
J58A IAMs_20 IAMs_20 19 03 12.6
comp=Z,5µm,21.0s
D49A **Beulah Townshi** **88.25 328** P **P** **18 21 14.8 -0.3**
baz=41
M62A **Hamden** **88.25 320** P **P** **18 21 15.2 -0.1**
baz=46
H55A **Tweed** **88.29 324** P **P** **18 21 15.5 0.0**
baz=44,SNR=20
KDAK **Kodiak Island** **88.33** **11** IAMs_20 IAMs_20 19 05 11.0
comp=Z,5µm,22.0s
K59A **Cooperstown** **88.37 322** P **P** **18 21 15.8 -0.1**
baz=45,SNR=7.8
KSCT **Kent School, K** **88.37 320** IAMs_20 IAMs_20 19 03 38.8
comp=Z,3µm,20.0s
J57A **Williamstown** **88.51 323** P **P** **18 21 15.9 -0.6**
baz=44,SNR=14
J57A **Williamstown** **88.51 323** P **P** **18 21 16.2 -0.3**
J57A IAmb IAmb 18 21 20.0
comp=Z,38nm,0.8s
J57A IAMs_20 IAMs_20 19 03 01.4
comp=Z,3µm,20.0s
D48A **Paudash Townsh** **88.52 328** P **P** **18 21 15.8 -0.7**
baz=41
DELO **Deloro Mine** **88.53 324** P **P** **18 21 16.5 -0.1**
DELO IAmb IAmb 18 21 20.0
comp=Z,38nm,0.9s
DELO IAMs_20 IAMs_20 19 03 43.8
comp=Z,3µm,19.0s
L60A **Shokan** **88.59 321** P **P** **18 21 16.6 -0.3**
baz=46
F51A **Arnstein** **88.60 326** P **P** **18 21 16.7 -0.1**
baz=42,SNR=8.0
E50A **Wahnapitae** **88.61 327** P **P** **18 21 16.6 -0.3**
baz=41
PECO **Prince Edward** **88.64 324** P **P** **18 21 15.9 -1.2**
PECO IAmb IAmb 18 21 20.5
comp=Z,52nm,0.8s
PECO IAMs_20 IAMs_20 19 03 06.8
comp=Z,3µm,19.0s
I55A **Frankford** **88.78 324** P **P** **18 21 17.7 0.0**
baz=43,SNR=8.7
K58A **Earlville** **88.79 322** P **P** **18 21 17.5 -0.4**
baz=45,SNR=9.0
K58A **Earlville** **88.79 322** P **P** **18 21 18.0 +0.1**
K58A IAMs_20 IAMs_20 19 00 35.8
comp=Z,3µm,22.0s
M61A **Granite Spring** **88.81 320** P **P** **18 21 17.7 -0.3**
baz=46
FALS **False Pass** **88.84** **17** IAMs_20 IAMs_20 19 04 50.8
comp=Z,4µm,22.0s
L59A **Walton** **88.88 321** P **P** **18 21 18.5 +0.2**
baz=45
L59A **Walton** **88.88 321** P **P** **18 21 18.4 0.0**
L59A IAMs_20 IAMs_20 19 03 09.2
comp=Z,3µm,22.0s
H53A **Bobcaygeon** **88.96 325** P **P** **18 21 18.3 -0.3**
baz=43,SNR=10
NIKH **Nikolski High** **88.99** **21** IAMs_20 IAMs_20 19 08 07.1
comp=Z,4µm,19.0s
J56A **Wolcott** **89.05 323** P **P** **18 21 18.6 -0.4**
baz=44,SNR=5.9
J56A **Wolcott** **89.05 323** P **P** **18 21 19.4 +0.4**
J56A IAmb IAmb 18 21 26.8
comp=Z,42nm,1.0s
J56A IAMs_20 IAMs_20 19 03 18.5
comp=Z,3µm,20.0s
SADO **Sadowa** **89.09 325** P **P** **18 21 19.2 0.0**
SADO IAMs_20 IAMs_20 19 02 03.5
comp=Z,2µm,19.0s
SDPT **Sand Point** **89.10** **16** IAMs_20 IAMs_20 19 06 14.6
comp=Z,4µm,21.0s
PAL **Palisades** **89.10 320** P **P** **18 21 18.6 -0.7**
baz=46
BESE **Bessie Mountai** **89.11** **1** IAMs_20 IAMs_20 19 08 45.6
comp=Z,3µm,19.0s
FFC **Flin Flon** **89.18 343** P **P** **18 21 18.9 -0.5**
FFC pmax pmax
comp=Z,21nm,0.9s
FFC MLR MLR
comp=Z,4µm,19.0s
FFC **Flin Flon** **89.18 343** P **P** **18 21 18.9 -0.5**
FFC **Flin Flon** **89.18 343** IAMs_20 IAMs_20 19 03 03.2
comp=Z,4µm,19.0s
D47A **Chapleau** **89.18 329** P **P** **18 21 19.4 -0.2**

baz=40
E48A Lockeyer 89.21 328 P P 18 21 19.5 -0.3
baz=40
MORW Morawa 89.21 126 P P 18 21 20.4 +0.5
MORW IAmb IAmb 18 21 23.2
comp=Z,68nm,1.1s
SII Sitkinak Islan 89.23 12 IAMs_20 IAMs_20 19 06 36.9
comp=Z,5µm,22.0s
DLBC Dease Lake 89.26 359 P P 18 21 20.3 +0.5
K57A Scipio Center 89.27 322 P P 18 21 20.1 0.0
baz=44
M60A Port Jervis 89.27 320 P P 18 21 20.0 -0.1
baz=45
BINY Binghamton 89.37 322 P P 18 21 20.5 -0.1
baz=44
BINY Binghamton 89.37 322 P P 18 21 21.3 +0.7
BINY IAMs_20 IAMs_20 19 04 02.1
comp=Z,4µm,22.0s
L58A Harry Jones Me 89.41 322 P P 18 21 19.8 -1.0
baz=45
JIS Juneau Island 89.43 1 P P 18 21 21.4 +1.0
JIS IAmb IAmb 18 21 28.6
comp=Z,90nm,1.5s
JIS IAMs_20 IAMs_20 19 06 57.8
comp=Z,4µm,21.0s
ODNJ Ogdensburg 89.43 320 P P 18 21 21.9 +1.1
ODNJ IAMs_20 IAMs_20 19 04 00.6
comp=Z,3µm,18.0s
N61A South Mountain 89.49 320 P P 18 21 20.7 -0.4
baz=46
J55A Hilton 89.54 324 P P 18 21 19.7 -1.6
baz=43
J55A Hilton 89.54 324 P P 18 21 21.4 +0.1
J55A IAMs_20 IAMs_20 19 03 41.5
comp=Z,3µm,19.0s
M59A Waymart 89.55 321 P P 18 21 21.3 -0.1
baz=45
CHIR Chirikof Islan 89.67 13 IAMs_20 IAMs_20 19 06 24.6
comp=Z,5µm,22.0s
F49A Sandfield 89.70 327 P P 18 21 21.7 -0.3
baz=40
K56A Middlesex 89.70 323 P P 18 21 22.0 -0.1
baz=44,SNR=14
KSPA Keystone Colle 89.71 321 P P 18 21 22.3 +0.1
KSPA IAMs_20 IAMs_20 19 05 56.2
comp=Z,3µm,18.0s
D46A Sault St. Mari 89.72 329 P P 18 21 21.5 -0.6
baz=39
E47A Iron Bridge 89.72 329 P P 18 21 22.2 0.0
baz=40
CNBA Chernabura Isl 89.78 15 IAMs_20 IAMs_20 19 07 16.8
comp=Z,3µm,20.0s
N60A Cedar Hill Far 89.84 320 P P 18 21 22.0 -0.8
baz=45
FITZ Fitzroy Crossi 89.86 112 P P 18 21 22.6 -0.5
comp=Z,32nm,1.1s,baz=322,slow=4.0,SNR=25
FITZ LR LR 19 04 49.0
comp=Z,854nm,18.2s,baz=320,slow=38
FITZ Fitzroy Crossi 89.86 112 P P 18 21 22.9 -0.1
FITZ IAmb IAmb 18 21 26.0
comp=Z,43nm,1.1s
NBMO Morrinhos-CE 89.89 266 *e* **P P 18 21 25.9 +2.5**
F48A Evansville 89.91 328 P P 18 21 22.5 -0.5
baz=40
MEDO Medina 89.93 324 P P 18 21 23.6 +0.5
J54A Appleton 89.94 324 P P 18 21 22.6 -0.7
baz=43
J54A Appleton 89.94 324 P P 18 21 23.3 +0.1
J54A IAMs_20 IAMs_20 19 01 15.2
comp=Z,3µm,20.0s
L57A Andrews Acres 89.96 322 P P 18 21 23.3 -0.1
baz=44,SNR=12
MMNY Mt. Morris Dam 89.97 323 P P 18 21 23.5 +0.1
MMNY IAmb IAmb 18 21 26.4
comp=Z,47nm,0.9s
MMNY IAMs_20 IAMs_20 19 03 47.0
comp=Z,4µm,19.0s
K55A Perry 90.06 323 P P 18 21 23.6 -0.2
baz=43,SNR=9.3
O61A Allentown 90.09 320 P P 18 21 23.8 -0.2
baz=46
N59A State Game Lan 90.17 321 P P 18 21 23.5 -0.8
baz=45
N59A State Game Lan 90.17 321 P P 18 21 23.7 -0.7
N59A IAMs_20 IAMs_20 19 04 46.2
comp=Z,3µm,19.0s
LUPA Lehigh Univers 90.18 320 P P 18 21 24.1 -0.3
LUPA IAMs_20 IAMs_20 19 06 18.6
comp=Z,3µm,20.0s
M58A Price's Panora 90.21 322 P P 18 21 24.4 -0.2
baz=44
L56A Greenwood 90.23 323 P P 18 21 24.1 -0.5
baz=44,SNR=14
L56A Greenwood 90.23 323 P P 18 21 24.5 -0.1
L56A IAmb IAmb 18 21 27.8
comp=Z,38nm,0.8s
L56A IAMs_20 IAMs_20 19 05 09.7
comp=Z,3µm,20.0s
O60A Telford 90.40 320 P P 18 21 24.9 -0.5
baz=45
K54A Basiliko Farm, 90.46 324 P P 18 21 25.3 -0.4
baz=43,SNR=11
P61A Hammonton 90.52 319 P P 18 21 25.3 -0.6
baz=45
WVNY West Valley, N 90.56 323 P P 18 21 26.0 -0.1
WVNY IAmb IAmb 18 21 29.4
comp=Z,48nm,0.9s
WVNY IAMs_20 IAMs_20 19 04 04.6
comp=Z,4µm,20.0s
M57A Sunshine Farm, 90.58 322 P P 18 21 25.9 -0.3
baz=44
M57A Sunshine Farm, 90.58 322 P P 18 21 26.1 -0.2
M57A IAmb IAmb 18 21 28.3
comp=Z,126nm,2.0s
M57A IAMs_20 IAMs_20 19 04 46.2
comp=Z,4µm,21.0s
SIT Sitka 90.63 2 IAMs_20 IAMs_20 19 07 24.6
comp=Z,3µm,21.0s
L55A Hinsdale 90.64 323 P P 18 21 25.9 -0.6
baz=43,SNR=28
PSUB Penn St. - Bra 90.70 320 IAMs_20 IAMs_20 19 03 52.3
comp=Z,3µm,21.0s
I51A Listowel 90.71 326 P P 18 21 26.2 -0.6
baz=41
N58A Sunbury 90.72 321 P P 18 21 26.2 -0.7
baz=44
N58A Sunbury 90.72 321 P P 18 21 27.1 +0.2
N58A IAMs_20 IAMs_20 19 06 34.9
comp=Z,3µm,19.0s
O59A Robesonia 90.82 321 P P 18 21 27.0 -0.3
baz=44
P60A Greenville 90.88 320 P P 18 21 26.9 -0.7
baz=45
P60A Greenville 90.88 320 IAMs_20 IAMs_20 19 03 58.1
comp=Z,3µm,20.0s
KNRA Kununurra 90.99 108 P P 18 21 27.7 -0.7
M56A Emporium 91.02 323 P P 18 21 28.1 -0.2
baz=43,SNR=15
M56A Emporium 91.02 323 P P 18 21 28.1 -0.2
M56A IAMs_20 IAMs_20 19 07 17.8
comp=Z,3µm,19.0s
L54A Sinclairville 91.05 324 P P 18 21 27.3 -1.1
baz=42,SNR=10
MVL Millersville 91.13 320 P P 18 21 29.2 +0.4
MVL IAMs_20 IAMs_20 19 06 47.8
comp=Z,3µm,20.0s
PAGS Pennsylvania G 91.17 321 P P 18 21 28.4 -0.6
PAGS IAMs_20 IAMs_20 19 06 50.7
comp=Z,3µm,19.0s
N57A Milroy 91.22 322 P P 18 21 28.9 -0.3
baz=44,SNR=10
WRAK Wrangell Islan 91.31 0 IAMs_20 IAMs_20 19 09 30.5
comp=Z,3µm,20.0s
M55A Ridgway 91.33 323 P P 18 21 29.6 -0.2
baz=43,SNR=19
M55A Ridgway 91.33 323 P P 18 21 29.4 -0.4
M55A IAmb IAmb 18 21 33.5
comp=Z,50nm,0.8s
M55A IAMs_20 IAMs_20 19 04 37.9
comp=Z,3µm,20.0s
O58A Lewisberry 91.35 321 P P 18 21 29.3 -0.5
baz=44
MTN Manton Dam 91.37 104 P P 18 21 29.6 -0.6
E43A Lone Tree Farm 91.38 331 P P 18 21 29.1 -0.8
E43A IAMs_20 IAMs_20 19 02 56.8
comp=Z,5µm,21.0s
ULM Lac du Bonnet 91.42 338 P P 18 21 28.4 -1.5
comp=Z,23nm,0.8s,baz=44,slow=4.1,SNR=11
ULM Lac du Bonnet 91.42 338 *e* **P P 18 21 30.7 +0.8**
ULM Lac du Bonnet 91.42 338 P P 18 21 29.1 -0.8
ULM IAmb IAmb 18 21 37.2
comp=Z,30nm,0.9s
ULM IAMs_20 IAMs_20 19 03 38.5
comp=Z,5µm,21.0s
P59A Jarrettsville 91.45 320 P P 18 21 29.7 -0.6
D41A Chassel 91.46 332 P P 18 21 30.2 0.0
D41A IAMs_20 IAMs_20 19 05 03.0
comp=Z,4µm,20.0s
ERPA Erie 91.47 324 P P 18 21 29.7 -0.6
baz=42
ERPA Erie 91.47 324 P P 18 21 30.1 -0.3
SSPA Standing Stone 91.49 322 P P 18 21 29.7 -0.8
baz=43
SSPA Standing Stone 91.49 322 P P 18 21 30.8 +0.3
SSPA Standing Stone 91.49 322 IAMs_20 IAMs_20 19 02 20.1
comp=Z,3µm,21.0s
N56A West Decatur 91.50 322 P P 18 21 29.9 -0.6
baz=43
Q60A Greensboro 91.57 320 P P 18 21 30.4 -0.4
baz=45
GLMI Grayling 91.58 328 P P 18 21 30.4 -0.4
baz=39
GLMI Grayling 91.58 328 IAMs_20 IAMs_20 19 02 55.3
comp=Z,3µm,22.0s
O57A Amberson 91.66 321 P P 18 21 31.0 -0.3
baz=44,SNR=14
L53A Girard 91.72 324 P P 18 21 31.1 -0.5
baz=42,SNR=10
M54A Oil Creek Stat 91.76 323 P P 18 21 31.2 -0.5
baz=42,SNR=22
M54A Oil Creek Stat 91.76 323 P P 18 21 31.5 -0.2
M54A IAMs_20 IAMs_20 19 04 50.2
comp=Z,3µm,20.0s
R61A Willards 91.76 319 P P 18 21 31.6 -0.2
baz=45
R61A Willards 91.76 319 IAMs_20 IAMs_20 19 04 05.6
comp=Z,3µm,22.0s
SDMD Soldier's Deli 91.82 320 P P 18 21 32.3 +0.3
EYMN Ely 91.86 334 P P 18 21 31.1 -1.0
baz=33
EYMN Ely 91.86 334 P P 18 21 32.7 +0.6
EYMN IAmb IAmb 18 21 39.2
comp=Z,43nm,0.8s
SMPI Sarmi 91.88 91 P P 18 21 33.9 +1.2
comp=Z,938nmcomp=Z,20nm,0.9s
ALLY Alegheny Colle 91.89 324 P P 18 21 31.4 -0.9
ALLY IAmb IAmb 18 21 35.6
comp=Z,43nm,0.8s
ALLY IAMs_20 IAMs_20 19 05 19.8
comp=Z,3µm,20.0s
N55A Marion Center 91.95 322 P P 18 21 32.3 -0.4
baz=42,SNR=10
P58A Pank, Wackersv 92.01 321 P P 18 21 31.8 -1.0
baz=44
Q59A Harwood 92.11 320 P P 18 21 32.9 -0.4
baz=44
O56A Blue Knob Stat 92.11 322 P P 18 21 33.2 -0.2
baz=43,SNR=6.5
O56A Blue Knob Stat 92.11 322 P P 18 21 33.0 -0.4
O56A IAMs_20 IAMs_20 19 02 37.6
comp=Z,3µm,22.0s
K50A Casco 92.25 326 P P 18 21 34.7 +0.8
K50A IAmb IAmb 18 21 37.1
comp=Z,42nm,0.8s
K50A IAMs_20 IAMs_20 19 04 10.1
comp=Z,4µm,21.0s
B35A Bob, Littlefor 92.31 335 P P 18 21 34.9 +0.8
M53A WI Miller and 92.32 324 P P 18 21 34.0 -0.3
baz=41
M53A WI Miller and 92.32 324 P P 18 21 34.2 -0.1
M53A IAmb IAmb 18 22 18.5
comp=Z,40nm,1.2s
M53A IAMs_20 IAMs_20 19 05 31.9
comp=Z,4µm,20.0s
N54A Moraine State 92.33 323 P P 18 21 33.7 -0.6
baz=42
N54A Moraine State 92.33 323 P P 18 21 35.2 +0.9
N54A IAMs_20 IAMs_20 19 06 43.3
comp=Z,3µm,18.0s
F42A Maple Grove Fa 92.34 331 P P 18 21 34.8 +0.5
F42A IAMs_20 IAMs_20 19 03 15.3
comp=Z,4µm,20.0s
NWAO Narrogin (SRO) 92.39 128 P P 18 21 33.5 -1.0
comp=Z,15nm,1.1s,baz=285,slow=9.7,SNR=2.7
NWAO Narrogin (SRO) 92.39 128 P P 18 21 33.6 -1.0
NWAO pmax pmax
comp=Z,135nm,1.9s
NWAO MLR MLR
comp=Z,2µm,19.0s
P57A Homestead Farm 92.39 321 P P 18 21 34.3 -0.3
baz=43,SNR=7.4
P57A Homestead Farm 92.39 321 P P 18 21 34.6 0.0
P57A IAmb IAmb 18 21 37.4
comp=Z,24nm,0.9s
P57A IAMs_20 IAMs_20 19 07 27.1
comp=Z,4µm,19.0s
S61A Accomac 92.41 318 IAMs_20 IAMs_20 19 04 49.7
comp=Z,3µm,21.0s
COWI Conover 92.47 332 P P 18 21 34.5 -0.4
COWI IAmb IAmb 18 21 38.0
comp=Z,42nm,0.8s
COWI IAMs_20 IAMs_20 19 03 32.8
comp=Z,4µm,22.0s
R60A Leonardtown, M 92.50 319 P P 18 21 35.1 0.0
baz=44
O55A Ligonier 92.54 322 P P 18 21 34.7 -0.7
baz=42
M52A Chesterland 92.58 324 P P 18 21 34.6 -0.9
baz=41
M52A Chesterland 92.58 324 P P 18 21 35.7 +0.2
M52A IAmb IAmb 18 21 38.6
comp=Z,37nm,0.8s
Q58A Fox Den Farm, 92.61 320 P P 18 21 34.9 -0.7
baz=44
P56A Dayton Farm, R 92.81 322 P P 18 21 36.3 -0.3
baz=43,SNR=13
R59A King George, V 92.84 320 P P 18 21 36.6 -0.1
baz=44
N53A Lisbon 92.87 324 P P 18 21 36.4 -0.4
baz=41,SNR=9.8
N53A Lisbon 92.87 324 P P 18 21 36.7 -0.2
N53A IAmb IAmb 18 21 40.0
comp=Z,35nm,0.8s
N53A IAMs_20 IAMs_20 19 03 04.6
comp=Z,3µm,20.0s
J47A Sunmer 92.91 327 P P 18 21 37.0 0.0
J47A IAMs_20 IAMs_20 19 05 01.6
comp=Z,4µm,20.0s
I45A Fountain 92.92 329 IAMs_20 IAMs_20 19 04 57.6
comp=Z,3µm,19.0s
Q57A Strasburg 92.93 321 P P 18 21 36.8 -0.3
baz=43,SNR=8.9
S60A Water View 92.94 319 P P 18 21 36.8 -0.4
baz=44
CBN Corbin Frederi 92.97 320 P P 18 21 36.9 -0.4
baz=44
CBN Corbin Frederi 92.97 320 P P 18 21 37.0 -0.3
CBN IAMs_20 IAMs_20 19 08 02.5
comp=Z,2µm,20.0s
E38A The Farm, Brul 93.00 333 P P 18 21 37.0 -0.4
E38A IAmb IAmb 18 21 40.2
comp=Z,45nm,0.9s
E38A IAMs_20 IAMs_20 19 11 00.6
comp=Z,3µm,20.0s
AGMN Agassiz Nation 93.10 337 P P 18 21 36.9 -0.9
baz=30,SNR=8.5
AGMN Agassiz Nation 93.10 337 P P 18 21 37.4 -0.4
AGMN IAmb IAmb 18 21 40.6
comp=Z,19nm,0.8s
AAM Ann Arbor 93.10 326 P P 18 21 37.0 -0.8
baz=39
AAM Ann Arbor 93.10 326 P P 18 21 37.8 -0.1
AAM pmax pmax
comp=Z,74nm,1.4s
AAM MLR MLR
comp=Z,3µm,20.0s
AAM Ann Arbor 93.10 326 P P 18 21 37.8 -0.1
AAM IAMs_20 IAMs_20 19 06 12.7
comp=Z,3µm,20.0s
O54A Avella 93.11 323 P P 18 21 37.8 -0.2
baz=42,SNR=11
O54A Avella 93.11 323 P P 18 21 37.9 0.0
O54A IAmb IAmb 18 21 41.1
comp=Z,36nm,0.8s
O54A IAMs_20 IAMs_20 19 05 52.9
comp=Z,4µm,20.0s
M51A Elyria 93.14 325 P P 18 21 37.7 -0.4
baz=40
MCWV Mont Chateau 93.22 322 P P 18 21 38.3 -0.2
baz=42
MCWV Mont Chateau 93.22 322 P P 18 21 38.6 +0.1
H43A Windswept, Lux 93.23 330 IAMs_20 IAMs_20 19 04 10.9
comp=Z,4µm,22.0s
R58A Rapidan 93.25 320 P P 18 21 37.8 -0.8
baz=43
S59A Mechanicsville 93.25 319 P P 18 21 38.1 -0.5
baz=44
N52A McGinn's Farm, 93.29 324 P P 18 21 38.0 -0.8
baz=41
P55A Reedsville 93.32 322 P P 18 21 38.1 -0.9
baz=42
T60A Surry 93.39 319 P P 18 21 38.8 -0.5
baz=44
T60A Surry 93.39 319 IAMs_20 IAMs_20 19 05 38.5
comp=Z,4µm,21.0s
R58B Mineral 93.42 320 P P 18 21 39.1 -0.4
baz=43,SNR=7.2
R58B Mineral 93.42 320 P P 18 21 39.9 +0.4
GENI Genyem 93.43 91 P P 18 21 39.8 0.0
comp=Z,62nm,1.4s
O53A New Philadelph 93.48 323 P P 18 21 39.6 0.0
baz=41,SNR=10.0
O53A New Philadelph 93.48 323 P P 18 21 39.6 0.0
O53A IAmb IAmb 18 21 43.0
comp=Z,40nm,0.8s
O53A IAMs_20 IAMs_20 19 07 09.7
comp=Z,3µm,18.0s
M50A Fremont 93.50 325 IAMs_20 IAMs_20 19 04 48.3
comp=Z,3µm,21.0s
R57A Standsville 93.53 321 P P 18 21 39.7 -0.2
baz=43,SNR=11
N51A Ashland 93.55 325 P P 18 21 39.0 -1.0
baz=40
N51A Ashland 93.55 325 P P 18 21 40.2 +0.2
N51A IAmb IAmb 18 21 49.0
comp=Z,28nm,1.0s
N51A IAMs_20 IAMs_20 19 06 02.5
comp=Z,3µm,20.0s
G40A Rib Lake 93.58 332 P P 18 21 39.4 -0.6
G40A IAMs_20 IAMs_20 19 04 05.1
comp=Z,4µm,22.0s
P54A Burton 93.59 323 P P 18 21 39.8 -0.4
baz=42,SNR=9.0
L48A N Adams 93.74 326 P P 18 21 40.5 -0.4
L48A IAmb IAmb 18 21 43.6
comp=Z,28nm,0.8s
L48A IAMs_20 IAMs_20 19 05 44.6
comp=Z,3µm,22.0s
S58A Poland Farm, P 93.77 320 P P 18 21 40.5 -0.5
baz=43,SNR=5.8
S58A Poland Farm, P 93.77 320 P P 18 21 40.5 -0.5
U61A Possum Corner 93.80 318 P P 18 21 41.2 +0.1
baz=44
U61A Possum Corner 93.80 318 IAMs_20 IAMs_20 19 05 40.6
comp=Z,4µm,20.0s
Q55A Buckhannon 93.84 322 P P 18 21 41.0 -0.4
baz=42,SNR=6.3
JAY Jayapura 93.84 91 P P 18 21 41.2 -0.6
comp=Z,14nm,1.1s,baz=311,slow=5.1,SNR=9.5
JAY Jayapura 93.84 91 P P 18 21 41.9 +0.1
comp=Z,239nmcomp=Z,9.9nm,1.0s
O52A Adamsville 93.89 324 P P 18 21 40.6 -1.0
baz=41,SNR=12
O52A Adamsville 93.89 324 P P 18 21 41.0 -0.6
O52A IAmb IAmb 18 21 44.6
comp=Z,43nm,0.8s
O52A IAMs_20 IAMs_20 19 03 35.7
comp=Z,3µm,21.0s
R56A Bull Pasture M 93.92 321 P P 18 21 42.1 +0.2
baz=42,SNR=6.3
T59A Double "B" Far 93.96 319 P P 18 21 41.2 -0.7
baz=44
T59A Double "B" Far 93.96 319 P P 18 21 41.7 -0.3
T59A IAMs_20 IAMs_20 19 07 03.8
comp=Z,3µm,20.0s
V62A Hyde County Ai 94.07 317 P P 18 21 42.0 -0.5
baz=45
V62A Hyde County Ai 94.07 317 IAMs_20 IAMs_20 19 07 09.8
comp=Z,3µm,21.0s
U60A Pendleton 94.10 318 P P 18 21 42.3 -0.2
baz=44
P53A Whipple 94.14 323 P P 18 21 42.7 0.0
baz=41,SNR=16
P53A Whipple 94.14 323 P P 18 21 41.5 -1.2
P53A IAmb IAmb 18 21 46.3
comp=Z,45nm,0.8s
P53A IAMs_20 IAMs_20 19 06 25.3
comp=Z,3µm,21.0s
S57A Dark Hollow, R 94.15 320 P P 18 21 42.2 -0.6
baz=43
S57A Dark Hollow, R 94.15 320 P P 18 21 42.3 -0.6
S57A IAMs_20 IAMs_20 19 08 31.7
comp=Z,3µm,19.0s
I42A Draeger Farm, 94.18 330 P P 18 21 42.5 -0.4
I42A IAMs_20 IAMs_20 19 04 39.0
comp=Z,5µm,22.0s
Q54A Coxs Mills 94.24 322 P P 18 21 42.4 -0.7
baz=41
Q54A Coxs Mills 94.24 322 P P 18 21 43.2 0.0
Q54A IAMs_20 IAMs_20 19 06 28.8
comp=Z,3µm,20.0s
O51A Pataskala 94.25 324 P P 18 21 42.9 -0.3
baz=40,SNR=9.6
V61A Roper 94.26 318 P P 18 21 43.3 -0.1
baz=44
V61A Roper 94.26 318 IAMs_20 IAMs_20 19 09 00.8
comp=Z,3µm,19.0s
F36A Milaca 94.36 334 P P 18 21 42.9 -0.7
ACSO Alum Creek Sta 94.37 324 P P 18 21 43.4 -0.3
baz=40,SNR=8.0
ACSO Alum Creek Sta 94.37 324 P P 18 21 43.9 +0.2
ACSO IAmb IAmb 18 21 46.7
comp=Z,32nm,0.8s
ACSO IAMs_20 IAMs_20 19 06 26.3
comp=Z,2µm,21.0s
R55A Marlinton 94.39 321 P P 18 21 43.8 -0.2
baz=42
R55A Marlinton 94.39 321 P P 18 21 43.9 -0.1
R55A IAmb IAmb 18 21 56.1
comp=Z,66nm,1.8s
R55A IAMs_20 IAMs_20 19 08 39.9
comp=Z,3µm,19.0s
P52A Corning 94.41 324 P P 18 21 43.2 -0.7
baz=40,SNR=9.2
P52A Corning 94.41 324 P P 18 21 43.2 -0.7
P52A IAmb IAmb 18 21 46.8
comp=Z,43nm,0.8s
N49A Columbus Grove 94.42 326 P P 18 21 43.4 -0.5
N49A IAmb IAmb 18 21 50.8
comp=Z,29nm,0.9s
T58A Grand View Acr 94.52 320 P P 18 21 44.1 -0.4
baz=43,SNR=13
DIB Dawson Inlet, 94.53 0 IAMs_20 IAMs_20 19 08 42.8
comp=Z,3µm,20.0s
S56A Natural Bridge 94.54 321 P P 18 21 44.2 -0.4
baz=42
U59A Littleton 94.54 319 P P 18 21 44.0 -0.6
baz=44
U59A Littleton 94.54 319 P P 18 21 44.1 -0.5
U59A IAMs_20 IAMs_20 19 06 13.1
comp=Z,3µm,20.0s
L46A Eue Claire 94.55 327 IAMs_20 IAMs_20 19 05 59.8
comp=Z,3µm,20.0s
SPMN Marine on St. 94.63 333 P P 18 21 44.3 -0.6
baz=32
SPMN Marine on St. 94.63 333 P P 18 21 46.0 +1.1
SPMN IAMs_20 IAMs_20 19 07 17.9
comp=Z,3µm,20.0s
Q53A Leroy 94.69 323 P P 18 21 44.8 -0.5
baz=41
MDND Maddock 94.70 339 P P 18 21 44.1 -1.1
baz=27
MDND Maddock 94.70 339 P P 18 21 46.0 +0.9
MDND IAmb IAmb 18 21 52.8
comp=Z,43nm,0.8s
T57A Hurt 94.87 320 P P 18 21 45.4 -0.7
baz=42
T57A Hurt 94.87 320 P P 18 21 46.7 +0.5
I40A Norwalk 94.89 331 P P 18 21 46.7 +0.7
K43A Burlington 94.90 329 IAMs_20 IAMs_20 19 08 10.0

comp=Z,4µm,21.0s
R54A Victor 94.92 322 P **P** 18 21 45.5 -0.8
baz=41
U58A Oxford 94.93 319 P **P** 18 21 46.1 -0.3
baz=43
W61A Ground Anchor 94.94 317 P **P** 18 21 46.2 -0.2
baz=44
S55A Lewisburg 94.97 321 P **P** 18 21 46.7 +0.1
baz=42,SNR=13
Q52A Bidwell 94.98 323 P **P** 18 21 45.9 -0.7
baz=40,SNR=9.6
P51A Williamsport 94.98 324 P **P** 18 21 45.6 -1.0
baz=40
P51A Williamsport 94.98 324 P **P** 18 21 46.0 -0.6
P51A IAms_20 IAms_20 19 04 27.6
comp=Z,3µm,21.0s
GDU01 Guandu, BA 95.05 257 *e*P **P** 18 21 49.5 +2.3
O49A Covington 95.06 325 P **P** 18 21 46.3 -0.6
O49A IAmb IAmb 18 21 50.4
comp=Z,33nm,0.8s
O49A IAms_20 IAms_20 19 05 36.6
comp=Z,4µm,20.0s
L44A Lake County Fo 95.14 329 P **P** 18 21 46.0 -1.2
baz=36
L44A Lake County Fo 95.14 329 IAms_20 IAms_20 19 06 14.4
comp=Z,3µm,20.0s
N47A Urbana 95.17 326 P **P** 18 21 46.4 -1.0
N47A IAms_20 IAms_20 19 08 14.3
comp=Z,3µm,19.0s
V59A Middlesex 95.22 319 P **P** 18 21 47.5 -0.2
baz=43
T56A Rocky Mt 95.27 321 P **P** 18 21 47.3 -0.7
baz=42
R53A Hurricane 95.30 323 P **P** 18 21 47.9 -0.1
baz=41
R53A Hurricane 95.30 323 P **P** 18 21 47.3 -0.7
R53A IAmb IAmb 18 21 51.4
comp=Z,31nm,0.8s
R53A IAms_20 IAms_20 19 07 11.0
comp=Z,3µm,20.0s
U57A Blanch 95.33 320 P **P** 18 21 48.2 0.0
baz=42,SNR=9.9
BLA Blacksburg 95.34 321 P **P** 18 21 47.8 -0.5
baz=42
BLA Blacksburg 95.34 321 P **P** 18 21 48.3 0.0
BLA pmax pmax
comp=Z,13nm,0.9s
BLA MLR MLR
comp=Z,3µm,19.0s
BLA Blacksburg 95.34 321 P **P** 18 21 48.3 0.0
BLA IAms_20 IAms_20 19 09 17.2
comp=Z,3µm,19.0s
S54A Dingess, Beckl 95.37 322 P **P** 18 21 48.0 -0.5
baz=41
S54A Dingess, Beckl 95.37 322 IAms_20 IAms_20 19 07 24.9
comp=Z,3µm,20.0s
F33A 5 Mile Ranch, 95.38 336 P **P** 18 21 48.0 -0.3
F33A IAmb IAmb 18 21 51.6
comp=Z,19nm,0.8s
CNNC Cliffs of the 95.40 318 P **P** 18 21 48.4 -0.2
baz=44
HQIL Hanson Quary C 95.42 328 IAms_20 IAms_20 19 08 42.8
comp=Z,3µm,20.0s
W60A Pink Hill 95.44 318 P **P** 18 21 47.7 -1.1
baz=44
DGMT Dagmar 95.45 342 P **P** 18 21 48.3 -0.3
baz=24
DGMT Dagmar 95.45 342 IAms_20 IAms_20 19 06 47.3
comp=Z,4µm,21.0s
Q51A Peebles 95.48 324 P **P** 18 21 48.8 -0.1
Q51A IAmb IAmb 18 22 33.3
comp=Z,30nm,1.1s
Q51A IAms_20 IAms_20 19 12 52.3
comp=Z,2µm,20.0s
JFWS Jewell Farm 95.54 330 P **P** 18 21 47.5 -1.6
baz=34
JFWS Jewell Farm 95.54 330 P **P** 18 21 49.0 0.0
JFWS pmax pmax
comp=Z,13nm,0.9s
JFWS MLR MLR
comp=Z,4µm,22.0s
JFWS Jewell Farm 95.54 330 P **P** 18 21 49.0 0.0
JFWS Jewell Farm 95.54 330 IAms_20 IAms_20 19 04 42.0
comp=Z,4µm,22.0s
T55A Pulaski 95.61 321 P **P** 18 21 49.1 -0.4
baz=42,SNR=8.5
V58A Windy Hill, Pi 95.68 319 P **P** 18 21 49.3 -0.5
baz=43
V58A Windy Hill, Pi 95.68 319 P **P** 18 21 50.1 +0.3
V58A IAmb IAmb 18 21 51.3
comp=Z,47nm,1.8s
P49A Miami Univ. Ec 95.76 325 P **P** 18 21 49.0 -1.1
baz=39
P49A Miami Univ. Ec 95.76 325 P **P** 18 21 50.0 -0.1
P49A IAms_20 IAms_20 19 06 18.9
comp=Z,4µm,22.0s
W59A Clinton 95.77 318 P **P** 18 21 49.8 -0.4
baz=43
I37A Lemond, Waseca 95.88 333 P **P** 18 21 51.0 +0.4
I37A IAmb IAmb 18 21 59.8
comp=Z,32nm,0.9s
I37A IAms_20 IAms_20 19 07 32.0
comp=Z,4µm,20.0s
S53A Williamson 95.88 322 P **P** 18 21 50.5 -0.3
baz=41
X60A Albert Glenn T 95.93 318 P **P** 18 21 51.0 +0.1
baz=44
U56A King 95.97 320 P **P** 18 21 50.9 -0.2
baz=42
U56A King 95.97 320 P **P** 18 21 50.9 -0.2
U56A IAmb IAmb 18 21 54.9
comp=Z,18nm,0.8s
U56A IAms_20 IAms_20 19 09 45.7
comp=Z,3µm,19.0s
V57A Coltrane Farms 95.98 320 P **P** 18 21 50.7 -0.5
baz=42
L42A Oliver, Polo 96.04 330 P **P** 18 21 51.4 0.0
L42A IAmb IAmb 18 21 58.0
comp=Z,18nm,0.9s
L42A IAms_20 IAms_20 19 09 06.3
comp=Z,4µm,20.0s
T54A Tazewell 96.07 322 P **P** 18 21 51.3 -0.4
baz=41
P48A Milroy 96.16 325 P **P** 18 21 52.3 +0.4
P48A IAmb IAmb 18 24 04.9
comp=Z,45nm,1.6s
P48A IAms_20 IAms_20 19 06 19.5
comp=Z,4µm,20.0s
E28A Huff 96.17 339 IAms_20 IAms_20 19 05 59.3
comp=Z,4µm,21.0s
U55A TA2, Sparta 96.20 321 P **P** 18 21 52.0 -0.3
baz=41,SNR=15
SFIN Lafayette 96.21 327 P **P** 18 21 51.2 -1.0
baz=37
SFIN Lafayette 96.21 327 IAms_20 IAms_20 19 05 27.9
comp=Z,4µm,22.0s
X59A McDuffie Farm, 96.29 318 P **P** 18 21 52.3 -0.3
baz=43
W58A Raeford 96.31 319 P **P** 18 21 52.5 -0.2
baz=43
V56A Mocksville 96.43 320 P **P** 18 21 53.0 -0.2
baz=42
Y60A Bolivia 96.48 317 P **P** 18 21 52.7 -0.7
baz=43
Y60A Bolivia 96.48 317 IAms_20 IAms_20 19 09 28.5
comp=Z,3µm,20.0s
R50A Paris 96.54 324 P **P** 18 21 54.4 +0.7
R50A IAms_20 IAms_20 19 07 43.7
comp=Z,3µm,22.0s
U54A Nelsons Funny 96.60 321 P **P** 18 21 54.0 -0.1
baz=41
U54A Nelsons Funny 96.60 321 P **P** 18 21 54.9 +0.8
U54A IAmb IAmb 18 22 05.4
comp=Z,15nm,0.8s
U54A IAms_20 IAms_20 19 08 25.5
comp=Z,4µm,20.0s
T53A Wise 96.63 322 P **P** 18 21 53.5 -0.7
baz=40
W57A Gilead 96.64 319 P **P** 18 21 53.6 -0.6
baz=42
W57A Gilead 96.64 319 P **P** 18 21 54.5 +0.3
L40A Anamosa 96.65 331 P **P** 18 21 52.3 -1.8
L40A IAmb IAmb 18 22 00.4
comp=Z,16nm,0.9s
L40A IAms_20 IAms_20 19 06 06.3
comp=Z,4µm,20.0s
S51A Beattyville 96.67 323 P **P** 18 21 54.3 0.0
S51A IAMs_20 IAMs_20 19 05 33.1
comp=Z,3µm,20.0s
X58A Rowland 96.72 318 P **P** 18 21 54.6 +0.1
baz=43
V55A Taylorsville 96.78 320 P **P** 18 21 54.6 -0.3
baz=41
V55A Taylorsville 96.78 320 IAms_20 IAms_20 19 10 20.3
comp=Z,3µm,19.0s
Y59A Loris 96.87 318 P **P** 18 21 54.4 -0.8
baz=43
Y59A Loris 96.87 318 IAms_20 IAms_20 19 08 35.7
comp=Z,3µm,21.0s
P46A Rosedale 96.87 327 IAms_20 IAms_20 19 14 03.4
comp=Z,3µm,19.0s
BLO Bloomington 96.91 326 IAms_20 IAms_20 19 09 11.3
comp=Z,4µm,20.0s
R49A Shelbyville 96.95 325 P **P** 18 21 55.0 -0.5
R49A IAmb IAmb 18 21 59.5
comp=Z,16nm,0.8s
W56A Indian Trail 96.97 320 P **P** 18 21 54.6 -1.1
baz=42
O44A Mansfield 97.02 328 IAms_20 IAms_20 19 06 13.2
comp=Z,3µm,22.0s
WALA Waterton Lakes 97.05 348 IAms_20 IAms_20 19 08 29.3
comp=Z,3µm,22.0s
HDIL Hopedale 97.06 328 P **P** 18 21 54.0 -2.0
baz=35
HDIL Hopedale 97.06 328 IAms_20 IAms_20 19 09 38.3
comp=Z,3µm,21.0s
BBGH Gun Hill 97.08 290 IAms_20 IAms_20 19 06 58.8
comp=Z,3µm,22.0s
X57A Johnson Farm, 97.20 319 P **P** 18 21 56.5 -0.3
baz=42
EGMT Eagleton 97.22 345 P **P** 18 21 53.8 -2.9
baz=19
EGMT Eagleton 97.22 345 P Pdif 18 21 57.1 +0.3
EGMT IAms_20 IAms_20 19 11 16.8
comp=Z,4µm,20.0s
V54A Nebo 97.23 321 P **P** 18 21 56.3 -0.6
baz=41
BIRD Birdtown, Kers 97.27 319 P Pdif 18 21 57.4 +0.2
BIRD IAms_20 IAms_20 19 08 09.4
comp=Z,3µm,21.0s
ECSD EROS Data Cent 97.32 335 P **P** 18 21 56.6 -0.5
baz=30
ECSD EROS Data Cent 97.32 335 P **P** 18 21 56.9 -0.2
KMSC Kings Mountain 97.38 320 P **P** 18 21 57.0 -0.5
baz=41
KMSC Kings Mountain 97.38 320 P **P** 18 21 57.5 0.0
KMSC IAmb IAmb 18 22 00.8
comp=Z,12nm,0.8s
KMSC IAMs_20 IAMs_20 19 05 59.1
comp=Z,2µm,20.0s
TZTN Tazewell 97.48 322 P **P** 18 21 58.0 0.0
baz=40
TZTN Tazewell 97.48 322 P **P** 18 21 58.0 0.0
TZTN IAmb IAmb 18 22 06.1
comp=Z,17nm,0.9s
TZTN IAMs_20 IAMs_20 19 13 04.8
comp=Z,3µm,20.0s
SUSD Miller 97.51 337 P **P** 18 21 57.5 -0.5
baz=28
SUSD Miller 97.51 337 P **P** 18 21 57.8 -0.2
WCI Wyandotte Cave 97.54 325 P **P** 18 21 57.3 -0.9
baz=38
SCIA State Center 97.59 332 P **P** 18 21 57.6 -0.8
baz=32
N41A Harden Midland 97.62 330 P Pdif 18 21 59.0 +0.4
N41A IAmb IAmb 18 22 01.3
comp=Z,11nm,0.7s
N41A IAMs_20 IAMs_20 19 10 02.9
comp=Z,4µm,19.0s
LAO LASA Array 97.63 342 P Pdif 18 21 58.9 +0.3
baz=22
LAO LASA Array 97.63 342 P Pdif 18 21 59.1 +0.5
Y57A Sumter 97.70 319 P **P** 18 21 58.8 -0.2
baz=42
X56A White Oak 97.70 319 P **P** 18 21 58.6 -0.3
baz=42
WB0 Warramunga Arr 97.70 108 P Pdif 18 21 59.3 +0.1
WRA Warramunga Arr 97.75 109 P **P** 18 21 57.7 -1.7
comp=Z,4.8nm,0.6s,baz=317,slow=4.0,SNR=33
WRA PP **PP** 18 25 58.8 +1.0
comp=Z,6.3nm,1.0s,baz=310,slow=8.0,SNR=6.6
WRA PKKP **PKKPbc** 18 38 34.7 +0.7
comp=Z,1.0nm,0.6s,baz=119,slow=3.0,SNR=11
WRA Warramunga Arr 97.75 109 P **P** 18 21 58.1 -1.3
WRA Warramunga Arr 97.75 109 P **P** 18 21 58.1 -1.3
WRAB Tennant Creek 97.75 109 *de*P Pdif 18 22 00.4 +0.9
WRAB pmax pmax
comp=Z,24nm,1.7s
WRAB MLR MLR
comp=Z,1µm,23.0s
WRAB Tennant Creek 97.75 109 P **P** 18 21 59.3 -0.1
WRAB IAmb IAmb 18 22 01.2
comp=Z,16nm,1.1s
WB2 Warramunga Arr 97.76 109 P **P** 18 21 59.1 -0.4
V53A Saluda 97.77 321 P **P** 18 21 58.9 -0.5
V53A IAmb IAmb 18 22 06.7
comp=Z,18nm,0.8s
T50A Nancy 97.77 324 P **P** 18 21 59.2 -0.1
T50A IAMs_20 IAMs_20 19 06 06.4
comp=Z,3µm,22.0s
PAULI Pauline 97.88 320 P **P** 18 21 59.4 -0.4
PAULI IAMs_20 IAMs_20 19 06 14.4
comp=Z,3µm,22.0s
W54A Cherokee Point 97.88 321 P **P** 18 21 59.7 -0.1
baz=41
P43A Skaggs, Pawnee 97.91 328 IAMs_20 IAMs_20 19 08 47.7
comp=Z,3µm,21.0s
WR0 Warramunga Arr 97.92 109 P **P** 18 21 59.9 -0.3
OLIL Olney 97.99 327 P **P** 18 22 00.0 -0.2
OLIL IAmb IAmb 18 22 02.9
comp=Z,17nm,0.9s
OLIL IAMs_20 IAMs_20 19 06 22.8
comp=Z,3µm,22.0s
X55A Gracelyn & Ava 98.04 320 P Pdif 18 22 00.7 +0.1
baz=41
V52A Sevierville 98.05 322 P **P** 18 21 59.4 -1.2
V52A IAmb IAmb 18 22 04.3
comp=Z,15nm,0.8s
V52A IAMs_20 IAMs_20 19 10 44.8
comp=Z,3µm,20.0s
NHSC New Hope 98.25 318 P **P** 18 22 00.8 -0.7
baz=42
NHSC New Hope 98.25 318 IAMs_20 IAMs_20 19 11 21.4
comp=Z,3µm,20.0s
Q44A Meyer Farm, Va 98.28 327 IAMs_20 IAMs_20 19 06 50.6
comp=Z,4µm,22.0s
TKL Tuckaleechee C 98.28 322 P **P** 18 22 01.4 -0.2
TKL pmax pmax
comp=Z,15nm,0.8s
TKL MLR MLR
comp=Z,3µm,22.0s
TKL Tuckaleechee C 98.28 322 P **P** 18 22 01.4 -0.2
TKL IAmb IAmb 18 22 05.3
comp=Z,15nm,0.8s
TKL IAMs_20 IAMs_20 19 09 05.9
comp=Z,3µm,22.0s
NEW Newport 98.34 350 P **P** 18 22 00.8 -0.9
baz=13
NEW Newport 98.34 350 P **P** 18 22 01.3 -0.4
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW MLR MLR
comp=Z,5µm,20.0s
NEW Newport 98.34 350 P **P** 18 22 01.3 -0.4
BG3 Lake Jocassee 98.35 321 P **P** 18 22 01.6 -0.3
BG3 IAmb IAmb 18 22 05.8
comp=Z,12nm,0.9s
BG3 IAMs_20 IAMs_20 19 11 01.7
comp=Z,2µm,19.0s
Y56A Pelion 98.37 319 P **P** 18 22 01.9 -0.1
baz=41
JTMT Jette 98.38 348 IAMs_20 IAMs_20 19 09 21.6
comp=Z,4µm,21.0s
X54A Belton 98.39 320 P **P** 18 22 02.1 0.0
baz=41
Z57A Bowman 98.41 318 P Pdif 18 22 02.3 +0.1
baz=42
MCPB Macapa, AP 98.45 275 *e*P Pdif 18 22 04.2 +1.5
V51A Loudon 98.47 322 IAMs_20 IAMs_20 19 08 17.9
comp=Z,4µm,21.0s
158A Hollywood 98.53 318 P **P** 18 22 02.5 -0.2
baz=42
B08A Colville Reser 98.55 351 P Pdif 18 22 03.0 +0.4
B08A IAMs_20 IAMs_20 19 11 58.1
comp=Z,4µm,21.0s
HODGE Hodges 98.56 320 P Pdif 18 22 03.0 +0.1
HODGE IAmb IAmb 18 22 06.3
comp=Z,12nm,0.7s
Y55A Saluda 98.57 320 P Pdif 18 22 02.9 0.0
baz=41
A04D Lummi Island 98.57 354 P **P** 18 22 01.9 -0.7
baz=8.2
U49A Red Boiling Sp 98.64 324 IAMs_20 IAMs_20 19 06 54.3
comp=Z,3µm,21.0s
FORT Forrest 98.69 121 IAMs_20 IAMs_20 19 14 02.8
comp=Z,2µm,19.0s
Z56A Williston 98.76 319 P **P** 18 22 03.1 -0.7
baz=41
W52A Murphy 98.80 322 IAMs_20 IAMs_20 19 09 31.6
comp=Z,3µm,20.0s
CPCT Cooper Cave 98.83 322 P Pdif 18 22 04.5 +0.4
CPCT IAMs_20 IAMs_20 19 08 28.4
comp=Z,3µm,20.0s
T47A Sharon Grove 98.92 325 IAMs_20 IAMs_20 19 08 49.6
comp=Z,4µm,21.0s
C09A Chrisman Ranch 98.96 351 IAMs_20 IAMs_20 19 13 40.9
comp=Z,4µm,20.0s
B05A Bryant 98.96 353 P **P** 18 22 03.7 -0.6
baz=8.7
SLM Saint Louis 99.05 328 IAMs_20 IAMs_20 19 10 50.9
comp=Z,3µm,19.0s
P40A Paris 99.10 330 **Pdif** 18 22 04.7 -0.5
P40A IAMs_20 IAMs_20 19 07 50.3
comp=Z,3µm,21.0s
C06D Leavenworth 99.17 352 P **Pdif** 18 22 03.5 -1.8
baz=9.7
MSO Missoula 99.20 347 P **Pdif** 18 22 04.9 -0.8
baz=16
MSO Missoula 99.20 347 IAMs_20 IAMs_20 19 09 08.3
comp=Z,4µm,22.0s
GCMT Greycliff 99.31 344 P **Pdif** 18 22 05.9 -0.3
AS31 Alice Springs 99.35 112 **Pdif** 18 22 05.0 -1.5
ASAR Alice Springs 99.35 112 P **Pdif** 18 22 05.0 -1.5
comp=Z,7.6nm,1.0s,baz=305,slow=4.7,SNR=49
ASAR PP **PP** 18 26 09.8 -0.2
comp=Z,5.0nm,0.9s,baz=309,slow=6.6,SNR=6.8
ASAR PKKP **PKKPbc** 18 38 31.2 +1.6
comp=Z,1.5nm,0.7s,baz=116,slow=3.9,SNR=8.4
ASAR Alice Springs 99.35 112 **Pdif** 18 22 04.6 -1.9
S44A Carbondale 99.37 327 IAMs_20 IAMs_20 19 07 13.5
comp=Z,3µm,21.0s
RSSD Black Hills 99.39 340 P **Pdif** 18 22 05.7 -1.0
baz=24
RSSD Black Hills 99.39 340 P **Pdif** 18 22 06.9 +0.2
RSSD pmax pmax
comp=Z,11nm,1.1s
RSSD MLR MLR
comp=Z,6µm,22.0s
RSSD Black Hills 99.39 340 **Pdif** 18 22 06.8 +0.2
W50A Signal Mountai 99.43 323 IAMs_20 IAMs_20 19 09 04.3
comp=Z,3µm,20.0s
257A Skidaway Islan 99.57 318 IAMs_20 IAMs_20 19 09 28.3
comp=Z,2µm,20.0s
T45A Paducah 99.63 326 IAMs_20 IAMs_20 19 15 36.5
comp=Z,3µm,20.0s
P38A Dawn 99.65 331 IAMs_20 IAMs_20 19 11 09.6
comp=Z,4µm,20.0s
SWET Sewanee 99.73 323 IAMs_20 IAMs_20 19 07 18.3
comp=Z,3µm,21.0s
V48A Smith Brothers 99.77 324 IAMs_20 IAMs_20 19 11 04.1
comp=Z,2µm,20.0s
D08A Wollman Farm, 99.78 351 IAMs_20 IAMs_20 19 13 31.5
comp=Z,4µm,21.0s
D03D Eldon 99.78 354 P **Pdif** 18 22 07.5 -0.5
baz=7.9
LTY Liberty 99.80 352 IAMs_20 IAMs_20 19 10 11.2
comp=Z,4µm,22.0s
Y52A Lilburn 99.81 321 IAMs_20 IAMs_20 19 10 14.5
comp=Z,4µm,19.0s
GOGA Godfrey 99.84 320 P **Pdif** 18 22 08.5 -0.1
baz=40
GOGA Godfrey 99.84 320 IAMs_20 IAMs_20 19 09 54.2
comp=Z,2µm,20.0s
RLMT Red Lodge 99.84 344 P **Pdif** 18 22 07.6 -1.1
baz=20
BGNE Belgrade 99.90 335 P **Pdif** 18 22 07.5 -1.3
baz=29
BOZ Bozeman (W) 99.92 345 P **Pdif** 18 22 08.0 -1.0
baz=18
BOZ Bozeman (W) 99.92 345 IAMs_20 IAMs_20 19 09 37.5
comp=Z,4µm,19.0s
WVT Waverly 99.95 325 P **Pdif** 18 22 08.0 -1.1
baz=37
WVT Waverly 99.95 325 IAMs_20 IAMs_20 19 09 30.0
comp=Z,4µm,21.0s
CCM Cathedral Cave 99.97 328 P **Pdif** 18 22 08.0 -1.1
baz=34
CCM Cathedral Cave 99.97 328 IAMs_20 IAMs_20 19 11 18.4
comp=Z,4µm,20.0s
D05A Enumclaw 100.01 353 IAMs_20 IAMs_20 19 11 21.8
comp=Z,4µm,21.0s
FPAL Fort Paine 100.10 322 IAMs_20 IAMs_20 19 09 25.0
comp=Z,3µm,20.0s
D04E Lakebay 100.10 353 P **Pdif** 18 22 08.4 -1.1
baz=8.2
E09A Wood Farm, Sta 100.20 350 IAMs_20 IAMs_20 19 11 50.7
comp=Z,4µm,22.0s
R40A Maddies Statio 100.23 329 IAMs_20 IAMs_20 19 09 31.1
comp=Z,3µm,20.0s
154A Montrose 100.25 320 IAMs_20 IAMs_20 19 11 00.2
comp=Z,3µm,22.0s
HENM Henderson Moun 100.26 326 IAMs_20 IAMs_20 19 16 47.2
comp=Z,2µm,20.0s
HICK Hickman 100.29 326 IAMs_20 IAMs_20 19 16 49.9
comp=Z,2µm,19.0s
E08A Dider Farm, El 100.35 351 IAMs_20 IAMs_20 19 08 40.7
comp=Z,4µm,22.0s
E07A Sunnyside 100.39 351 IAMs_20 IAMs_20 19 14 32.7
comp=Z,3µm,20.0s
255A Hazlehurst 100.42 319 IAMs_20 IAMs_20 19 09 50.8
comp=Z,3µm,21.0s
PARMO Parma 100.44 326 IAMs_20 IAMs_20 19 16 50.7
comp=Z,2µm,20.0s
HAWA Hanford 100.51 351 IAMs_20 IAMs_20 19 14 14.9
comp=Z,4µm,22.0s
GLAT Glass 100.54 326 IAMs_20 IAMs_20 19 09 23.2
comp=Z,2µm,20.0s
PENMO Penman 100.55 326 IAMs_20 IAMs_20 19 16 55.8
comp=Z,3µm,21.0s
MAW Mawson 100.57 174 PKKPbc PKKPbc 18 38 26.0 -1.6
comp=Z,2.3nm,0.9s,baz=196,slow=7.2,SNR=5.3
F10A Beach Ranch, E 100.59 349 IAMs_20 IAMs_20 19 11 45.1
comp=Z,4µm,21.0s
E04D Cinebar 100.70 353 P **Pdif** 18 22 11.4 -0.8
baz=8.3
T42A Van Buren 100.75 328 IAMs_20 IAMs_20 19 07 55.1
comp=Z,4µm,22.0s
LNXT Lenox 100.77 326 IAMs_20 IAMs_20 19 17 03.6
comp=Z,2µm,20.0s
E03A Lebam 100.80 354 IAMs_20 IAMs_20 19 11 53.7
comp=Z,3µm,20.0s
Z51A Franklin 100.82 321 IAMs_20 IAMs_20 19 10 35.2
comp=Z,3µm,21.0s
H17A Grant Village 100.84 344 P **Pdif** 18 22 12.1 -1.0
baz=18
X48A Hartselle 100.90 323 IAMs_20 IAMs_20 19 10 36.1
comp=Z,3µm,20.0s
PEBM Pemiscott Bayo 100.94 326 IAMs_20 IAMs_20 19 17 07.0
comp=Z,3µm,21.0s
Y49A Blount Mountai 101.04 323 IAMs_20 IAMs_20 19 08 10.0
comp=Z,3µm,22.0s
F07A Phinny Hill Vi 101.05 351 IAMs_20 IAMs_20 19 08 51.4
comp=Z,4µm,22.0s
152A Waverly Hall 101.08 321 IAMs_20 IAMs_20 19 15 41.1
comp=Z,3µm,19.0s
S39A Bolivar 101.19 329 IAMs_20 IAMs_20 19 13 01.4
comp=Z,3µm,20.0s
F05D White Salmon 101.24 352 P **Pdif** 18 22 13.3 -1.3
baz=9.3
F04A Amboy 101.30 353 IAMs_20 IAMs_20 19 12 19.8
comp=Z,4µm,22.0s
KSU1 Kansas State U 101.33 332 P **Pdif** 18 22 14.4 -0.8
baz=30
W45A Hickory Valley 101.39 325 IAMs_20 IAMs_20 19 09 41.0
comp=Z,3µm,20.0s
TIGA Tifton 101.41 319 P **Pdif** 18 22 15.0 -0.6
baz=40
TIGA Tifton 101.41 319 IAMs_20 IAMs_20 19 11 19.9
comp=Z,4µm,20.0s
F03A Seaside 101.41 354 IAMs_20 IAMs_20 19 14 57.8
comp=Z,4µm,21.0s
K22A Casper 101.45 341 P **Pdif** 18 22 14.9 -0.9

	baz=22								
SYO	Syowa Base	101.51	183	ePdiff	Pdif	18	22	16.0	+1.1
G08A	Pilot Rock	101.51	350	IAMs_20	IAMs_20	19	12	28.5	
	comp=Z,3µm,21.0s								
LPAR	Lepanto	101.56	326	IAMs_20	IAMs_20	19	17	35.4	
	comp=Z,3µm,19.0s								
LCAR	Lake Charles	101.57	327	IAMs_20	IAMs_20	19	08	30.7	
	comp=Z,3µm,21.0s								
SC01	Santiago de lo	101.66	302	IAMs_20	IAMs_20	19	12	20.7	
	comp=Z,2µm,20.0s								
HBAR	Harrisburg	101.76	326	IAMs_20	IAMs_20	19	14	31.9	
	comp=Z,3µm,19.0s								
MET	Memphis--Engin	101.78	326	IAMs_20	IAMs_20	19	09	43.2	
	comp=Z,2µm,21.0s								
TPAW	Teton Pass	101.78	344	IAMs_20	IAMs_20	19	11	23.6	
	comp=Z,4µm,20.0s								
HDBT	Hernando Brdge	101.81	326	IAMs_20	IAMs_20	19	10	08.0	
	comp=Z,2µm,20.0s								
G05D	Wamic, OR	101.86	352	P	Pdif	18	22	16.7	-0.7
	baz=9.4								
LRAL	Lakeview Retre	101.99	322	P	Pdif	18	22	17.9	-0.3
	baz=38								
LRAL	Lakeview Retre	101.99	322	IAMs_20	IAMs_20	19	08	38.1	
	comp=Z,3µm,21.0s								
OXF	Oxford	102.02	325	IAMs_20	IAMs_20	19	10	09.7	
	comp=Z,3µm,20.0s								
U40A	Yellville	102.10	328	P	Pdif	18	22	17.6	-1.0
	baz=33								
U40A	Yellville	102.10	328	IAMs_20	IAMs_20	19	10	32.7	
	comp=Z,3µm,20.0s								
352A	Blakely	102.11	320	IAMs_20	IAMs_20	19	11	48.4	
	comp=Z,4µm,20.0s								
BW06	Boulder Array	102.14	343	P	Pdif	18	22	17.8	-1.1
	baz=20								
PDAR	Pinedale Array	102.14	343	PKKPbc	PKKPbc	18	38	21.1	-1.0
	comp=Z,0.9nm,0.8s,baz=178,slow=2.9,SNR=5.2								
FCAR	Ozark Folk Cen	102.16	328	IAMs_20	IAMs_20	19	10	24.3	
	comp=Z,3µm,21.0s								
656A	Willston	102.38	317	IAMs_20	IAMs_20	19	12	26.6	
	comp=Z,3µm,20.0s								
Z47A	Carrollton	102.41	323	IAMs_20	IAMs_20	19	12	13.1	
	comp=Z,3µm,21.0s								
HLID	Hailey	102.44	347	IAMs_20	IAMs_20	19	15	02.0	
	comp=Z,3µm,20.0s								
250A	Grady	102.44	321	IAMs_20	IAMs_20	19	11	45.1	
	comp=Z,3µm,21.0s								
HHAR	Hobbs	102.64	329	IAMs_20	IAMs_20	19	12	50.9	
	comp=Z,3µm,20.0s								
U38A	Gravette	102.70	330	IAMs_20	IAMs_20	19	18	06.4	
	comp=Z,2µm,19.0s								
X43A	Marvell	102.72	326	P	Pdif	18	22	20.6	-0.8
	baz=35								
COR	Corvallis	102.72	353	IAMs_20	IAMs_20	19	15	51.5	
	comp=Z,3µm,21.0s								
WHAR	Wooly Hollow	102.73	327	IAMs_20	IAMs_20	19	09	17.5	
	comp=Z,3µm,22.0s								
I07A	Izee	102.77	351	IAMs_20	IAMs_20	19	13	07.8	
	comp=Z,3µm,20.0s								
W41B	Gary Mavity, V	102.81	327	P	Pdif	18	22	21.1	-0.7
	baz=34								
W41B	Gary Mavity, V	102.81	327	IAMs_20	IAMs_20	19	09	19.6	
	comp=Z,4µm,22.0s								
553A	Crawfordville	102.83	319	IAMs_20	IAMs_20	19	12	22.5	
	comp=Z,3µm,21.0s								
MFID	Camas Ranch	102.84	348	IAMs_20	IAMs_20	19	12	03.7	
	comp=Z,3µm,20.0s								
N23A	Red Feather La	102.91	340	P	Pdif	18	22	21.0	-1.5
	baz=23								
T35A	Sooner Cattle	103.18	331	IAMs_20	IAMs_20	19	17	23.0	
	comp=Z,4µm,20.0s								
UALR	University of	103.19	327	IAMs_20	IAMs_20	19	09	43.5	
	comp=Z,3µm,22.0s								
PINE	Pine Mountain	103.25	352	IAMs_20	IAMs_20	19	10	45.3	
	comp=Z,3µm,22.0s								
I02D	Swisshome	103.25	354	P	Pdif	18	22	23.0	-0.5
	baz=7.3								
J08A	Circle Bar Ran	103.33	350	IAMs_20	IAMs_20	19	13	29.7	
	comp=Z,4µm,21.0s								
146A	Union	103.35	324	IAMs_20	IAMs_20	19	13	15.1	
	comp=Z,3µm,20.0s								
I04A	Tendick Farm,	103.42	353	P	Pdif	18	22	23.1	-1.3
	baz=8.6								
W39A	Magazine	103.48	328	P	Pdif	18	22	23.7	-1.1
	baz=33								
W39A	Magazine	103.48	328	IAMs_20	IAMs_20	19	12	18.3	
	comp=Z,3µm,20.0s								
BRAL	Brewton	103.49	321	P	Pdif	18	22	23.9	-0.9
	baz=38								
BRAL	Brewton	103.49	321	IAMs_20	IAMs_20	19	14	02.8	
	comp=Z,3µm,19.0s								
KSCO	Kaye Shedlock'	103.59	337	P	Pdif	18	22	24.4	-0.9
	baz=25								
CCAR	Cane Creek	103.63	326	IAMs_20	IAMs_20	19	12	10.3	
	comp=Z,3µm,20.0s								
X40A	Basin Creek Fa	103.65	327	IAMs_20	IAMs_20	19	14	07.7	
	comp=Z,3µm,19.0s								
HWUT	Hardware Ranch	103.71	344	IAMs_20	IAMs_20	19	12	36.7	
	comp=Z,4µm,20.0s								
TUL1	Leonard	103.74	330	P	Pdif	18	22	24.7	-1.2
	baz=31								
TUL1	Leonard	103.74	330	IAMs_20	IAMs_20	19	13	34.1	
	comp=Z,3µm,20.0s								
J04D	Umpqua Nationa	103.93	352	P	Pdif	18	22	25.5	-1.4
	baz=8.8								
J01E	Myrtle Point	104.19	354	P	Pdif	18	22	27.1	-0.6
	baz=7.3								
O20A	White River Ci	104.26	341	P	Pdif	18	22	27.1	-1.3
	baz=21								
WVOR	Wild Horse Val	104.26	350	IAMs_20	IAMs_20	19	13	59.3	
	comp=Z,4µm,21.0s								
K05A	Summer Lake	104.29	351	IAMs_20	IAMs_20	19	14	28.0	
	comp=Z,2µm,21.0s								
VBMS	Vicksburg	104.42	324	IAMs_20	IAMs_20	19	13	25.2	
	comp=Z,3µm,19.0s								
WLAR	White Oak Lake	104.44	327	IAMs_20	IAMs_20	19	10	08.7	
	comp=Z,4µm,22.0s								
143A	Socs Landing,	104.45	325	IAMs_20	IAMs_20	19	11	56.1	
	comp=Z,3µm,21.0s								
K04D	Chiloquin, OR	104.50	352	P	Pdif	18	22	28.5	-0.9
	baz=9.2								
KEBM	Edson Butte	104.52	354	IAMs_20	IAMs_20	19	13	52.9	
	comp=Z,3µm,20.0s								
OK029	Liberty Lake	104.52	331	IAMs_20	IAMs_20	19	16	06.7	
	comp=Z,4µm,21.0s								
346A	Big Creek Wild	104.56	323	IAMs_20	IAMs_20	19	11	39.2	
	comp=Z,3µm,20.0s								
Z41A	Richland Creek	104.66	327	IAMs_20	IAMs_20	19	12	50.4	
	comp=Z,3µm,21.0s								
OK025	Westminster Rd	104.66	331	IAMs_20	IAMs_20	19	11	16.4	
	comp=Z,4µm,22.0s								
OKCFA	Oklahoma City	104.85	331	IAMs_20	IAMs_20	19	11	23.4	
	comp=Z,4µm,22.0s								
MOD	Modoc Plateau	105.02	351	IAMs_20	IAMs_20	19	17	43.4	
	comp=Z,3µm,20.0s								
KBO	Bosley Butte	105.16	354	IAMs_20	IAMs_20	19	14	14.0	
	comp=Z,3µm,20.0s								
PTGA	Pitinga	105.27	279	IAMs_20	IAMs_20	19	12	28.5	
	comp=Z,3µm,19.0s								
M04C	Macdoel	105.34	352	P	PKiKP	18	26	47.6	+0.7
	baz=9.1								
DUG	Dugway, Tooele	105.34	345	P	PKiKP	18	26	47.2	+0.2
	baz=17								
YBH	Yreka Blue Hor	105.49	353	IAMs_20	IAMs_20	19	17	30.6	
	comp=Z,3µm,21.0s								
Z38A	Mt. Pleasant	105.65	328	IAMs_20	IAMs_20	19	12	22.6	
	comp=Z,3µm,20.0s								
X34A	Smith Ranch, M	105.71	331	IAMs_20	IAMs_20	19	11	47.2	
	comp=Z,4µm,22.0s								
KRMB	Red Mountain	105.81	353	IAMs_20	IAMs_20	19	17	20.3	
	comp=Z,3µm,20.0s								
MIDW	Midway	105.85	41	IAMs_20	IAMs_20	19	12	53.9	
	comp=Z,2µm,22.0s								
T25A	Trinidad	105.88	337	P	PKiKP	18	26	49.1	+1.0
	baz=24								
WMOK	Wichita Mounta	105.98	332	IAMs_20	IAMs_20	19	11	22.2	
	comp=Z,4µm,21.0s								
S22A	4UR Ranch, Cre	106.08	339	P	PKiKP	18	26	49.5	+0.9
	baz=22								
N02D	Trinity Center	106.23	352	P	PKiKP	18	26	50.2	+1.7
	baz=8.4								
KHMM	Horse Mountain	106.44	353	IAMs_20	IAMs_20	19	18	23.8	
	comp=Z,2µm,19.0s								
WDC	Whiskeytown Da	106.61	352	IAMs_20	IAMs_20	19	12	58.2	
	comp=Z,2µm,21.0s								
NATX	Nacogdoches	106.76	327	IAMs_20	IAMs_20	19	14	25.2	
	comp=Z,2µm,20.0s								
O03E	Paynes Creek	106.80	352	P	PKiKP	18	26	51.3	+1.7
	baz=9.2								
441A	DeRidder	106.92	325	IAMs_20	IAMs_20	19	13	33.4	
	comp=Z,2µm,22.0s								
AMTX	Amarillo	106.96	334	P	PKiKP	18	26	51.2	+1.1
	baz=27								
237A	Washetta, Mont	107.08	328	IAMs_20	IAMs_20	19	13	29.5	
	comp=Z,3µm,20.0s								
KMRM	Mail Ridge	107.08	353	IAMs_20	IAMs_20	19	18	25.4	
	comp=Z,3µm,21.0s								
VCNR	Virginia City	107.49	350	IAMs_20	IAMs_20	19	19	05.6	
	comp=Z,3µm,20.0s								
CTAO	Charters Tower	107.50	103	IAMs_20	IAMs_20	19	17	30.5	
	comp=Z,2µm,18.0s								
R11A	Troy Canyon, C	107.70	346	P	PKiKP	18	26	53.0	+1.5
	baz=15								
R11A	Troy Canyon, C	107.70	346	IAMs_20	IAMs_20	19	18	52.2	
	comp=Z,3µm,20.0s								
YERR	Yerington	107.73	349	IAMs_20	IAMs_20	19	15	49.0	
	comp=Z,3µm,21.0s								
RUBR	Rubicon Trail	107.80	350	IAMs_20	IAMs_20	19	14	59.9	
	comp=Z,3µm,21.0s								
WHTX	Lake Whitney,	107.81	329	IAMs_20	IAMs_20	19	20	03.8	
	comp=Z,4µm,21.0s								
RYN	Ryan	107.96	349	IAMs_20	IAMs_20	19	17	05.2	
	comp=Z,3µm,21.0s								
AFDM	Forest Hills D	108.02	351	IAMs_20	IAMs_20	19	15	10.7	
	comp=Z,3µm,22.0s								
NV11	Mina Array Sit	108.09	348	IAMs_20	IAMs_20	19	17	09.6	
	comp=Z,3µm,21.0s								
NVAR	Mina Array Bea	108.12	349	PKKPbc	PKKPbc	18	38	04.5	+0.5
	comp=Z,0.9nm,0.8s,baz=183,slow=4.2,SNR=6.1								
ABTX	Abilene, Hawle	108.17	331	IAMs_20	IAMs_20	19	14	23.3	
	comp=Z,3µm,19.0s								
WAKR	Walker	108.23	349	IAMs_20	IAMs_20	19	16	15.3	
	comp=Z,3µm,20.0s								
HOPS	Hopland Field	108.23	352	IAMs_20	IAMs_20	19	19	33.3	
	comp=Z,3µm,20.0s								
LHV	Little Huntoon	108.33	349	IAMs_20	IAMs_20	19	17	26.9	
	comp=Z,4µm,21.0s								
GDXM	Geysers	108.39	352	IAMs_20	IAMs_20	19	21	32.3	
	comp=Z,3µm,19.0s								
PRN	Pahroc Range	108.50	346	IAMs_20	IAMs_20	19	15	02.4	
	comp=Z,2µm,19.0s								
435B	Jarrell	108.90	329	IAMs_20	IAMs_20	19	21	52.8	
	comp=Z,3µm,20.0s								
MCCM	Marconi Confer	109.05	352	IAMs_20	IAMs_20	19	20	08.9	
	comp=Z,2µm,21.0s								
TPNV	Topopah Spring	109.19	346	IAMs_20	IAMs_20	19	21	31.6	
	comp=Z,3µm,20.0s								
W18A	Petrified Fore	109.37	341	P	PKiKP	18	26	57.0	+2.3
	baz=20								
SHPR	Sheep Range	109.39	345	IAMs_20	IAMs_20	19	18	04.0	
	comp=Z,3µm,21.0s								
CASY	Casey	109.55	158	IAMs_20	IAMs_20	19	11	39.6	
	comp=Z,3µm,20.0s								
CWC	Cottonwood Cre	110.02	348	P	PKiKP	18	26	57.8	+1.9
	baz=13								
JCT	Junction City	110.11	330	P	PKiKP	18	26	56.6	+0.6
	baz=29								
JCT	Junction City	110.11	330	IAMs_20	IAMs_20	19	17	24.7	
	comp=Z,3µm,20.0s								
SAO	San Andreas Ge	110.23	351	IAMs_20	IAMs_20	19	21	02.2	
	comp=Z,3µm,20.0s								
VNA2	Neumayer--Watz	110.38	197	PKiKP	PKiKP	18	26	57.4	+2.4
VNA1	Neumayer--Stat	110.40	197	PKiKP	PKiKP	18	26	57.2	+2.2
735A	Kenedy	110.66	328	IAMs_20	IAMs_20	19	17	05.2	
	comp=Z,2µm,20.0s								
PMPB	Monarch Peak	110.68	350	IAMs_20	IAMs_20	19	16	40.1	
	comp=Z,4µm,22.0s								
PAGB	Antelope Grade	111.07	350	IAMs_20	IAMs_20	19	17	43.5	
	comp=Z,3µm,21.0s								
VNA3	Neumayer Olymp	111.14	197	PKiKP	PKiKP	18	26	57.1	+0.6
GMRC	Granite Mounta	111.15	345	P	PKiKP	18	26	59.5	+1.5
	baz=15								
MNTX	Cornudas Mount	111.16	336	P	PKiKP	18	26	57.8	-0.2
	baz=24								
IRM	Iron Mountain	111.64	345	P	PKiKP	18	26	59.1	+0.3
	baz=16								
833A	Chaparral WMA,	111.81	329	IAMs_20	IAMs_20	19	16	18.9	
	comp=Z,3µm,21.0s								
BELC	Belle Mtn. Jos	111.98	345	P	PKiKP	18	27	01.9	+2.4
	baz=15								
SAML	Samuel	112.37	274	IAMs_20	IAMs_20	19	11	14.8	
	comp=Z,3µm,22.0s								
PFO	Pinyon Flats O	112.45	346	IAMs_20	IAMs_20	19	22	12.1	
	comp=Z,3µm,19.0s								
XPFO	Pion Flat	112.45	346	IAMs_20	IAMs_20	19	22	12.1	
	comp=Z,3µm,19.0s								
GLA	Glamis	112.64	344	IAMs_20	IAMs_20	19	17	42.0	
	comp=Z,3µm,19.0s								
TXAR	Lajitas Array	112.67	333	PKiKP	PKiKP	18	26	59.6	-1.3
	comp=Z,1.0nm,0.8s,baz=129,slow=1.8,SNR=6.7								
TXAR				PKKPbc	PKKPbc	18	37	48.9	0.0
	comp=Z,0.3nm,0.6s,baz=190,slow=6.4,SNR=3.8								
109C	Camp Elliot, M	113.28	346	IAMs_20	IAMs_20	19	21	32.1	
	comp=Z,2µm,20.0s								
CPBX	Cerro Prieto	113.35	344	IAMs_20	IAMs_20	19	24	32.9	
	comp=Z,2µm,20.0s								
BAR	Barrett	113.40	346	IAMs_20	IAMs_20	19	20	31.1	
	comp=Z,3µm,21.0s								
GUVIX	Guadalupe Vict	113.41	344	IAMs_20	IAMs_20	19	18	06.5	
	comp=Z,2µm,20.0s								
TKX	Tecate	113.49	346	IAMs_20	IAMs_20	19	22	45.6	
	comp=Z,3µm,20.0s								
ROSC	El Rosal	113.66	293	IAMs_20	IAMs_20	19	16	41.2	
	comp=Z,3µm,21.0s								
PIX	Pinacate	113.73	343	IAMs_20	IAMs_20	19	17	46.9	
	comp=Z,2µm,21.0s								
ESJX	Sierra Juarez	113.89	345	IAMs_20	IAMs_20	19	18	23.3	
	comp=Z,2µm,20.0s								
SPX	San Pedro Mart	114.72	344	IAMs_20	IAMs_20	19	18	18.9	
	comp=Z,3µm,22.0s								
CPUP	Villa Florida	115.70	254	PKP	PKPdf	18	27	06.4	-0.1
	comp=Z,3.9nm,0.9s,baz=42,slow=3.2,SNR=7.2								
PETF	Flores	116.19	314	IAMs_20	IAMs_20	19	20	22.9	
	comp=Z,2µm,22.0s								
BOAB	BOACO BROADBAND	116.84	307	IAMs_20	IAMs_20	19	19	53.4	
	comp=Z,3µm,22.0s								
ACON	Acoyapa	116.85	307	IAMs_20	IAMs_20	19	19	02.8	
	comp=Z,2µm,22.0s								
MTO3	Montecristo	117.80	312	IAMs_20	IAMs_20	19	23	39.6	
	comp=Z,2µm,21.0s								
ZAIG	Zacatecas	118.04	329	IAMs_20	IAMs_20	19	20	19.8	
	comp=Z,3µm,22.0s								
CCIG	Comitan	118.05	315	IAMs_20	IAMs_20	19	23	23.9	
	comp=Z,2µm,22.0s								
SNET	Serv Nac Est T	118.25	311	IAMs_20	IAMs_20	19	23	59.7	
	comp=Z,2µm,21.0s								
HUEH	Huehuetenango	118.42	314	IAMs_20	IAMs_20	19	21	02.8	
	comp=Z,3µm,22.0s								
RTAL	Retalhuleu	119.15	314	IAMs_20	IAMs_20	19	26	35.4	
	comp=Z,3µm,20.0s								
OTAV	Otavalo	119.74	292	IAMs_20	IAMs_20	19	25	10.4	
	comp=Z,2µm,21.0s								
LPAZ	La Paz	120.21	269	PKP	PKPdf	18	27	15.9	-0.4
	comp=Z,4.2nm,0.8s,baz=270,slow=1.3,SNR=11								
LPAZ				PKKPab	PKKPab	18	37	24.6	-0.2
	comp=Z,0.6nm,0.4s,baz=261,slow=2.2,SNR=4.7								
LPAZ	La Paz	120.21	269	PKiKP	PKPdf	18	27	16.1	-0.2
LPAZ	La Paz	120.21	269	PKPdf	PKPdf	18	27	16.1	-0.2
PB16	IPOC Station P	122.33	268		PKPdf	18	27	19.9	-0.3
QSPA	South Pole Qui	122.46	180	PKP	PKPdf	18	27	17.9	-0.5
	comp=Z,29nm,0.8s,baz=270,slow=1.0,SNR=44								
QSPA				PKKPbc	PKKPbc	18	37	14.1	-0.9
	comp=Z,2.2nm,0.9s,baz=97,slow=2.3,SNR=5.2								
QSPA	South Pole Qui	122.46	180	PKPdf	PKPdf	18	27	18.3	-0.1
GO01	Chusmiza	122.66	266		PKPdf	18	27	20.1	-0.7
MNMC	Minye Minye	122.76	267		PKPdf	18	27	20.8	+0.1
PB08	IPOC Station P	122.84	266		PKPdf	18	27	21.0	+0.1
PB11	IPOC Station P	123.09	267	PKPdf	PKPdf	18	27	21.1	-0.1
PB11				IAMs_20	IAMs_20	19	24	11.0	
	comp=Z,2µm,18.0s								
PB12	IPOC Station P	123.14	268	PKPdf	PKPdf	18	27	21.1	-0.1
PSGCX	Pisagua	123.42	267		PKPdf	18	27	21.4	-0.3
PSGCX				IAMs_20	IAMs_20	19	18	58.5	
	comp=Z,2µm,21.0s								
PB01	IPOC Station P	123.52	265		PKiKP	18	27	22.5	+0.5
PB01				IAMs_20	IAMs_20	19	19	27.2	
	comp=Z,2µm,22.0s								
PB09	IPOC Station P	123.63	264	IAMs_20	IAMs_20	19	19	28.3	
	comp=Z,3µm,21.0s								
TA01	Diego Aracena	123.89	266	IAMs_20	IAMs_20	19	17	59.1	
	comp=Z,2µm,22.0s								
PB07	IPOC Station P	124.14	265		PKiKP	18	27	24.1	+0.6
PB06	IPOC Station P	124.30	263	IAMs_20	IAMs_20	19	19	35.8	
	comp=Z,3µm,22.0s								
PB15	IPOC Station P	124.42	263	IAMs_20	IAMs_20	19	26	39.1	
	comp=Z,3µm,19.0s								
PB04	IPOC Station P	124.62	264	IAMs_20	IAMs_20	19	23	16.5	
	comp=Z,3µm,20.0s								
DZM	Mont Dzumac	125.20	95	eSS	SS	18	46	06.7	-5.7
	comp=Z,480nm,27.8s								
DZM	Mont Dzumac	125.20	95	eLR	LR	19	06	15.8	
	comp=Z,2µm,30.4s								
DZM	Mont Dzumac	125.20	95	PKP	PKiKP	18	27	25.9	+0.5
	comp=Z,5.5nm,0.7s,baz=283,slow=18,SNR=2.3								
GO02	Mina Guanaco	125.31	261	PKPdf	PKPdf	18	27	25.4	0.0
NNA	Nana	125.41	279	IAMs_20	IAMs_20	19	19	25.1	
	comp=Z,2µm,21.0s								
PB10	IPOC Station P	125.45	263	IAMs_20	IAMs_20	19	27	28.1	
	comp=Z,2µm,19.0s								
AC02	Maricunga	125.57	258	PKPdf	PKiKP	18	27	26.4	-0.2
PB14	IPOC Station P	125.77	262	IAMs_20	IAMs_20	19	20	49.9	
	comp=Z,3µm,20.0s								
GO03	Copiap	126.77	258		PKiKP	18	27	28.4	+0.1
VNDA	Vanda	126.78	166	PKP	PKPdf	18	27	26.4	+0.1
	comp=Z,4.1nm,1.1s,baz=285,slow=6.4,SNR=8.6								
VNDA	Vanda	126.78	166	PKiKP	PKiKP	18	27	27.3	+0.5
VNDA	Vanda	126.78	166	PKPdf	PKiKP	18	27	27.3	+0.5
AC05	El Transito	127.24	257	PKPdf	PKiKP	18	27	30.2	+0.9
LCO	Las Campanas	127.65	257	PKiKP	PKiKP	18	27	30.7	+0.4
LCO				MLR	MLR				
	comp=Z,3µm,20.0s								
LCO	Las Campanas	127.65	257		PKiKP	18	27	30.7	+0.4
AC04	Llanos de Chal	127.68	258	IAMs_20	IAMs_20	19	28	21.3	
	comp=Z,2µm,20.0s								
PMSA	Palmer Station	128.25	210	PKP	PKPdf	18	27	29.4	0.0
	comp=Z,14nm,0.8s,baz=5.3,slow=1.1,SNR=13								
PMSA	Palmer Station	128.25	210		PKiKP	18	27	30.7	+0.7
PMSA	Palmer Station	128.25	210	eP	PKiKP	18	27	32.0	+2.0
MT02	Curacav	129.37	252	IAMs_20	IAMs_20	19	31	23.9	
	comp=Z,3µm,20.0s								
BO02	Sierra Bellavi	129.52	250		PKiKP	18	27	34.0	+0.4
BI02	San Fabin de	130.40	247	PKPdf	PKiKP	18	27	35.6	+0.2
PLCA	Paso Flores	130.75	242	PKP	PKiKP	18	27	36.1	+0.2
	comp=Z,6.5nm,0.7s,baz=355,slow=3.2,SNR=23								
PLCA				SKPbc	SKPab	18	30	59.6	+1.0
	comp=Z,8.8nm,1.0s,baz=112,slow=6.1,SNR=5.3								
PLCA	Paso Flores	130.75	242	PKPdf	PKiKP	18	27	36.4	+0.4
PLCA	Paso Flores	130.75	242	eP	PKiKP	18	27	37.0	+1.1
LC01	Cunco	131.37	245	PKPdf	PKPdf	18	27	35.8	-0.4
RPZ	Rata Peaks	134.88	121	PKP	PKPdf	18	27	42.8	+0.2
	comp=Z,12nm,0.9s,baz=98,slow=6.9,SNR=4.0								
RPZ				SKPbc	SKPbc	18	31	12.2	-0.3
	comp=Z,19nm,0.9s,baz=235,slow=3.6,SNR=3.9								
TAOE	Nuku Hiva Isla	155.24	19	ePP	PP	18	32	16.6	-1.1
	comp=Z,304nm,25.9s								
TAOE	Nuku Hiva Isla	155.24	19	eLR	LR	19	20	30.0	
	comp=Z,5µm,22.8s								
PPT2	Papeete2	158.37	50	eSS	SS	18	52	31.3	-5.1
	comp=Z,3µm,37.8s

TIXI					IAmb	IAmb	18 19 06.0			
	comp=Z,23nm,0.8s									
YAK	**Yakutsk**	**58.10**	**33**	LR	LR		18 49 20.2			
	comp=Z,8µm,18.6s,baz=289,slow=42									
KLR	**Kul'dur**	**62.46**	**47**	P	**P**		**18 19 30.2**	**+1.2**		
	comp=Z,38nm,1.0s,baz=278,slow=10,SNR=4.5									
KSRS	**Korea Array**	**63.98**	**61**	P	**P**		**18 19 38.3**	**-0.9**		
	comp=Z,12nm,0.7s,baz=280,slow=7.1,SNR=5.2									
USRK	**Ussuriysk Ar.**	**64.34**	**53**	P	**P**		**18 19 40.2**	**-1.3**		
	comp=Z,15nm,0.9s,baz=270,slow=6.9,SNR=5.3									
USRK	**Ussuriysk Ar.**	**64.34**	**53**	P	**P**		**18 19 42.1**	**+0.6**		
SEY	**Seymchan**	**67.72**	**29**	P	**P**		**18 20 03.1**	**+0.2**		
	comp=Z,67nm,0.9s,baz=300,slow=7.2,SNR=3.0									
MA2	**Magadan**	**68.62**	**32**	P	**P**		**18 20 08.7**	**+0.1**		
	comp=Z,37nm,1.0s,baz=278,slow=11,SNR=3.8									
MA2	**Magadan**	**68.62**	**32**	IAmb	IAmb		18 20 15.9			
	comp=Z,22nm,0.8s									
PETK	**Petropavlovsk-**	**75.29**	**36**	P	**P**		**18 20 46.9**	**-1.9**		
	comp=Z,19nm,1.0s,baz=297,slow=1.3,SNR=4.5									
PETK	**Petropavlovsk-**	**75.29**	**36**	P	**P**		**18 20 46.4**	**-2.4**		
ILAR	**Eielson Array**	**82.27**	**6**	P	**P**		**18 21 25.3**	**-1.5**		
	comp=Z,3.3nm,0.6s,baz=328,slow=3.3,SNR=5.4									
ILAR					PP	**PP**	**18 24 34.7**	**+0.2**		
	comp=Z,4.8nm,1.1s,baz=345,slow=6.3,SNR=1.7									
YKA	**Yellowknife Ar**	**84.16**	**352**	P	**P**		**18 21 35.7**	**-1.0**		
	comp=Z,9.1nm,0.8s,baz=4.3,slow=5.7,SNR=4.6									
FITZ	**Fitzroy Crossi**	**89.89**	**112**	P	**P**		**18 22 04.8**	**-0.3**		
	comp=Z,12nm,0.9s,baz=316,slow=3.5,SNR=3.1									
FITZ	**Fitzroy Crossi**	**89.89**	**112**	IAmb	IAmb		18 22 07.4			
	comp=Z,7.4nm,0.8s									
WRA	**Warramunga Arr**	**97.79**	**109**	P	**P**		**18 22 41.1**	**-0.4**		
	comp=Z,3.0nm,0.6s,baz=318,slow=3.8,SNR=2.6									
WRA	**Warramunga Arr**	**97.79**	**109**	P	**P**		**18 22 40.2**	**-1.3**		
ASAR	**Alice Springs**	**99.38**	**112**	P	**Pdif**		**18 22 47.5**	**-1.1**		
	comp=Z,2.7nm,0.6s,baz=306,slow=4.8,SNR=4.8									
ASAR					PP	**PP**	**18 26 51.5**	**-0.7**		
	comp=Z,6.5nm,1.1s,baz=304,slow=7.8,SNR=4.8									
ASAR	**Alice Springs**	**99.38**	**112**	P	**Pdif**		**18 22 47.3**	**-1.3**		
SYO	**Syowa Base**	**101.50**	**183**⇑	*e*PP	**PP**		**18 27 11.0**	**+3.8**		
SYO	**Syowa Base**	**101.50**	**183**⇓	*e*PKiKP	**PKiKP**		**18 27 21.0**	**+0.4**		
QSPA	**South Pole Qui**	**122.45**	**180**	PKP	**PKPdf**		**18 28 00.7**	**+0.4**		
	comp=Z,14nm,1.0s,baz=218,slow=4.5,SNR=3.2									
QSPA	**South Pole Qui**	**122.45**	**180**		**PKPdf**		**18 28 00.2**	**-0.2**		
DZM	**Mont Dzumac**	**125.24**	**95**	PKP	**PKPdf**		**18 28 07.6**	**+0.6**		
	comp=Z,12nm,1.1s,baz=138,slow=18,SNR=0.9									
PMSA	**Palmer Station**	**128.21**	**210**	PKP	**PKPdf**		**18 28 11.7**	**+0.4**		
	comp=Z,13nm,0.9s,baz=318,slow=24,SNR=7.3									
PMSA	**Palmer Station**	**128.21**	**210**		**PKPdf**		**18 28 12.0**	**+0.7**		
PLCA	**Paso Flores**	**130.70**	**242**	PKP	**PKPdf**		**18 28 17.4**	**+0.4**		
	comp=Z,2.5nm,0.5s,baz=311,slow=3.4,SNR=6.1									

NEIC ***18*** *18:16:05.2s 1.1, 31°22.5S 0°0.09W 177°18.8W 6.3, h6km 9km, mb4.3/7, Error ellipse: s-maj=32.5km s-min=10.3km az=105.0*

IDC ***18*** *18:16:06.0s 2.5, 31°16.5S 178°0.1W, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.8/49, mbtmp4.1/4, ML3.4/1, Error ellipse: s-maj=63.6km s-min=27.5km az=121.0*

ISC 18 18:16:06.6 ±1.4, **31°23.3S** ±0°0.8 **177°6.6W** ±0°2.2, **h27km**, **n23, s0 98/25, mb4.3/6, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
RAO	**Raoul Island**	**1.98**	**353**	Pn	**Pn**	**18**	**16**	**39.2**	**+0.8**
	24nm,0.3s,baz=253,slow=24,SNR=1.7								
RAO				Sn	**Sn**	**18**	**17**	**00.6**	**-1.7**
	88nm,0.3s,baz=95,slow=23,SNR=2.9								
RAO	**Raoul Island**	**1.98**	**353**		**Pn**	**18**	**16**	**38.7**	**+0.3**
MXZ	**Matakaoa Point**	**7.16**	**207**	Pn	**Pn**	**18**	**17**	**49.5**	**+0.1**
URZ	**Urewera**	**8.24**	**210**	Pn	**Pn**	**18**	**18**	**04.9**	**+0.5**
	0.5nm,0.3s,baz=275,slow=4.9,SNR=7.7								
URZ				Sn	**Sn**	**18**	**19**	**36.0**	**-0.5**
	1.9nm,0.3s,baz=222,slow=21,SNR=8.8								
URZ	**Urewera**	**8.24**	**210**		**Pn**	**18**	**18**	**03.5**	**-0.8**
OUZ	**Omahuta**	**8.36**	**239**	Pn	**Pn**	**18**	**18**	**05.5**	**-0.5**
BKZ	**Black Stump Fm**	**9.26**	**210**	Pn	**Pn**	**18**	**18**	**15.8**	**-2.6**
BFZ	**Birch Farm**	**10.66**	**206**	Pn	**Pn**	**18**	**18**	**37.1**	**-0.3**
THZ	**Tophouse**	**12.97**	**213**	Pn	**Pn**	**18**	**19**	**10.0**	**+0.8**
KHZ	**Kahutara**	**13.21**	**210**	Pn	**Pn**	**18**	**19**	**13.0**	**+0.7**
STKA	**Stephens Creek**	**34.61**	**258**	P	**P**	**18**	**22**	**53.3**	**-0.1**
	1.5nm,0.7s,baz=105,slow=12,SNR=3.0								
STKA	**Stephens Creek**	**34.61**	**258**	P	**P**	**18**	**22**	**53.0**	**-0.4**
STKA				IAmb	IAmb	18	23	20.9	
	comp=Z,3.0nm,1.5s								
AS31	**Alice Springs**	**43.39**	**268**	P	**P**	**18**	**24**	**08.1**	**+1.1**
ASAR	**Alice Springs**	**43.39**	**268**	P	**P**	**18**	**24**	**08.1**	**+1.0**
	comp=Z,3.0nm,0.6s,baz=106,slow=7.1,SNR=20								
WR0	**Warramunga Arr**	**44.27**	**273**	P	**P**	**18**	**24**	**14.6**	**+0.4**
WR0				IAmb	IAmb	18	24	43.1	
	comp=Z,4.1nm,0.9s								
WB2	**Warramunga Arr**	**44.44**	**273**	P	**P**	**18**	**24**	**16.3**	**+0.8**
WB2				IAmb	IAmb	18	24	17.7	
	comp=Z,9.9nm,1.1s								
WRAB	**Tennant Creek**	**44.44**	**273**	P	**P**	**18**	**24**	**16.1**	**+0.5**
WRA	**Warramunga Arr**	**44.45**	**273**	P	**P**	**18**	**24**	**16.3**	**+0.8**
	comp=Z,1.9nm,0.4s,baz=111,slow=8.0,SNR=12								
WRA	**Warramunga Arr**	**44.45**	**273**	P	**P**	**18**	**24**	**16.1**	**+0.6**
WB0	**Warramunga Arr**	**44.48**	**273**	P	**P**	**18**	**24**	**16.6**	**+0.8**
WB0				IAmb	IAmb	18	24	18.7	
	comp=Z,6.3nm,0.9s								
KBZ	**Khabaz**		**145.83**	**303**	PKPbc	**PKiKP**	**18**	**35**	**46.7**	**+0.1**
	comp=Z,1.9nm,1.0s,baz=180,slow=2.0,SNR=2.2									
FINES	**FINESS Array B**		**146.03**	**340**	PKPbc	**PKiKP**	**18**	**35**	**45.2**	**-1.3**
	comp=Z,2.5nm,0.5s,baz=38,slow=3.4,SNR=12									
FINES	**FINESS Array B**		**146.03**	**340**		**PKPab**	**18**	**35**	**44.8**	**+1.0**

IDC ***18*** *18:28:06.8s 1.2, 32°.58N×47°.75E, h0km, mb3.5/9, mb1 3.8/13, mb1mx3.6/52, mbtmp3.7/13, ML3.5/4, Error ellipse: s-maj=29.3km s-min=16.1km az=175.0*

NEIC ***18*** *18:28:07.8s 0.6, 32°.5N 0°.2×47°.8E 0°.1, h10km 2km, Error ellipse: s-maj=32.2km s-min=16.9km az=187.0*

ISN ***18*** *18:28:09.3s 0.8, 32°.67N×47°.76E, h14km 5km, ML3.8*

TEH ***18*** *18:28:10.1, 32°.60N×47°.72E, h17km, ML3.9*

THR ***18*** *18:28:11.7s 1.8, 32°.67N×47°.77E, h14km 25km, ML3.6*

ISC 18 18:28:08.6 ±1.4, **32°56N** ±0°03×**47°81E** ±0°03, **h12km** ±10km, **n85, s2 19/90, mb3.6/11, 5C-3D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SHGR	**Shooshtar-Gavs**	**0.95**	**118**	*e*Pg	**Pn**	**18**	**28**	**29.9**	**+2.2**
SHGR				*e*Sg	**Sn**	**18**	**28**	**46.3**	**+5.0**
SHGR	**Shooshtar-Gavs**	**0.95**	**118**	*e*Pg	**Pn**	**18**	**28**	**29.9**	**+2.2**
IKFM	**Kafar-mosalman**	**0.96**	**2**	*e*Pg	**Pn**	**18**	**28**	**28.2**	**+0.3**
IKMR	**Kamar-syah**	**1.07**	**26**	*e*Pg	**Pn**	**18**	**28**	**30.6**	**+1.2**
IKMR				*e*		18	28	50.9	
IDOB	**Doab**	**1.26**	**14**	*e*Pg	**Pg**	**18**	**28**	**33.5**	**+0.6**
BMDN	**Meydan**	**1.40**	**37**	*e*Pg	**Pg**	**18**	**28**	**36.4**	**+0.9**
BMDN				*e*		18	28	59.4	
AHWZ	**Ahwaz**	**1.42**	**150**	*e*Pg	**Pg**	**18**	**28**	**38.2**	**+2.4**
IKOM	**Komasi**	**1.63**	**351**	*e*Pg	**Pb**	**18**	**28**	**39.3**	**+0.6**
IKOM				*e*		18	29	05.8	
IBDR	**Badra**	**1.68**	**290**	*e*Pg	**Pn**	**18**	**28**	**38.0**	**+0.2**
IBDR				*e*Sg	**Sb**	**18**	**29**	**00.0**	**-0.5**
IBDR				AML	AML	18	29	07.8	
	comp=N,2µm,0.6s								
IBDR				AML	AML	18	29	08.9	
	comp=E,1µm,0.7s								
HSAM	**Samen**	**1.77**	**22**	*e*Pn	**Pg**	**18**	**28**	**42.6**	**-0.1**
HSAM				*e*		18	29	12.3	
KCHF	**Cheshme Sefid,**	**1.83**	**340**	*e*Pn	**Pb**	**18**	**28**	**41.8**	**-0.3**
KCHF				*e*		18	29	10.4	
IBZA	**Bozab**	**1.91**	**1**	*e*Pg	**Pb**	**18**	**28**	**44.4**	**+0.9**
IBZA				*e*		18	28	47.0	
KER	**Kermanshah**	**1.91**	**343**	*e*Pn	**Pb**	**18**	**28**	**43.6**	**+0.2**
NSR	**Nassriya**	**2.10**	**223**	*e*Pn	**Pb**	**18**	**28**	**46.0**	**-0.6**
NSR				*e*Sn	**Sb**	**18**	**29**	**12.0**	**-0.7**
IVIS	**Veis**	**2.12**	**338**	*e*Pn	**Pb**	**18**	**28**	**47.4**	**+0.4**
IVIS				*e*		18	29	19.9	
KHMZ	**Khomeyn**	**2.15**	**56**	*e*Pn	**Pg**	**18**	**28**	**48.6**	**-1.3**
KHMZ	**Khomeyn**	**2.15**	**56**	*e*Pn	**Pg**	**18**	**28**	**48.6**	**-1.3**
IALM	**Almabolaq**	**2.31**	**7**	*e*Pn	**Pn**	**18**	**28**	**48.6**	**+1.8**
JHBN	**Jahan bin**	**2.44**	**97**	*e*Pn	**Pb**	**18**	**28**	**52.1**	**-0.4**
JHBN				*e*		18	29	40.0	
IDHR	**Dehrash**	**2.44**	**331**	*e*Pn	**Pb**	**18**	**28**	**52.5**	**-0.1**
IDHR				*e*		18	29	30.7	
ILIN	**Lien**	**2.46**	**343**	*e*Pn	**Pn**	**18**	**28**	**50.4**	**+1.7**
ILIN				*e*		18	29	36.6	
HAGD	**Aghdareh**	**2.51**	**26**	*e*Pn	**Pb**	**18**	**28**	**53.2**	**-0.6**
HAGD				*e*		18	29	36.7	
SNGE	**Sanandaj**	**2.56**	**351**	*e*Pn	**Pb**	**18**	**28**	**54.0**	**-0.5**
SNGE				IAML		18	29	38.6	
	comp=N,285nm,0.6s								
SNGE	**Sanandaj**	**2.56**	**351**	*e*Pn	**Pb**	**18**	**28**	**54.0**	**-0.5**
IPIR	**Pirpir**	**2.60**	**86**	*e*Pn	**Pb**	**18**	**28**	**54.2**	**-1.1**
IPIR				*e*		18	29	40.0	
HSRG	**Sareghieh**	**2.70**	**8**	*e*Pn	**Pb**	**18**	**28**	**55.8**	**-1.3**
HSRG				*e*		18	29	48.1	
ASAO	**Ashtian**	**2.71**	**42**	*e*Pn	**Pb**	**18**	**28**	**56.1**	**-1.1**
ASAO				*e*Sg	**Sg**	**18**	**29**	**34.9**	**-0.8**
ASAO	**Ashtian**	**2.71**	**42**	*e*Pn	**Pb**	**18**	**28**	**56.1**	**-1.1**
ROKH	**ROKH**	**2.73**	**94**	*e*Pn	**Pb**	**18**	**28**	**56.0**	**-1.5**
ROKH				*e*		18	29	49.9	
BHD	**Baghdad**	**2.97**	**285**	*e*Pn	**Pn**	**18**	**28**	**57.0**	**+1.4**
BHD				*e*Sn	**Sn**	**18**	**29**	**32.0**	**+0.8**
IBRJ	**Brojen**	**2.99**	**102**	*e*Pn	**Pb**	**18**	**28**	**59.3**	**-2.7**
IKLH	**Kolahrood**	**3.26**	**76**	*e*Pn	**Pb**	**18**	**29**	**03.8**	**-2.7**
IKLH				*e*		18	30	03.0	
IRAZ	**Razeghan**	**3.34**	**31**	*e*Pn	**Pb**	**18**	**29**	**04.6**	**-3.3**
QABG	**Abgarm-Qazvin**	**3.47**	**25**	*e*Pn	**Pb**	**18**	**29**	**05.0**	**+2.4**
KLNJ	**Kolanjah**	**3.57**	**115**	*e*Pn	**Pb**	**18**	**29**	**07.8**	**-4.1**
KLNJ				*e*		18	30	25.9	
IGAR	**Gharneh**	**3.58**	**91**	*e*Pn	**Pn**	**18**	**29**	**07.4**	**+3.3**
IZEF	**Zefreh**	**3.82**	**84**	*e*Pn	**Pb**	**18**	**29**	**11.6**	**-4.5**
IRAM	**Ramesheh**	**3.94**	**100**	*e*Pn	**Pn**	**18**	**29**	**12.2**	**+3.0**
IHSB	**Hasanabad**	**4.06**	**44**	*e*Pn	**Pn**	**18**	**29**	**15.1**	**+4.4**
QSDN	**Sirdan**	**4.09**	**16**	*e*Pn	**Pn**	**18**	**29**	**14.1**	**+2.9**
QALM	**Alamut, Qazvin**	**4.52**	**30**	*e*Pn	**Pn**	**18**	**29**	**20.5**	**+3.5**
MAHB	**Mahabad**	**4.54**	**338**	*e*Pn	**Pn**	**18**	**29**	**18.4**	**+1.1**
IDMV	**Damavand**	**4.62**	**48**	*e*Pn	**Pn**	**18**	**29**	**21.4**	**+2.9**
ANAR	**Anarak**	**5.02**	**81**	*e*Pn	**Pn**	**18**	**29**	**26.4**	**+2.6**
ISAD	**Sadrabad**	**5.02**	**96**	*e*Pn	**Pn**	**18**	**29**	**26.5**	**+2.5**
ILAS	**Lasjerd**	**5.12**	**55**	*e*Pn	**Pn**	**18**	**29**	**28.5**	**+3.2**
IFIR	**Firoozkooh**	**5.12**	**52**	*e*Pn	**Pn**	**18**	**29**	**29.1**	**+3.7**
IAZR	**Azarshahr**	**5.32**	**344**	*e*Pn	**Pn**	**18**	**29**	**29.5**	**+1.4**
IALA	**Alasht**	**5.43**	**48**	*e*Pn	**Pn**	**18**	**29**	**32.5**	**+2.9**
ISHM	**Shahmirzad**	**5.58**	**53**	*e*Pn	**Pn**	**18**	**29**	**35.3**	**+3.6**
IHRS	**Heris**	**5.78**	**354**	*e*Pn	**Pn**	**18**	**29**	**37.4**	**+3.0**
IANJ	**Anjilo**	**5.84**	**59**	*e*Pn	**Pn**	**18**	**29**	**37.0**	**+1.8**
IBAF	**Bafgh**	**6.65**	**96**	*e*Pn	**Pn**	**18**	**29**	**48.8**	**+2.5**
TPRV	**Parvadeh(Tabas**	**7.49**	**84**	*e*Pn	**Pn**	**18**	**30**	**00.8**	**+3.1**
GENO	**Geno**	**8.89**	**123**	*e*Pn	**Pn**	**18**	**30**	**17.6**	**+0.6**
ASF	**Jabal al Asfar**	**9.24**	**271**	Pn	**Pn**	**18**	**30**	**21.4**	**-0.3**
	comp=N,0.1nm,0.3s,baz=332,slow=20,SNR=1.4								
ASF				Sn	**Sn**	**18**	**31**	**57.8**	**-8.0**
	comp=N,0.2nm,0.3s,baz=62,slow=15,SNR=1.3								
ASF				Lg	Lg	18	32	58.1	
	comp=N,0.5nm,0.3s,baz=224,slow=17,SNR=4.5								
ISFR	**Sfrayin**	**9.50**	**59**	*e*Pn	**Pn**	**18**	**30**	**29.4**	**+3.9**
MMAI	**Mount Meron Ar**	**10.46**	**276**	Lg	Lg	18	33	34.2	
	comp=N,0.4nm,0.3s,baz=99,slow=19,SNR=1.5								
EIL	**Elat**	**11.39**	**259**	Pn	**Pn**	**18**	**30**	**50.3**	**-0.9**
	comp=N,0.2nm,0.3s,baz=31,slow=18,SNR=1.4								
EIL				Lg	Lg	18	34	12.0	
	comp=N,0.3nm,0.3s,baz=53,slow=23,SNR=1.5								
WSAR	**Wadi Sarin**	**13.32**	**131**	Pn	**Pn**	**18**	**31**	**16.6**	**-0.9**
	comp=N,0.5nm,0.3s,baz=352,slow=10,SNR=6.2								
IDI	**Anoyia**	**19.21**	**284**	P	**P**	**18**	**32**	**32.1**	**-0.4**
	comp=N,0.5nm,0.3s,baz=81,slow=19,SNR=2.9								
IDI	**Anoyia**	**19.21**	**284**	P	**P**	**18**	**32**	**31.9**	**-0.6**
IDI				IAmb	IAmb	18	32	46.4	
	comp=Z,78nm,1.5s								
MLR	**Muntele Rosu**	**21.26**	**314**	⇑P	**P**	**18**	**32**	**55.8**	**+1.0**
TESR	**Tescani**	**21.37**	**317**	⇑P	**P**	**18**	**32**	**52.4**	**-3.4**
SORM	**Soroca**	**21.40**	**322**	⇓P	**P**	**18**	**32**	**54.1**	**-2.0**
VOIR		**21.78**	**313**	⇓P	**P**	**18**	**33**	**01.2**	**+0.9**
DOPR	**Dopca**	**21.83**	**314**	⇑P	**P**	**18**	**33**	**00.5**	**-0.3**
AKASG	**Malin Array Be**	**22.73**	**328**	P	**P**	**18**	**33**	**08.5**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=128,slow=12,SNR=1.6								
AKASG	**Malin Array Be**		**22.73**	**328**	P	**P**	**18**	**33**	**10.2**	**-0.1**
BURAR	**Bucovina Array**	**22.80**	**318**	⇑P	**P**	**18**	**33**	**13.3**	**+2.2**
BURAR	**Bucovina Array**	**22.80**	**318**	P	**P**	**18**	**33**	**11.2**	**+0.1**
BUR08	**Bucovina Ar. S**	**22.82**	**318**	P	**P**	**18**	**33**	**11.3**	**-0.1**
BUR08				IAmb	IAmb	18	33	59.3	
	comp=Z,5.1nm,1.2s								
MDVR	**Moldovita**	**23.64**	**309**	⇑P	**P**	**18**	**33**	**19.6**	**-0.1**
PSZ	**Piszkesteto**	**26.07**	**314**	⇓P	**P**	**18**	**33**	**44.5**	**+2.5**
PSZ	**Piszkesteto**	**26.07**	**314**	P	**P**	**18**	**33**	**40.7**	**-1.3**
PSZ				IAmb	IAmb	18	33	45.3	
	comp=Z,4.9nm,0.9s								
KURBB	**Kurchatov Arra**	**28.92**	**42**	P	**P**	**18**	**34**	**08.8**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=247,slow=9.0,SNR=3.1								
MKAR	**Makanchi Array**	**29.84**	**51**	P	**P**	**18**	**34**	**15.1**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=244,slow=7.3,SNR=4.0								
MKAR	**Makanchi Array**	**29.84**	**51**	P	**P**	**18**	**34**	**15.8**	**+0.2**
FINES	**FINESS Array B**	**32.15**	**340**	P	**P**	**18**	**34**	**35.0**	**-0.8**
	comp=Z,6.9nm,1.1s,baz=156,slow=11,SNR=2.2								
ZALV	**Zalesovo Beam**	**33.84**	**40**	P	**P**	**18**	**34**	**51.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=226,slow=5.8,SNR=2.1								
ZALV	**Zalesovo Beam**	**33.84**	**40**	P	**P**	**18**	**34**	**50.1**	**-0.5**
ARCES	**ARCESS Array B**	**39.09**	**348**	P	**P**	**18**	**35**	**35.2**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=163,slow=9.4,SNR=0.8								
ESDC	**Sonseca Array**	**41.94**	**295**	P	**P**	**18**	**35**	**59.2**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=69,slow=8.5,SNR=3.5								
TORD	**Torodi Ar. Bea**	**46.27**	**256**	P	**P**	**18**	**36**	**33.8**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=54,slow=7.4,SNR=2.7								
CMAR	**Chiang Mai Arr**	**47.81**	**94**	P	**P**	**18**	**36**	**46.7**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=295,slow=8.3,SNR=4.3								

IDC ***18*** *18:36:15.2s 0.8, 32°.50N×47°.81E, h0km, mb4.0/18, mb1 4.1/24, mb1mx3.9/64, mbtmp4.0/24, ML3.5/6, Error ellipse: s-maj=20.7km s-min=12.9km az=0.0*

ISN ***18*** *18:36:17.8s 1.0, 32°.66N×47°.87E, h14km 7km, ML3.7*

NEIC ***18*** *18:36:17.1s 1.1, 32°.44N 0°.10×47°.75E 0°.09, h10km 1km, Error ellipse: s-maj=16.5km s-min=12.1km az=180.0*

MOS ***18*** *18:36:17.3s 1.3, 32°.69N×47°.79E, h15km, mb4.6/27, Error ellipse: s-maj=7.8km s-min=5.1km az=115.3*

TEH ***18*** *18:36:18.7, 32°.51N×47°.61E, h19km, ML4.0*

THR ***18*** *18:36:20.4s 0.4, 32°.50N×47°.79E, h18km 13km, ML3.8*

ISC 18 18:36:17.4 ±0.4, **32°46N** ±0°03×**47°73E** ±0°03, **h10km**, **n211, s1 56/218, mb4.3/68, 23C-9D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SHGR	**Shooshtar-Gavs**	**0.97**	**111**	*e*Pn	**Pn**	**18**	**36**	**40.6**	**+3.5**
SHGR				IAML		18	37	14.7	
	comp=E,3µm,0.6s								
SHGR				IAML		18	37	17.1	
	comp=N,3µm,0.7s								
SHGR	**Shooshtar-Gavs**	**0.97**	**111**	*e*Pg	**Pn**	**18**	**36**	**40.6**	**+3.5**
IKFM	**Kafar-mosalman**	**1.07**	**5**	*e*Pg	**Pg**	**18**	**36**	**39.0**	**+1.1**
IKMR	**Kamar-syah**	**1.19**	**27**	*e*Pg	**Pg**	**18**	**36**	**42.0**	**+1.8**
IKMR				*e*		18	36	45.1	
IDOB	**Doab**	**1.38**	**16**	*e*Pg	**Pn**	**18**	**36**	**44.3**	**+1.4**
BMDN	**Meydan**	**1.52**	**37**	*e*Pg	**Pn**	**18**	**36**	**46.3**	**+1.5**
BMDN				*e*		18	37	14.3	
IBDR	**Badra**	**1.65**	**294**	*e*Pg	**Pn**	**18**	**36**	**48.9**	**+1.6**
IBDR				*e*Sg	**Sg**	**18**	**37**	**11.0**	**+0.6**
IBDR				AML	AML	18	37	14.7	
	comp=N,916nm,0.6s								
IBDR				AML	AML	18	37	15.4	
	comp=E,1µm,0.8s								
IKOM	**Komasi**	**1.72**	**354**	*e*Pg	**Pb**	**18**	**36**	**49.9**	**+0.7**
IKOM				*e*		18	37	17.1	
HSAM	**Samen**	**1.89**	**22**	*e*Pn	**Pn**	**18**	**36**	**52.2**	**+2.2**
HSAM				*e*		18	37	26.0	
KCHF	**Cheshme Sefid,**	**1.90**	**343**	*e*	**Sg**	**18**	**37**	**22.7**	**+4.2**
NSR	**Nassriya**	**1.98**	**224**	*e*Pn	**Pb**	**18**	**36**	**55.0**	**+1.5**
NSR				*e*Sn	**Sg**	**18**	**37**	**22.0**	**+0.9**
KER	**Kermanshah**	**1.98**	**346**	*e*Pg	**Pb**	**18**	**36**	**54.3**	**+0.6**
IBZA	**Bozab**	**2.01**	**3**	*e*Pn	**Pn**	**18**	**36**	**52.8**	**+1.2**
IBZA				*e*		18	37	26.8	
IGHG	**Ghaleghazi**	**2.10**	**333**	*e*Pn	**Pn**	**18**	**36**	**53.4**	**+0.5**
IGHG				*e*		18	37	39.5	
IVIS	**Veis**	**2.19**	**341**	*e*Pn	**Pn**	**18**	**36**	**54.6**	**+0.7**
IVIS				*e*		18	37	38.5	
KHMZ	**Khomeyn**	**2.27**	**55**	*e*Pn	**Pb**	**18**	**36**	**58.5**	**0.0**
KHMZ	**Khomeyn**	**2.27**	**55**	*e*Pn	**Pb**	**18**	**36**	**58.5**	**0.0**
IALM	**Almabolaq**	**2.42**	**9**	*e*Pn	**Pn**	**18**	**36**	**59.1**	**+1.8**
JHBN	**Jahan bin**	**2.50**	**94**	*e*Pn	**Pn**	**18**	**37**	**01.0**	**+2.6**
IDHR	**Dehrash**	**2.50**	**334**	*e*Pn	**Pn**	**18**	**36**	**59.2**	**+0.9**
IDHR				*e*		18	37	43.4	
ILIN	**Lien**	**2.53**	**346**	*e*Pn	**Pn**	**18**	**37**	**00.5**	**+1.7**
HAGD	**Aghdareh**	**2.63**	**26**	*e*Pn	**Pn**	**18**	**37**	**02.2**	**+2.0**
HAGD				*e*		18	37	46.9	
SNGE	**Sanandaj**	**2.64**	**353**	*e*Pn	**Pn**	**18**	**37**	**04.1**	**+3.8**
IPIR	**Pirpir**	**2.68**	**84**	*e*Pn	**Pn**	**18**	**37**	**03.4**	**+2.5**
IPIR				*e*		18	37	53.8	
ROKH	**ROKH**	**2.80**	**91**	*e*		18	37	49.9	
ROKH				*e*Pn	**Pn**	**18**	**37**	**05.0**	**+2.6**
HSRG	**Sareghieh**	**2.81**	**9**	*e*Pn	**Pn**	**18**	**37**	**04.6**	**+1.9**
ASAO	**Ashtian**	**2.83**	**42**	*e*Pn	**Pn**	**18**	**37**	**05.9**	**+3.0**
ASAO				*e*Sg	**Sb**	**18**	**37**	**47.1**	**+4.1**
ASAO	**Ashtian**	**2.83**	**42**	*e*Pn	**Pn**	**18**	**37**	**05.9**	**+3.0**
BHD	**Baghdad**	**2.93**	**287**	*e*Pn	**Pn**	**18**	**37**	**07.0**	**+3.0**
BHD				*e*Sn	**Sn**	**18**	**37**	**43.0**	**+3.7**
BHD				AML	AML	18	37	47.8	
	comp=E,342nm,0.4s								
IBRJ	**Brojen**	**3.04**	**99**	*e*Pn	**Pn**	**18**	**37**	**08.3**	**+2.4**
IKLH	**Kolahrood**	**3.35**	**74**	*e*Pn	**Pn**	**18**	**37**	**12.8**	**+2.7**
IKLH				*e*		18	38	11.5	
IRAZ	**Razeghan**	**3.46**	**31**	*e*Pn	**Pb**	**18**	**37**	**12.8

ARU IAmb IAmb 18 41 53.8
comp=Z,6.3nm,1.0s
KOLS Kolonicke sedl 25.19 318 *eP* **P 18 41 43.9 +0.9**
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl 25.19 318 *eP* **P 18 41 43.9 +0.9**
CRVS Cervenica-Dubn 25.63 318 *eP* **P 18 41 48.0 +1.0**
CRVS pmax pmax
comp=Z,29nm,1.5s
CRVS Cervenica-Dubn 25.63 318 *eP* **P 18 41 48.0 +1.0**
TIP Timpagrande 25.91 294 ⇑P **P 18 41 48.9 -0.8**
SVE Sverdlovsk 25.95 16 *eP* **P 18 41 50.6 +0.9**
SVE pmax pmax
comp=Z,10.0nm,1.1s
KECS Kecovo 25.99 316 *eP* **P 18 41 51.9 +1.6**
KECS pmax pmax
comp=Z,10.0nm,0.9s
KECS Kecovo 25.99 316 *eP* **P 18 41 51.9 +1.6**
PSZ Piszkesteto 26.09 314 ⇓P **P 18 41 50.6 -0.6**
PSZ Piszkesteto 26.09 314 ⇓P **P 18 41 50.6 -0.6**
PSZ Piszkesteto 26.09 314 P **P 18 41 51.9 +0.7**
PSZ IAmb IAmb 18 41 54.6
comp=Z,12nm,0.9s
KIRV Kirov 26.15 2 P **P 18 41 50.3 -1.2**
comp=Z,7.3nm,0.7s,baz=212,slow=15,SNR=2.6
KIRV Kirov 26.15 2⇑ *eP* **P 18 41 52.9 +1.4**
BRVK Borovoye 26.22 32⇓ *eP* **P 18 41 52.6 +0.4**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 26.22 32 P **P 18 41 52.0 -0.2**
BRVK IAmb IAmb 18 41 55.3
comp=Z,5.2nm,0.9s
BVAR Borovoye Array 26.24 32 P **P 18 41 51.7 -0.8**
comp=Z,3.6nm,0.7s,baz=225,slow=8.2,SNR=16
BVAR PcP **PcP 18 45 17.4 -1.4**
comp=Z,0.5nm,0.4s,baz=230,slow=3.6,SNR=3.8
NIE Niedzica 26.55 318 P **P 18 41 58.3 +3.0**
NIE pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 26.98 315 *eP* **P 18 41 59.9 +0.7**
VYHS pmax pmax
comp=Z,9.0nm,1.5s
VYHS Vyhne 26.98 315 *eP* **P 18 41 59.9 +0.7**
OJC Ojcow 27.23 319 P **P 18 42 01.4 0.0**
OJC pmax pmax
comp=Z,7.0nm,0.9s
OJC Ojcow 27.23 319 P **P 18 42 01.4 0.0**
OJC IAmb IAmb 18 42 05.8
comp=Z,7.5nm,0.9s
MORC Moravsky Berou 28.30 317 P **P 18 42 11.2 +0.1**
MORC pmax pmax
comp=Z,2.0nm,0.7s
MORC Moravsky Berou 28.30 317 P **P 18 42 11.2 +0.1**
SOKA Soboth 28.69 309 *i* P **P 18 42 14.9 +0.3**
comp=Z,3.3nm,1.5s
KLMR Klimovskoe 28.91 352 *eP* **P 18 42 13.9 -2.3**
KLMR pmax pmax
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 28.91 352 *eP* **P 18 42 14.0 -2.3**
KLMR AMP 18 42 15.3
comp=Z,7.0nm,1.0s
KURBB Kurchatov Arra 29.04 42 P **P 18 42 15.9 -1.6**
comp=Z,1.7nm,1.0s,baz=248,slow=9.1,SNR=5.8
KURBB PcP **PcP 18 45 25.1 -0.5**
comp=Z,0.4nm,0.8s,baz=245,slow=2.4,SNR=4.1
KURK Kurchatov 29.13 42 *ceP* **P 18 42 19.9 +1.6**
KURK pmax pmax
comp=Z,3.0nm,1.3s
KURK Kurchatov 29.13 42 P **P 18 42 18.6 +0.2**
KURK Kurchatov 29.13 42 **PcP 18 45 25.1 -0.8**
KBA Koelnbreinsper 29.92 309 *i* P **P 18 42 25.7 +0.1**
comp=Z,5.8nm,1.1s
KBA Koelnbreinsper 29.92 309 P **P 18 42 26.5 +0.9**
KBA pmax pmax
comp=Z,9.0nm,0.9s
MK31 Makanchi Array 29.95 51 P **P 18 42 26.4 +0.7**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 29.95 51 P **P 18 42 26.4 +0.7**
MK31 IAmb IAmb 18 42 27.1
comp=Z,2.8nm,0.8s
MKAR Makanchi Array 29.95 51 P **P 18 42 25.7 0.0**
comp=Z,2.6nm,0.7s,baz=247,slow=7.2,SNR=26
MKAR Makanchi Array 29.95 51 *ceP* **P 18 42 26.3 +0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 29.95 51 P **P 18 42 26.0 +0.3**
GERES GERESS Array B 30.25 313 P **P 18 42 29.1 +0.7**
comp=Z,0.4nm,0.6s,baz=83,slow=8.0,SNR=2.8
GERES PcP **PcP 18 45 28.9 0.0**
comp=Z,0.4nm,0.6s,baz=113,slow=1.3,SNR=4.5
CIMO Cimolais 30.31 307 P **P 18 42 29.1 +0.3**
CIMO IAmb IAmb 18 42 31.7
comp=Z,3.9nm,0.8s
CTI Castel Tesino 30.78 307 P **P 18 42 33.5 +0.4**
CTI pmax pmax
comp=Z,6.0nm,0.8s
CTI Castel Tesino 30.78 307 P **P 18 42 33.5 +0.4**
CTI IAmb IAmb 18 42 34.7
comp=Z,6.1nm,0.8s
WTTA Wattenberg 31.09 309 *i* P **P 18 42 36.5 +0.6**
comp=Z,4.5nm,0.8s
WATA Walderalm 31.15 309 *i* P **P 18 42 36.9 +0.5**
comp=Z,10nm,1.2s
SQTA Sankt Quirin 31.36 309 *i* P **P 18 42 38.3 +0.1**
comp=Z,5.9nm,0.6s
MOTA Moosalm 31.46 309 *i* P **P 18 42 38.7 -0.5**
comp=Z,4.4nm,0.7s
CLL Collm 31.58 317 *e*(P) **P 18 42 41.0 +1.1**
CLL Collm 31.58 317 *eP* **P 18 42 41.0 +1.1**
FETA Feichten 31.62 308 *i* P **P 18 42 40.6 -0.1**
comp=Z,8.3nm,1.1s
RETA Reutte 31.72 309 *i* P **P 18 42 40.9 -0.5**
comp=Z,3.8nm,1.0s
FINES FINESS Array B 32.22 341 P **P 18 42 44.9 -0.6**
comp=Z,1.2nm,0.4s,baz=142,slow=9.4,SNR=15
DAVA Damuels 32.25 308 *i* P **P 18 42 44.8 -1.3**
comp=Z,7.8nm,0.6s
TUE Stuetta 32.43 307 P **P 18 42 47.9 +0.1**
TUE IAmb IAmb 18 43 08.5
comp=Z,5.2nm,1.0s
MBDF Montbardon 33.93 303 *eP* **P 18 43 00.7 -0.1**
MBDF pmax pmax
comp=Z,5.0nm,0.6s
ZAA0 Zalesovo Array 33.96 40 P **P 18 43 00.8 +0.1**
ZAA0 IAmb IAmb 18 43 03.0
comp=Z,3.9nm,1.1s
ZALV Zalesovo Beam 33.96 40 P **P 18 42 58.6 -2.1**
comp=Z,2.5nm,0.8s,baz=238,slow=8.3,SNR=9.1
ZALV Zalesovo Beam 33.96 40 *i* P **P 18 43 00.4 -0.3**
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 33.96 40 P **P 18 42 59.9 -0.8**
BNI Bardonecchia 34.04 304 P **P 18 43 01.7 0.0**
BNI pmax pmax
comp=Z,14nm,0.9s
BNI Bardonecchia 34.04 304 P **P 18 43 01.7 0.0**
LPG La Plagne 34.04 305 *eP* **P 18 43 02.5 +0.5**
LPG pmax pmax
comp=Z,9.0nm,0.8s
DGZ Jazzator, Alta 34.05 48⇑ *eP* **P 18 43 02.3 +0.5**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
LPL La Plagne 34.06 305 *eP* **P 18 43 01.8 -0.2**
LPL pmax pmax
comp=Z,15nm,0.9s
CABF La Chapelle 34.67 306 *eP* **P 18 43 07.1 0.0**
CABF pmax pmax
comp=Z,18nm,0.9s
SMF Signal de Mont 36.20 306 *eP* **P 18 43 19.6 -0.6**
SMF pmax pmax
comp=Z,10.0nm,0.8s
LOR Lormes 36.27 307 *eP* **P 18 43 22.2 +1.4**
LOR pmax pmax
comp=Z,4.0nm,0.9s
SSF Saint Saulge 36.48 307 *eP* **P 18 43 22.0 -0.6**
SSF pmax pmax
comp=Z,9.0nm,1.1s
TCF Toulx Ste Croi 37.29 305 *eP* **P 18 43 30.8 +1.3**
TCF pmax pmax
comp=Z,14nm,1.4s
ARCES ARCESS Array B 39.17 348 P **P 18 43 44.1 -0.9**
comp=Z,0.9nm,0.7s,baz=155,slow=9.4,SNR=6.5
SJPF Ste Jean 39.62 300 *eP* **P 18 43 49.3 +0.2**
SJPF pmax pmax
comp=Z,16nm,1.4s
ESDC Sonseca Array 41.92 295 P **P 18 44 08.2 0.0**
comp=Z,1.6nm,0.8s,baz=66,slow=7.1,SNR=8.9
ESDC Sonseca Array 41.92 295 P **P 18 44 08.2 0.0**
GTA Gaotai 42.25 65 *eP* **P 18 44 11.9 +0.9**
GTA pP sP 18 44 16.6 +1.1
GTA sP pP 18 44 19.1 +4.9
GTA pmax pmax
comp=Z,3.0nm,0.8s
TORD Torodi Ar. Bea 46.18 256 P **P 18 44 42.4 -0.2**
comp=Z,0.5nm,0.4s,baz=62,slow=8.0,SNR=6.5
TORD Torodi Ar. Bea 46.18 256 IAmb IAmb 18 44 49.4
comp=Z,1.0nm,1.1s
ULN Ulaanbaatar 46.74 53⇓ *eP* **P 18 44 47.4 +0.6**
ULN pmax pmax
comp=Z,3.0nm,1.0s
CMAR Chiang Mai Arr 47.88 94 P **P 18 44 54.4 -1.5**
comp=Z,1.6nm,0.8s,baz=294,slow=8.3,SNR=10
CMAR Chiang Mai Arr 47.88 94 *ceP* **P 18 44 55.7 -0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 47.88 94 P **P 18 44 55.8 -0.1**
PBKT Sadao Pong 50.46 95 P **P 18 45 15.6 -0.1**
PBKT IAmb IAmb 18 45 18.2
comp=Z,5.0nm,1.2s
YAK Yakutsk 58.21 33 P **P 18 46 09.5 -1.8**
comp=Z,0.9nm,0.3s,baz=305,slow=0.7,SNR=1.7
YAK Yakutsk 58.21 33⇑ *eP* **P 18 46 10.1 -1.3**
YAK pmax pmax
comp=Z,5.0nm,1.2s
SUMG Summit 58.24 339 P **P 18 46 12.3 +0.3**
SUMG pmax pmax
comp=Z,14nm,1.5s
SUMG Summit 58.24 339 P **P 18 46 12.3 +0.3**
KLR Kul'dur 62.54 47⇓ *eP* **P 18 46 40.5 -0.8**
KLR pmax pmax
comp=Z,2.0nm,0.9s
KSRS Korea Array 64.02 61 P **P 18 46 48.9 -2.3**
comp=Z,0.9nm,0.6s,baz=279,slow=6.8,SNR=4.1
SEY Seymchan 67.84 29 P **P 18 47 15.2 -0.2**
comp=Z,2.5nm,0.6s,baz=272,slow=4.7,SNR=8.1
SEY Seymchan 67.84 29⇑ *eP* **P 18 47 15.7 +0.3**
YSS Yuzh-Sakhalins 70.22 46⇑ *eP* **P 18 47 30.2 -0.3**
YSS pmax pmax
comp=Z,8.0nm,1.7s
IMAR Indian Mountai 80.48 9 P **P 18 48 28.9 -0.2**
WRA Warramunga Arr 97.71 109 P **P 18 49 51.8 -1.1**
comp=Z,0.2nm,0.6s,baz=319,slow=4.1,SNR=1.4
ASAR Alice Springs 99.29 112 P **Pdif 18 49 59.0 -1.0**
comp=Z,0.4nm,0.9s,baz=302,slow=4.6,SNR=4.0
ASAR Alice Springs 99.29 112 P **Pdif 18 49 59.0 -1.0**

*IDC **18** 18:40:59.0±2.3, 32°.60N×47°.62E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/59, mbtmp3.7/6, ML3.2/2, MS4.1/2, Ms1 4.1/2, ms1mx3.6/58, Error ellipse: s-maj=43.3km s-min=29.7km az=7.0*
*TEH **18** 18:41:03.5, 32°.68N×47°.61E, h8km, ML3.4*
*ISN **18** 18:41:04.2±1.1, 32°.87N×47°.70E, h14km±7km, ML3.2*
ISC 18 18:41:03.7±1.4, 32°.78N±0°.04×47°.67E±0°.03, h12km±10km, n32, σ2s16/36, mb3.5/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
IKFM	**Kafar-mosalman**	**0.76**	**11**	*e*Pg		**Pn**	**18 41 21.3**	**+1.2**
IKFM				*e*Sg		**Sn**	**18 41 32.8**	**+1.3**
IKFM				*e*			18 41 41.7	
IKMR	**Kamar-syah**	**0.95**	**39**	*e*Pg		**Pn**	**18 41 24.5**	**+1.7**
IKMR				*e*Sg		**Sn**	**18 41 39.3**	**+3.1**
IKMR				*e*			18 41 44.1	
IDOB	**Doab**	**1.09**	**23**	*e*Pg		**Pn**	**18 41 26.7**	**+1.7**
IDOB				*e*Sg		**Sn**	**18 41 43.6**	**+3.5**
BMDN	**Meydan**	**1.31**	**47**	*e*Pg		**Pg**	**18 41 31.5**	**+2.5**
BMDN				*e*			18 41 59.4	
IKOM	**Komasi**	**1.40**	**355**	*e*Pg		**Pg**	**18 41 32.2**	**+1.7**
IKOM				*e*			18 41 54.1	
IBDR	**Badra**	**1.50**	**283**	*e*Pg		**Pb**	**18 41 32.0**	**+0.6**
IBDR				*e*Sg		**Sg**	**18 41 52.0**	**+0.2**
IBDR				AML	AML		18 41 55.2	
	comp=N,382nm,0.4s							
IBDR				AML	AML		18 41 56.3	
	comp=E,391nm,0.8s							
KCHF	**Cheshme Sefid,**	**1.58**	**341**	*e*Pn		**Pg**	**18 41 34.1**	**+0.1**
KCHF				*e*			18 41 59.7	
HSAM	**Samen**	**1.63**	**28**	*e*Pn		**Pg**	**18 41 36.3**	**+1.4**
HSAM				*e*			18 42 03.9	
KER	**Kermanshah**	**1.66**	**345**	*e*Pn		**Pg**	**18 41 36.7**	**+1.1**
AHWZ	**Ahwaz**	**1.67**	**150**	*e*Pg		**Pn**	**18 41 33.7**	**+1.0**
IBZA	**Bozab**	**1.69**	**5**	*e*Pn		**Pg**	**18 41 37.5**	**+1.3**
IBZA				*e*			18 42 05.5	
IGHG	**Ghaleghazi**	**1.79**	**330**	*e*Pn		**Pg**	**18 41 38.1**	**0.0**
IGHG				*e*			18 42 16.1	
IVIS	**Veis**	**1.87**	**339**	*e*Pn		**Pg**	**18 41 40.0**	**+0.5**
IVIS				*e*			18 42 11.2	
IALM	**Almabolaq**	**2.11**	**11**	*e*Pn		**Pg**	**18 41 42.8**	**-1.4**
IDHR	**Dehrash**	**2.19**	**331**	*e*Pn		**Pb**	**18 41 42.8**	**-0.5**
IDHR				*e*			18 42 21.6	
NSR	**Nassriya**	**2.19**	**217**	*e*Pn		**Pn**	**18 41 43.0**	**+3.1**
NSR				*e*Sn		**Sn**	**18 42 10.0**	**+3.1**
ILIN	**Lien**	**2.21**	**345**	*e*Pn		**Pg**	**18 41 44.0**	**-2.1**
ILIN				*e*			18 42 23.7	
HAGD	**Aghdareh**	**2.38**	**31**	*e*Pn		**Pg**	**18 41 47.4**	**-1.8**
HAGD				*e*			18 42 31.4	
IPIR	**Pirpir**	**2.72**	**91**	*e*Pn		**Pb**	**18 41 51.0**	**-1.4**
IPIR				*e*			18 42 37.0	
BHD	**Baghdad**	**2.80**	**281**	*e*Pn		**Pn**	**18 41 50.0**	**+1.7**
BHD				*e*Sn		**Sn**	**18 42 25.0**	**+3.0**
IKLH	**Kolahrood**	**3.33**	**80**	*e*Pn		**Pb**	**18 41 59.6**	**-3.2**
IZEF	**Zefreh**	**3.93**	**87**	*e*Pn		**Pn**	**18 42 06.5**	**+2.5**
ILAS	**Lasjerd**	**5.10**	**58**	*e*Pn		**Pn**	**18 42 24.1**	**+4.0**
ASF	**Jabal al Asfar**	**9.12**	**269**	Pn		**Pn**	**18 43 11.3**	**-3.9**
	comp=E,0.3nm,0.3s,baz=320,slow=21,SNR=0.7							
WSAR	**Wadi Sarin**	**13.56**	**132**	Pn		Pn	18 44 10.8	-5.1
	comp=E,0.1nm,0.3s,baz=52,slow=10,SNR=1.5							
AKTO	**Aktyubinsk**	**19.23**	**20**	P		**P**	**18 45 26.1**	**-1.5**
	baz=193,slow=7.9,SNR=1.7							
OBN	**Obninsk**	**23.65**	**344**	LR		LR	18 56 37.4	
	comp=E,230nm,19.0s,baz=67,slow=39							
BVAR	**Borovoye Array**	**26.00**	**32**	P		**P**	**18 46 34.4**	**-1.8**
	comp=E,0.5nm,0.8s,baz=218,slow=9.0,SNR=1.0							
BVAR				LR		LR	18 57 33.9	
	comp=E,748nm,21.2s,baz=41,slow=38							
KURBB	**Kurchatov Arra**	**28.84**	**43**	P		**P**	**18 47 00.1**	**-1.5**
	comp=E,0.4nm,0.7s,baz=245,slow=9.0,SNR=1.7							
MKAR	**Makanchi Array**	**29.79**	**52**	P		**P**	**18 47 09.7**	**-0.6**
	comp=E,0.5nm,0.7s,baz=251,slow=7.6,SNR=2.1							
FINES	**FINESS Array B**	**31.90**	**340**	P		**P**	**18 47 27.2**	**-1.4**
	comp=E,1.9nm,0.8s,baz=141,slow=9.0,SNR=1.2							
ARCES	**ARCESS Array B**	**38.85**	**348**	P		**P**	**18 48 26.9**	**-1.4**
	comp=E,2.1nm,0.9s,baz=169,slow=10,SNR=4.3							

*IDC **18** 18:47:51.7±15.0, 41°.03N×113°.37W, h0km, mb1 2.8/1, mb1mx2.7/54, mbtmp2.3/1, ML3.4/1, Error ellipse: s-maj=166.2km s-min=111.7km az=45.0*
*UUSS **18** 18:48:37.8±1.4, 41°.14N±0°.02×112°.92W±0°.05, h2km±7km, ML2.0/9, Error ellipse: s-maj=5.1km s-min=3.0km az=101.0*
*NEIC **18** 18:48:37.1±1.3, 41°.11N±0°.02×112°.97W±0°.04, h0km±2km, Error ellipse: s-maj=5.5km s-min=3.2km az=101.0*
ISC 18 18:48:36.9±1.0, 41°.12N±0°.03×112°.88W±0°.04, h0km, n37, σ0s81/35, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BGU	**Big Grassy Mou**	**0.23**	**211**			**Pg**	**18 48 42.4**	**+1.2**
SNUT	**Stansbury Nort**	**0.36**	**130**			**Pb**	**18 48 45.9**	**-0.4**
SPUT	**South Promonto**	**0.37**	**59**			**Pg**	**18 48 45.3**	**+1.3**
EPU	**East Promontor**	**0.45**	**52**			**Pb**	**18 48 46.8**	**-0.9**
NAIU	**Northern Antel**	**0.50**	**102**			**Pb**	**18 48 48.2**	**-0.5**
SAIU	**Southern Antel**	**0.59**	**116**			**Pb**	**18 48 49.8**	**-0.3**
HVU	**Hansel Valley**	**0.66**	**7**			**Pg**	**18 48 50.0**	**+0.4**
GZU	**Grizzly Peak**	**0.74**	**65**			**Pb**	**18 48 52.8**	**-0.1**
FPU	**Francis Peak**	**0.79**	**96**			**Pb**	**18 48 53.8**	**+0.1**
WVUT	**Wellsville**	**0.85**	**54**			**Pb**	**18 48 54.7**	**+0.1**
CWU	**Camp Williams**	**0.89**	**139**			**Pb**	**18 48 55.7**	**+0.4**
DUG	**Dugway, Tooele**	**0.93**	**177**			**Pb**	**18 48 55.8**	**-0.1**
CTU	**Camp Tracy**	**0.95**	**116**			**Pn**	**18 48 57.0**	**-0.7**
NPI	**North Pocatell**	**1.06**	**15**			**Pg**	**18 48 58.1**	**+0.9**
HWUT	**Hardware Ranch**	**1.10**	**63**	Pg		**Pn**	**18 48 59.0**	**+0.1**
TCUT	**Toone Canyon**	**1.11**	**90**	Pg		**Pn**	**18 48 60.0**	**+0.1**
JLU	**Jordanelle**	**1.20**	**115**			**Pg**	**18 48 59.7**	**-0.2**
NLU	**North Lily Min**	**1.31**	**152**	Pg		**Pn**	**18 49 02.5**	**-0.1**
HTU	**Hoyt Peak**	**1.33**	**109**			**Pn**	**18 49 03.8**	**+0.8**
DAU	**Daniels Canyon**	**1.42**	**119**			**Pb**	**18 49 04.7**	**+0.3**
FSU	**Fish Springs**	**1.45**	**196**			**Pg**	**18 49 04.7**	**0.0**
TMUT	**Trail Mountain**	**2.22**	**144**			**Pn**	**18 49 15.0**	**-0.3**
TCRU	**Three Creeks R**	**2.53**	**172**	Pn		**Pn**	**18 49 18.3**	**-1.1**
MSU	**Marysvale**	**2.66**	**168**			**Pn**	**18 49 21.9**	**+0.7**
PSUT	**Pine Spring**	**2.69**	**197**			**Pn**	**18 49 22.3**	**+0.7**
HLID	**Hailey**	**2.69**	**335**			**Pn**	**18 49 21.9**	**+0.2**
FXWY	**Fox Creek**	**2.87**	**28**			**Pn**	**18 49 24.8**	**+0.8**
PDAR	**Pinedale Array**	**2.97**	**55**	Pn		Pn	18 48 46.6	-39
	0.5nm,0.3s,baz=224,slow=14,SNR=7.9							
PDAR	**Pinedale Array**	**2.97**	**55**	Pn		**Pn**	**18 49 25.7**	**+0.2**
MTPU	**Mount Pierson**	**3.12**	**170**	Pn		**Pn**	**18 49 27.8**	**+0.1**
IMW	**Indian Meadow**	**3.12**	**27**			**Pn**	**18 49 28.4**	**+0.7**
MFID	**Camas Ranch**	**3.17**	**317**	Pn		**Pn**	**18 49 27.5**	**-0.6**
R11A	**Troy Canyon, C**	**3.47**	**218**			**Pb**	**18 49 39.1**	**-0.2**
MCMT	**McKenzie Canyo**	**3.71**	**0**	Pn		**Pn**	**18 49 35.0**	**-0.6**
MCMT						**Pb**	**18 49 41.8**	**-1.6**
PV17	**East Wray Mesa**	**4.14**	**132**			**Pn**	**18 49 38.9**	**-2.7**
I56US	**NEWPORT INFRAS**	**7.76**	**338**	*i*			19 32 30.0	
	baz=161,slow=316,SNR=4.2							
I57US	**PINON FLAT INF**	**8.02**	**202**	*i*			19 38 50.0	
	baz=18,slow=312,SNR=1.4							

*IDC **18** 18:49:28.3±2.9, 32°.54N×47°.69E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.4/56, mbtmp3.7/8, Error ellipse: s-maj=53.8km s-min=29.1km az=25.0*
*TEH **18** 18:49:30.5, 32°.63N×47°.70E, h8km, ML3.4*
*ISN **18** 18:49:32.4±1.2, 32°.72N×47°.76E, h14km±7km, ML3.3*
*THR **18** 18:49:33.0±0.5, 32°.54N×47°.80E, h18km±6km, ML3.2*
ISC 18 18:49:31.3±1.3, 32°.64N±0°.03×47°.76E±0°.03, h11km±10km, n56, σ1s57/61, mb3.5/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
IKFM	**Kafar-mosalman**	**0.88**	**5**	*e*Pg		**Pg**	**18 49 47.7**	**-0.6**
IKFM				*e*Sg		**Sn**	**18 50 02.0**	**-0.4**
IKFM				*e*			18 50 04.0	
IKMR	**Kamar-syah**	**1.02**	**31**	*e*Pg		**Pb**	**18 49 50.0**	**-0.9**
IKMR				*e*			18 50 13.3	
SHGR	**Shooshtar-Gavs**	**1.03**	**121**	*e*Pg		**Pb**	**18 49 51.0**	**-0.1**
SHGR				IAML			18 50 33.9	
	comp=E,730nm,0.6s							
SHGR	**Shooshtar-Gavs**	**1.03**	**121**	*e*Pg		**Pb**	**18 49 51.0**	**-0.1**
IDOB	**Doab**	**1.19**	**17**	*e*Pg		**Pn**	**18 49 53.8**	**-0.3**
BMDN	**Meydan**	**1.36**	**41**	*e*Pg		**Pg**	**18 49 57.9**	**+0.4**
BMDN				*e*			18 50 24.4	
AHWZ	**Ahwaz**	**1.51**	**150**	*e*Pg		**Pg**	**18 50 00.3**	**0.0**
IKOM	**Komasi**	**1.54**	**352**	*e*Pg		**Pb**	**18 50 00.5**	**+0.5**
IKOM				*e*			18 50 27.6	
IBDR	**Badra**	**1.61**	**287**	*e*Pg		**Pb**	**18 50 00.7**	**-0.3**
IBDR				*e*Sg		**Sg**	**18 50 22.9**	**-0.2**
IBDR				AML	AML		18 50 26.2	
	comp=N,626nm,0.6s							
IBDR				AML	AML		18 50 26.6	
	comp=E,356nm,0.8s							
HSAM	**Samen**	**1.71**	**24**	*e*Pn		**Pb**	**18 50 03.8**	**+0.8**
KCHF	**Cheshme Sefid,**	**1.73**	**340**	*e*Pn		**Pn**	**18 50 02.2**	**+0.7**
KCHF				*e*			18 50 33.7	
KER	**Kermanshah**	**1.81**	**343**	*e*Pn		**Pb**	**18 50 04.2**	**-0.4**
IBZA	**Bozab**	**1.82**	**3**	*e*			18 50 33.6	
IBZA				*e*Pn		**Pb**	**18 50 04.7**	**-0.1**
IGHG	**Ghaleghazi**	**1.95**	**330**	*e*			18 50 44.3	
IGHG				*e*Pn		**Pb**	**18 50 06.1**	**-1.0**
IVIS	**Veis**	**2.03**	**338**	*e*			18 50 44.8	
IVIS				*e*Pn		**Pn**	**18 50 06.7**	**+1.2**
NSR	**Nassriya**	**2.13**	**221**	*e*Pn		**Pb**	**18 50 10.0**	**+0.1**
NSR				*e*Sn		**Sb**	**18 50 36.0**	**-0.4**
KHMZ	**Khomeyn**	**2.14**	**59**	*e*Pn		**Pb**	**18 50 10.4**	**+0.1**
KHMZ	**Khomeyn**	**2.14**	**59**	*e*Pn		**Pb**	**18 50 10.4**	**+0.1**
IALM	**Almabolaq**	**2.24**	**9**	*e*Pn		**Pb**	**18 50 10.9**	**-1.0**
IDHR	**Dehrash**	**2.35**	**331**	*e*Pn		**Pn**	**18 50 11.2**	**+1.2**
IDHR				*e*			18 50 15.4	
ILIN	**Lien**	**2.37**	**344**	*e*Pn		**Pn**	**18 50 12.0**	**+1.7**
ILIN				*e*			18 50 55.1	
HAGD	**Aghdareh**	**2.46**	**28**	*e*Pn		**Pb**	**18 50 13.8**	**-1.9**
HAGD				*e*			18 50 59.1	
SNGE	**Sanandaj**	**2.47**	**352**	*e*Pn		**Pb**	**18 50 16.1**	**+0.3**
JHBN	**Jahan bin**	**2.49**	**99**	*e*Pn		**Pn**	**18 50 13.6**	**+1.6**
JHBN				*e*			18 50 56.3	
HSRG	**Sareghieh**	**2.63**	**9**	*e*Pn		**Pb**	**18 50 17.3**	**-1.3**
HSRG				*e*			18 50 18.9	
IPIR	**Pirpir**	**2.64**	**88**	*e*Pn		**Pn**	**18 50 16.2**	**+2.1**
IPIR				*e*			18 51 00.1	
ASAO	**Ashtian**	**2.68**	**44**	*e*Pn		**Pb**	**18 50 18.5**	**-0.9**
ASAO				*e*Sg		**Sg**	**18 50 58.8**	**+1.3**
ASAO	**Ashtian**	**2.68**	**44**	*e*Pn		**Pb**	**18 50 18.5**	**-0.9**
ROKH	**ROKH**	**2.78**	**95**	*e*Pn		**Pn**	**18 50 17.9**	**+1.9**
ROKH				*e*			18 51 14.1	
BHD	**Baghdad**	**2.91**	**283**	*e*Pn		**Pn**	**18 50 20.0**	**+2.5**
BHD				*e*Sn		**Sn**	**18 50 55.0**	**+2.6**
IKLH	**Kolahrood**	**3.28**	**77**	*e*Pn		**Pn**	**18 50 25.8**	**+3.0**
IKLH				*e*			18 51 25.4	
IRAZ	**Razeghan**	**3.29**	**33**	*e*Pn		**Pn**	**18 50 26.4**	**+3.4**
QABG	**Abgarm-Qazvin**	**3.41**	**26**	*e*Pn		**Pn**	**18 50 27.0**	**+2.4**
IGAR	**Gharneh**	**3.62**	**93**	*e*Pn		**Pn**	**18 50 28.4**	**+0.8**
IGAR				*e*			18 51 44.0	
KLNJ	**Kolanjah**	**3.65**	**116**	*e*Pn		**Pn**	**18 50 29.4**	**+1.4**
KLNJ				*e*			18 50 32.6	
IZEF	**Zefreh**	**3.86**	**85**	*e*Pn		**Pn**	**18 50 33.0**	**+2.2**
IRAM	**Ramesheh**	**4.00**	**101**	*e*Pn		**Pn**	**18 50 33.6**	**+0.8**
QSDN	**Sirdan**	**4.02**	**16**	*e*Pn		**Pn**	**18 50 36.0**	**+2.9**
IGZV	**Ghazvin**	**4.25**	**28**	*e*Pn		**Pn**	**18 50 38.6**	**+2.4**
MAHB	**Mahabad**	**4.45**	**338**	*e*Pn		**Pn**	**18 50 40.5**	**+1.7**
QALM	**Alamut, Qazvin**	**4.47**	**31**	*e*Pn		**Pn**	**18 50 42.1**	**+2.9**
IDMV	**Damavand**	**4.60**	**49**	*e*Pn		**Pn**	**18 50 42.9**	**+1.9**
ANAR	**Anarak**	**5.05**	**82**	*e*Pn		**Pn**	**18 50 48.5**	**+1.4**
ISAD	**Sadrabad**	**5.07**	**97**	*e*Pn		**Pn**	**18 50 48.8**	**+1.3**
IPRN	**Peran**	**5.21**	**45**	*e*Pn		**Pn**	**18 50 52.4**	**+3.1**
IALA	**Alasht**	**5.40**	**49**	*e*Pn		**Pn**	**18 50 54.8**	**+2.7**
ISHM	**Shahmirzad**	**5.56**	**54**	*e*Pn		**Pn**	**18 50 56.6**	**+2.3**
IANJ	**Anjilo**	**5.83**	**59**	*e*Pn		**Pn**	**18 50 58.7**	**+0.8**
WSAR	**Wadi Sarin**	**13.41**	**132**	Pn		Pn	**18 52 39.4**	**-2.2**
	baz=349,slow=10							
AKTO	**Aktyubinsk**	**19.33**	**20**	P		**P**	**18 53 56.3**	**-0.1**
	baz=200,slow=14							
MLR	**Muntele Rosu**	**21.17**	**314**	P		**P**	**18 54 16

THZ	**Tophouse**	**13.79 213**	Pn	**Pn**	**18 53 09.3**	**-0.5**
KHZ	**Kahutara**	**14.03 209**	Pn	**Pn**	**18 53 11.7**	**-1.5**
LTZ	**Lake Taylor**	**14.88 211**	Pn	**Pn**	**18 53 22.5**	**-2.2**
LTZ			IAmb	IAmb	18 53 41.2	
	comp=Z,9.1nm,0.9s					
OXZ	**Oxford**	**15.42 211**	Pn	**Pn**	**18 53 28.9**	**-2.9**
OXZ			IAmb	IAmb	18 53 51.8	
	comp=Z,14nm,1.0s					
MQZ	**McQueen's Vall**	**15.46 209**	Pn	**Pn**	**18 53 29.2**	**-3.1**
MQZ			IAmb	IAmb	18 53 36.7	
	comp=Z,25nm,1.3s					
RPZ	**Rata Peaks**	**16.16 212**	Pn	**Pn**	**18 53 39.8**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=46,slow=21,SNR=1.8					
RPZ			Sn	**Sn**	**18 56 29.9**	**-10**
	comp=Z,0.4nm,0.3s,baz=105,slow=21,SNR=1.8					
RPZ	**Rata Peaks**	**16.16 212**		**Pn**	**18 53 40.0**	**-1.5**
RPZ			IAmb	IAmb	18 54 01.7	
	comp=Z,16nm,1.1s					
FOZ	**Fox Glacier**	**16.61 215**	Pn	**Pn**	**18 53 45.3**	**-1.8**
FOZ			IAmb	IAmb	18 54 09.4	
	comp=Z,12nm,1.0s					
DZM	**Mont Dzumac**	**16.85 296**	Pn	**Pn**	**18 53 50.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=249,slow=14,SNR=1.5					
DZM			LR	LR	18 59 18.4	
	comp=Z,201nm,19.6s,baz=348,slow=34					
LBZ	**Lake Benmore**	**17.08 212**	Pn	**Pn**	**18 53 51.1**	**-1.9**
LBZ			IAmb	IAmb	18 54 13.0	
	comp=Z,26nm,1.4s					
ODZ	**Otahua Downs**	**17.39 210**	Pn	**Pn**	**18 53 54.4**	**-2.5**
WKZ	**Wanaka**	**17.96 213**	Pn	**Pn**	**18 53 60.0**	**-4.0**
WKZ			IAmb	IAmb	18 54 29.1	
	comp=Z,59nm,1.5s					
CTA	**Charters Tower**	**34.46 279**	P	**P**	**18 56 43.6**	**+1.6**
	comp=Z,1.9nm,0.8s,baz=142,slow=23,SNR=1.9					
STKA	**Stephens Creek**	**35.11 257**	P	**P**	**18 56 48.5**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=101,slow=11,SNR=2.2					
STKA	**Stephens Creek**	**35.11 257**	P	**P**	**18 56 48.4**	**+0.9**
BBOO	**Buckleboo**	**39.59 254**	P	**P**	**18 57 26.5**	**+1.1**
BBOO			IAmb	IAmb	18 57 32.8	
	comp=Z,9.8nm,1.0s					
AS31	**Alice Springs**	**43.77 267**	P	**P**	**18 57 59.9**	**+0.1**
ASAR	**Alice Springs**	**43.77 267**	P	**P**	**18 58 01.4**	**+1.6**
	comp=Z,2.4nm,0.7s,baz=109,slow=7.9,SNR=18					
ASAR			PcP	**PcP**	**18 59 47.8**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=102,slow=4.8,SNR=2.0					
ASAR	**Alice Springs**	**43.77 267**	P	**P**	**18 57 59.6**	**-0.2**
ASAR				**PcP**	**18 59 47.1**	**+0.7**
WR0	**Warramunga Arr**	**44.58 272**	P	**P**	**18 58 07.8**	**+1.4**
WR0			IAmb	IAmb	18 58 17.0	
	comp=Z,5.0nm,0.9s					
WB2	**Warramunga Arr**	**44.75 272**	P	**P**	**18 58 08.6**	**+0.9**
WB2			IAmb	IAmb	18 58 15.4	
	comp=Z,6.1nm,0.8s					
WRAB	**Tennant Creek**	**44.76 272**	P	**P**	**18 58 09.4**	**+1.7**
WRAB			IAmb	IAmb	18 58 16.7	
	comp=Z,6.7nm,1.1s					
WRA	**Warramunga Arr**	**44.76 272**	P	**P**	**18 58 08.5**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=110,slow=8.1,SNR=22					
WRA	**Warramunga Arr**	**44.76 272**	P	**P**	**18 58 09.7**	**+1.9**
WB0	**Warramunga Arr**	**44.78 272**	P	**P**	**18 58 09.4**	**+1.4**
KNRA	**Kununurra**	**51.37 274**	P	**P**	**18 58 58.4**	**-0.5**
MAW	**Mawson**	**72.47 200**	P	**P**	**19 01 21.6**	**+1.6**
	comp=Z,0.8nm,0.9s,baz=51,slow=6.5,SNR=1.2					
MAW	**Mawson**	**72.47 200**	P	**P**	**19 01 21.5**	**+1.6**
MJAR	**Matsushiro Arr**	**78.68 325**	P	**P**	**19 01 55.8**	**-0.2**
	comp=Z,1.5nm,1.0s,baz=173,slow=5.2,SNR=2.6					
CCX	**Cicese**	**84.50 48**	P	**P**	**19 02 25.8**	**-1.0**
YSS	**Yuzh-Sakhalins**	**85.10 334**	P	**P**	**19 02 29.1**	**-0.4**
USRK	**Ussuriysk Ar.**	**87.59 326**	P	**P**	**19 02 42.8**	**+1.0**
	comp=Z,2.0nm,0.9s,baz=147,slow=8.2,SNR=4.5					
NVAR	**Mina Array Bea**	**87.84 42**	P	**P**	**19 02 43.3**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=229,slow=8.2,SNR=2.8					
NVAR	**Mina Array Bea**	**87.84 42**	P	**P**	**19 02 40.2**	**-3.3**
TXAR	**Lajitas Array**	**91.87 57**	P	**P**	**19 03 02.3**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=198,slow=5.7,SNR=3.9					
TXAR	**Lajitas Array**	**91.87 57**	P	**P**	**19 03 02.1**	**-0.3**
LVC	**Limon Verde**	**93.32 119**	LR	LR	19 34 16.7	
	comp=Z,1μm,21.9s,baz=110,slow=28					
CMAR	**Chiang Mai Arr**	**94.05 289**	P	**P**	**19 03 12.9**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=164,slow=3.6,SNR=2.3					
CMAR	**Chiang Mai Arr**	**94.05 289**	P	**P**	**19 03 12.0**	**-0.5**
PDAR	**Pinedale Array**	**95.73 43**	P	**P**	**19 03 20.0**	**0.0**
	comp=Z,0.2nm,0.6s,baz=207,slow=5.7,SNR=1.9					
PDAR	**Pinedale Array**	**95.73 43**	P	**P**	**19 03 19.7**	**-0.3**
KURK	**Kurchatov**	**121.58 314**			**PKPdf**	**19 08 46.9**	**-0.2**
KURBB	**Kurchatov Arra**	**121.62 314**	PKP		**PKPdf**	**19 08 46.9**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=118,slow=1.6,SNR=2.4					
BVAR	**Borovoye Array**	**126.92 316**	PKP		**PKiKP**	**19 08 58.4**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=48,slow=2.1,SNR=3.9					
FINES	**FINESS Array B**	**145.44 340**	PKPbc		**PKPdf**	**19 09 30.1**	**-1.0**
	comp=Z,14nm,1.0s,baz=71,slow=3.0,SNR=10.0					
FINES	**FINESS Array B**	**145.44 340**			**PKPdf**	**19 09 30.5**	**-0.6**
KBZ	**Khabaz**	**145.70 304**	PKPbc		**PKPdf**	**19 09 32.1**	**0.0**
	comp=Z,0.9nm,0.7s,baz=270,slow=1.0,SNR=1.5					
AKASG	**Malin Array Be**	**151.76 323**	PKPbc		**PKiKP**	**19 09 49.3**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=47,slow=2.4,SNR=4.1					
AKASG	**Malin Array Be**	**151.76 323**			**PKPdf**	**19 09 41.2**	**-0.5**
MMAI	**Mount Meron Ar**	**152.19 284**	PKPbc		**PKiKP**	**19 09 50.2**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=104,slow=6.1,SNR=1.1					
TORD	**Torodi Ar. Bea**	**162.73 176**	PKPab		**PKPab**	**19 10 45.6**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=183,slow=3.7,SNR=2.4					
TORD	**Torodi Ar. Bea**	**162.73 176**			**PKPab**	**19 10 45.2**	**+0.2**

*IDC **18** 18:54:54.8±0.6,32.°60N×47.°61E,h0km,mb4.1/27, mb1 4.1/36,mb1mx4.0/58,mbtmp4.0/36,ML3.6/8,MS4.5/5, Ms1 4.5/5,ms1mx3.8/55,Error ellipse: s-maj=14.5km s-min=10.5km az=170.0*

*MOS **18** 18:54:56.2±1.2,32.°47N×47.°67E,h20km,mb4.7/42,Error ellipse: s-maj=6.3km s-min=3.8km az=123.0*

*NEIC **18** 18:54:56.7±1.6,32.°58N±0.°09×47.°62E±0.°08,h10km±1km, Error ellipse: s-maj=14.6km s-min=11.1km az=188.0*

*ISN **18** 18:54:57.7±0.6,32.°68N×47.°58E,h17km±4km,ML4.5*

*GCMT **18** 18:54:57.8±0.4,32.°55N±0.°03×47.°40E±0.°05,h19km±1km, MW4.9/66,Moment Tensor Solution. s9,c10; s66,c101; Duration: 0 Moment tensor: Scale 1016Nm; Mrr2.37±.23; Mθθ-1.71±.14; Mϕϕ-0.66±. 13; Mr0.47±.23; Mθϕ0.64±.06; Mϕr-1.01±.30; Best double couple: Mo2.44000×1016 NP1:ϕ285.00000°,δ35.00000°,λ69.00000°. NP2: ϕs130.00000°,δ57.00000°,λ104.00000°. Principal axes: T 2.6920, Plg74.0000°, Azm77.0000°; N -0.5120, Plg12.0000°, Azm302.0000°; P -2.1880, Plg11.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*TEH **18** 18:54:58.0,32.°71N×47.°60E,h12km,ML4.5*

*OMAN **18** 18:54:59.7±2.6,32.°04N×47.°34E,h10km±27km,mb5.9/5, Error ellipse: s-maj=25.3km s-min=9.0km az=147.0*

*THR **18** 18:55:02.4±0.3,32.°63N×47.°74E,h46km±3km,ML4.2*

ISC 18 18:54:58.0±1.1,**32.°57N**±0.°03×**47.°55E**±0.°03,**h16**km±7km, **n344,**σ1°**36**/344,**mb4.5**/101,**MS4.3**/5,**36C-15D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.98**	**15**	*e*Pg	**Pb**	**18 55 13.8**	**-2.8**
SHGR	**Shooshtar-Gavs**	**1.16**	**113**	*e*Pg	**Pg**	**18 55 22.0**	**+1.8**
SHGR				*e*Sg	**Sn**	**18 55 36.7**	**+1.7**
SHGR				IAML		18 55 49.8	
	comp=E,6μm,0.6s						
SHGR				IAML		18 55 52.2	
	comp=N,5μm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.16**	**113**	*e*Pg	**Pg**	**18 55 22.0**	**+1.8**
IKMR	**Kamar-syah**	**1.17**	**36**	*e*Pg	**Pn**	**18 55 17.3**	**-2.4**
IKMR				*e*		18 55 40.1	
IDOB	**Doab**	**1.32**	**23**	*e*Pg	**Pn**	**18 55 20.0**	**-2.0**
IBDR	**Badra**	**1.47**	**292**	*e*Pg	**Pn**	**18 55 24.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**18 55 44.0**	**-1.3**
IBDR				AML	AML	18 55 52.0	
	comp=E,10μm,0.7s						
IBDR				AML	AML	18 55 52.7	
	comp=N,6μm,0.5s						
BMDN	**Meydan**	**1.53**	**44**	*e*Pg	**Pn**	**18 55 24.0**	**-0.9**
BMDN				*e*		18 55 53.6	
AHWZ	**Ahwaz**	**1.55**	**143**	*e*Pg	**Pg**	**18 55 27.6**	**-0.1**
IKOM	**Komasi**	**1.60**	**359**	*e*Pg	**Pn**	**18 55 25.2**	**-0.6**
IKOM				*e*		18 55 52.9	
KCHF	**Cheshme Sefid,**	**1.75**	**346**	*e*Pg	**Pn**	**18 55 28.4**	**+0.5**
KCHF				*e*		18 55 56.3	
KER	**Kermanshah**	**1.84**	**349**	*e*Pg	**Pb**	**18 55 30.5**	**-0.9**
HSAM	**Samen**	**1.86**	**28**	*e*Pg	**Pb**	**18 55 30.5**	**-1.2**
HSAM				*e*		18 56 03.9	
IBZA	**Bozab**	**1.91**	**8**	*e*Pg	**Pn**	**18 55 31.1**	**+0.9**
IBZA				*e*		18 56 06.6	
IGHG	**Ghaleghazi**	**1.94**	**335**	*e*Pg	**Pb**	**18 55 32.7**	**-0.4**
NSR	**Nassriya**	**1.97**	**218**	*e*Pn	**Pb**	**18 55 33.0**	**-0.4**
NSR				*e*Sn	**Sb**	**18 55 58.0**	**+0.4**
IVIS	**Veis**	**2.04**	**343**	*e*Pn	**Pn**	**18 55 32.3**	**+0.6**
IVIS				*e*		18 56 09.9	
KHMZ	**Khomeyn**	**2.33**	**59**	*e*Pn	**Pn**	**18 55 37.4**	**+1.5**
KHMZ	**Khomeyn**	**2.33**	**59**	*e*Pn	**Pn**	**18 55 37.4**	**+1.5**
IDHR	**Dehrash**	**2.33**	**336**	*e*Pn	**Pn**	**18 55 37.6**	**+1.7**
IDHR				*e*		18 56 20.0	
IALM	**Almabolaq**	**2.34**	**13**	*e*Pn	**Pn**	**18 55 37.2**	**+1.1**
ILIN	**Lien**	**2.39**	**348**	*e*Pn	**Pn**	**18 55 37.2**	**+0.4**
ILIN				*e*		18 56 22.2	
SNGE	**Sanandaj**	**2.52**	**356**	*e*Pn	**Pb**	**18 55 41.7**	**-1.3**
SNGE				IAML		18 56 29.2	
	comp=N,1μm,0.6s						
HAGD	**Aghdareh**	**2.61**	**30**	*e*Pn	**Pn**	**18 55 40.7**	**+1.0**
JHBN	**Jahan bin**	**2.66**	**96**	*e*Pn	**Pn**	**18 55 42.0**	**+1.6**
JHBN				*e*		18 56 28.6	
HSRG	**Sareghieh**	**2.73**	**13**	*e*Pn	**Pn**	**18 55 41.7**	**+0.2**
HSRG				*e*		18 56 29.2	
BHD	**Baghdad**	**2.76**	**286**	*e*Pn	**Pn**	**18 55 43.0**	**+1.5**
BHD				*e*Sn	**Sn**	**18 56 16.0**	**+1.5**
IPIR	**Pirpir**	**2.82**	**87**	*e*Pn	**Pn**	**18 55 44.1**	**+1.4**
IPIR				*e*		18 56 29.6	
ASAO	**Ashtian**	**2.86**	**46**	*e*Pn	**Pn**	**18 55 44.6**	**+1.5**
ASAO				*e*Sg	**Sb**	**18 56 25.5**	**+1.9**
ASAO	**Ashtian**	**2.86**	**46**	*e*Pn	**Pn**	**18 55 44.6**	**+1.5**
ROKH	**ROKH**	**2.95**	**93**	*e*Pn	**Pn**	**18 55 46.2**	**+1.7**
ROKH				*e*		18 56 43.2	
IBRJ	**Brojen**	**3.21**	**101**	*e*Pn	**Pn**	**18 55 49.5**	**+1.5**
IRAZ	**Razeghan**	**3.45**	**34**	*e*Pn	**Pn**	**18 55 52.3**	**+1.1**
IKLH	**Kolahrood**	**3.47**	**76**	*e*Pn	**Pn**	**18 55 53.6**	**+2.0**
IKLH				*e*		18 57 06.4	
QABG	**Abgarm-Qazvin**	**3.56**	**28**	*e*Pn	**Pn**	**18 55 53.1**	**+0.4**
KLNJ	**Kolanjah**	**3.78**	**113**	*e*Pn	**Pn**	**18 55 57.6**	**+1.7**
KLNJ				*e*		18 57 08.4	
IGAR	**Gharneh**	**3.80**	**91**	*e*Pn	**Pn**	**18 55 57.2**	**+1.1**
IGAR				*e*		18 57 15.4	
IZEF	**Zefreh**	**4.04**	**84**	*e*Pn	**Pn**	**18 56 00.6**	**+1.2**
QSDN	**Sirdan**	**4.15**	**18**	*e*Pn	**Pn**	**18 56 02.2**	**+1.3**
IRAM	**Ramesheh**	**4.17**	**99**	*e*Pn	**Pn**	**18 56 02.0**	**+0.9**
IGZV	**Ghazvin**	**4.40**	**29**	*e*Pn	**Pn**	**18 56 05.0**	**+0.7**
MAHB	**Mahabad**	**4.45**	**341**	*e*Pn	**Pn**	**18 56 05.1**	**+0.1**
QALM	**Alamut, Qazvin**	**4.62**	**33**	*e*Pn	**Pn**	**18 56 07.5**	**+0.1**
IDMV	**Damavand**	**4.78**	**50**	*e*Pn	**Pn**	**18 56 09.6**	**0.0**
SHI	**Shiraz**	**5.16**	**123**	*e*Pn	**Pn**	**18 56 17.5**	**+2.7**
ANAR	**Anarak**	**5.24**	**82**	*e*Pn	**Pn**	**18 56 16.1**	**+0.4**
ISAD	**Sadrabad**	**5.24**	**96**	*e*Pn	**Pn**	**18 56 16.9**	**+1.0**
ISRB	**Sarab**	**5.24**	**1**	*e*Pn	**Pn**	**18 56 17.6**	**+1.7**
IAZR	**Azarshahr**	**5.26**	**346**	*e*Pn	**Pn**	**18 56 17.9**	**+1.8**
IFIR	**Firoozkooh**	**5.29**	**53**	*e*Pn	**Pn**	**18 56 16.9**	**+0.3**
ILAS	**Lasjerd**	**5.30**	**57**	*e*Pn	**Pn**	**18 56 17.1**	**+0.4**
IPRN	**Peran**	**5.39**	**46**	*e*Pn	**Pn**	**18 56 19.2**	**+1.3**
IALA	**Alasht**	**5.59**	**50**	*e*Pn	**Pn**	**18 56 21.8**	**+1.1**
ISHM	**Shahmirzad**	**5.75**	**54**	*e*Pn	**Pn**	**18 56 23.6**	**+0.7**
IHRS	**Heris**	**5.75**	**356**	*e*Pn	**Pn**	**18 56 24.6**	**+1.7**
AHAR	**Ahar**	**5.92**	**356**	*e*Pn	**Pn**	**18 56 26.8**	**+1.7**
IANJ	**Anjilo**	**6.02**	**60**	*e*Pn	**Pn**	**18 56 26.9**	**+0.3**
IMEH	**Mehriz**	**6.12**	**99**	*e*Pn	**Pn**	**18 56 28.8**	**+0.9**
IMRD	**Marand**	**6.31**	**347**	*e*Pn	**Pn**	**18 56 33.4**	**+2.9**
IGLO	**Ghaloghah**	**6.50**	**51**	*e*Pn	**Pn**	**18 56 34.7**	**+1.6**
GEVA	**Gevas**	**6.80**	**329**	*e*Pn	**Pn**	**18 56 34.7**	**-2.5**
IBAF	**Bafgh**	**6.87**	**96**	*e*Pn	**Pn**	**18 56 38.9**	**+0.6**
MARD	**Mardin**	**7.30**	**312**	Pn	**Pn**	**18 56 43.0**	**-1.0**
TPRV	**Parvadeh(Tabas**	**7.71**	**84**	*e*Pn	**Pn**	**18 56 50.5**	**+0.9**
TNSJ	**Nastanj**	**7.71**	**77**	*e*Pn	**Pn**	**18 56 50.7**	**+1.0**
TKDS	**Koohdasht(Taba**	**8.10**	**80**	*e*Pn	**Pn**	**18 56 55.8**	**+0.8**
ASF	**Jabal al Asfar**	**9.02**	**270**	Pn	**Pn**	**18 57 07.9**	**+0.3**
	comp=N,1.2nm,0.3s,baz=6.9,slow=2.0,SNR=8.6						
ASF				Sn	**Sn**	**18 58 45.9**	**-3.1**
	comp=N,0.3nm,0.3s,baz=198,slow=5.2,SNR=2.1						
ASF				Lg	Lg	18 59 42.8	
	comp=N,0.6nm,0.3s,baz=66,slow=18,SNR=4.6						
SBZV	**Sabzevar**	**9.13**	**325**	*e*Pn	**Pn**	**18 57 10.1**	**+0.8**
KOPT	**Kop Dagi**	**9.36**	**325**	Pn	**Pn**	**18 57 11.2**	**-1.2**
MALT	**Malatya**	**9.39**	**310**	P	Pn	18 57 18.6	+5.9
ITEG	**Tejag**	**9.44**	**85**	*e*Pn	**Pn**	**18 57 14.6**	**+1.1**
AFRZ	**Afriz**	**9.67**	**82**	*e*Pn	**Pn**	**18 57 16.8**	**+0.2**
IKOO	**Kooshah**	**9.68**	**88**	*e*Pn	**Pn**	**18 57 17.4**	**+0.6**
ISFR	**Sfrayin**	**9.68**	**60**	*e*Pn	**Pn**	**18 57 17.7**	**+0.8**
IKRD	**Kardeh**	**9.95**	**62**	*e*Pn	Pn	18 57 33.2	+13
IAKL	**Akhelmad**	**10.07**	**63**	*e*Pn	**Pn**	**18 57 23.4**	**+1.1**
BANOM	**Banah**	**10.11**	**129**	P	**Pn**	**18 57 22.7**	**+0.2**
	SNR=14						
GEYT	**Alibeck**	**10.16**	**55**	Pn	**Pn**	**18 57 22.9**	**-0.3**
	comp=N,0.3nm,0.3s,baz=206,slow=9.7,SNR=5.0						
GEYT				Lg	Lg	19 00 24.8	
	comp=N,0.1nm,0.3s,baz=227,slow=27,SNR=1.3						
GEYT	**Alibeck**	**10.16**	**55**		**Pn**	**18 57 22.5**	**-0.7**
IMON	**Monand**	**10.21**	**83**	*e*Pn	**Pn**	**18 57 25.8**	**+1.7**
MMAI	**Mount Meron Ar**	**10.24**	**276**	Pn	**Pn**	**18 57 23.5**	**-0.8**
	baz=82,slow=12,SNR=2.0						
MMAI				Lg	Lg	19 00 28.5	
	comp=N,1.2nm,0.3s,baz=75,slow=28,SNR=3.1						
UOSS	**Minazif**	**10.74**	**133**	Pn	**Pn**	**18 57 30.6**	**-0.5**
HATD	**Hatta, Dubai**	**10.78**	**134**	S	**Sn**	**18 59 31.0**	**-1.1**
	SNR=7.1						
ASHO	**Ashiyiah**	**10.84**	**134**	P	**Pn**	**18 57 33.4**	**+0.8**
	SNR=19						
ASHO				S	**Sn**	**18 59 32.8**	**-0.8**
	SNR=7.2						
EIL	**Elat**	**11.18**	**258**	Pn	**Pn**	**18 57 36.6**	**-0.5**
	comp=N,0.5nm,0.3s,baz=335,slow=12,SNR=1.9						
EIL				Lg	Lg	19 00 55.4	
	comp=N,0.3nm,0.3s,baz=25,slow=16,SNR=1.7						
KBZ	**Khabaz**	**11.72**	**343**	Pn	**Pn**	**18 57 46.8**	**+2.2**
	comp=N,0.1nm,0.3s,baz=191,slow=9.9,SNR=1.7						
KBZ	**Khabaz**	**11.72**	**343**	*e*P	**Pn**	**18 57 48.6**	**+4.1**
KIV	**Kislovodsk**	**11.99**	**343**	*e*P	Pn	18 57 53.5	+5.2
KIV				pmax	pmax		
	comp=Z,26nm,1.1s						
ARQ	**Araqi**	**12.14**	**137**	P	**Pn**	**18 57 50.7**	**+0.4**
	SNR=16						
SOC	**Sochi**	**12.60**	**333**	*i* P	**P**	**18 58 11.9**	**+3.9**
SOC				pmax	pmax		
	comp=Z,5.0nm,0.1s						
BSY	**Bisya**	**12.99**	**136**	P	**Pn**	**18 58 00.1**	**-1.9**
BR131	**Keskin Array S**	**13.31**	**306**	*e*P	**Pn**	**18 58 07.2**	**+0.8**
BRTR	**Keskin Array B**	**13.31**	**306**	Pn	**Pn**	**18 58 06.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=133,slow=12,SNR=7.4						
BRTR				Lg	Lg	19 01 55.0	
	comp=Z,0.1nm,0.3s,baz=137,slow=30,SNR=1.9						
BRTR	**Keskin Array B**	**13.31**	**306**	*i* P	**Pn**	**18 58 10.6**	**+4.2**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR	**Keskin Array B**	**13.31**	**306**		**Pn**	**18 58 05.4**	**-1.0**
WSAR	**Wadi Sarin**	**13.50**	**131**	Pn	**Pn**	**18 58 06.5**	**-2.4**
	comp=Z,1.2nm,0.3s,baz=2.6,slow=13,SNR=14						
WSAR				Sn	Sn	19 00 27.9	-11
	comp=Z,0.3nm,0.3s,baz=145,slow=16,SNR=1.5						
WSAR	**Wadi Sarin**	**13.50**	**131**	P	**Pn**	**18 58 08.6**	**-0.3**
	SNR=9.2						
ELL	**Elmali**	**15.10**	**291**	P	**P**	**18 58 37.0**	**+1.0**
ELL				pmax	pmax		
	comp=Z,90nm,1.4s						
ELL	**Elmali**	**15.10**	**291**	P	**P**	**18 58 37.0**	**+1.0**
DMTO	**DMTO**	**16.23**	**154**	P	**Pn**	**18 58 43.3**	**-2.0**
	SNR=6.2						
KBL	**Kabul**	**18.02**	**78**	P	**Pn**	**18 59 07.5**	**-0.5**
KBL				pmax	pmax		
	comp=Z,25nm,1.2s						
KBL	**Kabul**	**18.02**	**78**	P	**Pn**	**18 59 07.5**	**-0.5**
CHGR	**Chuyangaron**	**18.57**	**65**		**P**	**18 59 11.6**	**-2.7**
IDI	**Anoyia**	**18.99**	**284**	P	**P**	**18 59 18.8**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=36,slow=13,SNR=8.0						
IDI	**Anoyia**	**18.99**	**284**	IAmb	IAmb	18 59 45.8	
	comp=Z,63nm,1.4s						
ABKAR	**Akbulak array**	**19.08**	**25**	P	**P**	**18 59 18.3**	**-1.4**
VRH	**Novokhopyorsk**	**19.11**	**349**	*e*P	**Pn**	**18 59 21.5**	**+0.7**
VRH				pmax	pmax		
	comp=Z,20nm,1.1s						
TOPG	**Topolog**	**19.30**	**315**	⇑P	**Pn**	**18 59 23.8**	**+0.6**
VORD	**Divnogorie**	**19.36**	**344**	*e*P	**P**	**18 59 23.1**	**+0.4**
VORD				pmax	pmax		
	comp=Z,9.0nm,0.4s						
AKTO	**Aktyubinsk**	**19.46**	**20**	P	**P**	**18 59 23.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=206,slow=12,SNR=4.4						
GAR	**Garm**	**19.53**	**64**	P	**P**	**18 59 24.5**	**-0.4**
GAR				IAmb	IAmb	18 59 29.4	
	comp=Z,18nm,1.0s						
CFR	**Carcaliu**	**19.61**	**316**	⇑P	**P**	**18 59 25.3**	**-0.2**
CFR	**Carcaliu**	**19.61**	**316**	⇑P	**P**	**18 59 25.3**	**-0.2**
VSR	**Storozhevoye**	**19.62**	**344**	*e*P	**P**	**18 59 25.0**	**-0.6**
VSR				pmax	pmax		
	comp=Z,20nm,0.7s						
RAZG	**Razgrad**	**19.82**	**310**	⇑P	**P**	**18 59 28.4**	**+0.6**
BTK	**Batken**	**20.15**	**62**	P	**P**	**18 59 31.0**	**-0.6**
BTK	**Batken**	**20.15**	**62**	P	**P**	**18 59 31.0**	**-0.6**
VARL	**Varlezi**	**20.18**	**317**	⇓P	**P**	**18 59 32.0**	**+0.3**
ISR	**Istrita**	**20.54**	**314**	⇑P	Pn	18 59 36.9	-1.0
ISR	**Istrita**	**20.54**	**314**	⇑P	Pn	18 59 36.9	-1.0
VRI	**Vrincioaia**	**20.82**	**316**	⇑P	**P**	**18 59 38.9**	**+0.2**
VRI	**Vrincioaia**	**20.82**	**316**	⇑P	**P**	**18 59 38.9**	**+0.2**
PLOR	**Plostina**	**20.85**	**316**	⇑P	**P**	**18 59 40.3**	**+1.2**
PLOR	**Plostina**	**20.85**	**316**	⇑P	Pn	18 59 40.3	-1.3
KK31	**Karatay Array**	**20.90**	**53**	P	**P**	**18 59 38.3**	**-1.3**
KK31				pmax	pmax		
	comp=Z,12nm,1.1s						
KK31	**Karatay Array**	**20.90**	**53**	P	**P**	**18 59 38.3**	**-1.3**
KKAR	**Karatay Array**	**20.90**	**53**	P	**P**	**18 59 38.3**	**-1.3**
KKAR				pmax	pmax		
	comp=Z,12nm,1.1s						
KKAR	**Karatay Array**	**20.90**	**53**	P	**P**	**18 59 38.2**	**-1.4**
KKAR	**Karatay Array**	**20.90**	**53**	P	**P**	**18 59 38.3**	**-1.3**
KKAR				IAmb	IAmb	18 59 47.0	
	comp=Z,12nm,1.1s						
SRS	**Serrai**	**20.94**	**301**	P	Pn	18 59 41.7	-0.9
SRS				pmax	pmax		
	comp=Z,8.0nm,1.2s						
LPSR	**Galich'ya Gora**	**20.97**	**345**	*e*P	**P**	**18 59 38.6**	**-1.6**
LPSR				pmax	pmax		
	comp=Z,50nm,1.0s						
MLR	**Muntele Rosu**	**21.09**	**314**	P	**P**	**18 59 42.3**	**+0.5**
	comp=Z,10nm,0.7s,baz=151,slow=16,SNR=5.9						
MLR				LR	LR	19 10 25.7	
	comp=Z,1μm,18.3s,baz=102,slow=44						
MLR	**Muntele Rosu**	**21.09**	**314**	⇑P	**P**	**18 59 43.1**	**+1.3**
MLR	**Muntele Rosu**	**21.09**	**314**	P	**P**	**18 59 43.6**	**+1.8**
MLR				pmax	pmax		
	comp=Z,14nm,0.7s						
MLR	**Muntele Rosu**	**21.09**	**314**	P	**P**	**18 59 43.6**	**+1.8**
MLR				IAmb	IAmb	18 59 53.1	
	comp=Z,14nm,0.7s						
TESR	**Tescani**	**21.21**	**317**	⇑P	**P**	**18 59 43.6**	**+0.7**
HUMR	**Humele**	**21.23**	**311**	⇑P	**P**	**18 59 44.3**	**+1.2**
SORM	**Soroca**	**21.26**	**323**	⇑P	**P**	**18 59 42.9**	**-0.5**
SORM	**Soroca**	**21.26**	**323**

comp=Z,0.6nm,0.4s,baz=218,slow=4.3,SNR=6.3
BVAR ScP **ScP** 19 07 36.5 -1.0
comp=Z,0.4nm,0.6s,baz=205,slow=3.0,SNR=3.1
BUD Budapest 26.25 313 P **P** 19 00 36.7 +4.4
BUD pmax pmax
comp=Z,28nm,1.0s
NIE Niedzica 26.37 318 P **P** 19 00 38.5 +5.1
NACGM Naroch 26.70 333 *e* **P** 19 00 39.0 +2.7
LANS Liptovska Anna 26.72 317 *eP* **P** 19 00 38.1 +1.6
LANS pmax pmax
comp=Z,6.0nm,1.0s
LANS Liptovska Anna 26.72 317 *eP* **P** 19 00 38.1 +1.6
VYHS Vyhne 26.79 315 *eP* **P** 19 00 38.1 +0.9
VYHS pmax pmax
comp=Z,6.0nm,1.0s
VYHS Vyhne 26.79 315 *eP* **P** 19 00 38.1 +0.9
OJC Ojcow 27.05 319 P **P** 19 00 40.0 +0.5
OJC pmax pmax
comp=Z,13nm,1.0s
OJC Ojcow 27.05 319 P **P** 19 00 40.0 +0.5
OJC IAmb IAmb 19 00 44.4
comp=Z,13nm,1.0s
JAVC Velka Javorina 27.65 315 *eP* **P** 19 00 46.9 +2.0
MORC Moravsky Berou 28.12 317 *eP* **P** 19 00 49.9 +0.8
MORC Moravsky Berou 28.12 317 P **P** 19 00 50.0 +0.8
MORC pmax pmax
comp=Z,7.0nm,1.3s
MORC Moravsky Berou 28.12 317 P **P** 19 00 50.0 +0.9
MORC IAmb IAmb 19 00 51.6
comp=Z,7.2nm,1.3s
CONA Conrad Observa 28.39 312 *i* pP **P** 19 00 53.4 +1.8
comp=Z,8.5nm,1.9s
VRAC Vranov 28.48 315 P **P** 19 00 52.4 +0.1
comp=Z,2.3nm,0.6s,baz=81,slow=10,SNR=4.1
VRAC Vranov 28.48 315 *eP* **P** 19 00 53.5 +1.2
KRUC Moravsky 28.50 315 *eP* **P** 19 00 53.7 +1.3
SOKA Soboth 28.50 309 *i* pP pP 19 00 55.3 -2.3
comp=Z,3.0nm,1.5s
KRLC Kraliky 28.69 317 *eP* **P** 19 00 55.4 +1.2
KRLC Kraliky 28.69 317 *eP* **P** 19 00 55.4 +1.2
KLMR Klimovskoe 28.78 352 *eP* **P** 19 00 53.0 -1.8
KLMR pmax pmax
comp=Z,22nm,1.3s
KLMR Klimovskoe 28.78 352 *eP* **P** 19 00 53.0 -1.8
KLMR AMP 19 01 02.3
comp=Z,22nm,1.3s
KURBB Kurchatov Arra 29.06 42 P **P** 19 00 56.9 -0.4
comp=Z,3.7nm,0.9s,baz=248,slow=9.3,SNR=13
KURBB PcP **PcP** 19 04 04.6 -0.7
comp=Z,0.4nm,0.6s,baz=245,slow=2.9,SNR=3.0
DPC Dobruska-Polom 29.08 317 *eP* **P** 19 00 58.7 +1.0
DPC Dobruska-Polom 29.08 317 *eP* **P** 19 00 58.7 +1.0
KURK Kurchatov 29.15 42‖ *eP* **P** 19 00 58.2 0.0
KURK pmax pmax
comp=Z,9.0nm,1.2s
KURK Kurchatov 29.15 42 P **P** 19 00 57.7 -0.5
KURK IAmb IAmb 19 01 03.0
comp=Z,7.0nm,1.0s
KURK Kurchatov 29.15 42 **PcP** 19 04 04.5 -0.9
CHVC Chvalec 29.34 317 *eP* **P** 19 01 00.4 +0.5
KBA Koelnbreinsper 29.73 309 P **P** 19 01 04.4 +0.8
comp=Z,5.8nm,0.7s,SNR=6.5
GOPC GO Pecny, Ondr 29.80 315 *eP* **P** 19 01 06.2 +2.2
GOPC GO Pecny, Ondr 29.80 315 *eP* **P** 19 01 06.2 +2.2
MK31 Makanchi Array 30.00 52 P **P** 19 01 05.2 -0.6
MK31 pmax pmax
comp=Z,3.0nm,1.1s
MK31 Makanchi Array 30.00 52 P **P** 19 01 05.2 -0.6
MKAR Makanchi Array 30.00 52 P **P** 19 01 05.8 0.0
comp=Z,1.5nm,0.6s,baz=246,slow=9.2,SNR=20
MKAR Makanchi Array 30.00 52 P **P** 19 01 05.3 -0.5
GERES GERESS Array B 30.06 313 P **P** 19 01 05.4 -1.0
comp=Z,0.7nm,0.6s,baz=107,slow=8.5,SNR=7.1
GERES PcP **PcP** 19 04 06.4 -1.6
comp=Z,0.3nm,0.5s,baz=101,slow=0.5,SNR=1.7
GERES GERESS Array B 30.06 313 P **P** 19 01 05.2 -1.2
CIMO Cimolais 30.12 307 P **P** 19 01 06.1 -0.8
CIMO IAmb IAmb 19 01 09.2
comp=Z,6.9nm,0.9s
ABTA Abfaltersbach 30.19 308 *i* P **P** 19 01 08.0 +0.4
comp=Z,5.4nm,1.2s
KHC Kasperske Hory 30.24 313‖ *eP* **P** 19 01 08.7 +0.8
KHC pmax pmax
comp=Z,4.0nm,1.0s
KHC Kasperske Hory 30.24 313 *eP* **P** 19 01 09.5 +1.6
KHC *ex* x 19 01 16.0
CTI Castel Tesino 30.59 307 P **P** 19 01 11.7 +0.5
CTI pmax pmax
comp=Z,12nm,0.8s
CTI Castel Tesino 30.59 307 P **P** 19 01 11.7 +0.5
WTTA Wattenberg 30.90 309 P **P** 19 01 14.0 0.0
comp=Z,11nm,1.1s,SNR=4.9
WATA Walderalm 30.96 309 P **P** 19 01 13.5 -1.0
comp=Z,11nm,0.9s,SNR=5.2
SQTA Sankt Quirin 31.17 309 P **P** 19 01 16.3 0.0
comp=Z,9.1nm,0.6s,SNR=7.3
MOTA Moosalm 31.27 309 P **P** 19 01 16.7 -0.5
comp=Z,17nm,1.3s,SNR=5.4
CLL Collm 31.39 317 *i* P **P** 19 01 19.1 +1.1
comp=Z,9.0nm,1.1s
CLL Collm 31.39 317 *i* P **P** 19 01 19.1 +1.1
CLL pmax pmax
comp=Z,9.0nm,1.1s
FETA Feichten 31.44 308 *i* P **P** 19 01 19.1 +0.4
comp=Z,8.9nm,0.8s
RETA Reutte 31.53 309 *i* P **P** 19 01 19.3 -0.2
comp=Z,3.7nm,0.6s,SNR=5.1
FUORN Ofenpass-Fuorn 31.66 307 P **P** 19 01 21.6 +0.9
FUORN IAmb IAmb 19 01 47.5
comp=Z,5.0nm,1.0s
DAVA Damuels 32.06 308 P **P** 19 01 23.9 -0.2
comp=Z,12nm,0.6s,SNR=12
FINES FINESS Array B 32.07 341 P **P** 19 01 22.0 -1.8
comp=Z,4.1nm,0.9s,baz=143,slow=9.1,SNR=9.2
FINES FINESS Array B 32.07 341 *i* P **P** 19 01 24.0 +0.2
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 32.07 341 P **P** 19 01 22.6 -1.2
TUE Stuetta 32.24 307 P **P** 19 01 26.3 +0.5
TUE IAmb IAmb 19 01 39.1
comp=Z,4.5nm,0.7s
SENIN Lac Senin/Sane 33.61 306 P **P** 19 01 37.8 0.0
SENIN IAmb IAmb 19 01 39.5
comp=Z,5.8nm,0.7s
MBDF Montbardon 33.74 303 *eP* **P** 19 01 39.5 +0.6
MBDF pmax pmax
comp=Z,13nm,0.6s
BNI Bardonecchia 33.85 304 P **P** 19 01 39.8 0.0
BNI pmax pmax
comp=Z,25nm,0.8s
BNI Bardonecchia 33.85 304 P **P** 19 01 39.8 0.0
LPG La Plagne 33.86 304 *eP* **P** 19 01 40.6 +0.6
LPG pmax pmax
comp=Z,15nm,0.6s
LPL La Plagne 33.87 304 *eP* **P** 19 01 40.6 +0.5
LPL pmax pmax
comp=Z,12nm,0.5s
ZAA0 Zalesovo Array 33.97 40 P **P** 19 01 39.8 -0.7
ZAA0 IAmb IAmb 19 01 44.3
comp=Z,4.3nm,0.8s
ZALV Zalesovo Beam 33.97 40 P **P** 19 01 39.5 -1.0
comp=Z,2.9nm,0.5s,baz=244,slow=8.4,SNR=9.7
ZALV Zalesovo Beam 33.97 40 *i* P **P** 19 01 40.7 +0.2
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ECH Echery 34.06 309 P **P** 19 01 41.4 -0.1
ECH pmax pmax
comp=Z,5.0nm,1.0s
ECH Echery 34.06 309 P **P** 19 01 41.4 -0.1
ECH IAmb IAmb 19 01 43.5
comp=Z,5.1nm,1.0s
DGZ Jazzator, Alta 34.09 48‖ *eP* **P** 19 01 43.0 +1.2
DGZ pmax pmax
comp=Z,2.0nm,0.9s
HINF Hinteralfeld 34.18 309 *eP* **P** 19 01 42.5 0.0
HINF pmax pmax
comp=Z,2.0nm,0.6s
CABF La Chapelle 34.48 306 *eP* **P** 19 01 45.8 +0.6
CABF pmax pmax
comp=Z,26nm,0.7s
HAU Haudompre 34.55 309 *eP* **P** 19 01 46.3 +0.6
HAU pmax pmax
comp=Z,8.0nm,1.0s
KMBO Kilima Mbogo 34.90 198 LR LR 19 14 46.5
comp=Z,534nm,21.1s,baz=285,slow=34

VIVF Saint-Julien-l 35.24 303 *eP* **P** 19 01 51.9 +0.2
VIVF pmax pmax
comp=Z,20nm,1.4s
SMF Signal de Mont 36.02 306 *eP* **P** 19 01 58.4 +0.1
SMF pmax pmax
comp=Z,29nm,0.8s
LOR Lormes 36.09 307 *eP* **P** 19 01 58.7 -0.2
LOR pmax pmax
comp=Z,6.0nm,0.8s
LVZ Lovozero 36.16 352 P **P** 19 02 01.5 +2.2
LVZ pmax pmax
comp=Z,31nm,1.3s
LVZ Lovozero 36.16 352 P **P** 19 02 01.5 +2.2
SSF Saint Saulge 36.30 307 *eP* **P** 19 02 00.9 +0.2
SSF pmax pmax
comp=Z,16nm,0.9s
BAIF Baives 36.35 312 *eP* **P** 19 02 02.9 +1.8
BAIF pmax pmax
comp=Z,30nm,1.6s
AVF Avril sur Loir 36.37 306 *eP* **P** 19 02 01.3 0.0
AVF pmax pmax
comp=Z,12nm,1.0s
NB201 NORSAR Array S 36.93 331 P **P** 19 02 06.5 +0.6
NB2 NORSAR Subarra 36.96 331 P **P** 19 02 04.2 -1.9
comp=Z,6.6nm,1.1s,baz=124,slow=8.6
NOA NORSAR Array B 36.96 331 P **P** 19 02 04.3 -1.9
comp=Z,1.3nm,0.7s,baz=124,slow=8.5,SNR=3.9
TCF Toulx Ste Croi 37.10 305 *eP* **P** 19 02 07.8 +0.2
TCF pmax pmax
comp=Z,2.0nm,0.7s
RJF Les Rejaudoux 37.51 303 *eP* **P** 19 02 11.6 +0.6
RJF pmax pmax
comp=Z,5.0nm,0.7s
TAM Tamanrasset 38.26 266 P P 19 02 23.7 +5.9
ARCES ARCESS Array B 39.03 348 P **P** 19 02 22.4 -1.2
comp=Z,4.5nm,1.0s,baz=158,slow=8.8,SNR=10
ARCES PcP **PcP** 19 04 33.1 -0.2
comp=Z,2.4nm,0.9s,baz=160,slow=3.9,SNR=4.6
ARCES ARCESS Array B 39.03 348 P **P** 19 02 22.8 -0.7
ARCES 19 04 33.1
ARCES ARCESS Array B 39.03 348 P **P** 19 02 22.8 -0.7
ARE0 ARCESS Array S 39.03 348 P **P** 19 02 22.6 -0.9
KRAR Krasnoyarsk 39.04 39‖ *eP* **P** 19 02 22.5 -1.2
FLN La Foliniere 39.17 309 *eP* **P** 19 02 26.5 +1.6
FLN pmax pmax
comp=Z,10.0nm,0.8s
GRR Gorron 39.38 308 *eP* **P** 19 02 26.4 -0.3
GRR pmax pmax
comp=Z,18nm,1.2s
SJPF Ste Jean 39.44 300 *eP* **P** 19 02 27.8 +0.5
SJPF pmax pmax
comp=Z,3.0nm,0.6s
SGMF Saint Gilles 40.49 308 *eP* **P** 19 02 37.4 +1.4
SGMF pmax pmax
comp=Z,10.0nm,0.9s
QUIF Quistinic 40.88 307 *eP* **P** 19 02 41.1 +2.0
QUIF pmax pmax
comp=Z,18nm,1.1s
ESDC Sonseca Array 41.73 295 P **P** 19 02 45.5 -0.9
comp=Z,1.3nm,0.7s,baz=70,slow=7.8,SNR=10
ESDC Sonseca Array 41.73 295 P **P** 19 02 46.1 -0.3
GTA Gaotai 42.34 65 *eP* **P** 19 02 54.5 +3.1
GTA pP sP 19 03 01.1 +2.6
GTA sP pP 19 03 04.3 +7.8
GTA pmax pmax
comp=Z,1.0nm,1.1s
NRIK Noril'sk 43.08 20 P **P** 19 02 55.6 -1.2
comp=Z,1.0nm,0.3s,baz=221,slow=9.3,SNR=1.9
NRIK LR LR 19 22 38.1
comp=Z,677nm,18.5s,baz=328,slow=39
NRIK Noril'sk 43.08 20‖ *eP* **P** 19 02 56.9 +0.1
NRIK pmax pmax
comp=Z,7.0nm,1.6s
DSB Dublin 43.36 315 P **P** 19 02 59.7 +0.4
PBRG Braganca 43.59 298 *eP* **P** 19 03 02.1 +0.7
comp=Z,16nm,1.5s
PVRL Vila Real 44.38 298 *eP* **P** 19 03 08.7 +0.9
comp=Z,16nm,1.6s
PCBR Castelo Branco 44.40 296 *eP* **P** 19 03 09.1 +1.3
comp=Z,16nm,1.4s
TLY Talaya 44.56 47‖ *eP* **P** 19 03 09.8 +0.8
TLY pmax pmax
comp=Z,2.0nm,0.8s
PGAV Gavieira, Arco 44.71 299 *eP* **P** 19 03 11.7 +1.3
comp=Z,28nm,1.6s
PBEJ Beja 45.00 293 *eP* **P** 19 03 13.4 +0.8
comp=Z,20nm,1.7s
PSBE So Bento 45.45 295 *eP* **P** 19 03 13.3 -3.0
PNCL Nicolau / Gran 45.49 293 *eP* **P** 19 03 14.9 -1.7
comp=Z,30nm,2.0s
TORD Torodi Ar. Bea 46.06 256 P **P** 19 03 22.1 +0.8
comp=Z,0.8nm,0.5s,baz=68,slow=6.3,SNR=12
TORD Torodi Ar. Bea 46.06 256 P **P** 19 03 21.7 +0.4
TORD **P** 19 03 22.3 +1.0
SONM Songino Array 46.35 53 P **P** 19 03 22.4 -1.0
comp=Z,0.5nm,0.5s,baz=272,slow=9.8,SNR=4.8
SONM Songino Array 46.35 53 P **P** 19 03 22.4 -1.0
SONM pmax pmax
comp=Z,3.0nm,1.3s
SONM Songino Array 46.35 53 IAmb IAmb 19 03 30.5
comp=Z,2.5nm,1.3s
ULN Ulaanbaatar 46.79 53‖ *eP* **P** 19 03 26.7 -0.2
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 46.79 53 P **P** 19 03 25.8 -1.1
ULN IAmb IAmb 19 03 33.9
comp=Z,5.3nm,1.2s
SPITS Spitsbergen Ar 47.68 352 P **P** 19 03 32.7 -0.6
comp=Z,4.1nm,0.8s,baz=146,slow=16,SNR=1.5
CHTO Chiang Mai 47.87 94 P **P** 19 03 34.3 -1.2
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 47.87 94 P **P** 19 03 34.3 -1.2
CHTO IAmb IAmb 19 03 39.9
comp=Z,2.5nm,0.8s
CMAR Chiang Mai Arr 48.03 94 P **P** 19 03 33.9 -2.8
comp=Z,0.5nm,0.4s,baz=290,slow=7.0,SNR=8.8
CMAR Chiang Mai Arr 48.03 94 *i* P **P** 19 03 37.4 +0.7
CMAR pmax pmax
comp=Z,1.0nm,0.5s
DBIC Dimbokro 55.01 254 P **P** 19 04 29.6 +0.6
comp=Z,1.5nm,0.5s,baz=33,slow=6.8,SNR=5.7
DBIC Dimbokro 55.01 254 P **P** 19 04 29.7 +0.8
DBIC pmax pmax
comp=Z,11nm,1.4s
DBIC Dimbokro 55.01 254 P **P** 19 04 29.7 +0.8
DBIC IAmb IAmb 19 04 30.5
comp=Z,11nm,1.4s
TIXI Tiksi 56.73 22 P **P** 19 04 39.7 -0.8
comp=Z,1.8nm,0.6s,baz=307,slow=5.1,SNR=1.5
TIXI Tiksi 56.73 22 P **P** 19 04 40.4 -0.1
TIXI pmax pmax
comp=Z,10.0nm,1.4s
TIXI Tiksi 56.73 22 P **P** 19 04 40.4 -0.1
TIXI IAmb IAmb 19 05 00.2
comp=Z,10.0nm,1.4s
YAK Yakutsk 58.20 33‖ *eP* **P** 19 04 54.6 +3.7
YAK pmax pmax
comp=Z,22nm,1.2s
KLR Kul'dur 62.58 47‖ *eP* **P** 19 05 20.1 -1.0
KLR pmax pmax
comp=Z,2.0nm,0.9s
KSRS Korea Array 64.10 61 P **P** 19 05 30.2 -1.2
comp=Z,0.3nm,0.4s,baz=288,slow=6.8,SNR=2.2
TULEG Thule 64.34 347 P **P** 19 05 32.6 +0.2
BOSA Boshof 64.43 202 LR LR 19 33 57.0
comp=Z,562nm,18.4s,slow=36
USRK Ussuriysk Ar. 64.46 53 P **P** 19 05 31.2 -2.5
comp=Z,1.1nm,0.6s,baz=270,slow=5.2,SNR=2.3
SEY Seymchan 67.82 29‖ *iP* **P** 19 05 54.8 -0.1
KKM Kota Kinabalu 68.80 96 P **P** 19 06 01.7 -0.3
YSS Yuzh-Sakhalins 70.25 46‖ *eP* **P** 19 06 10.4 +0.1
YSS pmax pmax
comp=Z,5.0nm,0.9s
RSO Redoubt South 85.81 10 P **P** 19 07 36.8 +0.1
HIN Hinchinbrook I 86.65 7 P **P** 19 07 40.4 -0.2
WRA Warramunga Arr 97.88 109 P **P** 19 08 32.1 -1.2
comp=Z,0.3nm,0.6s,baz=321,slow=4.2,SNR=2.0
WRA Warramunga Arr 97.88 109 IAmb IAmb 19 08 41.5
comp=Z,0.2nm,1.4s
ASAR Alice Springs 99.47 112 P **Pdif** 19 08 39.3 -1.1
comp=Z,0.3nm,0.5s,baz=300,slow=4.1,SNR=2.6

*ISN **18** 19:04:37.5±1.1,32.°73N×47.°55E,h15km±5km,ML3.0*

*TEH **18** 19:04:39.4,32.°79N×47.°58E,h13km,ML3.2*
ISC 18 19:04:38.9±1.0,**32.°73N**±0.°04×**47.°49E**±0.°04,**h10**km,**n40,**
σ1s20/43,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.84**	**20**	*e*Pg		**Pg**	**19 04 54.4**	**-0.8**
IKMR	**Kamar-syah**	**1.08**	**43**	*e*Pg		**Pb**	**19 04 57.6**	**-2.1**
IKMR				*e*			19 05 18.3	
IDOB	**Doab**	**1.20**	**28**	*e*Pg		**Pb**	**19 05 00.8**	**-1.1**
SHGR	**Shooshtar-Gavs**	**1.27**	**119**	*e*Pg		**Pb**	**19 05 04.1**	**+1.2**
IBDR	**Badra**	**1.37**	**286**	*e*Pg		**Pn**	**19 05 04.0**	**-0.1**
IBDR				*e*Sg		**Sb**	**19 05 22.0**	**-0.2**
IBDR					AML	AML	19 05 28.1	
	comp=N,268nm,0.5s							
IBDR					AML	AML	19 05 28.5	
	comp=E,293nm,0.6s							
IKOM	**Komasi**	**1.44**	**1**	*e*			19 05 30.5	
IKOM				*e*Pg		**Pn**	**19 05 05.4**	**+0.2**
BMDN	**Meydan**	**1.46**	**50**	*e*			19 05 34.7	
BMDN				*e*Pg		**Pn**	**19 05 05.3**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.58**	**346**	*e*			19 05 32.2	
KCHF				*e*Pn		**Pn**	**19 05 08.1**	**+0.8**
KER	**Kermanshah**	**1.68**	**350**	*e*Pn		**Pn**	**19 05 09.5**	**+1.0**
AHWZ	**Ahwaz**	**1.71**	**145**	*e*Pg		**Pn**	**19 05 10.4**	**+1.7**
HSAM	**Samen**	**1.74**	**32**	*e*Pn		**Pn**	**19 05 10.0**	**+0.5**
HSAM				*e*			19 05 38.2	
IBZA	**Bozab**	**1.76**	**10**	*e*Pn		**Pn**	**19 05 10.0**	**+0.2**
IBZA				*e*			19 05 13.9	
IGHG	**Ghaleghazi**	**1.77**	**334**	*e*Pn		**Pn**	**19 05 11.7**	**+1.8**
IGHG				*e*			19 05 46.6	
IVIS	**Veis**	**1.87**	**343**	*e*Pn		**Pn**	**19 05 12.6**	**+1.5**
IVIS				*e*			19 05 42.8	
NSR	**Nassriya**	**2.07**	**214**	*e*Pn		**Pn**	**19 05 13.0**	**-0.7**
NSR				*e*Sn		**Sn**	**19 05 39.0**	**-0.5**
IDHR	**Dehrash**	**2.17**	**335**	*e*Pn		**Pn**	**19 05 17.5**	**+2.2**
IDHR				*e*			19 05 60.0	
IALM	**Almabolaq**	**2.19**	**15**	*e*Pn		**Pn**	**19 05 17.1**	**+1.3**
ILIN	**Lien**	**2.23**	**349**	*e*Pn		**Pn**	**19 05 16.9**	**+0.8**
ILIN				*e*			19 05 54.2	
KHMZ	**Khomeyn**	**2.30**	**63**	*e*Pn		**Pn**	**19 05 18.2**	**+1.1**
SNGE	**Sanandaj**	**2.36**	**357**	*e*Pn		**Pn**	**19 05 20.1**	**+2.2**
HAGD	**Aghdareh**	**2.50**	**33**	*e*Pn		**Pn**	**19 05 20.9**	**+1.1**
HAGD				*e*			19 06 04.2	
HSRG	**Sareghieh**	**2.59**	**14**	*e*Pn		**Pn**	**19 05 23.5**	**+2.4**
HSRG				*e*			19 06 10.2	
BHD	**Baghdad**	**2.67**	**282**	*e*Pn		**Pn**	**19 05 22.0**	**0.0**
BHD				*e*Sn		**Sn**	**19 05 56.0**	**+1.6**
JHBN	**Jahan bin**	**2.73**	**100**	*e*Pn		**Pn**	**19 05 23.3**	**+0.2**
JHBN				*e*			19 06 14.2	
ASAO	**Ashtian**	**2.78**	**49**	*e*Pn		**Pn**	**19 05 24.5**	**+0.7**
IPIR	**Pirpir**	**2.87**	**90**	*e*Pn		**Pn**	**19 05 25.0**	**0.0**
IPIR				*e*			19 06 19.0	
ROKH	**ROKH**	**3.02**	**96**	*e*Pn		**Pn**	**19 05 28.2**	**+1.2**
IRAZ	**Razeghan**	**3.34**	**37**	*e*Pn		**Pn**	**19 05 33.6**	**+2.1**
QABG	**Abgarm-Qazvin**	**3.44**	**30**	*e*Pn		**Pn**	**19 05 33.2**	**+0.4**
IKLH	**Kolahrood**	**3.48**	**79**	*e*Pn		**Pn**	**19 05 34.6**	**+1.2**
IKLH				*e*			19 05 36.3	
IGAR	**Gharneh**	**3.85**	**94**	*e*Pn		**Pn**	**19 05 39.7**	**+1.2**
IGAR				*e*			19 05 53.1	
QSDN	**Sirdan**	**4.01**	**20**	*e*Pn		**Pn**	**19 05 42.1**	**+1.4**
IZEF	**Zefreh**	**4.08**	**86**	*e*Pn		**Pn**	**19 05 42.3**	**+0.7**
IRAM	**Ramesheh**	**4.24**	**101**	*e*Pn		**Pn**	**19 05 44.7**	**+0.9**
QALM	**Alamut, Qazvin**	**4.51**	**34**	*e*Pn		**Pn**	**19 05 49.1**	**+1.5**
ILAS	**Lasjerd**	**5.25**	**58**	*e*Pn		**Pn**	**19 05 57.9**	**+0.2**
ANAR	**Anarak**	**5.26**	**83**	*e*Pn		**Pn**	**19 05 57.5**	**-0.3**
ISAD	**Sadrabad**	**5.30**	**97**	*e*Pn		**Pn**	**19 05 58.3**	**-0.2**
ISHM	**Shahmirzad**	**5.70**	**56**	*e*Pn		**Pn**	**19 06 04.7**	**+0.8**
IANJ	**Anjilo**	**5.98**	**61**	*e*Pn		**Pn**	**19 06 07.6**	**-0.2**

*ISN **18** 19:09:10.6±0.7,32.°89N×47.°55E,h16km±6km,ML3.8*
*IDC **18** 19:09:12.1±1.3,32.°63N×47.°61E,h0km,mb3.9/15,*
mb1 4.1/19,mb1mx3.9/59,mbtmp4.0/19,ML3.8/4,MS4.2/1,
Ms1 4.2/1,ms1mx3.2/55,Error ellipse: s-maj=27.7km
s-min=14.3km az=4.0
*THR **18** 19:09:12.8±0.7,32.°80N×47.°52E,h14km±10km,ML3.7*
*NEIC **18** 19:09:14.9±3.9,33.°2N±0.°1×47.°6E±0.°1,h10km±2km,Error*
ellipse: s-maj=20.2km s-min=16.4km az=197.0
*TEH **18** 19:09:15.1,32.°65N×47.°65E,h15km,ML3.9*
ISC 18 19:09:14.7±0.5,**32.°67N**±0.°03×**47.°53E**±0.°03,**h21**km±3km,
n122,σ1s64/125,mb4.2/29,4C-8D,Iran-Iraq border
region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.89**	**17**	*e*Pg		**Pn**	**19 09 32.4**	**+0.4**
IKFM				*e*			19 09 51.6	
IKMR	**Kamar-syah**	**1.11**	**40**	*e*Pg		**Pb**	**19 09 35.7**	**+0.6**
IKMR				*e*			19 10 00.6	
SHGR	**Shooshtar-Gavs**	**1.21**	**117**	*e*Pg		**Pn**	**19 09 36.1**	**-0.3**
SHGR				*e*Sg		**Sb**	**19 09 54.0**	**+1.9**
SHGR					IAML		19 10 18.6	
	comp=E,1μm,0.7s							
SHGR	**Shooshtar-Gavs**	**1.21**	**117**	*e*Pg		**Pn**	**19 09 36.1**	**-0.3**
IDOB	**Doab**	**1.24**	**26**	*e*Pg		**Pb**	**19 09 37.9**	**+0.3**
IBDR	**Badra**	**1.42**	**288**	*e*Pg		**Pn**	**19 09 36.0**	**-3.2**
IBDR				*e*Sn		**Sn**	**19 09 56.0**	**-1.2**
IBDR					AML	AML	19 10 07.3	
	comp=N,2μm,0.4s							
IBDR					AML	AML	19 10 10.0	
	comp=E,2μm,0.7s							
BMDN	**Meydan**	**1.48**	**47**	*e*Pg		**Pb**	**19 09 42.1**	**+0.5**
BMDN				*e*			19 10 09.9	
IKOM	**Komasi**	**1.50**	**359**	*e*Pg		**Pb**	**19 09 43.1**	**+1.1**
IKOM				*e*			19 10 14.9	
AHWZ	**Ahwaz**	**1.64**	**144**	*e*Pg		**Pb**	**19 09 44.4**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.65**	**346**	*e*Pg		**Pb**	**19 09 46.2**	**+1.6**
KCHF				*e*			19 10 11.8	
KER	**Kermanshah**	**1.74**	**349**	*e*Pn		**Pb**	**19 09 46.6**	**+0.5**
HSAM	**Samen**	**1.78**	**30**	*e*Pn		**Pb**	**19 09 47.2**	**+0.4**
HSAM				*e*			19 10 18.4	
IBZA	**Bozab**	**1.82**	**9**	*e*		Sg	19 10 19.9	
IGHG	**Ghaleghazi**	**1.84**	**334**	*e*Pn		**Pb**	**19 09 49.7**	**+1.9**
IGHG				*e*			19 10 34.6	
IVIS	**Veis**	**1.94**	**343**	*e*Pn		**Pb**	**19 09 50.6**	**+1.2**
IVIS				*e*			19 10 22.3	
NSR	**Nassriya**	**2.03**	**216**	*e*Pn		**Pn**	**19 09 48.0**	**+0.3**
NSR				*e*Sn		**Sb**	**19 10 15.0**	**-0.8**
IDHR	**Dehrash**	**2.24**	**335**	*e*Pn		**Pn**	**19 09 49.3**	**-1.4**
IDHR				*e*			19 10 33.7	
IALM	**Almabolaq**	**2.25**	**14**	*e*Pn		**Pn**	**19 09 52.5**	**+1.6**
ILIN	**Lien**	**2.29**	**348**	*e*Pn		**Pb**	**19 09 54.4**	**-1.1**
ILIN				*e*			19 10 32.4	
KHMZ	**Khomeyn**	**2.30**	**62**	*e*Pn		**Pn**	**19 09 52.2**	**+0.6**
KHMZ	**Khomeyn**	**2.30**	**62**	*e*Pn		**Pn**	**19 09 52.3**	**+0.6**
SNGE	**Sanandaj**	**2.42**	**356**	*e*Pn		**Pn**	**19 09 52.3**	**-1.0**
HAGD	**Aghdareh**	**2.53**	**32**	*e*Pn		**Pb**	**19 09 57.8**	**-1.8**
HAGD				*e*			19 10 42.3	
HSRG	**Sareghieh**	**2.64**	**13**	*e*Pn		**Pb**	**19 09 59.6**	**-1.9**
HSRG				*e*			19 10 43.5	
JHBN	**Jahan bin**	**2.69**	**99**	*e*Pn		**Pn**	**19 09 58.4**	**+1.4**
JHBN				*e*			19 10 46.5	
BHD	**Baghdad**	**2.71**	**284**	*e*Pn		**Pn**	**19 09 55.0**	**-2.0**
BHD				*e*Sn		**Sn**	**19 10 28.0**	**-1.2**
ASAO	**Ashtian**	**2.80**	**47**	*e*Pn		**Pn**	**19 09 58.3**	**-0.2**
ASAO				*e*Sg		**Sb**	**19 10 37.9**	**-0.3**
ASAO	**Ashtian**	**2.80**	**47**	*e*Pn		**Pn**	**19 09 58.3**	**-0.2**
IPIR	**Pirpir**	**2.84**	**89**	*e*Pn		**Pn**	**19 10 00.3**	**+1.3**
IPIR				*e*			19 10 52.9	
ROKH	**ROKH**	**2.98**	**95**	*e*Pn		**Pn**	**19 10 02.3**	**+1.4**
IRAZ	**Razeghan**	**3.38**	**35**	*e*Pn		**Pn**	**19 10 09.0**	**+2.6**
IKLH	**Kolahrood**	**3.46**	**78**	*e*Pn		**Pn**	**19 10 09.6**	**+2.0**
IKLH				*e*			19 11 06.5	
QABG	**Abgarm-Qazvin**	**3.48**	**29**	*e*Pn		**Pn**	**19 10 10.2**	**+2.4**
IGAR	**Gharneh**	**3.82**	**93**	*e*Pn		**Pn**	**19 10 13.1**	**+0.6**
IGAR				*e*			19 11 24.5	
KLNJ	**Kolanjah**	**3.83**	**115**	*e*Pn		**Pn**	**19 10 14.3**	**+1.5**
KLNJ				*e*			19 11 39.6	
IZEF	**Zefreh**	**4.05**	**86**	*e*Pn		**Pn**	**19 10 17.3**	**+1.6**
QSDN	**Sirdan**	**4.06**	**19**	*e*Pn		**Pn**	**19 10 18.3**	**+2.5**
IHSB	**Hasanabad**	**4.16**	**47**	*e*Pn		**Pn**	**19 10 17.7**	**+0.7**
IRAM	**Ramesheh**	**4.20**	**101**	*e*Pn		**Pn**	**19 10 18.4**	**+0.7**
QALM	**Alamut, Qazvin**	**4.55**	**34**	*e*Pn		**Pn**	**19 10 24.7**	**+2.2**
IDMV	**Damavand**	**4.73**	**51**	*e*Pn		**Pn**	**19 10 26.5**	**+1.5**
ILAS	**Lasjerd**	**5.26**	**58**	*e*Pn		**Pn**	**19 10 33.0**	**+0.7**
ISAD	**Sadrabad**	**5.27**	**97**	*e*Pn		**Pn**	**19 10 32.9**	**+0.5**
IPRN	**Peran**	**

IANJ	**Anjilo**	**5.99**	**60**	*e*Pn		**Pn**	**19 10 42.3**	**0.0**
IGLO	**Ghaloghah**	**6.45**	**52**	*e*Pn		**Pn**	**19 10 48.7**	**+0.1**
GEVA	**Gevas**	**6.71**	**328**	Pn		**Pn**	**19 10 48.2**	**-3.9**
MARD	**Mardin**	**7.22**	**312**	Pn		Pn	19 10 54.2	-4.9
ASF	**Jabal al Asfar**	**9.00**	**270**	Pn		**Pn**	**19 11 25.8**	**+2.3**
	comp=E,0.5nm,0.3s,baz=71,slow=6.1,SNR=2.1							
ASF				Sn		**Sn**	**19 13 00.6**	**-3.7**
	comp=E,0.5nm,0.3s,baz=69,slow=15,SNR=1.7							
ASF				Lg	Lg		19 14 02.1	
	comp=E,0.4nm,0.3s,baz=203,slow=21,SNR=1.4							
EIL	**Elat**	**11.18**	**258**	Lg	Lg		19 15 09.9	
	comp=E,0.2nm,0.3s,baz=64,slow=18,SNR=2.8							
WSAR	**Wadi Sarin**	**13.57**	**131**	Pn		**Pn**	**19 12 24.4**	**-1.7**
	comp=E,0.3nm,0.3s,baz=350,slow=9.3,SNR=5.6							
WSAR				Sn		Sn	19 14 46.8	-10
	comp=E,0.3nm,0.3s,baz=166,slow=13,SNR=2.1							
KBL	**Kabul**	**18.02**	**78**	P		**Pn**	**19 13 23.7**	**-0.3**
CHGR	**Chuyangaron**	**18.55**	**65**	P		**P**	**19 13 27.4**	**-2.6**
IDI	**Anoyia**	**18.95**	**284**	P		**Pn**	**19 13 36.9**	**+1.6**
	comp=E,0.7nm,0.3s,baz=221,slow=5.3,SNR=1.7							
IDI	**Anoyia**	**18.95**	**284**	P		**P**	**19 13 34.4**	**0.0**
ABKAR	**Akbulak array**	**18.99**	**26**			**P**	**19 13 34.6**	**-0.2**
TOPG	**Topolog**	**19.22**	**315**	⇓P		**Pn**	**19 13 40.1**	**+1.8**
AKTO	**Aktyubinsk**	**19.37**	**21**	P		**Pn**	**19 13 40.6**	**+0.6**
	comp=E,0.2nm,0.3s,baz=208,slow=11,SNR=12							
GAR	**Garm**	**19.50**	**65**			**P**	**19 13 38.7**	**-1.8**
GAR				IAmb		IAmb	19 13 44.5	
	comp=Z,12nm,1.1s							
CFR	**Carcaliu**	**19.53**	**315**	⇑P		**Pn**	**19 13 42.8**	**+0.9**
RAZG	**Razgrad**	**19.74**	**309**	⇓P		**Pn**	**19 13 45.6**	**+1.1**
VRI	**Vrincioaia**	**20.73**	**315**	⇓P		Pn	19 13 56.5	+0.3
KK31	**Karatay Array**	**20.85**	**53**			**P**	**19 13 52.1**	**-3.0**
KKAR	**Karatay Array**	**20.85**	**53**			**P**	**19 13 51.1**	**-4.0**
KKAR	**Karatay Array**	**20.85**	**53**	P		**P**	**19 13 52.1**	**-3.0**
KKAR				IAmb		IAmb	19 14 02.5	
	comp=Z,8.3nm,1.2s							
MLR	**Muntele Rosu**	**21.01**	**314**	P		**P**	**19 13 59.7**	**+2.8**
	comp=Z,6.2nm,0.8s,baz=57,slow=15,SNR=3.7							
MLR	**Muntele Rosu**	**21.01**	**314**	⇓P		**P**	**19 13 59.4**	**+2.6**
MLR	**Muntele Rosu**	**21.01**	**314**			**P**	**19 13 57.2**	**+0.3**
MLR				IAmb		IAmb	19 14 05.6	
	comp=Z,10.0nm,0.8s							
TESR	**Tescani**	**21.13**	**317**	⇑P		**P**	**19 13 59.1**	**+1.1**
SORM	**Soroca**	**21.17**	**322**	⇑P		**P**	**19 14 00.4**	**+2.0**
VOIR		**21.53**	**313**	⇓P		**P**	**19 14 05.5**	**+3.1**
NIL	**Nilore**	**21.54**	**80**			**P**	**19 14 00.2**	**-2.5**
NIL				IAmb		IAmb	19 14 25.2	
	comp=Z,11nm,1.0s							
DOPR	**Dopca**	**21.58**	**314**	⇓P		**P**	**19 14 04.8**	**+1.9**
AKASG	**Malin Array Be**	**22.51**	**329**	P		**P**	**19 14 12.4**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=136,slow=9.8,SNR=5.8							
AKASG	**Malin Array Be**	**22.51**	**329**	P		**P**	**19 14 09.7**	**-3.1**
BURAR	**Bucovina Array**	**22.55**	**318**	⇓P		**P**	**19 14 14.0**	**+0.7**
BURAR	**Bucovina Array**	**22.55**	**318**	P		**P**	**19 14 11.5**	**-1.9**
MDVR	**Moldovita**	**23.39**	**309**	⇑P		**P**	**19 14 23.3**	**+1.4**
KOLS	**Kolonicke sedl**	**24.92**	**318**	*e*P		**P**	**19 14 38.1**	**+1.9**
ARU	**Arti**	**24.96**	**15**	P		**P**	**19 14 36.9**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=193,slow=10,SNR=4.9							
ARU	**Arti**	**24.96**	**15**	P		**P**	**19 14 35.3**	**-1.1**
ARU				IAmb		IAmb	19 15 08.9	
	comp=Z,5.4nm,1.0s							
CRVS	**Cervenica-Dubn**	**25.36**	**317**	*e*P		**P**	**19 14 42.7**	**+2.5**
TARG	**Taragay, Kyrgy**	**25.65**	**61**	P		**P**	**19 14 39.9**	**-3.4**
TARG				IAmb		IAmb	19 14 56.1	
	comp=Z,12nm,1.7s							
KECS	**Kecovo**	**25.73**	**316**	*e*P		**P**	**19 14 46.3**	**+2.8**
PSZ	**Piszkesteto**	**25.82**	**314**	⇓P		**P**	**19 14 44.2**	**-0.2**
PSZ	**Piszkesteto**	**25.82**	**314**	P		**P**	**19 14 43.4**	**-1.0**
BRVK	**Borovoye**	**26.13**	**32**	P		**P**	**19 14 46.3**	**-0.8**
BRVK				IAmb		IAmb	19 14 48.8	
	comp=Z,5.1nm,1.2s							
BVAR	**Borovoye Array**	**26.16**	**32**	P		**P**	**19 14 48.0**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=228,slow=7.8,SNR=13							
BVAR				PcP		**PcP**	**19 18 14.5**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=289,slow=4.4,SNR=2.3							
BVAR				ScP		**ScP**	**19 21 53.7**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=222,slow=4.0,SNR=3.8							
VYHS	**Vyhne**	**26.71**	**315**	*e*P		**P**	**19 14 55.4**	**+3.0**
KURBB	**Kurchatov Arra**	**29.00**	**43**	P		**P**	**19 15 13.9**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=248,slow=9.4,SNR=6.7							
KURK	**Kurchatov**	**29.09**	**42**	P		**P**	**19 15 12.8**	**-0.8**
KURK				IAmb		IAmb	19 15 19.7	
	comp=Z,3.2nm,0.8s							
KBA	**Koelnbreinsper**	**29.65**	**309**	*i* pP		**P**	**19 15 20.5**	**+1.6**
	comp=Z,3.4nm,0.7s							
MK31	**Makanchi Array**	**29.95**	**52**	P		**P**	**19 15 21.1**	**-0.2**
MKAR	**Makanchi Array**	**29.95**	**52**	P		**P**	**19 15 22.1**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=245,slow=6.9,SNR=16							
MKAR	**Makanchi Array**	**29.95**	**52**	P		**P**	**19 15 21.3**	**-0.1**
GERES	**GERESS Array B**	**29.98**	**313**	P		**P**	**19 15 23.0**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=82,slow=9.7,SNR=4.2							
GERES	**GERESS Array B**	**29.98**	**313**	P		**P**	**19 15 20.3**	**-1.4**
CIMO	**Cimolais**	**30.05**	**307**	P		**P**	**19 15 23.9**	**+1.7**
CIMO				IAmb		IAmb	19 15 25.9	
	comp=Z,3.4nm,0.9s							
CTI	**Castel Tesino**	**30.52**	**307**	P		**P**	**19 15 28.0**	**+1.6**
WTTA	**Wattenberg**	**30.82**	**309**	*i* pP		**P**	**19 15 30.7**	**+1.5**
	comp=Z,4.3nm,0.7s							
WATA	**Walderalm**	**30.88**	**309**	*i* pP		**P**	**19 15 31.1**	**+1.4**
	comp=Z,7.5nm,1.2s							
SQTA	**Sankt Quirin**	**31.09**	**309**	*i* pP		**P**	**19 15 33.0**	**+1.4**
	comp=Z,5.3nm,0.5s							
SALO	**Salr**	**31.19**	**305**	P		**P**	**19 15 30.4**	**-1.9**
MOTA	**Moosalm**	**31.20**	**309**	*i* pP		**P**	**19 15 33.7**	**+1.2**
	comp=Z,5.8nm,0.6s							
CLL	**Collm**	**31.31**	**317**	*e*P		**P**	**19 15 33.0**	**-0.2**
FETA	**Feichten**	**31.36**	**308**	*i* pP		**P**	**19 15 35.4**	**+1.5**
	comp=Z,2.5nm,0.7s							
RETA	**Reutte**	**31.46**	**309**	*i* pP		**P**	**19 15 36.0**	**+1.3**
	comp=Z,1.4nm,0.5s							
FINES	**FINESS Array B**	**31.97**	**341**	P		**P**	**19 15 39.2**	**+0.4**
	comp=Z,7.8nm,1.0s,baz=141,slow=12,SNR=4.2							
DAVA	**Damuels**	**31.99**	**308**	*i* pP		**P**	**19 15 40.8**	**+1.3**
	comp=Z,7.0nm,0.5s							
BNI	**Bardonecchia**	**33.78**	**304**	P		**P**	**19 15 56.2**	**+1.1**
ZAA0	**Zalesovo Array**	**33.90**	**40**	P		**P**	**19 15 54.3**	**-1.6**
ZAA0				IAmb		IAmb	19 15 57.1	
	comp=Z,5.8nm,1.2s							
ZALV	**Zalesovo Beam**	**33.90**	**40**	P		**P**	**19 15 56.6**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=274,slow=10,SNR=6.5							
ZALV	**Zalesovo Beam**	**33.90**	**40**	P		**P**	**19 15 55.1**	**-0.8**
HFS	**Hagfors**	**35.34**	**331**	P		**P**	**19 16 09.4**	**+1.2**
	comp=Z,4.3nm,0.7s,baz=113,slow=11,SNR=2.9							
NOA	**NORSAR Array B**	**36.86**	**331**	P		**P**	**19 16 21.3**	**0.0**
	comp=Z,1.2nm,0.8s,baz=112,slow=7.2,SNR=2.3							
ARCES	**ARCESS Array B**	**38.93**	**348**	P		**P**	**19 16 38.7**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=159,slow=8.7,SNR=6.3							
ESDC	**Sonseca Array**	**41.68**	**295**	P		**P**	**19 17 02.9**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=69,slow=8.1,SNR=5.5							
SONM	**Songino Array**	**46.31**	**53**	P		**P**	**19 17 39.9**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=268,slow=7.1,SNR=2.8							
CMAR	**Chiang Mai Arr**	**48.06**	**94**	P		**P**	**19 17 52.2**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=291,slow=9.0,SNR=5.7							
YAK	**Yakutsk**	**58.12**	**33**	LR		LR	19 45 17.6	
	comp=Z,213nm,20.1s,baz=320,slow=37							

*IDC **18** 19:13:12.7±2.8,32°.55N×47°.53E,h0km,mb3.7/8,*
mb1 3.9/10,mb1mx3.6/53,mbtmp3.8/10,ML3.5/2,Error
ellipse: s-maj=53.7km s-min=24.7km az=18.0
*ISN **18** 19:13:14.9±0.9,32°.67N×47°.71E,h14km±6km, ML3.4*
*THR **18** 19:13:16.5±0.4,32°.71N×47°.56E,h14km±6km,ML3.4*
*TEH **18** 19:13:16.7,32°.69N×47°.65E,h13km, ML3.5*

ISC 18 19:13:15.7±1.2,**32°.66N**±0°.03×**47°.62E**±0°.03,**h14**km±9km,
n63,σ1ᵖ56/68,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.89**	**12**	*e*Pg		**Pb**	**19 13 33.1**	**+0.2**
IKFM				*e*			19 13 49.3	
IKMR	**Kamar-syah**	**1.07**	**37**	*e*Pg		**Pb**	**19 13 36.1**	**0.0**
IKMR				*e*			19 13 57.1	
SHGR	**Shooshtar-Gavs**	**1.14**	**118**	*e*Pg		**Pg**	**19 13 38.9**	**+1.2**
SHGR				*e*Sg		**Sn**	**19 13 55.2**	**+2.4**
SHGR				IAML			19 13 59.0	
	comp=E,773nm,0.4s							
SHGR	**Shooshtar-Gavs**	**1.14**	**118**	*e*Pn		**Pg**	**19 13 38.9**	**+1.2**
IDOB	**Doab**	**1.22**	**22**	*e*Pg		**Pg**	**19 13 39.5**	**+0.2**
BMDN	**Meydan**	**1.43**	**45**	*e*Pg		**Pb**	**19 13 42.9**	**+0.6**
BMDN				*e*			19 14 09.7	
IBDR	**Badra**	**1.49**	**288**	*e*Pg		**Pn**	**19 13 43.0**	**+0.9**
IBDR				*e*Sg		**Sg**	**19 14 04.0**	**+0.2**
IBDR				AML		AML	19 14 08.0	
	comp=N,568nm,0.4s							
IBDR				AML		AML	19 14 08.2	
	comp=E,585nm,0.6s							
IKOM	**Komasi**	**1.52**	**357**	*e*Pg		**Pg**	**19 13 44.7**	**-0.2**
IKOM				*e*			19 14 09.5	
AHWZ	**Ahwaz**	**1.58**	**146**	*e*Pg		**Pg**	**19 13 46.6**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.68**	**343**	*e*Pg		**Pb**	**19 13 46.9**	**+0.2**
KCHF				*e*			19 14 12.9	
HSAM	**Samen**	**1.75**	**28**	*e*Pn		**Pb**	**19 13 48.5**	**+0.6**
HSAM				*e*			19 14 17.3	
KER	**Kermanshah**	**1.77**	**347**	*e*Pn		**Pb**	**19 13 48.2**	**+0.1**
IBZA	**Bozab**	**1.82**	**6**	*e*Pg		**Pb**	**19 13 49.2**	**+0.2**
IBZA				*e*			19 14 20.9	
IGHG	**Ghaleghazi**	**1.88**	**333**	*e*Pn		**Pb**	**19 13 51.0**	**+0.9**
IGHG				*e*			19 14 33.0	
IVIS	**Veis**	**1.97**	**341**	*e*Pn		**Pb**	**19 13 52.4**	**+0.9**
IVIS				*e*			19 14 21.6	
NSR	**Nassriya**	**2.07**	**218**	*e*Pn		**Pn**	**19 13 51.0**	**+0.9**
NSR				*e*Sn		**Sn**	**19 14 17.0**	**+1.3**
KHMZ	**Khomeyn**	**2.24**	**61**	*e*Pn		**Pb**	**19 13 55.7**	**-0.5**
KHMZ	**Khomeyn**	**2.24**	**61**	*e*Pn		**Pb**	**19 13 55.7**	**-0.5**
IALM	**Almabolaq**	**2.24**	**12**	*e*Pn		**Pb**	**19 13 55.5**	**-0.8**
IDHR	**Dehrash**	**2.28**	**334**	*e*Pn		**Pn**	**19 13 55.0**	**+1.8**
IDHR				*e*			19 14 01.7	
ILIN	**Lien**	**2.32**	**347**	*e*Pn		**Pn**	**19 13 55.9**	**+2.1**
ILIN				*e*			19 14 33.9	
SNGE	**Sanandaj**	**2.44**	**355**	*e*Pn		**Pn**	**19 13 57.1**	**+1.7**
SNGE	**Sanandaj**	**2.44**	**355**	*e*Pn		**Pn**	**19 13 57.1**	**+1.7**
HAGD	**Aghdareh**	**2.50**	**30**	*e*Pn		**Pb**	**19 13 58.8**	**-1.9**
HAGD				*e*			19 14 05.8	
JHBN	**Jahan bin**	**2.61**	**99**	*e*Pn		**Pn**	**19 13 59.9**	**+2.0**
JHBN				*e*			19 14 57.0	
HSRG	**Sareghieh**	**2.63**	**12**	*e*Pn		**Pb**	**19 14 01.4**	**-1.5**
HSRG				*e*			19 14 44.7	
ASAO	**Ashtian**	**2.75**	**46**	*e*Pn		**Pb**	**19 14 02.7**	**-2.3**
ASAO				*e*Sg		**Sg**	**19 14 42.6**	**-1.6**
ASAO	**Ashtian**	**2.75**	**46**	*e*Pn		**Pb**	**19 14 02.7**	**-2.3**
IPIR	**Pirpir**	**2.76**	**89**	*e*Pn		**Pn**	**19 14 01.5**	**+1.6**
IPIR				*e*			19 14 57.0	
BHD	**Baghdad**	**2.79**	**284**	*e*Pn		**Pn**	**19 14 02.0**	**+2.0**
BHD				*e*Sn		**Sb**	**19 14 37.0**	**-2.4**
ROKH	**ROKH**	**2.90**	**95**	*e*Pn		**Pn**	**19 14 04.0**	**+2.2**
ROKH				*e*			19 14 59.6	
IRAZ	**Razeghan**	**3.34**	**34**	*e*Pn		**Pn**	**19 14 10.0**	**+2.1**
IKLH	**Kolahrood**	**3.39**	**78**	*e*Pn		**Pn**	**19 14 11.5**	**+2.9**
IKLH				*e*			19 15 09.6	
QABG	**Abgarm-Qazvin**	**3.45**	**28**	*e*Pn		**Pn**	**19 14 11.2**	**+1.9**
IGAR	**Gharneh**	**3.75**	**93**	*e*Pn		**Pn**	**19 14 14.7**	**+1.3**
IGAR				*e*			19 15 19.4	
KLNJ	**Kolanjah**	**3.76**	**115**	*e*Pn		**Pn**	**19 14 15.3**	**+1.6**
KLNJ				*e*			19 15 39.8	
IZEF	**Zefreh**	**3.98**	**85**	*e*Pn		**Pn**	**19 14 19.0**	**+2.4**
QSDN	**Sirdan**	**4.04**	**18**	*e*Pn		**Pn**	**19 14 20.3**	**+2.8**
IRAM	**Ramesheh**	**4.12**	**101**	*e*Pn		**Pn**	**19 14 19.4**	**+0.8**
IGZV	**Ghazvin**	**4.29**	**29**	*e*Pn		**Pn**	**19 14 23.2**	**+2.3**
QALM	**Alamut, Qazvin**	**4.52**	**33**	*e*Pn		**Pn**	**19 14 26.1**	**+2.1**
IDMV	**Damavand**	**4.68**	**50**	*e*Pn		**Pn**	**19 14 27.8**	**+1.5**
IAZR	**Azarshahr**	**5.18**	**345**	*e*Pn		**Pn**	**19 14 36.2**	**+3.0**
IFIR	**Firoozkooh**	**5.19**	**54**	*e*Pn		**Pn**	**19 14 35.7**	**+2.4**
ILAS	**Lasjerd**	**5.20**	**57**	*e*Pn		**Pn**	**19 14 34.6**	**+1.2**
ISHM	**Shahmirzad**	**5.65**	**55**	*e*Pn		**Pn**	**19 14 40.5**	**+0.9**
IHRS	**Heris**	**5.67**	**355**	*e*Pn		**Pn**	**19 14 43.2**	**+3.4**
IANJ	**Anjilo**	**5.93**	**60**	*e*Pn		**Pn**	**19 14 44.6**	**+1.2**
WSAR	**Wadi Sarin**	**13.51**	**131**	Pn		**Pn**	**19 16 25.4**	**-1.7**
	comp=E,0.1nm,0.3s,baz=152,slow=22,SNR=1.1							
WSAR				Sn		Sn	19 18 47.7	-9.4
	comp=E,0.1nm,0.3s,baz=236,slow=3.7,SNR=1.5							
AKTO	**Aktyubinsk**	**19.36**	**20**	P		**P**	**19 17 41.5**	**+0.7**
	comp=E,0.2nm,0.3s,baz=196,slow=12,SNR=5.0							
MLR	**Muntele Rosu**	**21.07**	**314**	P		**P**	**19 17 59.4**	**-0.2**
	comp=E,1.4nm,0.7s,baz=357,slow=16,SNR=3.6							
AKASG	**Malin Array Be**	**22.56**	**328**	P		**P**	**19 18 14.9**	**-0.5**
	comp=E,0.4nm,0.3s,baz=140,slow=10,SNR=2.0							
BVAR	**Borovoye Array**	**26.12**	**32**	P		**P**	**19 18 49.4**	**+0.1**
	comp=E,0.8nm,0.8s,baz=213,slow=10,SNR=4.8							
KURBB	**Kurchatov Arra**	**28.95**	**43**	P		**P**	**19 19 15.4**	**+0.9**
	comp=E,0.6nm,0.6s,baz=246,slow=9.1,SNR=4.7							
MKAR	**Makanchi Array**	**29.90**	**52**	P		**P**	**19 19 23.9**	**+0.8**
	comp=E,0.6nm,0.6s,baz=253,slow=7.3,SNR=6.2							
SQTA	**Sankt Quirin**	**31.16**	**309**	*i* P		**P**	**19 19 34.6**	**+0.3**
	comp=E,2.8nm,0.5s							
MOTA	**Moosalm**	**31.26**	**309**	*i* P		**P**	**19 19 34.8**	**-0.4**
	comp=E,3.0nm,0.8s							
FETA	**Feichten**	**31.43**	**308**	*i* P		**P**	**19 19 35.9**	**-0.8**
	comp=E,4.0nm,1.3s							
RETA	**Reutte**	**31.52**	**309**	*i* P		**P**	**19 19 37.2**	**-0.2**
	comp=E,3.3nm,1.0s							
DAVA	**Damuels**	**32.06**	**308**	*i* P		**P**	**19 19 41.4**	**-0.8**
	comp=E,3.9nm,0.5s							
ZALV	**Zalesovo Beam**	**33.87**	**40**	P		**P**	**19 19 56.6**	**-1.1**
	comp=E,1.0nm,0.6s,baz=237,slow=8.1,SNR=3.2							
HFS	**Hagfors**	**35.38**	**331**	P		**P**	**19 20 10.3**	**-0.5**
	comp=E,3.0nm,0.8s,baz=116,slow=8.6,SNR=4.6							
ARCES	**ARCESS Array B**	**38.96**	**348**	P		**P**	**19 20 39.9**	**-1.1**
	comp=E,3.0nm,1.1s,baz=161,slow=7.7,SNR=5.0							

*ISN **18** 19:18:30.4±1.3,32°.69N×47°.63E,h24km±9km, ML3.1*
*TEH **18** 19:18:31.1,32°.68N×47°.60E,h20km, ML3.3*

ISC 18 19:18:32.0±1.6,**32°.61N**±0°.04×**47°.55E**±0°.04,**h10**km±12km,
n23,σ1ᵖ68/29,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.94**	**15**	*e*Pg		**Pg**	**19 18 47.4**	**-2.8**
IKFM				*e*		**Sn**	**19 19 03.0**	**-1.8**
IKMR	**Kamar-syah**	**1.14**	**37**	*e*Pg		**Pb**	**19 18 51.4**	**-2.4**
IKMR				*e*			19 19 12.9	
IBDR	**Badra**	**1.45**	**290**	*e*Pg		**Pn**	**19 18 57.0**	**-1.3**
IBDR				*e*Sg		**Sn**	**19 19 17.0**	**-0.4**
IBDR				AML		AML	19 19 23.2	
	comp=N,274nm,0.5s							
IBDR				AML		AML	19 19 26.7	
	comp=E,347nm,0.5s							
BMDN	**Meydan**	**1.50**	**45**	*e*Pg		**Pn**	**19 18 58.3**	**-0.9**
BMDN				*e*			19 19 28.1	
IKOM	**Komasi**	**1.56**	**359**	*e*Pg		**Pn**	**19 18 59.6**	**-0.3**
IKOM				*e*		**Sg**	**19 19 23.7**	**+1.5**
AHWZ	**Ahwaz**	**1.58**	**144**	*e*Pg		**Pb**	**19 19 01.1**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.71**	**346**	*e*Pg		**Pn**	**19 19 02.4**	**+0.3**
KCHF				*e*			19 19 29.6	
HSAM	**Samen**	**1.82**	**29**	*e*		**Sb**	**19 19 31.1**	**+2.5**
NSR	**Nassriya**	**2.00**	**217**	*e*Pn		**Pn**	**19 19 06.0**	**+0.2**
NSR				*e*Sn		**Sn**	**19 19 30.0**	**-0.9**
ILIN	**Lien**	**2.35**	**348**	*e*		**Sb**	**19 19 47.8**	**+4.0**
HAGD	**Aghdareh**	**2.57**	**31**	*e*		**Pg**	**19 19 24.3**	**+3.0**
HSRG	**Sareghieh**	**2.69**	**13**	*e*Pn		**Pn**	**19 19 15.5**	**-0.1**
HSRG				*e*			19 19 58.0	
BHD	**Baghdad**	**2.75**	**285**	*e*Pn		**Pn**	**19 19 15.0**	**-1.1**
BHD				*e*Sn		**Pn**	**19 19 49.0**	**-0.3**
IPIR	**Pirpir**	**2.82**	**88**	*e*Pn		**Pn**	**19 19 16.9**	**-0.5**
IPIR				*e*		**Sb**	**19 19 59.8**	**+2.4**
IRAZ	**Razeghan**	**3.41**	**35**	*e*Pn		**Pn**	**19 19 24.7**	**-0.8**
QABG	**Abgarm-Qazvin**	**3.52**	**28**	*e*Pn		**Pn**	**19 19 26.2**	**-0.7**
IGAR	**Gharneh**	**3.80**	**92**	*e*Pn		**Pn**	**19 19 29.7**	**-1.1**
IZEF	**Zefreh**	**4.04**	**85**	*e*Pn		**Pn**	**19 19 33.8**	**-0.3**
QSDN	**Sirdan**	**4.11**	**19**	*e*Pn		**Pn**	**19 19 34.5**	**-0.5**
QALM	**Alamut, Qazvin**	**4.59**	**33**	*e*Pn		**Pn**	**19 19 41.6**	**-0.1**
IDMV	**Damavand**	**4.75**	**50**	*e*Pn		**Pn**	**19 19 42.5**	**-1.4**
IPRN	**Peran**	**5.36**	**46**	*e*Pn		**Pn**	**19 19 51.6**	**-0.6**
IANJ	**Anjilo**	**6.00**	**60**	*e*Pn		**Pn**	**19 19 59.2**	**-1.9**

IDC 18 19:19:28.1±1.5,**1°.50N**×**126°.74E**,**h0**km,**mb3.4**/4,
mb1 3.6/5,**mb1mx3.4**/30,**mbtmp3.5**/5,**ML3.4**/1,**MS4.0**/1,
Ms1 4.0/1,**ms1mx3.1**/38,**Error ellipse: s-maj=108.5km**
s-min=20.8km az=71.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.50**	**183**	P		Pn	19 23 58.2	0.0
	0.1nm,0.3s,baz=10,slow=12,SNR=1.5							
WRA	**Warramunga Arr**	**22.57**	**161**	P		P	19 24 30.1	-0.2
	0.8nm,0.4s,baz=338,slow=11,SNR=27							
ASAR	**Alice Springs**	**25.97**	**165**	P		P	19 25 02.1	-0.6
	0.1nm,0.3s,baz=354,slow=15,SNR=5.0							
SONM	**Songino Array**	**49.41**	**342**	P		P	19 28 19.9	+0.1
	0.5nm,0.8s,baz=145,slow=5.3,SNR=2.6							
PETK	**Petropavlovsk-**	**57.49**	**22**	LR		LR	19 53 38.8	
	comp=Z,122nm,20.1s,baz=271,slow=36							
MKAR	**Makanchi Array**	**59.39**	**326**	P		P	19 29 32.3	-0.1
	0.2nm,0.3s,baz=120,slow=7.8,SNR=5.8							

*VAO **18** 19:23:09.3±2.6,24°.17S×68°.42W,h169km±14km,mb4.3*
*NEIC **18** 19:23:27.7±1.3,23°.90S±0°.07×66°.6W±0°.1,h205km±7km,*
mb4.2/17,Error ellipse: s-maj=13.6km s-min=10.3km
az=83.0
*IDC **18** 19:23:27.2±1.0,23°.91S×66°.52W,h196km±10km,mb3.5/7,*
mb1 3.6/13,mb1mx3.4/31,mbtmp4.0/13,Error ellipse:
s-maj=15.0km s-min=14.1km az=0.0
*GUC **18** 19:23:30.0±0.6,23°.65S×67°.35W,h271km±10km,ML4.4*

ISC 18 19:23:27.0±0.4,**23°.84S**±0°.05×**66°.55W**±0°.05,**h195**km,**n96,**
σ1ᵖ55/110,mb4.0/9,3C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**2.49**	**299**	P		**Pn**	**19 24 13.4**	**+2.6**
	39nm,0.3s,baz=126,slow=7.1,SNR=703							
LVC				S		**Sn**	**19 24 46.4**	**+1.5**
	36nm,0.3s,baz=255,slow=24,SNR=35							
LVC	**Limon Verde**	**2.49**	**299**	⇑*i*P		**Pn**	**19 24 13.4**	**+2.6**
LVC				*i* S		**Sn**	**19 24 46.5**	**+1.5**
PB15	**IPOC Station P**	**2.75**	**283**	*e*P		**Pn**	**19 24 16.0**	**+2.3**
PB15				*i* S		**Sn**	**19 24 52.1**	**+2.1**
PB15	**IPOC Station P**	**2.75**	**283**			**Pn**	**19 24 15.9**	**+2.3**
PB06	**IPOC Station P**	**3.00**	**292**	*e*P		**Pn**	**19 24 18.7**	**+2.2**
PB06				*i* S		**Sn**	**19 24 55.5**	**+0.5**
PB06				IAML			19 24 58.6	
	comp=N,770nm,0.1s							
PB06	**IPOC Station P**	**3.00**	**292**			**Pn**	**19 24 18.4**	**+1.9**
GO02	**Mina Guanaco**	**3.06**	**244**	*e*P		**Pn**	**19 24 19.6**	**+2.2**
GO02				*i* S		**Sn**	**19 24 58.6**	**+1.8**
GO02				IAML			19 24 59.8	
	comp=N,1μm,0.1s							
GO02	**Mina Guanaco**	**3.06**	**244**			**Pn**	**19 24 19.3**	**+1.9**
PB09	**IPOC

comp=Z,0.6nm,0.5s,baz=310,slow=2.9,SNR=10.0
MKAR Makanchi Array 146.14 40 PKPbc 19 42 44.1 0.0

*TEH **18** 19:23:46.3, 32°.67N × 47°.38E, h10km, ML3.2*
*ISN **18** 19:23:47.1 ± 1.4, 32°.79N × 47°.57E, h18km ± 9km, ML3.1*
ISC 18 19:23:48.7 ± 1.1, **32°.73N** ± 0°.05 × **47°.46E** ± 0°.04, **h10km, n22,**
σ 0°**79**/25, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**0.86**	**22**	*e*			19 24 23.1	
IKFM				*e*Pg		**Pg**	**19 24 04.8**	**-0.5**
IKMR	**Kamar-syah**	**1.10**	**44**	*e*			19 24 33.3	
IKMR				*e*Pg		**Pb**	**19 24 09.0**	**-0.9**
IDOB	**Doab**	**1.22**	**29**	*e*Pg		**Pb**	**19 24 11.2**	**-0.8**
IBDR	**Badra**	**1.34**	**287**	*e*Pg		**Pn**	**19 24 13.0**	**-0.6**
IBDR				*e*Sg		**Sb**	**19 24 32.0**	**+0.7**
IBDR				AML		AML	19 24 33.9	
	comp=E,409nm,0.4s							
IBDR				AML		AML	19 24 34.2	
	comp=N,234nm,0.5s							
IKOM	**Komasi**	**1.45**	**2**	*e*Pg		**Pn**	**19 24 14.9**	**-0.2**
IKOM				*e*			19 24 17.5	
BMDN	**Meydan**	**1.48**	**50**	*e*Pg		**Pn**	**19 24 16.5**	**+0.9**
BMDN				*e*			19 24 44.1	
KCHF	**Cheshme Sefid,**	**1.58**	**347**	*e*Pg		**Pn**	**19 24 17.3**	**+0.2**
KCHF				*e*			19 24 41.6	
KER	**Kermanshah**	**1.68**	**351**	*e*Pn		**Pn**	**19 24 18.4**	**+0.1**
HSAM	**Samen**	**1.76**	**32**	*e*Pn		**Pn**	**19 24 20.6**	**+1.0**
HSAM				*e*			19 24 49.6	
IGHG	**Ghaleghazi**	**1.77**	**335**	*e*Pn		**Pn**	**19 24 19.4**	**-0.2**
IGHG				*e*			19 24 59.3	
IBZA	**Bozab**	**1.77**	**11**	*e*Pn		**Pn**	**19 24 20.1**	**+0.4**
IBZA				*e*			19 24 28.5	
IVIS	**Veis**	**1.87**	**344**	*e*Pn		**Pn**	**19 24 22.1**	**+1.2**
IVIS				*e*			19 24 53.1	
NSR	**Nassriya**	**2.05**	**214**	*e*Pn		**Pn**	**19 24 24.0**	**+0.8**
NSR				*e*Sn		**Sn**	**19 24 49.0**	**+0.2**
IDHR	**Dehrash**	**2.16**	**336**	*e*Pn		**Pn**	**19 24 25.5**	**+0.5**
IDHR				*e*			19 25 00.4	
IALM	**Almabolaq**	**2.21**	**15**	*e*Pn		**Pn**	**19 24 26.1**	**+0.4**
ILIN	**Lien**	**2.23**	**349**	*e*Pn		**Pn**	**19 24 27.1**	**+1.2**
ILIN				*e*			19 25 08.7	
HAGD	**Aghdareh**	**2.51**	**33**	*e*Pn		**Pn**	**19 24 30.9**	**+1.0**
HAGD				*e*			19 25 14.5	
HSRG	**Sareghieh**	**2.60**	**15**	*e*Pn		**Pn**	**19 24 32.5**	**+1.4**
HSRG				*e*			19 25 21.0	
BHD	**Baghdad**	**2.65**	**283**	*e*Pn		**Pn**	**19 24 31.0**	**-0.5**
BHD				*e*Sn		**Sn**	**19 25 05.0**	**+1.4**
JHBN	**Jahan bin**	**2.75**	**99**	*e*Pn		**Pn**	**19 24 33.6**	**+0.4**
JHBN				*e*			19 25 26.1	
IRAZ	**Razeghan**	**3.37**	**37**	*e*Pn		**Pn**	**19 24 41.7**	**+0.1**
ISHM	**Shahmirzad**	**5.72**	**56**	*e*Pn		**Pn**	**19 25 13.5**	**-0.5**

TEH 18 19:26:21.7, 32°.73N × 47°.82E, h10km, ML3.4, Iran-Iraq
border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**0.79**	**1**	*e*Pg		Pb	19 26 37.6	0.0
IKFM				*e*			19 27 21.8	
IKMR	**Kamar-syah**	**0.92**	**31**	*e*Pg		Pg	19 26 39.3	-0.1
IKMR				*e*			19 27 29.0	
IDOB	**Doab**	**1.10**	**16**	*e*Pg		Pn	19 26 44.3	+1.0
BMDN	**Meydan**	**1.26**	**41**	*e*Pg		Pg	19 26 47.1	+1.1
BMDN				*e*			19 27 39.7	
IKOM	**Komasi**	**1.47**	**350**	*e*Pg		Pg	19 26 49.9	0.0
IKOM				*e*			19 27 20.2	
AHWZ	**Ahwaz**	**1.56**	**153**	*e*Pg		Pg	19 26 51.4	-0.2
HSAM	**Samen**	**1.62**	**24**	*e*Pn		Pg	19 26 53.5	+0.7
HSAM				*e*			19 27 47.6	
KCHF	**Cheshme Sefid,**	**1.68**	**337**	*e*Pn		Pb	19 26 52.5	-0.2
KCHF				*e*			19 27 49.6	
IBZA	**Bozab**	**1.74**	**1**	*e*Pg		Pg	19 26 55.1	0.0
IBZA				*e*			19 27 48.7	
KER	**Kermanshah**	**1.75**	**341**	*e*Pn		Pb	19 26 53.9	-0.1
IGHG	**Ghaleghazi**	**1.91**	**327**	*e*Pn		Pb	19 26 55.9	-0.9
IGHG				*e*			19 28 04.8	
IVIS	**Veis**	**1.97**	**336**	*e*Pn		Pb	19 26 58.3	+0.6
IVIS				*e*			19 27 53.7	
ILIN	**Lien**	**2.30**	**342**	*e*Pn		Pn	19 27 01.4	+1.5
ILIN				*e*			19 28 12.1	
IDHR	**Dehrash**	**2.30**	**329**	*e*Pn		Pn	19 27 00.6	+0.7
IDHR				*e*			19 28 13.0	
HAGD	**Aghdareh**	**2.36**	**27**	*e*Pn		Pb	19 27 03.4	-1.0
HAGD				*e*			19 28 11.6	
JHBN	**Jahan bin**	**2.45**	**101**	*e*Pn		Pb	19 27 04.1	-1.9
JHBN				*e*			19 28 14.3	
HSRG	**Sareghieh**	**2.54**	**8**	*e*Pn		Pb	19 27 06.8	-0.7
KLNJ	**Kolanjah**	**3.63**	**117**	*e*Pn		Pn	19 27 20.3	+2.0
KLNJ				*e*			19 29 12.5	

*IDC **18** 19:26:35.0 ± 38.0, 31°.52N × 47°.09E, h0km, mb3.9/3,*
mb1 4.0/3, mb1mx3.4/30, mbtmp3.9/3, Error ellipse:
s-maj=751.6km s-min=51.3km az=14.0
*ISN **18** 19:26:46.4 ± 1.1, 32°.70N × 47°.81E, h14km ± 6km, ML3.1*
ISC 18 19:26:46.6 ± 1.2, **32°.69N** ± 0°.09 × **47°.84E** ± 0°.09, **h10km, n6,**
σ 1°**24**/9, **mb3.8**/3, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IBDR	**Badra**	**1.66**	**285**	*e*Pg		**Pn**	**19 27 16.0**	**+0.2**
IBDR				*e*Sg		**Sn**	**19 27 38.0**	**+0.8**
IBDR				AML		AML	19 27 41.0	
	comp=N,331nm,0.4s							
IBDR				AML		AML	19 27 41.4	
	comp=E,281nm,0.8s							
NSR	**Nassriya**	**2.22**	**221**	*e*Pn		**Pn**	**19 27 24.0**	**+0.7**
NSR				*e*Sn		**Sn**	**19 27 50.0**	**-0.8**
BHD	**Baghdad**	**2.97**	**282**	*e*Pn		**Pn**	**19 27 34.0**	**+0.3**
BHD				*e*Sn		**Sn**	**19 28 10.0**	**+0.6**
MKAR	**Makanchi Array**	**29.73**	**52**	P		**P**	**19 32 53.8**	**+0.9**
	comp=E,0.7nm,0.7s,baz=248,slow=8.3,SNR=8.1							
FINES	**FINESS Array B**	**32.04**	**340**	P		**P**	**19 33 10.8**	**-2.2**
	comp=E,5.0nm,1.0s,baz=150,slow=5.9,SNR=4.2							
ZALV	**Zalesovo Beam**	**33.72**	**40**	P		**P**	**19 33 29.0**	**+1.2**
	comp=E,0.3nm,0.3s,baz=256,slow=7.3,SNR=2.5							

*TEH **18** 19:28:04.3, 32°.66N × 47°.52E, h9km, ML3.3*
*ISN **18** 19:28:04.0 ± 1.4, 32°.62N × 47°.39E, h15km ± 7km, ML2.9*
ISC 18 19:28:04.8 ± 1.4, **32°.55N** ± 0°.06 × **47°.40E** ± 0°.06, **h10km, n13,**
σ 1°**58**/16, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**1.04**	**21**	*e*		**Sn**	**19 28 43.0**	**+2.9**
IKMR	**Kamar-syah**	**1.27**	**40**	*e*Pg		**Pn**	**19 28 25.6**	**-3.0**
IKMR				*e*			19 28 49.9	
IBDR	**Badra**	**1.36**	**295**	*e*Pg		**Pn**	**19 28 28.0**	**-1.8**
IBDR				*e*Sg		**Sb**	**19 28 46.0**	**-1.7**
IBDR				AML		AML	19 28 54.2	
	comp=N,193nm,0.5s							
IBDR				AML		AML	19 28 55.2	
	comp=E,174nm,0.6s							
IDOB	**Doab**	**1.40**	**28**	*e*Pg		**Pn**	**19 28 29.1**	**-1.5**
IKOM	**Komasi**	**1.62**	**3**	*e*Pg		**Pn**	**19 28 33.3**	**-0.3**
IKOM				*e*			19 28 36.8	
BMDN	**Meydan**	**1.64**	**47**	*e*Pg		**Pn**	**19 28 33.0**	**-0.9**
BMDN				*e*			19 29 01.4	
KCHF	**Cheshme Sefid,**	**1.75**	**350**	*e*Pn		**Pn**	**19 28 35.0**	**-0.4**
KCHF				*e*			19 29 04.4	
NSR	**Nassriya**	**1.87**	**215**	*e*Pn		**Pn**	**19 28 38.0**	**+1.1**
NSR				*e*Sn		**Sn**	**19 29 01.0**	**+0.4**
IGHG	**Ghaleghazi**	**1.91**	**339**	*e*Pn		**Pn**	**19 28 38.6**	**+1.0**
HSAM	**Samen**	**1.94**	**31**	*e*Pn		**Pn**	**19 28 38.8**	**+0.7**
HSAM				*e*			19 29 09.9	
IBZA	**Bozab**	**1.95**	**11**	*e*Pg		**Pn**	**19 28 39.1**	**+0.8**
IBZA				*e*			19 29 10.0	
IVIS	**Veis**	**2.02**	**347**	*e*Pn		**Pn**	**19 28 40.5**	**+1.4**
IVIS				*e*			19 29 09.9	
BHD	**Baghdad**	**2.64**	**287**	*e*Pn		**Pn**	**19 28 47.0**	**-0.4**
BHD				*e*Sn		**Sn**	**19 29 20.0**	**+0.5**
BHD				AML		AML	19 29 24.1	
	comp=E,158nm,0.4s							

*INET **18** 19:30:48.2, 12°.85N × 90°.09W, h132km, ML3.6*

*SNET **18** 19:30:54.9 ± 1.0, 12°.90N × 89°.63W, h18km ± 5km, ML3.8*
*GCG **18** 19:30:55.9 ± 0.4, 12°.94N × 90°.05W, h2km ± 4km, MD4.0*
*UCR **18** 19:30:55.0 ± 1.1, 12°.90N × 89°.63W, h18km ± 5km, ML3.7*
ISC 18 19:30:53.3 ± 3.2, **12°.8N** ± 0°.1 × **89°.66W** ± 0°.05, **h14km** ± 14km,
n49, σ 0°**51**/63, **8C-2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LALI	**Alcalda de L**	**0.73**	**27**	*e*P		**Pb**	**19 31 07.8**	**0.0**
LALI				*e*S		**Sg**	**19 31 17.5**	**+0.4**
LALI				IAML			19 31 18.3	
	comp=Z,3μm,0.4s							
LALI	**Alcalda de L**	**0.73**	**27**	*e*P		**Pb**	**19 31 07.8**	**0.0**
LALI				*e*S		**Sg**	**19 31 17.5**	**+0.4**
LALI				IAML			19 31 18.3	
	comp=Z,3μm,0.4s							
SNET	**Serv Nac Est T**	**0.94**	**26**	*e*P		**Pb**	**19 31 11.4**	**-0.1**
SNET				*e*S		**Sg**	**19 31 23.6**	**-0.3**
SNET				IAML			19 31 26.8	
	comp=Z,3μm,0.3s							
SNET	**Serv Nac Est T**	**0.94**	**26**	*e*P		**Pb**	**19 31 11.4**	**-0.1**
SNET				*e*S		**Sg**	**19 31 23.6**	**-0.3**
SNET				IAML			19 31 26.8	
	comp=Z,3μm,0.3s							
BOQS	**Boqueron**	**0.97**	**22**	*e*P		**Pb**	**19 31 12.1**	**+0.1**
BOQS	**Boqueron**	**0.97**	**22**	*e*P		**Pb**	**19 31 12.1**	**+0.1**
LFRS	**El Faro**	**0.97**	**37**	*e*P		**Pb**	**19 31 11.9**	**-0.1**
LFRS	**El Faro**	**0.97**	**37**	*e*P		**Pb**	**19 31 11.9**	**-0.1**
OPAM	**Oficina de Pla**	**0.98**	**27**	*e*P		**Pb**	**19 31 11.6**	**-0.5**
OPAM	**Oficina de Pla**	**0.98**	**27**	*e*P		**Pb**	**19 31 11.6**	**-0.5**
CEVE	**Cerro Verde**	**0.99**	**2**	*e*P		**Pb**	**19 31 11.9**	**-0.4**
CEVE	**Cerro Verde**	**0.99**	**2**	*e*P		**Pb**	**19 31 11.9**	**-0.4**
SBLS	**San Blas**	**1.00**	**2**	*e*P		**Pb**	**19 31 12.3**	**-0.2**
SBLS	**San Blas**	**1.00**	**2**	*e*P		**Pb**	**19 31 12.3**	**-0.2**
SNJE	**San Jose**	**1.03**	**3**	*e*P		**Pb**	**19 31 12.7**	**-0.2**
SNJE	**San Jose**	**1.03**	**3**	*e*P		**Pb**	**19 31 12.7**	**-0.2**
LFU	**La Fuente**	**1.05**	**30**	*e*P		**Pb**	**19 31 13.3**	**-0.1**
LFU	**La Fuente**	**1.05**	**30**	*e*P		**Pb**	**19 31 13.3**	**-0.1**
RTR	**El Retiro**	**1.05**	**1**	*e*P		**Pb**	**19 31 13.2**	**-0.2**
RTR	**El Retiro**	**1.05**	**1**	*e*P		**Pb**	**19 31 13.2**	**-0.2**
NUBE	**Las Nubes**	**1.07**	**354**	*e*P		**Pb**	**19 31 12.7**	**-0.9**
NUBE				IAML			19 31 29.6	
	comp=Z,1μm,0.5s							
NUBE	**Las Nubes**	**1.07**	**354**	*e*P		**Pb**	**19 31 12.7**	**-0.9**
NUBE				IAML			19 31 29.6	
	comp=Z,1μm,0.5s							
LBRS	**Las Brisas**	**1.08**	**34**	*e*P		**Pb**	**19 31 13.8**	**0.0**
LBRS	**Las Brisas**	**1.08**	**34**	*e*P		**Pb**	**19 31 13.8**	**0.0**
PAVA	**Las Pavas**	**1.12**	**39**	*e*P		**Pb**	**19 31 14.4**	**-0.1**
PAVA				IAML			19 31 32.6	
	comp=Z,4μm,0.3s							
PAVA	**Las Pavas**	**1.12**	**39**	*e*P		**Pb**	**19 31 14.4**	**-0.1**
PAVA				IAML			19 31 32.6	
	comp=Z,4μm,0.3s							
TACO	**Tacachico**	**1.17**	**15**	*e*P		**Pb**	**19 31 14.5**	**-0.7**
TACO				*e*S		**Sb**	**19 31 29.4**	**-0.8**
TACO	**Tacachico**	**1.17**	**15**	*e*P		**Pb**	**19 31 14.5**	**-0.7**
TACO				*e*S		**Sb**	**19 31 29.4**	**-0.8**
ALJI	**Alcalda de J**	**1.17**	**65**	*i*P		**Pn**	**19 31 14.9**	**-0.3**
ALJI				*e*S		**Sb**	**19 31 30.0**	**-0.3**
ALJI				IAML			19 31 35.1	
	comp=Z,2μm,0.2s							
ALJI	**Alcalda de J**	**1.17**	**65**	*i*P		**Pn**	**19 31 14.9**	**-0.3**
ALJI				*e*S		**Sb**	**19 31 30.0**	**-0.3**
ALJI				IAML			19 31 35.1	
	comp=Z,2μm,0.2s							
COEB	**Comit de Eme**	**1.28**	**59**	*e*P		**Pn**	**19 31 16.6**	**-0.2**
COEB				*e*S		**Sn**	**19 31 33.6**	**-0.3**
COEB				IAML			19 31 40.5	
	comp=Z,2μm,0.4s							
COEB	**Comit de Eme**	**1.28**	**59**	*e*P		**Pn**	**19 31 16.6**	**-0.2**
COEB				*e*S		**Sn**	**19 31 33.6**	**-0.3**
COEB				IAML			19 31 40.5	
	comp=Z,2μm,0.4s							
TECA	**Tecapa**	**1.30**	**60**	*e*P		**Pn**	**19 31 16.7**	**-0.5**
TECA	**Tecapa**	**1.30**	**60**	*e*P		**Pn**	**19 31 16.7**	**-0.5**
LCY	**Lacayo**	**1.45**	**66**	*e*P		**Pn**	**19 31 19.7**	**+0.5**
LCY	**Lacayo**	**1.45**	**66**	*e*P		**Pn**	**19 31 19.7**	**+0.5**
BLLM	**Bellamira**	**1.51**	**66**	*e*P		**Pn**	**19 31 20.3**	**+0.3**
BLLM	**Bellamira**	**1.51**	**66**	*e*P		**Pn**	**19 31 20.3**	**+0.3**
IXG	**Ixpaco**	**1.53**	**330**	*e*P		**Pn**	**19 31 20.1**	**-0.3**
MTO3	**Montecristo**	**1.58**	**11**	*i*P		**Pn**	**19 31 21.3**	**+0.2**
MTO3	**Montecristo**	**1.58**	**11**	*i*P		**Pn**	**19 31 21.3**	**+0.2**
FAGO	**Alcalda de S**	**1.74**	**60**	*e*P		**Pn**	**19 31 23.9**	**+0.9**
FAGO	**Alcalda de S**	**1.74**	**60**	*e*P		**Pn**	**19 31 23.9**	**+0.9**
ESQI	**Esquipulas**	**1.74**	**10**	*e*P		**Pn**	**19 31 23.8**	**+0.6**
LCND	**La Caada**	**1.79**	**75**	*e*P		**Pn**	**19 31 23.9**	**+0.2**
LCND				*e*S		**Sn**	**19 31 46.7**	**+0.4**
LCND				IAML			19 31 54.0	
	comp=Z,1μm,0.4s							
LCND	**La Caada**	**1.79**	**75**	*e*P		**Pn**	**19 31 23.9**	**+0.2**
LCND				*e*S		**Sn**	**19 31 46.7**	**+0.4**
LCND				IAML			19 31 54.0	
	comp=Z,1μm,0.4s							
NBG	**Las Nubes**	**1.86**	**339**	*e*P		**Pn**	**19 31 26.6**	**+1.5**
NBG				*e*S		**Sb**	**19 31 50.9**	**+0.3**
FUG	**Fuego 3**	**1.97**	**324**	*e*P		**Pn**	**19 31 26.8**	**+0.4**
FUG				*e*S		**Sn**	**19 31 50.5**	**-0.6**
MRL	**Marmol**	**2.23**	**359**	*e*S		**Sb**	**19 32 02.6**	**+1.5**

*IDC **18** 19:38:12.6 ± 0.5, 32°.66N × 47°.67E, h0km, mb4.2/31,*
mb1 4.3/36, mb1mx4.1/70, mbtmp4.2/36, ML3.7/6, MS4.1/2,
Ms1 4.1/2, ms1mx3.3/44, Error ellipse: s-maj=13.0km
s-min=9.7km az=165.0
*MOS **18** 19:38:13.6 ± 1.1, 32°.63N × 47°.74E, h18km, mb4.7/34, Error*
ellipse: s-maj=6.2km s-min=3.8km az=119.2
*ISN **18** 19:38:13.8 ± 1.0, 32°.67N × 47°.65E, h15km ± 7km, ML3.9*
*NEIC **18** 19:38:14.4 ± 1.3, 32°.62N ± 0°.09 × 47°.71E ± 0°.08, h10km ± 1km,*
Error ellipse: s-maj=14.7km s-min=11.6km az=190.0
*OMAN **18** 19:38:14.8 ± 2.4, 32°.17N × 47°.20E, h20km ± 17km, mb5.1/6,*
Error ellipse: s-maj=25.5km s-min=9.6km az=282.0
*THR **18** 19:38:15.6 ± 0.4, 32°.67N × 47°.55E, h15km ± 5km, ML4.0*
*TEH **18** 19:38:15.9, 32°.70N × 47°.70E, h19km, ML4.2*
ISC 18 19:38:14.1 ± 0.3, **32°.58N** ± 0°.03 × **47°.69E** ± 0°.04, **h10km, n358,**
σ 1°**47**/371, **mb4.5**/113, **31C-28D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**0.95**	**8**	*e*Pg		**Pg**	**19 38 32.5**	**0.0**
SHGR	**Shooshtar-Gavs**	**1.05**	**116**	*e*Pg		**Pn**	**19 38 37.8**	**+2.8**
SHGR				IAML			19 39 01.1	
	comp=E,3μm,0.6s							
SHGR	**Shooshtar-Gavs**	**1.05**	**116**	*e*Pg		**Pn**	**19 38 37.8**	**+2.8**
IKMR	**Kamar-syah**	**1.10**	**32**	*e*Pg		**Pb**	**19 38 33.9**	**-1.4**
IKMR				*e*			19 38 54.6	
IDOB	**Doab**	**1.27**	**19**	*e*Pg		**Pn**	**19 38 37.9**	**-0.3**
BMDN	**Meydan**	**1.45**	**41**	*e*Pg		**Pn**	**19 38 41.6**	**+1.0**
BMDN				*e*			19 39 07.9	
AHWZ	**Ahwaz**	**1.49**	**147**	*e*Pg		**Pg**	**19 38 45.0**	**+2.3**
IBDR	**Badra**	**1.57**	**290**	*e*Pg		**Pn**	**19 38 41.0**	**-1.1**
IBDR				*e*Sg		**Sn**	**19 39 02.0**	**-0.4**
IBDR				AML		AML	19 39 08.9	
	comp=E,2μm,0.5s							
IBDR				AML		AML	19 39 09.0	
	comp=N,2μm,1.0s							
IKOM	**Komasi**	**1.60**	**355**	*e*Pg		**Pn**	**19 38 44.5**	**+1.9**
IKOM				*e*			19 38 48.6	
KCHF	**Cheshme Sefid,**	**1.78**	**343**	*e*Pg		**Pn**	**19 38 46.4**	**+1.3**
KCHF				*e*			19 39 16.6	
HSAM	**Samen**	**1.80**	**25**	*e*Pg		**Pn**	**19 38 47.5**	**+2.0**
HSAM				*e*			19 39 16.8	
KER	**Kermanshah**	**1.86**	**346**	*e*Pg		**Pn**	**19 38 47.8**	**+1.6**
IBZA	**Bozab**	**1.89**	**4**	*e*Pg		**Pn**	**19 38 48.6**	**+1.8**
IBZA				*e*			19 39 18.2	
IGHG	**Ghaleghazi**	**1.98**	**332**	*e*Pn		**Pn**	**19 38 49.3**	**+1.3**
IGHG				*e*			19 39 40.1	
NSR	**Nassriya**	**2.04**	**221**	*e*Pn		**Pn**	**19 38 50.0**	**+1.4**
NSR				*e*Sn		**Sn**	**19 39 15.0**	**+0.9**
IVIS	**Veis**	**2.06**	**340**	*e*Pn		**Pn**	**19 38 50.5**	**+1.5**
IVIS				*e*			19 39 24.4	
KHMZ	**Khomeyn**	**2.23**	**58**	*e*Pn		**Pn**	**19 38 54.8**	**+3.4**
KHMZ	**Khomeyn**	**2.23**	**58**	*e*Pn		**Pn**	**19 38 54.8**	**+3.4**
IALM	**Almabolaq**	**2.31**	**10**	*e*Pn		**Pn**	**19 38 54.8**	**+2.3**
IDHR	**Dehrash**	**2.38**	**333**	*e*Pn		**Pn**	**19 38 55.0**	**+1.6**
IDHR				*e*			19 39 46.4	
ILIN	**Lien**	**2.41**	**346**	*e*Pn		**Pn**	**19 38 55.6**	**+1.7**
ILIN				*e*			19 39 36.6	
SNGE	**Sanandaj**	**2.52**	**354**	*e*Pn		**Pn**	**19 38 56.8**	**+1.4**
SNGE	**Sanandaj**	**2.52**	**354**	*e*Pn		**Pn**	**19 38 56.8**	**+1.4**
JHBN	**Jahan bin**	**2.54**	**97**	*e*Pn		**Pn**	**19 38 58.4**	**+2.6**
JHBN				*e*			19 39 44.9	
HAGD	**Aghdareh**	**2.55**	**28**	*e*Pn		**Pn**	**19 38 58.0**	**+2.3**
HAGD				*e*			19 39 52.4	
HSRG	**Sareghieh**	**2.70**	**10**	*e*Pn		**Pn**	**19 39 00.3**	**+2.4**
ASAO	**Ashtian**	**2.77**	**44**	*e*Pn		**Pn**	**19 39 02.0**	**+3.2**
ASAO				*e*Sg		**Sb**	**19 39 42.9**	**+4.9**
ASAO	**Ashtian**	**2.77**	**44**	*e*Pn		**Pn**	**19 39 02.0**	**+3.2**
ROKH	**ROKH**	**2.84**	**94**	*e*Pn		**Pn**	**19 39 02.5**	**+2.7**
BHD	**Baghdad**	**2.86**	**285**	*e*Pn		**Pn**	**19 39 00.0**	**+0.1**
BHD				*e*Sn		**Sn**	**19 39 34.0**	**-0.4**
IBRJ	**Brojen**	**3.10**	**101**	*e*Pn		**Pn**	**19 39 05.8**	**+2.4**
IRAZ	**Razeghan**	**3.38**	**33**	*e*Pn		**Pn**	**19 39 10.5**	**+3.3**
QABG	**Abgarm-Qazvin**	**3.50**	**26**	*e*Pn		**Pn**	**19 39 10.5**	**+1.7**
KLNJ	**Kolanjah**	**3.68**	**114**	*e*Pn		**Pn**	**19 39 14.3**	**+2.9**
IMHD	**Mahdasht**	**3.96**	**38**	*e*Pn		**Pn**	**19 39 17.3**	**+2.2**
QSDN	**Sirdan**	**4.10**	**17**	*e*Pn		**Pn**	**19 39 19.6**	**+2.4**
IHSB	**Hasanabad**	**4.13**	**45**	*e*Pn		**Pn**	**19 39 19.0**	**+1.7**
IGZV	**Ghazvin**	**4.34**	**28**	*e*Pn		**Pn**	**19 39 22.5**	**+2.2**
MAHB	**Mahabad**	**4.49**	**339**	*e*Pn		**Pn**	**19 39 23.5**	**+1.2**
QALM	**Alamut, Qazvin**	**4.56**	**32**	*e*Pn		**Pn**	**19 39 25.3**	**+1.9**
IDMV	**Damavand**	**4.69**	**49**	*e*Pn		**Pn**	**19 39 26.8**	**+1.6**
ANAR	**Anarak**	**5.12**	**82**	*e*Pn		**Pn**	**19 39 33.2**	**+2.2**
ISAD	**Sadrabad**	**5.13**	**96**	*e*Pn		**Pn**	**19 39 33.2**	**+2.0**
IFIR	**Firoozkooh**	**5.20**	**53**	*e*Pn		**Pn**	**19 39 34.1**	**+1.9**
ILAS	**Lasjerd**	**5.20**	**56**	*e*Pn		**Pn**	**19 39 34.2**	**+2.0**
ISRB	**Sarab**	**5.24**	**360**	*e*Pn		**Pn**	**19 39 35.3**	**+2.6**
IPRN	**Peran**	**5.30**	**45**	*e*Pn		**Pn**	**19 39 36.0**	**+2.4**
IALA	**Alasht**	**5.50**	**49**	*e*Pn		**Pn**	**19 39 38.9**	**+2.6**
ISHM	**Shahmirzad**	**5.65**	**54**	*e*Pn		**Pn**	**19 39 39.5**	**+1.0**
ICHK	**Chekchek**	**5.69**	**92**	*e*Pn		**Pn**	**19 39 41.6**	**+2.6**
IHRS	**Heris**	**5.75**	**355**	*e*Pn		**Pn**	**19 39 42.2**	**+2.4**
ITBZ	**Tabriz**	**5.78**	**348**	*e*Pn		**Pn**	**19 39 41.6**	**+1.5**
IANJ	**Anjilo**	**5.92**	**59**	*e*Pn		**Pn**	**19 39 43.9**	**+1.8**
IMEH	**Mehriz**	**6.00**	**100**	*e*Pn		**Pn**	**19 39 44.9**	**+1.6**
IGLO	**Ghaloghah**	**6.41**	**51**	*e*Pn		**Pn**	**19 39 51.8**	**+3.1**
IBAF	**Bafgh**	**6.76**	**96**	*e*Pn		**Pn**	**19 39 55.3**	**+1.7**
GEVA	**Gevas**	**6.85**	**328**	Pn		**Pn**	**19 39 54.9**	**+0.1**
TPRV	**Parvadeh(Tabas**	**7.59**	**84**	*e*Pn		**Pn**	**19 40 06.9**	**+2.0**
TNSJ	**Nastanj**	**7.60**	**77**	*e*Pn		**Pn**	**19 40 06.2**	**+1.1**
KHGB	**Koh Gabri**	**7.82**	**104**	*e*Pn		**Pn**	**19 40 11.9**	**+3.7**
TKDS	**Koohdasht(Taba**	**7.99**	**80**	*e*Pn		**Pn**	**19 40 11.5**	**+1.1**
AKT	**Akhty**	**8.89**	**0**	*e*P		**Pn**	**19 40 24.9**	**+2.2**
AKT				pmax		pmax		
	comp=Z,10.0nm,0.7s							
GENO	**Geno**	**8.99**	**123**	*e*Pn		**Pn**	**19 40 24.3**	**+0.1**
SBZV	**Sabzevar**	**9.03**	**62**	*e*Pn		**Pn**	**19 40 26.2**	**+1.4**
ASF	**Jabal al Asfar**	**9.13**	**270**	Pn		**Pn**	**19 40 24.7**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=353,slow=8.5,SNR=3.0							
ASF				Sn		**Sn**	**19 42 06.3**	**-2.8**

MLR **Muntele Rosu** 21.17 314 ⇑P P 19 43 02.6 +3.0
MLR **Muntele Rosu** 21.17 314 P P 19 42 58.2 -1.4
MLR IAmb IAmb 19 43 06.8
comp=Z,21nm,0.8s
TESR **Tescani** 21.29 317 ⇓P P 19 43 01.2 +0.5
HUMR **Humele** 21.32 311 ⇓P P 19 43 01.7 +0.7
SORM **Soroca** 21.32 322 ⇑P P 19 43 00.2 -0.9
SORM **Soroca** 21.32 322 ⇑P P 19 43 00.2 -0.9
ATD **Arta Tunnel** 21.42 193 P P 19 43 03.4 +1.1
comp=Z,3.0nm,0.3s,baz=27,slow=11,SNR=1.4
NIL **Nilore** 21.43 80 P P 19 43 02.7 +0.3
NIL pmax pmax
comp=Z,22nm,0.8s
NIL **Nilore** 21.43 80 P P 19 43 02.7 +0.3
NIL IAmb IAmb 19 43 04.9
comp=Z,22nm,0.8s
AGG **Agios Georgios** 21.51 295 P P 19 43 03.7 +0.5
AGG pmax pmax
comp=Z,16nm,1.1s
AGG **Agios Georgios** 21.51 295 P P 19 43 03.7 +0.5
OZUR 21.57 315 ⇑P P 19 43 04.1 +0.3
LIT **Litokhoron** 21.59 297 P P 19 43 04.5 +0.4
LIT pmax pmax
comp=Z,10.0nm,0.9s
LIT **Litokhoron** 21.59 297 P P 19 43 04.5 +0.4
ITM **Ithomi** 21.60 289 P P 19 43 03.9 -0.3
ITM IAmb IAmb 19 43 16.0
comp=Z,14nm,0.8s
VOIR 21.69 313 ⇑P P 19 43 06.6 +1.4
VOIR 21.69 313 ⇑P P 19 43 06.6 +1.4
DOPR **Dopca** 21.74 314 ⇓P P 19 43 06.1 +0.5
VTS **Vitosha** 21.74 304 ⇑P P 19 43 08.3 +2.5
VTS **Vitosha** 21.74 304 ⇑P P 19 43 08.3 +2.5
ARR **Arges** 21.92 312 ⇓P P 19 43 08.7 +1.2
ARSB **Arslanbob** 21.96 59 P P 19 43 08.1 -0.1
ARSB pmax pmax
comp=Z,27nm,1.4s
ARSB **Arslanbob** 21.96 59 P P 19 43 08.1 -0.1
ARSB IAmb IAmb 19 43 32.2
comp=Z,26nm,1.4s
LOT **Lotru** 22.49 312 ⇓P P 19 43 14.1 +0.3
PUNG **Punghina** 22.55 308 ⇓P P 19 43 15.9 +1.6
AKASG **Malin Array Be** 22.66 328 P P 19 43 12.4 -2.9
comp=Z,4.5nm,0.7s,baz=140,slow=9.5,SNR=10
AKASG **Malin Array Be** 22.66 328 *i* P P 19 43 13.6 -1.7
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG **Malin Array Be** 22.66 328 P P 19 43 11.8 -3.5
AKBB **Malin Array Si** 22.66 328⇑ *eP* P 19 43 15.3 0.0
AKBB **Malin Array Si** 22.66 328 P P 19 43 13.2 -2.2
BURAR **Bucovina Array** 22.71 318 ⇓P P 19 43 16.1 0.0
BURAR **Bucovina Array** 22.71 318 ⇓P P 19 43 16.1 0.0
BURAR **Bucovina Array** 22.71 318 P P 19 43 15.7 -0.4
BUR08 **Bucovina Ar. S** 22.73 318 P P 19 43 16.5 +0.1
HERR **Herculane** 23.12 309 ⇓P P 19 43 20.6 +0.4
KSV **Kosov** 23.18 319 P P 19 43 21.4 +0.5
CJR **Cluj-Napoca** 23.19 315 ⇓P P 19 43 21.2 +0.2
CJR **Cluj-Napoca** 23.19 315 ⇓P P 19 43 21.2 +0.2
AAK **Ala-Arcba** 23.41 57 P P 19 43 23.9 +0.5
comp=Z,1.2nm,0.3s,baz=237,slow=5.5,SNR=4.9
AAK **Ala-Arcba** 23.41 57⇑ *eP* P 19 43 25.4 +2.0
AAK pmax pmax
comp=Z,8.0nm,2.5s
AAK **Ala-Arcba** 23.41 57 P P 19 43 23.6 +0.2
MDVR **Moldovita** 23.55 309 ⇑P P 19 43 24.7 +0.1
FRU1 **Bishkek** 23.55 57 P P 19 43 22.9 -1.8
FRU1 pmax pmax
comp=Z,9.0nm,0.4s
FRU1 **Bishkek** 23.55 57 P P 19 43 22.9 -1.8
FRU1 IAmb IAmb 19 43 35.7
comp=Z,8.9nm,0.3s
OBN **Obninsk** 23.85 344 P P 19 43 27.3 -0.1
comp=Z,2.2nm,0.4s,baz=148,slow=22,SNR=4.2
OBN **Obninsk** 23.85 344 *i* P P 19 43 25.0 -2.4
OBN *i* 19 43 32.4
OBN *i* 19 43 56.0
OBN pmax pmax
comp=Z,12nm,0.9s
OBN **Obninsk** 23.85 344 P P 19 43 27.7 +0.4
BZS **Buzias** 23.93 311 ⇑P P 19 43 28.6 +0.3
BZS **Buzias** 23.93 311 ⇑P P 19 43 28.6 +0.3
SIRR **Siria** 24.18 312 ⇓P P 19 43 30.6 0.0
MOS **Moscow** 24.20 346 *eP* P 19 43 33.7 +3.0
MOS *e* 19 44 06.6
MORS **Morshin** 24.29 320 P P 19 43 32.1 +0.6
DIVS **Divibare** 24.46 306 P P 19 43 33.4 +0.1
PDG **Podgorica** 24.51 302 ⇓P P 19 43 34.5 +1.0
ARU **Arti** 25.02 14 P P 19 43 37.8 -0.3
comp=Z,1.6nm,0.6s,baz=190,slow=8.1,SNR=8.9
ARU **Arti** 25.02 14 *d i* P P 19 43 38.3 +0.3
ARU 19 44 09.8
ARU S S 19 48 04.3 +2.5
ARU pmax pmax
comp=Z,11nm,0.9s
ARU **Arti** 25.02 14 P P 19 43 38.0 0.0
ARU IAmb IAmb 19 43 40.1
comp=Z,8.8nm,0.9s
KOLS **Kolonicke sedl** 25.08 318 *eP* P 19 43 39.2 +0.5
KOLS pmax pmax
comp=Z,14nm,0.9s
KOLS **Kolonicke sedl** 25.08 318 *eP* P 19 43 39.2 +0.5
KWP **Kalwaria Pacla** 25.21 320 P P 19 43 40.8 +0.9
KWP pmax pmax
comp=Z,15nm,0.8s
KWP **Kalwaria Pacla** 25.21 320 P P 19 43 40.8 +0.9
KWP IAmb IAmb 19 43 47.4
comp=Z,15nm,0.8s
CRVS **Cervenica-Dubn** 25.52 317 *eP* P 19 43 43.7 +1.0
CRVS pmax pmax
comp=Z,19nm,1.0s
CRVS **Cervenica-Dubn** 25.52 317 *eP* P 19 43 43.7 +1.0
TARG **Taragay, Kyrgy** 25.58 60 P P 19 43 44.3 +0.5
TARG IAmb IAmb 19 43 48.0
comp=Z,9.3nm,0.9s
STON **Ston** 25.73 302 *i* P P 19 43 45.0 +0.4
TIP **Timpagrande** 25.83 294 ⇓P P 19 43 47.0 +1.3
TIP **Timpagrande** 25.83 294 P P 19 43 46.6 +0.9
TIP IAmb IAmb 19 43 49.9
comp=Z,13nm,0.9s
SVE **Sverdlovsk** 25.84 16 *eP* P 19 43 46.0 +0.4
SVE pmax pmax
comp=Z,16nm,1.0s
PSZ **Piszkesteto** 25.98 314 P P 19 43 47.5 +0.5
PSZ pmax pmax
comp=Z,19nm,0.8s
PSZ **Piszkesteto** 25.98 314 P P 19 43 47.5 +0.5
PSZ IAmb IAmb 19 43 50.7
comp=Z,19nm,0.8s
KIRV **Kirov** 26.04 2 P P 19 43 46.9 -0.3
comp=Z,22nm,0.8s,baz=348,slow=0.8,SNR=8.6
MATE **Matera** 26.04 297 ⇓P P 19 43 48.7 +1.3
BRVK **Borovoye** 26.14 32⇑ *eP* P 19 43 49.0 +0.7
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BVAR **Borovoye Array** 26.16 32 P P 19 43 48.4 -0.1
comp=Z,7.7nm,0.8s,baz=225,slow=8.0,SNR=25
BVAR PcP PcP 19 47 15.2 -0.2
comp=Z,1.1nm,0.7s,baz=232,slow=1.6,SNR=3.3
BVAR ScP ScP 19 50 57.0 +1.9
comp=Z,0.9nm,0.7s,baz=228,slow=1.7,SNR=4.3
RICI **Ricice** 26.28 303 P P 19 43 48.8 -0.8
BUD **Budapest** 26.33 313 P P 19 43 51.5 +1.5
BUD pmax pmax
comp=Z,29nm,1.0s
LANS **Liptovska Anna** 26.79 316 *eP* P 19 43 55.6 +1.3
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS **Liptovska Anna** 26.79 316 *eP* P 19 43 55.6 +1.3
VYHS **Vyhne** 26.87 315 *eP* P 19 43 55.5 +0.6
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS **Vyhne** 26.87 315 *eP* P 19 43 55.5 +0.6
KIJV **Kijevo** 26.91 304 *i* P P 19 43 55.1 -0.3
OJC **Ojcow** 27.12 319 P P 19 43 57.6 +0.5
OJC pmax pmax
comp=Z,14nm,0.9s
OJC **Ojcow** 27.12 319 P P 19 43 57.6 +0.5
OJC IAmb IAmb 19 44 04.3
comp=Z,14nm,0.9s
ZIRJ **Zirje** 27.37 303 *i* P P 19 44 00.1 +0.6
MORI **Morici** 27.37 304 *i* P P 19 43 58.9 -0.6
JAVC **Velka Javorina** 27.72 315 *eP* P 19 44 03.5 +0.8
DUGI **Dugi Otok** 27.86 304 *i* P P 19 44 03.7 -0.2

SOP **Sopron** 27.95 312 P P 19 44 05.8 +1.2
SOP pmax pmax
comp=Z,14nm,1.0s
MORC **Moravsky Berou** 28.20 316 ⇓P P 19 44 05.6 -1.3
MORC **Moravsky Berou** 28.20 316 *eP* P 19 44 07.1 +0.3
MORC **Moravsky Berou** 28.20 316 P P 19 44 07.2 +0.4
MORC pmax pmax
comp=Z,5.0nm,1.2s
MORC **Moravsky Berou** 28.20 316 P P 19 44 07.2 +0.4
ARSA **Arzberg** 28.45 310 *i* P P 19 44 10.5 +1.4
comp=Z,3.9nm,1.0s
CONA **Conrad Observa** 28.47 312 *i* P P 19 44 10.6 +1.3
comp=Z,3.3nm,1.0s
VRAC **Vranov** 28.55 315 P P 19 44 10.4 +0.4
comp=Z,1.5nm,0.3s,baz=107,slow=12,SNR=3.3
VRAC **Vranov** 28.55 315 *eP* P 19 44 10.7 +0.7
KRUC **Moravsky** 28.57 314 *eP* P 19 44 10.2 0.0
KRUC **Moravsky** 28.57 314 P P 19 44 10.8 +0.6
KRUC pmax pmax
comp=Z,4.0nm,1.6s
SOKA **Soboth** 28.59 309 *i* P P 19 44 11.8 +1.4
comp=Z,4.0nm,1.3s
KRLC **Kraliky** 28.77 317 *eP* P 19 44 12.0 +0.1
KRLC **Kraliky** 28.77 317 *eP* P 19 44 12.0 +0.1
KLMR **Klimovskoe** 28.79 352 *eP* P 19 44 10.5 -1.4
KLMR pmax pmax
comp=Z,19nm,0.9s
KLMR **Klimovskoe** 28.79 352 *eP* P 19 44 10.5 -1.4
KLMR AMP 19 44 11.5
comp=Z,19nm,0.9s
KURBB **Kurchatov Arra** 28.98 42 P P 19 44 14.3 +0.6
comp=Z,5.3nm,0.9s,baz=248,slow=9.4,SNR=26
KURBB PcP PcP 19 47 22.1 -0.1
comp=Z,10.8nm,0.8s,baz=240,slow=3.0,SNR=4.2
KURK **Kurchatov** 29.07 42 *d i* P P 19 44 15.7 +1.2
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK **Kurchatov** 29.07 42 P P 19 44 15.5 +1.0
KURK IAmb IAmb 19 44 16.4
comp=Z,7.8nm,0.9s
DPC **Dobruska-Polom** 29.15 317 *eP* P 19 44 15.7 +0.3
DPC **Dobruska-Polom** 29.15 317 *eP* P 19 44 15.7 +0.3
KSP **Ksiaz** 29.39 318 P P 19 44 18.7 +1.3
CHVC **Chvalec** 29.41 317 *eP* P 19 44 18.0 +0.4
MOA **Molln** 29.45 311 *i* P P 19 44 18.2 +0.2
comp=Z,5.4nm,0.7s
PRED **Cave del Predi** 29.49 308 P P 19 44 19.2 +0.7
MYKA **Terra Mystica** 29.49 308 *i* P P 19 44 19.6 +1.2
comp=Z,1.5nm,0.5s
MURB **Monte Urbino** 29.52 301 P P 19 44 20.4 +1.6
MURB IAmb IAmb 19 44 21.9
comp=Z,17nm,1.1s
MAKZ **Makanchi** 29.70 51 P P 19 44 21.0 +0.7
MAKZ pmax pmax
comp=Z,3.0nm,1.1s
MAKZ **Makanchi** 29.70 51 P P 19 44 20.9 +0.7
KBA **Koelnbreinsper** 29.81 309 *i* P P 19 44 22.0 +0.6
comp=Z,7.8nm,0.9s
GOPC **GO Pecny, Ondr** 29.87 315 *eP* P 19 44 22.1 +0.4
GOPC **GO Pecny, Ondr** 29.87 315 *eP* P 19 44 22.1 +0.4
MK31 **Makanchi Array** 29.91 51 P P 19 44 22.8 +0.7
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MK31 **Makanchi Array** 29.91 51 P P 19 44 22.8 +0.7
MK31 IAmb IAmb 19 44 23.7
comp=Z,5.5nm,0.8s
MKAR **Makanchi Array** 29.91 51 P P 19 44 22.8 +0.7
comp=Z,5.5nm,0.8s,baz=248,slow=7.6,SNR=42
MKAR PcP PcP 19 47 24.2 -0.5
comp=Z,0.5nm,0.8s,baz=270,slow=2.9,SNR=2.7
MKAR **Makanchi Array** 29.91 51 P P 19 44 22.5 +0.4
STAL **STALIGIAL** 30.01 307 P P 19 44 23.1 0.0
STAL IAmb IAmb 19 44 26.4
comp=Z,6.6nm,1.0s
GERES **GERESS Array B** 30.14 313 P P 19 44 24.0 -0.2
comp=Z,1.2nm,0.8s,baz=112,slow=10,SNR=8.3
GERES PcP PcP 19 47 25.6 +0.2
comp=Z,0.5nm,0.8s,baz=142,slow=3.4,SNR=2.5
CIMO **Cimolais** 30.21 307 P P 19 44 25.1 +0.3
CIMO IAmb IAmb 19 44 28.2
comp=Z,5.9nm,0.8s
ABTA **Abfaltersbach** 30.27 308 *i* P P 19 44 25.8 +0.5
comp=Z,7.3nm,1.1s
KHC **Kasperske Hory** 30.32 313⇓ *eP* P 19 44 25.6 -0.1
KHC pmax pmax
comp=Z,5.0nm,1.2s
CTI **Castel Tesino** 30.68 307 P P 19 44 29.3 +0.3
CTI pmax pmax
comp=Z,11nm,0.7s
CTI **Castel Tesino** 30.68 307 P P 19 44 29.3 +0.3
ZCCA **Zocca** 30.81 303 P P 19 44 30.6 +0.5
WTTA **Wattenberg** 30.99 309 *i* P P 19 44 31.8 +0.1
comp=Z,12nm,0.9s,SNR=6.4
WTTA **Wattenberg** 30.99 309 P P 19 44 32.0 +0.2
WATA **Walderalm** 31.04 309 *i* P P 19 44 31.9 -0.4
comp=Z,9.5nm,0.8s,SNR=5.1
SQTA **Sankt Quirin** 31.26 309 *i* P P 19 44 34.0 -0.1
comp=Z,8.6nm,0.6s,SNR=6.0
SALO **Salr** 31.36 305 P P 19 44 35.0 +0.2
MOTA **Moosalm** 31.36 309 *i* P P 19 44 34.5 -0.5
comp=Z,13nm,1.0s,SNR=6.5
CLL **Collm** 31.47 317 *eP* P 19 44 36.0 +0.3
comp=Z,6.0nm,1.0s
CLL **Collm** 31.47 317 *eP* P 19 44 36.0 +0.3
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL **Collm** 31.47 317 P P 19 44 35.8 +0.1
CLL IAmb IAmb 19 44 39.1
comp=Z,5.4nm,1.0s
FETA **Feichten** 31.52 308 *i* P P 19 44 36.6 +0.1
comp=Z,7.8nm,0.9s,SNR=5.9
RETA **Reutte** 31.62 309 *eP* P 19 44 36.6 -0.6
comp=Z,3.6nm,0.7s
FUORN **Ofenpass-Fuorn** 31.74 307 P P 19 44 38.5 0.0
FUORN IAmb IAmb 19 44 43.4
comp=Z,4.8nm,0.8s
MSSA **Maissana** 31.84 303 P P 19 44 39.0 -0.2
FINES **FINESS Array B** 32.10 341 P P 19 44 40.4 -0.8
comp=Z,11nm,1.0s,baz=142,slow=8.9,SNR=7.1
FINES **FINESS Array B** 32.10 341 *i* P P 19 44 41.4 +0.3
FINES pmax pmax
comp=Z,11nm,1.0s
FIA1 **FINESS Array S** 32.10 341 P P 19 44 40.6 -0.6
DAVA **Damuels** 32.15 308 *i* P P 19 44 41.8 -0.2
comp=Z,13nm,0.7s,SNR=6.8
TUE **Stuetta** 32.33 307 P P 19 44 44.0 +0.3
TUE IAmb IAmb 19 44 55.3
comp=Z,6.6nm,0.9s
SENIN **Lac Senin/Sane** 33.70 306 P P 19 44 55.6 0.0
SENIN IAmb IAmb 19 44 56.6
comp=Z,11nm,1.2s
MBDF **Montbardon** 33.84 303 *eP* P 19 44 56.2 -0.6
MBDF pmax pmax
comp=Z,14nm,0.8s
ZAA0 **Zalesovo Array** 33.89 40 P P 19 44 56.7 -0.2
ZAA0 IAmb IAmb 19 44 57.7
comp=Z,8.6nm,1.0s
ZALV **Zalesovo Beam** 33.89 40 P P 19 44 56.7 -0.2
comp=Z,5.8nm,0.8s,baz=254,slow=9.1,SNR=21
ZALV **Zalesovo Beam** 33.89 40 P P 19 44 56.5 -0.4
BNI **Bardonecchia** 33.94 304 P P 19 44 57.5 -0.1
BNI pmax pmax
comp=Z,22nm,0.8s
BNI **Bardonecchia** 33.94 304 P P 19 44 57.5 -0.1
LPG **La Plagne** 33.95 304 *eP* P 19 44 57.3 -0.6
LPG pmax pmax
comp=Z,18nm,0.6s
LPL **La Plagne** 33.96 304 *eP* P 19 44 57.3 -0.6
LPL pmax pmax
comp=Z,26nm,0.8s
DGZ **Jazzator, Alta** 34.00 48⇓ *eP* P 19 44 58.3 +0.2
DGZ pmax pmax
comp=Z,2.0nm,0.8s
WLF **Walferdange** 35.11 311 P P 19 45 07.8 +0.2
WLF pmax pmax
comp=Z,24nm,1.3s
WLF **Walferdange** 35.11 311 P P 19 45 07.8 +0.2
VIVF **Saint-Julien-l** 35.34 303 *eP* P 19 45 08.5 -1.1
VIVF pmax pmax
comp=Z,10.0nm,1.3s
SSB **Saint Sauveur** 35.47 304 P P 19 45 10.7 0.0
SSB pmax pmax
comp=Z,15nm,1.5s
SSB **Saint Sauveur** 35.47 304 P P 19 45 10.7 0.0
SSB IAmb IAmb 19 45 30.8
comp=Z,15nm,1.5s
HFS **Hagfors** 35.48 331 P P 19 45 09.3 -1.3
comp=Z,6.3nm,0.7s,baz=125,slow=7.8,SNR=6.8
AVF **Avril sur Loir** 36.46 306 *eP* P 19 45 18.1 -1.0
AVF pmax pmax
comp=Z,11nm,1.0s
MBAR **Mbarara** 36.68 209⇑ *eP* P 19 45 23.0 +1.5
MBAR pmax pmax
comp=Z,4.0nm,1.0s
NOA **NORSAR Array B** 37.01 331 P P 19 45 22.3 -1.4
comp=Z,0.8nm,0.7s,baz=122,slow=7.6,SNR=3.5
LSA **Lhasa** 37.12 83 P P 19 45 25.4 -0.2
LSA pmax pmax
comp=Z,4.0nm,1.0s
LSA **Lhasa** 37.12 83 P P 19 45 25.4 -0.2
TCF **Toulx Ste Croi** 37.19 305 *eP* P 19 45 24.6 -0.8
TCF pmax pmax
comp=Z,5.0nm,1.0s
TAM **Tamanrasset** 38.38 266 P P 19 45 39.6 +3.8
KRAR **Krasnoyarsk** 38.96 39⇓ *eP* P 19 45 38.5 -1.6
SHL **Shillong** 39.04 89 P P 19 45 40.7 -0.7
SHL pmax pmax
comp=Z,7.0nm,0.9s
SHL **Shillong** 39.04 89 P P 19 45 40.7 -0.7
SHL IAmb IAmb 19 45 41.9
comp=Z,7.0nm,0.9s
ARCES **ARCESS Array B** 39.05 348 P P 19 45 39.9 -0.8
comp=Z,3.5nm,0.8s,baz=156,slow=9.3,SNR=8.4
ARCES PcP PcP 19 47 50.2 -0.3
comp=Z,2.7nm,0.9s,baz=164,slow=3.7,SNR=3.9
ARCES **ARCESS Array B** 39.05 348 P P 19 45 40.0 -0.8
FLN **La Foliniere** 39.25 309 *eP* P 19 45 41.2 -1.5
FLN pmax pmax
comp=Z,10.0nm,0.9s
ESDC **Sonseca Array** 41.84 295 P P 19 46 04.2 -0.1
comp=Z,1.6nm,0.7s,baz=72,slow=8.5,SNR=12
ESDC **Sonseca Array** 41.84 295 P P 19 46 04.9 +0.6
EKA **Eskdalemuir Ar** 41.89 318 P P 19 46 03.8 -0.6
comp=Z,1.2nm,0.3s,baz=106,slow=8.2,SNR=5.8
GTA **Gaotai** 42.24 65 *eP* P 19 46 08.1 +0.5
GTA pP sP 19 46 13.8 +1.6
GTA sP pP 19 46 16.8 +5.9
GTA pmax pmax
comp=Z,3.0nm,1.0s
NRIK **Noril'sk** 43.03 19⇑ *eP* P 19 46 13.6 +0.1
NRIK pmax pmax
comp=Z,4.0nm,1.2s
DSB **Dublin** 43.44 315 P P 19 46 16.6 -0.4
PBRG **Braganca** 43.69 298 *eP* P 19 46 19.7 +0.4
comp=Z,17nm,1.7s
MVO **Moncorvo** 43.98 297 *eP* P 19 46 19.9 -1.7
comp=Z,21nm,1.7s
PVRL **Vila Real** 44.48 298 *eP* P 19 46 26.4 +0.8
comp=Z,26nm,2.0s
PMRV **Marv??o** 44.49 295 *eP* P 19 46 26.5 +0.8
comp=Z,14nm,1.5s
PCBR **Castelo Branco** 44.50 296 *eP* P 19 46 26.4 +0.7
comp=Z,26nm,1.5s
PGAV **Gavieira, Arco** 44.80 299 *eP* P 19 46 28.6 +0.3
comp=Z,27nm,2.3s
TOA0 **Torodi Ar. Sit** 46.17 256 P P 19 46 38.9 -0.4
TOA0 IAmb IAmb 19 46 48.1
comp=Z,4.8nm,1.2s
TORD **Torodi Ar. Bea** 46.17 256 P P 19 46 38.9 -0.4
comp=Z,1.7nm,0.7s,baz=58,slow=7.5,SNR=11
TORD **Torodi Ar. Bea** 46.17 256 P P 19 46 38.9 -0.4
SONM **Songino Array** 46.26 53 P P 19 46 38.3 -1.4
comp=Z,1.3nm,0.8s,baz=274,slow=10,SNR=8.6
SONM **Songino Array** 46.26 53 P P 19 46 38.2 -1.5
ULN **Ulaanbaatar** 46.70 53 *c i* P P 19 46 43.5 +0.3
ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN **Ulaanbaatar** 46.70 53 P P 19 46 42.1 -1.1
ULN IAmb IAmb 19 46 46.3
comp=Z,7.3nm,1.1s
SPA0 **Spitsbergen Ar** 47.69 352 P P 19 46 50.8 +0.4
CHTO **Chiang Mai** 47.76 94 P P 19 46 51.2 -0.5
CHTO pmax pmax
comp=Z,4.0nm,1.0s
CHTO **Chiang Mai** 47.76 94 P P 19 46 51.2 -0.5
CHTO IAmb IAmb 19 46 52.4
comp=Z,4.4nm,1.0s
CMAR **Chiang Mai Arr** 47.92 94 P P 19 46 52.9 0.0
comp=Z,2.1nm,0.9s,baz=294,slow=8.0,SNR=17
CMAR PcP PcP 19 48 21.5 +0.2
comp=Z,0.6nm,0.8s,baz=282,slow=4.5,SNR=2.6
CMAR **Chiang Mai Arr** 47.92 94 P P 19 46 52.4 -0.5
KMI **Kunming** 48.34 84 ⇑P P 19 46 56.3 -0.1
KMI pP sP 19 47 06.4 +5.5
KMI pmax pmax
comp=Z,6.0nm,0.9s
PBKT **Sadao Pong** 50.51 95 P P 19 47 12.7 -0.1
PBKT IAmb IAmb 19 47 19.8
comp=Z,4.0nm,0.9s
LSZ **Lusaka** 51.11 204 P P 19 47 20.0 +2.7
comp=Z,2.3nm,0.3s,baz=12,slow=12,SNR=2.7
DBIC **Dimbokro** 55.12 254 P P 19 47 46.7 -0.2
comp=Z,3.9nm,1.0s,baz=36,slow=7.7,SNR=4.2
KIC **Kosan Boka** 55.20 254 *eP* P 19 47 47.4 -0.1
comp=Z,11nm,0.9s
TIC **Toumodi** 55.27 254 *eP* P 19 47 47.5 -0.4
LIC **Lamto** 55.51 254 *eP* P 19 47 49.2 -0.5
comp=Z,2.4nm,0.2s
MATP **Matopo** 55.81 202 P P 19 47 52.8 +1.1
comp=Z,7.6nm,1.0s,baz=26,slow=7.4,SNR=5.8
IPM **Ipoh** 57.03 108 P P 19 47 58.8 -1.8
SUMG **Summit** 58.12 339 P P 19 48 07.5 -0.4
SUMG pmax pmax
comp=Z,11nm,1.2s
SUMG **Summit** 58.12 339 P P 19 48 07.5 -0.4
SUMG IAmb IAmb 19 48 09.0
comp=Z,11nm,1.2s
YAK **Yakutsk** 58.13 33 P P 19 48 06.8 -0.8
comp=Z,2.2nm,0.3s,baz=144,slow=5.7,SNR=4.4
YAK **Yakutsk** 58.13 33 *eP* P 19 48 06.7 -0.8
YAK pmax pmax
comp=Z,5.0nm,1.0s
YAK **Yakutsk** 58.13 33 P P 19 48 06.7 -0.8
KLR **Kul'dur** 62.49 47 P P 19 48 36.8 -0.9
comp=Z,2.6nm,1.0s,baz=282,slow=6.2,SNR=5.1
KLR **Kul'dur** 62.49 47⇓ *eP* P 19 48 37.1 -0.6
KLR pmax pmax
comp=Z,5.0nm,1.1s
KSRS **Korea Array** 64.00 61 P P 19 48 46.5 -1.3
comp=Z,1.0nm,0.7s,baz=262,slow=7.2,SNR=4.7
BOSA **Boshof** 64.48 202 P P 19 48 52.2 +1.2
comp=Z,5.6nm,0.9s,baz=6.1,slow=3.4,SNR=6.0
BOSA **Boshof** 64.48 202 P P 19 48 52.2 +1.2
SEY **Seymchan** 67.76 29 P P 19 49 11.6 0.0
comp=Z,6.7nm,0.9s,baz=285,slow=7.2,SNR=14
SEY **Seymchan** 67.76 29 *c i* P P 19 49 11.9 +0.3
TYV **Tymovskoe** 68.40 43 *eP* P 19 49 15.9 +0.1
TYV pmax pmax
comp=Z,100nm,6.7s
TYV pmax pmax
comp=Z,5.0nm,1.0s
YSS **Yuzh-Sakhalins** 70.17 46⇑ *eP* P 19 49 26.9 0.0
YSS pmax pmax
comp=Z,9.0nm,1.0s
IMAR **Indian Mountai** 80.37 9 P P 19 50 25.0 -0.3
KSCT **Kent School, K** 88.38 320 P P 19 51 05.5 -0.9
SADO **Sadowa** 89.10 325 LR LR 20 32 22.5
comp=Z,208nm,20.4s,baz=295,slow=36
T60A **Surry** 93.39 319 P P 19 51 30.5 +0.8
WRA **Warramunga Arr** 97.78 109 P P 19 51 48.6 -1.4
comp=Z,0.4nm,0.9s,baz=323,slow=4.2,SNR=2.1
ASAR **Alice Springs** 99.37 112 P Pdif 19 51 55.8 -1.3
comp=Z,0.4nm,0.8s,baz=309,slow=4.8,SNR=4.1

KRSC 18 19:41:01.8±2.2, 50°32N×157°30E, h40km±24km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	0.84	296	*eP*		Pn	19 41 17.5	+0.4
SKR				*eS*		Sn	19 41 28.2	0.0
PAU	**Pauzhetka**	1.19	345	*eP*		Pn	19 41 23.9	+2.0
PAU				*eS*		Sn	19 41 38.7	+1.8
ALID	**Alaid**	1.24	297	*eP*		Pn	19 41 23.9	+1.1
ALID				*eS*		Sn	19 41 39.4	+1.0
KDTR	**Khodutka, Kamc**	1.57	18	*eP*		Pn	19 41 28.2	+1.1
KDTR				*eS*		Sn	19 41 46.8	+0.5
MIPR	**Malaya Ipel'ka**	1.99	350	*eP*		Pn	19 41 35.6	+2.7
ASAK	**Asacha**	2.10	10	*eP*		Pn	19 41 37.0	+2.5
MTVR	**Mutnovka**	2.24	14	*eP*		Pn	19 41 38.2	+1.7

MTVR					*e*S	Sn	19 42 04.3	+1.4	
RUS	**Russkaya**	**2.25**	**19**	*e*P	Pn	19 41 37.8	+1.3		
RUS					*e*S	Sn	19 42 03.5	+0.5	
GRL	**Gorelyy**	**2.29**	**12**	*e*P	Pn	19 41 39.2	+2.1		
GRL					*e*S	Sn	19 42 06.3	+2.2	
KRMR	**Karymshinskiy**	**2.57**	**11**	*e*P	Pn	19 41 45.1	+4.3		
KRMR					*e*S	Sn	19 42 16.9	+6.1	
PET	**Petropavlovsk**	**2.84**	**17**	*e*S	Sn	19 42 22.5	+5.1		
DALK	**Dalny**	**2.87**	**18**	*e*P	Pn	19 41 47.5	+2.6		
DALK					*e*S	Sn	19 42 20.4	+2.3	
UGLR	**Uglovaya**	**3.05**	**18**	*e*P	Pn	19 41 51.7	+4.2		
UGLR					*e*S	Sn	19 42 28.9	+6.1	
AVH	**Avacha**	**3.08**	**16**	*e*P	Pn	19 41 52.7	+4.7		
AVH					*e*S	Sn	19 42 29.6	+5.9	
KOK	**Koryaka**	**3.09**	**15**	*e*P	Pn	19 41 52.3	+4.2		
KOK					*e*S	Sn	19 42 28.9	+5.0	
SMAR	**Somma**	**3.10**	**17**	*e*P	Pn	19 41 50.9	+2.6		
KRER	**Koryakskii**	**3.12**	**16**	*e*P	Pn	19 41 52.7	+4.0		
KRER					*e*S	Sn	19 42 29.7	+4.9	
KRX	**Arik**	**3.16**	**15**	*e*P	Pn	19 41 53.3	+4.2		
KRX					*e*S	Sn	19 42 31.9	+6.3	
SPN	**Mys Shipunski**	**3.26**	**30**	*e*P	Pn	19 41 53.2	+2.9		
SPN					*e*S	Sn	19 42 31.7	+3.9	
KZV	**Kizimen**	**5.14**	**20**	*e*P	Pn	19 42 21.8	+5.6		
TUMR	**Tumrok**	**5.27**	**18**	*e*P	Pn	19 42 22.6	+4.6		
KBTR	**Krutoberegovo**	**6.76**	**27**	*e*P	Pn	19 42 40.9	+2.5		

STR ***18*** *19:43:49.9±1.2,50°N±4°×±°, h11km, MLv2.3/4, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
BGR ***18*** *19:43:51.0±0.2,49.84N×8.73E, h10km, ML2.0/8, Error ellipse: s-maj=2.2km s-min=2.2km az=110.0*
PRU ***18*** *19:43:51.7±0.0,49.81N×8.82E, h0km*
BNS ***18*** *19:43:52.8±0.3,49.88N×8.58E, h4km±3km, ML1.8*
LDG 18 19:43:51.0±0.1,49.82N×8.70E, h4km, Md2.6/1, Ml2.5/11, 6D, Error ellipse: s-maj=1.3km s-min=0.9km az=59.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
					Op	ISC	h m s	ISC
WBB	**Darmstadt**	**0.03**	**312**	*i*Pg	Pg		19 43 52.1	+0.1
WBB				Sg	Sg		19 43 52.7	+0.1
WBA	**Furth**	**0.19**	**155**	*i*Pg	Pg		19 43 54.8	+0.2
WBA				Sg	Sg		19 43 57.6	+0.5
TOD	**Tromm**	**0.23**	**162**	*i*Pg	Pg		19 43 55.3	-0.1
TOD				Sg	Sg		19 43 58.5	+0.2
SWS	**Schriesheim-Wi**	**0.34**	**180**	*i*Pg	Pg		19 43 57.3	-0.3
SWS				Sg	Sg		19 44 01.8	-0.1
TNS	**Taunus Mts**	**0.43**	**338**	Pg	Pg		19 43 59.4	0.0
TNS				*e*Sg	Sg		19 44 05.3	+0.4
WBG	**Bieber**	**0.55**	**50**	Pg	Pg		19 44 01.0	-0.5
IMS	**Imsbach**	**0.57**	**246**	*i*Pg	Pg		19 44 01.5	-0.3
IMS				S*	Sb		19 44 12.3	+0.4
GWBC	**Aumenau**	**0.64**	**334**	P*	Pg		19 44 03.6	+0.4
GWBC				SmS			19 44 14.9	
KTD	**Kalmit**	**0.64**	**219**	*e*Pg	Pg		19 44 03.5	+0.1
KTD				PmP			19 44 04.7	
KTD				*e*Sg	Sg		19 44 12.6	+1.0
KTD				SmS			19 44 14.7	
KTD	**Kalmit**	**0.64**	**219**	Pg	Pg		19 44 03.2	-0.2
FACH	**Fachingen**	**0.70**	**320**	Pg	Pg		19 44 04.5	0.0
FACH				PmP			19 44 05.9	
FACH				SmS			19 44 16.9	
ABH	**Alteburg**	**0.75**	**275**	Pg	Pg		19 44 04.8	-0.6
ABH	**Alteburg**	**0.75**	**275**	Sg	Sg		19 44 14.6	-0.4
ABH	**Alteburg**	**0.75**	**275**	Pg	Pg		19 44 04.8	-0.6
SIND	**Sindeldorf**	**0.76**	**128**	Pg	Pg		19 44 05.5	0.0
SIND				Sg	Sg		19 44 15.9	+0.5
BRET	**Bretten**	**0.81**	**180**	Pg	Pg		19 44 06.6	+0.1
BRET				PmP			19 44 08.2	
BRET				Sg	Sg		19 44 17.7	+0.7
KOE	**Koeppel**	**0.87**	**314**	*e*Pg	Pg		19 44 07.6	0.0
KOE				*e*Sg	Sg		19 44 18.6	-0.2
	86nm,100.0s							
BGG	**Burgeitz**	**0.96**	**294**	*e*Pg	Pg		19 44 09.3	-0.1
PEB	**Petersbachel**	**0.99**	**221**	Pg	Pg		19 44 09.3	-0.7
PEB				Sg	Sg		19 44 23.3	+0.5
LANF	**Langenberg**	**1.02**	**215**	Sg	Sb		19 44 24.8	-0.3
LANF	**Langenberg**	**1.02**	**215**	Pg	Pg		19 44 10.3	-0.3
LANF	**Langenberg**	**1.02**	**215**	Sg	Sg		19 44 24.2	+0.3
BIW	**Bindweide**	**1.06**	**329**	Pg	Pg		19 44 11.0	-0.4
BIW				PmP			19 44 11.6	
SUBF	**Surbourg**	**1.06**	**212**	Sg	Sb		19 44 25.8	-0.4
SUBF	**Surbourg**	**1.06**	**212**	Pn	Pg		19 44 11.1	-0.2
STU	**Stuttgart**	**1.10**	**163**	PmP			19 44 12.5	
STU				SmS			19 44 27.6	
LAGB	**Langenfeld Gru**	**1.16**	**298**	Pg	Pg		19 44 13.3	+0.1
LAGB				Sn	Sg		19 44 27.4	-0.8
LBG	**Lerchenberg**	**1.16**	**177**	Pg	Pg		19 44 13.2	+0.1
LBG				Sg	Sb		19 44 28.7	-0.3
RIVT	**Riveris**	**1.26**	**265**	Pn	Pg		19 44 13.7	-1.4
RIVT				PmP			19 44 14.9	
RIVT				Sg	Sg		19 44 30.5	-0.9
AHRW	**Bad Neuenahr-A**	**1.27**	**305**	*e*Pg	Pg		19 44 14.9	-0.4
AHRW				Sg	Sg		19 44 31.4	-0.3
UBBA	**Unterbreizbach**	**1.30**	**39**	*e*Pg	Pn		19 44 15.7	-0.1
UBBA				*e*Sg	Sg		19 44 31.9	-0.9
TUBL	**Tuebingen-Lenn**	**1.33**	**169**	Sg	Sg		19 44 33.5	-0.1
OPP	**Oppenau**	**1.37**	**194**	Pn	Pn		19 44 14.7	-2.2
OPP				Sn	Sg		19 44 32.0	-2.9
OPP				Sg	Sb		19 44 35.0	+0.1
HILG	**Hillesheim**	**1.38**	**291**	*e*Pg	Pn		19 44 16.2	-0.9
STB	**Steinbach**	**1.42**	**304**	*e*Pg	Pn		19 44 16.6	-1.0
BUCH	**Bad Urach**	**1.44**	**162**	Pg	Pn		19 44 17.9	0.0
BUCH				PmP			19 44 18.5	
BUCH				Sg	Sn		19 44 37.5	+0.2
BFO	**Black Forest**	**1.51**	**189**	Pn	Pn		19 44 16.8	-2.1
BFO				*e*Pg	Pb		19 44 19.7	+0.1
BFO				Sg	Sn		19 44 38.8	-0.2
HDH	**Heidenheim-Cha**	**1.59**	**141**	Sg	Sb		19 44 41.2	-0.1
GRF	**Grafenberg Arr**	**1.64**	**94**	Pg	Pn		19 44 20.9	+0.3
GRF				Sg	Sb		19 44 43.2	+0.3
WLF	**Walferdange**	**1.66**	**265**	Sg	Sg		19 44 44.1	-0.1
WLS	**Welschbruch**	**1.67**	**213**	Pg	Pb		19 44 22.0	-0.2
CDF	**Champ du Feu**	**1.69**	**214**	*e*Pn	Pn		19 44 18.6	-2.8
CDF	**Champ du Feu**	**1.69**	**214**	*e*Pg	Pb		19 44 22.5	-0.2
CDF				*e*Sn	Sn		19 44 39.8	-3.8
CDF				*e*Sg	Sb		19 44 44.2	-0.2
	14nm,0.4s							
KLL	**Kalltalsperre**	**1.74**	**299**	*e*Pn	Pn		19 44 20.7	-1.3
GUT	**Gutenstein**	**1.77**	**171**	Pn	Pn		19 44 21.2	-1.3
GUT				Sg	Sg		19 44 47.5	-0.5
DREG	**Dreilaegerbach**	**1.79**	**299**	*e*Pn	Pn		19 44 21.6	-1.1
MEM	**Membach**	**1.90**	**296**	Sg	Sb		19 44 50.0	-0.2
ECH	**Echery**	**1.90**	**213**	Pg	Pb		19 44 26.1	-0.1
ECH				Sg	Sg		19 44 51.6	-0.4
EMING	**Emmingen-Lipti**	**1.93**	**177**	Sg	Sg		19 44 52.2	-0.9
KIZ	**Kirchzarten**	**1.94**	**196**	Sg	Sb		19 44 51.7	+0.3
BERGE	**Lenzkirch (DE)**	**1.98**	**190**	Sg	Sb		19 44 52.9	+0.1
GRB2	**Grafenberg Arr**	**2.01**	**105**	Sg	Sb		19 44 54.0	+0.4
GRC1	**Grafenberg Arr**	**2.02**	**113**	Sg	Sb		19 44 53.4	-0.4
MOX	**Moxa**	**2.05**	**65**	*e*Pg	Pb		19 44 29.0	+0.3
MOX				*e*Sg	Sb		19 44 53.7	-0.8
SLE	**Schleitheim**	**2.06**	**184**	Sg	Sb		19 44 55.8	+0.7
ENDD	**Endenburg**	**2.20**	**197**	Pg	Pg		19 44 33.1	-0.1
ROTZ	**Rotzenmuhle**	**2.27**	**90**	*e*Sg	Sb		19 45 01.1	0.0
PAGF	**Fort de Pagny**	**2.33**	**238**	*e*Pn	Pn		19 44 28.5	-1.5
PAGF	**Fort de Pagny**	**2.33**	**238**	*e*Pg	Pb		19 44 34.4	+0.9
PAGF				*e*Sn	Sn		19 44 55.7	-3.4
PAGF				*e*Sg	Sb		19 45 04.1	+1.5
	4.6nm,0.3s							
UBR	**Ueberruh**	**2.34**	**156**	*e*Sg	Sg		19 45 05.8	-0.3
HINF	**Hinteralfeld**	**2.35**	**212**	*e*Pn	Pn		19 44 28.7	-1.7
HINF	**Hinteralfeld**	**2.35**	**212**	*e*Pg	Pb		19 44 34.4	+0.5
HINF				*e*Sn	Sn		19 44 56.3	-3.4
HINF				*e*Sg	Sb		19 45 04.8	+1.6
	4.5nm,0.2s							
FUR	**Furstenfeldbru**	**2.37**	**133**	*e*Sg	Sg		19 45 07.4	+0.2
HAU	**Haudompre**	**2.39**	**221**	*e*Pn	Pn		19 44 29.3	-1.6
HAU	**Haudompre**	**2.39**	**221**	*e*Pg	Pb		19 44 35.2	+0.6
HAU				*e*Sg	Sb		19 45 05.8	+1.4
	4.9nm,0.2s							
NKC	**Novy Kostel**	**2.45**	**79**	*e*P	Pb		19 44 36.5	+0.8
NKC	**Novy Kostel**	**2.45**	**79**	*e*PG	Pb		19 44 36.5	+0.8
NKC				*e*SG	Sb		19 45 07.6	+1.4
	comp=Z,7.5nm,0.6s							
GIVF	**Givet**	**2.52**	**278**	*e*Pn	Pn		19 44 32.0	-0.7
GIVF	**Givet**	**2.52**	**278**	*e*Pg	Pb		19 44 37.8	+1.1
GIVF				*e*Sn	Sn		19 45 00.5	-3.3
GIVF				*e*Sg	Sg		19 45 10.0	-1.8
	4.8nm,0.2s							
MEZF	**Maizieres J'vi**	**2.73**	**242**	*e*Pg	Pg		19 44 42.0	-1.4
MEZF				*e*Sn	Sn		19 45 05.3	-3.8
MEZF				*e*Sg	Sg		19 45 17.0	-1.8
	1.6nm,0.3s							
SFTF	**Sexfontaines**	**2.90**	**237**	*e*Pn	Pn		19 44 36.5	-1.5
SFTF	**Sexfontaines**	**2.90**	**237**	*e*Pg	Pg		19 44 45.1	-1.5
SFTF				*e*Sg	Sg		19 45 22.0	-2.2
	2.0nm,0.2s							
BAIF	**Baives**	**2.91**	**276**	*e*Pg	Pg		19 44 45.9	-0.8
BAIF				*e*Sn	Sn		19 45 09.9	-3.5
BAIF				*e*Sg	Sb		19 45 20.9	+1.6
	3.3nm,0.3s							
CABF	**La Chapelle**	**3.66**	**209**	*e*Sg	Sg		19 45 45.6	-2.8
	1.6nm,0.3s							
LOR	**Lormes**	**4.11**	**233**	*e*Pn	Pn		19 44 51.7	-2.8
LOR				*e*Sg	Sg		19 45 59.6	-3.2
	1.2nm,0.2s							
SSF	**Saint Saulge**	**4.42**	**233**	*e*Sg	Sg		19 46 09.4	-3.6
	1.9nm,0.4s							

IDC ***18*** *19:45:01.0±2.8, 30.42N×141.06E, h0km, mb3.3/2, mb1 3.4/5, mb1mx3.2/68, mbtmp3.4/5, ML2.6/3, Error ellipse: s-maj=152.5km s-min=23.1km az=76.0*
JMA ***18*** *19:45:08.4±0.4, 31.33N×142.54E, h72km, M3.3*
ISC 18 19:45:00.6±1.1, 30.76N±0.06×142.1E±0.2, h24km, n15, σ3$12/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
					Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**3.08**	**320**	Pn	**Pn**		**19 45 47.8**	**+0.1**
	1.1nm,0.3s,baz=34,slow=23,SNR=1.5							
JHJ				Sn	**Sn**		**19 46 20.0**	**-3.8**
	5.0nm,0.3s,baz=84,slow=18,SNR=1.7							
JCJ	**Chichijima**	**3.65**	**179**	Pn	**Pn**		**19 45 55.7**	**+0.1**
	2.3nm,0.3s,baz=3.5,slow=23,SNR=9.0							
JCJ				Sn	**Sn**		**19 46 35.2**	**-2.7**
	4.5nm,0.3s,baz=317,slow=22,SNR=5.9							
BSO1	**Boso 1**	**4.00**	**346**	P	**Pn**		**19 46 02.6**	**+2.7**
JOD2	**Odawara 2**	**5.16**	**331**	P	**Pn**		**19 46 20.8**	**+4.4**
JHU	**Hanno**	**5.61**	**336**	P	**Pn**		**19 46 25.9**	**+3.4**
JRY	**Ryogami san**	**5.89**	**334**	P	**Pn**		**19 46 30.5**	**+4.0**
JHO	**Hitachi**	**5.98**	**348**	P	**Pn**		**19 46 29.5**	**+1.9**
JAG	**Ashikaga**	**6.07**	**339**	P	**Pn**		**19 46 33.1**	**+4.2**
JAG				*e*S	**Sn**		**19 47 37.2**	**-0.4**
MJAR	**Matsushiro Arr**	**6.62**	**332**	Pn	**Pn**		**19 46 38.7**	**+2.2**
	0.1nm,0.3s,baz=161,slow=10,SNR=2.8							
JFK	**Kawauchi**	**6.67**	**351**	*e*S	**Sn**		**19 47 49.4**	**-3.0**
JFT	**Otama**	**6.90**	**348**	*e*S	**Sn**		**19 47 55.3**	**-2.8**
JMM	**Marumori**	**7.17**	**352**	P	**Pn**		**19 48 06.2**	**+2.2**
JMM				*e*S	**Sn**		**19 48 00.6**	**-4.1**
JMK	**Ichinoseki**	**8.21**	**355**	*e*S	**Sn**		**19 48 26.3**	**-3.8**
WRA	**Warramunga Arr**	**50.96**	**189**	P	**P**		**19 54 00.8**	**+0.4**
	0.3nm,0.4s,baz=6.2,slow=7.6,SNR=6.1							
ASAR	**Alice Springs**	**54.69**	**189**	P	**P**		**19 54 28.5**	**+0.7**
	0.1nm,0.4s,baz=5.1,slow=6.7,SNR=6.6							

IDC ***18*** *19:46:38.4±1.9, 32.62N×47.74E, h0km, mb3.8/11, mb1 3.8/14, mb1mx3.6/62, mbtmp3.7/14, ML3.3/3, Error ellipse: s-maj=41.3km s-min=18.8km az=166.0*
NEIC ***18*** *19:46:39.1±1.8, 32.52N±0.09×47.79E±0.09, h10km±1km, Error ellipse: s-maj=15.7km s-min=12.2km az=180.0*
TEH ***18*** *19:46:40.9, 32.58N×47.81E, h16km, ML4.0*
ISN ***18*** *19:46:41.3±1.0, 32.59N×47.91E, h14km±7km, ML4.0*
THR ***18*** *19:46:42.4±1.3, 32.59N×47.87E, h16km±19km, ML3.9*
ISC 18 19:46:39.9±1.2, 32.56N±0.03×47.84E±0.03, h13km±8km, n125, σ1$93/131, mb4.1/26, 13C-4D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
					Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.93**	**119**	*e*Pg	**Pn**		**19 46 59.1**	**+0.5**
SHGR				*e*Sg	**Sn**		**19 47 13.1**	**+1.2**
SHGR	**Shooshtar-Gavs**	**0.93**	**119**	*e*Pg	**Pn**		**19 46 59.1**	**+0.5**
IKFM	**Kafar-mosalman**	**0.96**	**0**	*e*Pg	**Pn**		**19 46 59.3**	**+0.3**
IKFM				*e*Sg	**Sn**		**19 47 12.9**	**+0.3**
IKMR	**Kamar-syah**	**1.06**	**25**	*e*Pg	**Pn**		**19 47 01.3**	**+0.9**
IKMR				*e*Sg	**Sn**		**19 47 15.8**	**+0.9**
IKMR				*e*			19 47 25.3	
IDOB	**Doab**	**1.26**	**13**	*e*Pg	**Pg**		**19 47 05.3**	**+1.2**
BMDN	**Meydan**	**1.38**	**36**	*e*			19 47 34.3	
BMDN				*e*Pg	**Pg**		**19 47 07.5**	**+1.0**
AHWZ	**Ahwaz**	**1.40**	**151**	*e*Pg	**Pg**		**19 47 07.6**	**+0.7**
IKOM	**Komasi**	**1.63**	**350**	*e*Pg	**Pg**		**19 47 10.9**	**-0.3**
IKOM				*e*			19 47 40.1	
IBDR	**Badra**	**1.70**	**289**	*e*Pg	**Pg**		**19 47 13.0**	**+0.5**
IBDR				*e*Sg	**Sg**		**19 47 36.0**	**+1.5**
IBDR				AML	AML		19 47 36.2	
	comp=E,2µm,0.6s							
IBDR				AML	AML		19 47 36.3	
	comp=N,2µm,0.6s							
HSAM	**Samen**	**1.77**	**21**	*e*Pg	**Pg**		**19 47 14.2**	**+0.4**
HSAM				*e*			19 47 47.2	
KCHF	**Cheshme Sefid,**	**1.84**	**339**	*e*Pn	**Pb**		**19 47 13.2**	**-0.2**
IBZA	**Bozab**	**1.90**	**1**	*e*Pg	**Pg**		**19 47 16.2**	**-0.2**
IBZA				*e*			19 47 52.7	
KER	**Kermanshah**	**1.91**	**342**	*e*Pn	**Pb**		**19 47 15.0**	**+0.3**
IGHG	**Ghaleghazi**	**2.06**	**329**	*e*Pn	**Pb**		**19 47 16.7**	**-0.6**
IGHG				*e*			19 47 57.1	
NSR	**Nassriya**	**2.12**	**224**	*e*Pn	**Pb**		**19 47 18.0**	**-0.1**
NSR				*e*Sn	**Sb**		**19 47 45.0**	**+0.7**
IVIS	**Veis**	**2.13**	**337**	*e*Pn	**Pn**		**19 47 44.2**	**+1.2**
IVIS				*e*			19 48 00.5	
IALM	**Almabolaq**	**2.31**	**7**	*e*Pn	**Pb**		**19 47 20.2**	**-1.4**
JHBN	**Jahan bin**	**2.41**	**97**	*e*Pn	**Pb**		**19 47 22.3**	**-1.0**
JHBN				*e*			19 48 12.8	
IDHR	**Dehrash**	**2.45**	**331**	*e*Pn	**Pn**		**19 47 20.8**	**+1.0**
IDHR				*e*			19 47 28.1	
ILIN	**Lien**	**2.46**	**343**	*e*Pn	**Pb**		**19 47 22.7**	**-1.4**
ILIN				*e*			19 48 16.3	
HAGD	**Aghdareh**	**2.50**	**25**	*e*Pn	**Pb**		**19 47 24.2**	**-0.6**
HAGD				*e*			19 48 07.5	
SNGE	**Sanandaj**	**2.56**	**351**	*e*Pn	**Pb**		**19 47 25.7**	**0.0**
SNGE				IAML			19 48 06.1	
	comp=N,499nm,0.8s							
SNGE	**Sanandaj**	**2.56**	**351**	*e*Pn	**Pb**		**19 47 25.7**	**0.0**
IPIR	**Pirpir**	**2.58**	**86**	*e*Pn	**Pb**		**19 47 24.6**	**-1.5**
IPIR				*e*			19 48 17.9	
ASAO	**Ashtian**	**2.69**	**42**	*e*Pn	**Pb**		**19 47 27.2**	**-0.9**
ASAO				*e*Sg	**Sg**		**19 48 05.9**	**-0.6**
ASAO	**Ashtian**	**2.69**	**42**	*e*Pn	**Pb**		**19 47 27.2**	**-0.9**
HSRG	**Sareghieh**	**2.70**	**8**	*e*Pn	**Pn**		**19 47 27.6**	**-0.6**
HSRG				*e*			19 48 12.9	
ROKH	**ROKH**	**2.71**	**94**	*e*Pn	**Pb**		**19 47 27.0**	**-1.3**
ROKH				*e*			19 48 16.2	
IBRJ	**Brojen**	**2.97**	**102**	*e*Pn	**Pn**		**19 47 30.0**	**+3.0**
BHD	**Baghdad**	**3.00**	**285**	*e*Pn	**Pb**		**19 47 31.0**	**-2.0**
BHD				*e*Sn	**Sb**		**19 48 08.0**	**-1.5**
IKLH	**Kolahrood**	**3.23**	**75**	*e*Pn	**Pn**		**19 47 33.5**	**+2.9**
IKLH				*e*			19 48 31.8	
QABG	**Abgarm-Qazvin**	**3.46**	**24**	*e*Pn	**Pn**		**19 47 37.0**	**+3.4**
KLNJ	**Kolanjah**	**3.55**	**115**	*e*Pn	**Pn**		**19 47 37.5**	**+2.5**
KLNJ				*e*			19 48 55.2	
IGAR	**Gharneh**	**3.56**	**91**	*e*Pn	**Pn**		**19 47 38.0**	**+3.1**
IGAR				*e*			19 48 44.5	
IZEF	**Zefreh**	**3.80**	**84**	*e*Pn	**Pn**		**19 47 42.2**	**+3.9**
IMHD	**Mahdasht**	**3.90**	**36**	*e*Pn	**Pn**		**19 47 44.3**	**-4.3**
IRAM	**Ramesheh**	**3.92**	**100**	*e*Pn	**Pn**		**19 47 42.9**	**+2.9**
IHSB	**Hasanabad**	**4.05**	**44**	*e*Pn	**Pn**		**19 47 45.8**	**+4.2**
QSDN	**Sirdan**	**4.08**	**15**	*e*Pn	**Pn**		**19 47 44.8**	**+2.6**
CHTH	**Charan**	**4.31**	**38**	*e*Pn	**Pn**		**19 47 48.6**	**+3.3**
CHTH	**Charan**	**4.31**	**38**	*e*Pn	**Pn**		**19 47 48.6**	**+3.3**
QALM	**Alamut, Qazvin**	**4.50**	**30**	*e*Pn	**Pn**		**19 47 49.6**	**+1.6**
MAHB	**Mahabad**	**4.55**	**338**	*e*Pn	**Pn**		**19 47 50.3**	**+1.8**
DAMV	**Damavand**	**4.59**	**47**	*e*Pn	**Pn**		**19 47 52.3**	**+3.0**
DAMV	**Damavand**	**4.59**	**47**	*e*Pn	**Pn**		**19 47 52.3**	**+3.0**
IDMV	**Damavand**	**4.60**	**48**	*e*Pn	**Pn**		**19 47 52.4**	**+3.0**
ANAR	**Anarak**	**4.99**	**81**	*e*Pn	**Pn**		**19 47 57.7**	**+3.0**
ISAD	**Sadrabad**	**5.00**	**96**	*e*Pn	**Pn**		**19 47 58.0**	**+3.2**
ILAS	**Lasjerd**	**5.10**	**55**	*e*Pn	**Pn**		**19 47 59.0**	**+2.8**
IFIR	**Firoozkooh**	**5.10**	**52**	*e*Pn	**Pn**		**19 47 59.2**	**+2.9**
IPRN	**Peran**	**5.22**	**44**	*e*Pn	**Pn**		**19 48 00.6**	**+2.8**
IALA	**Alasht**	**5.41**	**48**	*e*Pn	**Pn**		**19 48 03.4**	**+2.9**
ISHM	**Shahmirzad**	**5.56**	**53**	*e*Pn	**Pn**		**19 48 05.6**	**+3.1**
IHRS	**Heris**	**5.78**	**354**	*e*Pn	**Pn**		**19 48 08.6**	**+3.1**
IANJ	**Anjilo**	**5.82**	**58**	*e*Pn	**Pn**		**19 48 08.7**	**+2.6**
IMEH	**Mehriz**	**5.87**	**100**	*e*Pn	**Pn**		**19 48 10.3**	**+3.5**
IGLO	**Ghaloghah**	**6.32**	**50**	*e*Pn	**Pn**		**19 48 15.9**	**+3.0**
GEVA	**Gevas**	**6.94**	**327**	Pn	**Pn**		**19 48 18.4**	**-2.9**
TPRV	**Parvadeh(Tabas**	**7.46**	**84**	*e*Pn	**Pn**		**19 48 31.2**	**+2.7**
MARD	**Mardin**	**7.49**	**311**	Pn	**Pn**		**19 48 27.4**	**-1.5**
TKDS	**Koohdasht(Taba**	**7.86**	**80**	*e*Pn	**Pn**		**19 48 36.7**	**+2.7**
ASF	**Jabal al Asfar**	**9.27**	**271**	Pn	**Pn**		**19 48 52.2**	**-1.0**
	comp=N,0.2nm,0.3s,baz=160,slow=16,SNR=1.6							
ASF				Lg	Lg		19 51 27.1	
	comp=N,0.3nm,0.3s,baz=33,slow=22,SNR=1.6							
ISFR	**Sfrayin**	**9.48**	**59**	*e*Pn	**Pn**		**19 48 59.5**	**+3.2**
GEYT	**Alibeck**	**9.96**	**55**	Pn	**Pn**		**19 49 04.3**	**+1.6**
	comp=N,0.1nm,0.3s,baz=263,slow=12,SNR=5.1							
GEYT	**Alibeck**	**9.96**	**55**			**Pn**	**19 49 04.4**	**+1.7**
MMAI	**Mount Meron Ar**	**10.48**	**276**	Lg	Lg		19 52 08.8	
	comp=N,0.3nm,0.3s,baz=114,slow=31,SNR=2.4							
UOSS	**Minazif**	**10.55**	**134**	Pn	**Pn**		**19 49 09.1**	**-1.7**
EIL	**Elat**	**11.41**	**259**	Lg	Lg		19 52 38.9	
	comp=N,0.3nm,0.3s,baz=276,slow=24,SNR=4.2							
WSAR	**Wadi Sarin**	**13.30**	**132**	Pn	**Pn**		**19 49 46.1**	**-2.4**
	comp=N,0.3nm,0.3s,baz=340,slow=11,SNR=6.0							
WSAR				Sn	Sn		19 52 06.7	-10
	comp=N,0.2nm,0.3s,baz=161,slow=13,SNR=1.9							
AKTO	**Aktyubinsk**	**19.38**	**20**	P	**P**		**19 51 05.5**	**+0.2**
	comp=N,0.3nm,0.3s,baz=191,slow=5.2,SNR=2.2							
HARR	**Harrow**	**19.65**	**314**	⇑P	**Pn**		**19 51 09.4**	**-0.3**
CFR	**Carcaliu**	**19.79**	**315**	⇑P	**Pn**		**19 51 11.4**	**+0.1**
KK31	**Karatay Array**	**20.71**	**53**	P	**P**		**19 51 19.1**	**-0.8**
KKAR	**Karatay Array**	**20.71**	**53**	P	**P**		**19 51 19.8**	**-0.1**
KKAR	**Karatay Array**	**20.71**	**53**	P	**P**		**19 51 19.3**	**-0.5**
KKAR				IAmb	IAmb		19 51 26.6	
	comp=Z,2.7nm,0.9s							
VRI	**Vrincioaia**	**20.99**	**315**	⇑P	Pn		19 51 24.7	-0.8
PLOR	**Plostina**	**21.03**	**315**	⇑P	**P**		**19 51 25.5**	**+2.2**
MLR	**Muntele Rosu**	**21.27**	**314**	P	**P**		**19 51 32.1**	**+6.1**
	comp=Z,8.3nm,0.8s,baz=107,slow=5.6,SNR=16							
MLR	**Muntele Rosu**	**21.27**	**314**	⇓P	**P**		**19 51 27.8**	**+1.8**
MLR	**Muntele Rosu**	**21.27**	**314**	P	**P**		**19 51 27.2**	**+1.2**
MLR				IAmb	IAmb		19 51 34.9	
	comp=Z,8.2nm,0.8s							
NIL	**Nilore**	**21.30**	**80**	P	**P**		**19 51 25.1**	**-1.3

GMJI	**Gumukmas**	**5.83**	**110**	P		**Pn**	**19 49 12.4**	**-0.9**
	21nm,1.1s							
KSI	**Kapahiang**	**5.91**	**296**	P		**Pn**	**19 49 15.1**	**+0.7**
	0.4nm42nm,0.7s							
JAGI	**Jajag, Banyuwa**	**6.55**	**110**	P		**Pn**	**19 49 20.0**	**-2.0**
JAGI	**Jajag, Banyuwa**	**6.55**	**110**	Pn		**Pn**	**19 49 20.2**	**-1.8**
MYKOM	**Kota Tinggi**	**8.99**	**333**	Pn		**Pn**	**19 49 53.1**	**+1.2**
KULM	**Kulim**	**13.60**	**328**			**Pn**	**19 50 48.2**	**+0.4**
LUWI	**Luwuk**	**15.71**	**71**	P		**P**	**19 51 10.1**	**-0.9**
BATI	**Baumata**	**16.06**	**105**	P		**Pn**	**19 51 16.5**	**-0.5**
	6.4nm,0.3s,baz=258,slow=14,SNR=14							
BATI				S		**S**	**19 54 07.0**	**-1.3**
	2.9nm,0.3s,baz=156,slow=20,SNR=4.5							
SOEI	**Soe**	**16.55**	**103**	P		**P**	**19 51 20.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**20.90**	**126**	P		**P**	**19 52 09.0**	**+3.0**
	1.0nm,0.8s,baz=312,slow=12,SNR=1.1							
FITZ	**Fitzroy Crossi**	**20.90**	**126**	P		**P**	**19 52 09.1**	**+3.0**
FITZ				IAmb	IAmb		19 52 31.5	
	comp=Z,4.9nm,1.1s							
KNRA	**Kununurra**	**22.47**	**116**	P		**P**	**19 52 22.0**	**+1.6**
MTN	**Manton Dam**	**23.79**	**108**	P		**P**	**19 52 33.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**26.13**	**340**	P		**P**	**19 52 54.4**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=174,slow=9.0,SNR=14							
CMAR	**Chiang Mai Arr**	**26.13**	**340**	P		**P**	**19 52 53.2**	**-0.2**
CHTO	**Chiang Mai**	**26.46**	**341**	P		**P**	**19 52 56.7**	**+0.3**
CHTO				IAmb	IAmb		19 52 57.5	
	comp=Z,2.1nm,0.6s							
WRA	**Warramunga Arr**	**29.03**	**120**	P		**P**	**19 53 20.5**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=309,slow=8.8,SNR=19							
WRA				PcP		**PcP**	**19 56 20.6**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=321,slow=2.0,SNR=14							
WRA	**Warramunga Arr**	**29.03**	**120**	P		**P**	**19 53 20.4**	**+1.3**
WRA						**PcP**	**19 56 20.6**	**+1.2**
WRAB	**Tennant Creek**	**29.04**	**120**	P		**P**	**19 53 20.6**	**+1.4**
WRAB				IAmb	IAmb		19 53 25.8	
	comp=Z,9.5nm,1.5s							
WB2	**Warramunga Arr**	**29.04**	**120**	P		**P**	**19 53 21.1**	**+1.8**
WB2				IAmb	IAmb		19 53 46.3	
	comp=Z,11nm,1.4s							
WR0	**Warramunga Arr**	**29.21**	**120**	P		**P**	**19 53 22.6**	**+1.8**
WR0				IAmb	IAmb		19 53 43.7	
	comp=Z,5.1nm,1.3s							
ASAR	**Alice Springs**	**30.38**	**127**	P		**P**	**19 53 33.5**	**+2.4**
	comp=Z,0.2nm,0.4s,baz=301,slow=8.0,SNR=12							
ASAR				PcP		**PcP**	**19 56 24.4**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=289,slow=2.2,SNR=4.8							
ASAR				ScP		**ScP**	**19 59 36.5**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=330,slow=3.2,SNR=4.1							
ASAR	**Alice Springs**	**30.38**	**127**	P		**P**	**19 53 32.3**	**+1.3**
ASAR						**PcP**	**19 56 24.9**	**+2.0**
ASAR						**ScP**	**19 59 37.9**	**+1.4**
AS31	**Alice Springs**	**30.38**	**127**	P		**P**	**19 53 32.5**	**+1.5**
SHL	**Shillong**	**35.29**	**334**	P		**P**	**19 54 12.9**	**-0.5**
SHL				IAmb	IAmb		19 54 14.1	
	comp=Z,12nm,1.2s							
ENH	**Enshi**	**36.38**	**2**	P		**P**	**19 54 22.7**	**+0.3**
ENH				IAmb	IAmb		19 54 50.6	
	comp=Z,4.5nm,1.0s							
ODAN	**Odare**	**38.48**	**330**	*eP*		**P**	**19 54 40.1**	**-0.2**
	comp=Z,19nm,0.5s							
TAPN	**Taplejung**	**38.73**	**331**	*eP*		**P**	**19 54 42.9**	**+0.5**
	comp=Z,12nm,0.5s							
RAMN	**Ramite**	**38.96**	**329**	*eP*		**P**	**19 54 44.5**	**+0.3**
	comp=Z,6.5nm,0.5s							
LSA	**Lhasa**	**39.24**	**337**	P		**P**	**19 54 46.9**	**+0.1**
LSA				IAmb	IAmb		19 54 48.5	
	comp=Z,3.7nm,0.9s							
JIRN	**Jiri**	**39.75**	**329**	*eP*		**P**	**19 54 50.9**	**+0.1**
	comp=Z,23nm,0.4s							
PKI	**Pulchoki**	**40.08**	**328**	*eP*		**P**	**19 54 52.8**	**-0.7**
DMN	**Daman**	**40.27**	**328**	*eP*		**P**	**19 54 54.5**	**-0.5**
KKN	**Kakani**	**40.32**	**328**	*eP*		**P**	**19 54 55.4**	**+0.1**
GKN	**Gorkha**	**40.83**	**328**	*eP*		**P**	**19 54 59.0**	**-0.4**
	comp=Z,17nm,0.3s							
KOLN	**Koldanda**	**41.21**	**326**	*eP*		**P**	**19 55 02.1**	**-0.4**
	comp=Z,10nm,0.5s							
DANN	**Dangsing**	**41.58**	**327**	*eP*		**P**	**19 55 04.9**	**-0.7**
	comp=Z,24nm,0.5s							
PYUN	**Piuthan**	**41.80**	**326**	*eP*		**P**	**19 55 06.6**	**-0.7**
	comp=Z,13nm,0.4s							
KSRS	**Korea Array**	**47.35**	**22**	P		**P**	**19 55 50.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=207,slow=5.8,SNR=2.5							
NIL	**Nilore**	**51.54**	**323**	P		**P**	**19 56 20.8**	**-1.3**
NIL				IAmb	IAmb		19 56 24.3	
	comp=Z,8.2nm,1.2s							
SONM	**Songino Array**	**53.90**	**359**	P		**P**	**19 56 40.0**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=177,slow=9.6,SNR=11							
SONM				PcP		**PcP**	**19 57 40.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=163,slow=5.4,SNR=2.1							
SONM	**Songino Array**	**53.90**	**359**	P		**P**	**19 56 39.4**	**+0.3**
ULN	**Ulaanbaatar**	**53.92**	**359**	P		**P**	**19 56 39.8**	**+0.5**
USRK	**Ussuriysk Ar.**	**54.74**	**21**	P		**P**	**19 56 44.9**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=199,slow=8.0,SNR=6.4							
MK31	**Makanchi Array**	**57.53**	**339**	P		**P**	**19 57 04.3**	**-0.3**
MKAR	**Makanchi Array**	**57.53**	**339**	P		**P**	**19 57 04.3**	**-0.4**
	comp=Z,2.4nm,0.5s,baz=153,slow=7.9,SNR=52							
MKAR	**Makanchi Array**	**57.53**	**339**	P		**P**	**19 57 04.0**	**-0.6**
KLR	**Kul'dur**	**59.07**	**18**	P		**P**	**19 57 14.3**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=195,slow=7.1,SNR=8.2							
KURBB	**Kurchatov Array**	**62.10**	**339**	P		**P**	**19 57 34.9**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=150,slow=6.0,SNR=7.9							
KURK	**Kurchatov**	**62.15**	**339**	P		**P**	**19 57 35.0**	**-0.7**
ZALV	**Zalesovo Beam**	**63.08**	**345**	P		**P**	**19 57 41.0**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=151,slow=6.9,SNR=8.7							
ZALV	**Zalesovo Beam**	**63.08**	**345**	P		**P**	**19 57 40.6**	**-1.2**
ABKAR	**Akbulak array**	**69.28**	**329**	P		**P**	**19 58 20.0**	**-1.0**

*ISN **18** 19:52:06.5±1.2,32°.84N×47°.57E,h15km±6km, ML2.9*
*TEH **18** 19:52:08.3,32°.84N×47°.49E,h15km, ML3.1*
ISC 18 19:52:07.4±1.1,32°.84N±0°.06×47°.52E±0°.04,h15km,n20,
σ1°08/24,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.74**	**22**	*e*Pg	**Pn**	**19 52 23.3**	**0.0**
IKFM				*e*		19 52 40.3	
IKMR	**Kamar-syah**	**0.99**	**46**	*e*Pg	**Pn**	**19 52 27.8**	**+1.1**
IKMR				*e*		19 52 49.3	
IDOB	**Doab**	**1.10**	**30**	*e*Pg	**Pg**	**19 52 29.5**	**+0.9**
IKOM	**Komasi**	**1.33**	**360**	*e*Pg	**Pg**	**19 52 33.1**	**0.0**
IKOM				*e*Sg	**Sg**	**19 52 52.4**	**+1.8**
IKOM				*e*		19 53 01.2	
IBDR	**Badra**	**1.36**	**282**	*e*Pg	**Pn**	**19 52 32.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**19 52 51.0**	**-0.4**
IBDR				AML	AML	19 52 52.0	
	comp=E,153nm,0.6s						
IBDR				AML	AML	19 52 55.5	
	comp=N,139nm,0.4s						
BMDN	**Meydan**	**1.37**	**52**	*e*Pg	**Pg**	**19 52 33.9**	**0.0**
BMDN				*e*		19 53 01.9	
KCHF	**Cheshme Sefid,**	**1.49**	**345**	*e*Pg	**Pb**	**19 52 34.7**	**-0.2**
KCHF				*e*		19 53 05.9	
KER	**Kermanshah**	**1.58**	**348**	*e*Pg	**Pg**	**19 52 37.1**	**-0.7**
HSAM	**Samen**	**1.64**	**33**	*e*Pg	**Pg**	**19 52 38.9**	**-0.1**
HSAM				*e*		19 53 08.9	
IBZA	**Bozab**	**1.65**	**10**	*e*Pg	**Pg**	**19 52 39.2**	**0.0**
IBZA				*e*		19 53 08.4	
IGHG	**Ghaleghazi**	**1.69**	**332**	*e*Pn	**Pb**	**19 52 39.0**	**+0.7**
IGHG				*e*		19 53 12.7	
IVIS	**Veis**	**1.78**	**342**	*e*Pn	**Pb**	**19 52 40.2**	**+0.5**
IVIS				*e*		19 53 09.8	
IDHR	**Dehrash**	**2.08**	**333**	*e*Pn	**Pb**	**19 52 44.9**	**-0.1**
IDHR				*e*		19 53 18.4	
IALM	**Almabolaq**	**2.09**	**15**	*e*Pn	**Pb**	**19 52 45.7**	**+0.5**
ILIN	**Lien**	**2.13**	**348**	*e*Pn	**Pb**	**19 52 45.9**	**+0.1**
ILIN				*e*		19 53 22.5	
NSR	**Nassriya**	**2.17**	**213**	*e*Pn	**Pn**	**19 52 44.0**	**+1.1**
NSR				*e*Sn	**Sn**	**19 53 10.0**	**+0.5**
HAGD	**Aghdareh**	**2.40**	**34**	*e*Pn	**Pb**	**19 52 49.9**	**-0.5**
HAGD				*e*		19 53 24.9	
HSRG	**Sareghieh**	**2.48**	**14**	*e*Pn	**Pb**	**19 52 51.0**	**-0.8**
HSRG				*e*		19 53 36.3	
BHD	**Baghdad**	**2.67**	**280**	*e*Pn	**Pn**	**19 52 51.0**	**+1.1**
BHD				*e*Sn	**Sb**	**19 53 25.0**	**-2.5**
BHD				AML	AML	19 53 28.6	
	comp=E,120nm,0.4s						
IRAZ	**Razeghan**	**3.25**	**37**	*e*Pn	**Pb**	**19 53 02.2**	**-2.7**

*ISN **18** 20:00:54.3±0.8,32°.67N×47°.76E,h14km±5km, ML2.7*
*TEH **18** 20:00:55.6,32°.66N×47°.73E,h10km, ML3.1*
*THR **18** 20:00:57.2±0.5,32°.59N×47°.72E,h16km±6km, ML3.0*

ISC 18 20:00:54.8±1.4,32°.63N±0°.03×47°.68E±0°.03,h3km±13km,
n45,σ1°00/49,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.91**	**9**	*e*Pg	**Pn**	**20 01 13.5**	**-1.0**
IKFM				*e*	**Sn**	**20 01 28.0**	**0.0**
IKMR	**Kamar-syah**	**1.07**	**34**	*e*Pg	**Pg**	**20 01 14.5**	**-0.8**
IKMR				*e*		20 01 35.2	
SHGR	**Shooshtar-Gavs**	**1.08**	**118**	*e*Pg	**Pn**	**20 01 16.5**	**-0.4**
SHGR				IAML		20 01 58.3	
	comp=E,405nm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.08**	**118**	*e*Pg	**Pn**	**20 01 16.5**	**-0.4**
IDOB	**Doab**	**1.23**	**20**	*e*Pg	**Pg**	**20 01 19.1**	**+0.7**
IDOB				*e*		20 01 25.0	
BMDN	**Meydan**	**1.42**	**43**	*e*Pg	**Pb**	**20 01 22.0**	**-0.1**
BMDN				*e*		20 01 48.5	
AHWZ	**Ahwaz**	**1.53**	**147**	*e*Pg	**Pg**	**20 01 25.2**	**+1.0**
IBDR	**Badra**	**1.54**	**289**	*e*Pg	**Pn**	**20 01 23.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**20 01 45.0**	**+0.5**
IBDR				AML	AML	20 01 50.7	
	comp=N,106nm,0.5s						
IBDR				AML	AML	20 02 05.0	
	comp=E,129nm,0.6s						
IKOM	**Komasi**	**1.55**	**355**	*e*Pg	**Pg**	**20 01 24.9**	**+0.4**
IKOM				*e*		20 01 29.2	
KCHF	**Cheshme Sefid,**	**1.73**	**342**	*e*Pn	**Pb**	**20 01 27.1**	**-0.2**
KCHF				*e*		20 01 54.2	
HSAM	**Samen**	**1.76**	**26**	*e*Pn	**Pb**	**20 01 28.3**	**+0.4**
HSAM				*e*		20 01 56.5	
KER	**Kermanshah**	**1.81**	**346**	*e*Pn	**Pb**	**20 01 28.4**	**-0.3**
IBZA	**Bozab**	**1.84**	**5**	*e*Pg	**Pg**	**20 01 30.4**	**+0.2**
IBZA				*e*		20 01 34.0	
IGHG	**Ghaleghazi**	**1.93**	**332**	*e*Pn	**Pb**	**20 01 30.6**	**-0.3**
IGHG				*e*		20 02 13.6	
IVIS	**Veis**	**2.02**	**340**	*e*Pn	**Pg**	**20 01 33.2**	**-0.3**
IVIS				*e*		20 01 36.2	
NSR	**Nassriya**	**2.08**	**219**	*e*Pn	**Pn**	**20 01 31.0**	**+0.5**
NSR				*e*Sn	**Sb**	**20 01 57.0**	**-2.3**
KHMZ	**Khomeyn**	**2.21**	**59**	*e*Pn	**Pb**	**20 01 35.1**	**-0.5**
KHMZ	**Khomeyn**	**2.21**	**59**	*e*Pn	**Pb**	**20 01 35.1**	**-0.5**
IALM	**Almabolaq**	**2.26**	**10**	*e*Pn	**Pb**	**20 01 35.2**	**-1.3**
IDHR	**Dehrash**	**2.33**	**333**	*e*Pn	**Pn**	**20 01 34.7**	**+0.4**
IDHR				*e*		20 02 21.7	
ILIN	**Lien**	**2.36**	**346**	*e*	Sg	20 02 22.6	+12
SNGE	**Sanandaj**	**2.47**	**354**	*e*Pn	**Pb**	**20 01 39.5**	**-0.6**
SNGE	**Sanandaj**	**2.47**	**354**	*e*Pn	**Pb**	**20 01 39.5**	**-0.6**
HAGD	**Aghdareh**	**2.51**	**29**	*e*Pn	**Pb**	**20 01 38.7**	**-1.9**
HAGD				*e*		20 02 20.0	
JHBN	**Jahan bin**	**2.56**	**98**	*e*Pn	**Pn**	**20 01 38.6**	**+1.1**
JHBN				*e*		20 02 32.1	
HSRG	**Sareghieh**	**2.66**	**11**	*e*Pn	**Pn**	**20 01 39.9**	**+1.1**
HSRG				*e*		20 02 25.7	
IPIR	**Pirpir**	**2.71**	**88**	*e*Pn	**Pn**	**20 01 40.1**	**+0.5**
IPIR				*e*		20 02 33.5	
ASAO	**Ashtian**	**2.74**	**45**	*e*Pn	**Pb**	**20 01 43.0**	**-1.7**
ASAO				*e*Sg	**Sg**	**20 02 23.0**	**+0.1**
ASAO	**Ashtian**	**2.74**	**45**	*e*Pn	**Pb**	**20 01 43.0**	**-1.7**
BHD	**Baghdad**	**2.84**	**284**	*e*Pn	**Pn**	**20 01 42.0**	**+0.9**
BHD				*e*Sn	**Sn**	**20 02 17.0**	**+1.2**
ROKH	**ROKH**	**2.85**	**95**	*e*Pn	**Pn**	**20 01 42.3**	**+0.8**
ROKH				*e*		20 02 45.9	
IRAZ	**Razeghan**	**3.34**	**33**	*e*Pn	**Pn**	**20 01 49.7**	**+1.5**
IKLH	**Kolahrood**	**3.35**	**77**	*e*Pn	**Pn**	**20 01 49.7**	**+1.3**
IKLH				*e*		20 02 51.0	
QABG	**Abgarm-Qazvin**	**3.46**	**27**	*e*Pn	**Pn**	**20 01 50.9**	**+1.1**
IGAR	**Gharneh**	**3.70**	**92**	*e*Pn	**Pn**	**20 01 54.0**	**+0.9**
IGAR				*e*		20 02 42.7	
KLNJ	**Kolanjah**	**3.71**	**115**	*e*Pn	**Pn**	**20 01 54.4**	**+1.1**
KLNJ				*e*		20 03 01.7	
IZEF	**Zefreh**	**3.93**	**85**	*e*Pn	**Pn**	**20 01 58.0**	**+1.7**
QSDN	**Sirdan**	**4.06**	**17**	*e*Pn	**Pn**	**20 01 59.8**	**+1.7**
IRAM	**Ramesheh**	**4.07**	**100**	*e*Pn	**Pn**	**20 01 58.7**	**+0.5**
QALM	**Alamut, Qazvin**	**4.52**	**32**	*e*Pn	**Pn**	**20 02 05.6**	**+1.2**
IDMV	**Damavand**	**4.66**	**50**	*e*Pn	**Pn**	**20 02 07.1**	**+0.7**
ANAR	**Anarak**	**5.12**	**82**	*e*Pn	**Pn**	**20 02 13.0**	**+0.4**
ISAD	**Sadrabad**	**5.14**	**96**	*e*Pn	**Pn**	**20 02 13.7**	**+0.7**
ISHM	**Shahmirzad**	**5.63**	**54**	*e*Pn	**Pn**	**20 02 20.6**	**+0.9**
IANJ	**Anjilo**	**5.90**	**60**	*e*Pn	**Pn**	**20 02 24.2**	**+0.8**

*ISN **18** 20:04:17.7±0.3,32°.65N×47°.90E,h14km±2km, ML2.6*
*TEH **18** 20:04:19.9,32°.63N×47°.92E,h14km, ML3.0*
ISC 18 20:04:19.1±0.9,32°.57N±0°.04×47°.90E±0°.04,h15km,n25,
σ1°56/28,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.96**	**357**	*e*Pg	**Pb**	**20 04 36.8**	**-0.6**
IKFM				*e*		20 04 55.7	
IKMR	**Kamar-syah**	**1.03**	**23**	*e*Pg	**Pg**	**20 04 38.3**	**-0.7**
IKMR				*e*		20 04 57.8	
IDOB	**Doab**	**1.24**	**11**	*e*Pg	**Pg**	**20 04 42.2**	**-0.8**
BMDN	**Meydan**	**1.35**	**35**	*e*Pg	**Pg**	**20 04 44.8**	**-0.3**
AHWZ	**Ahwaz**	**1.39**	**153**	*e*Pg	**Pg**	**20 04 46.8**	**+1.1**
IKOM	**Komasi**	**1.64**	**349**	*e*Pg	**Pb**	**20 04 49.1**	**0.0**
IKOM				*e*		20 05 20.8	
HSAM	**Samen**	**1.74**	**19**	*e*Pn	**Pb**	**20 04 51.6**	**-1.0**
HSAM				*e*		20 05 17.3	
IBDR	**Badra**	**1.75**	**289**	*e*Pg	**Pn**	**20 04 49.0**	**+0.2**
IBDR				*e*Sg	**Sb**	**20 05 12.0**	**-0.5**
IBDR				AML	AML	20 05 16.9	
	comp=N,81nm,0.5s						
IBDR				AML	AML	20 05 22.2	
	comp=E,85nm,0.7s						
KCHF	**Cheshme Sefid,**	**1.85**	**337**	*e*Pn	**Pb**	**20 04 52.0**	**-0.7**
KCHF				*e*		20 05 20.0	
IBZA	**Bozab**	**1.90**	**359**	*e*Pn	**Pb**	**20 04 52.8**	**-0.8**
IBZA				*e*		20 05 23.8	
KER	**Kermanshah**	**1.93**	**341**	*e*Pn	**Pb**	**20 04 53.5**	**-0.5**
IGHG	**Ghaleghazi**	**2.08**	**328**	*e*Pn	**Pb**	**20 04 56.3**	**-0.4**
IGHG				*e*		20 05 36.9	
IVIS	**Veis**	**2.14**	**336**	*e*Pn	**Pb**	**20 04 56.7**	**-1.0**
NSR	**Nassriya**	**2.16**	**224**	*e*Pn	**Pn**	**20 04 55.0**	**+0.5**
NSR				*e*Sn	**Sn**	**20 05 22.0**	**+1.1**
JHBN	**Jahan bin**	**2.36**	**97**	*e*Pn	**Pb**	**20 04 59.8**	**-1.7**
JHBN				*e*		20 05 46.5	
IDHR	**Dehrash**	**2.48**	**330**	*e*Pn	**Pb**	**20 05 01.8**	**-1.6**
IDHR				*e*		20 05 39.6	
HAGD	**Aghdareh**	**2.48**	**24**	*e*Pn	**Pb**	**20 05 01.6**	**-1.8**
HAGD				*e*		20 05 43.6	
IPIR	**Pirpir**	**2.53**	**87**	*e*Pn	**Pb**	**20 05 02.1**	**-2.2**
ROKH	**ROKH**	**2.66**	**94**	*e*Pn	**Pb**	**20 05 04.0**	**-2.5**
ROKH				*e*		20 06 02.4	
HSRG	**Sareghieh**	**2.69**	**7**	*e*Pn	**Pb**	**20 05 04.7**	**-2.4**
HSRG				*e*		20 05 45.4	
BHD	**Baghdad**	**3.04**	**284**	*e*Pn	**Pn**	**20 05 07.0**	**+0.3**
BHD				*e*Sn	**Sn**	**20 05 43.0**	**+0.2**
IRAZ	**Razeghan**	**3.29**	**30**	*e*Pn	**Pn**	**20 05 13.0**	**+2.7**
QABG	**Abgarm-Qazvin**	**3.43**	**24**	*e*Pn	**Pn**	**20 05 14.9**	**+2.7**
QSDN	**Sirdan**	**4.07**	**15**	*e*Pn	**Pn**	**20 05 22.8**	**+1.8**
QALM	**Alamut, Qazvin**	**4.47**	**30**	*e*Pn	**Pn**	**20 05 29.6**	**+3.0**

*THR **18** 20:08:23.1±0.6,32°.61N×47°.59E,h18km±5km, ML3.1*
*TEH **18** 20:09:14.0,32°.66N×47°.85E,h9km, ML3.2*
*ISN **18** 20:09:14.3±0.8,32°.67N×47°.76E,h14km±5km, ML3.0*
ISC 18 20:09:14.3±1.4,32°.58N±0°.04×47°.83E±0°.04,h9km±12km,
n24,σ1°54/29,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.95**	**1**	*e*Pg	**Pg**	**20 09 31.7**	**-0.8**
IKFM				*e*Sg	**Sg**	**20 09 43.7**	**-1.1**
IKMR	**Kamar-syah**	**1.05**	**26**	*e*Pg	**Pg**	**20 09 33.0**	**-1.5**
IKMR				*e*		20 09 39.5	
IDOB	**Doab**	**1.24**	**14**	*e*Pg	**Pg**	**20 09 37.5**	**-0.7**
BMDN	**Meydan**	**1.38**	**37**	*e*Pg	**Pb**	**20 09 40.2**	**-0.2**
BMDN				*e*		20 09 42.9	
AHWZ	**Ahwaz**	**1.42**	**151**	*e*Pg	**Pg**	**20 09 41.5**	**-0.2**
IKOM	**Komasi**	**1.62**	**351**	*e*Pg	**Pb**	**20 09 43.7**	**-0.8**
IKOM				*e*		20 09 46.2	
IKOM				*e*Sg	**Sb**	**20 10 04.6**	**-0.5**
IBDR	**Badra**	**1.68**	**289**	*e*Pg	**Pn**	**20 09 43.0**	**-1.0**
IBDR				*e*Sg	**Sn**	**20 10 05.0**	**-0.7**
IBDR				AML	AML	20 10 11.7	
	comp=E,199nm,0.6s						
IBDR				AML	AML	20 10 13.4	
	comp=N,217nm,0.8s						
HSAM	**Samen**	**1.76**	**22**	*e*Pg	**Pb**	**20 09 46.8**	**-0.1**
HSAM				*e*		20 09 47.5	
KCHF	**Cheshme Sefid,**	**1.82**	**339**	*e*Pn	**Pn**	**20 09 46.4**	**+0.4**
KCHF				*e*		20 10 15.3	
IBZA	**Bozab**	**1.89**	**1**	*e*Pn	**Pb**	**20 09 48.0**	**-1.2**
IBZA				*e*		20 10 20.6	
IGHG	**Ghaleghazi**	**2.04**	**329**	*e*	**Sg**	**20 10 25.5**	**+5.5**
IVIS	**Veis**	**2.11**	**338**	*e*Pn	**Pb**	**20 09 52.0**	**-0.9**
IVIS				*e*		20 10 24.2	
NSR	**Nassriya**	**2.12**	**223**	*e*Pn	**Pn**	**20 09 51.0**	**+1.0**
NSR				*e*Sn	**Sn**	**20 10 17.0**	**+0.5**
IALM	**Almabolaq**	**2.30**	**7**	*e*Pn	**Pb**	**20 09 54.9**	**-1.3**
JHBN	**Jahan bin**	**2.43**	**97**	*e*Pn	**Pb**	**20 09 56.5**	**-1.9**
IDHR	**Dehrash**	**2.43**	**331**	*e*Pn	**Pn**	**20 09 55.9**	**+1.3**
IDHR				*e*		20 10 37.2	
HAGD	**Aghdareh**	**2.49**	**26**	*e*Pn	**Pn**	**20 09 56.9**	**+1.5**
HAGD				*e*		20 10 03.8	
HSRG	**Sareghieh**	**2.69**	**8**	*e*Pn	**Pn**	**20 09 59.9**	**+1.8**
HSRG				*e*		20 10 01.3	
BHD	**Baghdad**	**2.98**	**284**	*e*Pn	**Pn**	**20 10 02.0**	**+0.2**
BHD				*e*Sn	**Sn**	**20 10 37.0**	**-0.7**
IRAZ	**Razeghan**	**3.32**	**31**	*e*Pn	**Pn**	**20 10 07.6**	**+0.9**
QABG	**Abgarm-Qazvin**	**3.45**	**25**	*e*Pn	**Pn**	**20 10 09.5**	**+1.0**
QSDN	**Sirdan**	**4.07**	**15**	*e*Pn	**Pn**	**20 10 18.0**	**+0.9**
IDMV	**Damavand**	**4.60**	**48**	*e*Pn	**Pn**	**20 10 25.0**	**+0.6**
ISAD	**Sadrabad**	**5.01**	**96**	*e*Pn	**Pn**	**20 10 31.5**	**+1.5**

*ISN **18** 20:10:43.4±0.9,32°.58N×47°.72E,h14km±6km, ML2.9*
*TEH **18** 20:10:45.4,32°.60N×47°.94E,h15km, ML3.2*
*THR **18** 20:10:48.9±0.3,32°.74N×47°.63E,h14km±3km, ML3.2*
ISC 18 20:10:43.2±1.6,32°.54N±0°.04×47°.71E±0°.04,h1km±14km,
n28,σ0°75/32,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.99**	**7**	*e*		20 11 22.0	
IKFM				*e*Pg	**Pb**	**20 11 03.5**	**+0.2**
SHGR	**Shooshtar-Gavs**	**1.02**	**114**	*e*Pg	Pn	20 11 10.7	+6.0
SHGR				IAML		20 11 32.2	
	comp=N,452nm,0.6s						
IKMR	**Kamar-syah**	**1.13**	**30**	*e*		20 11 07.1	
IKMR				*e*Pg	**Pg**	**20 11 04.2**	**-0.7**
IDOB	**Doab**	**1.31**	**17**	*e*Pg	**Pg**	**20 11 07.8**	**-0.5**
AHWZ	**Ahwaz**	**1.44**	**146**	*e*Pg	**Pg**	**20 11 11.5**	**+0.7**
BMDN	**Meydan**	**1.47**	**39**	*e*Pg	**Pn**	**20 11 11.1**	**0.0**
BMDN				*e*		20 11 35.8	
IBDR	**Badra**	**1.60**	**291**	*e*Pg	**Pn**	**20 11 12.0**	**-0.8**
IBDR				*e*Sg	**Sn**	**20 11 34.0**	**-0.2**
IBDR				AML	AML	20 11 44.1	
	comp=E,149nm,0.6s						
IBDR				AML	AML	20 11 45.0	
	comp=N,188nm,0.8s						
IKOM	**Komasi**	**1.64**	**354**	*e*Pg	**Pn**	**20 11 14.1**	**+0.6**
IKOM				*e*		20 11 44.9	
KCHF	**Cheshme Sefid,**	**1.82**	**342**	*e*Pn	**Pb**	**20 11 17.1**	**-0.5**
KCHF				*e*		20 11 49.5	
HSAM	**Samen**	**1.83**	**24**	*e*Pg	**Pn**	**20 11 16.8**	**+0.7**
HSAM				*e*	

QSDN	**Sirdan**	**3.98**	**18**	*e*Pn	**Pn**	**20 20 47.3**	**+2.0**
IGZV	**Ghazvin**	**4.22**	**29**	*e*Pn	**Pn**	**20 20 51.4**	**+2.8**
MAHB	**Mahabad**	**4.36**	**339**	*e*Pn	**Pn**	**20 20 51.9**	**+1.5**
QALM	**Alamut, Qazvin**	**4.44**	**33**	*e*Pn	**Pn**	**20 20 53.3**	**+1.6**
IDMV	**Damavand**	**4.60**	**50**	*e*Pn	**Pn**	**20 20 56.0**	**+2.1**
ANAR	**Anarak**	**5.11**	**83**	*e*Pn	**Pn**	**20 21 02.7**	**+2.0**
IFIR	**Firoozkooh**	**5.12**	**54**	*e*Pn	**Pn**	**20 21 02.5**	**+1.5**
ILAS	**Lasjerd**	**5.12**	**57**	*e*Pn	**Pn**	**20 21 02.8**	**+1.7**
ISAD	**Sadrabad**	**5.14**	**97**	*e*Pn	**Pn**	**20 21 02.8**	**+1.4**
IPRN	**Peran**	**5.21**	**46**	*e*Pn	**Pn**	**20 21 04.9**	**+2.7**
IALA	**Alasht**	**5.41**	**50**	*e*Pn	**Pn**	**20 21 07.6**	**+2.6**
ISHM	**Shahmirzad**	**5.58**	**55**	*e*Pn	**Pn**	**20 21 09.3**	**+2.0**
IANJ	**Anjilo**	**5.85**	**60**	*e*Pn	**Pn**	**20 21 12.4**	**+1.3**
IGLO	**Ghaloghah**	**6.32**	**52**	*e*Pn	**Pn**	**20 21 20.2**	**+2.7**
TNSJ	**Nastanj**	**7.57**	**78**	*e*Pn	**Pn**	**20 21 36.2**	**+1.6**
TPRV	**Parvadeh(Tabas**	**7.58**	**85**	*e*Pn	**Pn**	**20 21 36.9**	**+2.2**
ASF	**Jabal al Asfar**	**9.13**	**270**	Pn	**Pn**	**20 21 52.9**	**-3.1**
	comp=E,0.4nm,0.3s,baz=240,slow=5.8,SNR=2.9						
ASF				Sn	Sn	20 23 28.9	-10
	comp=E,0.5nm,0.3s,baz=322,slow=18,SNR=1.8						
ASF				Lg	Lg	20 24 32.8	
	comp=E,0.4nm,0.3s,baz=241,slow=21,SNR=2.1						
ISFR	**Sfrayin**	**9.52**	**60**	*e*Pn	Pn	20 22 05.0	+3.6
MMAI	**Mount Meron Ar**	**10.33**	**275**	Pn	**Pn**	**20 22 15.1**	**+2.7**
	comp=E,0.3nm,0.3s,baz=85,slow=18,SNR=1.4						
EIL	**Elat**	**11.32**	**258**	Lg	Lg	20 25 39.8	
	comp=E,0.2nm,0.3s,baz=87,slow=17,SNR=2.2						
WSAR	**Wadi Sarin**	**13.51**	**132**	Pn	**Pn**	**20 22 52.6**	**-3.2**
	comp=E,0.2nm,0.3s,baz=165,slow=7.8,SNR=1.8						
WSAR				Sn	Sn	20 25 15.7	-10
	comp=E,0.1nm,0.3s,baz=256,slow=6.2,SNR=1.6						
AKTO	**Aktyubinsk**	**19.29**	**20**	P	**Pn**	**20 24 09.8**	**0.0**
	comp=E,0.4nm,0.3s,baz=213,slow=9.8,SNR=12						
PLOR	**Plostina**	**20.83**	**315**	⇓P	Pn	20 24 29.8	+1.6
MLR	**Muntele Rosu**	**21.07**	**314**	⇑P	**P**	**20 24 33.2**	**+4.8**
	comp=E,2.1nm,0.5s,baz=196,slow=3.5,SNR=4.9						
MLR	**Muntele Rosu**	**21.07**	**314**	⇑P	**P**	**20 24 30.5**	**+2.1**
TESR	**Tescani**	**21.18**	**317**	⇑P	**P**	**20 24 29.5**	**0.0**
SORM	**Soroca**	**21.21**	**322**	⇓P	**P**	**20 24 28.5**	**-1.3**
VOIR		**21.59**	**313**	⇑P	**P**	**20 24 34.5**	**+0.4**
ARU	**Arti**	**24.88**	**14**	P	**P**	**20 25 06.6**	**-0.2**
	comp=E,1.0nm,0.6s,baz=189,slow=7.3,SNR=5.6						
KOLS	**Kolonicke sedl**	**24.97**	**318**	*e*P	**P**	**20 25 08.2**	**+0.5**
BVAR	**Borovoye Array**	**26.05**	**32**	P	**P**	**20 25 17.7**	**+0.3**
	comp=E,1.2nm,0.5s,baz=224,slow=8.3,SNR=9.2						
KURBB	**Kurchatov Arra**	**28.88**	**43**	P	**P**	**20 25 43.8**	**+1.0**
	comp=E,0.7nm,0.5s,baz=247,slow=9.2,SNR=5.5						
MKAR	**Makanchi Array**	**29.82**	**52**	P	**P**	**20 25 52.1**	**+0.8**
	comp=E,1.2nm,0.6s,baz=248,slow=7.4,SNR=19						
GERES	**GERESS Array B**	**30.05**	**312**	P	**P**	**20 25 54.6**	**+1.3**
	comp=E,0.2nm,0.6s,baz=118,slow=7.9,SNR=2.0						
FINES	**FINESS Array B**	**31.97**	**340**	P	**P**	**20 26 10.7**	**+0.8**
	comp=E,3.1nm,1.0s,baz=150,slow=8.8,SNR=4.5						
ZALV	**Zalesovo Beam**	**33.79**	**40**	P	**P**	**20 26 25.5**	**-0.5**
	comp=E,1.0nm,0.4s,baz=248,slow=9.5,SNR=5.3						
ARCES	**ARCESS Array B**	**38.91**	**348**	P	**P**	**20 27 10.1**	**+0.5**
	comp=E,1.4nm,0.7s,baz=163,slow=9.4,SNR=6.2						
SONM	**Songino Array**	**46.18**	**53**	P	**P**	**20 28 08.6**	**-0.4**
	comp=E,0.3nm,0.6s,baz=298,slow=9.2,SNR=2.4						
TORD	**Torodi Ar. Bea**	**46.20**	**256**	P	**P**	**20 28 08.0**	**-1.4**
	comp=E,0.6nm,0.7s,baz=62,slow=7.0,SNR=4.5						
CMAR	**Chiang Mai Arr**	**47.93**	**94**	P	**P**	**20 28 22.1**	**-0.9**
	comp=E,0.4nm,0.7s,baz=286,slow=9.7,SNR=4.4						

DDA ***18*** *20:25:18.8, 37.°00N×27.°36E, h7km±1km, ML2.4*
ISK ***18*** *20:25:18.7, 37.°04N×27.°45E, h5km, ML2.7/7*

ISC 18 20:25:19.1±0.9, 37.°01N±0.°03×27.°41E±0.°03, h9km±6km, n13, σ0°45/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BDRM	**Kayabasi**	**0.06**	**27**	*i* P		**Pg**	**20 25 20.9**	**-0.1**
BDRM				IAML			20 25 22.0	
	comp=E,3μm,0.4s							
BDRM				*i* S		**Sg**	**20 25 22.0**	**-0.5**
BODT	**Bodrum**	**0.10**	**304**	PG		**Pg**	**20 25 21.6**	**+0.1**
BODT				SG		**Sg**	**20 25 23.8**	**+0.6**
DAT	**Datca**	**0.31**	**154**	PG		**Pg**	**20 25 24.9**	**-0.3**
DAT	**Datca**	**0.31**	**154**	*i* P		**Pg**	**20 25 25.0**	**-0.3**
DAT				*i* S		**Sg**	**20 25 30.1**	**+0.7**
KOSK	**Kos Island**	**0.43**	**233**	PG		**Pb**	**20 25 28.5**	**-0.3**
KOSK				SG		**Sb**	**20 25 35.5**	**+0.1**
GCAM	**G?zelcaml?**	**0.70**	**349**	*i* P		**Pg**	**20 25 32.5**	**-0.1**
GCAM				*i* S		**Sb**	**20 25 44.3**	**+0.9**
GCAM				IAML			20 25 46.0	
	comp=E,177nm,0.8s							
GCAM				IAML			20 25 48.0	
	comp=N,142nm,0.2s							
YER	**Yerkesik**	**0.71**	**80**	PG		**Pg**	**20 25 32.9**	**+0.1**
YER				SG		**Sg**	**20 25 41.9**	**-0.2**
AYDN	**Tasoluk**	**0.75**	**30**	*i* P		**Pg**	**20 25 33.3**	**-0.2**
AYDN				IAML			20 25 43.0	
	comp=N,200nm,0.3s							
AYDN				*i* S		**Sg**	**20 25 43.2**	**-0.1**
AYDN				IAML			20 25 44.0	
	comp=E,154nm,0.5s							
ARG	**Arkhangelos**	**0.98**	**144**	PG		**Pg**	**20 25 37.9**	**0.0**
ARG				SG		**Sb**	**20 25 52.0**	**+0.7**
DALY	**Dalyan (Mula)**	**1.02**	**100**	PG		**Pg**	**20 25 38.2**	**-0.4**
DALY	**Dalyan (Mula)**	**1.02**	**100**	*i* P		**Pn**	**20 25 39.3**	**-0.2**
DALY				*i* S		**Sn**	**20 25 54.2**	**+0.3**
DALY				IAML			20 25 55.0	
	comp=E,57nm,0.5s							
DALY				IAML			20 25 55.0	
	comp=N,70nm,0.5s							
BLCB	**Balcova**	**1.41**	**348**	PN		**Pb**	**20 25 45.2**	**-0.3**
APE	**Apeiranthos**	**1.50**	**273**	Pn		**Pg**	**20 25 47.5**	**-0.4**

TEH ***18*** *20:32:27.8, 32.°86N×47.°64E, h5km, ML2.5*
ISN ***18*** *20:32:28.5±0.8, 32.°85N×47.°56E, h24km±5km, ML2.4*

ISC 18 20:32:28.6±1.1, 32.°81N±0.°06×47.°60E±0.°06, h15km, n10, σ1°27/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**0.74**	**16**	*e*Pg		**Pb**	**20 32 42.2**	**-1.1**
IKFM				*e*			20 32 57.6	
IKMR	**Kamar-syah**	**0.96**	**43**	*e*Pg		**Pn**	**20 32 46.8**	**-0.8**
IKMR				*e*			20 33 07.7	
IDOB	**Doab**	**1.09**	**26**	*e*Pg		**Pn**	**20 32 49.4**	**-0.2**
IDOB				*e*			20 33 09.4	
BMDN	**Meydan**	**1.34**	**50**	*e*Pg		**Pg**	**20 32 53.9**	**-0.6**
BMDN				*e*			20 33 23.2	
IKOM	**Komasi**	**1.36**	**357**	*e*Pg		**Pg**	**20 32 54.8**	**-0.1**
IKOM				*e*			20 33 19.8	
IBDR	**Badra**	**1.44**	**282**	*e*Pg		**Pn**	**20 32 54.0**	**-0.1**
IBDR				*e*Sg		**Sn**	**20 33 12.0**	**-0.7**
IBDR				AML		AML	20 33 18.0	
	comp=N,79nm,0.4s							
IBDR				AML		AML	20 33 22.4	
	comp=E,68nm,0.6s							
HSAM	**Samen**	**1.63**	**31**	*e*Sg		**Sg**	**20 33 24.8**	**+3.6**
IVIS	**Veis**	**1.82**	**340**	*e*Pn		**Pb**	**20 33 01.3**	**-0.5**
IVIS				*e*			20 33 31.1	
NSR	**Nassriya**	**2.18**	**215**	*e*Pn		**Pn**	**20 33 05.0**	**+0.6**
NSR				*e*Sn		**Sn**	**20 33 31.0**	**-0.1**
BHD	**Baghdad**	**2.74**	**280**	*e*Pn		**Pn**	**20 33 12.0**	**-0.1**
BHD				*e*Sn		**Sn**	**20 33 45.0**	**0.0**

IDC 18 20:38:14.8±2.7, 3.75N×64.°26E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.3/43, mbtmp3.7/3, Error ellipse: s-maj=96.7km s-min=43.1km az=61.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**56.87**	**33**	P		P	20 48 01.5	0.0
	0.3nm,0.6s,baz=236,slow=7.8,SNR=2.3							
WRA	**Warramunga Arr**	**72.67**	**112**	P		P	20 49 45.1	0.0
	1.3nm,0.8s,baz=291,slow=5.3,SNR=6.5							
ASAR	**Alice Springs**	**73.00**	**116**	P		P	20 49 47.1	+0.1
	0.8nm,0.9s,baz=289,slow=5.7,SNR=8.8							
TXAR	**Lajitas Array**	**145.12**	**341**	PKPbc		PKPbc	20 57 53.8	-0.9
	0.4nm,0.8s,baz=36,slow=4.7,SNR=4.1							

IDC ***18*** *20:38:24.1±1.5, 32.°60N×47.°56E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/38, mbtmp3.7/9, ML3.5/2, Error ellipse: s-maj=32.9km s-min=19.2km az=171.0*
ISN ***18*** *20:38:24.2±0.5, 32.°58N×47.°65E, h14km±4km, ML3.7*
THR ***18*** *20:38:26.8±0.8, 32.°56N×47.°74E, h14km±11km, ML3.7*

TEH ***18*** *20:38:26.0, 32.°62N×47.°74E, h8km, ML3.6*

ISC 18 20:38:25.3±0.6, 32.°51N±0.°04×47.°59E±0.°04, h10km, n77, σ1°74/79, mb3.9/11, 6C-3D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**1.03**	**12**	*e*Pg		**Pb**	**20 38 43.2**	**-2.0**
SHGR	**Shooshtar-Gavs**	**1.10**	**111**	*e*Pg		**Pg**	**20 38 45.5**	**-0.9**
SHGR	**Shooshtar-Gavs**	**1.10**	**111**	*e*Pg		**Pg**	**20 38 45.5**	**-0.9**
IKMR	**Kamar-syah**	**1.20**	**33**	*e*Pg		**Pn**	**20 38 45.5**	**-2.6**
IKMR				*e*			20 38 53.3	
IDOB	**Doab**	**1.36**	**21**	*e*Pg		**Pn**	**20 38 50.5**	**-0.1**
IDOB				*e*			20 38 55.7	
AHWZ	**Ahwaz**	**1.48**	**143**	*e*Pg		**Pg**	**20 38 55.4**	**+1.7**
IBDR	**Badra**	**1.52**	**293**	*e*Pg		**Pn**	**20 38 52.0**	**-0.5**
IBDR				*e*Sg		**Sn**	**20 39 13.0**	**+0.6**
IBDR				AML		AML	20 39 21.2	
	comp=E,1μm,0.8s							
IBDR				AML		AML	20 39 21.4	
	comp=N,2μm,0.6s							
BMDN	**Meydan**	**1.55**	**42**	*e*Pg		**Pn**	**20 38 53.5**	**+0.4**
BMDN				*e*			20 38 57.4	
IKOM	**Komasi**	**1.66**	**358**	*e*Pg		**Pn**	**20 38 56.1**	**+1.5**
IKOM				*e*			20 38 57.7	
KCHF	**Cheshme Sefid,**	**1.82**	**345**	*e*Pn		**Pn**	**20 38 58.4**	**+1.6**
KCHF				*e*			20 39 26.9	
HSAM	**Samen**	**1.89**	**26**	*e*Pg		**Pn**	**20 38 59.5**	**+1.6**
HSAM				*e*			20 39 02.8	
KER	**Kermanshah**	**1.91**	**348**	*e*Pn		**Pn**	**20 38 59.9**	**+1.9**
NSR	**Nassriya**	**1.94**	**220**	*e*Pn		**Pn**	**20 38 59.0**	**+0.7**
NSR				*e*Sn		**Sn**	**20 39 24.0**	**+1.2**
IBZA	**Bozab**	**1.96**	**6**	*e*Pg		**Pn**	**20 39 00.3**	**+1.4**
IBZA				*e*			20 39 06.8	
IGHG	**Ghaleghazi**	**2.00**	**335**	*e*Pn		**Pn**	**20 39 01.8**	**+2.4**
IGHG				*e*			20 39 40.3	
IVIS	**Veis**	**2.10**	**343**	*e*			**20 39 07.5**	
IVIS				*e*Pn		**Pn**	**20 39 02.2**	**+1.6**
KHMZ	**Khomeyn**	**2.33**	**58**	*e*Pn		**Pn**	**20 39 05.7**	**+1.8**
KHMZ	**Khomeyn**	**2.33**	**58**	*e*Pn		**Pn**	**20 39 05.7**	**+1.8**
IALM	**Almabolaq**	**2.39**	**11**	*e*Pn		**Pn**	**20 39 06.7**	**+1.9**
IDHR	**Dehrash**	**2.40**	**336**	*e*			20 39 47.9	
IDHR				*e*Pn		**Pn**	**20 39 06.8**	**+1.9**
ILIN	**Lien**	**2.46**	**348**	*e*			20 39 56.7	
ILIN				*e*Pn		**Pn**	**20 39 07.4**	**+1.8**
SNGE	**Sanandaj**	**2.58**	**356**	*e*Pn		**Pn**	**20 39 09.8**	**+2.5**
SNGE	**Sanandaj**	**2.58**	**356**	*e*Pn		**Pn**	**20 39 09.8**	**+2.5**
JHBN	**Jahan bin**	**2.62**	**95**	*e*			20 39 54.0	
JHBN				*e*Pn		**Pn**	**20 39 09.6**	**+1.7**
HAGD	**Aghdareh**	**2.64**	**29**	*e*			20 39 17.1	
HAGD				*e*Pn		**Pn**	**20 39 09.8**	**+1.6**
HSRG	**Sareghieh**	**2.78**	**12**	*e*Pn		**Pn**	**20 39 12.8**	**+2.6**
HSRG				*e*			20 39 18.5	
BHD	**Baghdad**	**2.81**	**286**	*e*Pn		**Pn**	**20 39 11.0**	**+0.8**
BHD				*e*Sn		**Sn**	**20 39 45.0**	**+0.9**
ASAO	**Ashtian**	**2.87**	**44**	*e*Pn		**Pn**	**20 39 12.4**	**+1.0**
ASAO				*e*Sg		**Sb**	**20 39 53.0**	**+0.9**
ASAO	**Ashtian**	**2.87**	**44**	*e*Pn		**Pn**	**20 39 12.4**	**+1.0**
ROKH	**ROKH**	**2.92**	**92**	*e*Pn		**Pn**	**20 39 13.5**	**+1.5**
ROKH				*e*			20 40 03.9	
IRAZ	**Razeghan**	**3.48**	**33**	*e*Pn		**Pn**	**20 39 21.8**	**+2.1**
QABG	**Abgarm-Qazvin**	**3.59**	**27**	*e*Pn		**Pn**	**20 39 22.4**	**+1.2**
KLNJ	**Kolanjah**	**3.72**	**113**	*e*Pn		**Pn**	**20 39 24.3**	**+1.1**
QSDN	**Sirdan**	**4.19**	**18**	*e*Pn		**Pn**	**20 39 31.4**	**+1.9**
IHSB	**Hasanabad**	**4.23**	**45**	*e*Pn		**Pn**	**20 39 31.3**	**+1.4**
IGZV	**Ghazvin**	**4.43**	**29**	*e*Pn		**Pn**	**20 39 34.3**	**+1.5**
MAHB	**Mahabad**	**4.52**	**340**	*e*Pn		**Pn**	**20 39 35.9**	**+2.0**
QALM	**Alamut, Qazvin**	**4.65**	**32**	*e*Pn		**Pn**	**20 39 37.7**	**+1.9**
IDMV	**Damavand**	**4.79**	**49**	*e*Pn		**Pn**	**20 39 38.8**	**+1.1**
ISAD	**Sadrabad**	**5.20**	**95**	*e*Pn		**Pn**	**20 39 44.3**	**+0.9**
ANAR	**Anarak**	**5.21**	**81**	*e*Pn		**Pn**	**20 39 43.9**	**+0.5**
IFIR	**Firoozkooh**	**5.30**	**53**	*e*Pn		**Pn**	**20 39 45.4**	**+0.7**
ILAS	**Lasjerd**	**5.30**	**56**	*e*Pn		**Pn**	**20 39 45.4**	**+0.7**
IAZR	**Azarshahr**	**5.32**	**346**	*e*Pn		**Pn**	**20 39 47.0**	**+2.0**
IPRN	**Peran**	**5.41**	**45**	*e*Pn		**Pn**	**20 39 47.9**	**+1.8**
IALA	**Alasht**	**5.60**	**49**	*e*Pn		**Pn**	**20 39 50.6**	**+1.7**
ISHM	**Shahmirzad**	**5.75**	**54**	*e*Pn		**Pn**	**20 39 51.8**	**+0.8**
ICHK	**Chekchek**	**5.77**	**91**	*e*Pn		**Pn**	**20 39 51.4**	**+0.2**
IHRS	**Heris**	**5.81**	**356**	*e*Pn		**Pn**	**20 39 53.8**	**+2.1**
IANJ	**Anjilo**	**6.02**	**59**	*e*Pn		**Pn**	**20 39 55.4**	**+0.8**
IMEH	**Mehriz**	**6.07**	**99**	*e*Pn		**Pn**	**20 39 55.5**	**+0.2**
GHIR	**Ghir-Karzin**	**6.28**	**131**	IAML			20 41 18.0	
	comp=E,13nm,0.3s							
IBAF	**Bafgh**	**6.83**	**96**	*e*Pn		**Pn**	**20 40 06.4**	**+0.7**
ASF	**Jabal al Asfar**	**9.05**	**271**	Pn		**Pn**	**20 40 37.4**	**+1.2**
	comp=E,0.2nm,0.3s,baz=337,slow=16,SNR=2.3							
ASF				Sn		**Sn**	**20 42 12.8**	**-5.4**
	comp=E,0.1nm,0.3s,baz=55,slow=17,SNR=1.5							
ASF				Lg		Lg	20 43 09.8	
	comp=E,0.2nm,0.3s,baz=296,slow=22,SNR=2.4							
MMAI	**Mount Meron Ar**	**10.28**	**276**	Lg		Lg	20 43 50.4	
	comp=E,0.4nm,0.3s,baz=337,slow=43,SNR=1.4							
EIL	**Elat**	**11.20**	**259**	Lg		Lg	20 44 18.5	
	comp=E,0.2nm,0.3s,baz=79,slow=8.9,SNR=1.6							
WSAR	**Wadi Sarin**	**13.43**	**131**	Pn		**Pn**	**20 41 36.3**	**+0.3**
	comp=E,0.6nm,0.3s,baz=328,slow=9.6,SNR=7.3							
WSAR				Sn		Sn	20 43 55.4	-10
	comp=E,0.1nm,0.3s,baz=169,slow=12,SNR=2.0							
MLR	**Muntele Rosu**	**21.15**	**314**	⇑P		**P**	**20 43 10.4**	**-0.2**
TESR	**Tescani**	**21.28**	**317**	⇑P		**P**	**20 43 13.0**	**+1.2**
HUMR	**Humele**	**21.30**	**311**	⇓P		**P**	**20 43 12.8**	**+0.8**
SORM	**Soroca**	**21.32**	**323**	⇑P		**P**	**20 43 14.1**	**+1.9**
OZUR		**21.56**	**315**	⇑P		**P**	**20 43 12.3**	**-2.5**
VOIR		**21.68**	**313**	⇓P		**P**	**20 43 17.8**	**+1.6**
DOPR	**Dopca**	**21.73**	**315**	⇑P		**P**	**20 43 12.3**	**-4.4**
LOT	**Lotru**	**22.48**	**312**	⇑P		**P**	**20 43 19.7**	**-5.1**
AKASG	**Malin Array Be**	**22.67**	**329**	P		**P**	**20 43 24.4**	**-2.2**
	comp=E,0.4nm,0.4s,baz=138,slow=9.2,SNR=4.5							
BURAR	**Bucovina Array**	**22.70**	**318**	⇓P		**P**	**20 43 28.2**	**+1.0**
KBA	**Koelnbreinsper**	**29.79**	**309**	*i* P		**P**	**20 44 31.3**	**-1.1**
	comp=E,0.9nm,0.4s							
MKAR	**Makanchi Array**	**30.01**	**51**	P		**P**	**20 44 34.5**	**+0.3**
	comp=E,0.9nm,0.7s,baz=250,slow=7.2,SNR=13							
SQTA	**Sankt Quirin**	**31.23**	**309**	*i* pP		**P**	**20 44 45.7**	**+0.6**
	comp=E,3.1nm,0.8s							
MOTA	**Moosalm**	**31.34**	**309**	*i* pP		**P**	**20 44 46.7**	**+0.7**
	comp=E,2.6nm,0.6s							
DAVA	**Damuels**	**32.13**	**308**	*i* P		**P**	**20 44 51.8**	**-1.1**
	comp=E,2.2nm,0.5s							
FINES	**FINESS Array B**	**32.13**	**341**	P		**P**	**20 44 52.0**	**-0.5**
	comp=E,1.1nm,0.5s,baz=154,slow=8.7,SNR=10							
ZALV	**Zalesovo Beam**	**33.99**	**40**	P		**P**	**20 45 08.7**	**-0.2**
	comp=E,1.5nm,0.8s,baz=240,slow=8.4,SNR=5.4							
ARCES	**ARCESS Array B**	**39.09**	**348**	P		**P**	**20 45 52.0**	**-0.3**
	comp=E,1.9nm,1.0s,baz=166,slow=9.6,SNR=7.3							
ESDC	**Sonseca Array**	**41.79**	**295**	P		**P**	**20 46 15.5**	**+0.5**
	comp=E,0.2nm,0.4s,baz=72,slow=8.0,SNR=4.8							
TORD	**Torodi Ar. Bea**	**46.08**	**256**	P		**P**	**20 46 49.3**	**-0.4**
	comp=E,0.3nm,0.6s,baz=68,slow=9.4,SNR=2.7							

ISN ***18*** *20:45:49.5±1.5, 32.°83N×47.°88E, h17km±10km, ML2.7*
TEH ***18*** *20:45:58.4, 32.°84N×47.°86E, h22km, ML2.6*

ISC 18 20:45:54.3±1.2, 32.°63N±0.°06×47.°63E±0.°06, h10km, n13, σ1°22/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**0.91**	**11**	*e*Pg		**Pg**	**20 46 11.7**	**-0.2**
IKFM				*e*			20 46 29.1	
IKMR	**Kamar-syah**	**1.09**	**35**	*e*Pg		**Pb**	**20 46 14.2**	**-1.0**
IKMR				*e*			20 46 34.0	
IDOB	**Doab**	**1.24**	**21**	*e*Pg		**Pn**	**20 46 16.6**	**-1.3**
IDOB				*e*			20 46 18.4	
IBDR	**Badra**	**1.51**	**289**	*e*Pg		**Pn**	**20 46 18.9**	**-2.4**
IBDR				*e*Sg		**Sb**	**20 46 42.7**	**+1.1**
IBDR				AML		AML	20 46 47.2	
	comp=N,123nm,0.4s							
IBDR				AML		AML	20 46 47.8	
	comp=E,77nm,0.8s							
IKOM	**Komasi**	**1.55**	**356**	*e*Pg		**Pb**	**20 46 23.9**	**+0.8**
IKOM				*e*			20 46 47.2	
HSAM	**Samen**	**1.78**	**27**	*e*Pn		**Pn**	**20 46 25.5**	**+0.2**
HSAM				*e*			20 46 57.6	
IBZA	**Bozab**	**1.85**	**6**	*e*Pn		**Pn**	**20 46 27.5**	**+1.2**
IBZA				*e*			20 47 03.4	
IGHG	**Ghaleghazi**	**1.92**	**333**	*e*Pn		**Pb**	**20 46 29.9**	**+0.4**
IGHG				*e*			20 47 07.9	
NSR	**Nassriya**	**2.05**	**219**	*e*Pn		**Pn**	**20 46 29.0**	**+0.2**
NSR				*e*		**Sn**	**20 46 56.0**	**+1.5**
IDHR	**Dehrash**	**2.31**	**334**	*e*Pn		**Pb**	**20 46 36.0**	**-0.2**
IDHR				*e*			20 47 16.9	
HAGD	**Aghdareh**	**2.52**	**29**	*e*Pn		**Pb**	**20 46 38.5**	**-1.3**
HAGD				*e*			20 47 18.4	
HSRG	**Sareghieh**	**2.66**	**11**	*e*Pn		**Pn**	**20 46 38.7**	**+1.2**
HSRG				*e*			20 47 24.2	
BHD	**Baghdad**	**2.81**	**284**	*e*Pn		**Pn**	**20 46 38.0**	**-1.2**
BHD				*e*Sn		**Sn**	**20 47 13.0**	**-0.1**

TEH ***18*** *20:49:00.2, 32.°73N×47.°86E, h10km, ML3.1*
ISN ***18*** *20:49:00.4±1.2, 32.°76N×47.°87E, h14km±8km, ML2.8*
THR ***18*** *20:49:02.7±0.4, 32.°78N×48.°07E, h18km±4km, ML3.1*

ISC 18 20:49:00.5±1.6, 32.°71N±0.°03×47.°86E±0.°04, h2km±14km, n43, σ1°01/48, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**0.81**	**359**	*e*Pg		**Pg**	**20 49 15.4**	**-0.7**
IKFM				*e*		**Sn**	**20 49 30.9**	**-0.7**
IKMR	**Kamar-syah**	**0.92**	**28**	*e*Pg		**Pg**	**20 49 17.5**	**-0.6**
IKMR				*e*			20 49 39.6	
SHGR	**Shooshtar-Gavs**	**1.00**	**127**	*e*Pg		**Pg**	**20 49 19.9**	**+0.4**
SHGR				IAML			20 49 45.3	
	comp=N,614nm,0.4s							
SHGR	**Shooshtar-Gavs**	**1.00**	**127**	*e*Pg		**Pg**	**20 49 20.0**	**+0.4**
IDOB	**Doab**	**1.11**	**14**	*e*Pg		**Pg**	**20 49 21.6**	**-0.1**
BMDN	**Meydan**	**1.26**	**40**	*e*Pg		**Pn**	**20 49 24.4**	**-0.8**
BMDN				*e*			20 49 49.1	
IKOM	**Komasi**	**1.49**	**349**	*e*Pg		**Pn**	**20 49 28.3**	**-0.1**
IKOM				*e*			20 49 29.6	
AHWZ	**Ahwaz**	**1.53**	**154**	*e*Pg		**Pb**	**20 49 29.6**	**+0.1**
HSAM	**Samen**	**1.62**	**22**	*e*Pg		**Pb**	**20 49 31.5**	**+0.2**
HSAM				*e*			20 49 32.4	
IBDR	**Badra**	**1.67**	**284**	*e*Pg		**Pn**	**20 49 30.0**	**-0.7**
IBDR				*e*Sg		**Sn**	**20 49 53.0**	**+0.3**
IBDR				AML		AML	20 49 58.5	
	comp=N,120nm,0.4s							
IBDR				AML		AML	20 50 09.7	
	comp=E,177nm,0.6s							
KCHF	**Cheshme Sefid,**	**1.70**	**337**	*e*Pn		**Pn**	**20 49 31.0**	**-0.4**
KCHF				*e*			20 50 05.2	
IBZA	**Bozab**	**1.75**	**0**	*e*Pn		**Pb**	**20 49 33.2**	**-0.4**
IBZA				*e*			20 50 05.2	
KER	**Kermanshah**	**1.78**	**340**	*e*Pn		**Pn**	**20 49 33.3**	**+0.9**
IGHG	**Ghaleghazi**	**1.94**	**327**	*e

ANAR	**Anarak**	**5.09**	**82**	*e*Pn	**Pn**	**20 54 15.4**	**0.0**		
ISAD	**Sadrabad**	**5.11**	**96**	*e*Pn	**Pn**	**20 54 16.5**	**+0.8**		

TRN 18 20:53:12.4, 15°36N×61°01W, h123km, MD3.8, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLPL	**La Plaine**	**0.23**	**264**	*e*P	Pn	20 53 30.7	+1.2
DLPL				*e*S	Sn	20 53 44.1	+1.8
MDN	**Morne-Daniel**	**0.38**	**264**	*i* P	Pn	20 53 31.3	+1.3
MDN				*e*S	Sn	20 53 45.6	+2.3
DSLB	**Salisbury**	**0.41**	**281**	*e*P	Pn	20 53 31.6	+1.5
DSLB				*e*S	Sn	20 53 45.5	+1.9
MDPV	**Dominica, Penn**	**0.48**	**304**	*e*P	Pn	20 53 32.0	+1.4
MDPV				*e*S	Sn	20 53 45.8	+1.5
SVN	**Savane Anatole**	**0.54**	**197**	*e*P	Pn	20 53 32.1	+1.1
BAMF	**Morne Balai**	**0.56**	**194**	*e*P	Pn	20 53 32.2	+1.1
CXM	**Morne La Croix**	**0.56**	**196**	*e*P	Pn	20 53 32.4	+1.1
PCM	**Pelee Case Pet**	**0.57**	**200**	*e*P	Pn	20 53 32.1	+0.9
PCM	**Pelee Case Pet**	**0.57**	**200**	*e*P	Pn	20 53 32.3	+1.1
GBMF	**Grand Be**	**0.58**	**195**	*e*P	Pn	20 53 32.3	+1.0
ILAM	**Ilet Lapin Mar**	**0.59**	**168**	*i* P	Pn	20 53 32.5	+1.2
ILAM				*e*S	Sn	20 53 46.6	+1.1
PML	**Morne Lenard**	**0.60**	**197**	*e*P	Pn	20 53 32.4	+1.1
FDF	**Fort de France**	**0.64**	**193**	*i* P	Pn	20 53 32.9	+1.3
FDF				*e*S	Sn	20 53 47.1	+1.0
MAGL	**Barre de l'ile**	**0.65**	**336**	*i* P	Pn	20 53 33.0	+1.4
MAGL				*e*S	Sn	20 53 47.6	+1.4
LPMF	**Morne Lapointe**	**0.78**	**177**	*e*P	Pn	20 53 33.2	+0.5
TDBA	**Terre de Bas,**	**0.78**	**309**	*e*P	Pn	20 53 33.9	+1.2
TDBA				*e*S	Sn	20 53 49.1	+1.1
ZAM	**Aeronautique**	**0.78**	**182**	*e*P	Pn	20 53 33.3	+0.6
TBG	**Guadaloupe-3**	**0.79**	**309**	*e*P	Pn	20 53 33.9	+1.1
TBG				*e*S	Sn	20 53 50.1	+2.0
MVM	**Montagne Vaucl**	**0.81**	**172**	*e*P	Pn	20 53 34.0	+1.1
TRMF	**Trois Ilets**	**0.82**	**183**	*e*P	Pn	20 53 34.0	+1.0
BIM	**Bigot**	**0.84**	**184**	*i* P	Pn	20 53 34.4	+1.2
BIM				*e*S	Sn	20 53 50.3	+1.3
CBE	**Ff, Capester**	**0.92**	**321**	*e*P	Pn	20 53 35.0	+1.1
CBE				*e*S	Sn	20 53 51.1	+0.9
MPOM	**Morne Pois Mar**	**0.92**	**171**	*i* P	Pn	20 53 34.9	+1.0
MPOM				*e*S	Sn	20 53 50.7	+0.5
ABD	**La Joyeuse, An**	**1.20**	**337**	*i* P	Pn	20 53 37.9	+1.1
ABD	**La Joyeuse, An**	**1.20**	**337**	*e*	Pn	20 53 46.6	+10
ABD				*e*S	Sn	20 53 55.9	+0.7
SLBI	**Saint Lucia, B**	**1.33**	**179**	*e*P	Pn	20 53 38.5	+0.5
SLBI				*e*S	Sn	20 53 57.2	-0.3
SLW	**Petit Monier**	**1.33**	**177**	*e*P	Pn	20 53 40.3	+2.2
SLW				*e*S	Sn	20 53 59.6	+1.9
SLAC	**Saint Lucia, A**	**1.46**	**176**	*e*P	Pn	20 53 40.2	+0.7
SLAC				*e*S	Sn	20 54 00.1	-0.1
SLPA	**Patience**	**1.50**	**177**	*e*P	Pn	20 53 43.0	+3.0
SLPA				*e*S	Sn	20 54 03.6	+2.6
SLB	**Belfond**	**1.52**	**181**	*e*P	Pn	20 53 42.5	+2.1
SLB				*e*S	Sn	20 54 03.8	+2.2
SLDE	**Delcer**	**1.55**	**182**	*e*S	Sn	20 54 04.3	+2.3
MCLT	**Moule a Chique**	**1.64**	**178**	*e*P	Pn	20 53 43.1	+1.4
MCLT				*e*S	Sn	20 54 03.2	-0.7
MLYT	**Lee's Yard**	**1.77**	**320**	*i* P	Pn	20 53 44.2	+1.0
MLYT				*e*S	Sn	20 54 08.6	+1.8
SVV	**Soufriere Volc**	**2.04**	**186**	*e*P	Pn	20 53 48.0	+1.6
SVCV	**St. Vincent, C**	**2.08**	**184**	*e*P	Pn	20 53 48.0	+1.1
SVCV				*e*S	Sn	20 54 14.2	+0.7
SVB	**Belmont**	**2.09**	**187**	*e*P	Pn	20 53 47.5	+0.4
SVB				*e*S	Sn	20 54 13.9	+0.2
NVBH	**Bath Hotel, Ne**	**2.34**	**319**	*e*P	Pn	20 53 52.5	+2.3
NVBH				*e*S	Sn	20 54 20.8	+1.6
NVRH	**Round Hill, Ne**	**2.38**	**320**	*e*P	Pn	20 53 52.9	+2.2
NVRH				*e*S	Sn	20 54 21.4	+1.2
ANWB	**Willy Bob**	**2.42**	**342**	*e*P	Pn	20 53 51.3	0.0
ANWB				*e*S	Sn	20 54 20.5	-0.6
SKOC	**St. Kitts, UWI**	**2.54**	**320**	*e*P	Pn	20 53 54.3	+1.5
SKOC				*e*S	Sn	20 54 25.4	+1.5
SKI	**Saint Kitts**	**2.58**	**320**	*i* P	Pn	20 53 53.4	+0.1
SKI				*e*S	Sn	20 54 26.7	+1.9
BBGH	**Gun Hill**	**2.61**	**147**	*e*P	Pn	20 53 56.1	+2.4
BBGH				*e*S	Sn	20 54 26.1	+0.6
BBSP	**Saint Philip**	**2.70**	**146**	*e*P	Pn	20 53 57.0	+2.2
BBSP				*e*S	Sn	20 54 29.8	+2.3
GCMP	**Grenada, Carri**	**2.88**	**188**	*e*P	Pn	20 53 57.4	+0.1
GCMP				*e*S	Sn	20 54 32.4	+0.6
GRSS	**Sisters**	**3.10**	**191**	*e*P	Pn	20 54 02.1	+2.1
GRHS	**Sauteurs**	**3.17**	**191**	*e*P	Pn	20 54 03.4	+2.3
GRHS				*e*S	Sn	20 54 39.8	+1.1
GRGR	**Grenville**	**3.27**	**191**	*e*P	Pn	20 54 02.7	+0.3
GRGR				*e*S	Sn	20 54 41.0	+0.2
TOSP	**Speyside**	**4.06**	**173**	*e*P	Pn	20 54 13.2	+0.4
TOSP				*e*S	Sn	20 54 57.8	-1.9
TRN	**Trinidad (W)**	**4.70**	**185**	*e*P	Pn	20 54 23.5	+2.2
TRN	**Trinidad (W)**	**4.70**	**185**	*e*S	Sn	20 55 12.6	-2.4
AOPR	**Arecibo Observ**	**6.25**	**299**	*e*P	Pn	20 54 43.5	+1.2

*TEH **18** 21:01:19.1, 32°.71N×47°.85E, h10km, ML2.8*
*ISN **18** 21:01:19.8±1.4, 32°.71N×47°.81E, h15km±8km, ML2.8*
ISC 18 21:01:19.8±1.1, 32°.70N±0°.06×47°.85E±0°.05, h10km, n12,
σ1§13/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.82**	**360**	*e*Pg	**Pg**	**21 01 34.6**	**-1.1**
IKFM				*e*		21 01 59.3	
IKMR	**Kamar-syah**	**0.93**	**28**	*e*Pg	**Pg**	**21 01 37.5**	**-0.3**
IKMR				*e*		21 01 60.0	
IDOB	**Doab**	**1.12**	**14**	*e*Pg	**Pg**	**21 01 40.1**	**-1.3**
IDOB				*e*		21 01 44.1	
BMDN	**Meydan**	**1.27**	**40**	*e*Pg	**Pb**	**21 01 43.4**	**-0.6**
BMDN				*e*		21 02 07.8	
IKOM	**Komasi**	**1.50**	**349**	*e*Pg	**Pn**	**21 01 46.2**	**-0.8**
IKOM				*e*		21 02 13.6	
HSAM	**Samen**	**1.64**	**22**	*e*Pn	**Pn**	**21 01 49.4**	**+0.5**
HSAM				*e*		21 01 53.9	
IBDR	**Badra**	**1.67**	**285**	*e*Pg	**Pn**	**21 01 49.0**	**-0.1**
IBDR				*e*Sg	**Sn**	**21 02 11.0**	**+0.5**
NSR	**Nassriya**	**2.22**	**221**	*e*Pn	**Pn**	**21 01 57.0**	**+0.3**
NSR				*e*Sn	**Sn**	**21 02 24.0**	**-0.3**
IDHR	**Dehrash**	**2.34**	**329**	*e*Pn	**Pn**	**21 02 00.5**	**+1.9**
IDHR				*e*		21 02 41.4	
HSRG	**Sareghieh**	**2.56**	**8**	*e*Pn	**Pn**	**21 02 03.5**	**+1.8**
HSRG				*e*		21 02 49.6	
IPIR	**Pirpir**	**2.56**	**89**	*e*Pn	**Pn**	**21 02 02.8**	**+1.1**
IPIR				*e*		21 03 06.2	
BHD	**Baghdad**	**2.97**	**282**	*e*Pn	**Pn**	**21 02 08.0**	**+1.0**
BHD				*e*Sn	**Sn**	**21 02 44.0**	**+1.3**

*IDC **18** 21:07:01.5±4.2, 51°.70N×178°.49E, h58km±39km, mb3.9/18, mb1 4.1/20, mb1mx3.9/47, mbtmp4.2/20, ML2.0/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/61, Error ellipse: s-maj=28.9km s-min=10.3km az=167.0*
*NEIC **18** 21:07:02.6±1.1, 51°.6N±0°.1×178°.46E±0°.09, h70km±6km, mb4.4/114, ML4.2/33(AEIC), Error ellipse: s-maj=19.3km s-min=8.2km az=175.0*
*AEIC **18** 21:07:03.2±1.9, 51°.6N±0°.1×178°.48E±0°.09, h59km±5km, Error ellipse: s-maj=18.1km s-min=7.8km az=173.0*
ISC 18 21:07:01.5±0.5, 51°.58N±0°.10×178°.36E±0°.05, h59km, n172,
σ1§66/151, mb4.4/67, 1C, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.37**	**20**		**Pn**	**21 07 14.2**	**+2.0**
LSSA	**Little Sitkin**	**0.38**	**14**		**Pn**	**21 07 14.2**	**+1.9**
LSPA	**Little Sitkin**	**0.40**	**19**		**Pn**	**21 07 14.3**	**+2.0**
LSPA					**Sn**	**21 07 22.8**	**+2.6**
LSNW	**Little Sitkin**	**0.40**	**14**		**Pn**	**21 07 14.2**	**+1.8**
AMKA	**Amchitka**	**0.62**	**109**	Pn	**Pn**	**21 07 15.9**	**+1.2**
AMKA					**Sn**	**21 07 26.0**	**+1.6**
CETU	**Semis' Tuman**	**0.80**	**61**		**Pn**	**21 07 18.3**	**+1.4**
CESW	**Semis' Southwe**	**0.81**	**66**		**Pn**	**21 07 18.1**	**+1.0**
CERB	**Semis' Cerberu**	**0.86**	**66**		**Pn**	**21 07 19.0**	**+1.3**
CEAP	**Semis' Anvil P**	**0.86**	**60**		**Pn**	**21 07 19.0**	**+1.3**
CERAA	**Semis' Rag'd T**	**0.88**	**68**		**Pn**	**21 07 19.1**	**+1.1**
SMY	**Shemya**	**2.87**	**295**		**Pn**	**21 07 46.2**	**+1.5**
ATKA	**Atka Island**	**4.65**	**79**		**Pn**	**21 08 09.6**	**+0.5**
KOFP	**Korovin Flat P**	**4.72**	**79**		**Pn**	**21 08 11.7**	**+1.6**
NIKH	**Nikolski High**	**7.96**	**75**	Pn	**Pn**	**21 08 54.6**	**+0.1**
OKWE	**Okmok W'ng Wal**	**8.39**	**72**		**Pn**	**21 09 03.0**	**+2.7**
OKTU	**Okmok Mt. Tuli**	**8.49**	**72**		**Pn**	**21 09 04.7**	**+3.0**

MAPS	**Pakushin South**	**9.20**	**70**		**Pn**	**21 09 14.1**	**+2.8**		
MSW	**Makushin Switc**	**9.31**	**70**		**Pn**	**21 09 15.4**	**+2.6**		
MREP	**Makushin Rep't**	**9.31**	**70**		**Pn**	**21 09 15.9**	**+2.9**		
MNAT	**Makushin Natee**	**9.36**	**70**		**Pn**	**21 09 16.4**	**+2.8**		
MTBL	**Makushin Table**	**9.38**	**69**		**Pn**	**21 09 17.0**	**+3.2**		
UNV	**Unalaska Valle**	**9.46**	**70**	Pn	**Pn**	**21 09 15.1**	**+0.2**		
AKRB	**Akutan Reef Bi**	**9.76**	**69**		**Pn**	**21 09 22.2**	**+3.3**		
AKMO	**Akutan Morgan**	**9.79**	**69**		**Pn**	**21 09 22.6**	**+3.3**		
AKGG	**Akutan Green G**	**9.81**	**68**		**Pn**	**21 09 22.7**	**+3.0**		
AKLV	**Akutan Long Va**	**9.83**	**69**		**Pn**	**21 09 22.9**	**+2.9**		
AKBBA	**Akutan Broad B**	**9.83**	**69**		**Pn**	**21 09 23.2**	**+3.3**		
AKUT	**Akutan**	**9.93**	**69**	Pn	**Pn**	**21 09 21.4**	**+0.2**		
AKSA	**Akutan Strait**	**9.97**	**69**		**Pn**	**21 09 25.3**	**+3.4**		
AKSA	**Akutan Strait**	**9.97**	**69**		**Pn**	**21 09 25.3**	**+3.4**		
PETK	**Petropavlovsk-**	**12.72**	**285**	P	**Pn**	**21 09 59.9**	**+0.4**		
	0.0nm,0.3s,baz=68,slow=16,SNR=2.5								
PETK				S	**Sn**	**21 12 12.6**	**-6.7**		
	0.1nm,0.3s,baz=83,slow=15,SNR=1.0								
PETK				LR	LR	21 14 36.7			
	comp=Z,82nm,21.3s,baz=61,slow=36								
PETK	**Petropavlovsk-**	**12.72**	**285**		**Pn**	**21 10 00.4**	**+1.0**		
SDPT	**Sand Point**	**13.14**	**65**	Pn	**Pn**	**21 10 03.2**	**-1.9**		
CNBA	**Chernabura Isl**	**13.59**	**68**	Pn	**Pn**	**21 10 08.5**	**-2.7**		
CHIR	**Chirikof Islan**	**15.93**	**64**	Pn	**Pn**	**21 10 38.3**	**-3.4**		
SII	**Sitkinak Islan**	**16.80**	**62**	P	**Pn**	**21 10 49.8**	**-2.8**		
SII				IAmb	IAmb	21 10 53.9			
	comp=Z,28nm,1.0s								
SVW2	**Sparrevohn**	**17.18**	**46**		**P**	**21 10 59.5**	**+1.4**		
OHAK	**Old Harbor**	**17.36**	**60**	P	**Pn**	**21 10 56.4**	**-3.0**		
OHAK				IAmb	IAmb	21 11 15.2			
	comp=Z,29nm,1.2s								
MA2	**Magadan**	**17.42**	**308**	LR	LR	21 16 41.1			
	comp=Z,80nm,20.1s,baz=82,slow=33								
TTA	**Tatalina**	**17.77**	**40**	P	**P**	**21 11 05.8**	**+1.2**		
KDAK	**Kodiak Island**	**17.81**	**58**	P	**P**	**21 11 01.9**	**-3.1**		
	comp=Z,1.4nm,0.3s,baz=265,slow=7.2,SNR=7.2								
KDAK				LR	LR	21 18 26.3			
	comp=Z,82nm,19.8s,baz=287,slow=39								
RSO	**Redoubt South**	**18.29**	**50**	P	**P**	**21 11 09.4**	**-1.0**		
CNPM	**China Poot**	**18.80**	**53**	P	**P**	**21 11 14.5**	**-1.4**		
CNPM				IAmb	IAmb	21 11 29.4			
	comp=Z,20nm,1.0s								
SPU	**Mount Spurr**	**18.82**	**48**	P	**Pn**	**21 11 18.0**	**+0.8**		
BRLK	**Bradley Lake**	**19.02**	**53**	P	**P**	**21 11 16.7**	**-1.6**		
SKT	**Skwentna**	**19.31**	**46**	P	**P**	**21 11 21.1**	**-0.3**		
SKT				IAmb	IAmb	21 11 26.5			
	comp=Z,21nm,0.9s								
PPLA	**Purkeypile**	**19.34**	**43**		**P**	**21 11 21.6**	**-0.3**		
SUA	**Susitna One**	**19.51**	**48**	P	**Pn**	**21 11 24.0**	**-1.5**		
SEW	**Seward**	**19.80**	**52**	P	**P**	**21 11 26.6**	**-0.1**		
SEW				IAmb	IAmb	21 11 30.0			
	comp=Z,12nm,0.9s								
IMAR	**Indian Mountai**	**20.16**	**34**	P	**P**	**21 11 30.5**	**-0.1**		
BPAW	**Bear Paw Mtn.**	**20.31**	**40**	P	**P**	**21 11 32.1**	**-0.2**		
GHO	**Glory Hole Cre**	**20.43**	**47**	P	**P**	**21 11 33.1**	**-0.6**		
KNK	**Knik Glacier**	**20.56**	**49**	P	**P**	**21 11 34.7**	**-0.3**		
KNK				IAmb	IAmb	21 11 38.6			
	comp=Z,16nm,1.0s								
RND	**Reindeer**	**20.94**	**43**	P	**P**	**21 11 38.7**	**-0.4**		
BWN	**Browne**	**20.96**	**41**	P	**P**	**21 11 39.7**	**+0.5**		
BWN				IAmb	IAmb	21 11 55.6			
	comp=Z,13nm,0.9s								
GLI	**Glacier Island**	**21.09**	**50**	P	**P**	**21 11 39.9**	**-0.9**		
GLI				IAmb	IAmb	21 11 42.0			
	comp=Z,16nm,0.6s								
SCM	**Sheep Creek Mo**	**21.18**	**48**	IAmb	IAmb	21 11 41.8			
	comp=Z,14nm,0.6s								
HIN	**Hinchinbrook I**	**21.30**	**52**	P	**P**	**21 11 41.1**	**-1.9**		
HIN				IAmb	IAmb	21 11 45.1			
	comp=Z,29nm,1.2s								
FID	**Port Fidalgo**	**21.37**	**51**	P	**P**	**21 11 41.6**	**-2.0**		
FID				IAmb	IAmb	21 11 44.1			
	comp=Z,24nm,0.8s								
WRH	**Wood River Hil**	**21.62**	**41**	P	**P**	**21 11 48.1**	**+1.8**		
EYAK	**Cordova Ski Ar**	**21.69**	**52**	P	**P**	**21 11 46.2**	**-0.9**		
EYAK				IAmb	IAmb	21 11 48.5			
	comp=Z,17nm,0.9s								
MDM	**Murphy Dome**	**21.75**	**39**	P	**P**	**21 11 47.5**	**-0.2**		
KLU	**Klutina**	**21.77**	**49**	P	**P**	**21 11 47.0**	**-0.9**		
CCB	**Clear Creek Bu**	**21.80**	**40**	P	**P**	**21 11 47.6**	**-0.6**		
COLD	**Coldfoot**	**22.02**	**33**	P	**P**	**21 11 48.7**	**-1.8**		
HDA	**Harding Lake**	**22.07**	**41**	P	**P**	**21 11 50.9**	**-0.2**		
RAGM	**Ragged Mountai**	**22.20**	**52**	P	**P**	**21 11 52.2**	**-0.4**		
IL31		**22.21**	**40**	P	**P**	**21 11 52.5**	**-0.1**		
ILAR	**Eielson Array**	**22.21**	**40**	P	**P**	**21 11 50.6**	**-2.1**		
	comp=Z,1.7nm,0.6s,baz=237,slow=8.4,SNR=18								
ILAR	**Eielson Array**	**22.21**	**40**	P	**P**	**21 11 52.3**	**-0.4**		
KAIM	**Kayak Island**	**22.28**	**53**	P	**P**	**21 11 52.3**	**-1.1**		
PAX	**Paxson**	**22.29**	**45**	P	**P**	**21 11 49.7**	**-3.9**		
PAX				IAmb	IAmb	21 11 55.4			
	comp=Z,10nm,1.0s								
SUCK	**Suckling Hills**	**22.61**	**53**	P	**P**	**21 11 54.8**	**-2.2**		
GLB	**Gilahina Butte**	**22.76**	**50**	IAmb	IAmb	21 11 59.8			
	comp=Z,17nm,1.1s								
VRDI	**Verde Repeater**	**22.90**	**50**	P	**P**	**21 11 59.7**	**-0.5**		
VRDI				IAmb	IAmb	21 12 00.6			
	comp=Z,13nm,1.0s								
TOLK	**Toolik Lake Re**	**22.95**	**30**	IAmb	IAmb	21 12 01.9			
	comp=Z,12nm,0.8s								
MENT	**Mentasta**	**23.06**	**46**	P	**P**	**21 12 01.3**	**-0.3**		
DOT	**Dot Lake**	**23.07**	**44**	P	**P**	**21 12 00.7**	**-1.0**		
DOT				IAmb	IAmb	21 12 01.9			
	comp=Z,11nm,0.8s								
MCARA	**McCarthy VSAT**	**23.12**	**50**	P	**P**	**21 12 00.6**	**-1.6**		
MCARA				IAmb	IAmb	21 12 03.4			
	comp=Z,21nm,1.0s								
BALM	**Baldy**	**23.41**	**51**	IAmb	IAmb	21 12 05.2			
	comp=Z,7.2nm,0.7s								
BCAR	**Beaver Creek A**	**23.95**	**46**	P	**P**	**21 12 09.7**	**-0.3**		
EGAK	**Eagle**	**24.57**	**42**	P	**P**	**21 12 14.8**	**-0.6**		
EGAK				IAmb	IAmb	21 12 15.8			
	comp=Z,12nm,0.8s								
ASAJ	**Asahikawa**	**24.94**	**267**	P	**P**	**21 12 20.6**	**+1.6**		
	comp=Z,11nm,0.8s,baz=53,slow=4.5,SNR=14								
HYT	**Haines Junctio**	**25.76**	**52**	IAmb	IAmb	21 12 30.1			
	comp=Z,5.0nm,0.6s								
INK	**Inuvik**	**28.32**	**36**	P	**P**	**21 12 48.5**	**-0.5**		
	comp=Z,1.6nm,0.5s,baz=234,slow=8.3,SNR=12								
INK	**Inuvik**	**28.32**	**36**	P	**P**	**21 12 48.4**	**-0.7**		
KLR	**Kul'dur**	**29.41**	**284**	P	**P**	**21 12 59.4**	**+0.3**		
	comp=Z,6.8nm,0.6s,baz=64,slow=8.3,SNR=31								
USRK	**Ussuriysk Ar.**	**31.51**	**275**	P	**P**	**21 13 17.9**	**+0.3**		
	comp=Z,2.9nm,0.8s,baz=62,slow=8.0,SNR=5.1								
USRK	**Ussuriysk Ar.**	**31.51**	**275**	P	**P**	**21 13 18.2**	**+0.6**		
C36M	**Paulatuk**	**31.86**	**35**	P	**P**	**21 13 20.4**	**+0.1**		
MJAR	**Matsushiro Arr**	**32.08**	**258**	P	**P**	**21 13 24.3**	**+1.6**		
	comp=Z,0.8nm,0.5s,baz=39,slow=6.2,SNR=2.3								
H11N2	**WAKE ISLAND Hy**	**33.04**	**200**	T	T	21 48 43.6			
	baz=11,slow=76,SNR=47								
H11N3	**WAKE ISLAND Hy**	**33.05**	**200**	T	T	21 48 51.9			
	baz=11,slow=76,SNR=30								
H11N1	**WAKE ISLAND Hy**	**33.06**	**200**	T	T	21 48 45.0			
	baz=11,slow=76,SNR=37								
H11S1	**WAKE ISLAND Hy**	**34.27**	**200**	T	T	21 50 17.9			
	baz=20,slow=76,SNR=16								
H11S2	**WAKE ISLAND Hy**	**34.28**	**200**	T	T	21 50 31.7			
	baz=20,slow=76,SNR=9.2								
H11S3	**WAKE ISLAND Hy**	**34.28**	**200**	T	T	21 50 24.6			
	baz=20,slow=76,SNR=10.0								
YKA	**Yellowknife Ar**	**36.37**	**46**	P	**P**	**21 13 58.9**	**-0.6**		
	comp=Z,3.3nm,0.5s,baz=285,slow=7.3,SNR=6.8								
KSRS	**Korea Array**	**37.87**	**268**	P	**P**	**21 14 13.9**	**+1.5**		
	comp=Z,2.2nm,0.7s,baz=57,slow=8.0,SNR=8.7								
LON	**Longmire**	**38.46**	**73**	P	**P**	**21 14 17.0**	**-0.4**		
LON				IAmb	IAmb	21 14 18.0			
	comp=Z,2.3nm,0.6s								
LTY	**Liberty**	**38.88**	**72**	P	**P**	**21 14 20.1**	**-0.9**		
LTY				IAmb	IAmb	21 14 21.9			
	comp=Z,1.7nm,0.6s								
B08A	**Colville Reser**	**39.13**	**69**	P	**P**	**21 14 21.2**	**-1.9**		
HAWA	**Hanford**	**40.00**	**72**	P	**P**	**21 14 29.3**	**-0.8**		
HAWA				IAmb	IAmb	21 14 29.8			
	comp=Z,4.0nm,0.6s								
NEW	**Newport**	**40.47**	**68**	P	**P**	**21 14 33.0**	**-1.1**		
NEW				IAmb	IAmb	21 14 33.3			
	comp=Z,3.6nm,0.7s								
EUNU	**Eureka**	**40.56**	**15**	P	**P**	**21 14 34.0**	**-0.6**		
YBH	**Yreka Blue Hor**	**40.60**	**80**	P	**P**	**21 14 35.2**	**-0.1**		
YBH				IAmb	IAmb	21 14 37.7			
	comp=Z,7.6nm,0.9s								
KMRM	**Mail Ridge**	**40.86**	**83**	P	**P**	**21 14 37.1**	**-0.3**		
K05A	**Summer Lake**	**41.15**	**78**	P	**P**	**21 14 39.1**	**-0.9**		
K05A				IAmb	IAmb	21 14 41.5			
	comp=Z,5.3nm,0.7s								

I07A	**Izee**	**41.24**	**75**	P	**P**	**21 14 40.0**	**-0.6**		
I07A				IAmb	IAmb	21 14 41.9			
	comp=Z,3.1nm,0.7s								
WALA	**Waterton Lakes**	**41.91**	**66**	P	**P**	**21 14 45.8**	**-0.3**		
WALA				IAmb	IAmb	21 14 46.0			
	comp=Z,3.5nm,0.6s								
MOD	**Modoc Plateau**	**41.98**	**78**	P	**P**	**21 14 46.6**	**-0.1**		
MOD				IAmb	IAmb	21 14 47.7			
	comp=Z,6.5nm,0.7s								
HOPS	**Hopland Field**	**41.99**	**84**	P	**P**	**21 14 45.9**	**-0.7**		
JTMT	**Jette**	**42.37**	**68**	P	**P**	**21 14 48.3**	**-1.5**		
WVOR	**Wild Horse Val**	**42.69**	**77**	P	**P**	**21 14 51.8**	**-0.7**		
MSO	**Missoula**	**43.05**	**69**	P	**P**	**21 14 53.3**	**-2.0**		
PAHR	**Pah Rah Range**	**43.83**	**80**	P	**P**	**21 15 01.0**	**-0.7**		
PAHR				IAmb	IAmb	21 15 03.2			
	comp=Z,6.5nm,0.9s								
PNTR	**Pine Nut**	**44.08**	**81**	P	**P**	**21 15 03.9**	**+0.1**		
TLY	**Talaya**	**44.45**	**301**	P	**P**	**21 15 06.2**	**-0.1**		
TLY				IAmb	IAmb	21 15 07.2			
	comp=Z,3.3nm,0.8s								
LRM	**Limekiln Ridge**	**44.47**	**69**	P	**P**	**21 15 04.8**	**-2.0**		
WAKR	**Walker**	**44.53**	**82**	P	**P**	**21 15 06.7**	**-0.7**		
WAKR				IAmb	IAmb	21 15 08.8			
	comp=Z,5.2nm,0.8s								
SONM	**Songino Array**	**44.96**	**295**	P	**P**	**21 15 11.0**	**+0.5**		
	comp=Z,2.5nm,0.6s,baz=59,slow=8.3,SNR=17								
SONM	**Songino Array**	**44.96**	**295**	P	**P**	**21 15 10.9**	**+0.3**		
RYN	**Ryan**	**45.02**	**81**	P	**P**	**21 15 11.1**	**-0.2**		
RYN				IAmb	IAmb	21 15 12.2			
	comp=Z,8.3nm,1.0s								
KVN	**Kaiserville**	**45.02**	**80**	P	**P**	**21 15 11.2**	**-0.1**		
KVN				IAmb	IAmb	21 15 11.7			
	comp=Z,3.1nm,0.6s								
BOZ	**Bozeman (W)**	**45.07**	**69**	IAmb	IAmb	21 15 10.5			
	comp=Z,4.9nm,0.6s								
PMPB	**Monarch Peak**	**45.12**	**85**	P	**P**	**21 15 11.8**	**-0.2**		
LHV	**Little Huntoon**	**45.27**	**81**	IAmb	IAmb	21 15 14.8			
	comp=Z,9.8nm,1.2s								
NVAR	**Mina Array Bea**	**45.28**	**81**	P	**P**	**21 15 13.5**	**+0.2**		
	comp=Z,5.4nm,0.8s,baz=290,slow=7.9,SNR=30								
NVAR	**Mina Array Bea**	**45.28**	**81**	P	**P**	**21 15 12.7**	**-0.6**		
OMMB	**Old Mammoth Mi**	**45.36**	**82**	P	**P**	**21 15 13.4**	**-0.7**		
OMMB				IAmb	IAmb	21 15 15.6			
	comp=Z,5.1nm,1.0s								
NV11	**Mina Array Sit**	**45.37**	**81**	IAm

	comp=E,68nm,0.7s							
IBDR					AML	AML	21 09 59.6	
	comp=N,99nm,0.6s							
AHWZ	**Ahwaz**	**1.59**	**151**	*e*Sg		**Sg**	**21 10 00.6**	**+3.3**
HSAM	**Samen**	**1.64**	**26**	*e*Pn		**Pg**	**21 09 37.0**	**-0.5**
HSAM				*e*			21 09 40.6	
KER	**Kermanshah**	**1.72**	**343**	*e*Pn		**Pb**	**21 09 36.9**	**-0.5**
IBZA	**Bozab**	**1.73**	**3**	*e*Pn		**Pb**	**21 09 37.8**	**+0.1**
IBZA				*e*			21 09 40.2	
IVIS	**Veis**	**1.94**	**338**	*e*Pn		**Pb**	**21 09 40.1**	**-0.9**
IVIS				*e*			21 10 08.2	
NSR	**Nassriya**	**2.19**	**219**	*e*Pn		**Pn**	**21 09 42.0**	**+0.2**
NSR				*e*Sn		**Sn**	**21 10 08.0**	**-0.7**
JHBN	**Jahan bin**	**2.52**	**101**	*e*Pn		**Pb**	**21 09 49.3**	**-1.8**
JHBN				*e*			21 10 35.5	
HSRG	**Sareghieh**	**2.54**	**10**	*e*Pn		**Pb**	**21 09 50.0**	**-1.4**
HSRG				*e*			21 09 54.3	
IPIR	**Pirpir**	**2.65**	**90**	*e*Pn		**Pb**	**21 09 51.2**	**-2.2**
IPIR				*e*			21 10 38.0	
BHD	**Baghdad**	**2.88**	**282**	*e*Pn		**Pn**	**21 09 51.0**	**-0.2**
BHD				*e*Sn		**Sn**	**21 10 26.0**	**+0.4**

RSNC 18 21:12:13.2±1.0, 4°05N×76°03W, h163km±4km, ML2.9, Mw3.5, 6C-7D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.32**	**259**	↑*i*P	Pn	21 12 34.5	-1.0
YOTC				*e*S	Sn	21 12 51.2	-1.3
YOTC				*i*		21 12 52.1	
	comp=Z,134nm,0.1s						
ANIL	**Santa Ana**	**0.77**	**55**	↑*i*P	Pn	21 12 37.7	-0.2
ANIL				*e*S	Sn	21 12 56.7	-0.1
ANIL				*i*		21 12 58.5	
	comp=Z,114nm,0.4s						
ORTC	**Ortega, Tolima**	**0.80**	**100**	↑*i*P	Pn	21 12 37.4	-0.4
ORTC				*e*S	Sn	21 12 55.7	-0.9
ORTC				*i*		21 12 58.4	
	comp=Z,133nm,0.5s						
PLMC	**San Jos del P**	**0.89**	**344**	↑*e*P	Pn	21 12 38.2	-0.3
PLMC				*e*S	Sn	21 12 58.4	+0.3
TOLC	**Tolima**	**0.89**	**53**	*e*P	Pn	21 12 38.8	0.0
TOLC				*e*S	Sn	21 12 59.2	+0.8
RREF	**El Recreo**	**1.09**	**39**	↑*e*P	Pn	21 12 39.6	-1.1
RREF				*e*S	Sn	21 13 01.4	-0.4
RREF				*i*		21 13 05.3	
	comp=Z,108nm,0.3s						
PRAC	**Prado**	**1.19**	**106**	*e*P	Pn	21 12 40.9	0.0
PRAC				*e*S	Sn	21 13 02.5	+0.4
PRAC				*i*		21 13 04.8	
	comp=Z,63nm,0.5s						
MARP	**Paez Belalcaza**	**1.20**	**176**	*e*P	Pn	21 12 41.3	0.0
MARP				*e*S	Sn	21 13 02.2	-0.7
MARP				*i*		21 13 03.3	
	comp=Z,70nm,0.6s						
MALC	**Bahia Malaga**	**1.30**	**269**	*e*P	Pn	21 12 42.0	+0.2
MALC				*e*S	Sn	21 13 05.1	+1.3
MALC				*i*		21 13 14.7	
	comp=Z,106nm,0.3s						
GUY2C	**Guyana, Caldas**	**1.35**	**30**	↓*i*P	Pn	21 12 42.6	-0.2
GUY2C				*e*S	Sn	21 13 05.1	-0.5
GUY2C				*i*		21 13 07.7	
	comp=Z,148nm,0.5s						
PIZC	**Pizarro, Choco**	**1.61**	**305**	↑*i*P	Pn	21 12 45.1	+0.2
PIZC				*e*S	Sn	21 13 09.4	+0.1
PIZC				*i*		21 13 09.8	
	comp=Z,110nm,0.5s						
POPC	**Popayan, Colom**	**1.63**	**203**	↓*e*P	Pn	21 12 44.1	-1.3
POPC				*e*S	Sn	21 13 07.4	-2.8
POPC				*i*		21 13 09.3	
	comp=Z,172nm,0.4s						
PCON	**Cinco Dias**	**1.75**	**192**	*e*P	Pn	21 12 47.2	+0.3
PCON				*e*S	Sn	21 13 13.2	+0.2
PCON				*i*		21 13 16.8	
	comp=Z,118nm,0.6s						
CBOC	**Ciudad Bolivar**	**1.81**	**1**	*e*P	Pn	21 12 46.6	-0.6
CBOC				*e*S	Sn	21 13 12.7	-0.8
CBOC				*i*		21 13 19.4	
	comp=Z,77nm,0.4s						
NORC	**Norcasia**	**1.90**	**38**	↓*i*P	Pn	21 12 48.0	-0.2
NORC				*e*S	Sn	21 13 14.5	-0.6
NORC				*i*		21 13 16.1	
	comp=Z,33nm,0.4s						
GARC	**Garzon, Huila**	**1.92**	**164**	*e*P	Pn	21 12 47.7	-0.9
GARC				*e*S	Sn	21 13 15.0	-1.0
GARC				*i*		21 13 23.2	
	comp=Z,43nm,0.2s						
SOTA	**Rioblanco**	**1.98**	**197**	*e*S	Sn	21 13 16.9	-0.6
HELC	**Santa Helena**	**2.19**	**13**	↓*i*P	Pn	21 12 51.2	-0.5
HELC				*e*S	Sn	21 13 21.2	-0.3
HELC				*i*		21 13 25.1	
	comp=Z,52nm,0.5s						
VILC	**Villavicencio,**	**2.33**	**88**	*e*P	Pn	21 12 54.4	+1.2
VILC				*e*S	Sn	21 13 26.3	+2.3
VILC				*i*		21 13 29.4	
	comp=Z,52nm,0.5s						
BBAC	**Balboa, Cauca**	**2.35**	**211**	*e*P	Pn	21 12 52.5	-1.0
BBAC				*e*S	Sn	21 13 22.2	-2.4
GR1C	**Gorgona, Isla**	**2.37**	**244**	*e*P	Pn	21 12 51.6	-1.9
GR1C				*e*S	Sn	21 13 20.8	-3.7
GR1C				*i*		21 13 22.4	
	comp=Z,24nm,0.6s						
FLOC	**Florencia**	**2.48**	**171**	↓*i*P	Pn	21 12 54.4	-0.4
FLOC				*e*S	Sn	21 13 26.6	-0.4
FLOC				*i*		21 13 28.9	
	comp=Z,35nm,0.6s						
SPBC	**San Pablo de B**	**2.52**	**51**	↓*i*P	Pn	21 12 55.6	+0.2
SOLC	**Bahia Solano**	**2.56**	**328**	*e*S	Sn	21 13 27.9	-0.8
SOLC				*i*		21 13 29.3	
	comp=Z,47nm,0.4s						
CRUC	**La Cruz**	**2.63**	**200**	*e*P	Pn	21 12 56.5	-0.5
CRUC				*e*S	Sn	21 13 30.3	-0.5
CRUC				*i*		21 13 31.1	
	comp=Z,23nm,0.1s						
PTBC	**PUERTO BERRIO,**	**2.93**	**32**	*e*P	Pn	21 12 59.5	-0.8
PTBC				*e*S	Sn	21 13 35.2	-1.7
PTBC				*i*		21 13 37.2	
	comp=Z,10nm,0.4s						
DBBC	**Dabeiba**	**2.96**	**357**	*e*P	Pn	21 13 00.7	0.0
DBBC				*e*S	Sn	21 13 37.5	-0.2
GCUF	**Volcan Galeras**	**3.09**	**205**	*e*P	Pn	21 13 01.6	-1.2
GCUF				*e*S	Sn	21 13 38.7	-2.6
GCUF				*i*		21 13 41.9	
	comp=Z,71nm,0.3s						
RUSC	**La Rusia**	**3.46**	**58**	*e*P	Pn	21 13 07.7	+0.2
RUSC				*e*S	Sn	21 13 51.1	+1.6
ZARC	**Zaragoza, Cauc**	**3.62**	**19**	↓*e*P	Pn	21 13 08.3	-0.6
ZARC				*e*S	Sn	21 13 51.1	-1.2
ZARC				*i*		21 13 52.6	
	comp=Z,44nm,0.3s						
UREC	**San Jos de Ur**	**3.71**	**8**	*e*P	Pn	21 13 09.6	-0.6
UREC				*e*S	Sn	21 13 53.4	-1.3
UREC				*i*		21 13 54.0	
	comp=Z,18nm,0.2s						
BARC	**Barichara**	**3.80**	**48**	*e*P	Pn	21 13 11.5	0.0
BARC				*e*S	Sn	21 13 55.8	-1.1
BARC				*i*		21 14 01.9	
	comp=Z,25nm,0.5s						
BRRC	**Barranca, Sant**	**3.82**	**37**	*e*P	Pn	21 13 10.7	-0.8
BRRC				*e*S	Sn	21 13 55.6	-1.4
BRRC				*i*		21 14 00.5	
	comp=Z,13nm,0.2s						
OTAV	**Otavalo**	**4.49**	**213**	*e*P	Pn	21 13 19.0	-1.7
OTAV				*e*S	Sn	21 14 11.6	-1.6
PAMC	**Pamplona, Colo**	**4.66**	**45**	*e*P	Pn	21 13 22.3	-0.6
PAMC				*e*S	Sn	21 14 16.4	-0.8
PAMC				*i*		21 14 22.8	
	comp=Z,6.4nm,0.5s						
MOTC	**Monteria, Cord**	**4.72**	**4**	*e*P	Pn	21 13 22.7	-0.4
MOTC				*e*S	Sn	21 14 15.9	-1.9
MOTC				*i*		21 14 20.4	
	comp=Z,4.9nm,0.2s						
SMLC	**San Martn de**	**5.11**	**22**	*e*P	Pn	21 13 26.8	-1.6
SMLC				*e*S	Sn	21 14 23.6	-3.6
SMLC				*i*		21 14 26.7	
	comp=Z,9.8nm,0.4s						
SJCC	**San Jacinto, C**	**5.87**	**8**	*e*P	Pn	21 13 38.1	-0.3
SJCC				*e*S	Sn	21 14 43.7	-1.7
SJCC				*i*		21 14 47.6	
	comp=Z,3.0nm,0.4s						

ISN 18 21:15:35.7±1.0, 32°66N×47°70E, h16km±7km, ML3.0
TEH 18 21:15:36.3, 32°68N×47°69E, h8km, ML3.0
THR 18 21:15:38.2±0.8, 32°72N×47°65E, h18km±10km, ML3.4
ISC 18 21:15:37.2±1.0, 32°66N±0°04×47°62E±0°04, h10km, n45, σ0°99/50, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.88**	**12**	*e*Pg	**Pg**	**21 15 52.4**	**-1.8**
IKFM				*e*	**Sn**	**21 16 08.2**	**-0.3**
IKMR	**Kamar-syah**	**1.07**	**37**	*e*Pg	**Pg**	**21 15 56.0**	**-1.7**
IKMR				*e*		21 16 18.6	
SHGR	**Shooshtar-Gavs**	**1.14**	**118**	*e*Pg	**Pb**	**21 15 59.7**	**+0.7**
SHGR				IAML		21 16 20.4	
	comp=E,864nm,0.3s						
SHGR				IAML		21 16 20.8	
	comp=N,746nm,0.4s						
IDOB	**Doab**	**1.22**	**22**	*e*Pg	**Pb**	**21 15 59.5**	**-1.0**
BMDN	**Meydan**	**1.43**	**45**	*e*		21 16 28.3	
BMDN				*e*Pg	**Pn**	**21 16 03.0**	**-0.4**
IBDR	**Badra**	**1.49**	**288**	*e*Pg	**Pn**	**21 16 04.0**	**0.0**
IBDR				*e*Sg	**Sn**	**21 16 25.0**	**+1.5**
IBDR				AML	AML	21 16 28.4	
	comp=N,206nm,0.5s						
IBDR				AML	AML	21 16 28.9	
	comp=E,292nm,0.8s						
IKOM	**Komasi**	**1.51**	**357**	*e*		21 16 30.1	
IKOM				*e*Pg	**Pn**	**21 16 04.6**	**+0.1**
AHWZ	**Ahwaz**	**1.58**	**146**	*e*Pg	**Pn**	**21 16 06.6**	**+1.3**
KCHF	**Cheshme Sefid,**	**1.68**	**343**	*e*Pg	**Pn**	**21 16 06.6**	**-0.3**
HSAM	**Samen**	**1.75**	**28**	*e*		21 16 36.8	
HSAM				*e*Pg	**Pn**	**21 16 09.2**	**+1.3**
KER	**Kermanshah**	**1.77**	**347**	*e*Pn	**Pn**	**21 16 08.7**	**+0.7**
IBZA	**Bozab**	**1.82**	**6**	*e*		21 16 40.5	
IBZA				*e*Pg	**Pn**	**21 16 09.3**	**+0.5**
IGHG	**Ghaleghazi**	**1.88**	**332**	*e*Pn	**Pn**	**21 16 11.5**	**+1.8**
IGHG				*e*		21 16 48.4	
IVIS	**Veis**	**1.97**	**341**	*e*Pn	**Pn**	**21 16 10.5**	**-0.2**
IVIS				*e*		21 16 40.9	
NSR	**Nassriya**	**2.07**	**218**	*e*Pn	**Pn**	**21 16 12.0**	**0.0**
NSR				*e*Sn	**Sn**	**21 16 37.0**	**-0.8**
KHMZ	**Khomeyn**	**2.24**	**61**	*e*Pn	**Pn**	**21 16 15.5**	**+1.0**
IALM	**Almabolaq**	**2.24**	**12**	*e*Pn	**Pn**	**21 16 15.6**	**+1.0**
IDHR	**Dehrash**	**2.28**	**334**	*e*Pn	**Pn**	**21 16 15.6**	**+0.5**
IDHR				*e*		21 16 56.0	
ILIN	**Lien**	**2.32**	**347**	*e*Pn	**Pn**	**21 16 16.1**	**+0.4**
ILIN				*e*		21 16 53.9	
SNGE	**Sanandaj**	**2.44**	**355**	*e*Pn	**Pn**	**21 16 18.9**	**+1.7**
HAGD	**Aghdareh**	**2.50**	**30**	*e*Pn	**Pn**	**21 16 18.6**	**+0.4**
HAGD				*e*		21 17 00.6	
JHBN	**Jahan bin**	**2.61**	**99**	*e*Pn	**Pn**	**21 16 19.8**	**+0.1**
JHBN				*e*		21 17 06.8	
HSRG	**Sareghieh**	**2.63**	**12**	*e*Pn	**Pn**	**21 16 21.8**	**+1.8**
HSRG				*e*		21 17 04.0	
ASAO	**Ashtian**	**2.75**	**46**	*e*Pn	**Pn**	**21 16 22.7**	**+1.1**
ASAO				*e*Sg	**Sb**	**21 17 02.8**	**+2.2**
IPIR	**Pirpir**	**2.76**	**89**	*e*Pn	**Pn**	**21 16 22.3**	**+0.5**
IPIR				*e*		21 17 06.1	
BHD	**Baghdad**	**2.79**	**283**	*e*Pn	**Pn**	**21 16 22.0**	**+0.1**
BHD				*e*Sn	**Sn**	**21 16 57.0**	**+1.4**
ROKH	**ROKH**	**2.90**	**95**	*e*Pn	**Pn**	**21 16 23.8**	**+0.1**
ROKH				*e*		21 17 16.4	
IRAZ	**Razeghan**	**3.34**	**34**	*e*Pn	**Pn**	**21 16 30.9**	**+1.2**
IKLH	**Kolahrood**	**3.39**	**78**	*e*Pn	**Pn**	**21 16 31.5**	**+1.1**
IKLH				*e*		21 17 44.2	
QABG	**Abgarm-Qazvin**	**3.45**	**28**	*e*Pn	**Pn**	**21 16 31.7**	**+0.5**
QABG				*e*		21 16 44.2	
IGAR	**Gharneh**	**3.74**	**93**	*e*Pn	**Pn**	**21 16 35.3**	**+0.1**
IGAR				*e*		21 17 43.9	
KLNJ	**Kolanjah**	**3.76**	**115**	*e*Pn	**Pn**	**21 16 35.8**	**+0.2**
KLNJ				*e*		21 17 46.2	
IZEF	**Zefreh**	**3.97**	**85**	*e*Pn	**Pn**	**21 16 39.0**	**+0.6**
QSDN	**Sirdan**	**4.04**	**18**	*e*Pn	**Pn**	**21 16 40.0**	**+0.6**
IRAM	**Ramesheh**	**4.12**	**101**	*e*Pn	**Pn**	**21 16 39.8**	**-0.7**
IGZV	**Ghazvin**	**4.29**	**29**	*e*Pn	**Pn**	**21 16 43.0**	**+0.2**
QALM	**Alamut, Qazvin**	**4.52**	**33**	*e*Pn	**Pn**	**21 16 45.9**	**0.0**
IDMV	**Damavand**	**4.68**	**50**	*e*Pn	**Pn**	**21 16 48.2**	**+0.1**
ANAR	**Anarak**	**5.17**	**82**	*e*Pn	**Pn**	**21 16 54.0**	**-0.7**
IFIR	**Firoozkooh**	**5.19**	**54**	*e*Pn	**Pn**	**21 16 55.4**	**+0.2**
ILAS	**Lasjerd**	**5.20**	**57**	*e*Pn	**Pn**	**21 16 55.9**	**+0.6**
IALA	**Alasht**	**5.49**	**50**	*e*Pn	**Pn**	**21 17 01.0**	**+1.8**
ISHM	**Shahmirzad**	**5.65**	**55**	*e*Pn	**Pn**	**21 17 02.6**	**+1.1**
IANJ	**Anjilo**	**5.93**	**60**	*e*Pn	**Pn**	**21 17 04.3**	**-1.0**
IGLO	**Ghaloghah**	**6.40**	**51**	*e*Pn	**Pn**	**21 17 12.7**	**+1.0**

IDC 18 21:17:59.0±3.4, 24°45S×179°75E, h469km±34km, mb3.2/5, mb1 3.4/6, mb1mx3.1/28, mbtmp4.0/6, Error ellipse: s-maj=33.6km s-min=28.0km az=16.0
NEIC 18 21:17:59.6±1.7, 24°5S±0°2×179°8E±0°2, h496km±18km, mb4.1/10, Error ellipse: s-maj=27.5km s-min=14.6km az=216.0
ISC 18 21:18:01.5±0.7, 24°53S±0°09×179°8E±0°1, h517km, n22, σ1§32/24, mb4.0/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.96**	**346**	P	**P**	**21 19 45.9**	**-2.1**
NIUE	**Niue**	**10.95**	**62**	P	**P**	**21 20 29.1**	**+0.1**
URZ	**Urewera**	**13.88**	**189**	P	**P**	**21 20 57.9**	**-1.7**
	0.4nm,0.3s,baz=12,slow=11,SNR=2.3						
URZ				S	**S**	**21 23 25.0**	**-1.4**
	0.4nm,0.3s,baz=345,slow=18,SNR=1.6						
NNZ	**Nelson**	**17.49**	**196**	P	**P**	**21 21 36.5**	**+0.3**
RPZ	**Rata Peaks**	**20.45**	**198**	P	**P**	**21 22 04.0**	**+0.9**
	1.9nm,0.4s,baz=11,slow=17,SNR=1.6						
RPZ	**Rata Peaks**	**20.45**	**198**	P	**P**	**21 22 05.1**	**+2.0**
CTAO	**Charters Tower**	**31.32**	**271**	P	**P**	**21 23 39.6**	**+0.3**
CTAO				IAmb	IAmb	21 23 41.1	
	comp=Z,6.4nm,0.7s						
STKA	**Stephens Creek**	**34.34**	**249**	P	**P**	**21 24 05.4**	**+0.6**
BBOO	**Buckleboo**	**39.05**	**248**	P	**P**	**21 24 43.0**	**-0.6**
BBOO				IAmb	IAmb	21 25 01.2	
	comp=Z,6.8nm,1.1s						
AS31	**Alice Springs**	**41.78**	**261**	P	**P**	**21 25 05.0**	**-0.6**
ASAR	**Alice Springs**	**41.78**	**261**	P	**P**	**21 25 05.9**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=94,slow=7.3,SNR=16						
ASAR	**Alice Springs**	**41.78**	**261**	P	**P**	**21 25 05.2**	**-0.4**
WR0	**Warramunga Arr**	**42.02**	**267**	P	**P**	**21 25 07.0**	**-0.5**
WR0				IAmb	IAmb	21 25 15.3	
	comp=Z,3.0nm,1.1s						
WB0	**Warramunga Arr**	**42.20**	**267**	P	**P**	**21 25 07.9**	**-1.0**
WB0				IAmb	IAmb	21 25 09.4	
	comp=Z,5.5nm,0.7s						
WRA	**Warramunga Arr**	**42.21**	**267**	P	**P**	**21 25 08.7**	**-0.3**
	comp=Z,1.9nm,0.3s,baz=99,slow=8.2,SNR=56						
WRA				ScP	**ScP**	**21 29 56.7**	**+4.1**
	comp=Z,0.8nm,0.8s,baz=100,slow=3.7,SNR=5.5						
WRA	**Warramunga Arr**	**42.21**	**267**	P	**P**	**21 25 08.7**	**-0.3**
KNRA	**Kununurra**	**48.53**	**270**	P	**P**	**21 25 57.2**	**-0.2**
KNRA				IAmb	IAmb	21 25 58.0	
	comp=Z,6.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.62**	**266**	P	**P**	**21 26 12.2**	**-0.7**
QSPA	**South Pole Qui**	**65.56**	**180**	P	**P**	**21 27 54.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**	**21 30 05.4**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=101,slow=3.8,SNR=4.3						
TXAR	**Lajitas Array**	**90.90**	**58**	P	**P**	**21 30 10.7**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=199,slow=2.7,SNR=3.4						
BRTR	**Keskin Array B**	**147.82**	**306**	PKPbc	**PKPab**	**21 36 52.2**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=50,slow=4.5,SNR=4.2						

IDC 18 21:24:30.9±1.9, 32°47N×47°66E, h0km, mb3.7/8, mb1 3.9/12, mb1mx3.6/60, mbtmp3.7/12, ML3.6/4, Error ellipse: s-maj=38.1km s-min=20.2km az=4.0
ISN 18 21:24:32.4±0.4, 32°60N×47°90E, h14km±2km, ML3.5
TEH 18 21:24:34.7, 32°60N×47°81E, h16km, ML3.8
THR 18 21:24:35.8±0.5, 32°52N×47°85E, h18km±7km, ML4.0
ISC 18 21:24:34.8±1.1, 32°57N±0°03×47°78E±0°03, h17km±9km, n91, σ1§59/91, mb4.0/13, 7C-9D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.98**	**118**	*e*Pg	**Pb**	**21 24 53.0**	**-0.3**
SHGR				IAML		21 25 19.3	
	comp=E,2µm,0.4s						
SHGR	**Shooshtar-Gavs**	**0.98**	**118**	*e*Pg	**Pb**	**21 24 53.0**	**-0.3**
IKMR	**Kamar-syah**	**1.07**	**28**	*e*Pg	**Pb**	**21 24 54.0**	**-0.8**
IKMR				*e*		21 24 57.7	
IDOB	**Doab**	**1.26**	**15**	*e*Pg	**Pn**	**21 24 57.5**	**-0.3**
BMDN	**Meydan**	**1.41**	**38**	*e*Pg	**Pg**	**21 25 00.7**	**-1.2**
BMDN				*e*		21 25 26.2	
AHWZ	**Ahwaz**	**1.44**	**149**	*e*Pg	**Pb**	**21 25 01.3**	**+0.2**
AHWZ				*e*Sg	**Sg**	**21 25 23.1**	**+1.8**
IKOM	**Komasi**	**1.61**	**352**	*e*		21 25 07.9	
IKOM				*e*Pg	**Pb**	**21 25 04.2**	**0.0**
IKOM				*e*Sg	**Sg**	**21 25 27.8**	**+0.9**
IBDR	**Badra**	**1.65**	**290**	*e*Pg	**Pb**	**21 25 04.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**21 25 27.0**	**-0.9**
IBDR				AML	AML	21 25 34.3	
	comp=E,518nm,0.7s						
IBDR				AML	AML	21 25 34.4	
	comp=N,587nm,0.9s						
HSAM	**Samen**	**1.78**	**23**	*e*		21 25 09.4	
HSAM				*e*Pg	**Pb**	**21 25 06.7**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.81**	**340**	*e*		21 25 40.7	
KCHF				*e*Pn	**Pb**	**21 25 06.9**	**-0.6**
KER	**Kermanshah**	**1.89**	**344**	*e*Pn	**Pb**	**21 25 07.7**	**-1.2**
IBZA	**Bozab**	**1.90**	**2**	*e*		21 25 47.7	
IBZA				*e*Pg	**Pb**	**21 25 08.8**	**-0.3**
IGHG	**Ghaleghazi**	**2.02**	**330**	*e*	Sg	21 25 47.8	+7.8
NSR	**Nassriya**	**2.09**	**222**	*e*Pn	**Pn**	**21 25 09.0**	**0.0**
NSR				*e*Sn	**Sn**	**21 25 36.0**	**+1.5**
IVIS	**Veis**	**2.10**	**339**	*e*Pn	**Pn**	**21 25 10.6**	**+1.4**
IVIS				*e*		21 25 17.5	
KHMZ	**Khomeyn**	**2.17**	**57**	*e*Pn	**Pb**	**21 25 12.9**	**-0.8**
KHMZ	**Khomeyn**	**2.17**	**57**	*e*Pn	**Pb**	**21 25 12.9**	**-0.8**
IALM	**Almabolaq**	**2.31**	**8**	*e*Pn	**Pb**	**21 25 14.3**	**-1.8**
IDHR	**Dehrash**	**2.42**	**332**	*e*Pn	**Pn**	**21 25 14.8**	**+1.1**
IDHR				*e*		21 26 02.6	
ILIN	**Lien**	**2.44**	**344**	*e*Pn	**Pn**	**21 25 15.7**	**+1.7**
ILIN				*e*		21 25 56.7	
JHBN	**Jahan bin**	**2.47**	**97**	*e*Pn	**Pn**	**21 25 15.9**	**+1.4**
JHBN				*e*		21 25 57.6	
HAGD	**Aghdareh**	**2.52**	**26**	*e*Pn	**Pn**	**21 25 15.8**	**+0.7**
HAGD				*e*		21 26 06.1	
SNGE	**Sanandaj**	**2.54**	**352**	*e*Pn	**Pb**	**21 25 19.4**	**-0.6**
IPIR	**Pirpir**	**2.63**	**87**	*e*Pn	**Pn**	**21 25 18.2**	**+1.5**
IPIR				*e*		21 26 07.3	
HSRG	**Sareghieh**	**2.70**	**9**	*e*Pn	**Pn**	**21 25 18.9**	**+1.3**
HSRG				*e*		21 26 07.0	
ASAO	**Ashtian**	**2.72**	**43**	*e*Pn	**Pb**	**21 25 20.8**	**-2.4**
ASAO				*e*Sg	Sg	21 26 01.3	-1.0
ASAO	**Ashtian**	**2.72**	**43**	*e*Pn	**Pb**	**21 25 20.8**	**-2.4**
ROKH	**ROKH**	**2.76**	**94**	*e*Pn	**Pn**	**21 25 19.7**	**+1.2**
ROKH				*e*		21 26 11.8	
BHD	**Baghdad**	**2.94**	**285**	*e*Pn	**Pn**	**21 25 22.0**	**+1.3**
BHD				*e*Sn	**Sn**	**21 25 58.0**	**+2.4**
BHD				AML	AML	21 26 24.1	
	comp=E,324nm,0.5s						
IKLH	**Kolahrood**	**3.28**	**76**	*e*Pn	**Pn**	**21 25 27.7**	**+2.1**
IKLH				*e*		21 26 28.1	
IRAZ	**Razeghan**	**3.34**	**32**	*e*Pn	**Pn**	**21 25 29.2**	**+2.8**
QABG	**Abgarm-Qazvin**	**3.47**	**25**	*e*Pn	**Pn**	**21 25 29.9**	**+1.7**
KLNJ	**Kolanjah**	**3.60**	**115**	*e*Pn	**Pn**	**21 25 31.2**	**+1.1**
KLNJ				*e*		21 26 43.7	
IGAR	**Gharneh**	**3.61**	**92**	*e*Pn	**Pn**	**21 25 31.2**	**+1.1**
IGAR				*e*		21 26 16.4	
IZEF	**Zefreh**	**3.85**	**84**	*e*Pn	**Pn**	**21 25 35.3**	**+1.9**
IRAM	**Ramesheh**	**3.98**	**100**	*e*Pn	**Pn**	**21 25 35.4**	**+0.3**
QSDN	**Sirdan**	**4.09**	**16**	*e*Pn	**Pn**	**21 25 38.7**	**+2.0**
IGZV	**Ghazvin**	**4.31**	**27**	*e*Pn	**Pn**	**21 25 41.2**	**+1.5**
MAHB	**Mahabad**	**4.52**	**338**	*e*Pn	**Pn**	**21 25 43.8**	**+1.1**
QALM	**Alamut, Qazvin**	**4.52**	**31**	*e*Pn	**Pn**	**21 25 43.8**	**+1.1**
IDMV	**Damavand**	**4.63**	**48**	*e*Pn	**Pn**	**21 25 45.7**	**+1.5**
ANAR	**Anarak**	**5.04**	**81**	*e*Pn	**Pn**	**21 25 50.8**	**+1.1**
ISAD	**Sadrabad**	**5.05**	**96**	*e*Pn	**Pn**	**21 25 50.7**	**+0.8**
ILAS	**Lasjerd**	**5.14**	**56**	*e*Pn	**Pn**	**21 25 52.5**	**+1.4**
IFIR	**Firoozkooh**	**5.14**	**52**	*e*Pn	**Pn**	**21 25 52.1**	**+0.9**
IPRN	**Peran**	**5.25**	**45**	*e*Pn	**Pn**	**21 25 54.9**	**+2.3**
IALA	**Alasht**	**5.44**	**49**	*e*Pn	**Pn**	**21 25 57.4**	**+2.1**
ISHM	**Shahmirzad**	**5.59**	**53**	*e*Pn	**Pn**	**21 25 58.4**	**+1.0**
ICHK	**Chekchek**	**5.62**	**92**	*e*Pn	**Pn**	**21 25 58.0**	**+0.3**
IHRS	**Heris**	**5.77**	**354**	*e*Pn	**Pn**	**21 26 02.9**	**+3.2**
IANJ	**Anjilo**	**5.86**	**59**	*e*Pn	**Pn**	**21 26 01.3**	**+0.3

IKOM	**Komasi**	**1.70**	**352**	*e*Pn	**Pg**	**21 34 49.2**	**-0.9**
IKOM				*e*		21 35 17.8	
HSAM	**Samen**	**1.85**	**21**	*e*Pn	**Pg**	**21 34 51.5**	**-1.5**
HSAM				*e*		21 34 55.4	
IBZA	**Bozab**	**1.98**	**2**	*e*Pn	**Pg**	**21 34 54.2**	**-1.2**
IBZA				*e*		21 34 60.0	
IGHG	**Ghaleghazi**	**2.10**	**331**	*e*Pn	**Pg**	**21 34 57.2**	**-0.6**
IGHG				*e*		21 35 30.9	
IVIS	**Veis**	**2.18**	**339**	*e*Pn	**Pg**	**21 34 57.9**	**-1.4**
IVIS				*e*		21 35 33.2	
IDHR	**Dehrash**	**2.49**	**332**	*e*Pn	**Pg**	**21 35 03.1**	**-2.2**
IDHR				*e*		21 35 41.0	
IPIR	**Pirpir**	**2.63**	**85**	*e*Pn	**Pb**	**21 35 03.0**	**-1.5**
IPIR				*e*		21 35 54.4	
HSRG	**Sareghieh**	**2.78**	**8**	*e*		21 35 48.9	
HSRG				*e*Pn	**Pb**	**21 35 05.7**	**-1.3**

*ISN **18** 21:38:59.5±1.3,32°.66N×47°.55E,h6km,7km,ML2.9*
*TEH **18** 21:39:00.8,32°.68N×47°.57E,h17km,ML3.0*
ISC 18 21:39:01.4±1.0,**32°.64N**±0°.04×**47°.55E**±0°.04,**h10**km,**n29,**
σ0:**99**/34,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.91**	**16**	*e*Pg	**Pg**	**21 39 18.1**	**-0.9**
IKMR	**Kamar-syah**	**1.11**	**38**	*e*Pg	**Pb**	**21 39 20.9**	**-1.9**
IKMR				*e*	**Sn**	**21 39 39.8**	**+1.3**
IDOB	**Doab**	**1.25**	**24**	*e*Pg	**Pn**	**21 39 23.7**	**-1.6**
IBDR	**Badra**	**1.44**	**289**	*e*Pg	**Pn**	**21 39 27.0**	**-0.6**
IBDR				*e*Sg	**Sn**	**21 39 47.0**	**+0.3**
IBDR				AML	AML	21 39 52.4	
	comp=E,218nm,0.4s						
IBDR				AML	AML	21 39 52.5	
	comp=N,189nm,0.4s						
BMDN	**Meydan**	**1.48**	**46**	*e*Pg	**Pn**	**21 39 28.1**	**-0.2**
BMDN				*e*		21 39 54.1	
IKOM	**Komasi**	**1.53**	**359**	*e*Pg	**Pn**	**21 39 28.8**	**-0.2**
IKOM				*e*		21 39 29.9	
AHWZ	**Ahwaz**	**1.60**	**144**	*e*Pg	**Pn**	**21 39 31.1**	**+1.3**
KCHF	**Cheshme Sefid,**	**1.68**	**345**	*e*Pn	**Pn**	**21 39 31.1**	**0.0**
KER	**Kermanshah**	**1.77**	**349**	*e*Pn	**Pn**	**21 39 32.9**	**+0.6**
HSAM	**Samen**	**1.79**	**29**	*e*Pg	**Pn**	**21 39 32.4**	**-0.3**
IBZA	**Bozab**	**1.84**	**8**	*e*Pg	**Pn**	**21 39 33.4**	**0.0**
IGHG	**Ghaleghazi**	**1.87**	**334**	*e*Pn	**Pn**	**21 39 33.7**	**-0.1**
IGHG				*e*		21 40 21.4	
IVIS	**Veis**	**1.97**	**343**	*e*Pn	**Pn**	**21 39 35.7**	**+0.7**
IVIS				*e*	**Sg**	**21 40 07.7**	**+2.9**
NSR	**Nassriya**	**2.02**	**217**	*e*Pn	**Pn**	**21 39 36.0**	**+0.4**
NSR				*e*Sn	**Sn**	**21 40 01.0**	**0.0**
IALM	**Almabolaq**	**2.27**	**13**	*e*Pn	**Pn**	**21 39 39.8**	**+0.5**
IDHR	**Dehrash**	**2.27**	**335**	*e*Pn	**Pn**	**21 39 38.6**	**-0.6**
IDHR				*e*		21 40 20.8	
ILIN	**Lien**	**2.32**	**348**	*e*Pn	**Pn**	**21 39 39.3**	**-0.7**
ILIN				*e*		21 40 21.7	
HAGD	**Aghdareh**	**2.54**	**31**	*e*Pn	**Pn**	**21 39 43.2**	**+0.2**
HAGD				*e*		21 40 28.0	
HSRG	**Sareghieh**	**2.66**	**13**	*e*Pn	**Pn**	**21 39 46.2**	**+1.5**
HSRG				*e*		21 40 29.8	
JHBN	**Jahan bin**	**2.66**	**98**	*e*Pn	**Pn**	**21 39 44.6**	**-0.1**
BHD	**Baghdad**	**2.74**	**284**	*e*Pn	**Pn**	**21 39 45.0**	**-0.5**
BHD				*e*Sn	**Sn**	**21 40 20.0**	**+1.3**
IPIR	**Pirpir**	**2.81**	**88**	*e*Pn	**Pn**	**21 39 46.3**	**-0.5**
IRAZ	**Razeghan**	**3.39**	**35**	*e*Pn	**Pn**	**21 39 55.7**	**+1.1**
IKLH	**Kolahrood**	**3.45**	**78**	*e*Pn	**Pn**	**21 39 56.4**	**+0.9**
IKLH				*e*		21 41 09.1	
QABG	**Abgarm-Qazvin**	**3.49**	**28**	*e*Pn	**Pn**	**21 39 56.4**	**+0.4**
IGAR	**Gharneh**	**3.80**	**92**	*e*Pn	**Pn**	**21 40 00.0**	**-0.2**
IZEF	**Zefreh**	**4.03**	**85**	*e*Pn	**Pn**	**21 40 03.6**	**+0.1**
QSDN	**Sirdan**	**4.08**	**19**	*e*Pn	**Pn**	**21 40 04.5**	**+0.4**
QALM	**Alamut, Qazvin**	**4.56**	**33**	*e*Pn	**Pn**	**21 40 12.0**	**+1.3**

*ISN **18** 21:41:08.5±0.6,32°.71N×47°.52E,h15km,4km,ML3.0*
*TEH **18** 21:41:10.3,32°.74N×47°.40E,h16km,ML3.0*
ISC 18 21:41:10.5±1.0,**32°.68N**±0°.05×**47°.39E**±0°.04,**h10**km,**n26,**
σ1:**02**/30,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.92**	**24**	*e*Pg	**Pg**	**21 41 27.5**	**-0.8**
IKFM				*e*Sg	**Sg**	**21 41 39.2**	**-1.1**
IKFM				*e*		21 41 44.0	
IKMR	**Kamar-syah**	**1.18**	**45**	*e*Pg	**Pb**	**21 41 31.5**	**-1.4**
IKMR				*e*		21 41 59.0	
IBDR	**Badra**	**1.30**	**290**	*e*Pg	**Pn**	**21 41 34.0**	**-0.7**
IBDR				*e*Sg	**Sb**	**21 41 53.0**	**+1.3**
IBDR				AML	AML	21 41 55.6	
	comp=E,329nm,0.6s						
IBDR				AML	AML	21 41 56.4	
	comp=N,241nm,0.4s						
IKOM	**Komasi**	**1.49**	**4**	*e*Pg	**Pn**	**21 41 37.4**	**-0.1**
IKOM				*e*		21 42 05.5	
BMDN	**Meydan**	**1.56**	**50**	*e*Pn	**Pn**	**21 41 39.0**	**+0.6**
BMDN				*e*		21 42 07.0	
KCHF	**Cheshme Sefid,**	**1.61**	**350**	*e*Pn	**Pn**	**21 41 39.2**	**0.0**
KCHF				*e*		21 42 04.2	
KER	**Kermanshah**	**1.71**	**353**	*e*Pn	**Pn**	**21 41 41.1**	**+0.6**
IGHG	**Ghaleghazi**	**1.78**	**338**	*e*Pn	**Pn**	**21 41 41.4**	**-0.1**
IGHG				*e*		21 42 17.4	
IBZA	**Bozab**	**1.82**	**12**	*e*Pn	**Pn**	**21 41 42.9**	**+0.7**
IBZA				*e*		21 42 17.2	
HSAM	**Samen**	**1.83**	**33**	*e*Pg	**Pn**	**21 41 43.0**	**+0.7**
HSAM				*e*		21 42 12.5	
NSR	**Nassriya**	**1.98**	**213**	*e*Pn	**Pn**	**21 41 44.0**	**0.0**
NSR				*e*Sn	**Sn**	**21 42 09.0**	**+0.2**
IDHR	**Dehrash**	**2.18**	**338**	*e*Pn	**Pn**	**21 41 48.4**	**+1.4**
IDHR				*e*		21 42 26.0	
ILIN	**Lien**	**2.26**	**351**	*e*Pn	**Pn**	**21 41 48.3**	**+0.2**
ILIN				*e*		21 42 27.9	
IALM	**Almabolaq**	**2.27**	**16**	*e*Pn	**Pn**	**21 41 49.5**	**+1.2**
HAGD	**Aghdareh**	**2.58**	**34**	*e*Pn	**Pn**	**21 41 53.2**	**+0.6**
HAGD				*e*		21 42 41.6	
BHD	**Baghdad**	**2.60**	**284**	*e*Pn	**Pn**	**21 41 53.0**	**+0.5**
BHD				*e*Sn	**Sn**	**21 42 26.0**	**+1.9**
HSRG	**Sareghieh**	**2.66**	**16**	*e*Pn	**Pn**	**21 41 55.8**	**+2.2**
HSRG				*e*		21 42 42.9	
JHBN	**Jahan bin**	**2.81**	**98**	*e*Pn	**Pn**	**21 41 56.3**	**+0.6**
JHBN				*e*		21 42 47.1	
IPIR	**Pirpir**	**2.95**	**89**	*e*Pn	**Pn**	**21 41 58.5**	**+0.8**
IPIR				*e*		21 42 54.4	
IRAZ	**Razeghan**	**3.44**	**37**	*e*Pn	**Pn**	**21 42 06.3**	**+2.0**
QABG	**Abgarm-Qazvin**	**3.52**	**30**	*e*Pn	**Pn**	**21 42 05.4**	**-0.1**
IKLH	**Kolahrood**	**3.58**	**79**	*e*		21 42 09.6	
IKLH				*e*Pn	**Pn**	**21 42 07.1**	**+0.8**
IGAR	**Gharneh**	**3.94**	**93**	*e*Pn	**Pn**	**21 42 11.6**	**+0.4**
IGAR				*e*		21 43 30.6	
KLNJ	**Kolanjah**	**3.95**	**114**	*e*Pn	**Pn**	**21 42 12.3**	**+0.9**
KLNJ				*e*		21 43 31.1	
QSDN	**Sirdan**	**4.09**	**21**	*e*Pn	**Pn**	**21 42 13.4**	**+0.2**
IANJ	**Anjilo**	**6.08**	**61**	*e*Pn	**Pn**	**21 42 41.9**	**+1.2**

*BJI **18** 21:44:26.0±0.0,32°.50N×47°.60E,h6km,mB4.8/27,*
mb4.6/39,Ms4.4/20,Ms7 4.1/20
*MOS **18** 21:44:27.9±1.1,32°.59N×47°.56E,h22km,mb4.9/43,Error ellipse: s-maj=4.9km s-min=3.0km az=119.7*
*GII **18** 21:44:28.0±0.0,32°.45N×47°.58E,h6km*
*TEH **18** 21:44:28.4,32°.71N×47°.55E,h9km,ML4.6*
*ISN **18** 21:44:28.8±1.1,32°.71N×47°.61E,h29km,7km,ML4.4*
*IDC **18** 21:44:29.3±2.0,32°.68N×47°.55E,h15km±12km,mb4.2/39,*
mb1 4.3/47,mb1mx4.2/61,mbtmp4.3/47,ML4.2/7,MS3.7/35,
Ms1 3.7/35,ms1mx3.6/52,Error ellipse: s-maj=11.0km
s-min=9.2km az=160.0
*THR **18** 21:44:29.7±0.7,32°.76N×47°.54E,h14km±10km,ML4.8*
*NEIC **18** 21:44:30.4±1.5,32°.61N±0°.06×47°.57E±0°.06,h29km±5km,*
Error ellipse: s-maj=8.6km s-min=6.9km az=197.0
*OMAN **18** 21:44:30.5±0.9,32°.04N×47°.26E,h10km±999km,*
mb6.0/13,ms3.6/1,Error ellipse: s-maj=1313.0km
s-min=82.0km az=285.0
*GCMT **18** 21:44:30.3±0.4,32°.69N±0°.05×47°.42E±0°.05,h17km±1km,*
MW4.7/76,Moment Tensor Solution. s10,c11; s76,c95;
Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.67±.15;
Mθθ-0.84±.09; Mφφ-0.82±.09; Mrθ0.25±.29; Mθφ0.37±.05;
Mφr0.18±.28; Best double couple: M0 1.46200×10^16
NP1:φs322.00000°,δ44.00000°,λ101.00000°. NP2:
φs126.00000°,δ47.00000°,λ79.00000°. Principal axes: T

1.7140, Plg82.0000°, Azm322.0000°; N -0.5030,
Plg8.0000°, Azm134.0000°; P -1.2090, Plg1.0000°,
Azm224.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
*DSN **18** 21:44:33.8±1.0,32°.34N×48°.00E,h10km,mb5.5/2,ML4.7/1*
Error ellipse: s-maj=14.7km s-min=9.2km az=70.0
ISC 18 21:44:29.1±0.8,**32°.61N**±0°.03×**47°.52E**±0°.03,**h17**km±4km,
n649,σ1:**47**/682,**mb4.6**/174,**MS3.8**/32,**53C-32D,Iran-Iraq**
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.95**	**17**	*e*Pg	**Pb**	**21 44 44.8**	**-2.5**
IKFM	**Kafar-mosalman**	**0.95**	**17**		**Pb**	**21 44 44.7**	**-2.5**
IKMR	**Kamar-syah**	**1.16**	**38**	*e*Pg	**Pb**	**21 44 48.5**	**-2.2**
IKMR				*e*		21 45 11.6	
IKMR	**Kamar-syah**	**1.16**	**38**	Pg	**Pb**	**21 44 48.1**	**-2.6**
SHGR	**Shooshtar-Gavs**	**1.19**	**114**	*e*Pg	**Pg**	**21 44 52.6**	**+0.4**
SHGR				IAML		21 45 15.5	
	comp=E,16μm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.19**	**114**	*e*Pg	**Pg**	**21 44 52.6**	**+0.4**
SHGR	**Shooshtar-Gavs**	**1.19**	**114**		**Pg**	**21 44 52.5**	**+0.4**
IDOB	**Doab**	**1.30**	**25**	*e*Pg	**Pn**	**21 44 51.8**	**-0.9**
IDOB	**Doab**	**1.30**	**25**		**Pn**	**21 44 51.8**	**-0.9**
IBDR	**Badra**	**1.43**	**291**	*e*Pg	**Pn**	**21 44 55.0**	**+0.7**
IBDR				*e*Sg	**Sb**	**21 45 15.0**	**+1.7**
IBDR				AML	AML	21 45 20.5	
	comp=N,7μm,0.6s						
IBDR				AML	AML	21 45 22.2	
	comp=E,5μm,0.9s						
BMDN	**Meydan**	**1.52**	**46**	*e*Pg	**Pn**	**21 44 55.9**	**+0.1**
BMDN				*e*		21 45 25.3	
BMDN	**Meydan**	**1.52**	**46**		**Pn**	**21 44 55.3**	**-0.5**
IKOM	**Komasi**	**1.56**	**360**	*e*Pg	**Pn**	**21 44 56.6**	**+0.3**
IKOM				*e*		21 45 00.5	
IKOM	**Komasi**	**1.56**	**360**		**Pn**	**21 44 56.8**	**+0.5**
AHWZ	**Ahwaz**	**1.59**	**143**	*e*Pg	**Pg**	**21 44 59.6**	**-0.1**
AHWZ	**Ahwaz**	**1.59**	**143**	Pg	**Pg**	**21 44 59.6**	**-0.1**
AHWZ				Sg	**Sg**	**21 45 23.7**	**+3.3**
KCHF	**Cheshme Sefid,**	**1.71**	**347**	*e*Pg	**Pn**	**21 44 59.6**	**+1.2**
KCHF				*e*		21 45 25.1	
KCHF	**Cheshme Sefid,**	**1.71**	**347**		**Pn**	**21 44 59.1**	**+0.7**
KER	**Kermanshah**	**1.80**	**350**	P	**Pn**	**21 45 00.5**	**+0.9**
KER	**Kermanshah**	**1.80**	**350**	*e*Pn	**Pn**	**21 45 00.5**	**+0.9**
KER	**Kermanshah**	**1.80**	**350**	Pn	**Pn**	**21 45 00.5**	**+0.9**
HSAM	**Samen**	**1.84**	**29**	*e*Pg	**Pb**	**21 45 02.0**	**-0.5**
HSAM				*e*		21 45 29.7	
HSAM	**Samen**	**1.84**	**29**	Pg	**Pn**	**21 45 01.4**	**+1.2**
IBZA	**Bozab**	**1.88**	**9**	*e*Pg	**Pn**	**21 45 02.3**	**+1.5**
IBZA				*e*		21 45 36.5	
IBZA	**Bozab**	**1.88**	**9**	Pg	**Pn**	**21 45 02.0**	**+1.2**
IGHG	**Ghaleghazi**	**1.89**	**335**	*e*Pn	**Pn**	**21 45 02.7**	**+1.8**
IGHG				*e*		21 45 40.1	
IGHG	**Ghaleghazi**	**1.89**	**335**	Pn	**Pn**	**21 45 02.6**	**+1.7**
NSR	**Nassriya**	**1.98**	**217**	*e*Pn	**Pn**	**21 45 04.0**	**+2.2**
NSR				*e*Sn	**Sn**	**21 45 28.0**	**+1.8**
IVIS	**Veis**	**2.00**	**344**	*e*		21 45 35.9	
IVIS				*e*Pn	**Pb**	**21 45 04.3**	**-0.8**
IDHR	**Dehrash**	**2.29**	**336**	*e*		21 45 46.3	
IDHR				*e*Pn	**Pn**	**21 45 07.6**	**+1.2**
IALM	**Almabolaq**	**2.31**	**13**	*e*Pn	**Pn**	**21 45 07.7**	**+1.0**
KHMZ	**Khomeyn**	**2.34**	**60**	*e*Pn	**Pb**	**21 45 09.2**	**-1.7**
KHMZ	**Khomeyn**	**2.34**	**60**	*e*Pn	**Pb**	**21 45 09.2**	**-1.7**
ILIN	**Lien**	**2.35**	**349**	*e*		21 45 46.1	
ILIN				*e*Pn	**Pn**	**21 45 08.3**	**+1.1**
SNGE	**Sanandaj**	**2.48**	**357**	*e*Pn	**Pn**	**21 45 09.6**	**+0.6**
SNGE	**Sanandaj**	**2.48**	**357**	*e*Pn	**Pn**	**21 45 09.6**	**+0.6**
HAGD	**Aghdareh**	**2.59**	**31**	*e*Pn	**Pn**	**21 45 12.1**	**+1.6**
HAGD				*e*		21 45 52.5	
JHBN	**Jahan bin**	**2.69**	**97**	*e*Pn	**Pn**	**21 45 13.9**	**+2.0**
JHBN				*e*		21 46 05.2	
HSRG	**Sareghieh**	**2.70**	**13**	*e*Pn	**Pn**	**21 45 14.3**	**+2.2**
HSRG				*e*		21 45 55.7	
BHD	**Baghdad**	**2.72**	**285**	*e*Pn	**Pn**	**21 45 13.0**	**+0.9**
BHD				*e*Sn	**Sn**	**21 45 46.0**	**+1.4**
IPIR	**Pirpir**	**2.84**	**88**	*e*Pn	**Pn**	**21 45 15.5**	**+1.4**
IPIR				*e*		21 46 11.7	
ASAO	**Ashtian**	**2.85**	**47**	*e*Pn	**Pn**	**21 45 15.3**	**+1.2**
ASAO				*e*Sg	**Sb**	**21 45 55.4**	**+0.9**
ASAO	**Ashtian**	**2.85**	**47**	*e*Pn	**Pn**	**21 45 15.3**	**+1.2**
ROKH	**ROKH**	**2.98**	**94**	*e*Pn	**Pn**	**21 45 17.7**	**+1.8**
ROKH				*e*		21 46 21.9	
IRAZ	**Razeghan**	**3.43**	**35**	*e*Pn	**Pn**	**21 45 24.9**	**+2.8**
IKLH	**Kolahrood**	**3.48**	**77**	*e*Pn	**Pn**	**21 45 24.5**	**+1.7**
IKLH				*e*		21 46 30.7	
QABG	**Abgarm-Qazvin**	**3.54**	**28**	*e*Pn	**Pn**	**21 45 24.5**	**+1.0**
KLNJ	**Kolanjah**	**3.81**	**114**	*e*Pn	**Pn**	**21 45 29.7**	**+2.3**
KLNJ				*e*		21 46 47.6	
IGAR	**Gharneh**	**3.83**	**92**	*e*Pn	**Pn**	**21 45 29.2**	**+1.7**
IMHD	**Mahdasht**	**4.03**	**39**	*e*Pn	**Pn**	**21 45 31.4**	**+1.2**
IZEF	**Zefreh**	**4.06**	**85**	*e*Pn	**Pn**	**21 45 32.7**	**+1.9**
QSDN	**Sirdan**	**4.12**	**19**	*e*Pn	**Pn**	**21 45 33.3**	**+1.8**
IRAM	**Ramesheh**	**4.20**	**100**	*e*Pn	**Pn**	**21 45 34.2**	**+1.6**
IHSB	**Hasanabad**	**4.21**	**47**	*e*Pn	**Pn**	**21 45 33.9**	**+1.3**
IGZV	**Ghazvin**	**4.38**	**30**	*e*Pn	**Pn**	**21 45 37.1**	**+2.0**
MAHB	**Mahabad**	**4.41**	**341**	*e*Pn	**Pn**	**21 45 36.5**	**+1.1**
QALM	**Alamut, Qazvin**	**4.61**	**33**	*e*Pn	**Pn**	**21 45 39.1**	**+0.9**
KAZ1	**Kazerun**	**4.62**	**129**	*e*Pn	**Pn**	**21 45 40.9**	**+2.7**
IDMV	**Damavand**	**4.77**	**50**	*e*Pn	**Pn**	**21 45 41.8**	**+1.2**
SHI	**Shiraz**	**5.20**	**123**	*e*Pn	**Pn**	**21 45 48.3**	**+1.9**
ANAR	**Anarak**	**5.25**	**82**	*e*Pn	**Pn**	**21 45 48.0**	**+1.0**
ISAD	**Sadrabad**	**5.27**	**96**	*e*Pn	**Pn**	**21 45 48.8**	**+1.4**
IFIR	**Firoozkooh**	**5.29**	**54**	*e*Pn	**Pn**	**21 45 49.0**	**+1.3**
ILAS	**Lasjerd**	**5.30**	**57**	*e*Pn	**Pn**	**21 45 48.8**	**+1.1**
IPRN	**Peran**	**5.38**	**46**	*e*Pn	**Pn**	**21 45 51.3**	**+2.5**
IALA	**Alasht**	**5.58**	**50**	*e*Pn	**Pn**	**21 45 54.0**	**+2.3**
ISHM	**Shahmirzad**	**5.75**	**55**	*e*Pn	**Pn**	**21 45 55.4**	**+1.4**
ICHK	**Chekchek**	**5.83**	**92**	*e*Pn	**Pn**	**21 45 56.7**	**+1.6**
HAKT	**HAKKARI**	**5.84**	**329**	*e*Pn	**Pn**	**21 45 55.1**	**-0.1**
AHAR	**Ahar**	**5.88**	**356**	*e*Pn	**Pn**	**21 45 57.7**	**+2.0**
IANJ	**Anjilo**	**6.03**	**60**	*e*Pn	**Pn**	**21 45 58.7**	**+1.0**
IMEH	**Mehriz**	**6.15**	**99**	*e*Pn	**Pn**	**21 46 00.8**	**+1.4**
LKRN	**Lenkeran, Azer**	**6.18**	**9**	P	**Pn**	**21 46 00.6**	**+1.1**
IGLO	**Ghalooghah**	**6.50**	**52**	*e*Pn	**Pn**	**21 46 06.1**	**+1.9**
GEVA	**Gevas**	**6.76**	**329**	Pn	**Pn**	**21 46 07.4**	**-0.3**
NAX	**Nakhchivan**	**6.76**	**346**	P	**Pn**	**21 46 12.6**	**+5.0**
IBAF	**Bafgh**	**6.90**	**96**	*e*Pn	**Pn**	**21 46 10.8**	**+1.1**
LMD1	**Lamerd**	**7.18**	**136**	*e*Pn	**Pn**	**21 46 15.4**	**+2.0**
MARD	**Mardin**	**7.26**	**312**	Pn	**Pn**	**21 46 13.7**	**-0.9**
LAR1	**LAR**	**7.71**	**128**	*e*Pn	**Pn**	**21 46 23.4**	**+2.7**
TPRV	**Parvadeh(Tabas**	**7.73**	**84**	*e*Pn	**Pn**	**21 46 22.3**	**+1.3**
TNSJ	**Nastanj**	**7.73**	**77**	*e*Pn	**Pn**	**21 46 21.7**	**+0.7**
KHGB	**Koh Gabri**	**7.96**	**104**	*e*Pn	**Pn**	**21 46 26.9**	**+2.5**
GANJ	**Ganja**	**8.08**	**354**	P	**Pn**	**21 46 28.5**	**+2.8**
TKDS	**Koohdasht(Taba**	**8.12**	**80**	*e*Pn	**Pn**	**21 46 27.5**	**+1.2**
NGRK	**Negar Kerman**	**8.43**	**108**	*e*Pn	**Pn**	**21 46 32.0**	**+1.1**
SEKA	**Sheki**	**8.59**	**358**	P	**Pn**	**21 46 35.6**	**+2.9**
AKT	**Akhty**	**8.86**	**1**	*e*P	**Pn**	**21 46 39.7**	**+3.2**
AKT				pmax	pmax		
	comp=Z,11nm,0.7s						
ASF	**Jabal al Asfar**	**8.99**	**270**	Pn	**Pn**	**21 46 38.9**	**+0.5**
	comp=Z,2.2nm,0.3s,baz=49,slow=9.2,SNR=10						
ASF				Sn	**Sn**	**21 48 15.2**	**-4.1**
	comp=Z,1.9nm,0.3s,baz=262,slow=20,SNR=1.4						
ASF				Lg	Lg	21 49 10.7	
	comp=Z,1.6nm,0.3s,baz=37,slow=23,SNR=1.5						
ASF				LR	LR	21 51 08.5	
	comp=Z,473nm,18.3s,baz=51,slow=44						
GENO	**Geno**	**9.12**	**122**	*e*Pn	**Pn**	**21 46 40.3**	**+0.2**
SLWR	**Sila**	**9.26**	**156**	*e*Pn	**Pn**	**21 46 41.3**	**-0.7**
KOPT	**Kop Dagi**	**9.31**	**325**	Pn	**Pn**	**21 46 44.9**	**+2.0**
MALT	**Malatya**	**9.35**	**310**	P	**Pn**	**21 46 45.1**	**+1.9**
AKH	**Akhalkalaki**	**9.36**	**341**	P	**Pn**	**21 46 44.8**	**+1.4**
AKH	**Akhalkalaki**	**9.36**	**341**	Pn	**Pn**	**21 46 44.8**	**+1.4**
TBLG	**Delisi**	**9.37**	**347**	P	**Pn**	**21 46 44.4**	**+1.0**
TBLG	**Delisi**	**9.37**	**347**	Pn	**Pn**	**21 46 44.4**	**+1.0**
ITEG	**Tejag**	**9.46**	**85**	*e*Pn	**Pn**	**21 46 46.0**	**+1.2**
GAZ	**Gaziantep**	**9.61**	**301**	Pn	**Pn**	**21 46 46.7**	**-0.1**
ARTV	**Artvin**	**9.66**	**334**	Pn	**Pn**	**21 46 45.9**	**-1.7**
AFRZ	**Afriz**	**9.69**	**82**	*e*Pn	**Pn**	**21 46 49.3**	**+1.4**
ISFR	**Sfrayin**	**9.69**	**60**	*e*Pn	**Pn**	**21 46 49.5**	**+1.5**
IKOO	**Kooshah**	**9.70**	**88**	*e*Pn	**Pn**	**21 46 49.9**	**+1.7**
GHWR	**Ruwais**	**9.82**	**150**	*e*Pn	**Pn**	**21 46 49.1**	**-0.4**
KEMA	**Kemaliye**	**9.88**	**315**	*e*Pn	**Pn**	**21 46 51.8**	**+1.3**
NATI	**Neve Ativ**	**9.93**	**277**	Pn	**Pn**	**21 46 51.9**	**+0.9**
IKRD	**Kardeh**	**9.96**	**62**	*e*Pn	**Pn**	21 47 04.8	+13
SHME	**Shamm**	**9.96**	**129**	P	**Pn**	**21 46 49.8**	**-1.8**
IAKL	**Akhelmad**	**10.08**	**64**	*e*Pn	**Pn**	**21 46 55.0**	**+1.6**
HMDT	**Nahal Hemdat**	**10.14**	**271**	Pn	**Pn**	**21 46 55.8**	**+1.8**
BANOM	**Banah**	**10.15**	**129**	*i* P	**Pn**	**21 46 53.2**	**-1.0**
BANOM	SNR=32			S	**Sn**	**21 48 42.6**	**-5.0**
BANOM	**Banah**	**10.15**	**129**	P	**Pn**	**21 46 53.3**	**-0.9**
BANOM	SNR=32			S	**Sn**	**21 48 46.7**	**-0.9**
	SNR=5.9						
GEYT	**Alibeck**	**10.16**	**56**	Pn	**Pn**	**21 46 54.9**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=243,slow=9.7,SNR=10						
GEYT				Lg	Lg	21 49 42.0	
	comp=Z,0.3nm,0.3s,baz=225,slow=31,SNR=2.4						
GEYT				LR	LR	21 51 22.8	
	comp=Z,2μm,18.7s,baz=305,slow=41						
GEYT	**Alibeck**	**10.16**	**56**		**Pn**	**21 46 55.3**	**+1.1**
GYA0B	**ALIBECK ARRAY**	**10.16**	**56**		**Pn**	**21 46 55.0**	**+0.8**
MMAI	**Mount Meron Ar**	**10.21**	**276**	Pn	**Pn**	**21 46 54.0**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=87,slow=17,SNR=9.7						
MMAI				Lg	Lg	21 49 47.1	
	comp=Z,1.6nm,0.3s,baz=113,slow=33,SNR=2.1						
MMAI				LR	LR	21 51 47.2	
	comp=Z,418nm,19.4s,baz=80,slow=43						
IPAY	**Payeh**	**10.21**	**65**	*e*Pn	**Pn**	**21 46 57.9**	**+2.8**
MMLI	**Mount Malkishu**	**10.22**	**272**	Pn	**Pn**	**21 46 57.0**	**+2.0**
IMON	**Monand**	**10.23**	**83**	*e*Pn	**Pn**	**21 46 57.3**	**+1.9**
GHAJ	**Ghor Haditha**	**10.24**	**266**	Pn	**Pn**	**21 46 55.4**	**+0.1**
IEMG	**Emamgholi**	**10.31**	**59**	*e*Pn	**Pn**	**21 46 59.8**	**+3.3**
MAK	**Makhachkala**	**10.34**	**360**	*e*P	**Pn**	**21 46 55.8**	**-0.8**
MAK				*e*S	**Sn**	**21 48 54.2**	**+2.2**
MAK				pmax	pmax		
	comp=Z,290nm,1.3s						
MAK				MLR	MLR		
	comp=Z,634nm,15.0s						
AJN	**Ajban**	**10.35**	**139**	*i* P	**Pn**	**21 46 58.1**	**+1.2**
	SNR=6.9						
AJN	**Ajban**	**10.35**	**139**	P	**Pn**	**21 46 57.1**	**+0.2**
	SNR=6.8						
IMOG	**Moghan**	**10.37**	**67**	*e*Pn	**Pn**	**21 46 58.3**	**+0.9**
IDAH	**Dahanechah**	**10.41**	**86**	*e*Pn	**Pn**	**21 47 00.5**	**+2.6**
NAZ	**Nazwa, Dubai**	**10.42**	**135**	*i* P	**Pn**	**21 46 57.7**	**-0.1**
	SNR=9.4						
NAZ	**Nazwa, Dubai**	**10.42**	**135**	P	**Pn**	**21 46 57.8**	**+0.1**
	SNR=9.7						
MSFE	**Esma-Masafi**	**10.45**	**131**	P	**Pn**	**21 46 57.4**	**-0.9**
ONI	**Oni**	**10.47**	**343**	P	**Pn**	21 47 03.4	+4.9
MDH	**Madha**	**10.58**	**131**	*i* P	**Pn**	**21 46 59.6**	**-0.4**
	SNR=6.

TIRR IAmb IAmb 21 48 53.2
comp=Z,96nm,1.4s
ABKAR Akbulak array 19.05 26 P P 21 48 49.5 -0.9
ALN Alexandroupoli 19.06 302 P P 21 48 49.4 -1.2
ALN pmax pmax
comp=Z,31nm,1.3s
ALN Alexandroupoli 19.06 302 P P 21 48 49.4 -1.2
VRH Novokhopyorsk 19.07 349 *eP* **P 21 48 49.5 -1.0**
VRH *eS* **Sn 21 52 22.3 -2.1**
VRH pmax pmax
comp=Z,30nm,0.9s
VRH smax smax
comp=E,110nm,2.1s
TLCR 19.17 316 ⇓P **P 21 48 52.6 +0.8**
TLCR 19.17 316 ⇓P **P 21 48 52.6 +0.8**
JMB Yambol 19.26 307 *i* P **Pn 21 48 56.3 +2.5**
JMB Yambol 19.26 307 *i* P **Pn 21 48 56.3 +2.5**
TOPG Topolog 19.26 315 ⇑P **Pn 21 48 54.6 +0.8**
TLBR Topalu 19.28 314 ⇑P **P 21 48 54.0 +1.0**
VORD Divnogorie 19.32 344 *eP* **P 21 48 53.2 -0.1**
VORD pmax pmax
comp=Z,30nm,1.5s
TAS Tashkent 19.42 57 P P 21 48 54.8 +0.3
TAS pmax pmax
comp=Z,65nm,0.3s
TAS Tashkent 19.42 57 P P 21 48 54.8 +0.3
HARR Harsova 19.43 314 ⇑P **P 21 48 54.8 +0.3**
HARR Harsova 19.43 314 ⇑P **P 21 48 54.8 +0.3**
AKTO Aktyubinsk 19.43 20 P P 21 48 54.4 -0.2
comp=Z,0.6nm,0.3s,baz=205,slow=11,SNR=16
AKTO LR LR 21 59 06.7
comp=Z,280nm,18.8s,baz=214,slow=45
GAR Garm 19.54 65 P P 21 48 55.8 -0.1
CFR Carcaliu 19.57 315 ⇓P **P 21 48 57.1 +1.1**
CFR Carcaliu 19.57 315 ⇓P **P 21 48 57.1 +1.1**
VSR Storozhevoye 19.58 344 *eP* **P 21 48 55.2 -1.0**
VSR *eS* **S 21 52 32.8 -3.8**
VSR pmax pmax
comp=Z,80nm,1.6s
VSR smax smax
comp=E,40nm,1.1s
KDZ Kurdzhali 19.76 303 *i* P **P 21 48 59.1 +0.9**
KDZ Kurdzhali 19.76 303 *i* P **P 21 48 59.1 +0.9**
RAZG Razgrad 19.78 310 ⇓P **P 21 48 60.0 +1.6**
SCHL Schela 19.92 316 ⇑P **P 21 49 01.2 +1.3**
VORR Voronezh 20.00 345 *eP* Pn 21 49 04.0 +1.5
VORR pmax pmax
comp=Z,250nm,1.4s
VARL Varlezi 20.14 317 ⇑P **P 21 49 03.7 +1.4**
BTK Batken 20.15 62 P P 21 49 02.5 -0.1
BTK pmax pmax
comp=Z,28nm,1.3s
BTK Batken 20.15 62 P P 21 49 02.5 -0.1
MILM Milestii Mici 20.20 320 ⇑P **P 21 49 04.1 +1.2**
PLD Plovdiv 20.41 304 P Pn 21 49 07.4 -0.1
PLD pmax pmax
comp=Z,2.0nm,1.6s
SULR 20.45 312 ⇓P Pn 21 49 07.7 -0.2
ISR Istrita 20.49 314 ⇑P **P 21 49 07.6 +1.4**
ISR Istrita 20.49 314 ⇑P **P 21 49 07.6 +1.4**
ODBI Odobesti 20.52 316 ⇓P **P 21 49 08.1 +1.7**
VASR Vaslui 20.60 319 ⇓P **P 21 49 09.1 +1.8**
SECR 20.74 313 ⇓P Pn 21 49 11.0 -0.3
VRI Vrincioaia 20.77 316 ⇓P **P 21 49 10.7 +1.5**
VRI Vrincioaia 20.77 316 ⇓P **P 21 49 10.7 +1.5**
NEHR Nehoiu 20.80 314 ⇑P **P 21 49 11.5 +2.0**
PLOR Plostina 20.81 316 ⇓P **P 21 49 11.2 +1.6**
PLOR Plostina 20.81 316 ⇓P **P 21 49 11.2 +1.6**
SRS Serrai 20.90 301 P P 21 49 11.9 +1.3
SRS pmax pmax
comp=Z,28nm,1.4s
KK31 Karatay Array 20.90 53 P P 21 49 09.9 -0.7
KK31 pmax pmax
comp=Z,11nm,0.7s
KK31 Karatay Array 20.90 53 P P 21 49 09.8 -0.7
KKAR Karatay Array 20.90 53 P P 21 49 10.2 -0.4
KKAR pmax pmax
comp=Z,11nm,0.7s
KKAR Karatay Array 20.90 53 P P 21 49 09.5 -1.2
KKAR Karatay Array 20.90 53 P P 21 49 10.2 -0.4
KKAR IAmb IAmb 21 49 22.8
comp=Z,11nm,0.7s
LPSR Galich'ya Gora 20.93 345 *eP* **P 21 49 09.3 -1.5**
LPSR *eS* **S 21 52 58.5 -4.8**
LPSR pmax pmax
comp=Z,150nm,1.2s
LPSR smax smax
comp=E,110nm,1.4s
SOH Sokhos 20.99 300 P P 21 49 13.1 +1.4
SOH pmax pmax
comp=Z,15nm,1.5s
MLR Muntele Rosu 21.05 314 P P 21 49 13.9 +1.6
comp=Z,26nm,1.1s,baz=40,slow=4.2,SNR=18
MLR LR LR 21 59 29.2
comp=Z,125nm,19.9s,baz=120,slow=43
MLR Muntele Rosu 21.05 314 ⇓P **P 21 49 14.6 +2.3**
MLR Muntele Rosu 21.05 314 ⇓P **P 21 49 14.6 +2.3**
MLR Muntele Rosu 21.05 314 P P 21 49 12.9 +0.6
MLR IAmb IAmb 21 49 24.0
comp=Z,42nm,1.0s
TESR Tescani 21.17 317 ⇑P **P 21 49 14.6 +1.1**
SOCY Socotra 21.17 162 P P 21 49 10.5 -3.3
SOCY IAmb IAmb 21 49 14.0
comp=Z,81nm,1.3s
HUMR Humele 21.19 311 ⇓P **P 21 49 15.2 +1.5**
SORM Soroca 21.21 323 ⇑P **P 21 49 12.6 -1.3**
THE Thessaloniki 21.23 299 P P 21 49 15.3 +1.2
THE pmax pmax
comp=Z,20nm,1.3s
VLAD Vladila 21.34 309 ⇑P **P 21 49 16.9 +1.6**
AGG Agios Georgios 21.37 295 P P 21 49 14.5 -1.3
AGG pmax pmax
comp=Z,44nm,1.2s
AGG Agios Georgios 21.37 295 P P 21 49 14.5 -1.3
AGG IAmb IAmb 21 49 24.3
comp=Z,44nm,1.2s
ATD Arta Tunnel 21.41 193 P P 21 49 17.4 +1.0
comp=Z,1.7nm,0.3s,baz=72,slow=22,SNR=1.5
ATD LR LR 21 58 15.5
comp=Z,398nm,19.2s,baz=10,slow=38
ATD Arta Tunnel 21.41 193 P P 21 49 15.9 -0.5
OZUR 21.45 315 ⇑P **P 21 49 17.4 +0.8**
LIT Litokhoron 21.46 297 P P 21 49 15.9 -0.7
LIT pmax pmax
comp=Z,38nm,1.5s
LIT Litokhoron 21.46 297 P P 21 49 15.9 -0.7
LIT IAmb IAmb 21 49 18.5
comp=Z,38nm,1.5s
ITM Ithomi 21.46 289 P P 21 49 16.3 -0.3
ITM IAmb IAmb 21 49 19.9
comp=Z,91nm,1.4s
MTUR Matau 21.46 312 ⇑P **P 21 49 18.6 +1.9**
MTUR Matau 21.46 312 P P 21 49 23.3 +6.6
NIL Nilore 21.56 80 P P 21 49 17.8 0.0
NIL pmax pmax
comp=Z,115nm,1.4s
NIL Nilore 21.56 80 P P 21 49 17.8 0.0
VOIR 21.57 313 ⇑P **P 21 49 19.6 +1.7**
VOIR 21.57 313 ⇑P **P 21 49 19.6 +1.7**
DOPR Dopca 21.62 315 ⇑P **P 21 49 19.0 +0.6**
VAY Valandovo 21.69 301 *i* P **P 21 49 13.3 -5.8**
ARR Arges 21.79 312 ⇑P **P 21 49 21.4 +1.1**
PRAR RASCA 21.89 319 ⇑P **P 21 49 21.6 +0.4**
ARSB Arslanbob 22.07 60 P P 21 49 23.2 -0.1
ARSB pmax pmax
comp=Z,23nm,1.1s
ARSB Arslanbob 22.07 60 P P 21 49 23.2 -0.1
STIP Stip 22.07 301 *i* P **P 21 49 22.3 -1.0**
MDB Medias 22.32 314 ⇑P **P 21 49 27.8 +2.0**
MDB Medias 22.32 314 ⇑P **P 21 49 27.8 +2.0**
LOT Lotru 22.37 312 ⇓P **P 21 49 27.1 +0.6**
PUNG Punghina 22.42 308 ⇑P **P 21 49 27.3 +0.4**
AKASG Malin Array Be 22.56 329 P **P 21 49 26.9 -1.4**
comp=Z,10nm,0.8s,baz=138,slow=9.4,SNR=17
AKASG PcP **PcP 21 53 22.2 +0.8**
comp=Z,0.5nm,0.3s,baz=112,slow=1.2,SNR=5.2
AKASG Malin Array Be 22.56 329 P P 21 49 26.1 -2.2
AKBB Malin Array Si 22.56 329 P P 21 49 26.9 -1.4
AKBB pmax pmax
comp=Z,17nm,0.7s
AKBB Malin Array Si 22.56 329 P P 21 49 26.9 -1.4
AKBB IAmb IAmb 21 49 32.5
comp=Z,17nm,0.7s

BURAR Bucovina Array 22.59 318 ⇑P **P 21 49 30.3 +1.4**
BURAR Bucovina Array 22.59 318 P P 21 49 33.7 +4.8
BURAR Bucovina Array 22.59 318 P P 21 49 27.0 -1.9
BUR08 Bucovina Ar. S 22.62 318 P P 21 49 28.4 -0.7
BUR08 IAmb IAmb 21 49 37.0
comp=Z,24nm,1.1s
SKO Skopje 22.69 302 P P 21 49 28.3 -1.5
SKO pmax pmax
comp=Z,17nm,1.1s
AML Almayashu 22.80 58 P P 21 49 32.2 +0.8
SNR=14
ARCR ARCALIA 22.81 316 ⇑P **P 21 49 32.7 +1.7**
OHR Ohrid 22.94 299 *i* P **P 21 49 34.1 +1.6**
HERR Herculane 23.00 309 ⇑P **P 21 49 33.5 +0.5**
EKS2 Erkin-Say 23.01 57 P P 21 49 34.2 +0.9
SNR=9.1
CJR Cluj-Napoca 23.07 315 ⇑P **P 21 49 35.5 +1.7**
CJR Cluj-Napoca 23.07 315 ⇑P **P 21 49 35.5 +1.7**
KSV Kosov 23.07 319 P P 21 49 33.9 +0.2
UCH Uchtor 23.41 58 P P 21 49 41.4 +3.7
SNR=7.3
MDVR Moldovita 23.42 309 ⇑P **P 21 49 37.4 +0.1**
AAK Ala-Archa 23.51 57 P P 21 49 39.1 +0.8
comp=Z,3.0nm,0.7s,baz=259,slow=11,SNR=5.6
AAK LR LR 22 00 12.3
comp=Z,486nm,18.9s,baz=269,slow=40
AAK Ala-Archa 23.51 57⇓ *eP* **P 21 49 40.6 +2.2**
AAK pmax pmax
comp=Z,9.0nm,1.7s
AAK Ala-Archa 23.51 57 P P 21 49 38.2 -0.1
BMR Baia Mare 23.61 317 ⇑P **P 21 49 39.9 +0.8**
BMR Baia Mare 23.61 317 ⇑P **P 21 49 39.9 +0.8**
FRU1 Bishkek 23.65 57 P P 21 49 38.9 -0.8
FRU1 pmax pmax
comp=Z,13nm,1.1s
FRU1 Bishkek 23.65 57 P P 21 49 38.9 -0.8
TIR Tirane 23.68 300 P P 21 49 38.4 -1.4
TIR pmax pmax
comp=Z,20nm,0.9s
TIR Tirane 23.68 300 P P 21 49 38.4 -1.4
TIR IAmb IAmb 21 49 48.6
comp=Z,20nm,0.9s
USP Ospenovka 23.69 56 P P 21 49 42.1 +2.1
SNR=20
OBN Obninsk 23.79 344 P P 21 49 40.5 -0.2
comp=Z,3.4nm,0.5s,baz=151,slow=6.5,SNR=13
OBN LR LR 22 00 08.2
comp=Z,43nm,18.5s,baz=178,slow=40
OBN Obninsk 23.79 344 *i* P **P 21 49 39.1 -1.6**
OBN *i* 21 50 11.1
OBN pmax pmax
comp=Z,39nm,1.3s
OBN Obninsk 23.79 344 P P 21 49 39.6 -1.1
CHMS Chumysh 23.79 56 P P 21 49 42.5 +1.5
SNR=13
BZS Buzias 23.81 311 ⇑P **P 21 49 41.8 +0.7**
BZS Buzias 23.81 311 ⇑P **P 21 49 41.8 +0.7**
KZA Kyzart 23.90 59 P P 21 49 45.4 +2.9
SNR=6.0
KSH Kashi 23.95 65 P P 21 49 39.8 -2.8
KSH pP pP 21 49 43.0 -4.8
KSH S **S 21 53 51.8 -6.8**
KSH pmax pmax
comp=Z,68nm,1.7s
KSH LR LR
comp=Z,200nm,11.8s
KSH LR LR
comp=Z,770nm,16.4s
KSH LR LR
comp=Z,1μm,18.2s
BANR Banloc 24.03 310 ⇑P **P 21 49 43.6 +0.5**
SIRR Siria 24.06 312 ⇓P **P 21 49 44.5 +1.1**
MOS Moscow 24.14 346 *eP* **P 21 49 42.4 -1.6**
MOS *e* 21 50 15.3
MOS *eS* **S 21 54 01.5 +0.5**
MOS pmax pmax
comp=Z,93nm,1.5s
DIVS Divibare 24.33 306 ⇑ *iP* **P 21 49 46.4 +0.3**
DIVS Divibare 24.33 306 P P 21 49 45.9 -0.2
DIVS IAmb IAmb 21 49 53.1
comp=Z,15nm,1.1s
DRME Dracevica, Mon 24.36 301 *eP* **P 21 49 46.2 -0.1**
TKM2 Tokmak 2 24.36 57 P P 21 49 50.4 +3.8
SNR=12
PDG Podgorica 24.37 302 ⇑ *iP* **P 21 49 45.9 -0.4**
PDG Podgorica 24.37 302 P P 21 49 45.3 -1.0
BBLS Lazići 24.66 305 ⇑ *iP* **P 21 49 50.1 +1.1**
UZH Uzhgorod 24.79 318 *eP* **P 21 49 50.0 -0.1**
FRGS Fruska Gora 24.81 308 ⇑ *iP* **P 21 49 51.0 +0.7**
UPM Unac-Piva 24.82 303 *eP* **P 21 49 50.2 -0.4**
HCY Herceg Novi 24.92 302 *eP* **P 21 49 51.3 0.0**
KOLS Kolonicke sedl 24.96 318 *eP* **P 21 49 52.5 +0.9**
KOLS pmax pmax
comp=Z,26nm,1.2s
KOLS Kolonicke sedl 24.96 318 *eP* **P 21 49 52.5 +0.9**
FURI Furi 24.98 201 P P 21 49 51.6 -0.7
FURI IAmb IAmb 21 49 56.1
comp=Z,8.6nm,0.7s
BRY Bratogost 25.00 303 *eP* **P 21 49 51.8 -0.4**
ARU Arti 25.02 15 P P 21 49 51.8 -0.2
comp=Z,1.5nm,0.6s,baz=206,slow=7.4,SNR=8.7
ARU LR LR 22 03 23.2
comp=Z,182nm,18.9s,baz=202,slow=46
ARU Arti 25.02 15 *d iP* **P 21 49 52.9 +0.9**
ARU 21 50 26.9
ARU PPP PPP 21 50 35.8
ARU S **S 21 54 19.4 +4.2**
ARU pmax pmax
comp=Z,9.0nm,0.9s
ARU Arti 25.02 15 P P 21 49 51.8 -0.2
TREB Trebinje 25.09 302 *eP* **P 21 49 51.9 -0.9**
KWP Kalwaria Pacla 25.10 320 *eP* **P 21 49 54.0 +1.1**
KWP Kalwaria Pacla 25.10 320 P P 21 49 52.8 0.0
KWP pmax pmax
comp=Z,27nm,0.7s
KWP Kalwaria Pacla 25.10 320 P P 21 49 52.8 0.0
KWP IAmb IAmb 21 49 57.0
comp=Z,27nm,0.7s
DBRK Dubrovnik 25.23 302 *i* P **P 21 49 53.5 -0.5**
CRVS Cervenica-Dubn 25.41 317 *eP* **P 21 49 57.0 +1.4**
CRVS pmax pmax
comp=Z,60nm,1.4s
CRVS Cervenica-Dubn 25.41 317 *eP* **P 21 49 57.0 +1.4**
STON Ston 25.59 302 *i* P **P 21 49 58.1 +0.8**
TARG Taragay, Kyrgy 25.69 61 P P 21 49 57.9 -0.9
TARG IAmb IAmb 21 50 02.3
comp=Z,14nm,1.0s
TIP Timpagrande 25.69 294 ⇓P **P 21 49 59.2 +0.8**
TIP Timpagrande 25.69 294 P P 21 49 58.9 +0.5
TIP IAmb IAmb 21 50 02.1
comp=Z,20nm,1.1s
KECS Kecovo 25.77 316 *eP* **P 21 50 00.2 +1.3**
KECS pmax pmax
comp=Z,42nm,1.0s
KECS Kecovo 25.77 316 *eP* **P 21 50 00.2 +1.3**
SVE Sverdlovsk 25.86 17 *eP* **P 21 50 00.5 +0.9**
SVE *eS* **S 21 54 27.9 -0.6**
SVE pmax pmax
comp=Z,10.0nm,1.1s
SVE MLR MLR
comp=Z,293nm,16.0s
PSZ Piszkesteto 25.86 314 ⇑P **P 21 50 01.5 +1.7**
PSZ Piszkesteto 25.86 314 P P 21 50 05.1 +5.2
PSZ Piszkesteto 25.86 314 P P 21 49 59.6 -0.3
MATE Matera 25.90 297 ⇑P **P 21 49 59.7 -0.5**
MICGM Minsk 25.94 333 *e* **P 21 50 01.0 +0.7**
MNK Minsk 25.94 333 *eP* **P 21 50 01.0 +0.7**
MORH Mrgy, Hungar 25.96 310 ⇑ *iP* **P 21 50 01.8 +1.2**
KIRV Kirov 26.01 2 P P 21 50 01.1 +0.1
comp=Z,18nm,0.7s,baz=180,slow=8.7,SNR=12
KIRV LR LR 22 02 37.7
comp=Z,197nm,18.2s,baz=181,slow=42
KIRV Kirov 26.01 2⇓ *eP* **P 21 50 02.5 +1.5**
RICI Ricice 26.15 303 *i* P **P 21 50 03.4 +1.0**
BRVK Borovoye 26.19 32⇓ *eP* **P 21 50 03.0 +0.3**
BRVK pmax pmax
comp=Z,15nm,1.7s
BRVK Borovoye 26.19 32 P P 21 50 01.9 -0.8
BUD Budapest 26.21 313 P P 21 50 06.0 +3.1
BUD pmax pmax
comp=Z,56nm,1.3s
BVAR Borovoye Array 26.21 32 P P 21 50 02.9 0.0
comp=Z,4.0nm,0.5s,baz=231,slow=6.3,SNR=26
BVAR PcP **PcP 21 53 30.0 +0.6**

comp=Z,1.1nm,0.5s,baz=182,slow=2.5,SNR=6.2
BVAR ScP **ScP 21 57 07.7 -0.6**
comp=Z,3.0nm,0.9s,baz=222,slow=1.9,SNR=13
BVAR LR LR 22 02 15.9
comp=Z,218nm,22.0s,baz=253,slow=41
PRZ Przheval'sk 26.27 59 P P 21 50 03.1 -0.7
PRZ pmax pmax
comp=Z,21nm,1.3s
PRZ Przheval'sk 26.27 59 P P 21 50 03.1 -0.7
PRZ IAmb IAmb 21 50 08.6
comp=Z,21nm,1.2s
CEL Celeste 26.30 291 P P 21 50 03.9 -0.1
CEL IAmb IAmb 21 50 21.9
comp=Z,22nm,0.9s
NIE Niedzica 26.32 318 *eP* **P 21 50 05.8 +1.8**
NIE Niedzica 26.32 318 P P 21 50 06.8 +2.8
BLY Banja Luka 26.45 306 *eP* **P 21 50 05.9 +0.8**
NACGM Naroch 26.66 333 *e* **P 21 50 07.0 +0.1**
LANS Liptovska Anna 26.67 317 *eP* **P 21 50 08.3 +1.1**
LANS pmax pmax
comp=Z,11nm,0.9s
LANS Liptovska Anna 26.67 317 *eP* **P 21 50 08.3 +1.1**
SRO2 Moca 26.71 313 *eP* **P 21 50 08.0 +0.6**
SRO2 pmax pmax
comp=Z,16nm,1.0s
SRO2 Moca 26.71 313 *eP* **P 21 50 08.0 +0.6**
VYHS Vyhne 26.75 315 *eP* **P 21 50 08.9 +1.1**
VYHS pmax pmax
comp=Z,11nm,0.9s
VYHS Vyhne 26.75 315 *eP* **P 21 50 08.9 +1.1**
KIJV Kijevo 26.78 304 *i* P **P 21 50 08.0 -0.2**
OJC Ojcow 27.00 319 *eP* **P 21 50 10.9 +0.8**
OJC Ojcow 27.00 319 P P 21 50 10.0 -0.1
OJC pmax pmax
comp=Z,16nm,0.8s
OJC Ojcow 27.00 319 P P 21 50 10.0 -0.1
OJC IAmb IAmb 21 50 12.2
comp=Z,16nm,0.8s
ZIRJ Zirje 27.23 303 *i* P **P 21 50 13.3 +1.1**
MORI Morici 27.24 304 *i* P **P 21 50 11.2 -1.0**
BEHE Becsehely 27.26 310 ⇑ *iP* **P 21 50 13.9 +1.5**
VAE Valguarnera 27.45 290 P P 21 50 17.1 +2.8
comp=Z,2.7nm,0.6s,baz=87,slow=16,SNR=1.7
PAOL Paolisi 27.56 297 P P 21 50 14.8 -0.5
PAOL IAmb IAmb 21 50 18.5
comp=Z,25nm,1.3s
KOGS Kog 27.59 309 *eP* **P 21 50 16.4 +1.0**
JAVC Velka Javorina 27.60 315 *eP* **P 21 50 17.4 +1.9**
SMOL Smolenice 27.61 314 *eP* **P 21 50 16.3 +0.8**
SMOL pmax pmax
comp=Z,5.0nm,0.9s
SMOL Smolenice 27.61 314 *eP* **P 21 50 16.3 +0.8**
MODS Modra-Piesok 27.64 314 *eP* **P 21 50 16.2 +0.4**
MODS pmax pmax
comp=Z,36nm,1.4s
MODS Modra-Piesok 27.64 314 *eP* **P 21 50 16.2 +0.4**
DUGI Dugi Otok 27.73 304 *i* P **P 21 50 17.3 +0.7**
OKC Ostrava-Krasne 27.75 317 *eP* **P 21 50 17.6 +0.8**
OKC Ostrava-Krasne 27.75 317 *eP* **P 21 50 17.6 +0.8**
SOP Sopron 27.82 312 P P 21 50 20.3 +2.9
SOP pmax pmax
comp=Z,17nm,1.6s
MORC Moravsky Berou 28.08 317 ⇓P **P 21 50 20.4 +0.7**
MORC Moravsky Berou 28.08 317 *eP* **P 21 50 20.1 +0.4**
MORC Moravsky Berou 28.08 317 ⇓P **P 21 50 20.4 +0.7**
MORC 21 50 22.8
MORC Moravsky Berou 28.08 317 P P 21 50 19.5 -0.2
MORC IAmb IAmb 21 50 22.8
comp=Z,11nm,0.9s
INTR Introdacqua 28.19 299 P P 21 50 20.8 -0.1
INTR IAmb IAmb 21 50 31.9
comp=Z,16nm,1.4s
ARSA Arzberg 28.33 310 *i* P **P 21 50 22.8 +0.8**
comp=Z,12nm,1.7s
CORL Corleone 28.34 290 P P 21 50 22.7 +0.5
CORL IAmb IAmb 21 50 42.4
comp=Z,9.4nm,1.0s
CONA Conrad Observa 28.35 312 *i* pP **P 21 50 24.1 +1.9**
comp=Z,18nm,1.5s,SNR=8.2
CLTB Caltabellotta 28.41 290 P P 21 50 23.4 +0.5
CLTB IAmb IAmb 21 50 26.9
comp=Z,17nm,1.4s
VRAC Vranov 28.44 315 P P 21 50 23.8 +0.9
comp=Z,4.8nm,0.8s,baz=116,slow=9.5,SNR=12
VRAC LR LR 22 04 19.0
comp=Z,49nm,19.7s,baz=89,slow=42
VRAC Vranov 28.44 315 ⇓P **P 21 50 24.2 +1.3**
VRAC Vranov 28.44 315 *eP* **P 21 50 23.3 +0.4**
VRAC Vranov 28.44 315 ⇓P **P 21 50 24.2 +1.3**
VRAC 21 50 26.4
KRUC Moravsky 28.45 314 *eP* **P 21 50 23.3 +0.3**
SOKA Soboth 28.46 309 *i* P **P 21 50 24.0 +0.7**
comp=Z,11nm,1.7s,SNR=5.8
SOKA *i* ScP **ScP 21 57 17.9 +2.5**
comp=Z,4.6nm,1.0s
CEY Cerknica 28.59 307 *eP* **P 21 50 24.2 -0.2**
AQU L'Aquila 28.61 300 P P 21 50 24.4 -0.2
AQU pmax pmax
comp=Z,9.0nm,0.9s
AQU L'Aquila 28.61 300 ⇑ *iP* **P 21 50 25.7 +1.2**
AQU L'Aquila 28.61 300 P P 21 50 24.4 -0.2
AQU IAmb IAmb 21 50 33.9
comp=Z,8.6nm,0.9s
LJU Ljubljana 28.61 308 ⇑ *iP* **P 21 50 26.0 +1.5**
KRLC Kraliky 28.65 317 *eP* **P 21 50 25.1 +0.3**
KRLC Kraliky 28.65 317 *eP* **P 21 50 25.1 +0.3**
OBKA Obir 28.73 309 *i* P **P 21 50 26.4 +0.7**
comp=Z,18nm,1.5s,SNR=5.7
KLMR Klimovskoe 28.74 352 *eP* **P 21 50 23.2 -2.2**
KLMR pmax pmax
comp=Z,16nm,0.7s
KLMR Klimovskoe 28.74 352 *eP* **P 21 50 23.3 -2.2**
KLMR AMP 21 50 27.1
comp=Z,16nm,0.7s
NRCA Norcia 28.89 301 P P 21 50 27.6 +0.5
NRCA IAmb IAmb 21 50 32.2
comp=Z,10nm,1.0s
DPC Dobruska-Polom 29.04 317 *eP* **P 21 50 28.7 +0.4**
DPC Dobruska-Polom 29.04 317 *eP* **P 21 50 28.7 +0.4**
KURBB Kurchatov Arra 29.05 43 P P 21 50 28.9 +0.6
comp=Z,3.0nm,0.6s,baz=250,slow=9.8,SNR=9.0
KURBB PcP **PcP 21 53 36.4 +0.2**
comp=Z,0.8nm,0.7s,baz=243,slow=3.0,SNR=5.5
KURBB ScP **ScP 21 57 17.1 +0.1**
comp=Z,0.9nm,0.6s,baz=244,slow=3.8,SNR=10
PRGR Permogore 29.07 358 *eP* P 21 50 23.4 -4.9
PRGR pmax pmax
comp=Z,16nm,1.5s
KURK Kurchatov 29.14 42⇓ *eP* **P 21 50 33.1 +4.0**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 29.14 42 P P 21 50 29.0 -0.1
OSTC Ostas 29.19 317 *eP* **P 21 50 29.8 +0.2**
CADS Cadrg 29.19 308 *eP* **P 21 50 30.2 +0.5**
KSP Ksiaz 29.27 318 *eP* **P 21 50 30.9 +0.6**
KSP Ksiaz 29.27 318 P P 21 50 32.0 +1.7
CHVC Chvalec 29.29 317 *eP* **P 21 50 31.0 +0.5**
MOA Molln 29.33 311 *i* pP **P 21 50 31.9 +1.0**
comp=Z,9.3nm,0.7s,SNR=5.8
PRED Cave del Predi 29.36 308 P P 21 50 31.4 +0.1
PRED IAmb IAmb 21 50 42.2
comp=Z,16nm,1.3s
MYKA Terra Mystica 29.36 308 *i* pP **P 21 50 33.8 +2.6**
comp=Z,9.9nm,1.4s
MYKA *i* ScP **ScP 21 57 20.8 +2.6**
comp=Z,0.7nm,0.4s
MURB Monte Urbino 29.39 301 P P 21 50 31.3 -0.2
KBA Koelnbreinsper 29.69 309 *i* pP **P 21 50 35.0 +0.7**
comp=Z,9.3nm,1.0s,SNR=7.8
KBA Koelnbreinsper 29.69 309 P P 21 50 35.1 +0.9
GOPC GO Pecny, Ondr 29.75 315 *eP* **P 21 50 35.1 +0.5**
GOPC GO Pecny, Ondr 29.75 315 *eP* **P 21 50 35.1 +0.5**
ZOU Zoufplan 29.79 308 P P 21 50 35.0 -0.2
ZOU IAmb IAmb 21 50 38.3
comp=Z,12nm,1.2s
MAKZ Makanchi 29.80 51 P P 21 50 35.1 +0.1
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
MAKZ Makanchi 29.80 51 P P 21 50 35.1 +0.1
LATE Laterza 29.81 300 P P 21 50 35.0 -0.3
LATE IAmb IAmb 21 50 39.4
comp=Z,11nm,1.2s
STAL STALIGIAL 29.89 307 P P 21 50 35.5 -0.3
PRU Pruhonice 29.93 315 *eP* **P 21 50 37.4 +1.3**

PRU **Pruhonice** 29.93 315 *e*P **P** 21 50 37.4 +1.3
MK31 **Makanchi Array** 30.00 52 P **P** 21 50 36.0 -0.8
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MK31 **Makanchi Array** 30.00 52 P **P** 21 50 36.0 -0.8
MKAR **Makanchi Array** 30.00 52 P **P** 21 50 37.4 +0.6
comp=Z,5.2nm,0.7s,baz=248,slow=9.3,SNR=14
MKAR PcP **PcP** 21 53 38.5 -0.3
comp=Z,0.3nm,0.4s,baz=251,slow=2.8,SNR=2.9
MKAR ScP **ScP** 21 57 19.5 -0.7
comp=Z,0.8nm,0.9s,baz=251,slow=3.7,SNR=6.2
MKAR LR LR 22 04 23.1
comp=Z,288nm,18.3s,baz=252,slow=40
MKAR **Makanchi Array** 30.00 52 P **P** 21 50 36.4 -0.5
GEC2 **GERESS Array S** 30.02 313 P **P** 21 50 36.0 -1.0
GERES **GERESS Array B** 30.02 313 P **P** 21 50 37.0 -0.1
comp=Z,1.4nm,0.7s,baz=103,slow=8.0,SNR=9.9
GERES PcP **PcP** 21 53 39.5 +0.6
comp=Z,0.7nm,0.6s,baz=129,slow=1.9,SNR=6.9
GERES ScP **ScP** 21 57 22.1 +1.8
comp=Z,0.3nm,0.7s,baz=114,slow=3.2,SNR=4.0
GERES LR LR 22 06 44.2
comp=Z,63nm,19.1s,baz=114,slow=44
GERES **GERESS Array B** 30.02 313 P **P** 21 50 36.7 -0.3
CIMO **Cimolais** 30.08 307 P **P** 21 50 37.0 -0.5
CIMO IAmb IAmb 21 50 40.8
comp=Z,9.9nm,0.9s
ABTA **Abfaltersbach** 30.14 308 *i* pP **P** 21 50 39.5 +1.3
comp=Z,9.1nm,1.1s
KHC **Kasperske Hory** 30.20 313 *e*P **P** 21 50 38.7 +0.1
KHC **Kasperske Hory** 30.20 313 *e*P **P** 21 50 38.7 +0.1
KHC **Kasperske Hory** 30.20 313 P **P** 21 50 38.1 -0.4
CTI **Castel Tesino** 30.55 307 P **P** 21 50 42.0 +0.2
CTI pmax pmax
comp=Z,13nm,0.8s
CTI **Castel Tesino** 30.55 307 P **P** 21 50 42.0 +0.2
CTI IAmb IAmb 21 50 45.5
comp=Z,13nm,0.8s
BRG **Berggiesshubel** 30.63 317 *e*P **P** 21 50 41.9 -0.4
comp=Z,6.7nm,1.2s
BRG *e* 21 50 58.9
comp=Z,5.8nm,0.9s
BRG **Berggiesshubel** 30.63 317 *e*P **P** 21 50 41.9 -0.4
BRG pmax pmax
comp=Z,7.0nm,1.2s
ZCCA **Zocca** 30.67 303 P **P** 21 50 43.9 +1.0
PYUN **Piuthan** 30.84 89 *e*P **P** 21 50 45.0 +0.3
comp=Z,14nm,0.7s
WTTA **Wattenberg** 30.86 309 *i* P **P** 21 50 44.8 +0.2
comp=Z,13nm,0.9s,SNR=9.2
WTTA *i* ScP **ScP** 21 57 24.2 +1.0
comp=Z,3.1nm,0.8s
WTTA **Wattenberg** 30.86 309 P **P** 21 50 45.0 +0.4
WATA **Walderalm** 30.92 309 *i* P **P** 21 50 45.0 -0.1
comp=Z,29nm,1.2s,SNR=14
VLC **Villacollemand** 31.06 303 P **P** 21 50 46.7 +0.5
VLC IAmb IAmb 21 50 57.7
comp=Z,25nm,1.2s
SQTA **Sankt Quirin** 31.13 309 *i* P **P** 21 50 47.0 +0.1
comp=Z,8.7nm,0.5s,SNR=9.8
SQTA *i* ScP **ScP** 21 57 24.1 0.0
comp=Z,5.1nm,1.0s
SALO **Salr** 31.23 305 P **P** 21 50 47.4 -0.3
MOTA **Moosalm** 31.23 309 *i* P **P** 21 50 47.7 -0.2
comp=Z,6.3nm,0.5s,SNR=8.5
MOTA *i* ScP **ScP** 21 57 25.0 +0.6
comp=Z,5.6nm,1.4s
CLL **Collm** 31.35 317 *i* P **P** 21 50 48.8 +0.2
comp=Z,13nm,1.4s
CLL *i* sP **pP** 21 50 52.9 -1.0
comp=Z,14nm,1.4s
CLL *e*PPP PPP 21 52 04.0
CLL *e*PcS **PcS** 21 57 27.0 +0.8
CLL LmV 22 05 00.0
comp=Z,100nm,20.0s
CLL **Collm** 31.35 317 *i* P **P** 21 50 48.8 +0.2
CLL *i* 21 50 52.9
CLL pmax pmax
comp=Z,13nm,1.4s
CLL **Collm** 31.35 317 P **P** 21 50 47.2 -1.5
FETA **Feichten** 31.40 308 *i* P **P** 21 50 49.9 +0.6
comp=Z,17nm,1.1s,SNR=6.1
FETA *i* ScP **ScP** 21 57 27.4 +2.4
comp=Z,6.6nm,1.5s
DANN **Dangsing** 31.42 88 *e*P **P** 21 50 51.0 +1.1
KOLN **Koldanda** 31.46 89 *e*P **P** 21 50 50.9 +0.8
comp=Z,71nm,1.6s
RETA **Reutte** 31.49 309 *i* P **P** 21 50 49.9 -0.2
comp=Z,3.1nm,0.5s
RETA *i* ScP **ScP** 21 57 24.8 -0.4
comp=Z,2.3nm,0.7s
FUORN **Ofenpass-Fuorn** 31.61 307 P **P** 21 50 51.3 0.0
FUORN IAmb IAmb 21 50 53.9
comp=Z,17nm,1.5s
MSSA **Maissana** 31.70 303 P **P** 21 50 51.6 -0.3
GRA1 **Grafenberg Arr** 31.83 313 P **P** 21 50 51.5 -1.5
GRA1 IAmb IAmb 21 50 59.2
comp=Z,14nm,0.9s
GRF **Grafenberg Arr** 31.83 313 P **P** 21 50 51.5 -1.5
GRF pmax pmax
comp=Z,14nm,0.9s
DAVA **Damuels** 32.02 308 *i* P **P** 21 50 55.1 +0.2
comp=Z,22nm,0.7s,SNR=8.8
FIA1 **FINESS Array S** 32.02 341 P **P** 21 50 54.5 +0.1
FINES **FINESS Array B** 32.02 341 P **P** 21 50 54.1 -0.4
comp=Z,2.4nm,0.4s,baz=147,slow=7.1,SNR=16
FINES LR LR 22 05 26.9
comp=Z,92nm,18.7s,baz=142,slow=39
FINES **FINESS Array B** 32.02 341 P **P** 21 50 52.9 -1.5
TUE **Stuetta** 32.20 307 P **P** 21 50 55.1 -1.3
TUE IAmb IAmb 21 50 58.3
comp=Z,7.2nm,1.0s
GKN **Gorkha** 32.26 88 *e*P **P** 21 50 57.8 +0.7
comp=Z,18nm,0.3s
DMN **Daman** 32.78 89 *e*P **P** 21 51 02.2 +0.4
comp=Z,89nm,1.5s
KKN **Kakani** 32.87 88 *e*P **P** 21 51 03.3 +0.8
comp=Z,72nm,1.1s
PKI **Pulchoki** 33.05 89 *e*P **P** 21 51 04.9 +0.7
comp=Z,148nm,1.7s
WMQ **Urumqi** 33.19 59 *e*P **P** 21 51 06.1 +1.1
WMQ **Urumqi** 33.19 59 P **P** 21 51 05.4 +0.4
WMQ pmax pmax
comp=Z,12nm,0.4s
WMQ **Urumqi** 33.19 59 P **P** 21 51 05.4 +0.4
SENIN **Lac Senin/Sane** 33.57 306 P **P** 21 51 08.3 -0.1
SENIN IAmb IAmb 21 51 13.3
comp=Z,30nm,1.5s
JIRN **Jiri** 33.68 88 *e*P **P** 21 51 10.2 +0.4
BNI **Bardonecchia** 33.81 304 P **P** 21 51 10.1 -0.3
BNI pmax pmax
comp=Z,41nm,0.8s
BNI **Bardonecchia** 33.81 304 P **P** 21 51 10.1 -0.3
LPG **La Plagne** 33.82 304 *e*P **P** 21 51 10.2 -0.5
LPG pmax pmax
comp=Z,19nm,0.5s
LPL **La Plagne** 33.83 304 *e*P **P** 21 51 10.1 -0.6
LPL pmax pmax
comp=Z,22nm,0.7s
ZAA0 **Zalesovo Array** 33.96 40 P **P** 21 51 11.3 -0.1
ZAA0 IAmb IAmb 21 51 15.1
comp=Z,5.3nm,0.6s
ZALV **Zalesovo Beam** 33.96 40 P **P** 21 51 11.2 -0.2
comp=Z,5.5nm,0.6s,baz=247,slow=8.0,SNR=9.7
ZALV PcP **PcP** 21 53 48.1 -1.2
comp=Z,1.7nm,0.6s,baz=197,slow=3.3,SNR=4.3
ZALV LR LR 22 08 29.1
comp=Z,115nm,18.2s,baz=248,slow=42
ECH **Echery** 34.02 309 P **P** 21 51 10.9 -1.2
ECH pmax pmax
comp=Z,7.0nm,1.0s
ECH **Echery** 34.02 309 P **P** 21 51 10.9 -1.2
ECH IAmb IAmb 21 51 13.1
comp=Z,7.0nm,1.0s
DGZ **Jazzator, Alta** 34.08 48⇓ *e*P **P** 21 51 13.7 +0.9
DGZ pmax pmax
comp=Z,5.0nm,1.0s
HINF **Hinteralfeld** 34.14 308 *e*P **P** 21 51 12.4 -0.8
HINF pmax pmax
comp=Z,29nm,1.6s
RAMN **Ramite** 34.25 89 *e*P **P** 21 51 14.6 0.0
comp=Z,28nm,0.9s
ORIF **Oris-en-Rattie** 34.36 303 *e*P **P** 21 51 14.1 -1.0
ORIF pmax pmax
comp=Z,14nm,1.2s
CABF **La Chapelle** 34.44 306 *e*P **P** 21 51 16.1 +0.3
CABF pmax pmax
comp=Z,28nm,0.6s
HAU **Haudompre** 34.51 309 *e*P **P** 21 51 15.9 -0.4
HAU pmax pmax
comp=Z,36nm,1.8s
KMBO **Kilima Mbogo** 34.93 198 LR LR 22 05 35.9
comp=Z,242nm,20.7s,baz=88,slow=36
ODAN **Odare** 34.94 89 *e*P **P** 21 51 20.6 0.0
TAPN **Taplejung** 35.06 88 *e*P **P** 21 51 22.6 +1.0
comp=Z,251nm,1.7s
VIVF **Saint-Julien-l** 35.20 303 *e*P **P** 21 51 22.3 -0.1
VIVF pmax pmax
comp=Z,33nm,1.6s
SSB **Saint Sauveur** 35.34 304 P **P** 21 51 23.2 -0.3
SSB pmax pmax
comp=Z,20nm,1.5s
SSB **Saint Sauveur** 35.34 304 P **P** 21 51 23.2 -0.3
SSB IAmb IAmb 21 51 24.5
comp=Z,20nm,1.5s
LOR **Lormes** 36.05 307 *e*P **P** 21 51 27.8 -1.8
LOR pmax pmax
comp=Z,3.0nm,0.3s
AVF **Avril sur Loir** 36.33 306 *e*P **P** 21 51 31.1 -0.8
AVF pmax pmax
comp=Z,40nm,1.5s
NC602 **NORSAR Array S** 36.61 331 P **P** 21 51 34.1 -0.1
NC602 IAmb IAmb 21 51 39.6
comp=Z,34nm,1.4s
MBAR **Mbarara** 36.64 209 P **P** 21 51 35.5 +0.5
comp=Z,0.8nm,0.2s,baz=300,slow=21,SNR=1.6
MBAR **Mbarara** 36.64 209 P **P** 21 51 35.2 +0.2
NB2 **NORSAR Subarra** 36.91 331 P **P** 21 51 35.7 -1.1
comp=Z,1.0nm,0.5s,baz=124,slow=8.6
NOA **NORSAR Array B** 36.91 331 P **P** 21 51 35.7 -1.1
comp=Z,1.7nm,0.6s,baz=125,slow=8.6,SNR=8.6
NOA LR LR 22 08 04.9
comp=Z,50nm,18.2s,baz=115,slow=38
LSA **Lhasa** 37.26 83 P **P** 21 51 42.6 +2.0
LSA **Lhasa** 37.26 83 P **P** 21 51 40.6 -0.1
LSA **Lhasa** 37.26 83 P **P** 21 51 40.6 -0.1
LSA IAmb IAmb 21 51 45.5
comp=Z,13nm,0.9s
TAM **Tamanrasset** 38.24 266 P **P** 21 51 48.6 0.0
TAM pmax pmax
comp=Z,20nm,1.3s
TAM **Tamanrasset** 38.24 266 P **P** 21 51 48.6 0.0
TAM IAmb IAmb 21 51 53.0
comp=Z,20nm,1.3s
KEV **Kevo** 38.93 349 P **P** 21 51 53.5 -0.1
KEV pmax pmax
comp=Z,9.0nm,1.0s
KEV **Kevo** 38.93 349 P **P** 21 51 53.5 -0.1
ARCES **ARCESS Array B** 38.99 348 P **P** 21 51 53.7 -0.5
comp=Z,2.6nm,0.6s,baz=163,slow=9.4,SNR=25
ARCES PcP **PcP** 21 54 04.2 0.0
comp=Z,1.8nm,0.7s,baz=151,slow=3.0,SNR=5.0
ARCES ScP **ScP** 21 57 51.8 0.0
comp=Z,1.7nm,0.8s,baz=170,slow=2.7,SNR=2.4
ARE0 **ARCESS Array S** 38.99 348 P **P** 21 51 53.5 -0.7
FLN **La Foliniere** 39.12 309 *e*P **P** 21 51 54.0 -1.6
FLN pmax pmax
comp=Z,6.0nm,0.6s
SHL **Shillong** 39.18 89 P **P** 21 51 55.9 -0.6
SHL pmax pmax
comp=Z,47nm,1.0s
SHL **Shillong** 39.18 89 P **P** 21 51 55.9 -0.6
GRR **Gorron** 39.33 308 *e*P **P** 21 51 56.6 -0.7
GRR pmax pmax
comp=Z,14nm,0.7s
SJPF **Ste Jean** 39.40 300 *e*P **P** 21 51 58.1 +0.2
SJPF pmax pmax
comp=Z,4.0nm,0.6s
PALK **Pallekele** 39.80 122 LR LR 22 10 43.3
comp=Z,72nm,18.0s,baz=67,slow=40
QUIF **Quistinic** 40.84 307 *e*P **P** 21 52 08.9 -0.9
QUIF pmax pmax
comp=Z,108nm,1.8s
ESBB **Sonseca Array** 41.70 295 P **P** 21 52 16.8 -0.3
ESDC **Sonseca Array** 41.70 295 P **P** 21 52 17.8 +0.7
comp=Z,5.8nm,1.2s,baz=71,slow=8.0,SNR=18
ESDC LR LR 22 12 15.2
comp=Z,48nm,18.8s,baz=205,slow=40
ESDC **Sonseca Array** 41.70 295 P **P** 21 52 16.8 -0.2
GUD **Guadarrama** 41.73 296 P **P** 21 52 19.4 +1.9
GUD pmax pmax
comp=Z,13nm,1.7s
ESK **Eskdalemuir** 41.80 318 P **P** 21 52 17.5 -0.1
ESK pmax pmax
comp=Z,19nm,1.0s
ESK **Eskdalemuir** 41.80 318 P **P** 21 52 17.5 -0.1
ESK IAmb IAmb 21 52 19.2
comp=Z,20nm,1.0s
PAB **San Pablo** 42.01 295 P **P** 21 52 19.6 0.0
PAB pmax pmax
comp=Z,9.0nm,1.1s
PAB **San Pablo** 42.01 295 P **P** 21 52 19.6 0.0
GTA **Gaotai** 42.35 65 ⇓P **P** 21 52 25.6 +3.1
GTA PP **PP** 21 54 07.3 +6.7
GTA ScP **ScP** 21 58 06.3 +0.6
GTA S **S** 21 58 50.8 +7.7
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,34nm,4.6s
GTA LR LR
comp=Z,140nm,16.2s
GTA LR LR
comp=Z,140nm,16.2s
GTA LR LR
comp=Z,170nm,16.5s
NRIK **Noril'sk** 43.05 20 P **P** 21 52 27.1 -0.5
comp=Z,1.9nm,0.6s,baz=247,slow=7.3,SNR=5.6
NRIK LR LR 22 13 10.5
comp=Z,132nm,21.9s,baz=192,slow=40
NRIK **Noril'sk** 43.05 20⇓ *e*P **P** 21 52 28.8 +1.2
DSB **Dublin** 43.32 315 P **P** 21 52 30.1 +0.1
DSB IAmb IAmb 21 52 33.0
comp=Z,21nm,0.8s
MDT **Midelt** 43.48 285 P **P** 21 52 31.9 +0.2
comp=Z,1.7nm,0.8s,baz=111,slow=4.8,SNR=4.3
PBRG **Braganca** 43.55 298 *e*P **P** 21 52 30.9 -1.2
comp=Z,33nm,1.5s
MVO **Moncorvo** 43.84 297 *e*P **P** 21 52 36.8 +2.3
comp=Z,14nm,1.1s
ZAK **Zakamensk** 44.27 49 *e*P **P** 21 52 38.4 +0.6
ZAK pmax pmax
comp=Z,8.0nm,1.4s
MTE **Manteigas** 44.33 296 *e*P **P** 21 52 40.8 +2.4
comp=Z,40nm,1.5s
MTE **Manteigas** 44.33 296 P **P** 21 52 39.0 +0.6
PVRL **Vila Real** 44.34 298 *e*P **P** 21 52 39.1 +0.7
comp=Z,26nm,1.5s
PCBR **Castelo Branco** 44.36 296 *e*P **P** 21 52 39.7 +1.2
comp=Z,36nm,1.2s
PVIS **Viseu** 44.55 297 *e*P **P** 21 52 42.6 +2.5
comp=Z,34nm,1.7s
TLY **Talaya** 44.55 47 LR LR 22 13 08.5
comp=Z,121nm,19.6s,baz=284,slow=39
PGAV **Gavieira, Arco** 44.67 299 *e*P **P** 21 52 42.4 +1.3
comp=Z,71nm,1.7s
PBEJ **Beja** 44.96 293 *e*P **P** 21 52 43.1 -0.2
comp=Z,36nm,1.7s
PMTG **Montargil** 45.05 295 *e*P **P** 21 52 47.2 +3.1
comp=Z,19nm,1.4s
PNCL **Nicolau / Gran** 45.46 293 *e*P **P** 21 52 49.1 +1.8
comp=Z,20nm,1.3s
TOA0 **Torodi Ar. Sit** 46.04 256 P **P** 21 52 53.3 +1.1
TORD **Torodi Ar. Bea** 46.04 256 P **P** 21 52 52.6 +0.5
comp=Z,1.4nm,0.5s,baz=70,slow=7.7,SNR=16
TORD LR LR 22 14 28.1
comp=Z,136nm,19.5s,baz=55,slow=39
TORD **Torodi Ar. Bea** 46.04 256 P **P** 21 52 53.1 +1.0
SONM **Songino Array** 46.35 53 P **P** 21 52 54.5 +0.1
comp=Z,1.4nm,0.5s,baz=265,slow=11,SNR=9.3
SONM PcP **PcP** 21 54 29.4 0.0
comp=Z,0.7nm,0.5s,baz=316,slow=6.2,SNR=2.5
SONM LR LR 22 14 18.8
comp=Z,183nm,20.0s,baz=256,slow=39
SONM **Songino Array** 46.35 53 P **P** 21 52 54.5 +0.1
SONM pmax pmax
comp=Z,7.0nm,1.4s
SONM **Songino Array** 46.35 53 P **P** 21 52 54.5 +0.1
ULN **Ulaanbaatar** 46.79 53 *ce*P **P** 21 52 58.2 +0.3
ULN pmax pmax
comp=Z,32nm,1.7s
ULN **Ulaanbaatar** 46.79 53 P **P** 21 52 57.9 +0.1
CD2 **Chengdu** 47.37 76 *e*P **P** 21 53 01.0 -1.5
CHTO **Chiang Mai** 47.90 94 P **P** 21 53 06.0 -0.7
CHTO pmax pmax
comp=Z,23nm,1.4s
CHTO **Chiang Mai** 47.90 94 P **P** 21 53 06.0 -0.7
CMAR **Chiang Mai Arr** 48.06 94 P **P** 21 53 08.2 +0.3
comp=Z,1.7nm,0.6s,baz=292,slow=8.7,SNR=4.4
CMAR PcP **PcP** 21 54 36.6 +0.9
comp=Z,1.3nm,0.6s,baz=285,slow=4.8,SNR=4.4
CMAR LR LR 22 15 48.5
comp=Z,44nm,20.0s,baz=285,slow=39
CMAR **Chiang Mai Arr** 48.06 94 P **P** 21 53 07.0 -1.0
KMI **Kunming** 48.48 84 P **P** 21 53 11.8 +0.4
KMI sP pP 21 53 16.4 -0.4
KMI pmax pmax
comp=Z,15nm,1.4s
KMI **Kunming** 48.48 84 P **P** 21 53 11.6 +0.2
KMI pmax pmax
comp=Z,18nm,1.1s
KMI **Kunming** 48.48 84 P **P** 21 53 11.6 +0.2
KBS **Kingsbay** 48.78 351 P **P** 21 53 12.2 -0.5
XAN **Xi'an** 50.63 71 P **P** 21 53 26.7 -0.8
XAN pmax pmax
comp=Z,14nm,1.2s
XAN **Xi'an** 50.63 71 P **P** 21 53 26.7 -0.8
XAN IAmb IAmb 21 53 31.2
comp=Z,14nm,1.2s
PBKT **Sadao Pong** 50.65 95 P **P** 21 53 27.2 -0.5
PBKT IAmb IAmb 21 53 31.2
comp=Z,15nm,1.2s
BOD **Bodaibo** 50.71 39 *e*P **P** 21 53 27.0 -0.6
BOD pmax pmax
comp=Z,14nm,1.7s
OPO **Ambohidratompo** 50.89 180 P **P** 21 53 30.6 +1.1
comp=Z,2.8nm,0.8s,baz=333,slow=6.8,SNR=1.4
HHC **Hu-ho-hao-te** 50.97 61 *e*P **P** 21 53 30.6 +0.6
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,97nm,5.2s
HHC LR LR
comp=Z,93nm,14.5s
HHC LR LR
comp=Z,170nm,13.6s
HHC LR LR
comp=Z,120nm,15.3s
SLVN **Son La** 50.98 88 P **P** 21 53 29.6 -0.6
SLVN IAmb IAmb 21 53 37.9
comp=Z,12nm,1.5s
LSZ **Lusaka** 51.08 204 P **P** 21 53 32.5 +1.5
comp=Z,1.3nm,0.5s,baz=25,slow=3.8,SNR=5.3
LSZ **Lusaka** 51.08 204 P **P** 21 53 32.0 +1.0
BJI **Beijing** 54.58 61 P **P** 21 53 54.9 -1.6
BJI pmax pmax
comp=Z,2.0nm,0.6s
BJI LR LR
comp=Z,120nm,18.1s
BJI LR LR
comp=Z,53nm,16.7s
BJI LR LR
comp=Z,460nm,47.4s
HIA **Hailar** 54.97 50 P **P** 21 53 59.1 -0.1
HIA pmax pmax
comp=Z,13nm,1.0s
HIA **Hailar** 54.97 50 P **P** 21 53 59.1 -0.1
HIA IAmb IAmb 21 54 03.0
comp=Z,13nm,1.0s
DBIC **Dimbokro** 54.99 254 P **P** 21 54 00.2 +0.4
comp=Z,1.4nm,0.5s,baz=32,slow=9.7,SNR=2.6
DBIC LR LR 22 20 12.4
comp=Z,139nm,20.2s,baz=35,slow=39
DBIC **Dimbokro** 54.99 254 P **P** 21 53 59.6 -0.2
KULM **Kulim** 56.40 107 P **P** 21 54 09.0 -0.9
PSI **Prapat** 56.50 111 P **P** 21 54 12.3 +1.5
comp=Z,2.0nm,0.5s,baz=179,slow=3.2,SNR=6.4
RPSI **Rantau Prapat** 56.56 111 P **P** 21 54 09.8 -1.3
TIXI **Tiksi** 56.71 22 P **P** 21 54 11.4 +0.1
comp=Z,1.5nm,0.3s,baz=304,slow=3.6,SNR=2.4
TIXI **Tiksi** 56.71 22 P **P** 21 54 11.2 -0.1
IPM **Ipoh** 57.17 107 P **P** 21 54 14.1 -1.4
IPM IAmb IAmb 21 54 17.8
comp=Z,16nm,1.1s
SUMG **Summit** 58.05 339 P **P** 21 54 20.7 -0.5
SUMG pmax pmax
comp=Z,7.0nm,1.0s
SUMG **Summit** 58.05 339 P **P** 21 54 20.7 -0.5
SUMG IAmb IAmb 21 54 27.1
comp=Z,7.2nm,1.0s
NJ2 **Nanjing** 59.16 70 *e*P **P** 21 54 27.1 -2.1
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
BKNI **Bangkinang** 59.68 111 P **P** 21 54 32.3 -0.6
LBTB **Lobatse** 61.00 203 P **P** 21 54 42.7 +0.9
LBTB pmax pmax
comp=Z,4.0nm,1.0s
LBTB **Lobatse** 61.00 203 P **P** 21 54 42.7 +0.9
KLR **Kul'dur** 62.57 47 *de*P **P** 21 54 51.5 -0.6
KS19 **Wonju Array Si** 64.04 61 P **P** 21 55 01.2 -0.9
KSAR **Wonju Array Be** 64.08 61 P **P** 21 55 01.1 -1.2
KSAR **Wonju Array Be** 64.08 61 P **P** 21 55 01.1 -1.2
KSRS **Korea Array** 64.10 61 P **P** 21 55 01.6 -0.8
comp=Z,1.5nm,0.6s,baz=284,slow=6.9,SNR=5.4
KSRS LR LR 22 27 27.6
comp=Z,84nm,19.2s,baz=300,slow=40
BOSA **Boshof** 64.45 202 P **P** 21 55 05.8 +1.0
comp=Z,2.4nm,0.9s,baz=32,slow=5.5,SNR=4.7
BOSA LR LR 22 23 35.2
comp=Z,89nm,20.9s,slow=36
BOSA **Boshof** 64.45 202 P **P** 21 55 04.4 -0.4
USA0B **Ussuriysk Arra** 64.46 53 P **P** 21 55 03.2 -1.4
USA0B pmax pmax
comp=Z,6.0nm,0.9s
USA0B **Ussuriysk Arra** 64.46 53 P **P** 21 55 03.2 -1.4
USA0B IAmb IAmb 21 55 06.6
comp=Z,5.5nm,0.8s
USRK **Ussuriysk Ar.** 64.46 53 P **P** 21 55 03.3 -1.4
comp=Z,3.1nm,0.6s,baz=274,slow=5.2,SNR=12
USRK LR LR 22 25 58.9
comp=Z,103nm,19.3s,baz=282,slow=39
USRK **Ussuriysk Ar.** 64.46 53 P **P** 21 55 03.1 -1.6
EUNU **Eureka** 64.77 352 P **P** 21 55 06.3 +0.1
EUNU IAmb IAmb 21 55 09.6
comp=Z,12nm,1.5s
SEY **Seymchan** 67.80 29 P **P** 21 55 25.6 -0.2
comp=Z,4.2nm,0.7s,baz=310,slow=6.7,SNR=10
MA2 **Magadan** 68.70 32 P **P** 21 55 30.1 -1.4
MA2 pmax pmax
comp=Z,6.0nm,0.9s
MA2 **Magadan** 68.70 32 P **P** 21 55 30.1 -1.4
MA2 IAmb IAmb 21 55 38.9
comp=Z,6.2nm,0.9s
KKM **Kota Kinabalu** 68.83 96 P **P** 21 55 32.4 -0.7
YSS **Yuzh-Sakhalins** 70.25 46 *e*P **P** 21 55 41.2 0.0
YSS **Yuzh-Sakhalins** 70.25 46 P **P** 21 55 40.1 -1.1
MYLDM **Lahad Datu** 71.21 96 P **P** 21 55 46.2 -1.4
MYLDM IAmb IAmb 21 55 57.0
comp=Z,16nm,1.3s
MJAR **Matsushiro Arr** 71.95 58 P **P** 21 55 52.8 +0.9
comp=Z,0.8nm,0.6s,baz=297,slow=9.6,SNR=4.9
MJAR LR LR 22 30 09.4
comp=Z,58nm,19.6s,baz=250,slow=38
MJAR **Matsushiro Arr** 71.95 58 P **P** 21 55 51.7 -0.1
DRLN **Deer Lake** 74.82 319 P **P** 21 56 08.3 -0.2
PETK **Petropavlovsk-** 75.38 36 LR LR 22 32 56.1
comp=Z,85nm,19.7s,baz=246,slow=39
SCHQ **Schefferville** 76.35 327 P **P** 21 56 16.9 -0.2
comp=Z,5.8nm,1.1s,baz=40,slow=4.7,SNR=3.6
SCHQ **Schefferville** 76.35 327 P **P** 21 56 16.6 -0.5
SCHQ IAmb IAmb 21 56 30.7
comp=Z,12nm,1.2s
GBN **Guysborough** 79.24 317 P **P** 21 56 33.9 +0.5
IMAR **Indian Mountai** 80.36 9 P **P** 21 56 38.5 -0.6
BATG **Bathurst New B** 80.63 321 P **P** 21 56 41.6 +0.7
BATG IAmb IAmb 21 56 44.4
comp=Z,15nm,1.0s
LMN **Caledonia Moun** 80.82 319 P **P** 21 56 41.7 -0.3
LMN IAmb IAmb 21 56 50.7
comp=Z,20nm,1.1s
ILAR **Eielson Array** 82.29 6 P **P** 21 56 49.0 -0.3
comp=Z,0.4nm,0.6s,baz=311,slow=4.5,SNR=4.7
ILAR **Eielson Array** 82.29 6 P **P** 21 56 48.8 -0.6
E63A **Oxbow** 82.42 321 P **P** 21 56 50.4 0.0
E63A IAmb IAmb 21 57 01.1
comp=Z,9.4nm,1.2s
E62A **Clayton Lake** 82.87 322 P **P** 21 56 53.1 +0.4

E62A					IAmb	IAmb	21 57 04.0	
	comp=Z,15nm,1.5s							
YKA	**Yellowknife Ar**	**84.14**	**352**	P		**P**	**21 56 58.6**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=344,slow=5.1,SNR=2.5							
BCAR	**Beaver Creek A**	**84.37**	**4**	P		**P**	**21 57 00.1**	**-0.1**
SUA	**Susitna One**	**85.09**	**9**			**P**	**21 57 02.6**	**-1.3**
SUA					IAmb	IAmb	21 57 17.4	
	comp=Z,5.6nm,1.0s							
PSAD3	**Pilbara Seismi**	**87.56**	**118**	P		**P**	**21 57 16.5**	**0.0**
KNRA	**Kununurra**	**91.16**	**108**			**P**	**21 57 33.7**	**+0.2**
WRA	**Warramunga Arr**	**97.92**	**108**	P		**P**	**21 58 04.5**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=316,slow=4.0,SNR=6.1							
WRA	**Warramunga Arr**	**97.92**	**108**	P		**P**	**21 58 03.2**	**-1.2**
ASAR	**Alice Springs**	**99.51**	**112**	P		**Pdif**	**21 58 10.5**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=300,slow=4.4,SNR=8.9							
ASAR	**Alice Springs**	**99.51**	**112**	P		**Pdif**	**21 58 09.2**	**-2.4**
TXAR	**Lajitas Array**	**112.60**	**333**		PKiKP	**PKiKP**	**22 03 04.4**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=54,slow=4.6,SNR=2.4							

*NNC **18** 21:45:05.5±3.4, 47.°17N×89.°82E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=27.5km s-min=25.5km az=3.0*
*ASRS **18** 21:45:09.8±0.4, 47.°N±1.°×8.°9E±.°, h9km, MLh3.6/23, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*

ISC 18 21:45:02.3±1.3**, 46.°93N**±0.°06×**90.°27E**±0.°05, **h10**km, **n24, σ2s23/50, 8C-6D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
SLNR	**Muhor-Tarhata,**	**3.10**	**338**	Pg		**Pg**	**21 46 01.2**			**-0.4**
SLNR				Sg		**Sg**	**21 46 41.6**			**-0.2**
DGZ	**Jazzator, Alta**	**3.36**	**327**	Pn		**Pb**	**21 46 00.2**			**-1.8**
DGZ				Pg		**Pg**	**21 46 05.6**			**-1.1**
DGZ				Sg		**Sb**	**21 46 46.0**			**+2.9**
CUR	**Chagan-Uzun**	**3.42**	**339**	Pg		**Pg**	**21 46 07.8**			**-0.1**
CUR				Sg		**Sg**	**21 46 52.5**			**+0.2**
ZSN	**Zaisan**	**3.72**	**280**	Pg		**Pn**	**21 46 04.2**			**+4.3**
	2.3nm,0.3s									
ZSN				Lg		Lg	21 46 54.5			
	34nm,0.4s									
AKAR	**Aktash**	**3.83**	**334**	Pg		**Pg**	**21 46 14.6**			**-1.0**
AKAR				Sg		**Sg**	**21 47 03.5**			**-1.7**
CHBI	**Chibit, Altay**	**3.85**	**333**	Pg		**Pg**	**21 46 15.1**			**-1.0**
CHBI				Sg		**Sg**	**21 47 03.3**			**-2.8**
ULGR	**Ulagan, Altay**	**4.00**	**338**	Pg		**Pg**	**21 46 18.4**			**-0.6**
ULGR				Sg		**Sg**	**21 47 09.6**			**-1.3**
TUNR	**Tungur**	**4.16**	**323**	Pn		**Pn**	**21 46 10.1**			**+4.2**
TUNR				Pg		**Pg**	**21 46 20.7**			**-1.3**
TUNR				Sg		**Sg**	**21 47 13.9**			**-2.1**
ARTR	**Artybash**	**5.25**	**339**	Pg		**Pg**	**21 46 41.1**			**-1.8**
ARTR				Sg		**Sg**	**21 47 51.7**			**+0.8**
UKR	**Ust'-Kan**	**5.41**	**320**	Pn		**Pn**	**21 46 37.0**			**+4.0**
UKR				Pg		**Pg**	**21 46 42.5**			**-3.4**
UKR				Sg		**Sg**	**21 47 51.9**			**-4.0**
MK31	**Makanchi Array**	**5.47**	**272**	⇓Pn		**Pn**	**21 46 24.2**			**+0.3**
	0.1nm,0.3s,baz=94,slow=15									
MK31				⇓Pg		**Pb**	**21 46 37.2**			**-0.8**
	0.5nm,0.3s,baz=96,slow=15,SNR=12									
MK31				⇓Sn		**Sn**	**21 47 31.4**			**+4.5**
	1.4nm,0.4s									
MK31				⇑Lg		Lg	21 47 46.3			
	4.7nm,0.4s,baz=90,slow=37									
MKAR	**Makanchi Array**	**5.47**	**272**	Pn		**Pn**	**21 46 23.7**			**-0.2**
MKAR				Pg		**Pb**	**21 46 38.0**			**0.0**
MKAR				Sg		**Sb**	**21 47 46.3**			**+2.6**
MAKZ	**Makanchi**	**5.69**	**272**	Pn		**Pn**	**21 46 26.9**			**+0.1**
MAKZ				Pg		**Pb**	**21 46 41.9**			**+0.3**
MAKZ				Sg		**Sb**	**21 47 55.1**			**+5.3**
MAKZ	**Makanchi**	**5.69**	**272**	⇑Pn		**Pn**	**21 46 26.9**			**+0.1**
	1.1nm,0.8s									
MAKZ				⇓Pg		**Pb**	**21 46 41.1**			**-0.5**
	1.1nm,0.8s									
MAKZ				⇑Sn		**Sn**	**21 47 32.9**			**+0.7**
	3.8nm,1.2s									
MAKZ				⇑Lg		Lg	21 47 53.4			
	5.1nm,0.4s									
DJO	**Djoy, Khakassi**	**5.90**	**6**	Sg		**Sg**	**21 48 12.3**			**+0.9**
TBTR	**Tabat**	**6.02**	**3**	Pg		**Pg**	**21 46 57.1**			**-0.5**
TBTR				Sg		**Sg**	**21 48 15.5**			**+0.1**
ARDR	**Aradan**	**6.02**	**19**	Pg		**Pg**	**21 46 58.3**			**+0.8**
ARDR				Sg		**Sg**	**21 48 14.4**			**-1.0**
TASR	**Tashtagol**	**6.04**	**346**	Sg		**Sg**	**21 48 18.7**			**+2.5**
TDJR	**Todzha**	**6.66**	**32**	Pg		**Pg**	**21 47 07.7**			**-2.0**
TDJR				Sg		**Sg**	**21 48 33.3**			**-2.6**
LUZB	**Luzhba, Kemero**	**6.80**	**353**	Pg		**Pg**	**21 47 09.7**			**-2.7**
LUZB				Sg		**Sg**	**21 48 39.5**			**-1.0**
KAPS	**Kapalarasan**	**7.76**	**262**	Pg		**Pn**	**21 46 55.2**			**-0.2**
	0.3nm,0.2s									
KAPS				Lg		Lg	21 48 21.8			
	1.8nm,0.2s									
PDGK	**Podgornoye**	**8.43**	**249**	Pg		**Pn**	**21 47 03.6**			**-1.0**
	0.2nm,0.3s									
KURK	**Kurchatov**	**8.57**	**301**	⇑Pn		**Pn**	**21 47 06.1**			**-0.2**
	0.4nm,0.3s									
KURK				⇓Sn		**Sn**	**21 48 39.5**			**-3.5**
	3.3nm,0.8s									
KURK				⇑Lg		Lg	21 49 28.8			
	16nm,1.1s									
KURBB	**Kurchatov Arra**	**8.59**	**300**	⇑Pn		**Pn**	**21 47 06.1**			**-0.5**
	0.7nm,0.3s,baz=110,slow=14									
KURBB				⇓Sn		**Sn**	**21 48 39.1**			**-4.4**
	7.5nm,0.7s									
KURBB				⇑Lg		Lg	21 49 25.5			
	17nm,0.8s									

*IDC **18** 21:54:20.3±2.1, 32.°37N×47.°21E, h0km, mb3.8/9, mb1 3.8/12, mb1mx3.6/51, mbtmp3.8/12, ML3.6/3, Error ellipse: s-maj=38.6km s-min=21.7km az=4.0*
*TEH **18** 21:54:24.4, 32.°71N×47.°42E, h8km, ML3.6*
*ISN **18** 21:54:25.1±0.8, 32.°65N×47.°57E, h15km±5km, ML3.6*
*THR **18** 21:54:27.9±0.4, 32.°71N×47.°55E, h18km±5km, ML3.6*

ISC 18 21:54:24.3±1.3**, 32.°69N**±0.°03×**47.°45E**±0.°03, **h10**km±9km, **n72, σ2s10/78, mb3.7/8, 7C-2D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
IKFM	**Kafar-mosalman**	**0.90**	**22**	*e*Pg		**Pg**	**21 54 41.2**			**-0.4**
IKFM				*e*		**Sn**	**21 54 58.6**			**+2.6**
IKMR	**Kamar-syah**	**1.14**	**43**	*e*Pg		**Pg**	**21 54 45.9**			**-0.3**
IKMR				*e*		**Sn**	**21 55 04.7**			**+2.7**
IDOB	**Doab**	**1.26**	**29**	*e*Pg		**Pn**	**21 54 48.7**			**+0.6**
SHGR	**Shooshtar-Gavs**	**1.28**	**116**	*e*Pg		**Pg**	**21 54 50.5**			**+1.6**
SHGR				IAML			21 55 12.9			
	comp=E,1μm,0.4s									
SHGR	**Shooshtar-Gavs**	**1.28**	**116**	*e*Pg		**Pg**	**21 54 50.5**			**+1.6**
IBDR	**Badra**	**1.34**	**289**	*e*Pg		**Pg**	**21 54 52.0**			**+1.9**
IBDR				*e*Sg		**Sn**	**21 55 11.0**			**+4.0**
IBDR				AML		AML	21 55 14.9			
	comp=N,1μm,0.6s									
IBDR				AML		AML	21 55 15.2			
	comp=E,976nm,0.6s									
IKOM	**Komasi**	**1.48**	**2**	*e*Pg		**Pg**	**21 54 53.0**			**+0.2**
IKOM				*e*			21 54 54.6			
BMDN	**Meydan**	**1.52**	**49**	*e*Pg		**Pg**	**21 54 53.6**			**+0.2**
BMDN				*e*			21 55 21.5			
KCHF	**Cheshme Sefid,**	**1.62**	**348**	*e*Pg		**Pg**	**21 54 55.2**			**-0.2**
KCHF				*e*			21 55 20.8			
AHWZ	**Ahwaz**	**1.69**	**143**	*e*Pg		**Pg**	**21 54 57.0**			**+0.2**
KER	**Kermanshah**	**1.71**	**351**	*e*Pg		**Pg**	**21 54 56.8**			**-0.4**
IGHG	**Ghaleghazi**	**1.79**	**336**	*e*Pg		**Pg**	**21 54 58.2**			**-0.5**
IGHG				*e*			21 55 37.1			
HSAM	**Samen**	**1.80**	**32**	*e*Pg		**Pg**	**21 54 58.4**			**-0.4**
HSAM				*e*			21 55 26.7			
IBZA	**Bozab**	**1.81**	**11**	*e*Pn		**Pg**	**21 54 58.5**			**-0.5**
IBZA				*e*			21 55 27.7			
IVIS	**Veis**	**1.90**	**345**	*e*Pn		**Pb**	**21 54 59.0**			**-0.1**
IVIS				*e*			21 55 30.7			
NSR	**Nassriya**	**2.01**	**214**	*e*Pn		**Pn**	**21 55 00.0**			**+1.8**
NSR				*e*Sn		**Sn**	**21 55 25.0**			**+1.6**
IDHR	**Dehrash**	**2.19**	**337**	*e*Pn		**Pb**	**21 55 03.3**			**-0.9**
IDHR				*e*			21 55 39.2			
IALM	**Almabolaq**	**2.25**	**15**	*e*Pn		**Pb**	**21 55 04.9**			**-0.3**
ILIN	**Lien**	**2.26**	**350**	*e*Pn		**Pb**	**21 55 04.5**			**-0.9**
ILIN				*e*			21 55 42.6			
KHMZ	**Khomeyn**	**2.35**	**63**	*e*Pn		**Pb**	**21 55 06.5**			**-0.4**
KHMZ	**Khomeyn**	**2.35**	**63**	*e*Pn		**Pb**	**21 55 06.5**			**-0.4**
SNGE	**Sanandaj**	**2.40**	**358**	*e*Pn		**Pb**	**21 55 08.3**			**+0.6**
SNGE	**Sanandaj**	**2.40**	**358**	*e*Pn		**Pb**	**21 55 08.3**			**+0.6**
HAGD	**Aghdareh**	**2.55**	**33**	*e*			21 55 49.9			
HAGD				*e*Pn		**Pb**	**21 55 08.8**			**-1.5**
HSRG	**Sareghieh**	**2.64**	**15**	*e*Pn		**Pb**	**21 55 11.1**			**-0.8**
HSRG				*e*			21 56 02.3			
BHD	**Baghdad**	**2.64**	**284**	*e*Pn		**Pb**	**21 55 10.0**			**-1.7**
BHD				*e*Sn		**Sb**	**21 55 44.0**			**-0.2**
JHBN	**Jahan bin**	**2.76**	**99**	*e*Pn		**Pn**	**21 55 11.0**			**+2.1**
JHBN				*e*			21 56 02.7			
ASAO	**Ashtian**	**2.84**	**49**	*e*Pn		**Pb**	**21 55 13.6**			**-1.7**
ASAO				*e*Sg		**Sg**	**21 55 54.3**			**-1.2**
ASAO	**Ashtian**	**2.84**	**49**	*e*Pn		**Pb**	**21 55 13.6**			**-1.7**
IPIR	**Pirpir**	**2.91**	**89**	*e*Pn		**Pn**	**21 55 13.6**			**+2.7**
IPIR				*e*			21 55 59.7			
ROKH	**ROKH**	**3.05**	**95**	*e*Pn		**Pn**	**21 55 14.9**			**+2.1**
IRAZ	**Razeghan**	**3.40**	**37**	*e*Pn		**Pn**	**21 55 20.7**			**+3.0**
QABG	**Abgarm-Qazvin**	**3.49**	**30**	*e*Pn		**Pn**	**21 55 21.1**			**+2.2**
IKLH	**Kolahrood**	**3.53**	**79**	*e*Pn		**Pn**	**21 55 22.5**			**+3.1**
IGAR	**Gharneh**	**3.89**	**93**	*e*Pn		**Pn**	**21 55 26.3**			**+1.9**
IGAR				*e*			21 56 24.8			
KLNJ	**Kolanjah**	**3.91**	**114**	*e*Pn		**Pn**	**21 55 25.8**			**+1.1**
IMHD	**Mahdasht**	**4.01**	**41**	*e*Pn		**Pn**	**21 55 28.1**			**+2.2**
QSDN	**Sirdan**	**4.06**	**20**	*e*Pn		**Pn**	**21 55 30.0**			**+3.2**
IZEF	**Zefreh**	**4.12**	**86**	*e*Pn		**Pn**	**21 55 29.9**			**+2.4**
IRAM	**Ramesheh**	**4.27**	**101**	*e*Pn		**Pn**	**21 55 30.6**			**+1.0**
QALM	**Alamut, Qazvin**	**4.57**	**34**	*e*Pn		**Pn**	**21 55 35.9**			**+2.1**
IDMV	**Damavand**	**4.77**	**52**	*e*Pn		**Pn**	**21 55 37.8**			**+1.3**
IFIR	**Firoozkooh**	**5.29**	**55**	*e*Pn		**Pn**	**21 55 45.9**			**+2.2**
ANAR	**Anarak**	**5.31**	**83**	*e*Pn		**Pn**	**21 55 45.2**			**+1.5**
ILAS	**Lasjerd**	**5.31**	**58**	*e*Pn		**Pn**	**21 55 46.0**			**+2.1**
ISAD	**Sadrabad**	**5.34**	**97**	*e*Pn		**Pn**	**21 55 45.7**			**+1.4**
IALA	**Alasht**	**5.58**	**51**	*e*Pn		**Pn**	**21 55 50.0**			**+2.4**
IHRS	**Heris**	**5.63**	**357**	*e*Pn		**Pn**	**21 55 51.9**			**+3.7**
ISHM	**Shahmirzad**	**5.75**	**56**	*e*Pn		**Pn**	**21 55 52.0**			**+2.0**
IANJ	**Anjilo**	**6.04**	**61**	*e*Pn		**Pn**	**21 55 55.5**			**+1.6**
IGLO	**Ghaloghah**	**6.49**	**52**	*e*Pn		**Pn**	**21 56 04.1**			**+4.0**
ASF	**Jabal al Asfar**	**8.93**	**270**	Pn		Pn	21 56 27.8			-5.7
	comp=E,0.3nm,0.3s,baz=94,slow=21,SNR=1.7									
ASF						**Sn**	**21 58 07.3**			**-6.9**
	comp=E,0.1nm,0.3s,baz=320,slow=3.8,SNR=1.5									
ASF						Lg	Lg			
	comp=E,0.1nm,0.3s,baz=22,slow=15,SNR=2.4						21 59 02.2			
WSAR	**Wadi Sarin**	**13.64**	**131**	Pn		**Pn**	**21 57 35.0**			**-2.9**
	comp=E,0.4nm,0.3s,baz=315,slow=11,SNR=4.2									
WSAR						Sn	Sn			
	comp=E,0.2nm,0.3s,baz=80,slow=9.2,SNR=1.8						21 59 57.9			-12
AKTO	**Aktyubinsk**	**19.38**	**21**	P		**Pn**	**21 58 51.5**			**+0.3**
	comp=E,0.2nm,0.3s,baz=203,slow=12,SNR=4.5									
MLR	**Muntele Rosu**	**20.94**	**314**	P		**P**	**21 59 06.5**			**-0.9**
	comp=E,1.6nm,1.0s,baz=156,slow=20,SNR=1.6									
MLR	**Muntele Rosu**	**20.94**	**314**	⇑P		Pn	21 59 13.9			+4.0
TESR	**Tescani**	**21.07**	**317**	⇑P		**P**	**21 59 09.9**			**+1.4**
SORM	**Soroca**	**21.11**	**323**	⇑P		**P**	**21 59 11.0**			**+2.1**
OZUR		**21.35**	**315**	⇑P		**P**	**21 59 13.2**			**+1.6**
VOIR		**21.47**	**313**	⇑P		**P**	**21 59 15.7**			**+2.8**
DOPR	**Dopca**	**21.52**	**314**	⇓P		**P**	**21 59 14.5**			**+1.1**
PRAR	**RASCA**	**21.78**	**318**	⇓P		**P**	**21 59 18.4**			**+2.2**
LOT	**Lotru**	**22.27**	**312**	⇓P		**P**	**21 59 15.1**			**-6.5**
AKASG	**Malin Array Be**	**22.46**	**329**	P		**P**	**21 59 22.9**			**-0.5**
	comp=E,0.7nm,0.3s,baz=137,slow=9.5,SNR=7.7									
BURAR	**Bucovina Array**	**22.49**	**318**	⇑P		**P**	**21 59 26.9**			**+2.9**
KIRV	**Kirov**	**25.93**	**2**	P		**P**	**21 59 56.6**			**+0.2**
	comp=E,3.6nm,0.5s,baz=1.0,slow=23,SNR=4.4									
BVAR	**Borovoye Array**	**26.18**	**32**	P		**P**	**21 59 59.6**			**+0.8**
	comp=E,0.4nm,0.5s,baz=229,slow=11,SNR=3.7									
BVAR						ScP	**ScP**			**22 07 04.6**		**-0.8**
	comp=E,0.1nm,0.3s,baz=242,slow=3.1,SNR=4.9									
KURBB	**Kurchatov Arra**	**29.03**	**43**	P		**P**	**22 00 25.6**			**+1.3**
	comp=E,0.3nm,0.3s,baz=246,slow=9.4,SNR=4.7									
FINES	**FINESS Array B**	**31.93**	**341**	P		**P**	**22 00 48.2**			**-1.6**
	comp=E,1.2nm,0.5s,baz=140,slow=15,SNR=5.3									
ZALV	**Zalesovo Beam**	**33.94**	**40**	P		**P**	**22 01 07.9**			**+0.4**
	comp=E,0.6nm,0.4s,baz=239,slow=10.0,SNR=4.0									
NOA	**NORSAR Array B**	**36.81**	**331**	P		**P**	**22 01 31.6**			**-0.6**
	comp=E,0.7nm,0.8s,baz=122,slow=8.4,SNR=1.7									
ARCES	**ARCESS Array B**	**38.90**	**348**	P		**P**	**22 01 49.9**			**+0.2**
	comp=E,2.8nm,1.0s,baz=161,slow=9.0,SNR=9.7									

*IDC **18** 22:04:10.7±16.0, 32.°82N×47.°46E, h0km, mb3.5/5, mb1 3.5/5, mb1mx3.3/42, mbtmp3.5/5, Error ellipse: s-maj=315.8km s-min=43.1km az=14.0*
*TEH **18** 22:04:11.0, 32.°71N×47.°38E, h8km, ML3.4*
*ISN **18** 22:04:12.0±0.7, 32.°70N×47.°47E, h14km±5km, ML3.3*
*THR **18** 22:04:14.8±0.4, 32.°66N×47.°33E, h46km±4km, ML3.5*

ISC 18 22:04:13.5±1.5**, 32.°75N**±0.°04×**47.°40E**±0.°05, **h17**km±11km, **n49, σ1s14/54, mb3.4/5, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
IKFM	**Kafar-mosalman**	**0.85**	**26**	*e*Pg		**Pg**	**22 04 28.9**			**-1.3**
IKMR	**Kamar-syah**	**1.12**	**47**	*e*Pg		**Pb**	**22 04 33.3**			**-1.2**
IKMR				*e*			22 05 01.0			
IDOB	**Doab**	**1.22**	**32**	*e*Pg		**Pn**	**22 04 36.0**			**0.0**
IBDR	**Badra**	**1.29**	**286**	*e*Pg		**Pn**	**22 04 37.0**			**+0.3**
IBDR				*e*Sg		**Sn**	**22 04 55.0**			**+1.5**
IBDR				AML		AML	22 04 57.2			
	comp=E,222nm,0.4s									
IBDR				AML		AML	22 04 57.7			
	comp=N,3μm,0.4s									
SHGR	**Shooshtar-Gavs**	**1.35**	**118**	*e*Pg		**Pg**	**22 04 40.1**			**+0.6**
SHGR				*e*Sg		**Sg**	**22 04 58.8**			**+1.6**
SHGR				IAML			22 05 00.7			
	comp=N,687nm,0.4s									
SHGR	**Shooshtar-Gavs**	**1.35**	**118**	*e*Pg		**Pg**	**22 04 40.1**			**+0.6**
IKOM	**Komasi**	**1.42**	**4**	*e*Pg		**Pn**	**22 04 39.0**			**+0.3**
IKOM				*e*			22 04 45.3			
BMDN	**Meydan**	**1.50**	**52**	*e*Pg		**Pb**	**22 04 40.9**			**-0.2**
BMDN				*e*			22 05 09.4			
KCHF	**Cheshme Sefid,**	**1.55**	**349**	*e*Pg		**Pn**	**22 04 40.9**			**+0.4**
KCHF				*e*			22 05 08.8			
KER	**Kermanshah**	**1.64**	**352**	*e*Pn		**Pn**	**22 04 42.4**			**+0.6**
IGHG	**Ghaleghazi**	**1.72**	**336**	*e*Pn		**Pn**	**22 04 43.9**			**+1.0**
IGHG				*e*			22 05 26.2			
IBZA	**Bozab**	**1.75**	**13**	*e*Pn		**Pn**	**22 04 44.8**			**+1.4**
IBZA				*e*			22 05 19.6			
HSAM	**Samen**	**1.77**	**34**	*e*Pg		**Pn**	**22 04 44.6**			**+1.0**
HSAM				*e*			22 05 14.4			
AHWZ	**Ahwaz**	**1.77**	**143**	*e*Pg		**Pb**	**22 04 44.4**			**-1.1**
IVIS	**Veis**	**1.83**	**346**	*e*Pn		**Pn**	**22 04 44.4**			**+0.1**
IVIS				*e*			22 05 16.8			
NSR	**Nassriya**	**2.04**	**212**	*e*Pn		**Pn**	**22 04 47.0**			**-0.1**
NSR				*e*Sn		**Sn**	**22 05 12.0**			**-0.2**
IDHR	**Dehrash**	**2.12**	**337**	*e*Pn		**Pn**	**22 04 47.3**			**-1.0**
IDHR				*e*			22 05 24.2			
ILIN	**Lien**	**2.19**	**351**	*e*Pn		**Pn**	**22 04 49.5**			**+0.1**
ILIN				*e*			22 05 42.0			
IALM	**Almabolaq**	**2.20**	**17**	*e*Pn		**Pn**	**22 04 51.0**			**+1.5**
SNGE	**Sanandaj**	**2.33**	**359**	*e*Pn		**Pn**	**22 04 52.9**			**+1.6**
SNGE	**Sanandaj**	**2.33**	**359**	*e*Pn		**Pn**	**22 04 52.9**			**+1.6**
KHMZ	**Khomeyn**	**2.36**	**65**	*e*Pn		**Pn**	**22 04 53.1**			**+1.4**
KHMZ	**Khomeyn**	**2.36**	**65**	*e*Pn		**Pn**	**22 04 53.1**			**+1.4**
HAGD	**Aghdareh**	**2.52**	**35**	*e*Pn		**Pn**	**22 04 54.8**			**+0.9**
HAGD				*e*			22 05 39.1			
BHD	**Baghdad**	**2.59**	**282**	*e*Pn		**Pn**	**22 04 56.0**			**+1.4**
BHD				*e*Sn		**Sn**	**22 05 29.0**			**+3.3**
BHD				AML		AML	22 05 36.5			
	comp=E,106nm,0.4s									
JHBN	**Jahan bin**	**2.81**	**100**	*e*Pn		**Pn**	**22 04 58.1**			**+0.2**
JHBN				*e*			22 05 56.1			
ASAO	**Ashtian**	**2.83**	**50**	*e*Pn		**Pn**	**22 04 59.6**			**+1.4**
ASAO				*e*Sg		**Sg**	**22 05 45.0**			**+0.5**
ASAO	**Ashtian**	**2.83**	**50**	*e*Pn		**Pn**	**22 04 59.6**			**+1.4**
IPIR	**Pirpir**	**2.94**	**90**	*e*Pn		**Pn**	**22 05 00.4**			**+0.6**
IPIR				*e*			22 05 59.0			
ROKH	**ROKH**	**3.10**	**97**	*e*Pn		**Pn**	**22 05 01.9**			**+0.1**
ROKH				*e*			22 06 00.8			
IRAZ	**Razeghan**	**3.38**	**38**	*e*Pn		**Pn**	**22 05 07.3**			**+1.6**
QABG	**Abgarm-Qazvin**	**3.46**	**31**	*e*Pn		**Pn**	**22 05 07.5**			**+0.7**
IKLH	**Kolahrood**	**3.56**	**80**	*e*Pn		**Pn**	**22 05 09.1**			**+0.9**
IKLH				*e*			22 06 11.5			
IGAR	**Gharneh**	**3.93**	**94**	*e*Pn		**Pn**	**22 05 13.6**			**+0.2**
KLNJ	**Kolanjah**	**3.97**	**115**	*e*Pn		**Pn**	**22 05 14.8**			**+0.9**
QSDN	**Sirdan**	**4.02**	**21**	*e*Pn		**Pn**	**22 05 16.1**			**+1.6**
IZEF	**Zefreh**	**4.15**	**87**	*e*Pn		**Pn**	**22 05 17.1**			**+0.7**
QALM	**Alamut, Qazvin**	**4.54**	**35**	*e*Pn		**Pn**	**22 05 22.7**			**+1.0**
IDMV	**Damavand**	**4.76**	**52**	*e*Pn		**Pn**	**22 05 24.8**			**0.0**
ANAR	**Anarak**	**5.34**	**84**	*e*Pn		**Pn**	**22 05 32.2**			**-0.3**
IALA	**Alasht**	**5.57**	**52**	*e*Pn		**Pn**	**22 05 37.1**			**+1.2**
ISHM	**Shahmirzad**	**5.75**	**56**	*e*Pn		**Pn**	**22 05 37.9**			**-0.5**
IANJ	**Anjilo**	**6.04**	**62**	*e*Pn		**Pn**	**22 05 42.4**			**+0.1**
TPRV	**Parvadeh(Tabas**	**7.81**	**85**	*e*Pn		**Pn**	**22 06 06.6**			**+0.1**
AKASG	**Malin Array Be**	**22.38**	**329**	P		**P**	**22 09 10.2**			**-0.6**
	comp=E,0.2nm,0.3s,baz=140,slow=9.0,SNR=1.7									
BVAR	**Borovoye Array**	**26.14**	**32**	P		**P**	**22 09 46.0**			**-0.6**
	comp=E,0.8nm,0.8s,baz=224,slow=10,SNR=4.7									
KURBB	**Kurchatov Arra**	**29.01**	**43**	P		**P**	**22 10 12.2**			**-0.1**
	comp=E,0.4nm,0.6s,baz=247,slow=9.1,SNR=2.4									
MKAR	**Makanchi Array**	**29.99**	**52**	P		**P**	**22 10 20.6**			**-0.5**
	comp=E,0.5nm,0.6s,baz=248,slow=8.8,SNR=6.9									
ZALV	**Zalesovo Beam**	**33.91**	**40**	P		**P**	**22 10 52.5**			**-2.9**
	comp=E,0.6nm,0.6s,baz=260,slow=8.3,SNR=2.7									

*IDC **18** 22:06:41.4±0.9, 32.°41N×47.°57E, h0km, mb3.6/11, mb1 3.8/14, mb1mx3.6/42, mbtmp3.7/14, ML3.6/3, Error ellipse: s-maj=20.7km s-min=17.9km az=164.0*
*TEH **18** 22:06:45.5, 32.°67N×47.°57E, h14km, ML3.9*
*THR **18** 22:06:46.4±0.3, 32.°68N×47.°57E, h15km±7km, ML3.7*
*ISN **18** 22:06:47.2±0.7, 32.°75N×47.°63E, h14km±4km, ML3.8*
*NEIC **18** 22:06:49.5±2.4, 32.°71N±0.°05×47.°63E±0.°07, h44km±11km, Error ellipse: s-maj=9.7km s-min=6.5km az=58.0*

ISC 18 22:06:45.1±0.5**, 32.°67N**±0.°03×**47.°59E**±0.°03, **h10**km, **n110, σ1s69/111, mb4.0/28, 7C-4D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
IKFM	**Kafar-mosalman**	**0.88**	**14**	*e*Pg		**Pg**	**22 07 01.6**			**-0.5**
IKFM	**Kafar-mosalman**	**0.88**	**14**	Pg		**Pg**	**22 07

	comp=Z,1.6nm,1.4s								
MKAR	**Makanchi Array**	**29.92**	**52**	P		**P**	**22 12 53.4**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=247,slow=8.7,SNR=7.3								
MKAR	**Makanchi Array**	**29.92**	**52**	P		**P**	**22 12 53.0**	**-0.1**
CIMO	**Cimolais**	**30.09**	**307**	P		**P**	**22 12 53.4**	**-1.3**
CIMO				IAmb		IAmb	22 13 04.8	
	comp=Z,5.6nm,1.4s								
CTI	**Castel Tesino**	**30.56**	**306**	P		**P**	**22 12 58.2**	**-0.7**
CTI				IAmb		IAmb	22 13 06.0	
	comp=Z,3.0nm,0.8s								
WTTA	**Wattenberg**	**30.86**	**309**	*i* P		**P**	**22 13 01.3**	**-0.4**
	comp=Z,1.9nm,0.5s								
WATA	**Walderalm**	**30.92**	**309**	*i* P		**P**	**22 13 01.8**	**-0.4**
	comp=Z,1.8nm,0.6s								
SQTA	**Sankt Quirin**	**31.14**	**309**	*i* P		**P**	**22 13 03.4**	**-0.6**
	comp=Z,3.4nm,0.5s								
MOTA	**Moosalm**	**31.24**	**309**	*i* P		**P**	**22 13 03.9**	**-1.0**
	comp=Z,2.1nm,0.5s								
FETA	**Feichten**	**31.40**	**308**	*i* P		**P**	**22 13 06.3**	**-0.1**
	comp=Z,1.8nm,0.6s								
RETA	**Reutte**	**31.50**	**309**	*i* P		**P**	**22 13 06.4**	**-0.7**
	comp=Z,1.5nm,0.5s								
FINES	**FINESS Array B**	**31.99**	**341**	P		**P**	**22 13 09.7**	**-1.4**
	comp=Z,3.5nm,1.0s,baz=126,slow=7.1,SNR=1.0								
DAVA	**Damuels**	**32.03**	**308**	*i* P		**P**	**22 13 10.9**	**-1.0**
	comp=Z,4.9nm,0.5s								
SENIN	**Lac Senin/Sane**	**33.58**	**306**	P		**P**	**22 13 24.5**	**-1.1**
ZALV	**Zalesovo Beam**	**33.87**	**40**	P		**P**	**22 13 25.6**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=237,slow=9.6,SNR=1.6								
ZALV	**Zalesovo Beam**	**33.87**	**40**	P		**P**	**22 13 28.8**	**+1.1**
KMBO	**Kilima Mbogo**	**35.00**	**198**	P		P	22 13 32.0	-6.1
	comp=Z,0.8nm,0.3s,baz=45,slow=12,SNR=4.0								
ARCES	**ARCESS Array B**	**38.94**	**348**	P		**P**	**22 14 10.1**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=158,slow=9.5,SNR=8.0								
SHL	**Shillong**	**39.12**	**89**	P		**P**	**22 14 11.2**	**-1.9**
ESDC	**Sonseca Array**	**41.72**	**295**	P		**P**	**22 14 33.8**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=78,slow=9.2,SNR=5.1								
TORD	**Torodi Ar. Bea**	**46.11**	**256**	P		**P**	**22 15 08.3**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=71,slow=6.7,SNR=4.4								
CMAR	**Chiang Mai Arr**	**48.01**	**94**	P		**P**	**22 15 23.6**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=290,slow=8.6,SNR=4.8								

ISN ***18*** *22:19:33.4±1.1,32.°70N×47.°81E,h14km±6km, ML2.2*
TEH ***18*** *22:19:34.0,32.°66N×47.°74E,h18km, ML2.6*
ISC 18 22:19:32.1±1.2,32.47N±0.05×47.77E±0.06,h15km,n11,
σ1§55/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.05**	**3**	*e*Pg	**Pb**	**22 19 51.1**	**-1.0**
IKFM				*e*		22 19 53.0	
IKMR	**Kamar-syah**	**1.16**	**26**	*e*Pg	**Pn**	**22 19 53.6**	**-0.2**
IKMR				*e*		22 19 58.2	
IDOB	**Doab**	**1.36**	**14**	*e*Pg	**Pn**	**22 19 55.8**	**-1.0**
IDOB				*e*		22 20 01.7	
BMDN	**Meydan**	**1.49**	**36**	*e*Pg	**Pb**	**22 19 59.8**	**+0.2**
BMDN				*e*		22 20 04.7	
IBDR	**Badra**	**1.68**	**293**	*e*Pg	**Pb**	**22 20 03.0**	**+0.3**
IBDR				*e*Sg	**Sg**	**22 20 25.0**	**-1.2**
IBDR				AML	AML	22 20 28.1	
	comp=E,24nm,0.6s						
IBDR				AML	AML	22 20 28.3	
	comp=N,54nm,0.4s						
IKOM	**Komasi**	**1.71**	**353**	*e*	**Pg**	**22 20 06.8**	**+1.7**
KCHF	**Cheshme Sefid,**	**1.90**	**341**	*e*Sg	**Sb**	**22 20 30.4**	**+0.1**
NSR	**Nassriya**	**2.01**	**224**	*e*Pn	**Pg**	**22 20 11.0**	**+0.2**
NSR				*e*Sn	**Sg**	**22 20 37.0**	**+0.1**
IGHG	**Ghaleghazi**	**2.11**	**332**	*e*Pg	**Pb**	**22 20 10.0**	**-0.2**
IGHG				*e*		22 20 41.6	
IVIS	**Veis**	**2.19**	**340**	*e*		22 20 41.5	
IVIS				*e*Pn	**Pn**	**22 20 09.0**	**+0.9**
BHD	**Baghdad**	**2.96**	**287**	*e*Pn	**Pn**	**22 20 21.0**	**+2.4**
BHD				*e*Sn	**Sb**	**22 20 57.0**	**-3.7**

IDC ***18*** *22:23:40.6±8.7,32.°27N×47.°36E,h0km, mb3.8/5,*
mb1 3.8/6,mb1mx3.5/47,mbtmp3.7/6,ML3.4/1, Error
ellipse: s-maj=155.9km s-min=37.4km az=11.0
TEH ***18*** *22:23:46.9,32.°77N×47.°60E,h15km, ML3.9*
THR ***18*** *22:23:48.7±0.6,32.°53N×47.°43E,h46km±6km, ML3.9*
ISC 18 22:23:46.7±1.0,32.73N±0.06×47.47E±0.07,h10km,n59,
σ1§41/61,mb3.5/5,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.85**	**22**	*e*Pg	**Pg**	**22 24 01.8**	**-1.3**
IKMR	**Kamar-syah**	**1.09**	**44**	*e*		22 24 42.6	
IKMR				*e*Pg	**Pg**	**22 24 05.8**	**-1.9**
IDOB	**Doab**	**1.21**	**29**	*e*Pg	**Pg**	**22 24 08.9**	**-1.0**
SHGR	**Shooshtar-Gavs**	**1.28**	**119**	*e*Pg	**Pb**	**22 24 12.0**	**+1.0**
SHGR				*e*Sg	**Sn**	**22 24 29.1**	**+1.1**
SHGR				IAML		22 25 01.3	
	comp=N,2μm,0.5s						
SHGR				IAML		22 25 14.2	
	comp=E,2μm,0.6s						
IKOM	**Komasi**	**1.44**	**1**	*e*Pg	**Pn**	**22 24 13.8**	**+0.8**
IKOM				*e*		22 24 34.3	
BMDN	**Meydan**	**1.47**	**50**	*e*Pg	**Pn**	**22 24 13.2**	**-0.2**
BMDN				*e*		22 24 53.0	
KCHF	**Cheshme Sefid,**	**1.58**	**347**	*e*Pg	**Pn**	**22 24 15.9**	**+0.9**
KCHF				*e*		22 24 59.4	
KER	**Kermanshah**	**1.67**	**350**	*e*Pg	**Pn**	**22 24 17.9**	**+1.7**
AHWZ	**Ahwaz**	**1.72**	**144**	*e*Pg	**Pn**	**22 24 18.6**	**+2.0**
HSAM	**Samen**	**1.75**	**32**	*e*Pg	**Pn**	**22 24 18.6**	**+1.2**
HSAM				*e*		22 25 06.6	
IBZA	**Bozab**	**1.76**	**10**	*e*Pg	**Pn**	**22 24 19.1**	**+1.6**
IBZA				*e*		22 24 40.7	
IGHG	**Ghaleghazi**	**1.76**	**335**	*e*Pn	**Pn**	**22 24 19.0**	**+1.5**
IGHG				*e*		22 25 00.5	
IVIS	**Veis**	**1.86**	**344**	*e*Pn	**Pn**	**22 24 20.9**	**+2.1**
IVIS				*e*		22 24 44.1	
IDHR	**Dehrash**	**2.16**	**336**	*e*Pn	**Pn**	**22 24 24.8**	**+1.8**
IDHR				*e*		22 25 20.8	
IALM	**Almabolaq**	**2.20**	**15**	*e*Pn	**Pn**	**22 24 25.3**	**+1.8**
ILIN	**Lien**	**2.22**	**349**	*e*Pn	**Pn**	**22 24 25.8**	**+2.0**
ILIN				*e*		22 25 26.3	
KHMZ	**Khomeyn**	**2.31**	**64**	*e*Pn	**Pn**	**22 24 27.1**	**+2.1**
SNGE	**Sanandaj**	**2.35**	**357**	*e*Pn	**Pn**	**22 24 28.4**	**+2.8**
HAGD	**Aghdareh**	**2.50**	**33**	*e*Pn	**Pn**	**22 24 28.8**	**+1.1**
HAGD				*e*		22 25 28.2	
HSRG	**Sareghieh**	**2.59**	**15**	*e*Pn	**Pn**	**22 24 31.2**	**+2.3**
HSRG				*e*		22 25 23.2	
JHBN	**Jahan bin**	**2.74**	**100**	*e*Pn	**Pn**	**22 24 30.5**	**-0.6**
JHBN				*e*		22 25 36.7	
ASAO	**Ashtian**	**2.79**	**49**	*e*Pn	**Pn**	**22 24 33.5**	**+1.8**
ASAO				*e*Sg	**Sg**	**22 25 19.4**	**+2.9**
IPIR	**Pirpir**	**2.88**	**90**	*e*Pn	**Pn**	**22 24 32.5**	**-0.5**
IPIR				*e*		22 25 31.7	
ROKH	**ROKH**	**3.03**	**96**	*e*Pn	**Pn**	**22 24 35.6**	**+0.6**
IRAZ	**Razeghan**	**3.35**	**37**	*e*Pn	**Pn**	**22 24 40.7**	**+1.3**
QABG	**Abgarm-Qazvin**	**3.44**	**30**	*e*Pn	**Pn**	**22 24 41.6**	**+1.0**
IKLH	**Kolahrood**	**3.50**	**79**	*e*Pn	**Pn**	**22 24 42.3**	**+0.9**
IKLH				*e*		22 25 46.1	
IGAR	**Gharneh**	**3.87**	**94**	*e*Pn	**Pn**	**22 24 48.0**	**+1.5**
KLNJ	**Kolanjah**	**3.90**	**115**	*e*Pn	**Pn**	**22 24 47.2**	**+0.2**
KLNJ				*e*		22 25 01.4	
IMHD	**Mahdasht**	**3.96**	**41**	*e*Pn	**Pn**	**22 24 49.3**	**+1.7**
QSDN	**Sirdan**	**4.01**	**20**	*e*Pn	**Pn**	**22 24 50.5**	**+2.0**
IZEF	**Zefreh**	**4.09**	**86**	*e*Pn	**Pn**	**22 24 50.0**	**+0.4**
IRAM	**Rameshеh**	**4.26**	**101**	*e*Pn	**Pn**	**22 24 51.9**	**+0.1**
MAHB	**Mahabad**	**4.28**	**341**	*e*Pn	**Pn**	**22 24 53.7**	**+1.7**
IGZV	**Ghazvin**	**4.29**	**31**	*e*Pn	**Pn**	**22 24 53.3**	**+1.0**
CHTH	**Charan**	**4.38**	**43**	*e*Pn	**Pn**	**22 24 56.0**	**+2.6**
QALM	**Alamut, Qazvin**	**4.52**	**34**	*e*Pn	**Pn**	**22 24 56.4**	**+0.9**
IDMV	**Damavand**	**4.72**	**52**	*e*Pn	**Pn**	**22 24 58.8**	**+0.5**
IFIR	**Firoozkooh**	**5.25**	**55**	*e*Pn	**Pn**	**22 25 05.6**	**+0.1**
ILAS	**Lasjerd**	**5.26**	**58**	*e*Pn	**Pn**	**22 25 06.3**	**+0.7**
ANAR	**Anarak**	**5.28**	**83**	*e*Pn	**Pn**	**22 25 05.9**	**+0.2**
ISAD	**Sadrabad**	**5.32**	**97**	*e*Pn	**Pn**	**22 25 07.5**	**+1.0**
IPRN	**Peran**	**5.33**	**48**	*e*Pn	**Pn**	**22 25 05.9**	**-0.5**
IALA	**Alasht**	**5.53**	**51**	*e*Pn	**Pn**	**22 25 11.3**	**+1.9**
IHRS	**Heris**	**5.58**	**357**	*e*Pn	**Pn**	**22 25 11.8**	**+1.8**
ISHM	**Shahmirzad**	**5.71**	**56**	*e*Pn	**Pn**	**22 25 12.0**	**+0.2**
IANJ	**Anjilo**	**6.00**	**61**	*e*Pn	**Pn**	**22 25 15.6**	**-0.1**
IGLO	**Ghaloghah**	**6.45**	**53**	*e*Pn	**Pn**	**22 25 23.0**	**+1.1**
IBAF	**Bafgh**	**6.96**	**97**	*e*Pn	**Pn**	**22 25 30.7**	**+1.9**
TPRV	**Parvadeh(Tabas**	**7.75**	**85**	*e*Pn	**Pn**	**22 25 40.2**	**+0.5**
TKDS	**Koohdasht(Taba**	**8.14**	**81**	*e*Pn	**Pn**	**22 25 44.9**	**-0.1**
GENO	**Geno**	**9.22**	**123**	*e*Pn	**Pn**	**22 26 00.2**	**+0.3**
ISFR	**Sfrayin**	**9.66**	**61**	*e*Pn	**Pn**	**22 26 07.4**	**+1.4**
AKTO	**Aktyubinsk**	**19.33**	**21**	P	**P**	**22 28 12.5**	**+0.5**
	comp=E,0.1nm,0.3s,baz=201,slow=12,SNR=4.5						
AKASG	**Malin Array Be**	**22.43**	**329**	P	**P**	**22 28 45.2**	**-0.3**
	comp=E,0.7nm,0.4s,baz=135,slow=9.7,SNR=4.9						
BVAR	**Borovoye Array**	**26.13**	**32**	P	**P**	**22 29 19.9**	**-0.8**
	comp=E,0.6nm,0.8s,baz=228,slow=7.8,SNR=4.0						
MKAR	**Makanchi Array**	**29.95**	**52**	P	**P**	**22 29 54.0**	**-1.0**
	comp=E,0.6nm,0.7s,baz=257,slow=7.9,SNR=4.6						
FINES	**FINESS Array B**	**31.89**	**341**	P	**P**	**22 30 10.7**	**-1.2**
	comp=E,3.3nm,1.0s,baz=130,slow=13,SNR=1.7						
ARCES	**ARCESS Array B**	**38.86**	**348**	P	**P**	**22 31 10.1**	**-1.6**
	comp=E,2.1nm,1.0s,baz=167,slow=8.2,SNR=2.2						

IDC ***18*** *22:23:57.0±0.9,32.°51N×47.°67E,h0km,mb4.0/17,*
mb1 4.1/22,mb1mx3.9/51,mbtmp4.0/22,ML3.4/5,Error
ellipse: s-maj=21.4km s-min=13.4km az=165.0
MOS ***18*** *22:23:57.3±1.0,32.°42N×47.°72E,h18km,mb4.5/27,Error*
ellipse: s-maj=9.9km s-min=5.4km az=119.7
ISN ***18*** *22:24:01.0±1.2,32.°58N×47.°83E,h15km±6km,ML3.6*
ISC 18 22:23:59.0±0.5,32.56N±0.05×47.73E±0.04,h10km,n123,
σ1§25/125,mb4.2/48,18C-24D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**1.61**	**290**	*e*Pg	**Pg**	**22 24 31.0**	**+1.2**
IBDR				*e*Sg	**Sg**	**22 24 54.0**	**+3.3**
IBDR				AML	AML	22 24 59.0	
	comp=E,749nm,0.6s						
IBDR				AML	AML	22 24 59.9	
	comp=N,818nm,0.6s						
KER	**Kermanshah**	**1.89**	**345**	P	**Pb**	**22 24 34.5**	**+0.9**
NSR	**Nassriya**	**2.05**	**222**	*e*Pn	**Pb**	**22 24 37.0**	**+0.7**
NSR				*e*Sn	**Sb**	**22 25 03.0**	**+1.2**
BHD	**Baghdad**	**2.90**	**285**	*e*Pn	**Pb**	**22 24 50.0**	**-0.8**
BHD				*e*Sn	**Sb**	**22 25 26.0**	**-0.3**
BHD				AML	AML	22 25 33.2	
	comp=E,249nm,0.6s						
ASF	**Jabal al Asfar**	**9.17**	**270**	Pn	**Pn**	**22 26 11.9**	**+0.5**
	comp=E,0.2nm,0.3s,baz=43,slow=17,SNR=2.4						
ASF				Lg	Lg	22 28 44.3	
	comp=E,0.3nm,0.3s,baz=18,slow=20,SNR=4.6						
ASF	**Jabal al Asfar**	**9.17**	**270**	P	**Pn**	**22 26 11.9**	**+0.5**
GEYT	**Alibeck**	**10.04**	**55**	Pn	**Pn**	**22 26 24.4**	**+1.1**
	comp=E,0.3nm,0.3s,baz=245,slow=12,SNR=4.5						
MMAI	**Mount Meron Ar**	**10.38**	**276**	Lg	Lg	22 29 30.4	
	comp=E,0.5nm,0.3s,baz=84,slow=39,SNR=1.8						
EIL	**Elat**	**11.32**	**259**	Lg	Lg	22 29 54.1	
	comp=E,0.6nm,0.3s,baz=56,slow=11,SNR=2.3						
KIV	**Kislovodsk**	**12.04**	**342**	*e*P	**Pn**	**22 26 48.3**	**-2.4**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,51nm,11.0s						
BRTR	**Keskin Array B**	**13.43**	**306**	Pn	**Pn**	**22 27 11.0**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=123,slow=14,SNR=6.4						
BRTR	**Keskin Array B**	**13.43**	**306**	*i* P	**Pn**	**22 27 11.5**	**+1.7**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
IDI	**Anoyia**	**19.14**	**284**	P	**P**	**22 28 20.3**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=45,slow=7.7,SNR=1.8						
AKTO	**Aktyubinsk**	**19.42**	**20**	P	**P**	**22 28 25.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=212,slow=12,SNR=11						
AKTO	**Aktyubinsk**	**19.42**	**20**	P	**P**	**22 28 25.4**	**+0.2**
VSR	**Storozhevoye**	**19.68**	**344**	*e*P	**P**	**22 28 25.9**	**-2.1**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CFR	**Carcaliu**	**19.72**	**315**	⇓P	**P**	**22 28 29.1**	**+0.5**
CFR	**Carcaliu**	**19.72**	**315**	⇓P	**P**	**22 28 29.1**	**+0.5**
RAZG	**Razgrad**	**19.94**	**310**	⇑P	**P**	**22 28 32.5**	**+1.5**
VARL	**Varlezi**	**20.29**	**317**	⇓P	**P**	**22 28 35.8**	**+1.0**
ISR	**Istrita**	**20.65**	**314**	P	**P**	**22 28 37.6**	**-1.2**
ISR				pmax	pmax		
	comp=Z,19nm,0.5s						
ODBI	**Odobesti**	**20.68**	**316**	⇑P	**P**	**22 28 40.8**	**+1.9**
VRI	**Vrincioaia**	**20.93**	**315**	⇓P	**P**	**22 28 42.7**	**+1.0**
VRI	**Vrincioaia**	**20.93**	**315**	⇓P	**P**	**22 28 42.7**	**+1.0**
NEHR	**Nehoiu**	**20.96**	**314**	⇑P	**P**	**22 28 44.2**	**+2.2**
PLOR	**Plostina**	**20.96**	**315**	⇓P	**P**	**22 28 43.8**	**+1.7**
PLOR	**Plostina**	**20.96**	**315**	⇓P	**P**	**22 28 43.8**	**+1.7**
LPSR	**Galich'ya Gora**	**21.02**	**345**	*e*P	**P**	**22 28 41.4**	**-1.2**
LPSR				pmax	pmax		
	comp=Z,30nm,1.1s						
SRS	**Serrai**	**21.07**	**301**	P	**P**	**22 28 44.4**	**+1.1**
SRS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MLR	**Muntele Rosu**	**21.20**	**314**	P	**P**	**22 28 46.2**	**+1.4**
	comp=Z,13nm,0.8s,baz=207,slow=2.8,SNR=18						
MLR	**Muntele Rosu**	**21.20**	**314**	⇓P	**P**	**22 28 46.6**	**+1.8**
MLR	**Muntele Rosu**	**21.20**	**314**	P	**P**	**22 28 46.2**	**+1.4**
TESR	**Tescani**	**21.32**	**317**	⇓P	**P**	**22 28 46.7**	**+0.8**
HUMR	**Humele**	**21.35**	**311**	⇑P	**P**	**22 28 47.7**	**+1.5**
SORM	**Soroca**	**21.36**	**322**	⇑P	**P**	**22 28 45.2**	**-1.1**
SORM	**Soroca**	**21.36**	**322**	⇑P	**P**	**22 28 45.2**	**-1.1**
OZUR		**21.61**	**315**	⇓P	**P**	**22 28 50.0**	**+0.9**
VOIR		**21.73**	**313**	⇓P	**P**	**22 28 52.0**	**+1.6**
VOIR		**21.73**	**313**	⇓P	**P**	**22 28 52.0**	**+1.6**
DOPR	**Dopca**	**21.78**	**314**	⇓P	**P**	**22 28 51.7**	**+0.8**
LOT	**Lotru**	**22.53**	**312**	⇑P	**P**	**22 28 59.1**	**+0.1**
AKASG	**Malin Array Be**	**22.69**	**328**	P	**P**	**22 28 58.8**	**-1.7**
	comp=Z,2.8nm,0.8s,baz=138,slow=9.6,SNR=3.8						
AKASG	**Malin Array Be**	**22.69**	**328**	P	**P**	**22 28 58.8**	**-1.7**
AKBB	**Malin Array Si**	**22.69**	**328**	⇓*e*P	**P**	**22 28 59.7**	**-0.8**
BURAR	**Bucovina Array**	**22.75**	**318**	⇓P	**P**	**22 29 00.9**	**-0.4**
BURAR	**Bucovina Array**	**22.75**	**318**	⇓P	**P**	**22 29 00.9**	**-0.4**
HERR	**Herculane**	**23.16**	**309**	⇑P	**P**	**22 29 06.1**	**+0.6**
MDVR	**Moldovita**	**23.58**	**309**	⇑P	**P**	**22 29 10.0**	**+0.2**
OBN	**Obninsk**	**23.88**	**344**	*i* P	**P**	**22 29 12.5**	**+0.1**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BZS	**Buzias**	**23.97**	**311**	⇑P	**P**	**22 29 12.3**	**-1.2**
BZS	**Buzias**	**23.97**	**311**	⇑P	**P**	**22 29 12.3**	**-1.2**
PDG	**Podgorica**	**24.54**	**302**	⇓P	**P**	**22 29 19.1**	**+0.4**
ARU	**Arti**	**25.02**	**14**	P	**P**	**22 29 22.8**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=216,slow=9.9,SNR=3.7						
ARU	**Arti**	**25.02**	**14**	*c i*P	**P**	**22 29 22.8**	**-0.2**
ARU				PPP	PPP	22 30 01.5	
ARU				S	**S**	**22 33 47.6**	**+0.8**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KOLS	**Kolonicke sedl**	**25.11**	**318**	*e*P	**P**	**22 29 24.3**	**+0.4**
KOLS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KOLS	**Kolonicke sedl**	**25.11**	**318**	*e*P	**P**	**22 29 24.3**	**+0.4**
SVE	**Sverdlovsk**	**25.85**	**16**	*e*P	**P**	**22 29 30.2**	**-0.3**
TIP	**Timpagrande**	**25.87**	**294**	⇓P	**P**	**22 29 30.9**	**0.0**
PSZ	**Piszkesteto**	**26.02**	**314**	⇓P	**P**	**22 29 32.3**	**+0.1**
PSZ	**Piszkesteto**	**26.02**	**314**	⇓P	**P**	**22 29 32.3**	**+0.1**
KIRV	**Kirov**	**26.05**	**2**	P	**P**	**22 29 32.7**	**+0.5**
	comp=Z,9.1nm,0.6s,baz=129,slow=2.1,SNR=4.4						
KIRV	**Kirov**	**26.05**	**2**	⇑*e*P	**P**	**22 29 34.0**	**+1.8**
BRVK	**Borovoye**	**26.14**	**32**	⇓*e*P	**P**	**22 29 33.5**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BVAR	**Borovoye Array**	**26.16**	**32**	P	**P**	**22 29 33.6**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=224,slow=6.2,SNR=18						
BVAR	**Borovoye Array**	**26.16**	**32**	P	**P**	**22 29 33.6**	**+0.3**
BUD	**Budapest**	**26.37**	**313**	P	**P**	**22 29 35.5**	**+0.3**
BUD				pmax	pmax		
	comp=Z,14nm,0.9s						
NIE	**Niedzica**	**26.48**	**318**	P	**P**	**22 29 39.7**	**+3.5**
NIE				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LANS	**Liptovska Anna**	**26.83**	**316**	*e*P	**P**	**22 29 40.7**	**+1.3**
LANS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LANS	**Liptovska Anna**	**26.83**	**316**	*e*P	**P**	**22 29 40.7**	**+1.3**
VYHS	**Vyhne**	**26.91**	**315**	*e*P	**P**	**22 29 40.8**	**+0.7**
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VYHS	**Vyhne**	**26.91**	**315**	*e*P	**P**	**22 29 40.8**	**+0.7**
MORC	**Moravsky Berou**	**28.23**	**316**	⇓P	**P**	**22 29 49.8**	**-2.2**
MORC	**Moravsky Berou**	**28.23**	**316**	⇓P	**P**	**22 29 49.8**	**-2.2**
MORC						22 29 52.7	
KLMR	**Klimovskoe**	**28.81**	**352**	*e*P	**P**	**22 29 54.4**	**-2.5**
KLMR				pmax	pmax		
	comp=Z,11nm,1.1s						
KLMR	**Klimovskoe**	**28.81**	**352**	AMP		22 29 57.9	
	comp=Z,11nm,1.1s						
KLMR	**Klimovskoe**	**28.81**	**352**	*e*P	**P**	**22 29 54.5**	**-2.5**
KURBB	**Kurchatov Arra**	**28.97**	**42**	P	**P**	**22 30 00.0**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=248,slow=9.4,SNR=4.0						
KURK	**Kurchatov**	**29.06**	**42**	*ce*P	**P**	**22 30 00.1**	**+0.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MOA	**Molln**	**29.49**	**311**	*i* P	**P**	**22 30 03.4**	**+0.2**
	comp=Z,2.8nm,0.8s						
KBA	**Koelnbreinsper**	**29.85**	**309**	*i* P	**P**	**22 30 06.9**	**+0.3**
	comp=Z,2.9nm,0.7s						
KBA	**Koelnbreinsper**	**29.85**	**309**	P	**P**	**22 30 07.2**	**+0.6**
KBA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR	**Makanchi Array**	**29.89**	**51**	P	**P**	**22 30 07.5**	**+0.7**
MKAR				pmax	pmax		
MKAR	**Makanchi Array**	**29.89**	**51**	*ce*P	**P**	**22 30 07.5**	**+0.7**
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**30.18**	**313**	P	**P**	**22 30 08.7**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=90,slow=8.0,SNR=2.8						
GERES				PcP	**PcP**	**22 33 10.3**	**0.0**
	comp=Z,0.5nm,0.6s,baz=151,slow=3.0,SNR=5.3						
GERES	**GERESS Array B**	**30.18**	**313**	P	**P**	**22 30 08.7**	**-0.7**
GERES						22 33 10.3	
ABTA	**Abfaltersbach**	**30.31**	**308**	*i* P	**P**	**22 30 11.2**	**+0.6**
	comp=Z,3.9nm,1.0s						
KHC	**Kasperske Hory**	**30.35**	**313**	⇑*e*P	**P**	**22 30 11.7**	**+0.9**
KHC				pmax	pmax		
	comp=Z,13nm,2.5s						
WTTA	**Wattenberg**	**31.02**	**309**	*i* P	**P**	**22 30 17.0**	**+0.1**
	comp=Z,6.0nm,1.2s						
WTTA	**Wattenberg**	**31.02**	**309**	P	**P**	**22 30 17.1**	**+0.1**
WTTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WATA	**Walderalm**	**31.08**	**309**	*i* P	**P**	**22 30 17.0**	**-0.4**
	comp=Z,6.4nm,1.1s						
SQTA	**Sankt Quirin**	**31.29**	**309**	*i* P	**P**	**22 30 18.7**	**-0.6**
	comp=Z,6.3nm,0.6s						
MOTA	**Moosalm**	**31.39**	**309**	*i* P	**P**	**22 30 19.4**	**-0.8**
	comp=Z,7.2nm,0.7s						
FETA	**Feichten**	**31.56**	**308**	*i* P	**P**	**22 30 21.1**	**-0.6**
	comp=Z,5.0nm,0.9s						
RETA	**Reutte**	**31.66**	**309**	*i* P	**P**	**22 30 21.5**	**-0.8**
	comp=Z,7.7nm,0.7s						
FINES	**FINESS Array B**	**32.13**	**341**	P	**P**	**22 30 24.9**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=156,slow=10.0,SNR=1.8						
FINES	**FINESS Array B**	**32.13**	**341**	*i* P	**P**	**22 30 25.6**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
DAVA	**Damuels**	**32.19**	**308**	*i* P	**P**	**22 30 26.6**	**-0.5**
	comp=Z,7.7nm,0.6s						
ZALV	**Zalesovo Beam**	**33.88**	**40**	P	**P**	**22 30 41.6**	**0.0**
	comp=Z,1.9nm,0.6s,baz=262,slow=10,SNR=5.6						
ZALV	**Zalesovo Beam**	**33.88**	**40**	*i* P	**P**	**22 30 41.7**	**0.0**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BNI	**Bardonecchia**	**33.98**	**304**	P

ARK	**Arkit**	**2.74**	**314**	⇑*i*P	**Pn**	**22 26 45.0**	**+0.5**
	baz=15								
ARK				⇑*i*S	**Sn**	**22 27 20.3**	**+2.6**
	baz=15								
EKS2	**Erkin-Say**	**2.80**	**347**	⇑*i*P	**Pn**	**22 26 46.3**	**+1.0**
	baz=47								
EKS2				⇑*i*S	**Sb**	**22 27 22.4**	**-2.6**
	baz=47								
EKS2	**Erkin-Say**	**2.80**	**347**	P	**Pb**	**22 26 50.1**	**-0.4**
	SNR=22								
FRU1	**Bishkek**	**2.88**	**0**	⇓*i*P	**Pn**	**22 26 47.5**	**+1.2**
	baz=60								
FRU1				⇓*i*S	**Sn**	**22 27 24.2**	**+3.1**
	baz=60								
BTK	**Batken**	**2.92**	**274**	⇑*i*P	**Pn**	**22 26 47.1**	**+0.3**
	baz=75								
BTK				⇑*i*S	**Sn**	**22 27 23.8**	**+1.9**
	baz=75								
KDJ	**Kajisay**	**2.94**	**41**	⇑*i*P	**Pn**	**22 26 47.8**	**+0.6**
	baz=39								
KDJ				⇑*i*S	**Sn**	**22 27 24.6**	**+2.0**
	baz=39								
MRKS	**Merke**	**3.00**	**340**	*e*P	**Pb**	**22 26 53.5**	**-0.4**
	25nm,0.2s								
MRKS				*e*S	**Sg**	**22 27 34.5**	**-2.2**
	19nm,0.3s								
MRKS	**Merke**	**3.00**	**340**	Pg	**Pb**	**22 26 53.5**	**-0.4**
	25nm,0.2s								
MRKS				Lg	Lg	22 27 34.5			
	19nm,0.3s								
CHMS	**Chumysh**	**3.07**	**2**	⇑*i*P	**Pn**	**22 26 49.9**	**+1.0**
	baz=1.0								
CHMS				⇑*i*S	**Sn**	**22 27 28.7**	**+3.0**
	baz=1.0								
CHMS	**Chumysh**	**3.07**	**2**	P	**Pb**	**22 26 53.9**	**-1.2**
	SNR=19								
TKM2	**Tokmak 2**	**3.08**	**14**	⇑*i*P	**Pn**	**22 26 50.0**	**+0.8**
	baz=13								
TKM2				⇑*i*S	**Sn**	**22 27 28.9**	**+2.7**
	baz=13								
TKM2	**Tokmak 2**	**3.08**	**14**	P	**Pb**	**22 26 54.6**	**-0.7**
	SNR=9.3								
TKM2	**Tokmak 2**	**3.08**	**14**	⇑Pn	**Pn**	**22 26 51.9**	**+2.7**
	6.4nm,0.3s								
TKM2				⇑Lg	Lg	22 27 37.0			
	87nm,0.8s								
KST	**Kastek**	**3.27**	**18**	*e*P	**Pb**	**22 26 58.1**	**-0.5**
	14nm,0.3s								
KST				*e*S	**Sb**	**22 27 42.0**	**+3.4**
	30nm,0.6s								
KST	**Kastek**	**3.27**	**18**	Pg	**Pb**	**22 26 58.1**	**-0.5**
	14nm,0.3s								
KST				Lg	Lg	22 27 42.0			
	30nm,0.6s								
USP	**Ospenovka**	**3.34**	**359**	⇑*i*P	**Pn**	**22 26 53.5**	**+0.9**
	baz=58								
USP				⇑*i*S	**Sn**	**22 27 34.9**	**+2.6**
	baz=58								
USP	**Ospenovka**	**3.34**	**359**	P	**Pb**	**22 26 56.8**	**-2.8**
	SNR=19								
DGS	**Degeres**	**3.42**	**14**	*e*P	**Pb**	**22 27 00.5**	**-0.7**
	14nm,0.5s								
DGS				*e*S	**Sb**	**22 27 46.2**	**+3.4**
	52nm,0.4s								
DGS	**Degeres**	**3.42**	**14**	Pg	**Pb**	**22 27 02.4**	**+1.3**
	14nm,0.5s								
DGS				Lg	Lg	22 27 49.3			
	52nm,0.4s								
GAR	**Garm**	**3.45**	**256**	⇑*i*P	**Pn**	**22 26 54.2**	**0.0**
	baz=57								
GAR				⇑*i*S	**Sn**	**22 27 36.4**	**+1.2**
	baz=57								
IZV	**Izvestkoviy**	**3.45**	**25**	*e*P	**Pb**	**22 27 02.2**	**+0.6**
	9.7nm,0.4s								
IZV				*e*S	**Sg**	**22 27 49.2**	**-1.9**
	27nm,0.7s								
IZV	**Izvestkoviy**	**3.45**	**25**	Pg	**Pb**	**22 27 02.2**	**+0.6**
	12nm,0.4s								
IZV				Lg	Lg	22 27 49.2			
	27nm,0.7s								
MTBS	**Maitube**	**3.48**	**23**	*e*P	**Pb**	**22 27 03.0**	**+1.0**
	15nm,0.4s								
MTBS				*e*S	**Sg**	**22 27 50.8**	**-1.2**
	23nm,0.5s								
MTBS	**Maitube**	**3.48**	**23**	Pg	**Pb**	**22 27 03.0**	**+1.0**
	15nm,0.4s								
MTBS				Lg	Lg	22 27 50.8			
	23nm,0.5s								
TNSS	**Tian-Shan**	**3.57**	**29**	*e*P	**Pb**	**22 27 04.3**	**+0.5**
	26nm,0.6s								
TNSS				*e*S	**Sg**	**22 27 53.0**	**-1.9**
	22nm,0.8s								
TNSS	**Tian-Shan**	**3.57**	**29**	Pg	**Pb**	**22 27 04.3**	**+0.5**
	26nm,0.6s								
TNSS				Lg	Lg	22 27 53.1			
	22nm,0.8s								
ANVS	**Anan'yevo**	**3.67**	**38**	⇓*i*P	**Pn**	**22 26 57.9**	**+0.7**
	baz=37								
ANVS				⇓*i*S	**Sn**	**22 27 42.4**	**+1.8**
	baz=37								
AAA	**Alma-Ata**	**3.71**	**27**	*e*P	**Pb**	**22 27 07.3**	**+1.4**
	8.6nm,0.1s								
AAA				*e*S	**Sg**	**22 27 58.0**	**-1.3**
	17nm,0.2s								
AAA	**Alma-Ata**	**3.71**	**27**	Pg	**Pb**	**22 27 07.3**	**+1.4**
	8.6nm,0.1s								
AAA				Lg	Lg	22 27 58.0			
	17nm,0.2s								
MDOK	**Medeo**	**3.71**	**29**	*e*P	**Pb**	**22 27 06.8**	**+0.7**
	9.6nm,0.4s								
MDOK				*e*S	**Sg**	**22 27 57.3**	**-2.3**
	23nm,0.7s								
MDOK	**Medeo**	**3.71**	**29**	Pn	**Pb**	**22 27 03.1**	**-3.0**
	12nm,0.8s								
MDOK				⇓Lg	Lg	22 27 57.3			
	24nm,0.7s								
MDOK	**Medeo**	**3.71**	**29**	Pg	**Pb**	**22 27 06.8**	**+0.7**
	9.6nm,0.4s								
MDOK				Lg	Lg	22 27 57.3			
	23nm,0.7s								
KOTS	**Kotyrbulak**	**3.80**	**29**	*e*P	**Pb**	**22 27 09.0**	**+1.5**
	19nm,0.4s								
KOTS				*e*S	**Sg**	**22 28 00.7**	**-1.7**
	61nm,0.6s								
KOTS	**Kotyrbulak**	**3.80**	**29**	Pg	**Pb**	**22 27 09.0**	**+1.5**
	19nm,0.4s								
KOTS				Lg	Lg	22 28 00.7			
	61nm,0.6s								
PRZ	**Przheval'sk**	**3.83**	**47**	⇑*e*P	**Pn**	**22 27 00.1**	**+0.6**
	baz=46								
PRZ				⇑*i*S	**Sn**	**22 27 46.4**	**+1.7**
	baz=46								
KRBS	**Karabastau**	**3.85**	**12**	*e*P	**Pb**	**22 27 09.6**	**+1.3**
	7.2nm,0.5s								
KRBS				*e*S	**Sg**	**22 28 01.6**	**-2.2**
	11nm,0.8s								
KRBS	**Karabastau**	**3.85**	**12**	Pg	**Pb**	**22 27 09.6**	**+1.3**
	7.2nm,0.5s								
KRBS				Lg	Lg	22 28 01.6			
	11nm,0.8s								
DZA	**Taraz**	**3.85**	**321**	*e*P	**Pb**	**22 27 09.0**	**+0.6**
	31nm,0.1s								
DZA				*e*S	**Sg**	**22 28 00.4**	**-3.6**
	50nm,0.3s								
KTBS	**Karatobe**	**4.09**	**22**	*e*P	**Pb**	**22 27 13.9**	**+1.6**
	6.5nm,0.3s								
KTBS				*e*S	**Sg**	**22 28 09.4**	**-2.1**
	26nm,0.5s								
KTBS	**Karatobe**	**4.09**	**22**	Pg	**Pb**	**22 27 13.9**	**+1.6**
	6.5nm,0.3s								
KTBS				Lg	Lg	22 28 09.4			
	26nm,0.5s								
IUG	**Iuzhnay**	**4.11**	**304**	*e*P	**Pb**	**22 27 13.6**	**+0.7**
	10nm,0.3s								
IUG				*e*S	**Sg**	**22 28 08.8**	**-3.5**
	31nm,0.4s								
IUG	**Iuzhnay**	**4.11**	**304**	Pg	**Pb**	**22 27 13.6**	**+0.7**
	10nm,0.3s								
KUU	**Kurty**	**4.17**	**17**	*e*P	**Pb**	**22 27 15.3**	**+1.6**
	5.2nm,0.3s								
KUU				*e*S	**Sg**	**22 28 11.6**	**-2.5**
	35nm,0.6s								
KUU	**Kurty**	**4.17**	**17**	Pg	**Pb**	**22 27 15.3**	**+1.6**
	5.2nm,0.3s								
KUU				Lg	Lg	22 28 11.6			
	35nm,0.6s								
SATY	**Saty**	**4.23**	**41**	*e*P	**Pb**	**22 27 14.8**	**0.0**
	5.5nm,0.5s								
SATY				*e*S	**Sg**	**22 28 11.2**	**-5.0**
	11nm,0.6s								
SATY	**Saty**	**4.23**	**41**	Pg	**Pb**	**22 27 14.9**	**0.0**
	5.5nm,0.5s								
SATY				Lg	Lg	22 28 11.2			
	11nm,0.6s								
CHKK	**Chushkaly**	**4.31**	**24**	*e*P	**Pb**	**22 27 17.8**	**+1.7**
	3.2nm,0.4s								
CHKK				*e*S	**Sg**	**22 28 16.0**	**-2.5**
	12nm,0.5s								
CHKK	**Chushkaly**	**4.31**	**24**	Pg	**Pb**	**22 27 17.8**	**+1.7**
	3.2nm,0.4s								
CHKK				Lg	Lg	22 28 16.0			
	12nm,0.5s								
KK31	**Karatay Array**	**4.42**	**317**	⇓Pn	**Pn**	**22 27 07.3**	**-0.1**
	0.5nm,0.3s,baz=127,slow=12,SNR=21								
KK31				⇓Pg	**Pb**	**22 27 18.1**	**+0.1**
	5.5nm,0.7s,baz=129,slow=15,SNR=17								
KK31				⇑Sn	**Sn**	**22 28 01.3**	**+2.3**
	3.8nm,0.5s								
KK31				⇓Lg	Lg	22 28 17.3			
	4.6nm,0.3s,baz=129,slow=28								
UZB	**Uzynbulak**	**4.62**	**44**	*e*P	**Pb**	**22 27 21.7**	**+0.3**
	4.3nm,0.5s								
UZB				*e*S	**Sg**	**22 28 22.8**	**-5.7**
	5.6nm,0.6s								
UZB	**Uzynbulak**	**4.62**	**44**	Pg	**Pb**	**22 27 21.7**	**+0.3**
	6.0nm,0.7s								
UZB				Lg	Lg	22 28 22.8			
	7.8nm,0.7s								
BRLS	**Borolday**	**4.74**	**312**	*e*P	**Pb**	**22 27 23.7**	**+0.3**
	2.7nm,0.3s								
BRLS				*e*S	**Sb**	**22 28 26.1**	**+5.5**
	12nm,0.4s								
BRLS	**Borolday**	**4.74**	**312**	Pg	**Pb**	**22 27 24.7**	**+1.3**
	2.7nm,0.3s								
SHLS	**Shalkode**	**4.87**	**47**	*e*P	**Pg**	**22 27 31.2**	**-2.2**
	6.2nm,0.7s								
SHLS				*e*S	**Sg**	**22 28 39.2**	**+2.8**
	6.2nm,0.8s								
SHLS	**Shalkode**	**4.87**	**47**	Pg	**Pg**	**22 27 31.2**	**-2.2**
	6.2nm,0.7s								
SHLS				Lg	Lg	22 28 39.2			
	8.4nm,0.6s								
ARXS	**Arharly**	**4.91**	**28**	*e*P	**Pb**	**22 27 29.5**	**+3.2**
	12nm,0.8s								
ARXS				*e*S	**Sg**	**22 28 35.9**	**-1.9**
	9.3nm,0.5s								
ARXS	**Arharly**	**4.91**	**28**	Pg	**Pb**	**22 27 29.5**	**+3.2**
	12nm,0.8s								
PDGK	**Podgornoye**	**4.99**	**46**	Pg	**Pb**	**22 27 28.4**	**+0.6**
	2.5nm,0.6s								
PDGK				Lg	Lg	22 28 34.6			
	4.6nm,0.7s								
PDGK	**Podgornoye**	**4.99**	**46**	⇑Pn	**Pn**	**22 27 16.1**	**+0.7**
	1.4nm,0.7s								
PDGK				⇑Pg	**Pb**	**22 27 28.1**	**+0.3**
	4.5nm,0.6s								
PDGK				⇑Lg	Lg	22 28 32.9			
	11nm,0.8s								
BTLS	**Baital**	**5.13**	**356**	*e*P	**Pb**	**22 27 32.3**	**+2.2**
	2.0nm,0.6s								
BTLS				*e*S	**Sg**	**22 28 40.8**	**-4.1**
	5.1nm,0.5s								
BTLS	**Baital**	**5.13**	**356**	Pg	**Pb**	**22 27 32.3**	**+2.2**
	2.0nm,0.6s								
BTLS				Lg	Lg	22 28 40.8			
	3.0nm,0.6s								
KAPS	**Kapalarasan**	**6.40**	**32**	*e*P	Pg	22 27 57.6	-5.1		
	1.0nm,0.5s								
KAPS				*e*S	**Sg**	**22 29 24.8**	**-0.8**
	4.8nm,0.7s								
KAPS	**Kapalarasan**	**6.40**	**32**	Pg	Pg	22 27 57.6	-5.1		
	1.0nm,0.5s								

*TEH **18** 22:27:42.3,32°.76N×47°.56E,h10km,ML3.0*
*ISN **18** 22:27:44.1±1.1,32°.87N×47°.53E,h6km±6km,ML2.9*
ISC 18 22:27:44.0±1.1,**32°.83N**±0°.05×**47°.55E**±0°.04,**h15**km,**n21**,
σ1§**10**/24,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.73**	**20**	*e*Pg	**Pb**		**22 27 58.6**	**+0.1**
IKFM				*e*			22 28 14.9	
IKMR	**Kamar-syah**	**0.98**	**45**	*e*Pg	**Pb**		**22 28 01.9**	**-0.7**
IKMR				*e*			22 28 19.7	
IDOB	**Doab**	**1.09**	**29**	*e*Pg	**Pb**		**22 28 04.4**	**-0.3**
IKOM	**Komasi**	**1.34**	**359**	*e*			22 28 10.2	
IKOM				*e*Pg	**Pb**		**22 28 08.8**	**-0.2**
BMDN	**Meydan**	**1.36**	**51**	*e*			22 28 39.1	
BMDN				*e*Pg	**Pn**		**22 28 08.8**	**+0.2**
IBDR	**Badra**	**1.39**	**282**	*e*Pg	**Pg**		**22 28 11.0**	**+0.2**
IBDR				*e*Sg	**Sg**		**22 28 29.0**	**0.0**
IBDR				AML	AML		22 28 31.3	
	comp=N,186nm,0.8s							
IBDR				AML	AML		22 28 31.6	
	comp=E,211nm,0.8s							
KCHF	**Cheshme Sefid,**	**1.50**	**344**	*e*Pn	**Pb**		**22 28 11.5**	**-0.3**
KCHF				*e*			22 28 41.4	
KER	**Kermanshah**	**1.59**	**347**	*e*Pn	**Pb**		**22 28 13.7**	**+0.5**
HSAM	**Samen**	**1.63**	**32**	*e*Pg	**Pn**		**22 28 13.1**	**+0.6**
HSAM				*e*			22 28 41.8	
IBZA	**Bozab**	**1.66**	**9**	*e*Pn	**Pb**		**22 28 14.6**	**+0.2**
IBZA				*e*			22 28 21.8	
IVIS	**Veis**	**1.79**	**341**	*e*Pn	**Pn**		**22 28 15.2**	**+0.7**
IVIS				*e*			22 28 46.5	
IALM	**Almabolaq**	**2.09**	**14**	*e*Pn	**Pb**		**22 28 20.5**	**-1.3**
IDHR	**Dehrash**	**2.10**	**333**	*e*Pn	**Pb**		**22 28 20.6**	**-1.4**
IDHR				*e*			22 28 56.4	
ILIN	**Lien**	**2.14**	**347**	*e*Pn	**Pb**		**22 28 21.3**	**-1.4**
NSR	**Nassriya**	**2.18**	**214**	*e*Pn	**Pb**		**22 28 22.0**	**-1.1**
NSR				*e*Sn	**Sb**		**22 28 50.0**	**+0.1**
HAGD	**Aghdareh**	**2.39**	**33**	*e*Pn	**Pn**		**22 28 24.0**	**+1.2**
HAGD				*e*			22 29 06.1	
HSRG	**Sareghieh**	**2.48**	**14**	*e*Pn	**Pb**		**22 28 26.7**	**-1.8**
BHD	**Baghdad**	**2.70**	**280**	*e*Pn	**Pn**		**22 28 29.0**	**+2.1**
BHD				*e*Sn	**Sb**		**22 29 03.0**	**-2.0**
QABG	**Abgarm-Qazvin**	**3.33**	**30**	*e*Pn	**Pn**		**22 28 36.8**	**+1.0**
IKLH	**Kolahrood**	**3.42**	**81**	*e*Pn	**Pn**		**22 28 38.1**	**+1.1**
QSDN	**Sirdan**	**3.90**	**20**	*e*Pn	**Pn**		**22 28 44.9**	**+1.2**

*TEH **18** 22:28:35.9,32°.61N×47°.74E,h16km,ML3.6*
*ISN **18** 22:28:35.9±1.4,32°.65N×47°.77E,h15km±7km,ML3.3*
ISC 18 22:28:37.7±1.0,**32°.59N**±0°.04×**47°.77E**±0°.04,**h15**km,**n39**,
σ1§**12**/42,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.93**	**4**	*e*Pg	**Pb**		**22 28 53.7**	**-1.8**
IKMR	**Kamar-syah**	**1.05**	**29**	*e*Pg	**Pb**		**22 28 55.9**	**-1.7**
IKMR				*e*			22 29 02.3	
IDOB	**Doab**	**1.24**	**16**	*e*Pg	**Pn**		**22 28 58.7**	**-2.0**
BMDN	**Meydan**	**1.39**	**39**	*e*Pg	**Pn**		**22 29 02.1**	**-0.6**
BMDN				*e*			22 29 29.5	
AHWZ	**Ahwaz**	**1.46**	**149**	*e*Pg	**Pb**		**22 29 03.7**	**-0.9**
IKOM	**Komasi**	**1.59**	**352**	*e*			22 29 30.9	
IKOM				*e*Pg	**Pn**		**22 29 05.5**	**0.0**
IBDR	**Badra**	**1.63**	**289**	*e*Pg	**Pn**		**22 29 05.0**	**-0.8**
IBDR				*e*Sg	**Sb**		**22 29 27.0**	**-0.8**
IBDR				AML	AML		22 29 29.6	
	comp=E,425nm,0.6s							
IBDR				AML	AML		22 29 32.5	
	comp=N,443nm,0.6s							
HSAM	**Samen**	**1.76**	**23**	*e*Pn	**Pn**		**22 29 08.4**	**+0.6**
KCHF	**Cheshme Sefid,**	**1.78**	**340**	*e*			22 29 33.9	
KCHF				*e*Pn	**Pn**		**22 29 07.3**	**-0.8**
KER	**Kermanshah**	**1.86**	**344**	*e*Pn	**Pn**		**22 29 09.7**	**+0.5**
IBZA	**Bozab**	**1.87**	**2**	*e*			22 29 41.4	
IBZA				*e*Pn	**Pn**		**22 29 09.9**	**+0.5**
IGHG	**Ghaleghazi**	**2.00**	**330**	*e*	**Sg**		**22 29 46.6**	**+4.5**
IVIS	**Veis**	**2.08**	**339**	*e*Pn	**Pn**		**22 29 12.3**	**+0.2**
IVIS				*e*			22 29 47.2	
NSR	**Nassriya**	**2.10**	**222**	*e*Pn	**Pn**		**22 29 13.0**	**+0.7**
NSR				*e*Sn	**Sn**		**22 29 38.0**	**-0.1**
IALM	**Almabolaq**	**2.29**	**8**	*e*Pn	**Pn**		**22 29 15.8**	**+0.7**
IDHR	**Dehrash**	**2.40**	**332**	*e*Pn	**Pn**		**22 29 16.2**	**-0.4**
ILIN	**Lien**	**2.41**	**344**	*e*	**Sg**		**22 29 57.4**	**+2.1**
JHBN	**Jahan bin**	**2.48**	**98**	*e*Pn	**Pn**		**22 29 18.1**	**+0.3**
JHBN				*e*			22 30 06.0	
HAGD	**Aghdareh**	**2.50**	**27**	*e*Pn	**Pn**		**22 29 19.1**	**+1.1**
HAGD				*e*			22 29 58.5	
IPIR	**Pirpir**	**2.64**	**87**	*e*Pn	**Pn**		**22 29 20.6**	**+0.7**
IPIR				*e*			22 30 06.7	
HSRG	**Sareghieh**	**2.67**	**9**	*e*	**Sg**		**22 30 03.8**	**+0.1**
ROKH	**ROKH**	**2.77**	**94**	*e*Pn	**Pn**		**22 29 22.6**	**+0.9**
ROKH				*e*			22 30 14.0	
BHD	**Baghdad**	**2.93**	**284**	*e*Pn	**Pn**		**22 29 23.0**	**-0.7**
BHD				*e*Sn	**Sn**		**22 29 59.0**	**+0.4**
QABG	**Abgarm-Qazvin**	**3.45**	**25**	*e*Pn	**Pn**		**22 29 30.9**	**-0.2**
KLNJ	**Kolanjah**	**3.62**	**115**	*e*Pn	**Pn**		**22 29 33.2**	**-0.3**
IZEF	**Zefreh**	**3.85**	**84**	*e*Pn	**Pn**		**22 29 37.8**	**+1.1**
IRAM	**Ramesheh**	**3.99**	**100**	*e*Pn	**Pn**		**22 29 38.6**	**+0.1**
QSDN	**Sirdan**	**4.07**	**16**	*e*Pn	**Pn**		**22 29 40.1**	**+0.5**
MAHB	**Mahabad**	**4.50**	**338**	*e*Pn	**Pn**		**22 29 44.6**	**-0.8**
QALM	**Alamut, Qazvin**	**4.51**	**31**	*e*Pn	**Pn**		**22 29 45.9**	**+0.3**
IDMV	**Damavand**	**4.62**	**49**	*e*Pn	**Pn**		**22 29 47.8**	**+0.6**
ANAR	**Anarak**	**5.05**	**82**	*e*Pn	**Pn**		**22 29 52.9**	**-0.1**
ISAD	**Sadrabad**	**5.06**	**96**	*e*Pn	**Pn**		**22 29 53.4**	**+0.2**
ILAS	**Lasjerd**	**5.13**	**56**	*e*Pn	**Pn**		**22 29 54.6**	**+0.4**
IFIR	**Firoozkooh**	**5.13**	**52**	*e*Pn	**Pn**		**22 29 54.5**	**+0.3**
ISHM	**Shahmirzad**	**5.59**	**53**	*e*Pn	**Pn**		**22 30 01.4**	**+0.9**
ICHK	**Chekchek**	**5.62**	**92**	*e*Pn	**Pn**		**22 29 59.9**	**-1.1**
IHRS	**Heris**	**5.74**	**354**	*e*Pn	**Pn**		**22 30 03.5**	**+0.9**
IANJ	**Anjilo**	**5.85**	**59**	*e*Pn	**Pn**		**22 30 03.7**	**-0.4**

*TEH **18** 22:30:39.3,32°.70N×47°.61E,h8km,ML3.4*
*ISN **18** 22:30:40.1±0.7,32°.76N×47°.79E,h14km±4km,ML3.3*
ISC 18 22:30:40.6±1.3,**32°.73N**±0°.03×**47°.61E**±0°.04,**h12**km±12km,
n29,σ1§**33**/35,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.82**	**14**	*e*Pg	**Pb**		**22 30 55.9**	**-0.8**
IKFM				*e*Sg	**Sb**		**22 31 07.9**	**+0.2**
IKFM				*e*			22 31 12.1	
IKMR	**Kamar-syah**	**1.02**	**39**	*e*Pg	**Pb**		**22 30 59.5**	**-0.7**
IKMR				*e*			22 31 02.5	
IKMR				*e*Sg	**Sn**		**22 31 15.0**	**+0.1**
IDOB	**Doab**	**1.16**	**24**	*e*Pg	**Pn**		**22 31 02.6**	**-0.2**
BMDN	**Meydan**	**1.39**	**47**	*e*			22 31 36.3	
BMDN				*e*Pg	**Pg**		**22 31 06.3**	**-1.0**
IKOM	**Komasi**	**1.44**	**357**	*e*			22 31 09.1	
IKOM				*e*Pg	**Pg**		**22 31 08.0**	**-0.4**
IKOM				*e*Sg	**Sg**		**22 31 28.0**	**+0.9**
IBDR	**Badra**	**1.46**	**285**	*e*Pg	**Pg**		**22 31 09.0**	**+0.3**
IBDR				*e*Sg	**Sg**		**22 31 31.0**	**+3.3**
IBDR				AML	AML		22 31 31.6	
	comp=N,559nm,0.7s							
IBDR				AML	AML		22 31 32.9	
	comp=E,364nm,0.6s							
KCHF	**Cheshme Sefid,**	**1.61**	**343**	*e*Pn	**Pg**		**22 31 10.7**	**-0.9**
AHWZ	**Ahwaz**	**1.65**	**148**	*e*Pg	**Pb**		**22 31 09.8**	**-1.2**
HSAM	**Samen**	**1.69**	**29**	*e*Pg	**Pg**		**22 31 12.4**	**-0.8**
HSAM				*e*			22 31 42.5	
KER	**Kermanshah**	**1.70**	**347**	*e*Pn	**Pb**		**22 31 11.7**	**-0.2**
IBZA	**Bozab**	**1.75**	**7**	*e*Pg	**Pb**		**22 31 12.7**	**-0.1**
IBZA				*e*			22 31 44.3	
IGHG	**Ghaleghazi**	**1.82**	**332**	*e*Pg	**Pg**		**22 31 14.2**	**-1.3**
IGHG				*e*			22 31 47.4	
IVIS	**Veis**	**1.90**	**341**	*e*Pn	**Pg**		**22 31 15.5**	**-1.6**
IVIS				*e*			22 31 45.4	
NSR	**Nassriya**	**2.12**	**216**	*e*Pn	**Pb**		**22 31 18.0**	**-1.0**
NSR				*e*Sn	**Sb**		**22 31 45.0**	**-0.3**
IALM	**Almabolaq**	**2.17**	**12**	*e*Pn	**Pb**		**22 31 18.8**	**-1.3**
IDHR	**Dehrash**	**2.21**	**333**	*e*Pn	**Pb**		**22 31 19.7**	**-1.0**
IDHR				*e*			22 31 24.5	
ILIN	**Lien**	**2.25**	**346**	*e*Pn	**Pb**		**22 31 19.4**	**-1.9**
HAGD	**Aghdareh**	**2.44**	**31**	*e*Pn	**Pn**		**22 31 22.0**	**+1.4**
HAGD				*e*			22 31 25.6	
HSRG	**Sareghieh**	**2.56**	**12**	*e*Pn	**Pb**		**22 31 25.1**	**-1.7**
HSRG				*e*			22 32 09.6	
JHBN	**Jahan bin**	**2.63**	**100**	*e*Pn	**Pn**		**22 31 23.9**	**+0.7**
BHD	**Baghdad**	**2.77**	**282**	*e*Pn	**Pb**		**22 31 28.0**	**-2.0**
BHD				*e*Sn	**Sb**		**22 32 03.0**	**-0.9**
ROKH	**ROKH**	**2.92**	**97**	*e*Pn	**Pn**		**22 31 28.3**	**+1.2**
IRAZ	**Razeghan**	**3.29**	**35**	*e*Pn	**Pn**		**22 31 34.5**	**+2.3**
IKLH	**Kolahrood**	**3.38**	**79**	*e*Pn	**Pn**		**22 31 35.7**	**+2.2**
IKLH				*e*			22 32 32.4	
QABG	**Abgarm-Qazvin**	**3.39**	**28**	*e*Pn	**Pn**		**22 31 34.7**	**+1.1**
IGAR	**Gharneh**	**3.76**	**94**	*e*Pn	**Pn**		**22 31 39.0**	**+0.4**
IZEF	**Zefreh**	**3.98**	**86**	*e*Pn	**Pn**		**22 31 42.4**	**+0.7**
QALM	**Alamut, Qazvin**	**4.46**	**33**	*e*Pn	**Pn**		**22 31 49.4**	**+1.1**
IFIR	**Firoozkooh**	**5.16**	**54**	*e*Pn	**Pn**		**22 31 59.1**	**+1.2**

*TEH **18** 22:38:19.7,32°.74N×47°.46E,h19km,ML3.2*
*ISN **18** 22:38:19.7±1.2,32°.74N×47°.57E,h17km±8km,ML3.0*
ISC 18 22:38:21.2±1.0,**32°.73N**±0°.04×**47°.51E**±0°.04,**h10**km,**n24**,
σ1§**47**/26,**Iran-Iraq border region**

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

AHWZ	**Ahwaz**	**1.70**	**149**	*e*Sg	**Sb**	**22 41 25.5**	**+0.1**
IVIS	**Veis**	**1.84**	**339**	*e*		22 41 43.0	
IVIS				*e*Pn	**Pg**	**22 41 08.5**	**0.0**
KHMZ	**Khomeyn**	**2.16**	**64**	*e*Pn	**Pb**	**22 41 11.9**	**-0.3**
NSR	**Nassriya**	**2.19**	**216**	*e*Pn	**Pn**	**22 41 09.0**	**-0.1**
NSR				*e*Sn	**Sn**	**22 41 34.0**	**-1.9**
SNGE	**Sanandaj**	**2.29**	**354**	*e*Pn	**Pb**	**22 41 14.1**	**-0.3**
ASAO	**Ashtian**	**2.65**	**48**	*e*Pn	**Pb**	**22 41 19.4**	**-1.1**
ASAO				*e*Sg	**Sg**	**22 41 56.7**	**-1.7**
BHD	**Baghdad**	**2.77**	**281**	*e*Pn	**Pn**	**22 41 19.0**	**+2.0**
BHD				*e*Sn	**Sb**	**22 41 54.0**	**-2.1**

ISN **18** *22:48:35.7±1.0, 32.°66N×47.°70E, h16km±7km, ML3.1*
TEH **18** *22:48:36.5, 32.°64N×47.°63E, h10km, ML3.1*
ISC 18 22:48:37.4±0.9,**32.°65N**±0.°04×**47.°57E**±0.°04,**h10km**,**n41**,
σ1§**19**/44,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**0.90**	**15**	*e*Pg	**Pg**		**22 48 53.9**	**-0.9**
IKFM				*e*			22 49 08.6	
IKMR	**Kamar-syah**	**1.10**	**38**	*e*Pg	**Pb**		**22 48 57.7**	**-0.9**
IKMR				*e*			22 49 00.2	
SHGR	**Shooshtar-Gavs**	**1.18**	**117**	*e*Pg	**Pg**		**22 49 01.8**	**+1.7**
IDOB	**Doab**	**1.24**	**24**	*e*Pg	**Pn**		**22 49 00.2**	**-0.9**
IBDR	**Badra**	**1.45**	**289**	*e*Pg	**Pn**		**22 49 04.0**	**+0.3**
IBDR				*e*Sg	**Sg**		**22 49 25.0**	**+0.9**
IBDR				AML	AML		22 49 30.5	
	comp=N,326nm,0.4s							
IBDR				AML	AML		22 49 30.8	
	comp=E,250nm,0.4s							
BMDN	**Meydan**	**1.47**	**46**	*e*Pg	**Pn**		**22 49 03.6**	**-0.5**
BMDN				*e*			22 49 30.4	
IKOM	**Komasi**	**1.52**	**358**	*e*			22 49 31.4	
IKOM				*e*Pg	**Pn**		**22 49 06.0**	**+1.2**
AHWZ	**Ahwaz**	**1.60**	**145**	*e*Pg	**Pn**		**22 49 06.7**	**+0.9**
KCHF	**Cheshme Sefid,**	**1.68**	**345**	*e*			22 49 34.8	
KCHF				*e*Pn	**Pb**		**22 49 08.4**	**-0.1**
KER	**Kermanshah**	**1.77**	**348**	*e*Pn	**Pn**		**22 49 09.7**	**+1.5**
HSAM	**Samen**	**1.78**	**29**	*e*			22 49 37.5	
HSAM				*e*Pg	**Pn**		**22 49 09.2**	**+0.7**
IBZA	**Bozab**	**1.83**	**8**	*e*Pn	**Pn**		**22 49 10.7**	**+1.5**
IBZA				*e*			22 49 42.3	
IGHG	**Ghaleghazi**	**1.87**	**334**	*e*Pg	**Pb**		**22 49 12.2**	**+0.4**
IGHG				*e*			22 49 44.2	
IVIS	**Veis**	**1.96**	**342**	*e*Pn	**Pb**		**22 49 13.1**	**-0.2**
IVIS				*e*			22 49 44.2	
NSR	**Nassriya**	**2.04**	**217**	*e*Pn	**Pn**		**22 49 12.0**	**+0.2**
NSR				*e*Sn	**Sn**		**22 49 37.0**	**-0.3**
IALM	**Almabolaq**	**2.26**	**13**	*e*Pn	**Pn**		**22 49 16.4**	**+1.3**
IDHR	**Dehrash**	**2.27**	**335**	*e*Pn	**Pn**		**22 49 16.5**	**+1.3**
IDHR				*e*			22 49 58.1	
KHMZ	**Khomeyn**	**2.28**	**61**	*e*Pn	**Pn**		**22 49 16.2**	**+0.8**
ILIN	**Lien**	**2.32**	**348**	*e*Pn	**Pn**		**22 49 17.0**	**+1.1**
ILIN				*e*			22 50 01.3	
SNGE	**Sanandaj**	**2.44**	**356**	*e*Pn	**Pn**		**22 49 17.8**	**+0.2**
HAGD	**Aghdareh**	**2.53**	**31**	*e*Pn	**Pn**		**22 49 19.8**	**+1.0**
HAGD				*e*			22 49 24.7	
HSRG	**Sareghieh**	**2.65**	**13**	*e*Pn	**Pn**		**22 49 22.8**	**+2.3**
HSRG				*e*			22 49 30.3	
JHBN	**Jahan bin**	**2.65**	**98**	*e*Pn	**Pn**		**22 49 20.4**	**-0.2**
BHD	**Baghdad**	**2.75**	**284**	*e*Pn	**Pn**		**22 49 22.0**	**+0.4**
BHD				*e*Sn	**Sb**		**22 49 57.0**	**-3.4**
ASAO	**Ashtian**	**2.79**	**47**	*e*Pn	**Pn**		**22 49 23.0**	**+0.6**
IPIR	**Pirpir**	**2.81**	**88**	*e*Pn	**Pn**		**22 49 22.5**	**-0.1**
IPIR				*e*			22 50 09.5	
ROKH	**ROKH**	**2.95**	**95**	*e*Pn	**Pn**		**22 49 25.1**	**+0.6**
IRAZ	**Razeghan**	**3.37**	**35**	*e*Pn	**Pn**		**22 49 31.3**	**+0.9**
IKLH	**Kolahrood**	**3.44**	**78**	*e*Pn	**Pn**		**22 49 32.2**	**+0.9**
IKLH				*e*			22 50 40.8	
QABG	**Abgarm-Qazvin**	**3.48**	**28**	*e*Pn	**Pn**		**22 49 31.7**	**-0.1**
KLNJ	**Kolanjah**	**3.80**	**114**	*e*Pn	**Pn**		**22 49 36.3**	**0.0**
IMHD	**Mahdasht**	**3.97**	**40**	*e*Pn	**Pn**		**22 49 40.9**	**+2.4**
IZEF	**Zefreh**	**4.02**	**85**	*e*Pn	**Pn**		**22 49 39.1**	**-0.2**
QSDN	**Sirdan**	**4.07**	**19**	*e*Pn	**Pn**		**22 49 41.4**	**+1.5**
IRAM	**Ramesheh**	**4.17**	**100**	*e*Pn	**Pn**		**22 49 42.0**	**+0.7**
IGZV	**Ghazvin**	**4.32**	**30**	*e*Pn	**Pn**		**22 49 43.9**	**+0.5**
QALM	**Alamut, Qazvin**	**4.55**	**33**	*e*Pn	**Pn**		**22 49 48.2**	**+1.7**
IDMV	**Damavand**	**4.71**	**51**	*e*Pn	**Pn**		**22 49 48.3**	**-0.6**
IHRS	**Heris**	**5.67**	**356**	*e*Pn	**Pn**		**22 50 04.3**	**+2.4**
ISHM	**Shahmirzad**	**5.69**	**55**	*e*Pn	**Pn**		**22 50 03.1**	**+0.8**
IANJ	**Anjilo**	**5.97**	**60**	*e*Pn	**Pn**		**22 50 05.3**	**-0.8**

ISN **18** *22:59:12.7±1.4, 32.°67N×47.°67E, h15km±7km, ML2.9*
TEH **18** *22:59:14.6, 32.°71N×47.°62E, h10km, ML3.0*
ISC 18 22:59:12.8±1.0,**32.°59N**±0.°05×**47.°75E**±0.°05,**h10km**,**n21**,
σ1§**41**/24,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**0.94**	**5**	*e*Pg	**Pg**		**22 59 31.0**	**+0.1**
IKFM				*e*			22 59 47.2	
IDOB	**Doab**	**1.25**	**17**	*e*Pg	**Pn**		**22 59 35.7**	**-0.8**
IKOM	**Komasi**	**1.60**	**353**	*e*Pg	**Pb**		**22 59 42.4**	**-0.1**
IKOM				*e*			22 59 45.3	
IBDR	**Badra**	**1.62**	**289**	*e*Pg	**Pn**		**22 59 40.0**	**-1.3**
IBDR				*e*Sg	**Sn**		**23 00 01.0**	**-1.2**
IBDR				AML	AML		23 00 04.0	
	comp=E,109nm,0.7s							
IBDR				AML	AML		23 00 04.5	
	comp=N,275nm,0.4s							
HSAM	**Samen**	**1.77**	**24**	*e*Pg	**Pb**		**22 59 45.8**	**+0.3**
HSAM				*e*			23 00 13.7	
KCHF	**Cheshme Sefid,**	**1.78**	**341**	*e*	**Sb**		**23 00 08.8**	**+0.6**
KER	**Kermanshah**	**1.86**	**344**	*e*Pn	**Pn**		**22 59 45.5**	**+0.6**
IBZA	**Bozab**	**1.88**	**3**	*e*Pn	**Pb**		**22 59 47.3**	**-0.1**
IBZA				*e*			22 59 50.2	
IGHG	**Ghaleghazi**	**2.00**	**331**	*e*Pn	**Pn**		**22 59 48.4**	**+1.6**
IGHG				*e*			23 00 25.3	
IVIS	**Veis**	**2.07**	**339**	*e*Pn	**Pn**		**22 59 49.1**	**+1.3**
IVIS				*e*			23 00 19.2	
NSR	**Nassriya**	**2.08**	**221**	*e*Pn	**Pn**		**22 59 49.0**	**+1.2**
NSR				*e*Sn	**Sn**		**23 00 14.0**	**+0.2**
IALM	**Almabolaq**	**2.29**	**9**	*e*Pn	**Pn**		**22 59 53.1**	**+2.2**
IDHR	**Dehrash**	**2.39**	**332**	*e*Pn	**Pn**		**22 59 53.4**	**+1.2**
IDHR				*e*			23 00 29.9	
ILIN	**Lien**	**2.42**	**345**	*e*Pn	**Pn**		**22 59 54.3**	**+1.7**
ILIN				*e*			23 00 33.4	
JHBN	**Jahan bin**	**2.49**	**97**	*e*Pn	**Pb**		**22 59 59.3**	**+1.4**
JHBN				*e*			23 00 53.5	
HAGD	**Aghdareh**	**2.51**	**27**	*e*Pn	**Pb**		**22 59 57.1**	**-1.0**
HAGD				*e*			23 00 40.4	
IPIR	**Pirpir**	**2.66**	**87**	*e*Pn	**Pb**		**23 00 01.2**	**+0.6**
IPIR				*e*			23 00 39.4	
HSRG	**Sareghieh**	**2.69**	**9**	*e*Pn	**Pb**		**22 59 59.4**	**-1.7**
HSRG				*e*			23 00 42.2	
BHD	**Baghdad**	**2.91**	**284**	*e*Pn	**Pn**		**22 59 59.0**	**-0.1**
BHD				*e*Sn	**Sn**		**23 00 34.0**	**-0.2**
IKLH	**Kolahrood**	**3.30**	**76**	*e*Pn	**Pb**		**23 00 09.5**	**-2.1**
IKLH				*e*			23 01 11.1	
IZEF	**Zefreh**	**3.87**	**84**	*e*Pn	**Pb**		**23 00 18.0**	**-3.4**

IDC 18 23:04:17.8±3.8,**55.°57S**×**29.°23W**,**h0km**,**mb3.8**/2,
mb1 3.9/2,**mb1mx3.6**/16,**mbtmp3.8**/2,**Error ellipse:**
s-maj=132.8km s-min=49.0km az=171.0,**South**
Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LPAZ	**La Paz**	**49.16**	**307**	P		P	23 13 07.9	-0.1
	0.9nm,0.6s,baz=158,slow=5.4,SNR=3.8							
TORD	**Torodi Ar. Bea**	**73.22**	**32**	P		P	23 15 50.5	0.0
	0.4nm,0.5s,baz=204,slow=6.2,SNR=12							
ILAR	**Eielson Array**	**148.94**	**313**	PKPbc		PKPbc	23 24 05.4	-0.6
	2.4nm,0.8s,baz=128,slow=1.9,SNR=26							

TEH **18** *23:05:44.8, 32.°60N×47.°71E, h12km, ML2.7*
ISN **18** *23:05:44.9±0.5, 32.°65N×47.°73E, h15km±3km, ML2.3*
ISC 18 23:05:45.9±1.1,**32.°58N**±0.°05×**47.°75E**±0.°05,**h10km**,**n14**,
σ1§**32**/18,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**0.94**	**5**	*e*Sg	**Sg**		**23 06 15.8**	**-0.6**
IKFM				*e*Pg	**Pg**		**23 06 02.5**	**-1.6**
IKMR	**Kamar-syah**	**1.07**	**30**	*e*Pg	**Pb**		**23 06 06.6**	**0.0**
IDOB	**Doab**	**1.25**	**17**	*e*			23 06 34.8	
IDOB				*e*Pg	**Pn**		**23 06 09.4**	**-0.3**
BMDN	**Meydan**	**1.41**	**39**	*e*Pg	**Pn**		**23 06 11.5**	**-0.4**
BMDN				*e*			23 06 14.2	
IKOM	**Komasi**	**1.60**	**353**	*e*Pg	**Pn**		**23 06 14.3**	**-0.1**
IKOM				*e*			23 06 16.5	
IBDR	**Badra**	**1.62**	**289**	*e*Pg	**Pn**		**23 06 14.0**	**-0.5**
IBDR				*e*Sg	**Sn**		**23 06 35.0**	**-0.4**
IBDR				AML	AML		23 06 39.8	
	comp=N,41nm,0.4s							
IBDR				AML	AML		23 06 40.2	
	comp=E,42nm,0.4s							
HSAM	**Samen**	**1.77**	**24**	*e*Pn	**Pn**		**23 06 17.7**	**+0.8**
HSAM				*e*			23 06 47.5	
IBZA	**Bozab**	**1.88**	**3**	*e*Pn	**Pn**		**23 06 19.2**	**+0.8**
IBZA				*e*			23 06 22.3	
IGHG	**Ghaleghazi**	**2.00**	**331**	*e*	**Sg**		**23 06 54.8**	**+4.5**
NSR	**Nassriya**	**2.08**	**222**	*e*Pn	**Pn**		**23 06 21.0**	**+0.1**
NSR				*e*Sn	**Sn**		**23 06 47.0**	**+0.1**
IDHR	**Dehrash**	**2.40**	**332**	*e*Pn	**Pn**		**23 06 25.2**	**-0.2**
IDHR				*e*			23 07 06.1	
JHBN	**Jahan bin**	**2.49**	**97**	*e*Pn	**Pn**		**23 06 27.2**	**+0.3**
JHBN				*e*			23 06 29.1	
IPIR	**Pirpir**	**2.66**	**87**	*e*Pn	**Pn**		**23 06 29.8**	**+0.7**
IPIR				*e*			23 07 16.4	
BHD	**Baghdad**	**2.91**	**284**	*e*Pn	**Pn**		**23 06 32.0**	**-0.3**
BHD				*e*Sn	**Sn**		**23 07 07.0**	**-0.4**

ISN **18** *23:13:37.5±0.9, 32.°79N×47.°61E, h14km±6km, ML2.3*
TEH **18** *23:13:38.0, 32.°69N×47.°54E, h10km, ML2.7*
ISC 18 23:13:39.1±1.2,**32.°70N**±0.°07×**47.°55E**±0.°06,**h10km**,**n9**,
σ1§**37**/12,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**0.86**	**17**	*e*Pg	**Pg**		**23 13 54.2**	**-1.4**
IKMR	**Kamar-syah**	**1.07**	**40**	*e*Pg	**Pb**		**23 13 59.0**	**-0.7**
IKMR				*e*			23 14 20.9	
IDOB	**Doab**	**1.21**	**26**	*e*Pg	**Pn**		**23 14 01.2**	**-1.0**
IBDR	**Badra**	**1.42**	**287**	*e*Pg	**Pn**		**23 14 04.0**	**-0.9**
IBDR				*e*Sg	**Sb**		**23 14 23.0**	**-0.8**
IBDR				AML	AML		23 14 34.0	
	comp=N,58nm,0.7s							
IBDR				AML	AML		23 14 34.2	
	comp=E,46nm,0.8s							
BMDN	**Meydan**	**1.44**	**48**	*e*Sg	**Sg**		**23 14 27.7**	**+2.1**
BMDN				*e*			23 14 29.9	
IKOM	**Komasi**	**1.47**	**359**	*e*			23 14 07.7	
IKOM				*e*Pg	**Pn**		**23 14 06.8**	**+1.0**
IVIS	**Veis**	**1.91**	**342**	*e*Pn	**Pn**		**23 14 13.5**	**+1.7**
IVIS				*e*			23 14 48.2	
NSR	**Nassriya**	**2.07**	**216**	*e*Pn	**Pn**		**23 14 14.0**	**+0.2**
NSR				*e*Sn	**Sn**		**23 14 41.0**	**+1.4**
BHD	**Baghdad**	**2.72**	**283**	*e*Pn	**Pn**		**23 14 23.0**	**+0.2**
BHD				*e*Sn	**Sn**		**23 14 57.0**	**+1.2**

TEH **18** *23:15:47.2, 32.°65N×47.°65E, h8km, ML3.2*
ISN **18** *23:15:47.4±1.2, 32.°63N×47.°67E, h15km±6km, ML2.8*
THR **18** *23:15:48.8±0.4, 32.°73N×47.°68E, h14km±8km, ML3.1*
ISC 18 23:15:47.6±0.9,**32.°61N**±0.°03×**47.°64E**±0.°03,**h10km**,**n44**,
σ1§**38**/49,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**0.93**	**11**	*e*	**Sb**		**23 16 19.8**	**+1.5**
IKFM				*e*Pg	**Pg**		**23 16 03.6**	**-2.0**
SHGR	**Shooshtar-Gavs**	**1.10**	**116**	*e*Pg	**Pn**		**23 16 09.8**	**+0.7**
SHGR				IAML			23 16 29.9	
	comp=E,432nm,0.3s							
SHGR	**Shooshtar-Gavs**	**1.10**	**116**	*e*Pg	**Pn**		**23 16 09.8**	**+0.7**
IKMR	**Kamar-syah**	**1.10**	**34**	*e*			23 16 28.0	
IKMR				*e*Pg	**Pb**		**23 16 07.2**	**-1.5**
IDOB	**Doab**	**1.26**	**21**	*e*Pg	**Pn**		**23 16 10.8**	**-0.7**
BMDN	**Meydan**	**1.45**	**43**	*e*Pg	**Pb**		**23 16 14.8**	**-0.1**
BMDN				*e*			23 16 38.5	
IBDR	**Badra**	**1.53**	**290**	*e*Pg	**Pb**		**23 16 15.0**	**-1.0**
IBDR				*e*Sg	**Sg**		**23 16 36.0**	**-0.7**
IBDR				AML	AML		23 16 41.0	
	comp=N,122nm,0.6s							
IBDR				AML	AML		23 16 41.1	
	comp=E,155nm,0.7s							
AHWZ	**Ahwaz**	**1.53**	**146**	*e*Pg	**Pg**		**23 16 16.3**	**-0.7**
IKOM	**Komasi**	**1.57**	**356**	*e*Pg	**Pb**		**23 16 16.7**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.74**	**343**	*e*Pn	**Pb**		**23 16 18.9**	**-0.9**
KCHF				*e*			23 16 45.6	
HSAM	**Samen**	**1.79**	**26**	*e*Pn	**Pb**		**23 16 19.7**	**-1.0**
HSAM				*e*			23 16 48.8	
KER	**Kermanshah**	**1.82**	**347**	*e*Pn	**Pb**		**23 16 20.3**	**-0.9**
IBZA	**Bozab**	**1.87**	**6**	*e*Pn	**Pb**		**23 16 20.7**	**-1.3**
IBZA				*e*			23 16 27.3	
IGHG	**Ghaleghazi**	**1.94**	**333**	*e*Pn	**Pb**		**23 16 22.6**	**-0.6**
IGHG				*e*			23 17 02.4	
IVIS	**Veis**	**2.03**	**341**	*e*Pn	**Pb**		**23 16 23.3**	**-1.3**
IVIS				*e*			23 16 53.4	
NSR	**Nassriya**	**2.04**	**219**	*e*Pn	**Pb**		**23 16 23.0**	**-1.8**
NSR				*e*Sn	**Sn**		**23 16 48.0**	**+0.5**
IALM	**Almabolaq**	**2.29**	**11**	*e*Pn	**Pb**		**23 16 27.3**	**-1.9**
IDHR	**Dehrash**	**2.34**	**334**	*e*Pn	**Pn**		**23 16 27.0**	**+0.7**
IDHR				*e*			23 17 09.3	
ILIN	**Lien**	**2.38**	**346**	*e*Pn	**Pn**		**23 16 27.8**	**+0.9**
ILIN				*e*			23 17 04.2	
SNGE	**Sanandaj**	**2.49**	**354**	*e*Pn	**Pn**		**23 16 29.4**	**+1.0**
SNGE	**Sanandaj**	**2.49**	**354**	*e*Pn	**Pn**		**23 16 29.4**	**+1.0**
HAGD	**Aghdareh**	**2.54**	**29**	*e*Pn	**Pn**		**23 16 30.3**	**+1.2**
HAGD				*e*			23 16 40.4	
JHBN	**Jahan bin**	**2.58**	**97**	*e*Pn	**Pn**		**23 16 31.0**	**+1.2**
JHBN				*e*			23 17 18.6	
HSRG	**Sareghieh**	**2.68**	**11**	*e*Pn	**Pb**		**23 16 33.4**	**-2.5**
HSRG				*e*			23 17 20.9	
IPIR	**Pirpir**	**2.74**	**87**	*e*Pn	**Pn**		**23 16 33.6**	**+1.6**
IPIR				*e*			23 17 24.0	
ASAO	**Ashtian**	**2.78**	**45**	*e*Pn	**Pn**		**23 16 33.7**	**+1.3**
ASAO				*e*Sg	**Sb**		**23 17 12.4**	**+0.7**
ASAO	**Ashtian**	**2.78**	**45**	*e*Pn	**Pn**		**23 16 33.7**	**+1.3**
BHD	**Baghdad**	**2.82**	**284**	*e*Pn	**Pn**		**23 16 34.0**	**+1.3**
BHD				*e*Sn	**Sn**		**23 17 09.0**	**+2.2**
ROKH	**ROKH**	**2.88**	**94**	*e*Pn	**Pn**		**23 16 35.6**	**+1.8**
IRAZ	**Razeghan**	**3.38**	**34**	*e*Pn	**Pn**		**23 16 42.9**	**+2.3**
IKLH	**Kolahrood**	**3.38**	**77**	*e*Pn	**Pn**		**23 16 43.1**	**+2.3**
QABG	**Abgarm-Qazvin**	**3.49**	**27**	*e*Pn	**Pn**		**23 16 42.8**	**+0.6**
KLNJ	**Kolanjah**	**3.72**	**114**	*e*Pn	**Pn**		**23 16 46.8**	**+1.3**
IGAR	**Gharneh**	**3.72**	**92**	*e*Pn	**Pn**		**23 16 46.5**	**+1.1**
IZEF	**Zefreh**	**3.96**	**85**	*e*Pn	**Pn**		**23 16 50.5**	**+1.8**
QSDN	**Sirdan**	**4.09**	**18**	*e*Pn	**Pn**		**23 16 52.0**	**+1.6**
IRAM	**Ramesheh**	**4.10**	**100**	*e*Pn	**Pn**		**23 16 50.6**	**+0.1**
IDMV	**Damavand**	**4.70**	**50**	*e*Pn	**Pn**		**23 16 59.7**	**+0.9**
ISAD	**Sadrabad**	**5.17**	**96**	*e*Pn	**Pn**		**23 17 05.7**	**+0.4**
IFIR	**Firoozkooh**	**5.21**	**53**	*e*Pn	**Pn**		**23 17 06.7**	**+0.8**
IALA	**Alasht**	**5.50**	**50**	*e*Pn	**Pn**		**23 17 12.2**	**+2.3**
ISHM	**Shahmirzad**	**5.67**	**54**	*e*Pn	**Pn**		**23 17 12.5**	**+0.4**
IHRS	**Heris**	**5.72**	**355**	*e*Pn	**Pn**		**23 17 15.4**	**+2.6**
IANJ	**Anjilo**	**5.94**	**60**	*e*Pn	**Pn**		**23 17 16.1**	**+0.3**

TEH **18** *23:17:47.6, 32.°93N×47.°60E, h10km, ML3.0*
ISN **18** *23:17:50.4±0.3, 33.°04N×47.°55E, h22km±2km, ML2.9*
ISC 18 23:17:48.2±1.1,**32.°93N**±0.°05×**47.°64E**±0.°05,**h15km**,**n14**,
σ0§**92**/18,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**0.62**	**16**	*e*Pg	**Pg**		**23 18 00.3**	**-0.1**
IKMR	**Kamar-syah**	**0.85**	**46**	*e*Sg	**Sn**		**23 18 18.6**	**+0.7**
IKMR				*e*Pg	**Pb**		**23 18 04.2**	**-0.5**
IKOM	**Komasi**	**1.24**	**355**	*e*Pg	**Pn**		**23 18 10.7**	**-0.6**
IKOM				*e*			23 18 39.0	
KCHF	**Cheshme Sefid,**	**1.43**	**340**	*e*Pn	**Pn**		**23 18 13.9**	**0.0**
KCHF				*e*			23 18 39.3	
IBDR	**Badra**	**1.45**	**278**	*e*Pg	**Pb**		**23 18 15.0**	**+0.1**
IBDR				*e*Sg	**Sg**		**23 18 33.0**	**-2.0**
IBDR				AML	AML		23 18 34.8	
	comp=E,226nm,0.6s							
IBDR				AML	AML		23 18 35.5	
	comp=N,206nm,0.4s							
HSAM	**Samen**	**1.51**	**32**	*e*Pg	**Pb**		**23 18 16.6**	**+0.5**
HSAM				*e*			23 18 46.7	
KER	**Kermanshah**	**1.51**	**344**	*e*Pn	**Pb**		**23 18 15.7**	**-0.4**
IBZA	**Bozab**	**1.54**	**7**	*e*Pn	**Pb**		**23 18 16.4**	**-0.3**
IBZA				*e*			23 18 49.7	
IVIS	**Veis**	**1.72**	**338**	*e*Pn	**Pb**		**23 18 19.8**	**+0.1**
IVIS				*e*			23 18 53.1	
IALM	**Almabolaq**	**1.97**	**13**	*e*Pn	**Pb**		**23 18 25.0**	**+1.0**
IDHR	**Dehrash**	**2.05**	**330**	*e*Pn	**Pb**		**23 18 25.0**	**-0.3**
IDHR				*e*			23 19 00.3	
ILIN	**Lien**	**2.06**	**344**	*e*Pn	**Pb**		**23 18 25.2**	**-0.3**
ILIN				*e*			23 19 03.2	
NSR	**Nassriya**	**2.30**	**214**	*e*Pn	**Pb**		**23 18 29.0**	**-0.5**
NSR				*e*Sn	**Sb**		**23 18 57.0**	**-0.7**
BHD	**Baghdad**	**2.76**	**278**	*e*Pn	**Pn**		**23 18 34.0**	**+2.1**
BHD				*e*Sn	**Sn**		**23 19 06.0**	**+1.1**

TEH **18** *23:29:42.3, 32.°22N×57.°66E, h10km, ML3.5*
THR **18** *23:29:44.2±0.3, 32.°22N×57.°70E, h14km±4km, ML3.0*
ISC 18 23:29:42.4±0.9,**32.°14N**±0.°03×**57.°62E**±0.°03,**h10km**,**n22**,
σ1§**19**/25,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TPRV	**Parvadeh(Tabas**	**1.19**	**319**	*e*			23 30 25.3	
TPRV				*e*Pg	**Pg**		**23 30 04.7**	**-0.5**
IKOO	**Kooshah**	**1.21**	**76**	*e*			23 30 07.2	
IKOO				*e*Pg	**Pn**		**23 30 05.3**	**-0.3**
ITEG	**Tejag**	**1.22**	**51**	*e*			23 30 07.0	
ITEG				*e*Pg	**Pb**		**23 30 04.8**	**-0.8**
BSRN	**Basiran**	**1.29**	**97**	*e*Pg	**Pg**		**23 30 07.2**	**0.0**
BSRN	**Basiran**	**1.29**	**97**	*e*Pg	**Pg**		**23 30 07.2**	**0.0**
TKDS	**Koohdasht(Taba**	**1.53**	**344**	*e*Pg	**Pg**		**23 30 11.0**	**-0.8**
TABS	**Tabas**	**1.57**	**345**	*e*Pg	**Pb**		**23 30 11.9**	**-0.5**
TABS	**Tabas**	**1.57**	**345**	*e*Pg	**Pg**		**23 30 11.9**	**-0.5**
AFRZ	**Afriz**	**1.74**	**42**	*e*Pg	**Pb**		**23 30 13.9**	**-0.6**
IBAF	**Bafgh**	**1.83**	**253**	*e*Pn	**Pg**		**23 30 17.3**	**-0.2**
IBAF				*e*	**Sg**		**23 30 43.8**	**+2.6**
IDAH	**Dahanechah**	**1.99**	**72**	*e*Pn	**Pb**		**23 30 18.6**	**-0.3**
KHGB	**Koh Gabri**	**2.01**	**209**	*e*Pn	**Pg**		**23 30 19.8**	**-1.1**
TNSJ	**Nastanj**	**2.01**	**335**	*e*	**Sg**		**23 30 49.3**	**+2.3**
IMON	**Monand**	**2.02**	**58**	*e*Pg	**Pb**		**23 30 18.6**	**-0.8**
NHDN	**Nehbandan**	**2.20**	**109**	*e*Pn	**Pb**		**23 30 21.2**	**-1.1**
NHDN				*e*			23 30 56.1	
TVBK	**TV Kerman**	**2.27**	**199**	*e*Pn	**Pb**		**23 30 22.7**	**-0.9**
TVBK				*e*			23 31 01.4	
CHMN	**Cheshme madani**	**2.27**	**182**	*e*Pn	**Pb**		**23 30 23.6**	**0.0**
CHMN				*e*			23 30 57.5	
YZKH	**Yazd**	**2.58**	**276**	*e*Pn	**Pb**		**23 30 28.6**	**-0.2**
YZKH				*e*Sg	**Sg**		**23 31 06.9**	**+1.7**
YZKH				IAML			23 31 10.1	
	comp=Z,59nm,0.2s							
YZKH	**Yazd**	**2.58**	**276**	*e*Pn	**Pb**		**23 30 28.6**	**-0.2**
NGRK	**Negar Kerman**	**2.60**	**197**	*e*Pn	**Pb**		**23 30 28.4**	**-0.9**
NGRK				*e*	**Sg**		**23 31 07.8**	**+1.9**
IMEH	**Mehriz**	**2.67**	**255**	*e*Pn	**Pb**		**23 30 29.0**	**-1.4**
ICHK	**Chekchek**	**2.73**	**273**	*e*Pn	**Pb**		**

KBL	Kabul	17.95	78	P	Pn	23 34 49.8	-0.6
CHGR	Chuyangaron	18.49	65	P	P	23 34 56.3	-0.5
CHGR				IAmb	IAmb	23 34 60.0	
	comp=Z,7.5nm,1.1s						
ABKAR	Akbulak array	18.98	25	P	P	23 35 01.9	-0.1
IDI	Anoyia	19.02	284	P	P	23 35 01.3	-1.4
TIRR	Tirgusor	19.04	314	P	P	23 35 03.1	+0.5
ALN	Alexandroupoli	19.10	302		P	23 35 04.0	+0.6
ALN				IAmb	IAmb	23 35 20.0	
	comp=Z,18nm,1.4s						
AKTO	Aktyubinsk	19.36	20	P	P	23 35 07.0	+0.8
	comp=Z,0.3nm,0.3s,baz=209,slow=14,SNR=7.1						
RAZG	Razgrad	19.81	309	⇑P	P	23 35 13.0	+1.9
KK31	Karatay Array	20.81	53	P	P	23 35 21.8	-0.2
KKAR	Karatay Array	20.81	53	P	P	23 35 22.5	+0.5
KKAR	Karatay Array	20.81	53	P	P	23 35 21.4	-0.5
KKAR				IAmb	IAmb	23 35 29.2	
	comp=Z,1.3nm,0.6s						
PLOR	Plostina	20.83	315	⇑P	Pn	23 35 25.9	+1.3
MLR	Muntele Rosu	21.07	314	P	P	23 35 26.3	+1.4
MLR				IAmb	IAmb	23 35 35.4	
	comp=Z,4.1nm,0.8s						
TESR	Tescani	21.19	317	⇑P	P	23 35 26.9	+0.9
SORM	Soroca	21.22	322	⇑P	P	23 35 28.2	+1.9
AGG	Agios Georgios	21.42	294	P	P	23 35 28.1	-0.6
AGG				IAmb	IAmb	23 35 41.3	
	comp=Z,6.6nm,1.1s						
OZUR		21.47	315	⇑P	P	23 35 30.7	+1.6
ATD	Arta Tunnel	21.48	193	LR	LR	23 42 37.1	
	comp=Z,48nm,20.4s,baz=318,slow=34						
ITM	Ithomi	21.52	289	P	P	23 35 28.4	-1.3
VOIR		21.59	313	⇓P	P	23 35 32.0	+1.6
DOPR	Dopca	21.64	314	⇑P	P	23 35 32.1	+1.2
LOT	Lotru	22.40	312	⇓P	P	23 35 39.3	+0.1
BURAR	Bucovina Array	22.61	318	⇓P	P	23 35 44.6	+3.2
BURAR	Bucovina Array	22.61	318	P	P	23 35 43.0	+1.6
BUR08	Bucovina Ar. S	22.64	318	P	P	23 35 43.5	+1.8
MDVR	Moldovita	23.45	309	⇓P	P	23 35 51.6	+1.6
BZS	Buzias	23.84	310	⇑P	P	23 35 53.9	+0.2
ARU	Arti	24.96	14	P	P	23 36 04.7	+0.8
	comp=Z,0.5nm,0.4s,baz=244,slow=18,SNR=3.8						
KOLS	Kolonicke sedl	24.98	318	*e*P	P	23 36 04.9	+0.7
TIP	Timpagrande	25.74	293	P	P	23 36 11.0	-0.2
TIP				IAmb	IAmb	23 36 14.7	
	comp=Z,2.9nm,0.8s						
PSZ	Piszkesteto	25.88	314	P	P	23 36 13.0	+0.5
PSZ				IAmb	IAmb	23 36 15.5	
	comp=Z,5.7nm,0.8s						
BRVK	Borovoye	26.11	32	P	P	23 36 15.0	+0.7
BRVK				IAmb	IAmb	23 36 16.7	
	comp=Z,2.3nm,0.8s						
BVAR	Borovoye Array	26.13	32	P	P	23 36 14.8	+0.3
	comp=Z,1.5nm,0.7s,baz=234,slow=4.6,SNR=14						
CEL	Celeste	26.36	291	P	P	23 36 15.6	-1.2
CEL				IAmb	IAmb	23 36 27.9	
	comp=Z,10nm,0.9s						
VYHS	Vyhne	26.77	315	*e*P	P	23 36 21.3	+0.9
KURBB	Kurchatov Arra	28.96	43	P	P	23 36 40.3	+0.4
	comp=Z,0.8nm,0.7s,baz=247,slow=9.1,SNR=5.1						
MK31	Makanchi Array	29.91	52	P	P	23 36 48.0	-0.4
MKAR	Makanchi Array	29.91	52	P	P	23 36 49.0	+0.6
	comp=Z,0.8nm,0.7s,baz=250,slow=7.1,SNR=8.7						
MKAR	Makanchi Array	29.91	52	P	P	23 36 48.1	-0.4
CIMO	Cimolais	30.11	307	P	P	23 36 49.1	-1.1
CIMO				IAmb	IAmb	23 36 51.2	
	comp=Z,3.3nm,1.0s						
CTI	Castel Tesino	30.58	306	P	P	23 36 53.8	-0.7
CTI				IAmb	IAmb	23 36 58.1	
	comp=Z,4.2nm,0.7s						
WTTA	Wattenberg	30.89	309	*i* P	P	23 36 57.2	-0.1
	comp=Z,1.8nm,0.5s						
WATA	Walderalm	30.95	309	*i* P	P	23 36 57.8	0.0
	comp=Z,3.5nm,0.9s						
VLC	Villacollemand	31.10	303	P	P	23 36 57.4	-1.6
SQTA	Sankt Quirin	31.16	309	*i* P	P	23 36 59.6	0.0
	comp=Z,2.0nm,0.4s						
MOTA	Moosalm	31.26	309	*i* P	P	23 36 59.7	-0.9
	comp=Z,2.5nm,0.7s						
FETA	Feichten	31.43	308	*i* P	P	23 37 01.8	-0.2
	comp=Z,3.8nm,1.0s						
RETA	Reutte	31.52	309	*i* P	P	23 37 02.2	-0.6
	comp=Z,5.4nm,2.1s						
FINES	FINESS Array B	32.01	341	P	P	23 37 07.1	+0.4
	comp=Z,3.4nm,0.8s,baz=177,slow=11,SNR=4.2						
FINES	FINESS Array B	32.01	341	P	P	23 37 06.7	0.0
DAVA	Damuels	32.05	308	*i* P	P	23 37 06.9	-0.6
	comp=Z,4.1nm,0.6s						
TUE	Stuetta	32.23	307	P	P	23 37 07.8	-1.4
TUE				IAmb	IAmb	23 37 18.7	
	comp=Z,4.3nm,1.0s						
SENIN	Lac Senin/Sane	33.61	306	P	P	23 37 19.9	-1.3
BNI	Bardonecchia	33.85	304	P	P	23 37 22.8	-0.4
ZALV	Zalesovo Beam	33.87	40	P	P	23 37 22.3	-0.8
	comp=Z,1.1nm,0.6s,baz=260,slow=8.9,SNR=4.7						
ZALV	Zalesovo Beam	33.87	40	P	P	23 37 20.9	-2.2
NOA	NORSAR Array B	36.91	331	P	P	23 37 49.1	-0.1
	comp=Z,0.9nm,0.8s,baz=107,slow=9.3,SNR=2.7						
ARCES	ARCESS Array B	38.96	348	P	P	23 38 06.2	-0.1
	comp=Z,1.0nm,0.8s,baz=171,slow=7.3,SNR=1.6						
ESDC	Sonseca Array	41.75	295	P	P	23 38 29.5	-0.4
	comp=Z,0.3nm,0.4s,baz=79,slow=7.9,SNR=5.7						
TORD	Torodi Ar. Bea	46.13	256	P	P	23 39 03.1	-2.2
	comp=Z,0.3nm,0.5s,baz=71,slow=5.7,SNR=5.5						

*IDC **18** 23:36:25.7±1.3,32.°55N×47.°62E,h0km,mb3.6/9,*
mb1 3.8/11,mb1mx3.6/37,mbtmp3.7/11,ML3.8/2,MS2.8/4,
Ms1 2.7/4,ms1mx2.4/37, Error ellipse: s-maj=29.5km
s-min=18.3km az=180.0
*TEH **18** 23:36:27.5,32.°63N×47.°66E,h9km,ML3.7*
*THR **18** 23:36:28.7±0.7,32.°71N×47.°77E,h14km±10km,ML3.7*
*ISN **18** 23:36:29.0±1.1,32.°64N×47.°71E,h17km±7km,ML3.0*
ISC 18 23:36:28.0±0.6,**32.°60N**±0.°03×**47.°67E**±0.°04,**h10**km,**n86,**
σ1§**50**/86,**mb3.6**/10,**9C-4D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	0.94	9	*e*Pg	Pg	23 36 45.3	-0.8
SHGR	Shooshtar-Gavs	1.08	117	*e*Pg	Pg	23 36 48.4	-0.3
SHGR				IAML		23 37 10.5	
	comp=E,2µm,0.7s						
SHGR	Shooshtar-Gavs	1.08	117	*e*Pn	Pg	23 36 48.4	-0.3
IKMR	Kamar-syah	1.10	33	*e*Pg	Pb	23 36 47.5	-1.6
IKMR				*e*		23 37 07.8	
IDOB	Doab	1.26	20	*e*Pg	Pn	23 36 52.0	+0.1
BMDN	Meydan	1.45	42	*e*Pg	Pn	23 36 55.2	+0.8
BMDN				*e*		23 37 19.0	
AHWZ	Ahwaz	1.51	146	*e*Pg	Pn	23 36 56.9	+1.8
IBDR	Badra	1.55	290	*e*Pg	Pn	23 36 57.0	+1.4
IBDR				*e*Sg	Sg	23 37 19.0	+1.2
IBDR				AML	AML	23 37 22.7	
	comp=E,240nm,0.7s						
IBDR				AML	AML	23 37 26.3	
	comp=N,229nm,0.9s						
IKOM	Komasi	1.58	355	*e*Pg	Pn	23 36 57.6	+1.4
IKOM				*e*		23 37 24.0	
KCHF	Cheshme Sefid,	1.75	343	*e*Pg	Pn	23 36 59.9	+1.3
KCHF				*e*		23 37 30.1	
HSAM	Samen	1.79	26	*e*Pn	Pn	23 37 00.7	+1.5
HSAM				*e*		23 37 29.6	
KER	Kermanshah	1.84	346	*e*Pn	Pn	23 37 00.9	+1.1
IBZA	Bozab	1.88	5	*e*Pg	Pn	23 37 02.0	+1.6
IBZA				*e*		23 37 31.4	
IGHG	Ghaleghazi	1.96	332	*e*Pn	Pn	23 37 02.7	+1.2
IGHG				*e*		23 37 39.9	
IVIS	Veis	2.04	341	*e*Pn	Pn	23 37 03.7	+1.2
IVIS				*e*		23 37 37.5	
NSR	Nassriya	2.05	220	*e*Pn	Pb	23 37 05.0	-0.3
NSR				*e*Sn	Sb	23 37 30.0	-0.8
KHMZ	Khomeyn	2.23	59	*e*Pn	Pn	23 37 05.6	+0.3
KHMZ	Khomeyn	2.23	59	*e*Pn	Pn	23 37 05.6	+0.3
IALM	Almabolaq	2.30	10	*e*Pn	Pn	23 37 08.1	+1.9
IDHR	Dehrash	2.35	333	*e*		23 37 59.5	
IDHR				*e*Pn	Pn	23 37 08.2	+1.3
ILIN	Lien	2.39	346	*e*		23 37 50.7	
ILIN				*e*Pn	Pn	23 37 08.8	+1.4
SNGE	Sanandaj	2.50	354	*e*Pn	Pn	23 37 09.6	+0.6
SNGE	Sanandaj	2.50	354	*e*Pn	Pn	23 37 09.6	+0.6
HAGD	Aghdareh	2.54	29	*e*Pn	Pn	23 37 11.0	+1.5
HAGD				*e*		23 37 54.7	
JHBN	Jahan bin	2.56	97	*e*Pn	Pn	23 37 11.6	+1.7
JHBN				*e*		23 37 57.8	
HSRG	Sareghieh	2.69	11	*e*Pn	Pn	23 37 14.1	+2.5
HSRG				*e*		23 38 05.7	
IPIR	Pirpir	2.72	87	*e*Pn	Pn	23 37 14.0	+1.9
IPIR				*e*		23 38 05.1	
ASAO	Ashtian	2.77	45	*e*Pn	Pn	23 37 13.5	+0.8
ASAO				*e*Sg	Sn	23 37 51.0	+4.7
ASAO	Ashtian	2.77	45	*e*Pn	Pn	23 37 13.5	+0.8
BHD	Baghdad	2.84	285	*e*Pn	Pn	23 37 16.0	+2.6
BHD				*e*Sn	Sn	23 37 50.0	+2.3
ROKH	ROKH	2.86	94	*e*Pn	Pn	23 37 15.8	+1.9
ROKH				*e*		23 38 15.1	
IKLH	Kolahrood	3.37	77	*e*Pn	Pn	23 37 23.2	+2.3
IKLH				*e*		23 38 22.2	
IRAZ	Razeghan	3.37	33	*e*Pn	Pn	23 37 23.2	+2.3
QABG	Abgarm-Qazvin	3.49	27	*e*Pn	Pn	23 37 23.6	+1.1
KLNJ	Kolanjah	3.70	114	*e*Pn	Pn	23 37 27.0	+1.5
KLNJ				*e*		23 38 37.6	
IGAR	Gharneh	3.70	92	*e*Pn	Pn	23 37 27.0	+1.5
IGAR				*e*		23 37 38.5	
IZEF	Zefreh	3.94	84	*e*Pn	Pn	23 37 30.7	+1.9
IMHD	Mahdasht	3.96	38	*e*Pn	Pn	23 37 29.8	+0.9
IRAM	Ramesheh	4.07	100	*e*Pn	Pn	23 37 31.3	+0.7
IHSB	Hasanabad	4.12	46	*e*Pn	Pn	23 37 32.9	+1.7
MAHB	Mahabad	4.46	339	*e*Pn	Pn	23 37 37.1	+1.3
IDMV	Damavand	4.69	49	*e*Pn	Pn	23 37 40.5	+1.4
ANAR	Anarak	5.13	82	*e*Pn	Pn	23 37 46.3	+1.2
ISAD	Sadrabad	5.14	96	*e*Pn	Pn	23 37 46.5	+1.1
IFIR	Firoozkooh	5.20	53	*e*Pn	Pn	23 37 47.7	+1.6
ILAS	Lasjerd	5.20	56	*e*Pn	Pn	23 37 47.2	+1.1
IPRN	Peran	5.30	45	*e*Pn	Pn	23 37 49.9	+2.5
IALA	Alasht	5.50	49	*e*Pn	Pn	23 37 52.7	+2.5
ISHM	Shahmirzad	5.66	54	*e*Pn	Pn	23 37 54.0	+1.6
IHRS	Heris	5.73	355	*e*Pn	Pn	23 37 55.2	+1.8
IANJ	Anjilo	5.92	59	*e*Pn	Pn	23 37 56.6	+0.6
IMEH	Mehriz	6.02	100	*e*Pn	Pn	23 37 57.8	+0.4
IGLO	Ghaloghah	6.41	51	*e*Pn	Pn	23 38 04.5	+1.9
IBAF	Bafgh	6.78	96	*e*Pn	Pn	23 38 08.4	+0.7
TPRV	Parvadeh(Tabas	7.61	84	*e*Pn	Pn	23 38 20.1	+1.1
TKDS	Koohdasht(Taba	8.00	80	*e*Pn	Pn	23 38 25.3	+0.9
NGRK	Negar Kerman	8.31	108	*e*Pn	Pn	23 38 29.8	+0.9
GEYT	Alibeck	10.06	55	LR	LR	23 42 27.4	
	comp=N,25nm,18.2s,baz=160,slow=36						
KBZ	Khabaz	11.73	343	LR	LR	23 44 21.3	
	comp=N,43nm,19.8s,baz=278,slow=40						
WSAR	Wadi Sarin	13.44	131	Pn	Pn	23 39 37.4	-1.5
	comp=N,0.6nm,0.3s,baz=313,slow=12,SNR=5.9						
AKTO	Aktyubinsk	19.40	20	P	P	23 40 54.0	0.0
	comp=N,0.3nm,0.3s,baz=206,slow=11,SNR=10						
RAZG	Razgrad	19.88	309	⇑P	P	23 41 00.5	+1.1
PLOR	Plostina	20.90	315	⇑P	P	23 41 10.1	-0.4
MLR	Muntele Rosu	21.14	314	P	P	23 41 13.5	+0.3
	comp=N,1.4nm,0.8s,baz=120,slow=20,SNR=2.6						
MLR	Muntele Rosu	21.14	314	⇑P	P	23 41 13.8	+0.6
TESR	Tescani	21.26	317	⇑P	P	23 41 17.1	+2.8
SORM	Soroca	21.30	322	⇓P	P	23 41 13.4	-1.3
OZUR		21.54	315	⇓P	P	23 41 15.5	-1.8
VOIR		21.66	313	⇓P	P	23 41 20.0	+1.3
DOPR	Dopca	21.72	314	⇑P	P	23 41 19.8	+0.6
LOT	Lotru	22.47	312	⇓P	P	23 41 24.8	-2.7
AKASG	Malin Array Be	22.63	328	P	P	23 41 27.4	-1.6
	comp=N,0.5nm,0.4s,baz=141,slow=9.6,SNR=1.8						
BURAR	Bucovina Array	22.68	318	⇑P	P	23 41 31.5	+1.9
MDVR	Moldovita	23.52	309	⇑P	P	23 41 39.1	+0.9
BZS	Buzias	23.91	310	⇑P	P	23 41 41.0	-0.9
PSZ	Piszkesteto	25.95	314	⇑P	P	23 42 00.5	-0.1
BVAR	Borovoye Array	26.16	32	P	P	23 42 02.2	-0.1
	comp=N,2.0nm,0.7s,baz=225,slow=7.3,SNR=14						
KURBB	Kurchatov Arra	28.97	42	P	P	23 42 28.3	+0.8
	comp=N,3.8nm,0.2s,baz=248,slow=9.3,SNR=1.7						
MKAR	Makanchi Array	29.91	52	P	P	23 42 36.2	+0.3
	comp=N,1.2nm,0.7s,baz=247,slow=7.1,SNR=17						
GERES	GERESS Array B	30.12	313	P	P	23 42 36.2	-1.7
	comp=N,0.3nm,0.7s,baz=106,slow=10,SNR=2.4						
FINES	FINESS Array B	32.08	341	LR	LR	23 55 09.0	
	comp=N,25nm,22.0s,baz=306,slow=35						
ZALV	Zalesovo Beam	33.89	40	P	P	23 43 10.2	-0.6
	comp=N,0.7nm,0.4s,baz=227,slow=7.9,SNR=4.5						
ESDC	Sonseca Array	41.81	295	P	P	23 44 16.8	-1.2
	comp=N,0.4nm,0.7s,baz=77,slow=7.9,SNR=4.1						
TORD	Torodi Ar. Bea	46.13	256	P	P	23 44 52.7	-0.4
	comp=N,0.3nm,0.7s,baz=69,slow=8.0,SNR=2.7						
CMAR	Chiang Mai Arr	47.94	94	P	P	23 45 05.6	-1.3
	comp=N,0.4nm,0.3s,baz=304,slow=8.0,SNR=4.2						
JMIC	Jan Mayen	48.66	339	LR	LR	00 07 15.3	
	comp=N,12nm,20.0s,baz=250,slow=38						

*TIR **18** 23:46:37.2,41.°34N×20.°47E,h7km,Md2.2/3*
ATH 18 23:46:35.6,40.°46N×20.°38E,h24km±10km,**ML0.9**/1,**Error ellipse: s-maj=10.8km s-min=1.3km az=120.0,**
Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	Leskovik	0.36	152	*i* PG	Pb	23 46 41.9	-1.6
LSK				*i* SG	Sb	23 46 45.5	-3.3
NEST	Nestorio	0.51	95	P	Pb	23 46 46.0	-0.1
NEST				S	Sb	23 46 53.8	+0.7
NEST				AML	AML	23 46 55.9	
	comp=N,31µm,0.2s						
NEST				AML	AML	23 47 00.6	
	comp=E,34µm,0.5s						
SRN	Sarande	0.65	207	*i* PG	Pn	23 46 48.9	-0.5
SRN				*i* SG	Sb	23 46 57.9	+0.9
KEK	Kerkira	0.87	211	P	Pn	23 46 52.6	+0.2
KEK				S	Sn	23 47 04.7	+0.3
JAN	Janina	0.88	156	P	Pb	23 46 52.2	-0.2
KPRO	Kipourio	0.91	124	P	Pn	23 46 53.4	+0.4
IGT	Igoumenitsa	0.93	182	*i* PG	Pn	23 46 53.4	+0.1
IGT				*i* SG	Sn	23 47 06.3	+0.4
IGT	Igoumenitsa	0.93	182	P	Pn	23 46 53.8	+0.5
IGT				S	Sn	23 47 06.8	+1.0

*TEH **18** 23:48:35.9,32.°72N×47.°54E,h10km,ML2.7*
*ISN **18** 23:48:35.9±1.0,32.°75N×47.°58E,h15km±5km,ML2.7*
ISC 18 23:48:36.8±1.2,**32.°72N**±0.°06×**47.°54E**±0.°06,**h10**km,**n8,**
σ0§**98**/12,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	0.84	17	*e*Pg	Pg	23 48 51.8	-1.3
IKFM				*e*		23 49 09.6	
IKMR	Kamar-syah	1.06	41	*e*Pg	Pg	23 48 56.1	-1.2
IKMR				*e*		23 49 17.2	
IDOB	Doab	1.19	26	*e*Pg	Pb	23 48 59.5	-0.1
IDOB				*e*		23 49 03.8	
IDOB				*e*Sg	Sg	23 49 16.4	+1.1
IBDR	Badra	1.41	287	*e*Pg	Pn	23 49 02.0	-0.6
IBDR				*e*Sg	Sn	23 49 21.0	-0.2
IBDR				AML	AML	23 49 26.2	
	comp=N,106nm,0.8s						
IBDR				AML	AML	23 49 27.2	
	comp=E,130nm,0.7s						
BMDN	Meydan	1.44	48	*e*Pg	Pn	23 49 03.7	+0.6
BMDN				*e*		23 49 33.4	
IKOM	Komasi	1.46	359	*e*		23 49 27.9	
IKOM				*e*Pg	Pn	23 49 03.9	+0.6
NSR	Nassriya	2.08	215	*e*Pn	Pn	23 49 12.0	+0.3
NSR				*e*Sn	Sn	23 49 38.0	+0.4
BHD	Baghdad	2.72	283	*e*Pn	Pn	23 49 21.0	+0.5
BHD				*e*Sn	Sn	23 49 55.0	+1.6

*TEH **18** 23:52:54.8,32.°76N×47.°79E,h10km,ML2.7*
*ISN **18** 23:52:55.3±0.8,32.°74N×47.°78E,h14km±5km,ML2.5*
ISC 18 23:52:56.0±1.0,**32.°77N**±0.°05×**47.°79E**±0.°06,**h10**km,**n12,**
σ1§**15**/15,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	0.76	4	*e*		23 53 25.2	
IKFM				*e*Pg	Pg	23 53 09.3	-1.3
IKMR	Kamar-syah	0.90	33	*e*Pg	Pg	23 53 12.1	-1.2
IKMR				*e*		23 53 31.6	
IDOB	Doab	1.07	18	*e*Pg	Pg	23 53 15.2	-1.4
BMDN	Meydan	1.25	44	*e*Pg	Pb	23 53 19.8	0.0
BMDN				*e*		23 53 44.8	
IKOM	Komasi	1.42	351	*e*Pg	Pn	23 53 22.2	+0.1
IKOM				*e*		23 53 48.2	
HSAM	Samen	1.59	25	*e*Pg	Pb	23 53 25.9	+0.2
HSAM				*e*		23 53 51.4	
IBDR	Badra	1.60	283	*e*Pg	Pn	23 53 24.0	-0.4
IBDR				*e*Sg	Sn	23 53 46.0	+0.9
IBDR				AML	AML	23 53 53.7	
	comp=E,77nm,0.4s						
IBDR				AML	AML	23 53 56.8	
	comp=N,69nm,0.6s						
AHWZ	Ahwaz	1.61	153	*e*Sg	Sb	23 53 48.2	+2.1
IBZA	Bozab	1.70	2	*e*Pg	Pb	23 53 27.5	0.0
IBZA				*e*		23 53 59.6	
IVIS	Veis	1.92	336	*e*Pn	Pn	23 53 30.5	+1.6
NSR	Nassriya	2.25	219	*e*Pn	Pn	23 53 33.0	-0.2
NSR				*e*Sn	Sn	23 53 59.6	-1.4
BHD	Baghdad	2.91	281	*e*Pn	Pn	23 53 43.0	+0.6
BHD				*e*Sn	Sn	23 54 18.0	+0.6

*ISN **19** 00:05:46.5±1.1,32.°90N×47.°77E,h6km,6km,ML4.0*
*IDC **19** 00:05:46.8±0.9,32.°56N×47.°67E,h0km,mb4.0/21,*
mb1 4.1/29,mb1mx4.0/48,mbtmp4.0/29,ML3.6/8,MS3.2/8,
Ms1 3.2/8,ms1mx2.8/48, Error ellipse: s-maj=20.4km
s-min=10.5km az=175.0
*MOS **19** 00:05:47.2±1.1,32.°48N×47.°60E,h17km,mb4.6/34, Error*
ellipse: s-maj=7.1km s-min=4.9km az=125.3
*GII **19** 00:05:47.4±0.0,32.°82N×47.°67E,h2km*
*TEH **19** 00:05:51.3,32.°83N×47.°69E,h25km,ML4.0*
*NEIC **19** 00:05:53.5±1.8,32.°76N±0.°05×47.°56E±0.°05,h48km±9km,*
Error ellipse: s-maj=8.0km s-min=5.1km az=203.0
ISC 19 00:05:49.8±0.4,**32.°76N**±0.°03×**47.°59E**±0.°03,**h15**km,**n270,**
σ1§**34**/263,**mb4.3**/72,**MS3.3**/8,**17C-15D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	0.80	16	*e*		00 06 26.5	
IKFM				*e*Pg	Pg	00 06 05.1	-0.2
IKFM	Kafar-mosalman	0.80	16		Pg	00 06 05.1	-0.2
IKMR	Kamar-syah	1.01	41	*e*		00 06 28.0	
IKMR				*e*Pg	Pb	00 06 08.5	-0.5
IKMR	Kamar-syah	1.01	41		Pb	00 06 08.2	-0.8
IDOB	Doab	1.14	26	*e*Pg	Pg	00 06 12.5	+0.6
IDOB	Doab	1.14	26		Pg	00 06 12.2	+0.3
SHGR	Shooshtar-Gavs	1.21	122	*e*Pg	Pg	00 06 14.2	+1.5
SHGR	Shooshtar-Gavs	1.21	122		Pg	00 06 14.7	+1.5
IKOM	Komasi	1.42	357	*e*Pg	Pg	00 06 17.1	0.0
IKOM				*e*		00 06 19.0	
IBDR	Badra	1.44	285	*e*Pg	Pn	00 06 16.0	+0.7
IBDR				*e*Sg	Sg	00 06 38.0	+1.9
IBDR				AML	AML	00 06 42.1	
	comp=N,2µm,0.5s						
IBDR				AML	AML	00 06 44.4	
	comp=E,2µm,0.4s						
KCHF	Cheshme Sefid,	1.58	343	*e*Pg	Pg	00 06 20.0	-0.3
KCHF				*e*		00 06 44.8	
KCHF	Cheshme Sefid,	1.58	343		Pg	00 06 19.9	-0.3
KER	Kermanshah	1.67	347	P	Pg	00 06 21.5	-0.4
KER	Kermanshah	1.67	347	*e*Pg	Pg	00 06 21.5	-0.4
KER	Kermanshah	1.67	347		Pg	00 06 21.5	-0.4
HSAM	Samen	1.68	30	*e*Pg	Pb	00 06 20.3	-0.3
HSAM				*e*		00 06 25.5	
HSAM	Samen	1.68	30		Pb	00 06 20.3	-0.3
AHWZ	Ahwaz	1.68	147	*e*Pg	Pg	00 06 22.0	-0.1
AHWZ	Ahwaz	1.68	147		Pg	00 06 22.2	+0.1
AHWZ					Sg	00 06 44.6	+0.6
IBZA	Bozab	1.72	8	*e*Pg	Pg	00 06 22.1	-0.9
IBZA				*e*		00 06 26.0	
IGHG	Ghaleghazi	1.78	332	*e*Pn	Pb	00 06 22.4	+0.1
IGHG				*e*		00 06 57.3	
IGHG	Ghaleghazi	1.78	332	Pn	Pb	00 06 22.4	+0.1
IVIS	Veis	1.87	341	*e*Pn	Pn	00 06 21.1	-0.3
IVIS				*e*		00 06 54.9	
NSR	Nassriya	2.13	216	*e*Pn	Pb	00 06 27.0	-1.1
NSR				*e*Sn	Sb	00 06 55.0	+0.6
IALM	Almabolaq	2.15	13	*e*Pn	Pb	00 06 28.2	-0.5
IDHR	Dehrash	2.18	333	*e*Pn	Pn	00 06 25.6	-0.1
IDHR				*e*		00 07 27.4	
KHMZ	Khomeyn	2.22	63	*e*Pn	Pb	00 06 29.4	-0.3
ILIN	Lien	2.22	347	*e*Pn	Pn	00 06 27.9	+1.6
ILIN				*e*		00 07 15.2	
SNGE	Sanandaj	2.34	355	*e*Pn	Pb	00 06 32.4	+0.6
HAGD	Aghdareh	2.43	32	*e*Pn	Pb	00 06 31.5	-1.9
HAGD				*e*		00 07 10.1	
HSRG	Sareghieh	2.54	13	*e*Pn	Pn	00 06 32.5	+1.7
HSRG				*e*		00 07 14.8	
JHBN	Jahan bin	2.66	101	*e*Pn	Pn	00 06 32.4

EIL Sn **Sn** **00 10 38.5 +3.0**
comp=E,0.4nm,0.3s,baz=336,slow=15,SNR=1.3
EIL Lg Lg 00 11 48.0
comp=E,0.4nm,0.3s,baz=103,slow=20,SNR=1.7
EIL Elat 11.25 257 Pn **Pn** **00 08 31.2 +1.2**
KIV Kislovodsk 11.82 342 *eP* **Pn** **00 08 37.7 -0.2**
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,65nm,11.0s
KIV Kislovodsk 11.82 342 Pn **Pn** **00 08 39.7 +1.8**
BR131 Keskin Array S 13.22 306‖ *eP* **Pn** **00 08 59.3 +2.2**
BR131 Keskin Array S 13.22 306 Pn **Pn** **00 08 58.1 +1.0**
BRTR Keskin Array B 13.22 306 Pn **Pn** **00 09 00.8 +3.7**
comp=Z,0.1nm,0.3s,baz=134,slow=14,SNR=8.9
BRTR Keskin Array B 13.22 306 **Pn** **00 08 58.7 +1.6**
WSAR Wadi Sarin 13.60 131 Pn **Pn** **00 08 58.8 -3.3**
comp=Z,0.6nm,0.3s,baz=320,slow=12,SNR=12
MANT Manisa 16.49 296 Pn **Pn** **00 09 41.6 +0.9**
KBL Kabul 17.95 78 P **P** **00 10 00.1 +0.5**
KBL pmax pmax
comp=Z,16nm,1.2s
KBL Kabul 17.95 78 P **P** **00 10 00.1 +0.5**
KBL IAmb IAmb 00 10 05.7
comp=Z,16nm,1.1s
CHGR Chuyangaron 18.47 65 P **Pn** **00 10 05.6 +0.4**
CHGR IAmb IAmb 00 10 12.0
comp=Z,34nm,1.2s
ABKAR Akbulak array 18.89 26 **Pn** **00 10 10.0 -0.2**
VRH Novokhopyorsk 18.93 349 *eP* **P** **00 10 08.6 -1.3**
VRH pmax pmax
comp=Z,20nm,1.5s
IDI Anoyia 18.98 284 P **P** **00 10 10.8 +0.1**
comp=Z,0.5nm,0.3s,baz=95,slow=11,SNR=2.5
IDI Anoyia 18.98 284 P **P** **00 10 11.2 +0.5**
ALN Alexandroupoli 19.03 301 P **Pn** **00 10 12.1 +0.2**
ALN pmax pmax
comp=Z,10.0nm,1.2s
ALN Alexandroupoli 19.03 301 P **Pn** **00 10 12.1 +0.2**
TOPG Topolog 19.19 315 ⇑P **Pn** **00 10 14.9 +1.1**
AKTO Aktyubinsk 19.27 21 P **Pn** **00 10 15.1 +0.3**
comp=Z,0.7nm,0.3s,baz=201,slow=12,SNR=18
AKTO LR LR 00 20 22.5
comp=Z,66nm,19.4s,baz=206,slow=45
TAS Tashkent 19.29 58 P **Pn** **00 10 14.7 -0.4**
TAS pmax pmax
comp=Z,36nm,0.3s
TAS Tashkent 19.29 58 P **Pn** **00 10 14.7 -0.4**
HARR Harsova 19.36 314 ⇑P **Pn** **00 10 17.6 +1.7**
GAR Garm 19.42 65 **Pn** **00 10 16.7 -0.1**
GAR IAmb IAmb 00 10 22.0
comp=Z,17nm,1.2s
VSR Storozhevoye 19.45 344 *eP* **P** **00 10 14.7 -1.0**
VSR pmax pmax
comp=Z,20nm,1.0s
CFR Carcaliu 19.50 315 ⇑P **Pn** **00 10 17.7 +0.2**
CFR Carcaliu 19.50 315 P **Pn** **00 10 17.1 -0.4**
CFR pmax pmax
comp=Z,8.0nm,2.8s
RAZG Razgrad 19.72 309 ⇓P **Pn** **00 10 20.8 +0.6**
BTK Batken 20.04 62 P Pn 00 10 24.3 +0.2
BTK pmax pmax
comp=Z,7.0nm,0.9s
BTK Batken 20.04 62 Pn 00 10 24.3 +0.3
MILM Milestii Mici 20.12 320 ⇓P Pn 00 10 24.7 -0.2
PLD Plovdiv 20.38 304 P Pn 00 10 28.2 +0.2
ISR Istrita 20.43 313 ⇓P Pn 00 10 28.6 -0.1
ISR Istrita 20.43 313 P **P** **00 10 26.3 -0.2**
ISR pmax pmax
comp=Z,19nm,1.5s
VASR Vaslui 20.52 318 ⇑P Pn 00 10 29.4 -0.2
NEHR Nehoiu 20.74 314 ⇓P Pn 00 10 32.2 0.0
PLOR Plostina 20.74 315 ⇑P Pn 00 10 32.1 -0.2
KK31 Karatay Array 20.77 54 P **P** **00 10 30.3 +0.2**
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KK31 Karatay Array 20.77 54 P **P** **00 10 30.3 +0.2**
KKAR Karatay Array 20.77 54 P **P** **00 10 30.7 +0.6**
KKAR pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 20.77 54 P **P** **00 10 30.4 +0.3**
KKAR Karatay Array 20.77 54 P **P** **00 10 30.7 +0.6**
KKAR IAmb IAmb 00 10 34.8
comp=Z,5.7nm,0.9s
LPSR Galich'ya Gora 20.80 345 *eP* **P** **00 10 29.3 -1.0**
LPSR pmax pmax
comp=Z,70nm,0.7s
MLR Muntele Rosu 20.98 314 P Pn 00 10 34.9 -0.2
comp=Z,6.0nm,0.8s,baz=166,slow=12,SNR=9.8
MLR Muntele Rosu 20.98 314 ⇓P Pn 00 10 34.6 -0.5
MLR Muntele Rosu 20.98 314 Pn 00 10 34.0 -1.1
MLR IAmb IAmb 00 10 40.4
comp=Z,7.6nm,0.9s
TESR Tescani 21.10 317 ⇑P **P** **00 10 35.0 +1.4**
SORM Soroca 21.13 322 ⇑P **P** **00 10 35.9 +2.0**
HUMR Humele 21.14 310 ⇓P **P** **00 10 35.8 +1.7**
THE Thessaloniki 21.20 299 P **P** **00 10 36.0 +1.2**
THE pmax pmax
comp=Z,5.0nm,1.5s
ITM Ithomi 21.46 289 P **P** **00 10 35.7 -1.9**
ITM IAmb IAmb 00 10 51.6
comp=Z,14nm,0.7s
NIL Nilore 21.48 81 P **P** **00 10 36.6 -1.3**
NIL pmax pmax
comp=Z,32nm,1.3s
NIL Nilore 21.48 81 P **P** **00 10 36.6 -1.3**
VOIR 21.51 313 ⇓P **P** **00 10 40.2 +2.1**
VOIR 21.51 313 P **P** **00 10 40.0 +1.9**
VOIR pmax pmax
comp=Z,27nm,1.0s
ARSB Arslanbob 21.94 60 P **P** **00 10 41.0 -2.0**
ARSB pmax pmax
comp=Z,10.0nm,1.0s
ARSB Arslanbob 21.94 60 P **P** **00 10 41.0 -2.0**
ARSB IAmb IAmb 00 10 55.7
comp=Z,10nm,1.0s
LOT Lotru 22.31 312 ⇓P **P** **00 10 47.5 +0.7**
KMPD K-Podol'skiy 22.39 321 P **P** **00 10 49.0 +1.6**
AKASG Malin Array Be 22.46 328 P **P** **00 10 49.6 +1.4**
comp=Z,1.4nm,0.5s,baz=134,slow=8.7,SNR=6.9
AKASG Malin Array Be 22.46 328 *ce* **P** **00 10 49.5 +1.4**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 22.46 328 P **P** **00 10 48.0 -0.2**
AKBB Malin Array Si 22.46 328 P **P** **00 10 48.3 +0.1**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 22.46 328 P **P** **00 10 48.3 +0.1**
AKBB IAmb IAmb 00 10 50.2
comp=Z,6.2nm,0.9s
KIEV Kiev 22.46 328 P **P** **00 10 48.0 -0.2**
BURAR Bucovina Array 22.52 318 ⇓P **P** **00 10 49.9 +0.9**
BURAR Bucovina Array 22.52 318 P **P** **00 10 51.8 +2.8**
BURAR Bucovina Array 22.52 318 P **P** **00 10 48.9 -0.1**
BUR08 Bucovina Ar. S 22.55 318 P **P** **00 10 50.0 +0.7**
HERR Herculane 22.95 309 ⇑P **P** **00 10 52.5 -0.9**
MDVR Moldovita 23.37 308 ⇑P **P** **00 10 58.2 +0.4**
AAK Ala-Archa 23.38 57 P **P** **00 10 56.9 -1.1**
comp=Z,0.9nm,0.4s,baz=270,slow=7.1,SNR=1.4
AAK Ala-Archa 23.38 57‖ *eP* **P** **00 10 59.3 +1.3**
AAK pmax pmax
comp=Z,2.0nm,1.0s
AAK Ala-Archa 23.38 57 P **P** **00 10 57.0 -1.1**
OBN Obninsk 23.66 344 P **P** **00 11 01.0 +0.5**
comp=Z,2.4nm,0.4s,baz=156,slow=11,SNR=4.4
OBN Obninsk 23.66 344 *d* *iP* **P** **00 11 00.9 +0.5**
OBN *e**PP **pP** **00 11 04.3 -0.8**
OBN PPP PPP 00 11 33.0
OBN SSS SSS 00 16 07.0
OBN pmax pmax
comp=Z,24nm,1.3s
OBN MLR MLR
comp=Z,36nm,15.0s
OBN Obninsk 23.66 344 P **P** **00 11 00.5 +0.1**
BZS Buzias 23.76 310 ⇑P **P** **00 11 02.0 +0.5**
BZS Buzias 23.76 310 P **P** **00 11 02.4 +0.9**
BZS pmax pmax
comp=Z,4.0nm,1.1s
MOS Moscow 24.01 346 *eP* **P** **00 11 03.8 0.0**
ARU Arti 24.86 15 P **P** **00 11 12.2 +0.6**
comp=Z,0.8nm,0.5s,baz=198,slow=8.0,SNR=5.1
ARU Arti 24.86 15 *c* *iP* **P** **00 11 12.3 +0.7**
ARU S **S** **00 15 36.4 +2.6**
ARU pmax pmax
comp=Z,16nm,1.9s
ARU Arti 24.86 15 P **P** **00 11 11.7 +0.2**
ARU IAmb IAmb 00 11 18.0
comp=Z,5.6nm,0.9s
KOLS Kolonicke sedl 24.89 318 *eP* **P** **00 11 12.4 +0.5**
KOLS pmax pmax
comp=Z,7.0nm,1.1s
KOLS Kolonicke sedl 24.89 318 *eP* **P** **00 11 12.4 +0.5**
KWP Kalwaria Pacla 25.02 320 P **P** **00 11 14.1 +1.1**
KWP pmax pmax
comp=Z,14nm,1.0s
KWP Kalwaria Pacla 25.02 320 P **P** **00 11 14.1 +1.1**
CRVS Cervenica-Dubn 25.33 317 *eP* **P** **00 11 17.3 +1.4**
CRVS pmax pmax
comp=Z,11nm,1.0s
CRVS Cervenica-Dubn 25.33 317 *eP* **P** **00 11 17.3 +1.4**
TARG Taragay, Kyrgy 25.57 61 P **P** **00 11 18.3 -0.3**
TARG IAmb IAmb 00 11 26.2
comp=Z,6.5nm,0.8s
TIP Timpagrande 25.68 293 ⇑P **P** **00 11 18.4 -0.9**
KECS Kecovo 25.70 316 *eP* **P** **00 11 22.3 +3.1**
KECS pmax pmax
comp=Z,10.0nm,0.8s
KECS Kecovo 25.70 316 *eP* **P** **00 11 22.3 +3.1**
SVE Sverdlovsk 25.70 17 *eP* **P** **00 11 24.1 +5.0**
PSZ Piszkesteto 25.80 314 P **P** **00 11 20.8 +0.6**
PSZ pmax pmax
comp=Z,10.0nm,0.9s
PSZ Piszkesteto 25.80 314 P **P** **00 11 20.8 +0.6**
PSZ IAmb IAmb 00 11 23.7
comp=Z,9.5nm,0.9s
KIRV Kirov 25.86 2 P **P** **00 11 22.4 +1.8**
comp=Z,13nm,0.6s,baz=174,slow=11,SNR=4.2
KIRV Kirov 25.86 2‖ *eP* **P** **00 11 22.9 +2.4**
BRVK Borovoye 26.03 32‖ *eP* **P** **00 11 23.4 +1.2**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 26.03 32 P **P** **00 11 22.8 +0.6**
BVAR Borovoye Array 26.06 32 P **P** **00 11 23.1 +0.7**
comp=Z,3.4nm,0.6s,baz=229,slow=7.0,SNR=19
BUD Budapest 26.15 313 P **P** **00 11 25.4 +2.1**
BUD pmax pmax
comp=Z,17nm,0.8s
NIE Niedzica 26.25 317 P **P** **00 11 23.7 -0.6**
NIE pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 26.68 315 *eP* **P** **00 11 29.1 +0.9**
VYHS Vyhne 26.68 315 *eP* **P** **00 11 29.1 +0.9**
OJC Ojcow 26.93 319 P **P** **00 11 30.2 -0.1**
OJC pmax pmax
comp=Z,8.0nm,0.9s
OJC Ojcow 26.93 319 P **P** **00 11 30.2 -0.1**
OJC IAmb IAmb 00 11 34.9
comp=Z,7.6nm,0.9s
VAE Valguarnera 27.46 289 P **P** **00 11 36.5 +1.2**
comp=Z,2.5nm,0.5s,baz=11,slow=18,SNR=1.4
ARSA Arzberg 28.27 310 *i* P **P** **00 11 44.1 +1.6**
comp=Z,3.0nm,0.8s
CONA Conrad Observa 28.29 312 *i* P **P** **00 11 45.8 +3.1**
comp=Z,1.8nm,1.0s
VRAC Vranov 28.37 315 P **P** **00 11 44.9 +1.6**
comp=Z,1.5nm,0.9s,baz=116,slow=9.4,SNR=2.2
SOKA Soboth 28.41 309 *i* P **P** **00 11 45.3 +1.6**
comp=Z,1.6nm,1.0s
KLMR Klimovskoe 28.60 352 *eP* **P** **00 11 41.9 -3.2**
KLMR pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 28.60 352 *eP* **P** **00 11 41.9 -3.2**
KLMR AMP 00 11 45.3
comp=Z,9.0nm,0.8s
KURBB Kurchatov Arra 28.90 43 P **P** **00 11 49.2 +1.3**
comp=Z,3.6nm,0.7s,baz=248,slow=9.3,SNR=19
KURK Kurchatov 28.99 43‖ *eP* **P** **00 11 50.0 +1.2**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 28.99 43 **P** **00 11 49.5 +0.7**
KURK IAmb IAmb 00 11 54.7
comp=Z,4.6nm,0.9s
MOA Molln 29.27 311 *i* P **P** **00 11 52.0 +0.7**
comp=Z,0.2nm,0.4s
KBA Koelnbreinsper 29.64 309 *i* P **P** **00 11 54.7 0.0**
comp=Z,7.5nm,1.6s
MK31 Makanchi Array 29.86 52 P **P** **00 11 57.3 +0.7**
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MK31 Makanchi Array 29.86 52 **P** **00 11 57.3 +0.7**
MKAR Makanchi Array 29.86 52 P **P** **00 11 57.3 +0.7**
comp=Z,1.9nm,0.7s,baz=246,slow=8.1,SNR=19
MKAR LR LR 00 24 12.9
comp=Z,26nm,21.0s,baz=248,slow=37
MKAR Makanchi Array 29.86 52 *ce* **P** **00 11 57.2 +0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 29.86 52 **P** **00 11 56.9 +0.3**
GERES GERESS Array B 29.96 312 P **P** **00 11 59.8 +2.4**
comp=Z,0.6nm,0.8s,baz=90,slow=6.7,SNR=4.7
GERES GERESS Array B 29.96 312 P **P** **00 11 57.5 0.0**
CIMO Cimolais 30.03 307 P **P** **00 11 57.9 -0.1**
CIMO IAmb IAmb 00 11 59.0
comp=Z,2.3nm,0.8s
CTI Castel Tesino 30.50 306 P **P** **00 12 02.4 0.0**
CTI pmax pmax
comp=Z,5.0nm,0.8s
CTI Castel Tesino 30.50 306 P **P** **00 12 02.4 0.0**
CTI IAmb IAmb 00 12 06.1
comp=Z,5.1nm,0.8s
WTTA Wattenberg 30.81 309 *i* P **P** **00 12 05.5 +0.4**
comp=Z,8.4nm,1.4s
WATA Walderalm 30.87 309 *i* P **P** **00 12 04.5 -1.1**
comp=Z,3.0nm,0.7s
VLC Villacollemand 31.03 302 P **P** **00 12 07.2 +0.4**
SQTA Sankt Quirin 31.08 308 *i* P **P** **00 12 07.7 +0.2**
comp=Z,5.4nm,0.8s
MOTA Moosalm 31.18 309 *i* P **P** **00 12 08.2 -0.2**
comp=Z,5.8nm,0.9s
FETA Feichten 31.35 308 *i* P **P** **00 12 08.6 -1.3**
comp=Z,2.8nm,0.8s
RETA Reutte 31.44 309 *i* P **P** **00 12 10.3 -0.3**
comp=Z,1.3nm,0.6s
FINES FINESS Array B 31.90 341 P **P** **00 12 14.7 +0.4**
comp=Z,1.7nm,0.7s,baz=148,slow=9.7,SNR=6.5
FINES FINESS Array B 31.90 341 *i* P **P** **00 12 16.8 +2.5**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 31.90 341 P **P** **00 12 14.1 -0.2**
DAVA Damuels 31.97 308 *i* P **P** **00 12 15.3 0.0**
comp=Z,6.8nm,0.7s
SENIN Lac Senin/Sane 33.53 306 P **P** **00 12 28.6 -0.5**
SENIN IAmb IAmb 00 12 32.0
comp=Z,9.1nm,1.4s
MBDF Montbardon 33.67 303 *eP* **P** **00 12 29.2 -1.0**
MBDF pmax pmax
comp=Z,5.0nm,0.7s
BNI Bardonecchia 33.77 303 P **P** **00 12 31.2 +0.1**
BNI pmax pmax
comp=Z,12nm,0.7s
BNI Bardonecchia 33.77 303 P **P** **00 12 31.2 +0.1**
LPG La Plagne 33.78 304 *eP* **P** **00 12 31.7 +0.4**
LPG pmax pmax
comp=Z,11nm,0.8s
LPL La Plagne 33.79 304 *eP* **P** **00 12 31.0 -0.4**
LPL pmax pmax
comp=Z,14nm,0.9s
ZAA0 Zalesovo Array 33.81 40 P **P** **00 12 30.9 -0.2**
ZAA0 IAmb IAmb 00 12 36.5
comp=Z,4.9nm,0.9s
ZALV Zalesovo Beam 33.81 40 P **P** **00 12 30.4 -0.7**
comp=Z,3.0nm,0.6s,baz=138,slow=13,SNR=5.5
ZALV Zalesovo Beam 33.81 40 **P** **00 12 30.0 -1.0**
DGZ Jazzator, Alta 33.94 48‖ *eP* **P** **00 12 33.6 +1.1**
DGZ pmax pmax
comp=Z,3.0nm,1.0s
CABF La Chapelle 34.40 306 *eP* **P** **00 12 36.2 -0.2**
CABF pmax pmax
comp=Z,19nm,1.1s
KMBO Kilima Mbogo 35.09 198 LR LR 00 27 23.6
comp=Z,50nm,18.2s,baz=76,slow=37
LOR Lormes 36.00 307 *eP* **P** **00 12 49.1 -1.0**
LOR pmax pmax
comp=Z,21nm,1.7s
AVF Avril sur Loir 36.28 306 *eP* **P** **00 12 51.6 -0.9**
AVF pmax pmax
comp=Z,6.0nm,1.1s
NOA NORSAR Array B 36.81 331 P **P** **00 12 57.7 +0.8**
comp=Z,0.7nm,0.6s,baz=125,slow=8.7,SNR=3.4
ARCES ARCESS Array B 38.86 348 P **P** **00 13 14.1 +0.1**
comp=Z,0.7nm,0.4s,baz=156,slow=8.6,SNR=15
ARCES ARCESS Array B 38.86 348 P **P** **00 13 13.9 -0.1**
FLN La Foliniere 39.07 309 *eP* **P** **00 13 18.3 +2.2**
FLN pmax pmax
comp=Z,35nm,1.5s
SHL Shillong 39.12 89 P **P** **00 13 15.4 -1.6**
SHL pmax pmax
comp=Z,23nm,1.4s
SHL Shillong 39.12 89 P **P** **00 13 15.4 -1.6**
GRR Gorron 39.28 308 *eP* **P** **00 13 20.8 +2.9**
GRR pmax pmax
comp=Z,45nm,1.7s
SJPF Ste Jean 39.37 300 *eP* **P** **00 13 18.2 -0.5**
SJPF pmax pmax
comp=Z,18nm,1.5s
BRDH Bariadhala 40.03 93 P **P** **00 13 21.0 -3.3**
comp=Z,114nm,0.7s,baz=89,slow=0.2,SNR=3.1
ESDC Sonseca Array 41.68 295 P **P** **00 13 37.5 -0.5**
comp=Z,1.1nm,1.0s,baz=68,slow=7.9,SNR=6.1
ESDC Sonseca Array 41.68 295 P **P** **00 13 37.0 -0.9**
EKA Eskdalemuir Ar 41.70 318 P **P** **00 13 37.0 -0.8**
comp=Z,1.0nm,0.5s,baz=105,slow=8.7,SNR=3.4
NRIK Noril'sk 42.89 20 LR LR 00 36 04.1
comp=Z,35nm,18.7s,baz=234,slow=42
TOA0 Torodi Ar. Sit 46.13 256 P **P** **00 14 11.7 -2.1**
TOA0 IAmb IAmb 00 14 15.1
comp=Z,2.2nm,1.1s
TORD Torodi Ar. Bea 46.13 256 P **P** **00 14 13.0 -0.8**
comp=Z,0.8nm,0.8s,baz=68,slow=5.6,SNR=8.7
TORD Torodi Ar. Bea 46.13 256 P **P** **00 14 12.6 -1.2**
SONM Songino Array 46.22 53 P **P** **00 14 15.2 +0.9**
comp=Z,0.8nm,0.4s,baz=274,slow=8.8,SNR=5.2
SONM LR LR 00 36 28.0
comp=Z,31nm,18.9s,baz=238,slow=40
SONM Songino Array 46.22 53 P **P** **00 14 13.5 -0.8**
ULN Ulaanbaatar 46.66 53⇑ *eP* **P** **00 14 18.4 +0.6**
ULN pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 46.66 53 P **P** **00 14 16.8 -1.0**
ULN IAmb IAmb 00 14 23.5
comp=Z,5.7nm,0.9s
CMAR Chiang Mai Arr 48.02 94 P **P** **00 14 27.8 -0.8**
comp=Z,1.1nm,0.3s,baz=291,slow=9.3,SNR=4.6
CMAR LR LR 00 39 49.8
comp=Z,15nm,18.6s,baz=295,slow=43
DBIC Dimbokro 55.09 254 LR LR 00 42 06.1
comp=Z,42nm,18.2s,baz=52,slow=40
KLR Kul'dur 62.43 47‖ *eP* **P** **00 16 11.9 -0.2**
KLR pmax pmax
comp=Z,2.0nm,1.0s
JCJ Chichijima 79.41 65 LR LR 00 55 07.1
comp=Z,208nm,20.5s,baz=242,slow=37

TEH ***19*** *00:09:06.6,32.˚62N×47.˚67E,h10km,ML3.2*
ISN ***19*** *00:09:07.1±1.2,32.˚69N×47.˚75E,h15km±6km,ML2.9*
ISC 19 00:09:08.2±1.1**,32.˚63N**±0.˚05×**47.˚70E**±0.˚04,**h10**km,**n23,**
σ1§11/26,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.90**	**8**	*e*Pg	**Pg**	**00 09 24.8**	**-0.8**
IKFM				*e*		00 09 39.4	
IKMR	**Kamar-syah**	**1.05**	**32**	*e*Pg	**Pg**	**00 09 27.0**	**-1.5**
IKMR				*e*		00 09 46.9	
IDOB	**Doab**	**1.22**	**19**	*e*Pg	**Pb**	**00 09 30.6**	**-1.0**
IDOB				*e*		00 09 55.1	
BMDN	**Meydan**	**1.40**	**42**	*e*Pg	**Pn**	**00 09 34.2**	**+0.2**
BMDN				*e*		00 10 04.4	
IKOM	**Komasi**	**1.55**	**354**	*e*Pg	**Pn**	**00 09 36.6**	**+0.6**
IKOM				*e*		00 09 40.9	
IBDR	**Badra**	**1.57**	**288**	*e*Pg	**Pn**	**00 09 36.0**	**-0.1**
IBDR				*e*Sg	**Sn**	**00 09 57.0**	**+0.5**
IBDR				AML	AML	00 10 01.4	
IBDR	comp=E,178nm,0.4s			AML	AML	00 10 04.3	
KCHF	**Cheshme Sefid,**	**1.73**	**342**	*e*Pg	**Pn**	**00 09 39.1**	**+0.5**
KCHF	comp=N,204nm,0.6s			*e*		00 10 05.6	
HSAM	**Samen**	**1.75**	**25**	*e*Pg	**Pn**	**00 09 40.3**	**+1.4**
HSAM				*e*		00 10 08.3	
KER	**Kermanshah**	**1.82**	**345**	*e*Pn	**Pn**	**00 09 40.4**	**+0.7**
IBZA	**Bozab**	**1.84**	**4**	*e*Pg	**Pn**	**00 09 41.3**	**+1.2**
IBZA				*e*		00 10 10.3	
IGHG	**Ghaleghazi**	**1.94**	**331**	*e*Pg	**Pn**	**00 09 43.9**	**+2.4**
IGHG				*e*		00 10 20.5	
IVIS	**Veis**	**2.02**	**340**	*e*Pn	**Pn**	**00 09 42.7**	**+0.2**
IVIS				*e*		00 10 16.4	
NSR	**Nassriya**	**2.09**	**220**	*e*Pn	**Pn**	**00 09 44.0**	**+0.7**
NSR				*e*Sn	**Sn**	**00 10 10.0**	**+0.6**
IDHR	**Dehrash**	**2.34**	**332**	*e*Pn	**Pn**	**00 09 48.0**	**+1.1**
IDHR				*e*		00 10 27.1	
ILIN	**Lien**	**2.37**	**345**	*e*Pn	**Pn**	**00 09 47.9**	**+0.6**
ILIN				*e*		00 10 29.5	
HAGD	**Aghdareh**	**2.49**	**28**	*e*Pn	**Pn**	**00 09 50.4**	**+1.3**
HAGD				*e*		00 10 29.8	
JHBN	**Jahan bin**	**2.54**	**98**	*e*Pn	**Pn**	**00 09 50.2**	**+0.5**
JHBN				*e*		00 10 43.8	
HSRG	**Sareghieh**	**2.65**	**10**	*e*Pn	**Pn**	**00 09 51.9**	**+0.6**
HSRG				*e*		00 10 38.2	
IPIR	**Pirpir**	**2.69**	**88**	*e*Pn	**Pn**	**00 09 52.5**	**+0.7**
IPIR				*e*		00 10 47.7	
BHD	**Baghdad**	**2.87**	**284**	*e*Pn	**Pn**	**00 09 54.0**	**0.0**
BHD				*e*Sn	**Sn**	**00 10 30.0**	**+1.5**
IKLH	**Kolahrood**	**3.33**	**77**	*e*Pn	**Pn**	**00 10 02.2**	**+1.6**
IKLH				*e*		00 11 00.9	
IRAZ	**Razeghan**	**3.33**	**33**	*e*Pn	**Pn**	**00 10 01.2**	**+0.7**
QABG	**Abgarm-Qazvin**	**3.44**	**26**	*e*Pn	**Pn**	**00 10 04.1**	**+1.9**

ISN ***19*** *00:14:52.0±1.6,32.˚57N×47.˚73E,h15km±8km,ML2.7*
TEH ***19*** *00:14:53.5,32.˚58N×47.˚71E,h10km,ML3.0*
ISC 19 00:14:53.9±1.0**,32.˚49N**±0.˚04×**47.˚66E**±0.˚04,**h10**km,**n38,**
σ1§16/40,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.04**	**111**	*e*Pg	**Pg**	**00 15 12.9**	**-1.0**
IKFM	**Kafar-mosalman**	**1.04**	**9**	*e*Pg	**Pb**	**00 15 12.3**	**-1.7**
IKFM				*e*		00 15 32.7	
IKMR	**Kamar-syah**	**1.19**	**30**	*e*Pg	Pn	00 15 14.0	-2.6
IKMR				*e*		00 15 37.4	
IDOB	**Doab**	**1.36**	**18**	*e*Pg	**Pn**	**00 15 18.8**	**-0.4**
AHWZ	**Ahwaz**	**1.43**	**144**	*e*Pg	**Pg**	**00 15 22.5**	**+1.2**
BMDN	**Meydan**	**1.53**	**39**	*e*Pg	**Pn**	**00 15 21.4**	**-0.1**
BMDN				*e*		00 15 50.6	
IBDR	**Badra**	**1.58**	**293**	*e*Pg	**Pn**	**00 15 21.0**	**-1.0**
IBDR				*e*Sg	**Sn**	**00 15 43.0**	**+0.5**
IBDR				AML	AML	00 15 50.9	
IBDR	comp=E,68nm,0.4s			AML	AML	00 15 51.7	
IKOM	**Komasi**	**1.68**	**356**	*e*Pg	**Pn**	**00 15 23.5**	**-0.1**
IKOM				*e*		00 15 28.7	
KCHF	**Cheshme Sefid,**	**1.85**	**344**	*e*Pn	**Pn**	**00 15 25.8**	**-0.1**
KCHF				*e*		00 15 58.0	
HSAM	**Samen**	**1.89**	**24**	*e*Pg	**Pn**	**00 15 27.3**	**+0.8**
HSAM				*e*		00 16 01.9	
KER	**Kermanshah**	**1.94**	**347**	*e*Pg	**Pn**	**00 15 28.3**	**+1.2**
NSR	**Nassriya**	**1.96**	**222**	*e*Pn	**Pn**	**00 15 28.0**	**+0.8**
NSR				*e*Sn	**Sn**	**00 15 52.0**	**+0.1**
IBZA	**Bozab**	**1.98**	**5**	*e*Pg	**Pn**	**00 15 29.0**	**+1.3**
IBZA				*e*		00 16 02.5	
IGHG	**Ghaleghazi**	**2.05**	**334**	*e*Pg	**Pn**	**00 15 31.5**	**+2.9**
IGHG				*e*		00 16 08.2	
IVIS	**Veis**	**2.14**	**342**	*e*Pn	**Pn**	**00 15 30.0**	**+0.2**
IVIS				*e*		00 15 39.3	
KHMZ	**Khomeyn**	**2.30**	**57**	*e*Pn	**Pn**	**00 15 33.3**	**+1.3**
IALM	**Almabolaq**	**2.40**	**10**	*e*Pn	**Pn**	**00 15 35.2**	**+1.7**
IDHR	**Dehrash**	**2.45**	**335**	*e*Pn	**Pn**	**00 15 35.5**	**+1.4**
IDHR				*e*		00 15 42.2	
ILIN	**Lien**	**2.49**	**347**	*e*Pn	**Pn**	**00 15 36.2**	**+1.5**
ILIN				*e*		00 16 22.6	
JHBN	**Jahan bin**	**2.56**	**95**	*e*Pn	**Pn**	**00 15 36.5**	**+0.8**
JHBN				*e*		00 16 25.9	
SNGE	**Sanandaj**	**2.61**	**354**	*e*Pn	**Pn**	**00 15 38.3**	**+2.0**
HAGD	**Aghdareh**	**2.63**	**28**	*e*Pn	**Pn**	**00 15 37.7**	**+1.0**
HAGD				*e*		00 15 44.2	
IPIR	**Pirpir**	**2.74**	**85**	*e*Pn	**Pn**	**00 15 39.3**	**+1.2**
IPIR				*e*		00 16 23.4	
HSRG	**Sareghieh**	**2.79**	**10**	*e*		00 13 00.3	
HSRG				*e*Pn	**Pn**	**00 15 40.4**	**+1.5**

ASAO	**Ashtian**	**2.85**	**43**	*e*Pn	**Pn**	**00 15 41.2**	**+1.5**
ROKH	**ROKH**	**2.86**	**92**	*e*Pn	**Pn**	**00 15 40.3**	**+0.5**
ROKH				*e*		00 16 18.2	
BHD	**Baghdad**	**2.87**	**287**	*e*Pn	**Pn**	**00 15 39.0**	**-0.6**
BHD				*e*Sn	**Sn**	**00 16 15.0**	**+0.8**
BHD				AML	AML	00 16 26.4	
	comp=E,59nm,0.3s						
IKLH	**Kolahrood**	**3.40**	**75**	*e*Pn	**Pn**	**00 15 48.6**	**+1.4**
IKLH				*e*		00 16 48.0	
IRAZ	**Razeghan**	**3.46**	**32**	*e*Pn	**Pn**	**00 15 49.6**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.58**	**26**	*e*Pn	**Pn**	**00 15 49.9**	**+0.1**
KLNJ	**Kolanjah**	**3.66**	**113**	*e*Pn	**Pn**	**00 15 51.9**	**+1.0**
KLNJ				*e*		00 16 38.5	
IGAR	**Gharneh**	**3.71**	**90**	*e*Pn	**Pn**	**00 15 52.0**	**+0.6**
IGAR				*e*		00 15 53.9	
IZEF	**Zefreh**	**3.96**	**83**	*e*Pn	**Pn**	**00 15 56.0**	**+1.1**
IRAM	**Ramesheh**	**4.06**	**98**	*e*Pn	**Pn**	**00 15 55.6**	**-0.7**
QSDN	**Sirdan**	**4.19**	**17**	*e*Pn	**Pn**	**00 15 59.4**	**+1.3**
ISAD	**Sadrabad**	**5.14**	**95**	*e*Pn	**Pn**	**00 16 11.6**	**+0.4**
ANAR	**Anarak**	**5.16**	**81**	*e*Pn	**Pn**	**00 16 11.3**	**0.0**
IANJ	**Anjilo**	**5.98**	**59**	*e*Pn	**Pn**	**00 16 22.1**	**-0.6**

THR ***19*** *00:24:33.4±0.5, 32.81N×47.58E, h14km±6km, ML3.9*
TEH ***19*** *00:24:34.4, 32.65N×47.57E, h11km, ML3.7*
IDC ***19*** *00:24:34.9±2.0, 32.94N×47.63E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.6/44, mbtmp3.7/10, ML3.3/2, Error ellipse: s-maj=42.7km s-min=18.6km az=164.0*
ISN ***19*** *00:24:34.8±0.8, 32.69N×47.68E, h14km±5km, ML3.3*

ISC 19 00:24:35.3±0.7,**32.67N**±0.04×**47.64E**±0.04,**h10km**,**n76**, σ1**9**45/79,**mb3.7/8**,**7C-1D**,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.87**	**12**	*e*Pg	**Pg**	**00 24 52.9**	**+0.8**
IKFM				*e*		00 25 13.0	
IKMR	**Kamar-syah**	**1.05**	**36**	*e*Pg	**Pg**	**00 24 55.7**	**+0.2**
IKMR				*e*		00 25 15.5	
SHGR	**Shooshtar-Gavs**	**1.13**	**119**	*e*Pg	**Pb**	**00 24 56.4**	**-0.6**
SHGR				IAML		00 25 19.3	
	comp=E,2μm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.13**	**119**	*e*Pg	**Pb**	**00 24 56.4**	**-0.6**
IDOB	**Doab**	**1.20**	**22**	*e*Pg	**Pb**	**00 24 58.2**	**-0.1**
BMDN	**Meydan**	**1.41**	**45**	*e*Pg	**Pn**	**00 25 02.3**	**+1.1**
BMDN				*e*		00 25 30.7	
IKOM	**Komasi**	**1.50**	**356**	*e*		00 25 04.7	
IKOM				*e*Pg	**Pn**	**00 25 03.5**	**+1.0**
IBDR	**Badra**	**1.50**	**287**	*e*Pn	**Pn**	**00 25 03.0**	**+0.6**
IBDR				*e*Sg	**Sn**	**00 25 03.0**	**+1.0**
IBDR				AML	AML	00 25 27.0	
	comp=E,452nm,0.5s						
IBDR				AML	AML	00 25 27.3	
	comp=N,556nm,0.5s						
AHWZ	**Ahwaz**	**1.59**	**147**	*e*Pg	**Pn**	**00 25 05.7**	**+2.2**
KCHF	**Cheshme Sefid,**	**1.68**	**343**	*e*		00 25 31.2	
KCHF				*e*Pg	**Pn**	**00 25 05.7**	**+0.8**
HSAM	**Samen**	**1.73**	**27**	*e*		00 25 36.9	
HSAM				*e*Pg	**Pn**	**00 25 07.6**	**+1.8**
KER	**Kermanshah**	**1.76**	**346**	*e*Pg	**Pn**	**00 25 07.2**	**+1.2**
IBZA	**Bozab**	**1.80**	**6**	*e*		00 25 43.6	
IBZA				*e*Pn	**Pn**	**00 25 08.3**	**+1.6**
IGHG	**Ghaleghazi**	**1.88**	**332**	*e*		00 25 55.8	
IGHG				*e*Pn	**Pn**	**00 25 08.8**	**+1.0**
IVIS	**Veis**	**1.96**	**341**	*e*Pn	**Pn**	**00 25 10.3**	**+1.5**
IVIS				*e*		00 25 42.4	
NSR	**Nassriya**	**2.09**	**218**	*e*Pn	**Pn**	**00 25 11.0**	**+0.6**
NSR				*e*Sn	**Sn**	**00 25 37.0**	**+0.5**
KHMZ	**Khomeyn**	**2.22**	**61**	*e*Pn	**Pn**	**00 25 12.0**	**-0.4**
KHMZ	**Khomeyn**	**2.22**	**61**	*e*Pn	**Pn**	**00 25 12.0**	**-0.4**
IALM	**Almabolaq**	**2.23**	**11**	*e*Pn	**Pn**	**00 25 14.3**	**+1.7**
IDHR	**Dehrash**	**2.28**	**333**	*e*Pn	**Pn**	**00 25 14.1**	**+0.9**
IDHR				*e*		00 25 53.1	
ILIN	**Lien**	**2.31**	**346**	*e*Pn	**Pn**	**00 25 14.7**	**+1.0**
ILIN				*e*		00 25 54.1	
SNGE	**Sanandaj**	**2.43**	**354**	*e*Pn	**Pn**	**00 25 12.8**	**-2.5**
HAGD	**Aghdareh**	**2.48**	**30**	*e*Pn	**Pn**	**00 25 17.9**	**+1.8**
HAGD				*e*		00 26 02.9	
JHBN	**Jahan bin**	**2.60**	**99**	*e*Pn	**Pn**	**00 25 19.2**	**+1.5**
JHBN				*e*		00 26 16.1	
HSRG	**Sareghieh**	**2.62**	**12**	*e*Pn	**Pn**	**00 25 20.4**	**+2.4**
HSRG				*e*		00 26 11.4	
ASAO	**Ashtian**	**2.73**	**46**	*e*Pn	**Pn**	**00 25 18.4**	**-1.1**
ASAO				*e*Sg	**Sb**	**00 25 57.3**	**-0.8**
ASAO	**Ashtian**	**2.73**	**46**	*e*Pn	**Pn**	**00 25 18.4**	**-1.1**
IPIR	**Pirpir**	**2.74**	**89**	*e*Pn	**Pn**	**00 25 21.5**	**+1.8**
IPIR				*e*		00 26 08.4	
BHD	**Baghdad**	**2.80**	**283**	*e*Pn	**Pn**	**00 25 21.0**	**+0.8**
BHD				*e*Sn	**Sn**	**00 25 56.0**	**+1.9**
BHD				AML	AML	00 26 17.4	
	comp=E,176nm,0.3s						
ROKH	**ROKH**	**2.89**	**96**	*e*Pn	**Pn**	**00 25 23.7**	**+2.1**
ROKH				*e*		00 26 29.5	
IRAZ	**Razeghan**	**3.32**	**34**	*e*Pn	**Pn**	**00 25 30.4**	**+2.8**
IKLH	**Kolahrood**	**3.37**	**78**	*e*Pn	**Pn**	**00 25 30.5**	**+2.2**
IKLH				*e*		00 26 35.1	
QABG	**Abgarm-Qazvin**	**3.43**	**27**	*e*Pn	**Pn**	**00 25 30.3**	**+1.2**
IGAR	**Gharneh**	**3.73**	**93**	*e*Pn	**Pn**	**00 25 34.4**	**+1.2**
KLNJ	**Kolanjah**	**3.75**	**115**	*e*Pn	**Pn**	**00 25 34.8**	**+1.2**
KLNJ				*e*		00 27 01.3	
IMHD	**Mahdasht**	**3.92**	**39**	*e*Pn	**Pn**	**00 25 37.2**	**+1.6**
IZEF	**Zefreh**	**3.96**	**86**	*e*Pn	**Pn**	**00 25 38.2**	**+1.8**
QSDN	**Sirdan**	**4.03**	**18**	*e*Pn	**Pn**	**00 25 39.2**	**+1.9**
IRAM	**Ramesheh**	**4.11**	**101**	*e*Pn	**Pn**	**00 25 39.1**	**+0.7**
IGZV	**Ghazvin**	**4.27**	**29**	*e*Pn	**Pn**	**00 25 42.1**	**+1.4**
MAHB	**Mahabad**	**4.38**	**339**	*e*Pn	**Pn**	**00 25 42.2**	**+0.1**
QALM	**Alamut, Qazvin**	**4.50**	**33**	*e*Pn	**Pn**	**00 25 44.7**	**+0.9**
IDMV	**Damavand**	**4.65**	**50**	*e*Pn	**Pn**	**00 25 47.2**	**+1.2**
ISRB	**Sarab**	**5.14**	**0**	*e*Pn	**Pn**	**00 25 54.5**	**+1.9**
ANAR	**Anarak**	**5.15**	**83**	*e*Pn	**Pn**	**00 25 52.9**	**+0.3**
IFIR	**Firoozkooh**	**5.17**	**54**	*e*Pn	**Pn**	**00 25 54.6**	**+1.5**
ISAD	**Sadrabad**	**5.17**	**97**	*e*Pn	**Pn**	**00 25 53.9**	**+0.8**
ILAS	**Lasjerd**	**5.18**	**57**	*e*Pn	**Pn**	**00 25 54.4**	**+1.3**
IPRN	**Peran**	**5.27**	**48**	*e*Pn	**Pn**	**00 25 55.8**	**+1.6**
IALA	**Alasht**	**5.46**	**50**	*e*Pn	**Pn**	**00 25 59.3**	**+2.2**
ISHM	**Shahmirzad**	**5.63**	**55**	*e*Pn	**Pn**	**00 25 59.8**	**+0.4**
ICHK	**Chekchek**	**5.74**	**92**	*e*Pn	**Pn**	**00 26 01.7**	**+0.9**
IANJ	**Anjilo**	**5.91**	**60**	*e*Pn	**Pn**	**00 26 03.5**	**+0.4**
IMEH	**Mehriz**	**6.06**	**100**	*e*Pn	**Pn**	**00 26 05.2**	**0.0**
ASF	**Jabal al Asfar**	**9.10**	**270**	Pn	**Pn**	**00 26 46.4**	**-0.3**
	comp=E,0.3nm,0.3s,baz=70,slow=8.7,SNR=2.0						
ASF				Sn	Sn	00 28 21.3	-8.0
	comp=E,0.2nm,0.3s,baz=286,slow=2.4,SNR=2.2						
ASF				Lg	Lg	00 29 27.6	
	comp=E,0.1nm,0.3s,baz=238,slow=22,SNR=2.4						
ISFR	**Sfrayin**	**9.57**	**60**	*e*Pn	**Pn**	**00 26 55.3**	**+1.9**
EIL	**Elat**	**11.27**	**258**	Lg	Lg	00 30 39.5	
	comp=E,0.5nm,0.3s,baz=82,slow=18,SNR=1.8						
AKTO	**Aktyubinsk**	**19.34**	**20**	P	**P**	**00 29 00.7**	**-0.1**
	comp=E,0.1nm,0.3s,baz=216,slow=14,SNR=5.3						
NEHR	**Nehoiu**	**20.83**	**314**	⇑P	**P**	**00 29 17.9**	**+0.9**
MLR	**Muntele Rosu**	**21.07**	**314**	P	**P**	**00 29 19.9**	**+0.1**
	comp=E,2.9nm,0.8s,baz=210,slow=15,SNR=4.5						
MLR	**Muntele Rosu**	**21.07**	**314**	⇓P	**P**	**00 29 23.9**	**+4.1**
TESR	**Tescani**	**21.19**	**317**	⇑P	**P**	**00 29 19.8**	**-1.1**
SORM	**Soroca**	**21.22**	**322**	⇑P	**P**	**00 29 20.7**	**-0.5**
VOIR		**21.60**	**313**	⇑P	**P**	**00 29 25.0**	**-0.4**
DOPR	**Dopca**	**21.65**	**314**	⇑P	**P**	**00 29 23.7**	**-2.2**
LOT	**Lotru**	**22.40**	**312**	⇑P	**P**	**00 29 31.7**	**-2.3**
AKASG	**Malin Array Be**	**22.55**	**328**	P	**P**	**00 29 32.8**	**-2.7**
	comp=E,0.4nm,0.4s,baz=142,slow=7,9,SNR=2.0						
MDVR	**Moldovita**	**23.46**	**309**	⇑P	**P**	**00 29 45.3**	**+0.4**
KOLS	**Kolonicke sedl**	**24.98**	**318**	*e*P	**P**	**00 29 57.5**	**-1.5**
BVAR	**Borovoye Array**	**26.10**	**32**	P	**P**	**00 30 07.7**	**-1.5**
	comp=E,0.8nm,0.9s,baz=226,slow=8.0,SNR=5.0						
VYHS	**Vyhne**	**26.77**	**315**	*e*P	**P**	**00 30 15.1**	**-0.2**
KURBB	**Kurchatov Arra**	**28.93**	**43**	P	**P**	**00 30 34.4**	**-0.2**
	comp=E,1.2nm,0.8s,baz=249,slow=9.5,SNR=7.2						
MKAR	**Makanchi Array**	**29.88**	**52**	P	**P**	**00 30 42.6**	**-0.5**
	comp=E,1.0nm,0.7s,baz=251,slow=7.5,SNR=12						
FINES	**FINESS Array B**	**32.00**	**341**	P	**P**	**00 30 59.9**	**-1.5**
	comp=E,4.3nm,1.0s,baz=136,slow=7.0,SNR=3.8						
ARCES	**ARCESS Array B**	**38.95**	**348**	P	**P**	**00 31 59.3**	**-1.9**
	comp=E,1.9nm,1.0s,baz=164,slow=9.9,SNR=7.9						
TORD	**Torodi Ar. Bea**	**46.15**	**256**	P	**P**	**00 33 01.7**	**+1.4**
	comp=E,0.6nm,1.0s,baz=58,slow=8.5,SNR=2.7						

IDC ***19*** *00:28:51.8±1.1, 32.62N×47.49E, h0km, mb3.9/18, mb1 4.0/22, mb1mx3.9/53, mbtmp3.9/22, ML3.6/4, MS3.0/11, Ms1 3.0/11, ms1mx2.7/57, Error ellipse: s-maj=24.3km s-min=13.0km az=178.0*
ISN ***19*** *00:28:54.6±1.1, 32.83N×47.60E, h17km±7km, ML3.8*
TEH ***19*** *00:28:54.7, 32.81N×47.58E, h12km, ML4.0*
THR ***19*** *00:28:55.7±0.5, 32.76N×47.56E, h14km±9km, ML4.0*
NEIC ***19*** *00:28:57.0±1.4, 32.70N±0.05×47.55E±0.06, h38km±9km, Error ellipse: s-maj=8.4km s-min=6.8km az=52.0*

ISC 19 00:28:54.5±1.1,**32.80N**±0.03×**47.57E**±0.03,**h15**km±8**km**,
n192,σ1**9**54/192,**mb4.1**/43,**10C-5D**,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.76**	**18**	*e*Pg	**Pg**	**00 29 08.7**	**-0.7**
IKFM	**Kafar-mosalman**	**0.76**	**18**	Pg	**Pg**	**00 29 08.7**	**-0.7**
IKMR	**Kamar-syah**	**0.99**	**43**	*e*Pg	**Pb**	**00 29 13.0**	**-0.5**
IKMR				*e*		00 29 36.6	
IKMR	**Kamar-syah**	**0.99**	**43**	Pg	**Pb**	**00 29 12.9**	**-0.5**
IDOB	**Doab**	**1.11**	**27**	*e*Pg	**Pn**	**00 29 16.4**	**+0.6**
IDOB	**Doab**	**1.11**	**27**	Pg	**Pn**	**00 29 16.4**	**+0.6**
SHGR	**Shooshtar-Gavs**	**1.25**	**123**	*e*Pg	**Pg**	**00 29 18.6**	**0.0**
SHGR				IAML		00 29 51.6	
	comp=N,3μm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.25**	**123**	*e*Pg	**Pg**	**00 29 18.6**	**0.0**
SHGR	**Shooshtar-Gavs**	**1.25**	**123**		**Pg**	**00 29 18.5**	**0.0**
BMDN	**Meydan**	**1.37**	**50**	*e*Pg	**Pg**	**00 29 20.5**	**-0.5**
BMDN				*e*		00 29 48.9	
BMDN	**Meydan**	**1.37**	**50**		**Pg**	**00 29 20.4**	**-0.5**
IKOM	**Komasi**	**1.38**	**358**	*e*Pg	**Pg**	**00 29 21.0**	**-0.1**
IKOM				*e*		00 29 23.5	
IKOM	**Komasi**	**1.38**	**358**		**Pg**	**00 29 20.9**	**-0.1**
IBDR	**Badra**	**1.41**	**283**	*e*Pg	**Pb**	**00 29 21.0**	**+0.4**
IBDR				*e*Sg	**Sg**	**00 29 40.0**	**-0.1**
IBDR				AML	AML	00 29 44.8	
	comp=N,2μm,0.4s						
IBDR				AML	AML	00 29 51.8	
	comp=E,1μm,0.8s						
KCHF	**Cheshme Sefid,**	**1.54**	**343**	*e*Pg	**Pg**	**00 29 23.7**	**-0.5**
KCHF				*e*		00 29 51.9	
KCHF	**Cheshme Sefid,**	**1.54**	**343**		**Pg**	**00 29 23.7**	**-0.5**
KER	**Kermanshah**	**1.63**	**347**	*e*Pg	**Pb**	**00 29 25.1**	**+0.7**
KER	**Kermanshah**	**1.63**	**347**		**Pb**	**00 29 25.1**	**+0.7**
HSAM	**Samen**	**1.66**	**31**	*e*Pg	**Pg**	**00 29 25.9**	**-0.5**
HSAM				*e*		00 29 53.8	
HSAM	**Samen**	**1.66**	**31**	Pg	**Pb**	**00 29 25.4**	**+0.5**
IBZA	**Bozab**	**1.69**	**8**	*e*Pg	**Pg**	**00 29 26.8**	**-0.2**
IBZA				*e*		00 29 30.3	
IBZA	**Bozab**	**1.69**	**8**	Pg	**Pg**	**00 29 26.8**	**-0.2**
AHWZ	**Ahwaz**	**1.72**	**148**	*e*Pg	**Pb**	**00 29 26.6**	**+0.7**
AHWZ	**Ahwaz**	**1.72**	**148**	Pg	**Pb**	**00 29 26.6**	**+0.7**
AHWZ				Sg	**Sg**	**00 29 50.3**	**+0.3**
IGHG	**Ghaleghazi**	**1.74**	**332**	*e*Pg	**Pb**	**00 29 27.1**	**+0.7**
IGHG				*e*		00 30 15.4	
IGHG	**Ghaleghazi**	**1.74**	**332**	Pg	**Pb**	**00 29 27.1**	**+0.7**
IVIS	**Veis**	**1.83**	**341**	*e*Pn	**Pb**	**00 29 27.7**	**-0.1**
IVIS				*e*		00 29 59.5	
IALM	**Almabolaq**	**2.12**	**13**	*e*Pn	**Pb**	**00 29 32.8**	**0.0**
IDHR	**Dehrash**	**2.14**	**333**	*e*Pn	**Pb**	**00 29 32.4**	**-0.8**
IDHR				*e*		00 30 10.0	
IDHR	**Dehrash**	**2.14**	**333**	Pn	**Pn**	**00 29 31.8**	**+1.9**
NSR	**Nassriya**	**2.15**	**215**	*e*Pn	**Pn**	**00 29 32.0**	**+2.1**
NSR				*e*Sn	**Sn**	**00 29 58.0**	**+1.6**
ILIN	**Lien**	**2.18**	**347**	*e*Pn	**Pb**	**00 29 32.9**	**-0.9**
SNGE	**Sanandaj**	**2.30**	**355**	*e*Pn	**Pb**	**00 29 35.7**	**-0.1**
SNGE	**Sanandaj**	**2.30**	**355**	*e*Pn	**Pb**	**00 29 35.7**	**-0.1**
HAGD	**Aghdareh**	**2.41**	**32**	*e*Pn	**Pb**	**00 29 36.8**	**-0.9**
HAGD				*e*		00 30 20.4	
HSRG	**Sareghieh**	**2.51**	**13**	*e*Pn	**Pb**	**00 29 39.4**	**-0.1**
JHBN	**Jahan bin**	**2.68**	**101**	*e*Pn	**Pn**	**00 29 39.4**	**+2.0**
ASAO	**Ashtian**	**2.69**	**49**	*e*Pn	**Pb**	**00 29 41.5**	**-1.1**
ASAO				*e*Sg	**Sg**	**00 30 21.0**	**-0.1**
ASAO	**Ashtian**	**2.69**	**49**	*e*Pn	**Pb**	**00 29 41.5**	**-1.1**
BHD	**Baghdad**	**2.72**	**281**	*e*Pn	**Pn**	**00 29 39.0**	**+1.3**
BHD				*e*Sn	**Sn**	**00 30 13.0**	**+2.7**
IPIR	**Pirpir**	**2.80**	**91**	*e*Pn	**Pn**	**00 29 41.3**	**+2.2**
IPIR				*e*		00 30 34.6	
ROKH	**ROKH**	**2.96**	**98**	*e*Pn	**Pn**	**00 29 42.5**	**+1.3**
ROKH				*e*		00 30 45.2	
IRAZ	**Razeghan**	**3.26**	**36**	*e*Pn	**Pb**	**00 29 49.1**	**-3.1**
QABG	**Abgarm-Qazvin**	**3.35**	**29**	*e*Pn	**Pn**	**00 29 49.2**	**+2.6**
IKLH	**Kolahrood**	**3.41**	**80**	*e*Pn	**Pn**	**00 29 49.9**	**+2.5**
IKLH				*e*		00 30 55.6	
IGAR	**Gharneh**	**3.79**	**95**	*e*Pn	**Pn**	**00 29 54.1**	**+1.4**
KLNJ	**Kolanjah**	**3.86**	**116**	*e*Pn	**Pn**	**00 29 55.4**	**+1.7**
KLNJ				*e*		00 31 08.7	
IMHD	**Mahdasht**	**3.86**	**41**	*e*Pn	**Pn**	**00 29 55.6**	**+2.1**
QSDN	**Sirdan**	**3.93**	**19**	*e*Pn	**Pn**	**00 29 58.2**	**+3.6**
IZEF	**Zefreh**	**4.01**	**87**	*e*Pn	**Pn**	**00 29 58.0**	**+2.3**
IRAM	**Ramesheh**	**4.19**	**102**	*e*Pn	**Pn**	**00 29 59.5**	**+1.3**
IGZV	**Ghazvin**	**4.20**	**31**	*e*Pn	**Pn**	**00 30 01.4**	**+3.2**
MAHB	**Mahabad**	**4.25**	**339**	*e*Pn	**Pn**	**00 30 01.2**	**+2.3**
QALM	**Alamut, Qazvin**	**4.43**	**34**	*e*Pn	**Pn**	**00 30 04.6**	**+3.2**
IDMV	**Damavand**	**4.62**	**52**	*e*Pn	**Pn**	**00 30 07.0**	**+2.8**
ISRB	**Sarab**	**5.02**	**1**	*e*Pn	**Pn**	**00 30 12.3**	**+2.8**
IFIR	**Firoozkooh**	**5.15**	**55**	*e*Pn	**Pn**	**00 30 14.0**	**+2.7**
ILAS	**Lasjerd**	**5.16**	**59**	*e*Pn	**Pn**	**00 30 13.9**	**+2.4**
ANAR	**Anarak**	**5.19**	**84**	*e*Pn	**Pn**	**00 30 13.8**	**+2.0**
IPRN	**Peran**	**5.23**	**48**	*e*Pn	**Pn**	**00 30 15.8**	**+3.5**
ISAD	**Sadrabad**	**5.25**	**98**	*e*Pn	**Pn**	**00 30 14.1**	**+1.3**
IALA	**Alasht**	**5.43**	**51**	*e*Pn	**Pn**	**00 30 19.1**	**+3.8**
IHRS	**Heris**	**5.53**	**356**	*e*Pn	**Pn**	**00 30 20.3**	**+3.8**
ITBZ	**Tabriz**	**5.55**	**348**	*e*Pn	**Pn**	**00 30 19.4**	**+2.6**
ISHM	**Shahmirzad**	**5.61**	**56**	*e*Pn	**Pn**	**00 30 20.4**	**+2.7**
ICHK	**Chekchek**	**5.80**	**94**	*e*Pn	**Pn**	**00 30 21.5**	**+1.2**
IANJ	**Anjilo**	**5.90**	**61**	*e*Pn	**Pn**	**00 30 24.1**	**+2.5**
IMRD	**Marand**	**6.10**	**346**	*e*Pn	**Pn**	**00 30 28.1**	**+3.8**
IMEH	**Mehriz**	**6.14**	**101**	*e*Pn	**Pn**	**00 30 25.8**	**+0.9**
IGLO	**Ghaloghah**	**6.35**	**53**	*e*Pn	**Pn**	**00 30 31.5**	**+3.7**
GEVA	**Gevas**	**6.62**	**328**	Pn	**Pn**	**00 30 32.3**	**+0.8**
IBAF	**Bafgh**	**6.88**	**98**	*e*Pn	**Pn**	**00 30 36.4**	**+1.3**
MARD	**Mardin**	**7.16**	**311**	Pn	**Pn**	**00 30 38.5**	**-0.4**
TNSJ	**Nastanj**	**7.65**	**79**	*e*Pn	**Pn**	**00 30 47.6**	**+2.0**
TPRV	**Parvadeh(Tabas**	**7.67**	**86**	*e*Pn	**Pn**	**00 30 47.6**	**+1.8**
ASF	**Jabal al Asfar**	**9.04**	**269**	Pn	**Pn**	**00 31 02.4**	**-2.2**
	comp=E,0.7nm,0.3s,baz=39,slow=6.8,SNR=6.4						
ASF				Sn	**Sn**	**00 32 40.4**	**-5.7**
	comp=E,0.5nm,0.3s,baz=128,slow=24,SNR=1.9						
ASF				Lg	Lg	00 33 41.0	
	comp=E,0.6nm,0.3s,baz=225,slow=22,SNR=3.7						
ISFR	**Sfrayin**	**9.56**	**61**	*e*Pn	**Pn**	**00 31 14.7**	**+2.8**
GEYT	**Alibeck**	**10.02**	**56**	Pn	**Pn**	**00 31 20.5**	**+2.5**
	comp=E,0.1nm,0.3s,baz=248,slow=15,SNR=1.7						
GEYT				LR	LR	00 35 48.4	
	comp=E,146nm,19.5s,baz=240,slow=41						
GEYT	**Alibeck**	**10.02**	**56**		**Pn**	**00 31 19.5**	**+1.6**
GYA0B	**ALIBECK ARRAY**	**10.02**	**56**	Pn	**Pn**	**00 31 19.3**	**+1.4**
IPAY	**Payeh**	**10.10**	**66**	*e*Pn	**Pn**	**00 31 23.4**	**+4.2**
IMON	**Monand**	**10.17**	**84**	*e*Pn	**Pn**	**00 31 23.1**	**+2.9**
MMAI	**Mount Meron Ar**	**10.23**	**275**	Pn	**Pn**	**00 31 24.0**	**+3.0**
	comp=E,0.4nm,0.3s,baz=99,slow=11,SNR=2.3						
MMAI				Lg	Lg	00 34 25.4	
	comp=E,0.4nm,0.3s,baz=110,slow=34,SNR=2.8						
UOSS	**Minazif**	**10.88**	**134**	Pn	**Pn**	**00 31 27.4**	**-2.4**
EIL	**Elat**	**11.24**	**257**	Lg	Lg	00 34 56.6	
	comp=E,0.2nm,0.3s,baz=90,slow=19,SNR=2.0						
EIL				LR	LR	00 36 03.3	
	comp=E,64nm,19.2s,baz=72,slow=39						
KBZ	**Khabaz**	**11.51**	**343**	LR	LR	00 36 44.3	
	comp=E,50nm,21.4s,baz=162,slow=40						
KIV	**Kislovodsk**	**11.78**	**342**	Pn	**Pn**	**00 31 44.0**	**+2.0**
BRTR	**Keskin Array B**	**13.19**	**306**	Pn	**Pn**	**00 31 59.7**	**-1.7**
	comp=E,0.1nm,0.3s,baz=231,slow=23,SNR=1.9						
BRTR				LR	LR	00 38 56.1	
	comp=E,19nm,20.9s,baz=184,slow=46						
WSAR	**Wadi Sarin**	**13.63**	**132**	Pn	**Pn**	**00 32 04.2**	**-3.1**
	comp=E,0.5nm,0.3s,baz=314,slow=24,SNR=6.4						
MDUB	**Mudurnu**	**15.20**	**305**	Pn	**Pn**	**00 32 28.3**	**-0.4**
AKAS	**Kas**	**15.20**	**288**	Pn	**Pn**	**00 32 28.4**	**-0.4**
AKAS				IAmb	IAmb	00 32 37.1	
	comp=E,19nm,1.1s						
KBL	**Kabul**	**17.96**	**79**		**P**	**00 33 05.2**	**+0.8**
CHGR	**Chuyangaron**	**18.46**	**65**		**Pn**	**00 33 10.8**	**+0.9**
CHGR				IAmb	IAmb	00 33 21.8	
	comp=E,9.0nm,0.9s						
ABKAR	**Akbulak array**	**18.87**	**26**		**Pn**	**00 33 15.1**	**+0.4**
TIRR	**Tirgusor**	**18.91**	**314**	P	**P**	**00 33 14.7**	**+0.1**
TIRR				IAmb	IAmb	00 33 23.2	
	comp=E,21nm,1.0s						
IDI	**Anoyia**	**18.95**	**284**	P	**P**	**00 33 14.7**	**-0.5**
ALN	**Alexandroupoli**	**19.00**	**301**	P	**P**	**00 33 16.4**	**+0.8**
TOPG	**Topolog**	**19.16**	**315**	⇓P	**Pn**	**00 33 18.5**	**+0.3**
AKTO	**Aktyubinsk**	**19.24**	**21**	P	**Pn**	**00 33 19.8**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=200,slow=10,SNR=18						
AKTO				LR	LR	00 44 23.3	
	comp=Z,23nm,18.4s,baz=210,slow=48						
GAR	**Garm**	**19.42**	**65**		**P**	**00 33 21.1**	**+0.8**
BTK	**Batken**	**20.03**	**62**	P	**P**	**00 33 27.6**	**+0.6**
NEHR	**Nehoiu**	**20.70**	**314**	⇑P	**P**	**00 33 34.9**	**+0.7**
PLOR	**Plostina**	**20.70**	**315**	⇑P	**P**	**00 33 34.3**	**+0.1**
KK31	**Karatay Array**	**20.75**	**54**	P	**P**	**00 33 34.6**	**-0.2**
KKAR	**Karatay Array**	**20.75**	**54**	P	**P**	**00 33 35.0**	**+0.3**
KKAR	**Karatay Array**	**20.75**	**54**	P	**P**	**00 33 35.3**	**+0.6**
KKAR				IAmb	IAmb	00 33 40.8	
	comp=Z,3.1nm,0.8s						
MLR	**Muntele Rosu**	**20.95**	**314**	P	Pn	00 33 38.9	-0.6
	comp=Z,5.4nm,0.7s,baz=133,slow=4.5,SNR=15						
MLR	**Muntele Rosu**	**20.95**	**314**	⇑P	**P**	**00 33 37.4**	**+0.5**
MLR	**Muntele Rosu**	**20.95**	**314**	P	**P**	**00 33 36.0**	**-0.9**
MLR				IAmb	IAmb	00 33 49.0	
	comp=Z,7.7nm,0.9s						
TESR	**Tescani**	**21.06**	**317**	⇑P	**P**	**00 33 38.6**	**+0.6**
SORM	**Soroca**	**21.09**	**322**	⇓P	**P**	**00 33 39.3**	**+1.0**
HUMR	**Humele**	**21.10**	**310**	⇓P	**P**	**00 33 38.6**	**+0.2**
AGG	**Agios Georgios**	**21.33**	**294**	P	**P**	**00 33 39.8**	**-1.3**
AGG				IAmb	IAmb	00 33 50.6	
	comp=Z,6.3nm,1.1s						
OZUR		**21.35**	**315**	⇑P	**P**	**00 33 42.1**	**+1.0**
ITM	**Ithomi**	**21.43**	**289**	P	**P**	**00 33 40

DBIC	**Dimbokro**	**55.08**	**254**	LR	LR	01 07 01.9	
	comp=Z,24nm,18.3s,baz=61,slow=42						
KSRS	**Korea Array**	**63.98**	**61**	P	**P**	**00 39 25.2**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=286,slow=7.5,SNR=1.8						
NWAO	**Narrogin (SRO)**	**92.61**	**128**	LR	LR	01 22 59.4	
	comp=Z,33nm,18.5s,baz=126,slow=35						

TEH ***19*** *00:32:57.8, 32.52N×47.81E, h8km, ML3.2*
ISN ***19*** *00:32:58.4±1.0, 32.58N×47.78E, h14km±7km, ML3.0*
ISC 19 00:32:59.3±1.0, 32.49N±0.04×47.77E±0.04, h15km, n34, σ1§26/38, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.95**	**113**	*e*Pg	**Pb**	**00 33 16.3**	**-1.2**
IKFM	**Kafar-mosalman**	**1.03**	**4**	*e*Pg	**Pb**	**00 33 17.1**	**-1.8**
IKFM				*e*		00 33 35.8	
IKMR	**Kamar-syah**	**1.15**	**27**	*e*Pg	**Pn**	**00 33 18.8**	**-2.0**
IKMR				*e*Sg	**Sb**	**00 33 35.8**	**+0.3**
IKMR				*e*		00 33 39.8	
IDOB	**Doab**	**1.34**	**15**	*e*Pg	**Pn**	**00 33 22.7**	**-0.9**
BMDN	**Meydan**	**1.48**	**37**	*e*Pg	**Pn**	**00 33 25.4**	**-0.1**
BMDN				*e*		00 33 51.1	
IBDR	**Badra**	**1.67**	**292**	*e*Pg	**Pn**	**00 33 29.0**	**+1.1**
IBDR				*e*Sg	**Sn**	**00 33 50.0**	**+1.0**
IBDR				AML	AML	00 33 56.5	
	comp=E,191nm,0.6s						
IBDR				AML	AML	00 33 56.6	
	comp=N,210nm,0.4s						
IKOM	**Komasi**	**1.69**	**353**	*e*Pg	**Pn**	**00 33 28.7**	**+0.2**
IKOM				*e*		00 33 56.4	
HSAM	**Samen**	**1.85**	**22**	*e*Pg	**Pn**	**00 33 31.4**	**+0.6**
HSAM				*e*		00 34 06.4	
KCHF	**Cheshme Sefid,**	**1.88**	**341**	*e*Pn	**Pn**	**00 33 32.5**	**+1.4**
KCHF				*e*		00 34 10.5	
KER	**Kermanshah**	**1.96**	**344**	*e*Pn	**Pn**	**00 33 32.8**	**+0.6**
IBZA	**Bozab**	**1.98**	**2**	*e*Pg	**Pn**	**00 33 33.8**	**+1.3**
IBZA				*e*		00 34 06.7	
NSR	**Nassriya**	**2.02**	**224**	*e*Pn	**Pb**	**00 33 34.0**	**-1.7**
NSR				*e*Sn	**Sb**	**00 34 00.0**	**-0.7**
IGHG	**Ghaleghazi**	**2.09**	**332**	*e*Pn	**Pn**	**00 33 35.5**	**+1.5**
IGHG				*e*		00 34 20.7	
IALM	**Almabolaq**	**2.39**	**8**	*e*Pn	**Pn**	**00 33 39.3**	**+1.2**
JHBN	**Jahan bin**	**2.47**	**95**	*e*Pn	**Pn**	**00 33 40.2**	**+1.0**
JHBN				*e*		00 34 29.0	
IDHR	**Dehrash**	**2.49**	**333**	*e*Pn	**Pn**	**00 33 40.2**	**+0.8**
IDHR				*e*		00 34 21.9	
ILIN	**Lien**	**2.51**	**345**	*e*Pn	**Pn**	**00 33 39.9**	**+0.1**
ILIN				*e*		00 34 22.7	
HAGD	**Aghdareh**	**2.59**	**26**	*e*Pn	**Pn**	**00 33 41.7**	**+0.8**
HAGD				*e*		00 34 20.7	
SNGE	**Sanandaj**	**2.62**	**352**	*e*Pn	**Pn**	**00 33 43.0**	**+1.7**
IPIR	**Pirpir**	**2.65**	**85**	*e*Pn	**Pn**	**00 33 43.4**	**+1.7**
IPIR				*e*		00 34 31.0	
ROKH	**ROKH**	**2.77**	**92**	*e*Pn	**Pn**	**00 33 44.3**	**+1.0**
HSRG	**Sareghieh**	**2.78**	**9**	*e*Pn	**Pn**	**00 33 45.4**	**+1.9**
HSRG				*e*		00 34 35.3	
ASAO	**Ashtian**	**2.79**	**42**	*e*Pn	**Pn**	**00 33 44.9**	**+1.3**
BHD	**Baghdad**	**2.95**	**286**	*e*Pn	**Pn**	**00 33 46.0**	**+0.4**
BHD				*e*Sn	**Sn**	**00 34 22.0**	**+1.2**
IKLH	**Kolahrood**	**3.31**	**75**	*e*Pn	**Pn**	**00 33 52.1**	**+1.3**
IKLH				*e*		00 34 52.3	
IRAZ	**Razeghan**	**3.42**	**31**	*e*Pn	**Pn**	**00 33 53.8**	**+1.6**
QABG	**Abgarm-Qazvin**	**3.55**	**25**	*e*Pn	**Pn**	**00 33 53.0**	**-1.0**
KLNJ	**Kolanjah**	**3.58**	**113**	*e*Pn	**Pn**	**00 33 56.0**	**+1.5**
KLNJ				*e*		00 35 09.8	
IGAR	**Gharneh**	**3.62**	**90**	*e*Pn	**Pn**	**00 33 55.8**	**+0.9**
IGAR				*e*		00 33 58.0	
IZEF	**Zefreh**	**3.87**	**83**	*e*Pn	**Pn**	**00 33 59.7**	**+1.2**
IRAM	**Ramesheh**	**3.97**	**99**	*e*Pn	**Pn**	**00 33 59.5**	**-0.4**
QSDN	**Sirdan**	**4.17**	**16**	*e*Pn	**Pn**	**00 34 03.2**	**+0.6**
QALM	**Alamut, Qazvin**	**4.60**	**30**	*e*Pn	**Pn**	**00 34 10.8**	**+2.4**
ISHM	**Shahmirzad**	**5.65**	**53**	*e*Pn	**Pn**	**00 34 23.6**	**+0.6**

ISN ***19*** *00:34:15.9±1.3, 32.55N×47.68E, h15km±7km, ML2.7*
TEH ***19*** *00:34:19.7, 32.74N×47.70E, h10km, ML3.1*
ISC 19 00:34:16.6±1.2, 32.53N±0.07×47.68E±0.05, h10km, n15, σ0§68/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.00**	**8**	*e*Pg	**Pg**	**00 34 36.0**	**+0.1**
IKFM				*e*		00 34 56.4	
IKMR	**Kamar-syah**	**1.15**	**31**	*e*Pg	**Pb**	**00 34 37.4**	**-1.2**
IKMR				*e*		00 34 59.9	
IDOB	**Doab**	**1.32**	**18**	*e*Pg	**Pn**	**00 34 41.4**	**0.0**
BMDN	**Meydan**	**1.49**	**40**	*e*Pg	**Pg**	**00 34 45.7**	**+0.4**
BMDN				*e*		00 35 09.0	
IBDR	**Badra**	**1.58**	**292**	*e*Pg	**Pn**	**00 34 44.0**	**-0.7**
IBDR				*e*Sg	**Sb**	**00 35 06.0**	**0.0**
IBDR				AML	AML	00 35 11.6	
	comp=N,112nm,0.4s						
IBDR				AML	AML	00 35 11.9	
	comp=E,114nm,0.6s						
IKOM	**Komasi**	**1.65**	**355**	*e*Pg	**Pb**	**00 34 47.4**	**+0.2**
IKOM				*e*		00 35 12.7	
KCHF	**Cheshme Sefid,**	**1.82**	**343**	*e*Pg	**Pb**	**00 34 50.1**	**-0.1**
KCHF				*e*		00 35 16.2	
HSAM	**Samen**	**1.85**	**25**	*e*Pg	**Pb**	**00 34 51.3**	**+0.6**
HSAM				*e*		00 35 19.2	
IBZA	**Bozab**	**1.94**	**5**	*e*Pn	**Pb**	**00 34 52.7**	**+0.4**
IBZA				*e*		00 35 25.1	
NSR	**Nassriya**	**2.00**	**221**	*e*Pn	**Pn**	**00 34 51.0**	**+0.5**
NSR				*e*Sn	**Sn**	**00 35 15.0**	**-0.6**
IGHG	**Ghaleghazi**	**2.02**	**333**	*e*Pg	**Pg**	**00 34 55.4**	**0.0**
IGHG				*e*		00 35 28.7	
IALM	**Almabolaq**	**2.36**	**10**	*e*Pn	**Pb**	**00 34 59.5**	**+0.1**
IDHR	**Dehrash**	**2.42**	**334**	*e*Pn	**Pb**	**00 34 59.1**	**-1.3**
IDHR				*e*		00 35 36.7	
HAGD	**Aghdareh**	**2.59**	**28**	*e*Pn	**Pb**	**00 35 02.5**	**-0.9**
BHD	**Baghdad**	**2.87**	**286**	*e*Pn	**Pn**	**00 35 03.0**	**+0.6**
BHD				*e*Sn	**Sn**	**00 35 38.0**	**+1.0**
BHD				AML	AML	00 35 39.3	
	comp=E,46nm,0.3s						

ANF ***19*** *00:36:51.4±0.5, 41.71N×119.37W, ML3.3/16, Error ellipse: s-maj=4.4km s-min=1.5km az=111.0*
REN ***19*** *00:36:56.5±2.2, 41.88N±0.04×119.61W±0.07, h2km±8km, ML3.3/3, Error ellipse: s-maj=7.6km s-min=5.9km az=76.0*
NEIC ***19*** *00:36:57.6±1.7, 41.93N±0.03×119.68W±0.05, h5km±8km, Error ellipse: s-maj=7.2km s-min=0.9km az=129.0*
ISC 19 00:36:56.7±0.8, 41.88N±0.02×119.67W±0.02, h10km, n57, σ1§75/69, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.47**	**274**		**Pg**	**00 37 06.3**	**+0.4**
MOD					**Sb**	**00 37 13.2**	**-1.1**
WVOR	**Wild Horse Val**	**0.95**	**54**		**Pg**	**00 37 12.4**	**-2.7**
WVOR					**Sg**	**00 37 27.3**	**-0.1**
K05A	**Summer Lake**	**1.24**	**314**	Pg	**Pn**	**00 37 18.8**	**-1.6**
M04C	**Macdoel**	**1.62**	**267**	P	**Pn**	**00 37 23.4**	**-2.1**
	baz=86,SNR=107						
M04C				S	**Sg**	**00 37 49.6**	**+0.8**
	baz=86						
K04D	**Chiloquin, OR**	**1.72**	**297**	Pb	**Pb**	**00 37 28.4**	**-0.1**
	baz=114,SNR=28						
K04D				S	**Sg**	**00 37 53.2**	**+1.2**
	baz=114						
J08A	**Circle Bar Ran**	**1.73**	**30**	Pn	**Pn**	**00 37 26.5**	**-0.4**
J05D	**Fort Rock, OR**	**1.82**	**321**	P	**Pn**	**00 37 27.9**	**-0.4**
	baz=139						
J05D				S	**Sg**	**00 37 55.5**	**+0.2**
	baz=139						
L04D	**Klamath Falls**	**1.99**	**281**	P	**Pn**	**00 37 30.2**	**-0.3**
	baz=99,SNR=40						
L04D				S	**Sg**	**00 38 00.3**	**-0.4**
	baz=99						
PINE	**Pine Mountain**	**2.13**	**334**		**Pb**	**00 37 33.8**	**-1.8**
PAHR	**Pah Rah Range**	**2.18**	**174**		**Pn**	**00 37 33.6**	**+0.4**
I07A	**Izee**	**2.21**	**3**		**Pb**	**00 37 35.0**	**-1.8**
O03E	**Paynes Creek**	**2.25**	**226**	Pb	**Pn**	**00 37 34.3**	**+0.2**
	baz=45						
O03E				Sg	**Sg**	**00 38 08.2**	**-1.0**
	baz=45						
J04D	**Umpqua Nationa**	**2.26**	**308**	Pb	**Pb**	**00 37 37.9**	**+0.2**
	baz=126,SNR=22						
J04D				Sb	**Sg**	**00 38 11.6**	**+2.3**
	baz=126						

YBH	**Yreka Blue Hor**	**2.27**	**267**		**Pn**	**00 37 34.1**	**-0.3**
M02C	**Callahan**	**2.43**	**260**	Pb	**Pb**	**00 37 39.6**	**-1.0**
	baz=78,SNR=8.2						
M02C				Sb	**Sg**	**00 38 14.7**	**-0.2**
	baz=78						
N02D	**Trinity Center**	**2.45**	**249**	Pb	**Pn**	**00 37 38.7**	**+1.8**
	baz=68,SNR=15						
N02D				Sb	**Sg**	**00 38 14.6**	**-0.9**
	baz=68						
WDC	**Whiskeytown Da**	**2.52**	**240**	Pn	**Pn**	**00 37 38.8**	**+1.0**
VCNR	**Virginia City**	**2.58**	**180**		**Pb**	**00 37 41.4**	**-1.8**
ORV	**Oroville**	**2.70**	**212**	Pn	**Pb**	**00 37 43.6**	**-1.6**
I05D	**Terrebonne, OR**	**2.75**	**334**	Sb	**Sg**	**00 38 25.0**	**0.0**
	baz=152						
I04A	**Tendick Farm,**	**2.78**	**315**	Pb	**Pb**	**00 37 46.9**	**+0.4**
	baz=132,SNR=18						
PNTR	**Pine Nut**	**2.78**	**179**		**Pb**	**00 37 45.1**	**-1.6**
O02D	**Mt. Diablo Mer**	**2.90**	**235**	Pb	**Pb**	**00 37 45.9**	**-2.7**
	baz=54						
O02D				Sb	**Sb**	**00 38 26.9**	**+2.7**
	baz=54						
YERR	**Yerington**	**2.91**	**173**		**Pb**	**00 37 46.4**	**-2.3**
KVN	**Kaiserville**	**3.07**	**156**	Pn	**Pn**	**00 37 47.1**	**+1.7**
K02D	**Willamette Mer**	**3.07**	**287**	Sb	**Sg**	**00 38 34.8**	**-0.6**
	baz=104						
AFDM	**Forest Hills D**	**3.09**	**199**		**Pn**	**00 37 48.1**	**+2.6**
KRMB	**Red Mountain**	**3.19**	**265**		**Pn**	**00 37 48.0**	**+1.0**
KHMM	**Horse Mountain**	**3.21**	**253**		**Pn**	**00 37 49.1**	**+1.7**
MFID	**Camas Ranch**	**3.23**	**60**	Pn	**Pn**	**00 37 47.7**	**+0.1**
I03D	**Drain, OR**	**3.26**	**305**	Pb	**Pb**	**00 37 54.7**	**+0.1**
	baz=122						
I03D				Sb	**Sg**	**00 38 40.2**	**-1.3**
	baz=122						
RYN	**Ryan**	**3.36**	**164**		**Pn**	**00 37 50.7**	**+1.3**
WAKR	**Walker**	**3.37**	**177**		**Pn**	**00 37 51.9**	**+2.3**
KBO	**Bosley Butte**	**3.41**	**277**	Pn	**Pn**	**00 37 51.2**	**+1.2**
BMO	**Blue Mountains**	**3.44**	**29**		**Pn**	**00 37 53.2**	**+2.8**
G08A	**Pilot Rock**	**3.45**	**8**		**Pn**	**00 37 53.0**	**+2.3**
H04D	**Lebanon**	**3.47**	**321**	Sb	**Sg**	**00 38 47.2**	**-0.8**
	baz=138						
KMRM	**Mail Ridge**	**3.47**	**243**	Pn	**Pn**	**00 37 53.5**	**+2.6**
G05D	**Wamic, OR**	**3.57**	**341**	Sb	**Sg**	**00 38 49.7**	**-1.7**
	baz=159						
KEBM	**Edson Butte**	**3.59**	**288**		**Pn**	**00 37 53.8**	**+1.3**
NVAR	**Mina Array Bea**	**3.60**	**163**		**Pn**	**00 37 55.2**	**+2.5**
NV11	**Mina Array Sit**	**3.63**	**161**		**Pb**	**00 37 57.0**	**-4.1**
LHV	**Little Huntoon**	**3.73**	**166**		**Pn**	**00 37 56.3**	**+2.0**
CMB	**Columbia Colle**	**3.88**	**188**		**Pn**	**00 37 59.4**	**+3.0**
HLID	**Hailey**	**4.23**	**65**	Sg	**Sb**	**00 39 06.5**	**+4.1**
	baz=248						
HLID	**Hailey**	**4.23**	**65**	Pn	**Pn**	**00 38 00.0**	**-1.3**
F10A	**Beach Ranch, E**	**4.46**	**22**		**Pn**	**00 38 06.8**	**+2.3**
R11A	**Troy Canyon, C**	**4.71**	**137**		**Pn**	**00 38 10.0**	**+2.0**
BGU	**Big Grassy Mou**	**5.09**	**99**	Pn	**Pn**	**00 38 14.1**	**+1.0**
BCYI	**Bear Canyon**	**5.20**	**60**		**Pn**	**00 38 16.0**	**+1.3**
SPUT	**South Promonto**	**5.45**	**94**		**Pn**	**00 38 19.3**	**+1.2**
DUG	**Dugway, Tooele**	**5.45**	**106**	Pn	**Pn**	**00 38 19.9**	**+1.7**
PSUT	**Pine Spring**	**5.57**	**125**		**Pn**	**00 38 21.8**	**+2.0**
PRN	**Pahroc Range**	**5.71**	**140**	Pn	**Pn**	**00 38 24.2**	**+2.5**
MCMT	**McKenzie Canyo**	**5.78**	**57**		**Pn**	**00 38 24.0**	**+1.2**
HWUT	**Hardware Ranch**	**6.07**	**90**	Pn	**Pn**	**00 38 27.9**	**+1.2**
FXWY	**Fox Creek**	**6.60**	**72**		**Pn**	**00 38 35.6**	**+1.6**

NEIC ***19*** *00:37:37.6±1.4, 7.5S±0.1×156.36E±0.08, h35km±2km, mb4.6/15, Error ellipse: s-maj=20.9km s-min=5.9km az=37.0*
IDC ***19*** *00:37:45.5±1.9, 7.50S×156.23E, h98km±16km, mb3.9/15, mb1 4.0/20, mb1mx3.9/40, mbtmp4.3/20, MS3.6/10, Ms1 3.6/10, ms1mx3.3/44, Error ellipse: s-maj=16.5km s-min=12.8km az=70.0*
ISC 19 00:37:39.9±0.5, 7.45S±0.07×156.22E±0.06, h44km, n60, σ1§84/56, mb4.3/22, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.18**	**118**	P	**Pn**	**00 38 44.8**	**+3.6**
	48nm,0.3s,baz=228,slow=6.6,SNR=5.1						
HNR				S	**Sn**	**00 39 33.9**	**+5.1**
	15nm,0.3s,baz=288,slow=16,SNR=1.3						
HNR				LR	LR	00 40 25.4	
	comp=Z,693nm,18.8s,baz=358,slow=38						
HNR	**Honiara**	**4.18**	**118**		**Pn**	**00 38 40.1**	**-1.1**
RABL	**Rabaul**	**5.17**	**309**	Pn	**Pn**	**00 38 55.0**	**+0.1**
KRVT	**Keravat (AS076**	**5.21**	**307**	P	Pn	00 39 03.3	+7.9
	13nm,0.3s,baz=354,slow=11,SNR=4.5						
KRVT				S	**Sn**	**00 40 00.7**	**+6.4**
	8.9nm,0.3s,baz=172,slow=1.8,SNR=4.3						
KRVT				LR	LR	00 41 24.3	
	comp=Z,444nm,19.3s,baz=133,slow=42						
PMG	**Port Moresby**	**9.17**	**257**	P	Pn	00 39 56.2	+6.5
	3.3nm,0.3s,baz=52,slow=10,SNR=6.9						
PMG				S	**Sn**	**00 41 39.1**	**+7.4**
	1.2nm,0.3s,baz=109,slow=17,SNR=1.5						
PMG				LR	LR	00 42 52.5	
	comp=Z,128nm,20.9s,baz=22,slow=34						
COEN	**Coen**	**14.35**	**242**	Pn	**Pn**	**00 41 01.2**	**+0.7**
CTA	**Charters Tower**	**15.85**	**217**	P	**P**	**00 41 24.5**	**+1.2**
	0.3nm,0.3s,baz=51,slow=14,SNR=6.3						
CTA				S	**Sn**	**00 44 13.1**	**-1.8**
	baz=70,slow=21,SNR=0.8						
CTAO	**Charters Tower**	**15.85**	**217**	Pn	**Pn**	**00 41 18.4**	**-1.7**
CTAO				IAmb	IAmb	00 41 25.5	
	comp=Z,23nm,1.4s						
JAY	**Jayapura**	**16.21**	**287**	P	**Pn**	**00 41 24.6**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=203,slow=1.3,SNR=7.4						
JAY				LR	LR	00 48 50.5	
	comp=Z,98nm,18.4s,baz=227,slow=41						
DZM	**Mont Dzumac**	**17.56**	**147**	P	**P**	**00 41 43.8**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=339,slow=23,SNR=5.2						
DZM				LR	LR	00 47 11.2	
	comp=Z,184nm,20.0s,baz=96,slow=32						
EIDS	**Eidsvold**	**18.48**	**195**	P	**Pn**	**00 41 52.3**	**-0.5**
	baz=23,SNR=5.9						
GUMO	**Guam**	**23.75**	**332**	LR	LR	00 51 07.1	
	comp=Z,60nm,21.0s,baz=130,slow=34						
WR0	**Warramunga Arr**	**24.42**	**237**	P	**P**	**00 42 54.8**	**+0.2**
WR0				IAmb	IAmb	00 42 56.5	
	comp=Z,17nm,0.9s						
WB0	**Warramunga Arr**	**24.45**	**238**	P	**P**	**00 42 55.1**	**+0.1**
WB0				IAmb	IAmb	00 42 57.4	
	comp=Z,24nm,1.1s						
WB2	**Warramunga Arr**	**24.57**	**237**	P	**P**	**00 42 56.2**	**+0.2**
WB2				IAmb	IAmb	00 42 58.1	
	comp=Z,17nm,0.8s						
WRA	**Warramunga Arr**	**24.58**	**237**	P	**P**	**00 42 56.5**	**+0.4**
	comp=Z,16nm,0.7s,baz=62,slow=9.8,SNR=48						
WRA	**Warramunga Arr**	**24.58**	**237**	P	**P**	**00 42 55.4**	**-0.7**
MTN	**Manton Dam**	**25.26**	**256**	P	**P**	**00 43 02.8**	**+0.6**
	baz=30,SNR=5.7						
MTN	**Manton Dam**	**25.26**	**256**	P	**P**	**00 43 01.5**	**-0.8**
SIJI	**Sorong**	**25.72**	**284**	P	**P**	**00 43 06.1**	**-0.4**
	comp=Z,4.0nm,0.4s,baz=224,slow=23,SNR=1.8						
AS31	**Alice Springs**	**26.80**	**231**	P	**P**	**00 43 15.8**	**-0.4**
ASAR	**Alice Springs**	**26.80**	**231**	P	**P**	**00 43 16.0**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=63,slow=8.6,SNR=9.0						
ASAR				PcP	**PcP**	**00 46 38.6**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=51,slow=3.7,SNR=2.1						
ASAR				LR	LR	00 53 30.9	
	comp=Z,185nm,18.3s,baz=68,slow=35						
ASAR	**Alice Springs**	**26.80**	**231**	P	**P**	**00 43 15.3**	**-1.0**
H11S3	**WAKE ISLAND Hy**	**27.77**	**22**	T	T	01 11 51.4	
	baz=202,slow=76						
H11S2	**WAKE ISLAND Hy**	**27.77**	**22**	T	T	01 11 53.0	
	baz=202,slow=76						
H11S1	**WAKE ISLAND Hy**	**27.79**	**22**	T	T	01 11 41.3	
	baz=202,slow=76						
STKA	**Stephens Creek**	**27.87**	**207**	P	**P**	**00 43 25.0**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=23,slow=24,SNR=5.4						
STKA				LR	LR	00 54 17.5	
	comp=Z,190nm,20.2s,baz=23,slow=36						
STKA	**Stephens Creek**	**27.87**	**207**	P	**P**	**00 43 24.8**	**-0.8**
KNRA	**Kununurra**	**28.09**	**251**	P	**P**	**00 43 28.0**	**+0.3**
	baz=33						
KNRA	**Kununurra**	**28.09**	**251**	P	**P**	**00 43 27.8**	**+0.1**
KNRA				IAmb	IAmb	00 43 29.9	
	comp=Z,12nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**28.96**	**21**	T	T	01 13 14.6	
	baz=202,slow=76,SNR=27						
H11N3	**WAKE ISLAND Hy**	**28.98**	**21**	T	T	01 13 24.9	
	baz=202,slow=76,SNR=72						
H11N2	**WAKE ISLAND Hy**	**28.98**	**21**	T	T	01 13 24.0	
	baz=202,slow=76,SNR=38						

BBOO	**Buckleboo**	**31.42**	**214**	P	**P**	**00 43 54.8**	**-2.3**
BBOO				IAmb	IAmb	00 44 04.7	
	comp=Z,13nm,1.4s						
FITZ	**Fitzroy Crossi**	**31.59**	**247**	P	**P**	**00 43 58.1**	**-0.7**
	comp=Z,4.4nm,0.8s,baz=36,slow=10,SNR=12						
FITZ	**Fitzroy Crossi**	**31.59**	**247**	P	**P**	**00 43 58.4**	**-0.3**
	baz=37,SNR=4.2						
FITZ	**Fitzroy Crossi**	**31.59**	**247**	P	**P**	**00 43 58.3**	**-0.5**
WRKA	**Warakurna**	**31.89**	**234**	P	**P**	**00 44 00.7**	**-0.7**
	baz=37,SNR=10						
KSRS	**Korea Array**	**51.91**	**331**	P	**P**	**00 46 44.2**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=207,slow=41,SNR=2.4						
PETK	**Petropavlovsk-**	**60.34**	**1**	P	**P**	**00 47 46.1**	**+1.9**
	comp=Z,1.6nm,0.8s,baz=150,slow=7.5,SNR=1.5						
PETK	**Petropavlovsk-**	**60.34**	**1**	P	**P**	**00 47 42.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**62.08**	**295**	P	**P**	**00 47 57.0**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=121,slow=5.1,SNR=6.5						
CMAR	**Chiang Mai Arr**	**62.08**	**295**	P	**P**	**00 47 55.6**	**-1.1**
VNDA	**Vanda**	**70.10**	**179**	P	**P**	**00 48 46.5**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=345,slow=6.1,SNR=6.6						
SONM	**Songino Array**	**70.38**	**327**	P	**P**	**00 48 48.3**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=145,slow=6.5,SNR=5.5						
SONM	**Songino Array**	**70.38**	**327**	P	**P**	**00 48 48.9**	**-0.6**
QSPA	**South Pole Qui**	**82.53**	**180**	P	**P**	**00 49 57.1**	**-0.9**
QSPA				IAmb	IAmb	00 49 59.9	
	comp=Z,8.5nm,1.2s						
ILAR	**Eielson Array**	**83.35**	**21**	P	**P**	**00 50 02.2**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=232,slow=6.5,SNR=4.2						
ILAR				LR	LR	01 25 02.8	
	comp=Z,86nm,19.5s,baz=232,slow=34						
MAW	**Mawson**	**84.45**	**203**	P	**P**	**00 50 07.5**	**-0.1**
	comp=Z,2.9nm,1.0s,baz=82,slow=3.0,SNR=5.9						
MAW				LR	LR	01 24 25.1	
	comp=Z,33nm,18.4s,baz=57,slow=33						
MAW	**Mawson**	**84.45**	**203**	P	**P**	**00 50 06.4**	**-1.2**
MK31	**Makanchi Array**	**84.55**	**318**	P	**P**	**00 50 08.1**	**-0.5**
MKAR	**Makanchi Array**	**84.55**	**318**	P	**P**	**00 50 08.3**	**-0.3**
	comp=Z,6.5nm,0.8s,baz=100,slow=6.3,SNR=50						
MKAR	**Makanchi Array**	**84.55**	**318**	P	**P**	**00 50 08.1**	**-0.4**
MAKZ	**Makanchi**	**84.76**	**318**	P	**P**	**00 50 08.9**	**-0.7**
ZAA0	**Zalesovo Array**	**85.24**	**326**	P	**P**	**00 50 10.7**	**-1.1**
ZAA0				IAmb	IAmb	00 50 23.8	
	comp=Z,4.9nm,1.1s						
ZALV	**Zalesovo Beam**	**85.24**	**326**	P	**P**	**00 50 10.5**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=120,slow=6.6,SNR=6.9						
ZALV	**Zalesovo Beam**	**85.24**	**326**	P	**P**	**00 50 10.2**	**-1.6**
BVAR	**Borovoye Array**	**93.39**	**323**	P	**P**	**00 50 48.5**	**-2.0**
	comp=Z,0.5nm,0.5s,baz=111,slow=5.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**154.32**	**285**	PKPbc	**PKPbc**	**00 57 35.9**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=84,slow=2.3,SNR=7.0						
DBIC	**Dimbokro**	**161.21**	**269**	PKPab	**PKPab**	**00 58 19.4**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=95,slow=4.8,SNR=1.6						

DJA 19 00:48:47.3±0.5, 0°N±3°×10°0E±°, h163km±5km, M4.0/11, mb5.0/1, MLv3.5/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.81**	**304**	P	Pn	00 49 12.9	+1.0
MNSI				S	Sn	00 49 31.8	+1.1
PDSI	**Padang**	**1.26**	**170**	P	Pn	00 49 15.8	+0.2
PDSI				S	Sn	00 49 38.2	+0.7
SDSI	**Sungai Dareh**	**1.73**	**137**	P	Pn	00 49 20.8	+0.6
SISI	**Saibi**	**2.02**	**215**	P	Pn	00 49 23.6	+0.1
SISI				S	Sn	00 49 51.7	+0.2
GSI	**Gunungsitoli**	**2.84**	**290**	P	Pn	00 49 34.1	+0.9
PPSI	**Pulau Pagai**	**3.09**	**184**	P	Pn	00 49 35.5	-0.9
MLSI	**Meulaboh, Aceh**	**5.47**	**315**	P	Pn	00 50 07.2	0.0

MAN ***19*** *00:53:15.3, 2.93N×128.00E, h105km, MS4.6*
IDC ***19*** *00:53:15.9±0.6, 2.93N×128.36E, h109km±5km, mb4.2/30, mb1 4.3/34, mb1mx4.1/54, mbtmp4.6/34, MS3.3/10, Ms1 3.3/10, ms1mx3.0/48, Error ellipse: s-maj=13

MTN	**Manton Dam**	**15.95**	**170**	Pn	**Pn**	**00 56 53.0**	**-0.9**
MTN				IAmb	IAmb	00 57 00.5		
	comp=Z,42nm,1.0s							
SBUM	**Sibu**	**16.03**	**269**		**Pn**	**00 56 54.6**	**-0.3**
SBUM	**Sibu**	**16.03**	**269**	P	**Pn**	**00 56 55.0**	**0.0**
TWSI	**Taliwang, Sumb**	**16.23**	**224**	P	**P**	**00 57 00.0**	**+1.3**
	comp=Z,800nmcomp=Z,24nm,1.0s							
KSM	**Kuching**	**18.00**	**266**		**P**	**00 57 18.4**	**+0.2**
KSM				IAmb	IAmb	00 57 21.4		
	comp=Z,36nm,1.0s							
KSM	**Kuching**	**18.00**	**266**	P	**P**	**00 57 19.0**	**+0.8**
JAGI	**Jajag, Banyuwa**	**18.07**	**231**	P	**Pn**	**00 57 21.3**	**+1.4**
	comp=Z,103nm,1.3s							
JAGI	**Jajag, Banyuwa**	**18.07**	**231**		**P**	**00 57 20.0**	**+0.9**
KNRA	**Kununurra**	**18.51**	**178**		**P**	**00 57 23.8**	**0.0**
KNRA				IAmb	IAmb	00 57 25.7		
	comp=Z,102nm,1.4s							
GUMO	**Guam**	**19.52**	**56**	LR	LR	01 04 02.5		
	comp=Z,66nm,20.2s,baz=259,slow=33							
NGJI	**Ngawi**	**19.65**	**238**	P	**Pn**	**00 57 38.9**	**+0.3**
	comp=Z,106nm,1.1s							
WOJI	**Wonogiri, Jawa**	**20.34**	**238**	P	Pn	00 57 48.2	+1.5	
SMRI	**Semarang**	**20.37**	**241**	P	**P**	**00 57 43.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**21.07**	**187**	P	**P**	**00 57 50.4**	**-1.2**
	comp=Z,4.5nm,0.5s,baz=2.2,slow=8.9,SNR=28							
FITZ				S	**S**	**01 01 38.8**	**-1.8**	
	comp=Z,2.3nm,0.9s,baz=138,slow=16,SNR=1.5							
FITZ	**Fitzroy Crossi**	**21.07**	**187**	P	**P**	**00 57 49.9**	**-1.6**
YULB	**Yu-li**	**21.41**	**342**	P	**P**	**00 57 56.3**	**+1.1**
YULB				IAmb	IAmb	00 58 12.4		
	comp=Z,31nm,1.3s							
TPUB	**Ta-pu**	**21.54**	**341**	P	**P**	**00 57 55.2**	**-1.4**
TPUB				IAmb	IAmb	00 58 01.3		
	comp=Z,64nm,1.3s							
SSLB	**Suanglung**	**21.89**	**342**	P	**P**	**00 57 59.6**	**-0.6**
YOJ	**Yonaguni jima**	**21.98**	**347**	P	**P**	**00 58 00.9**	**-0.2**
COEN	**Coen**	**22.38**	**139**	P	**P**	**00 58 04.3**	**-1.1**
PMG	**Port Moresby**	**22.48**	**123**	LR	LR	01 09 26.9		
	comp=Z,49nm,18.9s,baz=296,slow=43							
YHNB	**Yeheng**	**22.59**	**344**	P	**P**	**00 58 07.6**	**-0.1**
YHNB				IAmb	IAmb	00 58 10.7		
	comp=Z,30nm,0.7s							
LEM	**Lembang**	**22.78**	**245**	P	**P**	**00 58 10.2**	**+0.5**
	comp=Z,19nm,0.4s,baz=65,slow=13,SNR=4.6							
CISI	**Cisompet, Garu**	**22.91**	**243**	P	**P**	**00 58 11.0**	**+0.1**
CISI				IAmb	IAmb	00 58 26.4		
	comp=Z,58nm,1.1s							
WB0	**Warramunga Arr**	**23.36**	**165**	P	**P**	**00 58 14.4**	**-0.7**
WRAB	**Tennant Creek**	**23.51**	**166**	P	**P**	**00 58 15.6**	**-0.8**
WRA	**Warramunga Arr**	**23.52**	**166**	P	**P**	**00 58 15.7**	**-0.8**
	comp=Z,28nm,0.6s,baz=344,slow=10,SNR=160							
WRA				S	**S**	**01 02 18.4**	**-4.6**	
	comp=Z,2.3nm,1.0s,baz=344,slow=15,SNR=4.8							
WRA				ScP	**ScP**	**01 05 27.0**	**-1.7**	
	comp=Z,1.3nm,0.8s,baz=347,slow=3.0,SNR=4.6							
WRA				LR	LR	01 08 22.4		
	comp=Z,90nm,19.5s,baz=205,slow=39							
WRA	**Warramunga Arr**	**23.52**	**166**	P	**P**	**00 58 14.8**	**-1.7**
WB2	**Warramunga Arr**	**23.52**	**166**	P	**P**	**00 58 15.6**	**-0.9**
WR0	**Warramunga Arr**	**23.59**	**165**	P	**P**	**00 58 16.5**	**-0.6**
MYKOM	**Kota Tinggi**	**24.41**	**268**	P	**P**	**00 58 25.4**	**+0.8**
MYKOM	**Kota Tinggi**	**24.41**	**268**	P	**P**	**00 58 26.0**	**+1.4**
MDSI	**Maura Dua**	**25.17**	**253**	P	**P**	**00 58 32.9**	**+1.4**
	comp=Z,960nmcomp=Z,35nm,1.2s							
KASI	**Kota Agung**	**25.18**	**251**	P	**P**	**00 58 33.5**	**+1.9**
	comp=Z,42nm,0.8s							
AS31	**Alice Springs**	**27.02**	**169**	P	**P**	**00 58 47.4**	**-0.7**
ASAR	**Alice Springs**	**27.02**	**169**	P	**P**	**00 58 47.6**	**-0.5**
	comp=Z,4.3nm,0.7s,baz=353,slow=8.1,SNR=38							
ASAR				S	**S**	**01 03 19.3**	**+0.7**	
	comp=Z,0.5nm,0.7s,baz=61,slow=30,SNR=3.0							
ASAR				ScP	**ScP**	**01 05 36.9**	**-1.8**	
	comp=Z,2.8nm,0.9s,baz=355,slow=3.3,SNR=12							
ASAR				LR	LR	01 11 18.2		
	comp=Z,92nm,20.8s,baz=336,slow=40							
ASAR	**Alice Springs**	**27.02**	**169**	P	**P**	**00 58 47.4**	**-0.8**
ASAR				ScP	**ScP**	**01 05 37.2**	**-1.5**	
SDSI	**Sungai Dareh**	**27.10**	**262**	P	P	00 59 03.7	+15	
JCJ	**Chichijima**	**27.46**	**28**	P	**P**	**00 58 50.7**	**-1.4**
	comp=Z,21nm,0.4s,baz=258,slow=22,SNR=5.4							
JCJ	**Chichijima**	**27.46**	**28**	P	**P**	**00 58 50.5**	**-1.5**
CTA	**Charters Towe**	**28.92**	**143**	P	**P**	**00 59 04.0**	**-1.0**
	comp=Z,1.4nm,0.2s,baz=51,slow=10,SNR=1.8							
PSI	**Prapat**	**29.30**	**270**	P	**P**	**00 59 08.9**	**+0.2**
	comp=Z,5.1nm,0.7s,baz=179,slow=5.7,SNR=4.3							
RPSI	**Rantau Prapat**	**29.30**	**270**	P	**P**	**00 59 08.8**	**+0.3**
RPSI	**Rantau Prapat**	**29.30**	**270**	P	**P**	**00 59 08.2**	**-0.3**
RPSI				IAmb	IAmb	00 59 10.9		
	comp=Z,14nm,1.2s							
PBKT	**Sadao Pong**	**30.05**	**299**	P	**P**	**00 59 15.3**	**+0.2**
JNU	**Nakatsue**	**30.12**	**4**	P	**P**	**00 59 15.6**	**0.0**
JNU				IAmb	IAmb	00 59 17.2		
	comp=Z,17nm,0.9s							
ENH	**Enshi**	**32.47**	**329**	P	**P**	**00 59 36.6**	**+0.3**
ENH				IAmb	IAmb	00 59 38.0		
	comp=Z,20nm,0.9s							
CMAR	**Chiang Mai Arr**	**32.58**	**300**	P	**P**	**00 59 38.7**	**+1.3**
	comp=Z,1.3nm,0.4s,baz=112,slow=6.6,SNR=14							
CMAR				pP	**pwP**	**01 00 03.6**	**+0.9**	
	comp=Z,0.6nm,0.3s,baz=125,slow=9.2,SNR=1.8							
CMAR				ScP	**ScP**	**01 05 57.0**	**+0.2**	
	comp=Z,0.9nm,0.6s,baz=145,slow=2.5,SNR=8.2							
CMAR	**Chiang Mai Arr**	**32.58**	**300**	P	**P**	**00 59 38.3**	**+0.9**
CMAR					**ScP**	**01 05 56.6**	**-0.2**	
CHTO	**Chiang Mai**	**32.73**	**301**	P	**P**	**00 59 39.1**	**+0.4**
MORW	**Morawa**	**33.92**	**199**	P	**P**	**00 59 47.7**	**-1.2**
MORW				IAmb	IAmb	00 59 58.9		
	comp=Z,18nm,1.3s							
KSAR	**Wonju Array Be**	**34.33**	**359**	P	**P**	**00 59 52.1**	**-0.2**
KSRS	**Korea Array**	**34.34**	**360**	P	**P**	**00 59 52.7**	**+0.3**
	comp=Z,14nm,0.7s,baz=176,slow=9.8,SNR=40							
KSRS				LR	LR	01 11 30.8		
	comp=Z,44nm,20.4s,baz=180,slow=32							
KS19	**Wonju Array Si**	**34.39**	**359**	P	**P**	**00 59 52.6**	**-0.2**
MJAR	**Matsushiro Arr**	**34.67**	**14**	P	**P**	**00 59 53.8**	**-1.5**
	comp=Z,8.1nm,0.7s,baz=192,slow=9.6,SNR=20							
MJAR				LR	LR	01 12 42.7		
	comp=Z,51nm,20.2s,baz=190,slow=34							
MJAR	**Matsushiro Arr**	**34.67**	**14**	P	**P**	**00 59 53.7**	**-1.5**
MAT	**Matsushiro**	**34.67**	**14**	P	P	**00 59 53.5**	**-1.8**
MAT				eS	S	01 05 34.0	+16	
MJB9	**Matsu-Tunnel**	**34.67**	**14**	P	**P**	**00 59 54.1**	**-1.2**
MJB9				IAmb	IAmb	00 59 55.4		
	comp=Z,18nm,1.1s							
EIDS	**Eidsvold**	**35.81**	**143**	P	**P**	**01 00 04.0**	**-1.2**
EIDS				IAmb	IAmb	01 00 16.8		
	comp=Z,20nm,1.5s							
XAN	**Xi'an**	**35.81**	**332**	P	**P**	**01 00 05.0**	**-0.1**
XAN				pmax	pmax			
	comp=Z,25nm,1.3s							
XAN	**Xi'an**	**35.81**	**332**	P	**P**	**01 00 05.0**	**-0.1**
BBOO	**Buckleboo**	**36.32**	**169**	P	**P**	**01 00 09.1**	**-0.4**
STKA	**Stephens Creek**	**36.88**	**161**	P	**P**	**01 00 13.8**	**-0.4**
	comp=Z,13nm,0.5s,baz=337,slow=8.7,SNR=52							
STKA				PP	**PnPn**	**01 01 42.2**	**+0.7**	
	comp=Z,9.6nm,0.8s,baz=334,slow=12,SNR=4.6							
STKA				LR	LR	01 18 38.1		
	comp=Z,79nm,19.6s,baz=4.2,slow=41							
STKA	**Stephens Creek**	**36.88**	**161**	P	**P**	**01 00 13.2**	**-0.9**
NWAO	**Narrogin (SRO)**	**37.17**	**195**	P	**P**	**01 00 16.6**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=71,slow=9.2,SNR=1.1							
NWAO	**Narrogin (SRO)**	**37.17**	**195**	P	**P**	**01 00 16.2**	**-0.4**
NWAO				IAmb	IAmb	01 00 29.8		
	comp=Z,12nm,1.1s							
BJT	**Baijiatuau**	**38.49**	**345**	P	**P**	**01 00 27.1**	**-0.6**
BJT				IAmb	IAmb	01 00 28.4		
	comp=Z,14nm,1.0s							
ARMA	**Armidale**	**39.99**	**148**	P	**P**	**01 00 40.0**	**-0.4**
H11S3	**WAKE ISLAND Hy**	**40.66**	**65**	T	T	01 44 22.4		
	baz=253,slow=75,SNR=13							
H11S2	**WAKE ISLAND Hy**	**40.68**	**65**	T	T	01 44 21.6		
	baz=253,slow=75,SNR=7.7							
H11S1	**WAKE ISLAND Hy**	**40.68**	**65**	T	T	01 44 25.0		
	baz=253,slow=75,SNR=14							
ERM	**Erimo**	**41.13**	**17**	P	**P**	**01 00 49.5**	**+0.1**
ERM				IAmb	IAmb	01 01 04.6		
	comp=Z,17nm,1.1s							
USA0B	**Ussuriysk Arra**	**41.21**	**4**	P	**P**	**01 00 50.0**	**-0.1**
USA0B				IAmb	IAmb	01 00 52.1		
	comp=Z,16nm,0.8s							
USRK	**Ussuriysk Ar.**	**41.21**	**4**	P	**P**	**01 00 50.0**	**-0.1**
	comp=Z,14nm,0.7s,baz=187,slow=7.5,SNR=33							
USRK	**Ussuriysk Ar.**	**41.21**	**4**	P	**P**	**01 00 49.6**	**-0.5**
H11N1	**WAKE ISLAND Hy**	**41.23**	**63**	T	T	01 45 07.5		
	baz=250,slow=75,SNR=7.3							
H11N2	**WAKE ISLAND Hy**	**41.24**	**63**	T	T	01 45 08.1		
	baz=250,slow=75,SNR=4.2							
H11N3	**WAKE ISLAND Hy**	**41.24**	**63**	T	T	01 45 05.7		
	baz=250,slow=75,SNR=8.0							
MDJ	**Mudanjiang**	**41.51**	**1**	P	**P**	**01 00 52.3**	**-0.3**
MDJ				IAmb	IAmb	01 00 54.9		
	comp=Z,14nm,0.8s							
SHL	**Shillong**	**41.57**	**306**	P	**P**	**01 00 53.9**	**+0.3**
SHL				IAmb	IAmb	01 00 59.2		
	comp=Z,14nm,0.6s							
LSA	**Lhasa**	**44.10**	**311**	P	**P**	**01 01 15.6**	**+1.3**
LSA				IAmb	IAmb	01 01 17.1		
	comp=Z,7.9nm,0.6s							
GTA	**Gaotai**	**44.55**	**328**	⇑P	**P**	**01 01 18.1**	**+0.7**
GTA				pmax	pmax			
	comp=Z,12nm,1.2s							
GTA				pmax	pmax			
	comp=Z,61nm,4.9s							
GTA				LR	LR			
	comp=N,100nm,15.2s							
GTA				LR	LR			
	comp=E,93nm,16.2s							
GTA				LR	LR			
	comp=Z,75nm,16.2s							
TAPN	**Taplejung**	**45.71**	**306**	*e*P	**P**	**01 01 28.0**	**+1.1**
ODAN	**Odare**	**45.76**	**305**	*e*P	**P**	**01 01 28.4**	**+1.1**
RAMN	**Ramite**	**46.45**	**305**	*e*P	**P**	**01 01 33.9**	**+1.3**
	comp=Z,23nm,1.0s							
JIRN	**Jiri**	**47.06**	**306**	*e*P	**P**	**01 01 38.5**	**+0.9**
PKI	**Pulchoki**	**47.66**	**305**	*e*P	**P**	**01 01 42.8**	**+0.6**
KKN	**Kakani**	**47.85**	**305**	*e*P	**P**	**01 01 44.8**	**+1.3**
	comp=Z,11nm,0.5s							
DMN	**Daman**	**47.93**	**305**	*e*P	**P**	**01 01 44.7**	**+0.6**
ULN	**Ulaanbaatar**	**48.34**	**341**	P	**P**	**01 01 46.9**	**0.0**
ULN				IAmb	IAmb	01 01 48.0		
	comp=Z,9.5nm,0.8s							
GKN	**Gorkha**	**48.46**	**305**	*e*P	**P**	**01 01 48.7**	**+0.6**
SONM	**Songino Array**	**48.53**	**340**	P	**P**	**01 01 48.5**	**+0.2**
	comp=Z,4.1nm,0.7s,baz=156,slow=8.7,SNR=17							
SONM				PcP	**PcP**	**01 03 12.7**	**-0.1**	
	comp=Z,0.8nm,0.5s,baz=162,slow=4.5,SNR=2.5							
SONM	**Songino Array**	**48.53**	**340**	P	**P**	**01 01 48.0**	**-0.3**
KOLN	**Koldanda**	**49.22**	**305**	*e*P	**P**	**01 01 55.2**	**+1.2**
DANN	**Dangsing**	**49.31**	**305**	*e*P	**P**	**01 01 55.8**	**+1.0**
	comp=Z,50nm,0.6s							
PYUN	**Piuthan**	**49.84**	**305**	*e*P	**P**	**01 02 00.0**	**+1.2**
	comp=Z,44nm,0.5s							
TLY	**Talaya**	**52.75**	**341**	P	**P**	**01 02 20.8**	**+0.9**
TLY				IAmb	IAmb	01 02 30.1		
	comp=Z,2.9nm,0.5s							
WMQ	**Urumqi**	**54.24**	**325**	P	**P**	**01 02 30.6**	**-0.3**
PETK	**Petropavlovsk-**	**55.59**	**21**	P	**P**	**01 02 40.3**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=193,slow=6.1,SNR=5.5							
PETK				LR	LR	01 24 40.2		
	comp=Z,54nm,20.9s,baz=63,slow=34							
PETK	**Petropavlovsk-**	**55.59**	**21**	P	**P**	**01 02 40.2**	**-0.2**
MK31	**Makanchi Array**	**59.07**	**325**	P	**P**	**01 03 04.8**	**-0.2**
MK31				IAmb	IAmb	01 03 05.8		
	comp=Z,5.1nm,0.5s							
MKAR	**Makanchi Array**	**59.07**	**325**	P	**P**	**01 03 05.3**	**+0.3**
	comp=Z,5.5nm,0.3s,baz=113,slow=8.0,SNR=96							
MKAR				pP	**pP**	**01 03 31.2**	**+2.4**	
	comp=Z,1.3nm,0.5s,baz=119,slow=8.7,SNR=1.8							
MKAR				ScP	**ScP**	**01 07 43.8**	**-0.7**	
	comp=Z,0.7nm,0.8s,baz=123,slow=4.5,SNR=3.7							
MKAR	**Makanchi Array**	**59.07**	**325**	P	**P**	**01 03 04.8**	**-0.2**
MAKZ	**Makanchi**	**59.26**	**325**	P	**P**	**01 03 06.2**	**-0.1**
MAKZ				IAmb	IAmb	01 03 07.4		
	comp=Z,7.7nm,0.7s							
PRZ	**Przheval'sk**	**59.29**	**319**	P	**P**	**01 03 07.6**	**+0.7**
TARG	**Taragay, Kyrgy**	**59.35**	**318**	P	**P**	**01 03 06.6**	**-0.9**
NIL	**Nilore**	**59.61**	**308**	P	**P**	**01 03 08.8**	**-0.2**
NIL				IAmb	IAmb	01 03 18.2		
	comp=Z,5.8nm,1.0s							
KDJ	**Kajisay**	**59.94**	**318**	P	**P**	**01 03 11.8**	**+0.5**
AAK	**Ala-Archa**	**61.96**	**318**	LR	LR	01 31 36.5		
	comp=Z,30nm,21.5s,baz=74,slow=37							
ZAA0	**Zalesovo Array**	**61.98**	**333**	P	**P**	**01 03 23.8**	**-0.8**
ZALV	**Zalesovo Beam**	**61.98**	**333**	P	**P**	**01 03 23.6**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=121,slow=5.7,SNR=7.6							
ARSB	**Arslanbob**	**62.48**	**316**	P	**P**	**01 03 28.3**	**-0.1**
ARSB				IAmb	IAmb	01 03 41.1		
	comp=Z,9.4nm,0.7s							
KURBB	**Kurchatov Arra**	**63.22**	**327**	P	**P**	**01 03 32.7**	**-0.2**
	comp=Z,5.8nm,0.4s,baz=127,slow=6.2,SNR=63							
KURBB				pP	**pP**	**01 03 58.9**	**+2.0**	
	comp=Z,1.4nm,0.5s,baz=126,slow=5.6,SNR=3.6							
KURK	**Kurchatov**	**63.22**	**327**	P	**P**	**01 03 32.0**	**-0.9**
KURK				IAmb	IAmb	01 03 33.6		
	comp=Z,11nm,0.8s							
BTK	**Batken**	**63.56**	**314**	P	**P**	**01 03 35.5**	**0.0**
GAR	**Garm**	**63.57**	**312**	P	**P**	**01 03 35.4**	**-0.2**
GAR				IAmb	IAmb	01 03 44.5		
	comp=Z,16nm,1.1s							
CHGR	**Chuyangaron**	**64.32**	**312**	P	**P**	**01 03 40.7**	**+0.1**
CHGR				IAmb	IAmb	01 03 45.9		
	comp=Z,18nm,1.5s							
KK31	**Karatay Array**	**64.84**	**317**	P	**P**	**01 03 43.4**	**-0.3**
KKAR	**Karatay Array**	**64.84**	**317**	P	**P**	**01 03 43.5**	**-0.2**
TIXI	**Tiksi**	**68.61**	**0**	P	**P**	**01 04 06.6**	**-0.5**
TIXI				IAmb	IAmb	01 04 07.1		
	comp=Z,6.0nm,0.5s							
BVAR	**Borovoye Array**	**68.81**	**327**	P	**P**	**01 04 08.6**	**0.0**
	comp=Z,3.2nm,0.4s,baz=97,slow=4.9,SNR=33							
BVAR				pP	**pwP**	**01 04 37.2**	**+0.5**	
	comp=Z,2.4nm,0.8s,baz=107,slow=5.1,SNR=2.6							
BRVK	**Borovoye**	**68.88**	**327**	P	**P**	**01 04 09.1**	**0.0**
BRVK				IAmb	IAmb	01 04 09.4		
	comp=Z,5.7nm,0.6s							
NRIK	**Noril'sk**	**71.55**	**346**	P	**P**	**01 04 25.1**	**0.0**
	comp=Z,4.1nm,0.5s,baz=133,slow=4.8,SNR=8.1							
GEYT	**Alibeck**	**72.57**	**309**	P	**P**	**01 04 32.0**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=122,slow=5.6,SNR=3.7							
GEYT	**Alibeck**	**72.57**	**309**	P	**P**	**01 04 31.3**	**-0.6**
GYA0B	**ALIBECK ARRAY**	**72.57**	**309**	P	**P**	**01 04 31.5**	**-0.4**
AKUT	**Akutan**	**73.70**	**34**	P	**P**	**01 04 38.4**	**+0.3**
AKUT				IAmb	IAmb	01 04 47.0		
	comp=Z,16nm,1.0s							
ABKAR	**Akbulak array**	**73.72**	**321**	P	**P**	**01 04 37.7**	**-0.6**
AKTO	**Aktyubinsk**	**75.22**	**322**	P	**P**	**01 04 47.0**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=117,slow=11,SNR=4.2							
ARU	**Arti**	**76.41**	**328**	P	**P**	**01 04 53.0**	**-0.6**
SDPT	**Sand Point**	**76.99**	**34**	P	**P**	**01 04 56.4**	**-0.5**
SDPT				IAmb	IAmb	01 05 06.4		
	comp=Z,31nm,1.5s							
KDAK	**Kodiak Island**	**81.73**	**32**	P	**P**	**01 05 22.7**	**0.0**
	comp=Z,4.5nm,1.0s,baz=287,slow=24,SNR=1.3							
KDAK	**Kodiak Island**	**81.73**	**32**	P	**P**	**01 05 22.2**	**-0.4**
IMAR	**Indian Mountai**	**82.44**	**24**	P	**P**	**01 05 26.4**	**+0.3**
VNDA	**Vanda**	**82.47**	**173**	P	**P**	**01 05 26.3**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=318,slow=6.9,SNR=36							
VNDA	**Vanda**	**82.47**	**173**	P	**P**	**01 05 26.0**	**-0.1**
MAW	**Mawson**	**83.56**	**201**	P	**P**	**01 05 32.1**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=14,slow=11,SNR=1.8							
MAW	**Mawson**	**83.56**	**201**	P	**P**	**01 05 31.6**	**-0.2**
KVAR	**Kislovodsk Arr**	**84.77**	**314**	P	**P**	**01 05 39.0**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=335,slow=9.9,SNR=2.0							
ILAR	**Eielson Array**	**85.15**	**25**	P	**P**	**01 05 40.1**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=247,slow=5.7,SNR=4.6							
BRTR	**Keskin Array B**	**91.69**	**310**	P	**P**	**01 06 11.6**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=145,slow=31,SNR=2.4							
BRTR	**Keskin Array B**	**91.69**	**310**	P	**P**	**01 06 11.1**	**-0.8**
ARCES	**ARCESS Array B**	**91.70**	**340**	P	**P**	**01 06 09.8**	**-1.3**
	comp=Z,2.1nm,0.9s,baz=84,slow=5.0,SNR=5.3							
QSPA	**South Pole Qui**	**92.86**	**180**	P	**P**	**01 06 16.6**	**0.0**
QSPA				IAmb	IAmb	01 06 19.5		
	comp=Z,4.6nm,1.1s							
FINES	**FINESS Array B**	**93.24**	**332**	P	**P**	**01 06 16.8**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=331,slow=2.4,SNR=4.1							
TORD	**Torodi Ar. Bea**	**124.61**	**288**	PKP	**PKPdf**	**01 12 03.5**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=59,slow=1.6,SNR=13							
TORD	**Torodi Ar. Bea**	**124.61**	**288**		**PKPdf**	**01 12 03.3**	**-0.7**

TEH ***19*** *00:54:05.9, 32.˚73N×47.˚64E, h8km, ML3.1*
ISN ***19*** *00:54:05.6±0.9, 32.˚75N×47.˚73E, h16km±6km, ML2.8*
ISC 19 00:54:07.1±1.0, **32.72N**±0.05×**47.67E**±0.05, **h10**km, **n40,**
σ1°**34**/43, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.82**	**11**	*e*Pg	**Pg**	**00 54 21.4**	**-1.5**
IKFM				*e*		00 54 42.9	
IKMR	**Kamar-syah**	**1.00**	**37**	*e*Pg	**Pb**	**00 54 24.9**	**-1.6**
IKMR				*e*		00 54 28.6	
SHGR	**Shooshtar-Gavs**	**1.14**	**122**	*e*Pg	**Pb**	**00 54 28.9**	**+0.1**
IDOB	**Doab**	**1.15**	**22**	*e*Pg	**Pn**	**00 54 28.5**	**-1.0**
BMDN	**Meydan**	**1.36**	**45**	*e*Pg	**Pn**	**00 54 33.0**	**+0.7**
BMDN				*e*		00 55 01.1	
IKOM	**Komasi**	**1.46**	**355**	*e*Pg	**Pn**	**00 54 33.8**	**+0.1**
IKOM				*e*		00 54 58.4	
IBDR	**Badra**	**1.51**	**285**	*e*Pg	**Pn**	**00 54 34.0**	**-0.2**
IBDR				*e*Sg	**Sn**	**00 54 55.0**	**+1.1**
IBDR				AML	AML	00 54 57.4		
	comp=E,165nm,0.4s							
IBDR				AML	AML	00 54 57.6		
	comp=N,125nm,0.4s							
KCHF	**Cheshme Sefid,**	**1.64**	**342**	*e*Pg	**Pn**	**00 54 36.5**	**+0.3**
KCHF				*e*		00 55 02.2	
HSAM	**Samen**	**1.68**	**27**	*e*Pg	**Pn**	**00 54 38.2**	**+1.4**
HSAM				*e*		00 54 44.1	
KER	**Kermanshah**	**1.72**	**345**	*e*Pn	**Pn**	**00 54 38.0**	**+0.8**
IBZA	**Bozab**	**1.75**	**5**	*e*Pg	**Pn**	**00 54 39.3**	**+1.5**
IBZA				*e*		00 54 42.8	
IGHG	**Ghaleghazi**	**1.85**	**331**	*e*Pn	**Pn**	**00 54 40.6**	**+1.5**
IGHG				*e*		00 55 13.7	
IVIS	**Veis**	**1.93**	**340**	*e*Pn	**Pn**	**00 54 41.0**	**+0.9**
IVIS				*e*		00 55 09.7	
NSR	**Nassriya**	**2.14**	**218**	*e*Pn	**Pn**	**00 54 43.0**	**+0.2**
NSR				*e*Sn	**Sn**	**00 55 09.0**	**-0.5**
KHMZ	**Khomeyn**	**2.18**	**61**	*e*Pn	**Pn**	**00 54 45.3**	**+1.7**
IALM	**Almabolaq**	**2.18**	**11**	*e*Pn	**Pn**	**00 54 45.0**	**+1.3**
IDHR	**Dehrash**	**2.25**	**332**	*e*Pn	**Pn**	**00 54 46.4**	**+1.9**
IDHR				*e*		00 55 21.3	
ILIN	**Lien**	**2.27**	**345**	*e*Pn	**Pn**	**00 54 45.6**	**+0.7**
ILIN				*e*		00 55 21.4	
SNGE	**Sanandaj**	**2.38**	**354**	*e*Pn	**Pn**	**00 54 49.0**	**+2.6**
HAGD	**Aghdareh**	**2.43**	**30**	*e*Pn	**Pn**	**00 54 48.7**	**+1.6**
HAGD				*e*		00 55 27.6	
JHBN	**Jahan bin**	**2.58**	**100**	*e*Pn	**Pn**	**00 54 50.3**	**+1.1**
JHBN				*e*		00 55 38.0	
ASAO	**Ashtian**	**2.69**	**47**	*e*Pn	**Pn**	**00 54 52.5**	**+1.9**
IPIR	**Pirpir**	**2.72**	**90**	*e*Pn	**Pn**	**00 54 52.6**	**+1.5**
IPIR				*e*		00 55 38.0	
BHD	**Baghdad**	**2.81**	**282**	*e*Pn	**Pn**	**00 54 52.0**	**-0.1**
BHD				*e*Sn	**Sn**	**00 55 27.0**	**+0.9**
ROKH	**ROKH**	**2.87**	**97**	*e*Pn	**Pn**	**00 54 54.2**	**+1.1**
IRAZ	**Razeghan**	**3.27**	**34**	*e*Pn	**Pn**	**00 55 00.8**	**+2.1**
IKLH	**Kolahrood**	**3.34**	**79**	*e*		00 55 03.2	
IKLH				*e*Pn	**Pn**	**00 55 01.7**	**+2.0**
AABG	**Abgarm-Qazvin**	**3.38**	**28**	*e*Pn	**Pn**	**00 55 02.0**	**+1.9**
IGAR	**Gharneh**	**3.71**	**94**	*e*		00 55 20.4	
IGAR				*e*Pn	**Pn**	**00 55 04.7**	**0.0**
KLNJ	**Kolanjah**	**3.75**	**116**	*e*Pn	**Pn**	**00 55 05.7**	**+0.3**
IZEF	**Zefreh**	**3.93**	**86**	*e*Pn	**Pn**	**00 55 09.4**

NSR Nassriya 2.02 223 *e*Pn Pb 01 06 00.0 +0.1
NSR *e*Sn Sg 01 06 26.0 -2.1
IGHG Ghaleghazi 2.08 332 *e*Pn Pb 01 06 00.0 -1.0
IGHG *e* 01 06 37.2
IVIS Veis 2.16 340 *e*Pn Pb 01 06 01.6 -0.7
IVIS *e* 01 06 38.5
IALM Almabolaq 2.38 8 *e*Pn Pb 01 06 04.2 -2.1
IDHR Dehrash 2.47 333 *e*Pn Pb 01 06 04.8 -3.0
IDHR *e* 01 06 50.6
JHBN Jahan bin 2.48 95 *e*Pn Pb 01 06 04.9 -3.1
JHBN *e* 01 06 50.6
ILIN Lien 2.50 345 *e* 01 06 53.7
ILIN *e*Pn Pb 01 06 06.4 -1.9
HAGD Aghdareh 2.59 26 *e* 01 06 49.2
HAGD *e*Pn Pb 01 06 06.9 -2.9
SNGE Sanandaj 2.61 353 *e*Pn Pb 01 06 08.3 -1.8
SNGE IAML 01 06 50.8
comp=N,129nm,0.6s
SNGE Sanandaj 2.61 353 *e*Pn Pb 01 06 08.3 -1.8
IPIR Pirpir 2.66 85 *e* 01 06 58.9
IPIR *e*Pn Pn 01 06 07.4 +1.1
HSRG Sareghieh 2.77 9 *e* Sb 01 06 56.8 +10
ROKH ROKH 2.78 92 *e*Pn Pn 01 06 09.0 +1.1
ROKH *e* 01 07 02.6
ASAO Ashtian 2.79 42 *e*Pn Pb 01 06 11.2 -2.0
ASAO *e*Sg Sg 01 06 50.5 -2.3
ASAO Ashtian 2.79 42 *e*Pn Pb 01 06 11.2 -2.0
BHD Baghdad 2.94 286 *e*Pn Pb 01 06 12.0 -3.6
BHD *e*Sn Sb 01 06 49.0 -2.5
IKLH Kolahrood 3.32 75 *e*Pn Pn 01 06 17.0 +1.6
IRAZ Razeghan 3.42 31 *e*Pn Pn 01 06 19.0 +2.3
QABG Abgarm-Qazvin 3.54 25 *e*Pn Pn 01 06 20.7 +2.3
KLNJ Kolanjah 3.59 113 *e*Pn Pn 01 06 20.7 +1.5
KLNJ *e* 01 07 40.6
IGAR Gharneh 3.63 90 *e*Pn Pn 01 06 20.1 +0.5
IGAR *e* 01 07 21.2
IZEF Zefreh 3.88 83 *e*Pn Pn 01 06 24.7 +1.6
IRAM Ramesheh 3.99 99 *e*Pn Pn 01 06 25.3 +0.8
QSDN Sirdan 4.16 16 *e*Pn Pn 01 06 28.1 +1.1
QALM Alamut, Qazvin 4.59 31 *e*Pn Pn 01 06 35.3 +2.4
IDMV Damavand 4.70 48 *e*Pn Pn 01 06 34.9 +0.6
ISAD Sadrabad 5.07 95 *e*Pn Pn 01 06 39.9 +0.5
ANAR Anarak 5.08 81 *e*Pn Pn 01 06 39.9 +0.5
ISHM Shahmirzad 5.66 53 *e*Pn Pn 01 06 48.7 +1.2
IANJ Anjilo 5.92 58 *e*Pn Pn 01 06 51.0 0.0
RAZG Razgrad 19.99 310 ⇑P Pn 01 09 56.7 -0.8
PLOR Plostina 21.02 315 ⇓P P 01 10 12.2 +5.3
MLR Muntele Rosu 21.26 314 ⇓P P 01 10 12.4 +2.8
TESR Tescani 21.38 317 ⇑P P 01 10 11.5 +0.8
SORM Soroca 21.42 322 ⇓P P 01 10 09.6 -1.4
VOIR 21.78 313 ⇑P P 01 10 16.1 +1.0
DOPR Dopca 21.84 314 ⇑P P 01 10 15.9 +0.3
BVAR Borovoye Array 26.20 32 P P 01 10 57.1 -0.7
comp=N,0.7nm,0.6s,baz=232,slow=7.3,SNR=4.2
MKAR Makanchi Array 29.91 51 P P 01 11 31.2 +0.1
comp=N,0.5nm,0.6s,baz=251,slow=7.5,SNR=5.9
FINES FINESS Array B 32.19 341 P P 01 11 50.0 -0.9
comp=N,6.1nm,1.1s,baz=146,slow=11,SNR=3.8
ESDC Sonseca Array 41.92 295 P P 01 13 13.9 -0.1
comp=N,0.4nm,0.7s,baz=73,slow=7.7,SNR=5.6
TORD Torodi Ar. Bea 46.20 256 P P 01 13 48.0 -0.5
comp=N,0.2nm,0.4s,baz=63,slow=6.6,SNR=5.1

*IDC **19** 01:10:54.5±0.6,52.˚46N×169.˚56W,h0km,mb4.1/20, mb1 4.4/22,mb1mx4.1/64,mbtmp4.1/22,ML3.6/2,MS3.5/14, Ms1 3.5/14,ms1mx3.3/44,Error ellipse: s-maj=21.6km s-min=12.1km az=173.0*
*NEIC **19** 01:10:54.4±1.3,52.˚59N±0.˚09×169.˚45W±0.˚10,h5km±4km, Error ellipse: s-maj=14.4km s-min=4.4km az=147.0*
*AEIC **19** 01:10:55±1.9,52.˚68N±0.˚09×169.˚48W±0.˚07,h5km±3km, ML4.2/32,mb4.7/204(NEIC),Error ellipse: s-maj=13.9km s-min=3.3km az=156.0*

ISC 19 01:10:55.2±1.7,52.˚59N±0.˚09×169.˚38W±0.˚05,h9km±9km, n453,σ0:95/376,mb4.6/98,MS3.5/14,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.50**	**39**	Pg	**Pg**	**01 11 04.7**	**-0.3**
NIKH				Sg	**Sg**	**01 11 11.6**	**+0.1**
OKSP	**Okmok Steeple**	**0.94**	**44**		**Pg**	**01 11 12.8**	**-0.4**
OKCE	**Okmok Cone E**	**1.11**	**41**		**Pb**	**01 11 16.0**	**-0.7**
OKCE					**Sn**	**01 11 33.7**	**+1.2**
OKNC	**Okmok New Cone**	**1.15**	**40**		**Pb**	**01 11 16.7**	**-0.6**
OKFG	**Magazine Ridge**	**1.21**	**46**		**Pn**	**01 11 17.5**	**-0.8**
OKFG					**Sb**	**01 11 34.1**	**+0.1**
MAPS	**Pakushin South**	**1.91**	**49**		**Pn**	**01 11 27.4**	**-0.5**
MAPS					**Sb**	**01 11 54.6**	**+0.5**
MREP	**Makushin Rep't**	**2.00**	**51**		**Pn**	**01 11 29.1**	**-0.1**
MSW	**Makushin Switc**	**2.05**	**48**		**Pn**	**01 11 29.9**	**0.0**
MNAT	**Makushin Natee**	**2.07**	**50**		**Pn**	**01 11 30.0**	**-0.2**
UNV	**Unalaska Valle**	**2.14**	**53**		**Pn**	**01 11 30.7**	**-0.3**
UNV				Sn	**Sn**	**01 11 59.4**	**+1.7**
AKRB	**Akutan Reef Bi**	**2.51**	**51**		**Pn**	**01 11 37.4**	**+1.2**
AKMO	**Akutan Morgan**	**2.52**	**52**		**Pn**	**01 11 37.8**	**+1.5**
AKMO					Lg	01 12 10.7	
AKLV	**Akutan Long Va**	**2.59**	**51**		**Pn**	**01 11 38.4**	**+1.1**
AKGG	**Akutan Green G**	**2.59**	**50**		**Pn**	**01 11 38.5**	**+1.3**
AKUT	**Akutan**	**2.66**	**52**	Pn	**Pn**	**01 11 38.8**	**+0.6**
KOSE	**Korovin Southe**	**2.87**	**267**		**Pn**	**01 11 42.1**	**+0.9**
KOFP	**Korovin Flat P**	**2.91**	**266**		**Pn**	**01 11 41.2**	**-0.5**
ATKA	**Atka Island**	**2.98**	**264**		**Pn**	**01 11 41.5**	**-1.1**
WESP	**Westdahl Peak**	**3.37**	**54**		**Pn**	**01 11 49.6**	**+1.5**
FALS	**False Pass**	**4.21**	**55**	Pn	**Pn**	**01 12 00.2**	**+0.8**
ADK	**Adak**	**4.55**	**264**		**Pn**	**01 12 02.9**	**-1.3**
SDPT	**Sand Point**	**5.94**	**59**	Pn	**Pn**	**01 12 24.1**	**+0.9**
CNBA	**Chernabura Isl**	**6.23**	**65**		**Pn**	**01 12 28.1**	**+0.9**
AMKA	**Amchitka**	**7.10**	**265**	Pn	**Pn**	**01 12 38.0**	**-1.1**
LSNW	**Little Sitkin**	**7.46**	**270**		**Pn**	**01 12 45.2**	**+1.2**
KDAK	**Kodiak Island**	**10.91**	**55**	Pn	**Pn**	**01 13 32.1**	**+0.9**
	2.2nm,0.3s,baz=280,slow=6.5,SNR=26						
KDAK					**Sn**	**01 15 27.3**	**-6.0**
	baz=269,slow=15,SNR=1.1						
SVW2	**Sparrevohn**	**11.37**	**36**	Pn	**Pn**	**01 13 38.1**	**+0.5**
TTA	**Tatalina**	**12.55**	**29**	Pn	**Pn**	**01 13 54.1**	**+0.3**
SEW	**Seward**	**13.33**	**48**	Pn	**Pn**	**01 14 04.9**	**+0.6**
O22K	**Cooper Landing**	**13.38**	**46**	P	**Pn**	**01 14 06.6**	**+1.6**
	baz=243						
SKT	**Skwentna**	**13.43**	**39**		**Pn**	**01 14 06.2**	**+0.5**
SUA	**Susitna One**	**13.44**	**41**	Pn	**Pn**	**01 14 06.4**	**+0.4**
CUT	**Chulitna**	**14.16**	**39**	P	**Pn**	**01 14 17.6**	**+2.0**
	baz=235						
GHO	**Glory Hole Cre**	**14.34**	**42**	Pn	**Pn**	**01 14 18.8**	**+0.4**
KNK	**Knik Glacier**	**14.36**	**44**	Pn	**Pn**	**01 14 19.1**	**+0.6**
SML	**Sawmill**	**14.61**	**43**	Pn	**Pn**	**01 14 22.3**	**+0.5**
GLI	**Glacier Island**	**14.71**	**47**	Pn	**Pn**	**01 14 23.9**	**+0.7**
HIN	**Hinchinbrook I**	**14.79**	**49**	Pn	**Pn**	**01 14 24.0**	**-0.3**
FID	**Port Fidalgo**	**14.94**	**48**	Pn	**Pn**	**01 14 26.2**	**-0.1**
BPAW	**Bear Paw Mtn.**	**14.96**	**32**	Pn	**Pn**	**01 14 26.9**	**+0.2**
SCM	**Sheep Creek Mo**	**15.04**	**43**	IAmb	IAmb	01 14 36.8	
	comp=2,33nm,0.7s						
RND	**Reindeer**	**15.27**	**37**	Pn	**Pn**	**01 14 30.7**	**-0.1**
MCK	**McKinley**	**15.43**	**36**	IAmb	IAmb	01 14 54.6	
	comp=2,24nm,1.3s						
KLU	**Klutina**	**15.48**	**46**	IAmb	IAmb	01 14 37.7	
	comp=2,27nm,0.8s						
IMAR	**Indian Mountai**	**15.55**	**24**		**Pn**	**01 14 34.5**	**+0.1**
RAGM	**Ragged Mountai**	**15.64**	**50**	IAmb	IAmb	01 14 48.3	
	comp=2,26nm,0.7s						
NEA2	**Nenana**	**15.92**	**33**	P	**Pn**	**01 14 40.3**	**+1.1**
	baz=231						
TGL	**Tana Glacier**	**16.62**	**50**	IAmb	IAmb	01 14 56.1	
	comp=2,29nm,0.9s						
ILAR	**Eielson Array**	**16.77**	**35**	Pn	**Pn**	**01 14 50.2**	**+0.2**
	comp=2,0.5nm,0.3s,baz=230,slow=11,SNR=20						
ILAR	**Eielson Array**	**16.77**	**35**	Pn	**Pn**	**01 14 49.7**	**-0.4**
ISLE	**Juniper Island**	**16.81**	**51**	IAmb	IAmb	01 15 01.0	
	comp=2,30nm,0.7s						
YAH	**Yahtse**	**17.02**	**52**	Pn	**Pn**	**01 14 53.8**	**+0.3**
YAH				IAmb	IAmb	01 15 01.9	
	comp=2,54nm,0.8s						
TABL	**Table Mountain**	**17.33**	**52**	IAmb	IAmb	01 15 10.4	
	comp=2,47nm,0.8s						
COLD	**Coldfoot**	**17.42**	**25**	P	**Pn**	**01 14 58.2**	**+0.1**
	baz=222,SNR=12						
COLD	**Coldfoot**	**17.42**	**25**		**Pn**	**01 14 58.3**	**+0.1**
PCA	**Pinnacle**	**17.68**	**53**	IAmb	IAmb	01 15 15.0	
	comp=2,34nm,0.9s						
BCAR	**Beaver Creek A**	**17.89**	**43**	P	**Pn**	**01 15 03.1**	**-1.0**
K27K	**Chicken**	**18.18**	**40**	P	**Pn**	**01 15 07.2**	**-0.4**
	baz=244						
TOLK	**Toolik Lake Re**	**18.64**	**23**	P	**P**	**01 15 12.8**	**-0.1**
	baz=220,SNR=7.0						
HYT	**Haines Junctio**	**19.17**	**52**	IAmb	IAmb	01 15 27.4	
	comp=2,29nm,0.7s						
PETK	**Petropavlovsk-**	**19.80**	**285**	P	**Pn**	**01 15 26.5**	**-0.7**
	comp=2,0.4nm,0.3s,baz=85,slow=14,SNR=6.4						
SKAG	**Skagway**	**20.05**	**56**	P	**P**	**01 15 28.0**	**-0.3**
SKAG				IAmb	IAmb	01 15 34.1	
	comp=2,46nm,0.8s						
BESE	**Bessie Mountai**	**20.24**	**59**	P	**P**	**01 15 30.4**	**-0.1**
BESE				IAmb	IAmb	01 15 35.3	
	comp=2,28nm,1.0s						
WHY	**Whitehorse**	**20.41**	**53**	P	**P**	**01 15 32.4**	**0.0**
WHY				IAmb	IAmb	01 15 40.9	
	comp=2,27nm,0.8s						
SEY	**Seymchan**	**22.52**	**312**	P	**P**	**01 15 54.9**	**0.0**
	comp=2,4.3nm,0.7s,baz=120,slow=9.8,SNR=7.4						
DLBC	**Dease Lake**	**22.78**	**59**	P	**P**	**01 16 01.3**	**+3.6**
	comp=2,24nm,0.9s,baz=279,slow=8.9,SNR=15						
DLBC	**Dease Lake**	**22.78**	**59**	P	**P**	**01 15 57.6**	**-0.1**
DLBC				IAmb	IAmb	01 16 05.7	
	comp=2,33nm,1.0s						
MA2	**Magadan**	**23.02**	**303**	LR	LR	01 26 18.8	
	comp=2,86nm,18.7s,baz=123,slow=40						
INK	**Inuvik**	**23.16**	**34**	P	**P**	**01 16 00.6**	**-1.0**
	comp=2,4.9nm,0.8s,baz=200,slow=6.2,SNR=9.1						
INK				LR	LR	01 26 23.1	
	comp=2,238nm,18.1s,baz=263,slow=40						
INK	**Inuvik**	**23.16**	**34**	P	**P**	**01 16 00.9**	**-0.6**
YKA	**Yellowknife Ar**	**30.10**	**49**	P	**P**	**01 17 05.2**	**+0.6**
	comp=2,0.9nm,0.4s,baz=76,slow=5.8,SNR=6.7						
YKA				LR	LR	01 30 14.9	
	comp=2,329nm,18.7s,baz=0.0,slow=38						
E04D	**Cinebar**	**30.50**	**82**	P	**P**	**01 17 09.6**	**+1.3**
	baz=299						
J01E	**Myrtle Point**	**31.43**	**89**	P	**P**	**01 17 17.9**	**+1.4**
	baz=304						
I03D	**Drain, OR**	**31.49**	**88**	P	**P**	**01 17 18.4**	**+1.4**
	baz=303						
B08A	**Colville Reser**	**31.60**	**77**	P	**P**	**01 17 18.1**	**0.0**
B08A				IAmb	IAmb	01 17 24.8	
	comp=2,6.7nm,0.8s						
K02D	**Willamette Mer**	**31.85**	**90**	P	**P**	**01 17 21.6**	**+1.3**
	baz=304						
I04A	**Tendick Farm,**	**32.01**	**87**	P	**P**	**01 17 24.2**	**+2.5**
	baz=303						
I05D	**Terrebonne, OR**	**32.37**	**85**	P	**P**	**01 17 27.3**	**+2.4**
	baz=302						
NEW	**Newport**	**32.96**	**76**	P	**P**	**01 17 31.4**	**+1.4**
	baz=298						
NEW	**Newport**	**32.96**	**76**	IAmb	IAmb	01 17 35.3	
	comp=2,5.9nm,0.8s						
J05D	**Fort Rock, OR**	**33.01**	**87**	P	**P**	**01 17 32.8**	**+2.3**
	baz=304						
E09A	**Wood Farm, Sta**	**33.19**	**80**	IAmb	IAmb	01 17 38.1	
	comp=2,11nm,1.4s						
M04C	**Macdoel**	**33.49**	**89**	P	**P**	**01 17 35.8**	**+1.0**
	baz=305						
K05A	**Summer Lake**	**33.53**	**87**	P	**P**	**01 17 34.6**	**-0.5**
K05A				IAmb	IAmb	01 17 43.9	
	comp=2,12nm,1.0s						
I07A	**Izee**	**33.62**	**84**	IAmb	IAmb	01 17 39.4	
	comp=2,6.9nm,1.0s						
O03E	**Paynes Creek**	**34.39**	**92**	P	**P**	**01 17 44.1**	**+1.6**
	baz=307						
WALA	**Waterton Lakes**	**34.48**	**73**	IAmb	IAmb	01 17 50.6	
	comp=2,19nm,1.4s						
J08A	**Circle Bar Ran**	**34.65**	**85**	IAmb	IAmb	01 17 48.2	
	comp=2,6.1nm,1.0s						
JTMT	**Jette**	**34.88**	**75**	P	**P**	**01 17 47.5**	**+0.7**
JTMT				IAmb	IAmb	01 17 53.5	
	comp=2,7.0nm,1.0s						
WVOR	**Wild Horse Val**	**35.06**	**86**	IAmb	IAmb	01 17 56.4	
	comp=2,7.5nm,0.8s						
MSO	**Missoula**	**35.54**	**77**	P	**P**	**01 17 53.0**	**+0.5**
	baz=300						
MSO	**Missoula**	**35.54**	**77**	P	**P**	**01 17 53.0**	**+0.5**
MSO				IAmb	IAmb	01 17 54.8	
	comp=2,10nm,1.4s						
PAHR	**Pah Rah Range**	**36.22**	**90**	P	**P**	**01 17 59.7**	**+1.3**
PAHR				IAmb	IAmb	01 18 06.6	
	comp=2,10.0nm,1.1s						
PNTR	**Pine Nut**	**36.47**	**91**	IAmb	IAmb	01 18 13.3	
	comp=2,11nm,0.9s						
HLID	**Hailey**	**36.99**	**82**	P	**P**	**01 18 05.3**	**+0.4**
	baz=304						
EGMT	**Eagleton**	**37.40**	**72**	P	**P**	**01 18 08.4**	**+0.1**
	baz=300,SNR=11						
EGMT	**Eagleton**	**37.40**	**72**	IAmb	IAmb	01 18 14.3	
	comp=2,23nm,1.0s						
BOZ	**Bozeman (W)**	**37.55**	**77**	P	**P**	**01 18 10.5**	**+0.9**
	baz=302,SNR=12						
BOZ	**Bozeman (W)**	**37.55**	**77**	P	**P**	**01 18 10.6**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**37.62**	**218**	T	T	01 58 08.1	
	baz=24,slow=76,SNR=236						
H11N3	**WAKE ISLAND Hy**	**37.63**	**218**	T	T	01 58 05.0	
	baz=24,slow=76,SNR=229						
H11N1	**WAKE ISLAND Hy**	**37.64**	**218**	T	T	01 58 04.1	
	baz=24,slow=76,SNR=227						
NVAR	**Mina Array Bea**	**37.67**	**91**	P	**P**	**01 18 13.5**	**+2.7**
	comp=2,4.7nm,0.9s,baz=302,slow=7.0,SNR=11						
NVAR				PcP	**PcP**	**01 20 29.6**	**+1.6**
	comp=2,0.4nm,0.5s,baz=350,slow=1.0,SNR=4.4						
NVAR	**Mina Array Bea**	**37.67**	**91**	P	**P**	**01 18 11.3**	**+0.5**
OMMB	**Old Mammoth Mi**	**37.76**	**93**	P	**P**	**01 18 12.2**	**+0.5**
YHH	**Holmes Hill**	**38.45**	**78**	P	**P**	**01 18 17.8**	**+0.3**
H11S1	**WAKE ISLAND Hy**	**38.81**	**218**	T	T	01 59 37.6	
	baz=23,slow=76,SNR=4145						
H11S2	**WAKE ISLAND Hy**	**38.83**	**218**	T	T	01 59 36.5	
	baz=23,slow=76,SNR=2609						
H11S3	**WAKE ISLAND Hy**	**38.83**	**218**	T	T	01 59 33.8	
	baz=23,slow=76,SNR=2193						
YNE	**Yellowstone No**	**38.83**	**77**	P	**P**	**01 18 21.4**	**+0.8**
USRK	**Ussuriysk Ar.**	**38.84**	**282**	LR	LR	01 33 55.0	
	comp=2,45nm,20.7s,baz=24,slow=36						
FLWY	**Flagg Ranch**	**38.93**	**78**	IAmb	IAmb	01 18 56.6	
	comp=2,14nm,1.4s						
RLMT	**Red Lodge**	**39.21**	**76**	P	**P**	**01 18 25.1**	**+1.4**
	baz=303,SNR=5.1						
RLMT	**Red Lodge**	**39.21**	**76**	P	**P**	**01 18 24.3**	**+0.6**
R11A	**Troy Canyon, C**	**39.38**	**89**	P	**P**	**01 18 26.8**	**+1.7**
	baz=309,SNR=13						
MPMC	**Manual Prospec**	**39.70**	**93**	P	**P**	**01 18 29.9**	**+2.1**
	baz=311						
MJAR	**Matsushiro Arr**	**39.70**	**268**	P	**P**	**01 18 28.0**	**+0.4**
	comp=2,1.6nm,0.8s,baz=38,slow=6.2,SNR=2.0						
MJAR				LR	LR	01 32 43.5	
	comp=2,90nm,21.7s,baz=70,slow=33						
MJAR	**Matsushiro Arr**	**39.70**	**268**	P	**P**	**01 18 27.2**	**-0.4**
FURC	**Furnace Creek,**	**39.81**	**92**	P	**P**	**01 18 30.7**	**+2.2**
	baz=311						
DUG	**Dugway, Tooele**	**39.93**	**85**	P	**P**	**01 18 31.3**	**+1.7**
	baz=308,SNR=8.7						
DUG	**Dugway, Tooele**	**39.93**	**85**	P	**P**	**01 18 30.4**	**+0.8**
DUG				IAmb	IAmb	01 18 32.6	
	comp=2,13nm,1.3s						
LAO	**LASA Array**	**40.15**	**72**	P	**P**	**01 18 32.6**	**+1.3**
	baz=302						
PRN	**Pahroc Range**	**40.30**	**90**	P	**P**	**01 18 32.5**	**-0.2**
BW06	**Boulder Array**	**40.37**	**79**	P	**P**	**01 18 34.3**	**+1.0**
	baz=306,SNR=5.6						
BW06	**Boulder Array**	**40.37**	**79**	P	**P**	**01 18 32.8**	**-0.6**
PD31	**Pinedale Array**	**40.37**	**79**	P	**P**	**01 18 32.8**	**-0.5**
PDAR	**Pinedale Array**	**40.37**	**79**	P	**P**	**01 18 34.5**	**+1.1**
	comp=2,3.6nm,0.8s,baz=310,slow=5.3,SNR=21						
PDAR				LR	LR	01 32 56.6	
	comp=2,43nm,19.9s,baz=316,slow=33						
PDAR	**Pinedale Array**	**40.37**	**79**	P	**P**	**01 18 33.1**	**-0.2**
BFSC	**Mount Baldy Ra**	**40.81**	**96**	P	**P**	**01 18 36.7**	**-0.3**
	baz=313						
SHPR	**Sheep Range**	**40.82**	**91**	P	**P**	**01 18 37.2**	**+0.1**
GMRC	**Granite Mounta**	**41.66**	**93**	P	**P**	**01 18 44.4**	**+0.5**
	baz=312						
PFO	**Pinyon Flats O**	**41.96**	**95**	P	**P**	**01 18 47.0**	**+0.5**
	baz=313						
BELC	**Belle Mtn. Jos**	**41.98**	**95**	P	**P**	**01 18 47.1**	**+0.5**
	baz=313						
109C	**Camp Elliot, M**	**42.07**	**97**	P	**P**	**01 18 48.6**	**+1.4**
	baz=314						
K22A	**Casper**	**42.25**	**78**	P	**P**	**01 18 49.1**	**+0.4**
	baz=306						
IRM	**Iron Mountain**	**42.39**	**94**	P	**P**	**01 18 50.7**	**+0.9**
	baz=313						
MONP2	**Monument Peak**	**42.48**	**96**	P	**P**	**01 18 51.5**	**+0.7**
	baz=314						
U15A	**North Rim**	**42.62**	**89**	IAmb	IAmb	01 19 05.1	
	comp=2,12nm,1.2s						
O20A	**White River Ci**	**42.73**	**82**	P	**P**	**01 18 53.2**	**+0.5**
	baz=308,SNR=11						
O20A	**White River Ci**	**42.73**	**82**	IAmb	IAmb	01 18 57.7	
	comp=2,11nm,0.8s						
SWSC	**Sam W. Stewart**	**42.82**	**96**	P	**P**	**01 18 54.4**	**+1.2**
	baz=314						
IKP	**In-Ko-Pah, Jac**	**42.84**	**96**	P	**P**	**01 18 54.6**	**+1.1**
	baz=314						
RSSD	**Black Hills**	**42.86**	**74**	P	**P**	**01 18 53.8**	**+0.1**
	baz=306						
RSSD	**Black Hills**	**42.86**	**74**	P	**P**	**01 18 53.0**	**-0.8**
RSSD				IAmb	IAmb	01 18 55.3	
	comp=2,20nm,1.6s						
PDMCI	**Parker Dam,Lak**	**42.90**	**93**	P	**P**	**01 18 54.9**	**+0.9**
	baz=313						
MDND	**Maddock**	**43.31**	**67**	P	**P**	**01 18 57.4**	**+0.4**
	baz=304						
GLA	**Glamis**	**43.34**	**95**	P	**P**	**01 18 58.5**	**+0.9**
	baz=314						
PV22	**Blue Mesa, Par**	**43.40**	**84**	IAmb	IAmb	01 19 03.0	
	comp=2,5.9nm,0.7s						
PV04	**Paradox Valley**	**43.42**	**84**	IAmb	IAmb	01 19 04.2	
	comp=2,8.3nm,0.9s						
PV17	**East Wray Mesa**	**43.46**	**84**	IAmb	IAmb	01 19 05.4	
	comp=2,10nm,0.7s						
PV16	**Nyswonger Mesa**	**43.47**	**84**	IAmb	IAmb	01 19 06.1	
	comp=2,7.5nm,1.0s						
PV11	**David Mesa, Pa**	**43.50**	**84**	IAmb	IAmb	01 19 03.8	
	comp=2,10nm,0.7s						
PV03	**Paradox Valley**	**43.54**	**84**	IAmb	IAmb	01 19 05.6	
	comp=2,7.6nm,0.8s						
PV13	**Radium Mtn., P**	**43.62**	**84**	IAmb	IAmb	01 19 06.8	
	comp=2,16nm,0.8s						
PV02	**Paradox Valley**	**43.64**	**84**	IAmb	IAmb	01 19 07.0	
	comp=2,12nm,0.8s						
N23A	**Red Feather La**	**43.65**	**79**	P	**P**	**01 19 00.9**	**+0.7**
	baz=308						
N23A	**Red Feather La**	**43.65**	**79**	IAmb	IAmb	01 19 05.2	
	comp=2,9.0nm,1.1s						
PV15	**Paradox Valley**	**43.71**	**84**	IAmb	IAmb	01 19 05.7	
	comp=2,22nm,1.6s						
WUAZ	**Wupatki**	**43.78**	**89**	P	**P**	**01 19 02.2**	**+0.9**
	baz=312						
WUAZ	**Wupatki**	**43.78**	**89**	IAmb	IAmb	01 19 07.2	
	comp=2,7.8nm,0.8s						
PV01	**Paradox Valley**	**43.79**	**84**	IAmb	IAmb	01 19 08.4	
	comp=2,8.4nm,0.7s						
ULM	**Lac du Bonnet**	**44.05**	**62**	P	**P**	**01 19 03.4**	**+0.4**
	comp=2,6.5nm,0.8s,baz=295,slow=12,SNR=4.8						
ULM				LR	LR	01 38 20.3	
	comp=2,65nm,20.1s,baz=308,slow=37						
ULM	**Lac du Bonnet**	**44.05**	**62**	IAmb	IAmb	01 19 06.9	
	comp=2,9.9nm,1.0s						
MVCO	**Mesa Verde**	**44.42**	**85**	IAmb	IAmb	01 19 11.3	
	comp=2,20nm,1.7s						
S22A	**4UR Ranch, Cre**	**45.09**	**83**	P	**P**	**01 19 13.3**	**+1.4**
	baz=310						
S22A	**4UR Ranch, Cre**	**45.09**	**83**	IAmb	IAmb	01 19 15.0	
	comp=2,12nm,1.6s						
AGMN	**Agassiz Nation**	**45.14**	**65**	P	**P**	**01 19 11.2**	**-0.5**
	baz=304,SNR=7.8						
AGMN	**Agassiz Nation**	**45.14**	**65**	IAmb	IAmb	01 19 15.3	
	comp=2,14nm,0.8s						
214A	**Organ Pipe Nat**	**45.32**	**94**	P	**P**	**01 19 15.1**	**+1.6**
	baz=314						
214A	**Organ Pipe Nat**	**45.32**	**94**	IAmb	IAmb	01 19 19.2	
	comp=2,8.6nm,1.1s						
KSRS	**Korea Array**	**45.38**	**276**	P	**P**	**01 19 13.3**	**-0.3**
	comp=2,1.2nm,0.8s,baz=46,slow=7.3,SNR=4.1						
KSRS				LR	LR	01 37 54.2	
	comp=2,41nm,19.8s,baz=145,slow=36						
SDCO	**Great Sand Dun**	**45.90**	**82**	P	**P**	**01 19 19.3**	**+1.1**
	baz=310,SNR=6.5						
SDCO	**Great Sand Dun**	**45.90**	**82**	IAmb	IAmb	01 19 20.1	
	comp=2,5.6nm,1.2s						
TUC	**Tucson**	**46.31**	**92**	P	**P**	**01 19 22.9**	**+1.6**
	baz=314						
TUC	**Tucson**	**46.31**	**92**	P	**P**	**01 19 21.2**	**-0.1**
TUC				IAmb	IAmb	01 19 27.1	
	comp=2,6.5nm,0.9s						
T25A	**Trinidad**	**46.95**	**82**	P	**P**	**01 19 27.7**	**+1.3**
	baz=311,SNR=6.9						
ECSD	**EROS Data Cent**	**47.40**	**70**	P	**P**	**01 19 29.3**	**-0.3**
	baz=308						
ECSD	**EROS Data Cent**	**47.40**	**70**	P	**P**	**01 19 29.3**	**-0.3**
ECSD				IAmb	IAmb	01 19 32.7	
	comp=2,14nm,1.2s						
EYMN	**Ely**	**47.73**	**63**	P	**P**	**01 19 31.2**	**-0.9**
	baz=306						
F36A	**Milaca**	**47.86**	**66**	IAmb	IAmb	01 19 36.4	
	comp=2,8.4nm,0.8s						
121A	**Cookes Peak, D**	**47.99**	**89**	P	**P**	**01 19 36.1**	**+1.6**
	baz=314						
121A	**Cookes Peak

baz=311
R40A Maddies Statio 53.41 73 IAmb IAmb 01 20 17.8
comp=Z,7.5nm,0.7s
U38A Gravette 53.42 76 IAmb IAmb 01 20 17.8
comp=Z,3.9nm,0.8s
D49A Beulah Townshi 53.52 58 P **P** **01 20 15.4 -0.4**
baz=311
E48A Lockeyer 53.61 59 P **P** **01 20 15.7 -0.7**
baz=311
HDIL Hopedale 53.61 69 P **P** **01 20 15.8 -0.7**
baz=312
MATQ Matagami 53.77 53 P **P** **01 20 16.1 -1.4**
baz=311
HHAR Hobbs 53.79 76 IAmb IAmb 01 20 22.1
comp=Z,3.9nm,0.8s
F48A Evansville 53.80 60 P **P** **01 20 17.1 -0.8**
baz=311
X37A Clayton 54.09 78 IAmb IAmb 01 20 24.1
comp=Z,8.0nm,0.8s
F49A Sandfield 54.15 60 P **P** **01 20 19.5 -0.8**
baz=311
CCM Cathedral Cave 54.17 72 P **P** **01 20 20.5 -0.1**
baz=313
JCT Junction City 54.29 85 P **P** **01 20 21.8 +0.1**
baz=315
D50A G1974 Best Tow 54.37 57 P **P** **01 20 20.9 -1.0**
baz=312
U40A Yellville 54.38 75 P **P** **01 20 21.1 -1.1**
baz=313
U40A Yellville 54.38 75 IAmb IAmb 01 20 26.5
comp=Z,4.4nm,0.6s
E50A Wahnapitae 54.40 58 P **P** **01 20 21.3 -0.8**
baz=312
LSQQ Lebel-sur-Quev 54.55 54 P **P** **01 20 21.9 -1.3**
baz=312
W39A Magazine 54.62 77 P **P** **01 20 24.0 0.0**
baz=314
WHTX Lake Whitney, 54.65 82 P **P** **01 20 24.8 +0.6**
baz=315
D51A Lot 18 Range I 54.66 57 P **P** **01 20 22.6 -1.5**
baz=312
VLDQ Val d'Or 54.95 55 IAmb IAmb 01 20 24.9
comp=Z,10nm,1.0s
T42A Van Buren 54.95 73 IAmb IAmb 01 20 29.6
comp=Z,7.3nm,1.2s
E51A G1948 Merrick 54.97 57 P **P** **01 20 25.2 -1.1**
baz=312
SFIN Lafayette 54.98 68 P **P** **01 20 25.8 -0.6**
baz=313
FCAR Ozark Folk Cen 55.13 75 IAmb IAmb 01 20 30.0
comp=Z,6.6nm,0.7s
F51A Arnstein 55.15 58 P **P** **01 20 26.7 -1.0**
baz=312
MIAR Mount Ida 55.19 77 P **P** **01 20 28.1 0.0**
baz=314
MIAR Mount Ida 55.19 77 P **P** **01 20 28.2 +0.1**
MIAR IAmb IAmb 01 20 32.1
comp=Z,11nm,1.1s
D52A ZEK Kipawa Sen 55.22 56 P **P** **01 20 26.9 -1.2**
baz=312
CHGQ Chibougamau 55.24 52 P **P** **01 20 27.0 -1.3**
baz=312
SCHQ Schefferville 55.28 43 P **P** **01 20 30.8 +2.3**
comp=Z,3.5nm,0.8s,baz=286,slow=5.3,SNR=3.6
SCHQ LR LR 01 44 08.6
comp=Z,98nm,18.5s,baz=1.5,slow=36
D53A Lac Vacive, Po 55.51 56 P **P** **01 20 29.5 -0.8**
baz=312
D53A Lac Vacive, Po 55.51 56 IAmb IAmb 01 20 33.5
comp=Z,8.8nm,0.9s
W41B Gary Mavity, V 55.55 76 P **P** **01 20 31.8 +1.2**
baz=314
W41B Gary Mavity, V 55.55 76 IAmb IAmb 01 20 32.7
comp=Z,4.1nm,0.9s
E52A Mattawa 55.56 57 P **P** **01 20 29.8 -0.8**
baz=312
X40A Basin Creek Fa 55.67 77 P **P** **01 20 32.0 +0.4**
baz=314
D54A Lac Fusel, La 55.99 55 P **P** **01 20 32.6 -1.1**
baz=313
I51A Listowel 56.00 61 P **P** **01 20 33.2 -0.6**
baz=313
E53A Dumoine, Ponti 56.01 57 P **P** **01 20 32.7 -1.1**
baz=313,SNR=7.7
833A Chaparral WMA, 56.08 87 P **P** **01 20 35.4 +0.9**
baz=316
ALGO Algonquin Park 56.09 57 P **P** **01 20 33.7 -0.7**
baz=313
H06N1 SOCORRO T-PHAS 56.12 104 T T 02 21 26.0
SNR=14
E54A Lac Daplat, Po 56.21 56 P **P** **01 20 34.3 -0.9**
baz=313
H06E1 SOCORRO T-PHAS 56.22 104 T T 02 21 29.8
SNR=26
G54A Lake Saint Pet 56.45 58 P **P** **01 20 36.2 -0.8**
baz=313
D55A Sainte-Anne-du 56.67 55 P **P** **01 20 37.5 -1.0**
baz=313
H53A Bobcaygeon 56.76 59 P **P** **01 20 38.8 -0.4**
baz=313
P49A Miami Univ. Ec 56.89 67 P **P** **01 20 39.7 -0.5**
baz=314
WCI Wyandotte Cave 56.90 69 P **P** **01 20 40.1 -0.1**
baz=314
D56A ZEC Mazanza, M 57.01 54 P **P** **01 20 39.3 -1.7**
baz=314,SNR=5.5
E56A St. Veronique 57.22 55 P **P** **01 20 41.2 -1.2**
baz=314
PLVO Plevna 57.22 57 IAmb IAmb 01 20 46.1
comp=Z,15nm,1.1s
N51A Ashland 57.24 64 P **P** **01 20 41.4 -1.2**
baz=314
G55A Calabogie 57.26 57 P **P** **01 20 42.2 -0.5**
baz=314
ZALV Zalesovo Beam 57.26 317 LR LR 01 48 52.8
comp=Z,32nm,18.3s,baz=44,slow=40
DELO Deloro Mine 57.30 58 IAmb IAmb 01 20 46.8
comp=Z,12nm,1.1s
ACSO Alum Creek Sta 57.38 65 P **P** **01 20 43.2 -0.4**
baz=314
D57A Chemin Vers le 57.46 54 P **P** **01 20 42.8 -1.3**
baz=314
WVT Waverly 57.47 72 P **P** **01 20 43.7 -0.6**
baz=314
WVT Waverly 57.47 72 P **P** **01 20 44.3 0.0**
WVT IAmb IAmb 01 20 45.0
comp=Z,11nm,1.4s
I55A Frankford 57.48 58 P **P** **01 20 43.5 -0.8**
baz=314
H55A Tweed 57.50 58 P **P** **01 20 43.6 -0.8**
baz=314
O51A Pataskala 57.64 65 P **P** **01 20 44.7 -0.9**
baz=314
OXF Oxford 57.68 74 P **P** **01 20 45.7 -0.1**
baz=315
ARCES ARCESS Array B 57.70 354 LR LR 01 45 56.1
comp=Z,36nm,20.6s,baz=36,slow=36
ORIO Orleans, Innes 57.73 56 P **P** **01 20 45.0 -1.1**
baz=314
LATQ La Tuque 57.75 53 P **P** **01 20 44.6 -1.5**
baz=314
E57A Chemin Saint G 57.75 55 P **P** **01 20 44.6 -1.7**
baz=314
M53A WI Miller and 57.80 63 P **P** **01 20 46.2 -0.4**
baz=314
H56A Elgin 57.95 57 P **P** **01 20 46.7 -0.8**
baz=314
R50A Paris 57.98 68 IAmb IAmb 01 20 51.1
comp=Z,8.7nm,0.9s
L54A Sinclairville 57.98 61 P **P** **01 20 47.3 -0.5**
baz=314
PECO Prince Edward 58.03 58 IAmb IAmb 01 20 51.9
comp=Z,14nm,1.0s
J55A Hilton 58.06 59 P **P** **01 20 47.7 -0.7**
baz=314
O52A Adamsville 58.09 64 P **P** **01 20 48.3 -0.3**
baz=314
PLAL Pickwick Lake 58.13 73 IAmb IAmb 01 20 51.7
comp=Z,5.6nm,0.8s
N53A Lisbon 58.16 63 P **P** **01 20 48.7 -0.4**
baz=314
G57A Newington 58.24 56 P **P** **01 20 48.9 -0.7**
baz=314
M54A Oil Creek Stat 58.30 62 P **P** **01 20 49.2 -0.9**
baz=314
K55A Perry 58.30 60 P **P** **01 20 49.9 -0.2**
baz=314
CLTN Cedars of Leba 58.36 71 IAmb IAmb 01 20 54.8
comp=Z,20nm,1.6s
U49A Red Boiling Sp 58.38 70 IAmb IAmb 01 20 54.5
comp=Z,18nm,1.6s
H57A Richville 58.49 57 P **P** **01 20 50.9 -0.4**
baz=315
L55A Hinsdale 58.49 61 P **P** **01 20 51.0 -0.5**
baz=314
N54A Moraine State 58.51 63 P **P** **01 20 51.4 -0.2**
baz=314
J56A Wolcott 58.56 59 P **P** **01 20 51.5 -0.3**
baz=314
J56A Wolcott 58.56 59 IAmb IAmb 01 20 55.4
comp=Z,9.2nm,0.8s
G58A Ormstown 58.68 56 P **P** **01 20 52.0 -0.7**
baz=315
I57A Carthage 58.72 58 P **P** **01 20 52.5 -0.4**
baz=315,SNR=7.3
K56A Middlesex 58.72 60 P **P** **01 20 52.8 -0.3**
baz=315
P53A Whipple 58.77 65 P **P** **01 20 53.1 -0.3**
baz=315
LONY Lake Ozonia 58.79 56 P **P** **01 20 52.8 -0.6**
baz=315
LONY Lake Ozonia 58.79 56 IAmb IAmb 01 20 56.1
comp=Z,14nm,1.2s
M55A Ridgway 58.81 61 P **P** **01 20 53.1 -0.6**
baz=315
F59A Saint Guilaume 58.82 54 P **P** **01 20 52.5 -1.1**
baz=315
O54A Avella 58.84 64 P **P** **01 20 53.7 -0.2**
baz=315
J57A Williamstown 58.91 58 P **P** **01 20 54.5 +0.2**
baz=315
L56A Greenwood 58.99 60 P **P** **01 20 54.9 0.0**
baz=315,SNR=9.6
M56A Emporium 59.12 61 P **P** **01 20 55.3 -0.5**
baz=315
K57A Scipio Center 59.12 59 P **P** **01 20 55.0 -0.8**
baz=315
D61A St Aubert, Com 59.13 52 P **P** **01 20 55.4 -0.3**
baz=316
H58A Gabriels 59.13 56 P **P** **01 20 54.9 -1.0**
baz=315
Q53A Leroy 59.14 65 P **P** **01 20 55.7 -0.3**
baz=315
F60A Warwick 59.15 54 P **P** **01 20 55.3 -0.6**
baz=315
G59A Clarenceville 59.17 55 P **P** **01 20 55.3 -0.7**
baz=315
N55A Marion Center 59.18 62 P **P** **01 20 55.3 -1.0**
baz=315
P54A Burton 59.19 64 P **P** **01 20 55.7 -0.6**
baz=315
H59A Cadyville 59.22 56 P **P** **01 20 55.3 -1.1**
baz=315
I58A Old Forge 59.24 57 P **P** **01 20 55.6 -1.0**
baz=315
R53A Hurricane 59.27 66 P **P** **01 20 57.0 +0.1**
baz=315
J58A Remsen 59.31 58 P **P** **01 20 57.1 -0.1**
baz=315
O55A Ligonier 59.41 63 P **P** **01 20 57.6 -0.2**
baz=315
Q54A Coxs Mills 59.43 65 P **P** **01 20 57.8 -0.2**
baz=315
N56A West Decatur 59.45 62 P **P** **01 20 57.8 -0.3**
baz=315
L57A Andrews Acres 59.46 60 P **P** **01 20 58.1 -0.1**
baz=315
MCWV Mont Chateau 59.50 64 P **P** **01 20 58.1 -0.4**
baz=315
K58A Earlville 59.55 58 P **P** **01 20 58.2 -0.5**
baz=315
F61A St Evariste 59.62 53 P **P** **01 20 58.3 -0.8**
baz=316
P55A Reedsville 59.62 64 P **P** **01 20 59.1 -0.2**
baz=315
S53A Williamson 59.63 67 P **P** **01 20 59.7 +0.3**
baz=315
TZTN Tazewell 59.64 69 P **P** **01 20 59.8 +0.3**
baz=315
J59A Piesco 59.64 57 P **P** **01 20 59.0 -0.4**
baz=315
O56A Blue Knob Stat 59.77 62 P **P** **01 20 59.8 -0.6**
baz=315
BINY Binghamton 59.77 59 P **P** **01 20 60.0 -0.3**
baz=315
M57A Sunshine Farm, 59.78 61 P **P** **01 21 00.0 -0.3**
baz=315
Q55A Buckhannon 59.84 64 P **P** **01 21 00.4 -0.4**
baz=315
E62A Clayton Lake 59.86 52 P **P** **01 20 59.7 -1.1**
baz=316
SSPA Standing Stone 59.87 62 P **P** **01 21 00.8 -0.2**
baz=315
SSPA Standing Stone 59.87 62 P **P** **01 21 01.1 +0.1**
FPAL Fort Paine 59.88 72 P **P** **01 21 01.3 +0.2**
FPAL IAmb IAmb 01 21 04.0
comp=Z,13nm,1.4s
T53A Wise 59.90 68 P **P** **01 21 01.2 -0.2**
baz=315
R54A Victor 59.91 66 P **P** **01 21 01.3 -0.1**
baz=315
K59A Cooperstown 59.95 58 P **P** **01 21 00.8 -0.7**
baz=316
L58A Harry Jones Me 59.95 59 P **P** **01 21 00.9 -0.7**
baz=315
N57A Milroy 59.97 61 P **P** **01 21 01.5 -0.2**
baz=315
I60A Shoreham 59.99 56 P **P** **01 21 01.0 -0.7**
baz=316
M58A Price's Panora 60.11 60 P **P** **01 21 02.6 0.0**
baz=316
LRAL Lakeview Retre 60.14 74 P **P** **01 21 03.4 +0.4**
baz=316
LRAL Lakeview Retre 60.14 74 P **P** **01 21 03.0 +0.1**
LRAL IAmb IAmb 01 21 08.8
comp=Z,5.1nm,0.8s
P56A Dayton Farm, R 60.16 63 P **P** **01 21 02.8 -0.2**
baz=315
L59A Walton 60.27 59 P **P** **01 21 03.3 -0.5**
baz=316
L59A Walton 60.27 59 P **P** **01 21 03.7 0.0**
O57A Amberson 60.31 62 P **P** **01 21 04.0 0.0**
baz=316
R55A Marlinton 60.33 65 P **P** **01 21 03.6 -0.7**
baz=316
N58A Sunbury 60.35 61 P **P** **01 21 04.0 -0.2**
baz=316
J60A Lant Hill Farm 60.35 57 P **P** **01 21 03.9 -0.4**
baz=316
G62A West of Eustis 60.38 53 P **P** **01 21 03.8 -0.6**
baz=316
T54A Tazewell 60.38 67 P **P** **01 21 04.6 -0.1**
baz=316
I61A Oroboro, Fairl 60.48 55 P **P** **01 21 04.6 -0.5**
baz=316
S55A Lewisburg 60.48 66 P **P** **01 21 05.2 0.0**
baz=316
E63A Oxbow 60.53 51 P **P** **01 21 04.9 -0.5**
baz=317
M59A Waymart 60.53 59 P **P** **01 21 05.2 -0.3**
baz=316
H62A Milan 60.54 54 P **P** **01 21 04.9 -0.6**
baz=316
P57A Homestead Farm 60.62 63 P **P** **01 21 05.9 -0.2**
baz=316
R56A Bull Pasture M 60.63 64 P **P** **01 21 06.4 +0.1**
baz=316
J61A Chester 60.72 56 P **P** **01 21 06.1 -0.7**
baz=316
F63A Nahmakanta, Br 60.73 52 P **P** **01 21 05.9 -0.9**
baz=317
Q57A Strasburg 60.73 63 P **P** **01 21 06.3 -0.6**
baz=316
O58A Lewisberry 60.75 61 P **P** **01 21 06.3 -0.7**
baz=316
T55A Pulaski 60.79 66 P **P** **01 21 06.9 -0.5**
baz=316
N59A State Game Lan 60.80 60 P **P** **01 21 06.7 -0.7**
baz=316
N59A State Game Lan 60.80 60 P **P** **01 21 07.7 +0.3**
E64A Bridgewater 60.82 51 P **P** **01 21 06.1 -1.2**
baz=317
L60A Shokan 60.84 58 P **P** **01 21 07.2 -0.4**
baz=316
BLA Blacksburg 60.92 66 P **P** **01 21 08.1 -0.2**
baz=316
BLA Blacksburg 60.92 66 P **P** **01 21 08.5 +0.2**
O59A Robesonia 61.01 61 P **P** **01 21 08.1 -0.7**
baz=316
L61A Hillsdale 1, H 61.04 58 P **P** **01 21 08.7 -0.3**
baz=316
S56A Natural Bridge 61.06 65 P **P** **01 21 09.1 -0.1**
baz=316
U55A TA2, Sparta 61.08 67 P **P** **01 21 09.2 -0.1**
baz=316
V54A Nebo 61.09 68 P **P** **01 21 09.2 -0.2**
baz=316
M60A Port Jervis 61.11 59 P **P** **01 21 09.2 -0.3**
baz=316
N60A Cedar Hill Far 61.19 60 P **P** **01 21 09.2 -0.8**
baz=316
Q58A Fox Den Farm, 61.19 63 P **P** **01 21 09.3 -0.7**
baz=316
R57A Stanardsville 61.19 64 P **P** **01 21 09.6 -0.4**
baz=316
G64A Maxfield 61.22 52 P **P** **01 21 08.6 -1.5**
baz=317
T56A Rocky Mt 61.27 66 P **P** **01 21 10.1 -0.5**
baz=316
L61B Northampton 61.30 57 P **P** **01 21 09.4 -1.3**
baz=316
S57A Dark Hollow, R 61.34 65 P **P** **01 21 11.0 -0.1**
baz=316
P59A Jarrettsville 61.38 62 P **P** **01 21 11.0 -0.3**
baz=316
O60A Telford 61.42 60 P **P** **01 21 11.0 -0.6**
baz=316
V55A Taylorsville 61.45 68 P **P** **01 21 11.8 0.0**
baz=316
R58A Rapidan 61.48 64 P **P** **01 21 11.8 -0.2**
baz=316
J63A Strafford 61.51 55 P **P** **01 21 11.3 -0.8**
baz=317
P60A Greenville 61.66 61 P **P** **01 21 12.8 -0.4**
baz=316
N61A South Mountain 61.69 59 P **P** **01 21 12.7 -0.7**
baz=316
T57A Hurt 61.72 65 P **P** **01 21 13.3 -0.4**
baz=316
X54A Belton 61.73 69 P **P** **01 21 13.8 +0.1**
baz=316
R58B Mineral 61.79 64 P **P** **01 21 14.0 0.0**
baz=316
HRV Adam Dziewonsk 61.83 56 P **P** **01 21 13.5 -0.7**
baz=317
V56A Mocksville 61.89 67 P **P** **01 21 13.9 -0.8**
baz=316
KMSC Kings Mountain 61.89 68 P **P** **01 21 14.4 -0.5**
baz=316
GOGA Godfrey 61.92 71 P **P** **01 21 14.4 -0.7**
baz=316
M62A Hamden 61.92 58 P **P** **01 21 13.9 -1.0**
baz=317
S58A Poland Farm, P 61.94 64 P **P** **01 21 14.6 -0.5**
baz=316
U57A Blanch 62.09 66 P **P** **01 21 15.5 -0.5**
baz=316
T58A Grand View Acr 62.16 65 P **P** **01 21 16.1 -0.5**
baz=316
KURK Kurchatov 62.21 318 P **P** **01 21 16.4 -0.2**
KURK IAmb IAmb 01 22 04.8
comp=Z,9.0nm,1.9s
X55A Gracelyn & Ava 62.21 69 P **P** **01 21 16.2 -0.7**
baz=317
S59A Mechanicsville 62.25 64 P **P** **01 21 16.7 -0.4**
baz=317
KURBB Kurchatov Arra 62.32 318 P **P** **01 21 16.5 -0.8**
comp=Z,0.5nm,0.7s,baz=42,slow=7.3,SNR=6.3
Y55A Saluda 62.47 70 P **P** **01 21 17.9 -0.8**
baz=317
W57A Gilead 62.64 67 P **P** **01 21 19.0 -0.8**
baz=317
LMN Caledonia Moun 62.65 50 P **P** **01 21 19.3 -0.4**
V58A Windy Hill, Pi 62.67 66 P **P** **01 21 20.1 +0.1**
baz=317
T59A Double "B" Far 62.68 64 P **P** **01 21 20.0 0.0**
baz=317
U59A Littleton 63.00 65 P **P** **01 21 21.8 -0.4**
baz=317
T60A Surry 63.01 64 P **P** **01 21 21.7 -0.5**
baz=317
W58A Raeford 63.17 67 P **P** **01 21 22.5 -0.8**
baz=317
V59A Middlesex 63.18 66 P **P** **01 21 22.9 -0.4**
baz=317
BVAR Borovoye Array 63.52 324 P **P** **01 21 25.0 -0.4**
comp=Z,0.9nm,0.7s,baz=64,slow=9.8,SNR=4.5
157A Early Branch 63.88 70 P **P** **01 21 27.9 -0.1**
baz=317
NOA NORSAR Array B 66.72 360 LR LR 01 51 55.4
comp=Z,16nm,19.1s,baz=10.0,slow=37
AKTO Aktyubinsk 69.82 330 P **P** **01 22 08.5 +2.8**
comp=Z,0.7nm,0.5s,baz=62,slow=6.9,SNR=4.1
KKAR Karatay Array 71.62 318 P **P** **01 22 16.2 -0.5**
AKASG Malin Array Be 75.89 348 P **P** **01 22 43.4 +1.8**
comp=Z,0.3nm,0.3s,baz=15,slow=5.9,SNR=1.7
AKASG Malin Array Be 75.89 348 P **P** **01 22 41.7 +0.1**
CMAR Chiang Mai Arr 76.57 283 P **P** **01 22 46.6 +0.7**
comp=Z,0.8nm,0.3s,baz=34,slow=6.5,SNR=4.4
CMAR Chiang Mai Arr 76.57 283 P **P** **01 22 44.4 -1.6**
GERES GERESS Array B 78.91 358 P **P** **01 23 00.4 +1.7**
comp=Z,0.5nm,0.7s,baz=12,slow=6.8,SNR=4.4
GERES GERESS Array B 78.91 358 P **P** **01 22 58.6 -0.1**
WRA Warramunga Arr 87.14 232 P **P** **01 23 40.5 -0.8**
comp=Z,2.2nm,1.0s,baz=31,slow=6.0,SNR=8.4
WRA Warramunga Arr 87.14 232 P **P** **01 23 40.6 -0.8**
ESDC Sonseca Array 87.24 11 P **P** **01 23 44.8 +2.9**
comp=Z,0.6nm,0.7s,baz=345,slow=4.8,SNR=5.9
ESDC LR LR 02 06 07.8
comp=Z,16nm,18.5s,baz=240,slow=38
ESDC Sonseca Array 87.24 11 P **P** **01 23 41.5 -0.4**
RPSI Rantau Prapat 88.92 273 P **P** **01 23 49.4 -0.7**
RUSC La Rusia 89.18 81 P **P** **01 23 50.0 -2.0**
ASAR Alice Springs 90.53 230 P **P** **01 23 57.1 -0.3**
comp=Z,6.2nm,1.0s,baz=41,slow=4.6,SNR=18
ASAR Alice Springs 90.53 230 P **P** **01 23 56.5 -0.8**
H03N2 Juan Fernandez 116.01 112 T T 03 36 23.0
baz=323,slow=78,SNR=152
H03N1 Juan Fernandez 116.02 111 T T 03 36 24.2
baz=323,slow=78,SNR=172
H03N3 Juan Fernandez 116.03 112 T T 03 36 21.3
baz=323,slow=78,SNR=261
MAW Mawson 151.04 219 PKPbc **PKiKP** **01 30 47.2 -0.3**
comp=Z,5.3nm,0.8s,baz=135,slow=2.6,SNR=15
MAW Mawson 151.04 219 **PKPbc** **01 30 46.6 -0.3**
BOSA Boshof 153.70 330 PKPbc **PKPbc** **01 30 54.1 -0.2**
comp=Z,3.3nm,0.8s,baz=42,slow=3.5,SNR=5.8
BOSA Boshof 153.70 330 **PKPbc** **01 30 53.5 -0.9**

*SOME **19** 01:19:58.4, 41.˚58N×81.˚45E, h20km*
*NNC **19** 01:20:00.6±1.2, 41.˚75N×81.˚42E, h0km, mb3.7, mpv3.4,*
Error ellipse: s-maj=9.2km s-min=5.7km az=159.0
ISC 19 01:20:00.9±1.6, 41.72N±0.08×81.52E±0.04, h17km, n38,
σ2s24/58, 6C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KTMS	**Ketmen**	**1.93**	**334**	*e*P		**Pb**	**01 20 35.5**	**-0.3**
	4.4nm,0.1s							
KTMS				*e*S		**Sg**	**01 21 01.9**	**-1.2**
	51nm,0.3s							
SHLS	**Shalkode**	**2.10**	**314**	*e*P		**Pn**	**01 20 35.2**	**-0.1**
	32nm,0.1s							
SHLS				*e*S		**Sn**	**01 21 01.3**	**+0.2**
	101nm,0.5s							
SHLS	**Shalkode**	**2.10**	**314**	Pg		**Pn**	**01 20 35.0**	**-0.3**
	32nm,0.1s							
SHLS				Lg		Lg	01 21 01.3	
	101nm,0.5s							
PDGK	**Podgornoye**	**2.20**	**318**	⇓Pn		**Pb**	**01 20 39.1**	**-1.3**
	14nm,0.6s							
PDGK				⇓Lg		Lg	01 21 09.2	
	42nm,0.3s							
UZB	**Uzynbulak**	**2.34**	**309**	*e*P		**Pb**	**01 20 42.2**	**-0.4**
	5.7nm,0.3s							
UZB				*e*S		**Sg**	**01 21 13.9**	**-2.2**
	49nm,0.2s							
UZB	**Uzynbulak**	**2.34**	**309**	Pg		**Pb**	**01 20 42.2**	**-0.4**
	7.4nm,0.3s							
UZB				Lg		Lg	01 21 13.9	
	49nm,0.2s							
SATY	**Saty**	**2.67**	**301**	*e*P		**Pb**	**01 20 47.5**	**-0.8**

	4.3nm,0.1s								
SATY					*e*S		**Sb**	**01 21 22.2**	**+1.4**
	39nm,0.4s								
SATY	**Saty**	**2.67**	**301**		Pg		**Pb**	**01 20 47.5**	**-0.8**
	6.2nm,0.2s								
SATY					Lg		Lg	01 21 22.2	
	39nm,0.4s								
KURS	**Kuram**	**3.04**	**307**		*e*P		**Pb**	**01 20 53.7**	**-0.9**
	6.9nm,0.7s								
KURS					*e*S		**Sb**	**01 21 33.4**	**+2.0**
	12nm,0.9s								
KURS	**Kuram**	**3.04**	**307**		Pg		**Pb**	**01 20 53.7**	**-0.9**
	6.9nm,0.7s								
KURS					Lg		Lg	01 21 33.4	
	12nm,0.9s								
KOTS	**Kotyrbulak**	**3.60**	**296**		*e*P		**Pb**	**01 21 03.4**	**-0.7**
	8.9nm,0.4s								
KOTS					*e*S		**Sb**	**01 21 50.1**	**+2.6**
	15nm,0.3s								
KOTS	**Kotyrbulak**	**3.60**	**296**		Pg		**Pb**	**01 21 03.4**	**-0.7**
	8.9nm,0.4s								
KOTS					Lg		Lg	01 21 50.1	
	15nm,0.3s								
MDOK	**Medeo**	**3.61**	**295**		*e*P		**Pb**	**01 21 04.1**	**-0.2**
	2.9nm,0.3s								
MDOK					*e*S		**Sb**	**01 21 51.5**	**+3.6**
	9.2nm,0.6s								
MDOK	**Medeo**	**3.61**	**295**		Pg		**Pb**	**01 21 05.8**	**+1.4**
	2.1nm,0.6s								
MDOK					⇓Lg		Lg	01 21 54.3	
	16nm,0.8s								
MDOK	**Medeo**	**3.61**	**295**		Pg		**Pb**	**01 21 04.1**	**-0.2**
	2.9nm,0.3s								
MDOK					Lg		Lg	01 21 51.5	
	9.2nm,0.6s								
TNSS	**Tian-Shan**	**3.64**	**293**		*e*P		**Pb**	**01 21 04.1**	**-0.8**
	0.9nm,0.1s								
TNSS					*e*S		**Sb**	**01 21 51.4**	**+2.5**
	8.0nm,0.3s								
TNSS	**Tian-Shan**	**3.64**	**293**		Pg		**Pb**	**01 21 04.1**	**-0.8**
	1.4nm,0.2s								
TNSS					Lg		Lg	01 21 51.4	
	8.0nm,0.3s								
ARXS	**Arharly**	**3.68**	**314**		*e*P		**Pb**	**01 21 06.5**	**+1.0**
	7.9nm,0.3s								
ARXS					*e*S		**Sg**	**01 21 55.8**	**-3.4**
	11nm,0.2s								
ARXS	**Arharly**	**3.68**	**314**		Pg		**Pb**	**01 21 06.5**	**+1.0**
	7.9nm,0.3s								
ARXS					Lg		Lg	01 21 55.8	
	11nm,0.2s								
IZV	**Izvestkoviy**	**3.87**	**292**		*e*P		**Pb**	**01 21 08.9**	**+0.1**
	1.9nm,0.2s								
IZV					*e*S		**Sb**	**01 21 59.9**	**+4.6**
	17nm,0.3s								
IZV	**Izvestkoviy**	**3.87**	**292**		Pg		**Pb**	**01 21 08.9**	**+0.1**
	1.9nm,0.2s								
IZV					Lg		Lg	01 21 59.9	
	17nm,0.3s								
KAPS	**Kapalarasan**	**3.90**	**337**		*e*P		**Pb**	**01 21 10.5**	**+1.3**
	3.1nm,0.3s								
KAPS					*e*S		**Sg**	**01 22 02.1**	**-3.9**
	5.5nm,0.3s								
KAPS	**Kapalarasan**	**3.90**	**337**		Pg		**Pb**	**01 21 10.5**	**+1.3**
	3.1nm,0.3s								
KAPS					Lg		Lg	01 22 02.1	
	5.5nm,0.3s								
CHKK	**Chushkaly**	**3.96**	**304**		*e*P		**Pb**	**01 21 11.5**	**+1.3**
	2.0nm,0.1s								
CHKK					*e*S		**Sg**	**01 22 04.2**	**-3.8**
	12nm,0.2s								
CHKK	**Chushkaly**	**3.96**	**304**		Pg		**Pb**	**01 21 11.5**	**+1.3**
	2.0nm,0.1s								
CHKK					Lg		Lg	01 22 04.2	
	12nm,0.2s								
KTBS	**Karatobe**	**4.08**	**301**		*e*P		**Pb**	**01 21 13.5**	**+1.2**
	3.0nm,0.4s								
KTBS					*e*S		**Sg**	**01 22 07.4**	**-4.6**
	16nm,0.4s								
KTBS	**Karatobe**	**4.08**	**301**		Pg		**Pb**	**01 21 13.5**	**+1.2**
	3.0nm,0.4s								
KTBS					Lg		Lg	01 22 07.4	
	16nm,0.4s								
KST	**Kastek**	**4.32**	**290**		*e*P		**Pb**	**01 21 16.3**	**-0.2**
	4.8nm,0.6s								
KST					*e*S		**Sb**	**01 22 12.7**	**+4.3**
	12nm,0.7s								
KST	**Kastek**	**4.32**	**290**		Pg		**Pb**	**01 21 16.3**	**-0.2**
	4.8nm,0.6s								
KST					Lg		Lg	01 22 12.7	
	12nm,0.7s								
KUU	**Kurty**	**4.39**	**301**		*e*P		**Pb**	**01 21 19.1**	**+1.5**
	2.1nm,0.1s								
KUU					*e*S		**Sg**	**01 22 16.9**	**-4.8**
	5.6nm,0.1s								
KUU	**Kurty**	**4.39**	**301**		Pg		**Pb**	**01 21 19.0**	**+1.5**
	2.1nm,0.1s								
KUU					Lg		Lg	01 22 16.9	
	7.6nm,0.4s								
DGS	**Degeres**	**4.52**	**292**		*e*P		**Pb**	**01 21 20.3**	**+0.5**
	2.0nm,0.3s								
DGS					*e*S		**Sb**	**01 22 19.2**	**+5.3**
	9.8nm,0.4s								
DGS	**Degeres**	**4.52**	**292**		Pg		**Pb**	**01 21 20.3**	**+0.5**
	2.0nm,0.3s								
DGS					Lg		Lg	01 22 19.2	
	9.8nm,0.4s								
TKM2	**Tokmak 2**	**4.55**	**287**		⇑Pn		**Pn**	**01 21 10.5**	**+1.3**
	0.9nm,0.2s								
TKM2					⇑Sn		**Sn**	**01 22 05.0**	**+3.2**
	1.8nm,0.7s								
TKM2					⇑Lg		Lg	01 22 23.3	
	5.5nm,0.4s								
WMQ	**Urumqi**	**5.01**	**63**		*e*P		**Pb**	**01 21 27.1**	**-1.0**
MAKZ	**Makanchi**	**5.10**	**4**		⇑Pn		**Pn**	**01 21 18.3**	**+1.8**
MAKZ					⇓Pg		**Pb**	**01 21 33.1**	**+3.5**
MAKZ					⇓Sn		**Sn**	**01 22 17.2**	**+2.2**
	1.3nm,0.5s								
MAKZ					⇑Lg		Lg	01 22 40.2	
	3.8nm,0.9s								
MK31	**Makanchi Array**	**5.11**	**6**		Pn		**Pn**	**01 21 18.6**	**+2.0**
	0.4nm,0.2s,baz=211,slow=4.5,SNR=32								
MK31					⇓Pg		**Pg**	**01 21 34.2**	**-4.4**
	1.1nm,0.8s,baz=184,slow=16,SNR=4.2								
MK31					⇑Sn		**Sn**	**01 22 16.5**	**+1.4**
	4.4nm,0.9s								
MK31					⇓Lg		Lg	01 22 40.8	
	4.6nm,0.8s,baz=189,slow=29,SNR=3.6								
AAK	**Ala-Archa**	**5.30**	**282**		Lg		Lg	01 22 47.2	
	5.3nm,0.7s								

TEH ***19*** *01:22:12.9, 32°.65N×47°.68E, h17km, ML3.2*
ISN ***19*** *01:22:12.1±0.8, 32°.65N×47°.81E, h14km±5km, ML2.9*
THR ***19*** *01:22:17.3±0.3, 32°.60N×47°.89E, h39km±3km, ML3.1*
ISC 19 01:22:14.0±1.0, 32°.62N±0°.04×47°.71E±0°.04, h10km, n45, σ1§20/49, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.91**	**7**	*e*Pg	**Pg**	**01 22 29.3**	**-2.2**
IKFM				*e*		01 22 50.1	
IKMR	**Kamar-syah**	**1.05**	**32**	*e*Pg	**Pg**	**01 22 31.6**	**-2.7**
IKMR				*e*		01 22 54.8	
SHGR	**Shooshtar-Gavs**	**1.05**	**119**	*e*Pg	**Pg**	**01 22 34.8**	**+0.5**
SHGR	**Shooshtar-Gavs**	**1.05**	**119**	*e*Pg	**Pg**	**01 22 34.8**	**+0.5**
IDOB	**Doab**	**1.23**	**18**	*e*Pg	**Pb**	**01 22 36.3**	**-1.1**
BMDN	**Meydan**	**1.40**	**41**	*e*Pg	**Pn**	**01 22 39.5**	**-0.3**
BMDN				*e*		01 23 04.8	
AHWZ	**Ahwaz**	**1.51**	**148**	*e*Pg	**Pn**	**01 22 41.5**	**+0.4**
IKOM	**Komasi**	**1.56**	**354**	*e*Pg	**Pn**	**01 22 42.2**	**+0.3**
IKOM				*e*		01 23 09.2	
IBDR	**Badra**	**1.58**	**288**	*e*Pg	**Pn**	**01 22 42.0**	**0.0**
IBDR				*e*Sg	**Sn**	**01 23 04.0**	**+1.5**
IBDR				AML	AML	01 23 07.4	
	comp=N,176nm,0.4s						
IBDR				AML	AML	01 23 09.7	
	comp=E,197nm,0.6s						
KCHF	**Cheshme Sefid,**	**1.74**	**341**	*e*Pg	**Pn**	**01 22 45.4**	**+0.9**
KCHF				*e*		01 23 14.2	
HSAM	**Samen**	**1.75**	**25**	*e*Pg	**Pn**	**01 22 45.9**	**+1.2**
HSAM				*e*		01 22 47.0	
KER	**Kermanshah**	**1.82**	**345**	*e*Pn	**Pn**	**01 22 46.1**	**+0.5**
IBZA	**Bozab**	**1.85**	**4**	*e*Pn	**Pn**	**01 22 46.8**	**+0.8**
IBZA				*e*		01 23 19.1	
IGHG	**Ghaleghazi**	**1.95**	**331**	*e*Pg	**Pn**	**01 22 48.4**	**+1.0**
IGHG				*e*		01 23 24.5	
IVIS	**Veis**	**2.03**	**339**	*e*Pn	**Pn**	**01 22 48.4**	**0.0**
IVIS				*e*		01 23 22.1	
NSR	**Nassriya**	**2.09**	**220**	*e*Pn	**Pn**	**01 22 49.0**	**-0.1**
NSR				*e*Sn	**Sn**	**01 23 15.0**	**-0.2**
KHMZ	**Khomeyn**	**2.19**	**59**	*e*Pn	**Pn**	**01 22 51.5**	**+0.9**
KHMZ	**Khomeyn**	**2.19**	**59**	*e*Pn	**Pn**	**01 22 51.5**	**+0.9**
IALM	**Almabolaq**	**2.26**	**10**	*e*Pn	**Pn**	**01 22 52.8**	**+1.1**
IDHR	**Dehrash**	**2.35**	**332**	*e*Pn	**Pn**	**01 22 53.2**	**+0.4**
IDHR				*e*		01 23 34.6	
ILIN	**Lien**	**2.37**	**345**	*e*Pn	**Pn**	**01 22 53.6**	**+0.4**
ILIN				*e*		01 23 39.3	
SNGE	**Sanandaj**	**2.48**	**353**	*e*Pn	**Pn**	**01 22 57.8**	**+3.1**
SNGE				IAML		01 23 40.0	
	comp=N,74nm,0.6s						
SNGE	**Sanandaj**	**2.48**	**353**	*e*Pn	**Pn**	**01 22 57.8**	**+3.1**
HAGD	**Aghdareh**	**2.50**	**28**	*e*Pn	**Pn**	**01 22 56.3**	**+1.4**
HAGD				*e*		01 23 40.6	
JHBN	**Jahan bin**	**2.53**	**98**	*e*Pn	**Pn**	**01 22 55.1**	**-0.3**
JHBN				*e*		01 23 40.3	
HSRG	**Sareghieh**	**2.66**	**10**	*e*Pn	**Pn**	**01 22 58.3**	**+1.2**
HSRG				*e*		01 23 41.9	
IPIR	**Pirpir**	**2.68**	**88**	*e*Pn	**Pn**	**01 22 58.0**	**+0.5**
IPIR				*e*		01 23 47.3	
ASAO	**Ashtian**	**2.72**	**45**	*e*Pn	**Pn**	**01 22 59.5**	**+1.5**
ASAO				*e*Sg	**Sb**	**01 23 38.2**	**+1.7**
ASAO	**Ashtian**	**2.72**	**45**	*e*Pn	**Pn**	**01 22 59.5**	**+1.5**
ROKH	**ROKH**	**2.82**	**95**	*e*Pn	**Pn**	**01 22 59.4**	**+0.1**
BHD	**Baghdad**	**2.88**	**284**	*e*Pn	**Pn**	**01 23 00.0**	**+0.1**
BHD				*e*Sn	**Sn**	**01 23 36.0**	**+1.5**
IKLH	**Kolahrood**	**3.32**	**77**	*e*Pn	**Pn**	**01 23 06.8**	**+0.5**
IRAZ	**Razeghan**	**3.33**	**33**	*e*Pn	**Pn**	**01 23 08.0**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.45**	**26**	*e*Pn	**Pn**	**01 23 08.6**	**+0.7**
IGAR	**Gharneh**	**3.66**	**92**	*e*Pn	**Pn**	**01 23 10.7**	**-0.2**
KLNJ	**Kolanjah**	**3.67**	**115**	*e*Pn	**Pn**	**01 23 10.8**	**-0.4**
IZEF	**Zefreh**	**3.90**	**85**	*e*Pn	**Pn**	**01 23 14.4**	**+0.2**
IRAM	**Ramesheh**	**4.04**	**100**	*e*Pn	**Pn**	**01 23 15.6**	**-0.5**
QSDN	**Sirdan**	**4.05**	**17**	*e*Pn	**Pn**	**01 23 17.4**	**+1.1**
QALM	**Alamut, Qazvin**	**4.51**	**32**	*e*Pn	**Pn**	**01 23 24.0**	**+1.5**
IDMV	**Damavand**	**4.64**	**49**	*e*Pn	**Pn**	**01 23 24.7**	**+0.3**
ANAR	**Anarak**	**5.09**	**82**	*e*Pn	**Pn**	**01 23 29.9**	**-0.6**
ISAD	**Sadrabad**	**5.11**	**96**	*e*Pn	**Pn**	**01 23 30.0**	**-0.8**
IFIR	**Firoozkooh**	**5.15**	**53**	*e*Pn	**Pn**	**01 23 32.6**	**+1.2**
IANJ	**Anjilo**	**5.88**	**59**	*e*Pn	**Pn**	**01 23 41.0**	**-0.4**

TEH ***19*** *01:29:45.4, 32°.48N×47°.66E, h19km, ML2.7*
ISN ***19*** *01:29:45.2±0.7, 32°.48N×47°.65E, h14km±5km, ML2.5*
ISC 19 01:29:45.2±1.3, 32°.45N±0°.07×47°.68E±0°.07, h10km, n9, σ1§22/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.08**	**8**	*e*		01 30 23.9	
IKFM				*e*Pg	**Pg**	**01 30 04.8**	**-1.1**
IKMR	**Kamar-syah**	**1.22**	**29**	*e*		01 30 29.5	
IKMR				*e*Pg	**Pb**	**01 30 06.7**	**-1.6**
IDOB	**Doab**	**1.40**	**17**	*e*Pg	**Pn**	**01 30 11.5**	**+0.5**
IDOB				*e*		01 30 13.8	
BMDN	**Meydan**	**1.55**	**38**	*e*Pg	**Pn**	**01 30 14.5**	**+1.4**
BMDN				*e*		01 30 19.9	
BMDN				*e*Sg	**Sg**	**01 30 36.2**	**+1.0**
IBDR	**Badra**	**1.61**	**295**	*e*Pg	**Pn**	**01 30 14.0**	**+0.3**
IBDR				*e*Sg	**Sn**	**01 30 35.0**	**+0.5**
IBDR				AML	AML	01 30 43.5	
	comp=E,54nm,0.6s						
IBDR				AML	AML	01 30 43.6	
	comp=N,44nm,0.4s						
IKOM	**Komasi**	**1.72**	**355**	*e*Pg	**Pn**	**01 30 17.6**	**+2.2**
IKOM				*e*		01 30 48.1	
NSR	**Nassriya**	**1.94**	**223**	*e*Pn	**Pn**	**01 30 19.0**	**+0.8**
NSR				*e*Sn	**Sn**	**01 30 43.0**	**+0.3**
IVIS	**Veis**	**2.18**	**342**	*e*Pn	**Pn**	**01 30 22.2**	**+0.6**
IVIS				*e*		01 30 58.0	
BHD	**Baghdad**	**2.89**	**287**	*e*Pn	**Pn**	**01 30 32.0**	**+0.7**
BHD				*e*Sn	**Sn**	**01 31 07.0**	**+0.9**
BHD				AML	AML	01 31 13.0	
	comp=E,55nm,0.4s						

IDC ***19*** *01:32:11.1±0.7, 3°.47S×140°.13E, h0km, mb4.2/12, mb1 4.4/15, mb1mx4.2/40, mbtmp4.3/15, ML4.3/3, MS3.9/22, Ms1 3.9/22, ms1mx3.7/37, Error ellipse: s-maj=20.6km s-min=9.7km az=117.0*
NEIC ***19*** *01:32:16.7±1.2, 3°.55S±0°.09×139°.90E±0°.02, h44km±7km, mb4.6/27, Error ellipse: s-maj=12.4km s-min=3.1km az=175.0*
DJA ***19*** *01:32:16.1±0.7, 3°S±3°×14°0E±°, h21km±6km, M4.6/18, mb4.7/18, mB5.1/5, MLv4.6/5, Mw(mB)4.5/5, Mwp5.0/1*
GCMT ***19*** *01:32:19.7±0.3, 3°.24S±0°.02×140°.14E±0°.03, h33km±1km, MW4.9/59, Moment Tensor Solution. s33,c38; s59,c72; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.41±.16; Mθθ-1.35±.10; Mϕϕ-1.07±.12; Mrθ-1.08±.10; Mϕθ1.23±.06; Mϕr0.71±.14; Best double couple: M₀2.75200×10¹⁶ NP1:ϕs136.00000°, δ31.00000°, λ.97.00000°. NP2: ϕs308.00000°, δ59.00000°, λ.86.00000°. Principal axes: T 2.7390, Plg76.0000°, Azm206.0000°; N 0.0160, Plg4.0000°, Azm310.0000°; P -2.7650, Plg14.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 01:32:15.9±0.4, 3°.54S±0°.05×140°.18E±0°.05, h35km, n90, σ1§91/75, mb4.5/20, MS3.9/20, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.94**	**359**	P	**Pn**	**01 32 30.3**	**-2.3**
GENI				S	**Sn**	**01 32 42.7**	**-2.1**
JAY	**Jayapura**	**1.14**	**27**	Pg	**Pn**	**01 32 32.9**	**-2.6**
	78nm,0.3s,baz=214,slow=8.9,SNR=499						
JAY				Lg	Lg	01 32 47.2	
	330nm,0.3s,baz=51,slow=12,SNR=10						
JAY	**Jayapura**	**1.14**	**27**	P	**Pn**	**01 32 32.7**	**-2.8**
JAY				S	**Sn**	**01 32 47.4**	**-2.6**
WAMI	**Wamena**	**1.50**	**257**	P	**Pn**	**01 32 39.4**	**-1.0**
SMPI	**Sarmi**	**2.12**	**316**	P	**Pn**	**01 32 49.5**	**+0.6**
SMPI				S	**Sn**	**01 33 19.0**	**+4.9**
SRPI	**Serui, Papua**	**4.27**	**293**	P	**Pn**	**01 33 19.0**	**+0.6**
FAKI	**Fak Fak**	**7.94**	**274**	Pn	**Pn**	**01 34 06.0**	**-2.9**
PMG	**Port Moresby**	**9.06**	**130**	Pn	**Pn**	**01 34 27.8**	**+3.5**
SIJI	**Sorong**	**9.29**	**286**	LR	LR	01 38 56.7	
	comp=Z,1μm,19.8s,baz=83,slow=44						
COEN	**Coen**	**10.77**	**164**	Pn	**Pn**	**01 34 49.3**	**+1.5**
RABL	**Rabaul**	**11.98**	**94**	Pn	**Pn**	**01 35 08.7**	**+4.4**
MTN	**Manton Dam**	**12.87**	**224**	Pn	**Pn**	**01 35 15.0**	**-1.5**
KNRA	**Kununurra**	**16.48**	**222**	Pn	**Pn**	**01 36 03.0**	**-1.6**
KNRA				IAmb	IAmb	01 36 10.7	
	comp=Z,51nm,1.1s						
SOEI	**Soe**	**16.96**	**248**	P	**P**	**01 36 12.8**	**+0.4**
	comp=Z,89nm,0.9s						
SOEI	**Soe**	**16.96**	**248**		**Pn**	**01 36 07.8**	**-2.9**
SOEI				IAmb	IAmb	01 36 26.9	
	comp=Z,52nm,0.9s						
WB0	**Warramunga Arr**	**17.09**	**199**	Pn	**Pn**	**01 36 11.1**	**-1.2**
WB0				IAmb	IAmb	01 36 22.0	
	comp=Z,35nm,1.1s						
WR0	**Warramunga Arr**	**17.23**	**198**	Pn	**Pn**	**01 36 12.4**	**-1.5**
WR0				IAmb	IAmb	01 36 19.7	
	comp=Z,28nm,0.8s						
WRAB	**Tennant Creek**	**17.26**	**199**	P	**Pn**	**01 36 14.1**	**-0.3**
WRAB				IAmb	IAmb	01 36 24.6	
	comp=Z,35nm,0.8s						
WB2	**Warramunga Arr**	**17.27**	**199**	Pn	**Pn**	**01 36 13.3**	**-1.2**
WB2				IAmb	IAmb	01 36 24.8	
	comp=Z,32nm,0.8s						
WRA	**Warramunga Arr**	**17.27**	**199**	P	**Pn**	**01 36 13.1**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=20,slow=12,SNR=31						
WRA				S	**Sn**	**01 39 25.5**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=94,slow=28,SNR=3.3						
WRA				LR	LR	01 43 10.3	
	comp=Z,669nm,19.1s,baz=15,slow=38						
WRA	**Warramunga Arr**	**17.27**	**199**	P	**Pn**	**01 36 14.6**	**0.0**
CTA	**Charters Tower**	**17.49**	**161**	P	**Pn**	**01 36 17.9**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=299,slow=8.1,SNR=2.0						
GUMO	**Guam**	**17.64**	**15**	LR	LR	01 43 55.9	
	comp=Z,434nm,18.3s,baz=204,slow=40						
GUMO	**Guam**	**17.64**	**15**		**P**	**01 36 20.8**	**+1.0**
GUMO				IAmb	IAmb	01 36 39.7	
	comp=Z,58nm,1.1s						
GTOI	**Gorontalo**	**17.65**	**283**	P	**P**	**01 36 22.0**	**+2.1**
	comp=Z,316nmcomp=Z,25nm,1.0s						

BATI	**Baumata**	**17.68**	**247**		P		**P**	**01 36 20.3**	**0.0**
	comp=Z,6.2nm,0.3s,baz=120,slow=7.7,SNR=2.1								
BNSI	**Bone**	**20.04**	**267**		P		**Pn**	**01 36 49.4**	**+1.3**
	comp=Z,33nm,1.2s								
FITZ	**Fitzroy Crossi**	**20.30**	**223**		P		**P**	**01 36 49.6**	**+0.6**
	comp=Z,12nm,1.0s,baz=43,slow=12,SNR=15								
FITZ					S		**S**	**01 40 31.9**	**-3.0**
	comp=Z,6.6nm,0.8s,baz=72,slow=15,SNR=3.9								
FITZ					LR		LR	01 44 47.8	
	comp=Z,212nm,21.5s,baz=34,slow=37								
FITZ	**Fitzroy Crossi**	**20.30**	**223**		P		**P**	**01 36 47.9**	**-1.1**
FITZ					IAmb		IAmb	01 36 54.2	
	comp=Z,21nm,1.0s								
FITZ							**S**	**01 40 29.2**	**-5.6**
KAPI	**Kappang**	**20.42**	**265**		LR		LR	01 46 32.8	
	comp=Z,180nm,19.3s,baz=94,slow=42								
MPSI	**Mapaga**	**20.63**	**280**		P		Pn	01 36 55.8	+0.8
	comp=Z,2μmcomp=Z,16nm,1.0s								
PATS	**Pohnpei**	**20.83**	**60**		P		Pn	01 36 57.5	+0.1
AS31	**Alice Springs**	**20.91**	**196**		P		**P**	**01 36 55.0**	**-0.5**
ASAR	**Alice Springs**	**20.91**	**196**		P		**P**	**01 36 57.0**	**+1.5**
	comp=Z,22nm,0.7s,baz=26,slow=8.8,SNR=87								
ASAR					S		Sn	01 40 52.9	-0.7
	comp=Z,3.0nm,0.9s,baz=26,slow=18,SNR=4.4								
ASAR					LR		LR	01 45 41.6	
	comp=Z,635nm,20.0s,baz=20,slow=39								
ASAR	**Alice Springs**	**20.91**	**196**		P		**P**	**01 36 55.1**	**-0.5**
MYLDM	**Lahad Datu**	**23.32**	**292**		P		**P**	**01 37 17.6**	**-3.6**
EIDS	**Eidsvold**	**24.11**	**155**		P		**P**	**01 37 30.0**	**+1.4**
EIDS					IAmb		IAmb	01 37 43.1	
	comp=Z,22nm,0.9s								
KKM	**Kota Kinabalu**	**25.75**	**292**		P		**P**	**01 37 40.9**	**-2.8**
KKM					IAmb		IAmb	01 37 57.0	
	comp=Z,12nm,0.8s								
TGY	**Tagaytay City**	**25.91**	**313**		LR		LR	01 47 19.3	
	comp=Z,102nm,21.6s,baz=32,slow=35								
STKA	**Stephens Creek**	**28.22**	**177**		LR		LR	01 50 49.2	
	comp=Z,893nm,19.3s,baz=358,slow=40								
JCJ	**Chichijima**	**30.51**	**4**		LR		LR	01 48 56.8	
	comp=Z,157nm,21.4s,baz=122,slow=33								
H11S3	**WAKE ISLAND Hy**	**34.08**	**49**		T		T	02 14 06.9	
	baz=232,slow=76,SNR=6.3								
H11S2	**WAKE ISLAND Hy**	**34.09**	**49**		T		T	02 13 52.6	
	baz=232,slow=76,SNR=5.6								
H11S1	**WAKE ISLAND Hy**	**34.09**	**49**		T		T	02 13 55.9	
	baz=232,slow=76,SNR=4.7								
MDSI	**Maura Dua**	**35.92**	**267**		P		**P**	**01 39 14.6**	**+1.3**
	comp=Z,15nm,1.4s								
JHJ	**Hachijo jima 2**	**36.46**	**359**		LR		LR	01 51 53.8	
	comp=Z,306nm,19.6s,baz=134,slow=32								
JNU	**Nakatsue**	**37.51**	**347**		LR		LR	01 52 10.3	
	comp=Z,183nm,21.8s,baz=169,slow=32								
SDSI	**Sungai Dareh**	**38.80**	**273**		P		**P**	**01 39 38.5**	**+0.7**
	comp=Z,15nm,2.1s								
RPSI	**Rantau Prapat**	**41.69**	**278**		P		**P**	**01 39 59.0**	**-2.8**
PSI	**Prapat**	**41.71**	**278**		P		**P**	**01 40 01.1**	**-1.0**
	comp=Z,27nm,0.7s,baz=178,slow=0.9,SNR=24								
KSRS	**Korea Array**	**42.34**	**345**		P		**P**	**01 40 07.0**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=158,slow=8.6,SNR=4.6								
KSRS					LR		LR	01 55 51.9	
	comp=Z,131nm,20.4s,baz=152,slow=34								
GSI	**Gunungsitoli**	**42.85**	**276**		P		**P**	**01 40 11.5**	**+0.3**
	comp=Z,38nm,0.8s								
GSI	**Gunungsitoli**	**42.85**	**276**		P		**P**	**01 40 09.4**	**-1.8**
MLSI	**Meulaboh, Aceh**	**44.42**	**280**		P		P	01 40 33.9	+10
CMAR	**Chiang Mai Arr**	**46.12**	**300**		P		**P**	**01 40 36.8**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=123,slow=6.5,SNR=12								
ASAJ	**Asahikawa**	**47.49**	**2**		LR		LR	02 00 36.7	
	comp=Z,63nm,20.7s,baz=182,slow=36								
USRK	**Ussuriysk Ar.**	**48.09**	**352**		P		**P**	**01 40 51.7**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=190,slow=5.8,SNR=5.1								
USRK					LR		LR	01 57 57.0	
	comp=Z,186nm,21.8s,baz=164,slow=32								
USRK	**Ussuriysk Ar.**	**48.09**	**352**		P		**P**	**01 40 51.3**	**-0.8**
TUWZ	**Tuamarina**	**48.37**	**146**		P		**P**	**01 40 55.4**	**+1.0**
CN2	**Changchun**	**48.95**	**346**		*e*P		P	01 41 06.8	+8.0
CN2					*e*S		**S**	**01 48 06.3**	**+5.8**
CN2					pmax		pmax		
	comp=Z,10.0nm,0.6s								
CN2					LR		LR		
	comp=N,100nm,18.0s								
CN2					LR		LR		
	comp=E,100nm,18.0s								
CN2					LR		LR		

IBDR				AML	AML	01 34 07.1	
	comp=N,187nm,0.8s						
IBDR				AML	AML	01 34 07.8	
	comp=E,142nm,0.8s						
HSAM	**Samen**	**1.78**	**24**	*e*Pg	**Pn**	**01 33 45.1**	**+1.4**
KCHF	**Cheshme Sefid,**	**1.78**	**341**	*e*Pg	**Pn**	**01 33 45.0**	**+1.4**
KCHF				*e*		01 34 13.7	
KER	**Kermanshah**	**1.86**	**345**	*e*Pn	**Pn**	**01 33 46.3**	**+1.6**
IBZA	**Bozab**	**1.88**	**3**	*e*Pn	**Pn**	**01 33 46.1**	**+1.0**
IBZA				*e*		01 34 20.9	
IGHG	**Ghaleghazi**	**1.99**	**331**	*e*Pn	**Pn**	**01 33 48.6**	**+2.0**
IGHG				*e*		01 34 26.1	
IVIS	**Veis**	**2.07**	**339**	*e*Pn	**Pn**	**01 33 49.2**	**+1.7**
IVIS				*e*		01 34 27.2	
NSR	**Nassriya**	**2.07**	**221**	*e*Pn	**Pn**	**01 33 48.0**	**+0.6**
NSR				*e*Sn	**Sn**	**01 34 14.0**	**+0.8**
KHMZ	**Khomeyn**	**2.20**	**58**	*e*Pn	**Pn**	**01 33 51.0**	**+1.7**
IALM	**Almabolaq**	**2.30**	**9**	*e*Pn	**Pn**	**01 33 51.9**	**+1.1**
IDHR	**Dehrash**	**2.39**	**332**	*e*Pn	**Pn**	**01 33 54.0**	**+2.0**
IDHR				*e*		01 34 39.7	
ILIN	**Lien**	**2.42**	**345**	*e*Pn	**Pn**	**01 33 53.4**	**+1.0**
ILIN				*e*		01 34 39.9	
JHBN	**Jahan bin**	**2.51**	**97**	*e*Pn	**Pn**	**01 33 54.4**	**+0.7**
JHBN				*e*		01 34 39.1	
SNGE	**Sanandaj**	**2.52**	**353**	*e*Pn	**Pn**	**01 33 56.5**	**+2.7**
HAGD	**Aghdareh**	**2.52**	**27**	*e*Pn	**Pn**	**01 33 55.1**	**+1.2**
HAGD				*e*		01 34 39.5	
IPIR	**Pirpir**	**2.67**	**87**	*e*Pn	**Pn**	**01 33 57.3**	**+1.4**
IPIR				*e*		01 34 46.1	
HSRG	**Sareghieh**	**2.69**	**10**	*e*Pn	**Pn**	**01 33 58.3**	**+2.1**
HSRG				*e*		01 34 44.2	
ASAO	**Ashtian**	**2.74**	**44**	*e*Pn	**Pn**	**01 33 57.9**	**+1.0**
ROKH	**ROKH**	**2.81**	**94**	*e*Pn	**Pn**	**01 33 58.0**	**+0.3**
ROKH				*e*		01 34 55.1	
BHD	**Baghdad**	**2.90**	**285**	*e*Pn	**Pn**	**01 33 59.0**	**+0.2**
BHD				*e*Sn	**Sn**	**01 34 34.0**	**+0.3**
IKLH	**Kolahrood**	**3.32**	**76**	*e*Pn	**Pn**	**01 34 06.4**	**+1.6**
IKLH				*e*		01 35 14.2	
IRAZ	**Razeghan**	**3.35**	**32**	*e*Pn	**Pn**	**01 34 06.7**	**+1.4**
QABG	**Abgarm-Qazvin**	**3.48**	**26**	*e*Pn	**Pn**	**01 34 07.8**	**+0.9**
KLNJ	**Kolanjah**	**3.65**	**115**	*e*Pn	**Pn**	**01 34 10.0**	**+0.6**
KLNJ				*e*		01 35 34.2	
IZEF	**Zefreh**	**3.89**	**84**	*e*Pn	**Pn**	**01 34 13.7**	**+1.0**
IRAM	**Ramesheh**	**4.02**	**100**	*e*Pn	**Pn**	**01 34 14.1**	**-0.3**
QSDN	**Sirdan**	**4.09**	**17**	*e*Pn	**Pn**	**01 34 17.2**	**+1.8**

*IDC **19** 01:41:33.6±1.1,52°.52N×169°.70W,h0km,mb4.0/7,*
mb1 4.3/8,mb1mx3.8/56,mbtmp4.0/8,ML3.5/1,MS3.2/7,
Ms1 3.2/7,ms1mx2.8/51,Error ellipse: s-maj=38.9km
s-min=21.4km az=143.0
*AEIC **19** 01:41:34±1.5,52.65N±0.08×169.5W±0.1,h5km±3km,*
ML3.8/29,mb4.2/27(NEIC),Error ellipse: s-maj=14.8km
s-min=4.5km az=143.0
*NEIC **19** 01:41:34.2±1.1,52.7N±0.1×169.6W±0.1,h4km±5km,Error*
ellipse: s-maj=22.4km s-min=4.6km az=150.0

ISC 19 01:41:33.7±2.3,52.7N±0.1×169.55W±0.09,h4km±14km,
n79,σ1§12/67,mb4.2/16,MS3.1/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.51**	**55**		**Pb**	**01 41 44.9**	**-0.4**
NIKH					**Sb**	**01 41 52.6**	**-0.6**
OKSP	**Okmok Steeple**	**0.95**	**53**		**Pg**	**01 41 52.0**	**0.0**
OKCE	**Okmok Cone E**	**1.12**	**48**		**Pb**	**01 41 55.1**	**-0.6**
OKCE					**Sn**	**01 42 12.2**	**0.0**
OKNC	**Okmok New Cone**	**1.16**	**47**		**Pb**	**01 41 55.9**	**-0.4**
OKFG	**Magazine Ridge**	**1.23**	**53**		**Pn**	**01 41 56.7**	**-1.0**
OKFG					**Sb**	**01 42 13.0**	**-0.8**
MAPS	**Pakushin South**	**1.93**	**53**		**Pn**	**01 42 07.0**	**-0.4**
MAPS					**Sb**	**01 42 32.8**	**-1.2**
MSW	**Makushin Switc**	**2.07**	**52**		**Pn**	**01 42 09.0**	**-0.3**
MNAT	**Makushin Natee**	**2.10**	**54**		**Pn**	**01 42 09.3**	**-0.4**
MNAT					**Sb**	**01 42 37.8**	**-1.1**
UNV	**Unalaska Valle**	**2.17**	**56**		**Pn**	**01 42 10.5**	**-0.1**
AKRB	**Akutan Reef Bi**	**2.54**	**54**		**Pn**	**01 42 16.8**	**+1.0**
AKMO	**Akutan Morgan**	**2.55**	**55**		**Pn**	**01 42 16.8**	**+1.0**
AKMO					**Sb**	**01 42 50.6**	**-1.0**
AKBBA	**Akutan Broad B**	**2.59**	**55**		**Pn**	**01 42 17.8**	**+1.4**
AKLV	**Akutan Long Va**	**2.62**	**54**		**Pn**	**01 42 17.8**	**+1.1**
AKGG	**Akutan Green G**	**2.62**	**53**		**Pn**	**01 42 18.0**	**+1.2**
AKUT	**Akutan**	**2.69**	**56**	Pn	**Pn**	**01 42 19.5**	**+1.8**
AKSA	**Akutan Strait**	**2.73**	**56**		**Pn**	**01 42 19.3**	**+1.0**
KOFP	**Korovin Flat P**	**2.81**	**263**		**Pn**	**01 42 20.7**	**+1.3**
ATKA	**Atka Island**	**2.88**	**262**		**Pn**	**01 42 20.5**	**+0.1**
FALS	**False Pass**	**4.24**	**57**	Pn	**Pn**	**01 42 39.7**	**+0.6**
ADK	**Adak**	**4.45**	**263**		**Pn**	**01 42 42.4**	**+0.5**
SDPT	**Sand Point**	**5.98**	**60**	Pn	**Pn**	**01 43 03.7**	**+0.8**
CNBA	**Chernabura Isl**	**6.29**	**66**		**Pn**	**01 43 08.0**	**+0.9**
KDAK	**Kodiak Island**	**10.94**	**55**	Pn	**Pn**	**01 44 13.2**	**+2.3**
	1.4nm,0.3s,baz=240,slow=9.0,SNR=14						
KDAK	**Kodiak Island**	**10.94**	**55**		**Pn**	**01 44 11.7**	**+0.8**
BPAW	**Bear Paw Mtn.**	**14.95**	**33**	Pn	**Pn**	**01 45 05.7**	**+0.2**
SCM	**Sheep Creek Mo**	**15.04**	**44**	Pn	**Pn**	**01 45 07.5**	**+0.6**
KLU	**Klutina**	**15.50**	**46**	Pn	**Pn**	**01 45 13.3**	**+0.4**
KLU				IAmb	IAmb	01 45 23.0	
	comp=Z,8.5nm,0.9s						
ILAR	**Eielson Array**	**16.76**	**35**	Pn	**P**	**01 45 29.7**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=225,slow=11,SNR=7.3						
ILAR				LR	LR	01 52 49.9	
	comp=Z,56nm,20.8s,baz=218,slow=40						
YAH	**Yahtse**	**17.05**	**52**	Pn	**Pn**	**01 45 32.5**	**-0.5**
YAH				IAmb	IAmb	01 45 40.6	
	comp=Z,20nm,0.9s						
HYT	**Haines Junctio**	**19.20**	**52**	P	**Pn**	**01 45 58.9**	**-0.4**
HYT				IAmb	IAmb	01 46 06.2	
	comp=Z,8.7nm,0.6s						
WHY	**Whitehorse**	**20.44**	**53**	P	Pn	01 46 12.5	-1.5
WHY				IAmb	IAmb	01 46 19.9	
	comp=Z,8.3nm,0.7s						
DLBC	**Dease Lake**	**22.82**	**60**	P	**P**	**01 46 40.4**	**+2.9**
	comp=Z,10nm,1.1s,baz=276,slow=8.1,SNR=9.8						
DLBC				LR	LR	01 54 23.7	
	comp=Z,70nm,18.7s,baz=334,slow=34						
DLBC	**Dease Lake**	**22.82**	**60**	P	**P**	**01 46 37.7**	**+0.3**
DLBC				IAmb	IAmb	01 46 42.1	
	comp=Z,11nm,1.0s						
INK	**Inuvik**	**23.15**	**34**	P	**P**	**01 46 40.9**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=253,slow=11,SNR=5.3						
INK				LR	LR	01 56 04.5	
	comp=Z,47nm,20.5s,baz=270,slow=37						
INK	**Inuvik**	**23.15**	**34**	P	**P**	**01 46 41.1**	**+0.5**
BBB	**Bella Bella**	**25.02**	**74**	LR	LR	01 55 22.2	
	comp=Z,44nm,19.0s,baz=228,slow=33						
YKA	**Yellowknife Ar**	**30.12**	**49**	P	**P**	**01 47 47.1**	**+3.0**
	comp=Z,1.3nm,0.5s,baz=272,slow=12,SNR=1.9						
YKA				LR	LR	02 01 03.2	
	comp=Z,93nm,19.1s,baz=0.0,slow=39						
YBH	**Yreka Blue Hor**	**33.09**	**90**	LR	LR	01 58 11.2	
	comp=Z,22nm,20.4s,baz=344,slow=30						
MCMT	**McKenzie Canyo**	**37.33**	**79**	P	**P**	**01 48 47.8**	**+0.7**
EGMT	**Eagleton**	**37.48**	**72**	P	**P**	**01 48 49.1**	**+0.9**
EGMT				IAmb	IAmb	01 48 53.8	
	comp=Z,5.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**37.63**	**218**	T	T	02 28 44.4	
	baz=24,slow=76,SNR=67						
BOZ	**Bozeman (W)**	**37.64**	**77**	P	**P**	**01 48 50.0**	**+0.3**
H11N3	**WAKE ISLAND Hy**	**37.64**	**218**	T	T	02 28 45.0	
	baz=24,slow=76,SNR=81						
H11N1	**WAKE ISLAND Hy**	**37.65**	**218**	T	T	02 28 54.9	
	baz=24,slow=76,SNR=83						
NVAR	**Mina Array Bea**	**37.78**	**91**	P	**P**	**01 48 53.0**	**+2.0**
	comp=Z,0.9nm,0.8s,baz=298,slow=7.4,SNR=5.6						
NVAR	**Mina Array Bea**	**37.78**	**91**	P	**P**	**01 48 51.4**	**+0.3**
YHH	**Holmes Hill**	**38.54**	**78**	P	**P**	**01 48 58.0**	**+0.5**
H11S1	**WAKE ISLAND Hy**	**38.82**	**218**	T	T	02 30 15.4	
	baz=23,slow=76,SNR=1428						
H11S2	**WAKE ISLAND Hy**	**38.83**	**218**	T	T	02 30 16.4	
	baz=23,slow=76,SNR=1068						
H11S3	**WAKE ISLAND Hy**	**38.84**	**218**	T	T	02 30 16.6	
	baz=23,slow=76,SNR=602						
R11A	**Troy Canyon, C**	**39.49**	**89**	P	**P**	**01 49 06.0**	**+0.7**
DUG	**Dugway, Tooele**	**40.03**	**85**	P	**P**	**01 49 09.6**	**-0.1**
PD31	**Pinedale Array**	**40.45**	**79**	P	**P**	**01 49 14.0**	**+0.6**
PDAR	**Pinedale Array**	**40.45**	**79**	P	**P**	**01 49 14.1**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=310,slow=5.3,SNR=12						
PDAR	**Pinedale Array**	**40.45**	**79**	P	**P**	**01 49 13.9**	**+0.5**
U15A	**North Rim**	**42.73**	**89**	IAmb	IAmb	01 49 34.4	
	comp=Z,3.0nm,0.8s						
O20A	**White River Ci**	**42.83**	**82**	IAmb	IAmb	01 49 34.1	
	comp=Z,4.5nm,0.8s						
PV04	**Paradox Valley**	**43.52**	**84**	IAmb	IAmb	01 49 44.8	
	comp=Z,3.4nm,0.7s						
PV11	**David Mesa, Pa**	**43.60**	**84**	IAmb	IAmb	01 49 47.3	
	comp=Z,5.2nm,0.8s						
PV03	**Paradox Valley**	**43.64**	**84**	IAmb	IAmb	01 49 45.1	
	comp=Z,3.2nm,0.7s						
ULM	**Lac du Bonnet**	**44.10**	**62**	LR	LR	02 07 53.3	
	comp=Z,46nm,18.2s,baz=318,slow=36						
X16A	**Lo Mia Camp, P**	**44.58**	**90**	IAmb	IAmb	01 49 49.5	
	comp=Z,2.0nm,0.8s						
T25A	**Trinidad**	**47.04**	**82**	P	**P**	**01 50 06.5**	**0.0**
WMOK	**Wichita Mounta**	**52.04**	**80**	IAmb	IAmb	01 50 44.8	
	comp=Z,3.9nm,0.9s						
P40A	**Paris**	**52.79**	**71**	P	**P**	**01 50 49.0**	**-0.8**
TX31	**Lajitas Ar. Si**	**52.85**	**89**	P	**P**	**01 50 51.3**	**+0.7**
TX32	**Lajitas Array**	**52.85**	**89**	P	**P**	**01 50 51.2**	**+0.7**
TX32				IAmb	IAmb	01 50 51.9	
	comp=Z,2.8nm,0.8s						
TXAR	**Lajitas Array**	**52.85**	**89**	P	**P**	**01 50 51.0**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=296,slow=5.4,SNR=41						
TXAR				PcP	**PcP**	**01 52 00.4**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=294,slow=0.9,SNR=1.7						
TXAR	**Lajitas Array**	**52.85**	**89**	P	**P**	**01 50 51.1**	**+0.6**
TXAR					**PcP**	**01 52 00.2**	**+0.5**
H06N1	**SOCORRO T-PHAS**	**56.25**	**104**	T	T	02 52 05.3	
	SNR=9.7						
H06E1	**SOCORRO T-PHAS**	**56.35**	**104**	T	T	02 52 07.4	
	SNR=21						
ASAR	**Alice Springs**	**90.51**	**230**	P	**P**	**01 54 35.8**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=38,slow=4.7,SNR=6.9						
ASAR	**Alice Springs**	**90.51**	**230**	P	**P**	**01 54 36.7**	**+0.1**
QSPA	**South Pole Qui**	**142.44**	**180**	PKhKP	PKPpre	02 01 01.2	
	comp=Z,0.7nm,0.7s,baz=23,slow=2.9,SNR=8.4						
QSPA				PKP	**PKiKP**	**02 01 07.1**	**-2.3**
	comp=Z,1.2nm,0.7s,baz=34,slow=0.5,SNR=9.0						
QSPA	**South Pole Qui**	**142.44**	**180**	PKPpre	PKPpre	02 01 00.8	
MAW	**Mawson**	**151.05**	**219**	PKPbc	**PKiKP**	**02 01 26.3**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=82,slow=3.4,SNR=4.9						
MAW	**Mawson**	**151.05**	**219**	PKPdf	**PKPbc**	**02 01 22.9**	**-3.4**
BOSA	**Boshof**	**153.57**	**330**	PKPbc	**PKiKP**	**02 01 35.1**	**+1.6**
	comp=Z,2.4nm,1.0s,baz=14,slow=4.2,SNR=3.8						
BOSA	**Boshof**	**153.57**	**330**	PKPdf	**PKPdf**	**02 01 26.2**	**+0.4**

*NEIC **19** 01:42:35.8±0.6,33°.08S±0°.05×70°.7W±0°.1,h95km±4km,*
Error ellipse: s-maj=14.2km s-min=6.4km az=104.0
*GUC **19** 01:42:36.8±0.6,33°.09S×70°.67W,h96km±1km,ML3.9*

ISC 19 01:42:36.1±1.3,33°.08S±0°.03×70°.66W±0°.07,h94km±6km,
n36,σ0§58/57,4C-6D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.06**	**199**		**Pn**	**01 42 49.2**	**-0.2**
PEL				Sn	**Sn**	**01 42 58.2**	**-1.1**
MT05	**Renca**	**0.32**	**192**	↓*i*P	**Pn**	**01 42 50.4**	**+0.1**
MT05				*i* S	**Sn**	**01 43 00.9**	**+0.2**
MT05				IAML		01 43 02.2	
	comp=E,5μm,0.3s						
MT05	**Renca**	**0.32**	**192**		**Pn**	**01 42 50.4**	**+0.1**
MT05				Sn	**Sn**	**01 43 00.7**	**-0.1**
ROCH	**El Roble**	**0.32**	**290**	↓*i*P	**Pn**	**01 42 50.7**	**+0.3**
ROCH				*i* S	**Sn**	**01 43 01.1**	**0.0**
ROCH				IAML		01 43 03.1	
	comp=N,7μm,0.3s						
ROC1	**El Roble**	**0.32**	**290**		**Pn**	**01 42 50.8**	**+0.3**
ROC1				Sn	**Sn**	**01 43 01.3**	**+0.2**
CLCH	**Cerro Calan**	**0.33**	**162**	↓*i*P	**Pn**	**01 42 50.2**	**-0.1**
CLCH				*i* S	**Sn**	**01 43 01.1**	**+0.2**
VA03	**San Esteban**	**0.33**	**16**	↑*i*P	**Pn**	**01 42 50.5**	**+0.1**
VA03				*i* S	**Sn**	**01 43 01.2**	**+0.3**
VA03				IAML		01 43 02.4	
	comp=N,4μm,0.1s						
VA03	**San Esteban**	**0.33**	**16**		**Pn**	**01 42 50.5**	**+0.1**
VA03				Sn	**Sn**	**01 43 00.5**	**-0.5**
RCDM	**Rinconada Maip**	**0.42**	**197**	↑*i*P	**Pn**	**01 42 51.5**	**+0.7**
RCDM				*i* S	**Sn**	**01 43 02.4**	**+0.6**
RCDM				IAML		01 43 05.0	
	comp=N,11μm,0.2s						
MT03	**Universidad Ad**	**0.43**	**163**	↓*i*P	**Pn**	**01 42 51.0**	**0.0**
MT03				*i* S	**Sn**	**01 43 01.9**	**-0.1**
MT03				IAML		01 43 02.8	
	comp=E,15μm,0.3s						
MT02	**Curacav**	**0.44**	**246**	↓*i*P	**Pn**	**01 42 51.2**	**+0.3**
MT02				*i* S	**Sn**	**01 43 01.9**	**0.0**
MT02	**Curacav**	**0.44**	**246**		**Pn**	**01 42 51.0**	**+0.1**
MT02				Sn	**Sn**	**01 43 02.2**	**+0.3**
LMEL	**Las Melosas**	**0.85**	**154**	↑*i*P	**Pn**	**01 42 55.2**	**+0.5**
LMEL				*i* S	**Sn**	**01 43 09.6**	**+0.9**
LMEL				IAML		01 43 11.7	
	comp=N,7μm,0.2s						
BO01	**Tunca**	**1.35**	**195**	↓*i*P	**Pn**	**01 43 00.5**	**+0.2**
BO01				*i* S	**Sn**	**01 43 18.6**	**+0.1**
BO01	**Tunca**	**1.35**	**195**	Pn	**Pn**	**01 43 00.2**	**0.0**
BO01				Sn	**Sn**	**01 43 18.7**	**+0.1**
BO02	**Sierra Bellavi**	**1.71**	**183**	*i* P	**Pn**	**01 43 05.4**	**+0.6**
BO02				*i* S	**Sn**	**01 43 27.3**	**+0.7**
BO02				IAML		01 43 29.9	
	comp=E,1μm,0.2s						
BO02	**Sierra Bellavi**	**1.71**	**183**		**Pn**	**01 43 04.5**	**-0.3**
BO02				Sn	**Sn**	**01 43 27.1**	**+0.6**
CO02	**Combarbal**	**1.90**	**351**	*i* P	**Pn**	**01 43 07.9**	**+0.6**
CO02				*i* S	**Sn**	**01 43 31.7**	**+0.8**
CO02				IAML		01 43 35.0	
	comp=N,2μm,0.1s						
CO02	**Combarbal**	**1.90**	**351**		**Pn**	**01 43 07.1**	**-0.2**
GO05	**Huala**	**2.19**	**208**	↑*i*P	**Pn**	**01 43 10.5**	**-0.5**
GO05				*i* S	**Sn**	**01 43 38.2**	**+0.5**
GO05	**Huala**	**2.19**	**208**		**Pn**	**01 43 10.7**	**-0.3**
CO03	**El Pedregal**	**2.24**	**359**	*e*P	**Pn**	**01 43 12.7**	**-0.9**
CO03				*e*S	**Sn**	**01 43 39.7**	**+0.8**
CO03				IAML		01 43 42.0	
	comp=E,512nm,0.3s						
CO03	**El Pedregal**	**2.24**	**359**	Pn	**Pn**	**01 43 11.3**	**-0.4**
ZON	**Zonda**	**2.27**	**48**		**Pn**	**01 43 11.7**	**-0.4**
GO04	**Tololo Observa**	**2.90**	**358**	*e*P	**Pn**	**01 43 21.1**	**+0.4**
GO04				*i* S	**Sn**	**01 43 55.4**	**+0.5**
GO04	**Tololo Observa**	**2.90**	**358**	Pn	**Pn**	**01 43 20.3**	**-0.4**
CO01	**Juntas del Tor**	**3.13**	**9**	Pn	**Pn**	**01 43 23.2**	**-0.6**
BI02	**San Fabin de**	**3.61**	**188**	Pn	**Pn**	**01 43 29.5**	**-0.5**
LCO	**Las Campanas**	**4.06**	**359**		**Pn**	**01 43 35.9**	**-0.4**
BI03	**Tigo**	**4.22**	**207**	Pn	**Pn**	**01 43 36.7**	**-1.6**
AC05	**El Transito**	**4.25**	**5**	Pn	**Pn**	**01 43 38.2**	**-0.5**
AC04	**Llanos de Chal**	**4.88**	**356**	Pn	**Pn**	**01 43 47.0**	**-0.1**
GO03	**Copiap**	**5.48**	**4**	Pn	**Pn**	**01 43 55.1**	**-0.4**
LC01	**Cumco**	**5.89**	**189**	Pn	**Pn**	**01 43 58.9**	**-1.9**
AC02	**Maricunga**	**6.37**	**12**	Pn	**Pn**	**01 44 07.0**	**-0.8**
AC01	**Pan de Azucar**	**6.91**	**0**	Pn	**Pn**	**01 44 13.7**	**-1.1**

*ISN **19** 01:45:57.5±1.0,32°.72N×47°.76E,h14km±6km,ML2.8*
*TEH **19** 01:45:58.4,32°.70N×47°.64E,h9km,ML3.2*
*THR **19** 01:46:01.3±0.5,32°.64N×47°.71E,h18km±7km,ML3.2*

ISC 19 01:45:59.9±0.9,32°.66N±0°.04×47°.62E±0°.04,h10km,n39,
σ1§35/43,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.88**	**12**	*e*Pg	**Pg**	**01 46 14.4**	**-2.4**
IKFM				*e*		01 46 30.9	
IKMR	**Kamar-syah**	**1.06**	**36**	*e*Pg	**Pb**	**01 46 18.8**	**-1.5**
IKMR				*e*		01 46 39.0	
SHGR	**Shooshtar-Gavs**	**1.14**	**119**	*e*Pg	**Pb**	**01 46 21.2**	**-0.4**
SHGR				IAML		01 46 42.4	
	comp=N,403nm,0.4s						
SHGR				IAML		01 46 43.0	
	comp=E,852nm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.14**	**119**	*e*Pg	**Pb**	**01 46 21.2**	**-0.4**
IDOB	**Doab**	**1.21**	**22**	*e*Pg	**Pn**	**01 46 21.9**	**-1.2**
IDOB				*e*		01 46 49.4	
BMDN	**Meydan**	**1.42**	**45**	*e*Pg	**Pn**	**01 46 24.2**	**-1.8**
BMDN				*e*		01 46 50.3	
IBDR	**Badra**	**1.49**	**288**	*e*Pg	**Pn**	**01 46 26.0**	**-0.7**
IBDR				*e*Sg	**Sb**	**01 46 48.0**	**+1.3**
IBDR				AML	AML	01 46 50.1	
	comp=E,104nm,1.0s						
IBDR				AML	AML	01 46 50.5	
	comp=N,130nm,0.8s						
IKOM	**Komasi**	**1.51**	**356**	*e*Pg	**Pn**	**01 46 26.2**	**-0.9**
IKOM				*e*		01 46 56.3	
AHWZ	**Ahwaz**	**1.59**	**147**	*e*Pg	**Pn**	**01 46 28.7**	**+0.7**
KCHF	**Cheshme Sefid,**	**1.68**	**343**	*e*Pn	**Pn**	**01 46 29.2**	**-0.3**
KCHF				*e*		01 46 55.0	
HSAM	**Samen**	**1.75**	**28**	*e*Pg	**Pn**	**01 46 31.3**	**+0.8**
HSAM				*e*		01 47 03.2	
KER	**Kermanshah**	**1.77**	**347**	*e*Pg	**Pn**	**01 46 31.0**	**+0.4**
IBZA	**Bozab**	**1.81**	**6**	*e*Pn	**Pn**	**01 46 32.1**	**+0.7**
IBZA				*e*		01 46 38.0	
IGHG	**Ghaleghazi**	**1.88**	**332**	*e*Pn	**Pn**	**01 46 33.1**	**+0.8**
IGHG				*e*		01 47 19.9	
IVIS	**Veis**	**1.97**	**341**	*e*Pn	**Pn**	**01 46 34.7**	**+1.3**
IVIS				*e*		01 47 08.6	
NSR	**Nassriya**	**2.08**	**218**	*e*Pn	**Pn**	**01 46 35.0**	**+0.3**
NSR				*e*Sn	**Sn**	**01 47 01.0**	**+0.4**
KHMZ	**Khomeyn**	**2.23**	**61**	*e*Pn	**Pn**	**01 46 38.6**	**+1.5**
KHMZ	**Khomeyn**	**2.23**	**61**	*e*Pn	**Pn**	**01 46 38.6**	**+1.5**
IALM	**Almabolaq**	**2.24**	**12**	*e*Pn	**Pn**	**01 46 37.8**	**+0.5**
IDHR	**Dehrash**	**2.28**	**333**	*e*Pn	**Pn**	**01 46 39.5**	**+1.8**
IDHR				*e*		01 47 21.4	
ILIN	**Lien**	**2.32**	**346**	*e*Pn	**Pn**	**01 46 38.2**	**-0.1**
ILIN				*e*		01 47 21.1	
SNGE	**Sanandaj**	**2.44**	**355**	*e*Pn	**Pn**	**01 46 42.9**	**+3.0**
HAGD	**Aghdareh**	**2.50**	**30**	*e*Pn	**Pn**	**01 46 42.4**	**+1.6**
HAGD				*e*		01 47 24.5	
JHBN	**Jahan bin**	**2.61**	**99**	*e*Pn	**Pn**	**01 46 42.7**	**+0.3**
JHBN				*e*		01 47 34.5	
HSRG	**Sareghieh**	**2.63**	**12**	*e*Pn	**Pn**	**01 46 44.4**	**+1.7**
HSRG				*e*		01 47 29.6	
ASAO	**Ashtian**	**2.75**	**46**	*e*Pn	**Pn**	**01 46 46.4**	**+2.2**
ASAO				*e*Sg	**Sb**	**01 47 26.3**	**+3.2**
ASAO	**Ashtian**	**2.75**	**46**	*e*Pn	**Pn**	**01 46 46.4**	**+2.2**
IPIR	**Pirpir**	**2.76**	**89**	*e*Pn	**Pn**	**01 46 44.8**	**+0.4**
IPIR				*e*		01 47 32.9	
BHD	**Baghdad**	**2.79**	**283**	*e*Pn	**Pn**	**01 46 45.0**	**+0.4**
BHD				*e*Sn	**Sn**	**01 47 20.0**	**+1.6**
BHD				AML	AML	01 47 24.8	
	comp=E,56nm,0.1s						
ROKH	**ROKH**	**2.90**	**95**	*e*Pn	**Pn**	**01 46 45.9**	**-0.4**
IRAZ	**Razeghan**	**3.34**	**34**	*e*Pn	**Pn**	**01 46 53.9**	**+1.6**
IKLH	**Kolahrood**	**3.39**	**78**	*e*Pn	**Pn**	**01 46 53.5**	**+0.5**
QABG	**Abgarm-Qazvin**	**3.44**	**28**	*e*Pn	**Pn**	**01 46 54.8**	**+1.0**
IGAR	**Gharneh**	**3.74**	**93**	*e*Pn	**Pn**	**01 46 58.0**	**+0.1**
IGAR				*e*		01 47 47.5	
KLNJ	**Kolanjah**	**3.76**	**115**	*e*Pn	**Pn**	**01 46 58.0**	**-0.2**
KLNJ				*e*		01 48 12.3	
QSDN	**Sirdan**	**4.04**	**18**	*e*Pn	**Pn**	**01 47 01.1**	**-0.9**
QALM	**Alamut, Qazvin**	**4.51**	**33**	*e*Pn	**Pn**	**01 47 09.5**	**+1.0**
IDMV	**Damavand**	**4.67**	**50**	*e*Pn	**Pn**	**01 47 11.9**	**+1.2**
ISHM	**Shahmirzad**	**5.65**	**55**	*e*Pn	**Pn**	**01 47 23.8**	**-0.3**

*SKHL **19** 01:45:54.3±0.8,48°.47N×150°.00E,h447km±23km,mb4.0/4,*
msh4.3/1
*IDC **19** 01:46:05.0±1.6,48°.48N×148°.36E,h436km±19km,mb3.1/8,*
mb1 3.1/13,mb1mx2.8/57,mbtmp3.8/13,Error ellipse:
s-maj=20.7km s-min=13.6km az=126.0

ISC 19 01:46:02.9±0.8,47°.91N±0°.09×148°.9E±0°.1,h450km,n37,
σ1§91/42,mb3.4/8,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.76**	**195**	*e*P	**P**	**01 47 06.0**	**-2.2**
KUR				AMB	AMB	01 47 07.1	
	10.0nm,0.5s						
YSS	**Y

TEH **19** *02:18:23.8, 32°.75N×47°.62E, h11km, ML3.6*
ISN **19** *02:18:23.8±1.4, 32°.74N×47°.61E, h18km±7km, ML3.4*
THR **19** *02:18:24.2±0.4, 32°.78N×47°.53E, h14km±5km, ML3.4*
ISC 19 02:18:22.9±1.7,**32°.71N**±0°.03×**47°.57E**±0°.04,**h4**km±12km,
n67,σ1§**81**/73,**mb3.5**/7,**5C-3D**,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.84**	**16**	*e*Pg	**Pg**	**02 18 39.1**	**0.0**
IKFM				*e*		02 18 59.3	
IKMR	**Kamar-syah**	**1.05**	**40**	*e*Pg	**Pg**	**02 18 42.7**	**-0.4**
IKMR				*e*Sg	**Sb**	**02 18 57.8**	**-0.1**
IKMR				*e*		02 19 02.5	
IDOB	**Doab**	**1.19**	**25**	*e*Pg	**Pb**	**02 18 45.5**	**-0.7**
SHGR	**Shooshtar-Gavs**	**1.20**	**120**	*e*Pg	**Pb**	**02 18 47.5**	**+1.2**
SHGR				*e*Sg	**Sn**	**02 19 04.9**	**+1.6**
SHGR				IAML		02 19 09.3	
	comp=E,594nm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.20**	**120**	*e*Pg	**Pb**	**02 18 47.5**	**+1.2**
BMDN	**Meydan**	**1.42**	**47**	*e*Pg	**Pn**	**02 18 50.7**	**+1.0**
BMDN				*e*		02 19 19.0	
IBDR	**Badra**	**1.44**	**287**	*e*Pg	**Pn**	**02 18 50.0**	**+0.3**
IBDR				*e*Sg	**Sn**	**02 19 10.0**	**+1.0**
IBDR				AML	AML	02 19 16.5	
	comp=N,394nm,0.4s						
IBDR				AML	AML	02 19 16.8	
	comp=E,661nm,0.4s						
IKOM	**Komasi**	**1.46**	**358**	*e*Pg	**Pb**	**02 18 51.9**	**+1.1**
IKOM				*e*		02 18 53.3	
KCHF	**Cheshme Sefid,**	**1.62**	**344**	*e*Pg	**Pn**	**02 18 54.1**	**+1.6**
KCHF				*e*		02 19 19.2	
AHWZ	**Ahwaz**	**1.65**	**146**	*e*Pg	**Pb**	**02 18 55.1**	**+1.2**
KER	**Kermanshah**	**1.71**	**348**	*e*Pn	**Pn**	**02 18 55.3**	**+1.7**
HSAM	**Samen**	**1.73**	**30**	*e*Pg	**Pb**	**02 18 56.1**	**+0.7**
HSAM				*e*		02 18 58.9	
IBZA	**Bozab**	**1.77**	**8**	*e*Pg	**Pb**	**02 18 56.6**	**+0.5**
IBZA				*e*		02 19 00.0	
IGHG	**Ghaleghazi**	**1.82**	**333**	*e*Pn	**Pn**	**02 18 57.1**	**+1.9**
IGHG				*e*		02 19 31.6	
IVIS	**Veis**	**1.91**	**342**	*e*Pn	**Pn**	**02 18 58.0**	**+1.7**
IVIS				*e*		02 19 31.5	
NSR	**Nassriya**	**2.09**	**216**	*e*Pg	**Pn**	**02 19 02.0**	**+3.3**
NSR				*e*Sn	**Sn**	**02 19 25.0**	**-0.1**
IALM	**Almabolaq**	**2.20**	**13**	*e*Pn	**Pn**	**02 19 02.6**	**+2.1**
IDHR	**Dehrash**	**2.21**	**334**	*e*Pn	**Pn**	**02 19 02.1**	**+1.5**
IDHR				*e*		02 19 41.8	
KHMZ	**Khomeyn**	**2.25**	**62**	*e*Pn	**Pn**	**02 19 03.1**	**+2.0**
KHMZ	**Khomeyn**	**2.25**	**62**	*e*Pn	**Pn**	**02 19 03.1**	**+2.0**
ILIN	**Lien**	**2.26**	**347**	*e*Pn	**Pn**	**02 19 03.2**	**+1.9**
ILIN				*e*		02 19 46.6	
SNGE	**Sanandaj**	**2.38**	**356**	*e*Pn	**Pn**	**02 19 04.0**	**+1.1**
SNGE	**Sanandaj**	**2.38**	**356**	*e*Pn	**Pn**	**02 19 04.1**	**+1.1**
HAGD	**Aghdareh**	**2.48**	**31**	*e*		02 19 44.5	
HAGD				*e*Pn	**Pn**	**02 19 06.7**	**+2.4**
HSRG	**Sareghieh**	**2.59**	**13**	*e*		02 19 52.6	
HSRG				*e*Pn	**Pn**	**02 19 08.9**	**+3.0**
JHBN	**Jahan bin**	**2.66**	**100**	*e*		02 19 58.8	
JHBN				*e*Pn	**Pn**	**02 19 08.4**	**+1.5**
BHD	**Baghdad**	**2.74**	**283**	*e*Pn	**Pn**	**02 19 09.0**	**+1.4**
BHD				*e*Sn	**Sn**	**02 19 43.0**	**+1.9**
BHD				AML	AML	02 19 52.4	
	comp=E,259nm,0.2s						
ASAO	**Ashtian**	**2.75**	**48**	*e*Pn	**Pn**	**02 19 09.8**	**+1.8**
ASAO				*e*Sg	**Sg**	**02 19 49.6**	**-1.7**
ASAO	**Ashtian**	**2.75**	**48**	*e*Pn	**Pn**	**02 19 09.8**	**+1.8**
ROKH	**ROKH**	**2.95**	**96**	*e*Pn	**Pn**	**02 19 12.3**	**+1.5**
ROKH				*e*		02 20 02.4	
IRAZ	**Razeghan**	**3.32**	**35**	*e*Pn	**Pn**	**02 19 18.3**	**+2.4**
QABG	**Abgarm-Qazvin**	**3.42**	**29**	*e*Pn	**Pn**	**02 19 18.9**	**+1.6**
KLNJ	**Kolanjah**	**3.82**	**115**	*e*Pn	**Pn**	**02 19 24.0**	**+1.1**
KLNJ				*e*		02 20 35.3	
QSDN	**Sirdan**	**4.01**	**19**	*e*Pn	**Pn**	**02 19 28.0**	**+2.7**
IGZV	**Ghazvin**	**4.27**	**30**	*e*Pn	**Pn**	**02 19 30.7**	**+1.8**
MAHB	**Mahabad**	**4.33**	**340**	*e*Pn	**Pn**	**02 19 31.2**	**+1.6**
QALM	**Alamut, Qazvin**	**4.50**	**34**	*e*Pn	**Pn**	**02 19 34.2**	**+2.1**
IDMV	**Damavand**	**4.68**	**51**	*e*Pn	**Pn**	**02 19 35.9**	**+1.3**
IFIR	**Firoozkooh**	**5.20**	**54**	*e*Pn	**Pn**	**02 19 43.0**	**+1.3**
ANAR	**Anarak**	**5.20**	**83**	*e*Pn	**Pn**	**02 19 42.3**	**+0.7**
ISAD	**Sadrabad**	**5.24**	**97**	*e*Pn	**Pn**	**02 19 42.8**	**+0.5**
IALA	**Alasht**	**5.48**	**51**	*e*Pn	**Pn**	**02 19 47.7**	**+2.0**
ISHM	**Shahmirzad**	**5.66**	**55**	*e*Pn	**Pn**	**02 19 48.9**	**+0.9**
ICHK	**Chekchek**	**5.80**	**93**	*e*Pn	**Pn**	**02 19 50.1**	**+0.2**
IANJ	**Anjilo**	**5.94**	**61**	*e*Pn	**Pn**	**02 19 52.1**	**+0.2**
IGLO	**Ghaloghah**	**6.40**	**52**	*e*Pn	**Pn**	**02 20 01.1**	**+2.9**
TPRV	**Parvadeh(Tabas**	**7.68**	**85**	*e*Pn	**Pn**	**02 20 16.5**	**+0.9**
ASF	**Jabal al Asfar**	**9.04**	**269**	Pn	**Pn**	**02 20 32.7**	**-1.6**
	comp=E,0.3nm,0.3s,baz=266,slow=9.7,SNR=3.4						
ASF				Sn	**Sn**	**02 22 10.6**	**-6.0**
	comp=E,0.4nm,0.3s,baz=34,slow=15,SNR=1.8						
ASF				Lg	Lg	02 23 08.4	
	comp=E,0.2nm,0.3s,baz=12,slow=21,SNR=2.2						
EIL	**Elat**	**11.22**	**258**	Lg	Lg	02 24 19.6	
	comp=E,0.2nm,0.3s,baz=291,slow=22,SNR=2.1						
WSAR	**Wadi Sarin**	**13.58**	**131**	Pn	**Pn**	**02 21 34.2**	**-2.1**
	comp=E,0.7nm,0.3s,baz=304,slow=12,SNR=7.2						
AKTO	**Aktyubinsk**	**19.32**	**21**	P	**P**	**02 22 48.5**	**-0.5**
	comp=E,0.4nm,0.3s,baz=203,slow=12,SNR=12						
NEHR	**Nehoiu**	**20.76**	**314**	⇓P	**P**	**02 23 06.8**	**+2.1**
MLR	**Muntele Rosu**	**21.00**	**314**	P	**P**	**02 23 08.3**	**+0.9**
	comp=E,1.1nm,0.7s,baz=128,slow=18,SNR=1.6						
MLR	**Muntele Rosu**	**21.00**	**314**	⇑P	**P**	**02 23 13.0**	**+5.5**
TESR	**Tescani**	**21.12**	**317**	⇓P	**P**	**02 23 08.8**	**+0.2**
SORM	**Soroca**	**21.16**	**322**	⇑P	**P**	**02 23 09.2**	**+0.2**
VOIR		**21.53**	**313**	⇑P	**P**	**02 23 13.6**	**+0.5**
DOPR	**Dopca**	**21.58**	**314**	⇑P	**P**	**02 23 14.2**	**+0.7**
MDB	**Medias**	**22.27**	**314**	⇓P	**P**	**02 23 23.6**	**+2.6**
AKASG	**Malin Array Be**	**22.49**	**328**	P	**P**	**02 23 23.5**	**+0.3**
	comp=E,0.5nm,0.4s,baz=140,slow=9.8,SNR=4.7						
BURAR	**Bucovina Array**	**22.54**	**318**	⇑P	**P**	**02 23 24.9**	**+0.9**
KOLS	**Kolonicke sedl**	**24.91**	**318**	*e*P	**P**	**02 23 47.6**	**+0.7**
BVAR	**Borovoye Array**	**26.10**	**32**	P	**P**	**02 23 59.6**	**+2.0**
	comp=E,1.1nm,0.5s,baz=218,slow=11,SNR=6.4						
MKAR	**Makanchi Array**	**29.90**	**52**	P	**P**	**02 24 32.0**	**+0.3**
	comp=E,0.6nm,0.6s,baz=246,slow=8.8,SNR=7.3						
ZALV	**Zalesovo Beam**	**33.85**	**40**	P	**P**	**02 25 05.8**	**-0.4**
	comp=E,1.3nm,0.4s,baz=258,slow=7.4,SNR=5.9						
ARCES	**ARCESS Array B**	**38.90**	**348**	P	**P**	**02 25 48.1**	**-1.1**
	comp=E,0.5nm,0.4s,baz=156,slow=8.9,SNR=1.4						
TORD	**Torodi Ar. Bea**	**46.11**	**256**	P	**P**	**02 26 47.8**	**-0.7**
	comp=E,0.3nm,0.7s,baz=61,slow=7.5,SNR=2.5						

ISN **19** *02:29:58.1±1.0, 32°.71N×47°.87E, h14km±7km, ML3.2*
TEH **19** *02:29:59.0, 32°.72N×47°.89E, h8km, ML3.4*
THR **19** *02:29:59.7±0.6, 32°.73N×47°.83E, h18km±7km, ML3.5*
ISC 19 02:30:00.1±1.0,**32°.70N**±0°.04×**47°.84E**±0°.05,**h15**km,**n47**,
σ1§**39**/51,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.82**	**1**	*e*Pg	**Pg**	**02 30 13.9**	**-2.3**
IKFM				*e*		02 30 40.6	
IKMR	**Kamar-syah**	**0.94**	**29**	*e*Pg	**Pb**	**02 30 16.2**	**-1.9**
IKMR				*e*		02 30 34.3	
SHGR	**Shooshtar-Gavs**	**1.01**	**125**	*e*Pg	**Pb**	**02 30 18.9**	**-0.4**
SHGR				IAML		02 30 56.7	
	comp=E,1μm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.01**	**125**	*e*Pg	**Pb**	**02 30 18.9**	**-0.4**
IDOB	**Doab**	**1.12**	**15**	*e*Pg	**Pb**	**02 30 19.9**	**-1.5**
BMDN	**Meydan**	**1.28**	**40**	*e*Pg	**Pn**	**02 30 23.1**	**-0.5**
BMDN				*e*		02 30 47.0	
IKOM	**Komasi**	**1.50**	**350**	*e*Pg	**Pn**	**02 30 27.5**	**+0.8**
IKOM				*e*		02 30 30.9	
AHWZ	**Ahwaz**	**1.53**	**153**	*e*Pg	**Pn**	**02 30 28.2**	**+1.3**
HSAM	**Samen**	**1.64**	**23**	*e*Pg	**Pn**	**02 30 29.7**	**+1.0**
HSAM				*e*		02 30 32.4	
IBDR	**Badra**	**1.66**	**285**	*e*Pg	**Pn**	**02 30 28.0**	**-0.6**
IBDR				*e*Sg	**Sn**	**02 30 51.0**	**+1.4**
IBDR				AML	AML	02 30 59.0	
	comp=E,296nm,0.7s						
IBDR				AML	AML	02 30 59.5	
	comp=N,280nm,0.8s						
KCHF	**Cheshme Sefid,**	**1.71**	**337**	*e*Pn	**Pn**	**02 30 30.6**	**+1.0**
KCHF				*e*		02 31 03.0	
IBZA	**Bozab**	**1.77**	**1**	*e*Pg	**Pn**	**02 30 32.4**	**+1.9**
IBZA				*e*		02 31 03.8	
KER	**Kermanshah**	**1.78**	**341**	*e*Pn	**Pn**	**02 30 31.5**	**+0.9**
IGHG	**Ghaleghazi**	**1.94**	**327**	*e*Pn	**Pn**	**02 30 35.5**	**+2.7**
IGHG				*e*		02 31 12.1	
IVIS	**Veis**	**2.00**	**336**	*e*Pn	**Pn**	**02 30 34.1**	**+0.6**
IVIS				*e*		02 31 08.9	
KHMZ	**Khomeyn**	**2.06**	**59**	*e*Pn	**Pn**	**02 30 35.6**	**+1.2**
KHMZ	**Khomeyn**	**2.06**	**59**	*e*Pn	**Pn**	**02 30 35.6**	**+1.2**
IALM	**Almabolaq**	**2.17**	**7**	*e*Pn	**Pn**	**02 30 37.9**	**+1.8**
NSR	**Nassriya**	**2.22**	**221**	*e*Pn	**Pn**	**02 30 36.0**	**-0.4**
NSR				*e*Sn	**Sn**	**02 31 03.0**	**-0.5**
ILIN	**Lien**	**2.33**	**342**	*e*Pn	**Pn**	**02 30 39.1**	**+0.9**
ILIN				*e*		02 31 26.4	
IDHR	**Dehrash**	**2.33**	**329**	*e*Pn	**Pn**	**02 30 39.5**	**+1.3**
IDHR				*e*		02 31 18.9	
HAGD	**Aghdareh**	**2.38**	**27**	*e*Pn	**Pn**	**02 30 40.8**	**+1.9**
HAGD				*e*		02 31 22.7	
SNGE	**Sanandaj**	**2.42**	**350**	*e*Pn	**Pn**	**02 30 40.3**	**+0.8**
SNGE	**Sanandaj**	**2.42**	**350**	*e*Pn	**Pn**	**02 30 40.3**	**+0.8**
JHBN	**Jahan bin**	**2.44**	**100**	*e*Pn	**Pn**	**02 30 40.7**	**+1.0**
JHBN				*e*		02 31 26.9	
HSRG	**Sareghieh**	**2.56**	**8**	*e*Pn	**Pn**	**02 30 44.0**	**+2.6**
HSRG				*e*		02 30 49.1	
IPIR	**Pirpir**	**2.58**	**89**	*e*Pn	**Pn**	**02 30 43.0**	**+1.4**
ASAO	**Ashtian**	**2.60**	**44**	*e*Pn	**Pn**	**02 30 42.4**	**+0.5**
ASAO				*e*Sg	**Sb**	**02 31 20.5**	**+2.1**
ASAO	**Ashtian**	**2.60**	**44**	*e*Pn	**Pn**	**02 30 42.4**	**+0.5**
ROKH	**ROKH**	**2.73**	**97**	*e*Pn	**Pn**	**02 30 44.6**	**+1.0**
ROKH				*e*		02 31 37.4	
BHD	**Baghdad**	**2.96**	**282**	*e*Pn	**Pn**	**02 30 47.0**	**+0.4**
BHD				AML	AML	02 31 22.7	
	comp=E,136nm,0.4s						
BHD				*e*Sn	**Sn**	**02 31 23.0**	**+1.2**
IKLH	**Kolahrood**	**3.21**	**78**	*e*Pn	**Pn**	**02 30 52.3**	**+2.1**
IKLH				*e*		02 31 52.1	
IRAZ	**Razeghan**	**3.21**	**32**	*e*Pn	**Pn**	**02 30 51.8**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.33**	**25**	*e*Pn	**Pn**	**02 30 53.6**	**+1.6**
IGAR	**Gharneh**	**3.56**	**94**	*e*Pn	**Pn**	**02 30 56.3**	**+1.2**
KLNJ	**Kolanjah**	**3.61**	**117**	*e*Pn	**Pn**	**02 30 56.1**	**+0.2**
KLNJ				*e*		02 32 11.3	
IZEF	**Zefreh**	**3.79**	**86**	*e*Pn	**Pn**	**02 30 59.4**	**+1.1**
IRAM	**Ramesheh**	**3.95**	**102**	*e*Pn	**Pn**	**02 31 00.6**	**+0.1**
QSDN	**Sirdan**	**3.95**	**16**	*e*Pn	**Pn**	**02 31 02.4**	**+1.9**
QALM	**Alamut, Qazvin**	**4.39**	**31**	*e*Pn	**Pn**	**02 31 08.9**	**+2.4**
IDMV	**Damavand**	**4.51**	**49**	*e*Pn	**Pn**	**02 31 08.1**	**-0.1**
ANAR	**Anarak**	**4.98**	**83**	*e*Pn	**Pn**	**02 31 15.7**	**+1.2**
ISAD	**Sadrabad**	**5.01**	**97**	*e*Pn	**Pn**	**02 31 15.6**	**+0.5**
ISHM	**Shahmirzad**	**5.48**	**54**	*e*Pn	**Pn**	**02 31 23.9**	**+2.4**
IANJ	**Anjilo**	**5.75**	**60**	*e*Pn	**Pn**	**02 31 26.2**	**+1.0**
TPRV	**Parvadeh(Tabas**	**7.45**	**85**	*e*Pn	**Pn**	**02 31 49.4**	**+0.9**
NGRK	**Negar Kerman**	**8.21**	**109**	*e*Pn	**Pn**	**02 31 59.2**	**+0.1**

CNRM **19** *02:33:35.9±1.3, 34°.89N×14°.50W, h22km, Error ellipse: s-maj=14.7km s-min=8.2km az=150.0*
MDD **19** *02:33:37.8±0.6, 34°.81N×14°.59W, h25km, mb4.1/21, Error ellipse: s-maj=12.2km s-min=4.3km az=132.0, PRXIMO*
INMG **19** *02:33:41.0±2.4, 34°.94N×14°.80W, h10km, ML2.8, Error ellipse: s-maj=9.7km s-min=2.7km az=125.0*
IGIL **19** *02:33:41.4, 34°.99N×14°.29W, h1km, ML2.9*
ISC 19 02:33:35.0±1.0,**35°.00N**±0°.05×**14°.66W**±0°.06,**h35**km,**n100**,
σ3§**27**/163,**Madeira Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMPST	**Porto Santo, M**	**2.36**	**216**	*e*Pn	**Pn**	**02 34 12.6**	**+1.3**
PMPST				*e*Sn	**Sn**	**02 34 35.5**	**-3.6**
PMPST				A	A	02 34 38.1	
	65nm,0.4s						
PMPS	**Porto Santo**	**2.38**	**216**	P	**Pn**	**02 34 12.6**	**+1.1**
PMPS				S	Sn	02 34 35.5	-4.0
	32nm,0.4s						
PMPS	**Porto Santo**	**2.38**	**216**	*e*Pn	**Pn**	**02 34 12.8**	**+1.3**
PMPS				*e*Sn	**Sn**	**02 34 35.9**	**-3.6**
PMPS				A	A	02 34 38.1	
	48nm,0.2s						
PMAR	**Madeira**	**2.94**	**220**	P	**Pn**	**02 34 20.9**	**+1.5**
PMAR				S	Sn	02 34 49.5	-4.1
	30nm,0.2s						
PMAR	**Madeira**	**2.94**	**220**	P	**Pn**	**02 34 21.6**	**+2.2**
PMAR				S	**Sn**	**02 34 55.3**	**+1.7**
PMAR	**Madeira**	**2.94**	**220**	*e*Pn	**Pn**	**02 34 20.9**	**+1.5**
PMAR				*e*Sn	Sn	02 34 49.5	-4.1
PMAR				A	A	02 34 56.2	
	61nm,0.2s						
FUL	**Funchal**	**2.99**	**219**	P	**Pn**	**02 34 21.5**	**+1.6**
FUL				S	**Sn**	**02 34 51.7**	**-2.8**
	20nm,0.2s						
FUL	**Funchal**	**2.99**	**219**	*e*Pn	**Pn**	**02 34 21.5**	**+1.6**
FUL				*e*Sn	**Sn**	**02 34 51.7**	**-2.8**
FUL				A	A	02 34 53.5	
	40nm,0.2s						
PMOZ	**Porto Moniz, M**	**3.02**	**225**	P	**Pn**	**02 34 22.1**	**+1.6**
PMOZ				S	**Sn**	**02 34 51.8**	**-3.7**
	42nm,0.4s						
PMOZ	**Porto Moniz, M**	**3.02**	**225**	P	**Pn**	**02 34 22.0**	**+1.6**
	SNR=23						
PMOZ	**Porto Moniz, M**	**3.02**	**225**	*e*Pn	**Pn**	**02 34 22.1**	**+1.6**
PMOZ				*e*Sn	**Sn**	**02 34 51.8**	**-3.7**
PMOZ				A	A	02 34 58.3	
	42nm,0.4s						
PFVI	**Vila Bisbo**	**5.19**	**64**	P	**Pn**	**02 34 54.0**	**+3.9**
	7.6nm,0.1s,SNR=8.4						
PFVI				S	**Sn**	**02 35 47.1**	**-1.6**
	17nm,0.1s,SNR=6.5						
PFVI	**Vila Bisbo**	**5.19**	**64**	P	**Pn**	**02 34 50.1**	**-0.1**
	SNR=8.3						
PFVI				S	**Sn**	**02 35 50.5**	**+1.8**
PFVI	**Vila Bisbo**	**5.19**	**64**	*e*Pn	**Pn**	**02 34 54.0**	**+3.9**
PFVI				*e*Sn	**Sn**	**02 35 46.7**	**-2.0**
PFVI				A	A	02 35 50.2	
	12nm,0.4s						
MORF	**Marmelete**	**5.38**	**63**	*e*P	**Pn**	**02 34 57.1**	**+4.2**
MORF				*e*S	**Sn**	**02 35 52.3**	**-1.3**
MORF				AML	AML	02 35 55.0	
	comp=N,16nm,0.1s						
MORF	**Marmelete**	**5.38**	**63**	P	**Pn**	**02 34 57.1**	**+4.2**
MORF				S	**Sn**	**02 35 52.6**	**-1.0**
	comp=N,14nm,0.5s						
MORF	**Marmelete**	**5.38**	**63**	*e*Pn	**Pn**	**02 34 57.1**	**+4.2**
MORF				*e*Sn	**Sn**	**02 35 52.6**	**-1.0**
MORF				A	A	02 35 58.5	
	comp=N,14nm,0.5s						
EAH	**EAH**	**5.41**	**127**	P	**Pn**	**02 34 52.4**	**-0.8**
	SNR=6.8						
PTEO	**Sao Teotonio**	**5.43**	**60**	P	**Pn**	**02 34 57.6**	**+4.1**
PTEO				S	**Sn**	**02 35 53.2**	**-1.5**
	comp=N,4.3nm,0.6s						
PTEO	**Sao Teotonio**	**5.43**	**60**	*e*Pn	**Pn**	**02 34 57.6**	**+4.1**
PTEO				*e*Sn	**Sn**	**02 35 53.2**	**-1.5**
PTEO				A	A	02 35 58.0	
	comp=N,8.6nm,0.6s						
PNCL	**Nicolau / Gran**	**5.83**	**56**	P	**Pn**	**02 35 03.4**	**+4.4**
PNCL				S	**Sn**	**02 36 03.1**	**-1.5**
	comp=N,3.7nm,0.3s						
PNCL	**Nicolau / Gran**	**5.83**	**56**	*e*Pn	**Pn**	**02 35 03.4**	**+4.4**
PNCL				*e*Sn	**Sn**	**02 36 03.1**	**-1.5**
PNCL				A	A	02 36 11.6	
	comp=N,3.7nm,0.3s						
PMAFR	**Mafra**	**5.84**	**46**	P	Pn	02 35 04.0	+4.8
	comp=N,3.3nm,0.1s,SNR=7.3						
PMAFR				S	**Sn**	**02 36 01.8**	**-3.1**
	comp=N,3.5nm,0.1s,SNR=5.8						
PMAFR	**Mafra**	**5.84**	**46**	*e*Pn	**Pn**	**02 35 02.2**	**+3.0**
PMAFR				*e*Sn	**Sn**	**02 36 02.2**	**-2.7**
PMAFR				A	A	02 36 11.3	
	comp=N,14nm,0.4s						
PBDV	**Barranco-do-Ve**	**5.89**	**66**	P	**Pn**	**02 35 04.0**	**+4.2**
PBDV				S	**Sn**	**02 36 04.1**	**-2.0**
	comp=N,5.3nm,0.2s						
PBDV	**Barranco-do-Ve**	**5.89**	**66**	*e*Pn	**Pn**	**02 35 04.0**	**+4.2**
PBDV				*e*Sn	**Sn**	**02 36 04.1**	**-2.0**
PBDV				A	A	02 36 11.8	
	comp=N,5.3nm,0.2s						
EFAM	**Famara**	**5.93**	**170**	P	**Pn**	**02 34 59.8**	**-0.6**
	comp=N,1.4nm,0.1s,SNR=7.9						
EFAM				S	**Sn**	**02 36 01.3**	**-5.8**
	comp=N,1.8nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**6.11**	**65**	P	**Pn**	**02 35 06.9**	**+4.1**
PVAQ				S	**Sn**	**02 36 09.6**	**-1.8**
	comp=N,8.6nm,0.4s						
PVAQ	**Vaqueiros**	**6.11**	**65**	P	**Pn**	**02 35 02.9**	**+0.1**
	SNR=38						
PVAQ				S	**Sn**	**02 36 10.9**	**-0.5**
PVAQ	**Vaqueiros**	**6.11**	**65**	*e*Pn	**Pn**	**02 35 06.9**	**+4.1**
PVAQ				*e*Sn	**Sn**	**02 36 09.6**	**-1.8**
PVAQ				A	A	02 36 13.9	
	comp=N,8.6nm,0.4s						
SRHM	**Skhour des Reh**	**6.17**	**112**	P	**Pn**	**02 35 08.5**	**+4.7**
SRHM				S	**Sn**	**02 36 11.4**	**-1.8**
AVE	**Averroes**	**6.25**	**104**	P	**Pn**	**02 35 06.8**	**+2.1**
	SNR=12						
AVE	**Averroes**	**6.25**	**104**	*e*P	**Pn**	**02 35 09.1**	**+4.4**
AVE				*e*S	**Sn**	**02 36 14.1**	**-0.8**
PBEJ	**Beja**	**6.25**	**59**	S	**Sn**	**02 36 14.6**	**-0.4**
	comp=N,1.5nm,0.1s						
PBEJ	**Beja**	**6.25**	**59**	*e*Sn	**Sn**	**02 36 14.6**	**-0.4**
PBEJ				A	A	02 36 17.6	
	comp=N,3.0nm,0.1s						
EGRO	**El Granado**	**6.33**	**64**	P	**Pn**	**02 35 09.9**	**+4.1**
	comp=N,1.0nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**02 36 14.9**	**-2.0**
	comp=N,2.1nm,0.1s,SNR=20						
CFUE	**Fuerteventura**	**6.36**	**174**	P	**Pn**	**02 35 07.8**	**+1.5**
	comp=N,1.4nm,0.2s,SNR=7.9						
CFUE				S	Sn	02 36 10.5	-7.2
	comp=N,4.4nm,0.1s,SNR=7.9						
EVO	**Evora**	**6.40**	**55**	P	**Pn**	**02 35 11.5**	**+4.8**
EVO				S	**Sn**	**02 36 15.9**	**-2.6**
	comp=N,5.8nm,0.3s						
EVO	**Evora**	**6.40**	**55**	*e*P	**Pn**	**02 35 11.3**	**+4.6**
EVO				*e*S	**Sn**	**02 36 16.1**	**-2.5**
EVO	**Evora**	**6.40**	**55**	*e*Pn	**Pn**	**02 35 11.5**	**+4.8**
EVO				*e*Sn	**Sn**	**02 36 15.9**	**-2.6**
EVO				A	A	02 36 29.9	
	comp=N,5.8nm,0.3s						
PSBE	**So Bento**	**6.50**	**44**	*e*Pn	**Pn**	**02 35 12.7**	**+4.6**
PSBE				*e*Sn	**Sn**	**02 36 18.2**	**-2.8**
PSBE				A	A	02 36 25.9	
	comp=N,4.3nm,0.6s						
PMTG	**Montargil**	**6.56**	**50**	P	**Pn**	**02 35 11.9**	**+2.9**
PMTG				S	**Sn**	**02 36 18.8**	**-3.7**
	comp=N,3.5nm,0.6s						
PMTG	**Montargil**	**6.56**	**50**	*e*Pn	**Pn**	**02 35 11.9**	**+2.9**
PMTG				*e*Sn	**Sn**	**02 36 18.8**	**-3.7**
PMTG				A	A	02 36 33.8	
	comp=N,3.5nm,0.6s						
EBAJ	**Bajamar**	**6.60**	**193**	S	Sn	02 36 16.8	-6.7
	comp=N,0.9nm,0.2s,SNR=7.9						
CGUI	**Guimar, Teneri**	**6.83**	**193**	P	**Pn**	**02 35 13.0**	**+0.2**
	comp=N,0.9nm,0.1s,SNR=7.9						
CGUI				S	Sn	02 36 22.7	-6.6
	comp=N,16nm,0.4s,SNR=7.9						
OUK	**Oukaimeden**	**6.84**	**122**	P	**Pn**	**02 35 12.5**	**-0.7**
OUK				S	**Sn**	**02 36 26.8**	**-3.2**
TBT	**Taburiente**	**6.88**	**205**	P	**Pn**	**02 35 13.6**	**+0.2**
	comp=N,0.7nm,0.2s,SNR=7.9						
TBT				S	Sn	02 36 18.9	-12
	comp=N,2.0nm,0.3s,SNR=7.9						
PBAR	**Barrancos**	**6.91**	**60**	S	**Sn**	**02 36 30.3**	**-0.7**
PBAR	**Barrancos**	**6.91**	**60**	*e*Sn	**Sn**	**02 36 30.3**	**-0.7**
MACI	**Morro de la Ar**	**6.91**	**194**	S	Sn	02 36 26.0	-5.5
	comp=N,0.1nm,0.3s,SNR=7.9						
EOSO	**Osorio**	**6.95**	**187**	S	Sn	02 36 25.0	-7.2
	comp=N,3.0nm,0.3s,SNR=7.9						
CCAN	**Las Canadas**	**6.96**	**194**	S	Sn	02 36 27.4	-5.3
	comp=N,0.0nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.01**	**64**	P	**Pn**	**02 35 19.2**

	comp=N,0.3nm,0.2s,SNR=4.0								
SESP	**Santiago Espad**	**10.23**	**69**	S		**Sn**	**02 37 49.1**	**-4.0**	
	comp=N,0.5nm,0.2s,SNR=7.9								
EARI	**Arriondas**	**11.07**	**39**	P		**Pn**	**02 36 15.3**	**+4.5**	
	comp=N,0.4nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**11.12**	**67**	P		**Pn**	**02 36 14.5**	**+2.9**	
	comp=N,0.9nm,0.2s,SNR=7.9								
ETOB				S		**Sn**	**02 38 10.2**	**-4.5**	
	comp=N,0.3nm,0.2s,SNR=7.9								
ETOR	**Torete**	**11.53**	**56**	P		**Pn**	**02 36 19.9**	**+2.8**	
	comp=N,5.3nm,0.3s,SNR=7.9								
ETOR				S		**Sn**	**02 38 21.1**	**-3.6**	
	comp=N,0.6nm,0.2s,SNR=7.9								

*DJA **19** 02:41:03.1±0.3,3°N±4°×12°3E±°, h462km±5km, M4.5/14, mb4.5/14, mB4.8/5, MLv4.7/9, Mw(mB)4.1/5*
*NEIC **19** 02:41:04.2±0.7,2.4N±0.1°×122.8E±0.1°, h469km±5km, mb4.3/13, Error ellipse: s-maj=18.1km s-min=15.1km az=60.0*
*IDC **19** 02:41:05.4±1.0,2.43N×122.91E, h473km±11km, mb3.4/19, mb1 3.5/21, mb1mx3.3/42, mbtmp4.3/21, Error ellipse: s-maj=17.3km s-min=9.4km az=82.0*

ISC 19 02:41:03.3±0.4,2.47N±0.06×122.88E±0.07, h450km, n76, σ1s56/92, mb4.0/22, 1C, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.82**	**176**	P	**P**	**02 42 04.3**	**+1.3**
KMSI	**Cibinong**	**2.18**	**150**	P	**P**	**02 42 06.8**	**+1.9**
LUWI	**Luwuk**	**3.49**	**182**	P	**P**	**02 42 13.9**	**-0.3**
LUWI	**Luwuk**	**3.49**	**182**	P	**P**	**02 42 14.5**	**+0.3**
LUWI				S	**S**	**02 43 14.5**	**+2.8**
MPSI	**Mapaga**	**3.66**	**235**	P	**P**	**02 42 16.5**	**+0.9**
TNTI	**Ternate**	**4.79**	**111**	P	**P**	**02 42 27.2**	**+1.5**
TNTI	**Ternate**	**4.79**	**111**	P	**P**	**02 42 28.1**	**+2.4**
SANI	**Sanana**	**5.46**	**145**	P	**P**	**02 42 29.8**	**-2.4**
SPSI	**Sidrap Palu**	**7.11**	**206**	P	**P**	**02 42 50.8**	**+1.6**
	0.6nm2µm176nm,0.6s						
CNOP	**Candoni, Negro**	**7.32**	**358**	*e*P	**P**	**02 42 15.1**	**+3.6**
BNSI	**Bone**	**7.37**	**202**	P	**P**	**02 42 52.5**	**+0.5**
	0.6nm2µm178nm,0.7s						
KKM	**Kota Kinabalu**	**7.54**	**298**	P	**P**	**02 42 55.0**	**+1.0**
KKM					**S**	**02 44 26.0**	**+1.5**
KAPI	**Kappang**	**8.06**	**203**	P	**P**	**02 43 00.8**	**+1.4**
	2.0nm,0.3s,baz=351,slow=6.0,SNR=7.5						
KAPI	**Kappang**	**8.06**	**203**	P	**P**	**02 42 59.4**	**-0.1**
BATP	**Bataraza**	**8.07**	**321**	*e*P	**P**	**02 43 01.4**	**+1.9**
CUYO	**Cuyo Island**	**8.53**	**348**	*e*P	**P**	**02 43 07.9**	**+3.3**
SIJI	**Sorong**	**9.01**	**111**	P	**P**	**02 43 13.1**	**+3.3**
	1.5nm,0.3s,baz=291,slow=7.0,SNR=6.2						
ENPP	**El Nido**	**9.33**	**339**	*e*P	**P**	**02 43 14.9**	**+1.6**
BUSP	**Coron**	**9.84**	**344**	*e*P	**P**	**02 43 21.2**	**+2.5**
SBUM	**Sibu**	**10.65**	**270**	P	**P**	**02 43 28.0**	**+0.4**
LQP	**Lukban**	**11.65**	**354**	*e*P	**P**	**02 43 41.1**	**+2.5**
TGY	**Tagaytay City**	**11.72**	**351**	P	**P**	**02 43 42.2**	**+3.0**
	83nm,0.3s,baz=183,slow=3.8,SNR=13						
SOEI	**Soe**	**12.22**	**174**	P	**P**	**02 43 46.3**	**+1.5**
	34nm,0.8s						
SOEI	**Soe**	**12.22**	**174**	P	**P**	**02 43 44.9**	**+0.1**
KSM	**Kuching**	**12.61**	**266**	P	**P**	**02 43 49.1**	**+0.3**
BATI	**Baumata**	**12.62**	**176**	P	**P**	**02 43 50.2**	**+1.3**
	11nm,0.3s,baz=303,slow=2.3,SNR=14						
BATI	**Baumata**	**12.62**	**176**	P	**P**	**02 43 49.8**	**+0.8**
	56nm,0.6s						
BALP	**Baler**	**13.25**	**355**	*e*P	**P**	**02 43 58.1**	**+2.4**
SMPP	**San Manuel, Pa**	**13.77**	**351**	*e*P	**P**	**02 44 01.1**	**-0.3**
JAGI	**Jajag, Banyuwa**	**13.92**	**219**	P	**P**	**02 44 03.3**	**+0.2**
	77nm,0.7s						
JAGI	**Jajag, Banyuwa**	**13.92**	**219**	P	**P**	**02 44 02.4**	**-0.7**
GMJI	**Gumukmas**	**14.23**	**221**	P	**P**	**02 44 05.7**	**-0.6**
	39nm,0.7s						
MDSI	**Maura Dua**	**19.93**	**250**	P	**P**	**02 45 03.1**	**-1.1**
	15nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.62**	**173**	P	**P**	**02 45 11.3**	**+0.9**
	1.7nm,0.5s,baz=9.3,slow=9.9,SNR=8.7						
FITZ	**Fitzroy Crossi**	**20.62**	**173**	P	**P**	**02 45 09.2**	**-1.2**
FITZ				IAmb	IAmb	02 45 11.5	
	comp=Z,3.2nm,0.8s						
SSLB	**Suanglung**	**21.28**	**355**	P	**P**	**02 45 16.2**	**-0.2**
SSLB				IAmb	IAmb	02 45 21.6	
	comp=Z,19nm,0.9s						
WRA	**Warramunga Arr**	**24.95**	**154**	P	**P**	**02 45 49.2**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=335,slow=9.6,SNR=7.7						
WRA				ScP	**ScP**	**02 52 04.4**	**-2.1**
	comp=Z,0.9nm,1.2s,baz=332,slow=3.6,SNR=8.0						
WRA	**Warramunga Arr**	**24.95**	**154**	P	**P**	**02 45 49.0**	**-0.4**
WRA					**ScP**	**02 52 03.2**	**-3.2**
ASAR	**Alice Springs**	**28.11**	**158**	P	**P**	**02 46 17.3**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=346,slow=7.2,SNR=2.8						
ASAR				pP	**pP**	**02 47 35.8**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=336,slow=9.7,SNR=6.3						
ASAR				ScP	**ScP**	**02 52 14.2**	**-1.6**
	comp=Z,1.4nm,0.7s,baz=344,slow=2.8,SNR=13						
ASAR	**Alice Springs**	**28.11**	**158**	P	**P**	**02 46 17.1**	**-0.3**
ASAR					**ScP**	**02 52 12.9**	**-3.0**
CMAR	**Chiang Mai Arr**	**28.33**	**306**	P	**P**	**02 46 21.6**	**+2.2**
	comp=Z,0.9nm,0.3s,baz=102,slow=8.4,SNR=4.5						
CMAR				ScP	**ScP**	**02 52 15.1**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=156,slow=2.4,SNR=4.3						
CMAR	**Chiang Mai Arr**	**28.33**	**306**	P	**P**	**02 46 19.5**	**+0.1**
JCJ	**Chichijima**	**30.69**	**35**	P	**P**	**02 46 40.0**	**+0.2**
	comp=Z,24nm,0.6s,baz=287,slow=17,SNR=3.6						
JCJ	**Chichijima**	**30.69**	**35**	P	**P**	**02 46 39.9**	**+0.1**
JNU	**Nakatsue**	**31.40**	**13**	P	**P**	**02 46 46.2**	**+0.4**
	comp=Z,6.0nm,0.6s,baz=169,slow=16,SNR=2.1						
JNU	**Nakatsue**	**31.40**	**13**	P	**P**	**02 46 46.3**	**+0.4**
JNU				IAmb	IAmb	02 46 47.2	
	comp=Z,11nm,0.9s						
KSRS	**Korea Array**	**35.12**	**7**	P	**P**	**02 47 19.1**	**+1.7**
	comp=Z,4.4nm,0.8s,baz=185,slow=9.9,SNR=18						
MAT	**Matsushiro**	**36.74**	**21**	P	**P**	**02 47 31.4**	**+0.4**
MJAR	**Matsushiro Arr**	**36.74**	**21**	P	**P**	**02 47 31.6**	**+0.6**
	comp=Z,5.9nm,0.9s,baz=204,slow=8.9,SNR=9.6						
MJAR	**Matsushiro Arr**	**36.74**	**21**	P	**P**	**02 47 31.2**	**+0.2**
USA0B	**Ussuriysk Arra**	**42.33**	**10**	P	**P**	**02 48 16.3**	**+0.2**
USA0B				IAmb	IAmb	02 48 18.2	
	comp=Z,15nm,0.7s						
USRK	**Ussuriysk Ar.**	**42.33**	**10**	P	**P**	**02 48 17.4**	**+1.2**
	comp=Z,13nm,0.6s,baz=200,slow=7.2,SNR=41						
USRK	**Ussuriysk Ar.**	**42.33**	**10**	P	**P**	**02 48 16.6**	**+0.5**
MDJ	**Mudanjiang**	**42.39**	**7**	P	**P**	**02 48 16.6**	**0.0**
KLR	**Kul'dur**	**47.20**	**8**	P	**P**	**02 48 53.8**	**0.0**
	comp=Z,2.3nm,0.6s,baz=224,slow=3.7,SNR=18						
ULN	**Ulaanbaatar**	**47.25**	**346**	P	**P**	**02 48 53.6**	**-0.8**
ULN				IAmb	IAmb	02 48 56.3	
	comp=Z,6.5nm,0.7s						
SONM	**Songino Array**	**47.39**	**345**	P	**P**	**02 48 56.5**	**+1.1**
	comp=Z,5.5nm,0.8s,baz=160,slow=9.1,SNR=24						
SONM				ScP	**ScP**	**02 53 24.7**	**-3.5**
	comp=Z,0.4nm,0.5s,baz=284,slow=1.2,SNR=3.5						
SONM	**Songino Array**	**47.39**	**345**	P	**P**	**02 48 55.1**	**-0.3**
SONM					**ScP**	**02 53 24.9**	**-3.3**
MK31	**Makanchi Array**	**56.47**	**328**	P	**P**	**02 50 00.5**	**-0.7**
MKAR	**Makanchi Array**	**56.47**	**328**	P	**P**	**02 50 01.9**	**+0.7**
	comp=Z,3.1nm,0.6s,baz=121,slow=9.0,SNR=32						
MKAR				PcP	**PcP**	**02 50 51.2**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=134,slow=3.5,SNR=4.4						
MKAR				ScP	**ScP**	**02 54 05.2**	**-2.4**
	comp=Z,0.2nm,0.5s,baz=115,slow=6.8,SNR=2.1						
MKAR	**Makanchi Array**	**56.47**	**328**	P	**P**	**02 50 00.6**	**-0.6**
MKAR					**PcP**	**02 50 50.8**	**-1.0**
MKAR					**ScP**	**02 54 04.1**	**-3.4**
MAKZ	**Makanchi**	**56.65**	**327**	P	**P**	**02 50 02.2**	**-0.2**
PETK	**Petropavlovsk-**	**58.09**	**24**	P	**P**	**02 50 13.2**	**+1.1**
	comp=Z,1.8nm,0.6s,baz=178,slow=4.3,SNR=2.9						
PETK				ScP	**ScP**	**02 54 12.3**	**-2.2**
	comp=Z,1.7nm,0.8s,baz=245,slow=5.9,SNR=1.9						
PETK	**Petropavlovsk-**	**58.09**	**24**	P	**P**	**02 50 12.1**	**-0.1**
PETK					**ScP**	**02 54 12.0**	**-2.5**
ZALV	**Zalesovo Beam**	**60.03**	**335**	P	**P**	**02 50 24.8**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=124,slow=2.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**60.03**	**335**	P	**P**	**02 50 24.9**	**-0.3**
KURBB	**Kurchatov Arra**	**60.79**	**329**	P	**P**	**02 50 29.9**	**-0.4**
	comp=Z,3.1nm,0.6s,baz=130,slow=5.7,SNR=29						
KURK	**Kurchatov**	**60.80**	**329**	P	**P**	**02 50 30.1**	**-0.3**
KURK				IAmb	IAmb	02 50 31.2	
	comp=Z,6.9nm,0.7s						
KKAR	**Karatay Array**	**61.58**	**319**	P	**P**	**02 50 35.1**	**-0.7**
ABKAR	**Akbulak array**	**70.72**	**322**	P	**P**	**02 51 32.4**	**-0.4**
NRIK	**Noril'sk**	**70.78**	**347**	P	**P**	**02 51 32.6**	**-0.1**
	comp=Z,5.8nm,0.7s,baz=121,slow=6.5,SNR=4.8						
KMBO	**Kilima Mbogo**	**85.68**	**269**	P	**P**	**02 52 55.8**	**+1.2**
	comp=Z,2.1nm,0.7s,baz=66,slow=6.3,SNR=5.0						

ILAR	**Eielson Array**	**87.88**	**25**	P		**P**	**02 53 01.9**	**-1.7**	
	comp=Z,0.2nm,0.5s,baz=279,slow=6.0,SNR=2.0								
ILAR	**Eielson Array**	**87.88**	**25**	P		**P**	**02 53 03.0**	**-0.6**	
ARCES	**ARCESS Array B**	**90.29**	**340**	P		**P**	**02 53 13.6**	**-1.2**	
	comp=Z,1.6nm,0.9s,baz=95,slow=9.9,SNR=4.5								
ARCES	**ARCESS Array B**	**90.29**	**340**	P		**P**	**02 53 14.3**	**-0.5**	

*ISN **19** 03:04:30.5±0.9, 32.52N×47.65E, h14km±6km, ML3.6*
*IDC **19** 03:04:31.8±1.8, 32.73N×47.43E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.7/60, mbtmp3.8/12, ML3.6/2, MS2.8/2, Ms1 2.9/2, ms1mx2.2/45, Error ellipse: s-maj=39.0km s-min=18.6km az=161.0*
*TEH **19** 03:04:34.5, 32.61N×47.64E, h20km, ML3.6*
*THR **19** 03:04:35.4±1.4, 32.78N×47.68E, h14km±20km, ML3.4*

ISC 19 03:04:33.2±1.2, 32.50N±0.03×47.50E±0.04, h14km±8km, n80, σ1s41/83, mb4.0/16, 4C-4D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.06**	**16**	*e*Pg	**Pg**	**03 04 51.6**	**-2.2**
IKFM				*e*	**Sb**	**03 05 07.3**	**0.0**
SHGR	**Shooshtar-Gavs**	**1.17**	**109**	*e*Pg	**Pg**	**03 04 56.7**	**+0.9**
SHGR				IAML		03 05 15.5	
	comp=E,782nm,0.6s						
SHGR				IAML		03 05 40.0	
	comp=N,818nm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.17**	**109**	*e*Pg	**Pg**	**03 04 56.7**	**+0.9**
IKMR	**Kamar-syah**	**1.26**	**36**	*e*Pg	**Pn**	**03 04 56.2**	**-0.2**
IKMR				*e*		03 05 01.2	
IDOB	**Doab**	**1.41**	**24**	*e*Pg	**Pn**	**03 04 58.1**	**-0.6**
IBDR	**Badra**	**1.45**	**295**	*e*Pg	**Pn**	**03 04 59.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**03 05 20.0**	**-0.1**
IBDR				AML	AML	03 05 27.6	
	comp=N,858nm,0.4s						
IBDR				AML	AML	03 05 31.8	
	comp=E,879nm,0.6s						
AHWZ	**Ahwaz**	**1.52**	**140**	*e*Pg	**Pg**	**03 05 02.6**	**+0.2**
BMDN	**Meydan**	**1.62**	**43**	*e*Pg	**Pn**	**03 05 01.1**	**-0.5**
BMDN				*e*		03 05 30.0	
IKOM	**Komasi**	**1.67**	**0**	*e*		03 05 07.9	
IKOM				*e*Pg	**Pb**	**03 05 03.8**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.81**	**348**	*e*	**Sg**	**03 05 32.8**	**+1.2**
NSR	**Nassriya**	**1.88**	**218**	*e*Pn	**Pn**	**03 05 05.0**	**0.0**
NSR				Sn	**Sn**	**03 05 29.0**	**+0.5**
KER	**Kermanshah**	**1.91**	**351**	*e*Pn	**Pb**	**03 05 06.7**	**-1.2**
HSAM	**Samen**	**1.94**	**28**	*e*		03 05 10.7	
HSAM				*e*Pn	**Pn**	**03 05 06.8**	**+0.7**
IGHG	**Ghaleghazi**	**1.98**	**337**	*e*		03 05 48.4	
IGHG				*e*Pn	**Pb**	**03 05 08.9**	**-0.4**
IBZA	**Bozab**	**1.99**	**9**	*e*		03 05 14.8	
IBZA				*e*Pn	**Pn**	**03 05 07.9**	**+1.1**
IVIS	**Veis**	**2.09**	**345**	*e*	**Sg**	**03 05 43.0**	**+2.4**
IVIS				*e*Pn	**Pn**	**03 05 09.2**	**+1.1**
IDHR	**Dehrash**	**2.38**	**337**	*e*Pn	**Pn**	**03 05 13.5**	**+1.4**
IDHR				*e*		03 05 20.7	
KHMZ	**Khomeyn**	**2.41**	**58**	*e*Pn	**Pn**	**03 05 12.9**	**+0.4**
KHMZ	**Khomeyn**	**2.41**	**58**	*e*Pn	**Pn**	**03 05 12.9**	**+0.4**
IALM	**Almabolaq**	**2.42**	**13**	*e*Pn	**Pn**	**03 05 13.6**	**+0.9**
ILIN	**Lien**	**2.46**	**350**	*e*Pn	**Pn**	**03 05 14.3**	**+1.2**
ILIN				*e*		03 05 49.9	
SNGE	**Sanandaj**	**2.59**	**357**	*e*Pn	**Pn**	**03 05 15.0**	**0.0**
SNGE				IAML		03 06 02.3	
	comp=N,213nm,0.5s						
SNGE	**Sanandaj**	**2.59**	**357**	*e*Pn	**Pn**	**03 05 15.0**	**0.0**
HAGD	**Aghdareh**	**2.69**	**30**	*e*Pn	**Pn**	**03 05 17.0**	**+0.6**
HAGD				*e*		03 05 25.6	
JHBN	**Jahan bin**	**2.70**	**95**	*e*Pn	**Pn**	**03 05 16.8**	**+0.3**
JHBN				*e*		03 06 10.1	
BHD	**Baghdad**	**2.73**	**287**	*e*Pn	**Pn**	**03 05 17.0**	**+0.3**
BHD				Sn	**Sn**	**03 05 52.0**	**+2.5**
HSRG	**Sareghieh**	**2.81**	**13**	*e*Pn	**Pn**	**03 05 19.7**	**+1.6**
HSRG				*e*		03 05 28.9	
IPIR	**Pirpir**	**2.87**	**85**	*e*Pn	**Pn**	**03 05 19.2**	**+0.3**
IPIR				*e*		03 06 09.0	
ASAO	**Ashtian**	**2.94**	**45**	*e*Pn	**Pn**	**03 05 20.9**	**+1.1**
ASAO				*e*Sg	**Sn**	**03 05 57.9**	**+2.8**
ASAO	**Ashtian**	**2.94**	**45**	*e*Pn	**Pn**	**03 05 20.9**	**+1.1**
ROKH	**ROKH**	**3.00**	**92**	*e*Pn	**Pn**	**03 05 20.5**	**-0.1**
ROKH				*e*		03 06 27.8	
IKLH	**Kolahrood**	**3.53**	**76**	*e*Pn	**Pn**	**03 05 28.6**	**+0.7**
IKLH				*e*		03 06 29.1	
IRAZ	**Razeghan**	**3.53**	**34**	*e*Pn	**Pn**	**03 05 29.3**	**+1.3**
QABG	**Abgarm-Qazvin**	**3.64**	**28**	*e*Pn	**Pn**	**03 05 29.6**	**+0.2**
KLNJ	**Kolanjah**	**3.79**	**112**	*e*Pn	**Pn**	**03 05 32.8**	**+1.2**
KLNJ				*e*		03 06 21.7	
IGAR	**Gharneh**	**3.84**	**90**	*e*Pn	**Pn**	**03 05 32.3**	**+0.1**
IGAR				*e*		03 05 46.1	
IZEF	**Zefreh**	**4.09**	**83**	*e*Pn	**Pn**	**03 05 36.1**	**+0.4**
IRAM	**Ramesheh**	**4.20**	**98**	*e*Pn	**Pn**	**03 05 36.6**	**-0.5**
QSDN	**Sirdan**	**4.23**	**19**	*e*Pn	**Pn**	**03 05 38.6**	**+1.1**
MAHB	**Mahabad**	**4.51**	**341**	*e*Pn	**Pn**	**03 05 41.9**	**+0.7**
QALM	**Alamut, Qazvin**	**4.71**	**30**	*e*Pn	**Pn**	**03 05 45.2**	**+1.1**
IDMV	**Damavand**	**4.86**	**50**	*e*Pn	**Pn**	**03 05 46.0**	**-0.2**
ISAD	**Sadrabad**	**5.28**	**95**	*e*Pn	**Pn**	**03 05 51.5**	**-0.5**
ANAR	**Anarak**	**5.29**	**81**	*e*Pn	**Pn**	**03 05 51.5**	**-0.5**
IAZR	**Azarshahr**	**5.32**	**347**	*e*Pn	**Pn**	**03 05 53.5**	**+1.0**
IFIR	**Firoozkooh**	**5.37**	**53**	*e*Pn	**Pn**	**03 05 52.0**	**-1.3**
IHRS	**Heris**	**5.82**	**356**	*e*Pn	**Pn**	**03 06 01.7**	**+2.3**
ISHM	**Shahmirzad**	**5.83**	**54**	*e*Pn	**Pn**	**03 05 58.6**	**-1.0**
ICHK	**Chekchek**	**5.85**	**91**	*e*Pn	**Pn**	**03 05 59.5**	**-0.3**
IANJ	**Anjilo**	**6.10**	**59**	*e*Pn	**Pn**	**03 06 01.8**	**-1.4**
ASF	**Jabal al Asfar**	**8.97**	**271**	Pn	**Pn**	**03 06 41.6**	**-0.9**
	comp=N,0.3nm,0.3s,baz=45,slow=5.7,SNR=2.3						
ASF				Sn	**Sn**	**03 08 23.0**	**-0.5**
	comp=N,0.4nm,0.3s,baz=49,slow=5.9,SNR=1.6						
ASF				Lg	Lg	03 09 19.4	
	comp=N,0.2nm,0.3s,baz=17,slow=23,SNR=1.7						
EIL	**Elat**	**11.12**	**259**	Lg	Lg	03 10 32.7	
	comp=N,0.2nm,0.3s,baz=158,slow=22,SNR=1.2						
WSAR	**Wadi Sarin**	**13.48**	**130**	LR	LR	03 14 08.7	
	comp=N,42nm,20.4s,baz=278,slow=42						
AKTO	**Aktyubinsk**	**19.54**	**20**	P	**P**	**03 08 59.2**	**-1.1**
	comp=N,0.3nm,0.3s,baz=194,slow=13,SNR=10						
MLR	**Muntele Rosu**	**21.11**	**314**	P	**P**	**03 09 14.1**	**-3.4**
	comp=N,0.9nm,0.6s,baz=178,slow=21,SNR=1.6						
MLR	**Muntele Rosu**	**21.11**	**314**	P	**P**	**03 09 21.1**	**+3.6**
TESR	**Tescani**	**21.23**	**317**	P	**P**	**03 09 19.1**	**+0.4**
SORM	**Soroca**	**21.29**	**323**	P	**P**	**03 09 17.8**	**-1.5**
VOIR		**21.63**	**313**	P	**P**	**03 09 24.9**	**+1.9**
DOPR	**Dopca**	**21.68**	**315**	P	**P**	**03 09 25.5**	**+1.9**
LOT	**Lotru**	**22.43**	**312**	P	**P**	**03 09 32.0**	**+0.3**
AKASG	**Malin Array Be**	**22.64**	**329**	P	**P**	**03 09 30.5**	**-3.2**
	comp=N,1.6nm,0.4s,baz=136,slow=9.1,SNR=10						
BURAR	**Bucovina Array**	**22.66**	**318**	P	**P**	**03 09 27.9**	**-6.2**
MDVR	**Moldovita**	**23.47**	**309**	P	**P**	**03 09 43.1**	**+0.7**
KOLS	**Kolonicke sedl**	**25.03**	**318**	*e*P	**P**	**03 09 58.1**	**+1.3**
BVAR	**Borovoye Array**	**26.32**	**32**	P	**P**	**03 10 06.9**	**-1.5**
	comp=N,0.6nm,0.4s,baz=226,slow=6.0,SNR=5.4						
KURBB	**Kurchatov Arra**	**29.14**	**42**	P	**P**	**03 10 33.7**	**0.0**
	comp=N,1.1nm,0.2s,baz=246,slow=9.4,SNR=2.9						
MOA	**Molln**	**29.39**	**311**	*i* pP	pP	03 10 39.7	-0.5
	comp=N,2.3nm,0.9s						
MKAR	**Makanchi Array**	**30.08**	**51**	P	**P**	**03 10 41.7**	**-0.5**
	comp=N,1.0nm,0.6s,baz=249,slow=9.6,SNR=10						
SQTA	**Sankt Quirin**	**31.18**	**309**	*i* pP	**P**	**03 10 52.6**	**+0.6**
	comp=N,3.0nm,0.7s						
MOTA	**Moosalm**	**31.28**	**309**	*i* P	**P**	**03 10 52.6**	**-0.3**
	comp=N,2.8nm,0.7s						
FETA	**Feichten**	**31.45**	**308**	*i* pP	**P**	**03 10 54.7**	**+0.3**
	comp=N,3.3nm,1.2s						
RETA	**Reutte**	**31.54**	**309**	*i* pP	**P**	**03 10 55.9**	**+0.8**
	comp=N,1.2nm,0.4s						
DAVA	**Damuels**	**32.07**	**309**	*i* pP	**P**	**03 11 00.3**	**+0.4**
	comp=N,2.5nm,0.5s						
FINES	**FINESS Array B**	**32.12**	**341**	P	**P**	**03 10 59.4**	**-0.5**
	comp=N,1.4nm,0.4s,baz=145,slow=9.8,SNR=21						
ZALV	**Zalesovo Beam**	**34.05**	**40**	P	**P**	**03 11 15.3**	**-1.5**
	comp=N,0.8nm,0.4s,baz=266,slow=11,SNR=2.3						
ARCES	**ARCESS Array B**	**39.09**	**348**	P	**P**	**03 11 59.5**	**-0.1**
	comp=N,0.5nm,0.4s,baz=162,slow=10,SNR=15						
ESDC	**Sonseca Array**	**41.72**	**295**	P	**P**	**03 12 21.4**	**-0.5**
	comp=N,0.5nm,0.7s,baz=81,slow=8.3,SNR=2.4						
TORD	**Torodi Ar. Bea**	**45.99**	**256**	P	**P**	**03 12 57.2**	**+0.8**
	comp=N,0.3nm,0.5s,baz=73,slow=7.7,SNR=6.1						
CMAR	**Chiang Mai Arr**	**48.07**	**94**	LR	LR	03 35 46.2	
	comp=N,10nm,18.7s,baz=255,slow=39						

*IDC **19** 03:07:39.0±4.1, 24.16S×177.18W, h86km±37km, mb3.6/8, mb1 3.9/10, mb1mx3.5/37, mbtmp4.0/10, Error ellipse: s-maj=35.4km s-min=18.3km az=139.0*

ISC 19 03:07:40.3±0.8, 24.15±0.1×177.2W±0.2, h100km, n13, σ0s76/10, mb3.7/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.38**	**28**	P	**Pn**	**03 10 18.8**	**-1.1**
	3.5nm,0.3s,baz=208,slow=21,SNR=1.7						
AFI				S	Sn	03 12 14.6	-11
	2.1nm,0.3s,baz=241,slow=20,SNR=4.3						
URZ	**Urewera**	**14.89**	**198**	P	**Pn**	**03 11 05.0**	**-0.7**
	0.5nm,0.3s,baz=291,slow=7.5,SNR=1.4						
URZ				S	Sn	03 13 35.7	-14
	0.4nm,0.3s,baz=89,slow=20,SNR=1.5						
STKA	**Stephens Creek**	**37.05**	**249**	P	**P**	**03 14 41.2**	**+0.5**
	0.9nm,0.3s,baz=101,slow=9.8,SNR=3.8						
ASAR	**Alice Springs**	**44.55**	**260**	P	**P**	**03 15 42.4**	**-0.2**
	0.9nm,0.7s,baz=98,slow=8.0,SNR=8.5						
WRA	**Warramunga Arr**	**44.98**	**265**	P	**P**	**03 15 45.4**	**-0.6**
	0.9nm,0.8s,baz=98,slow=7.2,SNR=8.6						
MAW	**Mawson**	**78.42**	**200**	P	**P**	**03 19 29.6**	**0.0**
	1.9nm,0.7s,baz=143,slow=6.7,SNR=12						
PETK	**Petropavlovsk-**	**79.97**	**345**	P	**P**	**03 19 38.6**	**+0.5**
	2.0nm,0.6s,baz=114,slow=5.5,SNR=4.4						
NVAR	**Mina Array Bea**	**83.15**	**43**	P	**P**	**03 19 56.0**	**+0.5**
	0.5nm,0.7s,baz=226,slow=8.4,SNR=5.2						
H03S2	**Juan Fernandez**	**83.31**	**124**	T	T	04 51 29.9	
	baz=243,slow=75,SNR=5.3						
H03S1	**Juan Fernandez**	**83.32**	**124**	T	T	04 51 22.7	
	baz=243,slow=75,SNR=3.7						
H03S3	**Juan Fernandez**	**83.33**	**124**	T	T	04 51 22.4	
	baz=243,slow=75,SNR=4.2						
TXAR	**Lajitas Array**	**88.37**	**57**	P	**P**	**03 20 22.5**	**+1.1**
	0.4nm,0.9s,baz=203,slow=5.4,SNR=4.2						
PDAR	**Pinedale Array**	**91.08**	**43**	P	**P**	**03 20 33.6**	**-0.3**
	0.1nm,0.4s,baz=253,slow=1.5,SNR=3.6						

*IDC **19** 03:11:31.5±1.5, 35.77N×28.44E, h0km, mb3.2/2, mb1 3.3/5, mb1mx3.0/55, mbtmp3.1/5, ML3.1/3, Error ellipse: s-maj=35.3km s-min=20.0km az=166.0*
*NIC **19** 03:11:31.9±0.0, 35.86N×28.19E, h12km±4km, Ml3.4/3*
*ATH **19** 03:11:33.4, 35.99N×28.17E, h27km±1km, ML2.8/3, Error ellipse: s-maj=2.5km s-min=1.1km az=335.0*
*ISK **19** 03:11:33.7, 36.00N×28.25E, h8km, ML3.1/14*
*DDA **19** 03:11:33.5, 35.97N×28.25E, h5km±1km, ML2.8*
*THE **19** 03:11:34.1, 35.96N×28.18E, h8km±1km, ML3.0

THR6	**Thira Island,**	**2.33**	**281**	P	**Pn**	**03 12 11.2**	**+0.2**
THR3	**Thira Island,**	**2.34**	**282**	P	**Pn**	**03 12 11.2**	**0.0**
LAST	**Lasithi**	**2.38**	**251**	P	**Pn**	**03 12 12.5**	**+0.7**
THR5	**Thira Island,**	**2.38**	**282**	P	**Pn**	**03 12 12.4**	**+0.7**
IDI	**Anoyia**	**2.81**	**257**	Pn	**Pn**	**03 12 18.6**	**+1.0**
	comp=E,1.6nm,0.3s,baz=55,slow=16,SNR=12						
IDI				Sn	**Sn**	**03 12 53.4**	**+1.4**
	comp=E,3.1nm,0.3s,baz=174,slow=22,SNR=5.9						
SIVA	**Sivas**	**2.95**	**253**	P	**Pn**	**03 12 20.5**	**+1.0**
AKMS	**Akamas**	**3.47**	**104**	P	**Pn**	**03 12 26.5**	**-0.2**
AKMS				AML	AML	03 13 07.0	
	comp=E,0.3nm,0.7s						
AKMS				AML	AML	03 13 07.0	
	comp=E,0.3nm,0.7s						
AKMS				S	**Sn**	**03 13 08.6**	**+0.2**
AKMS				AML	AML	03 13 09.4	
	comp=E,0.3nm,0.6s						
AKMS				AML	AML	03 13 09.4	
	comp=E,0.3nm,0.6s						
ALFC	**Alefka**	**3.64**	**101**	⇑P	**Pn**	**03 12 28.6**	**-0.5**
ALFC				S	**Sn**	**03 13 12.5**	**-0.2**
ALFC				AML	AML	03 13 12.5	
	comp=E,0.2nm,0.3s						
ALFC				AML	AML	03 13 12.5	
	comp=E,0.2nm,0.3s						
ALFC				AML	AML	03 13 12.6	
	comp=E,0.2nm,0.6s						
ALFC				AML	AML	03 13 12.6	
	comp=E,0.2nm,0.6s						
NATA	**Nata**	**3.73**	**107**	P	**Pn**	**03 12 30.2**	**-0.1**
SZAC	**Souni**	**3.98**	**106**	P	**Pn**	**03 12 33.4**	**-0.4**
ASGA	**Asgata**	**4.26**	**104**	P	**Pn**	**03 12 37.4**	**-0.1**
CSS	**Mathiatis**	**4.27**	**102**	P	**Pn**	**03 12 37.6**	**-0.2**
MVOU	**Mavrovouni**	**4.50**	**100**	⇓P	**Pn**	**03 12 40.6**	**-0.3**
BRTR	**Keskin Array B**	**5.70**	**47**	Pn	**Pn**	**03 12 59.6**	**+2.1**
	comp=E,0.1nm,0.3s,baz=228,slow=14,SNR=1.4						
BRTR				Sn	**Sn**	**03 14 03.4**	**-0.1**
	comp=E,0.2nm,0.3s,baz=215,slow=27,SNR=5.2						
MMAI	**Mount Meron Ar**	**6.60**	**114**	Pn	**Pn**	**03 13 07.8**	**-2.1**
	comp=E,2.2nm,0.3s,baz=311,slow=11,SNR=6.9						
MMAI				Sn	**Sn**	**03 14 21.0**	**-4.7**
	comp=E,1.8nm,0.3s,baz=298,slow=24,SNR=2.4						
ESDC	**Sonseca Array**	**25.63**	**288**	P	**P**	**03 17 05.6**	**+3.0**
	comp=E,0.3nm,0.6s,baz=93,slow=9.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**32.95**	**233**	P	**P**	**03 18 07.4**	**-0.3**
	comp=E,0.2nm,0.7s,baz=30,slow=7.0,SNR=1.7						

*IDC **19** 03:12:16.1±4.5,32.°72N×47.°70E,h0km,mb3.7/4,*
mb1 3.7/5,mb1mx3.4/57,mbtmp3.7/5,ML3.4/1,Error
ellipse: s-maj=111.9km s-min=33.2km az=166.0
*ISN **19** 03:12:17.0±1.4,32.°76N×47.°88E,h25km±14km,ML2.9*
*TEH **19** 03:12:17.4,32.°70N×47.°80E,h8km,ML3.3*
*THR **19** 03:12:18.8±0.5,32.°62N×47.°75E,h18km±6km,ML3.3*

ISC 19 03:12:18.6±0.8,32.°70N±0.°03×47.°77E±0.°03,h15km,n50,
σ1°24/53,mb3.6/4,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.83**	**4**	*e*Pg	**Pb**	**03 12 33.9**	**-0.8**
IKFM				*e*		03 12 50.8	
IKMR	**Kamar-syah**	**0.97**	**32**	*e*Pg	**Pb**	**03 12 35.2**	**-1.9**
IKMR				*e*		03 12 58.3	
SHGR	**Shooshtar-Gavs**	**1.05**	**124**	*e*Pg	**Pb**	**03 12 38.1**	**-0.4**
SHGR				IAML		03 12 57.4	
	comp=N,755nm,0.4s						
SHGR				IAML		03 12 58.4	
	comp=E,845nm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.05**	**124**	*e*Pg	**Pb**	**03 12 38.1**	**-0.4**
IDOB	**Doab**	**1.14**	**17**	*e*Pg	**Pn**	**03 12 40.2**	**-0.1**
BMDN	**Meydan**	**1.31**	**42**	*e*Pg	**Pn**	**03 12 42.4**	**-0.2**
BMDN				*e*		03 13 09.5	
IKOM	**Komasi**	**1.49**	**352**	*e*Pg	**Pb**	**03 12 45.8**	**-0.3**
IKOM				*e*		03 13 11.5	
AHWZ	**Ahwaz**	**1.55**	**151**	*e*Pg	**Pb**	**03 12 46.6**	**-0.4**
IBDR	**Badra**	**1.60**	**285**	*e*Pg	**Pn**	**03 12 47.0**	**+0.6**
IBDR				AML	AML	03 13 12.1	
	comp=E,151nm,0.8s						
IBDR				AML	AML	03 13 20.2	
	comp=N,87nm,0.6s						
HSAM	**Samen**	**1.66**	**24**	*e*Pg	**Pg**	**03 12 49.7**	**-0.9**
HSAM				*e*		03 13 17.6	
KCHF	**Cheshme Sefid,**	**1.69**	**339**	*e*Pn	**Pn**	**03 12 48.3**	**+0.5**
KCHF				*e*		03 13 18.9	
KER	**Kermanshah**	**1.77**	**343**	*e*Pn	**Pb**	**03 12 51.1**	**+0.3**
IBZA	**Bozab**	**1.77**	**2**	*e*Pn	**Pb**	**03 12 50.9**	**-0.1**
IBZA				*e*		03 13 25.2	
IGHG	**Ghaleghazi**	**1.92**	**329**	*e*Pn	**Pb**	**03 12 53.5**	**+0.1**
IGHG				*e*		03 13 43.0	
IVIS	**Veis**	**1.98**	**337**	*e*Pn	**Pb**	**03 12 53.8**	**-0.7**
IVIS				*e*		03 12 56.1	
KHMZ	**Khomeyn**	**2.11**	**60**	*e*Pn	**Pb**	**03 12 56.1**	**-0.6**
KHMZ	**Khomeyn**	**2.11**	**60**	*e*Pn	**Pb**	**03 12 56.1**	**-0.6**
NSR	**Nassriya**	**2.18**	**220**	*e*Pn	**Pn**	**03 12 55.0**	**+0.7**
NSR				*e*Sn	**Sn**	**03 13 21.0**	**-0.1**
IALM	**Almabolaq**	**2.18**	**9**	*e*Pn	**Pn**	**03 12 56.1**	**+1.4**
IDHR	**Dehrash**	**2.31**	**330**	*e*Pn	**Pb**	**03 12 59.4**	**-0.7**
IDHR				*e*		03 13 34.1	
ILIN	**Lien**	**2.32**	**343**	*e*Pn	**Pn**	**03 12 57.8**	**+1.3**
ILIN				*e*		03 13 42.9	
HAGD	**Aghdareh**	**2.41**	**28**	*e*Pn	**Pn**	**03 12 59.4**	**+1.7**
HAGD				*e*		03 13 44.8	
SNGE	**Sanandaj**	**2.42**	**352**	*e*Pn	**Pb**	**03 13 00.9**	**-1.1**
SNGE	**Sanandaj**	**2.42**	**352**	*e*Pn	**Pn**	**03 13 00.9**	**-1.1**
JHBN	**Jahan bin**	**2.49**	**100**	*e*Pn	**Pn**	**03 12 59.5**	**+0.6**
JHBN				*e*		03 13 45.5	
HSRG	**Sareghieh**	**2.58**	**9**	*e*Pn	**Pb**	**03 13 02.7**	**-2.0**
HSRG				*e*		03 13 54.7	
IPIR	**Pirpir**	**2.63**	**89**	*e*Pn	**Pn**	**03 13 01.7**	**+0.9**
IPIR				*e*		03 13 47.0	
ASAO	**Ashtian**	**2.64**	**45**	*e*Pn	**Pb**	**03 13 03.5**	**-2.2**
ASAO				*e*Sg	**Sg**	**03 13 43.7**	**+0.3**
ASAO	**Ashtian**	**2.64**	**45**	*e*Pn	**Pb**	**03 13 03.5**	**-2.2**
ROKH	**ROKH**	**2.78**	**96**	*e*Pn	**Pn**	**03 13 03.3**	**+0.5**
ROKH				*e*		03 13 59.8	
BHD	**Baghdad**	**2.91**	**282**	*e*Pn	**Pn**	**03 13 04.0**	**-0.3**
BHD				*e*Sn	**Sn**	**03 13 40.0**	**+1.0**
BHD				AML	AML	03 13 41.6	
	comp=E,160nm,0.4s						
IRAZ	**Razeghan**	**3.24**	**33**	*e*Pn	**Pn**	**03 13 11.8**	**+2.6**
IKLH	**Kolahrood**	**3.26**	**78**	*e*	**Sg**	**03 14 08.1**	**+4.8**
IGAR	**Gharneh**	**3.62**	**93**	*e*Pn	**Pn**	**03 13 15.0**	**+0.7**
IGAR				*e*		03 14 10.0	
KLNJ	**Kolanjah**	**3.66**	**116**	*e*Pn	**Pn**	**03 13 15.0**	**0.0**
KLNJ				*e*		03 14 25.8	
IZEF	**Zefreh**	**3.84**	**86**	*e*Pn	**Pn**	**03 13 19.1**	**+1.6**
QSDN	**Sirdan**	**3.97**	**17**	*e*Pn	**Pn**	**03 13 20.9**	**+1.7**
IRAM	**Rameshеh**	**4.00**	**102**	*e*Pn	**Pn**	**03 13 18.8**	**-0.9**
QALM	**Alamut, Qazvin**	**4.42**	**32**	*e*Pn	**Pn**	**03 13 27.3**	**+1.9**
IDMV	**Damavand**	**4.55**	**50**	*e*Pn	**Pn**	**03 13 28.3**	**+1.0**
ANAR	**Anarak**	**5.03**	**83**	*e*Pn	**Pn**	**03 13 34.5**	**+0.8**
ISAD	**Sadrabad**	**5.07**	**97**	*e*Pn	**Pn**	**03 13 34.4**	**+0.1**
IFIR	**Firoozkooh**	**5.07**	**53**	*e*Pn	**Pn**	**03 13 34.2**	**-0.1**
ICHK	**Chekchek**	**5.63**	**93**	*e*Pn	**Pn**	**03 13 41.7**	**-0.2**
IANJ	**Anjilo**	**5.80**	**60**	*e*Pn	**Pn**	**03 13 44.7**	**+0.4**
AKTO	**Aktyubinsk**	**19.28**	**20**	P	**P**	**03 16 42.1**	**-0.5**
	comp=E,0.1nm,0.3s,baz=213,slow=10,SNR=5.5						
BVAR	**Borovoye Array**	**26.02**	**32**	P	**P**	**03 17 50.6**	**-0.3**
	comp=E,1.1nm,0.7s,baz=238,slow=8.5,SNR=5.9						
MKAR	**Makanchi Array**	**29.78**	**52**	P	**P**	**03 18 24.3**	**-0.4**
	comp=E,0.7nm,0.7s,baz=246,slow=8.5,SNR=6.8						
ZALV	**Zalesovo Beam**	**33.75**	**40**	P	**P**	**03 19 00.3**	**+0.8**
	comp=E,0.6nm,0.3s,baz=235,slow=6.5,SNR=2.1						
ESDC	**Sonseca Array**	**41.85**	**295**	P	**P**	**03 20 07.2**	**-0.9**
	comp=E,0.5nm,0.9s,baz=72,slow=8.2,SNR=2.4						

*NEIC **19** 03:19:21.3±1.1,18.°2S±0.°1×177.°8W±0.°2,h585km±10km,*
mb4.3/25,Error ellipse: s-maj=23.1km s-min=16.9km
az=119.0
*IDC **19** 03:19:24.5±3.0,18.°31S×177.°98W,h605km±33km,mb3.3/6,*
mb1 3.4/7,mb1mx3.0/37,mbtmp4.3/7,Error ellipse:
s-maj=26.6km s-min=21.6km az=176.0

ISC 19 03:19:22.5±0.7,18.°2S±0.°1×177.°8W±0.°1,h600km,n41,
σ0°69/44,mb4.3/17,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.95**	**277**	P	**P**	**03 20 47.1**	**-0.6**
DZM	**Mont Dzumac**	**15.25**	**253**	P	**P**	**03 22 33.4**	**+0.3**
	0.4nm,0.3s,baz=181,slow=7.5,SNR=3.2						
KNTN	**Kanton**	**16.48**	**22**	P	**P**	**03 22 44.6**	**+0.1**
URZ	**Urewera**	**20.44**	**191**	P	**P**	**03 23 17.7**	**-2.3**
URZ				IAmb	IAmb	03 23 24.2	
	comp=Z,7.7nm,1.0s						
PLWZ	**Palliser**	**24.01**	**193**	P	**P**	**03 23 50.9**	**-0.9**
FOZ	**Fox Glacier**	**27.30**	**200**	P	**P**	**03 24 20.3**	**-0.3**
FOZ				IAmb	IAmb	03 24 36.1	
	comp=Z,13nm,1.1s						
LBZ	**Lake Benmore**	**27.95**	**199**	P	**P**	**03 24 27.1**	**+0.7**
LBZ				IAmb	IAmb	03 24 42.8	
	comp=Z,9.8nm,1.2s						
MLZ	**Mavora Lakes**	**29.48**	**200**	P	**P**	**03 24 39.7**	**+0.1**
EIDS	**Eidsvold**	**29.68**	**251**	P	**P**	**03 24 41.6**	**0.0**
EIDS				IAmb	IAmb	03 24 50.1	
	comp=Z,9.7nm,1.1s						
ARMA	**Armidale**	**30.26**	**241**	P	**P**	**03 24 46.8**	**+0.2**
ARMA				IAmb	IAmb	03 24 49.9	
	comp=Z,11nm,1.1s						
CTAO	**Charters Tower**	**33.94**	**261**	P	**P**	**03 25 17.3**	**-0.4**
CTAO				IAmb	IAmb	03 25 18.7	
	comp=Z,5.8nm,0.7s						
TOO	**Toolangi**	**37.40**	**231**	P	**P**	**03 25 46.5**	**+0.5**
TOO				IAmb	IAmb	03 25 47.1	
	comp=Z,10nm,1.1s						
COEN	**Coen**	**37.66**	**271**	P	**P**	**03 25 48.4**	**0.0**
COEN				IAmb	IAmb	03 25 50.3	
	comp=Z,9.4nm,0.8s						
STKA	**Stephens Creek**	**38.96**	**242**	P	**P**	**03 25 59.5**	**+0.9**
	comp=Z,5.0nm,0.7s,baz=95,slow=10,SNR=10						
STKA	**Stephens Creek**	**38.96**	**242**	P	**P**	**03 25 58.4**	**-0.3**
MCQ	**Macquarie Isla**	**40.35**	**201**	P	**P**	**03 26 09.1**	**-0.3**
WRMHI	**West Rim**	**43.45**	**32**	P	**P**	**03 26 33.0**	**-1.3**
UWB	**Uwekahuna B**	**43.48**	**32**	P	**P**	**03 26 34.3**	**-0.2**
JAY	**Jayapura**	**43.52**	**286**	P	**P**	**03 26 35.8**	**+0.8**
	comp=Z,5.9nm,0.6s,baz=130,slow=8.4,SNR=4.7						
BBOO	**Buckleboo**	**43.73**	**241**	P	**P**	**03 26 36.0**	**-0.3**
BBOO				IAmb	IAmb	03 26 36.7	
	comp=Z,6.0nm,0.7s						
WR0	**Warramunga Arr**	**44.92**	**260**	P	**P**	**03 26 45.3**	**-0.2**
WB0	**Warramunga Arr**	**45.08**	**260**	P	**P**	**03 26 46.5**	**-0.3**
WB0				IAmb	IAmb	03 26 47.3	
	comp=Z,7.2nm,0.6s						
WB2	**Warramunga Arr**	**45.10**	**260**	P	**P**	**03 26 46.2**	**-0.7**
WB2				IAmb	IAmb	03 26 47.5	
	comp=Z,8.0nm,0.6s						
WRA	**Warramunga Arr**	**45.11**	**260**	P	**P**	**03 26 47.0**	**0.0**
	comp=Z,3.2nm,0.4s,baz=98,slow=6.8,SNR=49						
WRA	**Warramunga Arr**	**45.11**	**260**	P	**P**	**03 26 46.7**	**-0.3**
AS31	**Alice Springs**	**45.23**	**255**	P	**P**	**03 26 47.3**	**-0.6**
AS31				IAmb	IAmb	03 26 49.2	
	comp=Z,3.6nm,0.5s						
ASAR	**Alice Springs**	**45.23**	**255**	P	**P**	**03 26 48.1**	**+0.2**
	comp=Z,8.3nm,0.4s,baz=92,slow=7.9,SNR=111						
ASAR				PcP	**PcP**	**03 28 15.9**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=104,slow=3.8,SNR=6.7						
ASAR				S	**S**	**03 32 45.0**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=93,slow=14,SNR=5.9						
ASAR	**Alice Springs**	**45.23**	**255**	P	**P**	**03 26 47.6**	**-0.4**
ASAR					**PcP**	**03 28 15.2**	**+0.3**
FORT	**Forrest**	**50.37**	**245**	P	**P**	**03 27 25.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**53.52**	**261**	P	**P**	**03 27 48.7**	**+0.1**
PSA00	**Pilbara Seismi**	**58.36**	**256**	P	**P**	**03 28 21.4**	**-0.6**
VNDA	**Vanda**	**60.17**	**185**	P	**P**	**03 28 33.7**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=30,slow=10,SNR=5.5						
VNDA	**Vanda**	**60.17**	**185**	P	**P**	**03 28 32.6**	**-0.4**
QSPA	**South Pole Qui**	**71.83**	**180**	P	**P**	**03 29 46.0**	**+0.6**
MAW	**Mawson**	**83.75**	**200**	P	**P**	**03 30 50.3**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=133,slow=5.8,SNR=9.8						
MAW	**Mawson**	**83.75**	**200**	P	**P**	**03 30 50.3**	**+1.2**
ARCES	**ARCESS Array B**	**126.72**	**350**	PKP	**PKiKP**	**03 37 19.7**	**+1.1**
	comp=Z,2.7nm,1.1s,baz=66,slow=2.2,SNR=5.2						
BRTR	**Keskin Array B**	**145.40**	**315**	PKPbc	**PKPab**	**03 37 56.3**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=75,slow=2.7,SNR=2.7						
CLL	**Collm**	**145.89**	**348**	*i* PKPbc	**PKPab**	**03 37 57.5**	**-0.2**
	comp=Z,5.0nm,0.7s						
GERES	**GERESS Array B**	**148.06**	**346**	PKPbc	**PKPbc**	**03 38 01.8**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=48,slow=2.0,SNR=5.3						
GERES	**GERESS Array B**	**148.06**	**346**		**PKiKP**	**03 38 02.2**	**-0.6**

IDC 19 03:20:14.4±5.2,4.°72S×153.°08E,h48km±43km,mb3.0/2,
mb1 3.3/2,mb1mx3.0/41,mbtmp3.3/2,Error ellipse:
s-maj=51.6km s-min=41.2km az=54.0,New Ireland
region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.13**	**291**	P	Pn	03 20 34.8	+1.0
	112nm,0.3s,baz=117,slow=1.4,SNR=88						
KRVT				S	Sn	03 20 48.4	+0.1
	359nm,0.3s,baz=23,slow=22,SNR=22						
WRA	**Warramunga Arr**	**23.71**	**229**	P	P	03 25 22.8	+0.5
	0.8nm,0.6s,baz=53,slow=9.9,SNR=9.3						
ASAR	**Alice Springs**	**26.40**	**223**	P	P	03 25 46.2	-0.6
	0.1nm,0.3s,baz=52,slow=8.7,SNR=1.2						
TORD	**Torodi Ar. Bea**	**150.55**	**288**	PKPbc	PKPbc	03 40 01.0	-1.2
	0.2nm,0.7s,baz=88,slow=1.7,SNR=1.9						

*IDC **19** 03:26:10.5±2.1,32.°57N×47.°69E,h0km,mb3.7/7,*
mb1 3.8/8,mb1mx3.6/38,mbtmp3.7/8,ML3.6/1,Error
ellipse: s-maj=43.7km s-min=25.5km az=158.0
*ISN **19** 03:26:12.5±0.8,32.°64N×47.°68E,h14km±5km,ML3.3*
*TEH **19** 03:26:13.5,32.°72N×47.°67E,h11km,ML3.5*
*THR **19** 03:26:14.2±0.7,32.°76N×47.°61E,h14km±9km,ML3.2*

ISC 19 03:26:13.4±0.7,32.°65N±0.°04×47.°60E±0.°04,h10km,n63,
σ1°65/63,mb3.6/7,9C-1D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.90**	**13**	*e*Pg	**Pg**	**03 26 29.2**	**-1.5**
IKFM				*e*		03 26 45.6	
IKMR	**Kamar-syah**	**1.08**	**37**	*e*Pg	**Pg**	**03 26 32.1**	**-2.2**
IKMR				*e*		03 26 55.2	
SHGR	**Shooshtar-Gavs**	**1.15**	**118**	*e*Pg	**Pb**	**03 26 36.2**	**+0.8**
SHGR				IAML		03 26 58.0	
	comp=E,412nm,0.3s						
SHGR				IAML		03 27 13.9	
	comp=N,303nm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.15**	**118**	*e*Pg	**Pb**	**03 26 36.2**	**+0.8**
IDOB	**Doab**	**1.23**	**23**	*e*Pg	**Pb**	**03 26 36.6**	**-0.3**
BMDN	**Meydan**	**1.45**	**45**	*e*Pg	**Pn**	**03 26 39.9**	**+0.1**
BMDN				*e*		03 27 04.3	
IBDR	**Badra**	**1.48**	**288**	*e*Pg	**Pn**	**03 26 41.0**	**+0.9**
IBDR				*e*Sg	**Sn**	**03 27 01.0**	**+1.5**
IBDR				AML	AML	03 27 05.7	
	comp=N,419nm,0.4s						
IBDR				AML	AML	03 27 06.0	
	comp=E,558nm,0.4s						
IKOM	**Komasi**	**1.52**	**357**	*e*Pg	**Pn**	**03 26 42.1**	**+1.2**
IKOM				*e*		03 27 08.7	
AHWZ	**Ahwaz**	**1.59**	**146**	*e*Pg	**Pn**	**03 26 44.1**	**+2.5**
KCHF	**Cheshme Sefid,**	**1.69**	**344**	*e*Pg	**Pn**	**03 26 44.4**	**+1.3**
KCHF				*e*		03 27 10.6	
HSAM	**Samen**	**1.77**	**28**	*e*Pg	**Pn**	**03 26 45.9**	**+1.6**
HSAM				*e*		03 27 14.5	
KER	**Kermanshah**	**1.77**	**347**	*e*Pn	**Pn**	**03 26 45.7**	**+1.4**
IBZA	**Bozab**	**1.83**	**7**	*e*Pg	**Pn**	**03 26 46.8**	**+1.6**
IBZA				*e*		03 27 20.2	
IGHG	**Ghaleghazi**	**1.88**	**333**	*e*Pn	**Pn**	**03 26 47.8**	**+1.9**
IGHG				*e*		03 27 26.9	
IVIS	**Veis**	**1.97**	**342**	*e*Pn	**Pn**	**03 26 48.5**	**+1.5**
IVIS				*e*		03 27 18.9	
NSR	**Nassriya**	**2.06**	**218**	*e*Pn	**Pn**	**03 26 48.0**	**0.0**
NSR				*e*Sn	**Sn**	**03 27 14.0**	**+0.3**
IALM	**Almabolaq**	**2.25**	**12**	*e*Pn	**Pn**	**03 26 52.8**	**+1.8**
KHMZ	**Khomeyn**	**2.25**	**61**	*e*Pn	**Pn**	**03 26 52.9**	**+1.9**
KHMZ	**Khomeyn**	**2.25**	**61**	*e*Pn	**Pn**	**03 26 52.9**	**+1.9**
IDHR	**Dehrash**	**2.28**	**334**	*e*Pn	**Pn**	**03 26 52.7**	**+1.4**
IDHR				*e*		03 27 32.5	
ILIN	**Lien**	**2.32**	**347**	*e*Pn	**Pn**	**03 26 53.5**	**+1.5**
ILIN				*e*		03 27 35.5	
SNGE	**Sanandaj**	**2.44**	**355**	*e*Pn	**Pn**	**03 26 54.0**	**+0.4**
SNGE				IAML		03 27 37.2	
	comp=N,144nm,0.5s						
SNGE	**Sanandaj**	**2.44**	**355**	*e*Pn	**Pn**	**03 26 54.0**	**+0.4**
HAGD	**Aghdareh**	**2.52**	**30**	*e*Pn	**Pn**	**03 26 56.2**	**+1.6**
HAGD				*e*		03 27 41.0	
JHBN	**Jahan bin**	**2.62**	**98**	*e*Pn	**Pn**	**03 26 56.8**	**+0.7**
JHBN				*e*		03 27 44.9	
HSRG	**Sareghieh**	**2.65**	**12**	*e*Pn	**Pn**	**03 26 59.2**	**+2.8**
HSRG				*e*		03 27 42.9	
ASAO	**Ashtian**	**2.77**	**46**	*e*Pn	**Pn**	**03 26 59.1**	**+1.0**
ASAO				*e*Sg	**Sb**	**03 27 38.3**	**+1.0**
ASAO				IAML		03 27 46.0	
	comp=E,100nm,0.5s						
ASAO				IAML		03 27 47.0	
	comp=N,98nm,0.8s						
ASAO	**Ashtian**	**2.77**	**46**	*e*Pn	**Pn**	**03 26 59.1**	**+1.0**
IPIR	**Pirpir**	**2.77**	**88**	*e*Pn	**Pn**	**03 26 59.1**	**+0.9**
IPIR				*e*		03 27 48.2	
BHD	**Baghdad**	**2.78**	**284**	*e*Pn	**Pn**	**03 26 59.0**	**+1.0**
BHD				*e*Sn	**Sn**	**03 27 34.0**	**+2.5**
BHD				AML	AML	03 27 37.8	
	comp=E,192nm,0.4s						
ROKH	**ROKH**	**2.92**	**95**	*e*		03 25 00.2	
ROKH				*e*Pn	**Pn**	**03 27 00.8**	**+0.7**
IRAZ	**Razeghan**	**3.36**	**34**	*e*Pn	**Pn**	**03 27 08.6**	**+2.4**
IKLH	**Kolahrood**	**3.41**	**78**	*e*Pn	**Pn**	**03 27 08.4**	**+1.5**
IKLH				*e*		03 28 12.9	
QABG	**Abgarm-Qazvin**	**3.46**	**28**	*e*Pn	**Pn**	**03 27 08.6**	**+1.0**
KLNJ	**Kolanjah**	**3.77**	**115**	*e*Pn	**Pn**	**03 27 12.9**	**+1.0**
KLNJ				*e*		03 28 22.6	
IZEF	**Zefreh**	**3.99**	**85**	*e*Pn	**Pn**	**03 27 15.9**	**+1.0**
QSDN	**Sirdan**	**4.06**	**18**	*e*Pn	**Pn**	**03 27 17.7**	**+1.9**
ZNJK	**Zanjan**	**4.11**	**12**	*e*Pn	**Pn**	**03 27 17.6**	**+1.1**
ZNJK	**Zanjan**	**4.11**	**12**	*e*Pn	**Pn**	**03 27 17.6**	**+1.1**
QALM	**Alamut, Qazvin**	**4.53**	**33**	*e*Pn	**Pn**	**03 27 24.3**	**+2.0**
IDMV	**Damavand**	**4.69**	**50**	*e*Pn	**Pn**	**03 27 25.5**	**+0.9**
IPRN	**Peran**	**5.30**	**46**	*e*Pn	**Pn**	**03 27 34.5**	**+1.7**
ISHM	**Shahmirzad**	**5.67**	**55**	*e*Pn	**Pn**	**03 27 40.8**	**+2.8**
ASF	**Jabal al Asfar**	**9.06**	**270**	Lg	Lg	03 31 05.0	
	comp=E,0.2nm,0.3s,baz=52,slow=20,SNR=4.9						
EIL	**Elat**	**11.24**	**258**	Lg	Lg	03 32 12.5	
	comp=E,0.3nm,0.3s,baz=48,slow=5.2,SNR=1.3						
AKTO	**Aktyubinsk**	**19.37**	**20**	P	**P**	**03 30 38.9**	**-0.3**
	comp=E,0.2nm,0.3s,baz=193,slow=10,SNR=3.0						
VARL	**Varlezi**	**20.15**	**317**	⇑P	Pn	03 30 58.7	+9.1
MILM	**Milestii Mici**	**20.21**	**320**	⇑P	Pn	03 30 58.7	+8.4
NEHR	**Nehoiu**	**20.82**	**314**	⇑P	**P**	**03 30 56.5**	**+1.5**
MLR	**Muntele Rosu**	**21.07**	**314**	P	**P**	**03 30 59.3**	**+1.5**
	comp=E,0.6nm,0.6s,baz=84,slow=0.2,SNR=6.3						
MLR	**Muntele Rosu**	**21.07**	**314**	⇑P	**P**	**03 31 02.7**	**+5.0**
TESR	**Tescani**	**21.18**	**317**	⇑P	**P**	**03 31 02.0**	**+3.1**
SORM	**Soroca**	**21.22**	**322**	⇑P	**P**	**03 30 59.5**	**+0.2**
VOIR		**21.59**	**313**	⇑P	**P**	**03 31 04.4**	**+1.1**
DOPR	**Dopca**	**21.64**	**314**	⇓P	**P**	**03 31 04.0**	**+0.2**
LOT	**Lotru**	**22.39**	**312**	⇑P	**P**	**03 31 10.7**	**-1.3**
AKASG	**Malin Array Be**	**22.56**	**328**	P	**P**	**03 31 11.9**	**-1.7**
	comp=E,0.3nm,0.3s,baz=141,slow=10,SNR=1.6						
BURAR	**Bucovina Array**	**22.61**	**318**	⇑P	**P**	**03 31 17.1**	**+2.8**
BVAR	**Borovoye Array**	**26.14**	**32**	P	**P**	**03 31 46.1**	**-1.5**
	comp=E,0.5nm,0.5s,baz=212,slow=5.3,SNR=4.1						
MKAR	**Makanchi Array**	**29.92**	**52**	P	**P**	**03 32 20.4**	**-1.1**
	comp=E,0.6nm,0.6s,baz=248,slow=9.0,SNR=6.1						
FINES	**FINESS Array B**	**32.01**	**341**	P	**P**	**03 32 39.0**	**-0.6**
	comp=E,2.5nm,0.9s,baz=138,slow=11,SNR=1.3						
ARCES	**ARCESS Array B**	**38.96**	**348**	P	**P**	**03 33 38.2**	**-1.1**
	comp=E,0.9nm,0.6s,baz=163,slow=9.2,SNR=

HAGD					*e*			03 44 48.7	
SNGE	**Sanandaj**	**2.44**	**352**		*e*Pn	**Pb**	**03 44 12.6**	**-1.4**
JHBN	**Jahan bin**	**2.49**	**99**		*e*Pn	**Pn**	**03 44 10.9**	**+0.3**
JHBN					*e*		03 44 57.9	
IPIR	**Pirpir**	**2.64**	**89**		*e*Pn	**Pn**	**03 44 13.6**	**+1.0**
IPIR					*e*		03 44 58.9	
ASAO	**Ashtian**	**2.66**	**45**		*e*Pn	**Pn**	**03 44 14.9**	**+2.1**
ROKH	**ROKH**	**2.79**	**96**		*e*Pn	**Pn**	**03 44 15.1**	**+0.6**
BHD	**Baghdad**	**2.91**	**283**		*e*Pn	**Pn**	**03 44 16.0**	**+0.1**
BHD					*e*Sn	**Sn**	**03 44 52.0**	**+1.5**
BHD					AML	AML	03 44 54.3	
	comp=E,324nm,0.4s							
IRAZ	**Razeghan**	**3.27**	**33**		*e*Pn	**Pn**	**03 44 23.1**	**+2.0**
IKLH	**Kolahrood**	**3.27**	**78**		*e*Pn	**Pn**	**03 44 22.3**	**+1.1**
IKLH					*e*		03 45 21.1	
QABG	**Abgarm-Qazvin**	**3.39**	**26**		*e*Pn	**Pn**	**03 44 23.6**	**+0.8**
IGAR	**Gharneh**	**3.62**	**93**		*e*Pn	**Pn**	**03 44 26.7**	**+0.7**
IGAR					*e*		03 44 29.3	
KLNJ	**Kolanjah**	**3.66**	**116**		*e*Pn	**Pn**	**03 44 26.8**	**+0.2**
IZEF	**Zefreh**	**3.85**	**85**		*e*Pn	**Pn**	**03 44 30.4**	**+1.2**
QSDN	**Sirdan**	**4.00**	**17**		*e*Pn	**Pn**	**03 44 32.7**	**+1.5**
IRAM	**Ramesheh**	**4.01**	**101**		*e*Pn	**Pn**	**03 44 30.7**	**-0.6**
CHTH	**Charan**	**4.26**	**40**		*e*Pn	**Pn**	**03 44 37.5**	**+2.6**
IDMV	**Damavand**	**4.58**	**50**		*e*Pn	**Pn**	**03 44 40.1**	**+0.9**
ANAR	**Anarak**	**5.04**	**82**		*e*Pn	**Pn**	**03 44 44.9**	**-0.6**
ISAD	**Sadrabad**	**5.07**	**97**		*e*Pn	**Pn**	**03 44 46.1**	**+0.1**
ISHM	**Shahmirzad**	**5.55**	**54**		*e*Pn	**Pn**	**03 44 53.5**	**+1.0**
IANJ	**Anjilo**	**5.82**	**60**		*e*Pn	**Pn**	**03 44 56.6**	**+0.4**

ANF ***19*** *04:00:33.9±0.4, 41.˚74N× 119.˚69W, ML3.7/18, Error ellipse: s-maj=3.8km s-min=3.3km az=110.0*

IDC ***19*** *04:00:35.0±0.9, 41.˚92N× 119.˚74W, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.3/50, mbtmp3.0/4, ML3.1/3, MS2.8/3, Ms1 2.8/3, ms1mx2.5/18, Error ellipse: s-maj=11.4km s-min=6.9km az=19.0*

REN ***19*** *04:00:34.7±1.0, 41.˚87N±0.˚03× 119.˚64W±0.˚07, h0km±5km, ML3.6/2, Mwr3.6/76(NEIC), Error ellipse: s-maj=7.9km s-min=4.8km az=91.0*

NEIC ***19*** *04:00:34.7, 41.˚87N× 119.˚64W, h13km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr0.33; Mθθ-2.62; Mφφ2.29; Mrθ-1.59; Mφφ0.32; Mθr-1.86; Fault plane solution: M₀3.49000×10¹⁴ NP1:φ₁135.33000°, δ46.02000°, λ173.39000°. NP2:φ₂229.93000°, δ85.25000°, λ44.17000°. Principal axes: T 3.6179, Plg33.0000°, Azm103.0000°; N -0.2646, Plg46.0000°, Azm235.0000°; P -3.3533, Plg26.0000°, Azm354.0000°:*

NEIC ***19*** *04:00:34.4±0.8, 41.˚85N±0.˚04× 119.˚61W±0.˚07, h10km±6km Error ellipse: s-maj=7.7km s-min=5.3km az=80.0*

PNSN ***19*** *04:00:35.5±0.5, 41.˚88N× 119.˚65W, ML3.5*

ISC 19 04:00:34.5±0.8, 41.˚84N±0.˚03× 119.˚64W±0.˚03, h10km, n85, σ1§24/97, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.50**	**278**		**Pg**	**04 00 44.4**	**+0.1**
MOD					**Sg**	**04 00 50.6**	**-0.4**
WVOR	**Wild Horse Val**	**0.95**	**51**		**Pg**	**04 00 52.3**	**-0.6**
WVOR					**Sg**	**04 01 04.7**	**-0.6**
K05A	**Summer Lake**	**1.29**	**314**		**Pb**	**04 00 58.7**	**-0.3**
M04C	**Macdoel**	**1.65**	**269**	P	**Pn**	**04 01 03.5**	**-0.1**
	baz=86,SNR=101						
M04C				S	**Sb**	**04 01 26.5**	**+0.6**
	baz=86						
J08A	**Circle Bar Ran**	**1.75**	**29**		**Pn**	**04 01 04.5**	**-0.5**
K04D	**Chiloquin, OR**	**1.76**	**297**	P	**Pb**	**04 01 06.3**	**-0.6**
	baz=115,SNR=38						
K04D				S	**Sb**	**04 01 29.9**	**+0.8**
	baz=115						
J05D	**Fort Rock, OR**	**1.87**	**321**	P	**Pb**	**04 01 08.3**	**-0.5**
	baz=140						
J05D				S	**Sg**	**04 01 33.9**	**-0.6**
	baz=140						
L04D	**Klamath Falls**	**2.02**	**282**	P	**Pn**	**04 01 08.5**	**-0.4**
	baz=99,SNR=23						
L04D				Sb	**Sg**	**04 01 38.6**	**-0.9**
	baz=99						
PAHR	**Pah Rah Range**	**2.14**	**175**		**Pb**	**04 01 12.0**	**-1.4**
PINE	**Pine Mountain**	**2.18**	**334**		**Pn**	**04 01 11.6**	**+0.6**
O03E	**Paynes Creek**	**2.25**	**227**	Pb	**Pn**	**04 01 12.8**	**+0.9**
	baz=45						
O03E				Sg	**Sg**	**04 01 45.6**	**-1.2**
	baz=45						
YBH	**Yreka Blue Hor**	**2.30**	**268**	Pn	**Pn**	**04 01 12.2**	**-0.3**
	5.9nm,0.3s,baz=74,slow=14,SNR=28						
YBH				Lg	Lg	04 01 46.6	
	15nm,0.3s,baz=171,slow=4.6,SNR=9.2						
J04D	**Umpqua Nationa**	**2.30**	**308**	Pb	**Pb**	**04 01 16.2**	**-0.1**
	baz=126						
M02C	**Callahan**	**2.45**	**261**	P	**Pn**	**04 01 13.8**	**-0.9**
	baz=78,SNR=20						
N02D	**Trinity Center**	**2.46**	**251**	P	**Pn**	**04 01 14.1**	**-0.7**
	baz=68,SNR=39						
WDC	**Whiskeytown Da**	**2.52**	**241**		**Pn**	**04 01 15.8**	**+0.2**
VCNR	**Virginia City**	**2.54**	**180**	Pn	**Pn**	**04 01 17.4**	**+1.4**
VCNR					**Pb**	**04 01 17.6**	**-2.7**
ORV	**Oroville**	**2.68**	**212**	Pn	**Pn**	**04 01 19.4**	**+1.6**
PNTR	**Pine Nut**	**2.75**	**179**		**Pn**	**04 01 20.6**	**+1.8**
I05D	**Terrebonne, OR**	**2.79**	**334**	Pb	**Pb**	**04 01 24.9**	**+0.3**
	baz=153						
I05D				Sb	**Sg**	**04 02 02.9**	**-1.3**
	baz=153						
RUBR	**Rubicon Trail**	**2.81**	**188**		**Pn**	**04 01 21.0**	**+1.3**
YERR	**Yerington**	**2.87**	**174**	Pn	**Pn**	**04 01 21.9**	**+1.5**
O02D	**Mt. Diablo Mer**	**2.91**	**236**	P	**Pn**	**04 01 21.2**	**+0.3**
	baz=54,SNR=24						
L02E	**Cave Junction**	**2.97**	**278**	Sb	**Sg**	**04 02 07.0**	**-3.0**
	baz=94						
KVN	**Kaiserville**	**3.02**	**157**		**Pn**	**04 01 23.7**	**+1.1**
AFDM	**Forest Hills D**	**3.06**	**200**		**Pn**	**04 01 24.6**	**+1.6**
K02D	**Willamette Mer**	**3.11**	**287**	P	**Pn**	**04 01 23.5**	**-0.2**
	baz=104						
K02D				Sb	**Sg**	**04 02 11.3**	**-3.1**
	baz=104						
KRMB	**Red Mountain**	**3.21**	**266**		**Pn**	**04 01 26.3**	**+1.2**
MFID	**Camas Ranch**	**3.22**	**59**	Pn	**Pn**	**04 01 25.8**	**+0.5**
I03D	**Drain, OR**	**3.31**	**305**	Pb	**Pb**	**04 01 33.5**	**+0.3**
	baz=123						
I03D				Sb	**Sg**	**04 02 17.2**	**-3.4**
	baz=123						
RYN	**Ryan**	**3.32**	**165**		**Pn**	**04 01 28.1**	**+1.4**
WAKR	**Walker**	**3.33**	**177**		**Pn**	**04 01 28.1**	**+1.3**
J01E	**Myrtle Point**	**3.44**	**294**	Sg	**Sg**	**04 02 27.9**	**+3.0**
	baz=111						
H04D	**Lebanon**	**3.51**	**321**	Pb	**Pb**	**04 01 38.0**	**+1.3**
	baz=139						
H04D				Sb	**Sg**	**04 02 24.7**	**-2.7**
	baz=139						
NVAR	**Mina Array Bea**	**3.55**	**163**	Pn	**Pn**	**04 01 32.2**	**+2.3**
	0.2nm,0.3s,baz=342,slow=12,SNR=6.8						
NVAR				Pg	**Pg**	**04 01 41.8**	**-0.8**
	3.4nm,0.3s,baz=344,slow=16,SNR=42						
NVAR				Lg	Lg	04 02 28.1	
	14nm,0.3s,baz=347,slow=27,SNR=12						
NVAR	**Mina Array Bea**	**3.55**	**163**		**Pn**	**04 01 31.2**	**+1.2**
LHV	**Little Huntoon**	**3.69**	**166**	Pn	**Pn**	**04 01 33.0**	**+1.5**
I02D	**Swisshome**	**3.83**	**308**	Sb	**Sg**	**04 02 35.1**	**-2.4**
	baz=125						
CMB	**Columbia Colle**	**3.84**	**189**	Pn	**Pn**	**04 01 35.2**	**+1.5**
HLID	**Hailey**	**4.22**	**64**	P	**Pn**	**04 01 40.3**	**+1.2**
	baz=248						
HLID	**Hailey**	**4.22**	**64**	Pn	**Pn**	**04 01 39.7**	**+0.6**
MDPB	**Devils Postpil**	**4.22**	**174**	Pn	**Pn**	**04 01 40.3**	**+1.1**
OMMB	**Old Mammoth Mi**	**4.25**	**173**	Pn	**Pn**	**04 01 40.5**	**+1.0**
F10A	**Beach Ranch, E**	**4.49**	**22**	Pn	**Pn**	**04 01 43.1**	**+0.5**
R11A	**Troy Canyon, C**	**4.67**	**137**	P	**Pn**	**04 01 47.1**	**+1.9**
	baz=320						
R11A	**Troy Canyon, C**	**4.67**	**137**	Pn	**Pn**	**04 01 46.3**	**+1.1**
BGU	**Big Grassy Mou**	**5.05**	**98**	Pn	**Pn**	**04 01 51.4**	**+0.9**
HVU	**Hansel Valley**	**5.13**	**88**	Pn	**Pn**	**04 01 52.5**	**+0.9**
DUG	**Dugway, Tooele**	**5.42**	**105**	P	**Pn**	**04 01 56.8**	**+1.3**
	baz=290						
DUG	**Dugway, Tooele**	**5.42**	**105**	Pn	**Pn**	**04 01 56.4**	**+1.0**
SPUT	**South Promonto**	**5.42**	**93**		**Pn**	**04 01 56.4**	**+0.9**
PSUT	**Pine Spring**	**5.52**	**125**	Pn	**Pn**	**04 01 58.1**	**+1.1**
TPNV	**Topopah Spring**	**5.54**	**151**		**Pn**	**04 01 58.4**	**+1.2**
PRN	**Pahroc Range**	**5.67**	**140**	Pn	**Pn**	**04 01 59.9**	**+1.0**
MCMT	**McKenzie Canyo**	**5.78**	**57**		**Pn**	**04 02 01.2**	**+0.6**
HWUT	**Hardware Ranch**	**6.04**	**89**	Pn	**Pn**	**04 02 04.9**	**+0.8**
DLMT	**Dillon**	**6.21**	**53**		**Pn**	**04 02 07.0**	**+0.7**
ECR	**Eagle Creek**	**6.24**	**76**	Pn	**Pn**	**04 02 07.5**	**+0.8**
JLU	**Jordanelle**	**6.30**	**99**		**Pn**	**04 02 08.4**	**+0.7**
SHPR	**Sheep Range**	**6.36**	**145**	Pn	**Pn**	**04 02 09.5**	**+1.1**
AHID	**Auburn Hatcher**	**6.40**	**79**	Pn	**Pn**	**04 02 09.9**	**+0.9**
CCUT	**Cedar City**	**6.46**	**129**	Pn	**Pn**	**04 02 11.1**	**+1.3**
SZCU	**Shurtz Canyon**	**6.59**	**128**	Pn	**Pn**	**04 02 12.7**	**+1.1**
FXWY	**Fox Creek**	**6.59**	**71**	Pn	**Pn**	**04 02 12.3**	**+0.6**
TPAW	**Teton Pass**	**6.61**	**73**	Pn	**Pn**	**04 02 12.6**	**+0.6**
REDW	**Red Top Meadow**	**6.66**	**74**	Pn	**Pn**	**04 02 13.1**	**+0.5**
QLMT	**Earthquake Lak**	**6.69**	**61**	Pn	**Pn**	**04 02 13.7**	**+0.6**
IMW	**Indian Meadow**	**6.71**	**69**	Pn	**Pn**	**04 02 13.8**	**+0.4**
SNOW	**Snow King Moun**	**6.75**	**73**	Pn	**Pn**	**04 02 14.4**	**+0.5**
YHB	**Horse Butte**	**6.81**	**62**	Pn	**Pn**	**04 02 15.1**	**+0.4**
MTPU	**Mount Pierson**	**6.87**	**121**	Pn	**Pn**	**04 02 16.4**	**+0.8**
TMUT	**Trail Mountain**	**6.90**	**109**		**Pn**	**04 02 16.8**	**+0.8**
LCMT	**Little Creek M**	**6.91**	**132**		**Pn**	**04 02 16.9**	**+0.9**
BOZ	**Bozeman (W)**	**6.91**	**54**	Pn	**Pn**	**04 02 16.5**	**+0.5**
YPP	**Pitchstone Pla**	**6.91**	**66**	Pn	**Pn**	**04 02 16.6**	**+0.4**
FLWY	**Flagg Ranch**	**6.93**	**68**	Pn	**Pn**	**04 02 17.1**	**+0.8**
YMR	**Madison River**	**6.94**	**63**	Pn	**Pn**	**04 02 16.9**	**+0.6**
YHH	**Holmes Hill**	**7.05**	**62**	Pn	**Pn**	**04 02 18.4**	**+0.3**
KNB	**Kanab**	**7.14**	**130**		**Pn**	**04 02 20.2**	**+1.1**
PKCU	**Pink Cliffs**	**7.15**	**125**	Pn	**Pn**	**04 02 20.4**	**+0.9**
PDAR	**Pinedale Array**	**7.53**	**80**	Pn	Pn	04 02 29.4	+4.8
	0.1nm,0.3s,baz=254,slow=13,SNR=5.0						
PDAR				Pg	**Pb**	**04 02 45.5**	**+0.2**
	0.1nm,0.3s,baz=268,slow=15,SNR=4.5						
PDAR				Lg	Lg	04 04 35.5	
	0.1nm,0.3s,baz=264,slow=31,SNR=1.9						
PDAR				LR	LR	04 06 06.5	
	comp=Z,29nm,19.3s,baz=305,slow=44						
PDAR	**Pinedale Array**	**7.53**	**80**	Pn	**Pn**	**04 02 25.4**	**+0.8**
U15A	**North Rim**	**7.86**	**131**		**Pn**	**04 02 30.1**	**+1.0**
BBB	**Bella Bella**	**11.85**	**334**	LR	LR	04 08 33.4	
	comp=Z,44nm,18.9s,baz=332,slow=41						
ILAR	**Eielson Array**	**27.73**	**335**	P	**P**	**04 06 25.1**	**+2.2**
	0.4nm,0.7s,baz=150,slow=8.7,SNR=4.8						
ILAR				LR	LR	04 17 48.3	
	comp=Z,34nm,18.9s,baz=338,slow=37						

IDC ***19*** *04:07:22.3±1.3, 28.˚48S× 71.˚14W, h0km, mb4.0/4, mb1 4.0/6, mb1mx3.5/29, mbtmp3.9/6, ML3.4/2, MS2.7/2, Ms1 2.7/2, ms1mx2.4/22, Error ellipse: s-maj=35.9km s-min=26.7km az=116.0*

NEIC ***19*** *04:07:29.6±1.2, 28.˚29S±0.˚04× 71.˚2W±0.˚1, h65km±7km, Error ellipse: s-maj=13.3km s-min=6.6km az=90.0*

GUC ***19*** *04:07:29.6±0.8, 28.˚23S× 71.˚23W, h66km±4km, ML4.2*

ISC 19 04:07:29.2±0.8, 28.˚28S±0.˚04× 71.˚36W±0.˚06, h64km±7km, n64, σ1§31/68, mb4.1/5, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.26**	**74**	⇓*i*P	**Pn**	**04 07 40.7**	**+1.2**
AC04				*i* S	**Sn**	**04 07 47.8**	**+0.7**
AC04				IAML		04 07 48.0	
	comp=N,24μm,0.1s						
AC04	**Llanos de Chal**	**0.26**	**74**		**Pn**	**04 07 40.0**	**+0.5**
AC04				Sn	**Sn**	**04 07 47.7**	**+0.7**
LCO	**Las Campanas**	**0.93**	**142**	Pn	**Pn**	**04 07 47.1**	**+0.3**
LCO				Sn	**Sn**	**04 07 56.9**	**-2.9**
AC05	**El Transito**	**1.11**	**120**	*e*P	**Pn**	**04 07 49.8**	**+0.9**
AC05				*i* S	**Sn**	**04 08 03.5**	**0.0**
AC05				IAML		04 08 04.3	
	comp=E,7μm,0.2s						
AC05	**El Transito**	**1.11**	**120**	Pn	**Pn**	**04 07 47.1**	**-1.8**
GO03	**Copiap**	**1.21**	**56**	⇓*i*P	**Pn**	**04 07 51.4**	**+1.2**
GO03				*i* S	**Sn**	**04 08 06.3**	**+0.4**
GO03				IAML		04 08 07.6	
	comp=N,17μm,0.5s						
GO03	**Copiap**	**1.21**	**56**		**Pn**	**04 07 50.4**	**+0.2**
GO04	**Tololo Observa**	**1.95**	**166**	*e*P	**Pn**	**04 08 01.5**	**+1.2**
GO04	**Tololo Observa**	**1.95**	**166**		**Pn**	**04 08 00.5**	**+0.2**
CO01	**Juntas del Tor**	**2.02**	**147**	⇓*i*P	**Pn**	**04 08 03.2**	**+2.0**
CO01				*i* S	**Sn**	**04 08 27.1**	**+1.4**
CO01	**Juntas del Tor**	**2.02**	**147**		**Pn**	**04 07 59.9**	**-1.3**
AC01	**Pan de Azucar**	**2.23**	**18**	⇓*i*P	**Pn**	**04 08 04.4**	**+0.5**
AC01	**Pan de Azucar**	**2.23**	**18**	Pn	**Pn**	**04 08 04.0**	**+0.1**
AC02	**Maricunga**	**2.45**	**55**	⇑*i*P	**Pn**	**04 08 09.4**	**+2.1**
AC02				*i* S	**Sn**	**04 08 38.2**	**+1.9**
AC02	**Maricunga**	**2.45**	**55**		**Pn**	**04 08 05.3**	**-1.9**
CO03	**El Pedregal**	**2.62**	**167**	⇑*e*P	**Pn**	**04 08 10.5**	**+1.3**
CO03	**El Pedregal**	**2.62**	**167**	Pn	**Pn**	**04 08 08.8**	**-0.4**
CO02	**Combarbal**	**2.93**	**174**		**Pn**	**04 08 13.4**	**-0.1**
GO02	**Mina Guanaco**	**3.48**	**27**	Pn	**Pn**	**04 08 20.6**	**-0.7**
PB14	**IPOC Station P**	**3.74**	**13**	Pn	**Pn**	**04 08 24.4**	**-0.4**
ZON	**Zonda**	**4.00**	**145**		**Pn**	**04 08 26.7**	**-1.4**
VA03	**San Esteban**	**4.52**	**171**	Pn	**Pn**	**04 08 35.1**	**-0.2**
ROC1	**El Roble**	**4.69**	**175**	Pn	**Pn**	**04 08 35.5**	**+0.8**
PB10	**IPOC Station P**	**4.80**	**9**	Pn	**Pn**	**04 08 39.0**	**0.0**
PEL	**Peldehue**	**4.88**	**173**		**Pn**	**04 08 39.8**	**-0.3**
MT02	**Curacav**	**4.97**	**178**	Pn	**Pn**	**04 08 41.5**	**+0.3**
MT05	**Renca**	**5.12**	**174**	Pn	**Pn**	**04 08 44.8**	**+1.3**
PB15	**IPOC Station P**	**5.33**	**19**		**Pn**	**04 08 46.7**	**+0.3**
PB06	**IPOC Station P**	**5.78**	**17**	Pn	**Pn**	**04 08 52.0**	**-0.6**
LVC	**Limon Verde**	**6.07**	**22**	Pn	**Pn**	**04 08 56.9**	**+0.3**
	comp=N,0.8nm,0.3s,baz=180,slow=4.8,SNR=8.9						
LVC				Sn	**Sn**	**04 10 03.7**	**-1.2**
	comp=N,4.5nm,0.3s,baz=135,slow=22,SNR=7.2						
LVC				Lg	Lg	04 10 37.6	
	comp=N,12nm,0.3s,baz=321,slow=21,SNR=7.7						
LVC				LR	LR	04 11 02.6	
	comp=N,31nm,19.5s,baz=195,slow=36						
LVC	**Limon Verde**	**6.07**	**22**	Pn	**Pn**	**04 08 56.6**	**0.0**
LVC					**Sn**	**04 10 04.1**	**-0.8**
BO01	**Tunca**	**6.10**	**178**	Pn	**Pn**	**04 08 57.2**	**+0.5**
BO02	**Sierra Bellavi**	**6.51**	**176**	Pn	**Pn**	**04 09 02.3**	**-0.2**
PB07	**IPOC Station P**	**6.66**	**12**	Pn	**Pn**	**04 09 03.8**	**-0.8**
GO05	**Huala**	**6.73**	**184**	Pn	**Pn**	**04 09 05.8**	**+0.4**
PB09	**IPOC Station P**	**6.74**	**17**	Pn	**Pn**	**04 09 05.5**	**-0.1**
PB01	**IPOC Station P**	**7.40**	**14**	Pn	**Pn**	**04 09 14.8**	**+0.1**
H03N1	**Juan Fernandez**	**8.28**	**230**	Pn	**Pn**	**04 09 26.9**	**+0.6**
	baz=111,slow=17,SNR=25						
H03N1				Sn	Sn	04 10 51.0	-7.2
	baz=287,slow=76,SNR=6.9						
H03N1				T	T	04 18 08.8	
	baz=56,slow=72,SNR=214						
H03N2	**Juan Fernandez**	**8.29**	**230**	Pn	**Pn**	**04 09 27.0**	**+0.5**
	baz=111,slow=17,SNR=18						
H03N2				Sn	**Sn**	**04 10 54.1**	**-4.4**
	baz=287,slow=76,SNR=9.0						
H03N2				T	T	04 18 17.6	
	baz=56,slow=72,SNR=178						
H03N3	**Juan Fernandez**	**8.30**	**230**	Pn	**Pn**	**04 09 27.1**	**+0.6**
	baz=111,slow=17,SNR=35						
H03N3				Sn	Sn	04 10 52.0	-6.7
	baz=287,slow=76,SNR=6.5						
H03N3				T	T	04 18 07.0	
	baz=56,slow=72,SNR=180						
VA04	**Juan Fernndez**	**8.35**	**228**	Pn	**Pn**	**04 09 29.9**	**+2.5**
H03S3	**Juan Fernandez**	**8.51**	**228**	Pn	**Pn**	**04 09 29.4**	**-0.1**
H03S3				Sn	Sn	04 10 56.7	-7.1
	baz=186,slow=77,SNR=24						
H03S1	**Juan Fernandez**	**8.52**	**228**	Pn	**Pn**	**04 09 29.2**	**-0.4**
H03S1				Sn	Sn	04 10 58.1	-6.0
	baz=186,slow=77,SNR=26						
H03S2	**Juan Fernandez**	**8.53**	**228**	Pn	**Pn**	**04 09 29.4**	**-0.3**
H03S2				Sn	Sn	04 10 57.6	-6.7
	baz=186,slow=77,SNR=28						
CPUP	**Villa Florida**	**12.63**	**84**	Pn	**Pn**	**04 10 23.3**	**-2.7**
	comp=N,0.1nm,0.3s,baz=267,slow=14,SNR=1.7						
CPUP	**Villa Florida**	**12.63**	**84**		**Pn**	**04 10 23.7**	**-2.3**
SIV	**San Ignacio**	**15.49**	**40**	Pn	**Pn**	**04 11 01.6**	**-2.3**
	comp=N,0.1nm,0.3s,baz=246,slow=15,SNR=4.3						
SIV				LR	LR	04 17 47.0	
	comp=N,50nm,21.2s,baz=107,slow=40						
SAML	**Samuel**	**20.72**	**23**	P	**P**	**04 12 04.3**	**-0.1**
GO09	**Cerro Castillo**	**22.98**	**182**	P	**P**	**04 12 28.8**	**+0.6**
GO09				IAmb	IAmb	04 12 46.1	
	comp=Z,16nm,1.1s						
BDFB	**Brasilia**	**24.98**	**65**	P	**P**	**04 12 46.8**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=221,slow=13,SNR=3.3						
BDFB	**Brasilia**	**24.98**	**65**	P	**P**	**04 12 47.4**	**+0.2**
BDFB				IAmb	IAmb	04 12 49.3	
	comp=Z,6.0nm,1.2s						
TXAR	**Lajitas Array**	**65.09**	**329**	P	**P**	**04 18 06.5**	**+3.3**
	comp=Z,0.4nm,0.7s,baz=144,slow=11,SNR=5.2						
TXAR	**Lajitas Array**	**65.09**	**329**	P	**P**	**04 18 04.0**	**+0.8**
DBIC	**Dimbokro**	**72.85**	**72**	P	**P**	**04 18 52.7**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=214,slow=7.9,SNR=7.2						
DBIC	**Dimbokro**	**72.85**	**72**	P	**P**	**04 18 51.6**	**0.0**
TORD	**Torodi Ar. Bea**	**81.73**	**70**	P	**P**	**04 19 42.9**	**+1.6**
	comp=Z,1.5nm,0.7s,baz=263,slow=5.0,SNR=11						
WRA	**Warramunga Arr**	**126.00**	**210**	PKP	**PKiKP**	**04 26 26.6**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=157,slow=1.8,SNR=7.3						
WRA	**Warramunga Arr**	**126.00**	**210**		**PKPdf**	**04 26 25.0**	**+0.3**
H11S2	**WAKE ISLAND Hyl**	**26.25**	**273**	T	T	06 45 40.4	
	baz=112,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hyl**	**26.26**	**273**	T	T	06 45 42.6	
	baz=112,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hyl**	**26.27**	**273**	T	T	06 45 41.7	
	baz=112,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hyl**	**26.52**	**274**	T	T	06 45 58.8	
	baz=112,slow=75,SNR=6.3						
H11N1	**WAKE ISLAND Hyl**	**26.53**	**274**	T	T	06 45 57.5	
	baz=112,slow=75,SNR=3.6						
H11N2	**WAKE ISLAND Hyl**	**26.53**	**274**	T	T	06 46 04.1	
	baz=112,slow=75,SNR=7.0						

IDC ***19*** *04:11:21.6±0.6, 55.˚00N× 110.˚32E, h0km, mb3.8/15, mb1 4.0/23, mb1mx3.9/54, mbtmp3.9/23, ML3.6/8, MS3.6/23, Ms1 3.6/23, ms1mx3.5/47, Error ellipse: s-maj=12.8km s-min=8.9km az=153.0*

MOS ***19*** *04:11:21.4±1.2, 54.˚99N× 110.˚31E, h11km, mb4.3/8, MS4.2/4, Error ellipse: s-maj=7.3km s-min=5.2km az=79.4*

BYKL ***19*** *04:11:22.7±0.1, 54.˚98N× 110.˚33E, Mw4.3/10(IEC), #STATIONS ARU BRVK CHTO ENH ERM INCN KEV MAJO PET SSE*

NEIC ***19*** *04:11:24.1±1.0, 55.˚00N±0.˚08× 110.˚2E±0.˚1, h18km±4km, mb4.3/22, Error ellipse: s-maj=11.8km s-min=8.5km az=180.0*

ISC 19 04:11:21.6±1.0, 55.˚01N±0.˚02× 110.˚32E±0.˚02, h1km±7km, n161, σ2§05/231, mb4.2/28, MS3.7/20, 19C-10D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.50**	**105**	⇑*i*Pg	**Pg**	**04 11 31.4**	**+0.2**
YLYR				*e*Sg	**Sg**	**04 11 38.3**	**+0.6**
YLYR	**Ulyunkhan**	**0.50**	**105**	⇑*i*PG	**Pg**	**04 11 31.4**	**+0.2**
YLYR				*e*		04 11 37.8	
YLYR				pmax	pmax		
	comp=Z,3μm,0.4s						
YLYR				smax	smax		
	comp=E,8μm,0.4s						
NIZ	**Nizh Angarsk**	**0.89**	**330**	⇑*i*Pg	**Pg**	**04 11 39.3**	**+0.8**
NIZ				Pmax		04 11 44.5	
	comp=E,712nm,0.3s						
NIZ				*e*Sg	**Sg**	**04 11 51.7**	**+1.7**
NIZ				Smax		04 11 53.9	
	comp=E,6μm,0.4s						
NIZ	**Nizh Angarsk**	**0.89**	**330**	⇑*i*PG	**Pg**	**04 11 39.3**	**+0.8**
NIZ				*e*		04 11 50.8	
NIZ				pmax	pmax		
	comp=Z,822nm,0.7s						
NIZ				smax	smax		
	comp=N,7μm,1.4s						
KMO	**Kumora**	**1.01**	**29**	*e*Pg	**Pg**	**04 11 41.3**	**+0.4**
KMO				*e*Pb	**Pb**	**04 11 42.4**	**+0.6**
KMO				max		04 11 45.2	
	comp=N,594nm,0.2s						
KMO				*e*Sg	**Sg**	**04 11 55.7**	**+1.7**
KMO				Smax		04 12 16.9	
	comp=N,4μm,1.0s						
KMO	**Kumora**	**1.01**	**29**	*e*PG	**Pg**	**04 11 40.9**	**0.0**
KMO				*e*		04 11 55.6	
KMO				pmax	pmax		
	comp=Z,554nm,0.3s						
KMO				smax	smax		
	comp=E,3μm,1.0s						
**SYV

NLYR e 04 12 23.1
NLYR e 04 13 06.8
NLYR pmax pmax
comp=Z,429nm,1.3s
NLYR smax smax
comp=E,3µm,1.2s
BOD Bodaibo 3.48 35 ePn **Pn 04 12 17.6 +0.9**
BOD max 04 12 40.9
comp=E,123nm,0.5s
BOD e 04 12 47.4
BOD eSn **Sn 04 12 57.5 -1.0**
BOD eSg **Sb 04 13 10.6 +4.0**
BOD Smax 04 13 39.9
comp=E,813nm,1.0s
BOD Bodaibo 3.48 35 ePN **Pn 04 12 16.6 -0.1**
BOD e 04 12 23.1
BOD e 04 13 08.9
BOD pmax pmax
comp=Z,145nm,0.8s
BOD smax smax
comp=N,975nm,1.6s
UUDB Ulan-Yde 3.53 208 ePn **Pn 04 12 18.7 +1.2**
UUDB ePg **Pb 04 12 26.5 +1.7**
UUDB Pmax 04 12 33.0
comp=N,468nm,0.5s
UUDB eSn **Sn 04 12 58.9 -1.0**
UUDB eSg **Sg 04 13 12.0 -2.9**
UUDB e 04 13 18.3
UUDB max 04 13 21.0
comp=N,5µm,1.3s
CIT Chita 3.56 146 ePg **Pb 04 12 26.6 +1.2**
CIT Pmax 04 12 31.1
comp=N,424nm,0.3s
CIT eSn **Sn 04 12 58.9 -1.8**
CIT eSg **Sb 04 13 11.5 +2.4**
CIT e 04 13 17.9
CIT max 04 13 20.0
comp=N,5µm,1.2s
CIT Chita 3.56 146 ePN **Pn 04 12 17.0 -1.0**
CIT e 04 12 25.4
CIT eS **Sn 04 12 58.3 -2.4**
CIT e 04 13 11.8
CIT pmax pmax
comp=Z,610nm,1.3s
CIT smax smax
comp=N,4µm,1.4s
FFNB Fofonovo 3.65 217⇑ iPn **Pn 04 12 20.1 +0.9**
FFNB eSn **Sn 04 13 02.5 -0.4**
FFNB eSg **Sg 04 13 15.4 -3.4**
FFNB e 04 13 20.5
KAB Kabansk 3.69 218 ePn **Pn 04 12 21.3 +1.6**
KAB Pg **Pb 04 12 29.7 +2.2**
KAB Pmax 04 12 45.2
comp=N,729nm,0.8s
KAB eSn **Sn 04 13 02.5 -1.2**
KAB eSg **Sg 04 13 16.7 -3.2**
KAB Smax 04 13 26.8
comp=N,11µm,0.9s
STDB Stepnoy Dvoret 3.70 221 ePn **Pn 04 12 21.2 +1.4**
STDB ePg **Pb 04 12 28.5 +0.9**
STDB eSn **Sn 04 13 03.1 -0.9**
STDB eSg **Sb 04 13 16.3 +3.4**
BGT Bolshoye Golou 4.18 227 ePn **Pn 04 12 27.5 +1.1**
BGT ePg **Pb 04 12 38.4 +2.6**
BGT Pmax 04 12 43.9
comp=N,289nm,0.5s
BGT e 04 13 07.4
BGT eSn **Sn 04 13 13.0 -2.8**
BGT e 04 13 16.6
BGT e 04 13 27.2
BGT Sg **Sg 04 13 32.3 -3.3**
BGT Smax 04 13 38.1
comp=N,4µm,0.8s
IRK Irkutsk 4.55 235 ePn **Pn 04 12 31.3 -0.1**
IRK ePg **Pb 04 12 43.3 +1.2**
IRK Pmax 04 12 44.3
comp=N,458nm,0.1s
IRK e 04 13 27.5
IRK eSg **Sg 04 13 42.8 -4.7**
IRK Smax 04 13 44.5
comp=N,6µm,0.8s
IRK Irkutsk 4.55 235 ePN **Pn 04 12 33.2 +1.8**
IRK e 04 12 45.1
IRK e 04 13 43.7
IRK pmax pmax
comp=Z,414nm,0.4s
IRK smax smax
comp=E,7µm,0.8s
LSTR Listvyanka 4.55 228 e Pn 04 12 26.2 -5.3
LSTR e 04 12 32.8
LSTR ePg **Pb 04 12 44.3 +2.2**
LSTR Pmax 04 12 48.9
comp=E,102nm,0.5s
LSTR eSn **Sn 04 13 23.9 -1.1**
LSTR eSg **Sg 04 13 42.9 -4.7**
LSTR Smax 04 13 46.5
comp=E,3µm,1.6s
VTMR Vitim 4.60 14 ePg **Pb 04 12 45.5 +2.5**
VTMR eSn **Sn 04 13 24.2 -2.0**
VTMR eSg **Sg 04 13 45.5 -3.7**
IVK Ivanovka 4.78 230 ePn **Pn 04 12 35.3 +0.6**
IVK ePg **Pb 04 12 48.3 +2.2**
IVK Pmax 04 12 58.5
comp=E,120nm,0.7s
IVK e 04 13 38.0
IVK e 04 13 46.2
IVK eSg **Sb 04 13 48.8 +4.8**
IVK Smax 04 13 54.6
comp=E,3µm,1.2s
CRS Chara 4.85 64 ePn **Pn 04 12 36.9 +1.3**
CRS ePg **Pb 04 12 50.4 +3.1**
CRS Pmax 04 12 55.8
comp=E,1µm,1.5s
CRS eSn **Sn 04 13 29.3 -3.1**
CRS eSg **Sg 04 13 52.8 -4.4**
CRS Smax 04 13 56.6
comp=E,1µm,1.4s
TLY Talaya 5.21 233 Pn **Pn 04 12 41.0 +0.4**
comp=E,0.1nm,0.3s,baz=44,slow=8.8,SNR=8.2
TLY Pg **Pb 04 12 53.4 0.0**
comp=E,0.1nm,0.3s,baz=23,slow=5.0,SNR=5.2
TLY Sn **Sn 04 13 40.9 -0.3**
comp=E,0.2nm,0.3s,baz=263,slow=18,SNR=3.7
TLY Lg Lg 04 14 00.9
comp=E,2.1nm,0.3s,baz=210,slow=18,SNR=14
TLY LR LR 04 14 43.7
comp=E,358nm,21.8s,baz=45,slow=39
TLY Talaya 5.21 233 ePn **Pn 04 12 40.5 -0.1**
TLY ePg **Pb 04 12 55.3 +1.9**
TLY Pmax 04 12 59.2
comp=E,252nm,0.7s
TLY eSn **Sn 04 13 38.2 -3.0**
TLY e 04 13 53.8
TLY eSg **Sb 04 14 02.5 +6.1**
TLY Smax 04 14 05.0
comp=E,2µm,0.8s
TLY Talaya 5.21 233 *c* iPN **Pn 04 12 41.0 +0.4**
TLY e 04 12 55.9
TLY eS **Sn 04 13 40.2 -1.0**
TLY e 04 14 03.1
TLY pmax pmax
comp=Z,347nm,0.6s
TLY smax smax
comp=N,3µm,0.4s
TLY Talaya 5.21 233 **Pn 04 12 40.2 -0.3**
TLY **Sn 04 13 39.0 -2.3**
TUP Tupik 5.61 92⇓ iPn **Pn 04 12 45.9 -0.2**
TUP ePg **Pb 04 13 04.0 +3.7**
TUP Pmax 04 13 07.6
comp=N,76nm,0.7s
TUP eSn **Sn 04 13 48.0 -3.2**
TUP eSg **Sg 04 14 16.0 -5.8**
TUP Smax 04 14 24.9
comp=N,2µm,1.3s
TUP Tupik 5.61 92 ePN **Pn 04 12 46.4 +0.3**
TUP e 04 13 02.6
TUP eS **Sn 04 13 50.0 -1.2**
TUP e 04 14 15.8
TUP pmax pmax
comp=Z,77nm,0.7s
TUP smax smax
comp=N,1µm,1.1s
ARS Arshan 5.64 240 ePn **Pn 04 12 46.7 +0.1**
ARS ePg **Pb 04 13 03.9 +3.1**
ARS Pmax 04 13 05.4
comp=N,359nm,0.8s
ARS eSn **Sn 04 13 47.8 -4.2**
ARS eSg **Sb 04 14 15.3 +6.4**
ARS e 04 14 21.7
ARS max 04 14 22.6
comp=N,7µm,0.8s
KHNR Khani 5.75 67 ePn **Pn 04 12 49.1 +1.1**
KHNR ePg **Pb 04 13 06.2 +3.6**
KHNR e 04 13 59.3
KHNR eSg **Sg 04 14 20.4 -5.7**
ZAK Zakamensk 6.31 226 ePN **Pn 04 12 58.5 +2.8**
ZAK e 04 14 36.5
ZAK pmax pmax
comp=Z,70nm,0.8s
ZAK smax smax
comp=E,768nm,1.3s
MOY Mondy 6.51 243 ePn **Pn 04 12 59.7 +1.1**
MOY e 04 13 05.8
MOY ePg **Pb 04 13 19.6 +3.9**
MOY Pmax 04 13 27.8
comp=E,195nm,1.1s
MOY eSn **Sn 04 14 11.8 -1.7**
MOY eSg **Sg 04 14 43.8 -6.8**
MOY Smax 04 14 51.2
comp=E,2µm,1.4s
MOY Mondy 6.51 243 ePN **Pn 04 13 00.4 +1.8**
MOY e 04 13 20.3
MOY e 04 14 42.3
MOY pmax pmax
comp=Z,195nm,0.8s
MOY smax smax
comp=E,2µm,1.6s
YKLR Yuktali 6.58 71 ePn **Pn 04 13 01.6 +2.2**
YKLR e 04 13 10.7
YKLR ePg **Pb 04 13 20.1 +3.4**
YKLR eSg **Sg 04 14 45.3 -7.5**
YKLR e 04 14 57.2
ORL Orlik 6.71 253⇑ iPn **Pn 04 13 02.6 +1.4**
ORL e 04 13 07.9
ORL ePg Pb 04 13 23.8 +4.9
ORL Pmax 04 13 26.5
comp=E,121nm,1.0s
ORL eSn **Sn 04 14 16.5 -1.7**
ORL eSg **Sg 04 14 50.7 -6.1**
ORL Smax 04 15 07.8
comp=E,880nm,1.3s
ORL Orlik 6.71 253⇓ iPN **Pn 04 13 02.6 +1.4**
ORL e 04 13 23.8
ORL eS **Sn 04 14 16.9 -1.3**
ORL e 04 14 49.7
ORL pmax pmax
comp=Z,287nm,1.2s
ORL smax smax
comp=N,1µm,1.9s
ULN Ulaanbaatar 7.44 197 *c*ePN **Pn 04 13 12.8 +1.4**
ULN pmax pmax
comp=E,6.0nm,1.0s
ULN Ulaanbaatar 7.44 197 Pn **Pn 04 13 12.2 +0.9**
SONM Songino Array 7.59 200 Pn **Pn 04 13 14.8 +1.4**
comp=Z,4.0nm,0.3s,baz=30,slow=12,SNR=66
SONM Pg **Pb 04 13 38.8 +4.7**
comp=Z,3.3nm,0.3s,baz=3.6,slow=15,SNR=7.4
SONM Sn **Sn 04 14 35.1 -5.0**
comp=Z,9.3nm,0.3s,baz=11,slow=32,SNR=6.4
SONM Lg Lg 04 15 21.2
comp=Z,43nm,0.3s,baz=17,slow=26,SNR=16
SONM Songino Array 7.59 200 Pn **Pn 04 13 13.9 +0.5**
SONM **Sn 04 14 36.6 -3.5**
HIA Hailar 8.16 131 PN **Pn 04 13 21.6 +0.5**
HIA 04 14 56.0
HIA Hailar 8.16 131 Pn **Pn 04 13 21.6 +0.5**
HIA Sn **Sn 04 14 56.0 +2.1**
TDJR Todzha 8.83 259 ePn **Pn 04 13 32.2 +1.9**
TDJR ePg Pg 04 14 02.3 -8.3
TDJR e 04 14 24.5
TDJR eSg Sg 04 15 54.1 -11
ZEA Zeya 9.96 90 eP **Pn 04 13 46.0 +0.3**
ZEA eS **Sn 04 15 35.6 -2.4**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=Z,2µm,8.0s
ZEA MLR MLR
comp=E,2µm,9.0s
YAK Yakutsk 12.28 47 Lg Lg 04 17 39.5
comp=E,0.2nm,0.3s,baz=313,slow=3.3,SNR=1.3
KLR Kul'dur 14.35 105 Pn **Pn 04 14 45.1 -0.6**
comp=E,0.1nm,0.3s,baz=291,slow=15,SNR=3.2
KLR Sn **Sn 04 17 27.4 +2.0**
comp=E,0.2nm,0.3s,baz=326,slow=22,SNR=1.8
KLR Lg Lg 04 18 46.9
comp=E,0.5nm,0.3s,baz=225,slow=16,SNR=7.6
KLR LR LR 04 20 53.4
comp=E,320nm,19.0s,baz=290,slow=40
KLR Kul'dur 14.35 105⇑ eP **Pn 04 14 44.2 -1.5**
ZAA0 Zalesovo Array 14.84 276 Pn **Pn 04 14 51.7 -0.6**
ZALV Zalesovo Beam 14.84 276 Pn **Pn 04 14 52.5 +0.2**
comp=E,0.9nm,0.3s,baz=73,slow=10,SNR=141
ZALV Lg Lg 04 19 03.6
comp=E,0.3nm,0.3s,baz=176,slow=40,SNR=1.5
ZALV LR LR 04 20 51.0
comp=E,438nm,19.0s,baz=87,slow=38
ZALV Zalesovo Beam 14.84 276 Pn **Pn 04 14 51.8 -0.5**
CN2 Changchun 14.89 133 eP **Pn 04 14 53.9 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,900nm,8.0s
CN2 LR LR
comp=E,600nm,8.0s
CN2 LR LR
comp=Z,1µm,14.0s
DGZ Jazzator, Alta 14.93 259⇓ eP **Pn 04 14 53.6 -0.1**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
BJT Baijiatuau 15.50 163 P **Pn 04 15 01.2 0.0**
BJT pmax pmax
comp=Z,9.0nm,1.1s
BJT Baijiatuau 15.50 163 Pn **Pn 04 15 01.2 0.0**
MDJ Mudanjiang 16.16 122 Pn **Pn 04 15 10.7 +1.0**
GTA Gaotai 17.13 209 eP **P 04 15 28.3 +4.3**
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA pmax pmax
comp=Z,23nm,4.8s
GTA smax smax
comp=N,20nm,1.8s
GTA smax smax
comp=E,21nm,1.8s
GTA LR LR
comp=N,400nm,11.1s
GTA LR LR
comp=E,590nm,11.7s
GTA LR LR
comp=Z,430nm,9.5s
USA0B Ussuriysk Arra 17.65 119 P **P 04 15 29.9 +0.4**
USA0B pmax pmax
comp=Z,7.0nm,1.2s
USA0B Ussuriysk Arra 17.65 119 **P 04 15 29.9 +0.4**
USRK Ussuriysk Ar. 17.65 119 P **P 04 15 30.5 +1.0**
baz=335,slow=14,SNR=8.1
USRK Lg Lg 04 20 35.1
baz=306,slow=26,SNR=8.6
USRK LR LR 04 22 56.4
comp=Z,252nm,19.5s,baz=324,slow=39
USRK Ussuriysk Ar. 17.65 119 P **P 04 15 29.9 +0.4**
USRK Ussuriysk Ar. 17.65 119 **P 04 15 29.9 +0.4**
NRIK Noril'sk 17.68 333 P **Pn 04 15 28.1 -0.6**
comp=Z,0.4nm,0.3s,baz=149,slow=9.2,SNR=4.7
NRIK S Sn 04 18 31.4 -15
comp=Z,0.3nm,0.3s,baz=71,slow=22,SNR=1.6
NRIK Lg Lg 04 20 43.4
comp=Z,0.5nm,0.3s,baz=263,slow=20,SNR=4.3
NRIK Noril'sk 17.68 333⇑ eP **P 04 15 29.7 -0.1**
TIXI Tiksi 18.50 19 P **P 04 15 38.1 -0.5**
comp=Z,0.7nm,0.3s,baz=171,slow=2.4,SNR=2.9
TIXI Sn Sn 04 18 51.9 -14
comp=Z,0.4nm,0.3s,baz=122,slow=19,SNR=1.1
TIXI Lg Lg 04 20 58.1
comp=Z,0.4nm,0.3s,baz=334,slow=9.6,SNR=3.1
TIXI LR LR 04 23 00.4
comp=Z,114nm,19.2s,baz=250,slow=38
TIXI Tiksi 18.50 19⇓ eP **P 04 15 38.0 -0.7**
TIXI pmax pmax
comp=Z,11nm,1.4s
TIXI Tiksi 18.50 19 P **P 04 15 38.7 0.0**
TIXI IAmb IAmb 04 15 46.0
comp=Z,8.1nm,0.5s
MK31 Makanchi Array 19.39 257 P **P 04 15 48.3 -0.4**
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 19.39 257 P **P 04 15 48.3 -0.4**
MKAR Makanchi Array 19.39 257 P **P 04 15 47.9 -0.8**
comp=Z,0.3nm,0.3s,baz=57,slow=8.8,SNR=15
MKAR Lg Lg 04 21 30.3
baz=48,slow=29,SNR=1.5
MKAR LR LR 04 23 29.3
comp=Z,341nm,20.8s,baz=45,slow=38
MKAR Makanchi Array 19.39 257 *c*eP **Pn 04 15 49.5 -0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
LZH Lanzhou 19.45 196 eP **Pn 04 15 52.3 +1.7**
LZH pmax pmax
comp=Z,16nm,1.2s
TEY Ternei 19.50 110⇑ eP **Pn 04 15 51.2 +0.2**
TEY pmax pmax
comp=E,10.0nm,1.1s
TEY pmax pmax
comp=N,10.0nm,1.0s
TEY pmax pmax
comp=Z,10.0nm,1.4s
KURK Kurchatov 19.52 270⇓ eP **P 04 15 49.5 -0.5**
KURK pmax pmax
comp=Z,31nm,1.3s
KURK Kurchatov 19.52 270 P **P 04 15 49.2 -0.7**
KURK **Sn 04 19 28.1 -2.4**
MAKZ Makanchi 19.56 257 P **P 04 15 49.4 -1.1**
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
MAKZ Makanchi 19.56 257 P **P 04 15 49.4 -1.1**
MAKZ IAmb IAmb 04 16 03.9
comp=Z,8.3nm,0.9s
KURBB Kurchatov Arra 19.61 270 P **P 04 15 50.6 -0.3**
comp=Z,0.2nm,0.3s,baz=68,slow=10,SNR=27
KURBB S **Sn 04 19 34.0 +1.3**
baz=65,slow=16,SNR=6.6
KURBB Lg Lg 04 21 38.5
comp=Z,0.0nm,0.3s,baz=67,slow=31,SNR=6.1
INCN Inchon 20.76 141 P **P 04 16 04.2 +0.6**
INCN pmax pmax
comp=Z,22nm,0.9s
INCN Inchon 20.76 141 P **P 04 16 04.2 +0.6**
INCN IAmb IAmb 04 16 06.2
comp=Z,22nm,0.8s
XAN Xi'an 20.99 183 P **P 04 16 06.3 +0.1**
XAN pP sP 04 16 11.4 +4.2
XAN pmax pmax
comp=Z,5.0nm,0.8s
XAN pmax pmax
comp=Z,46nm,4.3s
XAN LR LR
comp=N,450nm,4.2s
XAN LR LR
comp=E,390nm,4.8s
XAN LR LR
comp=Z,870nm,10.9s
XAN Xi'an 20.99 183 P **P 04 16 05.7 -0.5**
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN Xi'an 20.99 183 P **P 04 16 05.7 -0.5**
XAN IAmb IAmb 04 16 17.8
comp=Z,6.1nm,0.8s
KSRS Korea Array 21.26 138 P **P 04 16 10.0 +1.0**
comp=Z,0.6nm,0.3s,baz=344,slow=12,SNR=2.3
KSRS Lg Lg 04 22 37.0
comp=Z,4.3nm,0.9s,baz=329,slow=30,SNR=6.6
KSRS LR LR 04 25 31.6
comp=Z,131nm,19.5s,baz=331,slow=40
YSS Yuzh-Sakhalins 21.79 98⇓ eP **P 04 16 14.9 +0.3**
YSS pmax pmax
comp=Z,4.0nm,0.8s
YSS Yuzh-Sakhalins 21.79 98 P **P 04 16 15.5 +0.9**
YSS IAmb IAmb 04 16 21.4
comp=Z,12nm,0.9s
MA2 Magadan 22.07 62 LR LR 04 23 58.4
comp=Z,35nm,19.1s,baz=212,slow=34
SEY Seymchan 22.70 53 Lg Lg 04 23 16.8
comp=Z,0.7nm,0.4s,baz=342,slow=15,SNR=8.0
SEY Seymchan 22.70 53⇑ eP **P 04 16 23.8 -0.4**
BVAR Borovoye Array 23.33 282 P **P 04 16 29.8 -1.1**
comp=Z,1.5nm,0.3s,baz=63,slow=10,SNR=14
BRVK Borovoye 23.38 282 *c*eP **P 04 16 31.0 -0.3**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 23.38 282 P **P 04 16 30.2 -1.1**
ASAJ Asahikawa 23.39 104 LR LR 04 26 14.6
comp=Z,215nm,21.3s,baz=332,slow=38
PRZ Przheval'sk 24.26 252 P **P 04 16 38.1 -2.1**
PRZ pmax pmax
comp=Z,10.0nm,0.6s
PRZ Przheval'sk 24.26 252 P **P 04 16 38.1 -2.1**
PRZ IAmb IAmb 04 16 48.0
comp=Z,9.6nm,0.6s
JNU Nakatsue 26.21 138 LR LR 04 27 39.3
comp=Z,130nm,19.8s,baz=336,slow=37
AAK Ala-Archa 26.32 257 P **P 04 16 59.0 +0.1**
comp=Z,1.1nm,0.3s,baz=55,slow=6.4,SNR=3.8
AAK Lg Lg 04 25 16.0
comp=Z,0.7nm,0.3s,baz=115,slow=16,SNR=6.5
AAK Ala-Archa 26.32 257⇓ eP **P 04 16 59.7 +0.9**
AAK pmax pmax
comp=Z,6.0nm,1.7s
AAK Ala-Archa 26.32 257 **P 04 16 57.6 -1.2**
AAK IAmb IAmb 04 17 08.4
comp=Z,4.0nm,0.9s
MJAR Matsushiro Arr 26.54 123 LR LR 04 27 48.6
comp=Z,205nm,18.4s,baz=300,slow=37
SVE Sverdlovsk 27.41 294 eP **P 04 17 09.7 +1.4**
SVE pmax pmax
comp=Z,17nm,0.9s
SVE MLR MLR
comp=Z,636nm,13.0s
PETK Petropavlovsk- 27.46 74 P **P 04 17 10.1 +1.3**
comp=Z,0.8nm,0.5s,baz=247,slow=14,SNR=2.1
PETK LR LR 04 28 47.0
comp=Z,211nm,19.3s,baz=246,slow=38
PETK Petropavlovsk- 27.46 74 P **P 04 17 08.6 -0.1**
ARU Arti 28.63 294 LR LR 04 30 13.8
comp=Z,124nm,21.1s,baz=68,slow=40
ARU Arti 28.63 294 P **P 04 17 18.5 -0.6**
ARU S **S 04 22 08.1 -0.1**
ARU MLR MLR
comp=Z,521nm,13.0s
ABKAR Akbulak array 30.88 281 P **P 04 17 38.6 -0.6**
ARCES ARCESS Array B 38.41 326 P **P 04 18 43.9 -0.1**
comp=Z,0.9nm,0.9s,baz=72,slow=12,SNR=1.2
ARCES LR LR 04 36 38.1
comp=Z,60nm,19.6s,baz=128,slow=40
GEYT Alibeck 38.78 266 LR LR 04 36 02.7
comp=Z,105nm,20.6s,baz=305,slow=38
FINES FINESS Array B 41.87 314 P **P 04 19 13.9 +1.2**
comp=Z,1.7nm,0.9s,baz=74,slow=10,SNR=1.3
FINES LR LR 04 38 00.2
comp=Z,100nm,20.6s,baz=61,slow=38
FINES FINESS Array B 41.87 314 P **P 04 19 12.0 -0.7**
KIV Kislovodsk 43.64 285 eP **P 04 19 26.2 -1.2**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,150nm,16.0s
KBZ Khabaz 43.67 284 LR LR 04 40 01.3
comp=Z,84nm,18.6s,baz=40,slow=39
BMAR Burnt Mountain 45.88 31 P **P 04 19 45.3 +0.4**
AKASG Malin Array Be 46.56 300 P **P 04 19 50.2 -0.2**
comp=Z,0.6nm,0.4s,baz=47,slow=8.5,SNR=7.0
AKASG LR LR 04 41 15.9
comp=Z,158nm,20.7s,baz=35,slow=38
AKASG Malin Array Be 46.56 300 P **P 04 19 50.0 -0.4**
AKBB Malin Array Si 46.56 300⇑ eP **P 04 19 49.9 -0.5**
IL31 46.85 35 P **P 04 19 53.0 +0.5**
IL31 IAmb IAmb 04 19 59.7
comp=Z,2.3nm,0.8s
ILAR Eielson Array 46.85 35 P **P 04 19 53.5 +0.9**
comp=Z,2.0nm,0.8s,baz=300,slow=6.2,SNR=15
ILAR Eielson Array 46.85 35 P **P 04 19 53.1 +0.6**
NOA NORSAR Array B 47.95 320 LR LR 04 44 38.0
comp=Z,26nm,18.8s,baz=45,slow=42
DOT Dot Lake 48.52 35 P **P 04 20 06.0 +0.4**
GUMO Guam 49.30 133 LR LR 04 39 42.4

	comp=Z,41nm,19.8s,baz=100,slow=34							
BCAR	**Beaver Creek A**	**49.67**	**35**	P		**P**	**04 20 15.2**	**+0.8**
BRTR	**Keskin Array B**	**51.49**	**286**	P		**P**	**04 20 28.6**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=47,slow=5.4,SNR=5.4							
BRTR				LR		LR	04 47 20.4	
	comp=Z,51nm,19.0s,baz=352,slow=42							
BRTR	**Keskin Array B**	**51.49**	**286**	P		**P**	**04 20 27.5**	**-1.1**
GERES	**GERESS Array B**	**55.26**	**307**	P		**P**	**04 20 56.6**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=328,slow=4.7,SNR=4.8							
GERES	**GERESS Array B**	**55.26**	**307**	P		**P**	**04 20 56.0**	**-0.1**
MOA	**Molln**	**55.72**	**306**	*i* P		**P**	**04 20 57.4**	**-1.9**
	comp=Z,3.1nm,0.9s							
SOKA	**Soboth**	**56.20**	**304**	*i* P		**P**	**04 20 58.9**	**-4.0**
	comp=Z,8.8nm,2.1s							
OBKA	**Obir**	**56.55**	**305**	*i* P		**P**	**04 21 03.4**	**-1.9**
	comp=Z,4.0nm,0.8s							
KBA	**Koelnbreinsper**	**56.71**	**306**	*i* P		**P**	**04 21 02.1**	**-4.5**
	comp=Z,7.5nm,1.2s							
YKA	**Yellowknife Ar**	**57.68**	**23**	LR		LR	04 49 00.3	
	comp=Z,17nm,19.6s,baz=0.0,slow=39							
F10A	**Beach Ranch, E**	**71.66**	**33**	P		**P**	**04 22 45.1**	**+0.5**
F10A				IAmb		IAmb	04 22 52.5	
	comp=Z,2.6nm,0.8s							
MFID	**Camas Ranch**	**74.39**	**33**	P		**P**	**04 23 00.1**	**-0.8**
MFID				IAmb		IAmb	04 23 10.0	
	comp=Z,2.0nm,0.5s							
FXWY	**Fox Creek**	**75.63**	**30**	P		**P**	**04 23 08.5**	**+0.3**
FXWY				IAmb		IAmb	04 23 17.8	
	comp=Z,2.2nm,0.9s							
PDAR	**Pinedale Array**	**76.85**	**29**	P		**P**	**04 23 15.6**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=44,slow=2.5,SNR=8.3							
PDAR	**Pinedale Array**	**76.85**	**29**	P		**P**	**04 23 14.7**	**-0.4**
WRA	**Warramunga Arr**	**77.42**	**157**	P		**P**	**04 23 16.8**	**-1.4**
	comp=Z,2.5nm,1.1s,baz=351,slow=6.4,SNR=6.4							
WRA	**Warramunga Arr**	**77.42**	**157**	*i* P		**P**	**04 23 16.7**	**-1.4**
WRA				pmax		pmax		
	comp=Z,2.0nm,1.1s							
WRA	**Warramunga Arr**	**77.42**	**157**	P		**P**	**04 23 18.0**	**-0.1**
ASAR	**Alice Springs**	**80.93**	**158**	P		**P**	**04 23 36.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=349,slow=5.1,SNR=4.9							
ASAR	**Alice Springs**	**80.93**	**158**	P		**P**	**04 23 37.8**	**+0.5**
ASAR	**Alice Springs**	**80.93**	**158**	P		**P**	**04 23 37.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**89.68**	**293**	P		**P**	**04 24 20.8**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=21,slow=5.0,SNR=2.0							
TORD	**Torodi Ar. Bea**	**89.68**	**293**	P		**P**	**04 24 20.5**	**-0.8**
TXAR	**Lajitas Array**	**91.06**	**29**	P		**P**	**04 24 28.1**	**+0.4**
	comp=Z,0.2nm,0.8s,baz=350,slow=2.7,SNR=2.3							
TXAR	**Lajitas Array**	**91.06**	**29**	P		**P**	**04 24 27.5**	**-0.2**
DBIC	**Dimbokro**	**98.57**	**295**	LR		LR	05 15 13.6	
	comp=Z,37nm,18.3s,baz=104,slow=39							

IDC 19 04:26:13.9±3.1,**7°46S**×**119°80E**,**h428**km±30km,**mb2.7**/2, **mb1 2.8**/3,**mb1mx2.6**/40,**mbtmp3.5**/3,**Error ellipse: s-maj=174.4km s-min=20.2km az=56.0,Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**2.43**	**359**	P	P	04 27 14.8	-0.3
	26nm,0.3s,baz=166,slow=6.9,SNR=56						
BATI	**Baumata**	**4.70**	**126**	S	S	04 28 34.0	-5.6
	11nm,0.3s,baz=354,slow=5.5,SNR=1.8						
WRA	**Warramunga Arr**	**18.78**	**133**	P	P	04 30 05.1	-0.3
	0.2nm,0.3s,baz=314,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**21.05**	**142**	P	P	04 30 26.2	0.0
	0.9nm,0.6s,baz=317,slow=8.3,SNR=14						
MKAR	**Makanchi Array**	**63.46**	**332**	P	P	04 36 00.7	+0.4
	0.2nm,0.4s,baz=157,slow=7.5,SNR=3.4						

*IDC **19** 04:35:35.9±3.2,34°.87N×135°.76E,h368km±26km,mb2.4/1, mb1 2.5/4,mb1mx2.4/47,mbtmp3.2/4,Error ellipse: s-maj=78.6km s-min=32.4km az=159.0*
*JMA **19** 04:35:35.4±0.4,35°.00N×135°.77E,h373km±4km,M2.7*
ISC 19 04:35:36.8±1.2,**35°.00N**±0°.01×**135°.72E**±0°.07,**h350**km,**n17, σ1§25/21,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWT	**Wachi**	**0.41**	**320**	P	**Pn**	**04 36 22.1**	**+1.3**
JWT				*e*S	**S**	**04 36 58.0**	**+1.9**
JKN2	**Miekihoku**	**0.86**	**148**	P	**Pn**	**04 36 23.3**	**+1.2**
JIE	**Ise**	**1.00**	**125**	P	**Pn**	**04 36 24.0**	**+1.4**
JYTA	**Yamagatataniai**	**1.04**	**53**	P	**Pn**	**04 36 24.2**	**+1.6**
JTNC	**Tanabenakahech**	**1.15**	**185**	P	**Pn**	**04 36 24.3**	**+1.0**
JAO	**Obara**	**1.29**	**76**	P	**Pn**	**04 36 25.1**	**+1.2**
JKG	**Kaga**	**1.40**	**21**	P	**Pn**	**04 36 25.4**	**+1.2**
JNY	**Yasuok**	**1.80**	**77**	P	**Pn**	**04 36 27.6**	**+0.8**
TK02	**Tokai 2**	**1.97**	**121**	P	**Pn**	**04 36 29.1**	**+1.5**
JHS	**Saijyo**	**2.14**	**271**	P	**Pn**	**04 36 30.2**	**+1.1**
MJAR	**Matsushiro Arr**	**2.56**	**52**	P	**Pn**	**04 36 33.4**	**+1.1**
	0.4nm,0.3s,baz=221,slow=7.9,SNR=12						
JHU	**Hanno**	**3.04**	**72**	P	**Pn**	**04 36 37.3**	**+0.9**
JHU				*e*S	**S**	**04 37 25.4**	**+0.9**
JAG	**Ashikaga**	**3.37**	**63**	P	**Pn**	**04 36 39.1**	**-0.4**
JAG				*e*S	**S**	**04 37 29.1**	**-0.9**
BSO4	**Boso 4**	**3.79**	**88**	P	**Pn**	**04 36 42.5**	**-1.0**
BSO4				*e*S	**S**	**04 37 36.6**	**-0.8**
JNU	**Nakatsue**	**4.42**	**247**	P	**Pn**	**04 36 50.4**	**+0.1**
	0.6nm,0.3s,baz=63,slow=4.5,SNR=1.9						
KSRS	**Korea Array**	**6.77**	**294**	P	**Pn**	**04 37 16.8**	**+0.4**
	0.3nm,0.3s,baz=108,slow=12,SNR=8.3						
MKAR	**Makanchi Array**	**41.34**	**303**	P	**P**	**04 42 47.7**	**-1.9**
	0.1nm,0.4s,baz=94,slow=8.8,SNR=2.2						

*IDC **19** 04:47:15.6±1.2,19°.37N×67°.66W,h0km,mb3.5/5, mb1 3.9/6,mb1mx3.6/49,mbtmp3.7/6,ML2.9/1,MS3.2/2, Ms1 3.2/2,ms1mx2.5/30,Error ellipse: s-maj=34.9km s-min=25.4km az=20.0*
*RSPR **19** 04:47:15.7,19°.47N×68°.03W,h54km±9km,MD3.4/10*
*OSPL **19** 04:47:20.6±0.3,19°.04N×67°.79W,h10km,ML3.5*
ISC 19 04:47:18.1±0.8,**19°27N**±0°.06×**67°86W**±0°.04,**h21**km,**n68, σ1§15/78,mb3.6/5,10C-2D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.90**	**214**	*i* P	**Pb**	**04 47 34.3**	**-0.7**
PCDR				IAML		04 47 52.1	
	comp=Z,3μm,0.6s						
PCDR	**Punta Cana, DR**	**0.90**	**214**		**Pb**	**04 47 33.6**	**-1.4**
AGPR	**Aguadilla, PR**	**1.06**	**138**	*i*P	**Pn**	**04 47 37.3**	**-0.5**
AGPR	**Aguadilla, PR**	**1.06**	**138**	*e*S	**Sn**	**04 47 53.5**	**+1.5**
AGPR	**Aguadilla, PR**	**1.06**	**138**	*i* P	**Pn**	**04 47 35.8**	**-2.0**
AGPR				IAML		04 47 50.3	
	comp=Z,2μm,0.7s						
AGPR	**Aguadilla, PR**	**1.06**	**138**		**Pn**	**04 47 37.3**	**-0.5**
AGPR					**Sn**	**04 47 53.5**	**+1.5**
MPR	**Mayaguez**	**1.25**	**147**	*i* P	**Pn**	**04 47 38.7**	**-1.7**
MPR				IAML		04 48 07.9	
	comp=Z,664nm,0.8s						
LSP	**Las Mesas**	**1.31**	**146**	*e*P	**Pn**	**04 47 39.9**	**-1.3**
LSP	**Las Mesas**	**1.31**	**146**	*e*S	**Sb**	**04 47 59.7**	**+1.3**
LSP	**Las Mesas**	**1.31**	**146**		**Pn**	**04 47 39.9**	**-1.3**
LSP					**Sb**	**04 47 59.7**	**+1.3**
AOPR	**Arecibo Observ**	**1.39**	**131**	*e*P	**Pn**	**04 47 41.0**	**-1.3**
AOPR	**Arecibo Observ**	**1.39**	**131**	*e*S	**Sb**	**04 48 01.6**	**+0.9**
AOPR	**Arecibo Observ**	**1.39**	**131**		**Pn**	**04 47 41.0**	**-1.3**
AOPR					**Sb**	**04 48 01.6**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.44**	**150**	*e*P	**Pn**	**04 47 42.6**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.44**	**150**	*e*S	**Sb**	**04 48 02.6**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.44**	**150**		**Pn**	**04 47 42.6**	**-0.4**
CRPR					**Sb**	**04 48 02.6**	**+0.4**
EMPR	**Esperanza - Ma**	**1.48**	**122**	*e*P	**Pn**	**04 47 42.7**	**-0.8**
EMPR	**Esperanza - Ma**	**1.48**	**122**	*e*S	**Sb**	**04 48 03.4**	**0.0**
EMPR	**Esperanza - Ma**	**1.48**	**122**		**Pn**	**04 47 42.7**	**-0.8**
EMPR					**Sb**	**04 48 03.4**	**0.0**
MLPR	**Magueyes Islan**	**1.50**	**149**	*e*P	**Pn**	**04 47 42.7**	**-1.2**
MLPR	**Magueyes Islan**	**1.50**	**149**	*e*S	**Sb**	**04 48 04.5**	**+0.5**
MLPR	**Magueyes Islan**	**1.50**	**149**		**Pn**	**04 47 42.7**	**-1.2**
MLPR					**Sb**	**04 48 04.5**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.58**	**144**	*e*P	**Pn**	**04 47 44.5**	**-0.5**
GBPR	**Guanica, Bosqu**	**1.58**	**144**	*e*S	**Sb**	**04 48 06.5**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.58**	**144**		**Pn**	**04 47 44.5**	**-0.5**
GBPR					**Sb**	**04 48 06.5**	**+0.1**
CELP	**Cerrillos**	**1.70**	**134**	*e*P	**Pn**	**04 47 45.9**	**-0.7**
CELP	**Cerrillos**	**1.70**	**134**	*e*S	**Sb**	**04 48 08.7**	**-0.8**
CELP	**Cerrillos**	**1.70**	**134**		**Pn**	**04 47 45.9**	**-0.7**
CELP					**Sb**	**04 48 08.7**	**-0.8**
OBIP	**Obispado Ponce**	**1.70**	**136**	*e*P	**Pn**	**04 47 45.5**	**-1.1**
OBIP	**Obispado Ponce**	**1.70**	**136**	*e*S	**Sb**	**04 48 09.0**	**-0.7**
OBIP	**Obispado Ponce**	**1.70**	**136**		**Pn**	**04 47 45.5**	**-1.1**
OBIP					**Sb**	**04 48 09.0**	**-0.7**
GCPR	**Guaynabo City**	**1.93**	**119**		**Pn**	**04 47 48.3**	**-1.4**
IGPR	**InterUniversit**	**2.10**	**128**	*e*P	**Pn**	**04 47 51.6**	**-0.5**
IGPR	**InterUniversit**	**2.10**	**128**	*e*S	**Sn**	**04 48 19.2**	**+1.5**
IGPR	**InterUniversit**	**2.10**	**128**		**Pn**	**04 47 51.7**	**-0.5**
SDD	**Santo Domingo**	**2.11**	**248**	*i* P	**Pn**	**04 47 54.0**	**+1.8**
SDD				IAML		04 48 29.3	
	comp=Z,325nm,0.5s						
SDD	**Santo Domingo**	**2.11**	**248**	Pn	**Pn**	**04 47 49.0**	**-3.1**
CBYP	**Canovanas**	**2.14**	**117**		**Pn**	**04 47 51.1**	**-1.6**
PDPR	**Patillas Dam,**	**2.14**	**125**	Pn	**Pn**	**04 47 51.8**	**-0.8**
HUMP	**Col San Antoni**	**2.21**	**120**		**Pn**	**04 47 52.2**	**-1.4**
BON1	**Bonao**	**2.42**	**263**	*i* P	**Pb**	**04 47 59.3**	**-1.7**
BON1				IAML		04 48 40.1	
	comp=Z,1μm,0.4s						
MTP	**Monte Pirata**	**2.48**	**118**	*e*P	**Pn**	**04 47 56.2**	**-1.1**
MTP	**Monte Pirata**	**2.48**	**118**	*e*S	**Sn**	**04 48 27.9**	**+1.0**
MTP	**Monte Pirata**	**2.48**	**118**		**Pn**	**04 47 56.2**	**-1.1**
MTP					**Sn**	**04 48 27.9**	**+1.0**
CUPR	**Culebra, Puert**	**2.62**	**111**	*e*P	**Pn**	**04 47 57.8**	**-1.4**
CUPR	**Culebra, Puert**	**2.62**	**111**	*e*S	**Sn**	**04 48 31.4**	**+1.1**
CUPR	**Culebra, Puert**	**2.62**	**111**		**Pn**	**04 47 57.8**	**-1.4**
CUPR					**Sn**	**04 48 31.4**	**+1.1**
CDVI	**St. Croix**	**3.30**	**117**	Pn	**Pn**	**04 48 08.4**	**-0.1**
UREC	**San Jos de Ur**	**13.66**	**214**	*e*P	**Pn**	**04 50 31.4**	**+0.7**
PTBC	**PUERTO BERRIO,**	**14.19**	**208**	*e*P	**Pn**	**04 50 36.6**	**-1.4**
PTBC				*i*		04 50 45.8	
	comp=Z,6.3nm,0.3s						
RUSC	**La Rusia**	**14.24**	**202**	*e*P	**Pn**	**04 50 37.6**	**-1.4**
SPBC	**San Pablo de B**	**14.83**	**205**	*e*P	**Pn**	**04 50 45.9**	**-0.9**
HELC	**Santa Helena**	**14.99**	**211**	*e*P	**Pn**	**04 50 49.4**	**+0.2**
HELC				*i*		04 50 53.4	
	comp=Z,5.9nm,0.4s						
NORC	**Norcasia**	**15.24**	**208**	*e*P	**Pn**	**04 50 53.0**	**+0.8**
CBOC	**Ciudad Bolivar**	**15.51**	**212**	*e*P	**Pn**	**04 50 57.1**	**+1.2**
CBOC				*e*S	**pP**	**04 51 04.5**	**-0.6**
CBOC				*i*		04 51 04.5	
	comp=Z,3.8nm,0.5s						
ROSC	**El Rosal**	**15.67**	**205**	Pn	**P**	**04 51 00.9**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=38,slow=21,SNR=2.6						
GUY2C	**Guyana, Caldas**	**15.76**	**209**	*e*P	**Pn**	**04 51 00.9**	**+1.5**
GUY2C				*i*		04 51 21.5	
	comp=Z,7.3nm,0.7s						
RREF	**El Recreo**	**16.04**	**208**	*e*P	**Pn**	**04 51 01.5**	**-1.7**
ORTC	**Ortega, Tolima**	**16.89**	**206**	*e*P	**Pn**	**04 51 13.6**	**+0.2**
PRAC	**Prado**	**16.92**	**205**	*e*P	**Pn**	**04 51 13.3**	**-0.4**
BBAC	**Balboa, Cauca**	**19.45**	**209**	*e*P	**P**	**04 51 44.1**	**+0.3**
PTGA	**Pitinga**	**21.33**	**158**	P	**P**	**04 52 05.2**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=16,slow=22,SNR=2.1						
ATAH	**Atahualpa**	**28.22**	**203**	LR	LR	05 05 15.6	
	comp=Z,40nm,20.5s,baz=6.1,slow=38						
TXAR	**Lajitas Array**	**34.02**	**294**	P	**P**	**04 54 02.0**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=110,slow=9.0,SNR=6.4						
NVAR	**Mina Array Bea**	**47.51**	**305**	P	**P**	**04 55 54.3**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=121,slow=8.7,SNR=3.0						
YBH	**Yreka Blue Hor**	**51.35**	**308**	LR	LR	05 20 06.3	
	comp=Z,29nm,18.1s,baz=344,slow=38						
ESDC	**Sonseca Array**	**58.03**	**55**	P	**P**	**04 57 10.0**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=276,slow=7.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**66.69**	**84**	P	**P**	**04 58 06.7**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=303,slow=6.7,SNR=4.6						

*TEH **19** 05:15:46.2,32°.68N×47°.55E,h10km,ML2.9*
*ISN **19** 05:15:46.9±1.3,32°.72N×47°.51E,h6km±8km,ML3.0*
ISC 19 05:15:47.7±1.0,**32°70N**±0°.05×**47°56E**±0°.04,**h10**km,**n27, σ1§09/30,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.85**	**16**	*e*Pg	**Pg**	**05 16 02.7**	**-1.5**
IKMR	**Kamar-syah**	**1.07**	**40**	*e*		05 16 11.4	
IKMR				*e*Pg	**Pb**	**05 16 07.4**	**-0.9**
IDOB	**Doab**	**1.20**	**25**	*e*Pg	**Pb**	**05 16 10.1**	**-0.6**
IBDR	**Badra**	**1.43**	**287**	*e*Pg	**Pn**	**05 16 13.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**05 16 33.0**	**-0.8**
IBDR				AML	AML	05 16 38.0	
	comp=N,214nm,0.4s						
IBDR				AML	AML	05 16 38.6	
	comp=E,114nm,0.4s						
BMDN	**Meydan**	**1.44**	**47**	*e*Pg	**Pn**	**05 16 14.7**	**+0.7**
BMDN				*e*		05 16 43.2	
IKOM	**Komasi**	**1.47**	**358**	*e*Pg	**Pn**	**05 16 15.2**	**+0.7**
IKOM				*e*		05 16 16.3	
KCHF	**Cheshme Sefid,**	**1.63**	**345**	*e*Pg	**Pb**	**05 16 18.0**	**0.0**
KCHF				*e*		05 16 42.8	
KER	**Kermanshah**	**1.72**	**348**	*e*Pn	**Pb**	**05 16 19.7**	**+0.2**
HSAM	**Samen**	**1.74**	**30**	*e*Pg	**Pn**	**05 16 19.6**	**+1.3**
HSAM				*e*		05 16 47.3	
IBZA	**Bozab**	**1.78**	**8**	*e*Pg	**Pn**	**05 16 20.0**	**+1.2**
IBZA				*e*		05 16 48.3	
IGHG	**Ghaleghazi**	**1.82**	**333**	*e*Pg	**Pb**	**05 16 21.2**	**-0.1**
IGHG				*e*		05 17 07.2	
IVIS	**Veis**	**1.92**	**342**	*e*Pn	**Pn**	**05 16 21.2**	**+0.7**
IVIS				*e*		05 16 54.7	
NSR	**Nassriya**	**2.08**	**216**	*e*Pn	**Pn**	**05 16 24.0**	**+1.4**
NSR				*e*Sn	**Sn**	**05 16 49.0**	**+0.5**
IALM	**Almabolaq**	**2.21**	**13**	*e*Pn	**Pn**	**05 16 24.6**	**-0.2**
IDHR	**Dehrash**	**2.22**	**334**	*e*Pn	**Pn**	**05 16 26.1**	**+1.3**
IDHR				*e*		05 17 02.8	
ILIN	**Lien**	**2.27**	**347**	*e*Pn	**Pn**	**05 16 26.7**	**+1.2**
ILIN				*e*		05 17 05.6	
HAGD	**Aghdareh**	**2.49**	**31**	*e*Pn	**Pn**	**05 16 29.5**	**+0.9**
HAGD				*e*		05 17 12.4	
HSRG	**Sareghieh**	**2.60**	**13**	*e*Pn	**Pn**	**05 16 32.5**	**+2.3**
HSRG				*e*		05 17 16.2	
JHBN	**Jahan bin**	**2.67**	**99**	*e*Pn	**Pn**	**05 16 31.4**	**+0.4**
JHBN				*e*		05 17 18.3	
BHD	**Baghdad**	**2.73**	**283**	*e*Pn	**Pn**	**05 16 32.0**	**+0.4**
BHD				*e*Sn	**Sn**	**05 17 06.0**	**+1.3**
BHD				AML	AML	05 17 14.2	
	comp=E,294nm,0.4s						
IPIR	**Pirpir**	**2.81**	**89**	*e*Pn	**Pn**	**05 16 33.4**	**+0.4**
IPIR				*e*		05 17 17.8	
IRAZ	**Razeghan**	**3.34**	**35**	*e*Pn	**Pn**	**05 16 42.3**	**+2.1**
IKLH	**Kolahrood**	**3.43**	**79**	*e*Pn	**Pn**	**05 16 42.2**	**+0.7**
IKLH				*e*		05 17 48.0	
QABG	**Abgarm-Qazvin**	**3.44**	**29**	*e*Pn	**Pn**	**05 16 42.4**	**+0.8**
KLNJ	**Kolanjah**	**3.82**	**115**	*e*Pn	**Pn**	**05 16 47.9**	**+0.9**
KLNJ				*e*		05 18 00.4	
IZEF	**Zefreh**	**4.02**	**86**	*e*Pn	**Pn**	**05 16 50.4**	**+0.8**
QSDN	**Sirdan**	**4.02**	**19**	*e*Pn	**Pn**	**05 16 51.0**	**+1.4**

*ISN **19** 05:22:06.5±1.3,32°.67N×47°.65E,h16km±9km,ML3.3*
*TEH **19** 05:22:06.0,32°.66N×47°.68E,h9km,ML3.5*
ISC 19 05:22:06.9±1.1,**32°63N**±0°.04×**47°68E**±0°.05,**h10**km,**n41, σ1§25/44,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.90**	**9**	*e*Pg	**Pg**	**05 22 22.8**	**-1.5**
IKMR	**Kamar-syah**	**1.06**	**34**	*e*Pg	**Pg**	**05 22 25.9**	**-1.4**
IKMR				*e*		05 22 30.1	
IDOB	**Doab**	**1.23**	**20**	*e*Pg	**Pb**	**05 22 30.2**	**-0.1**
BMDN	**Meydan**	**1.41**	**43**	*e*Pg	**Pn**	**05 22 32.9**	**0.0**
BMDN				*e*		05 23 03.9	
AHWZ	**Ahwaz**	**1.54**	**147**	*e*Pg	**Pn**	**05 22 36.0**	**+1.7**
IKOM	**Komasi**	**1.54**	**355**	*e*Pg	**Pn**	**05 22 35.8**	**+1.2**
IKOM				*e*		05 23 04.7	
IBDR	**Badra**	**1.55**	**288**	*e*Pg	**Pn**	**05 22 35.0**	**+0.5**
IBDR				*e*Sg	**Sn**	**05 22 54.0**	**-0.6**
IBDR				AML	AML	05 23 00.2	
	comp=E,536nm,0.6s						
IBDR				AML	AML	05 23 00.8	
	comp=N,434nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.72**	**342**	*e*Pg	**Pn**	**05 22 37.9**	**+0.8**
KCHF				*e*		05 23 04.9	
HSAM	**Samen**	**1.75**	**26**	*e*Pg	**Pn**	**05 22 39.1**	**+1.5**
HSAM				*e*		05 23 07.8	
KER	**Kermanshah**	**1.81**	**346**	*e*Pn	**Pn**	**05 22 39.3**	**+1.1**
IBZA	**Bozab**	**1.84**	**5**	*e*Pg	**Pn**	**05 22 40.2**	**+1.4**
IBZA				*e*		05 23 13.9	
IGHG	**Ghaleghazi**	**1.93**	**332**	*e*Pn	**Pn**	**05 22 41.1**	**+1.1**
IGHG				*e*		05 23 14.6	
IVIS	**Veis**	**2.01**	**340**	*e*Pn	**Pn**	**05 22 41.8**	**+0.8**
IVIS				*e*		05 23 12.9	
NSR	**Nassriya**	**2.08**	**219**	*e*Pn	**Pn**	**05 22 42.0**	**+0.2**
NSR				*e*Sn	**Sn**	**05 23 08.0**	**+0.2**
IALM	**Almabolaq**	**2.26**	**10**	*e*Pn	**Pn**	**05 22 46.2**	**+1.6**
IDHR	**Dehrash**	**2.33**	**333**	*e*Pn	**Pn**	**05 22 47.0**	**+1.6**
IDHR				*e*		05 23 31.0	
ILIN	**Lien**	**2.36**	**346**	*e*Pn	**Pn**	**05 22 47.0**	**+1.1**
ILIN				*e*		05 23 27.4	
HAGD	**Aghdareh**	**2.50**	**29**	*e*Pn	**Pn**	**05 22 49.4**	**+1.5**
HAGD				*e*		05 23 33.5	
JHBN	**Jahan bin**	**2.56**	**98**	*e*Pn	**Pn**	**05 22 49.8**	**+1.1**
JHBN				*e*		05 23 38.2	
HSRG	**Sareghieh**	**2.65**	**11**	*e*Pn	**Pn**	**05 22 52.5**	**+2.5**
HSRG				*e*		05 23 43.2	
IPIR	**Pirpir**	**2.71**	**88**	*e*Pn	**Pn**	**05 22 51.9**	**+1.1**
IPIR				*e*		05 23 36.0	
BHD	**Baghdad**	**2.84**	**284**	*e*Pn	**Pn**	**05 22 52.0**	**-0.3**
BHD				*e*Sn	**Sn**	**05 23 27.0**	**+0.4**
ROKH	**ROKH**	**2.85**	**95**	*e*Pn	**Pn**	**05 22 53.9**	**+1.2**
ROKH				*e*		05 23 49.3	
IRAZ	**Razeghan**	**3.34**	**33**	*e*Pn	**Pn**	**05 23 01.8**	**+2.4**
IKLH	**Kolahrood**	**3.35**	**77**	*e*Pn	**Pn**	**05 23 01.4**	**+1.8**
IKLH				*e*		05 24 03.9	
QABG	**Abgarm-Qazvin**	**3.45**	**27**	*e*Pn	**Pn**	**05 23 01.8**	**+0.9**
IQOM	**Qom**	**3.58**	**51**	*e*Pn	**Pn**	**05 23 03.7**	**+0.9**
KLNJ	**Kolanjah**	**3.71**	**115**	*e*Pn	**Pn**	**05 23 05.4**	**+0.9**
KLNJ				*e*		05 24 20.4	
IMHD	**Mahdasht**	**3.93**	**38**	*e*Pn	**Pn**	**05 23 08.3**	**+0.9**
IZEF	**Zefreh**	**3.93**	**85**	*e*Pn	**Pn**	**05 23 09.1**	**+1.6**
QSDN	**Sirdan**	**4.05**	**17**	*e*Pn	**Pn**	**05 23 11.0**	**+1.8**
IRAM	**Ramesheh**	**4.07**	**100**	*e*Pn	**Pn**	**05 23 09.6**	**+0.2**
IVRN	**Varamin**	**4.11**	**54**	*e*Pn	**Pn**	**05 23 11.0**	**+1.1**
QALM	**Alamut, Qazvin**	**4.51**	**32**	*e*Pn	**Pn**	**05 23 17.7**	**+2.2**
IDMV	**Damavand**	**4.66**	**50**	*e*Pn	**Pn**	**05 23 18.5**	**+1.0**
ANAR	**Anarak**	**5.12**	**82**	*e*Pn	**Pn**	**05 23 24.4**	**+0.6**
ISAD	**Sadrabad**	**5.14**	**96**	*e*Pn	**Pn**	**05 23 24.5**	**+0.3**
ISHM	**Shahmirzad**	**5.63**	**54**	*e*Pn	**Pn**	**05 23 31.0**	**+0.1**
IANJ	**Anjilo**	**5.90**	**60**	*e*Pn	**Pn**	**05 23 35.0**	**+0.4**
TPRV	**Parvadeh(Tabas**	**7.59**	**85**	*e*Pn	**Pn**	**05 23 59.2**	**+1.5**
TKDS	**Koohdasht(Taba**	**7.98**	**80**	*e*Pn	**Pn**	**05 24 04.1**	**+1.0**

*JMA **19** 05:25:34.5±0.1,24°.76N×122°.29E,h13km,M1.9*
*TAP **19** 05:25:34.3,24°.87N×122°.25E,h11km±1km,ML2.6,D*
ISC 19 05:25:33.2±1.1,**24°87N**±0°.03×**122°32E**±0°.02,**h15**km±9km, **n32,σ0§44/62,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.33**	**295**	*e*P	**Pb**	**05 25 40.3**	**-0.5**
	baz=300						
TWB1				S	**Sg**	**05 25 44.7**	**+0.1**
	baz=300						
TIPB	**Shuangxi**	**0.46**	**283**	*e*P	**Pb**	**05 25 43.0**	**-0.1**
	baz=284						
TIPB				*e*S	**Sb**	**05 25 49.2**	**-0.5**
	baz=284						

Ms1 2.5/1, ms1mx2.2/39, Error ellipse: s-maj=58.8km s-min=20.3km az=54.0
NEIC 19 05:30:50.0±2.8, 11°.48S±0'.03×116°.37E±0'.08, h31km±6km, mb4.1/6, Error ellipse: s-maj=11.8km s-min=3.9km az=90.0
DJA 19 05:30:54.8±0.8, 11°S±6"×11°6E±", h10km, M4.1/6, MLv4.1/6
ISC 19 05:30:52.6±0.7, **11°.39S**±0'.06×**116°.40E**±0'.07, **h35**km, **n29, σ1§66/27, mb4.3/4, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**2.67**	**10**	P	**Pn**	**05 31 35.3**	**+2.1**
TWSI				S	**Sn**	**05 32 02.8**	**-1.6**
PLAI	**Plampang**	**2.88**	**28**	P	**Pn**	**05 31 36.9**	**+0.9**
PLAI				S	**Sn**	**05 32 07.9**	**-1.6**
WBSI	**Waikabubak, Su**	**3.42**	**60**	P	**Pn**	**05 31 44.3**	**+0.9**
WBSI				S	**Sn**	**05 32 24.4**	**+1.7**
SRBI	**Singaraja**	**3.48**	**340**	P	Sn	05 32 39.3	+15
JAGI	**Jajag, Banyuwa**	**3.65**	**322**	P	**Pn**	**05 31 46.1**	**-0.5**
JAGI	**Jajag, Banyuwa**	**3.65**	**322**		**Pn**	**05 31 46.1**	**-0.5**
GMJI	**Gumukmas**	**4.25**	**316**	P	**Pn**	**05 31 57.0**	**+2.2**
UGM	**Wanagama**	**6.74**	**300**	Pn	**Pn**	**05 32 29.6**	**+0.4**
KAPI	**Kappang**	**7.15**	**28**	Sn	**Sn**	**05 33 52.8**	**-1.9**
	3.0nm,0.3s,baz=330,slow=23,SNR=8.5						
KAPI				LR	LR	05 35 03.6	
	comp=Z,38nm,20.4s,baz=223,slow=37						
SOEI	**Soe**	**7.90**	**79**	Pn	**Pn**	**05 32 45.0**	**-0.2**
PSA00	**Pilbara Seismi**	**10.65**	**162**		**Pn**	**05 33 19.8**	**-3.0**
FITZ	**Fitzroy Crossi**	**11.15**	**128**	Pn	**Pn**	**05 33 28.9**	**-0.7**
	0.3nm,0.3s,baz=307,slow=7.4,SNR=17						
FITZ				Sn	Sn	05 35 22.2	-11
	0.6nm,0.3s,baz=195,slow=22,SNR=8.0						
GIRL	**Giralia**	**11.38**	**190**	Pn	**Pn**	**05 33 30.5**	**-2.2**
LUWI	**Luwuk**	**12.07**	**32**	Pn	**Pn**	**05 33 41.1**	**-1.1**
MORW	**Morawa**	**17.60**	**181**	Pn	**Pn**	**05 34 53.1**	**-2.0**
MORW				IAmb	IAmb	05 35 11.5	
	comp=Z,10.0nm,1.1s						
WB0	**Warramunga Arr**	**19.22**	**118**	P	**Pn**	**05 35 14.7**	**-0.2**
WRA	**Warramunga Arr**	**19.24**	**118**	P	**Pn**	**05 35 16.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=293,slow=13,SNR=6.6						
WRA				S	Sn	05 38 34.9	-15
	comp=Z,0.1nm,0.3s,baz=282,slow=24,SNR=5.6						
WRA	**Warramunga Arr**	**19.24**	**118**	P	**P**	**05 35 13.8**	**-0.3**
WB2	**Warramunga Arr**	**19.25**	**118**	P	**Pn**	**05 35 15.3**	**0.0**
WB2				IAmb	IAmb	05 35 29.3	
	comp=Z,6.4nm,1.2s						
ASAR	**Alice Springs**	**20.65**	**129**	P	Pn	05 35 31.7	-0.2
	comp=Z,0.8nm,0.6s,baz=302,slow=10,SNR=12						
NWAO	**Narrogin (SRO)**	**21.45**	**178**	P	**P**	**05 35 41.6**	**+3.7**
	comp=Z,6.9nm,0.9s,baz=0.0,slow=11,SNR=1.7						
NWAO	**Narrogin (SRO)**	**21.45**	**178**	P	**P**	**05 35 38.2**	**+0.3**
FORT	**Forrest**	**22.12**	**152**	P	**P**	**05 35 45.6**	**+0.6**
FORT				IAmb	IAmb	05 35 57.2	
	comp=Z,30nm,1.1s						
H08S2	**Diego Garcia H**	**43.43**	**271**	T	T	06 25 27.7	
	baz=96						
H08S3	**Diego Garcia H**	**43.44**	**271**	T	T	06 25 25.9	
	baz=96						
H08S1	**Diego Garcia H**	**43.45**	**271**	T	T	06 25 27.0	
	baz=96						
MKAR	**Makanchi Array**	**65.46**	**335**	P	**P**	**05 41 34.1**	**+2.1**
	comp=Z,1.4nm,0.4s,baz=149,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**65.46**	**335**	P	**P**	**05 41 33.7**	**+1.7**
ZALV	**Zalesovo Beam**	**70.39**	**341**	P	**P**	**05 42 03.4**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=160,slow=4.6,SNR=4.4						

SFS 19 05:32:35.0, 36°.79N×8°.03W, ML2.3, GOLFO DE CADIZ
INMG 19 05:32:35.4±1.3, 36°.76N×8°.05W, h24km±5km, ML1.8, Error ellipse: s-maj=3.2km s-min=3.0km az=38.0
CNRM 19 05:32:36.5±0.6, 37°.00N×7°.23W, h45km±15km, Error ellipse: s-maj=8.8km s-min=2.3km az=27.0
IGIL 19 05:32:36.3, 36°.76N×8°.06W, h31km, ML1.7
MDD 19 05:32:35.7±0.8, **36°.79N×8°.04W, h34**km±17km, **mbLg2.3**/7, **4D, Error ellipse: s-maj=8.0km s-min=4.7km az=4.0, PRXIMO, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.46**	**11**	P	Pb	05 32 45.3	-0.5
PBDV				S	Sb	05 32 52.0	-0.7
	26nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.46**	**11**	↓*i*Pg	Pb	05 32 45.3	-0.5
PBDV				*e*Sg	Sb	05 32 52.0	-0.7
PBDV				A	A	05 32 52.3	
	26nm,0.1s						
PVAQ	**Vaqueiros**	**0.66**	**23**	P	Pn	05 32 47.9	-0.7
PVAQ				S	Sn	05 32 56.6	-1.3
	29nm,0.3s						
PVAQ	**Vaqueiros**	**0.66**	**23**	P	Pn	05 32 48.2	-0.5
PVAQ				S	Sn	05 32 57.2	-0.7
PVAQ	**Vaqueiros**	**0.66**	**23**	↓*e*Pg	Pn	05 32 47.9	-0.7
PVAQ				*e*Sg	Sn	05 32 56.6	-1.3
PVAQ				A	A	05 32 57.3	
	29nm,0.3s						
MORF	**Marmelete**	**0.71**	**317**	*e*P	Pn	05 32 48.6	-0.8
MORF				*e*S	Sn	05 32 56.9	-2.2
MORF				AML	AML	05 32 58.5	
	comp=E,24nm,0.4s						
MORF	**Marmelete**	**0.71**	**317**	P	Pn	05 32 48.6	-0.8
MORF				S	Sn	05 32 56.9	-2.2
	comp=E,24nm,0.4s						
MORF	**Marmelete**	**0.71**	**317**	*e*P	Pn	05 32 48.7	-0.7
MORF				*e*S	Sn	05 32 58.4	-0.7
MORF				A	A	05 33 04.3	
	comp=E,15nm,0.1s						
PFVI	**Vila Bisbo**	**0.72**	**299**	P	Pn	05 32 48.6	-0.8
	comp=E,4.3nm,0.1s,SNR=9.3						
PFVI				S	Sn	05 32 58.2	-1.0
	comp=E,25nm,0.1s,SNR=10						
PFVI	**Vila Bisbo**	**0.72**	**299**	S	Sb	05 33 14.6	+15
PFVI				P	Sn	05 32 58.0	-1.3
PFVI	**Vila Bisbo**	**0.72**	**299**	*e*P	Pn	05 32 48.8	-0.6
PFVI				*e*S	Sn	05 32 58.3	-0.9
PFVI				A	A	05 32 59.2	
	comp=E,17nm,0.1s						
EGRO	**El Granado**	**0.86**	**31**	P	Pn	05 32 51.0	-0.4
	comp=E,0.5nm,0.1s,SNR=14						
EGRO				S	Sn	05 33 01.4	-1.4
	comp=E,13nm,0.1s,SNR=36						
PTEO	**Sao Teotonio**	**0.93**	**324**	P	Pn	05 32 52.0	-0.4
PTEO				S	Sn	05 33 03.6	-0.9
	comp=E,2.5nm,0.7s						
PTEO	**Sao Teotonio**	**0.93**	**324**	↓*i*P	Pn	05 32 52.0	-0.4
PTEO				*e*S	Sn	05 33 03.6	-0.9
PTEO				A	A	05 33 08.5	
	comp=E,4.9nm,0.7s						
PBEJ	**Beja**	**1.24**	**6**	P	Pn	05 32 56.1	-0.5
PBEJ				S	Sn	05 33 11.9	-0.3
	comp=E,3.1nm,0.1s						
PBEJ	**Beja**	**1.24**	**6**	*e*P	Pn	05 32 56.1	-0.5
PBEJ				*e*S	Sn	05 33 11.9	-0.3
PBEJ				A	A	05 33 13.1	
	comp=E,6.1nm,0.1s						
PNCL	**Nicolau / Gran**	**1.37**	**344**	P	Pn	05 32 57.9	-0.6
PNCL				S	Sn	05 33 13.6	-1.9
	comp=E,4.5nm,0.3s						
PNCL	**Nicolau / Gran**	**1.37**	**344**	↓*e*P	Pn	05 32 57.9	-0.6
PNCL				*e*S	Sn	05 33 13.6	-1.9
PNCL				A	A	05 33 26.1	
	comp=E,4.5nm,0.3s						
EMIN	**Mina Concepcio**	**1.46**	**48**	P	Pn	05 32 58.7	-1.0
	comp=E,0.2nm,0.2s,SNR=4.0						
EMIN				S	Sn	05 33 17.8	+0.2
	comp=E,1.5nm,0.1s,SNR=7.5						
EVO	**Evora**	**1.74**	**1**	P	Pn	05 33 02.9	-0.6
EVO				S	Sn	05 33 23.1	-1.4
	comp=E,6.0nm,0.3s						
EVO	**Evora**	**1.74**	**1**	*e*P	Pn	05 33 02.7	-0.7
EVO				*e*S	Sn	05 33 22.0	-2.5
EVO	**Evora**	**1.74**	**1**	*e*Pn	Pn	05 33 02.9	-0.6
EVO				*e*Sn	Sn	05 33 23.1	-1.4
EVO				A	A	05 33 25.2	
	comp=E,6.0nm,0.3s						
ESPR	**Espera**	**1.75**	**87**	P	Pn	05 33 03.0	-0.7
	comp=E,1.9nm,0.1s,SNR=7.9						
ESPR				S	Sn	05 33 23.3	-1.5
	comp=E,24nm,0.2s,SNR=9.9						
PMTG	**Montargil**	**2.28**	**356**	P	Pn	05 33 10.3	-0.6
PMTG				S	Sn	05 33 36.9	-0.9
	comp=E,3.5nm,0.2s						
PMTG	**Montargil**	**2.28**	**356**	*e*Pn	Pn	05 33 10.3	-0.6
PMTG				*e*Sn	Sn	05 33 36.9	-0.9
PMTG				A	A	05 33 37.7	
	comp=E,3.5nm,0.2s						
PMAFR	**Mafra**	**2.37**	**336**	P	Pn	05 33 11.9	-0.3
	comp=E,2.9nm,0.1s,SNR=11						
PMAFR				S	Sn	05 33 37.6	-2.5
	comp=E,6.5nm,0.1s,SNR=7.0						
PMAFR	**Mafra**	**2.37**	**336**	*e*Pn	Pn	05 33 12.1	-0.1
PMAFR				*e*Sn	Sn	05 33 38.0	-2.2
PMAFR				A	A	05 33 43.6	
	comp=E,9.6nm,0.7s						
ECAB	**El Cabril**	**2.45**	**58**	S	Sn	05 33 38.0	-4.0
	comp=E,0.5nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**2.68**	**11**	P	Pn	05 33 15.7	-0.8
PMRV				S	Sn	05 33 46.2	-1.6
PMRV	**Marv??o**	**2.68**	**11**	*e*Pn	Pn	05 33 15.7	-0.8
PMRV				*e*Sn	Sn	05 33 46.2	-1.6
PSBE	**So Bento**	**2.78**	**348**	*e*Pn	Pn	05 33 17.7	-0.2
PSBE				*e*Sn	Sn	05 33 48.7	-1.6
PSBE				A	A	05 34 06.0	
	comp=E,3.3nm,0.5s						
EADA	**Adamuz**	**3.08**	**62**	P	Pn	05 33 21.0	-0.9
	comp=E,0.2nm,0.1s,SNR=7.9						
EADA				S	Sn	05 33 54.7	-2.9
	comp=E,0.6nm,0.3s,SNR=4.0						
EGOR	**Sierra Gorda,**	**3.16**	**83**	S	Sn	05 33 57.5	-2.4
	comp=E,2.2nm,0.4s,SNR=4.0						
PCAS	**Casmilo, Conde**	**3.28**	**354**	P	Pn	05 33 24.0	-0.6
PCAS				S	Sn	05 34 01.1	-1.3
PCAS	**Casmilo, Conde**	**3.28**	**354**	*e*Pn	Pn	05 33 24.0	-0.6
PCAS				*e*Sn	Sn	05 34 01.1	-1.3
EPLA	**Plasencia**	**3.61**	**25**	S	Sn	05 34 07.6	-3.2
	comp=E,0.5nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**4.00**	**45**	S	Sn	05 34 15.2	-5.3
	comp=E,0.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.09**	**74**	P	Pn	05 33 34.4	-1.5
	comp=E,0.2nm,0.1s,SNR=7.9						
EQES				S	Sn	05 34 20.2	-2.4
	comp=E,1.7nm,0.1s,SNR=7.9						
MD31	**MD31**	**4.75**	**144**	P	Pn	05 33 43.8	-1.3
MD31				S	Sn	05 34 36.3	-2.7
PBRG	**Braganca**	**5.11**	**11**	P	Pn	05 33 48.8	-1.0
PBRG	**Braganca**	**5.11**	**11**	*e*Pn	Pn	05 33 48.8	-1.0
PGAV	**Gavieira, Arco**	**5.17**	**358**	P	Pn	05 33 50.3	-0.4
PGAV				S	Sn	05 34 46.1	-3.1
PGAV	**Gavieira, Arco**	**5.17**	**358**	*e*Pn	Pn	05 33 50.3	-0.4
PGAV				*e*Sn	Sn	05 34 46.1	-3.1

TEH 19 05:44:03.3, 32°.80N×47°.50E, h11km, ML3.5
ISN 19 05:44:03.3±1.2, 32°.82N×47°.69E, h15km±6km, ML3.3
THR 19 05:44:06.3±0.6, 32°.85N×47°.65E, h14km±8km, ML3.4
ISC 19 05:44:04.5±1.4, **32.79N**±0°.03×**47°.50E**±0°.03, **h9**km±13km, **n36, σ1§31/41, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.79**	**21**	*e*Pg	**Pg**	**05 44 18.0**	**-1.7**
IKFM				*e*	**Sn**	**05 44 34.7**	**+1.0**
IKMR	**Kamar-syah**	**1.04**	**45**	*e*Pg	**Pb**	**05 44 23.3**	**-1.3**
IKMR				*e*		05 44 42.3	
IDOB	**Doab**	**1.15**	**29**	*e*Pg	**Pb**	**05 44 25.5**	**-1.1**
SHGR	**Shooshtar-Gavs**	**1.29**	**121**	*e*Pg	**Pb**	**05 44 28.8**	**-0.1**
SHGR				IAML		05 45 00.2	
	comp=E,637nm,0.4s						
IBDR	**Badra**	**1.36**	**284**	*e*Pg	**Pb**	**05 44 30.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**05 44 51.0**	**+2.7**
IBDR				AML	AML	05 44 54.0	
	comp=N,611nm,0.6s						
IBDR				AML	AML	05 45 10.0	
	comp=E,402nm,0.8s						
IKOM	**Komasi**	**1.38**	**0**	*e*Pg	**Pn**	**05 44 29.8**	**-0.3**
IKOM				*e*		05 51 47.3	
BMDN	**Meydan**	**1.42**	**51**	*e*Pg	**Pn**	**05 44 30.4**	**-0.2**
BMDN				*e*		05 44 58.7	
KCHF	**Cheshme Sefid,**	**1.53**	**346**	*e*Pg	**Pn**	**05 44 32.3**	**+0.1**
KCHF				*e*		05 45 01.4	
KER	**Kermanshah**	**1.62**	**349**	*e*Pg	**Pb**	**05 44 34.1**	**-0.6**
HSAM	**Samen**	**1.69**	**33**	*e*Pg	**Pb**	**05 44 35.4**	**-0.6**
HSAM				*e*		05 45 06.7	
IBZA	**Bozab**	**1.71**	**10**	*e*Pg	**Pb**	**05 44 35.9**	**-0.3**
IBZA				*e*		05 45 07.0	
IGHG	**Ghaleghazi**	**1.73**	**333**	*e*Pg	**Pb**	**05 44 36.2**	**-0.3**
IGHG				*e*		05 45 11.2	
AHWZ	**Ahwaz**	**1.75**	**146**	*e*Pg	**Pb**	**05 44 37.1**	**+0.4**
IVIS	**Veis**	**1.82**	**343**	*e*Pn	**Pb**	**05 44 37.4**	**-0.6**
IVIS				*e*		05 45 06.9	
NSR	**Nassriya**	**2.12**	**214**	*e*Pn	**Pn**	**05 44 41.0**	**+1.0**
NSR				*e*Sn	**Sb**	**05 45 08.0**	**-1.4**
IDHR	**Dehrash**	**2.12**	**334**	*e*Pn	**Pb**	**05 44 42.2**	**-1.1**
IDHR				*e*		05 45 22.2	
IALM	**Almabolaq**	**2.14**	**15**	*e*Pn	**Pb**	**05 44 42.4**	**-1.2**
ILIN	**Lien**	**2.17**	**348**	*e*Pn	**Pn**	**05 44 42.3**	**+1.2**
ILIN				*e*		05 45 19.8	
KHMZ	**Khomeyn**	**2.27**	**65**	*e*Pn	**Pb**	**05 44 44.0**	**-1.7**
SNGE	**Sanandaj**	**2.30**	**357**	*e*Pn	**Pb**	**05 44 45.0**	**-1.3**
HAGD	**Aghdareh**	**2.44**	**33**	*e*Pn	**Pb**	**05 44 46.6**	**-2.2**
HAGD				*e*		05 45 25.7	
HSRG	**Sareghieh**	**2.53**	**15**	*e*	**Sg**	**05 45 29.5**	**+3.6**
BHD	**Baghdad**	**2.67**	**281**	*e*Pn	**Pb**	**05 44 50.0**	**-2.4**
BHD				*e*Sn	**Sb**	**05 45 24.0**	**-1.2**
JHBN	**Jahan bin**	**2.73**	**101**	*e*Pn	**Pn**	**05 44 49.5**	**+0.7**
JHBN				*e*		05 45 45.0	
ASAO	**Ashtian**	**2.74**	**49**	*e*Pn	**Pn**	**05 44 50.3**	**+1.4**
ASAO				*e*Sg	**Sb**	**05 45 27.8**	**+0.2**
IPIR	**Pirpir**	**2.86**	**91**	*e*Pn	**Pn**	**05 44 51.3**	**+0.8**
IPIR				*e*		05 45 43.0	
ROKH	**ROKH**	**3.02**	**97**	*e*Pn	**Pn**	**05 44 53.0**	**+0.4**
ROKH				*e*		05 45 01.7	
QABG	**Abgarm-Qazvin**	**3.38**	**30**	*e*Pn	**Pn**	**05 44 58.6**	**+0.9**
IKLH	**Kolahrood**	**3.46**	**80**	*e*Pn	**Pn**	**05 45 00.1**	**+1.3**
IKLH				*e*		05 45 56.3	
IGAR	**Gharneh**	**3.85**	**94**	*e*		05 45 18.9	
IGAR				*e*Pn	**Pn**	**05 45 04.8**	**+0.7**
KLNJ	**Kolanjah**	**3.90**	**116**	*e*Pn	**Pn**	**05 45 04.6**	**-0.4**
KLNJ				*e*		05 46 28.9	
QSDN	**Sirdan**	**3.96**	**20**	*e*Pn	**Pn**	**05 45 07.5**	**+1.9**
IZEF	**Zefreh**	**4.06**	**87**	*e*Pn	**Pn**	**05 45 07.7**	**+0.6**
IRAM	**Ramesheh**	**4.25**	**102**	*e*Pn	**Pn**	**05 45 09.4**	**-0.1**
ANAR	**Anarak**	**5.25**	**84**	*e*Pn	**Pn**	**05 45 23.0**	**-0.2**
IANJ	**Anjilo**	**5.95**	**62**	*e*Pn	**Pn**	**05 45 33.4**	**+0.4**

IDC 19 05:46:21.5±56.0, **19°.47S×176°.87W, h0**km, **mb4.3**/3, **mb1 4.5**/3, **mb1mx3.6**/33, **mbtmp4.3**/3, **Error ellipse: s-maj=1042.0km s-min=162.3km az=82.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.19**	**243**	P	P	05 53 51.5	0.0
	1.1nm,0.3s,baz=49,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**45.79**	**256**	P	P	05 54 45.0	-0.3
	4.2nm,0.5s,baz=95,slow=7.8,SNR=58						
WRA	**Warramunga Arr**	**45.80**	**261**	P	P	05 54 45.4	0.0
	1.3nm,0.3s,baz=97,slow=7.4,SNR=33						

IDC 19 05:51:14.5±2.8, 32°.58N×47°.50E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.6/46, mbtmp3.9/9, ML3.9/2, MS3.0/6, Ms1 3.0/6, ms1mx2.6/52, Error ellipse: s-maj=54.2km s-min=25.6km az=43.0
THR 19 05:51:16.7±0.5, 32°.72N×47°.42E, h15km±4km, ML4.0
ISN 19 05:51:17.7±1.4, 32°.82N×47°.62E, h15km±7km, ML3.5
TEH 19 05:51:17.8, 32°.76N×47°.63E, h8km, ML3.9
NEIC 19 05:51:18.6±2.6, 32°.46N±0°.09×47°.4E±0°.1, h35km±12km, Error ellipse: s-maj=17.7km s-min=11.7km az=60.0
ISC 19 05:51:17.3±1.6, **32.74N**±0°.03×**47°.59E**±0°.03, **h6**km±11km, **n84, σ1§46/82, mb3.9/9, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.82**	**15**	*e*Pg	**Pb**	**05 51 33.5**	**-0.3**
IKFM				*e*Sg	**Sb**	**05 51 44.0**	**-1.0**
IKMR	**Kamar-syah**	**1.02**	**40**	*e*Pg	**Pb**	**05 51 37.0**	**-0.4**
IKMR				*e*		05 51 58.2	
IDOB	**Doab**	**1.16**	**25**	*e*Pg	**Pn**	**05 51 40.4**	**+0.2**
SHGR	**Shooshtar-Gavs**	**1.20**	**121**	*e*Pg	**Pn**	**05 51 40.8**	**+0.2**
SHGR				*e*Sg	**Sn**	**05 51 59.0**	**+1.8**
SHGR				IAML		05 52 04.0	
	comp=E,3μm,0.2s						
SHGR				IAML		05 52 04.2	
	comp=N,3μm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.20**	**121**	*e*Pg	**Pn**	**05 51 40.8**	**+0.2**
BMDN	**Meydan**	**1.40**	**48**	*e*Pg	**Pg**	**05 51 44.7**	**+0.6**
BMDN				*e*		05 52 15.3	
BMDN	**Meydan**	**1.40**	**48**		**Pg**	**05 51 44.6**	**+0.5**
BMDN				Sg	**Sn**	**05 52 05.7**	**+3.5**
IKOM	**Komasi**	**1.44**	**357**	*e*Pg	**Pg**	**05 51 45.1**	**+0.3**
IKOM				*e*		05 52 09.7	
IBDR	**Badra**	**1.44**	**285**	*e*Pg	**Pn**	**05 51 45.0**	**+1.1**
IBDR				*e*Sg	**Sn**	**05 52 03.0**	**-0.1**
IBDR				AML	AML	05 52 06.0	
	comp=N,469nm,0.6s						
IBDR				AML	AML	05 52 07.0	
	comp=E,820nm,0.7s						
KCHF	**Cheshme Sefid,**	**1.60**	**344**	*e*Pn	**Pb**	**05 51 47.3**	**-0.1**
KCHF				*e*		05 52 16.7	
KCHF	**Cheshme Sefid,**	**1.60**	**344**	Pn	**Pb**	**05 51 47.2**	**-0.1**
AHWZ	**Ahwaz**	**1.67**	**147**	*e*Pg	**Pb**	**05 51 49.1**	**+0.8**
KER	**Kermanshah**	**1.69**	**347**	*e*Pn	**Pb**	**05 51 48.8**	**0.0**
HSAM	**Samen**	**1.70**	**30**	*e*Pn	**Pg**	**05 51 49.8**	**-0.1**
HSAM				*e*		05 52 17.9	
IBZA	**Bozab**	**1.74**	**7**	*e*Pg	**Pg**	**05 51 50.3**	**-0.4**
IBZA				*e*		05 52 19.9	
IGHG	**Ghaleghazi**	**1.80**	**332**	*e*Pn	**Pb**	**05 51 51.4**	**+0.6**
IGHG				*e*		05 52 38.2	
IVIS	**Veis**	**1.89**	**341**	*e*Pn	**Pb**	**05 51 52.0**	**-0.2**
NSR	**Nassriya**	**2.12**	**216**	*e*Pn	**Pn**	**05 51 54.0**	**+0.9**
NSR				*e*Sn	**Sn**	**05 52 22.0**	**+2.3**
IALM	**Almabolaq**	**2.17**	**13**	*e*Pn	**Pb**	**05 51 56.0**	**-1.1**
IDHR	**Dehrash**	**2.20**	**333**	*e*Pn	**Pb**	**05 51 56.8**	**-0.7**
IDHR				*e*		05 52 32.4	
KHMZ	**Khomeyn**	**2.23**	**63**	*e*Pn	**Pb**	**05 51 57.2**	**-0.8**
KHMZ	**Khomeyn**	**2.23**	**63**	*e*Pn	**Pb**	**05 51 57.2**	**-0.8**
SNGE	**Sanandaj**	**2.36**	**355**	*e*Pn	**Pn**	**05 51 57.3**	**+0.6**
SNGE				*e*Sg	**Sb**	**05 52 31.2**	**+1.5**
SNGE	**Sanandaj**	**2.36**	**355**	*e*Pn	**Pn**	**05 51 57.3**	**+0.6**
HAGD	**Aghdareh**	**2.45**	**31**	*e*Pn	**Pb**	**05 52 00.2**	**-1.6**
HAGD				*e*		05 52 41.1	
JHBN	**Jahan bin**	**2.65**	**100**	*e*Pn	**Pn**	**05 52 02.4**	**+1.6**
JHBN				*e*		05 52 49.5	
ASAO	**Ashtian**	**2.72**	**48**	*e*Pn	**Pb**	**05 52 03.9**	**-2.6**
ASAO				*e*Sg	**Sg**	**05 52 45.4**	**+0.7**
ASAO	**Ashtian**	**2.72**	**48**	*e*Pn	**Pb**	**05 52 03.9**	**-2.6**
BHD	**Baghdad**	**2.75**	**282**	*e*Pn	**Pn**	**05 52 03.0**	**+1.2**
BHD				*e*Sn	**Sn**	**05 52 37.0**	**+1.7**
BHD				AML	AML	05 52 56.5	
	comp=E,412nm,0.5s						
IPIR	**Pirpir**	**2.79**	**90**	*e*Pn	**Pn**	**05 52 03.8**	**+1.1**
IPIR				*e*		05 52 43.4	
ROKH	**ROKH**	**2.94**	**97**	*e*		05 52 56.5	
ROKH				*e*Pn	**Pn**	**05 52 06.3**	**+1.6**
IRAZ	**Razeghan**	**3.30**	**36**	*e*Pn	**Pn**	**05 52 12.1**	**+2.5**
QABG	**Abgarm-Qazvin**	**3.39**	**29**	*e*Pn	**Pn**	**05 52 12.4**	**+1.5**
IKLH	**Kolahrood**	**3.40**	**79**	*e*Pn	**Pn**	**05 52 13.1**	**+2.0**
IKLH				*e*		05 53 08.3	
IGAR	**Gharneh**	**3.78**	**94**	*e*Pn	**Pn**	**05 52 17.6**	**+1.4**
IGAR				*e*		05 53 07.8	
KLNJ	**Kolanjah**	**3.82**	**116**	*e*Pn	**Pn**	**05 52 17.6**	**+0.7**
KLNJ				*e*		05 53 37.2	
IMHD	**Mahdasht**	**3.90**	**40**	*e*Pn	**Pn**	**05 52 20.1**	**+2.4**
QSDN	**Sirdan**	**3.98**	**19**	*e*Pn	**Pn**	**05 52 21.0**	**+2.0**
IZEF	**Zefreh**	**4.00**	**86**	*e*Pn	**Pn**	**05 52 21.3**	**+2.0**
IVRN	**Varamin**	**4.12**	**56**	*e*Pn	**Pn**	**05 52 22.4**	**+1.7**
IRAM	**Ramesheh**	**4.17**	**102**	*e*Pn	**Pn**	**05 52 22.1**	**+0.6**
IGZV	**Ghazvin**	**4.24**	**30**	*e*Pn	**Pn**	**05 52 24.2**	**+1.6**
QALM	**Alamut, Qazvin**	**4.47**	**34**	*e*Pn	**Pn**	**05 52 27.5**	**+1.8**
DAMV	**Damavand**	**4.64**	**50**	*e*Pn	**Pn**	**05 52 29.9**	**+1.8**
DAMV	**Damavand**	**4.64**	**50**	*e*Pn	**Pn**	**05 52 29.9**	**+1.8**
IDMV	**Damavand**	**4.65**	**51**	*e*Pn	**Pn**	**05 52 29.7**	**+1.5**
IFIR	**Firoozkooh**	**5.17**	**54**	*e*Pn	**Pn**	**05 52 36.9**	**+1.5**
ILAS	**Lasjerd**	**5.18**	**58**	*e*Pn	**Pn**	**05 52 38.1**	**+2.6**
ANAR	**Anarak**	**5.18**	**83**	*e*Pn	**Pn**	**05 52 36.2**	**+0.8**
ISAD	**Sadrabad**	**5.23**	**97**	*e*Pn	**Pn**	**05 52 37.2**	**+1.0**
IPRN	**Peran**	**5.25**	**47**	*e*Pn	**Pn**	**05 52 38.6**	**+2.2**
IALA	**Alasht**	**5.46**	**51**	*e*Pn	**Pn**	**05

IKOM	**Komasi**	**1.51**	**359**	*e*Pg		**Pg**	**05 56 31.3**	**+0.3**
IKOM				*e*			05 56 33.0	
AHWZ	**Ahwaz**	**1.63**	**144**	*e*Pg		**Pg**	**05 56 34.9**	**+1.5**
KCHF	**Cheshme Sefid,**	**1.66**	**346**	*e*Pg		**Pg**	**05 56 34.2**	**+0.3**
KCHF				*e*			05 56 59.6	
KER	**Kermanshah**	**1.75**	**349**	*e*Pn		**Pb**	**05 56 35.0**	**-0.1**
HSAM	**Samen**	**1.79**	**30**	*e*Pg		**Pb**	**05 56 35.3**	**-0.5**
HSAM				*e*			05 57 06.3	
IBZA	**Bozab**	**1.82**	**9**	*e*Pn		**Pb**	**05 56 36.3**	**-0.1**
IBZA				*e*			05 56 40.0	
IGHG	**Ghaleghazi**	**1.84**	**334**	*e*Pn		**Pb**	**05 56 36.8**	**0.0**
IGHG				*e*			05 57 15.2	
IVIS	**Veis**	**1.94**	**343**	*e*Pn		**Pb**	**05 56 37.6**	**-0.8**
IVIS				*e*			05 57 43.7	
NSR	**Nassriya**	**2.03**	**216**	*e*Pn		**Pn**	**05 56 36.0**	**-1.4**
NSR				*e*Sn		**Sn**	**05 57 00.0**	**-3.4**
IDHR	**Dehrash**	**2.24**	**335**	*e*Pn		**Pb**	**05 56 42.5**	**-1.1**
IDHR				*e*			05 56 49.6	
IALM	**Almabolaq**	**2.25**	**13**	*e*Pn		**Pb**	**05 56 42.8**	**-1.0**
ILIN	**Lien**	**2.30**	**348**	*e*Pn		**Pb**	**05 56 43.0**	**-1.5**
KHMZ	**Khomeyn**	**2.30**	**62**	*e*Pn		**Pb**	**05 56 43.4**	**-1.2**
KHMZ	**Khomeyn**	**2.30**	**62**	*e*Pn		**Pb**	**05 56 43.4**	**-1.2**
SNGE	**Sanandaj**	**2.43**	**356**	*e*Pn		**Pn**	**05 56 43.7**	**+0.5**
SNGE	**Sanandaj**	**2.43**	**356**	*e*Pn		**Pn**	**05 56 43.7**	**+0.5**
HAGD	**Aghdareh**	**2.54**	**32**	*e*Pn		**Pb**	**05 56 46.3**	**-2.3**
HAGD				*e*			05 57 30.9	
HSRG	**Sareghieh**	**2.65**	**13**	*e*Pn		**Pb**	**05 56 48.9**	**-1.6**
HSRG				*e*			05 57 33.9	
JHBN	**Jahan bin**	**2.69**	**98**	*e*Pn		**Pn**	**05 56 47.9**	**+1.1**
JHBN				*e*			05 57 43.4	
BHD	**Baghdad**	**2.71**	**284**	*e*Pn		**Pn**	**05 56 47.0**	**+0.1**
BHD				*e*Sn		**Sn**	**05 57 22.0**	**+1.7**
BHD				AML		AML	05 57 22.1	
	comp=E,289nm,0.4s							
ASAO	**Ashtian**	**2.81**	**47**	*e*Pn		**Pb**	**05 56 50.0**	**-3.2**
ASAO				*e*Sg		**Sg**	**05 57 31.8**	**-0.5**
ASAO	**Ashtian**	**2.81**	**47**	*e*Pn		**Pb**	**05 56 50.0**	**-3.2**
IPIR	**Pirpir**	**2.84**	**89**	*e*Pn		**Pn**	**05 56 50.1**	**+1.2**
IPIR				*e*			05 57 42.0	
ROKH	**ROKH**	**2.98**	**95**	*e*Pn		**Pn**	**05 56 51.4**	**+0.6**
ROKH				*e*			05 57 49.7	
IRAZ	**Razeghan**	**3.38**	**35**	*e*Pn		**Pn**	**05 56 58.4**	**+2.1**
IKLH	**Kolahrood**	**3.47**	**78**	*e*Pn		**Pn**	**05 56 59.4**	**+1.9**
IKLH				*e*			05 58 02.3	
QABG	**Abgarm-Qazvin**	**3.48**	**29**	*e*Pn		**Pn**	**05 56 58.5**	**+0.8**
IGAR	**Gharneh**	**3.82**	**93**	*e*			05 57 19.9	
IGAR				*e*Pn		**Pn**	**05 57 04.3**	**+2.0**
KLNJ	**Kolanjah**	**3.83**	**114**	*e*Pn		**Pn**	**05 57 03.7**	**+1.1**
KLNJ				*e*			05 58 19.3	
IZEF	**Zefreh**	**4.05**	**85**	*e*Pn		**Pn**	**05 57 07.0**	**+1.5**
QSDN	**Sirdan**	**4.06**	**19**	*e*Pn		**Pn**	**05 57 07.5**	**+1.8**
IVRN	**Varamin**	**4.20**	**55**	*e*Pn		**Pn**	**05 57 08.5**	**+1.1**
IGZV	**Ghazvin**	**4.33**	**30**	*e*Pn		**Pn**	**05 57 10.9**	**+1.6**
QALM	**Alamut, Qazvin**	**4.55**	**34**	*e*Pn		**Pn**	**05 57 12.6**	**+0.2**
IDMV	**Damavand**	**4.73**	**51**	*e*Pn		**Pn**	**05 57 15.7**	**+0.8**
ANAR	**Anarak**	**5.24**	**83**	*e*Pn		**Pn**	**05 57 21.7**	**0.0**
IFIR	**Firoozkooh**	**5.25**	**54**	*e*Pn		**Pn**	**05 57 23.0**	**+1.0**
ISAD	**Sadrabad**	**5.27**	**97**	*e*Pn		**Pn**	**05 57 22.8**	**+0.5**
IALA	**Alasht**	**5.54**	**51**	*e*Pn		**Pn**	**05 57 28.2**	**+2.2**
ISHM	**Shahmirzad**	**5.71**	**55**	*e*Pn		**Pn**	**05 57 29.3**	**+1.0**
IANJ	**Anjilo**	**5.99**	**60**	*e*Pn		**Pn**	**05 57 32.2**	**0.0**
IGLO	**Ghaloghah**	**6.46**	**52**	*e*Pn		**Pn**	**05 57 39.1**	**+0.6**

IDC ***19*** *05:58:32.7±1.3, 32°.77N×47°.39E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.8/51, mbtmp3.9/13, ML3.6/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/52, Error ellipse: s-maj=29.1km s-min=18.4km az=180.0*
ISN ***19*** *05:58:34.3±1.3, 32°.71N×47°.48E, h16km±9km, ML3.8*
TEH ***19*** *05:58:35.8, 32°.80N×47°.46E, h17km, ML3.7*
THR ***19*** *05:58:36.8±0.6, 32°.76N×47°.44E, h18km±5km, ML3.5*
NEIC ***19*** *05:58:38.6±2.6, 32°.69N±0°.09×47°.4E±0°.1, h45km±10km, Error ellipse: s-maj=14.0km s-min=12.9km az=96.0*

ISC 19 05:58:35.5±1.1**, 32°.76N**±0°.03×**47°.45E**±0°.03**, h16**km±8km**, n85**,σ1**935/82**, mb4.0**/15**, 7C-1D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.83**	**24**	*e*Pg		**Pg**	**05 58 51.4**	**-0.4**
IKFM				*e*			05 59 09.5	
IKMR	**Kamar-syah**	**1.09**	**46**	*e*Pg		**Pb**	**05 58 55.6**	**-0.4**
IKMR				*e*			05 59 16.1	
IDOB	**Doab**	**1.20**	**31**	*e*Pg		**Pn**	**05 58 57.3**	**-0.5**
SHGR	**Shooshtar-Gavs**	**1.31**	**119**	*e*Pg		**Pg**	**05 59 01.4**	**+0.5**
SHGR				*e*Sg		**Sg**	**05 59 19.4**	**+1.3**
SHGR				IAML			05 59 22.4	
	comp=E,825nm,0.6s							
SHGR				IAML			05 59 27.1	
	comp=N,688nm,0.5s							
SHGR	**Shooshtar-Gavs**	**1.31**	**119**	*e*Pg		**Pg**	**05 59 01.4**	**+0.5**
IBDR	**Badra**	**1.32**	**286**	*e*Pg		**Pn**	**05 58 59.0**	**-0.3**
IBDR				*e*Sg		**Sg**	**05 59 18.0**	**-0.3**
IBDR				AML		AML	05 59 23.9	
	comp=N,2μm,0.5s							
IBDR				AML		AML	05 59 24.2	
	comp=E,2μm,0.6s							
IKOM	**Komasi**	**1.41**	**2**	*e*			05 59 04.8	
IKOM				*e*Pg		**Pb**	**05 59 01.7**	**+0.1**
BMDN	**Meydan**	**1.47**	**51**	*e*Pg		**Pb**	**05 59 02.4**	**-0.2**
BMDN				*e*			05 59 30.1	
KCHF	**Cheshme Sefid,**	**1.55**	**347**	*e*Pn		**Pb**	**05 59 03.1**	**-0.4**
KCHF				*e*			05 59 30.7	
KCHF	**Cheshme Sefid,**	**1.55**	**347**	Pn		**Pb**	**05 59 03.6**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.55**	**347**	Sg		**Sg**	**05 59 26.4**	**+0.8**
KER	**Kermanshah**	**1.65**	**351**	*e*Pn		**Pg**	**05 59 06.2**	**-1.0**
IGHG	**Ghaleghazi**	**1.73**	**335**	*e*			05 59 52.6	
IGHG				*e*Pn		**Pb**	**05 59 06.9**	**-0.2**
HSAM	**Samen**	**1.74**	**33**	*e*			05 59 35.9	
HSAM				*e*Pn		**Pb**	**05 59 06.9**	**-0.4**
IBZA	**Bozab**	**1.74**	**11**	*e*			05 59 12.1	
IBZA				*e*Pg		**Pb**	**05 59 07.2**	**-0.1**
AHWZ	**Ahwaz**	**1.75**	**144**	*e*Pg		**Pg**	**05 59 09.0**	**-0.1**
IVIS	**Veis**	**1.83**	**344**	*e*			05 59 11.6	
IVIS				*e*Pn		**Pb**	**05 59 08.8**	**+0.1**
IVIS	**Veis**	**1.83**	**344**	*e*		**Pg**	**05 59 11.6**	**+0.8**
NSR	**Nassriya**	**2.07**	**213**	*e*Pn		**Pn**	**05 59 10.0**	**+0.5**
NSR				*e*Sn		**Sn**	**05 59 34.0**	**-0.9**
IDHR	**Dehrash**	**2.13**	**336**	*e*Pn		**Pb**	**05 59 12.4**	**-1.4**
IDHR				*e*			05 59 47.6	
IALM	**Almabolaq**	**2.18**	**16**	*e*Pn		**Pb**	**05 59 13.1**	**-1.7**
ILIN	**Lien**	**2.19**	**350**	*e*Pn		**Pb**	**05 59 14.1**	**-0.9**
ILIN				*e*			05 59 54.5	
KHMZ	**Khomeyn**	**2.32**	**64**	*e*Pn		**Pb**	**05 59 16.3**	**-0.8**
KHMZ	**Khomeyn**	**2.32**	**64**	*e*Pn		**Pb**	**05 59 16.3**	**-0.8**
SNGE	**Sanandaj**	**2.33**	**358**	*e*Pn		**Pb**	**05 59 16.5**	**-0.8**
SNGE				*e*Sg		**Sg**	**05 59 50.6**	**+0.1**
SNGE				IAML			05 59 53.8	
	comp=N,238nm,0.6s							
SNGE	**Sanandaj**	**2.33**	**358**	*e*Pn		**Pb**	**05 59 16.5**	**-0.8**
HAGD	**Aghdareh**	**2.50**	**34**	*e*Pn		**Pb**	**05 59 18.0**	**-2.1**
HAGD				*e*			06 00 03.0	
HSRG	**Sareghieh**	**2.57**	**15**	*e*		Sg	06 00 07.9	+10
BHD	**Baghdad**	**2.63**	**282**	*e*Pn		**Pn**	**05 59 18.0**	**+0.8**
BHD				*e*Sn		**Sn**	**05 59 51.0**	**+2.2**
JHBN	**Jahan bin**	**2.77**	**100**	*e*Pn		**Pn**	**05 59 20.4**	**+0.9**
JHBN				*e*			06 00 23.1	
ASAO	**Ashtian**	**2.79**	**50**	*e*Pn		**Pb**	**05 59 22.8**	**-2.4**
ASAO				*e*Sg		**Sg**	**06 00 04.6**	**-0.8**
ASAO	**Ashtian**	**2.79**	**50**	*e*Pn		**Pb**	**05 59 22.8**	**-2.4**
IPIR	**Pirpir**	**2.90**	**91**	*e*Pn		**Pn**	**05 59 23.5**	**+2.2**
IPIR				*e*			06 00 05.7	
ROKH	**ROKH**	**3.06**	**97**	*e*Pn		**Pn**	**05 59 26.3**	**+2.9**
ROKH				*e*			06 00 22.1	
IRAZ	**Razeghan**	**3.35**	**37**	*e*Pn		**Pn**	**05 59 30.5**	**+3.1**
QABG	**Abgarm-Qazvin**	**3.43**	**30**	*e*Pn		**Pn**	**05 59 29.7**	**+1.2**
IKLH	**Kolahrood**	**3.51**	**80**	*e*Pn		**Pn**	**05 59 32.0**	**+2.3**
IKLH				*e*			06 00 52.8	
IGAR	**Gharneh**	**3.89**	**94**	*e*Pn		**Pn**	**05 59 35.7**	**+0.8**
IGAR				*e*			05 59 51.1	
KLNJ	**Kolanjah**	**3.93**	**115**	*e*Pn		**Pn**	**05 59 36.6**	**+1.1**
QSDN	**Sirdan**	**4.00**	**20**	*e*Pn		**Pn**	**05 59 38.4**	**+2.1**
IZEF	**Zefreh**	**4.11**	**87**	*e*Pn		**Pn**	**05 59 38.6**	**+0.7**
MAHB	**Mahabad**	**4.25**	**341**	*e*Pn		**Pn**	**05 59 41.2**	**+1.5**
IGZV	**Ghazvin**	**4.28**	**31**	*e*Pn		**Pn**	**05 59 42.2**	**+2.0**
ISHM	**Shahmirzad**	**5.71**	**56**	*e*Pn		**Pn**	**06 00 01.5**	**+1.6**
MARD	**Mardin**	**7.11**	**312**	Pn		**Pn**	**06 00 20.8**	**+1.8**
ASF	**Jabal al Asfar**	**8.94**	**269**	Pn		**Pn**	**06 00 43.2**	**-0.8**
	comp=N,0.6nm,0.3s,baz=50,slow=8.1,SNR=2.6							
ASF				Lg		Lg	06 03 19.3	
	comp=N,0.2nm,0.3s,baz=225,slow=23,SNR=1.8							

EIL	**Elat**	**11.13**	**257**	Lg		Lg	06 04 31.8		
	comp=N,0.4nm,0.3s,baz=303,slow=15,SNR=2.1								
WSAR	**Wadi Sarin**	**13.68**	**131**	LR		LR	06 07 50.7		
	comp=N,57nm,21.4s,baz=303,slow=41								
ABKAR	**Akbulak array**	**18.95**	**26**	P		**P**	**06 02 55.7**	**0.0**	
AKTO	**Aktyubinsk**	**19.32**	**21**	P		**Pn**	**06 03 00.5**	**-0.3**	
	comp=N,0.2nm,0.3s,baz=207,slow=14,SNR=10								
VRI	**Vrincioaia**	**20.62**	**315**	*i*P		**P**	**06 03 14.8**	**+0.7**	
PLOR	**Plostina**	**20.66**	**315**	*i*P		**P**	**06 03 15.5**	**+1.0**	
KK31	**Karatay Array**	**20.86**	**54**			Pn	06 03 20.3	+1.2	
KK31				IAmb		IAmb	06 03 22.8		
	comp=Z,7.8nm,1.4s								
KKAR	**Karatay Array**	**20.86**	**54**	P		Pn	06 03 20.3	+1.2	
KKAR	**Karatay Array**	**20.86**	**54**			Pn	06 03 19.3	+0.1	
MLR	**Muntele Rosu**	**20.90**	**314**	P		**P**	**06 03 17.0**	**-0.1**	
	comp=Z,2.4nm,0.6s,baz=157,slow=22,SNR=4.1								
MLR	**Muntele Rosu**	**20.90**	**314**	*i*P		**P**	**06 03 17.6**	**+0.4**	
MLR	**Muntele Rosu**	**20.90**	**314**			Pn	06 03 19.9	+0.2	
MLR				IAmb		IAmb	06 03 25.2		
	comp=Z,9.4nm,1.1s								
TESR	**Tescani**	**21.02**	**317**	*i*P		**P**	**06 03 18.8**	**+0.5**	
SORM	**Soroca**	**21.06**	**322**	*i*P		**P**	**06 03 19.9**	**+1.2**	
LIT	**Litokhoron**	**21.33**	**297**	P		**P**	**06 03 26.8**	**+5.0**	
VOIR		**21.42**	**313**	*i*P		**P**	**06 03 24.0**	**+1.3**	
DOPR	**Dopca**	**21.47**	**314**	*i*P		**P**	**06 03 24.2**	**+0.9**	
AKASG	**Malin Array Be**	**22.40**	**329**	P		**P**	**06 03 31.1**	**-2.0**	
	comp=Z,2.6nm,0.6s,baz=139,slow=9.5,SNR=4.3								
AKASG	**Malin Array Be**	**22.40**	**329**	IAmb		IAmb	06 03 35.9		
	comp=Z,1.4nm,0.8s								
AKBB	**Malin Array Si**	**22.40**	**329**			**P**	**06 03 33.5**	**+0.4**	
AKBB				IAmb		IAmb	06 03 37.0		
	comp=Z,6.7nm,0.9s								
BURAR	**Bucovina Array**	**22.44**	**318**	*i*P		**P**	**06 03 34.2**	**+0.5**	
BURAR	**Bucovina Array**	**22.44**	**318**	P		**P**	**06 03 33.8**	**+0.1**	
BUR08	**Bucovina Ar. S**	**22.47**	**318**	P		**P**	**06 03 34.2**	**+0.2**	
BUR08				IAmb		IAmb	06 03 37.8		
	comp=Z,4.4nm,0.8s								
KOLS	**Kolonicke sedl**	**24.81**	**318**	*e*P		**P**	**06 03 57.5**	**+0.8**	
KECS	**Kecovo**	**25.62**	**316**	*e*P		**P**	**06 04 06.0**	**+2.0**	
PSZ	**Piszkesteto**	**25.71**	**314**			**P**	**06 04 07.0**	**+2.0**	
PSZ				IAmb		IAmb	06 04 09.7		
	comp=Z,11nm,0.9s								
BVAR	**Borovoye Array**	**26.12**	**32**	P		**P**	**06 04 08.1**	**-0.4**	
	comp=Z,1.1nm,0.5s,baz=223,slow=7.7,SNR=6.3								
VYHS	**Vyhne**	**26.60**	**315**	*e*P		**P**	**06 04 14.8**	**+1.9**	
OJC	**Ojcow**	**26.85**	**319**	P		**P**	**06 04 16.9**	**+1.8**	
OJC				IAmb		IAmb	06 04 18.6		
	comp=Z,16nm,1.2s								
KURBB	**Kurchatov Arra**	**28.98**	**43**	P		**P**	**06 04 34.2**	**+0.1**	
	comp=Z,0.7nm,0.6s,baz=246,slow=9.5,SNR=4.9								
KURK	**Kurchatov**	**29.07**	**43**	P		**P**	**06 04 34.2**	**-0.7**	
KURK	**Kurchatov**	**29.07**	**43**	IAmb		IAmb	06 04 38.0		
	comp=Z,2.3nm,0.9s								
MKAR	**Makanchi Array**	**29.95**	**52**	P		**P**	**06 04 43.4**	**+0.5**	
	comp=Z,0.9nm,0.7s,baz=249,slow=7.8,SNR=6.6								
FINES	**FINESS Array B**	**31.86**	**341**	P		**P**	**06 04 58.0**	**-1.4**	
	comp=Z,4.1nm,0.9s,baz=155,slow=8.2,SNR=5.1								
NOA	**NORSAR Array B**	**36.75**	**331**	P		**P**	**06 05 41.3**	**-0.6**	
	comp=Z,1.7nm,1.0s,baz=124,slow=7.0,SNR=3.4								
ARCES	**ARCESS Array B**	**38.83**	**348**	P		**P**	**06 05 59.2**	**-0.2**	
	comp=Z,1.1nm,0.8s,baz=167,slow=11,SNR=8.2								
TORD	**Torodi Ar. Bea**	**46.02**	**256**	P		**P**	**06 06 57.7**	**-0.8**	
	comp=Z,0.7nm,0.9s,baz=61,slow=8.5,SNR=5.4								
CMAR	**Chiang Mai Arr**	**48.13**	**94**	P		**P**	**06 07 15.2**	**+0.3**	
	comp=Z,1.2nm,0.3s,baz=288,slow=7.9,SNR=6.1								
KSRS	**Korea Array**	**64.08**	**61**	P		**P**	**06 09 07.5**	**-1.3**	
	comp=Z,0.7nm,0.5s,baz=282,slow=6.1,SNR=2.0								

NEIC ***19*** *06:06:26.8±2.3, 6°.80N±0°.06×73°.01W±0°.07, h165km±6km, mb4.5/211, Error ellipse: s-maj=10.8km s-min=7.8km az=121.0*
IDC ***19*** *06:06:26.6±0.5, 6°.78N×72°.97W, h163km±4km, mb3.9/17, mb1 4.1/22, mb1mx3.8/37, mbtmp4.4/22, Error ellipse: s-maj=8.8km s-min=7.2km az=121.0*
VAO ***19*** *06:06:26.6±0.7, 6°.83N×73°.13W, h174km±8km, mb4.4*
RSNC ***19*** *06:06:27.1±1.1, 6°.83N×73°.16W, h154km±4km, ML4.5, Mw4.5, Fault plane solution: NP1:φs=43.00000°, δ82.00000°, λ=-42.00000°.*

ISC 19 06:06:26.2±0.4**, 6°.81N**±0°.03×**73°.09W**±0°.03**, h160**km±4km**, h161**km**:pP-P, n522,**σ1**940/498, mb4.5/**107**, 16C-19D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.23**	**202**	*i*P		**Pn**	**06 06 47.8**	**-0.3**
BARC				*e*S		**Sn**	**06 07 03.3**	**-1.5**
BARC				*i*			06 07 05.5	
	comp=Z,4μm,0.4s							
PAMC	**Pamplona, Colo**	**0.66**	**36**	*i*P		**Pn**	**06 06 50.6**	**+0.5**
PAMC				*e*S		**Sn**	**06 07 08.0**	**-0.4**
PAMC				*i*			06 07 10.1	
	comp=Z,4μm,0.5s							
BRRC	**Barranca, Sant**	**0.68**	**296**	*i*P		**Pn**	**06 06 49.8**	**+0.1**
BRRC				*e*S		**Sn**	**06 07 07.3**	**-0.3**
BRRC				*i*			06 07 11.6	
	comp=Z,3μm,0.3s							
RUSC	**La Rusia**	**0.91**	**179**	*i*P		**Pn**	**06 06 51.6**	**-0.2**
RUSC				*e*S		**Sn**	**06 07 10.7**	**-0.7**
RUSC	**La Rusia**	**0.91**	**179**	Pn		**Pn**	**06 06 51.5**	**-0.3**
TAMC	**Tame, Arauca**	**1.35**	**106**	*i*P		**Pn**	**06 06 56.0**	**+0.9**
TAMC				*i*			06 07 16.8	
	comp=Z,2μm,0.3s							
TAMC				*e*S		**Sn**	**06 07 17.6**	**+0.4**
PTBC	**PUERTO BERRIO,**	**1.38**	**259**	*i*P		**Pn**	**06 06 54.3**	**-1.0**
PTBC				*e*S		**Sn**	**06 07 16.2**	**-1.5**
PTBC				*i*			06 07 23.3	
	comp=Z,6μm,0.4s							
SPBC	**San Pablo de B**	**1.50**	**220**	*i*P		**Pn**	**06 06 56.6**	**-0.1**
SPBC				*e*S		**Sn**	**06 07 19.6**	**-0.5**
SPBC				*i*			06 07 26.0	
	comp=Z,7μm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	*i*P		**Pn**	**06 06 59.9**	**-0.7**
ZARC				*e*S		**Sn**	**06 07 24.3**	**-2.7**
ZARC				*i*			06 07 32.3	
	comp=Z,3μm,0.5s							
SMLC	**San Martn de**	**2.21**	**334**	*i*P		**Pn**	**06 07 03.8**	**-0.5**
SMLC				*e*S		**Sn**	**06 07 32.6**	**-1.2**
SMLC				*i*			06 07 37.6	
	comp=Z,3μm,0.5s							
CHIC	**Chingaza**	**2.25**	**196**	*i*P		**Pn**	**06 07 05.4**	**+0.1**
CHIC				*e*S		**Sn**	**06 07 35.7**	**+0.2**
CHIC				*i*			06 07 42.9	
	comp=Z,1μm,0.4s							
ROSC	**El Rosal**	**2.30**	**212**	P		**Pn**	**06 07 07.4**	**+1.6**
	comp=Z,664nm,0.3s,baz=323,slow=20,SNR=612							
ROSC				S		**Sn**	**06 07 38.8**	**+2.3**
	comp=Z,974nm,0.3s,baz=162,slow=20,SNR=7.0							
ROSC	**El Rosal**	**2.30**	**212**	*i*P		**Pn**	**06 07 07.2**	**+1.4**
ROSC				*e*S		**Sn**	**06 07 36.3**	**-0.1**
ROSC				*i*			06 07 45.8	
	comp=Z,4μm,0.4s							
HELC	**Santa Helena**	**2.50**	**256**	*i*P		**Pn**	**06 07 07.2**	**-0.9**
HELC				*e*S		**Sn**	**06 07 39.6**	**-0.8**
HELC				*i*			06 07 47.1	
	comp=Z,2μm,0.6s							
UREC	**San Jos de Ur**	**2.59**	**291**	*i*P		**Pn**	**06 07 07.7**	**-1.3**
UREC				*e*S		**Sn**	**06 07 39.7**	**-2.4**
UREC				*i*			06 07 51.4	
	comp=Z,2μm,0.2s							
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*i*P		**Pn**	**06 07 11.7**	**+0.3**
GUY2C				*e*S		**Sn**	**06 07 45.5**	**-0.8**
RREF	**El Recreo**	**2.93**	**230**	*e*P		**Pn**	**06 07 12.0**	**-1.8**
RREF				*e*S		**Sn**	**06 07 50.9**	**+0.4**
RREF				*i*			06 07 55.8	
	comp=Z,2μm,0.3s							
CBOC	**Ciudad Bolivar**	**3.05**	**252**	*i*P		**Pn**	**06 07 15.0**	**+0.3**
CBOC				*e*S		**Sn**	**06 07 50.5**	**-1.9**
DBBC	**Dabeiba**	**3.10**	**274**	*i*P		**Pn**	**06 07 15.2**	**-0.1**
DBBC				*e*S		**Sn**	**06 07 50.8**	**-2.6**
DBBC				*i*			06 08 11.1	
	comp=Z,3μm,0.4s							
TOLC	**Tolima**	**3.13**	**225**	*e*P		**Pn**	**06 07 16.7**	**+0.8**
TOLC				*i*			06 08 01.1	
	comp=Z,3μm,0.6s							
SDV	**Santo Domingo**	**3.19**	**50**	P		**Pn**	**06 07 17.1**	**+0.5**
	comp=Z,174nm,0.3s,baz=230,slow=3.6,SNR=54							
SDV				S		**Sn**	**06 07 54.8**	**-1.0**
	comp=Z,211nm,0.3s,baz=71,slow=19,SNR=37							
SDV	**Santo Domingo**	**3.19**	**50**	*e*P		**Pn**	**06 07 17.1**	**+0.5**
SDV				*e*S		**Sn**	**06 07 54.6**	**-1.1**
SDV				*i*			06 07 56.8	
	comp=Z,442nm,0.5s							

SDV	**Santo Domingo**	**3.19**	**50**	Pn		**Pn**	**06 07 16.3**	**-0.3**	
SDV	**Santo Domingo**	**3.19**	**50**	*e*P		**Pn**	**06 07 17.2**	**+0.5**	
ARGC	**Ariguani, Magd**	**3.24**	**339**	*i*P		**Pn**	**06 07 18.0**	**+1.0**	
ARGC				*e*S		**Sn**	**06 07 55.8**	**-0.7**	
ARGC				*i*			06 08 03.5		
	comp=Z,808nm,0.3s								
ANIL	**Santa Ana**	**3.25**	**225**	*e*P		**Pn**	**06 07 18.2**	**+0.8**	
ANIL				*e*S		**Sn**	**06 07 57.8**	**+0.7**	
ANIL				*i*			06 08 03.9		
	comp=Z,426nm,0.5s								
PRAC	**Prado**	**3.55**	**210**	*e*P		**Pn**	**06 07 20.3**	**-0.7**	
PRAC				*e*S		**Sn**	**06 08 03.0**	**-0.7**	
PRAC				*i*			06 08 08.4		
	comp=Z,1μm,0.4s								
ORTC	**Ortega, Tolima**	**3.59**	**217**	*e*P		**Pn**	**06 07 21.2**	**-0.3**	
ORTC				*e*S		**Sn**	**06 08 04.9**	**+0.4**	
ORTC				*i*			06 08 11.3		
	comp=Z,824nm,0.5s								
PLMC	**San Jos del P**	**3.69**	**239**	*e*P		**Pn**	**06 07 23.2**	**+0.4**	
PLMC				*e*P		**Pn**	**06 07 23.4**	**+0.6**	
PLMC				*e*S		**Sn**	**06 08 02.7**	**-4.2**	
SJCC	**San Jacinto, C**	**3.70**	**326**	*i*P		**Pn**	**06 07 21.5**	**-1.4**	
SJCC				*e*S		**Sn**	**06 08 03.1**	**-4.0**	
SJCC				*i*			06 08 08.0		
	comp=Z,756nm,0.4s								
LCBC	**Los crdobas,**	**3.83**	**302**	*e*P		**Pn**	**06 07 23.7**	**-0.8**	
LCBC				*e*S		**Sn**	**06 08 10.4**	**+0.4**	
LCBC				*i*			06 08 13.0		
	comp=Z,620nm,0.3s								
GUVC	**San Jose del G**	**4.26**	**174**	*i*P		**Pn**	**06 07 29.2**	**-1.0**	
GUVC				*e*S		**Sn**	**06 08 18.5**	**-1.5**	
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P		**Pn**	**06 07 30.5**	**-0.1**	
SOLC	**Bahia Solano**	**4.33**	**263**	*e*P		**Pn**	**06 07 30.9**	**-0.1**	
SMRC	**Santa Marta, M**	**4.47**	**346**	*e*P		**Pn**	**06 07 32.8**	**-0.1**	
SMRC				*e*S		**Sn**	**06 08 21.1**	**-3.8**	
SMRC				*i*			06 08 23.9		
	comp=Z,476nm,0.3s								
PIZC	**Pizarro, Choco**	**4.62**	**247**	*e*P		**Pn**	**06 07 36.3**	**+1.5**	
MACC	**Macarena, Meta**	**4.69**	**189**	*i*P		**Pn**	**06 07 34.2**	**-1.6**	
PTAC	**Punta Ardita,**	**4.69**	**274**	*e*P		**Pn**	**06 07 34.6**	**-1.1**	
BETC	**Betania**	**4.72**	**210**	*e*P		**Pn**	**06 07 35

baz=171
LRAL **Lakeview Retre** 29.12 335 P P 06 12 13.9 +1.9
baz=151
LRAL **Lakeview Retre** 29.12 335 P P 06 12 14.1 +2.1
LRAL IAmb IAmb 06 12 14.9
comp=Z,6.8nm,0.8s
KMSC **Kings Mountain** 29.20 346 P P 06 12 14.3 +1.5
baz=163
V59A **Middlesex** 29.20 351 P P 06 12 14.1 +1.4
baz=170
W54A **Cherokee Point** 29.36 345 P P 06 12 16.2 +2.1
baz=161
Y49A **Blount Mountai** 29.61 337 IAmb IAmb 06 12 19.0
comp=Z,11nm,0.7s
V56A **Mocksville** 29.65 348 P P 06 12 18.7 +2.0
baz=165
U60A **Pendleton** 29.76 353 P P 06 12 19.9 +2.3
baz=172
SMTB **Santa Maria do** 29.81 121 eP P 06 12 18.0 -0.3
V55A **Taylorsville** 29.85 347 P P 06 12 20.2 +1.8
baz=164
U58A **Oxford** 29.87 351 P P 06 12 20.0 +1.4
baz=169
V54A **Nebo** 29.96 345 P P 06 12 21.3 +1.9
baz=162
U57A **Blanch** 30.03 350 P P 06 12 21.1 +1.0
baz=168
T59A **Double "B" Far** 30.30 353 P P 06 12 23.6 +1.2
baz=171
T59A **Double "B" Far** 30.30 353 P P 06 12 23.0 +0.6
T59A IAmb IAmb 06 12 24.5
comp=Z,15nm,1.1s
CPCT **Cooper Cave** 30.38 341 P P 06 12 24.2 +1.1
CPCT IAmb IAmb 06 12 26.0
comp=Z,5.8nm,0.7s
T58A **Grand View Acr** 30.41 351 P P 06 12 24.7 +1.4
baz=169
W50A **Signal Mountai** 30.41 340 IAmb IAmb 06 12 26.3
comp=Z,12nm,0.8s
ROSB **Rosrio** 30.48 108 eP P 06 12 24.7 +0.4
T57A **Hurt** 30.57 350 P P 06 12 26.0 +1.2
baz=168
U54A **Nelsons Funny** 30.63 346 P P 06 12 27.3 +1.9
baz=163,SNR=6.0
ARAG **Araguaiana, MT** 30.74 137 eP P 06 12 25.6 -0.9
T56A **Rocky Mt** 30.74 349 P P 06 12 27.9 +1.6
baz=166
T55A **Pulaski** 30.97 348 P P 06 12 30.3 +2.0
baz=165
BLA **Blacksburg** 30.99 349 P P 06 12 30.3 +1.8
baz=166
PEXB **Peixe** 31.00 127 eP P 06 12 28.3 -0.5
S59A **Mechanicsville** 31.05 354 P P 06 12 30.3 +1.4
baz=172
T54A **Tazewell** 31.09 347 P P 06 12 31.4 +1.9
baz=164
TZTN **Tazewell** 31.10 344 P P 06 12 31.4 +1.9
baz=160
T53A **Wise** 31.25 345 P P 06 12 32.6 +1.8
baz=162
S57A **Dark Hollow, R** 31.27 351 P P 06 12 32.4 +1.5
baz=169
OXF **Oxford** 31.41 334 P P 06 12 33.2 +1.0
baz=148
V48A **Smith Brothers** 31.43 338 P P 06 12 33.8 +1.4
R59A **King George, V** 31.46 354 P P 06 12 34.2 +1.6
baz=172
CBN **Corbin Frederi** 31.50 354 P P 06 12 34.5 +1.6
baz=172
S55A **Lewisburg** 31.55 349 P P 06 12 35.2 +1.7
baz=166
CLTN **Cedars of Leba** 31.57 339 P P 06 12 35.8 +2.2
CLTN IAmb IAmb 06 12 35.9
comp=Z,7.9nm,0.5s
R58A **Rapidan** 31.66 353 P P 06 12 36.0 +1.6
baz=171
R57A **Stanardsville** 31.73 352 P P 06 12 36.7 +1.7
baz=170
S54A **Dingess, Beckl** 31.74 348 P P 06 12 37.0 +1.8
baz=164
NATX **Nacogdoches** 31.97 324 P P 06 12 38.3 +1.2
baz=136
R56A **Bull Pasture M** 31.97 351 P P 06 12 39.0 +1.9
baz=168
R55A **Marlinton** 31.97 350 P P 06 12 39.1 +1.9
baz=167
CCAR **Cane Creek** 32.04 330 P P 06 12 38.9 +1.2
R54A **Victor** 32.04 348 P P 06 12 39.7 +1.9
baz=165
AQDB **Aquidauana** 32.05 148 eP P 06 12 37.2 -0.8
X43A **Marvell** 32.09 332 P P 06 12 39.8 +1.6
baz=145
WVT **Waverly** 32.16 337 P P 06 12 40.1 +1.4
baz=152
WVT **Waverly** 32.16 337 P P 06 12 40.1 +1.4
Q58A **Fox Den Farm,** 32.26 353 P P 06 12 41.7 +2.2
baz=171
R53A **Hurricane** 32.39 347 P P 06 12 42.7 +1.9
baz=163
Q55A **Buckhannon** 32.66 350 P P 06 12 45.5 +2.4
baz=167
Q54A **Coxs Mills** 32.79 349 P P 06 12 45.6 +1.4
baz=166
Q53A **Leroy** 32.81 348 P P 06 12 46.1 +1.8
baz=164
P57A **Homestead Farm** 32.83 353 P P 06 12 46.6 +2.1
baz=171
R50A **Paris** 32.95 344 IAmb IAmb 06 12 48.6
comp=Z,11nm,0.8s
P56A **Dayton Farm, R** 32.96 352 P P 06 12 48.0 +2.4
baz=170
X40A **Basin Creek Fa** 33.02 329 P P 06 12 47.1 +0.8
baz=142,SNR=8.5
X40A **Basin Creek Fa** 33.02 329 IAmb IAmb 06 12 47.9
comp=Z,7.4nm,0.7s
Q52A **Bidwell** 33.07 347 P P 06 12 48.4 +1.8
baz=163
435B **Jarrell** 33.10 319 P P 06 12 48.0 +0.9
baz=131
MCWV **Mont Chateau** 33.27 350 P P 06 12 50.6 +2.3
baz=168
W41B **Gary Mavity, V** 33.28 331 P P 06 12 49.7 +1.3
baz=144
W41B **Gary Mavity, V** 33.28 331 IAmb IAmb 06 12 49.9
comp=Z,5.6nm,0.8s
P54A **Burton** 33.32 350 P P 06 12 50.7 +1.9
baz=167
O58A **Lewisberry** 33.35 355 P P 06 12 51.1 +2.1
baz=173
BDFB **Brasilia** 33.39 132 P P 06 12 49.6 -0.1
comp=Z,7.1nm,0.6s,baz=300,slow=10,SNR=19
BDFB **Brasilia** 33.39 132 P P 06 12 49.7 -0.1
BDFB IAmb IAmb 06 12 50.3
comp=Z,6.6nm,0.6s
WHAR **Wooly Hollow** 33.39 331 IAmb IAmb 06 12 51.1
comp=Z,12nm,0.9s
O60A **Telford** 33.43 357 P P 06 12 51.3 +1.6
baz=176
MIAR **Mount Ida** 33.45 328 P P 06 12 50.8 +0.8
baz=141
O59A **Robesonia** 33.48 356 P P 06 12 51.9 +1.8
baz=174
WCI **Wyandotte Cave** 33.49 341 P P 06 12 51.8 +1.5
baz=156
WCI **Wyandotte Cave** 33.49 341 P P 06 12 52.1 +1.9
LCAR **Lake Charles** 33.50 333 IAmb IAmb 06 12 52.3
comp=Z,8.9nm,0.6s
O57A **Amberson** 33.51 354 P P 06 12 52.4 +2.0
baz=172
O56A **Blue Knob Stat** 33.68 352 P P 06 12 54.2 +2.3
baz=170
P52A **Corning** 33.68 347 P P 06 12 53.7 +1.8
baz=164
LUPA **Lehigh Univers** 33.71 357 IAmb IAmb 06 12 55.2
comp=Z,17nm,1.1s
O55A **Ligonier** 33.72 351 P P 06 12 54.5 +2.2
baz=169
P51A **Williamsport** 33.75 346 P P 06 12 54.2 +1.7
baz=162
P51A **Williamsport** 33.75 346 IAmb IAmb 06 12 55.1
comp=Z,12nm,0.7s
FCAR **Ozark Folk Cen** 33.80 332 IAmb IAmb 06 12 54.3
comp=Z,16nm,0.9s
WHTX **Lake Whitney,** 33.82 321 P P 06 12 54.4 +1.1
baz=133
WHTX **Lake Whitney,** 33.82 321 IAmb IAmb 06 12 55.1
comp=Z,8.0nm,0.9s
O54A **Avella** 33.87 350 P P 06 12 55.3 +1.8
baz=167
SDBA **SAO DESIDERIO** 33.91 124 eP P 06 12 53.6 -0.7
SSPA **Standing Stone** 33.96 353 P P 06 12 56.3 +2.0
baz=171
N60A **Cedar Hill Far** 33.97 357 P P 06 12 56.1 +1.7
baz=176
N57A **Milroy** 34.04 354 P P 06 12 56.5 +1.6
baz=172
N58A **Sunbury** 34.04 355 P P 06 12 56.8 +1.8
baz=174
N59A **State Game Lan** 34.05 356 P P 06 12 57.0 +1.9
baz=175
W39A **Magazine** 34.06 329 P P 06 12 56.2 +0.9
baz=141,SNR=10
O52A **Adamsville** 34.08 348 P P 06 12 57.2 +1.8
baz=164
O53A **New Philadelph** 34.09 349 P P 06 12 57.3 +1.9
baz=166
N55A **Marion Center** 34.24 352 P P 06 12 58.7 +2.0
baz=170
O51A **Pataskala** 34.27 347 P P 06 12 58.9 +1.8
baz=163
N56A **West Decatur** 34.28 353 P P 06 12 59.1 +2.0
baz=171
M61A **Granite Spring** 34.36 359 P P 06 12 59.8 +2.0
baz=179
ACSO **Alum Creek Sta** 34.44 347 P P 06 13 00.3 +1.9
baz=162
M62A **Hamden** 34.49 0 P P 06 13 00.4 +1.6
baz=180
U40A **Yellville** 34.52 331 P P 06 13 00.2 +1.0
baz=144,SNR=33
M58A **Price's Panora** 34.55 356 P P 06 13 01.4 +2.0
baz=174
N54A **Moraine State** 34.56 351 P P 06 13 01.6 +2.1
baz=168
M57A **Sunshine Farm,** 34.57 355 P P 06 13 01.8 +2.2
baz=173
M59A **Waymart** 34.65 357 P P 06 13 02.0 +1.8
baz=176
KSPA **Keystone Colle** 34.69 356 P P 06 13 02.0 +1.5
KSPA IAmb IAmb 06 13 03.1
comp=Z,11nm,0.7s
N52A **McGinn's Farm,** 34.72 349 P P 06 13 02.5 +1.6
baz=165
M56A **Emporium** 34.83 353 P P 06 13 03.4 +1.6
baz=171
M56A **Emporium** 34.83 353 IAmb IAmb 06 13 04.1
comp=Z,11nm,0.6s
M55A **Ridgway** 34.88 353 P P 06 13 03.9 +1.6
baz=170
MGMO **Mountain Grove** 34.90 333 IAmb IAmb 06 13 04.1
comp=Z,8.9nm,0.9s
N51A **Ashland** 34.96 348 P P 06 13 04.8 +1.9
baz=164
HHAR **Hobbs** 34.99 330 IAmb IAmb 06 13 04.3
comp=Z,8.1nm,0.8s
Q44A **Meyer Farm, Va** 35.04 338 IAmb IAmb 06 13 05.0
comp=Z,7.9nm,0.5s
M54A **Oil Creek Stat** 35.05 351 P P 06 13 05.5 +1.9
baz=169
P46A **Rosedale** 35.05 341 P P 06 13 04.5 +0.9
L60A **Shokan** 35.05 359 P P 06 13 05.4 +1.8
baz=178
L58A **Harry Jones Me** 35.18 356 P P 06 13 06.3 +1.5
baz=175
CCM **Cathedral Cave** 35.20 335 P P 06 13 06.0 +1.0
baz=148
CCM **Cathedral Cave** 35.20 335 P P 06 13 05.9 +1.0
L57A **Andrews Acres** 35.21 355 P P 06 13 06.5 +1.5
baz=174
L61A **Hillsdale 1, H** 35.24 359 P P 06 13 07.0 +1.7
baz=179
L59A **Walton** 35.28 357 P P 06 13 07.2 +1.5
baz=177
M51A **Elyria** 35.32 348 P P 06 13 07.7 +1.7
baz=164
U38A **Gravette** 35.34 330 IAmb IAmb 06 13 07.0
comp=Z,6.7nm,0.9s
BINY **Binghamton** 35.34 356 P P 06 13 07.9 +1.8
baz=175
L56A **Greenwood** 35.41 354 P P 06 13 08.3 +1.5
baz=172
L56A **Greenwood** 35.41 354 P P 06 13 08.1 +1.3
L56A IAmb IAmb 06 13 08.9
comp=Z,12nm,1.1s
PCMB **Pacaembu** 35.44 143 eP P 06 13 06.5 -0.8
L55A **Hinsdale** 35.55 353 P P 06 13 09.7 +1.7
baz=171
L53A **Girard** 35.58 351 P P 06 13 09.6 +1.4
baz=168
ABTX **Abilene, Hawle** 35.63 320 P P 06 13 09.6 +0.8
baz=130,SNR=6.3
ABTX **Abilene, Hawle** 35.63 320 IAmb IAmb 06 13 10.5
comp=Z,9.3nm,0.8s
SFIN **Lafayette** 35.70 342 P P 06 13 10.3 +1.1
baz=156,SNR=20
SFIN **Lafayette** 35.70 342 P P 06 13 10.3 +1.1
L54A **Sinclairville** 35.71 352 P P 06 13 10.8 +1.5
baz=169
K61A **Williamstown** 35.72 360 P P 06 13 10.8 +1.4
baz=180
K62A **Royalston** 35.72 1 P P 06 13 11.0 +1.6
baz=181
N47A **Urbana** 35.75 344 IAmb IAmb 06 13 11.5
comp=Z,11nm,0.7s
S39A **Bolivar** 35.82 332 IAmb IAmb 06 13 12.2
comp=Z,8.2nm,0.6s
X34A **Smith Ranch, M** 35.85 324 IAmb IAmb 06 13 12.5
comp=Z,7.0nm,0.5s
JANB **Januaria** 35.86 127 eP P 06 13 09.9 -1.0
K58A **Earlville** 35.88 357 P P 06 13 12.4 +1.6
baz=176
K57A **Scipio Center** 35.91 356 P P 06 13 12.6 +1.6
baz=174,SNR=5.6
K56A **Middlesex** 35.94 355 P P 06 13 12.9 +1.6
baz=173
K54A **Basiliko Farm,** 36.00 353 P P 06 13 13.9 +2.1
baz=170
K55A **Perry** 36.04 354 P P 06 13 14.0 +1.9
baz=172
FNO **Franklin** 36.07 325 P P 06 13 12.9 +0.4
J62A **Henniker** 36.29 2 P P 06 13 16.0 +1.8
baz=182
J60A **Lant Hill Farm** 36.29 360 P P 06 13 16.2 +2.0
baz=179
J61A **Chester** 36.40 1 P P 06 13 16.6 +1.6
baz=181
J58A **Remsen** 36.46 357 P P 06 13 17.2 +1.5
baz=176
J56A **Wolcott** 36.47 355 P P 06 13 17.1 +1.4
baz=174
OK029 **Liberty Lake** 36.49 326 IAmb IAmb 06 13 18.1
comp=Z,10.0nm,0.6s
TX32 **Lajitas Array** 36.49 312 P P 06 13 17.2 +0.9
TXAR **Lajitas Array** 36.49 312 P P 06 13 17.1 +0.9
comp=Z,3.3nm,0.6s,baz=127,slow=9.1,SNR=61
TXAR PcP PcP 06 15 37.8 +1.1
comp=Z,0.7nm,0.6s,baz=132,slow=5.9,SNR=6.4
TXAR **Lajitas Array** 36.49 312 P P 06 13 16.9 +0.6
TX31 **Lajitas Ar. Si** 36.49 312 P P 06 13 17.1 +0.8
TX31 IAmb IAmb 06 13 17.6
comp=Z,9.6nm,0.7s
WMOK **Wichita Mounta** 36.51 323 P P 06 13 16.1 -0.2
baz=134,SNR=10.0
WMOK **Wichita Mounta** 36.51 323 P P 06 13 16.0 -0.2
WMOK IAmb IAmb 06 13 16.9
comp=Z,6.2nm,0.7s
J57A **Williamstown** 36.55 356 P P 06 13 17.7 +1.4
baz=175
J57A **Williamstown** 36.55 356 IAmb IAmb 06 13 18.6
comp=Z,12nm,0.7s
J55A **Hilton** 36.55 354 P P 06 13 17.8 +1.4
baz=172
AAM **Ann Arbor** 36.57 347 P P 06 13 18.9 +2.3
baz=162
HDIL **Hopedale** 36.60 339 P P 06 13 16.9 0.0
baz=152,SNR=5.9
I58A **Old Forge** 36.77 358 P P 06 13 19.7 +1.4
baz=177,SNR=6.1
T35A **Sonner Cattle** 36.80 328 IAmb IAmb 06 13 19.6
comp=Z,8.0nm,0.7s
I60A **Shoreham** 36.89 360 P P 06 13 21.2 +1.9
baz=180
I63A **Otisfield** 37.16 3 P P 06 13 23.2 +1.7
baz=184
LBNH **Lisbon** 37.30 1 P P 06 13 24.6 +1.9
baz=182
H58A **Gabriels** 37.48 359 P P 06 13 26.0 +1.7
baz=178
I55A **Frankford** 37.48 355 P P 06 13 25.4 +1.2
baz=172
I51A **Listowel** 37.50 351 P P 06 13 26.0 +1.6
baz=167
CO03 **El Pedregal** 37.50 177 P P 06 13 23.6 -1.1
CO03 IAmb IAmb 06 13 42.9
comp=Z,18nm,1.5s
H57A **Richville** 37.56 357 P P 06 13 26.2 +1.3
baz=176
H61A **Lyndonville** 37.59 1 P P 06 13 26.8 +1.6
baz=182
H60A **Morristown** 37.61 0 P P 06 13 27.0 +1.6
baz=181
H62A **Milan** 37.66 2 P P 06 13 27.4 +1.6
baz=183
LONY **Lake Ozonia** 37.69 358 P P 06 13 27.9 +1.9
baz=178
H59A **Cadyville** 37.70 359 P P 06 13 27.6 +1.5
baz=179
H56A **Elgin** 37.74 356 P P 06 13 27.9 +1.5
baz=175
H55A **Tweed** 37.77 355 P P 06 13 28.0 +1.3
baz=173,SNR=7.6
DELO **Deloro Mine** 37.77 355 P P 06 13 27.4 +0.7
DELO IAmb IAmb 06 13 28.6
comp=Z,5.5nm,0.5s
FRTB **Fartura** 37.77 143 eP P 06 13 26.3 -0.8
H64A **Troy** 37.84 5 P P 06 13 28.5 +1.3
baz=186
H53A **Bobcaygeon** 37.92 354 P P 06 13 29.7 +1.8
baz=171
H65A **Eastbrook** 37.98 6 P P 06 13 30.3 +1.9
baz=188
G60A **Masonville** 38.15 1 P P 06 13 31.4 +1.5
baz=181
H66A **Whiting** 38.17 7 P P 06 13 31.1 +1.2
baz=189
SADO **Sadowa** 38.18 353 P P 06 13 30.7 +0.6
SADO IAmb IAmb 06 13 32.1
comp=Z,7.4nm,0.9s
G57A **Newington** 38.19 358 P P 06 13 31.6 +1.5
baz=177
PLVO **Plevna** 38.24 355 P P 06 13 31.4 +0.8
PLVO IAmb IAmb 06 13 32.8
comp=Z,7.8nm,0.8s
G63A **Kingsbury** 38.28 4 P P 06 13 32.4 +1.4
baz=186
G62A **West of Eustis** 38.33 3 P P 06 13 33.3 +2.0
baz=184
G62A **West of Eustis** 38.33 3 P P 06 13 32.6 +1.2
G62A IAmb IAmb 06 13 34.2
comp=Z,11nm,0.9s
AMTX **Amarillo** 38.38 321 P P 06 13 33.4 +1.4
baz=130
AMTX **Amarillo** 38.38 321 IAmb IAmb 06 13 34.3
comp=Z,13nm,0.7s
G55A **Calabogie** 38.43 356 P P 06 13 33.5 +1.3
baz=174
G64A **Maxfield** 38.48 5 P P 06 13 34.7 +2.1
baz=187
MSTX **Muleshoe** 38.51 319 P P 06 13 33.7 +0.5
baz=128
MSTX **Muleshoe** 38.51 319 IAmb IAmb 06 13 35.1
comp=Z,7.0nm,0.8s
KSU1 **Kansas State U** 38.51 330 P P 06 13 32.6 -0.4
baz=141,SNR=5.7
G65A **Princeton** 38.55 6 P P 06 13 34.3 +1.2
baz=189
ORIO **Orleans, Innes** 38.55 357 P P 06 13 35.0 +1.8
baz=176
L40A **Anamosa** 38.62 338 P P 06 13 33.5 -0.3
G54A **Lake Saint Pet** 38.69 354 P P 06 13 35.6 +1.2
baz=172,SNR=6.0
F59A **Saint Guillaume** 38.90 0 P P 06 13 37.4 +1.4
baz=180
F63A **Nahmakanta, Br** 38.90 4 P P 06 13 37.2 +1.0
baz=186
MNTX **Cornudas Mount** 39.00 314 P P 06 13 38.2 +1.0
baz=123,SNR=19
MNTX **Cornudas Mount** 39.00 314 P P 06 13 38.2 +1.0
MNTX IAmb IAmb 06 13 39.8
comp=Z,7.9nm,0.8s
JFWS **Jewell Farm** 39.02 340 P P 06 13 37.4 +0.3
baz=152,SNR=12
F60A **Warwick** 39.03 1 P P 06 13 38.6 +1.4
baz=182
GDU01 **Guandu, BA** 39.03 122 eP P 06 13 36.6 -1.0
F64A **Sherman** 39.12 5 P P 06 13 39.3 +1.3
baz=187
SLBS **Sierra La Lagu** 39.15 299 P P 06 13 38.3 -0.3
SLBS IAmb IAmb 06 14 42.4
comp=Z,17nm,1.4s
ALGO **Algonquin Park** 39.23 355 P P 06 13 40.1 +1.2
baz=172,SNR=6.3
SCIA **State Center** 39.25 336 P P 06 13 39.9 +0.8
baz=147
F51A **Arnstein** 39.42 352 P P 06 13 41.8 +1.4
baz=169
E57A **Chemin Saint G** 39.47 359 P P 06 13 42.3 +1.5
baz=178
F49A **Sandfield** 39.58 350 P P 06 13 42.6 +0.9
baz=166
E55A **Montcel-Lytto** 39.58 357 P P 06 13 43.0 +1.3
baz=175
E53A **Dumoine, Ponti** 39.62 355 P P 06 13 43.1 +1.0
baz=173
E52A **Mattawa** 39.62 354 P P 06 13 43.2 +1.1
baz=171
E56A **St. Veronique** 39.62 358 P P 06 13 43.3 +1.2
baz=177
E54A **Lac Daplat, Po** 39.64 356 P P 06 13 43.2 +1.0
baz=174
H43A **Windswept, Lux** 39.65 343 P P 06 13 43.2 +0.9
H43A IAmb IAmb 06 13 59.1
comp=Z,15nm,0.8s
E63A **Oxbow** 39.67 5 P P 06 13 43.8 +1.3
baz=187
E63A **Oxbow** 39.67 5 P P 06 13 43.6 +1.1
E63A IAmb IAmb 06 13 44.7
comp=Z,7.2nm,0.8s
E64A **Bridgewater** 39.73 6 P P 06 13 44.5 +1.6
baz=188
F48A **Evansville** 39.74 350 P P 06 13 44.1 +1.1
baz=165
E62A **Clayton Lake** 39.78 4 P P 06 13 44.9 +1.5
baz=186
PET01 **Itanhaem-SP** 39.87 142 eP P 06 13 43.5 -0.9
E51A **G1948 Merrick** 39.96 353 P P 06 13 46.3 +1.4
baz=170
I40A **Norwalk** 40.01 340 IAmb IAmb 06 13 46.7
comp=Z,13nm,0.8s
E50A **Wahnapitae** 40.02 352 P P 06 13 46.4 +1.1
baz=168
D57A **Chemin Vers le** 40.07 359 P P 06 13 47.1 +1.3
baz=179
D55A **Sainte-Anne-du** 40.12 357 P P 06 13 47.5 +1.4
baz=176
D56A **ZEC Mazanza, M** 40.12 358 P P 06 13 47.6 +1.4
baz=177
D58A **Chemin du LacG** 40.14 0 P P 06 13 48.0 +1.6
baz=180
D62A **Allapoint, All** 40.28 4 P P 06 13 47.9 +0.5
D62A IAmb IAmb 06 13 49.8
comp=Z,8.7nm,0.7s
D52A **ZEK Kipawa Sen** 40.28 354 P P 06 13 49.2 +1.6
baz=172
E48A **Lockeyer** 40.29 350 P P 06 13 48.9 +1.2
baz=166,SNR=6.2
D63A **Stockholm** 40.31 5 P P 06 13 49.1 +1.4
baz=188
D54A **Lac Fusel, La** 40.31 356 P P 06 13 48.8 +1.0
baz=174,SNR=5.3
D53A **Lac Vacive, Po** 40.32 355 P P 06 13 49.1 +1.3
baz=173
D61A **St Aubert, Com** 40.33 3 P P 06 13 49.6 +1.8
baz=184
LATQ **La Tuque** 40.43 0 P P 06 13 50.5 +1.8
baz=180
E47A **Iron Bridge** 40.47 349 P P 06 13 50.2 +1.2
baz=164
D51A **Lot 18 Range I** 40.50 353 P P 06 13 50.5 +1.2
baz=170
E46A **Sault Ste Mari** 40.58 348 P P 06 13 51.2 +1.3
D50A **G1974 Best Tow** 40.63 353 P P 06 13 51.9 +1.5
baz=170
D48A **Paudash Townsh** 40.91 351 P P 06 13 53.8 +1.1

baz=167,SNR=6.6
D49A **Beulah Townshi** 40.94 351 P P 06 13 54.3 +1.4
baz=167
D47A **Chapleau** 41.01 350 P P 06 13 54.4 +0.9
baz=165
D46A **Sault St. Mari** 41.03 349 P P 06 13 54.5 +0.8
baz=163
BGNE **Belgrade** 41.04 331 P P 06 13 54.7 +0.8
baz=140
G40A **Rib Lake** 41.10 342 IAmb IAmb 06 13 55.4
comp=Z,4.7nm,0.6s
121A **Cookes Peak, D** 41.17 313 P P 06 13 56.3 +1.0
baz=121
RIB01 **Linhares ES** 41.37 129 *e*P P 06 13 56.0 -0.8
T25A **Trinidad** 41.52 321 P P 06 13 60.0 +1.9
baz=129
COWI **Conover** 41.53 343 IAmb IAmb 06 13 60.0
comp=Z,8.9nm,1.0s
KSCO **Kaye Shedlock'** 41.67 325 P P 06 14 00.3 +1.1
baz=133
KSCO **Kaye Shedlock'** 41.67 325 IAmb IAmb 06 14 01.7
comp=Z,5.1nm,0.6s
ECSD **EROS Data Cent** 42.17 334 P P 06 14 02.7 -0.3
baz=144,SNR=8.5
ECSD **EROS Data Cent** 42.17 334 P P 06 14 02.7 -0.3
ECSD IAmb IAmb 06 14 03.6
comp=Z,10.0nm,1.0s
LSQQ **Lebel-sur-Quev** 42.23 356 P P 06 14 04.2 +0.8
baz=174
SDCO **Great Sand Dun** 42.58 321 P P 06 14 08.4 +1.7
baz=128,SNR=14
SDCO **Great Sand Dun** 42.58 321 P P 06 14 08.1 +1.3
CHGQ **Chibougamau** 42.97 359 P P 06 14 10.3 +0.9
baz=178
MATQ **Matagami** 42.98 356 P P 06 14 10.5 +1.1
baz=173
S22A **4UR Ranch, Cre** 43.41 320 P P 06 14 15.2 +1.8
baz=127,SNR=8.2
S22A **4UR Ranch, Cre** 43.41 320 P P 06 14 14.8 +1.3
SUSD **Miller** 43.76 333 P P 06 14 15.7 -0.1
baz=141,SNR=19
EYMN **Ely** 43.89 342 P P 06 14 17.0 +0.2
baz=153,SNR=8.2
W18A **Petrified Fore** 43.89 315 P P 06 14 18.7 +1.5
baz=121
W18A **Petrified Fore** 43.89 315 IAmb IAmb 06 14 20.0
comp=Z,10nm,0.9s
ISCO **Idaho Springs** 43.93 323 P P 06 14 19.1 +1.5
baz=130,SNR=10
MVCO **Mesa Verde** 44.18 318 P P 06 14 20.9 +1.4
baz=124
MVCO **Mesa Verde** 44.18 318 P P 06 14 21.2 +1.6
214A **Organ Pipe Nat** 44.66 309 P P 06 14 24.4 +1.2
baz=116
PV01 **Paradox Valley** 44.76 319 P P 06 14 24.5 +0.5
PHWY **Pilot Hill** 44.81 325 IAmb IAmb 06 15 31.4
comp=Z,15nm,1.5s
PV15 **Paradox Valley** 44.82 320 IAmb IAmb 06 14 27.4
comp=Z,16nm,0.9s
N23A **Red Feather La** 44.83 324 P P 06 14 26.0 +1.4
baz=130,SNR=6.6
PV02 **Paradox Valley** 44.91 319 IAmb IAmb 06 14 27.8
comp=Z,9.3nm,0.7s
PV13 **Radium Mtn., P** 44.93 319 IAmb IAmb 06 14 27.9
comp=Z,13nm,0.7s
B35A **Bob, Littlefor** 44.96 341 IAmb IAmb 06 14 26.1
comp=Z,10nm,0.6s
PV07 **Paradox Valley** 44.98 320 IAmb IAmb 06 14 28.3
comp=Z,14nm,1.3s
PV18 **Skein Mesa, Pa** 45.04 319 P P 06 14 26.5 +0.3
PV18 IAmb IAmb 06 14 30.5
comp=Z,6.9nm,0.7s
PV23 **Carpenter Ridg** 45.22 320 P P 06 14 28.8 +1.0
WUAZ **Wupatki** 45.25 315 P P 06 14 29.5 +1.6
baz=120,SNR=13
AGMN **Agassiz Nation** 45.65 339 P P 06 14 30.9 +0.3
baz=148,SNR=8.9
AGMN **Agassiz Nation** 45.65 339 IAmb IAmb 06 14 31.4
comp=Z,10nm,0.6s
Y14A **Wickenburg** 45.68 312 IAmb IAmb 06 14 33.4
comp=Z,7.7nm,0.8s
O20A **White River Ci** 45.72 322 P P 06 14 33.0 +1.4
baz=127
RSSD **Black Hills** 45.97 329 P P 06 14 34.3 +0.8
baz=135
K22A **Casper** 46.30 326 P P 06 14 37.1 +1.1
baz=131
GLA **Glamis** 46.66 310 P P 06 14 40.2 +1.3
baz=115
GLA **Glamis** 46.66 310 IAmb IAmb 06 14 41.1
comp=Z,6.7nm,0.7s
PDMCI **Parker Dam,Lak** 46.68 312 P P 06 14 39.5 +0.5
baz=116
MDND **Maddock** 46.72 336 P P 06 14 39.6 +0.6
baz=143,SNR=9.6
MDND **Maddock** 46.72 336 P P 06 14 39.4 +0.4
ULM **Lac du Bonnet** 47.31 340 P P 06 14 43.4 -0.1
comp=Z,11nm,0.4s,baz=142,slow=7.0,SNR=13
PLCA **Paso Flores** 47.36 177 P P 06 14 42.9 -1.2
comp=Z,2.0nm,0.8s,baz=353,slow=7.4,SNR=3.6
PLCA **Paso Flores** 47.36 177 *e*P P 06 14 43.1 -1.1
SWSC **Sam W. Stewart** 47.37 309 P P 06 14 45.3 +1.0
baz=114
IRM **Iron Mountain** 47.37 311 P P 06 14 45.6 +1.2
baz=115
BC3 **Big Chuckawall** 47.39 310 P P 06 14 45.4 +0.8
baz=115
MONP2 **Monument Peak** 47.82 309 P P 06 14 48.7 +0.6
baz=113
BELC **Belle Mtn. Jos** 47.95 310 P P 06 14 49.7 +0.8
baz=114
GMRC **Granite Mounta** 48.02 312 P P 06 14 50.5 +1.0
baz=116
BW06 **Boulder Array** 48.10 324 P P 06 14 50.7 +0.6
baz=128,SNR=7.0
PDAR **Pinedale Array** 48.10 324 P P 06 14 50.6 +0.5
comp=Z,2.1nm,0.5s,baz=125,slow=9.5,SNR=36
PDAR PcP PcP 06 16 15.2 -0.1
comp=Z,0.3nm,0.5s,baz=120,slow=3.6,SNR=2.4
PDAR **Pinedale Array** 48.10 324 P P 06 14 50.4 +0.3
SCHQ **Schefferville** 48.15 5 P P 06 14 50.7 +0.7
comp=Z,3.1nm,0.3s,baz=184,slow=7.4,SNR=21
SCHQ **Schefferville** 48.15 5 IAmb IAmb 06 16 14.3
comp=Z,20nm,1.4s
SHPR **Sheep Range** 48.42 314 P P 06 14 54.7 +2.2
HEC **Hector,Ludlow** 48.54 311 P P 06 14 54.7 +1.3
baz=115
DUG **Dugway, Tooele** 48.64 319 P P 06 14 55.4 +1.2
baz=122
GSC **Goldstone, Bar** 49.09 312 P P 06 14 58.7 +1.1
baz=115
DGMT **Dagmar** 49.17 333 P P 06 14 59.2 +1.3
baz=137,SNR=13
REDW **Red Top Meadow** 49.22 324 IAmb IAmb 06 15 00.4
comp=Z,9.8nm,0.6s
SNOW **Snow King Moun** 49.22 324 IAmb IAmb 06 15 01.3
comp=Z,7.7nm,1.0s
LOHW **Long Hollow** 49.23 324 IAmb IAmb 06 15 00.4
comp=Z,5.8nm,0.6s
TPAW **Teton Pass** 49.35 324 IAmb IAmb 06 15 00.5
comp=Z,9.1nm,1.1s
TPNV **Topopah Spring** 49.40 314 P P 06 15 01.6 +1.6
baz=117,SNR=5.7
RLMT **Red Lodge** 49.41 327 P P 06 15 00.7 +0.8
baz=130,SNR=6.0
R11A **Troy Canyon, C** 49.57 316 P P 06 15 02.6 +1.3
baz=118,SNR=7.4
IMW **Indian Meadow** 49.59 324 IAmb IAmb 06 15 03.1
comp=Z,5.9nm,0.7s
FURC **Furnace Creek,** 49.63 313 P P 06 15 02.9 +1.5
baz=116
H17A **Grant Village** 49.68 325 P P 06 15 03.5 +1.4
baz=128
EDW2 **Edwards Air Fo** 49.81 311 P P 06 15 04.1 +1.1
baz=114
LRMC **Laurel Mtn Rad** 49.82 311 P P 06 15 04.1 +1.0
baz=114
MPMC **Manual Prospec** 49.91 312 P P 06 15 04.6 +0.7
baz=115
VES **Vestal, Richgr** 51.01 311 P P 06 15 13.0 +1.2
baz=113
BOZ **Bozeman (W)** 51.01 326 P P 06 15 12.9 +1.0
baz=127,SNR=8.2
HLID **Hailey** 51.46 322 P P 06 15 16.4 +1.0
baz=123,SNR=8.6
NVAR **Mina Array Bea** 51.51 315 P P 06 15 16.8 +0.9
comp=Z,2.0nm,0.7s,baz=122,slow=6.7,SNR=16
NVAR PcP PcP 06 16 28.4 +0.6
comp=Z,0.4nm,0.4s,baz=129,slow=3.8,SNR=2.5
EGMT **Eagleton** 51.53 329 P P 06 15 16.5 +0.8
baz=131
EGMT **Eagleton** 51.53 329 IAmb IAmb 06 15 17.6
comp=Z,17nm,1.4s
LHV **Little Huntoon** 51.58 314 P P 06 15 17.4 +1.4
KVN **Kaiserville** 51.64 315 P P 06 15 18.0 +1.2
HRY **Holter Researc** 51.80 327 P P 06 15 18.1 +0.4
MFID **Camas Ranch** 52.26 321 P P 06 15 22.3 +1.1
MFID IAmb IAmb 06 15 23.8
comp=Z,7.5nm,0.6s
YERR **Yerington** 52.41 315 IAmb IAmb 06 15 24.7
comp=Z,4.5nm,0.7s
PNTR **Pine Nut** 52.71 315 IAmb IAmb 06 15 26.9
comp=Z,5.5nm,0.8s
MSO **Missoula** 53.03 326 P P 06 15 27.7 +0.9
baz=126
WVOR **Wild Horse Val** 53.56 319 IAmb IAmb 06 15 34.0
comp=Z,7.1nm,1.0s
JTMT **Jette** 53.76 327 IAmb IAmb 06 15 34.1
comp=Z,6.7nm,0.9s
F10A **Beach Ranch, E** 54.45 323 IAmb IAmb 06 15 37.8
comp=Z,5.4nm,0.5s
O03E **Paynes Creek** 54.76 315 P P 06 15 40.0 +0.6
baz=114
I07A **Izee** 54.90 320 IAmb IAmb 06 15 42.2
comp=Z,5.6nm,0.9s
G08A **Pilot Rock** 55.14 322 IAmb IAmb 06 15 43.8
comp=Z,8.5nm,0.7s
K05A **Summer Lake** 55.17 318 IAmb IAmb 06 17 41.4
comp=Z,10nm,1.0s
E09A **Wood Farm, Sta** 55.27 324 P P 06 15 43.4 +0.5
E09A IAmb IAmb 06 15 44.3
comp=Z,8.4nm,1.2s
M04C **Macdoel** 55.40 317 P P 06 15 44.9 +0.9
baz=115
O02D **Mt. Diablo Mer** 55.40 315 P P 06 15 44.0 0.0
baz=113
NEW **Newport** 55.62 326 P P 06 15 45.6 +0.2
baz=123
J05D **Fort Rock, OR** 55.64 319 P P 06 15 46.8 +1.0
baz=116
C09A **Chrisman Ranch** 56.02 325 IAmb IAmb 06 15 49.9
comp=Z,7.9nm,0.8s
J04D **Umpqua Nationa** 56.20 318 P P 06 15 50.7 +0.9
baz=116
H04A **Detroit Lake** 56.88 320 IAmb IAmb 06 15 56.1
comp=Z,8.8nm,1.0s
B08A **Colville Reser** 56.92 325 IAmb IAmb 06 15 55.9
comp=Z,6.2nm,1.0s
LTY **Liberty** 57.14 323 IAmb IAmb 06 15 58.0
comp=Z,5.5nm,0.7s
D03D **Eldon** 58.72 323 P P 06 16 07.7 +0.5
baz=117
YKA **Yellowknife Ar** 63.29 340 P P 06 16 38.0 +0.4
comp=Z,7.8nm,0.6s,baz=130,slow=6.6,SNR=25
DLBC **Dease Lake** 67.35 331 P P 06 17 04.8 +0.9
comp=Z,2.8nm,0.5s,baz=116,slow=5.4,SNR=9.9
DLBC **Dease Lake** 67.35 331 IAmb IAmb 06 17 05.6
comp=Z,3.4nm,0.6s
DBIC **Dimbokro** 67.71 86 P P 06 17 05.8 -1.1
comp=Z,2.7nm,0.6s,baz=286,slow=4.4,SNR=8.7
DBIC **Dimbokro** 67.71 86 IAmb IAmb 06 19 21.0
comp=Z,14nm,1.5s
SUMG **Summit** 69.00 11 *i*P P 06 17 14.0 -0.3
comp=Z,26nm,0.7s
SUMG **Summit** 69.00 11 P P 06 17 14.7 +0.4
SUMG IAmb IAmb 06 17 15.5
comp=Z,10.0nm,0.7s
A36M **Sachs Harbour** 72.45 345 P P 06 17 35.2 +0.5
baz=125
TORD **Torodi Ar. Bea** 73.72 78 P P 06 17 41.7 -1.5
comp=Z,0.3nm,0.3s,baz=284,slow=6.9,SNR=15
BCAR **Beaver Creek A** 74.39 334 P P 06 17 46.8 +0.6
K27K **Chicken** 74.78 335 P P 06 17 50.5 +2.1
baz=106
DOT **Dot Lake** 75.53 334 IAmb IAmb 06 17 54.9
comp=Z,6.1nm,0.6s
RIDG **Independent Ri** 75.89 334 P P 06 17 55.1 +0.2
RIDG IAmb IAmb 06 17 56.9
comp=Z,4.7nm,0.7s
BMAR **Burnt Mountain** 76.68 338 P P 06 18 00.1 +0.9
HDA **Harding Lake** 76.94 335 P P 06 18 01.1 +0.4
baz=102
ILAR **Eielson Array** 76.99 335 P P 06 18 01.2 +0.3
comp=Z,1.1nm,0.6s,baz=110,slow=4.1,SNR=8.7
ILAR **Eielson Array** 76.99 335 P P 06 18 00.8 -0.2
GHO **Glory Hole Cre** 77.34 332 IAmb IAmb 06 18 05.2
comp=Z,8.3nm,0.8s
RND **Reindeer** 77.58 333 IAmb IAmb 06 18 06.5
comp=Z,8.6nm,0.7s
NEA2 **Nenana** 77.88 335 P P 06 18 06.4 +0.5
baz=100
SUA **Susitna One** 78.16 331 IAmb IAmb 06 18 09.3
comp=Z,7.9nm,0.8s
SKT **Skwentna** 78.59 332 P P 06 18 10.3 +0.4
BPAW **Bear Paw Mtn.** 78.62 334 P P 06 18 10.6 +0.5
COLD **Coldfoot** 78.77 337 P P 06 18 12.1 +1.4
baz=99
PPLA **Purkeypile** 79.01 333 IAmb IAmb 06 18 13.6
comp=Z,8.3nm,0.5s
NOA **NORSAR Array B** 81.33 29 P P 06 18 25.3 +0.6
comp=Z,0.4nm,0.5s,baz=270,slow=7.5,SNR=2.5
ARCES **ARCESS Array B** 86.67 20 P P 06 18 51.5 0.0
comp=Z,0.8nm,0.5s,baz=274,slow=3.9,SNR=9.7
MKAR **Makanchi Array** 122.33 20 PKP PKPdf 06 25 02.0 -0.5
comp=Z,0.2nm,0.3s,baz=353,slow=2.8,SNR=6.4
ASAR **Alice Springs** 149.12 234 PKP PKPdf 06 25 52.0 -0.2
comp=Z,1.1nm,0.6s,baz=114,slow=3.2,SNR=7.5
ASAR PKPbc PKPbc 06 25 55.6 -1.0
comp=Z,1.0nm,0.4s,baz=116,slow=3.6,SNR=15
ASAR pPKPbc pPKPbc 06 26 38.0 -0.9
comp=Z,0.8nm,0.5s,baz=118,slow=3.5,SNR=2.6
ASAR **Alice Springs** 149.12 234 PKPdf 06 25 51.4 -0.8
WRA **Warramunga Arr** 150.35 241 PKPdf 06 25 54.7 +0.5
comp=Z,1.3nm,0.4s,baz=107,slow=2.7,SNR=7.1
WRA PKPbc PKPbc 06 25 59.0 -0.6
comp=Z,1.2nm,0.4s,baz=108,slow=2.8,SNR=46
WRA pPKPbc pPKPbc 06 26 41.3 -0.7
comp=Z,1.0nm,0.5s,baz=107,slow=3.1,SNR=2.9
WRA **Warramunga Arr** 150.35 241 PKPdf 06 25 54.1 0.0
WRA pPKPdf 06 26 37.5 +0.5
CMAR **Chiang Mai Arr** 153.69 17 PKPbc PKPbc 06 26 06.9 -0.2
comp=Z,0.7nm,0.3s,baz=332,slow=3.1,SNR=1.8

*TEH **19** 06:10:15.7,32.°67N×47.°76E,h10km,ML2.8*
*ISN **19** 06:10:15.3±0.8,32.°67N×47.°76E,h14km±5km,ML2.5*
ISC 19 06:10:16.2±1.9,**32.°61N**±0.°06×**47.°82E**±0.°07,**h17**km±14km,
n10,σ1°23/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
IKFM	**Kafar-mosalman**	**0.91**	**1**	*e*Pg		**Pb**	**06 10 32.0**	**-1.5**
IKFM				*e*		**Sn**	**06 10 47.7**	**+0.8**
IKMR	**Kamar-syah**	**1.02**	**27**	*e*Pg		**Pb**	**06 10 34.5**	**-0.9**
IKMR				*e*			06 10 40.2	
IDOB	**Doab**	**1.21**	**14**	*e*Pg		**Pg**	**06 10 39.2**	**-0.4**
IDOB				*e*			06 11 01.8	
IKOM	**Komasi**	**1.58**	**351**	*e*Pg		**Pb**	**06 10 44.6**	**-0.4**
IKOM				*e*			06 11 10.5	
IBDR	**Badra**	**1.67**	**288**	*e*Pg		**Pn**	**06 10 44.0**	**-0.6**
IBDR				*e*Sg		**Sb**	**06 11 06.0**	**-1.1**
IBDR				AML		AML	06 11 10.1	
	comp=E,67nm,0.6s							
IBDR				AML		AML	06 11 11.1	
	comp=N,82nm,0.4s							
IGHG	**Ghaleghazi**	**2.01**	**329**	*e*		**Sg**	**06 11 23.2**	**+2.3**
IVIS	**Veis**	**2.07**	**337**	*e*Pn		**Pb**	**06 10 51.9**	**-1.5**
				e		**Sg**	**06 11 23.7**	**+0.7**
NSR	**Nassriya**	**2.15**	**222**	*e*Pn		**Pn**	**06 10 52.0**	**+0.8**
NSR				*e*Sn		**Sn**	**06 11 18.0**	**+0.7**
IDHR	**Dehrash**	**2.40**	**331**	*e*Pn		**Pn**	**06 10 56.1**	**+1.2**
IDHR				*e*			06 11 37.3	
BHD	**Baghdad**	**2.97**	**284**	*e*Pn		**Pn**	**06 11 03.0**	**+0.5**
BHD				*e*Sn		**Sn**	**06 11 38.0**	**+0.4**

*IDC **19** 06:10:49.1±0.7,5.°44S×150.°66E,h0km,mb4.3/12,*
mb1 4.4/13,mb1mx4.2/32,mbtmp4.3/13,ML2.2/1,MS3.6/15,
Ms1 3.6/15,ms1mx3.3/41,Error ellipse: s-maj=20.7km
s-min=10.2km az=124.0
*NEIC **19** 06:10:51.5±3.0,5.°42S±0.°08×150.°78E±0.°09,h15km±1km,*
mb4.6/21,Error ellipse: s-maj=15.2km s-min=8.6km
az=126.0

*DJA **19** 06:10:52.9±0.6,5.°5S×15.°1E±°,h66km±8km,M4.8/13,*
mb4.7/13,mB4.7/3,MLv4.9/2,Mw(mB)4.0/3
ISC 19 06:10:54.7±0.5,**5.°50S**±0.°07×**150.°79E**±0.°08,**h35**km,**n62,**
σ1°75/58,mb4.5/23,MS3.5/13,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KRVT	**Keravat (AS076**	**1.71**	**46**	Pn		**Pn**	**06 11 19.2**	**-2.8**
	74nm,0.3s,baz=351,slow=0.6,SNR=18							
KRVT				Sn		**Sn**	**06 11 45.4**	**+2.7**
	174nm,0.3s,baz=128,slow=19,SNR=12							
RABL	**Rabaul**	**1.89**	**47**			**Pn**	**06 11 21.8**	**-2.7**
PMG	**Port Moresby**	**5.29**	**223**	Pn		**Pn**	**06 12 09.8**	**-1.5**
	5.6nm,0.3s,baz=29,slow=7.3,SNR=6.7							
PMG				Sn		**Sn**	**06 13 12.2**	**+1.1**
	4.4nm,0.3s,baz=32,slow=16,SNR=4.4							
PMG				LR		LR	06 14 00.7	
	comp=Z,383nm,20.1s,baz=40,slow=36							
PMG	**Port Moresby**	**5.29**	**223**	Pn		**Pn**	**06 12 10.4**	**-1.0**
HNR	**Honiara**	**9.89**	**114**	LR		LR	06 16 41.0	
	comp=Z,242nm,18.8s,baz=198,slow=35							
GENI	**Genyem**	**10.98**	**285**	P		Pn	06 13 40.0	+11
CTA	**Charters Tower**	**15.16**	**197**	Pn		**P**	**06 14 32.4**	**+1.4**
	0.5nm,0.3s,baz=24,slow=12,SNR=17							
CTAO	**Charters Tower**	**15.16**	**197**			**P**	**06 14 29.7**	**-1.3**
CTAO				IAmb		IAmb	06 14 34.0	
	comp=Z,22nm,1.0s							
EIDS	**Eidsvold**	**19.76**	**179**	Pn		**Pn**	**06 15 23.5**	**0.0**
WB0	**Warramunga Arr**	**21.35**	**227**	P		**P**	**06 15 37.7**	**-1.4**
WB0				IAmb		IAmb	06 15 45.2	
	comp=Z,35nm,0.9s							
WR0	**Warramunga Arr**	**21.36**	**226**	P		**P**	**06 15 38.1**	**-1.0**
WR0				IAmb		IAmb	06 15 45.4	
	comp=Z,24nm,0.9s							
WB2	**Warramunga Arr**	**21.49**	**227**	P		**P**	**06 15 38.9**	**-1.7**
WB2				IAmb		IAmb	06 15 46.6	
	comp=Z,16nm,0.8s							
WRA	**Warramunga Arr**	**21.50**	**227**	P		**P**	**06 15 38.8**	**-1.9**
	comp=Z,5.2nm,0.7s,baz=52,slow=10,SNR=38							
WRA				S		**S**	**06 19 35.9**	**-1.4**
	comp=Z,1.6nm,1.1s,baz=46,slow=20,SNR=3.4							
WRA	**Warramunga Arr**	**21.50**	**227**	P		**P**	**06 15 40.8**	**+0.1**
DZM	**Mont Dzumac**	**22.38**	**139**	P		**P**	**06 15 51.3**	**+1.1**
	comp=Z,21nm,0.9s,baz=338,slow=10,SNR=7.4							
DZM				LR		LR	06 23 04.0	
	comp=Z,332nm,19.2s,baz=346,slow=33							
DZM	**Mont Dzumac**	**22.38**	**139**	P		**P**	**06 15 51.7**	**+1.5**
DZM				IAmb		IAmb	06 15 57.8	
	comp=Z,33nm,1.0s							
KNRA	**Kununurra**	**23.87**	**243**	P		**P**	**06 16 05.0**	**-0.1**
KNRA				IAmb		IAmb	06 16 14.1	
	comp=Z,19nm,0.8s							
AS31	**Alice Springs**	**24.30**	**220**	P		**P**	**06 16 08.2**	**-0.9**
ASAR	**Alice Springs**	**24.30**	**220**	P		**P**	**06 16 07.8**	**-1.3**
	comp=Z,4.0nm,0.6s,baz=51,slow=8.4,SNR=52							
ASAR				S		**S**	**06 20 31.7**	**+5.6**
	comp=Z,1.5nm,1.0s,baz=38,slow=22,SNR=6.3							
ASAR				LR		LR	06 24 38.5	
	comp=Z,103nm,19.6s,baz=42,slow=34							
ASAR	**Alice Springs**	**24.30**	**220**	P		**P**	**06 16 07.4**	**-1.8**
BATI	**Baumata**	**27.27**	**258**	LR		LR	06 28 20.1	
	comp=Z,231nm,18.8s,baz=56,slow=39							
FITZ	**Fitzroy Crossi**	**27.57**	**241**	P		**P**	**06 16 36.8**	**-1.9**
	comp=Z,3.6nm,0.5s,baz=70,slow=7.7,SNR=17							
FITZ				LR		LR	06 27 51.0	
	comp=Z,137nm,21.6s,baz=72,slow=37							
FITZ	**Fitzroy Crossi**	**27.57**	**241**	P		**P**	**06 16 37.0**	**-1.7**
STKA	**Stephens Creek**	**27.62**	**197**	P		**P**	**06 16 38.2**	**-0.8**
	comp=Z,4.7nm,0.6s,baz=2.4,slow=12,SNR=9.9							
STKA				LR		LR	06 27 27.7	
	comp=Z,208nm,20.7s,baz=16,slow=36							
STKA	**Stephens Creek**	**27.62**	**197**	P		**P**	**06 16 38.5**	**-0.5**
PLAI	**Plampang**	**32.91**	**262**	P		**P**	**06 17 22.1**	**-3.9**
	comp=Z,26nm,1.2s							
FORT	**Forrest**	**33.00**	**218**	P		**P**	**06 17 24.6**	**-2.0**
TUWZ	**Tuamarina**	**41.32**	**153**	P		**P**	**06 18 38.5**	**+1.4**
LTZ	**Lake Taylor**	**41.72**	**156**	P		**P**	**06 18 41.9**	**+1.5**
LTZ				IAmb		IAmb	06 18 53.5	
	comp=Z,21nm,1.2s							
BFZ	**Birch Farm**	**41.81**	**151**	P		**P**	**06 18 41.3**	**+0.2**
MSWZ	**Moikau Station**	**41.91**	**152**	P		**P**	**06 18 42.4**	**+0.5**
KHZ	**Kahutara**	**41.95**	**155**	P		**P**	**06 18 42.8**	**+0.7**
KHZ				IAmb		IAmb	06 18 50.7	
	comp=Z,17nm,1.1s							
PLWZ	**Palliser**	**42.03**	**152**	P		**P**	**06 18 43.4**	**+0.5**
KSRS	**Korea Array**	**47.75**	**335**	P		**P**	**06 19 28.4**	**0.0**
	comp=Z,1.4nm,0.8s,baz=159,slow=8.3,SNR=1.8							
PSI	**Prapat**	**52.45**	**278**	LR		LR	06 48 46.1	
	comp=Z,138nm,18.2s,baz=268,slow=44							
CN2	**Changchun**	**54.14**	**338**	*e*P		P	06 20 04.8	-12
KMI	**Kunming**	**55.73**	**305**	↑P		**P**	**06 20 31.5**	**+3.0**
CMAR	**Chiang Mai Arr**	**56.37**	**296**	P		**P**	**06 20 33.5**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=113,slow=5.1,SNR=6.3							
CMAR				LR		LR	06 44 40.2	
	comp=Z,14nm,19.6s,baz=315,slow=36							
PETK	**Petropavlovsk-**	**58.68**	**5**	P		**P**	**06 20 46.9**	**-1.6**
	comp=Z,4.2nm,0.9s,baz=166,slow=9.2,SNR=5.1							
PETK				LR		LR	06 42 44.2	
	comp=Z,36nm,20.0s,baz=245,slow=33							
PETK	**Petropavlovsk-**	**58.68**	**5**	P		**P**	**06 20 47.4**	**-1.1**
GTA	**Gaotai**	**64.82**	**318**	*e*P		**P**	**06 21 33.3**	**+2.9**
GTA				pP		pP	06 21 37.3	-3.7
GTA				sP		sP	06 21 39.9	-5.2
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
ULN	**Ulaanbaatar**	**65.55**	**329**			**P**	**06 21 38.7**	**+3.8**
SONM	**Songino Array**	**65.86**	**329**	P		**P**	**06 21 36.2**	**-0.7**
	comp=Z,11nm,1.2s,baz=145,slow=6.0,SNR=17							
SONM				LR		LR	06 49 13.2	
	comp=Z,34nm,21.0s,baz=82,slow=35							
SONM	**Songino Array**	**65.86**	**329**	P		**P**	**06 21 36.2**	**-0.7**
KDAK	**Kodiak Island**	**77.70**	**27**	LR		LR	06 53 55.8	
	comp=Z,30nm,21.1s,baz=245,slow=33							
TIXI	**Tiksi**	**78.33**	**353**	LR		LR	06 55 47.8	
	comp=Z,17nm,19.3s,baz=232,slow=34							
MK31	**Makanchi Array**	**79.54**	**319**	P		**P**	**06 22 58.1**	**0.0**
MKAR	**Makanchi Array**	**79.54**	**319**	P		**P**	**06 22 56.3**	**-1.8**
	comp=Z,2.1nm,0.9s,baz=100,slow=6.7,SNR=12							
MKAR	**Makanchi Array**	**79.54**	**319**	P		**P**	**06 22 58.0**	**-0.1**
MAKZ	**Makanchi**	**79.75**	**319**	P		**P**	**06 23 00.8**	**+1.6**
MAKZ				IAmb		IAmb	06 23 02.5	
	comp=Z,4.0nm,1.1s							
RDOG	**Red Dog Mine**	**80.19**	**16**	P		**P**	**06 23 00.0**	**-1.1**
ZALV	**Zalesovo Beam**	**80.63**	**327**	P		**P**	**06 23 03.1**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=106,slow=5.3,SNR=5.7							
ZALV				LR		LR	06 58 51.5	
	comp=Z,19nm,19.6s,baz=82,slow=36							
ZALV	**Zalesovo Beam**	**80.63**	**327**	P		**P**	**06 23 05.0**	**+1.3**
KURK	**Kurchatov**	**83.09**	**322**	P		**P**	**06 23 17.5**	**+0.7**
KURK				IAmb		IAmb	06 23 19.7	
	comp=Z,1.9nm,0.7s							
ILAR	**Eielson Array**	**83.56**	**22**	P		**P**	**06 23 18.1**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=256,slow=5.5,SNR=11							
ILAR	**Eielson Array**	**83.56**	**22**	P		**P**	**06 23 20.3**	**+1.4**
EGAK	**Eagle**	**85.79**	**23**	P		**P**	**06 23 29.9**	**-0.2**
EGAK				IAmb		IAmb	06 23 34.6	
	comp=Z,3.5nm,1.1s							
KKAR	**Karatay Array**	**86.66**	**314**	P		**P**	**06 23 36.3**	**+1.4**
DLBC	**Dease Lake**	**89.01**	**31**	LR		LR	07 00 32.0	
	comp=Z,36nm,18.1s,baz=160,slow=34							
SIV	**San Ignacio**	**141.92**	**125**	PKP		**PKPdf**	**06 30 22.1**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=73,slow=2.0,SNR=4.6							
TORD	**Torodi Ar. Bea**	**148.60**	**286**	PKPbc		**PKPbc**	**06 30 39.3**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=170,slow=6.1,SNR=5.6							
PTGA	**Pitinga**	**148.67**	**100**	PKPbc		**PKiKP**	**06 30 41.1**	**+0.3**

*TEH **19** 06:13:10.4,32.°85N×47.°63E,h10km,ML2.9*
*ISN **19** 06:13:10.1±0.6,32.°84N×47.°66E,h14km±4km,ML2.9*
ISC 19 06:13:11.1±1.2,**32.°83N**±0.°06×**47.°67E**±0.°06,**h15**km,**n13,**
σ0°80/17,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
IKFM	**Kafar-mosalman**	**0.71**	**12**	*e*Pg		**Pg**	**06 13 24.1**	**-0.9**
IKFM				*e*			06 13 43.7	
IKMR	**Kamar-syah**	**0.91**	**40**	*e*Pg		**Pg**	**06 13 28.2**	**-0.5**
IKMR				*e*			06 13 46.9	
IDOB	**Doab**	**1.05**	**24**	*e*Pg		**Pb**	**06 13 30.8**	**-0.3**
IDOB				*e*			06 13 49.7	
BMDN	**Meydan**	**1.28**	**49**	*e*Pg		**Pg**	**06 13 35.5**	**-0.3**
BMDN				*e*			06 14 01.4	
IKOM	**Komasi**	**1.35**	**354**	*e*Pg		**Pn**	**06 13 35.6**	**0.0**
IKOM				*e*Sg		**Sg**	**06 13 55.7**	**+0.9**
IKOM				*e*			06 13 57.7	

IBDR	**Badra**	**1.49**	**281**	*e*Pg		**Pn**	**06 13 37.0**	**-0.4**
IBDR				*e*Sg		**Sn**	**06 13 57.0**	**+0.4**
IBDR					AML	AML	06 13 59.5	
	comp=E,166nm,0.4s							
IBDR					AML	AML	06 14 03.3	
	comp=N,74nm,0.4s							
IBZA	**Bozab**	**1.65**	**5**	*e*Pg		**Pb**	**06 13 40.8**	**-0.5**
IBZA				*e*			06 13 42.9	
IGHG	**Ghaleghazi**	**1.76**	**329**	*e*Pn		**Pn**	**06 13 41.9**	**+0.6**
IVIS	**Veis**	**1.83**	**338**	*e*Pn		**Pb**	**06 13 43.3**	**-1.1**
IVIS				*e*			06 14 17.4	
IDHR	**Dehrash**	**2.15**	**331**	*e*Pn		**Pb**	**06 13 49.0**	**-0.9**
IDHR				*e*			06 14 25.4	
ILIN	**Lien**	**2.17**	**344**	*e*Pn		**Pn**	**06 13 48.3**	**+1.4**
ILIN				*e*			06 14 25.8	
NSR	**Nassriya**	**2.23**	**216**	*e*Pn		**Pn**	**06 13 48.0**	**+0.5**
NSR				*e*Sn		**Sn**	**06 14 15.0**	**+0.2**
BHD	**Baghdad**	**2.80**	**280**	*e*Pn		**Pn**	**06 13 56.0**	**+0.7**
BHD					AML	AML	06 14 26.6	
	comp=E,306nm,0.2s							
BHD				*e*Sn		**Sn**	**06 14 30.0**	**+1.1**

*IDC **19** 06:13:38.8±0.6,55°.34S×27°.89W, h0km, mb4.4/10, mb1 4.5/10, mb1mx4.2/24, mbtmp4.4/10, MS3.7/12, Ms1 3.7/12, ms1mx3.6/18, Error ellipse: s-maj=20.9km s-min=18.0km az=46.0*

*NEIC **19** 06:13:40.5±1.5,55°.3S±0°.1×28°.0W±0°.2, h10km±1km, mb4.6/27, Error ellipse: s-maj=21.5km s-min=17.3km az=205.0*

ISC 19 06:13:42.6±0.5,55°.35S±0°.09×28°.00W±0°.09, h26km, n61, σ0s84/50, mb4.5/21, MS3.7/12, 2C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.03**	**279**	Pn	**Pn**	**06 14 55.1**	**-1.1**
VNA3	**Neumayer Olymp**	**17.81**	**161**	P	**Pn**	**06 17 48.1**	**-0.1**
PMSA	**Palmer Station**	**20.03**	**227**	P	**P**	**06 18 14.6**	**+1.5**
	28nm,0.9s,baz=72,slow=9.1,SNR=23						
PMSA				LR	LR	06 24 51.1	
	comp=Z,212nm,18.8s,baz=82,slow=34						
PMSA	**Palmer Station**	**20.03**	**227**	P	**P**	**06 18 14.4**	**+1.3**
PMSA				IAmb	IAmb	06 18 17.5	
	comp=Z,26nm,0.8s						
SYO	**Syowa Base**	**32.42**	**142**	*e*P	**P**	**06 20 07.4**	**-2.4**
SYO	**Syowa Base**	**32.42**	**142**	*e*P	**P**	**06 20 08.2**	**-1.6**
SYO	**Syowa Base**	**32.42**	**142**	*e*P	**P**	**06 20 11.6**	**+1.8**
QSPA	**South Pole Qui**	**34.91**	**180**	P	**P**	**06 20 31.8**	**+0.1**
QSPA				IAmb	IAmb	06 20 33.4	
	comp=Z,9.3nm,0.7s						
CPUP	**Villa Florida**	**36.00**	**312**	P	**P**	**06 20 41.1**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=164,slow=8.1,SNR=6.3						
CPUP				LR	LR	06 36 53.5	
	comp=Z,43nm,18.3s,baz=165,slow=39						
CPUP	**Villa Florida**	**36.00**	**312**	P	**P**	**06 20 41.0**	**-0.2**
GO05	**Huala**	**36.25**	**286**	P	**P**	**06 20 42.4**	**-1.0**
MT02	**Curacav**	**37.13**	**288**	P	**P**	**06 20 50.6**	**-0.3**
CO03	**El Pedregal**	**38.76**	**291**	P	**P**	**06 21 06.1**	**+1.3**
CO03				IAmb	IAmb	06 21 21.5	
	comp=Z,9.3nm,1.1s						
CO01	**Juntas del Tor**	**39.12**	**293**	P	**P**	**06 21 09.7**	**+1.7**
AC05	**El Transito**	**40.12**	**294**	P	**P**	**06 21 16.9**	**+0.7**
LCO	**Las Campanas**	**40.21**	**293**	P	**P**	**06 21 17.8**	**+0.8**
SUR	**Sutherland**	**40.91**	**76**	LR	LR	06 33 42.3	
	comp=Z,125nm,20.7s,baz=202,slow=30						
MAW	**Mawson**	**40.99**	**144**	P	**P**	**06 21 22.2**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=224,slow=8.9,SNR=12						
MAW				LR	LR	06 36 00.6	
	comp=Z,97nm,19.5s,baz=50,slow=33						
AC04	**Llanos de Chal**	**41.05**	**293**	P	**P**	**06 21 24.4**	**+0.7**
AC04				IAmb	IAmb	06 21 27.8	
	comp=Z,9.0nm,0.8s						
BDFB	**Brasilia**	**42.52**	**331**	LR	LR	06 38 02.6	
	comp=Z,94nm,18.5s,baz=126,slow=34						
GO02	**Mina Guanaco**	**42.76**	**298**	P	**P**	**06 21 38.7**	**+0.6**
GO02				IAmb	IAmb	06 21 57.0	
	comp=Z,5.5nm,0.7s						
LVC	**Limon Verde**	**44.55**	**300**	P	**P**	**06 21 53.3**	**+0.8**
	comp=Z,3.9nm,0.8s,baz=153,slow=13,SNR=4.3						
LVC	**Limon Verde**	**44.55**	**300**	P	**P**	**06 21 53.0**	**+0.5**
PB01	**IPOC Station P**	**46.16**	**301**	P	**P**	**06 22 05.2**	**+0.3**
PB01				IAmb	IAmb	06 22 14.7	
	comp=Z,6.9nm,0.9s						
BOSA	**Boshof**	**46.25**	**77**	P	**P**	**06 22 05.9**	**+0.2**
	comp=Z,8.8nm,1.0s,baz=197,slow=8.5,SNR=8.0						
BOSA	**Boshof**	**46.25**	**77**	P	**P**	**06 22 06.1**	**+0.4**
SIV	**San Ignacio**	**46.76**	**314**	P	**P**	**06 22 10.2**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=159,slow=8.6,SNR=1.9						
PB08	**IPOC Station P**	**46.76**	**302**	P	**P**	**06 22 11.1**	**+1.0**
PB08				IAmb	IAmb	06 22 19.6	
	comp=Z,5.8nm,0.8s						
GO01	**Chusmiza**	**47.18**	**302**	P	**P**	**06 22 13.9**	**+0.5**
VNDA	**Vanda**	**47.26**	**183**	P	**P**	**06 22 13.1**	**+0.3**
	comp=Z,5.1nm,0.6s,baz=186,slow=6.6,SNR=53						
VNDA				LR	LR	06 39 31.2	
	comp=Z,57nm,21.7s,baz=244,slow=33						
VNDA	**Vanda**	**47.26**	**183**	P	**P**	**06 22 13.1**	**+0.3**
VNDA				IAmb	IAmb	06 22 13.9	
	comp=Z,6.5nm,0.7s						
H10S2	**ASCENSION HYDR**	**47.46**	**18**	T	T	07 13 25.2	
	SNR=5.4						
H10S3	**ASCENSION HYDR**	**47.47**	**18**	T	T	07 14 17.3	
	SNR=15						
PSGCX	**Pisagua**	**47.70**	**301**	P	**P**	**06 22 16.8**	**-0.2**
PSGCX				IAmb	IAmb	06 22 33.2	
	comp=Z,5.3nm,1.3s						
MNMC	**Minye Minye**	**47.84**	**302**	P	**P**	**06 22 18.4**	**+0.1**
PB16	**IPOC Station P**	**48.48**	**303**	P	**P**	**06 22 24.4**	**+0.8**
PB16				IAmb	IAmb	06 22 25.6	
	comp=Z,7.2nm,1.4s						
H10N1	**ASCENSION HYDR**	**48.58**	**18**	T	T	07 14 47.9	
	baz=190,slow=75,SNR=6.1						
H10N3	**ASCENSION HYDR**	**48.58**	**18**	T	T	07 14 48.0	
	baz=190,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**48.60**	**18**	T	T	07 14 49.1	
	baz=190,slow=75,SNR=16						
LPAZ	**La Paz**	**49.59**	**306**	P	**P**	**06 22 32.6**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=108,slow=6.1,SNR=24						
LPAZ				LR	LR	06 44 19.9	
	comp=Z,18nm,20.7s,baz=164,slow=37						
LPAZ	**La Paz**	**49.59**	**306**	P	**P**	**06 22 32.7**	**+0.4**
LPAZ				IAmb	IAmb	06 22 39.5	
	comp=Z,4.9nm,0.8s						
SAML	**Samuel**	**53.98**	**315**	P	**P**	**06 23 03.8**	**-0.4**
SAML				IAmb	IAmb	06 23 22.4	
	comp=Z,4.2nm,0.9s						
CASY	**Casey**	**54.73**	**161**	P	**P**	**06 23 08.9**	**-0.1**
CASY				IAmb	IAmb	06 23 12.6	
	comp=Z,3.8nm,0.8s						
LIC	**Lamto**	**64.25**	**26**	*e*P	**P**	**06 24 15.0**	**-0.3**
	comp=Z,25nm,0.7s						
KIC	**Kosan Boka**	**64.45**	**26**	*e*P	**P**	**06 24 16.4**	**-0.2**
	comp=Z,15nm,0.9s						
TIC	**Toumodi**	**64.66**	**25**	*e*P	**P**	**06 24 17.6**	**-0.4**
DBIC	**Dimbokro**	**64.72**	**26**	P	**P**	**06 24 18.4**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=169,slow=6.3,SNR=7.5						
DBIC				LR	LR	06 46 26.9	
	comp=Z,46nm,18.6s,baz=117,slow=30						
DBIC	**Dimbokro**	**64.72**	**26**	IAmb	IAmb	06 24 19.4	
	comp=Z,7.5nm,1.0s						
ROSC	**El Rosal**	**71.08**	**310**	LR	LR	06 57 54.1	
	comp=Z,39nm,19.8s,baz=40,slow=37						
TOA0	**Torodi Ar. Sit**	**72.67**	**30**	P	**P**	**06 25 08.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**72.67**	**30**	P	**P**	**06 25 08.4**	**+0.6**
	comp=Z,6.8nm,0.6s,baz=202,slow=6.7,SNR=57						
TORD				LR	LR	06 50 57.1	
	comp=Z,94nm,19.6s,baz=190,slow=31						
TORD	**Torodi Ar. Bea**	**72.67**	**30**	P	**P**	**06 25 08.4**	**+0.6**
PPT	**Papeete**	**92.24**	**234**	LR	LR	07 00 37.5	
	comp=Z,48nm,19.1s,baz=42,slow=30						
STKA	**Stephens Creek**	**92.67**	**171**	LR	LR	07 08 09.5	
	comp=Z,110nm,18.1s,baz=205,slow=35						
PDAR	**Pinedale Array**	**119.58**	**303**	PKP	**PKPdf**	**06 32 27.8**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=195,slow=4.6,SNR=3.6						
FINES	**FINESS Array B**	**123.97**	**28**	PKP	**PKPdf**	**06 32 36.5**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=190,slow=2.4,SNR=11						
ARCES	**ARCESS Array B**	**130.46**	**22**	PKP	**PKPdf**	**06 32 49.1**	**0.0**
	comp=Z,4.6nm,0.9s,baz=224,slow=1.9,SNR=8.7						
MKAR	**Makanchi Array**	**137.09**	**71**	PKP	**PKPdf**	**06 33 02.8**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=211,slow=2.5,SNR=2.2						
NRIK	**Noril'sk**	**148.74**	**38**	PKPbc	**PKPbc**	**06 33 25.9**	**0.0**
	comp=Z,10nm,1.2s,baz=67,slow=1.8,SNR=4.1						
ILAR	**Eielson Array**	**149.30**	**313**	PKPbc	**PKPbc**	**06 33 27.6**	**+0.2**
	comp=Z,7.6nm,0.9s,baz=116,slow=1.4,SNR=41						
SONM	**Songino Array**	**151.14**	**86**	PKPbc	**PKPbc**	**06 33 32.2**	**-0.3**
	comp=Z,3.4nm,0.6s,baz=228,slow=2.4,SNR=12						

*IDC **19** 06:24:27.7±1.4,4°.87N×94°.29E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/42, mbtmp3.7/8, ML3.6/2, MS3.8/2, Ms1 3.8/2, ms1mx2.7/50, Error ellipse: s-maj=56.1km s-min=18.9km az=47.0*

*NEIC **19** 06:24:34.5±0.9,5°.0N±0°.1×94°.5E±0°.1, h49km±11km, mb4.3/5, Error ellipse: s-maj=18.4km s-min=14.1km az=218.0*

ISC 19 06:24:34.2±1.0,5°.0N±0°.1×94°.4E±0°.1, h43km, n22, σ1s31/18, mb3.7/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.60**	**85**	Pn	**Pn**	**06 25 11.9**	**-1.8**
GSI	**Gunungsitoli**	**4.89**	**139**	Pn	**Pn**	**06 25 44.0**	**-1.3**
PSI	**Prapat**	**5.06**	**115**	Pn	**Pn**	**06 25 47.5**	**-0.3**
	1.3nm,0.3s,baz=0.2,slow=16,SNR=4.8						
PSI				Sn	**Sn**	**06 26 47.7**	**+2.6**
	0.6nm,0.3s,baz=0.4,slow=14,SNR=1.6						
RPSI	**Rantau Prapat**	**5.11**	**117**		**Pn**	**06 25 47.5**	**-0.8**
RPSI					**Sn**	**06 26 47.7**	**+1.7**
RPSI	**Rantau Prapat**	**5.11**	**117**	Pn	**Pn**	**06 25 48.1**	**-0.2**
KULM	**Kulim**	**6.28**	**87**	Pn	**Pn**	**06 26 03.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**14.10**	**18**	Pn	**Pn**	**06 27 52.0**	**+0.5**
	0.1nm,0.3s,baz=207,slow=9.6,SNR=1.2						
H08S2	**Diego Garcia H**	**25.17**	**240**	T	T	06 57 07.2	
	baz=61,slow=75,SNR=28						
H08S3	**Diego Garcia H**	**25.17**	**240**	T	T	06 57 06.5	
	baz=61,slow=75,SNR=31						
H08S1	**Diego Garcia H**	**25.18**	**240**	T	T	06 57 09.7	
	baz=61,slow=75,SNR=21						
MK31	**Makanchi Array**	**42.91**	**348**	P	**P**	**06 32 28.9**	**+0.1**
MK31				IAmb	IAmb	06 32 30.0	
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**42.91**	**348**	P	**P**	**06 32 28.7**	**0.0**
	comp=Z,0.6nm,0.4s,baz=170,slow=8.7,SNR=14						
WB0	**Warramunga Arr**	**46.44**	**123**	P	**P**	**06 32 55.9**	**-1.3**
WB0				IAmb	IAmb	06 33 09.4	
	comp=Z,7.2nm,1.3s						
WRA	**Warramunga Arr**	**46.47**	**124**	P	**P**	**06 32 56.1**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=316,slow=9.6,SNR=4.7						
WRA	**Warramunga Arr**	**46.47**	**124**	IAmb	IAmb	06 33 01.1	
	comp=Z,0.1nm,1.4s						
WB2	**Warramunga Arr**	**46.48**	**124**	P	**P**	**06 32 56.2**	**-1.3**
WB2				IAmb	IAmb	06 33 02.1	
	comp=Z,7.9nm,1.4s						
ASAR	**Alice Springs**	**47.96**	**128**	P	**P**	**06 33 07.6**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=317,slow=8.0,SNR=2.0						
ZALV	**Zalesovo Beam**	**49.41**	**353**	P	**P**	**06 33 19.3**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=172,slow=6.7,SNR=4.9						
KMBO	**Kilima Mbogo**	**57.36**	**265**	LR	LR	06 57 02.6	
	comp=Z,85nm,18.5s,baz=306,slow=34						
AKASG	**Malin Array Be**	**70.53**	**322**	P	**P**	**06 35 45.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=139,slow=9.9,SNR=5.2						
VRAC	**Vranov**	**78.24**	**319**	LR	LR	07 16 52.2	
	comp=Z,37nm,18.1s,baz=234,slow=40						
GERES	**GERESS Array B**	**80.09**	**319**	P	**P**	**06 36 40.7**	**+0.8**
	comp=Z,0.3nm,0.2s,baz=116,slow=4.6,SNR=3.9						

*ISN **19** 06:30:46.0±0.5,32°.78N×47°.65E, h14km±3km, ML3.2*

*TEH **19** 06:30:48.4,32°.98N×47°.78E, h10km, ML3.0*

*THR **19** 06:30:49.3±0.7,32°.89N×47°.67E, h16km±5km, ML3.1*

ISC 19 06:30:47.7±1.2,32°.91N±0°.03×47°.65E±0°.03, h14km±11km, n32, σ1s34/37, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.64**	**15**	*e*Pg	**Pg**	**06 30 59.4**	**-0.9**
IKFM				*e*		06 31 27.7	
IKMR	**Kamar-syah**	**0.87**	**45**	*e*Pg	**Pg**	**06 31 02.5**	**-2.0**
IKMR				*e*		06 31 30.4	
IDOB	**Doab**	**0.98**	**27**	*e*Pg	**Pg**	**06 31 06.2**	**-0.6**
BMDN	**Meydan**	**1.25**	**52**	*e*		06 31 43.8	
BMDN				*e*Pg	**Pn**	**06 31 09.6**	**-1.3**
SHGR	**Shooshtar-Gavs**	**1.26**	**129**	*e*Pg	**Pg**	**06 31 12.4**	**+0.4**
SHGR				*e*Sg	**Sg**	**06 31 28.6**	**+0.2**
SHGR				IAML		06 31 35.3	
	comp=N,305nm,0.3s						
SHGR				IAML		06 31 35.5	
	comp=E,383nm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.26**	**129**	*e*Pn	**Pg**	**06 31 12.4**	**+0.4**
IKOM	**Komasi**	**1.27**	**355**	*e*Pg	**Pg**	**06 31 12.4**	**+0.2**
IKOM				*e*		06 31 18.9	
IBDR	**Badra**	**1.46**	**278**	*e*Pg	**Pn**	**06 31 13.0**	**-0.6**
IBDR				*e*Sg	**Sb**	**06 31 33.0**	**0.0**
IBDR				AML	AML	06 31 38.8	
	comp=E,367nm,0.6s						
IBDR				AML	AML	06 31 40.7	
	comp=N,376nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.46**	**340**	*e*Pg	**Pg**	**06 31 15.8**	**0.0**
KCHF				*e*		06 31 47.1	
HSAM	**Samen**	**1.53**	**31**	*e*Pg	**Pb**	**06 31 16.2**	**+0.2**
HSAM				*e*		06 31 49.2	
KER	**Kermanshah**	**1.54**	**344**	*e*Pg	**Pg**	**06 31 17.3**	**0.0**
IBZA	**Bozab**	**1.57**	**6**	*e*Pg	**Pg**	**06 31 17.9**	**-0.1**
IBZA				*e*		06 31 24.5	
IGHG	**Ghaleghazi**	**1.68**	**328**	*e*Pn	**Pg**	**06 31 20.3**	**+0.2**
IGHG				*e*		06 31 50.0	
IVIS	**Veis**	**1.75**	**338**	*e*Pn	**Pb**	**06 31 20.4**	**+0.8**
IVIS				*e*		06 31 57.5	
AHWZ	**Ahwaz**	**1.79**	**151**	*e*Pg	**Pg**	**06 31 22.0**	**0.0**
IALM	**Almabolaq**	**2.00**	**12**	*e*Pn	**Pb**	**06 31 23.4**	**-0.6**
IDHR	**Dehrash**	**2.07**	**330**	*e*Pn	**Pb**	**06 31 26.2**	**+0.9**
IDHR				*e*		06 32 02.8	
ILIN	**Lien**	**2.09**	**344**	*e*	Sg	06 32 06.8	+12
KHMZ	**Khomeyn**	**2.11**	**66**	*e*Pn	**Pb**	**06 31 25.6**	**-0.2**
KHMZ	**Khomeyn**	**2.11**	**66**	*e*Pn	**Pb**	**06 31 25.6**	**-0.2**
SNGE	**Sanandaj**	**2.19**	**354**	*e*Pn	**Pb**	**06 31 27.5**	**+0.1**
SNGE				*e*Sg	**Sg**	**06 31 58.9**	**+0.5**
SNGE	**Sanandaj**	**2.19**	**354**	*e*Pn	**Pb**	**06 31 27.5**	**+0.1**
HAGD	**Aghdareh**	**2.28**	**33**	*e*Pn	**Pn**	**06 31 26.0**	**+0.8**
HAGD				*e*		06 31 38.8	
NSR	**Nassriya**	**2.28**	**215**	*e*Pn	**Pn**	**06 31 23.0**	**-2.0**
NSR				*e*Sn	**Sn**	**06 31 49.5**	**-3.4**
HSRG	**Sareghieh**	**2.39**	**13**	*e*Pn	**Pb**	**06 31 29.4**	**-1.3**
HSRG				*e*		06 32 19.6	
ASAO	**Ashtian**	**2.57**	**50**	*e*Pn	**Pb**	**06 31 33.0**	**-0.8**
ASAO				*e*S	**Sb**	**06 32 04.1**	**-1.3**
BHD	**Baghdad**	**2.77**	**278**	*e*Pn	**Pn**	**06 31 32.0**	**+0.4**
BHD				*e*Sn	**Sn**	**06 32 06.0**	**+1.2**
IRAZ	**Razeghan**	**3.13**	**37**	*e*Pn	**Pn**	**06 31 38.7**	**+1.9**
QABG	**Abgarm-Qazvin**	**3.22**	**29**	*e*Pn	**Pn**	**06 31 39.4**	**+1.3**
QSDN	**Sirdan**	**3.80**	**19**	*e*Pn	**Pn**	**06 31 47.8**	**+1.7**
GHIR	**Ghir-Karzin**	**6.51**	**134**	*e*Pn	**Pn**	**06 32 26.4**	**+3.1**
GHIR	**Ghir-Karzin**	**6.51**	**134**	*e*Pn	**Pn**	**06 32 26.4**	**+3.1**

*NEIC **19** 06:43:33.6±2.4, 48°.57N±0°.08×85°.60E±0°.08, h10km±1km, mb4.3/6, Error ellipse: s-maj=12.9km s-min=9.3km az=180.0*

*NNC **19** 06:43:34.1±2.2, 48°.32N×85°.63E, h4km±12km, mb4.9, mpv4.7, Error ellipse: s-maj=20.2km s-min=8.6km az=110.0*

*BJI **19** 06:43:37.0±0.0, 48°.32N×85°.47E, h5km, mB4.2/3, mb4.3/4, ML4.2/9*

*IDC **19** 06:43:38.7±1.3, 48°.49N×85°.33E, h35km±6km, mb3.7/5, mb1 3.9/11, mb1mx3.5/58, mbtmp4.0/11, ML3.3/5, MS3.0/4, Ms1 3.0/4, ms1mx2.6/51, Error ellipse: s-maj=16.2km s-min=10.6km az=92.0*

*ASRS **19** 06:43:39.1±0.2, 48°.N±2°×8°.6E±°, h10km, MLh4.9/26, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 19 06:43:37.0±0.8, 48°.32N±0°.03×85°.53E±0°.03, h17km±5km, n98, σ2s57/123, mb4.0/7, 11C-9D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**0.98**	**207**	P	**Pn**	**06 43 57.2**	**+1.2**
	365nm,0.6s						
ZSN				S	**Sn**	**06 44 10.7**	**+1.2**
	2µm,0.3s						
DGZ	**Jazzator, Alta**	**1.86**	**42**	Pn	**Pn**	**06 44 10.3**	**+2.0**
DGZ				Pg	**Pb**	**06 44 11.3**	**+0.6**
DGZ				Sg	**Sn**	**06 44 34.4**	**+2.9**
CHBI	**Chibit, Altay**	**2.38**	**32**	Pn	**Pn**	**06 44 17.4**	**+2.1**
CHBI				Pg	**Pb**	**06 44 21.0**	**+1.6**
CHBI				Sg	**Sb**	**06 44 49.4**	**+1.0**
SLNR	**Muhor-Tarhata,**	**2.42**	**52**	Pn	**Pn**	**06 44 18.4**	**+2.4**
SLNR				Pg	**Pg**	**06 44 22.9**	**-0.5**
SLNR				Sg	**Sb**	**06 44 52.6**	**+2.8**
AKAR	**Aktash**	**2.42**	**34**	Pn	**Pn**	**06 44 18.2**	**+2.2**
AKAR				Pg	**Pb**	**06 44 22.6**	**+2.4**
AKAR				Sg	**Sb**	**06 44 50.3**	**+0.5**
UKR	**Ust'-Kan**	**2.66**	**350**	Pn	**Pn**	**06 44 19.9**	**+0.7**
UKR				Pg	**Pb**	**06 44 25.4**	**+1.2**
UKR				Sg	**Sb**	**06 44 58.7**	**+2.0**
MK31	**Makanchi Array**	**2.67**	**236**	Pn	**Pn**	**06 44 20.6**	**+1.3**
	253nm,0.5s,baz=62,slow=14,SNR=2532						
MK31				⇑Pg	**Pb**	**06 44 26.0**	**+1.6**
	223nm,0.8s,baz=58,slow=15,SNR=8.9						
MK31				⇓Lg	Lg	06 45 02.8	
	248nm,0.5s						
MK31	**Makanchi Array**	**2.67**	**236**		**Pn**	**06 44 21.1**	**+1.8**
MKAR	**Makanchi Array**	**2.67**	**236**	Pn	**Pn**	**06 44 21.0**	**+1.7**
	88nm,0.3s,baz=64,slow=13,SNR=3280						
MKAR				Lg	Lg	06 45 05.3	
	100nm,0.3s,baz=57,slow=37,SNR=12						
MKAR	**Makanchi Array**	**2.67**	**236**	Pn	**Pn**	**06 44 21.0**	**+1.7**
MKAR				Pg	**Pg**	**06 44 29.1**	**+0.9**
MKAR				Sg	**Sg**	**06 45 07.4**	**+4.5**
MKAR	**Makanchi Array**	**2.67**	**236**		**Pn**	**06 44 20.7**	**+1.4**
ULGR	**Ulagan, Altay**	**2.80**	**34**	Pn	**Pn**	**06 44 23.4**	**+2.3**
ULGR				Pg	**Pb**	**06 44 29.3**	**+2.8**
ULGR				Sg	**Sb**	**06 45 02.3**	**+1.8**
MAKZ	**Makanchi**	**2.84**	**239**	Pn	**Pn**	**06 44 23.0**	**+1.4**
MAKZ				Pg	**Pg**	**06 44 32.2**	**+0.8**
MAKZ				Sg	**Sg**	**06 45 13.3**	**+5.0**
MAKZ	**Makanchi**	**2.84**	**239**	⇓Pn	**Pn**	**06 44 22.0**	**+0.4**
	118nm,0.5s						
MAKZ				⇑Pg	**Pb**	**06 44 28.5**	**+1.2**
	147nm,0.5s						
MAKZ				⇓Lg	Lg	06 45 07.4	
	260nm,0.5s						
MAKZ	**Makanchi**	**2.84**	**239**		**Pn**	**06 44 22.5**	**+0.9**
ARTR	**Artybash**	**3.66**	**17**	Pn	**Pn**	**06 44 33.9**	**+1.1**
ARTR				Pg	**Pb**	**06 44 43.7**	**+2.5**
ARTR				Sg	**Sg**	**06 45 31.4**	**-3.0**
TASR	**Tashtagol**	**4.69**	**18**	Pg	Pb	06 45 02.7	+4.0
TASR				Sg	**Sb**	**06 45 59.6**	**+4.8**
WMQ	**Urumqi**	**4.75**	**161**	*e*Pn	**Pn**	**06 44 50.4**	**+2.6**
WMQ				Sn	**Sn**	**06 45 44.0**	**+1.5**
WMQ				smax	smax		
	comp=N,150nm,1.3s						
WMQ				smax	smax		
	comp=E,170nm,1.1s						
WMQ	**Urumqi**	**4.75**	**161**	Pn	**Pn**	**06 44 50.3**	**+2.5**
WMQ				Sn	**Sn**	**06 45 43.9**	**+1.5**
WMQ				smax	smax		
	comp=E,190nm,0.8s						
WMQ				smax	smax		
	comp=E,230nm,0.7s						
KURK	**Kurchatov**	**5.10**	**301**	P	**Pn**	**06 44 50.9**	**-1.6**
KURK				Pg	**Pb**	**06 45 09.2**	**+3.6**
KURK				S	**Sn**	**06 45 47.4**	**-3.5**
KURK				Sg	**Sb**	**06 46 12.8**	**+6.2**
KURK	**Kurchatov**	**5.10**	**301**		**Pn**	**06 44 50.1**	**-2.4**
KURK	**Kurchatov**	**5.10**	**301**		**Sn**	**06 45 44.6**	**-6.3**
KURBB	**Kurchatov Arra**	**5.11**	**299**	Pn	**Pn**	**06 44 50.6**	**-2.1**
	comp=E,1.5nm,0.3s,baz=109,slow=14,SNR=40						
KURBB				Sn	**Sn**	**06 45 44.6**	**-6.7**
	comp=E,10nm,0.3s,baz=118,slow=18,SNR=5.2						
KURBB				Lg	Lg	06 46 11.8	
	comp=E,15nm,0.3s,baz=115,slow=34,SNR=4.1						
KURBB	**Kurchatov Arra**	**5.11**	**299**	⇓Pn	**Pn**	**06 44 51.3**	**-1.4**
	comp=E,15nm,0.3s						
KURBB				⇓Pg	**Pb**	**06 45 08.7**	**+2.9**
	comp=E,37nm,0.4s						
KURBB				⇑Lg	Lg	06 46 18.6	
	comp=E,2µm,0.7s						
KAPS	**Kapalarasan**	**5.21**	**237**	Pg	**Pn**	**06 44 54.8**	**+0.6**
	comp=E,195nm,0.9s						
ZAA0	**Zalesovo Array**	**5.65**	**356**	⇑Pn	**Pn**	**06 44 57.8**	**-2.3**
	comp=E,0.8nm,0.6s						
ZAA0				⇓Pg	**Pb**	**06 45 15.1**	**0.0**
	comp=E,7.3nm,0.6s						
ZAA0				⇑Lg	Lg	06 46 32.5	
	comp=E,48nm,0.8s	

SNR=6.7
USP Ospenovka 9.21 241 P **Pn** 06 45 47.6 **-1.4**
SNR=12
CHMS Chumysh 9.23 239 P **Pn** 06 45 49.7 **+0.4**
SNR=7.7
KBK Karagaybulak 9.34 237 P **Pn** 06 45 52.0 **+1.0**
SNR=13
KZA Kyzart 9.57 233 P **Pn** 06 45 56.3 **+2.1**
SNR=24
AAK Ala-Archa 9.61 238 Pn **Pn** 06 45 54.7 **+0.1**
comp=E,9.5nm,0.3s,baz=75,slow=7.7,SNR=65
AAK Lg Lg 06 48 42.3
comp=E,0.6nm,0.3s,baz=266,slow=19,SNR=2.2
AAK Ala-Archa 9.61 238 Pn **Pn** 06 45 54.2 **-0.4**
UCH Uchtor 9.87 236 P **Pn** 06 45 59.7 **+1.3**
SNR=24
EKS2 Erkin-Say 10.00 240 P **Pn** 06 46 00.6 **+0.6**
SNR=6.5
AML Almayashu 10.39 238 P **Pn** 06 46 07.4 **+1.9**
SNR=6.8
BVA0 Borovoye Array 10.70 302 Pn **Pn** 06 46 06.8 **-2.5**
comp=E,3.6nm,0.7s,baz=112,slow=13,SNR=14
BVAR Borovoye Array 10.70 302 Pn **Pn** 06 46 06.4 **-2.9**
comp=E,1.5nm,0.3s,baz=102,slow=14,SNR=14
BVAR Sn Sn 06 47 58.2 -10
comp=E,7.0nm,0.3s,baz=107,slow=20,SNR=14
BVAR Lg Lg 06 49 10.0
baz=115,slow=24,SNR=1.8
BVAR LR LR 06 50 28.7
comp=E,53nm,18.2s,baz=318,slow=39
BRVK Borovoye 10.77 302 ⇑Pn **Pn** 06 46 07.9 **-2.4**
comp=E,2.9nm,0.5s
BRVK Borovoye 10.77 302 Pn **Pn** 06 46 07.6 **-2.6**
ARSB Arslanbob 11.32 236 Pn **Pn** 06 46 18.0 **0.0**
KK31 Karatay Array 11.72 249 Pn **Pn** 06 46 19.7 **-3.7**
comp=E,4.2nm,0.4s,baz=51,slow=13,SNR=98
KK31 ⇑Sn **Sn** 06 48 37.4 **+3.7**
comp=E,12nm,0.8s,baz=56,slow=28,SNR=4.1
KK31 Karatay Array 11.72 249 Pn **Pn** 06 46 20.4 **-2.9**
KKAR Karatay Array 11.72 249 Pn **Pn** 06 46 20.6 **-2.8**
KKAR Karatay Array 11.72 249 Pn **Pn** 06 46 20.6 **-2.8**
TLY Talaya 12.13 67 LR LR 06 51 14.8
comp=E,99nm,18.8s,baz=100,slow=37
GTA Gaotai 13.60 126 *e*P **Pn** 06 46 48.0 **-1.2**
GTA pP P 06 46 52.9 -5.2
GTA sP 06 46 55.1
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,48nm,5.6s
GTA LR LR
comp=N,130nm,10.5s
GTA LR LR
comp=E,140nm,11.4s
GTA LR LR
comp=Z,51nm,10.2s
SONM Songino Array 13.96 84 Lg Lg 06 50 58.6
baz=289,slow=28,SNR=8.3
GAR Garm 14.40 235 Pn **Pn** 06 46 59.5 **-0.6**
CHGR Chuyangaron 15.28 237 Pn **Pn** 06 47 10.2 **-1.8**
CHGR IAmb IAmb 06 47 14.0
comp=Z,11nm,0.9s
AB31 Akbulak array 16.87 283 Pn **Pn** 06 47 31.2 **-0.9**
comp=Z,1.8nm,0.6s,baz=84,slow=13,SNR=26
ABKAR Akbulak array 16.87 283 **Pn** 06 47 28.9 **-3.2**
AKTO Aktyubinsk 18.00 287 P **Pn** 06 47 43.9 **-2.4**
comp=Z,0.3nm,0.3s,baz=74,slow=13,SNR=4.7
AKTO Lg Lg 06 52 59.6
comp=Z,0.2nm,0.3s,baz=88,slow=18,SNR=1.7
AKTO LR LR 06 54 47.1
comp=Z,47nm,20.1s,baz=95,slow=38
ARU Arti 18.26 306 P **Pn** 06 47 47.5 **-1.8**
comp=Z,0.0nm,0.3s,baz=207,slow=11,SNR=4.0
ARU S Sn 06 50 57.8 -15
comp=Z,0.0nm,0.3s,baz=301,slow=19,SNR=1.5
ARU Lg Lg 06 53 13.4
comp=Z,0.0nm,0.3s,baz=252,slow=17,SNR=1.2
GEYT Alibeck P 22.43 253 P **P** 06 48 33.0 **-1.8**
comp=Z,1.0nm,0.3s,baz=66,slow=8.7,SNR=4.5
GEYT Alibeck 22.43 253 P **P** 06 48 34.5 **-0.3**
USRK Ussuriysk Ar. 32.00 80 pP pP 06 50 12.9 +5.4
comp=Z,2.4nm,0.5s,baz=284,slow=8.2,SNR=6.9
KSRS Korea Array 32.52 94 LR LR 07 03 20.3
comp=Z,24nm,18.2s,baz=9.0,slow=36
BRTR Keskin Array B 37.65 277 P **P** 06 50 48.5 **-2.6**
comp=Z,1.6nm,0.7s,baz=60,slow=9.0,SNR=4.4
BRTR pP **sP** 06 50 59.5 **+0.8**
comp=Z,1.2nm,0.7s,baz=91,slow=7.3,SNR=1.8
BRTR sP pP 06 51 04.4 +7.8
comp=Z,1.1nm,0.5s,baz=142,slow=40,SNR=1.9
NB2 NORSAR Subarra 42.41 316 P P 06 51 26.4 -3.8
comp=Z,2.2nm,0.8s,baz=72,slow=8.6
NOA NORSAR Array B 42.41 316 P P 06 51 26.5 -3.7
comp=Z,0.3nm,0.5s,baz=69,slow=8.3,SNR=2.1
NOA pP sP 06 51 38.8 +0.9
comp=Z,0.7nm,0.7s,baz=77,slow=7.7,SNR=1.1
RDOG Red Dog Mine 53.28 26 P P 06 52 49.5 -4.8
RDOG IAmb IAmb 06 52 51.7
comp=Z,13nm,0.7s
ESDC Sonseca Array 61.44 299 P P 06 53 49.2 -3.1
comp=Z,1.6nm,0.7s,baz=46,slow=6.7,SNR=11
ESDC Sonseca Array 61.44 299 P **P** 06 53 49.6 **-2.7**
BCAR Beaver Creek A 62.81 22 P P 06 53 57.7 -3.5
TORD Torodi Ar. Bea 76.22 274 P P 06 55 21.0 -3.6
comp=Z,0.8nm,1.0s,baz=27,slow=6.0,SNR=3.9
TORD pP **PcP** 06 55 34.8 **-1.8**
comp=Z,0.7nm,0.6s,baz=33,slow=5.4,SNR=4.8

*ISN **19** 07:03:15.5±1.2,32.84N×47.57E, h15km±6km, ML2.9*
*TEH **19** 07:03:15.0, 32.85N×47.57E, h10km, ML2.9*
ISC 19 07:03:15.9±1.2,**32.83N**±0.06×**47.63E**±0.06,**h15km**,**n12,**
σ0.96/15,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.71**	**15**	*e*Pg		**Pg**	**07 03 28.7**	**-1.2**
IKFM				*e*			07 03 49.2	
IKMR	**Kamar-syah**	**0.93**	**43**	*e*Pg		**Pb**	**07 03 33.4**	**-0.4**
IKMR				*e*			07 03 53.5	
IDOB	**Doab**	**1.06**	**26**	*e*Pg		**Pb**	**07 03 36.1**	**0.0**
IDOB				*e*			07 03 38.7	
BMDN	**Meydan**	**1.31**	**50**	*e*Pg		**Pn**	**07 03 40.6**	**+0.8**
BMDN				*e*			07 04 05.5	
IKOM	**Komasi**	**1.34**	**356**	*e*Pg		**Pn**	**07 03 40.2**	**-0.1**
IKOM				*e*			07 04 04.8	
IBDR	**Badra**	**1.45**	**281**	*e*Pg		**Pn**	**07 03 41.0**	**-0.6**
IBDR				*e*Sg		**Sn**	**07 04 00.0**	**-0.4**
IBDR				AML		AML	07 04 03.8	
	comp=N,124nm,0.4s							
IBDR				AML		AML	07 04 07.9	
	comp=E,96nm,0.7s							
IGHG	**Ghaleghazi**	**1.73**	**330**	*e*Pn		**Pn**	**07 03 46.5**	**+0.8**
IGHG				*e*			07 04 22.4	
IVIS	**Veis**	**1.81**	**339**	*e*Pn		**Pn**	**07 03 48.2**	**+1.5**
IVIS				*e*			07 04 19.4	
IDHR	**Dehrash**	**2.13**	**331**	*e*Pn		**Pn**	**07 03 51.9**	**+0.7**
IDHR				*e*			07 04 25.9	
ILIN	**Lien**	**2.15**	**345**	*e*Pn		**Pn**	**07 03 53.0**	**+1.5**
ILIN				*e*			07 04 32.6	
NSR	**Nassriya**	**2.21**	**215**	*e*Pn		**Pn**	**07 03 53.0**	**+0.9**
NSR				*e*Sn		**Sn**	**07 04 19.0**	**-0.1**
BHD	**Baghdad**	**2.76**	**280**	*e*Pn		**Pn**	**07 04 00.0**	**+0.4**
BHD				*e*Sn		**Sn**	**07 04 34.0**	**+1.3**
BHD				AML		AML	07 04 38.5	
	comp=E,254nm,0.4s							

NNC 19 07:09:50.8±0.7,**49.97N×78.37E, h0km, mb3.7, mpv3.3, 19C-9D, Error ellipse: s-maj=8.8km s-min=3.1km az=88.0, Suspected Mining explosion., Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.62**	**9**	⇑P		Pg	07 10 03.3	+0.6
KUR07				⇑S		Sg	07 10 12.2	+1.3
KUR06	**Kurchatov Arra**	**0.64**	**9**	⇑P		Pg	07 10 03.7	+0.5
KUR06				⇑S		Sg	07 10 12.4	+0.9
KUR14	**Kurchatov Arra**	**0.66**	**12**	⇑P		Pg	07 10 03.6	+0.1
KUR14				⇑S		Sg	07 10 12.0	-0.1
KUR15	**Kurchatov Arra**	**0.66**	**11**	⇓P		Pg	07 10 03.8	+0.3
KUR15				⇓S		Sg	07 10 12.4	+0.3
KURBB	**Kurchatov Arra**	**0.66**	**9**	⇑P		Pg	07 10 03.9	+0.4
	18nm,0.3s							
KURBB				⇑S		Sg	07 10 13.2	+1.1
	155nm,0.6s							
KUR16	**Kurchatov Arra**	**0.67**	**7**	⇑P		Pg	07 10 04.2	+0.7
KUR16				⇓S		Sg	07 10 12.7	+0.5
KUR17	**Kurchatov Arra**	**0.67**	**5**	⇑P		Pg	07 10 04.4	+0.8
KUR17				⇑S		Sg	07 10 13.1	+0.9
KUR05	**Kurchatov Arra**	**0.68**	**9**	⇓P		Pg	07 10 04.2	+0.3
KUR05				⇓S		Sg	07 10 13.1	+0.4
KUR04	**Kurchatov Arra**	**0.70**	**9**	⇑P		Pg	07 10 04.6	+0.3
KUR04				⇑S		Sg	07 10 13.8	+0.4
BRZS	**Berezniki**	**3.67**	**272**	Pg		Pb	07 10 52.8	-3.8
BRZS				Lg		Lg	07 11 57.7	
	36nm,0.4s							
MAKZ	**Makanchi**	**3.97**	**141**	⇑Pg		Pb	07 11 03.6	+2.0
	1.6nm,0.6s							
MAKZ				⇑Lg		Lg	07 11 54.5	
	12nm,0.6s							
MK31	**Makanchi Array**	**4.11**	**139**	⇑Pn		Pn	07 10 56.2	+1.3
	1.0nm,0.6s,baz=323,slow=10.0,SNR=17							
MK31				⇑Pg		Pb	07 11 04.4	+0.4
	2.0nm,0.5s,baz=328,slow=14,SNR=10							
MK31				⇑Sn		Sn	07 11 45.2	+1.6
	1.2nm,0.4s,baz=345,slow=24,SNR=2.6							
MK31				⇑Lg		Lg	07 11 59.7	
	7.6nm,0.5s,baz=327,slow=27,SNR=17							
OTUK	**Ortayu**	**4.32**	**249**	Pg		Pb	07 11 02.9	-4.7
	1.3nm,0.3s							
OTUK				Lg		Lg	07 12 16.2	
	9.3nm,0.3s							
KAPS	**Kapalarasan**	**4.73**	**172**	Pg		Pn	07 11 06.0	+2.6
	0.8nm,0.2s							
KAPS				Lg		Lg	07 12 21.7	
	13nm,0.5s							
ZSN	**Zaisan**	**4.98**	**118**	Pg		Pn	07 10 54.4	-12
	7.8nm,0.2s							
ZSN				Lg		Lg	07 12 00.6	
	5.4nm,0.3s							
ZAA0	**Zalesovo Array**	**5.64**	**43**	⇓Pn		Pn	07 11 16.3	+0.6
	0.2nm,0.3s							
ZAA0				⇓Lg		Lg	07 12 47.1	
	0.8nm,0.9s							
BTLS	**Baital**	**5.73**	**212**	Pg		Pb	07 11 31.0	-0.6
	1.0nm,0.2s							
BTLS				Lg		Lg	07 13 06.5	
	2.2nm,0.3s							
BVA0	**Borovoye Array**	**5.85**	**305**	⇓Sn		Sn	07 12 30.7	+4.2
	2.6nm,0.5s,baz=113,slow=22,SNR=9.9							
BVA0				⇓Lg		Lg	07 12 58.9	
	3.3nm,0.7s,baz=121,slow=28,SNR=3.6							
KUU	**Kurty**	**6.23**	**194**	Pg		Pb	07 11 36.3	-3.9
	1.5nm,0.2s							
KUU				Lg		Lg	07 13 16.2	
	16nm,0.3s							
KTBS	**Karatobe**	**6.36**	**191**	Pg		Pb	07 11 38.1	-4.3
	1.3nm,0.3s							
KTBS				Lg		Lg	07 13 19.4	
	13nm,0.3s							
DGS	**Degeres**	**6.96**	**196**	Pg		Pb	07 11 49.5	-3.1
	3.1nm,0.3s							
DGS				Lg		Lg	07 13 39.9	
	20nm,0.4s							

*TEH **19** 07:24:02.8, 32.62N×47.72E, h8km, ML3.1*
*ISN **19** 07:24:03.6±1.0, 32.73N×47.79E, h14km±7km, ML3.1*
*THR **19** 07:24:06.3±0.7, 32.72N×47.76E, h18km±8km, ML3.3*
ISC 19 07:24:04.3±2.3,**32.69N**±0.03×**47.73E**±0.04,**h3km**±19**km**,**
n47,σ1.00/51,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.84**	**7**	*e*Pg		**Pb**	**07 24 20.7**	**-0.9**
IKFM				*e*			07 24 40.1	
IKMR	**Kamar-syah**	**0.99**	**33**	*e*Pg		**Pb**	**07 24 22.8**	**-1.3**
IKMR				*e*			07 24 42.3	
SHGR	**Shooshtar-Gavs**	**1.07**	**122**	*e*Pg		**Pb**	**07 24 26.2**	**+0.8**
SHGR				*e*Sg		**Sg**	**07 24 41.2**	**+2.4**
SHGR				IAML			07 24 53.1	
	comp=E,774nm,0.6s							
SHGR				IAML			07 24 54.2	
	comp=N,644nm,0.4s							
SHGR	**Shooshtar-Gavs**	**1.07**	**122**	*e*Pg		**Pb**	**07 24 26.3**	**+0.8**
IDOB	**Doab**	**1.16**	**19**	*e*Pg		**Pb**	**07 24 27.0**	**-0.1**
BMDN	**Meydan**	**1.34**	**43**	*e*				
IKOM	**Komasi**	**1.50**	**353**	*e*Pg		**Pb**	**07 24 32.6**	**-0.2**
IKOM				*e*			07 24 58.6	
AHWZ	**Ahwaz**	**1.56**	**150**	*e*Pg		**Pn**	**07 24 32.0**	**-0.8**
IBDR	**Badra**	**1.57**	**286**	*e*Pg		**Pn**	**07 24 33.0**	**-0.1**
IBDR				*e*Sg		**Sn**	**07 24 54.0**	**+0.1**
IBDR				AML		AML	07 24 59.3	
	comp=E,268nm,0.6s							
IBDR				AML		AML	07 24 59.5	
	comp=N,266nm,0.6s							
KCHF	**Cheshme Sefid,**	**1.69**	**340**	*e*Pn		**Pn**	**07 24 34.7**	**-0.1**
KCHF				*e*			07 25 06.9	
HSAM	**Samen**	**1.69**	**25**	*e*Pg		**Pb**	**07 24 35.9**	**-0.2**
HSAM				*e*			07 24 37.9	
KER	**Kermanshah**	**1.77**	**344**	*e*Pg		**Pb**	**07 24 36.9**	**-0.5**
IBZA	**Bozab**	**1.78**	**3**	*e*Pg		**Pb**	**07 24 37.0**	**-0.8**
IBZA				*e*			07 25 06.6	
IGHG	**Ghaleghazi**	**1.91**	**330**	*e*Pn		**Pn**	**07 24 38.7**	**+0.8**
IGHG				*e*			07 25 15.3	
IVIS	**Veis**	**1.98**	**338**	*e*Pn		**Pn**	**07 24 39.3**	**+0.5**
IVIS				*e*			07 25 13.9	
KHMZ	**Khomeyn**	**2.14**	**60**	*e*Pn		**Pb**	**07 24 42.5**	**-1.4**
KHMZ	**Khomeyn**	**2.14**	**60**	*e*Pn		**Pb**	**07 24 42.5**	**-1.4**
NSR	**Nassriya**	**2.15**	**219**	*e*Pn		**Pn**	**07 24 41.0**	**0.0**
NSR				*e*Sn		**Sn**	**07 25 08.0**	**-0.1**
IDHR	**Dehrash**	**2.30**	**331**	*e*Pn		**Pn**	**07 24 44.1**	**+0.8**
IDHR				*e*			07 25 24.1	
ILIN	**Lien**	**2.32**	**344**	*e*Pn		**Pn**	**07 24 44.2**	**+0.6**
ILIN				*e*			07 25 24.7	
SNGE	**Sanandaj**	**2.42**	**353**	*e*Pn		**Pb**	**07 24 47.1**	**-1.5**
SNGE	**Sanandaj**	**2.42**	**353**	*e*Pn		**Pb**	**07 24 47.1**	**-1.5**
HAGD	**Aghdareh**	**2.43**	**28**	*e*Pn		**Pn**	**07 24 46.3**	**+1.2**
HAGD				*e*			07 24 50.6	
JHBN	**Jahan bin**	**2.52**	**100**	*e*Pn		**Pn**	**07 24 46.5**	**+0.1**
JHBN				*e*			07 25 27.7	
HSRG	**Sareghieh**	**2.59**	**10**	*e*Pn		**Pn**	**07 24 49.0**	**+1.6**
HSRG				*e*			07 25 37.2	
IPIR	**Pirpir**	**2.67**	**89**	*e*Pn		**Pn**	**07 24 48.4**	**0.0**
IPIR				*e*			07 25 35.2	
ASAO	**Ashtian**	**2.67**	**45**	*e*Pn		**Pn**	**07 24 50.0**	**+1.6**
ASAO				*e*Sg		**Sg**	**07 25 28.8**	**-1.3**
ASAO	**Ashtian**	**2.67**	**45**	*e*Pn		**Pn**	**07 24 50.0**	**+1.6**
ROKH	**ROKH**	**2.81**	**96**	*e*Pn		**Pn**	**07 24 50.3**	**0.0**
ROKH				*e*			07 25 33.9	
BHD	**Baghdad**	**2.88**	**283**	*e*Pn		**Pn**	**07 24 51.0**	**0.0**
BHD				*e*Sn		**Sn**	**07 25 27.0**	**+1.0**
IRAZ	**Razeghan**	**3.27**	**33**	*e*Pn		**Pn**	**07 24 58.4**	**+1.8**
IKLH	**Kolahrood**	**3.29**	**78**	*e*Pn		**Pn**	**07 24 57.5**	**+0.5**
IKLH				*e*			07 25 54.5	
QABG	**Abgarm-Qazvin**	**3.38**	**26**	*e*Pn		**Pn**	**07 24 58.5**	**+0.3**
IQOM	**Qom**	**3.52**	**51**	*e*Pn		**Pn**	**07 25 00.1**	**0.0**
IGAR	**Gharneh**	**3.65**	**93**	*e*Pn		**Pn**	**07 25 01.9**	**0.0**
IGAR				*e*			07 25 16.5	
KLNJ	**Kolanjah**	**3.69**	**116**	*e*Pn		**Pn**	**07 25 01.3**	**-1.2**
KLNJ				*e*			07 26 20.2	
IZEF	**Zefreh**	**3.88**	**86**	*e*Pn		**Pn**	**07 25 05.3**	**+0.3**
QSDN	**Sirdan**	**3.99**	**17**	*e*Pn		**Pn**	**07 25 07.8**	**+1.2**
IRAM	**Ramesheh**	**4.04**	**101**	*e*Pn		**Pn**	**07 25 06.2**	**-1.0**
IVRN	**Varamin**	**4.05**	**54**	*e*Pn		**Pn**	**07 25 07.3**	**+0.1**
IGZV	**Ghazvin**	**4.22**	**28**	*e*Pn		**Pn**	**07 25 10.3**	**+0.5**
QALM	**Alamut, Qazvin**	**4.45**	**32**	*e*Pn		**Pn**	**07 25 14.4**	**+1.6**
IDMV	**Damavand**	**4.59**	**50**	*e*Pn		**Pn**	**07 25 14.8**	**0.0**
ANAR	**Anarak**	**5.07**	**83**	*e*Pn		**Pn**	**07 25 20.8**	**-0.5**
ISAD	**Sadrabad**	**5.10**	**97**	*e*Pn		**Pn**	**07 25 20.7**	**-1.2**
IPRN	**Peran**	**5.20**	**46**	*e*Pn		**Pn**	**07 25 24.1**	**+1.0**
IANJ	**Anjilo**	**5.83**	**60**	*e*Pn		**Pn**	**07 25 31.5**	**-0.4**

IDC 19 07:39:05.1±3.0,**9.73S×152.32E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.4/38, mbtmp3.5/4, ML3.9/1, MS2.9/3, Ms1 2.9/3, ms1mx2.6/16, Error ellipse: s-maj=92.8km s-min=45.4km az=116.0, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.10**	**273**	LR		LR	07 42 33.1	
	comp=Z,136nm,18.3s,baz=49,slow=41							
KRVT	**Keravat (AS076**	**5.39**	**357**	LR		LR	07 41 44.7	
	comp=Z,43nm,19.7s,baz=127,slow=30							

CTA Charters Tower 11.85 209 Pn **Pn** 07 41 53.3 **-2.2**
0.5nm,0.3s,baz=30,slow=15,SNR=2.5
WRA Warramunga Arr 20.11 238 P P 07 43 40.9 +0.2
0.8nm,1.0s,baz=64,slow=11,SNR=4.7
ASAR Alice Springs 22.39 229 P P 07 44 05.3 -0.1
0.6nm,0.8s,baz=60,slow=9.0,SNR=5.6
STKA Stephens Creek 24.18 203 P P 07 44 24.1 +0.9
0.8nm,0.4s,baz=22,slow=11,SNR=3.4
KAPI Kappang 32.62 276 LR LR 08 00 03.1
comp=Z,48nm,18.2s,baz=326,slow=39
TORD Torodi Ar. Bea 151.02 280 PKPbc PKPbc 07 59 00.7 -0.5
0.7nm,0.8s,baz=72,slow=3.8,SNR=4.5

*TEH **19** 07:50:36.2, 32.69N×47.58E, h8km, ML3.6*
*IDC **19** 07:50:37.3±2.8, 32.74N×48.01E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.7/46, mbtmp3.9/9, ML3.8/2, MS2.8/3, Ms1 2.8/3, ms1mx2.3/50, Error ellipse: s-maj=51.1km s-min=27.0km az=22.0*
*ISN **19** 07:50:37.0±1.0, 32.74N×47.68E, h14km±5km, ML3.3*
*THR **19** 07:50:38.6±0.6, 32.98N×47.41E, h18km±7km, ML3.4*
ISC 19 07:50:36.3±1.3,**32.70N**±0.03×**47.59E**±0.03,**h3km**±11**km**,**
n60,σ1.43/64,mb3.8/7,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.85**	**14**	*e*Pg		**Pg**	**07 50 52.7**	**0.0**
IKFM				*e*Sg		**Sb**	**07 51 05.9**	**+0.2**
IKFM				*e*			07 51 08.7	
IKMR	**Kamar-syah**	**1.05**	**39**	*e*Pg		**Pg**	**07 50 56.1**	**-0.4**
IKMR				*e*			07 51 19.1	
SHGR	**Shooshtar-Gavs**	**1.18**	**119**	*e*Pg		Pn	07 51 05.4	+5.6
SHGR				*e*Sg		Sn	07 51 25.4	+9.0
IDOB	**Doab**	**1.19**	**24**	*e*Pg		**Pg**	**07 50 59.0**	**-0.3**
BMDN	**Meydan**	**1.42**	**46**	*e*Sg		**Sg**	**07 51 24.7**	**+2.7**
BMDN				*e*Pg		**Pg**	**07 51 03.7**	**+0.1**
BMDN				*e*			07 51 28.7	
IBDR	**Badra**	**1.46**	**287**	*e*Pg		**Pg**	**07 51 05.0**	**+0.7**
IBDR				*e*Sg		**Sg**	**07 51 25.0**	**+1.8**
IBDR				AML		AML	07 51 30.0	
	comp=N,498nm,0.6s							
IBDR				AML		AML	07 51 32.0	
	comp=E,391nm,0.7s							
IKOM	**Komasi**	**1.48**	**357**	*e*			07 51 30.5	
IKOM				*e*Pg		**Pg**	**07 51 04.7**	**0.0**
AHWZ	**Ahwaz**	**1.63**	**146**	*e*Pg		**Pg**	**07 51 08.0**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.64**	**344**	*e*			07 51 36.0	
KCHF				*e*Pg		**Pg**	**07 51 08.0**	**+0.2**
KER	**Kermanshah**	**1.73**	**347**	*e*Pg		**Pg**	**07 51 09.3**	**-0.2**
HSAM	**Samen**	**1.73**	**29**	*e*			07 51 37.3	
HSAM				*e*Pg		**Pg**	**07 51 09.4**	**-0.1**
IBZA	**Bozab**	**1.78**	**7**	*e*Pg		**Pg**	**07 51 10.2**	**-0.4**
IBZA				*e*			07 51 14.4	
IGHG	**Ghaleghazi**	**1.84**	**333**	*e*Pg		**Pg**	**07 51 11.0**	**-0.7**
IVIS	**Veis**	**1.93**	**341**	*e*Pn		**Pb**	**07 51 11.6**	**-0.7**
IVIS				*e*			07 51 41.7	
NSR	**Nassriya**	**2.09**	**217**	*e*Pn		**Pb**	**07 51 14.0**	**-0.8**
NSR				*e*Sn		**Sb**	**07 51 40.0**	**-1.2**
IALM	**Almabolaq**	**2.21**	**12**	*e*Pn		**Pb**	**07 51 16.6**	**-0.6**
IDHR	**Dehrash**	**2.24**	**334**	*e*Pn		**Pb**	**07 51 17.2**	**-0.4**
KHMZ	**Khomeyn**	**2.24**	**62**	*e*Pn		**Pb**	**07 51 17.1**	**-0.5**
KHMZ	**Khomeyn**	**2.24**	**62**	*e*Pn		**Pb**	**07 51 17.1**	**-0.5**
ILIN	**Lien**	**2.28**	**347**	*e*Pn		**Pb**	**07 51 16.9**	**-1.4**
ILIN				*e*			07 51 55.8	
SNGE	**Sanandaj**	**2.40**	**355**	*e*Pn		**Pn**	**07 51 15.4**	**-1.4**
SNGE	**Sanandaj**	**2.40**	**355**	*e*Pn		**Pn**	**07 51 15.4**	**-1.4**
HAGD	**Aghdareh**	**2.48**	**31**	*e*Pn		**Pb**	**07 51 19.8**	**-2.0**
HAGD				*e*			07 52 00.6	
HSRG	**Sareghieh**	**2.60**	**12**	*e*Pn		**Pb**	**07 51 22.0**	**-1.9**
HSRG				*e*			07 52 04.0	
JHBN	**Jahan bin**	**2.64**	**99**	*e*Pn		**Pn**	**07 51 21.4**	**+1.2**
JHBN				*e*			07 52 10.0	
ASAO	**Ashtian**	**2.74**	**47**	*e*Pn		**Pn**	**07 51 23.3**	**+1.7**
ASAO				*e*Sg		**Sg**	**07 52 02.7**	**-1.8**
ASAO				IAML			07 52 10.0	
	comp=N,138nm,0.6s							
ASAO	**Ashtian**	**2.74**	**47**	*e*Pn		**Pn**	**07 51 23.3**	**+1.7**
BHD	**Baghdad**	**2.76**	**283**	*e*Pn		**Pn**	**07 51 23.0**	**+1.5**
BHD				*e*Sn		**Sb**	**07 51 58.0**	**-2.6**
IPIR	**Pirpir**	**2.78**	**89**	*e*Pn		**Pn**	**07 51 23.5**	**+1.4**
IPIR				*e*			07 52 05.5	
ROKH	**ROKH**	**2.93**	**96**	*e*Pn		**Pn**	**07 51 25.2**	**+1.1**
IRAZ	**Razeghan**	**3.33**	**35**	*e*Pn		**Pn**	**07 51 32.0**	**+2.5**
IKLH	**Kolahrood**	**3.41**	**78**	*e*Pn		**Pn**	**07 51 32.2**	**+1.5**
IKLH				*e*			07 51 34.3	
QABG	**Abgarm-Qazvin**	**3.43**	**28**	*e*Pn		**Pn**	**07 51 32.3**	**+1.4**
IQOM	**Qom**	**3.60**	**53**	*e*Pn		**Pn**	**07 51 34.9**	**+1.5**
IGAR	**Gharneh**	**3.77**	**93**	*e*Pn		**Pn**	**07 51 36.5**	**+0.9**
IGAR				*e*			07 51 38.9	
KLNJ	**Kolanjah**	**3.79**	**115**	*e*Pn		**Pn**	**07 51 36.7**	**+0.7**
IZEF	**Zefreh**	**3.99**	**86**	*e*Pn		**Pn**	**07 51 40.2**	**+1.4**
QSDN	**Sirdan**	**4.02**	**18**	*e*Pn		**Pn**	**07 51 41.1**	**+2.1**
IVRN	**Varamin**	**4.13**	**55**	*e*Pn		**Pn**	**07 51 41.7**	**+1.2**
IRAM	**Ramesheh**	**4.15**	**101**	*e*Pn		**Pn**	**07 51 41.5**	**+0.6**
IGZV	**Ghazvin**	**4.27**	**30**	*e*Pn		**Pn**	**07 51 44.2**	**+1.7**
QALM	**Alamut, Qazvin**	**4.50**	**33**	*e*Pn		**Pn**	**07 51 47.2**	**+1.5**
IDMV	**Damavand**	**4.67**	**51**	*e*Pn		**Pn**	**07 51 49.2**	**+1.1**
ANAR	**Anarak**	**5.18**	**83**	*e*Pn		**Pn**	**07 51 55.2**	**+0.2**
IFIR	**Firoozkooh**	**5.19**	**54**	*e*Pn		**Pn**	**07 51 56.3**	**+1.1**
ISAD	**Sadrabad**	**5.22**	**97**	*e*Pn		**Pn**	**07 51 55.8**	**+0.2**
IPRN	**Peran

h142km±10km, **n101**, σ1§17/111, **mb4.5**/26, **2C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.64**	**189**	P	**Pn**	**08 06 40.3**	**-0.3**
	33nm,0.3s,baz=55,slow=19,SNR=173						
DZM				S	**Sn**	**08 07 54.6**	**-0.5**
	34nm,0.3s,baz=308,slow=21,SNR=12						
DZM				LR	LR	08 08 49.8	
	comp=Z,216nm,19.1s,baz=43,slow=34						
HNR	**Honiara**	**9.58**	**308**	P	**Pn**	**08 07 19.6**	**-0.3**
	14nm,0.3s,baz=245,slow=2.9,SNR=6.5						
HNR	**Honiara**	**9.58**	**308**	Pn	**Pn**	**08 07 19.4**	**-0.4**
MSVF	**Nonsavu**	**10.28**	**104**		Pn	08 07 35.2	+5.9
FUNA	**Funafuti**	**13.29**	**60**	P	**P**	**08 08 16.1**	**+2.9**
EIDS	**Eidsvold**	**18.31**	**235**	Pn	**Pn**	**08 09 10.6**	**+0.3**
EIDS				IAmb	IAmb	08 09 11.5	
	comp=Z,34nm,1.1s						
CTA	**Charters Tower**	**20.82**	**254**	P	**P**	**08 09 36.6**	**+1.0**
	comp=Z,7.8nm,0.8s,baz=76,slow=12,SNR=13						
CTAO	**Charters Tower**	**20.82**	**254**	P	**P**	**08 09 36.5**	**+0.9**
COEN	**Coen**	**23.65**	**270**	P	**P**	**08 10 05.7**	**+1.8**
COEN				IAmb	IAmb	08 10 06.2	
	comp=Z,18nm,1.0s						
HIZ	**Hauiti**	**23.82**	**166**	P	**P**	**08 10 06.7**	**+1.6**
OMRZ	**Omania**	**23.83**	**163**	P	**P**	**08 10 06.8**	**+1.5**
HAZ	**Te Kaha**	**23.95**	**160**	P	**P**	**08 10 06.9**	**+0.6**
RUGZ	**Raukumara Rang**	**24.11**	**160**	P	**P**	**08 10 08.3**	**+0.4**
URZ	**Urewera**	**24.20**	**161**	P	**P**	**08 10 08.8**	**+0.3**
	comp=Z,16nm,0.8s,baz=258,slow=3.4,SNR=14						
URZ	**Urewera**	**24.20**	**161**	P	**P**	**08 10 08.8**	**+0.3**
URZ	**Urewera**	**24.20**	**161**	P	**P**	**08 10 08.4**	**-0.1**
URZ				IAmb	IAmb	08 10 09.6	
	comp=Z,33nm,1.0s						
PRRZ	**Plateau Road**	**24.20**	**163**	P	**P**	**08 10 10.5**	**+1.9**
MUGZ	**Murupara**	**24.29**	**162**	P	**P**	**08 10 10.8**	**+1.4**
TWGZ	**Tauwhareparae**	**24.40**	**160**	P	**P**	**08 10 10.6**	**+0.2**
MTHZ	**Maungataniwha**	**24.66**	**162**	P	**P**	**08 10 13.5**	**+0.7**
RAHZ	**Arahi**	**24.79**	**162**	P	**P**	**08 10 14.5**	**+0.5**
BKZ	**Black Stump Fm**	**24.86**	**163**	P	**P**	**08 10 14.8**	**+0.2**
NMHZ	**Naumai**	**24.88**	**163**	P	**P**	**08 10 15.8**	**+1.0**
SNZO	**South Karori**	**26.46**	**168**	P	**P**	**08 10 28.6**	**-0.3**
MSWZ	**Moikau Station**	**26.68**	**167**	P	**P**	**08 10 29.9**	**-1.0**
LTZ	**Lake Taylor**	**27.50**	**173**	P	**P**	**08 10 38.4**	**+0.1**
OXZ	**Oxford**	**28.01**	**173**	P	**P**	**08 10 42.9**	**+0.1**
RPZ	**Rata Peaks**	**28.29**	**175**	P	**P**	**08 10 45.4**	**+0.1**
	comp=Z,11nm,0.7s,baz=337,slow=1.0,SNR=12						
RPZ	**Rata Peaks**	**28.29**	**175**	P	**P**	**08 10 45.7**	**+0.4**
RPZ				IAmb	IAmb	08 10 46.9	
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**28.75**	**231**	P	**P**	**08 10 50.2**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=47,slow=10,SNR=8.6						
STKA				PcP	**PcP**	**08 13 56.4**	**+0.1**
	comp=Z,3.9nm,0.6s,baz=61,slow=4.3,SNR=6.6						
STKA				LR	LR	08 23 14.6	
	comp=Z,50nm,18.4s,baz=204,slow=38						
STKA	**Stephens Creek**	**28.75**	**231**	P	**P**	**08 10 50.6**	**+1.1**
STKA				PcP	**PcP**	**08 13 56.6**	**+0.4**
WR0	**Warramunga Arr**	**31.76**	**257**	P	**P**	**08 11 15.7**	**-0.4**
WB0	**Warramunga Arr**	**31.89**	**257**	P	**P**	**08 11 16.5**	**-0.8**
WB0				IAmb	IAmb	08 11 17.1	
	comp=Z,5.6nm,0.7s						
WB0				PcP	**PcP**	**08 14 04.9**	**+0.2**
WB2	**Warramunga Arr**	**31.93**	**257**	P	**P**	**08 11 17.1**	**-0.6**
WB2				PcP	**PcP**	**08 14 05.2**	**+0.4**
WRAB	**Tennant Creek**	**31.93**	**257**	P	**P**	**08 11 14.3**	**-3.4**
WRAB				IAmb	IAmb	08 11 14.6	
	comp=Z,7.2nm,0.6s						
WRA	**Warramunga Arr**	**31.95**	**257**	P	**P**	**08 11 16.9**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=80,slow=5.9,SNR=36						
WRA				PcP	**PcP**	**08 14 05.0**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=84,slow=2.8,SNR=8.9						
WRA				ScP	**ScP**	**08 17 36.8**	**+1.6**
	comp=Z,1.4nm,0.9s,baz=89,slow=3.2,SNR=5.8						
WRA	**Warramunga Arr**	**31.95**	**257**	P	**P**	**08 11 16.4**	**-1.5**
WRA				PcP	**PcP**	**08 14 05.3**	**+0.4**
AS31	**Alice Springs**	**32.70**	**250**	P	**P**	**08 11 23.8**	**-0.6**
ASAR	**Alice Springs**	**32.70**	**250**	P	**P**	**08 11 23.9**	**-0.5**
	comp=Z,4.7nm,0.6s,baz=79,slow=8.7,SNR=66						
ASAR				PcP	**PcP**	**08 14 06.5**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=94,slow=2.6,SNR=9.9						
ASAR				ScP	**ScP**	**08 17 39.8**	**+2.0**
	comp=Z,1.9nm,0.9s,baz=86,slow=3.1,SNR=12						
ASAR	**Alice Springs**	**32.70**	**250**	P	**P**	**08 11 22.6**	**-1.8**
ASAR				PcP	**PcP**	**08 14 06.7**	**-0.2**
BBOO	**Buckleboo**	**33.36**	**233**	P	**P**	**08 11 29.4**	**-0.6**
BBOO				IAmb	IAmb	08 11 32.5	
	comp=Z,11nm,0.9s						
BBOO				PcP	**PcP**	**08 14 07.9**	**-0.7**
KNRA	**Kununurra**	**37.36**	**264**	P	**P**	**08 12 03.8**	**-0.6**
KNRA				IAmb	IAmb	08 12 05.0	
	comp=Z,13nm,0.8s						
FORT	**Forrest**	**39.18**	**240**	P	**P**	**08 12 20.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**40.18**	**260**	P	**P**	**08 12 27.9**	**+0.1**
	comp=Z,9.7nm,0.7s,baz=82,slow=8.4,SNR=28						
FITZ	**Fitzroy Crossi**	**40.18**	**260**	P	**P**	**08 12 27.6**	**-0.3**
FITZ				IAmb	IAmb	08 12 28.6	
	comp=Z,9.5nm,0.6s						
VNDA	**Vanda**	**62.12**	**181**	P	**P**	**08 15 10.9**	**+0.3**
	comp=Z,4.3nm,0.7s,baz=357,slow=8.0,SNR=35						
VNDA	**Vanda**	**62.12**	**181**	P	**P**	**08 15 10.9**	**+0.3**
VNDA				IAmb	IAmb	08 15 12.9	
	comp=Z,5.4nm,0.7s						
CASY	**Casey**	**62.95**	**202**	P	**P**	**08 15 16.4**	**+0.1**
CASY				IAmb	IAmb	08 15 17.1	
	comp=Z,5.3nm,0.9s						
KSRS	**Korea Array**	**64.53**	**326**	P	**P**	**08 15 27.1**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=144,slow=6.0,SNR=4.4						
NJ2	**Nanjing**	**66.43**	**316**	*e*P	**P**	**08 15 41.0**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**67.69**	**333**	P	**P**	**08 15 48.4**	**+1.3**
	comp=Z,2.0nm,0.6s,baz=127,slow=6.0,SNR=6.7						
QSPA	**South Pole Qui**	**74.55**	**180**	P	**P**	**08 16 28.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**75.53**	**294**	P	**P**	**08 16 35.8**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=122,slow=3.6,SNR=6.4						
CMAR	**Chiang Mai Arr**	**75.53**	**294**	P	**P**	**08 16 35.5**	**+1.0**
MAW	**Mawson**	**81.30**	**202**	P	**P**	**08 17 05.7**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=108,slow=5.0,SNR=7.8						
MAW	**Mawson**	**81.30**	**202**	P	**P**	**08 17 06.2**	**+0.8**
SEW	**Seward**	**82.89**	**20**		**P**	**08 17 12.7**	**-0.9**
SEW				IAmb	IAmb	08 17 13.9	
	comp=Z,4.8nm,0.7s						
SONM	**Songino Array**	**83.28**	**324**	P	**P**	**08 17 16.4**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=134,slow=5.5,SNR=15						
SONM	**Songino Array**	**83.28**	**324**	P	**P**	**08 17 15.8**	**-0.3**
GTA	**Gaotai**	**83.41**	**314**	*e*P	**P**	**08 17 18.0**	**+1.1**
GTA				pP	PcP	08 17 25.9	+4.9
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,45nm,4.8s						
GTA				LR	LR		
	comp=N,72nm,15.9s						
GTA				LR	LR		
	comp=E,170nm,14.6s						
GTA				LR	LR		
	comp=Z,100nm,15.2s						
ILAR	**Eielson Array**	**87.15**	**18**	P	**P**	**08 17 32.5**	**-2.2**
	comp=Z,0.5nm,0.5s,baz=237,slow=5.1,SNR=9.4						
ILAR	**Eielson Array**	**87.15**	**18**	P	**P**	**08 17 32.1**	**-2.6**
SYO	**Syowa Base**	**88.07**	**197**	⇑*i*P	**P**	**08 17 37.7**	**-1.5**
SYO	**Syowa Base**	**88.07**	**197**	⇑*e*P	**P**	**08 17 38.9**	**-0.3**
G08A	**Pilot Rock**	**89.66**	**43**	P	**P**	**08 17 46.9**	**-0.4**
PMSA	**Palmer Station**	**90.96**	**160**	P	**P**	**08 17 52.8**	**0.0**
PMSA				IAmb	IAmb	08 17 54.0	
	comp=Z,6.3nm,0.8s						
VNA3	**Neumayer Olymp**	**93.47**	**181**	P	**P**	**08 18 03.3**	**-1.1**
MK31	**Makanchi Array**	**97.96**	**316**	P	Pdif	08 18 25.2	0.0
MK31				IAmb	IAmb	08 18 27.2	
	comp=Z,1.6nm,0.9s						
MKAR	**Makanchi Array**	**97.96**	**316**	P	**P**	**08 18 24.8**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=98,slow=6.1,SNR=13						
MKAR	**Makanchi Array**	**97.96**	**316**	P	**P**	**08 18 24.4**	**-0.7**
ZALV	**Zalesovo Beam**	**98.18**	**324**	P	**P**	**08 18 23.7**	**-2.1**
	comp=Z,1.5nm,0.5s,baz=118,slow=6.0,SNR=5.4						
ZALV	**Zalesovo Beam**	**98.18**	**324**	P	**P**	**08 18 24.5**	**-1.3**
ARCES	**ARCESS Array B**	**121.06**	**345**	PKP	**PKPdf**	**08 23 39.8**	**-0.6**
	comp=Z,3.4nm,0.5s,baz=56,slow=1.4,SNR=33						
ARCES	**ARCESS Array B**	**121.06**	**345**	PKPdf	**PKPdf**	**08 23 39.0**	**-1.4**
KBZ	**Khabaz**	**125.49**	**313**	PKP	**PKiKP**	**08 23 50.0**	**0.0**
	comp=Z,2.3nm,0.8s,baz=144,slow=5.9,SNR=4.4						
FINES	**FINESS Array B**	**126.53**	**338**	PKP	**PKPdf**	**08 23 50.7**	**-0.3**
	comp=Z,6.0nm,1.0s,baz=252,slow=1.2,SNR=4.7						
FINES	**FINESS Array B**	**126.53**	**338**	PKPdf	**PKPdf**	**08 23 50.3**	**-0.7**
NOA	**NORSAR Array B**	**131.43**	**345**	PKP	**PKPdf**	**08 24 00.5**	**0.0**
	comp=Z,0.9nm,0.8s,baz=38,slow=2.8,SNR=2.2						
AKASG	**Malin Array Be**	**131.53**	**326**	PKP	**PKPdf**	**08 23 59.6**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=82,slow=2.0,SNR=5.4						
AKASG	**Malin Array Be**	**131.53**	**326**	PKPdf	**PKPdf**	**08 24 00.2**	**-0.7**
BURAR	**Bucovina Array**	**135.40**	**324**		**PKiKP**	**08 24 10.3**	**+0.3**
GERES	**GERESS Array B**	**140.45**	**333**	PKP	**PKPdf**	**08 24 18.0**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=338,slow=1.4,SNR=7.6						
GERES				SKPbc	**SKPbc**	**08 27 41.9**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=62,slow=3.2,SNR=4.8						
GERES	**GERESS Array B**	**140.45**	**333**		**PKPdf**	**08 24 17.8**	**+0.1**
WATA	**Walderalm**	**142.53**	**333**	*i* PKPdf	**PKPdf**	**08 24 21.0**	**-0.5**
	comp=Z,2.9nm,0.5s						
ABTA	**Abfaltersbach**	**142.55**	**332**	*i* PKPdf	**PKPdf**	**08 24 16.5**	**-5.0**
	comp=Z,1.2nm,0.4s						
MOTA	**Moosalm**	**142.72**	**333**	*i* PKPdf	**PKPdf**	**08 24 18.0**	**-3.9**
	comp=Z,7.8nm,1.0s						
FETA	**Feichten**	**143.14**	**333**	*i* PKPdf	PKPbc	08 24 19.3	-0.6
	comp=Z,7.4nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**143.65**	**333**		PKPbc	08 24 22.1	+0.6
TUE	**Stuetta**	**144.16**	**334**		PKPbc	08 24 23.3	+0.3
SALO	**Salr**	**144.31**	**332**		**PKPab**	**08 24 22.8**	**0.0**
MURB	**Monte Urbino**	**145.07**	**327**		**PKPbc**	**08 24 25.2**	**-0.5**
SENIN	**Lac Senin/Sane**	**145.08**	**336**		**PKPbc**	**08 24 25.6**	**-0.2**
TIP	**Timpagrande**	**145.21**	**318**		**PKPbc**	**08 24 25.5**	**-0.8**
CLF	**Chambon-Foret**	**145.36**	**343**		**PKPab**	**08 24 26.8**	**+0.1**
BNI	**Bardonecchia**	**146.41**	**335**		**PKPdf**	**08 24 28.3**	**0.0**
SSB	**Saint Sauveur**	**147.04**	**338**		**PKPbc**	**08 24 30.7**	**-0.8**
KEST	**Kesra**	**151.98**	**320**	PKPbc	**PKiKP**	**08 24 44.4**	**0.0**
	comp=Z,9.5nm,0.9s,baz=5.8,slow=5.7,SNR=5.9						
ESDC	**Sonseca Array**	**154.79**	**345**	PKPab	**PKPab**	**08 25 04.8**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=12,slow=5.3,SNR=6.6						
ESDC	**Sonseca Array**	**154.79**	**345**		**PKPab**	**08 25 04.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**166.13**	**262**	PKP	**PKPdf**	**08 24 53.6**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=62,slow=1.2,SNR=5.1						
TORD				PKPab	**PKPab**	**08 25 55.4**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=112,slow=3.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**166.13**	**262**		**PKPdf**	**08 24 53.1**	**-1.2**
TORD					**PKPab**	**08 25 54.7**	**-1.0**

NEIC ***19*** *08:05:57.3±1.7, 39.°32N±0.°09×140.°0E±0.°1, h155km±9km, mb4.2/8, Error ellipse: s-maj=18.8km s-min=9.9km az=123.0*

JMA ***19*** *08:05:58.5±0.1, 39.°33N×140.°19E, h159km±1km, M3.2*

IDC ***19*** *08:05:59.1±2.5, 39.°26N×140.°04E, h173km±28km, mb3.4/10, mb1 3.5/11, mb1mx3.3/53, mbtmp3.8/11, Error ellipse: s-maj=26.0km s-min=21.6km az=13.0*

ISC 19 08:05:58.0±0.6, **39.°31N**±0.°05×**140.°15E**±0.°07, **h164**km±5km, **n47**, σ0§80/57, **mb4.0**/13, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYW	**Yuwa**	**0.23**	**12**	P	**Pn**	**08 06 20.4**	**+0.4**
JYW				S	**Sn**	**08 06 37.1**	**+0.1**
JYYZ	**Yamagatayuza**	**0.34**	**210**	P	**Pn**	**08 06 21.1**	**+0.8**
JRG	**Rokugo**	**0.39**	**77**	P	**Pn**	**08 06 20.5**	**0.0**
JRG				S	**Sn**	**08 06 37.5**	**-0.2**
JYK	**Kaneyama**	**0.43**	**157**	P	**Pn**	**08 06 20.6**	**-0.1**
JYK				*e*S	**Sn**	**08 06 37.9**	**-0.1**
JYA	**Atsumi**	**0.79**	**205**	P	**Pn**	**08 06 22.9**	**+0.3**
JYA				S	**Sn**	**08 06 41.7**	**+0.2**
JOM	**Ohasama**	**0.90**	**79**	P	**Pn**	**08 06 23.5**	**+0.1**
JOM				S	**Sn**	**08 06 42.3**	**-0.5**
JMK	**Ichinoseki**	**0.91**	**113**	P	**Pn**	**08 06 23.3**	**-0.1**
JMK				*e*S	**Sn**	**08 06 42.1**	**-0.7**
JAH	**Hinai**	**0.95**	**23**	P	**Pn**	**08 06 23.9**	**+0.2**
JAH				S	**Sn**	**08 06 43.2**	**-0.4**
JOU	**Okura**	**1.03**	**157**	P	**Pn**	**08 06 24.6**	**+0.2**
JYS	**Shirataka**	**1.09**	**183**	P	**Pn**	**08 06 25.1**	**+0.2**
JAW	**Awa shima**	**1.10**	**220**	P	**Pn**	**08 06 25.1**	**+0.1**
JANG	**Nango**	**1.50**	**44**	P	**Pn**	**08 06 28.5**	**-0.1**
JANG				S	**Sn**	**08 06 50.9**	**-1.3**
JNS	**Sasagawa**	**1.63**	**204**	P	**Pn**	**08 06 30.3**	**+0.3**
JFT	**Otama**	**1.80**	**175**	P	**Pn**	**08 06 32.1**	**+0.3**
JFT				*e*S	**Sn**	**08 06 58.6**	**+0.8**
JSD	**Sado**	**1.95**	**230**	P	**Pn**	**08 06 33.7**	**+0.3**
JSD				S	**Sn**	**08 07 00.0**	**-0.7**
JOT	**Ohata**	**2.18**	**18**	P	**Pn**	**08 06 36.1**	**+0.1**
MAJO	**Matsushiro**	**3.16**	**210**	Pn	**Pn**	**08 06 48.2**	**+0.2**
MAT	**Matsushiro**	**3.16**	**210**	P	**Pn**	**08 06 48.4**	**+0.4**
MJAR	**Matsushiro Arr**	**3.16**	**210**	P	**Pn**	**08 06 48.5**	**+0.5**
	0.6nm,0.3s,baz=20,slow=12,SNR=28						
MJAR	**Matsushiro Arr**	**3.16**	**210**	Pn	**Pn**	**08 06 46.3**	**-1.7**
ERM	**Erimo**	**3.54**	**39**	Pn	**Pn**	**08 06 51.7**	**-1.0**
JKA	**Kamikawa-asahi**	**5.14**	**20**	Pn	**Pn**	**08 07 12.0**	**-1.4**
JHJ2	**Mitsune**	**6.19**	**183**	Pn	**Pn**	**08 07 24.5**	**-3.0**
PEA0B	**Petropavlovsk-**	**18.31**	**35**	P	**P**	**08 09 59.8**	**+0.3**
PEA0B				IAmb	IAmb	08 10 05.7	
	comp=Z,19nm,1.4s						
ZALV	**Zalesovo Beam**	**39.66**	**310**	P	**P**	**08 13 12.7**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=105,slow=9.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**39.66**	**310**	P	**P**	**08 13 13.1**	**-0.5**
MKAR	**Makanchi Array**	**42.09**	**300**	P	**P**	**08 13 33.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=96,slow=8.7,SNR=3.9						
MKAR	**Makanchi Array**	**42.09**	**300**	P	**P**	**08 13 32.9**	**-0.8**
KURK	**Kurchatov**	**43.76**	**306**	P	**P**	**08 13 46.2**	**-0.8**
KURBB	**Kurchatov Arra**	**43.83**	**306**	P	**P**	**08 13 47.4**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=80,slow=7.9,SNR=14						
IMAR	**Indian Mountai**	**45.22**	**32**	P	**P**	**08 13 59.3**	**+0.9**
GHO	**Glory Hole Cre**	**47.50**	**38**	P	**P**	**08 14 17.2**	**+1.0**
ILAR	**Eielson Array**	**48.13**	**33**	P	**P**	**08 14 21.3**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=274,slow=6.9,SNR=5.5						
SCM	**Sheep Creek Mo**	**48.24**	**37**	P	**P**	**08 14 23.0**	**+1.1**
SCM				IAmb	IAmb	08 14 31.3	
	comp=Z,8.0nm,1.4s						
BVAR	**Borovoye Array**	**48.32**	**311**	P	**P**	**08 14 22.7**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=90,slow=7.4,SNR=3.6						
BCAR	**Beaver Creek A**	**50.59**	**35**	P	**P**	**08 14 41.1**	**+1.3**
INK	**Inuvik**	**52.83**	**28**	P	**P**	**08 14 57.1**	**+1.1**
	comp=Z,2.7nm,1.0s,baz=272,slow=5.7,SNR=2.5						
CHGR	**Chuyangaron**	**53.81**	**293**	P	**P**	**08 15 04.2**	**+0.3**
CHGR				IAmb	IAmb	08 15 04.6	
	comp=Z,4.6nm,0.9s						
ARU	**Arti**	**54.00**	**317**	P	**P**	**08 15 04.8**	**-0.1**
	comp=Z,1.6nm,0.2s,baz=104,slow=6.6,SNR=3.2						
ABKAR	**Akbulak array**	**55.72**	**309**	P	**P**	**08 15 17.2**	**-0.1**
EUNU	**Eureka**	**58.09**	**9**	P	**P**	**08 15 34.0**	**+0.4**
EUNU				IAmb	IAmb	08 15 39.6	
	comp=Z,4.8nm,1.4s						
WR0	**Warramunga Arr**	**59.19**	**186**	P	**P**	**08 15 40.0**	**-1.8**
WRA	**Warramunga Arr**	**59.19**	**186**	P	**P**	**08 15 41.3**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=2.1,slow=7.2,SNR=1.7						
ARCES	**ARCESS Array B**	**61.52**	**339**	P	**P**	**08 15 56.9**	**-0.1**
	comp=Z,3.0nm,1.0s,baz=52,slow=9.3,SNR=4.3						
NC405	**NORSAR Array S**	**71.49**	**336**	P	**P**	**08 17 00.0**	**-0.4**
PDAR	**Pinedale Array**	**76.78**	**45**	P	**P**	**08 17 32.5**	**+0.8**
	comp=Z,2.0nm,0.5s,baz=336,slow=2.0,SNR=2.4						
PDAR	**Pinedale Array**	**76.78**	**45**	P	**P**	**08 17 32.1**	**+0.5**

IDC 19 08:06:54.2±3.1, **54.°23N×87.°30E, h0**km, **mb1 2.8**/2, **mb1mx2.7**/46, **mbtmp2.8**/2, **ML2.4**/2, **Error ellipse: s-maj=26.4km s-min=17.2km az=60.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**260**	*i*		08 16 10.0	
	baz=78,slow=302,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.49**	**260**	Pg	Pn	08 07 20.9	-1.3
	2.4nm,0.3s,baz=78,slow=16,SNR=15						
ZALV				Lg	Lg	08 07 41.3	
	1.5nm,0.3s,baz=78,slow=28,SNR=7.6						
KURBB	**Kurchatov Arra**	**6.46**	**240**	Pn	Pn	08 08 31.3	+0.7
	0.1nm,0.3s,baz=56,slow=14,SNR=7.2						
KURBB				Lg	Lg	08 10 19.6	
	0.0nm,0.3s,baz=59,slow=35,SNR=3.0						
MKAR	**Makanchi Array**	**8.10**	**205**	Pn	Pn	08 08 54.2	+1.2
	0.1nm,0.3s,baz=20,slow=14,SNR=3.8						
MKAR				Sn	Sn	08 10 25.0	-0.3
	0.1nm,0.3s,baz=28,slow=28,SNR=2.3						

IDC ***19*** *08:07:33.4±3.9, 34.°76N×70.°56E, h0km, mb3.5/4, mb1 3.7/7, mb1mx3.5/46, mbtmp3.6/7, ML3.3/3, MS2.6/3, Ms1 2.6/3, ms1mx2.3/46, Error ellipse: s-maj=87.3km s-min=25.5km az=135.0*

ISC 19 08:07:37.9±1.9, **34.°6N**±0.°2×**70.°7E**±0.°2, **h42**km, **n10**, σ1§02/11, **mb3.5/4**, **2C, Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**8.47**	**359**	P	**Pn**	**08 09 38.3**	**+0.3**
	0.5nm,0.2s,baz=182,slow=13,SNR=34						
KK31				⇑S	**Sn**	**08 11 13.4**	**+1.1**
	0.7nm,0.3s,baz=41,slow=83,SNR=4.4						
AAK	**Ala-Archa**	**8.54**	**19**	Pn	**Pn**	**08 09 39.6**	**+0.5**
	0.8nm,0.3s,baz=207,slow=5.7,SNR=7.0						
AAK				Sn	**Sn**	**08 11 14.3**	**+0.2**
	0.3nm,0.3s,baz=195,slow=20,SNR=1.5						
MKAR	**Makanchi Array**	**14.98**	**32**	Pn	**Pn**	**08 11 07.6**	**+0.8**
	0.3nm,0.3s,baz=224,slow=14,SNR=12						
MKAR				LR	LR	08 17 05.3	
	comp=Z,16nm,21.1s,baz=198,slow=38						
AB01	**Akbulak array**	**16.64**	**335**	⇑P	**Pn**	**08 11 26.7**	**-1.2**
	3.1nm,0.7s						
BVAR	**Borovoye Array**	**18.40**	**359**	P	**P**	**08 11 47.9**	**-1.4**
	0.0nm,0.3s,baz=165,slow=12,SNR=2.1						
BVAR				LR	LR	08 19 13.1	
	comp=Z,20nm,18.8s,baz=322,slow=38						
ZALV	**Zalesovo Beam**	**21.73**	**23**	P	**P**	**08 12 24.0**	**-1.4**
	1.4nm,0.4s,baz=216,slow=11,SNR=4.2						
ARU	**Arti**	**23.34**	**343**	LR	LR	08 22 32.7	
	comp=Z,17nm,20.8s,baz=49,slow=39						
ARCES	**ARCESS Array B**	**42.79**	**338**	P	**P**	**08 15 31.3**	**+0.3**
	0.8nm,0.6s,baz=117,slow=7.3,SNR=5.1						
NOA	**NORSAR Array B**	**45.74**	**324**	P	**P**	**08 15 54.6**	**-0.2**
	0.3nm,0.5s,baz=98,slow=8.1,SNR=1.5						
TORD	**Torodi Ar. Bea**	**65.43**	**269**	P	**P**	**08 18 17.6**	**+0.8**
	0.2nm,0.8s,baz=55,slow=7.4,SNR=1.7						

BJI ***19*** *08:25:49.0±0.0, 5.°00S×150.°80E, h10km, mB5.0/14, mb4.8/23, Ms4.6/13, Ms7 4.3/13*

IDC ***19*** *08:25:50.3±0.5, 5.°56S×150.°86E, h0km, mb4.5/22, mb1 4.6/23, mb1mx4.5/38, mbtmp4.5/23, ML3.5/1, MS4.2/27, Ms1 4.2/27, ms1mx4.1/38, Error ellipse: s-maj=16.0km s-min=11.6km az=90.0*

DJA ***19*** *08:25:53.5±1.3, 5.°S±3.°×15.°1E±.°, h20km±9km, M4.9/31, mb5.0/31, mB5.4/11, MLv5.0/2, Mw(mB)4.8/11, Mwp5.1/1*

NEIC ***19*** *08:25:55.1±2.4, 5.°48S±0.°07×150.°86E±0.°08, h35km±2km, mb4.8/49, Error ellipse: s-maj=15.0km s-min=10.4km az=131.0*

GCMT ***19*** *08:25:56.1±0.2, 5.°30S±0.°01×150.°60E±0.°01, h12km, MW5.0/125, Moment Tensor Solution. s67,c84; s125,c199; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.62±.09; Mθθ3.91±.07; Mϕϕ-3.30±.08; Mrθ-0.55±.21; Mθϕ2.35±.07; Mϕr0.92±.23; Best double couple: Mo4.45800×10^16 NP1:ϕs209.00000°, δ77.00000°, λ-171.00000°. NP2:ϕs117.00000°, δ81.00000°, λ-13.00000°. Principal axes: T 4.6220, Plg3.0000°, Azm164.0000°; N -0.3360, Plg74.0000°, Azm264.0000°; P -4.2940, Plg16.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 08:25:55.5±0.4, **5.°48S**±0.°05

KSM	**Kuching**	**41.03 279**	P	**P**	**08 33 35.6**	**-0.2**
KSM			IAmb	IAmb	08 33 38.3	
	comp=Z,15nm,0.9s					
YHNB	**Yeheng**	**41.46 318**	P	**P**	**08 33 39.7**	**+0.4**
LTZ	**Lake Taylor**	**41.73 156**	P	**P**	**08 33 42.7**	**+1.5**
LTZ			IAmb	IAmb	08 33 49.7	
	comp=Z,39nm,1.5s					
BFZ	**Birch Farm**	**41.82 151**	P	**P**	**08 33 42.8**	**+0.9**
BFZ			IAmb	IAmb	08 33 54.7	
	comp=Z,26nm,1.1s					
MSWZ	**Moikau Station**	**41.91 152**	P	**P**	**08 33 43.1**	**+0.4**
KHZ	**Kahutara**	**41.95 155**	P	**P**	**08 33 43.3**	**+0.3**
KHZ			IAmb	IAmb	08 33 48.9	
	comp=Z,25nm,1.2s					
PLWZ	**Palliser**	**42.04 152**	P	**P**	**08 33 44.1**	**+0.4**
RPZ	**Rata Peaks**	**42.05 158**	P	**P**	**08 33 43.8**	**0.0**
	comp=Z,7.6nm,0.8s,baz=0.0,slow=6.1,SNR=3.7					
RPZ	**Rata Peaks**	**42.05 158**	P	**P**	**08 33 44.2**	**+0.4**
RPZ			IAmb	IAmb	08 33 55.6	
	comp=Z,18nm,1.0s					
JNU	**Nakatsue**	**42.80 335**	P	**P**	**08 33 50.1**	**+0.1**
JNU			IAmb	IAmb	08 33 56.5	
	comp=Z,19nm,0.8s					
MJAR	**Matsushiro Arr**	**43.44 345**	P	**P**	**08 33 54.4**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=174,slow=9.2,SNR=8.1					
MJAR			LR	LR	08 51 16.6	
	comp=Z,230nm,19.3s,baz=180,slow=35					
QIZ	**Qiongzhong**	**47.12 302**	P	P	08 34 16.8	-7.8
QIZ			S	S	08 41 05.8	-9.2
QIZ			LR	LR		
	comp=Z,250nm,12.8s					
QIZ			LR	LR		
	comp=Z,230nm,16.7s					
KSRS	**Korea Array**	**47.75 335**	P	**P**	**08 34 30.3**	**+1.2**
	comp=Z,4.3nm,0.8s,baz=153,slow=8.0,SNR=18					
KSRS			LR	LR	08 52 25.0	
	comp=Z,196nm,21.8s,baz=163,slow=33					
KSAR	**Wonju Array Be**	**47.75 335**	P	**P**	**08 34 29.4**	**+0.3**
NJ2	**Nanjing**	**48.15 323**	*e*P	P	08 34 24.4	-8.0
NJ2			pmax	pmax		
	comp=Z,7.0nm,0.5s					
USRK	**Ussuriysk Ar.**	**52.28 343**	P	**P**	**08 35 04.2**	**+0.8**
	comp=Z,3.0nm,0.9s,baz=152,slow=8.6,SNR=7.4					
USRK			LR	LR	08 56 38.5	
	comp=Z,109nm,19.7s,baz=156,slow=35					
USRK	**Ussuriysk Ar.**	**52.28 343**	P	**P**	**08 35 03.7**	**+0.3**
SLVN	**Son La**	**53.14 302**	P	**P**	**08 35 11.0**	**+0.7**
GYA	**Guiyang**	**53.25 309**	*e*P	**P**	**08 35 15.6**	**+4.5**
GYA			pmax	pmax		
	comp=Z,12nm,1.5s					
GYA			LR	LR		
	comp=Z,210nm,17.6s					
CN2	**Changchun**	**54.13 338**	*e*P	**P**	**08 35 12.8**	**-4.3**
CN2			*e*S	**S**	**08 42 46.6**	**-4.9**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.7s					
CN2			pmax	pmax		
	comp=Z,100nm,3.0s					
CN2			LR	LR		
	comp=Z,200nm,16.0s					
CN2			LR	LR		
	comp=Z,200nm,16.0s					
CN2			LR	LR		
	comp=Z,200nm,17.0s					
BJI	**Beijing**	**55.38 328**	P	P	08 35 17.8	-8.4
BJI			S	**S**	**08 43 05.1**	**-3.3**
BJI			pmax	pmax		
	comp=Z,3.0nm,0.6s					
BJI			LR	LR		
	comp=N,170nm,21.1s					
BJI			LR	LR		
	comp=E,130nm,17.6s					
BJI			LR	LR		
	comp=Z,440nm,51.0s					
KMI	**Kunming**	**55.74 305**	⇑P	**P**	**08 35 31.4**	**+2.1**
KMI			pmax	pmax		
	comp=Z,23nm,1.0s					
XAN	**Xi'an**	**55.77 318**	P	**P**	**08 35 31.1**	**+1.9**
XAN			pP	pP	08 35 38.3	-1.4
XAN			S	**S**	**08 43 13.8**	**-0.1**
XAN	**Xi'an**	**55.77 318**	P	**P**	**08 35 30.6**	**+1.4**
CM31	**Chiang Mai Arr**	**56.38 296**	P	**P**	**08 35 34.5**	**+0.7**
CM31			IAmb	IAmb	08 35 37.1	
	comp=Z,12nm,0.8s					
CMAR	**Chiang Mai Arr**	**56.38 296**	P	**P**	**08 35 35.2**	**+1.4**
	comp=Z,8.1nm,0.8s,baz=113,slow=5.8,SNR=37					
CMAR			LR	LR	09 00 11.9	
	comp=Z,82nm,19.2s,baz=150,slow=36					
CMAR	**Chiang Mai Arr**	**56.38 296**	P	**P**	**08 35 34.8**	**+1.0**
CHTO	**Chiang Mai**	**56.50 297**	P	**P**	**08 35 35.4**	**+0.7**
CHTO			IAmb	IAmb	08 35 37.6	
	comp=Z,8.0nm,0.9s					
CD2	**Chengdu**	**57.69 312**	*e*P	P	08 35 35.0	-7.9
CD2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
HHC	**Hu-ho-hao-te**	**58.46 326**	*e*P	**P**	**08 35 47.8**	**-0.4**
HHC			pmax	pmax		
	comp=Z,60nm,0.7s					
HHC			pmax	pmax		
	comp=Z,94nm,5.7s					
HHC			LR	LR		
	comp=Z,250nm,18.0s					
HHC			LR	LR		
	comp=Z,230nm,17.5s					
HHC			LR	LR		
	comp=Z,280nm,17.1s					
PEA0B	**Petropavlovsk-**	**58.66 5**	P	**P**	**08 35 49.6**	**+0.5**
PETK	**Petropavlovsk-**	**58.66 5**	P	**P**	**08 35 48.7**	**-0.5**
	comp=Z,11nm,0.8s,baz=170,slow=9.0,SNR=10					
PETK			LR	LR	08 57 23.8	
	comp=Z,152nm,21.4s,baz=237,slow=32					
PETK	**Petropavlovsk-**	**58.66 5**	P	**P**	**08 35 47.9**	**-1.2**
PPT	**Papeete**	**59.42 107**	LR	LR	08 59 15.0	
	comp=Z,65nm,18.6s,baz=286,slow=34					
PPT2	**Papeete2**	**59.42 107**	*e*LQ	LQ	08 50 42.3	
	comp=Z,245nm,23.2s					
PPT2			*e*LR	LR	08 53 05.4	
	comp=Z,186nm,25.2s					
TBI	**Tubuai**	**60.10 114**	*e*LQ	LQ	08 51 03.1	
	comp=Z,782nm,34.2s					
TBI			*e*LR	LR	08 53 32.8	
	comp=Z,329nm,34.0s					
LZH	**Lanzhou**	**60.35 317**	*e*P	**P**	**08 36 04.4**	**+3.0**
LZH			pP	pP	08 36 11.8	-0.2
LZH			S	**S**	**08 44 15.0**	**+1.0**
LZH	**Lanzhou**	**60.35 317**	SS	SS	08 48 13.9	+1.7
LZH			pmax	pmax		
	comp=Z,42nm,1.0s					
LZH			pmax	pmax		
	comp=Z,120nm,6.0s					
LZH			LR	LR		
	comp=N,230nm,14.1s					
LZH			LR	LR		
	comp=E,340nm,14.6s					
LZH			LR	LR		
	comp=Z,400nm,15.2s					
GTA	**Gaotai**	**64.82 318**	*e*P	**P**	**08 36 33.4**	**+2.3**
GTA			pP	pP	08 36 37.8	-4.0
GTA			sP	sP	08 36 40.6	-5.3
GTA			pmax	pmax		
	comp=Z,11nm,1.0s					
GTA			pmax	pmax		
	comp=Z,92nm,6.0s					
GTA			LR	LR		
	comp=N,85nm,16.2s					
GTA			LR	LR		
	comp=E,160nm,17.1s					
GTA			LR	LR		
	comp=Z,130nm,18.4s					
ULN	**Ulaanbaatar**	**65.54 329**	P	**P**	**08 36 35.0**	**-0.7**
SONM	**Songino Array**	**65.86 329**	P	**P**	**08 36 39.5**	**+1.9**
	comp=Z,14nm,0.9s,baz=138,slow=5.1,SNR=47					
SONM			LR	LR	09 04 13.6	
	comp=Z,193nm,20.5s,baz=118,slow=35					
SONM	**Songino Array**	**65.86 329**	P	**P**	**08 36 36.7**	**-0.9**
TAOE	**Nuku Hiva Isla**	**68.51 97**	*e*LR	LR	08 57 21.4	
	comp=Z,128nm,20.9s					
VNDA	**Vanda**	**72.23 177**	P	**P**	**08 37 16.7**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=345,slow=7.1,SNR=2.7					
VNDA			LR	LR	09 05 51.9	
	comp=Z,152nm,18.8s,baz=322,slow=33					
WMQ	**Urumqi**	**74.91 318**	*e*P	P	08 37 25.6	-7.4
WMQ			pmax	pmax		
	comp=Z,18nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,82nm,4.1s					

MK31	**Makanchi Array**	**79.54 319**	P	**P**	**08 37 59.3**	**+0.4**
MK31			IAmb	IAmb	08 38 02.6	
	comp=Z,6.9nm,1.0s					
MKAR	**Makanchi Array**	**79.54 319**	P	**P**	**08 37 59.6**	**+0.7**
	comp=Z,7.4nm,0.9s,baz=101,slow=6.3,SNR=34					
MKAR			PP	PP	**08 40 59.6**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=99,slow=9.2,SNR=4.1					
MKAR			LR	LR	09 13 15.5	
	comp=Z,102nm,18.6s,baz=104,slow=36					
MKAR	**Makanchi Array**	**79.54 319**	P	**P**	**08 37 58.4**	**-0.4**
MAKZ	**Makanchi**	**79.75 319**	P	**P**	**08 38 00.5**	**+0.5**
MAKZ			IAmb	IAmb	08 38 03.6	
	comp=Z,9.8nm,1.0s					
ZAA0	**Zalesovo Array**	**80.62 327**	P	**P**	**08 38 05.6**	**+1.1**
ZAA0			IAmb	IAmb	08 38 06.7	
	comp=Z,4.8nm,0.8s					
ZALV	**Zalesovo Beam**	**80.62 327**	P	**P**	**08 38 05.2**	**+0.8**
	comp=Z,5.4nm,0.8s,baz=113,slow=6.0,SNR=16					
ZALV			LR	LR	09 14 02.4	
	comp=Z,118nm,19.8s,baz=94,slow=36					
ZALV	**Zalesovo Beam**	**80.62 327**	P	**P**	**08 38 03.4**	**-1.1**
KDJ	**Kajisay**	**81.64 314**	P	**P**	**08 38 11.4**	**+0.9**
RND	**Reindeer**	**82.13 23**	P	**P**	**08 38 11.8**	**-0.6**
RND			IAmb	IAmb	08 38 16.8	
	comp=Z,4.9nm,0.9s					
NIL	**Nilore**	**82.72 305**	P	**P**	**08 38 16.5**	**+0.4**
NIL			IAmb	IAmb	08 38 19.6	
	comp=Z,8.4nm,0.8s					
KURK	**Kurchatov**	**83.09 322**	P	**P**	**08 38 17.7**	**+0.1**
KURK			IAmb	IAmb	08 38 20.4	
	comp=Z,7.3nm,0.8s					
KURBB	**Kurchatov Arra**	**83.11 322**	P	**P**	**08 38 17.9**	**+0.2**
	comp=Z,3.9nm,0.9s,baz=111,slow=4.4,SNR=25					
IL31		**83.54 22**	P	**P**	**08 38 18.6**	**-1.0**
ILAR	**Eielson Array**	**83.54 22**	P	**P**	**08 38 17.4**	**-2.2**
	comp=Z,1.4nm,0.8s,baz=256,slow=4.9,SNR=9.9					
ILAR	**Eielson Array**	**83.54 22**	P	**P**	**08 38 16.2**	**-3.4**
AAK	**Ala-Archa**	**83.70 314**	P	**P**	**08 38 23.1**	**+2.0**
	comp=Z,1.8nm,0.4s,baz=182,slow=2.7,SNR=5.0					
AAK			LR	LR	09 15 04.0	
	comp=Z,153nm,20.8s,baz=98,slow=35					
AAK	**Ala-Archa**	**83.70 314**	P	**P**	**08 38 21.9**	**+0.8**
MAW	**Mawson**	**84.18 203**	P	**P**	**08 38 21.8**	**-1.0**
	comp=Z,2.5nm,0.8s,baz=99,slow=6.8,SNR=8.8					
MAW			LR	LR	09 14 44.6	
	comp=Z,191nm,18.6s,baz=61,slow=35					
MAW	**Mawson**	**84.18 203**	P	**P**	**08 38 24.0**	**+1.2**
QSPA	**South Pole Qui**	**84.48 180**	P	**P**	**08 38 26.3**	**+1.7**
QSPA			IAmb	IAmb	08 38 46.1	
	comp=Z,6.4nm,0.8s					
BCAR	**Beaver Creek A**	**84.86 25**	P	**P**	**08 38 25.0**	**-1.4**
EGAK	**Eagle**	**85.77 23**	P	**P**	**08 38 29.4**	**-1.4**
NRIK	**Norilsk**	**85.97 341**	P	**P**	**08 38 33.5**	**+1.7**
	comp=Z,3.9nm,0.8s,baz=110,slow=6.1,SNR=4.8					
NRIK			LR	LR	09 17 06.2	
	comp=Z,94nm,19.7s,baz=185,slow=36					
KK31	**Karatay Array**	**86.66 314**	P	**P**	**08 38 35.2**	**-0.5**
KK31			IAmb	IAmb	08 38 44.0	
	comp=Z,6.1nm,1.4s					
KKAR	**Karatay Array**	**86.66 314**	P	**P**	**08 38 35.4**	**-0.4**
KKAR	**Karatay Array**	**86.66 314**	P	**P**	**08 38 35.0**	**-0.8**
KKAR			IAmb	IAmb	08 38 44.0	
	comp=Z,6.1nm,1.4s					
BVAR	**Borovoye Array**	**88.60 323**	P	**P**	**08 38 45.3**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=91,slow=5.9,SNR=10					
BRVK	**Borovoye**	**88.67 323**	P	**P**	**08 38 44.6**	**-0.5**
BRVK			IAmb	IAmb	08 38 48.0	
	comp=Z,8.0nm,1.4s					
SYO	**Syowa Base**	**92.36 200**‖	*e*PcP	**P**	**08 39 04.6**	**+2.6**
SYO	**Syowa Base**	**92.36 200**‖	*e*pP	pP	08 39 14.6	+1.4
NVAR	**Mina Array Bea**	**94.07 52**	P	**P**	**08 39 12.2**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=258,slow=5.9,SNR=3.7					
NVAR			LR	LR	09 14 49.5	
	comp=Z,139nm,20.6s,baz=271,slow=31					
NVAR	**Mina Array Bea**	**94.07 52**	P	**P**	**08 39 10.7**	**-0.1**
ABKAR	**Akbulak array**	**94.67 319**	P	**P**	**08 39 12.2**	**-0.8**
ARU	**Arti**	**95.77 326**	LR	LR	09 21 55.7	
	comp=Z,223nm,21.5s,baz=88,slow=35					
AKTO	**Aktyubinsk**	**95.97 320**	LR	LR	09 22 34.0	
	comp=Z,127nm,20.3s,baz=77,slow=35					
YKA	**Yellowknife Ar**	**96.95 28**	LR	LR	09 19 46.7	
	comp=Z,63nm,19.8s,baz=0.0,slow=33					
LPAZ	**La Paz**	**135.82 120**	PKP	**PKPdf**	**08 45 14.2**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=256,slow=4.2,SNR=4.9					
TORD	**Torodi Ar. Bea**	**148.61 286**	PKPbc	**PKPbc**	**08 45 39.9**	**0.0**
	comp=Z,1.8nm,0.9s,baz=60,slow=2.3,SNR=9.4					
BDFB	**Brasilia**	**151.93 139**	PKPbc	**PKiKP**	**08 45 48.5**	**+0.1**
	comp=Z,5.8nm,0.7s,baz=166,slow=2.2,SNR=9.4					

TIR ***19*** *08:37:01.9, 41.˚18N×20.˚08E, h13km, Md2.7/5*
SKO ***19*** *08:37:04.3, 41.˚22N×19.˚97E, h3km*
BEO ***19*** *08:37:04.0±0.6, 41.˚14N×19.˚96E, h1km±2km, ML2.3/6*

ISC 19 08:37:03.3±1.2, 41.˚17N±0.˚03×19.˚95E±0.˚03, h5km±10km, n39, σ1°49/57, 1D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.19**	**341**	*i* PG	**Pg**	**08 37 07.1**	**+0.1**
TIR				*i* SG	**Sg**	**08 37 11.5**	**+2.0**
TIR	**Tirane**	**0.19**	**341**	*e*Pg	**Pg**	**08 37 07.1**	**+0.1**
TIR				*e*Sg	**Sg**	**08 37 11.0**	**+1.5**
PHP	**Peshkopia**	**0.63**	**36**	*i* PG	**Pg**	**08 37 13.6**	**-1.9**
PHP				*i* SG	**Sg**	**08 37 23.1**	**-0.7**
OHR	**Ohrid**	**0.65**	**95**	*i* Pg	**Pg**	**08 37 15.3**	**-0.4**
OHR				*i* Sg	**Sg**	**08 37 24.3**	**+0.1**
OHR				*e*Lg	Lg	08 37 27.3	
	comp=N,109nm,0.5s						
PUK	**Puka**	**0.87**	**357**	*i* PG	**Pg**	**08 37 19.0**	**-1.0**
PUK				*i* SG	**Sb**	**08 37 32.3**	**-0.8**
LSK	**Leskovik**	**1.13**	**154**	*i* PG	**Pb**	**08 37 23.7**	**-1.7**
LSK				*i* SG	**Sg**	**08 37 39.5**	**-0.3**
DRME	**Dracevica, Mon**	**1.17**	**331**	*e*Pn	**Pb**	**08 37 23.6**	**-2.4**
BCI	**Bajram Curri**	**1.20**	**4**	*i* PN	**Pb**	**08 37 24.6**	**-2.0**
BCI				*i* SN	**Sg**	**08 37 42.3**	**+0.5**
PDG	**Podgorica**	**1.36**	**338**	*e*Pg	**Pg**	**08 37 29.7**	**+0.3**
PDG				*e*Sg	**Sg**	**08 37 49.1**	**+2.1**
PDG	**Podgorica**	**1.36**	**338**	*e*Pn	**Pn**	**08 37 26.7**	**-2.3**
SKO	**Skopje**	**1.38**	**54**	*e*Pg	**Pg**	**08 37 29.8**	**+0.1**
SKO				*e*Sg	**Sg**	**08 37 47.6**	**0.0**
SKO	**Skopje**	**1.38**	**54**	*i* Pg	**Pg**	**08 37 29.9**	**+0.1**
SKO				*i* Sg	**Sg**	**08 37 48.5**	**+1.0**
SKO				*e*Lg	Lg	08 37 51.3	
	comp=E,8.1nm,0.7s						
HCY	**Herceg Novi**	**1.68**	**320**	*e*Pn	**Pn**	**08 37 31.8**	**-1.5**
STIP	**Stip**	**1.76**	**72**	*i* Pn	**Pg**	**08 37 37.3**	**+0.2**
STIP				*e*Sn	**Sg**	**08 38 04.9**	**+4.9**
STIP				*e*Lg	Lg	08 38 08.3	
	comp=N,4.5nm,0.4s						
TREB	**Trebinje**	**1.95**	**323**	*e*Pn	**Pb**	**08 37 38.1**	**-1.3**
TREB	**Trebinje**	**1.95**	**323**	*e*Pn	**Pn**	**08 37 37.6**	**+0.5**
VAY	**Valandovo**	**1.98**	**85**‖	*i*Pn	**Pb**	**08 37 40.2**	**+0.3**
VAY				*e*Sn	**Sg**	**08 38 06.2**	**-0.8**
VAY				*e*Lg	Lg	08 38 10.8	
	comp=E,22nm,0.8s						
DBRK	**Dubrovnik**	**2.01**	**319**	*e*Pn	**Pb**	**08 37 39.6**	**-0.8**
DBRK				Sn	**Sg**	**08 38 09.8**	**+1.8**
BRY	**Bratogost**	**2.02**	**329**	*e*Pn	**Pb**	**08 37 39.6**	**-1.1**
SJES	**Sjenica**	**2.09**	**1**	*e*Pn	**Pb**	**08 37 40.6**	**-1.2**
SJES				*e*Sn	**Sb**	**08 38 08.3**	**+0.2**
BARS	**Barje**	**2.16**	**40**	*e*Pn	**Pb**	**08 37 41.4**	**-1.5**
BARS				*e*Sn	**Sb**	**08 38 09.1**	**-0.8**
UPM	**Unac-Piva**	**2.17**	**339**	*e*Pn	**Pb**	**08 37 42.2**	**-1.1**
SELS	**Selova**	**2.23**	**23**	*e*Pn	**Pn**	**08 37 41.6**	**+0.7**
SELS				*e*Sn	**Sb**	**08 38 10.1**	**-1.8**
BOSS	**Bosilegrad**	**2.31**	**54**	*e*Sn	**Pn**	**08 37 43.5**	**+1.4**
BOSS	**Bosilegrad**	**2.31**	**54**	*e*Pn	**Sn**	**08 38 12.4**	**+1.5**
STON	**Ston**	**2.39**	**316**	*e*Pn	**Pb**	**08 37 45.3**	**-1.4**
STON				Sn	**Sb**	**08 38 14.9**	**-1.5**
RUDO	**Rudo**	**2.48**	**350**	*e*Pn	**Pb**	**08 37 46.1**	**-2.3**
BBLS	**Lazići**	**2.72**	**352**	*e*Pn	**Pn**	**08 37 49.0**	**+1.2**
BBLS	**Lazići**	**2.72**	**352**	*e*Pn	**Pn**	**08 37 47.2**	**-0.6**
GRUS	**Gruza**	**2.77**	**12**	*e*Pn	**Pb**	**08 37 50.9**	**-2.5**
BOVS	**Bovan**	**2.79**	**27**	*e*Pn	**Pn**	**08 37 50.4**	**+1.8**
DIVS	**Divibare**	**2.93**	**1**	*e*Pn	**Pn**	**08 37 52.2**	**+1.6**
DIVS	**Divibare**	**2.93**	**1**	*e*Pn	**Pn**	**08 37 50.2**	**-0.4**
MAKA	**Makarska**	**3.03**	**315**	*e*Pn	**Pn**	**08 37 53.6**	**+1.3**
RICI	**Ricice**	**3.12**	**319**	*e*Pn	**Pn**	**08 37 54.3**	**+1.0**
ZAGS	**Zajecar**	**3.13**	**32**	*e*Pn	**Pn**	**08 37 54.2**	**+0.8**
KIJV	**Kijevo**	**3.85**	**318**	*e*Pn	**Pn**	**08 38 04.4**	**+1.1**
ZIRJ	**Zirje**	**4.04**	**309**	*e*Pn	**Pn**	**08 38 07.1**	**+1.4**
ZIRJ				Sn	**Sn**	**08 38 55.2**	**+1.7**
DUGI	**Dugi Otok**	**4.58**	**310**	*e*Pn	**Pn**	**08 38 14.4**	**+1.1**

IDC ***19*** *08:38:14.0±3.2, 34.˚47N×70.˚99E, h0km, mb3.8/6, mb1 3.9/12, mb1mx3.6/48, mbtmp3.8/12, ML3.5/6, MS3.8/3, Ms1 3.8/3, ms1mx2.8/57, Error ellipse: s-maj=62.2km s-min=22.3km az=137.0*
NNC ***19*** *08:38:23.4±3.8, 35.˚07N×70.˚57E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=45.1km s-min=22.7km az=135.0*

ISC 19 08:38:23.3±0.9, 34.˚77N±0.˚08×70.˚69E±0.˚08, h50km, n19, σ1°23/22, mb3.9/6, 3C-2D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**4.80**	**118**	*e*P	**Pn**	**08 39 34.0**	**+1.0**
THN				*e*S	**Sn**	**08 40 26.5**	**-0.8**
KK31	**Karatay Array**	**8.32**	**359**	P	**Pn**	**08 40 22.0**	**+0.7**
	7.9nm,0.7s,baz=185,slow=13,SNR=41						
KK31				⇓S	**Sn**	**08 41 54.3**	**+0.5**
	2.8nm,0.5s,baz=181,slow=22,SNR=6.2						
AAK	**Ala-Archa**	**8.40**	**20**	Pn	**Pn**	**08 40 23.4**	**+1.0**
	1.4nm,0.3s,baz=184,slow=13,SNR=13						
AAK				Sn	**Sn**	**08 41 57.0**	**+1.1**
	baz=157,slow=13,SNR=1.1						
AAK				LR	LR	08 43 29.4	
	comp=Z,26nm,19.8s,baz=192,slow=37						
AAK	**Ala-Archa**	**8.40**	**20**	⇑P	**Pn**	**08 40 22.9**	**+0.5**
	6.6nm,0.6s						
AAK				⇑S	**Sn**	**08 41 56.7**	**+0.8**
	6.6nm,0.8s						
GEYT	**Alibeck**	**10.62**	**291**	Pn	**Pn**	**08 40 53.0**	**+0.2**
	0.6nm,0.3s,baz=125,slow=12,SNR=1.9						
MKAR	**Makanchi Array**	**14.86**	**33**	Pn	**Pn**	**08 41 47.4**	**-2.8**
	0.1nm,0.3s,baz=206,slow=9.7,SNR=2.3						
AB01	**Akbulak array**	**16.50**	**335**	⇑P	**Pn**	**08 42 10.0**	**-1.2**
	8.0nm,0.7s						
KURBB	**Kurchatov Arra**	**16.84**	**17**	P	**Pn**	**08 42 14.8**	**-0.6**
	0.1nm,0.3s,baz=206,slow=10,SNR=6.3						
AKTO	**Aktyubinsk**	**18.18**	**333**	P	**P**	**08 42 32.3**	**+0.6**
	0.1nm,0.3s,baz=145,slow=12,SNR=5.8						
AKTO				S	**Sn**	**08 45 51.2**	**-2.7**
	0.1nm,0.3s,baz=180,slow=20,SNR=2.1						
AKTO	**Aktyubinsk**	**18.18**	**333**	⇓P	**Pn**	**08 42 33.7**	**+1.8**
	8.8nm,1.1s						
BVAR	**Borovoye Array**	**18.25**	**359**	P	**P**	**08 42 32.3**	**-0.1**
	0.3nm,0.3s,baz=179,slow=11,SNR=4.1						
BVAR				LR	LR	08 50 02.0	
	comp=Z,771nm,20.8s,baz=158,slow=38						
ZALV	**Zalesovo Beam**	**21.59**	**23**	P	**P**	**08 43 07.3**	**-1.3**
	2.5nm,0.5s,baz=213,slow=12,SNR=6.0						
ARU	**Arti**	**23.19**	**343**	LR	LR	08 53 33.7	
	comp=Z,71nm,18.5s,baz=180,slow=39						
FINES	**FINESS Array B**	**38.79**	**327**	P	**P**	**08 45 43.2**	**+0.5**
	3.9nm,1.0s,baz=88,slow=14,SNR=2.1						
ARCES	**ARCESS Array B**	**42.65**	**338**	P	**P**	**08 46 14.7**	**+0.2**
	1.7nm,0.6s,baz=114,slow=8.3,SNR=9.5						
NOA	**NORSAR Array B**	**45.62**	**324**	P	**P**	**08 46 38.3**	**-0.1**
	0.5nm,0.5s,baz=98,slow=7.7,SNR=1.9						
ESDC	**Sonseca Array**	**58.05**	**299**	P	**P**	**08 48 11.4**	**+0.1**
	0.7nm,0.8s,baz=39,slow=6.6,SNR=4.0						
JCJ	**Chichijima**	**60.65**	**76**	LR	LR	09 16 27.7	
	comp=Z,89nm,20.8s,baz=97,slow=38						
TORD	**Torodi Ar. Bea**	**65.44**	**269**	P	**P**	**08 49 00.5**	**-0.8**
	0.2nm,0.4s,baz=41,slow=5.9,SNR=1.8						

IDC 19 08:46:44.7±2.9, 54.˚25N×86.˚44E, h0km, mb1 2.9/2, mb1mx2.8/47, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=22.7km s-min=13.6km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**253**	*i*		08 53 30.0	
	baz=73,slow=296,SNR=1.6						
ZALV	**Zalesovo Beam**	**1.00**	**253**	Pg	Pg	08 47 03.0	-0.8
	4.8nm,0.3s,baz=72,slow=17,SNR=25						
ZALV				Lg	Lg	08 47 18.3	
	4.6nm,0.3s,baz=73,slow=30,SNR=12						
KURBB	**Kurchatov Arra**	**6.05**	**236**	Pn	Pn	08 48 15.4	+0.1
	0.1nm,0.3s,baz=54,slow=13,SNR=4.4						
MKAR	**Makanchi Array**	**7.92**	**201**	Pn	Pn	08 48 42.5	+1.6
	0.2nm,0.3s,baz=25,slow=14,SNR=7.7						
MKAR				Lg	Lg	08 50 56.2	
	0.0nm,0.3s,baz=27,slow=29,SNR=6.6						

TEH ***19*** *08:54:33.6, 32.˚63N×47.˚66E, h8km, ML3.6*
ISN ***19*** *08:54:34.1±0.9, 32.˚71N×47.˚83E, h14km±6km, ML2.9*
THR ***19*** *08:54:35.2±0.6, 32.˚64N×47.˚59E, h15km±8km, ML3.3*

ISC 19 08:54:33.5±1.3, 32.˚62N±0.˚03×47.˚67E±0.˚03, h2km±14km, n47, σ1°35/52, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.91**	**9**	*e*Pg	**Pg**	**08 54 51.2**	**+0.2**
IKFM				*e*		08 55 07.0	
IKMR	**Kamar-syah**	**1.07**	**33**	*e*Pg	**Pg**	**08 54 53.4**	**-0.7**
IKMR				*e*		08 55 15.3	
SHGR	**Shooshtar-Gavs**	**1.08**	**118**	*e*Pg	**Pn**	**08 54 56.3**	**+0.6**
SH

MAHB	**Mahabad**	**4.44**	**339**	*e*Pn		**Pn**	**08 55 43.6**	**+1.5**
QALM	**Alamut, Qazvin**	**4.52**	**32**	*e*Pn		**Pn**	**08 55 45.3**	**+2.0**
IDMV	**Damavand**	**4.66**	**50**	*e*Pn		**Pn**	**08 55 46.4**	**+1.1**
IPRN	**Peran**	**5.28**	**46**	*e*Pn		**Pn**	**08 55 54.2**	**+0.6**
IANJ	**Anjilo**	**5.91**	**60**	*e*Pn		**Pn**	**08 56 02.2**	**-0.1**
TPRV	**Parvadeh(Tabas**	**7.60**	**85**	*e*Pn		**Pn**	**08 56 27.0**	**+1.6**
TKDS	**Koohdasht(Taba**	**7.99**	**80**	*e*Pn		**Pn**	**08 56 31.4**	**+0.6**

ISK 19 09:02:49.7, 36°.97N × 27°.36E, h8km, ML2.1/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.10**	**338**	PG	Pg	09 02 52.5	+0.3
BODT				SG	Sg	09 02 54.6	+0.7
DAT	**Datca**	**0.29**	**143**	PG	Pg	09 02 55.9	+0.3
DAT				SG	Sg	09 03 00.6	+1.1
TURN	**Turunc**	**0.73**	**105**	PG	Pg	09 03 04.4	-4.5
TURN				SG	Sg	09 03 14.9	-7.0
GCAM	**G?zelcaml?**	**0.74**	**352**	PG	Pb	09 03 04.8	-0.1
GCAM				SG	Sb	09 03 15.6	+0.5
YER	**Yerkesik**	**0.76**	**77**	PG	Pg	09 03 04.7	+0.4
YER				SG	Sb	09 03 15.8	+0.1
DALY	**Dalyan (Mula)**	**1.05**	**98**	PG	Pb	09 03 10.3	+0.2

*IDC **19** 09:04:10.9±1.6, 11°.17N × 144°.07E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/52, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=175.0km s-min=22.1km az=106.0*
*NEIC **19** 09:04:12.0±0.4, 11°.18N±0°.06 × 144°.0E±0°.2, h10km±2km, mb4.4/8, Error ellipse: s-maj=38.9km s-min=10.3km az=272.0*

ISC 19 09:04:12.1±1.1, **11°.2N**±0°.1 × **144°.0E**±0°.3, **h10**km, **n15, σ0°39/17, mb4.2/8, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.53**	**19**	Pn	**Pn**	**09 04 54.0**	**+0.7**
	3.9nm,0.3s,baz=220,slow=19,SNR=1.4						
GUMO				Sn	**Sn**	**09 05 23.9**	**-0.3**
	22nm,0.3s,baz=125,slow=23,SNR=14						
GUMO	**Guam**	**2.53**	**19**		**Pn**	**09 04 53.0**	**-0.3**
GUMO					**Sn**	**09 05 24.1**	**-0.1**
WB0	**Warramunga Arr**	**32.19**	**197**	P	**P**	**09 10 40.2**	**-0.3**
WB0				IAmb	IAmb	09 10 54.5	
	comp=Z,6.7nm,1.3s						
WR0	**Warramunga Arr**	**32.33**	**197**	P	**P**	**09 10 41.8**	**+0.1**
WR0				IAmb	IAmb	09 10 44.5	
	comp=Z,10nm,1.4s						
WRAB	**Tennant Creek**	**32.35**	**197**	P	**P**	**09 10 41.8**	**-0.2**
WRAB				IAmb	IAmb	09 10 53.5	
	comp=Z,2.4nm,0.7s						
WB2	**Warramunga Arr**	**32.36**	**197**	P	**P**	**09 10 42.1**	**+0.1**
WB2				IAmb	IAmb	09 10 59.0	
	comp=Z,4.2nm,1.2s						
WRA	**Warramunga Arr**	**32.37**	**197**	P	**P**	**09 10 41.9**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=21,slow=9.3,SNR=8.9						
WRA	**Warramunga Arr**	**32.37**	**197**	P	**P**	**09 10 41.9**	**-0.2**
AS31	**Alice Springs**	**36.02**	**196**	P	**P**	**09 11 13.5**	**-0.3**
ASAR	**Alice Springs**	**36.02**	**196**	P	**P**	**09 11 13.8**	**0.0**
	comp=Z,0.4nm,0.4s,baz=18,slow=10,SNR=14						
ASAR	**Alice Springs**	**36.02**	**196**	P	**P**	**09 11 13.5**	**-0.3**
STKA	**Stephens Creek**	**42.88**	**183**	P	**P**	**09 12 11.5**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=32,slow=9.5,SNR=3.8						
STKA	**Stephens Creek**	**42.88**	**183**	P	**P**	**09 12 10.1**	**-0.7**
MSVF	**Nonsavu**	**44.21**	**130**	P	**P**	**09 12 21.9**	**0.0**
BBOO	**Buckleboo**	**44.40**	**190**	P	**P**	**09 12 23.4**	**+0.3**
BBOO				IAmb	IAmb	09 12 38.9	
	comp=Z,17nm,1.4s						

*SIGU **19** 09:04:39.8±0.1, 45°.8N±0°.8 × 26°.5E±0°.9, h146km, mb2.9/10*
*BUC **19** 09:04:40.7±0.3, 45°.68N × 26°.59E, h139km±2km, ml3.9/45, Error ellipse: s-maj=2.2km s-min=1.8km az=169.0*

ISC 19 09:04:39.0±1.2, **45°.71N**±0°.02 × **26°.59E**±0°.02, **h153**km±5km, **n121, σ1s06/211, 108C-65D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.15**	**15**	⇑P	**Pn**	**09 05 00.0**	**+0.4**
PLOR				⇑S	**Sn**	**09 05 14.6**	**-0.8**
PLOR	**Plostina**	**0.15**	**15**	⇑P	**Pn**	**09 05 00.0**	**+0.4**
PLOR				⇑S	**Sn**	**09 05 14.6**	**-0.8**
VRI	**Vrincioaia**	**0.18**	**30**	⇑P	**Pn**	**09 05 00.1**	**+0.5**
VRI				⇓S	**Sn**	**09 05 14.0**	**-1.5**
VRI	**Vrincioaia**	**0.18**	**30**	⇑P	**Pn**	**09 05 00.1**	**+0.5**
VRI				⇓S	**Sn**	**09 05 14.0**	**-1.5**
ODBI	**Odobesti**	**0.33**	**80**	⇓S	**Sn**	**09 05 17.3**	**+1.3**
NEHR	**Nehoiu**	**0.35**	**217**	⇓P	**Pn**	**09 05 00.9**	**+0.8**
NEHR				⇓S	**Sn**	**09 05 15.4**	**-0.8**
NEHR	**Nehoiu**	**0.35**	**217**	⇓P	**Pn**	**09 05 00.9**	**+0.8**
NEHR				⇓S	**Sn**	**09 05 15.4**	**-0.8**
GRER		**0.42**	**141**	S	**Sn**	**09 05 15.8**	**-0.7**
GRER		**0.42**	**141**	S	**Sn**	**09 05 15.8**	**-0.7**
PETR	**Petresti**	**0.45**	**88**	⇑P	**Pn**	**09 05 01.5**	**+1.1**
PETR				⇑S	**Sn**	**09 05 17.1**	**+0.4**
PETR	**Petresti**	**0.45**	**88**	⇑P	**Pn**	**09 05 01.5**	**+1.1**
PETR				⇑S	**Sn**	**09 05 17.1**	**+0.4**
MLR	**Muntele Rosu**	**0.50**	**245**	⇑P	**Pn**	**09 05 01.5**	**+0.7**
MLR				⇑S	**Sn**	**09 05 17.1**	**-0.4**
MLR	**Muntele Rosu**	**0.50**	**245**	⇑P	**Pn**	**09 05 01.5**	**+0.7**
MLR				⇑S	**Sn**	**09 05 17.1**	**-0.4**
ISR	**Istrita**	**0.59**	**184**	⇓P	**Pn**	**09 05 02.0**	**+0.8**
ISR				⇓S	**Sn**	**09 05 16.4**	**-1.8**
ISR	**Istrita**	**0.59**	**184**	⇓P	**Pn**	**09 05 02.0**	**+0.8**
ISR				⇓S	**Sn**	**09 05 16.4**	**-1.8**
GHRR		**0.67**	**58**	⇑P	**Pn**	**09 05 02.5**	**+0.9**
GHRR				⇓S	**Sn**	**09 05 18.9**	**0.0**
GHRR		**0.67**	**58**	⇑P	**Pn**	**09 05 02.5**	**+0.9**
GHRR				⇓S	**Sn**	**09 05 18.9**	**0.0**
OZUR		**0.69**	**305**	⇓P	**Pn**	**09 05 01.7**	**0.0**
OZUR				⇑S	**Sn**	**09 05 17.5**	**-1.7**
OZUR		**0.69**	**305**	⇓P	**Pn**	**09 05 01.7**	**0.0**
OZUR				⇑S	**Sn**	**09 05 17.5**	**-1.7**
TUDR		**0.76**	**98**	⇓P	**Pn**	**09 05 02.9**	**+0.7**
TUDR				⇓S	**Sn**	**09 05 20.1**	**+0.3**
TUDR		**0.76**	**98**	⇓P	**Pn**	**09 05 02.9**	**+0.7**
TUDR				⇓S	**Sn**	**09 05 20.1**	**+0.3**
SECR		**0.77**	**209**	⇑P	**Pn**	**09 05 03.5**	**+1.2**
SECR				⇓S	**Sn**	**09 05 20.2**	**+0.2**
SECR		**0.77**	**209**	⇑P	**Pn**	**09 05 03.5**	**+1.2**
SECR				⇓S	**Sn**	**09 05 20.2**	**+0.2**
TESR	**Tescani**	**0.81**	**3**	⇑P	**Pn**	**09 05 02.5**	**0.0**
TESR				⇑S	**Sn**	**09 05 18.9**	**-1.7**
TESR	**Tescani**	**0.81**	**3**	⇑P	**Pn**	**09 05 02.5**	**0.0**
TESR				⇑S	**Sn**	**09 05 18.9**	**-1.7**
DOPR	**Dopca**	**0.88**	**288**	⇑P	**Pn**	**09 05 03.3**	**+0.2**
DOPR				⇑S	**Sn**	**09 05 19.5**	**-2.1**
DOPR	**Dopca**	**0.88**	**288**	⇑P	**Pn**	**09 05 03.3**	**+0.2**
DOPR				⇑S	**Sn**	**09 05 19.5**	**-2.1**
SCHL	**Schela**	**0.89**	**103**	⇑S	**Sn**	**09 05 21.1**	**-0.5**
SCHL	**Schela**	**0.89**	**103**	⇑S	**Sn**	**09 05 21.1**	**-0.5**
VARL	**Varlezi**	**0.90**	**77**	⇑P	**Pn**	**09 05 03.9**	**+0.7**
VARL				⇑S	**Sn**	**09 05 21.0**	**-0.6**
VARL	**Varlezi**	**0.90**	**77**	⇑P	**Pn**	**09 05 03.9**	**+0.7**
VARL				⇑S	**Sn**	**09 05 21.0**	**-0.6**
BIR	**Birlad**	**0.91**	**52**	⇑P	**Pn**	**09 05 04.0**	**+0.7**
BIR				⇑S	**Sn**	**09 05 21.5**	**-0.4**
BIR	**Birlad**	**0.91**	**52**	⇑S	**Sn**	**09 05 21.5**	**-0.4**
BIR	**Birlad**	**0.91**	**52**	⇑P	**Pn**	**09 05 04.0**	**+0.7**
SULR		**1.06**	**193**	⇑P	**Pn**	**09 05 05.6**	**+1.1**
SULR				⇑S	**Sn**	**09 05 25.0**	**+1.0**
SULR		**1.06**	**193**	⇑P	**Pn**	**09 05 05.6**	**+1.1**
SULR				⇑S	**Sn**	**09 05 25.0**	**+1.0**
GISR	**Galati**	**1.06**	**104**	⇑S	**Sn**	**09 05 23.7**	**-0.3**
GISR	**Galati**	**1.06**	**104**	⇑S	**Sn**	**09 05 23.7**	**-0.3**
VOIR		**1.12**	**257**	⇑P	**Pn**	**09 05 05.5**	**+0.4**
VOIR				⇓S	**Sn**	**09 05 24.4**	**-0.7**
VOIR		**1.12**	**257**	⇑P	**Pn**	**09 05 05.5**	**+0.4**
VOIR				⇓S	**Sn**	**09 05 24.4**	**-0.7**
GIUM	**Giurgiulesti**	**1.16**	**100**	⇑P	**Pn**	**09 05 06.2**	**+0.8**
GIUM				⇑S	**Sn**	**09 05 25.5**	**0.0**
GIUM	**Giurgiulesti**	**1.16**	**100**	⇑P	**Pn**	**09 05 06.2**	**+0.8**
GIUM				⇑S	**Sn**	**09 05 25.5**	**0.0**
CFR	**Carcaliu**	**1.21**	**115**	⇑P	**Pn**	**09 05 06.5**	**+0.6**
CFR				⇑S	**Sn**	**09 05 25.1**	**-1.2**
CFR	**Carcaliu**	**1.21**	**115**	⇑P	**Pn**	**09 05 06.5**	**+0.6**
CFR				⇑S	**Sn**	**09 05 25.1**	**-1.2**
AMRR	**Amara**	**1.22**	**154**	⇓P	**Pn**	**09 05 07.1**	**+1.1**
AMRR				⇑S	**Sn**	**09 05 26.7**	**+0.2**
AMRR	**Amara**	**1.22**	**154**	⇓P	**Pn**	**09 05 07.1**	**+1.1**
AMRR				⇑S	**Sn**	**09 05 26.7**	**+0.2**
LEHL	**Lehliu**	**1.24**	**173**	⇓S	**Sn**	**09 05 27.4**	**+0.4**
LEHL	**Lehliu**	**1.24**	**173**	⇓S	**Sn**	**09 05 27.4**	**+0.4**
VASR	**Vaslui**	**1.25**	**41**	⇓P	**Pn**	**09 05 07.0**	**+0.7**
VASR				⇑S	**Sn**	**09 05 26.9**	**-0.4**
VASR	**Vaslui**	**1.25**	**41**	⇓P	**Pn**	**09 05 07.0**	**+0.7**
VASR				⇑S	**Sn**	**09 05 26.9**	**-0.4**
HARR	**Harsova**	**1.39**	**137**	⇓P	**Pn**	**09 05 08.4**	**+0.8**
HARR	**Harsova**	**1.39**	**137**	⇓P	**Pn**	**09 05 08.4**	**+0.8**
BUC1	**Bucharest**	**1.42**	**197**	⇓P	**Pn**	**09 05 08.8**	**+0.9**
BUC1				⇑S	**Sn**	**09 05 29.9**	**-0.1**
BUC1	**Bucharest**	**1.42**	**197**	⇓P	**Pn**	**09 05 08.8**	**+0.9**
BUC1				⇑S	**Sn**	**09 05 29.9**	**-0.1**
ARR	**Arges**	**1.42**	**257**	⇑P	**Pn**	**09 05 08.5**	**+0.5**
ARR	**Arges**	**1.42**	**257**	⇑P	**Pn**	**09 05 08.5**	**+0.5**
STFAR	**Stefanesti-Arg**	**1.43**	**234**	⇓P	**Pn**	**09 05 09.2**	**+1.1**
STFAR				⇑S	**Sn**	**09 05 30.3**	**0.0**
STFAR	**Stefanesti-Arg**	**1.43**	**234**	⇓P	**Pn**	**09 05 09.2**	**+1.1**
STFAR				⇑S	**Sn**	**09 05 30.3**	**0.0**
TOPG	**Topolog**	**1.51**	**123**	⇑P	**Pn**	**09 05 09.4**	**+0.5**
TOPG				⇑S	**Sn**	**09 05 30.6**	**-1.1**
TOPG	**Topolog**	**1.51**	**123**	⇑P	**Pn**	**09 05 09.4**	**+0.5**
TOPG				⇑S	**Sn**	**09 05 30.6**	**-1.1**
SGRR	**Singureni**	**1.55**	**197**	⇓P	**Pn**	**09 05 09.6**	**+0.3**
SGRR				⇑S	**Sn**	**09 05 31.7**	**-0.7**
SGRR	**Singureni**	**1.55**	**197**	⇓P	**Pn**	**09 05 09.6**	**+0.3**
SGRR				⇑S	**Sn**	**09 05 31.7**	**-0.7**
TLBR	**Topalu**	**1.55**	**138**	⇑P	**Pn**	**09 05 10.2**	**+0.9**
TLBR				⇑S	**Sn**	**09 05 31.5**	**-1.1**
TLBR	**Topalu**	**1.55**	**138**	⇑P	**Pn**	**09 05 10.2**	**+0.9**
TLBR				⇑S	**Sn**	**09 05 31.5**	**-1.1**
HUMR	**Humele**	**1.64**	**225**	⇑P	**Pn**	**09 05 10.8**	**+0.5**
HUMR				⇑S	**Sn**	**09 05 33.6**	**-0.7**
HUMR	**Humele**	**1.64**	**225**	⇑P	**Pn**	**09 05 10.8**	**+0.5**
HUMR				⇑S	**Sn**	**09 05 33.6**	**-0.7**
TLCR		**1.65**	**108**	⇑P	**Pn**	**09 05 11.4**	**+1.1**
TLCR				⇓S	**Sn**	**09 05 34.3**	**-0.1**
TLCR		**1.65**	**108**	⇑P	**Pn**	**09 05 11.4**	**+1.1**
TLCR				⇓S	**Sn**	**09 05 34.3**	**-0.1**
CVDA	**Cernavoda**	**1.71**	**143**	⇑P	**Pn**	**09 05 12.1**	**+1.1**
CVDA				⇑S	**Sn**	**09 05 34.8**	**-0.8**
CVDA	**Cernavoda**	**1.71**	**143**	⇑P	**Pn**	**09 05 12.1**	**+1.1**
CVDA				⇑S	**Sn**	**09 05 34.8**	**-0.8**
TIRR	**Tirgusor**	**1.79**	**133**	⇓P	**Pn**	**09 05 12.8**	**+0.9**
TIRR				⇓S	**Sn**	**09 05 35.9**	**-1.3**
TIRR	**Tirgusor**	**1.79**	**133**	⇓P	**Pn**	**09 05 12.8**	**+0.9**
TIRR				⇓S	**Sn**	**09 05 35.9**	**-1.3**
ICOR	**Ion Corvin**	**1.81**	**151**	⇓P	**Pn**	**09 05 13.1**	**+1.1**
ICOR				⇓S	**Sn**	**09 05 36.3**	**-1.2**
ICOR	**Ion Corvin**	**1.81**	**151**	⇓P	**Pn**	**09 05 13.1**	**+1.1**
ICOR				⇓S	**Sn**	**09 05 36.3**	**-1.2**
COPA	**Copaceanca**	**1.85**	**212**	⇑P	**Pn**	**09 05 13.2**	**+0.6**
COPA				⇓S	**Sn**	**09 05 37.3**	**-1.1**
COPA	**Copaceanca**	**1.85**	**212**	⇑P	**Pn**	**09 05 13.2**	**+0.6**
COPA				⇓S	**Sn**	**09 05 37.3**	**-1.1**
JURR	**Jurilovca**	**1.87**	**119**	⇓P	**Pn**	**09 05 12.5**	**-0.3**
JURR	**Jurilovca**	**1.87**	**119**	⇓P	**Pn**	**09 05 12.5**	**-0.3**
MILM	**Milestii Mici**	**1.96**	**51**	P	**Pn**	**09 05 14.6**	**+0.9**
MILM	**Milestii Mici**	**1.96**	**51**	⇑P	**Pn**	**09 05 14.6**	**+0.9**
MILM	**Milestii Mici**	**1.96**	**51**	⇑P	**Pn**	**09 05 14.6**	**+0.9**
LOT	**Lotru**	**2.00**	**264**	⇓P	**Pn**	**09 05 16.0**	**+1.6**
LOT				⇓S	**Sn**	**09 05 43.1**	**+1.5**
LOT	**Lotru**	**2.00**	**264**	⇓P	**Pn**	**09 05 16.0**	**+1.6**
LOT				⇓S	**Sn**	**09 05 43.1**	**+1.5**
MFTR	**Murfatlar**	**2.01**	**139**	⇑P	**Pn**	**09 05 15.2**	**+0.9**
MFTR				⇓S	**Sn**	**09 05 40.7**	**-0.8**
MFTR	**Murfatlar**	**2.01**	**139**	⇑P	**Pn**	**09 05 15.2**	**+0.9**
MFTR				⇓S	**Sn**	**09 05 40.7**	**-0.8**
KIS	**Kishinev**	**2.01**	**49**	⇑*i*P	**Pn**	**09 05 15.3**	**+1.0**
	80nm,0.2s						
KIS				*e*S	**Sn**	**09 05 40.2**	**-1.4**
	110nm,0.3s						
KIS	**Kishinev**	**2.01**	**49**	*i* P	**Pn**	**09 05 15.3**	**+1.0**
KIS				Pm		09 05 15.5	
KIS				*i* S	**Sn**	**09 05 40.8**	**-0.8**
KIS				Sm		09 05 41.0	
KIS				m		09 05 41.0	
BURAR	**Bucovina Array**	**2.13**	**334**	⇓P	**Pn**	**09 05 18.0**	**+2.1**
BURAR	**Bucovina Array**	**2.13**	**334**	⇓P	**Pn**	**09 05 18.0**	**+2.1**
RAZG	**Razgrad**	**2.14**	**182**	⇑P	**Pn**	**09 05 16.2**	**+0.2**
RAZG				⇓S	**Sn**	**09 05 43.4**	**-1.0**
RAZG	**Razgrad**	**2.14**	**182**	⇑P	**Pn**	**09 05 16.2**	**+0.2**
RAZG				⇓S	**Sn**	**09 05 43.4**	**-1.0**
VLAD	**Vladila**	**2.31**	**223**	⇓P	**Pn**	**09 05 18.3**	**+0.4**
VLAD				⇑S	**Sn**	**09 05 46.4**	**-1.5**
VLAD	**Vladila**	**2.31**	**223**	⇓P	**Pn**	**09 05 18.3**	**+0.4**
VLAD				⇑S	**Sn**	**09 05 46.4**	**-1.5**
MANR	**Mangalia**	**2.36**	**142**	⇑P	**Pn**	**09 05 19.8**	**+1.3**
MANR				⇑S	**Sn**	**09 05 48.6**	**-0.4**
MANR	**Mangalia**	**2.36**	**142**	⇑P	**Pn**	**09 05 19.8**	**+1.3**
MANR				⇑S	**Sn**	**09 05 48.6**	**-0.4**
SRE	**Strehaia**	**2.61**	**248**	⇓P	**Pn**	**09 05 22.1**	**+0.5**
SRE				⇑S	**Sn**	**09 05 54.4**	**-0.1**
SRE	**Strehaia**	**2.61**	**248**	⇓P	**Pn**	**09 05 22.1**	**+0.5**
SRE				⇑S	**Sn**	**09 05 54.4**	**-0.1**
SORM	**Soroca**	**2.71**	**26**	⇑P	**Pn**	**09 05 23.0**	**+0.2**
SORM	**Soroca**	**2.71**	**26**	⇑P	**Pn**	**09 05 23.0**	**+0.2**
KSV	**Kosov**	**2.81**	**339**	*i* P	**Pn**	**09 05 57.4**	**-0.6**
KSV				Pm		09 05 25.2	
KSV				*e*S	**Sn**	**09 05 57.9**	**-1.1**
KSV				Sm		09 06 05.3	
NDNU3	**Rozkopintsy**	**2.84**	**11**	P	**Pn**	**09 05 24.4**	**0.0**
NDNU3				Pm		09 05 24.5	
NDNU3				*i* S	**Sn**	**09 05 58.9**	**-0.8**
NDNU3				Sm		09 06 00.6	
RAKU	**Rahkiv**	**2.86**	**325**	*i* P	**Pn**	**09 05 24.2**	**-0.4**
RAKU				Pm		09 05 24.7	
RAKU				*e*S	**Sn**	**09 05 58.7**	**-1.3**
RAKU				Sm		09 05 59.1	
KMPD	**K-Podol'skiy**	**2.86**	**358**	*e*P	**Pn**	**09 05 24.5**	**-0.1**
KMPD				*i* S	**Sn**	**09 05 59.1**	**-0.9**
NSLU	**Nyzhne Selyshc**	**2.89**	**330**	P	**Pn**	**09 05 29.3**	**+4.3**
NSLU				Pm		09 05 32.1	
NSLU				*e*S	**Sn**	**09 06 08.0**	**+7.3**
NSLU				Sm		09 06 10.4	
NDNU	**Novodnistrovsk**	**2.94**	**10**	*i* P	**Pn**	**09 05 25.9**	**+0.3**
NDNU				Pm		09 05 26.4	
NDNU				*i* S	**Sn**	**09 06 00.8**	**-0.9**
NDNU				Sm		09 06 08.5	
NDNU1	**Nyshivtsy**	**2.96**	**12**	*e*P	**Pn**	**09 05 26.2**	**+0.3**
NDNU1				Pm		09 05 26.3	
NDNU1				*i* S	**Sn**	**09 06 01.9**	**-0.4**
NDNU1				Sm		09 06 03.5	
HERR	**Herculane**	**3.06**	**256**	⇓P	**Pn**	**09 05 27.4**	**+0.2**
HERR	**Herculane**	**3.06**	**256**	⇓P	**Pn**	**09 05 27.4**	**+0.2**
KORU	**Korolevo**	**3.41**	**317**	P	**Pn**	**09 05 31.0**	**-0.6**
KORU				Pm		09 05 33.7	
KORU				*e*S	**Sn**	**09 06 11.2**	**-1.2**
KORU				Sm		09 06 24.3	
TRSU	**Trosnyk**	**3.45**	**315**	⇑*i*P	**Pn**	**09 05 31.7**	**-0.4**
TRSU				Pm		09 05 32.2	
TRSU				*e*S	**Sn**	**09 06 12.8**	**-0.6**
TRSU				Sm		09 06 29.7	
HORU	**Horodok**	**3.51**	**358**	*i* P	**Pn**	**09 05 33.0**	**+0.1**
HORU				*i* S	**Sn**	**09 06 14.1**	**-0.7**
MDVR	**Moldovita**	**3.57**	**257**	⇑P	**Pn**	**09 05 34.7**	**+0.9**
MDVR	**Moldovita**	**3.57**	**257**	⇑P	**Pn**	**09 05 34.7**	**+0.9**
BRIU	**Brid**	**3.59**	**318**	P	**Pn**	**09 05 34.0**	**+0.1**
BRIU				Pm		09 05 35.4	
BRIU				*e*S	**Sn**	**09 06 15.9**	**-0.7**
BRIU				Sm		09 06 17.0	
BERU	**Beregovo**	**3.70**	**315**	*i* P	**Pn**	**09 05 36.2**	**+0.9**
BERU				*e*S	**Sn**	**09 06 18.4**	**-0.7**
MUKU	**Mukachevo**	**3.83**	**317**	P	**Pn**	**09 05 37.2**	**+0.2**
MUKU				Pm		09 05 38.7	
MUKU				*e*S	**Sn**	**09 06 21.2**	**-0.9**
MUKU				Sm		09 06 22.5	
MORS	**Morshin**	**3.89**	**333**	*i* P	**Pn**	**09 05 38.7**	**+1.0**
MORS				*e*S	**Sn**	**09 06 23.1**	**-0.4**
HOLU	**Holmets**	**4.03**	**316**	*i* P	**Pn**	**09 05 40.0**	**+0.4**
HOLU				*e*S	**Sn**	**09 06 25.9**	**-0.8**
KOLS	**Kolonicke sedl**	**4.37**	**319**	*e*PN	**Pn**	**09 05 44.0**	**0.0**
CRVS	**Cervenica-Dubn**	**4.73**	**314**	*e*PN	**Pn**	**09 05 49.9**	**+1.0**
STIP	**Stip**	**5.13**	**220**	*i* Pn	**Pn**	**09 05 52.9**	**-1.2**

*NNC **19** 09:10:11.5±2.2, 53°.70N × 88°.14E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=20.8km s-min=13.0km az=59.0,*

Suspected Mining explosion.
*IDC **19** 09:10:12.0±3.1, 53°.75N × 88°.14E, h0km, mb1 3.3/2, mb1mx3.1/70, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=27.6km s-min=17.7km az=60.0*

ISC 19 09:10:13.8±5.3, **53.7N**±0°.2 × **87.8E**±0°.3, **h0**km, **n7, σ0s86/8, 3C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**278**	*i*		09 22 59.8	
	baz=91,slow=312,SNR=1.7						
ZAA0	**Zalesovo Array**	**1.78**	**278**	⇑Pn	**Pn**	**09 10 46.0**	**+0.2**
	1.8nm,0.6s						
ZAA0				⇓Lg	Lg	09 11 14.7	
	2.1nm,0.4s						
ZALV	**Zalesovo Beam**	**1.78**	**278**	Pn	**Pb**	**09 10 46.7**	**-0.5**
	2.9nm,0.3s,baz=91,slow=12,SNR=42						
ZALV				Lg	Lg	09 11 14.9	
	4.4nm,0.3s,baz=96,slow=24,SNR=13						
KURBB	**Kurchatov Arra**	**6.50**	**245**	Pn	**Pn**	**09 11 51.8**	**+1.2**
	0.3nm,0.3s,baz=62,slow=14,SNR=14						
KURBB				Lg	Lg	09 13 42.6	
	0.0nm,0.3s,baz=60,slow=32,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.50**	**245**	⇑Pn	**Pn**	**09 11 51.4**	**+0.8**
	2.8nm,0.3s						
KURBB				⇑Lg	Lg	09 13 44.3	
	7.0nm,0.8s						
MK31	**Makanchi Array**	**7.80**	**209**	⇓Pn	**Pn**	**09 12 08.1**	**-0.4**
	0.9nm,0.8s,baz=31,slow=13,SNR=7.4						
MK31				⇓Sn	**Sn**	**09 13 36.8**	**-0.6**
	0.6nm,0.7s,baz=243,slow=34,SNR=3.4						
MK31				Lg	Lg	09 14 19.8	
	4.2nm,1.1s,baz=38,slow=31,SNR=3.6						
MKAR	**Makanchi Array**	**7.80**	**209**	Pn	**Pn**	**09 12 09.4**	**+0.9**
	0.2nm,0.3s,baz=29,slow=13,SNR=4.3						
MKAR				Sn	**Sn**	**09 13 37.3**	**-0.1**
	0.2nm,0.3s,baz=30,slow=26,SNR=5.4						
MKAR				Lg	Lg	09 14 18.4	
	0.1nm,0.3s,baz=35,slow=28,SNR=3.6						

*ANF **19** 09:13:14.8±0.4, 41°.88N × 119°.66W, ML3.4/16, Error ellipse: s-maj=3.6km s-min=2.3km az=92.0*
*REN **19** 09:13:16.4±2.3, 41°.90N±0°.03 × 119°.63W±0°.07, h1km±7km, ML3.4/3, Error ellipse: s-maj=7.5km s-min=3.3km az=109.0*
*NEIC **19** 09:13:16.8±2.2, 41°.99N±0°.03 × 119°.66W±0°.06, h5km±2km, Error ellipse: s-maj=8.5km s-min=4.2km az=121.0*

ISC 19 09:13:16.3±1.3, **41°.94N**±0°.03 × **119°.67W**±0°.02, **h3**km±12km, **n77, σ1s36/90, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.47**	**265**		**Pg**	**09 13 25.9**	**+0.6**
MOD	**Modoc Plateau**	**0.47**	**265**	Sg	**Sg**	**09 13 33.0**	**+1.4**
WVOR	**Wild Horse Val**	**0.91**	**57**		**Pg**	**09 13 33.6**	**-0.2**
WVOR				Sg	**Sb**	**09 13 46.5**	**-0.9**
K05A	**Summer Lake**	**1.20**	**311**	Pn	**Pn**	**09 13 40.2**	**+0.1**
M04C	**Macdoel**	**1.63**	**265**	P	**Pn**	**09 13 44.9**	**-1.0**
	baz=85,SNR=114						
M04C				S	**Sn**	**09 14 07.5**	**0.0**
	ba

MCMT	**McKenzie Canyo**	**5.75**	**58**	Pn		**Pn**	**09 14 44.9**	**+2.2**
PRN	**Pahroc Range**	**5.76**	**140**	Pn		**Pn**	**09 14 43.5**	**+0.6**
HWUT	**Hardware Ranch**	**6.07**	**90**	Pn		**Pn**	**09 14 47.0**	**-0.1**
SZCU	**Shurtz Canyon**	**6.68**	**128**	Pn		**Pn**	**09 14 56.1**	**+0.7**
MSU	**Marysvale**	**6.68**	**118**	Pn		**Pn**	**09 14 55.7**	**+0.1**
FLWY	**Flagg Ranch**	**6.92**	**69**	Pn		**Pn**	**09 14 57.8**	**-0.9**
JTMT	**Jette**	**6.95**	**32**	Pn		**Pn**	**09 14 59.5**	**+0.4**
TMUT	**Trail Mountain**	**6.96**	**110**	Pn		**Pn**	**09 14 56.0**	**-3.5**

*IDC **19** 09:15:24.3±1.5, 38°.34N×20°.53E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.5/51, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=46.9km s-min=23.5km az=121.0*
*BEO **19** 09:15:25.8±2.0, 38°.20N×19°.99E, h26km±1km, ML3.5/1*
*TIR **19** 09:15:26.4, 38°.42N×20°.95E, h20km, Md3.8/8*
*ATH **19** 09:15:26.9, 38°.36N×20°.55E, h15km±1km, ML3.6/11, Error ellipse: s-maj=1.5km s-min=0.5km az=269.0*
*THE **19** 09:15:27.2, 38°.35N×20°.55E, h11km, ML3.5/5, Error ellipse: s-maj=1.0km s-min=0.3km az=277.0*

ISC 19 09:15:26.3±0.7, 38°.35N±0°.01×20°.53E±0°.02, h16km±4km, n87, σ1§35/122, mb3.8/5, 6C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VSK1	**VASILIKIADES**	**0.07**	**22**	P		**Pg**	**09 15 28.8**	**-0.7**
VSK1				S		**Sg**	**09 15 31.1**	**-0.5**
KEF5	**Kardakata, Kep**	**0.09**	**216**	P		**Pg**	**09 15 30.1**	**+0.4**
KEF5				S		**Sg**	**09 15 32.4**	**+0.5**
FSK	**Fiskardo**	**0.11**	**12**	P		**Pb**	**09 15 30.2**	**+0.1**
FSK				S		**Sg**	**09 15 32.3**	**0.0**
	30μm,0.4s							
FSK	**Fiskardo**	**0.11**	**12**	P		**Pb**	**09 15 30.2**	**+0.1**
FSK				S		**Sb**	**09 15 32.6**	**0.0**
FSK				AML		AML	09 15 33.4	
	comp=N,44298μm,0.3s							
FSK				AML		AML	09 15 34.1	
	comp=E,45261μm,0.2s							
KEF4	**Livadi, Kephal**	**0.12**	**223**	P		**Pb**	**09 15 30.5**	**+0.3**
KEF4				S		**Sb**	**09 15 33.6**	**+0.7**
ARG2	**Argostoli**	**0.17**	**192**	P		**Pb**	**09 15 31.3**	**+0.2**
ARG2				S		**Sg**	**09 15 34.0**	**+0.4**
	comp=E,34μm,0.1s							
ARGA	**Argostoli. Kep**	**0.18**	**194**	P		**Pb**	**09 15 31.2**	**0.0**
ARGA				S		**Sb**	**09 15 34.7**	**+0.3**
VLS	**Valsamata**	**0.18**	**165**	P		**Pb**	**09 15 31.3**	**+0.1**
VLS				S		**Sg**	**09 15 34.0**	**+0.2**
	comp=E,46μm,0.5s							
VLS	**Valsamata**	**0.18**	**165**	P		**Pb**	**09 15 31.2**	**+0.1**
VLS				S		**Sb**	**09 15 34.5**	**+0.1**
VLS				AML		AML	09 15 34.8	
	comp=E,95796μm,0.3s							
VLS				AML		AML	09 15 35.1	
	comp=N,49516μm,0.3s							
KEF3	**Kipouria, Keph**	**0.21**	**225**	P		**Pg**	**09 15 31.7**	**+0.5**
KEF3				S		**Sb**	**09 15 35.9**	**+0.6**
EVGI	**Lefkada island**	**0.29**	**19**	P		**Pb**	**09 15 33.0**	**-0.1**
EVGI				S		**Sb**	**09 15 37.3**	**-0.4**
EVGI	**Lefkada island**	**0.29**	**19**	P		**Pb**	**09 15 32.9**	**-0.2**
EVGI				S		**Sg**	**09 15 37.2**	**+0.4**
MGNA	**Meganis**	**0.37**	**33**	P		**Pg**	**09 15 33.9**	**0.0**
MGNA				S		**Sg**	**09 15 38.6**	**-0.5**
MGNA				AML		AML	09 15 40.3	
	comp=N,12529μm,0.3s							
MGNA				AML		AML	09 15 40.5	
	comp=E,18117μm,0.3s							
LKD2	**Lefkada island**	**0.45**	**12**	P		**Pg**	**09 15 35.5**	**0.0**
LKD2				S		**Sb**	**09 15 42.6**	**+0.3**
	comp=E,6μm,0.6s							
LKD2	**Lefkada island**	**0.45**	**12**	*i* PG		**Pg**	**09 15 35.7**	**+0.3**
LKD2				*i* SG		**Sb**	**09 15 42.7**	**+0.4**
LKD2	**Lefkada island**	**0.45**	**12**	P		**Pg**	**09 15 35.4**	**0.0**
LKD2				S		**Sb**	**09 15 42.2**	**-0.1**
LKD2				AML		AML	09 15 50.2	
	comp=N,11800μm,0.6s							
LKD2				AML		AML	09 15 51.2	
	comp=E,9960μm,0.6s							
AST1	**Astakos**	**0.48**	**66**	P		**Pb**	**09 15 36.3**	**0.0**
AST1				S		**Sb**	**09 15 43.3**	**+0.2**
VLMS	**Volimes, Zakyn**	**0.48**	**168**	P		**Pg**	**09 15 36.1**	**+0.2**
VLMS				S		**Sb**	**09 15 43.4**	**+0.2**
VLMS				AML		AML	09 15 44.8	
	comp=E,22107μm,0.5s							
VLMS				AML		AML	09 15 49.5	
	comp=N,19755μm,0.5s							
TSLK	**Tsoukalades, L**	**0.48**	**11**	P		**Pb**	**09 15 36.3**	**-0.1**
TSLK				S		**Sb**	**09 15 43.5**	**+0.2**
	comp=N,6μm,0.6s							
TSLK	**Tsoukalades, L**	**0.48**	**11**	P		**Pb**	**09 15 36.3**	**-0.1**
TSLK				S		**Sg**	**09 15 42.4**	**-0.2**
TSLK				AML		AML	09 15 46.7	
	comp=E,10629μm,0.8s							
TSLK				AML		AML	09 15 48.1	
	comp=N,14206μm,0.5s							
ZAK2	**Zakynthos**	**0.63**	**153**	P		**Pb**	**09 15 39.1**	**+0.2**
ZAK2				S		**Sb**	**09 15 48.5**	**+1.1**
VTN	**Vitineika**	**0.67**	**130**	P		**Pb**	**09 15 40.6**	**-0.4**
AXS	**Araxos**	**0.68**	**103**	P		**Pb**	**09 15 39.9**	**+0.1**
AXS				S		**Sb**	**09 15 49.2**	**+0.3**
AXS				AML		AML	09 15 54.2	
	comp=N,10018μm,0.6s							
AXS				AML		AML	09 15 58.9	
	comp=E,7638μm,0.3s							
KRI1	**kERI**	**0.72**	**162**	P		**Pg**	**09 15 40.3**	**-0.1**
KRI1				S		**Sb**	**09 15 51.5**	**+1.4**
RLS	**Riolos of Patr**	**0.79**	**111**	P		**Pg**	**09 15 41.2**	**-0.5**
RLS				S		**Sb**	**09 15 52.9**	**+0.8**
RLS				AML		AML	09 15 58.4	
	comp=N,7650μm,0.3s							
RLS				AML		AML	09 16 01.1	
	comp=E,7021μm,0.4s							
PVO	**Paravola**	**0.82**	**71**	P		**Pb**	**09 15 42.4**	**+0.2**
PVO				S		**Sb**	**09 15 54.0**	**+1.0**
PVO	**Paravola**	**0.82**	**71**	P		**Pn**	**09 15 42.9**	**-0.3**
PVO				S		**Sb**	**09 15 53.4**	**+0.4**
PVO				AML		AML	09 15 59.5	
	comp=E,29871μm,0.3s							
PVO				AML		AML	09 16 00.8	
	comp=N,23212μm,0.6s							
EFP	**Efpalio**	**1.08**	**85**	P		**Pn**	**09 15 46.9**	**+0.2**
EFP				S		**Sn**	**09 16 02.1**	**+0.8**
EFP				AML		AML	09 16 08.6	
	comp=E,22911μm,0.5s							
EFP				AML		AML	09 16 08.7	
	comp=N,9752μm,0.3s							
ANX	**Ano Chora**	**1.12**	**77**	P		**Pg**	**09 15 47.8**	**-0.1**
ANX				S		**Sn**	**09 16 02.9**	**+0.5**
ANX				AML		AML	09 16 09.7	
	comp=N,25059μm,0.6s							
ANX				AML		AML	09 16 09.9	
	comp=E,20470μm,0.4s							
EVR	**Evrytania**	**1.15**	**60**	P		**Pg**	**09 15 48.3**	**-0.2**
EVR	**Evrytania**	**1.15**	**60**	P		**Pg**	**09 15 49.0**	**+0.4**
IGT	**Igoumenitsa**	**1.19**	**353**	P		**Pg**	**09 15 49.5**	**+0.2**
IGT	**Igoumenitsa**	**1.19**	**353**	*e*Pg		**Pg**	**09 15 50.6**	**+1.3**
IGT				*e*Sg		**Sg**	**09 16 09.0**	**+4.1**
IGT	**Igoumenitsa**	**1.19**	**353**	P		**Pg**	**09 15 49.3**	**0.0**
TRIZ	**Trizonia**	**1.21**	**89**	P		**Pb**	**09 15 49.0**	**+0.2**
JAN	**Janina**	**1.33**	**11**	P		**Pg**	**09 15 52.1**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.42**	**62**	P		**Pg**	**09 15 54.1**	**+0.5**
GUR	**Goura**	**1.48**	**106**	P		**Pg**	**09 15 54.4**	**-0.5**
AGG	**Agios Georgios**	**1.56**	**64**	P		**Pg**	**09 15 56.4**	**+0.1**
SRN	**Sarande**	**1.58**	**345**	*i* PN		**Pg**	**09 15 57.0**	**+0.2**
SRN				*i* SN		**Sg**	**09 16 20.0**	**+2.6**
TRIP	**Tripoli**	**1.60**	**120**	P		**Pg**	**09 15 56.9**	**-0.2**
KPRO	**Kipourio**	**1.73**	**22**	P		**Pg**	**09 15 58.8**	**-0.8**
VLX	**Vlachokerasia**	**1.76**	**123**	P		**Pg**	**09 15 59.7**	**-0.4**
LSK	**Leskovik**	**1.80**	**2**	*i* PN		**Pb**	**09 15 59.1**	**+0.2**
LSK				*i* SN		**Sg**	**09 16 23.3**	**-1.0**
NEST	**Nestorio**	**2.10**	**11**	P		**Pb**	**09 16 04.3**	**+0.2**
VIL2	**Platees**	**2.16**	**93**	P		**Pb**	**09 16 04.8**	**-0.1**
VLO	**Vlora**	**2.26**	**340**	*i* PN		**Pb**	**09 16 08.4**	**+1.7**
ATHU	**Athens Univers**	**2.59**	**97**	P		**Pb**	**09 16 10.3**	**-2.0**
DION	**Dionisos Attik**	**2.69**	**95**	P		**Pb**	**09 16 11.7**	**-2.3**
OHR	**Ohrid**	**2.77**	**4**	*i* Pn		**Pn**	**09 16 12.6**	**+2.6**
TIR	**Tirane**	**3.04**	**350**	*i* PN		**Pb**	**09 16 19.3**	**-0.6**
TIR	**Tirane**	**3.04**	**350**	*e*Pn		**Pn**	**09 16 13.9**	**+0.2**
TIP	**Timpagrande**	**3.06**	**287**	⇑P		**Pn**	**09 16 14.4**	**+0.4**
PHP	**Peshkopia**	**3.33**	**359**	*i* PN		**Pn**	**09 16 19.7**	**+1.9**
VAY	**Valandovo**	**3.36**	**27**	*e*Pn		**Pb**	**09 16 22.1**	**-3.3**
VAY	**Valandovo**	**3.36**	**27**	*i* Pn		**Pn**	**09 16 20.9**	**+2.9**
SRS	**Serrai**	**3.63**	**40**	*e*Pn		**Pn**	**09 16 25.2**	**+3.3**
PUK	**Puka**	**3.72**	**353**	*i* PN		**Pn**	**09 16 24.4**	**+1.2**
MATE	**Matera**	**3.75**	**309**	⇓P		**Pn**	**09 16 21.9**	**-1.5**
BCI	**Bajram Curri**	**4.03**	**355**	*i* PN		**Pn**	**09 16 31.6**	**+4.4**
PDG	**Podgorica**	**4.19**	**347**	⇑P		**Pn**	**09 16 29.9**	**+0.4**
BARS	**Barje**	**4.57**	**12**	*e*Pn		**Pn**	**09 16 36.0**	**+1.3**
IDI	**Anoyia**	**4.64**	**130**	Sn		**Sn**	**09 17 28.9**	**-0.4**
	comp=E,2.4nm,0.3s,baz=132,slow=22,SNR=1.8							
DBRK	**Dubrovnik**	**4.68**	**338**	*e*Pn		**Pn**	**09 16 37.1**	**+0.9**
STON	**Ston**	**5.01**	**335**	*e*Pn		**Pn**	**09 16 40.7**	**0.0**
STON				Sn		**Sn**	**09 17 34.7**	**-3.4**
ZAPS	**Zavoj**	**5.17**	**17**	*e*Pn		**Pn**	**09 16 45.3**	**+2.3**
BOVS	**Bovan**	**5.36**	**9**	*e*Pn		**Pn**	**09 16 47.7**	**+2.2**
GRUS	**Gruza**	**5.54**	**1**	*e*Pn		**Pn**	**09 16 49.1**	**+1.1**
MAKA	**Makarska**	**5.61**	**333**	*e*Pn		**Pn**	**09 16 48.9**	**0.0**
MAKA				Sn		**Sn**	**09 17 51.3**	**-1.7**
ZAGS	**Zajecar**	**5.61**	**13**	*e*Pn		**Pn**	**09 16 50.2**	**+1.3**
RICI	**Ricice**	**5.75**	**334**	*e*Pn		**Pn**	**09 16 50.5**	**-0.4**
RICI				Sn		**Sn**	**09 17 51.7**	**-4.8**
DIVS	**Divibare**	**5.76**	**356**	*e*Pn		**Pn**	**09 16 50.3**	**-0.8**
KIJV	**Kijevo**	**6.45**	**332**	*e*Pn		**Pn**	**09 17 00.9**	**+0.3**
ZIRJ	**Zirje**	**6.46**	**327**	*e*Pn		**Pn**	**09 17 00.6**	**-0.1**
ZIRJ				Sn		**Sn**	**09 18 10.6**	**-3.4**
MORI	**Morici**	**6.61**	**328**	*i* Pn		**Pn**	**09 17 03.1**	**+0.5**
DUGI	**Dugi Otok**	**6.99**	**326**	*e*Pn		**Pn**	**09 17 08.6**	**+0.7**
BZS	**Buzias**	**7.31**	**6**	⇑P		**Pn**	**09 17 12.5**	**+0.2**
VOIR		**7.84**	**24**	⇑P		**Pn**	**09 17 18.9**	**-0.8**
MLR	**Muntele Rosu**	**8.20**	**28**	Pn		**Pn**	**09 17 27.3**	**+2.7**
	comp=E,0.3nm,0.3s,baz=213,slow=8.2,SNR=3.8							
MLR	**Muntele Rosu**	**8.20**	**28**	⇑P		**Pn**	**09 17 27.9**	**+3.3**
PLOR	**Plostina**	**8.76**	**29**	⇓P		**Pn**	**09 17 34.5**	**+2.2**
VRI	**Vrincioaia**	**8.81**	**30**	⇑P		**Pn**	**09 17 34.9**	**+2.1**
HFS	**Hagfors**	**22.23**	**351**	P		**P**	**09 20 22.8**	**+0.9**
	comp=E,2.1nm,0.5s,baz=183,slow=14,SNR=1.9							
FINES	**FINESS Array B**	**23.38**	**7**	P		**P**	**09 20 32.8**	**-1.0**
	comp=E,3.5nm,0.9s,baz=185,slow=13,SNR=4.3							
TORD	**Torodi Ar. Bea**	**30.17**	**219**	P		**P**	**09 21 36.4**	**+0.7**
	comp=E,0.6nm,0.8s,baz=28,slow=9.0,SNR=3.8							
MKAR	**Makanchi Array**	**45.20**	**59**	P		**P**	**09 23 42.0**	**-0.4**
	comp=E,0.6nm,0.4s,baz=273,slow=7.8,SNR=6.5							
ZALV	**Zalesovo Beam**	**45.57**	**48**	P		**P**	**09 23 46.6**	**+1.4**
	comp=E,1.3nm,0.4s,baz=262,slow=9.0,SNR=4.2							

*SOME **19** 09:16:33.0, 41°.68N×81°.42E, h15km*
*NNC **19** 09:16:34.5±1.0, 41°.71N×81°.35E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=7.7km s-min=5.3km az=169.0*

ISC 19 09:16:35.2±2.2, 41°.75N±0°.10×81°.26E±0°.07, h10km, n38, σ1§86/56, 12C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHLS	**Shalkode**	**1.94**	**317**	*e*P		**Pn**	**09 17 07.9**	**-0.4**
	42nm,0.2s							
SHLS				⇓*i*S		**Sn**	**09 17 33.3**	**+0.5**
	174nm,0.3s							
SHLS	**Shalkode**	**1.94**	**317**	P		**Pn**	**09 17 08.2**	**-0.2**
	49nm,0.3s							
SHLS				S		**Sn**	**09 17 33.3**	**+0.5**
	185nm,0.5s							
PDGK	**Podgornoye**	**2.05**	**321**	Pg		**Pb**	**09 17 12.7**	**+0.1**
	28nm,0.5s							
PDGK				Lg		Lg	09 17 41.6	
	56nm,0.5s							
PDGK	**Podgornoye**	**2.05**	**321**	⇑Pn		**Pb**	**09 17 12.0**	**-0.7**
	35nm,0.5s							
PDGK				⇓Lg		Lg	09 17 42.4	
	58nm,0.4s							
UZB	**Uzynbulak**	**2.17**	**311**	*e*P		**Pg**	**09 17 16.2**	**-0.6**
	18nm,0.6s							
UZB				*e*S		**Sg**	**09 17 47.2**	**+2.3**
	37nm,0.2s							
UZB	**Uzynbulak**	**2.17**	**311**	Pg		**Pg**	**09 17 16.2**	**-0.6**
	18nm,0.6s							
UZB				Lg		Lg	09 17 47.2	
	37nm,0.2s							
SATY	**Saty**	**2.49**	**303**	*e*P		**Pg**	**09 17 21.7**	**-1.2**
	13nm,0.3s							
SATY				*e*S		**Sg**	**09 17 57.1**	**+2.0**
	47nm,0.3s							
SATY	**Saty**	**2.49**	**303**	Pg		**Pg**	**09 17 21.7**	**-1.2**
	13nm,0.3s							
SATY				Lg		Lg	09 17 57.1	
	46nm,0.3s							
KURS	**Kuram**	**2.87**	**308**	*e*P		**Pb**	**09 17 27.5**	**+1.0**
	7.3nm,0.7s							
KURS				*e*S		**Sg**	**09 18 06.3**	**-1.0**
	11nm,0.6s							
KURS	**Kuram**	**2.87**	**308**	Pg		**Pb**	**09 17 27.5**	**+1.0**
	7.3nm,0.7s							
KURS				Lg		Lg	09 18 06.3	
	11nm,0.6s							
KOTS	**Kotyrbulak**	**3.41**	**297**	*e*P		**Pb**	**09 17 37.1**	**+1.4**
	12nm,0.4s							
KOTS				*e*S		**Sg**	**09 18 23.1**	**-1.6**
	14nm,0.3s							
KOTS	**Kotyrbulak**	**3.41**	**297**	Pg		**Pb**	**09 17 37.1**	**+1.4**
	12nm,0.4s							
KOTS				Lg		Lg	09 18 23.1	
	14nm,0.3s							
MDOK	**Medeo**	**3.42**	**296**	*e*P		**Pb**	**09 17 38.1**	**+2.1**
	4.9nm,0.5s							
MDOK				*e*S		**Sg**	**09 18 24.7**	**-0.4**
	11nm,0.5s							
MDOK	**Medeo**	**3.42**	**296**	⇑Pg		**Pg**	**09 17 38.5**	**-2.2**
	3.9nm,0.5s							
MDOK				⇑Lg		Lg	09 18 26.3	
	12nm,0.7s							
MDOK	**Medeo**	**3.42**	**296**	Pg		**Pb**	**09 17 38.1**	**+2.1**
	4.9nm,0.5s							
MDOK				Lg		Lg	09 18 24.7	
	11nm,0.5s							
TNSS	**Tian-Shan**	**3.44**	**293**	*e*P		**Pb**	**09 17 38.1**	**+1.6**
	4.7nm,0.2s							
TNSS				*e*S		**Sg**	**09 18 24.8**	**-1.1**
	13nm,0.4s							
TNSS	**Tian-Shan**	**3.44**	**293**	Pg		**Pb**	**09 17 38.1**	**+1.6**
	4.7nm,0.2s							
TNSS				Lg		Lg	09 18 24.8	
	13nm,0.4s							
ARXS	**Arharly**	**3.52**	**316**	*e*P		**Pb**	**09 17 39.1**	**+1.4**
	21nm,0.5s							
ARXS				*e*S		**Sg**	**09 18 26.7**	**-1.7**
	15nm,0.5s							
ARXS	**Arharly**	**3.52**	**316**	Pg		**Pb**	**09 17 39.1**	**+1.4**
	21nm,0.5s							
ARXS				Lg		Lg	09 18 26.7	
	15nm,0.5s							
CHKK	**Chushkaly**	**3.78**	**305**	*e*P		**Pb**	**09 17 44.5**	**+2.5**
	3.8nm,0.2s							
CHKK				*e*S		**Sg**	**09 18 35.9**	**-0.8**
	12nm,0.3s							
CHKK	**Chushkaly**	**3.78**	**305**	Pg		**Pb**	**09 17 44.5**	**+2.5**
	3.8nm,0.2s							
CHKK				Lg		Lg	09 18 35.9	
	12nm,0.3s							
KAPS	**Kapalarasan**	**3.80**	**339**	*e*P		**Pb**	**09 17 44.7**	**+2.4**
	4.2nm,0.4s							
KAPS				*e*S		**Sg**	**09 18 36.1**	**-1.0**
	11nm,0.2s							
KAPS	**Kapalarasan**	**3.80**	**339**	Pg		**Pb**	**09 17 44.7**	**+2.4**
	4.2nm,0.4s							
KAPS				Lg		Lg	09 18 36.1	
	11nm,0.2s							
MTBS	**Maitube**	**3.83**	**293**	Pg		**Pb**	**09 17 44.9**	**+2.0**
	5.5nm,0.2s							
MTBS				Lg		Lg	09 18 36.4	
	9.3nm,0.5s							
KTBS	**Karatobe**	**3.90**	**302**	*e*P		**Pb**	**09 17 46.7**	**+2.6**
	4.3nm,0.4s							
KTBS				*e*S		**Sg**	**09 18 39.7**	**-0.7**
	13nm,0.7s							
KTBS	**Karatobe**	**3.90**	**302**	Pg		**Pb**	**09 17 46.7**	**+2.6**
	4.3nm,0.4s							
KTBS				Lg		Lg	09 18 39.7	
	13nm,0.7s							
KST	**Kastek**	**4.13**	**290**	⇑*i*P		**Pg**	**09 17 51.6**	**-2.7**
	5.3nm,0.9s							
KST				⇑*i*S		**Sg**	**09 18 47.8**	**0.0**
	12nm,0.9s							
KST	**Kastek**	**4.13**	**290**	Pg		**Pg**	**09 17 51.6**	**-2.7**
	5.3nm,0.9s							
KST				Lg		Lg	09 18 47.8	
	12nm,0.9s							
KUU	**Kurty**	**4.21**	**302**	*e*P		**Pg**	**09 17 53.4**	**-2.3**
	3.3nm,0.3s							
KUU				*e*S		**Sg**	**09 18 51.1**	**+0.8**
	8.1nm,0.5s							
KUU	**Kurty**	**4.21**	**302**	Pg		**Pg**	**09 17 53.4**	**-2.3**
	3.3nm,0.3s							
KUU				Lg		Lg	09 18 51.1	
	8.1nm,0.5s							
DGS	**Degeres**	**4.32**	**292**	*e*P		**Pg**	**09 17 55.6**	**-2.4**
	4.4nm,0.3s							
DGS				*e*S		**Sg**	**09 18 55.0**	**+1.0**
	9.9nm,0.5s							
DGS	**Degeres**	**4.32**	**292**	Pg		**Pg**	**09 17 55.6**	**-2.4**
	4.4nm,0.3s							
DGS				Lg		Lg	09 18 55.0	
	9.9nm,0.5s							
TKM2	**Tokmak 2**	**4.36**	**287**	⇑Lg		Lg	09 18 56.0	
	6.4nm,0.5s							
KRBS	**Karabastau**	**4.55**	**297**	*e*P		**Pb**	**09 17 58.0**	**+2.8**
	3.0nm,0.6s							
KRBS				*e*S		**Sg**	**09 18 59.0**	**-2.3**
	4.3nm,0.5s							
KRBS	**Karabastau**	**4.55**	**297**	Pg		**Pb**	**09 17 58.0**	**+2.8**
	3.0nm,0.6s							
KRBS				Lg		Lg	09 18 59.1	
	4.3nm,0.5s							
MAKZ	**Makanchi**	**5.08**	**6**	⇑Pn		**Pn**	**09 17 51.7**	**+0.2**
	1.2nm,0.4s							
MAKZ				⇑Pg		**Pg**	**09 18 08.9**	**-3.7**
	1.6nm,0.5s							
MAKZ				⇓Sn		**Sn**	**09 18 52.7**	**+2.5**
	1.5nm,0.5s							
MAKZ				⇑Lg		Lg	09 19 15.2	
	4.4nm,0.8s							
MK31	**Makanchi Array**	**5.10**	**8**	⇑Pn		**Pn**	**09 17 51.8**	**+0.1**
	0.1nm,0.2s,baz=186,slow=13,SNR=11							
MK31				⇑Pg		**Pb**	**09 18 06.5**	**+2.0**
	0.4nm,0.3s,baz=187,slow=16,SNR=5.0							
MK31				⇑Lg		Lg	09 19 14.9	
	2.4nm,0.5s,baz=190,slow=32,SNR=4.0							
AAK	**Ala-Archa**	**5.11**	**282**	⇓Pg		**Pg**	**09 18 10.4**	**-2.6**
	3.9nm,0.8s							
AAK				⇓Lg		Lg	09 19 20.6	
	5.1nm,0.7s							

TIR 19 09:18:18.8, 40°.18N×20°.56E, h17km, Md2.5/3, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSK	**Leskovik**	**0.04**	**134**	*i* PG		Pg	09 18 22.5	+0.5
LSK				*i* SG		Sg	09 18 24.6	+0.5
SRN	**Sarande**	**0.52**	**235**	*i* PG		Pg	09 18 29.4	+0.1
SRN				*i* SG		Sb	09 18 38.3	+1.5
IGT	**Igoumenitsa**	**0.67**	**195**	*i* PG		Pn	09 18 32.9	-0.6
IGT				*i* SG		Sn	09 18 42.7	-0.9

BEO 19 09:19:23.2±0.5, 43°.16N×20°.63E, h1km±4km, ML1.3/8, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SELS	**Selova**	**0.36**	**81**	*e*Pg		Pg	09 19 29.6	-0.6
SELS				*e*Sg		Sg	09 19 34.6	-0.3
SJES	**Sjenica**	**0.49**	**282**	*e*Pg		Pg	09 19 31.8	-0.8
SJES				*e*Sg		Sg	09 19 39.0	+0.1
GRUS	**Gruza**	**0.73**	**5**	*e*Pg		Pg	09 19 35.5	-1.7
GRUS				*e*Sg		Sg	09 19 46.9	+0.2
BOVS	**Bovan**	**0.92**	**59**	*e*Pg		Pg	09 19 39.6	-1.2
BOVS				*e*Sg		Sg	09 19 52.9	+0.2
DIVS	**Divibare**	**1.04**	**334**	*e*Pg		Pg	09 19 42.2	-1.0
DIVS				*e*Sg		Sg	09 19 56.6	-0.2
ZAGS	**Zajecar**	**1.34**	**60**	*e*Pg		Pg	09 19 46.9	-1.9
ZAGS				*e*Sg		Sg	09 20 05.0	-1.2
ZAPS	**Zavoj**	**1.47**	**85**	*e*Sg		Pg	09 19 50.3	-1.1
ZAPS	**Zavoj**	**1.47**	**85**	*e*Pg		Sg	09 20 10.3	-0.1

*IDC **19** 09:19:13.1±1.7, 3°.08S×139°.72E, h0km, mb3.8/3, mb1 4.3/4, mb1mx3.7/40, mbtmp4.0/4, ML4.0/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/35, Error ellipse: s-maj=53.3km s-min=12.0km az=141.0*
*NEIC **19** 09:19:32.2±2.5, 4°.6S±0°.1×139°.49E±0°.07, h35km±2km, mb4.0/10, Error ellipse: s-maj=21.3km s-min=7.9km az=207.0*

ISC 19 09:19:25.0±1.8, 4°.2S±0°.1×139°.6E±0°.1, h10km, n25, σ2§14/21, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**1.95**	**34**	Pg		Pn	09 19 34.7	-23
	30nm,0.3s,baz=213,slow=10,SNR=75							
JAY				Lg		Lg	09 19 50.9	
	158nm,0.3s,baz=340,slow=18,SNR=11							
FAKI	**Fak Fak**	**7.46**	**279**	Pn		**Pn**	**09 21 13.8**	**-0.2**
FAKI				Sn		**Sn**	**09 22 41.3**	**+2.5**
SIJI	**Sorong**	**8.96**	**291

	3.0nm,0.2s							
MRKS					Lg	Lg	09 32 41.2	
	12nm,0.4s							
BTLS	**Baital**	**3.28**	**63**		Pg	**Pg**	**09 32 17.6**	**+1.2**
	8.6nm,0.5s							
BTLS					Lg	Lg	09 33 02.8	
	2.6nm,0.4s							
SGDS	**Sogindy**	**3.43**	**91**		Pg	**Pg**	**09 32 20.0**	**+0.7**
	3.6nm,0.1s							
SGDS					Lg	Lg	09 33 06.9	
	5.0nm,0.2s							
AAK	**Ala-Archa**	**3.49**	**105**	⇓	Pg	**Pg**	**09 32 19.6**	**-0.9**
	2.9nm,0.5s							
AAK				⇑	Lg	Lg	09 33 09.0	
	5.9nm,0.5s							
TKM2	**Tokmak 2**	**4.20**	**98**	⇓	Pg	**Pg**	**09 32 32.4**	**-1.8**
	1.2nm,0.6s							
TKM2				⇑	Lg	Lg	09 33 30.0	
	3.8nm,0.5s							
DGS	**Degeres**	**4.28**	**93**		Pg	**Pg**	**09 32 34.0**	**-1.6**
	2.0nm,0.4s							
DGS					Lg	Lg	09 33 31.4	
	4.8nm,0.6s							
KST	**Kastek**	**4.44**	**95**		Pg	**Pg**	**09 32 38.3**	**-0.4**
	2.5nm,0.4s							
KST					Lg	Lg	09 33 38.7	
	6.9nm,0.6s							
KUU	**Kurty**	**4.66**	**84**		Pg	**Pg**	**09 32 41.9**	**-0.9**
	1.6nm,0.4s							
KUU					Lg	Lg	09 33 44.8	
	6.3nm,0.6s							
KTBS	**Karatobe**	**4.90**	**87**		Pg	**Pg**	**09 32 47.2**	**-0.3**
	1.1nm,0.2s							
KTBS					Lg	Lg	09 33 53.6	
	10nm,0.5s							
TNSS	**Tian-Shan**	**5.16**	**94**		Pg	**Pg**	**09 32 51.5**	**-0.9**
	0.7nm,0.0s							
TNSS					Lg	Lg	09 34 00.7	
	3.5nm,0.2s							

*ATH **19** 09:32:26.0, 38˚.59N×21˚.57E, h12km±1km, ML2.4/11, Error ellipse: s-maj=1.9km s-min=0.9km az=329.0*
*THE **19** 09:32:26.1, 38˚.60N×21˚.57E, h12km, ML2.5/6, Error ellipse: s-maj=0.9km s-min=0.3km az=294.0*
*TIR **19** 09:32:33.0, 38˚.86N×21˚.01E, h18km, Md3.1/3*
ISC 19 09:32:26.0±0.8, 38˚.60N±0˚.02×21˚.57E±0˚.02, h13km±5km, n32, σ0$ 43/46, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVO	**Paravola**	**0.04**	**302**	P	**Pg**	**09 32 28.2**	**-0.2**
PVO				S	**Sg**	**09 32 29.9**	**-0.1**
PVO	**Paravola**	**0.04**	**302**	P	**Pg**	**09 32 28.2**	**-0.2**
PVO				S	**Sg**	**09 32 29.9**	**-0.1**
PVO				AML	AML	09 32 30.2	
	comp=E,62702μm,0.2s						
PVO				AML	AML	09 32 30.2	
	comp=N,73294μm,0.3s						
ANX	**Ano Chora**	**0.28**	**90**	P	**Pg**	**09 32 31.8**	**0.0**
ANX				S	**Sg**	**09 32 36.2**	**+0.5**
	comp=N,3μm,0.4s						
ANX	**Ano Chora**	**0.28**	**90**	P	**Pg**	**09 32 32.0**	**+0.1**
ANX				S	**Sg**	**09 32 36.2**	**+0.5**
ANX				AML	AML	09 32 37.4	
	comp=N,8286μm,0.5s						
ANX				AML	AML	09 32 37.5	
	comp=E,5280μm,0.3s						
EFP	**Efpalio**	**0.31**	**122**	P	**Pg**	**09 32 32.3**	**-0.1**
EFP				S	**Sg**	**09 32 37.5**	**+0.8**
	comp=E,2μm,0.3s						
EFP	**Efpalio**	**0.31**	**122**	P	**Pg**	**09 32 32.3**	**-0.1**
EFP				AML	AML	09 32 38.5	
	comp=E,2616μm,0.2s						
EFP				AML	AML	09 32 42.0	
	comp=N,3189μm,0.4s						
EVR	**Evrytania**	**0.37**	**30**	P	**Pg**	**09 32 33.4**	**-0.1**
EVR				S	**Sg**	**09 32 39.0**	**+0.4**
EVR	**Evrytania**	**0.37**	**30**	P	**Pg**	**09 32 33.4**	**-0.1**
EVR				S	**Sg**	**09 32 39.4**	**+0.8**
EVR				AML	AML	09 32 41.6	
	comp=E,660μm,0.4s						
EVR				AML	AML	09 32 44.2	
	comp=N,574μm,0.4s						
AXS	**Araxos**	**0.43**	**201**	P	**Pg**	**09 32 34.4**	**-0.1**
AXS				S	**Sg**	**09 32 40.8**	**+0.6**
AXS				AML	AML	09 32 43.5	
	comp=E,804μm,0.2s						
AXS				AML	AML	09 32 43.5	
	comp=N,610μm,0.3s						
TRIZ	**Trizonia**	**0.46**	**120**	P	**Pg**	**09 32 34.7**	**-0.4**
TRIZ				S	**Sg**	**09 32 41.8**	**+0.7**
	comp=N,880nm,0.3s						
TRIZ	**Trizonia**	**0.46**	**120**	P	**Pg**	**09 32 34.6**	**-0.4**
TRIZ				S	**Sg**	**09 32 41.5**	**+0.4**
ALIK	**Aliki, Aigiali**	**0.54**	**128**	P	**Pg**	**09 32 36.5**	**-0.1**
ALIK				S	**Sb**	**09 32 44.6**	**-0.5**
RLS	**Riolos of Patr**	**0.54**	**189**	P	**Pg**	**09 32 36.9**	**+0.3**
RLS				S	**Sb**	**09 32 44.7**	**-0.4**
	comp=N,388nm,0.2s						
RLS	**Riolos of Patr**	**0.54**	**189**	P	**Pg**	**09 32 36.4**	**-0.2**
RLS				AML	AML	09 32 47.3	
	comp=N,1043μm,0.3s						
RLS				AML	AML	09 32 51.8	
	comp=E,538μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.61**	**46**	P	**Pg**	**09 32 37.7**	**-0.2**
MAKR				S	**Sb**	**09 32 46.6**	**-0.4**
	comp=E,530nm,0.3s						
MAKR	**Makrakomi, Fth**	**0.61**	**46**	P	**Pg**	**09 32 37.9**	**0.0**
MAKR				AML	AML	09 32 50.9	
	comp=E,671μm,0.2s						
MAKR				AML	AML	09 32 52.9	
	comp=N,493μm,0.4s						
MGNA	**Meganis**	**0.61**	**276**	P	**Pb**	**09 32 38.4**	**-0.2**
DRO	**Drossia**	**0.65**	**170**	P	**Pg**	**09 32 38.8**	**+0.1**
DRO				S	**Sb**	**09 32 48.0**	**-0.3**
	comp=N,635nm,0.3s						
DRO	**Drossia**	**0.65**	**170**	P	**Pg**	**09 32 38.5**	**-0.2**
DRO				AML	AML	09 32 50.3	
	comp=E,1066μm,0.3s						
DRO				AML	AML	09 32 56.4	
	comp=N,1530μm,0.3s						
EVGI	**Lefkada island**	**0.71**	**272**	P	**Pg**	**09 32 40.0**	**+0.1**
AGG	**Agios Georgios**	**0.73**	**54**	P	**Pg**	**09 32 39.9**	**-0.4**
AGG				AML	AML	09 32 55.9	
	comp=E,390μm,0.4s						
AGG				AML	AML	09 32 56.7	
	comp=N,337μm,0.5s						
LKD2	**Lefkada island**	**0.74**	**285**	*i* PG	**Pg**	**09 32 40.1**	**-0.3**
LKD2	**Lefkada island**	**0.74**	**285**	P	**Pg**	**09 32 40.0**	**-0.3**
LKD2				AML	AML	09 32 59.9	
	comp=E,561μm,0.3s						
LKD2				AML	AML	09 33 01.8	
	comp=N,466μm,0.4s						
TSLK	**Tsoukalades, L**	**0.75**	**288**	P	**Pg**	**09 32 40.2**	**-0.3**
DSF	**Desfina**	**0.77**	**103**	P	**Pg**	**09 32 40.0**	**-1.0**
GUR	**Goura**	**0.90**	**137**	P	**Pg**	**09 32 42.4**	**-1.0**
GUR				AML	AML	09 32 58.6	
	comp=N,977μm,0.4s						
GUR				AML	AML	09 33 00.2	
	comp=E,592μm,0.3s						
TRIP	**Tripoli**	**1.20**	**152**	P	**Pn**	**09 32 48.2**	**-0.4**
IGT	**Igoumenitsa**	**1.34**	**315**	*i* PG	**Pb**	**09 32 51.1**	**0.0**
VIL2	**Platees**	**1.39**	**105**	P	**Pg**	**09 32 52.8**	**+0.1**
PYL	**PYLOS**	**1.70**	**175**	P	**Pb**	**09 32 57.5**	**+0.3**
LSK	**Leskovik**	**1.72**	**334**	*i* PN	**Pg**	**09 32 58.6**	**-0.5**
SRN	**Sarande**	**1.77**	**317**	*i* PN	**Pn**	**09 32 57.1**	**+0.8**

*IDC **19** 10:08:05.1±3.2, 53˚.72N×88˚.10E, h0km, mb1 3.1/2, mb1mx3.0/50, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=27.3km s-min=17.3km az=59.0*
*NNC **19** 10:08:06.2±1.9, 53˚.61N×88˚.01E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=16.7km s-min=9.8km az=68.0, Suspected Mining explosion.*
ISC 19 10:08:08.4±5.0, 53˚.7N±0˚.1×87˚.7E±0˚.3, h0km, n9, σ1$05/10, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**281**	*i*		10 20 50.9	
	baz=92,slow=316,SNR=4.0						
ZAA0	**Zalesovo Array**	**1.75**	**281**	⇑	Pn	**Pn**	**10 08 39.9**	**-0.1**
	1.9nm,0.7s						
ZAA0				⇑	Lg	Lg	10 09 07.6	
	15nm,0.9s							
ZALV	**Zalesovo Beam**	**1.75**	**281**		Pn	**Pn**	**10 08 40.0**	**0.0**
	2.0nm,0.3s,baz=94,slow=12,SNR=33							
ZALV					Lg	Lg	10 09 07.7	
	6.6nm,0.3s,baz=102,slow=21,SNR=29							
KURK	**Kurchatov**	**6.33**	**246**	⇑	Pn	**Pn**	**10 09 43.0**	**+0.2**
	1.4nm,0.7s							
KURK				⇓	Lg	Lg	10 11 31.7	
	9.3nm,0.8s							
KURBB	**Kurchatov Arra**	**6.42**	**245**		Pn	**Pn**	**10 09 44.2**	**+0.1**
	0.2nm,0.3s,baz=61,slow=14,SNR=4.7							
KURBB					Lg	Lg	10 11 35.7	
	baz=58,slow=35,SNR=6.1							
KURBB	**Kurchatov Arra**	**6.42**	**245**	⇓	Pn	**Pn**	**10 09 44.6**	**+0.4**
	1.1nm,0.3s							
KURBB				⇓	Lg	Lg	10 11 35.3	
	12nm,0.8s							
MK31	**Makanchi Array**	**7.70**	**209**	⇑	Pn	**Pn**	**10 10 01.5**	**-0.2**
	0.2nm,0.5s,baz=25,slow=13,SNR=6.5							
MK31				⇑	Sn	**Sn**	**10 11 27.3**	**-2.3**
	1.3nm,0.8s,baz=34,slow=25,SNR=3.7							
MK31				⇓	Lg	Lg	10 12 12.6	
	6.2nm,1.1s							
MKAR	**Makanchi Array**	**7.70**	**209**		Pn	**Pn**	**10 10 02.2**	**+0.5**
	0.2nm,0.3s,baz=26,slow=14,SNR=5.6							
MKAR					Sn	**Sn**	**10 11 29.9**	**+0.3**
	0.2nm,0.3s,baz=28,slow=23,SNR=5.6							
MKAR					Lg	Lg	10 12 12.1	
	0.1nm,0.3s,baz=39,slow=30,SNR=5.1							
MAKZ	**Makanchi**	**7.78**	**211**	⇓	Sn	**Sn**	**10 11 32.9**	**+1.3**
	2.0nm,0.6s							
MAKZ				⇑	Lg	Lg	10 12 14.7	
	3.9nm,0.8s							

*IDC **19** 10:11:20.2±1.1, 60˚.09N×153˚.23W, h103km±15km, mb4.1/12, mb1 4.2/16, mb1mx3.8/47, mbtmp4.4/16, MS2.7/1, Ms1 2.7/1, ms1mx2.3/51, Error ellipse: s-maj=14.9km s-min=10.1km az=112.0*
*NEIC **19** 10:11:21.5±1.6, 60˚.05N±0˚.04×153˚.14W±0˚.09, h133km±3km, Error ellipse: s-maj=6.3km s-min=5.1km az=108.0*
*NEIC **19** 10:11:21.7, 60˚.03N×153˚.09W, h136km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.80; $M_{\theta\theta}$-1.60; $M_{\phi\phi}$0.81; $M_{r\theta}$0.00; $M_{\theta\phi}$0.01; $M_{r\phi}$0.80; Fault plane solution: $M_0$1.60000×10^{15} NP1:ϕ_s55.00000°, δ60.00000°, λ35.00000°. NP2:ϕ_s306.00000°, δ60.00000°, λ145.00000°. Principal axes: T 1.6026, Plg45.0000°, Azm270.0000°; N -0.0014, Plg45.0000°, Azm91.0000°; P -1.6011, Plg0.0000°, Azm0.0000°;*
*ANF **19** 10:11:22.9±1.5, 60˚.16N×152.88W, h153km±5km, ML4.7/5, ML4.8/6 Error ellipse: s-maj=20.4km s-min=13.2km az=76.0*
*AEIC **19** 10:11:22.4±1.8, 60˚.03N±0˚.03×153˚.09W±0˚.08, h132km±2km, ML4.2/141, mb4.5/12(NEIC), Mwr4.1/15(SLM), Error ellipse: s-maj=6.4km s-min=4.8km az=109.0*
ISC 19 10:11:22.2±0.6, 60˚.04N±0˚.03×153˚.08W±0˚.04, h132km±5km, n197, σ1$40/215, mb4.4/21, 1C, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.04**	**132**		Pn	**10 11 39.4**	**-0.8**
IVE					Sn	10 11 52.9	-0.8
ILS	**Iliamna Low So**	**0.09**	**177**		Pn	10 11 39.3	-0.9
OPT	**Oil Point**	**0.40**	**191**		Pn	10 11 40.6	-0.4
RED	**Redoubt Volcan**	**0.41**	**22**		Pn	10 11 40.5	-0.6
RED					Sn	10 11 54.5	-0.9
RDSO	**Redoubt South**	**0.44**	**22**		Pn	10 11 40.8	-0.5
RDSO					Sn	10 11 54.8	-1.1
RSO	**Redoubt South**	**0.45**	**21**	Pn	Pn	10 11 40.9	-0.6
RDWB	**Redoubt West**	**0.46**	**15**		Pn	10 11 40.8	-0.6
RDJH	**Redoubt Jeurge**	**0.57**	**14**		Pn	10 11 41.6	-0.4
RDJH					Sn	10 11 56.5	-0.5
AUL	**Augustine Lava**	**0.69**	**195**		Pn	10 11 42.3	-0.4
AUL					Sn	10 11 57.6	-0.5
AU22	**Augustine Moun**	**0.69**	**192**		Pn	10 11 42.1	-0.5
AU22					Sn	10 11 57.3	-0.8
AUW	**Augustine West**	**0.70**	**197**		Pn	10 11 42.4	-0.3
AUP	**Augustine Pinn**	**0.71**	**194**		Pn	10 11 42.5	-0.4
AUH	**Augustine H**	**0.71**	**195**		Pn	10 11 42.5	-0.4
AUQ	**Augustine Qik'**	**0.71**	**194**		Pn	10 11 42.4	-0.5
HOM	**Homer**	**0.82**	**118**		Pn	10 11 43.5	-0.1
HOM					Sn	10 11 59.6	-0.3
CNPM	**China Poot**	**1.07**	**118**		Pn	10 11 45.5	-0.4
CNPM	**China Poot**	**1.07**	**118**		Sn	10 12 02.8	-1.0
BRLK	**Bradley Lake**	**1.14**	**103**		Pn	10 11 46.3	-0.3
CAPN	**Captain Cook N**	**1.20**	**52**	P	Pn	10 11 48.7	+1.6
	baz=233,SNR=16						
CAPN				S	Sn	10 12 09.0	+2.9
	baz=233						
CAPN	**Captain Cook N**	**1.20**	**52**		Pn	10 11 48.7	+1.6
BRSE	**Bradley Lake S**	**1.22**	**103**		Pn	10 11 47.1	-0.2
BRSE					Sn	10 12 05.4	-1.1
SPNN	**North Nagishla**	**1.34**	**8**		Pn	10 11 48.7	-0.1
SPNN					Sn	10 12 08.9	-0.2
SPCG	**Spurr Capps Gl**	**1.36**	**22**		Pn	10 11 48.8	-0.1
SPCG					Sn	10 12 08.9	-0.4
SLKM	**Skilak Lake**	**1.50**	**71**		Pn	10 11 49.6	-0.7
SLKM					Sn	10 12 10.3	-1.6
STLK	**Strandline Lak**	**1.58**	**22**		Pn	10 11 51.3	0.0
SVW2	**Sparrevohn**	**1.63**	**312**	Pn	Pn	10 11 50.9	-0.9
KAHC	**Katmai Hardscr**	**1.71**	**216**		Pn	10 11 52.1	-0.8
KAHG	**Katmai Hook Gl**	**1.73**	**207**		Pn	10 11 52.5	-0.5
O22K	**Cooper Landing**	**1.73**	**74**	P	Pn	10 11 52.7	-0.3
	baz=256,SNR=194						
O22K				S	Sn	10 12 14.8	-1.7
	baz=256						
O22K	**Cooper Landing**	**1.73**	**74**		Pn	10 11 52.6	-0.3
FIS	**Fire Island**	**1.79**	**51**		Pn	10 11 54.3	+0.7
SEW	**Seward**	**1.82**	**87**	Pn	Pn	10 11 53.3	-0.7
SEW	**Seward**	**1.82**	**87**		Sn	10 12 16.4	-1.9
SUA	**Susitna One**	**1.83**	**38**		Pn	10 11 54.1	-0.1
SUA	**Susitna One**	**1.83**	**38**		Sn	10 12 18.8	0.0
SKT	**Skwentna**	**2.08**	**20**		Pn	10 11 56.9	-0.3
KABU	**Katmai Buttres**	**2.11**	**214**		Pn	10 11 57.2	-0.5
KDAK	**Kodiak Island**	**2.28**	**173**	P	Pn	10 11 57.7	-1.9
	65nm,0.3s,baz=27,slow=8.6,SNR=1334						
KDAK				S	Sn	10 12 26.0	-2.4
	141nm,0.3s,baz=316,slow=23,SNR=57						
KDAK				LR	LR	10 12 43.8	
	comp=Z,160nm,18.7s,baz=226,slow=36						
KDAK	**Kodiak Island**	**2.28**	**173**	Pn	Pn	10 11 57.8	-1.8
CAHL	**Cahill**	**2.31**	**211**		Pn	10 11 59.5	-0.5
PMR	**Palmer**	**2.48**	**50**		Pn	10 12 00.6	-1.5
PMR	**Palmer**	**2.48**	**50**		Sn	10 12 30.2	-2.6
PWL	**Port Wells**	**2.49**	**69**		Pn	10 12 00.9	-1.4
KNK	**Knik Glacier**	**2.65**	**57**		Pn	10 12 03.0	-1.3
KNK	**Knik Glacier**	**2.65**	**57**		Sn	10 12 34.4	-2.4
GHO	**Glory Hole Cre**	**2.67**	**48**		Pn	10 12 03.2	-1.3
CUT	**Chulitna**	**2.73**	**29**	P	Pn	10 12 04.8	-0.5
	baz=211,SNR=57						
CUT				S	Sn	10 12 38.0	-0.6
	baz=211						
CUT	**Chulitna**	**2.73**	**29**		Pn	10 12 04.9	-0.3
OHAK	**Old Harbor**	**2.83**	**182**	Pn	Pn	10 12 04.2	-2.4
OHAK	**Old Harbor**	**2.83**	**182**		Sn	10 12 36.6	-4.2
PLK3	**Peulik 3**	**2.89**	**216**		Pn	10 12 07.0	-0.3
PPLA	**Purkeypile**	**2.89**	**8**	Pn	Pn	10 12 07.2	-0.3
PLK1	**Peulik 1**	**2.90**	**221**		Pn	10 12 07.1	-0.3
SML	**Sawmill**	**2.91**	**51**		Pn	10 12 06.3	-1.4
GLI	**Glacier Island**	**3.08**	**72**		Pn	10 12 07.7	-2.0
TT01	**Tatalina**	**3.20**	**335**		Pn	10 12 10.7	-0.7
TTA	**Tatalina**	**3.22**	**335**	Pn	Pn	10 12 10.8	-0.8
HIN	**Hinchinbrook I**	**3.30**	**81**		Pn	10 12 11.4	-1.3
SCM	**Sheep Creek Mo**	**3.33**	**55**		Pn	10 12 11.9	-1.3
FID	**Port Fidalgo**	**3.35**	**75**		Pn	10 12 11.1	-2.3
HUR	**Hurricane**	**3.37**	**28**		Pn	10 12 12.8	-0.8
CAST	**Castle Rocks**	**3.42**	**7**		Pn	10 12 14.5	+0.3
WAT7	**Susitna Watana**	**3.46**	**34**		Pn	10 12 13.7	-1.1
MID	**Middleton Isla**	**3.47**	**97**	Pn	Pn	10 12 14.1	-0.7
WAT1	**Susitna Watana**	**3.54**	**36**		Pn	10 12 14.8	-1.0
SII	**Sitkinak Islan**	**3.54**	**190**		Pn	10 12 13.7	-2.3
WAT6	**Susitna Watana**	**3.62**	**43**		Pn	10 12 15.8	-1.2
WAT2	**Susitna Watana**	**3.63**	**34**		Pn	10 12 16.2	-1.0
TRF	**Thorofare Moun**	**3.67**	**20**		Pn	10 12 16.7	-0.9
EYAK	**Cordova Ski Ar**	**3.68**	**79**	Pn	Pn	10 12 16.3	-1.4
KLU	**Klutina**	**3.80**	**64**		Pn	10 12 18.0	-1.3
RND	**Reindeer**	**3.93**	**29**		Pn	10 12 20.0	-1.0
BPAW	**Bear Paw Mtn.**	**4.19**	**13**		Pn	10 12 23.1	-1.2

GOAT	**Goat Mountain**	**4.19**	**79**			Pn	**10 12 23.0**	**-1.4**
MCK	**McKinley**	**4.19**	**26**			Pn	10 12 23.5	-0.9
RAGM	**Ragged Mountai**	**4.21**	**82**			Pn	10 12 24.1	-0.5
KAIM	**Kayak Island**	**4.35**	**88**			Pn	10 12 26.6	0.0
HMT	**Hamilton**	**4.41**	**82**			Pn	10 12 26.8	-0.6
CHIR	**Chirikof Islan**	**4.45**	**199**			Pn	10 12 25.2	-2.6
BWN	**Browne**	**4.48**	**21**			Pn	10 12 28.1	-0.1
SUCK	**Suckling Hills**	**4.66**	**86**			Pn	10 12 30.5	-0.2
PAX	**Paxson**	**4.68**	**48**			Pn	10 12 30.2	-0.7
BERG	**Berg Lake**	**4.69**	**82**			Pn	10 12 30.4	-0.6
GLB	**Gilahina Butte**	**4.76**	**69**			Pn	10 12 31.0	-1.0
VRDI	**Verde Repeater**	**4.88**	**72**			Pn	10 12 32.9	-1.0
NEA2	**Nenana**	**4.93**	**21**	P		Pn	10 12 33.3	-1.0
	baz=204,SNR=480							
NEA2	**Nenana**	**4.93**	**21**			Pn	10 12 33.1	-1.1
CRQM	**Cirque**	**4.98**	**77**			Pn	10 12 34.8	-0.3
VNHG	**Veniaminof 1**	**5.01**	**223**			Pn	10 12 35.2	-0.2
WRH	**Wood River Hil**	**5.02**	**26**			Pn	10 12 34.2	-1.1
MCARA	**McCarthy VSAT**	**5.12**	**70**			Pn	10 12 37.1	+0.4
MLY	**Manley**	**5.12**	**11**			Pn	10 12 36.8	0.0
TGL	**Tana Glacier**	**5.13**	**78**			Pn	10 12 36.8	-0.2
CCB	**Clear Creek Bu**	**5.23**	**26**			Pn	10 12 37.0	-1.2
HDA	**Harding Lake**	**5.23**	**31**	P		Pn	10 12 37.2	-1.1
	baz=216,SNR=236							
HDA				S		Sn	10 13 34.1	-3.4
	baz=216							
HDA	**Harding Lake**	**5.23**	**31**			Pn	10 12 37.2	-1.1
BARK	**Barkley Ridge**	**5.29**	**82**			Pn	10 12 39.1	0.0
MENT	**Mentasta**	**5.34**	**53**			Pn	10 12 38.6	-1.1
PTPK	**Patty Peak**	**5.35**	**73**			Pn	10 12 39.5	-0.6
ISLE	**Juniper Island**	**5.37**	**79**			Pn	10 12 40.0	-0.2
KIAG	**Kiagna River**	**5.37**	**76**			Pn	10 12 40.1	-0.2
RIDG	**Independent Ri**	**5.37**	**43**			Pn	10 12 39.8	-0.4
PS08	**TAPS Pump Stn8**	**5.38**	**30**			Pn	10 12 39.1	-1.0
BALM	**Baldy**	**5.39**	**75**			Pn	10 12 40.4	-0.1
TCOL	**CIGO, UAF Yank**	**5.42**	**24**	P		Pn	10 12 39.7	-1.0
	baz=209,SNR=145							
TCOL				S		Sn	10 13 40.5	-1.4
	baz=209							
COLA	**College**	**5.42**	**24**			Pn	10 12 39.5	-1.2
MDM	**Murphy Dome**	**5.42**	**22**			Pn	10 12 39.5	-1.3
BAGL	**Bagley Icefiel**	**5.49**	**81**			Pn	10 12 42.0	+0.4
IL31		**5.55**	**29**			Pn	10 12 41.0	-1.3
ILAR	**Eielson Array**	**5.55**	**29**	P		Pn	10 12 41.6	-0.9
	39nm,0.3s,baz=216,slow=14,SNR=2591							
ILAR				S		Sn	10 13 41.2	-3.8
	6.4nm,0.3s,baz=211,slow=13,SNR=4.9							
ILAR	**Eielson Array**	**5.55**	**29**			Pn	10 12 40.5	-1.9
DOT	**Dot Lake**	**5.59**	**46**			Pn	10 12 42.1	-1.0
GRNC	**Granite Creek**	**5.66**	**78**			Pn	10 12 44.2	0.0
YAH	**Yahtse**	**5.66**	**82**			Pn	10 12 44.4	+0.2
POKR	**Poker Plat Res**	**5.72**	**25**	P		Pn	10 12 43.8	-1.0
	baz=210,SNR=74							
POKR				S		Sn	10 13 46.1	-3.1
	baz=210							
POKR	**Poker Plat Res**	**5.72**	**25**			Pn	10 12 43.8	-1.0
BARN	**Barnard Glacie**	**5.72**	**75**			Pn	10 12 45.3	+0.3
PS07	**TAPS Pump Stn7**	**5.73**	**21**			Pn	10 12 44.3	-0.5
CTGM	**Chitina Glacie**	**5.88**	**76**			Pn	10 12 47.4	+0.4
TABL	**Table Mountain**	**5.96**	**81**			Pn	10 12 48.2	0.0
IM03		**5.97**	**357**			Pn	10 12 47.7	-0.4
IMAR	**Indian Mountai**	**5.97**	**357**			Pn	10 12 46.9	-1.2
SDPT	**Sand Point**	**6.15**	**223**			Pn	10 12 47.6	-3.1
BC03		**6.19**	**56**			Pn	10 12 50.4	-0.6
BCAR	**Beaver Creek A**	**6.19**	**56**			Pn	10 12 49.6	-1.5
YUK2	**White River**	**6.22**	**68**			Pn	10 12 51.8	+0.2
CNBA	**Chernabura Isl**	**6.31**	**217**			Pn	10 12 49.7	-3.0
BVCY	**Beaver Creek**	**6.36**	**63**			Pn	10 12 53.3	0.0
YUK3	**Moose Creek**	**6.39**	**69**			Pn	10 12 54.1	+0.1
PCA	**Pinnacle**	**6.42**	**84**			Pn	10 12 54.5	+0.3
K27K	**Chicken**	**6.53**	**48**	P		Pn	10 12 54.6	-1.1
	baz=237							
K27K	**Chicken**	**6.53**	**48**			Pn	10 12 54.7	-1.0
PS05	**TAPS Pump Stn5**	**6.88**	**8**			Pn	10 13 00.1	-0.2
PNL	**Peninsula**	**6.90**	**87**			Pn	10 13 00.5	-0.2
EGAK	**Eagle**	**7.29**	**44**			Pn	10 13 04.4	-1.4
COLD	**Coldfoot**	**7.32**	**9**	P		Pn	10 13 05.2	-1.1
	baz=191,SNR=193							
COLD	**Coldfoot**	**7.32**	**9**			Pn	10 13 05.2	-1.1
FALS	**False Pass**	**7.62**	**232**			Pn	10 13 09.8	-0.5
HYT	**Haines Junctio**	**7.74**	**77**			Pn	10 13 13.3	+1.2
BM03	**Burnt Mountain**	**8.29**	**23**			Pn	10 13 17.2	-2.1
BMAR	**Burnt Mountain**	**8.31**	**23**			Pn	10 13 17.2	-2.3
PS04	**TAPS Pump Stn4**	**8.56**	**9**			Pn	10 13 23.3	+0.3
TOLK	**Toolik Lake Re**	**8.76**	**8**	P		Pn	10 13 25.4	-0.2
	baz=192,SNR=60							
TOLK	**Toolik L

HHC	**Hu-ho-hao-te**	**58.13**	**297**	*e*P	P	10 21 06.9	+5.2
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,56nm,5.7s						
NJ2	**Nanjing**	**61.89**	**286**	*e*P	**P**	**10 21 26.3**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KURK	**Kurchatov**	**61.97**	**326**	P	P	**10 21 27.8**	**+0.2**
KURK				lAmb	lAmb	10 21 27.9	
	comp=Z,4.0nm,0.8s						
GTA	**Gaotai**	**64.37**	**305**	⇑P	**P**	**10 21 44.3**	**+0.6**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,56nm,4.8s						
GTA				LR	LR		
	comp=N,51nm,17.8s						
GTA				LR	LR		
	comp=E,210nm,18.4s						
GTA				LR	LR		
	comp=Z,56nm,16.5s						
MKAR	**Makanchi Array**	**64.37**	**321**	P	**P**	**10 21 42.8**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=44,slow=6.7,SNR=14						
MKAR	**Makanchi Array**	**64.37**	**321**	P	**P**	**10 21 42.6**	**-0.9**
WMQ	**Urumqi**	**65.20**	**316**	*e*P	**P**	**10 21 51.1**	**+2.1**
ABKAR	**Akbulak array**	**67.81**	**337**	P	**P**	**10 22 04.6**	**-0.7**
KK31	**Karatay Array**	**71.17**	**328**	P	**P**	**10 22 25.5**	**-0.6**
KKAR	**Karatay Array**	**71.17**	**328**	P	**P**	**10 22 25.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**82.81**	**294**	P	**P**	**10 23 31.3**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=3.7,slow=5.6,SNR=5.9						

*SKHL **19** 10:21:53.5±0.1,49.°72N×151.°33E,h460km±18km,mb4.4/8, msh4.5/3*
*NEIC **19** 10:21:57.5±1.3,49.°94N±0.°09×150.°9E±0.°2,h376km±7km, mb4.1/86,Error ellipse: s-maj=17.9km s-min=9.4km az=128.0*
*KRSC **19** 10:21:58.7±1.8,49.°60N×152.°10E,h428km±17km,ML4.5*
*IDC **19** 10:21:58.3±1.3,49.°99N×150.°85E,h385km±14km, mb3.3/20,mb1 3.5/24,mb1mx3.3/63,mbtmp4.1/24,Error ellipse: s-maj=13.5km s-min=8.6km az=156.0*

ISC 19 10:21:57.6±0.4,49.°78N±0.°06×151.°11E±0.°05,h400km, n175,σ2$16/173,mb4.0/58,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.34**	**72**	*e*S	**S**	**10 23 55.2**	**-1.8**
SKR	**Severo-Kuril's**	**3.34**	**72**	*e*P	**Pn**	**10 23 02.6**	**-0.9**
SKR				AMB	AMB	10 23 04.2	
	50nm,0.7s						
SKR				*e*S	**S**	**10 23 56.6**	**-0.4**
SKR				A	A	10 24 06.8	
	70nm,0.6s						
SKR				A	A	10 24 06.8	
	20nm,0.6s						
PAU	**Pauzhetka**	**4.00**	**63**	*e*S	**S**	**10 24 04.1**	**-3.9**
MIPR	**Malaya Ipel'ka**	**4.35**	**53**	*e*P	**Pn**	**10 23 12.6**	**-0.3**
KDTR	**Khodutka, Kamc**	**4.86**	**63**	*e*P	**Pn**	**10 23 16.3**	**-1.7**
KDTR				*e*S	**S**	**10 24 17.6**	**-5.9**
KUR	**Kuril'sk**	**5.05**	**207**	*i* P	**Pn**	**10 23 19.0**	**-1.2**
KUR				AMB	AMB	10 23 20.0	
	20nm,0.5s						
KUR				*i* S	**S**	**10 24 25.6**	**-1.7**
KUR				A	A	10 24 36.0	
	50nm,0.5s						
KUR				A	A	10 24 36.0	
	40nm,0.5s						
GRL	**Gorelyy**	**5.18**	**55**	*e*P	**Pn**	**10 23 21.4**	**-0.1**
MTVR	**Mutnovka**	**5.21**	**56**	*e*P	**Pn**	**10 23 22.0**	**+0.2**
MTVR				*e*S	**S**	**10 24 25.2**	**-5.1**
PEA0B	**Petropavlovsk-**	**5.30**	**49**	Pn	**Pn**	**10 23 20.9**	**-1.6**
PETK	**Petropavlovsk-**	**5.30**	**49**	P	**Pn**	**10 23 21.3**	**-1.2**
	0.4nm,0.3s,baz=212,slow=5.8,SNR=11						
PETK				S	S	10 24 09.8	-22
	0.8nm,0.3s,baz=118,slow=1.0,SNR=8.2						
PETK	**Petropavlovsk-**	**5.30**	**49**		**Pn**	**10 23 21.2**	**-1.3**
KRMR	**Karymshinskiy**	**5.36**	**53**	*e*P	**Pn**	**10 23 23.4**	**+0.3**
KRMR				*e*S	**S**	**10 24 30.2**	**-2.6**
RUS	**Russkaya**	**5.37**	**58**	*e*P	**Pn**	**10 23 22.4**	**-0.8**
RUS				*e*S	**S**	**10 24 28.4**	**-4.6**
TYV	**Tymovskoe**	**5.52**	**285**	*e*P	**Pn**	**10 23 24.4**	**-0.5**
TYV				AMB	AMB	10 23 24.7	
	50nm,0.7s						
PET	**Petropavlovsk**	**5.73**	**53**	*e*P	**Pn**	**10 23 27.3**	**+0.2**
PET	**Petropavlovsk**	**5.73**	**53**	Pn	**Pn**	**10 23 24.9**	**-2.1**
DALK	**Dalny**	**5.78**	**53**	*e*P	**Pn**	**10 23 27.5**	**-0.2**
DALK				*e*S	**S**	**10 24 36.7**	**-4.4**
KOK	**Koryaka**	**5.86**	**50**	*e*P	**Pn**	**10 23 30.4**	**+1.7**
AVH	**Avacha**	**5.90**	**51**	*e*P	**Pn**	**10 23 30.2**	**+1.2**
KRX	**Arik**	**5.91**	**50**	*e*P	**Pn**	**10 23 28.5**	**-0.7**
UGLR	**Uglovaya**	**5.91**	**52**	*e*P	**Pn**	**10 23 30.4**	**+1.2**
KRER	**Koryakskii**	**5.93**	**51**	*e*P	**Pn**	**10 23 30.8**	**+1.3**
SMAR	**Somma**	**5.93**	**51**	*e*P	**Pn**	**10 23 28.5**	**-1.0**
UGL	**Uglegorsk**	**5.94**	**267**	*e*P	**Pn**	**10 23 29.1**	**-0.4**
UGL				AMB	AMB	10 23 29.6	
	30nm,0.3s						
UGL				*e*S	**S**	**10 24 43.7**	**-0.7**
UGL				A	A	10 24 44.6	
	30nm,0.5s						
NLC	**Nalytchevo**	**6.16**	**53**	*e*P	**Pn**	**10 23 31.9**	**+0.1**
YSS	**Yuzh-Sakhalins**	**6.24**	**246**	*i* P	**Pn**	**10 23 32.4**	**-0.4**
YSS				AMB	AMB	10 23 33.1	
	20nm,0.7s						
YSS				*e*S	**S**	**10 24 49.5**	**-1.0**
YSS				A	A	10 24 53.3	
	10.0nm,1.0s						
YSS				A	A	10 24 53.3	
	10.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**6.24**	**246**	Pn	**Pn**	**10 23 32.1**	**-0.7**
OKH	**Okha**	**6.33**	**310**	*e*P	**Pn**	**10 23 33.7**	**+0.1**
OKH				AMB	AMB	10 23 37.2	
	20nm,0.7s						
SPN	**Mys Shipunski**	**6.49**	**56**	*e*P	**Pn**	**10 23 33.6**	**-1.7**
SPN				*e*S	**S**	**10 24 47.1**	**-8.1**
KII	**Karymskiy**	**6.69**	**47**	*e*P	**P**	**10 23 37.8**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**6.78**	**214**	*e*P	**P**	**10 23 38.5**	**-0.9**
YUK				AMB	AMB	10 23 44.0	
	40nm,0.5s						
YUK				AMB	AMB	10 23 44.0	
	30nm,0.5s						
YUK				AMB	AMB	10 23 44.0	
	40nm,0.5s						
YUK				*i* S	**S**	**10 24 58.5**	**-2.9**
GRPR	**Tuman**	**6.85**	**214**	*i* P	**P**	**10 23 38.8**	**-1.4**
GRPR				AMB	AMB	10 23 41.0	
	40nm,0.4s						
GRPR				*i* S	**S**	**10 24 59.8**	**-3.0**
NMR	**Nemuro--Hokkai**	**7.41**	**212**	*i* P	**Pn**	**10 23 41.3**	**-4.6**
ESO	**Esso**	**7.67**	**34**	*e*P	**P**	**10 23 49.9**	**+0.8**
KZV	**Kizimen**	**7.74**	**43**	*e*P	**P**	**10 23 50.4**	**+0.4**
KZV				*e*S	**S**	**10 25 16.2**	**-5.1**
TUMR	**Tumrok**	**7.79**	**42**	*e*P	**P**	**10 23 51.5**	**+1.0**
TUMD	**Tumrok D**	**7.84**	**43**	*e*P	**P**	**10 23 51.9**	**+0.8**
JKA	**Kamikawa-asahi**	**8.12**	**229**	Pn	**P**	**10 23 53.3**	**-1.0**
ASAJ	**Asahikawa**	**8.12**	**229**	P	**P**	**10 23 54.8**	**+0.5**
	3.4nm,0.3s,baz=71,slow=6.4,SNR=33						
ASAJ				S	**S**	**10 25 29.9**	**+0.6**
	0.6nm,0.3s,baz=327,slow=34,SNR=1.9						
KMNR	**Kamenistaya**	**8.14**	**39**	*e*P	**P**	**10 23 55.8**	**+1.3**
KOZ	**Kozyrevsk**	**8.21**	**37**	*e*P	**P**	**10 23 57.0**	**+1.9**
KPT	**Kopyto**	**8.29**	**38**	*e*P	**P**	**10 23 56.6**	**+0.6**
KIRR	**Kirishev**	**8.32**	**39**	*e*P	**P**	**10 23 56.8**	**+0.3**
SRDR	**Sredinnyy**	**8.34**	**35**	*e*P	**P**	**10 23 58.2**	**+1.6**
BZWR	**Bezymyannyi-We**	**8.39**	**39**	*e*P	**P**	**10 23 58.0**	**+0.7**
LGNR	**Loginova**	**8.55**	**39**	*e*P	**P**	**10 24 00.5**	**+1.3**
KRSR	**Krestovskiy**	**8.60**	**38**	*e*P	**P**	**10 24 00.5**	**+1.0**
KLY	**Klyuchi**	**8.70**	**38**	*e*P	**P**	**10 24 02.4**	**+1.9**
SRKR	**Sorokina**	**9.14**	**37**	*e*P	**Pn**	**10 24 06.1**	**+0.5**
SMKR	**Semkarok**	**9.21**	**38**	*e*P	**Pn**	**10 24 06.5**	**+0.1**
KBG	**Krutoberegovo**	**9.52**	**43**	*e*P	**Pn**	**10 24 09.0**	**-0.8**
KBG				*e*S	**S**	**10 25 51.1**	**-7.2**
ERM	**Erimo**	**9.54**	**218**	Pn	**P**	**10 24 07.8**	**-2.3**
ERM					**S**	**10 25 56.8**	**-2.2**
KBTR	**Krutoberegovo**	**9.54**	**43**	*e*P	**Pn**	**10 24 09.4**	**-0.7**
KBTR				*e*S	**S**	**10 25 51.7**	**-7.1**
MA2	**Magadan**	**9.81**	**359**	P	**Pn**	**10 24 11.5**	**-1.7**
	2.1nm,0.3s,baz=179,slow=8.9,SNR=18						
MA2	**Magadan**	**9.81**	**359**		**Pn**	**10 24 11.4**	**-1.8**
BKI	**Bering**	**10.55**	**53**	*e*P	**Pn**	**10 24 21.8**	**0.0**
BKI				*e*S	**S**	**10 26 11.9**	**-7.5**
EKMR	**Ekimchan**	**11.80**	**293**	*e*P	**Pn**	**10 24 34.0**	**-2.3**
EKMR				AMB	AMB	10 24 37.0	
	10.0nm,0.8s						
SEY	**Seymchan**	**13.20**	**3**	P	**Pn**	**10 24 50.2**	**-2.1**
	0.2nm,0.3s,baz=212,slow=6.7,SNR=4.2						
BMKR	**Bomnak**	**14.48**	**298**	*e*P	**P**	**10 25 01.7**	**-2.5**
BMKR				AMB	AMB	10 25 03.8	
	3.0nm,0.6s						
ZEA	**Zeya**	**15.27**	**294**	*e*P	**P**	**10 25 10.7**	**-2.0**
KROS	**Kirovskiy**	**15.51**	**297**	*e*P	**P**	**10 25 12.5**	**-2.8**
MAJO	**Matsushiro**	**16.21**	**220**	P	**P**	**10 25 24.4**	**+1.3**
MAJO				lAmb	lAmb	10 25 24.8	
	comp=Z,8.2nm,0.6s						
MAT	**Matsushiro**	**16.21**	**220**	P	**P**	**10 25 23.9**	**+0.8**
MJAR	**Matsushiro Arr**	**16.21**	**220**	P	**P**	**10 25 24.2**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=14,slow=10.0,SNR=19						
MJAR	**Matsushiro Arr**	**16.21**	**220**	lAmb	lAmb	10 25 25.4	
	comp=Z,1.9nm,0.5s						
KSRS	**Korea Array**	**20.73**	**242**	P	**P**	**10 26 11.4**	**+2.8**
	comp=Z,0.6nm,0.5s,baz=47,slow=9.0,SNR=3.1						
CNBA	**Chernabura Isl**	**30.05**	**61**	P	**P**	**10 27 32.0**	**+0.6**
TTA	**Tatalina**	**31.12**	**45**	P	**P**	**10 27 42.7**	**+1.9**
TTA				lAmb	lAmb	10 27 43.2	
	comp=Z,4.3nm,0.5s						
SVW2	**Sparrevohn**	**31.38**	**48**	P	**P**	**10 27 45.1**	**+2.2**
SVW2				lAmb	lAmb	10 28 34.2	
	comp=Z,17nm,1.8s						
CHIR	**Chirikof Isan**	**32.07**	**58**	P	**P**	**10 27 50.4**	**+1.6**
IMAR	**Indian Mountai**	**32.18**	**39**	P	**P**	**10 27 51.0**	**+1.4**
PPLA	**Purkeypile**	**32.87**	**45**	P	**P**	**10 27 56.4**	**+0.5**
OHAK	**Old Harbor**	**33.05**	**55**	P	**P**	**10 27 58.5**	**+1.2**
SKT	**Skwentna**	**33.25**	**46**	P	**P**	**10 28 01.0**	**+2.1**
SKT				lAmb	lAmb	10 29 07.4	
	comp=Z,11nm,1.6s						
KDAK	**Kodiak Island**	**33.32**	**54**	P	**P**	**10 28 00.9**	**+1.4**
	comp=Z,2.0nm,0.3s,baz=210,slow=8.1,SNR=12						
KDAK	**Kodiak Island**	**33.32**	**54**	lAmb	lAmb	10 28 06.2	
	comp=Z,46nm,1.8s						
BPAW	**Bear Paw Mtn.**	**33.35**	**43**	P	**P**	**10 28 01.8**	**+2.1**
COLD	**Coldfoot**	**33.64**	**37**	P	**P**	**10 28 03.9**	**+1.7**
SUA	**Susitna One**	**33.67**	**47**	P	**P**	**10 28 04.1**	**+1.4**
SUA				lAmb	lAmb	10 28 43.9	
	comp=Z,30nm,2.0s						
CNPM	**China Poot**	**33.71**	**51**	P	**P**	**10 28 04.5**	**+1.6**
CNPM				lAmb	lAmb	10 28 15.6	
	comp=Z,25nm,1.3s						
MCK	**McKinley**	**34.28**	**43**	P	**P**	**10 28 09.1**	**+1.4**
MCK				lAmb	lAmb	10 28 10.5	
	comp=Z,5.2nm,0.8s						
RND	**Reindeer**	**34.34**	**44**	P	**P**	**10 28 09.6**	**+1.3**
PMR	**Palmer**	**34.42**	**47**	P	**P**	**10 28 10.2**	**+1.3**
PMR				lAmb	lAmb	10 28 23.1	
	comp=Z,17nm,1.9s						
MDM	**Murphy Dome**	**34.49**	**41**	P	**P**	**10 28 10.3**	**+0.8**
GHO	**Glory Hole Cre**	**34.50**	**47**	P	**P**	**10 28 11.5**	**+1.9**
GHO				lAmb	lAmb	10 28 12.0	
	comp=Z,11nm,1.2s						
SEW	**Seward**	**34.50**	**50**	P	**P**	**10 28 11.1**	**+1.6**
WRH	**Wood River Hil**	**34.58**	**42**	P	**P**	**10 28 12.4**	**+2.1**
WRH				lAmb	lAmb	10 28 12.9	
	comp=Z,7.9nm,0.8s						
COLA	**College**	**34.66**	**41**	P	**P**	**10 28 12.9**	**+2.1**
CCB	**Clear Creek Bu**	**34.69**	**41**	P	**P**	**10 28 12.9**	**+1.8**
CCB				lAmb	lAmb	10 28 13.0	
	comp=Z,3.0nm,0.5s						
KNK	**Knik Glacier**	**34.77**	**47**	P	**P**	**10 28 13.8**	**+1.9**
KNK				lAmb	lAmb	10 28 14.3	
	comp=Z,8.6nm,0.7s						
SML	**Sawmill**	**34.77**	**46**	P	**P**	**10 28 13.9**	**+2.0**
IL31		**35.08**	**41**	P	**P**	**10 28 15.6**	**+1.3**
ILAR	**Eielson Array**	**35.08**	**41**	P	**P**	**10 28 15.8**	**+1.4**
	comp=Z,2.9nm,0.6s,baz=269,slow=9.5,SNR=47						
ILAR	**Eielson Array**	**35.08**	**41**	P	**P**	**10 28 16.1**	**+1.8**
HDA	**Harding Lake**	**35.08**	**42**	P	**P**	**10 28 15.7**	**+1.2**
HDA				lAmb	lAmb	10 28 19.9	
	comp=Z,14nm,1.8s						
SCM	**Sheep Creek Mo**	**35.24**	**46**	P	**P**	**10 28 17.9**	**+2.0**
SCM				lAmb	lAmb	10 28 37.5	
	comp=Z,17nm,1.2s						
GLI	**Glacier Island**	**35.51**	**48**	P	**P**	**10 28 19.7**	**+1.7**
BMAR	**Burnt Mountain**	**35.81**	**36**	P	**P**	**10 28 22.5**	**+1.9**
FID	**Port Fidalgo**	**35.83**	**48**	P	**P**	**10 28 22.2**	**+1.4**
FID				lAmb	lAmb	10 29 51.5	
	comp=Z,10nm,1.2s						
HIN	**Hinchinbrook I**	**35.89**	**49**	P	**P**	**10 28 23.2**	**+1.9**
KLU	**Klutina**	**35.96**	**47**	P	**P**	**10 28 24.0**	**+2.1**
KLU				lAmb	lAmb	10 28 48.5	
	comp=Z,25nm,1.8s						
RIDG	**Independent Ri**	**36.08**	**43**	P	**P**	**10 28 23.8**	**+0.9**
RIDG				lAmb	lAmb	10 29 50.2	
	comp=Z,30nm,1.9s						
EYAK	**Cordova Ski Ar**	**36.22**	**48**	P	**P**	**10 28 26.3**	**+2.3**
EYAK				lAmb	lAmb	10 28 32.0	
	comp=Z,27nm,1.6s						
MENT	**Mentasta**	**36.71**	**44**	P	**P**	**10 28 30.4**	**+2.2**
RAGM	**Ragged Mountai**	**36.78**	**48**	P	P	10 28 31.6	+2.9
GLB	**Gilahina Butte**	**36.96**	**46**	P	P	10 28 32.7	+2.4
GLB				lAmb	lAmb	10 28 37.6	
	comp=Z,16nm,1.8s						
HMT	**Hamilton**	**36.99**	**48**	P	P	10 28 33.0	+2.5
VRDI	**Verde Repeater**	**37.18**	**47**	P	**P**	**10 28 34.5**	**+2.3**
VRDI				lAmb	lAmb	10 28 46.2	
	comp=Z,22nm,1.7s						
EGAK	**Eagle**	**37.51**	**41**	P	**P**	**10 28 35.6**	**+1.0**
EGAK				lAmb	lAmb	10 28 36.5	
	comp=Z,7.0nm,1.0s						
BCAR	**Beaver Creek A**	**37.55**	**43**	P	P	10 28 37.7	+2.5
BALM	**Baldy**	**37.74**	**47**	P	P	10 28 39.6	+2.8
BALM				lAmb	lAmb	10 28 40.3	
	comp=Z,5.3nm,0.7s						
BARN	**Barnard Glacie**	**38.06**	**47**	P	P	10 28 42.2	+2.7
BARN				lAmb	lAmb	10 28 42.9	
	comp=Z,4.3nm,0.6s						
YAH	**Yahtse**	**38.20**	**48**	P	**P**	**10 28 42.7**	**+2.1**
YAH				lAmb	lAmb	10 30 03.0	
	comp=Z,21nm,1.3s						
CTGM	**Chitina Glacie**	**38.24**	**47**	P	P	10 28 43.6	+2.7
CTGM				lAmb	lAmb	10 28 44.2	
	comp=Z,8.1nm,0.9s						
ZALV	**Zalesovo Beam**	**39.80**	**302**	P	**P**	**10 28 53.1**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=57,slow=10,SNR=1.8						
INK	**Inuvik**	**39.85**	**34**	P	**P**	**10 28 54.9**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=284,slow=8.5,SNR=20						
HYT	**Haines Junctio**	**40.08**	**46**	P	P	10 28 59.4	+3.5
HYT				lAmb	lAmb	10 28 59.9	
	comp=Z,7.5nm,0.7s						
WHY	**Whitehorse**	**41.35**	**46**	P	P	10 29 08.9	+2.8
WHY				lAmb	lAmb	10 30 05.2	
	comp=Z,11nm,1.6s						
MK31	**Makanchi Array**	**44.42**	**294**	P	**P**	**10 29 31.1**	**+0.6**
MKAR	**Makanchi Array**	**44.42**	**294**	P	**P**	**10 29 31.0**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=67,slow=8.4,SNR=31						
MKAR	**Makanchi Array**	**44.42**	**294**	P	**P**	**10 29 31.0**	**+0.5**
MAKZ	**Makanchi**	**44.60**	**294**	P	**P**	**10 29 32.0**	**+0.1**
KURK	**Kurchatov**	**44.62**	**300**	P	**P**	**10 29 32.7**	**+0.8**
BVAR	**Borovoye Array**	**47.93**	**307**	P	**P**	**10 29 57.7**	**+0.4**
	comp=Z,5.1nm,0.3s,baz=62,slow=7.4,SNR=23						
BRVK	**Borovoye**	**47.97**	**307**	P	**P**	**10 29 58.4**	**+0.8**
BRVK				lAmb	lAmb	10 29 58.8	
	comp=Z,5.1nm,0.5s						
YKA	**Yellowknife Ar**	**49.31**	**38**	P	**P**	**10 30 08.8**	**+1.4**
	comp=Z,4.4nm,0.6s,baz=307,slow=5.7,SNR=17						
KDJ	**Kajisay**	**50.03**	**291**	P	**P**	**10 30 14.2**	**+0.8**
AAK	**Ala-Archa**	**51.34**	**293**	P	**P**	**10 30 23.6**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=95,slow=7.1,SNR=3.7						
AAK	**Ala-Archa**	**51.34**	**293**	lAmb	lAmb	10 30 24.6	
	comp=Z,2.5nm,0.6s						
KK31	**Karatay Array**	**53.41**	**296**	P	**P**	**10 30 38.3**	**+0.4**
KKAR	**Karatay Array**	**53.41**	**296**	P	**P**	**10 30 37.0**	**-0.8**
ARCES	**ARCESS Array B**	**54.54**	**339**	P	**P**	**10 30 45.1**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=20,slow=8.0,SNR=7.1						
ABKAR	**Akbulak array**	**55.48**	**307**	P	**P**	**10 30 52.8**	**+0.4**
AKTO	**Aktyubinsk**	**55.73**	**309**	P	**P**	**10 30 54.3**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=49,slow=5.5,SNR=4.1						
NEW	**Newport**	**56.42**	**53**	P	**P**	**10 31 01.2**	**+2.2**
	comp=Z,1.2nm,0.6s,baz=22,slow=5.4						
NEW	**Newport**	**56.42**	**53**	lAmb	lAmb	10 31 04.3	
	comp=Z,1.1nm,1.9s						
CHGR	**Chuyangaron**	**56.99**	**292**	P	**P**	**10 31 03.8**	**+0.6**
PINE	**Pine Mountain**	**57.19**	**59**	P	**P**	**10 31 06.5**	**+2.0**
PINE				lAmb	lAmb	10 32 04.5	
	comp=Z,21nm,1.9s						
WALA	**Waterton Lakes**	**57.55**	**51**	P	**P**	**10 31 09.3**	**+2.3**
WALA				lAmb	lAmb	10 31 10.0	
	comp=Z,4.3nm,0.8s						
FCC	**Fort Churchill**	**59.46**	**33**	P	**P**	**10 31 20.6**	**+1.0**
FIA1	**FINESS Array S**	**60.72**	**333**	P	**P**	**10 31 27.4**	**-0.5**
FINES	**FINESS Array B**	**60.72**	**333**	P	**P**	**10 31 27.5**	**-0.5**
	comp=Z,2.0nm,0.4s,baz=31,slow=7.7,SNR=21						
FINES	**FINESS Array B**	**60.72**	**333**	P	**P**	**10 31 27.7**	**-0.3**
BOZ	**Bozeman (W)**	**61.01**	**53**	P	P	10 31 33.5	+3.1
NVAR	**Mina Array Bea**	**62.22**	**63**	P	P	10 31 41.8	+3.2
	comp=Z,0.9nm,0.6s,baz=308,slow=6.9,SNR=6.7						
FXWY	**Fox Creek**	**62.66**	**54**	P	**P**	**10 31 44.0**	**+2.6**
TPAW	**Teton Pass**	**62.80**	**54**	P	**P**	**10 31 44.8**	**+2.5**
TPAW				lAmb	lAmb	10 31 45.7	
	comp=Z,4.1nm,0.8s						
BW06	**Boulder Array**	**64.04**	**54**	P	**P**	**10 31 52.8**	**+2.4**
BW06				lAmb	lAmb	10 31 53.5	
	comp=Z,3.2nm,0.9s						
PD31	**Pinedale Array**	**64.04**	**54**	P	**P**	**10 31 52.9**	**+2.5**
PD31				lAmb	lAmb	10 31 53.1	
	comp=Z,2.2nm,0.6s						
PDAR	**Pinedale Array**	**64.04**	**54**	P	**P**	**10 31 52.8**	**+2.4**
	comp=Z,2.3nm,0.6s,baz=329,slow=1.4,SNR=28						
TPNV	**Topopah Spring**	**64.42**	**63**	P	P	10 31 55.6	+2.8
TPNV				lAmb	lAmb	10 31 56.7	
	comp=Z,4.5nm,1.1s						
NOA	**NORSAR Array B**	**64.92**	**340**	P	**P**	**10 31 55.2**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=28,slow=6.5,SNR=2.1						
RDMU	**Red Mountain**	**65.58**	**56**	P	**P**	**10 32 02.7**	**+2.5**
MSU	**Marysvale**	**65.62**	**59**	P	P	10 32 03.4	+2.9
PV22	**Blue Mesa, Par**	**67.47**	**57**	P	P	10 32 14.7	+2.8
PV22				lAmb	lAmb	10 32 15.3	
	comp=Z,2.9nm,0.7s						
ISCO	**Idaho Springs**	**68.23**	**54**	P	**P**	**10 32 19.0**	**+2.2**
AKASG	**Malin Array Be**	**68.29**	**324**	P	**P**	**10 32 15.6**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=32,slow=6.3,SNR=5.2						
Y14A	**Wickenburg**	**68.41**	**63**	P	**P**	**10 32 20.0**	**+2.4**
Y14A				lAmb	lAmb	10 32 20.8	
	comp=Z,2.0nm,0.6s						
X16A	**Lo Mia Camp, P**	**68.96**	**61**	P	P	**10 32 23.4**	**+2.2**
X16A				lAmb	lAmb	10 32 25.3	
	comp=Z,2.5nm,0.8s						
ECSD	**EROS Data Cent**	**69.73**	**46**	P	**P**	**10 32 25.8**	**+0.3**
SDCO	**Great Sand Dun**	**69.81**	**55**	P	P	10 32 29.0	+2.7
WRA	**Warramunga Arr**	**70.99**	**197**	P	**P**	**10 32 34.7**	**+1.6**
	comp=Z,0.1nm,0.6s,baz=12,slow=6.4,SNR=1.5						
ASAR	**Alice Springs**	**74.70**	**196**	P	**P**	**10 32 57.6**	**+3.0**
	comp=Z,0.4nm,0.7s,baz=5.1,slow=5.1,SNR=5.9						
WMOK	**Wichita Mounta**	**75.62**	**53**	P	**P**	**10 33 02.0**	**+2.1**
WMOK				lAmb	lAmb	10 33 02.2	
	comp=Z,2.0nm,0.7s						
TX31	**Lajitas Ar. Si**	**77.14**	**60**	P	**P**	**10 33 11.1**	**+2.6**
TX32	**Lajitas Array**	**77.14**	**60**	P	**P**	**10 33 11.0**	**+2.5**
TX32				lAmb	lAmb	10 33 11.9	
	comp=Z,2.2nm,0.9s						
TXAR	**Lajitas Array**	**77.14**	**60**	P	P	10 33 11.3	+2.9
	comp=Z,1.6nm,0.7s,baz=297,slow=4.2,SNR=32						
TXAR	**Lajitas Array**	**77.14**	**60**	P	**P**	**10 33 10.4**	**+2.0**
U40A	**Yellville**	**77.31**	**48**	P	**P**	**10 33 10.2**	**+1.0**
U40A				lAmb	lAmb	10 33 11.1	
	comp=Z,5.6nm,0.8s						
FCAR	**Ozark Folk Cen**	**78.03**	**48**	P	**P**	**10 33 14.4**	**+1.3**
BATG	**Bathurst New B**	**78.11**	**25**	P	**P**	**10 33 14.5**	**+1.2**
JCT	**Junction City**	**78.39**	**56**	P	**P**	**10 33 14.8**	**-0.3**
JCT				lAmb	lAmb	10 34 35.3	
	comp=Z,8.8nm,1.6s						
WHAR	**Wooly Hollow**	**78.43**	**48**	P	**P**	**10 33 17.0**	**+1.7**
CPUP	**Villa Florida**	**147.94**	**54**	PKPbc	**PKPab**	**10 40 57.3**	**-2.9**
	comp=Z,1.7nm,0.5s,baz=323,slow=2.9,SNR=4.3						
PLCA	**Paso Flores**	**149.65**	**89**	PKPbc	**PKPab**	**10 41 02.4**	**-4.7**
	comp=Z,2.9nm,0.9s,baz=265,slow=2.5,SNR=4.8						

*IDC **19** 10:32:51.8±0.6,32.°62N×47.°63E,h0km,mb4.4/30, mb1 4.4/37,mb1mx4.3/57,mbtmp4.4/37,ML4

KLNJ *e* 10 35 15.6
KLNJ Kolanjah 3.65 115 Pn **Pn** **10 33 52.8 +2.8**
IZEF Zefreh 3.87 85 *e*Pn **Pn** **10 33 56.4 +3.4**
IZEF Zefreh 3.87 85 Pn **Pn** **10 33 56.3 +3.3**
IMHD Mahdasht 3.89 38 *e*Pn **Pn** **10 33 56.2 +3.1**
IMHD Mahdasht 3.89 38 Pn **Pn** **10 33 56.8 +3.7**
IRAM Rameshеh 4.01 101 *e*Pn **Pn** **10 33 57.7 +2.8**
IRAM Rameshеh 4.01 101 Pn **Pn** **10 33 57.2 +2.3**
QSDN Sirdan 4.04 17 *e*Pn **Pn** **10 33 58.7 +3.5**
IHSB Hasanabad 4.05 45 *e*Pn **Pn** **10 33 58.0 +2.7**
IVRN Varamin 4.07 53 *e*Pn **Pn** **10 33 58.9 +3.4**
IVRN Varamin 4.07 53 Pn **Pn** **10 33 58.9 +3.4**
IGZV Ghazvin 4.26 28 *e*Pn **Pn** **10 34 01.0 +2.6**
MAHB Mahabad 4.45 338 *e*Pn **Pn** **10 34 02.8 +1.9**
MAHB Mahabad 4.45 338 Pn **Pn** **10 34 02.5 +1.6**
QALM Alamut, Qazvin 4.48 31 *e*Pn **Pn** **10 34 03.9 +2.5**
IDMV Damavand 4.61 49 *e*Pn **Pn** **10 34 06.1 +2.9**
ANAR Anarak 5.06 82 *e*Pn **Pn** **10 34 11.6 +2.4**
ANAR Anarak 5.06 82 Pn **Pn** **10 34 11.1 +1.9**
ISAD Sadrabad 5.08 97 *e*Pn **Pn** **10 34 12.4 +2.8**
IFIR Firoozkooh 5.12 53 *e*Pn **Pn** **10 34 13.4 +3.2**
ILAS Lasjerd 5.13 56 *e*Pn **Pn** **10 34 13.5 +3.3**
ISRB Sarab 5.18 359 *e*Pn **Pn** **10 34 13.6 +2.7**
IPRN Peran 5.23 45 *e*Pn **Pn** **10 34 15.5 +4.0**
IAZR Azarshahr 5.24 344 *e*Pn **Pn** **10 34 14.9 +3.2**
IALA Alasht 5.42 49 *e*Pn **Pn** **10 34 18.2 +3.9**
ISHM Shahmirzad 5.58 54 *e*Pn **Pn** **10 34 19.5 +3.0**
IHRS Heris 5.70 354 *e*Pn **Pn** **10 34 20.8 +2.7**
IANJ Anjilo 5.85 59 *e*Pn **Pn** **10 34 22.8 +2.7**
HAKT HAKKARI 5.92 327 *e*Pn **Pn** **10 34 21.5 +0.3**
HAKT HAKKARI 5.92 327 Pn **Pn** **10 34 21.5 +0.3**
LKRN Lenkeran, Azer 6.12 8 P **Pn** **10 34 28.4 +4.8**
IMRD Marand 6.29 345 *e*Pn **Pn** **10 34 29.6 +3.5**
IGLO Ghaloghah 6.33 51 *e*Pn **Pn** **10 34 29.6 +2.9**
NAX Nakhchivan 6.78 345 P **Pn** **10 34 36.7 +4.0**
TPRV Parvadeh(Tabas 7.54 85 *e*Pn **Pn** **10 34 45.8 +2.6**
TNSJ Nastanj 7.54 77 *e*Pn **Pn** **10 34 46.0 +2.8**
TKDS Koohdasht(Taba 7.93 80 *e*Pn **Pn** **10 34 50.8 +2.2**
SEKA Sheki 8.57 357 P **Pn** **10 35 01.6 +4.3**
AKT Akhty 8.83 360 *i* P **Pn** **10 35 01.6 +0.7**
SBZV Sabzevar 8.96 63 *e*Pn **Pn** **10 35 05.8 +3.0**
ASF Jabal al Asfar 9.18 270 Pn **Pn** **10 35 03.3 -2.5**
comp=E,0.9nm,0.3s,baz=42,slow=15,SNR=8.9
ASF Sn **Sn** **10 36 43.1 -5.9**
comp=E,1.2nm,0.3s,baz=283,slow=22,SNR=1.8
ASF Lg Lg 10 37 45.8
comp=E,1.2nm,0.3s,baz=173,slow=21,SNR=6.4
AFRZ Afriz 9.50 82 *e*Pn **Pn** **10 35 12.9 +2.8**
ISFR Sfrayin 9.51 60 *e*Pn **Pn** **10 35 13.8 +3.4**
IKRD Kardeh 9.78 62 *e*Pn Pn 10 35 28.2 +14
IAKL Akhelmad 9.90 63 *e*Pn **Pn** **10 35 19.0 +3.2**
GEYT Alibeck 9.99 55 Pn **Pn** **10 35 20.2 +3.5**
comp=E,0.5nm,0.3s,baz=235,slow=10,SNR=5.4
GEYT Alibeck 9.99 55 Pn **Pn** **10 35 18.8 +2.1**
GYA0B ALIBECK ARRAY 9.99 55 Pn **Pn** **10 35 17.7 +1.0**
BANOM Banah 10.02 130 P **Pn** **10 35 17.2 0.0**
SNR=10
BANOM S **Sn** **10 37 07.5 -2.0**
IMON Monand 10.04 84 *e*Pn **Pn** **10 35 21.1 +3.5**
BTLR Botlikh 10.09 354 *i* P **Pn** **10 35 18.9 +0.8**
NAZ Nazwa, Dubai 10.30 136 P **Pn** **10 35 20.8 -0.2**
MAK Makhachkala 10.31 359 *e*P **Pn** **10 35 18.2 -2.9**
MAK *e*S **Sn** **10 37 14.2 -2.2**
MAK pmax pmax
comp=Z,278nm,1.1s
MAK MLR MLR
comp=Z,295nm,17.0s
MMAI Mount Meron Ar 10.39 275 Pn **Pn** **10 35 26.2 +3.9**
comp=Z,1.2nm,0.3s,baz=104,slow=12,SNR=2.6
MMAI Lg Lg 10 38 29.4
comp=Z,3.2nm,0.3s,baz=78,slow=40,SNR=3.0
MDH Madha 10.46 132 P **Pn** **10 35 22.6 -0.6**
ONI Oni 10.51 342 P **Pn** **10 35 27.4 +3.6**
UOSS Minazif 10.66 134 P **Pn** **10 35 25.7 -0.2**
UOSS S **Sn** **10 37 22.8 -2.3**
UOSS Minazif 10.66 134 Pn **Pn** **10 35 24.3 -1.7**
GROC Groznyy 10.66 352 *e*P **Pn** **10 35 28.3 +2.4**
HATD Hatta, Dubai 10.70 134 P **Pn** **10 35 26.4 -0.1**
ASHO Ashiyiah 10.77 135 P **Pn** **10 35 27.7 +0.3**
IMYA Miami 10.85 67 *e*Pn **Pn** **10 35 33.2 +4.6**
EIL Elat 11.35 258 Pn **Pn** **10 35 33.8 -1.6**
comp=Z,1.0nm,0.3s,baz=48,slow=12,SNR=5.8
EIL Lg Lg 10 38 59.8
comp=Z,1.7nm,0.3s,baz=28,slow=20,SNR=4.3
EIL LR LR 10 41 07.6
comp=Z,106nm,20.2s,baz=80,slow=44
SOHO SOHO 11.46 135 P **Pn** **10 35 36.9 -0.1**
SOHO P **Pn** **10 35 36.9 -0.1**
KBZ Khabaz 11.71 342 Pn Pn 10 35 45.1 +4.9
comp=Z,0.2nm,0.3s,baz=140,slow=9.0,SNR=4.7
KBZ LR LR 10 39 37.6
comp=Z,50nm,20.6s,baz=148,slow=35
KIV Kislovodsk 11.98 342 *e*P **Pn** **10 35 43.3 -0.7**
KIV pmax pmax
comp=Z,37nm,0.9s
KIV MLR MLR
comp=Z,79nm,11.0s
ARQ Araqi 12.07 138 P **Pn** **10 35 44.1 -1.2**
HOQ Hoqain 12.34 135 P **Pn** **10 35 49.0 0.0**
BSY Bisya 12.92 137 P **Pn** **10 35 56.4 -0.5**
GOF Gofitskoye 12.93 345⇑ *e*P **P** **10 36 09.9 +2.3**
SMDO Samad 13.18 134 P **Pn** **10 36 00.5 0.0**
BR131 Keskin Array S 13.40 306 P **Pn** **10 36 05.7 +2.2**
BR131 Keskin Array S 13.40 306 Pn **Pn** **10 36 05.7 +2.2**
BRTR Keskin Array B 13.40 306 Pn **Pn** **10 36 05.8 +2.2**
baz=134,slow=14,SNR=9.8
WSAR Wadi Sarin 13.41 132 Pn **Pn** **10 36 02.5 -1.1**
comp=Z,0.7nm,0.3s,baz=331,slow=7.8,SNR=2.9
WSAR Sn **Sn** **10 38 24.2 -8.3**
comp=Z,0.3nm,0.3s,baz=171,slow=21,SNR=1.3
WSAR LR LR 10 42 02.1
comp=Z,140nm,20.4s,baz=305,slow=41
WSAR Wadi Sarin 13.41 132 P **Pn** **10 36 03.7 +0.1**
JMDO Jabal Madar 13.74 136 P **Pn** **10 36 07.3 -0.8**
WBK Wadi Bani Khal 14.08 132 P **Pn** **10 36 12.1 -0.7**
MHTO MHTO 14.75 139 P **Pn** **10 36 21.1 -0.7**
ELL Elmali 15.23 291 P **Pn** **10 36 25.7 -2.7**
ELL pmax pmax
comp=Z,115nm,1.4s
ELL Elmali 15.23 291 Pn **Pn** **10 36 25.7 -2.7**
MDUB Mudurnu 15.41 305 P **Pn** **10 36 32.5 +1.8**
ABTO Aybut 16.02 160 P **Pn** **10 36 37.2 -1.4**
RBK Rabkut 16.15 157 P **Pn** **10 36 38.8 -1.5**
DMTO DMTO 16.21 155 P **Pn** **10 36 39.0 -2.0**
SNR=12
MANT Manisa 16.66 296 P **P** **10 36 48.2 -1.1**
KBL Kabul 17.85 78 P **P** **10 37 05.0 +2.6**
SNR=7.3
KBL P **P** **10 37 05.0 +2.6**
SNR=7.3
KBL Kabul 17.85 78 P **Pn** **10 37 01.4 -0.3**
KBL pmax pmax
comp=Z,17nm,1.0s
KBL Kabul 17.85 78 P **Pn** **10 37 01.4 -0.3**
CHGR Chuyangaron 18.40 65 P **Pn** **10 37 09.2 +0.9**
ABKAR Akbulak array 18.95 25 P **Pn** **10 37 14.8 0.0**
MFTR Murfatlar 18.98 313⇑ P **Pn** **10 37 15.1 -0.1**
VRH Novokhopyorsk 19.08 348 *e*P **P** **10 37 15.7 +0.2**
VRH pmax pmax
comp=Z,60nm,1.7s
TIRR Tirgusor 19.13 314⇑ P **P** **10 37 16.5 +0.3**
TIRR Tirgusor 19.13 314⇑ P **P** **10 37 16.5 +0.3**
TIRR Tirgusor 19.13 314 P **P** **10 37 15.9 -0.3**
TIRR IAmb IAmb 10 37 18.3
comp=Z,29nm,0.8s
IDI Anoyia 19.14 284 P **P** **10 37 16.2 -0.2**
comp=Z,2.7nm,0.3s,baz=115,slow=12,SNR=9.1
ALN Alexandroupoli 19.21 302 P **Pn** **10 37 18.3 +0.3**
ALN pmax pmax
comp=Z,13nm,0.7s
ALN Alexandroupoli 19.21 302 P **Pn** **10 37 18.3 +0.3**
TLCR 19.29 316⇑ P **P** **10 37 18.0 +0.1**
TLCR 19.29 316⇑ P **P** **10 37 18.0 +0.1**
AKTO Aktyubinsk 19.34 20 P **P** **10 37 19.1 +0.6**
comp=Z,1.3nm,0.3s,baz=206,slow=11,SNR=32
VORD Divnogorie 19.35 344 *e*P **P** **10 37 17.5 -1.0**
VORD pmax pmax
comp=Z,10.0nm,0.8s
GAR Garm 19.35 64 P **P** **10 37 19.2 +0.4**
GAR IAmb IAmb 10 37 24.0
comp=Z,24nm,0.9s
TOPG Topolog 19.37 315⇑ P **P** **10 37 18.8 0.0**
TLBR Topalu 19.40 313⇑ P **P** **10 37 19.4 +0.3**

HARR Harsova 19.55 314⇑ P **Pn** **10 37 21.6 -0.4**
HARR Harsova 19.55 314⇑ P **Pn** **10 37 21.6 -0.4**
VSR Storozhevoye 19.61 344 *e*P **P** **10 37 20.0 -1.4**
VSR pmax pmax
comp=Z,30nm,0.5s
CFR Carcaliu 19.68 315⇑ P **Pn** **10 37 23.1 -0.6**
CFR Carcaliu 19.68 315⇑ P **Pn** **10 37 23.1 -0.6**
RAZG Razgrad 19.91 309⇑ P **Pn** **10 37 25.8 -0.6**
SGRR Singureni 20.54 311⇑ P **P** **10 37 32.3 +0.7**
SULR 20.58 312⇓ P **P** **10 37 32.8 +0.8**
ISR Istrita 20.61 313⇑ P **P** **10 37 33.1 +0.7**
ISR Istrita 20.61 313⇑ P **P** **10 37 33.1 +0.7**
KK31 Karatay Array 20.73 53 P **P** **10 37 34.8 +1.1**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KK31 Karatay Array 20.73 53 P **P** **10 37 34.8 +1.1**
KKAR Karatay Array 20.73 53 P **P** **10 37 35.0 +1.3**
KKAR pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 20.73 53 P **P** **10 37 34.6 +0.9**
KKAR Karatay Array 20.73 53 P **P** **10 37 35.0 +1.3**
KKAR IAmb IAmb 10 37 45.6
comp=Z,7.0nm,0.8s
VRI Vrincioaia 20.89 315⇑ P **P** **10 37 35.9 +0.6**
VRI Vrincioaia 20.89 315⇑ P **P** **10 37 35.9 +0.6**
PLOR Plostina 20.93 315⇑ P **P** **10 37 35.9 +0.1**
PLOR Plostina 20.93 315⇑ P **P** **10 37 35.9 +0.1**
LPSR Galich'ya Gora 20.95 345 *e*P **P** **10 37 35.1 -0.8**
LPSR pmax pmax
comp=Z,100nm,0.8s
SRS Serrai 21.05 301 P **P** **10 37 37.3 +0.2**
SRS pmax pmax
comp=Z,11nm,0.7s
SOH Sokhos 21.14 300 P **P** **10 37 39.0 +0.8**
SOH pmax pmax
comp=Z,6.0nm,0.8s
MLR Muntele Rosu 21.16 314 P **P** **10 37 39.9 +1.4**
comp=Z,36nm,0.7s,baz=40,slow=5.8,SNR=15
MLR Muntele Rosu 21.16 314⇑ P **P** **10 37 39.1 +0.6**
MLR Muntele Rosu 21.16 314 P **P** **10 37 39.4 +0.9**
MLR IAmb IAmb 10 37 45.6
comp=Z,40nm,0.7s
TESR Tescani 21.28 317⇑ P **P** **10 37 39.8 +0.3**
SORM Soroca 21.31 322⇑ P **P** **10 37 39.2 -0.6**
SORM Soroca 21.31 322⇑ P **P** **10 37 39.2 -0.6**
HUMR Humele 21.32 310⇑ P **P** **10 37 40.9 +1.0**
NIL Nilore 21.37 80 P **P** **10 37 39.7 -1.0**
NIL pmax pmax
comp=Z,26nm,1.0s
NIL Nilore 21.37 80 P **P** **10 37 39.7 -1.0**
NIL IAmb IAmb 10 37 44.2
comp=Z,26nm,1.0s
ATD Arta Tunnel 21.48 193 P **P** **10 37 42.5 +0.6**
comp=Z,3.1nm,0.4s,baz=294,slow=20,SNR=2.1
ATD Arta Tunnel 21.48 193 IAmb IAmb 10 37 49.5
comp=Z,29nm,1.2s
AGG Agios Georgios 21.53 294 P **P** **10 37 41.7 -0.7**
AGG pmax pmax
comp=Z,17nm,0.9s
AGG Agios Georgios 21.53 294 P **P** **10 37 41.7 -0.7**
OZUR 21.57 315⇑ P **P** **10 37 43.4 +0.7**
LIT Litokhoron 21.61 297 P **P** **10 37 42.2 -1.0**
LIT pmax pmax
comp=Z,11nm,0.9s
LIT Litokhoron 21.61 297 P **P** **10 37 42.2 -1.0**
ITM Ithomi 21.63 289 P **P** **10 37 42.0 -1.4**
ITM IAmb IAmb 10 37 44.5
comp=Z,25nm,0.7s
VOIR 21.69 313⇑ P **P** **10 37 44.7 +0.7**
VOIR 21.69 313⇑ P **P** **10 37 44.7 +0.7**
DOPR Dopca 21.74 314⇑ P **P** **10 37 45.0 +0.4**
ARSB Arslanbob 21.89 59 P **P** **10 37 45.6 -0.7**
ARSB pmax pmax
comp=Z,17nm,1.0s
ARSB Arslanbob 21.89 59 P **P** **10 37 45.6 -0.7**
ARR Arges 21.92 312⇑ P **P** **10 37 47.3 +0.9**
STIP Stip 22.22 301 *i* Pn **P** **10 37 48.6 -1.1**
LOT Lotru 22.50 312⇑ P **P** **10 37 52.8 0.0**
SRE Strehaia 22.52 309⇑ P **P** **10 37 54.0 +1.1**
SRE Strehaia 22.52 309⇑ P **P** **10 37 54.0 +1.1**
KMPD K-Podol'skiy 22.57 321 P **P** **10 37 52.0 -1.3**
AKASG Malin Array Be 22.64 328 P **P** **10 37 52.6 -1.4**
comp=Z,3.9nm,0.5s,baz=138,slow=9.8,SNR=18
AKASG Malin Array Be 22.64 328 P **P** **10 37 51.4 -2.6**
AKBB Malin Array Si 22.64 328 *ce*P **P** **10 37 52.6 -1.4**
AKBB Malin Array Si 22.64 328 P **P** **10 37 52.3 -1.7**
AKBB IAmb IAmb 10 37 55.5
comp=Z,15nm,0.8s
BURAR Bucovina Array 22.70 318⇑ P **P** **10 37 55.0 +0.1**
BURAR Bucovina Array 22.70 318⇑ P **P** **10 37 55.0 +0.1**
BURAR Bucovina Array 22.70 318 P **P** **10 37 53.8 -1.1**
BUR08 Bucovina Ar. S 22.73 318 P **P** **10 37 53.5 -1.7**
BUR08 IAmb IAmb 10 38 00.5
comp=Z,26nm,1.3s
HERR Herculane 23.13 309⇑ P **P** **10 37 59.3 +0.1**
IGT Igoumenitsa 23.14 295 P **P** **10 37 58.1 -1.4**
IGT pmax pmax
comp=Z,17nm,0.7s
KSV Kosov 23.18 319 P **P** **10 37 59.6 -0.1**
AAK Ala-Archa 23.33 57 P **P** **10 38 04.0 +2.5**
comp=Z,1.8nm,0.4s,baz=256,slow=7.0,SNR=4.2
AAK Ala-Archa 23.33 57 *ce*P **P** **10 38 02.3 +0.8**
AAK pmax pmax
comp=Z,11nm,2.5s
AAK Ala-Archa 23.33 57 P **P** **10 38 01.6 +0.1**
MDVR Moldovita 23.55 309⇑ P **P** **10 38 03.5 0.0**
KSH Kashi 23.77 65 P **P** **10 38 04.3 -1.5**
KSH PP **PnPn** **10 38 32.3 -1.1**
KSH S **S** **10 42 11.0 -10**
KSH pmax pmax
comp=Z,24nm,1.1s
KSH pmax pmax
comp=Z,160nm,5.7s
KSH LR LR
comp=Z,1μm,15.9s
KSH LR LR
comp=Z,660nm,13.8s
KSH LR LR
comp=Z,180nm,5.5s
OBN Obninsk 23.82 344 P **P** **10 38 05.1 -0.8**
comp=Z,5.6nm,0.4s,baz=179,slow=20,SNR=5.6
OBN LR LR 10 48 07.1
comp=Z,18nm,20.4s,baz=222,slow=38
OBN Obninsk 23.82 344 *de*P **P** **10 38 06.1 +0.2**
OBN *PP **pP** **10 38 09.0 -1.4**
OBN *SP **sP** **10 38 10.0 -2.2**
OBN pmax pmax
comp=Z,41nm,1.3s
OBN MLR MLR
comp=Z,48nm,14.0s
OBN Obninsk 23.82 344 P **P** **10 38 05.1 -0.8**
MOS Moscow 24.16 346 *e*P **P** **10 38 08.9 -0.2**
MOS *eS **S** **10 42 29.1 +2.6**
MOS pmax pmax
comp=Z,39nm,0.7s
SIRR Siria 24.18 312⇑ P **P** **10 38 09.3 -0.1**
MORS Morshin 24.28 320 P **P** **10 38 11.9 +1.6**
DIVS Divibare 24.47 306 *e*P **P** **10 38 12.1 -0.1**
DIVS Divibare 24.47 306 P **P** **10 38 12.7 +0.5**
DRME Dracevica, Mon 24.51 301 *e*P **P** **10 38 11.7 -0.8**
PDG Podgorica 24.52 302⇑ P **P** **10 38 12.6 0.0**
PDG Podgorica 24.52 302 *e*P **P** **10 38 10.2 -2.4**
PDG Podgorica 24.52 302 P **P** **10 38 12.1 -0.4**
LVV L'vov 24.59 321 *e*P **P** **10 38 12.6 -0.6**
BBLS Lazići 24.80 305 *e*P **P** **10 38 15.7 +0.5**
UZH Uzhgorod 24.90 317 *e*P **P** **10 38 10.5 -5.5**
UZH *e* 10 38 18.7
FRGS Fruska Gora 24.95 308 *e*P **P** **10 38 17.2 +0.8**
ARU Arti 24.95 14 P **P** **10 38 16.8 +0.4**
comp=Z,1.2nm,0.4s,baz=204,slow=7.9,SNR=8.2
ARU Arti 24.95 14 *di*P **P** **10 38 16.5 +0.2**
ARU PPP PPP 10 38 57.9
ARU S **S** **10 42 41.7 +2.5**
ARU pmax pmax
comp=Z,8.0nm,0.8s
ARU Arti 24.95 14 P **P** **10 38 16.7 +0.4**
ARU IAmb IAmb 10 38 24.6
comp=Z,17nm,0.9s
UPM Unac-Piva 24.97 303 *e*P **P** **10 38 16.3 -0.5**
KOLS Kolonicke sedl 25.07 318 *e*P **P** **10 38 18.1 +0.6**
KOLS pmax pmax
comp=Z,17nm,0.8s
KOLS Kolonicke sedl 25.07 318 *e*P **P** **10 38 18.1 +0.6**

HCY Herceg Novi 25.07 301 *e*P **P** **10 38 16.9 -0.7**
KDJ Kajisay 25.13 59 P **P** **10 38 16.6 -1.8**
KDJ pmax pmax
comp=Z,12nm,1.1s
KDJ Kajisay 25.13 59 P **P** **10 38 16.6 -1.8**
KDJ IAmb IAmb 10 38 23.2
comp=Z,12nm,1.1s
BRY Bratogost 25.15 302 *e*P **P** **10 38 17.5 -0.9**
KWP Kalwaria Pacla 25.20 320 P **P** **10 38 19.1 +0.4**
KWP pmax pmax
comp=Z,23nm,0.7s
KWP Kalwaria Pacla 25.20 320 P **P** **10 38 19.1 +0.4**
TREB Trebinje 25.24 302 *e*P **P** **10 38 18.4 -0.7**
DBRK Dubrovnik 25.37 302 *i* P **P** **10 38 19.8 -0.5**
TARG Taragay, Kyrgy 25.51 61 P **P** **10 38 20.1 -2.0**
TARG IAmb IAmb 10 38 29.5
comp=Z,12nm,0.9s
CRVS Cervenica-Dubn 25.52 317 *e*P **P** **10 38 22.7 +1.2**
CRVS pmax pmax
comp=Z,26nm,0.8s
CRVS Cervenica-Dubn 25.52 317 *e*P **P** **10 38 22.6 +1.1**
SVE Sverdlovsk 25.78 16 *e*P **P** **10 38 25.1 +1.3**
SVE pmax pmax
comp=Z,26nm,1.3s
TIP Timpagrande 25.85 293⇑ P **P** **10 38 25.5 +0.7**
TIP Timpagrande 25.85 293 P **P** **10 38 24.6 -0.1**
TIP IAmb IAmb 10 38 26.7
comp=Z,14nm,0.6s
KECS Kecovo 25.88 316 *e*P **P** **10 38 26.1 +1.2**
KECS pmax pmax
comp=Z,37nm,0.7s
KECS Kecovo 25.88 316 *e*P **P** **10 38 26.0 +1.2**
PSZ Piszkesteto 25.98 314⇑ P **P** **10 38 25.2 -0.6**
PSZ Piszkesteto 25.98 314 P **P** **10 38 26.4 +0.5**
PSZ pmax pmax
comp=Z,43nm,0.8s
PSZ Piszkesteto 25.98 314 P **P** **10 38 26.4 +0.5**
KIRV Kirov 25.98 2 P **P** **10 38 26.2 +0.7**
comp=Z,27nm,0.8s,baz=175,slow=5.0,SNR=9.7
KIRV Kirov 25.98 2⇑ *e*P **P** **10 38 25.6 0.0**
MICGM Minsk 26.00 333 **P** **10 38 26.0 +0.2**
MNK Minsk 26.00 333 *e*P **P** **10 38 26.0 +0.2**
BRVK Borovoye 26.07 32 *ce*P **P** **10 38 27.4 +0.9**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 26.07 32 P **P** **10 38 27.0 +0.6**
BRVK IAmb IAmb 10 38 28.5
comp=Z,10nm,1.0s
MORH Mrgy, Hungar 26.09 310 *e*P **P** **10 38 27.6 +0.9**
BVAR Borovoye Array 26.09 32 P **P** **10 38 28.0 +1.3**
comp=Z,7.8nm,0.6s,baz=224,slow=8.2,SNR=38
BVAR PcP **PcP** **10 41 54.7 +0.8**
comp=Z,2.0nm,0.6s,baz=224,slow=4.0,SNR=5.4
RICI Ricice 26.29 303 P **P** **10 38 29.0 +0.4**
BUD Budapest 26.33 313 P **P** **10 38 30.5 +1.6**
BUD pmax pmax
comp=Z,75nm,0.8s
MGRS Mrkonjic Grad 26.56 305 *e*P P 10 38 39.1 +8.0
BLY Banja Luka 26.59 306 *e*P **P** **10 38 31.8 +0.5**
NACGM Naroch 26.72 333 *e* **P** **10 38 30.0 -2.4**
LANS Liptovska Anna 26.79 316 *e*P **P** **10 38 34.6 +1.5**
LANS pmax pmax
comp=Z,11nm,0.9s
LANS Liptovska Anna 26.79 316 *e*P **P** **10 38 34.6 +1.5**
VYHS Vyhne 26.87 315 *e*P **P** **10 38 34.3 +0.5**
VYHS pmax pmax
comp=Z,10.0nm,0.9s
VYHS Vyhne 26.87 315 *e*P **P** **10 38 34.3 +0.5**
KIJV Kijevo 26.93 304 *i* P **P** **10 38 34.1 -0.2**
OJC Ojcow 27.11 319 *e*P **P** **10 38 36.5 +0.6**
OJC Ojcow 27.11 319 P **P** **10 38 36.8 +0.8**
OJC pmax pmax
comp=Z,23nm,0.9s
OJC Ojcow 27.11 319 P **P** **10 38 36.8 +0.8**
OJC IAmb IAmb 10 38 46.7
comp=Z,23nm,0.9s
MORI Morici 27.38 303 *i* P **P** **10 38 37.8 -0.6**
JAVC Velka Javorina 27.72 315 *e*P **P** **10 38 42.9 +1.4**
SMOL Smolenice 27.73 314 *e*P **P** **10 38 42.4 +0.9**
SMOL Smolenice 27.73 314 *e*P **P** **10 38 42.4 +0.9**
DUGI Dugi Otok 27.87 304 *i* P **P** **10 38 42.5 -0.3**
GOLS Golise 28.00 308 *i* P **P** **10 38 44.9 +0.9**
CRES Cresnjev 28.06 307 *e*P **P** **10 38 45.1 +0.6**
BOJS Bojanci 28.11 307 *i* P **P** **10 38 45.7 +0.8**
MORC Moravsky Berou 28.19 316⇑ P **P** **10 38 44.6 -1.0**
MORC Moravsky Berou 28.19 316 *e*P **P** **10 38 45.8 +0.1**
MORC Moravsky Berou 28.19 316 P **P** **10 38 45.3 -0.4**
MORC pmax pmax
comp=Z,5.0nm,0.7s
MORC Moravsky Berou 28.19 316 P **P** **10 38 45.3 -0.4**
GROS Grobnik 28.22 309 *i* P **P** **10 38 46.5 +0.5**
ARSA Arzberg 28.46 310 *i* sP **P** **10 38 50.6 +2.6**
comp=Z,4.8nm,0.8s
CONA Conrad Observa 28.47 312 *i* P **P** **10 38 47.8 -0.5**
comp=Z,3.9nm,0.9s
VRAC Vranov 28.55 315 P **P** **10 38 49.5 +0.6**
comp=Z,4.0nm,0.5s,baz=118,slow=12,SNR=4.7
VRAC Vranov 28.55 315 *e*P **P** **10 38 49.3 +0.5**
KRUC Moravsky 28.57 314 *e*P **P** **10 38 49.3 +0.3**
SOKA Soboth 28.59 309 *i* pP **P** **10 38 50.2 +0.9**
comp=Z,6.9nm,1.1s
CEY Cerknica 28.73 307 *e*P **P** **10 38 48.3 -2.2**
KLMR Klimovskoe 28.74 352 *e*P **P** **10 38 48.3 -2.0**
KLMR *e* 10 39 37.7
KLMR pmax pmax
comp=Z,19nm,0.7s
KLMR Klimovskoe 28.74 352 *e*P **P** **10 38 48.4 -1.9**
KLMR AMP 10 38 50.5
comp=Z,19nm,0.7s
KLMR *ePP **PnPn** **10 39 37.8 -3.2**
LJU Ljubljana 28.75 307 *e*P **P** **10 38 50.8 +0.2**
KRLC Kraliky 28.76 316 *e*P **P** **10 38 50.8 0.0**
KRLC Kraliky 28.76 316 *e*P **P** **10 38 50.8 0.0**
OBKA Obir 28.86 308 *i* P **P** **10 38 50.5 -1.3**
comp=Z,5.5nm,0.8s
KURBB Kurchatov Arra 28.90 42 P **P** **10 38 53.8 +1.9**
comp=Z,3.6nm,0.2s,baz=249,slow=9.4,SNR=12
KURK Kurchatov 29.00 42 *ce*P **P** **10 38 54.2 +1.5**
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 29.00 42 P **P** **10 38 54.0 +1.3**
KURK IAmb IAmb 10 38 55.5
comp=Z,10nm,0.9s
PRGR Permogore 29.05 358 *e*P **P** **10 38 52.1 -1.0**
DPC Dobruska-Polom 29.15 317 *e*P **P** **10 38 54.2 0.0**
DPC Dobruska-Polom 29.15 317 *e*P **P** **10 38 54.2 0.0**
VOJS Vojsko 29.17 307 *e*P **P** **10 38 54.9 +0.4**
OSTC Ostas 29.30 317 *e*P **P** **10 38 55.4 -0.1**
UPC Upice 29.39 317 *e*P **P** **10 38 56.7 +0.4**
UPC Upice 29.39 317 *e*P **P** **10 38 56.7 +0.4**
CHVC Chvalec 29.40 317 *e*P **P** **10 38 56.8 +0.4**
MOA Molln 29.46 311 *i* P **P** **10 38 57.0 +0.1**
comp=Z,9.2nm,0.6s
VSU Vasula 29.47 337 *i* P **P** **10 38 57.0 +0.2**
VSU pmax pmax
comp=Z,78nm,1.1s
MYKA Terra Mystica 29.50 308 *i* pP **P** **10 38 58.5 +1.2**
comp=Z,6.6nm,0.5s
PRED Cave del Predi 29.50 308 P **P** **10 38 57.9 +0.6**
PRED IAmb IAmb 10 39 02.9
comp=Z,8.3nm,1.0s
MURB Monte Urbino 29.54 301 P **P** **10 38 58.8 +1.1**
MURB IAmb IAmb 10 39 00.3
comp=Z,20nm,1.0s
MAKZ Makanchi 29.63 51 P **P** **10 39 00.1 +1.6**
MAKZ pmax pmax
comp=Z,6.0nm,1.4s
MAKZ Makanchi 29.63 51 P **P** **10 39 00.1 +1.6**
KBA Koelnbreinsper 29.82 309 *i* pP **P** **10 39 00.8 +0.5**
comp=Z,14nm,0.7s,SNR=9.3
MK31 Makanchi Array 29.84 52 P **P** **10 39 01.7 +1.4**
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 29.84 52 P **P** **10 39 01.7 +1.4**
MK31 IAmb IAmb 10 39 02.9
comp=Z,6.2nm,0.8s
MKAR Makanchi Array 29.84 52 P **P** **10 39 02.0 +1.7**
comp=Z,6.3nm,0.7s,baz=248,slow=7.5,SNR=66
MKAR LR LR 10 52 36.1
comp=Z,52nm,19.2s,baz=250,slow=40
MKAR Makanchi Array 29.84 52 *ce*P **P** **10 39 02.0 +1.7**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 29.84 52 P **P** **10 39 00.8 +0.5**

GOPC	GO Pecny, Ondr	29.87	315	eP		P	10 39 00.5	-0.1	
GOPC	GO Pecny, Ondr	29.87	315	eP		P	10 39 00.5	-0.1	
STAL	STALIGIAL	30.02	307	P		P	10 39 01.7	-0.2	
STAL				IAmb	IAmb		10 39 02.8		
	comp=Z,8.6nm,0.7s								
GEC2	GERESS Array S	30.14	313	P		P	10 39 04.9	+1.9	
GERES	GERESS Array B	30.14	313	P		P	10 39 03.1	+0.1	
	comp=Z,2.5nm,0.7s,baz=112,slow=11,SNR=12								
GERES				PcP		PcP	10 42 04.7	+0.6	
	comp=Z,1.3nm,0.7s,baz=103,slow=2.9,SNR=6.6								
GERES	GERESS Array B	30.14	313	P		P	10 39 02.5	-0.6	
CIMO	Cimolais	30.21	307	P		P	10 39 03.9	+0.2	
CIMO				IAmb	IAmb		10 39 04.7		
	comp=Z,14nm,0.7s								
ABTA	Abfaltersbach	30.28	308	*i* pP		P	10 39 04.7	+0.4	
	comp=Z,8.7nm,0.7s								
KHC	Kasperske Hory	30.32	313	eP		P	10 39 05.4	+0.9	
KHC	Kasperske Hory	30.32	313	eP		P	10 39 05.4	+0.9	
CTI	Castel Tesino	30.69	306	P		P	10 39 08.2	+0.3	
CTI				pmax	pmax				
	comp=Z,31nm,0.7s								
CTI	Castel Tesino	30.69	306	P		P	10 39 08.2	+0.3	
WATA	Walderalm	31.05	309	*i* P		P	10 39 10.9	-0.2	
	comp=Z,23nm,1.1s,SNR=6.6								
VLC	Villacollemand	31.21	303	P		P	10 39 12.8	+0.4	
SQTA	Sankt Quirin	31.26	309	*i* P		P	10 39 12.7	-0.3	
	comp=Z,34nm,0.6s,SNR=12								
MOTA	Moosalm	31.36	309	*i* P		P	10 39 13.5	-0.4	
	comp=Z,31nm,0.7s,SNR=13								
SALO	Salr	31.36	305	P		P	10 39 14.1	+0.3	
CLL	Collm	31.46	317	eP		P	10 39 15.0	+0.5	
	comp=Z,10.0nm,1.2s								
CLL	Collm	31.46	317	eP		P	10 39 15.0	+0.5	
CLL				pmax	pmax				
	comp=Z,10.0nm,1.2s								
CLL	Collm	31.46	317	P		P	10 39 14.5	0.0	
CLL				IAmb	IAmb		10 39 15.6		
	comp=Z,8.7nm,1.1s								
FETA	Feichten	31.53	308	*i* pP		P	10 39 15.5	+0.1	
	comp=Z,17nm,0.7s,SNR=7.7								
RETA	Reutte	31.62	309	*i* P		P	10 39 15.5	-0.6	
	comp=Z,8.5nm,0.6s								
FUORN	Ofenpass-Fuorn	31.75	307	P		P	10 39 18.1	+0.6	
FUORN				IAmb	IAmb		10 39 26.0		
	comp=Z,8.8nm,0.6s								
FINES	FINESS Array B	32.06	340	P		P	10 39 19.5	-0.2	
	comp=Z,9.8nm,0.8s,baz=150,slow=10.0,SNR=11								
FINES				LR	LR		10 53 17.9		
	comp=Z,62nm,19.9s,baz=270,slow=38								
FINES	FINESS Array B	32.06	340	P		P	10 39 19.1	-0.6	
DAVA	Damuels	32.16	308	*i* P		P	10 39 20.6	-0.3	
	comp=Z,44nm,0.6s,SNR=18								
TUE	Stuetta	32.34	307	P		P	10 39 22.5	0.0	
WMQ	Urumqi	33.02	59	eP		P	10 39 31.3	+2.9	
WMQ				pmax	pmax				
	comp=Z,16nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,73nm,6.3s								
BFO	Black Forest	33.41	310	P		P	10 39 31.7	0.0	
BFO				pmax	pmax				
	comp=Z,8.0nm,0.5s								
BFO	Black Forest	33.41	310	P		P	10 39 31.7	0.0	
BFO				IAmb	IAmb		10 39 37.7		
	comp=Z,7.7nm,0.5s								
SENIN	Lac Senin/Sane	33.71	306	P		P	10 39 33.7	-0.8	
ZAA0	Zalesovo Array	33.82	40	P		P	10 39 35.9	+0.8	
ZAA0				IAmb	IAmb		10 39 36.8		
	comp=Z,9.9nm,1.1s								
ZALV	Zalesovo Beam	33.82	40	P		P	10 39 36.1	+1.0	
	comp=Z,7.0nm,0.8s,baz=260,slow=8.9,SNR=16								
ZALV				LR	LR		10 54 48.8		
	comp=Z,33nm,20.3s,baz=162,slow=39								
ZALV	Zalesovo Beam	33.82	40	*i* P		P	10 39 36.0	+0.9	
ZALV				pmax	pmax				
	comp=Z,7.0nm,0.8s								
ZALV	Zalesovo Beam	33.82	40	P		P	10 39 34.2	-0.9	
DGZ	Jazzator, Alta	33.92	48	*i* P		P	10 39 35.3	-1.0	
DGZ				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BNI	Bardonecchia	33.95	304	P		P	10 39 36.1	-0.5	
BNI				pmax	pmax				
	comp=Z,58nm,0.7s								
BNI	Bardonecchia	33.95	304	P		P	10 39 36.1	-0.5	
LPG	La Plagne	33.96	304	eP		P	10 39 36.8	0.0	
LPG				pmax	pmax				
	comp=Z,51nm,0.6s								
LPL	La Plagne	33.98	304	eP		P	10 39 36.2	-0.7	
LPL				pmax	pmax				
	comp=Z,39nm,0.7s								
ECH	Echery	34.15	309	P		P	10 39 37.2	-1.0	
ECH				pmax	pmax				
	comp=Z,8.0nm,0.8s								
ECH	Echery	34.15	309	P		P	10 39 37.2	-1.0	
ECH				IAmb	IAmb		10 39 38.5		
	comp=Z,8.2nm,0.8s								
HINF	Hinteralfeld	34.27	308	eP		P	10 39 38.0	-1.2	
HINF				pmax	pmax				
	comp=Z,6.0nm,0.7s								
ORIF	Oris-en-Rattie	34.50	303	eP		P	10 39 39.4	-1.9	
ORIF				pmax	pmax				
	comp=Z,6.0nm,0.6s								
VIVF	Saint-Julien-l	35.35	303	eP		P	10 39 47.3	-1.2	
VIVF				pmax	pmax				
	comp=Z,5.0nm,0.7s								
LOR	Lormes	36.18	307	eP		P	10 39 54.3	-1.3	
LOR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
NB2	NORSAR Subarra	36.98	331	P		P	10 40 01.1	-1.2	
	comp=Z,3.1nm,0.8s,baz=123,slow=9.3								
NOA	NORSAR Array B	36.98	331	P		P	10 40 01.5	-0.8	
	comp=Z,1.9nm,0.7s,baz=124,slow=8.5,SNR=7.0								
TAM	Tamanrasset	38.43	266	P		P	10 40 16.4	+1.2	
TAM				pmax	pmax				
	comp=Z,12nm,1.3s								
TAM	Tamanrasset	38.43	266	P		P	10 40 16.4	+1.2	
TAM				IAmb	IAmb		10 40 19.5		
	comp=Z,12nm,1.3s								
SHL	Shillong	38.99	89	P		P	10 40 19.4	-0.4	
SHL				pmax	pmax				
	comp=Z,15nm,1.2s								
SHL	Shillong	38.99	89	P		P	10 40 19.4	-0.4	
SHL				IAmb	IAmb		10 40 22.1		
	comp=Z,15nm,1.2s								
ARCES	ARCESS Array B	39.01	348	P		P	10 40 19.1	-0.1	
	comp=Z,3.3nm,0.6s,baz=160,slow=9.1,SNR=13								
ARCES				PcP		PcP	10 42 29.5	+0.3	
	comp=Z,2.3nm,0.7s,baz=124,slow=4.5,SNR=4.7								
GRR	Gorron	39.47	308	eP		P	10 40 21.9	-1.4	
GRR				pmax	pmax				
	comp=Z,23nm,1.0s								
ESBB	Sonseca Array	41.86	295	P		P	10 40 43.4	+0.1	
ESDC	Sonseca Array	41.86	295	P		P	10 40 43.5	+0.2	
	comp=Z,3.1nm,0.6s,baz=75,slow=8.2,SNR=26								
ESDC	Sonseca Array	41.86	295	P		P	10 40 43.1	-0.1	
GUD	Guadarrama	41.89	296	P		P	10 40 45.5	+1.8	
GUD				pmax	pmax				
	comp=Z,14nm,1.0s								
GTA	Gaotai	42.17	66	P		P	10 40 47.6	+1.7	
GTA				pP	sP		10 40 52.5	+0.1	
GTA				sP	pP		10 40 54.8	+4.3	
GTA				pmax	pmax				
	comp=Z,5.0nm,1.0s								
GTA				pmax	pmax				
	comp=Z,25nm,4.3s								
GTA				LR	LR				
	comp=Z,71nm,17.8s								
GTA				LR	LR				
	comp=Z,150nm,20.9s								
NRIK	Noril'sk	42.96	19	P		P	10 40 53.3	+1.5	
	comp=Z,4.9nm,0.9s,baz=238,slow=3.5,SNR=3.9								
NRIK				LR	LR		11 03 10.3		
	comp=Z,73nm,18.3s,baz=195,slow=42								
NRIK	Noril'sk	42.96	19⇑	eP		P	10 40 53.6	+1.8	
NRIK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
DSB	Dublin	43.44	315	P		P	10 40 55.2	-0.7	
PBRG	Braganca	43.71	298	eP		P	10 40 59.3	+1.0	
	comp=Z,21nm,2.0s								
MVO	Moncorvo	44.00	297	eP		P	10 41 00.3	-0.3	
ZAK	Zakamensk	44.11	49	eP		P	10 41 03.3	+1.8	
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.3s								
TLY	Talaya	44.40	47	P		P	10 41 05.4	+1.8	
	comp=Z,1.5nm,0.5s,baz=342,slow=5.1,SNR=4.1								
TLY	Talaya	44.40	47	*i* P		P	10 41 04.9	+1.3	
TLY				pmax	pmax				
	comp=Z,3.0nm,0.9s								
TLY	Talaya	44.40	47	IAmb	IAmb		10 41 09.8		
	comp=Z,2.9nm,0.9s								
MTE	Manteigas	44.49	296	eP		P	10 41 04.7	+0.1	
	comp=Z,22nm,1.9s								
PMRV	Marv??o	44.52	295	eP		P	10 41 05.0	+0.3	
	comp=Z,13nm,1.7s								
PCBR	Castelo Branco	44.52	296	eP		P	10 41 04.7	0.0	
	comp=Z,24nm,0.8s								
PCAB	Cabril	44.67	298	eP		P	10 41 06.3	+0.3	
	comp=Z,28nm,1.6s								
PVIS	Viseu	44.71	297	eP		P	10 41 07.5	+1.2	
PGAV	Gavieira, Arco	44.82	299	eP		P	10 41 09.0	+1.7	
	comp=Z,36nm,1.9s								
PBEJ	Beja	45.12	293	eP		P	10 41 10.6	+1.0	
	comp=Z,21nm,1.6s								
PNCL	Nicolau / Gran	45.62	293	eP		P	10 41 13.6	+0.1	
LZH	Lanzhou	45.90	69	eP		P	10 41 15.9	-0.1	
LZH				pP	pP		10 41 20.8	+0.2	
LZH				sP	sP		10 41 24.5	+2.1	
LZH				pmax	pmax				
	comp=Z,23nm,1.0s								
SONM	Songino Array	46.18	53	P		P	10 41 19.3	+1.3	
	comp=Z,1.0nm,0.4s,baz=270,slow=8.9,SNR=7.1								
SONM	Songino Array	46.18	53	P		P	10 41 19.3	+1.3	
SONM				pmax	pmax				
	comp=Z,3.0nm,1.2s								
SONM	Songino Array	46.18	53	IAmb	IAmb		10 41 20.6		
	comp=Z,2.5nm,1.2s								
TOA0	Torodi Ar. Sit	46.23	256	P		P	10 41 18.4	-0.1	
TORD	Torodi Ar. Bea	46.23	256	P		P	10 41 18.2	-0.4	
	comp=Z,2.4nm,0.7s,baz=73,slow=6.8,SNR=19								
TORD	Torodi Ar. Bea	46.23	256	P		P	10 41 18.2	-0.4	
ULN	Ulaanbaatar	46.62	53	*ce*P		P	10 41 22.4	+0.9	
ULN				pmax	pmax				
	comp=Z,9.0nm,1.0s								
ULN	Ulaanbaatar	46.62	53	P		P	10 41 23.2	+1.7	
ULN				IAmb	IAmb		10 41 24.0		
	comp=Z,8.0nm,0.9s								
CD2	Chengdu	47.18	76	eP		P	10 41 26.0	+0.1	
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CHTO	Chiang Mai	47.71	94	P		P	10 41 30.6	+0.5	
CHTO				pmax	pmax				
	comp=Z,6.0nm,0.9s								
CHTO	Chiang Mai	47.71	94	P		P	10 41 30.6	+0.5	
CHTO				IAmb	IAmb		10 41 31.7		
	comp=Z,6.2nm,0.9s								
CMAR	Chiang Mai Arr	47.87	94	P		P	10 41 31.9	+0.6	
	comp=Z,2.5nm,0.8s,baz=292,slow=8.3,SNR=14								
CMAR				PcP		PcP	10 43 01.0	+1.0	
	comp=Z,1.5nm,0.8s,baz=287,slow=4.1,SNR=5.4								
CMAR				LR	LR		11 05 17.0		
	comp=Z,19nm,19.6s,baz=305,slow=41								
CMAR	Chiang Mai Arr	47.87	94	*ce*P		P	10 41 32.0	+0.6	
CMAR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
CMAR	Chiang Mai Arr	47.87	94	P		P	10 41 30.6	-0.8	
CMAR						PcP	10 43 00.3	+0.4	
BOD	Bodaibo	50.57	39	eP		P	10 41 52.0	+0.5	
BOD				pmax	pmax				
	comp=Z,7.0nm,0.9s								
HHC	Hu-ho-hao-te	50.80	61	eP		P	10 41 54.6	+1.0	
HHC				pmax	pmax				
	comp=Z,17nm,0.9s								
HHC				pmax	pmax				
	comp=Z,140nm,6.6s								
GYA	Guiyang	51.07	81	eP		P	10 41 56.1	+0.2	
GYA				pmax	pmax				
	comp=Z,10.0nm,0.9s								
LSZ	Lusaka	51.18	204	P		P	10 41 55.8	-0.9	
LSZ				pmax	pmax				
	comp=Z,12nm,1.3s								
LSZ	Lusaka	51.18	204	P		P	10 41 55.8	-0.9	
LSZ				IAmb	IAmb		10 42 00.9		
	comp=Z,12nm,1.2s								
ENH	Enshi	52.06	75	P		P	10 42 03.9	+0.7	
ENH				IAmb	IAmb		10 42 09.4		
	comp=Z,9.6nm,0.9s								
HIA	Hailar	54.81	50	*i* P		P	10 42 23.3	+0.3	
HIA				pmax	pmax				
	comp=Z,7.0nm,0.9s								
DBIC	Dimbokro	55.18	254	P		P	10 42 25.7	-0.4	
	comp=Z,2.5nm,0.9s,baz=45,slow=9.9,SNR=4.2								
DBIC				LR	LR		11 07 57.3		
	comp=Z,36nm,18.5s,baz=40,slow=38								
DBIC	Dimbokro	55.18	254	P		P	10 42 25.7	-0.4	
DBIC				pmax	pmax				
	comp=Z,6.0nm,1.1s								
DBIC	Dimbokro	55.18	254	IAmb	IAmb		10 42 27.6		
	comp=Z,5.5nm,1.1s								
KIC	Kosan Boka	55.27	254	eP		P	10 42 25.8	-0.9	
	comp=Z,7.8nm,0.9s								
TIC	Toumodi	55.33	254	eP		P	10 42 29.1	+1.9	
LIC	Lamto	55.58	254	eP		P	10 42 28.0	-1.0	
	comp=Z,19nm,0.7s								
KULM	Kulim	56.23	107	P		P	10 42 32.8	-0.8	
PSI	Prapat	56.33	111	P		P	10 42 32.9	-1.6	
PSI				pmax	pmax				
	comp=Z,11nm,1.3s								
RPSI	Rantau Prapat	56.40	111	P		P	10 42 32.9	-1.9	
RPSI				IAmb	IAmb		10 42 41.0		
	comp=Z,11nm,1.3s								
TIXI	Tiksi	56.61	22	*ce*P		P	10 42 35.3	-0.3	
TIXI				pmax	pmax				
	comp=Z,4.0nm,1.0s								
TIXI	Tiksi	56.61	22	P		P	10 42 34.6	-0.9	
TIXI				IAmb	IAmb		10 42 36.7		
	comp=Z,5.1nm,1.0s								
IPM	Ipoh	57.00	108	P		P	10 42 38.8	-0.4	
YAK	Yakutsk	58.06	33	*i* P		P	10 42 46.5	+0.6	
YAK				pmax	pmax				
	comp=Z,9.0nm,0.8s								
SUMG	Summit	58.09	339	P		P	10 42 46.9	+0.4	
SUMG				pmax	pmax				
	comp=Z,9.0nm,0.8s								
SUMG	Summit	58.09	339	P		P	10 42 46.9	+0.4	
SUMG				IAmb	IAmb		10 42 47.9		
	comp=Z,9.5nm,0.8s								
NJ2	Nanjing	58.98	70	eP		P	10 42 52.0	-0.8	
NJ2				pmax	pmax				
	comp=Z,11nm,0.5s								
SDSI	Sungai Dareh	60.59	112	P		P	10 43 03.5	-0.6	
KSRS	Korea Array	63.93	61	P		P	10 43 26.1	-0.1	
	comp=Z,1.7nm,0.7s,baz=277,slow=7.2,SNR=10								
KSRS				LR	LR		11 13 49.6		
	comp=Z,42nm,19.9s,baz=304,slow=38								
USRK	Ussuriysk Ar.	64.30	53	LR	LR		11 13 50.6		
	comp=Z,66nm,20.2s,baz=318,slow=38								
BOSA	Boshof	64.55	202	P		P	10 43 31.5	+1.2	
	comp=Z,4.8nm,0.9s,baz=40,slow=9.1,SNR=5.2								
BOSA				LR	LR		11 13 07.0		
	comp=Z,71nm,19.3s,baz=86,slow=37								
BOSA	Boshof	64.55	202	P		P	10 43 31.5	+1.2	
BOSA				pmax	pmax				
	comp=Z,7.0nm,1.0s								
BOSA	Boshof	64.55	202	IAmb	IAmb		10 43 34.1		
	comp=Z,6.7nm,0.9s								
PPBI	Pangkal Pinang	65.05	110	P		P	10 43 42.4	+8.6	
SEY	Seymchan	67.69	29	P		P	10 43 51.0	+1.0	
	comp=Z,8.7nm,0.7s,baz=279,slow=6.6,SNR=19								
SEY	Seymchan	67.69	29	*i* P		P	10 43 50.1	+0.1	
MA2	Magadan	68.58	32⇑	eP		P	10 43 56.3	+0.6	
MA2				pmax	pmax				
	comp=Z,12nm,1.7s								
MA2	Magadan	68.58	32	P		P	10 43 56.2	+0.5	
YSS	Yuzh-Sakhalins	70.09	47⇑	eP		P	10 44 04.9	-0.3	
YSS				pmax	pmax				
	comp=Z,10.0nm,1.0s								
YSS	Yuzh-Sakhalins	70.09	47	P		P	10 44 05.6	+0.3	
SCHQ	Schefferville	76.43	327	P		P	10 44 41.9	-0.6	
	comp=Z,4.1nm,0.8s,baz=72,slow=5.2,SNR=4.4								
SCHQ	Schefferville	76.43	327	IAmb	IAmb		10 44 42.7		
	comp=Z,5.7nm,0.9s								
TOLK	Toolik Lake Re	78.21	6	P		P	10 44 52.8	+0.5	
TOLK				IAmb	IAmb		10 44 53.5		
	comp=Z,3.7nm,0.9s								
BMAR	Burnt Mountain	79.81	5	P		P	10 45 01.6	+0.5	
IMAR	Indian Mountai	80.31	9	P		P	10 45 03.8	0.0	
ILAR	Eielson Array	82.24	6	P		P	10 45 13.0	-1.1	
	comp=Z,0.5nm,0.7s,baz=335,slow=4.0,SNR=5.7								
D62A	Allapoint, All	82.42	322	P		P	10 45 15.4	0.0	
YKA	Yellowknife Ar	84.15	352	P		P	10 45 23.3	-0.6	
	comp=Z,1.3nm,0.7s,baz=354,slow=19,SNR=4.7								
YKA				LR	LR		11 24 27.6		
	comp=Z,34nm,18.4s,baz=0.0,slow=37								
YKA	Yellowknife Ar	84.15	352⇑	eP		P	10 45 23.8	-0.1	
YKA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
BCAR	Beaver Creek A	84.33	4	P		P	10 45 25.1	+0.2	
WRA	Warramunga Arr	97.75	109	P		Pdif	10 46 29.2	+0.5	
	comp=Z,0.3nm,0.6s,baz=315,slow=3.9,SNR=8.3								
WRA	Warramunga Arr	97.75	109	IAmb	IAmb		10 46 32.3		
	comp=Z,0.1nm,1.1s								
ASAR	Alice Springs	99.35	112	P		Pdif	10 46 35.0	-0.7	
	comp=Z,0.6nm,0.7s,baz=304,slow=4.6,SNR=11								

IDC 19 10:35:55.8±5.5, 13°.35S×111°.86W, h0km, mb3.2/3, mb1 3.7/3, mb1mx3.2/27, mbtmpg3.2/3, MS3.4/2, Ms1 3.4/2, ms1mx3.2/8, Error ellipse: s-maj=272.1km s-min=55.6km az=113.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N2	Juan Fernandez	36.00	129	T	T	11 20 53.7	
	baz=300,slow=76,SNR=56						
H03N3	Juan Fernandez	36.01	129	T	T	11 20 52.0	
	baz=300,slow=76,SNR=78						
H03N1	Juan Fernandez	36.02	129	T	T	11 20 55.1	
	baz=300,slow=76,SNR=78						
LVC	Limon Verde	41.75	109	LR	LR	10 56 44.0	
	comp=Z,44nm,19.0s,baz=260,slow=30						
TXAR	Lajitas Array	43.17	10	P	P	10 43 59.2	+0.7
	0.3nm,0.9s,baz=182,slow=7.0,SNR=2.9						
NVAR	Mina Array Bea	51.86	354	P	P	10 45 06.6	+0.4
	0.6nm,0.9s,baz=173,slow=9.8,SNR=5.0						
CPUP	Villa Florida	52.54	113	LR	LR	11 03 30.4	
	comp=Z,34nm,19.7s,baz=227,slow=32						
PDAR	Pinedale Array	55.88	2	P	P	10 45 34.1	-1.5
	0.1nm,0.5s,baz=157,slow=7.8,SNR=2.4						
H11S2	WAKE ISLAND Hy	86.26	290	T	T	12 24 09.2	
	baz=106,slow=74,SNR=17						
H11S1	WAKE ISLAND Hy	86.27	290	T	T	12 24 06.7	
	baz=106,slow=74,SNR=8.0						
H11S3	WAKE ISLAND Hy	86.28	290	T	T	12 24 10.8	
	baz=106,slow=74,SNR=11						
CMAR	Chiang Mai Arr	149.97	284	PKPbc	PKPbc	10 55 48.9	-0.3
	0.6nm,0.3s,baz=33,slow=2.2,SNR=5.1						

*IDC **19** 10:36:14.9±2.1, 32°.80N×47°.68E, h0km, mb3.9/9, mb1 3.9/10, mb1mx3.7/53, mbtmpg3.9/10, ML3.9/1, Error ellipse: s-maj=45.5km s-min=22.4km az=161.0*
*TEH **19** 10:36:15.8, 32°.74N×47°.68E, h10km, ML3.8*
*ISN **19** 10:36:15.9±1.1, 32°.78N×47°.78E, h14km±6km, ML3.6*
*NEIC **19** 10:36:16.1±2.0, 32°.75N±0°.03×47°.69E±0°.07, h10km±1km, Error ellipse: s-maj=10.1km s-min=5.7km az=83.0*
*THR **19** 10:36:17.7±1.1, 32°.76N×47°.86E, h14km±16km, ML4.1*

ISC 19 10:36:16.1±1.2, 32°.74N±0°.03×47°.68E±0°.03, h10km±8km, n90, σ1°.942/96, mb3.9/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	Kafar-mosalman	0.80	10	ePg	Pg	10 36 31.1	-0.5
IKFM				eSg	Sb	10 36 42.9	0.0
IKFM				e		10 36 45.5	
IKFM	Kafar-mosalman	0.80	10	Pg	Pg	10 36 30.9	-0.7
IKMR	Kamar-syah	0.97	37	ePg	Pg	10 36 34.2	-0.7
IKMR				eSg	Sn	10 36 48.8	-0.9
IKMR				e		10 36 51.5	
IKMR	Kamar-syah	0.97	37	Pg	Pg	10 36 33.7	-1.2
IDOB	Doab	1.13	21	ePg	Pg	10 36 37.0	-0.9
IDOB	Doab	1.13	21	Pg	Pg	10 36 37.4	-0.5
BMDN	Meydan	1.34	45	ePg	Pg	10 36 41.4	-0.4
BMDN				eSg	Sn	10 37 01.5	+2.6
BMDN				e		10 37 05.9	
BMDN	Meydan	1.34	45		Pb	10 36 41.2	-0.2
IKOM	Komasi	1.44	354	ePg	Pg	10 36 43.4	-0.5
IKOM				e		10 36 45.6	
IKOM	Komasi	1.44	354		Pg	10 36 43.3	-0.6
IBDR	Badra	1.52	285	ePg	Pg	10 36 45.0	-0.3
IBDR				eSg	Sg	10 37 06.0	+0.9
IBDR				AML	AML	10 37 09.0	
	comp=N,1μm,0.6s						
IBDR				AML	AML	10 37 18.2	
	comp=E,717nm,0.6s						
AHWZ	Ahwaz	1.62	150	ePg	Pb	10 36 45.8	-0.3
AHWZ	Ahwaz	1.62	150	Pg	Pg	10 36 47.1	-0.1
KCHF	Cheshme Sefid,	1.63	341	ePg	Pg	10 36 47.2	-0.2
KCHF				e		10 37 11.9	
KCHF	Cheshme Sefid,	1.63	341	Pn	Pb	10 36 46.4	+0.1
HSAM	Samen	1.66	27	ePg	Pg	10 36 47.7	-0.3
HSAM				e		10 36 51.2	
HSAM	Samen	1.66	27	Pn	Pg	10 36 47.2	-0.8
KER	Kermanshah	1.71	345	ePn	Pb	10 36 47.1	-0.6
IBZA	Bozab	1.74	5	ePg	Pg	10 36 48.8	-0.7
IBZA				e		10 37 18.4	
IBZA	Bozab	1.74	5	Pn	Pg	10 36 48.7	-0.7
IGHG	Ghaleghazi	1.84	330	ePn	Pb	10 36 50.3	+0.3
IGHG				e		10 37 22.6	
IGHG	Ghaleghazi	1.84	330	Pn	Pb	10 36 50.0	0.0
IVIS	Veis	1.92	339	ePn	Pb	10 36 51.7	+0.5
IVIS				e		10 37 25.1	
IVIS	Veis	1.92	339	Pn	Pb	10 36 51.5	+0.3
KHMZ	Khomeyn	2.15	62	ePn	Pn	10 36 53.6	+1.3
KHMZ	Khomeyn	2.15	62	ePn	Pn	10 36 53.6	+1.3
IALM	Almabolaq	2.16	11	ePn	Pb	10 36 54.3	-1.1
NSR	Nassriya	2

	comp=Z,4.3nm,0.8s							
ITM	**Ithomi**	**21.55**	**289**	P	**P**	**10 41 04.6**	**-0.9**
ITM				IAmb	IAmb	10 41 11.5	
	comp=Z,27nm,1.5s							
AKASG	**Malin Array Be**	**22.52**	**328**	P	**P**	**10 41 16.5**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=141,slow=10,SNR=3.4							
AKASG	**Malin Array Be**	**22.52**	**328**	IAmb	IAmb	10 41 22.3		
	comp=Z,0.7nm,0.7s							
AKBB	**Malin Array Si**	**22.52**	**328**	P	**P**	**10 41 15.3**	**-0.5**
AKBB				IAmb	IAmb	10 41 25.6		
	comp=Z,5.4nm,1.2s							
BURAR	**Bucovina Array**	**22.59**	**318**	P	**P**	**10 41 17.3**	**+0.6**
BUR08	**Bucovina Ar. S**	**22.62**	**318**	P	**P**	**10 41 13.9**	**-3.1**
BUR08				IAmb	IAmb	10 41 25.3		
	comp=Z,2.7nm,1.1s							
TIP	**Timpagrande**	**25.77**	**293**	P	**P**	**10 41 47.3**	**+0.2**
TIP				IAmb	IAmb	10 41 50.9		
	comp=Z,8.1nm,1.3s							
BVAR	**Borovoye Array**	**26.03**	**32**	P	**P**	**10 41 49.2**	**0.0**
	comp=Z,1.7nm,0.5s,baz=215,slow=7.0,SNR=4.5							
KURBB	**Kurchatov Arra**	**28.86**	**43**	P	**P**	**10 42 15.3**	**+0.7**
	comp=Z,1.0nm,0.2s,baz=246,slow=9.7,SNR=1.9							
KURK	**Kurchatov**	**28.95**	**42**	P	**P**	**10 42 15.3**	**-0.2**
KURK	**Kurchatov**	**28.95**	**42**	IAmb	IAmb	10 42 19.4		
	comp=Z,2.0nm,0.9s							
MK31	**Makanchi Array**	**29.81**	**52**	P	**P**	**10 42 23.0**	**-0.2**
MK31				IAmb	IAmb	10 42 24.5		
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**29.81**	**52**	P	**P**	**10 42 23.5**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=247,slow=6.8,SNR=4.1							
MKAR	**Makanchi Array**	**29.81**	**52**	P	**P**	**10 42 23.0**	**-0.1**
MSSA	**Maissana**	**31.75**	**303**	P	**P**	**10 42 40.0**	**-0.4**
FINES	**FINESS Array B**	**31.95**	**340**	P	**P**	**10 42 41.0**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=142,slow=8.6,SNR=5.0							
ZALV	**Zalesovo Beam**	**33.77**	**40**	P	**P**	**10 42 56.8**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=236,slow=10,SNR=2.7							
BNI	**Bardonecchia**	**33.85**	**303**	P	**P**	**10 42 58.3**	**-0.5**
ARCES	**ARCESS Array B**	**38.90**	**348**	P	**P**	**10 43 40.6**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=153,slow=10,SNR=9.3							
ARCES	**ARCESS Array B**	**38.90**	**348**	P	**P**	**10 43 40.1**	**-1.3**
ESDC	**Sonseca Array**	**41.77**	**295**	P	**P**	**10 44 06.2**	**+0.5**
	comp=Z,0.8nm,1.1s,baz=58,slow=4.8,SNR=2.2							
ESDC	**Sonseca Array**	**41.77**	**295**	P	**P**	**10 44 05.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**46.20**	**256**	P	**P**	**10 44 41.6**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=74,slow=7.3,SNR=3.2							

*STR **19** 10:36:23.7±0.4,44°N±5°×±°, h0km, MLv0.9/3, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*ROM **19** 10:36:24.1±0.2,44.50N±0.01×6.72E±0.01, h13km±3km, ML1.2/1, Error ellipse: s-maj=1.6km s-min=0.3km az=206.0*
LDG 19 10:36:24.0±0.0, 44.48N×6.68E, h2km, Md1.6/1, Ml1.5/5, Error ellipse: s-maj=1.0km s-min=0.7km az=67.0, France

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OGAG	**Argentiere**	**0.10**	**256**	Pg		Pg	10 36 30.7	+4.7
OGAG				Sg		Sg	10 36 35.0	+7.6
MBDF	**Montbardon**	**0.26**	**15**	*e*Pg		Pg	10 36 29.4	+0.4
MBDF				*e*Sg		Sg	10 36 32.9	+0.6
	8.0nm,0.3s							
PZZ	**Stroppo**	**0.31**	**85**	P		Pg	10 36 30.3	+0.3
PZZ				S		Sg	10 36 34.5	+0.4
PZZ				AML		AML		
	comp=N,70μm,1.0s							
PZZ				AML		AML		
	comp=E,68μm,1.0s							
ISO	**Isola**	**0.40**	**138**	Pg		Pg	10 36 31.7	+0.1
DOI	**San Damiano**	**0.41**	**86**	P		Pg	10 36 32.2	+0.4
DOI				S		Sg	10 36 37.7	+0.7
RRL	**Rocca Remolon**	**0.45**	**10**	P		Pg	10 36 33.2	+0.6
RRL				S		Sg	10 36 39.4	+0.9
STV	**Sant Anna di V**	**0.52**	**117**	P		Pg	10 36 34.0	+0.1
STV				S		Sg	10 36 40.5	-0.1
ENR	**Entracque**	**0.59**	**115**	P		Pg	10 36 35.2	-0.1
TURF	**col de Turini**	**0.72**	**134**	Pg		Pg	10 36 38.0	+0.2
TURF				Sg		Sg	10 36 47.3	+0.2
ORIF	**Oris-en-Rattie**	**0.72**	**308**	*e*Pg		Pg	10 36 37.7	-0.1
ORIF				*e*Sg		Sg	10 36 47.0	-0.2
	comp=E,2.1nm,0.2s							
ORIF	**Oris-en-Rattie**	**0.72**	**308**	P		Pg	10 36 37.8	-0.1
ORIF				S		Sg	10 36 47.3	+0.1
ORIF	**Oris-en-Rattie**	**0.72**	**308**	Pg		Pg	10 36 37.9	0.0
ORIF				Sg		Sg	10 36 47.0	-0.2
SAOF	**Saorge**	**0.80**	**128**	P		Pg	10 36 39.3	0.0
SAOF				S		Sg	10 36 49.6	0.0
SBF	**Sospel**	**0.82**	**138**	*e*Pg		Pg	10 36 39.6	-0.1
SBF				*e*Sg		Sg	10 36 50.2	-0.1
	comp=E,1.5nm,0.2s							
GBOS	**Grotte di Boss**	**0.86**	**106**	P		Pg	10 36 40.2	-0.3
GBOS				S		Sg	10 36 51.2	-0.5
FRF	**La Foret Royal**	**0.92**	**182**	*e*Pg		Pg	10 36 41.5	-0.1
FRF				*e*Sg		Sg	10 36 53.4	-0.1
	comp=E,2.8nm,0.2s							
SMRF	**Simiane la Rot**	**0.94**	**238**	*e*Pg		Pg	10 36 41.9	-0.1
SMRF				*e*Sg		Sg	10 36 54.2	0.0
	comp=E,1.1nm,0.3s							
LPG	**La Plagne**	**1.02**	**3**	*e*Pg		Pg	10 36 43.5	-0.1
LPG				*e*Sg		Sg	10 36 55.6	-1.2
	comp=E,1.0nm,0.2s							
LSD	**Lago del Serru**	**1.03**	**18**	P		Pg	10 36 43.6	-0.2
LPL	**La Plagne**	**1.04**	**2**	*e*Pg		Pg	10 36 43.8	-0.1
LPL				*e*Sg		Sg	10 36 56.5	-0.9
	comp=E,0.5nm,0.2s							
IMI	**Imperia**	**1.04**	**123**	P		Pg	10 36 43.8	-0.1
LMR	**La Mourre**	**1.15**	**186**	*e*Pg		Pg	10 36 45.7	-0.4
LMR				*e*Sg		Sg	10 37 00.1	-0.9
	comp=E,1.3nm,0.3s							
VIVF	**Saint-Julien-l**	**1.48**	**285**	*e*Pn		Pn	10 36 50.0	-1.7

*ISN **19** 10:41:04.9±1.2,32.63N×47.56E, h15km±6km, ML3.2*
*TEH **19** 10:41:06.2,32.64N×47.51E, h8km, ML3.1*
ISC 19 10:41:06.2±1.4, 32.60N±0.04×47.46E±0.03, h5km±12km, n27, σ0 92/32, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.98**	**19**	*e*Pg		**Pg**	**10 41 24.8**	**-0.2**
IKFM				*e*		**Sn**	**10 41 39.2**	**-1.6**
IKMR	**Kamar-syah**	**1.20**	**40**	*e*Pg		**Pb**	**10 41 27.9**	**-1.5**
IKMR				*e*Sg		**Sg**	**10 41 45.1**	**+0.4**
IKMR				*e*			10 41 47.8	
IDOB	**Doab**	**1.33**	**27**	*e*Pg		**Pn**	**10 41 30.6**	**-1.0**
IBDR	**Badra**	**1.38**	**292**	*e*Pg		**Pn**	**10 41 31.0**	**-1.1**
IBDR				*e*Sg		**Sg**	**10 41 51.0**	**+0.3**
IBDR				AML		AML	10 41 58.1	
	comp=N,373nm,0.6s							
IBDR				AML		AML	10 41 59.1	
	comp=E,370nm,0.4s							
BMDN	**Meydan**	**1.57**	**47**	*e*Pg		**Pb**	**10 41 35.3**	**-0.5**
BMDN				*e*			10 42 03.9	
IKOM	**Komasi**	**1.57**	**2**	*e*Pg		**Pb**	**10 41 35.4**	**-0.4**
IKOM				*e*			10 41 39.2	
AHWZ	**Ahwaz**	**1.62**	**141**	*e*Pg		**Pg**	**10 41 37.3**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.71**	**348**	*e*Pg		**Pb**	**10 41 38.2**	**0.0**
KCHF				*e*			10 42 03.6	
KER	**Kermanshah**	**1.80**	**351**	*e*Pn		**Pb**	**10 41 40.0**	**+0.3**
HSAM	**Samen**	**1.87**	**30**	*e*Pg		**Pn**	**10 41 39.8**	**+0.7**
HSAM				*e*			10 41 45.3	
IGHG	**Ghaleghazi**	**1.88**	**337**	*e*Pn		**Pb**	**10 41 40.9**	**-0.2**
IGHG				*e*			10 42 15.3	
IBZA	**Bozab**	**1.89**	**10**	*e*Pg		**Pn**	**10 41 40.2**	**+0.8**
IBZA				*e*			10 41 43.7	
NSR	**Nassriya**	**1.94**	**216**	*e*Pn		**Pn**	**10 41 40.0**	**+0.2**
NSR				*e*Sn		**Sn**	**10 42 04.0**	**-0.6**
IVIS	**Veis**	**1.99**	**345**	*e*Pn		**Pn**	**10 41 41.3**	**+0.7**
IVIS				*e*			10 42 17.8	
IDHR	**Dehrash**	**2.28**	**337**	*e*Pn		**Pn**	**10 41 44.9**	**+0.3**
IDHR				*e*			10 42 25.6	
IALM	**Almabolaq**	**2.33**	**15**	*e*Pn		**Pn**	**10 41 46.7**	**+1.3**
HAGD	**Aghdareh**	**2.62**	**32**	*e*Pn		**Pn**	**10 41 49.1**	**-0.3**
HAGD				*e*			10 42 35.1	
BHD	**Baghdad**	**2.67**	**285**	*e*Pn		**Pn**	**10 41 50.0**	**+0.1**
BHD				*e*Sn		**Sn**	**10 42 24.0**	**+1.4**
HSRG	**Sareghieh**	**2.72**	**14**	*e*Pn		**Pn**	**10 41 51.9**	**+1.1**
HSRG				*e*			10 42 36.4	
JHBN	**Jahan bin**	**2.74**	**97**	*e*Pn		**Pn**	**10 41 51.9**	**+0.8**
JHBN				*e*			10 42 49.0	
IPIR	**Pirpir**	**2.90**	**87**	*e*		**Sg**	**10 42 39.0**	**-0.4**
ROKH	**ROKH**	**3.03**	**94**	*e*Pn		**Pn**	**10 41 56.3**	**+1.2**
ROKH				*e*			10 42 59.4	
IRAZ	**Razeghan**	**3.47**	**36**	*e*Pn		**Pn**	**10 42 02.1**	**+1.1**
IKLH	**Kolahrood**	**3.54**	**77**	*e*Pn		**Pn**	**10 42 03.4**	**+1.4**
IKLH				*e*			10 43 06.9	
QABG	**Abgarm-Qazvin**	**3.57**	**29**	*e*Pn		**Pn**	**10 42 03.1**	**+0.7**
IZEF	**Zefreh**	**4.12**	**85**	*e*Pn		**Pn**	**10 42 09.5**	**-0.5**
IVRN	**Varamin**	**4.28**	**55**	*e*Pn		**Pn**	**10 42 13.8**	**+1.7**

*IDC **19** 10:46:53.8±2.2, 4.67S×150.25E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/37, mbtmp4.0/5, ML1.6/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/31, Error ellipse: s-maj=63.6km s-min=18.2km az=154.0*
ISC 19 10:46:58.6±1.9, 4.7S±0.3×150.2E±0.2, h35km, n8, σ1 92/8, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.81**	**79**	Pn		**Pn**	**10 47 25.6**	**-1.7**
	16nm,0.3s,baz=206,slow=4.9,SNR=17							
KRVT				Sn		**Sn**	**10 47 50.6**	**+1.5**
	32nm,0.3s,baz=248,slow=23,SNR=5.7							
KRVT				LR		LR	10 48 12.3	
	comp=Z,268nm,19.2s,baz=257,slow=44							
PMG	**Port Moresby**	**5.62**	**213**	Pn		**Pn**	**10 48 18.2**	**-1.6**
	1.1nm,0.3s,baz=198,slow=15,SNR=2.0							
PMG				Sn		**Sn**	**10 49 24.1**	**+0.9**
	0.7nm,0.3s,baz=23,slow=11,SNR=2.6							
GUMO	**Guam**	**18.89**	**344**	LR		LR	10 59 21.0	
	comp=Z,23nm,18.1s,baz=158,slow=40							
WRA	**Warraminga Arr**	**21.70**	**224**	P		**P**	**10 51 45.0**	**-1.8**
	1.8nm,0.5s,baz=49,slow=11,SNR=19							
DZM	**Mont Dzumac**	**23.37**	**139**	LR		LR	10 59 30.8	
	comp=Z,115nm,21.2s,baz=322,slow=32							
ASAR	**Alice Springs**	**24.61**	**218**	P		**P**	**10 52 15.1**	**-0.8**
	1.6nm,0.7s,baz=47,slow=8.8,SNR=19							
FITZ	**Fitzroy Crossi**	**27.52**	**239**	P		**P**	**10 52 44.3**	**+2.2**
	2.4nm,0.6s,baz=43,slow=8.8,SNR=7.0							
STKA	**Stephens Creek**	**28.27**	**196**	P		**P**	**10 52 49.8**	**+1.1**
	0.9nm,0.6s,baz=339,slow=18,SNR=4.0							

*IDC **19** 10:49:43.0±1.9, 4.12S×137.16E, h158km±27km, mb3.1/1, mb1 3.6/5, mb1mx3.2/40, mbtmp3.9/5, Error ellipse: s-maj=22.9km s-min=17.9km az=81.0*
*NEIC **19** 10:49:42.5±1.8, 4.09S±0.09×137.09E±0.06, h143km±14km, mb4.1/8, Error ellipse: s-maj=13.8km s-min=8.0km az=157.0*
ISC 19 10:49:42.5±0.8, 4.07S±0.09×137.10E±0.06, h150km, n17, σ0 99/20, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**3.91**	**67**	P		**Pn**	**10 50 42.7**	**+0.9**
	1.1nm,0.3s,baz=252,slow=16,SNR=13							
JAY				S		**Sn**	**10 51 27.0**	**-0.7**
	1.1nm,0.3s,baz=204,slow=22,SNR=1.7							
FAKI	**Fak Fak**	**4.98**	**283**	Pn		**Pn**	**10 50 55.1**	**-0.6**
FAKI				Sn		**Sn**	**10 51 51.8**	**-1.0**
SIJI	**Sorong**	**6.64**	**298**	P		**Pn**	**10 51 18.1**	**+0.3**
	2.0nm,0.3s,baz=287,slow=19,SNR=1.9							
COEN	**Coen**	**11.51**	**149**	Pn		**Pn**	**10 52 22.4**	**0.0**
RABL	**Rabaul**	**15.02**	**91**	Pn		**Pn**	**10 53 06.3**	**-1.1**
WB0	**Warramunga Arr**	**15.82**	**189**			**P**	**10 53 18.6**	**+0.6**
WB0				IAmb		IAmb	10 53 20.6	
	comp=Z,5.4nm,1.1s							
WR0	**Warramunga Arr**	**15.99**	**189**			**P**	**10 53 20.4**	**+0.7**
WR0				IAmb		IAmb	10 53 21.3	
	comp=Z,7.1nm,0.4s							
WRAB	**Tennant Creek**	**15.99**	**189**	P		**P**	**10 53 20.9**	**+1.1**
WRAB				IAmb		IAmb	10 53 22.2	
	comp=Z,6.3nm,0.4s							
WB2	**Warramunga Arr**	**16.00**	**189**			**Pn**	**10 53 19.5**	**+0.1**
WB2				IAmb		IAmb	10 53 22.4	
	comp=Z,7.4nm,0.5s							
WRA	**Warramunga Arr**	**16.00**	**189**	P		**P**	**10 53 20.7**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=9.3,slow=12,SNR=66							
WRA	**Warramunga Arr**	**16.00**	**189**			**Pn**	**10 53 19.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**17.89**	**218**	Pn		**Pn**	**10 53 42.3**	**+0.1**
FITZ				IAmb		IAmb	10 53 58.0	
	comp=Z,7.7nm,1.3s							
AS31	**Alice Springs**	**19.72**	**189**	P		**P**	**10 54 01.9**	**+1.2**
ASAR	**Alice Springs**	**19.72**	**189**	P		**P**	**10 54 02.0**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=14,slow=11,SNR=22							
ASAR				S		**S**	**10 57 32.9**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=12,slow=23,SNR=6.4							
ASAR	**Alice Springs**	**19.72**	**189**	P		**P**	**10 54 01.9**	**+1.2**
MKAR	**Makanchi Array**	**69.90**	**323**	P		**P**	**11 00 37.7**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=109,slow=7.8,SNR=2.0							
MKAR	**Makanchi Array**	**69.90**	**323**	P		**P**	**11 00 38.0**	**+0.7**

*NEIC **19** 10:52:16.4±1.6, 42.71S±0.08×75.75W±0.2, h10km±1km, mb4.2/5, Error ellipse: s-maj=19.8km s-min=13.3km az=254.0*
*IDC **19** 10:52:20.7±2.6, 41.79S×75.79W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/22, mbtmp3.8/7, ML3.6/1, MS2.5/1, Ms1 2.4/1, ms1mx2.3/24, Error ellipse: s-maj=84.7km s-min=29.9km az=6.0*
ISC 19 10:52:17.9±0.9, 42.6S±0.1×75.50W±0.09, h10km, n29, σ1 51/26, mb3.9/8, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LL01	**San Ignacio de**	**2.29**	**86**	Pn		**Pn**	**10 52 53.9**	**-1.8**
PLCA	**Paso Flores**	**4.14**	**65**	Pn		**Pn**	**10 53 22.4**	**+1.1**
	0.8nm,0.3s,baz=248,slow=9.6,SNR=25							
PLCA				Sn		**Sb**	**10 54 18.4**	**-2.7**
	1.0nm,0.3s,baz=146,slow=14,SNR=3.2							
PLCA				LR		LR	10 54 37.9	
	comp=Z,51nm,18.7s,baz=238,slow=34							
PLCA	**Paso Flores**	**4.14**	**65**			**Pn**	**10 53 22.2**	**+0.9**
LC01	**Cunco**	**4.60**	**38**	Pn		**Pn**	**10 53 28.1**	**+0.7**
BI03	**Tigo**	**6.04**	**19**	Pn		**Pn**	**10 53 47.3**	**0.0**
GO05	**Huala**	**8.06**	**21**	Pn		**Pn**	**10 54 14.3**	**-0.7**
BO02	**Sierra Bellavi**	**8.61**	**27**	Pn		**Pn**	**10 54 22.4**	**-0.3**
BO01	**Tunca**	**8.88**	**24**	Pn		**Pn**	**10 54 25.7**	**-0.6**
H03S1	**Juan Fernandez**	**9.13**	**342**	T		T	11 04 14.9	
	baz=161,slow=73,SNR=36							
H03S2	**Juan Fernandez**	**9.14**	**342**	T		T	11 04 14.9	
	baz=161,slow=73,SNR=38							
H03S3	**Juan Fernandez**	**9.15**	**342**	T		T	11 04 14.9	
	baz=161,slow=73,SNR=43							
MT02	**Curacav**	**9.93**	**22**	Pn		**Pn**	**10 54 39.1**	**-1.5**
ROC1	**El Roble**	**10.23**	**22**	Pn		**Pn**	**10 54 44.7**	**-0.2**
VA03	**San Esteban**	**10.56**	**23**	Pn		**Pn**	**10 54 48.5**	**-0.9**
CPUP	**Villa Florida**	**22.00**	**48**	P		**P**	**10 57 13.5**	**+1.3**
	4.2nm,0.6s,baz=225,slow=9.2,SNR=13							
CPUP	**Villa Florida**	**22.00**	**48**	P		**P**	**10 57 13.4**	**+1.3**
MNMC	**Minye Minye**	**23.91**	**14**	P		**P**	**10 57 32.9**	**+0.7**
MNMC				IAmb		IAmb	10 57 35.2	
	comp=Z,7.0nm,0.8s							
PTGA	**Pitinga**	**43.94**	**23**	P		**P**	**11 00 24.5**	**-0.5**
QSPA	**South Pole Qui**	**47.66**	**180**	P		**P**	**11 00 51.6**	**-2.5**
QSPA				IAmb		IAmb	11 00 54.7	
	comp=Z,2.1nm,1.0s							
TXAR	**Lajitas Array**	**76.12**	**335**	P		**P**	**11 04 05.8**	**0.0**
	comp=Z,0.5nm,0.8s,baz=152,slow=8.1,SNR=6.3							
DBIC	**Dimbokro**	**80.48**	**72**	P		**P**	**11 04 34.6**	**+4.4**
	comp=Z,1.0nm,0.4s,baz=215,slow=9.3,SNR=4.4							
LENM	**Lemitar**	**81.64**	**334**	P		**P**	**11 04 37.2**	**+1.1**
NVAR	**Mina Array Bea**	**89.53**	**328**	P		**P**	**11 05 16.4**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=163,slow=6.6,SNR=2.7							
NVAR	**Mina Array Bea**	**89.53**	**328**	P		**P**	**11 05 15.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**89.59**	**72**	P		P	11 05 21.2	+5.3
	comp=Z,0.2nm,0.4s,baz=242,slow=5.5,SNR=2.9							
TORD	**Torodi Ar. Bea**	**89.59**	**72**	P		**P**	**11 05 14.9**	**-1.0**
PDAR	**Pinedale Array**	**90.32**	**336**	P		**P**	**11 05 18.2**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=134,slow=5.2,SNR=3.8							
PDAR	**Pinedale Array**	**90.32**	**336**	P		**P**	**11 05 17.9**	**-1.1**
ABKAR	**Akbulak array**	**148.66**	**62**			**PKPdf**	**11 11 59.6**	**-1.2**

*TEH **19** 10:52:45.2, 32.75N×47.71E, h10km, ML2.5*
*ISN **19** 10:52:46.2±1.9, 32.78N×47.71E, h15km, ML1.4*
ISC 19 10:52:45.6±2.8, 32.7N±0.2×47.73E±0.07, h15km, n8, σ0 47/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.80**	**7**	*e*Pg		**Pb**	**10 53 00.8**	**-0.3**
IKFM				*e*		**Sn**	**10 53 14.6**	**+0.7**
IKMR	**Kamar-syah**	**0.95**	**35**	*e*			10 53 22.6	
IKMR				*e*Pg		**Pg**	**10 53 04.0**	**-0.1**
IDOB	**Doab**	**1.12**	**20**	*e*Pg		**Pb**	**10 53 06.4**	**-0.4**
BMDN	**Meydan**	**1.31**	**44**	*e*			10 53 36.4	
BMDN				*e*Pn		**Pn**	**10 53 09.8**	**+0.2**
IKOM	**Komasi**	**1.45**	**353**	*e*Pn		**Pb**	**10 53 11.9**	**-0.5**
IKOM				*e*			10 53 42.4	
IBDR	**Badra**	**1.56**	**284**	*e*Pg		**Pn**	**10 53 13.0**	**+0.2**
	baz=102							
IBDR				*e*Sg		**Sg**	**10 53 36.0**	**+0.2**
IBDR				AML		AML	10 53 37.5	
	comp=N,5.8nm,0.9s							
IBDR				AML		AML	10 53 38.0	
	comp=E,6.4nm,0.8s							
IGHG	**Ghaleghazi**	**1.86**	**329**	*e*Pn		**Pb**	**10 53 18.9**	**-0.6**
IGHG				*e*			10 53 52.0	
IVIS	**Veis**	**1.93**	**338**	*e*Pn		**Pb**	**10 53 20.4**	**-0.2**
IVIS				*e*			10 53 50.6	

*IDC **19** 11:02:01.8±1.2, 34.32N×83.07E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.4/37, mbtmp3.5/7, ML3.0/1, MS2.4/1, Ms1 2.4/1, ms1mx2.1/38, Error ellipse: s-maj=36.2km s-min=22.4km az=53.0*
ISC 19 11:02:03.4±1.1, 34.4N±0.1×83.1E±0.2, h10km, n8, σ1 9 13/7, mb3.5/5, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AAK	**Ala-Archa**	**10.65**	**323**	LR		LR	11 09 39.3	
	comp=Z,21nm,19.7s,baz=114,slow=43							
MKAR	**Makanchi Array**	**12.44**	**357**	Pn		**Pn**	**11 04 59.6**	**-0.8**
	0.1nm,0.3s,baz=180,slow=16,SNR=6.0							
BVAR	**Borovoye Array**	**20.74**	**338**	P		**P**	**11 06 45.7**	**+1.7**
	0.6nm,0.4s,baz=154,slow=11,SNR=4.5							
CMAR	**Chiang Mai Arr**	**21.23**	**134**	P		**P**	**11 06 50.0**	**+0.5**
	0.5nm,0.3s,baz=322,slow=10,SNR=1.4							
SONM	**Songino Array**	**22.02**	**45**	P		**P**	**11 06 58.6**	**+0.5**
	0.9nm,0.7s,baz=257,slow=13,SNR=5.0							
AKTO	**Aktyubinsk**	**24.34**	**319**	P		**P**	**11 07 20.6**	**-0.7**
	0.7nm,0.3s,baz=125,slow=16,SNR=2.0							
WRA	**Warramunga Arr**	**72.75**	**130**	P		**P**	**11 13 31.3**	**-0.7**
	0.2nm,0.5s,baz=326,slow=6.0,SNR=5.6							
TORD	**Torodi Ar. Bea**	**75.66**	**276**	P		**P**	**11 13 49.6**	**+0.4**
	0.3nm,0.6s,baz=52,slow=5.2,SNR=1.8							

NNC 19 11:05:50.6±7.0, 37.98N×72.16E, h0km, mb3.7, mpv3.3, 3C-1D, Error ellipse: s-maj=58.4km s-min=51.2km az=32.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**4.31**	**15**	P		Pn	11 06 58.6	+0.8
	SNR=27							
UCH	**Uchtor**	**4.61**	**22**	P		Pn	11 07 01.7	-0.2
	SNR=8.3							
KZA	**Kyzart**	**4.73**	**29**	P		Pn	11 07 02.5	-1.1
	SNR=5.2							
AAK	**Ala-Archa**	**4.98**	**20**	P		Pn	11 07 07.2	+0.4
	SNR=5.4							
AAK	**Ala-Archa**	**4.98**	**20**	⇓P		Pn	11 07 06.8	0.0
	5.8nm,0.7s							
AAK				⇑S		Sn	11 08 06.9	+1.7
	2.9nm,0.6s							
KK31	**Karatay Array**	**5.27**	**347**	P		Pn	11 07 12.1	+1.4
	0.3nm,0.3s,baz=151,slow=10,SNR=6.2							
KK31				⇑S		Sn	11 08 12.4	+0.3
	4.6nm,0.5s,baz=175,slow=17,SNR=17							
TKM2	**Tokmak 2**	**5.59**	**27**	P		Pn	11 07 14.0	-1.1
	SNR=8.3							
TKM2	**Tokmak 2**	**5.59**	**27**	⇑P		Pn	11 07 13.5	-1.7
	4.7nm,0.6s							

*IDC **19** 11:13:45.8±2.7, 30.07S×177.45W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/28, mbtmp3.8/3, Error ellipse: s-maj=53.7km s-min=23.1km az=90.0*
*NEIC **19** 11:13:47.0±2.3, 30.22S±0.04×177.7W±0.2, h10km±1km, mb4.2/9, Error ellipse: s-maj=22.1km s-min=6.7km az=89.0*
ISC 19 11:13:49.7±0.9, 30.19S±0.06×177.6W±0.1, h35km, n22, σ1 51/26, mb4.1/7, Kermadec Islands

| Code | Station Name | Δ

ML3.3/22, **mb3.7**/8(NEIC), **Error ellipse: s-maj=29.1km s-min=6.2km az=169.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.18**	**273**		Pn	11 22 09.9	+0.5
GSIG	**Igitkin Island**	**0.31**	**68**		Pn	11 22 09.3	-0.8
KIWB	**Kanaga Island**	**0.47**	**268**		Pn	11 22 10.6	-0.8
ATKA	**Atka Island**	**1.39**	**75**		Pn	11 22 22.6	+0.2
ATKA					Sn	11 22 40.9	+0.8
KOKL	**Mount Kliuchef**	**1.42**	**71**		Pn	11 22 23.5	+0.7
KOFP	**Korovin Flat P**	**1.47**	**73**		Pn	11 22 24.3	+0.8
KOSE	**Korovin Southe**	**1.52**	**71**		Pn	11 22 25.1	+0.9
CERAA	**Semis' Rag'd T**	**2.43**	**272**		Pn	11 22 37.2	+0.8
CESW	**Semis' Southwe**	**2.51**	**272**		Pn	11 22 37.9	+0.5
AMKA	**Amchitka**	**2.73**	**261**		Pn	11 22 40.9	+0.5
AMKA					Sn	11 23 13.0	+0.7
LSPA	**Little Sitkin**	**3.12**	**274**		Pn	11 22 47.1	+1.4
LSPA					Sn	11 23 23.3	+1.5
LSNW	**Little Sitkin**	**3.16**	**274**		Pn	11 22 47.3	+1.1
NIKH	**Nikolski High**	**4.74**	**74**		Pn	11 23 09.9	+2.1
OKNC	**Okmok New Cone**	**5.27**	**69**		Pn	11 23 17.1	+2.0
SMY	**Shemya**	**5.90**	**282**	Pn	Pn	11 23 26.6	+3.0
MAPS	**Pakushin South**	**6.04**	**68**		Pn	11 23 27.5	+1.9
MSW	**Makushin Switc**	**6.16**	**67**		Pn	11 23 29.8	+2.6
UNV	**Unalaska Valle**	**6.30**	**68**		Pn	11 23 30.6	+1.5
AKUT	**Akutan**	**6.80**	**66**	Pn	Pn	11 23 37.5	+1.6
SDPT	**Sand Point**	**10.07**	**64**	Pn	Pn	11 24 22.3	+1.7
CNBA	**Chernabura Isl**	**10.47**	**67**	Pn	Pn	11 24 24.7	-1.2
CHIR	**Chirikof Islan**	**12.87**	**64**	Pn	Pn	11 24 56.9	-1.7
OHAK	**Old Harbor**	**14.40**	**59**	Pn	Pn	11 25 17.1	-1.8
SVW2	**Sparrevohn**	**14.68**	**43**		P	11 25 26.3	-0.7
KDAK	**Kodiak Island**	**14.89**	**57**	Pn	Pn	11 25 23.2	-2.1
CNPM	**China Poot**	**16.04**	**52**	Pn	Pn	11 25 39.7	-0.2
CNPM				IAmb	IAmb	11 25 45.5	
	comp=Z,8.0nm,1.0s						
SKT	**Skwentna**	**16.81**	**43**	Pn	Pn	11 25 49.3	-0.2
GHO	**Glory Hole Cre**	**17.86**	**46**	P	Pn	11 26 02.5	+0.1
GHO				IAmb	IAmb	11 26 19.1	
	comp=Z,5.7nm,1.3s						
HIN	**Hinchinbrook I**	**18.57**	**51**	P	Pn	11 26 10.6	-0.4
SCM	**Sheep Creek Mo**	**18.59**	**46**	P	P	11 26 10.7	+0.4
SCM				IAmb	IAmb	11 26 11.5	
	comp=Z,9.4nm,1.4s						
FID	**Port Fidalgo**	**18.66**	**50**	P	P	11 26 08.6	-2.4
FID				IAmb	IAmb	11 26 14.8	
	comp=Z,5.1nm,1.1s						
RIDG	**Independent Ri**	**20.32**	**42**	P	P	11 26 28.4	-0.7
EGAK	**Eagle**	**22.19**	**41**	P	P	11 26 50.5	+1.5

*ISN **19** 11:33:03.8±0.5, 32.°84N×47.°57E, h25km±3km, ML2.8*
*TEH **19** 11:33:04.4, 32.°75N×47.°48E, h12km, ML3.1*
ISC 19 11:33:04.8±1.0, **32.71N**±0.°05×**47.44E**±0.°04, **h10**km, **n22,** σ0§**98**/24, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.88**	**23**	*e*Pg	**Pg**	**11 33 21.6**	**-0.1**
IKMR	**Kamar-syah**	**1.13**	**44**	*e*Pg	**Pb**	**11 33 24.9**	**-1.4**
IKMR				*e*		11 34 19.6	
IDOB	**Doab**	**1.24**	**30**	*e*Pg	**Pn**	**11 33 27.8**	**-0.5**
IBDR	**Badra**	**1.33**	**288**	*e*Pg	**Pn**	**11 33 29.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**11 33 48.0**	**+0.4**
IBDR				AML	AML	11 33 52.8	
	comp=N,155nm,0.6s						
IBDR				AML	AML	11 33 53.6	
	comp=E,147nm,0.7s						
IKOM	**Komasi**	**1.46**	**2**	*e*Pg	**Pn**	**11 33 31.9**	**+0.6**
IKOM				*e*		11 33 33.0	
IKOM				*e*Sg	**Sg**	**11 33 52.0**	**+0.2**
BMDN	**Meydan**	**1.50**	**50**	*e*Pg	**Pn**	**11 33 32.1**	**+0.1**
BMDN				*e*		11 34 25.7	
IGHG	**Ghaleghazi**	**1.77**	**336**	*e*Pn	**Pn**	**11 33 36.4**	**+0.7**
IGHG				*e*		11 34 50.9	
HSAM	**Samen**	**1.78**	**33**	*e*Pn	**Pn**	**11 33 36.9**	**+1.0**
HSAM				*e*		11 34 11.2	
IBZA	**Bozab**	**1.79**	**11**	*e*	Sg	11 34 38.6	+36
IVIS	**Veis**	**1.88**	**345**	*e*Pn	**Pb**	**11 33 38.4**	**-0.8**
IVIS				*e*		11 34 09.1	
NSR	**Nassriya**	**2.03**	**213**	*e*Pn	**Pn**	**11 33 40.0**	**+1.0**
NSR				*e*Sn	**Sb**	**11 34 06.0**	**-0.9**
IALM	**Almabolaq**	**2.23**	**16**	*e*Pn	**Pn**	**11 33 43.1**	**+1.1**
HAGD	**Aghdareh**	**2.54**	**33**	*e*Pn	**Pn**	**11 33 47.5**	**+1.3**
HAGD				*e*		11 35 00.8	
HSRG	**Sareghieh**	**2.62**	**15**	*e*Pn	**Pn**	**11 33 49.3**	**+1.9**
HSRG				*e*		11 35 11.7	
BHD	**Baghdad**	**2.63**	**283**	*e*Pn	**Pn**	**11 33 48.0**	**+0.7**
BHD				*e*Sn	**Sn**	**11 34 20.0**	**+0.7**
JHBN	**Jahan bin**	**2.77**	**99**	*e*Pn	**Pn**	**11 33 50.8**	**+1.3**
IPIR	**Pirpir**	**2.91**	**90**	*e*		11 35 02.4	
QABG	**Abgarm-Qazvin**	**3.48**	**30**	*e*Pn	**Pn**	**11 33 59.6**	**+0.5**
IKLH	**Kolahrood**	**3.53**	**79**	*e*Pn	**Pn**	**11 34 01.3**	**+1.4**
IKLH				*e*		11 35 30.3	
KLNJ	**Kolanjah**	**3.92**	**115**	*e*Pn	**Pn**	**11 34 06.0**	**+0.6**
KLNJ				*e*		11 35 42.9	
QSDN	**Sirdan**	**4.04**	**20**	*e*Pn	**Pn**	**11 34 08.1**	**+1.2**
IZEF	**Zefreh**	**4.12**	**86**	*e*Pn	**Pn**	**11 34 08.1**	**0.0**

*DDA **19** 11:36:06.8, 35.°85N×28.°18E, h15km±1km, ML3.4*
*IDC **19** 11:36:07.7±1.5, 36.°28N×28.°12E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.4/38, mbtmp3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.1/41, Error ellipse: s-maj=70.4km s-min=24.3km az=155.0*
*ISK **19** 11:36:08.2, 35.°95N×28.°21E, h9km, ML3.4/21*
*THE **19** 11:36:08.9, 35.°93N×28.°21E, h5km±1km, ML3.2/3, Error ellipse: s-maj=1.2km s-min=0.5km az=343.0*
*NIC **19** 11:36:08.4±0.0, 35.°97N×28.°24E, h21km±1km, Ml3.3/1*
*ATH **19** 11:36:08.4, 35.°97N×28.°20E, h25km±1km, ML3.1/4, Error ellipse: s-maj=1.9km s-min=0.9km az=355.0*
ISC 19 11:36:08.3±1.1, **35.°94N**±0.°02×**28.°23E**±0.°02, **h7**km±9km, **n78,** σ1§**38**/113, **mb3.5**/4, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.29**	**344**	P	**Pb**	**11 36 15.0**	**-0.9**
ARG				S	**Sb**	**11 36 19.9**	**-1.0**
	7µm,0.5s						
ARG	**Arkhangelos**	**0.29**	**344**	P	**Pb**	**11 36 14.8**	**-1.1**
ARG				S	**Sb**	**11 36 19.7**	**-1.3**
ARG				AML	AML	11 36 20.9	
	comp=N,16849µm,0.6s						
ARG				AML	AML	11 36 27.3	
	comp=E,13038µm,0.5s						
ARG	**Arkhangelos**	**0.29**	**344**	PG	**Pg**	**11 36 14.6**	**+0.5**
ARG				SG	**Sb**	**11 36 19.6**	**-1.3**
ARG	**Arkhangelos**	**0.29**	**344**	P	**Pb**	**11 36 14.8**	**-1.1**
ARG				S	**Sb**	**11 36 19.6**	**-1.3**
TURN	**Turunc**	**0.84**	**1**	PG	**Pg**	**11 36 24.6**	**-2.6**
TURN				SG	**Sg**	**11 36 36.2**	**-3.8**
TURN	**Turunc**	**0.84**	**1**	*i* P	**Pg**	**11 36 24.1**	**-3.1**
TURN				*i* S	**Sg**	**11 36 38.1**	**-1.9**
TURN				IAML		11 36 41.0	
	comp=N,1µm,0.5s						
DALY	**Dalyan (Mula)**	**0.94**	**21**	PG	**Pb**	**11 36 26.7**	**-0.3**
DAT	**Datca**	**0.95**	**327**	P	**Pb**	**11 36 26.8**	**-0.4**
DAT				S	**Sb**	**11 36 40.9**	**+0.9**
DAT	**Datca**	**0.95**	**327**	PG	**Pb**	**11 36 26.7**	**-0.4**
DAT				SG	**Sb**	**11 36 40.0**	**0.0**
DAT	**Datca**	**0.95**	**327**	*i* P	**Pg**	**11 36 26.4**	**-0.2**
DAT				*i* S	**Sb**	**11 36 40.1**	**+0.2**
KARP	**Karpathos**	**0.95**	**246**	P	**Pg**	**11 36 26.4**	**-0.1**
KARP				S	**Sb**	**11 36 40.5**	**+0.6**
	comp=N,2µm,0.7s						
KARP	**Karpathos**	**0.95**	**246**	P	**Pg**	**11 36 26.3**	**-0.3**
KARP				S	**Sb**	**11 36 39.9**	**0.0**
KARP				AML	AML	11 36 46.6	
	comp=N,3220µm,0.6s						
KARP				AML	AML	11 36 46.9	
	comp=E,3377µm,0.7s						
KARP	**Karpathos**	**0.95**	**246**	PG	**Pg**	**11 36 26.5**	**-0.1**
KARP				SG	**Sb**	**11 36 40.3**	**+0.4**
KARP	**Karpathos**	**0.95**	**246**	P	**Pg**	**11 36 26.3**	**-0.3**
KARP				S	**Sb**	**11 36 41.1**	**+1.2**
KARP				AML	AML	11 36 46.0	
	comp=E,3.2nm,0.6s						
KARP				AML	AML	11 36 46.0	
	comp=E,3.2nm,0.6s						
KARP				AML	AML	11 36 46.2	
	comp=E,3.4nm,0.6s						
KARP				AML	AML	11 36 46.2	
	comp=E,3.4nm,0.6s						
FETY	**Fethiye**	**0.98**	**45**	P	**Pb**	**11 36 27.3**	**-0.4**
FETY				S	**Sn**	**11 36 42.1**	**-0.7**
FETY	**Fethiye**	**0.98**	**45**	PG	**Pg**	**11 36 26.9**	**-0.3**
FETY	**Fethiye**	**0.98**	**45**	*i* P	**Pg**	**11 36 26.4**	**-0.8**
FETY				*i* S	**Sn**	**11 36 42.6**	**-0.2**
NISR	**Nisiros**	**1.11**	**308**	P	**Pg**	**11 36 29.2**	**-0.5**
NISR				S	**Sb**	**11 36 44.5**	**-0.1**
	comp=E,1µm,0.9s						
NISR	**Nisiros**	**1.11**	**308**	P	**Pg**	**11 36 29.2**	**-0.5**
KSL	**Kastellorizon**	**1.12**	**79**	P	**Pg**	**11 36 29.6**	**-0.3**
KSL				S	**Sn**	**11 36 45.9**	**-0.2**
KSL	**Kastellorizon**	**1.12**	**79**	P	**Pb**	**11 36 30.3**	**+0.3**
KSL				S	**Sn**	**11 36 46.1**	**0.0**
KSL				AML	AML	11 36 55.1	
	comp=E,767µm,0.6s						
KSL				AML	AML	11 37 02.6	
	comp=N,935µm,0.8s						
KSL	**Kastellorizon**	**1.12**	**79**	P	**Pg**	**11 36 29.6**	**-0.3**
KSL				S	**Sg**	**11 36 44.1**	**-0.3**
AKAS	**Kas**	**1.16**	**75**	PN	**Pn**	**11 36 31.1**	**0.0**
AKAS	**Kas**	**1.16**	**75**	*i* P	**Pb**	**11 36 30.9**	**+0.2**
AKAS				*i* S	**Sn**	**11 36 50.4**	**+3.2**
YER	**Yerkesik**	**1.20**	**2**	P	**Pg**	**11 36 30.7**	**-0.6**
YER				S	**Sb**	**11 36 47.5**	**+0.4**
YER	**Yerkesik**	**1.20**	**2**	PN	**Pn**	**11 36 31.5**	**-0.1**
BDRM	**Kayabasi**	**1.29**	**331**	*i* P	**Pn**	**11 36 33.2**	**+0.4**
BDRM				*i* S	**Sn**	**11 36 51.0**	**+0.7**
BODT	**Bodrum**	**1.34**	**327**	P	**Pn**	**11 36 33.0**	**-0.5**
BODT	**Bodrum**	**1.34**	**327**	PN	**Pn**	**11 36 33.3**	**-0.2**
ELL	**Elmali**	**1.58**	**59**	PN	**Pn**	**11 36 37.3**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.62**	**20**	*i* P	**Pb**	**11 36 38.3**	**-0.4**
TAVA				*i* S	**Sg**	**11 37 02.9**	**+2.4**
GOLH	**Golhisar**	**1.68**	**39**	*i* P	**Pb**	**11 36 39.3**	**-0.5**
GOLH				*i* S	**Sg**	**11 37 08.2**	**+5.7**
AYDN	**Tasoluk**	**1.74**	**351**	*i* P	**Pn**	**11 36 39.7**	**+0.6**
AYDN				*i* S	**Sb**	**11 37 02.6**	**-0.2**
ZKR	**Zakros**	**1.83**	**244**	P	**Pn**	**11 36 39.0**	**-1.2**
ZKR	**Zakros**	**1.83**	**244**	P	**Pn**	**11 36 40.0**	**-0.3**
ZKR				S	**Sn**	**11 37 04.1**	**+0.4**
ZKR				AML	AML	11 37 14.3	
	comp=N,306µm,0.7s						
ZKR				AML	AML	11 37 21.1	
	comp=E,992µm,0.6s						
ZKR	**Zakros**	**1.83**	**244**	PN	**Pn**	**11 36 40.8**	**+0.6**
GCAM	**G?zelcaml?**	**1.93**	**336**	PN	**Pn**	**11 36 42.2**	**+0.6**
GCAM	**G?zelcaml?**	**1.93**	**336**	*i* P	**Pn**	**11 36 41.8**	**+0.2**
GCAM				*i* S	**Sg**	**11 37 10.9**	**+0.5**
KORT	**Korkueli**	**2.02**	**58**	PN	**Pn**	**11 36 43.6**	**+0.7**
KORT	**Korkueli**	**2.02**	**58**	*i* P	**Pn**	**11 36 43.8**	**+0.9**
KORT				*i* S	**Sg**	**11 37 12.4**	**-0.7**
ANAF	**Anafi Island**	**2.03**	**283**	P	**Pn**	**11 36 42.6**	**-0.3**
SMG	**Samos**	**2.09**	**328**	P	**Pn**	**11 36 43.5**	**-0.3**
SMG	**Samos**	**2.09**	**328**	P	**Pn**	**11 36 43.4**	**-0.3**
NPS	**Neapolis**	**2.23**	**253**	P	**Pn**	**11 36 46.1**	**+0.3**
SANT	**Santorini**	**2.28**	**282**	PN	**Pn**	**11 36 46.7**	**+0.3**
SANT	**Santorini**	**2.28**	**282**	*e*P	**Pn**	**11 36 45.9**	**-0.5**
SANT				*i* S	**Sb**	**11 37 17.7**	**-0.5**
BRDR	**BURDUR-Merkez**	**2.29**	**39**	*i* P	**Pn**	**11 36 47.2**	**+0.5**
BRDR				*i* S	Sg	11 37 33.6	+12
LAST	**Lasithi**	**2.37**	**252**	P	**Pn**	**11 36 48.4**	**+0.7**
APE	**Apeiranthos**	**2.45**	**298**	P	**Pn**	**11 36 48.5**	**-0.2**
APE	**Apeiranthos**	**2.45**	**298**	PN	**Pn**	**11 36 48.9**	**+0.2**
BASM	**Basmaki-Afyon**	**2.46**	**36**	PN	**Pn**	**11 36 49.8**	**+0.8**
MANT	**Manisa**	**2.56**	**6**	*i* P	**Pb**	**11 36 52.7**	**-2.1**
MANT				*i* S	**Sb**	**11 37 25.8**	**-0.7**
KULA	**Kula-Manisa**	**2.59**	**8**	PN	**Pn**	**11 36 51.7**	**+0.9**
ISP	**Isparta**	**2.63**	**44**	PN	**Pn**	**11 36 52.4**	**+1.0**
URLA	**Izmir**	**2.75**	**332**	PN	**Pn**	**11 36 52.7**	**-0.1**
URLA	**Izmir**	**2.75**	**332**	*i* P	**Pn**	**11 36 52.6**	**-0.3**
URLA				*i* S	**Sn**	**11 37 27.3**	**+1.0**
KZIL	**AFYON_Kizioren**	**2.78**	**33**	*e*P	**Pb**	**11 36 58.3**	**0.0**
KZIL				*i* S	**Sg**	**11 37 45.3**	**+7.7**
IDI	**Anoyia**	**2.79**	**258**	P	**Pn**	**11 36 53.4**	**-0.1**
IDI	**Anoyia**	**2.79**	**258**	PN	**Pn**	**11 36 54.4**	**+0.9**
USAK	**Uak-Merkez**	**2.84**	**13**	*i* P	**Pn**	**11 36 56.1**	**+1.9**
USAK				*i* S	**Sn**	**11 37 30.0**	**+1.3**
KEPZ	**Antalya-Kepez**	**2.89**	**70**	*i* P	**Pn**	**11 36 55.7**	**+0.9**
KEPZ				*i* S	**Sn**	**11 37 32.2**	**+2.4**
CHOS	**Chios island**	**3.00**	**325**	P	**Pn**	**11 36 56.0**	**-0.3**
CHOS	**Chios island**	**3.00**	**325**	PN	**Pn**	**11 36 56.7**	**+0.4**
SIMA	**Simav-Kutahya**	**3.20**	**11**	PN	**Pn**	**11 37 00.4**	**+1.3**
AKMS	**Akamas**	**3.48**	**104**	P	**Pn**	**11 37 02.0**	**-0.9**
OSC1	**CSNet OBS 1**	**3.50**	**133**	P	**Pn**	**11 37 01.6**	**-1.5**
OSC1				S	**Sn**	**11 37 44.2**	**-0.5**
ALFC	**Alefka**	**3.65**	**101**	P	**Pn**	**11 37 04.0**	**-1.3**
NATA	**Nata**	**3.73**	**107**	P	**Pn**	**11 37 04.9**	**-1.5**
SZAC	**Souni**	**3.99**	**106**	P	**Pn**	**11 37 09.1**	**-0.8**
ASGA	**Asgata**	**4.26**	**104**	P	**Pn**	**11 37 12.5**	**-1.1**
CSS	**Mathiatis**	**4.28**	**102**	P	**Pn**	**11 37 12.6**	**-1.3**
OSC2	**CSNet OBS 4**	**4.39**	**129**	P	**Pn**	**11 37 14.9**	**-0.5**
OSC2				S	**Sn**	**11 38 07.1**	**+0.2**
MVOU	**Mavrovouni**	**4.51**	**100**	P	**Pn**	**11 37 15.6**	**-1.5**
ESDC	**Sonseca Array**	**25.63**	**288**	P	**P**	**11 41 37.2**	**-1.3**
	comp=E,0.5nm,0.6s,baz=82,slow=8.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**32.93**	**233**	P	**P**	**11 42 45.1**	**+1.5**
	comp=E,0.7nm,0.6s,baz=38,slow=8.7,SNR=4.9						
KURBB	**Kurchatov Arra**	**38.69**	**52**	P	**P**	**11 43 31.7**	**-0.9**
	comp=E,0.4nm,0.4s,baz=273,slow=8.8,SNR=1.8						
MKAR	**Makanchi Array**	**41.26**	**58**	P	**P**	**11 43 53.4**	**-0.6**
	comp=E,0.5nm,0.5s,baz=272,slow=8.0,SNR=6.9						
TLY	**Talaya**	**54.24**	**48**	LR	LR	12 13 44.1	
	comp=E,22nm,19.6s,baz=126,slow=42						

*ISN **19** 11:39:57.0±0.6, 32.°85N×47.°82E, h14km±4km, ML2.9*
*TEH **19** 11:39:57.4, 32.°83N×47.°80E, h10km, ML2.8*
ISC 19 11:39:57.9±1.1, **32.80N**±0.°06×**47.79E**±0.°05, **h10**km, **n16,** σ1§**15**/19, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.72**	**4**	*e*Pg	**Pg**	**11 40 10.9**	**-1.0**
IKMR	**Kamar-syah**	**0.87**	**35**	*e*Pg	**Pg**	**11 40 13.5**	**-1.1**
IKMR				*e*		11 40 20.0	
IDOB	**Doab**	**1.03**	**18**	*e*Pg	**Pg**	**11 40 16.5**	**-1.3**
IDOB				*e*		11 40 23.0	
BMDN	**Meydan**	**1.22**	**45**	*e*Pg	**Pb**	**11 40 20.4**	**-0.9**
BMDN				*e*		11 40 50.4	
IKOM	**Komasi**	**1.39**	**350**	*e*Pg	**Pn**	**11 40 23.6**	**+0.1**
IKOM				*e*		11 40 54.7	
HSAM	**Samen**	**1.56**	**26**	*e*Pn	**Pn**	**11 40 26.8**	**+0.8**
HSAM				*e*		11 40 57.2	
IBDR	**Badra**	**1.59**	**282**	*e*Pg	**Pn**	**11 40 26.0**	**-0.2**
IBDR				*e*Sg	**Sn**	**11 40 48.0**	**+1.2**
IBDR				AML	AML	11 40 49.4	
	comp=N,161nm,0.3s						
IBDR				AML	AML	11 40 49.7	
	comp=E,154nm,0.4s						
IBZA	**Bozab**	**1.66**	**2**	*e*Pn	**Pn**	**11 40 28.5**	**+1.1**
IGHG	**Ghaleghazi**	**1.83**	**326**	*e*Pn	**Pn**	**11 40 30.9**	**+1.2**
IGHG				*e*		11 41 09.8	
IVIS	**Veis**	**1.89**	**336**	*e*Pn	**Pn**	**11 40 31.7**	**+1.3**
IVIS				*e*		11 41 02.7	
ILIN	**Lien**	**2.22**	**342**	*e*Pn	**Pn**	**11 40 35.9**	**+0.9**
ILIN				*e*		11 40 46.5	
IDHR	**Dehrash**	**2.22**	**329**	*e*Pn	**Pn**	**11 40 35.9**	**+0.8**
NSR	**Nassriya**	**2.27**	**219**	*e*Pn	**Pn**	**11 40 36.0**	**+0.5**
NSR				*e*Sn	**Sn**	**11 41 04.0**	**+0.4**
HSRG	**Sareghieh**	**2.46**	**9**	*e*Pn	**Pn**	**11 40 40.6**	**+2.1**
IPIR	**Pirpir**	**2.62**	**92**	*e*Pn	**Pn**	**11 40 42.0**	**+1.4**
BHD	**Baghdad**	**2.90**	**280**	*e*Pn	**Pn**	**11 40 45.0**	**+0.8**
BHD				*e*Sn	**Sn**	**11 41 20.0**	**+0.9**

*ISN **19** 11:44:18.4±1.0, 32.°74N×47.°57E, h16km±6km, ML2.6*
*TEH **19** 11:44:19.0, 32.°74N×47.°53E, h17km, ML3.1*
ISC 19 11:44:19.0±1.0, **32.68N**±0.°04×**47.52E**±0.°04, **h10**km, **n27,** σ1§**22**/31, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.88**	**18**	*e*Pg	**Pg**	**11 44 34.7**	**-1.3**
IKFM				*e*		11 44 55.9	
IKMR	**Kamar-syah**	**1.10**	**41**	*e*Pg	**Pb**	**11 44 39.1**	**-1.0**
IKMR				*e*Sg	**Sb**	**11 44 54.2**	**-0.4**
IKMR				*e*		11 44 56.7	
IDOB	**Doab**	**1.23**	**26**	*e*Pg	**Pn**	**11 44 41.4**	**-1.1**
IBDR	**Badra**	**1.40**	**288**	*e*Pg	**Pn**	**11 44 44.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**11 45 04.0**	**-0.1**
IBDR				AML	AML	11 45 07.5	
	comp=E,48nm,0.8s						
IBDR				AML	AML	11 45 19.1	
	comp=N,24nm,0.9s						
BMDN	**Meydan**	**1.47**	**48**	*e*Pg	**Pn**	**11 44 45.7**	**-0.1**
BMDN				*e*		11 45 10.4	
IKOM	**Komasi**	**1.49**	**360**	*e*Pg	**Pn**	**11 44 46.3**	**+0.4**
IKOM				*e*		11 45 09.0	
KCHF	**Cheshme Sefid,**	**1.64**	**346**	*e*Pg	**Pn**	**11 44 46.7**	**-1.3**
KCHF				*e*		11 45 12.3	
KER	**Kermanshah**	**1.73**	**349**	*e*Pn	**Pn**	**11 44 49.0**	**-0.2**
HSAM	**Samen**	**1.77**	**30**	*e*Pg	**Pn**	**11 44 50.5**	**+0.5**
HSAM				*e*		11 45 18.9	
IBZA	**Bozab**	**1.81**	**9**	*e*Pg	**Pn**	**11 44 51.4**	**+1.0**
IBZA				*e*		11 45 20.8	
IGHG	**Ghaleghazi**	**1.82**	**334**	*e*Pn	**Pn**	**11 44 50.6**	**0.0**
IGHG				*e*		11 45 29.8	
IVIS	**Veis**	**1.92**	**343**	*e*Pn	**Pn**	**11 44 52.3**	**+0.4**
IVIS				*e*		11 45 25.8	
NSR	**Nassriya**	**2.04**	**215**	*e*Pn	**Pn**	**11 44 54.0**	**+0.7**
NSR				*e*Sn	**Sb**	**11 45 20.0**	**-1.5**
IDHR	**Dehrash**	**2.22**	**335**	*e*	**Sb**	**11 45 31.2**	**+4.2**
IALM	**Almabolaq**	**2.24**	**14**	*e*Pn	**Pn**	**11 44 56.5**	**+0.1**
ILIN	**Lien**	**2.28**	**348**	*e*Pn	**Pn**	**11 44 56.5**	**-0.4**
ILIN				*e*		11 45 39.0	
HAGD	**Aghdareh**	**2.52**	**32**	*e*Pn	**Pn**	**11 45 00.7**	**+0.4**
HAGD				*e*		11 45 07.7	
HSRG	**Sareghieh**	**2.63**	**14**	*e*Pn	**Pn**	**11 45 03.3**	**+1.5**
HSRG				*e*		11 45 46.8	
JHBN	**Jahan bin**	**2.70**	**99**	*e*Pn	**Pn**	**11 45 03.6**	**+0.9**
JHBN				*e*		11 46 00.1	
BHD	**Baghdad**	**2.70**	**283**	*e*Pn	**Pn**	**11 45 04.0**	**+1.5**
BHD				*e*Sn	**Sn**	**11 45 36.0**	**+0.8**
BHD				AML	AML	11 45 47.6	
	comp=E,278nm,0.4s						
IPIR	**Pirpir**	**2.84**	**89**	*e*		11 45 44.3	
IPIR				*e*Pn	**Pn**	**11 45 06.1**	**+1.4**
IRAZ	**Razeghan**	**3.37**	**36**	*e*Pn	**Pn**	**11 45 12.7**	**+0.8**
QABG	**Abgarm-Qazvin**	**3.47**	**29**	*e*Pn	**Pn**	**11 45 13.3**	**+0.1**
IKLH	**Kolahrood**	**3.47**	**78**	*e*Pn	**Pn**	**11 45 14.4**	**+1.1**
IKLH				*e*		11 45 16.6	
KLNJ	**Kolanjah**	**3.85**	**115**	*e*Pn	**Pn**	**11 45 19.6**	**+1.0**
KLNJ				*e*		11 46 32.0	
QSDN	**Sirdan**	**4.05**	**19**	*e*Pn	**Pn**	**11 45 22.1**	**+0.9**
IZEF	**Zefreh**	**4.06**	**86**	*e*Pn	**Pn**	**11 45 22.5**	**+1.1**

*IDC **19** 11:54:03.3±0.6, 12.°22N×125.°46E, h0km, mb4.3/18, mb1 4.3/18, mb1mx4.1/50, mbtmp4.3/18, MS3.6/15, Ms1 3.6/15, ms1mx3.3/45, Error ellipse: s-maj=28.6km s-min=11.9km az=71.0*
*NEIC **19** 11:54:04.9±1.5, 12.°21N±0.°05×125.°4E±0.°1, h10km±1km, mb4.6/29, Error ellipse: s-maj=19.1km s-min=3.0km az=65.0*
*MAN **19** 11:54:06.9, 12.°47N×125.°50E, h23km, MS4.2*
ISC 19 11:54:08.0±0.5, **12.°27N**±0.°04×**125.°57E**±0.°06, **h33**km, **n85,** σ1§**61**/74, **mb4.5**/30, **MS3.6**/11, **2D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.92**	**285**	*e*P	**Pn**	**11 54 22.5**	**-2.1**
CNP				*e*S	**Sn**	**11 54 35.1**	**-1.5**
OCLP	**Ormoc**	**1.53**	**218**	*e*P	**Pb**	**11 54 34.7**	**-1.2**
MSLP	**Maasin**	**2.23**	**198**	*e*P	**Pb**	**11 54 46.1**	**-1.6**
MSLP				*e*S	**Sb**	**11 55 19.5**	**+4.4**
LLP	**Lapu-Lapu**	**2.50**	**219**	*e*P	**Pn**	**11 54 48.0**	**+1.7**
LLP				*e*S	**Sb**	**11 55 23.1**	**-2.3**
TBP	**Tagbilaran**	**3.06**	**213**	*e*P	**Pn**	**11 54 57.3**	**+3.1**
GUIM	**Jordan**	**3.35**	**241**	*e*P	**Pn**	**11 55 00.2**	**+2.

	comp=Z,5.2nm,1.0s						
NIL	**Nilore**	**52.06 303**	P	**P**	**12 03 15.0**	**+0.1**	
ZALV	**Zalesovo Beam**	**52.55 331**	P	**P**	**12 03 17.5**	**-0.7**	
	comp=Z,2.1nm,0.9s,baz=52,slow=2.4,SNR=4.0						
ZALV			LR	LR	12 27 07.6		
	comp=Z,48nm,18.3s,baz=74,slow=38						
KURK	**Kurchatov**	**54.04 325**	P	**P**	**12 03 29.4**	**+0.3**	
KURBB	**Kurchatov Arra**	**54.05 325**	P	**P**	**12 03 29.4**	**+0.2**	
	comp=Z,6.2nm,0.8s,baz=122,slow=7.2,SNR=36						
BTK	**Batken**	**55.37 310**	P	**P**	**12 03 39.3**	**+0.2**	
BTK			IAmb	IAmb	12 03 41.0		
	comp=Z,9.4nm,1.3s						
GAR	**Garm**	**55.50 309**	P	**P**	**12 03 40.0**	**-0.1**	
KBL	**Kabul**	**55.65 303**	P	**P**	**12 03 41.5**	**+0.1**	
KBL			IAmb	IAmb	12 03 42.2		
	comp=Z,7.1nm,0.9s						
CHGR	**Chuyangaron**	**56.31 308**	P	**P**	**12 03 45.5**	**-0.3**	
KKAR	**Karatay Array**	**56.37 314**	P	**P**	**12 03 45.3**	**-0.9**	
KKAR	**Karatay Array**	**56.37 314**	P	**P**	**12 03 46.4**	**+0.3**	
KKAR			IAmb	IAmb	12 03 47.2		
	comp=Z,5.0nm,1.1s						
BVAR	**Borovoye Array**	**59.64 325**	P	**P**	**12 04 09.2**	**+0.3**	
	comp=Z,5.3nm,1.0s,baz=111,slow=8.3,SNR=16						
BVAR			LR	LR	12 29 55.4		
	comp=Z,62nm,18.6s,baz=62,slow=36						
BRVK	**Borovoye**	**59.71 325**	P	**P**	**12 04 09.2**	**-0.2**	
BRVK			IAmb	IAmb	12 04 10.5		
	comp=Z,8.3nm,0.8s						
NRIK	**Noril'sk**	**61.92 346**	P	**P**	**12 04 24.4**	**+0.4**	
	comp=Z,1.5nm,0.4s,baz=142,slow=5.0,SNR=4.3						
NRIK			LR	LR	12 33 26.6		
	comp=Z,42nm,19.7s,baz=192,slow=38						
GEYT	**Alibeck**	**64.81 306**	P	**P**	**12 04 43.5**	**-0.4**	
	comp=Z,3.1nm,0.6s,baz=116,slow=6.8,SNR=6.5						
GEYT	**Alibeck**	**64.81 306**	P	**P**	**12 04 41.5**	**-2.4**	
GYA0B	**ALIBECK ARRAY**	**64.81 306**	P	**P**	**12 04 43.3**	**-0.5**	
ABKAR	**Akbulak array**	**64.92 319**	P	**P**	**12 04 43.3**	**-1.0**	
KBZ	**Khabaz**	**76.36 312**	LR	LR	12 43 51.2		
	comp=Z,52nm,18.1s,baz=90,slow=39						
COLD	**Coldfoot**	**76.54 23**	P	**P**	**12 05 57.1**	**+2.4**	
COLD			IAmb	IAmb	12 06 03.5		
	comp=Z,5.0nm,1.4s						
HDA	**Harding Lake**	**77.94 26**	P	**P**	**12 06 02.7**	**+0.1**	
HDA			IAmb	IAmb	12 06 21.7		
	comp=Z,9.8nm,1.3s						
BMAR	**Burnt Mountain**	**78.71 23**	P	**P**	**12 06 09.0**	**+2.1**	
ASF	**Jabal al Asfar**	**82.47 301**	P	**P**	**12 06 29.0**	**+1.3**	
	comp=Z,2.7nm,0.8s,baz=106,slow=5.3,SNR=3.9						
FINES	**FINESS Array B**	**83.81 332**	P	**P**	**12 06 33.6**	**-0.3**	
	comp=Z,7.7nm,1.1s,baz=66,slow=4.2,SNR=6.5						
FINES	**FINESS Array B**	**83.81 332**	P	**P**	**12 06 33.9**	**0.0**	
AKASG	**Malin Array Be**	**84.59 321**	P	**P**	**12 06 36.8**	**-1.3**	
	comp=Z,2.0nm,0.7s,baz=68,slow=4.0,SNR=8.7						
AKASG	**Malin Array Be**	**84.59 321**	P	**P**	**12 06 36.4**	**-1.8**	
NOA	**NORSAR Array B**	**90.67 334**	LR	LR	12 51 36.7		
	comp=Z,43nm,18.8s,baz=50,slow=38						
PLCA	**Paso Flores**	**148.30 156**	PKPbc	**PKPab**	**12 13 52.9**	**-1.5**	
	comp=Z,2.5nm,0.9s,baz=143,slow=5.0,SNR=5.0						
LPAZ	**La Paz**	**166.14 108**	PKPab	**PKPab**	**12 15 11.2**	**-1.0**	
	comp=Z,1.4nm,0.3s,baz=181,slow=8.5,SNR=5.0						

*IDC **19** 11:56:24.5±1.2, 34°54N×70°94E, h0km, mb3.7/6, mb1 3.8/11, mb1mx3.6/57, mbtmp3.7/11, ML3.6/5, MS2.2/1, Ms1 2.2/1, ms1mx1.9/53, Error ellipse: s-maj=26.9km s-min=20.8km az=85.0*

*NNC **19** 11:56:31.0±3.5, 34°92N×70°70E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=47.5km s-min=30.8km az=102.0*

ISC 19 11:56:30.6±1.1, 34°60N±0°10×70°9E±0°1, h45km, n20, σ0s99/23, mb3.7/6, 2C, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**7.84**	**16**	P		**Pn**		**11 58 23.0**	**+0.6**
	SNR=30								
UCH	**Uchtor**	**8.13**	**19**	P		**Pn**		**11 58 27.4**	**+0.9**
	SNR=14								
EKS2	**Erkin-Say**	**8.37**	**15**	P		**Pn**		**11 58 30.4**	**+1.0**
	SNR=5.5								
KK31	**Karatay Array**	**8.50**	**358**	P		**Pn**		**11 58 31.1**	**0.0**
	1.2nm,0.3s,baz=187,slow=13,SNR=47								
KK31				S		**Sn**		**12 00 05.3**	**-0.4**
	2.5nm,0.5s,baz=192,slow=24,SNR=4.6								
AAK	**Ala-Archa**	**8.51**	**18**	Pn		**Pn**		**11 58 32.5**	**+1.0**
	1.0nm,0.3s,baz=208,slow=7.0,SNR=13								
AAK				Sn		**Sn**		**12 00 06.3**	**+0.1**
	0.5nm,0.3s,baz=317,slow=18,SNR=1.5								
AAK				LR		LR		12 01 24.2	
	comp=Z,15nm,19.9s,baz=200,slow=35								
AAK	**Ala-Archa**	**8.51**	**18**	P		**Pn**		**11 58 32.4**	**+1.0**
	SNR=6.1								
AAK	**Ala-Archa**	**8.51**	**18**	⇑P		**Pn**		**11 58 32.1**	**+0.7**
	5.9nm,0.7s								
AAK				S		**Sn**		**12 00 07.4**	**+1.2**
	7.7nm,0.8s								
TKM2	**Tokmak 2**	**9.09**	**22**	P		**Pn**		**11 58 41.2**	**+1.8**
	SNR=5.2								
TKM2	**Tokmak 2**	**9.09**	**22**	⇑P		**Pn**		**11 58 40.3**	**+0.9**
	3.3nm,0.6s								
GEYT	**Alibeck**	**10.83**	**292**	Pn		**Pn**		**11 59 03.3**	**+0.3**
	1.3nm,0.3s,baz=119,slow=12,SNR=3.7								
MKAR	**Makanchi Array**	**14.93**	**32**	Pn		**P**		**12 00 01.4**	**-2.0**
	0.4nm,0.3s,baz=208,slow=11,SNR=15								
KURBB	**Kurchatov Arra**	**16.96**	**17**	Pn		**Pn**		**12 00 22.6**	**-1.8**
	0.1nm,0.3s,baz=205,slow=10,SNR=4.7								
AKTO	**Aktyubinsk**	**18.41**	**333**	P		**Pn**		**12 00 42.1**	**-0.1**
	0.2nm,0.3s,baz=169,slow=14,SNR=5.8								
BVAR	**Borovoye Array**	**18.43**	**359**	P		**P**		**12 00 41.6**	**-0.4**
	0.2nm,0.3s,baz=174,slow=15,SNR=5.7								
ZALV	**Zalesovo Beam**	**21.70**	**23**	P		**P**		**12 01 16.6**	**-0.8**
	2.3nm,0.5s,baz=218,slow=11,SNR=8.6								
ARU	**Arti**	**23.41**	**343**	P		**P**		**12 01 35.2**	**-0.1**
	0.8nm,0.3s,baz=334,slow=6.2,SNR=3.9								
ARCES	**ARCESS Array B**	**42.87**	**338**	P		**P**		**12 04 24.5**	**+0.4**
	2.2nm,0.7s,baz=100,slow=6.7,SNR=5.9								
TORD	**Torodi Ar. Bea**	**65.59**	**269**	P		**P**		**12 07 10.1**	**-0.1**
	0.9nm,1.0s,baz=53,slow=5.5,SNR=3.8								
WRA	**Warramunga Arr**	**81.08**	**122**	P		**P**		**12 08 41.1**	**-0.1**
	0.4nm,0.8s,baz=327,slow=5.0,SNR=2.1								
ASAR	**Alice Springs**	**83.25**	**125**	P		**P**		**12 08 53.3**	**+0.7**
	0.3nm,0.8s,baz=317,slow=5.1,SNR=4.9								

*TAP **19** 12:05:06.9, 24°18N×121°86E, h56km, ML2.9, D*

*JMA **19** 12:05:06.2±0.1, 24°15N×121°87E, h61km±1km*

ISC 19 12:05:07.4±1.2, 24°18N±0°02×121°90E±0°03, h52km±6km, n83, σ0s58/146, 2C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.28**	**269**	P		**Pn**		**12 05 16.2**	**-0.4**
	baz=267								
NACB				S		**Sn**		**12 05 23.6**	**+0.5**
	baz=267								
ENAH	**Nanao**	**0.28**	**343**	*i* P		**Pn**		**12 05 16.7**	**+0.1**
	baz=350								
ENAH				S		**Sn**		**12 05 24.2**	**+1.1**
	baz=350								
ENA	**Nanau**	**0.29**	**330**	*i* P		**Pn**		**12 05 16.5**	**-0.1**
	baz=337								
ENA				S		**Sn**		**12 05 24.4**	**+1.1**
	baz=337								
TWD	**Chiawan**	**0.29**	**251**	*i* P		**Pn**		**12 05 16.5**	**-0.2**
	baz=245								
TWD				*i* S		**Sn**		**12 05 23.7**	**+0.4**
	baz=245								
HWA	**Hwalien**	**0.34**	**233**	*e*P		**Pn**		**12 05 16.9**	**-0.2**
	baz=226								
HWA				*e*S		**Sn**		**12 05 23.9**	**0.0**
	baz=226								
ETLH	**Xiulin Townshi**	**0.38**	**274**	P		**Pn**		**12 05 17.4**	**-0.3**
	baz=273								
ETLH				S		**Sn**		**12 05 25.0**	**0.0**
	baz=273								
TWC	**Suao**	**0.43**	**354**	⇑*i*P		**Pn**		**12 05 18.2**	**+0.2**
TWC				S		**Sn**		**12 05 26.2**	**+0.5**
NNSH	**Datong**	**0.53**	**298**	*e*P		**Pn**		**12 05 19.1**	**-0.3**
	baz=299								
NNSH				*e*S		**Sn**		**12 05 27.5**	**-0.4**
	baz=299								
NNSB	**Datong**	**0.53**	**298**	⇓P		**Pn**		**12 05 19.0**	**-0.4**
	baz=299								
NNSB				S		**Sn**		**12 05 27.9**	**0.0**
	baz=299								
NNS	**Nan Shan**	**0.55**	**299**	*i* P		**Pn**		**12 05 19.1**	**-0.4**
	baz=300								
NNS				*i* S		**Sn**		**12 05 28.1**	**-0.1**
	baz=300								
NDT	**Datong Townshi**	**0.55**	**320**	P		**Pn**		**12 05 19.4**	**-0.1**
	baz=323								
NDT				*i* S		**Sn**		**12 05 28.4**	**+0.3**
	baz=323								
ENTT	**Nioudou**	**0.55**	**327**	*i* P		**Pn**		**12 05 19.3**	**-0.1**
	baz=330								
ENTT				S		**Sn**		**12 05 27.9**	**-0.3**
	baz=330								
ESL	**Shilin**	**0.56**	**230**	*i* P		**Pn**		**12 05 18.7**	**-0.8**
	baz=225								
ESL				*i* S		**Sn**		**12 05 28.0**	**-0.3**
	baz=225								
TWE	**Neicheng**	**0.58**	**339**	⇑*i*P		**Pn**		**12 05 19.8**	**0.0**
	baz=343								
TWE				S		**Sn**		**12 05 28.7**	**0.0**
	baz=343								
WHF	**Hehuan Shan**	**0.58**	**267**	⇓*i*P		**Pn**		**12 05 19.7**	**-0.5**
	baz=265								
WHF				S		**Sn**		**12 05 28.1**	**-1.3**
	baz=265								
FUSS	**Fushou**	**0.60**	**277**	P		**Pn**		**12 05 20.1**	**-0.2**
	baz=276								
FUSS				S		**Sn**		**12 05 28.7**	**-0.9**
	baz=276								
EGFH	**Guangfu**	**0.67**	**221**	*e*P		**Pn**		**12 05 19.9**	**-0.9**
	baz=217								
EGFH				*e*S		**Sn**		**12 05 29.9**	**-0.7**
	baz=217								
CHGB	**Renai**	**0.67**	**260**	*i* P		**Pn**		**12 05 20.9**	**-0.3**
	baz=258								
CHGB				S		**Sn**		**12 05 30.6**	**-0.5**
	baz=258								
NTC	**Toucheng**	**0.68**	**355**	*e*P		**Pn**		**12 05 21.2**	**+0.3**
	baz=357								
NTC				*e*S		**Sn**		**12 05 31.8**	**+1.0**
	baz=357								
TDCB	**Techi**	**0.68**	**276**	⇓P		**Pn**		**12 05 21.1**	**-0.1**
	baz=276								
TDCB				S		**Sn**		**12 05 31.0**	**-0.1**
	baz=276								
YHNB	**Yeheng**	**0.68**	**316**	P		**Pn**		**12 05 20.9**	**-0.2**
	baz=317								
YHNB				S		**Sn**		**12 05 30.4**	**-0.7**
	baz=317								
NWLT	**Wulai**	**0.70**	**329**	*e*P		**Pn**		**12 05 21.1**	**-0.2**
	baz=331								
NWLT				*e*S		**Sn**		**12 05 30.8**	**-0.6**
	baz=331								
OWD	**Renai**	**0.70**	**252**	*e*P		**Pn**		**12 05 20.9**	**-0.5**
	baz=249								
OWD				S		**Sn**		**12 05 30.9**	**-0.6**
	baz=249								
NSK	**Sanguang**	**0.70**	**315**	*i* P		**Pn**		**12 05 21.1**	**-0.2**
	baz=317								
NSK				S		**Sn**		**12 05 30.5**	**-0.9**
	baz=317								
TIPB	**Shuangxi**	**0.79**	**355**	*i* P		**Pn**		**12 05 23.0**	**+0.5**
	baz=357								
TIPB				*i* S		**Sn**		**12 05 34.6**	**+1.1**
	baz=357								
HGSD	**Ruisui**	**0.81**	**213**	P		**Pn**		**12 05 23.0**	**+0.3**
	baz=209								
HGSD				S		**Sn**		**12 05 35.1**	**+1.2**
	baz=209								
VWDT	**VWDT**	**0.81**	**239**	P		**Pn**		**12 05 22.6**	**-0.1**
	baz=236								
VWDT				S		**Sn**		**12 05 34.0**	**+0.1**
	baz=236								
TWB1	**Santiao Chiao**	**0.83**	**6**	*i* P		**Pn**		**12 05 22.7**	**-0.3**
	baz=8.0								
TWB1				S		**Sn**		**12 05 34.1**	**-0.2**
	baz=8.0								
TWA	**Mucha**	**0.85**	**340**	*i* P		**Pn**		**12 05 23.1**	**-0.1**
	baz=343								
TWA				*i* S		**Sn**		**12 05 35.9**	**+1.1**
	baz=343								
EHY	**Hungye**	**0.85**	**218**	P		**Pn**		**12 05 23.7**	**+0.5**
	baz=215								
EHY				S		**Sn**		**12 05 34.3**	**-0.5**
	baz=215								
WHP	**Taichung City**	**0.88**	**277**	P		**Pn**		**12 05 24.2**	**+0.5**
	baz=276								
WHP				*i* S		**Sn**		**12 05 36.3**	**+0.7**
	baz=276								
NWF	**Wu-fen Shan**	**0.90**	**353**	*i* P		**Pn**		**12 05 24.4**	**+0.4**
	baz=355								
WFSB	**Wu-fen Shan**	**0.90**	**353**	P		**Pn**		**12 05 24.1**	**+0.3**
	baz=355								
LIOB	**Emei**	**0.93**	**300**	P		**Pn**		**12 05 24.4**	**+0.1**
	baz=301								
LIOB				S		**Sn**		**12 05 37.2**	**+0.5**
	baz=301								
NSTT	**Nanjuang**	**0.94**	**299**	*i* P		**Pn**		**12 05 24.2**	**-0.2**
	baz=299								
NSTT				S		**Sn**		**12 05 35.9**	**-0.9**
	baz=299								
SSLB	**Suanglung**	**0.95**	**246**	*e*P		**Pn**		**12 05 23.8**	**-0.7**
	baz=244								
SSLB				*e*S		**Sn**		**12 05 37.1**	**-0.1**
	baz=244								
YULB	**Yu-li**	**0.96**	**215**	P		**Pn**		**12 05 23.6**	**-1.1**
	baz=213								
SMLT	**Sun Moon Lake**	**0.96**	**252**	P		**Pn**		**12 05 24.8**	**0.0**
	baz=250								
SMLT				*e*S		**Sn**		**12 05 38.3**	**+0.8**
	baz=250								
EYUL	**Yuli**	**0.98**	**213**	*e*P		**Pn**		**12 05 25.3**	**+0.3**
	baz=210								
EYUL				*e*S		**Sn**		**12 05 39.1**	**+1.2**
	baz=210								
TWF1	**Yuli**	**0.99**	**214**	P		**Pn**		**12 05 24.0**	**-1.1**
	baz=211								
TWF1				S		**Sn**		**12 05 36.8**	**-1.3**
	baz=211								
TYC	**Yuchr**	**0.99**	**254**	*e*P		**Pn**		**12 05 25.8**	**+0.7**
	baz=252								
TYC				S		**Sn**		**12 05 37.6**	**-0.5**
	baz=252								
JYNG	**Yonagunijimaku**	**0.99**	**74**	*e*S		**Sn**		**12 05 38.8**	**+0.7**
YM01	**YM01**	**1.01**	**343**	P		**Pn**		**12 05 24.8**	**-0.6**
	baz=344								
YM01				S		**Sn**		**12 05 38.3**	**-0.3**
	baz=344								
TWS1	**Kuangyinshan**	**1.02**	**335**	*e*S		**Sn**		**12 05 38.7**	**0.0**
	baz=336								
NCUH	**Zhongli**	**1.02**	**321**	*e*S		**Sn**		**12 05 39.0**	**+0.2**
	baz=321								
YM10	**YM10**	**1.02**	**343**	P		**Pn**		**12 05 25.0**	**-0.5**
	baz=344								
YM10				S		**Sn**		**12 05 38.3**	**-0.6**
	baz=344								
YM04	**YM04**	**1.03**	**341**	*e*P		**Pn**		**12 05 25.4**	**-0.2**
	baz=343								
YM11	**YM11**	**1.03**	**343**	P		**Pn**		**12 05 25.0**	**-0.6**
	baz=345								
YM05	**YM05**	**1.03**	**343**	P		**Pn**		**12 05 25.2**	**-0.5**
	baz=344								
YM05				S		**Sn**		**12 05 38.6**	**-0.5**
	baz=344								
SBCB	**Hsinchu**	**1.03**	**306**	*e*P		**Pn**		**12 05 25.9**	**+0.2**
	baz=307								
TWQ1	**Liyutan**	**1.04**	**280**	*e*P		**Pn**		**12 05 25.7**	**-0.1**
	baz=279								
TWQ1				S		**Sn**		**12 05 39.3**	**-0.1**
	baz=279								
YM08	**YM08**	**1.04**	**344**	*e*P		**Pn**		**12 05 25.2**	**-0.7**
	baz=346								
YM08				*e*S		**Sn**		**12 05 38.7**	**-0.7**
	baz=346								
YM03	**YM03**	**1.05**	**342**	*e*P		**Pn**		**12 05 26.0**	**0.0**
	baz=343								
YM03				*e*S		**Sn**		**12 05 39.3**	**-0.4**
	baz=343								
YOJ	**Yonaguni jima**	**1.05**	**74**	P		**Pn**		**12 05 25.8**	**-0.1**
YOJ				*e*S		**Sn**		**12 05 39.8**	**+0.2**
ANP	**Anpu**	**1.06**	**341**	*e*P		**Pn**		**12 05 25.7**	**-0.4**
	baz=343								
ANP				*e*S		**Sn**		**12 05 39.7**	**-0.3**
	baz=343								
WHYT	**Xinyi Township**	**1.07**	**244**	*e*P		**Pn**		**12 05 26.8**	**+0.6**
	baz=242								
WHYT				*e*S		**Sn**		**12 05 41.0**	**+0.9**
	baz=242								
FULB	**Fuli**	**1.12**	**210**	*e*P		**Pn**		**12 05 27.2**	**+0.4**
	baz=207								
FULB				*e*S		**Sn**		**12 05 41.7**	**+0.4**
	baz=207								
WJS	**Zhushan**	**1.13**	**252**	*e*P		**Pn**		**12 05 27.1**	**+0.1**
	baz=250								
WJS				*e*S		**Sn**		**12 05 42.5**	**+1.1**
	baz=250								
NHW	**Xinwu Township**	**1.13**	**317**	*e*S		**Sn**		**12 05 41.6**	**+0.1**
	baz=318								
WNT	**Mingjian**	**1.15**	**255**	*e*P		**Pn**		**12 05 27.9**	**+0.7**
	baz=253								
WNT				S		**Sn**		**12 05 41.7**	**-0.2**
	baz=253								
ALS	**Alishan**	**1.20**	**237**	*e*P		**Pn**		**12 05 28.7**	**+0.5**
	baz=234								
ALS				S		**Sn**		**12 05 43.7**	**+0.1**
	baz=234								
WCHH	**Zhanghua**	**1.23**	**266**	*e*P		**Pn**		**12 05 28.6**	**+0.3**
	baz=264								
CHN5	**Tsauling**	**1.26**	**243**	*e*P		**Pn**		**12 05 29.0**	**+0.2**
	baz=241								
CHN5				*e*S		**Sn**		**12 05 45.6**	**+0.9**
	baz=241								
ELDTW	**Lidau**	**1.27**	**220**	*e*P		**Pn**		**12 05 28.6**	**-0.5**
	baz=217								
ELDTW				*e*S		**Sn**		**12 05 43.9**	**-1.2**
	baz=217								
EDH	**Donghe**	**1.32**	**205**	*e*P		**Pn**		**12 05 29.6**	**+0.1**
	baz=202								
EDH				*e*S		**Sn**		**12 05 45.1**	**-0.9**
	baz=202								
WDLH	**Douliu**	**1.34**	**249**	*e*P		**Pn**		**12 05 30.4**	**+0.7**
	baz=247								
WDLH				S		**Sn**		**12 05 46.3**	**-0.1**
	baz=247								
RLNB	**Erlin**	**1.44**	**259**	*e*P		**Pn**		**12 05 31.4**	**+0.3**
	baz=257								
RLNB				*e*S		**Sn**		**12 05 49.6**	**+0.7**
	baz=257								
LONT	**Longtian**	**1.45**	**209**	*e*S		**Sn**		**12 05 49.6**	**+0.4**
	baz=207								
STYT	**Tauyuan**	**1.46**	**226**	*e*P		**Pn**		**12 05 32.2**	**+0.8**
	baz=224								
STYT				S		**Sn**		**12 05 49.1**	**-0.3**
	baz=224								
TPUB	**Ta-pu**	**1.46**	**233**	*e*P		**Pn**		**12 05 32.1**	**+0.7**
	baz=231								
TPUB				*e*S		**Sn**		**12 05 50.2**	**+0.9**
	baz=231								
WTK	**Tuku**	**1.47**	**251**	*e*P		**Pn**		**12 05 31.3**	**-0.2**
	baz=249								
WTK				*e*S		**Sn**		**12 05 50.0**	**+0.4**
	baz=249								
WTP	**Ta-pu**	**1.50**	**232**	*e*P		**Pn**		**12 05 32.6**	**+0.6**
	baz=230								
WTP				*e*S		**Sn**		**12 05 50.2**	**-0.3**
	baz=230								
TWGBT	**Beinan**	**1.55**	**209**	*e*P		**Pn**		**12 05 32.4**	**-0.3**
	baz=207								
TWG	**Pinlang**	**1.55**	**210**	*e*P		**Pn**		**12 05 32.4**	**-0.3**
	baz=207								
TWK	**Hsinying**	**1.58**	**235**	*e*P		**Pn**		**12 05 33.8**	**+0.7**
	baz=233								
CHN1	**Nanshi**	**1.60**	**232**	*e*P		**Pn**		**12 05 34.0**	**+0.6**
	baz=230								
SGST	**Jiashian**	**1.63**	**228**	*e*P		**Pn**		**12 05 33.7**	**0.0**
	baz=226								
SGST				*e*S		**Sn**		**12 05 54.6**	**+1.0**
	baz=226								
WSF	**Szhu**	**1.63**	**251**	*e*S		**Sn**		**12 05 52.5**	**-1.0**
	baz=249								
SLGT	**Liugui**	**1.65**	**225**	*e*P		**Pn**		**12 05 34.8**	**+0.8**
	baz=223								
IRIF	**Iriomote-Funau**	**1.68**	**84**	P		**Pn**		**12 05 34.1**	**-0.3**
IRIF				S		**Sn**		**12 05 54.5**	**-0.2**
JKRS	**Kuro-shima**	**1.93**	**88**	P		**Pn**		**12 05 38.6**	**+0.8**
JIJ	**Ishigaki jima**	**2.06**	**84**	P		**Pn**		**12 05 39.0**	**-0.5**
JIJ				*e*S		**Sn**		**12 06 03.1**	**-0.9**
JISG	**Ishigakijimahi**	**2.24**	**79**	P		**Pn**		**12 05 41.5**	**-0.5**

*NEIC **19** 12:07:27.5±2.3, 10°28S±0°03×161°10E±0°09, h35km±2km, mb4.0/12, Error ellipse: s-maj=16.0km s-min=3.4km az=74.0*

*IDC **19** 12:07:29.1±2.7, 10°24S×161°01E, h45km±22km, mb3.6/8, mb1 3.8/10, mb1mx3.6/35, mbtmp3.9/10, ML3.8/2, MS3.1/4, Ms1 3.1/4, ms1mx2.8/24, Error ellipse: s-maj=24.7km s-min=16.0km az=76.0*

ISC 19 12:07:27.8±0.7, 10°27S±0°09×161°1E±0°1, h35km, n32, σ1s25/30, mb4.0/12, MS3.0/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.39**	**307**	P		**Pn**		**12 07 50.6**	**-0.1**
	669nm,0.3s,baz=155,slow=4.1,SNR=209								
HNR				S		**Sn**		**12 08 07.6**	**-0.1**
	521nm,0.3s,baz=180,slow=21,SNR=19								
HNR				LR		LR		12 08 39.3	
	comp=Z,395nm,19.8s,baz=186,slow=53								
DZM	**Mont Dzumac**	**12.81**	**157**	P		**Pn**		**12 10 30.4**	**+2.8**
	0.4nm,0.3s,baz=18,slow=9.9,SNR=15								
DZM				S		**Sn**		**12 12 46.6**	**-2.5**
	0.1nm,0.3s,baz=340,slow=12,SNR=2.6								
DZM	**Mont Dzumac**	**12.81**	**157**			**Pn**		**12 10 27.9**	**+0.3**
DZM						**Sn**		**12 12 48.6**	**-0.6**
PMG	**Port Moresby**	**13.73**	**272**	LR		LR		12 15 40.1	
	comp=Z,106nm,18.3s,baz=347,slow=36								
CTA	**Charters Tower**	**17.29**	**234**	P		**Pn**		**12 11 28.1**	**+1.4**
	0.3nm,0.3s,baz=74,slow=16,SNR=7.1								
CTAO	**Charters Tower**	**17.29**	**234**			**Pn**		**12 11 26.0**	**-0.7**
CTAO						IAmb	IAmb	12 11 32.7	
	comp=Z,13nm,1.1s								
AFI	**Afiamalu**	**26.79**	**100**	LR		LR		12 22 30.0	
	comp=Z,41nm,20.2s,baz=282,slow=34								
WR0	**Warramunga Arr**	**27.32**	**246**	P		**P**		**12 13 11.0**	**+1.4**
WR0						IAmb	IAmb	12 13 25.6	
	comp=Z,4.2nm,1.1s								

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.14**	**254**	*e*Pg	**Pg**	**12 09 54.4**	**-0.6**
IKFM	**Kafar-mosalman**	**0.87**	**23**	*e*		12 10 30.8	
IKFM				*e*Pg	**Pb**	**12 10 08.1**	**-1.3**
IKMR	**Kamar-syah**	**1.12**	**44**	*e*Pg	**Pg**	**12 10 13.7**	**+0.2**
IKMR				*e*		12 10 33.1	
IDOB	**Doab**	**1.23**	**30**	*e*Pg	**Pg**	**12 10 15.7**	**0.0**
IBDR	**Badra**	**1.33**	**287**	*e*Pg	**Pg**	**12 10 18.0**	**+0.5**
IBDR				*e*Sg	**Sg**	**12 10 37.0**	**+2.2**
IBDR				AML	AML	12 10 40.8	
	comp=N,125nm,0.8s						
IBDR				AML	AML	12 10 44.3	
	comp=E,129nm,0.4s						
IKOM	**Komasi**	**1.45**	**2**	*e*Pg	**Pg**	**12 10 19.7**	**-0.2**
IKOM				*e*		12 10 44.2	
BMDN	**Meydan**	**1.50**	**50**	*e*Pg	**Pg**	**12 10 20.1**	**-0.7**
BMDN				*e*		12 10 48.2	
KCHF	**Cheshme Sefid,**	**1.59**	**348**	*e*Pg	**Pb**	**12 10 21.6**	**-0.2**
KCHF				*e*		12 10 47.9	
IGHG	**Ghaleghazi**	**1.76**	**336**	*e*Pg	**Pb**	**12 10 24.3**	**-0.5**
IGHG				*e*		12 11 01.5	
HSAM	**Samen**	**1.78**	**33**	*e*Pg	**Pb**	**12 10 24.7**	**-0.3**
HSAM				*e*		12 10 58.0	
IBZA	**Bozab**	**1.78**	**11**	*e*Pg	**Pb**	**12 10 24.7**	**-0.4**
IBZA				*e*		12 10 54.9	
IVIS	**Veis**	**1.87**	**345**	*e*Pn	**Pb**	**12 10 25.8**	**-0.7**
IVIS				*e*		12 10 57.8	
NSR	**Nassriya**	**2.03**	**213**	*e*Pn	**Pb**	**12 10 28.0**	**-1.2**
NSR				*e*Sn	**Sn**	**12 10 52.0**	**-0.2**
IDHR	**Dehrash**	**2.16**	**336**	*e*Pn	**Pb**	**12 10 29.5**	**-2.1**
IDHR				*e*		12 11 09.0	
IALM	**Almabolaq**	**2.22**	**16**	*e*Pn	**Pb**	**12 10 30.6**	**-2.0**
HSRG	**Sareghieh**	**2.61**	**15**	*e*Pn	**Pn**	**12 10 35.5**	**+0.7**
HSRG				*e*		12 11 27.6	
BHD	**Baghdad**	**2.63**	**283**	*e*Pn	**Pn**	**12 10 36.0**	**+1.2**
BHD				*e*Sn	**Sb**	**12 11 10.0**	**-1.9**
JHBN	**Jahan bin**	**2.77**	**99**	*e*Pn	**Pn**	**12 10 37.6**	**+0.6**
JHBN				*e*		12 11 21.6	
IRAZ	**Razeghan**	**3.38**	**37**	*e*Pn	**Pn**	**12 10 46.8**	**+1.4**
QABG	**Abgarm-Qazvin**	**3.47**	**30**	*e*Pn	**Pn**	**12 10 47.0**	**+0.4**
KLNJ	**Kolanjah**	**3.92**	**115**	*e*Pn	**Pn**	**12 10 54.7**	**+1.8**
KLNJ				*e*		12 11 44.7	
IZEF	**Zefreh**	**4.12**	**86**	*e*Pn	**Pn**	**12 10 56.1**	**+0.5**
IRAM	**Ramesheh**	**4.28**	**101**	*e*Pn	**Pn**	**12 10 59.0**	**+1.2**
IANJ	**Anjilo**	**6.03**	**61**	*e*Pn	**Pn**	**12 11 23.0**	**+1.2**

MOS ***19*** *12:16:18.7±1.1,32°.55N×47°.73E,h18km,mb4.4/36,Error ellipse: s-maj=7.6km s-min=5.5km az=91.4*
IDC ***19*** *12:16:18.9±1.0,32°.68N×47°.66E,h0km,mb4.0/20, mb1 4.1/24,mb1mx4.0/47,mbtmp4.0/24,ML4.0/4,Error ellipse: s-maj=22.4km s-min=14.1km az=177.0*
TEH ***19*** *12:16:20.8,32°.72N×47°.62E,h14km,ML4.1*
NEIC ***19*** *12:16:20.8±3.4,32°.71N±0°.04×47°.67E±0°.05,h10km±1km, Error ellipse: s-maj=8.9km s-min=5.3km az=230.0*
ISN ***19*** *12:16:20.5±1.2,32°.76N×47°.70E,h15km±6km,ML3.9*
THR ***19*** *12:16:20.8±1.2,32°.65N×47°.65E,h14km±36km,ML3.9*
OMAN ***19*** *12:16:28.9,31°.74N×47°.57E,h15km,mb5.3/9,ms2.8/2*
ISC 19 12:16:19.9±0.6,32°.65N±0°.02×47°.67E±0°.02,h11km±4km, n256,σ2ş10/267,mb4.3/53,8C-5D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.33**	**275**	*e*Pg	**Pg**	**12 16 27.0**	**+0.6**
IKFM	**Kafar-mosalman**	**0.88**	**10**	*e*Pg	**Pg**	**12 16 36.3**	**-0.6**
IKMR	**Kamar-syah**	**1.05**	**35**	*e*Pg	**Pb**	**12 16 39.5**	**-0.6**
IKMR				*e*		12 16 43.8	
IDOB	**Doab**	**1.21**	**21**	*e*Pg	**Pb**	**12 16 42.2**	**-0.8**
BMDN	**Meydan**	**1.41**	**43**	*e*Pg	**Pb**	**12 16 46.5**	**+0.2**
BMDN				*e*		12 16 50.7	
BMDN	**Meydan**	**1.41**	**43**		**Pb**	**12 16 46.5**	**+0.2**
IKOM	**Komasi**	**1.52**	**355**	*e*Pg	**Pg**	**12 16 49.1**	**-0.1**
IKOM				*e*		12 16 54.3	
IBDR	**Badra**	**1.53**	**288**	*e*Pg	**Pb**	**12 16 48.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**12 17 09.0**	**-0.1**
IBDR				AML	AML	12 17 14.0	
	comp=N,2μm,0.7s						
IBDR				AML	AML	12 17 14.5	
	comp=E,2μm,0.5s						
AHWZ	**Ahwaz**	**1.56**	**148**	*e*Pg	**Pg**	**12 16 51.7**	**+1.9**
AHWZ	**Ahwaz**	**1.56**	**148**	Pg	**Pg**	**12 16 51.6**	**+1.8**
AHWZ				Sg	**Sg**	**12 17 13.9**	**+3.9**
KCHF	**Cheshme Sefid,**	**1.70**	**342**	*e*Pg	**Pb**	**12 16 51.5**	**+0.2**
KCHF				*e*		12 17 17.8	
KCHF	**Cheshme Sefid,**	**1.70**	**342**	Pg	**Pb**	**12 16 51.5**	**+0.2**
HSAM	**Samen**	**1.74**	**26**	*e*Pg	**Pg**	**12 16 52.8**	**-0.5**
HSAM				*e*		12 17 21.0	
HSAM	**Samen**	**1.74**	**26**	Pg	**Pg**	**12 16 52.8**	**-0.5**
KER	**Kermanshah**	**1.78**	**346**	P	**Pb**	**12 16 52.8**	**+0.1**
KER	**Kermanshah**	**1.78**	**346**	*e*Pg	**Pb**	**12 16 52.8**	**+0.1**
KER	**Kermanshah**	**1.78**	**346**	Pg	**Pb**	**12 16 52.8**	**+0.1**
IBZA	**Bozab**	**1.82**	**5**	*e*Pg	**Pb**	**12 16 53.7**	**+0.3**
IBZA				*e*		12 17 28.0	
IGHG	**Ghaleghazi**	**1.91**	**332**	*e*Pg	**Pb**	**12 16 54.8**	**-0.1**
IGHG				*e*		12 17 37.3	
IVIS	**Veis**	**1.99**	**340**	*e*Pn	**Pb**	**12 16 55.5**	**-0.7**
IVIS				*e*		12 17 26.1	
IVIS	**Veis**	**1.99**	**340**	Pn	**Pb**	**12 16 55.5**	**-0.7**
NSR	**Nassriya**	**2.09**	**219**	*e*Pn	**Pb**	**12 16 58.0**	**+0.2**
NSR				*e*Sn	**Sb**	**12 17 24.0**	**+0.2**
KHMZ	**Khomeyn**	**2.21**	**60**	*e*Pn	**Pb**	**12 16 59.9**	**-0.1**
KHMZ	**Khomeyn**	**2.21**	**60**	*e*Pn	**Pb**	**12 16 59.9**	**-0.1**
KHMZ	**Khomeyn**	**2.21**	**60**	Pn	**Pb**	**12 16 59.8**	**-0.1**
IALM	**Almabolaq**	**2.24**	**11**	*e*Pn	**Pb**	**12 17 00.2**	**-0.4**
IDHR	**Dehrash**	**2.30**	**333**	*e*Pn	**Pb**	**12 16 59.7**	**-1.9**
IDHR				*e*		12 17 44.2	
ILIN	**Lien**	**2.33**	**346**	*e*Pn	**Pn**	**12 16 59.9**	**+1.4**
ILIN				*e*		12 17 39.6	
ILIN	**Lien**	**2.33**	**346**	Pn	**Pn**	**12 16 59.9**	**+1.4**
SNGE	**Sanandaj**	**2.45**	**354**	*e*Pn	**Pb**	**12 17 02.1**	**-2.0**
SNGE				*e*Sg	**Sg**	**12 17 37.5**	**-1.1**
SNGE				IAML		12 17 41.6	
	comp=N,508nm,0.6s						
SNGE	**Sanandaj**	**2.45**	**354**	*e*Pn	**Pb**	**12 17 02.1**	**-2.0**
SNGE	**Sanandaj**	**2.45**	**354**	Pn	**Pb**	**12 17 02.1**	**-2.0**
HAGD	**Aghdareh**	**2.49**	**29**	*e*Pn	**Pb**	**12 17 03.4**	**-1.4**
HAGD				*e*		12 17 47.6	
HAGD	**Aghdareh**	**2.49**	**29**	Pn	**Pb**	**12 17 03.4**	**-1.4**
JHBN	**Jahan bin**	**2.57**	**99**	*e*Pn	**Pb**	**12 17 04.5**	**-1.7**
JHBN				*e*		12 17 57.1	
JHBN	**Jahan bin**	**2.57**	**99**	Pn	**Pb**	**12 17 04.5**	**-1.7**
HSRG	**Sareghieh**	**2.63**	**11**	*e*		12 17 51.5	
HSRG				*e*Pn	**Pb**	**12 17 06.4**	**-1.3**
HSRG	**Sareghieh**	**2.63**	**11**	Pn	**Pb**	**12 17 05.9**	**-1.3**
IPIR	**Pirpir**	**2.72**	**88**	*e*		12 17 49.7	
IPIR				*e*Pn	**Pn**	**12 17 06.6**	**+2.7**
ASAO	**Ashtian**	**2.73**	**46**	*e*Pn	**Pb**	**12 17 07.2**	**-1.7**
ASAO				*e*Sg	**Sg**	**12 17 46.5**	**-1.1**
ASAO	**Ashtian**	**2.73**	**46**	*e*Pn	**Pb**	**12 17 07.2**	**-1.7**
ASAO	**Ashtian**	**2.73**	**46**	Pn	**Pb**	**12 17 07.1**	**-1.7**
BHD	**Baghdad**	**2.83**	**283**	*e*Pn	**Pn**	**12 17 07.0**	**+1.9**
BHD				*e*Sn	**Sb**	**12 17 42.0**	**-3.1**
ROKH	**ROKH**	**2.86**	**95**	*e*Pn	**Pn**	**12 17 08.6**	**+2.8**
ROKH	**ROKH**	**2.86**	**95**	Pn	**Pn**	**12 17 08.4**	**+2.6**
IRAZ	**Razeghan**	**3.33**	**34**	*e*Pn	**Pn**	**12 17 15.2**	**+3.1**
IRAZ	**Razeghan**	**3.33**	**34**	Pn	**Pn**	**12 17 15.5**	**+3.4**
IKLH	**Kolahrood**	**3.35**	**78**	*e*Pn	**Pn**	**12 17 16.0**	**+3.5**
IKLH				*e*		12 18 13.5	
QABG	**Abgarm-Qazvin**	**3.44**	**27**	*e*Pn	**Pn**	**12 17 15.7**	**+2.0**
QABG	**Abgarm-Qazvin**	**3.44**	**27**	Pn	**Pn**	**12 17 15.7**	**+2.0**
IQOM	**Qom**	**3.58**	**51**	*e*Pn	**Pn**	**12 17 18.2**	**+2.6**
IGAR	**Gharneh**	**3.71**	**93**	*e*Pn	**Pn**	**12 17 19.8**	**+2.5**
IGAR				*e*		12 17 22.4	
KLNJ	**Kolanjah**	**3.72**	**115**	*e*Pn	**Pn**	**12 17 19.6**	**+1.9**
KLNJ				*e*		12 18 34.8	
KLNJ	**Kolanjah**	**3.72**	**115**	Pn	**Pn**	**12 17 19.6**	**+1.9**
IMHD	**Mahdasht**	**3.92**	**39**	*e*Pn	**Pn**	**12 17 22.7**	**+2.6**
IMHD	**Mahdasht**	**3.92**	**39**	Pn	**Pn**	**12 17 24.1**	**+4.0**
IZEF	**Zefreh**	**3.94**	**85**	*e*Pn	**Pn**	**12 17 23.1**	**+2.5**
IZEF	**Zefreh**	**3.94**	**85**	Pn	**Pn**	**12 17 23.0**	**+2.5**
QSDN	**Sirdan**	**4.04**	**18**	*e*Pn	**Pn**	**12 17 24.8**	**+2.9**
IRAM	**Rameshe'h**	**4.08**	**101**	*e*Pn	**Pn**	**12 17 24.1**	**+1.6**
IRAM	**Rameshe'h**	**4.08**	**101**	Pn	**Pn**	**12 17 23.6**	**+1.1**
IHSB	**Hasanabad**	**4.09**	**46**	*e*Pn	**Pn**	**12 17 25.0**	**+2.5**
ZNJK	**Zanjan**	**4.09**	**12**	*e*Pn	**Pn**	**12 17 25.8**	**+3.1**
ZNJK	**Zanjan**	**4.09**	**12**	*e*Pn	**Pn**	**12 17 25.8**	**+3.1**
ZNJK	**Zanjan**	**4.09**	**12**	Pn	**Pn**	**12 17 25.8**	**+3.1**
IVRN	**Varamin**	**4.11**	**54**	*e*Pn	**Pn**	**12 17 25.3**	**+2.5**
IVRN	**Varamin**	**4.11**	**54**	Pn	**Pn**	**12 17 25.2**	**+2.5**
IGZV	**Ghazvin**	**4.28**	**29**	*e*Pn	**Pn**	**12 17 28.2**	**+3.0**
CHTH	**Charan**	**4.33**	**40**	*e*Pn	**Pn**	**12 17 28.2**	**+2.2**
CHTH	**Charan**	**4.33**	**40**	*e*Pn	**Pn**	**12 17 28.2**	**+2.2**
CHTH	**Charan**	**4.33**	**40**	Pn	**Pn**	**12 17 28.1**	**+2.2**
QALM	**Alamut, Qazvin**	**4.50**	**32**	*e*Pn	**Pn**	**12 17 30.3**	**+2.0**
QALM	**Alamut, Qazvin**	**4.50**	**32**	Pn	**Pn**	**12 17 30.7**	**+2.4**
DAMV	**Damavand**	**4.64**	**49**	*e*Pn	**Pn**	**12 17 32.7**	**+2.4**
DAMV	**Damavand**	**4.64**	**49**	*e*Pn	**Pn**	**12 17 32.7**	**+2.4**
DAMV	**Damavand**	**4.64**	**49**	Pn	**Pn**	**12 17 32.7**	**+2.4**
IDMV	**Damavand**	**4.65**	**50**	*e*Pn	**Pn**	**12 17 32.9**	**+2.5**
ANAR	**Anarak**	**5.13**	**82**	*e*Pn	**Pn**	**12 17 38.7**	**+1.9**
ANAR	**Anarak**	**5.13**	**82**	Pn	**Pn**	**12 17 38.7**	**+1.9**
ISAD	**Sadrabad**	**5.15**	**97**	*e*Pn	**Pn**	**12 17 39.5**	**+2.2**
ISAD	**Sadrabad**	**5.15**	**97**	Pn	**Pn**	**12 17 39.4**	**+2.2**
ISRB	**Sarab**	**5.16**	**0**	*e*Pn	**Pn**	**12 17 39.1**	**+1.7**
ISRB	**Sarab**	**5.16**	**0**	Pn	**Pn**	**12 17 39.0**	**+1.7**
IFIR	**Firoozkooh**	**5.17**	**53**	*e*Pn	**Pn**	**12 17 40.1**	**+2.7**
ILAS	**Lasjerd**	**5.17**	**57**	*e*Pn	**Pn**	**12 17 40.4**	**+2.9**
IAZR	**Azarshahr**	**5.20**	**345**	*e*Pn	**Pn**	**12 17 40.7**	**+2.8**
IPRN	**Peran**	**5.26**	**46**	*e*Pn	**Pn**	**12 17 42.0**	**+3.3**
IPRN	**Peran**	**5.26**	**46**	Pn	**Pn**	**12 17 41.9**	**+3.3**
IALA	**Alasht**	**5.46**	**50**	*e*Pn	**Pn**	**12 17 44.7**	**+3.2**
ISHM	**Shahmirzad**	**5.62**	**54**	*e*Pn	**Pn**	**12 17 46.4**	**+2.7**
ISHM	**Shahmirzad**	**5.62**	**54**	Pn	**Pn**	**12 17 46.4**	**+2.7**
IHRS	**Heris**	**5.68**	**355**	*e*Pn	**Pn**	**12 17 47.7**	**+3.3**
YZKH	**Yazd**	**5.86**	**91**	*e*Pn	**Pn**	**12 17 48.6**	**+1.8**
YZKH	**Yazd**	**5.86**	**91**	*e*Pn	**Pn**	**12 17 48.6**	**+1.8**
YZKH	**Yazd**	**5.86**	**91**	Pn	**Pn**	**12 17 48.5**	**+1.8**
HAKT	**HAKKARI**	**5.87**	**328**	*e*Pn	**Pn**	**12 17 47.9**	**+0.8**
HAKT	**HAKKARI**	**5.87**	**328**	Pn	**Pn**	**12 17 47.9**	**+0.8**
IANJ	**Anjilo**	**5.90**	**60**	*e*Pn	**Pn**	**12 17 49.0**	**+1.5**
IMEH	**Mehriz**	**6.03**	**100**	*e*Pn	**Pn**	**12 17 51.4**	**+2.1**
IMEH	**Mehriz**	**6.03**	**100**	Pn	**Pn**	**12 17 51.4**	**+2.1**
GRMI	**Germi**	**6.14**	**2**	*e*Pn	**Pn**	**12 17 53.7**	**+3.0**
GRMI	**Germi**	**6.14**	**2**	*e*Pn	**Pn**	**12 17 53.7**	**+3.0**
GRMI	**Germi**	**6.14**	**2**	Pn	**Pn**	**12 17 53.7**	**+3.0**
IGLO	**Ghaloghah**	**6.37**	**51**	*e*Pn	**Pn**	**12 17 57.1**	**+3.1**
GEVA	**Gevas**	**6.78**	**328**	Pn	**Pn**	**12 18 00.3**	**+0.8**
MARD	**Mardin**	**7.32**	**311**	Pn	**Pn**	**12 18 06.6**	**-0.3**
TNSJ	**Nastanj**	**7.60**	**78**	*e*Pn	**Pn**	**12 18 12.6**	**+1.9**
TNSJ	**Nastanj**	**7.60**	**78**	Pn	**Pn**	**12 18 12.6**	**+1.9**
TKDS	**Koohdasht(Taba**	**7.99**	**81**	*e*Pn	**Pn**	**12 18 17.8**	**+1.7**
TKDS	**Koohdasht(Taba**	**7.99**	**81**	Pn	**Pn**	**12 18 17.8**	**+1.7**
AKT	**Akhty**	**8.81**	**0**	*i* P	**Pn**	**12 18 30.2**	**+2.9**
SBZV	**Sabzevar**	**9.01**	**63**	*e*Pn	**Pn**	**12 18 32.4**	**+2.2**
SBZV	**Sabzevar**	**9.01**	**63**	Pn	**Pn**	**12 18 32.4**	**+2.2**
ASF	**Jabal al Asfar**	**9.12**	**270**	Pn	**Pn**	**12 18 32.1**	**+0.6**
	comp=N,0.6nm,0.3s,baz=34,slow=5.4,SNR=2.7						
ASF				Sn	**Sn**	**12 20 10.6**	**-3.6**
	comp=N,0.5nm,0.3s,baz=225,slow=21,SNR=2.2						
ASF				Lg	Lg	12 21 03.8	
	baz=225,slow=22,SNR=1.8						
KOPT	**Kop Dagi**	**9.35**	**324**	Pn	**Pn**	**12 18 35.2**	**+0.4**
AFRZ	**Afriz**	**9.56**	**82**	*e*Pn	**Pn**	**12 18 40.1**	**+2.4**
ISFR	**Sfrayin**	**9.56**	**60**	*e*Pn	**Pn**	**12 18 40.0**	**+2.2**
ISFR	**Sfrayin**	**9.56**	**60**	Pn	**Pn**	**12 18 39.9**	**+2.2**
GEYT	**Alibeck**	**10.03**	**55**	Pn	**Pn**	**12 18 48.7**	**+4.7**
	comp=N,0.5nm,0.3s,baz=233,slow=19,SNR=3.5						
GEYT	**Alibeck**	**10.03**	**55**	Pn	**Pn**	**12 18 42.5**	**-1.5**
GYA0B	**ALIBECK ARRAY**	**10.03**	**55**	Pn	**Pn**	**12 18 42.4**	**-1.6**
BANOM	**Banah**	**10.09**	**129**	P	**Pn**	**12 18 46.0**	**+1.2**
	SNR=15						
BANOM				S	**Sn**	**12 20 34.7**	**-3.3**
MMAI	**Mount Meron Ar**	**10.32**	**275**	Lg	Lg	12 21 49.4	
	comp=N,1.2nm,0.3s,baz=103,slow=39,SNR=1.5						
MDH	**Madha**	**10.52**	**132**	P	**Pn**	**12 18 52.1**	**+1.3**
UOSS	**Minazif**	**10.72**	**134**	P	**Pn**	**12 18 54.6**	**+1.2**
UOSS				P	**Pn**	**12 18 54.6**	**+1.2**
UOSS	**Minazif**	**10.72**	**134**	Pn	**Pn**	**12 18 51.3**	**-2.1**
UOSS					**Sn**	**12 20 49.0**	**-4.6**
HATD	**Hatta, Dubai**	**10.77**	**134**	P	**Pn**	**12 18 55.0**	**+0.9**
HATD				P	**Pn**	**12 18 55.0**	**+0.9**
ASHO	**Ashiyiah**	**10.83**	**135**	P	**Pn**	**12 18 56.0**	**+1.0**
EIL	**Elat**	**11.29**	**258**	Lg	Lg	12 22 26.1	
	comp=N,0.9nm,0.3s,baz=30,slow=20,SNR=3.9						
KIV	**Kislovodsk**	**11.94**	**342**	*e*P	**Pn**	**12 19 13.4**	**+3.3**
KIV				pmax	pmax		
	comp=Z,21nm,0.9s						
KIV				MLR	MLR		
	comp=Z,35nm,12.0s						
ARQ	**Araqi**	**12.13**	**138**	P	**Pn**	**12 19 12.9**	**+0.1**
ARQ				S	**Sn**	**12 21 24.3**	**-3.8**
HOQ	**Hoqain**	**12.41**	**134**	P	**Pn**	**12 19 17.8**	**+1.2**
BSY	**Bisya**	**12.98**	**137**	P	**Pn**	**12 19 24.8**	**+0.6**
BSY				S	**Sn**	**12 21 42.3**	**-6.6**
SMDO	**Samad**	**13.25**	**134**	P	**Pn**	**12 19 28.9**	**+0.8**
SMDO				S	**Sn**	**12 21 51.2**	**-4.3**
BRTR	**Keskin Array B**	**13.34**	**306**	Pn	**Pn**	**12 19 29.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=107,slow=11,SNR=6.1						
WSAR	**Wadi Sarin**	**13.48**	**131**	Pn	**Pn**	**12 19 31.2**	**0.0**
	comp=Z,0.8nm,0.3s,baz=328,slow=10,SNR=6.4						
WSAR	**Wadi Sarin**	**13.48**	**131**	P	**Pn**	**12 19 32.1**	**+0.9**
MHTO	**MHTO**	**14.81**	**139**	P	**Pn**	**12 19 49.2**	**-0.1**
MHTO				S	**Sn**	**12 22 26.1**	**-7.3**
ABTO	**Aybut**	**16.06**	**160**	P	**Pn**	**12 20 03.6**	**-2.3**
ABTO				S	**Sn**	**12 22 55.6**	**-8.4**
DMTO	**DMTO**	**16.26**	**154**	P	**Pn**	**12 20 06.4**	**-2.0**
	SNR=8.1						
DMTO				S	**Sn**	**12 22 58.5**	**-10**
KBL	**Kabul**	**17.91**	**78**	P	**Pn**	**12 20 27.7**	**-1.5**
KBL				pmax	pmax		
	comp=Z,14nm,1.1s						
KBL	**Kabul**	**17.91**	**78**	Pn	**Pn**	**12 20 27.7**	**-1.5**
CHGR	**Chuyangaron**	**18.45**	**65**		**P**	**12 20 34.8**	**-0.8**
CHGR				IAmb	IAmb	12 20 42.9	
	comp=Z,14nm,0.8s						
ABKAR	**Akbulak array**	**18.96**	**25**		**P**	**12 20 40.9**	**-0.1**
IDI	**Anoyia**	**19.07**	**284**	P	**Pn**	**12 20 44.0**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=75,slow=16,SNR=2.3						
IDI	**Anoyia**	**19.07**	**284**		**Pn**	**12 20 43.3**	**+0.1**
TOPG	**Topolog**	**19.31**	**315**	⇓P	**Pn**	**12 20 45.6**	**-0.4**
AKTO	**Aktyubinsk**	**19.35**	**20**	P	**P**	**12 20 45.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=202,slow=12,SNR=19						
GAR	**Garm**	**19.41**	**65**	P	**P**	**12 20 45.8**	**-0.3**
GAR				IAmb	IAmb	12 20 54.1	
	comp=Z,13nm,0.8s						
BTK	**Batken**	**20.02**	**62**	P	**P**	**12 20 52.0**	**-0.9**
BTK				pmax	pmax		
	comp=Z,11nm,1.1s						
BTK	**Batken**	**20.02**	**62**	P	**P**	**12 20 52.0**	**-0.9**
BTK				IAmb	IAmb	12 20 58.2	
	comp=Z,11nm,1.1s						
KK31	**Karatay Array**	**20.77**	**53**	P	**P**	**12 21 01.4**	**+0.5**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KK31	**Karatay Array**	**20.77**	**53**	P	**P**	**12 21 01.4**	**+0.5**
KKAR	**Karatay Array**	**20.77**	**53**	P	**P**	**12 21 00.4**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KKAR	**Karatay Array**	**20.77**	**53**	P	**P**	**12 21 00.4**	**-0.5**
KKAR	**Karatay Array**	**20.77**	**53**	P	**P**	**12 21 01.4**	**+0.5**
KKAR				IAmb	IAmb	12 21 10.6	
	comp=Z,5.2nm,0.8s						
VRI	**Vrincioaia**	**20.82**	**315**	P	Pn	12 21 02.9	-1.0
VRI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
PLOR	**Plostina**	**20.86**	**315**	⇓P	Pn	12 21 03.9	-0.4
MLR	**Muntele Rosu**	**21.10**	**314**	P	**P**	**12 21 07.8**	**+3.2**
	comp=Z,5.6nm,0.6s,baz=184,slow=2.5,SNR=11						
MLR	**Muntele Rosu**	**21.10**	**314**	⇑P	**P**	**12 21 08.9**	**+4.3**
MLR	**Muntele Rosu**	**21.10**	**314**	P	**P**	**12 21 07.4**	**+2.8**
MLR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MLR	**Muntele Rosu**	**21.10**	**314**		**P**	**12 21 07.4**	**+2.8**
MLR				IAmb	IAmb	12 21 12.1	
	comp=Z,9.4nm,0.8s						
TESR	**Tescani**	**21.22**	**317**	⇓P	**P**	**12 21 09.9**	**+4.2**
NIL	**Nilore**	**21.43**	**80**	P	**P**	**12 21 07.0**	**-1.1**
NIL				pmax	pmax		
	comp=Z,12nm,0.8s						
NIL	**Nilore**	**21.43**	**80**	P	**P**	**12 21 07.0**	**-1.1**
NIL				IAmb	IAmb	12 21 12.2	
	comp=Z,12nm,0.8s						
VOIR		**21.63**	**313**	P	**P**	**12 21 12.2**	**+2.1**
VOIR				pmax	pmax		
	comp=Z,37nm,1.1s						
DOPR	**Dopca**	**21.68**	**314**	⇑P	**P**	**12 21 12.4**	**+1.8**
ARSB	**Arslanbob**	**21.94**	**60**	P	**P**	**12 21 12.9**	**-0.7**
ARSB				pmax	pmax		
	comp=Z,11nm,1.1s						
ARSB	**Arslanbob**	**21.94**	**60**	P	**P**	**12 21 12.9**	**-0.7**
ARSB				IAmb	IAmb	12 21 28.4	
	comp=Z,10nm,1.1s						
AKASG	**Malin Array Be**	**22.58**	**328**	P	**P**	**12 21 18.9**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=138,slow=9.4,SNR=1.6						
AKASG	**Malin Array Be**	**22.58**	**328**	P	**P**	**12 21 18.9**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKASG	**Malin Array Be**	**22.58**	**328**	IAmb	IAmb	12 21 23.6	
	comp=Z,1.7nm,1.0s						
AKBB	**Malin Array Si**	**22.58**	**328**	*i* P	**P**	**12 21 20.0**	**-0.2**
AKBB	**Malin Array Si**	**22.58**	**328**	P	**P**	**12 21 19.1**	**-1.1**
AKBB				IAmb	IAmb	12 21 24.8	
	comp=Z,16nm,1.4s						
BURAR	**Bucovina Array**	**22.64**	**318**	P	**P**	**12 21 21.6**	**+0.5**
BUR08	**Bucovina Ar. S**	**22.67**	**318**	P	**P**	**12 21 20.5**	**-0.8**
AAK	**Ala-Archa**	**23.38**	**57**	P	**P**	**12 21 29.9**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=228,slow=12,SNR=1.6						
AAK	**Ala-Archa**	**23.38**	**57**	*ce*P	**P**	**12 21 31.1**	**+2.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
MDVR	**Moldovita**	**23.49**	**309**	⇓P	**P**	**12 21 30.5**	**+0.8**
OBN	**Obninsk**	**23.78**	**344**	⇑*e*P	**P**	**12 21 33.1**	**+0.8**
OBN				*SP	**sP**	**12 21 37.0**	**-0.1**
OBN				*e*		12 21 59.6	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,29nm,15.0s						
KSH	**Kashi**	**23.82**	**65**	*e*P	**P**	**12 21 29.9**	**-3.2**
KSH				S	S	12 25 37.3	-12
KSH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,98nm,5.7s						
KSH				LR	LR		
	comp=N,4μm,26.4s						
KSH				LR	LR		
	comp=E,540nm,15.0s						
KSH				LR	LR		
	comp=Z,180nm,6.2s						
ARU	**Arti**	**24.95**	**14**	P	**P**	**12 21 43.6**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=203,slow=8.3,SNR=9.1						
ARU	**Arti**	**24.95**	**14**	*d* P	**P**	**12 21 43.5**	**+0.4**
ARU				PPP	PPP	12 22 24.7	
ARU				S	**S**

TORD	**Torodi Ar. Bea**	**46.17**	**256**	P		**P**		12 24 43.8	**-1.1**
SONM	**Songino Array**	**46.22**	**53**	P		**P**		12 24 45.5	**+0.4**
	comp=Z,0.3nm,0.3s,baz=278,slow=10.0,SNR=4.7								
SONM	**Songino Array**	**46.22**	**53**	P		**P**		12 24 45.5	**+0.4**
SONM				pmax	pmax				
	comp=Z,2.0nm,1.4s								
SONM	**Songino Array**	**46.22**	**53**	IAmb		IAmb		12 24 49.9	
	comp=Z,2.4nm,1.4s								
ULN	**Ulaanbaatar**	**46.66**	**53**	*i* P		**P**		12 24 49.2	**+0.6**
ULN				pmax	pmax				
	comp=Z,5.0nm,1.0s								
ULN	**Ulaanbaatar**	**46.66**	**53**	P		**P**		12 24 49.4	**+0.8**
CMAR	**Chiang Mai Arr**	**47.94**	**94**	P		**P**		12 24 58.7	**0.0**
	comp=Z,1.1nm,0.8s,baz=288,slow=9.0,SNR=7.6								
CMAR	**Chiang Mai Arr**	**47.94**	**94**	*i* P		**P**		12 24 57.7	**-1.0**
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
HHC	**Hu-ho-hao-te**	**50.84**	**61**	*e*P		**P**		12 25 20.9	**+0.1**
HHC				pmax	pmax				
	comp=Z,12nm,0.7s								
HHC				pmax	pmax				
	comp=Z,97nm,7.6s								
HIA	**Hailar**	**54.84**	**50**	*i* P		**P**		12 25 50.2	**+0.1**
HIA				pmax	pmax				
	comp=Z,5.0nm,0.9s								
TIXI	**Tiksi**	**56.62**	**22**	*i* P		**P**		12 26 02.1	**-0.3**
TIXI				pmax	pmax				
	comp=Z,3.0nm,1.1s								
YAK	**Yakutsk**	**58.08**	**33**	*i* P		**P**		12 26 14.4	**+1.6**
YAK				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KLR	**Kul'dur**	**62.45**	**47**	*i* P		**P**		12 26 41.9	**-1.2**
KLR				pmax	pmax				
	comp=Z,2.0nm,1.4s								
KSRS	**Korea Array**	**63.98**	**61**	P		**P**		12 26 52.5	**-0.9**
	comp=Z,0.9nm,0.7s,baz=299,slow=5.6,SNR=4.7								
USRK	**Ussuriysk Ar.**	**64.34**	**53**	P		**P**		12 26 58.0	**+2.4**
	comp=Z,1.1nm,0.7s,baz=316,slow=4.0,SNR=2.1								
SEY	**Seymchan**	**67.70**	**29**	*i* P		**P**		12 27 16.1	**-0.8**
MA2	**Magadan**	**68.60**	**32**	*i* P		**P**		12 27 22.4	**-0.2**
MA2				pmax	pmax				
	comp=Z,5.0nm,1.0s								
YSS	**Yuzh-Sakhalins**	**70.13**	**47**	*e*P		**P**		12 27 31.6	**-0.7**
YSS				*e*				12 27 36.9	
YSS				pmax	pmax				
	comp=Z,10.0nm,0.9s								
YSS				MLR	MLR				
	comp=Z,100nm,16.0s								
ILAR	**Eielson Array**	**82.23**	**6**	P		**P**		12 28 39.9	**-0.9**
	comp=Z,0.2nm,0.7s,baz=352,slow=5.5,SNR=2.5								
WRA	**Warramunga Arr**	**97.82**	**109**	P		Pdif		12 29 56.5	+0.6
	comp=Z,0.2nm,0.7s,baz=318,slow=4.1,SNR=1.6								
WRA	**Warramunga Arr**	**97.82**	**109**	IAmb		IAmb		12 30 03.0	
	comp=Z,0.2nm,1.1s								

TEH ***19*** *12:30:45.4,32.°55N×47.°72E,h20km, ML3.0*
ISN ***19*** *12:30:46.5±1.5,32.°56N×47.°84E,h15km±8km, ML3.0*
ISC 19 12:30:45.8±1.2,**32.°53N**±0.°03×**47.°77E**±0.°03,**h8**km±11km,
n28,σ1°45/34,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.44**	**290**	*e*Pg	**Pg**	**12 30 53.1**	**-1.3**
DHL1				*e*Sg	**Sg**	**12 31 00.7**	**+0.5**
IKFM	**Kafar-mosalman**	**1.00**	**4**	*e*		12 31 23.6	
IKFM				*e*Pg	**Pg**	**12 31 03.7**	**-1.3**
IKMR	**Kamar-syah**	**1.11**	**27**	*e*Sg	**Sn**	**12 31 24.0**	**+0.9**
IKMR				*e*Pg	**Pb**	**12 31 05.6**	**-1.7**
IKMR				*e*		12 31 27.6	
IDOB	**Doab**	**1.30**	**15**	*e*Pg	**Pb**	**12 31 10.0**	**-0.7**
IDOB				*e*Sg	**Sn**	**12 31 27.3**	**-0.9**
AHWZ	**Ahwaz**	**1.41**	**148**	*e*Pg	**Pg**	**12 31 12.7**	**-0.1**
BMDN	**Meydan**	**1.44**	**37**	*e*Pg	**Pg**	**12 31 12.4**	**-1.2**
BMDN				*e*Sg	**Sg**	**12 31 33.6**	**+1.3**
BMDN				*e*		12 31 40.0	
IBDR	**Badra**	**1.66**	**291**	*e*Pg	**Pb**	**12 31 17.0**	**+0.5**
IBDR				*e*Sg	**Sg**	**12 31 40.0**	**+0.9**
IBDR				AML	AML	12 31 41.2	
	comp=E,222nm,0.6s						
IBDR				AML	AML	12 31 42.0	
	comp=N,166nm,0.7s						
IKOM	**Komasi**	**1.66**	**352**	*e*Pg	**Pb**	**12 31 16.4**	**-0.3**
IKOM				*e*		12 31 46.4	
HSAM	**Samen**	**1.82**	**22**	*e*Pg	**Pb**	**12 31 18.7**	**-0.8**
HSAM				*e*		12 31 52.6	
KCHF	**Cheshme Sefid,**	**1.85**	**341**	*e*Pg	**Pb**	**12 31 19.3**	**-0.6**
KCHF				*e*		12 31 56.0	
KER	**Kermanshah**	**1.93**	**344**	*e*Pn	**Pb**	**12 31 20.5**	**-0.8**
IBZA	**Bozab**	**1.94**	**2**	*e*Pg	**Pb**	**12 31 21.7**	**+0.1**
IBZA				*e*		12 31 53.1	
NSR	**Nassriya**	**2.05**	**223**	*e*Pn	**Pb**	**12 31 23.0**	**-0.3**
NSR				*e*Sn	**Sb**	**12 31 48.0**	**-1.0**
IGHG	**Ghaleghazi**	**2.06**	**331**	*e*	Sg	12 32 02.6	+10
IVIS	**Veis**	**2.14**	**339**	*e*Pn	**Pn**	**12 31 22.7**	**+0.8**
IVIS				*e*		12 32 02.4	
IALM	**Almabolaq**	**2.35**	**8**	*e*Pn	**Pb**	**12 31 26.8**	**-1.8**
JHBN	**Jahan bin**	**2.47**	**96**	*e*Pn	**Pn**	**12 31 27.3**	**+0.7**
JHBN				*e*		12 32 09.3	
HAGD	**Aghdareh**	**2.56**	**26**	*e*Pn	**Pn**	**12 31 28.7**	**+0.9**
HAGD				*e*		12 32 07.9	
IPIR	**Pirpir**	**2.64**	**86**	*e*Pn	**Pn**	**12 31 29.9**	**+1.0**
IPIR				*e*		12 32 16.0	
HSRG	**Sareghieh**	**2.74**	**9**	*e*	**Sg**	**12 32 18.7**	**+4.8**
ROKH	**ROKH**	**2.77**	**93**	*e*Pn	**Pn**	**12 31 31.1**	**+0.5**
ROKH				*e*		12 32 23.4	
BHD	**Baghdad**	**2.95**	**285**	*e*Pn	**Pn**	**12 31 35.0**	**+2.1**
BHD				*e*Sn	**Sb**	**12 32 12.0**	**-2.7**
IRAZ	**Razeghan**	**3.38**	**31**	*e*Pn	**Pn**	**12 31 40.7**	**+1.6**
QABG	**Abgarm-Qazvin**	**3.51**	**25**	*e*Pn	**Pn**	**12 32 42.0**	**+1.1**
KLNJ	**Kolanjah**	**3.59**	**114**	*e*Pn	**Pn**	**12 31 42.6**	**+0.5**
KLNJ				*e*		12 32 58.4	
IGAR	**Gharneh**	**3.61**	**91**	*e*Pn	**Pn**	**12 31 42.6**	**+0.3**
IGAR				*e*		12 32 29.1	
IZEF	**Zefreh**	**3.86**	**83**	*e*Pn	**Pn**	**12 31 46.3**	**+0.6**
QSDN	**Sirdan**	**4.13**	**16**	*e*Pn	**Pn**	**12 31 50.6**	**+1.2**

ISN ***19*** *12:38:40.4±0.5,32.°53N×47.°58E,h16km±4km, ML2.9*
TEH ***19*** *12:38:44.0,32.°68N×47.°72E,h22km, ML3.0*
ISC 19 12:38:41.5±1.1,**32.°51N**±0.°05×**47.°57E**±0.°04,**h10**km,**n26,**
σ1°39/29,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.30**	**305**	*e*Pg	**Pn**	**12 38 51.5**	**-0.5**
DHL1				*e*Sg	**Sb**	**12 38 58.4**	**+4.3**
IKFM	**Kafar-mosalman**	**1.04**	**13**	*e*Pg	**Pg**	**12 38 59.6**	**-2.0**
IKFM				*e*		12 39 21.4	
IKMR	**Kamar-syah**	**1.21**	**34**	*e*		12 39 25.9	
IKMR				*e*Pg	**Pb**	**12 39 03.7**	**-0.9**
IDOB	**Doab**	**1.37**	**22**	*e*Pg	**Pn**	**12 39 05.8**	**-1.2**
IBDR	**Badra**	**1.51**	**294**	*e*Pg	**Pn**	**12 39 08.0**	**-0.6**
IBDR				*e*Sg	**Sn**	**12 39 28.0**	**-0.3**
IBDR				AML	AML	12 39 38.6	
	comp=N,130nm,0.5s						
IBDR				AML	AML	12 39 39.3	
	comp=E,231nm,0.7s						
BMDN	**Meydan**	**1.57**	**42**	*e*		12 39 38.1	
BMDN				*e*Pg	**Pn**	**12 39 09.3**	**-0.3**
IKOM	**Komasi**	**1.66**	**358**	*e*Pg	**Pn**	**12 39 11.5**	**+0.6**
IKOM				*e*		12 39 43.2	
KCHF	**Cheshme Sefid,**	**1.82**	**346**	*e*	Sg	12 39 48.5	+8.5
HSAM	**Samen**	**1.91**	**27**	*e*Pg	**Pn**	**12 39 14.9**	**+0.5**
HSAM				*e*		12 39 50.7	
KER	**Kermanshah**	**1.91**	**349**	*e*Pn	**Pn**	**12 39 15.3**	**+1.0**
NSR	**Nassriya**	**1.93**	**220**	*e*Pn	**Pn**	**12 39 14.0**	**-0.4**
NSR				*e*Sn	**Sn**	**12 39 38.0**	**-0.7**
IBZA	**Bozab**	**1.97**	**7**	*e*Pg	**Pn**	**12 39 16.7**	**+1.4**
IGHG	**Ghaleghazi**	**2.00**	**335**	*e*Pn	**Pn**	**12 39 17.3**	**+1.6**
IGHG				*e*		12 40 00.6	
IVIS	**Veis**	**2.10**	**343**	*e*Pn	**Pn**	**12 39 18.0**	**+1.1**
IVIS				*e*		12 39 55.3	
IALM	**Almabolaq**	**2.40**	**12**	*e*Pn	**Pn**	**12 39 22.0**	**+0.9**
IDHR	**Dehrash**	**2.40**	**336**	*e*Pn	**Pn**	**12 39 22.9**	**+1.8**
IDHR				*e*		12 40 04.5	
JHBN	**Jahan bin**	**2.63**	**95**	*e*Pn	**Pn**	**12 39 25.5**	**+1.1**
JHBN				*e*		12 40 07.3	
HAGD	**Aghdareh**	**2.65**	**29**	*e*Pn	**Pn**	**12 39 23.9**	**-0.7**
HAGD				*e*		12 40 10.1	
HSRG	**Sareghieh**	**2.79**	**12**	*e*Pn	**Pn**	**12 39 28.0**	**+1.5**
HSRG				*e*		12 40 19.6	
BHD	**Baghdad**	**2.79**	**287**	*e*Pn	**Pn**	**12 39 26.0**	**-0.3**
BHD				*e*Sn	**Sn**	**12 40 00.0**	**0.0**
IPIR	**Pirpir**	**2.81**	**86**	*e*Pn	**Pn**	**12 39 28.1**	**+1.3**
IPIR				*e*		12 40 14.1	
IKLH	**Kolahrood**	**3.46**	**75**	*e*Pn	**Pn**	**12 39 35.3**	**-0.5**
IKLH				*e*		12 40 41.3	
QABG	**Abgarm-Qazvin**	**3.60**	**27**	*e*Pn	**Pn**	**12 39 38.5**	**+0.9**
KLNJ	**Kolanjah**	**3.73**	**113**	*e*Pn	**Pn**	**12 39 41.6**	**+2.0**
KLNJ				*e*		12 40 56.4	
IZEF	**Zefreh**	**4.03**	**83**	*e*Pn	**Pn**	**12 39 44.7**	**+1.2**
QSDN	**Sirdan**	**4.20**	**18**	*e*Pn	**Pn**	**12 39 45.2**	**-0.7**

NEIC ***19*** *12:41:34.5±2.8,35.°82N±0.°03×97.°46W±0.°06,h4km±4km, Error ellipse: s-maj=6.9km s-min=4.4km az=2.0*
ANF ***19*** *12:41:35.0±0.6,35.°81N×97.°43W,h4km±4km,ML5.6/17, Error ellipse: s-maj=1.7km s-min=1.3km az=4.0*
TUL ***19*** *12:41:35.7±3.5,35.°77N±0.°03×97.°47W±0.°05,h5km±4km, ML4.3,mb4.4/28(NEIC),Mwr4.4/56(NEIC),Error ellipse: s-maj=0.0km s-min=0.0km az=143.0*
IDC ***19*** *12:41:35.7±0.7,35.°77N×97.°49W,h0km,mb4.2/13, mb1 4.3/21,mb1mx4.2/51,mbtmp4.2/21,ML3.7/7,MS3.6/20, Ms1 3.6/20,ms1mx3.5/60,Error ellipse: s-maj=12.2km s-min=9.0km az=152.0*
NEIC ***19*** *12:41:35.7,35.°77N×97.°47W,h7km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.58; Mθθ=4.00; Mφφ=-3.42; Mrθ=-0.16; Mrφ=1.84; Mθφ=-0.94; Fault plane solution: M₀4.28000×10¹⁵ NP1:ϕs32.66000°,δ83.10000°, λ-166.88000°. Principal axes: T 4.4594, Plg4.0000°, Azm166.0000°; N -0.3859, Plg75.0000°, Azm60.0000°; P -4.0734, Plg14.0000°, Azm257.0000°;*
ISC 19 12:41:35.3±1.0,**35.°83N**±0.°03×**97.°42W**±0.°03,**h3**km±7km,
n403,σ1°64/413,mb4.4/23,MS3.8/15,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.04**	**222**		**Pg**	**12 41 37.1**	**+0.9**
ADOK	**Arcadia Dam**	**0.18**	**167**	Pg	**Pg**	**12 41 38.9**	**+0.1**
ADOK				Sg	**Sg**	**12 41 41.5**	**+0.4**
BCOK	**Bluff Creek, N**	**0.23**	**222**		**Pg**	**12 41 39.0**	**-0.7**
BCOK				Sg	**Sg**	**12 41 41.7**	**-1.0**
OK009	**Oakdale Elemen**	**0.25**	**180**		**Pg**	**12 41 39.7**	**-0.2**
OK009					**Pg**	**12 41 39.8**	**-0.2**
OK005	**Luther M Schoo**	**0.25**	**133**	Pg	**Pg**	**12 41 41.0**	**+0.8**
OK025	**Westminster Rd**	**0.26**	**165**		**Pg**	**12 41 40.3**	**+0.1**
OK025				Sg	**Sg**	**12 41 43.9**	**+0.4**
OK001	**Jones High Sch**	**0.29**	**158**	Pg	**Pg**	**12 41 41.0**	**+0.2**
OK001				Sg	**Sg**	**12 41 44.6**	**+0.1**
OKCFA	**Oklahoma City**	**0.41**	**183**		**Pg**	**12 41 42.6**	**-0.6**
OKCFA				Sg	**Sg**	**12 41 48.6**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**0.42**	**182**		**Pg**	**12 41 42.9**	**-0.5**
FNO	**Franklin**	**0.57**	**178**		**Pg**	**12 41 46.0**	**-0.2**
QUOK	**Quay**	**0.67**	**59**	Pg	**Pb**	**12 41 49.5**	**-0.1**
W35A	**Tecumseh**	**0.81**	**146**	Pg	**Pg**	**12 41 50.4**	**-0.4**
CROK	**Carrier**	**0.81**	**326**		**Pg**	**12 41 51.5**	**+0.6**
KAN13	**South Haven SW**	**1.18**	**358**		**Pb**	**12 41 58.7**	**+0.4**
X34A	**Smith Ranch, M**	**1.27**	**196**	Pg	**Pg**	**12 41 58.3**	**-1.3**
T35A	**Scott Cattle**	**1.31**	**34**		**Pn**	**12 42 00.7**	**+0.2**
TUL1	**Leonard**	**1.32**	**86**	P	**Pn**	**12 42 00.1**	**-0.5**
	baz=267,SNR=943						
TUL1				S	**Sn**	**12 42 18.5**	**-0.3**
	baz=267						
TUL1	**Leonard**	**1.32**	**86**		**Pn**	**12 41 60.0**	**-0.7**
KAN10	**Anthony SW Sta**	**1.40**	**337**		**Pn**	**12 42 01.8**	**+0.1**
KAN12	**Harper NE Stat**	**1.54**	**343**		**Pn**	**12 42 04.1**	**+0.5**
WMOK	**Wichita Mounta**	**1.56**	**226**	P	**Pn**	**12 42 02.5**	**-1.3**
	baz=44						
WMOK				S	**Sn**	**12 42 22.4**	**-2.2**
	baz=44						
WMOK	**Wichita Mounta**	**1.56**	**226**		**Pn**	**12 42 02.3**	**-1.6**
X37A	**Clayton**	**2.08**	**126**	Pn	**Pn**	**12 42 11.2**	**+0.2**
Z35A	**Perchaven, San**	**2.50**	**177**		**Pn**	**12 42 16.4**	**-0.3**
U38A	**Gravette**	**2.53**	**75**		**Pn**	**12 42 18.6**	**+1.4**
HHAR	**Hobbs**	**2.86**	**80**		**Pn**	**12 42 22.3**	**+0.6**
W39A	**Magazine**	**3.03**	**101**	P	**Pn**	**12 42 24.0**	**-0.1**
	baz=283,SNR=162						
W39A				S	**Sn**	**12 43 01.7**	**+0.8**
	baz=283						
W39A	**Magazine**	**3.03**	**101**	Pn	**Pn**	**12 42 24.8**	**+0.7**
Z38A	**Mt. Pleasant**	**3.26**	**141**		**Pn**	**12 42 26.7**	**-0.4**
KSU1	**Kansas State U**	**3.33**	**11**	P	**Pn**	**12 42 28.1**	**-0.2**
	baz=192,SNR=70						
KSU1	**Kansas State U**	**3.33**	**11**	Pn	**Pn**	**12 42 29.1**	**+0.9**
MIAR	**Mount Ida**	**3.40**	**111**	P	**Pn**	**12 42 30.0**	**+0.9**
	baz=293,SNR=240						
MIAR	**Mount Ida**	**3.40**	**111**	Pn	**Pn**	**12 42 30.0**	**+0.9**
CBKS	**Cedar Bluff**	**3.51**	**329**	P	**Pn**	**12 42 30.7**	**0.0**
	baz=148,SNR=241						
CBKS	**Cedar Bluff**	**3.51**	**329**		**Pn**	**12 42 31.2**	**+0.5**
AMTX	**Amarillo**	**3.61**	**256**	P	**Pn**	**12 42 31.8**	**-0.3**
	baz=74						
AMTX				S	**Sn**	**12 43 15.5**	**+0.2**
	baz=74						
AMTX	**Amarillo**	**3.61**	**256**	Pn	**Pn**	**12 42 31.9**	**-0.2**
ABTX	**Abilene, Hawle**	**3.69**	**211**	P	**Pn**	**12 42 32.4**	**-0.7**
	baz=29						
ABTX				S	**Sn**	**12 43 17.3**	**+0.1**
	baz=29						
ABTX	**Abilene, Hawle**	**3.69**	**211**		**Pn**	**12 42 32.3**	**-0.8**
U40A	**Yellville**	**3.74**	**81**	P	**Pn**	**12 42 34.1**	**+0.3**
	baz=263,SNR=78						
U40A	**Yellville**	**3.74**	**81**		**Pn**	**12 42 34.2**	**+0.4**
S39A	**Bolivar**	**3.78**	**59**	Pn	**Pn**	**12 42 35.5**	**+1.1**
WHTX	**Lake Whitney,**	**3.83**	**180**	P	**Pn**	**12 42 34.3**	**-0.7**
	baz=360						
WHTX				Sb	**Sb**	**12 43 31.2**	**+1.1**
	baz=360						
WHTX	**Lake Whitney,**	**3.83**	**180**		**Pn**	**12 42 34.3**	**-0.7**
X40A	**Basin Creek Fa**	**3.99**	**108**	P	**Pn**	**12 42 37.3**	**+0.1**
	baz=291,SNR=83						
X40A	**Basin Creek Fa**	**3.99**	**108**	Pn	**Pn**	**12 42 38.3**	**+1.1**
237A	**Washetta, Mont**	**4.04**	**160**	Pn	**Pn**	**12 42 37.0**	**-1.1**
WLAR	**White Oak Lake**	**4.14**	**120**		**Pn**	**12 42 39.9**	**+0.5**
WHAR	**Wooly Hollow**	**4.22**	**96**		**Pn**	**12 42 40.7**	**+0.3**
W41B	**Gary Mavity, V**	**4.27**	**97**	P	**Pn**	**12 42 40.7**	**-0.5**
	baz=280,SNR=132						
W41B				S	**Sn**	**12 43 32.8**	**+1.4**
	baz=280						
UALR	**University of**	**4.28**	**103**		**Pn**	**12 42 42.0**	**+0.7**
FCAR	**Ozark Folk Cen**	**4.30**	**88**		**Pn**	**12 42 42.0**	**+0.4**
MGMO	**Mountain Grove**	**4.36**	**71**	Pn	**Pn**	**12 42 43.7**	**+1.3**
Z41A	**Richland Creek**	**4.59**	**123**	P	**Pn**	**12 42 45.5**	**0.0**
	baz=305						
Z41A				S	**Sn**	**12 43 40.2**	**+0.8**
	baz=305						
NATX	**Nacogdoches**	**4.66**	**150**	P	**Pn**	**12 42 45.6**	**-0.9**
	baz=331						
NATX				S	**Sn**	**12 43 42.3**	**+1.2**
	baz=331						
MSTX	**Muleshoe**	**4.77**	**249**	P	**Pn**	**12 42 47.4**	**-0.8**
	baz=66						
R40A	**Maddies Statio**	**4.80**	**58**	Pn	**Pn**	**12 42 48.7**	**+0.3**
CCAR	**Cane Creek**	**5.02**	**111**	Pn	**Pn**	**12 42 51.7**	**+0.3**
435B	**Jarrell**	**5.03**	**182**	P	**Pn**	**12 42 50.8**	**-0.9**
	baz=1.1						
435B				S	**Sn**	**12 43 50.7**	**+0.4**
	baz=1.1						
LCAR	**Lake Charles**	**5.09**	**85**		**Pn**	**12 42 52.3**	**-0.1**
KSCO	**Kaye Shedlock'**	**5.22**	**309**	P	**Pn**	**12 42 53.8**	**-0.5**
	baz=126,SNR=28						
KSCO				S	**Sn**	**12 43 54.6**	**-0.6**
	baz=126						
CCM	**Cathedral Cave**	**5.42**	**64**	P	**Pn**	**12 42 56.0**	**-1.0**
	baz=248						
CCM	**Cathedral Cave**	**5.42**	**64**		**Pn**	**12 42 57.5**	**+0.5**
HBAR	**Harrisburg**	**5.51**	**91**	Pn	**Pn**	**12 42 58.1**	**-0.1**
X43A	**Marvell**	**5.51**	**102**	P	**Pn**	**12 42 57.5**	**-0.7**
	baz=286,SNR=9.6						
X43A				S	**Sn**	**12 44 03.2**	**+1.1**
	baz=286						
BGNE	**Belgrade**	**5.60**	**354**	P	**Pn**	**12 42 58.8**	**-0.7**
	baz=174,SNR=9.1						
BGNE				S	**Sn**	**12 44 04.7**	**+0.4**
	baz=174						
JCT	**Junction City**	**5.70**	**201**	P	**Pn**	**12 42 59.8**	**-1.0**
	baz=19						
JCT	**Junction City**	**5.70**	**201**		**Pn**	**12 42 60.0**	**-0.8**
T25A	**Trinidad**	**5.78**	**285**	P	**Pn**	**12 43 01.6**	**-0.5**
	baz=101,SNR=27						
FVM	**French Village**	**6.00**	**67**	Pn	**Pn**	**12 43 05.6**	**+0.7**
HKT	**Hockley**	**6.01**	**167**	Pn	**Pn**	**12 43 05.4**	**+0.4**
CLNB	**Carlsbad**	**6.43**	**238**	Pn	**Pn**	**12 43 10.4**	**-0.5**
OXF	**Oxford**	**6.69**	**99**	P	**Pn**	**12 43 14.5**	**+0.1**
	baz=284,SNR=38						
OXF				S	**Sn**	**12 44 32.4**	**+1.3**
	baz=284						
W45A	**Hickory Valley**	**6.75**	**93**		**Pn**	**12 43 15.5**	**+0.3**
SDCO	**Great Sand Dun**	**6.76**	**289**	P	**Pn**	**12 43 15.6**	**0.0**
	baz=104,SNR=176						
SDCO	**Great Sand Dun**	**6.76**	**289**		**Pn**	**12 43 16.4**	**+0.7**
Y45A	**Yeager Farm, C**	**6.77**	**105**		**Pn**	**12 43 14.9**	**-0.5**
VBMS	**Vicksburg**	**6.77**	**120**	P	**Pn**	**12 43 15.6**	**+0.1**
	baz=304						
GDL2	**Guadalupe Moun**	**6.81**	**240**		**Pn**	**12 43 15.5**	**-0.6**
SCIA	**State Center**	**6.90**	**27**	P	**Pn**	**12 43 17.7**	**+0.4**
	baz=210,SNR=8.0						
SCIA				S	**Sn**	**12 44 35.9**	**-0.3**
	baz=210						
Q24A	**Divide**	**6.90**	**299**	P	**Pn**	**12 43 17.3**	**-0.3**
	baz=115,SNR=35						
N41A	**Harden Midland**	**7.10**	**45**	Pn	**Pn**	**12 43 20.2**	**+0.2**
T45A	**Paducah**	**7.17**	**78**	Pn	**Pn**	**12 43 21.4**	**+0.3**
P43A	**Skaggs, Pawnee**	**7.33**	**56**		**Pn**	**12 43 23.6**	**+0.5**
ISCO	**Idaho Springs**	**7.60**	**304**	P	**Pn**	**12 43 26.5**	**-0.6**
	baz=119,SNR=79						
ISCO				S	**Sn**	**12 44 52.2**	**-1.7**
	baz=119						
ISCO	**Idaho Springs**	**7.60**	**304**		**Pn**	**12 43 26.9**	**-0.3**
833A	**Chaparral WMA,**	**7.67**	**193**	P	**Pn**	**12 43 27.1**	**-0.7**
	baz=12						
833A	**Chaparral WMA,**	**7.67**	**193**		**Pn**	**12 43 27.9**	**+0.1**
BNM	**Barren Site**	**7.74**	**260**		**Pn**	**12 43 28.3**	**-0.7**
WVT	**Waverly**	**7.78**	**85**	P	**Pn**	**12 43 28.7**	**-0.7**
	baz=271						
WVT	**Waverly**	**7.78**	**85**		**Pn**	**12 43 29.3**	**-0.1**
S22A	**4UR Ranch, Cre**	**7.79**	**287**	P	**Pn**	**12 43 28.0**	**-1.8**
	baz=102						
MNTX	**Cornudas Mount**	**7.80**	**240**	P	**Pn**	**12 43 28.3**	**-1.4**
	baz=56,SNR=108						
MNTX	**Cornudas Mount**	**7.80**	**240**		**Pn**	**12 43 28.8**	**-0.9**
L40A	**Anamosa**	**7.88**	**36**		**Pn**	**12 43 31.4**	**+0.7**
ECSD	**EROS Data Cent**	**7.92**	**4**	P	**Pn**	**12 43 30.9**	**-0.4**
	baz=185,SNR=63						
ECSD	**EROS Data Cent**	**7.92**	**4**		**Pn**	**12 43 30.9**	**-0.4**
HDIL	**Hopedale**	**7.95**	**51**	P	**Pn**	**12 43 31.5**	**-0.2**
	baz=236,SNR=37						
HDIL	**Hopedale**	**7.95**	**51**		**Pn**	**12 43 31.5**	**-0.2**
O44A	**Mansfield**	**8.28**	**56**		**Pn**	**12 43 37.6**	**+1.4**
PHWY	**Pilot Hill**	**8.33**	**313**		**Pn**	**12 43 36.7**	**-0.5**
TX31	**Lajitas Ar. Si**	**8.35**	**221**		**Pn**	**12 43 35.1**	**-2.1**
TXAR	**Lajitas Array**	**8.35**	**221**	Pn	**Pn**	**12 43 35.5**	**-1.8**
	1.0nm,0.3s,baz=44,slow=11,SNR=37						
TXAR				Lg	Lg	12 45 52.5	
	20nm,0.3s,baz=4.2,slow=19,SNR=4.8						
TXAR				LR	LR	12 47 11.1	
	comp=Z,295nm,20.3s,baz=0.0,slow=41						
TXAR	**Lajitas Array**	**8.35**	**221**		**Pn**	**12 43 34.4**	**-2.9**
N23A	**Red Feather La**	**8.39**	**310**	P	**Pn**	**12 43 38.0**	**0.0**
	baz=125,SNR=110						
N23A	**Red Feather La**	**8.39**	**310**		**Pn**	**12 43 38.3**	**+0.4**
T47A	**Sharon Grove**	**8.40**	**79**		**Pn**	**12 43 38.0**	**+0.1**
X48A	**Hartselle**	**8.61**	**96**		**Pn**	**12 43 40.7**	**0.0**
L42A	**Oliver, Polo**	**8.63**	**42**		**Pn**	**12 43 41.2**	**+0.2**
SUSD	**Miller**	**8.69**	**353**	P	**Pn**	**12 43 42.6**	**+0.8**
	baz=172						
JFWS	**Jewell Farm**	**8.99**	**36**	P	**Pn**	**12 43 46.0**	**0.0**
	baz=221,SNR=13						
MVCO	**Mesa Verde**	**9.03**	**282**	P	**Pn**	**12 43 45.3**	**-1.4**
	baz=96						
LRAL	**Lakeview Retre**	**9.05**	**105**	P	**Pn**	**12 43 46.1**	**-0.6**
	baz=291,SNR=8.3						
LRAL	**Lakeview Retre**	**9.05**	**105**	Pn	**Pn**	**12 43 46.6**	**-0.1**
WCI	**Wyandotte Cave**	**9.21**	**72**	P	**Pn**	**12 43 50.9**	**+1.9**
	baz=258			

LAO	LASA Array	12.70	331		Pn	12 44 35.4	-1.4		
T54A	Tazewell	12.82	80	P	Pn	12 44 36.6	-1.8		
	baz=269								
N51A	Ashland	12.85	62	P	Pn	12 44 37.7	-1.0		
	baz=252								
EYMN	Ely	12.88	18	P	Pn	12 44 36.3	-3.0		
	baz=202,SNR=9.1								
EYMN	Ely	12.88	18	Pn	Pn	12 44 36.2	-3.0		
Y55A	Saluda	12.92	94	P	Pn	12 44 38.8	-0.9		
	baz=283								
TPAW	Teton Pass	12.92	310		Pn	12 44 39.1	-0.9		
RLMT	Red Lodge	12.93	319	P	Pn	12 44 38.1	-2.0		
	baz=132								
RLMT	Red Lodge	12.93	319	Pn	Pn	12 44 39.0	-1.1		
ECR	Eagle Creek	12.96	308	Pn	Pn	12 44 38.0	-2.5		
X55A	Gracelyn & Ava	12.99	91	P	Pn	12 44 38.4	-2.4		
	baz=280								
Q53A	Leroy	13.01	72	P	Pn	12 44 39.7	-1.2		
	baz=262,SNR=8.0								
O52A	Adamsville	13.02	66	P	Pn	12 44 40.5	-0.6		
	baz=256								
O52A	Adamsville	13.02	66	Pn	Pn	12 44 39.2	-1.9		
FXWY	Fox Creek	13.05	311		Pn	12 44 39.9	-1.8		
S54A	Dingess, Beckl	13.06	77	P	Pn	12 44 41.3	-0.4		
	baz=266								
S54A	Dingess, Beckl	13.06	77		Pn	12 44 41.6	-0.1		
M51A	Elyria	13.12	61	P	Pn	12 44 41.9	-0.5		
	baz=250								
KMSC	Kings Mountain	13.13	88	P	Pn	12 44 41.2	-1.5		
	baz=278								
KMSC	Kings Mountain	13.13	88	Pn	Pn	12 44 41.4	-1.3		
E43A	Lone Tree Farm	13.13	33		Pn	12 44 41.0	-1.6		
IMW	Indian Meadow	13.13	312	Pn	Pn	12 44 42.6	-0.3		
V55A	Taylorsville	13.15	85	P	Pn	12 44 41.2	-1.7		
	baz=275								
V55A	Taylorsville	13.15	85		Pn	12 44 43.5	+0.5		
YMP	Mirror Lake Pl	13.17	316		Pn	12 44 43.9	+0.5		
H17A	Grant Village	13.20	314	P	Pn	12 44 43.1	-0.7		
	baz=126								
P53A	Whipple	13.22	69	P	Pn	12 44 41.9	-1.9		
	baz=259,SNR=5.1								
U55A	TA2, Sparta	13.25	82	P	Pn	12 44 43.0	-1.3		
	baz=272								
GLMI	Grayling	13.26	43	P	Pn	12 44 42.5	-1.8		
	baz=232								
R54A	Victor	13.34	75	P	Pn	12 44 45.2	-0.4		
	baz=265								
T55A	Pulaski	13.45	80	P	Pn	12 44 47.1	+0.1		
	baz=270								
X56A	White Oak	13.48	91	P	Pn	12 44 46.4	-1.0		
	baz=280								
O53A	New Philadelph	13.51	66	P	Pn	12 44 45.2	-2.6		
	baz=256,SNR=6.0								
Q54A	Coxs Mills	13.56	72	P	Pn	12 44 47.4	-1.0		
	baz=262								
DGMT	Dagmar	13.59	340	P	Pn	12 44 46.2	-2.6		
	baz=156,SNR=29								
S55A	Lewisburg	13.70	77	P	Pn	12 44 48.6	-1.8		
	baz=267								
V56A	Mocksville	13.74	85	P	Pn	12 44 49.9	-1.0		
	baz=275								
W56A	Indian Trail	13.74	88	P	Pn	12 44 49.0	-1.9		
	baz=278								
BLA	Blacksburg	13.75	79	P	Pn	12 44 49.9	-1.1		
	baz=269								
M52A	Chesterland	13.78	61	P	Pn	12 44 49.5	-2.0		
	baz=251								
P54A	Burton	13.93	69	P	Pn	12 44 50.7	-2.8		
	baz=260,SNR=6.9								
N53A	Lisbon	13.93	64	P	Pn	12 44 52.2	-1.3		
	baz=254								
R55A	Marlinton	14.03	75	P	Pn	12 44 52.5	-2.5		
	baz=265,SNR=7.1								
T56A	Rocky Mt	14.06	80	P	Pn	12 44 54.4	-0.9		
	baz=270								
O54A	Avella	14.12	67	P	Pn	12 44 54.6	-1.6		
	baz=258,SNR=8.9								
O54A	Avella	14.12	67		Pn	12 44 55.2	-0.9		
M53A	Wl Miller and	14.23	62	P	Pn	12 44 55.9	-1.8		
	baz=252								
X57A	Johnson Farm,	14.25	90	P	Pn	12 44 56.8	-1.0		
	baz=280								
V57A	Coltrane Farms	14.31	85	P	Pn	12 44 56.6	-2.2		
	baz=275								
P55A	Reedsville	14.41	70	P	Pn	12 44 57.8	-2.3		
	baz=261								
MCWV	Mont Chateau	14.42	69	P	Pn	12 44 59.8	-0.4		
	baz=260								
S56A	Natural Bridge	14.44	77	P	Pn	12 44 59.1	-1.4		
	baz=268								
ULM	Lac du Bonnet	14.46	4	Pn	Pn	12 44 56.9	-3.8		
	1.3nm,0.3s,baz=176,slow=12,SNR=7.5								
ULM				Sn	Sn	12 47 31.5	-10		
	1.0nm,0.3s,baz=245,slow=19,SNR=3.0								
ULM				Lg	Lg	12 49 06.2			
	0.7nm,0.3s,baz=286,slow=22,SNR=3.4								
ULM				LR	LR	12 51 13.7			
	comp=Z,83nm,21.0s,baz=189,slow=40								
BOZ	Bozeman (W)	14.52	317	P	Pn	12 45 02.7	+1.0		
	baz=128								
N54A	Moraine State	14.59	64	P	Pn	12 44 59.9	-2.7		
	baz=255								
R56A	Bull Pasture M	14.61	75	P	Pn	12 45 00.5	-2.4		
	baz=265								
GLA	Glamis	14.63	264	P	Pn	12 45 03.7	+0.5		
	baz=74								
U57A	Blanch	14.63	82	P	Pn	12 45 02.0	-1.1		
	baz=273								
T57A	Hurt	14.68	80	P	Pn	12 45 00.8	-3.0		
	baz=271,SNR=7.7								
L53A	Girard	14.69	60	P	Pn	12 45 01.9	-2.0		
	baz=251								
I51A	Listowel	14.89	53	P	Pn	12 45 03.4	-3.2		
	baz=243,SNR=5.5								
D46A	Sault St. Mari	14.91	38	P	Pn	12 45 05.5	-1.4		
	baz=227								
S57A	Dark Hollow, R	14.92	77	P	Pn	12 45 05.3	-1.8		
	baz=268								
O55A	Ligonier	14.93	68	P	Pn	12 45 05.6	-1.6		
	baz=259								
ERPA	Erie	14.93	60	P	Pn	12 45 04.7	-2.5		
	baz=251								
M54A	Oil Creek Stat	14.98	62	P	Pn	12 45 05.1	-2.7		
	baz=254								
F48A	Evansville	14.99	44	P	Pn	12 45 04.4	-3.5		
	baz=233								
E47A	Iron Bridge	15.02	41	P	Pn	12 45 05.3	-3.0		
	baz=230								
P56A	Dayton Farm, R	15.17	70	P	Pn	12 45 07.2	-3.2		
	baz=262								
HLID	Hailey	15.18	306	P	Pn	12 45 09.0	-1.6		
	baz=115								
EGMT	Eagleton	15.23	327	P	Pn	12 45 09.5	-1.7		
	baz=139,SNR=15								
EGMT	Eagleton	15.23	327		Pn	12 45 09.5	-1.7		
F49A	Sandfield	15.28	45	P	Pn	12 45 07.8	-3.9		
	baz=235,SNR=9.2								
N55A	Marion Center	15.29	66	P	Pn	12 45 09.2	-2.7		
	baz=257								
R57A	Stanardsville	15.29	75	P	Pn	12 45 11.3	-0.6		
	baz=266								
Q57A	Strasburg	15.44	72	P	Pn	12 45 11.7	-2.3		
	baz=264								
O56A	Blue Knob Stat	15.50	68	P	Pn	12 45 12.4	-2.3		
	baz=259								
D47A	Chapleau	15.50	39	P	Pn	12 45 11.2	-3.5		
	baz=229,SNR=5.7								
V59A	Middlesex	15.57	85	P	Pn	12 45 12.7	-2.9		
	baz=276								
M55A	Ridgway	15.62	63	P	Pn	12 45 13.3	-3.0		
	baz=255								
E48A	Lockeyer	15.63	42	P	Pn	12 45 12.8	-3.6		
	baz=232,SNR=6.2								
S58A	Poland Farm, P	15.64	78	P	Pn	12 45 14.3	-2.2		
	baz=269								
R58A	Rapidan	15.70	75	P	Pn	12 45 15.0	-2.2		
	baz=267								
P57A	Homestead Farm	15.80	71	P	Pn	12 45 16.3	-2.2		
	baz=263								
PFO	Pinyon Flats O	15.81	267	Pn	Pn	12 45 19.4	+0.5		
	0.1nm,0.3s,baz=82,slow=11,SNR=2.9								
PFO				Lg	Lg	12 49 50.5			
	0.1nm,0.3s,baz=302,slow=3.7,SNR=2.4								
PFO				LR	LR	12 51 35.9			
	comp=Z,204nm,21.7s,baz=85,slow=38								
U59A	Littleton	15.88	82	P	Pn	12 45 17.7	-2.0		
	baz=274								
Q58A	Fox Den Farm,	15.99	73	P	Pn	12 45 19.3	-1.8		
	baz=265								
T59A	Double "B" Far	16.04	80	P	Pn	12 45 20.2	-1.5		
	baz=272								
M56A	Emporium	16.04	64	P	Pn	12 45 19.1	-2.7		
	baz=256								
L55A	Hinsdale	16.05	61	P	Pn	12 45 18.7	-3.2		
	baz=253								
SSPA	Standing Stone	16.07	67	P	Pn	12 45 19.2	-2.9		
	baz=259								
O57A	Amberson	16.19	68	P	Pn	12 45 21.4	-2.3		
	baz=261								
D48A	Paudash Townsh	16.25	41	P	Pn	12 45 21.4	-3.0		
	baz=231								
P58A	Pank, Wackersv	16.34	71	P	Pn	12 45 22.7	-2.9		
	baz=263								
N57A	Milroy	16.35	67	P	Pn	12 45 22.6	-3.1		
	baz=259,SNR=7.9								
E50A	Wahnapitae	16.40	45	P	Pn	12 45 23.3	-3.0		
	baz=236								
SADO	Sadowa	16.53	52	Pn	Pn	12 45 26.2	-1.8		
	0.5nm,0.3s,baz=258,slow=8.6,SNR=3.2								
SADO				Sn	Sn	12 48 21.9	-10		
	1.7nm,0.3s,baz=264,slow=8.4,SNR=3.1								
SADO				Lg	Lg	12 50 11.1			
	1.7nm,0.3s,baz=340,slow=21,SNR=7.0								
MSO	Missoula	16.54	317	P	Pn	12 45 25.8	-2.4		
	baz=126								
F51A	Arnstein	16.61	47	P	Pn	12 45 25.7	-3.3		
	baz=239,SNR=11								
L56A	Greenwood	16.66	62	P	Pn	12 45 27.9	-1.8		
	baz=254								
L56A	Greenwood	16.66	62	Pn	Pn	12 45 29.0	-0.7		
L56A				IAmb	IAmb	12 45 35.5			
	comp=Z,29nm,0.9s								
O58A	Lewisberry	16.71	69	P	Pn	12 45 27.9	-2.5		
	baz=262								
M57A	Sunshine Farm,	16.78	65	P	Pn	12 45 28.2	-3.0		
	baz=257								
H53A	Bobcaygeon	16.81	53	P	Pn	12 45 28.8	-2.7		
	baz=245								
EDW2	Edwards Air Fo	16.81	273	P	Pn	12 45 28.2	-3.5		
	baz=81								
J55A	Hilton	16.82	58	P	Pn	12 45 29.3	-2.4		
	baz=250								
NVAR	Mina Array Bea	16.85	285	Pn	P	12 45 34.6	0.0		
	comp=Z,0.1nm,0.3s,baz=94,slow=13,SNR=8.5								
NVAR				Lg	Lg	12 50 19.2			
	comp=Z,0.1nm,0.3s,baz=87,slow=15,SNR=1.6								
K56A	Middlesex	16.99	60	P	Pn	12 45 30.9	-3.0		
	baz=253								
N58A	Sunbury	16.99	67	P	Pn	12 45 29.7	-4.1		
	baz=260								
E51A	G1948 Merrick	17.18	46	P	Pn	12 45 32.3	-3.8		
	baz=238,SNR=5.1								
M58A	Price's Panora	17.28	65	P	Pn	12 45 35.0	-2.5		
	baz=258,SNR=8.9								
D50A	G1974 Best Tow	17.33	44	P	Pn	12 45 33.7	-4.3		
	baz=236,SNR=17								
G54A	Lake Saint Pet	17.48	51	P	Pn	12 45 37.3	-2.7		
	baz=244								
TEIG	Tepich	17.50	150	P	P	12 45 44.2	+2.8		
	comp=Z,0.9nm,0.3s,baz=326,slow=7.3,SNR=1.2								
TEIG				S	Sn	12 48 43.5	-12		
	comp=Z,1.1nm,0.3s,baz=8.0,slow=8.0,SNR=2.9								
TEIG	Tepich	17.50	150	IAmb	IAmb	12 45 56.3			
	comp=Z,24nm,1.1s								
E52A	Mattawa	17.55	48	P	Pn	12 45 37.7	-3.1		
	baz=240								
D51A	Lot 18 Range I	17.55	45	P	Pn	12 45 37.3	-3.5		
	baz=237								
K57A	Scipio Center	17.57	61	P	Pn	12 45 38.6	-2.5		
	baz=254								
H55A	Tweed	17.71	54	P	Pn	12 45 39.7	-3.1		
	baz=248								
ALGO	Algonquin Park	17.76	49	P	Pn	12 45 41.9	-1.5		
	baz=242								
BINY	Binghamton	17.81	63	P	Pn	12 45 42.2	-1.8		
	baz=256								
L58A	Harry Jones Me	17.87	63	P	Pn	12 45 42.5	-2.3		
	baz=257								
O60A	Telford	17.89	69	P	Pn	12 45 42.8	-2.3		
	baz=262								
D52A	ZEK Kipawa Sen	18.04	46	P	Pn	12 45 43.8	-3.1		
	baz=239,SNR=6.4								
M59A	Waymart	18.07	65	P	Pn	12 45 44.3	-3.0		
	baz=259								
J57A	Williamstown	18.13	59	P	Pn	12 45 45.0	-2.9		
	baz=252								
J57A	Williamstown	18.13	59	P	Pn	12 45 47.4	-0.6		
K58A	Earlville	18.19	61	P	Pn	12 45 46.5	-2.3		
	baz=255								
E53A	Dumoine, Ponti	18.19	49	P	Pn	12 45 46.3	-2.4		
	baz=242								
N60A	Cedar Hill Far	18.20	67	P	Pn	12 45 46.6	-2.3		
	baz=261								
G55A	Calabogie	18.29	53	P	Pn	12 45 48.2	-1.8		
	baz=246								
H56A	Elgin	18.34	55	P	Pn	12 45 48.3	-2.2		
	baz=249								
L59A	Walton	18.49	63	P	P	12 45 48.9	-3.5		
	baz=257								
E54A	Lac Daplat, Po	18.51	49	P	P	12 45 52.0	-0.5		
	baz=242								
D53A	Lac Vacive, Po	18.52	47	P	P	12 45 50.9	-1.7		
	baz=240								
I57A	Carthage	18.52	57	P	P	12 45 50.0	-2.7		
	baz=252								
J58A	Remsen	18.61	59	P	P	12 45 50.0	-3.6		
	baz=254								
M60A	Port Jervis	18.63	66	P	P	12 45 51.4	-2.5		
	baz=260								
K59A	Cooperstown	18.76	61	P	P	12 45 53.1	-2.3		
	baz=256								
CMIG	Matias Romero	18.80	172	P	Pn	12 45 59.1	+2.8		
	comp=Z,0.3nm,0.3s,baz=14,slow=8.8,SNR=4.1								
CMIG				S	Sn	12 49 11.9	-15		
	comp=Z,0.1nm,0.3s,baz=202,slow=20,SNR=1.5								
CMIG				LR	LR	12 54 51.4			
	comp=Z,110nm,21.8s,baz=348,slow=42								
H57A	Richville	18.88	56	P	P	12 45 53.5	-3.1		
	baz=250								
I58A	Old Forge	18.92	59	P	P	12 45 55.6	-1.6		
	baz=253								
L60A	Shokan	19.05	64	P	P	12 45 56.4	-2.0		
	baz=259								
NEW	Newport	19.13	317	P	Pn	12 46 01.9	+1.7		
	comp=Z,0.1nm,0.3s,baz=128,slow=11,SNR=11								
NEW				Lg	Lg	12 51 25.5			
	comp=Z,0.1nm,0.3s,baz=34,slow=12,SNR=2.7								
NEW	Newport	19.13	317	P	P	12 45 58.5	-0.9		
	baz=124								
D54A	Lac Fusel, La	19.17	47	P	P	12 45 59.3	-0.5		
	baz=241								
J59A	Piesco	19.19	60	P	P	12 45 58.4	-1.6		
	baz=254								
H58A	Gabriels	19.69	57	P	P	12 46 05.3	-0.2		
	baz=252								
I59A	Olmsteadville	19.72	59	P	P	12 46 06.1	+0.3		
	baz=254								
J05D	Fort Rock, OR	19.77	299	P	P	12 46 06.5	-0.1		
	baz=104								
D55A	Sainte-Anne-du	19.83	49	P	P	12 46 05.2	-1.7		
	baz=244								
K61A	Williamstown	19.88	63	P	P	12 46 06.4	-1.1		
	baz=258								
E56A	St. Veronique	19.89	51	P	P	12 46 07.1	-0.6		
	baz=245								
J60A	Lant Hill Farm	19.89	61	P	P	12 46 07.3	-0.4		
	baz=256								
M04C	Macdoel	19.91	295	P	P	12 46 06.3	-1.7		
	baz=100								
LSQQ	Lebel-sur-Quev	19.98	42	P	P	12 46 07.1	-1.4		
	baz=236								
MATQ	Matagami	20.03	40	P	P	12 46 07.5	-1.6		
	baz=233								
H59A	Cadyville	20.09	57	P	P	12 46 08.0	-1.8		
	baz=252								
I05D	Terrebonne, OR	20.13	302	P	P	12 46 10.1	-0.2		
	baz=107								
I60A	Shoreham	20.14	59	P	P	12 46 09.7	-0.6		
	baz=255								
L61B	Northampton	20.26	63	P	P	12 46 09.4	-2.3		
	baz=259								
D56A	ZEC Mazanza, M	20.28	49	P	P	12 46 09.9	-2.0		
	baz=245								
E57A	Chemin Saint G	20.40	52	P	P	12 46 11.9	-1.3		
	baz=247								
YBH	Yreka Blue Hor	20.54	294	P	P	12 46 14.2	-0.7		
	comp=Z,3.7nm,0.9s,baz=78,slow=19,SNR=2.1								
YBH				Lg	Lg	12 52 20.6			
	comp=Z,3.7nm,0.4s,baz=261,slow=24,SNR=3.7								
YBH	Yreka Blue Hor	20.54	294	IAmb	IAmb	12 46 21.0			
	comp=Z,8.0nm,0.7s								
M02C	Callahan	20.60	293	P	P	12 46 14.1	-1.4		
	baz=97								
K62A	Royalston	20.62	63	Pb	Pn	12 46 18.4	+0.6		
	baz=259								
F05D	White Salmon	20.70	306	Pb	Pn	12 46 19.0	+0.1		
	baz=111								
D57A	Chemin Vers le	20.81	50	P	P	12 46 16.1	-1.5		
	baz=246								
H04D	Lebanon	21.14	302	P	P	12 46 21.1	-0.1		
	baz=106								
G60A	Masonville	21.14	56	P	P	12 46 21.1	-0.2		
	baz=253								
LBNH	Lisbon	21.19	59	P	P	12 46 22.0	+0.2		
	baz=255								
M64A	Tiverton	21.20	66	Pb	P	12 46 23.5	+1.6		
	baz=263								
H62A	Milan	21.81	58	P	P	12 46 25.4	-3.0		
	baz=256								
CHGQ	Chibougamau	21.87	43	P	P	12 46 28.2	-0.8		
	baz=239								
B05A	Bryant	22.03	312	P	P	12 46 30.7	0.0		
	baz=115								
G62A	West of Eustis	22.40	57	P	P	12 46 34.1	-0.7		
	baz=255								
H64A	Troy	23.17	59	P	P	12 46 41.9	-0.9		
	baz=257								
E62A	Clayton Lake	23.47	54	P	P	12 46 44.0	-1.9		
	baz=253								
F63A	Nahmakanta, Br	23.50	56	P	P	12 46 43.6	-2.6		
	baz=255								
E63A	Oxbow	24.15	55	P	P	12 46 52.9	+0.5		
	baz=254								
E64A	Bridgewater	24.54	55	P	P	12 46 56.9	+0.9		
	baz=255								
SCHQ	Schefferville	28.35	38	P	P	12 47 31.8	+1.5		
	comp=Z,3.9nm,0.7s,baz=235,slow=16,SNR=3.1								
SCHQ				LR	LR	12 58 56.9			
	comp=Z,127nm,18.2s,baz=312,slow=37								
SCHQ	Schefferville	28.35	38	IAmb	IAmb	12 47 34.4			
	comp=Z,5.9nm,0.9s								
YKA	Yellowknife Ar	28.76	343	P	P	12 47 35.3	+1.5		
	comp=Z,4.9nm,1.0s,baz=147,slow=9.3,SNR=4.5								
YKA				LR	LR	12 59 33.5			
	comp=Z,228nm,18.9s,baz=0.0,slow=37								
DLBC	Dease Lake	31.16	327	P	P	12 47 58.0	+2.7		
	comp=Z,3.9nm,0.7s,baz=136,slow=6.0,SNR=11								
DLBC				LR	LR	13 01 08.4			
	comp=Z,196nm,20.0s,baz=120,slow=38								
C36M	Paulatuk	36.63	345	P	P	12 48 42.4	0.0		
	baz=142								
ROSC	El Rosal	37.47	140	LR	LR	13 07 03.5			
	comp=Z,42nm,18.2s,baz=96,slow=41								
INK	Inuvik	38.27	339	P	P	12 48 57.9	+1.5		
	comp=Z,3.3nm,0.8s,baz=122,slow=10,SNR=7.0								
K27K	Chicken	38.94	331	P	P	12 49 03.4	+1.4		
	baz=115								
HDA	Harding Lake	41.06	330	P	P	12 49 20.0	+0.3		
	baz=110								
ILAR	Eielson Array	41.16	330	P	P	12 49 21.7	+1.2		
	comp=Z,7.4nm,0.7s,baz=108,slow=6.7,SNR=60								
ILAR				LR	LR	13 07 45.7			
	comp=Z,142nm,21.7s,baz=120,slow=38								
O22K	Cooper Landing	41.20	323	P	P	12 49 23.0	+2.2		
	baz=103								
BMAR	Burnt Mountain	41.33	335	P	P	12 49 22.3	+0.4		
CCB	Clear Creek Bu	41.49	330	P	P	12 49 23.9	+0.7		
CCB				IAmb	IAmb	12 49 27.7			
	comp=Z,5.6nm,0.7s								
POKR	Poker Plat Res	41.50	331	P	P	12 49 24.5	+1.3		
	baz=110								
RND	Reindeer	41.55	328	P	P	12 49 24.9	+1.2		
RND				IAmb	IAmb	12 49 28.1			
	comp=Z,6.8nm,0.9s								
COLA	College	41.58	330	P	P	12 49 23.7	-0.2		
COLA				IAmb	IAmb	12 49 27.5			
	comp=Z,7.2nm,0.9s								
TCOL	CIGO, UAF Yank	41.59	330	P	P	12 49 25.0	+1.1		
	baz=109								
MDM	Murphy Dome	41.76	330	P	P	12 49 26.5	+1.0		
MDM				IAmb	IAmb	12 49 28.8			
	comp=Z,4.1nm,0.8s								
SUA	Susitna One	41.91	325	P	P	12 49 28.9	+2.1		
TRF	Thorofare Moun	42.18	328	P	P	12 49 30.5	+1.5		
TRF				IAmb	IAmb	12 49 34.4			
	comp=Z,5.7nm,0.8s								
KDAK	Kodiak Island	42.20	319	LR	LR	13 06 10.3			
	comp=Z,109nm,20.8s,baz=98,slow=35								
SKT	Skwentna	42.38	325	P	P	12 49 31.2	+0.7		
BPAW	Bear Paw Mtn.	42.65	329	P	P	12 49 34.6	+1.9		
BPAW				IAmb	IAmb	12 49 38.0			
	comp=Z,3.8nm,0.8s								
RSO	Redoubt South	42.67	323	P	P	12 49 34.0	+0.9		
PPLA	Purkeypile	42.88	327	P	P	12 49 35.6	+0.9		
COLD	Coldfoot	43.27	333	P	P	12 49 39.4	+1.7		
TOLK	Toolik Lake Re	43.54	335	P	P	12 49 41.0	+1.2		
TOLK				IAmb	IAmb	12 49 44.1			
	comp=Z,7.0nm,0.7s								
SVW2	Sparrevohn	44.14	324	P	P	12 49 45.4	+0.6		
SVW2				IAmb	IAmb	12 49 48.2			
	comp=Z,5.5nm,0.9s								
IMAR	Indian Mountai	44.27	331	P	P	12 49 46.9	+1.3		
TTA	Tatalina	44.61	326	P	P	12 49 49.1	+0.6		
TTA				IAmb	IAmb	12 49 51.8			
	comp=Z,5.3nm,0.9s								
SDPT	Sand Point	46.48	315	P	P	12 50 03.7	+0.4		
PTGA	Pitinga	50.38	128	P	P	12 50 33.3	-0.6		
PTGA				IAmb	IAmb	12 50 35.8			
	comp=Z,3.0nm,0.8s								
BORG	Borgarnes	52.40	32	LR	LR	13 11 05.2			
	comp=Z,75nm,18.2s,baz=307,slow=34								
LPAZ	La Paz	58.79	147	LR	LR	13 20 03.8			
	comp=Z,39nm,18.0s,baz=304,slow=39								
LPAZ	La Paz	58.79	147	P	P	12 51 34.5	-1.1		
SPITS	Spitsbergen Ar	59.83	13	LR	LR	13 17 52.7			
	comp=Z,84nm,18.3s,baz=285,slow=36								
PB16	IPOC Station P	60.01	149	P	P	12 51 42.7	-1.2		
MNMC	Minye Minye	60.68	150	P	P	12 51 47.3	-0.9		
PB11	IPOC Station P	61.22	150	P	P

IKFM				*e*			12 46 53.6
IKMR	**Kamar-syah**	**1.23**	**27**	*e*Pg	**Pb**	**12 46 36.4**	**-1.0**
IKMR				*e*		12 46 58.6	
IDOB	**Doab**	**1.42**	**16**	*e*Pg	**Pn**	**12 46 40.1**	**-0.1**
IDOB				*e*		12 46 44.3	
IBDR	**Badra**	**1.65**	**295**	*e*Pg	**Pn**	**12 46 43.0**	**-0.1**
IBDR				*e*Sg	**Sn**	**12 47 05.0**	**+0.7**
IBDR				AML	AML	12 47 12.3	
	comp=N,5.4nm,0.7s						
IBDR				AML	AML	12 47 12.3	
	comp=E,5.2nm,0.8s						
IKOM	**Komasi**	**1.76**	**355**	*e*Pg	**Pn**	**12 46 46.2**	**+1.5**
IKOM				*e*		12 47 18.9	
NSR	**Nassriya**	**1.94**	**224**	*e*Pn	**Pn**	**12 46 47.0**	**-0.1**
NSR				*e*Sn	**Sn**	**12 47 12.0**	**+0.5**
IPIR	**Pirpir**	**2.70**	**84**	*e*Pn	**Pn**	**12 46 58.9**	**+1.0**
IPIR				*e*		12 47 45.6	
BHD	**Baghdad**	**2.93**	**288**	*e*Pn	**Pn**	**12 47 01.0**	**+0.4**
BHD				*e*Sn	**Sn**	**12 47 37.0**	**+1.2**
BHD				AML	AML	12 47 44.1	
	comp=E,240nm,0.4s						

IDC ***19*** *12:50:00.9±1.1,23°.88S×179°.81W,h498km±12km, mb3.8/23,mb1 3.9/26,mb1mx3.7/46,mbtmp4.7/26,Error ellipse: s-maj=13.1km s-min=11.7km az=34.0*
NEIC ***19*** *12:50:01.1±2.1,23°.94S±0°.10×179°.7W±0°.1,h508km±8km, mb4.6/55,Error ellipse: s-maj=16.0km s-min=14.0km az=107.0*

ISC 19 12:50:01.9±0.4,23°.88S±0°.06×179°.75W±0°.07,h518km, n100,σ1§26/108,mb4.5/40,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.50**	**163**	P	**P**	**12 51 31.7**	**-2.5**
	30nm,0.3s,baz=270,slow=20,SNR=1.9						
RAO				S	**S**	**12 52 48.6**	**-1.2**
	57nm,0.3s,baz=72,slow=20,SNR=1.8						
RAO	**Raoul Island**	**5.50**	**163**	P	**P**	**12 51 31.4**	**-2.8**
RAO					**S**	**12 52 47.3**	**-2.5**
MSVF	**Nonsavu**	**6.54**	**341**	P	**P**	**12 51 43.6**	**-0.8**
NIUE	**Niue**	**10.36**	**64**	P	**P**	**12 52 21.5**	**-1.8**
AFI	**Afiamalu**	**12.53**	**38**	P	**P**	**12 52 43.5**	**-2.7**
	4.6nm,0.3s,baz=158,slow=2.7,SNR=5.1						
AFI				S	S	12 54 52.2	-9.3
	1.4nm,0.3s,baz=201,slow=17,SNR=1.9						
AFI	**Afiamalu**	**12.53**	**38**	P	**P**	**12 52 43.9**	**-2.3**
DZM	**Mont Dzumac**	**12.85**	**276**	P	**P**	**12 52 52.3**	**+2.8**
URZ	**Urewera**	**14.49**	**190**	P	**P**	**12 53 05.0**	**-1.3**
	0.6nm,0.3s,baz=163,slow=19,SNR=2.5						
URZ				S	S	12 55 31.2	-7.1
	0.3nm,0.3s,baz=156,slow=19,SNR=1.9						
URZ	**Urewera**	**14.49**	**190**	P	**P**	**12 53 07.4**	**+1.2**
BKZ	**Black Stump Fm**	**15.47**	**191**	P	**P**	**12 53 16.3**	**-0.3**
BKZ				IAmb	IAmb	12 53 17.9	
	comp=Z,36nm,1.4s						
BFZ	**Birch Farm**	**16.99**	**190**	P	**P**	**12 53 31.2**	**-0.7**
MSWZ	**Moikau Station**	**17.89**	**192**	P	**P**	**12 53 40.4**	**+0.3**
SNZO	**South Karori**	**17.90**	**194**	P	**P**	**12 53 39.9**	**-0.3**
SNZO				IAmb	IAmb	12 53 49.1	
	comp=Z,28nm,1.2s						
QRZ	**Quartz Range**	**18.01**	**199**	P	**P**	**12 53 41.5**	**+0.4**
NNZ	**Nelson**	**18.13**	**197**	P	**P**	**12 53 40.7**	**-1.6**
TUWZ	**Tuamarina**	**18.18**	**195**	P	**P**	**12 53 44.6**	**+1.8**
THZ	**Tophouse**	**18.76**	**197**	P	**P**	**12 53 49.0**	**+0.9**
KHZ	**Kahutara**	**19.21**	**195**	P	**P**	**12 53 51.9**	**-0.3**
KHZ				IAmb	IAmb	12 54 08.0	
	comp=Z,38nm,1.3s						
LTZ	**Lake Taylor**	**19.88**	**197**	P	**P**	**12 53 57.0**	**-1.3**
LTZ				IAmb	IAmb	12 53 59.8	
	comp=Z,9.6nm,1.1s						
OXZ	**Oxford**	**20.45**	**197**	P	**P**	**12 54 02.8**	**-0.6**
OXZ				IAmb	IAmb	12 54 11.3	
	comp=Z,34nm,1.4s						
RPZ	**Rata Peaks**	**21.09**	**199**	P	**P**	**12 54 11.0**	**+1.8**
	comp=Z,4.2nm,0.8s,baz=311,slow=19,SNR=1.6						
RPZ	**Rata Peaks**	**21.09**	**199**	P	**P**	**12 54 09.1**	**-0.1**
RPZ				IAmb	IAmb	12 54 17.9	
	comp=Z,35nm,1.5s						
MLZ	**Mavora Lakes**	**23.50**	**202**	P	**P**	**12 54 31.6**	**+0.8**
WHZ	**Wether Hill Ro**	**24.02**	**201**	P	**P**	**12 54 35.8**	**+0.4**
WHZ				IAmb	IAmb	12 54 45.6	
	comp=Z,21nm,1.1s						
HNR	**Honiara**	**24.18**	**303**	P	**P**	**12 54 36.4**	**-0.9**
	comp=Z,35nm,0.5s,baz=258,slow=3.3,SNR=5.5						
HNR	**Honiara**	**24.18**	**303**	P	**P**	**12 54 36.1**	**-1.1**
ARMA	**Armidale**	**26.21**	**250**	P	**P**	**12 54 54.2**	**-1.0**
ARMA				IAmb	IAmb	12 55 10.1	
	comp=Z,26nm,1.2s						
EIDS	**Eidsvold**	**26.52**	**261**	P	**P**	**12 54 58.2**	**+0.4**
EIDS				IAmb	IAmb	12 54 59.2	
	comp=Z,11nm,0.6s						
CAN	**Canberra**	**29.30**	**240**	P	**P**	**12 55 20.7**	**-1.4**
CTA	**Charters Tower**	**31.70**	**270**	P	**P**	**12 55 43.7**	**+0.7**
	comp=Z,24nm,0.5s,baz=95,slow=11,SNR=72						
CTAO	**Charters Tower**	**31.70**	**270**	P	**P**	**12 55 43.5**	**+0.6**
TOO	**Toolangi**	**32.60**	**237**	P	**P**	**12 55 51.4**	**+1.0**
TAU	**Tasmania Unive**	**33.05**	**227**	P	**P**	**12 55 55.3**	**+1.3**
KRVT	**Keravat (AS076**	**33.50**	**301**	P	**P**	**12 55 57.4**	**-0.9**
	comp=Z,35nm,0.6s,baz=294,slow=1.4,SNR=12						
PMG	**Port Moresby**	**34.73**	**289**	P	**P**	**12 56 07.5**	**-1.1**
	comp=Z,32nm,0.8s,baz=91,slow=4.9,SNR=5.2						
PMG	**Port Moresby**	**34.73**	**289**	P	**P**	**12 56 08.2**	**-0.4**
PMG				IAmb	IAmb	12 56 09.0	
	comp=Z,29nm,0.8s						
STKA	**Stephens Creek**	**34.91**	**248**	P	**P**	**12 56 10.4**	**+0.6**
	comp=Z,2.5nm,0.5s,baz=91,slow=11,SNR=9.8						
STKA	**Stephens Creek**	**34.91**	**248**	P	**P**	**12 56 09.4**	**-0.4**
COEN	**Coen**	**36.35**	**279**	P	**P**	**12 56 22.7**	**+0.6**
COEN				IAmb	IAmb	12 56 23.6	
	comp=Z,13nm,0.9s						
PATS	**Pohnpei**	**37.37**	**322**	P	**P**	**12 56 30.5**	**+0.1**
PATS				IAmb	IAmb	12 56 42.3	
	comp=Z,41nm,1.4s						
BBOO	**Buckleboo**	**39.62**	**247**	P	**P**	**12 56 48.2**	**-0.4**
AS31	**Alice Springs**	**42.25**	**261**	P	**P**	**12 57 09.4**	**-0.2**
ASAR	**Alice Springs**	**42.25**	**261**	P	**P**	**12 57 09.6**	**-0.1**
	comp=Z,12nm,0.8s,baz=97,slow=7.1,SNR=127						
ASAR				PcP	**PcP**	**12 58 52.2**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=89,slow=7.0,SNR=4.1						
ASAR				ScP	**ScP**	**13 01 54.4**	**+1.4**
	comp=Z,1.9nm,0.9s,baz=113,slow=4.0,SNR=9.5						
ASAR				S	**S**	**13 02 49.7**	**-2.9**
	comp=Z,0.4nm,0.7s,baz=92,slow=16,SNR=3.1						
ASAR	**Alice Springs**	**42.25**	**261**	P	**P**	**12 57 09.2**	**-0.4**
WR0	**Warramunga Arr**	**42.44**	**266**	P	**P**	**12 57 10.2**	**-0.9**
WR0				IAmb	IAmb	12 57 11.3	
	comp=Z,12nm,0.9s						
WB2	**Warramunga Arr**	**42.62**	**266**	P	**P**	**12 57 11.6**	**-0.9**
WB2				IAmb	IAmb	12 57 12.7	
	comp=Z,23nm,0.9s						
WRAB	**Tennant Creek**	**42.62**	**266**	P	**P**	**12 57 11.8**	**-0.7**
WRAB				IAmb	IAmb	12 57 12.7	
	comp=Z,19nm,0.9s						
WB0	**Warramunga Arr**	**42.62**	**266**	P	**P**	**12 57 11.5**	**-1.1**
WRA	**Warramunga Arr**	**42.63**	**266**	P	**P**	**12 57 12.1**	**-0.5**
	comp=Z,11nm,0.3s,baz=97,slow=8.3,SNR=316						
WRA				ScP	**ScP**	**13 01 56.6**	**+2.0**
	comp=Z,1.5nm,0.9s,baz=98,slow=3.9,SNR=7.0						
WRA				S	**S**	**13 02 52.5**	**-5.6**
	comp=Z,0.5nm,0.7s,baz=103,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**42.63**	**266**	P	**P**	**12 57 11.2**	**-1.5**
JAY	**Jayapura**	**43.75**	**293**	P	**P**	**12 57 21.1**	**-0.5**
	comp=Z,14nm,0.5s,baz=136,slow=4.1,SNR=26						
FORT	**Forrest**	**46.50**	**250**	P	**P**	**12 57 41.7**	**-0.6**
MTN	**Manton Dam**	**47.69**	**274**	P	**P**	**12 57 50.8**	**-0.7**
MTN				IAmb	IAmb	12 57 55.8	
	comp=Z,13nm,1.1s						
KNRA	**Kununurra**	**48.91**	**270**	P	**P**	**12 58 00.3**	**-0.3**
KNRA				IAmb	IAmb	12 58 01.4	
	comp=Z,32nm,0.9s						
FAKI	**Fak Fak**	**50.82**	**287**	P	**P**	**12 58 13.8**	**-0.9**
FAKI				IAmb	IAmb	12 58 14.1	
	comp=Z,47nm,1.2s						
GUMO	**Guam**	**50.89**	**313**	P	**P**	**12 58 14.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**51.05**	**266**	P	**P**	**12 58 16.4**	**+0.2**
	comp=Z,8.9nm,0.6s,baz=100,slow=4.2,SNR=76						
FITZ	**Fitzroy Crossi**	**51.05**	**266**	P	**P**	**12 58 16.5**	**+0.2**
FITZ				IAmb	IAmb	12 58 17.8	
	comp=Z,10nm,0.8s						
SIJI	**Sorong**	**52.67**	**288**	P	**P**	**12 58 27.8**	**-0.3**
	comp=Z,56nm,0.8s,baz=86,slow=5.9,SNR=9.5						
VNDA	**Vanda**	**54.32**	**185**	P	**P**	**12 58 40.3**	**+1.6**
SOEI	**Soe**	**55.08**	**275**	P	**P**	**12 58 45.6**	**+0.4**
SOEI				IAmb	IAmb	12 58 55.8	
	comp=Z,31nm,0.9s						
PSA00	**Pilbara Seismi**	**55.37**	**260**	P	**P**	**12 58 45.9**	**-1.2**
BATI	**Baumata**	**55.46**	**274**	P	**P**	**12 58 49.1**	**+1.4**
	comp=Z,23nm,0.5s,baz=135,slow=1.4,SNR=2.2						
MORW	**Morawa**	**57.06**	**250**	P	**P**	**12 58 58.4**	**-0.2**
MORW				IAmb	IAmb	12 59 01.6	
	comp=Z,22nm,1.4s						
GIRL	**Giralia**	**60.12**	**257**	P	**P**	**12 59 20.2**	**+0.9**
JAGI	**Jajag, Banyuwa**	**64.80**	**272**	P	**P**	**12 59 48.9**	**-0.9**
JAGI				IAmb	IAmb	12 59 56.8	
	comp=Z,15nm,0.9s						
QSPA	**South Pole Qui**	**66.11**	**180**	P	**P**	**12 59 58.9**	**+1.6**
	comp=Z,1.7nm,1.1s,baz=322,slow=2.1,SNR=6.0						
QSPA	**South Pole Qui**	**66.11**	**180**	P	**P**	**12 59 58.8**	**+1.6**
UGM	**Wanagama**	**68.33**	**271**	P	**P**	**13 00 11.6**	**-0.1**
KKM	**Kota Kinabalu**	**69.14**	**287**	P	**P**	**13 00 16.8**	**+0.1**
KKM				IAmb	IAmb	13 00 17.2	
	comp=Z,8.3nm,0.6s						
MJAR	**Matsushiro Arr**	**72.09**	**325**	P	**P**	**13 00 33.2**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=172,slow=5.3,SNR=6.9						
MJAR	**Matsushiro Arr**	**72.09**	**325**	P	**P**	**13 00 34.4**	**+0.9**
KSM	**Kuching**	**72.34**	**280**	P	**P**	**13 00 35.8**	**+0.4**
KSM				IAmb	IAmb	13 00 36.1	
	comp=Z,11nm,0.7s						
MAW	**Mawson**	**77.76**	**200**	P	**P**	**13 01 06.0**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=119,slow=3.6,SNR=6.2						
MAW	**Mawson**	**77.76**	**200**	P	**P**	**13 01 06.2**	**+1.4**
KSRS	**Korea Array**	**78.45**	**320**	P	**P**	**13 01 09.7**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=141,slow=5.9,SNR=12						
KSAR	**Wonju Array Be**	**78.47**	**320**	P	**P**	**13 01 09.0**	**0.0**
PETK	**Petropavlovsk-**	**79.23**	**346**	P	**P**	**13 01 13.8**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=118,slow=8.8,SNR=2.5						
PETK	**Petropavlovsk-**	**79.23**	**346**	P	**P**	**13 01 12.6**	**-0.1**
USRK	**Ussuriysk Ar.**	**80.95**	**327**	P	**P**	**13 01 23.1**	**+1.2**
	comp=Z,2.7nm,0.8s,baz=78,slow=7.5,SNR=5.5						
USRK	**Ussuriysk Ar.**	**80.95**	**327**	P	**P**	**13 01 21.9**	**0.0**
CMB	**Columbia Colle**	**83.10**	**43**	P	**P**	**13 01 34.0**	**+0.9**
AFDM	**Forest Hills D**	**83.30**	**42**	P	**P**	**13 01 34.7**	**+0.7**
ORV	**Oroville**	**83.35**	**41**	P	**P**	**13 01 35.2**	**+1.0**
NVAR	**Mina Array Bea**	**84.65**	**44**	P	**P**	**13 01 41.9**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=224,slow=7.4,SNR=8.1						
NVAR	**Mina Array Bea**	**84.65**	**44**	P	**P**	**13 01 41.4**	**+0.4**
KLR	**Kul'dur**	**84.71**	**330**	P	**P**	**13 01 41.2**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=243,slow=2.3,SNR=2.5						
J08A	**Circle Bar Ran**	**87.47**	**40**	P	**P**	**13 01 55.6**	**+1.5**
J08A				IAmb	IAmb	13 01 56.5	
	comp=Z,7.3nm,1.2s						
G08A	**Pilot Rock**	**88.35**	**38**	P	**P**	**13 01 59.9**	**+1.6**
MFID	**Camas Ranch**	**89.07**	**41**	P	**P**	**13 02 01.4**	**-0.3**
TMUT	**Trail Mountain**	**89.73**	**46**	P	**P**	**13 02 05.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**89.77**	**290**	P	**P**	**13 02 06.4**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=135,slow=3.1,SNR=12						
CMAR	**Chiang Mai Arr**	**89.77**	**290**	P	**P**	**13 02 05.1**	**-0.2**
TXAR	**Lajitas Array**	**90.28**	**58**	P	**P**	**13 02 09.4**	**+1.9**
	comp=Z,1.8nm,0.7s,baz=210,slow=6.3,SNR=17						
TXAR	**Lajitas Array**	**90.28**	**58**	P	**P**	**13 02 08.5**	**+0.9**
PDAR	**Pinedale Array**	**92.59**	**44**	P	**P**	**13 02 18.4**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=218,slow=3.4,SNR=8.1						
PDAR	**Pinedale Array**	**92.59**	**44**	P	**P**	**13 02 18.6**	**+0.5**
FINES	**FINESS Array B**	**138.59**	**342**	SKPbc	**SKPbc**	**13 11 13.0**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=8.5,slow=2.8,SNR=5.0						
AKASG	**Malin Array Be**	**145.16**	**327**	PKPbc	**PKPdf**	**13 08 40.1**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=40,slow=4.1,SNR=6.2						
AKASG				SKPbc	**SKPbc**	**13 11 30.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=42,slow=2.4,SNR=5.5						
AKASG	**Malin Array Be**	**145.16**	**327**	PKPdf	**PKPdf**	**13 08 39.6**	**-0.3**

TEH ***19*** *12:50:58.1,32°.91N×47°.67E,h8km,ML2.7*
ISN ***19*** *12:50:58.3±1.2,32°.78N×47°.68E,h14km±8km,ML2.7*

ISC 19 12:50:58.1±1.2,32°.85N±0°.06×47°.72E±0°.05,h15km,n11, σ1§16/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.68**	**9**	*e*		12 51 28.5	
IKFM				*e*Pg	**Pg**	**12 51 09.9**	**-1.5**
IKMR	**Kamar-syah**	**0.87**	**39**	*e*Pg	**Pb**	**12 51 14.7**	**-0.1**
IKMR				*e*Sg	**Sb**	**12 51 27.1**	**+0.9**
IKMR				*e*		12 51 35.5	
IDOB	**Doab**	**1.01**	**22**	*e*Pg	**Pb**	**12 51 17.2**	**-0.3**
IKOM	**Komasi**	**1.34**	**352**	*e*Pg	**Pn**	**12 51 22.9**	**+0.5**
IKOM				*e*		12 51 48.6	
IBDR	**Badra**	**1.53**	**280**	*e*Pg	**Pb**	**12 51 26.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**12 51 46.0**	**-1.4**
IBDR				AML	AML	12 51 47.7	
	comp=N,59nm,0.4s						
IBDR				AML	AML	12 51 47.7	
	comp=E,61nm,0.9s						
HSAM	**Samen**	**1.55**	**28**	*e*Pn	**Pn**	**12 51 26.3**	**+0.9**
HSAM				*e*		12 51 54.7	
IBZA	**Bozab**	**1.62**	**4**	*e*Pn	**Pn**	**12 51 27.7**	**+1.3**
IGHG	**Ghaleghazi**	**1.77**	**327**	*e*Pg	**Pb**	**12 51 30.3**	**0.0**
IGHG				*e*		12 52 07.0	
IVIS	**Veis**	**1.83**	**337**	*e*Pn	**Pb**	**12 51 30.8**	**-0.5**
IVIS				*e*		12 52 03.2	
NSR	**Nassriya**	**2.27**	**217**	*e*Pn	**Pn**	**12 51 36.0**	**+0.9**
NSR				*e*Sn	**Sn**	**12 52 02.0**	**-0.8**
BHD	**Baghdad**	**2.84**	**279**	*e*Pn	**Pn**	**12 51 44.0**	**+1.1**
BHD				*e*Sn	**Sn**	**12 52 19.0**	**+2.2**
BHD				AML	AML	12 52 19.2	
	comp=E,183nm,0.4s						

IDC ***19*** *12:54:45.5±3.0,0°.54N×99°.75E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.4/53,mbtmp3.6/4,Error ellipse: s-maj=190.0km s-min=25.7km az=51.0*
DJA ***19*** *12:55:07.8±0.6,1°.1S×107°.0E±°,h175km±9km,M3.7/13, mb4.6/1,MLv3.2/13*

ISC 19 12:55:07.8±1.0,0°.63N±0°.09×100°.17E±0°.08,h200km,n17, σ1§68/14,mb3.4/4,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.61**	**286**	P	**Pn**	**12 55 32.8**	**-2.5**
BKNI	**Bangkinang**	**0.92**	**109**	P	**Pn**	**12 55 34.8**	**-2.2**
PDSI	**Padang**	**1.56**	**169**	P	**Pn**	**12 55 39.9**	**-2.2**
SDSI	**Sungai Dareh**	**2.00**	**141**	P	**Pn**	**12 55 44.8**	**-1.5**
PBSI	**Pulau Batu**	**2.01**	**250**	P	**Pn**	**12 55 45.1**	**-1.3**
SISI	**Saibi**	**2.22**	**209**	P	**Pn**	**12 55 46.5**	**-2.1**
RGRI	**Rengat**	**2.37**	**114**	P	**Pn**	**12 55 49.1**	**-1.2**
GSI	**Gunungsitoli**	**2.68**	**285**	P	**Pn**	**12 55 52.8**	**-0.9**
PPSI	**Pulau Pagai**	**3.37**	**183**	P	**Pn**	**12 56 01.9**	**0.0**
MLSI	**Meulaboh, Aceh**	**5.21**	**314**	P	**Pn**	**12 56 24.1**	**-0.9**
H08S2	**Diego Garcia H**	**28.80**	**253**	T	T	13 28 42.2	
	baz=82						
H08S3	**Diego Garcia H**	**28.80**	**253**	T	T	13 28 46.0	
	baz=82						
H08S1	**Diego Garcia H**	**28.81**	**253**	T	T	13 28 47.6	
	baz=82						
WRA	**Warramunga Arr**	**39.23**	**123**	P	**P**	**13 02 18.4**	**+1.4**
	0.4nm,0.5s,baz=305,slow=8.8,SNR=3.1						
ASAR	**Alice Springs**	**40.70**	**129**	P	**P**	**13 02 30.4**	**+1.2**
	0.3nm,0.9s,baz=304,slow=7.7,SNR=1.5						
MKAR	**Makanchi Array**	**48.56**	**344**	P	**P**	**13 03 31.1**	**+0.3**
	0.6nm,0.3s,baz=157,slow=8.6,SNR=11						
FINES	**FINESS Array B**	**81.88**	**332**	P	**P**	**13 07 05.0**	**+0.5**
	0.6nm,0.5s,baz=120,slow=6.8,SNR=5.2						

TEH ***19*** *13:12:58.2,32°.70N×47°.72E,h9km,ML3.5*
ISN ***19*** *13:12:58.2±1.0,32°.71N×47°.71E,h14km±7km,ML3.3*

ISC 19 13:12:59.0±1.4,32°.66N±0°.03×47°.68E±0°.03,h5km±11km, n34,σ0§92/40,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.34**	**273**	*e*Pg	**Pg**	**13 13 05.8**	**+0.2**
IKFM	**Kafar-mosalman**	**0.87**	**9**	*e*Pg	**Pg**	**13 13 14.2**	**-1.5**
IKFM				*e*	**Sn**	**13 13 32.5**	**+1.7**
IKMR	**Kamar-syah**	**1.03**	**34**	*e*Pg	**Pg**	**13 13 17.7**	**-1.1**
IKMR				*e*		13 13 22.8	
IDOB	**Doab**	**1.20**	**20**	*e*Pg	**Pb**	**13 13 20.6**	**-1.6**
IDOB				*e*Sg	**Sb**	**13 13 36.9**	**-1.2**
BMDN	**Meydan**	**1.39**	**43**	*e*Pg	**Pn**	**13 13 24.6**	**-0.6**
BMDN				*e*		13 13 49.1	
IKOM	**Komasi**	**1.51**	**355**	*e*Pg	**Pb**	**13 13 27.3**	**-0.3**
IKOM				*e*		13 13 54.9	
IBDR	**Badra**	**1.54**	**287**	*e*Pg	**Pn**	**13 13 26.0**	**-1.0**
IBDR				*e*Sg	**Sn**	**13 13 47.0**	**-0.4**
IBDR				AML	AML	13 13 52.9	
	comp=N,337nm,0.8s						
IBDR				AML	AML	13 13 53.2	
	comp=E,374nm,0.4s						
AHWZ	**Ahwaz**	**1.56**	**148**	*e*Pg	**Pb**	**13 13 28.4**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.69**	**342**	*e*Pg	**Pn**	**13 13 29.7**	**+0.3**
KCHF				*e*		13 13 56.3	
HSAM	**Samen**	**1.73**	**26**	*e*Pg	**Pn**	**13 13 30.5**	**+0.6**
HSAM				*e*		13 13 58.1	
KER	**Kermanshah**	**1.78**	**345**	*e*Pn	**Pn**	**13 13 30.7**	**+0.2**
IBZA	**Bozab**	**1.81**	**5**	*e*Pg	**Pb**	**13 13 32.2**	**-0.5**
IBZA				*e*		13 13 35.3	
IGHG	**Ghaleghazi**	**1.90**	**331**	*e*Pn	**Pn**	**13 13 33.1**	**+0.8**
IGHG				*e*		13 14 12.7	
IVIS	**Veis**	**1.98**	**340**	*e*Pn	**Pn**	**13 13 33.8**	**+0.5**
IVIS				*e*	**Sg**	**13 14 04.2**	**+1.5**
NSR	**Nassriya**	**2.11**	**219**	*e*Pn	**Pn**	**13 13 35.0**	**+0.2**
NSR				*e*Sn	**Sn**	**13 14 01.0**	**-0.4**
IDHR	**Dehrash**	**2.30**	**332**	*e*Pn	**Pn**	**13 13 38.4**	**+0.7**
IDHR				*e*		13 13 43.4	
ILIN	**Lien**	**2.33**	**345**	*e*Pn	**Pn**	**13 13 38.6**	**+0.5**
ILIN				*e*		13 14 18.6	
HAGD	**Aghdareh**	**2.47**	**29**	*e*Pn	**Pn**	**13 13 41.0**	**+0.9**
HAGD				*e*		13 13 47.4	
JHBN	**Jahan bin**	**2.56**	**99**	*e*Pn	**Pn**	**13 13 41.9**	**+0.5**
JHBN				*e*		13 14 26.8	
HSRG	**Sareghieh**	**2.62**	**11**	*e*	**Sg**	**13 14 25.0**	**+1.8**
IPIR	**Pirpir**	**2.71**	**89**	*e*Pn	**Pn**	**13 13 44.5**	**+1.1**
IPIR				*e*		13 14 35.4	
BHD	**Baghdad**	**2.84**	**283**	*e*Pn	**Pn**	**13 13 45.0**	**+0.1**
BHD				AML	AML	13 14 19.8	
	comp=E,262nm,0.5s						
BHD				*e*Sn	**Sn**	**13 14 20.0**	**+0.5**
ROKH	**ROKH**	**2.85**	**95**	*e*Pn	**Pn**	**13 13 45.8**	**+0.5**
ROKH				*e*		13 14 35.3	
IRAZ	**Razeghan**	**3.31**	**34**	*e*Pn	**Pn**	**13 13 53.3**	**+1.7**
IKLH	**Kolahrood**	**3.34**	**78**	*e*Pn	**Pn**	**13 13 52.3**	**+0.3**
IKLH				*e*		13 14 47.8	
QABG	**Abgarm-Qazvin**	**3.42**	**27**	*e*Pn	**Pn**	**13 13 53.6**	**+0.5**
IGAR	**Gharneh**	**3.69**	**93**	*e*Pn	**Pn**	**13 13 57.4**	**+0.5**
KLNJ	**Kolanjah**	**3.71**	**115**	*e*Pn	**Pn**	**13 13 56.8**	**-0.5**
KLNJ				*e*		13 15 08.1	
IZEF	**Zefreh**	**3.92**	**85**	*e*Pn	**Pn**	**13 14 01.1**	**+1.1**
QSDN	**Sirdan**	**4.02**	**17**	*e*Pn	**Pn**	**13 14 02.5**	**+1.1**
QALM	**Alamut, Qazvin**	**4.49**	**32**	*e*Pn	**Pn**	**13 14 07.8**	**0.0**
ANAR	**Anarak**	**5.11**	**82**	*e*Pn	**Pn**	**13 14 16.9**	**+0.6**
IALA	**Alasht**	**5.44**	**50**	*e*Pn	**Pn**	**13 14 21.9**	**+0.9**
IANJ	**Anjilo**	**5.88**	**60**	*e*Pn	**Pn**	**13 14 27.1**	**+0.2**

ISN ***19*** *13:21:26.2±0.8,32°.78N×47°.59E,h26km±5km,ML2.7*
TEH ***19*** *13:21:27.3,32°.74N×47°.41E,h9km,ML2.7*

ISC 19 13:21:27.6±1.3,32°.70N±0°.05×47°.40E±0°.05,h5km±9km, n10,σ2§05/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.10**	**262**	*e*Pg	**Pg**	**13 21 30.0**	**+0.3**
DHL1				*e*Sg	**Sg**	**13 21 32.8**	**+1.6**
DHL1				*e*		13 21 34.1	
IKFM	**Kafar-mosalman**	**0.91**	**24**	*e*	**Sn**	**13 22 06.7**	**+6.1**
IDOB	**Doab**	**1.27**	**31**	*e*Pg	**Pn**	**13 21 51.4**	**-0.9**
IDOB				*e*		13 22 13.8	
IBDR	**Badra**	**1.30**	**289**	*e*Pg	**Pb**	**13 21 52.0**	**-0.6**
IBDR				*e*Sg	**Sn**	**13 22 11.0**	**+0.7**
IBDR				AML	AML	13 22

GRPR pmax pmax
comp=N,3μm,0.3s
GRPR pmax pmax
comp=E,3μm,0.4s
GRPR smax smax
comp=E,145μm,0.4s
JRA Rausu 1.10 337 ⇓P **Pn 13 26 41.6 +0.1**
JRA *e*S **Sn 13 26 54.8 -0.7**
YUK Yuzh-Kuril'sk 1.12 6 *i* P **Pn 13 26 41.8 0.0**
YUK AMB AMB 13 26 42.0
comp=E,3μm,0.4s
YUK AMB AMB 13 26 42.0
comp=E,1μm,0.4s
YUK AMB AMB 13 26 42.0
comp=E,24μm,0.4s
YUK *i* S **Sn 13 26 55.5 -0.4**
YUK A A 13 26 56.0
comp=E,37μm,0.5s
YUK A A 13 26 56.0
comp=E,24μm,0.5s
YUK Yuzh-Kuril'sk 1.12 6⇑ *i*PN **Pn 13 26 41.8 0.0**
YUK *i* S **Sn 13 26 55.2 -0.7**
YUK pmax pmax
comp=E,1μm,0.3s
YUK pmax pmax
comp=Z,24μm,0.3s
YUK pmax pmax
comp=N,3μm,0.4s
YUK smax smax
comp=N,37μm,0.2s
YUK smax smax
comp=E,240μm,0.5s
JOB Onbets 1.38 270 ⇓P **Pn 13 26 45.4 +0.1**
JAR Ashorobuto 1.47 286 ⇓P **Pn 13 26 46.8 +0.2**
JAR *e*S **Sn 13 27 04.1 -0.4**
JTKR Abashiri--Toko 1.68 309 ⇓P **Pn 13 26 50.0 +0.6**
ERM Erimo 2.09 245*c i*PN **Pn 13 26 56.5 +1.4**
ERM Erimo 2.09 245 **Pn 13 26 56.7 +1.6**
JKA Kamikawa-asahi 2.56 299 Pn **Pn 13 27 03.2 +1.7**
JKA Kamikawa-asahi 2.56 299 **Sn 13 27 36.1 +4.7**
ASAJ Asahikawa 2.56 299 Pn **Pn 13 27 03.2 +1.7**
comp=E,104nm,0.3s,baz=121,slow=10,SNR=170
ASAJ Sn **Sn 13 27 36.1 +4.6**
comp=E,76nm,0.3s,baz=315,slow=32,SNR=7.9
ASAJ LR LR 13 28 10.0
comp=E,7μm,19.3s,baz=176,slow=46
KUR Kuril'sk 2.79 33 *e*P **Pn 13 27 06.0 +1.4**
KUR AMB AMB 13 27 07.6
comp=E,300nm,0.5s
KUR AMB AMB 13 27 07.6
comp=E,700nm,0.5s
KUR AMB AMB 13 27 07.6
comp=E,2μm,0.5s
KUR *i* S **Sn 13 27 37.8 +0.8**
KUR A A 13 27 48.0
comp=E,3μm,0.5s
KUR A A 13 27 48.0
comp=E,8μm,0.5s
KUR Kuril'sk 2.79 33*c i*PN **Pn 13 27 06.1 +1.4**
KUR *i* S **Sn 13 27 38.2 +1.2**
KUR pmax pmax
comp=Z,2μm,0.5s
KUR pmax pmax
comp=N,303nm,0.6s
KUR pmax pmax
comp=E,702nm,0.3s
KUR smax smax
comp=N,13μm,0.6s
KUR smax smax
comp=E,4μm,0.7s
YSS Yuzh-Sakhalins 4.55 334 *i* P **Pn 13 27 29.8 +1.0**
YSS AMB AMB 13 27 33.2
comp=E,200nm,3.4s
YSS AMB AMB 13 27 42.6
comp=E,80nm,1.0s
YSS *e*S **Sn 13 28 19.8 -0.6**
YSS A A 13 28 36.8
comp=E,1μm,0.8s
YSS A A 13 28 36.8
comp=E,1μm,0.8s
YSS AMS AMS 13 29 27.0
comp=E,2μm,13.0s
YSS AMS AMS 13 29 27.0
comp=E,2μm,13.0s
YSS Yuzh-Sakhalins 4.55 334ĸ *i*PN **Pn 13 27 29.8 +1.0**
YSS *e* 13 28 24.0
YSS pmax pmax
comp=Z,200nm,3.4s
YSS pmax pmax
comp=E,80nm,1.0s
YSS MLR MLR
comp=Z,2μm,13.0s
YSS Yuzh-Sakhalins 4.55 334 Pn **Pn 13 27 29.2 +0.3**
UGL Uglegorsk 6.66 339 *e*P **Pn 13 27 59.9 +2.1**
UGL AMB AMB 13 28 05.0
comp=Z,120nm,0.7s
UGL *e*S **Sn 13 29 11.7 -0.7**
UGL A A 13 29 23.5
comp=Z,2μm,4.0s
UGL A A 13 29 23.5
comp=Z,1μm,4.0s
UGL AMS AMS 13 32 06.0
comp=Z,900nm,15.0s
UGL AMS AMS 13 32 06.0
comp=Z,1μm,15.0s
UGL Uglegorsk 6.66 339⇓ *e*PN **Pn 13 27 59.9 +2.1**
UGL *e*S **Sn 13 29 18.1 +5.7**
UGL pmax pmax
comp=Z,124nm,0.7s
UGL smax smax
comp=E,1μm,3.5s
UGL smax smax
comp=N,2μm,3.8s
UGL smax smax
comp=E,174nm,0.8s
UGL smax smax
comp=N,106nm,0.7s
UGL MLR MLR
comp=Z,1μm,14.0s
UGL MLR MLR
comp=E,900nm,16.0s
TEY Ternei 6.90 291 *e*P **Pn 13 28 03.8 +2.6**
TEY AMB AMB 13 28 04.9
comp=E,20nm,0.8s
TEY AMB AMB 13 28 04.9
comp=E,50nm,0.8s
TEY AMB AMB 13 28 04.9
comp=E,40nm,0.8s
TEY Ternei 6.90 291⇑ *e*PN **Pn 13 28 03.8 +2.6**
TEY pmax pmax
comp=Z,40nm,0.9s
TEY pmax pmax
comp=N,20nm,0.8s
TEY pmax pmax
comp=E,50nm,0.8s
TYV Tymovskoe 8.22 346 *e*P **Pn 13 28 21.3 +2.1**
TYV AMB AMB 13 28 22.9
comp=E,100nm,2.3s
TYV AMB AMB 13 28 23.5
comp=E,30nm,0.8s
TYV *e*S **Sn 13 29 48.8 -1.8**
TYV A A 13 29 58.5
comp=E,10.0nm,0.5s
TYV AMS AMS 13 32 15.9
comp=E,1μm,17.0s
TYV AMS AMS 13 32 15.9
comp=E,700nm,17.0s
TYV Tymovskoe 8.22 346 *e*PN **Pn 13 28 22.4 +3.2**
TYV *e*S **Sn 13 29 57.6 +7.0**
TYV pmax pmax
comp=Z,100nm,2.3s
TYV pmax pmax
comp=Z,29nm,0.8s
TYV smax smax
comp=N,11nm,0.5s
MAJO Matsushiro 8.60 225*c i*PN **Pn 13 28 24.8 +0.3**
MAJO Matsushiro 8.60 225 Pn **Pn 13 28 24.6 +0.1**
MJAR Matsushiro Arr 8.60 225 Pn **Pn 13 28 22.4 -2.1**
comp=N,0.6nm,0.3s,baz=27,slow=12,SNR=93
MAT Matsushiro 8.60 225 P **Pn 13 28 24.5 0.0**
MAT *e*S **Sn 13 29 59.0 -1.2**
USA0B Ussuriysk Arra 10.04 282 PN **Pn 13 28 42.4 -1.9**
USA0B Ussuriysk Arra 10.04 282 Pn **Pn 13 28 42.4 -1.9**
USRK Ussuriysk Ar. 10.04 282 Pn **Pn 13 28 46.2 +2.0**
baz=87,slow=14,SNR=31
USRK LR LR 13 32 29.8
comp=N,2μm,21.1s,baz=97,slow=37
USRK Ussuriysk Ar. 10.04 282 PN **Pn 13 28 44.9 +0.7**
USRK Ussuriysk Ar. 10.04 282 Pn **Pn 13 28 44.9 +0.7**
GRNR Gornyy 10.10 324 *i* P Pn 13 28 50.0 +5.0
GRNR AMB AMB 13 28 51.0
comp=N,30nm,0.9s
GRNR AMB AMB 13 28 51.0
comp=N,40nm,0.9s
GRNR AMS AMS 13 33 03.7
comp=N,400nm,16.0s
GRNR AMS AMS 13 33 03.7
comp=N,400nm,16.0s
GRNR AMS AMS 13 33 03.7
comp=N,800nm,16.0s
GRNR Gornyy 10.10 324⇑ *i*PN Pn 13 28 50.0 +5.0
GRNR *e*S Sn 13 30 47.2 +10
GRNR pmax pmax
comp=E,30nm,0.9s
GRNR pmax pmax
comp=Z,40nm,0.9s
GRNR smax smax
comp=N,4.0nm,0.8s
GRNR MLR MLR
comp=E,430nm,16.0s
SKR Severo-Kuril's 10.54 39 *i* P **Pn 13 28 52.0 +1.0**
SKR AMB AMB 13 28 57.0
comp=E,200nm,3.0s
SKR AMB AMB 13 28 58.2
comp=E,120nm,0.5s
SKR *e*S **Sn 13 30 46.5 -1.1**
SKR A A 13 31 01.4
comp=E,90nm,0.8s
SKR A A 13 31 01.4
comp=E,70nm,0.8s
SKR AMS AMS 13 32 39.0
comp=E,600nm,13.0s
SKR AMS AMS 13 32 39.0
comp=E,300nm,13.0s
SKR AMS AMS 13 32 39.0
comp=E,400nm,13.0s
SKR Severo-Kuril's 10.54 39 *e*PN **Pn 13 28 51.9 +1.0**
SKR pmax pmax
comp=Z,200nm,2.9s
SKR pmax pmax
comp=Z,115nm,0.5s
SKR MLR MLR
comp=N,700nm,14.0s
SKR MLR MLR
comp=Z,300nm,14.0s
SKR MLR MLR
comp=E,300nm,16.0s
SKR MLR MLR
comp=Z,400nm,13.0s
SKR MLR MLR
comp=N,600nm,12.0s
SKR MLR MLR
comp=E,400nm,15.0s
OKH Okha 10.80 351 *e*P **Pn 13 28 57.7 +3.2**
OKH AMS AMS 13 33 19.0
comp=E,1μm,18.0s
OKH AMS AMS 13 33 19.0
comp=E,600nm,18.0s
OKH AMS AMS 13 33 19.0
comp=E,500nm,18.0s
JHJ2 Mitsune 10.83 207 Pn **Pn 13 28 53.2 -1.9**
JHJ Hachijo jima 2 10.84 207 Pn **Pn 13 28 53.3 -1.9**
comp=E,19nm,0.3s,baz=126,slow=22,SNR=18
JHJ Sn **Sn** 13 30 45.4 -10
comp=E,22nm,0.3s,baz=135,slow=23,SNR=7.9
PAU Pauzhetka 11.40 38 *e*P **Pn 13 29 02.6 -0.1**
PAU AMB AMB 13 29 04.1
comp=E,90nm,0.7s
PAU *e*S **Sn 13 31 05.5 -3.1**
KLR Kul'dur 11.56 308 Pn **Pn 13 29 07.2 +2.2**
comp=E,0.3nm,0.3s,baz=110,slow=15,SNR=56
KLR LR LR 13 33 55.3
comp=E,2μm,18.6s,baz=122,slow=40
KLR Kul'dur 11.56 308 *i* P **Pn 13 29 05.6 +0.6**
KLR Kul'dur 11.56 308 *i* PN **Pn 13 29 05.6 +0.6**
KLR pmax pmax
comp=Z,36nm,1.0s
MDJ Mudanjiang 11.78 284 P **Pn 13 29 09.8 +1.8**
MDJ S **Sn 13 31 24.5 +6.4**
MDJ PcP **PcP 13 34 54.6 -0.2**
MDJ pmax pmax
comp=Z,23nm,1.1s
MDJ pmax pmax
comp=Z,290nm,4.1s
MDJ LR LR
comp=Z,860nm,14.9s
MDJ LR LR
comp=Z,1μm,22.8s
MDJ LR LR
comp=Z,2μm,25.6s
MDJ Mudanjiang 11.78 284 Pn **Pn 13 29 07.8 -0.2**
PEA0B Petropavlovsk- 12.96 34*ce*PN **Pn 13 29 23.4 -0.6**
PEA0B Petropavlovsk- 12.96 34 Pn **Pn 13 29 23.2 -0.8**
PETK Petropavlovsk- 12.96 34 Pn **Pn 13 29 22.7 -1.3**
comp=Z,1.2nm,0.3s,baz=190,slow=9.6,SNR=39
PETK LR LR 13 34 57.9
comp=Z,846nm,19.6s,baz=219,slow=40
PETK Petropavlovsk- 12.96 34 Pn **Pn 13 29 22.3 -1.7**
EKMR Ekimchan 13.25 324 *e*P **Pn 13 29 28.2 +0.2**
EKMR AMB AMB 13 29 32.0
comp=Z,10.0nm,0.3s
PET Petropavlovsk 13.30 36 *i* P **Pn 13 29 28.2 -0.4**
PET AMB AMB 13 29 30.2
comp=Z,140nm,0.9s
PET Petropavlovsk 13.30 36 *i* PN **Pn 13 29 28.2 -0.4**
PET Petropavlovsk 13.30 36 **Pn 13 29 26.6 -2.0**
KSRS Korea Array 14.64 254 Pn **Pn 13 29 47.4 +0.3**
comp=Z,0.2nm,0.3s,baz=64,slow=13,SNR=30
KSRS LR LR 13 35 10.2
comp=Z,554nm,21.4s,baz=58,slow=36
KS19 Wonju Array Si 14.66 254 **Pn 13 29 46.8 -0.5**
KSAR Wonju Array Be 14.67 254 P **Pn 13 29 46.5 -1.0**
KSAR Wonju Array Be 14.67 254 Pn **Pn 13 29 46.5 -1.0**
CN2 Changchun 14.77 280 *e*P **Pn 13 29 48.3 -0.4**
CN2 *e*S **Sn 13 32 32.3 +1.3**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,800nm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,1μm,18.0s
JNU Nakatsue 15.22 235 Pn **Pn 13 29 53.9 -0.9**
comp=Z,0.2nm,0.3s,baz=42,slow=8.9,SNR=5.9
JNU LR LR 13 35 59.7
comp=Z,2μm,21.1s,baz=39,slow=38
JNU Nakatsue 15.22 235 Pn **Pn 13 29 53.4 -1.4**
TJN Taejon 15.55 251*ce*P **Pn 13 29 59.2 +0.1**
BMKR Bomnak 16.15 323 *e*P **Pn 13 30 06.9 +0.2**
BMKR AMB AMB 13 30 09.0
comp=Z,10.0nm,0.7s
ZEA Zeya 16.31 318 *e*P **Pn 13 30 07.8 -0.9**
ZEA AMB AMB 13 30 24.1
comp=Z,70nm,1.0s
ZEA AMB AMB 13 30 24.1
comp=Z,70nm,1.0s
ZEA AMB AMB 13 30 24.1
comp=Z,100nm,1.0s
ZEA AMB AMB 13 30 25.0
comp=Z,400nm,6.0s
ZEA AMS AMS 13 37 01.0
comp=Z,600nm,15.0s
ZEA AMS AMS 13 37 01.0
comp=Z,800nm,15.0s
ZEA AMS AMS 13 37 01.0
comp=Z,1μm,15.0s
ZEA Zeya 16.31 318 *e*P **P 13 30 11.4 +0.1**
ZEA *e*S **Sn 13 33 09.0 +0.6**
ZEA pmax pmax
comp=N,72nm,1.2s
ZEA pmax pmax
comp=E,72nm,1.2s
ZEA pmax pmax
comp=Z,100nm,1.2s
ZEA pmax pmax
comp=Z,400nm,6.0s
ZEA smax smax
comp=N,200nm,11.0s
ZEA MLR MLR
comp=Z,1μm,16.0s
ZEA MLR MLR
comp=N,600nm,15.0s
ZEA MLR MLR
comp=E,800nm,15.0s
SNY Shenyang 16.39 274⇑ P **Pn 13 30 10.4 +0.7**
SNY S **Sn 13 33 10.9 +0.5**
SNY pmax pmax
comp=E,15nm,0.9s
SNY pmax pmax
comp=E,100nm,3.6s
SNY LR LR
comp=E,330nm,15.5s
SNY LR LR
comp=E,400nm,23.3s
SNY LR LR
comp=E,830nm,20.1s
KROS Kirovskiy 16.84 320 *e*P **Pn 13 30 16.0 +0.6**
KROS AMB AMB 13 30 19.4
comp=E,10.0nm,0.7s
MA2 Magadan 16.97 9 Pn **Pn 13 30 16.1 -0.8**
comp=E,2.1nm,0.3s,baz=197,slow=11,SNR=19
MA2 LR LR 13 36 53.0
comp=E,409nm,18.8s,baz=191,slow=38
MA2 Magadan 16.97 9 *i* P **Pn 13 30 16.8 -0.1**
MA2 Magadan 16.97 9 *i* P **Pn 13 30 16.8 -0.1**
MA2 Magadan 16.97 9 **Pn 13 30 17.6 +0.6**
DL2 Dalian 18.62 266 P **P 13 30 35.8 -1.1**
DL2 PP **sP 13 30 51.4 +0.7**
DL2 S **Sn 13 34 00.0 -4.4**
DL2 pmax pmax
comp=E,51nm,0.9s
DL2 pmax pmax
comp=E,180nm,6.1s
DL2 LR LR
comp=E,300nm,20.2s
DL2 LR LR
comp=E,300nm,21.2s
HIA Hailar 19.04 298 P **P 13 30 39.7 -1.8**
HIA pmax pmax
comp=Z,27nm,1.1s
HIA Hailar 19.04 298 P **P 13 30 39.6 -1.8**
SEY Seymchan 20.43 9 P **P 13 30 54.0 -2.5**
comp=Z,4.0nm,0.6s,baz=183,slow=11,SNR=12
SEY LR LR 13 39 04.0
comp=Z,408nm,20.0s,baz=160,slow=38
SEY Seymchan 20.43 9 *i* P **P 13 30 55.1 -1.3**
SMY Shemya 21.31 53 P **P 13 31 07.0 +1.0**
SMY pmax pmax
comp=Z,185nm,1.0s
SMY Shemya 21.31 53 P **P 13 31 07.0 +1.0**
YAK Yakutsk 21.37 339 P **P 13 31 05.4 -1.2**
comp=Z,5.1nm,0.3s,baz=134,slow=1.2,SNR=7.7
YAK Yakutsk 21.37 339 *e*P **P 13 31 08.1 +1.5**
YAK Yakutsk 21.37 339 *e*P **P 13 31 08.1 +1.5**
YAK *e**PP **sP 13 31 20.5 -0.1**
YAK *e* 13 31 30.0
YAK *e*S **S 13 35 02.3 +0.7**
YAK *e* 13 35 09.3
YAK *e**SS sS 13 35 22.6 +8.5
YAK *e*SS **SnSn 13 35 30.7 +5.3**
YAK *e* 13 42 22.6
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,23nm,1.4s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=Z,35nm,1.3s
YAK pmax pmax
comp=N,46nm,1.4s
YAK pmax pmax
comp=E,24nm,1.4s
YAK smax smax
comp=E,40nm,1.4s
YAK smax smax
comp=N,46nm,1.3s
YAK Yakutsk 21.37 339 **P 13 31 06.3 -0.2**
BJI Beijing 22.26 273 P **P 13 31 15.3 -1.0**
BJI S **S 13 35 17.3 -1.8**
BJI pmax pmax
comp=N,70nm,0.9s
BJI LR LR
comp=N,230nm,16.1s
BJI LR LR
comp=N,410nm,19.9s
BJT Baijiatuau 22.27 273 P **P 13 31 14.8 -1.7**
BJT pmax pmax
comp=E,64nm,0.9s
BJT Baijiatuau 22.27 273 P **P 13 31 14.8 -1.7**
BJT IAmb IAmb 13 31 16.3
comp=E,64nm,0.9s
SSE Sheshan 22.78 247 P **P 13 31 22.6 +0.7**
SSE S **S 13 35 29.8 +1.5**
SSE pmax pmax
comp=E,220nm,3.1s
SSE LR LR
comp=E,310nm,21.0s
SSE LR LR
comp=E,250nm,26.0s
SSE Sheshan 22.78 247 P **P 13 31 20.4 -1.5**
TIA Tai'an 22.96 263 P **P 13 31 22.6 -1.2**
TIA S **S 13 35 29.9 -1.6**
TIA pmax pmax
comp=E,84nm,1.0s
TIA pmax pmax
comp=E,280nm,9.0s
TIA LR LR
comp=E,230nm,15.1s
TIA LR LR
comp=E,200nm,15.9s
TIA LR LR
comp=E,230nm,18.2s
NJ2 Nanjing 23.81 252⇑ P **P 13 31 32.3 +0.2**
NJ2 pP **pP 13 31 43.4 +1.2**
NJ2 sP **sP 13 31 49.8 +3.3**
NJ2 S **S 13 35 46.0 +0.6**
NJ2 sS **sS 13 35 55.3 -5.7**
NJ2 pmax pmax
comp=Z,34nm,1.0s
NJ2 pmax pmax
comp=Z,390nm,4.0s
NJ2 LR LR
comp=Z,900nm,18.9s
NJ2 LR LR
comp=Z,440nm,17.5s
NJ2 LR LR
comp=Z,980nm,21.6s
AMKA Amchitka 24.19 58 P **P 13 31 35.4 0.0**
BOD Bodaibo 24.82 318 *e*P **P 13 31 38.5 -2.6**
BOD pmax pmax
comp=Z,9.0nm,1.3s
HHC Hu-ho-hao-te 25.41 277 *e*P **P 13 31 47.3 +0.6**
HHC sP sP 13 32 02.8 +1.5
HHC S **S 13 36 14.6 +3.5**
HHC pmax pmax
comp=Z,45nm,1.0s
HHC pmax pmax
comp=Z,260nm,6.6s
HHC LR LR
comp=Z,260nm,18.9s
HHC LR LR
comp=Z,370nm,15.9s
HHC LR LR
comp=Z,490nm,16.1s
TIY Taiyuan 25.79 270 *e*P **P 13 31 52.8 +2.6**
TIY S **S 13 36 18.8 +1.6**
TIY pmax pmax
comp=Z,33nm,0.6s
TIY pmax pmax
comp=Z,370nm,3.5s
YOJ Yonaguni jima 26.24 233 P **P 13 31 53.0 -1.3**
YOJ pmax pmax
comp=Z,114nm,1.0s
YOJ Yonaguni jima 26.24 233 P **P 13 31 53.0 -1.3**
KIWB Kanaga Island 26.44 57 P **P 13 31 55.5 -0.4**
BTO Baotou 26.60 277 *e*P **P 13 31 57.9 +0.4**
BTO S **S 13 36 26.1 -3.8**
ULN Ulaanbaatar 27.39 294*ce*P **P 13 32 03.1 -1.5**
ULN pmax pmax
comp=Z,35nm,0.8s
ULN Ulaanbaatar 27.39 294 P **P 13 32 03.7 -0.9**
ULN IAmb IAmb 13 32 05.6
comp=Z,32nm,0.8s

SONM Songino Array 27.83 294 P **P** **13 32 08.6 0.0**
comp=Z,53nm,0.8s,baz=87,slow=8.8,SNR=196
SONM ScP **ScP** **13 39 05.7 +4.0**
comp=Z,0.4nm,0.4s,baz=108,slow=4.7,SNR=3.8
SONM LR LR 13 44 10.3
comp=Z,1μm,20.1s,baz=90,slow=39
SONM Songino Array 27.83 294 P **P** **13 32 08.1 -0.5**
WHN Wuhan 27.84 254 ⇓P **P** **13 32 10.0 +1.4**
WHN pP **pP** **13 32 20.6 +1.9**
WHN pmax pmax
comp=Z,140nm,1.0s
WHN LR LR
comp=Z,2μm,22.1s
ATKA Atka Island 28.28 57 P **P** **13 32 11.9 -0.4**
TPUB Ta-pu 28.53 235 P **P** **13 32 14.2 -0.6**
TPUB IAmb IAmb 13 32 36.6
comp=Z,85nm,1.5s
QZH Quanzhou 28.58 240 *e*P **P** **13 32 17.8 +2.5**
QZH LR LR
comp=Z,380nm,18.9s
H11N2 WAKE ISLAND Hy 29.20 136 T T 14 03 17.2
baz=328,slow=75
H11N1 WAKE ISLAND Hy 29.21 136 T T 14 03 16.6
baz=328,slow=75
H11N3 WAKE ISLAND Hy 29.22 136 T T 14 03 18.9
baz=328,slow=75
GUMO Guam 29.23 182 LR LR 13 43 00.6
comp=Z,122nm,20.6s,baz=14,slow=34
TLY Talaya 29.48 302 P **P** **13 32 23.5 +0.4**
comp=Z,3.6nm,0.7s,baz=265,slow=4.5,SNR=6.1
TLY LR LR 13 45 13.3
comp=Z,868nm,18.9s,baz=86,slow=39
TLY Talaya 29.48 302 *e*P **P** **13 32 24.1 +1.0**
TLY Talaya 29.48 302 *e*P **P** **13 32 24.1 +1.0**
TLY pmax pmax
comp=Z,10.0nm,0.6s
TLY MLR MLR
comp=Z,2μm,14.0s
TLY Talaya 29.48 302 IAmb IAmb 13 32 27.9
comp=Z,5.3nm,0.8s
ZAK Zakamensk 29.73 299 *e*P **P** **13 32 25.1 -0.3**
ZAK Zakamensk 29.73 299 *e*P **P** **13 32 25.1 -0.3**
ZAK pmax pmax
comp=Z,16nm,1.1s
XAN Xi'an 29.94 265 P **P** **13 32 27.5 +0.2**
XAN pP pP 13 32 37.9 +0.5
XAN pmax pmax
comp=Z,42nm,0.8s
XAN pmax pmax
comp=Z,110nm,4.0s
XAN LR LR
comp=Z,250nm,18.4s
XAN LR LR
comp=Z,270nm,15.2s
XAN LR LR
comp=Z,320nm,23.8s
XAN Xi'an 29.94 265 P **P** **13 32 26.2 -1.1**
XAN pmax pmax
comp=Z,51nm,1.0s
XAN Xi'an 29.94 265 P **P** **13 32 26.2 -1.1**
XAN IAmb IAmb 13 32 44.3
comp=Z,51nm,1.0s
H11S1 WAKE ISLAND Hy 30.13 137 T T 14 04 27.8
baz=329,slow=76
H11S3 WAKE ISLAND Hy 30.14 137 T T 14 04 28.4
baz=329,slow=76
H11S2 WAKE ISLAND Hy 30.15 137 T T 14 04 28.8
baz=329,slow=76
MOY Mondy 31.13 302 *e*P **P** **13 32 37.9 +0.1**
MOY Mondy 31.13 302 *e*P **P** **13 32 37.9 +0.1**
MOY pmax pmax
comp=Z,21nm,1.2s
ENH Enshi 31.46 258 P **P** **13 32 40.2 -0.5**
LZH Lanzhou 32.75 272 *e*P **P** **13 32 52.6 +0.4**
LZH pP pP 13 33 03.6 +1.1
LZH sP sP 13 33 09.0 +2.2
LZH pmax pmax
comp=Z,41nm,1.0s
LZH pmax pmax
comp=Z,180nm,4.9s
LZH LR LR
comp=Z,510nm,14.7s
LZH LR LR
comp=Z,460nm,13.0s
LZH LR LR
comp=Z,670nm,14.7s
HKPS Hong Kong Po S 33.34 242 P **P** **13 32 56.1 -1.1**
GTA Gaotai 34.40 280 ⇑P **P** **13 33 06.3 -0.2**
GTA pP pP 13 33 16.5 -0.3
GTA sP sP 13 33 20.6 -0.5
GTA PcP **PcP** **13 35 42.6 +1.1**
GTA ScP **ScP** **13 39 24.0 +0.3**
GTA PcS **PcS** **13 39 28.8 +0.8**
GTA ScS **ScS** **13 43 25.0 -1.5**
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,74nm,5.2s
GTA LR LR
comp=Z,160nm,19.0s
GTA LR LR
comp=Z,370nm,19.0s
GTA LR LR
comp=Z,420nm,19.4s
FALS False Pass 34.75 52 P **P** **13 33 08.4 -0.7**
FALS IAmb IAmb 13 33 26.5
comp=Z,30nm,1.0s
CD2 Chengdu 35.27 264 *e*P **P** **13 33 14.3 +0.3**
CD2 S **S** **13 38 44.9 -0.6**
CD2 pmax pmax
comp=Z,130nm,0.8s
CD2 LR LR
comp=Z,290nm,13.7s
CD2 LR LR
comp=Z,290nm,14.2s
GYA Guiyang 35.70 255 ⇑P **P** **13 33 17.6 -0.1**
GYA S **S** **13 38 50.4 -1.7**
GYA pmax pmax
comp=Z,35nm,0.9s
GYA pmax pmax
comp=Z,120nm,3.5s
GYA LR LR
comp=Z,220nm,21.3s
GYA LR LR
comp=Z,320nm,21.1s
GYA LR LR
comp=Z,360nm,23.3s
TGY Tagaytay City 35.76 224 P **P** **13 33 20.4 +2.1**
comp=Z,233nm,0.4s,baz=204,slow=7.7,SNR=4.4
SDPT Sand Point 36.42 51 P **P** **13 33 22.6 -0.9**
SDPT IAmb IAmb 13 33 33.7
comp=Z,28nm,1.2s
CNBA Chernabura Isl 36.97 52 P **P** **13 33 27.1 -1.0**
CNBA IAmb IAmb 13 33 39.9
comp=Z,40nm,1.1s
QIZ Qiongzhong 38.46 243 P **P** **13 33 40.6 -0.5**
QIZ S **S** **13 39 33.3 -0.7**
QIZ LR LR
comp=Z,310nm,15.5s
QIZ LR LR
comp=Z,530nm,14.4s
QIZ LR LR
comp=Z,470nm,22.0s
TTA Tatalina 38.74 38 P **P** **13 33 42.7 -0.4**
TTA pmax pmax
comp=Z,26nm,1.1s
TTA Tatalina 38.74 38 P **P** **13 33 42.7 -0.4**
TTA IAmb IAmb 13 33 56.2
comp=Z,26nm,1.1s
SVW2 Sparrevohn 38.88 41 P **P** **13 33 43.7 -0.5**
SVW2 IAmb IAmb 13 33 57.5
comp=Z,27nm,1.1s
CHIR Chirikof Islan 39.13 50 P **P** **13 33 46.6 +0.2**
KMI Kunming 39.31 257 ⇑P **P** **13 33 49.3 +0.9**
KMI pP pP 13 34 00.5 +1.8
KMI sP sP 13 34 05.8 +2.7
KMI pmax pmax
comp=Z,62nm,1.1s
KMI pmax pmax
comp=Z,210nm,3.5s
KMI LR LR
comp=Z,150nm,16.7s
KMI LR LR
comp=Z,280nm,22.7s
KMI LR LR
comp=Z,420nm,28.8s

KMI Kunming 39.31 257 P **P** **13 33 48.7 +0.3**
KMI pmax pmax
comp=Z,58nm,1.0s
KMI Kunming 39.31 257 P **P** **13 33 48.7 +0.3**
NRIK Noril'sk 39.47 332 LR LR 13 52 29.3
comp=Z,84nm,19.8s,baz=118,slow=40
NRIK Noril'sk 39.47 332 *i* P **P** **13 33 48.6 -0.4**
NRIK pmax pmax
comp=Z,4.0nm,1.1s
SII Sitkinak Islan 39.85 49 P **P** **13 33 52.6 +0.2**
SII IAmb IAmb 13 34 04.7
comp=Z,48nm,1.0s
IMAR Indian Mountai 39.92 34 P **P** **13 33 53.1 +0.3**
DGZ Jazzator, Alta 39.93 301*c* *i*P **P** **13 33 53.7 +0.4**
DGZ pmax pmax
comp=Z,18nm,1.1s
OHAK Old Harbor 40.27 47 P **P** **13 33 55.7 0.0**
OHAK IAmb IAmb 13 34 08.1
comp=Z,64nm,1.1s
RSO Redoubt South 40.28 42 P **P** **13 33 55.1 -1.0**
PPLA Purkeypile 40.48 39 P **P** **13 33 57.0 -0.6**
KDAK Kodiak Island 40.58 46 P **P** **13 33 58.4 0.0**
comp=Z,33nm,0.7s,baz=283,slow=4.1,SNR=55
KDAK Kodiak Island 40.58 46 P **P** **13 33 58.0 -0.4**
SPU Mount Spurr 40.59 41 P **P** **13 33 58.2 -0.3**
ZAA0 Zalesovo Array 40.66 308 P **P** **13 33 57.5 -1.6**
ZALV Zalesovo Beam 40.66 308 P **P** **13 33 58.5 -0.6**
comp=Z,3.5nm,0.7s,baz=81,slow=9.2,SNR=10
ZALV PcP **PcP** **13 36 00.5 +0.3**
comp=Z,15nm,0.9s,baz=79,slow=3.1,SNR=11
ZALV LR LR 13 52 07.0
baz=Z,635nm,18.1s,baz=78,slow=38
ZALV Zalesovo Beam 40.66 308 P **P** **13 33 57.4 -1.7**
SLVN Son La 40.89 252 P **P** **13 34 00.5 -0.9**
BPAW Bear Paw Mtn. 41.02 37 P **P** **13 34 02.5 +0.5**
CNPM China Poot 41.11 44 P **P** **13 34 02.9 +0.1**
CNPM IAmb IAmb 13 34 15.5
comp=Z,29nm,0.9s
SUA Susitna One 41.21 41 P **P** **13 34 03.4 -0.2**
BRLK Bradley Lake 41.27 43 P **P** **13 34 03.9 -0.2**
BRLK IAmb IAmb 13 34 16.5
comp=Z,54nm,1.4s
TRF Thorofare Moun 41.34 38 P **P** **13 34 04.7 0.0**
TRF IAmb IAmb 13 34 18.1
comp=Z,58nm,1.7s
CUT Chulitna 41.38 39 P **P** **13 34 04.6 -0.3**
baz=273
COLD Coldfoot 41.41 32 P **P** **13 34 04.8 -0.3**
baz=267,SNR=15
COLD Coldfoot 41.41 32 P **P** **13 34 04.5 -0.6**
WMQ Urumqi 41.42 292 *e*P **P** **13 34 05.9 +0.3**
WMQ sP sP 13 34 21.8 +1.4
WMQ pmax pmax
comp=Z,34nm,1.5s
WMQ pmax pmax
comp=Z,38nm,4.7s
WMQ LR LR
comp=Z,110nm,18.9s
WMQ LR LR
comp=Z,460nm,17.3s
WMQ LR LR
comp=Z,640nm,18.9s
BWN Browne 41.68 37 P **P** **13 34 07.9 +0.5**
TOLK Toolik Lake Re 41.73 30 P **P** **13 34 07.2 -0.6**
baz=266,SNR=6.7
TOLK Toolik Lake Re 41.73 30 P **P** **13 34 07.8 0.0**
NEA2 Nenana 41.85 36 P **P** **13 34 08.6 0.0**
baz=271,SNR=39
MCK McKinley 41.93 37 P **P** **13 34 09.7 +0.3**
MCK pmax pmax
comp=Z,29nm,1.0s
MCK McKinley 41.93 37 P **P** **13 34 09.7 +0.3**
MCK IAmb IAmb 13 34 21.5
comp=Z,29nm,1.0s
SEW Seward 41.95 43 P **P** **13 34 09.1 -0.4**
SEW IAmb IAmb 13 34 29.4
comp=Z,44nm,1.0s
PMR Palmer 41.97 40 P **P** **13 34 09.9 +0.2**
PMR pmax pmax
comp=Z,23nm,1.1s
PMR Palmer 41.97 40 P **P** **13 34 09.9 +0.2**
RND Reindeer 41.98 38 P **P** **13 34 10.2 +0.3**
RND pmax pmax
comp=Z,138nm,1.8s
RND Reindeer 41.98 38 P **P** **13 34 10.2 +0.3**
GHO Glory Hole Cre 42.06 40 P **P** **13 34 11.0 +0.5**
GHO IAmb IAmb 13 34 23.3
comp=Z,90nm,1.4s
ZSN Zaisan 42.16 298 ⇑*i*P **P** **13 34 11.7 +0.1**
comp=Z,11nm,0.9s,baz=298
ZSN *e*S **S** **13 40 28.4 -0.5**
baz=298
ZSN *i* S **S** **13 40 28.5 -0.4**
baz=298
ZSN LR LR 13 51 36.5
baz=298
ZSN Zaisan 42.16 298*c* *i*P **P** **13 34 11.6 +0.1**
ZSN *e*S **S** **13 40 28.3 -0.5**
ZSN pmax pmax
comp=Z,11nm,0.9s
MDM Murphy Dome 42.20 35 P **P** **13 34 12.0 +0.4**
MDM IAmb IAmb 13 34 13.7
comp=Z,42nm,1.5s
WRH Wood River Hil 42.27 36 P **P** **13 34 12.0 -0.2**
WRH IAmb IAmb 13 34 25.5
comp=Z,88nm,2.0s
KNK Knik Glacier 42.31 41 P **P** **13 34 12.3 -0.2**
KNK IAmb IAmb 13 34 25.4
comp=Z,54nm,1.1s
SML Sawmill 42.33 40 P **P** **13 34 12.6 -0.2**
TCOL CIGO, UAF Yank 42.36 36 P **P** **13 34 12.9 +0.1**
baz=272,SNR=6.8
COLA College 42.36 36 *i* P **P** **13 34 13.3 +0.5**
COLA pmax pmax
comp=Z,13nm,0.9s
COLA College 42.36 36 P **P** **13 34 12.8 0.0**
COLA IAmb IAmb 13 34 25.3
comp=Z,72nm,1.4s
CCB Clear Creek Bu 42.39 36 P **P** **13 34 13.1 0.0**
POKR Poker Plat Res 42.53 35 P **P** **13 34 15.0 +0.7**
baz=272,SNR=7.8
HDA Harding Lake 42.77 36 P **P** **13 34 15.6 -0.6**
baz=273,SNR=19
HDA Harding Lake 42.77 36 P **P** **13 34 15.9 -0.2**
IL31 42.78 36 P **P** **13 34 16.2 +0.1**
ILAR Eielson Array 42.78 36 P **P** **13 34 16.9 +0.6**
comp=Z,4.2nm,0.5s,baz=249,slow=4.6,SNR=77
ILAR LR LR 13 54 34.7
comp=Z,95nm,19.2s,baz=268,slow=40
ILAR Eielson Array 42.78 36 P **P** **13 34 15.8 -0.5**
SCM Sheep Creek Mo 42.81 40 P **P** **13 34 17.0 +0.4**
SCM pmax pmax
comp=Z,30nm,1.0s
SCM Sheep Creek Mo 42.81 40 P **P** **13 34 16.9 +0.4**
SCM IAmb IAmb 13 34 29.0
comp=Z,30nm,1.0s
GLI Glacier Island 43.02 41 P **P** **13 34 18.3 0.0**
GLI IAmb IAmb 13 34 30.3
comp=Z,35nm,1.2s
FID Port Fidalgo 43.34 41 P **P** **13 34 21.0 +0.2**
FID IAmb IAmb 13 34 32.9
comp=Z,37nm,1.1s
HIN Hinchinbrook I 43.38 42 P **P** **13 34 20.9 -0.3**
HIN IAmb IAmb 13 34 33.7
comp=Z,54nm,1.2s
KLU Klutina 43.51 40 P **P** **13 34 22.6 +0.3**
KLU IAmb IAmb 13 34 35.5
comp=Z,54nm,1.1s
PAX Paxson 43.55 38 P **P** **13 34 22.8 +0.2**
PAX pmax pmax
comp=Z,16nm,1.2s
PAX Paxson 43.55 38 P **P** **13 34 22.8 +0.2**
BMAR Burnt Mountain 43.59 32 P **P** **13 34 23.5 +0.6**
EYAK Cordova Ski Ar 43.72 42 P **P** **13 34 24.1 +0.2**
EYAK IAmb IAmb 13 34 37.4
comp=Z,36nm,1.2s
RIDG Independent Ri 43.75 37 P **P** **13 34 24.1 -0.1**
MK31 Makanchi Array 44.04 298 P **P** **13 34 26.4 -0.3**
MK31 pmax pmax
comp=Z,40nm,0.8s
MK31 Makanchi Array 44.04 298 P **P** **13 34 26.4 -0.3**
MK31 IAmb IAmb 13 34 27.4
comp=Z,40nm,0.8s
MKAR Makanchi Array 44.04 298 P **P** **13 34 26.8 +0.1**
comp=Z,40nm,0.8s,baz=77,slow=8.8,SNR=50

MKAR PcP **PcP** **13 36 11.8 +0.2**
comp=Z,4.2nm,0.8s,baz=62,slow=4.0,SNR=3.2
MKAR LR LR 13 53 53.5
comp=Z,425nm,20.5s,baz=72,slow=38
MKAR Makanchi Array 44.04 298 P **P** **13 34 25.9 -0.8**
DOT Dot Lake 44.10 37 P **P** **13 34 27.0 0.0**
MAKZ Makanchi 44.24 298 P **P** **13 34 27.7 -0.6**
MAKZ pmax pmax
comp=Z,44nm,0.8s
MAKZ Makanchi 44.24 298 P **P** **13 34 27.7 -0.6**
MAKZ IAmb IAmb 13 34 29.1
comp=Z,44nm,0.8s
RAGM Ragged Mountai 44.28 42 P **P** **13 34 29.2 +0.8**
MENT Mentasta 44.34 38 P **P** **13 34 29.6 +0.6**
KAIM Kayak Island 44.48 42 P **P** **13 34 31.4 +1.4**
HMT Hamilton 44.49 42 P **P** **13 34 31.3 +1.2**
HMT IAmb IAmb 13 34 43.2
comp=Z,44nm,1.2s
GLB Gilahina Butte 44.52 40 P **P** **13 34 31.0 +0.6**
DLV T Lat 44.60 237 P **P** **13 34 32.8 +1.1**
DLV IAmb IAmb 13 34 34.8
comp=Z,53nm,1.0s
MYLDM Lahad Datu 44.64 220 P **P** **13 34 34.0 +2.2**
MYLDM IAmb IAmb 13 34 57.5
comp=Z,58nm,1.6s
VRDI Verde Repeater 44.73 40 P **P** **13 34 33.1 +0.9**
VRDI IAmb IAmb 13 34 45.7
comp=Z,45nm,1.2s
MCARA McCarthy VSAT 44.91 40 P **P** **13 34 34.3 +0.9**
CRQM Cirque 44.96 41 P **P** **13 34 35.1 +1.0**
TNTI Ternate 45.07 206 P **P** **13 34 35.0 -0.1**
TNTI IAmb IAmb 13 34 52.0
comp=Z,32nm,1.1s
TGL Tana Glacier 45.11 41 P **P** **13 34 35.7 +0.6**
KURK Kurchatov 45.12 304 *e*P **P** **13 34 34.6 -0.6**
KURK Kurchatov 45.12 304*c* *e*P **P** **13 34 34.6 -0.6**
KURK pmax pmax
comp=Z,36nm,1.0s
KURK Kurchatov 45.12 304 P **P** **13 34 34.4 -0.8**
KURK IAmb IAmb 13 34 35.9
comp=Z,29nm,0.9s
KURK Kurchatov 45.12 304 **PcP** **13 36 15.5 +0.3**
SMPI Sarmi 45.15 190 P **P** **13 34 37.3 +1.6**
comp=Z,23nm,1.4s
LSA Lhasa 45.16 272 *e*P **P** **13 34 36.5 +0.1**
LSA Lhasa 45.16 272 P **P** **13 34 36.5 +0.1**
LSA pmax pmax
comp=Z,21nm,1.0s
LSA Lhasa 45.16 272 P **P** **13 34 36.5 +0.1**
LSA IAmb IAmb 13 34 55.6
comp=Z,21nm,1.0s
BCAR Beaver Creek A 45.20 38 P **P** **13 34 36.9 +1.1**
KURBB Kurchatov Arra 45.21 304 P **P** **13 34 35.5 -0.4**
comp=Z,33nm,0.9s,baz=76,slow=8.6,SNR=155
KURBB PcP **PcP** **13 36 15.5 0.0**
comp=Z,6.1nm,0.8s,baz=78,slow=3.4,SNR=7.3
EGAK Eagle 45.22 35 P **P** **13 34 36.0 +0.2**
EGAK IAmb IAmb 13 34 53.0
comp=Z,25nm,0.9s
BALM Baldy 45.29 41 P **P** **13 34 37.3 +0.7**
BALM IAmb IAmb 13 34 50.0
comp=Z,41nm,1.1s
ISLE Juniper Island 45.38 41 P **P** **13 34 37.3 0.0**
ISLE IAmb IAmb 13 34 50.1
comp=Z,46nm,1.1s
JAY Jayapura 45.45 187 P **P** **13 34 39.7 +1.5**
comp=Z,9.0nm,0.9s,baz=322,slow=5.5,SNR=4.8
SIJI Sorong 45.49 200 LR LR 13 51 08.5
comp=Z,174nm,20.6s,baz=124,slow=33
BARN Barnard Glacie 45.61 41 P **P** **13 34 39.6 +0.4**
BARN IAmb IAmb 13 34 52.9
comp=Z,39nm,1.0s
MESA MESA 45.65 42 P **P** **13 34 39.2 -0.3**
YAH Yahtse 45.71 41 P **P** **13 34 41.0 +1.0**
CTGM Chitina Glacie 45.79 41 P **P** **13 34 41.3 +0.7**
CHTO Chiang Mai 46.04 253 P **P** **13 34 42.9 0.0**
CHTO pmax pmax
comp=Z,25nm,1.0s
CHTO Chiang Mai 46.04 253 P **P** **13 34 42.9 0.0**
CHTO IAmb IAmb 13 34 44.9
comp=Z,25nm,1.0s
PBKT Sadao Pong 46.16 249 P **P** **13 34 43.6 -0.1**
CMAR Chiang Mai Arr 46.28 253 P **P** **13 34 45.9 +1.1**
comp=Z,4.7nm,0.8s,baz=40,slow=7.3,SNR=32
CMAR PcP **PcP** **13 36 20.9 +1.1**
comp=Z,1.0nm,0.4s,baz=15,slow=3.7,SNR=2.8
CMAR LR LR 13 54 45.2
comp=Z,167nm,20.9s,baz=98,slow=37
CMAR Chiang Mai Arr 46.28 253 P **P** **13 34 44.2 -0.5**
CMAR **pP** **13 34 56.1 +0.9**
PCA Pinnacle 46.49 42 P **P** **13 34 46.7 +0.7**
PCA IAmb IAmb 13 34 59.2
comp=Z,55nm,1.5s
GTOI Gorontalo 46.75 212 P **P** **13 34 49.6 +1.2**
comp=Z,12nm,1.1s
TDK Taldyqorghan 47.21 297 *e*P **P** **13 34 51.8 0.0**
comp=Z,50nm,0.7s,baz=297
TDK LR LR 13 54 59.2
comp=Z,223nm,18.5s,baz=297
TDK Taldyqorghan 47.21 297 *e*P **P** **13 34 51.8 0.0**
TDK pmax pmax
comp=Z,50nm,0.7s
TDK MLR MLR
comp=Z,223nm,19.0s
SHLS Shalkode 47.24 294 *e*P **P** **13 34 49.5 -2.7**
comp=Z,10nm,0.8s,baz=294
SHLS Shalkode 47.24 294 *e*P **P** **13 34 49.4 -2.7**
SHLS pmax pmax
comp=Z,10.0nm,0.8s
UZB Uzynbulak 47.53 294 ⇑*i*P **P** **13 34 54.1 -0.4**
comp=Z,9.8nm,1.0s,baz=294
UZB Uzynbulak 47.53 294*c* *i*P **P** **13 34 54.1 -0.4**
UZB pmax pmax
comp=Z,10.0nm,1.0s
HYT Haines Junctio 47.64 40 P **P** **13 34 56.8 +1.8**
INK Inuvik 47.65 30 P **P** **13 34 55.4 +0.6**
comp=Z,8.5nm,0.5s,baz=290,slow=6.2,SNR=75
INK LR LR 13 55 46.8
comp=Z,170nm,21.4s,baz=280,slow=37
INK Inuvik 47.65 30 P **P** **13 34 55.1 +0.4**
SATY Saty 47.98 294 ⇑*i*P **P** **13 34 58.0 0.0**
comp=Z,9.6nm,0.8s,baz=294
SATY Saty 47.98 294*c* *i*P **P** **13 34 57.9 0.0**
SATY pmax pmax
comp=Z,10.0nm,0.8s
SATY Saty 47.98 294*c* *i*P **P** **13 34 57.9 0.0**
SATY pmax pmax
comp=Z,10.0nm,0.8s
SANI Sanana 48.17 207 P **P** **13 35 00.3 +0.9**
comp=Z,38nm,1.1s
PRZ Przheval'sk 48.23 294 P **P** **13 35 00.1 +0.2**
PRZ pmax pmax
comp=Z,17nm,0.8s
PRZ Przheval'sk 48.23 294 P **P** **13 35 00.1 +0.2**
PRZ IAmb IAmb 13 35 01.5
comp=Z,16nm,0.8s
MPSI Mapaga 48.30 216 P **P** **13 35 01.7 +1.3**
comp=Z,411nmcomp=Z,11nm,1.3s
CHKK Chushkaly 48.60 296 *e*P **P** **13 35 02.1 -0.4**
baz=296
CHKK Chushkaly 48.60 296 *e*P **P** **13 35 02.1 -0.4**
BRDH Bariadhala 48.83 263 P **P** **13 35 03.6 -0.8**
comp=Z,88nm,0.4s,baz=141,slow=0.2,SNR=3.9
MDOK Medeo 48.84 295 *i* P **P** **13 35 04.7 0.0**
baz=295
MDOK *i* S **S** **13 42 05.0 -0.6**
baz=295
MDOK *e*S S 13 42 05.1 -0.5
baz=295
MDOK LR LR 13 55 41.4
comp=Z,219nm,15.2s,baz=295
MDOK Medeo 48.84 295 *i* P **P** **13 35 04.6 0.0**
MDOK *e*S **S** **13 42 05.0 -0.6**
MDOK MLR MLR
comp=Z,219nm,15.0s
AAA Alma-Ata 48.91 295 ⇑*i*P **P** **13 35 05.3 +0.3**
comp=Z,17nm,0.7s,baz=295
AAA LR LR 13 56 03.1
comp=Z,224nm,16.8s,baz=295
AAA Alma-Ata 48.91 295 *i* P **P** **13 35 05.3 +0.3**
AAA Alma-Ata 48.91 295*c* *i*P **P** **13 35 05.3 +0.3**
AAA pmax pmax
comp=Z,17nm,0.7s
AAA MLR MLR
comp=Z,224nm,17.0s

WHY **Whitehorse** 48.93 40 P **P** 13 35 05.5 +0.5
WHY **pP** 13 35 17.4 +2.1
WHY IAmb IAmb 13 35 18.5
comp=Z,24nm,1.1s
TARG Taragay, Kyrgy 48.95 293 P **P** 13 35 04.6 -1.1
TARG IAmb IAmb 13 35 06.1
comp=Z,13nm,0.8s
BRZS Berezniki 48.96 305⇑ *i*P **P** 13 35 04.8 -0.4
comp=Z,54nm,1.0s,baz=305
BRZS Berezniki 48.96 305 *c i*P **P** 13 35 04.8 -0.4
BRZS pmax pmax
comp=Z,54nm,1.0s
TNSS Tian-Shan 48.97 295⇑ *i*P **P** 13 35 06.1 +0.2
baz=295
TNSS Tian-Shan 48.97 295 *c i*P **P** 13 35 06.0 +0.2
TAPN Taplejung 48.98 271 *e*P **P** 13 35 06.1 +0.1
comp=Z,84nm,1.0s
KUU Kurty 49.01 296⇓ *i*P **P** 13 35 05.0 -0.8
comp=Z,33nm,0.9s,baz=296
KUU LR LR 13 56 17.6
comp=Z,86nm,11.3s,baz=296
KUU Kurty 49.01 296 *d i*P **P** 13 35 04.9 -0.8
KUU pmax pmax
comp=Z,33nm,0.9s
KUU MLR MLR
comp=Z,86nm,11.0s
KDJ Kajisay 49.19 294 P **P** 13 35 07.1 -0.2
KDJ pmax pmax
comp=Z,20nm,0.9s
KDJ Kajisay 49.19 294 P **P** 13 35 07.1 -0.2
KDJ IAmb IAmb 13 35 08.4
comp=Z,20nm,0.8s
BVAR Borovoye Array 49.22 309 P **P** 13 35 06.9 -0.2
comp=Z,3.2nm,0.3s,baz=85,slow=10,SNR=23
BVAR PcP **PcP** 13 36 29.5 -0.2
comp=Z,4.5nm,0.7s,baz=79,slow=4.1,SNR=5.0
BRVK Borovoye 49.27 310 *e*P **P** 13 35 07.1 -0.4
BRVK Borovoye 49.27 310 *ce*P **P** 13 35 07.1 -0.4
BRVK pmax pmax
comp=Z,10.0nm,1.3s
BRVK Borovoye 49.27 310 P **P** 13 35 07.0 -0.5
MTBS Maitube 49.27 295 *e*P **P** 13 35 08.0 +0.2
baz=295
MTBS Maitube 49.27 295 *e*P **P** 13 35 08.0 +0.2
ODAN Odare 49.49 271 *e*P **P** 13 35 10.0 +0.2
A36M Sachs Harbour 49.56 24 P **P** 13 35 10.0 +0.6
baz=285
ULHL Ulahol 49.77 294 P **P** 13 35 11.8 0.0
SNR=9.0
JIS Juneau Island 49.90 43 P **P** 13 35 12.8 +0.6
TKM2 Tokmak 2 49.91 295 P **P** 13 35 13.2 +0.4
SNR=48
JIRN Jiri 49.92 273 *e*P **P** 13 35 13.3 +0.1
GUN Gumba 50.01 273 *e*P **P** 13 35 13.6 -0.3
comp=Z,109nm,0.8s
RAMN Ramite 50.02 272 *e*P **P** 13 35 13.5 -0.4
comp=Z,63nm,0.7s
BTLS Baital 50.03 299⇑ *i*P **P** 13 35 12.8 -0.7
comp=Z,7.1nm,1.0s,baz=298
BTLS LR LR 13 56 42.6
comp=Z,192nm,14.8s,baz=298
BTLS Baital 50.03 299 *c i*P **P** 13 35 12.7 -0.7
BTLS pmax pmax
comp=Z,7.0nm,1.0s
BTLS MLR MLR
comp=Z,192nm,15.0s
SBUM Sibu 50.14 226 P **P** 13 35 16.0 +1.5
SGDS Sogindy 50.32 296⇑ *i*P **P** 13 35 15.6 -0.1
comp=Z,23nm,1.1s,baz=296
SGDS Sogindy 50.32 296 *c i*P **P** 13 35 15.6 -0.1
SGDS pmax pmax
comp=Z,23nm,1.1s
KBK Karagaybulak 50.46 295 P **P** 13 35 17.2 +0.3
SNR=27
USP Ospenovka 50.49 296 P **P** 13 35 16.9 0.0
SNR=20
KZA Kyzart 50.51 295 P **P** 13 35 18.4 +0.8
SNR=35
KKN Kakani 50.52 273 *e*P **P** 13 35 17.5 -0.1
comp=Z,64nm,0.9s
PKI Pulchoki 50.54 273 *e*P **P** 13 35 17.5 -0.4
comp=Z,54nm,1.1s
C36M Paulatuk 50.70 27 P **P** 13 35 18.9 +0.8
baz=288
C36M Paulatuk 50.70 27 P **P** 13 35 18.3 +0.2
DMN Daman 50.74 273 *e*P **P** 13 35 19.4 +0.1
comp=Z,42nm,0.8s
AAK Ala-Archa 50.77 296 P **P** 13 35 19.1 -0.1
comp=Z,9.8nm,0.8s,baz=86,slow=5.6,SNR=20
AAK Ala-Archa 50.77 296 P **P** 13 35 19.1 -0.1
SNR=7.3
AAK Ala-Archa 50.77 296 *i*P **P** 13 35 18.9 -0.4
SNR=7.9
AAK Ala-Archa 50.77 296 *e*P **P** 13 35 18.2 -1.0
AAK Ala-Archa 50.77 296 *ce*P **P** 13 35 18.2 -1.0
AAK pmax pmax
comp=Z,28nm,1.7s
AAK Ala-Archa 50.77 296 P **P** 13 35 18.7 -0.5
AAK IAmb IAmb 13 35 20.1
comp=Z,32nm,1.4s
GKN Gorkha 50.87 274 *e*P **P** 13 35 19.8 -0.3
UCH Uchtor 50.93 295 P **P** 13 35 21.0 +0.2
SNR=6.5
KSH Kashi 51.18 291 P **P** 13 35 25.8 +3.5
KSH S **S** 13 42 38.3 +0.1
KSH pmax pmax
comp=Z,11nm,0.6s
KSH pmax pmax
comp=Z,150nm,5.8s
KSH LR LR
comp=Z,290nm,12.3s
KSH LR LR
comp=Z,180nm,10.9s
KSH LR LR
comp=Z,360nm,15.6s
EKS2 Erkin-Say 51.23 296 P **P** 13 35 22.7 0.0
SNR=19
DANN Dangsing 51.32 275 *e*P **P** 13 35 24.2 +0.5
comp=Z,384nm,0.8s
AML Almayashu 51.52 295 P **P** 13 35 25.4 +0.3
SNR=25
MTKI Muara Teweh, K 51.70 221 P **P** 13 35 27.3 +1.0
KOLN Koldanda 51.76 274 *e*P **P** 13 35 27.1 +0.2
KSM Kuching 51.98 227 P **P** 13 35 27.3 -1.1
KSM IAmb IAmb 13 35 31.1
comp=Z,24nm,1.1s
KSM Kuching 51.98 227 P **P** 13 35 30.0 +1.7
DLBC Dease Lake 52.00 42 P **P** 13 35 30.2 +2.1
comp=Z,2.1nm,0.6s,baz=265,slow=5.5,SNR=7.5
DLBC Dease Lake 52.00 42 P **P** 13 35 29.3 +1.3
DLBC IAmb IAmb 13 35 42.3
comp=Z,32nm,1.2s
PYUN Piuthan 52.02 275 *e*P **P** 13 35 29.2 +0.4
SPSI Sidrap Palu 52.23 214 P **P** 13 35 30.6 +0.4
comp=Z,14nm,1.1s
ARSB Arslanbob 52.37 295 P **P** 13 35 31.4 +0.2
ARSB pmax pmax
comp=Z,74nm,0.9s
ARSB Arslanbob 52.37 295 P **P** 13 35 31.4 +0.2
BNSI Bone 52.50 213 P **P** 13 35 33.3 +1.2
comp=Z,26nm,1.4s
DZA Taraz 52.73 297⇑ *i*P **P** 13 35 33.7 0.0
comp=Z,30nm,0.9s,baz=297
DZA Taraz 52.73 297 *c i*P **P** 13 35 33.7 0.0
DZA pmax pmax
comp=Z,30nm,0.9s
DIB Dawson Inlet, 52.78 48 P **P** 13 35 34.5 +0.7
DIB IAmb IAmb 13 35 47.1
comp=Z,19nm,0.9s
SVE Sverdlovsk 53.02 317 *e*P **P** 13 35 34.7 -0.9
SVE Sverdlovsk 53.02 317 *e*P **P** 13 35 34.7 -0.9
SVE pmax pmax
comp=Z,25nm,1.1s
KK31 Karatay Array 53.17 298 P **P** 13 35 35.9 -1.0
KK31 pmax pmax
comp=Z,23nm,0.9s
KK31 Karatay Array 53.17 298 P **P** 13 35 35.9 -1.0
KK31 IAmb IAmb 13 35 37.5
comp=Z,23nm,0.8s
KKAR Karatay Array 53.17 298 P **P** 13 35 35.9 -1.0
KKAR Karatay Array 53.17 298 P **P** 13 35 35.9 -1.0
KKAR Karatay Array 53.17 298 P **P** 13 35 36.0 -0.9
KKAR IAmb IAmb 13 35 37.5
comp=Z,23nm,0.8s
EUNU Eureka 53.86 10 P **P** 13 35 41.0 -0.5
EUNU IAmb IAmb 13 35 49.4
comp=Z,13nm,0.8s
IUG luzhnay 53.93 297⇑ *i*P **P** 13 35 42.6 -0.1
comp=Z,11nm,1.1s,baz=297
IUG *i* S **S** 13 43 14.9 -0.7
baz=297
IUG LR LR 13 59 02.8
baz=297
IUG luzhnay 53.93 297 *c i*P **P** 13 35 42.5 -0.1
IUG pmax pmax
comp=Z,11nm,1.1s
BBKI Banjar Baru 53.94 219 P **P** 13 35 44.0 +1.3
comp=Z,2μmcomp=Z,27nm,1.0s
ARU Arti 54.23 317 P **P** 13 35 43.6 -0.9
comp=Z,2.3nm,0.2s,baz=81,slow=8.1,SNR=7.4
ARU Arti 54.23 317 *i* P **P** 13 35 43.1 -1.3
ARU Arti 54.23 317 *d i*P **P** 13 35 43.1 -1.3
ARU 13 36 46.4
ARU S **S** 13 43 17.3 -1.7
ARU SS **SKiKP** 13 46 52.1 -0.1
ARU pmax pmax
comp=Z,14nm,0.9s
ARU Arti 54.23 317 P **P** 13 35 42.8 -1.7
ARU IAmb IAmb 13 35 45.9
comp=Z,16nm,1.0s
BTK Batken 54.41 294 P **P** 13 35 44.9 -1.3
BTK pmax pmax
comp=Z,24nm,1.1s
BTK Batken 54.41 294 P **P** 13 35 44.9 -1.3
BTK IAmb IAmb 13 35 46.8
comp=Z,24nm,1.1s
KULM Kulim 54.63 240 P **P** 13 35 48.9 +1.1
KULM Kulim 54.63 240 P **P** 13 35 49.0 +1.2
IPM Ipoh 55.02 239 P **P** 13 35 49.1 -1.5
IPM IAmb IAmb 13 35 52.5
comp=Z,16nm,1.0s
GAR Garm 55.27 293 P **P** 13 35 51.3 -1.1
MYKOM Kota Tinggi 55.40 234 P **P** 13 35 55.0 +1.7
BBB Bella Bella 55.61 48 LR LR 13 57 10.1
comp=Z,82nm,20.6s,baz=270,slow=33
EDFI Ende, Flores 55.89 209 P **P** 13 35 57.0 0.0
comp=Z,11nm,1.2s
NIL Nilore 56.02 286 P **P** 13 35 57.5 -0.2
NIL pmax pmax
comp=Z,55nm,0.9s
NIL Nilore 56.02 286 P **P** 13 35 57.5 -0.2
RES Resolute Bay 56.06 16 P **P** 13 35 56.8 -0.5
RES pmax pmax
comp=Z,31nm,0.9s
RES Resolute Bay 56.06 16 P **P** 13 35 56.8 -0.5
CHGR Chuyangaron 56.23 294 P **P** 13 35 58.1 -1.1
ABKAR Akbulak array 56.76 309 P **P** 13 36 02.0 -0.7
TPI Tanjungpandan 56.95 227 P **P** 13 36 05.5 +1.1
comp=Z,46nm,1.1s
YKA Yellowknife Ar 57.07 33 P **P** 13 36 04.3 -0.5
comp=Z,1.9nm,0.7s,baz=304,slow=6.6,SNR=2.2
YKA LR LR 14 04 09.5
comp=Z,143nm,19.2s,baz=0.0,slow=40
MTN Manton Dam 57.08 197 P **P** 13 36 05.1 -0.1
AKTO Aktyubinsk 57.28 311 P **P** 13 36 06.1 -0.3
comp=Z,5.3nm,0.5s,baz=75,slow=15,SNR=15
KIRV Kirov 57.60 322 P **P** 13 36 07.1 -1.4
comp=Z,2.9nm,0.4s,baz=31,slow=17,SNR=4.2
KIRV Kirov 57.60 322⇓ *e*P **P** 13 36 06.8 -1.7
PSI Prapat 57.63 240 P **P** 13 36 09.6 +0.2
PSI pmax pmax
comp=Z,18nm,0.9s
PRGR Permogore 57.67 326 *e*P **P** 13 36 08.0 -0.9
PRGR pmax pmax
comp=Z,65nm,1.5s
RPSI Rantau Prapat 57.71 239 P **P** 13 36 09.6 -0.2
RPSI IAmb IAmb 13 36 11.2
comp=Z,18nm,0.9s
BKNI Bangkinang 58.25 236 P **P** 13 36 15.6 +2.0
comp=Z,88nm,0.4s
KBL Kabul 58.48 290 P **P** 13 36 13.7 -1.6
KBL pmax pmax
comp=Z,36nm,0.9s
KBL Kabul 58.48 290 P **P** 13 36 13.7 -1.6
MNSI Mandailing Nat 58.77 237 P **P** 13 36 18.0 +0.7
SDSI Sungai Dareh 59.01 235 P **P** 13 36 19.8 +0.9
ARCES ARCESS Array B 59.66 339 P **P** 13 36 21.9 -0.7
comp=Z,3.2nm,0.8s,baz=26,slow=5.8,SNR=5.0
ARCES ARCESS Array B 59.66 339 P **P** 13 36 21.5 -1.2
ARE0 ARCESS Array S 59.66 339 *e*P **P** 13 36 22.5 -0.1
KNRA Kununurra 60.35 199 P **P** 13 36 28.4 +0.4
KNRA IAmb IAmb 13 36 29.7
comp=Z,19nm,1.1s
LEM Lembang 60.40 225 LR LR 14 03 03.1
comp=Z,67nm,21.8s,baz=58,slow=36
KLMR Klimovskoe 60.57 327 *e*P **P** 13 36 27.2 -1.7
KLMR pmax pmax
comp=Z,23nm,1.4s
KLMR Klimovskoe 60.57 327 *e*P **P** 13 36 27.3 -1.7
KLMR AMP 13 36 39.4
comp=Z,23nm,1.4s
D03D Eldon 60.76 51 P **P** 13 36 31.9 +1.4
baz=303
B05A Bryant 60.92 50 pP pP 13 36 43.8 +1.4
baz=303
TRO Tromso 61.21 341 *e*P **P** 13 36 33.1 -0.1
E04D Cinebar 61.59 52 P **P** 13 36 36.5 +0.4
baz=304,SNR=6.1
F04A Amboy 62.02 52 P **P** 13 36 39.2 +0.1
F04A **pwP** 13 36 51.9 +2.0
LTY Liberty 62.28 50 P **P** 13 36 41.8 +0.9
LTY IAmb IAmb 13 36 54.1
comp=Z,12nm,1.0s
B08A Colville Reser 62.41 49 P **P** 13 36 42.2 +0.5
B08A IAmb IAmb 13 36 54.9
comp=Z,16nm,1.0s
F05D White Salmon 62.60 52 pP pP 13 36 55.9 +2.1
baz=304
H04D Lebanon 62.62 54 pP pP 13 36 56.2 +2.7
baz=304
J01E Myrtle Point 62.67 55 pP pP 13 36 56.4 +2.5
baz=304
I03D Drain, OR 62.72 55 pP pP 13 36 57.0 +2.9
baz=304
H04A Detroit Lake 62.85 53 pP 13 36 57.2 +2.1
G05D Wamic, OR 63.05 52 pP pP 13 36 59.0 +2.2
baz=305
HRA Herat 63.22 293 P **P** 13 36 47.2 -0.3
I04A Tendick Farm, 63.23 54 pP pP 13 36 59.5 +1.9
baz=305
WB0 Warramunga Arr 63.24 192 P **P** 13 36 46.8 -0.5
WB0 **pwP** 13 37 00.3 0.0
D08A Wollman Farm, 63.38 50 P **P** 13 36 48.5 +0.4
D08A pP **pwP** 13 37 00.3 +1.4
D08A IAmb IAmb 13 37 01.3
comp=Z,13nm,0.9s
STEI Steigen 63.38 341 *e*P **P** 13 36 47.1 -0.6
WR0 Warramunga Arr 63.41 192 P **P** 13 36 47.5 -0.9
WRAB Tennant Creek 63.41 192 *ce*P **P** 13 36 47.6 -0.8
WRAB pmax pmax
comp=Z,30nm,2.5s
WRAB Tennant Creek 63.41 192 P **P** 13 36 47.7 -0.8
WRAB IAmb IAmb 13 36 49.8
comp=Z,18nm,1.4s
HAWA Hanford 63.41 50 P **P** 13 36 46.9 -1.5
HAWA pP **pwP** 13 37 00.6 +1.4
HAWA IAmb IAmb 13 37 02.0
comp=Z,24nm,1.1s
WB2 Warramunga Arr 63.42 192 P **P** 13 36 47.7 -0.8
WB2 IAmb IAmb 13 36 49.8
comp=Z,18nm,1.3s
WRA Warramunga Arr 63.42 192 P **P** 13 36 48.4 -0.1
comp=Z,2.9nm,0.9s,baz=21,slow=8.1,SNR=20
WRA Warramunga Arr 63.42 192 *i* P **P** 13 36 49.0 +0.4
WRA pmax pmax
comp=Z,3.0nm,0.9s
WRA Warramunga Arr 63.42 192 P **P** 13 36 47.3 -1.3
FITZ Fitzroy Crossi 63.46 201 P **P** 13 36 49.1 +0.2
FITZ IAmb IAmb 13 36 51.1
comp=Z,15nm,1.1s
I05D Terrebonne, OR 63.55 53 pP pP 13 37 02.6 +2.8
baz=305
E08A Dider Farm, El 63.62 50 pP 13 37 02.0 +1.4
NEW Newport 63.67 48 P **P** 13 36 49.4 -0.7
baz=306,SNR=7.0
NEW Newport 63.67 48 P **P** 13 36 48.6 -1.5
NEW *PP **pP** 13 37 02.3 +1.4
NEW pmax pmax
comp=Z,24nm,1.1s
NEW Newport 63.67 48 P **P** 13 36 48.6 -1.5
NEW pP **pP** 13 37 02.3 +1.4
NEW IAmb IAmb 13 37 03.9
comp=Z,24nm,1.1s
J04D Umpqua Nationa 63.72 55 pP pP 13 37 03.2 +2.1
baz=305
FAUS Fauske 63.80 341 *e*P **P** 13 36 50.0 -0.6
GEYT Alibeck 63.91 298 P **P** 13 36 51.7 -0.1
comp=Z,18nm,0.8s,baz=27,slow=3.6,SNR=39
GEYT LR LR 14 07 01.8
comp=Z,764nm,18.1s,baz=40,slow=38
GEYT Alibeck 63.91 298 P **P** 13 36 50.8 -1.1
GYA0B ALIBECK ARRAY 63.91 298 P **P** 13 36 50.2 -1.6
GYA0B IAmb IAmb 13 36 52.7
comp=Z,24nm,0.9s
KHMM Horse Mountain 64.10 57 P **P** 13 36 55.3 +2.2
KHMM IAmb IAmb 13 37 08.2
comp=Z,39nm,1.2s
PINE Pine Mountain 64.10 53 P **P** 13 36 54.8 +1.6
PINE IAmb IAmb 13 37 08.0
comp=Z,28nm,1.1s
E09A Wood Farm, Sta 64.12 50 P **P** 13 36 53.8 +0.7
E09A pP **pwP** 13 37 05.5 +1.6
L04D Klamath Falls 64.19 56 pP pP 13 37 07.0 +2.9
baz=306
J05D Fort Rock, OR 64.22 54 P **P** 13 36 54.1 +0.1
baz=306
YBH Yreka Blue Hor 64.23 56 P **P** 13 36 54.6 +0.7
YBH **pwP** 13 37 05.9 -0.7
YBH IAmb IAmb 13 37 08.2
comp=Z,17nm,1.1s
M02C Callahan 64.34 57 P **P** 13 36 53.9 -0.8
baz=306
G08A Pilot Rock 64.38 51 P **P** 13 36 55.5 +0.6
G08A pP **pwP** 13 37 07.3 +1.6
POO Poona 64.45 272 *e*P **P** 13 36 55.0 -0.6
N02D Trinity Center 64.67 57 P **P** 13 36 57.9 +1.1
baz=306
M04C Macdoel 64.73 56 P **P** 13 36 57.6 +0.4
baz=306
SUMG Summit 64.77 1 *i* P **P** 13 36 57.5 +0.2
comp=Z,77nm,0.9s
SUMG Summit 64.77 1 *i* P **P** 13 36 57.5 +0.2
SUMG pmax pmax
comp=Z,77nm,0.9s
SUMG Summit 64.77 1 P **P** 13 36 57.2 -0.2
I07A Izee 64.77 53 P **P** 13 36 56.2 -1.3
I07A pP **pwP** 13 37 10.0 -0.3
KCPM Cahto Peak 64.88 58 P **P** 13 36 59.8 +1.5
WALA Waterton Lakes 64.91 46 P **P** 13 36 59.0 +0.7
WALA **pP** 13 37 10.6 +1.3
WALA IAmb IAmb 13 37 11.6
comp=Z,25nm,1.0s
F10A Beach Ranch, E 64.96 50 pP 13 37 10.9 +1.5
MOR8 Moi Rana 64.97 340 *e*P **P** 13 36 56.4 -1.8
WDC Whiskeytown Da 65.00 57 P **P** 13 36 59.3 +0.4
WDC pmax pmax
comp=Z,16nm,1.0s
WDC Whiskeytown Da 65.00 57 P **P** 13 36 59.3 +0.4
WDC IAmb IAmb 13 37 17.8
comp=Z,16nm,1.0s
O02D Mt. Diablo Mer 65.09 58 P **P** 13 37 00.1 +0.5
baz=306
FIA1 FINESS Array S 65.13 333 P **P** 13 36 58.3 -1.0
FINES FINESS Array B 65.13 333 P **P** 13 36 58.6 -0.7
comp=Z,29nm,0.8s,baz=54,slow=7.8,SNR=45
FINES LR LR 14 07 58.7
comp=Z,145nm,18.5s,baz=57,slow=38
FINES FINESS Array B 65.13 333 P **P** 13 36 57.6 -1.7
OBN Obninsk 65.36 323 *e*P **P** 13 37 00.1 -0.8
OBN Obninsk 65.36 323⇓ *e*P **P** 13 37 00.1 -0.8
OBN *PP **sP** 13 37 15.0 -1.0
OBN 13 37 33.0
OBN S **S** 13 45 42.0 -0.1
OBN *e* 13 46 08.2
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN MLR MLR
comp=Z,228nm,17.0s
VRH Novokhopyorsk 65.44 318 *e*P **P** 13 37 00.2 -1.3
VRH pmax pmax
comp=Z,40nm,0.7s
JTMT Jette 65.51 47 pP pP 13 37 14.4 +1.3
BMO Blue Mountains 65.58 51 P **P** 13 37 03.0 +0.3
BMO *PP **pP** 13 37 15.1 +2.0
BMO pmax pmax
comp=Z,11nm,1.1s
BMO Blue Mountains 65.58 51 P **P** 13 37 03.0 +0.3
BMO pP **pP** 13 37 15.1 +2.0
MOD Modoc Plateau 65.59 55 P **P** 13 37 03.3 +0.4
MOD pP **pwP** 13 37 15.6 0.0
O03E Paynes Creek 65.63 57 P **P** 13 37 03.7 +0.7
baz=306
J08A Circle Bar Ran 65.80 53 P **P** 13 37 04.9 +0.7
J08A pP **pwP** 13 37 16.9 0.0
J08A IAmb IAmb 13 37 18.1
comp=Z,15nm,1.1s
LPSR Galich'ya Gora 65.90 320 *e*P **P** 13 37 03.7 -0.7
LPSR pmax pmax
comp=Z,40nm,0.8s
ORV Oroville 66.25 58 P **P** 13 37 07.2 +0.3
ORV pP **pwP** 13 37 19.2 -0.5
MSO Missoula 66.25 48 P **P** 13 37 06.9 -0.1
baz=308,SNR=9.1
WVOR Wild Horse Val 66.26 54 P **P** 13 37 06.7 -0.4
WVOR pmax pmax
comp=Z,11nm,1.1s
WVOR Wild Horse Val 66.26 54 P **P** 13 37 06.7 -0.4
VSR Storozhevoye 66.67 319 *e*P **P** 13 37 08.7 -0.7
VSR pmax pmax
comp=Z,50nm,0.8s
VORD Divnogorie 66.77 319 *e*P **P** 13 37 09.2 -0.8
VORD pmax pmax
comp=Z,30nm,0.9s
NSS Namsos 66.91 340 *e*P **P** 13 37 09.6 -1.1
AFDM Forest Hills D 66.94 58 P **P** 13 37 09.9 -1.5
AFDM **pwP** 13 37 24.2 +0.1
FFC Flin Flon 66.99 36 pP pP 13 37 23.1 +0.8
VSU Vasula 67.03 330 *e*P **P** 13 37 11.4 -0.2
VSU Vasula 67.03 330 *i* P **P** 13 37 10.1 -1.5
VSU pmax pmax
comp=Z,59nm,0.8s
AS31 Alice Springs 67.14 192 P **P** 13 37 12.7 +0.1
ASAR Alice Springs 67.14 192 P **P** 13 37 13.7 +1.1
comp=Z,4.2nm,1.0s,baz=7.9,slow=5.8,SNR=24
ASAR Alice Springs 67.14 192 P **P** 13 37 12.7 0.0
MFID Camas Ranch 67.30 51 pP 13 37 26.1 +1.9
HRY Holter Researc 67.46 47 P **P** 13 37 14.9 +0.2
HRY pP **pP** 13 37 27.1 +1.4
PAHR Pah Rah Range 67.46 56 P **P** 13 37 15.2 +0.3
PAHR pP **pwP** 13 37 26.8 -0.8
PAHR IAmb IAmb 13 37 29.1
comp=Z,22nm,1.1s
LRM Limekiln Ridge 67.69 48 P **P** 13 37 16.7 +0.4
PNTR Pine Nut 67.71 57 P **P** 13 37 17.1 +0.6
PNTR IAmb IAmb 13 37 30.5
comp=Z,28nm,1.2s
EGMT Eagleton 67.72 45 P **P** 13 37 15.8 -0.5
baz=310,SNR=8.4
EGMT Eagleton 67.72 45 P **P** 13 37 16.7 +0.5
CMB Columbia Colle 67.86 58 P **P** 13 37 18.1 +0.8
CMB pmax pmax
comp=Z,17nm,1.1s
CMB Columbia Colle 67.86 58 P **P** 13 37 18.1 +0.8
CMB IAmb IAmb 13 37 31.6
comp=Z,17nm,1.1s
DLMT Dillon 67.90 48 P **P** 13 37 18.3 +0.8
DLMT IAmb IAmb 13 37 31.6
comp=Z,24nm,1.1s
YERR Yerington 67.99 57 P **P** 13 37 18.4 +0.1
YERR IAmb IAmb 13 37 32.7
comp=Z,32nm,1.0s
HLID Hailey 68.02 51 P **P** 13 37 17.0 -1.3
baz=309,SNR=6.6
HLID Hailey 68.02 51 P **P** 13 37 19.1 +0.7
MCMT McKenzie Canyo 68.10 49 P **P** 13 37 19.4 +0.5
MCMT pP **pP** 13 37 31.3 +1.7
BCYI Bear Canyon 68.11 49 P **P** 13 37 19.2 +0.2
BCYI **pP** 13 37 31.0 +1.3
WAKR Walker 68.17 57 P **P** 13 37 20.0 +0.6
WAKR pP **pwP** 13 37 32.5 +0.4
AKT Akhty 68.22 307 *e*P **P** 13 37 19.5 0.0
AKT *e* 13 37 45.6
AKT *e* 13 39 50.6
AKT pmax pmax
comp=Z,54nm,1.0s

GROC Groznyy 68.26 309 P P 13 37 22.2 +2.6
GROC e 13 37 47.4
GROC e 13 39 51.7
GROC pmax pmax
comp=Z,18nm,0.5s
BOZ Bozeman (W) 68.28 48 P P 13 37 19.7 -0.2
baz=310,SNR=11
BOZ Bozeman (W) 68.28 48 P P 13 37 20.6 +0.7
BOZ pP pP 13 37 32.4 +1.8
BOZ lAmb lAmb 13 37 33.4
comp=Z,22nm,1.0s
TBLU Trondheim 68.39 340 eP P 13 37 18.8 -1.3
PSA00 Pilbara Seismi 68.45 206 P P 13 37 18.6 -2.3
GOF Gofitskoye 68.62 312⇑ eP P 13 37 22.1 +0.3
GOF pmax pmax
comp=Z,89nm,0.7s
KVN Kaiserville 68.65 56 P P 13 37 23.3 +0.9
KVN *PP pwP 13 37 35.1 0.0
KVN pmax pmax
comp=Z,26nm,1.0s
KVN Kaiserville 68.65 56 P P 13 37 23.3 +0.9
KVN pP pwP 13 37 35.1 0.0
KVN lAmb lAmb 13 37 36.8
comp=Z,26nm,1.0s
RYN Ryan 68.65 57 P P 13 37 23.4 +1.0
LGD Lagodekhi 68.86 308 P P 13 37 23.6 +0.2
LHV Little Huntoon 68.90 57 P P 13 37 24.1 +0.5
NVAR Mina Array Bea 68.91 57 P P 13 37 25.4 +1.4
comp=Z,6.8nm,0.7s,baz=295,slow=6.6,SNR=65
NVAR LR LR 14 05 01.1
comp=Z,80nm,20.7s,baz=306,slow=34
NVAR Mina Array Bea 68.91 57 P P 13 37 24.5 +0.4
MDPB Devils Postpil 68.93 58 P P 13 37 24.7 +0.5
OMMB Old Mammoth Mi 68.99 58 P P 13 37 25.4 +0.8
NV11 Mina Array Sit 69.00 57 P P 13 37 25.5 +0.9
YHB Horse Butte 69.06 48 P P 13 37 25.9 +1.0
IZAR Zarasai 69.18 328 eP P 13 37 25.8 +0.7
GCMT Greycliff 69.21 46 P P 13 37 26.2 +0.5
GCMT pP 13 37 38.4 +2.0
YHH Holmes Hill 69.22 48 P P 13 37 26.2 +0.3
YMR Madison River 69.23 48 pP 13 37 38.9 +2.2
IDID Didziasalis 69.31 328 eP P 13 37 26.3 +0.4
ISAL Salakas 69.36 328 eP P 13 37 26.5 +0.3
KIV Kislovodsk 69.53 311 ⇑P P 13 37 27.8 +0.2
KIV Kislovodsk 69.53 311 i P P 13 37 28.6 +1.0
SNR=7.6
KIV Kislovodsk 69.53 311 eP P 13 37 27.8 +0.2
KIV Kislovodsk 69.53 311 eP P 13 37 27.8 +0.2
KIV pmax pmax
comp=Z,189nm,1.1s
KIV MLR MLR
comp=Z,425nm,17.0s
KIV Kislovodsk 69.53 311 P P 13 37 27.4 -0.2
YNE Yellowstone No 69.53 47 P P 13 37 27.9 +0.1
KBZ Khabaz 69.56 311 P P 13 37 28.2 +0.6
comp=Z,30nm,0.8s,baz=72,slow=4.4,SNR=44
KBZ LR LR 14 11 25.8
comp=Z,160nm,18.9s,baz=40,slow=39
KBZ Khabaz 69.56 311 eP P 13 37 27.6 0.0
KBZ Khabaz 69.56 311 ceP P 13 37 27.6 0.0
YPP Pitchstone Pla 69.58 48 P P 13 37 28.3 +0.1
NACGM Naroch 69.59 327 e P 13 37 26.0 -1.6
ZEI Tsey 69.60 310 eP P 13 37 21.9 -6.3
ZEI pmax pmax
comp=Z,58nm,1.4s
H17A Grant Village 69.62 48 P P 13 37 28.9 +0.5
H17A lAmb lAmb 13 37 44.2
comp=Z,30nm,1.1s
MOL Molde 69.64 341 eP P 13 37 28.2 +0.4
DOMB Dombas 69.71 340 eP P 13 37 27.6 -0.7
IMW Indian Meadow 69.75 49 P P 13 37 29.9 +0.7
IMW lAmb lAmb 13 37 44.1
comp=Z,18nm,1.1s
NC405 NORSAR Array S 69.79 338 P P 13 37 28.2 -0.6
NC303 NORSAR Array S 69.79 338 P P 13 37 28.3 -0.6
TBLG Delisi 69.80 308 P P 13 37 28.3 -0.9
TBLG pmax pmax
comp=Z,42nm,0.9s
TBLG Delisi 69.80 308 P P 13 37 28.3 -0.9
RLMT Red Lodge 69.86 47 P P 13 37 29.6 -0.2
baz=311,SNR=6.0
RLMT Red Lodge 69.86 47 P P 13 37 29.6 -0.2
RLMT lAmb lAmb 13 37 44.2
comp=Z,32nm,1.5s
FXWY Fox Creek 69.87 49 P P 13 37 31.2 +1.3
FXWY lAmb lAmb 13 37 44.7
comp=Z,19nm,1.1s
NC204 NORSAR Array S 69.92 339 P P 13 37 29.1 -0.5
NB201 NORSAR Array S 69.96 338 P P 13 37 29.1 -0.8
NB201 NORSAR Array S 69.96 338 eP P 13 37 28.4 -1.5
ONI Oni 69.98 310 P P 13 37 31.6 +1.2
NB2 NORSAR Subarra 69.99 338 P P 13 37 29.3 -0.8
comp=Z,24nm,0.8s,baz=34,slow=6.5
NB2 NORSAR Subarra 69.99 338 P P 13 37 29.3 -0.8
baz=34,slow=6.5
NOA NORSAR Array B 69.99 338 P P 13 37 29.4 -0.7
comp=Z,21nm,0.8s,baz=34,slow=6.1,SNR=45
NOA LR LR 14 12 19.3
comp=Z,106nm,20.0s,baz=355,slow=40
TPAW Teton Pass 70.00 49 P P 13 37 30.6 -0.2
TPAW lAmb lAmb 13 37 44.7
comp=Z,36nm,1.1s
ECR Eagle Creek 70.05 49 pP pP 13 37 42.6 +0.9
LOHW Long Hollow 70.12 49 P P 13 37 30.4 -1.0
NBO00 NORSAR Array S 70.12 338 P P 13 37 30.0 -0.8
REDW Red Top Meadow 70.14 49 P P 13 37 31.7 +0.1
REDW lAmb lAmb 13 37 46.3
comp=Z,34nm,1.2s
NC602 NORSAR Array S 70.16 338 P P 13 37 30.2 -0.9
NC602 NORSAR Array S 70.16 338 eP P 13 37 29.3 -1.7
NORES NORESS Array B 70.16 338 P P 13 37 33.7 +2.7
PKM Mcpherson Peak 70.17 61 P P 13 37 31.6 -0.2
baz=309
KZRT Kazreti 70.22 308 P P 13 37 32.5 +0.7
DGMT Dagmar 70.22 42 pP 13 37 43.8 +1.1
PABE Paberze 70.23 329 eP P 13 37 31.7 +0.2
NAO01 NORSAR Array S 70.24 338 P P 13 37 30.5 -1.1
GRAC Grapevine Rang 70.39 58 P P 13 37 33.1 +0.1
baz=309,SNR=7.8
LAO LASA Array 70.41 44 P P 13 37 32.9 0.0
baz=312,SNR=6.1
ISA Isabella, Lake 70.54 59 P P 13 37 33.8 -0.2
baz=309
ISA Isabella, Lake 70.54 59 P P 13 37 33.7 -0.2
ISA pmax pmax
comp=Z,8.0nm,1.1s
ISA Isabella, Lake 70.54 59 P P 13 37 33.7 -0.2
PBUR Paburge 70.60 330 eP P 13 37 34.3 +0.5
R11A Troy Canyon, C 70.62 55 P P 13 37 34.8 +0.2
baz=310,SNR=7.5
R11A Troy Canyon, C 70.62 55 P P 13 37 34.5 0.0
AKH Akhalkalaki 70.72 309 ⇓P P 13 37 35.9 +0.9
AKH Akhalkalaki 70.72 309 P P 13 37 36.8 +1.7
HWUT Hardware Ranch 70.88 51 P P 13 37 36.6 +0.6
MPMC Manual Prospec 70.91 58 P P 13 37 36.5 +0.2
baz=310,SNR=6.6
FURC Furnace Creek, 71.04 58 P P 13 37 36.1 -0.7
baz=310,SNR=14
SKAR Skarslia 71.06 339 eP P 13 37 36.2 -0.5
DUG Dugway, Tooele 71.08 53 P P 13 37 37.0 -0.2
baz=311,SNR=6.2
DUG Dugway, Tooele 71.08 53 P P 13 37 37.4 +0.2
DUG pP pP 13 37 50.0 +2.0
DUG lAmb lAmb 13 37 51.6
comp=Z,22nm,1.1s
TPNV Topopah Spring 71.11 57 P P 13 37 37.7 +0.2
baz=310,SNR=9.1
TPNV Topopah Spring 71.11 57 P P 13 37 38.2 +0.7
TPNV pmax pmax
comp=Z,23nm,1.0s
TPNV Topopah Spring 71.11 57 P P 13 37 38.1 +0.7
TPNV lAmb lAmb 13 37 51.9
comp=Z,23nm,1.0s
HYA Hoyanger 71.18 341 eP P 13 37 37.0 -0.2
BW06 Boulder Array 71.25 49 P P 13 37 37.9 -0.4
baz=312,SNR=6.4
BW06 Boulder Array 71.25 49 P P 13 37 38.4 +0.1
PD31 Pinedale Array 71.25 49 P P 13 37 38.6 +0.3
PDAR Pinedale Array 71.25 49 P P 13 37 39.0 +0.6
comp=Z,2.6nm,0.5s,baz=245,slow=1.4,SNR=40
PDAR LR LR 14 05 09.1
comp=Z,61nm,21.9s,baz=326,slow=33
PDAR Pinedale Array 71.25 49 P P 13 37 38.5 +0.1
PDAR pP pP 13 37 50.6 +1.5

EDW2 Edwards Air Fo 71.34 60 P P 13 37 39.1 +0.3
baz=310
KARS Kars 71.47 308 P P 13 37 42.0 +2.4
PSUT Pine Spring 71.54 54 P P 13 37 40.3 +0.1
PRN Pahroc Range 71.55 56 P P 13 37 40.2 +0.1
AKASG Malin Array Be 71.62 323 P P 13 37 39.5 -0.6
comp=Z,32nm,0.8s,baz=40,slow=5.8,SNR=22
AKASG Malin Array Be 71.62 323 ceP P 13 37 39.5 -0.6
AKASG pmax pmax
comp=Z,25nm,0.7s
AKASG Malin Array Be 71.62 323 P P 13 37 39.1 -1.0
AKBB Malin Array Si 71.62 323 ceP P 13 37 39.3 -0.8
AKBB Malin Array Si 71.62 323 P P 13 37 39.1 -1.0
GSC Goldstone, Bar 71.82 59 pP pP 13 37 54.3 +2.1
baz=310
MPU Maple Canyon 71.89 52 P P 13 37 42.9 +0.7
MPU pP pP 13 37 55.0 +2.1
BFSC Mount Baldy Ra 71.96 60 pP pP 13 37 54.5 +1.3
baz=310
SHPR Sheep Range 72.06 57 P P 13 37 44.5 +1.3
SHPR pP sP 13 37 56.5 -1.4
TUQ Turquoise Moun 72.28 58 pP pP 13 37 57.1 +1.7
baz=310
HEC Hector,Ludlow 72.42 59 pP pP 13 37 57.6 +1.6
baz=310
BANOM Banah 72.43 289 P P 13 37 45.5 0.0
SHME Shamm 72.46 289 i P P 13 37 45.4 -0.2
SNR=7.2
CCUT Cedar City 72.48 55 P P 13 37 46.4 +0.6
MSU Marysvale 72.55 54 P P 13 37 47.1 +0.9
MSU Marysvale 72.55 54 P P 13 37 47.1 +0.9
MURC Murrieta 72.66 60 pP pP 13 37 59.2 +1.9
baz=310
P17A Butcher Ranch, 72.76 52 P P 13 37 47.0 -0.3
ULM Lac du Bonnet 72.79 36 LR LR 14 12 01.9
comp=Z,109nm,20.0s,baz=320,slow=38
ULM Lac du Bonnet 72.79 36 P P 13 37 46.6 -0.5
ULM *PP pP 13 37 58.4 +0.2
ULM pmax pmax
comp=Z,12nm,0.9s
ULM Lac du Bonnet 72.79 36 P P 13 37 46.6 -0.5
ULM pP pP 13 37 58.4 +0.2
MDND Maddock 72.85 40 pP pP 13 37 59.6 +1.0
baz=316
MTPU Mount Pierson 72.86 54 P P 13 37 49.8 +1.6
GMRC Granite Mounta 72.87 58 pP pP 13 38 00.2 +1.4
baz=311
Q16A Castle Valley 72.88 53 pP 13 37 59.7 +0.8
MSFE Esma-Masafi 72.89 289 P P 13 37 48.4 +0.3
LCMT Little Creek M 72.90 55 P P 13 37 49.5 +1.4
LCMT pP pP 13 38 00.6 +1.6
K22A Casper 72.98 47 pP pP 13 38 00.7 +1.3
baz=313
K22A Casper 72.98 47 P P 13 37 48.4 -0.3
K22A lAmb lAmb 13 38 02.3
comp=Z,27nm,1.1s
KMY Karmoy 73.11 340 eP P 13 37 49.9 +1.1
UOSS Minazif 73.12 288 i P P 13 37 49.5 0.0
SNR=7.2
UOSS Minazif 73.12 288 P P 13 37 48.8 -0.7
UOSS lAmb lAmb 13 37 50.2
comp=Z,24nm,0.8s
PFO Pinyon Flats O 73.12 60 pP pP 13 38 02.1 +1.8
baz=311
SRU San Rafael Swe 73.12 52 P P 13 37 49.9 +0.4
SRU pmax pmax
comp=Z,20nm,1.1s
SRU San Rafael Swe 73.12 52 P P 13 37 49.9 +0.4
KNB Kanab 73.15 55 P P 13 37 50.5 +0.7
KNB pmax pmax
comp=Z,22nm,1.2s
KNB Kanab 73.15 55 P P 13 37 50.5 +0.7
BELC Belle Mtn. Jos 73.16 59 pP pP 13 38 01.7 +1.0
baz=311
HATD Hatta, Dubai 73.25 288 i P P 13 37 50.5 +0.3
SNR=7.4
RWWY Rawlins 73.26 48 P P 13 37 50.2 -0.2
RWWY pP pP 13 38 02.7 +1.5
RWWY lAmb lAmb 13 38 04.1
comp=Z,21nm,0.9s
RSSD Black Hills 73.29 45 pP pP 13 38 02.3 +1.1
baz=314
RSSD Black Hills 73.29 45 P P 13 37 49.7 -0.8
RSSD *PP pP 13 38 02.2 +1.0
RSSD pmax pmax
comp=Z,17nm,1.0s
RSSD Black Hills 73.29 45 P P 13 37 49.7 -0.8
RSSD pP pP 13 38 02.2 +1.0
ASHO Ashiyiah 73.39 288 i P P 13 37 51.2 +0.1
SNR=6.5
SOHO SOHO 73.41 288 i P P 13 37 51.0 -0.2
SNR=6.1
BAR Barrett 73.59 61 pP pP 13 38 04.8 +1.7
IRM Iron Mountain 73.60 59 pP pP 13 38 04.4 +1.4
baz=311
MONP2 Monument Peak 73.61 60 pP pP 13 38 04.9 +1.5
baz=311
BC3 Big Chuckawall 73.73 59 pP pP 13 38 05.1 +1.2
baz=311
O20A White River Ci 73.74 50 pP pP 13 38 05.3 +1.3
baz=313
O20A White River Ci 73.74 50 P P 13 37 53.0 -0.2
O20A pP 13 38 05.4 +1.4
O20A lAmb lAmb 13 38 07.0
comp=Z,20nm,1.1s
W13A Hualapai Mount 73.77 57 P P 13 37 53.1 -0.3
W13A pP pP 13 38 05.3 +1.1
U15A North Rim 73.86 55 P P 13 37 54.3 +0.3
U15A lAmb lAmb 13 38 08.2
comp=Z,16nm,0.9s
SORM Soroca 73.88 322 ⇓P P 13 37 53.2 -0.3
SORM Soroca 73.88 322 ⇓P P 13 37 53.2 -0.3
IKP In-Ko-Pah, Jac 73.97 60 pP pP 13 38 07.1 +1.8
baz=311
SWSC Sam W. Stewart 73.98 60 pP pP 13 38 06.6 +1.3
baz=311
ALNE Al Ain 74.01 288 P P 13 37 55.0 +0.3
PDMCI Parker Dam,Lak 74.13 58 pP pP 13 38 07.6 +1.5
baz=311
AGMN Agassiz Nation 74.24 38 pP pP 13 38 07.5 +0.7
baz=318
AGMN Agassiz Nation 74.24 38 pP pP 13 38 06.8 +0.1
BEL Belsk 74.26 328 eP P 13 37 56.3 +0.6
PV23 Carpenter Ridg 74.44 52 P P 13 37 58.0 +0.6
PV23 lAmb lAmb 13 38 11.6
comp=Z,31nm,1.1s
PV10 Paradox Valley 74.48 52 P P 13 37 57.4 -0.1
PV14 Lion Creek, Pa 74.49 52 P P 13 37 58.5 +0.9
PV14 lAmb lAmb 13 38 12.4
comp=Z,30nm,1.1s
ESJX Sierra Juarez 74.50 61 P P 13 37 57.7 0.0
ESJX PcP 13 38 10.5 -1.6
N23A Red Feather La 74.50 48 pP pP 13 38 09.5 +1.1
baz=314
N23A Red Feather La 74.50 48 P P 13 37 56.3 -1.4
N23A pP pP 13 38 10.1 +1.6
N23A lAmb lAmb 13 38 12.1
comp=Z,24nm,1.1s
LVV L'vov 74.51 325 eP P 13 37 57.4 +0.2
PV22 Blue Mesa, Par 74.52 52 P P 13 37 56.3 -1.4
PV22 pP pP 13 38 10.4 +1.9
PV22 lAmb lAmb 13 38 13.9
comp=Z,30nm,1.1s
GLA Glamis 74.52 59 pP pP 13 38 10.0 +1.5
baz=311
GLA Glamis 74.52 59 P P 13 37 57.2 -0.4
GLA PcP 13 38 10.5 -1.5
GLA lAmb lAmb 13 38 12.1
comp=Z,19nm,0.9s
STKA Stephens Creek 74.53 184 P P 13 37 58.1 +0.8
comp=Z,2.1nm,0.8s,baz=319,slow=7.1,SNR=3.7
STKA Stephens Creek 74.53 184 P P 13 37 58.1 +0.8
STKA pmax pmax
comp=Z,3.0nm,1.5s
PV04 Paradox Valley 74.54 52 P P 13 37 57.3 -0.5
PV04 lAmb lAmb 13 38 12.2
comp=Z,39nm,1.3s
PV19 Morning Glory 74.56 52 P P 13 37 57.9 -0.1
PV19 lAmb lAmb 13 38 12.8
comp=Z,29nm,1.0s
MILM Milestii Mici 74.56 321 ⇑P P 13 37 56.8 -0.7
PV17 East Wray Mesa 74.59 52 P P 13 37 58.4 +0.3
PV16 Nyswonger Mesa 74.59 52 P P 13 37 58.8 +0.6
PV16 lAmb lAmb 13 38 12.5
comp=Z,27nm,1.2s

PV11 David Mesa, Pa 74.63 52 P P 13 37 59.0 +0.6
PV18 Skein Mesa, Pa 74.64 52 P P 13 37 59.1 +0.6
PV18 lAmb lAmb 13 38 12.7
comp=Z,30nm,1.2s
PV03 Paradox Valley 74.67 52 P P 13 37 59.0 +0.3
PV03 lAmb lAmb 13 38 12.8
comp=Z,25nm,1.3s
PV13 Radium Mtn., P 74.75 52 P P 13 37 59.2 +0.1
PV13 pP PcP 13 38 11.8 -1.3
PV13 lAmb lAmb 13 38 13.4
comp=Z,40nm,1.3s
WUAZ Wupatki 75.02 55 pP pP 13 38 13.1 +1.6
baz=312
Y14A Wickenburg 75.08 58 P P 13 38 01.6 +0.7
B35A Bob, Littlefor 75.14 36 P P 13 38 00.5 -0.4
B35A pP pP 13 38 12.2 +0.2
B35A lAmb lAmb 13 38 13.0
comp=Z,18nm,0.8s
KWP Kalwaria Pacla 75.21 326 eP P 13 38 01.7 +0.4
KWP Kalwaria Pacla 75.21 326 P P 13 38 00.6 -0.7
KWP pmax pmax
comp=Z,64nm,1.0s
KWP Kalwaria Pacla 75.21 326 P P 13 38 00.6 -0.7
VASR Vaslui 75.24 321 ⇓P P 13 38 02.2 +0.7
ISCO Idaho Springs 75.44 49 pP pP 13 38 15.6 +1.6
baz=314
ISCO Idaho Springs 75.44 49 P P 13 38 02.7 -0.5
ISCO pmax pmax
comp=Z,26nm,1.5s
ISCO Idaho Springs 75.44 49 P P 13 38 02.7 -0.5
ISCO lAmb lAmb 13 38 17.6
comp=Z,26nm,1.4s
MVCO Mesa Verde 75.58 52 pP pP 13 38 16.1 +1.4
baz=313
SUSD Miller 75.62 42 pP pP 13 38 15.4 +0.9
baz=317
BUR08 Bucovina Ar. S 75.66 323 P P 13 38 03.4 -0.6
BUR08 lAmb lAmb 13 38 05.1
comp=Z,20nm,0.8s
BURAR Bucovina Array 75.67 323 ⇑P P 13 38 04.1 0.0
BURAR Bucovina Array 75.67 323 ⇑P P 13 38 04.1 0.0
BURAR Bucovina Array 75.67 323 P P 13 38 03.7 -0.4
X16A Lo Mia Camp, P 75.72 56 P P 13 38 05.8 +1.1
X16A lAmb lAmb 13 38 19.5
comp=Z,18nm,1.1s
TLCR 75.83 319 ⇑P P 13 38 05.4 +0.5
TLCR 75.83 319 ⇑P P 13 38 05.4 +0.5
TESR Tescani 75.86 321 ⇓P P 13 38 05.3 +0.2
F33A 5 Mile Ranch, 75.87 40 pP 13 38 16.8 +0.9
OJC Ojcow 75.92 328 eP P 13 38 05.6 +0.2
OJC Ojcow 75.92 328 P P 13 38 05.2 -0.1
OJC pmax pmax
comp=Z,41nm,0.9s
OJC Ojcow 75.92 328 P P 13 38 05.2 -0.1
KOLS Kolonicke sedl 75.93 325 eP P 13 38 04.7 -0.7
KOLS pmax pmax
comp=Z,14nm,1.0s
KOLS Kolonicke sedl 75.93 325 eP P 13 38 04.7 -0.7
CFR Carcaliu 76.16 320 ⇑P P 13 38 06.9 +0.2
CFR Carcaliu 76.16 320 ⇑P P 13 38 06.9 +0.2
S22A 4UR Ranch, Cre 76.18 51 pP pP 13 38 19.8 +1.6
baz=314
BSEG Bad Segeberg 76.23 335 eP P 13 38 07.3 +0.3
comp=Z,13nm,0.9s,baz=32,slow=5.4
TOPG Topolog 76.27 319 ⇑P P 13 38 07.6 +0.2
W18A Petrified Fore 76.28 55 pP pP 13 38 19.9 +1.2
baz=313
Q24A Divide 76.28 49 pP pP 13 38 19.9 +1.1
baz=315
CRVS Cervenica-Dubn 76.29 326 eP P 13 38 07.1 -0.4
CRVS pmax pmax
comp=Z,17nm,0.9s
CRVS Cervenica-Dubn 76.29 326 eP P 13 38 07.0 -0.4
VRI Vrincioaia 76.31 321 ⇑P P 13 38 08.7 +1.1
VRI Vrincioaia 76.31 321 ⇑P P 13 38 08.7 +1.1
PLOR Plostina 76.36 321 ⇓P P 13 38 07.6 -0.3
PLOR Plostina 76.36 321 ⇓P P 13 38 07.6 -0.3
EYMN Ely 76.42 36 pP pP 13 38 20.0 +1.1
baz=321
EYMN Ely 76.42 36 P P 13 38 07.7 -0.6
EYMN lAmb lAmb 13 38 20.5
comp=Z,25nm,0.9s
KSP Ksiaz 76.76 330 eP P 13 38 10.3 +0.2
DOPR Dopca 76.84 322 ⇓P P 13 38 11.7 +1.1
LANS Liptovska Anna 76.90 327 eP P 13 38 12.2 +1.2
LANS pmax pmax
comp=Z,16nm,1.0s
LANS Liptovska Anna 76.90 327 eP P 13 38 12.2 +1.2
SDCO Great Sand Dun 76.94 50 pP pP 13 38 23.8 +1.2
baz=315
SDCO Great Sand Dun 76.94 50 pP 13 38 24.1 +1.6
MLR Muntele Rosu 76.95 321 ⇑P P 13 38 12.9 +1.5
MLR Muntele Rosu 76.95 321 ⇑P P 13 38 12.9 +1.5
MLR Muntele Rosu 76.95 321 P P 13 38 11.2 -0.3
KECS Kecovo 77.02 326 eP P 13 38 11.9 +0.3
KECS pmax pmax
comp=Z,7.0nm,0.9s
KECS Kecovo 77.02 326 eP P 13 38 11.9 +0.3
OSTC Ostas 77.02 330 AMS AMS 14 15 00.0
comp=Z,300nm,19.0s
CHVC Chvalec 77.06 330 eP P 13 38 11.9 +0.1
CHVC AMS AMS 14 15 10.0
comp=Z,300nm,17.2s
UPC Upice 77.14 330 eP P 13 38 12.5 +0.3
UPC MLR MLR
comp=Z,300nm,20.1s
UPC Upice 77.14 330 eP P 13 38 12.5 +0.3
UPC AMS AMS 14 14 30.0
comp=Z,300nm,20.1s
DPC Dobruska-Polom 77.15 329 eP P 13 38 12.7 +0.4
DPC Dobruska-Polom 77.15 329 eP P 13 38 12.7 +0.4
MORC Moravsky Berou 77.15 328 ⇑P P 13 38 12.7 +0.4
MORC Moravsky Berou 77.15 328 eP P 13 38 12.5 +0.1
MORC Moravsky Berou 77.15 328 ⇑P P 13 38 12.7 +0.4
MORC Moravsky Berou 77.15 328 P P 13 38 11.5 -0.9
MORC lAmb lAmb 13 38 13.8
comp=Z,16nm,0.9s
KRLC Kraliky 77.20 329 eP P 13 38 13.1 +0.5
KRLC MLR MLR
comp=Z,300nm,22.3s
KRLC Kraliky 77.20 329 eP P 13 38 13.1 +0.5
KRLC AMS AMS 14 16 00.0
comp=Z,300nm,22.3s
ECSD EROS Data Cent 77.29 41 pP pP 13 38 24.5 +0.5
baz=318
ECSD EROS Data Cent 77.29 41 P P 13 38 13.0 -0.2
ECSD lAmb lAmb 13 38 26.3
comp=Z,25nm,1.1s
BR131 Keskin Array S 77.35 313 i P P 13 38 13.4 -0.4
BR131 Keskin Array S 77.35 313 P P 13 38 13.2 -0.5
BRTR Keskin Array B 77.35 313 P P 13 38 13.8 0.0
comp=Z,5.6nm,0.7s,baz=79,slow=3.4,SNR=16
BRTR LR LR 14 18 22.0
comp=Z,111nm,18.2s,baz=36,slow=40
BRTR Keskin Array B 77.35 313 ceP P 13 38 14.1 +0.3
BRTR pmax pmax
comp=Z,6.0nm,0.7s
BRTR Keskin Array B 77.35 313 P P 13 38 13.3 -0.4
VOIR 77.40 322 ⇓P P 13 38 14.4 +0.5
VOIR 77.40 322 ⇓P P 13 38 14.4 +0.5
CLL Collm 77.56 332 ⇑P P 13 38 14.1 -0.4
comp=Z,26nm,0.9s
CLL ePP pP 13 38 26.0 +0.3
CLL esP sP 13 38 31.0 +1.2
CLL ePP PP 13 41 08.0 -0.9
CLL LmV 14 15 00.0
comp=Z,200nm,20.0s
CLL Collm 77.56 332 ⇑ i P P 13 38 14.1 -0.4
CLL e 13 38 26.0
CLL pmax pmax
comp=Z,26nm,0.9s
CLL Collm 77.56 332 eP P 13 38 14.4 -0.1
comp=Z,20nm,0.9s,baz=32,slow=5.4
CLL Collm 77.56 332 P P 13 38 13.9 -0.6
CLL lAmb lAmb 13 38 15.5
comp=Z,22nm,0.9s
BRG Berggiesshubel 77.59 331 eP P 13 38 14.4 -0.3
comp=Z,4.9nm,0.9s
comp=N,237nm,13.0s
comp=E,258nm,14.4s
comp=Z,219nm,14.3s
BRG Berggiesshubel 77.59 331 eP P 13 38 14.4 -0.3
BRG pmax pmax
comp=Z,5.0nm,0.9s

BRG MLR MLR
comp=N,237nm,13.0s
BRG MLR MLR
comp=E,258nm,14.4s
BRG MLR MLR
comp=Z,219nm,14.3s
BRG Berggiesshubel 77.59 331 *e*P **P 13 38 14.9 +0.2**
comp=Z,4.9nm,0.9s,baz=32,slow=5.4
KSCO Kaye Shedlock' 77.64 48 pP pP 13 38 27.0 +0.7
baz=316
ARR Arges 77.64 322 ⇑P **P 13 38 16.3 +1.1**
PVCC Panska Ves 77.65 331 AMS AMS 14 15 20.0
comp=Z,300nm,21.3s
VYHS Vyhne 77.68 327 *e*P **P 13 38 15.7 +0.4**
VYHS pmax pmax
comp=Z,16nm,1.1s
VYHS Vyhne 77.68 327 *e*P **P 13 38 15.7 +0.4**
PSZ Piszkesteto 77.71 326 ⇑P **P 13 38 15.9 +0.4**
PSZ Piszkesteto 77.71 326 ⇑P **P 13 38 15.9 +0.4**
PSZ Piszkesteto 77.71 326 P **P 13 38 15.3 -0.2**
PSZ IAmb IAmb 13 38 17.2
comp=Z,20nm,0.9s
FBE Freiberg 77.76 331 *e*P **P 13 38 15.9 +0.3**
comp=Z,8.8nm,0.9s,baz=32,slow=5.4
JAVC Velka Javorina 77.84 328 *e*P **P 13 38 17.4 +1.1**
VRAC Vranov 77.90 329 P **P 13 38 17.0 +0.5**
comp=Z,11nm,0.8s,baz=27,slow=5.0,SNR=11
VRAC Vranov 77.90 329 ⇑P **P 13 38 17.0 +0.5**
VRAC Vranov 77.90 329 *e*P **P 13 38 16.6 +0.1**
SPMN Marine on St. 77.94 38 pP pP 13 38 27.9 +0.4
baz=320
T25A Trinidad 77.98 50 pP pP 13 38 28.6 +0.3
baz=315
NEUB Neuenburg 78.06 332 *e*P **P 13 38 17.7 +0.3**
comp=Z,20nm,0.9s,baz=32,slow=5.4
GOPC GO Pecny, Ondr 78.08 330 *e*P **P 13 38 17.3 -0.2**
GOPC MLR MLR
comp=Z,200nm,17.5s
GOPC GO Pecny, Ondr 78.08 330 *e*P **P 13 38 17.3 -0.2**
GOPC AMS AMS 14 13 30.0
comp=Z,200nm,17.5s
PRA Prague 78.08 330 AMS AMS 14 15 10.0
comp=Z,100nm,17.0s
MDUB Mudurnu 78.10 315 P **P 13 38 17.6 -0.2**
PRU Pruhonice 78.10 330 *e*P **P 13 38 17.9 +0.3**
PRU MLR MLR
comp=Z,300nm,19.1s
PRU Pruhonice 78.10 330 *e*P **P 13 38 17.9 +0.3**
PRU AMS AMS 14 15 20.0
comp=Z,300nm,19.1s
KRUC Moravsky 78.17 329 *e*P **P 13 38 18.0 0.0**
BGNE Belgrade 78.25 44 pP pP 13 38 29.8 +0.4
baz=318
ANMO Albuquerque 78.34 53 *ce*P **P 13 38 20.3 +0.9**
ANMO pmax pmax
comp=Z,4.0nm,1.7s
GTTG Gottingen 78.38 334 *e*P **P 13 38 19.6 +0.5**
comp=Z,8.4nm,0.9s,baz=32,slow=5.4
MODS Modra-Piesok 78.39 328 *e*P **P 13 38 19.1 -0.1**
MODS pmax pmax
comp=Z,19nm,1.1s
MODS Modra-Piesok 78.39 328 *e*P **P 13 38 19.1 -0.1**
IBBN Ibbenburen 78.43 335 *e*P **P 13 38 19.4 +0.1**
comp=Z,12nm,0.8s,baz=32,slow=5.4
LENM Lemitar 78.58 54 P **P 13 38 20.1 -0.7**
MOX Moxa 78.59 332 *e*P **P 13 38 19.7 -0.6**
comp=Z,6.2nm,1.0s,baz=32,slow=5.4
MOX *e*L L 14 14 23.3
comp=Z,91nm,19.7s
EKA Eskdalemuir Ar 78.61 342 P **P 13 38 20.2 -0.1**
comp=Z,5.3nm,0.7s,baz=26,slow=5.3,SNR=11
WERN Wernitzgrunen 78.63 332 *e*P **P 13 38 19.5 -1.1**
comp=Z,4.1nm,0.9s,baz=32,slow=5.4
SCHQ Schefferville 78.75 19 P **P 13 38 21.0 -0.1**
comp=Z,2.0nm,0.6s,baz=354,slow=10,SNR=2.2
SCHQ LR LR 14 16 23.3
comp=Z,134nm,20.2s,baz=330,slow=38
BZS Buzias 78.79 324 ⇓P **P 13 38 21.1 -0.4**
BZS Buzias 78.79 324 ⇓P **P 13 38 21.1 -0.4**
BNM Barren Site 78.80 54 P **P 13 38 22.4 +0.4**
MANZ Manzenberg 78.98 332 *e*P **P 13 38 22.4 -0.1**
comp=Z,4.1nm,1.0s,baz=32,slow=5.4
319A Douglas 79.12 57 P **P 13 38 21.6 -2.1**
ROTZ Rotzenmuhle 79.13 331 *e*P **P 13 38 23.2 0.0**
comp=Z,5.6nm,1.0s,baz=32,slow=5.4
KHC Kasperske Hory 79.17 330 *ce*P **P 13 38 23.6 +0.1**
KHC pmax pmax
comp=Z,34nm,0.8s
KHC Kasperske Hory 79.17 330 *e*P **P 13 38 23.7 +0.2**
KHC *e*pP **pP 13 38 34.5 -0.1**
KHC AMS AMS 14 16 20.0
comp=Z,300nm,17.1s
KHC Kasperske Hory 79.17 330 P **P 13 38 23.3 -0.2**
121A Cookes Peak, D 79.23 56 pP pP 13 38 35.6 +0.4
baz=314
SOP Sopron 79.23 328 P **P 13 38 25.4 +1.6**
SOP pmax pmax
comp=Z,24nm,1.0s
CONA Conrad Observa 79.30 328 *e*P **P 13 38 24.2 -0.1**
comp=Z,9.1nm,0.8s
CBKS Cedar Bluff 79.33 46 pP pP 13 38 35.5 0.0
baz=317
GEC2 GERESS Array S 79.36 330 *e*P **P 13 38 24.6 0.0**
comp=Z,3.7nm,0.9s,baz=32,slow=5.4
GEC2 GERESS Array S 79.36 330 P **P 13 38 23.3 -1.3**
GERES GERESS Array B 79.36 330 P **P 13 38 24.7 0.0**
comp=Z,5.0nm,1.0s,baz=38,slow=5.0,SNR=18
GERES LR LR 14 16 50.8
comp=Z,243nm,20.5s,baz=52,slow=38
GERES GERESS Array B 79.36 330 P **P 13 38 23.0 -1.6**
MDVR Moldovita 79.41 323 ⇓P **P 13 38 24.8 -0.2**
WET Wettzell 79.41 331 P **P 13 38 25.4 +0.6**
WET Wettzell 79.41 331 *e*P **P 13 38 25.4 +0.6**
comp=Z,8.9nm,0.9s,baz=32,slow=5.4
GRF Grafenberg Arr 79.53 332 *e*L L 14 24 01.0
comp=Z,108nm,18.7s
MOA Molln 79.98 329 *e*P **P 13 38 29.7 +1.7**
comp=Z,4.3nm,0.5s
MATQ Matagami 80.21 27 pP pP 13 38 39.9 0.0
baz=329
SCIA State Center 80.30 40 pP pP 13 38 41.0 +0.4
baz=320
SCIA State Center 80.30 40 pP 13 38 41.9 +1.3
D46A Sault St. Mari 80.31 32 pP pP 13 38 40.9 +0.4
baz=326
ALN Alexandroupoli 80.39 318 P **P 13 38 31.3 +1.1**
D47A Chapleau 80.54 31 pP pP 13 38 41.3 -0.4
baz=326
RJOB Jochberg 80.62 330 *e*P **P 13 38 31.2 -0.2**
comp=Z,9.0nm,0.8s,baz=32,slow=5.4
GROS Grobnik 80.65 328 *e*P **P 13 38 31.2 -0.4**
SOKA Soboth 80.65 328 *e*P **P 13 38 31.6 0.0**
comp=Z,13nm,0.9s,SNR=6.1
PERS Pernice 80.66 328 *i*P **P 13 38 31.5 -0.1**
DIVS Divibare 80.70 324 P **P 13 38 31.2 -0.8**
JFWS Jewell Farm 80.90 38 pP pP 13 38 43.8 +0.1
baz=322
D48A Paudash Townsh 80.93 31 pP pP 13 38 43.3 -0.5
baz=327
KBA Koelnbreinsper 80.97 329 *e*P **P 13 38 34.0 +0.6**
comp=Z,8.1nm,0.9s,SNR=7.6
E47A Iron Bridge 80.97 32 pP pP 13 38 44.1 0.0
baz=326
GOLS Golise 80.97 327 *e*P **P 13 38 33.0 -0.3**
OBKA Obir 80.98 328 *i*P **P 13 38 33.2 -0.3**
comp=Z,6.7nm,0.8s
D49A Beulah Townshi 81.02 30 pP pP 13 38 44.6 +0.3
baz=327
LSQQ Lebel-sur-Quev 81.03 27 pP pP 13 38 44.4 +0.1
baz=330
CHGQ Chibougamau 81.12 25 pP pP 13 38 44.2 -0.6
baz=332
MNTX Cornudas Mount 81.27 55 pP pP 13 38 46.6 +0.6
baz=316
MNTX Cornudas Mount 81.27 55 P **P 13 38 35.7 +0.6**
MNTX IAmb IAmb 13 38 49.6
comp=Z,17nm,1.1s
E48A Lockeyer 81.38 31 pP pP 13 38 46.1 -0.1
baz=327
WATA Walderalm 81.40 330 *e*P **P 13 38 35.4 -0.4**
comp=Z,12nm,1.0s
SRS Serrai 81.41 320 P **P 13 38 36.6 +0.9**
SRS pmax pmax
comp=Z,16nm,1.0s
PRED Cave del Predi 81.41 329 P **P 13 38 35.0 -0.7**
WTTA Wattenberg 81.44 330 *e*P **P 13 38 36.0 0.0**
comp=Z,6.4nm,0.8s
ELL Elmali 81.52 313 P **P 13 38 36.5 0.0**
ELL pmax pmax
comp=Z,49nm,0.9s
ELL Elmali 81.52 313 P **P 13 38 36.5 0.0**
ABTA Abfaltersbach 81.56 330 *e*P **P 13 38 35.9 -0.6**
comp=Z,9.4nm,1.0s
MOTA Moosalm 81.56 331 *e*P **P 13 38 36.4 -0.2**
comp=Z,13nm,0.9s
RETA Reutte 81.57 331 *e*P **P 13 38 36.5 0.0**
comp=Z,5.1nm,0.7s
STIP Stip 81.62 321 *i*P **P 13 38 36.2 -0.6**
SQTA Sankt Quirin 81.63 331 *e*P **P 13 38 37.0 +0.1**
comp=Z,14nm,1.0s
D50A G1974 Best Tow 81.66 29 pP pP 13 38 47.1 -0.6
baz=328
BFO Black Forest 81.69 333 *e*P **P 13 38 36.8 -0.3**
comp=Z,2.4nm,0.8s,baz=32,slow=5.4
SKO Skopje 81.74 321 *i*P **P 13 38 38.6 +1.2**
F48A Evansville 81.75 32 pP pP 13 38 48.0 -0.2
baz=326
D51A Lot 18 Range I 81.89 29 pP pP 13 38 48.4 -0.6
baz=328
P38A Dawn 81.90 42 P **P 13 38 37.9 -0.5**
P38A pP **pP 13 38 50.1 +0.9**
P38A IAmb IAmb 13 38 51.1
comp=Z,21nm,1.1s
CIMO Cimolais 81.95 329 P **P 13 38 37.5 -1.0**
E50A Wahnapitae 81.96 30 pP pP 13 38 49.2 -0.1
baz=328
FETA Feichten 81.97 331 *e*P **P 13 38 38.7 -0.1**
comp=Z,8.8nm,1.0s
F49A Sandfield 82.02 32 pP pP 13 38 49.2 -0.4
baz=327
DAVA Damuels 82.05 331 *e*P **P 13 38 38.5 -0.7**
comp=Z,10nm,1.1s
ECH Echery 82.17 333 P **P 13 38 38.3 -1.3**
ECH pmax pmax
comp=Z,6.0nm,0.8s
ECH Echery 82.17 333 P **P 13 38 38.3 -1.3**
BRY Bratogost 82.29 324 P **P 13 38 40.3 -0.2**
E51A G1948 Merrick 82.33 30 pP pP 13 38 50.9 -0.4
baz=328
D52A ZEK Kipawa Sen 82.33 29 pP pP 13 38 51.2 0.0
baz=329
PDG Podgorica 82.36 323 ⇓P **P 13 38 40.3 -0.3**
PDG Podgorica 82.36 323 P **P 13 38 39.4 -1.2**
CTI Castel Tesino 82.47 330 P **P 13 38 40.0 -1.3**
CTI pmax pmax
comp=Z,9.0nm,1.0s
CTI Castel Tesino 82.47 330 P **P 13 38 40.0 -1.3**
DAVOX Davos/Dischmat 82.48 331 P **P 13 38 41.1 -0.4**
comp=Z,4.0nm,0.7s,baz=2.9,slow=6.6,SNR=4.0
FUORN Ofenpass-Fuorn 82.48 331 P **P 13 38 41.3 -0.3**
FUORN IAmb IAmb 13 38 44.2
comp=Z,17nm,0.8s
D53A Lac Vacive, Po 82.50 28 pP pP 13 38 51.5 -0.6
baz=330
D53A Lac Vacive, Po 82.50 28 P **P 13 38 41.1 -0.1**
D53A pP **pP 13 38 52.6 +0.5**
D53A IAmb IAmb 13 38 53.2
comp=Z,16nm,0.9s
P40A Paris 82.70 41 P **P 13 38 42.3 -0.2**
P40A IAmb IAmb 13 38 55.4
comp=Z,26nm,1.2s
D54A Lac Fusel, La 82.79 28 pP pP 13 38 53.8 +0.2
baz=330
E52A Mattawa 82.84 29 pP pP 13 38 54.2 +0.3
baz=329
WMOK Wichita Mounta 82.86 49 pP pP 13 38 54.6 +0.2
baz=318
TUE Stuetta 82.94 331 P **P 13 38 43.4 -0.5**
J47A Sunmer 83.00 35 pP 13 38 55.9 +1.1
E53A Dumoine, Ponti 83.11 29 pP pP 13 38 55.3 0.0
baz=330
HDIL Hopedale 83.20 39 pP pP 13 38 55.4 -0.5
baz=323
HDIL Hopedale 83.20 39 P **P 13 38 44.9 -0.2**
HDIL pP **pP 13 38 57.1 +1.2**
E54A Lac Daplat, Po 83.23 28 pP pP 13 38 55.5 -0.4
baz=330
D55A Sainte-Anne-du 83.31 27 pP pP 13 38 55.8 -0.5
baz=329
ALGO Algonquin Park 83.34 29 pP pP 13 38 56.1 -0.4
baz=329
S39A Bolivar 83.50 43 P **P 13 38 46.6 0.0**
S39A pP **pP 13 38 58.1 +0.5**
S39A IAmb IAmb 13 38 59.3
comp=Z,12nm,0.9s
D56A ZEC Mazanza, M 83.52 27 pP pP 13 38 57.5 +0.2
baz=332
TUL1 Leonard 83.59 46 pP pP 13 38 58.6 +0.5
baz=320
E55A Montcerf-Lytto 83.60 28 pP pP 13 38 58.5 +0.6
baz=331
PMOR Pomariorio Ree 83.70 117 *e*T T 15 11 03.6
comp=Z,107nm,0.3s
G54A Lake Saint Pet 83.80 29 pP pP 13 38 58.7 -0.2
baz=329
D57A Chemin Vers le 83.83 26 pP pP 13 38 58.9 -0.1
baz=332
E56A St. Veronique 83.87 27 pP pP 13 38 59.4 +0.2
baz=331
TX31 Lajitas Ar. Si 83.99 55 P **P 13 38 49.5 +0.1**
TX31 pP **pP 13 39 01.6 +1.2**
TX32 Lajitas Array 83.99 55 P **P 13 38 50.1 +0.7**
TX32 pP **pP 13 39 02.1 +1.7**
TX32 IAmb IAmb 13 39 03.2
comp=Z,14nm,1.0s
TXAR Lajitas Array 83.99 55 P **P 13 38 50.6 +1.2**
comp=Z,2.5nm,0.8s,baz=294,slow=3.7,SNR=37
TXAR LR LR 14 14 14.8
comp=Z,47nm,20.2s,baz=0.0,slow=34
TXAR Lajitas Array 83.99 55 P **P 13 38 49.9 +0.5**
TXAR pP **pP 13 39 02.3 +1.9**
F55A Otter Lake 84.04 28 pP pP 13 38 59.8 -0.3
baz=330
I51A Listowel 84.06 32 pP pP 13 38 59.5 -0.7
baz=328
D58A Chemin du LacG 84.08 25 pP pP 13 39 00.2 -0.1
baz=333
IGT Igoumenitsa 84.19 321 P **P 13 38 50.5 +0.4**
IGT pmax pmax
comp=Z,20nm,1.2s
L48A N Adams 84.23 35 P **P 13 38 50.3 0.0**
L48A **pP 13 39 02.3 +1.1**
CCM Cathedral Cave 84.25 42 pP pP 13 39 01.6 +0.3
baz=322
HHAR Hobbs 84.27 44 P **P 13 38 50.0 -0.6**
HHAR pP **pP 13 39 02.7 +1.1**
E57A Chemin Saint G 84.28 26 pP pP 13 39 00.8 -0.6
baz=332
H53A Bobcaygeon 84.33 30 pP pP 13 39 01.7 +0.1
baz=329
SFIN Lafayette 84.34 38 pP pP 13 39 01.8 0.0
baz=324
G55A Calabogie 84.42 29 pP pP 13 39 01.8 -0.2
baz=330
PLVO Plevna 84.48 29 pP pP 13 39 02.7 +0.3
PPT Papeete 84.51 120 P **P 13 38 51.6 -0.2**
comp=Z,44nm,0.6s,baz=270,slow=20,SNR=2.6
PPT LR LR 14 13 57.7
comp=Z,186nm,18.5s,baz=332,slow=34
PPT2 Papeete2 84.52 120 *e*LR LR 14 05 37.4
comp=Z,559nm,29.8s,baz=310
PPT2 Papeete2 84.52 120 *e*T T 15 12 07.5
comp=Z,9.7nm,0.3s
N47A Urbana 84.56 37 pP pP 13 39 03.5 +0.7
TAOE Nuku Hiva Isla 84.57 107 *e*LR LR 14 05 41.6
comp=Z,373nm,24.4s
E58A La Victoria 84.59 26 pP pP 13 39 03.0 +0.2
baz=332
NRCA Norcia 84.61 327 P **P 13 38 51.8 -0.5**
NRCA IAmb IAmb 13 38 53.4
comp=Z,21nm,0.9s
TIAR Tiarei 84.64 120 *e*T T 15 12 16.0
comp=Z,3.6nm,0.2s
ORIO Orleans, Innes 84.66 28 pP pP 13 39 03.3 +0.1
baz=331
OSSC Osservatorio P 84.76 329 P **P 13 38 52.4 -0.5**
OSSC IAmb IAmb 13 38 53.2
comp=Z,13nm,0.9s
U40A Yellville 84.77 44 pP pP 13 39 04.0 -0.1
baz=321
U40A Yellville 84.77 44 P **P 13 38 53.1 -0.1**
U40A IAmb IAmb 13 39 06.4
comp=Z,20nm,0.9s
D61A St Aubert, Com 84.81 24 pP pP 13 39 03.7 -0.2
baz=334
D60A Saint Jean D'O 84.84 24 pP pP 13 39 04.0 -0.1
baz=334
H55A Tweed 84.86 29 pP pP 13 39 04.0 -0.3
baz=330
P46A Rosedale 84.91 38 pP 13 39 05.7 +1.1
MATE Matera 84.92 324 ⇑P **P 13 38 53.4 -0.4**
I55A Frankford 84.97 30 pP pP 13 39 04.5 -0.3
baz=330
INTR Introdacqua 84.98 326 P **P 13 38 53.0 -1.2**
BNI Bardonecchia 85.10 332 P **P 13 38 53.9 -0.9**
BNI pmax pmax
comp=Z,11nm,1.1s
BNI Bardonecchia 85.10 332 P **P 13 38 53.9 -0.9**
G57A Newington 85.15 28 pP pP 13 39 05.6 -0.1
baz=331
H56A Elgin 85.15 29 pP pP 13 39 05.7 -0.1
baz=331
E60A Ste Agathe de 85.17 25 pP pP 13 39 06.0 +0.3
baz=334
N49A Columbus Grove 85.17 36 pP 13 39 06.9 +0.9
W39A Magazine 85.19 45 pP pP 13 39 06.7 +0.5
baz=321
F59A Saint Guilaume 85.22 26 pP pP 13 39 05.5 -0.5
baz=333
IDI Anoyia 85.28 315 P **P 13 38 55.4 -0.3**
comp=Z,42nm,1.1s,baz=36,slow=11,SNR=3.1
F60A Warwick 85.38 25 pP pP 13 39 06.4 -0.4
baz=333
E61A Lac Etchemin 85.41 24 pP pP 13 39 06.8 -0.3
baz=334
G58A Ormstown 85.42 27 pP pP 13 39 06.9 -0.2
baz=332
J54A Appleton 85.42 31 pP pP 13 39 07.3 +0.2
baz=329
JCT Junction City 85.44 52 pP pP 13 39 08.0 +0.4
baz=318
JCT Junction City 85.44 52 pP pP 13 39 09.1 +1.5
PECO Prince Edward 85.46 29 pP 13 39 07.7 +0.4
S44A Carbondale 85.49 41 pP 13 39 08.6 +1.0
E62A Clayton Lake 85.53 24 pP pP 13 39 07.2 -0.4
baz=335
D63A Stockholm 85.55 22 pP pP 13 39 08.4 +0.5
baz=336
H57A Richville 85.57 28 pP pP 13 39 07.5 -0.3
baz=331
WHTX Lake Whitney, 85.64 50 pP pP 13 39 09.4 +0.9
baz=319
F61A St Evariste 85.67 25 pP pP 13 39 08.4 +0.1
baz=334
LONY Lake Ozonia 85.71 28 pP pP 13 39 08.9 +0.3
baz=332
J55A Hilton 85.74 30 pP pP 13 39 08.9 +0.2
baz=330
G59A Clarenceville 85.77 26 pP pP 13 39 09.0 +0.3
baz=333
MIAR Mount Ida 85.80 45 pP pP 13 39 10.2 +1.0
baz=321
MIAR Mount Ida 85.80 45 P **P 13 38 58.3 0.0**
MIAR pmax pmax
comp=Z,14nm,1.0s
MIAR Mount Ida 85.80 45 P **P 13 38 58.3 0.0**
MIAR IAmb IAmb 13 39 12.1
comp=Z,14nm,0.9s
M52A Chesterland 85.83 33 pP pP 13 39 10.0 +0.7
baz=328
WHAR Wooly Hollow 85.89 44 P **P 13 38 58.8 +0.1**
WHAR pP **pP 13 39 10.8 +1.1**
ERPA Erie 85.89 32 pP pP 13 39 10.1 +0.6
baz=328
L53A Girard 85.92 33 pP pP 13 39 09.8 +0.1
baz=328
I57A Carthage 85.93 29 pP pP 13 39 09.7 0.0
baz=331
N51A Ashland 85.94 34 pP pP 13 39 10.4 +0.6
baz=327
K54A Basiliko Farm, 85.97 31 pP pP 13 39 10.5 +0.6
baz=329
H59A Cadyville 85.99 27 pP pP 13 39 09.9 0.0
baz=332
W41B Gary Mavity, V 86.00 44 pP pP 13 39 10.8 +0.6
baz=322
W41B Gary Mavity, V 86.00 44 P **P 13 38 59.2 0.0**
W41B **pP 13 39 11.3 +1.1**
W41B IAmb IAmb 13 39 12.7
comp=Z,19nm,1.1s
E63A Oxbow 86.02 23 pP pP 13 39 10.0 -0.3
baz=336
H58A Gabriels 86.02 27 pP pP 13 39 10.1 0.0
baz=332
G60A Masonville 86.03 26 pP pP 13 39 10.6 +0.4
baz=333
F62A Pittston Farm, 86.05 24 pP pP 13 39 10.7 +0.5
baz=335
J56A Wolcott 86.08 30 pP pP 13 39 10.8 +0.4
baz=330
P49A Miami Univ. Ec 86.09 37 pP pP 13 39 11.1 +0.5
baz=326
TIP Timpagrande 86.10 323 ⇓P **P 13 38 59.4 -0.4**
TIP Timpagrande 86.10 323 P **P 13 38 59.1 -0.7**
TIP IAmb IAmb 13 39 17.4
comp=Z,17nm,1.1s
K55A Perry 86.11 31 pP pP 13 39 10.9 +0.3
baz=330
G61A St-Isidore-de- 86.12 25 pP pP 13 39 11.7 +1.1
baz=334
M53A WI Miller and 86.19 33 pP pP 13 39 11.7 +0.7
baz=328
E64A Bridgewater 86.20 23 pP pP 13 39 11.3 +0.2
baz=336
X40A Basin Creek Fa 86.23 45 pP pP 13 39 12.3 +0.9
baz=321
ACSO Alum Creek Sta 86.26 35 pP pP 13 39 12.2 +0.8
baz=327
J57A Williamstown 86.28 29 pP pP 13 39 11.7 +0.4
baz=331
J57A Williamstown 86.28 29 pP 13 39 11.8 +0.4
H60A Morristown 86.39 26 pP pP 13 39 12.6 +0.6
baz=333
I58A Old Forge 86.39 28 pP pP 13 39 12.0 +0.1
baz=332
NCB Newcomb 86.40 28 pP 13 39 12.4 +0.4
K56A Middlesex 86.41 30 pP pP 13 39 12.4 +0.3
baz=330
WCI Wyandotte Cave 86.45 38 pP pP 13 39 13.6 +1.3
baz=325
F63A Nahmakanta, Br 86.48 24 pP pP 13 39 12.2 -0.3
baz=335
G62A West of Eustis 86.49 25 pP pP 13 39 13.3 +0.9
baz=334
M54A Oil Creek Stat 86.54 32 pP pP 13 39 13.3 +0.6
baz=329
M54A Oil Creek Stat 86.54 32 pP 13 39 13.7 +0.9
F64A Sherman 86.55 23 pP pP 13 39 13.4 +0.5
baz=336
J58A Remsen 86.57 29 pP pP 13 39 12.5 -0.4
baz=331
J58A Remsen 86.57 29 pP 13 39 13.5 +0.6
H61A Lyndonville 86.66 26 pP pP 13 39 13.3 +0.1
baz=333
N53A Lisbon 86.66 34 pP pP 13 39 13.9 +0.6
baz=328
N53A Lisbon 86.66 34 pP 13 39 14.5 +1.1
I59A Olmsteadville 86.68 28 pP pP 13 39 14.1 +0.7
baz=332
K57A Scipio Center 86.68 30 pP pP 13 39 13.5 +0.1
baz=330
J59A Piesco 86.75 28 pP pP 13 39 13.8 +0.1
baz=332
L56A Greenwood 86.81 31 pP pP 13 39 14.8 +0.7
baz=330
PKME Peaks-Kenny Pk 86.82 24 pP pP 13 39 14.9 +0.7
baz=335
I60A Shoreham 86.83 27 pP pP 13 39 14.4 +0.4
baz=333
O52A Adamsville 86.83 35 pP pP 13 39 14.9 +0.7
baz=327
O52A Adamsville 86.83 35 pP 13 39 14.9 +0.7
G63A Kingsbury 86.86 24 pP pP 13 39 14.9 +0.5
baz=335
H62A Milan 86.87 25 pP pP 13 39 15.4 +1.1
baz=334
H62A Milan 86.87 25 pP 13 39 15.5 +1.2
N54A Moraine State 86.87 33 pP pP 13 39 15.1 +0.7
baz=328

N54A	**Moraine State**	**86.87**	**33**	pP	pP	13 39 15.5	+1.1
M55A	**Ridgway**	**86.92**	**32**	pP	pP	13 39 15.1	+0.4
	baz=329						
M55A	**Ridgway**	**86.92**	**32**		pP	13 39 15.8	+1.1
K58A	**Earlville**	**86.96**	**29**	pP	pP	13 39 15.6	+0.8
	baz=331						
K58A	**Earlville**	**86.96**	**29**		pP	13 39 15.6	+0.8
O53A	**New Philadelph**	**86.98**	**34**	pP	pP	13 39 14.7	-0.2
	baz=328						
O53A	**New Philadelph**	**86.98**	**34**		pP	13 39 15.9	+1.0
G64A	**Maxfield**	**86.99**	**24**	pP	pP	13 39 15.2	+0.2
	baz=336						
I61A	**Oroboro, Fairl**	**87.11**	**26**	pP	pP	13 39 15.9	+0.4
	baz=333						
P52A	**Corning**	**87.11**	**35**	pP	pP	13 39 16.4	+0.8
	baz=327						
M56A	**Emporium**	**87.13**	**31**	pP	pP	13 39 16.4	+0.8
	baz=330						
L57A	**Andrews Acres**	**87.19**	**30**	pP	pP	13 39 16.9	+0.9
	baz=330						
K59A	**Cooperstown**	**87.24**	**29**	pP	pP	13 39 16.6	+0.5
	baz=332						
J60A	**Lant Hill Farm**	**87.32**	**27**	pP	pP	13 39 17.1	+0.7
	baz=332						
BINY	**Binghamton**	**87.33**	**30**	pP	pP	13 39 17.3	+0.7
	baz=331						
O54A	**Avella**	**87.38**	**34**	pP	pP	13 39 17.8	+0.9
	baz=328						
O54A	**Avella**	**87.38**	**34**	P	**P**	**13 39 05.9**	**-0.1**
O54A					**pP**	**13 39 18.3**	**+1.4**
G65A	**Princeton**	**87.39**	**23**	pP	pP	13 39 17.5	+0.5
	baz=336						
H64A	**Troy**	**87.41**	**24**	pP	pP	13 39 17.6	+0.5
	baz=335						
N55A	**Marion Center**	**87.42**	**32**	pP	pP	13 39 17.7	+0.6
	baz=329						
WVT	**Waverly**	**87.43**	**41**	pP	pP	13 39 17.7	+0.5
	baz=324						
I62A	**Tamworth**	**87.44**	**26**	pP	pP	13 39 18.2	+1.1
	baz=334						
J61A	**Chester**	**87.52**	**27**	pP	pP	13 39 18.6	+1.2
	baz=333						
L58A	**Harry Jones Me**	**87.52**	**30**	pP	pP	13 39 18.3	+0.8
	baz=331						
I63A	**Otisfield**	**87.53**	**25**	pP	pP	13 39 18.8	+1.3
	baz=334						
I63A	**Otisfield**	**87.53**	**25**		pP	13 39 19.1	+1.7
P53A	**Whipple**	**87.55**	**35**	pP	pP	13 39 18.5	+0.8
	baz=328						
N56A	**West Decatur**	**87.58**	**32**	pP	pP	13 39 18.5	+0.6
	baz=329						
Q52A	**Bidwell**	**87.62**	**35**	pP	pP	13 39 18.4	+0.4
	baz=327						
H65A	**Eastbrook**	**87.65**	**23**	pP	pP	13 39 18.5	+0.3
	baz=336						
M57A	**Sunshine Farm,**	**87.66**	**31**	pP	pP	13 39 18.4	+0.2
	baz=330						
M57A	**Sunshine Farm,**	**87.66**	**31**	P	**P**	**13 39 07.3**	**+0.1**
M57A					**pP**	**13 39 19.5**	**+1.3**
M57A				IAmb	IAmb	13 39 20.1	
	comp=Z,18nm,0.9s						
L59A	**Walton**	**87.68**	**29**	pP	pP	13 39 18.3	0.0
	baz=332						
L59A	**Walton**	**87.68**	**29**	pP	pP	13 39 19.1	+0.8
O55A	**Ligonier**	**87.79**	**33**	pP	pP	13 39 19.7	+0.9
	baz=329						
P54A	**Burton**	**87.83**	**34**	pP	pP	13 39 19.3	+0.2
	baz=328						
H66A	**Whiting**	**87.84**	**23**	pP	pP	13 39 19.4	+0.3
	baz=336						
J62A	**Henniker**	**87.87**	**26**	pP	pP	13 39 19.8	+0.7
	baz=334						
K61A	**Williamstown**	**87.88**	**28**	pP	pP	13 39 19.5	+0.3
	baz=333						
M58A	**Price's Panora**	**87.88**	**30**	pP	pP	13 39 19.5	+0.3
	baz=331						
OXF	**Oxford**	**87.95**	**43**	pP	pP	13 39 20.4	+0.7
	baz=323						
SSPA	**Standing Stone**	**87.98**	**32**	pP	pP	13 39 20.7	+1.0
	baz=330						
SSPA	**Standing Stone**	**87.98**	**32**	P	**P**	**13 39 08.6**	**-0.2**
SSPA					**pP**	**13 39 20.8**	**+1.1**
SSPA				IAmb	IAmb	13 39 21.9	
	comp=Z,18nm,1.1s						
N57A	**Milroy**	**88.00**	**31**	pP	pP	13 39 20.7	+0.9
	baz=330						
Q53A	**Leroy**	**88.02**	**35**	pP	pP	13 39 20.7	+0.7
	baz=328						
O56A	**Blue Knob Stat**	**88.03**	**32**	pP	pP	13 39 20.7	+0.7
	baz=329						
O56A	**Blue Knob Stat**	**88.03**	**32**	P	**P**	**13 39 09.0**	**-0.1**
O56A					**pP**	**13 39 21.3**	**+1.2**
MCWV	**Mont Chateau**	**88.04**	**33**	pP	pP	13 39 21.1	+1.0
	baz=328						
J63A	**Strafford**	**88.06**	**26**	pP	pP	13 39 21.0	+1.0
	baz=334						
M59A	**Waymart**	**88.11**	**30**	pP	pP	13 39 21.0	+0.6
	baz=331						
L60A	**Shokan**	**88.15**	**29**	pP	pP	13 39 21.2	+0.7
	baz=332						
P55A	**Reedsville**	**88.17**	**34**	pP	pP	13 39 21.7	+1.0
	baz=328						
Q54A	**Coxs Mills**	**88.20**	**34**	pP	pP	13 39 21.6	+0.8
	baz=328						
Q54A	**Coxs Mills**	**88.20**	**34**	P	**P**	**13 39 09.8**	**-0.1**
Q54A					**pP**	**13 39 22.4**	**+1.6**
V48A	**Smith Brothers**	**88.22**	**40**		pP	13 39 22.3	+1.3
K62A	**Royalston**	**88.23**	**27**	pP	pP	13 39 21.5	+0.6
	baz=333						
PLAL	**Pickwick Lake**	**88.23**	**42**	P	**P**	**13 39 09.1**	**-1.0**
PLAL				pP	**pP**	**13 39 22.4**	**+1.3**
PLAL				IAmb	IAmb	13 39 22.8	
	comp=Z,10nm,1.1s						
N58A	**Sunbury**	**88.25**	**31**	pP	pP	13 39 21.9	+0.9
	baz=330						
L61B	**Northampton**	**88.27**	**27**	pP	pP	13 39 21.5	+0.4
	baz=333						
R53A	**Hurricane**	**88.28**	**36**	pP	pP	13 39 22.4	+1.1
	baz=327						
O57A	**Amberson**	**88.44**	**32**	pP	pP	13 39 23.1	+1.1
	baz=330						
K63A	**Dunstable**	**88.44**	**27**	pP	pP	13 39 23.2	+1.4
	baz=334						
Q55A	**Buckhannon**	**88.51**	**34**	pP	pP	13 39 23.6	+1.3
	baz=328						
N59A	**State Game Lan**	**88.53**	**30**	pP	pP	13 39 23.5	+1.1
	baz=331						
P56A	**Dayton Farm, R**	**88.58**	**33**	pP	pP	13 39 23.8	+1.2
	baz=329						
M60A	**Port Jervis**	**88.59**	**29**	pP	pP	13 39 23.2	+0.6
	baz=332						
HRV	**Adam Dziewonsk**	**88.60**	**27**	pP	pP	13 39 23.6	+1.0
	baz=334						
O58A	**Lewisberry**	**88.79**	**31**	pP	pP	13 39 24.5	+0.9
	baz=330						
R54A	**Victor**	**88.82**	**35**	pP	pP	13 39 24.7	+0.9
	baz=328						
N60A	**Cedar Hill Far**	**88.82**	**30**	pP	pP	13 39 24.3	+0.6
	baz=332						
TBI	**Tubuai**	**88.87**	**124**	*e*LR	LR	14 07 24.6	
	comp=Z,185nm,31.0s						
TBI	**Tubuai**	**88.87**	**124**	*e*T	T	15 17 33.1	
	comp=Z,17nm,0.3s						
M61A	**Granite Spring**	**88.91**	**29**	pP	pP	13 39 24.8	+0.7
	baz=332						
P57A	**Homestead Farm**	**88.92**	**32**	pP	pP	13 39 25.1	+1.0
	baz=330						
TZTN	**Tazewell**	**89.07**	**38**	pP	pP	13 39 25.9	+0.9
	baz=326						
R55A	**Marlinton**	**89.09**	**34**	pP	pP	13 39 26.3	+1.1
	baz=328						
Q57A	**Strasburg**	**89.15**	**33**	pP	pP	13 39 26.0	+0.7
	baz=329						
L63A	**North Scituate**	**89.16**	**27**	pP	pP	13 39 25.9	+0.7
	baz=334						
O60A	**Telford**	**89.19**	**30**	pP	pP	13 39 26.0	+0.5
	baz=331						
P58A	**Pank, Wackersv**	**89.19**	**32**	pP	pP	13 39 26.5	+1.0
	baz=330						
V51A	**Loudon**	**89.32**	**39**		pP	13 39 27.9	+1.8
M63A	**Gales Ferry**	**89.42**	**27**	pP	pP	13 39 26.6	+0.1
	baz=333						
T54A	**Tazewell**	**89.51**	**36**	pP	pP	13 39 28.4	+1.2
	baz=328						
Q58A	**Fox Den Farm,**	**89.52**	**32**	pP	pP	13 39 27.9	+0.9
	baz=330						
P60A	**Greenville**	**89.55**	**31**	pP	pP	13 39 27.5	+0.4
	baz=331						
M64A	**Tiverton**	**89.57**	**27**	pP	pP	13 39 27.4	+0.3
	baz=334						
TKL	**Tuckaleechee C**	**89.71**	**38**		pP	13 39 29.3	+1.3
KEST	**Kesra**	**92.18**	**326**	LR	LR	14 24 02.3	
	comp=Z,117nm,20.7s,baz=326,slow=38						
ESDC	**Sonseca Array**	**93.32**	**337**	LR	LR	14 24 28.1	
	comp=Z,54nm,21.4s,baz=135,slow=37						
MAW	**Mawson**	**126.27**	**208**	PKP	**PKiKP**	**13 45 21.1**	**+0.6**
	comp=Z,1.5nn,0.8s,baz=261,slow=4.4,SNR=6.9						
SYO	**Syowa Base**	**134.94**	**209**	*e*PKiKP	pPdif	13 42 50.0	+0.6
NVL	**N'lazarevskaya**	**143.99**	**204**	*e*PKiKP	**PKPdf**	**13 45 52.6**	**-0.3**
NVL				pmax	pmax		
	comp=Z,8.0nm,1.0s						

JMA ***19*** *13:31:29.2±0.1, 43.00N×145.62E, h45km±1km, M3.3*
JMA Felt I J1.
SKHL ***19*** *13:31:29.3±0.3, 43.00N×145.43E, h37km±1km, mb4.0/3*

ISC 19 13:31:30.3±3.5, 43.01N±0.08×145.57E±0.06, h37km±2km, n13, σ0.964/23, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKHN	**Kushirohamanak**	**0.31**	**283**	P	**Pn**	**13 31 38.4**	**0.0**
JKHN				*e*S	**Sn**	**13 31 45.2**	**-0.2**
NEM2	**Nemuro 2**	**0.37**	**19**	P	**Pn**	**13 31 38.6**	**-0.3**
NEM2				*e*S	**Sn**	**13 31 45.3**	**-0.3**
NMR	**Nemuro--Hokkai**	**0.38**	**17**	*i* P	**Pn**	**13 31 38.6**	**-0.3**
NMR				*i* S	**Sn**	**13 31 45.3**	**-0.3**
JAK	**Akkeshi**	**0.64**	**269**	P	**Pn**	**13 31 42.3**	**-0.6**
JAK				*e*S	**Sn**	**13 31 52.1**	**+0.2**
JNK	**Nakash**	**0.85**	**313**	P	**Pn**	**13 31 45.2**	**-0.5**
JNK				*e*S	**Sn**	**13 31 56.4**	**-0.5**
JNSB	**Nemuroshibetsu**	**0.87**	**332**	P	**Pn**	**13 31 45.8**	**-0.1**
JNSB				*e*S	**Sn**	**13 31 57.9**	**+0.5**
JRA	**Rausu**	**0.98**	**341**	P	**Pn**	**13 31 47.4**	**-0.1**
JRA				*e*S	**Sn**	**13 32 00.7**	**+0.6**
GRPR	**Tuman**	**0.99**	**8**	*e*P	**Pn**	**13 31 46.4**	**-1.2**
GRPR				AMB	AMB	13 31 47.3	
	160nm,0.4s						
GRPR				*e*S	**Sn**	**13 31 59.4**	**-1.0**
GRPR				A	A	13 32 00.0	
	1μm,0.4s						
GRPR				A	A	13 32 00.0	
	1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.04**	**11**	*i* P	**Pn**	**13 31 47.4**	**-0.9**
YUK				AMB	AMB	13 31 50.0	
	20nm,0.2s						
YUK				*i* S	**Sn**	**13 32 01.1**	**-0.5**
YUK				A	A	13 32 01.6	
	730nm,0.5s						
YUK				A	A	13 32 01.6	
	1μm,0.5s						
JOB	**Onbets**	**1.28**	**266**	P	**Pn**	**13 31 51.1**	**-0.5**
JAR	**Ashorobuto**	**1.35**	**283**	P	**Pn**	**13 31 52.5**	**0.0**
JTKR	**Abashiri--Toko**	**1.54**	**309**	P	**Pn**	**13 31 56.0**	**+0.8**
KUR	**Kuril'sk**	**2.77**	**36**	*e*P	**Pn**	**13 32 12.6**	**+0.6**
KUR				AMB	AMB	13 32 14.0	
	20nm,0.4s						
KUR				*e*S	**Sn**	**13 32 45.2**	**+1.1**
KUR				A	A	13 32 52.0	
	40nm,0.4s						
KUR				A	A	13 32 52.0	
	50nm,0.4s						

IDC ***19*** *13:38:21.0±0.9, 36.84N×5.56W, h0km, mb4.1/12, mb1 4.2/17, mb1mx3.9/64, mbtmp4.1/17, ML4.0/3, MS3.5/7, Ms1 3.5/7, ms1mx3.0/52, Error ellipse: s-maj=29.7km s-min=13.0km az=103.0*
NEIC ***19*** *13:38:23.0±1.2, 36.93N±0.04×5.56W±0.04, h11km±4km, mb4.6/12, Error ellipse: s-maj=6.8km s-min=3.9km az=210.0*
CNRM ***19*** *13:38:23.8±1.0, 36.95N×5.61W, h107km±14km, Error ellipse: s-maj=6.6km s-min=6.5km az=93.0*
IGIL ***19*** *13:38:24.5, 36.96N×5.57W, h0km, ML4.5*
IAG ***19*** *13:38:24, 36.96N×5.54W, h30km, MW4.3, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.21; Mθθ2.60; Mϕϕ-2.81; Mrθ-0.94; Mθϕ-0.60; Mϕr-0.31; Fault plane solution: M₀2.95000×10¹⁵ NP1: ϕs322.00000°, δ71.00000°, λ8.00000°. NP2:ϕs230.00000°, δ83.00000°, λ161.00000°.*
SFS ***19*** *13:38:24.0, 36.90N×5.50W, h11km, ML4.5, MONTELLANO (SEVILLA)*
LDG ***19*** *13:38:24.9±0.1, 36.93N×5.55W, h8km, Md4.3/3, Ml4.2/31, Error ellipse: s-maj=2.1km s-min=1.9km az=135.0*
MDD ***19*** *13:38:24.8±0.2, 36.96N×5.53W, h11km, mbLg4.4/53, Error ellipse: s-maj=2.2km s-min=1.5km az=2.0, PRXIMO*
MDD EMS: V INTENSIDAD MAXIMA.
MED_RC ***19*** *13:38:24.0±0.5, 36.99N×5.52W, h10km, MW4.3/10, Moment Tensor Solution.Mantle waves: s10,c13; Duration: 1ş0 Moment tensor: Scale 10¹⁵Nm; Mrr0.34±.22; Mθθ1.18±.15; Mϕϕ-1.51±.16; Mrθ-1.49±.46; Mθϕ0.21±.22; Mϕr-3.35±.37; Best double couple: M₀3.89000×10¹⁵ NP1:ϕs309.00000°, δ18.00000°, λ13.00000°. NP2:ϕs206.00000°, δ86.00000°, λ108.00000°. Principal axes: T 3.6200, Plg46.0000°, Azm135.0000°; N 0.5600, Plg18.0000°, Azm25.0000°; P -4.1700, Plg38.0000°, Azm280.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
CRAAG ***19*** *13:38:25.0, 36.96N×5.57W, Ml4.5*
INMG ***19*** *13:38:25.7±2.4, 37.00N×5.52W, h18km±4km, ML4.4, Error ellipse: s-maj=2.6km s-min=2.2km az=34.0*

ISC 19 13:38:24.0±0.8, 36.95N±0.02×5.51W±0.01, h19km±2km, n348, σ2ş19/555, mb4.3/16, 13C-23D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EXAO	**Algodonales**	**0.11**	**129**	P	**Pg**	**13 38 26.5**	**-1.5**
EXAO	SNR=7.9			S	**Sg**	**13 38 29.0**	**-1.6**
	SNR=7.9						
ESPR	**Espera**	**0.29**	**253**	⇓Pg	**Pg**	**13 38 30.1**	**-0.3**
ESPR	24μm,0.5s,SNR=18			Lg	Lg	13 38 35.6	
	23μm,0.2s,SNR=7.9						
ESPR	**Espera**	**0.29**	**253**		**Pg**	**13 38 30.2**	**-0.3**
GIBL	**Gibalbin**	**0.38**	**252**	Pg	**Pg**	**13 38 31.2**	**-0.9**
GIBL				Lg	Lg	13 38 39.0	
GIBL	**Gibalbin**	**0.38**	**252**	*i* P	**Pg**	**13 38 31.2**	**-0.9**
GIBL				*i* S	**Sb**	**13 38 39.0**	**+1.0**
ALJ	**Aljibe**	**0.43**	**195**	Pg	**Pg**	**13 38 32.2**	**-0.8**
ALJ	**Aljibe**	**0.43**	**195**	*i* P	**Pg**	**13 38 32.2**	**-0.8**
REAL	**Reales**	**0.53**	**152**	Pg	**Pg**	**13 38 34.0**	**-0.7**
REAL				Lg	Lg	13 38 46.0	
REAL	**Reales**	**0.53**	**152**	*i* P	**Pg**	**13 38 34.0**	**-0.7**
REAL				*i* S	**Sn**	**13 38 46.0**	**+0.8**
EMIJ	**Mijas**	**0.71**	**123**	⇓Pg	**Pg**	**13 38 37.4**	**-0.6**
	1μm,0.3s,SNR=18						
EMIJ				Lg	Lg	13 38 49.3	
	8μm,0.3s,SNR=5.0						
EMIJ	**Mijas**	**0.71**	**123**		**Pg**	**13 38 37.6**	**-0.5**
CNIL	**Conil**	**0.73**	**217**	Pg	**Pn**	**13 38 39.0**	**-0.3**
CNIL				Lg	Lg	13 38 50.5	
CNIL	**Conil**	**0.73**	**217**	*i* P	**Pn**	**13 38 39.0**	**-0.3**
CNIL				*i* S	**Sn**	**13 38 50.5**	**+0.7**
SFS	**San Fernando**	**0.74**	**229**	Pg	**Pn**	**13 38 40.5**	**+1.1**
SFS				Lg	Lg	13 38 52.8	
SFS	**San Fernando**	**0.74**	**229**	⇓*i*P	**Pn**	**13 38 40.5**	**+1.1**
SFS				*i* S	**Sn**	**13 38 52.8**	**+2.6**
SFS	**San Fernando**	**0.74**	**229**		**Pb**	**13 38 38.9**	**+0.6**
EMAL	**Malaga-Limoner**	**0.89**	**102**	Pg	**Pb**	**13 38 40.8**	**-0.1**
EMAL				Lg	Lg	13 38 54.7	
EMAL	**Malaga-Limoner**	**0.89**	**102**	⇓*e*P	**Pb**	**13 38 40.8**	**-0.1**
EMAL				*e*S	**Sn**	**13 38 54.7**	**+0.8**
HORN	**Hornachuelos**	**0.92**	**13**	P	**Pb**	**13 38 41.8**	**+0.5**
HORN				S	**Sg**	**13 38 54.9**	**+0.9**
CEU	**Ceuta**	**1.06**	**174**	Pn	**Pg**	**13 38 45.3**	**+0.7**
CEU				Sn	**Sn**	**13 39 02.4**	**+4.4**
CEU	**Ceuta**	**1.06**	**174**	⇑*i*P	**Pg**	**13 38 45.3**	**+0.7**
CEU				*e*S	**Sn**	**13 39 02.4**	**+4.4**
ECEU	**Ceuta**	**1.06**	**174**	Pn	**Pg**	**13 38 45.0**	**+0.4**
ECEU	729nm,0.4s,SNR=7.9			Sn	**Sn**	**13 38 59.7**	**+1.7**
	1μm,0.6s,SNR=7.9						
ECEU	**Ceuta**	**1.06**	**174**		**Pg**	**13 38 45.0**	**+0.4**
ECAB	**El Cabril**	**1.12**	**4**	⇑Pg	**Pn**	**13 38 44.8**	**0.0**
	2μm,0.2s,SNR=18						
ECAB				Lg	Lg	13 38 59.7	
	3μm,0.3s,SNR=23						
ECAB	**El Cabril**	**1.12**	**4**		**Pn**	**13 38 44.8**	**0.0**
EGOR	**Sierra Gorda,**	**1.13**	**82**	⇓Pg	**Pg**	**13 38 46.1**	**+0.1**
	2μm,0.5s,SNR=18						
EGOR				Lg	Lg	13 39 03.5	
	10μm,0.5s,SNR=7.9						
EGOR	**Sierra Gorda,**	**1.13**	**82**		**Pg**	**13 38 46.4**	**+0.3**
CPS	**Cap Spartel**	**1.21**	**195**	P	**Pg**	**13 38 47.5**	**+0.1**
CPS				S	**Sg**	**13 39 08.2**	**+5.0**
EMIN	**Mina Concepcio**	**1.23**	**312**	⇓Pn	**Pn**	**13 38 46.1**	**-0.1**
	44nm,0.1s,SNR=18						
EMIN				Pg	**Pb**	**13 38 47.1**	**+0.4**
	900nm,0.2s,SNR=7.9						
EMIN				Lg	Lg	13 39 02.1	
	6μm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.23**	**312**		**Pn**	**13 38 46.2**	**-0.1**
SMIR	**Smir Dam**	**1.27**	**175**	P	**Pb**	**13 38 47.6**	**+0.2**
SMIR				S	**Sg**	**13 39 05.4**	**+0.2**
EADA	**Adamuz**	**1.42**	**31**	⇑Pn	**Pn**	**13 38 49.6**	**+0.7**
	30nm,0.2s,SNR=18						
EADA				Pg	**Pg**	**13 38 51.3**	**-0.2**
	453nm,0.1s,SNR=7.9						
EADA				Lg	Lg	13 39 09.3	
	1μm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.42**	**31**		**Pb**	**13 38 50.4**	**+0.4**
ELGU	**Los Guajares,**	**1.51**	**93**	⇓Pg	**Pb**	**13 38 51.9**	**+0.3**
	714nm,0.7s,SNR=18						
ELGU				Lg	Lg	13 39 13.9	
	6μm,0.5s,SNR=7.9						
ELGU	**Los Guajares,**	**1.51**	**93**		**Pb**	**13 38 52.4**	**+0.8**
EGRO	**El Granado**	**1.68**	**291**	⇓Pn	**Pn**	**13 38 52.3**	**0.0**
	158nm,0.3s,SNR=18						
EGRO				Pg	**Pb**	**13 38 54.4**	**+0.2**
	297nm,0.3s,SNR=7.9						
EGRO				Lg	Lg	13 39 16.3	
	2μm,0.3s,SNR=7.9						
EGRO	**El Granado**	**1.68**	**291**		**Pn**	**13 38 51.9**	**-0.5**
EQUE	**Quentar**	**1.68**	**81**	⇓Pn	**Pb**	**13 38 54.1**	**-0.2**
	51nm,0.2s,SNR=18						
EQUE				Pg	**Pg**	**13 38 56.6**	**+0.2**
	704nm,0.4s,SNR=7.9						
EQUE				Lg	Lg	13 39 20.0	
	4μm,0.6s,SNR=7.9						
PBAR	**Barrancos**	**1.72**	**316**	Pn	**Pn**	**13 38 53.0**	**0.0**
PBAR				Sn	**Sn**	**13 39 15.5**	**+1.1**
PBAR				Lg	Lg	13 39 18.2	
	2μm,0.8s						
PBAR	**Barrancos**	**1.72**	**316**	*e*Pn	**Pn**	**13 38 53.0**	**0.0**
PBAR				*e*Sn	**Sn**	**13 39 15.5**	**+1.1**
PBAR				*e*Sg	**Sb**	**13 39 18.2**	**+1.9**
PBAR				A	A	13 39 20.8	
	2μm,0.8s						
PVAQ	**Vaqueiros**	**1.82**	**285**	Pn	**Pn**	**13 38 54.1**	**-0.2**
PVAQ				Lg	Lg	13 39 22.8	
	4μm,0.5s						
PVAQ	**Vaqueiros**	**1.82**	**285**	P	**Pn**	**13 38 54.6**	**+0.3**
PVAQ				S	**Sn**	**13 39 18.3**	**+1.5**
PVAQ	**Vaqueiros**	**1.82**	**285**	*e*Pn	**Pn**	**13 38 54.1**	**-0.2**
PVAQ				*e*Sg	**Sg**	**13 39 22.8**	**+0.2**
PVAQ				A	A	13 39 25.5	
	4μm,0.5s						
PVAQ	**Vaqueiros**	**1.82**	**285**	Pn	**Pn**	**13 38 54.1**	**-0.2**
PBDV	**Barranco-do-Ve**	**1.96**	**279**	Pn	**Pn**	**13 38 56.3**	**+0.1**
PBDV				Sn	**Sn**	**13 39 20.8**	**+0.5**
PBDV				Lg	Lg	13 39 27.5	
	2μm,0.3s						
PBDV	**Barranco-do-Ve**	**1.96**	**279**	⇓*i*P	**Pn**	**13 38 56.3**	**+0.1**
PBDV				*e*Sn	**Sn**	**13 39 20.8**	**+0.5**
PBDV				*e*Sg	**Sg**	**13 39 27.5**	**+0.5**
PBDV				A	A	13 39 31.2	
	2μm,0.3s						
PVLZ	**Peæn de**	**2.03**	**151**	Pn	**Pn**	**13 38 57.1**	**0.0**
PVLZ				Sn	**Sn**	**13 39 23.0**	**+1.0**
PVLZ	**Peæn de**	**2.03**	**151**	⇑*i*P	**Pn**	**13 38 57.1**	**0.0**
PVLZ				*e*S	**Sn**	**13 39 23.0**	**+1.0**
GORA	**Gorafe**	**2.04**	**74**	⇓Pn	**Pn**	**13 38 58.7**	**+1.2**
	SNR=18						
GORA				Pg	**Pb**	**13 39 02.1**	**+1.5**
	187nm,0.2s,SNR=7.9						
GORA				Lg	Lg	13 39 30.0	
	4μm,0.4s,SNR=7.9						
GORA	**Gorafe**	**2.04**	**74**		**Pn**	**13 38 58.7**	**+1.2**
RSA	**Sarsar**	**2.08**	**187**	P	**Pn**	**13 38 58.6**	**+0.7**
RSA				S	**Sb**	**13 39 25.3**	**-1.4**
EBER	**Berja**	**2.10**	**91**	⇑Pn	**Pn**	**13 38 60.0**	**+1.6**
	13nm,0.3s,SNR=18						
EBER				Pg	**Pg**	**13 39 04.2**	**-0.3**
	710nm,0.5s,SNR=7.9						
EBER				Lg	Lg	13 39 32.8	
	4μm,0.8s,SNR=7.9						
EBER	**Berja**	**2.10**	**91**		**Pn**	**13 39 02.5**	**+0.9**
EQES	**Quesada**	**2.12**	**66**	⇓Pn	**Pn**	**13 38 59.4**	**+0.8**
	44nm,0.5s,SNR=18						
EQES				Pg	**Pb**	**13 39 03.6**	**+1.7**
	SNR=7.9						
EQES				Lg	Lg	13 39 30.9	
	4μm,0.7s,SNR=7.9						
EQES	**Quesada**	**2.12**	**66**		**Pb**	**13 39 01.0**	**-1.0**
PCVE	**Castro Verde**	**2.13**	**289**	Pn	**Pn**	**13 38 58.6**	**+0.1**
PCVE				Sn	**Sn**	**13 39 26.2**	**+1.8**
PCVE				Lg	Lg	13 39 32.6	
	1μm,0.6s						
PCVE	**Castro Verde**	**2.13**	**289**	⇓*e*Pn	**Pn**	**13 38 58.6**	**+0.1**
PCVE				*e*Sn	**Sn**	**13 39 26.2**	**+1.8**
PCVE				*e*Sg	**Sg**	**13 39 32.6**	**+0.1**
PCVE				A	A	13 39 38.2	
	1μm,0.6s						
PALE	**Palemas**	**2.15**	**143**	P	**Pn**	**13 39 00.2**	**+1.3**
PALE				S	**Sn**	**13 39 26.8**	**+1.7**
PBEJ	**Beja**	**2.16**	**301**	Pn	**Pn**	**13 38 59.1**	**+0.1**
PBEJ				Lg	Lg	13 39 33.8	
	643nm,0.4s						
PBEJ	**Beja**	**2.16**	**301**	*e*Pn	**Pn**	**13 38 59.1**	**+0.1**
PBEJ				*e*Sg	**Sg**	**13 39 33.8**	**+0.3**
PBEJ				A	A	13 39 41.0	
	1μm,0.4s						
EALB	**Alboran**	**2.24**	**116**	Pn	**Pn**	**13 39 02.2**	**+2.1**
	165nm,0.5s,SNR=7.9						
EALB				Pg	**Pg**	**13 39 06.7**	**-0.4**
	484nm,0.8s,SNR=27						
EALB				Sn	**Sn**	**13 39 25.9**	**-1.3**
	298nm,0.

SNR=54
SESP S Sn 13 39 39.5 +2.4
SESP Santiago Espad 2.63 63 Pn Pn 13 39 05.7 +0.1
EMEL Melilla 2.65 128 Pn Pn 13 39 05.8 +0.1
comp=N,147nm,0.2s,SNR=7.9
EMEL Sn Sn 13 39 38.0 +0.7
comp=N,334nm,0.3s,SNR=7.9
ENIJ Nijar 2.65 89 ⇓Pn Pn 13 39 06.7 +0.9
comp=N,20nm,0.4s,SNR=18
ENIJ Pg Pg 13 39 13.3 -1.6
comp=N,588nm,0.6s,SNR=7.9
ENIJ Lg Lg 13 39 47.5
comp=N,1µm,0.5s,SNR=7.9
ENIJ Nijar 2.65 89 Pn 13 39 06.3 +0.5
ENIJ **Pb 13 39 12.8 +1.9**
EMLI Melilla 2.65 128 Pn 13 39 05.1 -0.6
EMLI **Sn 13 39 38.2 +0.9**
PFVI Vila Bisbo 2.66 275 ⇓Pn Pn 13 39 05.6 -0.3
comp=N,52nm,0.1s,SNR=18
PFVI Pg Pb 13 39 12.6 +1.6
comp=N,234nm,0.2s,SNR=7.9
PFVI Sn Sn 13 39 36.5 -1.0
comp=N,727nm,0.2s,SNR=8.5
PFVI Lg Lg 13 39 47.0
comp=N,2µm,0.6s,SNR=7.9
PFVI Vila Bisbo 2.66 275 P Pn 13 39 04.8 -1.0
PFVI S Sn 13 39 38.6 +1.0
PFVI Vila Bisbo 2.66 275 ePn Pn 13 39 05.9 +0.1
PFVI eSn Sn 13 39 37.0 -0.5
PFVI A A 13 39 59.0
comp=N,896nm,0.6s
PFVI Vila Bisbo 2.66 275 Pn 13 39 05.4 -0.5
PNCL Nicolau / Gran 2.66 297 Pn Pn 13 39 06.2 +0.3
PNCL Lg Lg 13 39 49.5
comp=N,1µm,0.4s
PNCL Nicolau / Gran 2.66 297 ⇓ePn Pn 13 39 06.2 +0.3
PNCL eSg Sg 13 39 49.5 -0.1
PNCL A A 13 39 56.2
comp=N,1µm,0.4s
MELI Melilla 2.66 128 Pn Pn 13 39 07.2 +1.3
comp=N,157nm,0.4s,SNR=7.9
MELI Sn Sn 13 39 37.4 -0.2
comp=N,471nm,0.6s,SNR=7.9
MELI Melilla 2.66 128 eP Pn 13 39 05.3 -0.6
MELI eS Sn 13 39 31.9 -5.8
MELI Melilla 2.66 128 Pn 13 39 06.5 +0.6
MELI Sn 13 39 37.8 +0.2
GOG Mont Gurugu 2.67 130 P Pn 13 39 06.7 +0.6
GOG S Sn 13 39 38.9 +0.8
PAB San Pablo 2.75 19 ⇑Pn Pn 13 39 07.4 +0.2
comp=N,25nm,0.2s,SNR=18
PAB Pg Pb 13 39 14.7 +2.1
comp=N,43nm,0.1s,SNR=7.9
PAB Lg Lg 13 39 50.3
comp=N,2µm,1.1s,SNR=7.9
PAB San Pablo 2.75 19 Pn 13 39 07.8 +0.6
AKLM AKL 2.78 151 P Pn 13 39 06.5 -1.1
AKLM S Sn 13 39 38.9 -1.8
SICH Sidi Chahed 2.85 177 P Pn 13 39 08.6 +0.1
SICH S Sn 13 39 42.9 +0.6
PMRV Marv??o 2.88 330 Pn Pn 13 39 09.0 0.0
PMRV Sn Sn 13 39 44.0 +0.9
PMRV Lg Lg 13 39 56.3
comp=N,1µm,0.6s
PMRV Marv??o 2.88 330 ePn Pn 13 39 09.0 0.0
PMRV eSn Sn 13 39 44.0 +0.9
PMRV eSg Sg 13 39 56.3 -0.4
PMRV A A 13 39 59.8
comp=N,1µm,0.6s
ESDC Sonseca Array 2.98 24 Pn Pn 13 39 11.6 +1.3
comp=N,9,2nm,0.3s,baz=206,slow=12,SNR=106
ESDC Sn Sn 13 39 45.9 +0.3
comp=N,30nm,0.3s,baz=202,slow=17,SNR=4.6
ESDC LR LR 13 39 51.6
comp=N,44nm,18.1s,baz=175,slow=29
ESDC Lg Lg 13 39 58.6
comp=N,122nm,0.3s,baz=210,slow=28,SNR=25
ESDC Sonseca Array 2.98 24 ⇑Pn Pn 13 39 11.6 +1.3
comp=N,31nm,0.2s,baz=205,slow=12,SNR=18
ESDC Pg Pg 13 39 20.6 -0.6
comp=N,121nm,0.3s,baz=206,slow=16,SNR=18
ESDC Sn Sn 13 39 42.8 -2.8
comp=N,106nm,0.3s,baz=204,slow=17,SNR=7.9
ESDC Lg Lg 13 39 59.2
comp=N,3µm,1.1s,baz=208,slow=28,SNR=7.9
ESDC Sonseca Array 2.98 24 Pn Pn 13 39 11.0 +0.6
ESBB Sonseca Array 2.98 24 Pn 13 39 11.1 +0.7
PMTG Montargil 3.01 315 Pn Pn 13 39 10.7 0.0
PMTG Sn Sn 13 39 46.4 +0.2
comp=N,1µm,0.5s
PMTG Montargil 3.01 315 ePn Pn 13 39 10.7 0.0
PMTG eSn Sn 13 39 46.4 +0.2
PMTG A A 13 40 01.8
comp=N,1µm,0.5s
TLOR Lorca, Murcia 3.13 76 Pg Pg 13 39 23.2 -0.8
comp=N,2µm,0.7s,SNR=4.0
TLOR Sn Sn 13 39 49.3 +0.1
comp=N,2µm,0.8s,SNR=7.9
TLOR Lg Lg 13 40 03.7
comp=N,12µm,1.2s,SNR=7.9
EPLA Plasencia 3.14 352 ⇑Pn Pn 13 39 12.4 -0.1
comp=N,14nm,0.1s,SNR=18
EPLA Pg Pg 13 39 22.6 -1.7
comp=N,64nm,0.2s,SNR=7.9
EPLA Sn Sn 13 39 47.9 -1.5
comp=N,259nm,0.2s,SNR=7.9
EPLA Lg Lg 13 40 00.6
comp=N,1µm,0.6s,SNR=7.9
EPLA Plasencia 3.14 352 Pn 13 39 12.6 +0.1
EPLA **Pb 13 39 21.7 +2.4**
EPLA **Sn 13 39 48.0 -1.5**
RTC Rabat Centre 3.15 201 P Pn 13 39 11.9 -0.8
RTC S Sn 13 39 49.7 -0.1
PCBR Castelo Branco 3.27 332 Pn Pn 13 39 14.6 +0.3
PCBR Sn Sn 13 39 50.9 -1.8
comp=N,480nm,0.5s
PCBR Castelo Branco 3.27 332 ePn Pn 13 39 14.6 +0.3
PCBR eSn Sn 13 39 50.9 -1.8
PCBR A A 13 40 12.5
comp=N,960nm,0.5s
TAF Taforalt 3.30 129 P Pn 13 39 14.3 -0.5
TAF S Sn 13 39 54.5 +1.0
LCRM LCR 3.30 170 P Pn 13 39 16.5 +1.6
LCRM S Sn 13 39 56.4 +2.7
LIS Lisbon 3.37 303 eP Pn 13 39 16.0 +0.3
LIS eS Sn 13 39 53.8 -1.4
LIS AML AML 13 39 58.0
comp=E,1µm,0.4s
LIS Lisbon 3.37 303 Pn Pn 13 39 16.0 +0.3
LIS Sn Sn 13 39 56.5 +1.3
comp=E,802nm,0.5s
LIS Lisbon 3.37 303 eSn Sn 13 39 56.5 +1.3
LIS A A 13 40 20.7
comp=E,802nm,0.5s
IFR Ifrane 3.44 175 ⇑iP Pn 13 39 16.4 -0.4
IFR eS Sn 13 39 55.0 -2.2
EMUR La Murta 3.52 74 Pn Pn 13 39 19.1 +1.4
comp=E,28nm,0.4s,SNR=7.9
EMUR Pg Pb 13 39 28.2 +2.5
comp=E,324nm,0.8s,SNR=7.9
EMUR Sn Sn 13 39 56.4 -2.4
comp=E,322nm,0.7s,SNR=7.9
EMUR Lg Lg 13 40 14.8
comp=E,531nm,0.5s,SNR=7.9
EMUR La Murta 3.52 74 Pn 13 39 17.1 -0.6
EMUR **Pg 13 39 28.9 -2.5**
EMUR **Sn 13 39 56.6 -2.2**
JBK JBK 3.55 137 P Pn 13 39 17.9 -0.3
JBK S Sn 13 40 00.1 +0.3
ETOB Tobarra 3.57 61 ⇓Pn Pn 13 39 18.5 +0.1
comp=E,6.9nm,0.1s,SNR=18
ETOB Pg Pb 13 39 27.7 +1.1
comp=E,173nm,0.6s,SNR=14
ETOB Sn Sn 13 40 00.2 +0.2
comp=E,661nm,0.8s,SNR=7.9
ETOB Lg Lg 13 40 16.4
comp=E,957nm,0.5s,SNR=7.9
ETOB Tobarra 3.57 61 Pn 13 39 18.3 -0.1
ETOB **Sn 13 40 00.3 +0.2**
PMAFR Mafra 3.59 305 ⇓Pn Pn 13 39 19.1 +0.4
comp=E,88nm,0.1s,SNR=18
PMAFR Pg Pb 13 39 27.4 +0.5
comp=E,175nm,0.3s,SNR=14
PMAFR Sn Sn 13 39 58.4 -2.1
comp=E,764nm,0.3s,SNR=7.9
PMAFR Lg Lg 13 40 16.1
comp=E,3µm,0.5s,SNR=7.9
PMAFR Mafra 3.59 305 ePn Pn 13 39 19.1 +0.4
PMAFR eSn Sn 13 40 00.2 -0.3
PMAFR A A 13 40 25.3
comp=E,1µm,0.5s
PMAFR Mafra 3.59 305 Pn 13 39 19.1 +0.4
PMAFR **Sn 13 40 00.6 +0.1**
ZHG ZHG 3.62 195 P Pn 13 39 18.6 -0.5
ZHG S Sn 13 40 03.9 +2.5
PSBE So Bento 3.64 316 ePn Pn 13 39 20.0 +0.7
PSBE eSn Sn 13 40 02.2 +0.5
PSBE A A 13 40 24.9
comp=E,914nm,0.5s
CART Cartagena 3.65 79 Pn Pn 13 39 19.9 +0.4
CART Sn Sn 13 40 00.4 -1.7
CART Cartagena 3.65 79 eP Pn 13 39 19.9 +0.4
CART eS Sn 13 40 00.4 -1.7
CART Cartagena 3.65 79 Pn Pn 13 39 19.7 +0.1
MTE Manteigas 3.79 336 Pn Pn 13 39 22.6 +1.1
MTE Sn Sn 13 40 05.0 -0.6
comp=E,784nm,0.7s
MTE Manteigas 3.79 336 ePn Pn 13 39 22.6 +1.1
MTE eSn Sn 13 40 05.0 -0.6
MTE A A 13 40 32.0
comp=E,2µm,0.7s
MTE Manteigas 3.79 336 Pn Pn 13 39 21.4 -0.1
UCM Universidad Co 3.79 27 Pn Pn 13 39 22.9 +1.4
UCM Sn Sn 13 40 05.3 -0.3
UCM Universidad Co 3.79 27 eP Pn 13 39 22.9 +1.4
UCM eS Sn 13 40 05.3 -0.3
GUD Guadarrama 3.83 16 ⇑Pn Pn 13 39 24.1 +2.0
comp=E,11nm,0.1s,SNR=18
GUD Pg Pg 13 39 35.3 -2.3
comp=E,65nm,0.3s,SNR=13
GUD Sn Sn 13 40 05.9 -0.9
comp=E,119nm,0.4s,SNR=7.9
GUD Lg Lg 13 40 22.1
comp=E,1µm,1.1s,SNR=7.9
GUD Guadarrama 3.83 16 P Pn 13 39 24.2 +2.0
GUD Guadarrama 3.83 16 Pn 13 39 24.2 +2.0
GUD Sn 13 40 05.9 -0.9
PCAS Casmilo, Conde 3.88 324 Pn Pn 13 39 23.2 +0.5
PCAS Sn Sn 13 40 06.0 -1.8
comp=E,922nm,0.5s
PCAS Casmilo, Conde 3.88 324 ePn Pn 13 39 23.2 +0.5
PCAS eSn Sn 13 40 06.0 -1.8
PCAS A A 13 40 32.6
comp=E,922nm,0.5s
CZD Col de Zad 3.93 174 P Pn 13 39 23.1 -0.6
CZD S Sn 13 40 08.0 -1.3
AVE Averroes 3.96 204 P Pn 13 39 22.4 -1.4
AVE S Sn 13 40 08.2 -1.5
AVE Averroes 3.96 204 ⇑iP Pn 13 39 23.6 -0.2
AVE eS Sn 13 40 08.7 -1.1
COI Coimbra 3.97 326 Sn Sn 13 40 08.4 -1.4
comp=E,681nm,0.5s
COI Coimbra 3.97 326 eSn Sn 13 40 08.4 -1.4
COI A A 13 40 38.6
comp=E,1µm,0.5s
COI Coimbra 3.97 326 Pn Pn 13 39 24.3 +0.5
MD31 MD31 4.12 171 P Pn 13 39 26.1 0.0
MD31 S Sn 13 40 11.9 -1.9
OTSS Djebel Tessala 4.17 112 P Pn 13 39 32.0 +5.3
OTSS Djebel Tessala 4.17 112 Pn Pn 13 39 32.0 +5.3
USTO Oran 4.19 105 P Pg 13 39 44.0 -0.2
USTO Oran 4.19 105 Pn Pg 13 39 44.0 -0.2
PVIS Viseu 4.19 334 Pn Pn 13 39 27.4 +0.4
PVIS Sn Sn 13 40 13.9 -1.6
comp=E,159nm,0.5s
PVIS Viseu 4.19 334 ePn Pn 13 39 27.4 +0.4
PVIS eSn Sn 13 40 13.9 -1.6
PVIS A A 13 40 48.3
comp=E,318nm,0.5s
MDT Midelt 4.20 170 Pn Pn 13 39 27.2 +0.1
comp=E,30nm,0.3s,baz=346,slow=14,SNR=454
MDT Sn Sn 13 40 11.7 -4.0
comp=E,57nm,0.3s,baz=306,slow=19,SNR=21
AFON Font Roja 4.29 65 ⇓Pn Pn 13 39 28.7 +0.3
comp=E,72nm,0.4s,SNR=18
AFON Sn Sn 13 40 18.4 +0.4
comp=E,621nm,1.1s,SNR=7.9
AFON Lg Lg 13 40 40.1
comp=E,892nm,0.7s,SNR=7.9
AFON Font Roja 4.29 65 Pn 13 39 28.7 +0.3
AFON **Sn 13 40 18.0 0.0**
MVO Moncorvo 4.37 345 ⇑Pn Pn 13 39 29.5 +0.1
comp=E,24nm,0.1s,SNR=18
MVO Sn Sn 13 40 17.0 -2.9
comp=E,374nm,0.5s,SNR=7.9
MVO Lg Lg 13 40 38.8
comp=E,1µm,0.5s,SNR=7.9
MVO Moncorvo 4.37 345 ePn Pn 13 39 29.5 +0.1
MVO eSn Sn 13 40 17.9 -1.9
MVO A A 13 40 56.6
comp=E,686nm,0.5s
MVO Moncorvo 4.37 345 Pn 13 39 29.6 +0.1
MVO **Sn 13 40 17.6 -2.2**
ECHE Chera 4.44 52 ⇓Pn Pn 13 39 30.6 +0.2
comp=E,17nm,0.3s,SNR=18
ECHE Pg Pg 13 39 46.7 -2.4
comp=E,160nm,0.7s,SNR=7.9
ECHE Sn Sn 13 40 22.2 +0.5
comp=E,395nm,1.3s,SNR=7.9
ECHE Lg Lg 13 40 42.4
comp=E,750nm,0.7s,SNR=7.9
ECHE Chera 4.44 52 Pn 13 39 30.6 +0.1
ECHE **Sn 13 40 19.8 -1.8**
EBEN2 Beniarda presa 4.55 66 ⇓Pn Pn 13 39 32.5 +0.6
comp=E,19nm,0.3s,SNR=18
EBEN2 Pg Pb 13 39 46.6 +3.2
comp=E,29nm,0.3s,SNR=7.9
EBEN2 Sn Sn 13 40 26.6 +2.3
comp=E,394nm,0.8s,SNR=7.9
EBEN2 Lg Lg 13 40 47.9
comp=E,2µm,1.6s,SNR=7.9
EBEN2 Beniarda presa 4.55 66 Pn 13 39 31.8 -0.1
EBEN2 **Pb 13 39 47.6 +4.2**
PVRL Vila Real 4.64 339 Pn Pn 13 39 33.6 +0.4
PVRL Sn Sn 13 40 23.7 -2.9
comp=E,176nm,0.1s
PVRL Vila Real 4.64 339 ePn Pn 13 39 33.6 +0.4
PVRL eSn Sn 13 40 23.7 -2.9
PVRL A A 13 40 26.8
comp=E,353nm,0.1s
ETOR Torete 4.71 34 ⇓Pn Pn 13 39 35.2 +1.1
comp=E,165nm,0.3s,SNR=18
ETOR Sn Sn 13 40 25.3 -3.0
comp=E,110nm,0.5s,SNR=7.9
ETOR Lg Lg 13 40 52.6
comp=E,991nm,0.9s,SNR=7.9
PTO Porto 4.82 331 Pn Pn 13 39 36.2 +0.6
PTO Sn Sn 13 40 28.7 -2.2
comp=E,254nm,0.5s
PTO Porto 4.82 331 ePn Pn 13 39 36.2 +0.6
PTO eSn Sn 13 40 28.7 -2.2
PTO A A 13 41 04.1
comp=E,509nm,0.5s
SRHM Skhour des Reh 4.88 204 P Pn 13 39 35.3 -1.3
SRHM S Sn 13 40 26.9 -5.7
OJBR Djebel Berber 4.93 104 P Pn 13 39 39.0 +1.9
OJBR Djebel Berber 4.93 104 Pn Pn 13 39 39.0 +1.9
PBRG Braganca 4.94 349 Pn Pn 13 39 37.4 +0.1
PBRG Sn Sn 13 40 30.9 -3.0
comp=E,165nm,0.7s
PBRG Braganca 4.94 349 ePn Pn 13 39 37.4 +0.1
PBRG eSn Sn 13 40 30.9 -3.0
PBRG A A 13 41 10.7
comp=E,331nm,0.7s
OKGL Djebel Kef Gue 5.04 99 P Pn 13 39 40.0 +1.3
OKGL Djebel Kef Gue 5.04 99 Pn Pn 13 39 40.6 +1.9
comp=E,30nm,0.2s,SNR=4.0
OKGL Djebel Kef Gue 5.04 99 Pn 13 39 40.5 +1.8
ECAL Calabor 5.07 350 Pn Pn 13 39 39.2 +0.1
comp=E,14nm,0.2s,SNR=7.9
ECAL Sn Sn 13 40 34.3 -2.9
comp=E,148nm,0.3s,SNR=7.9
ECAL Lg Lg 13 41 01.9
comp=E,1µm,0.6s,SNR=7.9
ECAL Calabor 5.07 350 Pn 13 39 39.1 0.0
ECAL **Sn 13 40 34.1 -3.1**
PCAB Cabril 5.13 338 Pn Pn 13 39 40.0 +0.1
PCAB Sn Sn 13 40 36.3 -2.4
comp=E,265nm,0.7s
PCAB Cabril 5.13 338 ePn Pn 13 39 40.0 +0.1
PCAB **Sn 13 40 36.3 -2.4**
PCAB A A 13 41 09.4
comp=E,531nm,0.7s
EMOS Mosqueruela 5.21 48 Pn Pn 13 39 42.1 +0.9
comp=E,21nm,0.3s,SNR=7.9
EMOS Pg Pg 13 40 00.9 -2.9
comp=E,103nm,0.7s,SNR=7.9
EMOS Sn Sn 13 40 38.7 -2.1
comp=E,65nm,0.4s,SNR=7.9
EMOS Lg Lg 13 41 07.1
comp=E,1µm,1.1s,SNR=7.9
EMOS Mosqueruela 5.21 48 Pn 13 39 42.4 +1.3
EMOS **Pg 13 40 03.7 -0.2**
EMOS **Sn 13 40 38.5 -2.3**
GOLM Goulmima 5.26 175 P Pn 13 39 42.1 +0.4
GOLM S Sn 13 40 43.6 +1.8
OJGS Djebel Guires 5.26 104 P Pn 13 39 41.0 -0.8
OJGS Djebel Guires 5.26 104 Pn Pn 13 39 41.0 -0.8
ELOB Lobios 5.29 339 Pn Pn 13 39 42.1 0.0
comp=E,7.1nm,0.1s,SNR=7.9
ELOB Sn Sn 13 40 38.7 -3.9
comp=E,146nm,0.4s,SNR=7.9
ELOB Lg Lg 13 41 08.2
comp=E,2µm,1.5s,SNR=7.9
ELOB Lobios 5.29 339 Pn 13 39 41.9 -0.2
ELOB **Sn 13 40 38.6 -3.9**
PGAV Gavieira, Arco 5.44 338 Pn Pn 13 39 44.3 +0.1
PGAV Sn Sn 13 40 42.9 -3.4
comp=E,318nm,0.6s
PGAV Gavieira, Arco 5.44 338 ePn Pn 13 39 44.3 +0.1
PGAV eSn Sn 13 40 42.9 -3.4
PGAV A A 13 41 36.8
comp=E,318nm,0.6s
ARF Arif 5.61 169 P Pn 13 39 46.3 -0.2
ARF S Sn 13 40 50.8 +0.3
EZAM Zamans 5.74 336 Pn Pn 13 39 48.3 +0.1
comp=E,6.0nm,0.1s,SNR=7.9
EZAM Sn Sn 13 40 48.2 -5.4
comp=E,71nm,0.3s,SNR=7.9
EZAM Lg Lg 13 41 21.2
comp=E,822nm,1.7s,SNR=7.9
EZAM Zamans 5.74 336 Pn 13 39 48.3 +0.1
EZAM **Sn 13 40 47.7 -5.9**
EIBI Ibiza 5.80 67 Pn Pn 13 39 48.6 -0.4
comp=E,7.4nm,0.2s,SNR=7.9
EIBI Sn Sn 13 40 52.1 -2.9
comp=E,31nm,0.4s,SNR=7.9
EIBI Ibiza 5.80 67 Pn 13 39 47.4 -1.6
EIBI **Sn 13 40 52.1 -2.9**
OUK Oukaimeden 6.05 199 P Pn 13 39 51.9 -0.9
OUK S Sn 13 41 00.6 -1.2
ERTA Horta de San J 6.06 47 Pn Pn 13 39 54.2 +1.5
comp=E,2.2nm,0.2s,SNR=7.9
ERTA Pg Pb 13 40 11.0 +2.0
comp=E,84nm,1.2s,SNR=6.2
ERTA Sn Sn 13 40 59.3 -2.2
comp=E,44nm,1.0s,SNR=7.9
ERTA Lg Lg 13 41 31.0
comp=E,393nm,1.1s,SNR=7.9
ERTA Horta de San J 6.06 47 Pn 13 39 53.3 +0.7
ERTA **Sn 13 40 58.0 -3.5**
OUZM OUZ 6.12 190 P Pn 13 39 52.8 -0.7
OUZM S Sn 13 41 03.8 +0.8
TZRR Tazzarine 6.15 180 P Pn 13 39 52.2 -1.8
TZRR S Sn 13 41 01.6 -2.3
ESAC San Caprasio 6.16 38 Pn Pn 13 39 55.8 +1.8
comp=E,54nm,0.3s,SNR=7.9
ESAC Sn Sn 13 40 57.8 -6.2
comp=E,90nm,0.4s,SNR=7.9
ESAC Lg Lg 13 41 37.6
comp=E,725nm,0.7s,SNR=7.9
ESAC San Caprasio 6.16 38 Pn 13 39 56.2 +2.1
ESAC **Sn 13 40 57.5 -6.5**
EAH EAH 6.27 214 P Pn 13 39 54.2 -1.3
EAH S Sn 13 41 00.0 -6.7
EARI Arriondas 6.35 2 Pn Pn 13 39 57.5 +1.0
comp=E,2.6nm,0.2s,SNR=7.9
EARI Sn Sn 13 41 03.8 -4.7
comp=E,89nm,0.9s,SNR=7.9
EARI Lg Lg 13 41 38.0
comp=E,312nm,1.0s,SNR=7.9
EARI Arriondas 6.35 2 Pn 13 39 56.3 -0.3
EARI **Sn 13 41 04.6 -3.9**
ELAN Lanestosa 6.47 14 Pn Pn 13 39 58.7 +0.4
comp=E,4.9nm,0.1s,SNR=7.9
ELAN Sn Sn 13 41 06.4 -5.2
comp=E,72nm,0.8s,SNR=7.9
ELAN Lg Lg 13 41 44.8
comp=E,650nm,1.7s,SNR=7.9
ELAN Lanestosa 6.47 14 Pn 13 39 58.0 -0.3
ELAN **Sn 13 41 07.5 -4.1**
EPON Pontenova 6.49 349 Pn Pn 13 39 58.5 0.0
comp=E,5.5nm,0.2s,SNR=7.9
EPON Sn Sn 13 41 07.6 -4.4
comp=E,47nm,0.5s,SNR=7.9
EPON Lg Lg 13 41 43.7
comp=E,632nm,1.4s,SNR=7.9
EPON Pontenova 6.49 349 Pn 13 39 58.2 -0.3
EPON **Sn 13 41 08.0 -4.0**
EARA Aranguren 6.55 26 Pn Pn 13 40 00.7 +1.3
comp=E,12nm,0.2s,SNR=4.0
EARA Sn Sn 13 41 08.9 -4.6
comp=E,43nm,0.4s,SNR=7.9
EARA Lg Lg 13 41 47.6
comp=E,246nm,0.7s,SNR=7.9
EARA Aranguren 6.55 26 Pn 13 39 59.2 -0.2
EARA **Sn 13 41 08.7 -4.9**
EMAZ Mazaricos 6.55 337 Pn Pn 13 39 59.4 +0.1
comp=E,6.8nm,0.1s,SNR=7.9
EMAZ Sn Sn 13 41 09.2 -4.4
comp=E,16nm,0.2s,SNR=7.9
EMAZ Lg Lg 13 41 43.9
comp=E,505nm,1.0s,SNR=7.9
EMAZ Mazaricos 6.55 337 Pn 13 39 59.5 +0.1
EMAZ **Sn 13 41 09.2 -4.4**
EPOB Poblet 6.75 47 Pn Pn 13 40 02.3 +0.2
comp=E,6.8nm,0.5s,SNR=7.9
EPOB Sn Sn 13 41 14.7 -3.8
comp=E,34nm,0.7s,SNR=7.9
EPOB Lg Lg 13 41 51.3
comp=E,167nm,0.8s,SNR=7.9
EPOB Poblet 6.75 47 Pn 13 40 02.1 0.0
EPOB **Sn 13 41 14.2 -4.3**
EORO Oroz-Betelu 6.75 27 Pn Pn 13 40 03.8 +1.6
comp=E,62nm,0.5s,SNR=7.9
EORO Sn Sn 13 41 16.5 -2.1
comp=E,64nm,0.5s,SNR=7.9
EORO Lg Lg 13 41 54.3
comp=E,934nm,1.4s,SNR=7.9
EORO Oroz-Betelu 6.75 27 Pn 13 40 02.6 +0.4
EORO **Sn 13 41 15.9 -2.7**
ZGR Zagora 6.82 181 P Pn 13 40 02.3 -0.8
ZGR S Sn 13 41 18.4 -1.8
TTIG Tnine Tigouga, 6.84 202 P Pn 13 40 03.1 -0.3
TTIG S Sn 13 41 18.5 -2.3
EALK Alkurruntz 6.97 25 Pn Pn 13 40 06.3 +1.1
comp=E,0.9nm,0.5s,SNR=7.9
EALK Sn Sn 13 41 19.3 -4.7
comp=E,89nm,0.3s,SNR=7.9
EALK Lg Lg 13 42 04.8
comp=E,478nm,0.8s,SNR=7.9
EALK Alkurruntz 6.97 25 Pn 13 40 05.6 +0.4
EALK **Sn 13 41 19.8 -4.2**
SJPF Ste Jean 6.98 27 ePn Pn 13 40 06.7 +1.5
SJPF eSn Sn 13 41 20.6 -3.4
comp=E,47nm,0.4s
SJPF eSg Sg 13 42 03.8 -4.0
comp=E,160nm,0.7s
SJPF Ste Jean 6.98 27 Pn Pn 13 40 06.7 +1.5
SJPF **Sn 13 41 20.6 -3.4**
comp=E,24nm,0.4s
SJPF Lg Lg 13 42 03.8
comp=E,80nm,0.7s
ETSF Etsaut 7.05 31 ePn Pn 13 40 07.7 +1.4
ETSF eSn Sn 13 41 22.7 -3.3
comp=E,29nm,0.5s
ETSF eSg Sg 13 42 08.0 -2.3
comp=E,416nm,1.3s
ETSF Etsaut 7.05 31 Pn Pn 13 40 07.7 +1.4
ETSF **Sn 13 41 22.7 -3.3**
comp=E,14nm,0.5s
ETSF Lg Lg 13 42 08.0
comp=E,208nm,1.3s
ETOS Mallorca 7.12 64 Pn Pn 13 40 07.7 +0.5

	comp=E,6.2nm,0.3s,SNR=7.9								
ETOS					Sn	**Sn**	**13 41 23.6**	**-4.0**
	comp=E,22nm,0.9s,SNR=7.9								
ETOS	**Mallorca**	**7.12**	**64**			**Pn**	**13 40 07.6**	**+0.4**
ETOS						**Sn**	**13 41 23.6**	**-4.0**
ATE	**Arette**	**7.15**	**30**		Pn	**Pn**	**13 40 08.8**	**+1.2**
	comp=E,18nm,0.2s,SNR=7.9								
ATE					Sn	**Sn**	**13 41 24.8**	**-3.5**
	comp=E,46nm,0.6s,SNR=7.9								
ATE					Lg	Lg	13 42 09.0		
	comp=E,215nm,1.1s,SNR=7.9								
ATE	**Arette**	**7.15**	**30**			**Pn**	**13 40 08.0**	**+0.4**
ATE						**Sn**	**13 41 24.6**	**-3.7**
ECHI	**Chisagues Biel**	**7.20**	**36**		Pn	**Pn**	**13 40 09.5**	**+1.1**
	comp=E,19nm,0.2s,SNR=7.9								
ECHI					Sn	**Sn**	**13 41 25.1**	**-4.6**
	comp=E,14nm,0.4s,SNR=7.9								
ECHI					Lg	Lg	13 42 11.2		
	comp=E,152nm,1.1s,SNR=7.9								
ECHI	**Chisagues Biel**	**7.20**	**36**			**Pn**	**13 40 08.5**	**+0.2**
ECHI						**Sn**	**13 41 25.1**	**-4.6**
EMIR	**Miracle**	**7.36**	**46**		Pn	**Pn**	**13 40 11.4**	**+0.8**
	comp=E,11nm,0.2s,SNR=7.9								
EMIR					Lg	Lg	13 42 14.4		
	comp=E,366nm,1.2s,SNR=7.9								
EMIR	**Miracle**	**7.36**	**46**			**Pn**	**13 40 11.4**	**+0.8**
CSOR	**Sort**	**7.46**	**41**	⇑	Pn	**Pn**	**13 40 12.4**	**+0.5**
	comp=E,15nm,0.3s,SNR=18								
CSOR					Sn	**Sn**	**13 41 31.2**	**-4.8**
	comp=E,34nm,0.5s,SNR=7.9								
CSOR					Lg	Lg	13 42 18.0		
	comp=E,306nm,1.3s,SNR=7.9								
CSOR	**Sort**	**7.46**	**41**			**Pn**	**13 40 12.4**	**+0.5**
CSOR						**Sn**	**13 41 30.8**	**-5.2**
EPF	**Esparros**	**7.55**	**35**	*e*Pn		**Pn**	**13 40 14.8**	**+1.7**
EPF				*e*Sn		**Sn**	**13 41 34.5**	**-3.7**
	comp=E,35nm,0.4s								
EPF				*e*Sg		Sb	13 42 25.0	+21	
	comp=E,153nm,0.7s								
EPF	**Esparros**	**7.55**	**35**	Pn		**Pn**	**13 40 14.8**	**+1.7**
EPF				Sn		**Sn**	**13 41 34.5**	**-3.7**
	comp=E,17nm,0.4s								
EPF				Lg		Lg	13 42 25.0		
	comp=E,77nm,0.7s								
CFON	**Fontmartina**	**7.81**	**50**	Pn		**Pn**	**13 40 17.3**	**+0.6**
	comp=E,4.2nm,0.2s,SNR=7.9								
CFON				Lg		Lg	13 42 31.1		
	comp=E,87nm,0.9s,SNR=7.9								
CFON	**Fontmartina**	**7.81**	**50**			**Pn**	**13 40 17.3**	**+0.6**
CLLI	**Llivia**	**7.98**	**44**	Pn		**Pn**	**13 40 20.0**	**+0.8**
	comp=E,18nm,0.5s,SNR=7.9								
CLLI				Sn		**Sn**	**13 41 44.0**	**-4.9**
	comp=E,28nm,0.5s,SNR=7.9								
CLLI				Lg		Lg	13 42 38.4		
	comp=E,252nm,1.4s,SNR=5.9								
CLLI	**Llivia**	**7.98**	**44**			**Pn**	**13 40 18.2**	**-0.9**
CLLI						**Sn**	**13 41 43.9**	**-5.0**
EJON	**La Jonquera**	**8.49**	**47**	Pn		**Pn**	**13 40 27.0**	**+1.0**
	comp=E,2.0nm,0.2s,SNR=7.9								
EJON				Lg		Lg	13 42 50.4		
	comp=E,116nm,1.1s,SNR=7.9								
EJON	**La Jonquera**	**8.49**	**47**			**Pn**	**13 40 26.2**	**+0.3**
MTLF	**Montolieu**	**8.70**	**40**	*e*Pn		**Pn**	**13 40 28.9**	**+0.1**
MTLF				*e*Sn		**Sn**	**13 42 02.6**	**-3.8**
	comp=E,13nm,0.6s								
MTLF				*e*Sg			13 43 01.0		
	comp=E,24nm,0.7s								
MTLF	**Montolieu**	**8.70**	**40**	Pn		**Pn**	**13 40 28.9**	**+0.1**
MTLF				Sn		**Sn**	**13 42 02.6**	**-3.8**
	comp=E,6.6nm,0.6s								
MTLF				Lg		Lg	13 43 01.0		
	comp=E,12nm,0.7s								
LFF	**La Frestale**	**9.27**	**29**	*e*Pn		**Pn**	**13 40 37.0**	**+0.3**
LFF				*e*Sn		**Sn**	**13 42 15.5**	**-4.9**
LFF				*e*Sg			13 43 15.7		
	comp=E,28nm,0.6s								
LFF	**La Frestale**	**9.27**	**29**	Pn		**Pn**	**13 40 37.0**	**+0.3**
LFF				Sn		**Sn**	**13 42 15.5**	**-4.9**
LFF				Lg		Lg	13 43 15.7		
	comp=E,14nm,0.6s								
CAF	**Calviac**	**9.81**	**33**	*e*Pn		**Pn**	**13 40 44.7**	**+0.6**
CAF				*e*Sn		**Sn**	**13 42 28.0**	**-5.6**
	comp=E,7.9nm,0.5s								
CAF				*e*Sg			13 43 32.2		
	comp=E,40nm,0.9s								
CAF	**Calviac**	**9.81**	**33**	Pn		**Pn**	**13 40 44.7**	**+0.6**
CAF				Sn		**Sn**	**13 42 28.0**	**-5.6**
	comp=E,4.0nm,0.5s								
CAF				Lg		Lg	13 43 32.2		
	comp=E,20nm,0.9s								
RJF	**Les Rejaudoux**	**9.88**	**30**	*e*Pn		**Pn**	**13 40 45.6**	**+0.6**
RJF				*e*Sn		**Sn**	**13 42 30.6**	**-4.8**
RJF				*e*Sg			13 43 35.2		
	comp=E,34nm,0.9s								
RJF	**Les Rejaudoux**	**9.88**	**30**	Pn		**Pn**	**13 40 45.6**	**+0.6**
RJF				Sn		**Sn**	**13 42 30.6**	**-4.8**
RJF				Lg		Lg	13 43 35.2		
	comp=E,17nm,0.9s								
LASF	**Ste Croix**	**10.07**	**42**	*e*Pn		**Pn**	**13 40 48.0**	**+0.4**
LASF				*e*Sn		**Sn**	**13 42 33.4**	**-6.7**
LASF				*e*Sg			13 43 39.4		
	comp=E,36nm,0.8s								
LASF	**Ste Croix**	**10.07**	**42**	Pn		**Pn**	**13 40 48.0**	**+0.4**
LASF				Sn		**Sn**	**13 42 33.4**	**-6.7**
LASF				Lg		Lg	13 43 39.4		
	comp=E,18nm,0.8s								
EFAM	**Famara**	**10.30**	**223**	Pn		**Pn**	**13 40 48.8**	**-1.9**
	comp=E,5.0nm,0.2s,SNR=7.9								
EFAM				Sn		Sn	13 42 33.5	-12	
	comp=E,15nm,0.2s,SNR=7.9								
EFAM	**Famara**	**10.30**	**223**			**Pn**	**13 40 49.4**	**-1.4**
EFAM						**Sn**	**13 42 38.2**	**-7.5**
MFF	**Saint Martin d**	**10.44**	**21**	*e*Pn		**Pn**	**13 40 54.5**	**+1.9**
MFF				*e*Sn		**Sn**	**13 42 42.2**	**-6.8**
	comp=E,12nm,0.6s								
MFF	**Saint Martin d**	**10.44**	**21**	Pn		**Pn**	**13 40 54.5**	**+1.9**
MFF				Sn		**Sn**	**13 42 42.2**	**-6.8**
	comp=E,5.8nm,0.6s								
CFUE	**Fuerteventura**	**10.89**	**223**	Pn		**Pn**	**13 40 56.5**	**-2.5**
	comp=E,5.0nm,0.2s,SNR=7.9								
CFUE				Sn		Sn	13 42 48.4	-12	
	comp=E,11nm,0.1s,SNR=7.9								
CFUE	**Fuerteventura**	**10.89**	**223**			**Pn**	**13 40 59.4**	**+0.4**
CFUE						**Sn**	**13 42 53.7**	**-6.6**
TCF	**Toulx Ste Croi**	**10.97**	**29**	*e*Pn		**Pn**	**13 41 01.0**	**+1.1**
TCF	**Toulx Ste Croi**	**10.97**	**29**	Pn		**Pn**	**13 41 01.0**	**+1.1**
SMRF	**Simiane la Rot**	**10.97**	**47**	*e*Pn		**Pn**	**13 41 01.0**	**+1.0**
SMRF	**Simiane la Rot**	**10.97**	**47**	Pn		**Pn**	**13 41 01.0**	**+1.0**
VIVF	**Saint-Julien-l**	**11.03**	**41**	*e*Pn		**Pn**	**13 41 01.0**	**+0.3**
VIVF				*e*Sn		Sn	13 42 54.4	-9.1	
VIVF				*e*Sg			13 44 10.2		
	comp=E,40nm,1.1s								
VIVF	**Saint-Julien-l**	**11.03**	**41**	Pn		**Pn**	**13 41 01.0**	**+0.3**
VIVF				Sn		Sn	13 42 54.4	-9.1	
VIVF				Lg		Lg	13 44 10.2		
	comp=E,20nm,1.1s								
QUIF	**Quistinic**	**11.09**	**8**	*e*Pn		**Pn**	**13 41 01.7**	**+0.1**
QUIF				*e*Sn		**Sn**	**13 42 57.7**	**-7.3**
	comp=E,17nm,0.4s								
QUIF	**Quistinic**	**11.09**	**8**	Pn		**Pn**	**13 41 01.7**	**+0.1**
QUIF				Sn		**Sn**	**13 42 57.7**	**-7.3**
	comp=E,8.6nm,0.4s								
SSB	**Saint Sauveur**	**11.25**	**39**			**Pn**	**13 41 04.0**	**+0.3**
FRF	**La Foret Royal**	**11.39**	**51**	*e*P		Pn	13 41 10.6	+4.9	
FRF				*e*Sn		**Sn**	**13 43 05.9**	**-6.5**
	comp=E,1.8nm,0.3s								
FRF	**La Foret Royal**	**11.39**	**51**	Pn		Pn	13 41 10.6	+4.9	
FRF				Sn		**Sn**	**13 43 05.9**	**-6.5**
	comp=E,0.9nm,0.3s								
ROSF	**Rostrenen**	**11.50**	**8**	*e*Pn		**Pn**	**13 41 06.7**	**-0.4**
ROSF				*e*Sn		Sn	13 43 06.7	-8.2	
	comp=E,11nm,0.3s								
ROSF	**Rostrenen**	**11.50**	**8**	Pn		**Pn**	**13 41 06.7**	**-0.4**
ROSF				Sn		Sn	13 43 06.7	-8.2	
	comp=E,5.3nm,0.3s								
SGMF	**Saint Gilles**	**11.50**	**10**	*e*Pn		**Pn**	**13 41 07.1**	**-0.1**
SGMF				*e*Sn		**Sn**	**13 43 07.9**	**-7.1**
	comp=E,24nm,0.8s								
SGMF	**Saint Gilles**	**11.50**	**10**	Pn		**Pn**	**13 41 07.1**	**-0.1**
SGMF				Sn		**Sn**	**13 43 07.9**	**-7.1**
	comp=E,12nm,0.8s								
ORIF	**Oris-en-Rattie**	**11.72**	**44**	*e*Pn		**Pn**	**13 41 10.6**	**+0.3**
ORIF	**Oris-en-Rattie**	**11.72**	**44**	Pn		**Pn**	**13 41 10.6**	**+0.3**
AVF	**Avril sur Loir**	**11.84**	**31**	*e*Pn		**Pn**	**13 41 11.7**	**0.0**
AVF				*e*Sg			13 44 34.5		
	comp=E,12nm,0.8s								
AVF	**Avril sur Loir**	**11.84**	**31**	Pn		**Pn**	**13 41 11.7**	**0.0**
AVF				Lg		Lg	13 44 34.5		
	comp=E,6.2nm,0.8s								
GRR	**Gorron**	**11.93**	**15**	*e*Pn		**Pn**	**13 41 11.3**	**-1.7**
GRR				*e*Sn		**Sn**	**13 43 18.0**	**-7.5**
	comp=E,4.7nm,0.3s								
GRR	**Gorron**	**11.93**	**15**	Pn		**Pn**	**13 41 11.3**	**-1.7**
GRR				Sn		**Sn**	**13 43 18.0**	**-7.5**
	comp=E,2.3nm,0.3s								
SMF	**Signal de Mont**	**11.93**	**33**	*e*Pn		**Pn**	**13 41 13.9**	**+0.9**
SMF				*e*Sn		Sn	13 43 17.0	-8.5	
SMF				*e*Sg			13 44 38.9		
	comp=E,2.6nm,0.3s								
SMF	**Signal de Mont**	**11.93**	**33**	Pn		**Pn**	**13 41 13.9**	**+0.9**
SMF				Sn		Sn	13 43 17.0	-8.5	
SMF				Lg		Lg	13 44 38.9		
	comp=E,1.3nm,0.3s								
HYF	**Humbligny**	**11.95**	**28**	*e*Pn		**Pn**	**13 41 13.4**	**+0.1**
HYF	**Humbligny**	**11.95**	**28**	Pn		**Pn**	**13 41 13.4**	**+0.1**
SBF	**Sospel**	**12.04**	**51**	*e*P		**Pn**	**13 41 18.4**	**+3.8**
SBF	**Sospel**	**12.04**	**51**	Pn		**Pn**	**13 41 18.4**	**+3.8**
KEST	**Kesra**	**12.05**	**91**	Pn		**Pn**	**13 41 16.0**	**+1.2**
	comp=E,0.0nm,0.3s,baz=220,slow=19,SNR=1.3								
MBDF	**Montbardon**	**12.11**	**46**	*e*Pn		**Pn**	**13 41 15.5**	**-0.1**
MBDF	**Montbardon**	**12.11**	**46**	Pn		**Pn**	**13 41 15.5**	**-0.1**
SSF	**Saint Saulge**	**12.12**	**31**	*e*Pn		**Pn**	**13 41 15.4**	**-0.2**
SSF				*e*Sg			13 44 44.3		
	comp=E,30nm,1.0s								
SSF	**Saint Saulge**	**12.12**	**31**	Pn		**Pn**	**13 41 15.4**	**-0.2**
SSF				Lg		Lg	13 44 44.3		
	comp=E,15nm,1.0s								
EOSO	**Osorio**	**12.25**	**227**	Sn		Sn	13 43 21.0	-13	
	comp=E,5.9nm,0.3s,SNR=7.9								
BNI	**Bardonecchia**	**12.25**	**45**	Pn		**Pn**	**13 41 18.7**	**+1.1**
LDF	**La Druitiere**	**12.29**	**17**	*e*Pn		**Pn**	**13 41 18.0**	**+0.1**
LDF				*e*Sn		Sn	13 43 25.7	-8.5	
	comp=E,5.6nm,0.5s								
FLN	**La Foliniere**	**12.36**	**16**	*e*Pn		**Pn**	**13 41 17.9**	**-1.0**
	baz=196								
FLN				*e*Sn		**Sn**	**13 43 28.7**	**-7.4**
	comp=E,5.0nm,0.4s,baz=195								
FLN	**La Foliniere**	**12.36**	**16**	Pn		**Pn**	**13 41 17.9**	**-1.0**
FLN				Sn		**Sn**	**13 43 28.7**	**-7.4**
	comp=E,2.5nm,0.4s								
LOR	**Lormes**	**12.43**	**31**	*e*Pn		**Pn**	**13 41 21.8**	**+2.0**
	baz=209								
LOR				*e*Sg			13 44 56.7		
	comp=E,10nm,0.7s,baz=210								
LOR	**Lormes**	**12.43**	**31**	Pn		**Pn**	**13 41 21.8**	**+2.0**
LOR				Lg		Lg	13 44 56.7		
	comp=E,5.2nm,0.7s								
CLF	**Chambon-Foret**	**12.46**	**25**	Pn		**Pn**	**13 41 20.3**	**+0.1**
PGF	**Pioggiola**	**12.48**	**59**	*e*P		Pn	13 41 26.6	+5.9	
PGF	**Pioggiola**	**12.48**	**59**	Pn		Pn	13 41 26.6	+5.9	
LPL	**La Plagne**	**12.56**	**43**	*e*Pn		**Pn**	**13 41 22.3**	**+0.4**
LPL	**La Plagne**	**12.56**	**43**	Pn		**Pn**	**13 41 22.3**	**+0.4**
CGUI	**Guimar, Teneri**	**12.60**	**230**	Sn		Sn	13 43 28.4	-14	
	comp=E,8.8nm,0.2s,SNR=7.9								
MACI	**Morro de la Ar**	**12.69**	**230**	Sn		Sn	13 43 31.3	-13	
	comp=E,4.1nm,0.2s,SNR=7.9								
CABF	**La Chapelle**	**12.95**	**38**	*e*Pn		**Pn**	**13 41 26.8**	**-0.3**
CABF	**La Chapelle**	**12.95**	**38**	Pn		**Pn**	**13 41 26.8**	**-0.3**
TBT	**Taburiente**	**13.29**	**235**	Sn		Sn	13 43 41.7	-17	
	comp=E,1.9nm,0.3s,SNR=7.9								
CTAD	**Las Tabladas,**	**14.03**	**233**	Pn		Pn	13 41 35.0	-6.8	
	comp=E,31nm,0.1s,SNR=7.9								
CRST	**La Restinga, E**	**14.04**	**232**	Pn		Pn	13 41 34.9	-7.0	
	comp=E,32nm,0.2s,SNR=7.9								
DAVOX	**Davos/Dischmat**	**15.07**	**45**	Pn		**Pn**	**13 41 57.7**	**+1.6**
	baz=220,slow=5.8,SNR=1.2								
DAVOX					LR	LR	13 47 24.9		
	comp=E,187nm,18.3s,baz=266,slow=36								
VAE	**Valguarnera**	**15.89**	**82**		LR	LR	13 48 39.3		
	comp=E,60nm,18.1s,baz=106,slow=39								
TAM	**Tamanrasset**	**17.03**	**143**	Pn		**Pn**	**13 42 21.4**	**+0.1**
GERES	**GERESS Array B**	**18.36**	**44**	P		**Pn**	**13 42 38.7**	**+1.1**
	comp=E,0.2nm,0.3s,baz=234,slow=11,SNR=4.6								
GERES					LR	LR	13 49 28.2		
	comp=E,112nm,18.1s,baz=207,slow=36								
GERES	**GERESS Array B**	**18.36**	**44**			**Pn**	**13 42 38.3**	**+0.7**
KHC	**Kasperske Hory**	**18.45**	**43**	*e*P		Pn	13 42 48.9	+10	
KHC					AMS	AMS	13 51 40.0		
	comp=E,200nm,12.2s								
GOPC	**GO Pecny, Ondr**	**19.55**	**42**		AMS	AMS	13 51 00.0		
	comp=E,200nm,15.4s								
KRUC	**Moravsky**	**20.00**	**46**	*e*P		**Pn**	**13 42 57.8**	**+0.7**
VRAC	**Vranov**	**20.23**	**45**	P		**P**	**13 42 59.5**	**+1.7**
	comp=E,2.6nm,0.3s,baz=199,slow=18,SNR=1.8								
VRAC	**Vranov**	**20.23**	**45**	*e*P		**P**	**13 42 59.6**	**+1.7**
JAVC	**Velka Javorina**	**20.64**	**48**	*e*P		**P**	**13 43 02.9**	**+0.5**
MORC	**Moravsky Berou**	**21.00**	**45**	*e*P		**P**	**13 43 08.8**	**+2.6**
VYHS	**Vyhne**	**21.19**	**49**	*e*P		**P**	**13 43 09.8**	**+1.5**
TOA0	**Torodi Ar. Sit**	**24.57**	**163**	P		**P**	**13 43 42.3**	**-0.5**
TOA0					IAmb	IAmb	13 43 51.8		
	comp=Z,17nm,0.9s								
TORD	**Torodi Ar. Bea**	**24.57**	**163**	P		**P**	**13 43 42.3**	**-0.5**
	comp=Z,6.6nm,0.7s,baz=342,slow=9.3,SNR=32								
TORD	**Torodi Ar. Bea**	**24.57**	**163**	P		**P**	**13 43 42.2**	**-0.6**
HFS	**Hagfors**	**26.26**	**22**	P		**P**	**13 43 58.3**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=224,slow=6.0,SNR=1.5								
NOA	**NORSAR Array B**	**26.33**	**18**		LR	LR	13 55 29.7		
	comp=Z,39nm,19.8s,baz=10.0,slow=39								
DBIC	**Dimbokro**	**30.15**	**179**	P		**P**	**13 44 30.7**	**-2.2**
	comp=Z,1.6nm,0.6s,baz=329,slow=10,SNR=4.8								
DBIC					LR	LR	13 57 55.7		
	comp=Z,131nm,18.5s,baz=356,slow=39								
FINES	**FINESS Array B**	**31.48**	**29**	P		**P**	**13 44 43.1**	**-1.1**
	comp=Z,4.0nm,0.8s,baz=235,slow=9.8,SNR=2.1								
ARCES	**ARCESS Array B**	**36.70**	**18**	P		**P**	**13 45 32.0**	**+2.6**
	comp=Z,1.6nm,0.8s,baz=227,slow=9.2,SNR=4.5								
ARU	**Arti**	**46.19**	**44**	P		**P**	**13 46 48.8**	**+1.4**
	comp=Z,2.2nm,0.2s,baz=272,slow=9.6,SNR=4.2								
ARU	**Arti**	**46.19**	**44**	P		**P**	**13 46 48.0**	**+0.7**
ARU					IAmb	IAmb	13 46 54.3		
	comp=Z,7.6nm,1.0s								
ABKAR	**Akbulak array**	**47.92**	**53**	P		**P**	**13 47 01.7**	**+0.7**
WSAR	**Wadi Sarin**	**56.21**	**85**	LR		LR	14 14 18.9		
	comp=Z,68nm,20.1s,baz=56,slow=38								
KKAR	**Karatay Array**	**56.69**	**58**	P		**P**	**13 48 06.1**	**-0.1**
GAR	**Garm**	**58.13**	**63**	P		**P**	**13 48 17.1**	**+0.5**
KURK	**Kurchatov**	**59.06**	**48**	P		**P**	**13 48 23.0**	**+0.3**
KURK					IAmb	IAmb	13 48 44.1		
	comp=Z,2.4nm,0.8s								
AAK	**Ala-Archa**	**59.57**	**57**	LR		LR	14 15 41.9		
	comp=Z,68nm,18.5s,baz=169,slow=38								
ZALV	**Zalesovo Beam**	**61.31**	**42**	P		**P**	**13 48 37.5**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=299,slow=6.5,SNR=2.5								
MK31	**Makanchi Array**	**62.87**	**50**	P		**P**	**13 48 48.8**	**+0.1**
MKAR	**Makanchi Array**	**62.87**	**50**	P		**P**	**13 48 49.0**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=292,slow=6.0,SNR=12								
MKAR	**Makanchi Array**	**62.87**	**50**	P		**P**	**13 48 49.3**	**+0.6**
PLAL	**Pickwick Lake**	**64.74**	**296**	P		**P**	**13 49 02.0**	**+0.9**
PLAL					IAmb	IAmb	13 49 16.9		
	comp=Z,3.4nm,0.8s								
HBAR	**Harrisburg**	**66.31**	**297**	P		**P**	**13 49 11.4**	**+0.1**
WMQ	**Urumqi**	**67.63**	**51**	*e*P		**P**	**13 49 22.6**	**+2.9**
LBTB	**Lobatse**	**68.25**	**150**	P		**P**	**13 49 23.7**	**0.0**
BOSA	**Boshof**	**71.34**	**152**	P		**P**	**13 49 41.9**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=320,slow=7.9,SNR=2.5								
BOSA	**Boshof**	**71.34**	**152**	P		**P**	**13 49 42.0**	**-0.6**
PDAR	**Pinedale Array**	**74.82**	**312**	P		**P**	**13 50 04.4**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=56,slow=6.2,SNR=7.1								
PDAR	**Pinedale Array**	**74.82**	**312**	P		**P**	**13 50 04.0**	**+0.6**
HHC	**Hu-ho-hao-te**	**83.49**	**43**	*e*P		**P**	**13 50 51.6**	**+0.9**
HHC					pmax	pmax			
	comp=Z,11nm,0.7s								
HHC					pmax	pmax			
	comp=Z,79nm,6.6s								
CMAR	**Chiang Mai Arr**	**90.08**	**67**	P		**P**	**13 51 24.0**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=311,slow=5.8,SNR=1.5								
NJ2	**Nanjing**	**93.89**	**45**	*e*P		**P**	**13 51 40.4**	**-0.1**
NJ2					pmax	pmax			
	comp=Z,8.0nm,0.5s								
STKA	**Stephens Creek**	**152.48**	**89**	PKPbc		**PKPbc**	**13 58 18.4**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=310,slow=5.2,SNR=4.5								

*ISN **19** 13:38:41.4±1.4, 32.74N×47.75E, h15km±7km, ML3.3*
*TEH **19** 13:38:41.7, 32.72N×47.73E, h10km, ML3.5*
*DSN **19** 13:38:47.0±1.5, 31.52N×47.39E, h10km, Error ellipse: s-maj=74.5km s-min=12.0km az=43.0*
ISC 19 13:38:41.2±0.8, 32.63N±0.04×47.72E±0.03, h10km, n43, σ2s01/47, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
DHL1	**Dehloran**	**0.38**	**278**		*e*Pg	**Pg**		**13 38 49.2**	**+0.5**
DHL1					*e*Sg	**Sb**		**13 38 55.6**	**-0.3**
IKFM	**Kafar-mosalman**	**0.90**	**7**		*e*Pg	**Pg**		**13 38 57.3**	**-1.2**
IKFM					*e*			13 39 12.4	
IKMR	**Kamar-syah**	**1.04**	**32**		*e*Pg	**Pg**		**13 39 00.3**	**-1.0**
IKMR					*e*			13 39 18.8	
IDOB	**Doab**	**1.22**	**18**		*e*Pg	**Pb**		**13 39 03.4**	**-1.1**
BMDN	**Meydan**	**1.39**	**41**		*e*			13 39 30.0	
BMDN					*e*Pg	**Pn**		**13 39 07.5**	**+0.6**
AHWZ	**Ahwaz**	**1.51**	**149**		*e*Pg	**Pg**		**13 39 12.2**	**+1.9**
IKOM	**Komasi**	**1.55**	**353**		*e*Pg	**Pn**		**13 39 10.0**	**+0.9**
IKOM					*e*			13 39 11.5	
IBDR	**Badra**	**1.58**	**288**		*e*Pg	**Pn**		**13 39 10.0**	**+0.7**
IBDR					*e*Sg	**Sb**		**13 39 31.0**	**+0.4**
IBDR					AML	AML		13 39 39.9	
	comp=N,270nm,0.5s								
IBDR					AML	AML		13 39 41.9	
	comp=E,262nm,0.9s								
KCHF	**Cheshme Sefid,**	**1.74**	**341**		*e*Pg	**Pn**		**13 39 12.8**	**+1.2**
KCHF					*e*			13 39 39.8	
HSAM	**Samen**	**1.74**	**25**		*e*Pg	**Pb**		**13 39 13.8**	**+0.4**
HSAM					*e*			13 39 43.1	
KER	**Kermanshah**	**1.82**	**344**		*e*Pn	**Pn**		**13 39 14.3**	**+1.6**
IBZA	**Bozab**	**1.84**	**4**		*e*Pg	**Pn**		**13 39 14.9**	**+1.8**
IBZA					*e*			13 39 47.5	
IGHG	**Ghaleghazi**	**1.95**	**331**		*e*Pn	**Pn**		**13 39 16.8**	**+1.7**
IGHG					*e*			13 40 02.7	
IVIS	**Veis**	**2.03**	**339**		*e*Pn	**Pn**		**13 39 16.8**	**+1.2**
IVIS					*e*			13 39 20.4	
NSR	**Nassriya**	**2.10**	**220**		*e*Pn	**Pb**		**13 39 19.0**	**-0.4**
NSR					*e*Sn	**Sb**		**13 39 45.0**	**-0.6**
IALM	**Almabolaq**	**2.25**	**9**		*e*Pn	**Pn**		**13 39 20.7**	**+1.8**
IDHR	**Dehrash**	**2.35**	**332**		*e*Pn	**Pn**		**13 39 21.3**	**+1.3**
IDHR					*e*			13 40 00.0	
ILIN	**Lien**	**2.37**	**345**		*e*	Sg		13 40 07.5	+10
HAGD	**Aghdareh**	**2.48**	**28**		*e*Pn	**Pn**		**13 39 24.2**	**+2.2**
HAGD					*e*			13 40 04.5	
JHBN	**Jahan bin**	**2.52**	**98**		*e*Pn	**Pn**		**13 39 24.7**	**+2.2**
JHBN					*e*			13 40 10.0	
HSRG	**Sareghieh**	**2.65**	**10**		*e*Pn	**Pn**		**13 39 26.7**	**+2.5**
HSRG					*e*			13 40 17.2	
IPIR	**Pirpir**	**2.67**	**88**		*e*Pn	**Pn**		**13 39 26.9**	**+2.3**
IPIR					*e*			13 40 10.7	
ROKH	**ROKH**	**2.81**	**95**		*e*Pn	**Pn**		**13 39 28.8**	**+2.3**
ROKH					*e*			13 39 37.1	
BHD	**Baghdad**	**2.88**	**284**		*e*Pn	**Pn**		**13 39 28.0**	**+0.8**
BHD					*e*Sn	**Sn**		**13 40 04.0**	**+2.1**
BHD					AML	AML		13 40 06.5	
	comp=E,354nm,0.4s								
IKLH	**Kolahrood**	**3.31**	**77**		*e*Pn	**Pn**		**13 39 36.6**	**+3.2**
IKLH					*e*			13 40

USRK	**Ussuriysk Ar.**	**52.56**	**341**	P		**P**	**13 52 38.3**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=142,slow=5.3,SNR=7.6							
USRK	**Ussuriysk Ar.**	**52.56**	**341**	P		**P**	**13 52 38.9**	**-0.6**
YSS	**Yuzh-Sakhalins**	**52.63**	**351**	P		**P**	**13 52 39.4**	**-0.5**
YSS				IAmb	IAmb		13 52 40.9	
	comp=Z,13nm,1.2s							
ENH	**Enshi**	**54.36**	**313**	P		**P**	**13 52 51.9**	**-1.1**
KLR	**Kul'dur**	**57.16**	**344**	P		**P**	**13 53 12.3**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=136,slow=4.0,SNR=7.3							
CM31	**Chiang Mai Arr**	**57.98**	**295**	P		**P**	**13 53 19.6**	**+0.5**
CM31				IAmb	IAmb		13 53 21.4	
	comp=Z,8.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**57.98**	**295**	P		**P**	**13 53 20.2**	**+1.2**
	comp=Z,5.7nm,0.9s,baz=108,slow=5.2,SNR=28							
CMAR				LR	LR		14 19 25.9	
	comp=Z,28nm,18.4s,baz=125,slow=37							
CMAR	**Chiang Mai Arr**	**57.98**	**295**	P		**P**	**13 53 19.6**	**+0.5**
CHTO	**Chiang Mai**	**58.09**	**296**	P		**P**	**13 53 20.2**	**+0.3**
CHTO				IAmb	IAmb		13 53 21.4	
	comp=Z,4.5nm,0.9s							
PEA0B	**Petropavlovsk-**	**58.19**	**4**	P		**P**	**13 53 20.0**	**+0.2**
PETK	**Petropavlovsk-**	**58.19**	**4**	P		**P**	**13 53 20.1**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=156,slow=6.1,SNR=40							
PETK				LR	LR		14 17 15.9	
	comp=Z,36nm,18.9s,baz=238,slow=35							
PETK	**Petropavlovsk-**	**58.19**	**4**	P		**P**	**13 53 19.8**	**-0.1**
CD2	**Chengdu**	**58.93**	**311**	*eP*		**P**	**13 53 25.0**	**-0.5**
HHC	**Hu-ho-hao-te**	**59.30**	**324**	*eP*		**P**	**13 53 28.9**	**+0.9**
HHC				pmax	pmax			
	comp=Z,14nm,0.6s							
HHC				pmax	pmax			
	comp=Z,50nm,6.6s							
MA2	**Magadan**	**64.54**	**359**	P		**P**	**13 54 02.0**	**-0.7**
	comp=Z,9.2nm,0.7s,baz=184,slow=6.0,SNR=11							
MA2	**Magadan**	**64.54**	**359**	P		**P**	**13 54 02.3**	**-0.4**
GTA	**Gaotai**	**65.88**	**317**	*eP*		**P**	**13 54 13.6**	**+1.7**
GTA				pP	PcP		13 54 44.0	+1.4
GTA				pmax	pmax			
	comp=Z,4.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,56nm,5.7s							
GTA				LR	LR			
	comp=N,82nm,17.8s							
GTA				LR	LR			
	comp=E,100nm,18.4s							
GTA				LR	LR			
	comp=Z,89nm,18.1s							
SONM	**Songino Array**	**66.59**	**328**	P		**P**	**13 54 16.8**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=134,slow=6.4,SNR=4.8							
SONM				LR	LR		14 21 20.7	
	comp=Z,56nm,21.1s,baz=64,slow=34							
SONM	**Songino Array**	**66.59**	**328**	P		**P**	**13 54 16.1**	**-0.2**
SEY	**Seymchan**	**67.89**	**360**	P		**P**	**13 54 23.8**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=107,slow=19,SNR=4.2							
YAK	**Yakutsk**	**69.31**	**349**	P		**P**	**13 54 33.1**	**+0.2**
	comp=Z,2.2nm,0.4s,baz=245,slow=1.3,SNR=1.7							
YAK	**Yakutsk**	**69.31**	**349**	P		**P**	**13 54 33.0**	**+0.1**
YAK				IAmb	IAmb		13 54 58.3	
	comp=Z,6.6nm,0.8s							
VNDA	**Vanda**	**72.48**	**178**	P		**P**	**13 54 52.8**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=326,slow=4.1,SNR=6.7							
VNDA	**Vanda**	**72.48**	**178**	P		**P**	**13 54 52.6**	**+0.6**
VNDA				IAmb	IAmb		13 55 06.7	
	comp=Z,13nm,1.9s							
WMQ	**Urumqi**	**75.97**	**317**	*eP*		**P**	**13 55 14.0**	**+1.0**
SVW2	**Sparrevohn**	**77.16**	**23**	P		**P**	**13 55 19.4**	**+0.1**
CNPM	**China Poot**	**78.05**	**26**	P		**P**	**13 55 24.3**	**0.0**
TTA	**Tatalina**	**78.11**	**21**	P		**P**	**13 55 24.7**	**0.0**
SEW	**Seward**	**79.12**	**26**	P		**P**	**13 55 29.7**	**-0.4**
SEW				IAmb	IAmb		13 55 32.2	
	comp=Z,9.5nm,0.8s							
SKT	**Skwentna**	**79.26**	**23**	P		**P**	**13 55 29.4**	**-1.5**
SKT				IAmb	IAmb		13 56 14.2	
	comp=Z,21nm,2.0s							
SUA	**Susitna One**	**79.29**	**24**	P		**P**	**13 55 30.1**	**-1.1**
SUA				IAmb	IAmb		13 55 32.0	
	comp=Z,8.8nm,0.6s							
RDOG	**Red Dog Mine**	**79.33**	**16**	P		**P**	**13 55 30.7**	**-0.5**
PMR	**Palmer**	**80.02**	**24**	P		**P**	**13 55 34.3**	**-0.7**
GHO	**Glory Hole Cre**	**80.20**	**24**	P		**P**	**13 55 35.6**	**-0.4**
GHO				IAmb	IAmb		13 55 36.9	
	comp=Z,6.0nm,0.8s							
SML	**Sawmill**	**80.46**	**24**	P		**P**	**13 55 37.2**	**-0.3**
GLI	**Glacier Island**	**80.52**	**25**	P		**P**	**13 55 37.6**	**-0.1**
GLI				IAmb	IAmb		13 55 43.1	
	comp=Z,9.0nm,1.0s							
MK31	**Makanchi Array**	**80.56**	**319**	P		**P**	**13 55 38.0**	**-0.3**
MKAR	**Makanchi Array**	**80.56**	**319**	P		**P**	**13 55 38.5**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=93,slow=7.5,SNR=11							
MKAR	**Makanchi Array**	**80.56**	**319**	P		**P**	**13 55 38.2**	**-0.1**
FID	**Port Fidalgo**	**80.72**	**26**	P		**P**	**13 55 38.4**	**-0.5**
FID				IAmb	IAmb		13 55 39.5	
	comp=Z,7.0nm,0.8s							
IMAR	**Indian Mountai**	**80.73**	**19**	P		**P**	**13 55 38.9**	**+0.1**
MAKZ	**Makanchi**	**80.77**	**319**	P		**P**	**13 55 39.7**	**+0.3**
RND	**Reindeer**	**81.06**	**23**	P		**P**	**13 55 39.6**	**-1.1**
RND				IAmb	IAmb		13 55 41.0	
	comp=Z,7.9nm,0.8s							
MCK	**McKinley**	**81.20**	**23**	P		**P**	**13 55 40.3**	**-1.1**
MCK				IAmb	IAmb		13 55 41.6	
	comp=Z,12nm,0.9s							
ZAA0	**Zalesovo Array**	**81.42**	**326**	P		**P**	**13 55 41.6**	**-1.0**
ZAA0				IAmb	IAmb		13 55 43.0	
	comp=Z,6.8nm,0.8s							
ZALV	**Zalesovo Beam**	**81.42**	**326**	P		**P**	**13 55 42.2**	**-0.4**
	comp=Z,6.4nm,0.7s,baz=102,slow=5.8,SNR=19							
ZALV				LR	LR		14 32 06.3	
	comp=Z,40nm,21.1s,baz=98,slow=36							
ZALV	**Zalesovo Beam**	**81.42**	**326**	P		**P**	**13 55 41.6**	**-1.0**
WRH	**Wood River Hil**	**81.90**	**22**	P		**P**	**13 55 43.8**	**-1.2**
WRH				IAmb	IAmb		13 55 45.2	
	comp=Z,17nm,1.5s							
CCB	**Clear Creek Bu**	**82.09**	**22**	P		**P**	**13 55 44.8**	**-1.2**
CCB				IAmb	IAmb		13 55 45.9	
	comp=Z,20nm,1.8s							
MDM	**Murphy Dome**	**82.09**	**22**	P		**P**	**13 55 45.3**	**-0.7**
COLA	**College**	**82.19**	**22**	P		**P**	**13 55 45.8**	**-0.7**
COLA				IAmb	IAmb		13 55 46.6	
	comp=Z,12nm,1.0s							
GLB	**Gilahina Butte**	**82.19**	**26**	P		**P**	**13 55 46.6**	**-0.1**
GLB				IAmb	IAmb		13 55 47.9	
	comp=Z,7.3nm,0.9s							
VRDI	**Verde Repeater**	**82.25**	**26**	P		**P**	**13 55 46.6**	**-0.5**
VRDI				IAmb	IAmb		13 55 47.8	
	comp=Z,5.2nm,0.8s							
IL31		**82.50**	**22**	P		**P**	**13 55 46.5**	**-1.5**
ILAR	**Eielson Array**	**82.50**	**22**	P		**P**	**13 55 47.1**	**-1.0**
	comp=Z,3.9nm,0.9s,baz=252,slow=5.4,SNR=26							
ILAR				LR	LR		14 28 57.5	
	comp=Z,33nm,19.6s,baz=226,slow=33							
ILAR	**Eielson Array**	**82.50**	**22**	P		**P**	**13 55 46.4**	**-1.7**
COLD	**Coldfoot**	**82.60**	**19**	P		**P**	**13 55 47.9**	**-0.7**
COLD				IAmb	IAmb		13 55 50.6	
	comp=Z,15nm,1.6s							
BARN	**Barnard Glacie**	**82.97**	**27**	P		**P**	**13 55 51.1**	**+0.2**
BARN				IAmb	IAmb		13 55 52.4	
	comp=Z,5.0nm,0.8s							
DOT	**Dot Lake**	**83.06**	**24**	P		**P**	**13 55 51.0**	**-0.1**
DOT				IAmb	IAmb		13 55 52.2	
	comp=Z,7.3nm,0.9s							
TOLK	**Toolik Lake Re**	**83.56**	**18**	P		**P**	**13 55 53.6**	**0.0**
BCAR	**Beaver Creek A**	**83.74**	**25**	P		**P**	**13 55 54.2**	**-0.4**
KURK	**Kurchatov**	**84.01**	**322**	P		**P**	**13 55 56.1**	**-0.1**
KURK				IAmb	IAmb		13 55 57.3	
	comp=Z,6.6nm,1.1s							
NIL	**Nilore**	**84.13**	**304**	P		**P**	**13 55 57.4**	**+0.1**
BMAR	**Burnt Mountain**	**84.59**	**20**	P		**P**	**13 55 59.2**	**+0.4**
EGAK	**Eagle**	**84.70**	**23**	P		**P**	**13 55 59.5**	**+0.2**
HYT	**Haines Junctio**	**84.76**	**27**	P		**P**	**13 56 00.4**	**+0.4**
HYT				IAmb	IAmb		13 56 01.9	
	comp=Z,6.3nm,1.0s							
QSPA	**South Pole Qui**	**84.81**	**180**	P		**P**	**13 56 00.5**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=302,slow=0.6,SNR=8.3							
QSPA	**South Pole Qui**	**84.81**	**180**	P		**P**	**13 56 00.1**	**-0.1**
QSPA				IAmb	IAmb		13 56 58.1	
	comp=Z,7.2nm,0.9s							
AAK	**Ala-Archa**	**84.87**	**313**	P		**P**	**13 56 00.4**	**-0.6**
AAK				IAmb	IAmb		13 56 03.0	
	comp=Z,9.2nm,1.4s							
MAW	**Mawson**	**85.23**	**203**	P		**P**	**13 56 02.3**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=115,slow=17,SNR=4.4							
NRIK	**Noril'sk**	**86.28**	**341**	P		**P**	**13 56 07.1**	**0.0**
	comp=Z,7.1nm,0.5s,baz=106,slow=4.0,SNR=12							
BTK	**Batken**	**87.13**	**310**	P		**P**	**13 56 11.3**	**-0.8**
GAR	**Garm**	**87.35**	**309**	P		**P**	**13 56 13.3**	**+0.1**
GAR				IAmb	IAmb		13 56 13.9	
	comp=Z,5.9nm,0.8s							
KK31	**Karatay Array**	**87.83**	**313**	P		**P**	**13 56 15.1**	**-0.2**
KKAR	**Karatay Array**	**87.83**	**313**	P		**P**	**13 56 15.1**	**-0.3**
KKAR	**Karatay Array**	**87.83**	**313**	P		**P**	**13 56 15.2**	**-0.1**
KKAR				IAmb	IAmb		13 56 19.2	
	comp=Z,2.9nm,0.8s							
CHGR	**Chuyangaron**	**88.19**	**309**	P		**P**	**13 56 17.1**	**-0.1**
INK	**Inuvik**	**88.79**	**21**	P		**P**	**13 56 19.1**	**-0.2**
NVAR	**Mina Array Bea**	**92.34**	**52**	P		**P**	**13 56 37.3**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=254,slow=6.1,SNR=10							
NVAR				LR	LR		14 32 23.6	
	comp=Z,88nm,19.8s,baz=275,slow=32							
NVAR	**Mina Array Bea**	**92.34**	**52**	P		**P**	**13 56 36.3**	**-0.5**
PDAR	**Pinedale Array**	**99.12**	**48**	P		**Pdif**	**13 57 06.4**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=185,slow=5.8,SNR=2.4							
PDAR				LR	LR		14 38 56.0	
	comp=Z,65nm,18.3s,baz=297,slow=34							
FINES	**FINESS Array B**	**111.35**	**336**	Pdiff		**Pdif**	**13 57 59.6**	**-1.6**
	comp=Z,2.3nm,0.9s,baz=76,slow=5.9,SNR=6.0							
GERES	**GERESS Array B**	**124.33**	**328**	PKP		**PKiKP**	**14 02 25.5**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=37,slow=0.7,SNR=9.5							
LPAZ	**La Paz**	**134.29**	**119**	PKP		**PKPdf**	**14 02 45.3**	**0.0**
	comp=Z,1.0nm,0.7s,baz=202,slow=4.0,SNR=5.8							
TOA0	**Torodi Ar. Sit**	**150.37**	**288**			**PKPbc**	**14 03 17.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**150.37**	**288**	PKPbc		**PKPbc**	**14 03 17.9**	**-0.3**
	comp=Z,7.4nm,0.8s,baz=58,slow=2.3,SNR=48							
TORD	**Torodi Ar. Bea**	**150.37**	**288**	PKPbc		**PKPbc**	**14 03 17.6**	**-0.6**
BDFB	**Brasilia**	**150.85**	**135**	PKPbc		**PKPbc**	**14 03 19.6**	**+0.2**
	comp=Z,5.4nm,0.7s,baz=345,slow=2.6,SNR=7.9							

*IDC **19** 13:44:11.7±1.3,3°.49S×140°.20E, h0km, mb4.1/2, mb1 4.4/3, mb1mx3.8/39, mbtmp4.1/3, ML4.2/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/37, Error ellipse: s-maj=43.6km s-min=11.1km az=118.0*

*DJA **19** 13:44:14.7±1.8,3°.5S×7°.×14°.0E±°, h19km±15km, M4.3/5, ML4.3/5*

ISC 19 13:44:13.0±1.1,**3°.60S**±0°.07×**140°.35E**±0°.09,**h39**km,**n12,**
σ1s78/14,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.02**	**350**	P	**Pn**	**13 44 30.9**	**+0.1**
GENI				S	**Sn**	**13 44 42.4**	**-1.4**
JAY	**Jayapura**	**1.14**	**18**	Pg	**Pn**	**13 44 32.3**	**-0.1**
	52nm,0.3s,baz=208,slow=14,SNR=182						
JAY				Lg	Lg	13 44 48.4	
	143nm,0.3s,baz=139,slow=5.9,SNR=10						
JAY	**Jayapura**	**1.14**	**18**	P	**Pn**	**13 44 33.4**	**+0.9**
JAY				S	**Sn**	**13 44 47.3**	**+0.4**
WAMI	**Wamena**	**1.66**	**260**	P	**Pn**	**13 44 40.4**	**+0.9**
WAMI				S	**Sn**	**13 44 58.5**	**-1.1**
SMPI	**Sarmi**	**2.29**	**314**	P	**Pn**	**13 44 49.7**	**+1.5**
SRPI	**Serui, Papua**	**4.45**	**293**	P	**Pn**	**13 45 19.3**	**+1.4**
WRA	**Warramunga Arr**	**17.27**	**199**	P	**P**	**13 48 13.6**	**+1.2**
	1.0nm,0.3s,baz=21,slow=12,SNR=51						
WRA				S	**Sn**	**13 51 20.5**	**-2.1**
	0.3nm,0.3s,baz=15,slow=22,SNR=2.1						
BATI	**Baumata**	**17.81**	**248**	LR		13 56 35.4	
	comp=Z,226nm,19.3s,baz=94,slow=42						
FITZ	**Fitzroy Crossi**	**20.37**	**224**	P	Pn	13 48 49.8	+1.0
	5.0nm,0.8s,baz=47,slow=11,SNR=20						
FITZ				S	**S**	**13 52 29.6**	**-3.2**
	7.9nm,0.8s,baz=78,slow=6.8,SNR=5.9						
ASAR	**Alice Springs**	**20.90**	**197**	P	Pn	13 48 57.5	+2.7
	14nm,0.8s,baz=29,slow=8.6,SNR=60						
ASAR				S	**S**	**13 52 46.2**	**+3.0**
	2.7nm,1.1s,baz=22,slow=20,SNR=4.4						
ASAR	**Alice Springs**	**20.90**	**197**	P	Pn	13 48 57.9	+3.0
DBIC	**Dimbokro**	**145.21**	**276**	PKPbc	**PKiKP**	**14 03 50.6**	**-0.9**
	1.3nm,0.6s,baz=88,slow=5.0,SNR=1.8						

*TEH **19** 13:52:33.3,32°.65N×47°.71E, h9km, ML3.0*
*ISN **19** 13:52:33.3±0.8,32°.61N×47°.69E, h15km±5km, ML3.2*
*THR **19** 13:52:33.9±0.3,32°.67N×47°.54E, h14km±35km, ML3.2*

ISC 19 13:52:33.5±1.4,**32°.61N**±0°.04×**47°.70E**±0°.03,**h4**km±11km,
n41,σ1s05/47,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.36**	**282**	*eP*	**Pg**	**13 52 40.6**	**+0.1**
DHL1				*eS*	**Sg**	**13 52 46.7**	**+1.5**
IKFM	**Kafar-mosalman**	**0.93**	**8**	*eP*	**Pg**	**13 52 49.8**	**-1.4**
IKFM				*e*		13 53 05.9	
IKMR	**Kamar-syah**	**1.07**	**32**	*eP*	**Pg**	**13 52 52.8**	**-1.3**
IKMR				*eS*	**Sb**	**13 53 09.4**	**+0.3**
IKMR				*e*		13 53 15.9	
IDOB	**Doab**	**1.25**	**19**	*eP*	**Pg**	**13 52 57.0**	**-0.4**
BMDN	**Meydan**	**1.42**	**41**	*eP*	**Pn**	**13 53 00.1**	**-0.2**
BMDN				*e*		13 53 04.7	
AHWZ	**Ahwaz**	**1.50**	**148**	*eP*	**Pn**	**13 53 02.7**	**+1.5**
IBDR	**Badra**	**1.57**	**289**	*eP*	**Pn**	**13 53 02.0**	**-0.2**
IBDR				*eSg*	**Sn**	**13 53 23.0**	**0.0**
IBDR				AML	AML	13 53 31.2	
	comp=E,229nm,0.5s						
IBDR				AML	AML	13 53 31.3	
	comp=N,258nm,0.6s						
IKOM	**Komasi**	**1.57**	**354**	*e*		13 53 07.4	
IKOM				*ePg*	**Pb**	**13 53 03.0**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.75**	**342**	*e*		13 53 32.4	
KCHF				*ePg*	**Pb**	**13 53 05.8**	**-0.6**
HSAM	**Samen**	**1.77**	**25**	*e*		13 53 34.8	
HSAM				*ePg*	**Pb**	**13 53 06.7**	**0.0**
KER	**Kermanshah**	**1.84**	**345**	*ePn*	**Pn**	**13 53 06.5**	**+0.5**
IBZA	**Bozab**	**1.86**	**4**	*e*		13 53 37.1	
IBZA				*ePg*	**Pb**	**13 53 07.7**	**-0.6**
IGHG	**Ghaleghazi**	**1.96**	**331**	*e*		13 53 44.5	
IGHG				*ePn*	**Pn**	**13 53 08.5**	**+0.7**
IVIS	**Veis**	**2.04**	**340**	*e*		13 53 14.4	
IVIS				*ePn*	**Pn**	**13 53 09.3**	**+0.5**
NSR	**Nassriya**	**2.07**	**220**	*ePn*	**Pn**	**13 53 09.0**	**-0.1**
NSR				*eSn*	**Sn**	**13 53 34.0**	**-1.3**
KHMZ	**Khomeyn**	**2.21**	**59**	*ePn*	**Pb**	**13 53 13.5**	**-0.6**
IALM	**Almabolaq**	**2.28**	**10**	*ePn*	**Pn**	**13 53 12.7**	**+0.5**
IDHR	**Dehrash**	**2.36**	**333**	*ePn*	**Pn**	**13 53 14.9**	**+1.7**
IDHR				*e*		13 53 19.7	
ILIN	**Lien**	**2.39**	**345**	*ePn*	**Pn**	**13 53 14.4**	**+0.7**
ILIN				*e*		13 54 00.5	
SNGE	**Sanandaj**	**2.50**	**353**	*ePn*	**Pn**	**13 53 15.2**	**+0.1**
HAGD	**Aghdareh**	**2.52**	**28**	*ePn*	**Pn**	**13 53 16.6**	**+1.2**
HAGD				*e*		13 53 22.5	
JHBN	**Jahan bin**	**2.54**	**98**	*ePn*	**Pn**	**13 53 16.1**	**+0.4**
JHBN				*e*		13 54 02.9	
HSRG	**Sareghieh**	**2.67**	**10**	*ePn*	**Pn**	**13 53 19.4**	**+1.8**
HSRG				*e*		13 54 04.7	
IPIR	**Pirpir**	**2.69**	**87**	*ePn*	**Pn**	**13 53 19.0**	**+1.1**
IPIR				*e*		13 54 13.7	
ASAO	**Ashtian**	**2.74**	**44**	*ePn*	**Pn**	**13 53 20.5**	**+2.0**
ASAO				*eSg*	**Sg**	**13 54 01.5**	**-0.1**
ASAO				IAML		13 54 04.9	
	comp=N,69nm,0.8s						
ROKH	**ROKH**	**2.83**	**94**	*ePn*	**Pn**	**13 53 20.7**	**+1.0**
ROKH				*e*		13 54 03.3	
BHD	**Baghdad**	**2.87**	**284**	*ePn*	**Pn**	**13 53 20.0**	**0.0**
BHD				*eSn*	**Sn**	**13 53 55.0**	**0.0**
BHD				AML	AML	13 53 59.8	
	comp=E,230nm,0.4s						
IKLH	**Kolahrood**	**3.34**	**77**	*ePn*	**Pn**	**13 53 28.2**	**+1.5**
IKLH				*e*		13 54 24.5	
IRAZ	**Razeghan**	**3.35**	**33**	*ePn*	**Pn**	**13 53 29.1**	**+2.2**
QABG	**Abgarm-Qazvin**	**3.47**	**26**	*ePn*	**Pn**	**13 53 29.0**	**+0.5**
QAR	**Gharneh**	**3.67**	**92**	*ePn*	**Pn**	**13 53 31.1**	**-0.2**
IGAR				*e*		13 53 34.5	
KLNJ	**Kolanjah**	**3.67**	**115**	*ePn*	**Pn**	**13 53 33.3**	**+1.8**
KLNJ				*e*		13 54 39.5	
IZEF	**Zefreh**	**3.91**	**85**	*ePn*	**Pn**	**13 53 35.7**	**+1.1**
IRAM	**Ramesheh**	**4.05**	**100**	*ePn*	**Pn**	**13 53 36.8**	**+0.4**
QSDN	**Sirdan**	**4.07**	**17**	*ePn*	**Pn**	**13 53 38.1**	**+1.3**
CHTH	**Charan**	**4.35**	**40**	*ePn*	**Pn**	**13 53 42.4**	**+1.8**
QALM	**Alamut, Qazvin**	**4.53**	**32**	*ePn*	**Pn**	**13 53 44.8**	**+1.7**
IDMV	**Damavand**	**4.66**	**49**	*ePn*	**Pn**	**13 53 45.5**	**+0.6**
ANAR	**Anarak**	**5.10**	**82**	*ePn*	**Pn**	**13 53 51.5**	**+0.6**
ISAD	**Sadrabad**	**5.12**	**96**	*ePn*	**Pn**	**13 53 51.5**	**+0.3**
IANJ	**Anjilo**	**5.89**	**59**	*ePn*	**Pn**	**13 54 01.7**	**-0.2**

*TEH **19** 13:55:01.9,32°.66N×47°.73E, h8km, ML3.5*
*ISN **19** 13:55:02.0±1.1,32°.64N×47°.71E, h17km±7km, ML3.0*
*THR **19** 13:55:08.0±0.3,32°.93N×47°.92E, h14km±10km, ML3.1*

ISC 19 13:55:03.4±1.2,**32°.56N**±0°.04×**47°.66E**±0°.03,**h9**km±10km,
n40,σ1s51/46,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.34**	**291**	*eSg*	**Sg**	**13 55 15.6**	**+0.8**
DHL1				*ePg*	**Pg**	**13 55 09.3**	**-0.9**
IKFM	**Kafar-mosalman**	**0.97**	**9**	*ePg*	**Pg**	**13 55 19.0**	**-3.1**
IKFM				*e*		13 55 39.4	
IKMR	**Kamar-syah**	**1.13**	**32**	*ePg*	**Pg**	**13 55 21.5**	**-3.6**
IKMR				*e*		13 55 41.6	
BMDN	**Meydan**	**1.48**	**41**	*ePg*	**Pn**	**13 55 29.2**	**-1.1**
AHWZ	**Ahwaz**	**1.48**	**146**	*ePg*	**Pb**	**13 55 31.3**	**+0.2**
IBDR	**Badra**	**1.56**	**291**	*ePg*	**Pn**	**13 55 30.0**	**-1.2**
IBDR				*eSg*	**Sb**	**13 55 52.0**	**-0.2**
IBDR				AML	AML	13 55 57.1	
	comp=N,223nm,0.6s						
IBDR				AML	AML	13 55 57.5	
	comp=E,118nm,0.8s						
IKOM	**Komasi**	**1.61**	**356**	*ePg*	**Pn**	**13 55 31.8**	**-0.4**
IKOM				*e*		13 55 57.9	
KCHF	**Cheshme Sefid,**	**1.79**	**343**	*ePg*	**Pn**	**13 55 34.1**	**-0.5**
KCHF				*e*		13 56 05.3	
HSAM	**Samen**	**1.82**	**25**	*ePg*	**Pn**	**13 55 34.9**	**-0.3**
HSAM				*e*		13 56 03.4	
KER	**Kermanshah**	**1.87**	**346**	*ePn*	**Pn**	**13 55 35.6**	**-0.1**
IBZA	**Bozab**	**1.91**	**5**	*ePg*	**Pn**	**13 55 36.9**	**+0.5**
IBZA				*e*		13 56 04.5	
IGHG	**Ghaleghazi**	**1.99**	**333**	*e*	Sg	13 56 20.7	+13
NSR	**Nassriya**	**2.02**	**220**	*ePn*	**Pn**	**13 55 38.0**	**+0.5**
NSR				*eSn*	**Sn**	**13 56 03.0**	**+0.1**
IVIS	**Veis**	**2.08**	**341**	*ePn*	**Pn**	**13 55 37.3**	**-1.2**
IVIS				*e*		13 55 44.1	
KHMZ	**Khomeyn**	**2.26**	**58**	*ePn*	**Pn**	**13 55 41.9**	**+0.8**
KHMZ				*eSg*	**Sn**	**13 56 07.8**	**-1.3**
KHMZ	**Khomeyn**	**2.26**	**58**	*ePn*	**Pn**	**13 55 41.9**	**+0.8**
IALM	**Almabolaq**	**2.33**	**10**	*ePn*	**Pn**	**13 55 41.3**	**-0.9**
ILIN	**Lien**	**2.42**	**346**	*ePn*	**Pn**	**13 55 43.1**	**-0.3**
ILIN				*e*		13 56 30.5	
SNGE	**Sanandaj**	**2.54**	**354**	*ePn*	**Pn**	**13 55 46.4**	**+1.4**
SNGE				*eSg*	**Sn**	**13 56 17.4**	**+1.3**
SNGE	**Sanandaj**	**2.54**	**354**	*ePn*	**Pn**	**13 55 46.4**	**+1.4**
JHBN	**Jahan bin**	**2.56**	**97**	*ePn*	**Pn**	**13 55 45.1**	**-0.2**
JHBN				*e*		13 56 31.1	
HAGD	**Aghdareh**	**2.57**	**28**	*ePn*	**Pn**	**13 55 44.2**	**-1.2**
HAGD				*e*		13 56 23.9	
HSRG	**Sareghieh**	**2.72**	**11**	*e*	**Sg**	**13 56 37.1**	**+6.2**
IPIR	**Pirpir**	**2.73**	**87**	*ePn*	**Pn**	**13 55 47.9**	**+0.3**
IPIR				*e*		13 56 30.9	
ASAO	**Ashtian**	**2.80**	**44**	*ePn*	**Pn**	**13 55 48.8**	**+0.3**
ASAO				*eSg*	**Sn**	**13 56 22.9**	**+0.4**
ASAO				IAML		13 56 39.8	
	comp=N,90nm,0.7s						
ASAO	**Ashtian**	**2.80**	**44**	*ePn*	**Pn**	**13 55 48.8**	**+0.3**
BHD	**Baghdad**	**2.85**	**285**	*ePn*	**Pn**	**13 55 49.0**	**0.0**
BHD				AML	AML	13 56 22.1	
	comp=E,194nm,0.4s						
BHD				*eSn*	**Sn**	**13 56 23.0**	**-0.4**
ROKH	**ROKH**	**2.86**	**93**	*ePn*	**Pn**	**13 55 49.2**	**-0.2**
ROKH				*e*		13 56 52.9	
IKLH	**Kolahrood**	**3.38**	**76**	*e*	**Sg**	**13 56 55.3**	**+3.3**
IRAZ	**Razeghan**	**3.41**	**33**	*ePn*	**Pn**	**13 55 57.6**	**+0.7**
QABG	**Abgarm-Q

IKOM	**Komasi**	**1.52**	**1**	*e*		Sg	14 24 08.3	+11
BMDN	**Meydan**	**1.52**	**48**	*e*Pg		**Pn**	**14 23 36.8**	**+0.8**
BMDN				*e*			14 24 00.9	
AHWZ	**Ahwaz**	**1.65**	**143**	*e*Pg		**Pb**	**14 23 39.3**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.66**	**348**	*e*		**Sg**	**14 24 04.8**	**+2.6**
KER	**Kermanshah**	**1.75**	**351**	*e*Pg		**Pn**	**14 23 39.6**	**+0.5**
HSAM	**Samen**	**1.82**	**31**	*e*Pg		**Pb**	**14 23 41.7**	**-0.5**
HSAM				*e*			14 24 09.6	
IGHG	**Ghaleghazi**	**1.83**	**336**	*e*		Sg	14 24 19.8	+12
IBZA	**Bozab**	**1.84**	**10**	*e*Pg		**Pn**	**14 23 41.1**	**+0.7**
IBZA				*e*			14 24 16.9	
IVIS	**Veis**	**1.94**	**345**	*e*		**Sg**	**14 24 16.0**	**+4.7**
NSR	**Nassriya**	**1.99**	**215**	*e*Pn		**Pb**	**14 23 44.0**	**-1.0**
NSR				*e*Sn		**Sn**	**14 24 08.0**	**+1.0**
NSR				AML		AML	14 24 13.3	
	comp=Z,82nm,0.4s							
IDHR	**Dehrash**	**2.23**	**336**	*e*Pn		**Pn**	**14 23 45.1**	**-0.7**
IDHR				*e*			14 24 25.5	
ILIN	**Lien**	**2.30**	**349**	*e*Pn		**Pn**	**14 23 46.1**	**-0.6**
HAGD	**Aghdareh**	**2.57**	**32**	*e*Pn		**Pn**	**14 23 50.8**	**+0.4**
HSRG	**Sareghieh**	**2.67**	**14**	*e*		**Sg**	**14 24 36.7**	**+2.1**
BHD	**Baghdad**	**2.67**	**284**	*e*Pn		**Pn**	**14 23 53.0**	**+1.4**
BHD				*e*Sn		**Sb**	**14 24 27.0**	**-2.2**
BHD				AML		AML	14 24 30.5	
	comp=E,407nm,0.4s							
JHBN	**Jahan bin**	**2.73**	**98**	*e*Pn		**Pn**	**14 23 53.0**	**+0.3**
JHBN				*e*			14 24 43.5	
IPIR	**Pirpir**	**2.88**	**88**	*e*Pn		**Pn**	**14 23 55.6**	**+0.8**
IPIR				*e*			14 24 33.3	
ROKH	**ROKH**	**3.03**	**95**	*e*Pn		**Pn**	**14 23 57.2**	**+0.5**
ROKH				*e*			14 24 48.0	
IRAZ	**Razeghan**	**3.42**	**36**	*e*Pn		**Pn**	**14 24 02.6**	**+0.5**
IKLH	**Kolahrood**	**3.51**	**78**	*e*Pn		**Pn**	**14 24 04.5**	**+1.1**
IKLH				*e*			14 25 05.1	
KLNJ	**Kolanjah**	**3.87**	**114**	*e*Pn		**Pn**	**14 24 08.2**	**-0.2**
KLNJ				*e*			14 25 22.5	
QSDN	**Sirdan**	**4.09**	**20**	*e*Pn		**Pn**	**14 24 10.6**	**-0.7**
IZEF	**Zefreh**	**4.10**	**85**	*e*Pn		**Pn**	**14 24 11.7**	**+0.2**
QALM	**Alamut, Qazvin**	**4.59**	**34**	*e*Pn		**Pn**	**14 24 19.3**	**+1.1**
IANJ	**Anjilo**	**6.04**	**61**	*e*Pn		**Pn**	**14 24 38.1**	**0.0**

MOS ***19*** *14:43:43.8±1.2,32°.50N×47°.72E,h18km,mb4.4/22,Error ellipse: s-maj=8.4km s-min=6.0km az=97.2*
IDC ***19*** *14:43:44.0±1.0,32°.67N×47°.68E,h0km,mb3.9/14, mb1 4.0/17,mb1mx3.8/61,mbtmp3.9/17,ML3.5/3,MS2.9/5, Ms1 2.9/5,ms1mx2.6/43,Error ellipse: s-maj=21.7km s-min=16.5km az=158.0*
ISN ***19*** *14:43:45.9±0.7,32°.74N×47°.84E,h14km±4km,ML3.8*
TEH ***19*** *14:43:46.7,32°.73N×47°.78E,h12km,ML4.1*
THR ***19*** *14:43:47.5±0.2,32°.79N×47°.72E,h14km±12km,ML4.0*
NEIC ***19*** *14:43:49.9±1.2,32°.68N±0°.09×47°.69E±0°.08,h43km±6km, Error ellipse: s-maj=13.4km s-min=9.9km az=193.0*

ISC 19 14:43:45.9±0.7,32°.69N±0°.03×47°.74E±0°.02,h11km±4km, n169,σ1°68/176,mb4.1/40,7C-2D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.38**	**270**	*e*Pg	**Pg**	**14 43 55.5**	**+0.7**
DHL1				*e*Sg	**Sb**	**14 44 01.7**	**+1.0**
IKFM	**Kafar-mosalman**	**0.84**	**6**	*e*Pg	**Pg**	**14 44 01.7**	**-0.5**
IKMR	**Kamar-syah**	**0.99**	**33**	*e*		14 44 26.5	
IKMR				*e*Pg	**Pg**	**14 44 04.2**	**-0.8**
IDOB	**Doab**	**1.16**	**18**	*e*Pg	**Pb**	**14 44 07.5**	**-0.7**
BMDN	**Meydan**	**1.34**	**43**	*e*Pg	**Pb**	**14 44 11.4**	**+0.1**
BMDN				*e*		14 44 37.2	
IKOM	**Komasi**	**1.50**	**353**	*e*Pg	**Pg**	**14 44 14.3**	**-0.4**
IKOM				*e*		14 44 41.0	
AHWZ	**Ahwaz**	**1.56**	**150**	*e*Pg	**Pg**	**14 44 16.9**	**+1.1**
AHWZ				*e*Sg	**Sg**	**14 44 37.9**	**+1.9**
IBDR	**Badra**	**1.58**	**286**	*e*Pg	**Pg**	**14 44 16.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**14 44 38.0**	**+1.3**
IBDR				AML	AML	14 44 42.0	
	comp=E,2μm,0.7s						
IBDR				AML	AML	14 44 42.7	
	comp=N,1μm,0.4s						
HSAM	**Samen**	**1.69**	**25**	*e*Pg	**Pg**	**14 44 17.8**	**-0.5**
HSAM				*e*		14 44 44.5	
KCHF	**Cheshme Sefid,**	**1.69**	**340**	*e*Pg	**Pb**	**14 44 17.3**	**+0.1**
KCHF				*e*		14 44 43.7	
KER	**Kermanshah**	**1.77**	**344**	P	**Pg**	**14 44 19.8**	**-0.1**
KER	**Kermanshah**	**1.77**	**344**	*e*Pg	**Pb**	**14 44 18.6**	**+0.1**
IBZA	**Bozab**	**1.78**	**3**	*e*Pg	**Pg**	**14 44 19.5**	**-0.7**
IBZA				*e*		14 44 52.1	
IGHG	**Ghaleghazi**	**1.91**	**330**	*e*Pn	**Pb**	**14 44 20.4**	**-0.5**
IVIS	**Veis**	**1.98**	**338**	*e*Pn	**Pg**	**14 44 23.3**	**-0.6**
IVIS				*e*		14 44 58.0	
KHMZ	**Khomeyn**	**2.14**	**60**	*e*Pn	**Pb**	**14 44 24.4**	**-0.5**
KHMZ	**Khomeyn**	**2.14**	**60**	*e*Pn	**Pb**	**14 44 24.4**	**-0.5**
NSR	**Nassriya**	**2.15**	**220**	*e*Pn	**Pb**	**14 44 24.0**	**-0.9**
NSR				*e*Sn	**Sb**	**14 44 51.0**	**-0.6**
IALM	**Almabolaq**	**2.20**	**9**	*e*Pn	**Pb**	**14 44 25.6**	**-0.3**
IDHR	**Dehrash**	**2.30**	**331**	*e*Pn	**Pb**	**14 44 26.5**	**-1.1**
ILIN	**Lien**	**2.32**	**344**	*e*Pn	**Pn**	**14 44 25.3**	**+1.0**
ILIN				*e*		14 45 07.0	
SNGE	**Sanandaj**	**2.42**	**352**	*e*Pn	**Pn**	**14 44 27.3**	**+1.6**
SNGE				*e*Sg	**Sb**	**14 45 00.2**	**+0.6**
SNGE				IAML		14 45 11.5	
	comp=N,607nm,0.6s						
SNGE	**Sanandaj**	**2.42**	**352**	*e*Pn	**Pn**	**14 44 27.3**	**+1.6**
HAGD	**Aghdareh**	**2.43**	**28**	*e*Pn	**Pb**	**14 44 28.2**	**-1.7**
HAGD				*e*		14 45 10.3	
JHBN	**Jahan bin**	**2.52**	**100**	*e*Pn	**Pb**	**14 44 29.8**	**-1.6**
JHBN				*e*		14 45 14.2	
HSRG	**Sareghieh**	**2.59**	**10**	*e*Pn	**Pb**	**14 44 30.3**	**-2.3**
HSRG				*e*		14 45 18.6	
IPIR	**Pirpir**	**2.66**	**89**	*e*Pn	**Pn**	**14 44 31.5**	**+2.4**
IPIR				*e*		14 45 12.4	
ASAO	**Ashtian**	**2.67**	**45**	*e*Pn	**Pn**	**14 44 31.3**	**+2.2**
ASAO				*e*Sg	**Sg**	**14 45 09.1**	**-2.5**
ASAO				IAML		14 45 15.8	
	comp=N,576nm,0.8s						
ASAO	**Ashtian**	**2.67**	**45**	*e*Pn	**Pn**	**14 44 31.3**	**+2.2**
ROKH	**ROKH**	**2.81**	**96**	*e*Pn	**Pn**	**14 44 32.9**	**+1.9**
BHD	**Baghdad**	**2.88**	**283**	*e*Pn	**Pn**	**14 44 34.0**	**+2.2**
BHD				*e*Sn	**Sb**	**14 45 10.0**	**-2.6**
BHD				AML	AML	14 45 23.1	
	comp=E,432nm,0.7s						
IRAZ	**Razeghan**	**3.27**	**33**	*e*Pn	**Pn**	**14 44 40.2**	**+2.9**
IKLH	**Kolahrood**	**3.29**	**78**	*e*Pn	**Pn**	**14 44 40.5**	**+2.8**
IKLH				*e*		14 45 36.4	
QABG	**Abgarm-Qazvin**	**3.38**	**26**	*e*Pn	**Pn**	**14 44 40.7**	**+1.8**
IGAR	**Gharneh**	**3.65**	**93**	*e*Pn	**Pn**	**14 44 44.7**	**+2.1**
KLNJ	**Kolanjah**	**3.68**	**116**	*e*Pn	**Pn**	**14 44 44.9**	**+1.7**
KLNJ				*e*		14 46 07.2	
IMHD	**Mahdasht**	**3.85**	**38**	*e*Pn	**Pn**	**14 44 48.7**	**+3.4**
IZEF	**Zefreh**	**3.88**	**86**	*e*Pn	**Pn**	**14 44 48.0**	**+2.3**
QSDN	**Sirdan**	**3.99**	**17**	*e*Pn	**Pn**	**14 44 49.9**	**+2.6**
IHSB	**Hasanabad**	**4.02**	**46**	*e*Pn	**Pn**	**14 44 50.0**	**+2.4**
IRAM	**Ramesheh**	**4.03**	**101**	*e*Pn	**Pn**	**14 44 48.8**	**+0.9**
ZNJK	**Zanjan**	**4.05**	**11**	*e*Pn	**Pn**	**14 44 49.9**	**+1.8**
ZNJK				*e*Sg	**Sb**	**14 45 50.2**	**+3.6**
ZNJK	**Zanjan**	**4.05**	**11**	*e*Pn	**Pn**	**14 44 49.9**	**+1.8**
CHTH	**Charan**	**4.27**	**40**	*e*Pn	**Pn**	**14 44 53.3**	**+2.2**
CHTH	**Charan**	**4.27**	**40**	*e*Pn	**Pn**	**14 44 53.3**	**+2.2**
QALM	**Alamut, Qazvin**	**4.44**	**32**	*e*Pn	**Pn**	**14 44 55.9**	**+2.4**
DAMV	**Damavand**	**4.58**	**49**	*e*Pn	**Pn**	**14 44 57.8**	**+2.4**
DAMV	**Damavand**	**4.58**	**49**	*e*Pn	**Pn**	**14 44 57.8**	**+2.4**
IDMV	**Damavand**	**4.58**	**50**	*e*Pn	**Pn**	**14 44 57.6**	**+2.1**
ANAR	**Anarak**	**5.06**	**83**	*e*Pn	**Pn**	**14 45 04.0**	**+2.0**
ISAD	**Sadrabad**	**5.10**	**97**	*e*Pn	**Pn**	**14 45 04.0**	**+1.4**
IFIR	**Firoozkooh**	**5.10**	**53**	*e*Pn	**Pn**	**14 45 03.3**	**+0.7**
IPRN	**Peran**	**5.20**	**46**	*e*Pn	**Pn**	**14 45 06.8**	**+3.0**
IALA	**Alasht**	**5.39**	**50**	*e*Pn	**Pn**	**14 45 08.9**	**+2.3**
ISHM	**Shahmirzad**	**5.56**	**54**	*e*Pn	**Pn**	**14 45 09.8**	**+0.9**
IANJ	**Anjilo**	**5.83**	**60**	*e*Pn	**Pn**	**14 45 14.0**	**+1.4**
GRMI	**Germi**	**6.11**	**1**	*e*Pn	**Pn**	**14 45 18.3**	**+1.9**
GRMI	**Germi**	**6.11**	**1**	*e*Pn	**Pn**	**14 45 18.3**	**+1.9**
IGLO	**Ghaloghah**	**6.30**	**51**	*e*Pn	**Pn**	**14 45 21.8**	**+2.7**
MARD	**Mardin**	**7.34**	**311**	Pn	**Pn**	**14 45 33.8**	**+0.6**
TPRV	**Parvadeh(Tabas**	**7.54**	**85**	*e*Pn	**Pn**	**14 45 36.7**	**+0.8**
TKDS	**Koohdasht(Taba**	**7.93**	**81**	*e*Pn	**Pn**	**14 45 42.5**	**+1.2**
SBZV	**Sabzevar**	**8.94**	**63**	*e*Pn	**Pn**	**14 45 57.0**	**+1.7**
ASF	**Jabal al Asfar**	**9.18**	**270**	Pn	**Pn**	**14 45 56.0**	**-2.4**
	comp=E,0.2nm,0.3s,baz=45,slow=17,SNR=1.5						
ASF				Sn	**Sn**	**14 47 39.0**	**-2.7**
	comp=E,0.4nm,0.3s,baz=39,slow=21,SNR=3.2						
ASF				Lg	Lg	14 48 30.7	
	comp=E,0.7nm,0.3s,baz=39,slow=22,SNR=3.2						
ASF	**Jabal al Asfar**	**9.18**	**270**	P	**Pn**	**14 45 56.0**	**-2.4**
AFRZ	**Afriz**	**9.50**	**82**	*e*Pn	**Pn**	**14 46 04.4**	**+1.6**
GEYT	**Alibeck**	**9.96**	**55**	Pn	**Pn**	**14 46 08.8**	**-0.3**
	comp=E,0.3nm,0.3s,baz=239,slow=13,SNR=1.7						
GEYT	**Alibeck**	**9.96**	**55**	Pn	**Pn**	**14 46 10.2**	**+1.0**
GYA0B	**ALIBECK ARRAY**	**9.96**	**55**	Pn	**Pn**	**14 46 08.4**	**-0.7**
UOSS	**Minazif**	**10.70**	**134**	Pn	**Pn**	**14 46 20.0**	**+0.8**
EIL	**Elat**	**11.35**	**258**	Lg	Lg	14 49 38.4	
	comp=E,0.6nm,0.3s,baz=86,slow=15,SNR=1.8						
EIL				LR	LR	14 51 15.0	
	comp=E,46nm,20.6s,baz=89,slow=40						
KBZ	**Khabaz**	**11.66**	**342**	LR	LR	14 52 05.9	
	comp=E,59nm,20.4s,baz=160,slow=43						
BRTR	**Keskin Array B**	**13.37**	**306**	LR	LR	14 53 58.4	
	comp=E,22nm,21.4s,baz=93,slow=46						
KBL	**Kabul**	**17.84**	**78**	P	**P**	**14 47 56.0**	**+0.9**
KBL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KBL	**Kabul**	**17.84**	**78**		**P**	**14 47 56.0**	**+0.9**
KBL				IAmb	IAmb	14 47 57.9	
	comp=Z,8.9nm,0.9s						
CHGR	**Chuyangaron**	**18.38**	**65**	P	**P**	**14 48 01.8**	**+0.9**
CHGR				IAmb	IAmb	14 48 03.6	
	comp=Z,14nm,1.0s						
SANT	**Santorini**	**18.71**	**288**	P	**Pn**	**14 48 07.8**	**+2.9**
ABKAR	**Akbulak array**	**18.91**	**25**		**P**	**14 48 06.6**	**+0.1**
ALN	**Alexandroupoli**	**19.18**	**301**	P	**Pn**	**14 48 11.2**	**+0.8**
ALN				pmax	pmax		
	comp=Z,13nm,1.2s						
ALN	**Alexandroupoli**	**19.18**	**301**	P	**Pn**	**14 48 11.2**	**+0.8**
ALN				IAmb	IAmb	14 48 55.5	
	comp=Z,13nm,1.2s						
VORD	**Divnogorie**	**19.30**	**344**	*e*P	**P**	**14 48 10.9**	**+0.2**
VORD				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AKTO	**Aktyubinsk**	**19.30**	**20**	P	**P**	**14 48 10.6**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=209,slow=10,SNR=11						
GAR	**Garm**	**19.34**	**65**		**Pn**	**14 48 12.5**	**0.0**
GAR				IAmb	IAmb	14 48 14.9	
	comp=Z,14nm,0.9s						
VSR	**Storozhevoye**	**19.56**	**344**	*e*P	**P**	**14 48 12.6**	**-1.0**
VSR				pmax	pmax		
	comp=Z,20nm,1.4s						
CFR	**Carcaliu**	**19.64**	**315**	P	**Pn**	**14 48 16.0**	**+0.1**
CFR				pmax	pmax		
	comp=Z,8.0nm,1.5s						
KK31	**Karatay Array**	**20.71**	**53**	P	**P**	**14 48 26.2**	**0.0**
KK31				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KK31	**Karatay Array**	**20.71**	**53**	P	**P**	**14 48 26.1**	**0.0**
KKAR	**Karatay Array**	**20.71**	**53**	P	**P**	**14 48 25.8**	**-0.4**
KKAR	**Karatay Array**	**20.71**	**53**	P	**P**	**14 48 25.8**	**-0.4**
KKAR	**Karatay Array**	**20.71**	**53**	P	**P**	**14 48 25.4**	**-0.8**
KKAR				IAmb	IAmb	14 48 37.6	
	comp=Z,4.8nm,0.9s						
LPSR	**Galich'ya Gora**	**20.90**	**345**	*e*P	Pn	14 48 30.1	-0.6
LPSR				pmax	pmax		
	comp=Z,30nm,1.0s						
MLR	**Muntele Rosu**	**21.12**	**314**	P	**P**	**14 48 31.8**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=140,slow=18,SNR=1.5						
MLR	**Muntele Rosu**	**21.12**	**314**	P	**P**	**14 48 32.8**	**+2.0**
MLR				IAmb	IAmb	14 48 41.8	
	comp=Z,9.0nm,0.8s						
NIL	**Nilore**	**21.37**	**80**	P	**P**	**14 48 33.0**	**-0.5**
NIL				pmax	pmax		
	comp=Z,14nm,0.9s						
NIL	**Nilore**	**21.37**	**80**	P	**P**	**14 48 33.0**	**-0.5**
NIL				IAmb	IAmb	14 48 50.9	
	comp=Z,14nm,0.9s						
ITM	**Ithomi**	**21.60**	**289**	P	**P**	**14 48 36.1**	**+0.1**
KMPD	**K-Podol'skiy**	**22.52**	**321**	P	**P**	**14 48 48.0**	**+2.4**
AKASG	**Malin Array Be**	**22.59**	**328**	P	**P**	**14 48 44.3**	**-2.0**
	comp=Z,0.8nm,0.4s,baz=135,slow=9.0,SNR=5.5						
AKASG	**Malin Array Be**	**22.59**	**328**	*ce*P	**P**	**14 48 46.5**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**22.59**	**328**	IAmb	IAmb	14 48 53.5	
	comp=Z,1.1nm,0.7s						
AKBB	**Malin Array Si**	**22.59**	**328**	*ce*P	**P**	**14 48 44.4**	**-1.9**
KIEV	**Kiev**	**22.59**	**328**	P	**P**	**14 48 45.0**	**-1.3**
BURAR	**Bucovina Array**	**22.66**	**318**	P	**P**	**14 48 47.5**	**+0.3**
BURAR	**Bucovina Array**	**22.66**	**318**	P	**P**	**14 48 47.5**	**+0.3**
BUR08	**Bucovina Ar. S**	**22.68**	**318**	P	**P**	**14 48 47.6**	**+0.1**
BUR08				IAmb	IAmb	14 48 54.1	
	comp=Z,3.8nm,0.8s						
AAK	**Ala-Archa**	**23.31**	**57**	*i* P	**P**	**14 48 55.2**	**+1.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OBN	**Obninsk**	**23.76**	**344**	P	**P**	**14 48 58.0**	**-0.2**
	comp=Z,2.3nm,0.4s,baz=232,slow=19,SNR=3.1						
OBN	**Obninsk**	**23.76**	**344**	*i* P	**P**	**14 48 57.0**	**-1.2**
OBN				*PP	**pP**	**14 49 01.0**	**-0.5**
OBN				*SP	**sP**	**14 49 04.0**	**+1.1**
OBN						14 49 27.0	
OBN				PPP	PPP	14 49 38.0	
OBN				S	**S**	**14 53 14.0**	**+0.7**
OBN				pmax	pmax		
	comp=Z,13nm,1.4s						
OBN				MLR	MLR		
	comp=Z,41nm,16.0s						
LVV	**L'vov**	**24.55**	**321**	*e*P	**P**	**14 48 59.0**	**-6.6**
ARU	**Arti**	**24.90**	**14**	P	**P**	**14 49 08.3**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=193,slow=10,SNR=6.7						
ARU	**Arti**	**24.90**	**14**	*d i* P	**P**	**14 49 08.5**	**-0.2**
ARU						14 49 40.5	
ARU				S	**S**	**14 53 36.3**	**+4.6**
ARU				SS	**SnSn**	**14 54 24.5**	**+5.2**
ARU				pmax	pmax		
	comp=Z,12nm,1.2s						
KOLS	**Kolonicke sedl**	**25.03**	**318**	*e*P	**P**	**14 49 10.8**	**+0.9**
KOLS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KOLS	**Kolonicke sedl**	**25.03**	**318**	*e*P	**P**	**14 49 10.8**	**+0.9**
TARG	**Taragay, Kyrgy**	**25.49**	**61**	P	**P**	**14 49 13.4**	**-1.3**
TARG				IAmb	IAmb	14 49 17.9	
	comp=Z,5.5nm,1.0s						
TIP	**Timpagrande**	**25.83**	**293**	P	**P**	**14 49 18.4**	**+1.0**
PSZ	**Piszkesteto**	**25.94**	**314**	P	**P**	**14 49 18.2**	**-0.1**
PSZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PSZ	**Piszkesteto**	**25.94**	**314**	P	**P**	**14 49 18.2**	**-0.1**
PSZ				IAmb	IAmb	14 49 29.5	
	comp=Z,6.3nm,0.8s						
BRVK	**Borovoye**	**26.02**	**32**	*ce*P	**P**	**14 49 18.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRVK	**Borovoye**	**26.02**	**32**	P	**P**	**14 49 19.1**	**+0.2**
BRVK				IAmb	IAmb	14 49 20.4	
	comp=Z,8.2nm,1.4s						
BVAR	**Borovoye Array**	**26.05**	**32**	P	**P**	**14 49 19.5**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=233,slow=12,SNR=8.5						
NIE	**Niedzica**	**26.39**	**317**	P	**P**	**14 49 26.8**	**+4.5**
NIE				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VYHS	**Vyhne**	**26.82**	**315**	*e*P	**P**	**14 49 27.0**	**+0.8**
VYHS	**Vyhne**	**26.82**	**315**	*e*P	**P**	**14 49 27.0**	**+0.8**
OJC	**Ojcow**	**27.07**	**319**	P	**P**	**14 49 31.7**	**+3.3**
OJC				pmax	pmax		
	comp=Z,12nm,1.3s						
KLMR	**Klimovskoe**	**28.69**	**352**	P	**P**	**14 49 39.4**	**-3.3**
KLMR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KLMR	**Klimovskoe**	**28.69**	**352**	P	**P**	**14 49 39.4**	**-3.3**
KLMR				AMP		14 49 53.4	
	comp=Z,9.0nm,1.1s						
KURBB	**Kurchatov Arra**	**28.87**	**42**	P	**P**	**14 49 45.4**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=248,slow=9.7,SNR=7.1						
KURK	**Kurchatov**	**28.96**	**42**	*ce*P	**P**	**14 49 45.2**	**-0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KURK	**Kurchatov**	**28.96**	**42**	P	**P**	**14 49 45.4**	**+0.1**
KURK	**Kurchatov**	**28.96**	**42**	IAmb	IAmb	14 49 47.6	
	comp=Z,15nm,1.7s						
MAKZ	**Makanchi**	**29.61**	**51**	P	**P**	**14 49 50.8**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MAKZ	**Makanchi**	**29.61**	**51**	P	**P**	**14 49 50.8**	**-0.3**
MK31	**Makanchi Array**	**29.81**	**52**	P	**P**	**14 49 52.7**	**-0.2**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MK31	**Makanchi Array**	**29.81**	**52**	P	**P**	**14 49 52.7**	**-0.2**
MKAR	**Makanchi Array**	**29.81**	**52**	P	**P**	**14 49 53.8**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=247,slow=7.3,SNR=15						
MKAR				LR	LR	15 03 37.9	
	comp=Z,68nm,18.8s,baz=240,slow=40						
MKAR	**Makanchi Array**	**29.81**	**52**	P	**P**	**14 49 52.9**	**0.0**
MKAR	**Makanchi Array**	**29.81**	**52**	P	**P**	**14 49 52.9**	**0.0**
FUORN	**Ofenpass-Fuorn**	**31.71**	**307**	P	**P**	**14 50 09.9**	**0.0**
FUORN				IAmb	IAmb	14 50 27.1	
	comp=Z,3.7nm,0.8s						
FIA1	**FINESS Array S**	**32.01**	**340**	P	**P**	**14 50 12.0**	**-0.1**
FINES	**FINESS Array B**	**32.01**	**340**	P	**P**	**14 50 11.8**	**-0.3**
	comp=Z,7.5nm,1.0s,baz=141,slow=12,SNR=5.7						
WMQ	**Urumqi**	**33.00**	**59**	*e*P	**P**	**14 50 23.8**	**+2.8**
ZAA0	**Zalesovo Array**	**33.78**	**40**	P	**P**	**14 50 28.0**	**+0.3**
ZAA0				IAmb	IAmb	14 50 55.8	
	comp=Z,2.4nm,1.0s						
ZALV	**Zalesovo Beam**	**33.78**	**40**	P	**P**	**14 50 27.6**	**0.0**
	comp=Z,0.7nm,0.5s,baz=286,slow=10,SNR=4.5						
ZALV				LR	LR	15 05 11.9	
	comp=Z,18nm,20.6s,baz=42,slow=38						
ZALV	**Zalesovo Beam**	**33.78**	**40**	P	**P**	**14 50 27.4**	**-0.2**
BNI	**Bardonecchia**	**33.92**	**303**	P	**P**	**14 50 29.4**	**+0.3**
BNI				pmax	pmax		
	comp=Z,56nm,1.8s						
BNI	**Bardonecchia**	**33.92**	**303**	P	**P**	**14 50 29.4**	**+0.3**
ECH	**Echery**	**34.11**	**309**	P	**P**	**14 50 31.7**	**+1.0**
ECH				pmax	pmax		
	comp=Z,18nm,1.9s						
ECH	**Echery**	**34.11**	**309**	P	**P**	**14 50 31.7**	**+1.0**
VAF	**Ylistaro**	**34.26**	**340**	P	**P**	**14 50 31.6**	**0.0**
VAF				pmax	pmax		
	comp=Z,13nm,0.6s						
KMBO	**Kilima Mbogo**	**35.06**	**198**	*ce*P	**P**	**14 50 36.0**	**-3.3**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OUL	**Oulu**	**35.07**	**344**	P	**P**	**14 50 38.4**	**-0.3**
OUL				pmax	pmax		
	comp=Z,13nm,2.1s						
MSF	**Maaselka**	**35.12**	**347**	P	**P**	**14 50 38.9**	**-0.2**
MSF				pmax	pmax		
	comp=Z,12nm,0.9s						
TAM	**Tamanrasset**	**38.42**	**266**	P	**P**	**14 51 12.4**	**+4.4**
TAM				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ARCES	**ARCESS Array B**	**38.95**	**348**	P	**P**	**14 51 11.7**	**0.0**
	comp=Z,4.1nm,0.9s,baz=153,slow=8.2,SNR=9.0						
ARCES	**ARCESS Array B**	**38.95**	**348**	P	**P**	**14 51 12.0**	**+0.3**
ARE0	**ARCESS Array S**	**38.95**	**348**	P	**P**	**14 51 12.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**46.24**	**256**	P	**P**	**14 52 11.2**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=56,slow=7.9,SNR=8.8						
TORD	**Torodi Ar. Bea**	**46.24**	**256**	IAmb	IAmb	14 52 17.4	
	comp=Z,1.2nm,0.9s						
ULN	**Ulaanbaatar**	**46.60**	**53**	*ce*P	**P**	**14 52 14.5**	**+0.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**47.88**	**94**	P	**P**	**14 52 24.2**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=292,slow=7.6,SNR=4.6						
CMAR	**Chiang Mai Arr**	**47.88**	**94**	P	**P**	**14 52 24.4**	**0.0**
BOD	**Bodaibo**	**50.53**	**39**	*e*P	**P**	**14 52 43.3**	**-0.8**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.5s						
HHC	**Hu-ho-hao-te**	**50.78**	**62**	*e*P	**P**	**14 52 48.1**	**+1.8**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,79nm,6.6s						
HIA	**Hailar**	**54.78**	**50**

KLNJ				*e*		14 59 41.7	
IZEF	**Zefreh**	**3.90**	**86**	*e*Pn	**Pn**	**14 58 23.8**	**+2.6**
QSDN	**Sirdan**	**3.95**	**17**	*e*Pn	Pb	14 58 25.6	-5.0
IRAM	**Rameshe'**	**4.07**	**102**	*e*Pn	**Pn**	**14 58 24.9**	**+1.4**
CHTH	**Charan**	**4.25**	**41**	*e*Pn	Pb	14 58 29.9	-5.8
CHTH	**Charan**	**4.25**	**41**	*e*Pn	Pb	14 58 29.9	-5.7
QALM	**Alamut, Qazvin**	**4.42**	**33**	*e*Pn	Pn	14 58 32.2	+3.9
DAMV	**Damavand**	**4.57**	**50**	*e*Pn	Pn	14 58 34.3	+3.9
DAMV	**Damavand**	**4.57**	**50**	*e*Pn	Pn	14 58 34.3	+3.9
IDMV	**Damavand**	**4.58**	**50**	*e*Pn	**Pn**	**14 58 32.7**	**+2.1**
ANAR	**Anarak**	**5.08**	**83**	*e*Pn	**Pn**	**14 58 40.2**	**+2.8**
IANJ	**Anjilo**	**5.83**	**60**	*e*Pn	**Pn**	**14 58 50.0**	**+2.3**

*IDC **19** 14:57:53.5±0.9, 60.°47S×26.°81W, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.0/20, mbtmp4.1/7, MS3.7/6, Ms1 3.7/6, ms1mx3.4/24, Error ellipse: s-maj=38.2km s-min=19.4km az=71.0*

*NEIC **19** 14:58:00.7±0.8, 60.°6S±0.°1×26.°9W±0.°4, h53km±8km, mb4.7/22, Error ellipse: s-maj=26.4km s-min=16.9km az=68.0*

ISC 19 14:57:56.6±0.6, **60.°5S**±0.°1×**26.°9W**±0.°2, **h19**km, **n34, σ0§60/28, mb4.5**/16, **MS3.5**/5, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**17.42**	**240**	LR	LR	15 07 13.2	
	comp=Z,115nm,19.9s,baz=98,slow=32						
QSPA	**South Pole Qui**	**29.71**	**180**	P	**P**	**15 04 01.8**	**+0.7**
	2.9nm,0.6s,baz=210,slow=2.3,SNR=33						
QSPA				LR	LR	15 15 57.6	
	comp=Z,104nm,19.4s,baz=214,slow=36						
QSPA	**South Pole Qui**	**29.71**	**180**	P	**P**	**15 04 01.5**	**+0.4**
QSPA				IAmb	IAmb	15 04 02.7	
	comp=Z,21nm,1.4s						
PLCA	**Paso Flores**	**33.21**	**287**	LR	LR	15 17 10.2	
	comp=Z,67nm,19.4s,baz=136,slow=35						
MAW	**Mawson**	**36.51**	**140**	P	**P**	**15 04 58.9**	**-1.1**
	comp=Z,1.9nm,1.0s,baz=214,slow=8.0,SNR=3.7						
MAW	**Mawson**	**36.51**	**140**	P	**P**	**15 04 59.6**	**-0.4**
MT02	**Curacav**	**39.55**	**293**	P	**P**	**15 05 26.3**	**+0.3**
MT02				IAmb	IAmb	15 06 08.8	
	comp=Z,41nm,1.8s						
CPUP	**Villa Florida**	**40.01**	**315**	P	**P**	**15 05 29.1**	**-0.8**
	comp=Z,3.7nm,0.9s,baz=165,slow=6.5,SNR=6.5						
VNDA	**Vanda**	**42.10**	**183**	P	**P**	**15 05 47.7**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=178,slow=7.0,SNR=7.4						
VNDA	**Vanda**	**42.10**	**183**	P	**P**	**15 05 47.0**	**+0.5**
AC05	**El Transito**	**42.93**	**298**	P	**P**	**15 05 54.2**	**+0.1**
AC05				IAmb	IAmb	15 05 56.2	
	comp=Z,10nm,0.9s						
AC04	**Llanos de Chal**	**43.83**	**297**	P	**P**	**15 06 01.8**	**+0.7**
GO02	**Mina Guanaco**	**45.84**	**301**	P	**P**	**15 06 17.7**	**+0.2**
GO02				IAmb	IAmb	15 06 27.6	
	comp=Z,9.3nm,1.1s						
PB14	**IPOC Station P**	**46.66**	**300**	P	**P**	**15 06 22.9**	**-1.0**
PB14				IAmb	IAmb	15 07 40.0	
	comp=Z,25nm,1.5s						
BOSA	**Boshof**	**47.07**	**71**	LR	LR	15 20 36.5	
	comp=Z,62nm,21.8s,baz=226,slow=29						
PB09	**IPOC Station P**	**48.68**	**303**	P	**P**	**15 06 39.6**	**+0.1**
PB09				IAmb	IAmb	15 06 42.4	
	comp=Z,18nm,1.4s						
PB07	**IPOC Station P**	**49.01**	**303**	P	**P**	**15 06 41.9**	**-0.1**
PB07				IAmb	IAmb	15 06 43.2	
	comp=Z,14nm,1.2s						
CASY	**Casey**	**49.64**	**159**	P	**P**	**15 06 45.8**	**-0.3**
CASY				IAmb	IAmb	15 08 38.0	
	comp=Z,4.3nm,0.6s						
GO01	**Chusmiza**	**50.56**	**305**	P	**P**	**15 06 53.5**	**-0.8**
PB11	**IPOC Station P**	**50.67**	**304**	P	**P**	**15 06 54.5**	**-0.1**
PSGCX	**Pisagua**	**51.01**	**304**	P	**P**	**15 06 56.7**	**-0.5**
MNMC	**Minye Minye**	**51.21**	**305**	P	**P**	**15 06 59.0**	**+0.2**
MNMC				IAmb	IAmb	15 07 09.1	
	comp=Z,7.1nm,0.7s						
PB16	**IPOC Station P**	**51.89**	**305**	P	**P**	**15 07 04.3**	**0.0**
PB16				IAmb	IAmb	15 07 33.1	
	comp=Z,12nm,1.8s						
LPAZ	**La Paz**	**53.19**	**308**	P	**P**	**15 07 13.2**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=141,slow=6.3,SNR=5.3						
LPAZ	**La Paz**	**53.19**	**308**	IAmb	IAmb	15 07 27.2	
	comp=Z,14nm,1.9s						
ASCN	**Ascension**	**53.31**	**15**	P	**P**	**15 07 14.6**	**+0.4**
MBO	**M'Bour**	**75.08**	**10**	P	**P**	**15 09 37.5**	**+0.7**
KMBO	**Kilima Mbogo**	**76.53**	**68**	LR	LR	15 40 15.4	
	comp=Z,44nm,19.6s,baz=88,slow=33						
TOA0	**Torodi Ar. Sit**	**76.90**	**29**	P	**P**	**15 09 47.2**	**0.0**
TORD	**Torodi Ar. Bea**	**76.90**	**29**	P	**P**	**15 09 47.5**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=196,slow=6.2,SNR=15						
TORD	**Torodi Ar. Bea**	**76.90**	**29**	P	**P**	**15 09 47.2**	**0.0**
ASAR	**Alice Springs**	**94.66**	**162**	P	**P**	**15 11 15.4**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=187,slow=4.8,SNR=6.0						
CTA	**Charters Tower**	**99.48**	**173**	LR	LR	15 54 51.1	
	comp=Z,254nm,21.9s,baz=348,slow=34						
ILAR	**Eielson Array**	**153.05**	**305**	PKPbc	**PKiKP**	**15 17 51.5**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=132,slow=3.3,SNR=3.5						

*ISN **19** 15:00:09.7±1.1, 32.°63N×47.°72E, h14km±7km, ML2.2*
*TEH **19** 15:00:10.8, 32.°64N×47.°67E, h10km, ML2.7*

ISC 19 15:00:10.8±1.2, **32.°59N**±0.°07×**47.°70E**±0.°06, **h10**km, **n8, σ0§68/12, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.37**	**284**	*e*Pg	**Pg**	**15 00 17.7**	**-0.3**
IKMR	**Kamar-syah**	**1.09**	**31**	*e*Pg	**Pg**	**15 00 31.0**	**-0.6**
IKMR				*e*Pg	**Pb**	**15 00 31.3**	**-0.3**
IKMR				*e*		15 00 52.6	
IKMR				*e*		15 00 53.4	
IDOB	**Doab**	**1.26**	**18**	*e*Pg	**Pn**	**15 00 34.7**	**+0.1**
IDOB				*e*		15 00 36.5	
BMDN	**Meydan**	**1.43**	**41**	*e*Pg	**Pn**	**15 00 37.7**	**+0.7**
BMDN				*e*		15 00 41.6	
IBDR	**Badra**	**1.58**	**290**	*e*Pg	**Pn**	**15 00 38.0**	**-0.8**
IBDR				*e*Sg	**Sn**	**15 01 00.0**	**+0.7**
IBDR				AML	AML	15 01 04.4	
	comp=N,31nm,0.4s						
IBDR				AML	AML	15 01 05.6	
	comp=E,40nm,0.8s						
IKOM	**Komasi**	**1.59**	**354**	*e*Pg	**Pn**	**15 00 40.0**	**+0.9**
IKOM				*e*		15 01 15.9	
NSR	**Nassriya**	**2.06**	**221**	*e*Pn	**Pn**	**15 00 46.0**	**+0.6**
NSR				*e*Sn	**Sn**	**15 01 11.0**	**-0.2**
BHD	**Baghdad**	**2.88**	**285**	*e*Pn	**Pn**	**15 00 57.0**	**+0.4**
BHD				*e*Sn	**Sn**	**15 01 32.0**	**+0.7**
BHD				AML	AML	15 01 40.5	
	comp=E,15nm,0.6s						

*HEL **19** 15:00:17.6±0.5, 69.°64N×30.°32E, h0km, ML1.7, Explosion*
*KOLA **19** 15:00:18.3, 69.°55N×29.°19E, h0km*
*NAO **19** 15:00:19.6±1.9, 69.°61N×29.°79E, ML2.5*
*BER **19** 15:00:22.1±2.6, 69.°61N×29.°71E, h0km, ML2.5(NAO), Suspected explosion*

ISC 19 15:00:19.3±1.4, **69.°62N**±0.°06×**29.°80E**±0.°05, **h0**km, **n20, σ0§69/36, Norway-Murmansk border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARA0	**ARCESS Array S**	**1.51**	**269**	Pg	**Pn**	**15 00 47.0**	**-0.6**
	baz=82,slow=16						
ARA0				Lg	Lg	15 01 07.3	
	baz=86,slow=28						
ARA0				Rg	Rg	15 01 16.0	
	baz=84,slow=37						
ARA0	**ARCESS Array S**	**1.51**	**269**	Pg	**Pn**	**15 00 47.0**	**-0.6**
	baz=82,slow=16						
ARA0				Sg	**Sg**	**15 01 07.3**	**-0.4**
	baz=86,slow=28						
ARA0				Rg	Rg	15 01 16.0	
	baz=84,slow=37						
ARE0	**ARCESS Array S**	**1.51**	**269**	PG	**Pg**	**15 00 48.2**	**+0.1**
	baz=86						
ARE0				SG	**Sn**	**15 01 09.0**	**+1.1**
ARE0	**ARCESS Array S**	**1.51**	**269**	*e*P	**Pn**	**15 00 46.9**	**-0.6**
VRF	**Varrio**	**1.88**	**182**	PG	**Pn**	**15 00 52.0**	**-0.6**
	baz=7.0						
VRF				MSG		15 01 14.6	
	comp=Z,4.3nm,0.2s						
VRF				SG	**Sn**	**15 01 17.2**	**+0.2**
HAMF	**Hammerfest**	**2.33**	**299**	Pn	**Pn**	**15 00 58.7**	**-0.1**
HAMF				Sn	**Sn**	**15 01 29.1**	**+1.0**
HAMF	**Hammerfest**	**2.33**	**299**	Pn	**Pn**	**15 00 58.7**	**-0.1**
HAMF				Sn	**Sn**	**15 01 29.1**	**+1.0**
APA0	**Apatity Array**	**2.33**	**148**	Pn	**Pn**	**15 00 58.9**	**0.0**
	baz=329,slow=16						
APA0				Sn	**Sn**	**15 01 29.0**	**+0.8**
	baz=329,slow=37						
APA0	**Apatity Array**	**2.33**	**148**	P	**Pn**	**15 00 58.2**	**-0.6**
APA0				S	**Sn**	**15 01 28.2**	**0.0**
APA0	**Apatity Array**	**2.33**	**148**	Pn	**Pn**	**15 00 58.9**	**0.0**
	baz=329,slow=16						
APA0				Sn	**Sn**	**15 01 29.0**	**+0.8**
	baz=329,slow=37						
APA	**Apatity**	**2.45**	**146**	P	**Pn**	**15 01 00.1**	**-0.3**
APA				S	**Sn**	**15 01 31.0**	**+0.1**
SGF	**Sodankyl**	**2.50**	**210**	PB	**Pn**	**15 01 02.6**	**+1.6**
	baz=33						
SGF				SN	**Sn**	**15 01 33.3**	**+1.2**
LANU	**Lannavaara**	**3.24**	**245**	PN	**Pn**	**15 01 11.5**	**+0.2**
LANU				SG	**Sg**	**15 02 01.3**	**-2.0**
KIF	**Kilpisjarvi**	**3.25**	**263**	Pn	**Pn**	**15 01 11.6**	**+0.2**
KIF				Sn	**Sn**	**15 01 50.7**	**-0.1**
KIF				Lg	Lg	15 01 57.8	
KIF	**Kilpisjarvi**	**3.25**	**263**	SB	**Sb**	**15 01 58.1**	**+0.2**
KIF	**Kilpisjarvi**	**3.25**	**263**	Pn	**Pn**	**15 01 11.6**	**+0.2**
KIF				Sn	**Sn**	**15 01 50.7**	**-0.1**
KIF				Sg	**Sb**	**15 01 57.8**	**0.0**
KU6	**Riekki**	**3.61**	**179**	PN	**Pn**	**15 01 16.3**	**0.0**
MSF	**Maaselka**	**3.74**	**185**	PN	**Pn**	**15 01 18.7**	**+0.7**
MSF				SN	**Sn**	**15 02 03.0**	**+0.3**
TOF	**Tornio**	**4.11**	**213**	PN	**Pn**	**15 01 23.4**	**+0.2**
ERTU	**Ertsjaerv**	**4.20**	**226**	PN	**Pn**	**15 01 24.0**	**-0.3**
ERTU				SN	**Sn**	**15 02 14.5**	**+0.5**

NEIC 19 15:16:37.1±1.3, **32.°61N**±0.°06×**109.°14W**±0.°04, **h5**km±2km, **ML3.2**/24, **Error ellipse: s-maj=10.1km s-min=4.6km az=335.0, Eastern Arizona**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
121A	**Cookes Peak, D**	**1.15**	**94**	Pg	Pn	15 16 59.8	-0.2
121A				Sn	Sb	15 17 15.2	+0.4
319A	**Douglas**	**1.24**	**186**		Pg	15 17 00.9	0.0
Y22D	**IRIS PASSCAL I**	**2.36**	**51**	Pn	Pn	15 17 17.5	+0.8
Y22D				IAML		15 17 58.7	
	comp=N,211nm,0.4s						
LENM	**Lemitar**	**2.38**	**49**	Pn	Pn	15 17 14.3	-2.8
W18A	**Petrified Fore**	**2.55**	**349**	Pn	Pn	15 17 20.2	+0.9
W18A				IAML		15 17 59.5	
	comp=N,167nm,0.6s						
W18A				IAML		15 17 59.7	
	comp=E,131nm,0.2s						
BNM	**Barren Site**	**2.60**	**53**	Pn	Pn	15 17 19.9	-0.1
X16A	**Lo Mia Camp, P**	**2.63**	**314**	Pn	Pn	15 17 21.2	+0.7
X16A				IAML		15 18 08.8	
	comp=N,50nm,0.7s						
214A	**Organ Pipe Nat**	**3.18**	**259**	Pn	Pn	15 17 27.8	-0.1
214A				IAML		15 18 20.5	
	comp=E,80nm,0.4s						
214A				IAML		15 18 21.0	
	comp=N,60nm,0.4s						
MNTX	**Cornudas Mount**	**3.31**	**105**	Pn	Pn	15 17 29.3	-0.4
MNTX				IAML		15 18 30.9	
	comp=N,29nm,0.8s						
WUAZ	**Wupatki**	**3.44**	**328**	Pn	Pn	15 17 31.7	+0.2
WUAZ				IAML		15 18 30.7	
	comp=N,74nm,0.4s						
Y14A	**Wickenburg**	**3.50**	**293**	Pn	Pn	15 17 31.8	-0.5
Y14A				IAML		15 18 34.5	
	comp=E,51nm,0.5s						
Y14A				IAML		15 18 36.0	
	comp=N,51nm,0.5s						
113A	**Mohawk Valley,**	**3.91**	**274**	Pn	Pn	15 17 37.5	-0.3
U15A	**North Rim**	**4.61**	**327**	Pn	Pn	15 17 49.8	+2.1
U15A				IAML		15 19 12.1	
	comp=E,13nm,0.7s						
U15A				IAML		15 19 17.7	
	comp=N,17nm,0.8s						
W13A	**Hualapai Mount**	**4.66**	**303**	Pn	Pn	15 17 49.3	+0.9
LCMT	**Little Creek M**	**5.54**	**324**	Pn	Pn	15 18 00.1	-0.2
PV13	**Radium Min., P**	**5.54**	**3**	Pn	Pn	15 18 01.9	+1.4
PV12	**Saucer Basin,**	**5.70**	**3**	Pn	Pn	15 18 04.0	+1.3
TX31	**Lajitas Ar. Si**	**5.72**	**123**		Pn	15 18 03.3	+0.4
TX32	**Lajitas Array**	**5.72**	**123**		Pn	15 18 02.7	-0.2
TXAR	**Lajitas Array**	**5.72**	**123**	Pn	Pn	15 18 03.3	+0.4
DUG	**Dugway, Tooele**	**8.13**	**340**		Pn	15 18 36.7	+0.8

*NNC **19** 15:17:30.7±5.4, 37.°64N×71.°74E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=43.8km s-min=34.6km az=159.0*

ISC 19 15:17:29.7±3.7, **37.°3N**±0.°2×**71.°7E**±0.°1, **h109**km, **n10, σ1§11/13, 4C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.08**	**17**	P	**Pn**	**15 18 44.9**	**+1.0**
	SNR=159						
UCH	**Uchtor**	**5.39**	**22**	P	**Pn**	**15 18 49.0**	**+0.8**
	SNR=32						
KZA	**Kyzart**	**5.51**	**28**	P	**Pn**	**15 18 49.8**	**+0.1**
	SNR=7.8						
EKS2	**Erkin-Say**	**5.60**	**16**	P	**Pn**	**15 18 52.6**	**+1.9**
	SNR=46						
AAK	**Ala-Archa**	**5.76**	**21**	P	**Pn**	**15 18 54.2**	**+1.3**
	SNR=6.8						
AAK	**Ala-Archa**	**5.76**	**21**	⇑P	**Pn**	**15 18 53.9**	**+1.1**
	2.5nm,0.3s						
AAK				⇑S	**Sn**	**15 19 57.4**	**-0.3**
	10nm,0.6s						
KK31	**Karatay Array**	**5.90**	**351**	P	**Pn**	**15 18 55.8**	**+1.2**
	2.9nm,0.5s,baz=57,slow=4.0,SNR=24						
KK31				⇑S	**Sn**	**15 20 00.3**	**-0.6**
	21nm,0.5s,baz=163,slow=16,SNR=4.8						
CHMS	**Chumysh**	**6.16**	**21**	P	**Pn**	**15 18 59.2**	**+1.0**
	SNR=7.2						
TKM2	**Tokmak 2**	**6.37**	**26**	⇓P	**Pn**	**15 19 01.3**	**+0.1**
	1.3nm,0.5s						
TKM2				⇓S	**Sn**	**15 20 11.8**	**-0.7**
	1.2nm,0.5s						
AB01	**Akbulak array**	**14.72**	**328**	⇑P	**Pn**	**15 20 51.2**	**-1.0**
	0.8nm,0.5s						

*ISK **19** 15:29:54.8, 37.°49N×42.°69E, h11km, ML2.7/7*
*DDA **19** 15:29:55.0, 37.°38N×42.°67E, h10km±2km, ML2.5*

ISC 19 15:29:54.9±1.1, **37.°44N**±0.°04×**42.°68E**±0.°03, **h8**km±9km, **n19, σ1§13/28, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.20**	**289**	PG	**Pg**	**15 29 59.1**	**0.0**
SIRT				SG	**Sg**	**15 30 03.2**	**+1.3**
CUKT	**Cukurca**	**0.77**	**104**	PG	**Pg**	**15 30 10.3**	**-0.3**
CUKT	**Cukurca**	**0.77**	**104**	*i* P	**Pg**	**15 30 09.4**	**-0.3**
SRTM	**Siirt_Merkez**	**0.81**	**313**	*i* P	**Pg**	**15 30 11.0**	**+0.3**
HAKT	**HAKKARI**	**0.83**	**81**	*i* P	**Pg**	**15 30 11.1**	**+0.2**
HAKT				*i* S	**Sn**	**15 30 26.3**	**+0.7**
AKDM	**Akdamar-Van**	**0.92**	**15**	PG	**Pg**	**15 30 12.1**	**-0.6**
AKDM				SG	**Sg**	**15 30 24.7**	**0.0**
GEVA	**Gevas**	**0.92**	**19**	*i* P	**Pb**	**15 30 13.4**	**+0.1**
GEVA				*i* S	**Sn**	**15 30 28.4**	**+0.5**
BLIS	**Bitlis-Merkez**	**1.07**	**336**	*i* P	**Pg**	**15 30 13.1**	**-2.5**
BTMN	**Batman**	**1.21**	**293**	*i* P	**Pg**	**15 30 18.6**	**+0.6**
BTMN				*i* S	**Sn**	**15 30 36.1**	**+1.4**
BTMN				IAML		15 30 39.0	
	comp=E,86nm,0.2s						
BTMN				IAML		15 30 40.0	
	comp=N,114nm,0.4s						
GURO	**Guroymak-BITLI**	**1.22**	**336**	PN	**Pn**	**15 30 17.8**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.37**	**302**	PN	**Pb**	**15 30 20.5**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.37**	**302**	*i* P	**Pb**	**15 30 20.7**	**-0.1**
SVAN				*i* S	**Sg**	**15 30 39.8**	**+0.7**
MARD	**Mardin**	**1.52**	**266**	*i* P	**Pn**	**15 30 19.7**	**-2.8**
MARD				*i* S	**Sg**	**15 30 43.2**	**-0.6**
MARD				IAML		15 30 46.0	
	comp=E,157nm,0.5s						
MUSM	**Mu-Merkez**	**1.58**	**325**	*i* P	**Pn**	**15 30 23.7**	**+0.3**
MUSM				*i* S	**Sb**	**15 30 44.2**	**-0.5**
MAZI	**Mazidag**	**1.77**	**271**	PN	**Pn**	**15 30 26.3**	**+0.3**
HANI	**Diyarbakir_Han**	**2.05**	**299**	*i* P	**Pn**	**15 30 29.9**	**+0.1**
HANI				IAML		15 31 05.0	
	comp=N,21nm,0.3s						
DIYA	**Diyarbakir**	**2.08**	**284**	*i* P	**Pb**	**15 30 32.2**	**-0.9**
DIYA				IAML		15 31 03.0	
	comp=E,22nm,0.2s						
SVRC	**Sivrice-ELAZID**	**2.83**	**290**	PN	**Pn**	**15 30 40.9**	**+0.4**
SANL	**SANLIURFA_Merk**	**2.95**	**266**	*i* P	**Pg**	**15 30 49.8**	**-1.7**
SANL				*i* S	**Sb**	**15 31 26.4**	**+2.4**
SANL				IAML		15 31 37.0	
	comp=E,29nm,0.9s						
SANL				IAML		15 31 46.0	
	comp=N,19nm,0.6s						

*BGR **19** 15:38:16.5±0.0, 22.°40S×179.°79W, h600km*
*NEIC **19** 15:38:17.5±1.5, 22.°07S±0.°08×179.°47W±0.°09, h602km±4km, mb5.2/249, Error ellipse: s-maj=12.6km s-min=11.5km az=113.0*
*MOS **19** 15:38:17.0±0.8, 22.°05S×179.°49W, h603km, mb5.2/39, Error ellipse: s-maj=7.7km s-min=7.2km az=108.4*
*BJI **19** 15:38:17.5±0.0, 21.°99S×179.°37W, h607km, mB4.9/41, mb5.0/60*
*IDC **19** 15:38:18.2±0.4, 22.°08S×179.°54W, h605km±3km, mb4.5/38, mb1 4.6/40, mb1mx4.5/43, mbtmp5.5/40, Error ellipse: s-maj=6.9km s-min=5.9km az=5.0*
*GCMT **19** 15:38:20.5±0.2, 22.°18S±0.°02×179.°41W±0.°01, h621km±1km, MW5.4/117, Moment Tensor Solution. s117,c191; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr-1.38±.02; Mθθ 0.13±.04; Mφφ 1.24±.04; Mrθ-0.31±.04; Mrφ 0.59±.04; Mθφ 0.09±.04; Best double couple: Mo1.47600×10^17 NP1:φ=190.00000°, δ46.00000°, λ-109.00000°. NP2:φ=36.00000°, δ47.00000°, λ-72.00000°. Principal axes: T 1.4950, Plg1.0000°, Azm114.0000°; N -0.0470, Plg13.0000°, Azm204.0000°; P -1.4560, Plg77.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 19 15:38:17.7±0.2, **22.°17S**±0.°03×**179.°46W**±0.°04, **h608**km±2km, **h609**km:**pP-P, n1357, σ1§20/1585, mb5.2**/204, **50C-51D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.99**	**332**	*i* P	**P**	**15 39 51.3**	**0.0**
MSVF	**Nonsavu**	**4.99**	**332**	P	**P**	**15 39 51.8**	**+0.6**
RIZ	**Raoul Island**	**7.18**	**169**	P	**P**	**15 40 08.6**	**-1.0**
RIZ				S	**S**	**15 41 41.8**	**+0.5**
RAO	**Raoul Island**	**7.19**	**169**	P	**P**	**15 40 09.3**	**-0.4**
	325nm,0.3s,baz=119,slow=2.6,SNR=19						
RAO				S	**S**	**15 41 40.3**	**-1.1**
	125nm,0.3s,baz=97,slow=23,SNR=2.6						
RAO	**Raoul Island**	**7.19**	**169**	P	**P**	**15 40 09.5**	**-0.2**
RAO	**Raoul Island**	**7.19**	**169**	P	**P**	**15 40 09.5**	**-0.2**
GLKZ	**Green Lake**	**7.20**	**169**	P	**P**	**15 40 09.9**	**+0.1**
GLKZ				S	S	15 41 32.3	-9.3
NIUE	**Niue**	**9.44**	**73**	P	**P**	**15 40 30.9**	**-0.3**
	baz=9.3,SNR=22						
AFI	**Afiamalu**	**10.98**	**43**	P	**P**	**15 40 43.0**	**-3.6**
	17nm,0.3s,baz=211,slow=5.7,SNR=22						
AFI				S	S	15 42 38.4	-10
	10nm,0.3s,baz=208,slow=22,SNR=8.6						
AFI	**Afiamalu**	**10.98**	**43**	P	**P**	**15 40 43.0**	**-3.6**
AFI	**Afiamalu**	**10.98**	**43**	P	**P**	**15 40 43.0**	**-3.6**
DZM	**Mont Dzumac**	**13.07**	**268**	*e*P	**P**	**15 41 07.3**	**0.0**
	551nm,0.7s						
DZM	**Mont Dzumac**	**13.07**	**268**	P	**P**	**15 41 07.2**	**-0.1**
	35nm,0.3s,baz=85,slow=19,SNR=115						
DZM				S	**S**	**15 43 28.4**	**+1.9**
	0.9nm,0.3s,baz=137,slow=16,SNR=1.6						
DZM	**Mont Dzumac**	**13.07**	**268**	P	**P**	**15 41 06.9**	**-0.4**
NFK	**Norfolk Island**	**13.27**	**236**	P	**P**	**15 41 11.2**	**+2.0**
	baz=13,SNR=5.1						
FUNA	**Funafuti**	**13.62**	**354**	P	**P**	**15 41 11.0**	**-1.8**
WCZ	**Waipu Caves**	**14.75**	**200**	P	**P**	**15 41 26.1**	**+2.9**
KUZ	**Kuaotunu**	**15.12**	**195**	P	**P**	**15 41 29.0**	**+2.5**
WIAZ	**Waiheke Island**	**15.31**	**197**	P	**P**	**15 41 30.3**	**+2.0**
MXZ	**Matakaoa Point**	**15.47**	**187**	P	**P**	**15 41 31.3**	**+1.6**
MXZ	**Matakaoa Point**	**15.47**	**187**	P	**P**	**15 41 29.9**	**+0.2**
WTAZ	**Waiatarua**	**15.60**	**198**	P	**P**	**15 41 33.6**	**+2.7**
WMGZ	**Waiomatatini S**	**15.71**	**186**	P	**P**	**15 41 30.2**	**-1.7**
HAZ	**Te Kaha**	**15.72**	**188**	P	**P**	**15 41 31.8**	**-0.2**
RUGZ	**Raukumara Rang**	**15.94**	**188**	P	**P**	**15 41 33.7**	**-0.4**
TGRZ	**Tauranga**	**15.95**	**192**	P	**P**	**15 41 36.5**	**+2.5**
PUZ	**Puketiti**	**15.98**	**187**	P	**P**	**15 41 34.1**	**-0.2**
PUZ				S	S	**15 44 08.5**	**-6.1**
OPRZ	**Ohinepanea**	**16.00**	**192**	P	**P**	**15 41 35.6**	**+1.0**
TWGZ	**Tauwhareparae**	**16.11**	**187**	P	**P**	**15 41 35.4**	**-0.2**
TWGZ				S	**S**	**15 44 13.3**	**-3.5**
TOZ	**Tahuroa Road**	**16.11**	**195**	P	**P**	**15 41 37.9**	**+2.4**
MARZ	**Manawahe**	**16.12**	**191**	P	**P**	**15 41 36.6**	**+1.0**
KMRZ	**Kaimai**	**16.12**	**193**	P	**P**	**15 41 38.5**	**+2.8**
KARZ	**Kaharoa**	**16.23**	**192**	P	**P**	**15 41 39.2**	**+2.5**
OMRZ	**Omania**	**16.29**	**192**	P	**P**	**15 41 39.0**	**+1.7**
URZ	**Urewera**	**16.31**	**190**	P	**P**	**15 41 35.0**	**-2.3**
	29nm,0.3s,baz=267,slow=2.7,SNR=29						
URZ				S	**S**	**15 44 14.2**	**-5.7**
	8.5nm,0.3s,baz=43,slow=22,SNR=10						
URZ	**Urewera**	**16.31**	**190**	P	**P**	**15 41 35.2**	**-2.2**
URZ				S	**S**	**15 44 10.0**	**-10**
URZ	**Urewera**	**16.31**	**190**	P	**P**	**15 41 35.6**

KHZ IAmb IAmb 15 42 19.9
comp=Z,68nm,1.2s
LHI Lord Howe Isla 21.28 240 P **P** **15 42 25.2 +2.7**
baz=21,SNR=4.2
LHI Lord Howe Isla 21.28 240 P **P** **15 42 24.9 +2.3**
LHI IAmb IAmb 15 42 25.8
comp=Z,72nm,0.7s
LTZ Lake Taylor 21.69 197 P **P** **15 42 24.9 -1.2**
LTZ IAmb IAmb 15 42 28.1
comp=Z,55nm,0.6s
OXZ Oxford 22.26 197 P **P** **15 42 29.9 -1.2**
OXZ IAmb IAmb 15 42 31.1
comp=Z,46nm,0.8s
MQZ McQueen's Vall 22.46 195 P **P** **15 42 32.0 -0.8**
MQZ IAmb IAmb 15 42 45.9
comp=Z,200nm,2.0s
RPZ Rata Peaks 22.89 198 P **P** **15 42 36.1 -0.5**
comp=Z,17nm,0.5s,baz=34,slow=3.9,SNR=22
RPZ Rata Peaks 22.89 198 P **P** **15 42 36.4 -0.3**
FOZ Fox Glacier 23.10 200 P **P** **15 42 38.0 -0.5**
FOZ IAmb IAmb 15 42 40.7
comp=Z,98nm,1.0s
HNR Honiara 23.48 299 P **P** **15 42 41.4 -0.9**
comp=Z,111nm,0.6s,baz=194,slow=4.5,SNR=9.9
HNR S **S** **15 46 12.7 -2.0**
comp=Z,41nm,0.9s,baz=210,slow=20,SNR=1.7
HNR Honiara 23.48 299 P **P** **15 42 40.9 -1.5**
LBZ Lake Benmore 23.75 199 P **P** **15 42 43.0 -1.4**
LBZ IAmb IAmb 15 43 34.6
comp=Z,128nm,2.0s
ODZ Otahua Downs 24.23 197 P **P** **15 42 47.8 -0.7**
WKZ Wanaka 24.51 200 P **P** **15 42 50.5 -0.6**
TARA Tarawa 24.53 341 P **P** **15 42 50.6 -1.0**
MLZ Mavora Lakes 25.28 201 P **P** **15 42 58.4 +0.5**
MLZ IAmb IAmb 15 43 00.8
comp=Z,33nm,0.6s
DCZ Deep Cove 25.70 202 P **P** **15 43 01.4 0.0**
DCZ IAmb IAmb 15 43 03.5
comp=Z,64nm,1.0s
WHZ Wether Hill Ro 25.80 200 P **P** **15 43 02.5 +0.1**
EIDS Eidsvold 27.13 257 P **P** **15 43 15.3 +1.0**
baz=27,SNR=56
EIDS Eidsvold 27.13 257 P **P** **15 43 15.0 +0.7**
ARMA Armidale 27.14 246 P **P** **15 43 16.6 +2.2**
baz=27,SNR=198
ARMA Armidale 27.14 246 P **P** **15 43 16.4 +1.9**
TBI Tubuai 27.66 98 *eP* **P** **15 43 20.0 +1.0**
comp=Z,270nm,1.3s
PAE Paea 28.42 86 *eP* **P** **15 43 25.8 +0.2**
comp=Z,14nm,0.8s
PPT2 Papeete2 28.44 86 *eP* **P** **15 43 26.4 +0.5**
comp=Z,64nm,0.9s
PPT Papeete 28.45 86 P **P** **15 43 26.7 +0.9**
comp=Z,39nm,0.5s,baz=253,slow=9.8,SNR=4.3
PPTF Pamatai, Papee 28.45 86 P **P** **15 43 26.6 +0.6**
TIAR Tiarei 28.66 86 *eP* **P** **15 43 28.2 +0.5**
comp=Z,12nm,0.6s
TVO Taravao 28.69 87 *eP* **P** **15 43 28.4 +0.3**
comp=Z,18nm,0.7s
RMQ Roma 29.24 255 P **P** **15 43 34.6 +2.0**
baz=29,SNR=89
MEH Mehetia 29.77 87 *eP* **P** **15 43 37.4 +0.1**
comp=Z,36nm,1.2s
CNB Canberra Magne 30.18 237 P **P** **15 43 42.5 +1.9**
baz=30,SNR=57
CAN Canberra 30.47 238 P **P** **15 43 44.3 +1.2**
CAN pmax pmax
comp=Z,37nm,0.9s
CAN Canberra 30.47 238 P **P** **15 43 44.3 +1.2**
CAN IAmb IAmb 15 43 45.5
comp=Z,37nm,0.9s
CTA Charters Tower 32.02 267 P **P** **15 43 57.3 +0.9**
comp=Z,155nm,0.5s,baz=92,slow=11,SNR=554
CTA PcP **PcP** **15 46 27.8 +0.7**
comp=Z,10nm,0.7s,baz=80,slow=1.3,SNR=3.8
CTA S **S** **15 48 26.2 -0.7**
comp=Z,16nm,1.2s,baz=279,slow=18,SNR=11
CTA ScP **ScP** **15 49 16.3 +2.4**
comp=Z,5.4nm,0.7s,baz=186,slow=3.4,SNR=3.9
CTAO Charters Tower 32.02 267 P **P** **15 43 57.0 +0.6**
CTAO pmax pmax
comp=Z,186nm,0.6s
CTAO Charters Tower 32.02 267 P **P** **15 43 57.0 +0.6**
XMAS Kiritimati 32.27 45 P **P** **15 43 58.8 +0.2**
XMAS IAmb IAmb 15 44 00.7
comp=Z,87nm,0.9s
CMSA Cobar Meteorol 32.35 246 P **P** **15 44 00.3 +1.2**
baz=32,SNR=155
RABL Rabaul 32.79 299 P **P** **15 44 01.9 -1.1**
KRVT Keravat (AS076 32.84 299 P **P** **15 44 01.9 -1.4**
comp=Z,144nm,0.6s,baz=72,slow=3.2,SNR=21
QLP Quilpie 33.29 255 P **P** **15 44 07.9 +0.8**
baz=33,SNR=156
TOO Toolangi 33.83 235 P **P** **15 44 12.8 +1.4**
baz=34,SNR=48
TOO Toolangi 33.83 235 P **P** **15 44 12.4 +1.0**
TOO pmax pmax
comp=Z,36nm,0.8s
TOO Toolangi 33.83 235 P **P** **15 44 12.4 +1.0**
TOO IAmb IAmb 15 44 13.6
comp=Z,36nm,0.8s
MTSU Mount Surprise 34.20 270 P **P** **15 44 15.4 +0.7**
baz=34,SNR=99
MOO Moorlands 34.38 226 P **P** **15 44 17.4 +1.5**
baz=34,SNR=4.6
PMG Port Moresby 34.45 286 P **P** **15 44 17.3 +0.5**
comp=Z,333nm,0.8s,baz=87,slow=5.5,SNR=63
PMG Port Moresby 34.45 286⇑ *eP* **P** **15 44 17.0 +0.2**
PMG pmax pmax
comp=Z,314nm,0.9s
PMG Port Moresby 34.45 286 P **P** **15 44 16.9 0.0**
TAU Tasmania Unive 34.49 225 P **P** **15 44 17.9 +1.1**
TAU pmax pmax
comp=Z,32nm,0.8s
TAU Tasmania Unive 34.49 225 P **P** **15 44 17.9 +1.1**
TAU IAmb IAmb 15 44 18.4
comp=Z,32nm,0.8s
STKA Stephens Creek 35.86 246 P **P** **15 44 29.6 +1.3**
comp=Z,34nm,0.5s,baz=92,slow=10,SNR=122
STKA PcP **PcP** **15 46 38.9 +0.7**
comp=Z,11nm,0.7s,baz=66,slow=3.6,SNR=3.2
STKA S **S** **15 49 23.4 -1.0**
comp=Z,9.5nm,1.1s,baz=265,slow=17,SNR=2.6
STKA ScP **ScP** **15 49 30.1 +2.6**
comp=Z,5.8nm,0.7s,baz=322,slow=21,SNR=3.6
STKA PKiKP **PKiKP** **15 53 55.4 -1.1**
comp=Z,1.2nm,0.4s,baz=35,slow=6.0,SNR=3.3
STKA Stephens Creek 35.86 246 P **P** **15 44 29.4 +1.1**
baz=36,SNR=75
STKA Stephens Creek 35.86 246 P **P** **15 44 29.1 +0.8**
PATS Pohnpei 36.13 320 P **P** **15 44 31.9 +1.2**
baz=36,SNR=6.2
PATS Pohnpei 36.13 320 P **P** **15 44 30.9 +0.3**
PATS IAmb IAmb 15 44 32.0
comp=Z,50nm,0.7s
COEN Coen 36.38 277 P **P** **15 44 33.8 +1.0**
baz=36,SNR=81
COEN Coen 36.38 277 P **P** **15 44 33.3 +0.6**
COEN IAmb IAmb 15 44 34.9
comp=Z,84nm,0.8s
ARPS Mount Arapiles 36.45 238 P **P** **15 44 33.7 +0.7**
baz=37,SNR=12
QIS Mount Isa 38.08 265 P **P** **15 44 46.6 +0.1**
baz=38,SNR=41
HTT Hallett 38.26 244 P **P** **15 44 48.7 +0.8**
baz=38,SNR=26
BBOO Buckleboo 40.60 245 P **P** **15 45 06.9 +0.4**
baz=41,SNR=43
BBOO Buckleboo 40.60 245 P **P** **15 45 06.6 0.0**
BBOO IAmb IAmb 15 45 07.8
comp=Z,56nm,0.9s
MMPI Merauke 40.92 283 P **P** **15 45 09.9 +0.7**
comp=Z,8µmcomp=Z,1µm,0.7s
AS31 Alice Springs 42.84 259 P **P** **15 45 24.4 +0.2**
ASAR Alice Springs 42.84 259 P **P** **15 45 24.6 +0.3**
comp=Z,78nm,0.6s,baz=91,slow=8.4,SNR=1519
ASAR PcP **PcP** **15 47 01.7 +0.6**
comp=Z,28nm,0.8s,baz=112,slow=3.8,SNR=13
ASAR ScP **ScP** **15 49 57.6 +2.5**
comp=Z,1.9nm,0.6s,baz=88,slow=4.5,SNR=1.7
ASAR S **S** **15 51 04.8 -1.3**
comp=Z,23nm,0.9s,baz=95,slow=16,SNR=36
ASAR PKiKP **PKiKP** **15 54 01.6 -1.2**
comp=Z,1.3nm,0.7s,baz=117,slow=1.4,SNR=4.1
ASAR ScS **ScS** **15 54 19.2 +1.8**
comp=Z,3.8nm,0.8s,baz=55,slow=5.8,SNR=4.4

ASAR Alice Springs 42.84 259 P **P** **15 45 24.0 -0.3**
WB0 Warramunga Arr 43.04 264 P **P** **15 45 25.5 -0.3**
WB2 Warramunga Arr 43.04 264 P **P** **15 45 25.5 -0.3**
WRAB Tennant Creek 43.05 264 *ceP* **P** **15 45 25.7 -0.2**
WRAB pmax pmax
comp=Z,65nm,0.9s
WRAB Tennant Creek 43.05 264 P **P** **15 45 25.4 -0.5**
WRAB IAmb IAmb 15 45 26.3
comp=Z,81nm,0.8s
WRA Warramunga Arr 43.05 264 P **P** **15 45 26.1 +0.1**
comp=Z,69nm,0.5s,baz=100,slow=8.6,SNR=863
WRA PcP **PcP** **15 47 02.6 +0.8**
comp=Z,16nm,1.0s,baz=100,slow=3.9,SNR=10
WRA ScP **ScP** **15 49 58.0 +2.1**
comp=Z,12nm,0.9s,baz=99,slow=4.2,SNR=10.0
WRA S **S** **15 51 06.1 -3.2**
comp=Z,23nm,0.9s,baz=98,slow=14,SNR=26
WRA PKiKP **PKiKP** **15 54 01.7 -1.3**
comp=Z,1.2nm,0.6s,baz=66,slow=0.2,SNR=4.7
WRA Warramunga Arr 43.05 264 P **P** **15 45 24.7 -1.3**
JAY Jayapura 43.33 291 P **P** **15 45 28.4 +0.2**
comp=Z,127nm,0.6s,baz=137,slow=3.0,SNR=77
JAY S **S** **15 51 11.3 -2.0**
comp=Z,3.4nm,0.6s,baz=237,slow=22,SNR=13
JAY Jayapura 43.33 291 P **P** **15 45 28.3 +0.2**
comp=Z,956nmcomp=Z,111nm,0.9s
GENI Genyem 43.75 291 P **P** **15 45 31.3 -0.1**
comp=Z,4µmcomp=Z,103nm,0.6s
SMPI Sarmi 45.32 290 P **P** **15 45 42.8 -0.5**
comp=Z,46nm,1.1s
KDU Kakadu 46.66 273 P **P** **15 45 53.1 -0.3**
baz=47,SNR=255
FORT Forrest 47.40 248 P **P** **15 45 59.0 +0.2**
baz=48,SNR=34
FORT Forrest 47.40 248 P **P** **15 45 58.7 -0.1**
FORT IAmb IAmb 15 45 59.8
comp=Z,98nm,0.8s
SRPI Serui, Papua 47.53 289 P **P** **15 46 00.2 +0.2**
comp=Z,2µmcomp=Z,161nm,0.8s
MLH Mauna Loa 47.62 31 P **P** **15 45 59.4 -1.4**
MLH IAmb IAmb 15 46 02.3
comp=Z,114nm,0.9s
HMH Humu'ula Sheep 47.67 31 P **P** **15 46 01.4 +0.2**
WRKA Warakurna 47.73 256 P **P** **15 46 01.6 +0.2**
baz=48,SNR=459
MTN Manton Dam 47.85 273 P **P** **15 46 01.9 -0.5**
baz=48,SNR=53
MTN Manton Dam 47.85 273 P **P** **15 46 01.6 -0.7**
KNRA Kununurra 49.22 268 P **P** **15 46 12.8 +0.3**
baz=49,SNR=88
KNRA Kununurra 49.22 268 P **P** **15 46 12.4 0.0**
SAUI Saumlaki 49.37 279 P **P** **15 46 12.4 -1.2**
GUMO Guam 49.86 312 P **P** **15 46 16.8 -0.3**
comp=Z,20nm,0.4s,baz=22,slow=7.7,SNR=7.3
GUMO Guam 49.86 312 P **P** **15 46 16.9 -0.2**
GUMO pmax pmax
comp=Z,89nm,1.2s
GUMO Guam 49.86 312 P **P** **15 46 16.9 -0.2**
GUMO IAmb IAmb 15 47 27.8
comp=Z,89nm,1.2s
MIDW Midway 50.13 2 P **P** **15 46 18.5 -0.2**
MIDW IAmb IAmb 15 46 19.4
comp=Z,177nm,1.4s
FAKI Fak Fak 50.59 285 P **P** **15 46 22.1 -0.4**
FAKI IAmb IAmb 15 46 36.4
comp=Z,159nm,1.7s
FITZ Fitzroy Crossi 51.48 264 P **P** **15 46 29.3 +0.5**
comp=Z,18nm,0.4s,baz=90,slow=5.2,SNR=150
FITZ PcP **PcP** **15 47 32.4 +0.1**
comp=Z,4.4nm,0.5s,baz=138,slow=9.3,SNR=3.9
FITZ PP **PP** **15 48 30.5 -4.6**
comp=Z,9.2nm,0.7s,baz=113,slow=11,SNR=3.8
FITZ S **S** **15 53 04.8 -0.3**
comp=Z,8.0nm,0.8s,baz=190,slow=14,SNR=12
FITZ Fitzroy Crossi 51.48 264 P **P** **15 46 29.4 +0.5**
baz=52,SNR=161
FITZ Fitzroy Crossi 51.48 264 P **P** **15 46 29.0 +0.2**
BNDI Bandanaira 52.02 282 P **P** **15 46 32.8 +0.1**
comp=Z,4µmcomp=Z,291nm,0.5s
SIJI Sorong 52.39 287 P **P** **15 46 35.7 +0.3**
comp=Z,158nm,0.7s,baz=89,slow=5.3,SNR=51
SIJI PP **PP** **15 48 35.7 -7.6**
comp=Z,7.7nm,0.7s,baz=89,slow=5.9,SNR=4.1
SIJI S **S** **15 53 16.7 -0.7**
comp=Z,11nm,1.0s,baz=278,slow=21,SNR=5.9
KMBL Kambalda 52.65 247 P **P** **15 46 37.2 +0.2**
baz=53,SNR=6.6
MSAI Masohi 53.39 283 P **P** **15 46 42.5 0.0**
comp=Z,774nmcomp=Z,23nm,0.5s
NLAI Naalie 55.09 282 P **P** **15 46 54.7 +0.3**
comp=Z,51nm,0.7s
SOEI Soe 55.22 273 P **P** **15 46 56.9 +1.5**
comp=Z,2µmcomp=Z,184nm,0.6s
SOEI Soe 55.22 273 P **P** **15 46 56.6 +1.2**
SOEI IAmb IAmb 15 47 02.5
comp=Z,136nm,0.7s
BATI Baumata 55.62 273 P **P** **15 47 00.0 +1.9**
comp=Z,80nm,0.5s,baz=155,slow=1.8,SNR=11
BATI PP **PP** **15 49 08.8 -3.1**
comp=Z,377nm,0.3s,baz=127,slow=2.2,SNR=131
BATI Baumata 55.62 273 P **P** **15 46 59.6 +1.5**
comp=Z,55nm,0.6s
PSA00 Pilbara Seismi 55.99 258 P **P** **15 47 00.1 -0.4**
MEEK Meekatharra 56.10 252 P **P** **15 47 00.9 -0.3**
baz=56,SNR=25
KLBR Kellerberrin 56.13 246 P **P** **15 47 01.7 +0.3**
baz=56,SNR=24
VNDA Vanda 56.14 185 P **P** **15 47 03.2 +2.7**
comp=Z,20nm,0.7s,baz=356,slow=7.8,SNR=166
VNDA PcP **PcP** **15 47 50.7 +1.4**
comp=Z,12nm,0.8s,baz=354,slow=6.1,SNR=4.9
VNDA Vanda 56.14 185 P **P** **15 47 02.7 +2.1**
VNDA pmax pmax
comp=Z,25nm,0.7s
VNDA Vanda 56.14 185 P **P** **15 47 02.7 +2.1**
NWAO Narrogin (SRO) 56.42 244 P **P** **15 47 03.7 +0.5**
comp=Z,26nm,0.7s,baz=115,slow=6.9,SNR=34
NWAO Narrogin (SRO) 56.42 244 P **P** **15 47 03.8 +0.5**
baz=56,SNR=22
NWAO Narrogin (SRO) 56.42 244 P **P** **15 47 03.4 +0.1**
NWAO Narrogin (SRO) 56.42 244 P **P** **15 47 03.4 +0.1**
NWAO IAmb IAmb 15 47 04.7
comp=Z,52nm,1.4s
SANI Sanana 56.60 283 P **P** **15 47 04.4 -0.3**
comp=Z,44nm,1.0s
TNTI Ternate 56.60 287 P **P** **15 47 04.4 -0.4**
BLDU Ballidu 57.15 247 P **P** **15 47 08.5 +0.2**
baz=57,SNR=134
MUN Mundaring 57.39 245 P **P** **15 47 10.6 +0.7**
baz=58,SNR=11
MMRI Maumere 57.49 274 P **P** **15 47 10.3 -0.5**
comp=Z,1µmcomp=Z,91nm,0.5s
MMRI Maumere 57.49 274 P **P** **15 47 10.1 -0.7**
MMRI IAmb IAmb 15 47 11.4
comp=Z,54nm,0.5s
EDFI Ende, Flores 57.95 273 P **P** **15 47 13.5 -0.6**
comp=Z,471nmcomp=Z,42nm,0.6s
MORW Morawa 57.95 249 P **P** **15 47 14.0 +0.2**
baz=58,SNR=23
MORW Morawa 57.95 249 P **P** **15 47 13.7 0.0**
LUWI Luwuk 59.93 282 P **P** **15 47 26.6 -0.6**
GIRL Giralia 60.81 256 P **P** **15 47 34.1 +1.3**
baz=61,SNR=12
GIRL Giralia 60.81 256 P **P** **15 47 33.8 +0.9**
KAPI Kappang 61.11 277 P **P** **15 47 34.9 +0.1**
comp=Z,6.9nm,0.5s,baz=176,slow=11,SNR=4.2
KAPI Kappang 61.11 277 P **P** **15 47 34.5 -0.3**
JCJ Chichijima 61.44 321 P **P** **15 47 36.1 -0.6**
comp=Z,41nm,0.7s,baz=284,slow=1.8,SNR=8.0
JCJ Chichijima 61.44 321 P **P** **15 47 35.8 -1.0**
JCJ IAmb IAmb 15 48 16.8
comp=Z,139nm,1.2s
CASY Casey 61.88 206 P **P** **15 47 39.8 +0.8**
CASY IAmb IAmb 15 47 41.1
comp=Z,88nm,1.0s
CASY pP **pP** **15 49 37.2 +1.5**
MYLDM Lahad Datu 66.47 286 P **P** **15 48 10.2 +1.3**
JHJ2 Mitsune 67.32 324 P **P** **15 48 13.9 +0.4**
JHJ2 pP **pP** **15 50 13.5 -1.1**
JHJ Hachijo jima 2 67.34 324 P **P** **15 48 13.4 -0.3**
comp=Z,64nm,0.6s,baz=186,slow=10,SNR=12
QSPA South Pole Qui 67.91 180 P **P** **15 48 18.8 +1.9**
comp=Z,123nm,0.8s,baz=17,slow=0.7,SNR=544
QSPA pP **pwP** **15 50 20.0 0.0**
comp=Z,16nm,1.1s,baz=49,slow=2.9,SNR=3.2
QSPA S **S** **15 56 31.1 +2.6**

comp=Z,2.5nm,1.1s,baz=79,slow=22,SNR=7.1
SPMM Sapulut 68.08 285 P **P** **15 48 20.0 +1.3**
UGM Wanagama 68.59 270 P **P** **15 48 21.7 -0.1**
KKM Kota Kinabalu 68.89 286 P **P** **15 48 23.8 +0.1**
SMRI Semarang 68.97 271 P **P** **15 48 23.6 -0.4**
SMRI IAmb IAmb 15 48 25.5
comp=Z,129nm,1.2s
MJAR Matsushiro Arr 70.76 325 P **P** **15 48 34.0 -0.1**
comp=Z,16nm,0.6s,baz=170,slow=5.8,SNR=37
MAJO Matsushiro 70.77 325 P **P** **15 48 33.9 -0.3**
MAJO pmax pmax
comp=Z,20nm,0.7s
MAJO Matsushiro 70.77 325 P **P** **15 48 33.9 -0.3**
MAT Matsushiro 70.77 325 P **P** **15 48 34.2 0.0**
MAT S **S** **15 57 01.6 0.0**
SBUM Sibu 70.97 281 P **P** **15 48 36.0 +0.2**
SBUM Sibu 70.97 281 P **P** **15 48 37.0 +1.2**
CISI Cisompet, Garu 71.23 269 P **P** **15 48 36.5 -1.0**
CISI IAmb IAmb 15 48 37.1
comp=Z,61nm,0.6s
LEM Lembang 71.67 270 P **P** **15 48 40.6 +0.4**
comp=Z,129nm,0.7s,baz=68,slow=5.5,SNR=28
XMIS Christmas Isla 72.22 266 P **P** **15 48 43.1 0.0**
XMIS IAmb IAmb 15 48 44.3
comp=Z,90nm,1.1s
KSM Kuching 72.32 279 P **P** **15 48 43.6 -0.1**
KSM IAmb IAmb 15 48 45.2
comp=Z,56nm,0.8s
KSM pP **pP** **15 50 45.8 -0.2**
KSM Kuching 72.32 279 P **P** **15 48 44.0 +0.3**
JNU Nakatsue 72.57 318 P **P** **15 48 45.2 +0.4**
comp=Z,19nm,1.0s,baz=135,slow=6.3,SNR=6.6
JNU Nakatsue 72.57 318 P **P** **15 48 44.8 0.0**
ERM Erimo 72.62 332 *i* P **P** **15 48 44.6 -0.1**
ERM pmax pmax
comp=Z,23nm,0.9s
TWG Pinlang 73.16 304 P **P** **15 48 46.6 -1.7**
AMKA Amchitka 73.23 359 P **P** **15 48 47.1 -0.9**
KUR Kuril'sk 73.39 337 *d i* P **P** **15 48 49.8 +0.8**
KUR *e* S **S** **15 57 34.3 +4.1**
KUR pmax pmax
comp=Z,89nm,1.7s
KUR pmax pmax
comp=Z,254nm,2.4s
TPUB Ta-pu 73.76 304 P **P** **15 48 50.8 -0.9**
TPUB IAmb IAmb 15 48 51.8
comp=Z,81nm,0.7s
YHNB Yeheng 73.95 306 P **P** **15 48 52.4 -0.4**
YHNB IAmb IAmb 15 48 54.3
comp=Z,74nm,1.1s
TATO Taipei 74.03 306 P **P** **15 48 53.1 -0.1**
ATKA Atka Island 74.19 3 P **P** **15 48 52.7 -0.7**
ASAJ Asahikawa 74.56 333 P **P** **15 48 57.5 +1.9**
comp=Z,34nm,0.8s,baz=207,slow=5.3,SNR=26
NIKH Nikolski High 75.39 7 P **P** **15 48 59.5 -0.6**
UNV Unalaska Valle 76.52 8 P **P** **15 49 05.0 -1.2**
UNV IAmb IAmb 15 49 06.1
comp=Z,40nm,0.7s
YSS Yuzh-Sakhalins 76.79 334 κ *i* P **P** **15 49 09.1 +1.2**
YSS *e** PP **pP** **15 51 09.8 -2.9**
YSS *e** SP **sP** **15 52 13.7 -0.3**
YSS *e* S **S** **15 58 08.4 +1.7**
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS smax smax
comp=N,300nm,0.7s
YSS Yuzh-Sakhalins 76.79 334 P **P** **15 49 08.9 +1.0**
YSS IAmb IAmb 15 49 10.5
comp=Z,47nm,0.7s
TJN Taejon 76.89 318 *ceP* **P** **15 49 08.5 -0.2**
AKUT Akutan 76.90 8 P **P** **15 49 07.2 -1.1**
AKUT IAmb IAmb 15 49 08.9
comp=Z,89nm,1.4s
KSRS Korea Array 77.25 320 P **P** **15 49 11.7 +1.1**
comp=Z,8.1nm,0.9s,baz=132,slow=5.6,SNR=32
PET Petropavlovsk 77.25 347⇑ *eP* **P** **15 49 09.1 -1.1**
PET pmax pmax
comp=Z,93nm,0.9s
PET Petropavlovsk 77.25 347 P **P** **15 49 09.7 -0.5**
PET IAmb IAmb 15 49 10.5
comp=Z,40nm,0.6s
KS19 Wonju Array Si 77.32 320 P **P** **15 49 10.9 -0.1**
PEA0B Petropavlovsk- 77.54 346 *ceP* **P** **15 49 11.3 -0.5**
PEA0B Petropavlovsk- 77.54 346 P **P** **15 49 11.7 -0.1**
PEA0B IAmb IAmb 15 49 13.2
comp=Z,241nm,1.4s
PETK Petropavlovsk- 77.54 346 P **P** **15 49 12.1 +0.2**
comp=Z,58nm,0.7s,baz=118,slow=6.0,SNR=296
PETK pP **pP** **15 51 17.0 -0.1**
comp=Z,2.2nm,0.8s,baz=119,slow=5.6,SNR=2.7
PETK PKiKP **PKiKP** **15 54 44.0 -0.8**
comp=Z,1.5nm,0.7s,baz=137,slow=5.2,SNR=3.9
TEY Ternei 77.95 330⇑ *eP* **P** **15 49 15.6 +1.4**
TEY pmax pmax
comp=N,10.0nm,1.0s
TEY pmax pmax
comp=Z,20nm,1.2s
INCN Inchon 78.05 319 P **P** **15 49 15.3 +0.3**
INCN pmax pmax
comp=Z,25nm,0.8s
INCN Inchon 78.05 319 P **P** **15 49 15.3 +0.3**
DLV T Lat 78.33 288 P **P** **15 49 18.1 +1.0**
MYKOM Kota Tinggi 78.37 277 P **P** **15 49 17.2 0.0**
MYKOM Kota Tinggi 78.37 277 P **P** **15 49 18.0 +0.8**
CNBA Chernabura Isl 78.54 12 P **P** **15 49 16.3 -0.8**
CNBA IAmb IAmb 15 49 18.1
comp=Z,84nm,1.3s
SDPT Sand Point 78.89 11 P **P** **15 49 17.8 -1.1**
SNCC San Nicolas Is 79.37 48 P **P** **15 49 23.6 +1.5**
baz=235
MAW Mawson 79.54 200 P **P** **15 49 23.4 +1.1**
comp=Z,34nm,0.7s,baz=120,slow=6.2,SNR=79
MAW Mawson 79.54 200 P **P** **15 49 23.6 +1.3**
baz=80,SNR=41
MAW Mawson 79.54 200 P **P** **15 49 23.3 +1.0**
USA0B Ussuriysk Arra 79.59 327 *d i* P **P** **15 49 23.8 +0.9**
USA0B Ussuriysk Arra 79.59 327 P **P** **15 49 23.2 +0.3**
USA0B IAmb IAmb 15 49 25.4
comp=Z,78nm,1.2s
USRK Ussuriysk Ar. 79.59 327 P **P** **15 49 24.0 +1.1**
comp=Z,24nm,0.9s,baz=130,slow=3.3,SNR=67
USRK pP **pP** **15 51 29.2 +0.5**
comp=Z,0.3nm,0.6s,baz=120,slow=8.5,SNR=1.1
SCZ2 Santa Cruz Isl 79.72 47 P **P** **15 49 25.2 +1.3**
baz=234
SCI2 San Clemente I 79.89 48 P **P** **15 49 26.0 +1.3**
baz=235
NJ2 Nanjing 79.91 311 ⇓ P **P** **15 49 26.0 +1.1**
NJ2 S **S** **15 58 43.6 +3.8**
NJ2 pmax pmax
comp=Z,31nm,1.2s
SBC Santa Barbara 79.93 46 P **P** **15 49 26.4 +1.4**
baz=234
PKM Mcpherson Peak 80.12 46 P **P** **15 49 27.8 +1.7**
baz=234
SAO San Andreas Ge 80.16 44 P **P** **15 49 27.1 +1.0**
SAO pmax pmax
comp=Z,37nm,1.0s
SAO San Andreas Ge 80.16 44 P **P** **15 49 27.1 +1.0**
CIS Catalina Islan 80.22 48 P **P** **15 49 27.6 +1.1**
baz=235
SMMC Simmler 80.25 46 P **P** **15 49 28.3 +1.6**
baz=234
PMPB Monarch Peak 80.25 44 P **P** **15 49 27.3 +0.6**
CHIR Chirikof Islan 80.28 13 P **P** **15 49 26.4 +0.2**
CHIR IAmb IAmb 15 49 27.8
comp=Z,187nm,1.4s
PMSA Palmer Station 80.30 157 P **P** **15 49 27.6 +1.3**
PMSA IAmb IAmb 15 49 29.0
comp=Z,55nm,0.8s
PAGB Antelope Grade 80.33 45 P **P** **15 49 27.0 0.0**
PAGB IAmb IAmb 15 49 30.0
comp=Z,148nm,1.9s
FMP Fort Macarthur 80.47 48 P **P** **15 49 29.1 +1.3**
baz=235
GDXM Geysers 80.56 41 P **P** **15 49 29.6 +1.4**
KCPM Cahto Peak 80.64 40 P **P** **15 49 29.9 +1.2**
KCPM IAmb IAmb 15 49 31.7
comp=Z,115nm,1.1s
OSI Osito Audit: C 80.70 47 P **P** **15 49 30.3 +1.3**
baz=235
DECC Green Verdugo 80.75 47 P **P** **15 49 30.2 +0.9**
baz=235
PASC Pasadena Art C 80.81 47 P **P** **15 49 30.4 +0.8**
109C Camp Elliot, M 80.84 49 P **P** **15 49 30.7 +1.0**

baz=236
KMRM Mail Ridge 80.90 40 P P 15 49 31.4 +1.5
ARVC Arvin 80.92 46 P P 15 49 31.4 +1.3
baz=235
JCC Jacoby Creek, 81.08 39 P P 15 49 32.5 +1.8
JCC IAmb IAmb 15 49 33.8
comp=Z,162nm,1.4s
MDJ Mudanjiang 81.11 326 P P 15 49 32.0 +1.2
MDJ pP pP 15 51 39.6 +2.4
MDJ S S 15 58 53.4 +2.0
MDJ pmax pmax
comp=Z,49nm,0.9s
MDJ pmax pmax
comp=Z,300nm,4.0s
VES Vestal, Richgr 81.16 46 P P 15 49 32.5 +1.3
baz=235
MURC Murrieta 81.17 48 P P 15 49 32.5 +1.1
baz=236,SNR=5.5
BFSC Mount Baldy Ra 81.21 48 P P 15 49 32.6 +0.9
baz=236,SNR=8.0
VOG Valley Oaks Go 81.24 45 P P 15 49 32.7 +1.0
baz=234
SII Sitkinak Islan 81.27 14 P P 15 49 31.8 +0.4
SII IAmb IAmb 15 49 32.9
comp=Z,110nm,1.1s
KHMM Horse Mountain 81.30 39 P P 15 49 33.7 +1.7
KHMM IAmb IAmb 15 49 35.2
comp=Z,133nm,1.2s
MONP2 Monument Peak 81.32 49 P P 15 49 34.0 +1.6
baz=237,SNR=21
EDW2 Edwards Air Fo 81.34 47 P P 15 49 33.5 +1.3
baz=235,SNR=29
IKP In-Ko-Pah, Jac 81.41 50 P P 15 49 34.4 +1.7
baz=237,SNR=13
O02D Mt. Diablo Mer 81.42 40 P P 15 49 34.9 +2.3
baz=232,SNR=45
ISA Isabella, Lake 81.46 46 P P 15 49 34.2 +1.3
baz=235,SNR=42
CMB Columbia Colle 81.60 43 P P 15 49 34.1 +0.6
CMB pmax pmax
comp=Z,54nm,1.0s
CMB Columbia Colle 81.60 43 P P 15 49 34.1 +0.6
CMB IAmb IAmb 15 49 35.7
comp=Z,54nm,1.0s
KRMB Red Mountain 81.60 39 P P 15 49 34.9 +1.4
KRMB IAmb IAmb 15 49 36.8
comp=Z,112nm,1.3s
PFO Pinyon Flats O 81.69 49 P P 15 49 35.3 +1.2
baz=237
PFO Pinyon Flats O 81.69 49 P P 15 49 34.8 +0.6
PFO pmax pmax
comp=Z,84nm,1.9s
PFO Pinyon Flats O 81.69 49 P P 15 49 34.8 +0.6
BBRC Big Bear Solar 81.73 48 P P 15 49 35.7 +1.2
baz=236
AFDM Forest Hills D 81.78 42 P P 15 49 35.0 +0.7
SWSC Sam W. Stewart 81.79 50 P P 15 49 36.1 +1.6
baz=237,SNR=8.9
WDC Whiskeytown Da 81.82 40 P P 15 49 35.6 +1.1
WDC *PP pP 15 51 41.8 +0.2
WDC pmax pmax
comp=Z,94nm,1.2s
WDC Whiskeytown Da 81.82 40 P P 15 49 35.6 +1.1
WDC IAmb IAmb 15 49 37.3
comp=Z,94nm,1.2s
WDC pP pP 15 51 41.8 +0.2
ORV Oroville 81.82 41 P P 15 49 35.4 +0.9
ORV pmax pmax
comp=Z,44nm,1.1s
ORV Oroville 81.82 41 P P 15 49 35.4 +0.9
N02D Trinity Center 81.96 40 P P 15 49 37.4 +2.1
baz=232,SNR=31
IPM Ipoh 82.01 278 P P 15 49 36.1 0.0
IPM IAmb IAmb 15 49 37.8
comp=Z,55nm,0.8s
IPM Ipoh 82.01 278 P P 15 49 37.0 +0.9
RRX Édison Barstow 82.02 47 P P 15 49 36.9 +1.2
baz=236
DL2 Dalian 82.02 318 P P 15 49 36.1 +0.6
DL2 S S 15 58 56.9 -3.8
DL2 pmax pmax
comp=Z,24nm,1.1s
DL2 pmax pmax
comp=Z,100nm,4.9s
O03E Paynes Creek 82.08 41 P P 15 49 37.0 +1.1
baz=232,SNR=37
M02C Callahan 82.14 39 P P 15 49 38.4 +2.2
baz=231,SNR=35
L02E Cave Junction 82.18 38 P P 15 49 38.2 +1.9
baz=231,SNR=7.2
MDPB Devils Postpil 82.20 44 P P 15 49 37.1 +0.3
KEBM Edson Butte 82.22 37 P P 15 49 37.7 +1.2
BELC Belle Mtn. Jos 82.22 49 P P 15 49 38.2 +1.4
baz=237,SNR=18
MPMC Manual Prospec 82.34 46 P P 15 49 38.7 +1.1
baz=236,SNR=37
WHN Wuhan 82.35 307 ⇓P P 15 49 38.8 +1.4
MLAC Mammoth, Mammo 82.36 44 P P 15 49 39.0 +1.4
baz=235
GRNR Gornyy 82.37 334 ⇓*iP* P 15 49 38.5 +1.5
GRNR pmax pmax
comp=E,7.0nm,0.8s
GRNR pmax pmax
comp=N,9.0nm,1.1s
GRNR pmax pmax
comp=Z,40nm,0.9s
GRNR MLR MLR
comp=E,30nm,15.0s
GRNR MLR MLR
comp=Z,40nm,15.0s
GSC Goldstone, Bar 82.38 47 P P 15 49 38.7 +1.1
baz=236,SNR=8.1
BC3 Big Chuckawall 82.41 49 P P 15 49 39.4 +1.6
baz=237,SNR=12
TIN Tinemaha, Big 82.42 45 P P 15 49 39.0 +1.2
baz=235,SNR=11
YBH Yreka Blue Hor 82.43 39 P P 15 49 38.4 +0.7
YBH pmax pmax
comp=Z,39nm,0.9s
YBH Yreka Blue Hor 82.43 39 P P 15 49 38.4 +0.7
HEC Hector,Ludlow 82.44 48 P P 15 49 39.1 +1.2
baz=236,SNR=30
K02D Willamette Mer 82.48 38 P P 15 49 39.6 +1.7
baz=231,SNR=13
GLA Glamis 82.53 50 P P 15 49 40.2 +1.9
baz=238,SNR=24
J01E Myrtle Point 82.63 37 P P 15 49 40.3 +1.8
baz=230,SNR=6.9
KULM Kulim 82.67 279 P P 15 49 39.6 +0.2
KDAK Kodiak Island 82.75 14 P P 15 49 38.5 -0.2
KDAK pmax pmax
comp=Z,154nm,1.8s
KDAK Kodiak Island 82.75 14 P P 15 49 38.5 -0.2
KDAK IAmb IAmb 15 49 40.4
comp=Z,154nm,1.8s
CN2 Changchun 82.80 323 ⇓*iP* P 15 49 39.9 +0.6
CN2 *e*pP pwP 15 51 49.3 -2.0
CN2 *e*S S 15 59 05.8 -2.4
CN2 pmax pmax
comp=Z,60nm,1.0s
CN2 pmax pmax
comp=Z,300nm,3.0s
GMRC Granite Mounta 82.88 48 P P 15 49 41.4 +1.2
baz=237,SNR=21
IRM Iron Mountain 82.90 49 P P 15 49 41.8 +1.7
baz=237,SNR=22
LHV Little Huntoon 82.93 44 P P 15 49 40.7 +0.6
LHV IAmb IAmb 15 49 42.9
comp=Z,58nm,1.0s
GRAC Grapevine Rang 82.95 45 P P 15 49 41.6 +1.3
baz=236,SNR=6.2
L04D Klamath Falls 82.97 39 P P 15 49 41.8 +1.4
baz=232,SNR=19
M04C Macdoel 82.97 40 P P 15 49 41.9 +1.5
baz=232,SNR=11
FURC Furnace Creek, 82.99 46 P P 15 49 41.6 +1.1
baz=236,SNR=10
TUQ Turquoise Moun 83.06 47 P P 15 49 42.1 +1.1
baz=237,SNR=7.4
SHOC Shoshone, Teco 83.07 47 P P 15 49 42.2 +1.2
baz=236
113A Mohawk Valley, 83.14 51 P P 15 49 42.1 +0.8
NVAR Mina Array Bea 83.16 44 P P 15 49 42.6 +1.1
comp=Z,25nm,0.8s,baz=224,slow=8.4,SNR=162
NVAR pP pwP 15 51 51.3 -1.5
comp=Z,2.9nm,0.9s,baz=234,slow=7.1,SNR=5.4
NVAR PKKPbc PKKPbc 16 08 00.0 +1.3
comp=Z,1.2nm,0.8s,baz=96,slow=3.1,SNR=8.3
NVAR PKPPKP P'P'df 16 16 09.6 +7.6
comp=Z,0.8nm,0.6s,baz=87,slow=3.0,SNR=7.5
NV11 Mina Array Sit 83.26 44 P P 15 49 42.5 +0.5
NV11 IAmb IAmb 15 49 44.2
comp=Z,55nm,1.1s
RPSI Rantau Prapat 83.26 276 P P 15 49 41.2 -1.1
I02D Swisshome 83.28 37 P P 15 49 43.5 +1.8
baz=230
KLR Kul'dur 83.28 330 P P 15 49 42.8 +1.2
comp=Z,11nm,0.8s,baz=119,slow=3.8,SNR=46
KLR Kul'dur 83.28 330 *ce*P P 15 49 42.6 +1.0
KLR pmax pmax
comp=Z,17nm,0.9s
PSI Prapat 83.30 276 P P 15 49 41.4 -1.3
comp=Z,23nm,0.8s,baz=180,slow=3.3,SNR=19
I03D Drain, OR 83.30 37 P P 15 49 43.4 +1.6
baz=231,SNR=14
HSIG 83.31 55 P P 15 49 42.9 +0.6
HSIG IAmb IAmb 15 49 44.3
comp=Z,40nm,0.7s
214A Organ Pipe Nat 83.41 52 P P 15 49 44.4 +1.7
baz=239
214A Organ Pipe Nat 83.41 52 P P 15 49 43.6 +0.9
TIA Tai'an 83.41 313 P P 15 49 43.6 +1.0
TIA S SKSac 15 59 07.5 -0.2
TIA pmax pmax
comp=Z,62nm,1.3s
K04D Chiloquin, OR 83.54 39 P P 15 49 44.6 +1.4
baz=232
NEE2 Needles Airpor 83.59 49 P P 15 49 45.1 +1.6
baz=238
TPNV Topopah Spring 83.67 46 P P 15 49 45.1 +1.1
baz=236,SNR=31
TPNV Topopah Spring 83.67 46 P P 15 49 44.4 +0.4
TPNV pmax pmax
comp=Z,58nm,1.4s
TPNV Topopah Spring 83.67 46 P P 15 49 44.4 +0.4
PDMCI Parker Dam,Lak 83.68 49 P P 15 49 45.4 +1.5
baz=238,SNR=19
J04D Umpqua Nationa 83.72 38 P P 15 49 45.8 +1.6
baz=232,SNR=31
COR Corvallis 83.89 37 P P 15 49 45.5 +0.8
COR pmax pmax
comp=Z,303nm,2.0s
COR Corvallis 83.89 37 P P 15 49 45.5 +0.8
I04A Tendick Farm, 83.89 38 P P 15 49 45.9 +1.1
baz=231,SNR=17
MOD Modoc Plateau 83.96 40 P P 15 49 46.0 +0.6
MOD IAmb IAmb 15 49 47.9
comp=Z,98nm,1.4s
GSI Gunungsitoli 83.97 274 P P 15 49 46.2 +0.3
GSI IAmb IAmb 15 49 48.3
comp=Z,92nm,1.0s
H04D Lebanon 84.16 37 P P 15 49 47.6 +1.5
baz=231,SNR=12
J05D Fort Rock, OR 84.25 39 P P 15 49 48.4 +1.6
baz=232,SNR=67
W13A Hualapai Mount 84.28 49 P P 15 49 47.5 +0.3
Y14A Wickenburg 84.29 50 P P 15 49 47.6 +0.6
G03D McMinnville, O 84.30 36 P P 15 49 48.3 +1.5
baz=231
CNPM China Poot 84.63 14 P P 15 49 48.0 0.0
CNPM IAmb IAmb 15 49 49.4
comp=Z,88nm,0.9s
PRN Pahroc Range 84.72 46 P P 15 49 50.0 +0.9
PRN IAmb IAmb 15 49 51.9
comp=Z,112nm,1.7s
SYO Syowa Base 84.81 193 ⇑*iP* P 15 49 47.6 -1.3
SYO Syowa Base 84.81 193 ⇓*iPcP* P 15 49 49.6 +0.7
SYO Syowa Base 84.81 193 ⇓*iPP* pP 15 51 55.0 -2.1
SYO Syowa Base 84.81 193 ⇓*iSP* sP 15 52 56.7 -1.3
I05D Terrebonne, OR 84.83 38 P P 15 49 50.7 +1.3
baz=232,SNR=11
R11A Troy Canyon, C 84.88 45 P P 15 49 50.7 +0.7
baz=237,SNR=10
R11A Troy Canyon, C 84.88 45 P P 15 49 50.0 +0.1
BRLK Bradley Lake 84.92 14 P P 15 49 49.2 -0.3
BRLK IAmb IAmb 15 49 50.6
comp=Z,110nm,1.1s
F04D Rainier, OR 84.99 36 P P 15 49 52.0 +1.9
baz=231
MA2 Magadan 85.03 345 *ce*P P 15 49 49.4 -0.5
MA2 pmax pmax
comp=Z,52nm,1.0s
MA2 Magadan 85.03 345 P P 15 49 49.5 -0.5
MA2 IAmb IAmb 15 49 50.9
comp=Z,60nm,0.9s
RSO Redoubt South 85.15 13 P P 15 49 50.0 -0.7
SVW2 Sparrevohn 85.19 11 P P 15 49 50.2 -0.4
WVOR Wild Horse Val 85.27 40 P P 15 49 51.7 0.0
WVOR pmax pmax
comp=Z,36nm,1.0s
WVOR Wild Horse Val 85.27 40 P P 15 49 51.7 0.0
DIB Dawson Inlet, 85.36 26 P P 15 49 51.9 +0.3
DIB IAmb IAmb 15 49 53.7
comp=Z,44nm,1.1s
NLWA Neilton Lookou 85.37 34 P P 15 49 52.3 +0.4
NLWA IAmb IAmb 15 49 54.7
comp=Z,66nm,1.2s
G05D Wamic, OR 85.40 37 P P 15 49 53.2 +1.1
baz=232
E04D Cinebar 85.53 35 P P 15 49 54.3 +1.7
baz=231,SNR=7.2
X16A Lo Mia Camp, P 85.65 50 P P 15 49 54.6 +0.9
X16A IAmb IAmb 15 51 35.3
comp=Z,35nm,0.4s
F05D White Salmon 85.71 36 P P 15 49 54.7 +1.1
baz=232
O22K Cooper Landing 85.83 14 P P 15 49 53.8 +0.1
baz=207,SNR=7.1
D03D Eldon 85.87 34 P P 15 49 55.8 +1.6
baz=231,SNR=15
U15A North Rim 86.08 48 P P 15 49 57.0 +1.1
U15A IAmb IAmb 15 49 58.6
comp=Z,48nm,0.8s
BJI Beijing 86.13 316 P P 15 49 56.5 +0.9
BJI sP sP 15 53 03.0 -1.6
BJI SKS SKSac 15 59 23.0 -1.4
BJI S S 15 59 40.3 -0.1
BJI sS sS 16 03 34.9 +5.0
BJI pmax pmax
comp=Z,29nm,0.6s
WUAZ Wupatki 86.25 49 P P 15 49 57.9 +1.4
baz=240
WUAZ Wupatki 86.25 49 P P 15 49 57.5 +1.0
GYA Guiyang 86.30 300 ⇓P P 15 49 57.9 +1.0
GYA pP pwP 15 52 08.8 -1.1
GYA sP sP 15 53 03.6 -2.5
GYA PP PP 15 53 29.5 -0.5
GYA SKS SKSac 15 59 24.3 -2.1
GYA S S 15 59 42.5 -0.5
GYA sS sS 16 03 33.9 +1.7
GYA pmax pmax
comp=Z,18nm,1.2s
GYA pmax pmax
comp=Z,73nm,3.5s
PGC Sidney 86.39 33 P P 15 49 57.3 +0.7
HPIG 86.44 59 P P 15 49 58.3 +0.6
SUA Susitna One 86.48 13 P P 15 49 56.5 -0.4
SUA pP pwP 15 52 07.8 -0.8
HIN Hinchinbrook I 86.53 16 P P 15 49 56.9 -0.2
HIN IAmb IAmb 15 49 58.2
comp=Z,90nm,1.2s
VNA3 Neumayer Olymp 86.57 177 P P 15 49 57.5 +0.3
KAIM Kayak Island 86.66 17 P P 15 49 58.5 +0.8
SKT Skwentna 86.78 13 P P 15 49 56.6 -1.5
GLI Glacier Island 86.80 15 P P 15 49 57.7 -0.6
A04D Lummi Island 86.82 34 P P 15 50 00.4 +1.8
baz=231,SNR=10
FID Port Fidalgo 86.84 16 P P 15 49 57.7 -0.8
FID IAmb IAmb 15 49 59.5
comp=Z,83nm,1.1s
B05A Bryant 86.85 34 P P 15 50 00.2 +1.4
baz=231,SNR=21
PBKT Sadao Pong 86.87 289 P P 15 50 01.0 +1.4
PBKT IAmb IAmb 15 50 02.9
comp=Z,53nm,1.3s
KNK Knik Glacier 86.94 14 P P 15 49 58.8 -0.2
NVL N'lazarevskaya 86.98 184 ⇓*iP* P 15 49 58.9 -0.2
NVL *e**PP pwP 15 52 13.0 +1.9
NVL *eS* SKSac 15 59 26.1 -2.6
NVL pmax pmax
comp=Z,83nm,0.7s
RAGM Ragged Mountai 86.99 16 P P 15 49 59.0 -0.2
RAGM IAmb IAmb 15 50 00.9
comp=Z,122nm,1.4s
VNA2 Neumayer--Watz 87.00 177 P P 15 49 59.9 +0.7
HMT Hamilton 87.05 17 P P 15 49 59.8 +0.3
HMT IAmb IAmb 15 50 00.5
comp=Z,52nm,0.7s
HAWA Hanford 87.09 37 P P 15 50 00.9 +0.9
LL01 San Ignacio de 87.10 135 P P 15 50 01.2 +0.9
GHO Glory Hole Cre 87.16 14 P P 15 49 59.8 -0.3
W18A Petrified Fore 87.22 50 P P 15 50 02.2 +1.1
baz=240
W18A Petrified Fore 87.22 50 P P 15 50 02.0 +0.9
W18A IAmb IAmb 15 50 04.4
comp=Z,73nm,1.6s
VNA1 Neumayer--Stat 87.23 177 P P 15 50 01.1 +0.8
C06D Leavenworth 87.27 35 P P 15 50 01.6 +0.7
baz=232
SML Sawmill 87.32 14 P P 15 50 00.6 -0.2
SML Sawmill 87.32 14 P P 15 50 00.6 -0.2
SML IAmb IAmb 15 50 02.0
comp=Z,98nm,1.6s
TIY Taiyuan 87.39 313 *eP* P 15 50 03.3 +1.6
TIY pmax pmax
comp=Z,50nm,0.7s
121A Cookes Peak, D 87.39 53 P P 15 50 03.9 +1.9
baz=242
121A Cookes Peak, D 87.39 53 P P 15 50 03.2 +1.2
CUT Chulitna 87.43 13 P P 15 50 00.9 -0.2
baz=207,SNR=25
BMO Blue Mountains 87.46 39 P P 15 50 02.3 +0.4
BMO pmax pmax
comp=Z,121nm,1.7s
BMO Blue Mountains 87.46 39 P P 15 50 02.2 +0.4
BMO IAmb IAmb 15 50 04.0
comp=Z,121nm,1.7s
PPLA Purkeypile 87.48 12 P P 15 49 59.4 -2.2
MFID Camas Ranch 87.53 41 P P 15 50 03.0 +0.7
MFID IAmb IAmb 15 50 04.6
comp=Z,68nm,1.1s
MESA MESA 87.56 18 P P 15 50 02.7 +0.6
SCM Sheep Creek Mo 87.58 15 P P 15 50 02.1 +0.1
SCM pmax pmax
comp=Z,158nm,0.7s
SCM Sheep Creek Mo 87.58 15 P P 15 50 02.1 +0.1
KLU Klutina 87.62 15 P P 15 50 02.1 -0.1
DUG Dugway, Tooele 87.69 45 P P 15 50 04.0 +0.9
baz=238
DUG Dugway, Tooele 87.69 45 P P 15 50 03.6 +0.5
DUG pmax pmax
comp=Z,18nm,1.2s
DUG Dugway, Tooele 87.69 45 P P 15 50 03.6 +0.5
SEY Seymchan 87.69 348 *d iP* P 15 50 02.9 +0.5
CRQM Cirque 87.71 17 P P 15 50 02.9 +0.1
YAH Yahtse 87.77 18 P P 15 50 03.2 +0.1
WRAK Wrangell Islan 87.78 24 P P 15 50 03.7 +0.7
WRAK IAmb IAmb 15 50 05.4
comp=Z,74nm,1.1s
TGL Tana Glacier 87.79 17 P P 15 50 03.3 +0.2
ISLE Juniper Island 87.80 17 P P 15 50 03.0 -0.2
VRDI Verde Repeater 88.02 17 P P 15 50 04.1 -0.1
VRDI IAmb IAmb 15 50 05.8
comp=Z,79nm,1.2s
XAN Xi'an 88.07 308 P P 15 50 06.4 +1.5
XAN pmax pmax
comp=Z,57nm,0.9s
GLB Gilahina Butte 88.11 16 P P 15 50 04.2 -0.2
GLB IAmb IAmb 15 50 05.8
comp=Z,47nm,0.8s
BALM Baldy 88.16 17 P P 15 50 04.9 +0.1
BALM Baldy 88.16 17 P P 15 50 04.9 +0.1
MCARA McCarthy VSAT 88.27 17 P P 15 50 05.4 +0.3
TRF Thorofare Moun 88.36 13 P P 15 50 04.9 -0.8
BARN Barnard Glacie 88.36 17 P P 15 50 05.9 +0.1
CTGM Chitina Glacie 88.38 18 P P 15 50 06.0 +0.1
TLIG Tlapa 88.42 70 P P 15 50 06.6 -0.4
TLIG IAmb IAmb 15 50 09.5
comp=Z,23nm,0.9s
JIS Juneau Island 88.43 22 P P 15 50 06.6 +0.7
JIS IAmb IAmb 15 50 08.1
comp=Z,45nm,1.3s
ZEA Zeya 88.43 332 *eP* P 15 50 07.2 +1.2
ZEA *eS* S 16 00 08.0 +6.8
ZEA *e* 16 01 15.0
ZEA pmax pmax
comp=N,21nm,0.8s
ZEA pmax pmax
comp=Z,50nm,1.2s
ZEA smax smax
comp=N,300nm,8.0s
ZEA smax smax
comp=E,100nm,8.0s
HLID Hailey 88.47 41 P P 15 50 08.2 +1.5
baz=237
HLID Hailey 88.47 41 P P 15 50 07.2 +0.5
HLID IAmb IAmb 15 50 09.2
comp=Z,33nm,0.9s
RND Reindeer 88.62 13 P P 15 50 06.0 -0.8
RND *PP pP 15 52 18.0 +1.1
RND pmax pmax
comp=Z,125nm,0.9s
RND Reindeer 88.62 13 P P 15 50 06.0 -0.8
RND *pP* 15 52 18.0 +1.1
LENM Lemitar 88.76 52 P P 15 50 08.5 +0.1
MNTX Cornudas Mount 88.81 55 P P 15 50 09.8 +1.4
baz=243
MCK McKinley 88.89 13 P P 15 50 07.0 -1.0
MCK pmax pmax
comp=Z,66nm,1.1s
MCK McKinley 88.89 13 P P 15 50 07.0 -1.0
MCK IAmb IAmb 15 50 08.7
comp=Z,66nm,1.1s
KMI Kunming 88.90 298 ⇑P P 15 50 10.6 +1.4
KMI SKS SKSac 15 59 41.9 -0.1
KMI S S 16 00 05.1 -2.2
KMI sS sS 16 03 59.6 +0.9
KMI pmax pmax
comp=Z,33nm,1.5s
KMI pmax pmax
comp=Z,120nm,6.9s
BNM Barren Site 89.00 52 P P 15 50 10.3 +0.7
LC01 Cunco 89.08 132 P P 15 50 10.9 +1.2
LC01 IAmb IAmb 15 50 11.9
comp=Z,34nm,0.8s
TXAR Lajitas Array 89.09 58 P P 15 50 11.4 +1.5
comp=Z,35nm,1.0s,baz=216,slow=6.2,SNR=14
TXAR pP pwP 15 52 22.3 -0.6
comp=Z,0.4nm,0.8s,baz=221,slow=6.7,SNR=1.6
TXAR PKKPbc PKKPbc 16 07 45.2 +1.2
comp=Z,1.7nm,0.7s,baz=77,slow=3.4,SNR=16
MVCO Mesa Verde 89.11 49 P P 15 50 10.5 +0.6
baz=241
MVCO Mesa Verde 89.11 49 P P 15 50 10.1 +0.2
PLCA Paso Flores 89.11 134 P P 15 50 11.7 +1.9
comp=Z,14nm,0.7s,baz=230,slow=5.0,SNR=34
PLCA pP pwP 15 52 21.4 -1.0
comp=Z,4.7nm,1.1s,baz=218,slow=5.2,SNR=4.7
PLCA Paso Flores 89.11 134 P P 15 50 11.4 +1.6
PLCA pmax pmax
comp=Z,18nm,0.8s
PLCA Paso Flores 89.11 134 P P 15 50 11.4 +1.6
PLCA IAmb IAmb 15 50 12.7
comp=Z,18nm,0.8s
BWN Browne 89.17 13 P P 15 50 08.7 -0.6
HWUT Hardware Ranch 89.23 44 P P 15 50 10.5 +0.2
HWUT IAmb IAmb 15 50 12.0
comp=Z,25nm,0.7s
HIA Hailar 89.27 325 *d iP* P 15 50 10.2 +0.1
HIA pmax pmax
comp=Z,12nm,1.2s
HYT Haines Junctio 89.38 19 P P 15 50 10.4 -0.1
HYT IAmb IAmb 15 50 12.4
comp=Z,38nm,1.4s
CM31 Chiang Mai Arr 89.40 290 P P 15 50 12.7 +1.3
CMAR Chiang Mai Arr 89.40 290 P P 15 50 13.3 +1.9
comp=Z,36nm,0.9s,baz=133,slow=3.2,SNR=198
CMAR PP PP 15 53 55.5 +1.2
comp=Z,1.4nm,0.7s,baz=127,slow=6.3,SNR=4.3

CMAR PKKPbc **PKKPbc** **16 07 43.9 +1.1**
comp=Z,3.0nm,0.6s,baz=282,slow=4.3,SNR=14
BCYI Bear Canyon 89.48 41 P **P** **15 50 11.8 +0.3**
ANMO Albuquerque 89.50 52 *ce*P **P** **15 50 11.1 -0.6**
ANMO pmax pmax
comp=Z,28nm,1.1s
NEW Newport 89.51 36 P **P** **15 50 11.6 +0.3**
baz=235,SNR=5.3
NEW Newport 89.51 36 P **P** **15 50 11.4 +0.1**
NEW pmax pmax
comp=Z,7.0nm,0.8s
NEW Newport 89.51 36 P **P** **15 50 11.4 +0.1**
CHTO Chiang Mai 89.54 290 P **P** **15 50 13.4 +1.4**
CHTO pmax pmax
comp=Z,59nm,0.9s
CHTO Chiang Mai 89.54 290 P **P** **15 50 13.4 +1.4**
HHC Hu-ho-hao-te 89.55 315 *e*P **P** **15 50 12.9 +1.2**
HHC S **S** **16 00 19.8 +7.6**
HHC pmax pmax
comp=Z,48nm,0.6s
HHC pmax pmax
comp=Z,100nm,5.7s
NEA2 Nenana 89.62 13 P **P** **15 50 10.5 -0.8**
baz=208,SNR=13
WRH Wood River Hil 89.72 13 P **P** **15 50 10.9 -0.8**
RIDG Independent Ri 89.80 15 P **P** **15 50 11.9 -0.4**
RIDG IAmb IAmb 15 50 13.5
comp=Z,42nm,1.0s
HDA Harding Lake 89.91 13 P **P** **15 50 12.3 -0.4**
baz=210,SNR=35
HDA Harding Lake 89.91 13 P **P** **15 50 12.0 -0.6**
HDA IAmb IAmb 15 50 14.4
comp=Z,57nm,1.2s
CCB Clear Creek Bu 89.93 13 P **P** **15 50 11.7 -1.0**
CCB pP **pwP** **15 52 24.6 -0.7**
WHY Whitehorse 90.07 20 P **P** **15 50 13.8 +0.1**
ECR Eagle Creek 90.09 43 P **P** **15 50 14.7 +0.4**
DLBC Dease Lake 90.11 24 P **P** **15 50 13.9 0.0**
AHID Auburn Hatcher 90.11 43 P **P** **15 50 14.8 +0.4**
MDM Murphy Dome 90.12 13 P **P** **15 50 12.6 -1.1**
MDM IAmb IAmb 15 50 14.0
comp=Z,56nm,1.1s
TCOL CIGO, UAF Yank 90.12 13 P **P** **15 50 13.0 -0.6**
baz=209,SNR=9.9
COLA College 90.12 13 *d*iP **P** **15 50 12.6 -1.0**
COLA pmax pmax
comp=Z,50nm,1.2s
IL31 90.23 13 P **P** **15 50 13.2 -0.9**
IL31 IAmb IAmb 15 50 14.7
comp=Z,85nm,1.6s
ILAR Eielson Array 90.23 13 P **P** **15 50 13.4 -0.8**
comp=Z,9.4nm,0.7s,baz=221,slow=5.3,SNR=81
ILAR pP **pP** **15 52 24.4 -0.4**
comp=Z,2.5nm,1.0s,baz=225,slow=6.3,SNR=5.8
ILAR PKIKP **PKiKP** **15 55 04.5 -0.5**
comp=Z,0.7nm,0.6s,baz=322,slow=2.5,SNR=5.4
ILAR S **SKSac** **15 59 46.3 -1.1**
comp=Z,0.2nm,0.5s,baz=252,slow=1.8,SNR=1.5
ILAR PKKP **PKKPdf** **16 07 39.7 +1.1**
comp=Z,0.4nm,0.6s,baz=312,slow=2.1,SNR=5.2
ILAR PKPPKP **P'P'df** **16 15 49.9 +3.0**
comp=Z,0.4nm,0.7s,baz=356,slow=1.7,SNR=4.4
POKR Poker Plat Res 90.42 13 P **P** **15 50 14.3 -0.7**
baz=210,SNR=5.7
MSO Missoula 90.51 39 P **P** **15 50 15.9 -0.1**
baz=238
MSO Missoula 90.51 39 P **P** **15 50 15.4 -0.6**
DLMT Dillon 90.53 40 P **P** **15 50 15.7 -0.5**
S22A 4UR Ranch, Cre 90.53 49 P **P** **15 50 17.7 +1.1**
baz=242,SNR=32
S22A 4UR Ranch, Cre 90.53 49 P **P** **15 50 16.9 +0.3**
S22A IAmb IAmb 15 50 19.0
comp=Z,28nm,1.1s
BI02 San Fabin de 90.55 130 P **P** **15 50 17.4 +0.8**
BI02 IAmb IAmb 15 50 18.7
comp=Z,16nm,0.8s
CD2 Chengdu 90.55 303 *e*P **P** **15 50 17.0 +0.5**
REDW Red Top Meadow 90.57 43 P **P** **15 50 17.0 +0.4**
REDW IAmb IAmb 15 50 18.8
comp=Z,52nm,1.1s
TPAW Teton Pass 90.58 43 P **P** **15 50 16.4 -0.2**
TPAW IAmb IAmb 15 50 18.0
comp=Z,23nm,0.9s
FXWY Fox Creek 90.60 42 P **P** **15 50 16.9 +0.2**
FXWY IAmb IAmb 15 50 19.2
comp=Z,52nm,1.7s
SNOW Snow King Moun 90.68 43 P **P** **15 50 17.7 +0.6**
SNOW IAmb IAmb 15 50 19.5
comp=Z,36nm,0.9s
O20A White River Ci 90.69 47 P **P** **15 50 18.0 +0.9**
baz=241,SNR=10.0
O20A White River Ci 90.69 47 P **P** **15 50 17.5 +0.4**
O20A IAmb IAmb 15 50 19.0
comp=Z,28nm,0.9s
K27K Chicken 90.71 16 P **P** **15 50 17.2 +0.8**
baz=214
RDOG Red Dog Mine 90.78 6 P **P** **15 50 17.0 +0.4**
RDOG IAmb IAmb 15 50 18.1
comp=Z,24nm,0.9s
IMW Indian Meadow 90.79 42 P **P** **15 50 18.0 +0.4**
IMW IAmb IAmb 15 50 20.0
comp=Z,44nm,1.2s
LOHW Long Hollow 90.85 43 P **P** **15 50 17.9 0.0**
FLWY Flagg Ranch 91.03 42 P **P** **15 50 18.9 +0.2**
BW06 Boulder Array 91.10 44 P **P** **15 50 19.3 +0.3**
baz=240,SNR=23
PD31 Pinedale Array 91.10 44 P **P** **15 50 18.8 -0.2**
PD31 IAmb IAmb 15 50 20.6
comp=Z,23nm,1.1s
PDAR Pinedale Array 91.10 44 P **P** **15 50 19.2 +0.2**
comp=Z,11nm,0.8s,baz=204,slow=3.3,SNR=75
PDAR pP **pP** **15 52 31.0 +1.8**
comp=Z,0.1nm,0.4s,baz=270,slow=0.5,SNR=1.0
PDAR PKKPbc **PKKPbc** **16 07 39.5 -0.2**
comp=Z,1.6nm,0.9s,baz=86,slow=4.9,SNR=9.8
PDAR PKPPKP **P'P'df** **16 15 55.0 +7.6**
comp=Z,0.1nm,0.6s,baz=46,slow=4.3,SNR=4.0
BOZ Bozeman (W) 91.23 41 P **P** **15 50 20.3 +0.9**
baz=239,SNR=17
BOZ Bozeman (W) 91.23 41 P **P** **15 50 19.2 -0.2**
BOZ pmax pmax
comp=Z,20nm,1.1s
BOZ Bozeman (W) 91.23 41 P **P** **15 50 19.2 -0.2**
BOZ IAmb IAmb 15 50 21.6
comp=Z,20nm,1.1s
SDCO Great Sand Dun 91.46 50 P **P** **15 50 21.5 +0.6**
baz=243,SNR=25
SDCO Great Sand Dun 91.46 50 P **P** **15 50 20.9 0.0**
SDCO IAmb IAmb 15 50 22.7
comp=Z,16nm,0.8s
EGAK Eagle 91.56 15 P **P** **15 50 20.2 -0.1**
EGAK IAmb IAmb 15 50 21.4
comp=Z,25nm,0.8s
WALA Waterton Lakes 91.72 37 P **P** **15 50 21.8 +0.2**
WALA IAmb IAmb 15 50 23.3
comp=Z,38nm,1.6s
BO01 Tunca 91.76 128 P **P** **15 50 22.8 +0.7**
COLD Coldfoot 91.76 11 P **P** **15 50 21.6 +0.4**
baz=207,SNR=19
MSTX Muleshoe 91.79 54 P **P** **15 50 22.7 +0.5**
baz=244
BO02 Sierra Bellavi 91.79 129 P **P** **15 50 23.2 +0.9**
BO02 IAmb IAmb 15 50 24.2
comp=Z,16nm,0.7s
T25A Trinidad 91.97 51 P **P** **15 50 23.6 +0.5**
baz=244,SNR=11
T25A Trinidad 91.97 51 P **P** **15 50 23.1 0.0**
T25A IAmb IAmb 15 50 24.7
comp=Z,18nm,0.9s
833A Chaparral WMA, 92.06 60 P **P** **15 50 24.5 +1.0**
baz=246
833A Chaparral WMA, 92.06 60 P **P** **15 50 24.1 +0.6**
833A IAmb IAmb 15 50 25.5
comp=Z,27nm,1.0s
RWWY Rawlins 92.11 46 P **P** **15 50 23.9 +0.2**
RWWY IAmb IAmb 15 50 25.4
comp=Z,37nm,1.2s
Q24A Divide 92.26 49 P **P** **15 50 25.3 +0.8**
baz=243,SNR=5.8
Q24A Divide 92.26 49 P **P** **15 50 24.3 -0.2**
Q24A IAmb IAmb 15 50 26.5
comp=Z,17nm,1.1s
ISCO Idaho Springs 92.32 48 P **P** **15 50 25.5 +0.7**
baz=243,SNR=6.9
ISCO Idaho Springs 92.32 48 P **P** **15 50 24.9 +0.1**
ISCO pmax pmax
comp=Z,6.0nm,0.8s
ISCO Idaho Springs 92.32 48 P **P** **15 50 24.9 +0.1**
RLMT Red Lodge 92.44 42 P **P** **15 50 26.0 +0.9**
baz=241,SNR=6.0
RLMT Red Lodge 92.44 42 P **P** **15 50 25.8 +0.8**
N23A Red Feather La 92.59 47 P **P** **15 50 26.8 +0.8**
baz=243,SNR=5.1
N23A Red Feather La 92.59 47 P **P** **15 50 26.5 +0.6**
N23A IAmb IAmb 15 50 28.1
comp=Z,19nm,1.2s
PEL Peldehue 92.64 127 P **P** **15 50 27.0 +0.8**
PEL pmax pmax
comp=Z,24nm,0.7s
PEL Peldehue 92.64 127 P **P** **15 50 27.0 +0.8**
PEL IAmb IAmb 15 50 28.2
comp=Z,24nm,0.7s
LZH Lanzhou 92.71 308 *e*P **P** **15 50 28.0 +1.5**
LZH pP pP 15 52 36.8 +0.2
LZH sP sP 15 53 34.0 -2.3
LZH pmax pmax
comp=Z,29nm,1.2s
AMTX Amarillo 92.99 54 P **P** **15 50 27.9 +0.2**
baz=245
K22A Casper 93.01 45 P **P** **15 50 28.2 +0.5**
baz=243,SNR=6.9
K22A Casper 93.01 45 P **P** **15 50 27.8 +0.1**
K22A IAmb IAmb 15 50 29.5
comp=Z,35nm,1.4s
PHWY Pilot Hill 93.10 46 P **P** **15 50 28.6 +0.3**
TOLK Toolik Lake Re 93.13 11 P **P** **15 50 27.6 +0.1**
baz=208
YAK Yakutsk 93.15 339 *d*iP **P** **15 50 27.0 -0.6**
YAK *e**PP **pwP** **15 52 41.8 -0.5**
YAK *e* 15 54 20.4
YAK *e*PPP PPP 15 56 28.7
YAK *e*S **SKSac** **15 59 59.4 -4.1**
YAK *e* 16 00 41.3
YAK *e*SS **SS** **16 07 25.7 +7.9**
YAK *e*SSS SSS 16 11 04.4
YAK pmax pmax
comp=Z,49nm,0.8s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=Z,29nm,3.0s
YAK pmax pmax
comp=N,12nm,2.6s
YAK pmax pmax
comp=E,12nm,2.2s
YAK smax smax
comp=N,65nm,1.9s
YAK smax smax
comp=E,29nm,2.0s
YAK Yakutsk 93.15 339 P **P** **15 50 26.9 -0.6**
YAK pP **pP** **15 52 38.3 +0.5**
CO02 Combarbal 93.33 125 P **P** **15 50 30.4 +0.9**
EGMT Eagleton 93.56 39 P **P** **15 50 30.4 +0.4**
baz=241
ABTX Abilene, Hawle 93.61 56 P **P** **15 50 31.1 +0.6**
baz=246
CO03 El Pedregal 93.74 125 P **P** **15 50 32.0 +0.6**
CO03 IAmb IAmb 15 50 33.1
comp=Z,12nm,0.8s
GO04 Tololo Observa 93.97 125 P **P** **15 50 32.9 +0.4**
GO04 IAmb IAmb 15 50 34.6
comp=Z,20nm,1.1s
KSCO Kaye Shedlock' 94.05 50 P **P** **15 50 33.3 +0.8**
baz=245
KSCO Kaye Shedlock' 94.05 50 P **P** **15 50 32.9 +0.4**
ZON Zonda 94.90 127 P **P** **15 50 37.6 +1.0**
ZON pmax pmax
comp=Z,12nm,1.0s
ZON Zonda 94.90 127 P **P** **15 50 37.6 +1.0**
ZON IAmb IAmb 15 50 38.5
comp=Z,12nm,1.0s
AC05 El Transito 95.00 124 P **P** **15 50 38.5 +1.4**
AC05 IAmb IAmb 15 50 39.8
comp=Z,17nm,1.1s
LAO LASA Array 95.05 41 P **P** **15 50 37.7 +1.0**
baz=243
LAO LASA Array 95.05 41 P **P** **15 50 38.0 +1.3**
LAO IAmb IAmb 15 50 39.1
comp=Z,30nm,1.3s
WMOK Wichita Mounta 95.11 55 P **P** **15 50 37.8 +0.6**
baz=247
RSSD Black Hills 95.29 44 P **P** **15 50 38.2 +0.1**
baz=244
RSSD Black Hills 95.29 44 P **P** **15 50 38.0 -0.1**
RSSD pmax pmax
comp=Z,11nm,0.9s
RSSD Black Hills 95.29 44 P **P** **15 50 38.0 -0.1**
RSSD IAmb IAmb 15 50 39.3
comp=Z,11nm,0.9s
HKT Hockley 95.56 60 *i*P **P** **15 50 37.9 -1.4**
HKT pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 95.74 320 *ce*P **P** **15 50 38.7 -1.2**
ULN pmax pmax
comp=Z,4.0nm,1.1s
CBKS Cedar Bluff 96.02 51 P **P** **15 50 41.6 +0.4**
baz=246
SONM Songino Array 96.12 319 P **P** **15 50 41.1 -0.5**
comp=Z,1.3nm,0.8s,baz=129,slow=4.0,SNR=6.6
SONM S **SKSac** **16 00 19.2 -0.9**
comp=Z,0.5nm,0.7s,baz=152,slow=35,SNR=1.8
SONM PKKPbc **PKKPbc** **16 07 26.2 -0.6**
comp=Z,1.7nm,0.5s,baz=268,slow=2.2,SNR=8.3
INK Inuvik 96.23 16 P **P** **15 50 40.9 -0.5**
INK pmax pmax
comp=Z,23nm,1.4s
INK Inuvik 96.23 16 P **P** **15 50 40.9 -0.5**
INK IAmb IAmb 15 50 42.1
comp=Z,23nm,1.4s
GTA Gaotai 96.98 310 ⇓P **P** **15 50 46.3 +0.6**
GTA pP pwP 15 53 04.0 +2.9
GTA sP sP 15 53 54.4 -1.5
GTA PP **PP** **15 54 53.6 +1.3**
GTA SS SS 16 08 10.6 -2.1
GTA pmax pmax
comp=Z,7.0nm,1.4s
GTA pmax pmax
comp=Z,31nm,5.1s
DGMT Dagmar 97.07 40 P **P** **15 50 46.6 +0.9**
baz=245
YKA Yellowknife Ar 98.59 25 P **P** **15 50 52.5 +0.4**
comp=Z,2.2nm,0.7s,baz=249,slow=4.3,SNR=3.9
YKA PKKP **PKKPbc** **16 07 18.8 -1.6**
comp=Z,1.0nm,0.7s,baz=46,slow=2.9,SNR=5.1
ZAK Zakamensk 99.05 321 *e*P **Pdif** **15 50 53.0 -1.6**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
C36M Paulatuk 99.43 17 P **Pdif** **15 50 57.0 +1.4**
baz=231
ECSD EROS Data Cent 100.06 47 P **Pdif** **15 50 59.5 +0.4**
baz=249
U40A Yellville 100.20 55 P **Pdif** **15 51 00.4 +0.5**
baz=250
LPAZ La Paz 102.66 114 PKKPbc PKKPbc 16 07 08.4 0.0
comp=Z,2.2nm,0.8s,baz=162,slow=1.2,SNR=6.9
ULM Lac du Bonnet 102.77 41 PKKPbc PKKPbc 16 07 10.2 +2.1
comp=Z,1.8nm,0.5s,baz=21,slow=3.8,SNR=1.6
WVT Waverly 103.97 57 P **Pdif** **15 51 16.8 +0.2**
baz=253
CPUP Villa Florida 106.08 128 PKiKP **PKiKP** **15 55 34.5 +0.1**
comp=Z,1.8nm,0.8s,baz=0.0,slow=3.0,SNR=4.3
GOGA Godfrey 106.65 60 P **PKiKP** **15 55 34.9 -0.3**
baz=254
T53A Wise 108.31 57 P **PKiKP** **15 55 38.2 -0.1**
baz=256
Z56A Williston 108.32 61 P **PKiKP** **15 55 38.1 -0.2**
baz=255
X55A Gracelyn & Ava 108.39 60 P **PKiKP** **15 55 38.2 -0.2**
baz=256
V54A Nebo 108.47 58 P **PKiKP** **15 55 38.2 -0.4**
baz=256
Z57A Bowman 108.85 61 P **PKiKP** **15 55 39.2 -0.1**
baz=256
X56A White Oak 108.88 60 P **PKiKP** **15 55 39.2 -0.2**
baz=256
V55A Taylorsville 109.07 58 P **PKiKP** **15 55 39.3 -0.4**
baz=256
T54A Tazewell 109.07 57 P **PKiKP** **15 55 39.4 -0.3**
baz=256
U55A TA2, Sparta 109.35 58 P **PKiKP** **15 55 40.1 -0.2**
baz=256
S54A Dingess, Beckl 109.45 56 P **PKiKP** **15 55 40.2 -0.2**
baz=257
O52A Adamsville 109.57 54 P **PKiKP** **15 55 39.9 -0.6**
baz=257
V56A Mocksville 109.62 58 P **PKiKP** **15 55 40.5 -0.2**
baz=256
ZSN Zaisan 109.74 314 *i* PKiKP **PKiKP** **15 55 39.6 -1.0**
baz=314
W57A Gilead 109.87 59 P **PKiKP** **15 55 40.6 -0.5**
baz=256
E47A Iron Bridge 109.88 47 P **PKiKP** **15 55 40.5 -0.3**
baz=259
BLA Blacksburg 110.00 57 P **PKiKP** **15 55 41.0 -0.5**
baz=257
O53A New Philadelph 110.07 54 P **PKiKP** **15 55 41.0 -0.4**
baz=258
S55A Lewisburg 110.07 56 P **PKiKP** **15 55 40.9 -0.6**
baz=257
Q54A Coxs Mills 110.08 55 P **PKiKP** **15 55 40.7 -0.8**
baz=257
D47A Chapleau 110.11 46 P **PKiKP** **15 55 40.9 -0.4**
baz=259
V57A Coltrane Farms 110.21 59 P **PKiKP** **15 55 41.4 -0.5**
baz=257
N53A Lisbon 110.46 53 P **PKiKP** **15 55 41.8 -0.4**
baz=258
R55A Marlinton 110.47 56 P **PKiKP** **15 55 41.9 -0.4**
baz=258
F49A Sandfield 110.58 48 P **PKiKP** **15 55 41.9 -0.3**
baz=259
Q55A Buckhannon 110.66 55 P **PKiKP** **15 55 42.2 -0.5**
baz=258
O54A Avella 110.68 54 P **PKiKP** **15 55 42.4 -0.2**
baz=258
V58A Windy Hill, Pi 110.71 59 P **PKiKP** **15 55 42.4 -0.3**
baz=257
M53A WI Miller and 110.71 53 P **PKiKP** **15 55 42.6 -0.1**
baz=258
T57A Hurt 110.87 57 P **PKiKP** **15 55 42.8 -0.3**
baz=258
ZALV Zalesovo Beam 110.93 321 PKiKP **PKiKP** **15 55 41.5 -1.1**
comp=Z,6.8nm,0.6s,baz=124,slow=0.6,SNR=25
D48A Paudash Townsh 111.00 46 P **PKiKP** **15 55 42.3 -0.7**
baz=260
R56A Bull Pasture M 111.05 56 P **PKiKP** **15 55 42.7 -0.7**
baz=258
L53A Girard 111.12 52 P **PKiKP** **15 55 42.8 -0.6**
baz=259
N54A Moraine State 111.13 53 P **PKiKP** **15 55 42.8 -0.6**
baz=259
U58A Oxford 111.29 58 P **PKiKP** **15 55 43.5 -0.3**
baz=258
D49A Beulah Townshi 111.32 46 P **PKiKP** **15 55 42.8 -0.8**
baz=260
MK31 Makanchi Array 111.35 313 *i* PKiKP **PKiKP** **15 55 42.3 -1.4**
MKAR Makanchi Array 111.35 313 Pdiff **Pdif** **15 51 50.1 +0.9**
comp=Z,0.7nm,0.8s,baz=94,slow=6.3,SNR=5.4
MKAR PKiKP **PKiKP** **15 55 42.8 -0.9**
comp=Z,4.8nm,0.5s,baz=158,slow=0.5,SNR=53
MKAR PKKPbc **PKKPbc** **16 06 41.6 0.0**
comp=Z,3.7nm,0.7s,baz=276,slow=4.0,SNR=29
MKAR PKKPab **PKKPab** **16 06 52.5 +0.8**
comp=Z,2.1nm,0.7s,baz=286,slow=3.6,SNR=9.8
Q56A Snyder Ridge, 111.35 55 P **PKiKP** **15 55 43.4 -0.5**
baz=258
O55A Ligonier 111.49 54 P **PKiKP** **15 55 43.9 -0.3**
baz=259
MAKZ Makanchi 111.56 313 PKiKP **PKiKP** **15 55 43.1 -1.0**
NRIK Noril'sk 111.58 338 PKiKP **PKiKP** **15 55 42.6 -0.8**
comp=Z,2.4nm,0.6s,baz=100,slow=5.0,SNR=6.1
NRIK Noril'sk 111.58 338 *i* PKiKP **PKiKP** **15 55 44.6 +1.2**
E50A Wahnapitae 111.60 47 P **PKiKP** **15 55 43.7 -0.4**
baz=260
P56A Dayton Farm, R 111.70 55 P **PKiKP** **15 55 43.9 -0.6**
baz=259
N55A Marion Center 111.84 54 P **PKiKP** **15 55 44.3 -0.5**
baz=259
S58A Poland Farm, P 111.93 57 P **PKiKP** **15 55 44.6 -0.4**
baz=258
Q57A Strasburg 111.94 55 P **PKiKP** **15 55 44.7 -0.3**
baz=259
O56A Blue Knob Stat 112.06 54 P **PKiKP** **15 55 45.0 -0.3**
baz=259
T59A Double "B" Far 112.19 58 P **PKiKP** **15 55 45.2 -0.3**
baz=258
D50A G1974 Best Tow 112.33 47 P **PKiKP** **15 55 44.9 -0.6**
baz=261
P57A Homestead Farm 112.33 55 P **PKiKP** **15 55 45.4 -0.3**
baz=259
N56A West Decatur 112.38 54 P **PKiKP** **15 55 45.6 -0.3**
baz=260
K54A Basiliko Farm, 112.39 52 P **PKiKP** **15 55 45.2 -0.6**
baz=260
Q58A Fox Den Farm, 112.48 56 P **PKiKP** **15 55 45.6 -0.4**
baz=259
L55A Hinsdale 112.50 52 P **PKiKP** **15 55 45.2 -0.8**
baz=260
M56A Emporium 112.56 53 P **PKiKP** **15 55 46.0 -0.2**
baz=260
SSPA Standing Stone 112.63 54 P **PKiKP** **15 55 46.0 -0.3**
baz=260
SHLS Shalkode 112.71 309 *e*PKiKP **PKiKP** **15 55 45.0 -1.5**
baz=309
SHLS Shalkode 112.71 309 *i* PKiKP **PKiKP** **15 55 45.0 -1.5**
PDGK Podgornoye 112.72 309 PKiKP **PKiKP** **15 55 45.4 -1.2**
H53A Bobcaygeon 112.79 50 P **PKiKP** **15 55 46.1 -0.3**
baz=261
K55A Perry 112.86 52 P **PKiKP** **15 55 46.5 -0.1**
baz=260
P58A Pank, Wackersv 112.87 55 P **PKiKP** **15 55 46.1 -0.7**
baz=260
E52A Mattawa 113.00 48 P **PKiKP** **15 55 45.9 -0.9**
baz=262
UZB Uzynbulak 113.03 309 *e*PKiKP **PKiKP** **15 55 46.1 -1.1**
baz=309
UZB Uzynbulak 113.03 309 *i* PKiKP **PKiKP** **15 55 46.0 -1.1**
L56A Greenwood 113.13 52 P **PKiKP** **15 55 46.9 -0.3**
baz=261
G54A Lake Saint Pet 113.26 49 P **PKiKP** **15 55 46.8 -0.6**
baz=262
D52A ZEK Kipawa Sen 113.26 47 P **PKiKP** **15 55 46.9 -0.4**
baz=262
O58A Lewisberry 113.27 55 P **PKiKP** **15 55 47.2 -0.3**
baz=260
M57A Sunshine Farm, 113.32 53 P **PKiKP** **15 55 47.4 -0.2**
baz=260
ALGO Algonquin Park 113.37 48 P **PKiKP** **15 55 47.3 -0.2**
baz=262
K56A Middlesex 113.39 52 P **PKiKP** **15 55 47.1 -0.6**
baz=261
SATY Saty 113.46 309 *e*PKiKP **PKiKP** **15 55 47.1 -0.9**
comp=Z,3.2nm,0.7s,baz=309
SATY Saty 113.46 309 *i* PKiKP **PKiKP** **15 55 47.0 -0.9**
SATY pmax pmax
comp=Z,3.0nm,0.7s
N58A Sunbury 113.54 54 P **PKiKP** **15 55 47.7 -0.3**
baz=261
L57A Andrews Acres 113.63 53 P **PKiKP** **15 55 47.5 -0.7**
baz=261
E53A Dumoine, Ponti 113.69 48 P **PKiKP** **15 55 47.5 -0.7**
baz=262
TDK Taldyqorghan 113.74 311 *e*PKiKP **PKiKP** **15 55 47.4 -0.9**
baz=311
TDK Taldyqorghan 113.74 311 *i* PKiKP **PKiKP** **15 55 47.4 -0.9**
D53A Lac Vacive, Po 113.76 47 P **PKiKP** **15 55 47.9 -0.4**
baz=263
H55A Tweed 113.77 50 P **PKiKP** **15 55 47.8 -0.5**
baz=262
S61A Accomac 113.80 57 P **PKiKP** **15 55 48.3 -0.3**
baz=260
M58A Price's Panora 113.82 53 P **PKiKP** **15 55 48.2 -0.4**
baz=261
J56A Wolcott 113.82 51 P **PKiKP** **15 55 47.8 -0.6**
baz=262
K57A Scipio Center 113.99 52 P **PKiKP** **15 55 48.1 -0.7**
baz=262
E54A Lac Daplat, Po 114.03 48 P PKPdf 15 55 47.8 -0.9
baz=263
MATQ Matagami 114.12 44 P PKPdf 15 55 48.3 -0.6
baz=264
G55A Calabogie 114.20 49 P PKPdf 15 55 48.7 -0.4
baz=262
N59A State Game Lan 114.26 54 P PKPdf 15 55 49.1 -0.3
baz=261
KURK Kurchatov 114.29 317 *i* PKiKP PKPdf 15 55 47.9 -1.2
BINY Binghamton 114.30 52 P PKPdf 15 55 49.2 -0.3
baz=262

KURBB **Kurchatov Arra** 114.33 317 PKP PKPdf 15 55 48.1 -1.1
comp=Z,8.3nm,0.6s,baz=111,slow=1.8,SNR=4.4
L58A **Harry Jones Me** 114.37 53 P PKPdf 15 55 49.3 -0.3
baz=262
H56A **Elgin** 114.43 50 P PKPdf 15 55 49.1 -0.5
baz=262
MDOK **Medeo** 114.46 309 *i* PKP PKPdf 15 55 48.7 -1.3
baz=309
MDOK **Medeo** 114.46 309 *i* PKIKP PKPdf 15 55 48.6 -1.3
J57A **Williamstown** 114.46 51 P PKPdf 15 55 49.2 -0.5
baz=262
LSQQ **Lebel-sur-Quev** 114.47 45 P PKPdf 15 55 49.1 -0.5
baz=264
D54A **Lac Fusel, La** 114.48 47 P PKPdf 15 55 49.0 -0.7
baz=263
TNSS **Tian-Shan** 114.51 308 *i* PKP PKPdf 15 55 49.5 -0.9
baz=308
TNSS **Tian-Shan** 114.51 308 *i* PKIKP PKPdf 15 55 49.4 -1.0
AAA **Alma-Ata** 114.56 309 *e*PKP PKPdf 15 55 49.3 -0.8
baz=309
AAA **Alma-Ata** 114.56 309 *e*PKIKP PKPdf 15 55 49.2 -0.8
CHKK **Chushkaly** 114.59 309 *i* PKP PKPdf 15 55 48.4 -1.6
baz=309
CHKK **Chushkaly** 114.59 309 *i* PKIKP PKPdf 15 55 48.3 -1.7
M59A **Waymart** 114.61 53 P PKPdf 15 55 49.6 -0.5
baz=262
K58A **Earlville** 114.63 52 P PKPdf 15 55 49.6 -0.4
baz=262
N60A **Cedar Hill Far** 114.76 54 P PKPdf 15 55 49.4 -0.9
baz=262
I57A **Carthage** 114.78 51 P PKPdf 15 55 49.6 -0.7
baz=263
E55A **Montcerf-Lytto** 114.80 48 P PKPdf 15 55 49.0 -1.2
baz=264
MTBS **Maitube** 114.90 308 *e*PKP PKPdf 15 55 49.6 -1.1
baz=308
MTBS **Maitube** 114.90 308 *e*PKIKP PKPdf 15 55 49.5 -1.2
J58A **Remsen** 114.97 51 P PKPdf 15 55 50.1 -0.7
baz=263
L59A **Walton** 114.99 53 P PKPdf 15 55 50.7 -0.1
baz=262
H57A **Richville** 115.03 50 P **PKPdf** **15 55 50.7 0.0**
baz=263
KUU **Kurty** 115.06 309 *e*PKP **PKPdf** **15 55 49.3 -1.7**
baz=309
KUU **Kurty** 115.06 309 *e*PKIKP **PKPdf** **15 55 49.2 -1.7**
ORIO **Orleans, Innes** 115.07 49 P **PKPdf** **15 55 50.3 -0.5**
baz=263
M60A **Port Jervis** 115.18 54 P **PKPdf** **15 55 50.6 -0.6**
baz=262
K59A **Cooperstown** 115.21 52 P **PKPdf** **15 55 50.4 -0.8**
baz=263
I58A **Old Forge** 115.24 51 P **PKPdf** **15 55 50.8 -0.5**
baz=263
D55A **Sainte-Anne-du** 115.27 47 P **PKPdf** **15 55 50.1 -1.0**
baz=264
G57A **Newington** 115.40 49 P **PKPdf** **15 55 50.6 -0.8**
baz=264
TKM2 **Tokmak 2** 115.48 308 P **PKPdf** **15 55 51.2 -0.8**
SNR=20
TKM2 **Tokmak 2** 115.48 308 PKIKP **PKPdf** **15 55 51.0 -1.0**
E56A **St. Veronique** 115.52 48 P **PKPdf** **15 55 51.0 -0.7**
baz=264
J59A **Piesco** 115.55 51 P **PKPdf** **15 55 51.4 -0.5**
baz=263
J59A **Piesco** 115.55 51 **PKPdf** **15 55 50.9 -0.9**
L60A **Shokan** 115.57 53 P **PKPdf** **15 55 51.4 -0.5**
baz=263
KZA **Kyzart** 115.63 307 P **PKiKP** **15 55 52.8 +0.2**
SNR=6.4
PAL **Palisades** 115.67 54 P **PKPdf** **15 55 52.1 0.0**
baz=262
D56A **ZEC Mazanza, M** 115.76 47 P **PKPdf** **15 55 51.8 -0.3**
baz=265
M61A **Granite Spring** 115.82 54 P **PKPdf** **15 55 52.1 -0.3**
baz=263
NIL **Nilore** 115.90 298 PKIKP **PKPdf** **15 55 51.7 -1.1**
NIL **Nilore** 115.90 298 **PKPdf** **15 55 51.7 -1.1**
KBK **Karagaybulak** 115.92 308 P **PKPdf** **15 55 52.5 -0.3**
SNR=7.8
I59A **Olmsteadville** 116.04 51 P **PKPdf** **15 55 52.5 -0.2**
baz=264
L61A **Hillsdale 1, H** 116.09 53 P **PKPdf** **15 55 52.7 -0.2**
baz=263
CHMS **Chumysh** 116.10 308 P **PKPdf** **15 55 52.4 -0.5**
SNR=10
E57A **Chemin Saint G** 116.11 48 P **PKPdf** **15 55 52.6 -0.3**
baz=265,SNR=5.1
UCH **Uchtor** 116.19 307 P **PKiKP** **15 55 53.9 +0.1**
SNR=22
SGDS **Sogindy** 116.24 309 *i* PKP **PKPdf** **15 55 51.8 -1.5**
comp=Z,5.6nm,0.6s,baz=309
SGDS **Sogindy** 116.24 309 *i* PKIKP **PKPdf** **15 55 51.8 -1.5**
SGDS pmax pmax
comp=Z,6.0nm,0.6s
AAK **Ala-Archa** 116.25 308 PKP **PKPdf** **15 55 52.7 -0.7**
comp=Z,6.1nm,0.7s,baz=138,slow=2.0,SNR=14
AAK **Ala-Archa** 116.25 308 P **PKPdf** **15 55 53.1 -0.3**
SNR=5.8
AAK **Ala-Archa** 116.25 308 PKIKP **PKPdf** **15 55 52.9 -0.5**
AAK **Ala-Archa** 116.25 308 **PKPdf** **15 55 52.9 -0.5**
H59A **Cadyville** 116.26 50 P **PKPdf** **15 55 52.8 -0.4**
baz=264
J60A **Lant Hill Farm** 116.31 52 P **PKPdf** **15 55 52.6 -0.7**
baz=264
D57A **Chemin Vers le** 116.34 47 P **PKPdf** **15 55 52.9 -0.3**
baz=265,SNR=5.7
K61A **Williamstown** 116.35 52 P **PKPdf** **15 55 53.2 -0.2**
baz=264
I60A **Shoreham** 116.46 51 P **PKPdf** **15 55 53.5 -0.1**
baz=264
M62A **Hamden** 116.49 54 P **PKPdf** **15 55 53.2 -0.5**
baz=263
E58A **La Victoria** 116.71 48 P **PKPdf** **15 55 53.6 -0.4**
baz=265
N63A **Mattituck** 116.71 54 P **PKPdf** **15 55 53.7 -0.4**
baz=263
L61B **Northampton** 116.76 53 P **PKPdf** **15 55 53.9 -0.3**
baz=264
EKS2 **Erkin-Say** 116.78 308 P **PKPdf** **15 55 54.2 -0.2**
SNR=13
AML **Almayashu** 116.78 307 P **PKPdf** **15 55 54.6 -0.2**
SNR=34
BTLS **Baital** 116.82 310 *i* PKP **PKPdf** **15 55 53.2 -1.1**
comp=Z,4.6nm,0.5s,baz=310
BTLS **Baital** 116.82 310 *i* PKIKP **PKPdf** **15 55 53.1 -1.1**
BTLS pmax pmax
comp=Z,5.0nm,0.5s
J61A **Chester** 116.95 52 P **PKPdf** **15 55 54.3 -0.2**
baz=264
D58A **Chemin du LacG** 117.04 47 P **PKPdf** **15 55 53.6 -1.0**
baz=266,SNR=8.7
K62A **Royalston** 117.11 52 P **PKPdf** **15 55 54.6 -0.2**
baz=264
I61A **Oroboro, Fairl** 117.25 51 P **PKPdf** **15 55 54.6 -0.5**
baz=265
G60A **Masonville** 117.26 50 P **PKPdf** **15 55 54.9 -0.2**
baz=265
J62A **Henniker** 117.47 52 P **PKPdf** **15 55 55.4 -0.1**
baz=265
LBNH **Lisbon** 117.48 51 P **PKPdf** **15 55 55.2 -0.3**
baz=265
LBNH **Lisbon** 117.48 51 PKIKP **PKPdf** **15 55 55.2 -0.3**
LBNH **Lisbon** 117.48 51 **PKPdf** **15 55 55.2 -0.3**
L63A **North Scituate** 117.49 53 P **PKPdf** **15 55 55.1 -0.5**
baz=264
H61A **Lyndonville** 117.51 50 P **PKPdf** **15 55 55.2 -0.4**
baz=265
HRV **Adam Dziewonsk** 117.59 53 P **PKPdf** **15 55 55.4 -0.4**
baz=265
F60A **Warwick** 117.60 49 P **PKPdf** **15 55 55.0 -0.6**
baz=266,SNR=5.8
K63A **Dunstable** 117.63 52 P **PKPdf** **15 55 55.4 -0.4**
baz=265
M64A **Tiverton** 117.75 54 P **PKPdf** **15 55 55.8 -0.3**
baz=264
G61A **St-Isidore-de-** 117.85 49 P **PKPdf** **15 55 56.1 -0.1**
baz=266
I62A **Tamworth** 117.88 51 P **PKPdf** **15 55 56.1 -0.2**
baz=265
E60A **Ste Agathe de** 117.97 48 P **PKPdf** **15 55 55.8 -0.6**
baz=267,SNR=7.0
J63A **Strafford** 118.01 52 P **PKPdf** **15 55 56.1 -0.4**
baz=265
BRZS **Berezniki** 118.04 316 *i* PKP **PKPdf** **15 55 54.9 -1.6**
comp=Z,10nm,0.5s,baz=316
BRZS **Berezniki** 118.04 316 *i* PKIKP **PKPdf** **15 55 54.8 -1.6**
BRZS pmax pmax
comp=Z,10.0nm,0.5s
H62A **Milan** 118.06 50 P **PKPdf** **15 55 56.4 -0.2**
baz=266
L64A **Middleborough** 118.07 53 P **PKPdf** **15 55 56.4 -0.3**
baz=265
OTUK **Ortayu** 118.20 314 PKIKP **PKPdf** **15 55 56.3 -0.5**
F61A **St Evariste** 118.27 49 P **PKPdf** **15 55 56.8 -0.2**
baz=267
I63A **Otisfield** 118.43 51 P **PKPdf** **15 55 57.2 -0.2**
baz=266
I63A **Otisfield** 118.43 51 **PKPdf** **15 55 57.1 -0.2**
G62A **West of Eustis** 118.54 50 P **PKPdf** **15 55 57.0 -0.6**
baz=267
G62A **West of Eustis** 118.54 50 **PKPdf** **15 55 57.0 -0.6**
DZA **Taraz** 118.59 308 *i* PKP **PKPdf** **15 55 57.1 -0.7**
baz=308
DZA **Taraz** 118.59 308 *i* PKIKP **PKPdf** **15 55 57.0 -0.7**
E61A **Lac Etchemin** 118.64 48 P **PKPdf** **15 55 57.5 -0.2**
baz=267
BTK **Batken** 118.72 305 PKIKP **PKPdf** **15 55 57.5 -0.7**
BTK **Batken** 118.72 305 **PKPdf** **15 55 57.5 -0.7**
D61A **St Aubert, Com** 118.88 47 P **PKPdf** **15 55 57.8 -0.3**
baz=268
F62A **Pittston Farm,** 118.98 49 P **PKPdf** **15 55 58.1 -0.2**
baz=267
GAR **Garm** 119.00 303 **PKPdf** **15 55 58.4 -0.4**
OPO **Ambohidratompo** 119.01 232 PKP **PKiKP** **15 55 59.7 +0.2**
comp=Z,12nm,0.7s,baz=178,slow=1.1,SNR=20
I64A **Boothbay** 119.11 51 P **PKPdf** **15 55 58.4 -0.2**
baz=267
G63A **Kingsbury** 119.18 50 P **PKPdf** **15 55 58.3 -0.5**
baz=267
KK31 **Karatay Array** 119.21 308 *i* PKIKP **PKPdf** **15 55 58.3 -0.6**
KK31 **Karatay Array** 119.21 308 **PKPdf** **15 55 58.2 -0.6**
KKAR **Karatay Array** 119.21 308 PKIKP **PKPdf** **15 55 58.1 -0.8**
KKAR **Karatay Array** 119.21 308 **PKPdf** **15 55 58.1 -0.8**
E62A **Clayton Lake** 119.31 48 P **PKPdf** **15 55 58.3 -0.6**
baz=268
E62A **Clayton Lake** 119.31 48 **PKPdf** **15 55 58.5 -0.5**
BDFB **Brasilia** 119.38 124 PKP **PKPdf** **15 55 58.9 -1.3**
comp=Z,5.5nm,0.6s,baz=328,slow=3.3,SNR=5.8
BDFB PKKPbc **PKKPbc** **16 06 15.2 +0.8**
comp=Z,3.7nm,0.5s,baz=4.4,slow=2.5,SNR=6.1
BDFB **Brasilia** 119.38 124 PKIKP **PKPdf** **15 55 59.3 -0.9**
BDFB **Brasilia** 119.38 124 **PKPdf** **15 55 59.3 -0.9**
PKME **Peaks-Kenny Pk** 119.42 50 P **PKPdf** **15 55 58.6 -0.5**
baz=268
PKME **Peaks-Kenny Pk** 119.42 50 **PKPdf** **15 55 58.8 -0.4**
H64A **Troy** 119.44 50 P **PKPdf** **15 55 58.9 -0.4**
baz=267
BVA0 **Borovoye Array** 119.47 319 PKIKP **PKPdf** **15 55 58.2 -0.9**
BVAR **Borovoye Array** 119.47 319 PKP **PKPdf** **15 55 58.4 -0.6**
comp=Z,17nm,0.5s,baz=133,slow=1.1,SNR=120
KBL **Kabul** 119.48 298 PKIKP **PKPdf** **15 55 59.7 -0.2**
KBL **Kabul** 119.48 298 **PKPdf** **15 55 59.7 -0.2**
IUG **luzhnay** 119.50 307 *i* PKP **PKPdf** **15 55 59.1 -0.5**
comp=Z,13nm,0.6s,baz=307
IUG **luzhnay** 119.50 307 *i* PKIKP **PKPdf** **15 55 59.1 -0.5**
IUG pmax pmax
comp=Z,13nm,0.6s
BRVK **Borovoye** 119.53 319 *i* PKIKP **PKPdf** **15 55 58.6 -0.6**
BRVK **Borovoye** 119.53 319 **PKPdf** **15 55 58.4 -0.8**
F63A **Nahmakanta, Br** 119.57 49 P **PKPdf** **15 55 59.3 -0.2**
baz=269
F63A **Nahmakanta, Br** 119.57 49 **PKPdf** **15 55 59.1 -0.4**
D62A **Allapoint, All** 119.65 47 P **PKPdf** **15 55 58.8 -0.7**
baz=269
G64A **Maxfield** 119.80 50 P **PKPdf** **15 55 59.5 -0.4**
baz=268
CHGR **Chuyangaron** 119.87 303 **PKPdf** **15 56 00.1 -0.4**
E63A **Oxbow** 120.07 48 P **PKPdf** **15 55 59.7 -0.7**
baz=269
NOR **Nord** 120.08 3 *i* P **PKPdf** **15 55 58.5 -1.0**
comp=Z,3.6nm,0.7s
NOR **Nord** 120.08 3 *i* PKIKP **PKPdf** **15 55 58.5 -1.0**
NOR pmax pmax
comp=Z,4.0nm,0.7s
F64A **Sherman** 120.10 49 P **PKPdf** **15 55 59.9 -0.5**
baz=269
H65A **Eastbrook** 120.14 50 P **PKPdf** **15 56 00.4 -0.2**
baz=268
D63A **Stockholm** 120.30 48 P **PKPdf** **15 56 00.1 -0.7**
baz=269
PQI **Presque Isle** 120.35 48 **PKPdf** **15 56 00.0 -0.9**
E64A **Bridgewater** 120.48 48 P **PKPdf** **15 56 00.5 -0.7**
baz=269
G65A **Princeton** 120.64 50 P **PKPdf** **15 56 00.9 -0.5**
baz=269
G65A **Princeton** 120.64 50 **PKPdf** **15 56 01.0 -0.5**
H66A **Whiting** 120.81 50 P **PKPdf** **15 56 01.7 -0.2**
baz=269
SCHQ **Schefferville** 120.81 38 PKP **PKPdf** **15 56 00.4 -1.2**
comp=Z,3.4nm,0.5s,baz=262,slow=3.6,SNR=5.5
SUR **Sutherland** 122.40 200 PKP **PKPdf** **15 56 05.5 -0.3**
comp=Z,41nm,0.8s,baz=104,slow=2.6,SNR=22
SUR **Sutherland** 122.40 200 **PKiKP** **15 56 06.1 +0.2**
LMN **Caledonia Moun** 122.58 49 **PKPdf** **15 56 04.5 -0.8**
KBS **Kingsbay** 122.94 357 *i* PKIKP **PKPdf** **15 56 05.0 0.0**
KBS **Kingsbay** 122.94 357 **PKPdf** **15 56 04.9 -0.1**
KBS **Kingsbay** 122.94 357 *e*PKPdf **PKiKP** **15 56 05.3 0.0**
SPA0 **Spitsbergen Ar** 123.43 356 **PKPdf** **15 56 05.5 -0.5**
SPA0 **Spitsbergen Ar** 123.43 356 *e*PKPdf **PKPdf** **15 56 05.6 -0.5**
SPITS **Spitsbergen Ar** 123.43 356 PKKPbc PKKPbc 16 05 58.8 -1.1
comp=Z,7.1nm,0.8s,baz=171,slow=5.9,SNR=4.2
SPITS PKKP PKKPdf 16 06 26.6 -10
comp=Z,6.3nm,0.8s,baz=124,slow=7.7,SNR=3.7
ILULI **Ilulissat** 123.76 20 *i* P **PKPdf** **15 56 05.7 -1.1**
comp=Z,38nm,0.7s
ILULI **Ilulissat** 123.76 20 *i* PKIKP **PKPdf** **15 56 05.7 -1.1**
ILULI pmax pmax
comp=Z,38nm,0.7s
BOSA **Boshof** 124.17 206 PKP **PKPdf** **15 56 08.7 -0.5**
comp=Z,11nm,0.7s,baz=147,slow=2.4,SNR=17
BOSA PKKPbc **PKKPbc** **16 05 55.3 -1.9**
comp=Z,4.6nm,0.7s,baz=324,slow=3.8,SNR=11
DAG **Danmarks Havn** 124.52 5 *i* P **PKPdf** **15 56 07.1 -1.0**
comp=Z,15nm,0.6s
DAG **Danmarks Havn** 124.52 5 *i* PKIKP **PKPdf** **15 56 07.1 -1.0**
DAG pmax pmax
comp=Z,15nm,0.6s
SVE **Sverdlovsk** 124.57 325 *e*PKIKP **PKPdf** **15 56 08.3 -0.4**
SVE pmax pmax
comp=Z,39nm,0.8s
HSPB **Hornsund (broa** 124.61 356 *e*PKP **PKPdf** **15 56 08.1 -0.1**
HSPB **Hornsund (broa** 124.61 356 *e*PKPdf **PKPdf** **15 56 08.1 -0.1**
HRA **Herat** 125.05 297 **PKPdf** **15 56 10.2 -0.4**
SUMG **Summit** 125.08 13 *i* P **PKiKP** **15 56 10.0 -0.2**
comp=Z,103nm,1.1s
SUMG **Summit** 125.08 13 *i* PKIKP **PKiKP** **15 56 10.0 -0.2**
SUMG pmax pmax
comp=Z,100nm,1.1s
ARU **Arti** 125.78 324 PKP **PKPdf** **15 56 10.7 -0.3**
comp=Z,12nm,0.5s,baz=117,slow=1.5,SNR=56
ARU **Arti** 125.78 324 *i* PKIKP **PKPdf** **15 56 10.7 -0.3**
ARU 15 58 11.0
ARU 16 02 23.4
ARU **Arti** 125.78 324 **PKPdf** **15 56 10.9 -0.2**
WSAR **Wadi Sarin** 126.72 283 PKP **PKPdf** **15 56 13.2 -0.7**
comp=Z,14nm,1.2s,baz=150,slow=5.6,SNR=3.9
LBTB **Lobatse** 127.17 209 PKP **PKPdf** **15 56 14.8 -0.1**
comp=Z,6.3nm,0.6s,baz=159,slow=3.1,SNR=15
LBTB **Lobatse** 127.17 209 **PKPdf** **15 56 14.7 -0.3**
AKTO **Aktyubinsk** 127.38 317 PKP **PKPdf** **15 56 14.3 0.0**
comp=Z,14nm,0.6s,baz=76,slow=3.2,SNR=37
GEYT **Alibeck** 128.51 301 PKP **PKiKP** **15 56 17.3 -0.3**
comp=Z,15nm,0.7s,baz=236,slow=1.6,SNR=35
GYA0 **ALIBECK ARRAY** 128.51 301 PKIKP **PKPdf** **15 56 16.7 -0.2**
GYA0B **ALIBECK ARRAY** 128.51 301 **PKPdf** **15 56 16.9 0.0**
UOSS **Minazif** 129.20 285 **PKPdf** **15 56 17.9 -0.6**
MATP **Matopo** 129.63 215 PKP **PKPdf** **15 56 19.6 -0.1**
comp=Z,20nm,0.8s,baz=156,slow=1.7,SNR=35
MATP SKPbc SKPab 15 58 46.6 +0.5
comp=Z,29nm,0.8s,baz=151,slow=4.4,SNR=27
HAMF **Hammerfest** 129.63 350 *e*PKPdf **PKPdf** **15 56 18.0 0.0**
KIRV **Kirov** 129.71 329 PKP **PKPdf** **15 56 18.2 -0.2**
comp=Z,48nm,0.6s,baz=83,slow=1.0,SNR=22
KIRV SKPbc SKPab 15 58 45.3 +0.3
comp=Z,44nm,0.8s,baz=355,slow=0.5,SNR=15
KIRV **Kirov** 129.71 329 *i* PKIKP **PKPdf** **15 56 18.1 -0.3**
PRGR **Permogore** 129.95 334 *e*PKIKP **PKPdf** **15 56 15.1 -3.7**
PRGR 15 58 42.0
ARCES **ARCESS Array B** 130.29 349 PKP **PKPdf** **15 56 18.8 -0.5**
comp=Z,23nm,0.6s,baz=29,slow=3.5,SNR=4.3
ARCES pPKP **pPKPdf** **15 58 38.3 -0.5**
comp=Z,2.8nm,0.8s,baz=336,slow=2.7,SNR=2.5
ARCES SKPbc **SKPab** **15 58 47.3 +0.1**
comp=Z,9.9nm,0.9s,baz=33,slow=4.6,SNR=8.6
ARCES PKKP **PKKPdf** **16 06 18.7 -4.3**
comp=Z,1.8nm,0.8s,baz=151,slow=2.8,SNR=4.0
ARE0 **ARCESS Array S** 130.29 349 **PKPdf** **15 56 18.9 -0.4**
ARE0 **ARCESS Array S** 130.29 349 *e*PKPdf **PKPdf** **15 56 18.9 -0.4**
TRO **Tromso** 131.25 352 *e*PKPdf **PKPdf** **15 56 20.6 -0.4**
KLMR **Klimovskoe** 132.83 335 *e*PKIKP **PKPdf** **15 56 23.9 -0.4**
KLMR pmax pmax
comp=Z,21nm,0.7s
KLMR **Klimovskoe** 132.83 335 *e*PKPdf **PKPdf** **15 56 23.9 -0.4**
KLMR AMP 15 56 25.4
comp=Z,21nm,0.7s
KLMR *e*PP **pPKPdf** **15 58 49.0 +5.7**
STEI **Steigen** 133.33 352 *e*PKPdf **PKPdf** **15 56 25.0 +0.1**
FAUS **Fauske** 133.84 352 *e*PKPdf **PKPdf** **15 56 26.0 0.0**
LSZ **Lusaka** 133.97 218 PKP **PKPdf** **15 56 27.9 0.0**
comp=Z,14nm,0.6s,baz=153,slow=2.0,SNR=21
KONS **Konsvik** 134.95 353 *e*PKPdf **PKPdf** **15 56 27.8 -0.3**
TSUM **Tsumeb** 135.64 203 PKHKP PKPpre 15 56 20.3
comp=Z,0.6nm,0.3s,baz=59,slow=14,SNR=1.2
TSUM PKP **PKPdf** **15 56 31.3 +0.3**
comp=Z,9.8nm,0.7s,baz=144,slow=3.9,SNR=15
TSUM **Tsumeb** 135.64 203 **PKPdf** **15 56 31.1 +0.1**
AKT **Akhty** 136.13 307 *e*PKIKP **PKPdf** **15 56 31.1 -0.1**
AKT *e* 15 58 48.2
AKT *e* 15 59 19.5
AKT pmax pmax
comp=Z,24nm,0.6s
MOS **Moscow** 136.69 330 *e*PKIKP **PKPdf** **15 56 30.3 -1.3**
VRH **Novokhopyorsk** 136.93 323 *e*PKIKP **PKPdf** **15 56 31.2 -1.0**
VRH pmax pmax
comp=Z,50nm,0.6s
FINES **FINESS Array B** 136.96 342 PKhKP PKPpre 15 56 20.4
comp=Z,4.6nm,0.6s,baz=60,slow=3.0,SNR=13
FINES PKP **PKPdf** **15 56 31.4 -0.6**
comp=Z,21nm,0.8s,baz=58,slow=2.2,SNR=17
GROC **Groznyy** 137.14 310 *e*PKIKP **PKPdf** **15 56 33.2 +0.3**
GROC *e* 15 59 24.8
GROC *e* 16 02 48.3
GROC pmax pmax
comp=Z,34nm,0.6s
KMBO **Kilima Mbogo** 137.37 242 PKhKP PKPpre 15 56 27.5
comp=Z,1.9nm,0.5s,baz=76,slow=5.2,SNR=6.2
KMBO PKP **PKPdf** **15 56 35.2 +0.7**
comp=Z,9.4nm,0.8s,baz=68,slow=2.3,SNR=15
OBN **Obninsk** 137.54 330 PKP **PKPdf** **15 56 33.0 -0.2**
comp=Z,4.4nm,0.5s,baz=61,slow=2.7,SNR=10
OBN **Obninsk** 137.54 330 *e*PKIKP **PKPdf** **15 56 32.6 -0.6**
OBN 16 02 37.0
OBN *e*SS SS 16 16 46.1 -3.0
OBN pmax pmax
comp=Z,45nm,1.5s
OBN pmax pmax
comp=Z,18nm,0.6s
LPSR **Galich'ya Gora** 137.77 326 *e*PKIKP **PKPdf** **15 56 30.3 -3.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
TBLG **Delisi** 138.26 308 PKIKP **PKPdf** **15 56 35.5 +0.5**
TBLG **Delisi** 138.26 308 **PKPdf** **15 56 35.5 +0.5**
VSR **Storozhevoye** 138.34 324 *e*PKIKP **PKPdf** **15 56 34.5 -0.3**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD **Divnogorie** 138.40 323 *e*PKIKP **PKPdf** **15 56 33.2 -1.7**
VORD pmax pmax
comp=Z,10.0nm,0.8s
ZEI **Tsey** 138.59 310 *i* PKIKP **PKPdf** **15 56 36.3 +0.5**
ZEI pmax pmax
comp=Z,21nm,1.0s
KBZ **Khabaz** 139.03 312 PKP **PKiKP** **15 56 37.9 -0.8**
comp=Z,5.5nm,0.8s,baz=99,slow=3.6,SNR=7.1
KBZ **Khabaz** 139.03 312 *i* PKIKP **PKPdf** **15 56 35.0 -1.3**
KIV **Kislovodsk** 139.10 312 *e*PKIKP **PKPdf** **15 56 36.0 -0.6**
KIV pmax pmax
comp=Z,32nm,1.1s
AKH **Akhalkalaki** 139.25 308 PKIKP **PKPdf** **15 56 37.6 +0.6**
AKH **Akhalkalaki** 139.25 308 **PKPdf** **15 56 37.6 +0.6**
DOMB **Dombas** 139.72 354 *e*PKPdf **PKPdf** **15 56 30.5 -6.5**
AKN **Aaknes** 139.77 355 *e*PKPdf **PKPdf** **15 56 31.3 -5.8**
NC405 **NORSAR Array S** 140.31 352 PKPpre 15 56 31.7
NB201 **NORSAR Array S** 140.43 352 PKPpre 15 56 31.6
NB2 **NORSAR Subarra** 140.45 352 PKP PKPpre 15 56 32.1
comp=Z,7.6nm,0.7s,baz=10,slow=3.2
NOA **NORSAR Array B** 140.45 352 PKhKP PKPpre 15 56 31.4
comp=Z,5.1nm,0.5s,baz=0.5,slow=2.2,SNR=28
NOA PKP **PKPdf** **15 56 38.5 +0.1**
comp=Z,4.0nm,0.7s,baz=35,slow=1.9,SNR=7.0
NOA SKPbc **SKiKP** **15 59 19.5 -0.9**
comp=Z,3.5nm,0.8s,baz=14,slow=4.3,SNR=4.6
NAO01 **NORSAR Array S** 140.68 352 PKPpre 15 56 33.2
NC602 **NORSAR Array S** 140.70 351 PKPpre 15 56 32.6
NC602 **NORSAR Array S** 140.70 351 *e*PKPdf PKPpre 15 56 33.1
HYA **Hoyanger** 140.83 356 *e*PKPdf **PKPdf** **15 56 38.4 -0.5**
HFS **Hagfors** 140.94 350 PKhKP PKPpre 15 56 33.4
comp=Z,22nm,0.5s,baz=83,slow=4.6,SNR=84
HFS PKP **PKiKP** **15 56 41.5 -0.6**
comp=Z,12nm,0.6s,baz=82,slow=3.3,SNR=5.5
HFS SKPbc **SKPbc** **15 59 19.5 -0.1**
comp=Z,4.8nm,0.7s,baz=272,slow=5.5,SNR=3.6
SKAR **Skarslia** 141.13 354 *e*PKPdf **PKPdf** **15 56 36.5 -3.2**
IZAR **Zarasai** 141.41 337 *e*P **PKPdf** **15 56 37.2 -2.9**
IDID **Didziasalis** 141.56 336 *e*P **PKPdf** **15 56 35.7 -4.8**
ISAL **Salakas** 141.59 337 *e*P **PKPdf** **15 56 36.5 -4.1**
SVAN **Silvan-Diyarba** 141.74 304 *e*P **PKPdf** **15 56 37.7 -3.7**
NACGM **Naroch** 141.85 336 *e* **PKPdf** **15 56 37.0 -4.0**
BNGB **Bingl** 141.94 305 *e*P **PKPdf** **15 56 39.0 -2.9**
KONO **Kongsberg** 142.00 353 PKHKP **PKPdf** **15 56 36.9 -4.2**
KONO **Kongsberg** 142.00 353 **PKPdf** **15 56 36.9 -4.2**
KONO **Kongsberg** 142.00 353 *e*PKPdf **PKPdf** **15 56 37.5 -3.6**
ANN **Anapa** 142.30 316 *i* PKHKP **PKPdf** **15 56 38.8 -3.3**
ANN pmax pmax
comp=Z,75nm,0.8s
PABE **Paberze** 142.41 338 *e*P **PKPdf** **15 56 40.0 -2.0**
MAZI **Mazidag** 142.47 303 *e*P **PKPdf** **15 56 40.5 -2.4**
BLS5 **Blasjo** 142.54 355 *e*PKPdf **PKPdf** **15 56 39.7 -2.5**
PBUR **Paburge** 142.66 340 *e*P **PKPdf** **15 56 40.6 -1.7**
KMY **Karmoy** 142.84 356 *e*PKPab **PKPdf** **15 56 40.0 -2.6**
MBAR **Mbarara** 142.87 236 PKP **PKPdf** **15 56 43.4 -0.9**
comp=Z,89nm,0.7s,baz=117,slow=3.8,SNR=128
PTK **Pertek** 142.94 306 *e*P **PKPdf** **15 56 43.0 -0.7**
SVRC **Sivrice-ELAZID** 143.13 305 *e*P **PKPdf** **15 56 43.3 -0.8**
HOMB **Homborsund** 143.48 353 *e*PKPab PKPab 15 56 42.4 -0.1
SNART **Snartemo** 143.54 354 *e*PKPab PKPab 15 56 42.3 -0.5
URFA **Urfa** 143.74 304 *e*P PKPab 15 56 44.6 +0.2
AKASG **Malin Array Be** 143.77 329 PKP PKPbc 15 56 43.1 -0.7
comp=Z,45nm,0.5s,baz=40,slow=4.2,SNR=201
MLA1 **Latheron** 143.79 3 *e*P PKPbc 15 56 43.2 -0.4
MALT **Malatya** 143.82 305 *e*P **PKPdf** **15 56 45.5 +0.3**
SUW **Suwalki** 143.88 337 *e*PKP PKPbc 15 56 43.9 -0.1
SUW **Suwalki** 143.88 337 PKIKP PKPbc 15 56 43.7 -0.3
SUW **Suwalki** 143.88 337 PKPbc 15 56 43.7 -0.3
RSDY **Resadiye-TOKAT** 144.01 309 *e*P **PKPdf** **15 56 46.1 +0.8**
SVSK **Karacayir** 144.41 308 *e*P **PKPab** **15 56 46.7 0.0**
KAC **Achnashellach** 144.45 5 *e*P PKPbc 15 56 45.7 0.0
MCD **Coleburn Disti** 144.51 4 *e*P **PKPdf** **15 56 45.4 -0.2**
KPL **Plockton** 144.58 6 *e*P **PKPdf** **15 56 45.7 0.0**
MDO **Dochfour** 144.58 5 *e*P **PKPdf** **15 56 45.8 +0.1**
TOKT **Tokat** 144.60 309 *e*P **PKPab** **15 56 47.2 -0.4**
KVT **Kavak** 144.69 311 *e*P **PKPab** **15 56 48.1 +0.2**
GAZ **Gaziantep** 145.05 304 *e*P **PKPab** **15 56 49.0 -0.5**
GAZ **Gaziantep** 145.05 304 **PKPdf** **15 56 47.6 +0.4**
KMRS **Kahramanmaras** 145.20 304 *e*P **PKPab** **15 56 49.4 -0.6**
DRUM **Mains of Drumt** 145.22 3 *e*P PKPbc **15 56 47.5 -0.5**
SARI **SarD1z-Kayseri** 145.31 306 *e*P **PKPab** **15 56 49.9 -0.7**
ELO **Logie Almond** 145.59 4 *e*P PKPbc **15 56 48.9 -0.2**
BNN **Bunyan** 145.59 307 *e*P **PKPbc** **15 56 50.2 +0.3**
INVG **Invergeldie, C** 145.61 5 *e*P **PKPbc** **15 56 48.9 -0.3**
LAWE **Loch Awe, Argy** 145.66 6 *e*P **PKPbc** **15 56 49.0 -0.3**
EAB **Aberfoyle** 145.83 5 *e*P **PKPbc** **15 56 49.6 -0.2**
SORM **Soroca** 145.87 326 ||P **PKPbc** **15 56 50.0 -0.1**
SORM **Soroca** 145.87 326 ||PKP2 **PKPbc** **15 56 50.0 -0.1**
CORM **Corum** 146.02 310 *e*P **PKPbc** **15 56 52.1 +1.1**
KOZT **Kozan** 146.02 305 *e*P **PKPbc** **15 56 50.9 -0.1**
PGBU **Glenifferbraes** 146.19 5 *e*P **PKPbc** **15 56 50.6 -0.2**
CEYT **Ceyhan** 146.22 304 *e*P **PKPbc** **15 56 51.9 +0.4**
ASF **Jabal al Asfar** 146.30 295 PKPbc **PKPbc** **15 56 52.7 +0.7**
comp=Z,32nm,0.7s,baz=72,slow=3.1,SNR=56
BEL **Belsk** 146.49 337 *e*PKP **PKPbc** **15 56 52.5 +0.7**
CANT **Cankiri** 146.57 311 *e*P **PKPbc** **15 56 53.3 +0.9**
KARA **Karaisali** 146.68 305 *e*P **PKPdf** **15 56 50.5 +0.6**
EKA **Eskdalemuir Ar** 146.76 4 PKPbc **PKPbc** **15 56 51.7 -0.7**
comp=Z,45nm,0.7s,baz=318,slow=1.9,SNR=70

ESK	Eskdalemuir	146.78	4	PKIKP	PKPbc	15 56 51.6	-0.8		
ESK	Eskdalemuir	146.78	4		PKPbc	15 56 51.5	-0.8		
SKMB	Sankelmark Bun	146.81	351	ePKPbc	PKPbc	15 56 52.8	+0.3		
	baz=20,slow=4.4								
BRTR	Keskin Array B	146.90	310	PKPbc	PKPbc	15 56 53.3	-0.1		
	comp=Z,35nm,0.7s,baz=136,slow=4.4,SNR=82								
NEWG	New Galloway	146.90	5	eP	PKPbc	15 56 52.5	-0.2		
GULA	Gulagac	146.95	307	eP	PKPbc	15 56 53.6	0.0		
RCY	Rachaya	146.96	298	eP	PKPbc	15 56 54.4	+0.6		
BHL	Bhannes	147.03	298	eP	PKPbc	15 56 54.3	+0.4		
GAL1	Galloway	147.11	6	eP	PKPbc	15 56 53.3	+0.1		
VASR	Vaslui	147.11	324	⇓P	PKPbc	15 56 54.2	+0.7		
DQRL	Deir Qamar	147.14	298	eP	PKiKP	15 56 55.1	-0.8		
MERS	Mersin	147.20	304	eP	PKPbc	15 56 54.4	+0.2		
EDMD	Edmundbyers	147.33	3	eP	PKPbc	15 56 53.7	-0.1		
MMAI	Mount Meron Ar	147.41	297	PKPbc	PKiKP	15 56 55.8	-0.7		
	comp=Z,70nm,0.6s,baz=68,slow=5.5,SNR=88								
MMAI				pPKPbc	pPKPdf	15 59 10.8	+0.1		
	comp=Z,5.4nm,0.8s,baz=77,slow=3.6,SNR=2.1								
AFSR	Afar-Bala (An	147.41	309	eP	PKPbc	15 56 55.4	+0.7		
TLCR		147.41	322	⇓P	PKPbc	15 56 54.8	+0.4		
TLCR		147.41	322	⇓PKP2	PKPbc	15 56 54.8	+0.4		
BSEG	Bad Segeberg	147.42	349	ePKPbc	PKPbc	15 56 54.1	0.0		
	baz=20,slow=4.4								
BIR	Birlad	147.43	324	⇑P	PKiKP	15 56 55.3	-0.6		
BIR	Birlad	147.43	324	⇑PKP2	PKiKP	15 56 55.3	-0.6		
LOD	Lodumlu	147.46	310	eP	PKPbc	15 56 55.0	+0.2		
BR231	Keskin MP Arra	147.47	310		PKPbc	15 56 55.0	+0.2		
KWP	Kalwaria Pacla	147.48	333	ePKP	PKPbc	15 56 54.9	+0.4		
KWP	Kalwaria Pacla	147.48	333	PKP2	PKPbc	15 56 54.3	-0.1		
KWP	Kalwaria Pacla	147.48	333	PKPbc	PKPbc	15 56 54.3	-0.1		
KESW	Keswick, Cumbr	147.51	4	eP	PKPbc	15 56 53.5	-0.8		
VARL	Varlezi	147.53	323	⇑P	PKiKP	15 56 55.6	-0.5		
SULT	Sultanhani-AKS	147.54	307	eP	PKPbc	15 56 54.7	-0.4		
KIZK	Mersin	147.60	304	eP	PKPbc	15 56 55.4	+0.3		
JURR	Jurilovca	147.62	321	⇓P	PKPbc	15 56 55.4	+0.6		
GHRR		147.68	324	⇓P	PKiKP	15 56 54.6	0.0		
IOMK	Kirk Michael	147.72	6	eP	PKPbc	15 56 54.6	-0.3		
GDLE	Glaisdale, N Y	147.78	1	eP	PKPbc	15 56 54.8	-0.2		
BUR08	Bucovina Ar. S	147.78	328		PKPdf	15 56 55.5	0.0		
BUR08				PKPbc	PKPdf	15 56 55.9	+0.5		
BURAR	Bucovina Array	147.79	328	⇑P	PKPbc	15 56 55.8	+0.4		
BURAR	Bucovina Array	147.79	328	⇑PKP2	PKPbc	15 56 55.8	+0.4		
TESR	Tescani	147.80	325	⇑P	PKPbc	15 56 55.7	+0.3		
SILI	Silifke-Mersin	147.80	304	eP	PKPbc	15 56 56.1	+0.5		
CFR	Carcaliu	147.81	322	⇓P	PKPbc	15 56 55.9	+0.5		
CFR	Carcaliu	147.81	322	⇓PKP2	PKPbc	15 56 55.9	+0.5		
WIM	Isle of Man	147.82	6	eP	PKPbc	15 56 55.1	0.0		
EREN	Erenkoy	147.84	302	eP	PKPbc	15 56 55.8	0.0		
TOPG	Topolog	147.84	321	⇑P	PKPbc	15 56 55.5	0.0		
CHBY	Cihanbeyli	147.86	308	eP	PKPbc	15 56 55.2	-0.7		
IKL	Isikli	148.03	303	eP	PKPbc	15 56 56.3	+0.1		
TIRR	Tirgusor	148.07	321	⇑P	PKPbc	15 56 56.4	+0.4		
TIRR	Tirgusor	148.07	321	PKPdf	PKPdf	15 56 51.6	-0.4		
TIRR					PKPbc	15 56 55.8	-0.2		
TIRR	Tirgusor	148.07	321	*i* P	PKPbc	15 56 56.1	+0.1		
RUE	Ruedersdorf	148.07	345	eP	PKPbc	15 56 56.2	+0.4		
RUE	Ruedersdorf	148.07	345	ePKPbc	PKPbc	15 56 55.7	0.0		
	baz=20,slow=4.4								
AKKU	Akkuyu-Mersin	148.15	303	eP	PKPbc	15 56 56.2	-0.3		
VRI	Vrincioaia	148.17	324	⇓P	PKPbc	15 56 56.6	+0.3		
VRI	Vrincioaia	148.17	324	⇓PKP2	PKPbc	15 56 56.6	+0.3		
OJC	Ojcow	148.17	336	ePKP	PKPbc	15 56 56.5	+0.4		
OJC	Ojcow	148.17	336	PKHKP	PKPbc	15 56 56.0	-0.1		
OJC	Ojcow	148.17	336		PKPdf	15 56 51.5	-0.5		
OJC				PKPbc	PKPbc	15 56 56.0	-0.1		
KOLS	Kolonicke sedl	148.19	332	ePKHKP	PKPdf	15 56 51.7	-0.3		
KOLS				*e*		15 57 02.7			
KOLS	Kolonicke sedl	148.19	332	ePKP	PKPdf	15 56 51.7	-0.3		
KOLS				*e*		15 56 56.4			
KOLS				*e*		15 57 02.7			
HARR	Harsova	148.21	321	⇑P	PKiKP	15 56 57.2	-0.4		
HARR	Harsova	148.21	321	⇑PKP2	PKiKP	15 56 57.2	-0.4		
HPK	Haverah Park	148.21	2	eP	PKPbc	15 56 56.0	-0.1		
PLOR	Plostina	148.22	324	⇓P	PKPbc	15 56 56.2	-0.3		
PLOR	Plostina	148.22	324	⇓PKHKP	PKPbc	15 56 56.2	-0.3		
TLBR	Topalu	148.23	321	⇓P	PKiKP	15 56 57.3	-0.3		
EIL	Elat	148.25	291	PKP	PKPdf	15 56 51.2	-1.5		
	comp=Z,10nm,1.0s,baz=36,slow=2.2,SNR=5.9								
EIL				PKPbc	PKPbc	15 56 57.2	+0.2		
	comp=Z,57nm,0.7s,baz=35,slow=2.4,SNR=43								
MDUB	Mudurnu	148.31	312	eP	PKPbc	15 56 57.1	+0.2		
MDUB	Mudurnu	148.31	312		PKPbc	15 56 56.6	-0.3		
CVDA	Cernavoda	148.36	321	⇓P	PKiKP	15 56 57.8	-0.1		
LADK	Ladik-KONYA	148.38	308	eP	PKPbc	15 56 56.9	-0.3		
UZH	Uzhgorod	148.42	332	ePKHKP	PKPbc	15 56 56.3	-0.5		
KONT	Konya--Tatoy	148.48	307	eP	PKPbc	15 56 57.0	-0.3		
KIZT	Kizilcal	148.48	309	eP	PKPbc	15 56 57.7	+0.3		
TEKE	Tekeli-Mersin	148.50	304	eP	PKPbc	15 56 57.2	+0.2		
SVRH	Sivrihisar-ESK	148.51	310	eP	PKPbc	15 56 57.5	0.0		
DSB	Dublin	148.52	8		PKPbc	15 56 56.4	-0.5		
OZUR		148.52	325	⇓P	PKiKP	15 56 57.9	-0.3		
CRVS	Cervenica-Dubn	148.56	333	ePKP	PKPdf	15 56 52.8	+0.2		
CRVS				*e*		15 56 58.0			
CRVS				*e*		15 57 03.0			
WPS	Cemaes, Angles	148.58	6	eP	PKPbc	15 56 56.3	-0.7		
BMR	Baia Mare	148.58	330	⇓P	PKPbc	15 56 57.5	+0.3		
ARCR	ARCALIA	148.59	328	⇑P	PKPbc	15 56 57.1	-0.2		
WME	Myndd Eilian	148.60	6	eP	PKPbc	15 56 56.8	-0.3		
ICOR	Ion Corvin	148.62	321	⇓P	PKiKP	15 56 58.3	-0.1		
NIE	Niedzica	148.63	335	ePKP	PKiKP	15 56 58.5	+0.1		
PSN	Preselentsi	148.64	320	*i* P	PKiKP	15 56 58.1	-0.4		
CSS	Mathiatis	148.66	301		PKPbc	15 56 57.4	-0.4		
WLF1	Llynfaes	148.70	6	eP	PKPbc	15 56 57.0	-0.2		
YRC	Rhoscolyn	148.72	6	eP	PKPbc	15 56 56.5	-0.8		
ISR	Istrita	148.74	323	⇑P	PKPbc	15 56 58.2	+0.4		
ISR	Istrita	148.74	323	⇑PKP2	PKPbc	15 56 58.2	+0.4		
LBWR	Ladybower, Pea	148.77	3	eP	PKPbc	15 56 57.5	0.0		
SAUV	Serdivan-Sakar	148.78	313	eP	PKPbc	15 56 57.9	0.0		
GULT	Gulveren	148.79	313	eP	PKPbc	15 56 57.8	-0.3		
DOPR	Dopca	148.82	326	⇑P	PKiKP	15 56 58.5	-0.3		
SPNC	Sapanca-Adapaz	148.82	313	eP	PKPbc	15 56 58.3	+0.3		
MLR	Muntele Rosu	148.83	324	PKP	PKPdf	15 56 53.2	-0.2		
	comp=Z,41nm,1.1s,baz=52,slow=2.5,SNR=9.2								
MLR				PKPbc	PKPbc	15 56 57.4	-0.7		
	comp=Z,39nm,0.7s,baz=8.3,slow=4.1,SNR=33								
MLR	Muntele Rosu	148.83	324		PKPdf	15 56 52.5	-0.9		
MLR				PKPbc	PKPbc	15 56 57.4	-0.7		
KSP	Ksiaz	148.84	341	ePKP	PKiKP	15 56 58.5	-0.1		
NRDL	Niedersach Rie	148.84	349	ePKPdf	PKPdf	15 56 53.0	+0.1		
	baz=20,slow=4.4								
NRDL				ePKPbc	PKPbc	15 56 57.7	+0.1		
	baz=20,slow=4.4								
CIFT	Cifteler, Eski	148.87	310	eP	PKPbc	15 56 58.3	0.0		
SRCK	Saricakaya, Es	148.89	312	eP	PKPbc	15 56 58.1	-0.1		
LEF	Lefka	148.96	302	eP	PKPbc	15 56 58.7	+0.2		
SECR		149.05	324	⇑P	PKiKP	15 56 59.0	-0.4		
ASSE	Asse, Remlinge	149.08	348	ePKPdf	PKPdf	15 56 53.3	+0.1		
	baz=20,slow=4.4								
ASSE				ePKPbc	PKPbc	15 56 58.3	+0.1		
	baz=20,slow=4.4								
GAZI	Gazipasa	149.08	304	eP	PKPbc	15 56 58.2	-0.6		
OKC	Ostrava-Krasne	149.09	338⇑	ePKP	PKiKP	15 56 59.0	-0.2		
OSTC	Ostas	149.12	340⇑	ePKP	PKiKP	15 56 59.4	+0.1		
CHVC	Chvalec	149.14	341⇑	ePKP	PKiKP	15 56 59.3	-0.1		
PLAR	PLOIESTI	149.15	323	⇑P	PKiKP	15 56 59.5	0.0		
LANS	Liptovska Anna	149.17	335	ePKP	PKPdf	15 56 55.0	+1.4		
LANS				*e*		15 57 00.2			
LANS				*e*		15 57 06.0			
SULR		149.17	323	⇓P	PKPbc	15 56 59.0	+0.3		
HRT	Hereke	149.19	314	eP	PKPbc	15 56 58.9	-0.1		
FOEL	Foel Wylfa	149.19	4	eP	PKPbc	15 56 58.5	0.0		
CJR	Cluj-Napoca	149.22	328	⇓P	PKiKP	15 56 59.5	-0.2		
UPC	Upice	149.22	341⇑	ePKP	PKiKP	15 56 59.5	0.0		
DPC	Dobruska-Polom	149.26	340	ePKP2	PKiKP	15 56 59.8	+0.2		
DPC	Dobruska-Polom	149.26	340⇑	ePKP	PKiKP	15 56 59.8	+0.2		
DPC				epPKP	pPKPab	15 59 21.9	+3.1		
KECS	Kecovo	149.29	334	ePKP	PKPdf	15 56 55.2	+1.4		
KECS				*e*		15 57 00.1			
KECS				*e*		15 57 07.0			
ADVT	Abdulvahap	149.32	313	eP	PKPbc	15 56 58.6	-0.6		
CLL	Collm	149.34	345	ePKPdf	PKPdf	15 56 54.0	+0.2		
CLL				⇓ *i* PKPbc	PKiKP	15 56 59.4	-0.3		
	comp=Z,224nm,0.8s								
CLL				⇑ *i* PKPab	PKPab	15 57 06.4	+0.2		
	comp=Z,85nm,0.8s								
CLL				*ep*PKPbc	pPKPdf	15 59 14.0	+0.6		
CLL				*ep*PKPab	pPKPab	15 59 18.0	-1.0		
CLL				*i*		15 59 20.9			
	comp=Z,33nm,1.1s								
CLL	Collm	149.34	345	PKIKP	PKPdf	15 56 53.4	-0.3		
CLL	Collm	149.34	345	ePKPdf	PKPdf	15 56 53.8	0.0		
	baz=20,slow=4.4								
CLL				ePKPbc	PKPbc	15 56 58.8	-0.2		
	baz=20,slow=4.4								
CLL				ePKPab	PKPab	15 57 06.0	-0.2		
	baz=20,slow=4.4								
CLL	Collm	149.34	345		PKPdf	15 56 53.4	-0.3		
CLL					PKPbc	15 56 59.2	+0.3		
VOIR		149.34	325	⇑P	PKPbc	15 56 59.5	+0.3		
MORC	Moravsky Berou	149.35	338	ePKP	PKPdf	15 56 54.1	+0.2		
MORC				ePKIKP	PKiKP	15 56 59.6	-0.2		
MORC				*e*		15 59 12.7			
MORC	Moravsky Berou	149.35	338	PKIKP	PKPdf	15 56 53.8	-0.1		
MORC	Moravsky Berou	149.35	338		PKPdf	15 56 53.8	-0.1		
MORC				PKPbc	PKPbc	15 56 59.4	+0.3		
KRLC	Kraliky	149.35	339	ePKPDF	PKPdf	15 56 54.0	+0.1		
KRLC				⇑ *e*PKP	PKiKP	15 56 59.8	0.0		
KRLC				*ep*PKP	pPKPab	15 59 20.7	+1.6		
CAVI	Cavuskoy	149.35	313	eP	PKPbc	15 56 59.5	+0.1		
PRD	Provadia	149.39	320	*i* P	PKiKP	15 57 00.0	0.0		
IBBN	Ibbenburen	149.40	351	ePKPdf	PKPdf	15 56 53.6	-0.2		
	baz=20,slow=4.4								
IBBN				ePKPbc	PKPbc	15 56 59.0	0.0		
	baz=20,slow=4.4								
IBBN				ePKPab	PKPab	15 57 06.2	-0.2		
	baz=20,slow=4.4								
CLZ	Clausthal	149.41	348	ePKPdf	PKPdf	15 56 54.1	+0.2		
	baz=20,slow=4.4								
CLZ				ePKPbc	PKPbc	15 56 59.3	+0.2		
	baz=20,slow=4.4								
NEF	NEVSHA	149.42	320	*i* P	PKiKP	15 56 59.9	-0.3		
ISK	Istanbul-Kandi	149.47	315	eP	PKPbc	15 56 59.3	-0.3		
KAVV	Kandilli-Istan	149.47	315	eP	PKPbc	15 56 59.2	-0.4		
BRG	Berggiesshubel	149.49	343	*i* PKP	PKPdf	15 56 54.3	+0.3		
	comp=Z,31nm,1.5s								
BRG	Berggiesshubel	149.49	343	*i* PKP	PKPbc	15 56 59.6	+0.3		
	comp=Z,177nm,0.7s								
BRG				pPKP	pPKPdf	15 59 15.0	+1.2		
BRG				PP	PP	16 00 27.0	-11		
BRG	Berggiesshubel	149.49	343	pmax	pmax				
	comp=Z,31nm,1.5s								
BRG	Berggiesshubel	149.49	343	ePKPdf	PKPdf	15 56 54.0	-0.1		
	baz=20,slow=4.4								
BRG				ePKPbc	PKPbc	15 56 59.3	0.0		
	baz=20,slow=4.4								
WACR	West Acre	149.49	360	eP	PKPbc	15 56 58.6	-0.6		
SHUT	Suhut-Afyon	149.57	309	eP	PKPbc	15 57 00.0	-0.1		
FBE	Freiberg	149.60	344	ePKPdf	PKPdf	15 56 54.3	+0.1		
	baz=20,slow=4.4								
FBE				ePKPbc	PKPbc	15 56 59.9	+0.3		
	baz=20,slow=4.4								
FBE				ePKPab	PKPab	15 57 07.8	+0.4		
	baz=20,slow=4.4								
ARR	Arges	149.61	325	⇑P	PKiKP	15 57 00.7	+0.1		
PVCC	Panska Ves	149.63	342⇑	ePKP	PKiKP	15 57 00.4	+0.1		
GEMT	Gemlik	149.69	314	eP	PKPbc	15 56 59.9	-0.2		
RAZG	Razgrad	149.70	321	⇑P	PKPbc	15 57 00.3	+0.3		
NEUB	Neuenburg	149.72	346	ePKPdf	PKPdf	15 56 54.3	0.0		
	baz=20,slow=4.4								
NEUB				ePKPbc	PKPbc	15 56 59.8	-0.1		
	baz=20,slow=4.4								
NEUB				ePKPab	PKPab	15 57 07.8	0.0		
	baz=20,slow=4.4								
GTTG	Gottingen	149.77	348	ePKPdf	PKPdf	15 56 54.4	0.0		
	baz=20,slow=4.4								
GTTG				ePKPbc	PKPbc	15 56 60.0	0.0		
	baz=20,slow=4.4								
ARMT	Armutlu	149.85	314	eP	PKPbc	15 57 00.5	0.0		
ISP	Isparta	149.88	308		PKPbc	15 56 59.5	-1.3		
VYHS	Vyhne	149.94	335	ePKIKP	PKPdf	15 56 54.6	-0.3		
VYHS				*e*		15 57 09.6			
VYHS	Vyhne	149.94	335	ePKP	PKPdf	15 56 54.5	-0.3		
VYHS				*e*		15 57 00.9			
VYHS				*e*		15 57 09.6			
TVSB	Tavsanli	149.96	312	eP	PKiKP	15 57 01.3	-0.2		
HUMR	Humele	149.97	324	⇓P	PKPbc	15 57 00.4	-0.2		
PSZ	Piszkesteto	149.98	334	⇓P	PKPbc	15 57 00.7	0.0		
PSZ	Piszkesteto	149.98	334		PKPdf	15 56 54.1	-0.9		
PSZ				PKPbc	PKPbc	15 57 00.3	-0.4		
RSBS	Rosebush, Pemb	149.98	7	eP	PKPbc	15 56 59.7	-0.7		
VRAC	Vranov	150.07	339	PKPbc	PKiKP	15 57 01.4	+0.1		
	comp=Z,36nm,0.8s,baz=37,slow=1.2,SNR=21								
VRAC				pPKPbc	pPKPbc	15 59 19.8	+1.2		
	comp=Z,4.4nm,0.8s,baz=23,slow=9.6,SNR=2.6								
VRAC	Vranov	150.07	339	⇓P	PKiKP	15 57 01.1	-0.2		
VRAC	Vranov	150.07	339	ePKP	PKPdf	15 56 55.0	0.0		
VRAC				ePKIKP	PKiKP	15 57 01.1	-0.2		
VRAC				*e*		15 57 10.3			
VRAC				*e*		15 59 15.4			
PRA	Prague	150.08	342	*e*	PKPab	15 57 10.1	+0.7		
PRA	Prague	150.08	342⇑	ePKP	PKiKP	15 57 01.3	+0.1		
PRA				ePKPAB	PKPab	15 57 10.1	+0.7		
JAVC	Velka Javorina	150.08	337	ePKP	PKPdf	15 56 56.4	+1.3		
JAVC				ePKIKP	PKiKP	15 57 02.4	+1.0		
JAVC				*e*		15 59 19.2			
MCH1	Michaelchurch	150.09	4	eP	PKPbc	15 57 00.3	-0.3		
GOPC	GO Pecny, Ondr	150.12	341⇑	ePKP	PKiKP	15 57 01.4	0.0		
GOPC				*ep*PKP	pPKPab	15 59 22.9	+0.8		
PRU	Pruhonice	150.12	342	ePKIKP	PKiKP	15 57 01.3	-0.1		
PRU				*e*		15 57 10.5			
PRU	Pruhonice	150.12	342⇑	ePKP	PKiKP	15 57 01.3	-0.1		
PRU				ePKPAB	PKPab	15 57 10.5	+0.9		
PRU				*ep*PKP	pPKPab	15 59 23.2	+1.1		
DEV	Deva	150.14	328	⇓P	PKiKP	15 57 01.4	-0.1		
DEV	Deva	150.14	328	⇓PKIKP	PKiKP	15 57 01.4	-0.1		
GEDZ	Gediz	150.17	311	eP	PKiKP	15 57 01.9	0.0		
SZH	Strazhica	150.22	321	*i* P	PKPbc	15 57 01.3	0.0		
MOX	Moxa	150.28	346	ePKPdf	PKPdf	15 56 55.1	-0.2		
	baz=20,slow=4.4								
MOX				ePKPbc	PKPbc	15 57 01.1	-0.1		
	baz=20,slow=4.4								
MOX				ePKPab	PKPab	15 57 10.1	-0.2		
	baz=20,slow=4.4								
TANN	Tannenbergstha	150.29	345	ePKPdf	PKPdf	15 56 55.0	-0.3		
	baz=20,slow=4.4								
TANN				ePKPbc	PKPbc	15 57 01.2	-0.1		
	baz=20,slow=4.4								
JMB	Yambol	150.30	319	*i* P	PKPbc	15 57 01.7	+0.2		
WERD	Werda	150.30	345	ePKPdf	PKPdf	15 56 54.9	-0.5		
	baz=20,slow=4.4								
WERD				ePKPbc	PKPbc	15 57 01.1	-0.2		
	baz=20,slow=4.4								
WERD				ePKPab	PKPab	15 57 10.4	+0.1		
	baz=20,slow=4.4								
PLN	Plauen	150.30	345	ePKPbc	PKPbc	15 57 01.1	-0.1		
	baz=20,slow=4.4								
PLN				ePKPab	PKPab	15 57 10.3	0.0		
	baz=20,slow=4.4								
KORT	Korkueli	150.31	307	eP	PKPbc	15 57 01.8	-0.1		
BUG	Bochum--Univer	150.31	351	ePKPdf	PKPdf	15 56 55.1	-0.1		
	baz=20,slow=4.4								
BUG				ePKPbc	PKPbc	15 57 00.9	-0.3		
	baz=20,slow=4.4								
KRUC	Moravsky	150.35	339	ePKP	PKPdf	15 56 55.4	0.0		
KRUC				ePKIKP	PKPbc	15 57 01.6	+0.2		
KRUC				*e*		15 57 11.5			
KRUC				*e*		15 59 17.9			
ROSA	Rosais	150.37	50	PKPdf	PKPdf	15 56 55.6	-0.2		
GUNZ	Gunzen	150.37	345	ePKPdf	PKPdf	15 56 55.1	-0.3		
	baz=20,slow=4.4								
GUNZ				ePKPbc	PKPbc	15 57 01.5	+0.1		
	baz=20,slow=4.4								
GUNZ				ePKPab	PKPab	15 57 10.9	+0.3		
	baz=20,slow=4.4								
WERN	Wernitzgruen	150.43	345	ePKPdf	PKPdf	15 56 55.7	+0.1		
	baz=20,slow=4.4								
WERN				ePKPbc	PKPbc	15 57 01.8	+0.2		
	baz=20,slow=4.4								
WERN				ePKPab	PKPab	15 57 11.3	+0.4		
	baz=20,slow=4.4								
TREC	Trest	150.45	340	ePKIKP	PKiKP	15 57 02.2	+0.1		
TREC	Trest	150.45	340⇑	ePKP	PKiKP	15 57 02.2	+0.1		
SMOL	Smolenice	150.46	337	ePKIKP	PKiKP	15 57 02.8	+0.7		
SMOL	Smolenice	150.46	337	ePKP	PKiKP	15 57 02.8	+0.7		
SMOL				*e*		15 57 12.4			
UBBA	Unterbreizbach	150.46	348	ePKPdf	PKPdf	15 56 55.5	+0.1		
	baz=20,slow=4.4								
UBBA				ePKPbc	PKPbc	15 57 01.3	-0.1		
	baz=20,slow=4.4								
NKC	Novy Kostel	150.46	344	ePKIKP	PKPdf	15 56 55.4	-0.2		
NKC	Novy Kostel	150.46	344	ePKPDF	PKPdf	15 56 55.4	-0.2		
NKC				⇑ePKP	PKiKP	15 57 02.2	+0.1		
SIRR	Siria	150.47	330	⇓P	PKiKP	15 57 02.2	0.0		
EDRB	Edirne	150.55	318	eP	PKPbc	15 57 01.3	-0.8		
PBCC	Pribram	150.55	342⇑	ePKP	PKiKP	15 57 02.3	0.0		
PBCC				*ep*PKPAB	PKPab	15 57 12.1	+0.7		
MODS	Modra-Piesok	150.63	337	ePKIKP	PKPbc	15 57 02.0	-0.1		
MODS				*e*		15 57 12.2			
MODS	Modra-Piesok	150.63	337	ePKP	PKPbc	15 57 02.0	-0.1		
MODS				*e*		15 57 12.2			
VLAD	Vladila	150.63	323	⇓P	PKiKP	15 57 02.8	+0.2		
SWN1	Swindon	150.65	3	eP	PKPbc	15 57 02.0	0.0		
ELL	Elmali	150.73	306	eP	PKPbc	15 57 02.6	-0.2		
ELL	Elmali	150.73	306	PKIKP	PKPdf	15 56 55.7	-0.9		
ELL	Elmali	150.73	306		PKPdf	15 56 55.7	-0.9		
ELL				PKPbc	PKPbc	15 57 02.3	-0.5		
MANZ	Manzenberg	150.78	345	ePKPdf	PKPdf	15 56 55.9	-0.2		
	baz=20,slow=4.4								
MANZ				ePKPbc	PKPbc	15 57 02.4	0.0		
	baz=20,slow=4.4								
SRE	Strehaia	150.84	326	⇓P	PKiKP	15 57 03.2	+0.2		
SRE	Strehaia	150.84	326	⇓PKIKP	PKiKP	15 57 03.2	+0.2		
WOL	Wolverton	150.87	2	eP	PKPbc	15 57 02.2	-0.3		
BALB	Balikesir	150.95	313	eP	PKPbc	15 57 02.3	-0.7		
ROTZ	Rotzenmuhle	150.95	344	ePKPbc	PKPbc	15 57 02.6	-0.2		
	baz=20,slow=4.4								
ROTZ				ePKPab	PKPab	15 57 13.4	+0.4		
	baz=20,slow=4.4								
HTL	Hartland	150.96	7	eP	PKPbc	15 57 02.5	-0.1		
BZS	Buzias	150.96	329	⇑P	PKPbc	15 57 02.9	0.0		
BZS	Buzias	150.96	329	⇑PKIKP	PKPbc	15 57 02.9	0.0		
ELSH	Elham, Standar	151.07	359	eP	PKiKP	15 57 03.2	0.0		
HERR	Herculane	151.09	327	⇑P	PKPbc	15 57 03.2	0.0		
BEBN	Eben Emael	151.14	353	PKPbc	PKiKP	15 57 03.2	-0.2		
BEBN				PKPab	PKPab	15 57 13.4	-0.3		
AKAS	Kas	151.15	306	eP	PKPbc	15 57 03.4	-0.4		
KHC	Kasperske Hory	151.17	342	ePKIKP	PKPdf	15 56 57.0	+0.3		
KHC				*e*		15 57 14.9			

KBA				*e*PKPbc	**pPKPbc**	15 59 25.4	-0.7
	comp=Z,18nm,1.1s							
BFO	**Black Forest**	**153.16**	**348**	PKIKP	**PKPdf**	15 56 59.1	-0.6
BFO						15 57 07.3	
BFO						15 57 22.2	
BFO	**Black Forest**	**153.16**	**348**	*e*PKPbc	**PKPbc**	15 57 07.2	-0.5
	baz=20,slow=4.4							
BFO				*e*PKPab	**PKPab**	15 57 21.9	-0.6
	baz=20,slow=4.4							
BFO	**Black Forest**	**153.16**	**348**		**PKPdf**	15 56 59.1	-0.6
BFO				PKPbc	**PKPbc**	15 57 07.3	-0.4
BFO				PKPab	**PKPab**	15 57 22.2	-0.3
OBKA	**Obir**	**153.19**	**338**	*i* PKPbc	**PKPbc**	15 57 07.3	-0.6
OBKA				*e*PKPab	**PKPab**	15 57 22.7	0.0
	comp=Z,13nm,0.9s							
BBLS	**Lazići**	**153.32**	**329**	*e*P	**PKiKP**	15 57 08.6	+0.3
GCIS	**Gornji Cirnik**	**153.35**	**336**	*e*PKPdf	**PKPdf**	15 56 59.5	-0.4
GCIS				*i* PKPbc	**PKPbc**	15 57 08.1	0.0
WATA	**Walderalm**	**153.36**	**343**	*e*PKPdf	**PKPdf**	15 56 59.5	-0.6
	comp=Z,14nm,0.9s							
WATA				*i* PKPbc	**PKPbc**	15 57 07.9	-0.4
	comp=Z,13nm,0.5s							
WATA				*e*PKPab	**PKPab**	15 57 24.0	+0.5
	comp=Z,26nm,0.6s							
WATA				*e*pPKPbc	**pPKPbc**	15 59 26.4	-0.6
	comp=Z,19nm,0.9s							
MYKA	**Terra Mystica**	**153.38**	**340**	*i* PKPbc	**PKPbc**	15 57 07.5	-0.8
	comp=Z,13nm,0.6s,SNR=6.0							
MYKA				*i* PKPab	**PKPab**	15 57 23.3	-0.3
	comp=Z,18nm,0.7s							
MYKA				*e*pPKPbc	**pPKPbc**	15 59 26.3	-0.4
	comp=Z,6.7nm,0.9s							
UBR	**Ueberruh**	**153.41**	**345**	*e*PKPdf	**PKPdf**	15 56 59.6	-0.5
	baz=20,slow=4.4							
UBR				*e*PKPbc	**PKPbc**	15 57 07.7	-0.6
	baz=20,slow=4.4							
WTTA	**Wattenberg**	**153.41**	**343**	*e*PKPdf	**PKPdf**	15 56 59.8	-0.5
	comp=Z,11nm,1.0s,SNR=7.3							
WTTA				*i* PKiKP	**PKPbc**	15 57 08.3	-0.1
	comp=Z,19nm,0.5s							
WTTA				*e*PKPab	**PKPab**	15 57 24.3	+0.5
	comp=Z,38nm,0.6s,SNR=7.2							
WTTA				*e*pPKiKP	**pPKPbc**	15 59 26.6	-0.6
	comp=Z,25nm,1.3s							
RETA	**Reutte**	**153.43**	**344**	*i* PKPdf	**PKPdf**	15 56 59.6	-0.6
	comp=Z,9.6nm,1.0s							
RETA				*e*PKPbc	**PKPbc**	15 57 08.1	-0.3
	comp=Z,14nm,0.8s							
RETA				*e*PKPab	**PKPab**	15 57 24.2	+0.5
	comp=Z,20nm,0.7s							
RETA				*e*pPKPbc	**pPKPbc**	15 59 26.4	-0.6
	comp=Z,21nm,1.7s							
CRES	**Cresnjev**	**153.45**	**336**	*e*P	**PKPbc**	15 57 08.1	-0.2
FLN	**La Foliniere**	**153.45**	**2**	*e*PKiKP	**PKPdf**	15 56 59.0	-1.0
FLN				pmax	pmax			
	comp=Z,22nm,0.6s							
ECH	**Echery**	**153.47**	**350**	PKIKP	**PKPbc**	15 57 07.7	-0.7
ECH						15 57 23.4		
ECH	**Echery**	**153.47**	**350**	PKPbc	**PKPbc**	15 57 07.7	-0.7
ECH					**PKPab**	15 57 23.4	-0.4
MOTA	**Moosalm**	**153.47**	**344**	*e*PKPdf	**PKPdf**	15 56 59.6	-0.7
	comp=Z,12nm,1.0s,SNR=6.4							
MOTA				*e*PKPbc	**PKPbc**	15 57 08.2	-0.4
	comp=Z,18nm,0.8s							
MOTA				*e*PKPab	**PKPab**	15 57 24.5	+0.5
	comp=Z,29nm,0.8s,SNR=5.0							
MOTA				*i* pPKiKP	**pPKiKP**	15 59 27.8	+0.4
	comp=Z,13nm,1.1s							
RUDO	**Rudo**	**153.52**	**328**	*e*P	**PKPbc**	15 57 07.7	-0.9
SQTA	**Sankt Quirin**	**153.56**	**344**	*e*PKPdf	**PKPdf**	15 56 59.9	-0.5
	comp=Z,19nm,0.9s,SNR=7.3							
SQTA				*i* PKPbc	**PKPbc**	15 57 08.4	-0.2
	comp=Z,13nm,0.6s							
SQTA				*e*PKPab	**PKPab**	15 57 25.0	+0.6
	comp=Z,21nm,0.9s							
SQTA				*e*pPKiKP	**pPKiKP**	15 59 27.5	0.0
	comp=Z,6.2nm,0.7s							
PRED	**Cave del Predi**	**153.57**	**340**		**PKPdf**	15 56 59.4	-1.0
PRED				PKPab	**PKPab**	15 57 23.8	-0.6
LJU	**Ljubljana**	**153.60**	**338**	*e*PKPdf	**PKPdf**	15 56 59.7	-0.6
LJU				*i* PKPbc	**PKPbc**	15 57 08.6	-0.1
LJU				*i* PKPab	**PKPab**	15 57 24.3	-0.2
LJU				*e*pPKPdf	**pPKPbc**	15 59 26.6	-0.6
LJU				*e*pPKPbc	**pPKPab**	15 59 32.0	-4.5
LJU	**Ljubljana**	**153.60**	**338**	*e*P	**PKPbc**	15 57 08.5	-0.1
ABTA	**Abfaltersbach**	**153.63**	**341**	*e*PKPdf	**PKPdf**	15 56 59.5	-1.0
	comp=Z,22nm,0.9s,SNR=12							
ABTA				*i* PKPbc	**PKPbc**	15 57 08.1	-0.8
	comp=Z,29nm,0.6s							
ABTA				*e*PKPab	**PKPab**	15 57 24.4	-0.2
	comp=Z,26nm,0.6s,SNR=5.0							
ABTA				*e*pPKiKP	**pPKPbc**	15 59 27.1	-0.6
	comp=Z,14nm,1.1s							
BLY	**Banja Luka**	**153.64**	**333**	*e*P	**PKiKP**	15 57 09.3	+0.5
ZOU	**Zoufplan**	**153.66**	**340**		**PKPdf**	15 56 59.3	-1.3
ZOU				PKPab	**PKPab**	15 57 24.1	-0.8
BOJS	**Bojanci**	**153.79**	**336**	*e*PKPdf	**PKPdf**	15 57 00.4	-0.1
BOJS				*e*PKPbc	**PKiKP**	15 57 09.2	+0.2
HAU	**Haudompre**	**153.80**	**351**	*e*PKIKP	**PKPdf**	15 56 59.8	-0.8
HAU				pmax	pmax			
	comp=Z,8.0nm,0.7s							
DAVA	**Damuels**	**153.83**	**346**	*i* PKPdf	**PKPdf**	15 57 00.3	-0.5
	comp=Z,12nm,0.9s							
DAVA				*e*PKiKP	**PKPbc**	15 57 09.3	0.0
	comp=Z,14nm,0.7s							
DAVA				*e*PKPab	**PKPab**	15 57 26.0	+0.4
	comp=Z,28nm,0.8s,SNR=4.7							
DAVA				*e*pPKiKP	**pPKPbc**	15 59 27.6	-0.8
	comp=Z,7.5nm,0.8s							
VOJS	**Vojsko**	**153.83**	**339**	*e*PKPdf	**PKPdf**	15 56 59.8	-0.9
FETA	**Feichten**	**153.87**	**344**	*e*PKPdf	**PKPdf**	15 57 00.4	-0.5
	comp=Z,28nm,0.8s,SNR=15							
FETA				*e*pPKiKP	**pPKPbc**	15 59 28.2	+0.2
	comp=Z,6.5nm,1.0s							
CEY	**Cerknica**	**153.90**	**338**	*e*P	**PKPbc**	15 57 08.8	-0.5
HINF	**Hinteralfeld**	**153.91**	**350**	*e*PKIKP	**PKPdf**	15 56 59.7	-1.0
HINF				pmax	pmax			
	comp=Z,31nm,1.6s							
STAL	**STALIGIAL**	**154.01**	**341**		**PKPdf**	15 56 59.9	-1.0
STAL					**PKPbc**	15 57 08.4	-1.2
STAL				PKPab	**PKPab**	15 57 25.4	-0.9
CIMO	**Cimolais**	**154.04**	**341**		**PKPdf**	15 57 00.1	-0.9
CIMO				PKPbc	**PKPbc**	15 57 09.0	-0.6
CIMO				PKPab	**PKPab**	15 57 25.5	-0.9
CLF	**Chambon-Foret**	**154.16**	**357**		**PKPdf**	15 57 01.5	+0.6
CLF				PKPab	**PKPab**	15 57 26.8	+0.1
DAVOX	**Davos/Dischmat**	**154.30**	**345**	PKP	**PKPdf**	15 57 01.3	-0.2
	comp=Z,12nm,0.7s,baz=281,slow=1.3,SNR=17							
DAVOX				PKPbc	**PKPbc**	15 57 10.7	+0.3
	comp=Z,20nm,0.6s,baz=227,slow=2.2,SNR=22							
DAVOX				PKPab	**PKPab**	15 57 28.3	+0.7
	comp=Z,29nm,0.7s,baz=9.9,slow=1.1,SNR=11							
DAVOX				pPKPbc	**pPKPbc**	15 59 29.0	-0.5
	comp=Z,4.4nm,0.7s,baz=102,slow=6.9,SNR=2.2							
FUORN	**Ofenpass-Fuorn**	**154.36**	**344**		**PKPdf**	15 57 00.7	-1.0
FUORN				PKPbc	**PKPbc**	15 57 10.9	+0.3
FUORN				PKPab	**PKPab**	15 57 28.0	0.0
PDG	**Podgorica**	**154.45**	**327**	⇓P	**PKiKP**	15 57 10.1	-0.4
PDG	**Podgorica**	**154.45**	**327**	*e*P	**PKiKP**	15 57 10.1	-0.4
PDG	**Podgorica**	**154.45**	**327**		**PKPdf**	15 57 00.8	-0.7
PDG				PKPbc	**PKiKP**	15 57 10.3	-0.2
PDG				PKPab	**PKPab**	15 57 28.2	0.0
CTI	**Castel Tesino**	**154.51**	**342**	PKIKP	**PKiKP**	15 57 10.4	-0.3
CTI						15 57 27.8		
CTI	**Castel Tesino**	**154.51**	**342**		**PKPdf**	15 57 00.6	-1.1
CTI				PKPbc	**PKiKP**	15 57 10.4	-0.3
CTI					**PKPab**	15 57 27.8	-0.7
DRME	**Dracevica, Mon**	**154.66**	**326**	*e*P	**PKiKP**	15 57 10.6	-0.4
TREB	**Trebinje**	**154.69**	**328**	*e*P	**PKiKP**	15 57 10.2	-0.8
TUE	**Stuetta**	**154.72**	**346**		**PKPdf**	15 57 01.6	-0.5
TUE				PKPdif	**PKPbc**	15 57 11.6	+0.3
TUE				PKPab	**PKPab**	15 57 29.7	+0.2
LOR	**Lormes**	**154.81**	**355**	*e*PKIKP	**PKPdf**	15 57 01.2	-0.8
LOR				pmax	pmax			
	comp=Z,19nm,1.1s							
AGG	**Agios Georgios**	**154.92**	**317**	PKIKP	**PKiKP**	15 57 10.5	-1.2
AGG	**Agios Georgios**	**154.92**	**317**		**PKPdf**	15 57 02.4	0.0
AGG				PKPdif	**PKiKP**	15 57 10.5	-1.2
IDI	**Anoyia**	**155.04**	**307**	PKPbc	PKPbc	15 57 13.4	
	comp=Z,25nm,0.8s,baz=346,slow=15,SNR=7.1							
IDI				PKPab	**PKPab**	15 57 31.5	+0.3
	comp=Z,17nm,0.8s,baz=181,slow=7.0,SNR=5.6							
SALO	**Salr**	**155.22**	**343**	PKPdf	**PKPdf**	15 57 01.6	-1.0
SALO					**PKPab**	15 57 30.5	-0.9
SENIN	**Lac Senin/Sane**	**155.24**	**349**		**PKPdf**	15 57 02.2	-0.6
SENIN				PKPab	**PKPab**	15 57 31.6	-0.1
AVF	**Avril sur Loir**	**155.33**	**355**	*e*PKIKP	**PKPdf**	15 57 01.6	-1.0
AVF				pmax	pmax			
	comp=Z,9.0nm,1.1s							
LPL	**La Plagne**	**156.16**	**349**	*e*PKIKP	**PKPdf**	15 57 03.6	-0.5
LPL				pmax	pmax			
	comp=Z,7.0nm,0.9s							
LPG	**La Plagne**	**156.18**	**349**	*e*PKIKP	**PKPdf**	15 57 03.8	-0.4
LPG				pmax	pmax			
	comp=Z,10.0nm,1.1s							
ZCCA	**Zocca**	**156.26**	**341**	PKPdf	**PKPdf**	15 57 03.4	-0.6
ZCCA					**PKPab**	15 57 36.5	+0.5
BNI	**Bardonecchia**	**156.62**	**349**	PKIKP	**PKPdf**	15 57 04.6	0.0
BNI	**Bardonecchia**	**156.62**	**349**		**PKPdf**	15 57 04.6	0.0
BNI				PKPab	**PKPab**	15 57 37.8	+0.1
SSB	**Saint Sauveur**	**156.71**	**353**	PKIKP	**PKPdf**	15 57 04.4	-0.1
SSB	**Saint Sauveur**	**156.71**	**353**		**PKPdf**	15 57 04.4	-0.1
SSB				PKPab	**PKPab**	15 57 37.6	-0.2
NRCA	**Norcia**	**156.88**	**336**		**PKPdf**	15 57 03.8	-1.1
ORIF	**Oris-en-Rattie**	**156.88**	**350**	*e*PKIKP	**PKPdf**	15 57 04.1	-0.7
ORIF				pmax	pmax			
	comp=Z,8.0nm,0.9s							
RJF	**Les Rejaudoux**	**156.91**	**358**	*e*PKIKP	**PKPdf**	15 57 04.0	-0.7
RJF				pmax	pmax			
	comp=Z,43nm,1.4s							
CAF	**Calviac**	**157.26**	**357**	*e*PKIKP	**PKPdf**	15 57 04.7	-0.5
CAF				pmax	pmax			
	comp=Z,20nm,1.2s							
TIP	**Timpagrande**	**158.10**	**324**		**PKPdf**	15 57 05.4	-1.1
TIP					**PKPab**	15 57 44.8	+0.5
PGAV	**Gavieira, Arco**	**158.92**	**19**	*e*PKPdf	**PKPdf**	15 57 06.5	-0.9
SJPF	**Ste Jean**	**159.06**	**4**	*e*PKIKP	**PKPdf**	15 57 07.1	-0.3
SJPF				pmax	pmax			
	comp=Z,15nm,1.2s							
PCAB	**Cabril**	**159.22**	**18**	*e*PKPdf	**PKPdf**	15 57 08.7	+1.1
ETSF	**Etsaut**	**159.30**	**2**	*e*PKIKP	**PKPdf**	15 57 07.5	-0.3
ETSF				pmax	pmax			
	comp=Z,8.0nm,0.9s							
MVO	**Moncorvo**	**160.01**	**17**	*e*PKPdf	**PKPdf**	15 57 09.1	+0.5
PVIS	**Viseu**	**160.17**	**19**	*e*PKPdf	**PKPdf**	15 57 09.2	+0.4
MTE	**Manteigas**	**160.57**	**19**	*e*PKPdf	**PKPdf**	15 57 10.2	+1.0
MTE	**Manteigas**	**160.57**	**19**		**PKPdf**	15 57 09.0	-0.2
PCBR	**Castelo Branco**	**161.10**	**19**	*e*PKPdf	**PKPdf**	15 57 09.1	-0.6
PMRV	**Marv??o**	**161.51**	**20**	*e*PKPdf	**PKPdf**	15 57 10.2	0.0
PMTG	**Montargil**	**161.56**	**22**	*e*PKPdf	**PKPdf**	15 57 10.0	-0.2
EVO	**Evora**	**162.11**	**22**	*e*PKPdf	**PKPdf**	15 57 12.0	+1.2
ESBB	**Sonseca Array**	**162.13**	**11**		**PKPab**	15 58 01.4	-0.3
ESDC	**Sonseca Array**	**162.13**	**11**	PKP	**PKPdf**	15 57 10.2	-0.7
	comp=Z,2.1nm,1.0s,baz=346,slow=2.4,SNR=11							
ESDC				PKPab	**PKPab**	15 58 01.9	+0.1
	comp=Z,12nm,1.0s,baz=340,slow=4.3,SNR=29							
ESDC				PP	**PP**	16 01 47.4	+0.4
	comp=Z,0.5nm,0.7s,baz=0.0,slow=6.5,SNR=5.1							
PAB	**San Pablo**	**162.18**	**12**	PKIKP	**PKPdf**	15 57 11.3	+0.4
PAB	**San Pablo**	**162.18**	**12**		**PKPdf**	15 57 11.3	+0.4
PBEJ	**Beja**	**162.61**	**23**	*e*PKPdf	**PKPdf**	15 57 12.6	+1.3
PTEO	**Sao Teotonio**	**162.71**	**26**	*e*PKPdf	**PKPdf**	15 57 11.5	+0.1
MORF	**Marmelete**	**162.94**	**26**	*e*PKPdf	**PKPdf**	15 57 11.7	0.0
MORF	**Marmelete**	**162.94**	**26**	*e*PKPdf	**PKPdf**	15 57 12.3	+0.6
LIC	**Lamto**	**163.26**	**160**	*e*PKIKP	**PKPdf**	15 57 11.5	-1.1
	comp=Z,160nm,1.3s							
LIC	**Lamto**	**163.26**	**160**	*e*PKP2	**PKPab**	15 58 08.3	+1.1
	comp=Z,190nm,1.1s							
PBDV	**Barranco-do-Ve**	**163.28**	**24**	*e*PKPdf	**PKPdf**	15 57 13.5	+1.5
KIC	**Kosan Boka**	**163.48**	**161**	*e*PKIKP	**PKPdf**	15 57 11.8	-1.0
	comp=Z,132nm,1.2s							
KIC	**Kosan Boka**	**163.48**	**161**	*e*PKP2	**PKPab**	15 58 09.1	+0.9
	comp=Z,129nm,0.9s							
TIC	**Toumodi**	**163.66**	**160**	*e*PKIKP	**PKPdf**	15 57 11.8	-1.2
TIC	**Toumodi**	**163.66**	**160**	*e*PKP2	**PKPab**	15 58 10.0	+1.0
DBIC	**Dimbokro**	**163.74**	**160**	PKP	**PKPdf**	15 57 12.6	-0.4
	comp=Z,24nm,0.9s,baz=155,slow=1.4,SNR=33							
DBIC				PKPab	**PKPab**	15 58 10.3	+1.1
	comp=Z,19nm,0.7s,baz=183,slow=5.5,SNR=15							
DBIC	**Dimbokro**	**163.74**	**160**	PKPdf	**PKPdf**	15 57 12.2	-0.8
DBIC				PKPab	**PKPab**	15 58 10.4	+1.1
KEST	**Kesra**	**164.45**	**332**	PKPab	**PKPab**	15 58 12.0	-0.2
	comp=Z,14nm,1.0s,baz=359,slow=5.1,SNR=6.6							
MDT	**Midelt**	**168.45**	**22**	PKP	**PKPdf**	15 57 17.4	+1.2
	comp=Z,12nm,1.0s,baz=328,slow=0.6,SNR=10							
MDT				PKPab	**PKPab**	15 58 31.0	+1.1
	comp=Z,13nm,0.9s,baz=332,slow=3.4,SNR=11							
TOA0	**Torodi Ar. Sit**	**170.97**	**187**		**PKPab**	15 58 41.5	+0.3
TORD	**Torodi Ar. Bea**	**170.97**	**187**	PKP	**PKPdf**	15 57 17.3	-0.8
	comp=Z,17nm,0.9s,baz=354,slow=0.6,SNR=84							
TORD				PKPab	**PKPab**	15 58 41.6	+0.5
	comp=Z,16nm,0.8s,baz=184,slow=3.6,SNR=33							
TORD				PP	**PP**	16 02 32.3	+0.9
	comp=Z,5.3nm,0.9s,baz=173,slow=4.6,SNR=8.6							
TAM	**Tamanrasset**	**175.35**	**279**	PKIKP	**PKPdf**	15 57 19.6	-0.2
TAM	**Tamanrasset**	**175.35**	**279**		**PKPdf**	15 57 19.6	-0.2

*IDC **19** 15:43:44.3±1.6,32.°64N×47.°91E,h0km,mb3.7/8, mb1 3.8/10,mb1mx3.5/56,mbtmp3.7/10,ML3.7/2,Error ellipse: s-maj=33.0km s-min=23.1km az=166.0*
*THR **19** 15:43:45.8±0.3,32.°64N×47.°64E,h15km±22km,ML3.5*
*NEIC **19** 15:43:46.3±1.3,32.°6N±0.°1×47.°9E±0.°1,h10km±2km, mb4.0/9,mb_Lg3.8(TEH),ML3.5(THR),Error ellipse: s-maj=21.5km s-min=13.5km az=210.0*
*TEH **19** 15:43:46.9,32.°75N×47.°82E,h8km,ML3.6*
*ISN **19** 15:43:47.4±1.2,32.°76N×47.°87E,h14km±8km,ML3.6*
ISC 19 15:43:47.4±0.6,**32.°69N**±0.°03×**47.°75E**±0.°03,**h15**km,**n78,** σ1=**55**/81,**mb3.7**/10,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DHL1	**Dehloran**	**0.40**	**269**	*e*Pg	**Pg**		**15 43 56.2**	**0.0**
DHL1				*e*Sg	**Sn**		**15 44 03.3**	**-2.6**
IKFM	**Kafar-mosalman**	**0.84**	**5**	*e*Pg	**Pb**		**15 44 01.9**	**-1.8**
IKMR	**Kamar-syah**	**0.98**	**32**	*e*			15 44 24.1	
IKMR				*e*Pg	**Pb**		**15 44 04.2**	**-1.9**
IDOB	**Doab**	**1.15**	**18**	*e*Pg	**Pn**		**15 44 07.3**	**-1.9**
BMDN	**Meydan**	**1.33**	**42**	*e*Pg	**Pn**		**15 44 11.7**	**+0.1**
BMDN				*e*			15 44 36.8	
IKOM	**Komasi**	**1.50**	**352**	*e*Pg	**Pn**		**15 44 14.7**	**+0.8**
IKOM				*e*			15 44 17.4	
AHWZ	**Ahwaz**	**1.55**	**151**	*e*Pg	**Pg**		**15 44 17.3**	**+0.1**
IBDR	**Badra**	**1.59**	**286**	*e*Pg	**Pg**		**15 44 17.0**	**-1.0**
IBDR				*e*Sg	**Sg**		**15 44 40.0**	**+1.3**
IBDR				AML	AML		15 44 43.0	
	comp=E,507nm,0.6s							
IBDR				AML	AML		15 44 43.6	
	comp=N,313nm,0.3s							
HSAM	**Samen**	**1.68**	**25**	*e*Pg	**Pn**		**15 44 18.0**	**+1.5**
HSAM				*e*			15 44 48.7	
KCHF	**Cheshme Sefid,**	**1.69**	**340**	*e*Pg	**Pb**		**15 44 18.3**	**-0.1**
KCHF				*e*			15 44 46.6	
KER	**Kermanshah**	**1.77**	**343**	*e*Pg	**Pb**		**15 44 20.1**	**+0.4**
IBZA	**Bozab**	**1.78**	**3**	*e*Pg	**Pn**		**15 44 19.4**	**+1.5**
IBZA				*e*			15 44 46.2	
IGHG	**Ghaleghazi**	**1.91**	**329**	*e*Pn	**Pb**		**15 44 22.2**	**0.0**
IGHG				*e*			15 45 01.1	
IVIS	**Veis**	**1.98**	**338**	*e*Pn	**Pb**		**15 44 23.3**	**0.0**
KHMZ	**Khomeyn**	**2.13**	**60**	*e*Pn	**Pn**		**15 44 24.5**	**+1.9**
KHMZ	**Khomeyn**	**2.13**	**60**	*e*Pn	**Pn**		**15 44 24.5**	**+1.9**
NSR	**Nassriya**	**2.16**	**220**	*e*Pn	**Pb**		**15 44 26.0**	**-0.3**
NSR				*e*Sn	**Sb**		**15 44 53.0**	**+0.1**
IDHR	**Dehrash**	**2.31**	**331**	*e*Pn	**Pb**		**15 44 27.9**	**-1.0**
IDHR				*e*			15 44 31.2	
ILIN	**Lien**	**2.32**	**344**	*e*Pn	**Pb**		**15 44 27.7**	**-1.4**
ILIN				*e*			15 45 08.0	
HAGD	**Aghdareh**	**2.42**	**28**	*e*Pn	**Pn**		**15 44 28.3**	**+1.6**
HAGD				*e*			15 45 10.5	
SNGE	**Sanandaj**	**2.42**	**352**	*e*Pn	**Pn**		**15 44 27.6**	**+0.9**
SNGE				*e*Sg	**Sb**		**15 45 03.2**	**+2.5**
SNGE	**Sanandaj**	**2.42**	**352**	*e*Pn	**Pn**		**15 44 27.6**	**+0.9**
JHBN	**Jahan bin**	**2.50**	**100**	*e*Pn	**Pn**		**15 44 29.6**	**+1.7**
JHBN				*e*			15 45 11.6	
HSRG	**Sareghieh**	**2.58**	**10**	*e*Pn	**Pn**		**15 44 30.8**	**+1.8**
HSRG				*e*			15 45 14.2	
IPIR	**Pirpir**	**2.65**	**89**	*e*Pn	**Pn**		**15 44 31.5**	**+1.7**
IPIR				*e*			15 45 11.2	
ASAO	**Ashtian**	**2.65**	**45**	*e*Pn	**Pn**		**15 44 31.7**	**+1.8**
ASAO				*e*Sg	**Sg**		**15 45 12.1**	**-0.6**
ASAO				IAML			15 45 18.2	
	comp=N,160nm,0.7s							
ASAO	**Ashtian**	**2.65**	**45**	*e*Pn	**Pn**		**15 44 31.7**	**+1.8**
ROKH	**ROKH**	**2.79**	**96**	*e*Pn	**Pn**		**15 44 33.0**	**+1.2**
ROKH				*e*			15 45 17.3	
BHD	**Baghdad**	**2.90**	**282**	*e*Pn	**Pb**		**15 44 36.0**	**-2.7**
BHD				*e*Sn	**Sb**		**15 45 12.0**	**-1.9**
BHD				AML	AML		15 45 12.5	
	comp=E,2μm,0.3s							
IRAZ	**Razeghan**	**3.26**	**33**	*e*Pn	**Pn**		**15 44 40.4**	**+2.2**
IKLH	**Kolahrood**	**3.27**	**78**	*e*Pn	**Pn**		**15 44 40.3**	**+1.8**
IKLH				*e*			15 45 39.1	
QABG	**Abgarm-Qazvin**	**3.37**	**26**	*e*Pn	**Pn**		**15 44 41.0**	**+1.2**
IGAR	**Gharneh**	**3.63**	**93**	*e*Pn	**Pn**		**15 44 44.4**	**+1.1**
KLNJ	**Kolanjah**	**3.67**	**116**	*e*Pn	**Pn**		**15 44 44.9**	**+0.9**
KLNJ				*e*			15 45 57.3	
IZEF	**Zefreh**	**3.86**	**86**	*e*Pn	**Pn**		**15 44 48.3**	**+1.8**
QSDN	**Sirdan**	**3.98**	**17**	*e*Pn	**Pn**		**15 44 50.2**	**+2.0**
IHSB	**Hasanabad**	**4.01**	**46**	*e*Pn	**Pn**		**15 44 49.9**	**+1.5**
IRAM	**Ramesheh**	**4.02**	**101**	*e*Pn	**Pn**		**15 44 49.0**	**+0.4**
ZNJK	**Zanjan**	**4.05**	**11**	*e*Pn	**Pn**		**15 44 50.5**	**+1.4**
ZNJK	**Zanjan**	**4.05**	**11**	*e*Pn	**Pn**		**15 44 50.5**	**+1.4**
IGZV	**Ghazvin**	**4.21**	**28**	*e*Pn	**Pn**		**15 44 52.7**	**+1.4**
QALM	**Alamut, Qazvin**	**4.43**	**32**	*e*Pn	**Pn**		**15 44 55.5**	**+1.1**
DAMV	**Damavand**	**4.56**	**49**	*e*Pn	**Pn**		**15 44 58.0**	**+1.9**
DAMV	**Damavand**	**4.56**	**49**	*e*Pn	**Pn**		**15 44 58.1**	**+1.9**
IDMV	**Damavand**	**4.57**	**50**	*e*Pn	**Pn**		**15 44 57.5**	**+1.2**
ANAR	**Anarak**	**5.05**	**83**	*e*Pn	**Pn**		**15 45 03.5**	**+0.8**
ISAD	**Sadrabad**	**5.08**	**97**	*e*Pn	**Pn**		**15 45 04.1**	**+0.8**
IFIR	**Firoozkooh**	**5.08**	**53**	*e*Pn	**Pn**		**15 45 03.9**	**+0.6**
IPRN	**Peran**	**5.19**	**46**	*e*Pn	**Pn**		**15 45 05.5**	**+0.9**
ISHM	**Shahmirzad**	**5.54**	**54**	*e*Pn	**Pn**		**15 45 10.4**	**+0.8**
ICHK	**Chekchek**	**5.64**	**93**	*e*Pn	**Pn**		**15 45 11.4**	**+0.5**
IANJ	**Anjilo**	**5.81**	**60**	*e*Pn	**Pn**		**15 45 13.9**	**+0.6**
IMEH	**Mehriz**	**5.97**	**101**	*e*Pn	**Pn**		**15 45 15.8**	**+0.4**
GEVA	**Gevas**	**6.79**	**327**	Pn	**Pn**		**15 45 28.2**	**+1.5**
MARD	**Mardin**	**7.35**	**311**	Pn	**Pn**		**15 45 36.7**	**+2.4**
UOSS	**Minazif**	**10.69**	**134**	Pn	**Pn**		**15 46 17.3**	**-2.8**
WSAR	**Wadi Sarin**	**13.44**	**132**	Pn	**Pn**		15 46 53.0	-4.7
	comp=E,0.6nm,0.3s,baz=312,slow=11,SNR=6.3							
WSAR				Sn	**Sn**		15 49 17.3	-10
	comp=E,0.2nm,0.3s,baz=138,slow=16,SNR=1.6							
ABKAR	**Akbulak array**	**18.90**	**25**	P	**P**		**15 48 07.0**	**-0.2**
IDI	**Anoyia**	**19.13**	**

CO01	**Juntas del Tor**	**2.64**	**158**			**Pn**	**16 12 37.6**	**+2.2**
GO04	**Tololo Observa**	**2.67**	**172**	⇓	*eP*	**Pn**	**16 12 37.5**	**+1.7**
GO04					*eS*	**Sn**	**16 13 08.2**	**+1.3**
GO04					IAML		16 13 27.7	
	comp=N,2μm,0.5s							
GO04	**Tololo Observa**	**2.67**	**172**		Pn	**Pn**	**16 12 37.6**	**+1.9**
GO02	**Mina Guanaco**	**2.78**	**33**		*eP*	**Pn**	**16 12 39.4**	**+2.0**
GO02					*eS*	**Sn**	**16 13 11.7**	**+1.7**
GO02					IAML		16 13 14.3	
	comp=N,1μm,0.1s							
GO02	**Mina Guanaco**	**2.78**	**33**		Pn	**Pn**	**16 12 39.5**	**+2.0**
PB14	**IPOC Station P**	**2.99**	**15**		Pn	**Pn**	**16 12 41.2**	**+1.0**
CO03	**El Pedregal**	**3.34**	**172**		IAML		16 13 48.1	
	comp=N,490nm,0.3s							
CO03	**El Pedregal**	**3.34**	**172**		Pn	**Pn**	**16 12 46.4**	**+1.5**
CO02	**Combarbal**	**3.67**	**177**		IAML		16 13 50.6	
	comp=E,838nm,0.5s							
CO02	**Combarbal**	**3.67**	**177**			**Pn**	**16 12 50.6**	**+1.1**
PB10	**IPOC Station P**	**4.04**	**9**		Pn	**Pn**	**16 12 55.5**	**+1.0**
ZON	**Zonda**	**4.59**	**151**		Pn	**Pn**	**16 13 04.1**	**+2.1**
PB15	**IPOC Station P**	**4.59**	**21**			**Pn**	**16 13 04.3**	**+2.1**
PB06	**IPOC Station P**	**5.03**	**18**			**Pn**	**16 13 08.6**	**+0.4**
VA03	**San Esteban**	**5.25**	**174**			**Pn**	**16 13 11.2**	**0.0**
PB04	**IPOC Station P**	**5.27**	**11**		Pn	**Pn**	**16 13 11.6**	**+0.1**
LVC	**Limon Verde**	**5.33**	**24**		Pn	**Pn**	**16 13 13.7**	**+1.2**
ROC1	**El Roble**	**5.43**	**178**		Pn	**Pn**	**16 13 14.7**	**+0.9**
PEL	**Peldehue**	**5.62**	**175**		Pn	**Pn**	**16 13 17.3**	**+1.1**
MT02	**Curacav**	**5.71**	**179**		Pn	**Pn**	**16 13 17.5**	**+0.1**
PB07	**IPOC Station P**	**5.91**	**12**			**Pn**	**16 13 20.1**	**-0.1**
PB09	**IPOC Station P**	**5.99**	**18**			**Pn**	**16 13 22.2**	**+0.8**
PB01	**IPOC Station P**	**6.65**	**14**		Pn	**Pn**	**16 13 30.0**	**-0.4**
BO01	**Tunca**	**6.84**	**179**		Pn	**Pn**	**16 13 32.7**	**-0.2**
TA01	**Diego Aracena**	**7.00**	**8**		Pn	**Pn**	**16 13 34.1**	**-1.0**
BO02	**Sierra Bellavi**	**7.25**	**177**			**Pn**	**16 13 38.5**	**-0.1**
GO05	**Huala**	**7.48**	**184**		Pn	**Pn**	**16 13 40.5**	**-1.2**
PB08	**IPOC Station P**	**7.60**	**15**		Pn	**Pn**	**16 13 43.5**	**-0.2**
PB11	**IPOC Station P**	**7.87**	**11**		Pn	**Pn**	**16 13 46.1**	**-1.0**
PSGCX	**Pisagua**	**7.96**	**8**			**Pn**	**16 13 47.1**	**-1.2**
GO01	**Chusmiza**	**8.04**	**14**		Pn	**Pn**	**16 13 49.2**	**-0.7**
MNMC	**Minye Minye**	**8.49**	**11**			**Pn**	**16 13 54.8**	**-1.0**
PB12	**IPOC Station P**	**8.91**	**6**		Pn	**Pn**	**16 14 00.6**	**-0.8**
VA04	**Juan Fernndez**	**8.94**	**225**		Pn	**Pn**	**16 14 01.6**	**0.0**
BI02	**San Fabin de**	**9.11**	**180**		Pn	**Pn**	**16 14 03.0**	**-1.0**
PB16	**IPOC Station P**	**9.29**	**10**		Pn	**Pn**	**16 14 07.2**	**+0.2**
CPUP	**Villa Florida**	**12.48**	**88**		Pn	P	16 15 10.2	+9.1
	comp=E,0.2nm,0.3s,baz=250,slow=17,SNR=3.0							
SAML	**Samuel**	**19.99**	**24**			**Pn**	**16 16 26.7**	**+0.5**
DBIC	**Dimbokro**	**72.53**	**73**		P	**P**	**16 23 17.4**	**-0.8**
	comp=E,2.1nm,0.6s,baz=238,slow=2.7,SNR=4.8							
TORD	**Torodi Ar. Bea**	**81.38**	**70**		P	**P**	**16 24 08.6**	**+0.5**
	comp=E,1.4nm,0.6s,baz=255,slow=5.9,SNR=9.4							
TORD	**Torodi Ar. Bea**	**81.38**	**70**		P	**P**	**16 24 07.9**	**-0.2**
TORD					IAmb	IAmb	16 24 09.1	
	comp=Z,1.3nm,0.7s							
MKAR	**Makanchi Array**	**151.67**	**40**		PKPbc	**PKiKP**	**16 31 46.6**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=321,slow=1.3,SNR=3.6							

*ISN **19** 16:30:38.9±0.9, 32.67N×47.71E, h14km±6km, ML1.7*
*TEH **19** 16:30:39.7, 32.68N×47.66E, h8km, ML2.6*
ISC 19 16:30:40.7±1.1**, 32.64N**±0.06×**47.64E**±0.05**, h10**km**, n13,** σ0.99/16**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.30**	**278**	*e*Pg	**Pg**	**16 30 46.2**	**-0.6**
DHL1				*e*		16 30 53.6	
IKFM	**Kafar-mosalman**	**0.90**	**11**	*e*Pg	**Pg**	**16 30 56.7**	**-1.3**
IKFM				*e*		16 31 10.5	
IKMR	**Kamar-syah**	**1.07**	**35**	*e*		16 31 02.7	
IKMR				*e*Pg	**Pb**	**16 31 01.7**	**+0.4**
IDOB	**Doab**	**1.23**	**21**	*e*		16 31 07.6	
IDOB				*e*Pg	**Pn**	**16 31 02.7**	**-1.4**
BMDN	**Meydan**	**1.43**	**44**	*e*		16 31 31.1	
BMDN				*e*Pg	**Pn**	**16 31 06.7**	**-0.2**
IBDR	**Badra**	**1.51**	**289**	*e*Pg	**Pn**	**16 31 07.0**	**-0.8**
IBDR				*e*Sg	**Sn**	**16 31 28.0**	**+0.4**
IBDR				AML	AML	16 31 33.9	
	comp=N,6.0nm,0.8s						
IBDR				AML	AML	16 31 37.3	
	comp=E,8.4nm,0.8s						
IKOM	**Komasi**	**1.53**	**356**	*e*		16 31 33.1	
IKOM				*e*Pg	**Pn**	**16 31 08.2**	**-0.1**
HSAM	**Samen**	**1.76**	**27**	*e*Pn	**Pn**	**16 31 11.3**	**-0.2**
HSAM				*e*		16 31 38.4	
IBZA	**Bozab**	**1.83**	**6**	*e*Pn	**Pn**	**16 31 13.7**	**+1.2**
IGHG	**Ghaleghazi**	**1.91**	**332**	*e*Pn	**Pn**	**16 31 14.9**	**+1.4**
IGHG				*e*		16 31 47.5	
NSR	**Nassriya**	**2.07**	**219**	*e*Pn	**Pn**	**16 31 15.0**	**-0.4**
NSR				*e*Sn	**Sn**	**16 31 41.0**	**-0.2**
IPIR	**Pirpir**	**2.74**	**88**	*e*Pn	**Pn**	**16 31 26.4**	**+1.4**
IPIR				*e*		16 32 09.4	
BHD	**Baghdad**	**2.81**	**284**	*e*Pn	**Pn**	**16 31 26.0**	**+0.3**
BHD				*e*Sn	**Sn**	**16 32 01.0**	**+1.4**
BHD				AML	AML	16 32 13.3	
	comp=E,14nm,0.5s						

IDC 19 16:40:48.4±1.5**, 2.17N**×**125.36E, h0**km**, mb3.4**/5**, mb1 3.6**/5**, mb1mx3.4**/48**, mbtmp3.5**/5**, Error ellipse: s-maj=125.1km s-min=19.5km az=67.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.14**	**179**	P	Pn	16 45 25.5	-0.5
	1.6nm,0.9s,baz=4.8,slow=12,SNR=1.9						
WRA	**Warramunga Arr**	**23.68**	**159**	P	P	16 46 01.3	-0.6
	0.7nm,0.3s,baz=336,slow=11,SNR=23						
ASAR	**Alice Springs**	**26.99**	**163**	P	P	16 46 32.3	+0.1
	0.3nm,0.4s,baz=341,slow=7.0,SNR=21						
MKAR	**Makanchi Array**	**58.07**	**326**	P	P	16 50 43.4	-0.1
	0.2nm,0.5s,baz=120,slow=7.2,SNR=5.1						
KURBB	**Kurchatov Arra**	**62.32**	**328**	P	P	16 51 12.4	-0.1
	0.3nm,0.5s,baz=130,slow=6.1,SNR=7.1						

*IDC **19** 16:42:05.4±3.4, 32.54N×47.76E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.4/46, mbtmp3.7/6, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/46, Error ellipse: s-maj=65.6km s-min=36.0km az=32.0*
*NEIC **19** 16:42:06.3±1.5, 32.6N±0.1×47.7E±0.1, h10km±2km, Error ellipse: s-maj=26.8km s-min=8.6km az=224.0*
*TEH **19** 16:42:06.4, 32.64N×47.62E, h11km, ML3.6*
*ISN **19** 16:42:06.4±1.2, 32.63N×47.67E, h15km±6km, ML3.3*
*THR **19** 16:42:07.3±0.3, 32.58N×47.65E, h18km±21km, ML3.9*
ISC 19 16:42:08.0±0.7**, 32.54N**±0.04×**47.53E**±0.04**, h20**km±3km**, n68,** σ1.21/73**, mb3.7**/8**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.25**	**303**	*e*Pg	**Pb**	**16 42 12.6**	**-1.5**
IKFM	**Kafar-mosalman**	**1.01**	**15**	*e*Pg	**Pn**	**16 42 24.3**	**-2.8**
IKFM				*e*		16 42 44.2	
IKMR	**Kamar-syah**	**1.21**	**36**	*e*Pg	**Pn**	**16 42 27.1**	**-2.6**
IKMR				*e*	**Sb**	**16 42 46.0**	**+0.7**
IDOB	**Doab**	**1.35**	**24**	*e*Pg	**Pn**	**16 42 30.6**	**-1.4**
IBDR	**Badra**	**1.46**	**293**	*e*Pg	**Pn**	**16 42 34.0**	**+0.8**
IBDR				*e*Sg	**Sb**	**16 42 55.0**	**+2.4**
IBDR				AML	AML	16 43 00.6	
	comp=E,252nm,0.6s						
IBDR				AML	AML	16 43 01.1	
	comp=N,700nm,0.8s						
AHWZ	**Ahwaz**	**1.54**	**142**	*e*Pg	**Pb**	**16 42 36.6**	**+0.8**
BMDN	**Meydan**	**1.56**	**44**	*e*Pg	**Pn**	**16 42 34.1**	**-0.7**
BMDN				*e*		16 43 01.4	
IKOM	**Komasi**	**1.63**	**359**	*e*Pg	**Pn**	**16 42 36.2**	**+0.5**
IKOM				*e*		16 42 40.4	
KCHF	**Cheshme Sefid,**	**1.77**	**347**	*e*Pg	**Pn**	**16 42 38.4**	**+0.7**
KCHF				*e*		16 43 06.1	
KER	**Kermanshah**	**1.87**	**350**	*e*Pg	**Pb**	**16 42 41.6**	**-0.3**
HSAM	**Samen**	**1.89**	**28**	*e*Pg	**Pn**	**16 42 39.9**	**+0.5**
HSAM				*e*		16 43 08.8	
NSR	**Nassriya**	**1.93**	**218**	*e*Pn	**Pb**	**16 42 42.0**	**-0.5**
NSR				*e*Sn	**Sb**	**16 43 07.0**	**+0.8**
IBZA	**Bozab**	**1.94**	**8**	*e*Pg	**Pn**	**16 42 41.3**	**+1.2**
IBZA				*e*		16 42 45.9	
IVIS	**Veis**	**2.06**	**344**	*e*Pn	**Pn**	**16 42 43.3**	**+1.8**
IVIS				*e*		16 43 18.3	
IDHR	**Dehrash**	**2.35**	**336**	*e*Pn	**Pn**	**16 42 47.4**	**+1.7**
IDHR				*e*		16 42 55.3	
KHMZ	**Khomeyn**	**2.36**	**59**	*e*Pn	**Pn**	**16 42 46.1**	**+0.4**
KHMZ	**Khomeyn**	**2.36**	**59**	*e*Pn	**Pn**	**16 42 46.2**	**+0.4**
ILIN	**Lien**	**2.42**	**349**	*e*Pn	**Pn**	**16 42 46.9**	**+0.3**
ILIN				*e*		16 43 32.0	
SNGE	**Sanandaj**	**2.55**	**357**	*e*Pn	**Pn**	**16 42 49.5**	**+1.2**
SNGE				*e*Sg	**Sb**	**16 43 26.4**	**+2.3**
SNGE	**Sanandaj**	**2.55**	**357**	*e*Pn	**Pn**	**16 42 49.5**	**+1.2**
HAGD	**Aghdareh**	**2.64**	**30**	*e*Pn	**Pn**	**16 42 48.7**	**-1.0**
HAGD				*e*		16 43 35.1	
JHBN	**Jahan bin**	**2.67**	**96**	*e*Pn	**Pn**	**16 42 50.6**	**+0.4**
JHBN				*e*		16 43 36.5	
BHD	**Baghdad**	**2.75**	**286**	*e*Pn	**Pn**	**16 42 53.0**	**+2.1**
BHD				*e*Sn	**Sb**	**16 43 28.0**	**-1.6**
HSRG	**Sareghieh**	**2.76**	**13**	*e*Pn	**Pn**	**16 42 51.3**	**-0.1**
HSRG				*e*		16 43 37.7	
IPIR	**Pirpir**	**2.84**	**86**	*e*Pn	**Pn**	**16 42 53.1**	**+0.6**
IPIR				*e*		16 43 39.3	
ASAO	**Ashtian**	**2.89**	**46**	*e*Pn	**Pn**	**16 42 53.4**	**+0.3**
ASAO				*e*Sg	**Sb**	**16 43 34.6**	**+0.6**
ASAO	**Ashtian**	**2.89**	**46**	*e*Pn	**Pn**	**16 42 53.4**	**+0.3**
ROKH	**ROKH**	**2.97**	**93**	*e*Pn	**Pn**	**16 42 54.0**	**-0.2**
ROKH				*e*		16 43 53.4	
IRAZ	**Razeghan**	**3.48**	**34**	*e*Pn	**Pn**	**16 43 02.5**	**+1.3**
IKLH	**Kolahrood**	**3.49**	**76**	*e*Pn	**Pn**	**16 43 02.0**	**+0.6**
IKLH				*e*		16 44 05.9	
QABG	**Abgarm-Qazvin**	**3.59**	**28**	*e*Pn	**Pn**	**16 43 02.2**	**-0.5**
KLNJ	**Kolanjah**	**3.78**	**113**	*e*Pn	**Pn**	**16 43 05.9**	**+0.4**
KLNJ				*e*		16 44 33.0	
IZEF	**Zefreh**	**4.06**	**84**	*e*Pn	**Pn**	**16 43 09.5**	**+0.3**
QSDN	**Sirdan**	**4.18**	**19**	*e*Pn	**Pn**	**16 43 11.6**	**+0.8**
IRAM	**Ramesheh**	**4.18**	**99**	*e*Pn	**Pn**	**16 43 11.1**	**+0.3**
ZNJK	**Zanjan**	**4.23**	**13**	*e*Pn	**Pn**	**16 43 12.4**	**+0.9**
ZNJK	**Zanjan**	**4.23**	**13**	*e*Pn	**Pn**	**16 43 12.4**	**+0.9**
IGZV	**Ghazvin**	**4.43**	**29**	*e*Pn	**Pn**	**16 43 14.3**	**0.0**
CHTH	**Charan**	**4.49**	**41**	*e*Pn	**Pn**	**16 43 15.5**	**+0.4**
CHTH				*e*Sg	**Sb**	**16 44 23.7**	**+3.7**
CHTH	**Charan**	**4.49**	**41**	*e*Pn	**Pn**	**16 43 15.5**	**+0.4**
IDMV	**Damavand**	**4.81**	**50**	*e*Pn	**Pn**	**16 43 18.9**	**-0.6**
ISAD	**Sadrabad**	**5.25**	**95**	*e*Pn	**Pn**	**16 43 25.7**	**0.0**
ANAR	**Anarak**	**5.26**	**81**	*e*Pn	**Pn**	**16 43 26.4**	**+0.9**
IAZR	**Azarshahr**	**5.28**	**347**	*e*Pn	**Pn**	**16 43 26.9**	**+1.0**
IPRN	**Peran**	**5.42**	**46**	*e*Pn	**Pn**	**16 43 28.4**	**+0.6**
IALA	**Alasht**	**5.62**	**50**	*e*Pn	**Pn**	**16 43 30.4**	**-0.2**
GEVA	**Gevas**	**6.81**	**329**	Pn	**Pn**	**16 43 47.1**	**+0.2**
MARD	**Mardin**	**7.30**	**313**	Pn	**Pn**	**16 43 53.6**	**0.0**
SBZV	**Sabzevar**	**9.16**	**62**	*e*Pn	**Pn**	**16 44 18.8**	**-0.5**
GAZ	**Gaziantep**	**9.65**	**301**	Pn	**Pn**	**16 44 28.9**	**+3.1**
GEYT	**Alibeck**	**10.19**	**55**	LR	LR	16 48 57.8	
	comp=N,104nm,18.3s,baz=85,slow=41						
UOSS	**Minazif**	**10.73**	**133**	Pn	**Pn**	**16 44 39.3**	**-1.2**
ABKAR	**Akbulak array**	**19.11**	**25**	P	**P**	**16 46 28.1**	**-1.3**
AKTO	**Aktyubinsk**	**19.49**	**20**	P	**P**	**16 46 32.9**	**-0.7**
	comp=N,0.2nm,0.3s,baz=197,slow=11,SNR=6.1						
KKAR	**Karatay Array**	**20.93**	**53**	P	**P**	**16 46 49.6**	**+0.2**
NIL	**Nilore**	**21.57**	**80**	P	**P**	**16 46 55.8**	**-0.4**
NIL				IAmb	IAmb	16 46 57.5	
	comp=Z,8.3nm,1.1s						
BURAR	**Bucovina Array**	**22.65**	**318**	P	**P**	**16 47 08.1**	**+0.3**
KURBB	**Kurchatov Arra**	**29.09**	**42**	P	**P**	**16 48 06.7**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=250,slow=9.6,SNR=5.0						
KURK	**Kurchatov**	**29.18**	**42**	P	**P**	**16 48 06.7**	**-1.2**
KURK	**Kurchatov**	**29.18**	**42**	IAmb	IAmb	16 48 08.9	
	comp=Z,3.6nm,1.1s						
MK31	**Makanchi Array**	**30.03**	**52**	P	**P**	**16 48 13.6**	**-1.9**
MK31				IAmb	IAmb	16 49 10.1	
	comp=Z,5.3nm,1.9s						
MKAR	**Makanchi Array**	**30.03**	**52**	P	**P**	**16 48 15.2**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=250,slow=8.4,SNR=8.3						
MKAR	**Makanchi Array**	**30.03**	**52**	P	**P**	**16 48 14.6**	**-0.9**
BNI	**Bardonecchia**	**33.85**	**304**	P	**P**	**16 48 49.3**	**+0.2**
ZAA0	**Zalesovo Array**	**34.00**	**40**	P	**P**	**16 48 49.7**	**-0.5**
ZALV	**Zalesovo Beam**	**34.00**	**40**	P	**P**	**16 48 48.9**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=255,slow=8.8,SNR=2.4						
NOA	**NORSAR Array B**	**36.97**	**331**	P	**P**	**16 49 17.0**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=126,slow=8.0,SNR=3.4						
CMAR	**Chiang Mai Arr**	**48.05**	**94**	P	**P**	**16 50 45.0**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=290,slow=9.0,SNR=4.0						

*LJU **19** 16:45:05.3, 45.66N×14.27E, h19km, ML2.2*
*VIE **19** 16:45:06.5±0.4, 45.70N×14.27E, h10km±2km, mb2.1/8, ml2.5/11, Error ellipse: s-maj=3.8km s-min=2.0km az=2.0*
38 km SSE of Idrija
ISC 19 16:45:05.9±0.8**, 45.67N**×**14.27E**±0.02**, h15**km±6km**, n58,** σ0.71/98**, 10C-7D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEY	**Cerknica**	**0.13**	**59**	⇓*i*Pg	**Pg**	**16 45 09.7**	**+0.1**
CEY				*i* Sg	**Sb**	**16 45 12.5**	**-0.4**
	comp=Z,270nm,0.1s						
KNDS	**Knezji Dol**	**0.17**	**151**	⇑*i*Pg	**Pg**	**16 45 09.9**	**-0.2**
KNDS				*i* Sg	**Sg**	**16 45 12.9**	**0.0**
	comp=Z,280nm,0.1s						
SKDS	**Skadanscina**	**0.22**	**235**	⇑*i*Pg	**Pg**	**16 45 10.5**	**-0.4**
SKDS				*i* Sg	**Sg**	**16 45 14.0**	**-0.2**
	comp=Z,148nm,0.0s						
JAVS	**Javornik**	**0.26**	**328**	⇑*i*Pg	**Pg**	**16 45 11.7**	**0.0**
JAVS				*i* Sg	**Sb**	**16 45 16.3**	**-0.5**
	comp=Z,372nm,0.1s						
GBAS	**Gorenja Brezov**	**0.29**	**25**	⇓*i*Pg	**Pg**	**16 45 12.2**	**+0.1**
GBAS				*i* Sg	**Sb**	**16 45 17.1**	**-0.5**
	comp=Z,31nm,0.1s						
TRI	**Trieste**	**0.35**	**276**	⇑*e*Pg	**Pg**	**16 45 12.8**	**-0.3**
TRI				*e*Sg	**Sg**	**16 45 18.5**	**+0.4**
RIY	**Rijeka**	**0.38**	**156**	*i* Pg	**Pg**	**16 45 13.0**	**-0.6**
RIY				Sg	**Sg**	**16 45 18.9**	**0.0**
GBRS	**Gornja Briga**	**0.41**	**110**	⇑*i*Pg	**Pg**	**16 45 14.0**	**-0.1**
GBRS				*i* Sg	**Sb**	**16 45 20.5**	**-0.4**
	comp=Z,162nm,0.1s						
LJU	**Ljubljana**	**0.41**	**26**	⇓*i*Pg	**Pb**	**16 45 14.8**	**-0.1**
	comp=Z,26nm,0.1s						
VISS	**Visnje**	**0.42**	**72**	*i* Pg	**Pg**	**16 45 14.4**	**0.0**
VISS				*i* Sg	**Sb**	**16 45 20.8**	**-0.5**
	comp=Z,128nm,0.1s						
VOJS	**Vojsko**	**0.45**	**324**	⇑*i*Pg	**Pg**	**16 45 14.7**	**-0.2**
VOJS				*i* Sg	**Sb**	**16 45 22.2**	**+0.1**
	comp=Z,51nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.53**	**35**	⇓*i*Pg	**Pb**	**16 45 16.6**	**-0.2**
	comp=Z,19nm,0.1s						
SABO	**M.te Sabotino**	**0.56**	**304**	⇑*e*Pg	**Pg**	**16 45 16.3**	**-0.7**
SABO				*e*Sg	**Sb**	**16 45 25.1**	**-0.1**
MOZS	**Mozjanca**	**0.63**	**11**	*i* Pg	**Pb**	**16 45 19.0**	**+0.3**
	comp=Z,30nm,0.1s						
PDKS	**Podkum**	**0.64**	**52**	*e*Pg	**Pb**	**16 45 18.9**	**0.0**
PDKS				*e*Sg	**Sb**	**16 45 27.8**	**+0.1**
	comp=Z,14nm,0.1s						
DRE	**Drenchia**	**0.66**	**319**	⇑*e*Pg	**Pg**	**16 45 18.4**	**-0.5**
DRE				*e*Sg	**Sb**	**16 45 28.8**	**+0.5**
CADS	**Cadrg**	**0.67**	**327**	⇓*i*Pg	**Pg**	**16 45 18.1**	**-0.9**
CADS				*e*Sg	**Sb**	**16 45 29.2**	**+0.8**
	comp=Z,39nm,0.1s						
GORS	**Gorjuse**	**0.67**	**344**	⇑*i*Pg	**Pb**	**16 45 19.6**	**+0.2**
GORS				*i* Sg	**Sb**	**16 45 29.7**	**+1.2**
	comp=Z,30nm,0.1s						
BOJS	**Bojanci**	**0.71**	**103**	⇓*i*Pg	**Pg**	**16 45 19.3**	**-0.5**
BOJS				*e*Sg	**Sg**	**16 45 29.1**	**-0.2**
	comp=Z,19nm,0.1s						
COLI	**Coloredo**	**0.77**	**307**	⇑*e*Pg	**Pg**	**16 45 20.6**	**-0.4**
COLI				*e*Sg	**Sb**	**16 45 32.4**	**+1.1**
ROBS	**Robic**	**0.78**	**318**	*e*Pg	**Pg**	**16 45 20.9**	**-0.2**
	comp=Z,9.0nm,0.1s						
LEGS	**Legarje**	**0.79**	**69**	*e*Pg	**Pb**	**16 45 21.2**	**-0.1**
LEGS				*e*Sg	**Sb**	**16 45 31.6**	**-0.1**
CRES	**Cresnjev**	**0.85**	**79**	*i* Pg	**Pg**	**16 45 22.2**	**-0.1**
CRES				*i* Sg	**Sg**	**16 45 33.4**	**-0.1**
	comp=Z,28nm,0.2s						
BRJN	**Brijuni**	**0.85**	**206**	*e*Pg	**Pb**	**16 45 21.8**	**-0.6**
BRJN				Sg	**Sg**	**16 45 33.1**	**-0.4**
TLI	**Talmassons**	**0.85**	**287**	*e*Pg	**Pg**	**16 45 21.9**	**-0.5**
OBKA	**Obir**	**0.86**	**13**	*e*Pg	**Pb**	**16 45 22.8**	**+0.2**
	comp=Z,6.4nm,0.1s,SNR=19						
OBKA				Sg	**Sb**	**16 45 34.0**	**0.0**
	comp=Z,16nm,0.1s						
CESS	**Cesta pri Krsk**	**0.89**	**70**	*e*Pg	**Pn**	**16 45 23.7**	**-0.2**
CESS				*e*Sg	**Sn**	**16 45 35.7**	**-0.8**
	comp=Z,48nm,0.1s						
VINO	**Villanova**	**0.90**	**311**	*e*Pg	**Pg**	**16 45 23.3**	**-0.1**
BAD	**Bernadia**	**0.91**	**309**	*e*Pg	**Pb**	**16 45 23.3**	**-0.1**
PRED	**Cave del Predi**	**0.91**	**328**	⇓*e*Pg	**Pb**	**16 45 23.1**	**-0.4**
PRED				*e*Sg	**Sn**	**16 45 36.7**	**-0.5**
LSR	**Lussari**	**0.95**	**328**	*e*Pg	**Pb**	**16 45 24.2**	**-0.1**
BUA	**Buia**	**0.97**	**305**	*e*Pg	**Pg**	**16 45 24.6**	**0.0**
DOBS	**Dobrina**	**0.97**	**60**	*i* Pg	**Pg**	**16 45 24.6**	**-0.1**
GCIS	**Gornji Cirnik**	**0.97**	**78**	*i* Pg	**Pg**	**16 45 24.6**	**-0.1**
GCIS				*e*Sg	**Sg**	**16 45 37.5**	**+0.1**
	comp=Z,13nm,0.2s						
GOLS	**Golise**	**1.01**	**70**	*e*Pg	**Pg**	**16 45 25.2**	**-0.2**
GOLS				*e*Sg	**Sn**	**16 45 40.0**	**+0.5**
	comp=Z,43nm,0.2s						
MYKA	**Terra Mystica**	**1.05**	**336**	*e*Pg	**Pn**	**16 45 26.4**	**+0.2**
	comp=Z,1.8nm,0.2s,SNR=4.9						
MYKA				*e*Sg	**Sn**	**16 45 40.7**	**+0.1**
	comp=Z,9.4nm,0.1s,SNR=12						
PERS	**Pernice**	**1.13**	**31**	*e*Sg	**Sg**	**16 45 42.1**	**-0.4**
	comp=Z,21nm,0.2s						
SOKA	**Soboth**	**1.14**	**28**	*e*Pg	**Pg**	**16 45 27.7**	**-0.2**
	comp=Z,4.4nm,0.2s,SNR=12						
SOKA				*e*Sg	**Sn**	**16 45 42.6**	**-0.2**
	comp=Z,2.5nm,0.1s						
BISS	**Bistriski jare**	**1.15**	**31**	*e*Pg	**Pg**	**16 45 28.1**	**+0.1**
GROS	**Grobnik**	**1.17**	**47**	*e*Pg	**Pg**	**16 45 28.4**	**0.0**
GROS				*e*Sg	**Sg**	**16 45 44.1**	**+0.4**
	comp=Z,33nm,0.2s						
NVLJ	**Novalja**	**1.19**	**159**	*e*Pg	**Pn**	**16 45 28.1**	**+0.2**
NVLJ				Sg	**Sg**	**16 45 44.8**	**+0.5**
PTJ	**Puntijarka**	**1.21**	**78**	*e*Pg	**Pb**	**16 45 28.7**	**0.0**
PTJ				Sg	**Sb**	**16 45 43.7**	**-0.4**
KBA	**Koelnbreinsper**	**1.54**	**336**	Pg	**Pg**	**16 45 35.0**	**-0.6**
	comp=Z,0.5nm,0.1s						
KBA				Sg	**Sg**	**16 45 56.0**	**+0.2**
	comp=Z,9.4nm,0.3s,SNR=7.2						
UDBI	**Udbina**	**1.56**	**137**	*e*Pn	**Pb**	**16 45 34.9**	**+0.4**
UDBI				Sn	**Sg**	**16 45 56.4**	**+0.2**
KOGS	**Kog**	**1.58**	**60**	*e*Sg	**Sg**	**16 45 58.2**	**+1.2**
	comp=Z,10.0nm,0.2s						
KALN	**Kalnik**	**1.60**	**73**	*i* Pn	**Pn**	**16 45 33.7**	**+0.1**
KALN				Sn	**Sg**	**16 45 56.3**	**-1.1**
ABTA	**Abfaltersbach**	**1.62**	**312**	Pn	**Pb**	**16 45 35.6**	**0.0**
	comp=Z,3.0nm,0.1s,SNR=11						
ABTA				Sn	**Sg**	**16 45 58.4**	**+0.2**
	comp=Z,8.5nm,0.2s,SNR=9.3						
MOSL	**Moslavina**	**1.75**	**91**	*e*Pn	**Pb**	**16 45 37.3**	**-0.3**
MOSL				Sn	**Sn**	**16 45 57.4**	**-0.3**
DUGI	**Dugi Otok**	**1.77**	**161**	*e*Pn	**Pn**	**16 45 36.8**	**+0.8**
DUGI				Sn	**Sb**	**16 46 00.8**	**+0.7**
ARSA	**Arzberg**	**1.80**	**28**	Pg	**Pg**	**16 45 39.9**	**-0.6**
	comp=Z,2.3nm,0.2s						
MORI	**Morici**	**2.08**	**150**	*e*Pn	**Pn

MDOK Medeo 10.57 46 ⇓P Pn 17 05 30.9 +0.7
24nm,0.6s
PRZ Przheval'sk 11.01 52 P Pn 17 05 35.5 -0.7
PRZ Przheval'sk 11.01 52 Pn Pn 17 05 35.5 -0.7
PDGK Podgornoye 12.13 50 ⇓P Pn 17 05 50.1 -1.4
7.5nm,1.0s
PDGK Podgornoye 12.13 50 P Pn 17 05 50.1 -1.4
OTUK Ortayu 12.72 17 ⇓P Pn 17 05 59.5 +0.1
11nm,0.7s
OTUK Ortayu 12.72 17 P Pn 17 05 59.5 +0.1
ABKAR Akbulak array 13.93 341 Pn Pn 17 06 13.6 -2.2
AKTO Aktyubinsk 15.53 339 Pn Pn 17 06 36.2 -1.0
0.5nm,0.3s,baz=160,slow=17,SNR=6.8
AKTO LR LR 17 13 07.1
comp=Z,32nm,19.0s,baz=117,slow=39
AKTO Aktyubinsk 15.53 339 ⇓P Pn 17 06 38.2 +0.9
5.8nm,0.6s
MAKZ Makanchi 15.56 42 ⇓P Pn 17 06 36.7 -1.1
7.0nm,0.5s
MAKZ Makanchi 15.56 42 P Pn 17 06 36.2 -1.5
MAKZ pmax pmax
comp=Z,17nm,1.2s
MAKZ Makanchi 15.56 42 Pn Pn 17 06 36.2 -1.5
MAKZ IAmb IAmb 17 06 44.4
comp=Z,17nm,1.1s
MK31 Makanchi Array 15.73 43 ⇓P Pn 17 06 37.9 -2.0
comp=Z,1.5nm,0.3s
MK31 Makanchi Array 15.73 43 P Pn 17 06 37.8 -2.0
MK31 Makanchi Array 15.73 43 Pn Pn 17 06 38.2 -1.6
MKAR Makanchi Array 15.73 43 Pn Pn 17 06 37.4 -2.5
comp=Z,0.3nm,0.3s,baz=242,slow=12,SNR=18
MKAR LR LR 17 13 45.3
comp=Z,91nm,18.6s,baz=240,slow=41
MKAR Makanchi Array 15.73 43 *i* P Pn 17 06 38.2 -1.7
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 15.73 43 Pn Pn 17 06 37.8 -2.0
PYUN Piuthan 15.99 116 *eP* Pn 17 06 39.8 -3.8
comp=Z,18nm,0.5s
DANN Dangsing 16.42 114 *eP* Pn 17 06 45.7 -3.4
comp=Z,38nm,0.7s
KOLN Koldanda 16.62 116 *eP* Pn 17 06 47.5 -4.1
comp=Z,9.3nm,0.4s
KURBB Kurchatov Arra 16.74 27 P Pn 17 06 51.0 -1.6
comp=Z,0.1nm,0.3s,baz=220,slow=12,SNR=28
KURBB Lg Lg 17 11 48.4
baz=101,slow=21,SNR=1.9
KURBB Kurchatov Arra 16.74 27 ⇑P Pn 17 06 51.1 -1.6
comp=Z,15nm,0.8s
KURBB Kurchatov Arra 16.74 27 P Pn 17 06 51.0 -1.6
KURK Kurchatov 16.85 27 *ce*P Pn 17 06 51.1 -2.9
KURK pmax pmax
comp=Z,17nm,1.0s
KURK Kurchatov 16.85 27 Pn Pn 17 06 52.0 -2.0
KURK IAmb IAmb 17 06 57.9
comp=Z,14nm,0.9s
BVA0 Borovoye Array 17.00 8 P Pn 17 06 54.0 -2.0
comp=Z,4.6nm,0.5s,baz=175,slow=12,SNR=68
BVAR Borovoye Array 17.00 8 P Pn 17 06 54.8 -1.2
comp=Z,1.5nm,0.3s,baz=177,slow=12,SNR=38
BVAR S Sn 17 09 55.1 -8.7
comp=Z,0.2nm,0.3s,baz=189,slow=16,SNR=3.6
BRVK Borovoye 17.03 7 ⇓P Pn 17 06 55.5 -0.7
comp=Z,8.0nm,0.6s
BRVK Borovoye 17.03 7 P Pn 17 06 54.5 -1.8
BRVK pmax pmax
comp=Z,12nm,0.6s
BRVK Borovoye 17.03 7 Pn Pn 17 06 54.5 -1.8
BRVK IAmb IAmb 17 06 59.8
comp=Z,12nm,0.6s
GKN Gorkha 17.26 113 *eP* Pn 17 06 56.2 -3.3
WMQ Urumqi 17.76 58 *eP* P 17 07 07.5 +1.4
DMN Daman 17.82 114 *eP* Pn 17 07 03.3 -3.2
comp=Z,18nm,0.7s
PKI Pulchoki 18.07 113 *eP* Pn 17 07 06.5 -3.1
comp=Z,12nm,0.5s
JIRN Jiri 18.60 112 *eP* P 17 07 13.8 -1.9
comp=Z,30nm,0.4s
RAMN Ramite 19.29 113 *eP* P 17 07 22.2 -1.0
comp=Z,21nm,0.6s
KBZ Khabaz 19.67 300 P Pn 17 07 31.8 +3.3
comp=Z,0.1nm,0.3s,baz=117,slow=6.3,SNR=5.3
KBZ Khabaz 19.67 300 *i* P Pn 17 07 31.2 +2.7
KIV Kislovodsk 19.88 300 *eP* Pn 17 07 34.5 +3.4
KIV pmax pmax
comp=Z,18nm,1.0s
ODAN Odare 19.93 112 *eP* P 17 07 30.3 +0.2
DGZ Jazzator, Alta 20.21 42 *i* P P 17 07 34.5 +1.6
DGZ pmax pmax
comp=Z,8.0nm,0.7s
ARU Arti 20.95 347 P P 17 07 42.2 +1.5
comp=Z,1.3nm,0.4s,baz=188,slow=9.5,SNR=7.9
ARU LR LR 17 17 20.9
comp=Z,16nm,18.5s,baz=166,slow=41
ARU Arti 20.95 347 *d* P 17 07 42.1 +1.5
ARU 17 08 00.2
ARU S S 17 11 29.9 -2.1
ARU SS SnSn 17 11 53.9 0.0
ARU pmax pmax
comp=Z,5.0nm,0.8s
ARU Arti 20.95 347 P P 17 07 41.1 +0.4
LSA Lhasa 21.50 101 P P 17 07 47.8 +0.4
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 21.50 101 P P 17 07 47.8 +0.4
ZAA0 Zalesovo Array 21.76 30 ⇓P P 17 07 49.6 +0.3
comp=Z,2.0nm,0.8s
ZAA0 Zalesovo Array 21.76 30 P P 17 07 49.7 +0.3
ZALV Zalesovo Beam 21.76 30 P P 17 07 50.0 +0.7
comp=Z,12nm,0.3s,baz=227,slow=10,SNR=62
ZALV Zalesovo Beam 21.76 30 *i* P P 17 07 50.2 +0.9
ZALV pmax pmax
comp=Z,12nm,0.3s
ZALV Zalesovo Beam 21.76 30 P P 17 07 49.6 +0.3
SHL Shillong 24.02 109 P P 17 08 12.1 -0.9
SHL pmax pmax
comp=Z,11nm,0.8s
SHL Shillong 24.02 109 P P 17 08 12.1 -0.9
SHL IAmb IAmb 17 08 15.5
comp=Z,11nm,0.8s
KIRV Kirov 25.09 338 P P 17 08 22.2 +0.1
comp=Z,6.8nm,0.6s,baz=99,slow=3.4,SNR=2.2
KIRV Kirov 25.09 338 ⇑ *eP* P 17 08 22.7 +0.6
BRTR Keskin Array B 26.20 288 P P 17 08 33.9 +1.3
BRTR Keskin Array B 26.20 288 P P 17 08 33.9 +1.3
TLY Talaya 30.38 48 LR LR 17 20 36.2
comp=Z,18nm,21.1s,baz=262,slow=35
AKBB Malin Array Si 30.43 310 *i* P P 17 09 14.3 +4.3
CHTO Chiang Mai 33.25 113 P P 17 09 35.1 0.0
CHTO pmax pmax
comp=Z,2.0nm,0.6s
CHTO Chiang Mai 33.25 113 P P 17 09 35.1 0.0
CHTO IAmb IAmb 17 09 35.8
comp=Z,2.1nm,0.6s
CM31 Chiang Mai Arr 33.47 113 P P 17 09 36.0 -1.0
CMAR Chiang Mai Arr 33.47 113 P P 17 09 35.7 -1.2
comp=Z,3.1nm,0.6s,baz=297,slow=7.8,SNR=24
CMAR Chiang Mai Arr 33.47 113 P P 17 09 36.6 -0.3
NRIK Noril'sk 35.10 13 LR LR 17 24 16.5
comp=Z,33nm,18.7s,baz=9.0,slow=36
NRIK Noril'sk 35.10 13 *i* P P 17 09 51.9 +1.4
NRIK pmax pmax
comp=Z,2.0nm,0.8s
HHC Hu-ho-hao-te 35.12 69 *eP* P 17 09 53.6 +2.4
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,68nm,6.6s
FINES FINESS Array B 35.81 328 P P 17 09 57.7 +0.9
comp=Z,4.4nm,0.9s,baz=151,slow=12,SNR=3.8
FINES FINESS Array B 35.81 328 P P 17 09 56.9 +0.1
FINES FINESS Array B 35.81 328 P P 17 09 56.9 +0.1
PSZ Piszkesteto 36.12 304 P P 17 10 01.1 +1.4
PSZ pmax pmax
comp=Z,2.0nm,0.7s
PSZ Piszkesteto 36.12 304 P P 17 10 01.1 +1.4
PSZ IAmb IAmb 17 10 18.9
comp=Z,2.4nm,0.7s
PBKT Sadao Pong 36.15 114 P P 17 10 00.2 +0.1
PBKT IAmb IAmb 17 10 03.3
comp=Z,2.4nm,0.7s
BOD Bodaibo 37.78 40 *eP* P 17 10 15.2 +1.6
BOD pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 40.11 339 P P 17 10 34.1 +1.2
comp=Z,1.4nm,0.8s,baz=60,slow=7.3,SNR=1.6

NOA NORSAR Array B 42.52 324 P P 17 10 53.5 +0.6
comp=Z,0.4nm,0.4s,baz=100,slow=8.1,SNR=1.9
NOA LR LR 17 31 51.4
comp=Z,42nm,18.2s,baz=5.0,slow=41
YAK Yakutsk 46.22 36 P P 17 11 23.5 +1.3
comp=Z,3.0nm,0.6s,baz=119,slow=1.4,SNR=4.8
YAK Yakutsk 46.22 36 ⇑ *eP* P 17 11 22.1 -0.2
YAK pmax pmax
comp=Z,3.0nm,0.7s
YAK Yakutsk 46.22 36 P 17 11 23.1 +0.8
TORD Torodi Ar. Bea 62.23 266 P P 17 13 17.9 -1.6
comp=Z,0.7nm,0.6s,baz=41,slow=6.1,SNR=6.1
TORD Torodi Ar. Bea 62.23 266 P P 17 13 17.7 -1.8
COLD Coldfoot 73.14 14 P P 17 14 28.5 +0.9
COLD IAmb IAmb 17 14 37.4
comp=Z,3.0nm,1.0s
IMAR Indian Mountai 73.45 16 P P 17 14 29.7 +0.3
ILAR Eielson Array 75.95 14 P P 17 14 44.9 +1.0
comp=Z,0.7nm,0.8s,baz=326,slow=5.1,SNR=6.1
ILAR Eielson Array 75.95 14 P P 17 14 44.6 +0.7
ILAR Eielson Array 75.95 14 P P 17 14 44.6 +0.7
ASAR Alice Springs 87.00 122 P P 17 15 41.4 -1.5
comp=Z,0.4nm,0.7s,baz=314,slow=4.6,SNR=11

MAN ***19*** *17:12:13.6,5.˚26N×126.˚51E,h18km,MS4.8*
MAN Intensity II - Glan, Sarangani.
BJI ***19*** *17:12:16.8±0.0,5.˚33N×126.˚51E,h63km,mB5.0/51, mb4.9/72,Ms4.3/60,Ms7 4.2/58*
MOS ***19*** *17:12:17.2±1.0,5.˚62N×126.˚19E,h43km,mb5.1/37, MS4.1/6,Error ellipse: s-maj=8.6km s-min=4.1km az=112.7*
IDC ***19*** *17:12:19.0±1.1,5.˚59N×126.˚34E,h43km±9km, mb4.5/33, mb1 4.6/37,mb1mx4.5/44,mbtmp4.8/37,ML4.7/4,MS4.0/33, Ms1 4.0/33,ms1mx3.9/48,Error ellipse: s-maj=14.6km s-min=7.4km az=82.0*
GCMT ***19*** *17:12:20.7±0.2,5.˚54N±0.˚01×126.˚49E±0.˚02,h32km, MW5.0/91,Moment Tensor Solution. s78,c102; s91,c148; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.94±.15; Mθθ0.44±.09; Mϕϕ-4.37±.10; Mrθ1.06±.13; Mθϕ-0.61±.07; Mϕr1.90±.16; Best double couple: Mo4.73400×10^16 NP1:ϕs175.00000°,δ33.00000°, λ71.00000°. NP2:ϕs18.00000°,δ59.00000°,λ102.00000°. Principal axes: T 4.5570, Plg73.0000°, Azm319.0000°; N 0.3630, Plg10.0000°, Azm192.0000°; P -4.9120, Plg13.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***19*** *17:12:20.7±2.0,5.˚53N±0.˚04×126.˚40E±0.˚08,h61km±4km, mb5.0/121 Error ellipse: s-maj=12.7km s-min=4.6km az=70.0*
DJA ***19*** *17:12:20.0±0.4,6.˚N±3.˚×12.˚7E±.˚,h45km±3km,M4.8/54, mb5.1/54,mB5.2/26,MLv5.3/12,Mw(mB)4.6/26,Mwp5.1/5*
KLM ***19*** *17:12:21.0,5.˚53N×126.˚63E,h66km,mb4.9*
ISC 19 17:12:20.0±0.5,5.˚53N±0.˚03×126.˚38E±0.˚04,h52km±3km, n551,σ1ş71/568,mb5.0/158,MS4.1/55,37C-12D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.88**	**311**	*eP*		**Pn**	**17 12 34.7**	**-1.5**
DDMP				*eS*		**Sn**	**17 12 45.9**	**-2.3**
MATI	**Mati**	**1.42**	**355**	*eP*		**Pn**	**17 12 41.0**	**-2.4**
MATI				*eS*		**Sn**	**17 13 04.2**	**+3.2**
DAV	**Davao City (W)**	**1.73**	**333**	P		**Pn**	**17 12 47.2**	**-0.5**
	426nm,0.3s,baz=143,slow=1.1,SNR=49							
DAV				S		**Sn**	**17 13 09.3**	**+0.7**
	523nm,0.3s,baz=262,slow=19,SNR=7.2							
DAV				LR		LR	17 13 41.6	
	comp=Z,13μm,18.5s,baz=133,slow=50							
DAV	**Davao City (W)**	**1.73**	**333**			**Pn**	**17 12 47.8**	**+0.1**
DAV	**Davao City (W)**	**1.73**	**333**	⇓ *eP*		**Pn**	**17 12 46.6**	**-1.1**
KCP	**Kidapawan**	**1.96**	**319**	⇓ *eP*		**Pn**	**17 12 50.4**	**-0.5**
KCP				*i* S		Sn	17 13 36.3	+22
SKMP	**Bagumbayan, Su**	**2.08**	**298**	*eP*		**Pn**	**17 12 52.0**	**-0.5**
SKMP				*eS*		**Sn**	**17 13 20.3**	**+3.1**
BUKP	**Musuan**	**2.68**	**331**	*eP*		**Pn**	**17 13 00.9**	**+0.1**
BIP	**Bislig**	**2.69**	**357**	⇑ *iP*		**Pn**	**17 13 03.7**	**+2.9**
BIP				*i* S		**Sn**	**17 13 35.9**	**+3.7**
PAGZ	**Pagadian**	**3.77**	**308**	*eP*		**Pn**	**17 13 14.9**	**-0.7**
ZCP	**Zamboanga City**	**4.50**	**288**	⇑ *iP*		**Pn**	**17 13 25.8**	**+0.1**
ZCP				*i* S		**Sn**	**17 14 15.6**	**-1.3**
MSLP	**Maasin**	**4.82**	**342**	*eP*		**Pn**	**17 13 31.0**	**+0.9**
TNTI	**Ternate**	**4.82**	**168**	P		**Pn**	**17 13 32.3**	**+2.2**
TNTI	**Ternate**	**4.82**	**168**			**Pn**	**17 13 30.1**	**-0.1**
TBP	**Tagbilaran**	**4.83**	**329**	*eP*		**Pn**	**17 13 31.2**	**+0.9**
LLP	**Lapu-Lapu**	**5.33**	**333**	*eP*		**Pn**	**17 13 40.9**	**+3.8**
LLP				*i* S		Sn	17 14 47.9	+11
KMSI	**Cibinong**	**5.47**	**206**	P		**Pn**	**17 13 43.2**	**+4.2**
	3.4nm4μm441nm,0.6s							
CNOP	**Candoni, Negro**	**5.66**	**319**	*eP*		**Pn**	**17 13 42.3**	**+0.7**
OCLP	**Ormoc**	**5.76**	**342**	*eP*		**Pn**	**17 13 47.1**	**+4.1**
GTOI	**Gorontalo**	**5.91**	**215**	P		**Pn**	**17 13 45.1**	**+0.1**
	0.9nm2μm229nm,0.6s							
GUIM	**Jordan**	**6.31**	**324**	*eP*		**Pn**	**17 13 50.6**	**+0.1**
LUWI	**Luwuk**	**7.45**	**209**	P		**Pn**	**17 14 10.3**	**+4.1**
	2.4nm3μm5μm482nm,0.9s							
LUWI	**Luwuk**	**7.45**	**209**	Pn		**Pn**	**17 14 08.4**	**+2.2**
CUYO	**Cuyo Island**	**7.49**	**315**	*eP*		**Pn**	**17 14 08.5**	**+1.7**
SANI	**Sanana**	**7.54**	**183**	P		**Pn**	**17 14 08.3**	**+1.0**
	0.7nm2μm135nm,0.6s							
MYLDM	**Lahad Datu**	**7.86**	**268**			**Pn**	**17 14 13.5**	**+1.8**
SIJI	**Sorong**	**8.01**	**142**	P		**Pn**	**17 14 13.0**	**-0.9**
	5.1nm,0.3s,baz=333,slow=14,SNR=12							
SIJI				S		**Sn**	**17 15 40.5**	**-2.6**
	baz=171,slow=22,SNR=0.9							
OTRP	**Odiongan**	**8.04**	**328**	*eP*		**Pn**	**17 14 15.4**	**+1.1**
MPSI	**Mapaga**	**8.27**	**232**	P		**Pn**	**17 14 19.9**	**+2.5**
	0.5nm3μm646nm45nm,0.7s							
PVCP	**Virac**	**8.31**	**345**	*eP*		**Pn**	**17 14 19.4**	**+1.4**
SJMP	**San Jose**	**8.63**	**323**	*eP*		**Pn**	**17 14 22.6**	**+0.3**
NLAI	**Namlea**	**8.73**	**175**	P		**Pn**	**17 14 25.3**	**+1.5**
	0.6nm3μm94nm,0.5s							
BUSP	**Coron**	**8.87**	**317**	*eP*		**Pn**	**17 14 25.8**	**+0.2**
ENPP	**El Nido**	**8.90**	**310**	*eP*		**Pn**	**17 14 27.1**	**+1.1**
BOAC	**Boac**	**9.06**	**331**	*eP*		**Pn**	**17 14 32.3**	**+4.1**
BATP	**Bataraza**	**9.11**	**291**	*eP*		**Pn**	17 14 34.8	+5.8
MSAI	**Masohi**	**9.17**	**164**	P		**Pn**	17 14 40.0	+10
PGP	**Puerto Galera**	**9.56**	**326**	⇑ *eP*		**Pn**	**17 14 38.8**	**+3.6**
LQP	**Lukban**	**9.78**	**331**	⇑ *eP*		**Pn**	**17 14 41.7**	**+3.5**
SPMM	**Sapulut**	**9.91**	**266**	P		**Pn**	17 14 46.0	+6.1
TGY	**Tagaytay City**	**10.07**	**328**	P		**Pn**	**17 14 40.5**	**-1.5**
	12nm,0.3s,baz=250,slow=22,SNR=1.2							
TGY				LR		LR	17 19 21.2	
	comp=Z,781nm,18.1s,baz=157,slow=42							
KKM	**Kota Kinabalu**	**10.13**	**273**	Pn		**Pn**	**17 14 44.5**	**+1.5**
POLP	**Polilio Island**	**10.13**	**335**	*eP*		Pn	17 14 48.2	+5.3
FAKI	**Fak Fak**	**10.23**	**145**	P		**Pn**	**17 14 45.6**	**+1.3**
	2μm819nm93nm,1.2s							
FAKI	**Fak Fak**	**10.23**	**145**	Pn		**Pn**	**17 14 44.4**	**+0.2**
BALP	**Baler**	**11.20**	**335**	*eP*		**Pn**	**17 15 02.1**	**+4.7**
SPSI	**Sidrap Palu**	**11.51**	**215**	P		Pn	17 15 08.7	+7.0
BKB	**Balikpapan**	**11.63**	**235**	Pn		**Pn**	**17 14 58.9**	**-4.5**
BNSI	**Bone**	**11.68**	**213**	P		**Pn**	**17 15 07.4**	**+3.3**
	788nm39nm,0.9s							
SMPP	**San Manuel, Pa**	**11.95**	**333**	*eP*		**Pn**	**17 15 10.4**	**+2.6**
SCZP	**Santa Cruz**	**12.01**	**329**	*eP*		**Pn**	**17 15 11.6**	**+3.1**
CAUP	**Cauayan**	**12.20**	**339**	*eP*		**Pn**	**17 15 11.8**	**+0.7**
SRPI	**Serui, Papua**	**12.29**	**126**	P		**Pn**	**17 15 16.6**	**+4.3**
KAPI	**Kappang**	**12.39**	**212**	P		**Pn**	**17 15 14.4**	**+0.6**
	3.7nm,0.3s,baz=348,slow=7.9,SNR=7.0							
KAPI				LR		LR	17 20 54.3	
	comp=Z,777nm,18.9s,baz=40,slow=42							
KAPI	**Kappang**	**12.39**	**212**	P		**Pn**	**17 15 15.2**	**+1.5**
KAPI	**Kappang**	**12.39**	**212**			**Pn**	**17 15 15.2**	**+1.5**
BOLP	**Bolinao**	**12.52**	**330**	*eP*		**Pn**	**17 15 19.5**	**+4.0**
MTKI	**Muara Teweh, K**	**13.15**	**241**	P		**P**	**17 15 29.2**	**-3.5**
	746nm37nm,1.4s							
APYP	**Conner**	**13.25**	**338**	*eP*		**Pn**	**17 15 29.6**	**+4.2**
ABRA	**Dolores**	**13.26**	**336**	*eP*		**Pn**	**17 15 27.2**	**+1.5**
SGCP	**Mt. Cagua**	**13.33**	**342**	*eP*		**P**	**17 15 32.6**	**-2.1**
SMPI	**Sarmi**	**14.40**	**121**	P		**Pn**	**17 15 42.5**	**+1.5**
	665nm24nm,1.2s							
SBUM	**Sibu**	**14.45**	**258**			**P**	**17 15 44.8**	**-2.4**
SBUM	**Sibu**	**14.45**	**258**	P		**P**	**17 15 46.0**	**-1.2**
BBKI	**Banjar Baru**	**14.58**	**232**	P		**P**	**17 15 50.1**	**+1.5**
	1μm52nm,1.3s							
MMRI	**Maumere**	**14.66**	**196**	P		**P**	**17 15 48.8**	**-0.7**
EDFI	**Ende, Flores**	**14.93**	**198**	P		**P**	17 15 59.2	+6.5

SOEI Soe 15.32 188 P P 17 16 01.4 +4.4
104nm,0.9s
SOEI Soe 15.32 188 P 17 15 57.4 +0.4
SOEI IAmb IAmb 17 16 22.6
comp=Z,73nm,0.8s
BATI Baumata 15.86 190 P P 17 16 01.7 -1.2
comp=Z,2.3nm,0.3s,baz=298,slow=16,SNR=4.0
BATI Baumata 15.86 190 P P 17 16 08.7 +5.8
GENI Genyem 15.96 120 P P 17 16 16.4 +12
KSM Kuching 16.54 256 P 17 16 12.7 +2.3
KSM IAmb IAmb 17 16 23.7
comp=Z,101nm,1.2s
KSM Kuching 16.54 256 P P 17 16 14.0 +3.6
WBSI Waikabubak, Su 16.60 205 P P 17 16 19.0 +7.9
PLAI Plampang 16.64 211 P P 17 16 18.9 +7.4
PBKI Pangkalan Bun 16.82 241 P P 17 16 23.3 +10
TWSI Taliwang, Sumb 17.04 214 P P 17 16 19.1 +3.1
comp=Z,57nm,0.8s
TWG Pinlang 17.94 344 P P 17 16 23.2 -2.7
YULB Yu-li 18.43 345 P P 17 16 28.7 -2.5
JAGI Jajag, Banyuwa 18.49 221 P P 17 16 31.3 -0.7
TPUB Ta-pu 18.52 343 P P 17 16 30.8 -1.5
TPUB IAmb IAmb 17 16 52.3
comp=Z,147nm,1.7s
DLV T Lat 18.79 291 Pn 17 16 36.5 +0.1
DLV IAmb IAmb 17 16 48.5
comp=Z,88nm,1.0s
MTN Manton Dam 18.85 166 P P 17 16 34.8 -1.0
baz=19,SNR=10
MTN Manton Dam 18.85 166 P 17 16 34.6 -1.2
SSLB Suanglung 18.89 344 P P 17 16 36.4 +0.1
KDU Kakadu 19.08 162 P P 17 16 37.5 -0.8
baz=19,SNR=8.0
NACB Ninganchiao 19.11 347 P P 17 16 35.8 -2.8
YOJ Yonaguni jima 19.11 351 P P 17 16 38.3 -0.3
YOJ pmax pmax
comp=Z,229nm,1.4s
YOJ Yonaguni jima 19.11 351 P P 17 16 38.3 -0.3
NGJI Ngawi 19.64 229 P Pn 17 16 55.5 +9.2
GUMO Guam 19.90 65 LR LR 17 23 06.4
comp=Z,696nm,21.5s,baz=230,slow=32
TPI Tanjungpandan 20.44 247 P Pn 17 17 00.3 +4.6
comp=Z,554nmcomp=Z,36nm,1.0s
QZH Quanzhou 20.70 340 *eP* Pn 17 16 59.3 +0.5
QZH *eS* S 17 20 41.3 -3.1
QZH LR LR
comp=Z,570nm,23.7s
QZH LR LR
comp=Z,470nm,21.3s
QZH LR LR
comp=Z,670nm,22.7s
QIZ Qiongzhong 20.98 311 P P 17 16 59.0 0.0
QIZ S S 17 20 50.8 +0.8
QIZ pmax pmax
comp=Z,26nm,1.2s
QIZ LR LR
comp=Z,500nm,17.9s
QIZ LR LR
comp=Z,560nm,15.5s
QIZ LR LR
comp=Z,550nm,20.0s
KNRA Kununurra 21.20 174 P P 17 17 01.4 0.0
baz=21,SNR=95
KNRA Kununurra 21.20 174 P P 17 17 01.4 0.0
KNRA IAmb IAmb 17 17 06.0
comp=Z,72nm,0.7s
PPBI Pangkal Pinang 21.61 250 P P 17 17 14.8 +8.9
LEM Lembang 22.39 237 P P 17 17 14.8 +0.4
comp=Z,40nm,0.8s,baz=5.3,slow=6.9,SNR=11
LEM LR LR 17 28 08.3
comp=Z,213nm,18.4s,baz=43,slow=42
DSRI Dabo 22.57 255 P P 17 17 20.2 +4.0
comp=Z,2μmcomp=Z,28nm,0.9s
MYKOM Kota Tinggi 22.79 261 P P 17 17 20.1 +1.7
MYKOM Kota Tinggi 22.79 261 P P 17 17 20.0 +1.6
CBJI Citeko 22.82 239 P P 17 17 24.5 +5.7
comp=Z,57nm,0.7s
DBJI Dramaga 22.98 239 P P 17 17 29.2 +8.8
SKJI Sukabumi 23.38 238 P P 17 17 28.2 +3.9
comp=Z,3μmcomp=Z,286nm,0.5s
FITZ Fitzroy Crossi 23.48 182 P P 17 17 25.7 +0.6
comp=Z,8.8nm,0.5s,baz=9.4,slow=7.2,SNR=68
FITZ S S 17 21 36.8 +1.7
comp=Z,4.2nm,0.9s,baz=169,slow=15,SNR=2.6
FITZ Fitzroy Crossi 23.48 182 P P 17 17 26.0 +0.8
baz=24,SNR=80
FITZ Fitzroy Crossi 23.48 182 P P 17 17 25.8 +0.6
FITZ IAmb IAmb 17 17 42.8
comp=Z,49nm,1.2s
KLSI 23.89 245 P P 17 17 32.5 +3.5
comp=Z,17nm,0.9s
MDSI Maura Dua 24.30 246 P P 17 17 35.7 +2.9
comp=Z,41nm,1.0s
LWLI Liwa 24.63 245 P P 17 17 38.6 +2.7
comp=Z,89nm,0.9s
LHSI Lahat 24.65 248 P P 17 17 40.3 +4.3
comp=Z,54nm,1.0s
IPM Ipoh 25.28 269 P P 17 17 42.0 +0.3
IPM IAmb IAmb 17 17 47.2
comp=Z,32nm,0.8s
IPM Ipoh 25.28 269 P P 17 17 43.0 +1.2
KSI Kapahiang 25.45 250 P P 17 17 48.6 +5.3
comp=Z,134nm,1.1s
COEN Coen 25.54 139 P P 17 17 42.7 -1.4
baz=26,SNR=12
COEN Coen 25.54 139 P P 17 17 44.8 +0.7
KULM Kulim 25.62 271 P P 17 17 45.4 +0.6
KULM IAmb IAmb 17 17 50.1
comp=Z,63nm,1.2s
KULM Kulim 25.62 271 P P 17 17 46.0 +1.2
SDSI Sungai Dareh 25.73 256 P P 17 17 47.7 +1.9
comp=Z,59nm,1.0s
SSE Sheshan 25.90 350 P P 17 17 45.8 -1.3
SSE S S 17 22 13.6 0.0
SSE pmax pmax
comp=Z,16nm,0.6s
SSE LR LR
comp=Z,160nm,23.5s
SSE LR LR
comp=Z,180nm,20.9s
KRJI Kerinci 26.02 254 P P 17 17 54.5 +6.0
comp=Z,110nm,0.8s
JCJ Chichijima 26.21 33 P P 17 17 46.8 -3.2
comp=Z,36nm,0.4s,baz=287,slow=14,SNR=10
WB0 Warramunga Arr 26.34 163 P P 17 17 51.4 +0.1
WB0 IAmb IAmb 17 18 09.9
comp=Z,36nm,0.7s
WRAB Tennant Creek 26.48 163 *ce*P P 17 17 54.5 +1.9
WRAB pmax pmax
comp=Z,31nm,1.0s
WRAB Tennant Creek 26.48 163 P P 17 17 53.5 +0.9
WRAB IAmb IAmb 17 18 18.1
comp=Z,24nm,0.8s
WRA Warramunga Arr 26.49 163 P P 17 17 52.3 -0.3
comp=Z,22nm,0.9s,baz=342,slow=10,SNR=43
WRA PcP PcP 17 21 16.7 0.0
comp=Z,1.8nm,0.8s,baz=334,slow=2.6,SNR=2.4
WRA S S 17 22 16.8 -6.4
comp=Z,0.5nm,0.6s,baz=356,slow=15,SNR=1.2
WRA ScP ScP 17 24 54.0 +1.5
comp=Z,3.0nm,0.7s,baz=340,slow=3.1,SNR=6.1
WRA LR LR 17 29 43.8
comp=Z,225nm,21.2s,baz=180,slow=39
WRA P3KPbc 17 50 35.0
comp=Z,0.9nm,0.8s,baz=163,slow=4.1,SNR=4.6
WRA Warramunga Arr 26.49 163 P P 17 17 52.2 -0.4
WRA Warramunga Arr 26.49 163 ScP 17 24 54.8 +2.3
WB2 Warramunga Arr 26.49 163 P P 17 17 52.9 +0.2
WB2 IAmb IAmb 17 18 20.5
comp=Z,40nm,1.1s
WR0 Warramunga Arr 26.57 163 P P 17 17 53.2 -0.1
WR0 IAmb IAmb 17 18 23.2
comp=Z,24nm,0.8s
PDSI Padang 26.66 257 P P 17 18 00.4 +6.1
comp=Z,37nm,1.2s
MNSI Mandailing Nat 27.16 261 P P 17 17 59.3 +0.5
PBKT Sadao Pong 27.21 296 P P 17 17 59.8 +0.7
PBKT PcP 17 21 19.8 +1.4
NJ2 Nanjing 27.32 346 ⇓P P 17 18 03.8 +3.9
NJ2 pmax pmax
comp=Z,28nm,1.1s
NJ2 pmax pmax
comp=Z,180nm,3.8s
NJ2 LR LR
comp=Z,240nm,12.8s
NJ2 LR LR

comp=Z,340nm,12.8s
NJ2 LR LR
comp=Z,260nm,14.2s
WHN Wuhan 27.34 337 ⇓P **P** **17 18 02.8 +2.7**
WHN S **S** **17 22 40.6 +4.2**
WHN LR LR
comp=Z,2μm,20.2s
PSI Prapat 27.52 265 P **P** **17 18 02.3 +0.2**
comp=Z,23nm,0.9s,baz=359,slow=0.6,SNR=13
PSI PcP **PcP** **17 21 19.3 -0.1**
comp=Z,18nm,1.0s,baz=180,slow=8.1,SNR=7.0
RPSI Rantau Prapat 27.53 265 P **P** **17 18 02.2 +0.2**
RPSI IAmb IAmb 17 18 07.1
comp=Z,28nm,0.9s
RPSI **PcP** **17 21 19.5 +0.2**
PSA00 Pilbara Seismi 27.68 193 P **P** **17 18 03.1 -0.2**
PSA00 IAmb IAmb 17 18 04.6
comp=Z,38nm,0.7s
PSA00 Pilbara Seismi 27.68 193 P **P** **17 18 03.6 +0.3**
PSA00 IAmb IAmb 17 18 04.7
comp=Z,18nm,0.8s
JNU Nakatsue 27.77 8 P **P** **17 18 03.4 -0.7**
comp=Z,6.0nm,0.8s,baz=210,slow=10,SNR=2.0
GYA Guiyang 28.07 320 ⇑P **P** **17 18 08.5 +1.6**
GYA PcP **PcP** **17 21 20.9 +0.3**
GYA S **S** **17 22 49.8 +1.6**
GYA pmax pmax
comp=Z,6.0nm,0.8s
GYA pmax pmax
comp=Z,79nm,3.5s
GYA LR LR
comp=Z,340nm,21.0s
GYA LR LR
comp=Z,410nm,18.1s
GYA LR LR
comp=Z,490nm,20.7s
SISI Saibi 28.09 257 P **P** **17 18 11.1 +4.0**
comp=Z,88nm,0.8s
QIS Mount Isa 28.99 154 P **P** **17 18 15.0 0.0**
baz=29,SNR=21
GSI Gunungsitoli 29.05 263 P **P** **17 18 15.3 -0.4**
comp=Z,117nm,0.8s
GSI Gunungsitoli 29.05 263 P **P** **17 18 15.2 -0.4**
GSI **PcP** **17 21 24.2 +1.1**
ENH Enshi 29.31 329 **PcP** **17 21 24.1 +0.6**
MTSU Mount Surprise 29.43 143 P **P** **17 18 18.5 -0.4**
baz=30,SNR=6.9
CM31 Chiang Mai Arr 29.70 298 P **P** **17 18 21.2 -0.1**
CM31 **PcP** **17 21 25.5 +0.9**
CMAR Chiang Mai Arr 29.70 298 P **P** **17 18 20.9 -0.3**
comp=Z,3.6nm,0.7s,baz=111,slow=7.1,SNR=37
CMAR PcP **PcP** **17 21 25.9 +1.2**
comp=Z,9.5nm,0.8s,baz=136,slow=1.2,SNR=30
CMAR ScP **ScP** **17 25 04.0 +1.6**
comp=Z,4.8nm,0.9s,baz=133,slow=1.4,SNR=23
CMAR LR LR 17 30 29.1
comp=Z,340nm,18.1s,baz=166,slow=37
CMAR Chiang Mai Arr 29.70 298 P **P** **17 18 21.0 -0.3**
CMAR **PcP** **17 21 25.4 +0.8**
CMAR ScP **ScP** **17 25 04.2 +1.8**
CHTO Chiang Mai 29.83 299 P **P** **17 18 22.4 -0.1**
CHTO Chiang Mai 29.83 299 P **P** **17 18 22.4 -0.1**
CHTO **PcP** **17 21 25.6 +0.6**
KMI Kunming 29.89 313 ⇓P **P** **17 18 24.4 +1.2**
KMI pP sP 17 18 40.8 -0.7
KMI sP pwP 17 18 48.6 +8.9
KMI PcP **PcP** **17 21 26.5 +1.2**
KMI S **S** **17 23 13.3 -3.8**
KMI sS sS 17 23 42.8 +4.4
KMI SS **ScP** **17 24 57.8 -5.4**
KMI pmax pmax
comp=Z,24nm,0.8s
KMI pmax pmax
comp=Z,100nm,7.5s
KMI LR LR
comp=Z,240nm,20.5s
KMI LR LR
comp=Z,220nm,16.4s
KMI LR LR
comp=Z,680nm,24.0s
AS31 Alice Springs 29.93 166 P **P** **17 18 23.7 +0.4**
ASAR Alice Springs 29.93 166 P **P** **17 18 23.6 +0.3**
comp=Z,2.7nm,0.6s,baz=342,slow=6.8,SNR=54
ASAR PcP **PcP** **17 21 23.9 -1.3**
comp=Z,2.3nm,0.7s,baz=357,slow=2.2,SNR=4.6
ASAR S **S** **17 23 14.8 -2.5**
comp=Z,0.3nm,0.6s,baz=90,slow=40,SNR=1.6
ASAR ScP **ScP** **17 25 05.2 +2.1**
comp=Z,3.0nm,0.8s,baz=344,slow=2.9,SNR=10
ASAR P3KPbc 17 50 19.4
comp=Z,0.6nm,0.8s,baz=161,slow=3.7,SNR=9.1
ASAR Alice Springs 29.93 166 ScP **ScP** **17 25 05.0 +1.9**
WRKA Warakurna 30.43 177 P **P** **17 18 28.4 +0.7**
baz=31,SNR=29
TJN Taejon 30.72 2*ce*P **P** **17 18 30.1 +0.1**
TIA Tai'an 31.70 346 P **P** **17 18 38.6 -0.2**
TIA PP **PP** **17 19 46.3 -4.9**
TIA S **S** **17 23 45.3 +0.5**
TIA pmax pmax
comp=Z,16nm,1.1s
TIA LR LR
comp=Z,210nm,19.4s
TIA LR LR
comp=Z,140nm,18.2s
TIA LR LR
comp=Z,310nm,20.6s
KSAR Wonju Array Be 31.80 2 P **P** **17 18 40.8 +1.2**
KSAR 17 21 30.1
KSAR Wonju Array Be 31.80 2 P **P** **17 18 40.8 +1.2**
KSAR **PcP** **17 21 30.1 +0.4**
KSRS Korea Array 31.81 2 P **P** **17 18 39.0 -0.6**
comp=Z,6.5nm,0.9s,baz=183,slow=10,SNR=22
KSRS PcP **PcP** **17 21 30.0 +0.2**
comp=Z,3.2nm,0.6s,baz=181,slow=2.3,SNR=14
KSRS ScP **ScP** **17 25 09.8 +0.9**
comp=Z,0.3nm,0.4s,baz=36,slow=20,SNR=3.0
KSRS LR LR 17 33 41.6
comp=Z,192nm,18.3s,baz=199,slow=40
CTA Charters Tower 32.09 143 P **P** **17 18 42.9 +0.5**
comp=Z,3.2nm,0.5s,baz=320,slow=11,SNR=7.7
CTAO Charters Tower 32.09 143 P **P** **17 18 43.2 +0.9**
CTAO pmax pmax
comp=Z,9.0nm,0.8s
CTAO Charters Tower 32.09 143 P **P** **17 18 43.2 +0.9**
XAN Xi'an 32.67 333 P **P** **17 18 46.1 -1.2**
XAN pmax pmax
comp=Z,47nm,0.7s
XAN pmax pmax
comp=Z,87nm,4.4s
XAN LR LR
comp=Z,550nm,20.6s
XAN LR LR
comp=Z,380nm,20.1s
XAN LR LR
comp=Z,650nm,19.8s
XAN Xi'an 32.67 333 P **P** **17 18 45.3 -2.0**
XAN pmax pmax
comp=Z,30nm,0.8s
XAN Xi'an 32.67 333 P **P** **17 18 45.3 -2.0**
XAN IAmb IAmb 17 18 50.9
comp=Z,30nm,0.8s
MAJO Matsushiro 32.72 18 *i*P **P** **17 18 49.2 +1.5**
MAJO pmax pmax
comp=Z,5.0nm,0.9s
MAT Matsushiro 32.72 18 P **P** **17 18 46.8 -0.9**
MJAR Matsushiro Arr 32.72 18 P **P** **17 18 46.5 -1.2**
comp=Z,1.3nm,0.8s,baz=222,slow=25,SNR=4.4
MJAR PcP **PcP** **17 21 32.8 +0.4**
comp=Z,2.0nm,0.7s,baz=200,slow=3.3,SNR=5.6
MJAR ScP **ScP** **17 25 12.5 +0.3**
comp=Z,2.3nm,0.9s,baz=212,slow=6.3,SNR=6.3
MJAR LR LR 17 31 05.8
comp=Z,259nm,21.9s,baz=195,slow=34
MJAR Matsushiro Arr 32.72 18 P **P** **17 18 46.0 -1.7**
MEEK Meekatharra 32.85 193 P **P** **17 18 48.9 0.0**
baz=33,SNR=31
CD2 Chengdu 33.01 323 P **P** **17 18 51.6 +1.3**
CD2 S **S** **17 24 06.9 +1.6**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,160nm,6.5s
CD2 LR LR
comp=Z,640nm,18.1s
CD2 LR LR
comp=Z,560nm,23.0s
CD2 LR LR
comp=Z,690nm,17.6s
DL2 Dalian 33.51 353 P **P** **17 18 55.6 +1.1**
DL2 pmax pmax
comp=Z,89nm,0.7s
DL2 pmax pmax
comp=Z,85nm,4.5s
DL2 LR LR
comp=Z,180nm,24.1s
DL2 LR LR
comp=Z,200nm,22.2s
BJT Baijiatuao 35.55 346 P **P** **17 19 12.0 -0.2**
BJT pmax pmax
comp=Z,43nm,0.9s
BJT Baijiatuao 35.55 346 P **P** **17 19 11.9 -0.2**
BJI Beijing 35.57 346 P **P** **17 19 12.3 0.0**
BJI PcP **PcP** **17 21 41.6 +1.2**
BJI S **S** **17 24 46.3 +1.8**
BJI pmax pmax
comp=Z,49nm,0.8s
BJI pmax pmax
comp=Z,65nm,3.3s
BJI LR LR
comp=Z,68nm,9.0s
MORW Morawa 35.80 196 P **P** **17 19 14.7 +0.3**
baz=36,SNR=15
MORW Morawa 35.80 196 P **P** **17 19 14.9 +0.4**
MORW IAmb IAmb 17 19 16.9
comp=Z,18nm,0.8s
FORT Forrest 36.13 178 P **P** **17 19 18.5 +1.2**
baz=36,SNR=6.5
FORT Forrest 36.13 178 P **P** **17 19 17.9 +0.7**
SNY Shenyang 36.23 356 ⇓P **P** **17 19 17.3 -0.6**
SNY pmax pmax
comp=Z,65nm,0.9s
SNY pmax pmax
comp=Z,80nm,3.5s
SNY LR LR
comp=Z,210nm,15.8s
SNY LR LR
comp=Z,97nm,12.1s
SNY LR LR
comp=Z,290nm,17.9s
QLP Quilpie 36.30 152 P **P** **17 19 18.9 +0.2**
baz=36,SNR=7.0
LZH Lanzhou 36.79 329 *e*P **P** **17 19 25.1 +2.1**
LZH pP pP 17 19 36.0 0.0
LZH PP **PnPn** **17 20 52.3 +4.2**
LZH PcP **PcP** **17 21 45.9 +1.5**
LZH S **S** **17 25 06.0 +2.3**
LZH pmax pmax
comp=Z,34nm,1.5s
LZH pmax pmax
comp=Z,130nm,4.3s
LZH LR LR
comp=Z,400nm,14.6s
LZH LR LR
comp=Z,660nm,16.9s
LZH LR LR
comp=Z,800nm,17.0s
KMBL Kambalda 36.94 186 P **P** **17 19 24.4 +0.4**
baz=37,SNR=10
BLDU Ballidu 37.11 194 P **P** **17 19 25.6 0.0**
baz=37,SNR=14
HHC Hu-ho-hao-te 37.60 341 *e*P **P** **17 19 29.6 -0.1**
HHC S **S** **17 25 20.1 +4.4**
HHC pmax pmax
comp=Z,22nm,0.6s
HHC pmax pmax
comp=Z,140nm,7.6s
HHC LR LR
comp=Z,240nm,21.0s
HHC LR LR
comp=Z,150nm,18.0s
HHC LR LR
comp=Z,230nm,19.9s
KLBR Kellerberrin 37.82 192 P **P** **17 19 31.7 +0.2**
baz=38,SNR=21
CN2 Changchun 38.13 359 *e*P **P** **17 19 35.3 +1.3**
CN2 *e*S **S** **17 25 22.1 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,100nm,16.0s
CN2 LR LR
comp=Z,200nm,17.0s
RMQ Roma 38.51 147 P **P** **17 19 35.7 -1.8**
baz=39,SNR=4.3
MUN Mundaring 38.53 194 P **P** **17 19 37.9 +0.3**
baz=39,SNR=7.1
SHL Shillong 38.55 305 P **P** **17 19 37.6 -0.5**
SHL Shillong 38.55 305 P **P** **17 19 37.6 -0.5**
SHL **PcP** **17 21 50.4 +0.3**
USA0B Ussuriysk Arra 38.83 6 *i*P **P** **17 19 40.5 +0.6**
USA0B Ussuriysk Arra 38.83 6 P **P** **17 19 40.2 +0.3**
USA0B IAmb IAmb 17 19 48.7
comp=Z,13nm,0.7s
USRK Ussuriysk Ar. 38.83 6 P **P** **17 19 39.7 -0.2**
comp=Z,15nm,0.9s,baz=190,slow=7.1,SNR=19
USRK Ussuriysk Ar. 38.83 6 P **P** **17 19 38.8 -1.1**
EIDS Eidsvold 38.98 143 P **P** **17 19 38.0 -3.3**
baz=39,SNR=5.7
MDJ Mudanjiang 39.04 4 P **P** **17 19 42.1 +0.5**
MDJ S **S** **17 25 38.1 +1.0**
MDJ sS sS 17 26 02.8 +4.1
MDJ pmax pmax
comp=Z,38nm,0.9s
MDJ pmax pmax
comp=Z,97nm,5.5s
MDJ LR LR
comp=Z,250nm,26.3s
MDJ LR LR
comp=Z,220nm,26.3s
MDJ LR LR
comp=Z,280nm,24.2s
MDJ Mudanjiang 39.04 4 IAmb IAmb 17 19 45.0
comp=Z,34nm,1.0s
NWAO Narrogin (SRO) 39.22 192 P **P** **17 19 44.0 +0.7**
baz=23,slow=8.9
NWAO Narrogin (SRO) 39.22 192 P **P** **17 19 44.0 +0.7**
baz=40,SNR=14
NWAO Narrogin (SRO) 39.22 192 P **P** **17 19 43.0 -0.2**
NWAO IAmb IAmb 17 19 44.9
comp=Z,22nm,0.9s
NWAO Narrogin (SRO) 39.22 192 P **P** **17 19 43.1 -0.1**
NWAO IAmb IAmb 17 19 44.9
comp=Z,19nm,1.0s
BBOO Buckleboo 39.22 167 P **P** **17 19 44.3 +1.0**
baz=39,SNR=14
BBOO Buckleboo 39.22 167 P **P** **17 19 43.9 +0.6**
STKA Stephens Creek 39.92 160 P **P** **17 19 49.5 +0.3**
comp=Z,8.5nm,0.5s,baz=337,slow=8.5,SNR=23
STKA LR LR 17 38 32.6
comp=Z,176nm,18.9s,baz=320,slow=39
STKA Stephens Creek 39.92 160 P **P** **17 19 50.0 +0.9**
baz=40,SNR=25
STKA Stephens Creek 39.92 160 P **P** **17 19 49.7 +0.5**
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 39.92 160 P **P** **17 19 49.7 +0.5**
TEY Ternei 40.36 11⇑*e*P **P** **17 19 52.6 0.0**
TEY pmax pmax
comp=N,20nm,0.6s
TEY pmax pmax
comp=Z,20nm,0.8s
HTT Hallett 40.53 164 P **P** **17 19 54.7 +0.5**
baz=41,SNR=9.1
ASAJ Asahikawa 40.99 18 P **P** **17 19 57.7 -0.1**
comp=Z,11nm,0.7s,baz=231,slow=8.5,SNR=10.0
JKA Kamikawa-asahi 40.99 18 IAmb IAmb 17 20 25.6
comp=Z,25nm,1.1s
LSA Lhasa 41.01 310 IAmb IAmb 17 20 01.6
comp=Z,28nm,1.6s
CMSA Cobar Meteorol 41.21 155 P **P** **17 19 59.9 +0.2**
baz=41,SNR=13
H11S3 WAKE ISLAND Hy 41.36 68 T T 18 03 55.8
baz=257,slow=75,SNR=30
H11S1 WAKE ISLAND Hy 41.38 68 T T 18 03 58.0
baz=257,slow=75,SNR=22
H11S2 WAKE ISLAND Hy 41.38 68 T T 18 03 57.7
baz=257,slow=75,SNR=46
GTA Gaotai 41.39 328 ⇑P **P** **17 20 00.8 -0.6**
GTA pP pwP 17 20 16.3 -1.1
GTA sP sP 17 20 23.1 +2.8
GTA PcP **PcP** **17 21 59.8 +1.0**
GTA pmax pmax
comp=Z,8.0nm,1.5s
GTA pmax pmax
comp=Z,53nm,4.9s
GTA LR LR
comp=Z,200nm,17.5s
GTA LR LR
comp=Z,230nm,18.1s
GTA LR LR
comp=Z,330nm,16.5s
H11N1 WAKE ISLAND Hy 41.84 67 T T 18 04 35.6
baz=255,slow=75,SNR=34
H11N2 WAKE ISLAND Hy 41.84 67 T T 18 04 33.8
baz=255,slow=75,SNR=51
H11N3 WAKE ISLAND Hy 41.85 67 T T 18 04 34.6
baz=255,slow=75,SNR=41
TAPN Taplejung 42.70 305 *e*P **P** **17 20 12.9 +0.5**
comp=Z,37nm,0.7s
ODAN Odare 42.77 304 *e*P **P** **17 20 13.5 +0.6**
comp=Z,67nm,0.6s
ARMA Armidale 43.15 147 P **P** **17 20 15.3 -0.5**
baz=43,SNR=7.7
RAMN Ramite 43.45 304 *e*P **P** **17 20 19.1 +0.6**
comp=Z,51nm,0.7s
YSS Yuzh-Sakhalins 43.62 16 *e*P **P** **17 20 19.7 +0.5**
YSS *e* 17 21 57.5
YSS *e*S **S** **17 26 45.0 +0.1**
YSS *e*SS **SS** **17 30 06.3 +4.7**
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS Yuzh-Sakhalins 43.62 16 P **P** **17 20 19.1 -0.1**
KLR Kul'dur 43.79 5 P **P** **17 20 19.4 -1.1**
comp=Z,11nm,0.8s,baz=200,slow=4.3,SNR=39
KLR Kul'dur 43.79 5*ce*P **P** **17 20 17.3 -3.2**
KLR pmax pmax
comp=Z,12nm,0.9s
HIA Hailar 43.95 354*c i*P **P** **17 20 22.3 +0.5**
HIA pmax pmax
comp=Z,25nm,1.1s
HIA Hailar 43.95 354 IAmb IAmb 17 20 23.7
comp=Z,21nm,0.7s
JIRN Jiri 44.06 305 *e*P **P** **17 20 24.1 +0.6**
comp=Z,99nm,0.7s
ARPS Mount Arapiles 44.49 162 P **P** **17 20 27.8 +1.6**
baz=45,SNR=10
PKI Pulchoki 44.67 304 *e*P **P** **17 20 28.2 -0.1**
comp=Z,28nm,0.8s
KKN Kakani 44.85 304 *e*P **P** **17 20 29.8 +0.1**
comp=Z,31nm,0.8s
DMN Daman 44.93 304 *e*P **P** **17 20 30.2 -0.1**
comp=Z,38nm,0.8s
ULN Ulaanbaatar 45.32 342*ce*P **P** **17 20 32.3 -0.6**
ULN pmax pmax
comp=Z,21nm,1.0s
ULN Ulaanbaatar 45.32 342 P **P** **17 20 32.3 -0.6**
ULN IAmb IAmb 17 20 34.4
comp=Z,16nm,0.9s
ULN **PcP** **17 22 12.1 +0.2**
GKN Gorkha 45.46 304 *e*P **P** **17 20 34.2 -0.2**
comp=Z,31nm,0.7s
SONM Songino Array 45.50 341 P **P** **17 20 34.1 -0.2**
comp=Z,5.5nm,0.8s,baz=158,slow=8.9,SNR=32
SONM PcP **PcP** **17 22 12.0 -0.4**
comp=Z,13nm,0.8s,baz=160,slow=3.4,SNR=18
SONM ScP **ScP** **17 26 02.2 +1.1**
comp=Z,0.9nm,0.8s,baz=152,slow=4.3,SNR=6.5
SONM LR LR 17 41 26.9
comp=Z,258nm,21.5s,baz=156,slow=38
SONM Songino Array 45.50 341 P **P** **17 20 33.7 -0.6**
GRNR Gornyy 45.87 9⇑*i*P **P** **17 20 37.0 -0.1**
GRNR pmax pmax
comp=N,4.0nm,1.2s
GRNR pmax pmax
comp=Z,8.0nm,1.0s
GRNR MLR MLR
comp=E,20nm,14.0s
KOLN Koldanda 46.23 304 *e*P **P** **17 20 40.4 -0.2**
comp=E,113nm,0.7s
DANN Dangsing 46.31 304 *e*P **P** **17 20 41.0 -0.2**
comp=E,189nm,0.7s
TOO Toolangi 46.43 159 P **P** **17 20 41.9 +0.3**
baz=47,SNR=6.8
PYUN Piuthan 46.86 304 *e*P **P** **17 20 45.7 +0.3**
comp=E,110nm,0.7s
CIT Chita 47.55 349 *e*P **P** **17 20 50.9 +0.7**
CIT *e* 17 21 03.6
CIT *e* 17 21 11.3
CIT *e* 17 22 20.1
CIT *e* 17 22 44.5
CIT pmax pmax
comp=Z,52nm,1.2s
DZM Mont Dzumac 47.86 126 *e*LR LR 17 34 28.5
comp=Z,458nm,28.1s
ZEA Zeya 48.07 1 *e*P **P** **17 20 54.8 +0.7**
ZEA pmax pmax
comp=Z,23nm,1.0s
ZEA MLR MLR
comp=Z,200nm,16.0s
ZAK Zakamensk 48.73 340 *e*P **P** **17 20 58.3 -1.1**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
TLY Talaya 49.73 342 P **P** **17 21 07.0 0.0**
comp=Z,7.4nm,0.8s,baz=215,slow=5.2,SNR=4.2
TLY PcP **PcP** **17 22 27.5 +0.2**
comp=Z,4.8nm,0.6s,baz=188,slow=4.8,SNR=3.3
TLY Talaya 49.73 342 *e*P **P** **17 21 07.1 +0.2**
TLY *e*S **S** **17 28 19.3 +7.1**
TLY *e*SSS SSS 17 33 08.4
TLY pmax pmax
comp=Z,24nm,1.0s
TLY MLR MLR
comp=Z,406nm,19.0s
TLY Talaya 49.73 342 P **P** **17 21 06.9 0.0**
TLY IAmb IAmb 17 21 17.6
comp=Z,13nm,0.8s
IRK Irkutsk 50.02 342 *e*P **P** **17 21 10.6 +1.5**
IRK pmax pmax
comp=Z,25nm,1.4s
MOY Mondy 50.59 340 *e*P **P** **17 21 13.6 0.0**
MOY pmax pmax
comp=Z,34nm,2.2s
WMQ Urumqi 51.07 324 *e*P **P** **17 21 17.9 +0.6**
WMQ pP pwP 17 21 33.3 -0.6
WMQ pmax pmax
comp=Z,19nm,1.3s
WMQ pmax pmax
comp=Z,95nm,5.5s
WMQ LR LR
comp=Z,230nm,20.5s
WMQ LR LR
comp=Z,260nm,23.5s
WMQ LR LR
comp=Z,370nm,25.5s
BOD Bodaibo 53.05 352 *e*P **P** **17 21 31.7 +0.1**
BOD pmax pmax
comp=Z,67nm,1.1s
PEA0B Petropavlovsk- 53.91 23*ce*P **P** **17 21 38.4 +0.3**
PEA0B Petropavlovsk- 53.91 23 P **P** **17 21 38.1 +0.1**
PEA0B IAmb IAmb 17 21 49.5
comp=Z,21nm,1.0s
PETK Petropavlovsk- 53.91 23 P **P** **17 21 38.1 +0.1**
comp=Z,9.8nm,0.8s,baz=196,slow=4.6,SNR=25
ZSN Zaisan 54.82 327 *e*P **P** **17 21 43.2 -1.6**
comp=Z,3.1nm,0.9s,baz=326
ZSN Zaisan 54.82 327 *e*P **P** **17 21 43.2 -1.6**
ZSN pmax pmax
comp=Z,3.0nm,0.9s
DGZ Jazzator, Alta 54.87 330*c i*P **P** **17 21 44.8 -0.5**
DGZ pmax pmax
comp=Z,7.0nm,1.0s
SHLS Shalkode 55.76 320 *e*P **P** **17 21 47.9 -3.9**
comp=Z,8.9nm,0.8s,baz=320
SHLS Shalkode 55.76 320 *e*P **P** **17 21 47.8 -3.9**
SHLS pmax pmax
comp=Z,9.0nm,0.8s
PDGK Podgornoye 55.82 320 P **P** **17 21 51.0 -1.2**
MK31 Makanchi Array 55.90 325 *e*P **P** **17 21 51.4 -1.2**
MK31 Makanchi Array 55.90 325 P **P** **17 21 51.8 -0.7**
MK31 IAmb IAmb 17 21 52.9
comp=Z,12nm,1.0s
MKAR Makanchi Array 55.90 325 P **P** **17 21 51.5 -1.0**
comp=Z,4.8nm,0.4s,baz=116,slow=7.5,SNR=94
MKAR PcP **PcP** **17 22 50.0 -0.8**
comp=Z,11nm,0.6s,baz=120,slow=4.1,SNR=9.9
MKAR ScP **ScP** **17 26 46.5 +0.9**

comp=Z,1.5nm,0.7s,baz=108,slow=4.6,SNR=6.6
MKAR LR LR 17 46 56.0
comp=Z,279nm,21.5s,baz=109,slow=37
MKAR P4KPbc 17 59 07.4
comp=Z,0.5nm,0.8s,baz=143,slow=2.9,SNR=4.3
MKAR Makanchi Array 55.90 325 P **P 17 21 51.2 -1.3**
MSVF Nonsavu 55.98 116 *i P* **P 17 21 55.8 +2.1**
MSVF pmax pmax
comp=Z,12nm,1.0s
UZB Uzynbulak 56.04 320 *eP* **P 17 21 52.0 -1.9**
comp=Z,4.6nm,0.7s,baz=320
UZB Uzynbulak 56.04 320 *eP* **P 17 21 51.9 -1.9**
UZB pmax pmax
comp=Z,5.0nm,0.7s
MAKZ Makanchi 56.08 325 P **P 17 21 53.3 -0.6**
MAKZ Makanchi 56.08 325 P **P 17 21 53.0 -0.9**
MAKZ IAmb IAmb 17 21 54.2
comp=Z,16nm,0.9s
PRZ Przheval'sk 56.13 319 IAmb IAmb 17 21 56.1
comp=Z,15nm,0.8s
TARG Taragay, Kyrgy 56.19 318 P **P 17 21 53.9 -1.3**
SATY Saty 56.39 319 *eP* **P 17 21 54.7 -1.7**
comp=Z,6.8nm,0.8s,baz=319
SATY Saty 56.39 319 *eP* **P 17 21 54.6 -1.7**
SATY pmax pmax
comp=Z,7.0nm,0.8s
SATY Saty 56.39 319 *eP* **P 17 21 54.6 -1.7**
SATY pmax pmax
comp=Z,7.0nm,0.8s
YAK Yakutsk 56.44 2 *eP* **P 17 21 55.2 -0.8**
YAK *e*PP* **pP 17 22 07.9 -2.0**
YAK *e* 17 22 51.1
YAK *e* 17 24 02.4
YAK *ePPP* PPP 17 25 19.5
YAK *eS* **S 17 29 41.5 -1.5**
YAK *e*SS* **sS 17 30 07.4 +0.6**
YAK *e* 17 31 39.9
YAK *eSS* **SS 17 33 29.1 -1.6**
YAK pmax pmax
comp=Z,64nm,0.8s
YAK pmax pmax
comp=N,23nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,8.0nm,1.5s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK smax smax
comp=N,30nm,2.5s
YAK smax smax
comp=E,21nm,2.5s
YAK Yakutsk 56.44 2 P **P 17 21 56.3 +0.2**
KSH Kashi 56.54 314 P **P 17 21 57.5 +0.1**
KSH pmax pmax
comp=E,30nm,1.3s
NIL Nilore 56.57 307 P **P 17 21 56.8 -0.8**
NIL pmax pmax
comp=Z,55nm,1.0s
NIL Nilore 56.57 307 P **P 17 21 56.8 -0.8**
MA2 Magadan 57.06 14 *i P* **P 17 22 00.4 -0.2**
MA2 pmax pmax
comp=Z,10.0nm,0.9s
TDK Taldyqorghan 57.30 321 *eP* **P 17 22 01.1 -1.6**
comp=Z,14nm,0.9s,baz=321
TDK Taldyqorghan 57.30 321 *eP* **P 17 22 01.0 -1.6**
TDK pmax pmax
comp=Z,13nm,0.9s
MDOK Medeo 57.33 319 *eP* **P 17 22 01.2 -1.7**
baz=319
MDOK Medeo 57.33 319 *eP* **P 17 22 01.2 -1.7**
TNSS Tian-Shan 57.34 319 *eP* **P 17 22 01.6 -1.7**
baz=318
TNSS Tian-Shan 57.34 319 *eP* **P 17 22 01.6 -1.7**
AAA Alma-Ata 57.44 319 *eP* **P 17 22 01.9 -1.7**
baz=319
AAA Alma-Ata 57.44 319 *eP* **P 17 22 01.9 -1.7**
CHKK Chushkaly 57.67 319 *eP* **P 17 22 03.7 -1.6**
baz=319
CHKK Chushkaly 57.67 319 *eP* **P 17 22 03.6 -1.6**
MTBS Maitube 57.72 318 *eP* **P 17 22 04.1 -1.6**
baz=318
MTBS Maitube 57.72 318 *eP* **P 17 22 04.0 -1.6**
KZA Kyzart 58.07 317 P **P 17 22 08.6 +0.1**
SNR=6.2
KUU Kurty 58.11 319 *eP* **P 17 22 06.7 -1.6**
comp=Z,30nm,1.5s,baz=319
KUU Kurty 58.11 319 *eP* **P 17 22 06.7 -1.6**
KUU pmax pmax
comp=Z,30nm,1.5s
TKM2 Tokmak 2 58.19 318 P **P 17 22 08.5 -0.6**
SNR=6.8
TKM2 Tokmak 2 58.19 318 P **P 17 22 05.7 -3.4**
UCH Uchtor 58.63 317 P **P 17 22 12.8 +0.3**
SNR=18
AAK Ala-Archa 58.81 317 *ceP* **P 17 22 12.2 -1.1**
AAK pmax pmax
comp=Z,12nm,1.7s
AAK Ala-Archa 58.81 317 P **P 17 22 12.7 -0.6**
AAK IAmb IAmb 17 22 31.0
comp=Z,13nm,1.4s
ZAA0 Zalesovo Array 58.84 333 P **P 17 22 11.8 -1.3**
ZALV Zalesovo Beam 58.84 333 P **P 17 22 12.1 -1.0**
comp=Z,7.4nm,0.6s,baz=131,slow=6.9,SNR=15
ZALV PcP **PcP 17 23 01.1 -1.1**
comp=Z,8.5nm,0.9s,baz=116,slow=3.4,SNR=5.4
ZALV LR LR 17 49 09.1
comp=Z,139nm,21.3s,baz=134,slow=38
ZALV Zalesovo Beam 58.84 333 P **P 17 22 11.5 -1.6**
SGDS Sogindy 59.05 318 *eP* **P 17 22 13.0 -1.9**
comp=Z,3.1nm,0.9s,baz=318
SGDS Sogindy 59.05 318 *eP* **P 17 22 13.0 -1.9**
SGDS pmax pmax
comp=Z,3.0nm,0.9s
AML Almayashu 59.15 316 P **P 17 22 15.7 -0.3**
SNR=13
EKS2 Erkin-Say 59.30 317 P **P 17 22 16.4 -0.3**
SNR=10
ARSB Arslanbob 59.34 315 IAmb IAmb 17 22 23.1
comp=Z,15nm,1.1s
KURBB Kurchatov Arra 60.05 327 P **P 17 22 20.2 -1.3**
KURK Kurchatov 60.05 327 *ceP* **P 17 22 20.0 -1.5**
KURK pmax pmax
comp=Z,56nm,1.7s
KURK Kurchatov 60.05 327 P **P 17 22 20.8 -0.7**
BTLS Baital 60.09 320 *eP* **P 17 22 20.2 -1.7**
comp=Z,3.2nm,0.7s,baz=320
BTLS Baital 60.09 320 *eP* **P 17 22 20.2 -1.7**
BTLS pmax pmax
comp=Z,3.0nm,0.7s
KBL Kabul 60.17 307 P **P 17 22 21.9 -1.0**
KBL pmax pmax
comp=Z,22nm,0.7s
KBL Kabul 60.17 307 P **P 17 22 21.9 -1.0**
SEY Seymchan 60.37 13 *i P* **P 17 22 23.6 +0.1**
DZA Taraz 61.06 316 *eP* **P 17 22 26.1 -2.5**
baz=316
DZA Taraz 61.06 316 *eP* **P 17 22 26.9 -1.7**
CHGR Chuyangaron 61.22 311 P **P 17 22 28.6 -1.3**
KK31 Karatay Array 61.70 316 *i P* **P 17 22 31.7 -1.2**
KK31 Karatay Array 61.70 316 P **P 17 22 31.5 -1.4**
KK31 IAmb IAmb 17 22 41.4
comp=Z,11nm,0.8s
KKAR Karatay Array 61.70 316 P **P 17 22 31.7 -1.2**
KKAR pmax pmax
comp=Z,11nm,0.8s
KKAR Karatay Array 61.70 316 P **P 17 22 31.7 -1.2**
KKAR IAmb IAmb 17 22 41.4
comp=Z,11nm,0.8s
IUG Iuzhnay 61.70 315 *eP* **P 17 22 31.3 -1.7**
baz=315
IUG Iuzhnay 61.70 315 *eP* **P 17 22 31.3 -1.7**
BRZS Berezniki 63.04 324 *eP* **P 17 22 40.1 -1.6**
comp=Z,10nm,1.0s,baz=324
BRZS Berezniki 63.04 324 *eP* **P 17 22 40.1 -1.6**
BRZS pmax pmax
comp=Z,10.0nm,1.0s
RPZ Rata Peaks 63.42 145 P **P 17 22 45.4 +1.1**
comp=Z,8.4nm,0.8s,baz=350,slow=16,SNR=2.3
RPZ Rata Peaks 63.42 145 P **P 17 22 43.7 -0.6**
BVA0 Borovoye Array 65.64 327 *i P* **P 17 22 57.4 -1.3**
BVAR Borovoye Array 65.64 327 LR LR 17 54 26.8
comp=Z,203nm,19.2s,baz=32,slow=39

BRVK Borovoye 65.71 327 *ceP* **P 17 22 57.9 -1.2**
BRVK pmax pmax
comp=Z,30nm,1.0s
BRVK Borovoye 65.71 327 P **P 17 22 57.8 -1.2**
ATKA Atka Island 67.23 35 P **P 17 23 08.4 -0.4**
ATKA IAmb IAmb 17 23 21.1
comp=Z,22nm,0.9s
WSAR Wadi Sarin 67.41 293 LR LR 17 56 46.2
comp=Z,44nm,18.8s,baz=115,slow=40
NRIK Noril'sk 68.61 346 P **P 17 23 17.1 -0.1**
comp=Z,57nm,0.9s,baz=132,slow=5.6,SNR=58
NRIK LR LR 17 56 14.6
comp=Z,125nm,19.0s,baz=191,slow=38
NRIK Noril'sk 68.61 346⇑ *eP* **P 17 23 17.3 +0.1**
NRIK pmax pmax
comp=Z,71nm,1.0s
GEYT Alibeck 69.51 308 P **P 17 23 23.0 -0.4**
comp=Z,6.3nm,0.9s,baz=163,slow=5.7,SNR=14
GEYT LR LR 17 59 57.4
comp=Z,90nm,18.1s,baz=175,slow=41
GEYT Alibeck 69.51 308 P **P 17 23 22.7 -0.7**
GYA0B ALIBECK ARRAY 69.51 308 P **P 17 23 23.0 -0.5**
ABKAR Akbulak array 70.55 320 P **P 17 23 28.0 -1.5**
AKTO Aktyubinsk 72.05 321 LR LR 17 58 36.9
comp=Z,212nm,19.7s,baz=107,slow=39
AKTO Aktyubinsk 72.05 321 P **P 17 23 36.8 -1.8**
SVE Sverdlovsk 72.26 328⇑ *eP* **P 17 23 39.1 -0.6**
SVE pmax pmax
comp=Z,40nm,1.4s
CASY Casey 72.55 187 P **P 17 23 40.7 -0.4**
CASY IAmb IAmb 17 23 43.2
comp=Z,19nm,0.9s
ARU Arti 73.24 328 LR LR 17 59 08.2
comp=Z,127nm,21.3s,baz=85,slow=38
ARU Arti 73.24 328 *c iP* **P 17 23 44.1 -1.4**
ARU **PP* **pP 17 24 00.6 +0.9**
ARU S **S 17 33 09.7 -0.1**
ARU SS **SS 17 37 52.0 -0.2**
ARU pmax pmax
comp=Z,14nm,0.6s
ARU Arti 73.24 328 P **P 17 23 43.9 -1.7**
RAR Rarotonga 77.06 113 LR LR 17 52 54.8
comp=Z,149nm,21.0s,baz=281,slow=32
AKT Akhty 77.86 311 *eP* **P 17 24 11.8 -0.7**
AKT *e* 17 24 21.3
AKT pmax pmax
comp=Z,8.0nm,0.7s
KIRV Kirov 78.52 329⇑ *eP* **P 17 24 14.3 -1.2**
KDAK Kodiak Island 80.57 32 P **P 17 24 26.8 +0.1**
KDAK pmax pmax
comp=Z,73nm,2.0s
KDAK Kodiak Island 80.57 32 P **P 17 24 26.8 +0.1**
ZEI Tsey 80.76 312 *eP* **P 17 24 26.3 -2.0**
ZEI pmax pmax
comp=Z,8.0nm,0.4s
PRGR Permogore 80.77 331 *eP* **P 17 24 25.5 -2.2**
PRGR pmax pmax
comp=Z,23nm,0.8s
IMAR Indian Mountai 80.86 24 P **P 17 24 27.9 -0.2**
AKH Akhalkalaki 81.04 311 P **P 17 24 28.5 -1.4**
AKH pmax pmax
comp=Z,29nm,1.4s
AKH Akhalkalaki 81.04 311 P **P 17 24 28.5 -1.4**
AKH IAmb IAmb 17 24 44.8
comp=Z,29nm,1.4s
PPLA Purkeypile 81.20 27 P **P 17 24 30.1 0.0**
PPLA IAmb IAmb 17 25 00.5
comp=Z,42nm,2.0s
CNPM China Poot 81.40 31 P **P 17 24 31.3 +0.2**
CNPM IAmb IAmb 17 24 32.8
comp=Z,34nm,1.6s
SKT Skwentna 81.43 28 P **P 17 24 29.9 -1.3**
SKT IAmb IAmb 17 24 38.6
comp=Z,14nm,1.2s
KBZ Khabaz 81.50 313 P **P 17 24 30.0 -1.9**
comp=Z,3.3nm,0.9s,baz=211,slow=1.5,SNR=5.3
KBZ LR LR 18 06 43.6
comp=Z,168nm,18.3s,baz=72,slow=40
KBZ Khabaz 81.50 313 *ceP* **P 17 24 30.7 -1.3**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
OPO Ambohidratompo 81.56 250 P **P 17 24 31.7 -1.3**
comp=Z,3.0nm,0.5s,baz=94,slow=5.5,SNR=7.3
BRLK Bradley Lake 81.59 30 P **P 17 24 32.9 +0.7**
BRLK IAmb IAmb 17 24 34.6
comp=Z,41nm,1.6s
KIV Kislovodsk 81.66 313 *eP* **P 17 24 33.0 +0.1**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,140nm,19.0s
KIV Kislovodsk 81.66 313 P **P 17 24 32.4 -0.5**
KIV IAmb IAmb 17 24 46.3
comp=Z,12nm,1.0s
SUA Susitna One 81.77 29 P **P 17 24 31.8 -1.3**
BPAW Bear Paw Mtn. 81.84 26 P **P 17 24 32.9 -0.5**
BPAW IAmb IAmb 17 25 00.5
comp=Z,15nm,1.0s
TRF Thorofare Moun 82.10 27 P **P 17 24 33.8 -1.2**
TRF IAmb IAmb 17 24 53.0
comp=Z,13nm,1.0s
VRH Novokhopyorsk 82.38 321 *eP* **P 17 24 34.1 -2.3**
VRH pmax pmax
comp=Z,20nm,0.8s
COLD Coldfoot 82.38 23 IAmb IAmb 17 24 45.6
comp=Z,6.9nm,0.6s
MCK McKinley 82.72 27 P **P 17 24 36.6 -1.4**
MCK pmax pmax
comp=Z,28nm,1.2s
MCK McKinley 82.72 27 P **P 17 24 36.6 -1.4**
MCK IAmb IAmb 17 25 03.8
comp=Z,28nm,1.2s
RND Reindeer 82.75 27 IAmb IAmb 17 24 42.7
comp=Z,16nm,1.2s
KNK Knik Glacier 82.86 29 P **P 17 24 37.9 -0.8**
KNK IAmb IAmb 17 24 46.4
comp=Z,11nm,0.8s
SML Sawmill 82.93 28 P **P 17 24 38.3 -0.9**
SML IAmb IAmb 17 24 47.2
comp=Z,12nm,0.9s
WRH Wood River Hil 83.12 26 P **P 17 24 39.2 -0.8**
COLA College 83.23 25 *i P* **P 17 24 41.3 +0.8**
COLA pmax pmax
comp=Z,4.0nm,0.9s
CCB Clear Creek Bu 83.25 26 IAmb IAmb 17 24 58.3
comp=Z,17nm,1.3s
SCM Sheep Creek Mo 83.41 28 P **P 17 24 41.4 -0.2**
SCM pmax pmax
comp=Z,18nm,1.2s
SCM Sheep Creek Mo 83.41 28 P **P 17 24 41.4 -0.2**
SCM IAmb IAmb 17 25 07.2
comp=Z,18nm,1.2s
GLI Glacier Island 83.51 29 P **P 17 24 41.2 -1.0**
GLI IAmb IAmb 17 24 50.2
comp=Z,11nm,0.6s
HDA Harding Lake 83.61 26 IAmb IAmb 17 25 07.8
comp=Z,31nm,1.6s
IL31 83.64 26 P **P 17 24 40.3 -2.3**
ILAR Eielson Array 83.64 26 P **P 17 24 41.3 -1.4**
comp=Z,1.8nm,0.6s,baz=263,slow=4.2,SNR=18
ILAR LR LR 17 58 27.9
comp=Z,34nm,21.4s,baz=301,slow=33
ILAR Eielson Array 83.64 26 P **P 17 24 40.5 -2.2**
KLMR Klimovskoe 83.68 331 *eP* **P 17 24 40.7 -2.2**
KLMR pmax pmax
comp=Z,75nm,1.2s
KLMR Klimovskoe 83.68 331 *eP* **P 17 24 40.8 -2.2**
KLMR AMP 17 24 43.7
comp=Z,75nm,1.2s
FID Port Fidalgo 83.82 30 P **P 17 24 43.5 -0.2**
VORD Divnogorie 83.91 321 *eP* **P 17 24 41.6 -2.7**
VORD pmax pmax
comp=Z,6.0nm,0.9s
VSR Storozhevoye 83.99 321 *eP* **P 17 24 42.8 -1.9**
VSR pmax pmax
comp=Z,30nm,1.9s
LPSR Galich'ya Gora 84.10 322 *eP* **P 17 24 43.8 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
RIDG Independent Ri 84.54 27 P **P 17 24 46.5 -0.8**
RIDG IAmb IAmb 17 25 00.5
comp=Z,15nm,1.1s
BMAR Burnt Mountain 84.57 23 P **P 17 24 48.0 +0.6**
MOS Moscow 84.77 325 *eP* **P 17 24 46.7 -1.9**
MOS pmax pmax

comp=Z,55nm,0.9s
GLB Gilahina Butte 85.10 29 P **P 17 24 49.9 -0.3**
VNDA Vanda 85.24 173 P **P 17 24 51.0 +0.6**
comp=Z,4.5nm,1.0s,baz=309,slow=6.7,SNR=17
VNDA LR LR 18 02 51.1
comp=Z,105nm,19.6s,baz=296,slow=36
VNDA Vanda 85.24 173 P **P 17 24 49.9 -0.5**
VRDI Verde Repeater 85.28 29 IAmb IAmb 17 25 01.8
comp=Z,31nm,1.7s
MAW Mawson 85.31 200 P **P 17 24 51.6 +0.7**
comp=Z,3.4nm,0.8s,baz=77,slow=5.5,SNR=7.6
MAW Mawson 85.31 200 P **P 17 24 52.0 +1.1**
baz=86,SNR=5.1
MAW Mawson 85.31 200 P **P 17 24 51.0 +0.1**
ANN Anapa 85.40 314 *eP* **P 17 24 49.2 -2.8**
ANN pmax pmax
comp=Z,59nm,0.8s
OBN Obninsk 85.40 325 LR LR 18 06 54.9
comp=Z,26nm,20.1s,baz=326,slow=38
OBN Obninsk 85.40 325 *deP* **P 17 24 51.2 -0.5**
OBN *e*PP* **pP 17 25 04.7 -1.4**
OBN pmax pmax
comp=Z,78nm,1.3s
OBN MLR MLR
comp=Z,112nm,21.0s
BCAR Beaver Creek A 85.95 27 P **P 17 24 54.5 +0.1**
PPT Papeete 85.99 108 LR LR 18 00 41.5
comp=Z,53nm,19.7s,baz=300,slow=34
PPT2 Papeete2 86.00 108 *e*LR LR 17 52 13.4
comp=Z,157nm,24.0s
EGAK Eagle 86.09 25 P **P 17 24 55.8 +0.8**
BARN Barnard Glacie 86.16 29 IAmb IAmb 17 25 04.2
comp=Z,7.0nm,0.9s
CTGM Chitina Glacie 86.32 29 IAmb IAmb 17 25 07.4
comp=Z,6.7nm,0.7s
MMAI Mount Meron Ar 87.85 303 LR LR 18 08 42.9
comp=Z,41nm,21.5s,baz=110,slow=39
BR131 Keskin Array S 88.62 310 *eP* **P 17 25 06.3 -1.6**
BRTR Keskin Array B 88.62 310 P **P 17 25 05.6 -2.3**
comp=Z,3.4nm,0.9s,baz=141,slow=4.1,SNR=7.1
BRTR LR LR 18 12 25.7
comp=Z,54nm,18.2s,baz=80,slow=41
BRTR Keskin Array B 88.62 310 P **P 17 25 04.9 -3.0**
ARCES ARCESS Array B 88.66 340 P **P 17 25 06.3 -0.9**
comp=Z,30nm,0.9s,baz=81,slow=6.4,SNR=40
ARCES LR LR 18 09 36.9
comp=Z,102nm,18.7s,baz=80,slow=39
ARE0 ARCESS Array S 88.66 340 P **P 17 25 06.5 -0.8**
ARE0 ARCESS Array S 88.66 340 *eP* **P 17 25 06.9 -0.3**
SPA0 Spitsbergen Ar 88.66 349 *eP* **P 17 25 06.9 -0.2**
SPITS Spitsbergen Ar 88.66 349 P **P 17 25 07.6 +0.4**
SPITS pmax pmax
comp=Z,9.0nm,0.5s
HAMF Hammerfest 89.01 341 *eP* **P 17 25 08.1 -0.8**
KBS Kingsbay 89.19 350 *eP* **P 17 25 09.2 -0.4**
KMBO Kilima Mbogo 89.24 269 LR LR 18 04 57.0
comp=Z,46nm,19.8s,baz=96,slow=35
HSPB Hornsund (broa 89.26 348 *eP* **P 17 25 10.1 +0.2**
BJO1 Bjornoya 89.30 345 *eP* **P 17 25 09.7 -0.5**
FINES FINESS Array B 90.10 332 P **P 17 25 12.8 -1.3**
comp=Z,7.7nm,0.7s,baz=60,slow=4.3,SNR=32
FINES LR LR 18 09 26.0
comp=Z,234nm,20.4s,baz=62,slow=38
AKASG Malin Array Be 90.29 321 P **P 17 25 13.2 -2.1**
comp=Z,4.0nm,0.8s,baz=73,slow=3.6,SNR=8.6
AKASG LR LR 18 10 46.0
comp=Z,63nm,19.2s,baz=20,slow=39
AKASG Malin Array Be 90.29 321 P **P 17 25 13.4 -1.9**
AKASG pmax pmax
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 90.29 321 P **P 17 25 13.4 -1.9**
AKBB Malin Array Si 90.29 321 *ceP* **P 17 25 12.7 -2.6**
AKBB Malin Array Si 90.29 321 IAmb IAmb 17 25 16.8
comp=Z,4.8nm,0.8s
KIEV Kiev 90.30 321 P **P 17 25 12.0 -3.3**
TRO Tromso 90.86 340 *eP* **P 17 25 16.9 -0.5**
NOR Nord 91.28 355⇑ *iP* **P 17 25 19.1 -0.2**
comp=Z,10nm,0.9s
NOR Nord 91.28 355⇑ *iP* **P 17 25 19.1 -0.2**
NOR pmax pmax
comp=Z,11nm,0.9s
CFR Carcaliu 91.91 316 ⇓P **P 17 25 21.3 -1.6**
CFR Carcaliu 91.91 316 ⇓P **P 17 25 21.3 -1.6**
KMPD K-Podol'skiy 92.43 319 P **P 17 25 23.0 -2.3**
TESR Tesconi 92.70 317 ⇓P **P 17 25 25.3 -1.3**
STEI Steigen 92.70 339 *eP* **P 17 25 25.1 -1.0**
VRI Vrincioaia 92.76 316⇑P **P 17 25 26.2 -0.7**
VRI Vrincioaia 92.76 316⇑P **P 17 25 26.2 -0.7**
FAUS Fauske 92.89 339 *eP* **P 17 25 26.3 -0.6**
LOF Lofoten 93.22 340 *eP* **P 17 25 28.4 0.0**
MLR Muntele Rosu 93.37 316 LR LR 18 13 44.2
comp=Z,65nm,19.2s,baz=111,slow=40
MLR Muntele Rosu 93.37 316⇑P **P 17 25 28.9 -1.0**
MLR Muntele Rosu 93.37 316⇑P **P 17 25 28.9 -1.0**
MLR Muntele Rosu 93.37 316 P **P 17 25 28.2 -1.7**
BURAR Bucovina Array 93.44 318⇑P **P 17 25 29.2 -0.9**
BURAR Bucovina Array 93.44 318⇑P **P 17 25 29.2 -0.9**
BURAR Bucovina Array 93.44 318 P **P 17 25 28.9 -1.2**
BUR08 Bucovina Ar. S 93.44 318 IAmb IAmb 17 25 33.1
comp=Z,7.3nm,1.2s
MOR8 Moi Rana 93.65 338 *eP* **P 17 25 29.1 -1.5**
SYO Syowa Base 93.96 201⇑ *eP* **P 17 25 31.2 -0.6**
SYO Syowa Base 93.96 201⇑ *ePcP* **PcP 17 25 33.4 +1.2**
TAOE Nuku Hiva Isla 94.25 98 *e*LR LR 17 56 01.0
comp=Z,302nm,25.2s
KOLS Kolonicke sedl 95.06 320 *eP* **P 17 25 36.0 -1.4**
KOLS Kolonicke sedl 95.06 320 *eP* **P 17 25 36.0 -1.4**
UZH Uzhgorod 95.12 320 *eP* P 17 25 32.1 -5.5
UZH *e* 17 25 45.1
NSS Namsos 95.26 337 *eP* **P 17 25 37.6 -0.3**
QSPA South Pole Qui 95.42 180 P **P 17 25 38.4 -0.3**
comp=Z,1.6nm,0.9s,baz=292,slow=1.3,SNR=12
QSPA South Pole Qui 95.42 180 IAmb IAmb 17 25 40.6
comp=Z,9.2nm,1.3s
DAG Danmarks Havn 95.44 352⇑ *iP* **P 17 25 37.8 -0.7**
comp=Z,23nm,0.8s
DAG Danmarks Havn 95.44 352⇑ *iP* **P 17 25 37.8 -0.7**
DAG pmax pmax
comp=Z,23nm,0.8s
CRVS Cervenica-Dubn 95.58 320 *eP* **P 17 25 39.3 -0.5**
CRVS Cervenica-Dubn 95.58 320 *eP* **P 17 25 39.3 -0.5**
MDVR Moldovita 96.45 316⇑P **P 17 25 42.9 -1.0**
NC602 NORSAR Array S 97.02 333 *eP* **P 17 25 44.9 -1.1**
NB2 NORSAR Subarra 97.03 334 P **P 17 25 44.2 -1.9**
comp=Z,9.9nm,1.0s,baz=66,slow=4.6
NB2 NORSAR Subarra 97.03 334 P **P 17 25 44.2 -1.9**
baz=66,slow=4.6
NOA NORSAR Array B 97.03 334 P **P 17 25 44.4 -1.7**
comp=Z,2.8nm,0.7s,baz=65,slow=4.6,SNR=8.8
NOA LR LR 18 13 56.3
comp=Z,167nm,21.5s,baz=65,slow=38
MORC Moravsky Berou 97.79 322 ⇓P **P 17 25 47.4 -2.4**
MORC Moravsky Berou 97.79 322 ⇓P **P 17 25 47.4 -2.4**
SKAR Skarsla 98.47 334 *ePdif* **P 17 25 51.8 -0.8**
VRAC Vranov 98.53 321 LR LR 18 12 58.5
comp=Z,56nm,21.4s,baz=35,slow=37
BRG Berggiesshubel 99.60 324 *eP* **Pdif 17 25 56.8 -1.0**
comp=Z,5.5nm,0.9s
BRG Berggiesshubel 99.60 324 *eP* **Pdif 17 25 56.8 -1.0**
BRG pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 99.99 324 *ePdif* **Pdif 17 25 58.0 -1.5**
CLL LmV 18 15 00.0
comp=Z,200nm,20.3s
CLL Collm 99.99 324 *eP* **Pdif 17 25 57.0 -2.5**
GERES GERESS Array B 100.47 322 P **Pdif 17 26 00.7 -1.1**
comp=Z,1.0nm,0.8s,baz=77,slow=7.0,SNR=9.1
GERES GERESS Array B 100.47 322 P **Pdif 17 26 01.2 -0.7**
GERES GERESS Array B 100.47 322 Pdif **Pdif 17 26 01.1 -0.7**
NVAR Mina Array Bea 105.97 48 PKKPbc PKKPbc 17 42 01.4 -1.0
comp=Z,0.4nm,0.5s,baz=107,slow=4.8,SNR=4.4
NVAR PKKPab **PKKPab 17 42 17.8 -1.2**
comp=Z,0.8nm,0.6s,baz=125,slow=4.7,SNR=6.2
PDAR Pinedale Array 110.23 41 PKKPab PKKPab 17 41 58.1 -1.9
comp=Z,0.5nm,0.6s,baz=109,slow=4.9,SNR=5.2
ESDC Sonseca Array 115.88 319 PKP **PKiKP 17 30 56.3 -1.1**
comp=Z,0.5nm,0.7s,baz=32,slow=2.9,SNR=2.5
PBRG Braganca 116.44 322 *ePKPdf* **PKPdf 17 30 57.7 -0.7**
PGAV Gavieira, Arco 117.26 323 *ePKPdf* **PKiKP 17 31 05.8 +5.8**
MTE Manteigas 117.75 322 *ePKPdf* **PKiKP 17 31 02.4 +1.4**
PCBR Castelo Branco 118.03 321 *ePKPdf* **PKiKP 17 31 02.4 +0.9**
SCHQ Schefferville 118.86 9 PKP **PKiKP 17 31 02.7 0.0**
comp=Z,2.6nm,0.5s,baz=237,slow=2.5,SNR=4.6
PNCL Nicolau / Gran 119.71 320 *ePKPdf* **PKiKP 17 31 05.6 +0.8**
PFVI Vila Bisbo 120.47 319 *ePKPdf* **PKPdf 17 31 04.5 -1.7**

TXAR	**Lajitas Array**	**120.76**	**51**	PKP	**PKiKP**	**17 31 07.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=234,slow=1.3,SNR=7.0						
TXAR				PKKPbc	**PKKPbc**	**17 41 12.1**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=129,slow=6.8,SNR=12						
TOA0	**Torodi Ar. Sit**	**122.02**	**289**	PKPdf	**PKPdf**	**17 31 09.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**122.02**	**289**	PKP	**PKPdf**	**17 31 09.6**	**-0.1**
	comp=Z,11nm,0.7s,baz=40,slow=2.2,SNR=64						
TORD	**Torodi Ar. Bea**	**122.02**	**289**	PKPdf	**PKPdf**	**17 31 08.7**	**-1.1**
JCT	**Junction City**	**123.14**	**48**	PKiKP	**PKiKP**	**17 31 11.8**	**0.0**
JCT	**Junction City**	**123.14**	**48**	PKPdf	**PKiKP**	**17 31 11.8**	**0.0**
S39A	**Bolivar**	**123.32**	**37**		**PKPdf**	**17 31 11.3**	**-0.4**
U40A	**Yellville**	**124.47**	**38**	PKPdf	**PKPdf**	**17 31 13.9**	**0.0**
KIC	**Kosan Boka**	**129.80**	**283**	*e*PKP1	**PKPdf**	**17 31 24.5**	**-0.2**
	comp=Z,25nm,0.8s						
DBIC	**Dimbokro**	**129.85**	**283**	PKP	**PKPdf**	**17 31 24.9**	**+0.2**
	comp=Z,7.4nm,0.6s,baz=51,slow=2.6,SNR=20						
DBIC	**Dimbokro**	**129.85**	**283**	PKIKP	**PKPdf**	**17 31 25.0**	**+0.2**
DBIC	**Dimbokro**	**129.85**	**283**	PKPdf	**PKPdf**	**17 31 25.0**	**+0.3**
TIC	**Toumodi**	**130.01**	**283**	*e*PKP1	**PKPdf**	**17 31 24.6**	**-0.5**
MVL	**Millersville**	**130.09**	**23**		PKPpre	17 31 11.1	
LIC	**Lamto**	**130.11**	**283**	*e*PKP1	**PKPdf**	**17 31 25.5**	**+0.2**
	comp=Z,36nm,0.8s						
TEIG	**Tepich**	**137.40**	**52**	PKPdf	**PKPdf**	**17 31 37.3**	**-1.4**
PLCA	**Paso Flores**	**141.80**	**159**	PKP	**PKPdf**	**17 31 47.5**	**+1.2**
	comp=Z,3.2nm,1.0s,baz=257,slow=1.1,SNR=4.6						
BI02	**San Fabin de**	**145.04**	**155**		**PKPab**	**17 31 51.8**	**+0.2**
BO02	**Sierra Bellavi**	**146.83**	**154**		**PKPbc**	**17 31 57.5**	**+0.4**
ROC1	**El Roble**	**148.24**	**151**		**PKPbc**	**17 32 01.3**	**+0.1**
ROC1	**El Roble**	**148.24**	**151**	*i* P	**PKiKP**	**17 32 03.0**	**+0.1**
PEL	**Peldehue**	**148.25**	**152**	PKP2	**PKPbc**	**17 32 00.8**	**-0.2**
PEL	**Peldehue**	**148.25**	**152**		**PKPbc**	**17 32 00.8**	**-0.2**
PEL	**Peldehue**	**148.25**	**152**	*i* P	**PKPbc**	**17 32 01.6**	**+0.6**
VA03	**San Esteban**	**148.63**	**152**		**PKPbc**	**17 32 02.2**	**+0.2**
AUSP	**Uspallata**	**149.62**	**153**	*i* P	**PKiKP**	**17 32 06.1**	**+0.2**
RTLS	**Leoncito**	**150.02**	**153**	*i* P	**PKiKP**	**17 32 06.8**	**+0.1**
RTCV	**Cerro Valdivia**	**150.31**	**154**	*i* P	**PKPbc**	**17 32 06.4**	**+0.3**
ZON	**Zonda**	**150.51**	**153**	PKIKP	**PKPbc**	**17 32 06.4**	**-0.3**
ZON	**Zonda**	**150.51**	**153**		**PKPbc**	**17 32 06.4**	**-0.3**
ZON	**Zonda**	**150.51**	**153**	*i* P	**PKPbc**	**17 32 06.2**	**-0.4**
GO04	**Tololo Observa**	**150.62**	**149**	PKPdf	**PKPdf**	**17 32 00.7**	**-1.0**
GO04				PKPbc	**PKPbc**	**17 32 07.4**	**+0.2**
RTLL	**Cerro Villicun**	**150.79**	**153**	*i* P	**PKPbc**	**17 32 07.6**	**+0.3**
CO01	**Juntas del Tor**	**151.14**	**149**		**PKPbc**	**17 32 08.5**	**+0.1**
ACCO	**Cerro Coronel**	**151.14**	**152**	*i* P	**PKiKP**	**17 32 09.4**	**+0.4**
DR12	**Loma Pena Alta**	**151.28**	**32**		**PKPbc**	**17 32 08.8**	**0.0**
AROD	**Rodeo**	**151.29**	**150**	*i* P	**PKiKP**	**17 32 10.1**	**+0.7**
ACDV	**Cuesta del Vie**	**151.46**	**151**	*i* P	**PKiKP**	**17 32 10.3**	**+0.8**
LCO	**Las Campanas**	**151.59**	**147**	PKIKP	**PKiKP**	**17 32 10.3**	**+0.3**
LCO	**Las Campanas**	**151.59**	**147**		**PKiKP**	**17 32 10.2**	**+0.3**
AC05	**El Transito**	**151.96**	**148**		**PKiKP**	**17 32 11.1**	**+0.5**
AGUA	**GUANDACOL**	**152.33**	**151**	*i* P	**PKiKP**	**17 32 12.4**	**+1.1**
TCA	**Tanti**	**152.33**	**159**	*i* P	**PKPbc**	**17 32 11.0**	**+0.1**
ACLC	**CERRO LA CRUZ**	**153.09**	**154**	*i* P	**PKPbc**	**17 32 10.2**	**-2.5**
CPUP	**Villa Florida**	**159.01**	**171**	PKP	**PKPdf**	**17 32 14.1**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=135,slow=4.3,SNR=1.9						
CPUP				PKPab	**PKPab**	**17 32 50.1**	**+0.8**
	comp=Z,2.3nm,0.9s,baz=184,slow=2.3,SNR=5.1						
LPAZ	**La Paz**	**162.20**	**128**	PKP	**PKPdf**	**17 32 18.8**	**+1.3**
	comp=Z,1.9nm,0.9s,baz=218,slow=3.3,SNR=5.3						
SAML	**Samuel**	**169.92**	**110**	PKIKP	**PKPdf**	**17 32 21.6**	**-1.3**
SAML	**Samuel**	**169.92**	**110**		**PKPdf**	**17 32 21.6**	**-1.3**

*KRNET **19** 17:43:51.4±0.1,39°.29N×78°.42E,mb3.8*
*SOME **19** 17:43:52.5,39°.43N×78°.05E,h5km*
*BJI **19** 17:43:53.1±0.0,39°.31N×78°.28E,h7km,ML3.6/6*
*NNC **19** 17:43:54.5±1.1,39°.49N×78°.13E,h0km,mb4.1,mpv3.7,*
Error ellipse: s-maj=7.3km s-min=6.0km az=177.0

ISC 19 17:43:58.8±2.0,39°.68N±0°.07×78°.14E±0°.05,h9km±13km, n57,σ1$86/84,27C-14D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.68**	**265**	Pn	**Pn**	**17 44 28.8**	**+0.2**
KSH				Sn	**Sg**	**17 44 56.4**	**+3.4**
KSH				smax	smax		
	comp=N,2μm,0.5s						
KSH				smax	smax		
	comp=E,1μm,0.5s						
TARG	**Taragay, Kyrgy**	**2.06**	**353**	⇑*e*P	**Pn**	**17 44 34.7**	**+0.6**
	baz=49						
TARG				⇑*i*S	**Sg**	**17 45 06.6**	**+1.4**
	baz=49						
KDJ	**Kajisay**	**2.56**	**344**	⇑*i*P	**Pn**	**17 44 42.3**	**+1.6**
	baz=42						
KDJ				⇑*i*S	**Sg**	**17 45 19.6**	**-1.3**
	baz=42						
PRZ	**Przheval'sk**	**2.81**	**4**	⇑*i*P	**Pn**	**17 44 44.4**	**+0.2**
	baz=60						
PRZ				⇑*i*S	**Sb**	**17 45 23.1**	**-0.8**
	baz=60						
ULHL	**Ulahol**	**2.94**	**331**	⇓*i*P	**Pn**	**17 44 48.3**	**+2.3**
	baz=31						
ULHL				⇓*i*S	**Sb**	**17 45 29.6**	**+1.9**
	baz=31						
ULHL	**Ulahol**	**2.94**	**331**	P	**Pb**	**17 44 50.8**	**-0.8**
	SNR=32						
ANVS	**Anan'yevo**	**3.12**	**354**	⇓*i*P	**Pn**	**17 44 49.6**	**+1.1**
	baz=51						
ANVS				⇓*i*S	**Sb**	**17 45 32.2**	**-0.7**
	baz=51						
KZA	**Kyzart**	**3.25**	**318**	⇑*i*P	**Pn**	**17 44 53.1**	**+2.7**
	baz=20						
KZA				⇑*i*S	**Sb**	**17 45 38.0**	**+1.2**
	baz=20						
KZA	**Kyzart**	**3.25**	**318**	P	**Pb**	**17 44 55.6**	**-1.4**
	SNR=28						
SATY	**Saty**	**3.38**	**3**	*e*P	**Pb**	**17 45 00.1**	**+1.0**
	13nm,0.5s						
SATY				*e*S	**Sg**	**17 45 48.5**	**+1.0**
	50nm,0.6s						
SATY	**Saty**	**3.38**	**3**	Pg	**Pb**	**17 45 00.1**	**+1.0**
	13nm,0.5s						
SATY				Lg	Lg	17 45 48.5	
	50nm,0.6s						
TNSS	**Tian-Shan**	**3.47**	**345**	*e*P	**Pb**	**17 45 01.8**	**+1.0**
	53nm,0.5s						
TNSS				*e*S	**Sg**	**17 45 51.7**	**+1.3**
	53nm,0.3s						
TNSS	**Tian-Shan**	**3.47**	**345**	Pg	**Pb**	**17 45 01.8**	**+1.0**
	53nm,0.5s						
TNSS				Lg	Lg	17 45 51.7	
	53nm,0.3s						
UZB	**Uzynbulak**	**3.53**	**11**	*e*P	**Pb**	**17 45 02.4**	**+0.8**
	4.5nm,0.4s						
UZB				*e*S	**Sg**	**17 45 52.5**	**+0.4**
	56nm,0.4s						
UZB	**Uzynbulak**	**3.53**	**11**	Pg	**Pb**	**17 45 02.4**	**+0.8**
	4.5nm,0.4s						
UZB				Lg	Lg	17 45 52.5	
	56nm,0.4s						
MDOK	**Medeo**	**3.58**	**347**	*e*P	**Pb**	**17 45 03.6**	**+1.2**
MDOK				*e*S	**Sg**	**17 45 54.4**	**+0.7**
	57nm,0.5s						
MDOK	**Medeo**	**3.58**	**347**	⇓Pg	**Pb**	**17 45 03.4**	**+1.0**
	13nm,0.4s						
MDOK				⇓Lg	Lg	17 45 52.6	
	62nm,0.6s						
MDOK	**Medeo**	**3.58**	**347**	Pg	**Pb**	**17 45 03.6**	**+1.2**
MDOK				Lg	Lg	17 45 54.4	
	57nm,0.5s						
SHLS	**Shalkode**	**3.61**	**15**	*e*P	**Pg**	**17 45 06.0**	**-2.0**
	11nm,0.3s						
SHLS				*e*S	**Sg**	**17 45 59.0**	**+4.1**
	68nm,0.7s						
SHLS	**Shalkode**	**3.61**	**15**	Pg	**Pg**	**17 45 06.1**	**-2.0**
	11nm,0.3s						
SHLS				Lg	Lg	17 45 59.0	
	68nm,0.7s						
ARLS	**Aral**	**3.63**	**308**	⇓*i*P	**Pn**	**17 44 58.4**	**+3.0**
	baz=11						
ARLS				⇓*i*S	**Sb**	**17 45 46.9**	**-0.6**
	baz=11						
KNDC	**Almaty**	**3.65**	**346**	⇓Pg	**Pb**	**17 45 04.5**	**+1.0**
	11nm,0.3s						
KNDC				⇑Lg	Lg	17 45 54.8	
	160nm,0.6s						
AAA	**Alma-Ata**	**3.65**	**346**	*e*P	**Pb**	**17 45 05.7**	**+2.2**
	49nm,0.3s						
AAA				*e*S	**Sg**	**17 45 58.0**	**+2.1**
	46nm,0.4s						
AAA	**Alma-Ata**	**3.65**	**346**	Pg	**Pb**	**17 45 05.7**	**+2.2**
	49nm,0.3s						
AAA				Lg	Lg	17 45 58.0	
	46nm,0.4s						
MTBS	**Maitube**	**3.68**	**340**	*e*P	**Pb**	**17 45 05.3**	**+1.1**
	11nm,0.3s						
MTBS				*e*S	**Sg**	**17 45 57.6**	**+0.5**
	34nm,0.3s						
MTBS	**Maitube**	**3.68**	**340**	Pg	**Pb**	**17 45 05.3**	**+1.1**
	11nm,0.3s						
MTBS				Lg	Lg	17 45 57.6	
	34nm,0.3s						
KST	**Kastek**	**3.74**	**335**	*e*P	**Pb**	**17 45 06.9**	**+1.8**
	22nm,0.5s						
KST				*e*S	**Sg**	**17 46 00.2**	**+1.2**
	37nm,0.5s						
KST	**Kastek**	**3.74**	**335**	Pg	**Pb**	**17 45 06.9**	**+1.8**
	22nm,0.5s						
KST				Lg	Lg	17 46 00.2	
	37nm,0.5s						
UCH	**Uchtor**	**3.75**	**314**	⇑*i*P	**Pn**	**17 45 00.0**	**+2.7**
	baz=16						
UCH				⇑*i*S	**Sb**	**17 45 50.1**	**-1.1**
	baz=16						
UCH	**Uchtor**	**3.75**	**314**	P	**Pn**	**17 44 57.2**	**-0.1**
	SNR=5.5						
TKM2	**Tokmak 2**	**3.77**	**330**	⇓*i*P	**Pn**	**17 45 00.0**	**+2.7**
	baz=30						
TKM2				⇓*i*S	**Sb**	**17 45 50.1**	**-1.3**
	baz=30						
TKM2	**Tokmak 2**	**3.77**	**330**	P	**Pb**	**17 45 05.6**	**-0.1**
	SNR=9.1						
TKM2	**Tokmak 2**	**3.77**	**330**	⇓Pg	**Pb**	**17 45 04.9**	**-0.7**
	12nm,0.7s						
TKM2				⇑Lg	Lg	17 45 57.4	
	28nm,0.8s						
PDGK	**Podgornoye**	**3.79**	**15**	Pg	**Pb**	**17 45 06.5**	**+0.6**
	3.9nm,0.4s						
PDGK				Lg	Lg	17 45 59.8	
	22nm,0.5s						
PDGK	**Podgornoye**	**3.79**	**15**	⇑Pn	**Pn**	**17 44 56.9**	**-0.6**
	1.4nm,0.3s						
PDGK				⇓Pg	**Pb**	**17 45 05.9**	**0.0**
	7.3nm,0.5s						
PDGK				⇑Lg	Lg	17 46 01.1	
	63nm,0.8s						
KBK	**Karagaybulak**	**3.83**	**322**	⇑*i*P	**Pn**	**17 45 01.1**	**+2.9**
	baz=23						
KBK				⇑*i*S	**Sb**	**17 45 51.8**	**-1.5**
	baz=23						
KBK	**Karagaybulak**	**3.83**	**322**	P	**Pb**	**17 45 06.3**	**-0.4**
	SNR=12						
AAK	**Ala-Archa**	**4.04**	**318**	⇑*e*P	**Pn**	**17 45 04.0**	**+2.9**
	baz=20						
AAK				⇑*i*S	**Sb**	**17 45 56.9**	**-2.4**
	baz=20						
AAK	**Ala-Archa**	**4.04**	**318**	P	**Pb**	**17 45 09.4**	**-0.8**
	SNR=14						
AAK	**Ala-Archa**	**4.04**	**318**	⇑Pg	**Pb**	**17 45 09.3**	**-1.0**
	13nm,0.5s						
AAK				⇑Lg	Lg	17 46 04.7	
	24nm,0.8s						
AML	**Almayashu**	**4.17**	**307**	P	**Pn**	**17 45 02.7**	**-0.3**
	SNR=10						
CHMS	**Chumysh**	**4.19**	**324**	⇑*i*P	**Pn**	**17 45 05.7**	**+2.8**
	baz=24						
CHMS				⇑*i*S	**Sb**	**17 46 00.2**	**-3.2**
	baz=24						
CHKK	**Chushkaly**	**4.26**	**349**	*e*P	**Pb**	**17 45 16.0**	**+2.1**
	7.5nm,0.3s						
CHKK				*e*S	**Sg**	**17 46 16.2**	**+0.6**
	31nm,0.2s						
CHKK	**Chushkaly**	**4.26**	**349**	Pg	**Pb**	**17 45 16.0**	**+2.1**
	7.5nm,0.3s						
CHKK				Lg	Lg	17 46 16.2	
	31nm,0.2s						
KUU	**Kurty**	**4.42**	**343**	*e*P	**Pb**	**17 45 17.9**	**+1.2**
	8.6nm,0.5s						
KUU				*e*S	**Sg**	**17 46 19.4**	**-1.4**
	45nm,0.7s						
KUU	**Kurty**	**4.42**	**343**	Pg	**Pb**	**17 45 17.9**	**+1.2**
	8.6nm,0.5s						
KUU				Lg	Lg	17 46 19.4	
	45nm,0.7s						
EKS2	**Erkin-Say**	**4.44**	**314**	⇑*i*P	**Pn**	**17 45 09.6**	**+3.1**
	baz=15						
EKS2				⇑*i*S	**Sb**	**17 46 06.7**	**-4.2**
	baz=15						
EKS2	**Erkin-Say**	**4.44**	**314**	P	**Pn**	**17 45 07.2**	**+0.6**
	SNR=5.7						
USP	**Ospenovka**	**4.51**	**324**	P	**Pb**	**17 45 18.9**	**+0.6**
	SNR=6.3						
MRKS	**Merke**	**4.81**	**311**	*e*P	**Pb**	**17 45 24.4**	**+1.0**
	6.1nm,0.5s						
MRKS				*e*S	**Sg**	**17 46 30.6**	**-2.6**
	8.9nm,0.3s						
MRKS	**Merke**	**4.81**	**311**	Pg	**Pb**	**17 45 24.4**	**+1.0**
	6.1nm,0.5s						
MRKS				Lg	Lg	17 46 30.6	
	8.9nm,0.3s						
KAPS	**Kapalarasan**	**5.67**	**9**	*e*P	**Pb**	**17 45 41.9**	**+3.9**
	1.6nm,0.5s						
KAPS				*e*S	**Sg**	**17 47 00.7**	**-0.2**
	9.6nm,0.6s						
KAPS	**Kapalarasan**	**5.67**	**9**	Pg	**Pb**	**17 45 41.9**	**+3.9**
	1.6nm,0.5s						
KAPS				Lg	Lg	17 47 00.7	
	9.6nm,0.6s						
KK31	**Karatay Array**	**6.68**	**303**	⇑Pg	**Pb**	**17 45 57.7**	**+2.6**
	0.3nm,0.3s,baz=124,slow=17,SNR=6.1						
KK31				Lg	Lg	17 47 28.0	
	1.3nm,0.4s,baz=126,slow=29,SNR=4.7						
MK31	**Makanchi Array**	**7.73**	**22**	Pn	**Pn**	**17 45 49.9**	**-1.7**
	0.6nm,0.5s,baz=200,slow=12,SNR=25						
MK31				⇑Sn	**Sn**	**17 47 19.1**	**-0.1**
	1.2nm,0.7s,baz=200,slow=13,SNR=7.0						
MK31				⇑Lg	Lg	17 48 03.5	
	1.7nm,0.6s,baz=202,slow=27,SNR=3.9						
WMQ	**Urumqi**	**8.25**	**57**	*e*P	**Pn**	**17 45 55.8**	**-3.0**
WMQ				smax	smax		
	comp=N,15nm,0.7s						
WMQ				smax	smax		
	comp=E,13nm,0.7s						
OTUK	**Ortayu**	**9.53**	**336**	⇓Lg	Lg	17 49 01.6	
	5.2nm,1.1s						

IDC 19 17:46:38.1±532.0,57°.57N×29°.71E,h0km,Error ellipse: s-maj=198.3km s-min=108.4km az=100.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.18**	**99**	*i*		18 12 10.0	
	baz=284,slow=319,SNR=1.4						
I37NO	**I37NO**	**12.55**	**341**	*i*		18 56 20.0	
	baz=148,slow=322,SNR=1.0						
I26DE	**FREYUNG INFRAS**	**12.93**	**234**	*i*		19 08 30.0	
	baz=41,slow=332,SNR=1.2						
I31KZ	**AKTYUBINSK INF**	**18.03**	**101**	*i*		19 42 00.0	
	baz=305,slow=313						

*IDC **19** 17:51:38.1±4.1,30°.39S×176°.57W,h45km±28km,mb3.0/2,*
mb1 3.6/4,mb1mx3.4/21,mbtmp3.7/4,ML3.5/2,Error
ellipse: s-maj=42.6km s-min=15.5km az=80.0

ISC 19 17:51:35.2±2.0,30°.35S±0°.07×176°.3W±0°.2,h35km,n26, σ1$66/35,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.79**	**307**	P	**Pn**	**17 52 04.6**	**+1.1**
GLKZ				S	**Sn**	**17 52 24.1**	**-1.0**
RAO	**Raoul Island**	**1.79**	**307**	P	**Pn**	**17 52 04.7**	**+1.1**
	674nm,0.3s,baz=138,slow=22,SNR=76						
RAO				S	**Sn**	**17 52 24.3**	**-0.9**
	739nm,0.3s,baz=242,slow=21,SNR=7.7						
RIZ	**Raoul Island**	**1.81**	**307**	P	**Pn**	**17 52 04.6**	**+0.8**
RIZ				S	**Sn**	**17 52 23.9**	**-1.6**
WMGZ	**Waiomatatini S**	**8.65**	**209**	S	**Sn**	**17 55 12.3**	**-1.7**
HAZ	**Te Kaha**	**8.87**	**212**	P	**Pn**	**17 53 42.7**	**+1.8**
HAZ				S	**Sn**	**17 55 21.2**	**+1.6**
PUZ	**Puketiti**	**8.93**	**209**	S	**Sn**	**17 55 19.7**	**-1.3**
RUGZ	**Raukumara Rang**	**9.09**	**212**	P	**Pn**	**17 53 42.8**	**-1.2**
RUGZ				S	**Sn**	**17 55 26.6**	**+1.5**
MWZ	**Matawai**	**9.46**	**211**	P	**Pn**	**17 53 46.8**	**-2.2**
MWZ				S	**Sn**	**17 55 36.9**	**+2.7**
URZ	**Urewera**	**9.59**	**213**	P	**Pn**	**17 53 50.3**	**-0.4**
	0.3nm,0.3s,baz=194,slow=18,SNR=1.2						
URZ				S	**Sn**	**17 55 37.1**	**-0.1**
	3.5nm,0.3s,baz=197,slow=23,SNR=13						
URZ	**Urewera**	**9.59**	**213**	P	**Pn**	**17 53 49.4**	**-1.4**
URZ				S	**Sn**	**17 55 39.9**	**+2.7**
SNGZ	**Shannon Statio**	**9.91**	**210**	S	**Sn**	**17 55 45.3**	**+0.1**
MUGZ	**Murupara**	**9.93**	**213**	S	**Sn**	**17 55 45.2**	**-0.3**
KNZ	**Kokohu**	**9.97**	**208**	S	**Sn**	**17 55 46.1**	**-0.5**
BKZ	**Black Stump Fm**	**10.61**	**212**	P	Pn	17 53 50.5	-14
BKZ				S	**Sn**	**17 56 01.4**	**-0.9**
MCHZ	**McNeill Hill**	**10.74**	**211**	P	**Pn**	**17 54 05.9**	**-0.6**
MCHZ				S	**Sn**	**17 56 08.8**	**+3.3**
CKHZ	**Cape Kidnapper**	**10.76**	**209**	S	**Sn**	**17 56 06.9**	**+1.0**
KRHZ	**Kereru**	**11.05**	**211**	S	**Sn**	**17 56 10.5**	**-2.6**
BHHZ	**Black Hill Sta**	**11.07**	**212**	S	**Sn**	**17 56 15.8**	**+2.3**
PXZ	**Pawanui**	**11.16**	**208**	S	**Sn**	**17 56 12.9**	**-2.8**
ANWZ	**Angora Road**	**11.68**	**208**	P	Pn	17 54 11.8	-7.5
WAZ	**Wanganui**	**11.79**	**215**	S	**Sn**	**17 56 32.8**	**+1.6**
BFZ	**Birch Farm**	**11.96**	**208**	P	**Pn**	**17 54 23.9**	**+0.7**
BFZ				S	**Sn**	**17 56 32.8**	**-2.6**
RPZ	**Rata Peaks**	**16.71**	**214**	P	**Pn**	**17 55 26.1**	**-0.4**
	0.3nm,0.3s,baz=356,slow=23,SNR=1.5						
RPZ				S	Sn	17 58 19.2	-12
	0.2nm,0.3s,baz=124,slow=12,SNR=2.3						
ASAR	**Alice Springs**	**44.59**	**266**	P	**P**	**17 59 45.1**	**+0.9**
	0.4nm,1.0s,baz=104,slow=6.8,SNR=4.1						
WRA	**Warramunga Arr**	**45.58**	**271**	P	**P**	**17 59 51.4**	**-0.7**
	0.2nm,0.4s,baz=110,slow=7.9,SNR=6.8						
FINES	**FINESS Array B**	**145.59**	**341**	PKPbc	**PKPab**	**18 11 09.7**	**+0.1**
	3.6nm,0.7s,baz=20,slow=4.6,SNR=9.1						

*MOS **19** 17:59:10.1±1.1,32°.59N×47°.64E,h13km,mb4.7/39,Error*
ellipse: s-maj=6.3km s-min=3.9km az=120.6
*IDC **19** 17:59:10.2±0.6,32°.67N×47°.59E,h0km,mb4.1/27,*
mb1 4.2/33,mb1mx4.1/54,mbtmp4.1/33,ML3.7/6,MS3.2/4,
Ms1 3.2/4,ms1mx2.7/58,Error ellipse: s-maj=13.8km
s-min=11.3km az=164.0
*NEIC **19** 17:59:11.6±1.5,32°.59N±0°.07×47°.66E±0°.07,h12km±1km,*
mb4.5/62,mb_Lg4.2(TEH),Error ellipse: s-maj=10.4km
s-min=8.2km az=204.0
*TEH **19** 17:59:12.3,32°.68N×47°.62E,h12km,ML4.2*
*THR **19** 17:59:13.1±0.3,32°.76N×47°.71E,h14km±5km,ML4.3*
*OMAN **19** 17:59:17.9,32°.21N×47°.96E,h15km,mb5.7/6*

ISC 19 17:59:11.9±1.2,32°.65N±0°.03×47°.62E±0°.03,h13km±7km, n348,σ1$40/349,mb4.4/102,13C-11D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.29**	**277**	*e*Pg	**Pg**	**17 59 18.0**	**+0.2**
IKFM	**Kafar-mosalman**	**0.90**	**12**	*e*Pg	**Pg**	**17 59 28.8**	**-0.4**
IKMR	**Kamar-syah**	**1.08**	**36**	*e*Pg	**Pb**	**17 59 32.0**	**-0.4**
IKMR				*e*		17 59 54.8	
IDOB	**Doab**	**1.23**	**22**	*e*Pg	**Pg**	**17 59 36.4**	**+0.8**
BMDN	**Meydan**	**1.44**	**44**	*e*Pg	**Pb**	**17 59 38.8**	**+0.2**
BMDN				*e*		18 00 06.6	
IKOM	**Komasi**	**1.53**	**357**	*e*Pg	**Pg**	**17 59 41.6**	**+0.4**
IKOM				*e*		18 00 13.4	
AHWZ	**Ahwaz**	**1.57**	**146**	*e*Pg	**Pb**	**17 59 42.2**	**+1.4**
KCHF	**Cheshme Sefid,**	**1.69**	**344**	*e*Pg	**Pb**	**17 59 43.5**	**+0.5**
KCHF				*e*		18 00 10.1	
HSAM	**Samen**	**1.76**	**27**	*e*Pg	**Pg**	**17 59 45.3**	**-0.4**
HSAM				*e*		18 00 14.1	
KER	**Kermanshah**	**1.78**	**347**	P	**Pb**	**17 59 44.9**	**+0.5**
KER	**Kermanshah**	**1.78**	**347**	*e*Pg	**Pb**	**17 59 45.0**	**+0.5**
IBZA	**Bozab**	**1.83**	**6**	*e*Pg	**Pb**	**17 59 46.1**	**+0.7**
IBZA				*e*		18 00 18.8	
IGHG	**Ghaleghazi**	**1.89**	**333**	*e*Pn	**Pb**	**17 59 46.6**	**+0.2**
IGHG				*e*		18 00 26.1	
IVIS	**Veis**	**1.98**	**341**	*e*Pn	**Pb**	**17 59 47.5**	**-0.4**
IVIS				*e*		18 00 20.9	
KHMZ	**Khomeyn**	**2.24**	**60**	*e*Pn	**Pn**	**17 59 50.4**	**+1.5**
KHMZ	**Khomeyn**	**2.24**	**60**	*e*Pn	**Pn**	**17 59 50.4**	**+1.5**
IALM	**Almabolaq**	**2.25**	**12**	*e*Pn	**Pb**	**17 59 51.8**	**-0.8**
IDHR	**Dehrash**	**2.29**	**334**	*e*Pn	**Pb**	**17 59 51.8**	**-1.4**
IDHR				*e*		18 00 34.6	
ILIN	**Lien**	**2.33**	**347**	*e*Pn	**Pb**	**17 59 52.7**	**-1.2**
ILIN				*e*		18 00 34.1	
SNGE	**Sanandaj**	**2.45**	**355**	*e*Pn	**Pn**	**17 59 53.3**	**+1.5**
SNGE				*e*Sg	**Sb**	**18 00 26.8**	**+0.7**
SNGE	**Sanandaj**	**2.45**	**355**	*e*Pn	**Pn**	**17 59 53.3**	**+1.5**
HAGD	**Aghdareh**	**2.51**	**30**	*e*Pn	**Pb**	**17 59 55.5**	**-1.5**
HAGD				*e*		18 00 02.6	
JHBN	**Jahan bin**	**2.61**	**98**	*e*Pn	**Pn**	**17 59 56.4**	**+2.4**
JHBN				*e*		18 00 48.7	
HSRG	**Sareghieh**	**2.65**	**12**	*e*Pn	**Pb**	**17 59 58.0**	**-1.3**
HSRG				*e*		18 00 41.9	
IPIR	**Pirpir**	**2.76**	**88**	*e*Pn	**Pn**	**17 59 58.2**	**+2.1**
IPIR				*e*		18 00 50.1	
ASAO	**Ashtian**	**2.76**	**46**	*e*Pn	**Pn**	**17 59 57.5**	**+1.4**
ASAO				*e*Sg	**Sb**	**18 00 35.5**

comp=Z,1.0nm,0.3s,baz=219,slow=21,SNR=1.5
TBLG Delisi 9.35 347 P **Pn 18 01 27.1 +0.7**
TBLG Delisi 9.35 347 Pn **Pn 18 01 27.1 +0.7**
ITEG Tejag 9.38 85 *e*Pn **Pn 18 01 28.5 +1.7**
ISFR Sfrayin 9.60 60 *e*Pn **Pn 18 01 32.7 +2.8**
AFRZ Afriz 9.60 82 *e*Pn **Pn 18 01 31.1 +1.2**
GAZ Gaziantep 9.66 301 Pn **Pn 18 01 32.2 +1.5**
GEYT Alibeck 10.07 56 Pn **Pn 18 01 37.2 +1.0**
comp=Z,0.4nm,0.3s,baz=231,slow=9.4,SNR=5.2
GEYT Lg Lg 18 04 34.1
comp=Z,0.4nm,0.3s,baz=126,slow=46,SNR=1.6
GEYT Alibeck 10.07 56 Pn 18 01 36.9 +0.7
GYA0B ALIBECK ARRAY 10.07 56 Pn 18 01 37.4 +1.2
BANOM Banah 10.11 129 P **Pn 18 01 36.0 -0.8**
SNR=27
IMON Monand 10.14 84 *e*Pn **Pn 18 01 40.1 +2.7**
MMAI Mount Meron Ar 10.29 275 Sn **Sn 18 03 38.8 +4.4**
comp=Z,0.8nm,0.3s,baz=101,slow=18,SNR=1.7
MMAI Lg Lg 18 04 42.9
comp=Z,0.7nm,0.3s,baz=113,slow=26,SNR=2.4
MDH Madha 10.55 132 P **Pn 18 01 41.9 -0.9**
UOSS Minazif 10.74 133 Pn 18 01 43.9 -1.6
ASHO Ashiyiah 10.85 135 P **Pn 18 01 46.1 -0.9**
EIL Elat 11.25 258 Pn **Pn 18 01 50.2 -2.2**
comp=Z,0.3nm,0.3s,baz=38,slow=7.2,SNR=2.6
EIL Lg Lg 18 05 10.9
comp=Z,0.3nm,0.3s,baz=56,slow=21,SNR=2.6
EIL LR LR 18 07 25.1
comp=Z,85nm,19.0s,baz=88,slow=44
KIV Kislovodsk 11.93 343 *e*P **Pn 18 02 02.8 +1.1**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV Kislovodsk 11.93 343 Pn **Pn 18 02 03.1 +1.4**
HRA Herat 12.33 78 Pn **Pn 18 02 04.2 -3.1**
SOC Sochi 12.56 333 *e*P **Pn 18 02 06.1 -4.1**
SOC *e* 18 04 24.4
SOC pmax pmax
comp=Z,20nm,0.7s
SOC MLR MLR
comp=Z,26nm,1.0s
BSY Bisya 13.00 137 P **Pn 18 02 14.9 -1.5**
BR131 Keskin Array S 13.31 306 P **Pn 18 02 22.0 +1.4**
BR131 Keskin Array S 13.31 306 Pn **Pn 18 02 22.0 +1.4**
BRTR Keskin Array B 13.31 306 Pn **Pn 18 02 22.1 +1.4**
comp=Z,0.1nm,0.3s,baz=135,slow=14,SNR=3.9
BRTR Keskin Array B 13.31 306 Pn 18 02 21.9 +1.3
WSAR Wadi Sarin 13.50 131 Pn **Pn 18 02 20.8 -2.4**
comp=Z,1.1nm,0.3s,baz=1.0,slow=9.7,SNR=14
WSAR Sn Sn 18 04 41.6 -11
comp=Z,0.3nm,0.3s,baz=241,slow=17,SNR=2.2
WSAR LR LR 18 09 43.9
comp=Z,63nm,18.6s,baz=237,slow=47
WSAR Wadi Sarin 13.50 131 P **Pn 18 02 21.4 -1.8**
SNR=11
MHTO MHTO 14.83 139 P **Pn 18 02 39.0 -2.3**
KARP Karpathos 17.19 285 P **P 18 03 14.8 +1.4**
KARP IAmb IAmb 18 03 26.4
comp=Z,84nm,1.2s
KBL Kabul 17.95 78 P **P 18 03 22.9 +1.0**
KBL pmax pmax
comp=Z,15nm,1.1s
KBL Kabul 17.95 78 P **P 18 03 22.9 +1.0**
CHGR Chuyangaron 18.48 65 P **P 18 03 28.1 +0.4**
ABKAR Akbulak array 18.98 25 P **P 18 03 33.1 +0.2**
IDI Anoyia 19.03 284 P **Pn 18 03 35.1 +0.7**
comp=Z,1.3nm,0.3s,baz=59,slow=13,SNR=8.0
IDI Anoyia 19.03 284 P **P 18 03 33.3 -0.3**
IDI IAmb IAmb 18 03 37.9
comp=Z,63nm,1.3s
VRH Novokhopyorsk 19.04 349 *e*P **Pn 18 03 34.9 +0.6**
VRH pmax pmax
comp=Z,10.0nm,0.9s
TIRR Tirgusor 19.05 314 ⇑P **Pn 18 03 35.1 +0.7**
TIRR Tirgusor 19.05 314 P **Pn 18 03 34.7 +0.3**
TIRR pmax pmax
comp=Z,36nm,1.1s
TIRR Tirgusor 19.05 314 P **Pn 18 03 34.7 +0.3**
TIRR IAmb IAmb 18 03 48.0
comp=Z,36nm,1.1s
ALN Alexandroupoli 19.11 302 P **Pn 18 03 35.4 +0.1**
ALN pmax pmax
comp=Z,21nm,1.1s
ALN Alexandroupoli 19.11 302 P **Pn 18 03 35.4 +0.1**
ALN IAmb IAmb 18 03 41.0
comp=Z,21nm,1.1s
TLCR 19.20 316 ⇑P **Pn 18 03 36.3 0.0**
TOPG Topolog 19.29 315 ⇑P **Pn 18 03 38.4 +1.0**
VORD Divnogorie 19.30 344 *e*P **P 18 03 35.6 -0.8**
VORD pmax pmax
comp=Z,9.0nm,0.7s
AKTO Aktyubinsk 19.37 20 P **P 18 03 37.6 +0.4**
comp=Z,0.8nm,0.3s,baz=206,slow=11,SNR=3.4
GAR Garm 19.44 65 P 18 03 38.5 +0.3
GAR IAmb IAmb 18 03 42.7
comp=Z,23nm,1.3s
HARR Harsova 19.46 314 ⇓P **P 18 03 38.9 +0.7**
HARR Harsova 19.46 314 P **P 18 03 38.8 +0.7**
VSR Storozhevoye 19.57 344 *e*P **P 18 03 38.7 -0.6**
VSR pmax pmax
comp=Z,20nm,1.1s
CFR Carcaliu 19.60 315 ⇓P **Pn 18 03 41.9 +0.9**
RAZG Razgrad 19.82 309 ⇑P **Pn 18 03 44.2 +0.5**
BTK Batken 20.06 62 P Pn 18 03 46.3 -0.4
BTK pmax pmax
comp=Z,17nm,1.2s
BTK Batken 20.06 62 P Pn 18 03 46.2 -0.5
ISR Istrita 20.53 313 ⇓P Pn 18 03 51.8 -0.2
ISR Istrita 20.53 313 P Pn 18 03 53.1 +1.0
ISR pmax pmax
comp=Z,40nm,1.2s
VRI Vrincioaia 20.80 315 ⇓P Pn 18 03 54.9 -0.4
VRI Vrincioaia 20.80 315 P Pn 18 03 55.0 -0.3
VRI pmax pmax
comp=Z,11nm,0.6s
KK31 Karatay Array 20.81 53 P **P 18 03 52.6 -0.3**
KK31 pmax pmax
comp=Z,11nm,1.0s
KK31 Karatay Array 20.81 53 P **P 18 03 52.5 -0.3**
KKAR Karatay Array 20.81 53 P **P 18 03 52.8 -0.1**
KKAR Karatay Array 20.81 53 P **P 18 03 52.8 -0.1**
KKAR Karatay Array 20.81 53 P **P 18 03 52.5 -0.4**
KKAR IAmb IAmb 18 04 00.9
comp=Z,11nm,1.0s
NEHR Nehoiu 20.83 314 ⇓P Pn 18 03 54.9 -0.7
PLOR Plostina 20.84 315 ⇓P Pn 18 03 55.1 -0.6
PLOR Plostina 20.84 315 P Pn 18 03 55.0 -0.7
LPSR Galich'ya Gora 20.91 345 *e*P **P 18 03 53.1 -0.8**
LPSR pmax pmax
comp=Z,70nm,1.3s
MLR Muntele Rosu 21.08 314 P **P 18 03 54.9 -1.1**
comp=Z,2.3nm,0.5s,baz=310,slow=23,SNR=2.5
MLR Muntele Rosu 21.08 314 P **P 18 03 56.6 +0.6**
MLR pmax pmax
comp=Z,20nm,0.7s
MLR Muntele Rosu 21.08 314 P **P 18 03 56.6 +0.6**
MLR IAmb IAmb 18 04 03.9
comp=Z,20nm,0.7s
SOCY Socotra 21.19 163 P **P 18 03 53.1 -4.1**
TESR Tescani 21.20 317 ⇑P **P 18 03 58.7 +1.6**
SORM Soroca 21.23 322 ⇓P **P 18 03 59.5 +2.1**
SORM Soroca 21.23 322 P **P 18 03 59.5 +2.1**
AGG Agios Georgios 21.43 294 P **P 18 04 00.6 +0.9**
AGG pmax pmax
comp=Z,10.0nm,1.0s
AGG Agios Georgios 21.43 294 P **P 18 04 00.6 +0.9**
NIL Nilore 21.47 80 P **P 18 04 00.1 -0.1**
NIL pmax pmax
comp=Z,18nm,1.0s
NIL Nilore 21.47 80 P **P 18 04 00.1 -0.1**
NIL IAmb IAmb 18 04 07.9
comp=Z,18nm,0.9s
OZUR 21.48 315 ⇓P **P 18 04 01.9 +1.7**
LIT Litokhoron 21.51 297 P **P 18 04 00.1 -0.5**
LIT pmax pmax
comp=Z,8.0nm,0.9s
LIT Litokhoron 21.51 297 P **P 18 04 00.1 -0.5**
ITM Ithomi 21.52 289 P **P 18 04 00.8 +0.1**
ITM IAmb IAmb 18 04 11.8
comp=Z,11nm,0.8s
VOIR 21.60 313 ⇓P **P 18 04 03.6 +2.2**
VOIR 21.60 313 P **P 18 04 03.7 +2.2**
VOIR pmax pmax
comp=Z,31nm,0.9s
DOPR Dopca 21.65 314 ⇑P **P 18 04 03.7 +1.7**

ARSB Arslanbob 21.97 60 P **P 18 04 06.0 +0.4**
ARSB pmax pmax
comp=Z,17nm,1.2s
ARSB Arslanbob 21.97 60 P **P 18 04 06.0 +0.4**
ARSB IAmb IAmb 18 04 32.7
comp=Z,17nm,1.2s
AKASG Malin Array Be 22.57 328 P **P 18 04 10.9 -0.8**
comp=Z,2.2nm,0.6s,baz=137,slow=9.0,SNR=18
AKASG Malin Array Be 22.57 328 *i* P **P 18 04 10.8 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 22.57 328 P 18 04 09.9 -1.8
AKBB Malin Array Si 22.57 328 P **P 18 04 10.5 -1.2**
AKBB pmax pmax
comp=Z,8.0nm,0.7s
AKBB Malin Array Si 22.57 328 P 18 04 10.5 -1.2
AKBB IAmb IAmb 18 04 18.9
comp=Z,8.4nm,0.7s
BURAR Bucovina Array 22.62 318 ⇑P **P 18 04 14.5 +2.1**
BURAR Bucovina Array 22.62 318 P **P 18 04 14.5 +2.1**
BURAR Bucovina Array 22.62 318 P 18 04 12.5 0.0
BUR08 Bucovina Ar. S 22.65 318 P **P 18 04 12.7 0.0**
HERR Herculane 23.04 309 ⇑P **P 18 04 17.4 +0.7**
AAK Ala-Archa 23.41 57 P **P 18 04 21.7 +1.0**
comp=Z,1.4nm,0.4s,baz=217,slow=5.7,SNR=3.6
AAK Ala-Archa 23.41 57 P **P 18 04 20.5 -0.2**
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 23.41 57 P 18 04 20.5 -0.2
MDVR Moldovita 23.46 309 ⇑P **P 18 04 21.9 +0.9**
OBN Obninsk 23.77 344 P **P 18 04 23.6 -0.3**
comp=Z,4.1nm,0.6s,baz=114,slow=20,SNR=4.4
OBN Obninsk 23.77 344 ⇓*e*P **P 18 04 25.7 +1.8**
OBN *e* 18 04 32.0
OBN pmax pmax
comp=Z,11nm,0.8s
OBN Obninsk 23.77 344 P **P 18 04 23.8 0.0**
KSH Kashi 23.86 65 P **P 18 04 23.6 -1.4**
KSH sP pP 18 04 27.3 -1.8
KSH PP **PnPn 18 04 51.8 -1.2**
KSH S S 18 08 29.6 -11
KSH pmax pmax
comp=Z,8.0nm,0.6s
KSH pmax pmax
comp=Z,190nm,6.3s
KSH LR LR
comp=N,270nm,8.3s
KSH LR LR
comp=E,190nm,9.1s
SIRR Siria 24.09 312 ⇓P **P 18 04 28.6 +1.6**
MOS Moscow 24.12 346 *e*P **P 18 04 28.3 +1.1**
SCTE Santa Cesarea 24.54 296 P **P 18 04 31.3 +0.1**
ARU Arti 24.96 14 P **P 18 04 34.1 -0.8**
comp=E,1.4nm,0.5s,baz=192,slow=8.8,SNR=8.0
ARU Arti 24.96 14 *c i*P **P 18 04 35.3 +0.5**
ARU S **S 18 08 59.8 +1.8**
ARU pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 24.96 14 P 18 04 34.7 -0.1
ARU IAmb IAmb 18 04 55.8
comp=Z,6.0nm,0.7s
KOLS Kolonicke sedl 24.99 318 *e*P **P 18 04 36.5 +1.3**
KOLS pmax pmax
comp=Z,8.0nm,0.7s
KOLS Kolonicke sedl 24.99 318 *e*P **P 18 04 36.5 +1.3**
KWP Kalwaria Pacla 25.12 320 *e*P **P 18 04 37.9 +1.5**
KWP Kalwaria Pacla 25.12 320 P **P 18 04 37.3 +0.9**
KWP pmax pmax
comp=Z,11nm,0.7s
KWP Kalwaria Pacla 25.12 320 P 18 04 37.3 +0.9
KWP IAmb IAmb 18 04 46.7
comp=Z,11nm,0.7s
CRVS Cervenica-Dubn 25.43 317 *e*P **P 18 04 41.1 +1.9**
CRVS pmax pmax
comp=Z,20nm,1.1s
CRVS Cervenica-Dubn 25.43 317 *e*P **P 18 04 41.1 +1.9**
TARG Taragay, Kyrgy 25.59 61 P **P 18 04 40.6 -0.6**
TARG IAmb IAmb 18 04 50.4
comp=Z,6.7nm,0.8s
TIP Timpagrande 25.75 293 P **P 18 04 44.1 +1.8**
TIP IAmb IAmb 18 04 52.4
comp=Z,10.0nm,1.0s
SVE Sverdlovsk 25.80 17 *e*P **P 18 04 43.3 +0.9**
KECS Kecovo 25.80 316 *e*P **P 18 04 44.8 +2.3**
KECS pmax pmax
comp=Z,19nm,0.7s
KECS Kecovo 25.80 316 *e*P **P 18 04 44.8 +2.3**
PSZ Piszkesteto 25.89 314 ⇑P **P 18 04 46.3 +2.8**
PSZ Piszkesteto 25.89 314 P **P 18 04 44.6 +1.1**
PSZ pmax pmax
comp=Z,20nm,0.8s
PSZ Piszkesteto 25.89 314 P 18 04 44.6 +1.1
KIRV Kirov 25.97 2 *i* P **P 18 04 44.0 +0.1**
comp=Z,12nm,0.6s,baz=355,slow=0.7,SNR=3.6
KIRV Kirov 25.97 2 *i* P **P 18 04 44.2 +0.3**
BRVK Borovoye 26.11 32 *i* P **P 18 04 46.1 +0.8**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 26.13 32 P **P 18 04 46.3 +0.8**
comp=Z,5.7nm,0.7s,baz=226,slow=8.0,SNR=32
BVAR PcP **PcP 18 08 12.9 +0.3**
comp=Z,1.0nm,0.5s,baz=212,slow=5.3,SNR=4.4
BVAR ScP **ScP 18 11 50.9 -1.1**
comp=Z,0.8nm,0.6s,baz=198,slow=4.2,SNR=4.8
BVAR LR LR 18 16 59.6
comp=Z,38nm,19.1s,baz=33,slow=41
NIE Niedzica 26.35 318 P **P 18 04 49.5 +1.9**
NIE pmax pmax
comp=Z,4.0nm,0.8s
LANS Liptovska Anna 26.70 316 *e*P **P 18 04 52.8 +2.1**
LANS pmax pmax
comp=Z,5.0nm,0.8s
LANS Liptovska Anna 26.70 316 *e*P **P 18 04 52.8 +2.1**
VYHS Vyhne 26.78 315 *e*P **P 18 04 53.2 +1.8**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 26.78 315 *e*P **P 18 04 53.2 +1.8**
OJC Ojcow 27.03 319 *e*P **P 18 04 54.8 +1.1**
OJC Ojcow 27.03 319 P **P 18 04 54.0 +0.4**
OJC pmax pmax
comp=Z,10.0nm,0.7s
OJC Ojcow 27.03 319 P 18 04 54.0 +0.4
OJC IAmb IAmb 18 04 58.1
comp=Z,10nm,0.7s
MORC Moravsky Berou 28.11 316 P **P 18 05 04.1 +0.7**
MORC pmax pmax
comp=Z,3.0nm,0.7s
MORC Moravsky Berou 28.11 316 P 18 05 04.0 +0.7
VRAC Vranov 28.47 315 P **P 18 05 06.9 +0.4**
comp=Z,2.4nm,0.6s,baz=102,slow=4.3,SNR=4.4
KRUC Moravsky 28.49 314 P **P 18 05 08.3 +1.6**
KRUC pmax pmax
comp=Z,5.0nm,1.0s
KRLC Kraliky 28.68 317 *e*P **P 18 05 09.2 +0.8**
KRLC Kraliky 28.68 317 *e*P **P 18 05 09.2 +0.8**
KLMR Klimovskoe 28.71 352 *e*P **P 18 05 06.5 -2.0**
KLMR pmax pmax
comp=Z,11nm,0.7s
KLMR Klimovskoe 28.71 352 *e*P **P 18 05 06.6 -2.0**
KLMR AMP 18 05 08.8
comp=Z,11nm,0.7s
KURBB Kurchatov Arra 28.96 43 P **P 18 05 12.6 +1.7**
comp=Z,3.7nm,0.7s,baz=247,slow=9.3,SNR=23
KURBB PcP **PcP 18 08 19.6 +0.2**
comp=Z,0.5nm,0.5s,baz=243,slow=3.1,SNR=4.9
KURK Kurchatov 29.05 42 *i* P **P 18 05 12.6 +0.9**
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 29.05 42 P 18 05 11.9 +0.3
KURK IAmb IAmb 18 05 14.1
comp=Z,5.9nm,0.8s
DPC Dobruska-Polom 29.07 317 *e*P **P 18 05 12.9 +1.1**
DPC Dobruska-Polom 29.07 317 *e*P **P 18 05 12.9 +1.1**
CHVC Chvalec 29.32 317 *e*P **P 18 05 15.3 +1.2**
MOA Molln 29.37 311 *e*P **P 18 05 15.8 +1.3**
comp=Z,4.6nm,0.6s
MYKA Terra Mystica 29.41 308 *e*pP **P 18 05 17.9 +3.0**
comp=Z,1.6nm,0.5s
PRED Cave del Predi 29.41 308 P **P 18 05 16.0 +1.0**
PRED IAmb IAmb 18 05 27.4
comp=Z,7.6nm,1.3s
MURB Monte Urbino 29.44 301 P **P 18 05 15.9 +0.6**
MURB IAmb IAmb 18 05 17.4
comp=Z,12nm,1.1s
MAKZ Makanchi 29.70 51 P **P 18 05 17.8 +0.3**

MAKZ pmax pmax
comp=Z,4.0nm,1.3s
MAKZ Makanchi 29.70 51 P **P 18 05 17.8 +0.3**
KBA Koelnbreinsper 29.73 309 *e*P **P 18 05 19.4 +1.4**
comp=Z,5.3nm,0.6s,SNR=8.5
KBA Koelnbreinsper 29.73 309 P **P 18 05 19.6 +1.7**
KBA pmax pmax
comp=Z,8.0nm,0.8s
GOPC GO Pecny, Ondr 29.79 315 *e*P **P 18 05 19.4 +1.2**
GOPC GO Pecny, Ondr 29.79 315 *e*P **P 18 05 19.4 +1.2**
ZOU Zoufplan 29.83 308 P **P 18 05 19.9 +1.1**
ZOU IAmb IAmb 18 05 21.0
comp=Z,12nm,1.4s
MK31 Makanchi Array 29.91 52 P **P 18 05 20.2 +0.8**
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 29.91 52 P **P 18 05 20.2 +0.8**
MK31 IAmb IAmb 18 05 21.4
comp=Z,4.4nm,0.7s
MKAR Makanchi Array 29.91 52 P **P 18 05 20.5 +1.1**
comp=Z,4.6nm,0.7s,baz=248,slow=7.8,SNR=44
MKAR PcP **PcP 18 08 21.4 -0.5**
comp=Z,0.5nm,0.7s,baz=244,slow=4.3,SNR=3.3
MKAR Makanchi Array 29.91 52 P **P 18 05 19.2 -0.2**
STAL STALIGIAL 29.93 307 P **P 18 05 19.7 +0.2**
GERES GERESS Array B 30.05 313 P **P 18 05 21.3 +0.6**
comp=Z,0.6nm,0.6s,baz=106,slow=8.5,SNR=7.1
GERES PcP **PcP 18 08 21.5 -0.9**
comp=Z,0.4nm,0.6s,baz=134,slow=3.9,SNR=4.4
GERES GERESS Array B 30.05 313 P **P 18 05 19.3 -1.4**
GERES **PcP 18 08 21.8 -0.6**
CIMO Cimolais 30.12 307 P **P 18 05 21.6 +0.3**
CIMO IAmb IAmb 18 05 22.9
comp=Z,7.1nm,0.8s
KHC Kasperske Hory 30.23 313 *ce*P P 18 05 15.9 -6.3
KHC pmax pmax
comp=Z,4.0nm,1.0s
CTI Castel Tesino 30.59 307 P **P 18 05 25.7 +0.2**
CTI pmax pmax
comp=Z,13nm,0.7s
CTI Castel Tesino 30.59 307 P **P 18 05 25.7 +0.2**
WTTA Wattenberg 30.90 309 *e*P **P 18 05 28.9 +0.6**
comp=Z,3.9nm,0.7s,SNR=7.4
WATA Walderalm 30.96 309 *e*P **P 18 05 29.3 +0.5**
comp=Z,2.8nm,0.6s
VLC Villacollemand 31.11 303 P **P 18 05 31.4 +1.4**
SQTA Sankt Quirin 31.17 309 *e*P **P 18 05 31.3 +0.7**
comp=Z,12nm,0.5s,SNR=8.5
MOTA Moosalm 31.27 309 *e*P **P 18 05 31.8 +0.3**
comp=Z,8.3nm,0.5s,SNR=11
NKC Novy Kostel 31.30 315 *e*P **P 18 05 32.5 +0.9**
NKC Novy Kostel 31.30 315 *e*P **P 18 05 32.5 +0.9**
CLL Collm 31.38 317 *e*P **P 18 05 32.0 -0.2**
FETA Feichten 31.44 308 *e*P **P 18 05 33.8 +0.8**
comp=Z,7.0nm,0.7s,SNR=8.7
RETA Reutte 31.53 309 *e*P **P 18 05 33.6 -0.1**
comp=Z,2.7nm,0.6s
FUORN Ofenpass-Fuorn 31.66 307 P **P 18 05 36.7 +1.6**
FUORN IAmb IAmb 18 05 38.9
comp=Z,3.2nm,0.7s
MSSA Maissana 31.75 303 P **P 18 05 35.7 0.0**
PGF Pioggiola 31.92 299 *e*P **P 18 05 39.0 +1.8**
PGF pmax pmax
comp=Z,11nm,1.0s
DAVOX Davos/Dischmat 31.95 307 P **P 18 05 38.0 +0.4**
comp=Z,3.2nm,0.6s,baz=94,slow=10,SNR=6.8
DAVOX Davos/Dischmat 31.95 307 P **P 18 05 38.0 +0.4**
FIA1 FINESS Array S 32.02 341 P **P 18 05 37.9 +0.3**
FINES FINESS Array B 32.02 341 P **P 18 05 37.8 +0.1**
comp=Z,9.2nm,1.0s,baz=138,slow=8.7,SNR=8.0
FINES FINESS Array B 32.02 341 *i* P **P 18 05 38.0 +0.3**
FINES pmax pmax
comp=Z,9.0nm,1.0s
FINES FINESS Array B 32.02 341 P **P 18 05 37.9 +0.2**
DAVA Damuels 32.06 308 *e*P **P 18 05 39.0 +0.5**
comp=Z,16nm,0.5s
TUE Stuetta 32.24 307 P **P 18 05 40.3 +0.1**
TUE IAmb IAmb 18 05 50.2
comp=Z,6.6nm,0.9s
WMQ Urumqi 33.10 59 *e*P **P 18 05 49.3 +1.8**
SENIN Lac Senin/Sane 33.62 306 P **P 18 05 51.7 -0.5**
SENIN IAmb IAmb 18 05 53.4
comp=Z,6.7nm,0.6s
MBDF Montbardon 33.75 303 *e*P **P 18 05 53.5 +0.2**
MBDF pmax pmax
comp=Z,10.0nm,0.7s
BNI Bardonecchia 33.86 304 P **P 18 05 54.1 -0.1**
BNI pmax pmax
comp=Z,23nm,0.8s
BNI Bardonecchia 33.86 304 P **P 18 05 54.1 -0.1**
LPG La Plagne 33.86 304 *e*P **P 18 05 55.2 +0.8**
LPG pmax pmax
comp=Z,11nm,0.5s
ZAA0 Zalesovo Array 33.87 40 P **P 18 05 54.0 0.0**
ZAA0 IAmb IAmb 18 05 58.1
comp=Z,7.0nm,0.9s
ZALV Zalesovo Beam 33.87 40 P **P 18 05 54.5 +0.5**
comp=Z,5.5nm,0.8s,baz=250,slow=8.7,SNR=16
ZALV Zalesovo Beam 33.87 40 P **P 18 05 54.0 0.0**
LPL La Plagne 33.88 304 *e*P **P 18 05 54.5 0.0**
LPL pmax pmax
comp=Z,16nm,0.7s
DGZ Jazzator, Alta 33.99 48 *i* P **P 18 05 56.1 +0.8**
DGZ pmax pmax
comp=Z,2.0nm,0.7s
HINF Hinteralfeld 34.18 308 *e*P **P 18 05 56.4 -0.4**
HINF pmax pmax
comp=Z,8.0nm,1.2s
CABF La Chapelle 34.48 306 *e*P **P 18 05 59.8 +0.3**
CABF pmax pmax
comp=Z,29nm,0.7s
HAU Haudompre 34.55 309 *e*P **P 18 05 59.5 -0.5**
HAU pmax pmax
comp=Z,4.0nm,0.6s
LOR Lormes 36.09 307 *e*P **P 18 06 12.7 -0.6**
LOR pmax pmax
comp=Z,8.0nm,0.9s
LVZ Lovozero 36.09 352 P **P 18 06 14.9 +1.9**
LVZ pmax pmax
comp=Z,28nm,1.3s
LVZ Lovozero 36.09 352 P **P 18 06 14.9 +1.9**
SSF Saint Saulge 36.30 307 *e*P **P 18 06 14.8 -0.3**
SSF pmax pmax
comp=Z,11nm,0.7s
AVF Avril sur Loir 36.37 306 *e*P **P 18 06 15.3 -0.4**
AVF pmax pmax
comp=Z,11nm,1.0s
NB2 NORSAR Subarra 36.92 331 P **P 18 06 19.7 -0.5**
comp=Z,2.9nm,0.8s,baz=124,slow=8.6
NOA NORSAR Array B 36.92 331 P **P 18 06 19.8 -0.5**
comp=Z,1.0nm,0.7s,baz=112,slow=9.5,SNR=2.3
NC303 NORSAR Array S 36.96 332 P **P 18 06 20.3 -0.2**
RJF Les Rejaudoux 37.52 303 *e*P **P 18 06 25.5 +0.1**
RJF pmax pmax
comp=Z,7.0nm,1.0s
ARCES ARCESS Array B 38.97 348 P **P 18 06 37.4 0.0**
comp=Z,3.6nm,0.8s,baz=156,slow=9.2,SNR=8.8
ARCES PcP **PcP 18 08 48.1 +0.6**
comp=Z,1.7nm,0.6s,baz=159,slow=3.8,SNR=4.8
ARCES ARCESS Array B 38.97 348 P **P 18 06 37.6 +0.2**
ARCES 18 08 48.0
ARCES ARCESS Array B 38.97 348 P **P 18 06 37.6 +0.2**
ARCES **PcP 18 08 48.0 +0.5**
ARE0 ARCESS Array S 38.97 348 P **P 18 06 37.4 0.0**
SHL Shillong 39.09 89 P **P 18 06 38.6 -0.6**
SHL pmax pmax
comp=Z,7.0nm,0.9s
SHL Shillong 39.09 89 P **P 18 06 38.6 -0.6**
SHL IAmb IAmb 18 06 40.6
comp=Z,7.2nm,0.9s
FLN La Foliniere 39.16 309 *e*P **P 18 06 38.7 -0.5**
FLN pmax pmax
comp=Z,5.0nm,0.6s
GRR Gorron 39.38 308 *e*P **P 18 06 40.3 -0.7**
GRR pmax pmax
comp=Z,20nm,1.2s
SGMF Saint Gilles 40.49 308 *e*P **P 18 06 51.6 +1.3**
SGMF pmax pmax
comp=Z,13nm,1.0s
ROSF Rostrenen 40.98 308 *e*P **P 18 06 55.7 +1.4**
ROSF pmax pmax
comp=Z,12nm,1.0s
ESDC Sonseca Array 41.76 295 P **P 18 07 01.8 +0.9**
comp=Z,0.9nm,0.5s,baz=76,slow=7.7,SNR=7.6
ESDC Sonseca Array 41.76 295 P **P 18 07 01.3 +0.4**

ESK	**Eskdalemuir**	**41.83**	**318**	P	**P**	**18 07 01.6**	**+0.4**
ESK				pmax	pmax			
	comp=Z,37nm,1.5s							
ESK	**Eskdalemuir**	**41.83**	**318**	P	**P**	**18 07 01.6**	**+0.4**
GTA	**Gaotai**	**42.26**	**66**	*e*P	**P**	**18 07 07.8**	**+2.7**
GTA				pP	sP	18 07 13.4	+2.5
GTA				sP	pP	18 07 16.4	+7.1
GTA				pmax	pmax			
	comp=Z,2.0nm,1.1s							
DSB	**Dublin**	**43.35**	**315**	P	**P**	**18 07 14.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**46.13**	**256**	P	**P**	**18 07 36.1**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=67,slow=6.7,SNR=8.1							
TORD	**Torodi Ar. Bea**	**46.13**	**256**	P	**P**	**18 07 36.8**	**+0.6**
SONM	**Songino Array**	**46.26**	**53**	P	**P**	**18 07 38.2**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=292,slow=12,SNR=4.9							
SONM	**Songino Array**	**46.26**	**53**	P	**P**	**18 07 38.0**	**+1.0**
ULN	**Ulaanbaatar**	**46.70**	**53**	*i* P	**P**	**18 07 41.6**	**+1.1**
ULN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ULN	**Ulaanbaatar**	**46.70**	**53**	P	**P**	**18 07 41.4**	**+0.9**
ULN				lAmb	lAmb	18 07 46.7		
	comp=Z,4.2nm,0.7s							
CHTO	**Chiang Mai**	**47.82**	**94**	P	**P**	**18 07 48.8**	**-0.6**
CHTO				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CHTO	**Chiang Mai**	**47.82**	**94**	P	**P**	**18 07 48.8**	**-0.6**
CHTO				lAmb	lAmb	18 07 50.2		
	comp=Z,3.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**47.98**	**94**	P	**P**	**18 07 50.7**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=293,slow=8.1,SNR=14							
CMAR	**Chiang Mai Arr**	**47.98**	**94**	P	**P**	**18 07 50.2**	**-0.4**
PBKT	**Sadao Pong**	**50.57**	**95**	P	**P**	**18 08 10.3**	**-0.1**
PBKT				lAmb	lAmb	18 08 11.1		
	comp=Z,3.3nm,0.7s							
BOD	**Bodaibo**	**50.62**	**39**	*e*P	**P**	**18 08 10.5**	**+0.2**
BOD				pmax	pmax			
	comp=Z,5.0nm,1.9s							
HHC	**Hu-ho-hao-te**	**50.88**	**61**	*e*P	**P**	**18 08 13.6**	**+0.9**
HHC				pmax	pmax			
	comp=Z,21nm,0.7s							
HHC				pmax	pmax			
	comp=Z,76nm,6.6s							
LSZ	**Lusaka**	**51.15**	**204**	P	**P**	**18 08 16.5**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=22,slow=8.7,SNR=4.3							
LSZ	**Lusaka**	**51.15**	**204**	P	**P**	**18 08 15.5**	**+0.7**
MATP	**Matopo**	**55.85**	**202**	P	**P**	**18 08 51.3**	**+2.0**
	comp=Z,3.0nm,1.0s,baz=32,slow=11,SNR=4.9							
YAK	**Yakutsk**	**58.10**	**33**	*e*P	**P**	**18 09 04.2**	**-0.4**
YAK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
NJ2	**Nanjing**	**59.07**	**70**	*e*P	**P**	**18 09 12.1**	**+0.2**
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
KLR	**Kul'dur**	**62.48**	**47**	LR	LR	18 39 58.5		
	comp=Z,32nm,19.0s,baz=136,slow=39							
KLR	**Kul'dur**	**62.48**	**47**	*e*P	**P**	**18 09 34.1**	**-0.8**
KLR				pmax	pmax			
	comp=Z,2.0nm,1.0s							
KSRS	**Korea Array**	**64.01**	**61**	P	**P**	**18 09 44.5**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=282,slow=6.6,SNR=4.6							
BOSA	**Boshof**	**64.52**	**202**	P	**P**	**18 09 48.5**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=358,slow=1.0,SNR=4.1							
BOSA	**Boshof**	**64.52**	**202**	P	**P**	**18 09 48.2**	**-0.4**
SEY	**Seymchan**	**67.72**	**29**	*i* P	**P**	**18 10 07.2**	**-1.4**
YSS	**Yuzh-Sakhalins**	**70.16**	**46**	*i* P	**P**	**18 10 22.2**	**-1.9**
YSS				pmax	pmax			
	comp=Z,5.0nm,0.9s							
YKA	**Yellowknife Ar**	**84.12**	**352**	P	**P**	**18 11 40.9**	**-1.3**
	comp=Z,2.7nm,0.9s,baz=165,slow=35,SNR=1.3							
WRA	**Warramunga Arr**	**97.85**	**109**	P	**P**	**18 12 46.5**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=313,slow=4.3,SNR=4.9							
WRA	**Warramunga Arr**	**97.85**	**109**	P	**P**	**18 12 46.0**	**-1.5**
ASAR	**Alice Springs**	**99.45**	**112**	P	**Pdif**	**18 12 53.7**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=306,slow=4.7,SNR=7.3							
ASAR	**Alice Springs**	**99.45**	**112**	P	**Pdif**	**18 12 53.5**	**-1.1**

*IDC **19** 18:04:11.7±0.6, 18°.94N×46°.07W, h0km, mb4.1/16, mb1 4.3/16, mb1mx4.0/53, mbtmp4.1/16, MS3.7/13, Ms1 3.7/13, ms1mx3.4/37, Error ellipse: s-maj=23.8km s-min=16.1km az=138.0*

*NEIC **19** 18:04:13.2±1.3, 19°.0N±0°.1×46°.03W±0°.08, h11km±4km, mb4.6/44, Error ellipse: s-maj=19.3km s-min=6.2km az=150.0*

ISC 19 18:04:14.0±0.5, 19°.0N±0°.1×46°.02W±0°.09, h15km, n94, σ0s79/74, mb4.5/33, MS3.7/12, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05N1	**Guadeloupe/Mar**	**14.57**	**262**	T	T	18 22 14.5	
	SNR=6.7						
H05S1	**Guadeloupe/Mar**	**14.89**	**255**	T	T	18 22 44.9	
	SNR=28						
MDP	**Montagnes des**	**15.21**	**206**	LR	LR	18 12 29.8	
	comp=Z,84nm,20.4s,baz=25,slow=33						
DR12	**Loma Pena Alta**	**22.10**	**273**	P	**P**	**18 09 09.0**	**-0.1**
PTGA	**Pitinga**	**23.88**	**217**	P	**P**	**18 09 26.9**	**-0.3**
	1.1nm,0.5s,baz=31,slow=11,SNR=4.7						
PTGA	**Pitinga**	**23.88**	**217**	P	**P**	**18 09 27.1**	**-0.2**
RUSC	**La Rusia**	**29.38**	**247**	P	**P**	**18 10 18.9**	**+1.5**
OTAV	**Otavalo**	**36.85**	**243**	P	**P**	**18 11 22.4**	**-0.2**
OTAV				lAmb	lAmb	18 11 32.5	
	comp=Z,13nm,1.5s						
TZTN	**Tazewell**	**37.26**	**306**	P	**P**	**18 11 25.9**	**+0.5**
SCHQ	**Schefferville**	**39.18**	**341**	LR	LR	18 25 25.0	
	comp=Z,142nm,19.8s,baz=158,slow=32						
PLAL	**Pickwick Lake**	**40.42**	**302**	P	**P**	**18 11 53.4**	**+1.6**
WVT	**Waverly**	**40.48**	**304**	P	**P**	**18 11 53.5**	**+1.2**
H10N3	**ASCENSION HYDR**	**40.92**	**128**	T	T	18 55 22.4	
	baz=311,slow=75,SNR=322						
H10N2	**ASCENSION HYDR**	**40.92**	**128**	T	T	18 55 22.5	
	baz=311,slow=75,SNR=338						
H10N1	**ASCENSION HYDR**	**40.94**	**128**	T	T	18 55 19.9	
	baz=311,slow=75,SNR=365						
LPAZ	**La Paz**	**41.23**	**213**	P	**P**	**18 11 59.6**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=43,slow=13,SNR=4.3						
LPAZ	**La Paz**	**41.23**	**213**	P	**P**	**18 11 59.6**	**+0.3**
H10S3	**ASCENSION HYDR**	**41.54**	**129**	T	T	18 56 07.8	
	baz=270,slow=74,SNR=384						
H10S2	**ASCENSION HYDR**	**41.55**	**129**	T	T	18 56 07.8	
	baz=310,slow=74,SNR=156						
ESDC	**Sonseca Array**	**41.61**	**51**	P	**P**	**18 12 02.1**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=263,slow=8.8,SNR=4.7						
ESDC				LR	LR	18 25 56.1	
	comp=Z,129nm,21.5s,baz=85,slow=31						
ESDC	**Sonseca Array**	**41.61**	**51**	P	**P**	**18 12 01.8**	**+0.1**
DBIC	**Dimbokro**	**41.84**	**101**	LR	LR	18 26 57.4	
	comp=Z,195nm,19.2s,baz=247,slow=33						
L42A	**Oliver, Polo**	**43.47**	**312**	P	**P**	**18 12 15.6**	**-1.1**
TOA0	**Torodi Ar. Sit**	**46.11**	**90**	P	**P**	**18 12 37.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**46.11**	**90**	P	**P**	**18 12 38.3**	**+0.2**
	comp=Z,3.3nm,1.2s,baz=283,slow=5.5,SNR=7.8						
TORD				LR	LR	18 30 24.5	
	comp=Z,164nm,18.3s,baz=270,slow=34						
TORD	**Torodi Ar. Bea**	**46.11**	**90**	P	**P**	**18 12 38.1**	**0.0**
CPUP	**Villa Florida**	**46.34**	**194**	P	**P**	**18 12 39.0**	**-0.5**
	comp=Z,4.3nm,0.9s,baz=27,slow=7.5,SNR=6.5						
CPUP	**Villa Florida**	**46.34**	**194**	P	**P**	**18 12 39.1**	**-0.5**
CPUP				lAmb	lAmb	18 12 44.7	
	comp=Z,5.1nm,0.9s						
LVC	**Limon Verde**	**46.98**	**209**	P	**P**	**18 12 47.6**	**+2.5**
LVC				lAmb	lAmb	18 12 49.3	
	comp=Z,4.9nm,0.8s						
SFJD	**Kangerlussuaq**	**48.11**	**358**	LR	LR	18 28 14.4	
	comp=Z,59nm,21.0s,baz=176,slow=30						
BORG	**Borgarnes**	**48.66**	**14**	LR	LR	18 28 10.8	
	comp=Z,53nm,21.8s,baz=188,slow=30						
833A	**Chaparral WMA,**	**49.44**	**291**	P	**P**	**18 13 04.5**	**+0.7**
GO02	**Mina Guanaco**	**49.49**	**208**	P	**P**	**18 13 03.4**	**-1.0**
GO02				lAmb	lAmb	18 13 08.4	
	comp=Z,7.2nm,1.1s						
JCT	**Junction City**	**49.78**	**294**	P	**P**	**18 13 05.4**	**-1.0**
ULM	**Lac du Bonnet**	**50.26**	**320**	LR	LR	18 31 32.1	
	comp=Z,94nm,21.4s,baz=114,slow=33						
TX32	**Lajitas Array**	**53.16**	**293**	P	**P**	**18 13 30.7**	**-1.1**
TX32				lAmb	lAmb	18 13 52.3	
	comp=Z,12nm,1.8s						
TXAR	**Lajitas Array**	**53.16**	**293**	P	**P**	**18 13 31.6**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=106,slow=4.6,SNR=5.4						
TXAR				LR	LR	18 35 31.0	
	comp=Z,62nm,20.7s,baz=0.0,slow=35						
DAVOX	**Davos/Dischmat**	**53.19**	**45**	LR	LR	18 33 01.5	
	comp=Z,42nm,18.6s,baz=267,slow=32						
MNTX	**Cornudas Mount**	**54.55**	**296**	P	**P**	**18 13 41.5**	**-0.3**
GERES	**GERESS Array B**	**56.11**	**43**	P	**P**	**18 13 53.0**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=269,slow=8.0,SNR=6.0						
GERES	**GERESS Array B**	**56.11**	**43**	P	**P**	**18 13 52.7**	**-0.2**
CLL	**Collm**	**56.14**	**40**	*e*pP	pP	18 13 55.0	-1.6
JMIC	**Jan Mayen**	**56.56**	**14**	LR	LR	18 32 07.6	
	comp=Z,39nm,18.3s,baz=244,slow=30						
PD31	**Pinedale Array**	**58.06**	**309**	P	**P**	**18 14 05.4**	**-1.6**
PD31				lAmb	lAmb	18 14 08.8	
	comp=Z,5.3nm,1.1s						
PDAR	**Pinedale Array**	**58.06**	**309**	P	**P**	**18 14 06.6**	**-0.4**
	comp=Z,3.9nm,1.1s,baz=96,slow=7.6,SNR=14						
PDAR				LR	LR	18 36 11.5	
	comp=Z,142nm,22.0s,baz=124,slow=33						
PDAR	**Pinedale Array**	**58.06**	**309**	P	**P**	**18 14 06.0**	**-1.0**
LOHW	**Long Hollow**	**58.87**	**310**	P	**P**	**18 14 11.4**	**-1.3**
LOHW				lAmb	lAmb	18 14 14.8	
	comp=Z,5.2nm,1.2s						
TPAW	**Teton Pass**	**59.12**	**310**	P	**P**	**18 14 12.5**	**-1.9**
TPAW				lAmb	lAmb	18 14 16.3	
	comp=Z,4.1nm,1.0s						
IMW	**Indian Meadow**	**59.13**	**310**	P	**P**	**18 14 14.2**	**-0.3**
IMW				lAmb	lAmb	18 14 24.6	
	comp=Z,6.5nm,1.4s						
FXWY	**Fox Creek**	**59.18**	**310**	P	**P**	**18 14 14.0**	**-0.7**
FXWY				lAmb	lAmb	18 14 56.0	
	comp=Z,12nm,2.0s						
WUAZ	**Wupatki**	**59.42**	**301**	P	**P**	**18 14 16.7**	**+0.2**
WUAZ				lAmb	lAmb	18 14 18.6	
	comp=Z,4.4nm,0.8s						
HWUT	**Hardware Ranch**	**59.51**	**308**	P	**P**	**18 14 16.9**	**-0.2**
HWUT				lAmb	lAmb	18 14 19.0	
	comp=Z,4.6nm,0.9s						
BGU	**Big Grassy Mou**	**60.60**	**307**	P	**P**	**18 14 24.4**	**-0.2**
CCUT	**Cedar City**	**60.94**	**303**	P	**P**	**18 14 27.8**	**+0.8**
NEW	**Newport**	**63.57**	**315**	P	**P**	**18 14 43.7**	**-0.5**
NEW				lAmb	lAmb	18 14 52.1	
	comp=Z,4.4nm,0.9s						
MLR	**Muntele Rosu**	**64.18**	**48**	P	**P**	**18 14 49.1**	**+0.8**
	comp=Z,8.5nm,1.2s,baz=272,slow=10.0,SNR=4.0						
MLR	**Muntele Rosu**	**64.18**	**48**	P	**P**	**18 14 48.3**	**-0.1**
NVAR	**Mina Array Bea**	**64.78**	**304**	LR	LR	18 42 28.7	
	comp=Z,42nm,18.1s,baz=94,slow=36						
OMMB	**Old Mammoth Mi**	**65.40**	**303**	P	**P**	**18 14 56.3**	**-0.4**
ARCES	**ARCESS Array B**	**65.94**	**21**	P	**P**	**18 14 59.9**	**+0.7**
	comp=Z,3.4nm,0.9s,baz=251,slow=7.6,SNR=4.8						
ARCES	**ARCESS Array B**	**65.94**	**21**	P	**P**	**18 14 58.4**	**-0.8**
AKASG	**Malin Array Be**	**66.27**	**42**	P	**P**	**18 15 01.9**	**+0.3**
	comp=Z,0.1nm,0.2s,baz=355,slow=17,SNR=2.0						
AKASG	**Malin Array Be**	**66.27**	**42**	P	**P**	**18 15 01.0**	**-0.6**
ELL	**Elmali**	**67.84**	**57**	P	**P**	**18 15 12.9**	**+0.8**
BRTR	**Keskin Array B**	**70.33**	**54**	P	**P**	**18 15 27.0**	**-0.5**
	comp=Z,2.8nm,1.0s,baz=263,slow=31,SNR=5.6						
BRTR	**Keskin Array B**	**70.33**	**54**	P	**P**	**18 15 26.5**	**-1.1**
DLBC	**Dease Lake**	**70.94**	**326**	P	**P**	**18 15 31.2**	**+0.4**
BMAR	**Burnt Mountain**	**75.19**	**337**	P	**P**	**18 15 59.3**	**-0.5**
IL31		**77.57**	**334**	P	**P**	**18 16 08.7**	**-0.4**
IL31				lAmb	lAmb	18 16 09.9	
	comp=Z,4.5nm,0.8s						
ILAR	**Eielson Array**	**77.57**	**334**	P	**P**	**18 16 09.2**	**+0.1**
	comp=Z,5.0nm,0.9s,baz=73,slow=4.8,SNR=26						
ILAR	**Eielson Array**	**77.57**	**334**	P	**P**	**18 16 08.8**	**-0.4**
CCB	**Clear Creek Bu**	**77.98**	**334**	P	**P**	**18 16 11.3**	**-0.2**
CCB				lAmb	lAmb	18 16 13.3	
	comp=Z,5.9nm,1.1s						
COLD	**Coldfoot**	**78.04**	**337**	P	**P**	**18 16 11.6**	**-0.2**
MDM	**Murphy Dome**	**78.05**	**335**	P	**P**	**18 16 11.4**	**-0.6**
MDM				lAmb	lAmb	18 16 12.7	
	comp=Z,5.0nm,1.1s						
WRH	**Wood River Hil**	**78.16**	**334**	P	**P**	**18 16 11.9**	**-0.5**
WRH				lAmb	lAmb	18 16 13.1	
	comp=Z,6.2nm,0.9s						
TRF	**Thorofare Moun**	**79.42**	**334**	P	**P**	**18 16 19.4**	**-0.2**
TRF				lAmb	lAmb	18 16 29.2	
	comp=Z,5.9nm,0.9s						
BPAW	**Bear Paw Mtn.**	**79.47**	**334**	P	**P**	**18 16 18.9**	**-0.8**
IMAR	**Indian Mountai**	**79.82**	**337**	P	**P**	**18 16 21.5**	**-0.1**
SKT	**Skwentna**	**80.50**	**333**	P	**P**	**18 16 25.0**	**-0.3**
SKT				lAmb	lAmb	18 16 26.6	
	comp=Z,6.0nm,1.1s						
OHAK	**Old Harbor**	**83.22**	**328**	P	**P**	**18 16 40.1**	**+0.5**
AKTO	**Aktyubinsk**	**84.18**	**39**	P	**P**	**18 16 45.6**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=300,slow=5.6,SNR=5.4						
ABKAR	**Akbulak array**	**85.79**	**39**	P	**P**	**18 16 53.0**	**+0.1**
BVAR	**Borovoye Array**	**89.83**	**33**	P	**P**	**18 17 13.3**	**+1.1**
	comp=Z,1.1nm,0.9s,baz=327,slow=4.1,SNR=6.1						
KURK	**Kurchatov**	**95.32**	**32**	P	**P**	**18 17 38.3**	**+0.7**
KURBB	**Kurchatov Arra**	**95.34**	**32**	P	**P**	**18 17 37.8**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=300,slow=3.0,SNR=1.8						
CMAR	**Chiang Mai Arr**	**129.34**	**45**	PKP	**PKiKP**	**18 23 23.0**	**-0.6**
	comp=Z,1.1nm,1.1s,baz=195,slow=0.3,SNR=4.7						
CMAR	**Chiang Mai Arr**	**129.34**	**45**		**PKPdf**	**18 23 22.1**	**-0.8**
H01W2	**Cape Leeuwin H**	**156.30**	**136**	T	T	21 19 54.0	
	baz=237						
H01W3	**Cape Leeuwin H**	**156.31**	**136**	T	T	21 19 54.5	
	baz=237						
H01W1	**Cape Leeuwin H**	**156.31**	**136**	T	T	21 19 55.1	
	baz=237						
ASAR	**Alice Springs**	**175.31**	**179**	PKP	**PKPdf**	**18 24 23.6**	**-0.7**
	comp=Z,1.1nm,1.1s,baz=338,slow=2.0,SNR=4.7						
ASAR	**Alice Springs**	**175.31**	**179**		**PKPdf**	**18 24 23.3**	**-1.0**
WRA	**Warramunga Arr**	**178.96**	**199**	PKP	**PKPdf**	**18 24 23.9**	**-1.0**
	comp=Z,1.3nm,1.1s,baz=309,slow=0.5,SNR=4.4						
WRA	**Warramunga Arr**	**178.96**	**199**		**PKPdf**	**18 24 23.6**	**-1.3**

*ISN **19** 18:13:55.9±0.5, 32°.71N×47°.63E, h14km±3km, ML2.5*
*TEH **19** 18:13:56.5, 32°.72N×47°.61E, h10km, ML2.6*

ISC 19 18:13:56.7±1.2, 32°.67N±0°.07×47°.63E±0°.06, h10km, n10, σ0s77/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.29**	**273**	*e*Pg	**Pg**	**18 14 02.5**	**-0.1**
IKFM	**Kafar-mosalman**	**0.88**	**12**	*e*Pg	**Pg**	**18 14 13.3**	**-0.3**
IKFM				*e*		18 14 43.8	
IKMR	**Kamar-syah**	**1.06**	**36**	*e*Pg	**Pg**	**18 14 16.8**	**-0.2**
IKMR				*e*		18 14 54.9	
IDOB	**Doab**	**1.21**	**22**	*e*Pg	**Pb**	**18 14 18.9**	**-0.9**
BMDN	**Meydan**	**1.42**	**45**	*e*Pg	**Pn**	**18 14 23.0**	**+0.3**
BMDN				*e*		18 14 48.1	
IBDR	**Badra**	**1.50**	**288**	*e*Pg	**Pn**	**18 14 23.0**	**-0.6**
IBDR				*e*Sg	**Sn**	**18 14 43.0**	**-0.1**
IBDR				AML	AML	18 14 50.1	
	comp=E,77nm,0.6s						
IBDR				AML	AML	18 14 52.9	
	comp=N,81nm,0.4s						
IKOM	**Komasi**	**1.51**	**356**	*e*Pg	**Pn**	**18 14 24.4**	**+0.5**
IKOM				*e*		18 15 09.8	
IBZA	**Bozab**	**1.81**	**6**	*e*Pg	**Pn**	**18 14 29.9**	**+1.7**
IBZA				*e*		18 14 50.6	
NSR	**Nassriya**	**2.08**	**218**	*e*Pn	**Pn**	**18 14 32.0**	**+0.4**
NSR				*e*Sn	**Sn**	**18 14 58.0**	**+0.4**
BHD	**Baghdad**	**2.79**	**283**	*e*Pn	**Pn**	**18 14 42.0**	**+0.6**
BHD				*e*Sn	**Sn**	**18 15 16.0**	**+0.8**

*IDC **19** 18:19:55.5±0.6, 53°.00S×9°.70E, h0km, mb4.5/15, mb1 4.5/15, mb1mx4.4/25, mbtmp4.4/15, MS4.6/21, Ms1 4.6/21, ms1mx4.5/25, Error ellipse: s-maj=20.4km s-min=15.3km az=76.0*

*NEIC **19** 18:19:57.9±2.2, 52°.9S±0°.1×9°.8E±0°.2, h13km±3km, mb5.1/59, Error ellipse: s-maj=15.8km s-min=14.5km az=58.0*

*BJI **19** 18:19:58.0±0.0, 53°.00S×9°.90E, h10km, mB5.1/1, Ms5.1/6, Ms7 4.8/6*

*GCMT **19** 18:20:00.9±0.1, 53°.11S±0°.01×9°.84E±0°.01, h12km, MW5.3/149, Moment Tensor Solution. s102,c158; s149,c269; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.23±.01; Mθθ 1.27±.01; Mφφ-1.03±.01; Mrθ 0.36±.04; Mrφ 0.18±.01; Mθφ 0.29±.04; Best double couple: Mo1.25100×10^17 NP1:φs 131.00000°, δ68.00000°, λ-3.00000°. NP2:φs 222.00000°, δ87.00000°, λ-158.00000°. Principal axes: T 1.3760, Plg13.0000°, Azm354.0000°; N -0.2440, Plg68.0000°, Azm228.0000°; P -1.1260, Plg17.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 18:19:57.3±0.3, 52°.94S±0°.06×9°.62E±0°.08, h10km, n137, σ1s50/127, mb5.1/42, MS4.6/26, 3D, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**19.52**	**198**	P	**P**	**18 24 24.1**	**-0.3**
VNA2	**Neumayer--Watz**	**19.60**	**197**	P	**P**	**18 24 24.5**	**-0.8**
VNA3	**Neumayer Olymp**	**20.27**	**198**	P	**P**	**18 24 32.4**	**-0.2**
SYO	**Syowa Base**	**21.33**	**150**	*i*P	**P**	**18 24 41.4**	**-2.6**
SYO	**Syowa Base**	**21.33**	**150**	*i*P	**P**	**18 24 44.0**	**0.0**
SYO	**Syowa Base**	**21.33**	**150**	*i*pP	pP	18 24 46.0	+0.5
SUR	**Sutherland**	**22.08**	**26**	P	**P**	**18 24 53.6**	**+1.1**
	16nm,0.8s,baz=169,slow=3.0,SNR=7.8						
SUR				S	**S**	**18 28 51.3**	**-4.7**
	6.0nm,0.8s,baz=81,slow=20,SNR=1.9						
SUR				LR	LR	18 31 22.2	
	comp=Z,2μm,20.6s,baz=196,slow=31						
SUR	**Sutherland**	**22.08**	**26**	P	**P**	**18 24 51.0**	**-1.6**
SUR				lAmb	lAmb	18 24 58.6	
	comp=Z,221nm,1.9s						
SUR					**PcP**	**18 28 50.6**	**+0.6**
BOSA	**Boshof**	**26.91**	**32**	P	**P**	**18 25 38.5**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=174,slow=7.2,SNR=4.1						
BOSA				LR	LR	18 34 32.7	
	comp=Z,1μm,19.4s,baz=202,slow=33						
BOSA	**Boshof**	**26.91**	**32**	P	**P**	**18 25 38.3**	**-0.3**
MAW	**Mawson**	**29.07**	**141**	P	**P**	**18 25 56.6**	**-0.7**
	comp=Z,5.1nm,1.0s,baz=279,slow=6.3,SNR=7.1						
MAW				LR	LR	18 35 04.3	
	comp=Z,2μm,21.7s,baz=286,slow=31						
MAW	**Mawson**	**29.07**	**141**	P	**P**	**18 25 56.9**	**-0.4**
LBTB	**Lobatse**	**30.38**	**30**	P	**P**	**18 26 08.9**	**-0.6**
TSUM	**Tsumeb**	**34.24**	**13**	P	**P**	**18 26 44.0**	**+0.7**
TSUM				lAmb	lAmb	18 26 45.8	
	comp=Z,29nm,1.1s						
PAF	**Port-aux-Franc**	**37.20**	**110**	P	**P**	**18 27 09.4**	**+1.1**
QSPA	**South Pole Qui**	**37.30**	**180**	P	**P**	**18 27 08.1**	**-1.1**
	comp=Z,21nm,1.1s,baz=94,slow=24,SNR=9.6						
QSPA	**South Pole Qui**	**37.30**	**180**	P	**P**	**18 27 07.8**	**-1.5**
QSPA				lAmb	lAmb	18 27 09.5	
	comp=Z,63nm,1.4s						
SHEL	**Horse Pasture**	**38.84**	**336**	P	**P**	**18 27 23.2**	**+0.7**
FOMA	**Nahampoana Res**	**39.57**	**60**	P	**P**	**18 27 27.9**	**-0.6**
FOMA				lAmb	lAmb	18 28 01.0	
	comp=Z,82nm,1.3s						
CASY	**Casey**	**47.03**	**147**	P	**P**	**18 28 28.8**	**+0.5**
VNDA	**Vanda**	**48.66**	**172**	P	**P**	**18 28 40.2**	**-0.6**
	comp=Z,6.3nm,0.7s,baz=229,slow=5.8,SNR=34						
VNDA				PP	**PP**	**18 30 35.3**	**+1.9**
	comp=Z,6.4nm,1.2s,baz=222,slow=9.5,SNR=3.4						
VNDA				LR	LR	18 48 31.8	
	comp=Z,2μm,19.0s,baz=195,slow=35						
VNDA	**Vanda**	**48.66**	**172**	P	**P**	**18 28 40.4**	**-0.4**
ASCN	**Ascension**	**48.93**	**328**	P	**P**	**18 28 43.8**	**+0.2**
PLCA	**Paso Flores**	**53.42**	**249**	P	**P**	**18 29 17.4**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=108,slow=9.7,SNR=2.3						
PLCA				LR	LR	18 48 39.5	
	comp=Z,503nm,21.3s,baz=136,slow=32						
PLCA	**Paso Flores**	**53.42**	**249**	P	**P**	**18 29 18.5**	**+1.4**
MBAR	**Mbarara**	**55.05**	**26**	P	**P**	**18 29 29.7**	**+0.4**
LC01	**Cunco**	**55.41**	**250**	P	**P**	**18 29 29.5**	**-2.0**
CPUP	**Villa Florida**	**55.67**	**271**	P	**P**	**18 29 33.9**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=140,slow=8.1,SNR=8.7						
CPUP				LR	LR	18 49 35.9	
	comp=Z,450nm,21.7s,baz=142,slow=32						
CPUP	**Villa Florida**	**55.67**	**271**	P	**P**	**18 29 33.7**	**+0.1**
CPUP				lAmb	lAmb	18 29 46.7	
	comp=Z,27nm,1.3s						
BI02	**San Fabin de**	**56.61**	**252**	P	**P**	**18 29 42.7**	**+2.5**
BI02				lAmb	lAmb	18 29 57.1	
	comp=Z,22nm,1.3s						
BO02	**Sierra Bellavi**	**57.64**	**254**	P	**P**	**18 29 49.2**	**+1.6**
BO01	**Tunca**	**58.10**	**254**	P	**P**	**18 29 53.8**	**+3.1**
BO01				lAmb	lAmb	18 30 59.6	
	comp=Z,33nm,1.8s						
BDFB	**Brasilia**	**58.30**	**287**	P	**P**	**18 29 51.7**	**-0.7**
	comp=Z,3.3nm,0.7s,baz=117,slow=6.8,SNR=4.5						
BDFB				LR	LR	18 50 00.8	
	comp=Z,670nm,18.9s,baz=128,slow=31						

LPAZ	La Paz	69.80	270		P	P	18 31 09.0	+0.4
LPAZ	La Paz	69.80	270	P	P	P	18 31 08.9	+0.3
H01W2	Cape Leeuwin H	70.81	123	T	T		19 48 58.1	
	baz=218,slow=75,SNR=394							
H01W3	Cape Leeuwin H	70.83	123	T	T		19 48 58.1	
	baz=218,slow=75,SNR=230							
H01W1	Cape Leeuwin H	70.83	123	T	T		19 48 58.0	
	baz=218,slow=75,SNR=339							
SAML	Samuel	72.55	278	P	P	P	18 31 23.8	-0.7
NWAO	Narrogin (SRO)	73.94	123	P	P	P	18 31 30.9	-1.7
NWAO	Narrogin (SRO)	73.94	123	P	P	P	18 31 30.4	-2.2
NWAO				IAmb	IAmb	IAmb	18 31 45.4	
	comp=Z,79nm,1.7s							
SOCY	Socotra	75.16	45	P	P	P	18 31 39.3	-0.5
TAM	Tamanrasset	75.49	356	P	P	P	18 31 41.6	0.0
RPZ	Rata Peaks	82.41	167	LR	LR		19 06 15.0	
	comp=Z,565nm,19.5s,baz=206,slow=34							
STKA	Stephens Creek	85.76	141	P	P	P	18 32 35.7	-0.9
	comp=Z,2.4nm,0.9s,baz=243,slow=3.3,SNR=3.6							
STKA				LR	LR		19 06 31.1	
	comp=Z,109nm,21.9s,baz=202,slow=33							
STKA	Stephens Creek	85.76	141	P	P	P	18 32 35.4	-1.2
KEST	Kesra	88.30	360	LR	LR		19 09 44.7	
	comp=Z,251nm,19.4s,baz=173,slow=34							
URZ	Urewera	88.53	170	LR	LR		19 09 22.0	
	comp=Z,381nm,18.7s,baz=214,slow=34							
ASAR	Alice Springs	89.71	131	P	P	P	18 32 54.0	-1.7
	comp=Z,0.1nm,0.4s,baz=359,slow=31,SNR=7.1							
ASAR				LR	LR		19 05 41.4	
	comp=Z,315nm,21.7s,baz=196,slow=31							
ASAR	Alice Springs	89.71	131	P	P	P	18 32 54.7	-1.0
ROSC	El Rosal	90.17	278	LR	LR		19 10 00.1	
	comp=Z,867nm,20.5s,baz=148,slow=33							
FITZ	Fitzroy Crossi	90.39	121	LR	LR		19 08 41.9	
	comp=Z,195nm,18.5s,baz=214,slow=32							
ESDC	Sonseca Array	92.99	350	P	P	P	18 33 10.9	+0.7
	comp=Z,0.8nm,0.7s,baz=161,slow=4.4,SNR=4.4							
ESDC				LR	LR		19 11 25.3	
	comp=Z,172nm,21.0s,baz=180,slow=33							
ESDC	Sonseca Array	92.99	350	P	P	P	18 33 11.1	+0.9
WRA	Warramunga Arr	93.12	129	P	P	P	18 33 12.0	+0.5
	comp=Z,0.2nm,0.6s,baz=208,slow=4.6,SNR=1.3							
WRA	Warramunga Arr	93.12	129	P	P	P	18 33 11.9	+0.3
BRTR	Keskin Array B	94.61	18	LR	LR		19 16 39.1	
	comp=Z,164nm,21.8s,baz=175,slow=36							
BATI	Baumata	95.89	115	LR	LR		19 10 07.9	
	comp=Z,163nm,21.6s,baz=212,slow=31							
GEYT	Alibeck	99.80	37	LR	LR		19 22 17.4	
	comp=Z,205nm,18.6s,baz=175,slow=38							
GERES	GERESS Array B	101.47	3	PP	PP	PP	18 37 58.2	-0.7
	comp=Z,0.6nm,0.8s,baz=175,slow=6.2,SNR=4.9							
TBI	Tubuai	101.88	200	eLR	LR		19 06 51.9	
	comp=Z,313nm,33.0s							
DZM	Mont Dzumac	102.64	158	eSS	SS		18 52 46.4	+1.2
	comp=Z,332nm,26.4s							
DZM	Mont Dzumac	102.64	158	eLR	LR		19 07 26.2	
	comp=Z,594nm,25.9s							
CLL	Collm	103.91	2	ePS	PS		18 47 30.0	+2.8
CLL				eSS	SS		18 53 06.0	+1.8
CLL				LmV			19 20 00.0	
	comp=Z,200nm,19.8s							
AKASG	Malin Array Be	104.58	13	PP	PP	PP	18 38 21.6	-0.4
	comp=Z,0.2nm,0.4s,baz=208,slow=6.8,SNR=1.3							
PPT2	Papeete2	107.49	201	eSS	SS		18 53 57.4	+5.8
	comp=Z,193nm,27.8s							
PPT2	Papeete2	107.49	201	eLR	LR		19 09 23.5	
	comp=Z,283nm,24.0s							
KMI	Kunming	111.47	77	ePdif	Pdif	Pdif	18 34 35.8	+2.1
KMI				PKP	PKiKP	PKiKP	18 38 32.5	+0.7
KMI				sPKP			18 38 37.5	
KMI				PP	PP	PP	18 39 18.5	+5.5
KMI				SKKS			18 46 11.0	
KMI				S	Sdif	Sdif	18 46 51.8	-1.2
KMI				SS	SS	SS	18 54 49.9	+2.3
KMI				LR	LR			
	comp=Z,420nm,7.9s							
KMI				LR	LR			
	comp=Z,800nm,7.4s							
KMI				LR	LR			
	comp=Z,580nm,6.7s							
GYA	Guiyang	114.79	79	ePKP	PKPdf		18 38 37.1	-0.8
WMQ	Urumqi	117.31	53	ePKP	PKiKP	PKiKP	18 38 43.5	+1.3
WMQ				LR	LR			
	comp=Z,170nm,21.5s							
WMQ				LR	LR			
	comp=Z,230nm,23.1s							
WMQ				LR	LR			
	comp=Z,130nm,23.1s							
GTA	Gaotai	120.33	64	ePKP	PKiKP	PKiKP	18 38 53.8	+5.5
GTA				LR	LR			
	comp=Z,82nm,22.2s							
GTA				LR	LR			
	comp=Z,100nm,19.7s							
GTA				LR	LR			
	comp=Z,150nm,21.6s							
NJ2	Nanjing	126.14	83	ePKP	PKiKP	PKiKP	18 39 00.0	+0.2
TXAR	Lajitas Array	126.65	271	PKP	PKPdf	PKPdf	18 39 00.5	-0.1
	comp=Z,0.3nm,0.9s,baz=315,slow=57,SNR=2.6							
TXAR	Lajitas Array	126.65	271			PKPdf	18 38 59.6	-1.0
HHC	Hu-ho-hao-te	127.86	70	ePKP	PKPdf	PKPdf	18 39 00.4	-2.1
PDAR	Pinedale Array	139.10	281	PKP	PKPdf	PKPdf	18 39 22.8	-1.0
	comp=Z,0.5nm,0.7s,baz=158,slow=1.0,SNR=2.0							
PDAR	Pinedale Array	139.10	281			PKPdf	18 39 23.2	-0.5
FXWY	Fox Creek	140.48	281			PKPdf	18 39 22.9	-3.4
IMW	Indian Meadow	140.57	281	PKPdf	PKPdf	PKPdf	18 39 22.9	-3.5
NVAR	Mina Array Bea	141.71	269	PKP	PKPdf	PKPdf	18 39 26.9	-1.7
	comp=Z,0.1nm,0.4s,baz=354,slow=27,SNR=2.9							
NVAR	Mina Array Bea	141.71	269			PKPdf	18 39 26.1	-2.5
MSO	Missoula	143.94	284			PKPdf	18 39 32.1	0.0
KLR	Kul'dur	144.31	72	PKP	PKPdf	PKPdf	18 39 33.7	+1.2
	comp=Z,0.8nm,0.6s,baz=264,slow=4.1,SNR=4.7							
WVOR	Wild Horse Val	144.35	274			PKPdf	18 39 33.6	+0.6
J08A	Circle Bar Ran	144.78	276			PKPbc	18 39 33.4	+0.7
BMO	Blue Mountains	144.90	279			PKPab	18 39 32.5	-0.6
WALA	Waterton Lakes	145.03	287			PKPbc	18 39 33.2	-0.2
MOD	Modoc Plateau	145.04	272			PKPbc	18 39 33.9	+0.2
WDC	Whiskeytown Da	145.61	269			PKPbc	18 39 35.8	+0.2
I07A	Izee	145.80	276	PKPdf	PKPab	PKPab	18 39 36.5	0.0
K05A	Summer Lake	145.88	273			PKPab	18 39 37.8	+0.9
G08A	Pilot Rock	146.12	278			PKPdf	18 39 36.7	+0.7
E09A	Wood Farm, Sta	146.27	280	PKPdf		PKPbc	18 39 37.0	-0.2
C09A	Chrisman Ranch	146.99	282			PKPbc	18 39 38.5	-0.7
LON	Longmire	148.58	279	PKPdf		PKPdf	18 39 39.7	-0.2
LON						pPKPbc	18 39 46.0	+0.6
YKA	Yellowknife Ar	149.66	311	PKPbc		PKPbc	18 39 45.6	-0.1
	comp=Z,5.6nm,0.7s,baz=88,slow=2.6,SNR=9.2							
BCAR	Beaver Creek A	161.93	315	PKPdf		PKPdf	18 39 56.9	-0.5
BCAR						PKPab	18 40 43.3	-0.3
ILAR	Eielson Array	163.16	324	PKPab		PKPab	18 40 49.4	+0.5
	comp=Z,1.7nm,0.8s,baz=38,slow=3.8,SNR=9.4							
ILAR	Eielson Array	163.16	324	PKPdf		PKPdf	18 39 57.5	-0.9
ILAR						PKPab	18 40 49.0	+0.1

ISN ***19*** *18:20:24.0±1.4,32.74N×47.47E,h6km±8km, ML2.8*
TEH ***19*** *18:20:25.3,32.74N×47.44E,h10km, ML2.7*
ISC 19 18:20:25.3±1.6,**32.75N**±0.06×**47.47E**±0.06,**h6**km±12km,
n10,σ0**78**/14,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.17	247	ePg	Pg	18 20 29.0	+0.2
IKFM	Kafar-mosalman	0.84	22	ePg	Pb	18 20 41.9	-0.4
IKFM				e		18 20 57.4	
IKMR	Kamar-syah	1.08	45	ePg	Pn	18 20 46.8	-0.2
IKMR				eSg	Sn	18 21 03.2	+0.8
IKMR				e		18 21 09.0	
IDOB	Doab	1.19	30	ePg	Pb	18 20 48.3	-0.2
IDOB				e		18 21 11.7	
IBDR	Badra	1.34	286	ePg	Pn	18 20 49.0	-1.7
IBDR				eSg	Sn	18 21 09.0	+0.1
IBDR				AML	AML	18 21 15.8	
	comp=N,177nm,0.5s						
IBDR				AML	AML	18 21 16.2	
	comp=E,157nm,0.6s						
IKOM	Komasi	1.42	1	ePg	Pb	18 20 53.1	+0.7
IKOM				e		18 20 55.6	
KCHF	Cheshme Sefid,	1.56	347	ePg	Pg	18 20 55.3	0.0
KCHF				e		18 21 21.1	
HSAM	Samen	1.74	33	ePn	Pb	18 20 57.6	-0.3
HSAM				e		18 21 03.1	
NSR	Nassriya	2.07	213	ePn	Pn	18 21 01.0	+0.4
NSR				eSn	Sn	18 21 26.0	-0.7
BHD	Baghdad	2.65	282	ePn	Pn	18 21 09.0	+0.4
BHD				eSn	Sn	18 21 42.0	+1.0

TEH ***19*** *18:22:52.6,32.71N×47.86E,h9km, ML3.0*
ISN ***19*** *18:22:52.4±1.1,32.70N×47.81E,h14km±6km, ML3.0*
THR ***19*** *18:22:53.8±0.3,32.59N×47.82E,h18km±35km, ML3.2*
ISC 19 18:22:53.1±1.6,**32.59N**±0.04×**47.75E**±0.03,**h7**km±14km,
n35,σ1**25**/40,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.40	283	e		18 23 02.4	
DHL1				ePg	Pg	18 23 01.8	+0.8
DHL1				eSg	Sb	18 23 09.7	+0.7
IKFM	Kafar-mosalman	0.93	5	ePg	Pb	18 23 08.6	-3.1
IKMR	Kamar-syah	1.06	30	ePg	Pn	18 23 10.3	-4.2
IKMR				e		18 23 28.6	
IDOB	Doab	1.25	17	ePg	Pn	18 23 14.3	-2.9
BMDN	Meydan	1.41	40	ePg	Pn	18 23 16.6	-2.8
BMDN				e		18 23 39.3	
AHWZ	Ahwaz	1.47	149	ePg	Pg	18 23 22.4	+1.0
IKOM	Komasi	1.59	353	ePg	Pn	18 23 21.2	-0.7
IKOM				e		18 23 23.3	
IBDR	Badra	1.61	289	ePg	Pn	18 23 22.0	-0.1
IBDR				eSg	Sb	18 23 44.0	+0.1
IBDR				AML	AML	18 23 49.5	
	comp=E,265nm,0.4s						
IBDR				AML	AML	18 23 52.1	
	comp=N,211nm,0.5s						
HSAM	Samen	1.77	24	ePg	Pn	18 23 24.5	+0.1
HSAM				e		18 30 02.0	
KCHF	Cheshme Sefid,	1.78	341	ePn	Pn	18 23 24.1	-0.4
KCHF				e		18 23 26.4	
KER	Kermanshah	1.86	344	ePn	Pn	18 23 26.5	+0.9
IBZA	Bozab	1.87	3	ePg	Pn	18 23 25.9	0.0
IBZA				e		18 23 52.9	
IGHG	Ghaleghazi	1.99	331	ePn	Pn	18 23 28.4	+0.9
IGHG				e		18 24 11.3	
IVIS	Veis	2.07	339	ePn	Pn	18 23 29.1	+0.6
IVIS				e		18 23 32.1	
NSR	Nassriya	2.09	221	ePn	Pb	18 23 30.0	-1.4
NSR				eSn	Sb	18 23 56.0	-1.5
KHMZ	Khomeyn	2.18	58	ePn	Pn	18 23 30.7	+0.6
KHMZ	Khomeyn	2.18	58	ePn	Pn	18 23 30.7	+0.6
IDHR	Dehrash	2.39	332	ePn	Pn	18 23 33.2	+0.3
IDHR				e		18 23 37.2	
ILIN	Lien	2.41	344	ePn	Pn	18 23 33.5	+0.2
ILIN				e		18 23 37.9	
JHBN	Jahan bin	2.50	98	ePn	Pn	18 23 34.5	0.0
JHBN				e		18 23 45.9	
HAGD	Aghdareh	2.51	27	ePn	Pn	18 23 33.6	-1.0
HAGD				e		18 24 15.8	
SNGE	Sanandaj	2.52	353	ePn	Pn	18 23 36.1	+1.4
SNGE				eSg	Sb	18 24 13.2	+3.1
SNGE	Sanandaj	2.52	353	ePn	Pn	18 23 36.1	+1.4
IPIR	Pirpir	2.66	87	ePn	Pn	18 23 36.8	+0.1
IPIR				e		18 23 43.2	
HSRG	Sareghieh	2.68	9	ePn	Pn	18 23 37.3	+0.3
HSRG				e		18 24 23.7	
ASAO	Ashtian	2.72	44	ePn	Pn	18 23 38.4	+0.8
ASAO				eSg	Sb	18 24 17.9	+1.8
ASAO	Ashtian	2.72	44	ePn	Pn	18 23 38.4	+0.8
ROKH	ROKH	2.79	94	ePn	Pn	18 23 39.2	+0.7
BHD	Baghdad	2.91	284	ePn	Pn	18 23 40.0	+0.1
BHD				eSn	Sn	18 24 16.0	+0.8
IRAZ	Razeghan	3.34	32	ePn	Pn	18 23 45.9	-0.1
QABG	Abgarm-Qazvin	3.46	26	ePn	Pn	18 23 47.6	-0.1
KLNJ	Kolanjah	3.63	115	ePn	Pn	18 23 50.7	+0.5
KLNJ				e		18 25 05.9	
IZEF	Zefreh	3.87	84	ePn	Pn	18 23 53.9	+0.5
IRAM	Ramesheh	4.01	100	ePn	Pn	18 23 55.2	0.0
QSDN	Sirdan	4.08	16	ePn	Pn	18 23 56.2	0.0

IDC 19 18:24:03.2±6.2,**20.94N**×**46.01W**,**h0**km,**mb3.6**/3,
mb1 4.0/3,**mb1mx3.5**/42,**mbtmp3.6**/3,**MS3.2**/1,**Ms1 3.2**/1,
ms1mx2.6/35,**Error ellipse: s-maj=149.1km**
s-min=48.3km az=120.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	31.81	244	P	P	18 30 30.1	-0.2
	13nm,0.4s,baz=72,slow=6.4,SNR=2.5						
H10N3	ASCENSION HYDR	42.15	130	T	T	19 15 03.6	
	baz=311,slow=75,SNR=42						
H10N2	ASCENSION HYDR	42.15	129	T	T	19 15 05.0	
	baz=311,slow=75,SNR=48						
H10N1	ASCENSION HYDR	42.16	129	T	T	19 15 04.5	
	baz=311,slow=75,SNR=52						
H10S3	ASCENSION HYDR	42.80	131	T	T	19 15 52.4	
	baz=310,slow=74,SNR=61						
H10S2	ASCENSION HYDR	42.81	131	T	T	19 15 53.8	
	baz=270,slow=74,SNR=23						
TXAR	Lajitas Array	52.42	291	P	P	18 33 18.6	+0.7
	0.3nm,0.8s,baz=104,slow=7.5,SNR=3.3						
PDAR	Pinedale Array	56.84	308	P	P	18 33 49.1	-0.9
	0.2nm,0.2s,baz=81,slow=11,SNR=3.9						
PDAR				LR	LR	18 57 05.3	
	comp=Z,24nm,21.1s,baz=152,slow=35						
ILAR	Eielson Array	75.79	334	P	P	18 35 51.0	+0.2
	0.9nm,0.8s,baz=68,slow=4.8,SNR=6.6						

TEH ***19*** *18:29:18.8,32.66N×47.69E,h12km, ML2.8*
ISN ***19*** *18:29:18.3±0.3,32.67N×47.69E,h16km±2km, ML2.5*
ISC 19 18:29:18.9±1.2,**32.60N**±0.07×**47.70E**±0.06,**h10**km,**n12**,
σ0**76**/15,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.36	283	ePg	Pg	18 29 26.2	+0.1
IKFM	Kafar-mosalman	0.93	8	ePg	Pg	18 29 36.4	-0.4
IKFM				e		18 29 40.1	
IKMR	Kamar-syah	1.08	32	ePg	Pg	18 29 38.7	-1.0
IKMR				e		18 29 41.5	
IDOB	Doab	1.25	19	ePg	Pb	18 29 42.3	-0.5
IDOB				e		18 29 44.9	
BMDN	Meydan	1.43	41	ePg	Pn	18 29 45.9	+0.8
BMDN				e		18 29 50.1	
IBDR	Badra	1.57	289	ePg	Pn	18 29 46.5	-0.4
IBDR				eSg	Sn	18 30 07.2	-0.1
IBDR				AML	AML	18 30 13.8	
	comp=E,80nm,0.7s						
IBDR				AML	AML	18 30 14.2	
	comp=N,72nm,0.4s						
IKOM	Komasi	1.58	354	ePg	Pn	18 29 47.9	+0.8
IKOM				e		18 29 52.3	
KCHF	Cheshme Sefid,	1.76	342	ePg	Pn	18 29 50.9	+1.2
KCHF				e		18 30 23.3	
IBZA	Bozab	1.87	4	ePg	Pn	18 29 52.6	+1.4
IBZA				e		18 29 56.3	
NSR	Nassriya	2.07	220	ePn	Pn	18 29 54.0	+0.3
NSR				eSn	Sn	18 30 20.0	+0.5
HAGD	Aghdareh	2.52	28	e		18 30 07.3	
HAGD				ePg	Pb	18 30 04.2	-0.2
BHD	Baghdad	2.87	284	ePn	Pn	18 30 05.0	+0.3
BHD				eSn	Sn	18 30 39.0	-0.3

NIC ***19*** *18:36:48.4±0.0,35.81N×28.12E,h6km±7km, Ml2.3/1*
ATH ***19*** *18:36:49.5,35.87N×28.26E,h15km±5km, ML2.4/1, Error ellipse: s-maj=5.8km s-min=1.4km az=14.0*
ISK ***19*** *18:36:49.4,35.90N×28.29E,h12km, ML2.6/8*
DDA ***19*** *18:36:50.8,35.97N×28.24E,h12km±1km, ML2.3*
ISC 19 18:36:49.4±1.3,**35.95N**±0.03×**28.23E**±0.03,**h4**km±11km,
n29,σ1**04**/44,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.28	342	P	Pb	18 36 56.8	-0.2
ARG				S	Sb	18 37 01.9	0.0
ARG				AML	AML	18 37 02.3	
	comp=N,1614µm,0.6s						
ARG				AML	AML	18 37 03.1	
	comp=E,1483µm,0.3s						
ARG	Arkhangelos	0.28	342	PG	Pb	18 36 56.8	-0.2
ARG				SG	Sb	18 37 02.0	0.0
ARG	Arkhangelos	0.28	342	P	Pb	18 36 56.7	-0.2
ARG				S	Sb	18 37 02.3	+0.3
TURN	Turunc	0.82	1	PG	Pb	18 37 06.6	-2.1
TURN				SG	Sg	18 37 18.9	-1.6
TURN	Turunc	0.82	1	*i* P	Pb	18 37 06.4	-2.3
TURN				*i* S	Sg	18 37 17.5	-3.0
TURN				IAML		18 37 24.0	
	comp=E,75nm,0.3s						
DALY	Dalyan (Mula)	0.93	21	PG	Pb	18 37 08.2	+0.2
DALY				SG	Sn	18 37 21.9	-1.0
DALY	Dalyan (Mula)	0.93	21	*i* P	Pb	18 37 08.0	0.0
DALY				*i* S	Sb	18 37 20.7	0.0
DAT	Datca	0.94	326	PG	Pn	18 37 09.2	-0.2
DAT				SG	Sn	18 37 23.8	+0.5
DAT	Datca	0.94	326	*i* P	Pb	18 37 08.6	+0.3
DAT				*i* S	Sg	18 37 19.9	+0.4
KARP	Karpathos	0.96	245	P	Pg	18 37 07.5	-0.3
KARP	Karpathos	0.96	245	PG	Pn	18 37 08.6	-1.0
FETY	Fethiye	0.97	45	PG	Pg	18 37 08.6	+0.6
FETY				SG	Sn	18 37 22.5	-1.5
FETY	Fethiye	0.97	45	*i* P	Pg	18 37 08.5	+0.5
FETY				*i* S	Sn	18 37 23.1	-0.9
KSL	Kastellorizon	1.11	79	P	Pb	18 37 10.4	-0.8
KSL	Kastellorizon	1.11	79	P	Pg	18 37 11.9	+1.1
KSL				S	Sn	18 37 29.8	+2.3
KSL				AML	AML	18 37 30.8	
	comp=E,0.2nm,0.9s						
KSL				AML	AML	18 37 30.8	
	comp=E,0.2nm,0.9s						
KSL				AML	AML	18 37 32.6	
	comp=E,0.2nm,0.6s						
KSL				AML	AML	18 37 32.6	
	comp=E,0.2nm,0.6s						
AKAS	Kas	1.15	75	*i* P	Pg	18 37 12.7	+1.3
AKAS				*i* S	Sn	18 37 28.2	-0.3
AKAS				IAML		18 37 34.0	
	comp=N,51nm,0.5s						
YER	Yerkesik	1.18	2	PN	Pg	18 37 13.0	+0.9
YER				SN	Sn	18 37 30.1	+0.8
BODT	Bodrum	1.33	327	PN	Pg	18 37 15.5	+0.5
ELL	Elmali	1.57	59	P	Pb	18 37 19.3	+0.2
TAVA	DENIZLI_Tavas	1.61	20	*i* P	Pb	18 37 20.0	+0.4
TAVA				*i* S	Sg	18 37 42.5	+1.4
GOLH	Golhisar	1.67	39	*i* P	Pn	18 37 21.1	+0.3
AYDN	Tasoluk	1.73	351	*i* P	Pn	18 37 20.6	+0.3
AKUM	Antalya-Kumluc	1.75	77	*i* P	Pn	18 37 20.7	+0.3
ZKR	Zakros	1.84	244	P	Pb	18 37 23.2	-0.4
NPS	Neapolis	2.24	253	P	Pn	18 37 28.3	+1.0
LAST	Lasithi	2.38	251	P	Pn	18 37 30.1	+0.9
AKMS	Akamas	3.48	104	P	Pn	18 37 43.8	-0.4
ALFC	Alefka	3.65	101	P	Pn	18 37 46.1	-0.6
SZAC	Souni	3.98	106	P	Pn	18 37 51.1	-0.1

DNK ***19*** *18:55:52.1±1.0,51.42N×15.88E,h224km±123km*
VIE ***19*** *18:55:52.9±0.7,51.56N×16.15E,h0km, mb2.3/5, ml2.7/5, Error ellipse: s-maj=8.4km s-min=3.2km az=56.0 79 km NW of Wroclaw Suspected Mining induced.*
IPEC ***19*** *18:55:53.1±0.3,51.58N×16.23E,h0km, ML1.9/4, Error ellipse: s-maj=3.2km s-min=1.6km az=60.0*
PRU ***19*** *18:55:53.8±0.0,51.56N×16.09E,h0km*
ISC 19 18:55:53.4±1.1,**51.52N**±0.05×**16.11E**±0.02,**h0**km,**n32**,
σ0**89**/68,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	170	*i* Pg	Pb	18 56 07.6	-0.7
KSP				eSg	Sb	18 56 17.1	-1.2
CHVC	Chvalec	0.93	182	ePG	Pb	18 56 12.4	-0.1
CHVC				eSG	Sb	18 56 25.1	-0.3
	comp=Z,59nm,0.4s						
OSTC	Ostas	0.97	176	ePG	Pb	18 56 12.9	-0.1
OSTC				eSG	Sb	18 56 26.2	-0.2
	comp=Z,42nm,0.4s						
UPC	Upice	1.02	183	ePG	Pb	18 56 13.6	-0.3
UPC				eSG	Sb	18 56 27.4	-0.4
DPC	Dobruska-Polom	1.18	173	ePG	Pb	18 56 16.4	-0.3
PVCC	Panska Ves	1.39	225	ePG	Pb	18 56 20.6	+0.4
PVCC				eSG	Sn	18 56 39.8	+0.7
	comp=Z,154nm,0.3s						
BRG	Berggiesshubel	1.51	245	PN	Pn	18 56 21.4	-0.2
BRG				PG	Pb	18 56 22.2	0.0
BRG				SG	Sn	18 56 42.6	+0.6
	46nm,0.3s						
KRLC	Kraliky	1.51	163	ePG	Pn	18 56 21.4	-0.3
KRLC				eSG	Sn	18 56 42.2	+0.1
	comp=Z,22nm,0.4s						
GOPC	GO Pecny, Ondr	1.81	208	ePG	Pb	18 56 27.5	0.0
GOPC				eSG	Sg	18 56 51.7	+0.1
	comp=Z,20nm,0.7s						
PRU	Pruhonice	1.83	214	ePN	Pn	18 56 26.1	0.0
PRU				ePG	Pg	18 56 28.5	+0.1
PRU				eSG	Sg	18 56 52.2	+0.1
	comp=Z,26nm,0.3s						
CLL	Collm	1.96	265	ePn	Pn	18 56 27.0	-0.8
CLL				*i* Pg	Pb	18 56 29.8	-0.1
CLL				e		18 56 34.0	
CLL				eSg	Sg	18 56 56.0	-0.2
	comp=Z,17nm,0.3s						
MORC	Moravsky Berou	1.97	152	ePN	Pn	18 56 27.6	-0.5
MORC				eSG	Sb	18 56 55.7	+0.4
MORC	Moravsky Berou	1.97	152	ePn	Pn	18 56 27.5	-0.5
	baz=336						
MORC				eSg	Sb	18 56 55.6	+0.3
	comp=Z,9.2nm,0.2s,baz=336						
OKC	Ostrava-Krasne	2.13	142	ePG	Pb	18 56 32.9	+0.1
VRAC	Vranov	2.24	172	ePN	Pn	18 56 32.2	+0.5
VRAC				eSG	Sg	18 57 04.7	-0.5
VRAC	Vranov	2.24	172	ePn	Pn	18 56 32.1	+0.4
	baz=354						
VRAC				eSg	Sg	18 57 04.7	-0.5
	comp=Z,7.8nm,0.1s,baz=354						
TREC	Trest	2.26	190	ePN	Pn	18 56 32.5	+0.4
TREC				ePG	Pg	18 56 36.1	-0.7
TREC				eSG	Sg	18 57 05.8	-0.3
	comp=Z,17nm,0.4s						

DHL1				*e*Pg		**Pg**	**18 59 06.9**	**+0.9**
IKFM	**Kafar-mosalman**	**0.86**	**4**	*e*Pg		**Pg**	**18 59 13.1**	**-1.3**
IKFM				*e*			18 59 38.4	
IKMR	**Kamar-syah**	**0.99**	**30**	*e*Pg		**Pg**	**18 59 15.1**	**-1.8**
IKMR				*e*			18 59 33.5	
IDOB	**Doab**	**1.17**	**16**	*e*Pg		**Pb**	**18 59 19.0**	**-1.2**
BMDN	**Meydan**	**1.34**	**41**	*e*Pg		**Pn**	**18 59 22.1**	**-0.5**
AHWZ	**Ahwaz**	**1.52**	**151**	*e*Pg		**Pn**	**18 59 27.5**	**+2.6**
IKOM	**Komasi**	**1.53**	**352**	*e*Pg		**Pn**	**18 59 26.1**	**+0.9**
IKOM				*e*			18 59 27.9	
IBDR	**Badra**	**1.62**	**287**	*e*Pg		**Pn**	**18 59 27.0**	**+0.7**
IBDR				*e*Sg		**Sg**	**18 59 50.0**	**+0.2**
IBDR				AML	AML		18 59 59.9	
	comp=N,199nm,0.5s							
IBDR				AML	AML		19 00 09.5	
	comp=E,344nm,0.8s							
HSAM	**Samen**	**1.69**	**24**	*e*Pg		**Pn**	**18 59 29.2**	**+1.6**
HSAM				*e*			18 59 59.6	
KCHF	**Cheshme Sefid,**	**1.73**	**339**	*e*Pn		**Pn**	**18 59 29.6**	**+1.6**
KCHF				*e*			18 59 58.7	
KER	**Kermanshah**	**1.80**	**343**	*e*Pn		**Pn**	**18 59 30.8**	**+1.8**
IBZA	**Bozab**	**1.81**	**2**	*e*Pg		**Pn**	**18 59 31.5**	**+2.3**
IBZA				*e*			18 59 57.4	
IGHG	**Ghaleghazi**	**1.95**	**329**	*e*Pn		**Pn**	**18 59 32.9**	**+1.8**
IGHG				*e*			19 00 20.6	
IVIS	**Veis**	**2.02**	**338**	*e*Pn		**Pn**	**18 59 34.2**	**+2.3**
IVIS				*e*			19 00 06.7	
NSR	**Nassriya**	**2.16**	**221**	*e*Pn		**Pn**	**18 59 32.0**	**-1.7**
NSR				*e*Sn		**Sn**	**18 59 59.0**	**-1.5**
IALM	**Almabolaq**	**2.22**	**8**	*e*Pn		**Pn**	**18 59 37.1**	**+2.3**
IDHR	**Dehrash**	**2.34**	**331**	*e*Pn		**Pn**	**18 59 39.1**	**+2.6**
IDHR				*e*			18 59 45.8	
ILIN	**Lien**	**2.35**	**343**	*e*			19 00 25.6	
HAGD	**Aghdareh**	**2.44**	**27**	*e*Pn		**Pn**	**18 59 39.7**	**+1.9**
HAGD				*e*			19 00 17.8	
JHBN	**Jahan bin**	**2.48**	**99**	*e*Pn		**Pn**	**18 59 40.0**	**+1.6**
JHBN				*e*			19 00 21.5	
HSRG	**Sareghieh**	**2.61**	**9**	*e*Pn		**Pn**	**18 59 42.6**	**+2.4**
HSRG				*e*			19 00 30.8	
IPIR	**Pirpir**	**2.63**	**89**	*e*Pn		**Pn**	**18 59 42.5**	**+2.0**
IPIR				*e*			19 00 30.8	
ROKH	**ROKH**	**2.77**	**96**	*e*Pn		**Pn**	**18 59 44.3**	**+1.9**
BHD	**Baghdad**	**2.92**	**283**	*e*Pn		**Pn**	**18 59 45.0**	**+0.8**
BHD				*e*Sn		**Sn**	**19 00 18.0**	**-1.3**
IKLH	**Kolahrood**	**3.26**	**77**	*e*Pn		**Pn**	**18 59 51.4**	**+2.2**
IRAZ	**Razeghan**	**3.27**	**33**	*e*Pn		**Pn**	**18 59 51.2**	**+2.0**
QABG	**Abgarm-Qazvin**	**3.39**	**26**	*e*Pn		**Pn**	**18 59 51.8**	**+0.9**
IGAR	**Gharneh**	**3.61**	**93**	*e*Pn		**Pn**	**18 59 55.2**	**+1.3**
IGAR				*e*			19 00 06.5	
KLNJ	**Kolanjah**	**3.64**	**116**	*e*Pn		**Pn**	**18 59 55.9**	**+1.5**
KLNJ				*e*			19 01 08.3	
IZEF	**Zefreh**	**3.84**	**85**	*e*Pn		**Pn**	**18 59 59.3**	**+2.2**
IRAM	**Ramesheh**	**3.99**	**101**	*e*Pn		**Pn**	**19 00 00.9**	**+1.7**
QSDN	**Sirdan**	**4.00**	**16**	*e*Pn		**Pn**	**19 00 01.4**	**+2.0**
QALM	**Alamut, Qazvin**	**4.45**	**31**	*e*Pn		**Pn**	**19 00 06.4**	**+1.0**
IDMV	**Damavand**	**4.57**	**49**	*e*Pn		**Pn**	**19 00 08.5**	**+1.3**
ANAR	**Anarak**	**5.03**	**82**	*e*Pn		**Pn**	**19 00 14.7**	**+1.3**

IDC 19 19:04:37.0±61.0, **20.96S**×**178.76E**, **h0**km, **mb3.7**/3, **mb1 3.9**/3, **mb1mx3.6**/25, **mbtmp3.7**/3, **Error ellipse: s-maj=1095.0km s-min=156.5km az=82.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.85**	**244**	P	P	19 11 29.6	-0.5
	0.7nm,0.5s,baz=80,slow=12,SNR=1.8						
ASAR	**Alice Springs**	**41.46**	**258**	P	P	19 12 25.6	-0.3
	0.9nm,0.6s,baz=97,slow=8.4,SNR=16						
WRA	**Warramunga Arr**	**41.53**	**263**	P	P	19 12 26.8	+0.3
	0.3nm,0.3s,baz=96,slow=7.9,SNR=32						

ISN ***19*** *19:04:46.4±1.0, 32.72N×47.56E, h14km±78km, ML3.3*
TEH ***19*** *19:04:46.5, 32.74N×47.58E, h9km, ML3.5*
THR ***19*** *19:04:50.3±0.3, 32.92N×47.69E, h14km±8km, ML3.7*
ISC 19 19:04:47.2±1.2, **32.71N**±0.03×**47.55E**±0.03, **h7**km±10km, **n55**, σ**21**/61, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.23**	**262**	*e*Pg	**Pg**	**19 04 51.4**	**-0.4**
DHL1				*e*Sg	**Sg**	**19 04 56.3**	**+1.4**
IKFM	**Kafar-mosalman**	**0.85**	**17**	*e*Pg	**Pg**	**19 05 02.3**	**-1.2**
IKFM				*e*		19 05 22.9	
IKMR	**Kamar-syah**	**1.06**	**41**	*e*		19 05 26.3	
IKMR				*e*Pg	**Pg**	**19 05 06.1**	**-1.5**
IDOB	**Doab**	**1.20**	**26**	*e*Pg	**Pg**	**19 05 08.6**	**-1.6**
IBDR	**Badra**	**1.42**	**287**	*e*Pg	**Pn**	**19 05 12.0**	**-1.4**
IBDR				*e*Sg	**Sb**	**19 05 32.0**	**-0.2**
IBDR				AML	AML	19 05 38.4	
	comp=E,717nm,0.8s						
IBDR				AML	AML	19 05 41.0	
	comp=N,469nm,0.5s						
BMDN	**Meydan**	**1.44**	**48**	*e*Pg	**Pn**	**19 05 13.6**	**-0.2**
BMDN				*e*		19 05 40.7	
IKOM	**Komasi**	**1.46**	**359**	*e*Pg	**Pn**	**19 05 14.2**	**+0.1**
IKOM				*e*		19 05 18.6	
IKOM				*e*Sg	**Sg**	**19 05 34.9**	**+0.7**
KCHF	**Cheshme Sefid,**	**1.62**	**345**	*e*Pg	**Pb**	**19 05 17.4**	**-0.1**
AHWZ	**Ahwaz**	**1.66**	**146**	*e*Pg	**Pg**	**19 05 18.5**	**-0.6**
KER	**Kermanshah**	**1.71**	**348**	*e*Pn	**Pb**	**19 05 19.1**	**+0.2**
HSAM	**Samen**	**1.74**	**30**	*e*Pg	**Pb**	**19 05 19.3**	**-0.2**
HSAM				*e*		19 05 47.2	
IBZA	**Bozab**	**1.77**	**8**	*e*Pg	**Pb**	**19 05 19.9**	**-0.3**
IBZA				*e*		19 05 27.3	
IGHG	**Ghaleghazi**	**1.81**	**333**	*e*Pg	**Pb**	**19 05 20.1**	**-0.7**
IGHG				*e*		19 05 50.3	
IVIS	**Veis**	**1.90**	**342**	*e*Pn	**Pn**	**19 05 20.7**	**+0.6**
NSR	**Nassriya**	**2.08**	**216**	*e*Pn	**Pn**	**19 05 22.0**	**-0.4**
NSR				*e*Sn	**Sn**	**19 05 48.0**	**-0.5**
IALM	**Almabolaq**	**2.20**	**13**	*e*Pn	**Pn**	**19 05 26.1**	**+1.7**
IDHR	**Dehrash**	**2.21**	**334**	*e*Pn	**Pn**	**19 05 25.2**	**+0.8**
IDHR				*e*		19 06 01.5	
ILIN	**Lien**	**2.25**	**348**	*e*Pn	**Pn**	**19 05 26.2**	**+1.1**
ILIN				*e*		19 06 05.1	
KHMZ	**Khomeyn**	**2.27**	**62**	*e*Pn	**Pn**	**19 05 26.9**	**+1.7**
KHMZ	**Khomeyn**	**2.27**	**62**	*e*Pn	**Pn**	**19 05 26.9**	**+1.7**
SNGE	**Sanandaj**	**2.38**	**356**	*e*Pn	**Pn**	**19 05 28.4**	**+1.6**
SNGE				*e*Sg	**Sb**	**19 05 59.2**	**-1.0**
SNGE	**Sanandaj**	**2.38**	**356**	*e*Pn	**Pn**	**19 05 28.4**	**+1.6**
HAGD	**Aghdareh**	**2.49**	**32**	*e*Pn	**Pn**	**19 05 28.8**	**+0.5**
HAGD				*e*		19 06 09.7	
HSRG	**Sareghieh**	**2.59**	**13**	*e*Pn	**Pn**	**19 05 31.6**	**+1.8**
HSRG				*e*		19 06 16.6	
JHBN	**Jahan bin**	**2.68**	**99**	*e*Pn	**Pn**	**19 05 31.8**	**+0.8**
JHBN				*e*		19 06 18.8	
BHD	**Baghdad**	**2.72**	**283**	*e*Pg	**Pb**	**19 05 36.0**	**-0.2**
BHD				*e*Sg	**Sb**	**19 06 11.0**	**+1.3**
ASAO	**Ashtian**	**2.76**	**48**	*e*Pn	**Pn**	**19 05 33.3**	**+1.2**
ASAO				*e*Sg	**Sb**	**19 06 09.8**	**-1.3**
ASAO				IAML		19 06 22.3	
	comp=N,99nm,0.6s						
ASAO	**Ashtian**	**2.76**	**48**	*e*Pn	**Pn**	**19 05 33.3**	**+1.2**
IPIR	**Pirpir**	**2.82**	**90**	*e*Pn	**Pn**	**19 05 34.1**	**+1.2**
IPIR				*e*		19 06 12.7	
ROKH	**ROKH**	**2.97**	**96**	*e*Pn	**Pn**	**19 05 36.0**	**+1.1**
ROKH				*e*		19 06 35.9	
IRAZ	**Razeghan**	**3.33**	**36**	*e*Pn	**Pn**	**19 05 40.9**	**+1.0**
QABG	**Abgarm-Qazvin**	**3.43**	**29**	*e*Pn	**Pn**	**19 05 42.0**	**+0.7**
IKLH	**Kolahrood**	**3.44**	**79**	*e*Pn	**Pn**	**19 05 42.6**	**+1.2**
IKLH				*e*		19 06 48.2	
IGAR	**Gharneh**	**3.81**	**93**	*e*Pn	**Pn**	**19 05 47.1**	**+0.7**
KLNJ	**Kolanjah**	**3.84**	**115**	*e*Pn	**Pn**	**19 05 47.1**	**+0.2**
KLNJ				*e*		19 07 04.5	
QSDN	**Sirdan**	**4.01**	**19**	*e*Pn	**Pn**	**19 05 51.2**	**+1.9**
IZEF	**Zefreh**	**4.03**	**86**	*e*Pn	**Pn**	**19 05 50.5**	**+1.0**
ZNJK	**Zanjan**	**4.06**	**13**	*e*Pn	**Pn**	**19 05 51.1**	**+1.2**
ZNJK	**Zanjan**	**4.06**	**13**	*e*Pn	**Pn**	**19 05 51.1**	**+1.2**
IRAM	**Ramesheh**	**4.19**	**101**	*e*Pn	**Pn**	**19 05 52.0**	**+0.3**
CHTH	**Charan**	**4.35**	**42**	*e*Pn	**Pn**	**19 05 55.2**	**+1.3**
CHTH	**Charan**	**4.35**	**42**	*e*Pn	**Pn**	**19 05 55.2**	**+1.3**
QALM	**Alamut, Qazvin**	**4.50**	**34**	*e*Pn	**Pn**	**19 05 56.3**	**+0.2**
DAMV	**Damavand**	**4.68**	**50**	*e*Pn	**Pn**	**19 05 59.6**	**+1.2**
DAMV	**Damavand**	**4.68**	**50**	*e*Pn	**Pn**	**19 05 59.6**	**+1.2**
IDMV	**Damavand**	**4.69**	**51**	*e*Pn	**Pn**	**19 05 59.3**	**+0.7**
IFIR	**Firoozkooh**	**5.21**	**54**	*e*Pn	**Pn**	**19 06 06.3**	**+0.5**
ANAR	**Anarak**	**5.22**	**83**	*e*Pn	**Pn**	**19 06 05.6**	**-0.1**
ISAD	**Sadrabad**	**5.26**	**97**	*e*Pn	**Pn**	**19 06 06.2**	**-0.2**
IPRN	**Peran**	**5.29**	**47**	*e*Pn	**Pn**	**19 06 08.0**	**+1.2**
IHRS	**Heris**	**5.61**	**356**	*e*Pn	**Pn**	**19 06 13.0**	**+1.8**
ISHM	**Shahmirzad**	**5.67**	**55**	*e*Pn	**Pn**	**19 06 12.6**	**+0.5**
YZKH	**Yazd**	**5.96**	**91**	*e*Pn	**Pn**	**19 06 18.9**	**+3.1**
YZKH	**Yazd**	**5.96**	**91**	*e*Pn	**Pn**	**19 06 18.9**	**+3.1**
KRBR	**Kerman**	**8.33**	**107**	IAML		19 06 50.5	
	comp=N,16nm,0.2s						

MEX 19 19:15:33.5±0.3, **14.18N**×**93.39W**, **h16**km±999km, **MD3.6, Near coast of Chiapas**

SNET ***19*** *19:33:39.5±1.0, 13.18N×89.27W, h57km±5km, ML4.1*
UCR ***19*** *19:33:39.6±1.1, 13.18N×89.26W, h57km±5km, ML4.1*
INET ***19*** *19:33:40.2, 13.16N×89.24W, h43km, ML4.0*
GCG ***19*** *19:33:42.2±0.7, 13.33N×89.36W, h23km, MD4.0*
ISC 19 19:33:41.0±1.5, **13.18N**±0.07×**89.23W**±0.04, **h48**km±10km, **n60**, σ**0.77**/95, **1C-12D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.32**	**344**	*e*P	**Pn**	**19 33 49.5**	**-0.6**
LALI				*e*S	**Sn**	**19 33 56.4**	**-0.2**
LALI				IAML		19 33 56.9	
	comp=Z,9μm,0.5s						
LALI	**Alcalda de L**	**0.32**	**344**	*e*P	**Pn**	**19 33 49.5**	**-0.6**
LALI				*e*S	**Sn**	**19 33 56.4**	**-0.2**
LALI				IAML		19 33 56.9	
	comp=Z,9μm,0.5s						
LFRS	**El Faro**	**0.47**	**20**	*i*P	**Pn**	**19 33 51.2**	**-0.7**
LFRS	**El Faro**	**0.47**	**20**	*i*P	**Pn**	**19 33 51.2**	**-0.7**
SNET	**Serv Nac Est T**	**0.51**	**0**	*e*P	**Pn**	**19 33 51.6**	**-0.7**
SNET				*e*S	**Sn**	**19 34 00.8**	**+0.5**
SNET				IAML		19 34 01.9	
	comp=Z,10μm,0.2s						
SNET	**Serv Nac Est T**	**0.51**	**0**	*e*P	**Pn**	**19 33 51.6**	**-0.7**
SNET				*e*S	**Sn**	**19 34 00.8**	**+0.5**
SNET				IAML		19 34 01.9	
	comp=Z,10μm,0.2s						
AEIL	**Aeropuerto Ilo**	**0.53**	**12**	*i*P	**Pn**	**19 33 52.2**	**-0.3**
AEIL				*e*S	**Sn**	**19 34 02.4**	**+1.5**
AEIL				IAML		19 34 04.8	
	comp=Z,20μm,0.3s						
AEIL	**Aeropuerto Ilo**	**0.53**	**12**	*i*P	**Pn**	**19 33 52.2**	**-0.3**
AEIL				*e*S	**Sn**	**19 34 02.4**	**+1.5**
AEIL				IAML		19 34 04.8	
	comp=Z,20μm,0.3s						
OPAM	**Oficina de Pla**	**0.53**	**4**	*e*P	**Pn**	**19 33 52.3**	**-0.3**
OPAM				*e*S	**Sn**	**19 34 02.2**	**+1.3**
OPAM	**Oficina de Pla**	**0.53**	**4**	*e*P	**Pn**	**19 33 52.3**	**-0.3**
OPAM				*e*S	**Sn**	**19 34 02.2**	**+1.3**
IGN	**Direccin Gen**	**0.54**	**6**	*e*P	**Pn**	**19 33 52.1**	**-0.5**
IGN				*e*S	**Sn**	**19 34 01.9**	**+0.9**
IGN	**Direccin Gen**	**0.54**	**6**	*e*P	**Pn**	**19 33 52.1**	**-0.5**
IGN				*e*S	**Sn**	**19 34 01.9**	**+0.9**
UEES	**Universidad Ev**	**0.54**	**359**	*e*P	**Pn**	**19 33 51.9**	**-0.7**
UEES				*e*S	**Sn**	**19 34 01.6**	**+0.6**
UEES				IAML		19 34 03.1	
	comp=Z,16μm,0.2s						
UEES	**Universidad Ev**	**0.54**	**359**	*e*P	**Pn**	**19 33 51.9**	**-0.7**
UEES				*e*S	**Sn**	**19 34 01.6**	**+0.6**
UEES				IAML		19 34 03.1	
	comp=Z,16μm,0.2s						
UDBS	**Universidad Do**	**0.54**	**8**	*e*P	**Pn**	**19 33 52.2**	**-0.5**
UDBS				*e*S	**Sn**	**19 34 01.8**	**+0.8**
UDBS				IAML		19 34 05.7	
	comp=Z,12μm,0.2s						
UDBS	**Universidad Do**	**0.54**	**8**	*e*P	**Pn**	**19 33 52.2**	**-0.5**
UDBS				*e*S	**Sn**	**19 34 01.8**	**+0.8**
UDBS				IAML		19 34 05.7	
	comp=Z,12μm,0.2s						
BOQS	**Boqueron**	**0.56**	**355**	*i*P	**Pn**	**19 33 52.5**	**-0.6**
BOQS	**Boqueron**	**0.56**	**355**	*i*P	**Pn**	**19 33 52.5**	**-0.6**
LFU	**La Fuente**	**0.58**	**11**	*i*P	**Pn**	**19 33 52.8**	**-0.4**
LFU	**La Fuente**	**0.58**	**11**	*i*P	**Pn**	**19 33 52.8**	**-0.4**
LBRS	**Las Brisas**	**0.59**	**18**	*i*P	**Pn**	**19 33 52.9**	**-0.4**
LBRS	**Las Brisas**	**0.59**	**18**	*i*P	**Pn**	**19 33 52.9**	**-0.4**
PAVA	**Las Pavas**	**0.60**	**28**	*e*P	**Pn**	**19 33 53.0**	**-0.6**
PAVA				*e*S	**Sn**	**19 34 03.4**	**+0.8**
PAVA				IAML		19 34 04.2	
	comp=Z,12μm,0.2s						
PAVA	**Las Pavas**	**0.60**	**28**	*e*P	**Pn**	**19 33 53.0**	**-0.6**
PAVA				*e*S	**Sn**	**19 34 03.4**	**+0.8**
PAVA				IAML		19 34 04.2	
	comp=Z,12μm,0.2s						
ALJI	**Alcalda de J**	**0.66**	**77**	*e*P	**Pn**	**19 33 53.6**	**-0.5**
ALJI				IAML		19 34 03.7	
	comp=Z,10μm,0.1s						
ALJI				*e*S	**Sn**	**19 34 04.5**	**+0.8**
ALJI	**Alcalda de J**	**0.66**	**77**	*e*P	**Pn**	**19 33 53.6**	**-0.5**
ALJI				IAML		19 34 03.7	
	comp=Z,10μm,0.1s						
ALJI				*e*S	**Sn**	**19 34 04.5**	**+0.8**
CEVE	**Cerro Verde**	**0.75**	**329**	*e*P	**Pn**	**19 33 54.7**	**-0.9**
CEVE				*e*S	**Sn**	**19 34 06.5**	**+0.4**
CEVE				IAML		19 34 08.8	
	comp=Z,21μm,0.3s						
CEVE	**Cerro Verde**	**0.75**	**329**	*e*P	**Pn**	**19 33 54.7**	**-0.9**
CEVE				*e*S	**Sn**	**19 34 06.5**	**+0.4**
CEVE				IAML		19 34 08.8	
	comp=Z,21μm,0.3s						
COEB	**Comit de Eme**	**0.75**	**65**	*i*P	**Pn**	**19 33 54.8**	**-0.7**
COEB				*e*S	**Sn**	**19 34 06.4**	**+0.4**
COEB	**Comit de Eme**	**0.75**	**65**	*i*P	**Pn**	**19 33 54.8**	**-0.7**
COEB				*e*S	**Sn**	**19 34 06.4**	**+0.4**
SBLS	**San Blas**	**0.76**	**330**	*e*P	**Pn**	**19 33 54.9**	**-0.8**
SBLS	**San Blas**	**0.76**	**330**	*e*P	**Pn**	**19 33 54.9**	**-0.8**
SNJE	**San Jose**	**0.78**	**332**	*e*P	**Pn**	**19 33 55.0**	**-0.9**
SNJE	**San Jose**	**0.78**	**332**	*e*P	**Pn**	**19 33 55.0**	**-0.9**
TECA	**Tecapa**	**0.78**	**66**	*e*P	**Pn**	**19 33 55.0**	**-0.8**
TECA	**Tecapa**	**0.78**	**66**	*e*P	**Pn**	**19 33 55.0**	**-0.8**
TACO	**Tacachico**	**0.80**	**351**	*e*P	**Pn**	**19 33 54.9**	**-1.1**
TACO				*e*S	**Sn**	**19 34 07.1**	**+0.2**
TACO	**Tacachico**	**0.80**	**351**	*e*P	**Pn**	**19 33 54.9**	**-1.1**
TACO				*e*S	**Sn**	**19 34 07.1**	**+0.2**
NUBE	**Las Nubes**	**0.90**	**324**	*i*P	**Pn**	**19 33 56.2**	**-1.2**
NUBE				*e*S	**Sn**	**19 34 08.8**	**-0.7**
NUBE				IAML		19 34 11.2	
	comp=Z,5μm,0.4s						
NUBE	**Las Nubes**	**0.90**	**324**	*i*P	**Pn**	**19 33 56.2**	**-1.2**
NUBE				*e*S	**Sn**	**19 34 08.8**	**-0.7**
NUBE				IAML		19 34 11.2	
	comp=Z,5μm,0.4s						
LCY	**Lacayo**	**0.94**	**75**	*e*P	**Pn**	**19 33 57.7**	**-0.3**
LCY	**Lacayo**	**0.94**	**75**	*e*P	**Pn**	**19 33 57.7**	**-0.3**
JUCU	**Jucuarn**	**0.96**	**85**	*e*P	**Pn**	**19 33 57.5**	**-0.7**
JUCU				*e*S	**Sn**	**19 34 11.0**	**+0.1**
JUCU				IAML		19 34 12.2	
	comp=Z,6μm,0.2s						
JUCU	**Jucuarn**	**0.96**	**85**	*e*P	**Pn**	**19 33 57.5**	**-0.7**
JUCU				*e*S	**Sn**	**19 34 11.0**	**+0.1**
JUCU				IAML		19 34 12.2	
	comp=Z,6μm,0.2s						
VSM	**San Miguel**	**0.96**	**75**	*e*P	**Pn**	**19 33 58.2**	**-0.2**
VSM	**San Miguel**	**0.96**	**75**	*e*P	**Pn**	**19 33 58.2**	**-0.2**
BLLM	**Bellamira**	**1.00**	**75**	*e*P	**Pn**	**19 33 58.1**	**-0.6**
BLLM	**Bellamira**	**1.00**	**75**	*e*P	**Pn**	**19 33 58.1**	**-0.6**
LLGN	**La Laguna**	**1.02**	**16**	*e*P	**Pn**	**19 33 58.1**	**-0.9**
LLGN	**La Laguna**	**1.02**	**16**	*e*P	**Pn**	**19 33 58.1**	**-0.9**
FAGO	**Alcalda de S**	**1.21**	**65**	*e*P	**Pn**	**19 34 00.5**	**-1.1**
FAGO				*e*S	**Sn**	**19 34 16.7**	**-0.1**
FAGO	**Alcalda de S**	**1.21**	**65**	*e*P	**Pn**	**19 34 00.5**	**-1.1**
FAGO				*e*S	**Sn**	**19 34 16.7**	**-0.1**
MTO3	**Montecristo**	**1.22**	**354**	*i*P	**Pn**	**19 34 01.0**	**-0.9**
MTO3				*e*S	**Sn**	**19 34 17.4**	**+0.1**
MTO3				IAML		19 34 20.6	
	comp=Z,463nm,0.2s						
MTO3	**Montecristo**	**1.22**	**354**	*i*P	**Pn**	**19 34 01.0**	**-0.9**
MTO3				*e*S	**Sn**	**19 34 17.4**	**+0.1**
MTO3				IAML		19 34 20.6	
	comp=Z,463nm,0.2s						
LCND	**La Caada**	**1.31**	**84**	*e*P	**Pn**	**19 34 02.3**	**-0.6**
LCND				*e*S	**Sn**	**19 34 20.4**	**+1.1**
LCND	**La Caada**	**1.31**	**84**	*e*P	**Pn**	**19 34 02.3**	**-0.6**
LCND				*e*P		19 34 02.5	
LCND				*e*S	**Sn**	**19 34 20.4**	**+1.1**
IXG	**Ixpaco**	**1.54**	**310**	*e*P	**Pn**	**19 34 05.6**	**-0.5**
NBG	**Las Nubes**	**1.77**	**322**	*e*P	**Pn**	**19 34 09.6**	**+0.1**
MRL	**Marmol**	**1.94**	**347**	*e*P	**Pn**	**19 34 12.1**	**+0.3**
FUG	**Fuego 3**	**2.01**	**309**	*e*P	**Pn**	**19 34 13.0**	**+0.4**
FUG				*e*S	**Sn**	**19 34 39.3**	**+2.6**

TEH ***19*** *19:46:14.1, 32.72N×47.77E, h8km, ML3.0*
ISN ***19*** *19:46:14.1±1.2, 32.69N×47.75E, h15km±6km, ML2.7*
THR ***19*** *19:46:16.0±0.3, 32.90N×47.75E, h14km±28km, ML3.0*
ISC 19 19:46:14.7±1.3, **32.70N**±0.04×**47.74E**±0.03, **h7**km±11km, **n38**, σ**0.90**/43, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.39**	**267**	*e*Pg	**Pg**	**19 46 22.1**	**-0.2**
DHL1				*e*Sg	**Sg**	**19 46 29.0**	**+1.6**
IKFM	**Kafar-mosalman**	**0.83**	**6**	*e*Pg	**Pg**	**19 46 30.2**	**-0.5**
IKFM				*e*		19 46 45.4	
IKMR	**Kamar-syah**	**0.98**	**33**	*e*Pg	**Pg**	**19 46 32.4**	**-1.1**
IKMR				*e*		19 46 54.1	
IDOB	**Doab**	**1.15**	**18**	*e*Pg	**Pb**	**19 46 36.8**	**-0.2**
BMDN	**Meydan**	**1.33**	**43**	*e*Pg	**Pg**	**19 46 39.2**	**-1.1**
BMDN				*e*		19 46 43.2	
IKOM	**Komasi**	**1.48**	**353**	*e*Pg	**Pb**	**19 46 42.8**	**0.0**
IKOM				*e*		19 46 45.5	
AHWZ	**Ahwaz**	**1.56**	**150**	*e*Pg	**Pn**	**19 46 44.0**	**+1.0**
IBDR	**Badra**	**1.58**	**286**	*e*Pg	**Pn**	**19 46 43.0**	**-0.1**
IBDR				*e*Sg	**Sn**	**19 47 04.0**	**+0.2**
IBDR				AML	AML	19 47 09.4	
	comp=E,140nm,0.4s						
IBDR				AML	AML	19 47 15.7	
	comp=N,113nm,0.5s						
HSAM	**Samen**	**1.67**	**25**	*e*Pg	**Pg**	**19 46 46.0**	**-0.8**
HSAM				*e*		19 46 47.5	
KCHF	**Cheshme Sefid,**	**1.68**	**340**	*e*Pg	**Pn**	**19 46 45.2**	**+0.5**
KCHF				*e*		19 46 51.2	
KER	**Kermanshah**	**1.76**	**343**	*e*Pn	**Pn**	**19 46 46.6**	**+0.8**
IBZA	**Bozab**	**1.77**	**3**	*e*Pg	**Pn**	**19 46 46.8**	**+0.8**
IBZA				*e*		19 47 17.0	
IGHG	**Ghaleghazi**	**1.90**	**329**	*e*Pn	**Pn**	**19 46 48.6**	**+0.8**
IGHG				*e*		19 47 25.2	
IVIS	**Veis**	**1.97**	**338**	*e*Pn	**Pn**	**19 46 49.1**	**+0.4**
IVIS				*e*		19 47 23.4	
KHMZ	**Khomeyn**	**2.13**	**60**	*e*Pn	**Pn**	**19 46 51.9**	**+0.9**
NSR	**Nassriya**	**2.17**	**219**	*e*Pn	**Pn**	**19 46 51.0**	**-0.2**
NSR				*e*Sn	**Sn**	**19 47 17.0**	**-1.3**
IALM	**Almabolaq**	**2.19**	**9**	*e*Pn	**Pn**	**19 46 53.0**	**+1.2**
IDHR	**Dehrash**	**2.29**	**331**	*e*Pn	**Pn**	**19 46 53.7**	**+0.5**
IDHR				*e*		19 46 59.8	
ILIN	**Lien**	**2.31**	**344**	*e*Pn	**Pn**	**19 46 54.1**	**+0.7**
ILIN				*e*		19 46 59.3	
SNGE	**Sanandaj**	**2.41**	**352**	*e*Pn	**Pn**	**19 46 54.4**	**-0.4**
HAGD	**Aghdareh**	**2.42**	**28**	*e*Pn	**Pn**	**19 46 56.1**	**+1.2**
HAGD				*e*		19 47 03.1	
JHBN	**Jahan bin**	**2.52**	**100**	*e*Pn	**Pn**	**19 46 56.9**	**+0.6**
JHBN				*e*		19 47 44.3	
HSRG	**Sareghieh**	**2.58**	**10**	*e*	**Pb**	**19 47 00.8**	**-0.7**
ASAO	**Ashtian**	**2.65**	**45**	*e*Pn	**Pn**	**19 46 58.5**	**+0.3**
ASAO				*e*Sg	**Sb**	**19 47 34.7**	**-0.9**
IPIR	**Pirpir**	**2.66**	**89**	*e*Pn	**Pn**	**19 46 58.9**	**+0.6**
IPIR				*e*		19 47 42.7	
ROKH	**ROKH**	**2.81**	**96**	*e*Pn	**Pn**	**19 47 01.0**	**+0.8

KVLA	**Kavala**	**0.90**	**74**	P	Pb	20 02 09.5	+0.4	
KVLA				S	Sg	20 02 20.5	-0.1	
KAVA	**Kavala**	**1.01**	**72**	P	Pb	20 02 10.2	-0.7	
KAVA	**Kavala**	**1.01**	**72**	P	Pb	20 02 10.5	-0.4	
KAVA				S	Sg	20 02 24.0	0.0	
KAVA				AML	AML	20 02 25.7		
	comp=E,244μm,0.4s							
KAVA				AML	AML	20 02 28.9		
	comp=N,182μm,0.5s							
THAS	**Thassos island**	**1.13**	**94**	P	Pg	20 02 13.2	0.0	
THAS				S	Sg	20 02 28.0	+0.2	
	comp=N,75nm,0.3s							
THAS	**Thassos island**	**1.13**	**94**	P	Pg	20 02 13.2	0.0	
THAS				S	Sb	20 02 27.1	-0.4	
THAS				AML	AML	20 02 29.7		
	comp=E,168μm,0.4s							
THAS				AML	AML	20 02 31.2		
	comp=N,137μm,0.2s							
KZN	**Kozani**	**1.19**	**251**	P	Pn	20 02 14.2	+0.1	
STIP	**Stip**	**1.27**	**322**	*i* Pg	Pn	20 02 13.9	-1.3	
STIP				*i* Sg	Sb	20 02 30.5	-1.3	
STIP				*e*Lg	Lg	20 02 34.4		
	comp=N,11nm,0.4s							
STIP	**Stip**	**1.27**	**322**	*i* Pg	Pn	20 02 13.8	-1.4	
STIP				*i* Sg	Sb	20 02 30.4	-1.5	
XOR	**Xorichti**	**1.33**	**182**	P	Pn	20 02 15.7	-0.3	
XOR				S	Sb	20 02 33.0	-0.5	
	comp=N,42nm,0.4s							

*JMA **19** 20:19:54.3±0.1,24°.43N×122°.13E,h67km±2km,M2.8*
*TAP **19** 20:19:54.3,24°.51N×122°.11E,h66km,ML3.3,C*
ISC 19 20:19:54.7±1.2,**24°.52N**±0°.02×**122°.14E**±0°.02,**h63**km±6km,
n108,σ1§16/203,5C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.28**	**289**	⇑*i*P	**Pn**	**20 20 05.0**	**0.0**
	baz=293						
TWC				S	**Sn**	**20 20 12.7**	**+0.2**
	baz=293						
ENAH	**Nanao**	**0.31**	**257**	⇑*i*P	**Pn**	**20 20 05.3**	**+0.1**
	baz=254						
ENAH				S	**Sn**	**20 20 13.2**	**+0.4**
	baz=254						
ENA	**Nanau**	**0.38**	**256**	⇑*i*P	**Pn**	**20 20 05.8**	**+0.1**
	baz=252						
ENA				*i* S	**Sn**	**20 20 14.2**	**+0.5**
	baz=252						
EGS		**0.38**	**330**	⇓P	**Pn**	**20 20 05.9**	**+0.2**
	baz=341						
ILA	**Ilan**	**0.43**	**305**	P	**Pn**	**20 20 06.7**	**+0.5**
	baz=308						
ILA				S	**Sn**	**20 20 15.7**	**+1.0**
	baz=308						
NTC	**Toucheng**	**0.44**	**320**	P	**Pn**	**20 20 06.3**	**-0.1**
	baz=326						
NTC				*e*S	**Sn**	**20 20 14.6**	**-0.2**
	baz=326						
TWE	**Neicheng**	**0.48**	**295**	P	**Pn**	**20 20 07.1**	**+0.4**
	baz=298						
TWE				*e*S	**Sn**	**20 20 16.0**	**+0.6**
	baz=298						
TWB1	**Santiao Chiao**	**0.51**	**344**	⇑P	**Pn**	**20 20 06.8**	**-0.2**
	baz=348						
TWB1				S	**Sn**	**20 20 15.2**	**-0.7**
	baz=348						
TIPB	**Shuangxi**	**0.54**	**328**	⇑P	**Pn**	**20 20 07.2**	**-0.2**
	baz=337						
TIPB				*e*S	**Sn**	**20 20 16.1**	**-0.5**
	baz=337						
ENTT	**Nioudou**	**0.54**	**283**	P	**Pn**	**20 20 08.0**	**+0.6**
	baz=290						
ENTT				*e*S	**Sn**	**20 20 17.5**	**+1.0**
	baz=290						
NDT	**Datong Townshi**	**0.58**	**279**	*i* P	**Pn**	**20 20 08.4**	**+0.6**
	baz=275						
NDT				*i* S	**Sn**	**20 20 17.9**	**+0.6**
	baz=275						
NACB	**Ninganchiao**	**0.60**	**236**	P	**Pn**	**20 20 07.5**	**-0.6**
	baz=228						
NACB				S	**Sn**	**20 20 17.1**	**-0.7**
	baz=228						
NWLT	**Wulai**	**0.64**	**294**	P	**Pn**	**20 20 09.2**	**+0.8**
	baz=296						
NWLT				S	**Sn**	**20 20 19.7**	**+1.2**
	baz=296						
WFSB	**Wu-fen Shan**	**0.64**	**329**	*e*P	**Pn**	**20 20 08.8**	**+0.3**
	baz=331						
WFSB				*e*S	**Sn**	**20 20 18.1**	**-0.4**
	baz=331						
TWD	**Chiawan**	**0.66**	**229**	*e*P	**Pn**	**20 20 08.2**	**-0.5**
	baz=228						
TWD				*e*S	**Sn**	**20 20 18.6**	**-0.3**
	baz=228						
ETLH	**Xiulin Townshi**	**0.68**	**243**	*e*P	**Pn**	**20 20 08.6**	**-0.3**
	baz=236						
ETLH				*e*S	**Sn**	**20 20 18.8**	**-0.6**
	baz=236						
TWA	**Mucha**	**0.68**	**312**	*e*P	**Pn**	**20 20 09.0**	**0.0**
	baz=323						
TWA				*e*S	**Sn**	**20 20 19.2**	**-0.2**
	baz=323						
NNSB	**Datong**	**0.70**	**263**	*e*P	**Pn**	**20 20 09.2**	**-0.1**
	baz=257						
NNSB				*e*S	**Sn**	**20 20 19.8**	**-0.1**
	baz=257						
NNSH	**Datong**	**0.70**	**263**	*e*P	**Pn**	**20 20 09.1**	**-0.1**
	baz=257						
NNSH				S	**Sn**	**20 20 19.7**	**-0.2**
	baz=257						
NNS	**Nan Shan**	**0.70**	**264**	*e*P	**Pn**	**20 20 09.2**	**-0.1**
	baz=258						
NNS				*e*S	**Sn**	**20 20 19.9**	**-0.2**
	baz=258						
YHNB	**Yeheng**	**0.71**	**282**	*e*P	**Pn**	**20 20 09.7**	**+0.3**
	baz=283						
YHNB				*e*S	**Sn**	**20 20 20.1**	**-0.1**
	baz=283						
HWA	**Hwalien**	**0.73**	**222**	*e*P	**Pn**	**20 20 09.5**	**0.0**
	baz=221						
HWA				*e*S	**Sn**	**20 20 20.6**	**+0.3**
	baz=221						
NSK	**Sanguang**	**0.73**	**283**	*e*P	**Pn**	**20 20 09.8**	**+0.3**
	baz=284						
NSK				*e*S	**Sn**	**20 20 20.0**	**-0.5**
	baz=284						
JYNG	**Yonagunijimaku**	**0.74**	**95**	P	**Pn**	**20 20 09.7**	**+0.1**
JYNG				S	**Sn**	**20 20 20.7**	**+0.2**
TAP	**Taipei**	**0.78**	**312**	*e*P	**Pn**	**20 20 09.3**	**-0.7**
	baz=323						
TAP				*e*S	**Sn**	**20 20 20.5**	**-0.8**
	baz=323						
YOJ	**Yonaguni jima**	**0.80**	**94**	P	**Pn**	**20 20 10.4**	**+0.1**
YOJ				S	**Sn**	**20 20 21.8**	**+0.1**
YM01	**YM01**	**0.81**	**320**	*e*P	**Pn**	**20 20 10.5**	**-0.1**
	baz=322						
YM01				*e*S	**Sn**	**20 20 21.8**	**-0.5**
	baz=322						
YM10	**YM10**	**0.82**	**320**	*e*P	**Pn**	**20 20 10.9**	**+0.1**
	baz=322						
YM10				*e*S	**Sn**	**20 20 21.7**	**-0.8**
	baz=322						
YM11	**YM11**	**0.82**	**322**	*e*P	**Pn**	**20 20 10.8**	**+0.1**
	baz=323						
YM11				*e*S	**Sn**	**20 20 21.7**	**-0.9**
	baz=323						
YM05	**YM05**	**0.83**	**321**	*e*P	**Pn**	**20 20 10.6**	**-0.2**
	baz=322						
YM05				*e*S	**Sn**	**20 20 21.6**	**-1.0**
	baz=322						
YM08	**YM08**	**0.83**	**323**	*e*P	**Pn**	**20 20 11.5**	**+0.6**
	baz=324						
YM08				*e*S	**Sn**	**20 20 21.4**	**-1.2**
	baz=324						
YM04	**YM04**	**0.84**	**319**	*e*P	**Pn**	**20 20 10.8**	**-0.1**
	baz=320						
YM04				*e*S	**Sn**	**20 20 21.9**	**-0.8**
	baz=320						
YM03	**YM03**	**0.85**	**320**	*e*P	**Pn**	**20 20 11.4**	**+0.2**
	baz=322						
YM03				*e*S	**Sn**	**20 20 22.7**	**-0.6**
	baz=322						
FUSS	**Fushou**	**0.86**	**252**	*e*P	**Pn**	**20 20 11.7**	**+0.3**
	baz=247						
FUSS				*e*S	**Sn**	**20 20 23.5**	**-0.1**
	baz=247						
ANP	**Anpu**	**0.87**	**320**	*e*P	**Pn**	**20 20 10.7**	**-0.7**
	baz=321						
TWS1	**Kuangyinshan**	**0.88**	**312**	*e*P	**Pn**	**20 20 11.6**	**+0.3**
	baz=321						
TWS1				*e*S	**Sn**	**20 20 23.8**	**+0.2**
	baz=321						
WHF	**Hehuan Shan**	**0.88**	**245**	*e*P	**Pn**	**20 20 11.6**	**-0.2**
	baz=238						
WHF				*e*S	**Sn**	**20 20 23.5**	**-0.8**
	baz=238						
NTST	**Danshui**	**0.90**	**316**	*e*P	**Pn**	**20 20 12.0**	**+0.4**
	baz=324						
NTST				*e*S	**Sn**	**20 20 24.1**	**0.0**
	baz=324						
TWY	**Chenhua**	**0.90**	**327**	*e*P	**Pn**	**20 20 10.6**	**-1.1**
	baz=328						
TWY				*e*S	**Sn**	**20 20 24.4**	**+0.3**
	baz=328						
TDCB	**Techi**	**0.93**	**254**	*e*P	**Pn**	**20 20 12.6**	**+0.4**
	baz=254						
TDCB				*e*S	**Sn**	**20 20 24.8**	**-0.3**
	baz=254						
ESL	**Shilin**	**0.95**	**223**	*e*P	**Pn**	**20 20 11.4**	**-0.9**
	baz=231						
ESL				*e*S	**Sn**	**20 20 23.8**	**-1.5**
	baz=231						
NCU	**National Centr**	**0.98**	**298**	*e*P	**Pn**	**20 20 13.1**	**+0.5**
	baz=298						
NCU				*e*S	**Sn**	**20 20 26.8**	**+1.0**
	baz=298						
NCUH	**Zhongli**	**0.98**	**297**	*e*P	**Pn**	**20 20 13.1**	**+0.5**
	baz=298						
NCUH				*e*S	**Sn**	**20 20 26.5**	**+0.6**
	baz=298						
CHGB	**Renai**	**0.99**	**243**	*e*P	**Pn**	**20 20 13.1**	**+0.1**
	baz=236						
CHGB				*e*S	**Sn**	**20 20 26.0**	**-0.5**
	baz=236						
LIOB	**Emei**	**1.03**	**277**	*e*P	**Pn**	**20 20 13.8**	**+0.5**
	baz=278						
LIOB				*e*S	**Sn**	**20 20 27.8**	**+0.7**
	baz=278						
NSTT	**Nanjuang**	**1.04**	**276**	*e*P	**Pn**	**20 20 13.8**	**+0.4**
	baz=287						
NSTT				*e*S	**Sn**	**20 20 27.9**	**+0.5**
	baz=287						
EGFH	**Guangfu**	**1.07**	**218**	*e*P	**Pn**	**20 20 13.1**	**-0.6**
	baz=227						
EGFH				*e*S	**Sn**	**20 20 26.2**	**-1.7**
	baz=227						
WHP	**Taichung City**	**1.11**	**258**	*e*P	**Pn**	**20 20 15.8**	**+1.3**
	baz=255						
WHP				*e*S	**Sn**	**20 20 30.0**	**+0.8**
	baz=255						
VWDT	**VWDT**	**1.19**	**230**	*e*P	**Pn**	**20 20 15.3**	**0.0**
	baz=224						
VWDT				*e*S	**Sn**	**20 20 30.1**	**-0.6**
	baz=224						
HGSD	**Ruisui**	**1.21**	**213**	*e*P	**Pn**	**20 20 15.2**	**-0.5**
	baz=225						
HGSD				*e*S	**Sn**	**20 20 32.5**	**+1.2**
	baz=225						
NMLH	**Miaoli**	**1.23**	**271**	*e*P	**Pn**	**20 20 16.6**	**+0.7**
	baz=271						
NMLH				*e*S	**Sn**	**20 20 32.8**	**+1.1**
	baz=271						
EHY	**Hungye**	**1.25**	**217**	*e*P	**Pn**	**20 20 15.6**	**-0.6**
	baz=226						
EHY				*e*S	**Sn**	**20 20 30.0**	**-2.3**
	baz=226						
TWQ1	**Liyutan**	**1.26**	**263**	*e*P	**Pn**	**20 20 15.8**	**-0.5**
	baz=262						
TWQ1				*e*S	**Sn**	**20 20 32.5**	**+0.1**
	baz=262						
NSY	**Sanyi**	**1.26**	**266**	*e*P	**Pn**	**20 20 17.4**	**+1.0**
	baz=265						
NSY				*e*S	**Sn**	**20 20 33.8**	**+1.3**
	baz=265						
SMLT	**Sun Moon Lake**	**1.30**	**241**	*e*P	**Pn**	**20 20 18.4**	**+1.5**
	baz=234						
SMLT				*e*S	**Sn**	**20 20 35.3**	**+1.8**
	baz=234						
SSLB	**Suanglung**	**1.30**	**236**	*e*P	**Pn**	**20 20 17.4**	**+0.4**
	baz=231						
SSLB				*e*S	**Sn**	**20 20 33.9**	**+0.4**
	baz=231						
PTSB	**Yuanli**	**1.31**	**267**	*e*P	**Pn**	**20 20 17.6**	**+0.7**
	baz=267						
PTSB				*e*S	**Sn**	**20 20 34.5**	**+0.9**
	baz=267						
TYC	**Yuchr**	**1.32**	**243**	*e*P	**Pn**	**20 20 18.1**	**+1.0**
	baz=237						
TYC				*e*S	**Sn**	**20 20 35.7**	**+1.8**
	baz=237						
YULB	**Yu-li**	**1.36**	**215**	*e*P	**Pn**	**20 20 16.5**	**-1.1**
	baz=223						
YULB				*e*S	**Sn**	**20 20 32.7**	**-2.1**
	baz=223						
WDJ	**Dajia District**	**1.38**	**263**	*e*S	**Sn**	**20 20 36.5**	**+1.3**
	baz=263						
TWF1	**Yuli**	**1.39**	**214**	*e*P	**Pn**	**20 20 16.9**	**-1.2**
	baz=222						
WHYT	**Xinyi Township**	**1.43**	**235**	*e*P	**Pn**	**20 20 20.6**	**+1.9**
	baz=233						
WHYT				*e*S	**Sn**	**20 20 38.4**	**+1.7**
	baz=233						
IRIF	**Iriomote-Funau**	**1.46**	**97**	P	**Pn**	**20 20 18.8**	**-0.1**
IRIF				S	**Sn**	**20 20 37.2**	**0.0**
WJS	**Zhushan**	**1.47**	**242**	*e*P	**Pn**	**20 20 20.0**	**+1.0**
	baz=254						
WJS				*e*S	**Sn**	**20 20 39.9**	**+2.6**
	baz=254						
WNT	**Mingjian**	**1.48**	**245**	*e*P	**Pn**	**20 20 20.2**	**+1.0**
	baz=256						
WNT				*e*S	**Sn**	**20 20 39.5**	**+1.9**
	baz=256						
WCHH	**Zhanghua**	**1.51**	**254**	*e*P	**Pn**	**20 20 19.7**	**+0.2**
	baz=253						
WCHH				*e*S	**Sn**	**20 20 39.5**	**+1.1**
	baz=253						
FULB	**Fuli**	**1.52**	**211**	*e*P	**Pn**	**20 20 19.1**	**-0.7**
	baz=219						
FULB				*e*S	**Sn**	**20 20 40.2**	**+1.4**
	baz=219						
ALS	**Alishan**	**1.58**	**231**	*e*P	**Pn**	**20 20 22.0**	**+1.2**
	baz=223						
ALS				*e*S	**Sn**	**20 20 40.9**	**+0.4**
	baz=223						
CHKT	**Chengkung**	**1.58**	**207**	*e*P	**Pn**	**20 20 18.8**	**-1.7**
	baz=197						
CHKT				*e*S	**Sn**	**20 20 36.9**	**-3.1**
	baz=197						
HATJ	**Hateruma jima**	**1.59**	**106**	P	**Pn**	**20 20 21.0**	**+0.4**
HATJ				S	**Sn**	**20 20 40.9**	**+0.7**
CHN5	**Tsauling**	**1.62**	**236**	*e*P	**Pn**	**20 20 22.3**	**+1.1**
	baz=247						
CHN5				*e*S	**Sn**	**20 20 43.5**	**+2.3**
	baz=247						
WGK	**Gukeng**	**1.66**	**240**	*e*P	**Pn**	**20 20 22.9**	**+1.2**
	baz=251						
WGK				*e*S	**Sn**	**20 20 44.5**	**+2.4**
	baz=251						
ELDTW	**Lidau**	**1.68**	**218**	*e*P	**Pn**	**20 20 21.4**	**-0.6**
	baz=222						
ELDTW				*e*S	**Sn**	**20 20 41.4**	**-1.2**
	baz=222						
WDLH	**Douliu**	**1.68**	**241**	*e*P	**Pn**	**20 20 23.1**	**+1.2**
	baz=252						
WDLH				*e*S	**Sn**	**20 20 44.5**	**+2.0**
	baz=252						
EDH	**Donghe**	**1.72**	**207**	*e*P	**Pn**	**20 20 21.1**	**-1.3**
	baz=200						
EDH				*e*S	**Sn**	**20 20 41.1**	**-2.3**
	baz=200						
JKRS	**Kuro-shima**	**1.73**	**99**	P	**Pn**	**20 20 22.8**	**+0.3**
JKRS				S	**Sn**	**20 20 44.0**	**+0.4**
RLNB	**Erlin**	**1.74**	**249**	*e*P	**Pn**	**20 20 23.5**	**+0.8**
	baz=260						
RLNB				*e*S	**Sn**	**20 20 45.0**	**+1.1**
	baz=260						
WTK	**Tuku**	**1.80**	**243**	*e*P	**Pn**	**20 20 24.5**	**+1.0**
	baz=254						
WTK				*e*S	**Sn**	**20 20 47.1**	**+1.7**
	baz=254						
JIJ	**Ishigaki jima**	**1.83**	**94**	P	**Pn**	**20 20 23.7**	**-0.2**
JIJ				S	**Sn**	**20 20 45.8**	**-0.3**
STYT	**Tauyuan**	**1.85**	**223**	*e*P	**Pn**	**20 20 25.4**	**+1.1**
	baz=223						
STYT				*e*S	**Sn**	**20 20 47.9**	**+1.2**
	baz=223						
LONT	**Longtian**	**1.85**	**210**	*e*S	**Sn**	**20 20 44.0**	**-2.7**
	baz=210						
CHY	**Chiayi**	**1.87**	**237**	*e*S	**Sn**	**20 20 48.5**	**+1.5**
	baz=249						
WTP	**Ta-pu**	**1.89**	**228**	*e*P	**Pn**	**20 20 26.0**	**+1.2**
	baz=228						
WTP				*e*S	**Sn**	**20 20 50.5**	**+2.9**
	baz=228						
LDUT	**Ludao**	**1.94**	**199**	*e*P	**Pn**	**20 20 23.8**	**-1.6**
	baz=198						
LDUT				*e*S	**Sn**	**20 20 45.9**	**-2.8**
	baz=198						
TWGBT	**Beinan**	**1.95**	**210**	*e*S	**Sn**	**20 20 46.6**	**-2.5**
	baz=210						
TWG	**Pinlang**	**1.95**	**210**	*e*P	**Pn**	**20 20 25.2**	**-0.4**
	baz=210						
TWG				*e*S	**Sn**	**20 20 46.7**	**-2.4**
	baz=210						
TWK	**Hsinying**	**1.96**	**231**	*e*P	**Pn**	**20 20 27.3**	**+1.6**
	baz=230						
TWK				*e*S	**Sn**	**20 20 51.3**	**+2.0**
	baz=230						
WSF	**Szhu**	**1.96**	**244**	*e*P	**Pn**	**20 20 26.1**	**+0.4**
	baz=253						
WSF				*e*S	**Sn**	**20 20 50.1**	**+0.8**
	baz=253						
JISG	**Ishigakijimahi**	**1.98**	**88**	P	**Pn**	**20 20 25.9**	**0.0**
JISG				S	**Sn**	**20 20 50.8**	**+1.1**
SNST	**Tainan City**	**1.98**	**230**	*e*S	**Sn**	**20 20 51.5**	**+1.7**
	baz=230						
CHN1	**Nanshi**	**1.98**	**228**	*e*P	**Pn**	**20 20 27.2**	**+1.1**
	baz=229						
CHN1				*e*S	**Sn**	**20 20 51.7**	**+1.7**
	baz=229						
SGST	**Jiashian**	**2.02**	**225**	*e*P	**Pn**	**20 20 27.4**	**+0.8**
	baz=225						
SGST				*e*S	**Sn**	**20 20 51.6**	**+0.9**
	baz=225						
SLGT	**Liugui**	**2.04**	**222**	*e*P	**Pn**	**20 20 28.6**	**+1.7**
	baz=222						
SLGT				*e*S	**Sn**	**20 20 52.6**	**+1.3**
	baz=222						
ICHU	**Yijhu**	**2.06**	**236**	*e*S	**Sn**	**20 20 52.8**	**+1.2**
	baz=248						
CHN8	**Yiju**	**2.12**	**237**	*e*S	**Sn**	**20 20 54.5**	**+1.5**
	baz=248						
ECL	**Taimali**	**2.20**	**210**	*e*S	**Sn**	**20 20 51.8**	**-3.4**
	baz=210						
SSD	**Sandimen**	**2.24**	**218**	*e*P	**Pn**	**20 20 31.5**	**+2.0**
	baz=230						
SSD				*e*S	**Sn**	**20 20 57.8**	**+1.6**
	baz=230						
JTJ	**Tarama**	**2.33**	**86**	P	**Pn**	**20 20 31.5**	**+0.7**
JTJ				S	**Sn**	**20 20 59.2**	**+0.8**
MASBT	**Mashibuluo**	**2.35**	**216**	*e*P	**Pn**	**20 20 31.8**	**+0.8**
	baz=230						
MASBT				*e*S	**Sn**	**20 21 00.1**	**+1.4**
	baz=230						
PTTC	**Pingtan**	**2.36**	**295**	*e*P	**Pn**	**20 20 30.4**	**-0.7**
	baz=295						
PTTC				*e*S	**Sn**	**20 20 56.7**	**-2.4**
	baz=295						
VWUC	**VWUC**	**2.49**	**281**	*e*P	**Pn**	**20 20 32.3**	**-0.6**
	baz=281						
VWUC				*e*S	**Sn**	**20 20 59.4**	**-2.8**
	baz=281						
PNG	**Penghu**	**2.55**	**249**	*e*P	**Pn**	**20 20 32.8**	**-0.8**
	baz=248						
PNG				*e*S	**Sn**	**20 21 02.1**	**-1.5**
	baz=248						
PHUB	**P'eng-hu**	**2.55**	**247**	*e*S	**Sn**	**20 21 02.4**	**-1.3**
	baz=258						
MATB	**Ma-tsu**	**2.57**	**310**	*e*P	**Pn**	**20 20 33.5**	**-0.5**
	baz=309						
MATB				*e*S	**Sn**	**20 21 02.5**	**-1.5**
	baz=309						
WDGT	**Dungji**	**2.59**	**242**	*e*P	**Pn**	**20 20 34.5**	**+0.2**
	baz=241						
JIRB	**Irabujima**	**2.78**	**83**	P	**Pn**	**20 20 39.0**	**+2.2**
JIRB				S	**Sn**	**20 21 09.5**	**+0.4**
PTMZ	**Houxiangcun**	**2.79**	**281**	*e*P	**Pn**	**20 20 36.5**	**-0.5**
	baz=281						
PTMZ				*e*S	**Sn**	**20 21 06.6**	**-3.0**
	baz=281						
LYJJ	**Jianjiangzhen**	**2.95**	**314**	*e*P	**Pn**	**20 20 38.9**	**-0.3**
	baz=313						
LYJJ				*e*S	**Sn**	**20 21 12.5**	**-1.0**
	baz=313						

*IDC **19** 20:23:28.1±0.7,28°.03N×142°.99E,h0km,mb3.9/14,*
mb1 4.0/18,mb1mx3.9/51,mbtmp3.9/18,ML3.2/4,MS3.6/1,
Ms1 3.6/1,ms1mx2.3/41,Error ellipse: s-maj=20.0km
s-min=13.9km az=97.0
*NEIC **19** 20:23:32.7±1.4,28°.10N±0°.05×142°.9E±0°.1,h27km±3km,*
mb4.6/23,Error ellipse: s-maj=17.1km s-min=6.4km
az=99.0
ISC 19 20:23:31.9±0.6,**28°.12N**±0°.05×**142°.8E**±0°.1,**h22**km,**n62,**
σ1§03/63,mb4.3/24,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.17**	**210**	Pn	**Pn**	**20 23 52.1**	**-0.9**
	56nm,0.3s,baz=351,slow=12,SNR=90						
JCJ				Sn	**Sn**	**20 24 07.9**	**-0.3**
	134nm,0.3s,baz=295,slow=21,SNR=8.9						
JCJ	**Chichijima**	**1.17**	**210**		**Pn**	**20 23 51.7**	**-1.3**
JHJ2	**Mitsune**	**5.62**	**333**	Pn	**Pn**	**20 24 54.5**	**+0.3**
JHJ	**Hachijo jima 2**	**5.64**	**333**	Pn	**Pn**	**20 24 54.1**	**-0.3**
	3.1nm,0.3s,baz=74,slow=20,SNR=1.8						
JHJ				Sn	**Sn**	**20 25 53.5**	**-4.9**
	3.1nm,0.3s,baz=74,slow=20,SNR=1.0						
MJAR	**Matsushiro Arr**	**9.26**	**336**	Pn	**Pn**	**20 25 43.8**	**-0.5**
	0.3nm,0.3s,baz=166,slow=11,SNR=20						
MAJO	**Matsushiro**	**9.27**	**336**		**Pn**	**20 25 44.8**	**+0.5**
KSRS	**Korea Array**	**15.60**	**310**	Pn	**P**	**20 27 13.9**	**-0.6**
	0.3nm,0.3s,baz=124,slow=10,SNR=11						
USRK	**Ussuriysk Ar.**	**18.25**	**334**	P	**Pn**	**20 27 45.6**	**+1.8**
	baz=180,slow=10,SNR=3.4						
USRK	**Ussuriysk Ar.**	**18.25**	**334**	P	**Pn**	**20 27 44.9**	**+1.2**
KLR	**Kul'dur**	**22.74**	**341**	P	**P**	**20 28 33.6**	**+1.2**
	2.6nm,0.8s,baz=157,slow=7.8,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**23.50**	**106**	T	T	20 52 47.8	
	baz=297,slow=75,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**23.50**	**106**	T	T	20 52 49.8	
	baz=297,slow=75,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**23.51**	**106**	T	T	20 52 50.8	
	baz=297,slow=75,SNR=8.3						
DAV	**Davao City (W)**	**26.55**	**221**	LR	LR	20 39 42.2	
	comp=Z,113nm,19.6s,baz=133,slow=37						
FAKI	**Fak Fak**	**32.49**	**200**	P	**P**	**20 30 01.7**	**+0.6**
SONM	**Songino Array**	**34.39**	**315**	P	**P**	**20 30 19.3**	**+1.8**
	1.2nm,0.6s,baz=112,slow=8.0,SNR=11						
SONM	**Songino Array**	**34.39**	**315**	P	**P**	**20 30 18.4**	**+0.8**
SEY	**Seymchan**	**35.38**	**8**	P	**P**	**20 30 26.5**	**+0.9**
	1.7nm,0.7s,baz=203,slow=13,SNR=4.3						
TLY	**Talaya**	**37.52**	**320**	P	**P**	**20 30 45.1**	**+0.9**
	3.7nm,0.6s,baz=200,slow=3.4,SNR=5.4						
TLY	**Talaya**	**37.52**	**320**	P	**P**	**20 30 43.7**	**-0.4**
TLY				IAmb	IAmb	20 30 47.4	
	comp=Z,5.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**41.26**	**266**	P	**P**	**20 31 16.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=82,slow=5.3,SNR=4.9						
CMAR	**Chiang Mai Arr**	**41.26**	**266**	P	**P**	**20 31 15.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**48.86**	**202**	P	**P**	**20 32 15.4**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=38,slow=11,SNR=7.5						
FITZ	**Fitzroy Crossi**	**48.86**	**202**	P	**P**	**20 32 15.5**	**-0.5**
CNBA	**Chernabura Isl**	**48.98**	**40**	P	**P**	**20 32 16.2**	**-0.3**
CNBA				IAmb	IAmb	20 32 25.8	
	comp=Z,6.6nm,1.0s		

ASAR	**Alice Springs**	**52.20**	**190**	P		**P**	**20 32 39.9**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=4.4,slow=5.4,SNR=11							
ASAR	**Alice Springs**	**52.20**	**190**	P		**P**	**20 32 39.8**	**-1.4**
KURK	**Kurchatov**	**52.69**	**314**	P		**P**	**20 32 45.2**	**+0.7**
KURK				IAmb	IAmb		20 32 46.7	
	comp=Z,8.8nm,1.2s							
OHAK	**Old Harbor**	**52.78**	**38**	P		**P**	**20 32 44.0**	**-1.1**
OHAK				IAmb	IAmb		20 33 07.2	
	comp=Z,22nm,1.5s							
KDAK	**Kodiak Island**	**53.20**	**37**	P		**P**	**20 32 47.7**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=252,slow=4.2,SNR=9.3							
KDAK	**Kodiak Island**	**53.20**	**37**	P		**P**	**20 32 47.8**	**-0.5**
KDAK				IAmb	IAmb		20 32 49.0	
	comp=Z,25nm,1.6s							
IMAR	**Indian Mountai**	**53.88**	**27**	P		**P**	**20 32 53.3**	**+0.2**
PPLA	**Purkeypile**	**53.99**	**31**	P		**P**	**20 32 54.4**	**+0.2**
PPLA				IAmb	IAmb		20 33 30.9	
	comp=Z,11nm,1.6s							
CNPM	**China Poot**	**54.06**	**35**	P		**P**	**20 32 53.9**	**-0.7**
SKT	**Skwentna**	**54.17**	**32**	P		**P**	**20 32 55.1**	**-0.2**
SUA	**Susitna One**	**54.49**	**33**	P		**P**	**20 32 57.2**	**-0.5**
SUA				IAmb	IAmb		20 33 04.2	
	comp=Z,8.1nm,1.6s							
SCM	**Sheep Creek Mo**	**56.14**	**32**	P		**P**	**20 33 09.9**	**+0.2**
SCM				IAmb	IAmb		20 33 10.3	
	comp=Z,5.6nm,0.6s							
HIN	**Hinchinbrook I**	**56.49**	**34**	P		**P**	**20 33 12.1**	**0.0**
ILAR	**Eielson Array**	**56.54**	**29**	P		**P**	**20 33 10.8**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=254,slow=6.2,SNR=8.7							
ILAR	**Eielson Array**	**56.54**	**29**	P		**P**	**20 33 11.1**	**-1.3**
BVAR	**Borovoye Array**	**57.69**	**317**	P		**P**	**20 33 21.3**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=100,slow=5.5,SNR=8.6							
GLB	**Gilahina Butte**	**57.81**	**33**	P		**P**	**20 33 21.1**	**-0.3**
BCAR	**Beaver Creek A**	**58.74**	**31**	P		**P**	**20 33 28.4**	**+0.5**
KK31	**Karatay Array**	**58.96**	**305**	P		**P**	**20 33 30.4**	**+0.7**
KK31				IAmb	IAmb		20 33 31.5	
	comp=Z,2.1nm,0.7s							
KKAR	**Karatay Array**	**58.96**	**305**	P		**P**	**20 33 30.7**	**+1.0**
KKAR	**Karatay Array**	**58.96**	**305**	P		**P**	**20 33 30.5**	**+0.8**
KKAR				IAmb	IAmb		20 33 31.5	
	comp=Z,2.1nm,0.7s							
GAR	**Garm**	**59.96**	**301**	P		**P**	**20 33 37.9**	**+1.1**
GAR				IAmb	IAmb		20 33 43.5	
	comp=Z,3.2nm,0.7s							
HYT	**Haines Junctio**	**60.90**	**33**	P		**P**	**20 33 43.9**	**+1.0**
ARU	**Arti**	**63.97**	**322**	P		**P**	**20 34 03.8**	**+0.5**
ARU				IAmb	IAmb		20 34 04.2	
	comp=Z,3.5nm,0.6s							
ABKAR	**Akbulak array**	**64.80**	**314**	P		**P**	**20 34 09.8**	**+1.0**
FINES	**FINESS Array B**	**77.29**	**334**	P		**P**	**20 35 24.0**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=77,slow=6.0,SNR=1.0							
TXAR	**Lajitas Array**	**94.53**	**53**	P		**P**	**20 36 51.4**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=300,slow=2.7,SNR=5.7							
TORD	**Torodi Ar. Bea**	**124.33**	**312**	PKP		**PKPdf**	**20 42 28.7**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=26,slow=2.4,SNR=2.3							
LPAZ	**La Paz**	**149.10**	**74**	PKPbc		**PKiKP**	**20 43 20.3**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=236,slow=3.6,SNR=2.6							
PLCA	**Paso Flores**	**149.91**	**123**	PKPbc		**PKiKP**	**20 43 20.7**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=191,slow=5.2,SNR=3.4							

IDC ***19*** *20:28:02.8±0.7,3.˚40S×140.˚15E,h0km,mb4.2/13, mb1 4.4/16,mb1mx4.2/34,mbtmp4.3/16,ML4.1/3,MS3.7/16, Ms1 3.7/16,ms1mx3.6/27,Error ellipse: s-maj=19.2km s-min=9.5km az=118.0*

NEIC ***19*** *20:28:04.8±2.1,3.˚39S±0.˚06×139.˚96E±0.˚06,h13km±3km, mb4.8/73,Error ellipse: s-maj=8.7km s-min=8.1km az=151.0*

BJI ***19*** *20:28:05.1±0.0,3.˚30S×139.˚90E,h15km,mB4.9/14, mb4.7/20,Ms4.2/4,Ms7 3.9/4*

DJA ***19*** *20:28:05.1±0.3,4.˚S±3.˚×14.˚0E±.˚,h10km,M4.7/21, mb4.7/21,mB5.1/7,ML v4.9/6,Mw(mB)4.4/7*

ISC 19 20:28:07.9±0.4,3.˚50S±0.˚04×139.˚98E±0.˚05,h35km,n136, σ1§**75**/132,**mb4.7**/46,**MS3.8**/14,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.92**	**12**	P	**Pn**	**20 28 22.4**	**-2.0**
JAY	**Jayapura**	**1.22**	**37**	Pg	**Pn**	**20 28 24.4**	**-4.1**
	136nm,0.3s,baz=212,slow=13,SNR=269						
JAY				Lg	Lg	20 28 36.0	
	266nm,0.3s,baz=210,slow=11,SNR=12						
JAY	**Jayapura**	**1.22**	**37**	P	**Pn**	**20 28 24.5**	**-4.1**
WAMI	**Wamena**	**1.32**	**253**	P	**Pn**	**20 28 30.7**	**+0.8**
SMPI	**Sarmi**	**1.96**	**320**	P	**Pn**	**20 28 40.8**	**+2.0**
SRPI	**Serui, Papua**	**4.07**	**293**	P	**Pn**	**20 29 09.4**	**+1.6**
FAKI	**Fak Fak**	**7.74**	**274**	P	**Pn**	**20 29 59.3**	**+1.1**
	0.3nm80nm,1.1s						
SIJI	**Sorong**	**9.09**	**287**	Pn	**Pn**	**20 30 18.1**	**+1.3**
	2.2nm,0.3s,baz=86,slow=14,SNR=6.8						
SIJI				Sn	**Sn**	**20 32 00.6**	**+2.6**
	1.0nm,0.3s,baz=90,slow=20,SNR=1.3						
SIJI				LR	LR	20 34 49.9	
	comp=Z,1μm,19.4s,baz=75,slow=44						
PMG	**Port Moresby**	**9.23**	**130**	Pn	**Pn**	**20 30 20.3**	**+1.6**
	3.6nm,0.3s,baz=295,slow=9.6,SNR=7.5						
PMG				Sn	**Sn**	**20 32 00.7**	**-0.7**
	baz=248,slow=19,SNR=1.3						
PMG				LR	LR	20 34 46.6	
	comp=Z,362nm,18.8s,baz=97,slow=44						
SAUI	**Saumlaki**	**9.71**	**242**	Pn	**Pn**	**20 30 26.2**	**+0.9**
COEN	**Coen**	**10.86**	**163**		**Pn**	**20 30 42.5**	**+1.5**
KRVT	**Keravat (AS076**	**12.05**	**94**	LR	LR	20 35 10.3	
	comp=Z,402nm,21.5s,baz=280,slow=36						
MTN	**Manton Dam**	**12.75**	**223**	Pn	**Pn**	**20 31 06.3**	**-0.6**
TNTI	**Ternate**	**13.30**	**288**	Pn	**Pn**	**20 31 10.0**	**-4.4**
SANI	**Sanana**	**14.05**	**276**	P	**Pn**	**20 31 27.0**	**+2.4**
	19nm,1.1s						
KNRA	**Kununurra**	**16.38**	**222**	Pn	**Pn**	**20 31 55.0**	**-0.3**
KNRA				IAmb	IAmb	20 32 06.0	
	comp=Z,87nm,1.1s						
KMSI	**Cibinong**	**16.49**	**284**	P	**P**	**20 31 58.4**	**-0.7**
	comp=Z,1μmcomp=Z,160nm,0.8s						
SOEI	**Soe**	**16.79**	**248**	P	**P**	**20 32 04.7**	**+2.1**
	comp=Z,1μmcomp=Z,189nm,1.0s						
SOEI	**Soe**	**16.79**	**248**	P	**Pn**	**20 32 01.2**	**+0.5**
WB0	**Warramunga Arr**	**17.06**	**198**	P	**Pn**	**20 32 02.8**	**-1.1**
WB0				IAmb	IAmb	20 32 10.4	
	comp=Z,100nm,1.6s						
WR0	**Warramunga Arr**	**17.20**	**198**	P	**Pn**	**20 32 03.8**	**-1.8**
WR0				IAmb	IAmb	20 32 11.4	
	comp=Z,95nm,1.4s						
WRAB	**Tennant Creek**	**17.23**	**198**	P	**Pn**	**20 32 06.4**	**+0.4**
WRAB				IAmb	IAmb	20 32 11.8	
	comp=Z,58nm,0.8s						
WB2	**Warramunga Arr**	**17.24**	**198**		**Pn**	**20 32 04.6**	**-1.6**
WB2				IAmb	IAmb	20 32 11.9	
	comp=Z,58nm,0.8s						
WRA	**Warramunga Arr**	**17.24**	**198**	P	**Pn**	**20 32 03.9**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=9.1,slow=13,SNR=24						
WRA				S	**Sn**	**20 35 08.5**	**-8.6**
	comp=Z,0.2nm,0.3s,baz=15,slow=23,SNR=2.3						
WRA				Lg	Lg	20 37 16.1	
	comp=Z,0.2nm,0.3s,baz=23,slow=33,SNR=1.8						
WRA	**Warramunga Arr**	**17.24**	**198**		**Pn**	**20 32 04.2**	**-2.0**
LUWI	**Luwuk**	**17.36**	**278**		**Pn**	**20 32 04.2**	**-3.6**
LUWI				IAmb	IAmb	20 32 21.8	
	comp=Z,67nm,1.0s						
BATI	**Baumata**	**17.51**	**247**	P	**P**	**20 32 10.3**	**-0.1**
	comp=Z,3.5nm,0.3s,baz=155,slow=2.6,SNR=10						
BATI	**Baumata**	**17.51**	**247**	P	**P**	**20 32 10.5**	**+0.1**
	comp=Z,704nmcomp=Z,52nm,1.0s						
CTA	**Charters Tower**	**17.59**	**160**	P	**P**	**20 32 11.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=358,slow=12,SNR=1.9						
CTAO	**Charters Tower**	**17.59**	**160**		**P**	**20 32 13.0**	**+1.8**
GUMO	**Guam**	**17.66**	**16**	LR	LR	20 39 47.1	
	comp=Z,225nm,18.2s,baz=208,slow=40						
GUMO	**Guam**	**17.66**	**16**		**Pn**	**20 32 10.2**	**-1.2**
GUMO				IAmb	IAmb	20 32 59.9	
	comp=Z,145nm,1.4s						
FITZ	**Fitzroy Crossi**	**20.19**	**223**	P	**P**	**20 32 40.6**	**+0.9**
	comp=Z,17nm,0.9s,baz=54,slow=10,SNR=26						
FITZ				S	**S**	**20 36 19.6**	**-5.1**
	comp=Z,11nm,0.7s,baz=112,slow=16,SNR=5.1						
FITZ	**Fitzroy Crossi**	**20.19**	**223**	P	**P**	**20 32 40.2**	**+0.4**
KAPI	**Kappang**	**20.23**	**265**		**P**	**20 32 38.2**	**-2.0**
MPSI	**Mapaga**	**20.43**	**280**	P	Pn	20 32 45.6	+0.9
	comp=Z,21nm,0.9s						
AS31	**Alice Springs**	**20.89**	**196**		**P**	**20 32 47.1**	**-0.3**
ASAR	**Alice Springs**	**20.89**	**196**	P	**P**	**20 32 48.8**	**+1.4**
	comp=Z,44nm,0.7s,baz=30,slow=9.7,SNR=12						
ASAR				S	**S**	**20 36 38.3**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=17,slow=25,SNR=5.7						
ASAR				LR	LR	20 41 34.1	
	comp=Z,407nm,20.5s,baz=13,slow=39						
ASAR	**Alice Springs**	**20.89**	**196**		**P**	**20 32 48.0**	**+0.7**
PATS	**Pohnpei**	**20.99**	**61**	P	**P**	**20 32 49.0**	**+0.6**
MYLDM	**Lahad Datu**	**23.12**	**292**	P	**P**	**20 33 08.7**	**-2.5**
MYLDM				IAmb	IAmb	20 33 41.5	
	comp=Z,23nm,0.9s						
TWSI	**Taliwang, Sumb**	**23.54**	**256**	P	**P**	**20 33 15.0**	**-0.3**
	comp=Z,11nm,0.7s						
KBKI	**Kotabaru**	**23.77**	**270**	P	**P**	**20 33 19.6**	**+2.1**
	comp=Z,562nmcomp=Z,29nm,0.8s						
EIDS	**Eidsvold**	**24.22**	**155**	P	**P**	**20 33 23.6**	**+2.0**
EIDS				IAmb	IAmb	20 33 37.4	
	comp=Z,24nm,1.1s						
TGY	**Tagaytay City**	**25.74**	**313**	P	**P**	**20 33 36.2**	**+0.7**
	comp=Z,231nm,0.4s,baz=147,slow=14,SNR=4.4						
TGY				LR	LR	20 43 24.5	
	comp=Z,89nm,20.4s,baz=120,slow=36						
JAGI	**Jajag, Banyuwa**	**26.15**	**258**	P	**P**	**20 33 38.7**	**-0.5**
PSAD1	**Pilbara Seismi**	**26.49**	**226**	P	**P**	**20 33 41.0**	**-1.3**
PSAD1				IAmb	IAmb	20 34 35.8	
	comp=Z,17nm,0.9s						
PSAD2	**Pilbara Seismi**	**26.50**	**226**	P	**P**	**20 33 40.7**	**-1.7**
PSAD2				IAmb	IAmb	20 34 08.8	
	comp=Z,20nm,1.1s						
PSAC2	**Pilbara Seismi**	**26.51**	**226**	P	**P**	**20 33 41.1**	**-1.3**
PSAB2	**Pilbara Seismi**	**26.54**	**226**	P	**P**	**20 33 40.4**	**-2.2**
PSAB2				IAmb	IAmb	20 34 25.0	
	comp=Z,18nm,0.8s						
PSAA2	**Pilbara Seismi**	**26.55**	**226**	P	**P**	**20 33 40.4**	**-2.3**
PSAA2				IAmb	IAmb	20 34 29.7	
	comp=Z,22nm,1.1s						
PSAA3	**Pilbara Seismi**	**26.55**	**226**	P	**P**	**20 33 40.2**	**-2.6**
PSAA3				IAmb	IAmb	20 34 29.7	
	comp=Z,17nm,1.0s						
PSA00	**Pilbara Seismi**	**26.56**	**226**	P	**P**	**20 33 40.1**	**-2.7**
PSA00				IAmb	IAmb	20 34 29.7	
	comp=Z,15nm,0.9s						
PSAC1	**Pilbara Seismi**	**26.56**	**226**	P	**P**	**20 33 39.0**	**-3.9**
PSAB3	**Pilbara Seismi**	**26.56**	**226**	P	**P**	**20 33 40.2**	**-2.6**
PSAA1	**Pilbara Seismi**	**26.57**	**226**	P	**P**	**20 33 39.7**	**-3.2**
PSAB1	**Pilbara Seismi**	**26.57**	**226**	P	**P**	**20 33 39.9**	**-3.0**
PSAB1				IAmb	IAmb	20 34 39.7	
	comp=Z,14nm,0.9s						
PSAD3	**Pilbara Seismi**	**26.65**	**226**	P	**P**	**20 33 43.5**	**-0.2**
PSAD3				IAmb	IAmb	20 34 25.6	
	comp=Z,16nm,0.9s						
STKA	**Stephens Creek**	**28.27**	**177**	LR	LR	20 46 31.8	
	comp=Z,531nm,20.2s,baz=349,slow=39						
KSM	**Kuching**	**30.07**	**279**	P	**P**	**20 34 13.0**	**-1.2**
MORW	**Morawa**	**34.11**	**219**	P	**P**	**20 34 51.0**	**+1.4**
MORW				IAmb	IAmb	20 34 51.4	
	comp=Z,11nm,1.0s						
MYKOM	**Kota Tinggi**	**36.49**	**278**	P	**P**	**20 35 09.8**	**-0.4**
MYKOM				IAmb	IAmb	20 35 12.9	
	comp=Z,11nm,0.7s						
JNU	**Nakatsue**	**37.43**	**347**	P	**P**	**20 35 17.6**	**-0.4**
	comp=Z,8.3nm,0.9s,baz=101,slow=19,SNR=4.0						
JNU	**Nakatsue**	**37.43**	**347**	IAmb	IAmb	20 35 19.4	
	comp=Z,17nm,1.1s						
IPM	**Ipoh**	**39.72**	**281**	P	**P**	**20 35 36.9**	**-0.5**
IPM				IAmb	IAmb	20 35 40.3	
	comp=Z,14nm,0.6s						
MJAR	**Matsushiro Arr**	**39.87**	**358**	LR	LR	20 50 17.9	
	comp=Z,56nm,20.2s,baz=210,slow=34						
KULM	**Kulim**	**40.24**	**282**	P	**P**	**20 35 42.3**	**+0.5**
KULM				IAmb	IAmb	20 35 51.8	
	comp=Z,26nm,1.5s						
NJ2	**Nanjing**	**40.66**	**332**	*e*P	**P**	**20 35 45.0**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
RPSI	**Rantau Prapat**	**41.49**	**278**	P	**P**	**20 35 53.0**	**+0.9**
KSRS	**Korea Array**	**42.26**	**346**	P	**P**	**20 35 58.7**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=158,slow=9.1,SNR=9.3						
KSRS				LR	LR	20 51 54.9	
	comp=Z,64nm,20.3s,baz=151,slow=34						
GSI	**Gunungsitoli**	**42.65**	**276**	P	**P**	**20 36 01.1**	**-0.5**
CM31	**Chiang Mai Arr**	**45.93**	**300**	P	**P**	**20 36 27.7**	**0.0**
CMAR	**Chiang Mai Arr**	**45.93**	**300**	P	**P**	**20 36 27.8**	**0.0**
	comp=Z,1.7nm,0.8s,baz=123,slow=5.7,SNR=16						
CMAR				LR	LR	20 59 26.6	
	comp=Z,11nm,18.1s,baz=120,slow=41						
CMAR	**Chiang Mai Arr**	**45.93**	**300**	P	**P**	**20 36 27.1**	**-0.6**
CHTO	**Chiang Mai**	**46.07**	**300**	P	**P**	**20 36 28.7**	**-0.2**
USRK	**Ussuriysk Ar.**	**48.02**	**352**	LR	LR	20 53 37.6	
	comp=Z,94nm,21.9s,baz=148,slow=32						
TUWZ	**Tuamarina**	**48.51**	**146**	P	**P**	**20 36 48.9**	**+1.4**
RPZ	**Rata Peaks**	**48.57**	**150**	P	**P**	**20 36 50.4**	**+2.5**
BSWZ	**Blackbirch Sta**	**48.66**	**146**	P	**P**	**20 36 49.4**	**+0.7**
CN2	**Changchun**	**48.87**	**346**	*e*P	**P**	**20 36 50.9**	**+0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,100nm,18.0s						
CN2				LR	LR		
	comp=Z,100nm,18.0s						
CN2				LR	LR		
	comp=Z,100nm,20.0s						
KHZ	**Kahutara**	**48.95**	**147**	P	**P**	**20 36 50.8**	**0.0**
LZH	**Lanzhou**	**51.87**	**323**	*e*P	**P**	**20 37 15.8**	**+2.5**
LZH				pP	pP	20 37 25.4	+1.5
LZH				sP	sP	20 37 29.6	+1.6
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
KLR	**Kul'dur**	**53.00**	**353**	P	**P**	**20 37 20.5**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=165,slow=12,SNR=2.9						
SHL	**Shillong**	**54.82**	**305**	P	**P**	**20 37 33.9**	**-1.3**
SHL				IAmb	IAmb	20 37 36.0	
	comp=Z,7.1nm,0.8s						
GTA	**Gaotai**	**56.46**	**323**	*e*P	**P**	**20 37 50.8**	**+4.2**
GTA				pP	pP	20 37 54.9	-2.4
GTA				sP	sP	20 37 57.6	-3.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,82nm,5.1s						
GTA				LR	LR		
	comp=Z,64nm,16.2s						
GTA				LR	LR		
	comp=Z,41nm,17.8s						
GTA				LR	LR		
	comp=Z,74nm,16.8s						
PETK	**Petropavlovsk-**	**58.34**	**12**	LR	LR	20 59 59.0	
	comp=Z,58nm,21.9s,baz=240,slow=33						
SONM	**Songino Array**	**58.98**	**334**	P	**P**	**20 38 03.8**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=140,slow=7.5,SNR=4.0						
SONM				LR	LR	21 04 28.5	
	comp=Z,50nm,18.9s,baz=179,slow=37						
CASY	**Casey**	**65.97**	**193**	P	**P**	**20 38 51.4**	**+1.0**
CASY				IAmb	IAmb	20 39 10.8	
	comp=Z,10nm,1.3s						
MK31	**Makanchi Array**	**71.19**	**322**	P	**P**	**20 39 22.0**	**-1.4**
MKAR	**Makanchi Array**	**71.19**	**322**	P	**P**	**20 39 23.2**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=92,slow=8.8,SNR=11						
MKAR	**Makanchi Array**	**71.19**	**322**	P	**P**	**20 39 22.9**	**-0.5**
MAKZ	**Makanchi**	**71.39**	**322**	P	**P**	**20 39 24.3**	**-0.2**
MAKZ				IAmb	IAmb	20 39 34.0	
	comp=Z,4.7nm,0.8s						
UNV	**Unalaska Valle**	**72.38**	**30**	P	**P**	**20 39 30.3**	**0.0**
UNV				IAmb	IAmb	20 39 31.6	
	comp=Z,10nm,1.0s						
NIL	**Nilore**	**72.81**	**307**	P	**P**	**20 39 32.8**	**-0.6**
ZALV	**Zalesovo Beam**	**73.25**	**330**	P	**P**	**20 39 34.7**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=124,slow=7.5,SNR=2.8						
ZALV	**Zalesovo Beam**	**73.25**	**330**	P	**P**	**20 39 34.4**	**-1.1**
VNDA	**Vanda**	**74.89**	**175**	P	**P**	**20 39 45.9**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=324,slow=6.4,SNR=12						
VNDA				LR	LR	21 12 17.8	
	comp=Z,112nm,19.1s,baz=324,slow=35						
VNDA	**Vanda**	**74.89**	**175**	P	**P**	**20 39 45.4**	**+0.8**
CNBA	**Chernabura Isl**	**76.38**	**31**	P	**P**	**20 39 52.6**	**-0.9**
CNBA				IAmb	IAmb	20 39 58.2	
	comp=Z,11nm,1.2s						
BTK	**Batken**	**76.49**	**312**	P	**P**	**20 39 54.5**	**-0.1**
BTK				IAmb	IAmb	20 41 07.3	
	comp=Z,4.2nm,0.5s						
GAR	**Garm**	**76.57**	**311**	P	**P**	**20 39 54.4**	**-0.8**
GAR				IAmb	IAmb	20 40 04.7	
	comp=Z,13nm,1.0s						
CHGR	**Chuyangaron**	**77.35**	**311**	P	**P**	**20 39 59.0**	**-0.5**
OHAK	**Old Harbor**	**80.59**	**30**	P	**P**	**20 40 17.4**	**+0.7**
OHAK				IAmb	IAmb	20 40 18.6	
	comp=Z,11nm,0.8s						
TTA	**Tatalina**	**81.60**	**25**	P	**P**	**20 40 22.9**	**+0.8**
MAW	**Mawson**	**81.87**	**202**	P	**P**	**20 40 25.2**	**+1.9**
	comp=Z,3.6nm,0.9s,baz=70,slow=6.3,SNR=7.9						
MAW	**Mawson**	**81.87**	**202**	P	**P**	**20 40 24.3**	**+1.0**
IMAR	**Indian Mountai**	**83.74**	**22**	P	**P**	**20 40 33.2**	**+0.2**
KNK	**Knik Glacier**	**84.34**	**27**	P	**P**	**20 40 36.5**	**+0.3**
SML	**Sawmill**	**84.52**	**27**	P	**P**	**20 40 37.2**	**0.0**
RND	**Reindeer**	**84.79**	**25**	P	**P**	**20 40 38.3**	**-0.3**
RND				IAmb	IAmb	20 40 47.5	
	comp=Z,8.1nm,1.1s						
GLI	**Glacier Island**	**84.81**	**28**	P	**P**	**20 40 38.2**	**-0.4**
SCM	**Sheep Creek Mo**	**84.98**	**27**	P	**P**	**20 40 39.6**	**+0.1**
WRH	**Wood River Hil**	**85.44**	**24**	P	**P**	**20 40 41.0**	**-0.7**
WRH				IAmb	IAmb	20 40 51.6	
	comp=Z,8.0nm,1.2s						
COLD	**Coldfoot**	**85.52**	**22**	P	**P**	**20 40 42.7**	**+0.7**
KLU	**Klutina**	**85.53**	**28**	P	**P**	**20 40 42.6**	**+0.3**
CCB	**Clear Creek Bu**	**85.61**	**24**	P	**P**	**20 40 41.6**	**-0.9**
CCB				IAmb	IAmb	20 40 52.2	
	comp=Z,7.0nm,1.0s						
GEYT	**Alibeck**	**85.72**	**308**	P	**P**	**20 40 45.3**	**+1.6**
	comp=Z,0.6nm,0.4s,baz=136,slow=5.9,SNR=1.7						
GEYT	**Alibeck**	**85.72**	**308**	IAmb	IAmb	20 40 54.1	
	comp=Z,1.9nm,1.0s						
IL31		**86.03**	**24**	P	**P**	**20 40 43.4**	**-1.2**
ILAR	**Eielson Array**	**86.03**	**24**	P	**P**	**20 40 43.6**	**-1.0**
	comp=Z,2.4nm,0.9s,baz=257,slow=5.0,SNR=20						
ILAR				LR	LR	21 14 28.3	
	comp=Z,53nm,21.5s,baz=230,slow=32						
ILAR	**Eielson Array**	**86.03**	**24**	P	**P**	**20 40 42.7**	**-1.9**
ABKAR	**Akbulak array**	**86.14**	**320**	P	**P**	**20 40 44.2**	**-1.3**
QSPA	**South Pole Qui**	**86.45**	**180**		**P**	**20 40 47.9**	**+1.0**
GLB	**Gilahina Butte**	**86.50**	**28**	P	**P**	**20 40 46.8**	**-0.3**
GLB				IAmb	IAmb	20 40 48.5	
	comp=Z,3.8nm,0.8s						
DOT	**Dot Lake**	**86.92**	**26**	P	**P**	**20 40 49.1**	**+0.1**
BMAR	**Burnt Mountain**	**87.66**	**22**		**P**	**20 40 53.5**	**+0.9**
BCAR	**Beaver Creek A**	**87.78**	**26**		**P**	**20 40 53.6**	**+0.3**
EGAK	**Eagle**	**88.41**	**25**	P	**P**	**20 40 56.5**	**+0.4**
EGAK				IAmb	IAmb	20 41 05.8	
	comp=Z,6.7nm,1.1s						
HYT	**Haines Junctio**	**89.38**	**29**	P	**P**	**20 41 01.4**	**+0.5**
HYT				IAmb	IAmb	20 41 03.1	
	comp=Z,6.5nm,1.0s						
BBB	**Bella Bella**	**93.92**	**38**	LR	LR	21 17 20.5	
	comp=Z,65nm,19.1s,baz=228,slow=32						
TORD	**Torodi Ar. Bea**	**137.69**	**286**	PKP	**PKPdf**	**20 47 30.3**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=90,slow=1.4,SNR=1.9						
DBIC	**Dimbokro**	**144.84**	**277**	PKPbc	**PKPab**	**20 47 41.6**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=35,slow=0.6,SNR=7.2						
DBIC	**Dimbokro**	**144.84**	**277**		**PKPab**	**20 47 41.5**	**0.0**
LPAZ	**La Paz**	**145.96**	**126**	PKPbc	**PKPbc**	**20 47 45.9**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=225,slow=0.4,SNR=1.9						
RUSC	**La Rusia**	**146.97**	**85**		**PKPdf**	**20 47 45.9**	**-0.8**
HUMP	**Col San Antoni**	**150.82**	**58**	PKPdf	**PKPdf**	**20 47 52.8**	**+0.6**
HUMP					**PKPab**	**20 48 04.9**	**0.0**

TEH ***19*** *21:14:46.8,32.˚68N×47.˚61E,h7km,ML3.4*

ISN ***19*** *21:14:46.1±0.7,32.˚69N×47.˚62E,h14km±4km,ML3.2*

ISC 19 21:14:47.6±1.0,32.˚64N±0.˚04×47.˚57E±0.˚04,h10km,n36, σ1§**41**/40,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.25**	**281**	*e*Pg	**Pg**	**21 14 52.4**	**-0.3**
IKFM	**Kafar-mosalman**	**0.92**	**15**	*e*		21 15 24.9	
IKFM				*e*Pg	**Pg**	**21 15 03.2**	**-2.1**
IKMR	**Kamar-syah**	**1.11**	**37**	*e*Sg	**Sg**	**21 15 23.2**	**-0.3**
IKMR				*e*Pg	**Pb**	**21 15 07.0**	**-1.9**
IKMR				*e*		21 15 30.4	
IDOB	**Doab**	**1.26**	**24**	*e*Pg	**Pn**	**21 15 10.6**	**-0.9**
IBDR	**Badra**	**1.46**

ISC 19 21:32:17.6±0.5,32°71N±0°02×47°57E±0°03,h13km±2km,
h14km:pP-P,n1402,○1°48/1319,mb5.4/316,MS4.8/259,
84C-45D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.25**	**264**	*e*Pg	**Pg**	**21 32 21.3**	**-1.6**
IKFM	**Kafar-mosalman**	**0.85**	**16**	*e*Pg	**Pg**	**21 32 32.7**	**-1.4**
IKFM				*e*		21 32 56.9	
IKMR	**Kamar-syah**	**1.06**	**40**	*e*Pg	**Pb**	**21 32 36.7**	**-1.0**
IKMR				*e*		21 33 02.6	
IDOB	**Doab**	**1.19**	**25**	*e*Pg	**Pb**	**21 32 38.9**	**-1.3**
BMDN	**Meydan**	**1.43**	**47**	*e*Pg	**Pn**	**21 32 43.2**	**-0.2**
BMDN				*e*		21 33 15.3	
IBDR	**Badra**	**1.44**	**287**	*e*Pg	**Pn**	**21 32 43.0**	**-0.3**
IBDR				*e*Sg	**Sn**	**21 33 02.0**	**-0.1**
IBDR				AML	AML	21 33 08.4	
	comp=N,45μm,0.6s						
IBDR				AML	AML	21 33 08.8	
	comp=E,68μm,0.5s						
IKOM	**Komasi**	**1.47**	**358**	*e*Pg	**Pn**	**21 32 43.5**	**-0.4**
IKOM				*e*		21 32 50.5	
KCHF	**Cheshme Sefid,**	**1.63**	**344**	*e*Pg	**Pn**	**21 32 47.2**	**+1.1**
KCHF				*e*		21 33 16.2	
AHWZ	**Ahwaz**	**1.65**	**146**	*e*Pg	**Pb**	**21 32 49.0**	**+1.2**
KER	**Kermanshah**	**1.71**	**348**	*e*Pn	**Pn**	**21 32 48.1**	**+0.8**
HSAM	**Samen**	**1.73**	**30**	*e*Pg	**Pb**	**21 32 49.9**	**+0.5**
HSAM				*e*		21 33 20.2	
IBZA	**Bozab**	**1.78**	**8**	*e*Pg	**Pn**	**21 32 49.4**	**+1.1**
IBZA				*e*		21 33 20.9	
IGHG	**Ghaleghazi**	**1.82**	**333**	*e*Pn	**Pn**	**21 32 50.3**	**+1.4**
IVIS	**Veis**	**1.91**	**342**	*e*Pn	**Pn**	**21 32 51.2**	**+1.2**
NSR	**Nassriya**	**2.08**	**216**	*e*Pn	**Pn**	**21 32 52.0**	**-0.2**
NSR				*e*Sn	**Sn**	**21 33 18.0**	**0.0**
NSR				AML	AML	21 33 26.6	
	comp=E,11μm,1.9s						
IALM	**Almabolaq**	**2.21**	**13**	*e*Pn	**Pb**	**21 32 56.7**	**-0.8**
IDHR	**Dehrash**	**2.22**	**334**	*e*Pn	**Pn**	**21 32 55.4**	**+1.1**
IDHR				*e*		21 33 34.2	
KHMZ	**Khomeyn**	**2.25**	**62**	*e*Pn	**Pb**	**21 32 57.9**	**-0.4**
KHMZ	**Khomeyn**	**2.25**	**62**	*e*Pn	**Pb**	**21 32 57.9**	**-0.4**
ILIN	**Lien**	**2.26**	**347**	*e*Pn	**Pn**	**21 32 56.3**	**+1.3**
ILIN				*e*		21 33 40.2	
SNGE	**Sanandaj**	**2.39**	**356**	*e*Pn	**Pn**	**21 32 57.9**	**+1.3**
SNGE				*e*Sg	**Sg**	**21 33 33.0**	**-1.4**
SNGE	**Sanandaj**	**2.39**	**356**	*e*Pn	**Pn**	**21 32 57.9**	**+1.3**
HAGD	**Aghdareh**	**2.48**	**31**	*e*Pn	**Pb**	**21 33 00.5**	**-1.7**
HAGD				*e*		21 33 42.7	
HSRG	**Sareghieh**	**2.60**	**13**	*e*Pn	**Pn**	**21 33 01.2**	**+1.6**
HSRG				*e*		21 33 55.6	
JHBN	**Jahan bin**	**2.66**	**99**	*e*Pn	**Pn**	**21 33 02.6**	**+2.2**
JHBN				*e*		21 33 57.7	
BHD	**Baghdad**	**2.74**	**283**	*e*Pn	**Pn**	**21 33 01.0**	**-0.2**
BHD				*e*Sn	**Sn**	**21 33 34.0**	**-0.2**
BHD				AML	AML	21 33 55.3	
	comp=E,16μm,1.0s						
ASAO	**Ashtian**	**2.75**	**47**	*e*Pn	**Pb**	**21 33 04.8**	**-2.0**
ASAO	**Ashtian**	**2.75**	**47**	*e*Pn	**Pb**	**21 33 04.8**	**-2.0**
IPIR	**Pirpir**	**2.80**	**90**	*e*Pn	**Pn**	**21 33 04.9**	**+2.5**
IPIR				*e*		21 33 52.0	
ROKH	**ROKH**	**2.95**	**96**	*e*Pn	**Pn**	**21 33 06.4**	**+2.1**
ROKH				*e*		21 34 15.9	
IRAZ	**Razeghan**	**3.33**	**35**	*e*Pn	**Pn**	**21 33 12.6**	**+3.0**
IKLH	**Kolahrood**	**3.42**	**79**	*e*Pn	**Pn**	**21 33 13.6**	**+2.7**
IKLH				*e*		21 34 33.7	
QABG	**Abgarm-Qazvin**	**3.43**	**29**	*e*Pn	**Pn**	**21 33 12.8**	**+1.9**
IGAR	**Gharneh**	**3.79**	**93**	*e*Pn	**Pn**	**21 33 17.9**	**+2.0**
IGAR				*e*		21 34 24.6	
KLNJ	**Kolanjah**	**3.82**	**115**	*e*Pn	**Pn**	**21 33 17.9**	**+1.5**
KLNJ				*e*		21 34 38.7	
IMHD	**Mahdasht**	**3.93**	**40**	*e*Pn	**Pn**	**21 33 18.4**	**+0.7**
IZEF	**Zefreh**	**4.01**	**86**	*e*Pn	**Pn**	**21 33 20.9**	**+1.9**
IZEF				*e*		21 34 46.7	
QSDN	**Sirdan**	**4.01**	**19**	*e*Pn	**Pn**	**21 33 21.8**	**+2.8**
ZNJK	**Zanjan**	**4.06**	**13**	*e*Pn	**Pn**	**21 33 22.2**	**+2.6**
ZNJK	**Zanjan**	**4.06**	**13**	*e*Pn	**Pn**	**21 33 22.2**	**+2.6**
QCNT	**Qazvin**	**4.10**	**29**	*e*Pn	**Pn**	**21 33 17.3**	**-2.8**
IHSB	**Hasanabad**	**4.11**	**47**	*e*Pn	**Pn**	**21 33 22.5**	**+2.3**
IRAM	**Ramesheh**	**4.17**	**101**	*e*Pn	**Pn**	**21 33 22.1**	**+0.9**
IGZV	**Ghazvin**	**4.27**	**30**	*e*Pn	**Pn**	**21 33 24.5**	**+2.0**
CHTH	**Charan**	**4.34**	**42**	*e*Pn	**Pn**	**21 33 26.2**	**+2.7**
CHTH	**Charan**	**4.34**	**42**	*e*Pn	**Pn**	**21 33 26.2**	**+2.7**
QALM	**Alamut, Qazvin**	**4.50**	**33**	*e*Pn	**Pn**	**21 33 27.6**	**+1.9**
KAZ1	**Kazerun**	**4.65**	**130**	*e*Pn	**Pn**	**21 33 29.1**	**+1.6**
DAMV	**Damavand**	**4.67**	**50**	*e*Pn	**Pn**	**21 33 30.9**	**+2.8**
DAMV	**Damavand**	**4.67**	**50**	*e*Pn	**Pn**	**21 33 30.9**	**+2.8**
IDMV	**Damavand**	**4.68**	**51**	*e*Pn	**Pn**	**21 33 30.2**	**+2.0**
AHBU	**AHRAM**	**4.99**	**139**	*e*Pn	**Pn**	**21 33 34.0**	**+1.8**
IFIR	**Firoozkooh**	**5.20**	**54**	*e*Pn	**Pn**	**21 33 37.1**	**+1.8**
ANAR	**Anarak**	**5.20**	**83**	*e*Pn	**Pn**	**21 33 36.4**	**+1.2**
ILAS	**Lasjerd**	**5.21**	**58**	*e*Pn	**Pn**	**21 33 34.7**	**-0.7**
SHI	**Shiraz**	**5.22**	**124**	*e*Pn	**Pn**	**21 33 34.8**	**-0.7**
ISAD	**Sadrabad**	**5.24**	**97**	*e*Pn	**Pn**	**21 33 37.1**	**+1.2**
IPRN	**Peran**	**5.29**	**47**	*e*Pn	**Pn**	**21 33 39.5**	**+3.1**
TABZ	**Tabriz**	**5.43**	**350**	*e*Pn	Pn	21 33 43.4	+5.0
IALA	**Alasht**	**5.49**	**51**	*e*Pn	**Pn**	**21 33 41.9**	**+2.6**
CUKT	**Cukurca**	**5.58**	**325**	*e*P	**Pn**	**21 33 39.7**	**-0.7**
ISHM	**Shahmirzad**	**5.66**	**55**	*e*Pn	**Pn**	**21 33 40.2**	**-1.4**
HAKT	**HAKKARI**	**5.78**	**328**	*e*Pn	**Pn**	**21 33 42.9**	**-0.4**
AHAR	**Ahar**	**5.79**	**356**	*e*Pn	**Pn**	**21 33 45.4**	**+2.1**
ICHK	**Chekchek**	**5.80**	**93**	*e*Pn	**Pn**	**21 33 44.6**	**+1.1**
IANJ	**Anjilo**	**5.94**	**61**	*e*Pn	**Pn**	**21 33 43.7**	**-1.8**
GRMI	**Germi**	**6.09**	**2**	*e*Pn	**Pn**	**21 33 49.9**	**+2.4**
GRMI	**Germi**	**6.09**	**2**	*e*Pn	**Pn**	**21 33 49.9**	**+2.4**
IMEH	**Mehriz**	**6.12**	**100**	*e*Pn	**Pn**	**21 33 48.6**	**+0.6**
SIRT	**Sirnak**	**6.37**	**320**	*e*P	**Pn**	**21 33 50.3**	**-0.9**
IGLO	**Ghaloghah**	**6.40**	**52**	*e*Pn	**Pn**	**21 33 55.0**	**+3.2**
JHRM	**Jahrom**	**6.66**	**127**	*e*Pn	**Pn**	**21 33 55.5**	**+0.3**
AKDM	**Akdamar-Van**	**6.74**	**328**	*e*P	**Pn**	**21 33 56.4**	**0.0**
VANB	**Van**	**6.79**	**331**	*e*P	**Pn**	**21 33 56.7**	**-0.3**
IBAF	**Bafgh**	**6.87**	**97**	*e*Pn	**Pn**	**21 33 59.8**	**+1.6**
MAKU	**Maku**	**7.04**	**341**	*e*Pn	**Pn**	**21 34 02.0**	**+1.6**
MAKU	**Maku**	**7.04**	**341**	*e*Pn	**Pn**	**21 34 02.0**	**+1.6**
CLDR	**Caldiran**	**7.07**	**336**	*e*P	**Pn**	**21 34 02.3**	**+1.3**
LMD1	**Lamerd**	**7.22**	**136**	*e*Pn	**Pn**	**21 34 04.2**	**+1.4**
GURO	**Guroymak-BITLI**	**7.37**	**324**	*e*P	**Pn**	**21 34 04.8**	**-0.2**
SVAN	**Silvan-Diyarba**	**7.52**	**318**	*e*P	**Pn**	**21 34 06.3**	**-0.7**
MAZI	**Mazidag**	**7.52**	**311**	*e*P	**Pn**	**21 34 05.7**	**-1.4**
MLAZ	**Malazgirt-MUS**	**7.60**	**329**	*e*P	**Pn**	**21 34 08.8**	**+0.4**
TNSJ	**Nastanj**	**7.67**	**78**	*e*Pn	**Pn**	**21 34 10.2**	**+1.1**
TPRV	**Parvadeh(Tabas**	**7.68**	**85**	*e*Pn	**Pn**	**21 34 10.2**	**+1.0**
LAR1	**LAR**	**7.74**	**129**	*e*Pn	**Pn**	**21 34 11.5**	**+1.5**
AGRB	**Hanur-Agry**	**7.79**	**333**	*e*P	**Pn**	**21 34 11.7**	**+0.9**
IMND	**Minoodasht**	**7.87**	**53**	*e*Pn	Pn	21 34 17.8	+6.1
KHGB	**Koh Gabri**	**7.95**	**105**	*e*Pn	**Pn**	**21 34 12.9**	**-0.1**
TABS	**Tabas**	**8.06**	**81**	*e*Pn	**Pn**	**21 34 17.5**	**+3.1**
TABS	**Tabas**	**8.06**	**81**	*e*Pn	**Pn**	**21 34 17.5**	**+3.1**
TKDS	**Koohdasht(Taba**	**8.06**	**81**	*e*Pn	**Pn**	**21 34 15.4**	**+0.9**
VRTB	**Varto-Mus**	**8.13**	**324**	*e*P	**Pn**	**21 34 15.1**	**-0.3**
TVBK	**TV Kerman**	**8.31**	**107**	*e*Pn	**Pn**	**21 34 18.8**	**+0.6**
NGRK	**Negar Kerman**	**8.42**	**109**	*e*Pn	**Pn**	**21 34 20.3**	**+0.7**
AKT	**Akhty**	**8.76**	**1**	*e*P	**Pn**	**21 34 26.5**	**+2.5**
AKT				*e*S	**Sn**	**21 36 07.0**	**+4.4**
AKT				pmax	pmax		
	comp=Z,90nm,1.1s						
AKT				smax	smax		
	comp=N,23nm,0.9s						
AKT				smax	smax		
	comp=E,26nm,1.0s						
CHMN	**Cheshme madani**	**8.99**	**106**	*e*Pn	**Pn**	**21 34 30.8**	**+3.4**
ASF	**Jabal al Asfar**	**9.04**	**269**	Pn	**Pn**	**21 34 25.9**	**-2.0**
	comp=E,7.8nm,0.3s,baz=47,slow=9.2,SNR=44						
ASF				Sn	**Sn**	**21 36 04.6**	**-4.9**
	comp=E,3.6nm,0.3s,baz=78,slow=20,SNR=1.1						
ASF				Lg	Lg	21 37 05.8	
	comp=E,6.1nm,0.3s,baz=37,slow=18,SNR=3.2						
ASF				LR	LR	21 39 15.9	
	comp=E,2μm,18.4s,baz=38,slow=46						
BTHS		**9.10**	**161**	*e*Pn	**Pn**	**21 34 28.3**	**-0.3**
GENO	**Geno**	**9.14**	**123**	*e*Pn	**Pn**	**21 34 28.2**	**-1.1**
AKH	**Akhalkalaki**	**9.28**	**341**	P	**Pn**	**21 34 31.3**	**+0.1**
AKH	**Akhalkalaki**	**9.28**	**341**	Pn	**Pn**	**21 34 31.3**	**+0.1**
TBLG	**Delisi**	**9.29**	**347**	P	**Pn**	**21 34 31.9**	**+0.7**
TBLG	**Delisi**	**9.29**	**347**	Pn	**Pn**	**21 34 31.9**	**+0.7**
ITEG	**Tejag**	**9.41**	**86**	*e*Pn	**Pn**	**21 34 34.9**	**+1.8**
GAZ	**Gaziantep**	**9.60**	**301**	Pn	**Pn**	**21 34 38.1**	**+2.6**
ISFR	**Sfrayin**	**9.60**	**60**	*e*Pn	**Pn**	**21 34 38.2**	**+2.5**
AFRZ	**Afriz**	**9.63**	**83**	*e*Pn	**Pn**	**21 34 37.4**	**+1.3**
IKOO	**Kooshah**	**9.65**	**89**	*e*Pn	**Pn**	**21 34 37.7**	**+1.2**
KEMA	**Kemaliye**	**9.84**	**314**	*e*Pn	**Pn**	**21 34 39.1**	**+0.2**
IKRD	**Kardeh**	**9.88**	**63**	*e*Pn	Pn	21 34 52.9	+13
SHBL	**Chebaa**	**9.95**	**277**	*e*P	**Pn**	**21 34 39.7**	**-0.8**
SHME	**Shamm**	**9.99**	**129**	*i* P	**Pn**	**21 34 39.8**	**-1.0**
	SNR=30						
SHME				S	**Sn**	**21 36 29.6**	**-3.3**
IAKL	**Akhelmad**	**10.00**	**64**	*e*Pn	**Pn**	**21 34 43.2**	**+2.0**
QRWL	**Qaraoun**	**10.01**	**278**	*e*P	**Pn**	**21 34 40.4**	**-0.7**
BHL	**Bhannes**	**10.04**	**280**	*e*P	**Pn**	**21 34 41.5**	**-0.1**
UMQ	**Umm Al-Quwin**	**10.06**	**133**	*i* P	**Pn**	**21 34 41.4**	**-0.4**
	SNR=6.1						
UMQ	**Umm Al-Quwin**	**10.06**	**133**	P	**Pn**	**21 34 44.6**	**+2.9**
	SNR=7.5						
GEYT	**Alibeck**	**10.07**	**56**	Pn	**Pn**	**21 34 44.1**	**+2.2**
	comp=E,0.9nm,0.3s,baz=237,slow=15,SNR=18						
GEYT				Lg	Lg	21 37 37.5	
	comp=E,0.2nm,0.3s,baz=234,slow=32,SNR=2.4						
GEYT	**Alibeck**	**10.07**	**56**		**Pn**	**21 34 44.3**	**+2.4**
GYA0B	**ALIBECK ARRAY**	**10.07**	**56**		**Pn**	**21 34 44.3**	**+2.4**
IPAY	**Payeh**	**10.13**	**65**	*e*Pn	**Pn**	**21 34 45.0**	**+2.0**
IMON	**Monand**	**10.18**	**84**	*e*Pn	**Pn**	**21 34 45.8**	**+2.2**
BANOM	**Banah**	**10.18**	**129**	*i* P	**Pn**	**21 34 42.7**	**-0.8**
	SNR=74						
BANOM				S	**Sn**	**21 36 31.9**	**-5.6**
BANOM	**Banah**	**10.18**	**129**	P	**Pn**	**21 34 43.0**	**-0.5**
	SNR=74						
IEMG	**Emamgholi**	**10.22**	**60**	*e*Pn	**Pn**	**21 34 46.4**	**+2.1**
MAK	**Makhachkala**	**10.24**	**360**	*e*P	**Pn**	**21 34 42.6**	**-1.5**
MAK				*e*S	**Sn**	**21 36 40.6**	**+1.9**
MAK				pmax	pmax		
	comp=Z,854nm,1.5s						
MAK				MLR	MLR		
	comp=Z,6μm,14.0s						
MMAI	**Mount Meron Ar**	**10.24**	**275**	Pn	**Pn**	**21 34 43.7**	**-0.6**
	comp=Z,2.4nm,0.3s,baz=84,slow=17,SNR=14						
MMAI				Sn	**Sn**	**21 36 36.0**	**-3.0**
	comp=Z,2.4nm,0.3s,baz=93,slow=22,SNR=2.0						
MMAI				Lg	Lg	21 37 40.7	
	comp=Z,7.2nm,0.3s,baz=82,slow=32,SNR=4.0						
MMAI				LR	LR	21 40 13.0	
	comp=Z,1μm,18.7s,baz=75,slow=46						
IMOG	**Moghan**	**10.30**	**68**	*e*Pn	**Pn**	**21 34 47.8**	**+2.5**
IDAH	**Dahanechah**	**10.36**	**87**	*e*Pn	**Pn**	**21 34 49.0**	**+2.9**
AJN	**Ajban**	**10.40**	**139**	*i* P	**Pn**	**21 34 46.1**	**-0.4**
	SNR=33						
AJN	**Ajban**	**10.40**	**139**	P	**Pn**	**21 34 47.7**	**+1.2**
	SNR=33						
NAZ	**Nazwa, Dubai**	**10.46**	**135**	*i* P	**Pn**	**21 34 47.0**	**-0.2**
	SNR=62						
NAZ	**Nazwa, Dubai**	**10.46**	**135**	P	**Pn**	**21 34 48.0**	**+0.7**
	SNR=62						
ZEI	**Tsey**	**10.47**	**345**	*e*P	**Pn**	**21 34 51.7**	**+4.1**
ZEI				pmax	pmax		
	comp=Z,55nm,1.0s						
MSFE	**Esma-Masafi**	**10.49**	**132**	*i* P	**Pn**	**21 34 46.5**	**-1.2**
	SNR=22						
GROC	**Groznyy**	**10.57**	**353**	*e*P	**Pn**	**21 34 50.1**	**+1.4**
GROC				pmax	pmax		
	comp=Z,44nm,1.0s						
GROC				MLR	MLR		
	comp=Z,2μm,9.0s						
FAQ	**Al Faqa, Dubai**	**10.60**	**136**	*i* P	**Pn**	**21 34 47.9**	**-1.3**
	SNR=7.5						
FAQ	**Al Faqa, Dubai**	**10.60**	**136**	P	**Pn**	**21 34 52.0**	**+2.8**
	SNR=15						
FAQ				S	**Sn**	**21 36 43.1**	**-4.7**
	SNR=5.5						
MDH	**Madha**	**10.62**	**132**	*i* P	**Pn**	**21 34 48.2**	**-1.3**
	SNR=19						
MDH	**Madha**	**10.62**	**132**	P	**Pn**	**21 34 50.1**	**+0.6**
	SNR=15						
NHDN	**Nehbandan**	**10.67**	**94**	*e*Pn	**Pn**	**21 34 50.9**	**+0.6**
UOSS	**Minazif**	**10.82**	**133**	*i* P	**Pn**	**21 34 51.1**	**-1.0**
	SNR=28						
UOSS	**Minazif**	**10.82**	**133**	Pn	**Pn**	**21 34 51.0**	**-1.2**
HATD	**Hatta, Dubai**	**10.86**	**134**	*i* P	**Pn**	**21 34 52.0**	**-0.8**
	SNR=35						
HATD	**Hatta, Dubai**	**10.86**	**134**	P	**Pn**	**21 34 52.4**	**-0.4**
	SNR=35						
HATD				S	**Sn**	**21 36 51.6**	**-2.6**
	SNR=6.7						
ASHO	**Ashiyiah**	**10.92**	**135**	*i* P	**Pn**	**21 34 52.6**	**-1.1**
	SNR=64						
ASHO	**Ashiyiah**	**10.92**	**135**	P	**Pn**	**21 34 53.0**	**-0.7**
	SNR=64						
ASHO				P		21 34 53.1	
	SNR=45						
ASHO				S	**Sn**	**21 36 54.3**	**-1.5**
	SNR=5.2						
IMYA	**Miami**	**10.95**	**67**	*e*Pn	**Pn**	**21 34 57.5**	**+3.3**
HRFI	**Mount Harif**	**11.04**	**259**	*e*Pn	**Pn**	**21 34 55.1**	**-0.1**
EIL	**Elat**	**11.22**	**258**	Pn	**Pn**	**21 34 56.5**	**-1.2**
	comp=Z,2.9nm,0.3s,baz=65,slow=4.2,SNR=18						
EIL				Lg	Lg	21 38 14.4	
	comp=Z,4.5nm,0.3s,baz=221,slow=19,SNR=2.1						
EIL				LR	LR	21 40 26.6	
	comp=Z,4μm,18.8s,baz=78,slow=44						
ALNE	**Al Ain**	**11.23**	**138**	*i* P	**Pn**	**21 34 57.4**	**-0.4**
	SNR=34						
KBZ	**Khabaz**	**11.60**	**343**	Pn	**Pn**	**21 35 05.9**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=162,slow=8.9,SNR=26						
KBZ				LR	LR	21 40 08.0	
	comp=Z,5μm,21.6s,baz=147,slow=41						
KBZ	**Khabaz**	**11.60**	**343**	*ce*P	**Pn**	**21 35 04.6**	**+1.8**
SOHO	**SOHO**	**11.62**	**135**	*i* P	**Pn**	**21 35 02.0**	**-1.1**
	SNR=47						
KVAR	**Kislovodsk Arr**	**11.86**	**343**	Pn	**Pn**	**21 35 11.1**	**+4.6**
	baz=73,slow=20,SNR=14						
KVAR				LR	LR	21 39 19.8	
	comp=Z,6μm,21.8s,baz=70,slow=36						
KIV	**Kislovodsk**	**11.87**	**343**	*i* P	Pn	21 35 11.2	+4.7
	SNR=59						
KIV	**Kislovodsk**	**11.87**	**343**	*e*P	**Pn**	**21 35 07.8**	**+1.3**
KIV				*e*S	**Sn**	**21 37 23.1**	**+4.3**
KIV				pmax	pmax		
	comp=Z,498nm,1.0s						
KIV				MLR	MLR		
	comp=Z,4μm,11.0s						
KIV	**Kislovodsk**	**11.87**	**343**		**Pn**	**21 35 10.0**	**+3.4**
CSS	**Mathiatis**	**12.05**	**285**	Pn	**Pn**	**21 35 10.2**	**+1.1**
ARQ	**Araqi**	**12.23**	**138**	P	**Pn**	**21 35 12.0**	**+0.5**
	SNR=37						
HRA	**Herat**	**12.36**	**78**	Pn	**Pn**	**21 35 13.8**	**+0.4**
SOC	**Sochi**	**12.49**	**333**	*e*P	**Pn**	**21 35 17.1**	**+2.2**
SOC				pmax	pmax		
	comp=Z,122nm,0.8s						
SOC				MLR	MLR		
	comp=Z,1μm,9.0s						
HOQ	**Hoqain**	**12.50**	**134**	P	**Pn**	**21 35 16.0**	**+0.7**
	SNR=12						
GOF	**Gofitskoye**	**12.82**	**345**	⇑*e*P	**Pn**	**21 35 23.0**	**+3.5**
GOF				pmax	pmax		
	comp=Z,62nm,1.1s						
BIDO	**Bidbid**	**13.05**	**132**	P	**Pn**	**21 35 25.0**	**+2.3**
	SNR=7.1						
BIDO				P	P	21 35 25.0	-8.1
	SNR=12						
BSY	**Bisya**	**13.07**	**137**	P	**Pn**	**21 35 22.0**	**-1.1**
	SNR=71						
BR131	**Keskin Array S**	**13.24**	**306**	P	**Pn**	**21 35 26.9**	**+1.5**
BR131	**Keskin Array S**	**13.24**	**306**	Pn	**Pn**	**21 35 26.9**	**+1.5**
BRTR	**Keskin Array B**	**13.24**	**306**	Pn	**Pn**	**21 35 25.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=125,slow=12,SNR=36						
BRTR				LR	LR	21 42 05.8	
	comp=Z,1μm,21.0s,baz=94,slow=44						
BRTR	**Keskin Array B**	**13.24**	**306**	P	**Pn**	**21 35 26.2**	**+0.8**
BRTR	**Keskin Array B**	**13.24**	**306**	Pn	**Pn**	**21 35 26.2**	**+0.8**
SMDO	**Samad**	**13.34**	**133**	P	**Pn**	**21 35 26.0**	**-0.8**
	SNR=50						
WSAR	**Wadi Sarin**	**13.57**	**131**	Pn	**Pn**	**21 35 27.6**	**-2.3**
	comp=Z,9.6nm,0.3s,baz=307,slow=11,SNR=54						
WSAR				Sn	Sn	21 37 50.1	-10
	comp=Z,2.6nm,0.3s,baz=90,slow=20,SNR=1.5						
WSAR				LR	LR	21 41 31.9	
	comp=Z,3μm,20.9s,baz=326,slow=41						
WSAR	**Wadi Sarin**	**13.57**	**131**	P	**Pn**	**21 35 27.5**	**-2.3**
	SNR=63						
ILGA	**Ilgaz**	**13.86**	**311**	Pn	**Pn**	**21 35 36.0**	**+2.2**
JMDO	**Jabal Madar**	**13.89**	**135**	P	**Pn**	**21 35 34.0**	**-0.2**
	SNR=17						
WBK	**Wadi Bani Khal**	**14.24**	**132**	P	**Pn**	**21 35 37.4**	**-1.6**
	SNR=41						
ANN	**Anapa**	**14.42**	**330**	*e*P	**Pn**	**21 35 42.0**	**+0.7**
ANN				*e*S	**Sn**	**21 38 26.3**	**+5.3**
ANN				pmax	pmax		
	comp=Z,277nm,1.3s						
ANN				MLR	MLR		
	comp=N,4μm,14.0s						
ANN				MLR	MLR		
	comp=Z,3μm,15.0s						
ANN				MLR	MLR		
	comp=E,1μm,11.0s						
ISP	**Isparta**	**14.83**	**295**	P	**Pn**	**21 35 48.6**	**+1.6**
ISP	**Isparta**	**14.83**	**295**	Pn	**Pn**	**21 35 48.6**	**+1.6**
JLN	**Jalan Bani Buh**	**14.86**	**132**	P	**Pn**	**21 35 48.0**	**+0.7**
	SNR=12						
MHTO	**MHTO**	**14.90**	**139**	P	**Pn**	**21 35 45.6**	**-2.4**
	SNR=52						
ELL	**Elmali**	**15.07**	**290**	P	**Pn**	**21 35 50.5**	**+0.2**
ELL				pmax	pmax		
	comp=Z,428nm,1.0s						
ELL	**Elmali**	**15.07**	**290**	Pn	**Pn**	**21 35 50.5**	**+0.2**
MDUB	**Mudurnu**	**15.25**	**305**	Pn	**Pn**	**21 35 53.5**	**+0.8**
DQM	**DQM**	**15.54**	**143**	P	**Pn**	**21 35 55.0**	**-1.4**
	SNR=67						
SIM	**Simferopol'**	**16.08**	**323**	*i* P	**Pn**	**21 36 03.4**	**+0.1**
SIM				pmax	pmax		
	comp=Z,32nm,0.4s						
ABTO	**Aybut**	**16.14**	**160**	P	**Pn**	**21 36 02.0**	**-2.3**
	SNR=12						
RBK	**Rabkut**	**16.28**	**157**	P	**Pn**	**21 36 04.0**	**-2.1**
	SNR=23						
SHAO	**Shalim**	**16.32**	**152**	*i* P	**Pn**	**21 36 03.4**	**-3.1**
	SNR=11						
SHAO	**Shalim**	**16.32**	**152**	P	**Pn**	**21 36 04.3**	**-2.3**
	SNR=12						
DMTO	**DMTO**	**16.34**	**154**	P	**Pn**	**21 36 04.0**	**-2.8**
	SNR=30						
MANT	**Manisa**	**16.50**	**296**		**Pn**	**21 36 08.6**	**-0.3**
KARP	**Karpathos**	**17.13**	**285**	P	**P**	**21 36 19.6**	**+1.2**
KARP				IAmb	IAmb	21 36 28.8	
	comp=Z,175nm,0.8s						
KBL	**Kabul**	**17.98**	**78**	P	**P**	**21 36 29.6**	**+1.6**
	SNR=76						
KBL	**Kabul**	**17.98**	**78**	P	**Pn**	**21 36 27.3**	**-0.1**
KBL				pmax	pmax		
	comp=Z,224nm,1.4s						
KBL	**Kabul**	**17.98**	**78**		**Pn**	**21 36 27.3**	**-0.1**
PRK	**Paraskevi**	**18.41**	**297**	P	**P**	**21 36 32.6**	**+0.1**
CHGR	**Chuyangaron**	**18.50**	**65**	P	**P**	**21 36 32.6**	**-1.0**
MANR	**Mangalia**	**18.54**	**312**	⇓P	**Pn**	**21 36 35.1**	**+1.1**
SANT	**Santorini**	**18.57**	**287**	P	**P**	**21 36 33.6**	**-0.7**
APE	**Apeiranthos**	**18.59**	**290**	⇓P	**P**	**21 36 34.8**	**+0.3**
APE	**Apeiranthos**	**18.59**	**290**	⇓P	**P**	**21 36 34.8**	**+0.3**
EFOR	**EFORIE**	**18.64**	**313**	⇑P	**Pn**	**21 36 36.1**	**+0.9**
PSN	**Preselentsi**	**18.72**	**311**	*i* P	**Pn**	**21 36 37.1**	**+0.9**
MFTR	**Murfatlar**	**18.82**	**313**	⇓P	**Pn**	**21 36 38.5**	**+1.1**
JURR	**Jurilovca**	**18.86**	**315**	⇑P	**P**	**21 36 37.1**	**-0.2**
EDRB	**Edirne**	**18.88**	**305**	P	**P**	**21 36 36.1**	**-1.5**
ABKAR	**Akbulak array**	**18.95**	**26**	P	**P**	**21 36 39.0**	**+0.7**
ABKAR				IAmb	IAmb	21

RZN	Rozhen	20.25	303	*i*	P		P	21 36 53.5	+0.8		
GRER		20.33	314	⇑	P		Pn	21 36 56.0	+0.6		
PETR	Petresti	20.36	316	⇑	P		P	21 36 54.2	+0.5		
SGRR	Singureni	20.39	311	⇓	P		P	21 36 54.0	+0.1		
PLD	Plovdiv	20.39	304	*i*	P		P	21 36 53.8	-0.3		
SULR		20.42	312	⇓	P		Pn	21 36 56.1	-0.3		
ISR	Istrita	20.46	313	⇓	P		Pn	21 36 56.8	-0.2		
ISR	Istrita	20.46	313	⇓	P		Pn	21 36 56.8	-0.2		
ODBI	Odobesti	20.48	315	⇓	P		P	21 36 55.3	+0.3		
VASR	Vaslui	20.55	318	⇑	P		P	21 36 57.4	+1.7		
VLI	Veliai	20.62	288		P		P	21 36 55.4	-1.3		
SECR		20.71	313	⇑	P		P	21 36 58.7	+1.2		
LOUT	Loutraki	20.72	292		P		P	21 36 56.9	-0.8		
LTK	Loutraki	20.73	292		P		P	21 36 57.9	+0.1		
VRI	Vrincioaia	20.73	315	⇑	P		P	21 36 58.4	+0.6		
VRI	Vrincioaia	20.73	315	⇑	P		P	21 36 58.4	+0.6		
NEO	Neokhori	20.74	295		P		P	21 36 56.9	-1.0		
NVR	Nevrokopi	20.75	301		P		P	21 36 57.4	-0.7		
NEHR	Nehoiu	20.76	314	⇑	P		Pn	21 36 60.0	-0.6		
PLOR	Plostina	20.77	315	⇓	P		P	21 36 58.4	+0.2		
PLOR	Plostina	20.77	315	⇓	P		P	21 36 58.4	+0.2		
XOR	Xorichti	20.77	296		P		P	21 36 57.9	-0.4		
LKR	Lokris	20.79	293		P		P	21 36 58.9	+0.4		
PLG	Polygyros	20.80	298		P		P	21 36 56.9	-1.7		
KK31	Karatay Array	20.80	53		IAmb		IAmb	21 37 07.6			
	comp=Z,216nm,1.1s										
KKAR	Karatay Array	20.80	53		P		P	21 36 58.3	-0.3		
KKAR	Karatay Array	20.80	53		P		P	21 36 58.3	-0.3		
KKAR	Karatay Array	20.80	53		IAmb		IAmb	21 37 07.6			
	comp=Z,216nm,1.1s										
COPA	Copaceanca	20.83	310	⇑	P		P	21 36 59.5	+0.6		
LPSR	Galich'ya Gora	20.85	345	*eP*			P	21 36 57.2	-1.7		
LPSR				*eS*			S	21 40 44.1	-6.9		
	comp=N,1μm,15.4s										
LPSR					smax		smax				
	comp=Z,2μm,14.0s										
SRS	Serrai	20.88	301		P		P	21 36 58.4	-1.1		
MMB	Musomiste	20.92	302	*i*	P		P	21 37 00.2	+0.3		
PGB	Panagyurishte	20.92	305	*i*	P		P	21 37 00.2	+0.3		
SOH	Sokhos	20.98	300		P		P	21 37 00.5	0.0		
MLR	Muntele Rosu	21.01	314		P		P	21 37 01.3	+0.4		
	comp=Z,115nm,1.0s,baz=118,slow=6.2,SNR=80										
MLR	Muntele Rosu	21.01	314	⇑	P		P	21 37 02.5	+1.6		
MLR	Muntele Rosu	21.01	314	⇑	P		P	21 37 02.5	+1.6		
MLR	Muntele Rosu	21.01	314		P		P	21 37 00.6	-0.3		
MLR					IAmb		IAmb	21 37 11.3			
	comp=Z,191nm,0.9s										
HORT	Hortiatis	21.11	299		P		P	21 37 01.0	-1.0		
VLX	Vlachokerasia	21.12	290		P		P	21 37 01.0	-1.1		
DSF	Desfina	21.12	293		P		P	21 37 02.0	-0.1		
TESR	Tescani	21.13	317	⇑	P		P	21 37 02.2	+0.2		
HUMR	Humele	21.16	310	⇑	P		P	21 37 02.8	+0.4		
SORM	Soroca	21.16	322	⇑	P		P	21 37 00.4	-1.9		
SORM	Soroca	21.16	322	⇑	P		P	21 37 00.4	-1.9		
GUR	Goura	21.21	291		P		P	21 37 01.5	-1.6		
SOCY	Socotra	21.25	162		P		P	21 37 00.7	-3.0		
DZA	Taraz	21.29	55	*eP*			P	21 37 04.0	+0.2		
	baz=55										
DZA					LR		LR	21 45 44.9			
	baz=55										
DZA	Taraz	21.29	55	*eP*			P	21 37 04.0	+0.2		
VLAD	Vladila	21.31	309	⇑	P		P	21 37 04.5	+0.6		
STFAR	Stefanesti-Arg	21.32	311	⇓	P		P	21 37 06.0	+1.8		
AGG	Agios Georgios	21.37	294		P		P	21 37 04.5	-0.2		
AGG	Agios Georgios	21.37	294		IAmb		IAmb	21 37 32.6			
	comp=Z,180nm,1.1s										
OZUR		21.41	315	⇑	P		P	21 37 05.4	+0.3		
LIT	Litokhoron	21.45	297		P		P	21 37 05.5	-0.1		
LIT	Litokhoron	21.45	297		IAmb		IAmb	21 37 08.2			
	comp=Z,239nm,1.9s										
ITM	Ithomi	21.46	289		P		P	21 37 04.5	-1.3		
ITM	Ithomi	21.46	289		IAmb		IAmb	21 37 19.1			
	comp=Z,179nm,0.8s										
NIL	Nilore	21.50	80		P		P	21 37 05.5	-0.7		
NIL					pmax		pmax				
	comp=Z,98nm,0.8s										
NIL					MLR		MLR				
	comp=Z,4μm,22.0s										
NIL	Nilore	21.50	80		P		P	21 37 05.5	-0.7		
NIL					IAmb		IAmb	21 37 31.7			
	comp=Z,98nm,0.8s										
NIL	Nilore	21.50	80		IAMs_20		IAMs_20	21 46 20.3			
	comp=Z,4μm,22.0s										
ATD	Arta Tunnel	21.52	193		P		P	21 37 08.4	+1.9		
	comp=Z,49nm,0.9s,baz=352,slow=5.8,SNR=19										
ATD					LR		LR	21 46 15.7			
	comp=Z,5μm,19.0s,baz=13,slow=39										
ATD	Arta Tunnel	21.52	193		P		P	21 37 09.9	+3.5		
	SNR=16										
ATD	Arta Tunnel	21.52	193		P		P	21 37 08.3	+1.9		
ATD					IAmb		IAmb	21 37 14.5			
	comp=Z,359nm,1.6s										
ATD					IAMs_20		IAMs_20	21 46 05.1			
	comp=Z,5μm,19.0s										
DOPR	Dopca	21.58	314	⇑	P		P	21 37 06.8	-0.1		
VTS	Vitosha	21.59	304	*i*	P		P	21 37 07.4	+0.2		
PYL	PYLOS	21.59	288		P		P	21 37 04.0	-3.1		
AMT	Artemida-Makis	21.67	290		P		P	21 37 07.0	-0.9		
TEND	Ethiopian Broa	21.67	198	*eP*			P	21 37 10.3	+2.2		
TEND				*eS*			Sn	21 41 15.2	-1.6		
VAY	Valandovo	21.68	300	*i*	P		P	21 37 07.3	-0.3		
VAY				*eS*			S	21 41 04.8	-2.9		
THL	Klokotos Trika	21.70	296		P		P	21 37 07.5	-0.7		
DRO	Drossia	21.71	291		P		P	21 37 07.5	-0.8		
EVR	Evrytania	21.75	294		P		P	21 37 08.6	-0.3		
ARR	Arges	21.76	312	⇑	P		P	21 37 10.2	+1.3		
PRAR	RASCA	21.84	318	⇑	P		P	21 37 08.7	-1.0		
PVO	Paravola	21.93	293		P		P	21 37 10.1	-0.6		
ARSB	Arslanbob	21.98	60		IAmb		IAmb	21 37 26.7			
	comp=Z,179nm,1.1s										
STIP	Stip	22.06	301	*i*	P		P	21 37 09.9	-2.1		
LOT	Lotru	22.34	312	⇓	P		P	21 37 14.7	-0.4		
SRE	Strehaia	22.36	309	⇓	P		P	21 37 16.5	+1.2		
SRE	Strehaia	22.36	309	⇓	P		P	21 37 16.5	+1.2		
PUNG	Punghina	22.39	308	⇓	P		P	21 37 16.9	+1.3		
AKASG	Malin Array Be	22.50	328		P		P	21 37 14.1	-2.5		
	comp=Z,100nm,0.8s,baz=136,slow=8.8,SNR=88										
AKASG					PcP		PcP	21 41 10.1	-0.3		
	comp=Z,2.3nm,0.5s,baz=92,slow=1.7,SNR=5.0										
AKASG					LR		LR	21 47 39.4			
	comp=Z,1μm,18.3s,baz=150,slow=41										
AKASG	Malin Array Be	22.50	328	*i*	P		P	21 37 14.8	-1.8		
AKASG					pmax		pmax				
	comp=Z,100nm,0.8s										
AKASG	Malin Array Be	22.50	328		P		P	21 37 13.9	-2.7		
AKBB	Malin Array Si	22.50	328	*i*	P		P	21 37 14.7	-1.9		
AKBB	Malin Array Si	22.50	328		P		P	21 37 14.9	-1.7		
AKBB					IAmb		IAmb	21 37 19.0			
	comp=Z,180nm,1.0s										
BURAR	Bucovina Array	22.55	318	⇓	P		P	21 37 17.5	+0.1		
BURAR	Bucovina Array	22.55	318	⇓	P		P	21 37 17.5	+0.1		
BURAR	Bucovina Array	22.55	318		P		P	21 37 16.3	-1.1		
BUR08	Bucovina Ar. S	22.57	318		IAmb		IAmb	21 37 23.9			
	comp=Z,100nm,0.8s										
LKD2	Lefkada island	22.63	293		P		P	21 37 15.7	-2.5		
SKO	Skopje	22.67	302	*i*	P		P	21 37 18.1	-0.6		
SKO				*eS*			S	21 41 24.1	-2.3		
DESE	Dese	22.69	201	*eP*			P	21 37 19.7	+0.3		
DESE				*eS*			Sn	21 41 37.7	-4.0		
AML	Almayashu	22.71	58		P		P	21 37 20.4	+1.0		
	SNR=67										
ARCR	ARCALIA	22.77	316	⇑	P		P	21 37 20.2	+0.6		
EKS2	Erkin-Say	22.92	57		P		P	21 37 22.5	+1.2		
	SNR=38										
OHR	Ohrid	22.93	299	*i*	P		P	21 37 21.8	+0.5		
OHR				*i*	S		S	21 41 29.2	-1.9		
HERR	Herculane	22.97	309	⇓	P		P	21 37 21.7	0.0		
CJR	Cluj-Napoca	23.03	314	⇑	P		P	21 37 22.0	-0.4		
CJR	Cluj-Napoca	23.03	314	⇑	P		P	21 37 22.0	-0.4		
DEV	Deva	23.07	312	⇓	P		P	21 37 23.6	+0.8		
DEV	Deva	23.07	312	⇓	P		P	21 37 23.6	+0.8		
UCH	Uchtor	23.32	58		P		P	21 37 28.1	+2.2		
	SNR=27										
MDVR	Moldovita	23.39	309	⇓	P		P	21 37 26.8	+0.8		
AAK	Ala-Archa	23.42	57		P		P	21 37 26.8	+0.3		
	comp=Z,8.7nm,0.6s,baz=229,slow=7.3,SNR=18										
AAK					PcP		PcP	21 41 12.6	-0.1		
	comp=Z,9.1nm,0.7s,baz=205,slow=1.5,SNR=4.5										
AAK					ScP		ScP	21 44 50.1	-0.4		
	comp=Z,3.8nm,0.8s,baz=243,slow=2.3,SNR=5.2										
AAK	Ala-Archa	23.42	57		P		P	21 37 28.9	+2.4		
	SNR=10										
AAK	Ala-Archa	23.42	57	*i*	P		P	21 37 28.4	+1.9		
	SNR=20										
AAK	Ala-Archa	23.42	57	*ce*	P		P	21 37 25.9	-0.6		
AAK					pmax		pmax				
	comp=Z,43nm,1.7s										
AAK	Ala-Archa	23.42	57		P		P	21 37 26.1	-0.4		
BMR	Baia Mare	23.57	316	⇑	P		P	21 37 27.7	0.0		
BMR	Baia Mare	23.57	316	⇑	P		P	21 37 27.7	0.0		
USP	Ospenovka	23.60	56		P		P	21 37 31.0	+2.8		
	SNR=51										
TIR	Tirane	23.66	299	⇓	P		P	21 37 29.8	+1.1		
TIR	Tirane	23.66	299	⇓	P		P	21 37 29.8	+1.1		
TIR	Tirane	23.66	299		P		P	21 37 28.0	-0.7		
TIR					IAmb		IAmb	21 38 14.9			
	comp=Z,99nm,1.0s										
CHMS	Chumysh	23.70	56		P		P	21 37 30.5	+1.4		
	SNR=34										
OBN	Obninsk	23.70	344		P		P	21 37 27.4	-1.5		
	comp=Z,42nm,0.9s,baz=143,slow=3.2,SNR=62										
OBN					LR		LR	21 47 29.3			
	comp=Z,442nm,21.7s,baz=157,slow=38										
OBN	Obninsk	23.70	344	⇑	P		P	21 37 27.8	-1.2		
OBN	Obninsk	23.70	344	*ce*	P		P	21 37 27.7	-1.2		
OBN				*e*				21 37 36.9			
OBN				*e*				21 37 44.1			
OBN				*e*				21 38 00.7			
OBN				*eS*			S	21 41 41.7	-1.7		
OBN				*eSS*			SSS	21 42 31.7			
OBN					pmax		pmax				
	comp=Z,403nm,1.3s										
OBN					MLR		MLR				
	comp=Z,2μm,16.0s										
OBN	Obninsk	23.70	344		P		P	21 37 28.2	-0.7		
KBK	Karagaybulak	23.75	57		P		P	21 37 32.1	+2.4		
	SNR=39										
SGDS	Sogindy	23.75	55	*eP*			P	21 37 29.2	-0.4		
	comp=Z,122nm,1.3s,baz=56										
SGDS					LR		LR	21 47 14.0			
	comp=Z,618nm,11.5s,baz=56										
SGDS	Sogindy	23.75	55	*eP*			P	21 37 29.2	-0.4		
SGDS					pmax		pmax				
	comp=Z,122nm,1.3s										
SGDS					MLR		MLR				
	comp=Z,617nm,12.0s										
BZS	Buzias	23.78	310	⇑	P		P	21 37 28.9	-0.9		
BZS	Buzias	23.78	310	⇑	P		P	21 37 28.9	-0.9		
KZA	Kyzart	23.81	59		P		P	21 37 32.0	+1.4		
	SNR=34										
KSH	Kashi	23.87	65		P		P	21 37 29.0	-1.9		
KSH					S		S	21 41 38.6	-8.1		
KSH					pmax		pmax				
	comp=Z,41nm,0.8s										
KSH					pmax		pmax				
	comp=Z,800nm,5.2s										
KSH					LR		LR				
	comp=Z,8μm,15.6s										
KSH					LR		LR				
	comp=Z,2μm,13.7s										
KSH					LR		LR				
	comp=Z,6μm,22.3s										
BTLS	Baital	23.89	51	*eP*			P	21 37 30.5	-0.5		
	comp=Z,67nm,1.5s,baz=52										
BTLS				*eS*			S	21 41 48.9	+2.2		
	baz=52										
BTLS	Baital	23.89	51	*eP*			P	21 37 30.4	-0.5		
BTLS				*eS*			S	21 41 48.9	+2.2		
BTLS					pmax		pmax				
	comp=Z,67nm,1.5s										
BANR	Banloc	24.00	310	⇑	P		P	21 37 32.1	+0.3		
SIRR	Siria	24.02	312	⇓	P		P	21 37 33.1	+1.0		
MOS	Moscow	24.06	346	*eP*			P	21 37 32.1	-0.2		
MOS				*e*				21 38 06.2			
MOS				*eS*			S	21 41 52.1	+3.1		
MOS				*eSS*			SnSn	21 42 33.7	+3.8		
MOS					pmax		pmax				
	comp=Z,289nm,1.5s										
MOS					MLR		MLR				
	comp=Z,1μm,17.0s										
ANKE	Ethiopia-Afar	24.11	199	*eP*			P	21 37 34.1	+0.5		
ANKE				*eS*			S	21 41 53.1	+1.8		
TKM2	Tokmak 2	24.28	57		P		P	21 37 36.1	+1.4		
	SNR=33										
DIVS	Divibare	24.31	306	*eP*			P	21 37 34.7	-0.2		
DRME	Dracevica, Mon	24.35	301	⇑	*iP*		P	21 37 34.2	-1.0		
PDG	Podgorica	24.36	302	⇑	P		P	21 37 34.8	-0.4		
PDG	Podgorica	24.36	302	⇑	*iP*		P	21 37 34.7	-0.5		
LVV	L'vov	24.45	321	*eP*			P	21 37 35.6	-0.3		
LVV				*e*				21 38 13.1			
LVV				*eS*			S	21 41 49.1	-6.4		
LVV				*e*				21 42 54.2			
LVV					pmax		pmax				
	comp=Z,200nm,1.4s										
SCTE	Santa Cesarea	24.48	296		P		P	21 37 36.0	-0.3		
SCTE					IAmb		IAmb	21 37 37.6			
	comp=Z,134nm,1.5s										
ULHL	Ulahol	24.57	59		P		P	21 37 39.3	+1.9		
	SNR=27										
RUDO	Rudo	24.59	304	*eP*			P	21 37 39.0	+1.6		
BBLS	Lazići	24.64	305	*eP*			P	21 37 38.3	+0.4		
UZH	Uzhgorod	24.75	317	*eP*			P	21 37 39.0	+0.3		
UZH				*e*				21 37 51.8			
UZH				*e*				21 38 11.2			
UZH				*e*				21 38 21.8			
UZH				*eS*			S	21 41 57.4	-3.0		
UZH				*eSS*			SnSn	21 43 10.4	+23		
UZH					MLR		MLR				
	comp=N,200nm,15.0s										
UZH					MLR		MLR				
	comp=E,250nm,15.0s										
UZH					MLR		MLR				
	comp=Z,130nm,15.0s										
TEKS	Tekeris	24.77	307	*eP*			P	21 37 39.6	+0.6		
FRGS	Fruska Gora	24.79	308	*eP*			P	21 37 38.8	-0.3		
HCY	Herceg Novi	24.91	301	*eP*			P	21 37 39.6	-0.6		
ARU	Arti	24.92	15		P		P	21 37 40.1	0.0		
	comp=Z,8.6nm,0.5s,baz=193,slow=9.7,SNR=34										
ARU					ScP		ScP	21 44 53.0	-1.1		
	comp=Z,2.9nm,0.8s,baz=238,slow=4.8,SNR=3.9										
ARU					LR		LR	21 50 07.5			
	comp=Z,1μm,21.1s,baz=158,slow=43										
ARU	Arti	24.92	15	*c*	*iP*		P	21 37 40.1	0.0		
ARU					PPP		PPP	21 38 19.9			
ARU								21 41 09.4			
ARU					SS		S	21 42 56.6	+54		
ARU					SSS		SSS	21 43 15.6			
ARU					pmax		pmax				
	comp=Z,163nm,1.4s										
ARU	Arti	24.92	15		P		P	21 37 39.9	-0.2		
KOLS	Kolonicke sedl	24.92	318	*eP*			P	21 37 40.2	0.0		
KOLS					pmax		pmax				
	comp=Z,1μm,2.7s										
KOLS	Kolonicke sedl	24.92	318	*eP*			P	21 37 40.2	0.0		
KOLS				*eS*			S	21 42 07.3	+4.2		
MTBS	Maitube	24.92	57	*eP*			P	21 37 40.4	-0.1		
	baz=57										
MTBS	Maitube	24.92	57	*eP*			P	21 37 40.3	-0.1		
BRY	Bratogost	24.98	302	*eP*			P	21 37 40.4	-0.7		
KWP	Kalwaria Pacla	25.05	320	*eP*			P	21 37 41.9	+0.5		
KWP				*eS*			S	21 42 05.2	0.0		
KUU	Kurty	25.07	55	*eP*			P	21 37 41.2	-0.4		
	comp=Z,92nm,1.1s,baz=55										
KUU				*eS*			S	21 42 07.7	+2.0		
	baz=55										
KUU					LR		LR	21 47 51.2			
	comp=Z,1μm,11.7s,baz=55										
KUU	Kurty	25.07	55	*eP*			P	21 37 41.2	-0.4		
KUU				*eS*			S	21 42 07.6	+2.0		
KUU					pmax		pmax				
	comp=Z,92nm,1.1s										
KUU					MLR		MLR				
	comp=Z,1μm,12.0s										
TREB	Trebinje	25.07	302	*eP*			P	21 37 41.2	-0.5		
DBRK	Dubrovnik	25.21	302	*i*	P		P	21 37 42.8	-0.1		
KDJ	Kajisay	25.22	60		IAmb		IAmb	21 37 52.3			
	comp=Z,126nm,1.1s										
TNSS	Tian-Shan	25.26	57	*eP*			P	21 37 44.4	+0.5		
	baz=58										
TNSS	Tian-Shan	25.26	57	*eP*			P	21 37 44.4	+0.5		
AAA	Alma-Ata	25.28	57	*eP*			P	21 37 44.5	+0.7		
	comp=Z,40nm,1.1s,baz=57										
AAA				*eS*			S	21 42 12.1	+2.9		
	baz=57										
AAA					LR		LR	21 47 46.1			
	comp=Z,955nm,13.0s,baz=57										
AAA	Alma-Ata	25.28	57	*eP*			P	21 37 44.4	+0.7		
AAA				*eS*			S	21 42 12.1	+2.9		
AAA					pmax		pmax				
	comp=Z,40nm,1.1s										
AAA					MLR		MLR				
	comp=Z,955nm,13.0s										
CRVS	Cervenica-Dubn	25.36	317	*eP*			P	21 37 45.0	+0.7		
CRVS					pmax		pmax				
	comp=Z,228nm,1.0s										
CRVS	Cervenica-Dubn	25.36	317	*eP*			P	21 37 45.0	+0.7		
CRVS				*eS*			S	21 42 20.0	+10		
MDOK	Medeo	25.37	57	*eP*			P	21 37 44.3	-0.3		
	baz=57										
MDOK				*eS*			S	21 42 12.7	+1.9		
	baz=57										
MDOK					LR		LR	21 47 39.9			
	baz=57										
MDOK	Medeo	25.37	57	*eP*			P	21 37 44.2	-0.3		
MDOK				*eS*			S	21 42 12.6	+1.9		
BRZS	Berezniki	25.37	40	*eP*			P	21 37 44.6	+0.2		
	comp=Z,49nm,1.4s,baz=40										
BRZS					LR		LR	21 48 14.9			
	baz=40										
BRZS	Berezniki	25.37	40	*eP*			P	21 37 44.5	+0.2		
BRZS					pmax		pmax				
	comp=Z,49nm,1.4s										
CHKK	Chushkaly	25.50	56	*eP*			P	21 37 46.2	+0.5		
	baz=56										
CHKK	Chushkaly	25.50	56	*eP*			P	21 37 46.1	+0.5		
STON	Ston	25.58	302	*i*	P		P	21 37 45.5	-0.7		
TARG	Taragay, Kyrgy	25.60	61		P		P	21 37 47.3	+0.3		
TARG					IAmb		IAmb	21 37 57.9			
	comp=Z,54nm,1.0s										
TIP	Timpagrande	25.69	293	⇓	P		P	21 37 47.4	0.0		
KECS	Kecovo	25.73	316	*eP*			P	21 37 48.2	+0.6		
KECS					pmax		pmax				
	comp=Z,195nm,1.1s										
KECS	Kecovo	25.73	316	*eP*			P	21 37 48.2	+0.6		
SVE	Sverdlovsk	25.75	17	*de*	P		P	21 37 47.7	0.0		
SVE				*eS*			S	21 42 20.9	+4.7		
SVE					pmax		pmax				
	comp=Z,122nm,1.5s										
SVE					MLR		MLR				
	comp=Z,3μm,21.0s										
NDI	New Delhi	25.77	91	*ex*			x	21 37 49.0			
PSZ	Piszkesteto	25.82	314		P		P	21 37 48.2	-0.3		
PSZ					pmax		pmax				
	comp=Z,215nm,0.9s										
PSZ	Piszkesteto	25.82	314		P		P	21 37 48.2	-0.3		
BAI	Bari	25.83	298	*eP*			P	21 37 49.4	+0.8		
MICGM	Minsk	25.87	333	⇑	*iP*		P	21 37 47.0	-1.7		
MICGM					PM			21 37 48.0			
	comp=N,0.7nm,1.5s										
MICGM					PM			21 37 48.0			
	comp=Z,0.9nm,1.5s										
MICGM					PM			21 37 48.0			
	comp=E,0.4nm,1.5s										
MICGM				*e*	PP		sP	21 38 16.0	+21		
MICGM				*eS*			S	21 42 16.0	-2.0		
MICGM				*eSS*			SnSn	21 43 24.0	+10		
MICGM				*eSSS*			SSS	21 44 01.0			
MICGM				*eLR*			LR	21 49 03.0			
MNK	Minsk	25.87	333	⇑	*iP*		P	21 37 47.0	-1.7		
MNK				*eS*			S	21 42 16.0	-2.0		
MNK				*eSS*			SnSn	21 43 24.0	+10		
MNK					pmax		pmax				
	comp=N,720nm,1.5s										
MNK					pmax		pmax				
	comp=E,370nm,1.5s										
MNK					pmax		pmax				
	comp=Z,930nm,1.5s										
MATE	Matera	25.90	297	⇑	P		P	21 37 50.6	+1.5		
KIRV	Kirov	25.91	2		P		P	21 37 48.8	-0.3		
	comp=Z,71nm,0.6s,baz=177,slow=4.5,SNR=28										
KIRV	Kirov	25.91	2	⇑	*eP*		P	21 37 49.1	0.0		
MORH	Mrgy, Hungar	25.93	310	⇑	*iP*		P	21 37 49.6	+0.2		
SG1	Sgolgore (BA)	25.94	297	*eP*			P	21 37 50.4	+0.8		
BRVK	Borovoye	26.08	32	*ce*	P		P	21 37 51.3	+0.6		
BRVK					pmax		pmax				
	comp=Z,56nm,1.3s										
BRVK	Borovoye	26.08	32		P		P	21 37

BEL eS S 21 42 45.4 +4.9
KALN Kalnik 27.33 308 *i* P P **21 38 02.2 +0.1**
ISAL Salakas 27.34 333 *eP* P **21 38 02.0 0.0**
UDBI Udbina 27.34 305 *i* P P **21 38 00.9 -1.4**
IZAR Zarasai 27.43 333 *eP* P **21 38 03.2 +0.4**
VAE Valguarnera 27.46 289 P P **21 38 05.0 +1.5**
comp=Z,8.0nm,0.8s,baz=145,slow=13,SNR=3.6
SUW Suwalki 27.46 328 *eP* P **21 38 03.5 +0.3**
SUW eS S **21 42 52.3 +9.1**
POO Poona 27.49 114 *ex* x 21 38 08.0
ZAG Zagreb 27.55 308 P P **21 38 03.8 -0.2**
PAOL Paolisi 27.55 297 IAmb IAmb 21 38 07.5
comp=Z,93nm,1.5s
KOGS Kog 27.56 309 *i* P P **21 38 04.5 +0.3**
JAVC Velka Javorina 27.57 315 *eP* P **21 38 05.3 +1.1**
JAVC eS S **21 42 47.9 +2.8**
JAVC *e* 21 48 53.9
SMOL Smolenice 27.57 314 *eP* P **21 38 05.0 +0.8**
SMOL pmax pmax
comp=Z,42nm,1.1s
SMOL Smolenice 27.57 314 *eP* P **21 38 05.0 +0.8**
PTJ Puntijarka 27.58 308 P P **21 38 03.9 -0.5**
MODS Modra-Piesok 27.61 313 *eP* P **21 38 03.9 -0.6**
MODS pmax pmax
comp=Z,133nm,1.3s
MODS Modra-Piesok 27.61 313 *eP* P **21 38 03.9 -0.6**
DUGI Dugi Otok 27.70 303 *i* P P **21 38 04.1 -1.4**
OKC Ostrava-Krasne 27.71 317 *eP* P **21 38 05.0 -0.4**
OKC *e* 21 39 05.2
OKC Ostrava-Krasne 27.71 317 *eP* P **21 38 05.0 -0.4**
GOLS Golise 27.84 308 *eP* P **21 38 07.0 +0.3**
CRES Cresnjev 27.90 307 *eP* P **21 38 06.0 -1.2**
BOJS Bojanci 27.95 307 *eP* P **21 38 07.5 -0.1**
BOJS eS S **21 42 50.1 -1.0**
NVLJ Novalja 27.97 305 *i* P P **21 38 06.8 -0.9**
MORC Moravsky Berou 28.04 316 ⇓P P **21 38 08.8 +0.4**
MORC Moravsky Berou 28.04 316 *eP* P **21 38 08.2 -0.2**
MORC eS S **21 42 53.2 +0.7**
MORC *e* 21 48 55.3
MORC Moravsky Berou 28.04 316 ⇓P P **21 38 08.8 +0.4**
MORC Moravsky Berou 28.04 316 IAmb IAmb 21 38 13.7
comp=Z,60nm,1.1s
PABE Paberze 28.14 331 *eP* P **21 38 09.8 +0.6**
PDKS Podkum 28.27 308 *eP* P **21 38 11.2 +0.6**
ARSA Arzberg 28.30 310 *eP* P **21 38 10.2 -0.5**
comp=Z,25nm,1.6s,SNR=11
CONA Conrad Observa 28.32 312 *ep*P P **21 38 10.9 -0.1**
comp=Z,36nm,1.4s,SNR=26
VRAC Vranov 28.40 315 P P **21 38 11.3 -0.3**
comp=Z,38nm,1.1s,baz=113,slow=8.7,SNR=29
VRAC LR LR 21 51 29.1
comp=Z,627nm,20.1s,baz=102,slow=41
VRAC Vranov 28.40 315 ⇑P P **21 38 12.1 +0.5**
VRAC Vranov 28.40 315 *eP* P **21 38 11.9 +0.3**
VRAC eS S **21 43 00.8 +2.7**
VRAC *e* 21 48 57.9
VRAC Vranov 28.40 315 ⇑P P **21 38 12.1 +0.5**
KRUC Moravsky 28.41 314 *eP* P **21 38 11.9 +0.2**
KRUC eS S **21 42 59.0 +0.6**
KRUC *e* 21 48 57.5
SOKA Soboth 28.43 309 *ep*P P **21 38 11.9 -0.2**
comp=Z,18nm,1.1s,SNR=11
SOKA *e*PcP PcP **21 41 24.3 +0.3**
comp=Z,12nm,1.2s
CEY Cerknica 28.57 307 *eP* P **21 38 13.3 +0.1**
LJU Ljubljana 28.58 307 *eP* P **21 38 13.9 +0.6**
LJU eS S **21 43 01.7 +0.6**
LJU Ljubljana 28.58 307 ⇓*i*P P **21 38 14.1 +0.8**
AQU L'Aquila 28.59 300 *eP* P **21 38 15.5 +2.0**
AQU L'Aquila 28.59 300 IAmb IAmb 21 39 03.3
comp=Z,55nm,1.0s
KRLC Kraliky 28.61 316 *eP* P **21 38 13.3 -0.2**
KRLC eS S **21 43 02.4 +0.9**
KRLC MLR MLR
comp=Z,700nm,13.8s
KRLC Kraliky 28.61 316 *eP* P **21 38 13.3 -0.2**
KRLC eS S **21 43 02.4 +0.9**
KRLC AMS AMS 21 52 40.0
comp=Z,700nm,13.8s
KLMR Klimovskoe 28.65 352 *d*⇓*i*P P **21 38 12.7 -0.9**
KLMR eS S **21 43 04.0 +2.3**
KLMR pmax pmax
comp=Z,204nm,0.9s
KLMR MLR MLR
comp=Z,1μm,14.0s
KLMR Klimovskoe 28.65 352 ⇓*i*P P **21 38 12.7 -0.9**
KLMR *i*P P **21 38 12.7 -0.9**
KLMR *i*P P **21 38 12.7 -0.9**
KLMR AMP 21 38 14.5
comp=Z,204nm,0.9s
KLMR eS S **21 43 04.0 +2.3**
KLMR eS S **21 43 04.0 +2.3**
KLMR LQ LQ 21 47 33.7
KLMR LQ LQ 21 47 33.7
KLMR LR LR 21 49 52.8
KLMR AMP 21 51 02.0
comp=Z,1μm,13.9s
OBKA Obir 28.70 308 *ep*P P **21 38 15.1 +0.7**
comp=Z,48nm,1.6s,SNR=11
OBKA *e*PcP PcP **21 41 26.4 +1.8**
comp=Z,13nm,1.5s
KURBB Kurchatov Arra 28.95 43 P P **21 38 17.1 +0.7**
comp=Z,27nm,0.8s,baz=249,slow=9.5,SNR=55
KURBB PcP PcP **21 41 24.9 -0.1**
comp=Z,5.8nm,1.0s,baz=244,slow=3.2,SNR=5.7
KURBB ScP ScP **21 45 05.5 -0.7**
comp=Z,5.8nm,0.8s,baz=244,slow=4.1,SNR=10
PRGR Permogore 28.97 358 ⇑*i*P P **21 38 15.1 -1.4**
PRGR pmax pmax
comp=Z,79nm,0.8s
DPC Dobruska-Polom 28.99 317 *eP* P **21 38 16.7 -0.2**
DPC MLR MLR
comp=Z,700nm,15.7s
DPC Dobruska-Polom 28.99 317 *eP* P **21 38 16.7 -0.2**
DPC AMS AMS 21 53 20.0
comp=Z,700nm,15.7s
VOJS Vojsko 29.01 307 *eP* P **21 38 17.1 -0.1**
VOJS eS S **21 43 07.1 -1.0**
KURK Kurchatov 29.04 42 *ce*P P **21 38 18.2 +1.0**
KURK pmax pmax
comp=Z,59nm,1.0s
KURK Kurchatov 29.04 42 PcP **21 41 24.9 -0.3**
KURK ScP **21 45 05.5 -0.9**
KURK Kurchatov 29.04 42 P P **21 38 17.2 -0.1**
KURK IAmb IAmb 21 38 20.6
comp=Z,44nm,0.8s
TREC Trest 29.05 314 *eS* S **21 43 08.8 +0.3**
TREC AMS AMS 21 53 00.0
comp=Z,1μm,12.8s
OSTC Ostas 29.14 317 *eP* P **21 38 18.1 -0.1**
OSTC AMS AMS 21 54 10.0
comp=Z,700nm,14.4s
KSP Ksiaz 29.23 318 *eP* P **21 38 18.8 -0.1**
KSP eS S **21 43 06.2 -4.9**
UPC Upice 29.24 317 *eP* P **21 38 19.0 -0.1**
UPC MLR MLR
comp=Z,700nm,11.4s
UPC Upice 29.24 317 *eP* P **21 38 19.0 -0.1**
UPC AMS AMS 21 54 20.0
comp=Z,700nm,11.4s
CHVC Chvalec 29.25 317 *eP* P **21 38 19.3 +0.1**
CHVC AMS AMS 21 54 30.0
comp=Z,600nm,12.4s
MOA Molln 29.30 311 *ep*P P **21 38 19.8 +0.2**
comp=Z,19nm,0.7s,SNR=20
MYKA Terra Mystica 29.34 308 *ep*P P **21 38 21.0 +0.9**
comp=Z,29nm,1.5s,SNR=8.7
PBUR Paburge 29.34 330 *eP* P **21 38 20.8 +1.0**
VSU Vasula 29.35 338 *eP* P **21 38 19.5 -0.4**
VSU Vasula 29.35 338 *i* P P **21 38 18.3 -1.6**
VSU pmax pmax
comp=Z,151nm,0.8s
MURB Monte Urbino 29.37 301 IAmb IAmb 21 38 45.4
comp=Z,55nm,1.0s
PUL Pulkovo 29.40 342 *ce*P P **21 38 20.2 -0.1**
PUL pmax pmax
comp=Z,119nm,0.6s
KBA Koelnbreinsper 29.66 309 *ep*P P **21 38 23.0 0.0**
comp=Z,52nm,1.1s,SNR=30
MAKZ Makanchi 29.70 52 P P **21 38 23.7 +0.5**
MAKZ pmax pmax
comp=Z,123nm,2.0s
MAKZ MLR MLR
comp=Z,500nm,21.0s
MAKZ Makanchi 29.70 52 P P **21 38 23.7 +0.5**
MAKZ IAmb IAmb 21 38 26.8
comp=Z,123nm,1.9s
GOPC GO Pecny, Ondr 29.71 315 *eP* P **21 38 23.3 0.0**
GOPC eS S **21 43 20.1 +1.2**
GOPC MLR MLR
comp=Z,1μm,15.2s
GOPC GO Pecny, Ondr 29.71 315 *eP* P **21 38 23.3 0.0**
GOPC eS S **21 43 20.1 +1.2**
GOPC AMS AMS 21 53 00.0
comp=Z,1μm,15.2s
ZOU Zoufplan 29.76 308 P P **21 38 24.6 +0.7**
ZOU IAmb IAmb 21 38 26.2
comp=Z,63nm,1.4s
ZOU PcP PcP **21 41 27.4 -0.1**
STAL STALIGIAL 29.86 307 IAmb IAmb 21 38 26.2
comp=Z,57nm,1.1s
GKP Gorka Klasztor 29.89 322 *eP* P **21 38 25.4 +0.7**
GKP eS S **21 43 22.9 +1.6**
PRU Pruhonice 29.89 315 *eP* P **21 38 24.7 -0.1**
PRU eS S **21 43 19.2 -2.3**
PRU MLR MLR
comp=Z,1μm,15.6s
PRU Pruhonice 29.89 315 *eP* P **21 38 24.7 -0.1**
PRU eS S **21 43 19.2 -2.3**
PRU AMS AMS 21 53 10.0
comp=Z,1μm,15.6s
MKAR Makanchi Array 29.91 52 P P **21 38 25.9 +0.8**
comp=Z,18nm,0.7s,baz=248,slow=8.9,SNR=72
MKAR PcP PcP **21 41 26.8 -0.9**
comp=Z,2.1nm,0.6s,baz=261,slow=3.2,SNR=2.8
GEC2 GERESS Array S 29.98 313 *eP* P **21 38 25.2 -0.5**
comp=Z,26nm,1.1s,baz=110,slow=9.0
GERES GERESS Array B 29.98 313 P P **21 38 25.1 -0.7**
comp=Z,12nm,0.9s,baz=108,slow=8.6,SNR=32
GERES PcP PcP **21 41 27.5 -0.4**
comp=Z,3.7nm,0.9s,baz=131,slow=2.7,SNR=5.0
GERES ScP ScP **21 45 09.4 -0.3**
comp=Z,3.4nm,1.1s,baz=127,slow=2.0,SNR=8.2
GERES GERESS Array B 29.98 313 P P **21 38 25.0 -0.8**
GERES GERESS Array B 29.98 313 ScP ScP **21 45 09.2 -0.6**
PRA Prague 29.99 315 *eP* P **21 38 26.4 +0.8**
PRA MLR MLR
comp=Z,700nm,15.4s
PRA Prague 29.99 315 *eP* P **21 38 26.4 +0.8**
PRA AMS AMS 21 53 20.0
comp=Z,700nm,15.4s
CIMO Cimolais 30.05 307 P P **21 38 26.0 -0.3**
CIMO IAmb IAmb 21 38 28.1
comp=Z,54nm,1.1s
CIMO PcP PcP **21 41 29.3 +1.2**
PVCC Panska Ves 30.09 316 *eP* P **21 38 26.9 +0.4**
PVCC MLR MLR
comp=Z,1μm,12.9s
PVCC Panska Ves 30.09 316 *eP* P **21 38 26.9 +0.4**
PVCC AMS AMS 21 53 40.0
comp=Z,1μm,12.9s
PBCC Pribram 30.10 314 *eP* P **21 38 26.6 -0.1**
ABTA Abfaltersbach 30.12 308 *eP* P **21 38 26.7 -0.2**
comp=Z,36nm,1.1s,SNR=24
ABTA *e*PcP PcP **21 41 28.7 +0.4**
comp=Z,15nm,1.0s
KHC Kasperske Hory 30.16 313 *ce*P P **21 38 27.2 -0.1**
KHC pmax pmax
comp=Z,107nm,1.7s
KHC Kasperske Hory 30.16 313 *eP* P **21 38 26.8 -0.5**
KHC *ex* x 21 38 33.5
KHC eS S **21 43 23.3 -2.6**
KHC AMS AMS 21 56 40.0
comp=Z,700nm,13.7s
CTI Castel Tesino 30.52 306 IAmb IAmb 21 38 34.6
comp=Z,51nm,0.9s
BRG Berggiesshubel 30.59 316 *i* P P **21 38 30.2 -0.8**
comp=Z,33nm,1.0s
BRG S S **21 43 34.0 +1.5**
BRG SCP ScP **21 45 11.2 -0.3**
comp=Z,6.1nm,1.1s
comp=N,1μm,15.4s
comp=E,524nm,12.2s
comp=Z,687nm,14.5s
BRG Berggiesshubel 30.59 316 *i* P P **21 38 30.2 -0.8**
BRG S S **21 43 34.0 +1.5**
BRG 21 45 11.2
BRG pmax pmax
comp=Z,33nm,1.0s
BRG MLR MLR
comp=N,1μm,15.4s
BRG MLR MLR
comp=E,524nm,12.2s
BRG MLR MLR
comp=Z,687nm,14.5s
BRG Berggiesshubel 30.59 316 *eP* P **21 38 30.5 -0.5**
comp=Z,33nm,1.0s,baz=110,slow=9.0
WET Wettzell 30.60 313 *eP* P **21 38 30.2 -0.9**
comp=Z,38nm,1.2s,baz=110,slow=9.0
PYUN Piuthan 30.80 89 *eP* P **21 38 34.1 +0.7**
comp=Z,126nm,1.0s
WTTA Wattenberg 30.83 309 *eP* P **21 38 32.8 -0.6**
comp=Z,114nm,0.9s,SNR=39
WTTA *e*PcP PcP **21 41 31.0 +0.7**
comp=Z,31nm,1.3s
WTTA eS S **21 43 35.3 -1.4**
comp=Z,17nm,1.2s
WATA Walderalm 30.89 309 *eP* P **21 38 33.0 -0.9**
comp=Z,74nm,1.0s,SNR=21
WATA *e*PcP PcP **21 41 31.2 +0.8**
comp=Z,18nm,1.2s
WATA eS S **21 43 36.5 -1.0**
comp=Z,15nm,1.4s
FBE Freiberg 30.95 316 *eP* P **21 38 33.8 -0.3**
comp=Z,28nm,1.1s,baz=110,slow=9.0
VLC Villacollemand 31.04 302 IAmb IAmb 21 39 09.0
comp=Z,60nm,1.0s
SQTA Sankt Quirin 31.10 309 *eP* P **21 38 34.9 -0.8**
comp=Z,103nm,0.9s,SNR=41
SQTA *e*PcP PcP **21 41 31.1 +0.3**
comp=Z,9.1nm,0.7s
SQTA eS S **21 43 42.1 +1.3**
comp=Z,13nm,1.0s
PRMA PARMA 31.19 304 IAmb IAmb 21 38 39.6
comp=Z,57nm,0.9s
MOTA Moosalm 31.20 309 *eP* P **21 38 35.5 -1.1**
comp=Z,85nm,0.8s,SNR=46
MOTA *e*PcP PcP **21 41 31.2 0.0**
comp=Z,19nm,1.1s
MOTA eS S **21 43 39.8 -2.7**
comp=Z,10nm,1.1s
ROTZ Rotzenmuhle 31.22 314 *eP* P **21 38 36.6 +0.1**
comp=Z,96nm,1.0s,baz=110,slow=9.0
NKC Novy Kostel 31.23 315 *eP* P **21 38 36.7 0.0**
NKC eS S **21 43 37.1 -5.5**
NKC MLR MLR
comp=Z,1μm,12.0s
NKC Novy Kostel 31.23 315 *eP* P **21 38 36.7 0.0**
NKC eS S **21 43 37.1 -5.5**
NKC AMS AMS 21 54 30.0
comp=Z,1μm,12.0s
TANN Tannenbergstha 31.29 315 *eP* P **21 38 36.7 -0.6**
comp=Z,40nm,1.3s,baz=110,slow=9.0
WERN Wernitzgruen 31.30 315 *eP* P **21 38 37.0 -0.3**
comp=Z,44nm,1.1s,baz=110,slow=9.0
CLL Collm 31.31 317 *i* P P **21 38 36.9 -0.4**
comp=Z,62nm,1.1s
CLL *e*Pmax 21 38 39.0
CLL eS S **21 43 46.0 +2.3**
CLL *e*PcS PcS **21 45 14.0 -1.2**
CLL *e*SS SnSn **21 45 24.0 -2.7**
CLL *e*SSSS 21 46 06.0
CLL *e* 21 47 06.0
CLL *e*ScS ScS **21 49 14.0 +2.9**
CLL Lm MLR 21 53 00.0
comp=N,700nm,19.9s
CLL Lm MLR 21 53 00.0
comp=E,600nm,18.7s
CLL Lm MLR 21 53 00.0
comp=Z,700nm,18.4s
CLL Lmax 21 55 00.0
CLL Collm 31.31 317 *i* P P **21 38 36.9 -0.4**
CLL eS S **21 43 46.0 +2.3**
CLL *e* 21 49 14.0
CLL pmax pmax
comp=Z,62nm,1.1s
CLL MLR MLR
comp=Z,700nm,18.4s
CLL Collm 31.31 317 *eP* P **21 38 36.9 -0.4**
comp=Z,62nm,1.1s,baz=110,slow=9.0
CLL Collm 31.31 317 IAmb IAmb 21 38 39.1
comp=Z,50nm,1.0s
FUR Furstenfeldbru 31.31 310 *eP* P **21 38 36.9 -0.5**
comp=Z,170nm,0.9s,baz=110,slow=9.0
GUNZ Gunzen 31.35 315 *eP* P **21 38 38.2 +0.4**
comp=Z,37nm,1.2s,baz=110,slow=9.0
RUE Ruedersdorf 31.35 319 *eP* P **21 38 38.3 +0.6**
RUE Ruedersdorf 31.35 319 *eP* P **21 38 37.2 -0.4**
comp=Z,94nm,1.1s,baz=110,slow=9.0
MANZ Manzenberg 31.35 314 *eP* P **21 38 37.4 -0.4**
comp=Z,44nm,1.1s,baz=110,slow=9.0
FETA Feichten 31.37 308 *eP* P **21 38 37.5 -0.6**
comp=Z,65nm,1.1s,SNR=33
FETA *e*PcP PcP **21 41 32.6 +1.0**
comp=Z,24nm,0.9s
FETA eS S **21 43 45.1 0.0**
comp=Z,19nm,2.2s
DANN Dangsing 31.38 88 *eP* P **21 38 39.6 +1.1**
comp=Z,468nm,1.1s
WERD Werda 31.39 315 *eP* P **21 38 37.3 -0.8**
comp=Z,11nm,1.0s,baz=110,slow=9.0
KOLN Koldanda 31.41 89 *eP* P **21 38 39.0 +0.2**
comp=Z,297nm,1.6s
RETA Reutte 31.46 309 *eP* P **21 38 37.7 -1.1**
comp=Z,24nm,0.6s,SNR=12
RETA eS S **21 43 43.0 -3.4**
comp=Z,15nm,1.0s
PLN Plauen 31.50 315 *eP* P **21 38 38.0 -1.0**
comp=Z,17nm,1.1s,baz=110,slow=9.0
FUORN Ofenpass-Fuorn 31.59 307 P P **21 38 40.2 +0.1**
FUORN PcP PcP **21 41 33.3 +0.9**
KEST Kesra 31.62 286 P P **21 38 41.6 +1.2**
comp=Z,24nm,1.1s,baz=102,slow=16,SNR=12
MSSA Maissana 31.68 303 IAmb IAmb 21 39 26.2
comp=Z,60nm,1.1s
ZSN Zaisan 31.77 51 *eP* P **21 38 41.8 +0.3**
baz=51
ZSN eS S **21 43 54.0 +2.8**
baz=51
ZSN Zaisan 31.77 51 *eP* P **21 38 41.7 +0.3**
ZSN eS S **21 43 53.9 +2.8**
HYB Hyderabad 31.78 111 *i* P P **21 38 43.0 +1.1**
GRF Grafenberg Arr 31.80 313 *eP* P **21 38 41.5 -0.1**
comp=Z,132nm,1.1s,baz=110,slow=9.0
GRF *e*L L 21 54 45.8
comp=Z,779nm,18.2s
MOX Moxa 31.88 315 *eP* P **21 38 41.8 -0.6**
comp=Z,24nm,1.1s,baz=110,slow=9.0
MOX *e*L L 21 53 32.4
comp=Z,566nm,21.7s
DAVOX Davos/Dischmat 31.88 307 P P **21 38 42.2 -0.4**
comp=Z,24nm,0.9s,baz=108,slow=7.4,SNR=20
DAVOX PcP PcP **21 41 33.0 -0.1**
comp=Z,10nm,1.0s,baz=150,slow=4.2,SNR=3.3
UBR Ueberruh 31.94 309 *eP* P **21 38 42.1 -0.9**
comp=Z,84nm,1.2s,baz=110,slow=9.0
FINES FINESS Array B 31.95 341 P P **21 38 42.0 -0.8**
comp=Z,55nm,0.9s,baz=139,slow=8.1,SNR=47
FINES LR LR 21 53 23.9
comp=Z,2μm,19.7s,baz=144,slow=40
FINES FINESS Array B 31.95 341 P P **21 38 41.9 -0.8**
NEUB Neuenburg 31.98 316 *eP* P **21 38 42.6 -0.6**
comp=Z,43nm,0.9s,baz=110,slow=9.0
DAVA Damuels 32.00 308 *eP* P **21 38 42.8 -0.8**
comp=Z,112nm,1.1s,SNR=64
DAVA *e*PcP PcP **21 41 32.9 -0.4**
comp=Z,16nm,1.1s
DAVA eS S **21 43 53.5 -1.4**
comp=Z,26nm,1.8s
TMCR Tamitsa 32.04 352 *eP* P **21 38 41.8 -1.7**
TMCR pmax pmax
comp=Z,4.0nm,0.6s
TUE Stuetta 32.18 307 IAmb IAmb 21 38 55.3
comp=Z,62nm,1.3s
GKN Gorkha 32.22 88 *eP* P **21 38 46.2 +0.4**
comp=Z,183nm,0.6s
DMN Daman 32.73 89 *eP* P **21 38 50.9 +0.5**
comp=Z,101nm,0.7s
STU Stuttgart 32.80 311 *eP* P **21 38 49.3 -1.2**
comp=Z,66nm,1.8s,baz=110,slow=9.0
KKN Kakani 32.83 89 *eP* P **21 38 51.7 +0.5**
comp=Z,138nm,0.6s
UBBA Unterbreizbach 32.90 315 *eP* P **21 38 50.9 -0.2**
comp=Z,62nm,1.9s,baz=110,slow=9.0
PKI Pulchoki 33.00 89 *eP* P **21 38 53.2 +0.4**
comp=Z,150nm,0.7s
CLZ Clausthal 33.03 317 *eP* P **21 38 52.4 0.0**
comp=Z,94nm,1.0s,baz=110,slow=9.0
WMQ Urumqi 33.10 59 P P **21 38 54.0 +0.7**
WMQ sP sP 21 39 01.3 +2.1
WMQ S S **21 44 11.6 -0.5**
WMQ pmax pmax
comp=Z,27nm,0.9s
WMQ pmax pmax
comp=Z,230nm,4.5s
WMQ LR LR
comp=Z,1μm,19.1s
WMQ LR LR
comp=Z,650nm,18.3s
WMQ LR LR
comp=Z,1μm,24.3s
GTTG Gottingen 33.16 316 *eP* P **21 38 53.7 +0.1**
comp=Z,54nm,1.0s,baz=110,slow=9.0
BFO Black Forest 33.25 310 P P **21 38 54.3 -0.2**
BFO pmax pmax
comp=Z,22nm,1.0s
BFO MLR MLR
comp=Z,600nm,21.0s
BFO Black Forest 33.25 310 *eP* P **21 38 54.7 +0.2**
comp=Z,30nm,1.1s,baz=110,slow=9.0
BFO Black Forest 33.25 310 P P **21 38 54.3 -0.2**
NRDL Niedersach Rie 33.42 318 *eP* P **21 38 56.4 +0.8**
comp=Z,80nm,1.0s,baz=110,slow=9.0
SENIN Lac Senin/Sane 33.55 306 IAmb IAmb 21 39 00.7
comp=Z,74nm,1.2s
JIRN Jiri 33.63 88 *eP* P **21 38 59.1 +0.7**
comp=Z,179nm,0.5s
TNS Taunus Mts 33.67 313 *eP* P **21 38 58.5 +0.5**
comp=Z,95nm,1.6s,baz=110,slow=9.0
BSEG Bad Segeberg 33.85 320 *eP* P **21 38 59.9 +0.4**
comp=Z,95nm,1.1s,baz=110,slow=9.0
ZAA0 Zalesovo Array 33.85 40 IAmb IAmb 21 39 03.5
comp=Z,55nm,1.1s
ZALV Zalesovo Beam 33.85 40 P P **21 38 59.6 0.0**
comp=Z,36nm,0.8s,baz=256,slow=9.1,SNR=52
ZALV PcP PcP **21 41 37.0 -1.1**
comp=Z,5.6nm,0.7s,baz=253,slow=2.8,SNR=3.6
ZALV ScP ScP **21 45 22.1 -0.5**
comp=Z,1.8nm,0.7s,baz=288,slow=5.6,SNR=2.8
ZALV LR LR 21 54 26.2
comp=Z,1μm,18.8s,baz=241,slow=39
ZALV P3KPbc 22 10 07.3
comp=Z,1.2nm,0.8s,baz=72,slow=6.2,SNR=4.3
ZALV Zalesovo Beam 33.85 40 P P **21 38 59.4 -0.1**
DGZ Jazzator, Alta 33.98 48 *c*⇓*i*P P **21 39 01.5 +0.5**
DGZ pmax pmax
comp=Z,25nm,0.9s
ECH Echery 33.99 309 IAmb IAmb 21 39 01.9
comp=Z,57nm,1.2s
RAMN Ramite 34.20 89 *eP* P **21 39 03.1 -0.1**
comp=Z,90nm,0.7s
AHRW Bad Neuenahr-A 34.60 313 *eP* P **21 39 06.3 +0.3**
comp=Z,38nm,0.9s,baz=110,slow=9.0
IBBN Ibbenburen 34.71 316 *eP* P **21 39 07.7 +0.7**
comp=Z,962nm,2.8s,baz=110,slow=9.0
BUG Bochum--Univer 34.73 315 *eP* P **21 39 07.5 +0.4**
comp=Z,68nm,1.4s,baz=110,slow=9.0
ODAN Odare 34.90 89 *eP* P **21 39 09.4 +0.2**
comp=Z,49nm,0.7s
WLF Walferdange 34.96 311 P P **21 39 08.3 -0.8**
comp=Z,37nm,1.0s
WLF Walferdange 34.96 311 *eP* P **21 39 08.6 -0.6**
comp=Z,47nm,0.9s,baz=110,slow=9.0
WLF Walferdange 34.96 311 IAmb IAmb 21 39 15.3
comp=Z,45nm,0.9s
TAPN Taplejung 35.01 88 *eP* P **21 39 10.9 +0.6**
comp=Z,174nm,0.9s
KMBO Kilima Mbogo 35.03 198 P P **21 39 13.4 +3.0**
comp=Z,5.8nm,0.9s,baz=18,slow=8.5,SNR=11
KMBO LR LR 21 53 48.0
comp=Z,2μm,20.4s,baz=35,slow=37
KMBO Kilima Mbogo 35.03 198 *i* P P **21 39 13.6 +3.2**
SNR=7.0
KMBO Kilima Mbogo 35.03 198 P P **21 39 12.3 +1.9**
KMBO pmax pmax
comp=Z,27nm,1.3s
KMBO MLR MLR
comp=Z,2μm,18.0s

KMBO **Kilima Mbogo** 35.03 198 P **P** 21 39 12.3 +1.9
BHOU **Houvegnez** 35.21 313 P **P** 21 39 11.5 +0.1
BHOU sP **pP** 21 39 15.1 -0.5
BHOU PnPn **PnPn** 21 40 28.0 -1.2
MEM Membach 35.27 313 P **P** 21 39 11.9 0.0
HFS Hagfors 35.32 331 P **P** 21 39 11.6 -0.6
comp=Z,77nm,0.7s,baz=128,slow=9.6,SNR=58
MUD Monsted U'grnd 35.50 324 *i* P **P** 21 39 14.5 +0.8
MUD Monsted U'grnd 35.50 324 *i* P **P** 21 39 14.5 +0.8
BCLA Clavier 35.66 312 P **P** 21 39 12.5 -2.8
BCLA pP **pP** 21 39 15.6 -3.8
BGES Gesves 35.79 312 P **P** 21 39 16.1 -0.2
BGES pP **pP** 21 39 18.9 -1.7
BGES PnPn **PnPn** 21 40 35.6 -0.6
APA Apatity 35.88 351⇑ *i* P **P** 21 39 15.3 -1.5
APA *i* S **S** 21 44 56.0 +1.9
APA *i* SS SS 21 47 12.0 -18
APA pmax pmax
comp=Z,72nm,0.9s
APA MLR MLR
comp=Z,1μm,14.0s
BMRD Maredsous 35.97 312 P **P** 21 39 17.4 -0.4
LVZ Lovozero 36.03 352 *ce* P **P** 21 39 17.1 -1.1
LVZ pmax pmax
comp=Z,101nm,1.3s
LVZ Lovozero 36.03 352 P **P** 21 39 17.9 -0.3
LVZ IAmb IAmb 21 39 20.4
comp=Z,67nm,0.9s
LVZ IAMs_20 IAMs_20 21 55 03.7
comp=Z,2μm,21.0s
DOU Dourbes 36.03 312 P **P** 21 39 18.1 -0.3
DOU x x 21 39 40.9
SNF Seneffe 36.32 312 P **P** 21 39 19.5 -1.4
SNF pP **pP** 21 39 22.7 -2.4
SNF x x 21 39 25.1
UCC Uccle 36.34 313 P **P** 21 39 20.9 -0.1
UCC pmax pmax
comp=Z,82nm,1.7s
UCC Uccle 36.34 313 P **P** 21 39 20.9 -0.1
UCC IAmb IAmb 21 39 23.2
comp=Z,82nm,1.7s
OSL Oslo 36.46 329 *eP* **P** 21 39 22.1 +0.2
NC602 NORSAR Array S 36.55 331 *eP* **P** 21 39 22.7 0.0
HOMB Homborsund 36.63 326 *eP* **P** 21 39 23.7 +0.3
NC405 NORSAR Array S 36.69 332 IAmb IAmb 21 39 24.4
comp=Z,76nm,0.9s
MBAR Mbarara 36.74 209 P **P** 21 39 25.2 +0.3
comp=Z,8.7nm,0.8s,baz=24,slow=7.3,SNR=21
MBAR Mbarara 36.74 209 P **P** 21 39 26.1 +1.1
MBAR pmax pmax
comp=Z,43nm,1.3s
MBAR MLR MLR
comp=Z,2μm,19.0s
MBAR Mbarara 36.74 209 P **P** 21 39 26.1 +1.1
MBAR Mbarara 36.74 209 IAMs_20 IAMs_20 21 54 51.2
comp=Z,2μm,19.0s
KONO Kongsberg 36.80 329 *ce* P **P** 21 39 23.2 -1.6
KONO pmax pmax
comp=Z,45nm,0.8s
KONO Kongsberg 36.80 329 P **P** 21 39 24.1 -0.7
KONO IAmb IAmb 21 39 25.8
comp=Z,86nm,1.3s
KONO Kongsberg 36.80 329 *eP* **P** 21 39 24.6 -0.2
NB2 NORSAR Subarra 36.85 331 P **P** 21 39 23.9 -1.4
comp=Z,23nm,0.8s,baz=124,slow=8.6
NB2 NORSAR Subarra 36.85 331 P **P** 21 39 23.9 -1.4
baz=124,slow=8.6
NOA NORSAR Array B 36.85 331 P **P** 21 39 23.8 -1.5
comp=Z,22nm,0.9s,baz=125,slow=8.5,SNR=36
NOA PP **PnPn** 21 40 45.5 -3.6
comp=Z,10nm,1.0s,baz=122,slow=13,SNR=3.8
NOA S **S** 21 45 10.7 +1.4
comp=Z,5.5nm,1.0s,baz=122,slow=15,SNR=3.6
NOA LR LR 21 55 53.2
comp=Z,909nm,19.7s,baz=125,slow=38
NAO01 NORSAR Array S 36.87 331 IAmb IAmb 21 39 33.3
comp=Z,104nm,1.2s
NC303 NORSAR Array S 36.89 332 IAmb IAmb 21 39 26.0
comp=Z,81nm,1.2s
NBO00 NORSAR Array S 37.02 331 IAmb IAmb 21 39 27.2
comp=Z,67nm,1.1s
LSA Lhasa 37.20 83 *i* P **P** 21 39 29.4 +0.2
SNR=39
LSA Lhasa 37.20 83 P **P** 21 39 29.8 +0.6
LSA pmax pmax
comp=Z,97nm,1.4s
LSA MLR MLR
comp=Z,800nm,18.0s
LSA Lhasa 37.20 83 P **P** 21 39 29.8 +0.6
LSA IAmb IAmb 21 39 32.6
comp=Z,96nm,1.4s
SNART Snartemo 37.28 326 *eP* **P** 21 39 29.6 +0.7
SKAR Skarslia 37.87 330 *eP* **P** 21 39 34.1 +0.1
BLS5 Blasjo 38.10 327 *eP* **P** 21 39 36.6 +0.7
ODD1 Odda 38.24 328 *eP* **P** 21 39 41.1 +4.0
DOMB Dombas 38.26 332 *eP* **P** 21 39 37.8 +0.6
TAM Tamanrasset 38.29 266 P **P** 21 39 38.9 +0.8
TAM pmax pmax
comp=Z,65nm,1.3s
TAM MLR MLR
comp=Z,1μm,18.0s
TAM Tamanrasset 38.29 266 P **P** 21 39 38.9 +0.8
TAM IAmb IAmb 21 39 42.1
comp=Z,66nm,1.3s
TAM IAMs_20 IAMs_20 21 57 59.4
comp=Z,1μm,18.0s
NSS Namsos 38.62 336 *eP* **P** 21 39 39.7 -0.4
KEV Kevo 38.84 349 P **P** 21 39 41.2 -0.7
KEV pmax pmax
comp=Z,37nm,0.9s
KEV MLR MLR
comp=Z,1μm,18.0s
KEV Kevo 38.84 349 P **P** 21 39 41.2 -0.7
MOR8 Moi Rana 38.90 339 *eP* **P** 21 39 41.3 -1.2
ARE0 ARCESS Array S 38.90 348 *eP* **P** 21 39 42.8 +0.3
ARCES ARCESS Array B 38.90 348 P **P** 21 39 41.7 -0.8
comp=Z,32nm,0.8s,baz=158,slow=9.8,SNR=64
ARCES PP **PP** 21 41 10.2 -1.3
comp=Z,9.5nm,0.7s,baz=163,slow=8.9,SNR=4.3
ARCES PcP **PcP** 21 41 52.4 -0.6
comp=Z,7.5nm,0.7s,baz=156,slow=3.8,SNR=4.4
ARCES ScP **S** 21 45 40.3 +0.2
comp=Z,9.5nm,1.0s,baz=149,slow=2.1,SNR=5.6
ARCES LR LR 21 57 02.2
comp=Z,1μm,19.1s,baz=144,slow=38
ARCES ARCESS Array B 38.90 348 P **P** 21 39 42.2 -0.3
ARCES 21 41 52.4
ARCES S **S** 21 45 40.3 +0.2
ARCES ARCESS Array B 38.90 348 P **P** 21 39 42.1 -0.3
BER Bergen 39.03 328 *eP* **P** 21 39 44.6 +0.9
SHL Shillong 39.13 89 *ex* x 21 39 45.0
SHL *ex* x 21 45 45.0
SHL Shillong 39.13 89 P **P** 21 39 44.8 -0.4
SNR=38
SHL Shillong 39.13 89 P **P** 21 39 44.8 -0.4
SHL pmax pmax
comp=Z,118nm,1.1s
SHL MLR MLR
comp=Z,1μm,20.0s
SHL Shillong 39.13 89 P **P** 21 39 44.8 -0.4
SHL IAmb IAmb 21 39 47.2
comp=Z,118nm,1.1s
SHL IAMs_20 IAMs_20 21 57 46.5
comp=Z,1μm,20.0s
AKN Aaknes 39.16 331 *eP* **P** 21 39 45.9 +1.1
N2ST Straumen 39.40 341 *eP* **P** 21 39 47.1 +0.5
FAUS Fauske 39.50 341 *eP* **P** 21 39 47.4 -0.1
KONS Konsvik 39.52 339 *eP* **P** 21 39 47.6 0.0
NBB05 Inndyr 39.61 340 *eP* **P** 21 39 48.0 -0.4
NBB30 Finnes 39.66 340 *eP* **P** 21 39 48.8 0.0
N2TV Tyrnvik 39.68 341 *eP* **P** 21 39 48.1 -0.8
NBB08 Skaug oppvekst 39.69 341 *eP* **P** 21 39 49.5 +0.5
N2IH Innhavet 39.75 342 *eP* **P** 21 39 48.0 -1.5
PALK Pallekele 39.82 122 P **P** 21 39 51.0 +0.2
comp=Z,38nm,1.2s,baz=39,slow=9.7,SNR=5.0
PALK Pallekele 39.82 122 P **P** 21 39 51.8 +1.0
PALK pmax pmax
comp=Z,67nm,1.3s
PALK Pallekele 39.82 122 P **P** 21 39 51.8 +1.0
WOL Wolverton 39.89 313 *eP* **P** 21 39 50.6 -0.3
WOL IAmb IAmb 21 39 52.4
comp=Z,197nm,1.1s
STEI Steigen 39.91 342 *eP* **P** 21 39 50.6 -0.2
CWF Charnwood Fore 40.17 315 *eP* **P** 21 39 52.4 -0.9
CWF IAmb IAmb 21 39 54.2
comp=Z,59nm,1.0s
HAMF Hammerfest 40.18 348 *eP* **P** 21 39 53.6 +0.5
GDLE Glaisdale, N Y 40.22 317 *eP* **P** 21 39 52.9 -0.7
JSA Saint Aubin 40.24 309 *eP* **P** 21 39 52.5 -1.4
TRO Tromso 40.29 345 *eP* **P** 21 39 53.1 -0.9
N2VI Vinje 40.46 342 *eP* **P** 21 39 56.3 +0.9
LBWR Ladybower, Pea 40.54 316 *eP* **P** 21 39 56.0 -0.4
LBWR IAmb IAmb 21 39 57.4
comp=Z,112nm,1.0s
HPK Haverah Park 40.59 317 *eP* **P** 21 39 56.2 -0.5
HPK IAmb IAmb 21 39 57.6
comp=Z,101nm,1.0s
EDMD Edmundbyers 40.96 318 *eP* **P** 21 39 59.2 -0.5
EDMD IAmb IAmb 21 40 01.1
comp=Z,116nm,0.9s
MCH1 Michaelchurch 41.09 313 *eP* **P** 21 39 59.6 -1.2
MCH1 IAmb IAmb 21 40 01.7
comp=Z,117nm,1.1s
FOEL Foel Wylfa 41.33 315 *eP* **P** 21 40 02.3 -0.6
FOEL IAmb IAmb 21 40 04.5
comp=Z,97nm,1.0s
ESY Stoneypath 41.55 319 *eP* **P** 21 40 04.2 -0.4
KESW Keswick, Cumbr 41.56 317 *eP* **P** 21 40 04.4 -0.3
KESW IAmb IAmb 21 40 06.2
comp=Z,184nm,0.8s
LLW Llanuwychllyn 41.61 315 *eP* **P** 21 40 04.6 -0.5
LLW IAmb IAmb 21 40 06.4
comp=Z,28nm,0.9s
ESDC Sonseca Array 41.69 295 P **P** 21 40 05.3 -0.8
comp=Z,9.1nm,1.1s,baz=73,slow=7.7,SNR=36
ESDC PcP **PcP** 21 42 02.4 -0.2
comp=Z,4.5nm,1.0s,baz=71,slow=3.8,SNR=5.3
ESDC ScP **ScP** 21 45 52.8 +0.2
comp=Z,2.6nm,1.1s,baz=57,slow=5.0,SNR=5.7
ESDC Sonseca Array 41.69 295 P **P** 21 40 05.2 -0.8
ESDC **PcP** 21 42 01.4 -1.2
DRUM Mains of Drumt 41.71 321 *eP* **P** 21 40 05.7 -0.2
DRUM IAmb IAmb 21 40 07.1
comp=Z,102nm,0.9s
EKA Eskdalemuir Ar 41.73 318 P **P** 21 40 05.3 -0.8
comp=Z,81nm,1.0s,baz=106,slow=8.4,SNR=54
EKA PcP **PcP** 21 42 01.1 -1.3
comp=Z,6.5nm,0.8s,baz=113,slow=4.8,SNR=4.3
ESK Eskdalemuir 41.76 318 *eP* **P** 21 40 05.3 -1.0
ESK IAmb IAmb 21 40 07.3
comp=Z,77nm,1.0s
ESK Eskdalemuir 41.76 318 P **P** 21 40 05.8 -0.5
ESK pmax pmax
comp=Z,79nm,1.0s
ESK Eskdalemuir 41.76 318 P **P** 21 40 05.8 -0.5
ESK IAmb IAmb 21 40 07.5
comp=Z,79nm,1.0s
EBL Broad Law 41.76 319 *eP* **P** 21 40 06.1 -0.2
EDI Edinburgh 41.87 319 *eP* **P** 21 40 06.7 -0.5
YLL Llanberis 41.95 315 *eP* **P** 21 40 07.0 -0.9
PAB San Pablo 42.01 295 P **P** 21 40 09.0 +0.3
PAB pmax pmax
comp=Z,27nm,1.2s
PAB San Pablo 42.01 295 P **P** 21 40 09.0 +0.3
RSBS Rosebush, Pemb 42.15 313 *eP* **P** 21 40 08.6 -1.0
RSBS IAmb IAmb 21 40 10.7
comp=Z,57nm,1.0s
GTA Gaotai 42.27 66 ⇑P **P** 21 40 11.6 +0.7
GTA pP sP 21 40 17.0 +0.1
GTA sP pP 21 40 20.6 +5.4
GTA PcP **PcP** 21 42 04.8 +0.2
GTA ScP **ScP** 21 45 55.8 +0.9
GTA S **S** 21 46 33.8 +2.5
GTA sS sS 21 46 40.3 +2.0
GTA ScS **ScS** 21 50 13.0 0.0
GTA pmax pmax
comp=Z,23nm,1.3s
GTA pmax pmax
comp=Z,190nm,6.2s
GTA LR LR
comp=Z,1μm,18.1s
GTA LR LR
comp=Z,840nm,16.8s
GTA LR LR
comp=Z,1μm,15.5s
MCD Coleburn Disti 42.27 322 *eP* **P** 21 40 09.8 -0.7
NEWG New Galloway 42.30 318 *eP* **P** 21 40 10.2 -0.5
IOMK Kirk Michael 42.35 317 *eP* **P** 21 40 10.7 -0.5
IOMK IAmb IAmb 21 40 12.1
comp=Z,187nm,1.1s
WIM Isle of Man 42.39 316 *eP* **P** 21 40 11.2 -0.3
INVG Invergeldie, C 42.44 320 *eP* **P** 21 40 10.8 -1.0
INVG IAmb IAmb 21 40 12.9
comp=Z,148nm,0.9s
GAL1 Galloway 42.53 317 *eP* **P** 21 40 12.2 -0.4
GAL1 IAmb IAmb 21 40 13.8
comp=Z,54nm,0.8s
EAB Aberfoyle 42.55 319 *eP* **P** 21 40 12.1 -0.7
PGBU Glenifferbraes 42.56 319 *eP* **P** 21 40 12.5 -0.4
PGBU IAmb IAmb 21 40 14.4
comp=Z,105nm,0.9s
MOY Mondy 42.81 47 *eP* **P** 21 40 17.1 +2.0
MOY pmax pmax
comp=Z,82nm,1.6s
NRIK Noril'sk 42.94 20 P **P** 21 40 16.5 +0.7
comp=Z,80nm,1.3s,baz=246,slow=5.8,SNR=33
NRIK LR LR 22 02 26.9
comp=Z,2μm,18.5s,baz=212,slow=42
NRIK Noril'sk 42.94 20⇑ *eP* **P** 21 40 17.3 +1.5
NRIK pmax pmax
comp=Z,43nm,1.2s
GMM Mts of Mourne 43.15 316 *eP* **P** 21 40 17.1 -0.5
LAWE Loch Awe, Argy 43.15 319 *eP* **P** 21 40 16.7 -0.8
LAWE IAmb IAmb 21 40 18.8
comp=Z,109nm,1.1s
DSB Dublin 43.28 315 IAmb IAmb 21 40 20.4
comp=Z,73nm,0.9s
PBRG Braganca 43.54 298 *eP* **P** 21 40 21.5 +0.4
comp=Z,80nm,1.5s
MVO Moncorvo 43.83 297 *eP* **P** 21 40 24.2 +0.8
comp=Z,53nm,2.4s
ZAK Zakamensk 44.18 49 *eP* **P** 21 40 26.7 +0.6
ZAK *e* 21 42 10.5
ZAK pmax pmax
comp=Z,24nm,1.7s
ZAK pmax pmax
comp=Z,11nm,1.1s
MTE Manteigas 44.32 296 *eP* **P** 21 40 28.3 +0.9
comp=Z,72nm,1.5s
MTE Manteigas 44.32 296 IAmb IAmb 21 40 29.9
comp=Z,59nm,1.2s
PVRL Vila Real 44.33 298 *eP* **P** 21 40 28.3 +0.9
comp=Z,96nm,1.4s
PMRV Marv??o 44.35 295 *eP* **P** 21 40 27.7 +0.1
comp=Z,32nm,2.0s
PCBR Castelo Branco 44.35 295 *eP* **P** 21 40 28.2 +0.7
comp=Z,95nm,1.3s
TLY Talaya 44.46 48 P **P** 21 40 28.8 +0.6
comp=Z,4.8nm,0.8s,baz=248,slow=8.5,SNR=8.7
TLY LR LR 22 00 46.2
comp=Z,1μm,20.0s,baz=274,slow=38
TLY Talaya 44.46 48 *eP* **P** 21 40 29.5 +1.3
TLY *e* 21 42 17.5
TLY *eS* **S** 21 47 01.2 -1.6
TLY pmax pmax
comp=Z,48nm,1.3s
TLY MLR MLR
comp=Z,3μm,17.0s
TLY Talaya 44.46 48 P **P** 21 40 29.1 +0.8
TLY IAMs_20 IAMs_20 22 00 42.4
comp=Z,1μm,19.0s
PCAB Cabril 44.51 298 *eP* **P** 21 40 29.7 +0.9
comp=Z,98nm,1.3s
PVIS Viseu 44.54 297 *eP* **P** 21 40 30.4 +1.3
comp=Z,103nm,1.5s
PGAV Gavieira, Arco 44.66 299 *eP* **P** 21 40 30.4 +0.3
comp=Z,179nm,1.2s
IRK Irkutsk 44.87 47 *eP* **P** 21 40 31.8 +0.3
IRK *e* 21 42 13.0
IRK pmax pmax
comp=Z,95nm,1.3s
PBEJ Beja 44.96 293 *eP* **P** 21 40 32.8 +0.4
comp=Z,48nm,1.9s
EVO Evora 44.98 294 *eP* **P** 21 40 32.7 +0.1
comp=Z,36nm,2.2s
COI Coimbra 45.01 296 IAmb IAmb 21 40 37.0
comp=Z,44nm,0.8s
PMTG Montargil 45.05 295 *eP* **P** 21 40 33.5 +0.4
comp=Z,28nm,1.1s
HOPEN **Hopen** 45.13 353 *eP* **P** 21 40 34.3 +1.1
PSBE So Bento 45.41 295 *eP* **P** 21 40 37.6 +1.6
comp=Z,64nm,1.2s
PNCL Nicolau / Gran 45.46 293 *eP* **P** 21 40 37.0 +0.7
comp=Z,32nm,2.1s
TOC2 Torodi Ar. Sit 46.08 256 IAMs_20 IAMs_20 22 01 56.3
comp=Z,1μm,21.0s
TOC1 Torodi Ar. Sit 46.09 256 IAMs_20 IAMs_20 22 01 56.4
comp=Z,1μm,20.0s
TOB1 Torodi Ar. Sit 46.10 256 IAMs_20 IAMs_20 22 01 57.8
comp=Z,1μm,21.0s
TOA2 Torodi Ar. Sit 46.10 256 IAMs_20 IAMs_20 22 01 57.8
comp=Z,1μm,21.0s
TOA0 Torodi Ar. Sit 46.11 256 P **P** 21 40 41.5 -0.2
TOA0 IAmb IAmb 21 40 44.0
comp=Z,84nm,1.8s
TOA0 IAMs_20 IAMs_20 22 01 57.9
comp=Z,1μm,20.0s
TORD Torodi Ar. Bea 46.11 256 P **P** 21 40 40.6 -1.1
comp=Z,10nm,0.8s,baz=52,slow=6.9,SNR=40
TORD LR LR 22 02 48.3
comp=Z,520nm,18.7s,baz=55,slow=40
TORD Torodi Ar. Bea 46.11 256 P **P** 21 40 41.5 -0.2
TOA3 Torodi Ar. Sit 46.11 256 IAMs_20 IAMs_20 22 01 58.0
comp=Z,1μm,20.0s
TOC7 Torodi Ar. Sit 46.11 256 IAMs_20 IAMs_20 22 01 58.1
comp=Z,1μm,20.0s
TOB5 Torodi Ar. Sit 46.11 256 IAMs_20 IAMs_20 22 00 49.2
comp=Z,1μm,18.0s
TOB4 Torodi Ar. Sit 46.12 256 IAMs_20 IAMs_20 22 01 57.3
comp=Z,1μm,20.0s
TOC5 Torodi Ar. Sit 46.13 256 IAMs_20 IAMs_20 22 00 48.6
comp=Z,1μm,18.0s
SONM Songino Array 46.26 53 P **P** 21 40 43.2 +0.5
comp=Z,22nm,1.2s,baz=269,slow=9.0,SNR=59
SONM PcP **PcP** 21 42 17.7 -0.4
comp=Z,6.6nm,0.8s,baz=260,slow=4.1,SNR=7.2
SONM ScP **ScP** 21 46 09.8 -1.3
comp=Z,1.9nm,1.0s,baz=266,slow=4.2,SNR=5.7
SONM LR LR 22 01 57.7
comp=Z,2μm,18.8s,baz=273,slow=38
SONM Songino Array 46.26 53 P **P** 21 40 43.2 +0.5
SONM 21 42 17.7
SONM pmax pmax
comp=Z,21nm,1.3s
SONM Songino Array 46.26 53 P **P** 21 40 43.2 +0.5
PBA Port Blair 46.35 106 P P 21 40 44.2 +0.5
PBA IAmb IAmb 21 40 46.4
comp=Z,39nm,0.8s
ULN Ulaanbaatar 46.70 53 *ce* P **P** 21 40 46.8 +0.6
ULN pmax pmax
comp=Z,96nm,1.7s
ULN Ulaanbaatar 46.70 53 P **P** 21 40 46.6 +0.4
HSPB Hornsund (broa 46.72 351 *eP* **P** 21 40 46.7 +1.0
HSPB Hornsund (broa 46.72 351 *eP* **P** 21 40 46.8 +1.0
CD2 Chengdu 47.30 76 P **P** 21 40 51.4 +0.4
CD2 S **S** 21 47 44.8 +0.5
CD2 pmax pmax
comp=Z,50nm,0.7s
CD2 LR LR
comp=Z,2μm,28.4s
CD2 LR LR
comp=Z,1μm,19.6s
CD2 LR LR
comp=Z,1μm,19.1s
SPA0 Spitsbergen Ar 47.55 352 P **P** 21 40 52.6 +0.3
SPA0 Spitsbergen Ar 47.55 352 *eP* **P** 21 40 52.2 -0.1
SPITS Spitsbergen Ar 47.55 352 P **P** 21 40 52.3 0.0
comp=Z,69nm,0.9s,baz=151,slow=14,SNR=35
CHTO Chiang Mai 47.86 94 P **P** 21 40 55.2 -0.3
CHTO pmax pmax
comp=Z,24nm,0.8s
CHTO MLR MLR
comp=Z,400nm,20.0s
CHTO Chiang Mai 47.86 94 P **P** 21 40 55.2 -0.3
CHTO IAmb IAmb 21 40 57.5
comp=Z,24nm,0.8s
CM31 Chiang Mai Arr 48.03 94 P **P** 21 40 57.0 +0.3
SNR=10
CM31 Chiang Mai Arr 48.03 94 IAmb IAmb 21 41 01.0
comp=Z,23nm,1.1s
CMAR Chiang Mai Arr 48.03 94 P **P** 21 40 56.4 -0.4
comp=Z,8.4nm,0.6s,baz=292,slow=8.3,SNR=45
CMAR PcP **PcP** 21 42 24.9 +0.3
comp=Z,8.2nm,0.8s,baz=296,slow=5.1,SNR=6.7
CMAR ScP **ScP** 21 46 19.4 +0.6
comp=Z,1.8nm,0.8s,baz=299,slow=4.9,SNR=7.3
CMAR LR LR 22 05 21.2
comp=Z,326nm,19.1s,baz=333,slow=41
CMAR Chiang Mai Arr 48.03 94 P **P** 21 40 56.2 -0.5
KMI Kunming 48.43 84 ⇑P **P** 21 40 59.6 -0.4
KMI pP pP 21 41 03.3 -1.1
KMI PP **PP** 21 42 53.8 +1.2
KMI ScP **ScP** 21 46 21.6 +0.9
KMI S **S** 21 48 00.4 -0.3
KMI sS pS 21 48 05.5 -0.4
KMI ScS **ScS** 21 50 52.4 -0.7
KMI pmax pmax
comp=Z,31nm,1.3s
KMI pmax pmax
comp=Z,260nm,3.5s
KMI LR LR
comp=Z,880nm,23.0s
KMI LR LR
comp=Z,320nm,19.7s
KMI LR LR
comp=Z,720nm,18.6s
KMI Kunming 48.43 84 IAmb IAmb 21 41 02.1
comp=Z,25nm,0.9s
KBS Kingsbay 48.69 351 P **P** 21 41 01.0 0.0
KBS pmax pmax
comp=Z,46nm,1.2s
KBS MLR MLR
comp=Z,700nm,21.0s
KBS Kingsbay 48.69 351 P **P** 21 41 01.0 0.0
KBS IAmb IAmb 21 41 03.0
comp=Z,46nm,1.1s
KBS Kingsbay 48.69 351 *eP* **P** 21 41 01.5 +0.5
BTO Baotou 49.79 62 *eP* **P** 21 41 08.6 -1.5
BTO S **S** 21 48 12.1 -7.2
XAN Xi'an 50.56 71 P **P** 21 41 15.9 -0.1
XAN pP sP 21 41 24.3 +2.3
XAN S **S** 21 48 30.8 +0.7
XAN pmax pmax
comp=Z,46nm,0.8s
XAN pmax pmax
comp=Z,300nm,4.0s
XAN LR LR
comp=Z,2μm,17.4s
XAN LR LR
comp=Z,1μm,19.9s
XAN LR LR
comp=Z,1μm,17.0s
XAN Xi'an 50.56 71 P **P** 21 41 15.5 -0.4
XAN pmax pmax
comp=Z,27nm,0.7s
XAN MLR MLR
comp=Z,1μm,21.0s
XAN Xi'an 50.56 71 P **P** 21 41 15.5 -0.4
XAN IAmb IAmb 21 41 17.4
comp=Z,27nm,0.7s
XAN Xi'an 50.56 71 IAMs_20 IAMs_20 22 05 26.0
comp=Z,1μm,21.0s
BOD Bodaibo 50.60 39 *eP* **P** 21 41 15.6 -0.3
BOD pmax pmax
comp=Z,33nm,2.0s
HHC Hu-ho-hao-te 50.89 61 *eP* **P** 21 41 19.6 +1.2
HHC S **S** 21 48 37.9 +3.3
HHC pmax pmax
comp=Z,34nm,1.0s
HHC pmax pmax
comp=Z,120nm,5.7s
HHC LR LR
comp=Z,740nm,17.8s
HHC LR LR
comp=Z,850nm,14.8s
HHC LR LR
comp=Z,1μm,18.0s
SLVN Son La 50.93 88 IAmb IAmb 21 41 22.0
comp=Z,72nm,1.6s
OPO Ambohidratompo 50.99 180 P **P** 21 41 18.9 -0.4
comp=Z,34nm,1.1s,baz=11,slow=6.4,SNR=3.4
LSZ Lusaka 51.19 204 P **P** 21 41 22.7 +1.9
comp=Z,10nm,0.8s,baz=92,slow=0.4,SNR=3.7
LSZ **Lusaka** 51.19 204 P **P** 21 41 22.7 +1.9
LSZ pmax pmax

comp=Z,65nm,1.3s
LSZ MLR MLR
comp=Z,2μm,19.0s
LSZ Lusaka 51.19 204 P P 21 41 22.7 +1.9
LSZ IAmb IAmb 21 41 25.6
comp=Z,65nm,1.2s
GYA Guiyang 51.21 81 ⇑P P 21 41 20.0 -1.0
GYA PcP **PcP 21 42 36.4 +0.1**
GYA ScP **ScP 21 46 29.9 -2.6**
GYA S **S 21 48 36.8 -2.6**
GYA ScS **ScS 21 51 09.1 -2.6**
GYA pmax pmax
comp=Z,15nm,0.9s
GYA pmax pmax
comp=Z,200nm,3.5s
GYA LR LR
comp=Z,600nm,20.3s
GYA LR LR
comp=Z,510nm,20.4s
GYA LR LR
comp=Z,710nm,22.9s
ABPO Ambohimpanom 51.43 180 P P 21 41 24.9 +2.2
ABPO pmax pmax
comp=Z,55nm,1.1s
ABPO MLR MLR
comp=Z,2μm,19.0s
ABPO Ambohimpanom 51.43 180 P P 21 41 24.9 +2.2
ABPO IAmb IAmb 21 41 27.7
comp=Z,55nm,1.1s
ENH Enshi 52.19 75 P P 21 41 28.9 +0.7
TIY Taiyuan 52.30 65 eP P 21 41 30.9 +1.9
TIY S **S 21 48 57.8 +3.8**
TIY pmax pmax
comp=Z,23nm,0.5s
TIY pmax pmax
comp=Z,220nm,5.5s
TIY LR LR
comp=Z,400nm,13.3s
TIY LR LR
comp=Z,450nm,12.8s
TIY LR LR
comp=Z,820nm,17.5s
DAG Danmarks Havn 53.02 345⇑iP P 21 41 32.9 -0.7
comp=Z,6.5nm,0.7s
DAG Danmarks Havn 53.02 345⇑iP P 21 41 32.9 -0.7
DAG pmax pmax
comp=Z,7.0nm,0.7s
PMAR Madeira 53.45 289 eP P 21 41 37.8 +0.1
comp=Z,144nm,1.5s
PMOZ Porto Moniz, M 53.65 289 eP P 21 41 40.4 +1.3
comp=Z,87nm,1.3s
NOR Nord 54.14 351⇓iP P 21 41 41.3 -0.5
comp=Z,32nm,1.1s
NOR Nord 54.14 351⇓iP P 21 41 41.3 -0.5
NOR pmax pmax
comp=Z,32nm,1.1s
BJI Beijing 54.50 61 P P 21 41 45.1 +0.1
BJI S **S 21 49 23.0 -0.6**
BJI SS **SS 21 53 07.8 +1.9**
BJI pmax pmax
comp=Z,16nm,0.7s
BJI LR LR
comp=Z,1μm,19.6s
BJI LR LR
comp=Z,220nm,16.7s
BJT Baijiatuau 54.50 61 P P 21 41 45.4 +0.4
BJT pmax pmax
comp=Z,13nm,0.8s
BJT MLR MLR
comp=Z,1μm,21.0s
BJT Baijiatuau 54.50 61 P P 21 41 45.4 +0.4
BJT Baijiatuau 54.50 61 IAMs_20 IAMs_20 22 07 54.8
comp=Z,1μm,21.0s
HIA Hailar 54.87 50 P P 21 41 47.4 -0.2
HIA pmax pmax
comp=Z,37nm,0.9s
HIA MLR MLR
comp=Z,2μm,18.0s
HIA Hailar 54.87 50 P P 21 41 47.4 -0.2
HIA IAmb IAmb 21 41 50.4
comp=Z,37nm,0.9s
DBIC Dimbokro 55.06 254 P P 21 41 48.0 -1.4
comp=Z,7.7nm,0.9s,baz=20,slow=4.6,SNR=7.8
DBIC LR LR 22 07 41.6
comp=Z,1μm,18.4s,baz=30,slow=39
DBIC Dimbokro 55.06 254 P P 21 41 50.0 +0.6
DBIC pmax pmax
comp=Z,64nm,1.6s
DBIC Dimbokro 55.06 254 P P 21 41 50.0 +0.6
DBIC IAmb IAmb 21 41 51.7
comp=Z,64nm,1.6s
KIC Kosan Boka 55.15 253 eP P 21 41 50.2 +0.2
comp=Z,80nm,1.3s
TIC Toumodi 55.21 254 eP P 21 41 51.0 +0.5
LIC Lamto 55.46 254 eP P 21 41 51.8 -0.4
comp=Z,86nm,1.2s
TIA Tai'an 56.32 66 P P 21 41 57.6 -0.6
TIA S **S 21 49 49.5 +1.3**
TIA pmax pmax
comp=Z,27nm,1.4s
TIA pmax pmax
comp=Z,260nm,6.7s
TIA LR LR
comp=Z,730nm,19.8s
TIA LR LR
comp=Z,410nm,15.5s
TIA LR LR
comp=Z,450nm,20.9s
PSI Prapat 56.49 111 P P 21 41 58.6 -1.2
comp=Z,18nm,0.7s,baz=359,slow=3.1,SNR=14
PSI LR LR 22 07 40.3
comp=Z,438nm,21.4s,baz=271,slow=38
QIZ Qiongzhong 56.95 88 P P 21 42 01.9 -1.0
QIZ S **S 21 49 56.8 -0.1**
QIZ pmax pmax
comp=Z,35nm,0.9s
QIZ LR LR
comp=Z,520nm,16.9s
QIZ LR LR
comp=Z,540nm,16.3s
QIZ LR LR
comp=Z,420nm,17.5s
IPM Ipoh 57.16 108 IAmb IAmb 21 42 07.7
comp=Z,46nm,1.0s
SUMG Summit 57.97 339 iP P 21 42 09.4 -0.4
comp=Z,130nm,0.9s
SUMG Summit 57.97 339 P P 21 42 09.8 0.0
SUMG pmax pmax
comp=Z,58nm,1.0s
SUMG Summit 57.97 339 P P 21 42 09.8 0.0
YAK Yakutsk 58.08 33 eP P 21 42 09.1 -1.0
YAK e*PP **sP 21 42 19.4 +3.1**
YAK e 21 43 00.1
YAK e 21 44 18.5
YAK ePPP PPP 21 45 37.2
YAK eS **S 21 50 08.0 -2.4**
YAK e*SS sS 21 50 26.5 +8.6
YAK e 21 51 55.1
YAK eSS **SS 21 53 59.2 -2.0**
YAK eSSS SSS 21 56 26.3
YAK pmax pmax
comp=Z,45nm,1.3s
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,25nm,1.3s
YAK pmax pmax
comp=Z,29nm,1.8s
YAK pmax pmax
comp=N,20nm,1.8s
YAK pmax pmax
comp=E,35nm,1.7s
YAK smax smax
comp=N,112nm,2.1s
YAK smax smax
comp=E,18nm,2.0s
YAK MLR MLR
comp=Z,613nm,18.0s
YAK MLR MLR
comp=N,190nm,19.0s
YAK MLR MLR
comp=E,343nm,19.0s
YAK Yakutsk 58.08 33 P P 21 42 09.4 -0.8
YAK IAmb IAmb 21 42 11.4
comp=Z,36nm,1.0s
ZEA Zeya 58.51 43 eP P 21 42 14.0 +0.6

ZEA eS **S 21 50 19.0 +2.6**
ZEA e 21 52 03.0
ZEA pmax pmax
comp=Z,36nm,1.2s
ZEA pmax pmax
comp=Z,400nm,6.0s
ZEA smax smax
comp=N,400nm,10.0s
ZEA MLR MLR
comp=E,700nm,15.0s
DL2 Dalian 58.87 61 P P 21 42 15.6 -0.5
DL2 PP **PP 21 44 31.3 +5.3**
DL2 S **S 21 50 23.3 +1.8**
DL2 pmax pmax
comp=E,37nm,0.9s
DL2 pmax pmax
comp=E,190nm,3.7s
DL2 LR LR
comp=E,1μm,22.2s
DL2 LR LR
comp=E,860nm,22.9s
TSUM Tsumeb 59.05 213 P P 21 42 18.9 +1.3
NJ2 Nanjing 59.09 70 ⇑P P 21 42 18.3 +0.6
NJ2 S **S 21 50 26.6 +2.1**
NJ2 pmax pmax
comp=E,23nm,1.1s
NJ2 LR LR
comp=E,430nm,15.2s
NJ2 LR LR
comp=E,990nm,14.2s
NJ2 LR LR
comp=E,1μm,17.6s
CN2 Changchun 60.06 55 eP P 21 42 23.5 -0.7
CN2 epP pP 21 42 28.1 -0.6
CN2 eS **S 21 50 33.1 -3.7**
CN2 pmax pmax
comp=E,20nm,1.1s
CN2 pmax pmax
comp=E,200nm,5.0s
CN2 LR LR
comp=E,600nm,14.0s
CN2 LR LR
comp=E,800nm,14.0s
CN2 LR LR
comp=E,900nm,16.0s
ROSA Rosais 60.22 299 P P 21 42 25.7 +0.2
ALE Alert 60.31 352 IAMs_20 IAMs_20 22 13 02.2
comp=Z,704nm,20.0s
MYKOM Kota Tinggi 61.02 108 P P 21 42 30.6 -0.6
LBTB Lobatse 61.10 203 P P 21 42 32.9 +1.4
LBTB pmax pmax
comp=Z,34nm,1.1s
LBTB Lobatse 61.10 203 P P 21 42 32.9 +1.4
LBTB IAmb IAmb 21 42 36.0
comp=Z,34nm,1.1s
SSE Sheshan 61.29 70 P P 21 42 31.6 -1.2
SSE S **S 21 50 50.8 -2.0**
SSE pmax pmax
comp=Z,22nm,0.7s
SSE pmax pmax
comp=Z,92nm,5.8s
SSE LR LR
comp=Z,490nm,21.3s
SSE LR LR
comp=Z,360nm,20.7s
KNMB Chin-men Tao 61.71 78 IAMs_20 IAMs_20 22 12 16.7
comp=Z,633nm,20.0s
KLR Kul'dur 62.47 47ceP P 21 42 40.0 -0.5
KLR pmax pmax
comp=Z,25nm,1.0s
MDJ Mudanjiang 62.61 53 P P 21 42 40.3 -1.2
MDJ S **S 21 51 06.1 -3.1**
MDJ pmax pmax
comp=Z,8.0nm,0.8s
MDJ pmax pmax
comp=Z,190nm,5.9s
MDJ LR LR
comp=Z,1μm,23.5s
MDJ LR LR
comp=Z,290nm,24.2s
MDJ LR LR
comp=Z,1μm,16.4s
MDJ Mudanjiang 62.61 53 P P 21 42 41.1 -0.4
MDJ IAMs_20 IAMs_20 22 11 38.5
comp=Z,842nm,22.0s
ILULI Ilulissat 62.81 337 P P 21 42 41.7 -0.7
ILULI pmax pmax
comp=Z,40nm,1.0s
ILULI MLR MLR
comp=Z,1μm,19.0s
ILULI Ilulissat 62.81 337 P P 21 42 41.7 -0.7
INCN Inchon 63.06 61 IAMs_20 IAMs_20 22 12 25.1
comp=Z,788nm,22.0s
SFJD Kangerlussuaq 63.43 334 P P 21 42 44.4 -2.2
comp=Z,17nm,0.7s,baz=105,slow=8.6,SNR=4.1
SFJD Kangerlussuaq 63.43 334 P P 21 42 46.3 -0.2
SFJD pmax pmax
comp=Z,27nm,1.1s
SFJD MLR MLR
comp=Z,800nm,19.0s
SFJD Kangerlussuaq 63.43 334 P P 21 42 46.3 -0.2
SFJD IAmb IAmb 21 42 47.5
comp=Z,26nm,1.1s
SFJD Kangerlussuaq 63.43 334 IAMs_20 IAMs_20 22 11 32.8
comp=Z,762nm,19.0s
KS19 Wonju Array Si 63.96 61 IAmb IAmb 21 42 51.7
comp=Z,14nm,0.8s
KSAR Wonju Array Be 63.99 61 P P 21 42 49.4 -1.4
KSAR Wonju Array Be 63.99 61 P P 21 42 49.4 -1.4
KSRS Korea Array 64.02 61 P P 21 42 49.9 -1.0
comp=Z,11nm,0.7s,baz=285,slow=7.1,SNR=45
KSRS LR LR 22 13 52.2
comp=Z,755nm,20.5s,baz=291,slow=39
TPUB Ta-pu 64.06 78 P P 21 42 51.0 -0.5
SSLB Suanglung 64.12 77 IAMs_20 IAMs_20 22 14 35.3
comp=Z,479nm,18.0s
USA0B Ussuriysk Arra 64.37 53c iP P 21 42 51.4 -1.7
USA0B Ussuriysk Arra 64.37 53 P P 21 42 52.1 -1.0
USA0B IAmb IAmb 21 42 54.0
comp=Z,24nm,0.9s
USRK Ussuriysk Ar. 64.37 53 P P 21 42 51.8 -1.3
comp=Z,17nm,0.7s,baz=279,slow=6.1,SNR=40
USRK LR LR 22 13 04.3
comp=Z,1μm,19.7s,baz=278,slow=38
USRK Ussuriysk Ar. 64.37 53 P P 21 42 51.5 -1.6
NACB Ninganchiao 64.47 77 IAMs_20 IAMs_20 22 14 49.8
comp=Z,720nm,19.0s
IVI Ivigtut 64.55 328 P P 21 42 53.1 -0.9
IVI IAmb IAmb 21 43 01.7
comp=Z,27nm,0.9s
BOSA Boshof 64.56 202 P P 21 42 55.3 +0.8
comp=Z,19nm,1.0s,baz=26,slow=6.4,SNR=16
BOSA LR LR 22 11 45.6
comp=Z,762nm,18.1s,baz=24,slow=37
BOSA Boshof 64.56 202 P P 21 42 55.7 +1.1
BOSA pmax pmax
comp=Z,54nm,1.3s
BOSA Boshof 64.56 202 P P 21 42 55.7 +1.1
YULB Yu-li 64.57 78 IAMs_20 IAMs_20 22 14 51.4
comp=Z,591nm,20.0s
PMBI Palembang 64.61 112 IAMs_20 IAMs_20 22 01 29.7
comp=Z,793nm,22.0s
GRNR Gornyy 64.78 45⇑iP P 21 42 55.2 -0.5
GRNR pmax pmax
comp=Z,10.0nm,1.2s
GRNR MLR MLR
comp=N,290nm,14.0s
GRNR MLR MLR
comp=Z,350nm,15.0s
KSM Kuching 66.43 104 P P 21 43 07.7 +0.8
KSM IAmb IAmb 21 43 10.3
comp=Z,68nm,1.9s
KSM Kuching 66.43 104 P P 21 43 08.0 +1.1
TEY Ternei 67.09 50⇓eP P 21 43 09.1 -1.5
TEY pmax pmax
comp=N,10.0nm,1.2s
TEY pmax pmax
comp=E,10.0nm,1.2s
TEY pmax pmax
comp=Z,30nm,0.8s
SBUM Sibu 67.45 102 P P 21 43 13.9 +0.6
SBUM Sibu 67.45 102 P P 21 43 14.0 +0.6
SEY Seymchan 67.69 29 iP P 21 43 14.8 +0.6
JNU Nakatsue 67.98 64 LR LR 22 16 40.7
comp=Z,559nm,19.7s,baz=298,slow=39
TYV Tymovskoe 68.37 43 eP P 21 43 19.6 +1.0

TYV pmax pmax
comp=Z,300nm,3.2s
TYV pmax pmax
comp=Z,37nm,0.9s
MA2 Magadan 68.60 32ceP P 21 43 19.7 -0.2
MA2 pmax pmax
comp=Z,30nm,1.0s
MA2 Magadan 68.60 32 P P 21 43 19.9 0.0
MA2 IAmb IAmb 21 43 22.0
comp=Z,22nm,0.8s
KKM Kota Kinabalu 68.80 97 P P 21 43 22.0 0.0
YSS Yuzh-Sakhalins 70.15 46⇑eP P 21 43 28.8 -0.9
YSS e 21 43 43.5
YSS eS **S 21 52 38.8 -1.8**
YSS eSS **SS 21 57 10.8 +1.0**
YSS pmax pmax
comp=Z,50nm,1.1s
YSS pmax pmax
comp=Z,300nm,5.0s
YSS Yuzh-Sakhalins 70.15 46 P P 21 43 28.9 -0.8
JKA Kamikawa-asahi 71.35 49 IAMs_20 IAMs_20 22 17 47.8
comp=Z,753nm,20.0s
FRB Frobisher Bay 71.54 335 LR LR 22 16 18.4
comp=Z,566nm,18.8s,baz=45,slow=37
MJB9 Matsu-Tunnel 71.86 58 IAMs_20 IAMs_20 22 15 49.1
comp=Z,646nm,20.0s
MAJO Matsushiro 71.86 58 P P 21 43 40.4 0.0
MAJO pmax pmax
comp=Z,6.0nm,0.8s
MAJO MLR MLR
comp=Z,600nm,20.0s
MAJO Matsushiro 71.86 58 P P 21 43 40.4 0.0
MAJO Matsushiro 71.86 58 IAMs_20 IAMs_20 22 17 36.1
comp=Z,612nm,20.0s
MJAR Matsushiro Arr 71.87 58 P P 21 43 39.8 -0.6
comp=Z,3.2nm,0.9s,baz=302,slow=5.6,SNR=10
MJAR LR LR 22 17 58.6
comp=Z,481nm,20.1s,baz=285,slow=38
MJAR Matsushiro Arr 71.87 58 P P 21 43 40.2 -0.2
MJAR pmax pmax
comp=Z,3.0nm,1.0s
MJAR Matsushiro Arr 71.87 58 P P 21 43 40.2 -0.2
DRLN Deer Lake 74.78 319 P P 21 43 57.3 +0.1
PEA0B Petropavlovsk- 75.28 36ceP P 21 43 58.2 -1.9
PEA0B Petropavlovsk- 75.28 36 IAMs_20 IAMs_20 22 20 34.3
comp=Z,507nm,20.0s
PETK Petropavlovsk- 75.28 36 P P 21 43 58.0 -2.1
comp=Z,15nm,1.1s,baz=45,slow=0.2,SNR=20
PETK LR LR 22 20 45.5
comp=Z,503nm,20.4s,baz=279,slow=39
A36M Sachs Harbour 75.47 358 P P 21 44 00.3 -0.5
baz=6.2
PET Petropavlovsk 75.80 36 iP P 21 44 03.2 +0.2
PET pmax pmax
comp=Z,47nm,1.0s
SCHQ Schefferville 76.29 327 P P 21 44 05.0 -0.9
comp=Z,27nm,1.0s,baz=60,slow=7.4,SNR=14
SCHQ LR LR 22 20 03.3
comp=Z,241nm,18.1s,baz=66,slow=38
RDOG Red Dog Mine 76.99 11 IAmb IAmb 21 44 14.8
comp=Z,45nm,1.5s
RDOG IAMs_20 IAMs_20 22 24 46.4
comp=Z,364nm,18.0s
KAPI Kappang 77.86 104 P P 21 44 15.0 -0.3
comp=Z,5.2nm,0.5s,baz=322,slow=9.3,SNR=1.8
KAPI Kappang 77.86 104 P P 21 44 15.0 -0.3
KAPI pmax pmax
comp=Z,16nm,1.1s
KAPI Kappang 77.86 104 IAmb IAmb 21 44 20.2
comp=Z,16nm,1.1s
C36M Paulatuk 78.06 357 P P 21 44 14.2 -1.3
baz=7.2
C36M Paulatuk 78.06 357 IAmb IAmb 21 44 16.3
comp=Z,35nm,0.9s
TOLK Toolik Lake Re 78.16 6 P P 21 44 16.5 +0.3
baz=345,SNR=15
TOLK Toolik Lake Re 78.16 6 IAmb IAmb 21 44 18.5
comp=Z,25nm,0.8s
INK Inuvik 79.29 0 IAMs_20 IAMs_20 22 23 12.5
comp=Z,506nm,21.0s
COLD Coldfoot 79.47 7 P P 21 44 23.2 -0.2
baz=345,SNR=13
COLD Coldfoot 79.47 7 IAMs_20 IAMs_20 22 23 51.0
comp=Z,372nm,20.0s
ANM Nome 79.66 14 IAMs_20 IAMs_20 22 24 12.1
comp=Z,598nm,21.0s
BMAR Burnt Mountain 79.75 5 P P 21 44 24.3 -0.7
IMAR Indian Mountai 80.26 9 P P 21 44 25.7 -1.9
TNTI Ternate 80.99 95 P P 21 44 32.1 -0.3
TNTI IAmb IAmb 21 44 35.7
comp=Z,70nm,1.6s
POKR Poker Flat Res 81.80 6 P P 21 44 35.5 -0.3
baz=347
D63A Stockholm 81.81 321 P P 21 44 36.4 +0.1
baz=50,SNR=13
MDM Murphy Dome 81.87 7 IAmb IAmb 21 44 38.4
comp=Z,42nm,1.4s
COLA College 81.99 7 iP P 21 44 37.0 +0.2
COLA pmax pmax
comp=Z,13nm,1.0s
E64A Bridgewater 82.06 321 P P 21 44 37.4 -0.2
baz=50,SNR=7.8
NEA2 Nenana 82.14 7 P P 21 44 36.6 -1.1
baz=346
ILAR Eielson Array 82.19 6 P P 21 44 36.8 -1.1
comp=Z,4.1nm,0.9s,baz=338,slow=4.3,SNR=25
ILAR PP **PP 21 47 45.2 -0.1**
comp=Z,3.2nm,1.0s,baz=347,slow=7.0,SNR=5.6
ILAR PKKPbc **PKKPbc 22 03 06.2 -0.5**
comp=Z,1.2nm,1.0s,baz=188,slow=2.5,SNR=7.7
ILAR PKPPKP **P'P'df 22 11 13.1 -4.1**
comp=Z,1.3nm,1.1s,baz=116,slow=2.1,SNR=5.8
ILAR LR LR 22 24 37.8
comp=Z,282nm,21.3s,baz=342,slow=38
D62A Allapoint, All 82.28 322 P P 21 44 38.2 -0.5
baz=49,SNR=46
GGN Saint George 82.35 319 IAmb IAmb 21 44 40.5
comp=Z,22nm,0.9s
E63A Oxbow 82.37 321 P P 21 44 39.1 -0.1
baz=50,SNR=7.1
E63A Oxbow 82.37 321 IAmb IAmb 21 44 41.5
comp=Z,45nm,1.2s
BPAW Bear Paw Mtn. 82.41 8 IAmb IAmb 21 44 40.8
comp=Z,28nm,1.3s
BPAW IAMs_20 IAMs_20 22 26 14.7
comp=Z,469nm,20.0s
HDA Harding Lake 82.53 6 P P 21 44 38.8 -0.9
baz=348
HDA Harding Lake 82.53 6 P P 21 44 38.5 -1.2
F64A Sherman 82.69 321 P P 21 44 40.3 -0.6
baz=50,SNR=13
F64A Sherman 82.69 321 IAmb IAmb 21 44 43.2
comp=Z,34nm,1.0s
G65A Princeton 82.70 320 P P 21 44 40.4 -0.5
baz=50
D61A St Aubert, Com 82.78 323 P P 21 44 40.7 -0.6
baz=49,SNR=30
E62A Clayton Lake 82.82 322 P P 21 44 41.2 -0.4
baz=49,SNR=15
H66A Whiting 82.82 319 P P 21 44 40.7 -0.9
baz=50
TTA Tatalina 82.84 11 IAMs_20 IAMs_20 22 28 14.1
comp=Z,438nm,21.0s
EMMW East Machias 82.95 319 P P 21 44 43.3 +1.1
EMMW IAmb IAmb 21 44 44.1
comp=Z,24nm,1.1s
CHGQ Chibougamau 83.00 326 P P 21 44 42.1 -0.3
baz=46,SNR=32
SMY Shemya 83.01 29 IAMs_20 IAMs_20 22 26 47.1
comp=Z,572nm,20.0s
TRF Thorofare Moun 83.12 8 IAMs_20 IAMs_20 22 26 17.5
comp=Z,392nm,21.0s
F63A Nahmakanta, Br 83.20 321 P P 21 44 43.9 +0.3
baz=49,SNR=8.0
F63A Nahmakanta, Br 83.20 321 IAmb IAmb 21 44 45.9
comp=Z,38nm,1.1s
G64A Maxfield 83.31 320 P P 21 44 43.3 -0.8
baz=49
RND Reindeer 83.33 7 IAmb IAmb 21 44 44.8
comp=Z,26nm,1.5s
D60A Saint Jean D'O 83.35 323 P P 21 44 43.7 -0.6
baz=48,SNR=7.3
H65A Eastbrook 83.39 320 P P 21 44 43.8 -0.7
baz=50
PPLA Purkeypile 83.42 9 IAMs_20 IAMs_20 22 26 40.4
comp=Z,561nm,21.0s
FCC Fort Churchill 83.43 341 IAMs_20 IAMs_20 22 21 31.0

comp=Z,643nm,22.0s
E61A Lac Etchemin 83.45 322 P P 21 44 44.6 -0.2
baz=48,SNR=12
F62A Pittston Farm, 83.53 321 P P 21 44 45.0 -0.2
baz=49,SNR=12
F62A Pittston Farm, 83.53 321 IAmb IAmb 21 44 47.5
comp=Z,29nm,0.9s
PKME Peaks-Kenny Pk 83.59 321 P P 21 44 45.1 -0.4
baz=49
PKME Peaks-Kenny Pk 83.59 321 IAmb IAmb 21 44 48.0
comp=Z,29nm,1.2s
D59A Saint-Raymond 83.75 323 P P 21 44 45.9 -0.5
baz=48
G63A Kingsbury 83.86 321 P P 21 44 46.8 -0.1
baz=49,SNR=6.6
H64A Troy 83.96 320 P P 21 44 47.2 -0.3
baz=49,SNR=6.1
E60A Ste Agathe de 83.98 322 P P 21 44 47.1 -0.4
baz=48,SNR=8.7
F61A St Evariste 84.01 322 P P 21 44 47.6 -0.1
baz=48,SNR=17
YKA Yellowknife Ar 84.05 352 P P 21 44 45.5 -2.0
comp=Z,17nm,1.0s,baz=13,slow=5.3,SNR=12
YKA LR LR 22 24 36.2
comp=Z,325nm,20.0s,baz=0.0,slow=37
YKA Yellowknife Ar 84.05 352 *i* P P 21 44 47.8 +0.2
YKA pmax pmax
comp=Z,16nm,1.0s
GIRL Giralia 84.11 121 P P 21 44 49.9 +1.5
CUT Chulitna 84.14 8 P P 21 44 47.5 -0.5
baz=345
D58A Chemin du LacG 84.22 324 P P 21 44 48.4 -0.3
baz=47,SNR=6.8
WVL Waterville 84.24 320 IAmb IAmb 21 44 50.9
comp=Z,16nm,0.8s
BCAR Beaver Creek A 84.27 4 P P 21 44 48.6 -0.1
G62A West of Eustis 84.28 321 P P 21 44 49.1 0.0
baz=48,SNR=27
H63A New Sharon 84.38 321 P P 21 44 49.2 -0.4
baz=48
SKT Skwentna 84.39 9 IAmb IAmb 21 44 50.7
comp=Z,42nm,1.8s
SKT IAMs_20 IAMs_20 22 27 20.0
comp=Z,401nm,20.0s
F60A Warwick 84.51 322 P P 21 44 49.8 -0.5
baz=47,SNR=6.5
MATQ Matagami 84.60 328 P P 21 44 50.1 -0.5
baz=44,SNR=14
I64A Boothbay 84.65 320 P P 21 44 50.2 -0.7
baz=49
G61A St-Isidore-de- 84.76 322 P P 21 44 51.3 -0.2
baz=48,SNR=19
D57A Chemin Vers le 84.77 324 P P 21 44 51.0 -0.6
baz=46,SNR=20
LSQQ Lebel-sur-Quev 84.81 327 P P 21 44 51.4 -0.3
baz=44
GHO Glory Hole Cre 84.91 8 IAMs_20 IAMs_20 22 28 50.8
comp=Z,314nm,19.0s
E58A La Victoria 84.91 323 P P 21 44 51.8 -0.4
baz=46,SNR=9.3
SUA Susitna One 84.99 9 IAmb IAmb 21 44 53.5
comp=Z,14nm,0.8s
SUA IAMs_20 IAMs_20 22 27 49.9
comp=Z,433nm,20.0s
F59A Saint Guilaume 85.02 323 P P 21 44 52.5 -0.3
baz=47,SNR=7.8
H62A Milan 85.04 321 P P 21 44 52.1 -0.8
baz=48
H62A Milan 85.04 321 IAmb IAmb 21 44 55.0
comp=Z,21nm,1.1s
PMR Palmer 85.06 8 IAMs_20 IAMs_20 22 28 55.8
comp=Z,344nm,19.0s
I63A Otisfield 85.08 320 P P 21 44 52.5 -0.6
baz=48
SIJI Sorong 85.15 94 P P 21 44 52.8 -1.2
comp=Z,39nm,1.0s,baz=317,slow=7.8,SNR=5.1
D56A ZEC Mazanza, M 85.18 325 P P 21 44 53.2 -0.3
baz=46,SNR=9.9
G60A Masonville 85.30 322 P P 21 44 53.5 -0.8
baz=47
KNK Knik Glacier 85.31 8 IAMs_20 IAMs_20 22 25 13.5
comp=Z,497nm,22.0s
E57A Chemin Saint G 85.32 324 P P 21 44 53.9 -0.4
baz=46,SNR=21
H61A Lyndonville 85.47 321 P P 21 44 54.9 -0.2
baz=47,SNR=16
D55A Sainte-Anne-du 85.55 325 P P 21 44 54.8 -0.6
baz=45,SNR=18
I62A Tamworth 85.60 321 P P 21 44 54.9 -0.8
baz=48,SNR=7.7
I62A Tamworth 85.60 321 IAmb IAmb 21 44 58.4
comp=Z,48nm,1.4s
E56A St. Veronique 85.67 324 P P 21 44 55.4 -0.6
baz=45,SNR=13
LBNH Lisbon 85.67 321 P P 21 44 55.4 -0.6
baz=47,SNR=14
LBNH Lisbon 85.67 321 P P 21 44 56.5 +0.4
LBNH pmax pmax
comp=Z,39nm,0.9s
LBNH Lisbon 85.67 321 P P 21 44 56.5 +0.4
GLB Gilahina Butte 85.73 5 IAMs_20 IAMs_20 22 26 12.6
comp=Z,356nm,21.0s
G59A Clarenceville 85.75 322 P P 21 44 55.5 -0.9
baz=46,SNR=6.8
H60A Morristown 85.86 322 P P 21 44 56.4 -0.6
baz=47,SNR=14
J63A Strafford 85.86 320 P P 21 44 56.4 -0.6
baz=48,SNR=6.7
F57A Harrington 86.01 324 P P 21 44 56.9 -0.8
baz=45
D54A Lac Fusel, La 86.02 326 P P 21 44 57.7 -0.1
baz=44,SNR=5.1
I61A Oroboro, Fairl 86.03 321 P P 21 44 57.8 0.0
baz=47,SNR=11
VT1 Waterbury 86.04 322 IAmb IAmb 21 45 00.2
comp=Z,24nm,1.0s
O22K Cooper Landing 86.07 8 P P 21 44 56.7 -1.0
baz=346
FRNY Flat Rock 86.13 322 IAmb IAmb 21 44 59.9
comp=Z,37nm,1.1s
G58A Ormstown 86.15 323 P P 21 44 57.5 -1.0
baz=46,SNR=14
FID Port Fidalgo 86.17 7 IAMs_20 IAMs_20 22 27 54.5
comp=Z,329nm,20.0s
HNH Hanover 86.22 321 P P 21 44 59.0 +0.1
E55A Montcerf-Lytto 86.23 325 P P 21 44 58.0 -0.8
baz=44
BARN Barnard Glacie 86.27 4 IAmb IAmb 21 45 01.4
comp=Z,26nm,1.3s
J62A Henniker 86.30 320 P P 21 44 58.9 -0.3
baz=47,SNR=12
H59A Cadyville 86.31 322 P P 21 44 58.6 -0.7
baz=46,SNR=13
CTGM Chitina Glacie 86.38 4 IAmb IAmb 21 45 02.1
comp=Z,60nm,1.8s
EYAK Cordova Ski Ar 86.44 7 IAMs_20 IAMs_20 22 26 42.4
comp=Z,472nm,22.0s
SEW Seward 86.47 8 IAMs_20 IAMs_20 22 28 36.1
comp=Z,499nm,21.0s
K63A Dunstable 86.50 320 P P 21 44 59.3 -0.9
baz=47,SNR=14
HIN Hinchinbrook I 86.52 7 IAMs_20 IAMs_20 22 29 15.3
comp=Z,383nm,19.0s
D53A Lac Vacive, Po 86.57 326 P P 21 44 59.4 -1.0
baz=43
D53A Lac Vacive, Po 86.57 326 IAmb IAmb 21 45 06.3
comp=Z,57nm,2.0s
J61A Chester 86.61 321 P P 21 44 59.9 -0.9
baz=47,SNR=9.5
BRLK Bradley Lake 86.61 9 IAMs_20 IAMs_20 22 28 05.1
comp=Z,477nm,20.0s
L64A Middleborough 86.63 319 P P 21 44 59.9 -0.9
baz=48,SNR=9.2
HRV Adam Dziewonsk 86.64 320 P P 21 45 00.0 -0.9
baz=47
HRV Adam Dziewonsk 86.64 320 P P 21 45 01.1 +0.2
HRV pmax pmax
comp=Z,28nm,1.0s
HRV Adam Dziewonsk 86.64 320 P P 21 45 01.1 +0.2
HRV IAmb IAmb 21 45 03.1
comp=Z,28nm,0.9s
G57A Newington 86.66 323 P P 21 45 00.0 -0.9
baz=45,SNR=10.0
I60A Shoreham 86.66 322 P P 21 45 00.1 -0.8
baz=46,SNR=6.5
ORIO Orleans, Innes 86.67 324 P P 21 45 00.4 -0.6
baz=45
ISLE Juniper Island 86.67 5 IAmb IAmb 21 45 27.4
comp=Z,15nm,0.7s
HYT Haines Junctio 86.72 2 IAmb IAmb 21 45 03.7
comp=Z,35nm,1.4s
H58A Gabriels 86.72 322 P P 21 45 00.6 -0.7
baz=46,SNR=12
M65A Busby, Falmout 86.77 319 IAMs_20 IAMs_20 22 29 38.6
comp=Z,366nm,18.0s
LONY Lake Ozonia 86.79 323 P P 21 45 01.1 -0.5
baz=46,SNR=21
E54A Lac Daplat, Po 86.79 325 P P 21 45 00.5 -1.0
baz=44
CNPM China Poot 86.80 9 IAMs_20 IAMs_20 22 28 30.7
comp=Z,588nm,22.0s
F55A Otter Lake 86.82 324 P P 21 45 00.9 -0.8
baz=44
K62A Royalston 86.90 320 P P 21 45 01.6 -0.6
baz=47,SNR=8.2
K62A Royalston 86.90 320 IAmb IAmb 21 45 04.8
comp=Z,39nm,1.1s
YAH Yahtse 86.95 5 IAMs_20 IAMs_20 22 24 18.0
comp=Z,362nm,20.0s
D52A ZEK Kipawa Sen 86.98 326 P P 21 45 01.7 -0.8
baz=43
I59A Olmsteadville 87.00 322 P P 21 45 02.1 -0.5
baz=46,SNR=12
E53A Dumoine, Ponti 87.06 326 P P 21 45 01.9 -1.0
baz=43,SNR=9.7
M64A Tiverton 87.09 319 P P 21 45 02.1 -1.0
baz=48,SNR=8.1
L63A North Scituate 87.11 319 P P 21 45 02.7 -0.4
baz=47,SNR=6.0
MESA MESA 87.12 5 IAMs_20 IAMs_20 22 24 35.4
comp=Z,421nm,21.0s
J60A Lant Hill Farm 87.14 321 P P 21 45 03.1 -0.2
baz=46,SNR=11
ACCN Adirondack Com 87.17 321 IAmb IAmb 21 45 05.8
comp=Z,33nm,1.2s
QUA2 Belchertown 87.23 320 IAmb IAmb 21 45 06.1
comp=Z,17nm,1.1s
L61B Northampton 87.29 320 P P 21 45 03.5 -0.6
baz=47,SNR=5.4
H57A Richville 87.31 323 P P 21 45 03.4 -0.7
baz=45,SNR=9.7
D51A Lot 18 Range I 87.34 327 P P 21 45 03.3 -0.9
baz=42
G55A Calabogie 87.41 324 P P 21 45 03.8 -0.8
baz=44,SNR=9.4
K61A Williamstown 87.45 321 P P 21 45 04.0 -0.9
baz=46
D50A G1974 Best Tow 87.50 327 P P 21 45 04.2 -0.8
baz=42
ALGO Algonquin Park 87.55 325 P P 21 45 04.4 -0.8
baz=43
J59A Piesco 87.56 322 P P 21 45 05.0 -0.4
baz=46,SNR=8.5
J59A Piesco 87.56 322 IAmb IAmb 21 45 08.9
comp=Z,16nm,0.8s
I58A Old Forge 87.64 322 P P 21 45 05.2 -0.6
baz=45,SNR=8.5
H56A Elgin 87.66 324 P P 21 45 05.3 -0.5
baz=44,SNR=8.0
M63A Gales Ferry 87.66 319 P P 21 45 05.6 -0.2
baz=47
PLVO Plevna 87.74 324 P P 21 45 05.6 -0.6
PLVO IAmb IAmb 21 45 07.9
comp=Z,22nm,0.9s
E51A G1948 Merrick 87.81 327 P P 21 45 05.8 -0.7
baz=42
I57A Carthage 87.82 323 P P 21 45 05.9 -0.7
baz=45,SNR=14
G54A Lake Saint Pet 87.98 325 P P 21 45 06.5 -0.8
baz=43,SNR=13
J58A Remsen 88.03 322 P P 21 45 07.3 -0.3
baz=45,SNR=5.9
J58A Remsen 88.03 322 IAmb IAmb 21 45 09.6
comp=Z,17nm,0.9s
M62A Hamden 88.10 320 P P 21 45 07.6 -0.3
baz=46
D49A Beulah Townshi 88.11 328 P P 21 45 06.5 -1.4
baz=41
H55A Tweed 88.15 324 P P 21 45 07.6 -0.5
baz=44,SNR=12
K59A Cooperstown 88.22 322 P P 21 45 07.8 -0.7
baz=45,SNR=7.0
KDAK Kodiak Island 88.28 11 LR LR 22 29 56.7
comp=Z,295nm,21.8s,baz=350,slow=39
KDAK Kodiak Island 88.28 11 P P 21 45 09.1 +0.7
KDAK pmax pmax
comp=Z,20nm,1.1s
KDAK MLR MLR
comp=Z,400nm,22.0s
KDAK Kodiak Island 88.28 11 P P 21 45 09.1 +0.7
KDAK IAmb IAmb 21 45 12.0
comp=Z,20nm,1.1s
KDAK Kodiak Island 88.28 11 IAMs_20 IAMs_20 22 29 33.8
comp=Z,414nm,22.0s
J57A Williamstown 88.37 323 P P 21 45 08.5 -0.7
baz=44,SNR=7.9
D48A Paudash Townsh 88.38 328 P P 21 45 08.1 -1.1
baz=40
L60A Shokan 88.44 321 P P 21 45 08.5 -1.1
baz=46
E50A Wahnapitae 88.46 327 P P 21 45 08.5 -1.1
baz=41
I55A Frankford 88.64 324 P P 21 45 09.8 -0.6
baz=43
K58A Earlville 88.64 322 P P 21 45 09.9 -0.7
baz=45,SNR=6.6
K58A Earlville 88.64 322 IAmb IAmb 21 45 13.7
comp=Z,19nm,0.9s
M61A Granite Spring 88.66 320 P P 21 45 10.2 -0.5
baz=46
L59A Walton 88.73 321 P P 21 45 10.3 -0.7
baz=45
H53A Bobcaygeon 88.82 325 P P 21 45 10.7 -0.6
baz=43
J56A Wolcott 88.90 323 P P 21 45 11.0 -0.7
baz=44
SADO Sadowa 88.94 325 IAmb IAmb 21 45 16.1
comp=Z,20nm,0.9s
SADO IAMs_20 IAMs_20 22 28 32.6
comp=Z,317nm,18.0s
NIKH Nikolski High 88.97 21 IAMs_20 IAMs_20 22 26 14.3
comp=Z,453nm,22.0s
BESE Bessie Mountai 89.04 1 IAmb IAmb 21 45 14.5
comp=Z,31nm,1.4s
D47A Chapleau 89.04 329 P P 21 45 11.4 -0.9
baz=40
FFC Flin Flon 89.06 343 P P 21 45 11.9 -0.3
FFC pmax pmax
comp=Z,38nm,1.4s
FFC MLR MLR
comp=Z,500nm,19.0s
FFC Flin Flon 89.06 343 P P 21 45 11.9 -0.3
FFC IAmb IAmb 21 45 13.9
comp=Z,38nm,1.4s
FFC IAMs_20 IAMs_20 22 26 40.6
comp=Z,455nm,19.0s
SDPT Sand Point 89.06 16 IAMs_20 IAMs_20 22 29 39.6
comp=Z,481nm,20.0s
E48A Lockeyer 89.07 328 P P 21 45 11.7 -0.7
baz=40
K57A Scipio Center 89.12 322 P P 21 45 12.3 -0.5
baz=44
M60A Port Jervis 89.12 320 P P 21 45 12.5 -0.3
baz=45
DLBC Dease Lake 89.18 359 LR LR 22 30 10.7
comp=Z,461nm,21.9s,baz=323,slow=39
DLBC Dease Lake 89.18 359 IAmb IAmb 21 45 15.8
comp=Z,20nm,1.2s
BINY Binghamton 89.22 322 P P 21 45 12.5 -0.8
baz=44
BINY Binghamton 89.22 322 IAMs_20 IAMs_20 22 27 49.4
comp=Z,370nm,22.0s
ODNJ Ogdensburg 89.28 320 IAMs_20 IAMs_20 22 27 47.7
comp=Z,341nm,19.0s
N61A South Mountain 89.34 320 P P 21 45 13.2 -0.6
baz=46
JIS Juneau Island 89.35 1 IAmb IAmb 21 45 20.7
comp=Z,29nm,1.4s
JIS IAMs_20 IAMs_20 22 30 11.4
comp=Z,435nm,20.0s
MORW Morawa 89.37 125 P P 21 45 14.6 +0.6
MORW IAmb IAmb 21 45 17.8
comp=Z,37nm,1.2s
J55A Hilton 89.39 323 P P 21 45 12.7 -1.3
baz=43
J55A Hilton 89.39 323 IAmb IAmb 21 45 16.9
comp=Z,25nm,0.8s
M59A Waymart 89.40 321 P P 21 45 13.7 -0.5
baz=45
K56A Middlesex 89.55 323 P P 21 45 13.8 -1.1
baz=44
F49A Sandfield 89.56 327 P P 21 45 13.8 -0.9
baz=40
E47A Iron Bridge 89.58 328 P P 21 45 14.1 -0.7
baz=40
CHIR Chirikof Islan 89.62 13 IAMs_20 IAMs_20 22 30 27.4
comp=Z,328nm,18.0s
N60A Cedar Hill Far 89.69 320 P P 21 45 14.6 -0.9
baz=45
F48A Evansville 89.77 328 P P 21 45 15.0 -0.7
baz=40
L57A Andrews Acres 89.81 322 P P 21 45 15.2 -0.8
baz=44
K55A Perry 89.91 323 P P 21 45 15.6 -0.9
baz=43
FITZ Fitzroy Crossi 90.02 111 P P 21 45 16.9 -0.3
N59A State Game Lan 90.02 321 P P 21 45 16.8 -0.2
baz=45
M58A Price's Panora 90.06 321 P P 21 45 17.0 -0.2
baz=44
L56A Greenwood 90.08 323 P P 21 45 17.0 -0.3
baz=43
O60A Telford 90.25 320 P P 21 45 17.2 -0.8
baz=45
K54A Basiliko Farm, 90.31 323 P P 21 45 17.2 -1.2
baz=43,SNR=6.1
L55A Hinsdale 90.49 323 P P 21 45 18.2 -1.1
baz=43,SNR=9.7
PSUB Penn St. - Bra 90.55 320 IAmb IAmb 21 45 20.4
comp=Z,19nm,1.2s
I51A Listowel 90.56 326 P P 21 45 18.7 -0.8
baz=41
N58A Sunbury 90.58 321 P P 21 45 19.3 -0.3
baz=44
P60A Greenville 90.73 320 IAmb IAmb 21 45 21.4
comp=Z,22nm,1.1s
M56A Emporium 90.87 322 P P 21 45 20.0 -1.0
baz=43,SNR=6.5
L54A Sinclairville 90.90 324 P P 21 45 20.0 -1.1
baz=42,SNR=9.0
MVL Millersville 90.98 320 IAmb IAmb 21 45 29.3
comp=Z,32nm,1.5s
MVL IAMs_20 IAMs_20 22 32 56.8
comp=Z,262nm,18.0s
N57A Milroy 91.08 322 P P 21 45 21.1 -0.9
baz=43,SNR=5.2
KNRA Kununurra 91.15 108 P P 21 45 22.3 -0.2
M55A Ridgway 91.18 323 P P 21 45 21.7 -0.7
baz=43,SNR=8.7
O58A Lewisberry 91.20 321 P P 21 45 21.5 -1.0
baz=44
E43A Lone Tree Farm 91.24 330 IAmb IAmb 21 45 23.7
comp=Z,20nm,0.8s
E43A IAMs_20 IAMs_20 22 26 32.4
comp=Z,363nm,20.0s
ULM Lac du Bonnet 91.29 338 P P 21 45 22.0 -0.7
comp=Z,15nm,1.0s,baz=59,slow=3.9,SNR=7.2
ULM LR LR 22 27 36.5
comp=Z,365nm,20.8s,baz=22,slow=36
ULM Lac du Bonnet 91.29 338 IAmb IAmb 21 45 23.6
comp=Z,31nm,1.2s
P59A Jarrettsville 91.30 320 P P 21 45 22.4 -0.5
baz=44
ERPA Erie 91.32 324 P P 21 45 21.9 -1.2
baz=42
D41A Chassel 91.33 332 IAMs_20 IAMs_20 22 29 30.6
comp=Z,421nm,21.0s
SSPA Standing Stone 91.34 322 P P 21 45 22.5 -0.7
baz=43
N56A West Decatur 91.34 322 P P 21 45 22.4 -0.9
baz=43
GLMI Grayling 91.44 328 IAMs_20 IAMs_20 22 27 54.0
comp=Z,364nm,18.0s
O57A Amberson 91.51 321 P P 21 45 23.1 -0.9
baz=43
L53A Girard 91.58 324 P P 21 45 23.5 -0.7
baz=42
M54A Oil Creek Stat 91.61 323 P P 21 45 23.6 -0.9
baz=42,SNR=9.3
SDMD Soldier's Deli 91.67 320 IAmb IAmb 21 45 25.8
comp=Z,37nm,1.8s
EYMN Ely 91.73 334 P P 21 45 24.7 -0.2
baz=33
G45A Suttons Bay 91.73 329 IAMs_20 IAMs_20 22 30 08.5
comp=Z,411nm,21.0s
N55A Marion Center 91.80 322 P P 21 45 25.3 -0.1
baz=42
P58A Pank, Wackersv 91.86 321 P P 21 45 24.7 -0.9
baz=44
P57A Homestead Farm 92.24 321 P P 21 45 26.9 -0.5
baz=43
P57A Homestead Farm 92.24 321 IAmb IAmb 21 45 28.7
comp=Z,14nm,1.1s
COWI Conover 92.34 331 IAmb IAmb 21 45 28.9
comp=Z,22nm,0.9s
COWI IAMs_20 IAMs_20 22 27 21.3
comp=Z,340nm,21.0s
O55A Ligonier 92.39 322 P P 21 45 27.5 -0.5
baz=42
M52A Chesterland 92.43 324 IAMs_20 IAMs_20 22 30 12.9
comp=Z,283nm,19.0s
Q58A Fox Den Farm, 92.46 320 P P 21 45 27.7 -0.7
baz=43
N53A Lisbon 92.72 323 P P 21 45 28.8 -0.8
baz=41,SNR=5.8
Q57A Strasburg 92.78 321 P P 21 45 29.1 -0.7
baz=43
E38A The Farm, Brul 92.87 333 P P 21 45 29.3 -0.8
O54A Avella 92.96 323 P P 21 45 29.7 -0.9
baz=42,SNR=6.3
AAM Ann Arbor 92.96 326 P P 21 45 29.8 -0.8
baz=39
AGMN Agassiz Nation 92.97 337 P P 21 45 29.8 -0.8
baz=30
AGMN Agassiz Nation 92.97 337 IAmb IAmb 21 45 31.6
comp=Z,17nm,1.1s
MCWV Mont Chateau 93.07 322 P P 21 45 30.5 -0.7
baz=42
H43A Windswept, Lux 93.09 330 IAMs_20 IAMs_20 22 29 25.5
comp=Z,320nm,20.0s
S59A Mechanicsville 93.10 319 P P 21 45 30.5 -0.8
baz=44
T60A Surry 93.23 319 IAMs_20 IAMs_20 22 29 31.6
comp=Z,298nm,18.0s
R57A Stanardsville 93.38 320 P P 21 45 31.6 -1.1
baz=43
P54A Burton 93.44 322 P P 21 45 32.0 -0.9
baz=42
G40A Rib Lake 93.44 332 IAMs_20 IAMs_20 22 34 49.7
comp=Z,318nm,20.0s
S58A Poland Farm, P 93.62 320 P P 21 45 33.0 -0.7
baz=43
S58A Poland Farm, P 93.62 320 IAmb IAmb 21 45 37.8
comp=Z,16nm,0.9s
U61A Possum Corner 93.65 318 P P 21 45 32.9 -1.0
baz=44
Q55A Buckhannon 93.69 322 P P 21 45 33.5 -0.6
baz=42
O52A Adamsville 93.75 324 P P 21 45 33.7 -0.6
baz=41
R56A Bull Pasture M 93.77 321 P P 21 45 34.1 -0.4
baz=42
T59A Double "B" Far 93.81 319 P P 21 45 33.9 -0.7
baz=44
V62A Hyde County Ai 93.92 317 P P 21 45 34.4 -0.8
baz=45
P53A Whipple 93.99 323 P P 21 45 34.7 -0.7
baz=41,SNR=7.7
S57A Dark Hollow, R 94.00 320 P P 21 45 34.8 -0.7
baz=43
I42A Draeger Farm, 94.04 330 IAMs_20 IAMs_20 22 31 21.7
comp=Z,423nm,21.0s
O51A Pataskala 94.10 324 P P 21 45 34.7 -1.3
baz=40,SNR=6.9
ACSO Alum Creek Sta 94.22 324 P P 21 45 36.1 -0.3
baz=40
F36A Milaca 94.23 334 IAmb IAmb 21 45 37.4
comp=Z,19nm,1.2s
R55A Marlinton 94.24 321 P P 21 45 35.8 -0.9
baz=42
P52A Corning 94.26 323 P P 21 45 35.2 -1.4
baz=40,SNR=7.9
T58A Grand View Acr 94.37 320 P P 21 45 36.6 -0.6
baz=43

U59A	**Littleton**	**94.39**	**319**	P	**P**	**21**	**45**	**36.8**	**-0.5**
	baz=43								
S56A	**Natural Bridge**	**94.39**	**321**	P	**P**	**21**	**45**	**37.0**	**-0.3**
	baz=42								
DIB	**Dawson Inlet,**	**94.45**	**0**	IAMs_20	IAMs_20	22	28	25.3	
	comp=Z,362nm,21.0s								
SPMN	**Marine on St.**	**94.50**	**333**	P	**P**	**21**	**45**	**36.6**	**-1.0**
	baz=32								
SPMN	**Marine on St.**	**94.50**	**333**	IAmb	IAmb	21	45	39.0	
	comp=Z,15nm,0.9s								
SPMN				IAMs_20	IAMs_20	22	30	32.4	
	comp=Z,339nm,20.0s								
V60A	**Jim Taylor Roa**	**94.52**	**318**	P	**P**	**21**	**45**	**37.2**	**-0.7**
	baz=44								
V60A	**Jim Taylor Roa**	**94.52**	**318**	IAMs_20	IAMs_20	22	30	04.6	
	comp=Z,386nm,22.0s								
Q53A	**Leroy**	**94.54**	**323**	P	**P**	**21**	**45**	**36.9**	**-1.0**
	baz=41								
MDND	**Maddock**	**94.57**	**339**	IAMs_20	IAMs_20	22	29	32.8	
	comp=Z,396nm,19.0s								
T57A	**Hurt**	**94.72**	**320**	P	**P**	**21**	**45**	**38.2**	**-0.6**
	baz=42								
T57A	**Hurt**	**94.72**	**320**	IAmb	IAmb	21	45	39.8	
	comp=Z,10nm,0.8s								
I40A	**Norwalk**	**94.75**	**331**	IAMs_20	IAMs_20	22	28	42.2	
	comp=Z,477nm,21.0s								
U58A	**Oxford**	**94.78**	**319**	P	**P**	**21**	**45**	**38.2**	**-0.8**
	baz=43								
Q52A	**Bidwell**	**94.84**	**323**	P	**P**	**21**	**45**	**38.6**	**-0.7**
	baz=40,SNR=8.5								
O49A	**Covington**	**94.92**	**325**	IAMs_20	IAMs_20	22	29	24.8	
	comp=Z,333nm,20.0s								
V59A	**Middlesex**	**95.06**	**319**	P	**P**	**21**	**45**	**39.8**	**-0.6**
	baz=43								
R53A	**Hurricane**	**95.15**	**322**	P	**P**	**21**	**45**	**39.9**	**-0.9**
	baz=41								
U57A	**Blanch**	**95.18**	**320**	P	**P**	**21**	**45**	**40.2**	**-0.8**
	baz=42								
S54A	**Dingess, Beckl**	**95.22**	**322**	IAMs_20	IAMs_20	22	31	13.2	
	comp=Z,285nm,20.0s								
CNNC	**Cliffs of the**	**95.25**	**318**	IAMs_20	IAMs_20	22	30	37.0	
	comp=Z,406nm,21.0s								
DGMT	**Dagmar**	**95.33**	**342**	P	**P**	**21**	**45**	**40.5**	**-0.9**
	baz=24								
DGMT	**Dagmar**	**95.33**	**342**	IAMs_20	IAMs_20	22	30	43.7	
	comp=Z,349nm,20.0s								
JFWS	**Jewell Farm**	**95.40**	**330**	P	**P**	**21**	**45**	**41.0**	**-0.8**
	baz=34								
T55A	**Pulaski**	**95.46**	**321**	P	**P**	**21**	**45**	**41.3**	**-1.0**
	baz=41								
V58A	**Windy Hill, Pi**	**95.53**	**319**	P	**P**	**21**	**45**	**41.7**	**-0.9**
	baz=43								
S53A	**Williamson**	**95.73**	**322**	P	**P**	**21**	**45**	**42.4**	**-1.1**
	baz=40								
U56A	**King**	**95.81**	**320**	P	**P**	**21**	**45**	**42.7**	**-1.2**
	baz=42								
V57A	**Coltrane Farms**	**95.82**	**320**	P	**P**	**21**	**45**	**42.6**	**-1.2**
	baz=42								
L42A	**Oliver, Polo**	**95.90**	**329**	IAMs_20	IAMs_20	22	31	21.9	
	comp=Z,336nm,18.0s								
T54A	**Tazewell**	**95.92**	**321**	P	**P**	**21**	**45**	**43.5**	**-0.9**
	baz=41								
P48A	**Milroy**	**96.01**	**325**	IAMs_20	IAMs_20	22	29	46.6	
	comp=Z,323nm,20.0s								
E28A	**Huff**	**96.05**	**339**	IAMs_20	IAMs_20	22	29	57.8	
	comp=Z,475nm,21.0s								
U55A	**TA2, Sparta**	**96.06**	**321**	P	**P**	**21**	**45**	**44.1**	**-0.9**
	baz=41								
SFIN	**Lafayette**	**96.07**	**327**	P	**P**	**21**	**45**	**44.0**	**-0.9**
	baz=37								
SFIN	**Lafayette**	**96.07**	**327**	IAmb	IAmb	21	45	47.8	
	comp=Z,10nm,0.7s								
W58A	**Raeford**	**96.16**	**319**	P	**P**	**21**	**45**	**44.9**	**-0.5**
	baz=42								
V56A	**Mocksville**	**96.27**	**320**	P	**P**	**21**	**45**	**45.3**	**-0.6**
	baz=42								
T53A	**Wise**	**96.48**	**322**	P	**P**	**21**	**45**	**46.2**	**-0.7**
	baz=40								
L40A	**Anamosa**	**96.51**	**330**	IAMs_20	IAMs_20	22	32	46.9	
	comp=Z,444nm,20.0s								
X58A	**Rowland**	**96.56**	**318**	IAMs_20	IAMs_20	22	31	25.7	
	comp=Z,406nm,20.0s								
V55A	**Taylorsville**	**96.63**	**320**	P	**P**	**21**	**45**	**47.4**	**-0.2**
	baz=41								
V55A	**Taylorsville**	**96.63**	**320**	IAmb	IAmb	21	45	49.2	
	comp=Z,16nm,1.1s								
K38A	**Parkersburg**	**96.66**	**332**	IAmb	IAmb	21	45	50.2	
	comp=Z,15nm,1.1s								
W56A	**Indian Trail**	**96.82**	**320**	P	**P**	**21**	**45**	**48.1**	**-0.4**
	baz=42								
O44A	**Mansfield**	**96.88**	**328**	IAMs_20	IAMs_20	22	31	47.9	
	comp=Z,285nm,19.0s								
V54A	**Nebo**	**97.08**	**321**	P	**P**	**21**	**45**	**48.7**	**-0.9**
	baz=41								
EGMT	**Eagleton**	**97.10**	**345**	IAMs_20	IAMs_20	22	34	56.2	
	comp=Z,353nm,21.0s								
ECSD	**EROS Data Cent**	**97.19**	**335**	P	**P**	**21**	**45**	**49.4**	**-0.6**
	baz=30								
KMSC	**Kings Mountain**	**97.23**	**320**	P	**P**	**21**	**45**	**49.9**	**-0.4**
	baz=41								
KMSC	**Kings Mountain**	**97.23**	**320**	P	**P**	**21**	**45**	**50.3**	**+0.1**
KMSC				IAmb	IAmb	21	45	51.8	
	comp=Z,12nm,1.1s								
TZTN	**Tazewell**	**97.34**	**322**	P	**P**	**21**	**45**	**49.8**	**-0.9**
	baz=40								
WCI	**Wyandotte Cave**	**97.40**	**325**	P	**P**	**21**	**45**	**50.7**	**-0.2**
	baz=38								
WCI	**Wyandotte Cave**	**97.40**	**325**	IAMs_20	IAMs_20	22	32	40.3	
	comp=Z,415nm,19.0s								
LAO	**LASA Array**	**97.51**	**342**	P	**P**	**21**	**45**	**50.4**	**-0.9**
	baz=22								
LAO	**LASA Array**	**97.51**	**342**	IAMs_20	IAMs_20	22	31	52.2	
	comp=Z,388nm,21.0s								
Y57A	**Sumter**	**97.55**	**319**	IAMs_20	IAMs_20	22	31	56.7	
	comp=Z,374nm,20.0s								
X56A	**White Oak**	**97.55**	**319**	P	**P**	**21**	**45**	**51.0**	**-0.7**
	baz=41								
V53A	**Saluda**	**97.62**	**321**	IAMs_20	IAMs_20	22	32	47.5	
	comp=Z,396nm,20.0s								
T50A	**Nancy**	**97.62**	**323**	IAmb	IAmb	21	45	54.9	
	comp=Z,5.4nm,0.8s								
W54A	**Cherokee Point**	**97.73**	**320**	P	**P**	**21**	**45**	**52.0**	**-0.5**
	baz=41								
P43A	**Skaggs, Pawnee**	**97.77**	**328**	IAMs_20	IAMs_20	22	31	50.4	
	comp=Z,268nm,20.0s								
OLIL	**Olney**	**97.85**	**327**	IAMs_20	IAMs_20	22	38	26.8	
	comp=Z,273nm,21.0s								
X55A	**Gracelyn & Ava**	**97.89**	**320**	P	**P**	**21**	**45**	**52.5**	**-0.7**
	baz=41								
V52A	**Sevierville**	**97.90**	**322**	IAmb	IAmb	21	45	54.8	
	comp=Z,9.0nm,0.9s								
WRA	**Warramunga Arr**	**97.91**	**109**	P	**P**	**21**	**45**	**52.0**	**-1.5**
	comp=Z,2.0nm,0.7s,baz=316,slow=4.1,SNR=20								
WRA				PKKP	**PKKPdf**	**22**	**02**	**29.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=121,slow=2.5,SNR=4.6								
WRA	**Warramunga Arr**	**97.91**	**109**	*i* P	**P**	**21**	**45**	**54.2**	**+0.7**
WRA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
WRA	**Warramunga Arr**	**97.91**	**109**	IAmb	IAmb	21	45	58.6	
	comp=Z,0.2nm,0.8s								
WRAB	**Tennant Creek**	**97.91**	**108**	*ce*P	**P**	**21**	**45**	**51.5**	**-2.0**
WRAB				pmax	pmax				
	comp=Z,4.0nm,1.1s								
BG3	**Lake Jocassee**	**98.20**	**321**	IAmb	IAmb	21	45	56.3	
	comp=Z,7.8nm,0.9s								
X54A	**Belton**	**98.24**	**320**	P	**P**	**21**	**45**	**54.1**	**-0.7**
	baz=40								
NEW	**Newport**	**98.24**	**350**	IAMs_20	IAMs_20	22	31	34.9	
	comp=Z,372nm,21.0s								
V51A	**Loudon**	**98.32**	**322**	IAMs_20	IAMs_20	22	34	49.4	
	comp=Z,292nm,18.0s								
HODGE	**Hodges**	**98.41**	**320**	IAMs_20	IAMs_20	22	38	47.6	
	comp=Z,257nm,20.0s								
Y55A	**Saluda**	**98.42**	**320**	P	**P**	**21**	**45**	**55.0**	**-0.6**
	baz=41								
B08A	**Colville Reser**	**98.45**	**351**	IAMs_20	IAMs_20	22	36	10.5	
	comp=Z,378nm,20.0s								
Z56A	**Williston**	**98.60**	**319**	IAMs_20	IAMs_20	22	32	38.8	
	comp=Z,371nm,21.0s								
C09A	**Chrisman Ranch**	**98.86**	**350**	IAMs_20	IAMs_20	22	30	33.0	
	comp=Z,422nm,22.0s								
P40A	**Paris**	**98.96**	**330**	IAmb	IAmb	21	46	02.7	
	comp=Z,5.7nm,0.8s								
RSSD	**Black Hills**	**99.27**	**340**	P	**Pdif**	**21**	**45**	**58.2**	**-1.3**
	baz=24								
W50A	**Signal Mountai**	**99.28**	**323**	IAMs_20	IAMs_20	22	36	08.2	
	comp=Z,286nm,19.0s								
ASAR	**Alice Springs**	**99.51**	**112**	P	**Pdif**	**21**	**45**	**59.3**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=305,slow=6.4,SNR=12								
ASAR				PP	**PP**	**21**	**50**	**04.5**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=308,slow=6.5,SNR=5.6								
ASAR				PKKP	**PKKPdf**	**22**	**02**	**25.9**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=139,slow=3.2,SNR=4.9								
ASAR				LR	LR	22	36	13.7	
	comp=Z,118nm,18.0s,baz=303,slow=38								
SWET	**Sewanee**	**99.58**	**323**	IAMs_20	IAMs_20	22	31	05.2	
	comp=Z,278nm,20.0s								
D08A	**Wollman Farm,**	**99.67**	**351**	IAMs_20	IAMs_20	22	32	11.9	
	comp=Z,433nm,22.0s								
D03D	**Eldon**	**99.69**	**354**	P	**Pdif**	**21**	**45**	**59.7**	**-1.3**
	baz=7.9								
GOGA	**Godfrey**	**99.69**	**320**	P	**Pdif**	**21**	**46**	**00.3**	**-1.0**
	baz=40								
LTY	**Liberty**	**99.70**	**352**	IAMs_20	IAMs_20	22	36	58.9	
	comp=Z,383nm,21.0s								
WVT	**Waverly**	**99.81**	**325**	IAMs_20	IAMs_20	22	33	37.4	
	comp=Z,330nm,20.0s								
BOZ	**Bozeman (W)**	**99.81**	**345**	IAMs_20	IAMs_20	22	33	26.1	
	comp=Z,385nm,18.0s								
CCM	**Cathedral Cave**	**99.83**	**328**	IAMs_20	IAMs_20	22	33	46.2	
	comp=Z,416nm,21.0s								
FPAL	**Fort Paine**	**99.95**	**322**	IAMs_20	IAMs_20	22	34	23.9	
	comp=Z,332nm,21.0s								
E09A	**Wood Farm, Sta**	**100.10**	**350**	IAMs_20	IAMs_20	22	38	07.4	
	comp=Z,362nm,19.0s								
255A	**Hazlehurst**	**100.27**	**319**	IAMs_20	IAMs_20	22	33	38.9	
	comp=Z,310nm,20.0s								
E07A	**Sunnyside**	**100.29**	**351**	IAMs_20	IAMs_20	22	37	06.4	
	comp=Z,326nm,20.0s								
HAWA	**Hanford**	**100.41**	**351**	IAMs_20	IAMs_20	22	36	36.6	
	comp=Z,390nm,20.0s								
F10A	**Beach Ranch, E**	**100.49**	**349**	IAMs_20	IAMs_20	22	35	20.7	
	comp=Z,369nm,22.0s								
X48A	**Hartselle**	**100.75**	**323**	IAMs_20	IAMs_20	22	34	13.0	
	comp=Z,300nm,21.0s								
PLAL	**Pickwick Lake**	**100.84**	**324**	IAMs_20	IAMs_20	22	34	53.4	
	comp=Z,314nm,21.0s								
Y49A	**Blount Mountai**	**100.89**	**322**	IAMs_20	IAMs_20	22	37	08.0	
	comp=Z,314nm,19.0s								
MGMO	**Mountain Grove**	**101.03**	**328**	IAMs_20	IAMs_20	22	35	43.0	
	comp=Z,267nm,20.0s								
FLWY	**Flagg Ranch**	**101.05**	**344**	IAMs_20	IAMs_20	22	34	52.3	
	comp=Z,314nm,19.0s								
IMW	**Indian Meadow**	**101.28**	**344**	IAMs_20	IAMs_20	22	35	19.0	
	comp=Z,377nm,18.0s								
K22A	**Casper**	**101.33**	**341**	IAMs_20	IAMs_20	22	32	24.7	
	comp=Z,463nm,22.0s								
LCAR	**Lake Charles**	**101.43**	**327**	IAMs_20	IAMs_20	22	33	55.6	
	comp=Z,269nm,21.0s								
LOHW	**Long Hollow**	**101.47**	**344**	IAMs_20	IAMs_20	22	34	21.6	
	comp=Z,296nm,21.0s								
FXWY	**Fox Creek**	**101.54**	**344**	IAMs_20	IAMs_20	22	35	15.0	
	comp=Z,355nm,19.0s								
SYO	**Syowa Base**	**101.58**	**183**	*ie*PP	PKiKP	21	50	20.4	-12
BMO	**Blue Mountains**	**101.59**	**349**	IAMs_20	IAMs_20	22	33	29.0	
	comp=Z,390nm,22.0s								
SNOW	**Snow King Moun**	**101.65**	**344**	IAMs_20	IAMs_20	22	33	21.8	
	comp=Z,376nm,21.0s								
TPAW	**Teton Pass**	**101.67**	**344**	IAMs_20	IAMs_20	22	32	45.7	
	comp=Z,412nm,22.0s								
REDW	**Red Top Meadow**	**101.76**	**344**	IAMs_20	IAMs_20	22	33	25.4	
	comp=Z,326nm,22.0s								
LRAL	**Lakeview Retre**	**101.84**	**322**	IAMs_20	IAMs_20	22	35	31.1	
	comp=Z,319nm,20.0s								
U40A	**Yellville**	**101.96**	**328**	IAMs_20	IAMs_20	22	34	08.0	
	comp=Z,318nm,22.0s								
COEN	**Coen**	**102.05**	**99**	IAMs_20	IAMs_20	22	33	57.9	
	comp=Z,339nm,18.0s								
Z47A	**Carrollton**	**102.26**	**323**	IAMs_20	IAMs_20	22	35	51.0	
	comp=Z,293nm,20.0s								
PHWY	**Pilot Hill**	**102.27**	**340**	IAMs_20	IAMs_20	22	35	33.6	
	comp=Z,397nm,20.0s								
AHID	**Auburn Hatcher**	**102.39**	**344**	IAMs_20	IAMs_20	22	33	38.4	
	comp=Z,281nm,21.0s								
U38A	**Gravette**	**102.56**	**329**	IAMs_20	IAMs_20	22	36	34.2	
	comp=Z,363nm,21.0s								
R32A	**Long Quarter,**	**102.59**	**333**	IAMs_20	IAMs_20	22	35	04.7	
	comp=Z,393nm,20.0s								
BDFB	**Brasilia**	**102.89**	**260**	IAMs_20	IAMs_20	22	30	35.4	
	comp=Z,356nm,20.0s								
T35A	**Sooner Cattle**	**103.04**	**331**	IAMs_20	IAMs_20	22	38	01.7	
	comp=Z,398nm,22.0s								
UALR	**University of**	**103.04**	**327**	IAMs_20	IAMs_20	22	33	18.3	
	comp=Z,364nm,22.0s								
I02D	**Swisshome**	**103.16**	**354**	P	**Pdif**	**21**	**46**	**15.4**	**-1.1**
	baz=7.4								
KSCO	**Kaye Shedlock'**	**103.47**	**337**	IAMs_20	IAMs_20	22	35	11.5	
	comp=Z,404nm,20.0s								
HWUT	**Hardware Ranch**	**103.60**	**344**	IAMs_20	IAMs_20	22	40	36.3	
	comp=Z,301nm,20.0s								
TUL1	**Leonard**	**103.60**	**330**	IAMs_20	IAMs_20	22	38	36.8	
	comp=Z,311nm,21.0s								
WVOR	**Wild Horse Val**	**104.16**	**350**	IAMs_20	IAMs_20	22	40	06.9	
	comp=Z,286nm,20.0s								
MOD	**Modoc Plateau**	**104.92**	**351**	IAMs_20	IAMs_20	22	40	38.1	
	comp=Z,298nm,22.0s								
DUG	**Dugway, Tooele**	**105.22**	**345**	IAMs_20	IAMs_20	22	38	01.4	
	comp=Z,316nm,20.0s								
WMOK	**Wichita Mounta**	**105.84**	**332**	IAMs_20	IAMs_20	22	38	47.9	
	comp=Z,337nm,18.0s								
PV19	**Morning Glory**	**106.05**	**341**	IAMs_20	IAMs_20	22	36	06.1	
	comp=Z,323nm,19.0s								
Z35A	**Perchaven, San**	**106.43**	**330**	IAMs_20	IAMs_20	22	43	24.2	
	comp=Z,326nm,19.0s								
NATX	**Nacogdoches**	**106.62**	**327**	IAMs_20	IAMs_20	22	40	04.6	
	comp=Z,296nm,18.0s								
MVCO	**Mesa Verde**	**106.94**	**340**	IAMs_20	IAMs_20	22	38	20.7	
	comp=Z,369nm,20.0s								
VCNR	**Virginia City**	**107.39**	**350**	IAMs_20	IAMs_20	22	42	52.8	
	comp=Z,348nm,20.0s								
ORV	**Oroville**	**107.39**	**351**	IAMs_20	IAMs_20	22	37	01.8	
	comp=Z,287nm,21.0s								
WHTX	**Lake Whitney,**	**107.67**	**329**	IAMs_20	IAMs_20	22	39	44.0	
	comp=Z,383nm,22.0s								
RUBR	**Rubicon Trail**	**107.70**	**350**	IAMs_20	IAMs_20	22	44	13.0	
	comp=Z,330nm,20.0s								
RYN	**Ryan**	**107.86**	**349**	IAMs_20	IAMs_20	22	40	52.3	
	comp=Z,292nm,21.0s								
AFDM	**Forest Hills D**	**107.92**	**351**	IAMs_20	IAMs_20	22	42	28.8	
	comp=Z,288nm,21.0s								
NVAR	**Mina Array Bea**	**108.02**	**348**	PKiKP	**PKiKP**	**21**	**50**	**45.7**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=90,slow=0.3,SNR=5.8								
NVAR				PKKPab	**PKKPab**	**22**	**02**	**13.4**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=187,slow=4.5,SNR=3.2								
NVAR				PKPPKP	**P'P'df**	**22**	**10**	**24.2**	**-3.9**
	comp=Z,0.2nm,0.4s,baz=203,slow=3.9,SNR=3.7								
NVAR	**Mina Array Bea**	**108.02**	**348**		**PKiKP**	**21**	**50**	**47.2**	**+1.7**
ABTX	**Abilene, Hawle**	**108.03**	**331**	IAMs_20	IAMs_20	22	43	19.5	
	comp=Z,371nm,20.0s								
WAKR	**Walker**	**108.13**	**349**	IAMs_20	IAMs_20	22	42	49.4	
	comp=Z,344nm,19.0s								
LHV	**Little Huntoon**	**108.22**	**348**	IAMs_20	IAMs_20	22	41	04.0	
	comp=Z,252nm,20.0s								
PRN	**Pahroc Range**	**108.39**	**345**	IAMs_20	IAMs_20	22	38	43.5	
	comp=Z,314nm,20.0s								
CMB	**Columbia Colle**	**108.73**	**350**	IAMs_20	IAMs_20	22	38	10.4	
	comp=Z,359nm,20.0s								
W18A	**Petrified Fore**	**109.25**	**340**	IAMs_20	IAMs_20	22	39	52.8	
	comp=Z,339nm,20.0s								
SAML	**Samuel**	**112.23**	**274**	IAMs_20	IAMs_20	22	38	30.0	
	comp=Z,334nm,20.0s								
TXAR	**Lajitas Array**	**112.53**	**333**	PKiKP	**PKiKP**	**21**	**50**	**53.7**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=31,slow=2.9,SNR=3.7								
TXAR				PP	**PP**	**21**	**51**	**39.2**	**0.0**
	comp=Z,1.2nm,1.0s,baz=51,slow=7.1,SNR=4.1								
TXAR				PKKPab	**PKKPab**	**22**	**01**	**54.5**	**+0.3**
	comp=Z,1.2nm,1.0s,baz=199,slow=4.8,SNR=6.0								
214A	**Organ Pipe Nat**	**113.07**	**342**	IAMs_20	IAMs_20	22	39	38.8	
	comp=Z,352nm,21.0s								
PIX	**Pinacate**	**113.61**	**342**	IAMs_20	IAMs_20	22	47	53.0	
	comp=Z,284nm,21.0s								
SFX	**San Felipe**	**114.45**	**343**	IAMs_20	IAMs_20	22	39	17.4	
	comp=Z,243nm,21.0s								
SPX	**San Pedro Mart**	**114.60**	**344**	IAMs_20	IAMs_20	22	40	18.0	
	comp=Z,328nm,20.0s								
LPAZ	**La Paz**	**120.07**	**269**	PKP	**PKiKP**	**21**	**51**	**10.2**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=322,slow=2.0,SNR=6.0								
LPAZ				PKKPab	**PKKPab**	**22**	**01**	**20.6**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=234,slow=5.9,SNR=4.7								
PB16	**IPOC Station P**	**122.19**	**268**		**PKPdf**	**21**	**51**	**13.6**	**+0.3**
QSPA	**South Pole Qui**	**122.54**	**180**	PKPdf	**PKPdf**	**21**	**51**	**11.8**	**-0.1**
PB11	**IPOC Station P**	**122.96**	**266**	PKPdf	**PKPdf**	**21**	**51**	**14.8**	**+0.5**
PB12	**IPOC Station P**	**123.01**	**268**	PKPdf	**PKiKP**	**21**	**51**	**15.7**	**+1.2**
DZM	**Mont Dzumac**	**125.35**	**95**	*e*LR	LR	22	30	24.4	
	comp=Z,230nm,22.9s								
GO03	**Copiap**	**126.64**	**258**	PKPdf	**PKPdf**	**21**	**51**	**20.6**	**-0.4**
CO01	**Juntas del Tor**	**127.37**	**255**		**PKPdf**	**21**	**51**	**22.8**	**+0.2**
CO03	**El Pedregal**	**128.15**	**254**		**PKPdf**	**21**	**51**	**24.2**	**+0.4**
PMSA	**Palmer Station**	**128.24**	**210**		**PKPdf**	**21**	**51**	**23.9**	**+1.2**
PLCA	**Paso Flores**	**130.66**	**242**	PKP	**PKPdf**	**21**	**51**	**28.6**	**+0.4**
	comp=Z,9.7nm,1.1s,baz=66,slow=1.3,SNR=8.3								
PLCA	**Paso Flores**	**130.66**	**242**	PKIKP	**PKPdf**	**21**	**51**	**29.1**	**+0.8**
PLCA	**Paso Flores**	**130.66**	**242**	PKPdf	**PKPdf**	**21**	**51**	**29.1**	**+0.8**
TAOE	**Nuku Hiva Isla**	**155.21**	**18**	*e*LR	LR	22	44	15.3	
	comp=Z,578nm,23.1s								
PPT2	**Papeete2**	**158.43**	**50**	*e*LR	LR	22	45	42.0	
	comp=Z,353nm,23.5s								
TBI	**Tubuai**	**162.33**	**62**	*e*LR	LR	22	47	22.3	
	comp=Z,310nm,26.2s								

TEH ***19*** *21:51:08.7,32.67N×47.45E,h9km,ML3.1*
ISN ***19*** *21:51:09.5±0.8,32.75N×47.41E,h14km±5km,ML3.0*
ISC 19 21:51:09.9±1.2, 32.64N±0.04×47.41E±0.04, h9km±10km, n24,σ1s27/27, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.11**	**290**	*e*Pg	**Pg**	**21 51 12.0**	**-0.6**
IKFM	**Kafar-mosalman**	**0.95**	**23**	*e*Pg	**Pg**	**21 51 27.1**	**-1.2**
IKMR	**Kamar-syah**	**1.20**	**43**	*e*Pg	**Pg**	**21 51 30.7**	**-2.2**
IKMR				*e*		21 51 52.2	
IDOB	**Doab**	**1.31**	**29**	*e*Pg	**Pn**	**21 51 33.2**	**-1.4**
IBDR	**Badra**	**1.32**	**291**	*e*Pg	**Pn**	**21 51 33.0**	**-1.6**
IBDR				*e*Sg	**Sb**	**21 51 51.0**	**-1.0**
IBDR				AML	AML	21 51 59.0	
	comp=N,308nm,0.6s						
IBDR				AML	AML	21 51 59.4	
	comp=E,232nm,0.7s						
IKOM	**Komasi**	**1.53**	**3**	*e*Pg	**Pn**	**21 51 37.4**	**-0.1**
IKOM				*e*		21 51 38.6	
BMDN	**Meydan**	**1.57**	**49**	*e*Pg	**Pn**	**21 51 38.3**	**+0.2**
BMDN				*e*		21 52 03.5	
KCHF	**Cheshme Sefid,**	**1.66**	**350**	*e*Pg	**Pb**	**21 51 39.5**	**-1.2**
KCHF				*e*		21 52 06.0	
AHWZ	**Ahwaz**	**1.68**	**141**	*e*Pg	**Pb**	**21 51 40.6**	**-0.4**
KER	**Kermanshah**	**1.75**	**353**	*e*Pg	**Pb**	**21 51 41.8**	**-0.5**
IGHG	**Ghaleghazi**	**1.82**	**338**	*e*Pg	**Pb**	**21 51 42.5**	**-1.0**
IGHG				*e*		21 52 18.7	
HSAM	**Samen**	**1.86**	**32**	*e*Pn	**Pn**	**21 51 42.5**	**+0.4**
HSAM				*e*		21 51 44.4	
IBZA	**Bozab**	**1.86**	**12**	*e*Pg	**Pb**	**21 51 42.8**	**-1.4**
IBZA				*e*		21 51 46.7	
IVIS	**Veis**	**1.93**	**346**	*e*Pn	**Pb**	**21 51 44.9**	**-0.5**
IVIS				*e*		21 52 14.7	
NSR	**Nassriya**	**1.95**	**214**	*e*Pn	**Pb**	**21 51 45.0**	**-0.6**

KHMZ	**Khomeyn**	**2.28**	**61**	*e*Pn		**Pn**	**22 08 03.4**	**+0.9**
KHMZ	**Khomeyn**	**2.28**	**61**	*e*Pn		**Pn**	**22 08 03.4**	**+0.9**
ILIN	**Lien**	**2.32**	**348**	*e*			22 08 40.0	
ILIN				*e*Pn		**Pn**	**22 08 04.0**	**+0.8**
SNGE	**Sanandaj**	**2.45**	**356**	*e*Pn		**Pn**	**22 08 04.4**	**-0.4**
SNGE				*e*Sg		**Sn**	**22 08 36.2**	**+0.8**
SNGE	**Sanandaj**	**2.45**	**356**	*e*Pn		**Pn**	**22 08 04.4**	**-0.4**
HAGD	**Aghdareh**	**2.53**	**31**	*e*			22 08 10.6	
HAGD				*e*Pn		**Pn**	**22 08 07.1**	**+1.1**
JHBN	**Jahan bin**	**2.65**	**98**	*e*			22 08 59.6	
JHBN				*e*Pn		**Pn**	**22 08 08.1**	**+0.4**
HSRG	**Sareghieh**	**2.65**	**13**	*e*		**Sg**	**22 08 51.8**	**+2.6**
BHD	**Baghdad**	**2.75**	**284**	*e*Pn		**Pn**	**22 08 09.0**	**+0.2**
BHD				*e*Sn		**Sn**	**22 08 43.0**	**+0.4**
ASAO	**Ashtian**	**2.79**	**47**	*e*Pn		**Pn**	**22 08 10.0**	**+0.4**
ASAO				*e*Sg		**Sb**	**22 08 48.3**	**-0.8**
ASAO	**Ashtian**	**2.79**	**47**	*e*Pn		**Pn**	**22 08 10.0**	**+0.4**
IPIR	**Pirpir**	**2.80**	**88**	*e*Pn		**Pn**	**22 08 10.4**	**+0.6**
IPIR				*e*			22 09 04.1	
IRAZ	**Razeghan**	**3.38**	**35**	*e*Pn		**Pn**	**22 08 19.0**	**+1.4**
IKLH	**Kolahrood**	**3.43**	**78**	*e*Pn		**Pn**	**22 08 18.7**	**+0.2**
IKLH				*e*			22 09 20.4	
QABG	**Abgarm-Qazvin**	**3.48**	**28**	*e*Pn		**Pn**	**22 08 19.5**	**+0.5**
IGAR	**Gharneh**	**3.78**	**92**	*e*Pn		**Pn**	**22 08 23.1**	**-0.1**
IGAR				*e*			22 08 35.4	
KLNJ	**Kolanjah**	**3.79**	**114**	*e*Pn		**Pn**	**22 08 23.7**	**+0.2**
KLNJ				*e*			22 09 50.7	
IZEF	**Zefreh**	**4.02**	**85**	*e*Pn		**Pn**	**22 08 27.1**	**+0.6**
QSDN	**Sirdan**	**4.07**	**19**	*e*Pn		**Pn**	**22 08 28.0**	**+0.8**
IRAM	**Ramesheh**	**4.16**	**100**	*e*Pn		**Pn**	**22 08 28.1**	**-0.3**
CHTH	**Charan**	**4.39**	**41**	*e*Pn		**Pn**	**22 08 31.8**	**+0.2**
CHTH	**Charan**	**4.39**	**41**	*e*Pn		**Pn**	**22 08 31.8**	**+0.2**
QALM	**Alamut, Qazvin**	**4.55**	**33**	*e*Pn		**Pn**	**22 08 35.3**	**+1.5**
DAMV	**Damavand**	**4.71**	**50**	*e*Pn		**Pn**	**22 08 36.5**	**+0.6**
DAMV	**Damavand**	**4.71**	**50**	*e*Pn		**Pn**	**22 08 36.5**	**+0.6**
IDMV	**Damavand**	**4.71**	**50**	*e*Pn		**Pn**	**22 08 36.2**	**+0.1**
IFIR	**Firoozkooh**	**5.23**	**54**	*e*Pn		**Pn**	**22 08 43.9**	**+0.7**
GRMI	**Germi**	**6.15**	**2**	*e*Pn		**Pn**	**22 08 55.6**	**-0.1**
GRMI	**Germi**	**6.15**	**2**	*e*Pn		**Pn**	**22 08 55.6**	**-0.1**

TEH ***19*** *22:09:54.8, 32˚.67N×47˚.49E, h13km, ML2.9*
ISN ***19*** *22:09:54.2±1.1, 32˚.68N×47˚.50E, h15km±6km, ML2.8*
ISC 19 22:09:54.8±1.4**, 32˚.70N**±0˚.06×**47˚.49E**±0˚.05**, h11**km±11km**, n13**, σ0**91**/16**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.17**	**263**	*e*Pg	**Pg**	**22 09 59.0**	**+0.3**
IKFM	**Kafar-mosalman**	**0.87**	**20**	*e*Pg	**Pb**	**22 10 11.7**	**-0.3**
IKFM				*e*		22 10 29.9	
IKMR	**Kamar-syah**	**1.11**	**42**	*e*		22 09 00.3	
IKMR				*e*Pg	**Pg**	**22 10 16.8**	**+0.7**
IDOB	**Doab**	**1.23**	**28**	*e*Pg	**Pb**	**22 10 18.1**	**-0.1**
IDOB				*e*		22 10 38.5	
IBDR	**Badra**	**1.37**	**288**	*e*Pg	**Pn**	**22 10 19.0**	**-0.9**
IBDR				*e*Sg	**Sb**	**22 10 38.0**	**0.0**
IBDR				AML	AML	22 10 45.3	
	comp=N,210nm,0.5s						
IBDR				AML	AML	22 10 45.8	
	comp=E,144nm,0.5s						
IKOM	**Komasi**	**1.47**	**1**	*e*Pg	**Pg**	**22 10 23.1**	**+0.1**
IKOM				*e*		22 10 24.3	
BMDN	**Meydan**	**1.48**	**49**	*e*Pg	**Pg**	**22 10 22.7**	**-0.6**
BMDN				*e*		22 10 50.6	
KCHF	**Cheshme Sefid,**	**1.61**	**347**	*e*Pg	**Pg**	**22 10 25.6**	**-0.2**
KCHF				*e*		22 10 52.3	
IBZA	**Bozab**	**1.79**	**10**	*e*Pn	**Pb**	**22 10 28.0**	**+0.2**
IBZA				*e*		22 10 57.5	
IGHG	**Ghaleghazi**	**1.79**	**335**	*e*Pg	**Pg**	**22 10 29.0**	**-0.3**
IGHG				*e*		22 11 07.1	
NSR	**Nassriya**	**2.04**	**215**	*e*Pn	**Pn**	**22 10 29.0**	**-0.1**
NSR				*e*Sn	**Sn**	**22 10 54.0**	**-0.5**
IDHR	**Dehrash**	**2.19**	**336**	*e*Pn	**Pb**	**22 10 33.0**	**-1.6**
IDHR				*e*		22 11 11.9	
BHD	**Baghdad**	**2.67**	**283**	*e*Pn	**Pn**	**22 10 39.0**	**+1.2**
BHD				*e*Sn	**Sn**	**22 11 12.0**	**+1.9**

TEH ***19*** *22:13:29.7, 32˚.69N×47˚.51E, h8km, ML2.9*
ISN ***19*** *22:13:29.1±1.1, 32˚.66N×47˚.54E, h15km±6km, ML2.7*
ISC 19 22:13:29.0±1.7**, 32˚.65N**±0˚.06×**47˚.54E**±0˚.05**, h6**km±13km**, n13**, σ0**80**/16**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.22**	**277**	*e*Pg	**Pg**	**22 13 33.7**	**+0.3**
IKFM	**Kafar-mosalman**	**0.91**	**16**	*e*Pg	**Pb**	**22 13 47.3**	**-0.1**
IKFM				*e*		22 13 48.5	
IKMR	**Kamar-syah**	**1.11**	**39**	*e*Pg	**Pg**	**22 13 50.7**	**+0.3**
IKMR				*e*		22 14 09.4	
IDOB	**Doab**	**1.25**	**25**	*e*Pg	**Pn**	**22 13 53.9**	**+0.6**
IDOB				*e*		22 13 56.3	
IBDR	**Badra**	**1.43**	**289**	*e*Pg	**Pn**	**22 13 55.0**	**-0.5**
IBDR				*e*Sg	**Sb**	**22 14 14.0**	**-0.6**
IBDR				AML	AML	22 14 20.6	
	comp=N,157nm,0.5s						
IBDR				AML	AML	22 14 21.1	
	comp=E,127nm,0.4s						
BMDN	**Meydan**	**1.48**	**46**	*e*Pg	**Pg**	**22 13 58.4**	**+0.9**
BMDN				*e*		22 14 25.7	
IKOM	**Komasi**	**1.52**	**359**	*e*Pg	**Pg**	**22 13 58.2**	**0.0**
IKOM				*e*		22 13 59.8	
IBZA	**Bozab**	**1.83**	**8**	*e*		22 14 07.7	
IBZA				*e*Pg	**Pg**	**22 14 04.0**	**-0.2**
IGHG	**Ghaleghazi**	**1.86**	**334**	*e*Pn	**Pb**	**22 14 03.8**	**+0.2**
IGHG				*e*		22 14 35.4	
NSR	**Nassriya**	**2.03**	**216**	*e*Pn	**Pn**	**22 14 04.0**	**+0.3**
NSR				*e*Sn	**Sn**	**22 14 29.0**	**-0.4**
IDHR	**Dehrash**	**2.26**	**335**	*e*		22 14 46.2	
IDHR				*e*Pn	**Pb**	**22 14 09.6**	**-0.8**
HAGD	**Aghdareh**	**2.54**	**31**	*e*Pn	**Pb**	**22 14 13.6**	**-1.6**
HAGD				*e*		22 14 15.3	
BHD	**Baghdad**	**2.73**	**284**	*e*Pn	**Pn**	**22 14 14.0**	**+0.6**
BHD				*e*Sn	**Sn**	**22 14 48.0**	**+1.3**

TEH 19 22:16:18.7, 32˚.66N×47˚.49E, h10km, ML2.5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.18**	**278**	*e*Pg	Pg	22 16 22.7	+0.1
DHL1				*e*		22 16 27.4	
DHL1	**Dehloran**	**0.18**	**278**	*e*	Pg	22 16 27.4	+4.8
IKMR	**Kamar-syah**	**1.14**	**41**	*e*Pg	Pn	22 16 40.7	0.0
IKMR				*e*		22 17 02.0	
IDOB	**Doab**	**1.27**	**27**	*e*Pg	Pg	22 16 43.0	0.0
IDOB				*e*		22 16 48.5	
BMDN	**Meydan**	**1.51**	**47**	*e*Pg	Pg	22 16 47.5	-0.2
BMDN				*e*Sg	Sg	22 17 09.7	+2.5
BMDN				*e*		22 17 13.2	
IKOM	**Komasi**	**1.51**	**1**	*e*Pg	Pg	22 16 47.5	-0.3
IKOM				*e*		22 16 48.6	
IGHG	**Ghaleghazi**	**1.84**	**335**	*e*Pn	Pb	22 16 53.0	+0.4
IGHG				*e*		22 17 32.2	

CNRM ***19*** *22:17:14.8±1.0, 35˚.50N×3˚.58W, h17km±6km, Error ellipse: s-maj=5.8km s-min=5.3km az=51.0*
LDG ***19*** *22:17:14.1±0.4, 35˚.46N×3˚.66W, h13km, Ml2.4/3, Error ellipse: s-maj=8.0km s-min=5.7km az=6.0*
SFS ***19*** *22:17:15.0, 35˚.36N×3˚.64W, h13km, ML2.4, ALBORAN S.*
MDD ***19*** *22:17:15.9±0.6, 35˚.40N×3˚.63W, h11km±8km, mbLg2.7/30, Error ellipse: s-maj=5.8km s-min=2.8km az=172.0, PRXIMO*
INMG ***19*** *22:17:16.1±1.6, 35˚.39N×3˚.61W, h18km±6km, ML2.4, Error ellipse: s-maj=4.8km s-min=3.7km az=155.0*
ISC 19 22:17:14.7±1.1**, 35˚.42N**±0˚.02×**3˚.64W**±0˚.02**, h18**km±4km**, n92**, σ1**975**/163**, 5C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.32**	**230**	P	**Pb**	**22 17 22.6**	**+0.8**
GOG	**Mont Gurugu**	**0.56**	**110**	P	**Pg**	**22 17 25.8**	**-0.3**
GOG				S	**Sg**	**22 17 33.3**	**-0.4**
EMEL	**Melilla**	**0.57**	**102**	⇑P	**Pg**	**22 17 26.1**	**-0.1**
EMEL	256nm,0.3s,SNR=18			S	**Sg**	**22 17 33.7**	**-0.2**
	4μm,0.2s,SNR=12						
MELI	**Melilla**	**0.59**	**102**	⇑P	**Pg**	**22 17 26.4**	**-0.1**
	134nm,0.1s,SNR=18						
MELI				S	**Sg**	**22 17 34.2**	**-0.2**
	822nm,0.1s,SNR=7.9						
MELI	**Melilla**	**0.59**	**102**	⇑*i*P	**Pg**	**22 17 26.4**	**-0.1**
MELI				*e*S	**Sg**	**22 17 34.1**	**-0.3**
PVLZ	**Peæn de**	**0.59**	**246**	P	**Pb**	**22 17 27.7**	**+1.3**
PVLZ				S	**Sb**	**22 17 35.3**	**+0.8**
PVLZ	**Peæn de**	**0.59**	**246**	⇑*i*P	**Pb**	**22 17 27.7**	**+1.3**
PVLZ				*e*S	**Sb**	**22 17 35.3**	**+0.8**
EALB	**Alboran**	**0.72**	**43**	⇑P	**Pg**	**22 17 28.9**	**0.0**
	185nm,0.3s,SNR=18						
EALB				S	**Sg**	**22 17 38.8**	**+0.4**
	451nm,0.2s,SNR=10						
AKLM	**AKL**	**0.93**	**191**	P	**Pn**	**22 17 33.6**	**+0.7**
AKLM				S	**Sn**	**22 17 46.0**	**+0.3**
TAF	**Taforalt**	**1.17**	**121**	P	**Pb**	**22 17 36.0**	**-0.5**
TAF				S	**Sn**	**22 17 53.3**	**+1.5**
JBK	**JBK**	**1.40**	**140**	P	**Pn**	**22 17 39.0**	**-0.5**
JBK				S	**Sn**	**22 17 57.8**	**+0.3**
SMIR	**Smir Dam**	**1.44**	**281**	P	**Pn**	**22 17 38.5**	**-1.4**
SMIR				S	**Sn**	**22 17 57.2**	**-1.1**
ELGU	**Los Guajares,**	**1.45**	**1**	P	**Pn**	**22 17 39.4**	**-0.6**
	3.4nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**22 17 56.2**	**-2.3**
	91nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.47**	**322**	P	**Pn**	**22 17 39.2**	**-1.0**
	6.8nm,0.4s,SNR=56						
EMIJ				S	**Sn**	**22 17 58.2**	**-0.8**
	39nm,0.2s						
EMAL	**Malaga-Limoner**	**1.48**	**335**	P	**Pn**	**22 17 39.9**	**-0.5**
EMAL				S	**Sn**	**22 17 57.2**	**-2.1**
EMAL	**Malaga-Limoner**	**1.48**	**335**	*e*P	**Pn**	**22 17 39.9**	**-0.5**
EMAL				*i*S	**Sn**	**22 17 57.2**	**-2.1**
ECEU	**Ceuta**	**1.49**	**289**	P	**Pn**	**22 17 39.8**	**-0.8**
	8.4nm,0.3s,SNR=11						
ECEU				S	**Sn**	**22 17 57.0**	**-2.6**
	29nm,0.1s						
EBER	**Berja**	**1.60**	**22**	P	**Pn**	**22 17 41.9**	**-0.3**
	8.7nm,0.3s,SNR=39						
EBER				S	**Sn**	**22 18 02.0**	**-0.4**
	74nm,0.4s,SNR=8.6						
EGOR	**Sierra Gorda,**	**1.73**	**348**	P	**Pn**	**22 17 44.3**	**+0.3**
	1.9nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	**22 18 06.2**	**+0.6**
	28nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.79**	**5**	P	**Pn**	**22 17 46.8**	**+2.0**
	4.6nm,0.3s,SNR=26						
EQUE				S	**Sn**	**22 18 06.1**	**-1.0**
	20nm,0.2s,SNR=5.5						
RSA	**Sarsar**	**1.86**	**254**	P	**Pb**	**22 17 49.4**	**+1.2**
RSA				S	**Sb**	**22 18 11.9**	**+0.7**
SICH	**Sidi Chahed**	**1.90**	**227**	P	**Pb**	**22 17 49.2**	**+0.3**
SICH				S	**Sg**	**22 18 14.7**	**-1.4**
ENIJ	**Nijar**	**1.94**	**36**	P	**Pn**	**22 17 45.5**	**-1.3**
	2.1nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**22 18 08.8**	**-1.8**
	17nm,0.2s,SNR=7.9						
LCRM	**LCR**	**2.00**	**210**	P	**Pg**	**22 17 52.4**	**-0.7**
LCRM				S	**Sg**	**22 18 17.6**	**-1.6**
GORA	**Gorafe**	**2.11**	**13**	P	**Pn**	**22 17 51.7**	**+2.5**
	7.9nm,0.1s,SNR=7.9						
GORA				S	**Sn**	**22 18 17.1**	**+2.0**
	34nm,0.2s,SNR=7.9						
IFR	**Ifrane**	**2.26**	**213**	*e*P	**Pn**	**22 17 52.5**	**+1.1**
IFR				*e*S	**Sn**	**22 18 18.2**	**-0.6**
ESPR	**Espera**	**2.30**	**310**	P	**Pn**	**22 17 54.2**	**+2.5**
	2.3nm,0.3s,SNR=5.2						
ESPR				S	**Sn**	**22 18 22.0**	**+2.4**
	5.8nm,0.2s,SNR=6.6						
EQES	**Quesada**	**2.42**	**11**	P	**Pn**	**22 17 56.1**	**+2.6**
	10nm,0.4s,SNR=49						
EQES				S	**Sn**	**22 18 23.9**	**+1.2**
	93nm,0.5s,SNR=9.3						
CZD	**Col de Zad**	**2.65**	**206**	P	**Pn**	**22 17 58.4**	**+1.6**
CZD				S	**Sn**	**22 18 31.1**	**+2.6**
MD31	**MD31**	**2.71**	**200**	P	**Pn**	**22 18 00.1**	**+2.7**
MD31				S	**Sb**	**22 18 36.4**	**+0.7**
TLOR	**Lorca, Murcia**	**2.73**	**35**	S	**Sn**	**22 18 28.8**	**-1.4**
	39nm,0.2s,SNR=7.9						
HORN	**Hornachuelos**	**2.75**	**332**	P	**Pn**	**22 17 59.0**	**+1.1**
	SNR=6.4						
HORN				S	**Sn**	**22 18 32.6**	**+2.0**
SESP	**Santiago Espad**	**2.83**	**18**	P	**Pn**	**22 18 01.7**	**+2.5**
	2.3nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**22 18 34.4**	**+1.4**
	18nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**2.83**	**18**	P	**Pn**	**22 18 00.7**	**+1.5**
	SNR=7.5						
SESP				S	**Sn**	**22 18 32.2**	**-0.8**
EADA	**Adamuz**	**2.84**	**345**	P	**Pn**	**22 18 00.7**	**+1.5**
	3.8nm,0.2s,SNR=34						
EADA				S	**Sn**	**22 18 33.8**	**+0.8**
	8.2nm,0.2s,SNR=5.0						
ECAB	**El Cabril**	**3.01**	**332**	P	**Pn**	**22 18 03.1**	**+1.6**
	1.7nm,0.5s,SNR=16						
ECAB				S	**Sn**	**22 18 36.6**	**-0.5**
	6.0nm,0.3s						
EMUR	**La Murta**	**3.10**	**38**	P	**Pn**	**22 18 03.7**	**+1.1**
	0.4nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**22 18 35.9**	**-3.3**
	15nm,0.3s,SNR=10.0						
EMIN	**Mina Concepcio**	**3.38**	**315**	P	**Pn**	**22 18 07.1**	**+0.6**
	2.7nm,0.4s,SNR=31						
EMIN				S	**Sn**	**22 18 45.1**	**-1.1**
	1.7nm,0.2s						
OKGL	**Djebel Kef Gue**	**3.54**	**79**	S	**Sn**	**22 18 48.8**	**-1.4**
	9.8nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.63**	**27**	P	**Pn**	**22 18 12.3**	**+2.2**
	3.8nm,0.3s,SNR=33						
ETOB				S	**Sn**	**22 18 51.8**	**-0.6**
	4.1nm,0.2s						
EGRO	**El Granado**	**3.75**	**305**	P	**Pn**	**22 18 12.2**	**+0.7**
	3.5nm,0.3s,SNR=15						
EGRO				S	**Sn**	**22 18 53.2**	**-1.9**
	6.6nm,0.2s						
PVAQ	**Vaqueiros**	**3.84**	**302**	P	**Pn**	**22 18 13.6**	**+0.8**
PVAQ				S	**Sn**	**22 18 56.3**	**-1.1**
	8.2nm,0.4s						
PVAQ	**Vaqueiros**	**3.84**	**302**	P	**Pn**	**22 18 13.4**	**+0.5**
	SNR=20						
PVAQ	**Vaqueiros**	**3.84**	**302**	*e*Pn	**Pn**	**22 18 13.6**	**+0.8**
PVAQ				*e*Sn	**Sn**	**22 18 56.3**	**-1.1**
PVAQ				A	A	22 18 58.4	
	8.2nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.91**	**299**	P	**Pn**	**22 18 14.7**	**+0.8**
PBDV				S	**Sn**	**22 18 58.8**	**-0.5**
	5.1nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.91**	**299**	*e*Pn	**Pn**	**22 18 14.7**	**+0.8**
PBDV				*e*Sn	**Sn**	**22 18 58.8**	**-0.5**
PBDV				A	A	22 19 01.1	
	5.1nm,0.3s						
AFON	**Font Roja**	**4.08**	**37**	P	**Pn**	**22 18 18.4**	**+2.2**
	1.1nm,0.3s,SNR=7.9						
AFON				S	**Sn**	**22 19 02.3**	**-1.3**
	3.7nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**4.16**	**352**	P	**Pn**	**22 18 18.9**	**+1.6**
	0.8nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**22 19 04.1**	**-1.4**
	1.3nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**4.25**	**357**	P	**Pn**	**22 18 20.7**	**+2.0**
	0.6nm,0.3s,baz=177,slow=12,SNR=22						
ESDC				S	**Sn**	**22 19 07.2**	**-0.7**
	2.9nm,0.5s,baz=178,slow=22,SNR=8.1						
EBEN2	**Beniarda presa**	**4.26**	**39**	P	**Pn**	**22 18 19.7**	**+1.0**
	1.3nm,0.1s,SNR=7.9						
EBEN2				S	**Sn**	**22 19 04.0**	**-4.0**
	3.0nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**4.28**	**309**	P	**Pn**	**22 18 20.2**	**+1.3**
PBEJ				S	**Sn**	**22 19 06.3**	**-2.0**
	1.6nm,0.3s						
PBEJ	**Beja**	**4.28**	**309**	*e*Pn	**Pn**	**22 18 20.2**	**+1.3**
PBEJ				*e*Sn	**Sn**	**22 19 06.3**	**-2.0**
PBEJ				A	A	22 19 09.8	
	3.2nm,0.3s						
PFVI	**Vila Bisbo**	**4.52**	**294**	P	**Pn**	**22 18 24.3**	**+2.0**
	1.6nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**22 19 12.9**	**-1.4**
	3.8nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.52**	**294**	*e*Pn	**Pn**	**22 18 24.6**	**+2.3**
PFVI				*e*Sn	**Sn**	**22 19 13.8**	**-0.6**
PTEO	**Sao Teotonio**	**4.61**	**299**	P	**Pn**	**22 18 25.1**	**+1.6**
PTEO				S	**Sn**	**22 19 15.4**	**-1.1**
	0.9nm,0.3s						
PTEO	**Sao Teotonio**	**4.61**	**299**	*e*Pn	**Pn**	**22 18 25.1**	**+1.6**
PTEO				*e*Sn	**Sn**	**22 19 15.4**	**-1.1**
PTEO				A	A	22 19 17.7	
	1.9nm,0.3s						
ECHE	**Chera**	**4.67**	**26**	P	**Pn**	**22 18 26.1**	**+1.7**
	0.2nm,0.2s,SNR=7.9						
ECHE				S	**Sn**	**22 19 16.6**	**-1.5**
	0.7nm,0.3s,SNR=7.9						
EVO	**Evora**	**4.68**	**313**	P	**Pn**	**22 18 25.5**	**+1.1**
EVO				S	**Sn**	**22 19 15.8**	**-2.4**
EVO	**Evora**	**4.68**	**313**	*e*Pn	**Pn**	**22 18 25.5**	**+1.1**
EVO				*e*Sn	**Sn**	**22 19 15.8**	**-2.4**
PNCL	**Nicolau / Gran**	**4.75**	**306**	P	**Pn**	**22 18 26.2**	**+0.8**
PNCL				S	**Sn**	**22 19 19.5**	**-0.6**
	2.2nm,0.2s						
PNCL	**Nicolau / Gran**	**4.75**	**306**	*e*Pn	**Pn**	**22 18 26.2**	**+0.8**
PNCL				*e*Sn	**Sn**	**22 19 19.5**	**-0.6**
PNCL				A	A	22 19 25.4	
	2.2nm,0.2s						
PMRV	**Marv??o**	**4.99**	**324**	P	**Pn**	**22 18 29.6**	**+0.9**
PMRV				S	**Sn**	**22 19 25.7**	**-0.2**
	2.2nm,0.5s						
PMRV	**Marv??o**	**4.99**	**324**	*e*Pn	**Pn**	**22 18 29.6**	**+0.9**
PMRV				*e*Sn	**Sn**	**22 19 25.7**	**-0.2**
PMRV				A	A	22 20 05.2	
	2.2nm,0.5s						
EPLA	**Plasencia**	**5.02**	**338**	P	**Pn**	**22 18 31.1**	**+2.0**
	2.1nm,0.8s,SNR=10						
EPLA				S	**Sn**	**22 19 26.0**	**-0.7**
	1.1nm,0.2s						
PMTG	**Montargil**	**5.16**	**316**	P	**Pn**	**22 18 32.2**	**+1.2**
PMTG				S	**Sn**	**22 19 30.1**	**0.0**
PMTG	**Montargil**	**5.16**	**316**	*e*Pn	**Pn**	**22 18 32.2**	**+1.2**
PMTG				*e*Sn	**Sn**	**22 19 30.1**	**0.0**
GUD	**Guadarrama**	**5.23**	**356**	P	**Pn**	**22 18 34.9**	**+2.8**
	0.2nm,0.1s,SNR=7.9						
GUD				S	**Sn**	**22 19 30.8**	**-1.2**
	3.1nm,0.3s,SNR=7.9						
PCBR	**Castelo Branco**	**5.36**	**327**	P	**Pn**	**22 18 35.7**	**+1.9**
PCBR	**Castelo Branco**	**5.36**	**327**	*e*Pn	**Pn**	**22 18 35.7**	**+1.9**
EIBI	**Ibiza**	**5.37**	**46**	P	**Pn**	**22 18 35.0**	**+1.2**
	2.1nm,0.1s,SNR=7.6						
EIBI				S	**Sn**	**22 19 30.6**	**-4.5**
	2.7nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.53**	**13**	P	**Pn**	**22 18 38.3**	**+2.0**
	1.7nm,0.6s,SNR=5.7						
ETOR				S	**Sn**	**22 19 36.5**	**-2.9**
	2.0nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**5.72**	**310**	P	**Pn**	**22 18 39.8**	**+1.1**
	2.1nm,0.2s,SNR=7.9						
PSBE	**So Bento**	**5.79**	**316**	*e*Pn	**Pn**	**22 18 41.3**	**+1.6**
MVO	**Moncorvo**	**6.32**	**336**	P	**Pn**	**22 18 49.0**	**+1.9**
	2.2nm,0.3s,SNR=7.8						
MVO				S	**Sn**	**22 19 56.4**	**-2.5**
	4.0nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**6.35**	**28**	P	**Pn**	**22 18 48.3**	**+0.9**
	0.2nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**6.72**	**48**	P	**Pn**	**22 18 53.1**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
ETOS				S	**Sn**	**22 20 05.3**	**-3.1**
	0.8nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.95**	**341**	P	**Pn**	**22 18 57.7**	**+2.1**
	0.8nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**22 20 12.4**	**-1.7**
	1.1nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**7.31**	**333**	P	**Pn**	**22 19 01.7**	**+1.2**
	0.4nm,0.1s,SNR=4.8						
ELOB				S	**Sn**	**22 20 18.2**	**-4.8**
	0.3nm,0.2s,SNR=7.9						
EORO	**Oroz-Betelu**	**7.68**	**13**	P	**Pn**	**22 19 09.1**	**+3.4**
	0.2nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**7.80**	**1**	P	**Pn**	**22 19 09.6**	**+2.2**
	0.2nm,0.1s,SNR=7.9						
ELAN				S	**Sn**	**22 20 30.6**	**-4.6**
	0.6nm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**7.84**	**17**	*e*P	**Pn**	**22 19 10.4**	**+2.5**
ETSF				*e*Sn	Sn	22 20 28.3	-7.9
	0.3nm,0.3s						
ETSF	**Etsaut**	**7.84**	**17**	P	**Pn**	**22 19 10.4**	**+2.5**
ETSF				S	Sn	22 20 28.3	-7.9
	0.2nm,0.3s						
SJPF	**Ste Jean**	**7.91**	**13**	*e*P	**Pn**	**22 19 11.4**	**+2.6**
SJPF				*e*Sn	Sn	22 20 29.8	-7.9
	0.3nm,0.3s						
SJPF	**Ste Jean**	**7.91**	**13**	P	**Pn**	**22 19 11.4**	**+2.6**
SJPF				S	Sn	22 20 29.8	-7.9
	0.2nm,0.3s						
CFON	**Fontmartina

baz=282,slow=75,SNR=26
H01W1 Cape Leeuwin H 47.33 124 T T 23 22 20.1
baz=282,slow=75,SNR=29
MKAR Makanchi Array 62.78 12 P P 22 33 40.3 +0.1
0.5nm,0.7s,baz=214,slow=7.0,SNR=2.6
WRA Warramunga Arr 64.72 105 P P 22 33 53.6 0.0
0.8nm,1.0s,baz=270,slow=6.1,SNR=2.9
KURBB Kurchatov Arra 65.83 8 P P 22 34 00.1 0.0
0.4nm,0.7s,baz=201,slow=7.5,SNR=3.2
PDAR Pinedale Array 151.74 354 PKPbc PKPbc 22 43 10.0 -0.2
0.5nm,0.8s,baz=45,slow=3.8,SNR=5.2

*IDC **19** 22:27:14.3±1.2,36˚.76N×69˚.29E, h0km, mb3.8/12, mb1 4.0/18,mb1mx3.8/50,mbtmp3.9/18,ML3.7/6,MS3.3/5, Ms1 3.3/5,ms1mx2.7/57, Error ellipse: s-maj=23.5km s-min=14.6km az=156.0*
*MOS **19** 22:27:16.5±1.3,36˚.99N×69˚.29E,h18km,mb4.5/8, Error ellipse: s-maj=9.2km s-min=5.4km az=84.8*
*NEIC **19** 22:27:18.4±2.1,36˚.91N±0˚.05×69˚.36E±0˚.06,h17km±2km, mb4.1/14, Error ellipse: s-maj=7.4km s-min=7.0km az=100.0*
*NNC **19** 22:27:19.7±1.1,36˚.85N×69˚.21E,h122km±21km,mb3.5, mpv4.2,Error ellipse: s-maj=12.3km s-min=5.0km az=157.0*

ISC 19 22:27:20.0±0.6,**36˚.90N**±0˚.06×**69˚.22E**±0˚.05,**h37km**,**n104,** σ1$71/108,**mb4.1**/17,**13C-9D**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHGR	**Chuyangaron**	**1.76**	**358**		**Pn**	**22 27 48.5**	**+0.5**
GAR	**Garm**	**2.27**	**22**		**Pn**	**22 27 56.1**	**+1.0**
KBL	**Kabul**	**2.35**	**184**	PN	**Pn**	**22 27 58.1**	**+1.8**
KBL	**Kabul**	**2.35**	**184**		**Pn**	**22 27 58.1**	**+1.8**
BTK	**Batken**	**3.40**	**21**	PN	**Pn**	**22 28 12.0**	**+1.5**
BTK	**Batken**	**3.40**	**21**		**Pn**	**22 28 12.0**	**+1.5**
TAS	**Tashkent**	**4.42**	**1**	PN	**Pn**	**22 28 25.9**	**+1.3**
TAS	**Tashkent**	**4.42**	**1**	Pn	**Pn**	**22 28 25.9**	**+1.3**
NIL	**Nilore**	**4.62**	**133**	PN	**Pn**	**22 28 27.5**	**+0.2**
NIL	**Nilore**	**4.62**	**133**		**Pn**	**22 28 27.5**	**+0.2**
ARSB	**Arslanbob**	**5.30**	**32**	PN	**Pn**	**22 28 36.3**	**-0.4**
ARSB	**Arslanbob**	**5.30**	**32**		**Pn**	**22 28 36.3**	**-0.4**
HRA	**Herat**	**6.21**	**248**	Pn	**Pn**	**22 28 51.4**	**+2.2**
AML	**Almayashu** SNR=29	**6.27**	**32**	P	**Pn**	**22 28 51.1**	**+0.9**
KK31	**Karatay Array** 2.0nm,0.4s,baz=188,slow=12,SNR=28	**6.28**	**9**	⇑P	**Pn**	**22 28 50.6**	**+0.6**
KK31				⇓S	**Sn**	**22 30 02.6**	**+2.1**
	2.8nm,0.4s,baz=338,slow=25,SNR=4.5						
KK31	**Karatay Array**	**6.28**	**9**	PN	**Pn**	**22 28 49.9**	**-0.1**
KK31	**Karatay Array**	**6.28**	**9**	Pn	**Pn**	**22 28 49.9**	**-0.1**
KKAR	**Karatay Array**	**6.28**	**9**	PN	**Pn**	**22 28 50.6**	**+0.6**
KKAR	**Karatay Array**	**6.28**	**9**	Pn	**Pn**	**22 28 50.6**	**+0.6**
UCH	**Uchtor** SNR=28	**6.71**	**36**	P	**Pn**	**22 28 56.8**	**+0.5**
EKS2	**Erkin-Say** SNR=6.1	**6.74**	**30**	P	**Pn**	**22 28 58.3**	**+1.8**
KZA	**Kyzart** SNR=24	**6.96**	**40**	P	**Pn**	**22 29 00.6**	**+0.8**
AAK	**Ala-Archa** 6.0nm,0.3s,baz=194,slow=7.6,SNR=59	**7.03**	**34**	Pn	**Pn**	**22 29 00.6**	**+0.2**
AAK				Sn	**Sn**	**22 30 19.8**	**+0.8**
	0.6nm,0.3s,baz=311,slow=20,SNR=1.1						
AAK				Lg	Lg	22 30 56.9	
	0.8nm,0.3s,baz=150,slow=20,SNR=2.4						
AAK	**Ala-Archa** SNR=32	**7.03**	**34**	P	**Pn**	**22 29 01.5**	**+1.1**
AAK	**Ala-Archa** 21nm,0.6s	**7.03**	**34**	⇑P	**Pn**	**22 29 00.9**	**+0.5**
AAK				⇑S	**Sn**	**22 30 20.1**	**+1.1**
	13nm,0.7s						
AAK	**Ala-Archa**	**7.03**	**34**	*ce*PN	**Pn**	**22 29 00.2**	**-0.2**
AAK				pmax	pmax		
	comp=Z,22nm,0.6s						
AAK	**Ala-Archa**	**7.03**	**34**	Pn	**Pn**	**22 29 00.7**	**+0.3**
KBK	**Karagaybulak** SNR=14	**7.25**	**36**	P	**Pn**	**22 29 06.8**	**+3.3**
CHMS	**Chumysh** SNR=46	**7.43**	**33**	P	**Pn**	**22 29 06.0**	**+0.2**
USP	**Ospenovka** SNR=10.0	**7.54**	**31**	P	**Pn**	**22 29 08.1**	**+0.7**
TKM2	**Tokmak 2** SNR=35	**7.76**	**37**	P	**Pn**	**22 29 11.2**	**+0.7**
TKM2	**Tokmak 2** comp=Z,12nm,0.6s	**7.76**	**37**	⇓P	**Pn**	**22 29 10.9**	**+0.4**
TKM2				⇓S	**Sn**	**22 30 36.8**	**-0.3**
	comp=Z,7.0nm,0.9s						
TARG	**Taragay, Kyrgy**	**8.22**	**51**	Pn	**Pn**	**22 29 15.2**	**-1.8**
MDOK	**Medeo** comp=Z,9.1nm,0.7s	**8.67**	**41**	P	**Pn**	**22 29 23.5**	**+0.5**
GEYT	**Alibeck** comp=Z,2.5nm,0.3s,baz=98,slow=12,SNR=14	**8.89**	**280**	Pn	**Pn**	**22 29 23.5**	**-2.5**
GEYT				Sn	**Sn**	**22 31 03.3**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=102,slow=25,SNR=1.6						
GEYT	**Alibeck**	**8.89**	**280**	Pn	**Pn**	**22 29 24.7**	**-1.3**
GYA0B	**ALIBECK ARRAY**	**8.89**	**280**	⇓P	**Pn**	**22 29 24.7**	**-1.3**
GYA0B				⇑S	**Sn**	**22 31 04.6**	**-0.3**
PDGK	**Podgornoye** comp=Z,3.2nm,1.1s	**10.15**	**48**	⇑P	**Pn**	**22 29 42.6**	**-0.7**
OTUK	**Ortayu** comp=Z,3.7nm,1.3s	**11.57**	**10**	⇓P	**Pn**	**22 30 00.6**	**-1.9**
MAKZ	**Makanchi** comp=Z,3.7nm,1.0s	**13.71**	**40**	⇑P	**Pn**	**22 30 29.8**	**-2.0**
MAKZ	**Makanchi**	**13.71**	**40**	P	**Pn**	**22 30 30.2**	**-1.6**
MAKZ	**Makanchi**	**13.71**	**40**	Pn	**Pn**	**22 30 30.2**	**-1.6**
MK31	**Makanchi Array** comp=Z,2.4nm,0.8s,baz=230,slow=16,SNR=8.2	**13.86**	**40**	⇓P	**Pn**	**22 30 32.6**	**-1.2**
MK31	**Makanchi Array**	**13.86**	**40**	P	**Pn**	**22 30 32.3**	**-1.6**
MK31	**Makanchi Array**	**13.86**	**40**	Pn	**Pn**	**22 30 32.3**	**-1.6**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.3s,baz=231,slow=14,SNR=11	**13.86**	**40**	Pn	**Pn**	**22 30 32.5**	**-1.4**
MKAR				LR	LR	22 36 23.6	
	comp=Z,95nm,21.2s,baz=188,slow=39						
AB01	**Akbulak array** comp=Z,11nm,0.8s	**14.07**	**334**	⇓P	**Pn**	**22 30 33.2**	**-3.4**
ABKAR	**Akbulak array**	**14.07**	**334**	Pn	**Pn**	**22 30 33.8**	**-2.9**
KURBB	**Kurchatov Arra** comp=Z,0.0nm,0.3s,baz=214,slow=12,SNR=7.1	**15.26**	**23**	Pn	**Pn**	**22 30 48.6**	**-3.9**
KURBB				Lg	Lg	22 35 19.8	
	comp=Z,0.0nm,0.3s,baz=200,slow=30,SNR=1.7						
KURBB	**Kurchatov Arra** comp=Z,1.6nm,0.6s	**15.26**	**23**	⇓P	**Pn**	**22 30 48.7**	**-3.9**
KURK	**Kurchatov**	**15.37**	**23**	*ce*P	**Pn**	**22 30 51.0**	**-3.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
KURK	**Kurchatov**	**15.37**	**23**	P	**Pn**	**22 30 52.4**	**-1.6**
AKTO	**Aktyubinsk** comp=Z,0.4nm,0.3s,baz=148,slow=14,SNR=8.3	**15.75**	**333**	Pn	**Pn**	**22 30 57.0**	**-1.9**
AKTO				Sn	**Sn**	**22 33 46.9**	**-5.3**
	comp=Z,0.2nm,0.3s,baz=216,slow=19,SNR=1.8						
BVA0	**Borovoye Array** comp=Z,2.3nm,0.8s,baz=181,slow=12,SNR=15	**16.15**	**3**	P	**Pn**	**22 31 01.3**	**-2.7**
BVAR	**Borovoye Array** comp=Z,0.4nm,0.3s,baz=165,slow=13,SNR=7.3	**16.15**	**3**	Pn	**Pn**	**22 31 01.1**	**-2.9**
BRVK	**Borovoye** comp=Z,2.0nm,0.7s	**16.18**	**2**	*ce*P	**Pn**	**22 31 01.0**	**-3.4**
BRVK				pmax	pmax		
BRVK	**Borovoye**	**16.18**	**2**	Pn	**Pn**	**22 31 02.6**	**-1.7**
DGZ	**Jazzator, Alta**	**18.36**	**40**	*i* P	**P**	**22 31 29.3**	**-2.2**
DGZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TBLG	**Delisi**	**19.52**	**292**	P	**Pn**	**22 31 45.6**	**0.0**
TBLG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TBLG	**Delisi**	**19.52**	**292**	P	**Pn**	**22 31 45.6**	**0.0**
TBLG				IAmb	IAmb	22 31 48.7	
	comp=Z,6.8nm,0.8s						
LSA	**Lhasa**	**19.66**	**105**	P	**Pn**	**22 31 48.4**	**+0.6**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZAA0	**Zalesovo Array**	**20.18**	**27**	P	**P**	**22 31 50.4**	**-0.8**
ZALV	**Zalesovo Beam** comp=Z,4.3nm,0.5s,baz=225,slow=10,SNR=23	**20.18**	**27**	P	**P**	**22 31 50.4**	**-0.8**
ZALV				LR	LR	22 39 27.6	
	comp=Z,46nm,18.7s,baz=237,slow=36						
ZALV	**Zalesovo Beam**	**20.18**	**27**	P	**P**	**22 31 50.0**	**-1.1**
AKH	**Akhalkalaki**	**20.42**	**291**	P	Pn	22 31 56.8	+0.4
AKH				pmax	pmax		
	comp=Z,11nm,1.2s						
AKH	**Akhalkalaki**	**20.42**	**291**	P	Pn	22 31 56.8	+0.4
AKH				IAmb	IAmb	22 31 58.5	
	comp=Z,11nm,1.2s						
SVE	**Sverdlovsk**	**20.75**	**347**	*e*P	**P**	**22 31 58.0**	**+0.7**
SVE				pmax	pmax		
	comp=Z,11nm,0.9s						
ARU	**Arti**	**20.82**	**343**	P	**P**	**22 31 59.3**	**+1.4**
	comp=Z,1.7nm,0.5s,baz=148,slow=7.6,SNR=9.1						
ARU	**Arti**	**20.82**	**343**	*d* P	**P**	**22 31 59.4**	**+1.4**
ARU						22 32 15.7	
ARU				S	Sn	22 35 52.5	-1.9
ARU				SS	**SnSn**	**22 36 14.8**	**+5.4**
ARU				pmax	pmax		
	comp=Z,13nm,1.1s						
ARU	**Arti**	**20.82**	**343**		**P**	**22 31 59.4**	**+1.4**
KBZ	**Khabaz**	**21.15**	**297**	P	**P**	**22 32 02.0**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=93,slow=6.6,SNR=4.0						
KBZ	**Khabaz**	**21.15**	**297**	*ce*P	**P**	**22 32 00.8**	**-0.8**
KIV	**Kislovodsk**	**21.34**	**298**	*e*P	**P**	**22 32 04.9**	**+1.1**
KIV				pmax	pmax		
	comp=Z,19nm,1.1s						
KIV	**Kislovodsk**	**21.34**	**298**	P	**P**	**22 32 05.7**	**+1.9**
KIV				IAmb	IAmb	22 32 08.7	
	comp=Z,4.9nm,0.8s						
SHL	**Shillong**	**22.37**	**114**	P	**P**	**22 32 13.5**	**-1.7**
SHL				pmax	pmax		
	comp=Z,11nm,1.1s						
SHL	**Shillong**	**22.37**	**114**	P	**P**	**22 32 13.5**	**-1.7**
SHL				IAmb	IAmb	22 32 30.5	
	comp=Z,11nm,1.1s						
GTA	**Gaotai**	**24.14**	**75**	*e*P	**P**	**22 32 33.6**	**+1.0**
GTA				pP	pP	22 32 42.0	-1.3
GTA				sP	sP	22 32 45.8	-2.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TLY	**Talaya**	**28.42**	**48**	LR	LR	22 43 52.5	
	comp=Z,38nm,18.8s,baz=1.0,slow=35						
SONM	**Songino Array**	**29.30**	**56**	P	**P**	**22 33 19.3**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=282,slow=7.4,SNR=3.6						
SONM				LR	LR	22 46 51.9	
	comp=Z,86nm,18.9s,baz=298,slow=40						
SONM	**Songino Array**	**29.30**	**56**	P	**P**	**22 33 19.3**	**+0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM	**Songino Array**	**29.30**	**56**	IAmb	IAmb	22 33 24.2	
	comp=Z,0.9nm,1.0s						
ULN	**Ulaanbaatar**	**29.74**	**56**	*ce*P	**P**	**22 33 22.7**	**-0.2**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
ULN	**Ulaanbaatar**	**29.74**	**56**	P	**P**	**22 33 22.9**	**+0.1**
ISR	**Istrita**	**32.92**	**298**	P	**P**	**22 33 51.5**	**+0.8**
ISR				pmax	pmax		
	comp=Z,12nm,0.9s						
MLR	**Muntele Rosu**	**33.34**	**299**	P	**P**	**22 33 57.6**	**+3.1**
MLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MLR	**Muntele Rosu**	**33.34**	**299**	P	**P**	**22 33 57.6**	**+3.1**
NRIK	**Noril'sk**	**34.01**	**12**	P	**P**	**22 34 00.4**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=229,slow=4.8,SNR=6.7						
NRIK	**Noril'sk**	**34.01**	**12**	⇑*e*P	**P**	**22 34 00.3**	**+0.5**
NRIK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ATD	**Arta Tunnel**	**34.65**	**230**	LR	LR	22 52 41.7	
	comp=Z,61nm,18.3s,baz=12,slow=44						
FINES	**FINESS Array B**	**36.36**	**326**	P	**P**	**22 34 21.3**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=136,slow=6.6,SNR=4.3						
FINES	**FINESS Array B**	**36.36**	**326**	*i* P	**P**	**22 34 20.5**	**+0.4**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PSZ	**Piszkesteto**	**37.46**	**303**	P	**P**	**22 34 31.6**	**+1.8**
OJC	**Ojcow**	**37.52**	**307**	P	**P**	**22 34 32.4**	**+2.2**
OJC				pmax	pmax		
	comp=Z,4.0nm,0.5s						
OJC	**Ojcow**	**37.52**	**307**	P	**P**	**22 34 32.4**	**+2.2**
CLL	**Collm**	**41.83**	**309**	*e*P	**P**	**22 35 06.0**	**0.0**
CLL				*e*PP	**PnPn**	**22 36 46.0**	**-2.1**
CLL	**Collm**	**41.83**	**309**	*e*P	**P**	**22 35 06.0**	**0.0**
NOA	**NORSAR Array B**	**43.20**	**323**	P	**P**	**22 35 17.7**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=99,slow=8.2,SNR=2.3						
YAK	**Yakutsk**	**44.48**	**36**	⇑*e*P	**P**	**22 35 27.4**	**+0.2**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KLR	**Kul'dur**	**46.06**	**54**	P	**P**	**22 35 40.9**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=295,slow=7.0,SNR=3.6						
KLR	**Kul'dur**	**46.06**	**54**	*i* P	**P**	**22 35 41.3**	**+1.3**
KLR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ESDC	**Sonseca Array**	**56.00**	**297**	P	**P**	**22 36 56.2**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=53,slow=7.7,SNR=9.4						
TORD	**Torodi Ar. Bea**	**64.30**	**267**	P	**P**	**22 37 51.3**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=46,slow=5.7,SNR=11						
ILAR	**Eielson Array**	**74.78**	**15**	P	**P**	**22 38 56.4**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=317,slow=4.1,SNR=5.3						
WRA	**Warramunga Arr**	**83.42**	**121**	P	**P**	**22 39 43.7**	**0.0**
	comp=Z,0.3nm,0.8s,baz=318,slow=4.9,SNR=1.7						

*TEH **19** 22:41:39.2,32˚.51N×47˚.74E,h10km, ML2.9*
*ISN **19** 22:41:39.0±0.8,32˚.52N×47˚.76E,h14km±6km, ML2.8*

ISC 19 22:41:39.5±1.8,**32˚.50N**±0˚.08×**47˚.73E**±0˚.05,**h7**km±14km, **n10**,σ1$**09**/15,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.42**	**296**	*e*Pg	**Pg**	**22 41 47.8**	**+0.2**
DHL1				*e*Sg	**Sb**	**22 41 54.4**	**-1.3**
DHL1				*e*		22 41 58.7	
IDOB	**Doab**	**1.34**	**16**	*e*		22 42 28.9	
IDOB				*e*Pg	**Pg**	**22 42 04.6**	**-0.6**
BMDN	**Meydan**	**1.49**	**38**	*e*		22 42 11.3	
BMDN				*e*Pg	**Pg**	**22 42 07.5**	**-0.5**
BMDN				*e*Sg	**Sg**	**22 42 29.1**	**+1.8**
IBDR	**Badra**	**1.63**	**292**	*e*Pg	**Pb**	**22 42 09.0**	**-0.8**
IBDR				*e*Sg	**Sb**	**22 42 31.0**	**+0.4**
IBDR				AML	AML	22 42 35.9	
	comp=N,179nm,0.5s						
IBDR				AML	AML	22 42 36.4	
	comp=E,99nm,0.6s						
IKOM	**Komasi**	**1.68**	**354**	*e*Pn	**Pb**	**22 42 10.1**	**-0.7**
IKOM				*e*		22 42 40.0	
HSAM	**Samen**	**1.86**	**23**	*e*Pn	**Pb**	**22 42 13.5**	**-0.4**
HSAM				*e*		22 42 16.0	
IBZA	**Bozab**	**1.97**	**3**	*e*Pn	**Pb**	**22 42 15.0**	**-0.8**
IBZA				*e*		22 46 57.7	
NSR	**Nassriya**	**2.01**	**223**	*e*Pn	**Pn**	**22 42 14.0**	**+0.3**
NSR				*e*Sn	**Sn**	**22 42 39.0**	**-0.1**
IGHG	**Ghaleghazi**	**2.06**	**332**	*e*Pn	**Pb**	**22 42 15.7**	**-1.7**
IGHG				*e*		22 43 00.7	
BHD	**Baghdad**	**2.92**	**286**	*e*Pn	**Pn**	**22 42 27.0**	**+0.7**
BHD				*e*Sn	**Sn**	**22 43 03.0**	**+1.4**

*IDC **19** 22:42:18.8±0.8, 14˚.70S×66˚.42E, h0km, mb3.9/11, mb1 4.0/11,mb1mx3.7/55,mbtmp3.9/11, Error ellipse: s-maj=30.8km s-min=23.1km az=36.0*
*NEIC **19** 22:42:20.4±1.3, 14˚.75S±0˚.1×66˚.4E±0˚.1, h10km±1km, mb4.2/20, Error ellipse: s-maj=22.4km s-min=15.5km az=128.0*

ISC 19 22:42:20.4±0.7,**14˚.7S**±0˚.1×**66˚.4E**±0˚.1,**h10**km,**n36,** σ0$**60**/31,**mb4.1**/18,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**36.90**	**264**	P	**P**	**22 49 28.8**	**-0.9**
LSZ				IAmb	IAmb	22 49 36.8	
	comp=Z,4.6nm,1.1s						
KULM	**Kulim**	**39.31**	**62**	P	**P**	**22 49 50.6**	**+0.6**
KULM				IAmb	IAmb	22 49 58.5	
	comp=Z,9.9nm,1.4s						
BOSA	**Boshof**	**40.49**	**243**	P	**P**	**22 50 00.0**	**+0.2**
BOSA				IAmb	IAmb	22 50 03.9	
	comp=Z,6.1nm,1.3s						
SBUM	**Sibu**	**48.44**	**73**	P	**P**	**22 51 02.5**	**-0.9**
SBUM				IAmb	IAmb	22 51 11.8	
	comp=Z,2.4nm,1.1s						
NIL	**Nilore**	**48.48**	**8**	P	**P**	**22 51 03.6**	**+0.2**
KBL	**Kabul**	**48.99**	**3**	P	**P**	**22 51 07.6**	**0.0**
KBL				IAmb	IAmb	22 51 11.6	
	comp=Z,3.4nm,1.1s						
LSA	**Lhasa**	**50.15**	**28**	P	**P**	**22 51 16.4**	**-0.3**
GAR	**Garm**	**53.50**	**4**	P	**P**	**22 51 40.4**	**-0.8**
GAR				IAmb	IAmb	22 51 47.0	
	comp=Z,3.7nm,1.0s						
ARSB	**Arslanbob**	**56.03**	**6**	P	**P**	**22 51 58.5**	**-1.1**
ARSB				IAmb	IAmb	22 52 01.2	
	comp=Z,2.4nm,1.1s						
KKAR	**Karatay Array**	**57.60**	**4**	P	**P**	**22 52 09.6**	**-0.9**
KKAR	**Karatay Array**	**57.60**	**4**	P	**P**	**22 52 10.6**	**+0.1**
KKAR				IAmb	IAmb	22 52 18.2	
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**62.81**	**12**	P	**P**	**22 52 46.4**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=207,slow=7.2,SNR=5.8						
XAN	**Xi'an**	**63.11**	**39**	P	**P**	**22 52 48.5**	**+0.1**
ABKAR	**Akbulak array**	**63.89**	**355**	P	**P**	**22 52 53.4**	**+0.3**
ASAR	**Alice Springs**	**63.89**	**109**	P	**P**	**22 52 54.5**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=260,slow=5.5,SNR=3.0						
WRA	**Warramunga Arr**	**64.70**	**105**	P	**P**	**22 52 58.1**	**-1.1**
	comp=Z,1.2nm,0.9s,baz=268,slow=6.0,SNR=5.3						
WRA	**Warramunga Arr**	**64.70**	**105**	IAmb	IAmb	22 53 01.8	
	comp=Z,0.2nm,1.1s						
KURK	**Kurchatov**	**65.97**	**8**	P	**P**	**22 53 06.7**	**0.0**
BRVK	**Borovoye**	**67.52**	**3**	P	**P**	**22 53 15.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**69.77**	**290**	P	**P**	**22 53 31.1**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=104,slow=6.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**69.77**	**290**	IAmb	IAmb	22 53 32.1	
	comp=Z,1.3nm,1.2s						
ZALV	**Zalesovo Beam**	**70.12**	**11**	P	**P**	**22 53 32.9**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=228,slow=7.8,SNR=4.5						
ARU	**Arti**	**71.12**	**355**	P	**P**	**22 53 38.9**	**+0.1**
SONM	**Songino Array**	**71.71**	**27**	P	**P**	**22 53 43.4**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=218,slow=5.6,SNR=5.3						
AKASG	**Malin Array Be**	**72.77**	**336**	P	**P**	**22 53 49.4**	**+0.6**
	comp=Z,0.4nm,0.2s,baz=149,slow=4.3,SNR=2.1						
AKASG	**Malin Array Be**	**72.77**	**336**	IAmb	IAmb	22 53 49.8	
	comp=Z,0.7nm,0.8s						
DBIC	**Dimbokro**	**73.75**	**282**	P	**P**	**22 53 55.8**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=122,slow=8.5,SNR=3.2						
DBIC	**Dimbokro**	**73.75**	**282**	IAmb	IAmb	22 54 02.3	
	comp=Z,6.8nm,1.3s						
QSPA	**South Pole Qui**	**75.42**	**180**	P	**P**	**22 54 04.7**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=304,slow=3.6,SNR=3.0						
QSPA	**South Pole Qui**	**75.42**	**180**	IAmb	IAmb	22 54 05.3	
	comp=Z,4.1nm,1.3s						
KLMR	**Klimovskoe**	**78.27**	**347**	*e*	**P**	**22 54 20.4**	**+0.3**
KLMR				AMP		22 54 35.2	
	comp=Z,48nm,1.3s						
GERES	**GERESS Array B**	**78.55**	**328**	P	**P**	**22 54 22.2**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=108,slow=6.3,SNR=4.8						
ESDC	**Sonseca Array**	**84.78**	**313**	P	**P**	**22 54 55.0**	**-0.2**
	comp=Z,1.7nm,1.2s,baz=107,slow=3.3,SNR=6.3						
PDAR	**Pinedale Array**	**151.78**	**354**	PKPbc	**PKPbc**	**23 02 16.5**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=64,slow=2.1,SNR=15						
PDAR	**Pinedale Array**	**151.78**	**354**		**PKPbc**	**23 02 16.0**	**+0.1**
TXAR	**Lajitas Array**	**162.76**	**329**	PKPab	**PKPab**	**23 03 12.8**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=32,slow=5.3,SNR=2.7						

*BJI **19** 22:42:32.5±0.0, 14˚.80S×66˚.40E, h10km, mB5.0/16, mb4.7/27, Ms4.5/11, Ms7 4.2/10*
*IDC **19** 22:42:32.1±0.4, 14˚.75S×66˚.42E, h0km, mb4.3/25, mb1 4.4/26,mb1mx4.2/56,mbtmp4.2/26,ML3.8/1, Error ellipse: s-maj=15.4km s-min=13.7km az=170.0*
*NEIC **19** 22:42:33.5±1.1, 14˚.8S±0˚.1×66˚.4E±0˚.1, h10km±1km, mb4.8/66, Error ellipse: s-maj=18.1km s-min=17.0km az=157.0*

ISC 19 22:42:33.6±0.4,**14˚.87S**±0˚.08×**66˚.34E**±0˚.07,**h10**km,**n166,** σ0$**89**/165,**mb4.7**/71,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**9.36**	**41**	T	T	22 54 14.8	
	baz=220,slow=76,SNR=1588						
H08S2	**Diego Garcia H**	**9.37**	**41**	T	T	22 54 15.7	
	baz=220,slow=76,SNR=2624						
H08S3	**Diego Garcia H**	**9.38**	**41**	T	T	22 54 16.3	
	baz=220,slow=76,SNR=2234						
OPO	**Ambohidratompo**	**18.71**	**256**	P	**Pn**	**22 46 54.3**	**+1.4**
	0.3nm,0.3s,baz=73,slow=14,SNR=2.1						
ABPO	**Ambohimpanom**	**18.74**	**255**	P	**P**	**22 46 50.0**	**-3.0**
FURI	**Furi**	**36.19**	**309**	P	**P**	**22 49 38.0**	**+0.9**
MATP	**Matopo**	**36.42**	**256**	P	**P**	**22 49 39.6**	**+0.7**
	1.4nm,0.8s,baz=90,slow=10,SNR=2.6						
LSZ	**Lusaka**	**36.81**	**264**	P	**P**	**22 49 42.8**	**+0.6**
LSZ				IAmb	IAmb	22 49 50.5	
	comp=Z,16nm,1.2s						
KULM	**Kulim**	**39.47**	**62**	P	**P**	**22 50 05.4**	**+0.9**
LBTB	**Lobatse**	**39.48**	**249**	P	**P**	**22 50 06.8**	**+2.2**
	comp=Z,1.2nm,0.6s,baz=112,slow=6.0,SNR=4.5						
LBTB	**Lobatse**	**39.48**	**249**	IAmb	IAmb	22 50 07.2	
	comp=Z,35nm,1.8s						
BOSA	**Boshof**	**40.34**	**243**	P	**P**	**22 50 13.4**	**+1.7**
	comp=Z,3.6nm,0.8s,baz=90,slow=9.9,SNR=6.4						
BOSA	**Boshof**	**40.34**	**243**	IAmb	IAmb	22 50 16.4	
	comp=Z,63nm,2.0s						
CMAR	**Chiang Mai Arr**	**46.13**	**45**	P	**P**	**22 50 58.6**	**+0.1**
	comp=Z,1.9nm,1.0s,baz=235,slow=9.5,SNR=12						
CMAR		

GTA sP pwP 22 53 04.8 +2.0
GTA pmax pmax
comp=Z,11nm,1.0s
GTA pmax pmax
comp=Z,47nm,5.7s
GTA LR LR
comp=Z,130nm,17.1s
GTA LR LR
comp=Z,85nm,17.1s
GTA LR LR
comp=Z,140nm,18.7s
MK31 Makanchi Array 63.03 12 P **P 22 53 00.3 -0.6**
MK31 lAmb lAmb 22 53 00.8
comp=Z,9.9nm,1.5s
MKAR Makanchi Array 63.03 12 P **P 22 52 59.9 -1.0**
comp=Z,3.3nm,0.8s,baz=211,slow=8.4,SNR=13
MKAR PcP **PcP 22 53 38.2 -0.4**
comp=Z,1.3nm,0.8s,baz=212,slow=4.9,SNR=3.7
MKAR Makanchi Array 63.03 12 P 22 52 59.4 -1.4
XAN Xi'an 63.31 39 P **P 22 53 02.6 -0.4**
ASAR Alice Springs 63.89 109 P **P 22 53 06.8 -0.4**
comp=Z,7.7nm,1.1s,baz=264,slow=6.1,SNR=20
ASAR PcP **PcP 22 53 42.4 -0.5**
comp=Z,1.7nm,0.8s,baz=277,slow=3.7,SNR=6.1
ASAR Alice Springs 63.89 109 P P 22 53 06.5 -0.6
AS31 Alice Springs 63.89 109 P P 22 53 06.7 -0.5
WRA Warramunga Arr 64.71 105 P **P 22 53 12.7 +0.1**
comp=Z,9.9nm,1.0s,baz=268,slow=6.0,SNR=26
WRA PcP **PcP 22 53 46.2 -0.1**
comp=Z,0.8nm,0.6s,baz=255,slow=2.9,SNR=5.4
WB2 Warramunga Arr 64.72 105 P P 22 53 12.1 -0.6
WRAB Tennant Creek 64.72 105 P P 22 53 12.4 -0.2
WB0 Warramunga Arr 64.78 105 P P 22 53 12.9 -0.1
WR0 Warramunga Arr 64.89 105 P P 22 53 12.9 -0.9
BBOO Buckleboo 65.18 120 P P 22 53 16.1 +0.7
KURK Kurchatov 66.18 8 P P 22 53 21.0 -0.3
KURK lAmb lAmb 22 53 21.7
comp=Z,9.7nm,1.1s
BRVK Borovoye 67.73 3 P **P 22 53 30.6 -0.5**
BRVK lAmb lAmb 22 53 31.5
comp=Z,7.3nm,1.1s
NJ2 Nanjing 68.59 46 *eP* **P 22 53 38.3 +1.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
HHC Hu-ho-hao-te 69.48 35 *eP* **P 22 53 43.0 +0.5**
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,99nm,5.7s
TOA0 Torodi Ar. Sit 69.77 290 P **P 22 53 45.1 +0.4**
TORD Torodi Ar. Bea 69.77 290 P **P 22 53 44.6 -0.1**
comp=Z,1.5nm,1.0s,baz=100,slow=4.3,SNR=8.0
TORD Torodi Ar. Bea 69.77 290 P P 22 53 44.6 -0.1
STKA Stephens Creek 69.92 119 P P 22 53 46.0 +0.7
MLR Muntele Rosu 70.32 331 P **P 22 53 46.4 -1.1**
comp=Z,1.5nm,0.7s,baz=203,slow=18,SNR=6.0
MLR Muntele Rosu 70.32 331 P P 22 53 48.2 +0.6
ZAA0 Zalesovo Array 70.34 11 P **P 22 53 45.2 -2.1**
ZAA0 lAmb lAmb 22 53 47.2
comp=Z,8.1nm,1.1s
ZALV Zalesovo Beam 70.34 11 P **P 22 53 46.1 -1.1**
comp=Z,9.5nm,1.1s,baz=191,slow=6.8,SNR=10
ZALV Zalesovo Beam 70.34 11 P P 22 53 45.7 -1.6
ARU Arti 71.32 355 P P 22 53 52.8 -0.5
BJT Baijiatuau 71.59 38 P **P 22 53 55.1 -0.1**
BJT lAmb lAmb 22 55 02.8
comp=Z,5.2nm,0.7s
BJI Beijing 71.61 38 P P 22 53 56.0 +0.7
BJI S **S 23 03 19.3 +4.5**
BJI pmax pmax
comp=Z,5.0nm,0.5s
SONM Songino Array 71.92 27 P **P 22 53 57.1 -0.1**
comp=Z,3.1nm,0.7s,baz=218,slow=6.5,SNR=15
SONM Songino Array 71.92 27 P P 22 53 57.7 +0.4
BURAR Bucovina Array 72.24 332 P P 22 53 59.1 +0.1
ULN Ulaanbaatar 72.24 27 P P 22 53 58.5 -0.7
ULN lAmb lAmb 22 54 00.1
comp=Z,8.8nm,1.4s
DIVS Divibare 72.30 327 P P 22 53 59.8 +0.3
DIVS lAmb lAmb 22 54 02.6
comp=Z,9.9nm,1.2s
AKASG Malin Array Be 72.93 336 P P 22 54 02.6 -0.4
comp=Z,1.2nm,0.5s,baz=139,slow=4.6,SNR=6.5
AKASG Malin Array Be 72.93 336 lAmb lAmb 22 54 04.4
comp=Z,4.8nm,1.6s
AKBB Malin Array Si 72.93 336 P P 22 54 02.5 -0.5
KIC Kosan Boka 73.53 281 *eP* **P 22 54 07.6 +0.2**
comp=Z,19nm,0.8s
DBIC Dimbokro 73.73 282 P P 22 54 09.2 +0.7
comp=Z,4.4nm,0.7s,baz=99,slow=8.0,SNR=4.9
DBIC Dimbokro 73.73 282 lAmb lAmb 22 54 10.1
comp=Z,8.6nm,0.9s
LIC Lamto 73.76 281 *eP* **P 22 54 09.2 +0.5**
comp=Z,37nm,0.8s
TIC Toumodi 73.88 282 *eP* **P 22 54 09.7 +0.3**
OBN Obninsk 74.12 343 P P 22 54 10.8 +0.9
KOLS Kolonicke sedl 74.54 332 *eP* **P 22 54 12.9 +0.4**
CRVS Cervenica-Dubn 74.90 331 *eP* **P 22 54 14.9 +0.3**
QSPA South Pole Qui 75.22 180 P **P 22 54 17.3 +0.9**
comp=Z,5.5nm,1.0s,baz=281,slow=4.7,SNR=8.7
QSPA South Pole Qui 75.22 180 P P 22 54 15.7 -0.8
SRO2 Moca 75.59 329 *eP* **P 22 54 17.9 -0.7**
CTAO Charters Tower 75.75 107 P P 22 54 19.6 -0.6
VYHS Vyhne 75.87 330 *eP* **P 22 54 19.8 -0.4**
MODS Modra-Piesok 76.56 329 *eP* **P 22 54 23.5 -0.6**
OJC Ojcow 76.59 331 P **P 22 54 23.4 -0.8**
OJC lAmb lAmb 22 54 25.7
comp=Z,11nm,1.4s
SOKA Soboth 76.62 326 *eP* **P 22 54 26.2 +1.6**
comp=Z,9.9nm,1.4s
JAVC Velka Javorina 76.69 329 *eP* **P 22 54 25.7 +0.8**
ARSA Arzberg 76.73 327 *eP* **P 22 54 26.1 +1.0**
comp=Z,14nm,1.4s
VNDA Vanda 76.78 167 P P 22 54 24.4 -0.7
comp=Z,2.0nm,1.0s,baz=319,slow=15,SNR=4.4
CONA Conrad Observa 76.99 328 *eP* **P 22 54 27.3 +0.6**
comp=Z,12nm,1.2s
MYKA Terra Mystica 77.34 326 *eP* **P 22 54 29.1 +0.4**
comp=Z,10.0nm,1.1s
MORC Moravsky Berou 77.36 330 *eP* **P 22 54 28.7 +0.1**
MORC Moravsky Berou 77.36 330 P P 22 54 28.3 -0.4
MORC lAmb lAmb 22 54 39.9
comp=Z,20nm,1.9s
KRUC Moravsky 77.45 329 *eP* **P 22 54 29.3 +0.2**
VRAC Vranov 77.51 329 *eP* **P 22 54 29.4 -0.1**
KSAR Wonju Array Be 77.74 46 P P 22 54 30.5 -0.5
MOA Molln 77.77 327 *eP* **P 22 54 31.7 +0.7**
comp=Z,18nm,1.4s
KSRS Korea Array 77.77 46 P P 22 54 30.4 -0.7
comp=Z,2.6nm,0.9s,baz=241,slow=5.8,SNR=11
KBA Koelnbreinsper 77.78 326 *eP* **P 22 54 32.5 +1.3**
comp=Z,11nm,1.4s
ABTA Abfaltersbach 78.03 325 *eP* **P 22 54 33.4 +0.8**
comp=Z,5.8nm,0.9s
CTI Castel Tesino 78.09 324 P **P 22 54 33.7 +0.8**
CTI lAmb lAmb 22 54 34.0
comp=Z,9.6nm,1.3s
GERES GERESS Array B 78.68 328 P **P 22 54 35.5 -0.6**
comp=Z,1.0nm,0.9s,baz=141,slow=5.1,SNR=4.9
GERES GERESS Array B 78.68 328 P P 22 54 35.8 -0.3
WTTA Wattenberg 78.82 325 *eP* **P 22 54 37.2 +0.2**
comp=Z,6.5nm,1.0s
WATA Walderalm 78.90 326 *i* P **P 22 54 37.4 0.0**
comp=Z,11nm,1.1s
KHC Kasperske Hory 78.92 328 *eP* **P 22 54 37.2 -0.1**
KHC Kasperske Hory 78.92 328 P P 22 54 36.7 -0.6
PRU Pruhonice 78.97 329 *eP* **P 22 54 37.9 +0.4**
SQTA Sankt Quirin 79.03 325 *eP* **P 22 54 38.3 +0.2**
comp=Z,6.4nm,1.0s
MOTA Moosalm 79.16 325 *eP* **P 22 54 38.8 0.0**
comp=Z,13nm,1.5s
FETA Feichten 79.18 325 *eP* **P 22 54 39.4 +0.5**
comp=Z,4.3nm,1.0s
FUORN Ofenpass-Fuorn 79.21 324 P P 22 54 39.3 +0.1
FUORN lAmb lAmb 22 54 40.5
comp=Z,8.6nm,1.2s
PVCC Panska Ves 79.30 329 *eP* **P 22 54 38.4 -0.9**
HIA Hailar 79.34 32 P P 22 54 38.9 -0.7
RETA Reutte 79.43 325 *eP* **P 22 54 40.4 +0.2**
comp=Z,4.8nm,1.5s
DAVOX Davos/Dischmat 79.52 324 P P 22 54 40.1 -0.7
comp=Z,1.9nm,0.7s,baz=128,slow=10,SNR=3.6
TUE Stuetta 79.64 324 P **P 22 54 41.5 0.0**
TUE lAmb lAmb 22 54 45.2
comp=Z,10nm,1.1s
DAVA Damuels 79.81 325 *eP* **P 22 54 42.6 +0.3**
comp=Z,7.2nm,1.2s
BRG Berggiesshubel 79.83 329 *eP* **P 22 54 42.9 +0.7**
comp=Z,31nm,1.9s
GRA1 Grafenberg Arr 80.49 327 P P 22 54 44.1 -1.7
CLL Collm 80.56 329 *eP* **P 22 54 44.0 -2.1**
comp=Z,24nm,1.7s
CLL *i* 22 54 52.1
CLL Collm 80.56 329 P P 22 54 46.4 +0.3
CLL lAmb lAmb 22 54 48.0
comp=Z,18nm,1.4s
BFO Black Forest 81.26 325 P P 22 54 50.1 +0.1
BFO lAmb lAmb 22 54 51.1
comp=Z,19nm,1.5s
FINES FINESS Array B 82.47 342 P P 22 54 56.3 +0.3
comp=Z,4.6nm,1.0s,baz=146,slow=7.2,SNR=2.0
USRK Ussuriysk Ar. 83.70 41 P P 22 55 01.7 -1.0
comp=Z,2.4nm,0.9s,baz=226,slow=5.0,SNR=4.3
MAJO Matsushiro 84.77 50 P P 22 55 08.6 +0.2
MAT Matsushiro 84.77 50 P P 22 55 08.3 -0.1
MJAR Matsushiro Arr 84.77 50 P P 22 55 08.4 0.0
comp=Z,2.6nm,0.8s,baz=241,slow=6.4,SNR=10.0
MJAR Matsushiro Arr 84.77 50 P P 22 55 08.4 0.0
ESDC Sonseca Array 84.87 313 P P 22 55 09.3 +0.4
comp=Z,1.7nm,0.7s,baz=106,slow=4.3,SNR=12
ESDC Sonseca Array 84.87 313 P P 22 55 08.3 -0.6
HFS Hagfors 85.82 336 P P 22 55 13.2 +0.1
comp=Z,3.6nm,0.6s,baz=144,slow=5.4,SNR=4.7
IMAR Indian Mountai 122.37 18 PKPdf **PKPdf 23 01 27.8 -0.8**
INK Inuvik 125.08 9 PKP **PKPdf 23 01 33.3 -0.4**
comp=Z,3.3nm,1.0s,baz=278,slow=1.7,SNR=4.1
ILAR Eielson Array 125.24 17 PKP **PKPdf 23 01 33.0 -1.2**
comp=Z,1.3nm,0.8s,baz=319,slow=3.7,SNR=10.0
LPAZ La Paz 125.41 237 PKP **PKPdf 23 01 36.0 -0.7**
comp=Z,0.5nm,0.5s,baz=61,slow=3.6,SNR=3.6
BCAR Beaver Creek A 127.97 16 PKPdf **PKPdf 23 01 39.0 -0.5**
WALA Waterton Lakes 145.90 0 PKPdf **PKPdf 23 02 12.7 -0.3**
C09A Chrisman Ranch 146.94 6 PKPbc **PKPdf 23 02 16.0 +1.4**
WVT Waverly 148.68 317 **PKPbc 23 02 21.1 -0.4**
F10A Beach Ranch, E 148.84 5 PKPbc **PKPdf 23 02 20.1 +2.1**
G08A Pilot Rock 149.34 7 **PKPbc 23 02 23.2 +0.1**
PLAL Pickwick Lake 149.50 316 **PKPbc 23 02 23.2 -0.4**
CCM Cathedral Cave 149.56 324 PKPdf **PKPdf 23 02 16.5 -2.7**
CCM PKPbc **pPKPdf 23 02 23.3 +1.6**
DLMT Dillon 149.59 359 **PKPbc 23 02 23.4 -0.4**
RSSD Black Hills 149.71 346 **PKPbc 23 02 24.8 +0.6**
LRAL Lakeview Retre 149.79 311 **PKPbc 23 02 24.6 +0.2**
PINE Pine Mountain 150.51 11 **PKPbc 23 02 27.0 +0.9**
REDW Red Top Meadow 151.50 356 **PKPbc 23 02 28.9 +0.4**
PDAR Pinedale Array 151.97 354 PKP **PKPdf 23 02 22.7 -0.4**
comp=Z,0.9nm,0.6s,baz=75,slow=1.7,SNR=6.7
PDAR PKPbc **PKPbc 23 02 29.4 -0.1**
comp=Z,5.8nm,0.7s,baz=68,slow=2.1,SNR=34
NVAR Mina Array Bea 156.17 9 PKPbc PKPbc 23 02 39.6
comp=Z,1.0nm,0.8s,baz=356,slow=3.0,SNR=6.2
NVAR PKPab **PKPab 23 02 57.0 +0.3**
comp=Z,1.1nm,0.7s,baz=353,slow=3.6,SNR=6.6
NVAR Mina Array Bea 156.17 9 PKPdf **PKPdf 23 02 29.0 -0.2**
NVAR PKPab **PKPab 23 02 55.7 -0.9**
TXAR Lajitas Array 162.90 329 PKP **PKPdf 23 02 37.0 +0.1**
comp=Z,0.9nm,0.9s,baz=45,slow=1.9,SNR=8.2
TXAR PKPab **PKPab 23 03 26.0 0.0**
comp=Z,1.1nm,0.8s,baz=63,slow=4.3,SNR=8.6
TXAR Lajitas Array 162.90 329 PKPdf **PKPdf 23 02 35.7 -1.3**
TXAR PKPab **PKPab 23 03 25.5 -0.4**

*IDC **19** 22:46:16.4±3.1, 19°.84S×175°.60W, h136km±31km, mb3.8/4, mb1 4.1/6, mb1mx3.4/30, mbtmp4.5/6, Error ellipse: s-maj=29.0km s-min=24.6km az=117.0*
*NEIC **19** 22:46:18.1±2.1, 19°.6S±0°.1×175°.71W±0°.03, h154km±10km, mb4.2/8, Error ellipse: s-maj=20.1km s-min=3.3km az=171.0*
ISC 19 22:46:17.2±0.7,**19°.56S**±0°.08×**175°.54W**±0°.09,**h150**km,
n32,σ2ˢ10/31,**mb4.1**/5,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.32**	**86**	Pn	**Pn**	**22 47 35.8**	**+0.9**
MSVF	**Nonsavu**	**6.34**	**286**	Pn	**Pn**	**22 47 48.1**	**-0.5**
AFI	**Afiamalu**	**6.67**	**33**	P	**Pn**	**22 47 55.6**	**+2.5**
	23nm,0.3s,baz=152,slow=2.5,SNR=18						
AFI				S	**Sn**	**22 49 05.6**	**-2.5**
	22nm,0.3s,baz=137,slow=19,SNR=8.6						
AFI	**Afiamalu**	**6.67**	**33**		**Pn**	**22 47 55.5**	**+2.5**
AFI					**Sn**	**22 49 07.6**	**-0.5**
DZM	**Mont Dzumac**	**17.03**	**258**	P	**Pn**	**22 50 10.6**	**+4.0**
	1.7nm,0.3s,baz=74,slow=21,SNR=20						
DZM	**Mont Dzumac**	**17.03**	**258**	P	**P**	**22 50 04.0**	**-2.0**
DZM				lAmb	lAmb	22 50 13.4	
	comp=Z,19nm,0.8s						
HAZ	**Te Kaha**	**19.05**	**196**	P	**P**	**22 50 27.6**	**-0.1**
ETAZ	**East Tamaki Re**	**19.24**	**204**	P	**Pn**	**22 50 38.0**	**+5.5**
RUGZ	**Raukumara Rang**	**19.27**	**196**	P	**P**	**22 50 29.2**	**-1.1**
TWGZ	**Tauwhareparae**	**19.39**	**196**	P	**P**	**22 50 31.6**	**0.0**
MWZ	**Matawai**	**19.66**	**196**	P	**P**	**22 50 34.5**	**+0.1**
LIRZ	**Lichensteins R**	**19.68**	**199**	P	**P**	22 50 26.2	-8.5
URZ	**Urewera**	**19.70**	**197**	P	**P**	**22 50 32.3**	**-2.5**
	comp=Z,4.2nm,0.3s,baz=326,slow=1.7,SNR=16						
URZ				S	S	22 53 52.9	-16
	comp=Z,0.8nm,0.3s,baz=135,slow=19,SNR=1.4						
URZ	**Urewera**	**19.70**	**197**	P	P	22 50 22.0	-13
RAGZ	**Rawiri**	**19.84**	**196**	P	**P**	**22 50 34.9**	**-1.6**
SNGZ	**Shannon Statio**	**20.13**	**196**	P	**P**	**22 50 38.8**	**-0.7**
MTHZ	**Maungataniwha**	**20.33**	**197**	P	**P**	**22 50 39.6**	**-2.1**
HIZ	**Hauiti**	**20.65**	**202**	P	**P**	**22 50 45.2**	**+0.2**
BKZ	**Black Stump Fm**	**20.72**	**198**	P	**P**	**22 50 42.9**	**-3.0**
OTVZ	**Oturere**	**20.97**	**199**	P	**P**	**22 50 44.9**	**-3.7**
HHSZ	**Highcliff Hill**	**28.64**	**200**	P	P	22 52 34.2	+35
CTAO	**Charters Tower**	**35.90**	**263**	P	**P**	**22 53 02.8**	**-0.4**
STKA	**Stephens Creek**	**40.28**	**244**	P	**P**	**22 53 39.0**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=86,slow=15,SNR=3.9						
AS31	**Alice Springs**	**46.99**	**256**	P	**P**	**22 54 33.1**	**-0.5**
AS31				lAmb	lAmb	22 54 36.0	
	comp=Z,1.9nm,0.3s						
ASAR	**Alice Springs**	**46.99**	**256**	P	**P**	**22 54 33.4**	**-0.2**
	comp=Z,3.0nm,0.4s,baz=89,slow=8.3,SNR=41						
ASAR				PcP	**PcP**	**22 56 03.9**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=100,slow=4.5,SNR=5.1						
WB0	**Warramunga Arr**	**47.01**	**261**	P	**P**	**22 54 30.6**	**-3.1**
WRA	**Warramunga Arr**	**47.03**	**261**	P	**P**	**22 54 33.1**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=97,slow=7.2,SNR=43						
WRA				PcP	**PcP**	**22 56 03.9**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=103,slow=3.2,SNR=3.6						
WRA	**Warramunga Arr**	**47.03**	**261**	lAmb	lAmb	22 54 34.3	
	comp=Z,0.2nm,1.1s						
QSPA	**South Pole Qui**	**70.51**	**180**	P	**P**	**22 57 14.3**	**-1.2**
	comp=Z,3.0nm,0.9s,baz=347,slow=0.2,SNR=10						
QSPA	**South Pole Qui**	**70.51**	**180**	lAmb	lAmb	22 57 14.7	
	comp=Z,19nm,1.8s						
KHC	**Kasperske Hory**	**149.60**	**348**	PKPbc	**PKPbc**	**23 05 47.8**	**-1.2**
GERES	**GERESS Array B**	**149.84**	**348**	PKPbc	**PKiKP**	**23 05 51.3**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=45,slow=2.5,SNR=2.7						

*ISN **19** 22:46:21.5±1.2, 32°.72N×47°.49E, h15km±6km, ML2.5*
*TEH **19** 22:46:22.0, 32°.76N×47°.49E, h10km, ML3.0*
*THR **19** 22:46:23.8±0.3, 32°.79N×47°.46E, h14km±19km, ML3.4*
ISC 19 22:46:21.7±1.2,**32°.60N**±0°.04×**47°.39E**±0°.03,**h9**km±10km,
n39,σ1ᵖ43/44,**1D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.12**	**312**	*e*Pg	**Pg**	**22 46 25.9**	**+1.3**
IKFM	**Kafar-mosalman**	**1.00**	**22**	*e*Pg	**Pb**	**22 46 37.5**	**-3.8**
IKFM				*e*		22 46 54.4	
IKMR	**Kamar-syah**	**1.24**	**42**	*e*Pg	**Pn**	**22 46 42.0**	**-3.2**
IBDR	**Badra**	**1.33**	**293**	*e*Pg	**Pn**	**22 46 46.0**	**-0.6**
IBDR				*e*Sg	**Sb**	**22 47 05.0**	**+0.9**
IBDR				AML	AML	22 47 15.4	
	comp=E,86nm,0.7s						
IBDR				AML	AML	22 47 15.9	
	comp=N,97nm,0.8s						
IDOB	**Doab**	**1.36**	**29**	*e*Pg	**Pn**	**22 46 45.0**	**-2.1**
IKOM	**Komasi**	**1.57**	**4**	*e*Pg	**Pn**	**22 46 49.6**	**-0.5**
IKOM				*e*		22 46 51.0	
BMDN	**Meydan**	**1.61**	**48**	*e*Pg	**Pn**	**22 46 49.9**	**-0.7**
BMDN				*e*		22 47 13.7	
AHWZ	**Ahwaz**	**1.65**	**140**	*e*Pg	**Pg**	**22 46 55.1**	**+1.7**
KCHF	**Cheshme Sefid,**	**1.70**	**350**	*e*Pg	**Pn**	**22 46 52.0**	**+0.2**
KCHF				*e*		22 47 16.0	
KER	**Kermanshah**	**1.79**	**353**	*e*Pg	**Pn**	**22 46 53.6**	**+0.5**
IGHG	**Ghaleghazi**	**1.86**	**339**	*e*Pg	**Pb**	**22 46 56.0**	**-0.1**
IGHG				*e*		22 47 36.4	
HSAM	**Samen**	**1.90**	**32**	*e*Pg	**Pn**	**22 46 54.7**	**0.0**
HSAM				*e*		22 47 22.5	
IBZA	**Bozab**	**1.91**	**12**	*e*Pg	**Pn**	**22 46 55.1**	**+0.4**
IBZA				*e*		22 47 23.4	
NSR	**Nassriya**	**1.91**	**214**	*e*Pn	**Pg**	**22 46 57.0**	**-1.3**
NSR				*e*Sn	**Sg**	**22 47 22.0**	**-1.1**
IVIS	**Veis**	**1.98**	**347**	*e*Pn	**Pn**	**22 46 56.7**	**+1.2**
IVIS				*e*		22 47 25.9	
IDHR	**Dehrash**	**2.26**	**338**	*e*Pn	**Pn**	**22 47 01.6**	**+2.1**
IDHR				*e*		22 47 38.3	
KHMZ	**Khomeyn**	**2.44**	**61**	*e*Pn	**Pn**	**22 47 03.5**	**+1.5**
KHMZ	**Khomeyn**	**2.44**	**61**	*e*Pn	**Pn**	**22 47 03.5**	**+1.5**
SNGE	**Sanandaj**	**2.49**	**359**	*e*Pn	**Pn**	**22 47 03.5**	**+0.8**
SNGE				*e*Sg	**Sn**	**22 47 36.0**	**+2.7**
SNGE	**Sanandaj**	**2.49**	**359**	*e*Pn	**Pn**	**22 47 03.5**	**+0.8**
BHD	**Baghdad**	**2.62**	**286**	*e*Pn	**Pn**	**22 47 06.0**	**+1.7**
BHD				*e*Sn	**Sb**	**22 47 39.0**	**-2.2**
HAGD	**Aghdareh**	**2.65**	**33**	*e*Pn	**Pn**	**22 47 04.9**	**-0.1**
HAGD				*e*		22 47 51.2	
JHBN	**Jahan bin**	**2.79**	**97**	*e*		22 47 57.8	
JHBN				*e*Pn	**Pn**	**22 47 08.3**	**+1.3**
ASAO	**Ashtian**	**2.94**	**48**	*e*Pn	**Pn**	**22 47 09.9**	**+1.1**
ASAO				*e*Sg	**Sb**	**22 47 50.5**	**-0.1**
ASAO	**Ashtian**	**2.94**	**48**	*e*Pn	**Pn**	**22 47 09.9**	**+1.1**
IPIR	**Pirpir**	**2.95**	**87**	*e*Pn	**Pn**	**22 47 10.1**	**+0.9**
IPIR				*e*		22 47 54.1	
ROKH	**ROKH**	**3.09**	**94**	*e*Pn	**Pn**	**22 47 12.4**	**+1.4**
IKLH	**Kolahrood**	**3.59**	**77**	*e*Pn	**Pn**	**22 47 19.0**	**+1.1**
IKLH				*e*		22 48 16.6	
QABG	**Abgarm-Qazvin**	**3.59**	**30**	*e*Pn	**Pn**	**22 47 16.9**	**-1.0**
IGAR	**Gharneh**	**3.93**	**92**	*e*Pn	**Pn**	**22 47 23.3**	**+0.7**
IGAR				*e*		22 48 13.3	
QSDN	**Sirdan**	**4.16**	**20**	*e*Pn	**Pn**	**22 47 26.1**	**+0.4**
IZEF	**Zefreh**	**4.17**	**85**	*e*Pn	**Pn**	**22 47 26.7**	**+0.8**
ZNJK	**Zanjan**	**4.20**	**14**	*e*Pn	**Pn**	**22 47 27.0**	**+0.8**
ZNJK	**Zanjan**	**4.20**	**14**	*e*Pn	**Pn**	**22 47 27.0**	**+0.8**
CHTH	**Charan**	**4.52**	**42**	*e*Pn	**Pn**	**22 47 31.7**	**+1.0**
CHTH	**Charan**	**4.52**	**42**	*e*Pn	**Pn**	**22 47 31.7**	**+1.0**
QALM	**Alamut, Qazvin**	**4.67**	**34**	*e*Pn	**Pn**	**22 47 32.7**	**-0.1**
DAMV	**Damavand**	**4.86**	**50**	‖*e*Pn	**Pn**	**22 47 36.5**	**+1.2**
DAMV	**Damavand**	**4.86**	**50**	*e*Pn	**Pn**	**22 47 36.5**	**+1.2**

*ISN **19** 22:47:33.6±1.3, 32°.75N×47°.54E, h15km±7km, ML2.7*
*TEH **19** 22:47:34.6, 32°.73N×47°.49E, h8km, ML2.9*
ISC 19 22:47:35.1±1.1,**32°.70N**±0°.06×**47°.48E**±0°.06,**h10**km,**n13,**
σ1ᵖ00/16,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.17**	**265**	*e*Pg	**Pg**	**22 47 38.4**	**-0.3**
IKFM	**Kafar-mosalman**	**0.88**	**21**	*e*Pg	**Pg**	**22 47 51.2**	**-0.9**
IKFM				*e*		22 48 12.4	
IKMR	**Kamar-syah**	**1.12**	**43**	*e*Pg	**Pb**	**22 47 55.9**	**-0.6**
IKMR				*e*		22 48 15.7	
IDOB	**Doab**	**1.24**	**28**	*e*Pg	**Pn**	**22 47 57.9**	**-0.7**
IDOB				*e*		22 48 19.5	
IBDR	**Badra**	**1.36**	**288**	*e*Pg	**Pn**	**22 47 59.0**	**-1.2**
IBDR				*e*Sg	**Sn**	**22 48 18.0**	**-0.3**
IBDR				AML	AML	22 48 25.1	
	comp=E,132nm,0.7s						
IBDR				AML	AML	22 48 25.5	
	comp=N,128nm,0.8s						
IKOM	**Komasi**	**1.48**	**1**	*e*		22 48 06.1	
IKOM				*e*Pg	**Pn**	**22 48 02.4**	**+0.5**
BMDN	**Meydan**	**1.49**	**49**	*e*Pg	**Pn**	**22 48 02.9**	**+0.8**
BMDN				*e*		22 48 31.6	
KCHF	**Cheshme Sefid,**	**1.62**	**347**	*e*		22 48 31.5	
KCHF				*e*Pn	**Pn**	**22 48 04.7**	**+0.9**
HSAM	**Samen**	**1.78**	**32**	*e*		22 48 35.4	
HSAM				*e*Pn	**Pn**	**22 48 07.2**	**+1.0**
IBZA	**Bozab**	**1.80**	**10**	*e*		22 48 36.5	
IBZA				*e*Pn	**Pn**	**22 48 07.3**	**+0.9**
NSR	**Nassriya**	**2.03**	**214**	*e*Pn	**Pn**	**22 48 10.0**	**+0.7**
NSR				*e*Sn	**Sn**	**22 48 35.0**	**+0.3**
IDHR	**Dehrash**	**2.19**	**336**	*e*Pn	**Pn**	**22 48 13.6**	**+1.8**
BHD	**Baghdad**	**2.67**	**283**	*e*Pn	**Pn**	**22 48 18.0**	**-0.1**
BHD				*e*Sn	**Sn**	**22 48 52.0**	**+1.6**

*IDC **19** 23:03:39.5±1.1, 5°.52S×150°.68E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/31, mbtmp3.9/9, ML4.4/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/37, Error ellipse: s-maj=35.5km s-min=16.3km az=126.0*
*NEIC **19** 23:03:46.3±1.4, 5°.5S±0°.2×150°.9E±0°.2, h61km±13km, mb4.1/7, Error ellipse: s-maj=33.4km s-min=10.6km az=128.0*
ISC 19 23:03:46.9±0.9,**5°.5S**±0°.1×**150°.9E**±0°.2,**h65**km,**n21,**
σ1ᵖ89/17,**mb3.7**/10,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.63**	**44**	Pn	**Pn**	**23 04 11.3**	**-2.1**
	2.5nm,0.3s,baz=46,slow=3.1,SNR=5.2						
KRVT				Sn	**Sn**	**23 04 36.5**	**+3.0**
	24nm,0.3s,baz=132,slow=18,SNR=7.7						
RABL	**Rabaul**	**1.81**	**44**		**Pn**	**23 04 15.1**	**-0.7**
PMG	**Port Moresby**	**5.37**	**223**		**Pn**	**23 05 05.8**	**+1.3**
HNR	**Honiara**	**9.79**	**114**	LR	LR	23 10 07.4	
	comp=Z,82nm,18.1s,baz=74,slow=39						
SIJI	**Sorong**	**20.13**	**283**	P	**P**	**23 08 13.4**	**-2.4**
	1.2nm,0.3s,baz=250,slow=23,SNR=1.9						
WB0	**Warramunga Arr**	**21.43**	**227**	P	**P**	**23 08 29.8**	**0.0**
WB2	**Warramunga Arr**	**21.57**	**227**	P	**P**	**23 08 31.1**	**-0.2**
WB2				lAmb	lAmb	23 08 55.3	
	comp=Z,14nm,1.6s						
WRA	**Warramunga Arr**	**21.58**	**227**	P	**P**	**23 08 28.9**	**-2.5**
	comp=Z,2.4nm,0.7s,baz=50,slow=10,SNR=19						
DZM	**Mont Dzumac**	**22.31**	**139**	LR	LR	23 15 52.6	
	comp=Z,84nm,20.3s,baz=260,slow=33						
AS31	**Alice Springs**	**24.38**	**220**	P	**P**	**23 08 56.2**	**-3.0**
ASAR	**Alice Springs**	**24.38**	**220**	P	**P**	**23 08 58.8**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=50,slow=8.7,SNR=13						
STKA	**Stephens Creek**	**27.66**	**197**	P	**P**	**23 09 28.5**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=34,slow=15,SNR=2.2						
**FITZ

IKOM				*e*			23 06 04.3	
NSR	**Nassriya**	**1.81**	**220**	*e*Pn	**Pn**	**23 05 38.0**	**-0.2**	
NSR				*e*Sn	**Sn**	**23 06 02.0**	**+0.8**	
IGHG	**Ghaleghazi**	**2.06**	**338**	*e*Pn	**Pn**	**23 05 43.3**	**+1.4**	
IGHG				*e*		23 06 29.6		
IBZA	**Bozab**	**2.07**	**9**	*e*Pn	**Pn**	**23 05 43.9**	**+1.8**	
BHD	**Baghdad**	**2.75**	**289**	*e*Pn	**Pn**	**23 05 52.0**	**+0.8**	
BHD				*e*Sn	**Sn**	**23 06 26.0**	**+1.5**	

IDC ***19*** *23:12:50.1±0.6,20˚.57S×70˚.58W, h0km, mb4.2/13, mb1 4.4/16, mb1mx4.3/31, mbtmp4.3/16, ML4.3/3, MS3.9/6, Ms1 3.9/6, ms1mx3.5/33, Error ellipse: s-maj=19.7km s-min=16.1km az=48.0*

SJA ***19*** *23:12:51.8±0.8,20˚.76S×70˚.79W, h55km±32km, ML4.6, MW4.7*

NEIC ***19*** *23:12:52.4±1.5,20˚.76S±0˚.03×70˚.68W±0˚.02, h16km±3km, Error ellipse: s-maj=4.3km s-min=1.9km az=163.0*

NEIC ***19*** *23:12:54,20˚.65S×70˚.78W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=5.14; $M_{\theta\theta}$=0.62; $M_{\phi\phi}$=-5.76; $M_{r\theta}$=-0.06; $M_{r\phi}$=1.41; $M_{\theta\phi}$=-6.63; Fault plane solution: M_o=8.72000×10^{15} NP1:ϕ_s=335.00000°, δ=21.00000°, λ=69.00000°. NP2:ϕ_s=178.00000°, δ=70.00000°, λ=98.00000°. Principal axes: T 8.3304, Pl=64.0000°, Azm=101.0000°; N 0.7289, Pl=8.0000°, Azm=355.0000°; P -9.0593, Pl=25.0000°, Azm=262.0000°;*

GUC ***19*** *23:12:54.6±0.6,20˚.73S×70˚.61W, h22km±7km, ML4.4*

VAO ***19*** *23:12:57.8±0.5,20˚.64S×70˚.45W, h52km±4km, mb4.5*

ISC 19 23:12:52.4±1.0,**20˚.73S**±0˚.02×**70˚.67W**±0˚.04,**h17**km±6km, **n218,** σ1§**26**/227,**mb4.6**/24,**MS4.2**/3,**12C-5D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.49**	**70**	⇓*i*P	**Pb**	**23 13 03.0**	**+0.5**
TA01				*i* S	**Sb**	**23 13 09.0**	**-0.3**
TA01	**Diego Aracena**	**0.49**	**70**		**Pb**	**23 13 02.6**	**+0.1**
TA02	**Huaiquique**	**0.68**	**48**	*e*P	**Pg**	**23 13 06.4**	**+0.5**
TA02				*i* S	**Sg**	**23 13 14.6**	**-0.3**
TA02				IAML		23 13 17.9	
	comp=N,44μm,0.1s						
PB02	**IPOC Station P**	**0.93**	**129**	⇓*i*P	**Pg**	**23 13 10.5**	**0.0**
PB02				*i* S	**Sg**	**23 13 22.1**	**-0.6**
PB02				IAML		23 13 25.9	
	comp=E,46μm,0.6s						
PB02	**IPOC Station P**	**0.93**	**129**	*i* P	**Pg**	**23 13 10.5**	**0.0**
PB02				*e*S	**Sn**	**23 13 25.1**	**+1.4**
PB02				IAML		23 13 27.3	
	comp=Z,21μm,0.4s						
PB01	**IPOC Station P**	**1.15**	**106**	⇓*i*P	**Pg**	**23 13 14.0**	**-0.6**
PB01				*i* S	**Sn**	**23 13 28.3**	**-0.8**
PB01				IAML		23 13 31.3	
	comp=N,11μm,0.7s						
PB01	**IPOC Station P**	**1.15**	**106**	Pn	**Pb**	**23 13 13.4**	**-0.4**
PB07	**IPOC Station P**	**1.23**	**144**	⇑*i*P	**Pn**	**23 13 15.3**	**+0.3**
PB07				*i* S	**Sg**	**23 13 31.7**	**-0.6**
PB07	**IPOC Station P**	**1.23**	**144**		**Pn**	**23 13 15.3**	**+0.3**
PB07	**IPOC Station P**	**1.23**	**144**	*i* P	**Pn**	**23 13 15.4**	**+0.3**
PB07				*e*S	**Sg**	**23 13 32.3**	**0.0**
PB07				IAML		23 13 37.9	
	comp=Z,8μm,0.6s						
PSGC	**Pisagua**	**1.24**	**24**	⇑*i*P	**Pn**	**23 13 15.0**	**-0.1**
PSGC				*i* S	**Sn**	**23 13 31.7**	**+0.2**
PSGC				IAML		23 13 33.7	
	comp=E,9μm,0.4s						
PSGCX	**Pisagua**	**1.24**	**24**		**Pn**	**23 13 14.6**	**-0.5**
PSGCX	**Pisagua**	**1.24**	**24**	*i* P	**Pg**	**23 13 15.2**	**+0.1**
PSGCX				*e*S	**Sg**	**23 13 33.1**	**+0.4**
PSGCX				IAML		23 13 38.5	
	comp=Z,6μm,0.7s						
PB11	**IPOC Station P**	**1.36**	**45**	⇑*i*P	**Pb**	**23 13 17.2**	**-0.3**
PB11				*i* S	**Sg**	**23 13 35.0**	**-1.3**
PB11				IAML		23 13 38.5	
	comp=N,25μm,0.7s						
PB11	**IPOC Station P**	**1.36**	**45**		**Pb**	**23 13 17.2**	**-0.3**
PB11	**IPOC Station P**	**1.36**	**45**	*i* P	**Pb**	**23 13 17.4**	**0.0**
PB11				*e*S	**Sg**	**23 13 36.2**	**-0.2**
PB11				IAML		23 13 39.0	
	comp=Z,11μm,0.9s						
PB08	**IPOC Station P**	**1.54**	**68**	⇓*i*P	**Pb**	**23 13 20.2**	**-0.5**
PB08				*i* S	**Sg**	**23 13 40.7**	**-1.4**
PB08				IAML		23 13 42.9	
	comp=N,6μm,0.3s						
PB08	**IPOC Station P**	**1.54**	**68**		**Pb**	**23 13 19.9**	**-0.8**
PB08	**IPOC Station P**	**1.54**	**68**	*i* P	**Pb**	**23 13 20.3**	**-0.4**
PB08				IAML		23 13 46.1	
	comp=Z,5μm,0.5s						
PB03	**IPOC Station P**	**1.56**	**147**	⇑*i*P	**Pn**	**23 13 20.0**	**+0.4**
PB03	**IPOC Station P**	**1.56**	**147**	*i* P	**Pn**	**23 13 19.9**	**+0.4**
PB03				*e*S	**Sb**	**23 13 40.3**	**-0.2**
PB03				IAML		23 13 52.8	
	comp=Z,5μm,0.9s						
PB04	**IPOC Station P**	**1.66**	**163**	⇑*i*P	**Pn**	**23 13 21.0**	**0.0**
PB04	**IPOC Station P**	**1.66**	**163**		**Pn**	**23 13 20.9**	**0.0**
PB04	**IPOC Station P**	**1.66**	**163**	*i* P	**Pn**	**23 13 20.9**	**0.0**
PB04				IAML		23 13 53.7	
	comp=Z,9μm,0.8s						
PB09	**IPOC Station P**	**1.70**	**129**	⇑*i*P	**Pb**	**23 13 23.4**	**0.0**
PB09				*i* S	**Sb**	**23 13 44.9**	**+0.4**
PB09	**IPOC Station P**	**1.70**	**129**		**Pb**	**23 13 22.9**	**-0.5**
PB09	**IPOC Station P**	**1.70**	**129**	*i* P	**Pb**	**23 13 23.4**	**0.0**
PB09				IAML		23 13 54.3	
	comp=Z,6μm,0.7s						
GO01	**Chusmiza**	**1.74**	**53**	⇑*i*P	**Pb**	**23 13 23.3**	**-1.0**
GO01				*i* S	**Sb**	**23 13 45.8**	**-0.3**
GO01				IAML		23 13 48.4	
	comp=N,11μm,0.1s						
GO01	**Chusmiza**	**1.74**	**53**		**Pb**	**23 13 23.2**	**-1.0**
MNMC	**Minye Minye**	**1.89**	**32**	⇑*i*P	**Pn**	**23 13 24.8**	**+0.6**
MNMC	**Minye Minye**	**1.89**	**32**		**Pn**	**23 13 24.7**	**+0.6**
MNMCX	**Minye Minye**	**1.89**	**32**	*i* P	**Pn**	**23 13 24.9**	**+0.8**
MNMCX				IAML		23 13 55.1	
	comp=Z,11μm,0.5s						
PB12	**IPOC Station P**	**2.13**	**9**	⇑*i*P	**Pn**	**23 13 27.3**	**-0.1**
PB12				*e*S	**Sb**	**23 13 56.9**	**0.0**
PB12				IAML		23 14 01.3	
	comp=E,5μm,0.5s						
PB12	**IPOC Station P**	**2.13**	**9**		**Pn**	**23 13 27.8**	**+0.4**
PB12	**IPOC Station P**	**2.13**	**9**	*i* P	**Pn**	**23 13 28.0**	**+0.6**
PB12				IAML		23 14 02.8	
	comp=Z,6μm,0.8s						
PB05	**IPOC Station P**	**2.15**	**168**	*i* P	**Pn**	**23 13 27.1**	**-0.5**
PB05				IAML		23 14 09.4	
	comp=Z,3μm,0.8s						
PB06	**IPOC Station P**	**2.21**	**153**	⇑*e*P	**Pn**	**23 13 28.6**	**+0.1**
PB06				*e*S	**Sb**	**23 13 59.2**	**0.0**
PB06				IAML		23 14 07.3	
	comp=N,4μm,0.8s						
PB06	**IPOC Station P**	**2.21**	**153**		**Pn**	**23 13 28.3**	**-0.2**
PB06	**IPOC Station P**	**2.21**	**153**	*i* P	**Pn**	**23 13 28.6**	**+0.1**
PB06				IAML		23 14 10.7	
	comp=Z,4μm,1.1s						
LVC	**Limon Verde**	**2.48**	**139**	Pn	**Pn**	**23 13 34.6**	**+2.2**
	comp=Z,81nm,0.3s,baz=312,slow=10.0,SNR=522						
LVC				Sn	**Sb**	**23 14 06.9**	**-0.3**
	comp=Z,172nm,0.3s,baz=60,slow=20,SNR=17						
LVC	**Limon Verde**	**2.48**	**139**	⇑*e*P	**Pn**	**23 13 34.5**	**+2.2**
LVC				*e*S	**Sb**	**23 14 07.2**	**0.0**
LVC	**Limon Verde**	**2.48**	**139**	Pn	**Pn**	**23 13 34.1**	**+1.7**
LVC	**Limon Verde**	**2.48**	**139**	*e*P	**Pb**	**23 13 34.8**	**-2.0**
LVC				*e*S	**Sn**	**23 14 03.6**	**+1.1**
LVC	**Limon Verde**	**2.48**	**139**	*i* P	**Pn**	**23 13 34.7**	**+2.2**
LVC				IAML		23 14 17.3	
	comp=Z,1μm,1.2s						
PB16	**IPOC Station P**	**2.62**	**25**		**Pn**	**23 13 36.6**	**+2.1**
PB16	**IPOC Station P**	**2.62**	**25**	*i* P	**Pb**	**23 13 37.5**	**-1.9**
PB16				IAML		23 14 17.9	
	comp=Z,3μm,2.1s						
PB15	**IPOC Station P**	**2.70**	**156**	*e*P	**Pn**	**23 13 35.3**	**0.0**
PB15	**IPOC Station P**	**2.70**	**156**		**Pn**	**23 13 36.0**	**+0.7**
PB15	**IPOC Station P**	**2.70**	**156**	*i* P	**Pn**	**23 13 35.5**	**+0.2**
PB15				IAML		23 14 19.5	
	comp=Z,4μm,0.4s						
PB10	**IPOC Station P**	**2.77**	**178**	Pn	**Pn**	**23 13 34.7**	**-1.3**
PB10	**IPOC Station P**	**2.77**	**178**	*i* P	**Pn**	**23 13 35.0**	**-1.0**
PB10				IAML		23 14 34.6	
	comp=Z,639nm,0.9s						
PB14	**IPOC Station P**	**3.88**	**176**	Pn	**Pn**	**23 13 49.5**	**-2.1**
PB14	**IPOC Station P**	**3.88**	**176**	*i* P	**Pn**	**23 13 50.3**	**-1.3**
PB14				IAML		23 15 05.8	
	comp=Z,375nm,1.4s						
GO02	**Mina Guanaco**	**4.52**	**168**	Pn	**Pn**	**23 13 59.6**	**-0.8**
LPAZ	**La Paz**	**5.03**	**29**	Pn	**Pn**	**23 14 12.2**	**+4.4**
	comp=Z,5.7nm,0.3s,baz=205,slow=4.4,SNR=26						
LPAZ	**La Paz**	**5.03**	**29**		**Pn**	**23 14 11.8**	**+4.1**
LPAZ	**La Paz**	**5.03**	**29**	Pn	**Pn**	**23 14 09.0**	**+1.2**
LPAZ	**La Paz**	**5.03**	**29**	*e*P	**Pn**	**23 14 10.3**	**+2.6**
LPAZ	**La Paz**	**5.03**	**29**	*i* P	**Pn**	**23 14 12.2**	**+4.4**
AC01	**Pan de Azucar**	**5.39**	**179**	Pn	**Pn**	**23 14 09.9**	**-2.2**
AC02	**Maricunga**	**6.24**	**167**	Pn	**Pn**	**23 14 24.0**	**-0.2**
GO03	**Copiap**	**6.84**	**177**		**Pn**	**23 14 31.7**	**-0.3**
AC04	**Llanos de Chal**	**7.45**	**183**	Pn	**Pn**	**23 14 37.5**	**-2.8**
LCO	**Las Campanas**	**8.24**	**180**	Pn	**Pn**	**23 14 51.5**	**0.0**
CO03	**El Pedregal**	**10.06**	**180**		**Pn**	**23 15 19.5**	**+3.2**
SIV	**San Ignacio**	**10.26**	**64**	Pn	**Pn**	**23 15 18.3**	**-0.7**
	comp=Z,8.3nm,0.3s,baz=265,slow=9.9,SNR=190						
SIV				Sn	**Sn**	**23 17 13.3**	**-0.3**
	baz=2.7,slow=19,SNR=3.8						
SIV				LR	LR	23 19 53.0	
	comp=Z,526nm,19.1s,baz=260,slow=42						
NNA	**Nana**	**10.52**	**325**	LR	LR	23 19 31.6	
	comp=Z,207nm,18.4s,baz=152,slow=38						
ETMB	**Extrema**	**11.67**	**22**	*e*P	**Pn**	**23 15 37.6**	**-0.7**
PTLB	**Pontes e Lacer**	**12.16**	**66**	*e*P	**Pn**	**23 15 45.8**	**+0.9**
VILB	**Vilhena**	**12.65**	**54**	*e*P	**Pn**	**23 15 53.1**	**+1.4**
VILB				*e*S	**Sn**	**23 18 11.0**	**-1.4**
CZSB	**Cruzeiro do Su**	**13.08**	**351**	*e*P	**Pn**	**23 16 00.8**	**+3.2**
CPUP	**Villa Florida**	**13.44**	**117**	Pn	**Pn**	**23 16 01.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=292,slow=16,SNR=2.9						
CPUP				LR	LR	23 21 55.6	
	comp=Z,308nm,19.9s,baz=296,slow=41						
CPUP	**Villa Florida**	**13.44**	**117**	*e*P	**Pn**	**23 16 04.0**	**+1.6**
SAML	**Samuel**	**13.76**	**33**		**Pn**	**23 16 05.8**	**-1.1**
SAML	**Samuel**	**13.76**	**33**	*e*P	**Pn**	**23 16 05.8**	**-1.1**
AQDB	**Aquidauana**	**14.02**	**92**	*e*P	**Pn**	**23 16 12.5**	**+2.1**
H03N1	**Juan Fernandez**	**14.62**	**208**	T	T	23 31 30.8	
	baz=34,slow=72						
H03N2	**Juan Fernandez**	**14.63**	**208**	T	T	23 31 24.2	
	baz=34,slow=72						
H03N3	**Juan Fernandez**	**14.64**	**208**	T	T	23 31 23.3	
	baz=34,slow=72						
SALV	**Santo Antonio**	**15.01**	**74**	*e*P	**Pn**	**23 16 23.5**	**-0.4**
BI02	**San Fabin de**	**15.88**	**182**	Pn	**Pn**	**23 16 35.3**	**0.0**
TRCB	**Terra Rica**	**16.88**	**100**	*e*P	**P**	**23 16 50.5**	**+0.4**
CLDB	**Colider**	**17.33**	**58**	*e*P	**Pn**	**23 16 52.3**	**-1.5**
PTGB	**Pitanga**	**17.61**	**106**	*e*P	**Pn**	**23 16 56.6**	**-0.6**
PCMB	**Pacaembu**	**18.12**	**96**	*e*P	**Pn**	**23 17 02.8**	**-0.7**
ITAB	**Concordia**	**18.12**	**114**	*e*P	**Pn**	**23 17 03.5**	**0.0**
LC01	**Cunco**	**18.13**	**183**	Pn	**Pn**	**23 17 01.2**	**-2.3**
ARAG	**Araguaiana, MT**	**18.59**	**78**	*e*P	**P**	**23 17 08.1**	**-0.8**
ITRB	**Ituirama**	**19.09**	**90**	*e*P	**P**	**23 17 14.0**	**-0.4**
FRTB	**Fartura**	**19.73**	**101**	*e*P	**P**	**23 17 20.7**	**-0.7**
PLCA	**Paso Flores**	**19.94**	**180**	P	**P**	**23 17 24.8**	**+1.3**
	comp=Z,4.3nm,0.8s,baz=350,slow=11,SNR=6.5						
PLCA	**Paso Flores**	**19.94**	**180**	P	**P**	**23 17 22.1**	**-1.5**
PLCA				IAmb	IAmb	23 17 40.3	
	comp=Z,52nm,1.6s						
PLCA	**Paso Flores**	**19.94**	**180**	*e*P	**Pn**	**23 17 27.1**	**+1.8**
MACA	**Manacapuru-AM**	**19.99**	**30**	*e*P	**P**	**23 17 23.9**	**-0.3**
NPGB	**Novo Progresso**	**20.12**	**50**	*e*P	**P**	**23 17 24.9**	**-0.9**
BB19B	**Bebedouro**	**20.69**	**95**	*e*P	**P**	**23 17 30.8**	**-1.0**
IPMB	**Ipameri, GO**	**21.36**	**86**	*e*P	**P**	**23 17 39.5**	**+0.3**
LL01	**San Ignacio de**	**21.63**	**184**	P	**P**	**23 17 40.1**	**-1.6**
LL01				IAmb	IAmb	23 17 54.6	
	comp=Z,26nm,1.1s						
SPB	**Sao Paulo**	**21.70**	**102**	P	**P**	**23 17 41.4**	**-1.4**
SPB				IAmb	IAmb	23 18 10.1	
	comp=Z,13nm,1.0s						
SPB	**Sao Paulo**	**21.70**	**102**	*e*P	**P**	**23 17 43.6**	**+0.9**
BDFB	**Brasilia**	**22.10**	**80**	P	**P**	**23 17 46.8**	**-0.4**
	comp=Z,4.8nm,0.6s,baz=252,slow=13,SNR=7.2						
BDFB				LR	LR	23 27 50.0	
	comp=Z,814nm,18.1s,baz=284,slow=41						
BDFB	**Brasilia**	**22.10**	**80**	P	**P**	**23 17 46.9**	**-0.2**
BDFB				IAmb	IAmb	23 17 52.3	
	comp=Z,18nm,1.3s						
VAO	**Valinhos**	**22.11**	**100**	*e*P	**P**	**23 17 46.0**	**-1.2**
OTAV	**Otavalo**	**22.19**	**339**	*e*P	**P**	**23 17 53.9**	**+5.4**
OTAV	**Otavalo**	**22.19**	**339**	P	**P**	**23 17 47.5**	**-1.0**
OTAV	**Otavalo**	**22.19**	**339**	*e*P	**P**	**23 17 48.3**	**-0.1**
PTGA	**Pitinga**	**22.46**	**29**	P	**P**	**23 17 49.7**	**-1.2**
	comp=Z,25nm,0.9s,baz=207,slow=11,SNR=38						
PTGA				LR	LR	23 27 05.0	
	comp=Z,368nm,18.4s,baz=209,slow=38						
PTGA	**Pitinga**	**22.46**	**29**	P	**P**	**23 17 49.9**	**-1.0**
PTGA				IAmb	IAmb	23 17 52.6	
	comp=Z,24nm,0.8s						
FLOC	**Florencia**	**22.71**	**347**	*e*P	**P**	**23 17 56.1**	**+2.5**
FLOC	**Florencia**	**22.71**	**347**	P	**P**	**23 17 54.2**	**+0.7**
GCUF	**Volcan Galeras**	**22.78**	**343**	*e*P	**P**	**23 17 58.1**	**+3.3**
PEXB	**Peixe**	**23.08**	**72**	*e*P	**P**	**23 17 56.7**	**-0.8**
GARC	**Garzon, Huila**	**23.27**	**348**	*e*P	**P**	**23 18 01.0**	**+1.5**
PARB	**Paraibuna**	**23.35**	**101**	*e*P	**P**	**23 17 59.7**	**-0.5**
BBAC	**Balboa, Cauca**	**23.52**	**343**	*e*P	**P**	**23 18 04.4**	**+2.4**
PCON	**Cinco Dias**	**23.60**	**346**	*e*P	**P**	**23 18 03.5**	**+0.3**
POPC	**Popayan, Colom**	**23.87**	**345**	*e*P	**P**	**23 18 05.6**	**+0.2**
BSCB	**Bom Sucesso**	**24.19**	**95**	*e*P	**P**	**23 18 07.6**	**-0.7**
PRAC	**Prado**	**24.65**	**350**	*e*P	**P**	**23 18 14.1**	**+1.7**
MALB	**Monte Alegre**	**24.66**	**43**	*e*P	**P**	**23 18 11.9**	**-0.6**
PRPB	**Parauapebas**	**24.87**	**57**	*e*P	**P**	**23 18 14.2**	**-0.1**
MAN01	**Angra dos Reis**	**24.87**	**100**	*e*P	**P**	**23 18 14.3**	**-0.1**
ORTC	**Ortega, Tolima**	**24.90**	**349**	*e*P	**P**	**23 18 16.1**	**+1.5**
VOTC	**Votoco, Valle**	**25.19**	**347**	*e*P	**P**	**23 18 19.2**	**+0.8**
SMTB	**Santa Maria do**	**25.20**	**65**	*e*P	**P**	**23 18 16.7**	**-0.7**
VAS01	**Vassouras-RJ**	**25.36**	**98**	*e*P	**P**	**23 18 18.6**	**-0.3**
CHIC	**Chingaza**	**25.38**	**353**	*e*P	**P**	**23 18 17.5**	**-2.0**
TOLC	**Tolima**	**25.57**	**349**	*e*P	**P**	**23 18 23.3**	**+2.2**
MC01	**Montes Claros**	**25.61**	**86**	*e*P	**P**	**23 18 20.4**	**-0.8**
ROSC	**El Rosal**	**25.67**	**352**	P	**P**	**23 18 23.4**	**+1.4**
ROSC				IAmb	IAmb	23 19 00.3	
	comp=Z,10nm,0.8s						
JANB	**Januaria**	**25.69**	**82**	*e*P	**P**	**23 18 20.7**	**-1.2**
RREF	**El Recreo**	**25.89**	**349**	*e*P	**P**	**23 18 23.7**	**-0.5**
SDBA	**SAO DESIDERIO**	**26.02**	**76**	*e*P	**P**	**23 18 23.8**	**-1.1**
GUY2C	**Guyana, Caldas**	**26.20**	**349**	*e*P	**P**	**23 18 28.4**	**+1.5**
NORC	**Norcasia**	**26.46**	**351**	*e*P	**P**	**23 18 30.0**	**+1.2**
RUSC	**La Rusia**	**26.57**	**355**	*e*P	**P**	**23 18 31.2**	**+1.0**
RUSC	**La Rusia**	**26.57**	**355**	P	**P**	**23 18 31.0**	**+0.8**
MCPB	**Macapa, AP**	**27.22**	**44**	*e*P	**P**	**23 18 35.3**	**-0.4**
BARC	**Barichara**	**27.27**	**355**	*e*P	**P**	**23 18 34.7**	**-1.6**
PTBC	**PUERTO BERRIO,**	**27.36**	**352**	*e*P	**P**	**23 18 35.2**	**-1.6**
SJMB	**Sao Joao De Ma**	**27.81**	**91**	*e*P	**P**	**23 18 41.3**	**+0.3**
BSFB	**Barra de Sao F**	**28.11**	**91**	*e*P	**P**	**23 18 44.3**	**+0.7**
ZARC	**Zaragoza, Cauc**	**28.35**	**351**	*e*P	**P**	**23 18 45.2**	**-0.5**
SDV	**Santo Domingo**	**29.43**	**0**	P	**P**	**23 18 54.3**	**-1.3**
	comp=Z,1.8nm,0.3s,baz=296,slow=10,SNR=3.6						
SDV	**Santo Domingo**	**29.43**	**0**	*e*P	**P**	**23 18 57.0**	**+1.4**
SMLC	**San Martn de**	**29.54**	**353**	*e*P	**P**	**23 18 54.4**	**-1.9**
MOTC	**Monteria, Cord**	**29.74**	**350**	*e*P	**P**	**23 18 58.7**	**+0.6**
GDU01	**Guandu, BA**	**30.47**	**82**	*e*P	**P**	**23 19 03.4**	**-1.2**
SJCC	**San Jacinto, C**	**30.76**	**351**	*e*P	**P**	**23 19 06.9**	**-0.2**
MDP	**Montagnes des**	**31.18**	**37**	P	**P**	**23 19 08.4**	**-2.4**
	comp=Z,14nm,0.8s,baz=200,slow=7.7,SNR=7.5						
MDP				LR	LR	23 32 24.6	
	comp=Z,439nm,18.9s,baz=220,slow=38						
ROSB	**Rosrio**	**31.35**	**59**	*e*P	**P**	**23 19 11.4**	**-0.9**
MTP	**Monte Pirata**	**38.91**	**8**	P	**P**	**23 20 15.3**	**-2.1**
CBYP	**Canovanas**	**39.05**	**7**	P	**P**	**23 20 17.0**	**-1.6**
GCPR	**Guaynabo City**	**39.06**	**7**	P	**P**	**23 20 16.0**	**-2.6**
PMSA	**Palmer Station**	**44.24**	**176**	*e*P	**P**	**23 21 02.6**	**+2.1**
WLAR	**White Oak Lake**	**58.20**	**338**	P	**P**	**23 22 45.8**	**+0.2**
V48A	**Smith Brothers**	**58.21**	**345**	P	**P**	**23 22 45.4**	**-0.3**
V48A				IAmb	IAmb	23 22 46.9	
	comp=Z,15nm,1.4s						
TXAR	**Lajitas Array**	**59.08**	**326**	P	**P**	**23 22 51.8**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=156,slow=6.9,SNR=3.7						
MNTX	**Cornudas Mount**	**61.85**	**327**	P	**P**	**23 23 10.6**	**-0.2**
MNTX				IAmb	IAmb	23 23 22.5	
	comp=Z,6.4nm,1.4s						
S39A	**Bolivar**	**61.90**	**340**	IAmb	IAmb	23 23 11.3	
	comp=Z,5.6nm,0.8s						
BRYW	**Bryant College**	**62.34**	**359**	P	**P**	**23 23 14.1**	**+0.2**
MMNY	**Mt. Morris Dam**	**63.50**	**354**	P	**P**	**23 23 21.0**	**-0.5**
ACCN	**Adirondack Com**	**63.86**	**358**	P	**P**	**23 23 23.6**	**-0.3**
SDCO	**Great Sand Dun**	**66.77**	**330**	P	**P**	**23 23 43.9**	**+0.7**
SDCO				IAmb	IAmb	23 23 56.2	
	comp=Z,2.5nm,0.9s						
W18A	**Petrified Fore**	**66.78**	**326**	P	**P**	**23 23 43.8**	**+0.4**
W18A				IAmb	IAmb	23 23 58.0	
	comp=Z,4.3nm,1.0s						
QSPA	**South Pole Qui**	**69.45**	**180**	P	**P**	**23 24 00.6**	**+1.0**
QSPA				IAmb	IAmb	23 24 10.8	
	comp=Z,7.6nm,0.9s						
LIC	**Lamto**	**69.76**	**75**	*e*P	**P**	**23 24 01.1**	**-1.1**
	comp=Z,2.0nm,0.2s						
TIC	**Toumodi**	**69.94**	**74**	*e*P	**P**	**23 24 03.0**	**-0.3**
KIC	**Kosan Boka**	**70.08**	**75**	*e*P	**P**	**23 24 03.1**	**-1.1**
	comp=Z,15nm,0.9s						
DBIC	**Dimbokro**	**70.10**	**75**	P	**P**	**23 24 03.2**	**-1.1**
	comp=Z,11nm,1.0s,baz=215,slow=6.7,SNR=8.9						
DBIC	**Dimbokro**	**70.10**	**75**	P	**P**	**23 24 03.0**	**-1.3**
SRU	**San Rafael Swe**	**70.25**	**328**	P	**P**	**23 24 05.2**	**+0.3**
CCUT	**Cedar City**	**70.54**	**325**	P	**P**	**23 24 07.7**	**+1.0**
PDAR	**Pinedale Array**	**72.64**	**331**	P	**P**	**23 24 18.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=155,slow=6.8,SNR=3.9						
NVAR	**Mina Array Bea**	**73.89**	**323**	P	**P**	**23 24 26.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=163,slow=7.4,SNR=3.8						
KVN	**Kaiserville**	**74.20**	**323**	P	**P**	**23 24 28.4**	**-0.2**
HLID	**Hailey**	**75.53**	**329**	P	**P**	**23 24 38.0**	**+1.9**
SYO	**Syowa Base**	**77.79**	**160**	⇑*i*P	**P**	**23 24 48.2**	**-0.1**
SYO	**Syowa Base**	**77.79**	**160**	⇓*i*P	**P**	23 24 54.6	+6.3
TOA0	**Torodi Ar. Sit**	**78.65**	**71**	P	**P**	**23 24 53.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**78.65**	**71**	P	**P**	**23 24 53.4**	**-0.7**
	comp=Z,11nm,0.6s,baz=251,slow=5.4,SNR=196						
TORD	**Torodi Ar. Bea**	**78.65**	**71**	P	**P**	**23 24 53.4**	**-0.7**
TSUM	**Tsumeb**	**81.83**	**107**		**P**	**23 25 11.8**	**+0.4**
BOSA	**Boshof**	**85.25**	**119**	P	**P**	**23 25 29.1**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=291,slow=4.8,SNR=5.4						
BOSA	**Boshof**	**85.95**	**119**	IAmb	IAmb	23 25 30.1	
	comp=Z,23nm,1.4s						
TAM	**Tamanrasset**	**85.95**	**64**		**P**	**23 25 32.5**	**+0.1**
TAM				IAmb	IAmb	23 25 34.9	
	comp=Z,5.7nm,1.1s						
ESDC	**Sonseca Array**	**86.45**	**45**	P	**P**	**23 25 34.3**	**0.0**
	comp=Z,1.2nm,1.0s,baz=256,slow=5.2,SNR=5.9						
ESDC	**Sonseca Array**	**86.45**	**45**	P	**P**	**23 25 34.4**	**+0.1**
YKA	**Yellowknife Ar**	**89.93**	**341**	P	**P**	**23 25 50.7**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=128,slow=4.8,SNR=4.4						
H11S2	**WAKE ISLAND Hyl**	**26.15**	**278**	T	T	01 50 41.9	
	baz=103,slow=74						
H11S1	**WAKE ISLAND Hyl**	**26.16**	**278**	T	T	01 50 56.1	
	baz=103,slow=74						
H11S3	**WAKE ISLAND Hyl**	**26.17**	**278**	T	T	01 50 44.8	
	baz=103,slow=74						
H11N3	**WAKE ISLAND Hyl**	**26.22**	**280**	T	T	01 50 45.4	
	baz=102,slow=75						
H11N2	**WAKE ISLAND Hyl**	**26.23**	**280**	T	T	01 50 46.6	
	baz=102,slow=75

IKOM	**Komasi**	**1.55**	**358**	*e*Pg	**Pb**	**23 30 32.9**	**-0.8**	**MSFE**	**Esma-Masafi**	**10.44**	**132**	P	**Pn**	**23 32 34.3**	**-0.1**
IKOM				*e*		23 30 34.8		**MDH**	**Madha**	**10.57**	**131**	P	**Pn**	**23 32 36.4**	**+0.3**
AHWZ	**Ahwaz**	**1.58**	**144**	*e*Pg	**Pg**	**23 30 36.9**	**+1.1**	MDH				P	**Pn**	**23 32 36.4**	**+0.3**
AHWZ	**Ahwaz**	**1.58**	**144**	Pg	**Pg**	**23 30 36.8**	**+0.9**	MDH				S	**Sn**	**23 34 30.6**	**-3.6**
AHWZ				Sg	**Sg**	**23 31 00.7**	**+4.2**	MDH				S	**Sn**	**23 34 30.6**	**-3.6**
KCHF	**Cheshme Sefid,**	**1.70**	**345**	*e*Pg	**Pb**	**23 30 35.1**	**-1.3**	**UOSS**	**Minazif**	**10.77**	**133**	P	**Pn**	**23 32 39.0**	**+0.1**
KCHF				*e*		23 31 00.5		**UOSS**	**Minazif**	**10.77**	**133**	P	**Pn**	**23 32 39.3**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.70**	**345**		**Pb**	**23 30 35.1**	**-1.3**	UOSS				S	**Sn**	**23 34 35.1**	**-3.9**
KER	**Kermanshah**	**1.79**	**349**	P	**Pn**	**23 30 36.0**	**+0.3**	**UOSS**	**Minazif**	**10.77**	**133**	Pn	**Pn**	**23 32 38.6**	**-0.2**
KER	**Kermanshah**	**1.79**	**349**	*e*Pn	**Pn**	**23 30 36.2**	**+0.5**	**HATD**	**Hatta, Dubai**	**10.81**	**134**	P	**Pn**	**23 32 39.7**	**+0.3**
HSAM	**Samen**	**1.81**	**29**	*e*Pg	**Pb**	**23 30 37.8**	**-0.4**	**ASHO**	**Ashiyiah**	**10.87**	**135**	*i* P	**Pn**	**23 32 39.8**	**-0.4**
HSAM				*e*		23 31 06.1			SNR=12						
HSAM	**Samen**	**1.81**	**29**	Pg	**Pb**	**23 30 37.7**	**-0.4**	**ASHO**	**Ashiyiah**	**10.87**	**135**	P	**Pn**	**23 32 40.9**	**+0.6**
IBZA	**Bozab**	**1.86**	**8**	*e*Pg	**Pb**	**23 30 38.2**	**-0.8**		SNR=13						
IBZA				*e*		23 31 08.6		ASHO				S	**Sn**	**23 34 36.1**	**-5.5**
IGHG	**Ghaleghazi**	**1.89**	**334**	*e*Pn	**Pn**	**23 30 37.7**	**+0.5**	**IMYA**	**Miami**	**10.99**	**67**	*e*Pn	**Pn**	**23 32 45.1**	**+3.1**
IVIS	**Veis**	**1.99**	**343**	*e*Pn	**Pn**	**23 30 38.7**	**+0.3**	**EIL**	**Elat**	**11.20**	**258**	Pn	**Pn**	**23 32 43.7**	**-1.1**
IVIS				*e*		23 31 10.9			comp=N,0.2nm,0.3s,baz=51,slow=6.5,SNR=1.9						
NSR	**Nassriya**	**2.02**	**217**	*e*Pn	**Pn**	**23 30 40.0**	**+1.4**	EIL				Lg	Lg	23 35 58.4	
NSR				*e*Sn	**Sn**	**23 31 05.5**	**+2.1**		comp=N,0.4nm,0.3s,baz=328,slow=19,SNR=2.1						
IALM	**Almabolaq**	**2.29**	**13**	*e*Pn	**Pn**	**23 30 43.8**	**+1.2**	**SOHO**	**SOHO**	**11.57**	**135**	P	**Pn**	**23 32 49.5**	**-0.2**
IDHR	**Dehrash**	**2.29**	**335**	*e*Pn	**Pn**	**23 30 43.2**	**+0.6**	**KBZ**	**Khabaz**	**11.67**	**343**	Pn	**Pn**	**23 32 47.9**	**-3.3**
IDHR				*e*		23 31 22.3			comp=N,0.0nm,0.3s,baz=159,slow=5.4,SNR=1.8						
KHMZ	**Khomeyn**	**2.30**	**60**	*e*Pn	**Pn**	**23 30 43.8**	**+1.1**	KBZ				LR	LR	23 37 42.0	
KHMZ	**Khomeyn**	**2.30**	**60**	*e*Pn	**Pn**	**23 30 43.8**	**+1.1**		comp=N,113nm,20.4s,baz=160,slow=40						
ILIN	**Lien**	**2.34**	**348**	*e*Pn	**Pn**	**23 30 44.3**	**+1.0**	**KBZ**	**Khabaz**	**11.67**	**343**	*i* P	**Pn**	**23 32 48.3**	**-2.8**
ILIN				*e*		23 31 28.2		**KVAR**	**Kislovodsk Arr**	**11.94**	**343**	LR	LR	23 37 06.9	
SNGE	**Sanandaj**	**2.47**	**356**	*e*Pn	**Pn**	**23 30 44.3**	**-0.7**		comp=N,231nm,21.1s,baz=111,slow=36						
SNGE				*e*Sg	**Sb**	**23 31 21.2**	**+1.6**	**KIV**	**Kislovodsk**	**11.94**	**343**	*e*P	**Pn**	**23 32 58.2**	**+3.3**
SNGE				IAML		23 31 36.0		KIV				pmax	pmax		
	comp=N,793nm,0.6s								comp=Z,22nm,1.0s						
SNGE	**Sanandaj**	**2.47**	**356**	*e*Pn	**Pn**	**23 30 44.3**	**-0.7**	KIV				MLR	MLR		
SNGE	**Sanandaj**	**2.47**	**356**	Pn	**Pn**	**23 30 44.3**	**-0.7**		comp=Z,73nm,10.0s						
HAGD	**Aghdareh**	**2.56**	**31**	*e*Pn	**Pb**	**23 30 48.2**	**-2.7**	**KIV**	**Kislovodsk**	**11.94**	**343**	Pn	**Pn**	**23 32 55.0**	**+0.2**
HAGD				*e*		23 31 32.7		**HRA**	**Herat**	**12.38**	**78**	Pn	**Pn**	**23 33 01.8**	**+0.8**
JHBN	**Jahan bin**	**2.65**	**98**	*e*Pn	**Pb**	**23 30 50.8**	**-1.8**	**GOF**	**Gofitskoye**	**12.90**	**346**[1]	*e*P	**P**	**23 33 19.5**	**+0.9**
JHBN				*e*		23 31 44.2		**BSY**	**Bisya**	**13.02**	**137**	P	**Pn**	**23 33 10.6**	**+0.9**
HSRG	**Sareghieh**	**2.68**	**13**	*e*Pn	**Pn**	**23 30 50.0**	**+2.0**		SNR=9.7						
HSRG				*e*		23 31 33.9		BSY				S	**Sn**	**23 35 28.9**	**-5.3**
BHD	**Baghdad**	**2.75**	**284**	*e*Pn	**Pn**	**23 30 49.0**	**+0.3**	**BR131**	**Keskin Array S**	**13.29**	**306**	*i* P	**Pn**	**23 33 12.2**	**-1.1**
BHD				*e*Sn	**Sn**	**23 31 23.0**	**+1.4**	**BRTR**	**Keskin Array B**	**13.29**	**306**	Pn	**Pn**	**23 33 15.8**	**+2.5**
BHD				AML	AML	23 31 39.9			comp=Z,0.1nm,0.3s,baz=124,slow=12,SNR=3.7						
	comp=E,2µm,0.8s							**BRTR**	**Keskin Array B**	**13.29**	**306**	Pn	**Pn**	**23 33 14.2**	**+0.8**
IPIR	**Pirpir**	**2.81**	**88**	*e*Pn	**Pb**	**23 30 53.2**	**-2.1**	**SMDO**	**Samad**	**13.29**	**133**	P	**Pn**	**23 33 14.4**	**+0.9**
IPIR				*e*		23 31 42.7		SMDO				P	**Pn**	**23 33 14.4**	**+0.9**
ASAO	**Ashtian**	**2.81**	**46**	*e*Pn	**Pn**	**23 30 50.6**	**+0.8**	**WSAR**	**Wadi Sarin**	**13.52**	**131**	Pn	**Pn**	**23 33 16.0**	**-0.6**
ASAO				*e*Sg	**Sg**	**23 31 35.0**	**-0.8**		comp=Z,1.7nm,0.3s,baz=340,slow=8.4,SNR=19						
ASAO	**Ashtian**	**2.81**	**46**	*e*Pn	**Pn**	**23 30 50.6**	**+0.8**	WSAR				Sn	**Sn**	**23 35 40.2**	**-6.3**
ROKH	**ROKH**	**2.95**	**94**	*e*Pn	**Pn**	**23 30 54.3**	**+2.6**		comp=Z,0.9nm,0.3s,baz=180,slow=20,SNR=2.2						
ROKH				*e*		23 31 54.0		WSAR				LR	LR	23 39 16.4	
IRAZ	**Razeghan**	**3.40**	**35**	*e*Pn	**Pn**	**23 31 00.6**	**+2.8**		comp=Z,104nm,20.6s,baz=298,slow=41						
IKLH	**Kolahrood**	**3.44**	**77**	*e*Pn	**Pn**	**23 31 00.9**	**+2.4**	**WSAR**	**Wadi Sarin**	**13.52**	**131**	P	**Pn**	**23 33 16.2**	**-0.4**
IKLH				*e*		23 32 10.6			SNR=8.0						
QABG	**Abgarm-Qazvin**	**3.50**	**28**	*e*Pn	**Pn**	**23 31 00.6**	**+1.3**	WSAR				S	**Sn**	**23 35 39.5**	**-7.0**
IGAR	**Gharneh**	**3.79**	**92**	*e*Pn	**Pn**	**23 31 05.8**	**+2.6**	**WBK**	**Wadi Bani Khal**	**14.19**	**132**	P	**Pn**	**23 33 26.2**	**+0.5**
KLNJ	**Kolanjah**	**3.79**	**114**	*e*Pn	**Pn**	**23 31 06.0**	**+2.6**		SNR=5.8						
KLNJ				*e*		23 32 36.8		**MHTO**	**MHTO**	**14.84**	**139**	P	**Pn**	**23 33 33.6**	**-0.9**
IMHD	**Mahdasht**	**3.99**	**39**	*e*Pn	**Pn**	**23 31 08.4**	**+2.5**		SNR=5.9						
IZEF	**Zefreh**	**4.03**	**85**	*e*Pn	**Pn**	**23 31 09.5**	**+3.0**	MHTO				S	**Sn**	**23 36 10.4**	**-8.2**
QSDN	**Sirdan**	**4.09**	**19**	*e*Pn	**Pn**	**23 31 09.7**	**+2.3**	**ELL**	**Elmali**	**15.09**	**291**	P	**Pn**	**23 33 37.9**	**-0.1**
ZNJK	**Zanjan**	**4.14**	**13**	*e*Pn	**Pn**	**23 31 08.2**	**+0.2**	**ELL**	**Elmali**	**15.09**	**291**	Pn	**Pn**	**23 33 37.9**	**-0.1**
ZNJK	**Zanjan**	**4.14**	**13**	*e*Pn	**Pn**	**23 31 08.2**	**+0.2**	**MDUB**	**Mudurnu**	**15.29**	**305**	Pn	**Pn**	**23 33 40.4**	**-0.2**
IRAM	**Ramesheh**	**4.16**	**100**	*e*Pn	**Pn**	**23 31 10.7**	**+2.3**	MDUB				IAmb	IAmb	23 34 03.0	
IHSB	**Hasanabad**	**4.17**	**47**	*e*Pn	**Pn**	**23 31 09.9**	**+1.6**		comp=Z,41nm,0.9s						
IGZV	**Ghazvin**	**4.34**	**30**	*e*Pn	**Pn**	**23 31 12.6**	**+1.7**	**MANT**	**Manisa**	**16.53**	**296**	Pn	**Pn**	**23 33 54.0**	**-2.5**
CHTH	**Charan**	**4.41**	**41**	*e*Pn	**Pn**	**23 31 12.6**	**+0.8**	MANT				IAmb	IAmb	23 34 03.3	
CHTH	**Charan**	**4.41**	**41**	*e*Pn	**Pn**	**23 31 12.6**	**+0.8**		comp=Z,66nm,1.1s						
QALM	**Alamut, Qazvin**	**4.57**	**33**	*e*Pn	**Pn**	**23 31 15.4**	**+1.4**	**KBL**	**Kabul**	**18.00**	**78**	P	**P**	**23 34 18.2**	**+2.7**
KAZ1	**Kazerun**	**4.60**	**129**	*e*Pn	**Pn**	**23 31 16.4**	**+2.2**		SNR=9.0						
DAMV	**Damavand**	**4.73**	**49**	*e*Pn	**Pn**	**23 31 17.2**	**+1.1**	KBL				P	**P**	**23 34 18.2**	**+2.7**
DAMV	**Damavand**	**4.73**	**49**	*e*Pn	**Pn**	**23 31 17.2**	**+1.1**		SNR=9.0						
IDMV	**Damavand**	**4.73**	**50**	*e*Pn	**Pn**	**23 31 18.0**	**+1.7**	**KBL**	**Kabul**	**18.00**	**78**	P	**P**	**23 34 17.9**	**+2.4**
AHBU	**AHRAM**	**4.94**	**138**	*e*Pn	**Pn**	**23 31 18.0**	**-0.8**	KBL				pmax	pmax		
ANAR	**Anarak**	**5.22**	**82**	*e*Pn	**Pn**	**23 31 24.7**	**+1.9**		comp=Z,16nm,1.0s						
ISAD	**Sadrabad**	**5.23**	**96**	*e*Pn	**Pn**	**23 31 25.4**	**+2.2**	**IDI**	**Anoyia**	**18.99**	**284**	P	**P**	**23 34 26.3**	**+0.1**
IFIR	**Firoozkooh**	**5.25**	**54**	*e*Pn	**Pn**	**23 31 25.2**	**+1.8**		comp=Z,0.9nm,0.3s,baz=83,slow=4.0,SNR=7.1						
IPRN	**Peran**	**5.35**	**46**	*e*Pn	**Pn**	**23 31 27.4**	**+2.9**	**IDI**	**Anoyia**	**18.99**	**284**	IAmb	IAmb	23 34 42.5	
IALA	**Alasht**	**5.54**	**50**	*e*Pn	**Pn**	**23 31 29.6**	**+2.2**		comp=Z,50nm,1.3s						
CUKT	**Cukurca**	**5.64**	**326**	P	**Pn**	**23 31 28.1**	**-0.5**	**ABKAR**	**Akbulak array**	**19.02**	**26**		**P**	**23 34 25.9**	**-0.4**
CUKT	**Cukurca**	**5.64**	**326**	P	**Pn**	**23 31 28.1**	**-0.5**	**TIRR**	**Tirgusor**	**19.02**	**314**	⇑P	**P**	**23 34 25.8**	**-0.6**
ICHK	**Chekchek**	**5.80**	**92**	*e*Pn	**Pn**	**23 31 32.7**	**+1.8**	**TIRR**	**Tirgusor**	**19.02**	**314**	⇑P	**P**	**23 34 25.8**	**-0.6**
AHAR	**Ahar**	**5.87**	**356**	*e*Pn	**Pn**	**23 31 33.2**	**+1.5**	**VRH**	**Novokhopyorsk**	**19.05**	**349**	*e*P	**P**	**23 34 25.2**	**-1.4**
YZKH	**Yazd**	**5.94**	**90**	*e*Pn	**Pn**	**23 31 33.9**	**+1.2**	VRH				pmax	pmax		
YZKH				*e*Sg	**Sg**	**23 33 10.3**	**-5.8**		comp=Z,20nm,0.6s						
YZKH	**Yazd**	**5.94**	**90**	*e*Pn	**Pn**	**23 31 33.9**	**+1.2**	**TLCR**		**19.18**	**316**	⇓P	**P**	**23 34 26.2**	**-1.9**
IMEH	**Mehriz**	**6.11**	**100**	*e*Pn	**Pn**	**23 31 36.6**	**+1.4**	**TLCR**		**19.18**	**316**	⇓P	**P**	**23 34 26.2**	**-1.9**
SIRT	**Sirnak**	**6.43**	**321**	*e*P	**Pn**	**23 31 38.5**	**-0.8**	**TOPG**	**Topolog**	**19.27**	**315**	⇑P	**Pn**	**23 34 29.6**	**-0.5**
SIRT	**Sirnak**	**6.43**	**321**	*e*P	**Pn**	**23 31 38.5**	**-0.8**	**AKTO**	**Aktyubinsk**	**19.40**	**20**	P	**P**	**23 34 30.0**	**-0.5**
IGLO	**Ghaloghah**	**6.46**	**51**	*e*Pn	**Pn**	**23 31 42.0**	**+2.1**		comp=Z,1.0nm,0.3s,baz=206,slow=12,SNR=25						
AKDM	**Akdamar-Van**	**6.81**	**328**	*e*P	**Pn**	**23 31 44.2**	**-0.4**	AKTO				LR	LR	23 44 40.6	
AKDM	**Akdamar-Van**	**6.81**	**328**	*e*P	**Pn**	**23 31 45.4**	**+0.8**		comp=Z,85nm,18.1s,baz=253,slow=46						
VANB	**Van**	**6.86**	**331**	*e*P	**Pn**	**23 31 41.6**	**-3.7**	**HARR**	**Harsova**	**19.44**	**314**	⇓P	**P**	**23 34 31.3**	**+0.3**
VANB	**Van**	**6.86**	**331**	*e*P	**Pn**	**23 31 48.2**	**+2.9**	**HARR**	**Harsova**	**19.44**	**314**	⇓P	**P**	**23 34 31.3**	**+0.3**
IBAF	**Bafgh**	**6.87**	**97**	*e*Pn	**Pn**	**23 31 47.3**	**+1.8**	**GAR**	**Garm**	**19.50**	**65**		**Pn**	**23 34 33.7**	**+0.7**
CLDR	**Caldiran**	**7.14**	**337**	*e*P	**Pn**	**23 31 49.6**	**+0.3**	GAR				IAmb	IAmb	23 34 38.1	
MAZI	**Mazidag**	**7.57**	**312**	*e*P	**Pn**	**23 31 52.8**	**-2.2**		comp=Z,25nm,1.3s						
MAZI	**Mazidag**	**7.57**	**312**	*e*P	**Pn**	**23 31 53.9**	**-1.1**	**VSR**	**Storozhevoye**	**19.57**	**344**	*e*P	**P**	**23 34 30.8**	**-1.6**
SVAN	**Silvan-Diyarba**	**7.58**	**318**	*e*P	**Pn**	**23 31 54.6**	**-0.5**	VSR				pmax	pmax		
SVAN	**Silvan-Diyarba**	**7.58**	**318**	*e*P	**Pn**	**23 31 54.6**	**-0.5**		comp=Z,10.0nm,0.5s						
MLAZ	**Malazgirt-MUS**	**7.67**	**329**	*e*P	**Pn**	**23 31 59.2**	**+2.8**	**CFR**	**Carcaliu**	**19.58**	**315**	⇓P	**P**	**23 34 31.5**	**-0.9**
TPRV	**Parvadeh(Tabas**	**7.69**	**85**	*e*Pn	**Pn**	**23 31 59.3**	**+2.6**	**CFR**	**Carcaliu**	**19.58**	**315**	⇓P	**P**	**23 34 31.5**	**-0.9**
TNSJ	**Nastanj**	**7.69**	**78**	*e*Pn	**Pn**	**23 31 58.2**	**+1.5**	**BTK**	**Batken**	**20.11**	**62**	P	Pn	23 34 40.5	+0.2
LAR1	**LAR**	**7.69**	**128**	*e*Pn	**Pn**	**23 31 59.5**	**+2.8**	BTK				pmax	pmax		
AGRB	**Hanur-Agry**	**7.86**	**333**	*e*P	**Pb**	**23 32 24.8**	**+3.6**		comp=Z,32nm,1.4s						
AGRB	**Hanur-Agry**	**7.86**	**333**	*e*P	Pn	23 32 04.7	+5.6	**BTK**	**Batken**	**20.11**	**62**	IAmb	IAmb	23 34 45.6	
TKDS	**Koohdasht(Taba**	**8.08**	**80**	*e*Pn	**Pn**	**23 32 03.7**	**+1.6**		comp=Z,32nm,1.4s						
NGRK	**Negar Kerman**	**8.40**	**108**	*e*Pn	**Pn**	**23 32 08.6**	**+1.9**	**MILM**	**Milestii Mici**	**20.21**	**320**	⇑P	**P**	**23 34 37.8**	**-1.5**
BNGB	**Bingl**	**8.46**	**321**	*e*P	**Pn**	**23 32 07.4**	**+0.1**	**ISR**	**Istrita**	**20.51**	**314**	⇑P	Pn	23 34 44.5	-0.3
BNGB	**Bingl**	**8.46**	**321**	*e*P	**Pn**	**23 32 06.6**	**-0.7**	**ISR**	**Istrita**	**20.51**	**314**	⇑P	Pn	23 34 44.5	-0.4
AKT	**Akhty**	**8.84**	**1**	*e*P	**Pn**	**23 32 15.0**	**+2.5**	**VASR**	**Vaslui**	**20.61**	**319**	⇓P	Pn	23 34 48.1	+2.2
AKT				*e*S	**Sn**	**23 33 55.5**	**+3.8**	**VRI**	**Vrincioaia**	**20.78**	**316**	⇑P	**P**	**23 34 45.4**	**-0.2**
AKT				pmax	pmax			**VRI**	**Vrincioaia**	**20.78**	**316**	⇑P	**P**	**23 34 45.4**	**-0.2**
	comp=Z,12nm,0.6s							**NEHR**	**Nehoiu**	**20.81**	**314**	⇓P	**P**	**23 34 47.0**	**+1.1**
AKT				smax	smax			**PLOR**	**Plostina**	**20.82**	**315**	⇓P	**P**	**23 34 46.9**	**+0.9**
	comp=E,3.0nm,0.8s							**PLOR**	**Plostina**	**20.82**	**315**	⇓P	**P**	**23 34 46.9**	**+0.9**
AKT				smax	smax			**KK31**	**Karatay Array**	**20.86**	**53**	P	**P**	**23 34 46.7**	**+0.2**
	comp=N,3.0nm,0.4s							KK31				pmax	pmax		
ASF	**Jabal al Asfar**	**9.03**	**270**	Pn	**Pn**	**23 32 14.7**	**-0.4**		comp=Z,7.0nm,0.8s						
	comp=N,1.0nm,0.3s,baz=54,slow=9.2,SNR=14							**KK31**	**Karatay Array**	**20.86**	**53**		**P**	**23 34 46.7**	**+0.2**
ASF				Sn	**Sn**	**23 33 51.3**	**-5.2**	KK31				IAmb	IAmb	23 34 51.3	
	comp=N,0.7nm,0.3s,baz=126,slow=19,SNR=2.0								comp=Z,7.4nm,0.8s						
ASF				Lg	Lg	23 34 48.3		**KKAR**	**Karatay Array**	**20.86**	**53**	P	**P**	**23 34 46.7**	**+0.2**
	comp=N,0.9nm,0.3s,baz=252,slow=19,SNR=1.8							KKAR				pmax	pmax		
GENO	**Geno**	**9.10**	**123**	*e*Pn	**Pn**	**23 32 18.5**	**+2.4**		comp=Z,7.0nm,0.8s						
PTK	**Pertek**	**9.12**	**316**	*e*P	**Pn**	**23 32 14.2**	**-2.2**	**KKAR**	**Karatay Array**	**20.86**	**53**	P	**P**	**23 34 46.7**	**+0.2**
PTK	**Pertek**	**9.12**	**316**	*e*P	**Pn**	**23 32 14.2**	**-2.2**	KKAR				IAmb	IAmb	23 34 51.3	
SLWR	**Sila**	**9.27**	**156**	*e*Pn	**Pn**	**23 32 21.1**	**+2.9**		comp=Z,7.4nm,0.8s						
MALT	**Malatya**	**9.36**	**310**	P	**Pn**	**23 32 22.9**	**+3.3**	**SRS**	**Serrai**	**20.92**	**301**	P	**P**	**23 34 48.0**	**+0.9**
TBLG	**Delisi**	**9.36**	**347**	P	**Pn**	**23 32 21.9**	**+2.4**	SRS				pmax	pmax		
TBLG	**Delisi**	**9.36**	**347**	Pn	**Pn**	**23 32 21.9**	**+2.4**		comp=Z,5.0nm,1.0s						
ITEG	**Tejag**	**9.42**	**85**	*e*Pn	**Pn**	**23 32 22.7**	**+2.1**	**LPSR**	**Galich'ya Gora**	**20.92**	**345**	*e*P	**P**	**23 34 45.6**	**-1.4**
GAZ	**Gaziantep**	**9.63**	**301**	Pn	**Pn**	**23 32 23.1**	**-0.3**	LPSR				pmax	pmax		
ISFR	**Sfrayin**	**9.65**	**60**	*e*Pn	**Pn**	**23 32 26.2**	**+2.5**		comp=Z,170nm,1.2s						
AFRZ	**Afriz**	**9.65**	**82**	*e*Pn	**Pn**	**23 32 25.4**	**+1.8**	**SOH**	**Sokhos**	**21.01**	**300**	P	**P**	**23 34 45.6**	**-2.5**
IKOO	**Kooshah**	**9.66**	**88**	*e*Pn	**Pn**	**23 32 26.2**	**+2.3**	SOH				pmax	pmax		
GHWR	**Ruwais**	**9.81**	**150**	*e*Pn	**Pn**	**23 32 28.5**	**+2.7**		comp=Z,4.0nm,1.4s						
IKRD	**Kardeh**	**9.92**	**62**	*e*Pn	Pn	23 32 41.2	+14	**MLR**	**Muntele Rosu**	**21.06**	**314**	P	**P**	**23 34 49.3**	**+0.6**
SHME	**Shamm**	**9.95**	**129**	P	**Pn**	**23 32 27.9**	**+0.3**		comp=Z,3.8nm,0.7s,baz=42,slow=7.4,SNR=5.7						
SHME				S	**Sn**	**23 34 17.6**	**-1.3**	**MLR**	**Muntele Rosu**	**21.06**	**314**	⇑P	**P**	**23 34 54.9**	**+6.2**
IAKL	**Akhelmad**	**10.04**	**64**	*e*Pn	**Pn**	**23 32 31.2**	**+2.1**	**MLR**	**Muntele Rosu**	**21.06**	**314**	⇑P	**P**	**23 34 54.9**	**+6.2**
GEYT	**Alibeck**	**10.12**	**56**	Pn	**Pn**	**23 32 28.2**	**-1.7**	**MLR**	**Muntele Rosu**	**21.06**	**314**	P	**P**	**23 34 48.7**	**0.0**
	comp=N,0.2nm,0.3s,baz=245,slow=17,SNR=1.5							MLR				IAmb	IAmb	23 34 55.8	
GEYT				Lg	Lg	23 35 18.0			comp=Z,22nm,0.9s						
	comp=N,0.2nm,0.3s,baz=239,slow=20,SNR=1.3							**TESR**	**Tescani**	**21.18**	**317**	⇓P	**P**	**23 34 49.7**	**-0.2**
GEYT	**Alibeck**	**10.12**	**56**		**Pn**	**23 32 28.7**	**-1.3**	**HUMR**	**Humele**	**21.21**	**311**	⇓P	**P**	**23 34 50.9**	**+0.8**
GYA0B	**ALIBECK ARRAY**	**10.12**	**56**	Pn	**Pn**	**23 32 28.9**	**-1.0**	**SORM**	**Soroca**	**21.22**	**322**	⇓P	**P**	**23 34 48.3**	**-1.9**
BANOM	**Banah**	**10.13**	**129**	*i* P	**Pn**	**23 32 30.5**	**+0.3**	**SORM**	**Soroca**	**21.22**	**322**	⇓P	**P**	**23 34 48.3**	**-1.9**
	SNR=12							**THE**	**Thessaloniki**	**21.25**	**299**	P	**P**	**23 34 51.1**	**+0.5**
BANOM	**Banah**	**10.13**	**129**	P	**Pn**	**23 32 31.0**	**+0.8**	THE				pmax	pmax		
	SNR=22								comp=Z,8.0nm,1.0s						
BANOM				S	**Sn**	**23 34 18.6**	**-5.0**	**VLAD**	**Vladila**	**21.35**	**309**	⇓P	**P**	**23 34 52.7**	**+1.0**
IPAY	**Payeh**	**10.17**	**65**	*e*Pn	**Pn**	**23 32 34.1**	**+3.2**	**AGG**	**Agios Georgios**	**21.40**	**294**	P	**P**	**23 34 51.0**	**-1.3**
MMAI	**Mount Meron Ar**	**10.24**	**275**	Pn	**Pn**	**23 32 31.2**	**-0.5**	AGG				pmax	pmax		
	comp=N,0.3nm,0.3s,baz=88,slow=16,SNR=1.9								comp=Z,1.8nm,1.3s						
MMAI				Lg	Lg	23 35 25.9		**AGG**	**Agios Georgios**	**21.40**	**294**	P	**P**	**23 34 51.0**	**-1.3**
	comp=N,1.1nm,0.3s,baz=51,slow=21,SNR=2.0							AGG				IAmb	IAmb	23 34 57.5	
NAZ	**Nazwa, Dubai**	**10.40**	**135**	*i* P	**Pn**	**23 32 34.2**	**+0.4**		comp=Z,18nm,1.3s						
	SNR=11							**ATD**	**Arta Tunnel**	**21.44**	**193**	P	**P**	**23 34 56.5**	**+3.6**
NAZ	**Nazwa, Dubai**	**10.40**	**135**	P	**Pn**	**23 32 36.1**	**+2.2**		comp=Z,3.1nm,0.4s,baz=252,slow=20,SNR=1.9						
	SNR=10							ATD				LR	LR	23 43 42.6	
NAZ				S	**Sn**	**23 34 26.1**	**-4.0**		comp=Z,102nm,18.8s,baz=24,slow=38						
								ATD	**Arta Tunnel**	**21.44**	**193**	IAmb	IAmb	23 35 26.8	
									comp=Z,13nm,1.1s						

OZUR		**21.46**	**315**	⇑P	**P**	**23 34 53.4**	**+0.5**
MTUR	**Matau**	**21.47**	**312**	⇓P	**P**	**23 34 54.2**	**+1.1**
MTUR	**Matau**	**21.47**	**312**	⇓P	**P**	**23 34 54.2**	**+1.1**
ITM	**Ithomi**	**21.49**	**289**	P	**P**	**23 34 52.2**	**-1.0**
ITM				IAmb	IAmb	23 35 15.2	
	comp=Z,24nm,1.2s						
NIL	**Nilore**	**21.52**	**80**	P	**P**	**23 34 53.5**	**-0.2**
NIL				pmax	pmax		
	comp=Z,36nm,1.2s						
NIL	**Nilore**	**21.52**	**80**	P	**P**	**23 34 53.5**	**-0.2**
NIL				IAmb	IAmb	23 35 09.8	
	comp=Z,36nm,1.2s						
VOIR		**21.58**	**313**	⇑P	**P**	**23 34 55.2**	**+0.9**
VOIR		**21.58**	**313**	⇑P	**P**	**23 34 55.2**	**+0.9**
DOPR	**Dopca**	**21.64**	**314**	⇓P	**P**	**23 34 55.0**	**+0.2**
PRAR	**RASCA**	**21.89**	**318**	⇓P	**P**	**23 34 56.7**	**-0.8**
ARSB	**Arslanbob**	**22.03**	**60**	P	**P**	**23 35 00.0**	**+0.8**
ARSB				pmax	pmax		
	comp=Z,19nm,1.1s						
ARSB	**Arslanbob**	**22.03**	**60**	P	**P**	**23 35 00.0**	**+0.8**
ARSB				IAmb	IAmb	23 35 56.7	
	comp=Z,19nm,1.1s						
LOT	**Lotru**	**22.39**	**312**	⇓P	**P**	**23 35 02.8**	**-0.2**
AKASG	**Malin Array Be**	**22.56**	**329**	P	**P**	**23 35 02.8**	**-1.8**
	comp=Z,8.8nm,0.7s,baz=137,slow=9.2,SNR=20						
AKASG	**Malin Array Be**	**22.56**	**329**	P	**P**	**23 35 02.9**	**-1.8**
AKASG				IAmb	IAmb	23 35 06.6	
	comp=Z,5.3nm,1.1s						
AKBB	**Malin Array Si**	**22.56**	**329**	*i* P	**P**	**23 35 02.6**	**-2.0**
AKBB	**Malin Array Si**	**22.56**	**329**	P	**P**	**23 35 03.5**	**-1.1**
AKBB				IAmb	IAmb	23 35 06.2	
	comp=Z,15nm,0.6s						
BURAR	**Bucovina Array**	**22.61**	**318**	⇑P	**P**	**23 35 05.2**	**0.0**
BURAR	**Bucovina Array**	**22.61**	**318**	⇑P	**P**	**23 35 05.2**	**0.0**
BURAR	**Bucovina Array**	**22.61**	**318**	P	**P**	**23 35 04.2**	**-1.0**
BUR08	**Bucovina Ar. S**	**22.63**	**318**	P	**P**	**23 35 04.9**	**-0.6**
BUR08				IAmb	IAmb	23 35 08.1	
	comp=Z,7.6nm,0.8s						
ARCR	**ARCALIA**	**22.82**	**316**	⇓P	**P**	**23 35 08.6**	**+1.2**
IGT	**Igoumenitsa**	**23.01**	**295**	P	**P**	**23 35 10.4**	**+1.0**
IGT				pmax	pmax		
	comp=Z,14nm,0.9s						
HERR	**Herculane**	**23.01**	**309**	⇑P	**P**	**23 35 09.7**	**+0.3**
KSV	**Kosov**	**23.08**	**319**	P	**P**	**23 35 10.3**	**+0.2**
DEV	**Deva**	**23.12**	**312**	P	**P**	**23 35 09.7**	**-0.8**
DEV				pmax	pmax		
	comp=Z,

SOP	**Sopron**	**27.84**	**312**	P		**P**		**23 35 55.5**	**+1.7**		
SOP				pmax		pmax					
	comp=Z,15nm,1.3s										
MORC	**Moravsky Berou**	**28.09**	**316**	*e*P		**P**		**23 35 56.1**	**0.0**		
MORC	**Moravsky Berou**	**28.09**	**316**	P		**P**		**23 35 56.3**	**+0.2**		
MORC				pmax		pmax					
	comp=Z,3.0nm,0.6s										
MORC	**Moravsky Berou**	**28.09**	**316**	P		**P**		**23 35 56.3**	**+0.2**		
MORC				IAmb		IAmb		23 35 56.8			
	comp=Z,3.4nm,0.6s										
VRAC	**Vranov**	**28.45**	**315**	P		**P**		**23 35 59.3**	**+0.1**		
	comp=Z,2.6nm,0.7s,baz=122,slow=6.9,SNR=4.8										
VRAC	**Vranov**	**28.45**	**315**	*e*P		**P**		**23 35 59.6**	**+0.3**		
KRUC	**Moravsky**	**28.47**	**314**	*e*P		**P**		**23 35 59.4**	**0.0**		
KLMR	**Klimovskoe**	**28.73**	**352**	*e*P		**P**		**23 35 59.7**	**-1.9**		
KLMR				pmax		pmax					
	comp=Z,20nm,0.8s										
KLMR	**Klimovskoe**	**28.73**	**352**	*e*P		**P**		**23 35 59.7**	**-1.9**		
KLMR				AMP				23 36 01.2			
	comp=Z,20nm,0.8s										
KURBB	**Kurchatov Arra**	**29.01**	**43**	P		**P**		**23 36 04.4**	**+0.2**		
	comp=Z,3.9nm,0.7s,baz=247,slow=9.4,SNR=22										
KURBB				PcP		**PcP**		**23 39 12.4**	**+0.1**		
	comp=Z,0.5nm,0.5s,baz=251,slow=2.8,SNR=2.1										
KURK	**Kurchatov**	**29.10**	**42**	*ce*P		**P**		**23 36 05.0**	**0.0**		
KURK				pmax		pmax					
	comp=Z,13nm,1.7s										
KURK	**Kurchatov**	**29.10**	**42**	P		**P**		**23 36 05.0**	**0.0**		
KURK				IAmb		IAmb		23 36 07.1			
	comp=Z,7.0nm,0.9s										
KURK	**Kurchatov**	**29.10**	**42**			**PcP**		**23 39 12.4**	**-0.2**		
MOA	**Molln**	**29.35**	**311**	*e*P		**P**		**23 36 07.9**	**+0.6**		
	comp=Z,3.8nm,0.7s,SNR=6.6										
KBA	**Koelnbreinsper**	**29.70**	**309**	*e*P		**P**		**23 36 10.9**	**+0.3**		
	comp=Z,4.7nm,0.8s										
MK31	**Makanchi Array**	**29.96**	**52**	P		**P**		**23 36 14.1**	**+1.4**		
MK31				pmax		pmax					
	comp=Z,4.0nm,1.0s										
MK31	**Makanchi Array**	**29.96**	**52**	P		**P**		**23 36 14.1**	**+1.4**		
MK31				IAmb		IAmb		23 36 14.7			
	comp=Z,4.3nm,0.9s										
MKAR	**Makanchi Array**	**29.96**	**52**	P		**P**		**23 36 13.7**	**+1.0**		
	comp=Z,3.9nm,0.8s,baz=248,slow=9.3,SNR=17										
MKAR	**Makanchi Array**	**29.96**	**52**	P		**P**		**23 36 13.6**	**+0.9**		
GERES	**GERESS Array B**	**30.03**	**313**	P		**P**		**23 36 12.8**	**-0.6**		
	comp=Z,0.8nm,0.7s,baz=110,slow=7.6,SNR=5.2										
GERES				PcP		**PcP**		**23 39 16.2**	**+1.0**		
	comp=Z,0.5nm,0.6s,baz=144,slow=3.7,SNR=3.6										
CIMO	**Cimolais**	**30.10**	**307**	P		**P**		**23 36 14.5**	**+0.5**		
CIMO				IAmb		IAmb		23 36 16.9			
	comp=Z,7.0nm,1.1s										
ABTA	**Abfaltersbach**	**30.16**	**308**	*e*P		**P**		**23 36 14.8**	**+0.2**		
	comp=Z,4.2nm,0.9s										
KHC	**Kasperske Hory**	**30.21**	**313**	P		**P**		**23 36 17.1**	**+2.2**		
KHC				pmax		pmax					
	comp=Z,5.0nm,1.7s										
KHC	**Kasperske Hory**	**30.21**	**313**	P		**P**		**23 36 17.1**	**+2.2**		
KHC				IAmb		IAmb		23 36 19.3			
	comp=Z,5.0nm,1.7s										
CTI	**Castel Tesino**	**30.57**	**307**	P		**P**		**23 36 18.8**	**+0.6**		
CTI				pmax		pmax					
	comp=Z,6.0nm,0.7s										
CTI	**Castel Tesino**	**30.57**	**307**	P		**P**		**23 36 18.8**	**+0.6**		
CTI				IAmb		IAmb		23 36 19.2			
	comp=Z,6.4nm,0.7s										
PYUN	**Piuthan**	**30.81**	**89**	*e*P		**P**		**23 36 22.6**	**+1.9**		
	comp=Z,7.1nm,0.4s										
WTTA	**Wattenberg**	**30.88**	**309**	*e*P		**P**		**23 36 21.0**	**0.0**		
	comp=Z,9.4nm,1.0s,SNR=5.4										
WATA	**Walderalm**	**30.93**	**309**	*e*P		**P**		**23 36 21.1**	**-0.4**		
	comp=Z,5.7nm,0.7s										
SQTA	**Sankt Quirin**	**31.15**	**309**	*e*P		**P**		**23 36 22.8**	**-0.5**		
	comp=Z,7.3nm,0.6s,SNR=7.2										
MOTA	**Moosalm**	**31.25**	**309**	*e*P		**P**		**23 36 23.8**	**-0.4**		
	comp=Z,11nm,1.0s,SNR=13										
CLL	**Collm**	**31.36**	**317**	*i* P		**P**		**23 36 24.9**	**-0.1**		
	comp=Z,6.0nm,0.9s										
CLL	**Collm**	**31.36**	**317**	*i* P		**P**		**23 36 24.9**	**-0.1**		
CLL				pmax		pmax					
	comp=Z,6.0nm,0.9s										
CLL	**Collm**	**31.36**	**317**	P		**P**		**23 36 24.9**	**-0.1**		
CLL				IAmb		IAmb		23 36 25.9			
	comp=Z,4.5nm,0.9s										
DANN	**Dangsing**	**31.39**	**88**	*e*P		**P**		**23 36 27.8**	**+2.0**		
	comp=Z,23nm,0.6s										
FETA	**Feichten**	**31.41**	**308**	*e*P		**P**		**23 36 25.8**	**+0.1**		
	comp=Z,6.2nm,0.9s,SNR=7.0										
DAVOX	**Davos/Dischmat**	**31.93**	**307**	P		**P**		**23 36 29.9**	**-0.3**		
	comp=Z,2.1nm,0.5s,baz=104,slow=9.0,SNR=6.1										
FINES	**FINESS Array B**	**32.02**	**341**	P		**P**		**23 36 29.8**	**-0.9**		
	comp=Z,3.7nm,0.7s,baz=145,slow=8.2,SNR=14										
FINES				PcP		**PcP**		**23 39 20.1**	**+0.1**		
	comp=Z,2.8nm,1.0s,baz=171,slow=2.7,SNR=3.6										
FINES				LR		LR		23 50 52.8			
	comp=Z,49nm,20.2s,baz=30,slow=39										
FINES	**FINESS Array B**	**32.02**	**341**	*i* P		**P**		**23 36 30.0**	**-0.6**		
FINES				pmax		pmax					
	comp=Z,4.0nm,0.7s										
DAVA	**Damuels**	**32.04**	**308**	*e*P		**P**		**23 36 30.8**	**-0.4**		
	comp=Z,6.6nm,0.5s										
GKN	**Gorkha**	**32.23**	**88**	*e*P		**P**		**23 36 33.9**	**+0.8**		
	comp=Z,12nm,0.3s										
DMN	**Daman**	**32.74**	**89**	*e*P		**P**		**23 36 39.2**	**+1.5**		
	comp=Z,11nm,0.6s										
KKN	**Kakani**	**32.83**	**88**	*e*P		**P**		**23 36 39.2**	**+0.7**		
	comp=Z,20nm,0.5s										
PKI	**Pulchoki**	**33.01**	**89**	*e*P		**P**		**23 36 41.2**	**+1.1**		
	comp=Z,12nm,0.6s										
SENIN	**Lac Senin/Sane**	**33.59**	**306**	P		**P**		**23 36 44.9**	**0.0**		
SENIN				IAmb		IAmb		23 36 50.7			
	comp=Z,8.9nm,1.2s										
JIRN	**Jiri**	**33.64**	**88**	*e*P		**P**		**23 36 46.5**	**+0.8**		
	comp=Z,29nm,0.5s										
MBDF	**Montbardon**	**33.72**	**303**	*e*P		**P**		**23 36 45.4**	**-0.6**		
MBDF				pmax		pmax					
	comp=Z,6.0nm,0.6s										
BNI	**Bardonecchia**	**33.83**	**304**	P		**P**		**23 36 47.1**	**+0.2**		
BNI				pmax		pmax					
	comp=Z,19nm,0.8s										
BNI	**Bardonecchia**	**33.83**	**304**	P		**P**		**23 36 47.1**	**+0.2**		
BNI				IAmb		IAmb		23 36 48.1			
	comp=Z,19nm,0.8s										
LPG	**La Plagne**	**33.84**	**304**	*e*P		**P**		**23 36 47.1**	**0.0**		
LPG				pmax		pmax					
	comp=Z,12nm,0.7s										
LPL	**La Plagne**	**33.85**	**304**	*e*P		**P**		**23 36 46.4**	**-0.8**		
LPL				pmax		pmax					
	comp=Z,18nm,0.9s										
ZAA0	**Zalesovo Array**	**33.92**	**40**	P		**P**		**23 36 47.8**	**+0.4**		
ZAA0				IAmb		IAmb		23 36 49.2			
	comp=Z,3.9nm,0.7s										
ZALV	**Zalesovo Beam**	**33.92**	**40**	P		**P**		**23 36 47.3**	**-0.1**		
	comp=Z,3.5nm,0.6s,baz=255,slow=9.1,SNR=14										
ZALV				PcP		**PcP**		**23 39 24.6**	**-0.9**		
	comp=Z,0.7nm,0.3s,baz=209,slow=2.6,SNR=2.2										
ZALV	**Zalesovo Beam**	**33.92**	**40**	*i* P		**P**		**23 36 47.7**	**+0.3**		
ZALV				pmax		pmax					
	comp=Z,4.0nm,0.5s										
ZALV	**Zalesovo Beam**	**33.92**	**40**	P		**P**		**23 36 47.6**	**+0.3**		
ECH	**Echery**	**34.04**	**309**	P		**P**		**23 36 47.5**	**-1.0**		
ECH				pmax		pmax					
	comp=Z,31nm,2.0s										
ECH	**Echery**	**34.04**	**309**	P		**P**		**23 36 47.5**	**-1.0**		
ECH				IAmb		IAmb		23 36 48.1			
	comp=Z,31nm,2.0s										
DGZ	**Jazzator, Alta**	**34.04**	**48**	*i* P		**P**		**23 36 49.2**	**+0.5**		
DGZ				pmax		pmax					
	comp=Z,3.0nm,0.7s										
HINF	**Hinteralfeld**	**34.16**	**308**	*e*P		**P**		**23 36 48.3**	**-1.3**		
HINF				pmax		pmax					
	comp=Z,26nm,1.8s										
RAMN	**Ramite**	**34.21**	**89**	*e*P		**P**		**23 36 51.3**	**+0.8**		
	comp=Z,8.0nm,0.5s										
ORIF	**Oris-en-Rattie**	**34.38**	**303**	*e*P		**P**		**23 36 51.9**	**+0.3**		
ORIF				pmax		pmax					
	comp=Z,6.0nm,1.1s										
HAU	**Haudompre**	**34.53**	**309**	*e*P		**P**		**23 36 52.0**	**-0.7**		
HAU				pmax		pmax					
	comp=Z,6.0nm,1.0s										
KMBO	**Kilima Mbogo**	**34.96**	**198**	LR		LR		23 51 44.3			
	comp=Z,72nm,18.3s,baz=322,slow=37										
VIVF	**Saint-Julien-l**	**35.22**	**303**	*e*P		**P**		**23 36 58.5**	**-0.3**		
VIVF				pmax		pmax					
	comp=Z,7.0nm,1.1s										
HFS	**Hagfors**	**35.39**	**331**	P		**P**		**23 36 59.0**	**-1.0**		
	comp=Z,6.7nm,0.4s,baz=125,slow=9.3,SNR=24										

LOR	**Lormes**	**36.06**	**307**	*e*P		**P**		**23 37 04.6**	**-1.4**		
LOR				pmax		pmax					
	comp=Z,4.0nm,0.7s										
NORES	**NORESS Array B**	**36.61**	**331**	P		**P**		**23 37 13.7**	**+3.2**		
NORES				pmax		pmax					
	comp=Z,1.0nm,0.4s										
NB2	**NORSAR Subarra**	**36.91**	**331**	P		**P**		**23 37 11.9**	**-1.2**		
	comp=Z,0.9nm,0.6s,baz=122,slow=8.6										
NOA	**NORSAR Array B**	**36.91**	**331**	P		**P**		**23 37 11.8**	**-1.2**		
	comp=Z,1.3nm,0.7s,baz=125,slow=8.5,SNR=5.6										
LSA	**Lhasa**	**37.22**	**83**	P		**P**		**23 37 16.7**	**+0.1**		
LSA				pmax		pmax					
	comp=Z,12nm,1.2s										
LSA	**Lhasa**	**37.22**	**83**	P		**P**		**23 37 16.7**	**+0.1**		
LSA				IAmb		IAmb		23 37 22.4			
	comp=Z,12nm,1.2s										
RJF	**Les Rejaudoux**	**37.49**	**303**	*e*P		**P**		**23 37 17.4**	**-0.7**		
RJF				pmax		pmax					
	comp=Z,5.0nm,0.9s										
ARCES	**ARCESS Array B**	**38.98**	**348**	P		**P**		**23 37 29.5**	**-0.9**		
	comp=Z,3.9nm,0.7s,baz=162,slow=9.0,SNR=19										
ARCES				PcP		**PcP**		**23 39 40.5**	**+0.1**		
	comp=Z,2.3nm,0.7s,baz=145,slow=4.4,SNR=6.0										
FLN	**La Foliniere**	**39.14**	**309**	*e*P		**P**		**23 37 30.3**	**-1.6**		
FLN				pmax		pmax					
	comp=Z,37nm,1.8s										
SHL	**Shillong**	**39.14**	**89**	P		**P**		**23 37 32.1**	**-0.3**		
SHL				pmax		pmax					
	comp=Z,7.0nm,0.7s										
SHL	**Shillong**	**39.14**	**89**	P		**P**		**23 37 32.1**	**-0.3**		
SHL				IAmb		IAmb		23 37 40.5			
	comp=Z,6.9nm,0.7s										
GRR	**Gorron**	**39.35**	**308**	*e*P		**P**		**23 37 32.2**	**-1.5**		
GRR				pmax		pmax					
	comp=Z,24nm,1.1s										
SJPF	**Ste Jean**	**39.42**	**300**	*e*P		**P**		**23 37 34.4**	**0.0**		
SJPF				pmax		pmax					
	comp=Z,37nm,1.9s										
QUIF	**Quistinic**	**40.86**	**307**	*e*P		**P**		**23 37 44.5**	**-1.7**		
QUIF				pmax		pmax					
	comp=Z,25nm,1.2s										
ROSF	**Rostrenen**	**40.95**	**308**	*e*P		**P**		**23 37 45.9**	**-1.1**		
ROSF				pmax		pmax					
	comp=Z,11nm,0.8s										
ESDC	**Sonseca Array**	**41.72**	**295**	P		**P**		**23 37 53.5**	**0.0**		
	comp=Z,1.0nm,1.0s,baz=69,slow=8.7,SNR=6.6										
ESDC	**Sonseca Array**	**41.72**	**295**	IAmb		IAmb		23 38 26.9			
	comp=Z,8.9nm,1.5s										
EKA	**Eskdalemuir Ar**	**41.79**	**318**	P		**P**		**23 37 53.1**	**-0.7**		
	comp=Z,5.3nm,0.7s,baz=112,slow=7.9,SNR=13										
GTA	**Gaotai**	**42.31**	**66**	*e*P		**P**		**23 37 59.8**	**+1.4**		
GTA				pP		**sP**		**23 38 04.8**	**-1.0**		
GTA				sP		**pP**		**23 38 07.4**	**+3.7**		
NRIK	**Noril'sk**	**43.02**	**20**	LR		LR		00 00 02.4			
	comp=Z,55nm,18.2s,baz=198,slow=42										
ZAK	**Zakamensk**	**44.23**	**49**	*e*P		**P**		**23 38 15.2**	**+1.4**		
ZAK				pmax		pmax					
	comp=Z,3.0nm,1.2s										
TORD	**Torodi Ar. Bea**	**46.08**	**256**	P		**P**		**23 38 29.1**	**+0.4**		
	comp=Z,1.3nm,0.8s,baz=64,slow=6.3,SNR=15										
TORD				LR		LR		23 58 55.1			
	comp=Z,180nm,18.6s,baz=240,slow=38										
TORD	**Torodi Ar. Bea**	**46.08**	**256**	P		**P**		**23 38 29.1**	**+0.4**		
TORD				IAmb		IAmb		23 38 30.9			
	comp=Z,1.0nm,0.8s										
SONM	**Songino Array**	**46.31**	**53**	P		**P**		**23 38 30.2**	**-0.1**		
	comp=Z,0.9nm,0.6s,baz=285,slow=10,SNR=8.4										
SONM				PcP		**PcP**		**23 40 05.4**	**0.0**		
	comp=Z,0.5nm,0.5s,baz=292,slow=4.6,SNR=3.1										
SONM	**Songino Array**	**46.31**	**53**	P		**P**		**23 38 31.1**	**+0.8**		
SONM				IAmb		IAmb		23 38 35.1			
	comp=Z,5.1nm,1.5s										
ULN	**Ulaanbaatar**	**46.75**	**53**	P		**P**		**23 38 35.5**	**+1.7**		
	comp=Z,22nm,0.9s										
ULN	**Ulaanbaatar**	**46.75**	**53**	*ce*P		**P**		**23 38 34.7**	**+0.9**		
ULN				pmax		pmax					
	comp=Z,8.0nm,1.0s										
ULN	**Ulaanbaatar**	**46.75**	**53**	P		**P**		**23 38 34.4**	**+0.6**		
ULN				IAmb		IAmb		23 38 38.5			
	comp=Z,10nm,1.2s										
SPITS	**Spitsbergen Ar**	**47.63**	**352**	P		**P**		**23 38 39.6**	**-0.5**		
SPITS				pmax		pmax					
	comp=Z,1.0nm,0.2s										
CHTO	**Chiang Mai**	**47.86**	**94**	P		**P**		**23 38 41.5**	**-1.2**		
	comp=Z,5.0nm,1.9s										
CHTO	**Chiang Mai**	**47.86**	**94**	P		**P**		**23 38 43.7**	**+1.0**		
CHTO				pmax		pmax					
	comp=Z,4.0nm,1.0s										
CHTO	**Chiang Mai**	**47.86**	**94**	P		**P**		**23 38 43.7**	**+1.0**		
CHTO				IAmb		IAmb		23 38 46.5			
	comp=Z,4.1nm,0.9s										
CMMT	**Chiang Mai**	**47.87**	**94**	P		**P**		**23 38 43.1**	**+0.4**		
	comp=Z,4.6nm,1.8s										
CMAR	**Chiang Mai Arr**	**48.03**	**94**	P		**P**		**23 38 43.8**	**-0.1**		
	comp=Z,1.2nm,0.6s,baz=299,slow=8.1,SNR=9.0										
CMAR				PcP		**PcP**		**23 40 12.4**	**+0.6**		
	comp=Z,1.0nm,0.7s,baz=291,slow=5.4,SNR=4.3										
CMAR	**Chiang Mai Arr**	**48.03**	**94**	*i* P		**P**		**23 38 44.2**	**+0.3**		
CMAR				pmax		pmax					
	comp=Z,1.0nm,0.6s										
CMAR	**Chiang Mai Arr**	**48.03**	**94**	P		**P**		**23 38 44.1**	**+0.2**		
XAN	**Xi'an**	**50.59**	**71**	P		**P**		**23 39 03.2**	**-0.2**		
XAN				pmax		pmax					
	comp=Z,14nm,1.4s										
XAN	**Xi'an**	**50.59**	**71**	P		**P**		**23 39 03.2**	**-0.2**		
XAN				IAmb		IAmb		23 39 04.7			
	comp=Z,14nm,1.4s										
PBKT	**Sadao Pong**	**50.62**	**95**	P		**P**		**23 39 02.1**	**-1.6**		
PBKT	**Sadao Pong**	**50.62**	**95**	P		**P**		**23 39 03.7**	**0.0**		
PBKT				IAmb		IAmb		23 39 07.5			
	comp=Z,3.8nm,0.6s										
HHC	**Hu-ho-hao-te**	**50.93**	**61**	*e*P		**P**		**23 39 06.6**	**+0.6**		
HIA	**Hailar**	**54.93**	**50**	*i* P		**P**		**23 39 35.9**	**+0.7**		
HIA				pmax		pmax					
	comp=Z,5.0nm,0.9s										
HIA	**Hailar**	**54.93**	**50**	P		**P**		**23 39 35.0**	**-0.3**		
HIA				IAmb		IAmb		23 40 30.5			
	comp=Z,11nm,0.3s										
KULM	**Kulim**	**56.37**	**107**	P		**P**		**23 39 47.3**	**+1.3**		
KULM				IAmb		IAmb		23 39 48.8			
	comp=Z,9.1nm,1.0s										
KLR	**Kul'dur**	**62.53**	**47**	P		**P**		**23 40 27.8**	**-0.4**		
	comp=Z,1.4nm,0.6s,baz=296,slow=8.3,SNR=6.4										
KLR	**Kul'dur**	**62.53**	**47**	*ce*P		**P**		**23 40 27.2**	**-0.9**		
KLR				pmax		pmax					
	comp=Z,3.0nm,1.1s										
KSRS	**Korea Array**	**64.06**	**61**	P		**P**		**23 40 38.0**	**-0.4**		
	comp=Z,1.3nm,0.5s,baz=287,slow=6.5,SNR=4.4										
KSRS				LR		LR		00 11 28.3			
	comp=Z,25nm,21.9s,baz=155,slow=39										
USRK	**Ussuriysk Ar.**	**64.42**	**53**	P		**P**		**23 40 39.9**	**-0.8**		
	comp=Z,1.4nm,0.6s,baz=282,slow=7.2,SNR=3.4										
SCHQ	**Schefferville**	**76.35**	**327**	P		**P**		**23 41 53.0**	**-0.4**		
	comp=Z,4.5nm,1.1s,baz=35,slow=4.7,SNR=5.6										
SCHQ	**Schefferville**	**76.35**	**327**	IAmb		IAmb		23 43 32.8			
	comp=Z,60nm,1.9s										
BMAR	**Burnt Mountain**	**79.83**	**5**	P		**P**		**23 42 13.4**	**+0.8**		
IMAR	**Indian Mountai**	**80.34**	**9**	P		**P**		**23 42 15.3**	**+0.1**		
ILAR	**Eielson Array**	**82.27**	**6**	P		**P**		**23 42 24.8**	**-0.7**		
	comp=Z,0.3nm,0.6s,baz=324,slow=4.5,SNR=2.6										
D62A	**Allapoint, All**	**82.33**	**322**	P		**P**		**23 42 25.6**	**-0.6**		
D62A				IAmb		IAmb		23 42 27.6			
	comp=Z,7.5nm,0.6s										
YKA	**Yellowknife Ar**	**84.13**	**352**	P		**P**		**23 42 34.2**	**-0.9**		
	comp=Z,0.8nm,0.5s,baz=6,6,slow=5.5,SNR=4.5										
BCAR	**Beaver Creek A**	**84.34**	**4**	P		**P**		**23 42 36.8**	**+0.5**		

IDC ***19*** *23:35:17.9±4.6, 37.21N×71.53E, h92km±32km, mb3.4/3, mb1 3.4/9, mb1mx3.1/72, mbtmp3.7/9, Error ellipse: s-maj=58.9km s-min=22.2km az=142.0*
NNC ***19*** *23:35:25.1±4.2, 37.66N×71.50E, h152km±106km, mb3.0, mpv3.8, Error ellipse: s-maj=44.9km s-min=24.1km az=12.0*

ISC 19 23:35:19.3±0.8, 37°29N±0.06×71°39E±0.07, h109km, n23, σ2s12/30, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AML	**Almayashu**	**5.15**	**19**	P	**Pn**		**23 36 35.6**	**+1.2**
	SNR=23							
UCH	**Uchtor**	**5.48**	**25**	P	**Pn**		**23 36 40.1**	**+1.1**
	SNR=7.1							
KZA	**Kyzart**	**5.63**	**31**	P	**Pn**		**23 36 41.5**	**+0.6**
	SNR=8.0							
EKS2	**Erkin-Say**	**5.66**	**18**	P	**Pn**		**23 36 42.8**	**+1.7**
	SNR=7.8							
KK31	**Karatay Array**	**5.84**	**354**	⇑P	**Pn**		**23 36 45.2**	**+1.8**
	4.9nm,0.5s,baz=184,slow=14,SNR=158							
KK31				⇑S	**Sn**		**23 37 48.1**	**-1.0**
	4.9nm,0.3s,baz=186,slow=24,SNR=7.9							
AAK	**Ala-Archa**	**5.84**	**23**	P	**Pn**		**23 36 43.8**	**+0.3**
	3.8nm,0.3s,baz=175,slow=5.6,SNR=23							
AAK				S	**Sn**		**23 37 47.2**	**-2.1**
	2.1nm,0.3s,baz=332,slow=23,SNR=14							
AAK	**Ala-Archa**	**5.84**	**23**	P	**Pn**		**23 36 45.4**	**+1.8**
	SNR=14							
AAK	**Ala-Archa**	**5.84**	**23**	⇓P	**Pn**		**23 36 45.1**	**+1.5**
	8.2nm,0.5s							
AAK				⇓S	**Sn**		**23 37 47.9**	**-1.5**
	25nm,0.8s							
THN	**Thein Dam**	**6.01**	**143**	*ex*	**Pn**		**23 36 47.0**	**+1.3**
THN				*ex*	**Sn**		**23 37 48.5**	**-4.7**
CHMS	**Chumysh**	**6.25**	**23**	P	**Pn**		**23 36 50.1**	**+1.1**
	SNR=13							
USP	**Ospenovka**	**6.42**	**21**	P	**Pn**		**23 36 52.3**	**+1.0**
	SNR=6.9							
TKM2	**Tokmak 2**	**6.48**	**29**	P	**Pn**		**23 36 53.0**	**+0.8**
	SNR=11							
TKM2	**Tokmak 2**	**6.48**	**29**	⇑P	**Pn**		**23 36 52.8**	**+0.6**
	6.4nm,0.6s							
TKM2				⇑S	**Sn**		**23 38 02.8**	**-1.9**
	4.9nm,0.8s							
MDOK	**Medeo**	**7.28**	**35**	P	**Pn**		**23 37 04.9**	**+1.8**
	3.7nm,0.7s							
GEYT	**Alibeck**	**10.55**	**277**	P	**Pn**		**23 37 47.5**	**+0.2**
	1.1nm,0.3s,baz=112,slow=9.4,SNR=14							
GEYT				S	**Sn**		**23 39 40.9**	**-2.7**
	3.6nm,0.3s,baz=264,slow=31,SNR=16							
MKAR	**Makanchi Array**	**12.46**	**37**	P	**Pn**		**23 38 12.3**	**-0.4**
	0.1nm,0.3s,baz=224,slow=12,SNR=3.1							
KURBB	**Kurchatov Arra**	**14.27**	**19**	P	**Pn**		**23 38 37.9**	**+1.8**
	0.1nm,0.3s,baz=207,slow=10,SNR=4.7							
AB01	**Akbulak array**	**14.55**	**329**	⇑P	**Pn**		**23 38 40.3**	**+0.5**
	0.9nm,0.3s							
AKTO	**Aktyubinsk**	**16.26**	**328**	P	**P**		**23 39 04.0**	**+1.8**
	0.6nm,0.3s,baz=135,slow=10,SNR=5.8							
AKTO				S	**Sn**		**23 41 54.7**	**-6.6**
	0.1nm,0.3s,baz=217,slow=20,SNR=2.1							
ZALV	**Zalesovo Beam**	**19.06**	**25**	P	**P**		**23 39 33.6**	**+0.8**
	0.2nm,0.3s,baz=226,slow=12,SNR=2.2							
HFS	**Hagfors**	**42.64**	**321**	P	**P**		**23 43 06.6**	**+2.1**
	2.4nm,0.8s,baz=97,slow=12,SNR=2.0							
NOA	**NORSAR Array B**	**43.94**	**323**	P	**P**		**23 43 16.3**	**+1.3**
	0.2nm,0.4s,baz=111,slow=7.6,SNR=1.3							
TORD	**Torodi Ar. Bea**	**66.05**	**269**	P	**P**		**23 45 55.2**	**+0.5**
	0.2nm,0.5s,baz=46,slow=6.3,SNR=5.5							

IDC ***19*** *23:37:27.8±0.6, 0.63N×146.36E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.2/42, mbtmp4.2/16, ML3.2/1, MS3.5/13, Ms1 3

GTA				pmax	pmax			
	comp=Z,5.0nm,1.6s							
SHL	**Shillong**	**58.02**	**300**	P	**P**	**23 47 23.3**	**-0.1**	
ULN	**Ulaanbaatar**	**58.17**	**330**	P	**P**	**23 47 24.3**	**+0.3**	
ULN				IAmb	IAmb	23 47 33.3		
	comp=Z,8.1nm,1.2s							
SONM	**Songino Array**	**58.48**	**330**	P	**P**	**23 47 25.4**	**-0.7**	
	comp=Z,1.3nm,0.9s,baz=145,slow=7.4,SNR=7.2							
SONM	**Songino Array**	**58.48**	**330**	P	**P**	**23 47 25.9**	**-0.2**	
MA2	**Magadan**	**59.09**	**3**	LR	LR	00 10 14.7		
	comp=Z,38nm,21.1s,baz=164,slow=33							
WMQ	**Urumqi**	**67.49**	**318**	*e*P	**P**	**23 48 27.6**	**+1.6**	
CASY	**Casey**	**71.23**	**194**	P	**P**	**23 48 48.7**	**+0.2**	
MKAR	**Makanchi Array**	**72.11**	**320**	P	**P**	**23 48 53.7**	**-0.6**	
	comp=Z,1.0nm,0.8s,baz=98,slow=8.7,SNR=7.8							
MKAR	**Makanchi Array**	**72.11**	**320**	P	**P**	**23 48 54.1**	**-0.2**	
MAKZ	**Makanchi**	**72.32**	**320**	P	**P**	**23 48 54.5**	**-1.1**	
MAKZ				IAmb	IAmb	23 49 04.8		
	comp=Z,3.4nm,0.8s							
ZALV	**Zalesovo Beam**	**73.22**	**327**	P	**P**	**23 48 59.2**	**-1.4**	
	comp=Z,0.6nm,0.5s,baz=80,slow=2.8,SNR=2.2							
PRZ	**Przheval'sk**	**73.50**	**314**	P	**P**	**23 49 01.8**	**-1.1**	
TTA	**Tatalina**	**75.49**	**24**	P	**P**	**23 49 14.8**	**+1.0**	
TTA				IAmb	IAmb	23 49 22.8		
	comp=Z,6.4nm,1.2s							
NIL	**Nilore**	**75.63**	**305**	P	**P**	**23 49 15.7**	**+0.5**	
KURK	**Kurchatov**	**75.65**	**323**	P	**P**	**23 49 14.7**	**-0.2**	
IMAR	**Indian Mountai**	**77.81**	**21**	P	**P**	**23 49 26.3**	**-0.5**	
KNK	**Knik Glacier**	**78.03**	**27**	P	**P**	**23 49 27.9**	**-0.3**	
KNK				IAmb	IAmb	23 49 37.5		
	comp=Z,7.6nm,1.0s							
VNDA	**Vanda**	**78.33**	**177**	P	**P**	**23 49 29.9**	**+0.5**	
	comp=Z,3.0nm,0.8s,baz=323,slow=5.1,SNR=11							
MCK	**McKinley**	**78.71**	**24**	P	**P**	**23 49 30.9**	**-0.9**	
MCK				IAmb	IAmb	23 49 41.1		
	comp=Z,8.8nm,1.1s							
KLU	**Klutina**	**79.20**	**27**	P	**P**	**23 49 32.5**	**-2.1**	
KLU				IAmb	IAmb	23 49 45.5		
	comp=Z,6.0nm,0.9s							
KBL	**Kabul**	**79.21**	**305**	P	**P**	**23 49 33.6**	**-1.9**	
KK31	**Karatay Array**	**79.30**	**314**	P	**P**	**23 49 35.1**	**-0.5**	
KKAR	**Karatay Array**	**79.30**	**314**	P	**P**	**23 49 35.6**	**+0.1**	
WRH	**Wood River Hil**	**79.33**	**24**	IAmb	IAmb	23 49 49.9		
	comp=Z,6.7nm,1.3s							
CCB	**Clear Creek Bu**	**79.52**	**24**	IAmb	IAmb	23 49 44.4		
	comp=Z,7.1nm,1.4s							
COLD	**Coldfoot**	**79.63**	**21**	P	**P**	**23 49 35.8**	**-0.9**	
CHGR	**Chuyangaron**	**79.65**	**309**	P	**P**	**23 49 36.0**	**-1.6**	
IL31		**79.93**	**24**	P	**P**	**23 49 35.9**	**-2.5**	
ILAR	**Eielson Array**	**79.93**	**24**	P	**P**	**23 49 36.2**	**-2.2**	
	comp=Z,1.3nm,0.7s,baz=248,slow=5.5,SNR=12							
ILAR	**Eielson Array**	**79.93**	**24**	P	**P**	**23 49 36.5**	**-2.0**	
BALM	**Baldy**	**80.71**	**28**	IAmb	IAmb	23 49 51.8		
	comp=Z,5.3nm,0.7s							
DOT	**Dot Lake**	**80.72**	**25**	P	**P**	**23 49 42.8**	**0.0**	
DOT				IAmb	IAmb	23 50 05.8		
	comp=Z,7.2nm,1.2s							
BRVK	**Borovoye**	**81.23**	**324**	P	**P**	**23 49 45.8**	**+0.1**	
BRVK				IAmb	IAmb	23 49 48.6		
	comp=Z,12nm,1.7s							
BCAR	**Beaver Creek A**	**81.53**	**26**	P	**P**	**23 49 46.7**	**-0.4**	
BMAR	**Burnt Mountain**	**81.73**	**21**	P	**P**	**23 49 47.8**	**-0.2**	
INK	**Inuvik**	**86.00**	**22**	IAmb	IAmb	23 50 19.0		
	comp=Z,6.3nm,1.1s							
DLBC	**Dease Lake**	**86.36**	**32**	LR	LR	00 23 21.6		
	comp=Z,49nm,19.8s,baz=144,slow=32							
GEYT	**Alibeck**	**88.25**	**308**	P	**P**	**23 50 20.2**	**-1.2**	
	comp=Z,1.1nm,0.5s,baz=56,slow=5.4,SNR=2.6							
GEYT				LR	LR	00 33 11.1		
	comp=Z,34nm,19.4s,baz=45,slow=38							
GEYT	**Alibeck**	**88.25**	**308**	IAmb	IAmb	23 50 22.9		
	comp=Z,1.2nm,0.9s							
NVAR	**Mina Array Bea**	**94.03**	**52**	P	**P**	**23 50 47.0**	**-1.6**	
	comp=Z,0.7nm,0.7s,baz=263,slow=7.2,SNR=6.0							
NVAR	**Mina Array Bea**	**94.03**	**52**	P	**P**	**23 50 48.3**	**-0.3**	
MFID	**Camas Ranch**	**95.49**	**46**	P	**P**	**23 50 55.0**	**0.0**	
VNA1	**Neumayer--Stat**	**107.92**	**189**	Pdiff	**Pdif**	**23 51 49.5**	**-0.3**	
TORD	**Torodi Ar. Bea**	**142.35**	**292**	PKhKP	PKPpre	23 56 58.6		
	comp=Z,0.5nm,0.8s,baz=54,slow=2.2,SNR=3.5							
CPUP	**Villa Florida**	**145.67**	**140**	PKPbc	**PKPab**	**23 57 10.7**	**+1.1**	
	comp=Z,8.6nm,0.9s,baz=253,slow=5.5,SNR=12							
CPUP	**Villa Florida**	**145.67**	**140**		**PKPab**	**23 57 09.5**	**-0.1**	
KIC	**Kosan Boka**	**150.25**	**284**	*e*PKP1	**PKiKP**	**23 57 22.5**	**-0.3**	
	comp=Z,20nm,0.9s							
DBIC	**Dimbokro**	**150.30**	**284**	PKPbc	**PKiKP**	**23 57 22.7**	**-0.1**	
	comp=Z,6.8nm,0.6s,baz=77,slow=3.0,SNR=17							
DBIC	**Dimbokro**	**150.30**	**284**		**PKiKP**	**23 57 22.4**	**-0.4**	
TIC	**Toumodi**	**150.47**	**284**	*e*PKP1	**PKiKP**	**23 57 22.8**	**-0.4**	
LIC	**Lamto**	**150.56**	**283**	*e*PKP1	**PKiKP**	**23 57 23.2**	**-0.2**	
	comp=Z,65nm,1.1s							

HEL 19 23:42:50.8±0.0, 67.80N×20.29E, h0km, ML1.6, ML0.9(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.16**	**6**	*i* P	Pg	23 42 53.8	-0.1
KUA				*i* S	Sg	23 42 55.5	-0.4
RATU	**Laukkuluspa**	**0.27**	**276**	*i* P	Pg	23 42 55.7	-0.2
RATU				*i* S	Sg	23 42 58.9	-0.4
KOVU	**Salmi**	**0.43**	**353**	*i* P	Pg	23 42 58.6	-0.4
NIKU	**Nikkaluokta**	**0.48**	**279**	*i* P	Pg	23 42 59.6	-0.5
LANU	**Lannavaara**	**0.69**	**68**	*e*PB	Pg	23 43 04.3	+0.3
LANU				*e*S	Sg	23 43 13.7	+0.8
KIF	**Kilpisjarvi** baz=187	**1.23**	**9**	*e*PB	Pg	23 43 13.9	-0.4
KIF				MSG		23 43 28.9	
	comp=Z,5.5nm,0.2s						
KIF				*e*S	Sg	23 43 29.7	-0.5
KIF	**Kilpisjarvi**	**1.23**	**9**	*e*P	Pg	23 43 13.9	-0.4
ERTU	**Ertsjaerv** baz=329	**1.45**	**149**	*e*PN	Pb	23 43 18.8	+0.1
ERTU				*e*SN	Sn	23 43 39.2	+1.3
STEI	**Steigen**	**1.92**	**276**	*e*P	Pn	23 43 24.9	+0.2
TOF	**Tornio**	**2.34**	**136**	*e*PG	Pb	23 43 32.9	-0.9
TOF				MSG		23 44 01.3	
	comp=Z,2.6nm,0.2s						
TOF				*e*SG	Sb	23 44 04.2	+0.9
SGF	**Sodankyl** baz=282	**2.41**	**96**	*e*PG	Pb	23 43 34.1	-0.9
SGF				*e*SG	Sg	23 44 07.1	-1.1
ARE0	**ARCESS Array S** baz=226	**2.58**	**45**	*e*PB	Pn	23 43 35.3	+1.5
ARE0				*e*SB	Sb	23 44 08.4	-1.8
BURU	**Burvik**	**3.26**	**172**	*e*PB	Pb	23 43 46.6	-2.8

UPP 19 23:43:41.1±0.1, 67.81N×20.26E, h0km, ML1.7, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**11**	P	Pg	23 43 44.2	+0.3
KUA				S	Sg	23 43 46.0	+0.1
RATU	**Laukkuluspa**	**0.25**	**274**	P	Pg	23 43 46.1	+0.2
KOVU	**Salmi**	**0.42**	**355**	P	Pg	23 43 49.1	0.0
NIKU	**Nikkaluokta**	**0.47**	**278**	P	Pg	23 43 50.1	0.0
LANU	**Lannavaara**	**0.70**	**69**	P	Pg	23 43 54.2	-0.2
KIF	**Kilpisjarvi**	**1.22**	**9**	*e*P	Pb	23 44 05.1	+0.1
STEI	**Steigen**	**1.91**	**276**	*e*P	Pb	23 44 15.9	-0.7

*IDC **19** 23:50:17.0±1.1, 21.59N×104.12E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/54, mbtmp3.5/6, ML3.5/1, Error ellipse: s-maj=23.3km s-min=20.3km az=97.0*
*PLV **19** 23:50:18.8±6.2, 21.24N×103.85E, h10km±38km, ML4.1, Hypocentre not reviewed by the ISC*
*BJI **19** 23:50:20.0±0.0, 21.59N×104.01E, h7km, ML4.1/4*
ISC 19 23:50:19.3±0.8, 21.47N±0.04×103.96E±0.06, h10km, n22, σ3s03/33, mb3.6/5, 1C, Vietnam

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLVN	**Son La**	**0.15**	**199**	*i* Pg		23 50 22.6	
SLVN				*e*Sg		23 50 26.6	
SLVN				IAML		23 50 27.1	
	comp=E,51μm,0.2s						
SLVN				IAML		23 50 28.0	
	comp=N,26μm,0.2s						
DBV	**Dienbien**	**0.87**	**265**	*i* Pg		23 50 34.9	
DBV				*e*Sg		23 50 47.3	
MLAV	**Muong La stati**	**0.93**	**307**	*i* Pg		23 50 34.2	
MLAV				IAML		23 50 51.0	
	comp=E,2μm,0.4s						
MLAV				IAML		23 50 53.6	
	comp=N,2μm,0.9s						
HBVN	**Hoa-Binh**	**1.45**	**116**	*e*Pn		23 50 45.3	
HBVN				*e*Sg		23 51 05.3	
HBVN				IAML		23 51 06.9	
	comp=N,10μm,0.4s						
HBVN				IAML		23 51 07.9	
	comp=E,7μm,0.2s						
PLV	**Phu-Lien**	**2.58**	**104**	*e*Pn		23 51 01.8	
CRAI	**Chiangrai**	**3.57**	**250**	P	**Pn**	**23 51 14.2**	**-0.7**
CRAI				S	**Sb**	**23 52 11.7**	**+5.5**
KMI	**Kunming**	**3.80**	**343**	⇑Pn	**Pn**	**23 51 19.5**	**+1.3**
KMI				Pg	**Pb**	**23 51 29.0**	**+2.3**
KMI				Sn	**Sn**	**23 52 02.8**	**-0.3**
KMI				Sg	**Sb**	**23 52 16.5**	**+3.6**
KMI				smax	smax		
	comp=E,85nm,1.0s						
KMI				smax	smax		
	comp=E,110nm,1.1s						
PAYA	**Payao**	**4.37**	**242**	P	**Pn**	**23 51 26.0**	**+0.1**
PAYA				S	**Sb**	**23 52 34.8**	**+5.6**
SKNT	**Sakolnakorn**	**4.48**	**180**	P	**Pn**	**23 51 28.3**	**+1.0**
SKNT				S	**Sb**	**23 52 37.3**	**+5.1**
UTTA	**Uttaradit**	**4.91**	**221**	P	**Pn**	**23 51 34.3**	**+1.2**
UTTA				S	**Sb**	**23 52 51.5**	**+7.0**
CMMT	**Chiang Mai**	**5.40**	**242**	P	**Pn**	**23 51 40.3**	**+0.3**
CMMT				S	**Sg**	**23 53 09.6**	**-3.2**
PHIT	**Phitsanulok**	**5.42**	**219**	P	Pn	23 51 34.3	-5.9
PHIT				S	**Sg**	**23 53 09.0**	**-4.3**
CM09	**Chiang Mai Arr**	**5.56**	**238**	P	**Pn**	**23 51 42.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**5.59**	**238**	Pn	**Pn**	**23 51 43.3**	**+0.7**
	comp=E,0.4nm,0.3s,baz=47,slow=12,SNR=6.8						
CMAR				Pg	Pb	23 52 04.1	+7.0
	comp=E,2.0nm,0.3s,baz=54,slow=18,SNR=28						
CMAR				Lg	Lg	23 53 19.8	
	comp=E,1.1nm,0.3s,baz=60,slow=29,SNR=6.7						
CM04	**Chiang Mai Arr**	**5.59**	**238**	P	**Pn**	**23 51 43.5**	**+0.8**
CM01	**Chiang Mai Arr**	**5.60**	**238**	P	**Pn**	**23 51 43.5**	**+0.8**
CM02	**Chiang Mai Arr**	**5.60**	**238**	P	**Pn**	**23 51 41.3**	**-1.4**
PBKT	**Sadao Pong**	**5.64**	**211**	P	**Pn**	**23 51 44.8**	**+1.6**
PBKT				S	**Sb**	**23 53 09.3**	**+3.7**
CM13	**Chiang Mai Arr**	**5.64**	**238**	P	**Pn**	**23 51 45.3**	**+2.0**
CHAI	**Chaiyaphum**	**5.85**	**199**	P	**Pn**	**23 51 46.2**	**0.0**
CHAI				S	**Sb**	**23 53 10.0**	**-1.6**
MHMT	**Maesarieng**	**6.55**	**241**	P	**Pn**	**23 51 55.9**	**+0.1**
MHMT				S	**Sg**	**23 53 42.8**	**-7.0**
WMQ	**Urumqi**	**26.06**	**333**	*e*P	**P**	**23 55 53.4**	**+0.4**
SONM	**Songino Array**	**26.37**	**4**	P	**P**	**23 55 53.7**	**-2.2**
	comp=E,0.2nm,0.4s,baz=142,slow=7.3,SNR=1.8						
MKAR	**Makanchi Array**	**30.77**	**330**	P	**P**	**23 56 34.7**	**-0.3**
	comp=E,0.7nm,0.8s,baz=147,slow=8.0,SNR=6.1						
ZALV	**Zalesovo Beam**	**35.54**	**341**	P	**P**	**23 57 14.7**	**-1.7**
	comp=E,0.7nm,0.6s,baz=148,slow=9.5,SNR=3.5						
WRA	**Warramunga Arr**	**50.77**	**142**	P	**P**	**23 59 19.1**	**-0.8**
	comp=E,0.7nm,0.5s,baz=329,slow=7.9,SNR=12						
ASAR	**Alice Springs**	**53.51**	**145**	P	**P**	**23 59 39.5**	**-0.8**
	comp=E,0.2nm,0.5s,baz=326,slow=7.6,SNR=2.6						

*IDC **19** 23:51:48.7±0.9, 20.59S×70.63W, h0km, mb4.0/10, mb1 4.1/14, mb1mx4.0/41, mbtmp4.1/14, ML4.2/4, MS3.3/4, Ms1 3.3/4, ms1mx3.1/28, Error ellipse: s-maj=22.5km s-min=17.8km az=57.0*
*NEIC **19** 23:51:49.9±2.0, 20.72S±0.04×70.84W±0.07, h25km±4km, Error ellipse: s-maj=9.7km s-min=5.2km az=97.0*
*SJA **19** 23:51:50.6±1.0, 20.76S×70.83W, h43km±7km, ML4.2, MW4.5*
*GUC **19** 23:51:52.5±0.8, 20.73S×70.73W, h33km±2km, ML4.2*
*VAO **19** 23:51:55.3±0.5, 20.75S×70.72W, h66km, mb4.3*
ISC 19 23:51:50.0±1.1, 20.76S±0.02×70.79W±0.04, h20km±4km, n148, σ1s41/157, mb4.3/10, 13C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.61**	**72**	*i*↓P	**Pb**	**23 52 01.9**	**0.0**
TA01				*e*S	**Sb**	**23 52 09.1**	**-0.9**
TA01				IAML		23 52 12.8	
	comp=E,16μm,0.4s						
TA01	**Diego Aracena**	**0.61**	**72**	Pn	**Pb**	**23 52 01.9**	**0.0**
TA02	**Huaiquique**	**0.79**	**52**	*i*↓P	**Pg**	**23 52 05.2**	**-0.3**
TA02				*e*S	**Sg**	**23 52 14.7**	**-1.3**
PB02	**IPOC Station P**	**1.01**	**124**	*i*↓P	**Pg**	**23 52 09.3**	**-0.3**
PB02				*e*S	**Sg**	**23 52 22.0**	**-1.0**
PB02				IAML		23 52 24.3	
	comp=E,33μm,0.5s						
PB02	**IPOC Station P**	**1.01**	**124**	*i* P	**Pg**	**23 52 09.3**	**-0.3**
PB02				*e*S	**Sn**	**23 52 24.2**	**+1.4**
PB02				IAML		23 52 26.0	
	comp=Z,21μm,0.3s						
PB01	**IPOC Station P**	**1.25**	**103**	*i*↓P	**Pb**	**23 52 12.8**	**-0.2**
PB01				*e*S	**Sn**	**23 52 28.1**	**-0.8**
PB01				IAML		23 52 30.1	
	comp=N,16μm,0.3s						
PB01	**IPOC Station P**	**1.25**	**103**	Pn	**Pb**	**23 52 12.8**	**-0.2**
PB07	**IPOC Station P**	**1.28**	**139**	*i*↑P	**Pb**	**23 52 14.1**	**+0.6**
PB07				*i* S	**Sg**	**23 52 30.8**	**-0.8**
PB07				IAML		23 52 36.6	
	comp=E,6μm,0.6s						
PB07	**IPOC Station P**	**1.28**	**139**	Pn	**Pb**	**23 52 13.9**	**+0.4**
PB07	**IPOC Station P**	**1.28**	**139**	*i* P	**Pb**	**23 52 14.2**	**+0.6**
PB07				*e*S	**Sg**	**23 52 31.3**	**-0.3**
PB07				IAML		23 52 36.4	
	comp=Z,4μm,0.5s						
PSGC	**Pisagua**	**1.32**	**29**	⇑*i* P	**Pn**	**23 52 13.8**	**+0.4**
PSGC				*e*S	**Sb**	**23 52 30.4**	**-0.2**
PSGC				IAML		23 52 33.2	
	comp=N,7μm,0.3s						
PSGCX	**Pisagua**	**1.32**	**29**	Pn	**Pn**	**23 52 13.7**	**+0.3**
PSGCX	**Pisagua**	**1.32**	**29**	*i* P	**Pb**	**23 52 14.3**	**+0.2**
PSGCX				*e*S	**Sn**	**23 52 31.1**	**+0.7**
PSGCX				IAML		23 52 33.3	
	comp=Z,4μm,0.3s						
PB11	**IPOC Station P**	**1.46**	**47**	⇑*i* P	**Pn**	**23 52 16.0**	**+0.6**
PB11				*e*S	**Sb**	**23 52 34.2**	**-0.6**
PB11				IAML		23 52 37.2	
	comp=E,13μm,0.2s						
PB11	**IPOC Station P**	**1.46**	**47**	Pn	**Pn**	**23 52 16.0**	**+0.6**
PB11	**IPOC Station P**	**1.46**	**47**	*i* P	**Pb**	**23 52 16.5**	**-0.1**
PB11				IAML		23 52 41.8	
	comp=Z,4μm,0.5s						
PB03	**IPOC Station P**	**1.61**	**143**	⇑*i* P	**Pb**	**23 52 18.7**	**-0.4**
PB03				*i* S	**Sb**	**23 52 39.3**	**+0.2**
PB03				IAML		23 52 46.1	
	comp=E,3μm,0.3s						
PB03	**IPOC Station P**	**1.61**	**143**	*i* P	**Pb**	**23 52 18.7**	**-0.4**
PB03				IAML		23 52 52.0	
	comp=Z,2μm,0.5s						
PB08	**IPOC Station P**	**1.66**	**68**	*i*↓P	**Pb**	**23 52 19.1**	**-1.0**
PB08				*e*S	**Sb**	**23 52 39.9**	**-0.8**
PB08				IAML		23 52 41.8	
	comp=N,5μm,0.3s						
PB08	**IPOC Station P**	**1.66**	**68**		**Pn**	**23 52 19.0**	**+0.7**
PB08	**IPOC Station P**	**1.66**	**68**	*i* P	**Pb**	**23 52 19.4**	**-0.7**
PB08				IAML		23 52 43.3	
	comp=Z,3μm,0.5s						
PB04	**IPOC Station P**	**1.68**	**159**	⇑*i* P	**Pn**	**23 52 19.7**	**+1.3**
PB04				*i* S	**Sn**	**23 52 39.9**	**+0.4**
PB04				IAML		23 52 53.2	
	comp=E,5μm,0.5s						
PB04	**IPOC Station P**	**1.68**	**159**		**Pn**	**23 52 19.4**	**+1.0**
PB04	**IPOC Station P**	**1.68**	**159**	*i* P	**Pn**	**23 52 19.9**	**+1.5**
PB04				IAML		23 52 52.5	
	comp=Z,5μm,0.8s						
PB09	**IPOC Station P**	**1.78**	**126**	⇑*i* P	**Pb**	**23 52 22.1**	**+0.2**
PB09				*e*S	**Sb**	**23 52 44.8**	**+0.8**
PB09				IAML		23 52 50.2	
	comp=E,3μm,0.4s						
PB09	**IPOC Station P**	**1.78**	**126**		**Pb**	**23 52 21.9**	**-0.1**
PB09	**IPOC Station P**	**1.78**	**126**	*i* P	**Pb**	**23 52 22.2**	**+0.2**
PB09				IAML		23 52 56.0	
	comp=Z,3μm,0.9s						
GO01	**Chusmiza**	**1.85**	**54**	*e*P	**Pn**	**23 52 21.9**	**+0.9**
GO01	**Chusmiza**	**1.85**	**54**		**Pn**	**23 52 22.0**	**+0.9**
MNMC	**Minye Minye**	**1.97**	**35**	⇑*i* P	**Pn**	**23 52 23.6**	**+1.0**
MNMC				*e*S	**Sb**	**23 52 49.0**	**-0.8**
MNMC	**Minye Minye**	**1.97**	**35**		**Pn**	**23 52 21.7**	**-0.9**
MNMCX	**Minye Minye**	**1.97**	**35**	*i* P	**Pb**	**23 52 24.8**	**-0.6**
MNMCX				IAML		23 52 57.9	
	comp=Z,4μm,0.4s						
PB05	**IPOC Station P**	**2.15**	**165**	⇑*i* P	**Pn**	**23 52 25.9**	**+1.0**
PB05	**IPOC Station P**	**2.15**	**165**	*i* P	**Pn**	**23 52 25.9**	**+1.0**
PB12	**IPOC Station P**	**2.18**	**12**	⇑*i* P	**Pn**	**23 52 25.9**	**+0.7**
PB12				*e*S	**Sb**	**23 52 56.8**	**+1.4**
PB12				IAML		23 53 00.0	
	comp=E,2μm,0.5s						
PB12	**IPOC Station P**	**2.18**	**12**		**Pn**	**23 52 25.1**	**-0.1**
PB12	**IPOC Station P**	**2.18**	**12**	*i* P	**Pn**	**23 52 26.6**	**+1.4**
PB12				IAML		23 53 01.6	
	comp=Z,2μm,0.7s						
PB06	**IPOC Station P**	**2.25**	**150**	⇑*i* P	**Pn**	**23 52 27.4**	**+1.2**
PB06				*e*S	**Sb**	**23 52 55.8**	**-1.6**
PB06				IAML		23 53 03.9	
	comp=E,2μm,0.1s						
PB06	**IPOC Station P**	**2.25**	**150**		**Pn**	**23 52 26.9**	**+0.7**
PB06	**IPOC Station P**	**2.25**	**150**	*i* P	**Pn**	**23 52 27.5**	**+1.2**
PB06				IAML		23 53 09.5	
	comp=Z,2μm,1.0s						
AP01	**Chacalluta**	**2.41**	**10**	*e*P	**Pn**	**23 52 30.4**	**+2.0**
AP01				*e*S	**Sn**	**23 52 58.3**	**+0.9**
AP01	**Chacalluta**	**2.41**	**10**	Pn	**Pn**	**23 52 28.4**	**0.0**
LVC	**Limon Verde**	**2.54**	**137**	Pn	**Pb**	**23 52 33.4**	**-1.8**
	comp=Z,73nm,0.3s,baz=326,slow=9.6,SNR=520						
LVC				LR	LR	23 53 02.2	
	comp=Z,191nm,18.9s,baz=324,slow=29						
LVC				Sn	**Sb**	**23 53 04.9**	**-1.2**
	comp=Z,182nm,0.3s,baz=227,slow=22,SNR=19						
LVC	**Limon Verde**	**2.54**	**137**	⇑*i* P	**Pb**	**23 52 33.4**	**-1.8**
LVC				*i* S	**Sb**	**23 53 07.1**	**+1.0**
LVC	**Limon Verde**	**2.54**	**137**		**Pn**	**23 52 30.3**	**-0.2**
LVC	**Limon Verde**	**2.54**	**137**	*e*P	**Pb**	**23 52 33.5**	**-1.8**
LVC	**Limon Verde**	**2.54**	**137**	*i* P	**Pb**	**23 52 33.4**	**-1.8**
LVC				IAML		23 53 16.1	
	comp=Z,704nm,1.0s						
PB16	**IPOC Station P**	**2.70**	**27**	⇑*e*P	**Pn**	**23 52 34.1**	**+1.3**
PB16				*e*S	**Sn**	**23 53 07.3**	**+2.1**
PB16				IAML		23 53 21.2	
	comp=E,1μm,0.6s						
PB16	**IPOC Station P**	**2.70**	**27**		**Pn**	**23 52 31.5**	**-1.3**
PB16	**IPOC Station P**	**2.70**	**27**	*i* P	**Pn**	**23 52 34.5**	**+1.7**
PB16				IAML		23 53 21.2	
	comp=Z,861nm,1.0s						
PB15	**IPOC Station P**	**2.73**	**153**	⇑*i* P	**Pn**	**23 52 34.1**	**+1.2**
PB15	**IPOC Station P**	**2.73**	**153**		**Pn**	**23 52 33.4**	**+0.5**
PB15	**IPOC Station P**	**2.73**	**153**	*i* P	**Pn**	**23 52 34.2**	**+1.3**
PB15				IAML		23 53 21.0	
	comp=Z,3μm,0.3s						
PB10	**IPOC Station P**	**2.75**	**175**	*e*P	**Pn**	**23 52 33.8**	**+0.8**
PB10	**IPOC Station P**	**2.75**	**175**		**Pn**	**23 52 32.8**	**-0.2**
PB10	**IPOC Station P**	**2.75**	**175**	*i* P	**Pn**	**23 52 34.1**	**+1.1**
PB10				IAML		23 53 30.8	
	comp=Z,387nm,0.6s						
PB14	**IPOC Station P**	**3.87**	**175**		**Pn**	**23 52 48.3**	**-0.3**
GO02	**Mina Guanaco**	**4.52**	**166**	Pn	**Pn**	**23 52 58.2**	**+0.6**
LPAZ	**La Paz**	**5.12**	**30**	Pn	**Pn**	23 53 12.8	+6.7
	comp=Z,3.4nm,0.3s,baz=294,slow=5.1,SNR=49						
LPAZ	**La Paz**	**5.12**	**30**	Pn	**Pn**	**23 53 04.9**	**-1.2**
LPAZ	**La Paz**	**5.12**	**30**	*e*P	**Pn**	**23 53 08.0**	**+1.9**
LPAZ	**La Paz**	**5.12**	**30**	*i* P	**Pn**	23 53 11.6	+5.5
YJA	**Yavi**	**5.12**	**107**	*i* P	**Pn**	**23 53 10.2**	**+4.2**
YJA				IAML		23 54 50.8	
	comp=Z,14nm,1.8s						
AC01	**Pan de Azucar**	**5.37**	**178**		**Pn**	**23 53 09.6**	**+0.6**
AC02	**Maricunga**	**6.24**	**166**	Pn	**Pn**	**23 53 22.1**	**+0.7**
AZAP	**Zapla**	**6.32**	**124**	*i* P	**Pn**	**23 53 26.3**	**+3.9**
AZAP				IAML		23 55 45.6	
	comp=Z,18nm,1.8s						
AC04	**Llanos de Chal**	**7.42**	**182**		**Pn**	**23 53 37.0**	**-0.1**
AC05	**El Transito**	**8.05**	**177**	Pn	**Pn**	**23 53 45.1**	**-0.9**
LCO	**Las Campanas**	**8.22**	**179**	Pn	**Pn**	**23 53 49.7**	**+1.4**
CO01	**Juntas del Tor**	**9.20**	**176**	Pn	**Pn**	**23 54 00.3**	**-1.6**
GO04	**Tololo Observa**	**9.37**	**180**	Pn	**Pn**	**23 54 04.8**	**+0.6**
CO03	**El Pedregal**	**10.04**	**179**	Pn	**Pn**	**23 54 12.6**	**-0.6**
SIV	**San Ignacio**	**10.38**	**64**	Pn	**Pn**	**23 54 17.6**	**-0.2**
	comp=Z,6.8nm,0.3s,baz=266,slow=9.6,SNR=117						
SIV				Sn	**Sn**	**23 56 12.1**	**-1.5**
	baz=328,slow=13,SNR=1.6						
SIV				LR	LR	23 58 52.4	
	comp=

baz=103,slow=75
H11S1 WAKE ISLAND Hyl 26.04 278 T T 02 29 53.6
baz=103,slow=75
H11S3 WAKE ISLAND Hyl 26.05 278 T T 02 29 54.4
baz=103,slow=75
H11N3 WAKE ISLAND Hyl 26.10 280 T T 02 30 01.5
baz=102,slow=75
H11N2 WAKE ISLAND Hyl 26.12 280 T T 02 30 02.7
baz=102,slow=75
H11N1 WAKE ISLAND Hyl 26.12 280 T T 02 30 00.1
baz=102,slow=75
ASAR Alice Springs 129.71 210 PKP PKiKP 00 11 00.7 +1.3
comp=Z,0.5nm,0.9s,baz=162,slow=4.2,SNR=2.4
ASAR Alice Springs 129.71 210 PKPdf 00 10 58.1 -0.5
ZALV Zalesovo Beam 142.00 23 PKP PKPdf 00 11 22.8 +2.5
comp=Z,1.0nm,0.7s,baz=306,slow=4.8,SNR=2.7
ZALV Zalesovo Beam 142.00 23 PKPdf 00 11 16.6 -3.7
GAR Garm 142.04 53 PKPdf PKPdf 00 11 16.6 -4.4
KDJ Kajisay 145.66 44 PKPbc PKPdf 00 11 28.1 +0.7
NIL Nilore 145.72 60 PKPdf 00 11 25.4 -2.2
MAKZ Makanchi 145.86 34 PKPbc PKPab 00 11 29.1 +0.7
MK31 Makanchi Array 146.03 34 PKPbc PKPbc 00 11 29.4 +0.9
MKAR Makanchi Array 146.03 34 PKPbc PKPab 00 11 30.4 +1.3
comp=Z,3.1nm,0.7s,baz=328,slow=2.9,SNR=25
MKAR Makanchi Array 146.03 34 PKPbc PKPab 00 11 30.0 +0.9

*IDC **19** 23:58:27.3±0.6,9.°42N×40.°56W,h0km,mb3.9/15,*
mb1 4.1/16,mb1mx3.9/58,mbtmp4.0/16,ML4.3/1,MS3.8/29,
Ms1 3.8/29,ms1mx3.7/40,Error ellipse: s-maj=23.5km
s-min=14.6km az=144.0
*NEIC **19** 23:58:28.9±1.6,9.°4N±0.°1×40.°63W±0.°09,h10km±1km,*
mb4.3/23,Error ellipse: s-maj=23.2km s-min=12.5km
az=152.0
*GCMT **19** 23:58:31.9±0.2,9.°55N±0.°03×40.°55W±0.°01,h12km±1km,*
MW4.8/102,Moment Tensor Solution. s32,c35;
s102,c154; Duration: 0 Moment tensor: Scale 1016Nm;
Mrr=2.11±.12; Mθθ=0.09±.07; Mϕϕ2.20±.09; Mrθ0.10±.27;
Mrϕ=-0.11±.05; Mθϕ0.16±.18; Best double couple:
M=2.16600×1016 NP1:ϕs=354.00000°,δ43.00000°,
λ-95.00000°. NP2:ϕs180.00000°,δ47.00000°,
λ-86.00000°. Principal axes: T 2.2110, Pl2.0000°,
Azm267.0000°; N -0.0880, Plg3.0000°, Azm357.0000°; P
-2.1220, Plg86.0000°, Azm144.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function

ISC 19 23:58:28.9±0.5,9.°4N±0.°1×40.°61W±0.°09,h10km,n57,
σ0s95/36,mb4.2/18,MS3.9/27,Central Mid-Atlantic
Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.66**	**251**	Pn	**Pn**	**00 01 28.1**	**-1.2**
	1.8nm,0.3s,baz=72,slow=12,SNR=24						
MDP				Sn	Sn	00 03 37.0	-14
	0.2nm,0.3s,baz=170,slow=17,SNR=2.9						
MDP				LR	LR	00 05 41.9	
	comp=Z,586nm,19.9s,baz=58,slow=34						
RCBR	**Riachuelo**	**15.81**	**163**	LR	LR	00 06 55.9	
	comp=Z,169nm,18.5s,baz=348,slow=32						
GRGR	**Grenville**	**20.85**	**279**	P	**P**	**00 03 10.7**	**-0.6**
PTGA	**Pitinga**	**21.73**	**244**	P	**P**	**00 03 21.0**	**+0.4**
	8.4nm,0.9s,baz=67,slow=9.8,SNR=8.8						
PTGA				LR	LR	00 11 13.0	
	comp=Z,480nm,20.5s,baz=70,slow=35						
PTGA	**Pitinga**	**21.73**	**244**	P	**P**	**00 03 21.7**	**+1.1**
PTGA				IAmb	IAmb	00 03 32.8	
	comp=Z,14nm,1.1s						
STVI	**Saint Thomas**	**25.24**	**293**	P	**P**	**00 03 56.8**	**+1.5**
BDFB	**Brasilia**	**25.91**	**197**	P	**P**	**00 04 01.9**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=80,slow=6.9,SNR=4.6						
BDFB				LR	LR	00 13 40.9	
	comp=Z,244nm,21.6s,baz=340,slow=35						
BDFB	**Brasilia**	**25.91**	**197**	IAmb	IAmb	00 04 30.2	
	comp=Z,14nm,1.5s						
HUMP	**Col San Antoni**	**25.99**	**292**	P	**P**	**00 04 00.7**	**-1.4**
OBIP	**Obispado Ponce**	**26.66**	**292**	P	**P**	**00 04 07.8**	**-0.4**
SAML	**Samuel**	**28.92**	**232**	P	**P**	**00 04 28.6**	**+0.2**
H10N3	**ASCENSION HYDR**	**31.12**	**122**	T	T	00 37 31.2	
	baz=303,slow=75						
H10N2	**ASCENSION HYDR**	**31.13**	**122**	T	T	00 37 49.7	
	baz=303,slow=75						
H10N1	**ASCENSION HYDR**	**31.15**	**122**	T	T	00 37 31.5	
	baz=303,slow=75						
SIV	**San Ignacio**	**32.33**	**219**	P	**P**	**00 04 59.6**	**+0.9**
	comp=Z,2.6nm,0.9s,baz=66,slow=9.1,SNR=10						
ROSC	**El Rosal**	**33.74**	**265**	LR	LR	00 19 25.4	
	comp=Z,589nm,18.3s,baz=80,slow=37						
DBIC	**Dimbokro**	**35.50**	**92**	P	**P**	**00 05 25.3**	**-0.9**
	comp=Z,4.4nm,0.9s,baz=254,slow=12,SNR=5.8						
DBIC				LR	LR	00 17 19.9	
	comp=Z,248nm,18.4s,baz=266,slow=32						
LPAZ	**La Paz**	**37.31**	**227**	P	**P**	**00 05 43.7**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=60,slow=8.0,SNR=8.3						
LPAZ				LR	LR	00 22 05.7	
	comp=Z,165nm,18.6s,baz=52,slow=38						
LPAZ	**La Paz**	**37.31**	**227**	IAmb	IAmb	00 05 45.4	
	comp=Z,4.5nm,1.1s						
CPUP	**Villa Florida**	**39.03**	**204**	LR	LR	00 21 59.5	
	comp=Z,219nm,19.0s,baz=26,slow=36						
TOA0	**Torodi Ar. Sit**	**41.63**	**81**	P	**P**	**00 06 17.6**	**-0.1**
TOA0				IAmb	IAmb	00 06 24.9	
	comp=Z,6.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**41.63**	**81**	P	**P**	**00 06 16.9**	**-0.9**
	comp=Z,3.5nm,0.8s,baz=272,slow=8.0,SNR=12						
TORD				LR	LR	00 22 01.6	
	comp=Z,434nm,18.8s,baz=255,slow=34						
TORD	**Torodi Ar. Bea**	**41.63**	**81**	P	**P**	**00 06 17.6**	**-0.2**
ESDC	**Sonseca Array**	**44.45**	**41**	P	**P**	**00 06 40.5**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=236,slow=9.1,SNR=4.7						
ESDC				LR	LR	00 21 32.8	
	comp=Z,153nm,20.5s,baz=255,slow=31						
GO02	**Mina Guanaco**	**44.45**	**219**	P	**P**	**00 06 40.8**	**0.0**
ESBB	**Sonseca Array**	**44.45**	**41**	P	**P**	**00 06 40.1**	**-0.3**
TAM	**Tamanrasset**	**46.10**	**67**	P	**P**	**00 06 54.5**	**+0.6**
TAM				IAmb	IAmb	00 06 58.6	
	comp=Z,2.7nm,1.0s						
SCHQ	**Scheffer ville**	**49.90**	**340**	P	**P**	**00 07 22.5**	**-0.1**
	comp=Z,5.4nm,1.0s,baz=116,slow=3.8,SNR=3.0						
SCHQ				LR	LR	00 25 08.6	
	comp=Z,108nm,20.3s,baz=172,slow=32						
KEST	**Kesra**	**52.37**	**52**	LR	LR	00 30 06.3	
	comp=Z,144nm,19.5s,baz=238,slow=36						
PLCA	**Paso Flores**	**56.99**	**207**	LR	LR	00 35 35.9	
	comp=Z,96nm,18.4s,baz=43,slow=39						
GERES	**GERESS Array B**	**59.89**	**38**	LR	LR	00 33 02.1	
	comp=Z,61nm,18.9s,baz=276,slow=35						
ULM	**Lac du Bonnet**	**60.99**	**323**	LR	LR	00 32 41.0	
	comp=Z,51nm,20.8s,baz=130,slow=34						
TXAR	**Lajitas Array**	**62.01**	**298**	P	**P**	**00 08 48.7**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=77,slow=5.6,SNR=5.7						
TXAR				LR	LR	00 38 17.5	
	comp=Z,18nm,19.5s,baz=0.0,slow=38						
TX31	**Lajitas Ar. Si**	**62.01**	**298**	P	**P**	**00 08 51.0**	**+1.0**
NOA	**NORSAR Array B**	**64.02**	**25**	P	**P**	**00 09 02.1**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=248,slow=8.5,SNR=3.3						
NOA				LR	LR	00 31 44.6	
	comp=Z,54nm,21.6s,baz=235,slow=31						
HFS	**Hagfors**	**64.65**	**27**	LR	LR	00 34 20.1	
	comp=Z,58nm,18.4s,baz=245,slow=33						
IDI	**Anoyia**	**64.67**	**55**	LR	LR	00 38 15.6	
	comp=Z,53nm,18.4s,baz=64,slow=37						
KWP	**Kalwaria Pacla**	**65.73**	**40**	P	**P**	**00 09 16.4**	**+2.5**
MLR	**Muntele Rosu**	**66.97**	**45**	LR	LR	00 35 14.3	
	comp=Z,45nm,21.8s,baz=299,slow=33						
PDAR	**Pinedale Array**	**68.25**	**312**	P	**P**	**00 09 31.5**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=116,slow=8.1,SNR=2.1						
WUAZ	**Wupatki**	**68.97**	**304**	P	**P**	**00 09 35.0**	**-0.1**
WUAZ				IAmb	IAmb	00 09 37.2	
	comp=Z,2.6nm,0.9s						
HWUT	**Hardware Ranch**	**69.61**	**311**	P	**P**	**00 09 39.1**	**+0.3**
AKASG	**Malin Array Be**	**70.05**	**39**	LR	LR	00 38 07.1	
	comp=Z,60nm,20.7s,baz=280,slow=34						
BGU	**Big Grassy Mou**	**70.65**	**310**	P	**P**	**00 09 45.2**	**0.0**
FINES	**FINESS Array B**	**70.76**	**28**	LR	LR	00 38 43.0	
	comp=Z,46nm,19.1s,baz=233,slow=34						
BRTR	**Keskin Array B**	**71.97**	**51**	P	**P**	**00 09 52.0**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=248,slow=7.6,SNR=2.4						
BRTR				LR	LR	00 40 19.9	
	comp=Z,33nm,22.0s,baz=225,slow=35						
NVAR	**Mina Array Bea**	**74.61**	**307**	LR	LR	00 39 40.4	
	comp=Z,85nm,21.7s,baz=95,slow=33						
OBN	**Obninsk**	**75.04**	**35**	LR	LR	00 40 08.1	
	comp=Z,18nm,19.8s,baz=180,slow=33						
KMBO	**Kilima Mbogo**	**78.21**	**93**	LR	LR	00 44 25.5	
	comp=Z,52nm,18.3s,baz=256,slow=35						
KIRV	**Kirov**	**82.09**	**32**	LR	LR	00 43 10.5	
	comp=Z,58nm,20.0s,baz=311,slow=33						
BCAR	**Beaver Creek A**	**86.74**	**333**	P	**P**	**00 11 13.0**	**-0.2**
ARU	**Arti**	**87.30**	**33**	P	**P**	**00 11 15.7**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=193,slow=6.8,SNR=3.6						
AKTO	**Aktyubinsk**	**88.30**	**39**	P	**P**	**00 11 21.6**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=329,slow=5.9,SNR=2.8						
AKTO				LR	LR	00 48 24.0	
	comp=Z,48nm,21.0s,baz=1.2,slow=34						
IL31		**88.42**	**336**	P	**P**	**00 11 21.7**	**+0.7**
ILAR	**Eielson Array**	**88.42**	**336**	P	**P**	**00 11 21.1**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=62,slow=3.1,SNR=5.0						
ILAR				LR	LR	00 50 29.7	
	comp=Z,81nm,18.3s,baz=294,slow=35						
ASAR	**Alice Springs**	**164.85**	**160**	PKP	**PKPdf**	**00 18 32.9**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=90,slow=0.2,SNR=2.6						
WRA	**Warramunga Arr**	**168.41**	**156**	PKP	**PKPdf**	**00 18 35.3**	**-1.7**
	comp=Z,1.0nm,1.0s,baz=223,slow=1.2,SNR=3.9						

*IDC **20** 00:03:30.0±1.0,14.°59S×66.°42E,h0km,mb3.9/15,*
mb1 4.0/15,mb1mx3.8/53,mbtmp3.9/15,MS3.9/8,
Ms1 3.9/8,ms1mx3.4/41,Error ellipse: s-maj=32.5km
s-min=21.3km az=26.0
*NEIC **20** 00:03:31.6±1.4,14.°7S±0.°1×66.°4E±0.°1,h10km±1km,*
mb4.5/30,Error ellipse: s-maj=25.8km s-min=19.9km
az=204.0

ISC 20 00:03:31.9±0.7,14.°6S±0.°2×66.°4E±0.°1,h10km,n81,
σ1s14/70,mb4.3/26,MS4.0/7,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.12**	**41**	T	T	00 15 09.3	
	baz=220,slow=76,SNR=1321						
H08S2	**Diego Garcia H**	**9.14**	**41**	T	T	00 15 10.2	
	baz=220,slow=76,SNR=2519						
H08S3	**Diego Garcia H**	**9.14**	**41**	T	T	00 15 17.4	
	baz=220,slow=76,SNR=2030						
OPO	**Ambohidratompo**	**18.85**	**255**	LR	LR	00 12 30.6	
	comp=Z,176nm,19.9s,baz=284,slow=29						
PALK	**Pallekele**	**25.96**	**34**	LR	LR	00 17 09.5	
	comp=Z,429nm,19.7s,baz=321,slow=32						
CM31	**Chiang Mai Arr**	**45.91**	**45**	P	**P**	**00 11 54.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**45.91**	**45**	P	**P**	**00 11 54.6**	**-0.4**
	0.3nm,0.3s,baz=239,slow=7.0,SNR=1.1						
CMAR				LR	LR	00 28 26.8	
	comp=Z,99nm,20.8s,baz=214,slow=33						
SHL	**Shillong**	**47.02**	**32**	P	**P**	**00 12 03.2**	**-0.7**
H01W3	**Cape Leeuwin H**	**47.29**	**124**	T	T	01 02 39.4	
	baz=282,slow=75,SNR=54						
H01W2	**Cape Leeuwin H**	**47.29**	**124**	T	T	01 02 37.5	
	baz=282,slow=75,SNR=96						
H01W1	**Cape Leeuwin H**	**47.31**	**124**	T	T	01 02 38.0	
	baz=282,slow=75,SNR=99						
SBUM	**Sibu**	**48.42**	**73**	P	**P**	**00 12 14.6**	**-0.2**
HRA	**Herat**	**48.90**	**355**	P	**P**	**00 12 17.9**	**-0.4**
KBL	**Kabul**	**48.95**	**3**	P	**P**	**00 12 18.9**	**+0.1**
GEYT	**Alibeck**	**52.85**	**352**	P	**P**	**00 12 46.4**	**-1.5**
	0.5nm,0.4s,baz=211,slow=7.9,SNR=1.5						
GYA0B	**ALIBECK ARRAY**	**52.85**	**352**	P	**P**	**00 12 47.3**	**-0.5**
GYA0B				IAmb	IAmb	00 12 58.5	
	comp=Z,5.5nm,1.1s						
MAW	**Mawson**	**52.99**	**182**	LR	LR	00 29 24.5	
	comp=Z,179nm,20.8s,baz=48,slow=29						
CHGR	**Chinyangaron**	**53.06**	**3**	P	**P**	**00 12 49.6**	**+0.1**
SOEI	**Soe**	**56.63**	**92**	P	**P**	**00 13 16.4**	**+0.5**
KK31	**Karatay Array**	**57.56**	**4**	P	**P**	**00 13 22.1**	**+0.3**
KKAR	**Karatay Array**	**57.56**	**4**	P	**P**	**00 13 22.2**	**+0.5**
FRU1	**Bishkek**	**57.64**	**7**	P	**P**	**00 13 23.1**	**+0.7**
FORT	**Forrest**	**58.43**	**117**	P	**P**	**00 13 28.2**	**-0.1**
BR131	**Keskin Array S**	**62.09**	**332**	P	**P**	**00 13 53.3**	**+0.1**
BR131				IAmb	IAmb	00 13 55.0	
	comp=Z,3.7nm,1.1s						
BRTR	**Keskin Array B**	**62.09**	**332**	P	**P**	**00 13 52.9**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=144,slow=7.3,SNR=4.0						
KVAR	**Kislovodsk Arr**	**62.19**	**341**	LR	LR	00 41 39.5	
	comp=Z,54nm,19.8s,baz=44,slow=37						
MK31	**Makanchi Array**	**62.77**	**12**	P	**P**	**00 13 58.3**	**+0.9**
MK31				IAmb	IAmb	00 14 04.5	
	comp=Z,3.3nm,1.1s						
MKAR	**Makanchi Array**	**62.77**	**12**	P	**P**	**00 13 55.9**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=201,slow=6.5,SNR=4.7						
MKAR	**Makanchi Array**	**62.77**	**12**	P	**P**		
XAN	**Xi'an**	**63.07**	**39**	P	**P**	**00 13 57.9**	**+0.4**
ABKAR	**Akbulak array**	**63.85**	**355**	P	**P**	**00 14 00.5**	**+0.8**
ASAR	**Alice Springs**	**63.89**	**109**	P	**P**	**00 14 04.4**	**-0.1**
	comp=Z,0.8nm,1.0s,baz=265,slow=5.4,SNR=4.3					**00 14 04.5**	**-1.0**
ASAR	**Alice Springs**	**63.89**	**109**	P	**P**	**00 14 05.2**	**-0.3**
WRA	**Warramunga Arr**	**64.70**	**105**	P	**P**	**00 14 11.0**	**+0.2**
	comp=Z,1.9nm,1.1s,baz=271,slow=6.2,SNR=6.1						
WB2	**Warramunga Arr**	**64.71**	**105**	P	**P**	**00 14 11.3**	**+0.5**
WRAB	**Tennant Creek**	**64.71**	**105**	P	**P**	**00 14 11.7**	**+0.8**
AKTO	**Aktyubinsk**	**65.19**	**354**	P	**P**	**00 14 13.7**	**+0.4**
	comp=Z,5.0nm,1.0s,baz=177,slow=6.1,SNR=8.5						
KURK	**Kurchatov**	**65.93**	**8**	P	**P**	**00 14 19.0**	**+1.0**
KURK				IAmb	IAmb	00 14 25.9	
	comp=Z,3.4nm,0.9s						
BRVK	**Borovoye**	**67.48**	**3**	P	**P**	**00 14 28.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**69.76**	**290**	P	**P**	**00 14 42.5**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=325,slow=2.9,SNR=3.3						
ZAA0	**Zalesovo Array**	**70.08**	**11**	P	**P**	**00 14 44.5**	**+0.5**
ZAA0				IAmb	IAmb	00 14 51.4	
	comp=Z,4.9nm,1.1s						
ZALV	**Zalesovo Beam**	**70.08**	**11**	P	**P**	**00 14 44.0**	**0.0**
	comp=Z,0.8nm,0.5s,baz=187,slow=5.8,SNR=4.7						
ZALV				LR	LR	00 43 51.1	
	comp=Z,56nm,18.4s,baz=229,slow=35						
ZALV	**Zalesovo Beam**	**70.08**	**11**	P	**P**	**00 14 44.5**	**+0.5**
ARU	**Arti**	**71.08**	**355**	P	**P**	**00 14 49.3**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=162,slow=7.3,SNR=3.8						
ARU	**Arti**	**71.08**	**355**	P	**P**	**00 14 51.3**	**+1.2**
SONM	**Songino Array**	**71.67**	**27**	P	**P**	**00 14 54.0**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=209,slow=6.6,SNR=2.6						
SONM				LR	LR	00 45 08.6	
	comp=Z,145nm,20.4s,baz=180,slow=35						
SONM	**Songino Array**	**71.67**	**27**	IAmb	IAmb	00 15 02.1	
	comp=Z,1.7nm,0.9s						
BUR08	**Bucovina Ar. S**	**72.09**	**332**	P	**P**	**00 14 56.4**	**-0.1**
AKASG	**Malin Array Be**	**72.74**	**336**	P	**P**	**00 14 59.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=138,slow=4.5,SNR=5.6						
AKASG	**Malin Array Be**	**72.74**	**336**	IAmb	IAmb	00 15 08.5	
	comp=Z,1.0nm,0.9s						
AKBB	**Malin Array Si**	**72.74**	**336**	P	**P**	**00 14 59.8**	**-0.3**
DBIC	**Dimbokro**	**73.76**	**282**	P	**P**	**00 15 07.0**	**0.0**
	comp=Z,2.1nm,0.7s,baz=59,slow=8.9,SNR=3.5						
ARSA	**Arzberg**	**76.57**	**327**	*eP*	**P**	**00 15 24.2**	**+1.6**
	comp=Z,6.1nm,1.2s						
OBKA	**Obir**	**76.62**	**326**	*i* P	**P**	**00 15 25.4**	**+2.5**
	comp=Z,8.9nm,1.4s						
CONA	**Conrad Observa**	**76.82**	**328**	*eP*	**P**	**00 15 25.3**	**+1.3**
	comp=Z,7.2nm,1.3s						
KS19	**Wonju Array Si**	**77.53**	**46**	P	**P**	**00 15 27.8**	**-0.3**
MOA	**Molln**	**77.61**	**327**	*i* P	**P**	**00 15 29.6**	**+1.2**
	comp=Z,5.0nm,1.2s						
KBA	**Koelnbreinsper**	**77.62**	**326**	*eP*	**P**	**00 15 29.5**	**+0.8**
	comp=Z,5.2nm,1.2s						
KRLC	**Kraliky**	**77.75**	**330**	*eP*	**P**	**00 15 29.7**	**+0.5**
ABTA	**Abfaltersbach**	**77.88**	**325**	*eP*	**P**	**00 15 31.2**	**+1.2**
	comp=Z,7.5nm,1.2s						
KLMR	**Klimovskoe**	**78.23**	**347**	*e*	**P**	**00 15 31.5**	**0.0**
KLMR				AMP		00 15 40.1	
	comp=Z,34nm,1.2s						
OSTC	**Ostas**	**78.34**	**330**	*eP*	**P**	**00 15 33.7**	**+1.3**
GERES	**GERESS Array B**	**78.52**	**328**	P	**P**	**00 15 32.8**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=107,slow=5.2,SNR=4.0						
KHC	**Kasperske Hory**	**78.76**	**328**	*eP*	**P**	**00 15 33.9**	**-0.9**
FETA	**Feichten**	**79.03**	**325**	*eP*	**P**	**00 15 37.3**	**+0.8**
	comp=Z,4.3nm,1.1s						
PVCC	**Panska Ves**	**79.13**	**329**	*eP*	**P**	**00 15 38.5**	**+1.8**
ESDC	**Sonseca Array**	**84.76**	**313**	P	**P**	**00 16 06.0**	**-0.7**
	comp=Z,2.0nm,1.1s,baz=109,slow=3.0,SNR=8.1						
ESDC	**Sonseca Array**	**84.76**	**313**	P	**P**	**00 16 07.4**	**+0.7**
NRIK	**Noril'sk**	**85.07**	**7**	LR	LR	00 53 40.0	
	comp=Z,63nm,20.7s,baz=186,slow=35						
ILAR	**Eielson Array**	**124.98**	**17**	PKP	**PKPdf**	**00 22 30.8**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=306,slow=3.0,SNR=2.7						
M55A	**Ridgway**	**139.71**	**318**		**PKPdf**	**00 23 00.6**	**+0.1**
FLOC	**Florencia**	**140.37**	**254**	PKPdf	**PKPdf**	**00 22 59.5**	**-2.9**
NEW	**Newport**	**146.32**	**4**		**PKPdf**	**00 23 13.7**	**+1.8**
E28A	**Huff**	**146.36**	**344**	PKPbc	**PKPdf**	**00 23 13.7**	**+1.6**
C09A	**Chrisman Ranch**	**146.69**	**6**	PKPbc	**PKPbc**	**00 23 15.3**	**+1.2**
PD31	**Pinedale Array**	**151.74**	**354**		**PKPbc**	**00 23 27.5**	**+0.1**
PD31				PKPab	**sPKPbc**	**00 23 34.7**	**+3.9**
PDAR	**Pinedale Array**	**151.74**	**354**	PKPbc	**PKPbc**	**00 23 27.3**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=53,slow=2.5,SNR=15						
PDAR	**Pinedale Array**	**151.74**	**354**		**PKPbc**	**00 23 26.5**	**-0.9**
PDAR				PKPab	**sPKPbc**	**00 23 34.3**	**+3.5**
NVAR	**Mina Array Bea**	**155.92**	**9**	PKPab	**PKPab**	**00 23 52.3**	**-1.6**
	comp=Z,0.1nm,0.4s,baz=19,slow=3.1,SNR=1.5						
TXAR	**Lajitas Array**	**162.73**	**330**	PKPab	**PKPab**	**00 24 22.8**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=33,slow=2.2,SNR=4.9						
TXAR	**Lajitas Array**	**162.73**	**330**	PKPdf	**PKPdf**	**00 23 34.5**	**-0.7**

*KRSC **20** 00:11:35.6±2.2,49.°16N×156.°68E,h44km±25km,ML4.7*
*MOS **20** 00:11:36.8±1.0,49.°53N×155.°00E,h112km,mb3.9/9,Error*
ellipse: s-maj=12.3km s-min=4.0km az=69.0
*NEIC **20** 00:11:39.5±2.0,49.°66N±0.°08×154.°80E±0.°08,*
h114km±7km,mb4.1/27,Error ellipse: s-maj=11.8km
s-min=6.6km az=202.0
*IDC **20** 00:11:40.3±2.3,49.°71N×154.°80E,h123km±20km,*
mb3.6/21,mb1 3.8/25,mb1mx3.7/48,mbtmp4.0/25,MS3.6/2,
Ms1 3.6/2,ms1mx2.7/46,Error ellipse: s-maj=19.1km
s-min=12.2km az=143.0

ISC 20 00:11:36.1±0.6,49.°32N±0.°09×155.°33E±0.°07,h100km,
n161,σ1s65/170,mb4.0/43,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.46**	**20**	*eP*	**Pn**	**00 12 02.0**	**+0.2**
SKR				*eS*	Sn	00 12 20.8	-0.5
SKR	**Severo-Kuril's**	**1.46**	**20**	*e*PN	**Pn**	**00 12 01.9**	**+0.2**
SKR				*eS*	Sn	00 12 20.4	-0.9
SKR				pmax	pmax		
	comp=Z,166nm,0.4s						
SKR				smax	smax		
	comp=E,2μm,0.6s						
SKR				smax	smax		
	comp=N,2μm,0.5s						
ALID	**Alaid**	**1.56**	**5**	*eP*	**Pn**	**00 12 03.5**	**+0.3**
ALID	**Alaid**	**1.56**	**5**	PN	**Pn**	**00 12 03.5**	**+0.3**
PAU	**Pauzhetka**	**2.35**	**23**	*eP*	**Pn**	**00 12 13.7**	**+0.5**
PAU				*eS*	Sn	**00 12 41.6**	**0.0**
PAU	**Pauzhetka**	**2.35**	**23**	PN	**Pn**	**00 12 13.7**	**+0.5**
PAU				S	Sn	**00 12 41.6**	**0.0**
KDTR	**Khodutka, Kamc**	**3.05**	**34**	*eP*	**Pn**	**00 12 21.9**	**-0.5**
KDTR				*eS*	Sn	**00 12 55.5**	**-2.6**
KDTR	**Khodutka, Kamc**	**3.05**	**34**	PN	**Pn**	**00 12 21.9**	**-0.5**
KDTR				S	Sn	**00 12 55.5**	**-2.6**
MIPR	**Malaya Ipel'ka**	**3.10**	**16**	*eP*	**Pn**	**00 12 24.2**	**+1.1**
MIPR	**Malaya Ipel'ka**	**3.10**	**16**	PN	**Pn**	**00 12 24.2**	**+1.1**
ASAK	**Asacha**	**3.48**	**27**	*eP*	**Pn**	**00 12 29.4**	**+1.2**
ASAK	**Asacha**	**3.48**	**27**	PN	**Pn**	**00 12 29.4**	**+1.2**
MTVR	**Mutnovka**	**3.65**	**29**	*eP*	**Pn**	**00 12 31.6**	**+1.0**
MTVR				*eS*	Sn	**00 13 12.4**	**-0.4**
MTVR	**Mutnovka**	**3.65**	**29**	PN	**Pn**	**00 12 31.6**	**+1.0**
MTVR				S	Sn	**00 13 12.4**	**-0.4**
GRL	**Gorelyy**	**3.68**	**27**	*eP*	**Pn**	**00 12 32.0**	**+1.1**
GRL				*eS*	Sn	**00 13 13.1**	**-0.3**
GRL	**Gorelyy**	**3.68**	**27**	PN	**Pn**	**00 12 32.0**	**+1.1**
GRL				S	Sn	**00 13 13.1**	**-0.3**
RUS	**Russkaya**	**3.72**	**32**	*eP*	**Pn**	**00 12 31.0**	**-0.3**
RUS				*eS*	Sn	**00 13 11.6**	**-2.5**
RUS	**Russkaya**	**3.72**	**32**	PN	**Pn**	**00 12 31.0**	**-0.3**
RUS				S	Sn	**00 13 11.6**	**-2.5**
APC	**Apacha**	**3.79**	**17**	*eP*	**Pn**	**00 12 34.6**	**+2.2**
APC	**Apacha**	**3.79**	**17**	PN	**Pn**	**00 12 34.6**	**+2.2**
KRMR	**Karymshinskiy**	**3.94**	**26**	*eP*	**Pn**	**00 12 36.6**	**+2.3**
KRMR				*eS*	Sn	**00 13 19.2**	**-0.3**
KRMR	**Karymshinskiy**	**3.94**	**26**	PN	**Pn**	**00 12 36.6**	**+2.3**
KRMR				S	Sn	**00 13 19.2**	**-0.3**
PEA0B	**Petropavlovsk-**	**4.08**	**21**	PN	**Pn**	**00 12 37.6**	**+1.3**
PEA0B	**Petropavlovsk-**	**4.08**	**21**		**Pn**	**00 12 37.6**	**+1.3**
PETK	**Petropavlovsk-**	**4.08**	**21**	P	**Pn**	**00 12 38.1**	**+1.9**
	comp=N,2.6nm,0.3s,baz=181,slow=12,SNR=46						
PETK				S	Sn	**00 13 26.5**	**+3.6**
	comp=N,1.9nm,0.3s,baz=178,slow=37,SNR=1.2		

comp=Z,5.6nm,0.7s,baz=16,slow=15,SNR=2.9
H11N2 WAKE ISLAND Hy 30.94 158 T T 00 50 31.9
baz=346,slow=77,SNR=26
H11N1 WAKE ISLAND Hy 30.96 158 T T 00 50 58.1
baz=346,slow=77,SNR=25
H11N3 WAKE ISLAND Hy 30.96 158 T T 00 50 33.7
baz=346,slow=77,SNR=13
HHC Hu-ho-hao-te 31.66 271 *e*P **P 00 17 50.6 +0.8**
HHC pmax pmax
comp=Z,28nm,0.9s
HHC pmax pmax
comp=Z,66nm,4.7s
H11S1 WAKE ISLAND Hy 32.07 159 T T 00 52 01.0
baz=346,slow=76,SNR=365
H11S3 WAKE ISLAND Hy 32.08 159 T T 00 51 57.1
baz=346,slow=76,SNR=489
H11S2 WAKE ISLAND Hy 32.09 159 T T 00 51 55.5
baz=346,slow=76,SNR=461
COLA College 33.21 41 *i*P **P 00 18 03.5 +0.6**
COLA pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 33.62 41 P **P 00 18 07.6 +1.1**
comp=Z,0.2nm,0.5s,baz=279,slow=6.1,SNR=2.2
BCAR Beaver Creek A 36.00 44 P P 00 18 30.2 +3.2
EGAK Eagle 36.07 41 P **P 00 18 30.2 +2.6**
EGAK IAmb IAmb 00 18 51.9
comp=Z,1.7nm,0.8s
YAH Yahtse 36.47 48 P **P 00 18 34.1 +2.8**
ZALV Zalesovo Beam 42.36 304 P **P 00 19 17.0 -2.9**
comp=Z,0.7nm,0.4s,baz=63,slow=10,SNR=2.6
ZALV PcP **PcP 00 21 11.6 +0.2**
comp=Z,0.4nm,0.5s,baz=59,slow=5.6,SNR=3.7
WMQ Urumqi 45.41 290 *e*P **P 00 19 46.5 +1.9**
WMQ LR LR
comp=N,91nm,16.7s
WMQ LR LR
comp=E,97nm,13.3s
WMQ LR LR
comp=Z,120nm,16.7s
MK31 Makanchi Array 47.11 296 P **P 00 19 56.5 -1.3**
MK31 pmax pmax
comp=Z,2.0nm,1.1s
MK31 Makanchi Array 47.11 296 P **P 00 19 56.5 -1.3**
MKAR Makanchi Array 47.11 296 P **P 00 19 55.9 -1.9**
comp=Z,0.9nm,0.6s,baz=67,slow=6.4,SNR=9.8
MKAR Makanchi Array 47.11 296 *e*P **P 00 19 56.7 -1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 47.11 296 P **P 00 19 56.8 -1.1**
KURK Kurchatov 47.21 303 *i*P **P 00 19 56.6 -1.8**
KURK pmax pmax
comp=Z,1.0nm,1.0s
KURK Kurchatov 47.21 303 P **P 00 19 57.4 -1.0**
KURK IAmb IAmb 00 19 58.3
comp=Z,1.9nm,0.6s
BRVK Borovoye 50.43 309 *i*P **P 00 20 21.6 -1.4**
BRVK pmax pmax
comp=Z,1.0nm,0.7s
ARU Arti 54.13 317 LR LR 00 47 18.2
comp=Z,81nm,18.7s,baz=87,slow=40
ARU Arti 54.13 317 *i*P **P 00 20 49.3 -1.0**
ARU pmax pmax
comp=Z,4.0nm,1.0s
ARU Arti 54.13 317 P **P 00 20 49.1 -1.2**
CHTO Chiang Mai 54.16 257 P **P 00 20 51.4 +0.4**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 54.16 257 P **P 00 20 51.4 +0.4**
CMAR Chiang Mai Arr 54.42 256 P **P 00 20 54.3 +1.4**
comp=Z,4.1nm,0.6s,baz=29,slow=7.1,SNR=24
ARCES ARCESS Array B 55.91 341 P **P 00 21 00.9 -2.1**
comp=Z,2.7nm,0.8s,baz=43,slow=9.0,SNR=6.0
ABKAR Akbulak array 57.93 310 P **P 00 21 16.7 -0.8**
NVAR Mina Array Bea 59.96 65 P **P 00 21 34.5 +2.5**
comp=Z,0.7nm,0.7s,baz=286,slow=8.0,SNR=5.9
NVAR Mina Array Bea 59.96 65 P **P 00 21 33.8 +1.9**
FINES FINESS Array B 62.34 335 P **P 00 21 45.8 -1.5**
comp=Z,3.0nm,0.8s,baz=32,slow=6.4,SNR=17
FINES FINESS Array B 62.34 335 *e*P **P 00 21 46.4 -1.0**
FINES pmax pmax
comp=Z,3.0nm,0.8s
OBN Obninsk 64.02 326 *e*P **P 00 21 56.5 -2.0**
OBN pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 66.26 342 P **P 00 22 11.3 -1.7**
comp=Z,0.9nm,0.9s,baz=29,slow=6.7,SNR=2.0
GEYT Alibeck 66.55 301 P **P 00 22 12.9 -2.4**
comp=Z,1.0nm,0.5s,baz=14,slow=6.5,SNR=3.5
GEYT LR LR 00 54 29.0
comp=Z,32nm,18.6s,baz=240,slow=39
GEYT Alibeck 66.55 301 IAmb IAmb 00 22 16.3
comp=Z,0.8nm,0.6s
KBZ Khabaz 70.13 315 P **P 00 22 35.9 -1.5**
comp=Z,1.6nm,0.8s,baz=34,slow=3.6,SNR=2.7
AKASG Malin Array Be 70.22 327 P **P 00 22 35.9 -1.9**
comp=Z,0.7nm,0.3s,baz=32,slow=6.2,SNR=4.2
SCHQ Schefferville 70.36 24 P **P 00 22 39.9 +1.2**
comp=Z,0.9nm,0.4s,baz=315,slow=5.7,SNR=1.6
WRA Warramunga Arr 71.43 201 P P 00 22 47.9 +2.5
comp=Z,0.5nm,0.7s,baz=16,slow=6.6,SNR=3.0
WRA Warramunga Arr 71.43 201 IAmb IAmb 00 22 54.8
comp=Z,0.2nm,1.2s
JFWS Jewell Farm 71.69 45 P **P 00 22 48.9 +2.1**
JFWS pmax pmax
comp=Z,21nm,1.0s
JFWS Jewell Farm 71.69 45 P **P 00 22 48.9 +2.1**
TX31 Lajitas Ar. Si 74.96 63 P **P 00 23 08.4 +2.0**
TX32 Lajitas Array 74.96 63 P **P 00 23 08.3 +1.9**
TX32 IAmb IAmb 00 23 31.8
comp=Z,11nm,2.0s
TXAR Lajitas Array 74.96 63 P **P 00 23 08.9 +2.5**
comp=Z,0.7nm,0.5s,baz=301,slow=4.7,SNR=13
TXAR Lajitas Array 74.96 63 P **P 00 23 08.6 +2.2**
AS31 Alice Springs 75.12 200 P P 00 23 11.0 +3.9
ASAR Alice Springs 75.12 200 P P 00 23 09.9 +2.8
comp=Z,0.2nm,0.3s,baz=10,slow=5.7,SNR=2.8
SFIN Lafayette 75.14 44 P **P 00 23 10.0 +2.9**
MGMO Mountain Grove 75.20 50 P P 00 23 11.4 +3.8
GOPC GO Pecny, Ondr 75.51 335 *e*P **P 00 23 10.3 +1.2**
GOPC GO Pecny, Ondr 75.51 335 *e*P **P 00 23 10.3 +1.2**
U40A Yellville 75.53 51 P **P 00 23 12.2 +2.8**
U40A IAmb IAmb 00 23 36.2
comp=Z,4.1nm,0.9s
T42A Van Buren 75.88 49 P P 00 23 15.0 +3.6
OLIL Olney 75.98 46 P **P 00 23 14.8 +2.9**
FCAR Ozark Folk Cen 76.26 51 P **P 00 23 15.9 +2.3**
FCAR IAmb IAmb 00 23 33.6
comp=Z,4.2nm,0.9s
KHC Kasperske Hory 76.55 335 *e*P **P 00 23 16.1 +1.0**
KHC Kasperske Hory 76.55 335 *e*P **P 00 23 16.1 +1.0**
GERES GERESS Array B 76.78 335 P **P 00 23 16.0 -0.4**
comp=Z,0.6nm,0.3s,baz=30,slow=5.5,SNR=9.9
GERES GERESS Array B 76.78 335 *e*P **P 00 23 17.1 +0.7**
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES GERESS Array B 76.78 335 P **P 00 23 16.0 -0.4**
BRTR Keskin Array B 77.51 318 P **P 00 23 18.0 -2.8**
comp=Z,0.4nm,0.7s,baz=200,slow=28,SNR=1.9
BRTR Keskin Array B 77.51 318 P **P 00 23 18.0 -2.8**
SOKA Soboth 78.36 333 *e*P **P 00 23 26.2 +0.9**
comp=Z,1.1nm,0.5s
KBA Koelnbreinsper 78.48 335 *i*P **P 00 23 27.7 +1.7**
comp=Z,5.6nm,0.5s
OBKA Obir 78.66 334 *i*P **P 00 23 28.0 +1.1**
comp=Z,1.7nm,0.5s
WATA Walderm 78.73 336 *i*P **P 00 23 28.6 +1.3**
comp=Z,2.8nm,0.6s
WTTA Wattenberg 78.78 336 *i*P **P 00 23 29.3 +1.6**
comp=Z,2.3nm,0.5s
MYKA Terra Mystica 78.81 334 *i*P **P 00 23 28.3 +0.7**
comp=Z,0.9nm,0.3s
MOTA Moosalm 78.85 336 *i*P **P 00 23 29.8 +1.8**
comp=Z,2.0nm,0.6s
SQTA Sankt Quirin 78.94 336 *i*P **P 00 23 29.9 +1.4**
comp=Z,1.4nm,0.5s
PRED Cave del Predi 79.00 334 P **P 00 23 29.3 +0.6**
ABTA Abfaltersbach 79.02 335 *e*P **P 00 23 29.9 +1.0**
comp=Z,1.1nm,0.4s
TUE Stuetta 80.12 337 P **P 00 23 35.0 +0.1**
ESDC Sonseca Array 89.52 344 P **P 00 24 21.4 -0.6**
comp=Z,0.4nm,0.5s,baz=354,slow=4.5,SNR=7.6
KEST Kesra 90.10 333 P **P 00 24 24.2 -0.6**
comp=Z,2.2nm,0.5s,baz=135,slow=2.9,SNR=2.7

*KRNET **20** 00:21:00.6±0.1, 41.°88N×72.°56E, h15km, mb2.5*

*SOME **20** 00:21:00.4, 41.°87N×72.°58E, h5km*
*NNC **20** 00:21:03.4±1.1, 42.°02N×72.°53E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=13.1km s-min=4.4km az=167.0*
*KNET **20** 00:21:03.4±0.5, 41.°94N×72.°72E, h6km±2km, ml2.2, Error ellipse: s-maj=3.7km s-min=2.9km az=113.0*

ISC 20 00:21:01.5±0.8, 41.°84N±0.°03×72.°58E±0.°02, h10km, n41, σ1°18/71, 27C-17D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.46**	**265**	⇑*i*P		**Pg**	**00 21 09.2**	**-1.4**
ARK	baz=57			⇑*i*S		**Sg**	**00 21 15.7**	**-1.1**
baz=57								
ARSB	**Arslanbob**	**0.60**	**150**	⇓*i*P		**Pg**	**00 21 12.8**	**-0.3**
ARSB	baz=50			⇓*i*S		**Sb**	**00 21 21.7**	**-1.0**
baz=50								
AML	**Almayashu**	**0.88**	**70**	⇑*i*P		**Pg**	**00 21 17.3**	**-1.2**
AML	baz=73			⇑*i*S		**Sg**	**00 21 29.8**	**-0.2**
baz=73								
AML	**Almayashu**	**0.88**	**70**	⇑P		**Pg**	**00 21 17.9**	**-0.6**
AML	13nm,0.1s,SNR=11			⇓S		**Sb**	**00 21 29.9**	**-1.1**
19nm,0.1s								
MRKS	**Merke**	**1.02**	**28**	*e*P		**Pg**	**00 21 20.1**	**-1.0**
MRKS	8.1nm,0.1s			*e*S		**Sg**	**00 21 33.9**	**-0.6**
67nm,0.3s								
MRKS	**Merke**	**1.02**	**28**	P		**Pg**	**00 21 20.2**	**-1.0**
MRKS	8.1nm,0.1s			S		**Sg**	**00 21 33.9**	**-0.6**
67nm,0.3s								
EKS2	**Erkin-Say**	**1.21**	**47**	⇑*i*P		**Pb**	**00 21 22.8**	**-1.8**
EKS2	baz=49			⇑*i*S		**Sb**	**00 21 39.4**	**-0.9**
baz=49								
EKS2	**Erkin-Say**	**1.21**	**47**	⇑P		**Pb**	**00 21 24.0**	**-0.6**
EKS2	2.9nm,0.1s,SNR=11			⇑S		**Sb**	**00 21 39.9**	**-0.4**
5.4nm,0.2s								
ARLS	**Aral**	**1.30**	**89**	⇓*i*P		**Pb**	**00 21 25.7**	**-0.5**
ARLS	baz=90			⇓*i*S		**Sn**	**00 21 43.4**	**-0.1**
baz=90								
OHH	**Osh**	**1.32**	**173**	⇑*i*P		**Pb**	**00 21 26.2**	**-0.3**
OHH	baz=73			⇑*i*S		**Sg**	**00 21 44.7**	**+0.5**
baz=73								
UCH	**Uchtor**	**1.49**	**74**	⇓*i*P		**Pb**	**00 21 28.8**	**-0.8**
UCH	baz=76			⇓*i*S		**Sg**	**00 21 49.2**	**-0.3**
baz=76								
UCH	**Uchtor**	**1.49**	**74**	⇑P		**Pb**	**00 21 29.1**	**-0.4**
6.6nm,0.2s,SNR=38								
AAK	**Ala-Archa**	**1.63**	**60**	⇑*e*P		**Pb**	**00 21 30.9**	**-0.8**
AAK	baz=62			⇑*i*S		**Sg**	**00 21 53.0**	**-0.9**
baz=62								
AAK	**Ala-Archa**	**1.63**	**60**	⇑P		**Pg**	**00 21 32.0**	**-0.7**
4.3nm,0.2s,SNR=6.4								
AAK	**Ala-Archa**	**1.63**	**60**	⇑P		**Pg**	**00 21 33.0**	**+0.3**
AAK	2.0nm,0.3s			⇑S		**Sg**	**00 21 53.0**	**-0.9**
3.9nm,0.4s								
FRU1	**Bishkek**	**1.80**	**57**	⇓*i*P		**Pb**	**00 21 33.8**	**-0.8**
FRU1	baz=58			⇓*i*S		**Sb**	**00 21 57.5**	**+0.2**
baz=58								
IUG	**Iuzhnay**	**1.93**	**280**	*e*P		**Pb**	**00 21 36.3**	**-0.5**
IUG	14nm,0.2s			*e*S		**Sb**	**00 22 01.2**	**+0.3**
25nm,0.3s								
IUG	**Iuzhnay**	**1.93**	**280**	P		**Pb**	**00 21 36.3**	**-0.5**
IUG	14nm,0.2s			S		**Sb**	**00 22 01.2**	**+0.3**
25nm,0.3s								
KBK	**Karagaybulak**	**1.94**	**64**	⇑*i*P		**Pb**	**00 21 36.0**	**-1.0**
KBK	baz=66			⇑*i*S		**Sg**	**00 22 02.0**	**-1.8**
baz=66								
KBK	**Karagaybulak**	**1.94**	**64**	⇓P		**Pg**	**00 21 37.6**	**-1.0**
3.9nm,0.1s,SNR=7.5								
CHMS	**Chumysh**	**1.98**	**54**	⇑P		**Pb**	**00 21 37.7**	**0.0**
2.8nm,0.1s,SNR=5.9								
KK31	**Karatay Array**	**1.98**	**310**	Pn		**Pb**	**00 21 36.3**	**-1.4**
0.6nm,0.2s,baz=130,slow=17,SNR=29								
KK31				⇑Sn		**Sb**	**00 22 02.5**	**0.0**
2.0nm,0.2s,baz=125,slow=27,SNR=12								
KZA	**Kyzart**	**2.00**	**82**	⇑*i*P		**Pb**	**00 21 37.5**	**-0.8**
KZA	baz=84			⇑*i*S		**Sg**	**00 22 04.6**	**-1.4**
baz=84								
KZA	**Kyzart**	**2.00**	**82**	⇑P		**Pb**	**00 21 38.5**	**+0.2**
5.8nm,0.3s,SNR=9.8								
USP	**Ospenovka**	**2.01**	**44**	⇑*i*P		**Pb**	**00 21 36.9**	**-1.3**
USP	baz=45			⇑*i*S		**Sb**	**00 22 03.5**	**+0.2**
baz=45								
USP	**Ospenovka**	**2.01**	**44**	⇓P		**Pb**	**00 21 38.1**	**-0.1**
8.3nm,0.3s,SNR=10								
USP				⇓S		**Sg**	**00 22 04.8**	**-1.3**
11nm,0.2s								
BTK	**Batken**	**2.23**	**217**	⇓*i*P		**Pb**	**00 21 40.4**	**-1.5**
BTK	baz=16			⇓*i*S		**Sb**	**00 22 10.0**	**+0.5**
baz=16								
BRLS	**Boroldav**	**2.35**	**301**	*e*P		**Pb**	**00 21 44.5**	**+0.5**
BRLS	16nm,0.4s			*e*S		**Sb**	**00 22 15.2**	**+2.0**
15nm,0.3s								
BRLS	**Boroldav**	**2.35**	**301**	Pg		**Pb**	**00 21 44.5**	**+0.5**
BRLS	16nm,0.4s			Lg		Lg	00 22 15.1	
15nm,0.3s								
TKM2	**Tokmak 2**	**2.48**	**63**	⇓Pn		**Pb**	**00 21 46.5**	**+0.2**
TKM2	2.8nm,0.5s			⇑Sn		**Sg**	**00 22 19.7**	**-1.5**
11nm,0.8s								
DGS	**Degeres**	**2.74**	**58**	*e*P		**Pb**	**00 21 51.7**	**+1.0**
DGS	2.8nm,0.4s			*e*S		**Sg**	**00 22 27.4**	**-2.2**
14nm,0.7s								
DGS	**Degeres**	**2.74**	**58**	Pg		**Pb**	**00 21 51.7**	**+1.0**
DGS	2.8nm,0.4s			Lg		Lg	00 22 27.4	
14nm,0.7s								
KST	**Kastek**	**2.78**	**63**	*e*P		**Pb**	**00 21 52.1**	**+0.8**
KST	4.5nm,0.4s			*e*S		**Sg**	**00 22 28.5**	**-2.2**
16nm,0.6s								
KST	**Kastek**	**2.78**	**63**	Pg		**Pb**	**00 21 52.1**	**+0.8**
KST	4.5nm,0.4s			Lg		Lg	00 22 28.5	
16nm,0.6s								
KRBS	**Karabastau**	**2.94**	**50**	*e*P		**Pb**	**00 21 54.5**	**+0.5**
KRBS	2.6nm,0.4s			*e*S		**Sb**	**00 22 32.1**	**+2.1**
5.7nm,0.5s								
KRBS	**Karabastau**	**2.94**	**50**	Pg		**Pb**	**00 21 54.5**	**+0.5**
KRBS	2.6nm,0.4s			Lg		Lg	00 22 32.1	
5.7nm,0.5s								
BTLS	**Baital**	**3.37**	**18**	*e*P		**Pb**	**00 22 01.4**	**0.0**
BTLS	0.8nm,0.3s			*e*S		**Sb**	**00 22 44.5**	**+2.1**
3.4nm,0.3s								
BTLS	**Baital**	**3.37**	**18**	Pg		**Pb**	**00 22 01.4**	**0.0**
BTLS	1.0nm,0.2s			Lg		Lg	00 22 44.5	
3.3nm,0.3s								
KDJ	**Kajisay**	**3.44**	**84**	⇓*i*P		**Pn**	**00 21 57.2**	**+1.9**
KDJ	baz=84			⇓*i*S		**Sn**	**00 22 39.0**	**+2.7**
baz=84								
KTBS	**Karatobe**	**3.55**	**57**	*e*P		**Pb**	**00 22 05.7**	**+1.2**
KTBS	1.5nm,0.6s			*e*S		**Sg**	**00 22 51.7**	**-3.8**
15nm,0.8s								
KTBS	**Karatobe**	**3.55**	**57**	Pg		**Pb**	**00 22 05.7**	**+1.2**
KTBS	1.5nm,0.6s			Lg		Lg	00 22 51.7	
15nm,0.8s								

*IDC **20** 00:22:26.3±5.0, 51.°86N×178.°40E, h74km±45km, mb3.3/8, mb1 3.6/10, mb1mx3.3/55, mbtmp3.6/10, ML3.3/2, Error ellipse: s-maj=31.3km s-min=17.3km az=172.0*
*NEIC **20** 00:22:30.0±0.9, 51.°79N±0.°10×178.°31E±0.°09, h107km±5km, Error ellipse: s-maj=14.4km s-min=8.1km az=180.0*
*AEIC **20** 00:22:31.1±1.5, 51.°82N±0.°09×178.°31E±0.°05, h102km±4km, ML3.4, mb3.8/12(NEIC), Error ellipse: s-maj=13.5km s-min=3.5km az=164.0*

ISC 20 00:22:29.6±0.7, 51.°8N±0.°1×178.°26E±0.°05, h107km±6km, n57, σ1°28/55, mb3.6/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.21**	**47**			**Pn**	**00 22 45.0**	**+0.2**
LSNW	**Little Sitkin**	**0.23**	**44**			**Pn**	**00 22 44.8**	**+0.1**
LSPA	**Little Sitkin**	**0.24**	**52**			**Pn**	**00 22 44.9**	**0.0**
LSPA						**Sn**	**00 22 57.5**	**+1.3**
AMKA	**Amchitka**	**0.78**	**123**			**Pn**	**00 22 48.4**	**+0.1**
AMKA	**Amchitka**	**0.78**	**123**			**Sn**	**00 23 02.2**	**-0.2**
CETU	**Semis' Tuman**	**0.78**	**78**			**Pn**	**00 22 49.0**	**+0.6**
CESW	**Semis' Southwe**	**0.81**	**83**			**Pn**	**00 22 48.5**	**-0.2**
CEAP	**Semis' Anvil P**	**0.84**	**76**			**Pn**	**00 22 49.0**	**+0.1**
CERB	**Semis' Cerberu**	**0.86**	**81**			**Pn**	**00 22 49.5**	**+0.4**
CERB						**Sn**	**00 23 04.1**	**+0.3**
CERAA	**Semis' Rag'd T**	**0.89**	**83**			**Pn**	**00 22 49.3**	**-0.1**
GALAA	**Gareloi Lava P**	**1.84**	**90**			**Pn**	**00 23 00.6**	**+0.1**
GAEA	**Gareloi East**	**1.86**	**90**			**Pn**	**00 23 00.8**	**+0.1**
TASE	**Tanaga Southea**	**2.30**	**88**			**Pn**	**00 23 06.3**	**0.0**
TAFP	**Tanaga Falls P**	**2.33**	**86**			**Pn**	**00 23 06.3**	**-0.4**
TAFP						**Sn**	**00 23 34.1**	**-1.0**
SMY	**Shemya**	**2.72**	**292**			**Pn**	**00 23 12.7**	**+1.0**
SMY						**Sn**	**00 23 46.0**	**+1.9**
KIMD	**Kanaga Island**	**2.80**	**89**			**Pn**	**00 23 12.6**	**-0.2**
KICM	**Kanaga Island**	**2.82**	**86**			**Pn**	**00 23 13.3**	**+0.2**
KIKV	**Kanaga Island**	**2.83**	**87**			**Pn**	**00 23 12.9**	**-0.4**
GSTD	**Great Sitkin T**	**3.47**	**84**			**Pn**	**00 23 21.1**	**-0.8**
GSMY	**Great Sitkin M**	**3.53**	**84**			**Pn**	**00 23 22.3**	**-0.2**
GSTR	**Great Sitkin T**	**3.53**	**83**	Pn		**Pn**	**00 23 21.5**	**-1.0**
ATKA	**Atka Island**	**4.68**	**82**			**Pn**	**00 23 38.0**	**0.0**
NIKH	**Nikolski High**	**7.97**	**77**	Pn		**Pn**	**00 24 22.9**	**+0.3**
UNV	**Unalaska Valle**	**9.45**	**72**	Pn		**Pn**	**00 24 43.6**	**+1.0**
PETK	**Petropavlovsk-**	**12.61**	**284**	P		**Pn**	**00 25 23.2**	**-1.7**
	0.1nm,0.3s,baz=95,slow=18,SNR=2.0							
PETK				S		**Sn**	**00 27 38.2**	**-5.2**
	0.1nm,0.3s,baz=91,slow=25,SNR=1.8							
PETK	**Petropavlovsk-**	**12.61**	**284**	Pn		**Pn**	**00 25 26.5**	**+1.6**
SDPT	**Sand Point**	**13.11**	**66**	Pn		**Pn**	**00 25 31.6**	**+0.1**
CNBA	**Chernabura Isl**	**13.57**	**68**	Pn		**Pn**	**00 25 36.9**	**-0.6**
KDAK	**Kodiak Island**	**17.75**	**59**	P		**P**	**00 26 26.0**	**-2.9**
	0.9nm,0.3s,baz=232,slow=2.1,SNR=24							
KDAK	**Kodiak Island**	**17.75**	**59**	IAmb		IAmb	00 26 31.6	
	comp=Z,28nm,1.9s							
RDOG	**Red Dog Mine**	**18.68**	**22**	P		**Pn**	**00 26 40.6**	**0.0**
SKT	**Skwentna**	**19.20**	**46**	P		**P**	**00 26 45.3**	**+0.6**
SUA	**Susitna One**	**19.41**	**48**	P		**P**	**00 26 47.4**	**+0.2**
SUA				IAmb		IAmb	00 26 50.9	
	comp=Z,6.9nm,1.4s							
MCK	**McKinley**	**20.89**	**43**	P		**P**	**00 27 03.9**	**+0.8**
MCK				IAmb		IAmb	00 27 15.9	
	comp=Z,3.6nm,0.7s							
ILAR	**Eielson Array**	**22.09**	**41**	P		**P**	**00 27 13.3**	**-2.4**
	comp=Z,0.2nm,0.4s,baz=265,slow=9.9,SNR=1.7							
RAGM	**Ragged Mountai**	**22.11**	**53**	P		**P**	**00 27 18.1**	**+2.1**
PAX	**Paxson**	**22.18**	**46**	P		**P**	**00 27 16.6**	**-0.1**
GLB	**Gilahina Butte**	**22.66**	**50**	P		**P**	**00 27 23.1**	**+1.5**
GLB				IAmb		IAmb	00 27 24.4	
	comp=Z,4.6nm,1.0s							
BCAR	**Beaver Creek A**	**23.84**	**46**	P		**P**	**00 27 33.8**	**+1.1**
EGAK	**Eagle**	**24.45**	**42**	P		**P**	**00 27 38.5**	**+0.5**
EGAK				IAmb		IAmb	00 28 05.2	
	comp=Z,2.9nm,0.9s							
HYT	**Haines Junctio**	**25.67**	**52**	P		**P**	**00 27 52.5**	**+3.2**
SIT	**Sitka**	**27.07**	**60**	P		**P**	**00 28 01.9**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**33.23**	**200**	T		T	01 04 19.1	
	baz=11,slow=76,SNR=14							
H11N3	**WAKE ISLAND Hy**	**33.24**	**200**	T		T	01 04 20.1	
	baz=11,slow=76,SNR=9.7							
H11N1	**WAKE ISLAND Hy**	**33.25**	**200**	T		T	01 04 20.5	
	baz=11,slow=76,SNR=12							
H11S1	**WAKE ISLAND Hy**	**34.46**	**200**	T		T	01 05 58.3	
	baz=10							
H11S3	**WAKE ISLAND Hy**	**34.47**	**200**	T		T	01 06 11.0	
	baz=10							
H11S2	**WAKE ISLAND Hy**	**34.47**	**200**	T		T	01 06 08.3	
	baz=10							
NVAR	**Mina Array Bea**	**45.31**	**81**	P		**P**	**00 30 36.6**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=291,slow=8.6,SNR=3.6							
PDAR	**Pinedale Array**	**47.91**	**71**	P		**P**	**00 30 55.9**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=321,slow=2.1,SNR=3.8							
MKAR	**Makanchi Array**	**58.32**	**307**	P		**P**	**00 32 13.2**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=40,slow=7.7,SNR=6.1							
BVAR	**Borovoye Array**	**59.36**	**318**	P		**P**	**00 32 21.0**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=53,slow=6.7,SNR=11							
TXAR	**Lajitas Array**	**60.39**	**79**	P		**P**	**00 32 27.8**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=291,slow=3.7,SNR=5.2							
WRA	**Warramunga Arr**	**81.09**	**221**	P		**P**	**00 34 34.3**	**+1.5**
	comp=Z,1.3nm,0.7s,baz=32,slow=6.2,SNR=9.3							
ASAR	**Alice Springs**	**84.60**	**220**	P		**P**	**00 34 51.1**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=25,slow=4.4,SNR=6.6							
TORD	**Torodi Ar. Bea**	**115.25**	**356**	PKP		**PKiKP**	**00 40 57.8**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=2.9,slow=2.3,SNR=6.9							
MAW	**Mawson**	**145.70**	**218**	PKPbc		**PKPdf**	**00 41 54.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=64,slow=8.2,SNR=2.3							

*JMA **20** 00:23:24.2±0.2, 29.°89N×139.°96E, h313km, M3.4*
*IDC **20** 00:23:25.2±1.6, 29.°94N×139.°77E, h263km±28km, mb3.0/5, mb1 3.1/6, mb1mx2.8/54, mbtmp3.6/6, Error ellipse: s-maj=48.1km s-min=20.0km az=81.0*

ISC 20 00:23:26.4±0.8, 29.°93N±0.°08×140.°1E±0.°1, h300km, n16, σ1°25/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**3.14**	**355**	P		**Pn**	**00 24 23.1**	**-0.4**
JHJ2	**Mitsune**	**3.18**	**355**	P		**Pn**	**00 24 23.5**	**-0.4**
JHJ2				*e*S		**S**	**00 25 08.3**	**-1.6**
CBIJ	**Chichi jima**	**3.36**	**147**	P		**Pn**	**00 24 25.3**	**-0.6**
CBIJ				*e*S		**S**	**00 25 11.2**	**-2.2**
JCJ	**Chichijima**	**3.36**	**147**	P		**Pn**	**00 24 25.3**	**-0.6**
	7.9nm,0.3s,baz=319,slow=20,SNR=8.7							
JCJ				S		**S**	**00 25 11.6**	**-1.8**
	18nm,0.3s,baz=187,slow=22,SNR=15							
BSO1	**Boso 1**	**4.76**	**8**	P		**Pn**	**00 24 40.6**	**0.0**
BSO3	**Boso 3**	**4.87**	**4**	P		**Pn**	**00 24 41.5**	**-0.6**
JIE	**Ise**	**5.31**	**328**	P		**Pn**	**00 24 45.9**	**-1.6**
JOD2	**Odawara 2**	**5.39**	**351**	P		**Pn**	**00 24 47.6**	**-0.8**
JNY	**Yasuok**	**5.74**	**341**	P		**Pn**	**00 24 52.1**	**-0.5**
JRY	**Ryogami san**	**6.16**	**351**	P		**Pn**	**00 24 56.7**	**-0.8**
JMK	**Ichinoseki**	**9.04**	**5**	P		**Pn**	**00 25 32.4**	**-0.3**
KLR	**Kul'dur**	**20.30**	**344**	P		**P**	**00 27 40.9**	**+0.7**
	0.8nm,0.6s,baz=174,slow=9.2,SNR=4.3							
CMAR	**Chiang Mai Arr**	**39.07**	**263**	P		**P**	**00 30 25.0**	**-0.3**
	0.6nm,0.4s,baz=66,slow=6.7,SNR=1.2							
MKAR	**Makanchi Array**	**47.30**	**308**	P		**P**	**00 31 29.6**	**-0.8**
	0.2nm,0.5s,baz=91,slow=11,SNR=2.6							
**W

SMY	Shemya	1.93	17			Pn		00 31 22.9	-2.7	
SMY						Sn		00 31 46.0	-2.7	
LSSA	Little Sitkin	3.52	70			Pn		00 31 45.4	-2.1	
LSNW	Little Sitkin	3.53	70			Pn		00 31 45.3	-2.3	
LSNW						Sn		00 32 23.8	-4.2	
LSPA	Little Sitkin	3.56	70			Pn		00 31 46.4	-1.6	
LSPA						Sn		00 32 24.8	-4.0	
AMKA	Amchitka	3.90	80		Pn	Pn		00 31 49.3	-3.5	
CESW	Semis' Southwe	4.14	73			Pn		00 31 53.7	-2.3	
CESW						Sn		00 32 39.9	-3.3	
CEAP	Semis' Anvil P	4.17	72			Pn		00 31 54.4	-2.0	
CERAA	Semis' Rag'd T	4.21	73			Pn		00 31 54.5	-2.5	
GAEA	Gareloi East	5.16	77			Pn		00 32 07.8	-2.2	
TASE	Tanaga Southea	5.60	77			Pn		00 32 14.0	-2.1	
TAFP	Tanaga Falls P	5.64	76			Pn		00 32 14.3	-2.3	
KIMD	Kanaga Island	6.09	78			Pn		00 32 20.4	-2.4	
BKI	Bering	6.12	318		P	Pn		00 32 21.6	-1.5	
BKI					S	Sn		00 33 27.5	-4.2	
KICM	Kanaga Island	6.13	77			Pn		00 32 21.3	-2.0	
KIKV	Kanaga Island	6.14	77			Pn		00 32 21.2	-2.2	
ADK	Adak	6.44	77		P	Pn		00 32 24.5	-3.0	
ADK	Adak	6.44	77		Pn	Pn		00 32 24.5	-3.0	
GSMY	Great Sitkin M	6.84	76			Pn		00 32 30.7	-2.4	
ATKA	Atka Island	8.00	76		Pn	Pn		00 32 45.9	-3.0	
KBTR	Krutoberegovo	8.13	315		P	Pn		00 32 49.6	-1.2	
NLC	Nalytchevo	8.82	290		P	Pn		00 32 59.0	-1.1	
NLC					S	Sn		00 34 32.6	-5.5	
KZV	Kizimen	8.83	304		P	Pn		00 33 00.4	-0.1	
KZV					S	Sn		00 34 35.5	-3.2	
KII	Karymskiy	8.94	296		S	Sn		00 34 36.4	-4.9	
SMKR	Semkarok	8.96	314		P	Pn		00 33 03.0	+0.8	
SMKR					S	Sn		00 34 40.4	-1.4	
TUMR	Tumrok	8.98	304		P	Pn		00 33 02.2	-0.2	
TUMR					S	Sn		00 34 40.1	-2.1	
BDR	Baidarnaya	9.07	313		P	Pn		00 33 04.2	+0.5	
BDR					S	Sn		00 34 42.2	-2.4	
SDLR	Sedlovina	9.11	291		P	Pn		00 33 03.3	-0.9	
SDLR					S	Sn		00 34 41.2	-4.2	
UGLR	Uglovaya	9.13	290		P	Pn		00 33 03.9	-0.6	
UGLR					S	Sn		00 34 41.4	-4.6	
KMNR	Kamenistaya	9.13	307		P	Pn		00 33 05.4	+0.9	
KMNR					S	Sn		00 34 43.5	-2.5	
SRKR	Sorokina	9.14	314		P	Pn		00 33 05.5	+0.9	
SMAR	Somma	9.15	291		P	Pn		00 33 04.7	-0.2	
SMAR					S	Sn		00 34 43.1	-3.6	
KIRR	Kirishev	9.17	309		P	Pn		00 33 05.8	+0.7	
KIRR					S	Sn		00 34 43.3	-3.8	
AVH	Avacha	9.19	291		P	Pn		00 33 04.9	-0.4	
AVH					S	Sn		00 34 42.9	-4.6	
KRER	Koryakskii	9.19	291		P	Pn		00 33 04.5	-1.0	
KRER					S	Sn		00 34 42.5	-5.1	
KRSR	Krestovskiy	9.19	310		P	Pn		00 33 06.4	+1.0	
KRSR					S	Sn		00 34 45.9	-1.6	
PET	Petropavlovsk	9.21	289	*i*	P	Pn		00 33 02.9	-2.5	
RUS	Russkaya	9.23	285		P	Pn		00 33 04.6	-1.2	
RUS					S	Sn		00 34 42.4	-5.9	
KOK	Koryaka	9.26	291		P	Pn		00 33 06.6	+0.4	
KOK					S	Sn		00 34 45.4	-3.7	
KRX	Arik	9.26	291		P	Pn		00 33 05.5	-0.8	
KRX					S	Sn		00 34 44.0	-5.2	
MTVR	Mutnovka	9.44	286		P	Pn		00 33 08.0	-0.8	
MTVR					S	Sn		00 34 48.8	-4.8	
KDTR	Khodutka, Kamc	9.48	281		S	Sn		00 34 48.2	-6.2	
KRMR	Karymshinskiy	9.50	288		P	Pn		00 33 09.9	+0.4	
KRMR					S	Sn		00 34 50.5	-4.3	
GRL	Gorelyy	9.51	286		P	Pn		00 33 10.2	+0.5	
GRL					S	Sn		00 34 51.1	-4.2	
ASAK	Asacha	9.60	285		P	Pn		00 33 10.7	-0.3	
ASAK					S	Sn		00 34 53.9	-3.7	
SRDR	Sredinnyy	9.65	309		P	Pn		00 33 13.0	+1.4	
PEA0B	Petropavlovsk-	9.79	289	*i*	P	Pn		00 33 12.7	-0.8	
PEA0B	Petropavlovsk-	9.79	289		Pn	Pn		00 33 12.8	-0.6	
PETK	Petropavlovsk-	9.79	289		Pn	Pn		00 33 13.3	-0.2	
	3.3nm,0.3s,baz=103,slow=18,SNR=51									
PETK						Sn		00 34 57.4	-4.6	
	2.5nm,0.3s,baz=198,slow=32,SNR=8.6									
PETK						LR	LR	00 37 49.5		
	comp=Z,34nm,18.3s,baz=68,slow=43									
PETK	Petropavlovsk-	9.79	289		Pn	Pn		00 33 12.7	-0.8	
APC	Apacha	10.09	288		P	Pn		00 33 17.9	+0.3	
APC					S	Sn		00 35 05.7	-3.7	
MIPR	Malaya Ipel'ka	10.30	284		P	Pn		00 33 20.6	+0.1	
TILK	Tilichiki	10.36	340		P	Pn		00 33 21.8	+0.7	
TILK					S	Sn		00 35 12.3	-3.5	
ALID	Alaid	11.12	277		P	Pn		00 33 31.7	-0.2	
ALID					S	Sn		00 35 29.9	-5.1	
NIKH	Nikolski High	11.30	72		Pn	Pn		00 33 32.8	-1.3	
UNV	Unalaska Valle	12.77	69			Pn		00 33 53.2	-1.0	
AKUT	Akutan	13.23	68		Pn	Pn		00 33 58.0	-2.4	
MA2	Magadan	15.38	313		LR	LR		00 40 17.3		
	comp=Z,68nm,21.0s,baz=110,slow=37									
MA2	Magadan	15.38	313	*i*	P	Pn		00 34 26.7	-2.7	
SDPT	Sand Point	16.40	64		Pn	Pn		00 34 41.3	-1.2	
SEY	Seymchan	16.45	325		Pn	Pn		00 34 43.3	+0.2	
	0.2nm,0.3s,baz=127,slow=11,SNR=3.9									
SEY						LR	LR	00 40 33.9		
	comp=Z,108nm,18.8s,baz=130,slow=35									
SEY	Seymchan	16.45	325	*i*	P	Pn		00 34 42.6	-0.6	
CNBA	Chernabura Isl	16.88	66		Pn	Pn		00 34 45.9	-2.6	
ANM	Nome	17.73	31		P	Pn		00 34 56.8	-2.3	
ANM					pmax	pmax				
	comp=Z,24nm,0.8s									
ANM	Nome	17.73	31		Pn	Pn		00 34 56.8	-2.3	
SII	Sitkinak Islan	20.01	61		P	P		00 35 22.8	-1.9	
SVW2	Sparrevohn	20.05	47		P	P		00 35 23.3	-1.8	
YSS	Yuzh-Sakhalins	20.28	271	*eP*		P		00 35 26.6	-1.1	
YSS				*eS*		S		00 39 08.9	-4.2	
YSS					smax	smax				
	comp=N,100nm,15.0s									
YSS					smax	smax				
	comp=E,100nm,15.0s									
YSS					MLR	MLR				
	comp=Z,200nm,16.0s									
YSS					MLR	MLR				
	comp=E,100nm,15.0s									
YSS	Yuzh-Sakhalins	20.28	271		P	P		00 35 26.9	-0.8	
YSS					IAmb	IAmb		00 35 35.7		
	comp=Z,53nm,1.6s									
TTA	Tatalina	20.46	42		P	P		00 35 29.6	0.0	
TTA					pmax	pmax				
	comp=Z,10.0nm,1.0s									
TTA	Tatalina	20.46	42		P	P		00 35 29.6	0.0	
OHAK	Old Harbor	20.54	59		P	P		00 35 28.8	-1.6	
RDOG	Red Dog Mine	20.82	25		P	P		00 35 33.0	-0.4	
RDOG					IAmb	IAmb		00 35 34.5		
	comp=Z,19nm,0.9s									
KDAK	Kodiak Island	20.95	57		P	P		00 35 32.7	-2.2	
	comp=Z,21nm,0.7s,baz=282,slow=6.8,SNR=18									
KDAK					LR	LR		00 43 23.7		
	comp=Z,112nm,21.8s,baz=235,slow=36									
KDAK	Kodiak Island	20.95	57		P	P		00 35 33.6	-1.3	
KDAK					pmax	pmax				
	comp=Z,29nm,1.0s									
KDAK	Kodiak Island	20.95	57		P	P		00 35 33.6	-1.3	
KDAK					IAmb	IAmb		00 35 38.4		
	comp=Z,29nm,0.9s									
RSO	Redoubt South	21.24	50		P	P		00 35 37.0	-1.2	
JKA	Kamikawa-asahi	21.62	264		P	P		00 35 41.7	-0.4	
JKA	Kamikawa-asahi	21.62	264		IAmb	IAmb		00 36 14.0		
	comp=Z,23nm,1.2s									
ASAJ	Asahikawa	21.62	264		P	P		00 35 41.7	-0.4	
	comp=Z,8.3nm,0.6s,baz=20,slow=10,SNR=2.7									
ASAJ					LR	LR		00 42 54.0		
	comp=Z,69nm,19.5s,baz=107,slow=34									
BRLK	Bradley Lake	22.05	52		IAmb	IAmb		00 35 54.7		
	comp=Z,14nm,0.8s									
PPLA	Purkeypile	22.10	44		P	P		00 35 47.2	-0.1	
IMAR	Indian Mountai	22.60	36		P	P		00 35 50.9	-1.5	
BPAW	Bear Paw Mtn.	22.98	41		IAmb	IAmb		00 35 58.5		
	comp=Z,20nm,1.0s									
TRF	Thorofare Moun	23.08	43		IAmb	IAmb		00 36 01.1		
	comp=Z,10nm,0.8s									
KNK	Knik Glacier	23.47	49		IAmb	IAmb		00 36 01.8		
	comp=Z,13nm,1.0s									
RND	Reindeer	23.70	44		IAmb	IAmb		00 36 04.6		
	comp=Z,20nm,1.5s									
MCK	McKinley	23.74	43		IAmb	IAmb		00 36 05.4		
	comp=Z,12nm,0.8s									
NEA2	Nenana	23.92	41		P	P		00 36 04.8	-0.8	
	baz=253,SNR=42									
GLI	Glacier Island	24.06	50		IAmb	IAmb		00 36 07.8		
	comp=Z,11nm,0.7s									
WRH	Wood River Hil	24.29	41		IAmb	IAmb		00 36 11.4		
	comp=Z,18nm,1.0s									
COLD	Coldfoot	24.41	34		P	P		00 36 09.0	-1.0	
	baz=246,SNR=6.5									
COLD	Coldfoot	24.41	34		P	P		00 36 10.2	+0.2	
TCOL	CIGO, UAF Yank	24.50	40		P	P		00 36 10.1	-0.7	
	baz=254									
COLA	College	24.50	40	*i*	P	P		00 36 09.6	-1.3	
COLA					pmax	pmax				
	comp=Z,17nm,0.9s									
COLA	College	24.50	40		P	P		00 36 11.1	+0.2	
A21K	Barrow	24.65	23		P	P		00 36 11.9	-0.3	
	baz=230									
POKR	Poker Plat Res	24.74	40		P	P		00 36 13.0	-0.1	
	baz=254,SNR=6.7									
HDA	Harding Lake	24.76	42		P	P		00 36 12.7	-0.6	
	baz=256									
ILAR	Eielson Array	24.87	41		P	P		00 36 13.3	-1.0	
	comp=Z,4.5nm,0.6s,baz=249,slow=8.8,SNR=46									
ILAR	Eielson Array	24.87	41		P	P		00 36 13.0	-1.3	
PAX	Paxson	25.11	45		IAmb	IAmb		00 36 18.5		
	comp=Z,6.6nm,0.8s									
TOLK	Toolik Lake Re	25.22	31		P	P		00 36 17.8	+0.4	
	baz=244,SNR=6.7									
RIDG	Independent Ri	25.52	44		IAmb	IAmb		00 36 20.8		
	comp=Z,7.3nm,0.6s									
GLB	Gilahina Butte	25.70	49		IAmb	IAmb		00 36 24.2		
	comp=Z,19nm,1.4s									
DOT	Dot Lake	25.85	44		IAmb	IAmb		00 36 24.0		
	comp=Z,6.5nm,0.6s									
VRDI	Verde Repeater	25.85	50		IAmb	IAmb		00 36 25.7		
	comp=Z,22nm,1.6s									
MENT	Mentasta	25.89	46		IAmb	IAmb		00 36 32.2		
	comp=Z,7.1nm,0.6s									
YAK	Yakutsk	25.95	312	*i*	P	P		00 36 24.1	+0.1	
YAK					pmax	pmax				
	comp=Z,17nm,0.9s									
CRQM	Cirque	25.98	51		IAmb	IAmb		00 36 30.1		
	comp=Z,12nm,0.8s									
BALM	Baldy	26.38	50		IAmb	IAmb		00 36 44.8		
	comp=Z,16nm,1.5s									
KLR	Kul'dur	26.39	283	*i*	P	P		00 36 26.0	-2.1	
KLR					pmax	pmax				
	comp=Z,4.0nm,1.7s									
BMAR	Burnt Mountain	26.52	36		P	P		00 36 28.9	-0.3	
K27K	Chicken	26.77	43		P	P		00 36 31.3	-0.2	
	baz=262,SNR=27									
BCAR	Beaver Creek A	26.79	46		P	P		00 36 31.2	-0.4	
HYT	Haines Junctio	28.74	51		IAmb	IAmb		00 36 50.9		
	comp=Z,5.3nm,0.7s									
INK	Inuvik	30.79	36		P	P		00 37 08.2	+1.2	
	comp=Z,2.5nm,0.5s,baz=271,slow=7.5,SNR=9.1									
INK	Inuvik	30.79	36		IAmb	IAmb		00 37 09.0		
	comp=Z,14nm,1.4s									
DLBC	Dease Lake	32.81	54		P	P		00 37 27.6	+2.6	
DLBC					IAmb	IAmb		00 37 30.6		
	comp=Z,9.1nm,1.2s									
A36M	Sachs Harbour	33.99	29		P	P		00 37 35.2	+0.2	
	baz=265									
BOD	Bodaibo	34.15	305	*eP*		P		00 37 37.4	+0.8	
BOD					pmax	pmax				
	comp=Z,8.0nm,1.4s									
C36M	Paulatuk	34.28	34		P	P		00 37 37.9	+0.4	
	baz=270									
KSRS	Korea Array	34.55	265		P	P		00 37 41.0	+0.7	
	comp=Z,0.5nm,0.3s,baz=56,slow=8.1,SNR=6.7									
KSRS	Korea Array	34.55	265		P	P		00 37 41.0	+0.7	
YKA	Yellowknife Ar	39.19	44		P	P		00 38 19.6	+0.2	
	comp=Z,3.4nm,0.6s,baz=287,slow=7.0,SNR=11									
YKA					LR	LR		00 55 50.2		
	comp=Z,87nm,18.8s,baz=0.0,slow=38									
YKA	Yellowknife Ar	39.19	44	*i*	P	P		00 38 20.4	+1.0	
YKA					pmax	pmax				
	comp=Z,3.0nm,0.5s									
ULN	Ulaanbaatar	41.85	293		P	P		00 38 43.8	+2.0	
ULN					pmax	pmax				
	comp=Z,3.0nm,0.5s									
ULN	Ulaanbaatar	41.85	293		P	P		00 38 43.8	+2.0	
TLY	Talaya	41.96	299		P	P		00 38 44.3	+1.8	
TLY					pmax	pmax				
	comp=Z,7.0nm,0.6s									
TLY	Talaya	41.96	299		P	P		00 38 44.3	+1.8	
TLY					IAmb	IAmb		00 39 31.0		
	comp=Z,7.4nm,0.6s									
SONM	Songino Array	42.25	293		P	P		00 38 45.4	+0.4	
	comp=Z,0.3nm,0.4s,baz=50,slow=9.5,SNR=5.3									
SONM	Songino Array	42.25	293		P	P		00 38 45.4	+0.4	
H04D	Lebanon	42.39	73		P	P		00 38 45.9	-0.1	
	baz=302									
I03D	Drain, OR	42.46	74		P	P		00 38 46.9	+0.2	
	baz=303									
ZAK	Zakamensk	42.78	298	*eP*		P		00 38 50.6	+1.4	
ZAK					pmax	pmax				
	comp=Z,3.0nm,1.6s									
K02D	Willamette Mer	42.82	75		P	P		00 38 50.2	+0.6	
	baz=304									
HHC	Hu-ho-hao-te	42.88	281	*eP*		P		00 38 51.6	+1.4	
HHC					pmax	pmax				
	comp=Z,27nm,0.8s									
HHC					pmax	pmax				
	comp=Z,67nm,5.6s									
I04A	Tendick Farm,	42.98	73		P	P		00 38 52.0	+1.1	
	baz=303									
HAWA	Hanford	43.31	69		IAmb	IAmb		00 38 55.5		
	comp=Z,7.6nm,0.7s									
C09A	Chrisman Ranch	43.32	66		IAmb	IAmb		00 38 57.1		
	comp=Z,7.0nm,0.8s									
J04D	Umpqua Nationa	43.47	74		P	P		00 38 56.0	+1.0	
	baz=304									
GUMO	Guam	43.70	222		LR	LR		00 53 24.8		
	comp=Z,47nm,21.7s,baz=135,slow=31									
NJ2	Nanjing	43.73	266	*eP*		P		00 38 57.9	+0.9	
NJ2					pmax	pmax				
	comp=Z,6.0nm,0.6s									
NEW	Newport	43.75	65		P	P		00 38 57.0	0.0	
	baz=301									
L04D	Klamath Falls	43.92	75		P	P		00 38 58.6	-0.1	
	baz=304									
J05D	Fort Fock, OR	43.97	73		P	P		00 39 01.1	+2.1	
	baz=304,SNR=5.1									
E09A	Wood Farm, Sta	44.06	68		IAmb	IAmb		00 39 03.9		
	comp=Z,9.7nm,1.2s									
K05A	Summer Lake	44.49	74		P	P		00 39 05.9	+2.6	
K05A					IAmb	IAmb		00 39 06.4		
	comp=Z,9.0nm,0.9s									
WALA	Waterton Lakes	45.16	62		P	P		00 39 08.6	+0.2	
WVOR	Wild Horse Val	46.03	73		IAmb	IAmb		00 39 17.8		
	comp=Z,5.9nm,1.1s									
MSO	Missoula	46.34	65		P	P		00 39 17.6	-0.1	
	baz=303									
MSO	Missoula	46.34	65		P	P		00 39 17.6	-0.1	
MSO					IAmb	IAmb		00 39 21.2		
	comp=Z,6.1nm,1.1s									
HLID	Hailey	47.90	69		P	P		00 39 30.4	+0.3	
	baz=306									
HLID	Hailey	47.90	69		IAmb	IAmb		00 39 48.0		
	comp=Z,5.5nm,1.4s									
EGMT	Eagleton	48.05	62		P	P		00 39 30.8	-0.2	
	baz=304									
BOZ	Bozeman (W)	48.35	65		P	P		00 39 34.0	+0.5	
	baz=305,SNR=6.6									
BOZ	Bozeman (W)	48.35	65		IAmb	IAmb		00 39 34.9		
	comp=Z,4.2nm,0.7s									
NVAR	Mina Array Bea	48.63	77		P	P		00 39 35.6	-0.1	
	comp=Z,0.6nm,0.6s,baz=297,slow=7.9,SNR=6.4									
NVAR					PcP	PcP		00 41 01.4	+0.6	
	comp=Z,0.4nm,0.6s,baz=287,slow=4.6,SNR=2.8									
NVAR	Mina Array Bea	48.63	77		P	P		00 39 37.0	+1.3	
RLMT	Red Lodge	49.99	65		P	P		00 39 46.9	+0.8	
	baz=306									
R11A	Troy Canyon, C	50.35	75		P	P		00 39 49.7	+0.9	
	baz=309									
SPITS	Spitsbergen Ar	50.42	354		P	P		00 39 49.0	+0.5	
	comp=Z,5.3nm,0.7s,baz=87,slow=5.3,SNR=10									
SPITS					LR	LR		01 03 60.0		
	comp=Z,31nm,18.3s,baz=5.0,slow=39									
SCZ2	Santa Cruz Isl	50.62	82		P	P		00 39 52.7	+2.0	
	baz=311									
TPNV	Topopah Spring	50.82	77		P	P		00 39 54.1	+1.7	
	baz=310									
DUG	Dugway, Tooele	50.88	72		P	P		00 39 54.2	+1.5	
	baz=308,SNR=7.3									
DUG	Dugway, Tooele	50.88	72		IAmb	IAmb		00 39 55.5		
	comp=Z,5.5nm,0.8s									
EDW2	Edwards Air Fo	51.07	80		P	P		00 39 56.3	+2.1	
	baz=311									
SNCC	San Nicolas Is	51.18	83		P	P		00 39 56.1	+1.3	
	baz=312									
BW06	Boulder Array	51.23	67		P	P		00 39 56.4	+0.9	
	baz=308,SNR=7.4									
PDAR	Pinedale Array	51.23	67		P	P		00 39 56.0	+0.6	
	comp=Z,2.5nm,0.7s,baz=306,slow=3.1,SNR=34									
PDAR					LR	LR		00 59 20.8		
	comp=Z,39nm,21.9s,baz=320,slow=33									
PDAR	Pinedale Array	51.23	67		P	P		00 39 54.8	-0.6	
PRN	Pahroc Range	51.27	76		P	P		00 39 55.6	-0.1	
PRN					IAmb	IAmb		00 39 59.2		
	comp=Z,5.9nm,1.2s									
DGZ	Jazzator, Alta	51.74	304	*i*	P	P		00 39 59.5	+0.4	
DGZ					pmax	pmax				
	comp=Z,2.0nm,1.1s									
TMUT	Trail Mountain	52.41	72		P	P		00 40 05.1	+0.7	
RDMU	Red Mountain	52.58	69		P	P		00 40 06.4	+0.9	
LCMT	Little Creek M	52.63	75		P	P		00 40 07.3	+1.5	
Q16A	Castle Valley	52.67	72		P	P		00 40 07.6	+1.4	
KNB	Kanab	52.88	75		P	P		00 40 08.7	+0.9	
KNB					pmax	pmax				
	comp=Z,18nm,1.9s									
KNB	Kanab	52.88	75		P	P		00 40 08.7	+0.9	
SRU	San Rafael Swe	52.94	71		P	P		00 40 09.8	+1.7	
SRU					pmax	pmax				
	comp=Z,7.0nm,0.6s									
SRU	San Rafael Swe	52.94	71		P	P		00 40 09.8	+1.7	
K22A	Casper	53.06	65		P	P		00 40 09.8	+0.8	
	baz=309									
O20A	White River Ci	53.65	69		P	P		00 40 14.6	+1.3	
	baz=310,SNR=6.0									
O20A	White River Ci	53.65	69		P	P		00 40 13.2	-0.1	
ULM	Lac du Bonnet	54.10	52		LR	LR		01 04 30.0		
	comp=Z,82nm,18.5s,baz=316,slow=37									
WUAZ	Wupatki	54.75	75		P	P		00 40 23.2	+1.8	
	baz=311									
WMQ	Urumqi	55.23	299	*eP*		P		00 40 28.1	+3.4	
MVCO	Mesa Verde	55.38	72		P	P		00 40 27.2	+1.2	
	baz=311									
ISCO	Idaho Springs	55.41	68		P	P		00 40 27.6	+1.3	
	baz=311									
KURK	Kurchatov	55.56	310	*i*	P	P		00 40 27.3	+0.5	
KURK					pmax	pmax				
	comp=Z,6.0nm,1.1s									
KURK	Kurchatov	55.56	310		P	P		00 40 28.1	+1.3	
FRB	Frobisher Bay	55.97	28		LR	LR		01 07 26.5		
	comp=Z,79nm,18.2s,baz=356,slow=39									
S22A	4UR Ranch, Cre	56.03	70		P	P		00 40 31.5	+0.8	
	baz=311									
S22A	4UR Ranch, Cre	56.03	70		P	P		00 40 30.5	-0.2	
MK31	Makanchi Array	56.24	304		P	P		00 40 33.4	+1.6	
MK31					pmax	pmax				
	comp=Z,6.0nm,1.4s									
MK31	Makanchi Array	56.24	304		P	P		00 40 33.4	+1.6	
MK31					IAmb	IAmb		00 40 42.3		
	comp=Z,5.7nm,1.4s									
MKAR	Makanchi Array	56.24	304		P	P		00 40 31.2	-0.6	
	comp=Z,1.0nm,0.5s,baz=51,slow=5.7,SNR=10									
MKAR	Makanchi Array	56.24	304		P	P		00 40 32.3	+0.5	
MKAR	Makanchi Array	56.24	304		P	P		00 40 32.3	+0.5	
SDCO	Great Sand Dun	56.82	69		P	P		00 40 37.7	+1.4	
	baz=312,SNR=8.1									
ARCES	ARCESS Array B	57.57	347		P	P		00 40 41.7	+0.9	
	comp=Z,3.8nm,0.9s,baz=48,slow=9.0,SNR=4.8									
ARCES					LR	LR		01 08 16.4		
	comp=Z,43nm,18.6s,baz=326,slow=39									
BVAR	Borovoye Array	57.85	316		P	P		00 40 43.8	+0.8	
	comp=Z,2.8nm,0.6s,baz=37,slow=7.5,SNR=17									
BRVK	Borovoye	57.87	316	*i*	P	P		00 40 42.9	-0.3	
BRVK					pmax	pmax				
	comp=Z,3.0nm,0.9s									
BRVK	Borovoye	57.87	316		P	P		00 40 43.7	+0.5	
T25A	Trinidad	57.87	69		P	P		00 40 45.4	+1.7	
	baz=312									
ANMO	Albuquerque	58.12	73	*i*	P	P		00 40 44.3	-1.1	
ANMO					pmax	pmax				
	comp=Z,1.0nm,1.0s									
ARU	Arti	60.20	324	*d i*	P	P		00 40 59.5	+0.3	
ARU								00 41 42.1		
ARU								00 43 09.4		
ARU					S	S		00 49 16.9	+6.8	
ARU					pmax	pmax				
	comp=Z,5.0nm,1.1s									
MNTX	Cornudas Mount

	baz=320							
M55A	**Ridgway**	**68.73**	**50**	P		**P**	**00 41 54.5**	**-0.8**
	baz=320							
L56A	**Greenwood**	**68.80**	**49**	P		**P**	**00 41 55.9**	**+0.2**
	baz=320							
I58A	**Old Forge**	**68.81**	**46**	P		**P**	**00 41 55.6**	**-0.2**
	baz=321							
E62A	**Clayton Lake**	**68.88**	**41**	P		**P**	**00 41 56.6**	**+0.4**
	baz=323							
G60A	**Masonville**	**68.89**	**44**	P		**P**	**00 41 56.5**	**+0.3**
	baz=322							
K58A	**Earlville**	**69.22**	**47**	P		**P**	**00 41 58.4**	**+0.1**
	baz=321							
I59A	**Olmsteadville**	**69.22**	**45**	P		**P**	**00 41 58.4**	**+0.1**
	baz=321							
F62A	**Pittston Farm,**	**69.27**	**42**	P		**P**	**00 41 58.4**	**-0.1**
	baz=323							
M57A	**Sunshine Farm,**	**69.62**	**49**	P		**P**	**00 42 01.6**	**+0.8**
	baz=321							
E64A	**Bridgewater**	**69.74**	**40**	P		**P**	**00 42 01.8**	**+0.4**
	baz=324							
F63A	**Nahmakanta, Br**	**69.79**	**41**	P		**P**	**00 42 02.3**	**+0.6**
	baz=323							
H62A	**Milan**	**69.82**	**43**	P		**P**	**00 42 02.4**	**+0.5**
	baz=323							
N58A	**Sunbury**	**70.20**	**49**	P		**P**	**00 42 05.1**	**+0.7**
	baz=321							
M59A	**Waymart**	**70.27**	**48**	P		**P**	**00 42 04.9**	**+0.1**
	baz=321							
J62A	**Henniker**	**70.60**	**45**	P		**P**	**00 42 06.5**	**-0.2**
	baz=323							
G65A	**Princeton**	**70.84**	**41**	P		**P**	**00 42 07.8**	**-0.3**
	baz=324							
J63A	**Strafford**	**70.88**	**44**	P		**P**	**00 42 08.6**	**+0.2**
	baz=323							
V54A	**Nebo**	**71.46**	**56**	P		**P**	**00 42 12.1**	**0.0**
	baz=320							
EKA	**Eskdalemuir Ar**	**74.10**	**358**	P		**P**	**00 42 27.5**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=16,slow=8.1,SNR=1.5							
AKASG	**Malin Array Be**	**74.23**	**337**	P		**P**	**00 42 29.2**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=22,slow=6.4,SNR=2.3							
AKASG				LR		LR	01 18 44.5	
	comp=Z,23nm,19.7s,baz=350,slow=39							
GEYT	**Allbeck**	**74.83**	**312**	P		**P**	**00 42 32.2**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=15,slow=6.0,SNR=2.3							
KBZ	**Khabaz**	**76.33**	**325**	LR		LR	01 20 54.8	
	comp=Z,33nm,18.6s,baz=20,slow=39							
OSTC	**Ostas**	**77.04**	**345**	*e*P		P	00 42 54.9	+11
KOLS	**Kolonicke sedl**	**77.47**	**341**	*e*P		**P**	**00 42 50.1**	**+3.3**
KOLS	**Kolonicke sedl**	**77.47**	**341**	*e*P		**P**	**00 42 50.1**	**+3.3**
KOLS				*e*			00 50 24.9	
LANS	**Liptovska Anna**	**77.82**	**343**	*e*P		P	00 42 54.1	+5.3
LANS	**Liptovska Anna**	**77.82**	**343**	*e*P		P	00 42 54.1	+5.3
BUR08	**Bucovina Ar. S**	**78.05**	**338**	P		**P**	**00 42 51.3**	**+1.2**
BURAR	**Bucovina Array**	**78.07**	**338**	P		**P**	**00 42 50.8**	**+0.6**
BURAR	**Bucovina Array**	**78.07**	**338**	P		**P**	**00 42 50.8**	**+0.6**
WRA	**Warramunga Arr**	**78.35**	**217**	P		**P**	**00 42 50.8**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=30,slow=6.4,SNR=12							
WRA	**Warramunga Arr**	**78.35**	**217**	*i* P		**P**	**00 42 51.2**	**-0.7**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**78.35**	**217**	IAmb		IAmb	00 42 57.8	
	comp=Z,0.2nm,1.1s							
VYHS	**Vyhne**	**78.57**	**343**	*e*P		**P**	**00 42 56.4**	**+3.5**
VYHS	**Vyhne**	**78.57**	**343**	*e*P		**P**	**00 42 56.4**	**+3.5**
KHC	**Kasperske Hory**	**78.83**	**346**	*e*P		**P**	**00 42 57.4**	**+3.0**
KHC				*e*			00 43 05.6	
KHC	**Kasperske Hory**	**78.83**	**346**	*e*P		**P**	**00 42 57.4**	**+3.0**
KHC				*ex*		x	00 43 05.6	
GERES	**GERESS Array B**	**79.09**	**346**	P		**P**	**00 42 57.1**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=23,slow=7.2,SNR=6.3							
GERES				LR		LR	01 22 31.4	
	comp=Z,16nm,18.4s,baz=40,slow=39							
CONA	**Conrad Observa**	**79.64**	**345**	*e*PcP		**PcP**	**00 43 04.6**	**-2.1**
	comp=Z,1.3nm,0.6s							
MLR	**Muntele Rosu**	**79.89**	**337**	P		**P**	**00 43 01.5**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=313,slow=24,SNR=1.8							
FITZ	**Fitzroy Crossi**	**80.33**	**225**	P		**P**	**00 43 02.7**	**0.0**
	comp=Z,1.3nm,0.6s,baz=16,slow=5.6,SNR=6.8							
KBA	**Koelnbreinsper**	**80.87**	**346**	sP		**P**	**00 43 08.2**	**+2.6**
	comp=Z,13nm,1.4s							
MOTA	**Moosalm**	**80.93**	**348**	*es*P		**P**	**00 43 09.3**	**+3.4**
	comp=Z,4.0nm,1.1s							
SOKA	**Soboth**	**80.99**	**345**	*es*P		**P**	**00 43 08.9**	**+2.8**
	comp=Z,6.5nm,1.2s							
PETF	**Flores**	**81.37**	**74**	P		**P**	**00 43 08.1**	**-0.3**
ASAR	**Alice Springs**	**81.91**	**216**	P		**P**	**00 43 09.9**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=37,slow=4.0,SNR=6.1							
ASAR	**Alice Springs**	**81.91**	**216**	P		**P**	**00 43 11.0**	**0.0**
ASAR	**Alice Springs**	**81.91**	**216**	P		**P**	**00 43 11.0**	**0.0**
TUE	**Stuetta**	**82.01**	**349**	P		**P**	**00 43 11.8**	**+0.1**
TUE				IAmb		IAmb	00 43 27.2	
	comp=Z,4.6nm,1.0s							
TORD	**Torodi Ar. Bea**	**115.80**	**351**	PKP		**PKPdf**	**00 49 34.8**	**+0.6**
	comp=Z,0.1nm,0.6s,baz=354,slow=1.2,SNR=1.0							

IDC 20 00:41:37.5±7.4,**3.61S**×**151.12E**,**h0**km,**mb3.3**/2, **mb1 3.6**/2,**mb1mx3.3**/28,**mbtmp3.3**/2,**MS4.0**/1,**Ms1 4.0**/1, **ms1mx2.9**/16,**Error ellipse: s-maj=376.5km s-min=51.6km az=115.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.05**	**224**	P	P	00 46 45.1	+0.3
	0.8nm,0.8s,baz=44,slow=9.4,SNR=3.8						
ASAR	**Alice Springs**	**25.96**	**218**	P	P	00 47 11.6	-0.5
	0.4nm,0.7s,baz=43,slow=8.3,SNR=1.6						
RAR	**Rarotonga**	**50.80**	**114**	LR	LR	01 08 15.9	
	comp=Z,17nm,21.1s,baz=294,slow=32						
TORD	**Torodi Ar. Bea**	**115.80**	**289**	PKPbc	PKPbc	01 01 26.5	-0.5
	0.4nm,0.9s,baz=55,slow=3.6,SNR=5.7						

*IDC **20** 00:44:59.4±2.3,32.67N×47.46E,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.5/33,mbtmp3.7/5,Error ellipse: s-maj=52.1km s-min=29.6km az=160.0*
*ISN **20** 00:45:00.5±0.6,32.71N×47.52E,h15km±4km,ML3.5*
*THR **20** 00:45:00.3±0.3,32.65N×47.38E,h18km±9km,ML3.7*
*TEH **20** 00:45:01.2,32.74N×47.49E,h8km,ML3.5*
ISC 20 00:45:01.3±1.2,**32.73N**±0.03×**47.47E**±0.03,**h9**km±9km, **n60**,σ1**9**20/65,**mb3.6**/5,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.16**	**255**	*e*Pg	**Pg**	**00 45 05.1**	**+0.4**
IKFM	**Kafar-mosalman**	**0.86**	**22**	*e*Pg	**Pg**	**00 45 16.9**	**-0.9**
IKMR	**Kamar-syah**	**1.10**	**44**	*e*Pg	**Pb**	**00 45 22.1**	**-0.4**
IKMR				*e*		00 45 42.7	
IDOB	**Doab**	**1.22**	**29**	*e*Pg	**Pn**	**00 45 24.7**	**0.0**
IDOB				*e*Sg	**Sn**	**00 45 42.4**	**+1.0**
IBDR	**Badra**	**1.35**	**287**	*e*Pg	**Pn**	**00 45 26.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**00 45 45.0**	**+0.3**
IBDR				AML	AML	00 45 51.3	
	comp=N,709nm,0.4s						
IBDR				AML	AML	00 45 51.5	
	comp=E,885nm,0.8s						
IKOM	**Komasi**	**1.45**	**1**	*e*Pg	**Pg**	**00 45 28.9**	**-0.2**
IKOM				*e*		00 45 32.8	
BMDN	**Meydan**	**1.48**	**50**	*e*Pg	**Pb**	**00 45 28.7**	**-0.4**
BMDN				*e*		00 45 59.6	
KCHF	**Cheshme Sefid,**	**1.59**	**347**	*e*Pg	**Pb**	**00 45 31.1**	**+0.2**
KCHF				*e*		00 46 00.8	
KER	**Kermanshah**	**1.68**	**350**	*e*Pg	**Pg**	**00 45 33.2**	**-0.3**
AHWZ	**Ahwaz**	**1.71**	**144**	*e*Pg	**Pg**	**00 45 34.4**	**+0.3**
HSAM	**Samen**	**1.76**	**32**	*e*Pg	**Pg**	**00 45 34.3**	**-0.8**
HSAM				*e*		00 46 02.3	
IGHG	**Ghaleghazi**	**1.77**	**335**	*e*Pn	**Pb**	**00 45 34.2**	**+0.1**
IGHG				*e*		00 46 16.3	
IBZA	**Bozab**	**1.77**	**11**	*e*Pg	**Pb**	**00 45 34.4**	**+0.3**
IBZA				*e*		00 46 06.7	
IVIS	**Veis**	**1.87**	**344**	*e*Pn	**Pb**	**00 45 36.0**	**+0.3**
IVIS				*e*		00 46 06.2	
NSR	**Nassriya**	**2.05**	**214**	*e*Pn	**Pn**	**00 45 36.0**	**0.0**
NSR				*e*Sn	**Sn**	**00 46 01.0**	**-0.7**
IDHR	**Dehrash**	**2.17**	**336**	*e*Pn	**Pn**	**00 45 39.1**	**+1.3**
IALM	**Almabolaq**	**2.21**	**15**	*e*Pn	**Pb**	**00 45 40.6**	**-1.0**
ILIN	**Lien**	**2.23**	**349**	*e*Pn	**Pn**	**00 45 39.2**	**+0.5**
ILIN				*e*		00 46 23.8	
KHMZ	**Khomeyn**	**2.32**	**63**	*e*Pn	**Pn**	**00 45 41.3**	**+1.4**
KHMZ	**Khomeyn**	**2.32**	**63**	*e*Pn	**Pn**	**00 45 41.3**	**+1.4**
SNGE	**Sanandaj**	**2.36**	**358**	*e*Pn	**Pn**	**00 45 41.3**	**+0.8**
SNGE				*e*Sg	**Sg**	**00 46 16.7**	**-0.6**
SNGE	**Sanandaj**	**2.36**	**358**	*e*Pn	**Pn**	**00 45 41.3**	**+0.8**
HAGD	**Aghdareh**	**2.51**	**33**	*e*Pn	**Pn**	**00 45 44.4**	**+1.8**
HAGD				*e*		00 46 27.9	
HSRG	**Sareghieh**	**2.60**	**15**	*e*Pn	**Pb**	**00 45 46.2**	**-2.1**
HSRG				*e*		00 46 34.1	
BHD	**Baghdad**	**2.65**	**283**	*e*Pn	**Pn**	**00 45 45.0**	**+0.8**
BHD				*e*Sn	**Sn**	**00 46 18.0**	**+1.5**
JHBN	**Jahan bin**	**2.75**	**99**	*e*Pn	**Pn**	**00 45 47.6**	**+1.7**
ASAO	**Ashtian**	**2.80**	**49**	*e*Pn	**Pn**	**00 45 48.0**	**+1.4**
ASAO				*e*Sg	**Sg**	**00 46 31.3**	**-0.1**
ASAO	**Ashtian**	**2.80**	**49**	*e*Pn	**Pn**	**00 45 48.0**	**+1.4**
IPIR	**Pirpir**	**2.89**	**90**	*e*Pn	**Pn**	**00 45 49.6**	**+1.8**
IPIR				*e*		00 46 39.3	
ROKH	**ROKH**	**3.04**	**96**	*e*Pn	**Pn**	**00 45 50.9**	**+1.1**
IRAZ	**Razeghan**	**3.36**	**37**	*e*Pn	**Pn**	**00 45 56.3**	**+2.0**
QABG	**Abgarm-Qazvin**	**3.45**	**30**	*e*Pn	**Pn**	**00 45 56.8**	**+1.3**
IKLH	**Kolahrood**	**3.50**	**79**	*e*Pn	**Pn**	**00 45 58.5**	**+2.3**
IKLH				*e*		00 46 00.4	
IGAR	**Gharneh**	**3.88**	**94**	*e*Pn	**Pn**	**00 46 02.3**	**+1.0**
KLNJ	**Kolanjah**	**3.90**	**115**	*e*Pn	**Pn**	**00 46 02.9**	**+1.1**
KLNJ				*e*		00 47 27.7	
QSDN	**Sirdan**	**4.02**	**20**	*e*Pn	**Pn**	**00 46 05.7**	**+2.3**
ZNJK	**Zanjan**	**4.06**	**14**	*e*Pn	**Pn**	**00 46 05.1**	**+1.2**
ZNJK	**Zanjan**	**4.06**	**14**	*e*Pn	**Pn**	**00 46 05.1**	**+1.2**
IZEF	**Zefreh**	**4.10**	**86**	*e*Pn	**Pn**	**00 46 06.0**	**+1.6**
IRAM	**Ramesheh**	**4.26**	**101**	*e*Pn	**Pn**	**00 46 07.1**	**+0.5**
IGZV	**Ghazvin**	**4.30**	**31**	*e*Pn	**Pn**	**00 46 08.6**	**+1.5**
CHTH	**Charan**	**4.39**	**43**	*e*Pn	**Pn**	**00 46 09.8**	**+1.4**
CHTH	**Charan**	**4.39**	**43**	*e*Pn	**Pn**	**00 46 09.8**	**+1.4**
QALM	**Alamut, Qazvin**	**4.53**	**34**	*e*Pn	**Pn**	**00 46 12.1**	**+1.7**
IDMV	**Damavand**	**4.73**	**52**	*e*Pn	**Pn**	**00 46 14.0**	**+0.8**
ANAR	**Anarak**	**5.28**	**83**	*e*Pn	**Pn**	**00 46 21.2**	**+0.6**
ISAD	**Sadrabad**	**5.33**	**97**	*e*Pn	**Pn**	**00 46 21.9**	**+0.6**
IHRS	**Heris**	**5.59**	**357**	*e*Pn	**Pn**	**00 46 27.7**	**+2.8**
YZKH	**Yazd**	**6.02**	**91**	*e*Pn	**Pn**	**00 46 32.1**	**+1.4**
YZKH	**Yazd**	**6.02**	**91**	*e*Pn	**Pn**	**00 46 32.1**	**+1.4**
GRMI	**Germi**	**6.08**	**3**	*e*Pn	**Pn**	**00 46 32.8**	**+1.3**
GRMI	**Germi**	**6.08**	**3**	*e*Pn	**Pn**	**00 46 32.8**	**+1.3**
TPRV	**Parvadeh(Tabas**	**7.76**	**85**	*e*Pn	**Pn**	**00 46 55.7**	**+1.1**
TKDS	**Koohdasht(Taba**	**8.14**	**81**	*e*Pn	**Pn**	**00 47 00.2**	**+0.4**
KRBR	**Kerman**	**8.40**	**107**	IAML		00 48 59.0	
	comp=N,4.7nm,0.8s						
AKASG	**Malin Array Be**	**22.43**	**329**	P	**P**	**00 50 00.3**	**0.0**
	comp=N,1.4nm,0.6s,baz=138,slow=9.5,SNR=6.1						
MKAR	**Makanchi Array**	**29.96**	**52**	P	**P**	**00 51 10.3**	**+0.4**
	comp=N,0.6nm,0.7s,baz=250,slow=9.7,SNR=5.1						
ZALV	**Zalesovo Beam**	**33.90**	**40**	P	**P**	**00 51 42.9**	**-1.4**
	comp=N,0.9nm,0.6s,baz=260,slow=8.6,SNR=2.3						
ARCES	**ARCESS Array B**	**38.87**	**348**	P	**P**	**00 52 26.4**	**-0.2**
	comp=N,3.5nm,0.9s,baz=167,slow=8.3,SNR=1.9						
TORD	**Torodi Ar. Bea**	**46.03**	**256**	P	**P**	**00 53 24.7**	**-0.8**
	comp=N,0.4nm,0.9s,baz=46,slow=8.3,SNR=2.9						

*ISN **20** 00:50:25.8±0.8,32.74N×47.53E,h18km±5km,ML2.8*
*TEH **20** 00:50:28.7,32.72N×47.50E,h10km,ML3.0*
*THR **20** 00:50:31.1±0.3,32.84N×47.38E,h14km±35km,ML3.1*
ISC 20 00:50:28.5±1.1,**32.71N**±0.04×**47.42E**±0.03,**h13**km±9km, **n32**,σ1**9**22/36,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.12**	**258**	*e*Pg	**Pg**	**00 50 32.5**	**+0.8**
IKFM	**Kafar-mosalman**	**0.89**	**24**	*e*Pg	**Pg**	**00 50 44.5**	**-1.3**
IKMR	**Kamar-syah**	**1.14**	**45**	*e*Pg	**Pn**	**00 50 49.9**	**-0.4**
IDOB	**Doab**	**1.25**	**30**	*e*Pg	**Pg**	**00 50 52.2**	**-0.5**
IBDR	**Badra**	**1.31**	**288**	*e*Pg	**Pn**	**00 50 52.0**	**-0.6**
IBDR				*e*Sg	**Sb**	**00 51 10.0**	**+0.1**
IBDR				AML	AML	00 51 18.9	
	comp=N,164nm,0.9s						
IBDR				AML	AML	00 51 19.1	
	comp=E,169nm,0.8s						
IKOM	**Komasi**	**1.47**	**3**	*e*Pg	**Pg**	**00 50 56.7**	**-0.1**
IKOM				*e*		00 51 20.8	
BMDN	**Meydan**	**1.52**	**50**	*e*Pg	**Pg**	**00 50 56.6**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.60**	**349**	*e*Pg	**Pg**	**00 50 59.0**	**-0.2**
KCHF				*e*		00 58 45.4	
KER	**Kermanshah**	**1.69**	**352**	*e*Pg	**Pg**	**00 51 01.3**	**+0.2**
IGHG	**Ghaleghazi**	**1.77**	**337**	*e*Pn	**Pb**	**00 51 02.2**	**+1.2**
IGHG				*e*		00 51 35.6	
IBZA	**Bozab**	**1.80**	**12**	*e*Pg	**Pb**	**00 51 01.6**	**+0.1**
IBZA				*e*		00 51 31.3	
HSAM	**Samen**	**1.80**	**33**	*e*Pg	**Pb**	**00 51 01.1**	**-0.5**
HSAM				*e*		00 51 29.8	
IVIS	**Veis**	**1.88**	**346**	*e*Pn	**Pg**	**00 51 04.1**	**-0.5**
NSR	**Nassriya**	**2.01**	**213**	*e*Pn	**Pn**	**00 51 01.0**	**-1.2**
NSR				*e*Sn	**Sn**	**00 51 27.0**	**-0.2**
IDHR	**Dehrash**	**2.17**	**337**	*e*		00 51 44.4	
IDHR				*e*Pn	**Pb**	**00 51 07.7**	**-0.1**
ILIN	**Lien**	**2.24**	**350**	*e*		00 51 51.6	
ILIN				*e*Pn	**Pb**	**00 51 08.9**	**-0.2**
KHMZ	**Khomeyn**	**2.37**	**63**	*e*Pn	**Pb**	**00 51 11.2**	**0.0**
KHMZ	**Khomeyn**	**2.37**	**63**	*e*Pn	**Pb**	**00 51 11.2**	**0.0**
SNGE	**Sanandaj**	**2.38**	**359**	*e*Pn	**Pb**	**00 51 10.1**	**-1.4**
SNGE				*e*Sg	**Sb**	**00 51 41.9**	**+1.1**
SNGE				IAML		00 51 57.2	
	comp=N,21nm,0.5s						
SNGE	**Sanandaj**	**2.38**	**359**	*e*Pn	**Pb**	**00 51 10.1**	**-1.4**
HAGD	**Aghdareh**	**2.55**	**34**	*e*Pn	**Pn**	**00 51 11.3**	**+1.4**
BHD	**Baghdad**	**2.61**	**283**	*e*Pn	**Pn**	**00 51 10.0**	**-0.5**
BHD				*e*Sn	**Sn**	**00 51 43.0**	**+0.9**
JHBN	**Jahan bin**	**2.79**	**99**	*e*Pn	**Pn**	**00 51 14.6**	**+1.4**
ASAO	**Ashtian**	**2.85**	**49**	*e*Pn	**Pb**	**00 51 17.5**	**-1.9**
ASAO				*e*Sg	**Sg**	**00 51 58.5**	**-1.6**
ASAO				IAML		00 52 07.8	
	comp=N,15nm,0.5s						
ASAO	**Ashtian**	**2.85**	**49**	*e*Pn	**Pb**	**00 51 17.5**	**-1.9**
IPIR	**Pirpir**	**2.93**	**89**	*e*Pn	**Pn**	**00 51 17.2**	**+2.1**
QABG	**Abgarm-Qazvin**	**3.49**	**30**	*e*Pn	**Pn**	**00 51 23.9**	**+1.1**
IKLH	**Kolahrood**	**3.55**	**79**	*e*Pn	**Pn**	**00 51 25.1**	**+1.5**
KLNJ	**Kolanjah**	**3.93**	**114**	*e*Pn	**Pn**	**00 51 30.7**	**+1.7**
QSDN	**Sirdan**	**4.06**	**20**	*e*Pn	**Pn**	**00 51 33.2**	**+2.6**
IZEF	**Zefreh**	**4.14**	**86**	*e*Pn	**Pn**	**00 51 33.3**	**+1.5**
KRBR	**Kerman**	**8.44**	**106**	IAML		00 52 34.8	
	comp=N,5.9nm,0.4s						

*NEIC **20** 01:03:18.1±0.3,12.02S±0.05×164.3E±0.3,h35km±2km, mb4.4/6,Error ellipse: s-maj=44.3km s-min=4.0km az=79.0*
*IDC **20** 01:03:24.8±6.3,11.80S×166.08E,h96km±56km,mb3.8/6, mb1 3.9/7,mb1mx3.5/45,mbtmp4.1/7,ML3.6/1,MS3.4/4, Ms1 3.4/4,ms1mx3.1/27,Error ellipse: s-maj=39.3km s-min=35.3km az=63.0*
ISC 20 01:03:18.7±1.3,**12.0S**±0.1×**164.3E**±0.3,**h35**km,**n26**, σ1**9**54/15,**mb4.0**/8,**MS3.8**/5,**Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.97**	**300**	LR	LR	01 07 48.2	
	comp=Z,429nm,19.8s,baz=149,slow=41						
DZM	**Mont Dzumac**	**10.23**	**169**	P	Pn	01 05 49.3	+6.0
	0.5nm,0.3s,baz=208,slow=3.9,SNR=13						
DZM				S	**Sn**	**01 07 39.1**	**+2.3**
	0.5nm,0.3s,baz=139,slow=20,SNR=1.9						
DZM				LR	LR	01 08 20.1	
	comp=Z,138nm,20.3s,baz=32,slow=29						
DZM	**Mont Dzumac**	**10.23**	**169**	*e*Pn	Pn	01 05 49.3	+6.0
	3.3nm,0.2s						
DZM				*e*Sn	**Sn**	**01 07 37.6**	**+0.8**
	3.6nm,0.3s						
DZM				eLR	LR	01 08 11.7	
	comp=Z,622nm,24.9s						
DZM	**Mont Dzumac**	**10.23**	**169**	Pn	**Pn**	**01 05 42.8**	**-0.5**
DZM					**Sn**	**01 07 35.4**	**-1.4**
AFI	**Afiamalu**	**23.40**	**97**	LR	LR	01 14 54.3	
	comp=Z,81nm,20.7s,baz=278,slow=32						
URZ	**Urewera**	**28.55**	**159**	LR	LR	01 17 58.7	
	comp=Z,132nm,20.9s,baz=14,slow=31						
STKA	**Stephens Creek**	**28.77**	**223**	P	P	01 09 25.6	+12
	2.5nm,0.8s,baz=42,slow=12,SNR=5.0						
WB0	**Warramunga Arr**	**29.74**	**251**	P	**P**	**01 09 21.6**	**-0.5**
WB2	**Warramunga Arr**	**29.81**	**251**	P	**P**	**01 09 22.2**	**-0.5**
WB2				IAmb	IAmb	01 09 35.3	
	comp=Z,3.6nm,1.0s						
WRA	**Warramunga Arr**	**29.82**	**251**	P	P	01 09 37.5	+15
	comp=Z,2.4nm,0.9s,baz=82,slow=9.0,SNR=8.3						
WRA	**Warramunga Arr**	**29.82**	**251**	P	**P**	**01 09 22.4**	**-0.4**
H11S2	**WAKE ISLAND Hy**	**30.38**	**5**	T	T	01 40 31.3	
	baz=183						
H11S3	**WAKE ISLAND Hy**	**30.39**	**5**	T	T	01 40 31.7	
	baz=183						
H11S1	**WAKE ISLAND Hy**	**30.40**	**5**	T	T	01 40 32.7	
	baz=183						
ASAR	**Alice Springs**	**31.09**	**244**	P	P	01 09 49.6	+16
	comp=Z,1.4nm,0.6s,baz=73,slow=9.7,SNR=17						
ASAR				PcP	**PcP**	**01 12 31.8**	**+2.7**
	comp=Z,0.4nm,0.7s,baz=66,slow=2.3,SNR=2.2						
RPZ	**Rata Peaks**	**32.14**	**171**	P	**P**	**01 09 43.4**	**+0.5**
	comp=Z,4.9nm,0.7s,baz=18,slow=15,SNR=1.7						
RPZ	**Rata Peaks**	**32.14**	**171**	P	**P**	**01 09 41.9**	**-1.1**
PPT2	**Papeete2**	**44.87**	**103**	eLR	LR	01 22 55.6	
	comp=Z,142nm,26.5s						
TBI	**Tubuai**	**45.32**	**111**	eLR	LR	01 23 20.3	
	comp=Z,196nm,28.2s						
TAOE	**Nuku Hiva Isla**	**54.67**	**92**	eLR	LR	01 27 18.9	
	comp=Z,100nm,24.9s						
QSPA	**South Pole Qui**	**78.02**	**180**	P	**P**	**01 15 12.7**	**-0.9**
QSPA				IAmb	IAmb	01 15 15.0	
	comp=Z,1.1nm,1.1s						
SONM	**Songino Array**	**78.59**	**324**	P	P	01 15 21.2	+4.2
	comp=Z,0.6nm,0.8s,baz=128,slow=5.6,SNR=4.9						
SONM	**Songino Array**	**78.59**	**324**	P	**P**	**01 15 16.9**	**-0.1**
MKAR	**Makanchi Array**	**93.23**	**317**	P	**P**	**01 16 32.5**	**+2.8**
	comp=Z,0.9nm,0.7s,baz=98,slow=5.4,SNR=7.5						
MKAR	**Makanchi Array**	**93.23**	**317**	P	**P**	**01 16 29.3**	**-0.4**
ZALV	**Zalesovo Beam**	**93.49**	**324**	P	**P**	**01 16 29.0**	**-1.6**

*NORS **20** 01:04:50.6±0.0,42.39N×43.64E,h2km,MPVA3.4*
*MOS **20** 01:04:50.8±0.0,42.38N×43.59E,h7km,MPVA3.4*
*TIF **20** 01:04:50.5,42.44N×43.75E,h10km±1km*
*DDA **20** 01:04:51.4,42.34N×43.72E,h15km±1km,ML2.3*
ISC 20 01:04:50.9±1.0,**42.39N**±0.02×**43.69E**±0.02,**h8**km±9km, **n43**,σ1**9**16/84,**Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.27**	**319**	*e*Pg	**Pg**	**01 04 56.5**	**+0.2**
ONI				*e*Sg	**Sg**	**01 04 59.3**	**-0.6**
ONI	**Oni**	**0.27**	**319**	P	**Pg**	**01 04 56.5**	**+0.2**
ONI				S	**Sg**	**01 05 00.3**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.52**	**351**	*e*Pg	**Pg**	**01 05 00.6**	**-0.4**
DIGR				*e*Sg	**Sg**	**01 05 07.5**	**-0.3**
TKB	**Tkibuli**	**0.52**	**266**	P	**Pb**	**01 05 02.2**	**-0.2**
TKB				S	**Sb**	**01 05 10.7**	**+0.7**
BKRG	**Bakuriani**	**0.64**	**191**	P	**Pb**	**01 05 04.5**	**0.0**
BKRG				S	**Sb**	**01 05 14.8**	**+1.1**
KORR	**Kora**	**0.75**	**22**	*i* Pg	**Pg**	**01 05 05.4**	**+0.1**
KORR				*e*Sg	**Sb**	**01 05 16.3**	**-0.3**
LSNR	**Lesken**	**0.89**	**6**	*i* Pg	**Pg**	**01 05 07.9**	**-0.2**
LSNR				*i* Sg	**Sb**	**01 05 21.1**	**+0.2**
ARNR	**Ardon**	**0.90**	**29**	*e*Pg	**Pn**	**01 05 09.0**	**-1.0**
ARNR				*e*Sg	**Sn**	**01 05 22.6**	**-0.6**
TRLG	**Trialeti**	**0.90**	**160**	P	**Pb**	**01 05 09.0**	**0.0**
TRLG				S	**Sn**	**01 05 22.7**	**-0.7**
VLKR	**Vladikavkaz**	**0.98**	**48**	*e*Pg	**Pn**	**01 05 10.4**	**-0.7**
VLKR				*e*Sg	**Sn**	**01 05 25.1**	**0.0**
AKH	**Akhalkalaki**	**0.99**	**189**	P	**Pn**	**01 05 10.9**	**-0.4**
AKH				S	**Sn**	**01 05 25.5**	**-0.1**
STDR

SMPI Sarmi 2.06 30 P Pn **01 12 07.7 -3.0**
SRPI Serui, Papua 2.38 323 P Pn **01 12 12.1 -3.1**
SRPI S Sn **01 12 42.0 -1.2**
GENI Genyem 2.75 65 P Pn **01 12 19.2 -1.0**
GENI S Sn **01 12 52.0 -0.2**
JAY Jayapura 3.27 67 Pn Pn **01 12 26.3 -1.1**
19nm,0.3s,baz=229,slow=12,SNR=66
JAY Sn Sn **01 13 05.0 -0.2**
60nm,0.3s,baz=25,slow=16,SNR=2.6
JAY LR LR 01 13 56.3
comp=Z,6µm,20.7s,baz=351,slow=44
JAY Jayapura 3.27 67 P Pn **01 12 26.4 -1.0**
JAY S Sn **01 13 05.8 +0.6**
RKPI Ransiki, Papua 4.17 303 P Pn **01 12 39.6 -0.1**
FAKI Fak Fak 5.49 279 P Pn **01 13 00.0 +2.1**
1.5nm11µm4µm307nm,1.1s
FAKI Fak Fak 5.49 279 Pn **01 12 59.3 +1.4**
FAKI Sn Sn **01 14 00.5 +0.6**
SIJI Sorong 7.03 294 Pn Pn **01 13 17.2 -1.9**
14nm,0.3s,baz=80,slow=10,SNR=15
SIJI Sn Sn **01 14 35.2 -2.7**
baz=112,slow=23,SNR=0.8
SIJI LR LR 01 17 02.5
comp=Z,3µm,18.8s,baz=152,slow=47
SAUI Saumlaki 7.59 236 P Pn **01 13 31.0 +4.2**
4.6nm13µm785nm,0.8s
SAUI Saumlaki 7.59 236 Pn Pn **01 13 29.1 +2.2**
MSAI Masohi 8.75 273 P Pn **01 13 44.7 +2.1**
16µm846nm24nm,0.6s
KDU Kakadu 10.24 210 P Pn **01 14 04.9 +1.9**
baz=10,SNR=41
KDU S Sn **01 15 55.0 -1.7**
baz=10
NLAI Namlea 10.57 273 P Pn **01 14 09.8 +2.1**
82nm,1.2s
PMG Port Moresby 10.95 121 Pn Pn **01 14 14.5 +1.7**
4.0nm,0.3s,baz=308,slow=11,SNR=26
PMG LR LR 01 20 26.0
comp=Z,5µm,19.1s,baz=286,slow=48
PMG Port Moresby 10.95 121 Pn **01 14 14.8 +2.0**
MTN Manton Dam 11.09 215 P Pn **01 14 16.9 +2.2**
baz=11,SNR=9.7
MTN S Sn **01 16 20.3 +2.7**
baz=11
MTN Manton Dam 11.09 215 Pn Pn **01 14 17.7 +2.9**
MTN Sn Sn **01 16 17.2 -0.4**
COEN Coen 11.47 152 P Pn **01 14 20.7 +0.7**
baz=12,SNR=36
COEN S Sn **01 16 26.8 -0.1**
baz=12
COEN Coen 11.47 152 Pn **01 14 21.1 +1.1**
SANI Sanana 11.80 278 P Pn **01 14 24.1 -0.4**
2µm1µm126nm,1.2s
KRVT Keravat (AS076 14.32 93 Pn Pn **01 14 58.8 -0.1**
3.2nm,0.3s,baz=0.0,slow=8.1,SNR=1.5
KMSI Cibinong 14.36 287 P Pn **01 14 59.6 +0.1**
444nm,0.8s
SOEI Soe 14.58 245 P Pn **01 14 58.8 -3.7**
3µm267nm,1.0s
KNRA Kununurra 14.72 216 P Pn **01 15 05.2 +0.9**
baz=15,SNR=53
KNRA S Sn **01 17 42.0 -4.3**
baz=15
KNRA Kununurra 14.72 216 Pn Pn **01 15 05.3 +0.9**
LUWI Luwuk 15.14 280 P Pn **01 15 10.2 +0.3**
2µm3µm215nm,1.3s
LUWI Luwuk 15.14 280 Pn Pn **01 15 10.3 +0.3**
BATI Baumata 15.30 245 Pn Pn **01 15 11.3 -0.8**
6.0nm,0.3s,baz=73,slow=4.2,SNR=12
BATI Baumata 15.30 245 P Pn **01 15 12.9 +0.8**
2µm161nm,0.8s
MTSU Mount Surprise 15.67 156 P Pn **01 15 18.6 +1.7**
baz=16,SNR=26
MTSU S Sn **01 18 04.0 -5.6**
baz=16
WB0 Warramunga Arr 16.21 191 P Pn **01 15 22.6 -1.2**
WR0 Warramunga Arr 16.37 191 P Pn **01 15 24.1 -1.7**
WR0 IAmb IAmb 01 15 36.4
comp=Z,92nm,1.0s
WRAB Tennant Creek 16.38 191 P Pn **01 15 24.5 -1.4**
WRAB IAmb IAmb 01 15 40.9
comp=Z,98nm,0.8s
WB2 Warramunga Arr 16.39 191 Pn **01 15 24.6 -1.4**
WRA Warramunga Arr 16.39 191 Pn Pn **01 15 26.4 +0.3**
comp=Z,1.0nm,0.3s,baz=3.2,slow=12,SNR=52
WRA Sn Sn **01 18 18.3 -8.7**
comp=Z,0.4nm,0.3s,baz=12,slow=22,SNR=6.4
WRA Lg Lg 01 20 11.1
baz=19,slow=27,SNR=2.2
WRA Warramunga Arr 16.39 191 Pn Pn **01 15 23.6 -2.5**
KAPI Kappang 17.92 265 P P **01 15 48.1 +2.6**
comp=Z,1.6nm,0.3s,baz=68,slow=16,SNR=4.7
KAPI LR LR 01 23 43.3
comp=Z,452nm,20.5s,baz=94,slow=41
KAPI Kappang 17.92 265 P P **01 15 46.3 +0.7**
CTA Charters Tower 18.23 153 P Pn **01 15 51.5 +2.5**
comp=Z,2.7nm,0.3s,baz=331,slow=13,SNR=44
CTA S S **01 19 17.4 +1.5**
comp=Z,0.3nm,0.3s,baz=196,slow=20,SNR=1.5
CTA Lg Lg 01 21 18.1
comp=Z,0.5nm,0.3s,baz=73,slow=15,SNR=5.1
CTAO Charters Tower 18.23 153 P Pn **01 15 50.8 +1.8**
CTAO IAmb IAmb 01 15 59.5
comp=Z,62nm,0.7s
MPSI Mapaga 18.24 283 P Pn **01 15 50.4 +1.3**
comp=Z,1µmcomp=Z,26nm,0.9s
FITZ Fitzroy Crossi 18.48 219 P Pn **01 15 52.2 +0.3**
comp=Z,0.4nm,0.3s,baz=50,slow=12,SNR=26
FITZ S Sn **01 19 09.2 -8.3**
comp=Z,2.8nm,0.3s,baz=196,slow=11,SNR=3.3
FITZ Lg Lg 01 21 12.2
comp=Z,0.1nm,0.3s,baz=339,slow=23,SNR=1.0
FITZ Fitzroy Crossi 18.48 219 P Pn **01 15 53.0 +1.1**
baz=18,SNR=25
FITZ Fitzroy Crossi 18.48 219 P Pn **01 15 52.7 +0.7**
FITZ IAmb IAmb 01 16 00.7
comp=Z,62nm,1.1s
WBSI Waikabubak, Su 19.07 251 P P **01 15 57.7 -0.5**
comp=Z,57nm,0.8s
AS31 Alice Springs 20.10 190 P Pn 01 16 11.5 +0.1
AS31 IAmb IAmb 01 16 30.0
comp=Z,51nm,0.8s
ASAR Alice Springs 20.10 190 P Pn 01 16 12.8 +1.4
comp=Z,106nm,0.8s,baz=15,slow=12,SNR=271
ASAR S Sn 01 19 59.1 +2.4
comp=Z,18nm,0.7s,baz=11,slow=24,SNR=6.0
ASAR Lg Lg 01 22 11.6
comp=Z,17nm,1.0s,baz=8.0,slow=27,SNR=1.8
ASAR LR LR 01 24 42.4
comp=Z,2µm,20.0s,baz=20,slow=39
ASAR Alice Springs 20.10 190 P Pn 01 16 11.4 0.0
MYLDM Lahad Datu 21.13 295 P P **01 16 22.1 +1.5**
TWSI Taliwang, Sumb 21.25 256 P P **01 16 24.9 +3.0**
comp=Z,17nm,0.7s
BBKI Banjar Baru 22.80 270 P P **01 16 40.1 +1.6**
comp=Z,5µmcomp=Z,55nm,1.1s
HNR Honiara 22.81 105 P P **01 16 38.9 +0.3**
comp=Z,167nm,0.7s,baz=159,slow=8.7,SNR=3.5
HNR LR LR 01 25 25.7
comp=Z,569nm,21.5s,baz=292,slow=36
HNR Honiara 22.81 105 P P **01 16 39.4 +0.7**
SPMM Sapulut 22.81 292 P P **01 16 41.0 +2.3**
MTKI Muara Teweh, K 22.94 277 P P **01 16 39.9 -0.1**
comp=Z,40nm,0.6s
WRKA Warakurna 22.98 202 P P **01 16 41.9 +1.6**
baz=23,SNR=67
QLP Quilpie 23.52 165 P P **01 16 47.0 +1.4**
baz=24,SNR=8.6
KKM Kota Kinabalu 23.55 294 P P **01 16 45.2 -1.0**
KKM IAmb IAmb 01 16 48.9
comp=Z,37nm,0.8s
JAGI Jajag, Banyuwa 23.85 258 P P **01 16 48.2 -0.7**
PSA00 Pilbara Seismi 24.75 223 P P **01 16 56.6 -0.5**
PSA00 IAmb IAmb 01 17 07.0
comp=Z,27nm,0.8s
RMQ Roma 24.94 156 P P **01 17 01.4 +2.7**
baz=25,SNR=8.0
EIDS Eidsvold 25.03 150 P P **01 17 02.7 +3.1**
baz=25,SNR=3.8
EIDS Eidsvold 25.03 150 P P **01 16 58.2 -1.4**
PBKI Pangkalan Bun 25.99 272 P P **01 17 09.9 +1.5**
comp=Z,338nm,1.1s
SBUM Sibu 26.19 283 P P **01 17 12.0 +1.8**
KSM Kuching 27.85 280 P P **01 17 27.0 +1.8**
STKA Stephens Creek 28.19 173 P P **01 17 28.7 +0.8**
comp=Z,2.4nm,0.6s,baz=341,slow=9.6,SNR=6.6

STKA Stephens Creek 28.19 173 P P **01 17 28.0 +0.1**
FORT Forrest 28.35 198 P P **01 17 28.4 -1.0**
DZM Mont Dzumac 33.29 126 eS S **01 23 32.2 +0.6**
comp=Z,334nm,26.8s
DZM eLQ LQ 01 25 38.0
comp=Z,1µm,26.7s
DZM eLR LR 01 27 04.9
comp=Z,585nm,22.4s
MYKOM Kota Tinggi 34.26 279 P P **01 18 22.0 +0.3**
NWAO Narrogin (SRO) 34.73 211 P P **01 18 26.9 +1.5**
comp=Z,8.1nm,0.5s,baz=42,slow=5.3,SNR=5.0
NWAO Narrogin (SRO) 34.73 211 P P **01 18 26.2 +0.7**
NWAO IAmb IAmb 01 18 38.3
comp=Z,13nm,0.9s
QIZ Qiongzhong 35.56 311 P P **01 18 32.4 -0.4**
QIZ S S **01 24 07.3 +0.8**
QIZ LR LR
comp=Z,200nm,19.6s
QIZ LR LR
comp=Z,280nm,17.6s
QIZ LR LR
comp=Z,290nm,31.4s
SDSI Sungai Dareh 36.33 274 P P **01 18 39.7 +0.3**
comp=Z,2µmcomp=Z,38nm,1.5s
BKNI Bangkinang 36.84 276 P P **01 18 43.6 -0.3**
comp=Z,11µmcomp=Z,92nm,0.5s
JNU Nakatsue 37.27 351 P P **01 18 47.0 -0.2**
comp=Z,7.1nm,0.8s,baz=64,slow=11,SNR=2.2
JNU Nakatsue 37.27 351 P P **01 18 46.1 -1.1**
JNU IAmb IAmb 01 19 03.3
comp=Z,16nm,1.0s
IPM Ipoh 37.53 282 P P **01 18 48.1 -1.6**
IPM IAmb IAmb 01 19 00.9
comp=Z,14nm,0.9s
IPM Ipoh 37.53 282 P P **01 18 51.0 +1.3**
KULM Kulim 38.07 283 P P **01 18 54.0 -0.3**
KULM Kulim 38.07 283 P P **01 18 55.0 +0.7**
RPSI Rantau Prapat 39.27 279 P P **01 19 02.5 -1.7**
PSI Prapat 39.28 279 P P **01 19 04.3 -0.2**
comp=Z,22nm,0.7s,baz=179,slow=2.8,SNR=23
NJ2 Nanjing 39.88 335 eP P **01 19 11.4 +2.3**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
MJAR Matsushiro Arr 40.12 1 P P **01 19 11.1 +0.1**
comp=Z,1.0nm,0.3s,baz=187,slow=8.7,SNR=6.4
MJAR Matsushiro Arr 40.12 1 P P **01 19 09.7 -1.4**
WHN Wuhan 40.77 328 P P **01 19 20.9 +4.4**
SLVN Son La 41.45 308 P P **01 19 21.4 -0.9**
PBKT Sadao Pong 41.53 300 P P **01 19 22.3 -0.7**
KSRS Korea Array 42.02 348 P P **01 19 25.7 -0.9**
comp=Z,0.4nm,0.3s,baz=163,slow=9.0,SNR=1.9
GYA Guiyang 42.48 317 eP P **01 19 32.8 +2.1**
GYA PP PcP **01 21 16.6 -6.7**
GYA S S **01 25 51.6 +0.9**
GYA pmax pmax
comp=Z,6.0nm,1.2s
GYA pmax pmax
comp=Z,110nm,7.1s
GYA LR LR
comp=Z,130nm,18.6s
GYA LR LR
comp=Z,130nm,15.4s
GYA LR LR
comp=Z,140nm,17.4s
CMAR Chiang Mai Arr 44.10 301 P P **01 19 43.2 -0.6**
comp=Z,9.0nm,0.3s,baz=123,slow=6.0,SNR=17
CHTO Chiang Mai 44.25 302 P P **01 19 44.4 -0.6**
CHTO IAmb IAmb 01 19 46.7
comp=Z,11nm,0.8s
KMI Kunming 44.45 312 P P **01 19 48.3 +1.5**
KMI pmax pmax
comp=Z,14nm,0.7s
XAN Xi'an 46.38 327 P P **01 20 01.0 -0.7**
XAN pmax pmax
comp=Z,6.0nm,1.0s
CD2 Chengdu 47.30 319 eP P **01 20 10.0 +1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
BJI Beijing 47.88 338 P P **01 20 16.0 +2.8**
BJI sP sP 01 20 36.8 +8.3
BJI S S **01 27 09.3 +1.2**
BJI pmax pmax
comp=Z,9.0nm,1.8s
BJI LR LR
comp=Z,190nm,21.8s
BJI LR LR
comp=Z,230nm,22.7s
USRK Ussuriysk Ar. 48.04 354 P P **01 20 14.5 +0.2**
comp=Z,1.5nm,0.5s,baz=180,slow=8.0,SNR=9.7
USRK Ussuriysk Ar. 48.04 354 P P **01 20 13.9 -0.4**
MDJ Mudanjiang 48.73 352 P P **01 20 22.0 +2.3**
MDJ pP pP 01 20 31.3 +0.6
MDJ PP PP **01 22 11.6 -1.5**
MDJ S S **01 27 20.8 +0.9**
MDJ SS SS **01 30 48.6 -2.2**
MDJ pmax pmax
comp=Z,9.0nm,0.5s
MDJ pmax pmax
comp=Z,70nm,3.5s
MDJ LR LR
comp=Z,150nm,18.5s
MDJ LR LR
comp=Z,190nm,14.2s
MDJ LR LR
comp=Z,340nm,16.5s
HHC Hu-ho-hao-te 50.43 334 eP P **01 20 34.1 +1.2**
HHC pP sP 01 20 50.6 +2.3
HHC sP pP 01 21 00.3 +16
HHC S S **01 27 45.6 +1.4**
HHC pmax pmax
comp=Z,33nm,1.0s
HHC pmax pmax
comp=Z,73nm,7.6s
HHC LR LR
comp=Z,230nm,21.4s
HHC LR LR
comp=Z,240nm,14.1s
HHC LR LR
comp=Z,240nm,21.6s
BRDH Bariadhala 52.07 303 P P **01 20 45.6 +0.2**
comp=Z,8.5nm,0.5s,baz=106,slow=1.3,SNR=2.7
KLR Kul'dur 53.05 355 P P **01 20 51.6 -0.5**
comp=Z,2.5nm,0.7s,baz=181,slow=2.2,SNR=9.0
GTA Gaotai 55.33 325 eP P **01 21 10.4 +1.3**
GTA pP sP 01 21 28.0 +3.3
GTA sP pP 01 21 35.3 +15
GTA S S **01 28 45.4 -5.8**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,29nm,4.0s
GTA LR LR
comp=Z,66nm,21.0s
GTA LR LR
comp=Z,130nm,20.0s
GTA LR LR
comp=Z,170nm,19.7s
TAPN Taplejung 57.26 306 eP P **01 21 24.7 +1.4**
comp=Z,74nm,1.0s
ODAN Odare 57.31 305 eP P **01 21 24.7 +1.1**
comp=Z,39nm,0.8s
RAMN Ramite 57.99 305 eP P **01 21 29.6 +1.2**
SONM Songino Array 58.26 336 P P **01 21 29.8 +0.1**
comp=Z,1.3nm,0.6s,baz=152,slow=8.2,SNR=7.5
SONM Songino Array 58.26 336 P P **01 21 29.0 -0.7**
JIRN Jiri 58.61 306 eP P **01 21 34.2 +1.3**
GUN Gumba 58.97 306 eP P **01 21 36.9 +1.6**
PEA0B Petropavlovsk- 59.14 14 P P **01 21 35.5 -0.1**
PEA0B IAmb IAmb 01 21 53.5
comp=Z,13nm,1.1s
PETK Petropavlovsk- 59.14 14 P P **01 21 35.2 -0.4**
comp=Z,3.2nm,0.6s,baz=160,slow=7.0,SNR=9.7
PETK LR LR 01 43 19.6
comp=Z,84nm,21.5s,baz=234,slow=32
PETK Petropavlovsk- 59.14 14 P P **01 21 34.7 -0.9**
PKI Pulchoki 59.21 305 eP P **01 21 38.0 +1.0**
comp=Z,26nm,1.0s
KKN Kakani 59.40 305 eP P **01 21 39.2 +1.0**
comp=Z,50nm,1.0s
DMN Daman 59.48 305 eP P **01 21 40.0 +1.2**
comp=Z,56nm,1.0s
GKN Gorkha 60.01 305 eP P **01 21 43.5 +1.2**
comp=Z,53nm,1.0s
KOLN Koldanda 60.77 305 eP P **01 21 48.8 +1.2**
comp=Z,71nm,1.2s
DANN Dangsing 60.86 305 eP P **01 21 49.6 +1.3**

PYUN Piuthan 61.39 305 eP P **01 21 53.0 +1.2**
comp=Z,46nm,0.6s
HYB Hyderabad 62.01 292 *i* P P **01 21 56.0 +0.1**
RAR Rarotonga 63.08 112 LR LR 01 47 17.6
comp=Z,274nm,19.1s,baz=280,slow=34
WMQ Urumqi 65.22 322 eP P **01 22 19.3 +2.7**
WMQ pP sP 01 22 35.4 +3.1
WMQ sP PcP 01 22 42.3 -6.6
WMQ S S **01 31 05.4 +7.7**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,27nm,3.7s
WMQ LR LR
comp=Z,92nm,22.7s
WMQ LR LR
comp=Z,92nm,26.3s
WMQ LR LR
comp=Z,110nm,23.9s
SEY Seymchan 67.47 7 P P **01 22 31.1 +0.6**
comp=Z,2.7nm,0.6s,baz=198,slow=6.5,SNR=6.3
ZSN Zaisan 68.83 325 eP P **01 22 40.1 +0.7**
baz=324
MK31 Makanchi Array 70.02 323 P P **01 22 46.4 -0.5**
MKAR Makanchi Array 70.02 323 P P **01 22 47.3 +0.5**
comp=Z,3.3nm,0.8s,baz=113,slow=8.0,SNR=21
MKAR LR LR 01 53 35.8
comp=Z,69nm,21.1s,baz=111,slow=36
MKAR Makanchi Array 70.02 323 P P **01 22 46.4 -0.4**
SHLS Shalkode 70.13 319 eP P **01 22 46.9 -0.8**
comp=Z,10nm,1.2s,baz=319
MAKZ Makanchi 70.21 323 P P **01 22 47.3 -0.7**
MAKZ IAmb IAmb 01 22 53.9
comp=Z,12nm,1.1s
UZB Uzynbulak 70.42 318 eP P **01 22 50.3 +0.7**
comp=Z,11nm,1.6s,baz=318
TARG Taragay, Kyrgy 70.65 317 P P **01 22 50.3 -1.0**
TARG IAmb IAmb 01 23 03.6
comp=Z,11nm,0.9s
SATY Saty 70.79 318 eP P **01 22 52.6 +0.9**
comp=Z,8.1nm,1.2s,baz=318
KSH Kashi 71.08 314 P P **01 22 56.1 +2.5**
KSH sP PcP 01 23 16.8 +3.1
KSH pmax pmax
comp=Z,24nm,1.3s
KSH pmax pmax
comp=Z,120nm,4.1s
NIL Nilore 71.15 307 P P **01 22 53.2 -0.8**
TDK Taldyqorghan 71.61 320 eP P **01 22 57.4 +0.9**
baz=320
MDOK Medeo 71.74 318 *i* P P **01 22 58.4 +0.9**
comp=Z,78nm,0.9s,baz=318
MDOK eS S **01 32 14.3 -1.2**
baz=318
TNSS Tian-Shan 71.75 318 eP P **01 22 58.7 +0.7**
baz=318
AAA Alma-Ata 71.84 318 eP P **01 22 59.1 +1.1**
baz=318
CHKK Chushkaly 72.06 318 eP P **01 22 59.9 +0.6**
baz=318
ZAA0 Zalesovo Array 72.35 330 P P **01 22 59.8 -0.9**
ZALV Zalesovo Beam 72.35 330 P P **01 22 59.7 -1.1**
comp=Z,2.2nm,0.6s,baz=122,slow=5.6,SNR=6.2
ZALV Zalesovo Beam 72.35 330 P P **01 23 00.7 0.0**
KUU Kurty 72.50 318 eP P **01 23 02.7 +0.7**
comp=Z,27nm,1.5s,baz=318
TBI Tubuai 72.78 113 eLR LR 01 45 28.2
comp=Z,320nm,29.0s
AAK Ala-Archa 73.27 317 P P **01 23 06.7 0.0**
comp=Z,2.7nm,0.7s,baz=110,slow=5.4,SNR=9.6
AAK Ala-Archa 73.27 317 P P **01 23 06.0 -0.7**
SGDS Sogindy 73.48 317 eP P **01 23 08.2 +0.4**
comp=Z,6.8nm,1.6s,baz=317
UNV Unalaska Valle 73.77 31 P P **01 23 08.8 -0.3**
ARSB Arslanbob 73.85 315 P P **01 23 09.4 -0.8**
ARSB IAmb IAmb 01 23 19.3
comp=Z,19nm,1.1s
KURK Kurchatov 74.01 325 P P **01 23 09.8 -0.8**
KURBB Kurchatov Arra 74.01 325 P P **01 23 10.6 0.0**
comp=Z,3.1nm,0.9s,baz=120,slow=5.2,SNR=18
BTLS Baital 74.46 319 eP P **01 23 13.8 +0.4**
comp=Z,9.3nm,1.8s,baz=319
KBL Kabul 74.75 307 P P **01 23 14.3 -1.3**
KBL IAmb IAmb 01 23 16.9
comp=Z,9.4nm,1.0s
VNDA Vanda 74.81 175 P P **01 23 16.6 +1.8**
comp=Z,2.7nm,0.8s,baz=315,slow=6.2,SNR=9.9
VNDA LR LR 01 56 08.2
comp=Z,592nm,18.2s,baz=348,slow=36
VNDA Vanda 74.81 175 P P **01 23 16.4 +1.5**
BTK Batken 74.99 313 P P **01 23 15.8 -0.9**
GAR Garm 75.04 312 P P **01 23 15.9 -1.1**
DZA Taraz 75.54 316 eP P **01 23 20.3 +0.6**
baz=316
CHGR Chuyangaron 75.80 311 IAmb IAmb 01 23 23.1
comp=Z,18nm,0.9s
KK31 Karatay Array 76.18 316 P P **01 23 23.1 -0.3**
KKAR Karatay Array 76.18 316 P P **01 23 22.7 -0.7**
KKAR Karatay Array 76.18 316 P P **01 23 23.2 -0.1**
IUG Iuzhnay 76.21 315 eP P **01 23 23.9 +0.2**
baz=315
BRZS Berezniki 77.17 323 eP P **01 23 29.0 +0.2**
comp=Z,13nm,1.7s,baz=323
CNBA Chernabura Isl 77.81 32 P P **01 23 31.9 -0.3**
CNBA IAmb IAmb 01 23 35.3
comp=Z,6.4nm,0.8s
BVAR Borovoye Array 79.61 325 P P **01 23 42.0 -0.1**
comp=Z,5.5nm,0.7s,baz=123,slow=7.3,SNR=30
BRVK Borovoye 79.68 326 P P **01 23 41.6 -0.9**
BRVK IAmb IAmb 01 23 44.3
comp=Z,8.7nm,0.9s
HRA Herat 80.17 306 P P **01 23 44.9 -1.0**
MAW Mawson 80.75 202 P P **01 23 50.2 +2.2**
comp=Z,4.3nm,0.9s,baz=65,slow=7.9,SNR=8.3
MAW LR LR 01 57 49.4
comp=Z,295nm,18.6s,baz=62,slow=34
MAW Mawson 80.75 202 P P **01 23 49.2 +1.1**
TAOE Nuku Hiva Isla 81.70 98 eLR LR 01 49 37.4
comp=Z,239nm,25.9s
OHAK Old Harbor 82.00 31 P P **01 23 54.2 -0.5**
OHAK IAmb IAmb 01 24 12.0
comp=Z,14nm,1.2s
SVW2 Sparrevohn 82.29 27 P P **01 23 55.5 -0.8**
KDAK Kodiak Island 82.54 30 P P **01 23 57.0 -0.7**
KDAK IAmb IAmb 01 24 15.9
comp=Z,7.8nm,0.9s
TTA Tatalina 82.81 25 P P **01 23 58.4 -0.6**
UOSS Minazif 83.87 295 P P **01 24 02.2 -3.1**
UOSS IAmb IAmb 01 24 06.8
comp=Z,18nm,1.1s
GEYT Alibeck 84.10 309 P P **01 24 06.3 +0.1**
comp=Z,3.1nm,0.7s,baz=107,slow=1.5,SNR=11
GEYT LR LR 02 05 07.0
comp=Z,63nm,20.2s,baz=185,slow=38
GEYT Alibeck 84.10 309 P P **01 24 04.8 -1.4**
GYA0B ALIBECK ARRAY 84.10 309 P P **01 24 04.7 -1.5**
GYA0B IAmb IAmb 01 24 08.8
comp=Z,10nm,1.1s
SKT Skwentna 84.42 27 P P **01 24 06.6 -0.7**
SKT IAmb IAmb 01 24 14.5
comp=Z,6.8nm,1.0s
SUA Susitna One 84.61 27 P P **01 24 08.0 -0.4**
SUA IAmb IAmb 01 24 13.6
comp=Z,8.9nm,1.0s
IMAR Indian Mountai 84.87 22 P P **01 24 08.9 -0.5**
ABKAR Akbulak array 84.88 320 P P **01 24 09.2 -0.6**
BPAW Bear Paw Mtn. 85.33 25 P P **01 24 11.8 0.0**
TRF Thorofare Moun 85.42 25 P P **01 24 11.5 -0.9**
TRF IAmb IAmb 01 24 17.9
comp=Z,8.1nm,1.2s
RKT Rikitea 86.09 113 eLR LR 01 51 38.0
comp=Z,306nm,31.0s
GLI Glacier Island 86.14 28 IAmb IAmb 01 24 21.9
comp=Z,8.5nm,0.8s
QSPA South Pole Qui 86.17 180 P P **01 24 16.1 0.0**
SCM Sheep Creek Mo 86.28 27 IAmb IAmb 01 24 22.9
comp=Z,11nm,1.0s
AKTO Aktyubinsk 86.33 321 P P **01 24 17.0 0.0**
comp=Z,2.2nm,0.9s,baz=81,slow=6.2,SNR=6.3
AKTO LR LR 02 04 16.5
comp=Z,73nm,21.8s,baz=110,slow=37
COLD Coldfoot 86.62 22 IAmb IAmb 01 24 26.0
comp=Z,10.0nm,1.0s
WRH Wood River Hil 86.65 25 IAmb IAmb 01 24 20.6
comp=Z,7.5nm,0.8s
CCB Clear Creek Bu 86.82 25 IAmb IAmb 01 24 27.4

	comp=Z,12nm,1.1s						
HDA	**Harding Lake**	**87.11**	**25**	IAmb	IAmb	01 24 25.7	
	comp=Z,7.6nm,1.2s						
ARU	**Arti**	**87.13**	**327**	P	**P**	**01 24 19.6**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=359,slow=5.1,SNR=5.2						
ARU				LR	LR	02 06 47.4	
	comp=Z,64nm,18.4s,baz=102,slow=38						
ARU	**Arti**	**87.13**	**327**	P	**P**	**01 24 20.7**	**-0.1**
ARU				IAmb	IAmb	01 24 27.6	
	comp=Z,4.7nm,0.9s						
IL31		**87.23**	**25**	IAmb	IAmb	01 24 26.7	
	comp=Z,9.0nm,0.9s						
ILAR	**Eielson Array**	**87.23**	**25**	P	**P**	**01 24 21.0**	**-0.1**
	comp=Z,6.4nm,1.0s,baz=264,slow=4.6,SNR=33						
ILAR				LR	LR	02 01 18.7	
	comp=Z,67nm,20.1s,baz=274,slow=34						
ILAR	**Eielson Array**	**87.23**	**25**	P	**P**	**01 24 21.0**	**-0.1**
PAX	**Paxson**	**87.40**	**26**	IAmb	IAmb	01 24 31.1	
	comp=Z,4.7nm,0.9s						
GLB	**Gilahina Butte**	**87.82**	**28**	IAmb	IAmb	01 24 35.6	
	comp=Z,8.5nm,1.0s						
RIDG	**Independent Ri**	**87.85**	**26**	IAmb	IAmb	01 24 34.0	
	comp=Z,8.1nm,1.1s						
DOT	**Dot Lake**	**88.17**	**26**	IAmb	IAmb	01 24 37.1	
	comp=Z,12nm,1.2s						
BALM	**Baldy**	**88.44**	**29**	IAmb	IAmb	01 24 38.9	
	comp=Z,9.3nm,1.2s						
BMAR	**Burnt Mountain**	**88.78**	**22**	P	**P**	**01 24 28.9**	**+0.4**
BCAR	**Beaver Creek A**	**89.06**	**27**	P	**P**	**01 24 29.1**	**-0.8**
SYO	**Syowa Base**	**89.39**	**201**	*eP*	**P**	**01 24 32.0**	**+0.7**
EGAK	**Eagle**	**89.63**	**25**	IAmb	IAmb	01 24 35.4	
	comp=Z,4.6nm,0.9s						
KBZ	**Khabaz**	**96.05**	**313**	LR	LR	02 14 12.5	
	comp=Z,33nm,20.1s,baz=68,slow=39						
ARCES	**ARCESS Array B**	**101.18**	**341**	P	**Pdif**	**01 25 25.4**	**+0.4**
	comp=Z,6.4nm,1.0s,baz=88,slow=5.2,SNR=7.3						
NVAR	**Mina Array Bea**	**103.32**	**52**	Pdiff	**Pdif**	**01 25 36.3**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=287,slow=3.7,SNR=1.9						
PDAR	**Pinedale Array**	**109.19**	**46**	Pdiff	**Pdif**	**01 26 04.7**	**+3.2**
	comp=Z,0.5nm,0.9s,baz=262,slow=2.6,SNR=1.6						
GERES	**GERESS Array B**	**114.69**	**323**	PKP	PKPdf	01 30 16.4	+0.9
	comp=Z,0.2nm,0.5s,baz=119,slow=1.2,SNR=1.9						
TXAR	**Lajitas Array**	**116.73**	**59**	PKP	**PKiKP**	**01 30 20.8**	**+0.7**
	comp=Z,0.2nm,0.8s,baz=266,slow=2.4,SNR=2.1						
TXAR				PKKPbc	**PKKPab**	**01 40 50.3**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=111,slow=4.9,SNR=3.8						
TXAR	**Lajitas Array**	**116.73**	**59**		**PKPdf**	**01 30 18.0**	**-2.1**
SCHQ	**Schefferville**	**125.36**	**17**	PKP	**PKiKP**	**01 30 36.2**	**0.0**
	comp=Z,1.9nm,0.7s,baz=270,slow=6.8,SNR=1.6						
SCHQ	**Schefferville**	**125.36**	**17**		**PKPdf**	**01 30 35.5**	**-0.2**
PLCA	**Paso Flores**	**128.72**	**153**	PKP	**PKiKP**	**01 30 44.1**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=236,slow=3.6,SNR=2.3						
PLCA	**Paso Flores**	**128.72**	**153**		**PKPdf**	**01 30 41.2**	**-1.5**
TORD	**Torodi Ar. Bea**	**135.55**	**285**	PKhKP	PKPpre	01 30 43.8	
	comp=Z,0.4nm,0.7s,baz=69,slow=2.1,SNR=4.6						
TORD				PKP	**PKiKP**	**01 30 57.1**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=66,slow=2.4,SNR=8.0						
DBIC	**Dimbokro**	**142.59**	**276**	PKP	**PKPdf**	**01 31 07.4**	**-1.7**
	comp=Z,1.7nm,0.6s,baz=134,slow=5.7,SNR=3.9						
DBIC	**Dimbokro**	**142.59**	**276**		**PKPdf**	**01 31 07.0**	**-2.1**
OTAV	**Otavalo**	**143.72**	**95**	*eP*	**PKiKP**	**01 31 14.9**	**-0.3**
GR1C	**Gorgona, Isla**	**144.21**	**90**	*eP*	**PKiKP**	**01 31 18.4**	**+2.9**
CAPC	**Capurgana**	**144.86**	**80**	*eP*	**PKdf**	**01 31 13.2**	**+0.1**
GCUF	**Volcan Galeras**	**144.92**	**93**	*eP*	**PKiKP**	**01 31 16.9**	**-0.7**
BBAC	**Balboa, Cauca**	**145.07**	**92**	*eP*	**PKiKP**	**01 31 18.0**	**+0.4**
PUAC	**Puerto Asis, P**	**145.63**	**95**	*eP*	**PKPab**	**01 31 15.4**	**+0.3**
POPC	**Popayan, Colom**	**145.68**	**91**	*eP*	**PKPbc**	**01 31 15.1**	**0.0**
PCON	**Cinco Dias**	**145.94**	**91**	*eP*	**PKiKP**	**01 31 21.2**	**+1.4**
YOTC	**Yotoco, Valle**	**146.05**	**88**	*eP*	**PKPab**	**01 31 17.3**	**+0.5**
DBBC	**Dabeiba**	**146.11**	**83**	*eP*	**PKiKP**	**01 31 21.5**	**+2.0**
CBOC	**Ciudad Bolivar**	**146.37**	**85**	*eP*	**PKiKP**	**01 31 26.0**	**+5.8**
MARP	**Paez Belalcaza**	**146.41**	**91**	*eP*	**PKiKP**	**01 31 19.5**	**-0.9**
MOTC	**Monteria, Cord**	**146.50**	**80**	*eP*	**PKiKP**	**01 31 20.5**	**+0.3**
FLOC	**Florencia**	**146.63**	**93**	*eP*	**PKiKP**	**01 31 19.2**	**+0.4**
CPUP	**Villa Florida**	**146.72**	**155**	PKPbc	**PKPbc**	**01 31 18.0**	**+0.4**
	comp=Z,7.6nm,0.9s,baz=222,slow=3.3,SNR=8.2						
SJCC	**San Jacinto, C**	**146.83**	**78**	*eP*	**PKiKP**	**01 31 23.3**	**+2.3**
HELC	**Santa Helena**	**146.83**	**85**	*eP*	**PKiKP**	**01 31 23.5**	**+2.1**
GARC	**Garzon, Huila**	**146.84**	**92**	*eP*	**PKiKP**	**01 31 23.5**	**+2.2**
BETC	**Betania**	**146.91**	**91**	*eP*	**PKiKP**	**01 31 24.4**	**+3.2**
GUY2C	**Guyana, Caldas**	**147.03**	**86**	*eP*	**PKiKP**	**01 31 21.7**	**-0.2**
RREF	**El Recreo**	**147.05**	**87**	*eP*	**PKPab**	**01 31 21.0**	**-0.3**
TOLC	**Tolima**	**147.08**	**87**	*eP*	**PKPbc**	**01 31 19.5**	**+0.1**
ORTC	**Ortega, Tolima**	**147.15**	**89**	*eP*	**PKPbc**	**01 31 19.9**	**+0.7**
ZARC	**Zaragoza, Cauc**	**147.42**	**82**	*eP*	**PKPab**	**01 31 21.5**	**-0.4**
PRAC	**Prado**	**147.50**	**89**	*eP*	**PKiKP**	**01 31 23.5**	**+1.1**
NORC	**Norcasia**	**147.51**	**86**	*eP*	**PKiKP**	**01 31 23.5**	**+1.1**
SMRC	**Santa Marta, M**	**147.55**	**75**	*eP*	**PKPab**	**01 31 23.5**	**+1.1**
LPAZ	**La Paz**	**147.61**	**129**	PKPbc	**PKPbc**	**01 31 21.4**	**+0.3**
	comp=Z,6.3nm,0.9s,baz=201,slow=1.0,SNR=19						
LPAZ	**La Paz**	**147.61**	**129**	*eP*	**PKPbc**	**01 31 21.7**	**+0.6**
PTBC	**PUERTO BERRIO**	**147.88**	**84**	*eP*	**PKPab**	**01 31 24.3**	**+0.6**
SMLC	**San Martn de**	**148.06**	**79**	*eP*	**PKPab**	**01 31 25.2**	**+0.8**
ROSC	**El Rosal**	**148.07**	**87**	PKPbc	**PKPbc**	**01 31 23.1**	**+0.9**
	comp=Z,6.3nm,0.5s,baz=18,slow=3.2,SNR=1.9						
ROSC	**El Rosal**	**148.07**	**87**	*eP*	**PKPbc**	**01 31 22.8**	**+0.6**
ROSC	**El Rosal**	**148.07**	**87**		**PKPdf**	**01 31 16.6**	**-2.4**
SPBC	**San Pablo de B**	**148.30**	**85**	*eP*	**PKPab**	**01 31 27.5**	**+1.9**
MACC	**Macarena, Meta**	**148.47**	**92**	*eP*	**PKPbc**	**01 31 23.5**	**+0.7**
BRRC	**Barranca, Sant**	**148.58**	**83**	*eP*	**PKiKP**	**01 31 24.4**	**-0.2**
CHIC	**Chingaza**	**148.66**	**87**	*eP*	**PKPbc**	**01 31 22.8**	**-1.0**
OCAC	**Ocana**	**148.86**	**84**	*eP*	**PKiKP**	**01 31 25.0**	**-0.3**
BARC	**Barichara**	**149.14**	**84**	*eP*	**PKPab**	**01 31 28.0**	**-1.1**
RUSC	**La Rusia**	**149.28**	**85**	*eP*	**PKiKP**	**01 31 26.3**	**-0.3**
BDFB	**Brasilia**	**159.89**	**164**	PKPab	**PKPab**	**01 32 15.4**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=196,slow=2.8,SNR=2.0						
BDFB	**Brasilia**	**159.89**	**164**		**PKPab**	**01 32 11.7**	**-2.5**

*BEO **20** 01:29:27.3±1.9, 41.10N×24.70E, h38km±3km, ML2.6/7*
*ISK **20** 01:29:30.7, 41.57N×24.38E, h5km, ML2.9/11*
*THE **20** 01:29:31.1, 41.60N×24.32E, h1km±1km, ML2.7/10, Error ellipse: s-maj=1.1km s-min=0.3km az=8.0*
*DDA **20** 01:29:33.9, 41.49N×24.75E, h18km±4km, ML2.6*

ISC 20 01:29:30.4±1.1, 41.61N±0.02×24.37E±0.02, h5km±10km, n73, σ1§38/106, 5C-8D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVR	**Nevrokopi**	**0.46**	**236**	P	**Pg**	**01 29 39.5**	**+0.2**
NVR				S	**Sg**	**01 29 45.5**	**+0.2**
	602nm,0.2s						
PLD	**Plovdiv**	**0.56**	**27**	PG	**Pb**	**01 29 42.3**	**-0.3**
PLD				SG	**Sb**	**01 29 51.1**	**+0.2**
KAVA	**Kavala**	**0.62**	**170**	P	**Pg**	**01 29 43.0**	**+0.7**
KAVA				S	**Sb**	**01 29 52.0**	**-0.7**
	1µm,0.1s						
SRS	**Serrai**	**0.76**	**230**	P	**Pg**	**01 29 44.6**	**-0.4**
SRS				S	**Sg**	**01 29 55.6**	**+0.7**
	398nm,0.4s						
SRS	**Serrai**	**0.76**	**230**	*e*Pg	**Pg**	**01 29 44.6**	**-0.4**
SRS				*e*Sg	**Sg**	**01 29 55.4**	**+0.5**
KDZ	**Kurdzhali**	**0.79**	**87**	PG	**Pg**	**01 29 45.2**	**-0.3**
KDZ				SG	**Sg**	**01 29 54.7**	**-1.0**
RDO	**Rodhopi**	**0.99**	**117**	P	**Pb**	**01 29 50.2**	**+0.2**
RDO				S	**Sn**	**01 30 04.9**	**-0.4**
	492nm,0.2s						
RDO	**Rodhopi**	**0.99**	**117**	PG	**Pb**	**01 29 49.9**	**-0.1**
THAS	**Thassos island**	**1.03**	**165**	P	**Pg**	**01 29 50.5**	**+0.3**
THAS				S	**Sn**	**01 30 05.8**	**-0.5**
	700nm,0.2s						
SOH	**Sokhos**	**1.10**	**225**	P	**Pb**	**01 29 50.8**	**-1.1**
SOH				S	**Sg**	**01 30 06.5**	**+0.8**
	408nm,0.7s						
OUR	**Ouranopolis**	**1.31**	**193**	P	**Pn**	**01 29 55.1**	**-0.2**
OUR				S	**Sg**	**01 30 14.0**	**+1.7**
	418nm,0.3s						
OUR	**Ouranopolis**	**1.31**	**193**	PN	**Pn**	**01 29 55.0**	**-0.2**
VAY	**Valandovo**	**1.38**	**259**	*i* Pn	**Pg**	**01 29 57.4**	**+0.5**
VAY				*i* Sg	**Sg**	**01 30 17.0**	**+2.2**
HORT	**Hortiatis**	**1.39**	**224**	P	**Pn**	**01 29 56.3**	**-0.2**
HORT				S	**Sb**	**01 30 15.6**	**+0.6**
	178nm,0.4s						
PLG	**Polygyros**	**1.42**	**210**	P	**Pn**	**01 29 57.1**	**+0.3**
PLG				S	**Sg**	**01 30 16.6**	**+0.7**
	182nm,0.4s						
SMTH	**Samothraki Isl**	**1.44**	**142**	P	**Pb**	**01 29 57.6**	**0.0**
THE	**Thessaloniki**	**1.44**	**228**	P	**Pn**	**01 29 57.2**	**+0.1**
THE				S	**Sg**	**01 30 17.2**	**+0.5**
	138nm,0.6s						
ALN	**Alexandroupoli**	**1.45**	**119**	P	**Pg**	**01 29 58.2**	**0.0**
ALN	**Alexandroupoli**	**1.45**	**119**	PN	**Pg**	**01 29 58.1**	**-0.1**
STIP	**Stip**	**1.64**	**274**	*i* Pn	**Pn**	**01 29 57.2**	**-2.7**
STIP				*i* Sg	**Sn**	**01 30 17.8**	**-3.5**
BOSS	**Bosilegrad**	**1.66**	**303**	*e*Pn	**Pn**	**01 30 00.8**	**+0.6**
BOSS				*e*Sn	**Sg**	**01 30 26.5**	**+2.7**
UKOP	**Uzunkopru-Edir**	**1.77**	**105**	PN	**Pb**	**01 30 02.6**	**-0.7**
EDRB	**Edirne**	**1.79**	**82**	P	**Pb**	**01 30 02.5**	**-1.2**
EDRB	**Edirne**	**1.79**	**82**	PN	**Pb**	**01 30 02.6**	**-1.2**
LIA	**Limnos Island**	**1.82**	**160**	P	**Pn**	**01 30 02.7**	**+0.4**
GADA	**Gvkgeada**	**1.83**	**140**	P	**Pb**	**01 30 03.3**	**-1.0**
GADA	**Gvkgeada**	**1.83**	**140**	PN	**Pn**	**01 30 03.1**	**+0.6**
GOKA	**anakkale-Gk**	**1.83**	**140**	*i* P	**Pn**	**01 30 03.0**	**+0.5**
GOKA				*i* S	**Sn**	**01 30 26.2**	**+0.2**
GOKA				IAML		01 30 28.0	
	comp=N,106nm,0.3s						
KESN	**Edirne-Kesan**	**1.91**	**113**	*i* P	**Pb**	**01 30 06.0**	**+0.1**
KESN				*i* S	**Sb**	**01 30 29.4**	**-0.8**
KESN				IAML		01 30 35.0	
	comp=E,56nm,0.2s						
KESN				IAML		01 30 36.0	
	comp=N,64nm,0.4s						
GELI	**Tayfur-Gelibol**	**2.00**	**127**	PN	**Pn**	**01 30 05.5**	**+0.7**
KIRK	**Kırklareli**	**2.05**	**84**	*i* P	**Pn**	**01 30 06.0**	**+0.5**
KIRK				*i* S	**Sn**	**01 30 31.3**	**-0.2**
ZAPS	**Zavoj**	**2.10**	**323**	*e*Pn	**Pb**	**01 30 07.8**	**-1.2**
ZAPS				*e*Sn	**Sg**	**01 30 38.3**	**+0.4**
BOZC	**Bozcaada**	**2.18**	**143**	PN	**Pn**	**01 30 08.3**	**+1.0**
BOZC	**Bozcaada**	**2.18**	**143**	*i* P	**Pn**	**01 30 07.8**	**+0.6**
LPK	**Lapseki**	**2.19**	**124**	PN	**Pn**	**01 30 08.5**	**+1.1**
BARS	**Barje**	**2.25**	**303**	*e*Pn	**Pn**	**01 30 09.3**	**+1.1**
BARS				*e*Sn	**Sb**	**01 30 40.5**	**+0.9**
RKY	**Sarkoy-Tekirda**	**2.31**	**113**	PN	**Pn**	**01 30 10.5**	**+1.4**
SART	**Tekirdag**	**2.31**	**112**	*i* P	**Pb**	**01 30 11.6**	**-1.1**
EZN	**Ezine**	**2.32**	**139**	P	**Pn**	**01 30 12.2**	**+1.0**
EZN	**Ezine**	**2.32**	**139**	PN	**Pn**	**01 30 10.1**	**+0.9**
MAR4	**Marsite Statio**	**2.36**	**109**	PN	**Pn**	**01 30 10.7**	**+0.9**
MAR6	**Marsite Statio**	**2.37**	**111**	PN	**Pn**	**01 30 11.0**	**+1.1**
BLKB	**Belogradchik**	**2.37**	**329**	⇑S	**Sg**	**01 30 45.7**	**-0.8**
MAR3	**Marsite Statio**	**2.37**	**110**	PN	**Pn**	**01 30 10.8**	**+0.9**
VLAD	**Vladila**	**2.39**	**1**	⇓P	**Pb**	**01 30 13.1**	**-0.8**
VLAD				S	**Sg**	**01 30 46.7**	**-0.4**
XOR	**Xorichti**	**2.41**	**202**	P	**Pn**	**01 30 10.6**	**+0.1**
NEO	**Neokhori**	**2.46**	**201**	P	**Pn**	**01 30 11.0**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**2.49**	**138**	*i* P	**Pn**	**01 30 12.4**	**+0.8**
BAYC				*i* S	**Sn**	**01 30 41.3**	**-1.1**
CRLT	**Corlu**	**2.58**	**100**	PN	**Pn**	**01 30 13.8**	**+1.0**
COPA	**Copaceanca**	**2.60**	**14**	S	**Sg**	**01 30 52.0**	**-2.0**
MRMT	**Marmara Adasi**	**2.64**	**111**	PN	**Pn**	**01 30 14.3**	**+0.7**
MAR9	**Marsite Statio**	**2.71**	**110**	PN	**Pn**	**01 30 15.3**	**+0.8**
ZAGS	**Zajecar**	**2.71**	**325**	*e*Pn	**Pn**	**01 30 16.3**	**+1.8**
ZAGS				*e*Sn	**Sb**	**01 30 53.0**	**+0.2**
BOVS	**Bovan**	**2.82**	**317**	*e*Pn	**Pn**	**01 30 17.2**	**+1.1**
BOVS				*e*Sn	**Sb**	**01 30 55.4**	**-0.7**
SGRR	**Singureni**	**2.87**	**24**	⇓P	**Pb**	**01 30 19.4**	**-2.6**
SGRR				⇑S	**Sb**	**01 30 57.1**	**-0.3**
PUNG	**Punghina**	**2.87**	**339**	S	**Sb**	**01 30 58.2**	**+0.8**
SELS	**Selova**	**2.90**	**305**	*e*Pn	**Pn**	**01 30 16.8**	**-0.4**
SELS				*e*Sn	**Sb**	**01 30 56.2**	**-2.0**
AYVA	**Ayvalik**	**2.90**	**142**	*i* P	**Pn**	**01 30 18.9**	**+1.7**
STEP	**BALIKESIR_Sava**	**3.39**	**130**	*i* P	**Pn**	**01 30 25.1**	**+1.1**
SVIS	**Svilajnac**	**3.52**	**320**	*e*Pn	**Pn**	**01 30 27.3**	**+1.6**
GRUS	**Gruza**	**3.53**	**311**	*e*Pn	**Pn**	**01 30 26.5**	**+0.7**
GRUS				*e*Sn	**Sn**	**01 31 11.4**	**+3.6**
HERR	**Herculane**	**3.57**	**337**	⇓P	**Pn**	**01 30 26.3**	**0.0**
HERR				S	**Sb**	**01 31 16.1**	**-1.5**
MDVR	**Moldovita**	**3.72**	**329**	⇓P	**Pn**	**01 30 28.8**	**+0.3**
MDVR				⇓S	**Sb**	**01 31 18.7**	**-3.2**
VOIR		**3.86**	**7**	⇓P	**Pn**	**01 30 32.3**	**+1.8**
VOIR				S	**Sb**	**01 31 24.5**	**-1.5**
MLR	**Muntele Rosu**	**4.05**	**16**	⇑P	**Pn**	**01 30 35.9**	**+2.9**
MLR				⇑S	**Sb**	**01 31 27.5**	**-3.9**
DIVS	**Divibare**	**4.07**	**309**	*e*Pn	**Pn**	**01 30 33.2**	**-0.1**
BBLS	**Lazići**	**4.30**	**303**	*e*Pn	**Pn**	**01 30 36.8**	**+0.4**
DOPR	**Dopca**	**4.42**	**9**	⇓P	**Pn**	**01 30 40.3**	**+2.2**
BZS	**Buzias**	**4.48**	**334**	⇑P	**Pn**	**01 30 38.9**	**+0.1**
BZS				S	**Sn**	**01 31 36.1**	**+4.8**
CFR	**Carcaliu**	**4.50**	**36**	⇓P	**Pn**	**01 30 41.0**	**+1.9**
PLOR	**Plostina**	**4.55**	**21**	P	**Pn**	**01 30 41.9**	**+2.0**
VRI	**Vrincioaia**	**4.59**	**21**	P	**Pn**	**01 30 43.3**	**+2.9**
SIRR	**Siria**	**5.05**	**338**	P	**Pn**	**01 30 47.7**	**+0.9**

NDI 20 01:29:33.0±3.3, 21.87N×75.14E, h6km±31km, MD3.6, ML3.5, 1C, Southern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHPL	**Bhopal**	**2.51**	**57**	*e*P	Pn	01 30 13.1	-1.3
BHPL				*e*S	Sn	01 30 46.5	+1.2
BHPL				IAML		01 30 47.3	
	comp=E,172nm,0.1s						
BHPL				IAML		01 30 51.7	
	comp=N,172nm,0.3s						
POO	**Poona**	**3.54**	**200**	*ex*	Pn	01 30 25.6	-2.9
POO				*e*P	Pb	01 30 27.0	-9.0
	comp=N,20nm,1.0s						
POO				*ex*	Sn	01 30 58.1	-13
POO				*e*S	Sn	01 30 58.1	-13
POO				*i* S	Sb	01 31 09.0	-10
POO				IAML		01 31 11.3	
	comp=E,70nm,0.2s						
POO				IAML		01 31 11.4	
	comp=N,108nm,0.1s						
NGP	**Nagpur**	**3.71**	**100**	*e*S	Sn	01 31 12.7	-2.2
KAD	**Karad**	**4.63**	**191**	⇑*i*P	Pn	01 30 45.1	+1.6
KAD				*i* x	Sn	01 31 39.9	+2.4
HYB	**Hyderabad**	**5.47**	**143**	*e*P	Pn	01 30 56.4	+1.3
HYB				*ex*	Pn	01 30 56.4	+1.4
HYB				*e*S	Sn	01 31 54.5	-3.9
HYB				*ex*	Sn	01 31 59.6	+1.2
HYB				IAML		01 32 07.3	
	comp=N,72nm,0.6s						
HYB				IAML		01 32 07.3	
	comp=E,92nm,0.8s						
NDI	**New Delhi**	**7.04**	**15**	*ex*	Sg	01 33 18.0	-1.1
SMLA	**Simla**	**9.40**	**11**	*ex*	Sn	01 33 30.6	-4.3
DHRM	**DHARAMSHALA**	**10.39**	**5**	*ex*	Sn	01 34 00.4	+0.7
DHRM				IAML		01 34 13.6	
	comp=E,16nm,0.5s						

*NEIC **20** 01:48:32.6±1.4, 55.2S±0.2×124.3W±0.2, h10km±1km, mb4.5/6, Error ellipse: s-maj=34.1km s-min=7.2km az=330.0*
*IDC **20** 01:48:32.1±0.8, 55.34S×124.14W, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/34, mbtmp3.8/7, MS3.9/11, Ms1 3.9/11, ms1mx3.8/16, Error ellipse: s-maj=34.6km s-min=24.0km az=137.0*
*GCMT **20** 01:48:40.6±0.2, 55.74S±0.02×124.16W±0.02, h22km±1km, MW5.0/102, Moment Tensor Solution. s40,c49; s102,c146; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.19±.15; Mθθ2.27±.13; Mϕϕ-2.08±.11; Mrθ-0.47±.20; Mθϕ3.07±.09; Mϕr-0.04±.18; Best double couple: M☉3.79100×10¹⁶ NP1:ϕs198.00000°, δ84.00000°, λ178.00000°. NP2:ϕs288.00000°, δ88.00000°, λ6.00000°. Principal axes: T 3.9050, Plg6.0000°, Azm153.0000°; N -0.2240, Plg83.0000°, Azm307.0000°; P -3.6770, Plg3.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 01:48:33.4±0.6, 55.4S±0.1×124.1W±0.1, h10km, n50, σ1§02/22, mb4.1/9, MS4.1/14, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO09	**Cerro Castillo**	**30.59**	**104**	P	**P**	**01 54 47.1**	**+0.1**
GO09				IAmb	IAmb	01 54 59.0	
	comp=Z,24nm,1.4s						
QSPA	**South Pole Qui**	**34.81**	**180**	P	**P**	**01 55 24.4**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=143,slow=3.4,SNR=10						
QSPA	**South Pole Qui**	**34.81**	**180**	P	**P**	**01 55 24.6**	**+0.5**
QSPA				IAmb	IAmb	01 55 38.0	
	comp=Z,6.8nm,1.4s						
TBI	**Tubuai**	**37.10**	**319**	*e*LR	LR	02 05 40.7	
	comp=Z,480nm,30.2s						
TBI	**Tubuai**	**37.10**	**319**	*e*T	T	02 35 02.8	
	comp=Z,15nm,0.3s						
PLCA	**Paso Flores**	**37.67**	**90**	LR	LR	02 07 32.9	
	comp=Z,117nm,19.8s,baz=229,slow=30						
PLCA	**Paso Flores**	**37.67**	**90**	P	**P**	**01 55 48.6**	**0.0**
PLCA				IAmb	IAmb	01 56 05.6	
	comp=Z,6.9nm,1.2s						
H03S2	**Juan Fernandez**	**37.80**	**74**	T	T	02 35 59.0	
	baz=219,slow=74,SNR=137						
H03S1	**Juan Fernandez**	**37.81**	**74**	T	T	02 36 00.5	
	baz=219,slow=74,SNR=169						
H03S3	**Juan Fernandez**	**37.82**	**74**	T	T	02 35 59.2	
	baz=219,slow=74,SNR=170						
H03N3	**Juan Fernandez**	**38.09**	**74**	T	T	02 36 18.6	
	baz=221,slow=72,SNR=123						
H03N2	**Juan Fernandez**	**38.09**	**74**	T	T	02 36 17.1	
	baz=221,slow=72,SNR=246						
H03N1	**Juan Fernandez**	**38.11**	**74**	T	T	02 36 19.0	
	baz=221,slow=72,SNR=121						
PPT2	**Papeete2**	**42.43**	**323**	*e*LR	LR	02 08 12.8	
	comp=Z,513nm,26.0s						
PPT	**Papeete**	**42.45**	**323**	LR	LR	02 08 16.7	
	comp=Z,65nm,21.6s,baz=173,slow=28						
VAH	**Vaihoa**	**43.98**	**326**	*e*T	T	02 43 37.0	
	comp=Z,23nm,0.2s						
PMOR	**Pomariorio Ree**	**44.28**	**326**	*e*T	T	02 44 09.7	
	comp=Z,5.1nm,0.3s						
TAOE	**Nuku Hiva Isla**	**48.11**	**338**	*e*S	**S**	**02 04 14.2**	**+2.2**
	comp=Z,132nm,26.2s						
TAOE				*e*LR	LR	02 10 56.7	
	comp=Z,389nm,28.4s						
MAW	**Mawson**	**57.24**	**183**	P	**P**	**01 58 20.2**	**0.0**
	comp=Z,1.7nm,0.8s,baz=246,slow=11,SNR=3.8						
MAW				LR	LR	02 20 48.9	
	comp=Z,284nm,19.5s,baz=182,slow=34						
MAW	**Mawson**	**57.24**	**183**	P	**P**	**01 58 21.0**	**+0.8**
LPAZ	**La Paz**	**57.60**	**70**	P	**P**	**01 58 23.9**	**-0.3**
	comp=Z,1.1nm,1.1s,baz=182,slow=5.8,SNR=2.1						
LPAZ				LR	LR	02 17 06.2	
	comp=Z,83nm,21.9s,baz=200,slow=30						
SIV	**San Ignacio**	**61.71**	**77**	P	**P**	**01 58 52.8**	**+1.0**
	comp=Z,1.3nm,0.9s,baz=204,slow=7.5,SNR=2.1						
STKA	**Stephens Creek**	**66.74**	**247**	LR	LR	02 23 57.7	
	comp=Z,102nm,19.6s,baz=198,slow=32						
BDFB	**Brasilia**	**69.36**	**88**	LR	LR	02 27 19.8	
	comp=Z,97nm,20.3s,baz=150,slow=34						
ROSC	**El Rosal**	**72.62**	**53**	LR	LR	02 28 10.9	
	comp=Z,63nm,18.4s,baz=224,slow=33						
H01W1	**Cape Leeuwin H**	**77.26**	**226**	T	T	03 26 07.1	
	baz=150,slow=75,SNR=38						
H01W2	**Cape Leeuwin H**	**77.27**	**226**	T	T	03 25 58.8	
	baz=150,slow=75,SNR=56						
H01W3	**Cape Leeuwin H**	**77.28**	**226**	T	T	03 26 07.8	
	baz=150,slow=75,SNR=24						
ASAR	**Alice Springs**	**77.36**	**247**	P	**P**	**02 00 29.9**	**+1.4**
	comp=Z,1.1nm,1.0s,baz=153,slow=6.3,SNR=6.0						
ASAR				LR	LR	02 31 13.4	
	comp=Z,117nm,18.8s,baz=158,slow=33						
ASAR	**Alice Springs**	**77.36**	**247**	P	**P**	**02 00 27.3**	**-1.1**
WRA	**Warramunga Arr**	**80.18**	**249**	P	**P**	**02 00 43.3**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=146,slow=5.1,SNR=11						
WRA	**Warramunga Arr**	**80.18**	**249**	P	**P**	**02 00 42.0**	**-1.9**

comp=E,210nm,0.4s

IDHR	**Dehrash**	**2.39**	**331**	*e*	**Sb**	**02 13 20.7**	**+3.8**
ILIN	**Lien**	**2.41**	**344**	*e*Pn	**Pn**	**02 12 46.8**	**+1.1**
ILIN				*e*		02 12 49.7	
JHBN	**Jahan bin**	**2.46**	**98**	*e*Pn	**Pb**	**02 12 48.0**	**-0.7**
JHBN				*e*		02 13 36.1	
BHD	**Baghdad**	**2.94**	**284**	*e*Pn	**Pn**	**02 12 51.0**	**+0.3**
BHD				*e*Sn	**Sn**	**02 13 27.0**	**+1.2**

JMA ***20*** *02:29:31.4±0.3, 44°.02N×148°.07E, h0km, M3.9*
SKHL ***20*** *02:29:32.3±0.6, 44°.46N×148°.20E, h25km±5km, mb4.2/3*

ISC 20 02:29:29.4±3.4, 44°.37N±0°.09×148°.5E±0°.2, h35km, n15, σ1§59/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.98**	**332**	*i* P		**Pn**	**02 29 46.8**	**+0.2**
KUR					AMB	AMB	02 29 47.9	
	150nm,0.5s							
KUR					AMB	AMB	02 29 47.9	
	180nm,0.5s							
KUR					AMB	AMB	02 29 47.9	
	320nm,0.5s							
KUR				*i* S		**Sn**	**02 29 57.8**	**-1.5**
KUR					A	A	02 29 59.0	
	1μm,0.5s							
KUR					A	A	02 29 59.0	
	150nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.94**	**261**	*e*P		**Pn**	**02 30 01.2**	**+1.4**
YUK					AMB	AMB	02 30 01.4	
	30nm,0.3s							
YUK				*e*S		**Sn**	**02 30 22.3**	**-0.7**
YUK					A	A	02 30 29.0	
	520nm,0.5s							
YUK					A	A	02 30 29.0	
	530nm,0.5s							
GRPR	**Tuman**	**2.02**	**260**	*e*P		**Pn**	**02 30 00.9**	**+0.1**
GRPR					AMB	AMB	02 30 03.0	
	130nm,0.3s							
GRPR				*e*S		**Sn**	**02 30 22.7**	**-2.1**
GRPR					A	A	02 30 26.0	
	590nm,0.5s							
GRPR					A	A	02 30 26.0	
	280nm,0.5s							
NEM2	**Nemuro 2**	**2.25**	**244**	P		**Pn**	**02 30 04.1**	**+0.1**
NEM2				*e*S		**Sn**	**02 30 28.3**	**-2.2**
JRA	**Rausu**	**2.49**	**261**	P		**Pn**	**02 30 08.7**	**+1.4**
JNSB	**Nemuroshibetsu**	**2.60**	**258**	P		**Pn**	**02 30 10.4**	**+1.5**
JKHN	**Kushirohamanak**	**2.76**	**243**	P		**Pn**	**02 30 11.6**	**+0.6**
JKHN				*e*S		**Sn**	**02 30 41.3**	**-1.8**
JNK	**Nakash**	**2.86**	**255**	P		**Pn**	**02 30 13.6**	**+1.2**
JNK				*e*S		**Sn**	**02 30 44.2**	**-1.4**
JAK	**Akkeshi**	**3.10**	**245**	P		**Pn**	**02 30 16.3**	**+0.6**
JAK				*e*S		**Sn**	**02 30 49.5**	**-2.0**
JAR	**Ashorobuto**	**3.60**	**254**	P		**Pn**	**02 30 24.7**	**+2.0**
JAR				*e*S		**Sn**	**02 31 03.8**	**-0.2**
JCH	**Churui**	**4.14**	**247**	P		**Pn**	**02 30 31.0**	**+0.9**
JKK2	**Kamakawa 2**	**4.19**	**265**	P		**Pn**	**02 30 34.0**	**+3.3**
JNBK	**Urakawa-nobuka**	**4.70**	**246**	P		**Pn**	**02 30 39.4**	**+1.7**
JKB	**Kayabe**	**6.02**	**248**	P		**Pn**	**02 30 57.3**	**+1.5**
JOT	**Ohata**	**6.25**	**244**	P		**Pn**	**02 31 00.1**	**+1.1**

IDC ***20*** *02:39:55.0±5.4, 17°.86S×178°.39W, h582km±56km, mb3.2/8, mb1 3.4/9, mb1mx3.1/37, mbtmp4.2/9, Error ellipse: s-maj=48.6km s-min=26.1km az=129.0*

ISC 20 02:39:54.5±1.3, 17°.9S±0°.3×178°.4W±0°.2, h579km, n12, σ0§77/14, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.87**	**251**	P		**P**	**02 43 02.4**	**+0.2**
	0.5nm,0.3s,baz=108,slow=18,SNR=1.5							
STKA	**Stephens Creek**	**38.68**	**241**	P		**P**	**02 46 29.4**	**-0.3**
	0.9nm,0.5s,baz=102,slow=19,SNR=3.4							
WRA	**Warramunga Arr**	**44.67**	**259**	P		**P**	**02 47 16.8**	**-0.3**
	1.7nm,0.7s,baz=95,slow=7.2,SNR=33							
WRA					PcP	**PcP**	**02 48 46.3**	**-0.7**
	0.5nm,0.6s,baz=91,slow=3.6,SNR=5.8							
ASAR	**Alice Springs**	**44.83**	**254**	P		**P**	**02 47 18.6**	**+0.3**
	6.1nm,0.6s,baz=88,slow=8.5,SNR=78							
ASAR					PcP	**PcP**	**02 48 47.5**	**-0.1**
	0.9nm,0.7s,baz=105,slow=3.6,SNR=7.1							
MJAR	**Matsushiro Arr**	**67.90**	**323**	P		**P**	**02 49 55.4**	**-0.8**
	1.2nm,0.5s,baz=161,slow=5.7,SNR=3.3							
PETK	**Petropavlovsk-**	**73.65**	**345**	P		**P**	**02 50 30.2**	**+0.6**
	1.8nm,0.7s,baz=141,slow=9.6,SNR=5.0							
SEY	**Seymchan**	**83.75**	**347**	P		**P**	**02 51 22.7**	**-0.3**
	1.8nm,0.6s,baz=44,slow=21,SNR=2.9							
TXAR	**Lajitas Array**	**85.95**	**58**	P		**P**	**02 51 35.0**	**+0.4**
	0.4nm,0.8s,baz=224,slow=10,SNR=4.9							
CMAR	**Chiang Mai Arr**	**88.90**	**290**	P		**P**	**02 51 50.2**	**+1.7**
	0.7nm,0.3s,baz=110,slow=4.1,SNR=4.1							
MKAR	**Makanchi Array**	**109.13**	**314**	PKiKP		**PKiKP**	**02 57 18.3**	**-0.9**
	0.3nm,0.5s,baz=119,slow=1.3,SNR=2.6							
BRTR	**Keskin Array B**	**144.78**	**315**	PKP		**PKPdf**	**02 58 26.7**	**+0.1**
	1.5nm,0.7s,baz=180,slow=3.5,SNR=5.4							
GERES	**GERESS Array B**	**147.58**	**345**	PKPbc		**PKPbc**	**02 58 33.6**	**-0.9**
	1.3nm,0.5s,baz=25,slow=3.5,SNR=14							

ISN ***20*** *02:55:42.8±1.0, 32°.67N×47°.49E, h22km±7km, ML2.5*
TEH ***20*** *02:55:43.2, 32°.69N×47°.40E, h10km, ML2.8*

ISC 20 02:55:43.0±1.5, 32°.67N±0°.06×47°.42E±0°.05, h7km±11km, n12, σ0§67/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.12**	**275**	*e*Pg		**Pg**	**02 55 45.6**	**0.0**
IKFM	**Kafar-mosalman**	**0.93**	**23**	*e*Pg		**Pg**	**02 56 00.3**	**-0.5**
IKFM				*e*			02 56 19.1	
IKMR	**Kamar-syah**	**1.17**	**44**	*e*			02 56 28.6	
IKMR				*e*Pg		**Pg**	**02 56 06.0**	**+0.5**
IDOB	**Doab**	**1.28**	**30**	*e*			02 56 30.0	
IDOB				*e*Pg		**Pg**	**02 56 07.8**	**+0.1**
IBDR	**Badra**	**1.32**	**290**	*e*Pg		**Pb**	**02 56 08.0**	**-0.2**
IBDR				*e*Sg		**Sg**	**02 56 26.0**	**+0.4**
IBDR					AML	AML	02 56 31.9	
	comp=N,94nm,0.6s							
IBDR					AML	AML	02 56 32.5	
	comp=E,62nm,0.7s							
IKOM	**Komasi**	**1.50**	**3**	*e*Pg		**Pg**	**02 56 11.1**	**-0.8**
IKOM				*e*			02 56 15.8	
BMDN	**Meydan**	**1.55**	**49**	*e*Pg		**Pg**	**02 56 13.0**	**+0.3**
BMDN				*e*			02 56 40.7	
IGHG	**Ghaleghazi**	**1.80**	**337**	*e*Pn		**Pb**	**02 56 16.4**	**-0.1**
IGHG				*e*			02 56 51.1	
IVIS	**Veis**	**1.91**	**346**	*e*Pn		**Pb**	**02 56 18.3**	**0.0**
IVIS				*e*			02 56 23.0	
NSR	**Nassriya**	**1.98**	**214**	*e*Pn		**Pn**	**02 56 17.0**	**+0.1**
NSR				*e*Sn		**Sn**	**02 56 41.0**	**-0.9**
IDHR	**Dehrash**	**2.20**	**337**	*e*Pn		**Pb**	**02 56 22.2**	**-1.0**
IDHR				*e*			02 56 56.0	
BHD	**Baghdad**	**2.62**	**284**	*e*Pn		**Pn**	**02 56 26.0**	**+0.3**
BHD				*e*Sn		**Sn**	**02 56 59.0**	**+1.2**

MOS ***20*** *02:57:16.3±0.9, 41°.15N×142°.14E, h54km, mb4.5/18, Error ellipse: s-maj=8.0km s-min=5.6km az=99.5*
NIED ***20*** *02:57:17.6, 41°.14N×142°.26E, h50km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.84; $M_{\theta\theta}$-0.28; $M_{\phi\phi}$-0.57; $M_{r\theta}$0.47; $M_{\theta\phi}$-0.40; $M_{\phi r}$1.37; Fault plane solution: $M_0$1.67000×10^{15} NP1:ϕ_s21.00000°, δ75.00000°, λ83.00000°. NP2:ϕ_s227.00000°, δ16.00000°, λ115.00000°.*
JMA ***20*** *02:57:17.5±0.1, 41°.14N×142°.26E, h50km±3km, M4.2 Broadband fault plane solution: P waves. NP1: ϕ_s194.00000°, δ12.00000°, λ79.00000°. NP2:ϕ_s25.00000°, δ78.00000°, λ92.00000°. Principal axes: T Plg57.0000°, Azm298.0000°; N Plg2.0000°, Azm204.0000°; P Plg33.0000°, Azm113.0000°;*
JMA Felt II J1.
NEIC ***20*** *02:57:17.9±1.0, 41°.08N±0°.06×142°.3E±0°.1, h61km±7km, mb4.6/25 Error ellipse: s-maj=13.5km s-min=7.2km az=119.0*
IDC ***20*** *02:57:18.4±0.5, 41°.10N×142°.18E, h61km±4km, mb4.0/27, mb1 4.1/35, mb1mx4.0/47, mbtmp4.2/35, MS3.0/9, Ms1 3.0/9, ms1mx2.8/39, Error ellipse: s-maj=12.0km s-min=8.7km az=109.0*

ISC 20 02:57:18.0±0.5, 41°.12N±0°.03×142°.21E±0°.04, h60km±4km, n183, σ1§15/204, mb4.4/52, 13C-15D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.65**	**260**	⇓P		**Pn**	**02 57 31.2**	**-0.4**
JARK					S	**Sn**	**02 57 41.0**	**-0.5**
JAHD	**Aomorihigashid**	**0.68**	**282**	⇓P		**Pn**	**02 57 31.5**	**-0.4**
JAHD					S	**Sn**	**02 57 41.5**	**-0.6**
JOT	**Ohata**	**0.92**	**287**	⇓P		**Pn**	**02 57 34.4**	**-0.5**
JOT					S	**Sn**	**02 57 46.1**	**-1.3**
JANG	**Nango**	**0.92**	**215**	⇑P		**Pn**	**02 57 34.6**	**-0.3**
JANG					S	**Sn**	**02 57 47.2**	**-0.2**
JTM	**Tenmabayashi**	**0.93**	**249**	⇓P		**Pn**	**02 57 35.2**	**+0.1**
JTM					S	**Sn**	**02 57 47.2**	**-0.5**
ERM	**Erimo**	**1.14**	**38**	*i* P		**Pn**	**02 57 37.0**	**-0.8**
ERM	**Erimo**	**1.14**	**38**	Pn		**Pn**	**02 57 37.5**	**-0.3**
ERM					Sn	**Sn**	**02 57 52.1**	**-0.5**
JEM	**Erimo**	**1.14**	**38**	⇑P		**Pn**	**02 57 37.3**	**-0.5**
JEM				*e*S		**Sn**	**02 57 51.8**	**-0.8**
JKB	**Kayabe**	**1.17**	**311**	⇓P		**Pn**	**02 57 37.5**	**-0.7**
JKB					S	**Sn**	**02 57 52.5**	**-0.8**
JNBK	**Urakawa-nobuka**	**1.23**	**19**	⇓P		**Pn**	**02 57 38.5**	**-0.5**
JSR	**Shiriuchi**	**1.41**	**287**	⇓P		**Pn**	**02 57 41.6**	**+0.2**
JSR				*e*S		**Sn**	**02 57 59.8**	**+0.8**
JIAM	**Iburiatsuma**	**1.51**	**352**	⇓P		**Pn**	**02 57 43.4**	**+0.6**
JAH	**Hinai**	**1.52**	**233**	⇓P		**Pn**	**02 57 43.2**	**+0.3**
JAH				*e*S		**Sn**	**02 58 02.9**	**+1.2**
JNB	**Noboribetsu**	**1.61**	**327**	⇓P		**Pn**	**02 57 43.2**	**-0.9**
JNB				*e*S		**Sn**	**02 58 03.0**	**-0.8**
JBT2	**Biratori 2**	**1.66**	**4**	⇓P		**Pn**	**02 57 44.8**	**0.0**
JBT2				*e*S		**Sn**	**02 58 04.8**	**-0.2**
JYM2	**Yakumo 2**	**1.70**	**306**	⇓P		**Pn**	**02 57 45.4**	**0.0**
JOMM	**Oshimamatsumae**	**1.71**	**284**	P		**Pn**	**02 57 44.2**	**-1.2**
JCH	**Churui**	**1.72**	**30**	P		**Pn**	**02 57 45.3**	**-0.3**
JIW	**Iwasaki**	**1.75**	**253**	P		**Pn**	**02 57 46.4**	**+0.3**
JOM	**Ohasama**	**1.79**	**203**	P		**Pn**	**02 57 46.9**	**+0.3**
JOM				*e*S		**Sn**	**02 58 08.8**	**+0.5**
JEW	**Eniwo**	**1.81**	**342**	⇓P		**Pn**	**02 57 46.9**	**+0.1**
JEW					S	**Sn**	**02 58 09.5**	**+0.8**
JFR	**Furan**	**2.06**	**8**	P		**Pn**	**02 57 50.4**	**+0.2**
JFR				*e*S		**Sn**	**02 58 14.8**	**0.0**
ASAJ	**Asahikawa**	**3.00**	**5**	P		**Pn**	**02 58 03.4**	**+0.3**
	39nm,0.3s,baz=222,slow=9.7,SNR=139							
ASAJ					S	**Sn**	**02 58 39.0**	**+1.1**
	29nm,0.3s,baz=42,slow=27,SNR=7.5							
ASAJ	**Asahikawa**	**3.00**	**5**	P		**Pn**	**02 58 03.7**	**+0.6**
ASAJ							02 58 38.8	
JKA	**Kamikawa-asahi**	**3.00**	**5**	Pn		**Pn**	**02 58 03.7**	**+0.5**
JKA						**Sn**	**02 58 38.8**	**+0.9**
GRPR	**Tuman**	**3.89**	**41**	*e*P		**Pn**	**02 58 15.2**	**0.0**
GRPR				*e*S		**Sn**	**02 58 57.1**	**-2.5**
GRPR					pmax	pmax		
	comp=E,67nm,0.2s							
GRPR					pmax	pmax		
	comp=Z,135nm,0.2s							
GRPR					smax	smax		
	comp=N,783nm,0.4s							
GRPR					smax	smax		
	comp=E,164nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**3.96**	**42**	*e*P		**Pn**	**02 58 16.5**	**+0.3**
YUK				*e*S		**Sn**	**02 58 58.4**	**-3.0**
YUK					pmax	pmax		
	comp=N,122nm,0.3s							
YUK					pmax	pmax		
	comp=Z,348nm,0.3s							
YUK					pmax	pmax		
	comp=E,39nm,0.2s							
YUK					smax	smax		
	comp=E,397nm,0.2s							
YUK					smax	smax		
	comp=N,820nm,0.4s							
MAJO	**Matsushiro**	**5.54**	**216**	*i* P		**Pn**	**02 58 40.4**	**+2.5**
MAJO	**Matsushiro**	**5.54**	**216**	Pn		**Pn**	**02 58 38.2**	**+0.3**
MAT	**Matsushiro**	**5.54**	**216**	P		**Pn**	**02 58 40.3**	**+2.4**
MAT				*e*S		**Sn**	**02 59 48.3**	**+8.1**
MJAR	**Matsushiro Arr**	**5.54**	**216**	P		**Pn**	**02 58 37.9**	**0.0**
	comp=N,0.3nm,0.3s,baz=123,slow=16,SNR=5.7							
MJAR					LR	LR	03 01 12.0	
	comp=N,77nm,19.1s,baz=15,slow=42							
MJAR	**Matsushiro Arr**	**5.54**	**216**			**Pn**	**02 58 37.7**	**-0.2**
TEY	**Ternei**	**5.67**	**315**	⇑*e*P		**Pn**	**02 58 39.9**	**+0.3**
TEY					pmax	pmax		
	comp=N,20nm,0.7s							
TEY					pmax	pmax		
	comp=E,20nm,0.7s							
TEY					pmax	pmax		
	comp=Z,20nm,0.7s							
KUR	**Kuril'sk**	**5.83**	**43**	*e*P		**Pn**	**02 58 42.6**	**+0.9**
KUR				*e*S		**Sn**	**02 59 45.0**	**-2.1**
KUR					pmax	pmax		
	comp=E,12nm,0.1s							
KUR					pmax	pmax		
	comp=Z,103nm,0.1s							
KUR					smax	smax		
	comp=N,99nm,0.3s							
KUR					smax	smax		
	comp=E,50nm,0.3s							
YSS	**Yuzh-Sakhalins**	**5.84**	**4**	⇓*e*P		**Pn**	**02 58 42.9**	**+1.0**
YSS					pmax	pmax		
	comp=Z,20nm,0.9s							
YSS					MLR	MLR		
	comp=Z,100nm,14.0s							
USA0B	**Ussuriysk Arra**	**8.14**	**296**	*i* P		**Pn**	**02 59 15.3**	**+2.0**
USA0B	**Ussuriysk Arra**	**8.14**	**296**	Pn		**Pn**	**02 59 13.5**	**+0.2**
USRK	**Ussuriysk Ar.**	**8.14**	**296**	P		**Pn**	**02 59 14.3**	**+1.0**
	baz=98,slow=14,SNR=24							
JHJ	**Hachijo jima 2**	**8.22**	**194**	P		**Pn**	**02 59 14.6**	**0.0**
	comp=Z,15nm,0.3s,baz=270,slow=20,SNR=2.5							
JHJ					S	**Sn**	**03 00 38.5**	**-7.5**
	comp=Z,5.7nm,0.3s,baz=66,slow=21,SNR=2.0							
KLR	**Kul'dur**	**10.96**	**321**	P		**Pn**	**02 59 53.5**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=122,slow=15,SNR=11							
KLR					LR	LR	03 04 04.9	
	comp=Z,106nm,19.4s,baz=136,slow=37							
KLR	**Kul'dur**	**10.96**	**321**	*i* P		**Pn**	**02 59 50.4**	**-1.4**
KLR					pmax	pmax		
	comp=Z,2.0nm,0.9s							
KSRS	**Korea Array**	**11.66**	**256**	P		**Pn**	**03 00 01.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=65,slow=15,SNR=1.1							
KSRS					LR	LR	03 04 06.5	
	comp=Z,65nm,19.4s,baz=75,slow=35							
JNU	**Nakatsue**	**12.06**	**232**	P		**Pn**	**03 00 06.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=293,slow=15,SNR=1.3							
JNU	**Nakatsue**	**12.06**	**232**			**Pn**	**03 00 06.3**	**-0.7**
TJN	**Taejon**	**12.52**	**253**	*ce*P		**P**	**03 00 19.6**	**-3.4**
PETK	**Petropavlovsk-**	**15.92**	**36**	P		**Pn**	**03 00 59.2**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=206,slow=9.6,SNR=2.0							
PETK	**Petropavlovsk-**	**15.92**	**36**	P		**Pn**	**03 00 57.6**	**-0.4**
HIA	**Hailar**	**17.76**	**305**	*i* P		**Pn**	**03 01 18.8**	**-2.1**
HIA					pmax	pmax		
	comp=Z,4.0nm,0.8s							
MA2	**Magadan**	**19.23**	**13**	LR		LR	03 08 34.9	
	comp=Z,34nm,19.0s,baz=242,slow=35							
YAK	**Yakutsk**	**22.26**	**344**	*i* P		**P**	**03 02 08.2**	**-1.4**
YAK					pmax	pmax		
	comp=Z,10.0nm,0.8s							
SEY	**Seymchan**	**22.66**	**12**	P		**P**	**03 02 12.2**	**-1.8**
	comp=Z,1.0nm,0.4s,baz=32,slow=23,SNR=2.8							
SEY	**Seymchan**	**22.66**	**12**	*i* P		**P**	**03 02 13.1**	**-0.9**
BOD	**Bodaibo**	**24.53**	**322**	*e*P		**P**	**03 02 31.5**	**-0.1**
BOD					pmax	pmax		
	comp=Z,5.0nm,1.2s							
ULN	**Ulaanbaatar**	**25.81**	**297**	*ce*P		**P**	**03 02 45.1**	**+1.6**
ULN					pmax	pmax		
	comp=Z,2.0nm,0.6s							
SONM	**Songino Array**	**26.25**	**297**	P		**P**	**03 02 48.0**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=79,slow=8.0,SNR=7.5							
SONM					LR	LR	03 13 18.0	
	comp=Z,61nm,19.9s,baz=41,slow=37							
SONM	**Songino Array**	**26.25**	**297**	P		**P**	**03 02 48.0**	**+0.5**
SONM	**Songino Array**	**26.25**	**297**	P		**P**	**03 02 46.3**	**-1.2**
GUMO	**Guam**	**27.53**	**174**	LR		LR	03 13 10.0	
	comp=Z,23nm,20.0s,baz=10.0,slow=35							
TLY	**Talaya**	**28.30**	**305**	LR		LR	03 13 57.4	
	comp=Z,24nm,18.7s,baz=84,slow=35							
TLY	**Talaya**	**28.30**	**305**	*i* P		**P**	**03 03 06.2**	**+0.5**
TLY					pmax	pmax		
	comp=Z,3.0nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**29.94**	**128**	T		T	03 35 55.8	
	baz=322,slow=76,SNR=311							
H11N1	**WAKE ISLAND Hy**	**29.95**	**128**	T		T	03 35 52.8	
	baz=322,slow=76,SNR=313							
H11N3	**WAKE ISLAND Hy**	**29.96**	**128**	T		T	03 35 52.3	
	baz=322,slow=76,SNR=204							
H11S1	**WAKE ISLAND Hy**	**30.78**	**130**	T		T	03 36 59.2	
	baz=323,slow=76,SNR=156							
H11S3	**WAKE ISLAND Hy**	**30.78**	**130**	T		T	03 36 55.7	
	baz=323,slow=76,SNR=145							
H11S2	**WAKE ISLAND Hy**	**30.80**	**130**	T		T	03 36 58.6	
	baz=323,slow=76,SNR=102							
DGZ	**Jazzator, Alta**	**38.63**	**302**	*i* P		**P**	**03 04 35.7**	**+0.2**
DGZ					pmax	pmax		
	comp=Z,2.0nm,0.7s							
ZAA0	**Zalesovo Array**	**39.73**	**309**	P		**P**	**03 04 44.8**	**+0.5**
ZAA0					IAmb	IAmb	03 04 47.8	
	comp=Z,5.5nm,0.6s							
ZALV	**Zalesovo Beam**	**39.73**	**309**	P		**P**	**03 04 44.9**	**+0.5**
	comp=Z,4.1nm,0.5s,baz=87,slow=8.3,SNR=11							
ZALV					PcP	**PcP**	**03 06 49.3**	**-0.3**
	comp=Z,2.5nm,0.3s,baz=122,slow=3.0,SNR=6.1							
ZALV	**Zalesovo Beam**	**39.73**	**309**	P		**P**	**03 04 44.5**	**+0.2**
ZALV						**PcP**	**03 06 49.4**	**-0.3**
NRIK	**Noril'sk**	**39.86**	**333**	LR		LR	03 21 05.4	
	comp=Z,26nm,19.5s,baz=88,slow=36							
MK31	**Makanchi Array**	**42.59**	**299**	P		**P**	**03 05 07.7**	**-0.3**
MK31					pmax	pmax		
	comp=Z,3.0nm,0.7s							
MK31	**Makanchi Array**	**42.59**	**299**			**P**	**03 05 07.7**	**-0.3**
MKAR	**Makanchi Array**	**42.59**	**299**	P		**P**	**03 05 08.4**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=84,slow=11,SNR=19							
MKAR					PcP	**PcP**	**03 06 58.7**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=64,slow=2.9,SNR=5.3							
MKAR	**Makanchi Array**	**42.59**	**299**	P		**P**	**03 05 08.6**	**+0.6**
MKAR	**Makanchi Array**	**42.59**	**299**			**P**	**03 05 08.6**	**+0.6**
MAKZ	**Makanchi**	**42.80**	**299**	P		**P**	**03 05 09.6**	**0.0**
MAKZ					pmax	pmax		
	comp=Z,4.0nm,0.9s							
MAKZ	**Makanchi**	**42.80**	**299**	P		**P**	**03 05 09.6**	**0.0**
IMAR	**Indian Mountai**	**42.85**	**33**	P		**P**	**03 05 10.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**43.25**	**252**	P		**P**	**03 05 14.2**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=45,slow=8.8,SNR=1.4							
CMAR					LR	LR	03 22 57.8	
	comp=Z,16nm,21.3s,baz=85,slow=36							
CMAR	**Chiang Mai Arr**	**43.25**	**252**	P		**P**	**03 05 13.4**	**-0.2**
KDAK	**Kodiak Island**	**43.70**	**45**	P		**P**	**03 05 17.3**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=248,slow=13,SNR=7.8							
KURK	**Kurchatov**	**44.00**	**305**	*ce*P		**P**	**03 05 18.5**	**-0.7**
KURK					pmax	pmax		
	comp=Z,19nm,2.5s							
KURK	**Kurchatov**	**44.00**	**305**			**P**	**03 05 19.9**	**+0.7**
KURK					IAmb	IAmb	03 05 25.3	
	comp=Z,6.9nm,0.6s							
KURK						**PcP**	**03 07 04.0**	**+0.1**
KURBB	**Kurchatov Arra**	**44.08**	**305**	P		**P**	**03 05 19.9**	**+0.1**
	comp=Z,4.7nm,0.4s,baz=79,slow=8.9,SNR=10							
KURBB					PcP	**PcP**	**03 07 04.6**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=87,slow=3.6,SNR=6.5							
MDM	**Murphy Dome**	**45.16**	**34**	P		**P**	**03 05 28.6**	**+0.3**
MDM					IAmb	IAmb	03 05 47.1	
	comp=Z,5.4nm,0.7s							
COLA	**College**	**45.32**	**34**	*i* P		**P**	**03 05 30.1**	**+0.6**
COLA					pmax	pmax		
	comp=Z,2.0nm,0.9s							
IL31		**45.74**	**34**	P		**P**	**03 05 33.7**	**+0.9**
ILAR	**Eielson Array**	**45.74**	**34**	P		**P**	**03 05 33.5**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=268,slow=6.4,SNR=21							
ILAR					pP	**pP**	**03 05 49.4**	**+1.5**
	comp=Z,2.4nm,0.5s,baz=261,slow=5.6,SNR=13							
ILAR	**Eielson Array**	**45.74**	**34**	P		**P**	**03 05 33.6**	**+0.7**
ILAR	**Eielson Array**	**45.74**	**34**	P		**P**	**03 05 33.6**	**+0.7**
TAPN	**Taplejung**	**46.40**	**271**	*e*P		**P**	**03 05 38.9**	**0.0**
	comp=Z,17nm,0.4s							
ODAN	**Odare**	**46.90**	**270**	*e*P		**P**	**03 05 44.0**	**+1.2**
TARG	**Taragay, Kyrgy**	**47.26**	**293**	P		**P**	**03 05 45.4**	**-0.2**
TARG					IAmb	IAmb	03 05 48.7	
	comp=Z,5.1nm,0.5s							
JIRN	**Jiri**	**47.39**	**272**	*e*P		**P**	**03 05 47.1**	**+0.4**
RAMN	**Ramite**	**47.45**	**271**	*e*P		**P**	**03 05 47.8**	**+0.7**
GUN	**Gumba**	**47.49**	**272**	*e*P		**P**	**03 05 47.0**	**-0.5**
	comp=Z,37nm,0.3s							
KKN	**Kakani**	**48.01**	**273**	*e*P		**P**	**03 05 52.6**	**+1.3**
	comp=Z,22nm,0.6s							
PKI	**Pulchoki**	**48.02**	**272**	*e*P		**P**	**03 05 52.7**	**+1.1**
BCAR	**Beaver Creek A**	**48.20**	**36**	P		**P**	**03 05 52.7**	**+0.5**
BVAR	**Borovoye Array**	**48.36**	**310**	P		**P**	**03 05 54.1**	**+0.6**
	comp=Z,4.3nm,0.5s,baz=74,slow=8.4,SNR=23							
BVAR					PcP	**PcP**	**03 07 18.9**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=77,slow=3.2,SNR=3.7							

	comp=Z,4.0nm,0.8s								
FINES	**FINESS Array B**	**65.50**	**332**	P		**P**		**03 07 54.7**	**+0.2**
	comp=Z,6.1nm,0.5s,baz=51,slow=6.9,SNR=50								
FINES	**FINESS Array B**	**65.50**	**332**	P		**P**		**03 07 54.8**	**+0.3**
KIV	**Kislovodsk**	**68.72**	**310**	*eP*		**P**		**03 08 16.6**	**+1.2**
KIV				pmax		pmax			
	comp=Z,46nm,0.9s								
KIV	**Kislovodsk**	**68.72**	**310**	P		**P**		**03 08 15.5**	**+0.1**
KBZ	**Khabaz**	**68.74**	**310**	P		**P**		**03 08 16.1**	**+0.8**
	comp=Z,6.0nm,0.8s,baz=68,slow=4.1,SNR=10								
KBZ	**Khabaz**	**68.74**	**310**	*ceP*		**P**		**03 08 16.6**	**+1.3**
NB2	**NORSAR Subarra**	**70.66**	**337**	P		**P**		**03 08 27.2**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=36,slow=6.5								
NOA	**NORSAR Array B**	**70.66**	**337**	P		**P**		**03 08 26.8**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=52,slow=6.9,SNR=6.9								
AKASG	**Malin Array Be**	**71.46**	**322**	P		**P**		**03 08 32.1**	**+0.2**
	comp=Z,3.1nm,0.5s,baz=43,slow=6.0,SNR=18								
AKASG	**Malin Array Be**	**71.46**	**322**	*ceP*		**P**		**03 08 32.0**	**+0.2**
AKASG				pmax		pmax			
	comp=Z,4.0nm,0.5s								
AKASG	**Malin Array Be**	**71.46**	**322**	P		**P**		**03 08 31.4**	**-0.4**
AKBB	**Malin Array Si**	**71.46**	**322**	*ceP*		**P**		**03 08 31.4**	**-0.4**
KVN	**Kaiserville**	**71.81**	**54**	P		**P**		**03 08 34.0**	**-0.5**
KVN				pmax		pmax			
	comp=Z,2.0nm,0.9s								
KVN	**Kaiserville**	**71.81**	**54**	P		**P**		**03 08 34.0**	**-0.5**
NVAR	**Mina Array Bea**	**72.08**	**55**	P		**P**		**03 08 36.8**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=290,slow=8.7,SNR=4.5								
NVAR				pP		**PcP**		**03 08 53.5**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=289,slow=5.9,SNR=9.3								
NVAR	**Mina Array Bea**	**72.08**	**55**	P		**P**		**03 08 35.6**	**-0.5**
PDAR	**Pinedale Array**	**74.38**	**47**	P		**P**		**03 08 50.4**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=292,slow=2.9,SNR=6.8								
PDAR				pP		**pP**		**03 09 06.4**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=291,slow=0.7,SNR=5.2								
PDAR	**Pinedale Array**	**74.38**	**47**	P		**P**		**03 08 49.5**	**-0.1**
BUR08	**Bucovina Ar. S**	**75.48**	**322**	P		**P**		**03 08 56.1**	**+0.4**
BURAR	**Bucovina Array**	**75.50**	**321**	P		**P**		**03 08 55.8**	**+0.1**
OJC	**Ojcow**	**76.00**	**326**	P		**P**		**03 08 58.5**	**+0.1**
OJC				pmax		pmax			
	comp=Z,5.0nm,0.8s								
OJC	**Ojcow**	**76.00**	**326**	P		**P**		**03 08 58.5**	**+0.1**
OJC				IAmb		IAmb		03 09 00.4	
	comp=Z,5.1nm,0.8s								
BRTR	**Keskin Array B**	**76.62**	**311**	P		**P**		**03 09 02.6**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=105,slow=2.4,SNR=7.4								
BRTR	**Keskin Array B**	**76.62**	**311**	*ceP*		**P**		**03 09 03.0**	**+0.7**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.5s								
BRTR	**Keskin Array B**	**76.62**	**311**	P		**P**		**03 09 02.0**	**-0.3**
VYHS	**Vyhne**	**77.72**	**325**	*eP*		**P**		**03 09 09.4**	**+1.2**
VYHS	**Vyhne**	**77.72**	**325**	*eP*		**P**		**03 09 09.4**	**+1.2**
CLL	**Collm**	**77.86**	**330**	*iP*		**P**		**03 09 09.5**	**+0.6**
	comp=Z,5.0nm,0.9s								
CLL	**Collm**	**77.86**	**330**	*i* P		**P**		**03 09 09.5**	**+0.6**
CLL				pmax		pmax			
	comp=Z,5.0nm,0.9s								
GOPC	**GO Pecny, Ondr**	**78.28**	**328**	*eP*		**P**		**03 09 13.4**	**+2.1**
GOPC	**GO Pecny, Ondr**	**78.28**	**328**	*eP*		**P**		**03 09 13.4**	**+2.1**
KHC	**Kasperske Hory**	**79.39**	**329**	*ceP*		**P**		**03 09 17.5**	**+0.1**
KHC				pmax		pmax			
	comp=Z,7.0nm,1.7s								
KHC	**Kasperske Hory**	**79.39**	**329**	*eP*		**P**		**03 09 18.6**	**+1.2**
GERES	**GERESS Array B**	**79.57**	**328**	P		**P**		**03 09 18.9**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=48,slow=6.7,SNR=8.5								
GERES	**GERESS Array B**	**79.57**	**328**	P		**P**		**03 09 18.3**	**-0.1**
CSS	**Mathiatis**	**80.04**	**308**	P		**P**		**03 09 21.1**	**0.0**
CSS				IAmb		IAmb		03 09 24.6	
	comp=Z,7.3nm,0.8s								
FUORN	**Ofenpass-Fuorn**	**82.73**	**329**	P		**P**		**03 09 35.2**	**-0.3**
FUORN				IAmb		IAmb		03 09 37.3	
	comp=Z,6.1nm,0.6s								
TXAR	**Lajitas Array**	**87.15**	**53**	P		**P**		**03 09 59.0**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=299,slow=4.7,SNR=5.7								
TXAR				pP		**pP**		**03 10 15.4**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=272,slow=2.9,SNR=3.9								
TXAR	**Lajitas Array**	**87.15**	**53**	P		**P**		**03 09 57.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**114.83**	**317**	PKP		**PKiKP**		**03 15 51.8**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=26,slow=1.0,SNR=4.4								
H03N2	**Juan Fernandez**	**146.62**	**90**	T		T		06 01 49.5	
	baz=299,slow=76,SNR=14								
H03N3	**Juan Fernandez**	**146.63**	**90**	T		T		06 01 50.4	
	baz=299,slow=76,SNR=10								
H03N1	**Juan Fernandez**	**146.64**	**90**	T		T		06 01 50.8	
	baz=299,slow=76,SNR=20								

TAP 20 03:32:23.3, 24°.15N×121°.63E, h4km, ML1.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.04**	**308**	P	Pg	03 32 24.9	+0.5
	baz=308						
NACB				S	Sg	03 32 26.0	+0.9
	baz=308						
TWD	**Chiawan**	**0.07**	**205**	P	Pg	03 32 25.5	+0.6
	baz=199						
TWD				S	Sg	03 32 27.0	+1.1
	baz=199						
ETLH	**Xiulin Townshi**	**0.15**	**293**	P	Pg	03 32 27.3	+1.0
	baz=293						
ETLH				S	Sg	03 32 30.1	+1.8
	baz=293						
ENA	**Nanau**	**0.30**	**20**	*eP*	Pb	03 32 31.0	-0.3
	baz=21						
ENA				S	Sb	03 32 35.2	-1.4
	baz=21						
NNSB	**Datong**	**0.36**	**321**	*eP*	Pg	03 32 31.2	+0.9
	baz=321						
NNSB				*eS*	Sb	03 32 38.4	-0.1
	baz=321						
NNSH	**Datong**	**0.36**	**321**	P	Pg	03 32 31.3	+1.0
	baz=321						
NNSH				S	Sb	03 32 37.3	-1.3
	baz=321						
FUSS	**Fushou**	**0.37**	**286**	P	Pb	03 32 32.1	-0.5
	baz=285						
FUSS				S	Sb	03 32 37.9	-1.0
	baz=285						
NDT	**Datong Townshi**	**0.47**	**347**	*eP*	Pb	03 32 34.0	-0.1
	baz=346						
NDT				S	Sb	03 32 41.9	+0.5
	baz=346						

JMA 20 03:33:06.7±0.1, 24°.09N×122°.87E, h19km±3km, M1.8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.37**	**11**	P	Pg	03 33 14.3	-0.2
JYNG				S	Sg	03 33 19.5	-0.2
YOJ	**Yonaguni jima**	**0.39**	**19**	P	Pg	03 33 14.8	-0.1
YOJ				*eS*	Sg	03 33 20.6	+0.1
IRIF	**Iriomote-Funau**	**0.82**	**73**	P	Pb	03 33 22.1	-0.3
IRIF				*eS*	Sb	03 33 33.3	+0.2
HATJ	**Hateruma jima**	**0.85**	**92**	P	Pb	03 33 22.5	-0.4
HATJ				S	Sb	03 33 34.3	+0.3
JKRS	**Kuro-shima**	**1.05**	**82**	P	Pn	03 33 26.4	0.0
JKRS				S	Sn	03 33 40.5	0.0
JIJ	**Ishigaki jima**	**1.19**	**77**	P	Pn	03 33 28.3	-0.1
JIJ				S	Sb	03 33 43.4	-0.4
JISG	**Ishigakijimahi**	**1.40**	**69**	P	Pb	03 33 31.8	-0.5
JISG				*eS*	Sn	03 33 49.5	+0.2
JTJ	**Tarama**	**1.76**	**71**	*eS*	Sn	03 33 58.8	+0.8

JMA 20 03:37:58.0±0.1, 24°.04N×123°.12E, h28km±3km, M1.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.43**	**347**	P	Pb	03 38 07.2	-0.1
YOJ				*eS*	Sb	03 38 13.3	-0.2
JYNG	**Yonagunijimaku**	**0.44**	**339**	P	Pb	03 38 07.1	-0.3
JYNG				S	Sb	03 38 13.5	-0.2
HATJ	**Hateruma jima**	**0.63**	**88**	P	Pb	03 38 10.0	-0.4
HATJ				*eS*	Sb	03 38 18.3	-0.6
IRIF	**Iriomote-Funau**	**0.63**	**62**	P	Pb	03 38 10.2	-0.3
IRIF				*eS*	Sb	03 38 19.1	+0.1
JKRS	**Kuro-shima**	**0.84**	**76**	P	Pn	03 38 13.5	-0.4
JKRS				*eS*	Sb	03 38 24.9	+0.1
JIJ	**Ishigaki jima**	**0.99**	**71**	P	Pn	03 38 15.7	-0.3
JIJ				S	Sn	03 38 28.3	-0.8
JISG	**Ishigakijimahi**	**1.22**	**63**	P	Pn	03 38 19.1	0.0
JISG				S	Sb	03 38 35.3	-0.4

TAP 20 03:38:10.1, 24°.17N×121°.66E, h12km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.06**	**277**	P	Pg	03 38 12.9	+0.5
	baz=276						
NACB				S	Sg	03 38 14.8	+0.7
	baz=276						
TWD	**Chiawan**	**0.10**	**213**	*eP*	Pg	03 38 13.2	+0.3
	baz=209						
TWD				S	Sg	03 38 15.9	+0.9
	baz=209						
ETLH	**Xiulin Townshi**	**0.17**	**284**	P	Pb	03 38 14.6	-0.6
	baz=283						
ETLH				S	Sg	03 38 17.8	+1.2
	baz=283						
ENA	**Nanau**	**0.27**	**16**	*eP*	Pg	03 38 15.1	-0.6
	baz=18						

*ISN **20** 03:49:40.3±1.3, 32°.58N×47°.71E, h18km±9km, ML3.0*
*TEH **20** 03:49:41.9, 32°.68N×47°.63E, h9km, ML3.1*

ISC 20 03:49:42.7±0.9, 32°.61N±0°.04×47°.57E±0°.03, h10km, n31, σ1§89/35, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.26**	**286**	*e*Pg	**Pg**	**03 49 48.3**	**+0.4**
IKFM	**Kafar-mosalman**	**0.94**	**14**	*e*Pg	**Pg**	**03 49 58.0**	**-2.8**
IKFM				*e*		03 50 14.1	
IKMR	**Kamar-syah**	**1.13**	**37**	*e*Pg	**Pb**	**03 50 01.3**	**-3.0**
IKMR				*e*		03 50 23.4	
IDOB	**Doab**	**1.28**	**23**	*e*Sg	**Sn**	**03 50 24.0**	**-0.1**
IDOB				*e*Pg	**Pn**	**03 50 05.6**	**-1.2**
IBDR	**Badra**	**1.47**	**290**	*e*Pg	**Pn**	**03 50 09.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**03 50 31.0**	**+1.0**
IBDR				AML	AML	03 50 35.7	
	comp=N,179nm,0.3s						
IBDR				AML	AML	03 50 35.7	
	comp=E,304nm,0.6s						
BMDN	**Meydan**	**1.49**	**44**	*e*		03 50 32.9	
BMDN				*e*Pg	**Pn**	**03 50 08.3**	**-1.4**
IKOM	**Komasi**	**1.56**	**358**	*e*Pg	**Pn**	**03 50 10.4**	**-0.2**
IKOM				*e*		03 50 15.5	
AHWZ	**Ahwaz**	**1.57**	**144**	*e*Pg	**Pg**	**03 50 13.2**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.72**	**345**	*e*Pg	**Pb**	**03 50 13.3**	**-1.2**
KCHF				*e*		03 50 39.7	
KER	**Kermanshah**	**1.81**	**348**	*e*Pg	**Pb**	**03 50 15.2**	**-0.8**
HSAM	**Samen**	**1.81**	**28**	*e*Pg	**Pb**	**03 50 14.8**	**-1.3**
HSAM				*e*		03 50 43.1	
IBZA	**Bozab**	**1.87**	**7**	*e*Pg	**Pb**	**03 50 15.4**	**-1.7**
IBZA				*e*		03 50 19.6	
IGHG	**Ghaleghazi**	**1.91**	**334**	*e*Pn	**Pb**	**03 50 16.5**	**-1.2**
IGHG				*e*		03 51 02.3	
IVIS	**Veis**	**2.00**	**343**	*e*Pn	**Pb**	**03 50 17.5**	**-1.8**
IVIS				*e*		03 50 48.5	
NSR	**Nassriya**	**2.01**	**218**	*e*Pn	**Pn**	**03 50 16.0**	**-0.6**
NSR				*e*Sn	**Sn**	**03 50 40.0**	**-1.8**
IALM	**Almabolaq**	**2.30**	**12**	*e*Pn	**Pb**	**03 50 22.0**	**-2.4**
IDHR	**Dehrash**	**2.31**	**335**	*e*Pn	**Pb**	**03 50 22.5**	**-2.0**
IDHR				*e*		03 51 00.2	
ILIN	**Lien**	**2.36**	**348**	*e*Pn	**Pn**	**03 50 22.5**	**+0.8**
ILIN				*e*		03 51 04.5	
HAGD	**Aghdareh**	**2.56**	**30**	*e*Pn	**Pn**	**03 50 24.6**	**+0.1**
HAGD				*e*		03 51 09.6	
JHBN	**Jahan bin**	**2.64**	**97**	*e*Pn	**Pn**	**03 50 26.2**	**+0.5**
JHBN				*e*		03 51 12.0	
HSRG	**Sareghieh**	**2.69**	**12**	*e*	**Sg**	**03 51 16.8**	**+7.7**
BHD	**Baghdad**	**2.76**	**285**	*e*Pn	**Pn**	**03 50 27.0**	**0.0**
BHD				*e*Sn	**Sn**	**03 51 02.0**	**+1.6**
IPIR	**Pirpir**	**2.80**	**88**	*e*Pn	**Pn**	**03 50 28.4**	**+0.6**
IPIR				*e*		03 51 16.8	
ROKH	**ROKH**	**2.94**	**94**	*e*Pn	**Pn**	**03 50 29.6**	**0.0**
ROKH				*e*		03 51 24.8	
IRAZ	**Razeghan**	**3.41**	**34**	*e*Pn	**Pn**	**03 50 37.1**	**+1.0**
IKLH	**Kolahrood**	**3.44**	**77**	*e*Pn	**Pn**	**03 50 38.0**	**+1.4**
IKLH				*e*		03 51 40.2	
QABG	**Abgarm-Qazvin**	**3.51**	**28**	*e*Pn	**Pn**	**03 50 37.7**	**+0.2**
KLNJ	**Kolanjah**	**3.78**	**114**	*e*Pn	**Pn**	**03 50 42.1**	**+0.8**
KLNJ				*e*		03 51 52.9	
IZEF	**Zefreh**	**4.02**	**85**	*e*Pn	**Pn**	**03 50 44.9**	**+0.4**
IRAM	**Ramesheh**	**4.15**	**100**	*e*Pn	**Pn**	**03 50 46.3**	**-0.1**
ANAR	**Anarak**	**5.21**	**82**	*e*Pn	**Pn**	**03 51 01.5**	**+0.7**

*UUSS **20** 04:05:15.0±0.4, 38°.97N±0°.03×111°.41W±0°.05, h6km±6km, ML3.3/23, Error ellipse: s-maj=6.2km s-min=2.6km az=126.0*
*IDC **20** 04:05:15.6±0.8, 39°.01N×111°.30W, h0km, mb3.6/1, mb1 3.7/6, mb1mx3.5/58, mbtmp3.4/6, ML3.0/5, Error ellipse: s-maj=14.0km s-min=8.4km az=124.0*
*ANF **20** 04:05:16.5±0.3, 39°.00N×111°.43W, h5km, ML3.8/16, Error ellipse: s-maj=5.0km s-min=3.8km az=164.0*

ISC 20 04:05:15.5±0.6, 38°.97N±0°.02×111°.40W±0°.03, h7km, n151, σ1§25/155, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OWUT	**Old Woman Plat**	**0.19**	**187**		**Pg**	**04 05 18.9**	**-0.5**
TMUT	**Trail Mountain**	**0.36**	**24**		**Pg**	**04 05 22.1**	**-0.5**
DBD	**Des Bee Dove**	**0.42**	**34**		**Pg**	**04 05 23.3**	**-0.4**
WCU	**Willow Creek**	**0.54**	**270**		**Pg**	**04 05 25.1**	**-0.9**
ELU	**Electric Lake**	**0.69**	**13**		**Pg**	**04 05 28.2**	**-0.6**
SRU	**San Rafael Swe**	**0.69**	**78**		**Pg**	**04 05 28.2**	**-0.7**
P17A	**Butcher Ranch,**	**0.71**	**45**		**Pg**	**04 05 28.3**	**-1.0**
MSU	**Marysvale**	**0.76**	**233**		**Pg**	**04 05 29.1**	**-1.1**
MMU	**Miners Mountai**	**0.78**	**174**		**Pg**	**04 05 29.4**	**-0.9**
TCRU	**Three Creeks R**	**0.90**	**247**		**Pg**	**04 05 31.6**	**-1.1**
EMUT	**Emma Park**	**0.95**	**28**		**Pg**	**04 05 32.9**	**-0.9**
DCM	**Dugout Coal Mi**	**0.96**	**41**		**Pg**	**04 05 32.9**	**-1.0**
BCE	**Book Cliffs Ea**	**1.00**	**50**		**Pg**	**04 05 33.7**	**-1.0**
ROA	**Roan Cliffs**	**1.06**	**49**		**Pg**	**04 05 34.9**	**-0.9**
ARGU	**Argyle Ridge**	**1.08**	**38**		**Pg**	**04 05 35.4**	**-0.8**
MTPU	**Mount Pierson**	**1.11**	**214**		**Pg**	**04 05 36.0**	**-0.8**
HMU	**Henry Mountain**	**1.15**	**153**		**Pg**	**04 05 36.3**	**-1.3**
NMUT	**North Mineral**	**1.22**	**249**		**Pg**	**04 05 38.1**	**-0.8**
IMU	**Iron Mountain**	**1.42**	**257**		**Pn**	**04 05 41.5**	**-0.4**
DAU	**Daniels Canyon**	**1.44**	**4**		**Pn**	**04 05 41.7**	**-0.7**
DWU	**Dry Willow Pea**	**1.52**	**236**		**Pn**	**04 05 43.2**	**-0.2**
CWU	**Camp Williams**	**1.57**	**340**		**Pn**	**04 05 43.7**	**-0.3**
GMU	**Granite Mounta**	**1.63**	**350**		**Pn**	**04 05 44.5**	**-0.3**
JLU	**Jordanelle**	**1.63**	**359**		**Pb**	**04 05 45.0**	**-1.0**
BSUT	**Blindstream Ca**	**1.64**	**17**		**Pb**	**04 05 45.4**	**-0.8**
DUG	**Dugway, Tooele** baz=138,SNR=390	**1.64**	**319**	P	**Pn**	**04 05 43.7**	**-1.2**
DUG	**Dugway, Tooele**	**1.64**	**319**		**Pn**	**04 05 43.9**	**-1.0**
PKCU	**Pink Cliffs**	**1.69**	**206**		**Pn**	**04 05 44.7**	**-1.0**
RCJ	**Ross Creek**	**1.69**	**359**		**Pb**	**04 05 45.7**	**-1.2**
CTU	**Camp Tracy**	**1.74**	**351**		**Pn**	**04 05 45.9**	**-0.4**
BHU	**Blowhard Mount**	**1.79**	**220**		**Pb**	**04 05 47.9**	**-1.0**
SZCU	**Shurtz Canyon**	**1.91**	**225**	Pn	**Pn**	**04 05 47.7**	**-0.9**
PV21	**Cone Mtn., Par**	**1.94**	**101**	Pn	**Pn**	**04 05 48.4**	**-0.6**
PV23	**Carpenter Ridg**	**1.94**	**105**	Pn	**Pn**	**04 05 48.4**	**-0.6**
PV10	**Paradox Valley**	**1.94**	**107**	Pn	**Pn**	**04 05 48.8**	**-0.2**
PV14	**Lion Creek, Pa**	**1.95**	**107**	Pn	**Pn**	**04 05 48.6**	**-0.7**
PSUT	**Pine Spring**	**1.97**	**258**		**Pn**	**04 05 48.4**	**-1.1**
PV19	**Morning Glory**	**2.00**	**108**	Pn	**Pn**	**04 05 49.3**	**-0.6**
PV20	**West Nyswonger**	**2.00**	**108**	Pn	**Pn**	**04 05 49.2**	**-0.7**
PV05	**Paradox Valley**	**2.01**	**116**	Pn	**Pn**	**04 05 50.1**	**0.0**
PV17	**East Wray Mesa**	**2.03**	**109**		**Pn**	**04 05 49.7**	**-0.6**
PV04	**Paradox Valley**	**2.03**	**106**		**Pn**	**04 05 49.8**	**-0.5**
PV16	**Nyswonger Mesa**	**2.05**	**108**	Pn	**Pn**	**04 05 49.9**	**-0.7**
PV18	**Skein Mesa, Pa**	**2.08**	**110**		**Pn**	**04 05 50.1**	**-0.8**
PV22	**Blue Mesa, Par**	**2.08**	**101**	Pn	**Pn**	**04 05 50.0**	**-1.0**
PV11	**David Mesa, Pa**	**2.09**	**108**	Pn	**Pn**	**04 05 50.3**	**-0.8**
CCUT	**Cedar City**	**2.10**	**228**		**Pn**	**04 05 50.4**	**-0.8**
PV03	**Paradox Valley**	**2.12**	**109**	Pn	**Pn**	**04 05 50.8**	**-0.8**
PV12	**Saucer Basin,**	**2.13**	**107**	Pn	**Pn**	**04 05 50.9**	**-0.8**
TCUT	**Toone Canyon**	**2.15**	**360**	Pn	**Pn**	**04 05 50.9**	**-1.0**
PV07	**Paradox Valley**	**2.22**	**103**	Pn	**Pn**	**04 05 52.2**	**-0.6**
PV02	**Paradox Valley**	**2.22**	**109**		**Pn**	**04 05 52.4**	**-0.5**
KNB	**Kanab**	**2.25**	**210**		**Pn**	**04 05 52.5**	**-0.8**
BGU	**Big Grassy Mou**	**2.32**	**328**		**Pn**	**04 05 53.5**	**-0.8**
PV15	**Paradox Valley**	**2.37**	**104**	Pn	**Pn**	**04 05 54.1**	**-0.9**
PV01	**Paradox Valley**	**2.37**	**110**	Pn	**Pn**	**04 05 54.2**	**-0.7**
SPUT	**South Promonto**	**2.47**	**341**		**Pn**	**04 05 55.4**	**-0.9**
U15A	**North Rim**	**2.64**	**196**	Pn	**Pn**	**04 05 57.6**	**-1.0**
HWUT	**Hardware Ranch**	**2.64**	**357**	Pn	**Pn**	**04 05 57.9**	**-0.7**
O20A	**White River Ci** baz=246,SNR=293	**2.70**	**64**	P	**Pb**	**04 06 02.3**	**-1.9**
O20A	**White River Ci**	**2.70**	**64**	Pn	**Pn**	**04 05 59.0**	**-0.5**
MVCO	**Mesa Verde** baz=308,SNR=145	**2.88**	**127**	P	**Pn**	**04 06 03.5**	**+1.4**
MVCO	**Mesa Verde**	**2.88**	**127**	Pn	**Pn**	**04 06 01.4**	**-0.7**
HVU	**Hansel Valley**	**3.00**	**340**	Pn	**Pn**	**04 06 03.1**	**-0.4**
PRN	**Pahroc Range**	**3.28**	**243**		**Pn**	**04 06 06.6**	**-0.8**
R11A	**Troy Canyon, C** baz=78,SNR=39	**3.34**	**261**	P	**Pn**	**04 06 09.9**	**+1.7**
R11A	**Troy Canyon, C**	**3.34**	**261**		**Pn**	**04 06 07.5**	**-0.8**
WUAZ	**Wupatki** baz=360,SNR=25	**3.45**	**180**	P	**Pn**	**04 06 11.4**	**+1.6**
WUAZ	baz=360			S	**Sb**	**04 06 55.1**	**-4.0**
WUAZ	**Wupatki**	**3.45**	**180**		**Pn**	**04 06 09.0**	**-0.7**
S22A	**4UR Ranch, Cre** baz=290,SNR=44	**3.79**	**107**	P	**Pn**	**04 06 16.1**	**+1.5**
S22A	**4UR Ranch, Cre**	**3.79**	**107**	Pn	**Pn**	**04 06 13.9**	**-0.7**
AHID	**Auburn Hatcher**	**3.80**	**3**		**Pn**	**04 06 15.1**	**+0.5**
SHPR	**Sheep Range**	**3.87**	**232**		**Pn**	**04 06 16.2**	**+0.7**
BW06	**Boulder Array** baz=201,SNR=7.3	**4.04**	**20**	P	**Pn**	**04 06 19.4**	**+1.4**
BW06	baz=201			S	**Sn**	**04 07 07.1**	**+1.4**
BW06	**Boulder Array**	**4.04**	**20**		**Pn**	**04 06 17.3**	**-0.6**
PD31	**Pinedale Array**	**4.04**	**20**	Pn	**Pn**	**04 06 17.4**	**-0.6**
PDAR	**Pinedale Array** 0.3nm,0.3s,baz=196,slow=9.4,SNR=36	**4.04**	**20**	Pn	**Pn**	**04 06 18.5**	**+0.5**
PDAR	1.5nm,0.3s,baz=191,slow=14,SNR=38			Pg	**Pb**	**04 06 28.4**	**+1.3**
PDAR	1.1nm,0.3s,baz=198,slow=29,SNR=4.2			Lg	Lg	04 07 21.8	
PDAR	**Pinedale Array**	**4.04**	**20**	Pn	**Pn**	**04 06 17.4**	**-0.6**
W18A	**Petrified Fore** baz=341,SNR=20	**4.07**	**160**	P	**Pn**	**04 06 20.0**	**+1.7**
W18A	baz=341			S	**Sn**	**04 07 09.9**	**+3.7**
W18A	**Petrified Fore**	**4.07**	**160**	Pn	**Pn**	**04 06 17.4**	**-0.9**
ECR	**Eagle Creek**	**4.08**	**0**		**Pn**	**04 06 17.6**	**-0.9**
RWWY	**Rawlins**	**4.20**	**48**		**Pn**	**04 06 19.4**	**-0.7**
TPNV	**Topopah Spring** baz=61,SNR=5.4	**4.33**	**244**	P	**Pn**	**04 06 22.9**	**+1.0**
TPNV	**Topopah Spring**	**4.33**	**244**	Pn	**Pn**	**04 06 21.1**	**-0.8**
W13A	**Hualapai Mount**	**4.35**	**208**	Pn	**Pn**	**04 06 21.3**	**-0.9**
REDW	**Red Top Meadow**	**4.41**	**5**		**Pn**	**04 06 22.2**	**-0.7**
SNOW	**Snow King Moun**	**4.51**	**6**		**Pn**	**04 06 25.3**	**+0.8**
TPAW	**Teton Pass**	**4.53**	**4**		**Pn**	**04 06 23.9**	**-0.8**
X16A	**Lo Mia Camp, P**	**4.54**	**180**	Pn	**Pn**	**04 06 24.1**	**-0.7**
ISCO	**Idaho Springs** baz=261,SNR=9.7	**4.56**	**78**	P	**Pn**	**04 06 27.8**	**+2.7**
ISCO	**Idaho Springs**	**4.56**	**78**	Pn	**Pn**	**04 06 24.4**	**-0.7**
N23A	**Red Feather La** baz=247,SNR=18	**4.61**	**64**	P	**Pn**	**04 06 28.6**	**+2.8**
N23A	**Red Feather La**	**4.61**	**64**	Pn	**Pn**	**04 06 25.2**	**-0.6**
FXWY	**Fox Creek**	**4.67**	**3**		**Pn**	**04 06 26.1**	**-0.5**
LOHW	**Long Hollow**	**4.68**	**7**		**Pn**	**04 06 25.9**	**-0.7**
SDCO	**Great Sand Dun** baz=287,SNR=13	**4.79**	**103**	P	**Pn**	**04 06 29.3**	**+1.0**
SDCO	**Great Sand Dun**	**4.79**	**103**	Pn	**Pn**	**04 06 27.6**	**-0.7**
Q24A	**Divide** baz=272	**4.87**	**88**	P	**Pn**	**04 06 30.9**	**+1.5**
IMW	**Indian Meadow**	**4.93**	**4**	Pn	**Pn**	**04 06 29.5**	**-0.7**
FURC	**Furnace Creek,** baz=58	**5.00**	**242**	P	**Pn**	**04 06 32.6**	**+1.7**
HLID	**Hailey** baz=153,SNR=8.3	**5.12**	**335**	P	**Pn**	**04 06 33.7**	**+0.9**
HLID	**Hailey**	**5.12**	**335**	Pn	**Pn**	**04 06 32.0**	**-0.7**
FLWY	**Flagg Ranch**	**5.13**	**6**		**Pn**	**04 06 32.6**	**-0.3**
Y14A	**Wickenburg**	**5.19**	**195**	Pn	**Pn**	**04 06 32.8**	**-0.8**
K22A	**Casper

YUK A A 04 10 07.0
440nm,0.4s
YUK A A 04 10 07.0
160nm,0.4s
GRPR Tuman 1.29 286 *e*P **Pg 04 09 48.7 +0.8**
GRPR *e*S **Sb 04 10 04.2 +0.8**
GRPR A A 04 10 04.5
370nm,0.4s
GRPR A A 04 10 04.5
100nm,0.4s
NEM2 Nemuro 2 1.31 258 P **Pg 04 09 48.2 0.0**
NEM2 *e*S **Sb 04 10 04.1 +0.4**
KUR Kuril'sk 1.61 9 *e*P **Pb 04 09 52.0 -0.3**
KUR AMB AMB 04 09 53.0
40nm,0.3s
KUR *e*S **Sn 04 10 10.4 -0.8**
KUR A A 04 10 11.0
210nm,0.3s
KUR A A 04 10 11.0
150nm,0.3s
JKHN Kushirohamanak 1.79 252 P **Pb 04 09 55.6 +0.1**
JNK Nakash 2.02 269 P **Pb 04 09 58.7 -0.6**
JNK *e*S **Sn 04 10 22.4 +1.1**
JAK Akkeshi 2.14 253 P **Pn 04 09 59.2 +1.1**
JAR Ashorobuto 2.73 264 P **Pb 04 10 09.6 -2.0**
JAR *e*S **Sb 04 10 41.9 -3.0**

*IPEC **20** 04:12:04.8±0.4, 51°58N×16°12E, h1km±1km, ML3.0/4, Error ellipse: s-maj=2.2km s-min=1.8km az=16.0*
*IDC **20** 04:12:05.5±0.7, 51°53N×16°02E, h0km, mb3.3/1, mb1 3.6/9, mb1mx3.4/49, mbtmp3.5/9, ML2.9/8, MS3.0/2, Ms1 3.0/2, ms1mx2.2/37, Error ellipse: s-maj=11.3km s-min=7.4km az=101.0*
*LDG **20** 04:12:06.1±0.3, 51°48N×16°12E, h1km, Ml3.8/14, Error ellipse: s-maj=6.4km s-min=3.0km az=17.0, Suspected Mining induced.*
*DNK **20** 04:12:06.4±1.9, 51°56N×15°52E, h15km±71km, ML2.5*
*BGR **20** 04:12:06.6±0.4, 51°50N×16°09E, h1km, ML3.5/17, Error ellipse: s-maj=4.4km s-min=2.2km az=17.0*
*VIE **20** 04:12:08.3±0.8, 51°37N×16°02E, h0km, mb2.8/10, ml3.3/11, ms3.6/1, Error ellipse: s-maj=8.9km s-min=4.4km az=45.0 75 km WNW of Wroclaw Suspected Mining induced.*
*UPP **20** 04:12:10.3±2.7, 51°89N×15°52E, h0km, ML2.2, Suspected explosion*

ISC 20 04:12:02.9±0.5, 51°59N±0°02×16°07E±0°02, h0km, n123, σ2ᵍ17/188, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.76**	**169**	*e*Pg		**Pg**	**04 12 19.3**	**+1.8**
KSP				*e*Sg		**Sg**	**04 12 28.6**	**+1.3**
KSP	**Ksiaz**	**0.76**	**169**	*i* Pg		**Pg**	**04 12 19.3**	**+1.8**
KSP				*e*Sg		**Sg**	**04 12 28.5**	**+1.1**
CHVC	**Chvalec**	**1.01**	**181**	*e*PG		**Pb**	**04 12 24.3**	**+1.1**
CHVC				*e*SG		**Sg**	**04 12 36.6**	**+1.5**
	comp=Z,196nm,0.4s							
OSTC	**Ostas**	**1.04**	**175**	*e*PG		**Pb**	**04 12 24.9**	**+1.1**
OSTC				*e*SG		**Sg**	**04 12 37.7**	**+1.4**
	comp=Z,202nm,0.3s							
UPC	**Upice**	**1.09**	**182**	*e*Pg		**Pb**	**04 12 25.7**	**+1.2**
UPC				*e*SG		**Sg**	**04 12 38.8**	**+1.1**
	comp=Z,452nm,0.4s							
DPC	**Dobruska-Polom**	**1.25**	**173**	*e*Pg		**Pg**	**04 12 28.2**	**+1.3**
DPC				*e*Sg		**Sg**	**04 12 43.6**	**+0.5**
DPC	**Dobruska-Polom**	**1.25**	**173**	*e*PG		**Pg**	**04 12 28.2**	**+1.3**
DPC				*e*SG		**Sg**	**04 12 43.4**	**+0.3**
	comp=Z,215nm,0.7s							
PVCC	**Panska Ves**	**1.43**	**222**	*e*PG		**Pb**	**04 12 32.4**	**+2.1**
PVCC				*e*SG		**Sn**	**04 12 51.6**	**+2.2**
	comp=Z,455nm,0.2s							
BRG	**Berggiesshubel**	**1.52**	**243**	PN		**Pb**	**04 12 32.9**	**+1.0**
BRG				PG		**Pg**	**04 12 34.8**	**+2.8**
BRG				SG		**Sg**	**04 12 54.7**	**+3.1**
	577nm,0.4s							
BRG	**Berggiesshubel**	**1.52**	**243**	*e*Pn		**Pn**	**04 12 32.8**	**+1.5**
BRG				*e*Sg		**Sg**	**04 12 54.9**	**+3.3**
KRLC	**Kraliky**	**1.58**	**163**	*e*PG		**Pn**	**04 12 33.5**	**+1.3**
KRLC				*e*SG		**Sn**	**04 12 53.8**	**+0.4**
	comp=Z,181nm,0.2s							
FBE	**Freiberg**	**1.83**	**250**	*e*Pn		**Pb**	**04 12 38.7**	**+1.4**
FBE				*e*Pg		**Pg**	**04 12 40.7**	**+2.7**
FBE				*e*Sg		**Sg**	**04 13 05.2**	**+3.5**
PRA	**Prague**	**1.84**	**215**	*e*SG		**Sb**	**04 13 02.6**	**+1.6**
GOPC	**GO Pecny, Ondr**	**1.87**	**206**	*e*PN		**Pb**	**04 12 38.4**	**+0.6**
GOPC				*e*PG		**Pg**	**04 12 39.8**	**+1.2**
PRU	**Pruhonice**	**1.88**	**212**	*e*PN		**Pb**	**04 12 38.5**	**+0.5**
PRU				*e*PG		**Pg**	**04 12 40.0**	**+1.2**
PRU				*e*SG		**Sb**	**04 13 03.7**	**+1.8**
	comp=Z,152nm,0.3s							
CLL	**Collm**	**1.94**	**263**	*e*Pn		**Pn**	**04 12 39.0**	**+2.0**
CLL				*e*Sg		**Sg**	**04 13 07.5**	**+2.4**
CLL	**Collm**	**1.94**	**263**	*e*Pn		**Pn**	**04 12 39.0**	**+2.0**
CLL				*e*Pg		**Pg**	**04 12 43.0**	**+3.0**
CLL				*i* Sg		**Sg**	**04 13 07.6**	**+2.4**
	comp=Z,123nm,0.8s							
MORC	**Moravsky Berou**	**2.04**	**152**	*e*Pn		**Pn**	**04 12 39.6**	**+1.0**
MORC				*e*Sg		**Sb**	**04 13 08.7**	**+1.9**
MORC	**Moravsky Berou**	**2.04**	**152**	*e*PN		**Pn**	**04 12 39.6**	**+1.0**
MORC				*e*SG		**Sb**	**04 13 08.1**	**+1.2**
MORC	**Moravsky Berou**	**2.04**	**152**	*e*Pn		**Pn**	**04 12 39.6**	**+1.0**
	baz=334							
MORC				*e*Sg		**Sb**	**04 13 08.0**	**+1.2**
	comp=Z,103nm,0.4s,baz=334							
OKC	**Ostrava-Krasne**	**2.20**	**142**	*e*Pn		**Pg**	**04 12 46.5**	**+1.5**
OKC				*e*Sg		**Sb**	**04 13 12.9**	**+1.7**
VRAC	**Vranov**	**2.31**	**171**	Pn		**Pn**	**04 12 44.4**	**+2.2**
	comp=Z,2.5nm,0.3s,baz=338,slow=15,SNR=19							
VRAC				Lg		Lg	04 13 14.5	
	comp=Z,20nm,0.3s,baz=75,slow=21,SNR=11							
VRAC	**Vranov**	**2.31**	**171**	*e*PN		**Pn**	**04 12 44.0**	**+1.8**
VRAC				*e*SG		**Sb**	**04 13 16.4**	**+1.9**
VRAC	**Vranov**	**2.31**	**171**	*e*Pn		**Pn**	**04 12 44.0**	**+1.8**
	baz=353							
VRAC				*e*Sg		**Sb**	**04 13 16.4**	**+1.9**
	comp=Z,64nm,0.4s,baz=353							
PBCC	**Pribram**	**2.32**	**215**	*e*SG		**Sb**	**04 13 17.8**	**+3.0**
TREC	**Trest**	**2.33**	**189**	*e*PG		**Pg**	**04 12 48.5**	**+1.0**
TREC				*e*SG		**Sb**	**04 13 17.7**	**+2.6**
	comp=Z,94nm,0.6s							
KRUC	**Moravsky**	**2.54**	**175**	*e*PN		**Pn**	**04 12 47.2**	**+1.9**
KRUC				*e*SG		**Sb**	**04 13 23.5**	**+2.4**
KRUC	**Moravsky**	**2.54**	**175**	*e*Pn		**Pn**	**04 12 47.1**	**+1.8**
	baz=356							
KRUC				*e*Sg		**Sb**	**04 13 23.5**	**+2.4**
	comp=Z,54nm,0.3s,baz=356							
TANN	**Tannenbergstha**	**2.57**	**244**	*e*Pn		**Pn**	**04 12 48.2**	**+2.5**
TANN				*e*Sg		**Sg**	**04 13 27.4**	**+2.1**
WERD	**Werda**	**2.64**	**246**	*e*Pn		**Pn**	**04 12 48.7**	**+2.0**
WERD				*e*Sg		**Sg**	**04 13 29.5**	**+1.9**
NKC	**Novy Kostel**	**2.67**	**241**	*e*PN		**Pn**	**04 12 49.7**	**+2.6**
NKC				*e*PG		**Pg**	**04 12 56.4**	**+2.5**
NKC				*e*SG		**Sg**	**04 13 32.4**	**+3.9**
	comp=Z,163nm,0.3s							
OJC	**Ojcow**	**2.73**	**119**	*e*Pn		**Pn**	**04 12 48.4**	**+0.4**
OJC				*e*Sg		**Sg**	**04 13 31.4**	**+0.8**
OJC	**Ojcow**	**2.73**	**119**	*e*Pn		**Pn**	**04 12 47.6**	**-0.4**
OJC				*e*Pg		**Pg**	**04 12 56.6**	**+1.4**
OJC				*e*Sn		**Sn**	**04 13 19.9**	**-1.8**
OJC				*e*Sg		**Sg**	**04 13 31.2**	**+0.7**
JAVC	**Velka Javorina**	**2.92**	**159**	*e*PN		**Pn**	**04 12 52.2**	**+1.6**
JAVC				*e*SG		**Sb**	**04 13 35.7**	**+3.6**
JAVC	**Velka Javorina**	**2.92**	**159**	*e*Pn		**Pn**	**04 12 52.2**	**+1.6**
	baz=340							
JAVC				*e*Sg		**Sb**	**04 13 35.7**	**+3.6**
	comp=Z,54nm,0.4s,baz=340							
KHC	**Kasperske Hory**	**2.94**	**214**	*e*PN		**Pn**	**04 12 53.3**	**+2.5**
KHC				*e*PG		**Pb**	**04 12 58.5**	**+2.4**
KHC				*e*SN		**Sn**	**04 13 27.9**	**+1.2**
KHC				*e*SG		**Sg**	**04 13 38.1**	**+1.0**
	comp=Z,58nm,0.6s							
MOX	**Moxa**	**2.96**	**253**	*e*Pn		**Pn**	**04 12 53.0**	**+1.9**
MOX				*e*Sg		**Sg**	**04 13 41.3**	**+3.3**
MANZ	**Manzenberg**	**2.98**	**239**	*e*Pn		**Pn**	**04 12 54.2**	**+2.7**
MANZ				*e*Sg		**Sg**	**04 13 40.4**	**+1.7**
ROTZ	**Rotzenmuhle**	**3.06**	**235**	*e*Pn		**Pn**	**04 12 55.1**	**+2.6**
ROTZ				*e*Sg		**Sb**	**04 13 40.7**	**+4.6**
GEC2	**GERESS Array S**	**3.14**	**210**	*e*Pn		**Pn**	**04 12 56.3**	**+2.7**
GEC2				*e*Sg		**Sg**	**04 13 43.6**	**-0.1**
GERES	**GERESS Array B**	**3.14**	**210**	Pn		**Pn**	**04 12 55.5**	**+1.9**
	comp=Z,1.9nm,0.3s,baz=34,slow=12,SNR=40							
GERES				Lg		Lg	04 13 38.1	
	comp=Z,4.0nm,0.3s,baz=31,slow=27,SNR=11							
WET	**Wettzell**	**3.19**	**221**	*e*Pn		**Pn**	**04 12 56.7**	**+2.4**
WET				*e*Sg		**Sg**	**04 13 44.9**	**-0.4**
SMOL	**Smolenice**	**3.20**	**164**	*e*PG		**Pg**	**04 13 05.6**	**+1.4**
SMOL				*e*SG		**Sg**	**04 13 44.8**	**-0.9**
SMOL				*e*LG		Lg	04 13 52.3	
LANS	**Liptovska Anna**	**3.27**	**137**	*e*PN		**Pn**	**04 12 57.0**	**+1.6**
LANS				*e*PG		**Pg**	**04 13 07.1**	**+1.6**
LANS				*e*SG		**Sg**	**04 13 47.8**	**-0.1**
MODS	**Modra-Piesok**	**3.31**	**166**	*e*PN		**Pn**	**04 12 58.5**	**+2.5**
MODS				*e*PG		**Pg**	**04 13 06.6**	**+0.2**
MODS				*e*SG		**Sb**	**04 13 47.8**	**+4.4**
MODS				*e*LG		Lg	04 13 55.3	
NIE	**Niedzica**	**3.47**	**127**	*e*P		**Pg**	**04 13 09.7**	**+0.4**
NIE				*e*S		**Sg**	**04 13 53.8**	**-0.4**
CLZ	**Clausthal**	**3.55**	**276**	*e*Pn		**Pn**	**04 13 02.5**	**+3.3**
CLZ				*e*Sg		**Sg**	**04 13 59.1**	**+2.2**
VYHS	**Vyhne**	**3.58**	**149**	*e*PN		**Pn**	**04 13 00.8**	**+1.2**
VYHS				*e*PG		**Pg**	**04 13 12.9**	**+1.5**
VYHS				*e*SG		**Sg**	**04 13 55.8**	**-1.9**
GRF	**Grafenberg Arr**	**3.62**	**240**	*e*Sg		**Sg**	**04 13 59.6**	**+0.4**
CONA	**Conrad Observa**	**3.67**	**182**	*i* Pn		**Pn**	**04 13 03.5**	**+2.5**
	comp=Z,1.2nm,0.1s,SNR=10							
CONA				Sg		**Sg**	**04 14 00.8**	**+0.1**
	comp=Z,54nm,0.4s							
MOA	**Molln**	**3.92**	**198**	*e*Pn		**Pn**	**04 13 06.5**	**+2.1**
	comp=Z,2.1nm,0.1s,SNR=18							
MOA				Sg		**Sg**	**04 14 09.1**	**+0.2**
	comp=Z,47nm,0.5s							
KECS	**Kecovo**	**4.22**	**136**	*e*SG		**Sg**	**04 14 16.6**	**-1.7**
KECS				*e*LG		Lg	04 14 29.8	
LUNU	**Lund**	**4.34**	**340**	P		**Pn**	**04 13 11.8**	**+1.8**
LUNU				S		**Sn**	**04 13 58.6**	**-2.6**
ARSA	**Arzberg**	**4.36**	**185**	Sg		**Sg**	**04 14 23.2**	**+0.3**
	comp=Z,39nm,0.6s							
CRVS	**Cervenica-Dubn**	**4.38**	**126**	*e*PG		**Pg**	**04 13 28.4**	**+1.6**
CRVS				*e*SG		**Sg**	**04 14 23.2**	**-0.4**
BLEU	**Blekinge**	**4.72**	**358**	P		**Pn**	**04 13 17.2**	**+1.9**
BLEU				S		**Sn**	**04 14 09.1**	**-1.6**
KOLS	**Kolonicke sedl**	**4.79**	**121**	*e*PN		**Pn**	**04 13 17.5**	**+1.3**
KOLS				*e*PG		**Pg**	**04 13 35.0**	**+0.4**
KOLS				*e*SN		**Sn**	**04 14 11.1**	**-1.3**
KOLS				*e*SG		**Sg**	**04 14 36.8**	**+0.2**
KOLS				*e*LG		Lg	04 14 56.2	
BJUU	**Bjuv**	**4.84**	**339**	P		**Pn**	**04 13 18.1**	**+1.3**
KBA	**Koelnbreinsper**	**4.86**	**203**	*i* Pn		**Pn**	**04 13 19.8**	**+2.4**
	comp=Z,5.4nm,0.4s,SNR=13							
KBA				Sg		**Sg**	**04 14 40.4**	**+1.6**
	comp=Z,27nm,0.6s							
DEL	**Delary**	**5.06**	**346**	P		**Pn**	**04 13 21.8**	**+1.9**
WATA	**Walderalm**	**5.17**	**216**	*e*Pn		**Pn**	**04 13 24.4**	**+2.8**
	comp=Z,1.1nm,0.2s,SNR=5.0							
WTTA	**Wattenberg**	**5.21**	**215**	*e*Pn		**Pn**	**04 13 25.3**	**+3.1**
	comp=Z,3.5nm,0.4s							
MOTA	**Moosalm**	**5.34**	**219**	*e*Pn		**Pn**	**04 13 26.1**	**+2.2**
	comp=Z,2.4nm,0.4s							
VXJU	**Vaexsjoe**	**5.38**	**353**	P		**Pn**	**04 13 26.6**	**+2.2**
VXJU				S		**Sn**	**04 14 24.5**	**-2.4**
VXJU	**Vaexsjoe**	**5.38**	**353**	P		**Pn**	**04 13 26.6**	**+2.2**
VXJU				S		**Sn**	**04 14 24.5**	**-2.4**
SQTA	**Sankt Quirin**	**5.40**	**218**	*e*Pn		**Pn**	**04 13 27.9**	**+3.1**
	comp=Z,1.3nm,0.2s							
OSKU	**Oskarshamn**	**5.62**	**0**	P		**Pn**	**04 13 30.1**	**+2.6**
OSKU	**Oskarshamn**	**5.62**	**0**	P		**Pn**	**04 13 30.1**	**+2.6**
BYXU	**Byxelkrok**	**5.74**	**5**	P		**Pn**	**04 13 31.6**	**+2.4**
BYXU	**Byxelkrok**	**5.74**	**5**	P		**Pn**	**04 13 31.6**	**+2.4**
EKSU	**Eksjoe**	**6.01**	**356**	P		**Pn**	**04 13 35.1**	**+2.2**
EKSU	**Eksjoe**	**6.01**	**356**	P		**Pn**	**04 13 35.1**	**+2.2**
VSTU	**Vaestervik**	**6.09**	**2**	P		**Pn**	**04 13 36.4**	**+2.4**
VSTU	**Vaestervik**	**6.09**	**2**	P		**Pn**	**04 13 36.4**	**+2.4**
GOTU	**Gotland**	**6.28**	**12**	S		**Sn**	**04 14 48.7**	**-0.2**
GOTU	**Gotland**	**6.28**	**12**	S		**Sn**	**04 14 48.7**	**-0.2**
DAVOX	**Davos/Dischmat**	**6.29**	**223**	Pn		**Pn**	**04 13 39.2**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=5.9,slow=17,SNR=5.5							
DAVOX				Sn		**Sn**	**04 14 51.4**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=88,slow=6.0,SNR=1.5							
DAVOX				Lg		Lg	04 15 21.6	
	comp=Z,0.7nm,0.3s,baz=9.6,slow=14,SNR=3.1							
CDF	**Champ du Feu**	**6.50**	**244**	*e*Pn		**Pn**	**04 13 40.6**	**+0.8**
CDF	**Champ du Feu**	**6.50**	**244**	*e*P		Pn	04 13 44.9	+5.1
CDF				*e*Sg		**Sg**	**04 15 29.4**	**-2.1**
	comp=Z,37nm,0.8s							
VIKU	**Vikbolandet**	**6.94**	**3**	P		**Pn**	**04 13 48.1**	**+2.4**
VIKU	**Vikbolandet**	**6.94**	**3**	P		**Pn**	**04 13 48.1**	**+2.4**
HINF	**Hinteralfeld**	**7.07**	**241**	*e*Pn		**Pn**	**04 13 48.2**	**+0.6**
HINF	**Hinteralfeld**	**7.07**	**241**	*e*P		Pn	04 13 52.8	+5.2
HINF				*e*Sg		**Sg**	**04 15 47.0**	**-2.8**
	comp=Z,20nm,0.8s							
HAU	**Haudompre**	**7.24**	**244**	*e*P		Pn	04 13 55.7	+5.8
HAU				*e*Sg		**Sg**	**04 15 51.9**	**-3.4**
	comp=Z,17nm,0.7s							
GIVF	**Givet**	**7.28**	**263**	*e*Pn		**Pn**	**04 13 52.2**	**+1.9**
GIVF	**Givet**	**7.28**	**263**	*e*P		Pn	04 13 56.6	+6.3
GIVF				*e*Sg		**Sg**	**04 15 53.0**	**-3.4**
	comp=Z,3.1nm,0.3s							
PAGF	**Fort de Pagny**	**7.32**	**250**	*e*P		Pn	04 13 56.7	+5.8
PAGF				*e*Sg		**Sg**	**04 15 54.3**	**-3.4**
	comp=Z,22nm,0.7s							
NYNU	**Nynaeshamn**	**7.51**	**8**	P		**Pn**	**04 13 56.0**	**+2.5**
NYNU	**Nynaeshamn**	**7.51**	**8**	P		**Pn**	**04 13 56.0**	**+2.5**
BAIF	**Baives**	**7.67**	**263**	*e*Pn		**Pn**	**04 13 57.0**	**+1.3**
BAIF				*e*Sg		**Sg**	**04 16 04.9**	**-4.1**
	comp=Z,75nm,1.5s							
MEZF	**Maizieres J'vi**	**7.74**	**251**	*e*Pn		**Pn**	**04 13 58.2**	**+1.5**
MEZF				*e*Sg		**Sg**	**04 16 07.5**	**-3.7**
	comp=Z,5.5nm,0.6s							
SFTF	**Sexfontaines**	**7.89**	**249**	*e*Pn		**Pn**	**04 14 00.8**	**+2.0**
SFTF				*e*Sg		**Sg**	**04 16 12.0**	**-4.0**
	comp=Z,106nm,1.5s							
HOMB	**Homborsund**	**7.98**	**330**	*i* S		**Sn**	**04 15 26.4**	**-4.4**
HOMB				IAML			04 15 29.9	
	comp=Z,1.4nm,0.3s							
CABF	**La Chapelle**	**8.23**	**237**	*e*Pn		**Pn**	**04 14 03.8**	**+0.3**
CABF	**La Chapelle**	**8.23**	**237**	*e*P		Pn	04 14 09.0	+5.5
CABF				*e*Sg		**Sg**	**04 16 23.3**	**-3.6**
	comp=Z,69nm,1.3s							
AKASG	**Malin Array Be**	**8.32**	**91**	Pn		**Pn**	**04 14 04.8**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=279,slow=12,SNR=9.2							
AKASG				Sn		**Sn**	**04 15 34.2**	**-5.1**
	comp=Z,1.4nm,0.3s,baz=275,slow=23,SNR=5.5							
AKASG				Lg		Lg	04 16 29.4	
	comp=Z,0.3nm,0.3s,baz=280,slow=27,SNR=1.4							
HFS	**Hagfors**	**8.66**	**352**	Pn		**Pn**	**04 14 10.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=174,slow=15,SNR=1.4							
HFS				Sn		**Sn**	**04 15 44.4**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=162,slow=29,SNR=2.1							
HFS				LR		LR	04 17 16.3	
	comp=Z,33nm,18.4s,baz=268,slow=36							
LPL	**La Plagne**	**8.67**	**229**	*e*Sg		**Sg**	**04 16 37.6**	**-3.6**
	comp=Z,20nm,1.1s							
LPG	**La Plagne**	**8.68**	**229**	*e*Pn		**Pn**	**04 14 10.2**	**+0.3**
LPG	**La Plagne**	**8.68**	**229**	*e*P		Pn	04 14 15.8	+5.9
LPG				*e*Sg		**Sg**	**04 16 38.1**	**-3.3**
	comp=Z,27nm,1.2s							
LOR	**Lormes**	**9.05**	**246**	*e*Pn		**Pn**	**04 14 16.4**	**+1.6**
	baz=66							
LOR	**Lormes**	**9.05**	**246**	*e*P		Pn	04 14 21.2	+6.4
LOR				*e*Sg		Sn	04 16 48.6	+51
	comp=Z,16nm,1.0s							
SSF	**Saint Saulge**	**9.37**	**246**	*e*Pn		**Pn**	**04 14 20.5**	**+1.4**
SSF	**Saint Saulge**	**9.37**	**246**	*e*P		Pn	04 14 25.1	+6.0
SSF				*e*Sg		Sn	04 16 58.8	+54
	comp=Z,13nm,1.0s							
SMF	**Signal de Mont**	**9.42**	**243**	*e*Pn		**Pn**	**04 14 21.4**	**+1.6**
SMF				*e*Sg		Sn	04 17 00.1	+54
	comp=Z,14nm,0.8s							
ORIF	**Oris-en-Rattie**	**9.52**	**229**	*e*Pn		**Pn**	**04 14 21.3**	**+0.1**
ORIF	**Oris-en-Rattie**	**9.52**	**229**	*e*P		Pn	04 14 27.3	+6.1
AVF	**Avril sur Loir**	**9.61**	**245**	*e*Pn		**Pn**	**04 14 23.2**	**+0.9**
AVF	**Avril sur Loir**	**9.61**	**245**	*e*P		Pn	04 14 28.4	+6.1
NOA	**NORSAR Array B**	**9.84**	**346**	Pn		**Pn**	**04 14 26.7**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=169,slow=13,SNR=1.6							
VIVF	**Saint-Julien-l**	**10.15**	**233**	*e*Pn		**Pn**	**04 14 29.9**	**+0.1**
VIVF	**Saint-Julien-l**	**10.15**	**233**	*e*P		Pn	04 14 35.2	+5.4
TCF	**Toulx Ste Croi**	**10.54**	**245**	*e*Pn		**Pn**	**04 14 35.9**	**+0.7**
TCF	**Toulx Ste Croi**	**10.54**	**245**	*e*P		Pn	04 14 41.2	+6.0
LASF	**Ste Croix**	**11.12**	**232**	*e*Pn		**Pn**	**04 14 43.0**	**-0.1**
LASF	**Ste Croix**	**11.12**	**232**	*e*P		Pn	04 14 48.6	+5.5
FINES	**FINESS Array B**	**11.30**	**25**	Pn		**Pn**	**04 14 44.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=208,slow=12,SNR=2.3							
FINES				Sn		**Sn**	**04 16 44.9**	**-7.3**
	comp=Z,0.1nm,0.3s,baz=201,slow=19,SNR=1.5							
MFF	**Saint Martin d**	**11.74**	**251**	*e*Pn		**Pn**	**04 14 51.4**	**0.0**
MFF	**Saint Martin d**	**11.74**	**251**	*e*P		Pn	04 14 57.8	+6.4
EKA	**Eskdalemuir Ar**	**12.05**	**296**	Pn		**Pn**	**04 14 53.9**	**-1.7**
	baz=101,slow=14,SNR=1.6							
ARCES	**ARCESS Array B**	**18.55**	**10**	Pn		**P**	**04 16 19.2**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=188,slow=14,SNR=6.3							
TORD	**Torodi Ar. Bea**	**40.07**	**202**	P		**P**	**04 19 41.0**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=1.7,slow=7.7,SNR=2.7							
KMBO	**Kilima Mbogo**	**55.51**	**154**	LR		LR	04 46 38.8	
	comp=Z,29nm,18.6s,baz=270,slow=37							

*IDC **20** 04:35:06.9±1.5, 25°08N×97°91E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/58, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=51.3km s-min=18.7km az=81.0*
*BJI **20** 04:35:08.9±0.0, 25°04N×97°85E, h14km, ML3.5/5*

ISC 20 04:35:09.1±1.1, 25°2N±0°1×98°0E±0°5, h10km, n5, σ2ᵍ18/6, mb3.6/3, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.73**	**172**	Pn		**Pn**	**04 36 45.2**	**-2.8**
	0.5nm,0.3s,baz=347,slow=15,SNR=4.4							
CMAR				Pg		**Pb**	**04 37 08.7**	**+2.5**
	0.9nm,0.3s,baz=348,slow=18,SNR=17							
CMAR				Lg		Lg	04 38 39.2	
	1.4nm,0.3s,baz=348,slow=29,SNR=12							
WMQ	**Urumqi**	**20.42**	**338**	*e*P		**P**	**04 39 46.6**	**+0.2**
SONM	**Songino Array**	**23.60**	**14**	P		**P**	**04 40 20.1**	**0.0**
	0.3nm,0.3s,baz=189,slow=8.3,SNR=2.5							
MKAR	**Makanchi Array**	**24.95**	**334**	P		**P**	**04 40 32.2**	**-0.3**
	0.7nm,0.5s,baz=147,slow=9.3,SNR=7.9							
ZALV	**Zalesovo Beam**	**30.39**	**345**	P		**P**	**04 41 21.4**	**+0.3**
	0.8nm,0.5s,baz=157,slow=8.3,SNR=3.1							

*ISN **20** 05:20:09.9±1.4, 32°65N×47°77E, h15km±7km, ML3.0*
*TEH **20** 05:20:12.2, 32°69N×47°65E, h19km, ML3.1*

ISC 20 05:20:12.4±1.0, 32°64N±0°04×47°65E±0°05, h10km, n21, σ1ᵍ17/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DHL1	**Dehloran**	**0.31**	**278**	*e*Sg		**Sg**	**05 20 24.2**	**+1.4**
IKFM	**Kafar-mosalman**	**0.90**	**11**	*e*Pg		**Pg**	**05 20 28.3**	**-1.5**
IKMR	**Kamar-syah**	**1.07**	**35**	*e*Pg		**Pg**	**05 20 31.1**	**-1.9**
IKMR				*e*			05 20 35.3	
IDOB	**Doab**	**1.23**	**21**	*e*Pg		**Pb**	**05 20 34.8**	**-1.1**
BMDN	**Meydan**	**1.43**	**43**	*e*Pg		**Pn**	**05 20 39.0**	**+0.4**
BMDN				*e*			05 21 06.1	
IBDR	**Badra**	**1.52**	**289**	*e*Pg		**Pn**	**05 20 39.0**	**-0.6**
IBDR				*e*Sg		**Sb**	**05 21 01.0**	**+1.1**
IBDR				AML		AML	05 21 04.7	
	comp=N,250nm,0.4s							
IBDR				AML		AML	05 21 05.1	
	comp=E,214nm,0.4s							
IKOM	**Komasi**	**1.54**	**356**	*e*Pg		**Pn**	**05 20 40.6**	**+0.6**
IKOM				*e*			05 21 10.4	
AHWZ	**Ahwaz**	**1.56**	**147**	*e*Pg		**Pb**	**05 20 42.0**	**+0.8**
KCHF	**Cheshme Sefid,**	**1.71**	**343**	*e*Pg		**Pn**	**05 20 43.1**	**+0.7**
KCHF				*e*			05 21 15.6	
HSAM	**Samen**	**1.76**	**27**	*e*Pg		**Pb**	**05 20 44.5**	**-0.5**
HSAM				*e*			05

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KST	**Kastek**	**4.15**	**57**	*e*P	**Pb**	**05 27 21.1**	**+1.3**
	1.2nm,0.3s						
KST				*e*S	**Sg**	**05 28 16.2**	**-3.4**
	4.7nm,0.5s						
KST	**Kastek**	**4.15**	**57**	Pg	**Pb**	**05 27 21.1**	**+1.3**
	1.2nm,0.3s						
KST				Lg	Lg	05 28 16.2	
	4.7nm,0.5s						
BTLS	**Baital**	**4.63**	**26**	*e*P	**Pb**	**05 27 29.9**	**+2.0**
	1.6nm,0.3s						
BTLS				*e*S	**Sg**	**05 28 31.2**	**-3.9**
	5.6nm,0.5s						
BTLS	**Baital**	**4.63**	**26**	Pg	**Pb**	**05 27 29.9**	**+2.0**
	1.6nm,0.3s						
BTLS				Lg	Lg	05 28 31.2	
	5.6nm,0.5s						

*TIR **20** 05:31:11.7, 41.°07N×19.°98E, h24km, Md2.7/5*
*BEO **20** 05:31:15.1±0.6, 41.°06N×19.°89E, h0km, ML2.4/10*
*SKO **20** 05:31:15.3, 41.°12N×19.°96E, h7km*
ISC 20 05:31:14.4±1.3, 41.°11N±0.°04×19.°93E±0.°03, h6km±9km, n23, σ1°66/43, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.24**	**348**	*i* PG	**Pg**	**05 31 19.2**	**+0.1**
TIR				*i* SG	**Sg**	**05 31 22.8**	**+0.5**
TIR	**Tirane**	**0.24**	**348**	*e*Pg	**Pg**	**05 31 19.5**	**+0.4**
TIR				*e*Sg	**Sg**	**05 31 23.6**	**+1.3**
OHR	**Ohrid**	**0.66**	**90**	*i* Pg	**Pg**	**05 31 27.3**	**+0.2**
OHR				*i* Sg	**Sb**	**05 31 36.5**	**-1.3**
OHR				*e*Lg	Lg	05 31 39.7	
	comp=E,154nm,0.5s						
OHR				*e*Lg	Lg	05 31 40.4	
	comp=N,169nm,0.5s						
PHP	**Peshkopia**	**0.69**	**34**	*i* PG	**Pg**	**05 31 25.0**	**-2.6**
PHP				*i* SG	**Sg**	**05 31 36.2**	**-0.4**
PUK	**Puka**	**0.93**	**358**	*i* PG	**Pg**	**05 31 29.7**	**-2.6**
PUK				*i* SG	**Sg**	**05 31 44.1**	**-0.2**
LSK	**Leskovik**	**1.09**	**152**	*i* PG	**Pg**	**05 31 34.2**	**-1.1**
LSK				*i* SG	**Sn**	**05 31 51.1**	**-0.6**
BCI	**Bajram Curri**	**1.26**	**5**	*i* PN	**Pn**	**05 31 36.6**	**-1.9**
BCI				*i* SN	**Sn**	**05 31 55.2**	**-0.6**
PDG	**Podgorica**	**1.41**	**339**	*e*Pg	**Pn**	**05 31 40.3**	**-0.3**
PDG				*e*Sg	**Sg**	**05 32 00.1**	**+0.4**
SKO	**Skopje**	**1.42**	**52**	*e*Pg	**Pb**	**05 31 41.1**	**-0.2**
SKO				*e*Sg	**Sg**	**05 32 01.7**	**+1.6**
SKO	**Skopje**	**1.42**	**52**	*e*Pg	**Pn**	**05 31 39.4**	**-1.3**
SKO				*i* Sg	**Sb**	**05 31 59.1**	**-0.6**
STIP	**Stip**	**1.79**	**70**	*i* Pn	**Pg**	**05 31 49.3**	**+0.6**
STIP				*e*Sn	**Sg**	**05 32 15.9**	**+3.8**
TREB	**Trebinje**	**1.99**	**324**	*e*Pn	**Pb**	**05 31 50.1**	**-0.9**
TREB				*e*Sn	**Sb**	**05 32 16.9**	**+0.9**
VAY	**Valandovo**	**2.00**	**83**	*e*Pn	**Pb**	**05 31 50.5**	**-0.7**
VAY				*e*Sg	**Sg**	**05 32 18.1**	**-0.7**
VAY				*e*Lg	Lg	05 32 18.5	
	comp=E,13nm,0.7s						
VAY				*e*Lg	Lg	05 32 20.6	
	comp=N,15nm,0.7s						
DBRK	**Dubrovnik**	**2.05**	**320**	*e*Pn	**Pb**	**05 31 51.9**	**-0.1**
DBRK				Sn	**Sg**	**05 32 21.0**	**+0.8**
SJES	**Sjenica**	**2.15**	**1**	*e*Pn	**Pb**	**05 31 53.7**	**0.0**
SJES				*e*Sn	**Sb**	**05 32 21.3**	**+0.7**
BARS	**Barje**	**2.21**	**39**	*e*Pn	**Pb**	**05 31 53.8**	**-0.9**
BARS				*e*Sn	**Sb**	**05 32 22.6**	**+0.3**
SELS	**Selova**	**2.28**	**22**	*e*Sn	**Pn**	**05 31 54.5**	**+1.9**
SELS	**Selova**	**2.28**	**22**	*e*Pn	**Sn**	**05 32 24.8**	**+3.7**
BOSS	**Bosilegrad**	**2.35**	**53**	*e*Pn	**Pb**	**05 31 56.3**	**-0.9**
BOSS				*e*Sn	**Sb**	**05 32 26.4**	**-0.1**
STON	**Ston**	**2.42**	**317**	*e*Pn	**Pn**	**05 31 56.0**	**+1.6**
BBLS	**Lazići**	**2.78**	**352**	*e*Pn	**Pn**	**05 32 01.6**	**+2.1**
BBLS				*e*Sn	**Sb**	**05 32 36.3**	**-2.5**
ZAPS	**Zavoj**	**2.95**	**42**	*e*Pn	**Pn**	**05 32 04.1**	**+2.3**
ZAPS				*e*Sn	**Sb**	**05 32 41.1**	**-2.6**
DIVS	**Divibare**	**2.98**	**1**	*e*Pn	**Pn**	**05 32 04.2**	**+1.9**
DIVS				*e*Sn	**Sb**	**05 32 41.1**	**-3.6**

*MOS **20** 05:40:43.2±1.3, 42.°95N×47.°14E, h7km, mb3.7/1, Error ellipse: s-maj=9.0km s-min=7.4km az=118.1*
MOS Felt (III) at Buynaksk; (II) at Makhachkala.
DRS 20 05:40:43.3±0.0, 42.°79N×47.°11E, h9km, ML2.8/6, 2C-5D, FELT I=III MSK at Buynaksk and I=II MSK at Makhachkala, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUJR	**Buynaksk**	**0.04**	**356**	*i* Pg	Pg	05 40 45.4	+0.2
	6μm,0.7s						
BUJR				*e*Sg	Sg	05 40 47.1	+0.7
	3μm,0.5s						
BUJR	**Buynaksk**	**0.04**	**356**	⇓*i*PG	Pg	05 40 45.3	+0.2
BUJR				pmax	pmax		
	comp=Z,6μm,0.7s						
DBC	**Dubki**	**0.31**	**319**	*i* Pg	Pg	05 40 49.2	-0.4
DBC	comp=Z,136nm,0.3s			*e*Sg	Sg	05 40 53.5	-0.2
	comp=Z,204nm,0.6s						
DBC	**Dubki**	**0.31**	**319**	*i* PG	Pg	05 40 49.1	-0.4
MAK	**Makhachkala**	**0.34**	**59**	*e*PG	Pg	05 40 50.6	+0.6
MAK				*e*		05 40 55.9	
MAK				pmax	pmax		
	comp=Z,290nm,0.2s						
MAK				smax	smax		
	comp=E,2μm,0.2s						
MAK				smax	smax		
	comp=E,2μm,0.2s						
GNBR	**Gunib**	**0.41**	**195**	*i* Pg	Pb	05 40 53.8	+1.0
	comp=E,177nm,0.7s						
GNBR				*e*Sg	Sb	05 41 01.3	+2.1
	comp=E,352nm,1.0s						
GNBR	**Gunib**	**0.41**	**195**	*d* iPG	Pb	05 40 53.8	+1.0
BTLR	**Botlikh**	**0.67**	**260**	*e*Pg	Pb	05 40 57.9	+0.8
	comp=E,57nm,0.5s						
BTLR				*e*Sg	Sb	05 41 07.1	+0.6
	comp=E,150nm,0.6s						
BTLR	**Botlikh**	**0.67**	**260**	*ce*PG	Pb	05 40 57.9	+0.7
URKR	**Urkarakh**	**0.73**	**148**	*e*PG	Pn	05 41 00.2	+0.3
URKR				*e*S	Sn	05 41 10.6	-0.7
GROC	**Groznyy**	**1.05**	**294**	*e*PG	Pg	05 41 01.4	-2.1
GROC				*e*		05 41 14.7	
GROC				smax	smax		
	comp=N,92nm,0.5s						
LGD	**Lagodekhi**	**1.15**	**214**	*e*PG	Pn	05 41 06.9	+1.3
LGD				*e*S	Sn	05 41 23.1	+1.7
DRN	**Derbent**	**1.18**	**130**	*e*Pg	Pn	05 41 08.8	+2.9
	comp=N,43nm,0.5s						
DRN				*i* Sg	Sn	05 41 26.8	+4.8
	comp=N,109nm,0.8s						
DRN	**Derbent**	**1.18**	**130**	⇓*e*PG	Pn	05 41 08.8	+2.9
DRN				*i* S	Sn	05 41 26.7	+4.7
DRN				pmax	pmax		
	comp=Z,43nm,0.5s						
AKT	**Akhty**	**1.38**	**160**	*i* Pg	Pg	05 41 12.0	+2.1
	comp=Z,53nm,0.5s						
AKT				*e*Sg	Sg	05 41 32.5	+4.7
	comp=Z,98nm,0.5s						
AKT	**Akhty**	**1.38**	**160**	*de*PG	Pg	05 41 12.0	+2.1
KMGR	**Komgaron**	**1.67**	**280**	*e*PN	Pg	05 41 15.0	-0.4
KMGR				*e*S	Sg	05 41 41.4	+4.4
DGRG	**David-gareji**	**1.86**	**225**	*e*PN	Pg	05 41 20.3	+1.4
BTKR	**Batakoyurt**	**1.97**	**288**	*e*PN	Pg	05 41 21.1	0.0
BTKR				*e*S	Sg	05 41 45.4	-1.2
TRKR	**Terskaya**	**1.97**	**299**	*e*PN	Pb	05 41 18.8	-0.6
TRKR				*e*S	Sb	05 41 45.4	+1.3
ARNR	**Ardon**	**2.11**	**282**	*e*PN	Pb	05 41 21.7	-0.1
ARNR				*e*S	Sb	05 41 48.7	+0.6
KBZ	**Khabaz**	**3.22**	**288**	*e*PN	Pn	05 41 35.7	+1.7
KBZ				*e*S	Sn	05 42 14.9	+2.5
KIV	**Kislovodsk**	**3.43**	**291**	⇓*e*PN	Pn	05 41 35.1	-1.9
BR131	**Keskin Array S**	**10.60**	**258**	*c* iP	Pn	05 43 13.0	-2.4
OBN	**Obninsk**	**14.13**	**334**	*e*P	Pn	05 44 01.6	-1.8
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						

IDC 20 05:40:56.5±3.3, 53.°59N×87.°94E, h0km, mb1 2.9/2, mb1mx2.8/52, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=29.5km s-min=17.2km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**282**	*i*		05 53 00.0	
	baz=95,slow=315,SNR=0.8						
ZALV	**Zalesovo Beam**	**1.88**	**282**	Pg	Pn	05 41 30.4	+0.4
	1.2nm,0.3s,baz=98,slow=17,SNR=7.2						
ZALV				Lg	Lg	05 41 56.2	
	3.4nm,0.3s,baz=102,slow=24,SNR=17						
KURBB	**Kurchatov Arra**	**6.51**	**247**	Pn	Pn	05 42 34.4	+0.9
	0.1nm,0.3s,baz=63,slow=14,SNR=5.1						
KURBB				Lg	Lg	05 44 22.0	
	0.1nm,0.3s,baz=61,slow=32,SNR=6.2						
MKAR	**Makanchi Array**	**7.71**	**210**	Pn	Pn	05 42 51.1	+1.2
	0.1nm,0.3s,baz=29,slow=12,SNR=5.3						
MKAR				Lg	Lg	05 44 59.0	
	0.1nm,0.3s,baz=32,slow=33,SNR=5.6						

*IDC **20** 05:44:19.0±1.2, 59.°62S×25.°15W, h0km, mb4.3/7, mb1 4.4/7, mb1mx4.0/22, mbtmp4.3/7, MS3.4/3, Ms1 3.3/3, ms1mx3.0/23, Error ellipse: s-maj=45.3km s-min=21.0km az=176.0*
*NEIC **20** 05:44:23.9±1.3, 59.°7S±0.°2×25.°2W±0.°2, h35km±2km, mb4.8/40, Error ellipse: s-maj=30.5km s-min=16.0km az=194.0*
ISC 20 05:44:23.2±0.6, 59.°8S±0.°1×25.°2W±0.°1, h35km, n71, σ0°81/67, mb4.8/24, MS3.3/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**8.30**	**307**	Pn	**Pn**	**05 46 21.0**	**+0.1**
VNA1	**Neumayer--Stat**	**12.90**	**154**	P	**Pn**	**05 47 24.0**	**+0.3**
VNA3	**Neumayer Olymp**	**13.07**	**158**	P	**Pn**	**05 47 25.8**	**-0.2**
VNA2	**Neumayer--Watz**	**13.29**	**154**	P	**Pn**	**05 47 27.9**	**-1.2**
EFI	**East Falkland**	**20.05**	**279**	Pn	Pn	05 48 54.9	0.0
EFI				IAmb	IAmb	05 48 56.4	
	comp=Z,33nm,0.7s						
MG01	**Puerto William**	**23.10**	**263**	P	**P**	**05 49 26.2**	**+0.7**
USHA	**Ushuaia**	**23.55**	**263**	P	**P**	**05 49 32.3**	**+2.3**
	comp=Z,28nm,0.8s,baz=99,slow=0.2,SNR=29						
PLCA	**Paso Flores**	**33.84**	**284**	P	**P**	**05 51 02.1**	**+0.1**
	comp=Z,6.6nm,0.7s,baz=148,slow=6.8,SNR=31						
PLCA				LR	LR	06 03 27.9	
	comp=Z,50nm,19.5s,baz=136,slow=34						
PLCA	**Paso Flores**	**33.84**	**284**	P	**P**	**05 51 02.3**	**+0.2**
PLCA				IAmb	IAmb	05 51 02.9	
	comp=Z,7.4nm,0.7s						
PLCA	**Paso Flores**	**33.84**	**284**	*e*P	**P**	**05 51 02.2**	**+0.2**
LC01	**Cunco**	**35.91**	**284**	P	**P**	**05 51 19.3**	**-0.5**
MAW	**Mawson**	**36.51**	**140**	LR	LR	06 03 50.1	
	comp=Z,73nm,21.2s,baz=310,slow=32						
BI03	**Tigo**	**38.08**	**285**	P	**P**	**05 51 38.3**	**+0.1**
BO02	**Sierra Bellavi**	**38.65**	**290**	P	**P**	**05 51 42.7**	**-0.4**
GO05	**Huala**	**39.02**	**288**	P	**P**	**05 51 46.1**	**-0.1**
GO05				IAmb	IAmb	05 51 48.1	
	comp=Z,8.8nm,0.5s						
BO01	**Tunca**	**39.12**	**290**	P	**P**	**05 51 46.7**	**-0.2**
BO01				IAmb	IAmb	05 51 47.9	
	comp=Z,11nm,0.8s						
PEL	**Peldehue**	**39.95**	**291**	P	**P**	**05 51 54.4**	**+0.4**
MT02	**Curacav**	**40.07**	**291**	P	**P**	**05 51 54.8**	**-0.1**
MT02				IAmb	IAmb	05 51 55.7	
	comp=Z,14nm,0.5s						
CPUP	**Villa Florida**	**40.14**	**312**	P	**P**	**05 51 54.5**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=175,slow=9.3,SNR=5.2						
CPUP				LR	LR	06 08 52.2	
	comp=Z,38nm,18.4s,baz=161,slow=37						
CPUP	**Villa Florida**	**40.14**	**312**	IAmb	IAmb	05 51 57.8	
	comp=Z,5.1nm,1.2s						
VA03	**San Esteban**	**40.20**	**292**	P	**P**	**05 51 57.1**	**+1.0**
VA03				IAmb	IAmb	05 51 57.9	
	comp=Z,18nm,0.9s						
ROC1	**El Roble**	**40.25**	**291**	P	**P**	**05 51 57.3**	**+0.6**
ZON	**Zonda**	**40.35**	**295**	P	**P**	**05 51 57.2**	**-0.1**
CO02	**Combarbal**	**41.71**	**293**	P	**P**	**05 52 08.8**	**+0.2**
CO02				IAmb	IAmb	05 52 12.4	
	comp=Z,27nm,1.5s						
TRCB	**Terra Rica**	**41.75**	**320**	*e*P	**P**	**05 52 09.5**	**+0.7**
CO03	**El Pedregal**	**41.87**	**293**	P	**P**	**05 52 10.1**	**+0.3**
RIB01	**Linhares ES**	**41.92**	**338**	*e*P	**P**	**05 52 10.9**	**+0.7**
CO01	**Juntas del Tor**	**42.32**	**294**	P	**P**	**05 52 15.3**	**+1.6**
CO01				IAmb	IAmb	05 52 16.1	
	comp=Z,10nm,0.6s						
GO04	**Tololo Observa**	**42.48**	**294**	P	**P**	**05 52 15.0**	**0.0**
SJMB	**Sao Joao De Ma**	**42.67**	**337**	*e*P	**P**	**05 52 16.6**	**+0.4**
NAN01	**Guarapari, ES**	**43.30**	**339**	*e*P	**P**	**05 52 21.5**	**+0.1**
AC05	**El Transito**	**43.37**	**295**	P	**P**	**05 52 23.0**	**+0.9**
AC04	**Llanos de Chal**	**44.28**	**295**	P	**P**	**05 52 29.8**	**+0.6**
AC02	**Maricunga**	**44.57**	**298**	P	**P**	**05 52 33.2**	**+1.1**
AC02				IAmb	IAmb	05 52 34.2	
	comp=Z,19nm,1.4s						
MC01	**Montes Claros**	**45.18**	**334**	*e*P	**P**	**05 52 36.1**	**-0.3**
AC01	**Pan de Azucar**	**45.82**	**297**	P	**P**	**05 52 41.3**	**-0.2**
AC01				IAmb	IAmb	05 52 57.6	
	comp=Z,16nm,1.5s						
BOSA	**Boshof**	**46.04**	**70**	P	**P**	**05 52 43.2**	**0.0**
	comp=Z,3.8nm,0.9s,baz=210,slow=9.6,SNR=5.1						
GO02	**Mina Guanaco**	**46.22**	**299**	P	**P**	**05 52 45.1**	**+0.1**
JANB	**Januaria**	**46.85**	**334**	*e*P	**P**	**05 52 49.5**	**-0.2**
PB14	**IPOC Station P**	**47.05**	**298**	P	**P**	**05 52 50.8**	**-0.7**
PB14				IAmb	IAmb	05 52 52.0	
	comp=Z,6.9nm,0.7s						
BDFB	**Brasilia**	**47.18**	**329**	P	**P**	**05 52 51.6**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=149,slow=11,SNR=3.8						
GDU01	**Guandu, BA**	**47.24**	**341**	*e*P	**P**	**05 52 52.4**	**-0.3**
PB15	**IPOC Station P**	**47.88**	**300**	P	**P**	**05 52 57.0**	**-0.8**
PB15				IAmb	IAmb	05 52 58.8	
	comp=Z,8.3nm,0.5s						
LVC	**Limon Verde**	**48.16**	**301**	P	**P**	**05 53 00.9**	**+0.7**
LVC				IAmb	IAmb	05 53 04.3	
	comp=Z,16nm,1.3s						
LVC	**Limon Verde**	**48.16**	**301**	*e*P	**P**	**05 53 00.7**	**+0.5**
PB06	**IPOC Station P**	**48.36**	**300**	P	**P**	**05 53 02.0**	**+0.6**
PB06				IAmb	IAmb	05 53 07.4	
	comp=Z,6.1nm,0.7s						
PB07	**IPOC Station P**	**49.36**	**300**	P	**P**	**05 53 09.2**	**+0.1**
PB01	**IPOC Station P**	**49.78**	**301**	P	**P**	**05 53 12.8**	**+0.5**
PB08	**IPOC Station P**	**50.44**	**302**	P	**P**	**05 53 17.9**	**+0.3**
PB08				IAmb	IAmb	05 53 19.1	
	comp=Z,5.9nm,0.6s						
PTLB	**Pontes e Lacer**	**50.77**	**316**	*e*P	**P**	**05 53 18.8**	**-0.8**
GO01	**Chusmiza**	**50.88**	**302**	IAmb	IAmb	05 53 22.6	
	comp=Z,7.5nm,0.7s						
PB11	**IPOC Station P**	**50.99**	**302**	P	**P**	**05 53 21.8**	**+0.3**
PB11				IAmb	IAmb	05 53 22.9	
	comp=Z,27nm,1.5s						
PSGCX	**Pisagua**	**51.34**	**301**	P	**P**	**05 53 23.9**	**-0.2**
PSGCX				IAmb	IAmb	05 53 24.7	
	comp=Z,5.3nm,0.6s						
PB16	**IPOC Station P**	**52.19**	**303**	P	**P**	**05 53 31.4**	**+0.4**
LPAZ	**La Paz**	**53.45**	**305**	P	**P**	**05 53 40.4**	**+0.1**
	comp=Z,2.3nm,0.4s,baz=146,slow=7.9,SNR=38						
LPAZ	**La Paz**	**53.45**	**305**		**P**	**05 53 40.9**	**+0.5**
LPAZ	**La Paz**	**53.45**	**305**	*e*P	**P**	**05 53 40.4**	**+0.1**
CLDB	**Colider**	**53.93**	**322**	*e*P	**P**	**05 53 40.8**	**-2.4**
SAML	**Samuel**	**58.23**	**314**	P	**P**	**05 54 12.8**	**-1.0**
SAML				IAmb	IAmb	05 54 13.6	
	comp=Z,4.5nm,0.8s						
ETMB	**Extrema**	**58.56**	**311**	*e*P	**P**	**05 54 14.5**	**-1.6**
TOA0	**Torodi Ar. Sit**	**75.88**	**27**	P	**P**	**05 56 07.3**	**+1.6**
TORD	**Torodi Ar. Bea**	**75.88**	**27**	P	**P**	**05 56 07.1**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=200,slow=6.4,SNR=24						
TORD	**Torodi Ar. Bea**	**75.88**	**27**	P	**P**	**05 56 06.9**	**+1.1**
PDAR	**Pinedale Array**	**123.20**	**299**	PKP	**PKiKP**	**06 03 15.6**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=123,slow=5.5,SNR=4.1						
YKA	**Yellowknife Ar**	**139.65**	**314**	PKP	**PKiKP**	**06 03 47.9**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=202,slow=1.5,SNR=5.4						
INK	**Inuvik**	**149.35**	**316**	PKPbc	**PKiKP**	**06 04 07.1**	**-0.5**
	comp=Z,3.1nm,0.6s,baz=130,slow=1.2,SNR=6.6						
SONM	**Songino Array**	**149.71**	**91**	PKPbc	**PKiKP**	**06 04 08.4**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=245,slow=1.9,SNR=2.3						
VRDI	**Verde Repeater**	**150.59**	**300**		**PKiKP**	**06 04 11.7**	**+1.1**
BCAR	**Beaver Creek A**	**150.62**	**304**		**PKiKP**	**06 04 11.2**	**+0.7**
KLU	**Klutina**	**151.78**	**299**		**PKiKP**	**06 04 14.2**	**+1.3**
ILAR	**Eielson Array**	**153.33**	**306**	PKPbc	**PKiKP**	**06 04 17.1**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=114,slow=0.6,SNR=9.2						

IDC 20 06:01:42.3±7.2, 18.°75S×169.°38E, h181km±105km, mb3.7/3, mb1 3.9/4, mb1mx3.4/35, mbtmp4.1/4, Error ellipse: s-maj=205.5km s-min=36.6km az=153.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.30**	**219**	P	Pn	06 02 48.5	+1.1
	4.2nm,0.3s,baz=114,slow=19,SNR=56						
DZM				S	Sn	06 03 37.8	-0.5
	2.1nm,0.3s,baz=121,slow=13,SNR=6.1						
WRA	**Warramunga Arr**	**33.05**	**262**	P	P	06 08 00.5	-0.4
	1.1nm,0.5s,baz=83,slow=6.1,SNR=32						
ASAR	**Alice Springs**	**33.38**	**255**	P	P	06 08 04.1	+0.4
	8.2nm,0.4s,baz=82,slow=8.8,SNR=148						
ILAR	**Eielson Array**	**89.73**	**17**	P	P	06 14 18.9	-0.5
	0.2nm,0.6s,baz=232,slow=4.4,SNR=1.9						

*ISN **20** 06:43:10.6±1.2, 32.°74N×47.°55E, h27km±8km, ML3.8*
*TEH **20** 06:43:10.2, 32.°73N×47.°47E, h8km, ML3.9*
*THR **20** 06:43:11.9±0.3, 32.°82N×47.°51E, h14km±9km, ML4.1*
*IDC **20** 06:43:13.4±2.8, 32.°63N×47.°50E, h34km±20km, mb3.6/10, mb1 3.8/13, mb1mx3.6/52, mbtmp3.9/13, ML3.8/3, Error ellipse: s-maj=28.5km s-min=16.1km az=170.0*
*OMAN **20** 06:43:18.3, 32.°24N×47.°97E, h10km, mb5.6/12*
ISC 20 06:43:10.0±0.6, 32.°62N±0.°03×47.°49E±0.°04, h10km, n94, σ2°09/103, mb3.8/10, 4C-4D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.18**	**290**	*e*Pg	**Pg**	**06 43 14.0**	**+0.1**
IKFM	**Kafar-mosalman**	**0.95**	**18**	*e*Pg	**Pg**	**06 43 26.9**	**-1.4**
IKFM				*e*		06 43 49.6	
IKMR	**Kamar-syah**	**1.17**	**40**	*e*Pg	**Pb**	**06 43 30.9**	**-1.4**
IKMR				*e*		06 43 56.2	
IDOB	**Doab**	**1.30**	**26**	*e*Pg	**Pn**	**06 43 34.2**	**-0.2**
IBDR	**Badra**	**1.40**	**291**	*e*Pg	**Pn**	**06 43 36.0**	**+0.5**
IBDR				*e*Sg	**Sn**	**06 43 55.0**	**+1.0**
IBDR				AML	AML	06 44 00.5	
	comp=N,2μm,0.5s						
IBDR				AML	AML	06 44 00.9	
	comp=E,1μm,0.4s						
BMDN	**Meydan**	**1.54**	**47**	*e*Pg	**Pn**	**06 43 38.7**	**+1.0**
BMDN				*e*		06 44 05.0	
IKOM	**Komasi**	**1.55**	**1**	*e*Pg	**Pn**	**06 43 37.9**	**+0.1**
IKOM				*e*		06 43 40.1	
AHWZ	**Ahwaz**	**1.62**	**142**	*e*Pg	**Pg**	**06 43 42.6**	**+1.6**
KCHF	**Cheshme Sefid,**	**1.69**	**347**	*e*Pg	**Pn**	**06 43 40.6**	**+0.8**
KCHF				*e*		06 44 07.4	
KER	**Kermanshah**	**1.79**	**351**	*e*Pg	**Pn**	**06 43 42.8**	**+1.8**
HSAM	**Samen**	**1.84**	**30**	*e*Pg	**Pn**	**06 43 43.8**	**+1.9**
HSAM				*e*		06 43 46.0	
IGHG	**Ghaleghazi**	**1.87**	**336**	*e*Pn	**Pn**	**06 43 43.1**	**+0.8**
IGHG				*e*		06 44 20.4	
IBZA	**Bozab**	**1.87**	**10**	*e*Pg	**Pn**	**06 43 43.9**	**+1.6**
IBZA				*e*		06 44 14.0	
NSR	**Nassriya**	**1.97**	**216**	*e*Pn	**Pn**	**06 43 46.0**	**+2.6**
NSR				*e*Sn	**Sn**	**06 44 10.0**	**+1.9**
IVIS	**Veis**	**1.98**	**345**	*e*Pn	**Pn**	**06 43 44.4**	**+0.8**
IVIS				*e*		06 43 46.8	
IDHR	**Dehrash**	**2.27**	**336**	*e*Pn	**Pn**	**06 43 48.6**	**+0.9**
IDHR				*e*		06 44 26.4	
IALM	**Almabolaq**	**2.31**	**14**	*e*Pn	**Pn**	**06 43 50.1**	**+1.8**
ILIN	**Lien**	**2.34**	**349**	*e*Pn	**Pn**	**06 43 49.7**	**+1.0**
ILIN				*e*		06 44 30.1	
KHMZ	**Khomeyn**	**2.36**	**61**	*e*Pn	**Pn**	**06 43 51.0**	**+2.0**
KHMZ	**Khomeyn**	**2.36**	**61**	*e*Pn	**Pn**	**06 43 51.0**	**+2.0**
SNGE	**Sanandaj**	**2.47**	**357**	*e*Pn	**Pn**	**06 43 51.2**	**+0.7**
SNGE				*e*Sg	**Sn**	**06 44 23.5**	**+2.6**
SNGE	**Sanandaj**	**2.47**	**357**	*e*Pn	**Pn**	**06 43 51.2**	**+0.7**
HAGD	**Aghdareh**	**2.59**	**32**	*e*Pn	**Pn**	**06 43 54.3**	**+2.1**
HAGD				*e*		06 44 39.8	
BHD	**Baghdad**	**2.69**	**285**	*e*Pn	**Pn**	**06 43 54.0**	**+0.7**
BHD				*e*Sn	**Sn**	**06 44 27.0**	**+1.1**
HSRG	**Sareghieh**	**2.70**	**14**	*e*	**Pg**	**06 44 05.2**	**+3.5**
JHBN	**Jahan bin**	**2.72**	**97**	*e*Pn	**Pn**	**06 43 56.9**	**+2.9**
JHBN				*e*		06 44 53.0	
IPIR	**Pirpir**	**2.88**	**88**	*e*Pn	**Pn**	**06 43 59.2**	**+3.1**
IPIR				*e*		06 44 49.6	
ROKH	**ROKH**	**3.01**	**94**	*e*Pn	**Pn**	**06 44 00.6**	**+2.6**
ROKH				*e*		06 44 59.1	
IBRJ	**Brojen**	**3.28**	**101**	*e*Pn	**Pn**	**06 44 03.6**	**+2.0**
IRAZ	**Razeghan**	**3.44**	**35**	*e*Pn	**Pn**	**06 44 06.5**	**+2.6**
IKLH	**Kolahrood**	**3.51**	**77**	*e*Pn	**Pn**	**06 44 08.0**	**+3.1**
IKLH				*e*		06 45 05.0	
QABG	**Abgarm-Qazvin**	**3.54**	**

comp=E,0.9nm,0.8s,baz=180,slow=2.2,SNR=4.7
KURBB Kurchatov Arra 29.06 43 P **P 06 49 11.0 +0.7**
comp=E,1.3nm,0.8s,baz=250,slow=9.8,SNR=4.0
MKAR Makanchi Array 30.02 52 P **P 06 49 19.6 +0.7**
comp=E,1.0nm,0.7s,baz=250,slow=10,SNR=10
MKAR ScP **ScP 06 55 59.5 -3.5**
comp=E,0.2nm,0.6s,baz=274,slow=4.2,SNR=2.7
FINES FINESS Array B 32.01 341 P **P 06 49 35.5 -0.7**
comp=E,2.6nm,0.8s,baz=145,slow=11,SNR=6.7
ZALV Zalesovo Beam 33.97 40 P **P 06 49 52.7 -0.7**
comp=E,0.9nm,0.3s,baz=249,slow=7.3,SNR=4.3
ARCES ARCESS Array B 38.97 348 P **P 06 50 35.2 -0.7**
comp=E,1.7nm,0.7s,baz=162,slow=9.4,SNR=9.4
TORD Torodi Ar. Bea 46.01 256 P **P 06 51 34.1 +0.2**
comp=E,0.5nm,0.8s,baz=67,slow=6.2,SNR=4.7
SONM Songino Array 46.37 53 P **P 06 51 36.6 +0.2**
comp=E,0.5nm,0.6s,baz=270,slow=5.8,SNR=3.9

IDC 20 06:44:32.1±7.6, 4°.86S×153°.88E, h97km±55km, mb3.3/2, mb1 3.6/2, mb1mx3.0/35, mbtmp3.6/2, Error ellipse: s-maj=70.8km s-min=46.6km az=98.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.93**	**286**	P		Pn	Pn	06 45 04.5	+0.7
	13nm,0.3s,baz=77,slow=0.6,SNR=2.8								
KRVT				S		Sn	Sn	06 45 28.1	+0.3
	16nm,0.3s,baz=150,slow=20,SNR=8.0								
WRA	**Warramunga Arr**	**24.22**	**230**	P		P	P	06 49 40.4	+0.4
	1.1nm,0.6s,baz=58,slow=9.3,SNR=16								
ASAR	**Alice Springs**	**26.84**	**224**	P		P	P	06 50 03.5	-0.2
	0.4nm,0.4s,baz=58,slow=8.3,SNR=7.4								
TORD	**Torodi Ar. Bea**	**151.35**	**289**	PKPbc		PKPbc	PKPbc	07 04 15.2	-0.5
	0.3nm,0.6s,baz=70,slow=1.7,SNR=2.4								

DDA ***20*** *06:52:21.9, 35°.96N×28°.65E, h8km±7km, ML1.7*
ISK ***20*** *06:52:22.4, 35°.97N×28°.68E, h20km, ML2.3/8*
NIC ***20*** *06:52:23.4±0.0, 35°.75N×28°.81E, h30km±2km, Ml3.0/2*
ISC 20 06:52:21.9±1.2, 35°.90N±0°.03×28°.71E±0°.03, h28km±13km, n24, σ0°81/41, 2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.75**	**70**	P		**Pn**	**Pn**	**06 52 37.7**	**+1.0**
KSL				S		**Sn**	**Sn**	**06 52 48.9**	**+1.8**
FETY	**Fethiye**	**0.79**	**22**	PG		**Pn**	**Pn**	**06 52 37.5**	**+0.2**
FETY				SG		**Sn**	**Sn**	**06 52 48.5**	**+0.3**
FETY	**Fethiye**	**0.79**	**22**	*i* P		**Pb**	**Pb**	**06 52 37.0**	**-0.2**
FETY				IAML				06 52 48.0	
	comp=N,59nm,0.3s								
FETY				*i* S		**Sn**	**Sn**	**06 52 48.2**	**0.0**
FETY				IAML				06 52 49.0	
	comp=E,35nm,0.4s								
AKAS	**Kas**	**0.80**	**65**	PG		**Pn**	**Pn**	**06 52 38.3**	**+0.9**
AKAS				SG		**Sn**	**Sn**	**06 52 49.7**	**+1.3**
AKAS	**Kas**	**0.80**	**65**	*i* P		**Pn**	**Pn**	**06 52 38.3**	**+0.9**
AKAS				*i* S		**Sn**	**Sn**	**06 52 49.1**	**+0.7**
AKAS				IAML				06 52 51.0	
	comp=E,35nm,0.4s								
AKAS				IAML				06 52 52.0	
	comp=N,41nm,0.4s								
DALY	**Dalyan (Mula)**	**0.91**	**357**	PG		**Pn**	**Pn**	**06 52 39.2**	**+0.3**
DALY				SG		**Sn**	**Sn**	**06 52 51.4**	**+0.3**
DALY	**Dalyan (Mula)**	**0.91**	**357**	*i* P		**Pn**	**Pn**	**06 52 39.0**	**+0.1**
DALY				*i* S		**Sb**	**Sb**	**06 52 50.3**	**-0.7**
DALY				IAML				06 52 51.0	
	comp=N,29nm,0.2s								
DALY				IAML				06 52 51.0	
	comp=E,26nm,0.7s								
TURN	**Turunc**	**0.95**	**337**	PG		**Pn**	**Pn**	**06 52 40.3**	**+0.6**
TURN				SG		**Sn**	**Sn**	**06 52 52.6**	**0.0**
TURN	**Turunc**	**0.95**	**337**	*i* P		**Pn**	**Pn**	**06 52 40.0**	**+0.3**
TURN				*i* S		**Sb**	**Sb**	**06 52 52.1**	**-0.5**
TURN				IAML				06 52 53.0	
	comp=E,25nm,0.2s								
TURN				IAML				06 52 54.0	
	comp=N,23nm,0.2s								
DAT	**Datca**	**1.23**	**312**	PN		**Pb**	**Pb**	**06 52 44.1**	**-0.5**
DAT	**Datca**	**1.23**	**312**	*i* P		**Pb**	**Pb**	**06 52 44.3**	**-0.3**
DAT				*i* S		**Sb**	**Sb**	**06 52 59.2**	**-1.0**
DAT				IAML				06 53 01.0	
	comp=N,14nm,0.4s								
DAT				IAML				06 53 02.0	
	comp=E,13nm,1.1s								
YER	**Yerkesik**	**1.28**	**344**	PN		**Pb**	**Pb**	**06 52 44.8**	**-0.6**
ELL	**Elmali**	**1.28**	**49**	PN		**Pb**	**Pb**	**06 52 45.5**	**0.0**
ELL	**Elmali**	**1.28**	**49**	P		**Pb**	**Pb**	**06 52 45.5**	**0.0**
ELL				S		**Sb**	**Sb**	**06 53 03.2**	**+1.5**
KARP	**Karpathos**	**1.31**	**255**	PN		**Pb**	**Pb**	**06 52 46.3**	**+0.4**
KARP	**Karpathos**	**1.31**	**255**	P		**Pb**	**Pb**	**06 52 46.3**	**+0.4**
KARP				S		**Sb**	**Sb**	**06 53 03.7**	**+1.4**
AKUM	**Antalya-Kumluc**	**1.39**	**72**	*i* P		**Pn**	**Pn**	**06 52 44.9**	**-0.5**
AKUM				*i* S		**Sn**	**Sn**	**06 53 01.8**	**-1.0**
AKUM				IAML				06 53 05.0	
	comp=E,22nm,0.6s								
AKUM				IAML				06 53 09.0	
	comp=N,8.7nm,0.2s								
GOLH	**Golhisar**	**1.50**	**27**	*i* P		**Pb**	**Pb**	**06 52 48.2**	**-0.9**
GOLH				*i* S		**Sn**	**Sn**	**06 53 05.9**	**+0.2**
GOLH				IAML				06 53 07.0	
	comp=E,19nm,0.9s								
GOLH				IAML				06 53 09.0	
	comp=N,18nm,0.4s								
TAVA	**DENIZLI_Tavas**	**1.57**	**6**	*i* P		**Pn**	**Pn**	**06 52 48.4**	**+0.3**
TAVA				*i* S		**Sn**	**Sn**	**06 53 06.8**	**-0.6**
TAVA				IAML				06 53 08.0	
	comp=E,6.3nm,0.2s								
TAVA				IAML				06 53 09.0	
	comp=N,8.7nm,0.9s								
AKMS	**Akamas**	**3.09**	**106**	⇓P		**Pn**	**Pn**	**06 53 08.8**	**0.0**
AKMS				S		**Sn**	**Sn**	**06 53 44.5**	**-0.3**
AKMS				AML	AML			06 53 45.2	
	comp=N,0.2nm,0.7s								
AKMS				AML	AML			06 53 45.2	
	comp=N,0.2nm,0.7s								
AKMS				AML	AML			06 53 47.5	
	comp=N,0.1nm,0.7s								
AKMS				AML	AML			06 53 47.5	
	comp=N,0.1nm,0.7s								
OSC1	**CSNet OBS 1**	**3.20**	**138**	S		**Sn**	**Sn**	**06 53 45.3**	**-2.1**
ALFC	**Alefka**	**3.26**	**102**	⇓P		**Pn**	**Pn**	**06 53 10.9**	**-0.3**
ALFC				S		**Sn**	**Sn**	**06 53 48.0**	**-1.1**
ALFC				AML	AML			06 53 48.4	
	comp=N,0.1nm,0.3s								
ALFC				AML	AML			06 53 48.4	
	comp=N,0.1nm,0.3s								
ALFC				AML	AML			06 53 48.7	
	comp=N,0.1nm,0.2s								
ALFC				AML	AML			06 53 48.7	
	comp=N,0.1nm,0.2s								
SZAC	**Souni**	**3.60**	**107**	P		**Pn**	**Pn**	**06 53 16.0**	**+0.1**
OSC2	**CSNet OBS 4**	**4.07**	**133**	S		**Sn**	**Sn**	**06 54 08.2**	**-0.8**

IDC 20 06:57:12.8±3.0, 54°.14N×87°.32E, h0km, mb1 3.0/2, mb1mx2.9/57, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=25.8km s-min=18.4km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**264**	*i*				07 06 20.0	
	baz=78,slow=314,SNR=3.8								
ZALV	**Zalesovo Beam**	**1.49**	**264**	Pg		Pn	Pn	06 57 39.3	-1.5
	3.5nm,0.3s,baz=84,slow=16,SNR=19								
ZALV				Lg		Lg	Lg	06 58 00.9	
	2.2nm,0.3s,baz=84,slow=28,SNR=6.1								
KURBB	**Kurchatov Arra**	**6.43**	**240**	Pn		Pn	Pn	06 58 49.7	+1.0
	0.1nm,0.3s,baz=57,slow=14,SNR=7.8								
KURBB				Sn		Sn	Sn	07 00 00.8	-1.9
	0.0nm,0.3s,baz=58,slow=28,SNR=1.9								
KURBB				Lg		Lg	Lg	07 00 30.7	
	0.1nm,0.3s,baz=56,slow=31,SNR=4.2								
MKAR	**Makanchi Array**	**8.02**	**206**	Pn		Pn	Pn	06 59 11.8	+1.2
	0.1nm,0.3s,baz=24,slow=12,SNR=4.3								
MKAR				Lg		Lg	Lg	07 01 26.8	
	0.1nm,0.3s,baz=28,slow=32,SNR=3.2								

IDC 20 06:57:34.7±7.9, 14°.20S×66°.99E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/50, mbtmp3.4/2, MS3.4/8, Ms1 3.4/8, ms1mx3.1/21, Error ellipse: s-maj=587.5km
s-min=51.0km az=34.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**8.45**	**40**	T		T	T	07 09 09.9	
	baz=219,slow=75,SNR=302								
H08S2	**Diego Garcia H**	**8.46**	**40**	T		T	T	07 09 08.7	
	baz=219,slow=75,SNR=398								
H08S3	**Diego Garcia H**	**8.47**	**40**	T		T	T	07 09 11.4	
	baz=219,slow=75,SNR=318								
PALK	**Palkekele**	**25.30**	**33**	LR		LR	LR	07 11 22.2	
	comp=Z,110nm,18.8s,baz=314,slow=33								
PSI	**Prapat**	**35.88**	**64**	LR		LR	LR	07 16 33.0	
	comp=Z,103nm,19.6s,baz=91,slow=32								
WSAR	**Wadi Sarin**	**38.09**	**347**	LR		LR	LR	07 17 50.4	
	comp=Z,35nm,18.7s,baz=125,slow=32								
BOSA	**Boshof**	**41.20**	**243**	LR		LR	LR	07 18 08.5	
	comp=Z,40nm,21.1s,baz=97,slow=30								
CMAR	**Chiang Mai Arr**	**45.22**	**45**	LR		LR	LR	07 22 08.1	
	comp=Z,43nm,19.3s,baz=186,slow=33								
H01W3	**Cape Leeuwin H**	**47.08**	**125**	T		T	T	07 56 28.3	
	baz=282,slow=75,SNR=25								
H01W2	**Cape Leeuwin H**	**47.08**	**125**	T		T	T	07 56 28.4	
	baz=282,slow=75,SNR=43								
H01W1	**Cape Leeuwin H**	**47.09**	**125**	T		T	T	07 56 29.5	
	baz=282,slow=75,SNR=32								
MAW	**Mawson**	**53.43**	**182**	LR		LR	LR	07 24 39.4	
	comp=Z,37nm,18.3s,baz=64,slow=30								
BRTR	**Keskin Array B**	**61.99**	**331**	LR		LR	LR	07 32 15.3	
	comp=Z,17nm,20.6s,baz=160,slow=34								
ASAR	**Alice Springs**	**63.52**	**110**	P		P	P	07 08 06.5	-0.9
	0.2nm,0.6s,baz=270,slow=5.5,SNR=4.7								
WRA	**Warramunga Arr**	**64.28**	**105**	P		P	P	07 08 13.3	+0.9
	0.5nm,0.9s,baz=270,slow=6.3,SNR=4.8								
KSRS	**Korea Array**	**76.86**	**46**	LR		LR	LR	07 45 44.3	
	comp=Z,15nm,18.1s,baz=230,slow=38								
PDAR	**Pinedale Array**	**151.38**	**355**	PKPbc		PKPbc	PKPbc	07 17 30.9	-0.2
	0.4nm,0.5s,baz=77,slow=4.0,SNR=6.9								

SOME ***20*** *07:14:29.5, 39°.60N×73°.78E, h0km*
KRNET ***20*** *07:14:30.0±0.1, 39°.49N×73°.75E, mb3.3*
NNC ***20*** *07:14:32.5±3.9, 39°.70N×73°.54E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=28.2km s-min=13.6km az=173.0*
ISC 20 07:14:33.4±1.3, 39°.61N±0°.06×73°.63E±0°.03, h10km, n37, σ2°14/64, 18C-20D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.12**	**325**	⇓*e*P		**Pg**	**Pg**	**07 14 54.1**	**-0.9**
	baz=25								
OHH				⇓*i*S		**Sn**	**Sn**	**07 15 12.1**	**+1.3**
	baz=25								
BTK	**Batken**	**2.21**	**283**	⇓*i*P		**Pb**	**Pb**	**07 15 12.1**	**-1.4**
	baz=85								
BTK				⇓*i*S		**Sb**	**Sb**	**07 15 42.2**	**+1.3**
	baz=85								
ARLS	**Aral**	**2.31**	**13**	⇑*i*P		**Pn**	**Pn**	**07 15 13.0**	**+1.3**
	baz=10.0								
ARLS				⇑*i*S		**Sb**	**Sb**	**07 15 44.2**	**+0.2**
	baz=10.0								
AML	**Almayashu**	**2.52**	**1**	⇑*i*P		**Pn**	**Pn**	**07 15 16.4**	**+1.6**
	baz=59								
AML				⇑*i*S		**Sb**	**Sb**	**07 15 49.6**	**-0.7**
	baz=59								
ARK	**Arkit**	**2.53**	**331**	⇑*i*P		**Pb**	**Pb**	**07 15 16.8**	**-2.1**
	baz=30								
ARK				⇑*i*S		**Sb**	**Sb**	**07 15 50.2**	**+0.1**
	baz=30								
GAR	**Garm**	**2.64**	**258**	⇑*e*P		**Pn**	**Pn**	**07 15 17.5**	**+1.3**
	baz=61								
GAR				⇑*i*S		**Sb**	**Sb**	**07 15 51.7**	**-1.6**
	baz=61								
UCH	**Uchtor**	**2.70**	**14**	⇓*i*P		**Pn**	**Pn**	**07 15 18.6**	**+1.3**
	baz=12								
UCH				⇓*i*S		**Sb**	**Sb**	**07 15 53.9**	**-1.6**
	baz=12								
KZA	**Kyzart**	**2.76**	**26**	⇓*i*P		**Pn**	**Pn**	**07 15 18.9**	**+0.8**
	baz=23								
KZA				⇓*i*S		**Sn**	**Sn**	**07 15 54.5**	**+2.9**
	baz=23								
EKS2	**Erkin-Say**	**3.05**	**2**	⇓*i*P		**Pn**	**Pn**	**07 15 23.5**	**+1.6**
	baz=0.0								
EKS2				⇓*i*S		**Sb**	**Sb**	**07 16 02.1**	**-3.2**
	baz=0.0								
AAK	**Ala-Archa**	**3.10**	**12**	⇑*i*P		**Pn**	**Pn**	**07 15 24.1**	**+1.6**
	baz=10.0								
AAK				⇑*i*S		**Sn**	**Sn**	**07 16 02.9**	**+3.2**
	baz=10.0								
AAK	**Ala-Archa**	**3.10**	**12**	⇑Pg		**Pb**	**Pb**	**07 15 28.7**	**0.0**
	4.4nm,0.4s								
AAK				⇑Lg		Lg	Lg	07 16 07.2	
	24nm,0.6s								
MRKS	**Merke**	**3.15**	**355**	*e*P		**Pn**	**Pn**	**07 15 25.8**	**+2.6**
	3.7nm,0.2s								
MRKS				*e*S		**Sb**	**Sb**	**07 16 06.7**	**-1.3**
	33nm,0.5s								
MRKS	**Merke**	**3.15**	**355**	Pg		**Pn**	**Pn**	**07 15 25.3**	**+2.2**
	7.4nm,0.3s								
MRKS				Lg		Lg	Lg	07 16 05.8	
	33nm,0.5s								
KBK	**Karagaybulak**	**3.21**	**18**	⇓*e*P		**Pn**	**Pn**	**07 15 25.3**	**+1.3**
	baz=16								
KBK				⇓*i*S		**Sn**	**Sn**	**07 16 05.5**	**+3.1**
	baz=16								
FRU1	**Bishkek**	**3.29**	**13**	⇑*i*P		**Pn**	**Pn**	**07 15 26.3**	**+1.3**
	baz=11								
FRU1				⇑*i*S		**Sn**	**Sn**	**07 16 07.1**	**+2.9**
	baz=11								
ULHL	**Ulahol**	**3.30**	**36**	⇓*i*P		**Pn**	**Pn**	**07 15 26.2**	**+0.9**
	baz=34								
ULHL				⇓*i*S		**Sn**	**Sn**	**07 16 06.8**	**+2.1**
	baz=34								
CHMS	**Chumysh**	**3.49**	**14**	⇓*e*P		**Pn**	**Pn**	**07 15 29.1**	**+1.3**
	baz=12								
CHMS				⇓*i*S		**Sn**	**Sn**	**07 16 12.2**	**+3.0**
	baz=12								
TKM2	**Tokmak 2**	**3.63**	**24**	⇑Pg		**Pb**	**Pb**	**07 15 38.8**	**+1.0**
TKM2				⇓Lg		Lg	Lg	07 16 25.4	
	6.1nm,0.5s								
KDJ	**Kajisay**	**3.69**	**46**	⇓*i*P		**Pn**	**Pn**	**07 15 31.3**	**+0.6**
	baz=44								
KDJ				⇓*i*S		**Sn**	**Sn**	**07 16 15.5**	**+1.2**
	baz=44								
IUG	**Iuzhnay**	**3.72**	**314**	*e*P		**Pb**	**Pb**	**07 15 39.3**	**0.0**
	9.6nm,0.3s								
IUG				*e*S		**Sg**	**Sg**	**07 16 30.7**	**-2.2**
	30nm,0.6s								
IUG	**Iuzhnay**	**3.72**	**314**	Pg		**Pn**	**Pn**	**07 15 34.0**	**+2.9**
	13nm,0.2s								
IUG				Lg		Lg	Lg	07 16 20.9	
	46nm,0.6s								
KST	**Kastek**	**3.86**	**26**	*e*P		**Pb**	**Pb**	**07 15 41.6**	**0.0**
	5.1nm,0.4s								
KST				*e*S		**Sg**	**Sg**	**07 16 33.5**	**-3.8**
	12nm,0.4s								
KST	**Kastek**	**3.86**	**26**	Pg		**Pb**	**Pb**	**07 15 41.6**	**0.0**
	5.1nm,0.4s								
KST				Lg		Lg	Lg	07 16 33.4	
	12nm,0.4s								
DGS	**Degeres**	**3.97**	**23**	*e*P		**Pb**	**Pb**	**07 15 44.7**	**+1.1**
	4.4nm,0.4s								
DGS				*e*S		**Sg**	**Sg**	**07 16 39.3**	**-1.7**
	17nm,0.5s								
DGS	**Degeres**	**3.97**	**23**	Pg		**Pb**	**Pb**	**07 15 44.7**	**+1.1**
	4.4nm,0.4s								
DGS				Lg		Lg	Lg	07 16 39.3	
	17nm,0.5s								
KK31	**Karatay Array**	**4.21**	**327**	Pn		Pn	Pn	07 15 40.5	+2.9
	0.4nm,0.2s,baz=133,slow=12,SNR=9.9								
KK31				Pg		Pg	Pb	07 15 50.0	+2.6
	1.4nm,0.3s,baz=147,slow=15,SNR=11								
KK31				⇑Sn		Sn	Sn	07 16 29.5	+2.7
	2.6nm,0.3s								
KK31				⇓Lg		Lg	Lg	07 16 47.6	
	6.6nm,0.5s,baz=134,slow=30,SNR=5.9								
TNSS	**Tian-Shan**	**4.24**	**35**	*e*P		**Pb**	**Pb**	**07 15 49.2**	**+0.9**
	8.2nm,0.5s								
TNSS				*e*S		**Sg**	**Sg**	**07 16 46.4**	**-3.2**
	14nm,0.7s								
TNSS	**Tian-Shan**	**4.24**	**35**	Pg		**Pb**	**Pb**	**07 15 49.2**	**+0.9**
	8.2nm,0.5s								
TNSS				Lg		Lg	Lg	07 16 46.4	
	14nm,0.7s								
MDOK	**Medeo**	**4.39**	**35**	*e*P		**Pb**	**Pb**	**07 15 51.4**	**+0.7**
	2.9nm,0.3s								
MDOK				*e*S		**Sg**	**Sg**	**07 16 50.6**	**-3.7**
	8.0nm,0.5s								
MDOK	**Medeo**	**4.39**	**35**	Pg		**Pb**	**Pb**	**07 15 51.3**	**+0.7**
	3.6nm,0.4s								
MDOK				Lg		Lg	Lg	07 16 50.6	
	7.9nm,0.6s								
ANVS	**Anan'yevo**	**4.40**	**43**	⇑*i*P		**Pn**	**Pn**	**07 15 41.5**	**+1.1**
	baz=41								
ANVS				⇑*i*S		**Sn**	**Sn**	**07 16 33.0**	**+1.2**
	baz=41								
BRLS	**Borolday**	**4.45**	**321**	*e*P		**Pb**	**Pb**	**07 15 52.7**	**+1.0**
	10nm,0.3s								
BRLS				*e*S		**Sg**	**Sg**	**07 16 51.8**	**-4.6**
	12nm,0.5s								
BRLS	**Borolday**	**4.45**	**321**	Pg		**Pb**	**Pb**	**07 15 48.3**	**-3.4**
	4.6nm,0.3s								
BRLS				Lg		Lg	Lg	07 16 46.8	
	14nm,0.7s								
KOTS	**Kotyrbulak**	**4.47**	**35**	*e*P		**Pb**	**Pb**	**07 15 52.4**	**+0.3**
	14nm,0.6s								
KOTS				*e*S		**Sg**	**Sg**	**07 16 51.9**	**-5.1**
	29nm,0.5s								
KOTS	**Kotyrbulak**	**4.47**	**35**	Pg		**Pb**	**Pb**	**07 15 52.4**	**+0.3**
	14nm,0.6s								
KOTS				Lg		Lg	Lg	07 16 51.9	
	29nm,0.5s								
BTLS	**Baital**	**5.44**	**3**	*e*P		**Pb**	**Pb**	**07 16 11.1**	**+2.6**
	1.5nm,0.5s								
BTLS				*e*S		**Sg**	**Sg**	**07 17 24.8**	**-3.2**
	5.6nm,0.8s								
BTLS	**Baital**	**5.44**	**3**	Pg		**Pb**	**Pb**	**07 16 11.0**	**+2.6**
	1.5nm,0.5s								
BTLS				Lg		Lg	Lg	07 17 24.8	
	5.6nm,0.8s								

JMA ***20*** *07:24:36.2±0.2, 38°.60N×143°.85E, h44km, M3.3*
IDC ***20*** *07:24:42.5±3.1, 38°.97N×142°.88E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/33, mbtmp3.5/3, ML2.7/1, Error ellipse: s-maj=70.8km s-min=40.4km az=62.0*
ISC 20 07:24:35.2±1.9, 38°.65N±0°.07×143°.9E±0°.1, h14km, n17, σ1°47/24, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.79**	**285**	P		**Pn**	**Pn**	**07 25 05.3**	**-0.3**
OFUJ				*e*S		**Sn**	**Sn**	**07 25 26.6**	**-1.5**
MIYJ	**Miyakonagasawa**	**1.86**	**301**	P		**Pn**	**Pn**	**07 25 06.3**	**-0.3**
MIYJ				*e*S		**Sn**	**Sn**	**07 25 29.3**	**-0.5**
JKMT	**Kesennumamotoy**	**1.90**	**276**	P		**Pn**	**Pn**	**07 25 06.7**	**-0.4**
JIKH	**Ishinomakikobu**	**1.93**	**261**	P		**Pn**	**Pn**	**07 25 06.9**	**-0.7**
JIKH				*e*S		**Sn**	**Sn**	**07 25 29.6**	**-2.0**
JMK	**Ichinoseki**	**2.11**	**279**	P		**Pn**	**Pn**	**07 25 09.9**	**-0.1**
JOM	**Ohasama**	**2.18**	**293**	P		**Pn**	**Pn**	**07 25 11.2**	**+0.2**
JOM				*e*S		**Sn**	**Sn**	**07 25 37.5**	**-0.4**
JANG	**Nango**	**2.52**	**314**	P		**Pn**	**Pn**	**07 25 15.6**	**-0.1**
JYK	**Kaneyama**	**2.77**	**277**	P		**Pn**	**Pn**	**07 25 19.4**	**+1.2**
JFT	**Otama**	**3.02**	**249**	P		**Pn**	**Pn**	**07 25 22.9**	**+0.3**
JFT				*e*S		**Sn**	**Sn**	**07 25 57.1**	**-1.5**
JNBK	**Urakawa-nobuka**	**3.73**	**347**	P		**Pn**	**Pn**	**07 25 32.4**	**+0.1**
JNBK				*e*S		**Sn**	**Sn**	**07 26 15.3**	**-0.7**
JKB	**Kayabe**	**3.90**	**327**	*e*S		**Sn**	**Sn**	**07 26 18.4**	**-1.9**
JCH	**Churui**	**3.98**	**354**	P		**Pn**	**Pn**	**07 25 35.0**	**-0.8**
JCH				*e*S		**Sn**	**Sn**	**07 26 18.9**	**-3.3**
JAG	**Ashikaga**	**4.17**	**239**	P		**Pn**	**Pn**	**07 25 37.7**	**-0.6**
JRY	**Ryogami san**	**4.76**	**238**	P		**Pn**	**Pn**	**07 25 46.1**	**-0.5**
JRY				*e*S		**Sn**	**Sn**	**07 26 38.5**	**-3.1**
MJAR	**Matsushiro Arr**	**4.98**	**247**	Pn		**Pn**	**Pn**	**07 25 50.5**	**+1.0**
	0.4nm,0.3s,baz=54,slow=10,SNR=8.3								
MKAR	**Makanchi Array**	**44.94**	**301**	P		**P**		**07 32 52.3**	**+2.7**
	0.2nm,0.5s,baz=75,slow=7.6,SNR=1.9								
WRA	**Warramunga Arr**	**58.97**	**190**	P		P		07 34 45.0	+11
	0.8nm,0.6s,baz=8.3,slow=7.0,SNR=8.1								

TIR ***20*** *07:38:21.6, 41°.15N×19°.94E, h23km, Md2.7/4*
PDG ***20*** *07:38:23.9±0.1, 41°.27N×19°.89E, h5km, ML2.6/10, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0*
SKO ***20*** *07:38:23.9, 41°.22N×20°.01E, h1km*
BEO ***20*** *07:38:24.4±0.7, 41°.12N×19°.95E, h0km, ML2.4/9*
ISC 20 07:38:22.6±1.2, 41°.15N±0°.03×19°.95E±0°.02, h4km±9km, n41, σ1°35/77, 5C-3D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.21**	**342**	*i* PG		**Pg**	**Pg**	**07 38 27.1**	**+0.3**
TIR				*i* SG		**Sg**	**Sg**	**07 38 30.2**	**+0.7**
TIR	**Tirane**	**0.21**	**342**	*e*Pg		**Pg**	**Pg**	**07 38 27.5**	**+0.8**
TIR				*e*Sg		**Sg**	**Sg**	**07 38 31.3**	**+1.8**
OHR	**Ohrid**	**0.64**	**93**	*i* Pg		**Pg**	**Pg**	**07 38 34.5**	**-0.4**
OHR				*i* Sg		**Sg**	**Sg**	**07 38 43.6**	**+0.5**
OHR				*e*Lg		Lg	L

ZIRJ				Sn	**Sn**	**07 40 15.1**	**+1.8**
MORI	**Morici**	**4.15**	**312**	*e*Pn	**Pn**	**07 39 27.1**	**+0.4**
MORI				Sn	**Sn**	**07 40 17.7**	**+2.1**
DUGI	**Dugi Otok**	**4.60**	**310**	*i* Pn	**Pn**	**07 39 32.7**	**-0.1**
DUGI				Sn	**Sn**	**07 40 27.1**	**+0.5**

IDC ***20*** *07:46:40.4±2.7,5.°30S×146.°43E, h116km±23km, mb3.8/4, mb1 3.9/8, mb1mx3.5/35, mbtmp4.1/8, MS3.3/1, Ms1 3.3/1, ms1mx2.4/31, Error ellipse: s-maj=31.4km s-min=18.9km az=66.0*

NEIC ***20*** *07:46:41.3±1.2,5.°30S±0.°09×146.°4E±0.°1, h126km±11km, mb4.3/10, Error ellipse: s-maj=21.7km s-min=12.3km az=79.0*

ISC 20 07:46:40.9±1.4,**5.°3S**±0.°1×**146.°4E**±0.°2, **h123km**, **n22**, σ0**°77**/21, **mb4.2/6**, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.15**	**170**	P	**Pn**	**07 47 43.0**		**+0.5**
	3.1nm,0.3s,baz=33,slow=10,SNR=2.2							
PMG				S	**Sn**	**07 48 29.3**		**-1.0**
	22nm,0.3s,baz=345,slow=20,SNR=23							
PMG	**Port Moresby**	**4.15**	**170**		**Sn**	**07 48 29.0**		**-1.2**
JAY	**Jayapura**	**6.35**	**296**	P	**Pn**	**07 48 11.8**		**-0.3**
	2.6nm,0.3s,baz=159,slow=7.2,SNR=7.8							
COEN	**Coen**	**9.19**	**200**	Pn	**Pn**	**07 48 52.0**		**+1.5**
CTA	**Charters Tower**	**14.71**	**181**	P	**Pn**	**07 50 03.1**		**+0.2**
	baz=350,slow=13,SNR=1.1							
WB0	**Warramunga Arr**	**18.56**	**218**	P	**P**	**07 50 48.4**		**+0.1**
WB0				IAmb	IAmb	07 50 51.3		
	comp=Z,17nm,1.2s							
WR0	**Warramunga Arr**	**18.61**	**217**	P	**P**	**07 50 49.2**		**+0.3**
WR0				IAmb	IAmb	07 50 52.0		
	comp=Z,12nm,0.7s							
WRAB	**Tennant Creek**	**18.71**	**218**	P	**P**	**07 50 50.2**		**+0.2**
WRAB				IAmb	IAmb	07 50 52.3		
	comp=Z,15nm,1.1s							
WB2	**Warramunga Arr**	**18.72**	**218**	P	**P**	**07 50 50.2**		**+0.2**
WRA	**Warramunga Arr**	**18.72**	**218**	P	**P**	**07 50 50.2**		**+0.1**
	comp=Z,2.6nm,0.3s,baz=38,slow=11,SNR=136							
WRA	**Warramunga Arr**	**18.72**	**218**	P	**P**	**07 50 49.4**		**-0.8**
AS31	**Alice Springs**	**21.89**	**212**		**P**	**07 51 24.4**		**+0.1**
AS31				IAmb	IAmb	07 51 32.0		
	comp=Z,5.6nm,0.5s							
ASAR	**Alice Springs**	**21.90**	**212**	P	**P**	**07 51 24.4**		**+0.2**
	comp=Z,6.1nm,0.7s,baz=41,slow=8.7,SNR=76							
ASAR	**Alice Springs**	**21.90**	**212**		**P**	**07 51 23.4**		**-0.8**
FITZ	**Fitzroy Crossi**	**23.97**	**236**	P	**P**	**07 51 43.8**		**-0.4**
	comp=Z,16nm,0.5s,baz=49,slow=9.5,SNR=61							
FITZ	**Fitzroy Crossi**	**23.97**	**236**	P	**P**	**07 51 42.2**		**-1.9**
STKA	**Stephens Creek**	**26.83**	**189**	P	**P**	**07 52 10.3**		**+0.5**
	comp=Z,1.7nm,0.7s,baz=14,slow=8.1,SNR=4.0							
STKA	**Stephens Creek**	**26.83**	**189**	IAmb	IAmb	07 52 16.8		
	comp=Z,1.1nm,1.1s							
BBOO	**Buckleboo**	**29.04**	**198**	P	**P**	**07 52 29.3**		**-0.2**
BBOO				IAmb	IAmb	07 52 46.5		
	comp=Z,15nm,1.4s							
FORT	**Forrest**	**30.68**	**212**	P	**P**	**07 52 43.9**		**-0.1**
JHJ	**Hachijo jima 2**	**38.72**	**351**	LR	LR	08 09 42.2		
	comp=Z,42nm,18.6s,baz=94,slow=36							
ILAR	**Eielson Array**	**85.06**	**23**	P	**P**	**07 59 02.7**		**+0.2**
	comp=Z,0.2nm,0.6s,baz=262,slow=5.4,SNR=3.0							

DNK ***20*** *08:02:15.4±3.0,82.°42N×6.°79W, h71km±59km, ML2.9*
IEPN ***20*** *08:02:20.9,82.°34N×4.°53W, h15km*

ISC 20 08:02:11.1±1.5,**82.°4N**±0.°1×**5.°49W**±0.°07, **h10km**, **n23**, σ2°**68**/31, **1D**, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.77**	**247**	*i* P	**Pn**		**08 02 42.0**	**+0.3**
	120nm,0.5s							
NOR	**Nord**	**1.77**	**247**	*i* P	**Pn**		**08 02 42.0**	**+0.3**
NOR				IAmb	IAmb		08 02 51.2	
	comp=Z,121nm,0.5s							
NOR	**Nord**	**1.77**	**247**	*i* P	**Pn**		**08 02 42.0**	**+0.3**
NOR				IAmb	IAmb		08 02 51.2	
	comp=Z,121nm,0.5s							
KBS	**Kingsbay**	**4.49**	**132**	↓*i* P	**Pn**		**08 03 21.8**	**+2.7**
KBS				*e*S	**Sn**		**08 04 08.5**	**-2.7**
KBS	**Kingsbay**	**4.49**	**132**	*e*P	**Pn**		**08 03 22.1**	**+3.1**
KBS				*e*S	**Sn**		**08 04 08.5**	**-2.7**
KBS				IAML			08 04 13.3	
	comp=Z,6.5nm,0.2s							
KBS	**Kingsbay**	**4.49**	**132**	*i* P	**Pn**		**08 03 22.7**	**+3.6**
SPA0	**Spitsbergen Ar**	**5.59**	**128**	*e*P	**Pn**		**08 03 37.3**	**+3.2**
SPA0				*e*S	**Sn**		**08 04 35.3**	**-3.0**
SPA0	**Spitsbergen Ar**	**5.59**	**128**	*e*P	**Pn**		**08 03 37.3**	**+3.2**
SPA0				*e*S	**Sn**		**08 04 37.3**	**-1.0**
SPA0				IAML			08 04 37.6	
	comp=Z,4.0nm,0.7s							
DAG	**Danmarks Havn**	**6.14**	**209**	*i* P	**Pn**		**08 03 42.7**	**+1.1**
DAG				*i*			08 04 46.9	
DAG	**Danmarks Havn**	**6.14**	**209**	*i* P	**Pn**		**08 03 42.8**	**+1.1**
DAG				*i*			08 04 47.0	
DAG				IAML			08 04 55.0	
	comp=Z,7.6nm,0.3s							
DAG	**Danmarks Havn**	**6.14**	**209**	*i* P	**Pn**		**08 03 42.8**	**+1.1**
DAG				*i*			08 04 47.0	
DAG				IAML			08 04 55.0	
	comp=Z,7.6nm,0.3s							
HSPB	**Hornsund (broa**	**6.56**	**135**	*e*P	**Pn**		**08 03 50.5**	**+3.1**
HSPB				*e*S	**Sn**		**08 04 59.7**	**-2.3**
HSPB	**Hornsund (broa**	**6.56**	**135**	*e*P	**Pn**		**08 03 51.0**	**+3.6**
ZFI2	**Zemlya Franca-**	**7.67**	**75**	*e*P	**Pn**		**08 04 06.2**	**+3.6**
ZFI2				*e*S	**Sn**		**08 05 24.7**	**-4.5**
	comp=Z,18nm,0.4s							
HOPEN	**Hopen**	**7.99**	**121**	*e*P	**Pn**		**08 04 10.2**	**+3.2**
HOPEN				*e*S	**Sn**		**08 05 31.8**	**-5.5**
HOPEN	**Hopen**	**7.99**	**121**	*e*P	**Pn**		**08 04 11.2**	**+4.2**
DBG	**Daneborg**	**8.64**	**207**	*i* P	**Pn**		**08 04 16.1**	**+0.2**
DBG				*i*			08 05 43.5	
DBG				IAML			08 05 55.0	
	comp=Z,2.6nm,0.3s							
DBG	**Daneborg**	**8.64**	**207**	*i* P	**Pn**		**08 04 16.1**	**+0.2**
DBG				*i*			08 05 43.5	
DBG				IAML			08 05 55.0	
	comp=Z,2.6nm,0.3s							
SUMG	**Summit**	**11.87**	**233**	*i* P	**Pn**		**08 05 00.3**	**-0.1**
SUMG	**Summit**	**11.87**	**233**	*i* P	**Pn**		**08 04 59.7**	**-0.7**
SUMG				*i* P	**Pn**		**08 05 00.3**	**-0.1**
SUMG	**Summit**	**11.87**	**233**	*i* P	**Pn**		**08 04 59.7**	**-0.7**
SUMG				*i* P			08 05 00.3	
ICESG	**Greenland Ices**	**15.32**	**230**	*e*P	**Pn**		**08 05 46.3**	**-1.0**
ICESG	**Greenland Ices**	**15.32**	**230**	*e*P	**Pn**		**08 05 46.3**	**-1.0**

IDC ***20*** *08:04:57.7±0.9,27.°62N×92.°59E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/54, mbtmp3.6/8, MS3.2/4, Ms1 3.2/4, ms1mx2.7/42, Error ellipse: s-maj=43.6km s-min=19.0km az=55.0*

NDI ***20*** *08:04:59.9±2.1,27.°60N×92.°46E, h10km, ML4.1, mb4.1(NEIC)*

DMN ***20*** *08:05:02.1±0.6,27.°75N×92.°45E, h60km, Ml4.5/6, Error ellipse: s-maj=29.1km s-min=10.3km az=0.0*

NEIC ***20*** *08:05:03.1±1.3,27.°56N±0.°07×92.°6E±0.°2, h38km±9km, mb4.1/11, Error ellipse: s-maj=22.7km s-min=9.9km az=78.0*

ISC 20 08:04:58.7±1.5,**27.°56N**±0.°04×**92.°33E**±0.°03, **h7km**±10km, **n52**, σ2°**02**/61, **mb4.0**/10, **MS3.0**/4, **1C**, **Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TEZP	**TEZPUR**	**1.03**	**156**	*e*P	**Pb**		**08 05 18.8**	**0.0**
TEZP				*i* x	x		08 05 21.2	
TEZP				*e*S	**Sn**		**08 05 34.0**	**-0.1**
TEZP				IAML			08 05 39.1	
	comp=E,18μm,0.1s							
TEZP				IAML			08 05 39.2	
	comp=N,19μm,0.2s							
TEZP				⇑*ex*	x		08 17 29.9	
ITAN	**ITANAGAR**	**1.31**	**108**	*ex*	**Pn**		**08 05 23.4**	**0.0**
ZIRO	**ZIRO**	**1.35**	**91**	*e*P	**Pn**		**08 05 22.3**	**-1.8**
ZIRO				*e*S	**Sn**		**08 05 42.0**	**-0.4**
GUWA	**GUWAHATI**	**1.47**	**203**	*e*P	**Pg**		**08 05 26.9**	**0.0**
GUWA				*e*S	**Sg**		**08 05 48.2**	**+2.1**
GUWA				IAML			08 05 50.3	
	comp=E,1μm,0.2s							
GUWA				IAML			08 05 53.5	
	comp=N,812nm,0.2s							
JORH	**JORHAT**	**1.90**	**115**	*e*P	**Pn**		**08 05 28.1**	**-3.3**
JORH				*e*S	**Sg**		**08 05 60.0**	**+0.4**
JORH				*e*S	**Sg**		**08 06 00.1**	**+0.4**
JORH				IAML			08 06 01.4	
	comp=E,3μm,0.4s							
SHL	**Shillong**	**2.02**	**191**	*i* PN	**Pb**		**08 05 35.5**	**-0.4**
SHL				*i* SN	**Sg**		**08 06 03.5**	**-0.2**
SHL	**Shillong**	**2.02**	**191**		**Pb**		**08 05 35.1**	**-0.8**
LSA	**Lhasa**	**2.37**	**334**		**Pb**		**08 05 41.4**	**-0.6**
DHUB	**DHUBRI**	**2.59**	**234**	*e*P	**Pb**		**08 05 44.0**	**-1.4**
DHUB				*e*S	**Sb**		**08 06 15.8**	**-1.6**
DHUB				*e*S	**Sg**		**08 06 18.3**	**-3.5**
DHUB				IAML			08 06 21.1	
	comp=E,1μm,0.2s							
GTK	**Tadong**	**3.32**	**267**	*e*P	**Pn**		**08 05 53.3**	**+2.1**
GTK				*e*S	**Sn**		**08 06 33.9**	**+2.9**
TAPN	**Taplejung**	**4.11**	**268**	*e*Pn	**Pn**		**08 06 03.8**	**+1.6**
TAPN	**Taplejung**	**4.11**	**268**	*e*Pn	**Pn**		**08 06 04.4**	**+2.2**
TAPN				*e*Sn	**Sn**		**08 06 49.6**	**-1.1**
TAPN				*e*Sn	Sb		08 06 53.4	-8.1
	comp=E,90nm,0.3s							
ODAN	**Odare**	**4.45**	**262**	*e*Pn	**Pn**		**08 06 08.4**	**+1.6**
ODAN	**Odare**	**4.45**	**262**	*e*Pn	**Pn**		**08 06 08.4**	**+1.6**
ODAN				*e*Sn	**Sn**		**08 06 59.0**	**-0.1**
	comp=E,243nm,0.4s							
ODAN				*e*Sn	Sb		08 07 00.6	-11
	comp=E,243nm,0.4s							
RAMN	**Ramite**	**5.13**	**265**	*e*Pn	**Pn**		**08 06 17.6**	**+1.4**
RAMN	**Ramite**	**5.13**	**265**	*e*Pn	**Pn**		**08 06 17.6**	**+1.4**
RAMN				*e*Sn	**Sn**		**08 07 14.2**	**-1.7**
	comp=E,64nm,0.3s							
RAMN				*e*Sn	Sb		08 07 17.4	-14
	comp=E,64nm,0.3s							
JIRN	**Jiri**	**5.45**	**272**	*e*Pn	**Pn**		**08 06 22.2**	**+1.6**
JIRN	**Jiri**	**5.45**	**272**	*e*Pn	**Pn**		**08 06 22.3**	**+1.6**
JIRN				*e*Sn	**Sn**		**08 07 20.4**	**-3.4**
JIRN				*e*Sn	Sb		08 07 25.7	-14
	comp=E,127nm,0.2s							
GUN	**Gumba**	**5.73**	**275**	*e*Pn	**Pn**		**08 06 26.0**	**+1.6**
GUN	**Gumba**	**5.73**	**275**	*e*Pn	**Pn**		**08 06 26.1**	**+1.6**
PKI	**Pulchoki**	**6.14**	**272**	*e*Pn	**Pn**		**08 06 30.1**	**-0.1**
PKI	**Pulchoki**	**6.14**	**272**	*e*Pn	**Pn**		**08 06 31.3**	**+1.1**
PKI				*e*Sn	**Sn**		**08 07 36.3**	**-4.6**
	comp=E,80nm,0.5s							
KKN	**Kakani**	**6.25**	**274**	*e*Pn	**Pn**		**08 06 32.8**	**+1.2**
DMN	**Daman**	**6.41**	**272**	*e*Pn	**Pn**		**08 06 35.3**	**+1.5**
DMN	**Daman**	**6.41**	**272**	*e*Pn	**Pn**		**08 06 35.5**	**+1.7**
DMN				*e*Sn	**Sn**		**08 07 44.1**	**-3.3**
GKN	**Gorkha**	**6.83**	**275**	*e*Pn	**Pn**		**08 06 39.7**	**+0.3**
GKN	**Gorkha**	**6.83**	**275**	*e*Pn	**Pn**		**08 06 41.0**	**+1.6**
GKN				*e*Sn	**Sn**		**08 07 53.8**	**-3.7**
	comp=E,50nm,0.2s							
DANN	**Dangsing**	**7.62**	**278**	*e*Pn	**Pn**		**08 06 50.5**	**+0.1**
DANN	**Dangsing**	**7.62**	**278**	*e*Pn	**Pn**		**08 06 50.7**	**+0.3**
DANN				*e*Sn	**Sn**		**08 08 12.7**	**-4.5**
	comp=E,65nm,0.4s							
PYUN	**Piuthan**	**8.29**	**276**	*e*Sn	**Sn**		**08 08 28.1**	**-5.4**
	comp=E,111nm,0.4s							
MK31	**Makanchi Array**	**20.77**	**340**	P	Pn		08 09 41.8	-0.7
MKAR	**Makanchi Array**	**20.77**	**340**	P	**P**		**08 09 38.5**	**-1.6**
	comp=E,0.4nm,0.4s,baz=141,slow=12,SNR=5.1							
KBL	**Kabul**	**21.10**	**295**	P	**P**		**08 09 46.7**	**+2.6**
GAR	**Garm**	**21.60**	**307**	P	**P**		**08 09 52.0**	**+2.7**
GAR				IAmb	IAmb		08 09 54.6	
	comp=Z,5.9nm,0.5s							
BTK	**Batken**	**21.73**	**311**		**P**		**08 09 53.3**	**+2.7**
BTK				IAmb	IAmb		08 09 55.1	
	comp=Z,10nm,0.8s							
PALK	**Pallekele**	**22.99**	**211**	LR	LR		08 20 34.7	
	comp=Z,35nm,20.2s,baz=287,slow=40							
SONM	**Songino Arra**	**23.03**	**25**	P	**P**		**08 10 04.0**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=204,slow=10,SNR=1.7							
KURBB	**Kurchatov Arra**	**25.32**	**339**	P	**P**		**08 10 26.3**	**+0.5**
	comp=Z,0.8nm,0.2s,baz=145,slow=8.7,SNR=2.0							
KURK	**Kurchatov**	**25.37**	**339**	P	**P**		**08 10 26.3**	**0.0**
KURK	**Kurchatov**	**25.37**	**339**	IAmb	IAmb		08 10 44.5	
	comp=Z,2.0nm,0.7s							
PSI	**Prapat**	**25.41**	**164**	LR	LR		08 22 31.8	
	comp=Z,37nm,19.7s,baz=92,slow=41							
ABKAR	**Akbulak array**	**32.98**	**320**	P	**P**		**08 11 33.3**	**-0.8**
KAPI	**Kappang**	**41.83**	**137**	LR	LR		08 32 24.8	
	comp=Z,29nm,19.0s,baz=65,slow=40							
AKASG	**Malin Array Be**	**52.37**	**314**	P	**P**		**08 14 12.7**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=76,slow=6.5,SNR=4.7							
AKASG	**Malin Array Be**	**52.37**	**314**	IAmb	IAmb		08 14 14.4	
	comp=Z,1.4nm,1.2s							
WRA	**Warramunga Arr**	**62.32**	**135**	P	**P**		**08 15 21.4**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=321,slow=7.5,SNR=10.0							
WB2	**Warramunga Ar**	**62.33**	**135**	P	**P**		**08 15 20.7**	**-1.3**
GERES	**GERESS Array B**	**62.54**	**113**	P	**P**		**08 15 23.4**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=76,slow=8.3,SNR=2.4							
ASAR	**Alice Springs**	**64.83**	**138**	P	**P**		**08 15 37.6**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=321,slow=6.8,SNR=9.6							
TORD	**Torodi Ar. Bea**	**84.58**	**282**	P	**P**		**08 17 35.7**	**+2.4**
	comp=Z,0.3nm,0.9s,baz=44,slow=5.2,SNR=1.9							
TORD	**Torodi Ar. Bea**	**84.58**	**282**	IAmb	IAmb		08 17 39.8	
	comp=Z,1.0nm,1.2s							
BOSA	**Boshof**	**85.13**	**234**	LR	LR		08 53 18.3	
	comp=Z,27nm,18.2s,baz=91,slow=34							

IDC ***20*** *08:07:18.6±6.2,6.°89S×147.°80E, h93km±43km, mb3.5/3, mb1 3.5/5, mb1mx3.2/43, mbtmp3.7/5, MS3.7/1, Ms1 3.7/1, ms1mx2.4/28, Error ellipse: s-maj=59.1km s-min=50.1km az=83.0*

ISC 20 08:07:11.2±2.7,**6.°5S**±0.°2×**147.°9E**±0.°5, **h51km**, **n7**, σ0°**84**/7, **mb3.6**/3, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.00**	**193**	P	**Pn**		**08 07 57.3**	**+0.9**
	12nm,0.3s,baz=22,slow=10,SNR=12							
PMG				S	**Sn**		**08 08 31.0**	**-0.2**
	10.0nm,0.3s,baz=323,slow=21,SNR=3.6							
CTA	**Charters Tower**	**13.63**	**186**	LR	LR		08 15 32.7	
	comp=Z,289nm,19.1s,baz=140,slow=37							
WRA	**Warramunga Arr**	**18.76**	**223**	P	**P**		**08 11 25.5**	**-0.7**
	0.2nm,0.3s,baz=51,slow=10,SNR=13							
ASAR	**Alice Springs**	**21.74**	**217**	P	**P**		**08 11 58.5**	**-0.1**
	1.2nm,0.5s,baz=51,slow=9.5,SNR=27							
FITZ	**Fitzroy Crossi**	**24.56**	**240**	P	**P**		**08 12 27.0**	**+0.5**
	2.1nm,0.5s,baz=53,slow=8.2,SNR=18							
STKA	**Stephens Creek**	**25.95**	**192**	P	**P**		**08 12 37.9**	**-1.1**
	0.9nm,0.7s,baz=352,slow=8.2,SNR=3.0							
TORD	**Torodi Ar. Bea**	**146.03**	**284**	PKPbc	**PKiKP**		**08 26 50.1**	**+0.2**
	0.3nm,0.5s,baz=89,slow=2.9,SNR=2.3							

IDC ***20*** *08:11:25.6±2.1,9.°14S×153.°07E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/36, mbtmp3.8/6, MS3.2/4, Ms1 3.2/4, ms1mx2.7/35, Error ellipse: s-maj=76.9km s-min=24.1km az=118.0*

ISC 20 08:11:30.9±2.0,**9.°2S**±0.°3×**153.°0E**±0.°5, **h35km**, **n10**, σ0°**61**/7, **mb3.7**/6, **MS3.2**/3, **D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.18**	**136**	LR	LR		08 20 48.9	
	comp=Z,61nm,19.5s,baz=352,slow=31							
WRA	**Warramunga Arr**	**21.00**	**237**	P	**P**		**08 16 12.2**	**+0.7**
	1.0nm,0.6s,baz=62,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**23.29**	**229**	P	**P**		**08 16 36.0**	**+0.2**
	1.0nm,0.7s,baz=58,slow=10.0,SNR=14							
STKA	**Stephens Creek**	**24.97**	**204**	P	**P**		**08 16 51.4**	**+0.1**
	1.3nm,0.8s,baz=12,slow=14,SNR=2.4							
STKA				LR	LR		08 26 23.6	
	comp=Z,79nm,19.8s,baz=189,slow=36							
FITZ	**Fitzroy Crossi**	**28.03**	**249**	P	**P**		**08 17 18.4**	**-0.6**
	2.2nm,0.8s,baz=49,slow=11,SNR=2.0							
CMAR	**Chiang Mai Arr**	**60.01**	**297**	LR	LR		08 48 09.9	
	comp=Z,15nm,18.9s,baz=239,slow=37							
PETK	**Petropavlovsk-**	**62.16**	**3**	P	**P**		**08 21 48.7**	**+0.2**
	2.2nm,0.9s,baz=157,slow=7.8,SNR=5.1							
MKAR	**Makanchi Array**	**83.76**	**319**	P	**P**		**08 23 56.7**	**+0.2**
	0.6nm,0.8s,baz=101,slow=6.5,SNR=4.1							
YKA	**Yellowknife Ar**	**99.15**	**28**	LR	LR		09 04 57.3	
	comp=Z,12nm,20.7s,baz=0.0,slow=32							
TORD	**Torodi Ar. Bea**	**151.61**	**281**	PKPbc	**PKPbc**		**08 31 21.9**	**-0.7**
	0.5nm,0.8s,baz=58,slow=2.8,SNR=2.7							

IDC ***20*** *08:15:42.1±1.5,2.°49S×140.°13E, h0km, mb3.3/3,*

mb1 3.7/4, mb1mx3.5/26, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=30.1km s-min=9.7km az=174.0

DJA ***20*** *08:15:43.2±0.7,2.°S±5.°×140.°E±, h10km, M3.5/4, MLv3.5/4*

ISC 20 08:15:44.5±1.1,**2.°4S**±0.°1×**140.°27E**±0.°06, **h24km**, **n9**, σ0°**77**/11, **mb3.4**/3, **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.23**	**207**	P	**Pb**		**08 15 49.7**	**-0.7**
GENI				S	**Sb**		**08 15 54.6**	**+0.2**
JAY	**Jayapura**	**0.45**	**106**	Pg	**Pb**		**08 15 53.4**	**-0.5**
	221nm,0.3s,baz=257,slow=16,SNR=745							
JAY				LR	LR		08 15 56.1	
	comp=Z,37nm,19.7s,baz=226,slow=24							
JAY				Lg	Lg		08 16 01.1	
	478nm,0.3s,baz=126,slow=18,SNR=38							
JAY	**Jayapura**	**0.45**	**106**	P	**Pb**		**08 15 53.4**	**-0.5**
JAY				S	**Sb**		**08 16 00.7**	**+0.4**
SMPI	**Sarmi**	**1.61**	**284**	P	**Pn**		**08 16 11.1**	**-0.3**
WAMI	**Wamena**	**2.15**	**226**	P	**Pn**		**08 16 19.8**	**+0.9**
WRA	**Warramunga Arr**	**18.38**	**198**	P	**P**		**08 19 57.0**	**-0.9**
	0.2nm,0.3s,baz=18,slow=12,SNR=16							
FITZ	**Fitzroy Crossi**	**21.20**	**222**	P	**P**		**08 20 28.6**	**+0.1**
	1.0nm,0.6s,baz=40,slow=13,SNR=2.2							
ASAR	**Alice Springs**	**22.03**	**196**	P	**P**		**08 20 36.5**	**-1.0**
	1.6nm,0.7s,baz=31,slow=11,SNR=9.0							
MKAR	**Makanchi Array**	**70.49**	**322**	P	**P**		**08 26 58.2**	**+0.9**
	0.1nm,0.3s,baz=102,slow=6.6,SNR=1.7							

TEH ***20*** *08:21:30.6,32.°66N×47.°61E, h11km, ML2.9*
ISN ***20*** *08:21:31.4±0.8,32.°67N×47.°59E, h14km±5km, ML3.0*

ISC 20 08:21:31.5±1.2,**32.°65N**±0.°06×**47.°62E**±0.°06, **h10km**, **n12**, σ0°**98**/15, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.29**	**275**	*e*Pg	**Pg**		**08 21 36.5**	**-0.8**
IKFM	**Kafar-mosalman**	**0.89**	**12**	*e*Pg	**Pg**		**08 21 47.0**	**-1.6**
IKMR	**Kamar-syah**	**1.07**	**36**	*e*Pg	**Pg**		**08 21 51.6**	**-0.5**
IKMR				*e*			08 22 12.9	
IDOB	**Doab**	**1.22**	**22**	*e*Pg	**Pb**		**08 21 54.8**	**0.0**
IDOB				*e*			08 21 59.7	
BMDN	**Meydan**	**1.43**	**44**	*e*Pg	**Pn**		**08 21 58.1**	**+0.4**
BMDN				*e*			08 22 24.2	
IBDR	**Badra**	**1.50**	**288**	*e*Pg	**Pn**		**08 21 58.0**	**-0.4**
IBDR				*e*Sg	**Sn**		**08 22 18.0**	**0.0**
IBDR				AML	AML		08 22 24.1	
	comp=E,209nm,0.6s							
IBDR				AML	AML		08 22 24.2	
	comp=N,255nm,0.5s							
IKOM	**Komasi**	**1.52**	**356**	*e*Pg	**Pn**		**08 22 00.1**	**+1.2**
IKOM				*e*			08 22 01.1	
IVIS	**Veis**	**1.98**	**341**	*e*			08 22 13.4	
IVIS				*e*Pn	**Pn**		**08 22 07.1**	**+2.0**
NSR	**Nassriya**	**2.07**	**218**	*e*Pn	**Pn**		**08 22 07.0**	**+0.7**
NSR				*e*Sn	**Sn**		**08 22 32.0**	**-0.1**
IDHR	**Dehrash**	**2.29**	**334**	*e*Pn	**Pn**		**08 22 10.0**	**+0.5**
ILIN	**Lien**	**2.33**	**346**	*e*Pn	**Pn**		**08 22 10.2**	**+0.1**
ILIN				*e*			08 22 18.8	
BHD	**Baghdad**	**2.80**	**284**	*e*Pn	**Pn**		**08 22 17.0**	**+0.7**
BHD				*e*Sn	**Sn**		**08 22 51.0**	**+1.0**

IDC 20 08:37:22.1±6.7,**24.°82N×140.°71E, h61km**±51km, **mb3.1**/3, **mb1 3.4**/4, **mb1mx3.0**/31, **mbtmp3.4**/4, **ML3.2**/1, **Error ellipse: s-maj=229.0km s-min=23.7km az=110.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.63**	**30**	P	**Pn**		08 38 04.2	+2.0
	4.2nm,0.3s,baz=322,slow=22,SNR=2.3							
JCJ				S	Sn		08 38 33.2	+0.2
	12nm,0.3s,baz=279,slow=22,SNR=7.4							
H11S3	**WAKE ISLAND Hy**	**24.93**	**99**	T	T		09 08 01.6	
	baz=289,slow=74,SNR=3.7							
H11S1	**WAKE ISLAND Hy**	**24.93**	**99**	T	T		09 07 58.4	
	baz=289,slow=74,SNR=3.8							
H11S2	**WAKE ISLAND Hy**	**24.94**	**99**	T	T		09

OHAK					IAmb	IAmb	09 07 37.7	
	comp=Z,3.4nm,0.8s							
KDAK	**Kodiak Island**	**15.66**	**56**		Pn	Pn	09 07 36.5	-1.3
CNPM	**China Poot**	**16.81**	**51**			Pn	09 07 52.2	-0.3
CNPM					IAmb	IAmb	09 07 58.4	
	comp=Z,4.7nm,1.0s							
SKT	**Skwentna**	**17.59**	**43**	P	P	P	09 08 04.0	+1.3
SKT					IAmb	IAmb	09 08 06.5	
	comp=Z,2.5nm,0.7s							
TRF	**Thorofare Moun**	**18.77**	**39**	P	P	P	09 08 15.8	0.0
TRF					IAmb	IAmb	09 08 21.6	
	comp=Z,2.2nm,1.0s							
BPAW	**Bear Paw Mtn.**	**18.81**	**37**	P	P	P	09 08 16.2	0.0
IMAR	**Indian Mountai**	**18.94**	**30**	P	P	P	09 08 17.1	-0.4
MID	**Middleton Isla**	**19.21**	**53**	P	P	P	09 08 20.9	+0.5
MCK	**McKinley**	**19.43**	**39**	P	P	P	09 08 21.8	-1.1
MCK					IAmb	IAmb	09 08 24.6	
	comp=Z,2.8nm,0.6s							
CCB	**Clear Creek Bu**	**20.29**	**38**	P	P	P	09 08 31.1	-1.0
COLD	**Coldfoot**	**20.82**	**30**	P	P	P	09 08 38.7	+0.8
BCPM	**Bancas Point**	**22.65**	**53**	P	P	P	09 08 56.7	-0.9
BMAR	**Burnt Mountain**	**22.77**	**33**	P	P	P	09 08 58.0	-0.8
EGAK	**Eagle**	**22.97**	**40**	P	P	P	09 09 00.3	-0.5
EGAK					IAmb	IAmb	09 09 14.8	
	comp=Z,4.6nm,1.4s							

TEH ***20*** *09:25:25.5,32.69N×47.59E,h10km,ML2.8*
ISN ***20*** *09:25:25.4±0.8,32.67N×47.59E,h14km±5km,ML2.6*
ISC 20 09:25:25.7±1.2**,32.65N**±0.06×**47.61E**±0.06**,h10**km**,n12,**
σ1§04/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.28**	**277**	*e*Pg	**Pg**	**09 25 30.7**	**-0.6**
IKFM	**Kafar-mosalman**	**0.90**	**13**	*e*Pg	**Pg**	**09 25 41.5**	**-1.5**
IKMR	**Kamar-syah**	**1.08**	**37**	*e*Pg	**Pg**	**09 25 45.7**	**-0.8**
IKMR				*e*		09 26 06.3	
IDOB	**Doab**	**1.23**	**23**	*e*Pg	**Pb**	**09 25 48.3**	**-0.9**
IDOB				*e*		09 25 51.5	
BMDN	**Meydan**	**1.44**	**45**	*e*Pg	**Pn**	**09 25 53.5**	**+1.4**
BMDN				*e*		09 25 57.9	
IBDR	**Badra**	**1.48**	**289**	*e*Pg	**Pn**	**09 25 52.0**	**-0.4**
IBDR				*e*Sg	**Sn**	**09 26 12.0**	**+0.1**
IBDR				AML	AML	09 26 17.1	
	comp=N,97nm,0.7s						
IBDR				AML	AML	09 26 20.7	
	comp=E,84nm,0.6s						
IKOM	**Komasi**	**1.52**	**357**	*e*Pg	**Pn**	**09 25 53.9**	**+0.7**
IKOM				*e*		09 26 17.6	
IBZA	**Bozab**	**1.83**	**7**	*e*Pn	**Pb**	**09 25 59.5**	**+0.1**
IBZA				*e*		09 26 00.6	
IGHG	**Ghaleghazi**	**1.89**	**333**	*e*Pn	**Pn**	**09 25 59.4**	**+1.2**
IGHG				*e*		09 26 39.6	
IVIS	**Veis**	**1.98**	**342**	*e*Pn	**Pn**	**09 26 01.0**	**+1.7**
IVIS				*e*		09 26 31.4	
NSR	**Nassriya**	**2.06**	**218**	*e*Pn	**Pn**	**09 26 01.0**	**+0.7**
NSR				*e*Sn	**Sn**	**09 26 26.0**	**0.0**
BHD	**Baghdad**	**2.78**	**284**	*e*Pn	**Pn**	**09 26 11.0**	**+0.7**
BHD				*e*Sn	**Sn**	**09 26 45.0**	**+1.1**

NNC ***20*** *09:26:11.6±4.8,36.06N×69.77E,h0km,mb4.7,mpv4.5,*
Error ellipse: s-maj=50.4km s-min=28.2km az=148.0
IDC ***20*** *09:26:11.7±4.3,35.72N×69.77E,h92km±41km,mb3.8/5,*
mb1 3.9/9,mb1mx3.5/56,mbtmp4.2/9,MS2.6/2,Ms1 2.6/2,
ms1mx2.2/42, Error ellipse: s-maj=35.5km s-min=17.9km
az=163.0
NEIC ***20*** *09:26:12.6±1.2,35.70N±0.04×69.73E±0.09,h104km±7km,*
mb4.3/12, Error ellipse: s-maj=11.0km s-min=4.2km
az=113.0
ISC 20 09:26:11.4±0.6**,35.62N**±0.05×**69.84E**±0.05**,h100**km**,n62,**
σ1§56/72,mb4.1/9,2C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.26**	**211**		**Pn**	**09 26 36.6**	**+1.6**
KBL				Sn	**Sn**	**09 26 55.5**	**+2.6**
CHGR	**Chuyangaron**	**3.08**	**350**		**Pn**	**09 26 58.7**	**+0.5**
CHGR				Sn	**Sn**	**09 27 32.9**	**-1.4**
GAR	**Garm**	**3.39**	**6**		**Pn**	**09 27 03.4**	**+0.9**
GAR				Sn	**Sn**	**09 27 41.6**	**-0.3**
NIL	**Nilore**	**3.43**	**124**		**Pn**	**09 27 04.6**	**+1.6**
BTK	**Batken**	**4.49**	**10**	Pn	**Pn**	**09 27 19.7**	**+2.4**
THN	**Thein Dam**	**5.82**	**121**	*e*S	**Sn**	**09 28 39.5**	**-1.2**
DHRM	**DHARAMSHALA**	**6.33**	**120**	*e*P	**Pn**	**09 27 40.0**	**-2.4**
DHRM				*e*S	**Sn**	**09 28 51.5**	**-2.0**
DHRM				IAML		09 28 53.6	
	comp=N,194nm,0.3s						
DHRM				IAML		09 28 54.1	
	comp=E,168nm,0.1s						
AML	**Almayashu**	**7.16**	**24**	P	**Pn**	**09 27 54.2**	**+0.5**
	SNR=191						
KK31	**Karatay Array**	**7.49**	**4**	P	**Pn**	**09 27 57.5**	**-0.3**
	comp=E,10nm,0.4s,baz=180,slow=13,SNR=101						
KK31				⇓S	**Sn**	**09 29 19.1**	**-1.9**
	comp=E,22nm,0.7s,baz=192,slow=22,SNR=7.3						
KK31	**Karatay Array**	**7.49**	**4**		**Pn**	**09 27 57.8**	**0.0**
KKAR	**Karatay Array**	**7.49**	**4**		**Pn**	**09 27 57.1**	**-0.7**
KKAR	**Karatay Array**	**7.49**	**4**		**Pn**	**09 27 58.1**	**+0.3**
UCH	**Uchtor**	**7.53**	**27**	P	**Pn**	**09 27 59.4**	**+0.5**
	SNR=69						
SMLA	**Simla**	**7.59**	**124**	*e*P	**Pn**	**09 27 58.7**	**-0.6**
SMLA				*e*S	**Sn**	**09 29 20.2**	**-3.4**
SMLA				IAML		09 29 23.4	
	comp=N,89nm,0.2s						
SMLA				IAML		09 29 23.9	
	comp=E,74nm,0.3s						
EKS2	**Erkin-Say**	**7.66**	**22**	P	**Pn**	**09 28 00.9**	**+0.6**
	SNR=18						
KZA	**Kyzart**	**7.70**	**32**	P	**Pn**	**09 28 01.4**	**+0.3**
	SNR=20						
AAK	**Ala-Archa**	**7.88**	**26**	P	**Pn**	**09 28 04.0**	**+0.7**
	comp=E,9.8nm,0.3s,baz=201,slow=8.4,SNR=55						
AAK				S	**Sn**	**09 29 29.8**	**-1.1**
	comp=E,5.3nm,0.3s,baz=337,slow=22,SNR=18						
AAK				LR	LR	09 30 44.0	
	comp=E,24nm,20.1s,baz=37,slow=35						
AAK	**Ala-Archa**	**7.88**	**26**	P	**Pn**	**09 28 04.2**	**+0.8**
	SNR=30						
AAK	**Ala-Archa**	**7.88**	**26**	⇓P	**Pn**	**09 28 03.7**	**+0.4**
	comp=E,19nm,0.5s						
AAK				⇓S	**Sn**	**09 29 29.6**	**-1.3**
	comp=E,33nm,0.5s						
AAK	**Ala-Archa**	**7.88**	**26**		**Pn**	**09 28 04.1**	**+0.8**
KBK	**Karagaybulak**	**8.06**	**28**	P	**Pn**	**09 28 07.3**	**+1.5**
	SNR=13						
ULHL	**Ulahol**	**8.28**	**35**	P	**Pn**	**09 28 10.4**	**+1.6**
	SNR=6.5						
CHMS	**Chumysh**	**8.29**	**26**	P	**Pn**	**09 28 09.4**	**+0.7**
	SNR=34						
USP	**Ospenovka**	**8.44**	**24**	P	**Pn**	**09 28 10.9**	**+0.1**
	SNR=21						
TKM2	**Tokmak 2**	**8.54**	**30**	P	**Pn**	**09 28 12.2**	**-0.1**
	SNR=26						
TKM2	**Tokmak 2**	**8.54**	**30**	⇓P	**Pn**	**09 28 12.0**	**-0.3**
	comp=E,10.0nm,0.6s						
TKM2				⇑S	**Sn**	**09 29 45.9**	**-1.2**
	comp=E,22nm,0.9s						
TARG	**Taragay, Kyrgy**	**8.71**	**43**	Pn	**Pn**	**09 28 15.4**	**+0.6**
SONA	**Sohna**	**9.58**	**138**	*e*S	**Sn**	**09 30 05.5**	**-6.8**
GEYT	**Alibeck**	**9.68**	**287**	P	**Pn**	**09 28 26.5**	**-1.2**
	comp=E,2.0nm,0.3s,baz=113,slow=11,SNR=13						
GEYT				S	**Sn**	**09 30 09.9**	**-4.7**
	comp=E,2.4nm,0.3s,baz=252,slow=33,SNR=5.1						
GEYT	**Alibeck**	**9.68**	**287**		**Pn**	**09 28 27.7**	**0.0**
GYA0B	**ALIBECK ARRAY**	**9.68**	**287**		**Pn**	**09 28 27.5**	**-0.2**
MAKZ	**Makanchi**	**14.41**	**35**	P	**P**	**09 29 35.6**	**+1.1**
MK31	**Makanchi Array**	**14.55**	**36**		**Pn**	**09 29 33.2**	**+1.0**
MKAR	**Makanchi Array**	**14.55**	**36**	P	**Pn**	**09 29 31.8**	**-0.4**
	comp=E,0.1nm,0.3s,baz=219,slow=16,SNR=4.9						
MKAR	**Makanchi Array**	**14.55**	**36**		**Pn**	**09 29 33.0**	**+0.7**
AB31	**Akbulak array**	**15.44**	**335**	⇑P	**Pn**	**09 29 42.6**	**-0.8**
	comp=E,4.3nm,0.4s						
ABKAR	**Akbulak array**	**15.44**	**335**	Pn	**Pn**	**09 29 42.2**	**-1.2**
UOSS	**Minazif**	**15.86**	**232**	Pn	**Pn**	**09 29 48.6**	**-0.2**
UOSS				IAmb	IAmb	09 30 33.9	
	comp=Z,17nm,1.3s						
KURBB	**Kurchatov Arra**	**16.26**	**20**	P	**Pn**	**09 29 51.9**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=10						
KURK	**Kurchatov**	**16.37**	**20**	P	**P**	**09 29 55.9**	**-0.1**
AKTO	**Aktyubinsk**	**17.11**	**334**	P	**P**	**09 30 04.7**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=141,slow=14,SNR=28						
AKTO	**Aktyubinsk**	**17.11**	**334**	⇓P	**P**	**09 30 05.0**	**+0.8**
	comp=Z,10nm,0.7s						
BVAR	**Borovoye Array**	**17.40**	**1**	P	**Pn**	**09 30 07.4**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=161,slow=9.4,SNR=12						
BRVK	**Borovoye**	**17.43**	**1**		**Pn**	**09 30 07.3**	**-0.7**
ZAA0	**Zalesovo Array**	**21.10**	**25**	P	**P**	**09 30 48.3**	**+0.7**
ZAA0				IAmb	IAmb	09 30 49.6	
	comp=Z,5.1nm,0.6s						
ZALV	**Zalesovo Beam**	**21.10**	**25**	P	**P**	**09 30 47.7**	**0.0**
	comp=Z,3.2nm,0.3s,baz=210,slow=12,SNR=12						
ZALV	**Zalesovo Beam**	**21.10**	**25**	P	**P**	**09 30 48.1**	**+0.4**
SHL	**Shillong**	**21.42**	**112**	P	**P**	**09 30 53.7**	**+2.3**
SHL				IAmb	IAmb	09 30 56.1	
	comp=Z,19nm,0.9s						
SONM	**Songino Array**	**29.61**	**54**	P	**P**	**09 32 08.6**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=260,slow=8.3,SNR=2.9						
SONM	**Songino Array**	**29.61**	**54**	P	**P**	**09 32 07.1**	**+0.1**
AKASG	**Malin Array Be**	**32.78**	**310**	LR	LR	09 47 37.4	
	comp=Z,21nm,21.4s,baz=210,slow=39						
BJT	**Baijiatuao**	**36.54**	**69**	P	**P**	**09 33 08.5**	**+1.3**
BJT				PcP	**PcP**	**09 35 29.5**	**+0.8**
PETK	**Petropavlovsk-**	**61.25**	**43**	P	**P**	**09 36 16.4**	**+0.7**
TOA0	**Torodi Ar. Sit**	**64.76**	**268**	P	**P**	**09 36 39.2**	**-0.3**
TOA0				IAmb	IAmb	09 38 07.8	
	comp=Z,7.6nm,1.4s						
TORD	**Torodi Ar. Bea**	**64.76**	**268**	P	**P**	**09 36 40.3**	**+0.9**
	comp=Z,2.3nm,0.4s,baz=46,slow=6.3,SNR=29						
TORD	**Torodi Ar. Bea**	**64.76**	**268**	P	**P**	**09 36 39.9**	**+0.4**
WRA	**Warramunga Arr**	**82.34**	**121**	P	**P**	**09 38 23.8**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=325,slow=4.9,SNR=28						
WRA	**Warramunga Arr**	**82.34**	**121**	P	**P**	**09 38 22.4**	**+0.2**
WRAB	**Tennant Creek**	**82.34**	**121**	P	**P**	**09 38 24.1**	**+1.8**
WR0	**Warramunga Arr**	**82.49**	**121**	P	**P**	**09 38 24.8**	**+1.8**
WR0				IAmb	IAmb	09 39 55.1	
	comp=Z,7.4nm,0.7s						
ASAR	**Alice Springs**	**84.53**	**124**	P	**P**	**09 38 35.5**	**+2.0**
	comp=Z,1.7nm,0.8s,baz=312,slow=5.1,SNR=18						
ASAR	**Alice Springs**	**84.53**	**124**	P	**P**	**09 38 35.3**	**+1.8**

IDC 20 09:26:23.9±3.7**,53.67N**×**88.20E,h0**km**,mb1 3.0/3,**
mb1mx2.9/54,mbtmp3.0/3,ML2.5/3,Error ellipse:
s-maj=37.4km s-min=20.1km az=49.0,Southwestern
Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.02**	**279**	*i*		09 39 19.8	
	baz=93,slow=321,SNR=2.2						
ZALV	**Zalesovo Beam**	**2.02**	**279**	Pn	Pn	09 27 00.1	+0.8
	2.6nm,0.3s,baz=102,slow=13,SNR=25						
ZALV				Lg	Lg	09 27 27.2	
	3.0nm,0.3s,baz=98,slow=26,SNR=12						
KURBB	**Kurchatov Arra**	**6.69**	**247**	Pn	Pn	09 28 04.3	+1.0
	0.1nm,0.3s,baz=61,slow=14,SNR=6.2						
MKAR	**Makanchi Array**	**7.86**	**211**	Pn	Pn	09 28 19.8	+0.3
	0.1nm,0.3s,baz=28,slow=12,SNR=4.3						

IDC ***20*** *09:35:30.5±0.5,5.76S±0.07×149.10E±0.08,h150km,n41,*
σ0§80/45,mb4.3/13,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.25**	**64**	P	**Pn**	**09 36 20.4**	**-0.8**
	3.3nm,0.3s,baz=354,slow=23,SNR=4.3						
KRVT				S	**Sn**	**09 37 00.9**	**+0.6**
	7.1nm,0.3s,baz=24,slow=14,SNR=2.0						
PMG	**Port Moresby**	**4.10**	**208**	P	**Pn**	**09 36 31.9**	**-0.2**
	5.7nm,0.3s,baz=14,slow=5.1,SNR=12						
PMG				S	**Sn**	**09 37 20.4**	**+0.3**
	30nm,0.3s,baz=38,slow=16,SNR=22						
PMG	**Port Moresby**	**4.10**	**208**		**Pn**	**09 36 33.0**	**+0.9**
PMG					**Sn**	**09 37 19.5**	**-0.5**
COEN	**Coen**	**10.02**	**215**	Pn	**Pn**	**09 37 51.2**	**+0.4**
COEN				Sn	**Sn**	**09 39 41.9**	**+0.1**
MTN	**Manton Dam**	**19.07**	**247**	P	**P**	**09 39 41.2**	**-0.3**
MTN				IAmb	IAmb	09 39 43.0	
	comp=Z,22nm,1.4s						
EIDS	**Eidsvold**	**19.59**	**175**	P	**P**	**09 39 47.5**	**+0.4**
EIDS				IAmb	IAmb	09 39 49.2	
	comp=Z,11nm,0.7s						
WB0	**Warramunga Arr**	**19.96**	**224**	P	**P**	**09 39 51.3**	**0.0**
WB0				IAmb	IAmb	09 39 54.9	
	comp=Z,9.7nm,0.7s						
WR0	**Warramunga Arr**	**19.99**	**224**	P	**P**	**09 39 51.0**	**-0.5**
WRAB	**Tennant Creek**	**20.10**	**224**	P	**P**	**09 39 52.7**	**-0.1**
WRAB				IAmb	IAmb	09 39 56.3	
	comp=Z,7.4nm,0.6s						
WB2	**Warramunga Arr**	**20.11**	**224**	P	**P**	**09 39 52.6**	**-0.3**
WB2				IAmb	IAmb	09 39 56.4	
	comp=Z,9.5nm,0.6s						
WRA	**Warramunga Arr**	**20.12**	**224**	P	**P**	**09 39 52.3**	**-0.6**
	comp=Z,5.2nm,0.4s,baz=50,slow=10,SNR=66						
WRA	**Warramunga Arr**	**20.12**	**224**	P	**P**	**09 39 52.0**	**-1.0**
ANA2	**Anatahan**	**22.21**	**351**	P	**P**	**09 40 15.5**	**+0.5**
KNRA	**Kununurra**	**22.26**	**242**	P	**P**	**09 40 15.7**	**+0.2**
KNRA				IAmb	IAmb	09 40 21.6	
	comp=Z,24nm,1.4s						
AS31	**Alice Springs**	**23.04**	**218**	P	**P**	**09 40 22.6**	**-0.3**
ASAR	**Alice Springs**	**23.04**	**218**	P	**P**	**09 40 22.9**	**+0.1**
	comp=Z,3.4nm,0.4s,baz=52,slow=8.3,SNR=68						
ASAR	**Alice Springs**	**23.04**	**218**	P	**P**	**09 40 22.4**	**-0.4**
DZM	**Mont Dzumac**	**23.33**	**136**	P	**P**	**09 40 25.9**	**+0.4**
	comp=Z,4.4nm,0.9s,baz=134,slow=23,SNR=5.7						
DZM	**Mont Dzumac**	**23.33**	**136**	P	**P**	**09 40 25.4**	**-0.2**
DZM				IAmb	IAmb	09 40 34.1	
	comp=Z,17nm,1.5s						
ARMA	**Armidale**	**24.64**	**175**	P	**P**	**09 40 39.6**	**+2.2**
ARMA				IAmb	IAmb	09 40 50.1	
	comp=Z,32nm,1.4s						
SOEI	**Soe**	**24.92**	**259**	P	**P**	**09 40 39.4**	**-0.8**
SOEI				IAmb	IAmb	09 40 48.3	
	comp=Z,42nm,1.5s						
FITZ	**Fitzroy Crossi**	**25.98**	**240**	P	**P**	**09 40 49.4**	**-0.1**
	comp=Z,5.1nm,0.6s,baz=47,slow=8.9,SNR=26						
FITZ	**Fitzroy Crossi**	**25.98**	**240**	P	**P**	**09 40 49.9**	**+0.4**
FITZ				IAmb	IAmb	09 40 52.5	
	comp=Z,5.3nm,0.6s						
LUWI	**Luwuk**	**26.69**	**279**	P	**P**	**09 40 56.4**	**+0.5**
STKA	**Stephens Creek**	**26.91**	**194**	P	**P**	**09 40 58.8**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=14,slow=13,SNR=5.1						
STKA	**Stephens Creek**	**26.91**	**194**	P	**P**	**09 40 59.0**	**+1.2**
FORT	**Forrest**	**31.79**	**216**	P	**P**	**09 41 40.7**	**-0.1**
FORT				IAmb	IAmb	09 41 54.2	
	comp=Z,14nm,0.9s						
TOO	**Toolangi**	**31.83**	**185**	P	**P**	**09 41 41.1**	**-0.1**
TOO				IAmb	IAmb	09 41 54.8	
	comp=Z,8.6nm,1.5s						
BFZ	**Birch Farm**	**42.43**	**149**	P	**P**	**09 43 10.1**	**-0.4**
MSWZ	**Moikau Station**	**42.48**	**151**	P	**P**	**09 43 10.1**	**-0.8**
KSRS	**Korea Array**	**47.31**	**337**	P	**P**	**09 43 49.8**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=156,slow=9.5,SNR=4.4						
BKNI	**Bangkinang**	**48.36**	**276**	P	**P**	**09 43 56.4**	**-1.2**
IPM	**Ipoh**	**49.08**	**281**	P	**P**	**09 44 01.9**	**-1.2**
IPM				IAmb	IAmb	09 44 18.8	
	comp=Z,5.5nm,0.8s						
RPSI	**Rantau Prapat**	**50.81**	**278**	P	**P**	**09 44 15.1**	**-1.1**
PETK	**Petropavlovsk-**	**59.10**	**6**	P	**P**	**09 45 16.6**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=158,slow=6.7,SNR=4.5						
PETK	**Petropavlovsk-**	**59.10**	**6**	P	**P**	**09 45 15.0**	**+0.1**
AIS	**Amsterdam Isla**	**71.91**	**232**	P	**P**	**09 46 36.8**	**-0.8**
VNDA	**Vanda**	**72.03**	**177**	P	**P**	**09 46 37.6**	**0.0**
ILAR	**Eielson Array**	**84.45**	**23**	P	**P**	**09 47 44.8**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=253,slow=4.6,SNR=5.8						
ILAR	**Eielson Array**	**84.45**	**23**	P	**P**	**09 47 45.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**147.05**	**285**	PKPbc	**PKPdf**	**09 54 56.3**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=84,slow=2.5,SNR=1.8						

ISN ***20*** *09:56:34.8±1.3,32.65N×47.53E,h16km±9km,ML3.4*
TEH ***20*** *09:56:35.0,32.71N×47.45E,h12km,ML3.6*
THR ***20*** *09:56:35.4±0.3,32.63N×47.64E,h16km±4km,ML3.8*
ISC 20 09:56:35.3±1.1**,32.69N**±0.03×**47.45E**±0.03**,h11**km±10km**,**
n49,σ1§42/54,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.14**	**265**	*e*Pg	**Pg**	**09 56 38.7**	**0.0**
IKFM	**Kafar-mosalman**	**0.89**	**22**	*e*Pg	**Pg**	**09 56 51.8**	**-0.8**
IKFM				*e*		09 57 14.4	
IKMR	**Kamar-syah**	**1.14**	**43**	*e*Pg	**Pb**	**09 56 56.3**	**-0.7**
IKMR				*e*Sg	**Sn**	**09 57 13.6**	**+0.9**
IKMR				*e*		09 57 15.4	
IDOB	**Doab**	**1.25**	**29**	*e*Pg	**Pg**	**09 56 59.3**	**-0.1**
IBDR	**Badra**	**1.34**	**288**	*e*Pg	**Pg**	**09 57 01.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**09 57 20.0**	**+1.4**
IBDR				AML	AML	09 57 24.7	
	comp=N,727nm,0.4s						
IBDR				AML	AML	09 57 28.1	
	comp=E,528nm,0.5s						
IKOM	**Komasi**	**1.48**	**2**	*e*		09 57 27.7	
IKOM				*e*Pg	**Pg**	**09 57 03.3**	**-0.5**
BMDN	**Meydan**	**1.51**	**49**	*e*Pg	**Pg**	**09 57 03.9**	**-0.5**
BMDN				*e*		09 57 32.1	
KCHF	**Cheshme Sefid,**	**1.61**	**348**	*e*		09 57 31.3	
KCHF				*e*Pg	**Pg**	**09 57 06.1**	**-0.3**
AHWZ	**Ahwaz**	**1.70**	**143**	*e*Pg	**Pg**	**09 57 07.5**	**-0.4**
KER	**Kermanshah**	**1.71**	**351**	*e*Pg	**Pg**	**09 57 08.1**	**-0.1**
IGHG	**Ghaleghazi**	**1.79**	**336**	*e*		09 57 48.3	
IGHG				*e*Pg	**Pg**	**09 57 08.5**	**-1.2**
HSAM	**Samen**	**1.80**	**32**	*e*		09 57 37.2	
HSAM				*e*Pg	**Pg**	**09 57 08.7**	**-1.1**
IBZA	**Bozab**	**1.81**	**11**	*e*		09 57 36.7	
IBZA				*e*Pg	**Pg**	**09 57 09.2**	**-0.8**
IVIS	**Veis**	**1.90**	**345**	*e*Pn	**Pg**	**09 57 11.0**	**-0.7**
IVIS				*e*		09 57 43.8	
NSR	**Nassriya**	**2.01**	**214**	*e*Pn	**Pn**	**09 57 10.0**	**+0.8**
NSR				*e*Sn	**Sn**	**09 57 34.0**	**-0.3**
IDHR	**Dehrash**	**2.19**	**336**	*e*Pn	**Pb**	**09 57 13.9**	**-1.2**
IDHR				*e*		09 57 53.2	
IALM	**Almabolaq**	**2.24**	**15**	*e*Pn	**Pb**	**09 57 15.7**	**-0.3**
ILIN	**Lien**	**2.26**	**350**	*e*Pn	**Pb**	**09 57 15.8**	**-0.5**
ILIN				*e*		09 57 56.3	
KHMZ	**Khomeyn**	**2.35**	**63**	*e*Pn	**Pn**	**09 57 14.2**	**+0.2**
KHMZ				*e*Sg	**Sb**	**09 57 45.9**	**-1.0**
KHMZ	**Khomeyn**	**2.35**	**63**	*e*Pn	**Pn**	**09 57 14.2**	**+0.2**
SNGE	**Sanandaj**	**2.40**	**358**	*e*Pn	**Pb**	**09 57 17.1**	**-1.5**
SNGE				*e*S	**Sb**	**09 57 47.8**	**-0.5**
SNGE	**Sanandaj**	**2.40**	**358**	*e*Pn	**Pb**	**09 57 17.1**	**-1.5**
HAGD	**Aghdareh**	**2.55**	**33**	*e*Pn	**Pb**	**09 57 19.2**	**-2.0**
HAGD				*e*		09 58 06.0	
HSRG	**Sareghieh**	**2.63**	**15**	*e*	Sg	09 58 10.4	+10
BHD	**Baghdad**	**2.64**	**283**	*e*Pn	**Pn**	**09 57 19.0**	**+1.1**
BHD				*e*Sn	**Sb**	**09 57 53.0**	**-2.1**
JHBN	**Jahan bin**	**2.76**	**99**	*e*Pn	**Pn**	**09 57 21.6**	**+1.8**
JHBN				*e*		09 58 12.5	
IPIR	**Pirpir**	**2.90**	**89**	*e*Pn	**Pn**	**09 57 23.7**	**+2.0**
IPIR				*e*		09 58 09.8	
ROKH	**ROKH**	**3.05**	**96**	*e*Pn	**Pn**	**09 57 25.4**	**+1.7**
ROKH				*e*		09 58 26.8	
IRAZ	**Razeghan**	**3.40**	**37**	*e*Pn	**Pn**	**09 57 30.3**	**+1.8**
QABG	**Abgarm-Qazvin**	**3.49**	**30**	*e*Pn	**Pn**	**09 57 31.3**	**+1.6**
IKLH	**Kolahrood**	**3.53**	**79**	*e*Pn	**Pn**	**09 57 32.9**	**+2.6**
IKLH				*e*		09 57 34.8	
IQOM	**Qom**	**3.70**	**54**	*e*Pn	**Pn**	**09 57 34.2**	**+1.5**
IGAR	**Gharneh**	**3.89**	**93**	*e*Pn	**Pn**	**09 57 37.0**	**+1.8**
IGAR				*e*		09 57 39.3	
KLNJ	**Kolanjah**	**3.91**	**114**	*e*Pn	**Pn**	**09 57 37.0**	**+1.4**
KLNJ				*e*		09 57 54.7	
QSDN	**Sirdan**	**4.06**	**20**	*e*Pn	**Pn**	**09 57 40.2**	**+2.6**
IZEF	**Zefreh**	**4.12**	**86**	*e*Pn	**Pn**	**09 57 40.6**	**+2.2**
IVRN	**Varamin**	**4.24**	**56**	*e*Pn	**Pn**	**09 57 42.0**	**+2.1**
IRAM	**Ramesheh**	**4.27**	**101**	*e*Pn	**Pn**	**09 57 41.3**	**+0.8**
IGZV	**Ghazvin**	**4.34**	**31**	*e*Pn	**Pn**	**09 57 43.6**	**+2.2**
CHTH	**Charan**	**4.42**	**42**	*e*Pn	**Pn**	**09 57 43.3**	**+0.7**
CHTH	**Charan**	**4.42**	**42**	*e*Pn	**Pn**	**09 57 43.3**	**+0.7**
IDMV	**Damavand**	**4.77**	**52**	*e*Pn	**Pn**	**09 57 49.0**	**+1.6**
AHBU	**AHRAM**	**5.05**	**138**	*e*Pn	**Pn**	**09 57 50.6**	**-0.4**
ANAR	**Anarak**	**5.30**	**83**	*e*Pn	**Pn**	**09 57 55.6**	**+1.0**
ISAD	**Sadrabad**	**5.34**	**97**	*e*Pn	**Pn**	**09 57 56.2**

HSAM e 10 15 21.8
KCHF Cheshme Sefid, 1.78 339 *e*Pg **Pb** **10 14 48.3 -0.2**
KCHF e 10 15 17.4
IBZA Bozab 1.84 1 *e*Pg **Pb** **10 14 50.3 +0.5**
IBZA e 10 15 25.6
KER Kermanshah 1.85 342 P **Pb** **10 14 49.6 -0.3**
KER Kermanshah 1.85 342 *e*Pg **Pb** **10 14 49.5 -0.3**
IGHG Ghaleghazi 2.00 329 *e*Pn **Pb** **10 14 51.7 -0.7**
IVIS Veis 2.07 337 *e*Pn **Pb** **10 14 52.3 -1.2**
IVIS e 10 15 27.3
KHMZ Khomeyn 2.11 57 *e*Pn **Pb** **10 14 53.8 -0.5**
KHMZ *e*Sg **Sg** **10 15 24.2 +0.1**
KHMZ Khomeyn 2.11 57 *e*Pn **Pb** **10 14 53.8 -0.5**
NSR Nassriya 2.15 222 *e*Pn **Pb** **10 14 52.5 +1.1**
NSR *e*Sn **Sn** **10 15 18.0 +0.2**
IALM Almabolaq 2.25 7 *e*Pn **Pb** **10 14 56.0 -0.7**
IDHR Dehrash 2.40 330 *e*Pn **Pb** **10 14 56.6 +1.6**
ILIN Lien 2.40 343 *e*Pn **Pb** **10 14 57.3 -1.9**
ILIN e 10 15 38.1
JHBN Jahan bin 2.44 98 *e*Pn **Pb** **10 14 58.1 -1.7**
JHBN e 10 15 44.9
HAGD Aghdareh 2.46 26 *e*Pn **Pb** **10 14 58.8 -1.3**
HAGD e 10 15 49.8
SNGE Sanandaj 2.50 351 *e*Pn **Pb** **10 14 59.8 -1.1**
SNGE *e*Sg **Sg** **10 15 37.4 +0.8**
SNGE IAML 10 15 40.7
comp=N,19µm,0.6s
SNGE Sanandaj 2.50 351 *e*Pn **Pb** **10 14 59.8 -1.1**
IPIR Pirpir 2.59 88 *e*Pn **Pb** **10 15 00.4 -2.1**
IPIR e 10 15 54.0
HSRG Sareghieh 2.64 8 *e*Pn **Pn** **10 15 00.7 +2.2**
HSRG e 10 15 48.0
ROKH ROKH 2.73 95 *e*Pn **Pn** **10 15 01.8 +2.2**
ROKH e 10 15 55.6
BHD Baghdad 2.97 284 *e*Pn **Pn** **10 15 04.0 +1.4**
BHD *e*Sn **Sn** **10 15 40.0 +2.1**
BHD AML AML 10 15 57.2
comp=E,53µm,0.5s
IBRJ Brojen 3.00 103 *e*Pn **Pn** **10 15 05.5 +2.2**
IKLH Kolahrood 3.23 77 *e*Pn **Pn** **10 15 09.2 +2.6**
IKLH e 10 16 17.3
IRAZ Razeghan 3.28 32 *e*Pn **Pb** **10 15 11.0 -3.2**
QABG Abgarm-Qazvin 3.41 25 *e*Pn **Pn** **10 15 11.5 +2.5**
IQOM Qom 3.50 50 *e*Pn **Pn** **10 15 13.1 +2.9**
IGAR Gharneh 3.57 92 *e*Pn **Pn** **10 15 13.3 +2.1**
IGAR e 10 16 27.0
KLNJ Kolanjah 3.59 116 *e*Pn **Pn** **10 15 12.8 +1.3**
KLNJ e 10 16 26.9
IZEF Zefreh 3.81 85 *e*Pn **Pn** **10 15 16.8 +2.3**
IZEF e 10 16 26.0
IMHD Mahdasht 3.86 37 *e*Pn **Pn** **10 15 17.7 +2.6**
IRAM Ramesheh 3.95 101 *e*Pn **Pn** **10 15 18.0 +1.6**
IHSB Hasanabad 4.01 45 *e*Pn **Pn** **10 15 20.0 +2.8**
IVRN Varamin 4.02 53 *e*Pn **Pn** **10 15 19.9 +2.6**
QSDN Sirdan 4.03 16 *e*Pn **Pn** **10 15 20.5 +3.0**
ZNJK Zanjan 4.10 10 *e*Pn **Pn** **10 15 21.7 +3.2**
ZNJK Zanjan 4.10 10 *e*Pn **Pn** **10 15 21.7 +3.2**
IGZV Ghazvin 4.25 27 *e*Pn **Pn** **10 15 22.8 +2.3**
CHTH Charan 4.27 39 *e*Pn **Pn** **10 15 23.7 +2.9**
CHTH Charan 4.27 39 *e*Pn **Pn** **10 15 23.7 +2.9**
TEH Tehran 4.29 43 *e*Pn **Pn** **10 15 23.8 +2.9**
KAZ1 Kazerun 4.43 131 *e*Pn **Pn** **10 15 25.6 +1.4**
QALM Alamut, Qazvin 4.46 31 *e*Pn **Pn** **10 15 25.6 +2.2**
MAHB Mahabad 4.49 338 *e*Pn **Pn** **10 15 25.5 +1.8**
DAMV Damavand 4.57 48 *e*Pn **Pn** **10 15 27.7 +2.8**
DAMV Damavand 4.57 48 *e*Pn **Pn** **10 15 27.7 +2.8**
IDMV Damavand 4.57 49 *e*Pn **Pn** **10 15 27.5 +2.5**
AHBU AHRAM 4.79 140 *e*Pn **Pn** **10 15 29.3 +1.6**
SHI Shiraz 5.00 125 *e*Pn **Pn** **10 15 32.3 +1.5**
ANAR Anarak 5.00 82 *e*Pn **Pn** **10 15 32.3 +1.5**
ISAD Sadrabad 5.02 97 *e*Pn **Pn** **10 15 33.0 +1.9**
IFIR Firoozkooh 5.08 52 *e*Pn **Pn** **10 15 34.2 +2.2**
IPRN Peran 5.19 45 *e*Pn **Pn** **10 15 36.9 +3.5**
ISRB Sarab 5.20 359 *e*Pn **Pn** **10 15 36.5 +3.0**
IAZR Azarshahr 5.27 344 *e*Pn **Pn** **10 15 37.0 +2.5**
IALA Alasht 5.38 49 *e*Pn **Pn** **10 15 39.5 +3.4**
ICHK Chekchek 5.58 92 *e*Pn **Pn** **10 15 40.6 +1.8**
IHRS Heris 5.72 354 *e*Pn **Pn** **10 15 43.9 +3.2**
YZKH Yazd 5.72 90 *e*Pn **Pn** **10 15 42.9 +2.3**
YZKH Yazd 5.72 90 *e*Pn **Pn** **10 15 42.9 +2.3**
YOKA Hakkari_Yksek 5.74 331 *e*Pn **Pn** **10 15 42.1 +1.1**
ITBZ Tabriz 5.77 347 *e*Pn **Pn** **10 15 43.8 +2.5**
CUKT Cukurca 5.77 324 *e*P **Pn** **10 15 41.6 +0.3**
CUKT Cukurca 5.77 324 *e*Pn **Pn** **10 15 41.4 +0.1**
AHAR Ahar 5.89 354 *e*Pn **Pn** **10 15 46.1 +3.1**
IMEH Mehriz 5.90 100 *e*Pn **Pn** **10 15 44.2 +1.0**
HAKT HAKKARI 5.97 327 *e*Pn **Pn** **10 15 44.4 +0.2**
LKRN Lenkeran, Azer 6.13 7 P **Pn** **10 15 48.4 +2.3**
IGLO Ghaloghah 6.29 50 *e*Pn **Pn** **10 15 52.3 +3.8**
IMRD Marand 6.32 345 *e*Pn **Pn** **10 15 50.8 +1.9**
JHRM Jahrom 6.44 128 *e*Pn **Pn** **10 15 52.3 +1.8**
SIRT Sirnak 6.57 319 *e*P **Pn** **10 15 52.0 -0.3**
IBAF Bafgh 6.65 97 *e*Pn **Pn** **10 15 55.2 +1.7**
NAX Nakhchivan 6.81 345 P **Pn** **10 15 58.0 +2.5**
GEVA Gevas 6.88 327 Pn **Pn** **10 15 57.3 +0.7**
GEVA Sn **Sn** **10 17 17.5 +2.7**
VANB Van 6.97 330 *e*P **Pn** **10 15 58.7 +0.9**
LMD1 Lamerd 7.01 137 *e*Pn **Pn** **10 15 57.7 -0.6**
TPRV Parvadeh(Tabas 7.47 84 *e*Pn **Pn** **10 16 05.7 +1.0**
TNSJ Nastanj 7.48 77 *e*Pn **Pn** **10 16 05.9 +1.1**
KHGB Koh Gabri 7.72 105 *e*Pn **Pn** **10 16 07.9 -0.3**
MAZI Mazidag 7.74 311 *e*P **Pn** **10 16 07.2 -1.1**
IMND Minoodasht 7.76 51 *e*Pn **Pn** **10 16 10.1 +1.6**
TABS Tabas 7.86 80 *e*Pn **Pn** **10 16 12.6 +2.5**
TABS Tabas 7.86 80 *e*Pn **Pn** **10 16 12.6 +2.5**
TKDS Koohdasht(Taba 7.86 80 *e*Pn **Pn** **10 16 11.4 +1.3**
TASB TASBURUN-IGDIR 7.90 340 *e*P **Pn** **10 16 13.1 +2.6**
GANJ Ganja 8.10 352 P **Pn** **10 16 16.2 +3.0**
MNGR Mingechevir, A 8.16 356 P Pn 10 16 18.9 +4.9
NGRK Negar Kerman 8.19 109 *e*Pn **Pn** **10 16 16.1 +1.3**
VRTB Varto-Mus 8.32 323 *e*P **Pn** **10 16 17.3 +0.9**
SEKA Sheki 8.59 357 P **Pn** **10 16 22.9 +3.0**
BNGB Bingl 8.61 320 *e*P **Pn** **10 16 20.1 -0.1**
CHMN Cheshme madani 8.76 106 *e*Pn **Pn** **10 16 24.0 +1.4**
URFA Urfa 8.81 306 *e*P **Pn** **10 16 21.4 -1.6**
AKT Akhty 8.84 360 *e*P **Pn** **10 16 26.6 +3.1**
AKT *e*S **Sn** **10 18 09.1 +6.2**
AKT pmax pmax
comp=Z,121nm,1.0s
AKT smax smax
comp=E,67nm,0.8s
AKT smax smax
comp=N,56nm,1.6s
KARS Kars 8.85 336 *e*P **Pn** **10 16 26.6 +3.0**
KARS Kars 8.85 336 P **Pn** **10 16 27.8 +4.2**
SBZV Sabzevar 8.91 62 *e*Pn **Pn** **10 16 26.0 +1.5**
BNDS Bandar-Abbas 8.91 124 *e*Pn **Pn** **10 16 26.3 +1.8**
BNDS Bandar-Abbas 8.91 124 *e*Pn **Pn** **10 16 26.3 +1.8**
GENO Geno 8.91 124 *e*Pn **Pn** **10 16 26.6 -0.9**
YEDI Yedisu-Bingol 9.00 321 *e*P **Pn** **10 16 25.3 -0.4**
SVRC Sivrice-ELAZID 9.01 312 *e*P **Pn** **10 16 24.9 -0.9**
ITEG Tejag 9.21 85 *e*Pn **Pn** **10 16 30.1 +1.5**
ASF Jabal al Asfar 9.25 270 Pn **Pn** **10 16 28.1 -1.0**
comp=N,9.1nm,0.3s,baz=33,slow=6.9,SNR=45
ASF Sn **Sn** **10 18 06.8 -6.1**
comp=N,20nm,0.3s,baz=53,slow=23,SNR=7.4
ASF Lg Lg 10 19 07.1
comp=N,29nm,0.3s,baz=211,slow=22,SNR=6.8
ASF LR LR 10 21 08.7
comp=N,10µm,18.6s,baz=40,slow=44
LGD Lagodekhi 9.28 353 P **Pn** **10 16 30.6 +1.2**
TBLG Delisi 9.42 346 *e*P **Pn** **10 16 34.8 +3.5**
TBLG Delisi 9.42 346 P **Pn** **10 16 33.1 +1.8**
TBLG Delisi 9.42 346 Pn **Pn** **10 16 33.1 +1.8**
AKH Akhalkalaki 9.43 340 P **Pn** **10 16 35.2 +3.6**
AKH Akhalkalaki 9.43 340 Pn **Pn** **10 16 35.2 +3.6**
AFRZ Afriz 9.43 82 *e*Pn **Pn** **10 16 32.5 +0.9**
IKOO Kooshah 9.44 88 *e*Pn **Pn** **10 16 33.6 +1.7**
KOPT Kop Dagi 9.45 323 Pn **Pn** **10 16 34.0 +1.9**
ISFR Sfrayin 9.46 59 *e*Pn **Pn** **10 16 34.9 +2.8**
MALT Malatya 9.54 309 *e*P **Pn** **10 16 31.8 -1.2**
MALT Malatya 9.54 309 P **Pn** **10 16 33.9 +0.9**
IKRD Kardeh 9.73 62 *e*Pn Pn 10 16 49.0 +13
KHNJ Kahnooj 9.73 116 *e*Pn **Pn** **10 16 35.7 +0.1**
SHME Shamm 9.77 130 *i*P **Pn** **10 16 36.3 +0.1**
SNR=52
SHME S **Sn** **10 18 22.2 -3.5**
GAZ Gaziantep 9.83 300 Pn **Pn** **10 16 37.9 +1.0**
IAKL Akhelmad 9.85 63 *e*Pn **Pn** **10 16 39.4 +2.0**
UMQ Umm Al-Quwin 9.85 134 *i*P **Pn** **10 16 37.1 -0.1**
SNR=11
UMQ Umm Al-Quwin 9.85 134 P **Pn** **10 16 39.0 +1.8**
SNR=11
GEYT Alibeck 9.94 55 Pn **Pn** **10 16 40.1 +1.6**
comp=N,1.0nm,0.3s,baz=239,slow=12,SNR=45
GEYT Alibeck 9.94 55 **Pn** **10 16 40.2 +1.7**
GYA0 ALIBECK ARRAY 9.94 55 P **Pn** **10 16 40.1 +1.6**
GYA0B ALIBECK ARRAY 9.94 55 **Pn** **10 16 40.9 +2.4**
BANOM Banah 9.96 130 *i*P **Pn** **10 16 37.1 -1.7**
SNR=67
BANOM S **Sn** **10 18 26.1 -4.3**
BANOM Banah 9.96 130 P **Pn** **10 16 38.0 -0.8**
SNR=67
BANOM S **Sn** **10 18 25.4 -4.9**
IMON Monand 9.97 84 *e*Pn **Pn** **10 16 41.1 +2.0**
IPAY Payeh 9.98 64 *e*Pn **Pn** **10 16 41.3 +2.2**
KEMA Kemaliye 10.06 314 *e*Pn **Pn** **10 16 40.1 0.0**
IEMG Emamgholi 10.09 59 *e*Pn **Pn** **10 16 44.2 +3.5**
RCY Rachaya 10.10 278 *e*P **Pn** **10 16 38.7 -2.0**
IDAH Dahanechah 10.15 86 *e*Pn **Pn** **10 16 44.3 +2.7**
SHBL Chebaa 10.17 277 *e*P **Pn** **10 16 41.2 -0.6**
KELT Kelkit 10.20 320 *e*Pn **Pn** **10 16 43.6 +1.4**
BATM Batumi 10.21 333 *e*P **Pn** **10 16 44.9 +2.8**
BATM Batumi 10.21 333 P **Pn** **10 16 45.2 +3.1**
NAZ Nazwa, Dubai 10.25 136 *i*P **Pn** **10 16 42.5 -0.1**
SNR=69
NAZ Nazwa, Dubai 10.25 136 P **Pn** **10 16 43.4 +0.8**
SNR=69
NAZ S **Sn** **10 18 31.1 -6.2**
BHL Bhannes 10.27 280 *e*P **Pn** **10 16 45.9 +2.8**
MSFE Esma-Masafi 10.27 133 *i*P **Pn** **10 16 42.2 -0.8**
SNR=82
MAK Makhachkala 10.33 359 *d i*P Pn 10 16 48.6 +4.9
MAK *e*S Sn 10 18 51.8 +13
MAK pmax pmax
comp=Z,193nm,0.9s
MAK MLR MLR
comp=Z,33µm,13.0s
ASUD Al Ashush, Dub 10.34 138 P **Pn** **10 16 45.4 +1.5**
ASUD S **Sn** **10 18 33.8 -5.7**
FAQ Al Faqa, Dubai 10.39 137 *i*P **Pn** **10 16 44.3 -0.3**
SNR=14
FAQ Al Faqa, Dubai 10.39 137 P **Pn** **10 16 46.0 +1.3**
SNR=14
FAQ S **Sn** **10 18 35.5 -5.3**
HMDT Nahal Hemdat 10.40 271 Pn **Pn** **10 16 49.3 +4.6**
MDH Madha 10.40 132 *i*P **Pn** **10 16 43.4 -1.4**
SNR=52
MDH Madha 10.40 132 P **Pn** **10 16 45.0 +0.2**
SNR=52
MDH P **Pn** **10 16 45.0 +0.2**
SNR=52
MDH S **Sn** **10 18 34.9 -6.2**
MDH S **Sn** **10 18 34.9 -6.2**
NHDN Nehbandan 10.45 93 *e*Pn **Pn** **10 16 46.9 +1.3**
MMA0B Mount Meron ar 10.46 276 Pn **Pn** **10 16 50.3 +4.7**
MMAI Mount Meron Ar 10.46 276 Pn **Pn** **10 16 45.8 +0.2**
comp=Z,3.4nm,0.3s,baz=90,slow=14,SNR=8.0
MMAI Sn **Sn** **10 18 40.4 -2.1**
comp=Z,24nm,0.3s,baz=83,slow=15,SNR=4.3
MMAI Lg Lg 10 19 46.5
comp=Z,32nm,0.3s,baz=99,slow=28,SNR=1.9
MMAI LR LR 10 21 49.7
comp=Z,8µm,19.1s,baz=80,slow=43
MMLI Mount Malkishu 10.47 272 Pn **Pn** **10 16 50.4 +4.6**
ONI Oni 10.54 342 P **Pn** **10 16 51.1 +4.5**
KTUT Trabzon 10.55 325 *e*P **Pn** **10 16 50.1 +3.3**
UOSS Minazif 10.60 134 P **Pn** **10 16 46.5 -1.0**
UOSS S **Sn** **10 18 39.5 -6.5**
UOSS Minazif 10.60 134 **Pn** **10 16 47.0 -0.6**
DSI Dead Sea 10.61 268 Pn **Pn** **10 16 50.4 +2.8**
ZEI Tsey 10.61 344 *e*P Pn 10 16 53.1 +5.3
ZEI pmax pmax
comp=Z,192nm,1.7s
BLGI Bet Lehem HaGe 10.65 274 Pn **Pn** **10 16 51.8 +3.7**
HATD Hatta, Dubai 10.65 135 *i*P **Pn** **10 16 46.3 -1.9**
SNR=112
HATD Hatta, Dubai 10.65 135 P **Pn** **10 16 48.0 -0.2**
SNR=112
HATD S **Sn** **10 18 42.5 -4.6**
GROC Groznyy 10.69 352 *e*P **Pn** **10 16 49.9 +1.3**
GROC *e*S **Sn** **10 18 49.0 +1.1**
GROC pmax pmax
comp=Z,83nm,0.7s
GROC MLR MLR
comp=Z,18µm,10.0s
ASHO Ashiyiah 10.71 135 *i*P **Pn** **10 16 47.9 -1.1**
SNR=202
ASHO Ashiyiah 10.71 135 P **Pn** **10 16 49.0 -0.1**
SNR=198
ASHO S **Sn** **10 18 44.6 -4.2**
IMYA Miami 10.79 66 *e*Pn **Pn** **10 16 52.6 +2.3**
SLTI Sal'it 10.81 271 Pn **Pn** **10 16 54.1 +3.7**
OFRI `Ofer 10.83 273 Pn **Pn** **10 16 55.0 +4.4**
JRKH Jarkhoshk 10.87 69 *e*Pn **Pn** **10 16 53.1 +1.8**
YURE YUREGIR 10.87 296 *e*P Pn 10 16 57.5 +6.3
SARI SarD1z-Kayseri 10.94 305 *e*P **Pn** **10 16 52.4 +0.2**
KOZT Kozan 10.96 300 *e*P **Pn** **10 16 53.4 +1.0**
ZFRI Zfri 10.98 263 Pn **Pn** **10 16 53.1 +0.5**
KRTS Karatas 10.99 294 *e*P Pn 10 17 02.3 +10
ALNE Al Ain 11.02 139 *i*P **Pn** **10 16 52.3 -1.0**
SNR=118
ESPY Espiye-Giresun 11.03 321 *e*P **Pn** **10 16 56.5 +3.2**
PRNI Paran 11.17 262 Pn **Pn** **10 16 57.5 +2.1**
HRFI Mount Harif 11.23 260 *e*P **Pn** **10 16 54.4 -1.8**
HRFI Mount Harif 11.23 260 *e*Pn **Pn** **10 16 55.3 -0.9**
HRFI Mount Harif 11.23 260 Pn **Pn** **10 16 57.6 +1.4**
AQBJ Aqaba 11.31 259 Pn **Pn** **10 17 01.8 +4.6**
SVSK Karacayir 11.37 313 *e*P **Pn** **10 16 58.4 +0.5**
SOHO SOHO 11.41 136 *i*P **Pn** **10 16 56.8 -1.8**
SNR=73
SOHO SOHO 11.41 136 P **Pn** **10 16 57.4 -1.1**
SOHO P **Pn** **10 16 57.4 -1.1**
SOHO S **Sn** **10 18 59.8 -6.0**
SOHO S **Sn** **10 18 59.8 -6.0**
EIL Elat 11.41 258 Pn **Pn** **10 16 57.6 -1.0**
comp=Z,4.2nm,0.3s,baz=52,slow=6.8,SNR=20
EIL Lg Lg 10 20 13.8
comp=Z,16nm,0.3s,baz=59,slow=14,SNR=4.4
EIL LR LR 10 22 26.9
comp=Z,21µm,18.7s,baz=80,slow=43
EIL Elat 11.41 258 *e*P **Pn** **10 16 57.1 -1.5**
RSDY Resadiye-TOKAT 11.46 316 *e*P **Pn** **10 17 02.7 +3.4**
BNN Bunyan 11.54 306 *e*P **Pn** **10 17 03.6 +3.1**
KZIT Kziot 11.55 265 Pn **Pn** **10 17 04.4 +3.8**
MERS Mersin 11.73 295 *e*P **Pn** **10 17 05.7 +2.7**
KBZ Khabaz 11.74 342 *e*P **Pn** **10 17 07.2 +4.1**
comp=Z,0.4nm,0.3s,baz=150,slow=10,SNR=24
KBZ LR LR 10 22 17.7
comp=Z,12µm,19.2s,baz=146,slow=41
KBZ Khabaz 11.74 342 *e*P **Pn** **10 17 06.7 +3.6**
KBZ pmax pmax
comp=Z,78nm,1.5s
TOKT Tokat 11.89 313 *e*P **Pn** **10 17 07.8 +2.7**
KIZK Mersin 11.92 293 *e*P **Pn** **10 17 07.7 +2.2**
KVAR Kislovodsk Arr 12.01 342 Pn **Pn** **10 17 10.9 +4.1**
baz=274,slow=22,SNR=6.3
KVAR Lg Lg 10 20 41.2
baz=153,slow=21,SNR=1.2
KVAR LR LR 10 21 24.2
comp=Z,18µm,20.0s,baz=50,slow=36
KIV Kislovodsk 12.01 342 *e*P **Pn** **10 17 10.2 +3.4**
KIV *e*S **Sn** **10 19 25.7 +5.2**
KIV pmax pmax
comp=Z,504nm,1.0s
KIV MLR MLR
comp=Z,18µm,11.0s
KIV Kislovodsk 12.01 342 Pn **Pn** **10 17 10.3 +3.5**
ARQ Araqi 12.02 138 P **Pn** **10 17 06.1 -0.9**
SNR=37
ARQ P **Pn** **10 17 06.1 -0.9**
SNR=37
ARQ S **Sn** **10 19 15.8 -4.9**
ARQ S **Sn** **10 19 15.8 -4.9**
SILI Silifke-Mersin 12.06 292 *e*P **Pn** **10 17 09.8 +2.4**
HRA Herat 12.17 78 Pn **Pn** **10 17 10.3 +1.1**
IKL Isikli 12.22 291 *e*P **Pn** **10 17 10.8 +1.2**
CSS Mathiatis 12.28 285 *e*P **Pn** **10 17 11.8 +1.3**
CSS Mathiatis 12.28 285 Pn **Pn** **10 17 12.9 +2.4**
CSS Mathiatis 12.28 285 Pn **Pn** **10 17 11.9 +1.4**
HOQ Hoqain 12.29 135 P **Pn** **10 17 10.4 -0.3**
SNR=32
HOQ S **Sn** **10 19 20.5 -6.9**
YOZ Yozgat 12.29 308 *e*P **Pn** **10 17 13.1 +2.4**
GULA Gulagac 12.46 301 *e*P **Pn** **10 17 15.9 +3.0**
YESY Yesilyurt 12.61 298 *e*P **Pn** **10 17 17.9 +2.8**
TEKE Tekeli-Mersin 12.65 290 *e*P **Pn** **10 17 16.8 +1.3**
KVT Kavak 12.65 315 *e*P **Pn** **10 17 18.8 +3.3**
KVT Kavak 12.65 315 P **Pn** **10 17 19.5 +4.0**
LEF Lefka 12.66 285 *e*P **Pn** **10 17 18.6 +3.0**
SOC Sochi 12.66 332 *c i*P **Pn** **10 17 17.4 +1.8**
SOC *e* 10 19 40.1
SOC pmax pmax
comp=Z,201nm,0.8s
BIDO Bidbid 12.83 132 P **Pn** **10 17 17.7 -0.3**
SNR=18
BIDO P **Pn** **10 17 17.7 -0.3**
SNR=18
BSY Bisya 12.87 138 P **Pn** **10 17 18.0 -0.5**
SNR=88
BSY S **Sn** **10 19 34.3 -7.2**
SULT Sultanhani-AKS 12.93 299 *e*P **Pn** **10 17 22.2 +2.9**
GOF Gofitskoye 12.96 345 ⇑ *i*P **Pn** **10 17 22.1 +2.4**
GOF pmax pmax
comp=Z,135nm,1.1s
CORM Corum 13.02 309 *e*P **Pn** **10 17 23.1 +2.4**
SMDO Samad 13.13 134 P **Pn** **10 17 21.6 -0.6**
SNR=96
SMDO P **Pn** **10 17 21.6 -0.6**
SNR=96
SMDO S **Sn** **10 19 42.5 -5.5**
SMDO S **Sn** **10 19 42.5 -5.5**
SERE Sereflikochisa 13.18 303 *e*P **Pn** **10 17 25.2 +2.4**
GAZI Gazipasa 13.30 290 *e*P **Pn** **10 17 26.1 +1.7**
WSAR Wadi Sarin 13.36 132 Pn **Pn** **10 17 23.6 -1.6**
comp=Z,14nm,0.3s,baz=311,slow=11,SNR=56
WSAR Sn **Sn** **10 19 47.5 -5.9**
comp=Z,14nm,0.3s,baz=130,slow=14,SNR=3.8
WSAR LR LR 10 23 30.9
comp=Z,10µm,19.3s,baz=326,slow=41
WSAR Wadi Sarin 13.36 132 P **Pn** **10 17 23.9 -1.3**
SNR=27
WSAR S Sn 10 19 43.3 -10
BRTR Keskin Array B 13.46 306 Pn **Pn** **10 17 28.8 +2.0**
comp=Z,0.7nm,0.3s,baz=128,slow=9.5,SNR=95
BRTR Lg Lg 10 21 29.7
baz=230,slow=38,SNR=1.5
BRTR LR LR 10 24 31.9
comp=Z,4µm,18.0s,baz=92,slow=46
BRTR Keskin Array B 13.46 306 *i*P **Pn** **10 17 28.7 +2.0**
BRTR pmax pmax
comp=Z,47nm,0.9s
BRTR Keskin Array B 13.46 306 Pn **Pn** **10 17 27.4 +0.7**
BR131 Keskin Array S 13.47 306 P **Pn** **10 17 28.7 +2.0**
BR131 Keskin Array S 13.47 306 Pn **Pn** **10 17 28.7 +2.0**
DIKM Dikmen 13.47 316 ⇑P **Pn** **10 17 29.4 +2.8**
CHBY Cihanbeyli 13.52 300 *e*P **Pn** **10 17 29.9 +2.4**
KULU Kulu 13.62 302 *e*P **Pn** **10 17 31.7 +2.9**
JMDO Jabal Madar 13.68 136 P **Pn** **10 17 28.2 -1.5**
SNR=39
JMDO P **Pn** **10 17 28.2 -1.5**
SNR=39
JMDO S **Sn** **10 19 57.3 -4.2**
JMDO S **Sn** **10 19 57.3 -4.2**
KONT Konya--Tatoy 13.70 297 *e*P **Pn** **10 17 32.3 +2.5**
SNOP Sinop 13.73 317 *e*P **Pn** **10 17 32.2 +2.0**
AFSR Afar-Bala (An 13.74 304 *e*P **Pn** **10 17 32.9 +2.5**
LADK Ladik-KONYA 13.78 298 *e*P **Pn** **10 17 33.5 +2.5**
CANT Cankiri 13.90 309 *e*P **Pn** **10 17 34.3 +1.6**
SEYD Seydisehir-KON 13.94 294 *e*P **Pn** **10 17 31.0 -2.2**
WBK Wadi Bani Khal 14.03 133 P **Pn** **10 17 32.8 -1.6**
SNR=42
WBK S **Sn** **10 20 04.8 -5.0**
ILGA Ilgaz 14.07 311 Pn **Pn** **10 17 36.5 +1.3**
BR231 Keskin MP Arra 14.11 305 **Pn** **10 17 37.5 +2.0**
LOD Lodumlu 14.14 305 *e*P **Pn** **10 17 37.7 +1.8**
KIZT Kizilcal 14.37 300 *e*P **Pn** **10 17 40.9 +1.8**
BZK Bozkurt 14.40 314 ⇑P **Pn** **10 17 42.0 +2.6**
BZK Bozkurt 14.40 314 *e*P **Pn** **10 17 41.2 +1.8**
ANN Anapa 14.60 329 *c i*P **Pn** **10 17 43.4 +1.3**
ANN *i* S **Sn** **10 20 28.9 +5.3**
ANN pmax pmax
comp=Z,331nm,1.5s
ANN MLR MLR
comp=N,23µm,18.0s
ANN MLR MLR
comp=Z,16µm,14.0s
ANN MLR MLR
comp=E,11µm,16.0s
JLN Jalan Bani Buh 14.64 133 P **Pn** **10 17 40.5 -2.2**
SNR=22
JLN S **Sn** **10 20 16.1 -8.7**
MHTO MHTO 14.70 140 P **Pn** **10 17 41.5 -2.0**
MHTO P **Pn** **10 17 41.5 -2.0**
MHTO S **Sn** **10 20 19.0 -7.1**
SNR=8.7
MHTO S **Sn** **10 20 19.0 -7.1**
SNR=8.7
AUSIV SIVRIHISAR 14.82 302 *e*P **Pn** **10 17 46.3 +1.1**
SVRH Sivrihisar-ESK 14.83 302 *e*P **Pn** **10 17 46.5 +1.1**
BOLV Bolvadin 15.00 299 **Pn** **10 17 49.1 +1.5**
AUMIH MIHALICIK 15.03 303 *e*P **Pn** **10 17 48.6 +0.6**
ISP Isparta 15.06 295 *e*P **Pn** **10 17 49.6 +1.2**
ISP Isparta 15.06 295 P **Pn** **10 17 50.3 +1.8**
ISP Isparta 15.06 295 **Pn** **10 17 50.3 +1.8**
YUVA Yuva-Kibriscik 15.10 305 *e*P **Pn** **10 17 49.8 +0.8**
KURC Kurucasile-Bar 15.12 312 *e*P **Pn** **10 17 49.6 +0.5**
CIFT Cifteler, Eski 15.13 301 *e*P **Pn** **10 17 50.5 +1.1**
SHUT Suhut-Afyon 15.24 298 *e*P **Pn** **10 17 52.5 +1.6**
ELL Elmali 15.30 291 *e*P **Pn** **10 17 51.9 +0.2**
ELL Elmali 15.30 291 P **Pn** **10 17 51.9 +0.2**
ELL pmax pmax
comp=Z,1µm,1.2s
ELL Elmali 15.30 291 **Pn** **10 17 51.9 +0.2**
DQM DQM 15.34 143 P **Pn** **10 17 49.8 -2.3**
SNR=44
DQM P **Pn** **10 17 49.8 -2.3**
SNR=44
DQM S **Sn** **10 20 32.2 -10**
SNR=7.7
DQM S **Sn** **10 20 32.2 -10**
SNR=7.7
BASM Basmaki-Afyon 15.44 295 *e*P **Pn** **10 17 54.6 +1.1**
AKAS Kas 15.46 289 *e*P **Pn** **10 17 52.9 -0.9**
AKAS Kas 15.46 289 **P** **10 17 56.2 -2.0**
MDUB Mudurnu 15.47 305 **Pn** **10 17 54.2 +0.3**
KDZE Karadeniz Ereo 15.69 308 ⇓P **P** **10 17 58.9 -1.7**
BORA Eskisehir 15.76 302 *e*P **Pn** **10 17 57.6 0.0**
GULT Gulveren 15.93 304 *e*P **Pn** **10 18 00.1 +0.3**
ABTO Aybut 15.98 161 P **Pn** **10 17 57.0 -3.6**
SNR=24
ABTO S Sn 10 20 45.6 -12
AUBOZ BOZOYUK 16.07 302 *e*P **Pn** **10 18 01.7 +0.1**
RBK Rabkut 16.12 158 P **Pn** **10 17 58.7 -3.6**
SNR=55
RBK S Sn 10 20 48.1 -13
SHAO Shalim 16.14 152 *i*P **Pn** **10 17 60.0 -2.6**
SNR=22
SHAO Shalim 16.14 152 P **Pn** **10 17 60.0 -2.6**
SNR=22
SHAO S Sn 10 20 49.2 -12
DMTO DMTO 16.17 155 P **Pn** **10 17 60.0 -2.9**
SNR=23
DMTO S Sn 10 20 48.9 -13
SNR=6.8
SPNC Sapanca-Adapaz 16.18 305 *e*P **Pn** **10 18 03.1 +0.2**
SAUV Serdivan-Sakar 16.19 305 *e*P **Pn** **10 18 02.7 -0.3**
SIM Simferopol' 16.27 323 *e*P **Pn** **10 18 02.0 -2.1**
SIM *e*S **Sn** **10 21 03.0 -1.3**
DALY Dalyan (Mula) 16.30 290 *e*P **Pn** **10 18 03.6 -0.9**
CAVI Cavuskoy 16.32 303 *e*P **Pn** **10 18 04.7 0.0**
TVSB Tavsanli 16.33 300 *e*P **Pn** **10 18 05.5 +0.6**
SIMA Simav-Kutahya 16.57 298 *e*P **Pn** **10 18 08.2 +0.2**
TURN Turunc 16.62 290 *e*P **Pn** **10 18 07.6 -0.9**
ARG Arkhangelos 16.64 288 P **P** **10 18 11.4 +0.2**
ARG pmax pmax
comp=Z,256nm,1.3s
YER Yerkesik 16.65 291 *e*P **Pn** **10 18 07.7 -1.3**
YER Yerkesik 16.65 291 P **Pn** **10 18 09.0 0.0**
KULA Kula-Manisa 16.65 296 *e*P **Pn** **10 18 09.4 +0.4**
HRT Hereke 16.68 305 *e*P **Pn** **10 18 08.9 -0.4**
MANT Manisa 16.73 296 **Pn** **10 18 10.0 -0.1**
SILT Sile 16.83 306 *e*P **Pn** **10 18 10.6 -0.6**
GEMT Gemlik 16.87 303 *e*P **Pn** **10 18 11.4 -0.2**
TSVK Tesvikiye-Yalo 17.01 303 *e*P **Pn** **10 18 12.9 -0.5**
MDNY Mudanya-Bursa 17.06 302 *e*P **Pn** **10 18 14.1 +0.1**
DAT Datca 17.15 289 *e*P **Pn** **10 18 13.5 -1.8**

KAVV Kandilli-Istan 17.20 305 eP Pn 10 18 15.4 -0.4
ISK Istanbul-Kandi 17.20 305 eP Pn 10 18 15.4 -0.4
KLYT Kilyos 17.29 305 eP Pn 10 18 16.6 -0.2
KARP Karpathos 17.36 285 P Pn 10 18 18.5 +0.6
KARP Karpathos 17.36 285 eP P 10 18 18.9 -0.3
KARP Karpathos 17.36 285 P Pn 10 18 18.6 +0.6
KARP IAmb IAmb 10 18 27.0
comp=Z,473nm,1.0s
KCTX Karacabey (Bur 17.40 301 eP Pn 10 18 18.1 -0.3
BODT Bodrum 17.41 290 eP Pn 10 18 16.8 -1.6
GCAM G?zelcaml? 17.57 292 eP P 10 18 22.5 +1.0
EDC Edincik 17.78 301 eP Pn 10 18 23.0 -0.1
KBL Kabul 17.79 78 P P 10 18 25.9 +1.8
SNR=168
KBL P P 10 18 25.9 +1.8
SNR=168
KBL Kabul 17.79 78 P P 10 18 25.4 +1.3
KBL pmax pmax
comp=Z,344nm,1.1s
KBL Kabul 17.79 78 P P 10 18 25.4 +1.3
KBL IAmb IAmb 10 18 30.2
comp=Z,344nm,1.1s
BLCB Balcova 17.86 295 eP Pn 10 18 23.8 -0.2
SMG Samos 17.88 292 P Pn 10 18 23.6 -0.7
MRMT Marmara Adasi 18.06 302 eP Pn 10 18 26.4 -0.2
ZKR Zakros 18.11 284 P Pn 10 18 26.8 -0.4
ZKR Zakros 18.11 284 eP P 10 18 28.7 +1.2
DKL Dikili 18.12 297 eP P 10 18 27.5 0.0
MAR2 Marsite Statio 18.30 302 eP P 10 18 29.7 +0.2
MAR3 Marsite Statio 18.32 302 eP Pn 10 18 29.2 -0.5
MAR6 Marsite Statio 18.33 302 eP P 10 18 29.9 +0.1
MAR4 Marsite Statio 18.34 302 eP Pn 10 18 29.1 -0.8
CHGR Chuyangaron 18.34 65 P Pn 10 18 29.2 -0.8
CHGR IAmb IAmb 10 18 36.8
comp=Z,274nm,1.0s
RKY Sarkoy-Tekirda 18.39 302 eP Pn 10 18 30.7 +0.1
ANAF Anafi Island 18.55 288 P P 10 18 31.4 -0.9
LPK Lapseki 18.59 301 eP Pn 10 18 33.3 +0.4
NPS Neapolis 18.61 284 P P 10 18 33.1 +0.1
CHOS Chios island 18.62 294 P P 10 18 32.4 -0.7
CHOS Chios island 18.62 294 eP P 10 18 33.2 +0.1
PRK Paraskevi 18.64 297 P Pn 10 18 33.9 +0.3
LAST Lasithi 18.72 284 P P 10 18 33.5 -0.7
EZN Ezine 18.75 299 P P 10 18 33.9 -0.5
EZN Ezine 18.75 299 eP Pn 10 18 34.7 -0.2
EZN Ezine 18.75 299 P Pn 10 18 35.6 +0.7
MANR Mangalia 18.75 312 ⇓P Pn 10 18 34.9 +0.1
SANT Santorini 18.80 288 P P 10 18 34.2 -0.9
SANT Santorini 18.80 288 eP P 10 18 34.7 -0.4
SANT Santorini 18.80 288 P P 10 18 34.4 -0.7
SANT IAmb IAmb 10 18 42.9
comp=Z,241nm,0.8s
GELI Tayfur-Gelibol 18.81 300 eP P 10 18 35.3 +0.3
APE Apeiranthos 18.82 290 P P 10 18 34.6 -0.6
APE Apeiranthos 18.82 290 ⇑P Pn 10 18 35.6 -0.1
APE Apeiranthos 18.82 290 eP P 10 18 34.7 -0.5
APE Apeiranthos 18.82 290 c iP P 10 18 34.7 -0.5
APE pmax pmax
comp=Z,491nm,1.9s
EFOR EFORIE 18.86 313 ⇑P Pn 10 18 36.3 +0.2
AB31 Akbulak array 18.93 25 P P 10 18 35.7 -0.6
ABKAR Akbulak array 18.93 25 P P 10 18 35.8 -0.5
PSN Preselentsi 18.94 311 i P P 10 18 36.1 -0.4
SIGR SIGRI 18.95 296 eP P 10 18 36.9 +0.3
BOZC Bozcaada 18.96 298 eP P 10 18 36.8 +0.1
MFTR Murfatlar 19.04 313 ⇑P Pn 10 18 38.5 +0.2
JURR Jurilovca 19.07 315 ⇑P Pn 10 18 39.2 +0.5
VRH Novokhopyorsk 19.10 348 eP P 10 18 37.9 -0.3
VRH eS Sn 10 22 06.8 -5.8
VRH pmax pmax
comp=Z,620nm,0.9s
VRH smax smax
comp=E,3μm,11.7s
VRH MLR MLR
comp=Z,13μm,13.0s
EDRB Edirne 19.11 305 P P 10 18 38.6 +0.3
EDRB Edirne 19.11 305 eP Pn 10 18 38.8 -0.4
GADA Gvkgeada 19.17 299 eP Pn 10 18 39.5 -0.4
TIRR Tirgusor 19.19 314 ⇑P Pn 10 18 40.0 -0.1
TIRR Tirgusor 19.19 314 P P 10 18 38.7 -0.5
TIRR pmax pmax
comp=Z,494nm,1.3s
TIRR Tirgusor 19.19 314 P P 10 18 38.7 -0.5
TIRR IAmb IAmb 10 18 43.7
comp=Z,494nm,1.3s
TIRR Tirgusor 19.19 314 i P P 10 18 38.5 -0.7
TAS Tashkent 19.19 57 P Pn 10 18 40.6 +0.3
TAS pmax pmax
comp=Z,426nm,1.0s
TAS Tashkent 19.19 57 P Pn 10 18 40.6 +0.3
TAS IAmb IAmb 10 18 47.8
comp=Z,426nm,1.0s
IDI Anoyia 19.20 284 P Pn 10 18 40.6 +0.1
comp=Z,8.9nm,0.3s,baz=86,slow=14,SNR=51
IDI LR LR 10 29 39.3
comp=Z,3μm,19.4s,baz=100,slow=48
PRD Provadia 19.22 309 i P Pn 10 18 40.1 -0.4
SIVA Sivas 19.27 283 P P 10 18 40.2 +0.1
ALN Alexandroupoli 19.27 302 P P 10 18 40.0 -0.1
ALN Alexandroupoli 19.27 302 eP Pn 10 18 41.1 -0.1
ALN Alexandroupoli 19.27 302 P Pn 10 18 40.8 -0.3
ALN pmax pmax
comp=Z,477nm,1.2s
ALN Alexandroupoli 19.27 302 P Pn 10 18 40.8 -0.3
ALN IAmb IAmb 10 18 48.7
comp=Z,477nm,1.2s
GAR Garm 19.30 64 P Pn 10 18 42.4 +0.7
GAR IAmb IAmb 10 18 48.4
comp=Z,346nm,1.0s
NEF NEVSHA 19.33 309 i P Pn 10 18 42.5 +0.6
AKTO Aktyubinsk 19.33 20 P Pn 10 18 41.6 -0.2
comp=Z,9.8nm,0.3s,baz=200,slow=12,SNR=26
AKTO LR LR 10 27 32.6
comp=Z,3μm,21.2s,baz=200,slow=41
TLCR 19.34 316 ⇑P Pn 10 18 42.1 +0.1
TLCR 19.34 316 P Pn 10 18 42.0 +0.1
VORD Divnogorie 19.38 344 eP P 10 18 41.0 -0.2
VORD eS Sn 10 22 14.9 -4.4
VORD pmax pmax
comp=Z,490nm,1.2s
VORD smax smax
comp=E,840nm,5.5s
VORD MLR MLR
comp=Z,6μm,11.0s
TOPG Topolog 19.43 315 ⇓P Pn 10 18 42.7 -0.3
JMB Yambol 19.45 306 i P Pn 10 18 43.2 -0.2
TLBR Topalu 19.46 313 ⇓P Pn 10 18 43.2 -0.2
SMTH Samothraki Isl 19.52 300 P P 10 18 42.4 -0.4
HARR Harsova 19.60 314 ⇓P Pn 10 18 44.9 -0.3
HARR Harsova 19.60 314 P Pn 10 18 44.8 -0.3
LIA Limnos Island 19.62 298 P P 10 18 43.3 -0.6
VSR Storozhevoye 19.64 344 eP P 10 18 43.2 -0.9
VSR eS S 10 22 18.3 -6.8
VSR pmax pmax
comp=Z,2μm,1.6s
VSR smax smax
comp=E,5μm,8.9s
VSR MLR MLR
comp=Z,13μm,13.0s
MHLO Agia Marina, M 19.68 288 P P 10 18 44.3 -0.3
RDO Rodhopi 19.71 302 P P 10 18 45.4 +0.4
RDO Rodhopi 19.71 302 eP Pn 10 18 45.8 -0.7
CFR Carcaliu 19.74 315 ⇑P Pn 10 18 46.1 -0.6
VAM Vamos 19.77 285 P P 10 18 44.9 -0.7
GVDS Gavdos 19.86 283 P P 10 18 45.5 -1.1
GVDS Gavdos 19.86 283 eP P 10 18 46.2 -0.4
GVD Gavdhos 19.86 283 P P 10 18 45.7 -0.8
GVD Gavdhos 19.86 283 eP P 10 18 45.8 -0.8
BTK Batken 19.92 62 P Pn 10 18 48.9 -0.1
BTK pmax pmax
comp=Z,328nm,1.2s
BTK Batken 19.92 62 Pn 10 18 48.9 -0.1
BTK IAmb IAmb 10 19 02.0
comp=Z,328nm,1.2s
IMMV Iera Moni Meta 19.95 285 P P 10 18 45.2 -2.4
IMMV Iera Moni Meta 19.95 285 eP P 10 18 47.9 +0.3
KDZ Kurdzhali 19.96 303 eP Pn 10 18 48.8 -0.7
KDZ Kurdzhali 19.96 303 i P P 10 18 48.6 +0.9
RAZG Razgrad 19.96 309 ⇑P Pn 10 18 48.8 -0.7
IUG luzhnay 20.00 55 ⇑iP P 10 18 49.1 +0.8
comp=Z,482nm,2.0s,baz=56
IUG eS Sn 10 22 35.0 +0.3
baz=56
IUG LR LR 10 27 28.6
comp=Z,3μm,12.5s,baz=56
IUG luzhnay 20.00 55 c iP P 10 18 49.0 +0.8
IUG eS Sn 10 22 34.9 +0.3
IUG pmax pmax
comp=Z,482nm,2.0s
IUG MLR MLR
comp=Z,3μm,13.0s
DIM Dimitrovgrad 20.02 304 i P P 10 18 49.0 +0.7
VORR Voronezh 20.05 344 ⇑iP Pn 10 18 50.0 -0.4
VORR pmax pmax
comp=Z,2μm,1.6s
SCHL Schela 20.09 316 ⇑P Pn 10 18 50.0 -0.9
RODP Rodopos 20.14 285 P Pn 10 18 51.6 +0.1
RODP Rodopos 20.14 285 eP Pn 10 18 50.7 -0.8
THAS Thassos island 20.15 300 P P 10 18 48.7 -1.0
KYMI Kymi, Euboea I 20.17 294 P P 10 18 50.0 0.0
DION Dionisos Attik 20.21 292 P P 10 18 50.5 0.0
SZH Strazhica 20.22 308 i P P 10 18 51.1 +0.7
PTL Penteli 20.26 292 P P 10 18 50.6 -0.4
VLY Voula,Athens 20.29 292 P P 10 18 50.6 -0.7
PGOR Pogoanele 20.29 313 ⇓P Pn 10 18 52.5 -0.8
VARL Varlezi 20.30 317 ⇓P Pn 10 18 52.7 -0.6
ATHU Athens Univers 20.31 292 P P 10 18 50.6 -0.9
MILM Milestii Mici 20.36 320 ⇑P P 10 18 52.4 +0.5
ATH Athens Observa 20.36 292 P P 10 18 52.2 +0.1
KIS Kishinev 20.40 320 ⇑iP P 10 18 50.6 -1.8
comp=Z,2μm,7.0s
KIS Kishinev 20.40 320 c iP P 10 18 50.6 -1.8
KIS e 10 19 19.0
KIS eS S 10 22 32.0 -8.4
KIS pmax pmax
comp=Z,2μm,7.0s
KIS smax smax
comp=E,3μm,8.0s
KIS smax smax
comp=N,3μm,8.1s
KIS pmax pmax
comp=E,4μm,3.2s
KIS MLR MLR
comp=Z,1μm,13.0s
KIS MLR MLR
comp=N,2μm,14.0s
KIS MLR MLR
comp=E,2μm,14.0s
KAVA Kavala 20.41 301 P P 10 18 51.6 -0.9
AOS Alonnisos 20.44 295 P P 10 18 52.8 -0.1
AOS Alonnisos 20.44 295 eP P 10 18 53.6 +0.7
RZN Rozhen 20.47 303 i P P 10 18 53.9 +0.5
ANKY Antikythira Is 20.52 286 P P 10 18 53.0 -0.7
PETR Petresti 20.57 315 ⇑P Pn 10 18 55.4 -1.0
PVL Pavlikeni 20.60 307 i P Pn 10 18 56.2 -0.6
SGRR Singureni 20.60 311 ⇑P P 10 18 55.6 +1.0
PLD Plovdiv 20.62 304 eP P 10 18 55.3 +0.5
PLD Plovdiv 20.62 304 P P 10 18 55.3 +0.5
PLD Plovdiv 20.62 304 i P P 10 18 55.0 +0.2
OUR Ouranopolis 20.62 299 P P 10 18 54.1 -0.7
OUR Ouranopolis 20.62 299 eP P 10 18 55.1 +0.3
OUR Ouranopolis 20.62 299 P P 10 18 55.5 +0.7
SULR 20.64 312 ⇑P Pn 10 18 56.2 -1.0
GHRR 20.65 316 ⇓P Pn 10 18 56.5 -0.9
ISR Istrita 20.67 313 ⇓P Pn 10 18 57.1 -0.7
ISR Istrita 20.67 313 P Pn 10 18 57.0 -0.7
ISR pmax pmax
comp=Z,682nm,1.1s
DID Didima 20.68 290 P P 10 18 53.6 -2.0
KK31 Karatay Array 20.69 53 i P P 10 18 55.6 0.0
KK31 Karatay Array 20.69 53 P P 10 18 55.8 +0.2
KK31 IAmb IAmb 10 19 09.0
comp=Z,303nm,1.4s
KKAR Karatay Array 20.69 53 P P 10 18 55.6 +0.1
KKAR pmax pmax
comp=Z,303nm,1.4s
KKAR Karatay Array 20.69 53 P P 10 18 55.7 +0.2
KKAR Karatay Array 20.69 53 P P 10 18 55.6 +0.1
KKAR IAmb IAmb 10 19 08.9
comp=Z,303nm,1.4s
ODBI Odobesti 20.69 315 ⇓P Pn 10 18 57.2 -0.7
VILL Villia 20.71 292 P P 10 18 55.4 -0.5
KTHA Kythira Island 20.73 287 P P 10 18 54.6 -1.4
KTHA Kythira Island 20.73 287 eP P 10 18 55.2 -0.8
SKIA Skiathos 20.75 295 P P 10 18 56.6 +0.3
VASR Vaslui 20.75 318 ⇑P P 10 18 56.8 +0.5
VLI Veliai 20.85 288 P P 10 18 54.9 -2.5
SECR 20.92 313 ⇓P P 10 18 59.2 +1.1
LTK Loutraki 20.96 292 P P 10 18 57.6 -1.0
NEO Neokhori 20.96 295 P P 10 18 58.7 +0.1
NEHR Nehoiu 20.98 314 ⇑P Pn 10 19 00.2 -1.1
NVR Nevrokopi 20.98 301 P P 10 18 58.7 -0.1
PLOR Plostina 20.98 315 ⇑P P 10 18 59.4 +0.6
LPSR Galich'ya Gora 20.98 345 eP P 10 18 58.1 -0.5
LPSR eS S 10 22 46.8 -5.0
LPSR pmax pmax
comp=Z,2μm,0.8s
LPSR smax smax
comp=E,5μm,14.1s
LPSR MLR MLR
comp=Z,3μm,10.0s
XOR Xorichti 21.00 296 P P 10 18 59.0 0.0
LKR Lokris 21.02 294 P P 10 18 58.5 -0.7
PLG Polygyros 21.03 298 P P 10 18 59.0 -0.3
COPA Copaceanca 21.05 310 ⇑P P 10 19 00.4 +1.0
SOCY Socotra 21.11 163 P P 10 18 57.4 -2.9
SOCY IAmb IAmb 10 19 02.1
comp=Z,206nm,1.0s
SRS Serrai 21.11 301 P P 10 18 59.8 -0.4
SRS Serrai 21.11 301 P P 10 19 00.3 +0.1
SRS pmax pmax
comp=Z,317nm,1.1s
PGB Panagyurishte 21.14 305 i P P 10 19 01.3 +0.7
MMB Musomiste 21.15 302 i P P 10 19 00.6 0.0
DZA Taraz 21.16 54 ⇑iP P 10 19 01.3 +0.6
comp=Z,365nm,1.8s,baz=55
DZA LR LR 10 28 00.4
comp=Z,3μm,12.0s,baz=55
DZA Taraz 21.16 54 c iP P 10 19 01.3 +0.6
DZA pmax pmax
comp=Z,365nm,1.8s
DZA MLR MLR
comp=Z,3μm,12.0s
SOH Sokhos 21.21 300 P P 10 19 01.4 +0.2
SOH Sokhos 21.21 300 P P 10 19 01.7 +0.5
SOH pmax pmax
comp=Z,185nm,1.4s
MLR Muntele Rosu 21.22 314 P P 10 19 02.7 +1.2
comp=Z,76nm,0.6s,baz=113,slow=6.4,SNR=54
MLR Muntele Rosu 21.22 314 ⇑P P 10 19 02.7 +1.2
MLR Muntele Rosu 21.22 314 P P 10 19 02.6 +1.2
MLR pmax pmax
comp=Z,513nm,1.1s
MLR Muntele Rosu 21.22 314 P P 10 19 02.6 +1.2
NIL Nilore 21.31 80 P P 10 19 02.6 +0.2
NIL pmax pmax
comp=Z,806nm,1.3s
NIL MLR MLR
comp=Z,20μm,19.0s
NIL Nilore 21.31 80 P P 10 19 02.6 +0.2
TESR Tescani 21.33 317 ⇑P P 10 19 02.7 +0.2
HORT Hortiatis 21.34 299 P P 10 19 02.5 -0.2
HORT Hortiatis 21.34 299 eP P 10 19 02.7 0.0
VLX Vlachokerasia 21.35 290 P P 10 19 01.0 -1.9
DSF Desfina 21.35 293 P P 10 19 01.7 -1.1
SORM Soroca 21.36 322 ⇑P P 10 19 02.7 -0.1
SORM Soroca 21.36 322 P P 10 19 02.6 -0.1
HUMR Humele 21.38 310 ⇑P P 10 19 04.1 +1.2
GUR Goura 21.44 291 P P 10 19 02.1 -1.7
THE Thessaloniki 21.45 299 P P 10 19 03.7 0.0
TRIP Tripoli 21.45 290 P P 10 19 02.3 -1.6
ATD Arta Tunnel 21.48 193 P P 10 19 05.8 +1.5
comp=Z,96nm,0.8s,baz=315,slow=7.5,SNR=14
ATD LR LR 10 28 09.1
comp=Z,12μm,18.8s,baz=5.0,slow=39
ATD Arta Tunnel 21.48 193 i P P 10 19 02.9 -1.4
ATD eS S 10 23 06.2 +4.0
ATD Arta Tunnel 21.48 193 P P 10 19 04.7 +0.4
ATD IAmb IAmb 10 19 11.3
comp=Z,169nm,1.0s
ATD Arta Tunnel 21.48 193 eP P 10 19 05.2 +0.9
ATD eS Sn 10 23 10.5 0.0
VLAD Vladila 21.53 309 ⇑P P 10 19 05.5 +0.9
STFAR Stefanesti-Arg 21.54 311 ⇑P P 10 19 06.5 +1.8
AGG Agios Georgios 21.60 294 P P 10 19 05.5 0.0
AGG Agios Georgios 21.60 294 eP P 10 19 05.5 0.0
AGG Agios Georgios 21.60 294 P P 10 19 05.4 0.0
AGG pmax pmax
comp=Z,682nm,1.4s
AGG Agios Georgios 21.60 294 P P 10 19 05.3 -0.1
OZUR 21.62 315 ⇓P P 10 19 06.5 +0.9
MTUR Matau 21.64 312 ⇑P P 10 19 07.3 +1.4
TEND Ethiopian Broa 21.66 198 eP P 10 19 08.2 +2.0
TEND eS Sn 10 23 17.1 +2.5
TEND Ethiopian Broa 21.66 198 eP P 10 19 07.3 +1.1
TEND eS Sn 10 23 10.9 -3.7
LIT Litokhoron 21.68 297 P P 10 19 05.8 -0.5
LIT Litokhoron 21.68 297 P P 10 19 05.8 -0.5
LIT pmax pmax
comp=Z,234nm,1.3s
LIT Litokhoron 21.68 297 P P 10 19 05.8 -0.5
LIT IAmb IAmb 10 19 15.8
comp=Z,234nm,1.3s
ITM Ithomi 21.69 289 P P 10 19 04.7 -1.8
ITM Ithomi 21.69 289 eP P 10 19 05.3 -1.2
ITM Ithomi 21.69 289 P P 10 19 06.0 -0.5
TRIZ Trizonia 21.70 293 P P 10 19 05.2 -1.3
VOIR 21.75 313 ⇑P P 10 19 08.6 +1.5
MAKR Makrakomi, Fth 21.75 294 P P 10 19 07.2 +0.1
DOPR Dopca 21.80 314 ⇑P P 10 19 08.1 +0.6
VTS Vitosha 21.82 304 i P P 10 19 07.7 -0.2
PYL PYLOS 21.82 289 P P 10 19 05.2 -2.6
ANX Ano Chora 21.85 293 P P 10 19 07.4 -0.8
AMT Artemida-Makis 21.90 290 P P 10 19 07.4 -1.2
VAY Valandovo 21.91 301 i P P 10 19 08.8 +0.1
VAY Valandovo 21.91 301 P P 10 19 13.0 +4.3
VAY pmax pmax
comp=Z,89nm,1.4s
THL Klokotos Trika 21.93 296 P P 10 19 07.7 -1.3
DRO Drossia 21.94 291 P P 10 19 08.3 -0.8
ARR Arges 21.97 312 ⇑P P 10 19 10.5 +1.1
EVR Evrytania 21.98 294 P P 10 19 08.2 -1.5
PRAR RASCA 22.05 318 ⇑P P 10 19 10.3 +0.2
RLS Riolos of Patr 22.14 292 P P 10 19 10.1 -1.1
PVO Paravola 22.16 293 P P 10 19 10.7 -0.7
STIP Stip 22.29 301 i P P 10 19 10.6 -2.2
VTN Vitineika 22.35 291 P P 10 19 14.2 +0.8
MDB Medias 22.49 314 ⇑P P 10 19 15.4 +0.5
KPRO Kipourio 22.50 296 P P 10 19 13.4 -1.7
LOT Lotru 22.55 312 ⇓P P 10 19 15.9 +0.2
AML Almayashu 22.57 58 P P 10 19 17.5 +1.3
SNR=57
SRE Strehaia 22.58 309 ⇑P P 10 19 17.1 +1.1
SRE Strehaia 22.58 309 P P 10 19 17.0 +1.1
PUNG Punghina 22.61 308 ⇑P P 10 19 16.3 +0.1
AKASG Malin Array Be 22.68 328 P P 10 19 15.3 -1.5
comp=Z,24nm,0.5s,baz=138,slow=9.1,SNR=26
AKASG S S 10 23 22.5 -1.9
comp=Z,10nm,1.0s,baz=135,slow=20,SNR=4.5
AKASG LR LR 10 28 38.8
comp=Z,2μm,19.1s,baz=120,slow=38
AKASG Malin Array Be 22.68 328 i P P 10 19 13.1 -3.8
AKASG pmax pmax
comp=Z,24nm,0.5s
AKASG Malin Array Be 22.68 328 P P 10 19 14.6 -2.2
AKBB Malin Array Si 22.68 328 P P 10 19 14.9 -2.0
AKBB pmax pmax
comp=Z,400nm,1.2s
AKBB MLR MLR
comp=Z,4μm,18.0s
AKBB Malin Array Si 22.68 328 P P 10 19 14.9 -2.0
DESE Ilese 22.69 201 eP P 10 19 17.3 -0.2
PENT Pentalofos 22.71 297 P P 10 19 16.4 -1.0
BURAR Bucovina Array 22.76 318 ⇑P P 10 19 18.3 +0.5
BURAR Bucovina Array 22.76 318 P P 10 19 18.3 +0.5
BURAR Bucovina Array 22.76 318 P P 10 19 17.0 -0.9
BUR08 Bucovina Ar. S 22.78 318 P P 10 19 17.7 -0.4
BUR08 IAmb IAmb 10 19 31.8
comp=Z,261nm,1.1s
EKS2 Erkin-Say 22.79 56 P P 10 19 19.9 +1.6
SNR=20
NEST Nestorio 22.82 298 P P 10 19 17.8 -0.8
JAN Janina 22.83 296 P P 10 19 17.5 -1.1
EVGI Lefkada island 22.84 293 P P 10 19 16.1 -2.5
VLS Valsamata 22.84 292 P P 10 19 16.2 -2.5
LKD2 Lefkada island 22.86 293 P P 10 19 16.2 -2.7
TSLK Tsoukalades, L 22.86 293 P P 10 19 16.2 -2.7
FSK Fiskardo 22.89 292 P P 10 19 16.4 -2.8
SKO Skopje 22.90 302 i P P 10 19 21.1 +1.9
ARCR ARCALIA 22.98 316 ⇑P P 10 19 20.6 +0.6
OHR Ohrid 23.15 299 i P P 10 19 23.5 +1.5
OHR Ohrid 23.15 299 P P 10 19 24.1 +2.1
OHR pmax pmax
comp=Z,290nm,1.6s
UCH Uchtor 23.18 58 P P 10 19 23.7 +1.0
SNR=41
HERR Herculane 23.19 309 ⇓P P 10 19 22.8 +0.6
IGT Igoumenitsa 23.21 295 P P 10 19 20.0 -2.5
IGT Igoumenitsa 23.21 295 P P 10 19 20.8 -1.7
IGT pmax pmax
comp=Z,172nm,1.1s
KSV Kosov 23.23 319 P P 10 19 21.2 -1.4
CJR Cluj-Napoca 23.24 314 ⇑P P 10 19 23.3 +0.4
CJR Cluj-Napoca 23.24 314 P P 10 19 23.2 +0.4
AAK Ala-Archa 23.29 57 P P 10 19 24.7 +1.3
comp=Z,35nm,1.0s,baz=228,slow=6.9,SNR=32
AAK ScP ScP 10 26 48.5 +0.5
comp=Z,8.0nm,0.7s,baz=184,slow=3.8,SNR=3.9
AAK LR LR 10 29 53.6
comp=Z,14μm,18.7s,baz=256,slow=40
AAK Ala-Archa 23.29 57 P P 10 19 25.5 +2.1
SNR=22
AAK Ala-Archa 23.29 57 P P 10 19 23.8 +0.4
AAK Ala-Archa 23.29 57 P P 10 19 25.1 +1.7
AAK Ala-Archa 23.29 57 IAMs_20 IAMs_20 10 29 03.6
comp=Z,9μm,22.0s
DEV Deva 23.29 312 ⇓P P 10 19 23.4 +0.1
DEV Deva 23.29 312 P P 10 19 23.3 +0.1
FRU1 Bishkek 23.43 57 P P 10 19 27.1 +2.3
FRU1 pmax pmax
comp=Z,56nm,0.8s
FRU1 MLR MLR
comp=Z,16μm,20.0s
FRU1 Bishkek 23.43 57 P P 10 19 27.1 +2.3
USP Ospenovka 23.48 55 P P 10 19 28.4 +3.2
SNR=26
THN Thein Dam 23.50 83 eP P 10 19 31.0 +5.6
SRN Sarande 23.52 296 P P 10 19 23.5 -2.0
CHMS Chumysh 23.57 56 P P 10 19 28.4 +2.3
SNR=30
KBK Karagaybulak 23.61 57 P P 10 19 29.6 +3.0
SNR=50
SGDS Sogindy 23.62 55 ⇑iP P 10 19 27.6 +0.9
comp=Z,465nm,2.1s,baz=56
SGDS LR LR 10 29 42.1
comp=Z,3μm,10.1s,baz=56
SGDS Sogindy 23.62 55 c iP P 10 19 27.5 +0.9
SGDS pmax pmax
comp=Z,465nm,2.1s
SGDS MLR MLR
comp=Z,3μm,10.0s
KZA Kyzart 23.68 59 P P 10 19 29.4 +1.9
SNR=27
KSH Kashi 23.71 65 P P 10 19 25.8 -1.8
KSH sP pP 10 19 31.0 -1.3
KSH S S 10 23 39.3 -2.9
KSH pmax pmax
comp=Z,260nm,1.0s
KSH pmax pmax
comp=Z,2μm,5.1s
KSH LR LR
comp=Z,8μm,11.0s
KSH LR LR
comp=Z,9μm,10.3s
KSH LR LR
comp=Z,29μm,16.9s
BTLS Baital 23.78 51 ⇑iP P 10 19 28.7 +0.6
comp=Z,341nm,2.4s,baz=52
BTLS eS S 10 23 44.9 +1.9
baz=52
BTLS LR LR 10 29 47.6
comp=Z,1μm,9.0s,baz=52
BTLS Baital 23.78 51 c iP P 10 19 28.7 +0.6
BTLS eS S 10 23 44.9 +1.9
BTLS pmax pmax
comp=Z,341nm,2.4s
BTLS MLR MLR
comp=Z,1μm,9.0s
OBN Obninsk 23.85 344 P P 10 19 27.3 -1.3
comp=Z,55nm,1.0s,baz=154,slow=4.3,SNR=65

OBN S **S** **10 23 44.0 +0.3**
comp=Z,12nm,0.6s,baz=26,slow=23,SNR=1.6
OBN LR LR 10 29 30.0
comp=Z,2μm,19.2s,baz=152,slow=38
OBN Obninsk 23.85 344 *ce*P **P** **10 19 27.7 -0.8**
OBN *e*PPP PPP 10 20 02.5
OBN *e* 10 23 07.1
OBN *e*S **S** **10 23 43.0 -0.7**
OBN *e*SS **SnSn** **10 24 31.6 +8.7**
OBN *e*SSS SSS 10 24 46.9
OBN pmax pmax
comp=Z,1μm,1.6s
OBN MLR MLR
comp=Z,6μm,15.0s
OBN Obninsk 23.85 344 P **P** **10 19 27.4 -1.1**
OBN IAMs_20 IAMs_20 10 29 17.4
comp=Z,8μm,18.0s
TIR Tirane 23.89 299 P **P** **10 19 28.3 -0.9**
TIR pmax pmax
comp=Z,255nm,0.9s
TIR Tirane 23.89 299 P **P** **10 19 28.3 -0.9**
DHRM DHARAMSHALA 24.01 83 *e*P **P** **10 19 31.5 +0.9**
ANKE Ethiopia-Afar 24.11 200 *i*P **P** **10 19 34.1 +2.4**
ANKE *e*S **S** **10 23 56.1 +6.9**
ANKE Ethiopia-Afar 24.11 200 *i*P **P** **10 19 34.1 +2.4**
ANKE *e*S **S** **10 23 55.1 +5.9**
PVY Plav 24.12 302⇑ *i*P **P** **10 19 31.1 -0.3**
TKM2 Tokmak 2 24.14 57 P **P** **10 19 33.4 +1.6**
SNR=95
TKM2 Tokmak 2 24.14 57 P **P** **10 19 31.7 -0.1**
OTUK Ortayu 24.18 43 *i*P **P** **10 19 31.2 -0.6**
OTUK pmax pmax
comp=Z,246nm,1.5s
MOS Moscow 24.19 346 *e*P **P** **10 19 26.6 -5.1**
MOS *e*S **S** **10 23 47.8 -1.4**
MOS pmax pmax
comp=Z,859nm,1.6s
MOS MLR MLR
comp=Z,6μm,15.0s
MOS MLR MLR
comp=N,5μm,16.0s
IVA Berane 24.24 303⇑ *i*P **P** **10 19 31.9 -0.6**
TRSU Trosnyk 24.30 317 P **P** **10 19 33.0 +0.1**
MORS Morshin 24.33 320 P **P** **10 19 32.6 -0.5**
ULHL Ulahol 24.43 59 P **P** **10 19 36.6 +2.2**
SNR=38
ULC Ulcinj 24.48 301⇑ *i*P **P** **10 19 33.3 -1.3**
KOME Kolasin 24.50 303⇑ *i*P **P** **10 19 34.4 -0.5**
DIVS Divibare 24.53 306⇑ *i*P **P** **10 19 35.1 0.0**
DIVS Divibare 24.53 306 P **P** **10 19 34.2 -0.9**
DIVS IAmb IAmb 10 19 43.4
comp=Z,195nm,1.3s
DRME Dracevica, Mon 24.58 301⇑ *i*P **P** **10 19 34.9 -0.6**
DRME Dracevica, Mon 24.58 301⇑ *i*P **P** **10 19 34.9 -0.6**
PDG Podgorica 24.58 302⇑ *i*P **P** **10 19 34.6 -0.9**
PDG Podgorica 24.58 302 P **P** **10 19 34.5 -1.0**
PDG IAmb IAmb 10 19 36.5
comp=Z,216nm,1.5s
TTG Podgorica 24.58 302⇑ *i*P **P** **10 19 34.9 -0.6**
LVV L'vov 24.64 321 *e*P **P** **10 19 35.8 -0.2**
LVV *e* 10 20 07.7
LVV *e* 10 20 20.2
LVV *e*S **S** **10 23 53.0 -3.7**
LVV *e* 10 24 43.9
LVV *e* 10 25 10.1
LVV pmax pmax
comp=Z,1μm,2.0s
LVV smax smax
comp=N,3μm,6.0s
LVV smax smax
comp=E,6μm,6.0s
LVV MLR MLR
comp=E,3μm,15.0s
LVV MLR MLR
comp=N,2μm,14.0s
LVV MLR MLR
comp=Z,3μm,14.0s
SCTE Santa Cesarea 24.71 296 P **P** **10 19 34.8 -1.9**
PLE Pljevlja 24.72 304⇓ *i*P **P** **10 19 37.2 +0.3**
MTBS Maitube 24.79 57 *e*P **P** **10 19 39.0 +1.5**
baz=57
MTBS Maitube 24.79 57 *e*P **P** **10 19 39.0 +1.5**
BUM Brajici-Budva 24.81 301⇑ *i*P **P** **10 19 37.2 -0.5**
RUDO Rudo 24.82 304 *e*P **P** **10 19 37.1 -0.5**
CEME Cevo 24.85 302⇑ *i*P **P** **10 19 37.3 -0.7**
BBLS Lazići 24.86 305⇑ *i*P **P** **10 19 38.5 +0.4**
NKY Niksic 24.86 302⇑ *i*P **P** **10 19 37.8 -0.4**
NKME Niksic 24.88 302⇑ *i*P **P** **10 19 37.7 -0.6**
AAE Adis Abeba 24.93 202 *i*P **P** **10 19 41.5 +2.3**
AAE *i*S **S** **10 24 11.2 +8.9**
AAE Adis Abeba 24.93 202 *i*P **P** **10 19 41.5 +2.3**
AAE *i*S **S** **10 24 11.2 +8.9**
SMLA Simla 24.93 85 *e*P **P** **10 19 40.0 +1.3**
ARU Arti 24.95 14 P **P** **10 19 39.2 +0.6**
comp=Z,33nm,0.8s,baz=195,slow=9.5,SNR=51
ARU LR LR 10 33 05.5
comp=Z,6μm,18.3s,baz=178,slow=45
ARU Arti 24.95 14 *c i*P **P** **10 19 38.7 +0.1**
ARU pmax pmax
comp=Z,455nm,1.7s
ARU MLR MLR
comp=Z,6μm,17.0s
ARU Arti 24.95 14 P **P** **10 19 38.9 +0.2**
UZH Uzhgorod 24.96 317 *e*P **P** **10 19 37.5 -1.3**
UZH *i* 10 19 46.5
UZH *e* 10 20 17.6
UZH *e*S **S** **10 23 56.4 -5.3**
UZH *e*SSS SSS 10 24 53.4
TEKS Tekeris 24.99 307⇑ *i*P **P** **10 19 39.7 +0.5**
FRGS Fruska Gora 25.01 308⇑ *i*P **P** **10 19 39.8 +0.5**
UPM Unac-Piva 25.03 303⇓ *i*P **P** **10 19 39.7 0.0**
UPM Unac-Piva 25.03 303 *e*P **P** **10 19 38.9 -0.8**
FURI Furi 25.08 202 *i*P **P** **10 19 41.5 +0.9**
FURI *i*S **S** **10 24 14.0 +9.2**
FURI Furi 25.08 202 P **P** **10 19 43.7 +3.2**
FURI IAmb IAmb 10 19 57.0
comp=Z,131nm,0.8s
FURI Furi 25.08 202 *e*P **P** **10 19 42.8 +2.3**
FURI *i*S **S** **10 24 14.0 +9.2**
KDJ Kajisay 25.08 59 P **P** **10 19 42.5 +2.2**
KDJ pmax pmax
comp=Z,88nm,0.8s
KDJ MLR MLR
comp=Z,17μm,18.0s
KDJ Kajisay 25.08 59 P **P** **10 19 42.5 +2.2**
KDJ IAmb IAmb 10 19 48.5
comp=Z,88nm,0.8s
KOLS Kolonicke sedl 25.12 318 *e*P **P** **10 19 40.8 +0.5**
KOLS pmax pmax
comp=Z,838nm,1.6s
KOLS Kolonicke sedl 25.12 318 *e*P **P** **10 19 40.8 +0.5**
KOLS *e*S **S** **10 24 05.6 +1.1**
HCY Herceg Novi 25.13 301⇑ *i*P **P** **10 19 39.7 -0.8**
HCY Herceg Novi 25.13 301 *e*P **P** **10 19 40.1 -0.4**
AAA Alma-Ata 25.15 57⇑ *i*P **P** **10 19 42.4 +1.7**
baz=57
AAA *e*S **S** **10 24 09.0 +3.8**
baz=57
AAA LR LR 10 30 28.2
comp=Z,7μm,13.1s,baz=57
AAA Alma-Ata 25.15 57 *e*P **P** **10 19 42.5 +1.7**
AAA *e*S **S** **10 24 04.6 -0.6**
AAA pmax pmax
comp=Z,2μm,8.9s
AAA smax smax
comp=N,2μm,9.3s
AAA MLR MLR
comp=Z,11μm,14.0s
BRY Bratogost 25.21 302⇑ *i*P **P** **10 19 40.9 -0.4**
BRY Bratogost 25.21 302⇑ *i*P **P** **10 19 40.8 -0.5**
MDOK Medeo 25.23 57 *i*P **P** **10 19 42.9 +1.3**
baz=58
MDOK *e*S **S** **10 24 09.7 +3.1**
baz=58
MDOK LR LR 10 30 32.4
comp=Z,10μm,12.7s,baz=58
MDOK Medeo 25.23 57 *i*P **P** **10 19 42.9 +1.3**
MDOK *e*S **S** **10 24 09.7 +3.1**
MDOK MLR MLR
comp=Z,10μm,13.0s
KWP Kalwaria Pacla 25.25 320 *e*P **P** **10 19 42.4 +0.9**
KWP *e*S **S** **10 24 07.6 +1.2**
KWP Kalwaria Pacla 25.25 320 P **P** **10 19 42.0 +0.5**
KWP pmax pmax
comp=Z,566nm,1.2s
KWP Kalwaria Pacla 25.25 320 P **P** **10 19 42.0 +0.5**
TREB Trebinje 25.30 302 *e*P **P** **10 19 40.8 -1.2**
BRZS Berezniki 25.30 39⇑ *i*P **P** **10 19 42.6 +0.6**
comp=Z,205nm,2.4s,baz=40
BRZS LR LR 10 31 08.0
comp=Z,1μm,9.3s,baz=40
BRZS Berezniki 25.30 39 *c i*P **P** **10 19 42.6 +0.6**
BRZS pmax pmax
comp=Z,205nm,2.4s
BRZS MLR MLR
comp=Z,1μm,9.0s
CHKK Chushkaly 25.38 55⇑ *i*P **P** **10 19 44.2 +1.4**
baz=56
CHKK Chushkaly 25.38 55 *c i*P **P** **10 19 44.1 +1.4**
DBRK Dubrovnik 25.43 302 *i*P **P** **10 19 42.5 -0.8**
TARG Taragay, Kyrgy 25.46 60 P **P** **10 19 44.7 +0.8**
TARG IAmb IAmb 10 19 53.2
comp=Z,141nm,0.9s
TARG IAMs_20 IAMs_20 10 31 11.0
comp=Z,10μm,18.0s
CGL1 Ceglie Messapi 25.55 297 *e*P **P** **10 19 43.2 -1.0**
NDI New Delhi 25.55 91 *e*P **P** **10 19 46.0 +1.6**
CRVS Cervenica-Dubn 25.57 317 *e*P **P** **10 19 45.5 +1.1**
CRVS pmax pmax
comp=Z,639nm,1.1s
CRVS Cervenica-Dubn 25.57 317 *e*P **P** **10 19 45.5 +1.1**
CRVS *e*S **S** **10 24 17.5 +5.9**
TAR1 Taranto 25.67 297 *e*P **P** **10 19 44.5 -0.8**
STON Ston 25.80 302 *i*P **P** **10 19 45.7 -0.8**
DDI Dehra Dun 25.85 87 *e*P **P** **10 19 47.3 +0.1**
DDI IAmb IAmb 10 19 53.6
comp=Z,130nm,0.7s
TIP Timpagrande 25.92 293 P **P** **10 19 47.5 -0.2**
KECS Kecovo 25.93 316 *e*P **P** **10 19 48.8 +1.1**
KECS pmax pmax
comp=Z,285nm,1.1s
KECS Kecovo 25.93 316 *e*P **P** **10 19 48.8 +1.1**
KIRV Kirov 25.99 2 P **P** **10 19 48.3 +0.3**
comp=Z,206nm,0.7s,baz=186,slow=5.7,SNR=71
KIRV S **S** **10 24 18.6 +0.7**
comp=Z,9.9nm,0.7s,baz=334,slow=18,SNR=1.4
KIRV LR LR 10 32 24.6
comp=Z,11μm,18.0s,baz=176,slow=42
PSZ Piszkesteto 26.04 314 P **P** **10 19 49.6 +0.9**
PSZ pmax pmax
comp=Z,359nm,1.0s
PSZ Piszkesteto 26.04 314 P **P** **10 19 49.6 +0.9**
MICGM Minsk 26.04 333⇑ *i*P **P** **10 19 47.0 -1.5**
MICGM PM 10 19 48.0
comp=Z,2.1nm,1.0s
MICGM PM 10 19 48.0
comp=N,3.1nm,1.0s
MICGM *e*PP sP 10 20 25.0 +30
MICGM *e*PPP PPP 10 20 46.0
MICGM *e*PcP **PcP** **10 23 16.0 -0.1**
MICGM *e*S **S** **10 24 14.0 -4.8**
MICGM *e*SS SnSn 10 25 34.0 +17
MICGM *e*SSS SSS 10 26 04.0
MICGM *e*LQ LQ 10 28 20.0
MICGM *e*LR LR 10 30 14.0
MICGM LPM 10 31 16.0
comp=Z,12nm,18.0s
MICGM LPM 10 31 16.0
comp=N,8.7nm,14.0s
MICGM LPM 10 31 20.0
comp=E,6.2nm,18.0s
MNK Minsk 26.04 333⇑ *i*P **P** **10 19 47.0 -1.5**
MNK *e* 10 20 25.0
MNK *e*PPP PPP 10 20 46.0
MNK *e* 10 23 15.0
MNK *e*S **S** **10 24 14.0 -4.8**
MNK *e*SS SnSn 10 25 34.0 +17
MNK pmax pmax
comp=N,3μm,1.0s
MNK pmax pmax
comp=Z,2μm,1.0s
MNK MLR MLR
comp=N,9μm,14.0s
BRVK Borovoye 26.04 32 *c i*P **P** **10 19 49.2 +0.6**
BRVK pmax pmax
comp=Z,172nm,1.7s
BRVK MLR MLR
comp=Z,8μm,17.0s
BRVK Borovoye 26.04 32 P **P** **10 19 49.0 +0.4**
BRVK IAmb IAmb 10 20 00.5
comp=Z,95nm,0.9s
PRZ Przheval'sk 26.04 59 P **P** **10 19 51.2 +2.2**
PRZ pmax pmax
comp=Z,118nm,0.8s
PRZ MLR MLR
comp=Z,11μm,20.0s
PRZ Przheval'sk 26.04 59 P **P** **10 19 51.1 +2.2**
PRZ IAmb IAmb 10 19 57.1
comp=Z,118nm,0.8s
PRZ IAMs_20 IAMs_20 10 31 37.4
comp=Z,11μm,20.0s
BAI Bari 26.06 298 *e*P **P** **10 19 50.0 +1.1**
BVAR Borovoye Array 26.07 32 P **P** **10 19 49.5 +0.7**
comp=Z,76nm,0.7s,baz=225,slow=7.7,SNR=183
BVAR PcP **PcP** **10 23 16.3 +0.1**
comp=Z,9.6nm,0.8s,baz=174,slow=3.2,SNR=2.4
BVAR ScP **ScP** **10 26 53.4 -2.0**
comp=Z,8.1nm,0.8s,baz=235,slow=2.8,SNR=12
BVAR LR LR 10 32 09.5
comp=Z,9μm,19.2s,baz=358,slow=41
MORH Mrgy, Hungar 26.14 310⇑ *i*P **P** **10 19 50.3 +0.7**
RICI Ricice 26.35 303 *i*P **P** **10 19 50.2 -1.3**
MAKA Makarska 26.38 303 *i*P **P** **10 19 51.5 -0.3**
BUD Budapest 26.39 313 P **P** **10 19 52.7 +0.9**
BUD pmax pmax
comp=Z,427nm,1.4s
NIE Niedzica 26.49 317 *e*P **P** **10 19 53.8 +1.0**
NIE *e*sP **pP** **10 19 56.9 -0.6**
NIE *e*S **S** **10 24 28.6 +2.5**
NIE Niedzica 26.49 317 P **P** **10 19 53.7 +1.0**
CEL Celeste 26.53 291 P **P** **10 19 53.6 +0.3**
MGRS Mrkonjic Grad 26.62 305⇑ *i*P P 10 20 01.8 +7.8
UZB Uzynbulak 26.63 58 *i*P **P** **10 19 55.4 +1.2**
comp=Z,110nm,1.6s,baz=58
UZB *e*S **S** **10 24 31.5 +2.8**
baz=58
UZB Uzynbulak 26.63 58 *i*P **P** **10 19 55.4 +1.2**
UZB *e*S **S** **10 24 31.5 +2.8**
UZB pmax pmax
comp=Z,110nm,1.6s
BLY Banja Luka 26.65 306⇑ *i*P **P** **10 19 54.5 +0.3**
TDK Taldyqorghan 26.68 54 *i*P **P** **10 19 55.2 +0.6**
comp=Z,126nm,1.0s,baz=54
TDK LR LR 10 31 26.5
comp=Z,9μm,10.7s,baz=54
TDK Taldyqorghan 26.68 54 *i*P **P** **10 19 55.1 +0.6**
TDK pmax pmax
comp=Z,125nm,1.0s
TDK MLR MLR
comp=Z,9μm,11.0s
NACGM Naroch 26.76 333 *e*P **P** **10 19 54.0 -1.1**
NACGM *e*P **P** **10 19 54.0 -1.1**
NACGM PM 10 20 04.0
comp=Z,0.9nm,1.0s
NACGM *e*PP sP 10 20 40.0 +38
NACGM *e*PPP PPP 10 21 10.0
NACGM *e*S **S** **10 24 26.0 -4.2**
NACGM *e*SS **SnSn** **10 25 40.0 +5.8**
NACGM *e*SSS SSS 10 26 05.0
NACGM *e*LQ LQ 10 29 13.0
NACGM *e*LR LR 10 30 18.0
NACGM LRM MLR 10 31 48.0
comp=Z,16nm,19.0s
LANS Liptovska Anna 26.84 316 *e*P **P** **10 19 57.5 +1.6**
LANS pmax pmax
comp=Z,124nm,1.1s
LANS Liptovska Anna 26.84 316 *e*P **P** **10 19 57.5 +1.6**
SRO2 Moca 26.89 313 *e*P **P** **10 19 56.2 -0.1**
SRO2 pmax pmax
comp=Z,207nm,1.3s
SRO2 Moca 26.89 313 *e*P **P** **10 19 56.2 -0.1**
VYHS Vyhne 26.92 315 *e*P **P** **10 19 57.2 +0.6**
VYHS pmax pmax
comp=Z,214nm,1.4s
VYHS Vyhne 26.92 315 *e*P **P** **10 19 57.2 +0.6**
VYHS *e*S **S** **10 24 33.8 +0.9**
SHLS Shalkode 26.95 58⇑ *i*P **P** **10 20 01.1 +4.0**
comp=Z,105nm,2.1s,baz=59
SHLS LR LR 10 31 53.2
comp=Z,3μm,12.8s,baz=59
SHLS Shalkode 26.95 58 *c i*P **P** **10 20 01.0 +4.0**
SHLS pmax pmax
comp=Z,105nm,2.1s
SHLS MLR MLR
comp=Z,3μm,13.0s
KIJV Kijevo 26.99 304 *i*P **P** **10 19 57.2 -0.1**
SGRT San Giovanni R 27.01 299 P **P** **10 19 57.3 -0.2**
SGRT IAmb IAmb 10 20 08.3
comp=Z,110nm,1.1s
IDID Didziasalis 27.09 333 *e*P **P** **10 19 58.6 +0.6**
OJC Ojcow 27.16 319 *e*P **P** **10 19 59.1 +0.3**
OJC *e*S **S** **10 24 36.4 -0.3**
OJC Ojcow 27.16 319 P **P** **10 19 59.1 +0.3**
OJC pmax pmax
comp=Z,302nm,1.0s
OJC Ojcow 27.16 319 P **P** **10 19 59.1 +0.3**
MOSL Moslavina 27.19 308 *i*P **P** **10 19 59.4 +0.3**
POO Poona 27.26 115 *e*P **P** **10 20 01.7 +1.8**
POO IAmb IAmb 10 20 09.6
comp=Z,63nm,0.5s
ZIRJ Zirje 27.44 303 *i*P **P** **10 20 00.3 -1.0**
MORI Morici 27.45 303 *i*P **P** **10 20 00.8 -0.6**
BEHE Becsehely 27.45 309⇑ *i*P **P** **10 20 04.2 +2.9**
BEL Belsk 27.48 322 *e*P **P** **10 20 01.9 +0.3**
BEL *e*sP **pP** **10 20 05.9 -0.5**
BEL *e*S **S** **10 24 48.1 +6.5**
ISAL Salakas 27.51 333 *e*P **P** **10 20 02.4 +0.6**
KALN Kalnik 27.55 308 *i*P **P** **10 20 02.5 +0.2**
IZAR Zarasai 27.60 333 *e*P **P** **10 20 03.3 +0.7**
SUW Suwalki 27.65 328 *e*P **P** **10 20 02.7 -0.4**
SUW *e*sP **pP** **10 20 06.8 -1.1**
SUW *e*S **S** **10 24 49.2 +5.0**
SUW Suwalki 27.65 328 P **P** **10 20 02.4 -0.7**
SUW pmax pmax
comp=Z,813nm,1.2s
SUW MLR MLR
comp=Z,3μm,20.0s
SUW Suwalki 27.65 328 P **P** **10 20 02.4 -0.7**
JAVC Velka Javorina 27.78 315 *e*P **P** **10 20 05.7 +1.4**
JAVC *e*S **S** **10 24 48.7 +2.2**
JAVC *e*PKIKP **PKiKP** **10 30 51.2 -5.5**
PAOL Paolisi 27.78 297 P **P** **10 20 04.7 +0.2**
PAOL IAmb IAmb 10 20 08.3
comp=Z,162nm,1.1s
SMOL Smolenice 27.78 314 *e*P **P** **10 20 04.9 +0.6**
SMOL pmax pmax
comp=Z,126nm,1.5s
SMOL Smolenice 27.78 314 *e*P **P** **10 20 04.9 +0.6**
KOGS Kog 27.78 309 *e*P **P** **10 20 05.0 +0.6**
KOGS *e*S **S** **10 24 47.0 +0.5**
KOGS *e* 10 30 52.4
PTJ Puntijarka 27.80 308 P **P** **10 20 04.8 +0.1**
MODS Modra-Piesok 27.82 313 *e*P **P** **10 20 04.1 -0.6**
MODS pmax pmax
comp=Z,293nm,1.7s
MODS Modra-Piesok 27.82 313 *e*P **P** **10 20 04.0 -0.6**
MODS *e*S **S** **10 24 45.2 -1.9**
OKC Ostrava-Krasne 27.92 317 *e*P **P** **10 20 06.2 +0.7**
OKC Ostrava-Krasne 27.92 317 *e*P **P** **10 20 06.2 +0.7**
DUGI Dugi Otok 27.93 303 *i*P **P** **10 20 05.1 -0.6**
SOP Sopron 28.00 312 P **P** **10 20 07.1 +0.8**
SOP pmax pmax
comp=Z,234nm,1.2s
CRES Cresnjev 28.12 307⇑ *i*P **P** **10 20 07.9 +0.5**
BOJS Bojanci 28.17 307 *e*P **P** **10 20 08.3 +0.5**
BOJS *e*S **S** **10 24 52.8 +0.1**
NVLJ Novalja 28.19 305 *i*P **P** **10 20 07.1 -0.9**
MORC Moravsky Berou 28.24 316 *e*P **P** **10 20 08.8 +0.3**
MORC *e*S **S** **10 24 53.1 -0.7**
MORC *e*PKIKP **PKiKP** **10 30 53.8 -3.2**
MORC Moravsky Berou 28.24 316 P **P** **10 20 08.1 -0.4**
MORC pmax pmax
comp=Z,120nm,1.2s
MORC Moravsky Berou 28.24 316 P **P** **10 20 08.1 -0.4**
MORC IAmb IAmb 10 20 14.3
comp=Z,120nm,1.2s
PABE Paberze 28.32 331 *e*P **P** **10 20 09.2 +0.2**
INTR Introdacqua 28.40 299 P **P** **10 20 10.2 +0.1**
INTR IAmb IAmb 10 20 21.7
comp=Z,144nm,1.2s
ARSA Arzberg 28.52 310 *e*P **P** **10 20 11.4 +0.5**
comp=Z,51nm,1.6s,SNR=27
CONA Conrad Observa 28.53 312 *e*P **P** **10 20 11.4 +0.3**
comp=Z,133nm,1.8s,SNR=75
CORL Corleone 28.57 290 P **P** **10 20 11.8 +0.3**
CORL IAmb IAmb 10 20 21.4
comp=Z,101nm,1.2s
VRAC Vranov 28.61 315 P **P** **10 20 12.4 +0.7**
comp=Z,34nm,1.0s,baz=108,slow=8.6,SNR=66
VRAC LR LR 10 34 51.6
comp=Z,3μm,18.3s,baz=107,slow=43
VRAC Vranov 28.61 315 *e*P **P** **10 20 12.4 +0.7**
VRAC *e*S **S** **10 25 00.1 +0.6**
VRAC *e*PKIKP **PKiKP** **10 30 56.8 -0.4**
KRUC Moravsky 28.63 314 *e*P **P** **10 20 12.5 +0.6**
KRUC *e*S **S** **10 25 00.4 +0.6**
KRUC *e*PKIKP **PKiKP** **10 30 57.0 -0.2**
CLTB Caltabellotta 28.64 290 P **P** **10 20 11.7 -0.5**
CLTB IAmb IAmb 10 20 28.4
comp=Z,90nm,1.3s
SOKA Soboth 28.65 309 *e*P **P** **10 20 12.6 +0.3**
comp=Z,73nm,1.6s,SNR=42
KLMR Klimovskoe 28.77 352 *c i*P **P** **10 20 12.2 -0.7**
KLMR *e*S **S** **10 25 03.4 +1.9**
KLMR pmax pmax
comp=Z,347nm,1.4s
KLMR MLR MLR
comp=Z,5μm,14.0s
KLMR Klimovskoe 28.77 352⇑ *i*P **P** **10 20 12.2 -0.7**
KLMR *i*P **P** **10 20 12.2 -0.7**
KLMR *i*P **P** **10 20 12.2 -0.7**
KLMR AMP 10 20 14.5
comp=Z,347nm,1.4s
KLMR *e*S **S** **10 25 03.5 +1.9**
KLMR *e*S **S** **10 25 03.5 +1.9**
KLMR LQ LQ 10 29 44.2
KLMR LQ LQ 10 29 44.2
KLMR LR LR 10 32 02.3
KLMR AMP 10 33 05.0
comp=Z,5μm,13.6s
CEY Cerknica 28.79 307⇑ *i*P **P** **10 20 13.7 +0.3**
LJU Ljubljana 28.80 307 *e*P **P** **10 20 14.6 +1.1**
LJU *e*S **S** **10 25 03.2 +0.6**
LJU Ljubljana 28.80 307⇑ *i*P **P** **10 20 14.5 +1.1**
KRLC Kraliky 28.82 316 *e*P **P** **10 20 13.9 +0.3**
KRLC MLR MLR
comp=Z,3μm,11.3s
KRLC Kraliky 28.82 316 *e*P **P** **10 20 13.9 +0.3**
KRLC AMS AMS 10 35 00.0
comp=Z,3μm,11.3s
AQU L'Aquila 28.82 300 P **P** **10 20 14.0 +0.3**
AQU pmax pmax
comp=Z,151nm,1.1s
AQU L'Aquila 28.82 300⇑ *i*P **P** **10 20 14.5 +0.8**
AQU L'Aquila 28.82 300 P **P** **10 20 14.0 +0.3**
AQU IAmb IAmb 10 20 32.6
comp=Z,151nm,1.1s
KURBB Kurchatov Arra 28.87 42 P **P** **10 20 15.2 +1.3**
comp=Z,11nm,0.8s,baz=249,slow=9.1,SNR=126
KURBB ScP **ScP** **10 27 01.8 -2.1**
comp=Z,8.4nm,1.0s,baz=233,slow=3.8,SNR=4.4
OBKA Obir 28.92 308 *e*pP **P** **10 20 15.4 +0.8**
comp=Z,94nm,1.3s,SNR=32
KURK Kurchatov 28.96 42 *c i*P **P** **10 20 16.0 +1.3**
KURK pmax pmax
comp=Z,126nm,1.7s
KURK MLR MLR
comp=Z,7μm,16.0s
KURK Kurchatov 28.96 42 P **P** **10 20 16.1 +1.3**
KURK IAmb IAmb 10 20 28.1
comp=Z,69nm,1.0s
BRJN Brijuni 29.05 305 *i*P **P** **10 20 14.9 -0.7**
PRGR Permogore 29.07 358⇑ *i*P **P** **10 20 15.0 -0.5**
NRCA Norcia 29.10 301 P **P** **10 20 16.3 +0.1**
NRCA IAmb IAmb 10 20 34.3
comp=Z,99nm,1.0s
DPC Dobruska-Polom 29.20 317 *e*P **P** **10 20 17.3 +0.3**
DPC *e*S **S** **10 25 07.2 -1.7**
DPC MLR MLR
comp=Z,3μm,12.1s
DPC Dobruska-Polom 29.20 317 *e*P **P** **10 20 17.3 +0.3**

DPC eS S 10 25 07.2 -1.7
DPC AMS AMS 10 35 50.0
comp=Z,3µm,12.1s
VOJS Vojsko 29.23 307 *i* P P **10 20 17.9 +0.5**
TREC Trest 29.27 314 *eS* S **10 25 09.3 -0.6**
TREC AMS AMS 10 35 20.0
comp=Z,3µm,12.6s
OSTC Ostas 29.35 317 *eP* P **10 20 18.7 +0.4**
OSTC AMS AMS 10 36 00.0
comp=Z,3µm,12.3s
KSP Ksiaz 29.43 318 *eP* P **10 20 19.3 +0.3**
KSP *esP* **pP** **10 20 22.9 -1.0**
KSP eS S **10 25 16.1 +3.7**
KSP Ksiaz 29.43 318 P P **10 20 19.4 +0.4**
UPC Upice 29.45 317 *eP* P **10 20 19.7 +0.6**
UPC MLR MLR
comp=Z,3µm,12.5s
UPC Upice 29.45 317 *eP* P **10 20 19.7 +0.6**
UPC AMS AMS 10 35 50.0
comp=Z,3µm,12.5s
CHVC Chvalec 29.46 317 *eP* P **10 20 20.0 +0.7**
CHVC AMS AMS 10 36 00.0
comp=Z,3µm,13.1s
VSU Vasula 29.51 337 *eP* P **10 20 19.7 +0.2**
VSU Vasula 29.51 337*c i*P P **10 20 19.3 -0.2**
VSU pmax pmax
comp=Z,321nm,1.1s
MOA Molln 29.52 311 *eP* P **10 20 20.1 +0.3**
comp=Z,70nm,0.8s,SNR=37
PBUR Paburge 29.52 330 *eP* P **10 20 18.9 -0.7**
ROBS Robic 29.54 307 *eP* P **10 20 20.2 +0.2**
ROBS eS S **10 25 13.7 -0.4**
ROBS *e* 10 30 59.3
PUL Pulkovo 29.54 342 *eP* P **10 20 20.2 +0.4**
PUL Pulkovo 29.54 342⇑ *eP* P **10 20 22.3 +2.5**
PUL pmax pmax
comp=Z,134nm,0.9s
PRED Cave del Predi 29.56 308 P P **10 20 20.3 +0.1**
MYKA Terra Mystica 29.56 308 *eP* P **10 20 20.5 +0.3**
comp=Z,104nm,1.5s,SNR=28
MAKZ Makanchi 29.59 51 P P **10 20 21.7 +1.2**
MAKZ pmax pmax
comp=Z,63nm,1.5s
MAKZ MLR MLR
comp=Z,4µm,18.0s
MAKZ Makanchi 29.59 51 P P **10 20 21.7 +1.2**
MURB Monte Urbino 29.60 301 P P **10 20 21.5 +0.9**
KLRI Killari 29.65 112 *eP* P **10 20 21.8 +0.5**
KLRI IVmBBB 10 20 25.9
comp=Z,485nm,1.6s
KLRI eS S **10 25 17.1 +0.7**
KLRI IVMs_BB IVMs_BB 10 34 15.0
comp=Z,1µm,17.8s
MK31 Makanchi Array 29.79 52 *i* P P **10 20 23.1 +0.8**
MK31 Makanchi Array 29.79 52 P P **10 20 23.2 +1.0**
MKAR Makanchi Array 29.79 52 P P **10 20 23.4 +1.2**
comp=Z,35nm,0.7s,baz=248,slow=7.5,SNR=226
MKAR ScP **ScP** **10 27 07.2 +0.2**
comp=Z,3.7nm,0.9s,baz=212,slow=5.1,SNR=1.3
MKAR LR LR 10 33 30.4
comp=Z,3µm,19.0s,baz=250,slow=39
MKAR Makanchi Array 29.79 52 *i* P P **10 20 23.3 +1.0**
MKAR pmax pmax
comp=Z,35nm,0.7s
KBA Koelnbreinsper 29.88 309 *i* P P **10 20 23.6 +0.4**
comp=Z,81nm,0.8s,SNR=39
KBA Koelnbreinsper 29.88 309 P P **10 20 23.7 +0.5**
GOPC GO Pecny, Ondr 29.93 315 *eP* P **10 20 23.8 +0.4**
GOPC eS S **10 25 16.5 -3.7**
GOPC MLR MLR
comp=Z,4µm,15.4s
GOPC GO Pecny, Ondr 29.93 315 *eP* P **10 20 23.8 +0.4**
GOPC eS S **10 25 16.5 -3.7**
GOPC AMS AMS 10 35 10.0
comp=Z,4µm,15.4s
ZOU Zoufplan 29.98 308 P P **10 20 24.2 0.0**
ZOU IAmb IAmb 10 20 32.8
comp=Z,92nm,1.4s
NGP Nagpur 30.00 105 *eP* P **10 20 25.3 +1.0**
NGP *ex* x 10 20 30.7
comp=Z,93nm,1.2s
NGP eS S **10 25 27.8 +6.0**
LATE Laterza 30.03 300 P P **10 20 24.4 0.0**
LATE IAmb IAmb 10 20 27.0
comp=Z,137nm,1.4s
STAL STALIGIAL 30.08 307 P P **10 20 24.8 -0.1**
STAL IAmb IAmb 10 20 26.4
comp=Z,126nm,1.2s
GKP Gorka Klasztor 30.08 322 *eP* P **10 20 25.0 +0.3**
PRU Pruhonice 30.10 315 *eP* P **10 20 24.9 0.0**
PRU eS S **10 25 21.6 -1.3**
PRU MLR MLR
comp=Z,4µm,16.2s
PRU Pruhonice 30.10 315 *eP* P **10 20 24.9 0.0**
PRU eS S **10 25 21.6 -1.3**
PRU AMS AMS 10 35 20.0
comp=Z,4µm,16.2s
PRA Prague 30.20 315 *eS* S **10 25 23.3 -1.1**
PRA AMS AMS 10 35 30.0
comp=Z,2µm,16.9s
GEC2 GERESS Array S 30.20 313 *eP* P **10 20 25.2 -0.7**
comp=Z,152nm,2.1s,baz=111,slow=8.9
GEC2 GERESS Array S 30.20 313 P P **10 20 25.7 -0.2**
GERES GERESS Array B 30.20 313 P P **10 20 25.8 -0.2**
comp=Z,5.7nm,0.6s,baz=108,slow=8.6,SNR=30
GERES PcP **PcP** **10 23 27.0 +0.3**
comp=Z,4.6nm,0.6s,baz=125,slow=2.6,SNR=5.0
GERES ScP **ScP** **10 27 10.0 +1.6**
comp=Z,2.4nm,1.0s,baz=129,slow=2.7,SNR=2.8
GERES GERESS Array B 30.20 313 P P **10 20 24.8 -1.2**
CIMO Cimolais 30.27 307 P P **10 20 26.6 +0.1**
CIMO IAmb IAmb 10 20 28.3
comp=Z,84nm,1.0s
PVCC Panska Ves 30.30 316 *eP* P **10 20 27.6 +1.0**
PVCC MLR MLR
comp=Z,2µm,14.3s
PVCC Panska Ves 30.30 316 *eP* P **10 20 27.6 +1.0**
PVCC AMS AMS 10 35 40.0
comp=Z,2µm,14.3s
PBCC Pribram 30.32 314 *eP* P **10 20 27.3 +0.5**
ABTA Abfaltersbach 30.34 308 *eP* P **10 20 27.4 +0.2**
comp=Z,90nm,1.3s
ABTA *es*PKiKP **sPKiKP** **10 31 07.3 +1.6**
comp=Z,18nm,1.8s
KHC Kasperske Hory 30.37 313*c i*P P **10 20 27.3 -0.1**
KHC pmax pmax
comp=Z,277nm,1.7s
KHC Kasperske Hory 30.37 313 *eP* P **10 20 27.5 +0.1**
KHC *ex* x 10 21 09.5
KHC eS S **10 25 27.1 -0.2**
KHC AMS AMS 10 35 20.0
comp=Z,3µm,15.9s
KHC Kasperske Hory 30.37 313 P P **10 20 26.6 -0.8**
RJOB Jochberg 30.42 310 *eP* P **10 20 26.3 -1.6**
comp=Z,215nm,1.9s,baz=111,slow=8.9
SLIT Slitere, Latvi 30.47 333 *i* Pg P **10 20 25.6 -2.4**
SRSP Sriramsagar 30.55 109 *eP* P **10 20 29.3 +0.1**
SRSP IVmB_BB 10 20 33.6
comp=Z,233nm,1.5s
SRSP eS S **10 25 30.2 -0.3**
SRSP IVMs_BB IVMs_BB 10 35 21.5
comp=Z,635nm,11.0s
OSSC Osservatorio P 30.56 302 P P **10 20 28.6 -0.4**
OSSC IAmb IAmb 10 20 45.2
comp=Z,105nm,1.4s
PYUN Piuthan 30.59 89 *eP* P **10 20 30.5 +0.8**
comp=Z,61nm,0.6s
CASP Castiglione de 30.74 300 P P **10 20 30.3 -0.4**
CASP IAmb IAmb 10 20 38.6
comp=Z,155nm,1.5s
CTI Castel Tesino 30.75 306 P P **10 20 30.7 -0.1**
CTI pmax pmax
comp=Z,102nm,0.8s
CTI Castel Tesino 30.75 306 P P **10 20 30.6 -0.1**
BRG Berggiesshubel 30.80 316⇑ *i*P P **10 20 31.0 -0.1**
comp=Z,87nm,1.5s
BRG *e*PCP **PcP** **10 23 28.0 -0.1**
comp=Z,52nm,1.7s
BRG SCP **ScP** **10 27 11.9 +1.7**
comp=Z,31nm,1.6s
comp=N,2µm,15.0s
comp=E,2µm,17.9s
comp=Z,3µm,13.9s
BRG Berggiesshubel 30.80 316⇑ *i*P P **10 20 31.0 -0.1**
BRG *e* 10 23 28.0
BRG 10 27 11.9
BRG pmax pmax
comp=Z,87nm,1.5s
BRG MLR MLR
comp=N,2µm,15.0s
BRG MLR MLR
comp=E,2µm,17.9s
BRG MLR MLR
comp=Z,3µm,13.9s
BRG Berggiesshubel 30.80 316 *eP* P **10 20 30.0 -1.1**
comp=Z,88nm,1.5s,baz=111,slow=8.9
WET Wettzell 30.81 313 *eP* P **10 20 30.0 -1.3**
comp=Z,86nm,1.4s,baz=111,slow=8.9
ZCCA Zocca 30.88 303 P P **10 20 33.8 +1.8**
WTTA Wattenberg 31.05 309 *eP* P **10 20 33.4 -0.2**
comp=Z,182nm,1.4s,SNR=57
WTTA *e*PcP **PcP** **10 23 29.3 +0.3**
comp=Z,24nm,0.9s
WTTA eS S **10 25 37.2 -1.0**
comp=Z,37nm,1.4s
WTTA *es*PKiKP **sPKiKP** **10 31 05.8 -0.5**
comp=Z,22nm,1.3s
WTTA Wattenberg 31.05 309 P P **10 20 33.5 0.0**
WATA Walderalm 31.11 309 *eP* P **10 20 33.3 -0.7**
comp=Z,199nm,1.3s,SNR=52
WATA eS S **10 25 37.7 -1.3**
comp=Z,38nm,1.4s
WATA *es*PKiKP **sPKiKP** **10 31 06.4 +0.1**
comp=Z,8.9nm,1.4s
FBE Freiberg 31.16 316 *eP* P **10 20 33.4 -0.9**
comp=Z,83nm,1.5s,baz=111,slow=8.9
DANN Dangsing 31.17 88 *eP* P **10 20 35.9 +1.0**
comp=Z,470nm,1.0s
KOLN Koldanda 31.20 89 *eP* P **10 20 35.6 +0.5**
comp=Z,105nm,1.1s
VLC Villacollemand 31.27 303 P P **10 20 34.8 -0.5**
SQTA Sankt Quirin 31.32 309 *i* P P **10 20 35.6 -0.3**
comp=Z,98nm,0.7s,SNR=44
SQTA *e*PcP **PcP** **10 23 30.0 +0.3**
comp=Z,13nm,0.7s
SQTA eS S **10 25 40.5 -1.8**
comp=Z,31nm,1.5s
RPR Rampur 31.35 108 *eP* P **10 20 37.2 +0.9**
RPR IVmB_BB 10 20 40.8
comp=Z,404nm,1.0s
PRMA PARMA 31.42 304 P P **10 20 37.7 +1.1**
MOTA Moosalm 31.42 309 *eP* P **10 20 36.1 -0.6**
comp=Z,164nm,1.3s,SNR=56
MOTA eS S **10 25 41.1 -2.8**
comp=Z,37nm,1.1s
MOTA *es*PKiKP **sPKiKP** **10 31 08.2 +1.7**
comp=Z,13nm,1.6s
SALO Salr 31.43 305 P P **10 20 37.0 +0.3**
ROTZ Rotzenmuhle 31.43 314 *eP* P **10 20 36.2 -0.4**
comp=Z,500nm,1.8s,baz=111,slow=8.9
NKC Novy Kostel 31.45 315 *eP* P **10 20 37.0 +0.2**
NKC Novy Kostel 31.45 315 *eP* P **10 20 37.0 +0.2**
TANN Tannenbergstha 31.50 315 *eP* P **10 20 36.6 -0.7**
comp=Z,442nm,2.4s,baz=111,slow=8.9
WERN Wernitzgruen 31.51 315 *eP* P **10 20 36.7 -0.7**
comp=Z,120nm,1.6s,baz=111,slow=8.9
CLL Collm 31.52 317⇑ *i*P P **10 20 36.8 -0.6**
comp=Z,120nm,1.4s
CLL *i* pP **pP** **10 20 42.6 +0.4**
CLL *e*PP **PP** **10 21 48.0 -0.5**
CLL *e*PcP **PcP** **10 23 29.0 -0.9**
comp=Z,44nm,1.3s
CLL eS S **10 25 44.0 -1.0**
CLL *e* 10 26 30.0
CLL *e*ScP **ScP** **10 27 11.0 -1.5**
CLL *e*ScS **ScS** **10 31 08.0 -2.1**
CLL Lm MLR 10 35 00.0
comp=N,2µm,21.0s
CLL Lm MLR 10 35 00.0
comp=E,2µm,20.7s
CLL Lm MLR 10 35 00.0
comp=Z,3µm,19.9s
CLL Collm 31.52 317⇑ *i*P P **10 20 36.8 -0.6**
CLL *i* 10 20 42.6
CLL *e* 10 23 29.0
CLL eS S **10 25 44.0 -1.0**
CLL *e* 10 31 08.0
CLL pmax pmax
comp=Z,120nm,1.4s
CLL MLR MLR
comp=Z,3µm,19.9s
CLL Collm 31.52 317 *eP* P **10 20 36.3 -1.0**
comp=Z,120nm,1.4s,baz=111,slow=8.9
CLL Collm 31.52 317 P P **10 20 36.5 -0.8**
CLL IAmb IAmb 10 20 50.6
comp=Z,72nm,1.1s
FUR Furstenfeldbru 31.52 310 *eP* P **10 20 36.5 -1.0**
comp=Z,845nm,1.6s,baz=111,slow=8.9
HYBB Hyderabad (bro 31.55 111 *eP* P **10 20 38.9 +0.9**
HYBB IVmB_BB 10 20 42.5
comp=Z,709nm,1.4s
HYBB eS S **10 25 47.0 +0.8**
HYBB IVMs_BB IVMs_BB 10 36 35.6
comp=Z,660nm,8.2s
HYB Hyderabad 31.55 111 *i* P P **10 20 39.0 +0.9**
comp=Z,150nm,1.0s
HYB eS S **10 25 47.0 +0.8**
HYB Hyderabad 31.55 111 *eP* P **10 20 39.2 +1.1**
RUE Ruedersdorf 31.55 319 *eP* P **10 20 37.5 -0.1**
RUE Ruedersdorf 31.55 319 *eP* P **10 20 36.6 -1.0**
comp=Z,256nm,1.4s,baz=111,slow=8.9
GUNZ Gunzen 31.56 315 *eP* P **10 20 37.2 -0.6**
comp=Z,178nm,2.1s,baz=111,slow=8.9
MANZ Manzenberg 31.57 314 *eP* P **10 20 37.3 -0.6**
comp=Z,208nm,1.9s,baz=111,slow=8.9
FETA Feichten 31.59 308 *i* P P **10 20 37.9 -0.4**
comp=Z,80nm,0.9s,SNR=60
FETA *e*PcP **PcP** **10 23 32.0 +1.6**
comp=Z,51nm,2.0s
FETA eS S **10 25 45.5 -1.1**
comp=Z,81nm,2.2s
FETA *es*PKiKP **sPKiKP** **10 31 06.9 +0.3**
comp=Z,15nm,2.2s
WERD Werda 31.61 315 *eP* P **10 20 37.3 -0.9**
comp=Z,121nm,2.2s,baz=111,slow=8.9
GRC1 Grafenberg Arr 31.61 312 P P **10 20 38.1 -0.2**
VSL Villasalto 31.65 294 P P **10 20 39.5 +0.8**
VSL IAmb IAmb 10 20 44.5
comp=Z,132nm,1.5s
ZSN Zaisan 31.66 51 *i* P P **10 20 39.5 +0.8**
comp=Z,178nm,3.7s,baz=52
ZSN LR LR 10 34 13.7
comp=Z,801nm,9.4s,baz=52
ZSN Zaisan 31.66 51 *i* P P **10 20 39.5 +0.8**
ZSN pmax pmax
comp=Z,178nm,3.7s
ZSN MLR MLR
comp=Z,801nm,9.0s
RETA Reutte 31.68 309 *eP* P **10 20 38.3 -0.7**
comp=Z,31nm,0.8s,SNR=30
RETA *e*PcP **PcP** **10 23 29.2 -1.3**
comp=Z,18nm,1.0s
RETA eS S **10 25 46.4 -1.4**
comp=Z,26nm,1.0s
PLN Plauen 31.71 315 *eP* P **10 20 38.1 -1.0**
comp=Z,66nm,1.8s,baz=111,slow=8.9
FUORN Ofenpass-Fuorn 31.81 307 P P **10 20 40.3 0.0**
FUORN IAmb IAmb 10 20 54.1
comp=Z,69nm,1.2s
KEST Kesra 31.85 286 P P **10 20 42.1 +1.5**
comp=Z,12nm,0.9s,baz=89,slow=6.6,SNR=8.4
KEST Kesra 31.85 286 P P **10 20 41.8 +1.2**
KEST IAmb IAmb 10 20 52.6
comp=Z,62nm,1.2s
MSSA Maissana 31.91 303 P P **10 20 40.2 -0.8**
GKN Gorkha 32.01 88 *eP* P **10 20 42.6 +0.4**
comp=Z,86nm,0.4s
GRA1 Grafenberg Arr 32.01 313 P P **10 20 41.4 -0.4**
GRF Grafenberg Arr 32.01 313 P P **10 20 41.4 -0.4**
GRF pmax pmax
comp=Z,322nm,1.4s
GRF Grafenberg Arr 32.01 313 *eP* P **10 20 41.1 -0.7**
comp=Z,396nm,1.4s,baz=111,slow=8.9
GRF *e*L L 10 39 39.2
comp=Z,2µm,21.3s
URV Uravakonda 32.02 116 *eP* P **10 20 42.0 -0.1**
URV eS S **10 25 52.8 -0.6**
URV IVMs_BB IVMs_BB 10 39 08.4
comp=Z,614nm,12.5s
PGF Pioggiola 32.08 299 *eP* P **10 20 42.5 -0.1**
PGF pmax pmax
comp=Z,315nm,1.6s
MOX Moxa 32.09 315 *eP* P **10 20 41.7 -0.8**
comp=Z,270nm,2.6s,baz=111,slow=8.9
MOX *e*L L 10 36 43.2
comp=Z,2µm,19.9s
FIA1 FINESS Array S 32.10 340 P P **10 20 41.3 -1.1**
FINES FINESS Array B 32.10 340 P P **10 20 42.1 -0.2**
comp=Z,50nm,0.8s,baz=144,slow=8.7,SNR=132
FINES LR LR 10 35 54.2
comp=Z,5µm,18.4s,slow=40
FINES FINESS Array B 32.10 340 P P **10 20 42.0 -0.4**
DAVOX Davos/Dischmat 32.10 307 P P **10 20 42.8 0.0**
comp=Z,23nm,0.7s,baz=111,slow=8.3,SNR=36
DAVOX PcP **PcP** **10 23 32.3 +0.4**
comp=Z,9.0nm,0.6s,baz=79,slow=5.2,SNR=2.9
TMCR Tamitsa 32.15 352 *eP* P **10 20 42.1 -0.7**
UBR Ueberruh 32.16 309 *eP* P **10 20 41.9 -1.2**
comp=Z,232nm,1.4s,baz=111,slow=8.9
NEUB Neuenburg 32.19 316 *eP* P **10 20 42.2 -1.1**
comp=Z,200nm,1.9s,baz=111,slow=8.9
DAVA Damuels 32.22 308 *eP* P **10 20 43.2 -0.6**
comp=Z,102nm,0.7s,SNR=64
DAVA eS S **10 25 54.0 -2.4**
comp=Z,60nm,1.1s
TUE Stuetta 32.40 307 P P **10 20 44.8 -0.7**
TUE IAmb IAmb 10 20 59.8
comp=Z,66nm,0.9s
DMN Daman 32.52 89 *eP* P **10 20 47.5 +0.7**
comp=Z,133nm,0.8s
SRLM Srisailam 32.57 113 *eP* P **10 20 48.3 +1.3**
SRLM IVmBBB 10 20 52.0
comp=Z,536nm,1.5s
SRLM eS S **10 26 03.5 +1.3**
SRLM IVMs_BB IVMs_BB 10 35 53.5
comp=Z,538nm,14.1s
KKN Kakani 32.62 89 *eP* P **10 20 48.1 +0.5**
comp=Z,125nm,1.0s
NJS Nagarjunasagar 32.63 112 *eP* P **10 20 48.1 +0.6**
NJS IVmB_BB 10 20 52.2
comp=Z,592nm,1.3s
NJS eS S **10 26 04.2 +1.1**
NJS IVMs_BB IVMs_BB 10 38 24.3
comp=Z,595nm,7.5s
PKI Pulchoki 32.79 89 *eP* P **10 20 49.6 +0.4**
comp=Z,226nm,1.1s
WMQ Urumqi 32.97 59 *eP* P **10 20 51.6 +1.3**
WMQ pP sP 10 20 56.3 -0.8
WMQ sP pP 10 21 00.4 +5.3
WMQ PP **PnPn** **10 22 00.8 +1.4**
WMQ S S **10 26 10.1 +2.1**
WMQ sS sS 10 26 18.1 +2.2
WMQ SS **SnSn** **10 28 09.4 +3.8**
WMQ pmax pmax
comp=Z,580nm,3.7s
WMQ LR LR
comp=Z,3µm,12.7s
WMQ LR LR
comp=Z,4µm,12.7s
WMQ LR LR
comp=Z,4µm,19.7s
WMQ Urumqi 32.97 59 P P **10 20 50.5 +0.2**
WMQ pmax pmax
comp=Z,47nm,0.9s
WMQ MLR MLR
comp=Z,5µm,21.0s
WMQ Urumqi 32.97 59 P P **10 20 50.5 +0.2**
WMQ IAmb IAmb 10 20 57.3
comp=Z,47nm,0.9s
WMQ Urumqi 32.97 59 IAMs_20 IAMs_20 10 35 44.9
comp=Z,5µm,21.0s
STU Stuttgart 33.02 311 P P **10 20 49.4 -1.2**
STU pmax pmax
comp=Z,117nm,1.5s
STU MLR MLR
comp=Z,1µm,18.0s
STU Stuttgart 33.02 311 *eP* P **10 20 48.7 -1.9**
comp=Z,106nm,1.4s,baz=111,slow=8.9
STU Stuttgart 33.02 311 P P **10 20 49.4 -1.2**
STU IAmb IAmb 10 20 51.3
comp=Z,117nm,1.5s
GUN Gumba 33.08 88 *eP* P **10 20 52.7 +0.9**
comp=Z,358nm,1.0s
UBBA Unterbreizbach 33.11 315 *eP* P **10 20 50.9 -0.4**
comp=Z,229nm,2.0s,baz=111,slow=8.9
ASSE Asse, Remlinge 33.17 317 *eP* P **10 20 51.0 -0.7**
comp=Z,78nm,1.4s,baz=111,slow=8.9
CLZ Clausthal 33.24 317 *eP* P **10 20 51.8 -0.7**
comp=Z,143nm,1.1s,baz=111,slow=8.9
SLE Schleitheim 33.24 309 P P **10 20 52.2 -0.4**
CMAH Djebel Manchou 33.32 288 P P **10 20 55.2 +1.8**
SBF Sospel 33.34 301 *eP* P **10 20 52.5 -1.1**
SBF pmax pmax
comp=Z,305nm,1.0s
GTTG Gottingen 33.37 316 *eP* P **10 20 53.2 -0.5**
comp=Z,207nm,1.6s,baz=111,slow=8.9
JIRN Jiri 33.42 88 *eP* P **10 20 55.6 +0.8**
comp=Z,224nm,0.8s
BFO Black Forest 33.47 310 *eP* P **10 20 53.5 -1.1**
BFO Black Forest 33.47 310 *eP* P **10 20 52.9 -1.7**
comp=Z,46nm,1.2s,baz=111,slow=8.9
BFO Black Forest 33.47 310 P P **10 20 53.2 -1.4**
ADKI Addanki 33.56 112 *eP* P **10 20 55.8 +0.2**
ADKI IVmB_BB 10 21 00.4
comp=Z,389nm,1.5s
ADKI eS S **10 26 17.9 +0.5**
ADKI IVMs_BB IVMs_BB 10 38 53.9
comp=Z,594nm,10.8s
MYLAV Mylavaram 33.57 110 *eP* P **10 20 56.6 +0.9**
MYLAV IVmB_BB 10 21 00.6
comp=Z,468nm,1.2s
MYLAV eS S **10 26 18.0 +0.5**
MYLAV IVMs_BB IVMs_BB 10 38 06.0
comp=Z,734nm,12.4s
NRDL Niedersach Rie 33.62 318 *eP* P **10 20 55.9 +0.2**
comp=Z,326nm,1.5s,baz=111,slow=8.9
CAEH 'Ain El Ouahch 33.76 289 P P **10 20 58.9 +1.7**
SENIN Lac Senin/Sane 33.77 306 P P **10 20 56.1 -1.4**
ZAA0 Zalesovo Array 33.78 40 P P **10 20 57.4 +0.2**
ZAA0 IAmb IAmb 10 21 08.3
comp=Z,91nm,1.1s
ZALV Zalesovo Beam 33.78 40 P P **10 20 57.5 +0.3**
comp=Z,19nm,0.7s,baz=251,slow=8.7,SNR=39
ZALV LR LR 10 37 33.1
comp=Z,2µm,18.6s,baz=236,slow=41
ZALV Zalesovo Beam 33.78 40 P P **10 20 57.2 0.0**
KTD Kalmit 33.87 311 P P **10 20 58.0 0.0**
TNS Taunus Mts 33.88 313 P P **10 20 58.2 0.0**
TNS Taunus Mts 33.88 313 *eP* P **10 20 57.5 -0.6**
comp=Z,328nm,1.7s,baz=111,slow=8.9
DGZ Jazzator, Alta 33.88 48*c i*P P **10 20 59.8 +1.5**
DGZ pmax pmax
comp=Z,116nm,1.8s
FRF La Foret Royal 33.88 301 *eP* P **10 20 58.2 0.0**
FRF pmax pmax
comp=Z,187nm,1.6s
CKFL Kef-Lekhel 33.90 288 P P **10 21 00.4 +1.8**
MBDF Montbardon 33.91 303 *eP* P **10 20 57.4 -1.2**
MBDF pmax pmax
comp=Z,119nm,0.7s
LMR La Mourre 33.97 300 *eP* P **10 20 58.7 -0.2**
LMR pmax pmax
comp=Z,133nm,1.6s
RAMN Ramite 33.99 89 *eP* P **10 20 59.6 0.0**
comp=Z,152nm,0.9s
BNI Bardonecchia 34.01 304 P P **10 20 59.3 -0.2**
BNI pmax pmax
comp=Z,220nm,0.8s
BNI Bardonecchia 34.01 304 P P **10 20 59.3 -0.2**
LPG La Plagne 34.02 304 *eP* P **10 20 58.9 -0.8**
LPG pmax pmax
comp=Z,241nm,0.8s
LPL La Plagne 34.04 304 *eP* P **10 20 58.6 -1.2**
LPL pmax pmax
comp=Z,246nm,0.8s
BSEG Bad Segeberg 34.05 320 *eP* P **10 20 59.1 -0.4**
comp=Z,252nm,1.6s,baz=111,slow=8.9
PVM Polavaram 34.08 108 *eP* P **10 21 01.5 +1.3**
PVM IVmBBB 10 21 05.2
comp=Z,402nm,1.2s
PVM eS S **10 26 25.9 +0.5**
PVM IVMs_BB IVMs_BB 10 36 52.2
comp=Z,691nm,21.9s
ECH Echery 34.21 309 P P **10 20 59.6 -1.4**
ECH pmax pmax
comp=Z,74nm,1.1s
ECH MLR MLR

comp=Z,900nm,20.0s
ECH Echery 34.21 309 P **P** **10 20 59.6 -1.4**
ECH IAmb IAmb 10 21 06.5
comp=Z,74nm,1.1s
HINF Hinteralfeld 34.33 308 *eP* **P** **10 21 00.2 -1.9**
HINF pmax pmax
comp=Z,215nm,1.6s
BOK Bokaro 34.53 95 *eP* **P** **10 21 03.9 -0.1**
DFRA Djebel Bou Aff 34.56 288 P **P** **10 21 05.8 +1.5**
ORIF Oris-en-Rattie 34.56 303 *eP* **P** **10 21 01.6 -2.6**
ORIF pmax pmax
comp=Z,46nm,0.9s
SKHT Srikalahasti 34.62 115 *eP* **P** **10 21 05.4 +0.6**
SKHT IVmBBB 10 21 09.3
comp=Z,241nm,1.0s
SKHT *eS* **S** **10 26 34.5 +0.7**
SKHT IVMs_BB IVMs_BB 10 39 36.3
comp=Z,508nm,13.4s
ODAN Odare 34.69 89 *eP* **P** **10 21 05.8 +0.2**
comp=Z,62nm,0.8s
HAU Haudompre 34.70 309 *eP* **P** **10 21 03.1 -2.2**
HAU pmax pmax
comp=Z,167nm,1.6s
TAPN Taplejung 34.80 88 *eP* **P** **10 21 06.7 0.0**
comp=Z,158nm,0.8s
AHRW Bad Neuenahr-A 34.81 313 *eP* **P** **10 21 05.8 -0.4**
comp=Z,221nm,1.7s,baz=111,slow=8.9
SKMB Sankelmark Bun 34.84 321 *eP* **P** **10 21 06.5 +0.2**
comp=Z,541nm,1.4s,baz=111,slow=8.9
IBBN Ibbenburen 34.91 316 *eP* **P** **10 21 07.2 +0.2**
comp=Z,799nm,1.8s,baz=111,slow=8.9
BUG Bochum--Univer 34.94 315 *eP* **P** **10 21 07.1 -0.1**
comp=Z,302nm,1.6s,baz=111,slow=8.9
SET Setif 34.98 288 P **P** **10 21 10.0 +2.1**
KMBO Kilima Mbogo 35.02 199 P **P** **10 21 09.9 +1.5**
comp=Z,9.9nm,0.9s,baz=25,slow=11,SNR=18
KMBO LR LR 10 36 10.1
comp=Z,6µm,18.7s,baz=16,slow=38
KMBO Kilima Mbogo 35.02 199 *i* P **P** **10 21 10.5 +2.0**
SNR=6.1
KMBO Kilima Mbogo 35.02 199 P **P** **10 21 10.0 +1.5**
KMBO Kilima Mbogo 35.02 199 *eP* **P** **10 21 11.8 +3.2**
KMBO ⇓*eS* **S** **10 26 45.4 +5.0**
KMBO Kilima Mbogo 35.02 199 P **P** **10 21 09.5 +1.0**
KMBO Kilima Mbogo 35.02 199 IAMs_20 IAMs_20 10 35 56.6
comp=Z,6µm,18.0s
KMBO Kilima Mbogo 35.02 199 *eP* **P** **10 21 10.6 +2.0**
KMBO *i* S **S** **10 26 44.5 +4.2**
WLF Walferdange 35.17 311 P **P** **10 21 08.5 -0.8**
comp=Z,56nm,1.5s
WLF Walferdange 35.17 311 P **P** **10 21 08.7 -0.6**
WLF pmax pmax
comp=Z,49nm,0.8s
WLF MLR MLR
comp=Z,1µm,18.0s
WLF Walferdange 35.17 311 *eP* **P** **10 21 07.9 -1.4**
comp=Z,133nm,1.5s,baz=111,slow=8.9
WLF Walferdange 35.17 311 P **P** **10 21 08.7 -0.6**
WLF IAmb IAmb 10 21 14.9
comp=Z,49nm,0.8s
CHLP Challavanipeta 35.39 104 *eP* **P** **10 21 11.9 +0.4**
CHLP IVmB_BB 10 21 16.2
comp=Z,651nm,0.9s
CHLP *eS* **S** **10 26 45.3 -0.4**
CHLP IVMs_BB IVMs_BB 10 38 12.9
comp=Z,1µm,11.0s
VIVF Saint-Julien-l 35.41 303 *eP* **P** **10 21 10.7 -0.7**
VIVF pmax pmax
comp=Z,245nm,1.6s
BHOU Houvegnez 35.43 313 P **P** **10 21 11.2 -0.2**
MDRS Chennai 35.45 116 *eP* **P** **10 21 12.2 +0.3**
MDRS IAmb IAmb 10 21 20.4
comp=Z,42nm,1.0s
MEM Membach 35.49 313 P **P** **10 21 12.3 +0.3**
MEM Membach 35.49 313 P **P** **10 21 14.0 +2.0**
HFS Hagfors 35.50 331 P **P** **10 21 11.8 -0.2**
comp=Z,36nm,0.6s,baz=134,slow=8.5,SNR=39
SSB Saint Sauveur 35.54 304 P **P** **10 21 10.9 -1.6**
SSB pmax pmax
comp=Z,61nm,1.2s
SSB Saint Sauveur 35.54 304 P **P** **10 21 10.9 -1.6**
SSB IAmb IAmb 10 21 19.8
comp=Z,61nm,1.2s
GTK Tadong 35.56 88 *eP* **P** **10 21 16.3 +3.3**
MAHO Mahon 35.59 294⇑*iP* **P** **10 21 11.9 -1.0**
MAHO *i* S **S** **10 26 46.8 -1.5**
MUD Monsted U'grnd 35.70 324 *i* P **P** **10 21 14.5 +0.9**
MUD Monsted U'grnd 35.70 324 *i* P **P** **10 21 14.5 +0.9**
BEBN Eben Emael 35.74 313 P **P** **10 21 14.1 0.0**
BEBN PnPn **PP** **10 22 33.0 -2.2**
BSTI Sart Tilman 35.75 313 P **P** **10 21 14.6 +0.4**
BCLA Clavier 35.88 312 P **P** **10 21 14.5 -0.8**
comp=Z,26nm,1.3s
APA Apatity 35.99 351⇑*iP* **P** **10 21 13.8 -2.3**
APA *i* S **S** **10 26 49.0 -4.9**
APA pmax pmax
comp=Z,54nm,0.8s
APA MLR MLR
comp=Z,6µm,16.0s
LVZ Lovozero 36.14 352⇓*iP* **P** **10 21 17.6 +0.2**
LVZ pmax pmax
comp=Z,183nm,2.5s
LVZ Lovozero 36.14 352 P **P** **10 21 17.2 -0.2**
LVZ IAmb IAmb 10 21 23.7
comp=Z,69nm,1.0s
LVZ IAMs_20 IAMs_20 10 38 50.5
comp=Z,4µm,20.0s
BMRD Maredsous 36.19 312 P **P** **10 21 17.6 -0.4**
comp=Z,48nm,1.8s
LOR Lormes 36.24 307 *eP* **P** **10 21 16.4 -2.1**
LOR pmax pmax
comp=Z,43nm,0.8s
DOU Dourbes 36.25 312 P **P** **10 21 18.5 0.0**
comp=Z,45nm,1.6s
SSF Saint Saulge 36.45 307 *eP* **P** **10 21 18.5 -1.8**
SSF pmax pmax
comp=Z,90nm,0.8s
BAIF Baives 36.49 312 *eP* **P** **10 21 20.1 -0.4**
BAIF pmax pmax
comp=Z,60nm,1.0s
SNF Seneffe 36.53 312 P **P** **10 21 21.1 +0.2**
UCC Uccle 36.55 313 P **P** **10 21 21.5 +0.5**
UCC Uccle 36.55 313 P **P** **10 21 20.6 -0.4**
UCC pmax pmax
comp=Z,112nm,1.2s
UCC MLR MLR
comp=Z,2µm,21.0s
UCC Uccle 36.55 313 P **P** **10 21 20.6 -0.4**
UCC IAmb IAmb 10 21 30.3
comp=Z,112nm,1.2s
OSL Oslo 36.64 329 *eP* **P** **10 21 21.7 +0.1**
NORES NORESS Array B 36.72 331 P **P** **10 21 23.6 +1.2**
MBAR Mbarara 36.77 209*deP* **P** **10 21 24.3 +0.8**
MBAR pmax pmax
comp=Z,62nm,1.0s
MBAR Mbarara 36.77 209 P **P** **10 21 24.1 +0.7**
MBAR Mbarara 36.77 209 IAMs_20 IAMs_20 10 36 47.8
comp=Z,5µm,19.0s
NC405 NORSAR Array S 36.86 332 P **P** **10 21 22.9 -0.8**
NC405 IAmb IAmb 10 21 30.2
comp=Z,105nm,1.0s
KONO Kongsberg 36.98 329⇓*eP* **P** **10 21 24.5 -0.1**
KONO pmax pmax
comp=Z,87nm,1.4s
KONO Kongsberg 36.98 329 P **P** **10 21 24.0 -0.6**
KONO IAmb IAmb 10 21 25.5
comp=Z,104nm,1.4s
KONO Kongsberg 36.98 329 *eP* **P** **10 21 23.5 -1.1**
NB201 NORSAR Array S 37.00 331 P **P** **10 21 23.4 -1.3**
NB201 IAmb IAmb 10 21 37.0
comp=Z,65nm,1.1s
LSA Lhasa 37.00 83 P **P** **10 21 26.2 +0.4**
LSA pmax pmax
comp=Z,40nm,1.0s
LSA MLR MLR
comp=Z,3µm,18.0s
LSA Lhasa 37.00 83 P **P** **10 21 26.1 +0.4**
NB2 NORSAR Subarra 37.02 331 P **P** **10 21 24.3 -0.7**
comp=Z,624nm,3.3s,baz=122,slow=8.6
NB2 NORSAR Subarra 37.02 331 P **P** **10 21 24.3 -0.7**
baz=122,slow=8.6
NOA NORSAR Array B 37.02 331 P **P** **10 21 23.9 -1.2**
comp=Z,7.6nm,0.7s,baz=124,slow=8.5,SNR=28
NOA LR LR 10 38 30.2
comp=Z,4µm,18.2s,baz=125,slow=39

NAO01 NORSAR Array S 37.05 331 P **P** **10 21 23.9 -1.3**
NAO01 IAmb IAmb 10 21 31.8
comp=Z,82nm,1.0s
NC303 NORSAR Array S 37.07 332 P **P** **10 21 24.2 -1.2**
NC303 IAmb IAmb 10 21 32.4
comp=Z,89nm,1.1s
NBO00 NORSAR Array S 37.20 331 P **P** **10 21 25.7 -0.8**
NBO00 IAmb IAmb 10 21 41.1
comp=Z,171nm,1.5s
CAF Calviac 37.26 303 *eP* **P** **10 21 25.4 -1.9**
CAF pmax pmax
comp=Z,99nm,1.7s
NC204 NORSAR Array S 37.34 331 P **P** **10 21 26.5 -1.2**
NC204 IAmb IAmb 10 21 34.1
comp=Z,98nm,1.1s
CLF Chambon-Foret 37.41 308 P **P** **10 21 27.2 -1.2**
SNART Snartemo 37.47 326 *eP* **P** **10 21 29.1 +0.4**
SKAR Skarslia 38.05 329 *eP* **P** **10 21 34.0 +0.3**
BLS5 Blasjo 38.29 327 *eP* **P** **10 21 36.7 +0.9**
DOMB Dombas 38.44 332 *eP* **P** **10 21 37.6 +0.6**
TAM Tamanrasset 38.49 266 P **P** **10 21 39.4 +1.3**
TAM pmax pmax
comp=Z,203nm,1.5s
TAM MLR MLR
comp=Z,7µm,18.0s
TAM Tamanrasset 38.49 266 P **P** **10 21 39.4 +1.3**
TAM IAmb IAmb 10 21 43.7
comp=Z,203nm,1.5s
TBLU Trondheim 38.64 334 *eP* **P** **10 21 39.8 +1.2**
NSS Namsos 38.78 336 *eP* **P** **10 21 39.4 -0.4**
SHL Shillong 38.92 89 P **P** **10 21 41.5 -0.1**
SHL pmax pmax
comp=Z,183nm,1.3s
SHL MLR MLR
comp=Z,8µm,20.0s
SHL Shillong 38.92 89 P **P** **10 21 41.5 -0.1**
SHL IAmb IAmb 10 21 43.7
comp=Z,184nm,1.3s
KEV Kevo 38.97 349 P **P** **10 21 41.5 +0.3**
KEV pmax pmax
comp=Z,88nm,1.2s
KEV MLR MLR
comp=Z,3µm,22.0s
KEV Kevo 38.97 349 P **P** **10 21 41.5 +0.3**
ARCES ARCESS Array B 39.03 348 P **P** **10 21 41.9 +0.1**
comp=Z,34nm,0.9s,baz=166,slow=8.7,SNR=34
ARCES ScP **ScP** **10 27 38.6 -0.8**
comp=Z,4.5nm,0.8s,baz=140,slow=4.0,SNR=3.6
ARCES LR LR 10 39 01.8
comp=Z,5µm,18.8s,baz=145,slow=38
ARCES ARCESS Array B 39.03 348 P **P** **10 21 41.3 -0.5**
ARE0 ARCESS Array S 39.03 348 P **P** **10 21 40.7 -1.1**
ARE0 ARCESS Array S 39.03 348 *eP* **P** **10 21 42.1 +0.3**
MOR8 Moi Rana 39.06 339 *eP* **P** **10 21 41.2 -0.9**
HYA Hoyanger 39.20 329 *eP* **P** **10 21 43.4 +0.2**
BER Bergen 39.22 328 *eP* **P** **10 21 44.2 +0.7**
TEZP TEZPUR 39.33 87 *eP* **P** **10 21 43.5 -1.3**
TEZP IAmb IAmb 10 21 47.8
comp=Z,20nm,0.9s
AKN Aaknes 39.34 331 *eP* **P** **10 21 45.3 +0.8**
N2ST Straumen 39.55 341 *eP* **P** **10 21 46.0 0.0**
PALK Pallekele 39.59 122⇓*eP* **P** **10 21 48.3 +1.1**
PALK pmax pmax
comp=Z,122nm,1.4s
PALK Pallekele 39.59 122 P **P** **10 21 46.9 -0.3**
STOK Stokkvaagen 39.60 339 *eP* **P** **10 21 46.5 0.0**
FAUS Fauske 39.65 341 *eP* **P** **10 21 47.1 +0.1**
KONS Konsvik 39.67 339 *eP* **P** **10 21 46.4 -0.8**
NBB40 Tonnes 39.72 339 *eP* **P** **10 21 47.4 -0.1**
SUE Sulen 39.77 329 *eP* **P** **10 21 48.3 +0.3**
NBB05 Inndyr 39.77 340 *eP* **P** **10 21 47.8 -0.1**
NBB30 Finnes 39.81 340 *eP* **P** **10 21 48.0 -0.3**
N2TV TVrnvik 39.83 341 *eP* **P** **10 21 48.4 0.0**
FOO Floro 39.88 330 *eP* **P** **10 21 48.3 -0.6**
CART Cartagena 39.89 291 *eP* **P** **10 21 48.1 -1.3**
CART *i* S **S** **10 27 54.7 +1.0**
N2IH Innhavet 39.90 342 *eP* **P** **10 21 48.9 -0.1**
ZIRO ZIRO 39.92 85 *eP* **P** **10 21 50.8 +0.9**
ZIRO IAmb IAmb 10 21 53.0
comp=Z,40nm,0.6s
SILR SILCHAR 39.98 89 *eP* **P** **10 21 51.7 +1.5**
STEI Steigen 40.05 342 *eP* **P** **10 21 50.1 -0.1**
WOL Wolverton 40.11 313 *eP* **P** **10 21 51.0 0.0**
HAMF Hammerfest 40.31 348 *eP* **P** **10 21 53.5 +1.1**
CWF Charnwood Fore 40.39 315 *eP* **P** **10 21 52.9 -0.3**
CWF IAMs_20 IAMs_20 10 44 44.5
comp=Z,3µm,15.2s
GDLE Glaisdale, N Y 40.43 317 *eP* **P** **10 21 53.7 +0.2**
GDLE IAMs_20 IAMs_20 10 45 08.6
comp=Z,4µm,14.2s
TRO Tromso 40.43 345 *eP* **P** **10 21 53.2 -0.2**
N2SV S_rvVgen 40.64 341 *eP* **P** **10 21 54.0 -1.1**
N2RO R_st 40.64 340 *eP* **P** **10 21 54.6 -0.6**
LOF Lofoten 40.65 341 *eP* **P** **10 21 55.8 +0.5**
LBWR Ladybower, Pea 40.75 316 *eP* **P** **10 21 55.8 -0.5**
LBWR IAmb IAmb 10 22 01.7
comp=Z,149nm,0.9s
LBWR IAMs_20 IAMs_20 10 42 59.7
comp=Z,4µm,15.8s
STRD Stroud 40.76 313 *eP* **P** **10 21 56.1 -0.2**
STRD IAmb IAmb 10 22 01.1
comp=Z,297nm,1.1s
HPK Haverah Park 40.80 317 *eP* **P** **10 21 56.7 0.0**
HPK IAMs_20 IAMs_20 10 43 06.4
comp=Z,5µm,16.3s
OLDB Oldbury-Upon-S 40.98 313 *eP* **P** **10 21 57.7 -0.5**
EDMD Edmundbyers 41.16 318 *eP* **P** **10 21 59.5 -0.1**
EDMD IAmb IAmb 10 22 00.9
comp=Z,111nm,0.7s
EDMD IAMs_20 IAMs_20 10 42 37.2
comp=Z,4µm,21.7s
MCH1 Michaelchurch 41.30 313 *eP* **P** **10 22 00.3 -0.5**
MCH1 IAmb IAmb 10 22 01.6
comp=Z,147nm,1.0s
MCH1 IAMs_20 IAMs_20 10 45 09.0
comp=Z,2µm,14.2s
HLM1 Long Mynd 41.30 314 *eP* **P** **10 22 00.2 -0.6**
HLM1 IAmb IAmb 10 22 01.9
comp=Z,117nm,1.1s
UCM Universidad Co 41.30 296⇑*iP* **P** **10 22 01.1 0.0**
UCM *i* S **S** **10 28 15.0 +0.2**
FOEL Foel Wylfa 41.55 315 *eP* **P** **10 22 02.7 -0.1**
FOEL IAmb IAmb 10 22 04.9
comp=Z,181nm,1.1s
FOEL IAMs_20 IAMs_20 10 44 59.5
comp=Z,3µm,15.0s
DYA Yadsworthy 41.71 311 *eP* **P** **10 22 03.8 -0.4**
DYA IAmb IAmb 10 22 05.1
comp=Z,312nm,1.6s
DYA IAMs_20 IAMs_20 10 45 11.2
comp=Z,2µm,16.4s
ESY Stoneypath 41.76 319 *eP* **P** **10 22 04.2 -0.3**
KESW Keswick, Cumbr 41.77 317 *eP* **P** **10 22 04.8 +0.2**
KESW IAMs_20 IAMs_20 10 46 20.0
comp=Z,3µm,15.4s
MELI Melilla 41.82 288⇑*iP* **P** **10 22 05.6 +0.4**
MELI *eS* **S** **10 28 23.3 +1.0**
LLW Llanuwychllyn 41.82 315 *eP* **P** **10 22 05.0 0.0**
LLW IAMs_20 IAMs_20 10 43 48.4
comp=Z,1µm,16.9s
DRUM Mains of Drumt 41.91 321 *eP* **P** **10 22 05.2 -0.6**
DRUM IAMs_20 IAMs_20 10 42 39.5
comp=Z,3µm,18.2s
ESBB Sonseca Array 41.92 295 P **P** **10 22 06.1 0.0**
ESBB IAmb IAmb 10 22 20.2
comp=Z,100nm,1.3s
ESDC Sonseca Array 41.92 295 P **P** **10 22 06.3 +0.1**
comp=Z,15nm,0.7s,baz=74,slow=8.1,SNR=81
ESDC LR LR 10 42 45.7
comp=Z,719nm,18.1s,baz=85,slow=41
EKA Eskdalemuir Ar 41.94 318 P **P** **10 22 05.6 -0.4**
comp=Z,19nm,0.5s,baz=101,slow=9.0,SNR=78
EKA PcP **PcP** **10 23 59.4 -1.8**
comp=Z,30nm,1.3s,baz=99,slow=4.4,SNR=1.9
GUD Guadarrama 41.96 296 P **P** **10 22 07.6 +1.1**
ESK Eskdalemuir 41.96 318 *eP* **P** **10 22 05.7 -0.5**
ESK IAMs_20 IAMs_20 10 43 12.9
comp=Z,4µm,16.6s
ESK Eskdalemuir 41.96 318 P **P** **10 22 04.8 -1.4**
ESK pmax pmax
comp=Z,71nm,1.1s
ESK Eskdalemuir 41.96 318 P **P** **10 22 04.8 -1.4**
EBL Broad Law 41.96 319 *eP* **P** **10 22 06.0 -0.2**
EDI Edinburgh 42.07 319 *eP* **P** **10 22 06.9 -0.1**

EDI IAMs_20 IAMs_20 10 45 11.8
comp=Z,2µm,16.4s
GTA Gaotai 42.11 66⇑P **P** **10 22 08.9 +1.1**
GTA pP pP 10 22 13.0 +0.3
GTA sP sP 10 22 15.8 +1.1
GTA PP PP 10 23 54.0 +8.7
GTA PcP **PcP** **10 24 02.0 -0.3**
GTA ScP **ScP** **10 27 54.3 +2.0**
GTA S **S** **10 28 31.4 +4.4**
GTA sS sS 10 28 37.5 +2.4
GTA ScS **ScS** **10 32 11.8 +1.8**
GTA pmax pmax
comp=Z,52nm,1.5s
GTA pmax pmax
comp=Z,770nm,4.6s
GTA LR LR
comp=Z,5µm,15.9s
GTA LR LR
comp=Z,5µm,17.5s
GTA LR LR
comp=Z,7µm,16.5s
PAB San Pablo 42.23 295 P **P** **10 22 08.6 -0.2**
PAB pmax pmax
comp=Z,100nm,1.5s
PAB San Pablo 42.23 295 P **P** **10 22 08.6 -0.2**
WLF1 Llynfaes 42.32 315 *eP* **P** **10 22 08.9 -0.2**
WLF1 IAMs_20 IAMs_20 10 43 58.0
comp=Z,6µm,16.6s
RSBS Rosebush, Pemb 42.37 313 *eP* **P** **10 22 09.2 -0.3**
RSBS IAmb IAmb 10 22 10.5
comp=Z,112nm,1.2s
RSBS IAMs_20 IAMs_20 10 45 33.5
comp=Z,2µm,15.2s
WPS Cemaes, Angles 42.39 315 *eP* **P** **10 22 09.8 +0.1**
WPS IAmb IAmb 10 22 11.1
comp=Z,192nm,1.1s
WPS IAMs_20 IAMs_20 10 44 00.1
comp=Z,4µm,16.1s
YRC Rhoscolyn 42.42 315 *eP* **P** **10 22 09.7 -0.2**
NEWG New Galloway 42.50 318 *eP* **P** **10 22 10.4 -0.2**
CCA1 Carnmenellis 42.52 311 *eP* **P** **10 22 10.5 -0.3**
IOMK Kirk Michael 42.56 317 *eP* **P** **10 22 11.1 0.0**
WIM Isle of Man 42.60 316 *eP* **P** **10 22 11.2 -0.2**
INVG Invergeldie, C 42.64 320 *eP* **P** **10 22 11.3 -0.4**
INVG IAmb IAmb 10 22 13.2
comp=Z,227nm,1.4s
INVG IAMs_20 IAMs_20 10 44 03.2
comp=Z,3µm,17.7s
MOY Mondy 42.71 47 *eP* **P** **10 22 14.3 +1.8**
MOY pmax pmax
comp=Z,193nm,1.9s
EMAL Malaga-Limoner 42.73 291⇑*iP* **P** **10 22 11.0 -1.7**
EMAL *i* S **S** **10 28 32.1 -3.7**
GAL1 Galloway 42.73 317 *eP* **P** **10 22 12.7 +0.3**
GAL1 IAMs_20 IAMs_20 10 43 55.3
comp=Z,3µm,15.1s
EAB Aberfoyle 42.76 319 *eP* **P** **10 22 12.1 -0.5**
PGBU Glenifferbraes 42.77 319 *eP* **P** **10 22 12.5 -0.3**
PGBU IAmb IAmb 10 22 14.7
comp=Z,208nm,1.3s
PVLZ Peæn de 42.94 288 *eP* P 10 22 08.6 -5.8
PVLZ *eS* **S** **10 28 41.6 +2.8**
NRIK Noril'sk 42.95 19 P **P** **10 22 14.9 +0.9**
comp=Z,18nm,0.5s,baz=231,slow=8.5,SNR=40
NRIK LR LR 10 44 23.0
comp=Z,5µm,18.4s,baz=228,slow=42
NRIK Noril'sk 42.95 19 *i* P **P** **10 22 15.0 +0.9**
NRIK pmax pmax
comp=Z,131nm,1.6s
LAWE Loch Awe, Argy 43.35 319 *eP* **P** **10 22 16.9 -0.6**
LAWE IAmb IAmb 10 22 18.4
comp=Z,302nm,1.7s
GMM Mts of Mourne 43.36 316 *eP* **P** **10 22 17.1 -0.4**
REAL Reales 43.40 290 *eP* **P** **10 22 17.0 -1.3**
DSB Dublin 43.49 315 P **P** **10 22 18.1 -0.5**
DSB IAmb IAmb 10 22 24.5
comp=Z,73nm,0.7s
KAC Achnashellach 43.53 321 *eP* **P** **10 22 18.3 -0.6**
CLGH Cloghs, Cushen 43.56 318 *eP* **P** **10 22 18.8 -0.4**
CEU Ceuta 43.64 290 *i* P **P** **10 22 19.9 -0.2**
CEU *i* S **S** **10 28 44.9 -4.3**
ALJ Aljibe 43.74 291 *eP* **P** **10 22 19.0 -1.9**
PBRG Braganca 43.77 298 *eP* **P** **10 22 20.5 -0.6**
comp=Z,194nm,1.9s
IFR Ifrane 43.98 286⇑*iP* **P** **10 22 23.5 +0.5**
IFR *i* S **S** **10 28 56.9 +2.3**
MVO Moncorvo 44.06 297 *eP* **P** **10 22 22.9 -0.6**
comp=Z,146nm,1.5s
MVO *eS* **S** **10 28 54.9 -0.5**
MVO *eSS* **SS** **10 32 15.1 +2.6**
ZAK Zakamensk 44.07 49 *eP* **P** **10 22 24.4 +0.9**
ZAK *e* 10 24 06.1
ZAK pmax pmax
comp=Z,47nm,1.5s
ZAK pmax pmax
comp=Z,17nm,1.6s
CNIL Conil 44.09 290 *eP* **P** **10 22 21.0 -2.7**
SFS San Fernando 44.19 291⇑*iP* **P** **10 22 22.8 -1.7**
SFS *i* S **S** **10 28 54.0 -3.1**
BJO1 Bjornoya 44.31 349 *eP* **P** **10 22 26.1 +1.2**
TLY Talaya 44.36 47 P **P** **10 22 26.1 +0.5**
comp=Z,4.1nm,0.5s,baz=270,slow=8.2,SNR=4.0
TLY Talaya 44.36 47*c iP* **P** **10 22 27.5 +1.8**
TLY pmax pmax
comp=Z,49nm,1.6s
TLY Talaya 44.36 47 P **P** **10 22 25.9 +0.3**
MTE Manteigas 44.55 296 *eP* **P** **10 22 26.4 -1.0**
comp=Z,176nm,1.3s
MTE *eS* **S** **10 29 01.9 -0.6**
MTE *eSS* **SS** **10 32 22.0 -0.2**
MTE Manteigas 44.55 296 P **P** **10 22 27.5 +0.1**
PVRL Vila Real 44.56 298 *eP* **P** **10 22 27.9 +0.4**
comp=Z,218nm,1.3s
PMRV Marv??o 44.58 295 *eP* **P** **10 22 26.4 -1.2**
comp=Z,106nm,1.7s
PMRV *eS* **S** **10 29 02.4 -0.5**
PMRV *eSS* **ScS** **10 32 25.1 0.0**
PCBR Castelo Branco 44.58 296 *eP* **P** **10 22 27.3 -0.3**
comp=Z,198nm,1.8s
PCAB Cabril 44.74 298 *eP* **P** **10 22 28.8 -0.1**
comp=Z,200nm,1.7s
PVIS Viseu 44.77 297 *eP* **P** **10 22 29.9 +0.7**
comp=Z,207nm,2.0s
IRK Irkutsk 44.77 47 *eP* **P** **10 22 29.6 +0.6**
IRK pmax pmax
comp=Z,248nm,2.1s
PGAV Gavieira, Arco 44.89 299 *eP* **P** **10 22 30.7 +0.6**
comp=Z,336nm,1.6s
PGAV *eS* **S** **10 29 06.6 -0.8**
PGAV *eSS* **SS** **10 32 31.8 +3.2**
PBEJ Beja 45.19 293 *eP* **P** **10 22 31.9 -0.6**
comp=Z,123nm,1.5s
PVAQ Vaqueiros 45.19 292 *eP* **P** **10 22 31.9 -0.6**
comp=Z,114nm,1.4s
PVAQ *eS* **S** **10 29 11.5 -0.2**
PVAQ *eSS* **SS** **10 32 38.4 +4.2**
PVAQ Vaqueiros 45.19 292 P **P** **10 22 31.4 -1.1**
PVAQ IAmb IAmb 10 22 46.1
comp=Z,71nm,1.0s
EVO Evora 45.21 294⇑*iP* **P** **10 22 32.1 -0.5**
EVO *i* S **S** **10 29 10.9 -1.1**
EVO Evora 45.21 294 *eP* **P** **10 22 31.6 -1.0**
comp=Z,72nm,1.5s
COI Coimbra 45.24 296 P **P** **10 22 32.0 -0.8**
COI pmax pmax
comp=Z,137nm,0.8s
COI MLR MLR
comp=Z,900nm,19.0s
COI Coimbra 45.24 296 *eP* **P** **10 22 33.7 +0.9**
comp=Z,225nm,1.9s
COI *eS* **S** **10 29 12.9 +0.6**
COI Coimbra 45.24 296 P **P** **10 22 32.0 -0.8**
HOPEN Hopen 45.24 353 *eP* **P** **10 22 32.9 +0.6**
PMTG Montargil 45.28 295 *eP* **P** **10 22 32.6 -0.5**
comp=Z,43nm,1.8s
PMTG *eS* **S** **10 29 12.1 -0.9**
PMTG *eSS* **SS** **10 32 38.2 +2.5**
PCAS Casmilo, Conde 45.33 296 *eP* **P** **10 22 34.5 +1.0**
comp=Z,141nm,1.2s
PCAS *eS* **S** **10 29 14.0 +0.4**
PCAS *eSS* **SS** **10 32 39.9 +3.4**
PBDV Barranco-do-Ve 45.39 292 *eP* **P** **10 22 32.8 -1.3**
comp=Z,76nm,1.7s
PBDV *eS* **S** **10 29 12.8 -1.9**

PBDV eSS **SS** **10 32 41.5 +3.7**
PCVE Castro Verde 45.40 293 eP **P** **10 22 33.7 -0.4**
comp=Z,94nm,1.5s
PCVE eS **S** **10 29 13.0 -1.7**
DGPR DIGLIPUR 45.44 104 eP **P** **10 22 36.0 +1.3**
DGPR IAmb IAmb 10 22 40.1
comp=Z,175nm,0.8s
PSBE So Bento 45.64 295 eP **P** **10 22 36.5 +0.5**
comp=Z,170nm,2.1s
PSBE eS **S** **10 29 18.7 +0.5**
PNCL Nicolau / Gran 45.69 293 eP **P** **10 22 36.5 +0.1**
comp=Z,103nm,1.3s
PNCL eS **S** **10 29 17.7 -1.1**
VAL Valentia 45.76 313 P **P** **10 22 37.1 +0.4**
LZH Lanzhou 45.84 69 eP **P** **10 22 38.8 +0.9**
LZH pP pP 10 22 42.3 -0.5
LZH PP **PP** **10 24 29.8 +4.6**
LZH S **S** **10 29 20.8 -0.7**
LZH sS sS 10 29 31.4 +1.8
LZH pmax pmax
comp=Z,93nm,1.4s
LZH pmax pmax
comp=Z,730nm,5.4s
LZH LR LR
comp=Z,4μm,13.0s
LZH LR LR
comp=Z,5μm,14.2s
LZH LR LR
comp=Z,5μm,14.5s
AVE Averroes 45.88 287 eP **P** **10 22 39.1 +1.1**
AVE *i* S **S** **10 29 20.0 -1.8**
MORF Marmelete 45.94 292 eP **P** **10 22 38.4 -0.1**
MORF AMb AMB 10 22 49.0
comp=Z,68nm,1.5s
MORF eS **S** **10 29 23.8 +1.1**
MORF Marmelete 45.94 292 eP **P** **10 22 38.4 -0.1**
MORF eS **S** **10 29 23.8 +1.1**
MORF Marmelete 45.94 292 eP **P** **10 22 38.2 -0.3**
comp=Z,59nm,1.8s
MORF eS **S** **10 29 19.9 -2.7**
PTEO Sao Teotonio 45.95 293 eP **P** **10 22 38.3 -0.1**
comp=Z,169nm,1.4s
LIS Lisbon 46.05 294 eP **P** **10 22 39.3 +0.1**
LIS AMb AMB 10 22 43.6
comp=Z,177nm,1.7s
LIS eS **S** **10 29 25.4 +1.3**
LIS Lisbon 46.05 294 eP **P** **10 22 39.3 +0.1**
LIS eS **S** **10 29 25.4 +1.3**
LIS Lisbon 46.05 294 eP **P** **10 22 40.1 +0.9**
comp=Z,190nm,1.2s
PMAFR Mafra 46.11 295 eP **P** **10 22 39.8 +0.1**
comp=Z,213nm,1.7s
PMAFR eS **S** **10 29 25.6 +0.6**
PFVI Vila Bisbo 46.11 292 eP **P** **10 22 39.4 -0.4**
comp=Z,128nm,1.5s
PFVI eS **S** **10 29 23.7 -1.3**
PFVI Vila Bisbo 46.11 292 P **P** **10 22 39.1 -0.7**
PFVI IAmb IAmb 10 22 53.7
comp=Z,111nm,1.3s
SONM Songino Array 46.14 53 P **P** **10 22 41.0 +1.0**
comp=Z,5.8nm,0.6s,baz=276,slow=6.1,SNR=46
SONM LR LR 10 44 30.2
comp=Z,4μm,18.3s,baz=270,slow=39
SONM Songino Array 46.14 53 P **P** **10 22 41.0 +1.0**
SONM Songino Array 46.14 53 P **P** **10 22 39.6 -0.4**
TOB1 Torodi Ar. Sit 46.28 256 IAMs_20 IAMs_20 10 44 45.2
comp=Z,5μm,19.0s
TOA0 Torodi Ar. Sit 46.29 256 P **P** **10 22 40.5 -0.9**
SNR=38
TOA0 Torodi Ar. Sit 46.29 256 P **P** **10 22 40.8 -0.6**
TOA0 IAmb IAmb 10 22 44.5
comp=Z,108nm,1.4s
TORD Torodi Ar. Bea 46.29 256 P **P** **10 22 40.6 -0.8**
comp=Z,20nm,0.8s,baz=53,slow=7.5,SNR=69
TORD LR LR 10 44 56.0
comp=Z,5μm,18.3s,baz=45,slow=40
TORD Torodi Ar. Bea 46.29 256 P **P** **10 22 39.6 -1.8**
TOA3 Torodi Ar. Sit 46.30 256 IAMs_20 IAMs_20 10 44 45.5
comp=Z,5μm,19.0s
TOC7 Torodi Ar. Sit 46.30 256 IAMs_20 IAMs_20 10 44 45.5
comp=Z,4μm,19.0s
TOB5 Torodi Ar. Sit 46.30 256 IAMs_20 IAMs_20 10 44 45.6
comp=Z,5μm,20.0s
TOB4 Torodi Ar. Sit 46.31 256 IAMs_20 IAMs_20 10 44 45.7
comp=Z,5μm,20.0s
ULN Ulaanbaatar 46.58 53*c i* P **P** **10 22 44.2 +0.7**
ULN pmax pmax
comp=Z,120nm,1.7s
ULN Ulaanbaatar 46.58 53 P **P** **10 22 44.4 +0.9**
ULN IAmb IAmb 10 22 54.9
comp=Z,59nm,0.9s
ULN Ulaanbaatar 46.58 53 IAMs_20 IAMs_20 10 44 41.7
comp=Z,4μm,22.0s
HSPB Hornsund (broa 46.84 350 eP **P** **10 22 45.6 +0.7**
HSPB *e*PP **PP** **10 24 35.0 +0.1**
HSPB eS **S** **10 29 40.9 +6.5**
HSPB Hornsund (broa 46.84 350 eP **P** **10 22 44.9 0.0**
MHMT Maesarieng 47.09 95 P P 10 22 57.9 +10
CD2 Chengdu 47.12 76 P **P** **10 22 48.0 +0.2**
CD2 S **S** **10 29 42.3 +2.6**
CD2 sS pS 10 29 46.3 +0.8
CD2 ScS **ScS** **10 32 39.4 -2.5**
CD2 LR LR
comp=Z,6μm,16.2s
CD2 LR LR
comp=Z,3μm,17.2s
CD2 LR LR
comp=Z,5μm,17.2s
CHTO Chiang Mai 47.65 94 P **P** **10 22 51.8 -0.2**
CHTO pmax pmax
comp=Z,45nm,1.0s
CHTO MLR MLR
comp=Z,2μm,22.0s
CHTO Chiang Mai 47.65 94 P **P** **10 22 51.8 -0.2**
CHTO IAmb IAmb 10 22 56.5
comp=Z,46nm,0.9s
SPA0 Spitsbergen Ar 47.67 352 P **P** **10 22 51.8 +0.4**
SPITS Spitsbergen Ar 47.67 352 P **P** **10 22 51.9 +0.5**
comp=Z,5.5nm,0.4s,baz=147,slow=14,SNR=38
CM13 Chiang Mai Arr 47.79 94 P **P** **10 22 54.9 +1.8**
CM15 Chiang Mai Arr 47.79 94 P **P** **10 22 54.3 +1.1**
CM31 Chiang Mai Arr 47.81 94 P **P** **10 22 53.5 +0.3**
CM31 Chiang Mai Arr 47.81 94 P **P** **10 22 53.2 0.0**
CM31 IAmb IAmb 10 22 57.6
comp=Z,54nm,1.0s
CMAR Chiang Mai Arr 47.81 94 P **P** **10 22 53.2 0.0**
comp=Z,34nm,1.0s,baz=294,slow=8.3,SNR=57
CMAR PcP **PcP** **10 24 23.7 +1.6**
comp=Z,4.9nm,0.6s,baz=283,slow=4.8,SNR=4.1
CMAR ScP **ScP** **10 28 15.5 -0.4**
comp=Z,3.1nm,0.9s,baz=289,slow=5.9,SNR=3.7
CMAR LR LR 10 47 12.2
comp=Z,1μm,19.2s,baz=330,slow=41
CMAR Chiang Mai Arr 47.81 94 P **P** **10 22 53.1 -0.2**
CM02 Chiang Mai Arr 47.82 94 P **P** **10 22 53.5 +0.2**
CM05 Chiang Mai Arr 47.84 94 P **P** **10 22 53.6 +0.2**
CM01 Chiang Mai Arr 47.84 94 P **P** **10 22 53.6 +0.2**
CM09 Chiang Mai Arr 47.85 94 P **P** **10 22 53.9 +0.3**
CM04 Chiang Mai Arr 47.86 94 P **P** **10 22 54.0 +0.3**
PAYA Payao 48.18 93 P **P** **10 22 57.3 +1.2**
CRAI Chiangrai 48.22 91 P **P** **10 22 57.9 +1.5**
KMI Kunming 48.23 84⇓ *e*P **P** **10 22 57.0 +0.3**
KMI pP pP 10 22 59.1 -2.5
KMI S **S** **10 29 52.9 -3.0**
KMI ScS **ScS** **10 32 50.4 +0.7**
KMI SS **SS** **10 33 19.6 -5.5**
KMI pmax pmax
comp=Z,170nm,1.2s
KMI pmax pmax
comp=Z,2μm,3.5s
KMI LR LR
comp=Z,2μm,19.9s
KMI LR LR
comp=Z,2μm,17.1s
KMI LR LR
comp=Z,3μm,19.2s
KMI Kunming 48.23 84 IAMs_20 IAMs_20 10 45 47.6
comp=Z,3μm,21.0s
KBS Kingsbay 48.81 351*c i* P **P** **10 23 00.1 -0.1**
KBS pmax pmax
comp=Z,99nm,1.7s
KBS Kingsbay 48.81 351 P **P** **10 22 60.0 -0.2**
KBS IAmb IAmb 10 23 10.8
comp=Z,75nm,1.4s
KBS Kingsbay 48.81 351 IAMs_20 IAMs_20 10 46 22.0
comp=Z,3μm,18.0s
KBS Kingsbay 48.81 351 *e*P **P** **10 22 59.9 -0.2**
PHRA Phrae 48.87 93 P **P** **10 23 02.2 +0.8**
NANT Nan 49.13 93 P **P** **10 23 04.5 +1.0**
UTTA Uttaradit 49.49 94 P **P** **10 23 06.6 +0.4**
UTHA Uthaitani 49.61 97 P **P** **10 23 07.4 +0.3**
PHIT Phitsanulok 49.64 95 P P 10 23 12.6 +5.3
BTO Baotou 49.65 62 *e*P **P** **10 23 04.5 -2.7**
SRDT SRDT 49.94 99 P **P** **10 23 10.4 +0.8**
XAN Xi'an 50.39 71 P **P** **10 23 13.1 +0.2**
XAN pmax pmax
comp=Z,156nm,1.0s
XAN MLR MLR
comp=Z,6μm,22.0s
XAN Xi'an 50.39 71 P **P** **10 23 13.1 +0.2**
PBKT Sadao Pong 50.40 95 P **P** **10 23 14.1 +1.0**
PBKT Sadao Pong 50.40 95 P **P** **10 23 13.3 +0.2**
PBKT IAmb IAmb 10 23 17.8
comp=Z,90nm,1.1s
CIT Chita 50.49 47 *e*P **P** **10 23 14.4 +1.0**
CIT *e* 10 23 23.9
CIT *e* 10 25 13.2
CIT pmax pmax
comp=Z,292nm,1.7s
BOD Bodaibo 50.54 39 *e*P **P** **10 23 13.5 -0.1**
BOD pmax pmax
comp=Z,159nm,1.8s
HHC Hu-ho-hao-te 50.74 61 *e*P **P** **10 23 16.6 +1.0**
HHC sP sP 10 23 24.8 +2.3
HHC PP **PP** **10 25 16.3 +4.8**
HHC S **S** **10 30 30.4 -0.2**
HHC sS sS 10 30 40.8 +1.9
HHC pmax pmax
comp=Z,74nm,1.2s
HHC pmax pmax
comp=Z,660nm,6.8s
HHC LR LR
comp=Z,5μm,17.1s
HHC LR LR
comp=Z,4μm,20.0s
HHC LR LR
comp=Z,5μm,19.2s
GYA Guiyang 51.01 81 *e*P **P** **10 23 18.3 +0.5**
GYA pP pP 10 23 22.4 -0.3
GYA S **S** **10 30 31.4 -3.2**
GYA sS pS 10 30 40.0 -0.6
GYA SS **SS** **10 34 10.1 +0.5**
GYA LR LR
comp=Z,2μm,18.2s
GYA LR LR
comp=Z,1μm,19.1s
GYA LR LR
comp=Z,2μm,24.4s
PHET Kaeng Krachan 51.11 100 P P 10 23 11.0 -7.4
LSZ Lusaka 51.20 205 P **P** **10 23 20.6 +1.5**
LSZ pmax pmax
comp=Z,62nm,1.0s
LSZ MLR MLR
comp=Z,12μm,19.0s
LSZ Lusaka 51.20 205 P **P** **10 23 20.6 +1.5**
LSZ IAmb IAmb 10 23 24.3
comp=Z,62nm,1.0s
ABPO Ambohimpanom 51.35 181 P **P** **10 23 20.6 +0.4**
ABPO pmax pmax
comp=Z,45nm,0.8s
ABPO MLR MLR
comp=Z,5μm,21.0s
ABPO Ambohimpanom 51.35 181 P **P** **10 23 20.6 +0.4**
ABPO IAmb IAmb 10 23 23.9
comp=Z,45nm,0.8s
NONG Nongkai 51.53 92 P **P** **10 23 23.3 +1.7**
CHAI Chaiyaphum 51.57 95 P P 10 23 16.0 -6.0
ENH Enshi 52.00 75 IAMs_20 IAMs_20 10 49 11.5
comp=Z,3μm,19.0s
TIY Taiyuan 52.14 65 *e*P **P** **10 23 26.3 +0.3**
TIY S **S** **10 30 50.0 +0.2**
TIY pmax pmax
comp=Z,480nm,4.2s
TIY LR LR
comp=Z,2μm,13.6s
TIY LR LR
comp=Z,1μm,18.7s
TIY LR LR
comp=Z,3μm,15.4s
ITZ Itezhi-Tezhi 52.43 207 *e*P **P** **10 23 28.1 -0.2**
ITZ *e* 10 30 58.0
SRAK Srakaew 52.55 97 P **P** **10 23 33.3 +4.0**
SURT Suratani 52.55 105 P **P** **10 23 32.2 +3.0**
SKNT Sakolnakorn 52.74 93 P **P** **10 23 30.6 0.0**
PKDT Phuket 52.78 106 P P **10 23 27.3 -3.6**
SCO Scoresbysund 52.89 337 IAMs_20 IAMs_20 10 46 38.0
comp=Z,3μm,20.0s
PMPST Porto Santo, M 53.11 289 *e*P **P** **10 23 34.8 +1.6**
comp=Z,256nm,1.5s
PMPS Porto Santo 53.12 289 *e*P **P** **10 23 33.4 +0.2**
comp=Z,323nm,1.7s
DAG Danmarks Havn 53.16 345⇑ *i*P **P** **10 23 32.6 -0.2**
DAG *i* 10 25 30.8
comp=Z,3μm,17.0s
DAG Danmarks Havn 53.16 345⇑ *i*P **P** **10 23 32.6 -0.2**
DAG *i* 10 25 30.8
DAG MLR MLR
comp=Z,3μm,17.0s
MLSI Meulaboh, Aceh 53.39 111 P **P** **10 23 34.0 -1.4**
comp=Z,3μmcomp=Z,227nm,1.1s
PMAR Madeira 53.68 289 *e*P **P** **10 23 38.5 +0.9**
comp=Z,361nm,1.6s
PMOZ Porto Moniz, M 53.88 289 *e*P **P** **10 23 39.6 +0.6**
comp=Z,219nm,1.6s
TRTT Trang 53.92 105 P **P** **10 23 38.7 -0.6**
NOR Nord 54.26 351 *i* P **P** **10 23 41.0 +0.1**
comp=Z,103nm,1.6s
comp=Z,2μm,19.0s
NOR Nord 54.26 351 *i* P **P** **10 23 41.0 +0.1**
NOR pmax pmax
comp=Z,100nm,1.6s
NOR MLR MLR
comp=Z,2μm,19.0s
BJI Beijing 54.35 61 P **P** **10 23 42.8 +0.7**
BJI PP **PP** **10 25 48.3 +4.3**
BJI S **S** **10 31 22.1 +2.4**
BJI pmax pmax
comp=Z,12nm,0.6s
BJI pmax pmax
comp=Z,380nm,7.5s
BJI LR LR
comp=Z,3μm,12.9s
BJT Baijiatuau 54.35 61 P **P** **10 23 42.5 +0.3**
BJT pmax pmax
comp=Z,16nm,0.8s
BJT Baijiatuau 54.35 61 P **P** **10 23 42.5 +0.3**
TPTI 54.61 112 P **P** **10 23 44.8 +0.5**
comp=Z,483nmcomp=Z,36nm,0.9s
HIA Hailar 54.77 50 P **P** **10 23 45.6 +0.5**
HIA pmax pmax
comp=Z,61nm,1.0s
HIA MLR MLR
comp=Z,8μm,19.0s
HIA Hailar 54.77 50 P **P** **10 23 45.6 +0.5**
HIA IAmb IAmb 10 23 56.4
comp=Z,61nm,1.0s
KIC Kosan Boka 55.33 254 *e*P **P** **10 23 48.8 -0.7**
comp=Z,100nm,0.7s
TIC Toumodi 55.39 254 *e*P **P** **10 23 49.0 -1.0**
LIC Lamto 55.64 254 *e*P **P** **10 23 50.8 -1.0**
comp=Z,228nm,0.7s
WHN Wuhan 55.85 73⇓ P **P** **10 23 53.9 +0.8**
WHN S **S** **10 31 37.8 -2.3**
WHN ScS **ScS** **10 33 42.8 +0.7**
WHN pmax pmax
comp=Z,1μm,7.4s
WHN LR LR
comp=Z,2μm,13.0s
WHN LR LR
comp=Z,5μm,15.4s
WHN LR LR
comp=Z,6μm,13.3s
GSI Gunungsitoli 56.14 113 P **P** **10 23 56.2 +0.9**
comp=Z,343nm,0.9s
GSI Gunungsitoli 56.14 113 P **P** **10 23 55.8 +0.4**
KULM Kulim 56.16 107 P **P** **10 23 54.5 -1.0**
KULM Kulim 56.16 107 P **P** **10 23 55.0 -0.5**
TIA Tai'an 56.17 66 P **P** **10 23 55.6 +0.3**
TIA PP **PP** **10 26 04.0 +3.7**
TIA pmax pmax
comp=Z,42nm,1.4s
TIA pmax pmax
comp=Z,680nm,7.5s
TIA LR LR
comp=Z,3μm,15.7s
TIA LR LR
comp=Z,3μm,16.7s
TIA LR LR
comp=Z,5μm,17.7s
PSI Prapat 56.27 111 P **P** **10 23 55.9 -0.5**
comp=Z,43nm,0.6s,baz=359,slow=3.7,SNR=33
RPSI Rantau Prapat 56.33 111 P **P** **10 23 55.5 -1.2**
RPSI Rantau Prapat 56.33 111 P **P** **10 23 55.9 -0.8**
QIZ Qiongzhong 56.74 88 P **P** **10 23 59.6 0.0**
QIZ S **S** **10 31 53.6 +1.5**
QIZ ScS **ScS** **10 33 47.8 -1.0**
QIZ pmax pmax
comp=Z,53nm,1.3s
QIZ pmax pmax
comp=Z,390nm,6.5s
QIZ LR LR
comp=Z,2μm,16.1s
QIZ LR LR
comp=Z,1μm,16.1s
QIZ LR LR
comp=Z,2μm,18.1s
QIZ Qiongzhong 56.74 88 P **P** **10 23 59.9 +0.3**
IPM Ipoh 56.94 108 P **P** **10 24 00.1 -1.0**
IPM Ipoh 56.94 108 P **P** **10 24 00.0 -1.0**
FOMA Nahampoana Res 57.28 181 P **P** **10 24 04.4 +1.3**
FOMA IAmb IAmb 10 24 08.9
comp=Z,34nm,0.6s
PBSI Pulau Batu 57.54 114 P **P** **10 24 06.5 +1.2**
comp=Z,314nm,1.2s
MNSI Mandailing Nat 58.01 112 P **P** **10 24 08.3 -0.3**
comp=Z,75nm,0.9s
YAK Yakutsk 58.03 33 P **P** **10 24 07.2 -0.9**
comp=Z,37nm,0.6s,baz=303,slow=3.8,SNR=9.6
YAK Yakutsk 58.03 33 *e*P **P** **10 24 07.0 -1.0**
YAK *e* 10 25 00.4
YAK *e* 10 26 13.9
YAK *e*S **S** **10 32 06.4 -1.5**
YAK *e**SS **pS** **10 32 13.7 -0.3**
YAK *e* 10 33 58.8
YAK *e*SS **SS** **10 36 03.6 +5.1**
YAK pmax pmax
comp=Z,79nm,1.0s
YAK pmax pmax
comp=E,40nm,1.3s
YAK pmax pmax
comp=N,26nm,1.4s
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=N,21nm,1.0s
YAK pmax pmax
comp=E,17nm,0.9s
YAK smax smax
comp=N,480nm,4.1s
YAK smax smax
comp=E,250nm,4.3s
YAK MLR MLR
comp=Z,2μm,18.0s
YAK MLR MLR
comp=N,609nm,17.0s
YAK MLR MLR
comp=E,2μm,18.0s
YAK Yakutsk 58.03 33 P **P** **10 24 07.4 -0.6**
YAK IAMs_20 IAMs_20 10 53 41.7
comp=Z,3μm,21.0s
SUMG Summit 58.12 339⇑ *i*P **P** **10 24 09.6 +0.5**
comp=Z,125nm,0.9s
comp=Z,7μm,17.0s
SUMG Summit 58.12 339⇑ *i*P **P** **10 24 09.6 +0.5**
SUMG pmax pmax
comp=Z,130nm,0.9s
SUMG MLR MLR
comp=Z,7μm,17.0s
SUMG Summit 58.12 339 P **P** **10 24 09.0 0.0**
SUMG IAMs_20 IAMs_20 10 50 02.4
comp=Z,3μm,19.0s
ZEA Zeya 58.43 43*ce*P **P** **10 24 12.1 +1.1**
ZEA *e* 10 26 21.0
ZEA *e*PPP PPP 10 27 41.0
ZEA *e*S **S** **10 32 18.0 +4.6**
ZEA *e* 10 34 00.5
ZEA pmax pmax
comp=N,43nm,1.2s
ZEA pmax pmax
comp=E,110nm,1.8s
ZEA pmax pmax
comp=Z,160nm,1.8s
ZEA pmax pmax
comp=Z,700nm,7.0s
ZEA pmax pmax
comp=Z,400nm,8.0s
ZEA smax smax
comp=E,900nm,10.0s
ZEA smax smax
comp=N,700nm,11.0s
ZEA MLR MLR
comp=E,2μm,13.0s
ZEA MLR MLR
comp=Z,3μm,13.0s
DL2 Dalian 58.72 61 P **P** **10 24 13.4 +0.1**
DL2 PP **PP** **10 26 24.9 +1.9**
DL2 S **S** **10 32 17.8 +0.2**
DL2 pmax pmax
comp=Z,68nm,0.8s
DL2 pmax pmax
comp=Z,550nm,7.6s
DL2 LR LR
comp=Z,2μm,18.2s
DL2 LR LR
comp=Z,2μm,16.5s
DL2 LR LR
comp=Z,4μm,18.2s
HKPS Hong Kong Po S 58.92 82 IAMs_20 IAMs_20 10 54 01.0
comp=Z,2μm,19.0s
ANGG Ammassalik, Gr 58.95 331 IAMs_20 IAMs_20 10 50 33.3
comp=Z,2μm,18.0s
SISI Saibi 58.97 114 P **P** **10 24 18.6 +3.3**
DLV T Lat 59.01 96 P **P** **10 24 14.7 -1.1**
TSUM Tsumeb 59.09 214 P **P** **10 24 15.5 -0.7**
TSUM IAmb IAmb 10 24 22.2
comp=Z,29nm,0.9s
SNY Shenyang 59.23 57 P **P** **10 24 16.0 -0.7**
SNY S **S** **10 32 22.9 -1.1**
SNY pmax pmax
comp=Z,530nm,6.7s
SNY LR LR
comp=Z,2μm,20.2s
SNY LR LR
comp=Z,2μm,19.9s
SNY LR LR
comp=Z,3μm,18.1s
BKNI Bangkinang 59.45 112 P **P** **10 24 18.7 +0.1**
comp=Z,430nm,1.1s
BKNI Bangkinang 59.45 112 P **P** **10 24 17.5 -1.1**
PDSI Padang 59.76 113 P **P** **10 24 20.9 +0.1**
comp=Z,66nm,1.0s
CN2 Changchun 59.93 55 *e*P **P** **10 24 21.3 -0.3**
CN2 PP **PP** **10 26 40.0 +6.4**
CN2 *e*S **S** **10 32 31.3 -1.9**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,710nm,4.0s
CN2 LR LR
comp=Z,3μm,12.0s
CN2 LR LR
comp=Z,4μm,12.0s
CN2 LR LR
comp=Z,5μm,13.0s
ALE Alert 60.42 352 IAMs_20 IAMs_20 10 53 37.9
comp=Z,2μm,18.0s
SUJ Sinuiju 60.43 59 P **P** **10 24 24.5 -0.5**
SUJ S **S** **10 32 38.4 -1.2**
ROSA Rosais 60.45 299 P **P** **10 24 23.6 -1.7**
SDSI Sungai Dareh 60.53 112 P **P** **10 24 25.1 -0.9**
comp=Z,3μmcomp=Z,308nm,0.9s
MYKOM Kota Tinggi 60.79 108 P **P** **10 24 27.1 -0.7**
MYKOM Kota Tinggi 60.79 108 P **P** **10 24 28.0 +0.2**
LBTB Lobatse 61.11 203 P **P** **10 24 30.3 +0.5**
LBTB pmax pmax
comp=Z,80nm,1.2s

LBTB Lobatse 61.11 203 P **P** **10 24 30.3 +0.5**
SSE Sheshan 61.12 70 P **P** **10 24 30.1 +0.2**
SSE S **S** **10 32 48.5 -0.2**
SSE pmax pmax
comp=Z,24nm,0.7s
SSE pmax pmax
comp=Z,360nm,3.8s
SSE LR LR
comp=Z,1μm,19.8s
SSE LR LR
comp=Z,2μm,19.4s
MBO M'Bour 61.25 269 IAMs_20 IAMs_20 10 52 02.1
comp=Z,2μm,19.0s
KRJI Kerinci 61.28 113 P **P** **10 24 31.5 +0.3**
comp=Z,15μmcomp=Z,931nm,1.1s
QZH Quanzhou 61.49 77⇑ *i*P **P** **10 24 31.8 -0.7**
QZH S **S** **10 32 52.3 -1.2**
QZH ScS **SKKSac** **10 34 20.9 -2.8**
QZH pmax pmax
comp=Z,400nm,6.8s
QZH LR LR
comp=Z,1μm,13.3s
QZH LR LR
comp=Z,2μm,16.6s
QZH LR LR
comp=Z,3μm,16.6s
KNMB Chin-men Tao 61.52 78 IAMs_20 IAMs_20 10 54 18.6
comp=Z,2μm,22.0s
KGE Kanggye 61.67 58 P **P** **10 24 30.7 -2.8**
PYAG Pyongyang 61.71 60 P **P** **10 24 32.9 -0.8**
PYAG S **S** **10 32 57.6 +1.7**
PYS Pyongsong 61.71 60 P **P** **10 24 35.4 +1.7**
HJU Haeju 62.04 61 P P 10 24 42.0 +6.0
KLR Kul'dur 62.38 47 *c i*P **P** **10 24 37.9 -0.2**
comp=Z,21nm,0.9s,baz=282,slow=6.3,SNR=41
KLR Kul'dur 62.38 47 *c i*P **P** **10 24 37.7 -0.4**
KLR pmax pmax
comp=Z,84nm,1.5s
MDJ Mudanjiang 62.50 53 P **P** **10 24 37.9 -1.0**
MDJ pP pP 10 24 41.1 -2.9
MDJ PP **PP** **10 26 54.9 -1.3**
MDJ S **S** **10 33 04.9 -0.8**
MDJ SS **SS** **10 37 09.0 -0.3**
MDJ pmax pmax
comp=Z,580nm,5.7s
MDJ LR LR
comp=Z,4μm,20.2s
MDJ LR LR
comp=Z,2μm,15.4s
MDJ LR LR
comp=Z,5μm,13.7s
MDJ Mudanjiang 62.50 53 P **P** **10 24 37.8 -1.2**
MASI Maura Aman, Be 62.54 114 P **P** **10 24 40.9 +1.2**
comp=Z,243nm,1.2s
HHU Hamhung 62.68 58 P **P** **10 24 38.6 -1.6**
DSRI Dabo 62.73 110 P **P** **10 24 40.2 -0.7**
comp=Z,62nm,1.2s
INCN Inchon 62.91 61 P **P** **10 24 40.4 -1.5**
INCN pmax pmax
comp=Z,21nm,0.6s
INCN MLR MLR
comp=Z,3μm,18.0s
INCN Inchon 62.91 61 P **P** **10 24 40.4 -1.5**
INCN IAmb IAmb 10 24 43.6
comp=Z,21nm,0.6s
ILULI Ilulissat 62.97 337 P **P** **10 24 40.9 -0.8**
ILULI pmax pmax
comp=Z,72nm,1.4s
ILULI MLR MLR
comp=Z,4μm,20.0s
ILULI Ilulissat 62.97 337 P **P** **10 24 40.9 -0.8**
ILULI IAmb IAmb 10 24 43.5
comp=Z,72nm,1.4s
KSI Kapahiang 63.13 114 P **P** **10 24 43.7 +0.1**
comp=Z,13μmcomp=Z,202nm,0.8s
NRS Narsarsuaq 63.51 327 P **P** **10 24 44.8 -0.5**
NRS Narsarsuaq 63.51 327 IAMs_20 IAMs_20 10 53 14.9
comp=Z,2μm,20.0s
SFJD Kangerlussuaq 63.60 334 *i* P **P** **10 24 48.6 +2.7**
comp=Z,170nm,17.0s
SFJD Kangerlussuaq 63.60 334 *e*P **P** **10 24 48.6 +2.7**
SFJD MLR MLR
comp=Z,180nm,17.0s
SFJD Kangerlussuaq 63.60 334 P **P** **10 24 44.6 -1.2**
SFJD IAmb IAmb 10 24 53.1
comp=Z,30nm,1.1s
SFJD Kangerlussuaq 63.60 334 IAMs_20 IAMs_20 10 52 23.1
comp=Z,3μm,21.0s
KS19 Wonju Array Si 63.81 61 P **P** **10 24 46.9 -1.0**
KSAR Wonju Array Be 63.85 61 P **P** **10 24 47.2 -0.8**
KSAR Wonju Array Be 63.85 61 P **P** **10 24 47.2 -0.8**
TATO Taipei 63.85 76 IAMs_20 IAMs_20 10 56 31.2
comp=Z,3μm,18.0s
TJN Taejon 63.87 62 *c i*P **P** **10 24 46.6 -1.6**
TPUB Ta-pu 63.87 78 P **P** **10 24 48.4 -0.1**
TPUB IAMs_20 IAMs_20 10 56 27.9
comp=Z,2μm,20.0s
KSRS Korea Array 63.87 61 P **P** **10 24 47.4 -0.8**
comp=Z,13nm,0.7s,baz=284,slow=7.0,SNR=48
KSRS LR LR 10 55 45.0
comp=Z,2μm,20.3s,baz=290,slow=39
YHNB Yeheng 63.89 76 P **P** **10 24 49.7 +1.1**
YHNB IAMs_20 IAMs_20 10 56 35.0
comp=Z,2μm,18.0s
SSLB Suanglung 63.93 77 P **P** **10 24 48.2 -0.6**
SSLB IAmb IAmb 10 24 55.8
comp=Z,54nm,1.0s
SSLB IAMs_20 IAMs_20 10 56 26.3
comp=Z,2μm,18.0s
LHSI Lahat 63.96 113 P **P** **10 24 48.8 -0.2**
comp=Z,66nm,0.8s
USA0B Ussuriysk Arra 64.25 53 *c i*P **P** **10 24 49.2 -1.4**
USA0B Ussuriysk Arra 64.25 53 P **P** **10 24 49.3 -1.2**
USA0B IAmb IAmb 10 25 00.1
comp=Z,78nm,1.4s
USRK Ussuriysk Ar. 64.25 53 P **P** **10 24 49.7 -0.9**
comp=Z,12nm,0.7s,baz=281,slow=6.0,SNR=25
USRK LR LR 10 55 40.8
comp=Z,3μm,19.6s,baz=281,slow=39
NACB Ninganchiao 64.29 77 IAMs_20 IAMs_20 10 58 13.8
comp=Z,2μm,19.0s
YULB Yu-li 64.38 78 P **P** **10 24 52.3 +0.5**
YULB IAMs_20 IAMs_20 10 56 52.4
comp=Z,2μm,19.0s
TWG Pinlang 64.45 78 P **P** **10 24 52.1 -0.1**
BOSA Boshof 64.56 202 P **P** **10 24 53.7 +0.9**
comp=Z,43nm,0.7s,baz=24,slow=7.6,SNR=56
BOSA LR LR 10 54 17.4
comp=Z,4μm,20.4s,baz=22,slow=37
BOSA Boshof 64.56 202 P **P** **10 24 52.8 0.0**
VLA Vladivostok 64.58 54⇑ *e*P **P** **10 24 53.0 +0.3**
VLA pmax pmax
comp=Z,43nm,1.1s
GRNR Gornyy 64.69 45⇑ *i*P **P** **10 24 53.3 0.0**
GRNR pmax pmax
comp=Z,20nm,1.2s
GRNR MLR MLR
comp=E,2μm,14.0s
GRNR MLR MLR
comp=N,500nm,13.0s
GRNR MLR MLR
comp=Z,2μm,15.0s
IVI Ivigtut 64.74 328 P **P** **10 24 52.4 -1.0**
EUNU Eureka 64.79 352 P **P** **10 24 53.2 -0.4**
EUNU IAmb IAmb 10 25 07.3
comp=Z,41nm,0.9s
EUNU IAMs_20 IAMs_20 10 55 17.3
comp=Z,2μm,19.0s
MDSI Maura Dua 64.88 114 P **P** **10 24 52.5 -2.6**
PPBI Pangkal Pinang 64.98 110 P **P** **10 24 55.1 -0.6**
comp=Z,16μmcomp=Z,117nm,0.4s
LWLI Liwa 65.12 114 P **P** **10 24 56.7 -0.1**
comp=Z,131nm,0.7s
YOJ Yonaguni jima 65.32 76 IAMs_20 IAMs_20 10 58 45.8
comp=Z,2μm,18.0s
KLSI 65.44 113 P **P** **10 24 56.5 -2.2**
KASI Kota Agung 65.78 114 P **P** **10 25 00.7 -0.2**
comp=Z,76nm,1.2s
KSM Kuching 66.21 104 P **P** **10 25 02.7 -0.9**
KSM IAmb IAmb 10 25 07.2
comp=Z,29nm,0.9s
KSM Kuching 66.21 104 P **P** **10 25 04.0 +0.3**
TPI Tanjungpandan 66.55 110 P **P** **10 25 05.0 -0.8**
comp=Z,807nmcomp=Z,48nm,1.2s
TEY Ternei 66.98 50⇑ *e*P **P** **10 25 06.5 -1.7**
TEY pmax pmax
comp=E,10.0nm,1.7s
TEY pmax pmax
comp=Z,10.0nm,1.8s
TEY pmax pmax
comp=Z,100nm,9.3s
SBUM Sibu 67.22 102 P **P** **10 25 09.1 -1.1**
SBUM Sibu 67.22 102 P **P** **10 25 10.0 -0.2**
SEY Seymchan 67.67 29 P **P** **10 25 13.1 +0.9**
comp=Z,144nm,1.1s,baz=284,slow=7.2,SNR=62
SEY Seymchan 67.67 29 *c i*P **P** **10 25 12.9 +0.7**
JNU Nakatsue 67.83 64 P **P** **10 25 13.7 -0.1**
comp=Z,20nm,1.1s,baz=39,slow=6.0,SNR=5.8
JNU Nakatsue 67.83 64 P **P** **10 25 13.1 -0.8**
JNU IAmb IAmb 10 25 19.9
comp=Z,30nm,1.1s
TYV Tymovskoe 68.29 43 *e*P **P** **10 25 17.2 +0.9**
TYV *e*S **S** **10 34 20.6 +4.2**
TYV pmax pmax
comp=Z,52nm,1.9s
TYV pmax pmax
comp=Z,1μm,4.9s
TYV smax smax
comp=N,11nm,1.5s
TYV smax smax
comp=E,500nm,4.0s
MA2 Magadan 68.56 32 *c i*P **P** **10 25 17.7 -0.2**
MA2 pmax pmax
comp=Z,102nm,2.0s
MA2 Magadan 68.56 32 P **P** **10 25 18.0 +0.1**
KKM Kota Kinabalu 68.58 97 P **P** **10 25 18.6 -0.3**
CNJI Cibinong 68.93 114 P **P** **10 25 18.6 -2.2**
SUR Sutherland 69.50 204 P **P** **10 25 22.9 -1.3**
SUR IAmb IAmb 10 25 29.2
comp=Z,42nm,0.8s
SPMM Sapulut 69.51 98 P **P** **10 25 25.0 +0.5**
CISI Cisompet, Garu 69.61 114 P **P** **10 25 22.2 -2.9**
CISI Cisompet, Garu 69.61 114 P **P** **10 25 21.6 -3.6**
PBKI Pangkalan Bun 69.73 107 P **P** **10 25 25.9 +0.1**
comp=Z,9μmcomp=Z,183nm,1.2s
YSS Yuzh-Sakhalins 70.05 47 *α i*P **P** **10 25 27.0 -0.3**
YSS *e* 10 25 50.0
YSS *e* 10 27 58.7
YSS *e*PPP PPP 10 29 47.6
YSS *i*S **S** **10 34 35.5 -1.9**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS pmax pmax
comp=Z,800nm,5.7s
YSS smax smax
comp=N,500nm,7.0s
YSS smax smax
comp=E,200nm,11.0s
YSS MLR MLR
comp=N,1μm,16.0s
YSS Yuzh-Sakhalins 70.05 47 P **P** **10 25 26.0 -1.4**
CMJI Cimerak 70.25 113 P **P** **10 25 27.6 -1.3**
comp=N,914nmcomp=N,70nm,1.1s
MYLDM Lahad Datu 70.96 96 P **P** **10 25 34.5 +1.1**
ASAJ Asahikawa 71.24 49 P **P** **10 25 34.2 -0.4**
comp=N,8.7nm,0.8s,baz=316,slow=2.2,SNR=8.4
MJB9 Matsu-Tunnel 71.73 58 IAMs_20 IAMs_20 10 57 51.4
comp=Z,2μm,18.0s
MAJO Matsushiro 71.73 58 *c i*P **P** **10 25 36.6 -1.2**
MAJO pmax pmax
comp=Z,33nm,1.7s
MAJO Matsushiro 71.73 58 P **P** **10 25 36.8 -1.0**
MAJO Matsushiro 71.73 58 IAMs_20 IAMs_20 10 59 37.4
comp=Z,2μm,18.0s
MAT Matsushiro 71.73 58 P **P** **10 25 36.2 -1.6**
MAT S **S** **10 34 55.8 -1.6**
MJAR Matsushiro Arr 71.73 58 P **P** **10 25 37.2 -0.6**
comp=Z,6.7nm,1.1s,baz=295,slow=8.7,SNR=15
MJAR LR LR 10 59 50.6
comp=Z,1μm,18.8s,baz=280,slow=38
MJAR Matsushiro Arr 71.73 58 P **P** **10 25 34.5 -3.3**
NGJI Ngawi 72.34 111 P **P** **10 25 40.7 -0.9**
comp=Z,2μmcomp=Z,47nm,2.0s
BBKI Banjar Baru 72.74 106 P **P** **10 25 44.6 +0.5**
comp=Z,4μmcomp=Z,3μmcomp=Z,29nm,0.7s
YUK Yuzh-Kuril'sk 73.35 48 *i* P P 10 25 41.4 -5.8
YUK *e* 10 26 02.9
YUK *i*S **S** **10 35 10.8 -4.7**
YUK *e* 10 35 43.4
YUK pmax pmax
comp=Z,328nm,1.9s
YUK pmax pmax
comp=E,186nm,1.0s
YUK pmax pmax
comp=Z,322nm,1.0s
YUK pmax pmax
comp=N,117nm,0.9s
YUK MLR MLR
comp=N,1μm,14.0s
YUK MLR MLR
comp=Z,2μm,14.0s
YUK MLR MLR
comp=E,2μm,13.0s
KBKI Kotabaru 73.72 105 P **P** **10 25 49.3 -0.6**
comp=E,1μmcomp=E,45nm,1.1s
KUR Kuril'sk 74.00 46 *c i*P **P** **10 25 50.5 -0.5**
KUR *e* 10 28 39.0
KUR *e*S **S** **10 35 25.9 +3.1**
KUR MLR MLR
comp=N,2μm,17.0s
KUR MLR MLR
comp=E,1μm,17.0s
KUR MLR MLR
comp=Z,2μm,17.0s
MPSI Mapaga 74.76 100 P **P** **10 25 56.3 +0.4**
comp=Z,1μmcomp=Z,117nm,1.1s
A21K Barrow 74.91 8 P **P** **10 25 56.2 +0.3**
baz=339
A21K S **S** **10 35 31.5 -0.7**
baz=339
PEA0B Petropavlovsk- 75.22 36 *c i*P **P** **10 25 55.9 -2.1**
PEA0B Petropavlovsk- 75.22 36 P **P** **10 25 56.2 -1.8**
PEA0B IAmb IAmb 10 26 01.4
comp=Z,81nm,1.4s
PETK Petropavlovsk- 75.22 36 P **P** **10 25 56.5 -1.6**
comp=Z,19nm,1.0s,baz=321,slow=1.9,SNR=24
PETK LR LR 11 02 36.0
comp=Z,2μm,18.8s,baz=300,slow=38
PETK Petropavlovsk- 75.22 36 P **P** **10 25 55.9 -2.1**
A36M Sachs Harbour 75.57 358 P **P** **10 25 59.3 -0.4**
baz=6.0
PET Petropavlovsk 75.74 36 *i* P **P** **10 25 58.6 -2.4**
PET pmax pmax
comp=Z,140nm,1.7s
PET Petropavlovsk 75.74 36 P **P** **10 25 58.6 -2.4**
PET IAMs_20 IAMs_20 11 02 42.1
comp=Z,2μm,19.0s
SKR Severo-Kuril's 75.79 39 *c i*P **P** **10 25 59.1 -2.2**
SKR *e* 10 28 48.7
SKR *e*PPP PPP 10 30 39.6
SKR *e*S **S** **10 35 39.0 -3.6**
SKR *e* 10 36 11.9
SKR *e*SSS SSS 10 43 56.8
SKR pmax pmax
comp=Z,200nm,10.1s
SKR pmax pmax
comp=Z,200nm,9.3s
SKR MLR MLR
comp=Z,400nm,20.0s
SCHQ Schefferville 76.47 327 P **P** **10 26 04.3 -0.8**
comp=Z,7.0nm,0.5s,baz=23,slow=5.8,SNR=10
SCHQ LR LR 11 01 48.3
comp=Z,934nm,18.6s,baz=54,slow=37
SCHQ Schefferville 76.47 327 P **P** **10 26 03.3 -1.9**
SCHQ IAmb IAmb 10 26 06.3
comp=Z,63nm,1.4s
SCHQ IAMs_20 IAMs_20 11 01 44.7
comp=Z,1μm,18.0s
RDOG Red Dog Mine 77.03 11 P **P** **10 26 07.5 -0.5**
RDOG IAmb IAmb 10 26 13.2
comp=Z,69nm,1.4s
RDOG IAMs_20 IAMs_20 11 06 01.9
comp=Z,2μm,21.0s
GTOI Gorontalo 77.19 98 P **P** **10 26 07.0 -2.8**
KAPI Kappang 77.63 104 P **P** **10 26 11.9 -0.3**
comp=Z,47nm,0.4s,baz=314,slow=3.4,SNR=4.9
KAPI Kappang 77.63 104 P **P** **10 26 11.5 -0.7**
KAPI pmax pmax
comp=Z,69nm,1.4s
KAPI MLR MLR
comp=Z,500nm,20.0s
KAPI Kappang 77.63 104 P **P** **10 26 11.5 -0.7**
KAPI IAmb IAmb 10 26 19.2
comp=Z,69nm,1.4s
C36M Paulatuk 78.16 357 P **P** **10 26 13.2 -1.1**
baz=7.0
C36M S **S** **10 36 05.2 -2.5**
baz=7.0
C36M Paulatuk 78.16 357 P **P** **10 26 12.9 -1.3**
C36M IAmb IAmb 10 26 25.5
comp=Z,57nm,1.2s
C36M IAMs_20 IAMs_20 11 05 55.6
comp=Z,1μm,19.0s
TOLK Toolik Lake Re 78.22 6 P **P** **10 26 15.2 +0.5**
baz=345,SNR=14
TOLK S **S** **10 36 06.7 -1.9**
baz=345
TOLK Toolik Lake Re 78.22 6 P **P** **10 26 14.4 -0.3**
TOLK IAmb IAmb 10 26 31.1
comp=Z,41nm,0.8s
TOLK IAMs_20 IAMs_20 11 02 55.3
comp=Z,2μm,22.0s
JCJ Chichijima 79.29 65 IAMs_20 IAMs_20 11 05 04.1
comp=Z,1μm,20.0s
INK Inuvik 79.38 1 P **P** **10 26 19.7 -1.3**
INK pmax pmax
comp=Z,34nm,1.3s
INK MLR MLR
comp=Z,2μm,21.0s
INK Inuvik 79.38 1 P **P** **10 26 19.6 -1.3**
GBN Guysborough 79.40 317 P **P** **10 26 22.0 +0.5**
COLD Coldfoot 79.53 7 P **P** **10 26 21.9 +0.1**
baz=345,SNR=26
COLD S **S** **10 36 21.0 -1.5**
baz=345
COLD Coldfoot 79.53 7 P **P** **10 26 21.1 -0.8**
COLD IAMs_20 IAMs_20 11 06 23.9
comp=Z,2μm,20.0s
ANM Nome 79.69 14 P **P** **10 26 22.6 -0.2**
ANM pmax pmax
comp=Z,44nm,1.2s
ANM Nome 79.69 14 P **P** **10 26 22.6 -0.2**
ANM IAMs_20 IAMs_20 11 06 45.4
comp=Z,2μm,21.0s
BMAR Burnt Mountain 79.82 5 P **P** **10 26 23.4 -0.2**
WBSI Waikabubak, Su 79.99 108 P **P** **10 26 23.1 -2.1**
IMAR Indian Mountai 80.31 9 P **P** **10 26 25.2 -0.9**
TNTI Ternate 80.77 95 P **P** **10 26 30.6 +1.1**
comp=Z,2μmcomp=Z,88nm,1.6s
TNTI Ternate 80.77 95 P **P** **10 26 28.7 -0.8**
BATG Bathurst New B 80.78 321 P **P** **10 26 28.9 -0.1**
BATG IAmb IAmb 10 26 34.0
comp=Z,70nm,1.1s
LMN Caledonia Moun 80.98 319 P **P** **10 26 29.6 -0.5**
LMN IAmb IAmb 10 26 39.1
comp=Z,40nm,0.8s
LMN IAMs_20 IAMs_20 11 05 57.4
comp=Z,1μm,19.0s
HAL Halifax 81.04 318 P **P** **10 26 30.2 -0.2**
HAL pmax pmax
comp=Z,62nm,0.8s
HAL MLR MLR
comp=Z,600nm,18.0s
HAL Halifax 81.04 318 P **P** **10 26 30.2 -0.2**
HAL IAmb IAmb 10 26 35.5
comp=Z,62nm,0.8s
SANI Sanana 81.15 98 P **P** **10 26 28.2 -3.2**
EPYK Eagle Plains 81.26 2 S **S** **10 36 35.3 -5.5**
baz=356
EPYK Eagle Plains 81.26 2 P **P** **10 26 30.5 -0.8**
EPYK IAmb IAmb 10 26 43.8
comp=Z,59nm,1.4s
EPYK IAMs_20 IAMs_20 11 07 00.3
comp=Z,2μm,22.0s
MMRI Maumere 81.71 106 P **P** **10 26 34.4 0.0**
comp=Z,53nm,0.8s
MMRI Maumere 81.71 106 P **P** **10 26 32.7 -1.7**
POKR Poker Plat Res 81.86 6 P **P** **10 26 34.8 +0.4**
baz=347
POKR S **S** **10 36 41.8 -5.2**
baz=347
MDM Murphy Dome 81.93 7 P **P** **10 26 34.4 -0.5**
MDM IAmb IAmb 10 26 48.1
comp=Z,64nm,1.3s
D63A Stockholm 82.01 322 P **P** **10 26 35.6 +0.1**
baz=50,SNR=7.1
TCOL CIGO, UAF Yank 82.05 7 P **P** **10 26 35.2 -0.1**
baz=347,SNR=8.6
TCOL S **S** **10 36 47.2 -1.7**
baz=347
COLA College 82.06 7 *c i*P **P** **10 26 35.1 -0.3**
COLA pmax pmax
comp=Z,56nm,2.0s
COLA College 82.06 7 P **P** **10 26 35.0 -0.3**
PQI Presque Isle 82.20 321 P **P** **10 26 36.3 -0.2**
NEA2 Nenana 82.20 7 P **P** **10 26 35.6 -0.6**
baz=346,SNR=8.3
NEA2 S **S** **10 36 49.1 -1.4**
baz=346
IL31 82.25 6 P **P** **10 26 35.6 -0.8**
ILAR Eielson Array 82.25 6 P **P** **10 26 35.8 -0.7**
comp=Z,5.9nm,1.0s,baz=334,slow=3.7,SNR=23
ILAR PP **PP** **10 29 43.9 -0.2**
comp=Z,3.6nm,1.0s,baz=336,slow=8.1,SNR=4.7
ILAR PKKPbc **PKKPbc** **10 45 04.8 +0.1**
comp=Z,2.0nm,0.8s,baz=200,slow=2.1,SNR=11
ILAR Eielson Array 82.25 6 P **P** **10 26 36.0 -0.4**
ILAR Eielson Array 82.25 6 P **P** **10 26 36.0 -0.4**
E64A Bridgewater 82.26 321 P **P** **10 26 36.9 +0.1**
baz=50,SNR=8.8
E64A S **S** **10 36 49.1 -2.6**
baz=50
CCB Clear Creek Bu 82.28 7 P **P** **10 26 35.2 -1.3**
WRH Wood River Hil 82.42 7 P **P** **10 26 36.1 -1.2**
BPAW Bear Paw Mtn. 82.46 8 P **P** **10 26 36.7 -0.9**
BPAW IAmb IAmb 10 26 50.5
comp=Z,73nm,1.4s
BPAW IAMs_20 IAMs_20 11 08 01.5
comp=Z,1μm,21.0s
D62A Allapoint, All 82.47 322 P **P** **10 26 37.9 0.0**
D62A IAmb IAmb 10 26 39.9
comp=Z,52nm,0.9s
GGN Saint George 82.56 320 P **P** **10 26 37.5 -0.9**
E63A Oxbow 82.57 321 P **P** **10 26 38.6 +0.1**
baz=50,SNR=7.1
E63A Oxbow 82.57 321 P **P** **10 26 38.6 +0.1**
E63A IAmb IAmb 10 26 39.4
comp=Z,68nm,1.5s
HDA Harding Lake 82.60 6 P **P** **10 26 37.2 -1.1**
baz=348,SNR=9.9
HDA Harding Lake 82.60 6 P **P** **10 26 37.1 -1.1**
HDA IAMs_20 IAMs_20 11 05 21.0
comp=Z,1μm,22.0s
EGAK Eagle 82.67 4 P **P** **10 26 37.9 -0.7**
EGAK IAmb IAmb 10 26 51.7
comp=Z,42nm,1.2s
TTA Tatalina 82.88 11 P **P** **10 26 39.2 -0.7**
TTA pmax pmax
comp=Z,17nm,1.2s
TTA Tatalina 82.88 11 P **P** **10 26 39.2 -0.7**
TTA IAMs_20 IAMs_20 11 10 40.7
comp=Z,1μm,19.0s
F64A Sherman 82.90 321 P **P** **10 26 40.0 -0.1**
baz=50,SNR=9.0
F64A Sherman 82.90 321 P **P** **10 26 39.8 -0.3**
F64A IAmb IAmb 10 26 43.1
comp=Z,58nm,1.3s
G65A Princeton 82.90 320 P **P** **10 26 40.0 -0.1**
baz=50
G65A Princeton 82.90 320 P **P** **10 26 38.7 -1.4**
G65A IAMs_20 IAMs_20 11 06 21.1
comp=Z,981nm,18.0s
SMY Shemya 82.98 30 IAMs_20 IAMs_20 11 08 42.2
comp=Z,1μm,22.0s
D61A St Aubert, Com 82.98 323 P **P** **10 26 40.5 0.0**
baz=49,SNR=8.6
E62A Clayton Lake 83.02 322 P **P** **10 26 40.4 -0.4**
baz=49,SNR=13
E62A Clayton Lake 83.02 322 P **P** **10 26 39.6 -1.2**
E62A IAmb IAmb 10 26 42.4
comp=Z,33nm,1.1s
H66A Whiting 83.03 319 P **P** **10 26 40.5 -0.3**
baz=50
MCK McKinley 83.06 7 P **P** **10 26 39.0 -1.7**
MCK pmax pmax
comp=Z,50nm,1.4s
MCK McKinley 83.06 7 P **P** **10 26 39.0 -1.7**
MCK IAmb IAmb 10 26 53.2

comp=Z,50nm,1.4s
EMMW East Machias 83.16 320 IAMs_20 IAMs_20 11 06 21.9
comp=Z,950nm,18.0s
TRF Thorofare Moun 83.17 8 P P 10 26 41.0 -0.5
TRF IAMs_20 IAMs_20 11 10 16.3
comp=Z,1µm,18.0s
CHGQ Chibougamau 83.19 327 P P 10 26 41.5 -0.2
baz=46
K27K Chicken 83.36 4 P P 10 26 42.5 +0.2
baz=352
RND Reindeer 83.38 7 P P 10 26 40.8 -1.6
RND pmax pmax
comp=Z,39nm,1.5s
RND MLR MLR
comp=Z,1µm,21.0s
RND Reindeer 83.38 7 P P 10 26 40.8 -1.6
RND IAmb IAmb 10 26 53.8
comp=Z,39nm,1.5s
RND IAMs_20 IAMs_20 11 06 34.8
comp=Z,1µm,21.0s
F63A Nahmakanta, Br 83.40 321 P P 10 26 43.3 +0.5
baz=49,SNR=10
F63A Nahmakanta, Br 83.40 321 P P 10 26 42.0 -0.8
F63A IAmb IAmb 10 26 44.8
comp=Z,78nm,1.4s
RIDG Independent Ri 83.44 6 P P 10 26 41.6 -1.1
RIDG IAmb IAmb 10 26 56.4
comp=Z,25nm,1.0s
PPLA Purkeypile 83.47 9 P P 10 26 42.4 -0.6
PPLA IAMs_20 IAMs_20 11 09 19.1
comp=Z,1µm,20.0s
G64A Maxfield 83.51 321 P P 10 26 43.8 +0.5
baz=49,SNR=7.5
D60A Saint Jean D'O 83.55 323 P P 10 26 43.2 -0.2
baz=48
DOT Dot Lake 83.59 5 P P 10 26 43.3 -0.2
DOT IAmb IAmb 10 26 48.2
comp=Z,35nm,1.2s
H65A Eastbrook 83.59 320 P P 10 26 43.8 0.0
baz=50
E61A Lac Etchemin 83.65 322 P P 10 26 44.3 +0.3
baz=48,SNR=8.7
F62A Pittston Farm, 83.73 322 P P 10 26 45.0 +0.5
baz=49,SNR=11
F62A Pittston Farm, 83.73 322 P P 10 26 43.9 -0.6
F62A IAmb IAmb 10 26 46.4
comp=Z,30nm,1.1s
F62A IAMs_20 IAMs_20 11 10 39.9
comp=Z,981nm,18.0s
BATI Baumata 83.76 106 P P 10 26 45.2 +0.1
comp=Z,1µmcomp=Z,97nm,1.2s
PKME Peaks-Kenny Pk 83.79 321 P P 10 26 45.1 +0.4
baz=49,SNR=6.2
PKME Peaks-Kenny Pk 83.79 321 P P 10 26 44.0 -0.7
PKME IAMs_20 IAMs_20 11 10 42.6
comp=Z,993nm,18.0s
GIRL Giralia 83.88 122 P P 10 26 43.5 -2.0
D59A Saint-Raymond 83.95 323 P P 10 26 45.5 0.0
baz=47
SOEI Soe 83.99 106 P P 10 26 45.7 -0.7
comp=Z,2µmcomp=Z,87nm,1.2s
SOEI Soe 83.99 106 P P 10 26 45.5 -0.9
G63A Kingsbury 84.06 321 P P 10 26 46.7 +0.5
baz=49
PAX Paxson 84.15 6 P P 10 26 46.0 -0.4
PAX pmax pmax
comp=Z,16nm,1.2s
PAX MLR MLR
comp=Z,800nm,21.0s
PAX Paxson 84.15 6 P P 10 26 46.0 -0.4
H64A Troy 84.16 320 P P 10 26 47.2 +0.6
baz=49,SNR=6.1
LATQ La Tuque 84.17 324 P P 10 26 46.3 -0.4
baz=47
LATQ La Tuque 84.17 324 P P 10 26 45.3 -1.4
YKA Yellowknife Ar 84.17 352 P P 10 26 45.9 -0.5
comp=Z,9.9nm,0.9s,baz=14,slow=5.7,SNR=15
YKA LR LR 11 06 37.0
comp=Z,1µm,19.9s,baz=0.0,slow=37
YKA Yellowknife Ar 84.17 352 *i* P P 10 26 48.7 +2.4
YKA pmax pmax
comp=Z,10.0nm,0.9s
E60A Ste Agathe de 84.18 323 P P 10 26 46.3 -0.5
baz=48,SNR=10
CUT Chulitna 84.19 8 P P 10 26 45.6 -0.9
baz=345
F61A St Evariste 84.21 322 P P 10 26 47.4 +0.4
baz=48,SNR=9.3
MENT Mentasta 84.32 5 P P 10 26 47.3 +0.1
BCAR Beaver Creek A 84.33 4 P P 10 26 47.2 -0.1
D58A Chemin du LacG 84.41 324 P P 10 26 47.2 -0.8
baz=47
SKT Skwentna 84.44 9 P P 10 26 46.4 -1.4
SKT IAmb IAmb 10 26 52.6
comp=Z,54nm,1.4s
SKT IAMs_20 IAMs_20 11 09 59.8
comp=Z,2µm,20.0s
WVL Waterville 84.44 320 P P 10 26 47.6 -0.5
G62A West of Eustis 84.48 321 P P 10 26 48.6 +0.3
baz=48,SNR=19
G62A West of Eustis 84.48 321 P P 10 26 47.5 -0.8
G62A IAmb IAmb 10 26 53.4
comp=Z,46nm,1.1s
H63A New Sharon 84.58 321 P P 10 26 48.3 -0.5
baz=48
E59A St. Maurice 84.65 323 P P 10 26 48.6 -0.5
baz=47
SVW2 Sparrevohn 84.68 11 P P 10 26 48.9 -0.1
F60A Warwick 84.71 323 P P 10 26 49.2 -0.3
baz=47,SNR=6.0
MATQ Matagami 84.79 328 P P 10 26 49.4 -0.4
baz=44
I64A Boothbay 84.86 320 P P 10 26 50.1 -0.1
baz=49
SIJI Sorong 84.94 94 P P 10 26 51.0 -0.1
comp=Z,96nm,1.0s,baz=339,slow=7.6,SNR=9.5
G61A St-Isidore-de- 84.95 322 P P 10 26 51.0 +0.3
baz=48,SNR=13
GHO Glory Hole Cre 84.97 8 P P 10 26 50.0 -0.6
GHO IAmb IAmb 10 26 53.2
comp=Z,56nm,1.3s
GHO IAMs_20 IAMs_20 11 11 22.6
comp=Z,1µm,20.0s
D57A Chemin Vers le 84.97 324 P P 10 26 50.4 -0.3
baz=46,SNR=16
LSQQ Lebel-sur-Quev 85.00 327 P P 10 26 50.6 -0.2
baz=44
SML Sawmill 85.00 8 P P 10 26 50.0 -0.7
SML IAMs_20 IAMs_20 11 07 37.5
comp=Z,1µm,22.0s
SUA Susitna One 85.04 9 P P 10 26 50.2 -0.7
SUA IAMs_20 IAMs_20 11 11 30.6
comp=Z,2µm,20.0s
SCM Sheep Creek Mo 85.08 7 P P 10 26 50.8 -0.3
SCM pmax pmax
comp=Z,20nm,1.0s
SCM MLR MLR
comp=Z,600nm,22.0s
SCM Sheep Creek Mo 85.08 7 P P 10 26 50.8 -0.3
E58A La Victoria 85.11 323 P P 10 26 51.4 -0.1
baz=46,SNR=6.3
PMR Palmer 85.12 8 P P 10 26 50.6 -0.5
PMR pmax pmax
comp=Z,58nm,1.5s
PMR MLR MLR
comp=Z,1µm,22.0s
PMR Palmer 85.12 8 P P 10 26 50.6 -0.5
PMR IAmb IAmb 10 27 01.8
comp=Z,58nm,1.5s
PMR IAMs_20 IAMs_20 11 07 41.6
comp=Z,1µm,22.0s
F59A Saint Guilaume 85.22 323 P P 10 26 51.8 -0.1
baz=47,SNR=5.9
H62A Milan 85.24 321 P P 10 26 51.9 -0.2
baz=48
H62A Milan 85.24 321 P P 10 26 53.0 +0.9
H62A IAMs_20 IAMs_20 11 11 35.9
comp=Z,970nm,19.0s
I63A Otisfield 85.28 320 P P 10 26 52.5 +0.2
baz=48
MOQ Mont Orford 85.31 322 P P 10 26 52.6 0.0
KNK Knik Glacier 85.37 8 P P 10 26 52.4 -0.1
KNK IAmb IAmb 10 26 59.0
comp=Z,30nm,1.0s
KNK IAMs_20 IAMs_20 11 07 50.3
comp=Z,2µm,22.0s
D56A ZEC Mazanza, M 85.37 325 P P 10 26 52.3 -0.4
baz=45,SNR=8.0
G60A Masonville 85.50 322 P P 10 26 53.6 +0.1
baz=47,SNR=5.2
E57A Chemin Saint G 85.52 324 P P 10 26 53.3 -0.3
baz=46,SNR=14
KLU Klutina 85.56 7 P P 10 26 53.6 +0.1
KLU IAMs_20 IAMs_20 11 06 55.3
comp=Z,1µm,22.0s
CAPN Captain Cook N 85.66 9 P P 10 26 54.3 +0.5
baz=344
H61A Lyndonville 85.67 321 P P 10 26 54.6 +0.3
baz=47,SNR=12
RSO Redoubt South 85.73 10 P P 10 26 53.6 -0.9
F58A St-Lin Laurent 85.73 323 P P 10 26 54.1 -0.4
baz=46
D55A Sainte-Anne-du 85.74 325 P P 10 26 54.4 -0.2
baz=45,SNR=16
GLB Gilahina Butte 85.80 6 P P 10 26 54.7 0.0
I62A Tamworth 85.80 321 P P 10 26 55.3 +0.3
baz=48,SNR=9.5
I62A Tamworth 85.80 321 P P 10 26 54.5 -0.5
I62A IAmb IAmb 10 26 58.2
comp=Z,64nm,1.4s
I62A IAMs_20 IAMs_20 11 12 02.9
comp=Z,915nm,18.0s
E56A St. Veronique 85.86 324 P P 10 26 54.8 -0.4
baz=45,SNR=7.5
LBNH Lisbon 85.87 321 P P 10 26 55.8 +0.5
baz=47,SNR=10
LBNH Lisbon 85.87 321 P P 10 26 55.6 +0.3
LBNH pmax pmax
comp=Z,72nm,1.5s
LBNH MLR MLR
comp=Z,800nm,21.0s
LBNH Lisbon 85.87 321 P P 10 26 55.6 +0.3
LBNH IAmb IAmb 10 27 00.4
comp=Z,72nm,1.4s
VLDQ Val d'Or 85.89 327 P P 10 26 54.8 -0.5
MCARA McCarthy VSAT 85.92 5 P P 10 26 55.6 +0.4
MCARA IAmb IAmb 10 27 01.9
comp=Z,38nm,1.3s
G59A Clarenceville 85.95 322 P P 10 26 54.9 -0.7
baz=46
VRDI Verde Repeater 86.04 5 P P 10 26 55.9 -0.2
H60A Morristown 86.06 322 P P 10 26 56.4 +0.2
baz=47,SNR=11
J63A Strafford 86.06 320 P P 10 26 56.8 +0.6
baz=48,SNR=11
AMKA Amchitka 86.12 28 P P 10 26 54.7 -1.6
O22K Cooper Landing 86.12 9 P P 10 26 56.1 -0.1
baz=345
F57A Harrington 86.21 324 P P 10 26 56.6 -0.3
baz=45
D54A Lac Fusel, La 86.21 326 P P 10 26 56.3 -0.7
baz=44
I61A Oroboro, Fairl 86.23 321 P P 10 26 57.3 +0.3
baz=47,SNR=9.7
FID Port Fidalgo 86.23 7 P P 10 26 55.9 -0.9
FID IAMs_20 IAMs_20 11 07 51.3
comp=Z,2µm,22.0s
VT1 Waterbury 86.24 322 P P 10 26 56.5 -0.6
VT1 IAmb IAmb 10 27 03.0
comp=Z,42nm,1.3s
FFD Franklin Falls 86.25 321 P P 10 26 55.9 -1.2
FFD IAmb IAmb 10 26 58.4
comp=Z,42nm,1.3s
FFD IAMs_20 IAMs_20 11 07 55.6
comp=Z,1µm,18.0s
BALM Baldy 86.31 5 P P 10 26 57.9 +0.6
BALM Baldy 86.31 5 P P 10 26 57.3 +0.1
BALM IAmb IAmb 10 27 00.4
comp=Z,48nm,1.2s
FRNY Flat Rock 86.33 323 P P 10 26 56.4 -1.2
FRNY IAMs_20 IAMs_20 11 07 28.6
comp=Z,1µm,21.0s
BARN Barnard Glacie 86.34 5 P P 10 26 57.5 0.0
BARN IAmb IAmb 10 27 11.2
comp=Z,37nm,1.3s
L65A Cape Cod Natio 86.34 319 P P 10 26 57.9 +0.3
baz=48
G58A Ormstown 86.35 323 P P 10 26 57.4 -0.1
baz=46,SNR=8.8
E55A Montcerf-Lytto 86.42 325 P P 10 26 58.0 +0.1
baz=44
HNH Hanover 86.42 321 P P 10 26 58.4 +0.3
HNH IAmb IAmb 10 27 03.1
comp=Z,29nm,1.1s
CTGM Chitina Glacie 86.45 4 P P 10 26 58.3 +0.3
CTGM IAmb IAmb 10 27 01.1
comp=Z,40nm,1.2s
J62A Henniker 86.50 320 P P 10 26 58.9 +0.5
baz=47,SNR=7.5
EYAK Cordova Ski Ar 86.50 7 P P 10 26 58.0 -0.1
EYAK IAmb IAmb 10 27 01.5
comp=Z,37nm,1.4s
EYAK IAMs_20 IAMs_20 11 07 47.2
comp=Z,2µm,22.0s
H59A Cadyville 86.51 322 P P 10 26 58.4 0.0
baz=46,SNR=15
SEW Seward 86.52 9 P P 10 26 58.1 0.0
SEW IAMs_20 IAMs_20 11 12 16.8
comp=Z,2µm,19.0s
CRQM Cirque 86.53 5 P P 10 26 58.5 0.0
CRQM IAmb IAmb 10 27 10.9
comp=Z,50nm,1.4s
TGL Tana Glacier 86.55 5 P P 10 26 58.7 +0.2
TGL IAmb IAmb 10 27 05.0
comp=Z,33nm,1.2s
HIN Hinchinbrook I 86.58 7 P P 10 26 59.2 +0.7
BRLK Bradley Lake 86.66 9 P P 10 26 57.9 -1.0
BRLK IAmb IAmb 10 27 02.9
comp=Z,44nm,1.3s
BRLK IAMs_20 IAMs_20 11 10 32.8
comp=Z,2µm,21.0s
K63A Dunstable 86.71 320 P P 10 26 59.7 +0.3
baz=47
ISLE Juniper Island 86.74 5 P P 10 26 59.3 -0.1
ISLE IAmb IAmb 10 27 11.0
comp=Z,27nm,1.0s
ISLE IAMs_20 IAMs_20 11 11 53.5
comp=Z,866nm,19.0s
BCX Boston College 86.75 319 P P 10 26 59.1 -0.5
BCX IAmb IAmb 10 27 04.4
comp=Z,45nm,1.1s
D53A Lac Vacive, Po 86.76 326 P P 10 26 59.3 -0.3
baz=43
D53A Lac Vacive, Po 86.76 326 P P 10 26 58.6 -1.0
D53A IAMs_20 IAMs_20 11 08 04.8
comp=Z,1µm,19.0s
RAGM Ragged Mountai 86.76 6 P P 10 26 59.8 +0.4
RAGM IAMs_20 IAMs_20 11 09 07.1
comp=Z,1µm,21.0s
HYT Haines Junctio 86.79 3 P P 10 26 60.0 +0.3
HYT IAmb IAmb 10 27 13.6
comp=Z,58nm,1.3s
WES Weston 86.80 320 P P 10 26 59.9 0.0
WES Weston 86.80 320 P P 10 26 59.9 0.0
WES IAmb IAmb 10 27 02.5
comp=Z,38nm,1.2s
J61A Chester 86.81 321 P P 10 27 00.5 +0.6
baz=47,SNR=6.5
L64A Middleborough 86.84 319 P P 10 27 00.1 +0.1
baz=48
CNPM China Poot 86.84 10 P P 10 26 58.6 -1.2
CNPM IAmb IAmb 10 27 14.7
comp=Z,23nm,1.0s
HRV Adam Dziewonsk 86.85 320 P P 10 26 59.8 -0.3
baz=47
HRV Adam Dziewonsk 86.85 320 P P 10 26 59.2 -0.9
HRV pmax pmax
comp=Z,45nm,1.4s
HRV MLR MLR
comp=Z,500nm,20.0s
HRV Adam Dziewonsk 86.85 320 P P 10 26 59.2 -0.9
HRV IAmb IAmb 10 27 04.9
comp=Z,45nm,1.4s
G57A Newington 86.85 323 P P 10 26 59.6 -0.5
baz=45,SNR=6.5
HMT Hamilton 86.85 6 P P 10 26 59.0 -0.8
HMT IAmb IAmb 10 27 13.5
comp=Z,39nm,1.2s
I60A Shoreham 86.86 322 P P 10 27 00.2 +0.1
baz=46,SNR=5.4
FAKI Fak Fak 86.86 95 P P 10 26 57.7 -2.9
FAKI Fak Fak 86.86 95 P P 10 27 00.7 +0.1
ORIO Orleans, Innes 86.87 324 P P 10 26 59.9 -0.3
baz=45
ORIO Orleans, Innes 86.87 324 P P 10 26 59.3 -0.8
M66A Nantucket 86.89 318 P P 10 27 00.7 +0.3
baz=48
H58A Gabriels 86.92 323 P P 10 27 00.1 -0.4
baz=46,SNR=9.6
M65A Busby, Falmout 86.98 319 P P 10 27 00.8 +0.1
baz=48
M65A Busby, Falmout 86.98 319 IAMs_20 IAMs_20 11 09 40.1
comp=Z,1µm,20.0s
E54A Lac Daplat, Po 86.98 325 P P 10 26 59.9 -0.8
baz=44
LONY Lake Ozonia 86.99 323 P P 10 27 00.5 -0.3
baz=45,SNR=17
LONY Lake Ozonia 86.99 323 P P 10 26 59.9 -0.9
LONY IAmb IAmb 10 27 05.3
comp=Z,35nm,1.1s
F55A Otter Lake 87.01 325 P P 10 27 00.2 -0.6
baz=44
MBWA Marble Bar 87.01 117 P P 10 27 00.7 -0.5
MBWA Marble Bar 87.01 117 IAMs_20 IAMs_20 11 09 45.3
comp=Z,1µm,21.0s
YAH Yahtse 87.02 5 P P 10 27 00.7 -0.2
YAH IAmb IAmb 10 27 17.3
comp=Z,25nm,0.8s
K62A Royalston 87.11 320 P P 10 27 02.0 +0.6
baz=47,SNR=7.2
K62A Royalston 87.11 320 P P 10 27 00.4 -0.9
K62A IAmb IAmb 10 27 04.5
comp=Z,59nm,1.4s
D52A ZEK Kipawa Sen 87.17 326 P P 10 27 00.9 -0.7
baz=43
MESA MESA 87.19 5 IAMs_20 IAMs_20 11 11 21.4
comp=Z,1µm,20.0s
I59A Olmsteadville 87.20 322 P P 10 27 01.8 0.0
baz=46,SNR=9.8
BRYW Bryant College 87.23 319 P P 10 27 01.1 -1.0
BRYW IAmb IAmb 10 27 12.1
comp=Z,32nm,1.2s
E53A Dumoine, Ponti 87.25 326 P P 10 27 01.1 -0.9
baz=43,SNR=6.6
NCB Newcomb 87.26 322 P P 10 27 00.7 -1.4
M64A Tiverton 87.30 319 P P 10 27 02.6 +0.3
baz=48
L63A North Scituate 87.31 319 P P 10 27 02.3 0.0
baz=47
J60A Lant Hill Farm 87.34 321 P P 10 27 02.7 +0.2
baz=46,SNR=6.2
PSA00 Pilbara Seismi 87.34 118 P P 10 27 00.8 -1.9
PSA00 Pilbara Seismi 87.34 118 P P 10 27 01.9 -0.9
PSA00 IAmb IAmb 10 27 07.4
comp=Z,82nm,1.1s
ACCN Adirondack Com 87.37 322 P P 10 27 01.2 -1.5
PCA Pinnacle 87.38 4 P P 10 27 02.0 -0.5
QUA2 Belchertown 87.43 320 P P 10 27 02.6 -0.4
L61B Northampton 87.49 320 P P 10 27 03.5 +0.2
baz=47,SNR=5.7
H57A Richville 87.51 323 P P 10 27 03.2 -0.1
baz=45,SNR=9.7
D51A Lot 18 Range I 87.53 327 P P 10 27 02.7 -0.7
baz=42
BCPM Bancas Point 87.56 4 IAMs_20 IAMs_20 11 12 28.2
comp=Z,939nm,19.0s
G55A Calabogie 87.61 324 P P 10 27 03.5 -0.2
baz=44,SNR=8.2
K61A Williamstown 87.66 321 P P 10 27 04.4 +0.4
baz=46
D50A G1974 Best Tow 87.69 327 P P 10 27 03.0 -1.1
baz=42
ALGO Algonquin Park 87.74 326 P P 10 27 03.8 -0.6
baz=43,SNR=6.2
J59A Piesco 87.75 322 P P 10 27 04.5 -0.1
baz=45,SNR=8.5
J59A Piesco 87.75 322 P P 10 27 04.1 -0.4
J59A IAmb IAmb 10 27 07.3
comp=Z,23nm,1.1s
L62A Suffield 87.77 320 P P 10 27 04.5 0.0
baz=47
E52A Mattawa 87.79 326 P P 10 27 04.0 -0.6
baz=43,SNR=6.6
I58A Old Forge 87.84 322 P P 10 27 04.9 0.0
baz=45,SNR=6.9
H56A Elgin 87.85 324 P P 10 27 04.7 -0.2
baz=44,SNR=6.9
M63A Gales Ferry 87.86 319 P P 10 27 04.5 -0.5
baz=47
PLVO Plevna 87.94 324 P P 10 27 03.5 -1.8
PLVO IAmb IAmb 10 27 05.8
comp=Z,32nm,1.3s
PLVO IAMs_20 IAMs_20 11 08 28.6
comp=Z,1µm,18.0s
E51A G1948 Merrick 88.00 327 P P 10 27 04.7 -0.9
baz=42
I57A Carthage 88.02 323 P P 10 27 05.4 -0.4
baz=45,SNR=7.4
K60A Five Rivers En 88.02 321 P P 10 27 05.5 -0.3
baz=46
L61A Hillsdale 1, H 88.14 321 P P 10 27 06.0 -0.3
baz=46
G54A Lake Saint Pet 88.17 325 P P 10 27 06.1 -0.3
baz=43,SNR=9.8
SKAG Skagway 88.23 2 P P 10 27 06.2 -0.2
SKAG IAMs_20 IAMs_20 11 11 42.7
comp=Z,933nm,21.0s
J58A Remsen 88.23 322 P P 10 27 06.6 -0.2
baz=45,SNR=7.9
J58A Remsen 88.23 322 P P 10 27 05.6 -1.2
J58A IAmb IAmb 10 27 11.2
comp=Z,23nm,1.1s
D49A Beulah Townshi 88.29 328 P P 10 27 06.3 -0.7
baz=41
M62A Hamden 88.30 320 P P 10 27 06.5 -0.6
baz=46
KDAK Kodiak Island 88.32 11 P P 10 27 06.8 0.0
comp=Z,26nm,1.1s,baz=348,slow=2.4,SNR=13
KDAK Kodiak Island 88.32 11 P P 10 27 06.1 -0.8
H55A Tweed 88.34 324 P P 10 27 06.9 -0.4
baz=44,SNR=7.9
N63A Mattituck 88.41 319 P P 10 27 06.8 -0.8
baz=47
YLE Yale 88.41 320 IAMs_20 IAMs_20 11 09 29.0
comp=Z,1µm,19.0s
K59A Cooperstown 88.42 322 P P 10 27 07.5 -0.3
baz=45
KSCT Kent School, K 88.42 320 P P 10 27 07.6 -0.1
J57A Williamstown 88.56 323 P P 10 27 08.0 -0.3
baz=44
J57A Williamstown 88.56 323 P P 10 27 07.3 -1.0
J57A IAmb IAmb 10 27 09.7
comp=Z,44nm,1.4s
D48A Paudash Townsh 88.56 328 P P 10 27 07.4 -0.9
baz=40
DELO Deloro Mine 88.58 324 P P 10 27 07.6 -0.7
DELO IAmb IAmb 10 27 08.7
comp=Z,30nm,1.2s
DELO IAMs_20 IAMs_20 11 08 57.1
comp=Z,1µm,18.0s
L60A Shokan 88.64 321 P P 10 27 08.4 -0.3
baz=46
E50A Wahnapitae 88.65 327 P P 10 27 07.9 -0.8
baz=41
PECO Prince Edward 88.69 324 P P 10 27 07.9 -1.0
PECO IAmb IAmb 10 27 10.2
comp=Z,42nm,1.2s
PECO IAMs_20 IAMs_20 11 09 30.1
comp=Z,880nm,18.0s
WSPT Westport, CT 88.73 320 IAMs_20 IAMs_20 11 09 38.2
comp=Z,985nm,18.0s
OHAK Old Harbor 88.74 11 P P 10 27 08.7 -0.2
OHAK IAmb IAmb 10 27 26.4
comp=Z,31nm,1.3s
OHAK IAMs_20 IAMs_20 11 11 46.6
comp=Z,1µm,22.0s
FALS False Pass 88.82 17 IAMs_20 IAMs_20 11 11 35.0
comp=Z,1µm,20.0s
I55A Frankford 88.83 324 P P 10 27 08.9 -0.6
baz=43
K58A Earlville 88.84 322 P P 10 27 09.2 -0.5
baz=45
K58A Earlville 88.84 322 P P 10 27 09.1 -0.5
K58A IAMs_20 IAMs_20 11 13 40.2
comp=Z,904nm,19.0s
M61A Granite Spring 88.87 320 P P 10 27 09.3 -0.5
baz=46
L59A Walton 88.93 321 P P 10 27 10.0 -0.2
baz=45
L59A Walton 88.93 321 P P 10 27 09.6 -0.6

N62A Caumsett State 88.97 320 P P 10 27 09.5 -0.7
baz=46
H53A Bobcaygeon 89.01 325 P P 10 27 09.8 -0.6
baz=43,SNR=5.7
J56A Wolcott 89.10 323 P P 10 27 10.1 -0.8
baz=44
J56A Wolcott 89.10 323 P P 10 27 10.1 -0.8
J56A IAmb IAmb 10 27 12.8
comp=Z,37nm,1.4s
J56A IAMs_20 IAMs_20 11 10 30.9
comp=Z,915nm,18.0s
BESE Bessie Mountai 89.12 1 P P 10 27 10.8 +0.1
BESE IAMs_20 IAMs_20 11 15 12.3
comp=Z,1µm,18.0s
SADO Sadowa 89.14 325 P P 10 27 10.2 -0.7
SADO IAMs_20 IAMs_20 11 09 29.8
comp=Z,898nm,19.0s
MORW Morawa 89.15 126 P P 10 27 09.8 -1.4
PAL Palisades 89.15 320 P P 10 27 10.6 -0.5
baz=46
FFC Flin Flon 89.20 343 P P 10 27 10.4 -0.7
FFC pmax pmax
comp=Z,22nm,1.3s
FFC Flin Flon 89.20 343 P P 10 27 10.4 -0.7
FFC Flin Flon 89.20 343 IAMs_20 IAMs_20 11 12 26.7
comp=Z,2µm,21.0s
SII Sitkinak Islan 89.22 12 IAMs_20 IAMs_20 11 12 22.3
comp=Z,2µm,22.0s
D47A Chapleau 89.23 329 P P 10 27 10.9 -0.5
baz=40,SNR=5.7
E48A Lockeyer 89.25 328 P P 10 27 10.8 -0.7
baz=40
DLBC Dease Lake 89.27 359 P P 10 27 10.4 -1.1
DLBC IAmb IAmb 10 27 25.7
comp=Z,26nm,1.1s
DLBC IAMs_20 IAMs_20 11 12 18.3
comp=Z,1µm,20.0s
K57A Scipio Center 89.31 323 P P 10 27 11.5 -0.4
baz=44
M60A Port Jervis 89.32 321 P P 10 27 11.1 -0.8
baz=45
BINY Binghamton 89.42 322 P P 10 27 12.2 -0.3
baz=44
BINY Binghamton 89.42 322 P P 10 27 11.7 -0.7
BINY IAMs_20 IAMs_20 11 06 56.5
comp=Z,1µm,22.0s
JIS Juneau Island 89.43 1 P P 10 27 10.6 -1.5
JIS IAmb IAmb 10 27 26.3
comp=Z,26nm,1.1s
JIS IAMs_20 IAMs_20 11 12 46.6
comp=Z,1µm,20.0s
L58A Harry Jones Me 89.46 322 P P 10 27 11.6 -1.0
baz=44
ODNJ Ogdensburg 89.48 320 P P 10 27 11.8 -0.9
N61A South Mountain 89.54 320 P P 10 27 12.5 -0.4
baz=46
J55A Hilton 89.59 324 P P 10 27 12.7 -0.4
baz=43
J55A Hilton 89.59 324 P P 10 27 12.5 -0.6
J55A IAMs_20 IAMs_20 11 10 14.8
comp=Z,845nm,18.0s
M59A Waymart 89.60 321 P P 10 27 12.4 -0.8
baz=45
F49A Sandfield 89.75 327 P P 10 27 13.0 -0.8
baz=40
K56A Middlesex 89.75 323 P P 10 27 13.4 -0.6
baz=44
D46A Sault St. Mari 89.76 329 P P 10 27 13.4 -0.4
baz=39,SNR=6.1
E47A Iron Bridge 89.77 329 P P 10 27 13.4 -0.5
baz=39
CNBA Chernabura Isl 89.77 15 IAMs_20 IAMs_20 11 14 11.7
comp=Z,1µm,20.0s
FITZ Fitzroy Crossi 89.79 112 P P 10 27 13.5 -0.8
N60A Cedar Hill Far 89.89 320 P P 10 27 14.1 -0.5
baz=45
F48A Evansville 89.95 328 P P 10 27 14.5 -0.3
baz=40
J54A Appleton 89.99 324 P P 10 27 14.3 -0.7
baz=43
J54A Appleton 89.99 324 IAMs_20 IAMs_20 11 09 40.5
comp=Z,927nm,20.0s
L57A Andrews Acres 90.01 322 P P 10 27 14.5 -0.7
baz=44,SNR=6.8
MMNY Mt. Morris Dam 90.02 323 P P 10 27 14.0 -1.2
MMNY IAmb IAmb 10 27 18.7
comp=Z,26nm,0.9s
K55A Perry 90.11 323 P P 10 27 14.9 -0.7
baz=43,SNR=9.4
O61A Allentown 90.14 320 P P 10 27 15.1 -0.6
baz=45
N59A State Game Lan 90.22 321 P P 10 27 15.8 -0.4
baz=44
M58A Price's Panora 90.26 322 P P 10 27 16.1 -0.3
baz=44
L56A Greenwood 90.28 323 P P 10 27 15.9 -0.6
baz=43,SNR=7.5
L56A Greenwood 90.28 323 P P 10 27 15.2 -1.3
L56A IAmb IAmb 10 27 17.5
comp=Z,61nm,1.4s
O60A Telford 90.45 320 P P 10 27 16.8 -0.4
baz=45
K54A Basiliko Farm, 90.50 324 P P 10 27 17.0 -0.5
baz=43,SNR=6.1
P61A Hammonton 90.57 319 P P 10 27 17.2 -0.5
baz=45
P61A Hammonton 90.57 319 IAMs_20 IAMs_20 11 11 00.1
comp=Z,893nm,18.0s
WVNY West Valley, N 90.61 323 P P 10 27 16.2 -1.8
M57A Sunshine Farm, 90.63 322 P P 10 27 17.4 -0.7
baz=44
M57A Sunshine Farm, 90.63 322 P P 10 27 16.7 -1.4
M57A IAMs_20 IAMs_20 11 07 43.6
comp=Z,1µm,22.0s
L55A Hinsdale 90.69 323 P P 10 27 17.9 -0.5
baz=43,SNR=14
PSUB Penn St. - Bra 90.75 320 IAMs_20 IAMs_20 11 10 22.8
comp=Z,920nm,20.0s
I51A Listowel 90.76 326 P P 10 27 18.2 -0.4
baz=41
N58A Sunbury 90.78 321 P P 10 27 17.9 -0.8
baz=44
N58A Sunbury 90.78 321 IAMs_20 IAMs_20 11 07 48.4
comp=Z,950nm,22.0s
O59A Robesonia 90.87 321 P P 10 27 18.4 -0.8
baz=44
KNRA Kununurra 90.92 108 P P 10 27 18.5 -1.2
P60A Greenville 90.93 320 P P 10 27 18.4 -1.0
baz=45
P60A Greenville 90.93 320 IAMs_20 IAMs_20 11 10 27.6
comp=Z,890nm,19.0s
M56A Emporium 91.07 323 P P 10 27 19.6 -0.5
baz=43,SNR=10
M56A Emporium 91.07 323 P P 10 27 18.7 -1.4
M56A IAMs_20 IAMs_20 11 11 42.2
comp=Z,841nm,18.0s
L54A Sinclairville 91.09 324 P P 10 27 19.1 -1.1
baz=42
MVL Millersville 91.18 321 P P 10 27 19.9 -0.7
PAGS Pennsylvania G 91.22 321 IAMs_20 IAMs_20 11 08 14.2
comp=Z,951nm,21.0s
N57A Milroy 91.27 322 P P 10 27 20.6 -0.5
baz=43,SNR=6.4
WRAK Wrangell Islan 91.31 0 IAMs_20 IAMs_20 11 12 35.3
comp=Z,1µm,19.0s
M55A Ridgway 91.38 323 P P 10 27 21.2 -0.4
baz=43,SNR=12
M55A Ridgway 91.38 323 P P 10 27 20.6 -1.0
M55A IAmb IAmb 10 27 25.6
comp=Z,30nm,0.9s
O58A Lewisberry 91.40 321 P P 10 27 21.1 -0.6
baz=44
E43A Lone Tree Farm 91.42 331 P P 10 27 19.5 -2.1
E43A IAmb IAmb 10 27 21.7
comp=Z,17nm,0.8s
E43A IAMs_20 IAMs_20 11 09 13.8
comp=Z,1µm,20.0s
Q61A Milford 91.42 319 P P 10 27 21.6 -0.1
baz=45
ULM Lac du Bonnet 91.45 338 P P 10 27 20.2 -1.4
comp=Z,9.6nm,0.9s,baz=36,slow=4.9,SNR=6.2
ULM LR LR 11 11 02.7
comp=Z,1µm,18.6s,baz=26,slow=37
ULM Lac du Bonnet 91.45 338 P P 10 27 20.3 -1.4
ULM pmax pmax
comp=Z,12nm,1.0s
ULM MLR MLR
comp=Z,1µm,21.0s
ULM Lac du Bonnet 91.45 338 P P 10 27 20.3 -1.4
ULM IAMs_20 IAMs_20 11 09 17.3
comp=Z,1µm,21.0s
I49A Point Hope 91.50 327 IAMs_20 IAMs_20 11 09 57.2
comp=Z,791nm,19.0s
D41A Chassel 91.50 332 P P 10 27 21.6 -0.4
P59A Jarrettsville 91.50 320 P P 10 27 21.2 -0.9
baz=44
ERPA Erie 91.52 324 P P 10 27 21.5 -0.6
baz=42
ERPA Erie 91.52 324 P P 10 27 21.3 -0.8
SSPA Standing Stone 91.54 322 P P 10 27 21.7 -0.6
baz=43
SSPA Standing Stone 91.54 322 P P 10 27 21.3 -1.0
SSPA Standing Stone 91.54 322 IAMs_20 IAMs_20 11 08 10.6
comp=Z,985nm,21.0s
N56A West Decatur 91.54 322 P P 10 27 21.6 -0.8
baz=43
Q60A Greensboro 91.62 320 P P 10 27 22.0 -0.7
baz=44
Q60A Greensboro 91.62 320 IAMs_20 IAMs_20 11 11 31.9
comp=Z,1µm,18.0s
GLMI Grayling 91.62 328 P P 10 27 22.1 -0.5
baz=38
GLMI Grayling 91.62 328 IAMs_20 IAMs_20 11 10 05.4
comp=Z,1µm,20.0s
O57A Amberson 91.71 321 P P 10 27 22.4 -0.7
baz=43,SNR=6.0
L53A Girard 91.77 324 P P 10 27 22.7 -0.6
baz=42
M54A Oil Creek Stat 91.81 323 P P 10 27 22.9 -0.6
baz=42,SNR=10
M54A Oil Creek Stat 91.81 323 P P 10 27 23.0 -0.6
M54A IAMs_20 IAMs_20 11 11 07.6
comp=Z,883nm,18.0s
SMPI Sarmi 91.81 91 P P 10 27 25.8 +1.9
SDMD Soldier's Deli 91.87 320 P P 10 27 22.5 -1.3
EYMN Ely 91.90 334 P P 10 27 23.2 -0.6
baz=33,SNR=12
EYMN Ely 91.90 334 P P 10 27 22.9 -0.9
G45A Suttons Bay 91.91 329 IAMs_20 IAMs_20 11 09 26.0
comp=Z,2µm,22.0s
ALLY Alegheny Colle 91.94 324 IAMs_20 IAMs_20 11 10 52.2
comp=Z,1µm,22.0s
N55A Marion Center 92.00 323 P P 10 27 23.9 -0.6
baz=42,SNR=6.8
P58A Pank, Wackersv 92.06 321 P P 10 27 24.0 -0.7
baz=44
O56A Blue Knob Stat 92.16 322 P P 10 27 24.6 -0.6
baz=43,SNR=5.4
O56A Blue Knob Stat 92.16 322 P P 10 27 24.0 -1.2
O56A IAmb IAmb 10 27 27.3
comp=Z,19nm,1.1s
Q59A Harwood 92.16 320 P P 10 27 24.6 -0.6
baz=44
K50A Casco 92.30 326 P P 10 27 23.6 -2.2
K50A IAMs_20 IAMs_20 11 11 05.4
comp=Z,985nm,19.0s
B35A Bob, Littlefor 92.35 335 P P 10 27 24.3 -1.6
M53A WI Miller and 92.36 324 P P 10 27 25.0 -1.1
baz=41
M53A WI Miller and 92.36 324 IAMs_20 IAMs_20 11 11 04.3
comp=Z,891nm,20.0s
N54A Moraine State 92.38 323 P P 10 27 25.2 -1.0
baz=42
N54A Moraine State 92.38 323 P P 10 27 24.6 -1.5
N54A IAmb IAmb 10 27 28.1
comp=Z,33nm,1.2s
N54A IAMs_20 IAMs_20 11 11 50.7
comp=Z,1µm,18.0s
F42A Maple Grove Fa 92.38 331 P P 10 27 24.7 -1.4
F42A IAmb IAmb 10 27 27.9
comp=Z,18nm,0.9s
F42A IAMs_20 IAMs_20 11 16 14.4
comp=Z,1µm,19.0s
P57A Homestead Farm 92.44 321 P P 10 27 25.6 -0.8
baz=43
P57A Homestead Farm 92.44 321 P P 10 27 25.5 -1.0
P57A IAmb IAmb 10 27 35.2
comp=Z,16nm,1.1s
P57A IAMs_20 IAMs_20 11 08 51.5
comp=Z,1µm,22.0s
S61A Accomac 92.46 319 P P 10 27 26.6 0.0
baz=45
COWI Conover 92.51 332 P P 10 27 25.3 -1.4
COWI IAmb IAmb 10 27 29.2
comp=Z,37nm,1.4s
O55A Ligonier 92.59 322 P P 10 27 25.8 -1.3
baz=42
M52A Chesterland 92.62 324 P P 10 27 26.4 -0.9
baz=41
Q58A Fox Den Farm, 92.66 321 P P 10 27 26.5 -0.9
baz=43
P56A Dayton Farm, R 92.86 322 P P 10 27 27.7 -0.7
baz=43
R59A King George, V 92.89 320 P P 10 27 27.8 -0.7
baz=44
N53A Lisbon 92.92 324 P P 10 27 27.9 -0.8
baz=41
N53A Lisbon 92.92 324 P P 10 27 28.2 -0.4
N53A IAmb IAmb 10 27 32.1
comp=Z,28nm,1.0s
N53A IAMs_20 IAMs_20 11 11 32.0
comp=Z,937nm,19.0s
J47A Sunmer 92.96 327 P P 10 27 28.3 -0.5
J47A IAmb IAmb 10 27 32.9
comp=Z,29nm,1.0s
J47A IAMs_20 IAMs_20 11 10 49.8
comp=Z,1µm,20.0s
I45A Fountain 92.96 329 IAMs_20 IAMs_20 11 10 09.7
comp=Z,1µm,21.0s
Q57A Strasburg 92.98 321 P P 10 27 28.5 -0.5
baz=43
S60A Water View 92.99 319 P P 10 27 28.4 -0.6
baz=44
E38A The Farm, Brul 93.04 333 P P 10 27 28.1 -1.0
E38A IAmb IAmb 10 27 32.4
comp=Z,21nm,0.9s
E38A IAMs_20 IAMs_20 11 16 36.6
comp=Z,989nm,18.0s
AGMN Agassiz Nation 93.14 337 P P 10 27 28.4 -1.1
baz=30,SNR=7.4
AGMN Agassiz Nation 93.14 337 P P 10 27 28.5 -1.1
AAM Ann Arbor 93.15 326 P P 10 27 29.0 -0.6
baz=39
O54A Avella 93.16 323 P P 10 27 29.0 -0.7
baz=42
O54A Avella 93.16 323 P P 10 27 29.1 -0.7
O54A IAmb IAmb 10 27 33.8
comp=Z,19nm,0.9s
O54A IAMs_20 IAMs_20 11 13 06.3
comp=Z,1µm,18.0s
M51A Elyria 93.19 325 P P 10 27 28.9 -1.0
baz=40
MCWV Mont Chateau 93.27 322 P P 10 27 30.0 -0.3
baz=42
H43A Windswept, Lux 93.27 330 IAMs_20 IAMs_20 11 10 20.0
comp=Z,1µm,21.0s
R58A Rapidan 93.30 320 P P 10 27 29.6 -0.8
baz=43
S59A Mechanicsville 93.30 320 P P 10 27 30.0 -0.5
baz=44
N52A McGinn's Farm, 93.34 324 P P 10 27 29.8 -0.8
baz=41
GENI Genyem 93.36 91 P P 10 27 34.1 +3.0
T60A Surry 93.44 319 P P 10 27 30.3 -0.8
baz=44
R58B Mineral 93.47 320 P P 10 27 30.2 -1.1
baz=43
R58B Mineral 93.47 320 P P 10 27 30.5 -0.7
O53A New Philadelph 93.53 323 P P 10 27 30.7 -0.8
baz=41
O53A New Philadelph 93.53 323 P P 10 27 30.6 -0.8
O53A IAmb IAmb 10 27 45.1
comp=Z,18nm,0.9s
M50A Fremont 93.55 325 IAMs_20 IAMs_20 11 12 03.6
comp=Z,1µm,19.0s
R57A Stanardsville 93.58 321 P P 10 27 30.9 -0.9
baz=43
N51A Ashland 93.60 325 P P 10 27 30.8 -1.0
baz=40
N51A Ashland 93.60 325 P P 10 27 30.5 -1.3
N51A IAmb IAmb 10 27 33.4
comp=Z,18nm,1.0s
G40A Rib Lake 93.62 332 P P 10 27 30.7 -1.1
G40A IAmb IAmb 10 27 34.2
comp=Z,14nm,0.8s
P54A Burton 93.64 323 P P 10 27 31.7 -0.4
baz=42,SNR=7.0
JAY Jayapura 93.77 91 P P 10 27 32.8 -0.3
comp=Z,26nm,1.2s,baz=309,slow=3.1,SNR=5.9
JAY Jayapura 93.77 91 P P 10 27 37.6 +4.6
L48A N Adams 93.79 326 IAMs_20 IAMs_20 11 17 32.9
comp=Z,827nm,19.0s
S58A Poland Farm, P 93.82 320 P P 10 27 32.0 -0.8
baz=43
S58A Poland Farm, P 93.82 320 P P 10 27 31.7 -1.2
U61A Possum Corner 93.86 318 P P 10 27 32.3 -0.7
baz=44
Q55A Buckhannon 93.89 322 P P 10 27 32.1 -1.1
baz=42
O52A Adamsville 93.94 324 P P 10 27 32.4 -0.9
baz=40,SNR=7.4
O52A Adamsville 93.94 324 P P 10 27 32.2 -1.1
O52A IAmb IAmb 10 27 36.8
comp=Z,25nm,0.9s
O52A IAMs_20 IAMs_20 11 12 03.0
comp=Z,1µm,21.0s
R56A Bull Pasture M 93.97 321 P P 10 27 33.1 -0.5
baz=42
T59A Double "B" Far 94.02 319 P P 10 27 32.8 -1.0
baz=44
V62A Hyde County Ai 94.13 317 P P 10 27 33.6 -0.7
baz=45
U60A Pendleton 94.16 319 P P 10 27 33.8 -0.6
baz=44
P53A Whipple 94.19 323 P P 10 27 34.3 -0.2
baz=41,SNR=9.4
P53A Whipple 94.19 323 P P 10 27 32.7 -1.8
P53A IAmb IAmb 10 27 38.9
comp=Z,26nm,0.9s
S57A Dark Hollow, R 94.20 320 P P 10 27 34.3 -0.3
baz=42
S57A Dark Hollow, R 94.20 320 P P 10 27 33.5 -1.2
S57A IAMs_20 IAMs_20 11 11 22.2
comp=Z,1µm,20.0s
I42A Draeger Farm, 94.22 330 IAMs_20 IAMs_20 11 10 59.1
comp=Z,1µm,21.0s
Q54A Coxs Mills 94.28 322 P P 10 27 34.2 -0.8
baz=41
O51A Pataskala 94.30 324 P P 10 27 34.4 -0.7
baz=40,SNR=9.8
V61A Roper 94.32 318 P P 10 27 33.7 -1.4
baz=44
V61A Roper 94.32 318 IAMs_20 IAMs_20 11 14 15.4
comp=Z,1µm,19.0s
ACSO Alum Creek Sta 94.42 324 P P 10 27 34.7 -0.9
baz=40
ACSO Alum Creek Sta 94.42 324 P P 10 27 31.9 -3.6
R55A Marlinton 94.44 322 P P 10 27 34.7 -1.1
baz=42
R55A Marlinton 94.44 322 P P 10 27 34.1 -1.7
R55A IAmb IAmb 10 27 39.9
comp=Z,14nm,0.9s
R55A IAMs_20 IAMs_20 11 09 51.3
comp=Z,1µm,22.0s
P52A Corning 94.45 324 P P 10 27 34.6 -1.1
baz=40
P52A Corning 94.45 324 P P 10 27 33.8 -2.0
P52A IAmb IAmb 10 27 39.4
comp=Z,25nm,0.9s
N49A Columbus Grove 94.47 326 P P 10 27 34.3 -1.5
N49A IAmb IAmb 10 27 39.4
comp=Z,20nm,1.2s
N49A IAMs_20 IAMs_20 11 12 21.8
comp=Z,1µm,19.0s
T58A Grand View Acr 94.57 320 P P 10 27 35.6 -0.8
baz=43
L46A Eue Claire 94.59 328 IAMs_20 IAMs_20 11 11 58.0
comp=Z,941nm,20.0s
S56A Natural Bridge 94.59 321 P P 10 27 35.3 -1.2
baz=42
U59A Littleton 94.59 319 P P 10 27 35.4 -1.0
baz=43
SPMN Marine on St. 94.67 333 P P 10 27 35.8 -0.8
baz=32
SPMN Marine on St. 94.67 333 P P 10 27 35.2 -1.4
SPMN IAMs_20 IAMs_20 11 17 35.8
comp=Z,1µm,19.0s
V60A Jim Taylor Roa 94.72 318 P P 10 27 35.9 -1.1
baz=44
V60A Jim Taylor Roa 94.72 318 IAMs_20 IAMs_20 11 14 37.1
comp=Z,1µm,20.0s
MDND Maddock 94.73 339 P P 10 27 36.0 -0.9
baz=27
MDND Maddock 94.73 339 IAMs_20 IAMs_20 11 17 25.1
comp=Z,1µm,20.0s
Q53A Leroy 94.73 323 P P 10 27 35.9 -1.1
baz=41
T57A Hurt 94.92 320 P P 10 27 37.4 -0.6
baz=42
T57A Hurt 94.92 320 IAMs_20 IAMs_20 11 13 53.3
comp=Z,813nm,18.0s
I40A Norwalk 94.93 331 IAMs_20 IAMs_20 11 12 45.7
comp=Z,1µm,19.0s
K43A Burlington 94.94 329 IAMs_20 IAMs_20 11 11 20.1
comp=Z,1µm,22.0s
R54A Victor 94.97 322 P P 10 27 37.2 -1.0
baz=41
U58A Oxford 94.98 319 P P 10 27 37.6 -0.7
baz=43
W61A Ground Anchor 94.99 318 P P 10 27 38.1 -0.2
baz=44
S55A Lewisburg 95.02 321 P P 10 27 37.9 -0.5
baz=42
P51A Williamsport 95.03 324 P P 10 27 37.5 -0.9
baz=40
Q52A Bidwell 95.03 323 P P 10 27 37.9 -0.5
baz=40
Q49A Covington 95.11 325 P P 10 27 37.4 -1.4
Q49A IAmb IAmb 10 27 42.3
comp=Z,20nm,1.0s
Q49A IAMs_20 IAMs_20 11 13 08.9
comp=Z,1µm,18.0s
GDU01 Guandu, BA 95.12 257 *e*P P 10 27 43.2 +4.1
L44A Lake County Fo 95.18 329 P P 10 27 38.1 -0.9
baz=36
L44A Lake County Fo 95.18 329 IAMs_20 IAMs_20 11 12 13.5
comp=Z,1µm,19.0s
N47A Urbana 95.21 326 P P 10 27 37.4 -1.8
N47A IAmb IAmb 10 27 40.2
comp=Z,18nm,1.2s
N47A IAMs_20 IAMs_20 11 12 10.5
comp=Z,1µm,20.0s
V59A Middlesex 95.27 319 P P 10 27 38.9 -0.6
baz=43
T56A Rocky Mt 95.32 321 P P 10 27 39.5 -0.3
baz=42
R53A Hurricane 95.35 323 P P 10 27 39.7 -0.1
baz=40
R53A Hurricane 95.35 323 P P 10 27 38.0 -1.9
R53A IAmb IAmb 10 27 41.1
comp=Z,36nm,1.3s
R53A IAMs_20 IAMs_20 11 13 36.4
comp=Z,852nm,18.0s
U57A Blanch 95.39 320 P P 10 27 39.3 -0.8
baz=42
BLA Blacksburg 95.39 321 P P 10 27 39.4 -0.8
baz=42
BLA Blacksburg 95.39 321 IAMs_20 IAMs_20 11 13 34.8
comp=Z,1µm,18.0s
F33A 5 Mile Ranch, 95.41 336 P P 10 27 39.2 -0.8
CNNC Cliffs of the 95.45 318 IAMs_20 IAMs_20 11 15 09.5
comp=Z,1µm,18.0s
HQIL Hanson Quary C 95.46 328 IAMs_20 IAMs_20 11 12 21.9
comp=Z,1µm,20.0s
BBB Bella Bella 95.48 357 IAMs_20 IAMs_20 11 15 55.5
comp=Z,1µm,20.0s
DGMT Dagmar 95.48 342 P P 10 27 39.8 -0.5
baz=23
DGMT Dagmar 95.48 342 P P 10 27 39.7 -0.6
DGMT IAmb IAmb 10 27 41.2
comp=Z,36nm,1.4s
DGMT Dagmar 95.48 342 IAMs_20 IAMs_20 11 13 37.8
comp=Z,1µm,19.0s
W60A Pink Hill 95.49 318 P P 10 27 39.7 -0.9
baz=44
Q51A Peebles 95.52 324 P P 10 27 39.6 -1.0
Q51A IAmb IAmb 10 27 42.5
comp=Z,36nm,1.4s
JFWS Jewell Farm 95.58 330 P P 10 27 39.7 -1.1
baz=34
JFWS Jewell Farm 95.58 330 IAMs_20 IAMs_20 11 11 50.0
comp=Z,1µm,21.0s

T55A	Pulaski	95.66 321	P	P	10 27 40.5	-0.9		
	baz=41							
V58A	Windy Hill, Pi	95.73 319	P	P	10 27 40.7	-0.9		
	baz=42							
P49A	Miami Univ. Ec	95.80 325	P	P	10 27 40.8	-1.1		
	baz=39							
W59A	Clinton	95.82 318	P	P	10 27 41.5	-0.6		
	baz=43							
I37A	Lemond, Waseca	95.92 333	P	P	10 27 42.1	-0.3		
I37A			IAMs_20	IAMs_20	11 14 22.9			
	comp=Z,1µm,19.0s							
S53A	Williamson	95.93 322	P	P	10 27 42.2	-0.4		
	baz=40							
X60A	Albert Glenn T	95.98 318	P	P	10 27 42.4	-0.4		
	baz=43							
U56A	King	96.02 320	P	P	10 27 42.6	-0.4		
	baz=42							
V57A	Coltrane Farms	96.03 320	P	P	10 27 42.2	-0.8		
	baz=42							
L42A	Oliver, Polo	96.08 330	IAMs_20	IAMs_20	11 11 54.4			
	comp=Z,1µm,22.0s							
T54A	Tazewell	96.12 322	P	P	10 27 42.9	-0.6		
	baz=41							
P48A	Milroy	96.20 325	IAMs_20	IAMs_20	11 13 23.8			
	comp=Z,1µm,19.0s							
E28A	Huff	96.20 339	P	P	10 27 42.5	-1.1		
U55A	TA2, Sparta	96.26 321	P	P	10 27 43.8	-0.4		
	baz=41							
SFIN	Lafayette	96.26 327	P	P	10 27 42.9	-1.1		
	baz=37							
SFIN	Lafayette	96.26 327	IAMs_20	IAMs_20	11 12 52.1			
	comp=Z,1µm,20.0s							
V56A	Mocksville	96.48 320	P	P	10 27 44.8	-0.3		
	baz=42							
Y60A	Bolivia	96.53 317	IAMs_20	IAMs_20	11 14 02.2			
	comp=Z,755nm,19.0s							
U54A	Nelsons Funny	96.65 321	P	P	10 27 45.3	-0.6		
	baz=41							
U54A	Nelsons Funny	96.65 321	IAMs_20	IAMs_20	11 14 13.0			
	comp=Z,1µm,19.0s							
T53A	Wise	96.67 322	P	P	10 27 45.6	-0.4		
	baz=40							
W57A	Gilead	96.69 319	P	P	10 27 45.2	-0.8		
	baz=42							
L40A	Anamosa	96.69 331	IAMs_20	IAMs_20	11 12 35.4			
	comp=Z,1µm,19.0s							
X58A	Rowland	96.77 319	P	P	10 27 45.5	-0.8		
	baz=42							
X58A	Rowland	96.77 319	IAMs_20	IAMs_20	11 15 49.2			
	comp=Z,1µm,19.0s							
K38A	Parkersburg	96.83 332	IAMs_20	IAMs_20	11 14 11.0			
	comp=Z,1µm,18.0s							
V55A	Taylorsville	96.83 321	P	P	10 27 45.5	-1.2		
	baz=41							
P46A	Rosedale	96.92 327	IAMs_20	IAMs_20	11 13 21.6			
	comp=Z,1µm,20.0s							
BLO	Bloomington	96.95 326	IAMs_20	IAMs_20	11 15 02.6			
	comp=Z,840nm,18.0s							
R49A	Shelbyville	96.99 325	IAMs_20	IAMs_20	11 14 28.8			
	comp=Z,1µm,18.0s							
W56A	Indian Trail	97.03 320	P	P	10 27 47.1	-0.4		
	baz=42							
O44A	Mansfield	97.06 328	IAMs_20	IAMs_20	11 13 14.4			
	comp=Z,917nm,21.0s							
WALA	Waterton Lakes	97.07 348	IAMs_20	IAMs_20	11 16 06.6			
	comp=Z,978nm,19.0s							
HDIL	Hopedale	97.10 328	P	P	10 27 47.2	-0.6		
	baz=35							
HDIL	Hopedale	97.10 328	IAMs_20	IAMs_20	11 13 23.5			
	comp=Z,830nm,20.0s							
EGMT	Eagleton	97.24 345	P	P	10 27 47.2	-1.2		
	baz=19							
EGMT	Eagleton	97.24 345	IAMs_20	IAMs_20	11 20 02.2			
	comp=Z,1µm,19.0s							
X57A	Johnson Farm,	97.25 319	P	P	10 27 47.5	-1.1		
	baz=42							
V54A	Nebo	97.28 321	P	P	10 27 48.4	-0.3		
	baz=41							
ECSD	EROS Data Cent	97.36 335	P	P	10 27 48.0	-0.9		
	baz=30							
ECSD	EROS Data Cent	97.36 335	P	P	10 27 46.6	-2.3		
KMSC	Kings Mountain	97.43 320	P	P	10 27 48.7	-0.7		
	baz=41							
KMSC	Kings Mountain	97.43 320	IAMs_20	IAMs_20	11 13 40.6			
	comp=Z,866nm,20.0s							
TZTN	Tazewell	97.53 322	P	P	10 27 49.7	-0.1		
	baz=40							
TZTN	Tazewell	97.53 322	IAMs_20	IAMs_20	11 19 20.2			
	comp=Z,792nm,20.0s							
SUSD	Miller	97.55 337	P	P	10 27 49.2	-0.5		
	baz=28							
WCI	Wyandotte Cave	97.59 325	P	P	10 27 49.0	-1.0		
	baz=38							
WCI	Wyandotte Cave	97.59 325	IAMs_20	IAMs_20	11 14 17.5			
	comp=Z,1µm,21.0s							
SCIA	State Center	97.63 332	IAMs_20	IAMs_20	11 14 47.2			
	comp=Z,1µm,18.0s							
LAO	LASA Array	97.66 342	P	Pdif	10 27 50.4	+0.1		
	baz=22							
LAO	LASA Array	97.66 342	P	P	10 27 49.3	-1.0		
LAO			IAMs_20	IAMs_20	11 14 58.3			
	comp=Z,1µm,19.0s							
N41A	Harden Midland	97.66 330	IAMs_20	IAMs_20	11 13 03.0			
	comp=Z,1µm,21.0s							
WRA	Warramunga Arr	97.68 109	P	P	10 27 49.3	-1.4		
	comp=Z,3.7nm,0.9s,baz=316,slow=4.0,SNR=22							
WRA			PKKPbc	PKKPbc	10 44 25.6	-0.2		
	comp=Z,0.8nm,0.7s,baz=117,slow=3.2,SNR=7.9							
WRA	Warramunga Arr	97.68 109	*i* P	P	10 27 49.2	-1.4		
WRA			pmax	pmax				
	comp=Z,6.0nm,1.0s							
WRA	Warramunga Arr	97.68 109	P	P	10 27 49.0	-1.6		
WRAB	Tennant Creek	97.69 109	*e*P	P	10 27 49.6	-1.1		
WRAB			pmax	pmax				
	comp=Z,8.0nm,1.1s							
WRAB	Tennant Creek	97.69 109	P	P	10 27 49.0	-1.7		
WB2	Warramunga Arr	97.69 109	P	P	10 27 49.1	-1.6		
WC4	Warramunga Arr	97.69 109	IAMs_20	IAMs_20	11 15 06.2			
	comp=Z,880nm,18.0s							
Y57A	Sumter	97.75 319	IAMs_20	IAMs_20	11 16 41.3			
	comp=Z,907nm,20.0s							
V53A	Saluda	97.82 321	P	P	10 27 50.5	-0.7		
V53A			IAmb	IAmb	10 27 55.4			
	comp=Z,16nm,0.9s							
V53A			IAMs_20	IAMs_20	11 14 48.9			
	comp=Z,1µm,18.0s							
WR0	Warramunga Arr	97.85 109	P	P	10 27 50.0	-1.5		
PAULI	Pauline	97.93 320	P	P	10 27 49.4	-2.2		
PAULI			IAmb	IAmb	10 27 55.9			
	comp=Z,14nm,0.8s							
PAULI			IAMs_20	IAMs_20	11 17 19.9			
	comp=Z,794nm,19.0s							
W54A	Cherokee Point	97.93 321	P	P	10 27 51.3	-0.3		
	baz=41							
OLIL	Olney	98.04 327	IAMs_20	IAMs_20	11 14 06.3			
	comp=Z,1µm,19.0s							
X55A	Gracelyn & Ava	98.10 320	P	P	10 27 52.3	-0.1		
	baz=41							
NHSC	New Hope	98.31 318	IAMs_20	IAMs_20	11 14 41.0			
	comp=Z,690nm,18.0s							
Q44A	Meyer Farm, Va	98.32 327	IAMs_20	IAMs_20	11 14 04.8			
	comp=Z,1µm,21.0s							
TKL	Tuckaleechee C	98.33 322	IAMs_20	IAMs_20	11 15 38.4			
	comp=Z,1µm,18.0s							
NEW	Newport	98.36 350	P	P	10 27 52.9	-0.4		
	baz=13							
NEW	Newport	98.36 350	P	P	10 27 52.1	-1.3		
NEW			pmax	pmax				
	comp=Z,12nm,1.4s							
NEW	Newport	98.36 350	P	P	10 27 52.0	-1.3		
BG3	Lake Jocassee	98.40 321	P	P	10 27 51.7	-2.1		
BG3			IAMs_20	IAMs_20	11 15 01.2			
	comp=Z,706nm,18.0s							
X54A	Belton	98.44 320	P	P	10 27 53.7	-0.2		
	baz=40							
V51A	Loudon	98.52 322	IAMs_20	IAMs_20	11 16 05.3			
	comp=Z,953nm,18.0s							
HODGE	Hodges	98.61 320	P	P	10 27 50.8	-3.9		
HODGE			IAmb	IAmb	10 27 58.4			
	comp=Z,12nm,1.0s							
HODGE			IAMs_20	IAMs_20	11 17 49.0			
	comp=Z,763nm,19.0s							
Y55A	Saluda	98.62 320	P	P	10 27 54.0	-0.7		
	baz=41							
B06A	Marblemount	98.66 353	IAMs_20	IAMs_20	11 19 22.7			
	comp=Z,1µm,20.0s							
U49A	Red Boiling Sp	98.69 324	IAMs_20	IAMs_20	11 16 20.7			
	comp=Z,877nm,18.0s							
Z56A	Williston	98.81 319	IAMs_20	IAMs_20	11 17 22.2			
	comp=Z,854nm,19.0s							
W52A	Murphy	98.84 322	IAMs_20	IAMs_20	11 15 55.0			
	comp=Z,1µm,18.0s							
CPCT	Cooper Cave	98.88 322	IAMs_20	IAMs_20	11 15 36.8			
	comp=Z,849nm,19.0s							
T47A	Sharon Grove	98.96 325	IAMs_20	IAMs_20	11 15 11.9			
	comp=Z,944nm,20.0s							
157A	Early Branch	99.08 318	P	Pdif	10 27 56.0	-0.8		
	baz=42							
P40A	Paris	99.14 330	IAMs_20	IAMs_20	11 13 48.4			
	comp=Z,1µm,21.0s							
MSO	Missoula	99.22 347	P	Pdif	10 27 56.4	-0.9		
	baz=16							
MSO	Missoula	99.22 347	IAMs_20	IAMs_20	11 17 46.6			
	comp=Z,835nm,20.0s							
AS31	Alice Springs	99.28 112		Pdif	10 27 55.1	-2.7		
ASAR	Alice Springs	99.28 112	P	Pdif	10 27 56.6	-1.1		
	comp=Z,3.5nm,0.6s,baz=305,slow=4.4,SNR=28							
ASAR			PP	PP	10 32 04.9	+3.8		
	comp=Z,9.1nm,1.1s,baz=303,slow=6.8,SNR=11							
ASAR			PKKPbc	PKKPbc	10 44 21.8	+0.4		
	comp=Z,1.7nm,0.9s,baz=122,slow=3.7,SNR=8.0							
ASAR			LR	LR	11 15 32.1			
	comp=Z,292nm,20.4s,baz=294,slow=37							
ASAR	Alice Springs	99.28 112	P	Pdif	10 27 56.9	-0.9		
ASAR	Alice Springs	99.28 112		Pdif	10 27 56.9	-0.9		
CLTN	Cedars of Leba	99.29 324	IAMs_20	IAMs_20	11 16 38.7			
	comp=Z,855nm,18.0s							
S44A	Carbondale	99.41 327	IAMs_20	IAMs_20	11 14 49.7			
	comp=Z,1µm,19.0s							
RSSD	Black Hills	99.42 340	P	Pdif	10 27 58.2	-0.2		
	baz=24							
RSSD	Black Hills	99.42 340	P	Pdif	10 27 57.7	-0.7		
RSSD			pmax	pmax				
	comp=Z,12nm,1.5s							
RSSD			MLR	MLR				
	comp=Z,2µm,19.0s							
RSSD	Black Hills	99.42 340		Pdif	10 27 57.7	-0.7		
W50A	Signal Mountai	99.48 323	IAMs_20	IAMs_20	11 12 50.7			
	comp=Z,902nm,21.0s							
T45A	Paducah	99.67 326	IAMs_20	IAMs_20	11 21 33.7			
	comp=Z,861nm,19.0s							
P38A	Dawn	99.69 331	IAMs_20	IAMs_20	11 14 07.7			
	comp=Z,1µm,20.0s							
SWET	Sewanee	99.78 323	IAMs_20	IAMs_20	11 16 05.7			
	comp=Z,786nm,19.0s							
D08A	Wollman Farm,	99.79 351	IAMs_20	IAMs_20	11 20 10.7			
	comp=Z,1µm,20.0s							
V48A	Smith Brothers	99.81 324	IAMs_20	IAMs_20	11 17 03.5			
	comp=Z,1µm,18.0s							
LTY	Liberty	99.82 352	IAMs_20	IAMs_20	11 15 37.3			
	comp=Z,1µm,20.0s							
Y52A	Lilburn	99.86 321	IAMs_20	IAMs_20	11 14 28.0			
	comp=Z,879nm,21.0s							
RLMT	Red Lodge	99.87 344	P	Pdif	10 27 59.8	-0.6		
	baz=19							
GOGA	Godfrey	99.89 320	P	Pdif	10 28 00.5	+0.1		
	baz=40							
GOGA	Godfrey	99.89 320	IAMs_20	IAMs_20	11 15 42.8			
	comp=Z,858nm,19.0s							
BGNE	Belgrade	99.94 335	P	Pdif	10 27 59.5	-1.0		
	baz=29							
BOZ	Bozeman (W)	99.95 346	P	Pdif	10 27 59.7	-1.0		
	baz=18							
BOZ	Bozeman (W)	99.95 346	IAMs_20	IAMs_20	11 16 53.9			
	comp=Z,931nm,20.0s							
WVT	Waverly	100.00 325	P	Pdif	10 27 59.6	-1.2		
	baz=37							
WVT	Waverly	100.00 325	IAMs_20	IAMs_20	11 15 42.3			
	comp=Z,979nm,21.0s							
CCM	Cathedral Cave	100.02 328	P	Pdif	10 28 00.2	-0.7		
	baz=34							
CCM	Cathedral Cave	100.02 328	IAMs_20	IAMs_20	11 22 33.6			
	comp=Z,893nm,20.0s							
D05A	Enumclaw	100.03 353	IAMs_20	IAMs_20	11 20 24.9			
	comp=Z,1µm,19.0s							
D04E	Lakebay	100.12 353	P	Pdif	10 28 00.2	-0.9		
	baz=8.0							
FPAL	Fort Paine	100.15 322	IAMs_20	IAMs_20	11 13 10.4			
	comp=Z,906nm,22.0s							
N33A	J Bar K, Exete	100.27 334	IAMs_20	IAMs_20	11 13 57.9			
	comp=Z,1µm,22.0s							
R40A	Maules Statio	100.27 329	IAMs_20	IAMs_20	11 15 29.2			
	comp=Z,906nm,19.0s							
154A	Montrose	100.30 320	IAMs_20	IAMs_20	11 18 10.7			
	comp=Z,769nm,19.0s							
HENM	Henderson Moun	100.31 326	IAMs_20	IAMs_20	11 16 03.4			
	comp=Z,915nm,19.0s							
HICK	Hickman	100.34 326	IAMs_20	IAMs_20	11 21 52.2			
	comp=Z,941nm,19.0s							
E08A	Dider Farm, El	100.37 351	IAMs_20	IAMs_20	11 15 48.9			
	comp=Z,992nm,18.0s							
E07A	Sunnyside	100.41 351	IAMs_20	IAMs_20	11 18 41.8			
	comp=Z,1µm,20.0s							
LON	Longmire	100.44 353	IAMs_20	IAMs_20	11 16 11.8			
	comp=Z,1µm,20.0s							
255A	Hazlehurst	100.47 319	IAMs_20	IAMs_20	11 15 49.4			
	comp=Z,861nm,21.0s							
PARMO	Parma	100.48 327	IAMs_20	IAMs_20	11 15 23.0			
	comp=Z,1µm,20.0s							
HAWA	Hanford	100.53 351	IAMs_20	IAMs_20	11 16 05.1			
	comp=Z,1µm,19.0s							
PENMO	Penman	100.60 326	IAMs_20	IAMs_20	11 15 26.1			
	comp=Z,989nm,20.0s							
F10A	Beach Ranch, E	100.61 349	IAMs_20	IAMs_20	11 21 20.3			
	comp=Z,1µm,20.0s							
T42A	Van Buren	100.80 328	IAMs_20	IAMs_20	11 15 41.2			
	comp=Z,1µm,21.0s							
LNXT	Lenox	100.82 326	IAMs_20	IAMs_20	11 22 51.9			
	comp=Z,1µm,20.0s							
E03A	Lebam	100.82 354	IAMs_20	IAMs_20	11 20 37.7			
	comp=Z,1µm,20.0s							
Z51A	Franklin	100.87 321	IAMs_20	IAMs_20	11 17 48.7			
	comp=Z,971nm,18.0s							
HALT	Halls	100.90 326	IAMs_20	IAMs_20	11 22 56.1			
	comp=Z,726nm,18.0s							
X48A	Hartselle	100.94 323	IAMs_20	IAMs_20	11 17 33.5			
	comp=Z,863nm,18.0s							
PEBM	Pemiscott Bayo	100.98 326	IAMs_20	IAMs_20	11 16 24.2			
	comp=Z,1µm,19.0s							
PLAL	Pickwick Lake	101.04 324	IAMs_20	IAMs_20	11 16 24.8			
	comp=Z,1µm,20.0s							
152A	Waverly Hall	101.13 321	IAMs_20	IAMs_20	11 13 59.6			
	comp=Z,915nm,21.0s							
S39A	Bolivar	101.23 330	IAMs_20	IAMs_20	11 19 35.5			
	comp=Z,798nm,19.0s							
F04A	Amboy	101.32 353	IAMs_20	IAMs_20	11 20 36.9			
	comp=Z,950nm,20.0s							
W45A	Hickory Valley	101.44 325	IAMs_20	IAMs_20	11 22 20.3			
	comp=Z,753nm,19.0s							
TIGA	Tifton	101.46 319	IAMs_20	IAMs_20	11 16 50.4			
	comp=Z,823nm,20.0s							
K22A	Casper	101.48 341	P	Pdif	10 28 07.0	-0.6		
	baz=22							
K22A	Casper	101.48 341	IAMs_20	IAMs_20	11 16 28.6			
	comp=Z,1µm,20.0s							
G08A	Pilot Rock	101.53 351	IAMs_20	IAMs_20	11 20 22.7			
	comp=Z,1µm,20.0s							
LPAR	Lepanto	101.60 326	IAMs_20	IAMs_20	11 16 42.7			
	comp=Z,861nm,21.0s							
LOHW	Long Hollow	101.61 344	IAMs_20	IAMs_20	11 17 05.9			
	comp=Z,1µm,21.0s							
LCAR	Lake Charles	101.62 327	IAMs_20	IAMs_20	11 16 07.0			
	comp=Z,1µm,20.0s							
FXWY	Fox Creek	101.68 344	IAMs_20	IAMs_20	11 16 10.8			
	comp=Z,1µm,20.0s							
BMO	Blue Mountains	101.72 349	IAMs_20	IAMs_20	11 19 56.5			
	comp=Z,1µm,20.0s							
SC01	Santiago de lo	101.73 302	IAMs_20	IAMs_20	11 18 30.8			
	comp=Z,764nm,21.0s							
SNOW	Snow King Moun	101.79 344	IAMs_20	IAMs_20	11 17 11.8			
	comp=Z,1µm,21.0s							
TPAW	Teton Pass	101.81 344	IAMs_20	IAMs_20	11 17 13.1			
	comp=Z,1µm,20.0s							
HBAR	Harrisburg	101.81 326	IAMs_20	IAMs_20	11 16 02.1			
	comp=Z,1µm,19.0s							
MET	Memphis--Engin	101.82 326	IAMs_20	IAMs_20	11 23 32.5			
	comp=Z,794nm,19.0s							
LRAL	Lakeview Retre	102.04 322	IAMs_20	IAMs_20	11 14 29.6			
	comp=Z,1µm,22.0s							
OXF	Oxford	102.06 325	P	Pdif	10 28 08.9	-1.2		
	baz=36							
U40A	Yellville	102.14 328	IAMs_20	IAMs_20	11 18 42.8			
	comp=Z,808nm,20.0s							
352A	Blakely	102.16 320	IAMs_20	IAMs_20	11 17 27.9			
	comp=Z,1µm,18.0s							
PDAR	Pinedale Array	102.16 343	PKKPbc	PKKPbc	10 44 13.0	-0.6		
	comp=Z,1.0nm,0.7s,baz=168,slow=4.1,SNR=10							
FCAR	Ozark Folk Cen	102.20 328	IAMs_20	IAMs_20	11 16 23.5			
	comp=Z,970nm,20.0s							
SDDR	Presa de Saban	102.42 302	IAMs_20	IAMs_20	11 18 41.0			
	comp=Z,859nm,21.0s							
656A	Willston	102.43 317	IAMs_20	IAMs_20	11 18 05.3			
	comp=Z,921nm,19.0s							
Z47A	Carrollton	102.46 323	IAMs_20	IAMs_20	11 18 36.5			
	comp=Z,1µm,18.0s							
HLID	Hailey	102.46 347	IAMs_20	IAMs_20	11 17 27.3			
	comp=Z,806nm,18.0s							
250A	Grady	102.49 321	IAMs_20	IAMs_20	11 18 30.5			
	comp=Z,1µm,18.0s							
Y45A	Yeager Farm, C	102.65 325	IAMs_20	IAMs_20	11 23 09.6			
	comp=Z,1µm,19.0s							
DWPF	Disney Wildern	102.72 315	IAMs_20	IAMs_20	11 19 17.2			
	comp=Z,706nm,18.0s							
COR	Corvallis	102.74 354	IAMs_20	IAMs_20	11 21 26.5			
	comp=Z,1µm,21.0s							
U38A	Gravette	102.74 330	IAMs_20	IAMs_20	11 20 28.5			
	comp=Z,966nm,18.0s							
X43A	Marvell	102.76 326	IAMs_20	IAMs_20	11 17 29.4			
	comp=Z,798nm,19.0s							
R32A	Long Quarter,	102.76 334	IAMs_20	IAMs_20	11 16 55.9			
	comp=Z,1µm,19.0s							
WHAR	Wooly Hollow	102.78 327	IAMs_20	IAMs_20	11 16 51.7			
	comp=Z,1µm,20.0s							
I07A	Izee	102.79 351	IAMs_20	IAMs_20	11 22 31.0			
	comp=Z,1µm,19.0s							
W41B	Gary Mavity, V	102.86 327	IAMs_20	IAMs_20	11 16 54.8			
	comp=Z,1µm,21.0s							
MFID	Camas Ranch	102.87 348	IAMs_20	IAMs_20	11 19 51.0			
	comp=Z,754nm,20.0s							
553A	Crawfordville	102.88 319	IAMs_20	IAMs_20	11 17 22.1			
	comp=Z,851nm,21.0s							
T35A	Sooner Cattle	103.22 331	IAMs_20	IAMs_20	11 16 29.0			
	comp=Z,1µm,21.0s							
PINE	Pine Mountain	103.26 352	IAMs_20	IAMs_20	11 20 23.5			
	comp=Z,927nm,19.0s							
146A	Union	103.40 324	IAMs_20	IAMs_20	11 19 05.5			
	comp=Z,1µm,18.0s							
W39A	Magazine	103.53 328	IAMs_20	IAMs_20	11 16 26.4			
	comp=Z,997nm,21.0s							
BRAL	Brewton	103.54 321	IAMs_20	IAMs_20	11 19 22.3			
	comp=Z,1µm,19.0s							
CCAR	Cane Creek	103.67 326	IAMs_20	IAMs_20	11 17 10.5			
	comp=Z,1µm,21.0s							
X40A	Basin Creek Fa	103.69 327	IAMs_20	IAMs_20	11 17 20.9			
	comp=Z,1µm,20.0s							
HWUT	Hardware Ranch	103.74 344	IAMs_20	IAMs_20	11 16 57.1			
	comp=Z,1µm,21.0s							
TUL1	Leonard	103.78 330	IAMs_20	IAMs_20	11 23 31.1			
	comp=Z,1µm,20.0s							
MIAR	Mount Ida	103.98 328	IAMs_20	IAMs_20	11 17 10.5			
	comp=Z,911nm,20.0s							
K05A	Summer Lake	104.31 351	IAMs_20	IAMs_20	11 20 58.1			
	comp=Z,1µm,20.0s							
VBMS	Vicksburg	104.46 324	IAMs_20	IAMs_20	11 24 15.6			
	comp=Z,945nm,18.0s							
WLAR	White Oak Lake	104.49 327	IAMs_20	IAMs_20	11 17 54.9			
	comp=Z,1µm,20.0s							
143A	Socs Landing,	104.50 325	IAMs_20	IAMs_20	11 25 16.4			
	comp=Z,1µm,18.0s							
346A	Big Creek Wild	104.61 323	IAMs_20	IAMs_20	11 19 19.1			
	comp=Z,890nm,18.0s							
X37A	Clayton	104.73 329	IAMs_20	IAMs_20	11 17 33.3			
	comp=Z,787nm,21.0s							
MOD	Modoc Plateau	105.04 351	IAMs_20	IAMs_20	11 23 07.5			
	comp=Z,1µm,20.0s							
344A	Westbrook Farm	105.19 324	IAMs_20	IAMs_20	11 25 00.9			
	comp=Z,944nm,19.0s							
DUG	Dugway, Tooele	105.36 345	IAMs_20	IAMs_20	11 18 50.2			
	comp=Z,982nm,20.0s							
YBH	Yreka Blue Hor	105.50 353	IAMs_20	IAMs_20	11 19 12.7			
	comp=Z,1µm,20.0s							
Z38A	Mt. Pleasant	105.69 328	IAMs_20	IAMs_20	11 17 53.7			
	comp=Z,942nm,21.0s							
KRMB	Red Mountain	105.83 354	IAMs_20	IAMs_20	11 23 37.3			
	comp=Z,1µm,20.0s							
342A	Flagon Creek P	106.03 325	IAMs_20	IAMs_20	11 20 27.1			
	comp=Z,818nm,18.0s							
NVL	N'lazarevskaya	106.25 192	*e*P	Pdif	10 28 28.1	+0.5		
NVL			eS	SKSac	10 39 06.1	-0.3		
NVL			pmax	pmax				
	comp=Z,10.0nm,0.6s							
JCC	Jacoby Creek,	106.54 354	IAMs_20	IAMs_20	11 23 49.2			
	comp=Z,1µm,20.0s							
Z35A	Perchaven, San	106.61 330	IAMs_20	IAMs_20	11 25 41.0			
	comp=Z,914nm,20.0s							
WDC	Whiskeytown Da	106.62 352	IAMs_20	IAMs_20	11 18 57.3			
	comp=Z,971nm,21.0s							
NATX	Nacogdoches	106.81 327	IAMs_20	IAMs_20	11 20 24.5			
	comp=Z,1µm,21.0s							
441A	DeRidder	106.96 326	IAMs_20	IAMs_20	11 23 57.7			
	comp=Z,845nm,18.0s							
PAHR	Pah Rah Range	107.07 350	IAMs_20	IAMs_20	11 21 25.0			
	comp=Z,1µm,20.0s							
237A	Washetta, Mont	107.12 328	IAMs_20	IAMs_20	11 25 57.7			
	comp=Z,1µm,18.0s							
ORV	Oroville	107.51 351	IAMs_20	IAMs_20	11 21 43.8			
	comp=Z,863nm,20.0s							
PNTR	Pine Nut	107.70 350	IAMs_20	IAMs_20	11 21 56.0			
	comp=Z,1µm,20.0s							
R11A	Troy Canyon, C	107.72 346	IAMs_20	IAMs_20	11 26 54.6			
	comp=Z,759nm,19.0s							
RUBR	Rubicon Trail	107.82 350	IAMs_20	IAMs_20	11 25 38.1			
	comp=Z,1µm,19.0s							

TKX	Tecate	113.52	346		IAMs_20	IAMs_20	11 30 28.0		
	comp=Z,954nm,21.0s								
ROSC	El Rosal	113.73	293		IAMs_20	IAMs_20	11 26 51.5		
	comp=Z,828nm,18.0s								
ESJX	Sierra Juarez	113.92	345		IAMs_20	IAMs_20	11 24 21.7		
	comp=Z,856nm,19.0s								
SFX	San Felipe	114.60	344		IAMs_20	IAMs_20	11 25 13.7		
	comp=Z,785nm,21.0s								
SPX	San Pedro Mart	114.74	344		IAMs_20	IAMs_20	11 25 41.3		
	comp=Z,721nm,21.0s								
CPUP	Villa Florida	115.76	254		PKP	PKPdf	10 32 57.4	-0.8	
	comp=Z,3.2nm,0.8s,baz=96,slow=0.2,SNR=8.9								
BOAB	BOACO BROADBAND	116.90	307		IAMs_20	IAMs_20	11 31 39.5		
	comp=Z,839nm,21.0s								
LPAZ	La Paz	120.28	269		PKP	PKPdf	10 33 07.7	-0.2	
	comp=Z,4.8nm,0.8s,baz=76,slow=0.8,SNR=21								
LPAZ	La Paz	120.28	269	*eP*		PKiKP	10 33 08.1	0.0	
PB16	IPOC Station P	122.40	268			PKPdf	10 33 11.9	-0.1	
QSPA	South Pole Qui	122.45	180		PKKPab	PKKPab	10 43 03.7	+1.0	
	comp=Z,1.2nm,0.8s,baz=156,slow=22,SNR=7.2								
QSPA	South Pole Qui	122.45	180		PKPdf	PKPdf	10 33 09.7	-0.3	
GO01	Chusmiza	122.73	266			PKPdf	10 33 12.5	+0.1	
MNMC	Minye Minye	122.83	267			PKiKP	10 33 12.6	0.0	
PB08	IPOC Station P	122.91	266		PKPdf	PKPdf	10 33 12.6	-0.1	
PB11	IPOC Station P	123.17	267		PKPdf	PKPdf	10 33 12.7	-0.2	
PB12	IPOC Station P	123.22	268		PKPdf	PKPdf	10 33 12.8	-0.1	
PSGCX	Pisagua	123.49	267			PKPdf	10 33 13.3	-0.1	
PB01	IPOC Station P	123.59	265			PKPdf	10 33 13.6	+0.1	
LVC	Limon Verde	123.77	263		PKIKP	PKPdf	10 33 13.8	-0.4	
LVC	Limon Verde	123.77	263			PKPdf	10 33 13.8	-0.4	
LVC	Limon Verde	123.77	263	*eP*		PKiKP	10 33 16.5	+2.0	
TA01	Diego Aracena	123.96	266			PKPdf	10 33 14.2	0.0	
PB07	IPOC Station P	124.22	265			PKiKP	10 33 15.2	+0.1	
DZM	Mont Dzumac	125.13	95	PKP		PKPdf	10 33 16.6	+0.1	
	comp=Z,10nm,1.0s								
DZM	Mont Dzumac	125.13	95	*e*PKPdf		PKPdf	10 33 15.8	-0.7	
	comp=Z,48nm,1.2s								
DZM	Mont Dzumac	125.13	95	*e*LR	LR		11 12 17.0		
	comp=Z,721nm,23.2s								
GO02	Mina Guanaco	125.38	261		PKPdf	PKiKP	10 33 18.2	+0.6	
NNA	Nana	125.48	279		IAMs_20	IAMs_20	11 33 57.8		
	comp=Z,790nm,18.0s								
VNDA	Vanda	126.76	166		PKP	PKiKP	10 33 18.6	+0.2	
	comp=Z,5.6nm,1.0s,baz=271,slow=2.7,SNR=8.7								
PMSA	Palmer Station	128.28	210	*eP*		PKiKP	10 33 23.8	+2.2	
CO03	El Pedregal	128.33	254			PKPdf	10 33 22.6	+0.2	
CO02	Combarbal	128.70	254			PKPdf	10 33 22.4	-0.7	
VA03	San Esteban	128.82	252			PKPdf	10 33 23.2	0.0	
MT02	Curacav	129.44	252			PKPdf	10 33 24.2	0.0	
BO02	Sierra Bellavi	129.59	250			PKPdf	10 33 24.4	-0.2	
BO01	Tunca	129.72	250			PKPdf	10 33 23.9	-0.8	
BI02	San Fabin de	130.46	247		PKPdf	PKPdf	10 33 25.4	-0.9	
GO05	Huala	130.56	250		PKPdf	PKPdf	10 33 26.5	+0.1	
PLCA	Paso Flores	130.81	242		PKP	PKiKP	10 33 27.2	-0.4	
	comp=Z,26nm,1.2s,baz=63,slow=5.4,SNR=10								
PLCA	Paso Flores	130.81	242			PKPdf	10 33 26.0	-0.7	
LC01	Cunco	131.44	245		PKPdf	PKPdf	10 33 27.3	-0.6	
TAOE	Nuku Hiva Isla	155.22	19	*e*LR	LR		11 26 15.6		
	comp=Z,1µm,22.6s								
PPT2	Papeete2	158.32	51	*e*LR	LR		11 27 40.6		
	comp=Z,1µm,23.0s								
TBI	Tubuai	162.18	63	*e*LR	LR		11 29 25.8		
	comp=Z,773nm,24.8s								
RKT	Rikitea	170.22	15	*e*LR	LR		11 33 00.6		
	comp=Z,806nm,23.2s								

IDC ***20*** *10:20:52.4±0.7,27.°97N×103.°47E,h0km,mb4.2/13, mb1 4.3/14,mb1mx4.0/70,mbtmp4.2/14,ML4.2/1,MS4.7/3, Ms1 4.7/3,ms1mx3.7/35,Error ellipse: s-maj=25.7km s-min=15.1km az=51.0*

BJI ***20*** *10:20:55.1±0.0,28.°09N×103.°54E,h11km,mb4.4/1, ML4.5/17,Ms4.1/7,Ms7 4.1/7*

NEIC ***20*** *10:20:58.0±1.1,28.°15N±0.°06×103.°59E±0.°09,h31km±3km, mb4.6/25,Error ellipse: s-maj=11.1km s-min=9.3km az=100.0*

ISC 20 10:20:54.4±0.4,28.°12N±0.°03×103.°66E±0.°05,h10km,n64, σ1§41/70,mb4.5/24,MS4.7/4,3C-2D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.78**	**2**	⇑*i*Pn		**Pn**	**10 21 40.5**	**+1.5**
CD2				Pg		**Pg**	**10 21 48.3**	**+0.6**
CD2				Sn		**Sb**	**10 22 16.3**	**-2.1**
CD2				Sg		**Sg**	**10 22 26.0**	**+2.2**
CD2				smax	smax			
	comp=N,5µm,0.7s							
CD2				smax	smax			
	comp=E,6µm,0.9s							
KMI	**Kunming**	**3.10**	**196**	⇑*e*Pg		**Pb**	**10 21 49.8**	**+0.1**
KMI				Sg		**Sg**	**10 22 31.8**	**-2.1**
KMI	**Kunming**	**3.10**	**196**	Pn		**Pn**	**10 21 45.0**	**+1.5**
GYA	**Guiyang**	**3.15**	**121**	⇓Pn		**Pn**	**10 21 45.9**	**+1.8**
GYA				Pg		**Pg**	**10 21 54.8**	**+0.1**
GYA				Sn		**Sg**	**10 22 35.3**	**-0.2**
GYA				Sg		Sb	10 22 44.6	+16
GYA				smax	smax			
	comp=N,1µm,0.9s							
GYA				smax	smax			
	comp=E,1µm,0.8s							
GYA				LR	LR			
	comp=N,2µm,3.8s							
GYA				LR	LR			
	comp=Z,1µm,5.1s							
ENH	**Enshi**	**5.53**	**66**	Pn		**Pn**	**10 22 19.2**	**+2.4**
ENH				Sn		**Sn**	**10 23 22.2**	**+1.8**
SLVN	**Son La**	**6.76**	**178**			**Pn**	**10 22 36.3**	**+2.5**
XAN	**Xi'an**	**7.43**	**36**	Pn		**Pn**	**10 22 43.0**	**+0.1**
XAN				Sn		**Sn**	**10 24 03.6**	**-3.6**
XAN				Sg		**Sg**	**10 24 51.0**	**-1.8**
XAN				smax	smax			
	comp=N,460nm,1.1s							
XAN				smax	smax			
	comp=E,610nm,1.1s							
XAN	**Xi'an**	**7.43**	**36**	Pn		**Pn**	**10 22 42.8**	**-0.1**
XAN				Sn		**Sn**	**10 24 06.3**	**-0.9**
WHN	**Wuhan**	**9.64**	**73**	⇑P		**Pn**	**10 23 17.5**	**+4.3**
WHN				LR	LR			
	comp=E,1µm,13.2s							
CMAR	**Chiang Mai Arr**	**10.55**	**205**	LR	LR		10 27 53.6	
	comp=Z,276nm,20.4s,baz=305,slow=41							
QIZ	**Qiongzhong**	**10.68**	**147**	P		**Pn**	**10 23 25.6**	**-1.9**
QIZ				S		**Sn**	**10 25 27.4**	**+0.3**
QIZ				LR	LR			
	comp=N,1µm,11.0s							
QIZ				LR	LR			
	comp=E,1µm,9.2s							
QIZ				LR	LR			
	comp=Z,450nm,7.7s							
GTA	**Gaotai**	**11.70**	**345**	*e*P		Pn	10 23 28.5	-13
GTA				pP			10 23 33.5	
GTA				sP			10 23 36.0	
GTA				pmax	pmax			
	comp=Z,9.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,120nm,3.8s							
GTA				LR	LR			
	comp=N,740nm,10.8s							
GTA				LR	LR			
	comp=E,2µm,13.3s							
GTA				LR	LR			
	comp=Z,270nm,12.7s							
NJ2	**Nanjing**	**13.73**	**70**	⇓*i*P		**P**	**10 24 14.4**	**-3.4**
NJ2				pP		Pn	10 24 16.3	+7.2
NJ2				sP			10 24 17.5	
SONM	**Songino Array**	**19.80**	**5**	Pn		**Pn**	**10 25 29.4**	**+2.9**
	comp=Z,0.7nm,0.3s,baz=190,slow=12,SNR=4.9							
SONM	**Songino Array**	**19.80**	**5**			**Pn**	**10 25 27.6**	**+1.1**
WMQ	**Urumqi**	**20.25**	**325**	*e*P		**P**	**10 25 29.9**	**0.0**
WMQ				LR	LR			
	comp=Z,570nm,11.3s							
KSAR	**Wonju Array Be**	**22.34**	**59**	P		**P**	**10 25 54.3**	**+1.9**
KS19	**Wonju Array Si**	**22.34**	**59**	P		**P**	**10 25 53.4**	**+0.9**
KS19				IAmb	IAmb	IAmb	10 26 04.7	
	comp=Z,16nm,0.8s							
KSRS	**Korea Array**	**22.37**	**59**	P		**P**	**10 25 55.1**	**+2.4**
	comp=Z,7.6nm,0.5s,baz=248,slow=9.5,SNR=13							
TARG	**Taragay, Kyrgy**	**25.06**	**310**	P		**P**	**10 26 19.1**	**-0.2**
TARG				IAmb	IAmb	IAmb	10 26 22.0	
	comp=Z,16nm,1.1s							
MK31	**Makanchi Array**	**25.07**	**324**	P		**P**	**10 26 18.4**	**-0.6**
MKAR	**Makanchi Array**	**25.07**	**324**	P		**P**	**10 26 19.0**	**+0.1**
	comp=Z,10nm,0.9s,baz=129,slow=9.6,SNR=8.9							
MKAR	**Makanchi Array**	**25.07**	**324**	P		**P**	**10 26 19.1**	**+0.1**
NIL	**Nilore**	**26.61**	**290**	P		**P**	**10 26 33.4**	**+0.2**
NIL				IAmb		IAmb	10 26 36.9	
	comp=Z,28nm,1.1s							
USRK	**Ussuriysk Ar.**	**27.76**	**47**	P		**P**	**10 26 43.9**	**+0.7**
	comp=Z,5.7nm,0.9s,baz=247,slow=11,SNR=2.3							
USRK	**Ussuriysk Ar.**	**27.76**	**47**	P		**P**	**10 26 43.5**	**+0.3**
ZALV	**Zalesovo Beam**	**29.27**	**337**	P		**P**	**10 26 56.4**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=145,slow=7.9,SNR=2.9							
KURK	**Kurchatov**	**29.46**	**327**	P		**P**	**10 26 58.5**	**+0.2**
DAV	**Davao City (W)**	**29.47**	**131**	LR		LR	10 39 16.1	
	comp=Z,200nm,18.3s,baz=324,slow=37							
GEYT	**Alibeck**	**39.09**	**296**	P		**P**	**10 28 22.1**	**+0.2**
	comp=Z,10nm,0.9s,baz=90,slow=4.6,SNR=7.2							
GEYT	**Alibeck**	**39.09**	**296**			**P**	**10 28 21.7**	**-0.1**
GYA0B	**ALIBECK ARRAY**	**39.09**	**296**			**P**	**10 28 21.3**	**-0.5**
ABKAR	**Akbulak array**	**39.42**	**315**	P		**P**	**10 28 23.5**	**-0.9**
KIV	**Kislovodsk**	**50.67**	**305**	P		**P**	**10 29 55.6**	**+1.6**
WRAB	**Tennant Creek**	**56.24**	**145**	P		**P**	**10 30 35.3**	**+0.3**
WRAB				IAmb		IAmb	10 30 41.5	
	comp=Z,6.9nm,0.9s							
WRA	**Warramunga Arr**	**56.24**	**145**	P		**P**	**10 30 33.9**	**-1.2**
	comp=Z,3.1nm,0.7s,baz=333,slow=8.5,SNR=14							
WRA	**Warramunga Arr**	**56.24**	**145**	P		**P**	**10 30 35.8**	**+0.7**
WB2	**Warramunga Arr**	**56.25**	**145**			**P**	**10 30 34.5**	**-0.6**
WB2				IAmb		IAmb	10 30 41.5	
	comp=Z,5.6nm,0.8s							
WR0	**Warramunga Arr**	**56.36**	**145**	P		**P**	**10 30 35.1**	**-0.8**
WR0				IAmb		IAmb	10 30 48.9	
	comp=Z,8.7nm,1.2s							
AKASG	**Malin Array Be**	**59.16**	**314**	P		**P**	**10 30 54.0**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=70,slow=6.6,SNR=8.0							
AKASG	**Malin Array Be**	**59.16**	**314**			**P**	**10 30 55.5**	**+0.3**
AS31	**Alice Springs**	**59.17**	**147**			**P**	**10 30 55.1**	**-0.6**
ASAR	**Alice Springs**	**59.17**	**147**	P		**P**	**10 30 55.1**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=328,slow=6.2,SNR=16							
ASAR	**Alice Springs**	**59.17**	**147**	P		**P**	**10 30 56.5**	**+0.8**
FINES	**FINESS Array B**	**59.84**	**327**	P		**P**	**10 31 00.1**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=102,slow=6.0,SNR=1.0							
KBS	**Kingsbay**	**62.94**	**347**	P		**P**	**10 31 20.8**	**+0.3**
CTAO	**Charters Tower**	**63.19**	**135**	P		**P**	**10 31 23.3**	**+0.3**
CTAO				IAmb		IAmb	10 31 34.5	
	comp=Z,12nm,1.5s							
NOA	**NORSAR Array B**	**66.97**	**328**	P		**P**	**10 31 45.5**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=73,slow=6.4,SNR=1.8							
STKA	**Stephens Creek**	**69.74**	**146**	P		**P**	**10 32 04.6**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=329,slow=7.9,SNR=4.7							
STKA	**Stephens Creek**	**69.74**	**146**	P		**P**	**10 32 05.3**	**+0.7**
CNBA	**Chernabura Isl**	**71.20**	**37**	P		**P**	**10 32 13.6**	**+0.3**
CNBA				IAmb		IAmb	10 32 32.5	
	comp=Z,4.6nm,1.1s							
BPAW	**Bear Paw Mtn.**	**71.43**	**27**	P		**P**	**10 32 15.4**	**+0.8**
PPLA	**Purkeypile**	**71.47**	**28**	P		**P**	**10 32 15.1**	**+0.1**
MDM	**Murphy Dome**	**72.10**	**25**	P		**P**	**10 32 16.5**	**-2.2**
MDM				IAmb		IAmb	10 32 28.9	
	comp=Z,7.3nm,1.0s							
SKT	**Skwentna**	**72.14**	**29**	P		**P**	**10 32 19.6**	**+0.6**
SKT				IAmb		IAmb	10 32 24.8	
	comp=Z,6.1nm,1.2s							
BMAR	**Burnt Mountain**	**72.17**	**22**	P		**P**	**10 32 20.2**	**+1.1**
DAVOX	**Davos/Dischmat**	**72.51**	**314**	P		**P**	**10 32 20.5**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=61,slow=13,SNR=1.9							
ILAR	**Eielson Array**	**72.69**	**25**	P		**P**	**10 32 22.9**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=286,slow=4.2,SNR=4.2							
PMR	**Palmer**	**73.33**	**28**	P		**P**	**10 32 26.6**	**+0.6**
INK	**Inuvik**	**75.09**	**19**	P		**P**	**10 32 37.0**	**+0.9**
INK				IAmb		IAmb	10 32 43.2	
	comp=Z,9.9nm,1.3s							
BBB	**Bella Bella**	**88.11**	**29**	LR		LR	11 14 51.5	
	comp=Z,1µm,20.7s,baz=3.5,slow=37							
YBH	**Yreka Blue Hor**	**98.35**	**33**	LR		LR	11 19 02.9	
	comp=Z,875nm,21.0s,baz=6.5,slow=35							
TXAR	**Lajitas Array**	**117.17**	**27**	PKP		**PKiKP**	**10 39 40.6**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=0.0,slow=0.5,SNR=2.1							
QSPA	**South Pole Qui**	**117.91**	**180**	PKP		**PKPdf**	**10 39 40.4**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=299,slow=1.2,SNR=2.4							

IDC ***20*** *10:28:35.4±0.7,32.°54N×47.°77E,h0km,mb3.9/20, mb1 4.1/25,mb1mx4.0/48,mbtmp4.0/25,ML3.8/4,Error ellipse: s-maj=17.6km s-min=12.5km az=173.0*

NEIC ***20*** *10:28:37.9±1.1,32.°62N±0.°05×47.°71E±0.°07,h10km±1km, Error ellipse: s-maj=10.0km s-min=7.8km az=93.0*

ISN ***20*** *10:28:37.9±1.4,32.°65N×47.°77E,h15km±7km,ML3.6*

THR ***20*** *10:28:38.6±0.5,32.°56N×47.°73E,h14km±9km,ML4.3*

TEH ***20*** *10:28:38.0,32.°64N×47.°74E,h8km,ML4.1*

ISC 20 10:28:37.7±1.2,32.°61N±0.°03×47.°75E±0.°03,h12km±7km, n147,σ1§64/157,mb4.2/34,4D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.40**	**280**	*e*Pg		**Pg**	**10 28 45.7**	**-0.1**
DHL1				*e*Sg		**Sb**	**10 28 52.5**	**-0.4**
IKFM	**Kafar-mosalman**	**0.92**	**5**	*e*Pg		**Pg**	**10 28 55.2**	**-0.2**
IKFM	**Kafar-mosalman**	**0.92**	**5**	Pg		**Pg**	**10 28 55.2**	**-0.2**
IKMR	**Kamar-syah**	**1.05**	**30**	*e*Pg		**Pg**	**10 28 57.7**	**-0.2**
IKMR				*e*			10 29 19.2	
IKMR	**Kamar-syah**	**1.05**	**30**	Pg		**Pg**	**10 28 57.7**	**-0.2**
IDOB	**Doab**	**1.23**	**17**	*e*Pg		**Pg**	**10 29 02.3**	**+0.9**
IDOB	**Doab**	**1.23**	**17**			**Pg**	**10 29 02.2**	**+0.9**
BMDN	**Meydan**	**1.39**	**40**	*e*			10 29 33.4	
BMDN				*e*Pg		**Pg**	**10 29 04.7**	**+0.2**
AHWZ	**Ahwaz**	**1.48**	**149**	*e*Pg		**Pg**	**10 29 07.3**	**+1.0**
IKOM	**Komasi**	**1.57**	**353**	*e*			10 29 13.2	
IKOM				*e*Pg		**Pg**	**10 29 08.1**	**+0.1**
IKOM	**Komasi**	**1.57**	**353**			**Pg**	**10 29 08.1**	**+0.1**
IBDR	**Badra**	**1.61**	**288**	*e*Pg		**Pb**	**10 29 07.0**	**-0.4**
IBDR				*e*Sg		**Sg**	**10 29 29.0**	**-0.6**
IBDR				AML	AML		10 29 46.6	
	comp=E,630nm,0.7s							
IBDR				AML	AML		10 29 53.7	
	comp=N,530nm,0.7s							
HSAM	**Samen**	**1.75**	**24**	*e*Pg		**Pg**	**10 29 11.0**	**-0.3**
HSAM				*e*			10 29 39.5	
KCHF	**Cheshme Sefid,**	**1.76**	**341**	*e*Pg		**Pb**	**10 29 10.1**	**0.0**
KCHF				*e*			10 29 37.5	
KER	**Kermanshah**	**1.84**	**344**	*e*Pg		**Pg**	**10 29 12.7**	**-0.4**
IBZA	**Bozab**	**1.86**	**3**	*e*Pg		**Pb**	**10 29 12.1**	**+0.3**
IBZA				*e*			10 29 40.6	
IGHG	**Ghaleghazi**	**1.98**	**330**	*e*Pn		**Pb**	**10 29 13.4**	**-0.4**
IGHG				*e*			10 29 49.9	
IVIS	**Veis**	**2.05**	**339**	*e*Pn		**Pb**	**10 29 15.2**	**+0.2**
IVIS				*e*			10 29 21.1	
NSR	**Nassriya**	**2.10**	**221**	*e*Pn		**Pb**	**10 29 15.0**	**-0.8**
NSR				*e*Sn		**Sn**	**10 29 40.0**	**+1.2**
NSR				AML	AML		10 29 57.9	
	comp=E,1µm,0.2s							
KHMZ	**Khomeyn**	**2.17**	**58**	*e*Pn		**Pb**	**10 29 17.3**	**+0.3**
KHMZ	**Khomeyn**	**2.17**	**58**	*e*Pn		**Pb**	**10 29 17.3**	**+0.3**
IALM	**Almabolaq**	**2.27**	**9**	*e*Pn		**Pb**	**10 29 18.0**	**-0.8**
IDHR	**Dehrash**	**2.37**	**332**	*e*Pn		**Pb**	**10 29 19.5**	**-1.0**
IDHR				*e*			10 29 27.2	
ILIN	**Lien**	**2.39**	**344**	*e*Pn		**Pb**	**10 29 19.5**	**-1.4**
ILIN				*e*			10 30 03.8	
HAGD	**Aghdareh**	**2.49**	**27**	*e*Pn		**Pb**	**10 29 21.2**	**-1.4**
HAGD				*e*			10 30 05.1	
JHBN	**Jahan bin**	**2.49**	**98**	*e*Pn		**Pb**	**10 29 21.4**	**-1.3**
JHBN				*e*			10 30 08.3	
SNGE	**Sanandaj**	**2.50**	**352**	*e*Pn		**Pb**	**10 29 21.9**	**-0.8**
SNGE				*e*Sg		**Sg**	**10 29 58.4**	**+0.3**
SNGE	**Sanandaj**	**2.50**	**352**	*e*Pn		**Pb**	**10 29 21.9**	**-0.8**
IPIR	**Pirpir**	**2.65**	**88**	*e*Pn		**Pn**	**10 29 23.1**	**+2.5**
IPIR				*e*			10 30 07.2	
HSRG	**Sareghieh**	**2.66**	**9**	*e*Pn		**Pb**	**10 29 24.8**	**-0.7**
HSRG				*e*			10 30 11.3	
ROKH	**ROKH**	**2.79**	**95**	*e*Pn		**Pn**	**10 29 25.1**	**+2.7**
ROKH				*e*			10 30 16.1	
BHD	**Baghdad**	**2.91**	**284**	*e*Pn		**Pn**	**10 29 25.0**	**+1.2**
BHD				*e*Sn		**Sn**	**10 30 01.0**	**+2.3**
IBRJ	**Brojen**	**3.05**	**102**	*e*Pn		**Pn**	**10 29 28.0**	**+1.9**
IKLH	**Kolahrood**	**3.29**	**77**	*e*Pn		**Pb**	**10 29 33.4**	**-2.9**
IKLH				*e*			10 30 32.9	
IRAZ	**Razeghan**	**3.32**	**32**	*e*Pn		**Pb**	**10 29 33.9**	**-2.8**
QABG	**Abgarm-Qazvin**	**3.44**	**26**	*e*Pn		**Pn**	**10 29 33.7**	**+2.3**
IGAR	**Gharneh**	**3.63**	**92**	*e*Pn		**Pn**	**10 29 36.7**	**+2.7**
IGAR				*e*			10 30 44.5	
KLNJ	**Kolanjah**	**3.64**	**115**	*e*Pn		**Pn**	**10 29 36.6**	**+2.4**
KLNJ				*e*			10 30 30.8	
IZEF	**Zefreh**	**3.87**	**85**	*e*Pn		**Pn**	**10 29 40.5**	**+3.2**
IMHD	**Mahdasht**	**3.91**	**37**	*e*Pn		**Pn**	**10 29 41.6**	**+4.0**
IRAM	**Ramesheh**	**4.01**	**100**	*e*Pn		**Pn**	**10 29 41.2**	**+2.1**
QSDN	**Sirdan**	**4.06**	**16**	*e*Pn		**Pn**	**10 29 43.1**	**+3.3**
IHSB	**Hasanabad**	**4.06**	**45**	*e*Pn		**Pn**	**10 29 43.0**	**+3.2**
ZNJK	**Zanjan**	**4.12**	**11**	*e*Pn		**Pn**	**10 29 44.2**	**+3.5**
ZNJK	**Zanjan**	**4.12**	**11**	*e*Pn		**Pn**	**10 29 44.2**	**+3.5**
IGZV	**Ghazvin**	**4.28**	**28**	*e*Pn		**Pn**	**10 29 45.3**	**+2.4**
CHTH	**Charan**	**4.32**	**39**	*e*Pn		**Pn**	**10 29 46.7**	**+3.3**
CHTH	**Charan**	**4.32**	**39**	*e*Pn		**Pn**	**10 29 46.7**	**+3.3**
MAHB	**Mahabad**	**4.47**	**338**	*e*Pn		**Pn**	**10 29 47.2**	**+1.7**
IDMV	**Damavand**	**4.62**	**49**	*e*Pn		**Pn**	**10 29 49.9**	**+2.2**
AHBU	**AHRAM**	**4.82**	**140**	*e*Pn		**Pn**	**10 29 52.4**	**+2.3**
ANAR	**Anarak**	**5.06**	**82**	*e*Pn		**Pn**	**10 29 55.9**	**+2.3**
ISAD	**Sadrabad**	**5.08**	**96**	*e*Pn		**Pn**	**10 29 56.3**	**+2.4**
IFIR	**Firoozkooh**	**5.13**	**53**	*e*Pn		**Pn**	**10 29 57.0**	**+2.3**
IPRN	**Peran**	**5.24**	**45**	*e*Pn		**Pn**	**10 29 59.8**	**+3.8**
IAZR	**Azarshahr**	**5.26**	**344**	*e*Pn		**Pn**	**10 29 59.8**	**+3.4**
IALA	**Alasht**	**5.43**	**49**	*e*Pn		**Pn**	**10 30 00.3**	**+1.5**
IMEH	**Mehriz**	**5.96**	**100**	*e*Pn		**Pn**	**10 30 08.0**	**+2.1**
IGLO	**Ghaloghah**	**6.34**	**51**	*e*Pn		**Pn**	**10 30 13.6**	**+2.4**
TPRV	**Parvadeh(Tabas**	**7.53**	**84**	*e*Pn		**Pn**	**10 30 28.6**	**+1.1**
TKDS	**Koohdasht(Taba**	**7.93**	**80**	*e*Pn		**Pn**	**10 30 35.7**	**+2.8**
GENO	**Geno**	**8.96**	**123**	*e*Pn		**Pn**	**10 30 47.8**	**+0.7**
ASF	**Jabal al Asfar**	**9.19**	**270**	Pn		**Pn**	**10 30 49.7**	**-0.5**
	comp=E,0.4nm,0.3s,baz=74,slow=7.4,SNR=2.2							
ASF				Lg		Lg	10 33 27.5	
	comp=E,0.4nm,0.3s,baz=234,slow=19,SNR=2.5							
ARTV	**Artvin**	**9.74**	**333**	Pn		**Pn**	**10 30 56.6**	**-1.2**
ARTV				Sn		**Sn**	**10 32 44.1**	**-3.2**
GEYT	**Alibeck**	**10.00**	**55**	Pn		**Pn**	**10 31 02.5**	**+1.3**
	baz=223,slow=9.9,SNR=1.5							
GEYT	**Alibeck**	**10.00**	**55**			**Pn**	**10 31 00.8**	**-0.4**
UOSS	**Minazif**	**10.64**	**134**	Pn		**Pn**	**10 31 10.9**	**+0.9**
UOSS				Sn		**Sn**	**10 33 10.0**	**+0.9**
WSAR	**Wadi Sarin**	**13.39**	**131**	Pn		**Pn**	**10 31 45.7**	**-2.0**
	comp=E,0.8nm,0.3s,baz=9.8,slow=14,SNR=20							
WSAR				Sn		Sn	10 34 07.1	-9.5
	comp=E,0.4nm,0.3s,baz=171,slow=18,SNR=1.6							
BRTR	**Keskin Array B**	**13.42**	**306**	Pn		**Pn**	**10 31 47.5**	**-0.6**
BRTR				Sn		**Sn**	**10 34 15.9**	**-1.4**
BR131	**Keskin Array S**	**13.42**	**306**	Pn		**Pn**	**10 31 46.7**	**-1.4**
KARP	**Karpathos**	**17.31**	**285**			**Pn**	**10 32 38.1**	**-1.1**
KARP				IAmb		IAmb	10 32 45.5	
	comp=Z,44nm,1.1s							
KBL	**Kabul**	**17.85**	**78**	P		**P**	**10 32 47.3**	**+0.5**
CHGR	**Chuyangaron**	**18.40**	**65**	P		**Pn**	**10 32 53.6**	**+0.9**
CHGR				IAmb		IAmb	10 32 57.4	
	comp=Z,13nm,0.6s							
SANT	**Santorini**	**18.75**	**288**	P		**P**	**10 32 55.2**	**-1.3**
SANT				IAmb		IAmb	10 33 04.0	
	comp=Z,24nm,0.8s							
ABKAR	**Akbulak array**	**18.97**	**25**	P		**P**	**10 32 59.2**	**+0.4**
IDI	**Anoyia**	**19.15**	**284**	P		**P**	**10 33 01.

SPA0	**Spitsbergen Ar**	**47.67**	**352**	P		**P**		**10 37 14.2**	**+0.7**
CM31	**Chiang Mai Arr**	**47.87**	**94**	P		**P**		**10 37 16.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**47.87**	**94**	P		**P**		**10 37 15.1**	**-0.7**
	comp=Z,3.1nm,1.1s,baz=289,slow=9.1,SNR=6.8								
CMAR	**Chiang Mai Arr**	**47.87**	**94**	P		**P**		**10 37 16.2**	**+0.4**
XAN	**Xi'an**	**50.45**	**71**	P		**P**		**10 37 36.0**	**+0.6**
XAN				IAmb		IAmb		10 37 42.1	
	comp=Z,4.6nm,1.0s								
XAN				PcP		**PcP**		**10 38 52.8**	**-0.8**
HHC	**Hu-ho-hao-te**	**50.80**	**61**	*eP*		**P**		**10 37 40.8**	**+2.7**
HHC				pmax		pmax			
	comp=Z,25nm,0.8s								
HHC				pmax		pmax			
	comp=Z,400nm,8.2s								
BORG	**Borgarnes**	**52.14**	**330**	P		**P**		**10 37 48.1**	**+0.6**
BORG				PcP		**PcP**		**10 38 58.9**	**-0.3**
IPM	**Ipoh**	**56.99**	**108**	P		**P**		**10 38 22.1**	**-1.4**
KSRS	**Korea Array**	**63.93**	**61**	P		**P**		**10 39 09.2**	**-1.5**
	comp=Z,1.0nm,0.7s,baz=280,slow=7.4,SNR=7.2								
BOSA	**Boshof**	**64.53**	**202**	P		**P**		**10 39 13.7**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=0.0,slow=3.0,SNR=2.3								
BCAR	**Beaver Creek A**	**84.35**	**4**	P		**P**		**10 41 09.4**	**-0.1**
WRA	**Warramunga Arr**	**97.74**	**109**	P		**P**		**10 42 11.9**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=317,slow=4.1,SNR=1.9								
ASAR	**Alice Springs**	**99.33**	**112**	P		**Pdif**		**10 42 18.9**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=306,slow=4.8,SNR=6.1								
QSPA	**South Pole Qui**	**122.44**	**180**	PKP		**PKPdf**		**10 47 31.4**	**-0.6**
	comp=Z,2.0nm,1.0s,baz=241,slow=2.6,SNR=3.6								
USHA	**Ushuaia**	**130.76**	**223**	PKP		**PKPdf**		**10 47 48.0**	**-0.2**
	comp=Z,13nm,0.7s,baz=5.9,slow=1.6,SNR=3.2								

TEH 20 10:31:35.7, 32.66N × 47.70E, h10 km, ML3.5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DHL1	**Dehloran**	**0.36**	**273**	*eP*	g	Pg	10 31 42.8	0.0
DHL1				*eS*	g	Sg	10 31 48.6	+1.1
IKFM	**Kafar-mosalman**	**0.87**	**8**	*eP*	g	Pg	10 31 52.3	-0.1
IKFM				*e*			10 31 58.6	
IKMR	**Kamar-syah**	**1.02**	**34**	*eP*	g	Pg	10 31 55.3	-0.1
IKMR				*e*			10 32 16.3	
IDOB	**Doab**	**1.19**	**19**	*eP*	g	Pn	10 31 59.0	+0.4
BMDN	**Meydan**	**1.38**	**43**	*eP*	g	Pg	10 32 02.5	+0.3
BMDN				*e*			10 32 25.7	
IKOM	**Komasi**	**1.52**	**354**	*eP*	g	Pg	10 32 04.8	0.0
KCHF	**Cheshme Sefid,**	**1.70**	**341**	*e*			10 32 33.7	
KCHF				*eP*	g	Pb	10 32 07.5	+0.3
HSAM	**Samen**	**1.72**	**26**	*e*			10 32 09.6	
HSAM				*eP*	g	Pg	10 32 08.8	+0.1
KER	**Kermanshah**	**1.78**	**345**	*eP*	n	Pb	10 32 08.8	+0.2
IBZA	**Bozab**	**1.81**	**4**	*eP*	g	Pg	10 32 10.2	-0.2
IBZA				*e*			10 32 12.8	
IGHG	**Ghaleghazi**	**1.91**	**331**	*eP*	n	Pb	10 32 11.3	+0.5
IGHG				*e*			10 32 43.7	
IVIS	**Veis**	**1.99**	**339**	*eP*	n	Pb	10 32 12.1	0.0
IVIS				*e*			10 32 50.5	
IALM	**Almabolaq**	**2.23**	**10**	*eP*	n	Pb	10 32 16.2	0.0
IDHR	**Dehrash**	**2.31**	**332**	*e*		Sg	10 32 56.1	+6.2
ILIN	**Lien**	**2.33**	**345**	*eP*	n	Pb	10 32 16.2	-1.8
ILIN				*e*			10 32 58.5	
HAGD	**Aghdareh**	**2.46**	**29**	*eP*	n	Pn	10 32 17.8	+1.6
JHBN	**Jahan bin**	**2.54**	**99**	*eP*	n	Pn	10 32 18.8	+1.5
JHBN				*e*			10 32 29.0	
HSRG	**Sareghieh**	**2.62**	**10**	*eP*	n	Pb	10 32 21.7	-1.2
HSRG				*e*			10 33 04.1	
IPIR	**Pirpir**	**2.69**	**89**	*eP*	n	Pn	10 32 21.4	+2.1
IPIR				*e*			10 33 08.0	
IRAZ	**Razeghan**	**3.30**	**33**	*eP*	n	Pn	10 32 30.5	+2.8
IKLH	**Kolahrood**	**3.32**	**78**	*eP*	n	Pn	10 32 30.5	+2.5
IKLH				*e*			10 33 28.8	
IGAR	**Gharneh**	**3.67**	**93**	*eP*	n	Pn	10 32 34.3	+1.5
IGAR				*e*			10 32 36.6	
KLNJ	**Kolanjah**	**3.70**	**115**	*eP*	n	Pn	10 32 34.9	+1.7
KLNJ				*e*			10 32 50.4	
IZEF	**Zefreh**	**3.90**	**85**	*eP*	n	Pn	10 32 37.8	+1.8
QSDN	**Sirdan**	**4.02**	**17**	*eP*	n	Pn	10 32 40.3	+2.8

ISN 20 10:37:46.9±0.5, 32.65N × 47.73E, h15 km±3 km, ML3.2
TEH 20 10:37:47.9, 32.67N × 47.68E, h17 km, ML3.5
THR 20 10:37:47.2±0.3, 32.64N × 47.72E, h14 km±5 km, ML3.8

ISC 20 10:37:48.6±1.2, 32.61N±0.03 × 47.68E±0.03, h11 km±10 km, n43, σ1%05/49, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DHL1	**Dehloran**	**0.34**	**282**	*eP*	g	**Pg**	**10 38 54.8**	**-0.6**
DHL1				*eSg*		**Sg**	**10 38 54.8**	**+0.8**
IKFM	**Kafar-mosalman**	**0.92**	**9**	*e*			10 38 10.6	
IKFM				*eP*	g	**Pg**	**10 38 04.3**	**-2.0**
IKMR	**Kamar-syah**	**1.08**	**33**	*e*			10 38 28.3	
IKMR				*eP*	g	**Pb**	**10 38 07.3**	**-2.0**
IDOB	**Doab**	**1.25**	**20**	*eP*	g	**Pn**	**10 38 11.1**	**-1.0**
BMDN	**Meydan**	**1.43**	**42**	*eP*	g	**Pn**	**10 38 13.8**	**-0.9**
BMDN				*e*			10 38 37.3	
AHWZ	**Ahwaz**	**1.52**	**147**	*eP*	g	**Pg**	**10 38 17.6**	**-0.2**
IBDR	**Badra**	**1.55**	**289**	*eP*	g	**Pn**	**10 38 16.0**	**-0.1**
IBDR				*eSg*		**Sb**	**10 38 37.0**	**+0.1**
IBDR				AML		AML	10 38 42.9	
	comp=E,316nm,0.4s							
IBDR				AML		AML	10 38 43.6	
	comp=N,350nm,0.6s							
IKOM	**Komasi**	**1.56**	**355**	*eP*	g	**Pn**	**10 38 16.5**	**0.0**
IKOM				*e*			10 38 17.8	
IKOM	**Komasi**	**1.56**	**355**	*e*		**Pb**	**10 38 17.8**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.74**	**342**	*eP*	g	**Pn**	**10 38 19.6**	**+0.7**
KCHF				*e*			10 38 45.9	
HSAM	**Samen**	**1.77**	**26**	*eP*	g	**Pn**	**10 38 20.2**	**+0.7**
HSAM				*e*			10 38 47.2	
KER	**Kermanshah**	**1.82**	**346**	*eP*	n	**Pn**	**10 38 19.8**	**-0.2**
IBZA	**Bozab**	**1.86**	**5**	*eP*	g	**Pn**	**10 38 21.2**	**+0.6**
IBZA				*e*			10 38 23.7	
IGHG	**Ghaleghazi**	**1.95**	**332**	*eP*	g	**Pb**	**10 38 23.2**	**-1.0**
IGHG				*e*			10 39 00.6	
IVIS	**Veis**	**2.03**	**340**	*eP*	n	**Pn**	**10 38 22.8**	**0.0**
IVIS				*e*			10 39 02.9	
NSR	**Nassriya**	**2.06**	**220**	*eP*	n	**Pn**	**10 38 23.0**	**-0.2**
NSR				*eSn*		**Sn**	**10 38 49.0**	**+0.1**
KHMZ	**Khomeyn**	**2.22**	**59**	*eP*	n	**Pn**	**10 38 25.2**	**-0.3**
KHMZ				*eSg*		**Sb**	**10 38 55.7**	**-0.8**
KHMZ	**Khomeyn**	**2.22**	**59**	*eP*	n	**Pn**	**10 38 25.3**	**-0.3**
IALM	**Almabolaq**	**2.28**	**10**	*eP*	n	**Pn**	**10 38 27.9**	**+1.5**
IDHR	**Dehrash**	**2.34**	**333**	*eP*	n	**Pn**	**10 38 27.6**	**+0.4**
IDHR				*e*			10 39 08.2	
ILIN	**Lien**	**2.38**	**346**	*eP*	n	**Pn**	**10 38 28.1**	**+0.4**
ILIN				*e*			10 39 10.6	
SNGE	**Sanandaj**	**2.49**	**354**	*eP*	n	**Pn**	**10 38 29.1**	**-0.1**
SNGE				*eS*		**Sn**	**10 38 59.7**	**-0.1**
SNGE	**Sanandaj**	**2.49**	**354**	*eP*	n	**Pn**	**10 38 29.1**	**-0.1**
HAGD	**Aghdareh**	**2.52**	**29**	*eP*	n	**Pn**	**10 38 30.3**	**+0.6**
HAGD				*e*			10 39 09.6	
JHBN	**Jahan bin**	**2.56**	**98**	*eP*	n	**Pn**	**10 38 30.8**	**+0.5**
JHBN				*e*			10 38 41.0	
HSRG	**Sareghieh**	**2.67**	**11**	*e*		**Sg**	**10 39 19.1**	**+4.7**
IPIR	**Pirpir**	**2.71**	**88**	*eP*	n	**Pn**	**10 38 33.2**	**+0.8**
IPIR				*e*			10 39 23.3	
BHD	**Baghdad**	**2.85**	**284**	*eP*	n	**Pn**	**10 38 34.0**	**0.0**
BHD				*eSn*		**Sn**	**10 39 09.0**	**+0.8**
ROKH	**ROKH**	**2.85**	**94**	*eP*	n	**Pn**	**10 38 34.8**	**+0.6**
ROKH				*e*			10 38 43.5	
IRAZ	**Razeghan**	**3.35**	**33**	*eP*	n	**Pn**	**10 38 42.8**	**+1.6**
IKLH	**Kolahrood**	**3.36**	**77**	*eP*	n	**Pn**	**10 38 42.8**	**+1.6**
IKLH				*e*			10 38 53.0	
QABG	**Abgarm-Qazvin**	**3.47**	**27**	*eP*	n	**Pn**	**10 38 43.2**	**+0.5**
IGAR	**Gharneh**	**3.69**	**92**	*eP*	n	**Pn**	**10 38 46.1**	**+0.3**
IGAR				*e*			10 38 58.4	
KLNJ	**Kolanjah**	**3.70**	**115**	*eP*	n	**Pn**	**10 38 46.5**	**+0.5**
KLNJ				*e*			10 39 11.1	
IZEF	**Zefreh**	**3.93**	**85**	*eP*	n	**Pn**	**10 38 50.0**	**+0.9**
IRAM	**Ramesheh**	**4.07**	**100**	*eP*	n	**Pn**	**10 38 50.9**	**-0.1**
QSDN	**Sirdan**	**4.07**	**17**	*eP*	n	**Pn**	**10 38 52.1**	**+1.0**
CHTH	**Charan**	**4.36**	**40**	*eP*	n	**Pn**	**10 38 54.5**	**-0.5**
CHTH	**Charan**	**4.36**	**40**	*eP*	n	**Pn**	**10 38 54.5**	**-0.5**
IDMV	**Damavand**	**4.67**	**50**	*eP*	n	**Pn**	**10 38 59.8**	**+0.5**
AHBU	**AHRAM**	**4.87**	**139**	*eP*	n	**Pn**	**10 39 01.9**	**+0.2**
YZKH	**Yazd**	**5.85**	**90**	*eP*	n	**Pn**	**10 39 15.3**	**0.0**
YZKH	**Yazd**	**5.85**	**90**	*eP*	n	**Pn**	**10 39 15.3**	**0.0**

SNET 20 10:45:50.8±1.1, 14.19N × 90.18W, h4 km±7 km, ML2.9
GCG 20 10:45:52.1±0.4, 14.20N × 90.29W, h7 km±4 km, MD3.5

ISC 20 10:45:51.0±1.3, 14.17N±0.05 × 90.19W±0.03, h11 km±12 km, n19, σ0°56/24, 8C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IXG	**Ixpaco**	**0.25**	**271**	*i*	*P*	**Pg**	**10 45 56.2**	**+0.1**
NBG	**Las Nubes**	**0.45**	**340**	*eP*		**Pb**	**10 46 01.0**	**-0.1**
NBG				*eS*		**Sb**	**10 46 07.8**	**-0.1**
PCG	**Pacaya**	**0.47**	**299**	*i*	*eP*	**Pg**	**10 46 00.6**	**+0.4**
NUBE	**Las Nubes**	**0.47**	**124**	*i*	*P*	**Pg**	**10 46 00.7**	**+0.4**
NUBE				IAML			10 46 09.5	
	comp=Z,741nm,0.3s							
RTR	**El Retiro**	**0.59**	**117**	*i*	*eP*	**Pg**	**10 46 03.0**	**+0.5**
SNJE	**San Jose**	**0.64**	**118**	*i*	*P*	**Pg**	**10 46 03.8**	**+0.4**
CEVE	**Cerro Verde**	**0.64**	**122**	*eP*		**Pb**	**10 46 04.2**	**-0.2**
FUG	**Fuego 3**	**0.69**	**294**	*eP*		**Pg**	**10 46 04.2**	**-0.3**
TACO	**Tacachico**	**0.83**	**103**	*i*	*P*	**Pg**	**10 46 06.7**	**-0.3**
TACO				IAML			10 46 07.0	
	comp=Z,331nm,0.2s							
MTO3	**Montecristo**	**0.83**	**74**	*i*	*eP*	**Pg**	**10 46 06.8**	**-0.3**
MTO3				*eS*		**Sb**	**10 46 19.7**	**+0.7**
ESQI	**Esquipulas**	**0.91**	**64**	*eP*		**Pb**	**10 46 08.6**	**-0.3**
ESQI				*eS*		**Sb**	**10 46 21.5**	**+0.5**
UEES	**Universidad Ev**	**1.02**	**116**	*eP*		**Pg**	**10 46 10.5**	**-0.2**
MRL	**Marmol**	**1.03**	**28**	*eP*		**Pn**	**10 46 12.0**	**+0.4**
MRL				*eS*		**Sn**	**10 46 25.7**	**-0.6**
OPAM	**Oficina de Pla**	**1.06**	**115**	*eP*		**Pg**	**10 46 11.2**	**-0.2**
OPAM				IAML			10 46 12.5	
	comp=Z,353nm,0.2s							
LALI	**Alcalda de L**	**1.08**	**129**	*eP*		**Pg**	**10 46 10.7**	**-1.1**
LBRS	**Las Brisas**	**1.19**	**111**	*eP*		**Pg**	**10 46 13.1**	**-0.8**
LFRS	**El Faro**	**1.22**	**116**	*i*	*eP*	**Pg**	**10 46 14.0**	**-0.5**
LFRS				*eS*		**Sn**	**10 46 31.8**	**+1.1**
PAVA	**Las Pavas**	**1.29**	**110**	*eP*		**Pg**	**10 46 15.2**	**-0.7**
PAVA				IAML			10 46 15.8	
	comp=Z,328nm,0.4s							
RTAL	**Retalhuleu**	**1.50**	**284**	*eP*		**Pn**	**10 46 17.6**	**-0.4**

TUL 20 11:01:39.4±1.4, 35.88N±0.01 × 97.26W±0.02, h4 km±6 km, ML3.1, Error ellipse: s-maj=2.7km s-min=1.5km az=78.0
NEIC 20 11:01:39.7±1.2, 35.898N±0.006 × 97.24W±0.03, h7 km±6 km, Error ellipse: s-maj=3.8km s-min=0.7km az=97.0
IDC 20 11:01:53.8±2.4, 35.87N × 97.81W, h0 km, mb1 3.6/3, mb1mx3.4/35, mbtmp3.3/3, ML3.2/3, Error ellipse: s-maj=32.7km s-min=15.3km az=100.0

ISC 20 11:01:39.7±1.2, 35.90N±0.02 × 97.25W±0.03, h1 km±11 km, n55, σ0°70/66, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OK029	**Liberty Lake**	**0.20**	**239**			**Pg**	**11 01 43.4**	**-0.1**
OK029						**Sg**	**11 01 46.1**	**+0.1**
OK005	**Luther M Schoo**	**0.25**	**169**			**Pg**	**11 01 44.5**	**0.0**
OK005						**Sg**	**11 01 48.4**	**+0.8**
ADOK	**Arcadia Dam**	**0.27**	**202**			**Pg**	**11 01 44.9**	**+0.1**
ADOK						**Sg**	**11 01 48.5**	**+0.3**
OK025	**Westminster Rd**	**0.33**	**193**			**Pg**	**11 01 45.9**	**-0.1**
OK025						**Sg**	**11 01 50.4**	**+0.3**
BCOK	**Bluff Creek, N**	**0.38**	**231**			**Pg**	**11 01 46.7**	**-0.3**
BCOK						**Sg**	**11 01 52.2**	**+0.3**
OKCFA	**Oklahoma City**	**0.51**	**199**			**Pg**	**11 01 49.2**	**-0.3**
OKCFA						**Sg**	**11 01 56.3**	**+0.2**
OKCSW	**OKLAHOMA CITY**	**0.52**	**198**			**Pg**	**11 01 49.4**	**-0.2**
OKCSW						**Sg**	**11 01 56.5**	**+0.2**
QUOK	**Quay**	**0.52**	**58**			**Pg**	**11 01 49.9**	**+0.3**
FNO	**Franklin**	**0.65**	**191**			**Pg**	**11 01 52.1**	**-0.1**
FNO						**Sg**	**11 02 01.4**	**+0.7**
W35A	**Tecumseh**	**0.80**	**158**			**Pg**	**11 01 54.3**	**-0.9**
W35A						**Sg**	**11 02 05.9**	**+0.4**
CROK	**Carrier**	**0.85**	**316**			**Pg**	**11 01 55.7**	**-0.3**
CROK						**Sg**	**11 02 07.4**	**+0.4**
KAN13	**South Haven SW**	**1.13**	**351**			**Pg**	**11 02 00.9**	**-0.4**
T35A	**Sooner Cattle**	**1.18**	**30**			**Pg**	**11 02 01.8**	**-0.5**
T35A						**Sg**	**11 02 17.9**	**+0.3**
TUL1	**Leonard**	**1.18**	**89**			**Pg**	**11 02 01.1**	**-1.2**
TUL1					Sn	**Sg**	**11 02 18.1**	**+0.4**
X34A	**Smith Ranch, M**	**1.38**	**200**		Pn	**Pn**	**11 02 05.0**	**-1.1**
X34A					Sn	**Sn**	**11 02 24.3**	**-0.8**
KAN10	**Anthony SW Sta**	**1.40**	**331**			**Pn**	**11 02 05.4**	**-1.1**
KAN12	**Harper NE Stat**	**1.52**	**337**			**Pn**	**11 02 07.7**	**-0.5**
WMOK	**Wichita Mounta**	**1.71**	**228**			**Pn**	**11 02 10.3**	**-0.4**
X37A	**Clayton**	**2.02**	**130**			**Pn**	**11 02 15.1**	**+0.2**
U38A	**Gravette**	**2.38**	**76**			**Pn**	**11 02 18.9**	**-1.1**
Z35A	**Perchaven, San**	**2.56**	**180**			**Pn**	**11 02 22.2**	**-0.2**
HHAR	**Hobbs**	**2.71**	**81**			**Pn**	**11 02 25.1**	**+0.7**
R32A	**Long Quarter,**	**2.72**	**336**		Pn	**Pn**	**11 02 26.1**	**+0.7**
W39A	**Magazine**	**2.91**	**103**			**Pn**	**11 02 27.0**	**-0.2**
KSU1	**Kansas State U**	**3.24**	**9**		Pn	**Pn**	**11 02 32.2**	**+0.5**
MIAR	**Mount Ida**	**3.29**	**113**		Pn	**Pn**	**11 02 33.1**	**+0.6**
CBKS	**Cedar Bluff**	**3.52**	**326**		Pn	**Pn**	**11 02 36.2**	**+0.5**
U40A	**Yellville**	**3.59**	**81**		Pn	**Pn**	**11 02 36.1**	**-0.4**
S39A	**Bolivar**	**3.62**	**59**			**Pn**	**11 02 36.6**	**-0.4**
AMTX	**Amarillo**	**3.76**	**256**		Pn	**Pn**	**11 02 38.6**	**-0.4**
ABTX	**Abilene, Hawle**	**3.82**	**212**			**Pn**	**11 02 38.8**	**-1.0**
X40A	**Basin Creek Fa**	**3.88**	**110**		Pn	**Pn**	**11 02 41.1**	**+0.5**
WHTX	**Lake Whitney,**	**3.90**	**183**		Pn	**Pn**	**11 02 40.9**	**0.0**
237A	**Washetta, Mont**	**4.07**	**162**		Pn	**Pn**	**11 02 42.0**	**-1.1**
WHAR	**Wooly Hollow**	**4.09**	**97**			**Pn**	**11 02 43.1**	**-0.3**
W41B	**Gary Mavity, V**	**4.14**	**99**			**Pn**	**11 02 43.9**	**-0.2**
FCAR	**Ozark Folk Cen**	**4.16**	**89**		Pn	**Pn**	**11 02 44.2**	**-0.2**
UALR	**University of**	**4.16**	**104**		Pn	**Pn**	**11 02 44.7**	**+0.3**
R40A	**Maddies Statio**	**4.64**	**58**			**Pn**	**11 02 50.5**	**-0.5**
P38A	**Dawn**	**4.74**	**37**		Pn	**Pn**	**11 02 53.4**	**+1.0**
MSTX	**Muleshoe**	**4.93**	**249**		Pn	**Pn**	**11 02 54.5**	**-0.6**
T42A	**Van Buren**	**5.09**	**75**		Pn	**Pn**	**11 02 57.5**	**+0.4**
N35A	**Tabor**	**5.11**	**14**		Pn	**Pn**	**11 02 57.9**	**+0.4**
SDCO	**Great Sand Dun**	**6.87**	**288**		Pn	**Pn**	**11 03 23.0**	**+1.1**
ISCO	**Idaho Springs**	**7.68**	**303**		Pn	**Pn**	**11 03 31.3**	**-1.7**
ECSD	**EROS Data Cent**	**7.84**	**3**		Pn	**Pn**	**11 03 34.1**	**-0.8**
MNTX	**Cornudas Mount**	**7.96**	**241**		Pn	**Pn**	**11 03 36.3**	**-0.4**
LENM	**Lemitar**	**8.16**	**261**		Pn	**Pn**	**11 03 37.8**	**-1.8**
PHWY	**Pilot Hill**	**8.39**	**312**		Pn	**Pn**	**11 03 41.4**	**-1.4**
N23A	**Red Feather La**	**8.45**	**309**		Pn	**Pn**	**11 03 43.1**	**-0.5**
L42A	**Oliver, Polo**	**8.48**	**42**		Pn	**Pn**	**11 03 42.8**	**-0.9**
TXAR	**Lajitas Array**	**8.49**	**221**		Pn	Pn	11 03 52.3	+8.3
	0.1nm,0.3s,baz=41,slow=11,SNR=3.6							
TXAR						Pg	11 04 15.9	-6.5
	0.4nm,0.3s,baz=42,slow=14,SNR=8.6							
TXAR						Lg	11 06 05.4	
	0.8nm,0.3s,baz=43,slow=24,SNR=7.2							
JFWS	**Jewell Farm**	**8.85**	**36**		Pn	**Pn**	**11 03 48.4**	**-0.4**
PDAR	**Pinedale Array**	**11.74**	**309**		Pn	Pn	11 04 40.3	+12
	0.1nm,0.3s,baz=115,slow=15,SNR=3.0							
PDAR						Pg	11 05 20.0	
	0.2nm,0.3s,baz=117,slow=15,SNR=7.9							
PDAR						Lg	11 07 47.5	
	0.1nm,0.3s,baz=117,slow=26,SNR=2.3							
ULM	**Lac du Bonnet**	**14.38**	**4**		Pn	**P**	**11 05 13.1**	**+1.5**
	0.3nm,0.3s,baz=199,slow=17,SNR=1.6							
ULM						Lg	11 09 08.8	
	0.4nm,0.3s,baz=282,slow=20,SNR=2.0							

ANF 20 11:14:31.4±1.0, 32.18N × 115.21W, h16 km±9 km, ML3.3/17, Error ellipse: s-maj=5.9km s-min=3.5km az=2.0
ECX 20 11:14:32.3±0.5, 32.20N × 115.29W, h9 km±2 km, MD3.3, ML3.5
MEX 20 11:14:33.9±0.8, 32.35N × 115.06W, h40 km±6 km, MD3.8
NEIC 20 11:14:33.5±2.2, 32.19N±0.02 × 115.26W±0.02, h16 km±2 km, Error ellipse: s-maj=2.6km s-min=2.3km az=144.0
SCEDC 20 11:14:34.2, 32.23N × 115.24W, h20 km, M3.5, ML3.4, ML3.4
PAS 20 11:14:34.2±2.7, 32.23N±0.02 × 115.24W±0.02, h20 km±1 km, Error ellipse: s-maj=3.3km s-min=2.9km az=178.0

ISC 20 11:14:33.4±0.9, 32.20N±0.01 × 115.27W±0.02, h17 km±7 km, n115, σ0°99/164, 10C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUVIX	**Guadalupe Vict**	**0.20**	**57**			**Pb**	**11 14 38.6**	**+0.1**
GUVIX	**Guadalupe Vict**	**0.20**	**57**			**Sb**	**11 14 42.6**	**+0.5**
GUVIX	**Guadalupe Vict**	**0.20**	**57**	*i*	*P*	**Pb**	**11 14 38.7**	**+0.1**
MBIG	**Mexicali**	**0.22**	**16**	*eP*		**Pg**	**11 14 38.7**	**+0.2**
MBIG				*i*	P	**Pb**	**11 14 39.0**	**0.0**
MBIG				*i*	S	**Sb**	**11 14 43.6**	**+0.9**
MBIG				*i*	S	**Sb**	**11 14 43.7**	**+0.9**
MBIG	**Mexicali**	**0.22**	**16**			**Pb**	**11 14 39.0**	**0.0**
MBIG						**Sb**	**11 14 43.6**	**+0.9**
MBIG	**Mexicali**	**0.22**	**16**	*i*	*P*	**Pb**	**11 14 39.0**	**0.0**
CPBX	**Cerro Prieto**	**0.22**	**352**			**Pg**	**11 14 38.7**	**+0.1**
CPBX	**Cerro Prieto**	**0.22**	**352**	*i*	*P*	**Pg**	**11 14 38.7**	**+0.1**
CPBX				*e*			11 14 44.0	
CPBX				IAML			11 14 44.0	
	comp=E,31μm,0.3s							
CPBX				*e*			11 14 45.4	
CPBX				IAML			11 14 45.4	
	comp=N,30μm,0.4s							
CTLX	**Tlaxcala, TLX**	**0.29**	**21**	*i*	*P*	**Pg**	**11 14 40.0**	**+0.2**
UABX	**UABC, Campus M**	**0.46**	**342**			**Pg**	**11 14 43.1**	**+0.4**
UABX						**Sb**	**11 14 50.6**	**+0.9**
UABX	**UABC, Campus M**	**0.46**	**342**	*eP*		**Pg**	**11 14 43.1**	**+0.4**
UABX				*eS*		**Sb**	**11 14 50.5**	**+0.9**
EMSC	**East Mesa**	**0.59**	**24**			**Pg**	**11 14 44.9**	**-0.2**
EMSC						**Sg**	**11 14 53.4**	**+0.3**
EMSC	**East Mesa**	**0.59**	**24**	*eP*		**Pg**	**11 14 44.9**	**-0.2**
SGL	**Mount Signal**	**0.59**	**320**			**Pg**	**11 14 45.1**	**-0.1**
SGL						**Sg**	**11 14 53.2**	**+0.1**
SGL	**Mount Signal**	**0.59**	**320**	*i*	*P*	**Pg**	**11 14 45.1**	**-0.1**
ESJX	**Sierra Juarez**	**0.61**	**252**			**Pb**	**11 14 46.4**	**+0.6**
ESJX						**Sb**	**11 14 54.7**	**+0.6**
DREC	**Desert Rsrch C**	**0.62**	**346**			**Sn**	**11 14 56.2**	**-1.0**
COA	**Coachella**	**0.68**	**10**			**Pg**	**11 14 46.0**	**-0.7**
SNR	**Schaffner Ranc**	**0.68**	**348**			**Pg**	**11 14 46.8**	**0.0**
SNR						**Sg**	**11 14 56.1**	**+0.3**
WESC	**Westside Schoo**	**0.68**	**325**			**Pg**	**11 14 46.5**	**-0.3**
WESC						**Sb**	**11 14 56.8**	**+0.7**
WESC	**Westside Schoo**	**0.68**	**325**	*eP*		**Pg**	**11 14 46.6**	**-0.3**
YUH	**Yuha Desert**	**0.71**	**309**			**Pg**	**11 14 46.8**	**-0.6**
YUH						**Sg**	**11 14 56.4**	**-0.4**
SJX	**San Joaquin**	**0.73**	**234**	*i*	*P*	**Pg**	**11 14 46.4**	**-1.3**
SJX				*i*	S	**Sg**	**11 14 54.7**	**-2.6**
ECBX	**El Chinero**	**0.74**	**166**	*eP*		**Pg**	**11 14 48.0**	**0.0**
ECBX				*eS*		**Sn**	**11 14 59.3**	**-0.8**
COK2	**Cook Ranch 2**	**0.76**	**329**			**Pb**	**11 14 47.7**	**-0.5**
COK2						**Sg**	**11 14 58.4**	**+0.1**
RMX	**La Rumorosa**	**0.80**	**301**			**Pb**	**11 14 47.8**	**-1.2**
RMX	**La Rumorosa**	**0.80**	**301**			**Sg**	**11 14 57.6**	**-2.0**
RMX	**La Rumorosa**	**0.80**	**301**	*i*	*P*	**Pb**	**11 14 47.7**	**-1.2**
RMX				*i*	S	**Sg**	**11 14 57.5**	**-2.0**
RUN	**Ruthven**	**0.81**	**18**			**Pb**	**11 14 47.7**	**-1.4**
RUN						**Sb**	**11 14 57.9**	**-2.0**
IKP	**In-Ko-Pah, Jac**	**0.

109C				Sb	**Sb**	**11 15 25.9 +0.6**
	baz=112					
109C	**Camp Elliot, M**	**1.70**	**294**		**Pn**	**11 15 02.6 +0.2**
109C				Sn	**Sb**	**11 15 25.9 +0.6**
CPE	**Camp Elliot**	**1.70**	**294**		**Pb**	**11 15 04.2 -0.1**
FRD	**Ford Ranch, An**	**1.71**	**319**		**Pb**	**11 15 05.1 +0.5**
PFO	**Pinyon Flats O**	**1.73**	**325**	P	**Pn**	**11 15 01.2 -1.7**
	baz=143,SNR=24					
PFO				Sb	**Sb**	**11 15 27.3 +0.9**
	baz=143					
PFO	**Pinyon Flats O**	**1.73**	**325**		**Pn**	**11 15 02.5 -0.4**
SNDA	**J Saunders Pla**	**1.76**	**320**		**Pn**	**11 15 02.3 -1.1**
PLM	**Palomar**	**1.77**	**311**		**Pb**	**11 15 06.6 +1.0**
CRY	**Cary Ranch**	**1.84**	**318**		**Pg**	**11 15 08.4 -0.4**
BELC	**Belle Mtn. Jos**	**1.90**	**341**	Pb	**Pn**	**11 15 06.6 +1.3**
	baz=160					
IRM	**Iron Mountain**	**1.96**	**3**	Pb	**Pn**	**11 15 06.4 +0.5**
	baz=182					
IRM	**Iron Mountain**	**1.96**	**3**		**Pn**	**11 15 06.5 +0.5**
POB	**Polly Butte**	**2.04**	**317**		**Pb**	**11 15 11.3 +1.3**
HMTC	**Hemet**	**2.10**	**316**		**Pb**	**11 15 12.4 +1.3**
214A	**Organ Pipe Nat**	**2.10**	**96**	*i* P	**Pn**	**11 15 06.4 -1.5**
214A				*i* S	**Sb**	**11 15 35.9 -1.1**
MURC	**Murrieta**	**2.14**	**311**	Sb	**Sb**	**11 15 40.2 +2.1**
	baz=129					
SME	**Santa Rosa Min**	**2.39**	**313**		**Pb**	**11 15 17.0 +1.0**
BBRC	**Big Bear Solar**	**2.48**	**327**	Sb	**Sb**	**11 15 50.5 +2.3**
	baz=145					
Y14A	**Wickenburg**	**2.58**	**47**		**Pn**	**11 15 14.8 +0.3**
GMRC	**Granite Mounta**	**2.60**	**353**	P	**Pn**	**11 15 13.8 -1.1**
	baz=172					
BFSC	**Mount Baldy Ra**	**2.86**	**316**	Sb	**Sb**	**11 16 01.0 +2.1**
	baz=134					
SSK	**Sunset Peak**	**2.86**	**315**		**Pb**	**11 15 25.5 +1.3**
CIS	**Catalina Islan**	**2.91**	**295**	P	**Pn**	**11 15 18.6 -0.4**
	baz=113					
CIS				Sb	**Sb**	**11 16 02.2 +2.0**
	baz=113					
FMP	**Fort Macarthur**	**2.96**	**302**	Sb	**Sb**	**11 16 03.9 +2.2**
	baz=119					
W13A	**Hualapai Mount**	**3.12**	**21**		**Pn**	**11 15 22.5 +0.4**
DECC	**Green Verdugo**	**3.29**	**309**	Sb	**Sb**	**11 16 13.4 +2.2**
	baz=127					
EDW2	**Edwards Air Fo**	**3.51**	**320**	Sb	**Sb**	**11 16 21.2 +3.5**
	baz=138					
OSI	**Osito Audit: C**	**3.76**	**311**		**Sg**	**11 16 32.1 -2.2**
X16A	**Lo Mia Camp, P**	**3.90**	**54**		**Pn**	**11 15 33.0 +0.2**
WUAZ	**Wupatki**	**4.63**	**43**		**Pn**	**11 15 43.9 +1.1**
U15A	**North Rim**	**4.89**	**29**		**Pn**	**11 15 47.7 +1.2**
KNB	**Kanab**	**5.21**	**22**	Pn	**Pn**	**11 15 51.9 +1.1**
W18A	**Petrified Fore**	**5.46**	**56**		**Pn**	**11 15 55.4 +1.2**
CCUT	**Cedar City**	**5.57**	**16**	Pn	**Pn**	**11 15 55.7 -0.1**
121A	**Cookes Peak, D**	**6.34**	**85**		**Pn**	**11 16 06.2 -0.2**
BNM	**Barren Site**	**7.50**	**73**		**Pn**	**11 16 23.0 +0.7**

ISC 20 11:18:54.9±1.1,**48.75N**±0.05×**18.05E**±0.03,**h11**km±10km, **n7,**σ0°**61**/14,**Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.27**	**293**	*e*PG	**Pg**	**11 19 00.6**	**+0.1**
JAVC				*e*SG	**Sb**	**11 19 05.9**	**-0.6**
KOLL	**Kolacno**	**0.29**	**127**	*e*PG	**Pg**	**11 19 00.8**	**0.0**
KOLL				*e*SG	**Sb**	**11 19 05.8**	**-1.2**
VYHS	**Vyhne**	**0.58**	**116**	*e*PG	**Pg**	**11 19 06.0**	**-0.2**
VYHS				*e*SG	**Sg**	**11 19 14.2**	**+0.3**
MODS	**Modra-Piesok**	**0.64**	**234**	*e*PG	**Pg**	**11 19 06.6**	**-0.7**
MODS				*e*SG	**Sb**	**11 19 17.7**	**+0.7**
MODS				*e*LG	Lg	11 19 21.4	
LANS	**Liptovska Anna**	**1.02**	**66**	*e*PG	**Pb**	**11 19 14.7**	**+0.2**
LANS				*e*SG	**Sn**	**11 19 29.9**	**+0.5**
LANS				*e*LG	Lg	11 19 37.0	
MORC	**Moravsky Berou**	**1.08**	**342**	*e*PG	**Pg**	**11 19 15.1**	**-0.5**
MORC				*e*SG	**Sg**	**11 19 29.8**	**+0.1**
VRAC	**Vranov**	**1.11**	**301**	*e*PG	**Pb**	**11 19 16.1**	**0.0**
VRAC				*e*SG	**Sn**	**11 19 32.2**	**+0.5**

*IDC **20** 11:42:36.4±12.0,24.84S×179.62W,h686km±109km, mb3.2/4,mb1 3.3/6,mb1mx2.9/27,mbtmp4.3/6,Error ellipse: s-maj=205.1km s-min=43.5km az=58.0*
*NEIC **20** 11:42:46.6±0.7,25.9S×178.4E±0.2,h607km±15km, mb4.3/23,Error ellipse: s-maj=23.5km s-min=14.9km az=69.0*
ISC 20 11:42:46.0±1.0,**26.01S**±0.08×**178.5E**±0.1,**h600**km,**n37,** σ1°**62**/39,**mb4.3**/13,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.24**	**357**	P	**P**	**11 44 47.7**	**-0.2**
MSVF				S	**S**	**11 46 27.5**	**-0.2**
MXZ	**Matakaoa Point**	**11.52**	**181**	P	**P**	**11 45 21.0**	**+1.2**
DZM	**Mont Dzumac**	**11.69**	**287**	P	**P**	**11 45 25.5**	**+3.6**
	0.3nm,0.3s,baz=135,slow=17,SNR=1.3						
URZ	**Urewera**	**12.27**	**185**	P	**P**	**11 45 28.6**	**+1.3**
	0.8nm,0.3s,baz=16,slow=15,SNR=1.8						
URZ	**Urewera**	**12.27**	**185**	P	**P**	**11 45 29.1**	**+1.8**
BFZ	**Birch Farm**	**14.76**	**187**	P	**P**	**11 45 52.9**	**+1.2**
QRZ	**Quartz Range**	**15.59**	**197**	P	**P**	**11 46 01.8**	**+2.4**
NNZ	**Nelson**	**15.75**	**194**	P	**P**	**11 46 02.6**	**+1.8**
NNZ				IAmb	IAmb	11 46 11.9	
	comp=Z,19nm,1.1s						
NNZ				S	**S**	**11 48 36.2**	**-3.5**
TUWZ	**Tuamarina**	**15.84**	**193**	P	**P**	**11 46 02.9**	**+1.3**
BSWZ	**Blackbirch Sta**	**16.13**	**193**	P	**P**	**11 46 06.2**	**+1.9**
THZ	**Tophouse**	**16.38**	**195**	P	**P**	**11 46 08.4**	**+1.7**
KHZ	**Kahutara**	**16.87**	**193**	P	**P**	**11 46 11.9**	**+0.9**
LTZ	**Lake Taylor**	**17.50**	**195**	P	**P**	**11 46 19.1**	**+2.2**
OXZ	**Oxford**	**18.07**	**195**	P	**P**	**11 46 23.9**	**+2.0**
RPZ	**Rata Peaks**	**18.68**	**197**	P	**P**	**11 46 30.7**	**+3.2**
	comp=Z,14nm,1.0s,baz=39,slow=9.2,SNR=2.4						
RPZ	**Rata Peaks**	**18.68**	**197**	P	**P**	**11 46 28.3**	**+0.7**
RPZ				IAmb	IAmb	11 46 33.2	
	comp=Z,20nm,1.1s						
EIDS	**Eidsvold**	**24.70**	**265**	P	**P**	**11 47 19.4**	**-2.3**
EIDS				IAmb	IAmb	11 47 24.9	
	comp=Z,13nm,1.4s						
KNTN	**Kanton**	**24.94**	**24**	P	**P**	**11 47 23.2**	**-0.7**
CTAO	**Charters Tower**	**30.20**	**274**	P	**P**	**11 48 08.3**	**-1.3**
CTAO				IAmb	IAmb	11 48 16.0	
	comp=Z,20nm,1.5s						
STKA	**Stephens Creek**	**32.71**	**251**	P	**P**	**11 48 31.9**	**+1.1**
	comp=Z,1.2nm,0.4s,baz=70,slow=12,SNR=5.4						
STKA	**Stephens Creek**	**32.71**	**251**	P	**P**	**11 48 31.2**	**+0.4**
BBOO	**Buckleboo**	**37.40**	**249**	P	**P**	**11 49 08.6**	**-1.0**
BBOO				IAmb	IAmb	11 49 09.5	
	comp=Z,12nm,1.4s						
AS31	**Alice Springs**	**40.39**	**263**	P	**P**	**11 49 33.1**	**-0.7**
ASAR	**Alice Springs**	**40.39**	**263**	P	**P**	**11 49 33.9**	**+0.1**
	comp=Z,3.3nm,0.4s,baz=93,slow=7.3,SNR=163						
ASAR	**Alice Springs**	**40.39**	**263**	P	**P**	**11 49 33.5**	**-0.3**
WR0	**Warramunga Arr**	**40.77**	**269**	P	**P**	**11 49 36.0**	**-0.9**
WB2	**Warramunga Arr**	**40.95**	**269**	P	**P**	**11 49 37.1**	**-1.1**
WB2				IAmb	IAmb	11 49 38.2	
	comp=Z,3.1nm,0.4s						
WRAB	**Tennant Creek**	**40.95**	**269**	P	**P**	**11 49 36.8**	**-1.4**
WRAB				IAmb	IAmb	11 49 38.9	
	comp=Z,7.0nm,1.2s						
WRA	**Warramunga Arr**	**40.96**	**269**	P	**P**	**11 49 37.8**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=104,slow=6.9,SNR=53						
WRA	**Warramunga Arr**	**40.96**	**269**	P	**P**	**11 49 37.2**	**-1.1**
WB0	**Warramunga Arr**	**40.96**	**269**	P	**P**	**11 49 37.4**	**-0.9**
WB0				IAmb	IAmb	11 49 38.5	
	comp=Z,3.0nm,0.7s						
FORT	**Forrest**	**44.33**	**252**	P	**P**	**11 50 03.8**	**-0.6**
FORT				IAmb	IAmb	11 50 05.8	
	comp=Z,18nm,1.1s						
MTN	**Manton Dam**	**46.31**	**277**	P	**P**	**11 50 18.5**	**-1.1**
MTN				IAmb	IAmb	11 50 35.4	
	comp=Z,20nm,1.3s						
KNRA	**Kununurra**	**47.36**	**272**	P	**P**	**11 50 26.9**	**-0.6**
KNRA				IAmb	IAmb	11 50 27.9	
	comp=Z,17nm,1.4s						
FITZ	**Fitzroy Crossi**	**49.35**	**268**	P	**P**	**11 50 41.3**	**-0.9**
MORW	**Morawa**	**54.90**	**252**	P	**P**	**11 51 19.8**	**-1.9**
MORW				IAmb	IAmb	11 51 20.5	
	comp=Z,33nm,1.4s						
QSPA	**South Pole Qui**	**64.08**	**180**	P	**P**	**11 52 22.8**	**+0.7**

*TEH **20** 11:45:48.1,32.79N×47.72E,h8km,ML3.3*
*ISN **20** 11:45:49.9±1.1,32.78N×47.78E,h14km±6km,ML3.0*

ISC 20 11:45:49.7±0.9,**32.77N**±0.03×**47.65E**±0.03,**h15**km,**n28,** σ1°**53**/31,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.32**	**254**	*e*Pg	**Pg**	**11 45 55.7**	**-0.7**
DHL1				*e*Sg	**Sg**	**11 46 01.2**	**+0.3**
IKFM	**Kafar-mosalman**	**0.77**	**12**	*e*		11 46 23.5	
IKFM				*e*Pg	**Pg**	**11 46 03.1**	**-1.6**
IKMR	**Kamar-syah**	**0.96**	**39**	*e*		11 46 32.5	
IKMR				*e*Pg	**Pb**	**11 46 06.0**	**-2.1**
IDOB	**Doab**	**1.11**	**23**	*e*Pg	**Pb**	**11 46 09.5**	**-1.1**
BMDN	**Meydan**	**1.33**	**47**	*e*Pg	**Pn**	**11 46 12.6**	**-1.3**
BMDN				*e*		11 46 47.3	
IKOM	**Komasi**	**1.40**	**355**	*e*Pg	**Pn**	**11 46 14.6**	**-0.3**
IKOM				*e*		11 46 43.4	
IBDR	**Badra**	**1.48**	**284**	*e*Pg	**Pg**	**11 46 19.0**	**+0.8**
IBDR				*e*Sg	**Sg**	**11 46 40.0**	**+2.5**
IBDR				AML	AML	11 46 42.1	
	comp=N,195nm,0.5s						
IBDR				AML	AML	11 46 43.0	
	comp=E,207nm,0.7s						
KCHF	**Cheshme Sefid,**	**1.58**	**341**	*e*Pg	**Pb**	**11 46 19.1**	**+0.3**
KCHF				*e*		11 46 47.0	
HSAM	**Samen**	**1.64**	**29**	*e*Pg	**Pb**	**11 46 19.2**	**-0.6**
HSAM				*e*		11 46 50.9	
KER	**Kermanshah**	**1.67**	**345**	*e*Pn	**Pb**	**11 46 19.1**	**-1.0**
AHWZ	**Ahwaz**	**1.67**	**149**	*e*Pg	**Pg**	**11 46 20.7**	**-1.0**
IBZA	**Bozab**	**1.70**	**6**	*e*Pg	**Pg**	**11 46 21.4**	**-1.0**
IBZA				*e*		11 46 54.7	
IGHG	**Ghaleghazi**	**1.80**	**330**	*e*	Sg	11 47 02.7	+15
IVIS	**Veis**	**1.87**	**339**	*e*Pn	**Pb**	**11 46 23.4**	**-0.3**
IVIS				*e*		11 46 54.9	
IALM	**Almabolaq**	**2.13**	**12**	*e*Pn	**Pb**	**11 46 27.3**	**-0.8**
NSR	**Nassriya**	**2.17**	**217**	*e*Pn	**Pb**	**11 46 28.0**	**-0.7**
NSR				*e*Sn	**Sb**	**11 46 55.0**	**-0.5**
IDHR	**Dehrash**	**2.19**	**332**	*e*Pn	**Pb**	**11 46 28.5**	**-0.7**
IDHR				*e*		11 47 13.4	
ILIN	**Lien**	**2.22**	**345**	*e*Pn	**Pb**	**11 46 28.7**	**-0.9**
ILIN				*e*		11 47 08.8	
HAGD	**Aghdareh**	**2.39**	**31**	*e*Pn	**Pn**	**11 46 29.1**	**+0.5**
HAGD				*e*		11 47 14.0	
HSRG	**Sareghieh**	**2.52**	**12**	*e*Pn	**Pb**	**11 46 32.9**	**-1.9**
HSRG				*e*		11 47 18.2	
IPIR	**Pirpir**	**2.73**	**91**	*e*	**Sg**	**11 47 22.6**	**+5.0**
BHD	**Baghdad**	**2.79**	**281**	*e*Pn	**Pb**	**11 46 37.0**	**-2.2**
BHD				*e*Sn	**Sb**	**11 47 13.0**	**-0.2**
IRAZ	**Razeghan**	**3.24**	**35**	*e*Pn	**Pn**	**11 46 40.0**	**-0.1**
QABG	**Abgarm-Qazvin**	**3.34**	**28**	*e*Pn	**Pn**	**11 46 41.9**	**+0.3**
IKLH	**Kolahrood**	**3.35**	**80**	*e*Pn	**Pn**	**11 46 41.8**	**+0.1**
IKLH				*e*		11 47 46.2	
QSDN	**Sirdan**	**3.93**	**18**	*e*Pn	**Pn**	**11 46 51.2**	**+1.5**
QALM	**Alamut, Qazvin**	**4.41**	**33**	*e*Pn	**Pn**	**11 46 58.7**	**+2.4**
IDMV	**Damavand**	**4.59**	**51**	*e*Pn	**Pn**	**11 46 58.7**	**-0.1**

*IDC **20** 11:47:38.6±1.6,26.22N×53.58E,h0km,mb3.9/4, mb1 3.9/5,mb1mx3.5/40,mbtmp3.8/5,ML2.6/1,Error ellipse: s-maj=38.5km s-min=25.2km az=25.0*
ISC 20 11:47:40.4±1.1,**26.2N**±0.2×**53.5E**±0.1,**h10**km,**n6,** σ2°**17**/7, **mb3.9**/4,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**5.47**	**121**	Pn	**Pn**	**11 49 00.8**	**-1.2**
	0.2nm,0.3s,baz=285,slow=20,SNR=2.4						
WSAR				Sn	**Sn**	**11 50 07.2**	**+2.2**
	1.0nm,0.3s,baz=94,slow=8.1,SNR=6.4						
KBZ	**Khabaz**	**19.56**	**336**	P	**Pn**	**11 52 12.7**	**+3.1**
	0.2nm,0.3s,baz=142,slow=10,SNR=7.6						
BRTR	**Keskin Array B**	**21.43**	**314**	P	**P**	**11 52 28.9**	**+0.1**
	2.0nm,0.7s,baz=134,slow=13,SNR=6.5						
ZALV	**Zalesovo Beam**	**36.14**	**31**	P	**P**	**11 54 42.0**	**-0.7**
	1.5nm,0.5s,baz=240,slow=8.3,SNR=4.6						
FINES	**FINESS Array B**	**39.86**	**340**	P	**P**	**11 55 12.3**	**-1.6**
	3.5nm,0.9s,baz=139,slow=11,SNR=2.1						
TORD	**Torodi Ar. Bea**	**50.20**	**265**	P	**P**	**11 56 37.0**	**+0.1**
	1.1nm,1.0s,baz=57,slow=7.7,SNR=4.6						

*IDC **20** 11:52:22.0±1.2,32.38N×47.94E,h0km,mb3.8/10, mb1 3.9/11,mb1mx3.7/40,mbtmp3.8/11,ML3.7/1,Error ellipse: s-maj=31.5km s-min=21.9km az=168.0*
*ISN **20** 11:52:22.5±0.7,32.67N×47.80E,h14km±5km,ML3.2*
*NEIC **20** 11:52:23.4±1.5,32.58N±0.06×47.8E±0.1,h10km±1km, Error ellipse: s-maj=15.2km s-min=8.8km az=285.0*
*TEH **20** 11:52:24.0,32.67N×47.74E,h10km,ML3.7*
*THR **20** 11:52:25.1±0.3,32.67N×47.70E,h14km±5km,ML3.8*
ISC 20 11:52:24.1±1.2,**32.66N**±0.03×**47.74E**±0.03,**h14**km±8km, **n83,**σ1°**60**/92,**mb3.9**/15,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.39**	**273**	*e*Pg	**Pg**	**11 52 31.4**	**-0.6**
DHL1				*e*Sg	**Sb**	**11 52 38.5**	**-0.2**
IKFM	**Kafar-mosalman**	**0.86**	**6**	*e*Pg	**Pg**	**11 52 40.4**	**-0.5**
IKFM				*e*Sg	**Sn**	**11 52 53.9**	**-0.4**
IKFM				*e*		11 53 02.4	
IKFM	**Kafar-mosalman**	**0.86**	**6**	Pg	**Pg**	**11 52 40.4**	**-0.5**
IKMR	**Kamar-syah**	**1.01**	**32**	*e*Pg	**Pg**	**11 52 43.2**	**-0.4**
IKMR				*e*		11 53 03.1	
IKMR	**Kamar-syah**	**1.01**	**32**	Pg	**Pg**	**11 52 43.2**	**-0.4**
IDOB	**Doab**	**1.18**	**18**	*e*Pg	**Pb**	**11 52 46.5**	**+0.1**
IDOB	**Doab**	**1.18**	**18**		**Pn**	**11 52 47.0**	**+0.6**
BMDN	**Meydan**	**1.36**	**42**	*e*Pg	**Pb**	**11 52 49.7**	**+0.3**
BMDN				*e*		11 53 18.8	
BMDN	**Meydan**	**1.36**	**42**		**Pg**	**11 52 50.4**	**+0.1**
IKOM	**Komasi**	**1.52**	**353**	*e*Pg	**Pg**	**11 52 53.0**	**-0.4**
IKOM				*e*		11 52 58.6	
AHWZ	**Ahwaz**	**1.53**	**150**	*e*Pg	**Pg**	**11 52 53.7**	**+0.1**
IBDR	**Badra**	**1.59**	**287**	*e*Pg	**Pn**	**11 52 52.0**	**+0.2**
IBDR				*e*Sg	**Sb**	**11 53 14.0**	**+0.8**
IBDR				AML	AML	11 53 19.1	
	comp=E,360nm,0.5s						
IBDR				AML	AML	11 53 31.1	
	comp=N,310nm,0.7s						
HSAM	**Samen**	**1.71**	**25**	*e*Pg	**Pg**	**11 52 56.5**	**-0.4**
HSAM				*e*		11 52 58.6	
KCHF	**Cheshme Sefid,**	**1.71**	**340**	*e*Pg	**Pg**	**11 52 56.7**	**-0.4**
KCHF				*e*		11 53 22.6	
KER	**Kermanshah**	**1.79**	**344**	*e*Pn	**Pb**	**11 52 57.5**	**+0.7**
IBZA	**Bozab**	**1.81**	**3**	*e*Pg	**Pg**	**11 52 58.1**	**-0.8**
IBZA				*e*		11 53 26.0	
IGHG	**Ghaleghazi**	**1.93**	**330**	*e*Pn	**Pn**	**11 52 57.1**	**+0.8**
IGHG				*e*		11 53 35.2	
IVIS	**Veis**	**2.00**	**338**	*e*		11 53 06.5	
IVIS				*e*Pn	**Pb**	**11 53 01.4**	**+1.0**
NSR	**Nassriya**	**2.14**	**220**	*e*Pn	**Pn**	**11 52 59.0**	**-0.3**
NSR				*e*Sn	**Sn**	**11 53 26.0**	**+0.3**
KHMZ	**Khomeyn**	**2.15**	**59**	*e*Pn	**Pb**	**11 53 03.1**	**+0.2**
KHMZ				*e*Sg	**Sg**	**11 53 33.8**	**+0.6**
KHMZ	**Khomeyn**	**2.15**	**59**	*e*Pn	**Pb**	**11 53 03.1**	**+0.2**
IALM	**Almabolaq**	**2.22**	**9**	*e*Pn	**Pb**	**11 53 03.9**	**-0.3**
JHBN				*e*		11 53 11.5	
IDHR	**Dehrash**	**2.33**	**331**	*e*		11 53 06.6	
IDHR				*e*Pn	**Pn**	**11 53 03.8**	**+1.6**
SNGE	**Sanandaj**	**2.45**	**352**	*e*Pn	**Pb**	**11 53 06.6**	**-1.4**
SNGE				*e*S	**Sb**	**11 53 37.0**	**-1.1**
SNGE	**Sanandaj**	**2.45**	**352**	*e*Pn	**Pb**	**11 53 06.6**	**-1.4**
HAGD	**Aghdareh**	**2.45**	**28**	*e*		11 53 50.6	
HAGD				*e*Pn	**Pb**	**11 53 07.0**	**-1.1**
JHBN	**Jahan bin**	**2.51**	**99**	*e*		11 53 53.9	
JHBN				*e*Pn	**Pn**	**11 53 06.6**	**+1.8**
HSRG	**Sareghieh**	**2.61**	**10**	*e*		11 53 56.7	
HSRG				*e*Pn	**Pb**	**11 53 08.8**	**-2.1**
IPIR	**Pirpir**	**2.66**	**89**	*e*		11 53 56.6	
IPIR				*e*Pn	**Pn**	**11 53 09.1**	**+2.3**
ROKH	**ROKH**	**2.80**	**96**	*e*Pn	**Pn**	**11 53 10.3**	**+1.6**
ROKH				*e*		11 54 01.6	
BHD	**Baghdad**	**2.89**	**283**	*e*Pn	**Pn**	**11 53 11.0**	**+1.3**
BHD				*e*Sn	**Sn**	**11 53 46.0**	**+1.7**
IRAZ	**Razeghan**	**3.28**	**33**	*e*Pn	**Pb**	**11 53 19.3**	**-3.0**
IKLH	**Kolahrood**	**3.29**	**77**	*e*Pn	**Pn**	**11 53 18.4**	**+2.9**
IKLH				*e*		11 54 24.0	
QABG	**Abgarm-Qazvin**	**3.40**	**26**	*e*Pn	**Pn**	**11 53 18.9**	**+1.9**
IGAR	**Gharneh**	**3.64**	**93**	*e*Pn	**Pn**	**11 53 22.1**	**+1.9**
IGAR				*e*		11 53 36.4	
KLNJ	**Kolanjah**	**3.67**	**116**	*e*Pn	**Pn**	**11 53 22.6**	**+1.9**
KLNJ				*e*		11 54 27.9	
IMHD	**Mahdasht**	**3.87**	**38**	*e*Pn	**Pn**	**11 53 26.6**	**+3.3**
IZEF	**Zefreh**	**3.87**	**85**	*e*Pn	**Pn**	**11 53 26.1**	**+2.7**
QSDN	**Sirdan**	**4.01**	**17**	*e*Pn	**Pn**	**11 53 28.4**	**+3.0**
IRAM	**Ramesheh**	**4.02**	**101**	*e*Pn	**Pn**	**11 53 26.8**	**+1.3**
IGZV	**Ghazvin**	**4.24**	**28**	*e*Pn	**Pn**	**11 53 30.7**	**+2.2**
CHTH	**Charan**	**4.28**	**40**	*e*Pn	**Pn**	**11 53 32.4**	**+3.3**
CHTH	**Charan**	**4.28**	**40**	*e*Pn	**Pn**	**11 53 32.4**	**+3.3**
QALM	**Alamut, Qazvin**	**4.46**	**32**	*e*Pn	**Pn**	**11 53 34.7**	**+3.2**
IDMV	**Damavand**	**4.59**	**50**	*e*Pn	**Pn**	**11 53 35.4**	**+2.0**
AHBU	**AHRAM**	**4.87**	**140**	*e*Pn	**Pn**	**11 53 40.4**	**+3.5**
ANAR	**Anarak**	**5.06**	**82**	*e*Pn	**Pn**	**11 53 41.7**	**+2.0**
ISAD	**Sadrabad**	**5.09**	**97**	*e*Pn	**Pn**	**11 53 41.6**	**+1.4**
IPRN	**Peran**	**5.21**	**45**	*e*Pn	**Pn**	**11 53 44.1**	**+2.3**
TKDS	**Koohdasht(Taba**	**7.92**	**81**	*e*Pn	**Pn**	**11 54 20.9**	**+1.9**
UOSS	**Minazif**	**10.68**	**134**	Pn	**Pn**	**11 54 55.1**	**-1.6**
UOSS					**Sn**	**11 56 54.0**	**-2.1**
HRA	**Herat**	**12.22**	**78**	Pn	**Pn**	**11 55 15.3**	**-2.7**
KBL	**Kabul**	**17.84**	**78**	P	**Pn**	**11 56 29.9**	**-2.3**
ABKAR	**Akbulak array**	**18.92**	**25**	P	**P**	**11 56 45.0**	**+0.6**
AKTO	**Aktyubinsk**	**19.32**	**20**	P	**Pn**	**11 56 49.8**	**0.0**
	comp=N,0.2nm,0.3s,baz=210,slow=15,SNR=5.3						
BTK	**Batken**	**19.96**	**62**	P	**P**	**11 56 55.7**	**-0.2**
BTK				IAmb	IAmb	11 57 08.2	
	comp=Z,3.4nm,0.5s						
KK31	**Karatay Array**	**20.71**	**53**	P	**P**	**11 57 04.6**	**+0.6**
KKAR	**Karatay Array**	**20.71**	**53**	P	**P**	**11 57 04.3**	**+0.3**
KKAR	**Karatay Array**	**20.71**	**53**	P	**P**	**11 57 04.5**	**+0.5**
KKAR				IAmb	IAmb	11 57 08.8	
	comp=Z,3.5nm,1.1s						
MLR	**Muntele Rosu**	**21.14**	**314**	P	**P**	**11 57 09.4**	**+0.6**
MLR				IAmb	IAmb	11 57 18.6	
	comp=Z,4.9nm,0.8s						
NIL	**Nilore**	**21.37**	**80**	P	**P**	**11 57 11.2**	**+0.1**
NIL				IAmb	IAmb	11 57 15.8	
	comp=Z,6.0nm,0.7s						
ITM	**Ithomi**	**21.62**	**289**	P	**P**	**11 57 13.0**	**-0.7**
ITM				IAmb	IAmb	11 57 22.3	
	comp=Z,8.5nm,0.9s						
BURAR	**Bucovina Array**	**22.68**	**318**	P	**P**	**11 57 25.4**	**+0.2**
BVAR	**Borovoye Array**	**26.07**	**32**	P	**P**	**11 57 57.3**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=225,slow=9.4,SNR=8.1						
KURBB	**Kurchatov Arra**	**28.88**	**42**	P	**P**	**11 58 23.7**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=248,slow=9.4,SNR=3.7						
MAKZ	**Makanchi**	**29.61**	**51**	P	**P**	**11 58 29.4**	**+0.6**
MAKZ				IAmb	IAmb	11 58 47.0	
	comp=Z,1.7nm,0.6s						
MK31	**Makanchi Array**	**29.82**	**52**	P	**P**	**11 58 31.4**	**+0.8**
MK31				IAmb	IAmb	11 58 35.7	
	comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**29.82**	**52**	P	**P**	**11 58 31.6**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=252,slow=6.3,SNR=8.7						
MKAR	**Makanchi Array**	**29.82**	**52**	P	**P**	**11 58 31.5**	**+0.9**
CLL	**Collm**	**31.44**	**317**	*i* PKPbc	**PcP**	**12 01 35.5**	**-2.4**
	comp=Z,6.0nm,0.7s						
FINES	**FINESS Array B**	**32.04**	**340**	P	**P**	**11 58 53.3**	**+3.3**
	comp=Z,2.6nm,0.9s,baz=148,slow=11,SNR=1.3						
FINES	**FINESS Array B**	**32.04**	**340**	P	**P**	**11 58 50.9**	**+0.9**
BNI	**Bardonecchia**	**33.94**	**303**	P	**P**	**11 59 06.9**	**0.0**
KMBO	**Kilima Mbogo**	**35.04**	**198**	P	**P**	**11 59 16.6**	**-0.3**
KMBO				IAmb	IAmb	11 59 23.8	
	comp=Z,3.8nm,1.3s						
ARCES	**ARCESS Array B**	**38.98**	**348**	P	**P**	**11 59 49.1**	**-0.4**
ARCES				PcP	**PcP**	**12 01 59.0**	**-0.6**
ESDC	**Sonseca Array**	**41.84**	**295**	P	**P**	**12 00 17.3**	**+3.6**
	comp=Z,0.4nm,0.4s,baz=78,slow=8.1,SNR=4.2

	baz=148,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**38.30**	**329**	T	T	12 57 28.6		
	baz=148,slow=76,SNR=11							
H11S1	**WAKE ISLAND Hy**	**38.30**	**329**	T	T	12 57 29.7		
	baz=148,slow=76,SNR=9.0							
H11N3	**WAKE ISLAND Hy**	**39.23**	**330**	T	T	12 58 44.0		
	baz=149							
H11N1	**WAKE ISLAND Hy**	**39.24**	**330**	T	T	12 58 33.9		
	baz=149							
H11N2	**WAKE ISLAND Hy**	**39.25**	**330**	T	T	12 58 32.2		
	baz=149							
WRA	**Warramunga Arr**	**49.71**	**256**	P	**P**	**12 17 46.9**	**+0.7**	
	0.9nm,0.7s,baz=90,slow=7.3,SNR=19							
ASAR	**Alice Springs**	**50.04**	**251**	P	**P**	**12 17 48.9**	**+0.2**	
	2.7nm,0.5s,baz=87,slow=8.0,SNR=40							
NVAR	**Mina Array Bea**	**74.06**	**42**	P	**P**	**12 20 30.7**	**+0.7**	
	0.6nm,0.8s,baz=225,slow=4.8,SNR=4.8							
TXAR	**Lajitas Array**	**80.50**	**56**	LR	LR	12 48 19.8		
	comp=Z,31nm,21.1s,baz=0.0,slow=29							
ILAR	**Eielson Array**	**81.89**	**11**	P	**P**	**12 21 12.9**	**+0.3**	
	0.3nm,0.7s,baz=212,slow=3.2,SNR=2.8							
PDAR	**Pinedale Array**	**81.99**	**42**	P	**P**	**12 21 14.0**	**+0.1**	
	0.1nm,0.4s,baz=242,slow=1.9,SNR=1.9							
GERES	**GERESS Array B**	**145.49**	**351**	PKPbc	**PKPab**	**12 28 31.2**	**-0.8**	
	0.6nm,0.7s,baz=45,slow=2.1,SNR=5.1							
BRTR	**Keskin Array B**	**145.50**	**321**	PKPbc	**PKiKP**	**12 28 34.7**	**-1.4**	
	0.6nm,0.4s,baz=85,slow=8.4,SNR=3.1							

TEH ***20*** *12:30:16.6,32.61N×47.78E,h12km,ML3.0*
ISN ***20*** *12:30:16.0±1.2,32.58N×47.83E,h15km±6km,ML2.8*
ISC 20 12:30:17.8±1.0,32.57N±0.05×47.76E±0.04,h15km,n27,
σ0.93/31,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.42**	**286**	*e*Pg	**Pg**	**12 30 25.1**	**-1.2**
DHL1				*e*Sg	**Sg**	**12 30 32.0**	**-0.1**
IKFM	**Kafar-mosalman**	**0.96**	**4**	*e*Pg	**Pb**	**12 30 34.7**	**-1.4**
IKFM				*e*		12 30 53.3	
IKMR	**Kamar-syah**	**1.08**	**29**	*e*Pg	**Pb**	**12 30 37.4**	**-0.8**
IKMR				*e*		12 30 56.5	
IDOB	**Doab**	**1.27**	**16**	*e*Pg	**Pn**	**12 30 40.3**	**-0.9**
BMDN	**Meydan**	**1.42**	**39**	*e*Pg	**Pn**	**12 30 42.4**	**-0.8**
BMDN				*e*		12 31 09.0	
IKOM	**Komasi**	**1.62**	**353**	*e*Pg	**Pn**	**12 30 45.3**	**-0.7**
IKOM				*e*		12 31 13.3	
IBDR	**Badra**	**1.64**	**290**	*e*Pg	**Pn**	**12 30 46.0**	**-0.1**
IBDR				*e*Sg	**Sb**	**12 31 09.0**	**+0.9**
IBDR				AML	AML	12 31 12.4	
	comp=N,137nm,0.3s						
IBDR				AML	AML	12 31 14.7	
	comp=E,108nm,0.4s						
HSAM	**Samen**	**1.78**	**23**	*e*Pg	**Pn**	**12 30 48.7**	**+0.3**
HSAM				*e*		12 31 22.3	
KCHF	**Cheshme Sefid,**	**1.81**	**341**	*e*Pg	**Pb**	**12 30 49.7**	**-1.0**
KCHF				*e*		12 31 17.5	
KER	**Kermanshah**	**1.89**	**344**	*e*Pn	**Pn**	**12 30 49.8**	**+0.1**
IGHG	**Ghaleghazi**	**2.02**	**331**	*e*Pg	**Pn**	**12 30 52.9**	**+1.3**
IGHG				*e*		12 31 53.4	
NSR	**Nassriya**	**2.08**	**222**	*e*Pn	**Pn**	**12 30 52.0**	**-0.2**
NSR				*e*Sn	**Sn**	**12 31 18.0**	**+0.2**
IVIS	**Veis**	**2.10**	**339**	*e*Pn	**Pn**	**12 30 52.9**	**+0.4**
IVIS				*e*		12 31 27.9	
IALM	**Almabolaq**	**2.31**	**8**	*e*Pn	**Pn**	**12 30 56.0**	**+0.4**
IDHR	**Dehrash**	**2.42**	**332**	*e*Pn	**Pn**	**12 30 57.8**	**+0.8**
IDHR				*e*		12 31 37.1	
JHBN	**Jahan bin**	**2.48**	**97**	*e*Pn	**Pn**	**12 30 58.3**	**+0.3**
JHBN				*e*		12 31 41.8	
HAGD	**Aghdareh**	**2.52**	**27**	*e*Pn	**Pn**	**12 30 59.4**	**+0.9**
HAGD				*e*		12 31 42.5	
IPIR	**Pirpir**	**2.64**	**87**	*e*Pn	**Pn**	**12 31 00.9**	**+0.7**
IPIR				*e*		12 31 44.2	
HSRG	**Sareghieh**	**2.70**	**9**	*e*	**Sg**	**12 31 45.9**	**+1.1**
ROKH	**ROKH**	**2.77**	**94**	*e*Pn	**Pn**	**12 31 02.1**	**+0.1**
BHD	**Baghdad**	**2.93**	**285**	*e*Pn	**Pn**	**12 31 05.0**	**+1.1**
BHD				*e*Sn	**Sn**	**12 31 41.0**	**+2.2**
IKLH	**Kolahrood**	**3.29**	**76**	*e*Pn	**Pn**	**12 31 10.6**	**+1.5**
IRAZ	**Razeghan**	**3.35**	**32**	*e*Pn	**Pn**	**12 31 10.3**	**+0.4**
QABG	**Abgarm-Qazvin**	**3.48**	**25**	*e*Pn	**Pn**	**12 31 11.9**	**+0.3**
KLNJ	**Kolanjah**	**3.61**	**114**	*e*Pn	**Pn**	**12 31 14.0**	**+0.4**
KLNJ				*e*		12 32 23.6	
IZEF	**Zefreh**	**3.86**	**84**	*e*Pn	**Pn**	**12 31 18.0**	**+1.0**
QSDN	**Sirdan**	**4.09**	**16**	*e*Pn	**Pn**	**12 31 21.1**	**+1.0**

IDC ***20*** *12:51:04.5±0.8,21.69N×143.01E,h271km±7km,mb3.7/27,*
mb1 3.8/31,mb1mx3.7/53,mbtmp4.4/31,Error ellipse:
s-maj=13.0km s-min=6.9km az=90.0
NEIC ***20*** *12:51:05.3±1.1,21.64N±0.07×143.0E±0.1,h279km±6km,*
mb4.3/71,Error ellipse: s-maj=14.8km s-min=10.3km
az=88.0
JMA ***20*** *12:51:07.4±0.3,21.82N×143.10E,h309km±2km,M5.1*
ISC 20 12:51:06.3±0.5,21.72N±0.04×142.97E±0.07,h292km±5km,
n146,σ1.9/46/170,mb4.2/59,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**4.95**	**352**	P	**Pn**	**12 52 24.4**	**+1.6**
JHH2				S	**S**	**12 53 24.4**	**+0.2**
CBIJ	**Chichi jima**	**5.40**	**353**	P	**Pn**	**12 52 29.3**	**+1.1**
CBIJ				S	**S**	**12 53 33.5**	**-0.5**
JCJ	**Chichijima**	**5.40**	**353**	P	**Pn**	**12 52 28.8**	**+0.6**
	104nm,0.3s,baz=21,slow=23,SNR=169						
JCJ				S	**S**	**12 53 34.1**	**+0.1**
	100nm,0.3s,baz=263,slow=22,SNR=11						
JCJ	**Chichijima**	**5.40**	**353**		**Pn**	**12 52 28.5**	**+0.3**
JCJ					**S**	**12 53 33.2**	**-0.8**
GUMO	**Guam**	**8.29**	**167**	P	**Pn**	**12 53 02.8**	**-0.7**
	4.8nm,0.3s,baz=22,slow=5.4,SNR=7.4						
GUMO	**Guam**	**8.29**	**167**		**Pn**	**12 53 01.3**	**-2.1**
JHJ2	**Mitsune**	**11.69**	**347**		**P**	**12 53 47.1**	**+0.1**
JHJ	**Hachijo jima 2**	**11.70**	**347**	P	**Pn**	**12 53 44.0**	**-1.3**
	6.3nm,0.3s,baz=237,slow=19,SNR=1.6						
JHJ				S	**S**	**12 55 51.0**	**-4.7**
	7.1nm,0.3s,baz=72,slow=21,SNR=1.5						
BSO1	**Boso 1**	**13.01**	**353**	P	**P**	**12 54 02.0**	**+0.9**
BSO3	**Boso 3**	**13.21**	**351**	P	**P**	**12 54 04.4**	**+0.7**
BSO3				*e*S	**S**	**12 56 26.2**	**-3.2**
BSO4	**Boso 4**	**13.42**	**351**	P	**Pn**	**12 54 07.4**	**+1.4**
JOD2	**Odawara 2**	**13.92**	**347**	P	**Pn**	**12 54 13.3**	**+1.3**
JOD2				S	**S**	**12 56 40.6**	**-4.8**
JNY	**Yasuok**	**14.31**	**343**	P	**Pn**	**12 54 17.4**	**+0.6**
JHU	**Hanno**	**14.45**	**348**	P	**Pn**	**12 54 19.0**	**+0.7**
JHU				S	**S**	**12 56 49.9**	**-6.5**
JYT	**Yasato**	**14.66**	**351**	P	**Pn**	**12 54 22.1**	**+1.3**
JRY	**Ryogami san**	**14.68**	**347**	P	**Pn**	**12 54 21.5**	**+0.3**
JRY				S	**S**	**12 56 56.5**	**-4.8**
JAG	**Ashikaga**	**14.97**	**349**	P	**Pn**	**12 54 24.1**	**-0.4**
JAG				S	**S**	**12 57 00.5**	**-6.5**
JHO	**Hitachi**	**14.99**	**353**	P	**Pn**	**12 54 25.4**	**+0.7**
MJAR	**Matsushiro Arr**	**15.34**	**345**	P	**P**	**12 54 25.7**	**-1.8**
	0.3nm,0.3s,baz=168,slow=10.0,SNR=14						
MJAR				S	**S**	**12 57 12.8**	**-1.7**
	0.1nm,0.3s,baz=292,slow=17,SNR=2.4						
MJAR	**Matsushiro Arr**	**15.34**	**345**	P	**P**	**12 54 27.0**	**-0.5**
MAJO	**Matsushiro**	**15.34**	**345**	P	**Pn**	**12 54 28.2**	**-0.7**
MAJO				IAmb	IAmb	12 54 38.3	
	comp=Z,7.2nm,0.7s						
JNU	**Nakatsue**	**15.61**	**319**	P	**P**	**12 54 30.6**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=84,slow=6.7,SNR=6.5						
JNU	**Nakatsue**	**15.61**	**319**	P	**P**	**12 54 30.9**	**+0.4**
JNU				IAmb	IAmb	12 54 48.7	
	comp=Z,15nm,1.0s						
JHS	**Saijyo**	**15.80**	**329**	P	**Pn**	**12 54 36.0**	**+1.6**
JMK	**Ichinoseki**	**17.24**	**355**	P	**Pn**	**12 54 50.5**	**-0.6**
ERM	**Erimo**	**20.24**	**0**	P	**P**	**12 55 20.3**	**+0.3**
TWG	**Pinlang**	**20.29**	**277**	P	**P**	**12 55 20.8**	**-0.1**
KSRS	**Korea Array**	**20.38**	**324**	P	**P**	**12 55 21.0**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=148,slow=8.6,SNR=17						
KSRS				ScP	**ScP**	**13 02 30.1**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=139,slow=2.8,SNR=9.1						
KSAR	**Wonju Array Be**	**20.39**	**324**	P	**P**	**12 55 22.6**	**+1.0**
KS19	**Wonju Array Si**	**20.44**	**324**	P	**P**	**12 55 23.2**	**+1.0**
TPUB	**Ta-pu**	**20.70**	**279**	P	**P**	**12 55 24.9**	**-0.1**
TPUB				IAmb	IAmb	12 55 35.9	
	comp=Z,17nm,1.2s						
ASAJ	**Asahikawa**	**22.34**	**359**	P	**P**	**12 55 39.9**	**0.0**
	comp=Z,4.2nm,0.5s,baz=150,slow=14,SNR=6.9						
JKA	**Kamikawa-asahi**	**22.34**	**359**	P	**P**	**12 55 39.6**	**-0.2**
JKA				IAmb	IAmb	12 55 43.8	
	comp=Z,8.9nm,1.1s						
JAY	**Jayapura**	**24.19**	**186**	P	**P**	**12 55 55.3**	**-1.7**
	comp=Z,6.4nm,0.9s,baz=349,slow=5.2,SNR=4.0						
USA0B	**Ussuriysk Arra**	**24.19**	**340**	P	**P**	**12 55 56.5**	**-0.1**
USRK	**Ussuriysk Ar.**	**24.19**	**340**	P	**P**	**12 55 56.6**	**0.0**
	comp=Z,1.3nm,0.5s,baz=148,slow=8.5,SNR=4.2						
FAKI	**Fak Fak**	**26.64**	**204**	P	**P**	**12 56 18.9**	**0.0**
MYLDM	**Lahad Datu**	**28.84**	**239**	P	**P**	**12 56 37.6**	**-0.8**
KLR	**Kul'dur**	**28.87**	**345**	P	**P**	**12 56 39.5**	**+1.3**
	comp=Z,16nm,0.5s,baz=152,slow=7.6,SNR=74						
LUWI	**Luwuk**	**30.01**	**224**	P	**P**	**12 56 48.5**	**-0.2**
KKM	**Kota Kinabalu**	**30.20**	**243**	P	**P**	**12 56 50.0**	**-0.5**
KKM				IAmb	IAmb	12 56 52.8	
	comp=Z,7.1nm,0.8s						
HHC	**Hu-ho-hao-te**	**32.67**	**313**	*e*P	**P**	**12 57 13.6**	**+1.8**
HHC				pmax	pmax		
	comp=Z,39nm,0.8s						
HHC				pmax	pmax		
	comp=Z,59nm,7.4s						
PETK	**Petropavlovsk-**	**33.31**	**16**	P	**P**	**12 57 15.1**	**-1.9**
	comp=Z,1.2nm,0.7s,baz=199,slow=3.1,SNR=6.1						
PETK	**Petropavlovsk-**	**33.31**	**16**	P	**P**	**12 57 17.2**	**+0.2**
COEN	**Coen**	**35.45**	**180**	P	**P**	**12 57 35.4**	**-0.3**
COEN				IAmb	IAmb	12 57 36.7	
	comp=Z,15nm,0.9s						
MTN	**Manton Dam**	**36.26**	**200**	P	**P**	**12 57 41.9**	**-0.6**
MTN				IAmb	IAmb	12 57 59.4	
	comp=Z,14nm,1.3s						
SOEI	**Soe**	**36.27**	**212**	P	**P**	**12 57 42.5**	**-0.2**
KNRA	**Kununurra**	**39.69**	**202**	P	**P**	**12 58 10.7**	**-0.2**
KNRA				IAmb	IAmb	12 58 11.5	
	comp=Z,12nm,0.7s						
YAK	**Yakutsk**	**41.31**	**351**	P	**P**	**12 58 23.6**	**+0.1**
	comp=Z,6.8nm,0.4s,baz=20,slow=0.3,SNR=7.8						
YAK	**Yakutsk**	**41.31**	**351**	P	**P**	**12 58 24.4**	**+0.8**
YAK				IAmb	IAmb	12 58 24.7	
	comp=Z,17nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.37**	**274**	P	**P**	**12 58 24.0**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=74,slow=6.6,SNR=7.0						
CMAR	**Chiang Mai Arr**	**41.37**	**274**	P	**P**	**12 58 24.7**	**-0.1**
CTA	**Charters Tower**	**41.68**	**175**	P	**P**	**12 58 26.8**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=349,slow=12,SNR=5.8						
CTAO	**Charters Tower**	**41.68**	**175**	P	**P**	**12 58 26.1**	**-0.9**
SEY	**Seymchan**	**41.69**	**6**	P	**P**	**12 58 26.3**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=160,slow=5.9,SNR=5.3						
WB0	**Warramunga Arr**	**42.08**	**192**	P	**P**	**12 58 29.4**	**-0.8**
WB0				IAmb	IAmb	12 58 30.8	
	comp=Z,17nm,1.1s						
WR0	**Warramunga Arr**	**42.23**	**192**	P	**P**	**12 58 31.6**	**0.0**
WR0				IAmb	IAmb	12 58 32.2	
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**42.25**	**192**	P	**P**	**12 58 31.6**	**0.0**
WRAB				IAmb	IAmb	12 58 32.2	
	comp=Z,16nm,0.7s						
WB2	**Warramunga Arr**	**42.26**	**192**	P	**P**	**12 58 31.7**	**0.0**
WB2				IAmb	IAmb	12 58 32.3	
	comp=Z,20nm,0.9s						
WRA	**Warramunga Arr**	**42.26**	**192**	P	**P**	**12 58 31.4**	**-0.3**
	comp=Z,12nm,0.7s,baz=17,slow=9.1,SNR=238						
WRA				PcP	**PcP**	**13 00 20.5**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=10,slow=3.4,SNR=3.2						
WRA				ScP	**ScP**	**13 03 44.2**	**+2.2**
	comp=Z,0.5nm,0.9s,baz=8.7,slow=4.1,SNR=4.6						
WRA	**Warramunga Arr**	**42.26**	**192**	P	**P**	**12 58 31.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**43.06**	**205**	P	**P**	**12 58 38.1**	**0.0**
	comp=Z,7.0nm,0.7s,baz=23,slow=9.2,SNR=29						
KULM	**Kulim**	**44.08**	**255**	P	**P**	**12 58 47.4**	**+1.0**
KULM				IAmb	IAmb	12 58 49.1	
	comp=Z,11nm,0.7s						
ATKA	**Atka Island**	**44.80**	**36**	P	**P**	**12 58 50.9**	**-0.6**
ATKA				IAmb	IAmb	12 58 56.7	
	comp=Z,23nm,0.8s						
JOHN	**Johnston Islan**	**44.99**	**88**	P	**P**	**12 58 52.0**	**-1.5**
JOHN				PcP	**sP**	**13 00 30.6**	**+5.6**
CISI	**Cisompet, Garu**	**45.11**	**234**	P	**P**	**12 58 53.8**	**-0.8**
AS31	**Alice Springs**	**45.97**	**192**	P	**P**	**12 59 00.4**	**-0.5**
ASAR	**Alice Springs**	**45.97**	**192**	P	**P**	**12 59 00.6**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=16,slow=11,SNR=58						
ASAR				PcP	**PcP**	**13 00 33.4**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=18,slow=3.2,SNR=2.7						
ASAR	**Alice Springs**	**45.97**	**192**	P	**P**	**12 59 00.4**	**-0.6**
ASAR				PcP	**PcP**	**13 00 31.4**	**-1.1**
PSA00	**Pilbara Seismi**	**48.59**	**209**	P	**P**	**12 59 20.9**	**-0.2**
PSA00				PcP	**PcP**	**13 00 40.9**	**-0.9**
GSI	**Gunungsitoli**	**48.61**	**252**	P	**P**	**12 59 22.4**	**+1.0**
GSI				IAmb	IAmb	12 59 23.2	
	comp=Z,16nm,0.7s						
UNV	**Unalaska Valle**	**49.71**	**37**	P	**P**	**12 59 29.5**	**+0.4**
UNV				IAmb	IAmb	12 59 34.1	
	comp=Z,12nm,1.0s						
AKUT	**Akutan**	**50.22**	**37**	P	**P**	**12 59 33.5**	**+0.7**
WMQ	**Urumqi**	**50.41**	**309**	*e*P	**P**	**12 59 37.6**	**+3.0**
WMQ				pP	pP	13 00 37.6	+2.3
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.3s						
WMQ				LR	LR		
	comp=N,56nm,6.9s						
WMQ				LR	LR		
	comp=E,5.0nm,8.5s						
WMQ				LR	LR		
	comp=Z,20nm,11.9s						
FALS	**False Pass**	**51.75**	**36**	P	**P**	**12 59 44.9**	**+0.7**
GIRL	**Giralia**	**52.23**	**214**	P	**P**	**12 59 49.3**	**+1.2**
GIRL				pP	**pP**	**13 00 46.5**	**-2.5**
STKA	**Stephens Creek**	**53.31**	**181**	P	**P**	**12 59 55.1**	**-0.7**
	comp=Z,6.0nm,0.6s,baz=353,slow=8.1,SNR=18						
STKA	**Stephens Creek**	**53.31**	**181**	P	**P**	**12 59 55.7**	**-0.1**
SDPT	**Sand Point**	**53.51**	**36**	P	**P**	**12 59 58.0**	**+0.9**
CNBA	**Chernabura Isl**	**53.87**	**37**	P	**P**	**13 00 00.5**	**+0.9**
CNBA				IAmb	IAmb	13 00 01.1	
	comp=Z,11nm,1.0s						
ZALV	**Zalesovo Beam**	**54.07**	**322**	P	**P**	**13 00 02.0**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=116,slow=6.8,SNR=5.5						
FORT	**Forrest**	**54.13**	**196**	P	**P**	**13 00 01.9**	**+0.2**
MK31	**Makanchi Array**	**54.53**	**313**	P	**P**	**13 00 05.9**	**+1.2**
MKAR	**Makanchi Array**	**54.53**	**313**	P	**P**	**13 00 06.1**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=90,slow=8.6,SNR=8.5						
MKAR				pP	**PcP**	**13 01 04.6**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=77,slow=5.8,SNR=3.0						
MKAR	**Makanchi Array**	**54.53**	**313**	P	**P**	**13 00 06.3**	**+1.7**
MKAR					**PcP**	**13 01 04.8**	**+0.9**
MORW	**Morawa**	**56.77**	**208**	P	**P**	**13 00 20.3**	**-0.3**
MORW				IAmb	IAmb	13 00 38.0	
	comp=Z,18nm,1.4s						
POHA	**Pohakuloa**	**57.21**	**80**	P	**P**	**13 00 24.0**	**-0.2**
MLOA	**Mauna Loa Obse**	**57.23**	**80**	P	**P**	**13 00 24.3**	**-0.2**
SII	**Sitkinak Islan**	**57.23**	**36**	P	**P**	**13 00 25.1**	**+1.7**
SII				IAmb	IAmb	13 00 25.3	
	comp=Z,11nm,0.6s						
KURBB	**Kurchatov Arra**	**57.37**	**317**	P	**P**	**13 00 25.5**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=96,slow=7.6,SNR=7.3						
SVW2	**Sparrevohn**	**57.49**	**30**	P	**P**	**13 00 27.1**	**+1.9**
SVW2				IAmb	IAmb	13 00 27.6	
	comp=Z,5.1nm,0.7s						
OHAK	**Old Harbor**	**57.83**	**35**	P	**P**	**13 00 28.4**	**+0.9**
NRIK	**Noril'sk**	**57.91**	**340**	P	**P**	**13 00 28.9**	**+1.1**
	comp=Z,1.1nm,0.4s,baz=128,slow=11,SNR=3.8						
KDAK	**Kodiak Island**	**58.30**	**35**	P	**P**	**13 00 31.3**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=257,slow=5.7,SNR=11						
KDAK	**Kodiak Island**	**58.30**	**35**	P	**P**	**13 00 31.8**	**+1.1**
KDAK				IAmb	IAmb	13 00 38.5	
	comp=Z,8.0nm,1.4s						
CNPM	**China Point**	**59.28**	**33**	P	**P**	**13 00 38.2**	**+0.7**
CNPM				IAmb	IAmb	13 00 38.4	
	comp=Z,8.2nm,0.8s						
PPLA	**Purkeypile**	**59.46**	**29**	P	**P**	**13 00 40.3**	**+1.5**
PPLA				IAmb	IAmb	13 00 41.4	
	comp=Z,11nm,1.4s						
IMAR	**Indian Mountai**	**59.55**	**25**	P	**P**	**13 00 40.8**	**+1.6**
SKT	**Skwentna**	**59.58**	**30**	P	**P**	**13 00 40.0**	**+0.5**
SUA	**Susitna One**	**59.85**	**31**	P	**P**	**13 00 42.2**	**+0.8**
BPAW	**Bear Paw Mtn.**	**60.24**	**28**	P	**P**	**13 00 45.5**	**+1.5**
BPAW				IAmb	IAmb	13 00 46.0	
	comp=Z,6.8nm,1.0s						
SEW	**Seward**	**60.26**	**32**	P	**P**	**13 00 44.9**	**+0.9**
SEW				IAmb	IAmb	13 00 45.4	
	comp=Z,6.8nm,0.9s						
TRF	**Thorofare Moun**	**60.42**	**28**	P	**P**	**13 00 45.8**	**+0.5**
TRF				IAmb	IAmb	13 00 46.7	
	comp=Z,6.0nm,0.9s						
PMR	**Palmer**	**60.63**	**31**	P	**P**	**13 00 47.0**	**+0.4**
PMR				IAmb	IAmb	13 00 47.5	
	comp=Z,5.5nm,0.9s						
GHO	**Glory Hole Cre**	**60.76**	**30**	P	**P**	**13 00 48.0**	**+0.5**
GHO				IAmb	IAmb	13 00 48.7	
	comp=Z,5.0nm,0.7s						
SML	**Sawmill**	**61.04**	**30**	P	**P**	**13 00 50.9**	**+1.5**
SML				IAmb	IAmb	13 00 51.3	
	comp=Z,9.7nm,0.9s						
GLI	**Glacier Island**	**61.52**	**32**	P	**P**	**13 00 53.3**	**+0.8**
SCM	**Sheep Creek Mo**	**61.52**	**30**	P	**P**	**13 00 54.0**	**+1.4**
SCM				IAmb	IAmb	13 00 54.8	
	comp=Z,6.0nm,1.0s						
WRH	**Wood River Hil**	**61.55**	**27**	P	**P**	**13 00 53.1**	**+0.5**
FID	**Port Fidalgo**	**61.80**	**32**	P	**P**	**13 00 54.4**	**0.0**
FID				IAmb	IAmb	13 00 55.8	
	comp=Z,5.2nm,0.8s						
IL31		**62.11**	**27**	P	**P**	**13 00 56.6**	**+0.3**
ILAR	**Eielson Array**	**62.11**	**27**	P	**P**	**13 00 56.0**	**-0.4**
	comp=Z,3.3nm,0.9s,baz=259,slow=5.4,SNR=27						
ILAR				pP	**pP**	**13 01 56.4**	**-2.9**
	comp=Z,0.3nm,0.6s,baz=254,slow=4.2,SNR=3.2						
ILAR	**Eielson Array**	**62.11**	**27**	P	**P**	**13 00 56.3**	**-0.1**
KLU	**Klutina**	**62.15**	**31**	P	**P**	**13 00 58.0**	**+1.2**
KLU				IAmb	IAmb	13 00 58.5	
	comp=Z,7.5nm,1.3s						
RIDG	**Independent Ri**	**62.87**	**28**	P	**P**	**13 01 02.0**	**+0.6**
RIDG				IAmb	IAmb	13 01 02.4	
	comp=Z,4.0nm,0.7s						
DOT	**Dot Lake**	**63.21**	**29**	P	**P**	**13 01 04.5**	**+0.8**
BMAR	**Burnt Mountain**	**63.41**	**24**	P	**P**	**13 01 06.6**	**+1.7**
BCAR	**Beaver Creek A**	**64.19**	**29**	P	**P**	**13 01 10.4**	**+0.4**
INK	**Inuvik**	**67.63**	**24**	P	**P**	**13 01 31.9**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=289,slow=5.6,SNR=7.5						
INK	**Inuvik**	**67.63**	**24**	P	**P**	**13 01 32.3**	**+0.6**
BKZ	**Black Stump Fm**	**68.21**	**152**	P	**P**	**13 01 35.7**	**0.0**
ABKAR	**Akbulak array**	**69.39**	**316**	P	**P**	**13 01 43.9**	**+1.0**
PLWZ	**Palliser**	**69.72**	**155**	P	**P**	**13 01 45.0**	**+0.1**
C36M	**Paulatuk**	**70.92**	**22**	P	**P**	**13 01 52.6**	**+0.9**
EUNU	**Eureka**	**75.10**	**8**	P	**P**	**13 02 17.1**	**+1.0**
EUNU				IAmb	IAmb	13 02 27.6	
	comp=Z,14nm,1.3s						
EUNU				PcP	**PcP**	**13 02 27.9**	**-0.3**
YKA	**Yellowknife Ar**	**76.53**	**28**	P	**P**	**13 02 24.6**	**+0.4**
	comp=Z,3.8nm,0.7s,baz=293,slow=5.7,SNR=11						
YKA				pP	**pP**	**13 03 28.5**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=204,slow=9.2,SNR=3.0						
ARCES	**ARCESS Array B**	**78.84**	**341**	P	**P**	**13 02 38.1**	**+1.3**
	comp=Z,5.3nm,0.6s,baz=73,slow=8.6,SNR=19						
ARCES	**ARCESS Array B**	**78.84**	**341**	P	**P**	**13 02 38.3**	**+1.4**
ARE0	**ARCESS Array S**	**78.84**	**341**	P	**P**	**13 02 38.4**	**+1.5**
KBZ	**Khabaz**	**82.21**	**314**	P	**P**	**13 02 55.8**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=51,slow=2.8,SNR=4.6						
FINES	**FINESS Array B**	**83.07**	**334**	P	**P**	**13 02 59.1**	**-0.1**
	comp=Z,3.2nm,0.5s,baz=81,slow=4.8,SNR=17						
FINES	**FINESS Array B**	**83.07**	**334**	P	**P**	**13 02 59.4**	**+0.2**
KVN	**Kaiserville**	**83.20**	**51**	P	**P**	**13 03 01.8**	**+1.2**
NVAR	**Mina Array Bea**	**83.29**	**51**	P	**P**	**13 03 02.1**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=271,slow=5.5,SNR=20						
NVAR	**Mina Array Bea**	**83.29**	**51**	P	**P**	**13 03 01.9**	**+0.8**
AKASG	**Malin Array Be**	**87.37**	**324**	P	**P**	**13 03 18.9**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=52,slow=4.8,SNR=3.1						
PDAR	**Pinedale Array**	**87.52**	**45**	P	**P**	**13 03 22.5**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=349,slow

CHOS	**Chios island**	**0.35**	**34**	P	**Pg**	**13 10 28.5**	**+0.1**
CHOS				S	**Sg**	**13 10 33.5**	**+0.1**
CHOS				AML	AML	13 10 33.7	
	comp=N,4887μm,0.7s						
CHOS				AML	AML	13 10 34.5	
	comp=E,5242μm,0.4s						
CHOS	**Chios island**	**0.35**	**34**	PG	**Pg**	**13 10 28.6**	**+0.1**
CHOS				SG	**Sg**	**13 10 33.3**	**-0.1**
PSRA	**Psara**	**0.49**	**337**	P	**Pg**	**13 10 31.0**	**+0.1**
PSRA				S	**Sg**	**13 10 37.7**	**+0.2**
PSRA				AML	AML	13 10 38.8	
	comp=E,5207μm,0.3s						
PSRA				AML	AML	13 10 38.9	
	comp=N,3356μm,0.3s						
URLA	**Izmir**	**0.67**	**67**	PG	**Pb**	**13 10 33.9**	**-1.0**
URLA				SG	**Sg**	**13 10 44.2**	**+0.8**
URLA	**Izmir**	**0.67**	**67**	*i* P	**Pb**	**13 10 34.1**	**-0.8**
URLA				*i* S	**Sg**	**13 10 43.9**	**+0.5**
URLA				IAML		13 10 46.0	
	comp=N,459nm,0.5s						
TNSA	**Tinos**	**0.75**	**223**	P	**Pb**	**13 10 35.9**	**-0.4**
TNSA				S	**Sb**	**13 10 47.0**	**+0.6**
TNSA				AML	AML	13 10 48.7	
	comp=E,1491μm,0.3s						
TNSA				AML	AML	13 10 48.8	
	comp=N,1384μm,0.3s						
KRBN	**Karaburun**	**0.77**	**49**	PG	**Pb**	**13 10 36.2**	**-0.3**
DGB	**zmir**	**0.85**	**93**	*i* P	**Pb**	**13 10 37.0**	**-0.9**
DGB				IAML		13 10 49.0	
	comp=N,184nm,0.6s						
DGB				*i* S	**Sb**	**13 10 49.0**	**-0.1**
SMG	**Samos**	**0.90**	**115**	P	**Pb**	**13 10 38.9**	**+0.1**
SMG	**Samos**	**0.90**	**115**	P	**Pb**	**13 10 38.1**	**-0.7**
SMG				S	**Sb**	**13 10 50.5**	**-0.1**
SMG				AML	AML	13 10 51.7	
	comp=N,2307μm,0.5s						
SMG				AML	AML	13 10 51.8	
	comp=E,1473μm,0.4s						
BLCB	**Balcova**	**1.01**	**73**	P	**Pb**	**13 10 40.6**	**-0.1**
BLCB				S	**Sn**	**13 10 55.5**	**+0.3**
BLCB	**Balcova**	**1.01**	**73**	PG	**Pb**	**13 10 40.4**	**-0.3**
BLCB				SG	**Sb**	**13 10 54.3**	**+0.4**
APE	**Apeiranthos**	**1.05**	**192**	P	**Pb**	**13 10 41.2**	**-0.1**
APE				S	**Sn**	**13 10 56.3**	**+0.1**
	comp=E,192nm,0.5s						
APE	**Apeiranthos**	**1.05**	**192**	P	**Pb**	**13 10 40.6**	**-0.7**
APE				S	**Sb**	**13 10 55.7**	**+0.7**
APE	**Apeiranthos**	**1.05**	**192**	PN	**Pb**	**13 10 41.3**	**-0.1**
APE				SN	**Sn**	**13 10 56.2**	**+0.1**
KARY	**Karystos**	**1.08**	**267**	P	**Pb**	**13 10 41.1**	**-0.8**
KARY	**Karystos**	**1.08**	**267**	P	**Pb**	**13 10 41.9**	**0.0**
KARY				S	**Sn**	**13 10 57.4**	**+0.4**
SIGR	**SIGRI**	**1.11**	**2**	P	**Pn**	**13 10 41.5**	**-1.0**
SIGR				S	**Sb**	**13 10 57.3**	**+0.5**
	comp=E,192nm,0.7s						
SIGR	**SIGRI**	**1.11**	**2**	P	**Pn**	**13 10 41.6**	**-1.0**
SIGR				S	**Sb**	**13 10 56.5**	**-0.3**
SIGR				AML	AML	13 11 00.6	
	comp=N,357μm,0.2s						
SIGR				AML	AML	13 11 05.0	
	comp=E,414μm,0.8s						
SIGR	**SIGRI**	**1.11**	**2**	PN	**Pn**	**13 10 41.6**	**-1.0**
GCAM	**G?zelcaml?**	**1.19**	**109**	PN	**Pn**	**13 10 43.0**	**-0.6**
GCAM	**G?zelcaml?**	**1.19**	**109**	*i* P	**Pn**	**13 10 43.6**	**0.0**
GCAM				*i* S	**Sb**	**13 10 57.3**	**-1.8**
GCAM				IAML		13 11 01.0	
	comp=N,157nm,0.8s						
PRK	**Paraskevi**	**1.21**	**17**	P	**Pn**	**13 10 43.4**	**-0.4**
PRK				S	**Sb**	**13 10 59.5**	**+0.1**
	comp=N,378nm,0.4s						
PRK	**Paraskevi**	**1.21**	**17**	P	**Pn**	**13 10 43.8**	**0.0**
PRK				S	**Sb**	**13 10 59.5**	**+0.1**
PRK				AML	AML	13 11 03.8	
	comp=E,982μm,0.4s						
PRK				AML	AML	13 11 06.7	
	comp=N,519μm,0.4s						
AMGA	**Amorgos Island**	**1.26**	**177**	P	**Pn**	**13 10 44.2**	**-0.4**
AMGA	**Amorgos Island**	**1.26**	**177**	P	**Pn**	**13 10 44.0**	**-0.6**
DKL	**Dikili**	**1.30**	**41**	PN	**Pn**	**13 10 44.6**	**-0.5**
ZEDA	**zmir-Bergama**	**1.32**	**48**	*i* P	**Pn**	**13 10 46.0**	**+0.6**
ZEDA				*i* S	**Sn**	**13 11 02.6**	**-0.3**
ZEDA				IAML		13 11 09.0	
	comp=N,132nm,1.0s						
ZEDA				IAML		13 11 09.0	
	comp=E,118nm,0.8s						
AYVA	**Ayvalik**	**1.39**	**29**	*i* P	**Pn**	**13 10 47.0**	**+0.5**
AYVA				*i* S	**Sn**	**13 11 04.5**	**-0.1**
AYVA				IAML		13 11 09.0	
	comp=N,93nm,0.5s						
AYVA				IAML		13 11 10.0	
	comp=E,136nm,0.8s						
IOSP	**Ios island**	**1.43**	**197**	P	**Pn**	**13 10 46.5**	**-0.4**
IOSP	**Ios island**	**1.43**	**197**	P	**Pn**	**13 10 46.7**	**-0.2**
IOSP				S	**Sb**	**13 11 07.1**	**+1.2**
IOSP				AML	AML	13 11 10.9	
	comp=N,641μm,0.3s						
IOSP				AML	AML	13 11 13.4	
	comp=E,609μm,0.7s						
KYMI	**Kymi, Euboea I**	**1.45**	**292**	P	**Pn**	**13 10 46.8**	**-0.3**
DION	**Dionisos Attik**	**1.48**	**270**	P	**Pn**	**13 10 47.6**	**0.0**
VLY	**Voula,Athens**	**1.61**	**262**	P	**Pn**	**13 10 49.4**	**0.0**
BAYC	**CANAKKALE_Bayr**	**1.74**	**19**	*i* P	**Pn**	**13 10 50.5**	**-0.7**
BAYC				*i* S	**Sg**	**13 11 17.6**	**+0.2**
BOZC	**Bozcaada**	**1.75**	**6**	PN	**Pn**	**13 10 50.2**	**-1.2**
BOZC	**Bozcaada**	**1.75**	**6**	*i* P	**Pb**	**13 10 53.2**	**-0.1**
BOZC				*i* S	**Sb**	**13 11 16.2**	**+0.9**
EZN	**Ezine**	**1.77**	**13**	PN	**Pn**	**13 10 50.8**	**-0.8**
AOS	**Alonnisos**	**1.85**	**306**	PN	**Pn**	**13 10 51.8**	**-0.9**
LIA	**Limnos Island**	**1.86**	**345**	P	**Pn**	**13 10 52.4**	**-0.5**
LIA	**Limnos Island**	**1.86**	**345**	P	**Pn**	**13 10 52.4**	**-0.5**
STEP	**BALIKESIR_Sava**	**1.97**	**49**	*i* P	**Pb**	**13 10 58.4**	**+1.5**
STEP				*i* S	**Sg**	**13 11 24.2**	**-0.4**
STEP				IAML		13 11 28.0	
	comp=N,92nm,0.5s						
STEP				IAML		13 11 32.0	
	comp=E,94nm,1.0s						
VIL2	**Platees**	**2.01**	**274**	P	**Pn**	**13 10 54.4**	**-0.4**
GADA	**Gvkgeada**	**2.09**	**2**	PN	**Pn**	**13 10 54.9**	**-1.1**
BALY	**Balya**	**2.17**	**40**	*i* P	**Pg**	**13 11 03.1**	**+0.2**
BALY				*i* S	**Sb**	**13 11 29.0**	**+1.8**
MANT	**Manisa**	**2.20**	**79**	*i* P	**Pb**	**13 11 02.5**	**+1.4**
MANT				*i* S	**Sg**	**13 11 32.1**	**+0.1**
KULA	**Kula-Manisa**	**2.28**	**79**	PN	**Pn**	**13 10 58.4**	**-0.3**

*ISN **20** 13:13:01.4±1.4,32°.63N×47°.73E,h15$^{km}_{\pm}$7^{km}, ML3.7*
*TEH **20** 13:13:02.2,32°.69N×47°.71E,h9^{km}, ML3.8*
*THR **20** 13:13:02.5±0.4,32°.67N×47°.67E,h14$^{km}_{\pm}$6^{km}, ML3.9*
ISC 20 13:13:02.2±1.5,**32°.63N**±0°.04×**47°.68E**±0°.03,**h4**$^{km}_{\pm}$13^{km},
n50,σ0°**95/56,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.34**	**278**	*e*Sg	**Sb**	**13 13 15.6**	**-1.0**
DHL1				*e*Pg	**Pg**	**13 13 09.5**	**+0.8**
IKFM	**Kafar-mosalman**	**0.90**	**9**	*e*Pg	**Pg**	**13 13 18.4**	**-1.1**
IKFM				*e*		13 13 34.6	
IKMR	**Kamar-syah**	**1.06**	**34**	*e*Pg	**Pb**	**13 13 21.5**	**-1.6**
IKMR				*e*		13 13 43.0	
IDOB	**Doab**	**1.22**	**20**	*e*Pg	**Pn**	**13 13 25.2**	**-1.1**
BMDN	**Meydan**	**1.41**	**43**	*e*Pg	**Pn**	**13 13 28.5**	**-0.4**
BMDN				*e*		13 13 52.0	
AHWZ	**Ahwaz**	**1.54**	**147**	*e*Pg	**Pg**	**13 13 32.2**	**+0.5**
IKOM	**Komasi**	**1.54**	**355**	*e*Pg	**Pn**	**13 13 31.2**	**+0.5**
IKOM				*e*		13 13 32.4	
IBDR	**Badra**	**1.55**	**288**	*e*Pg	**Pb**	**13 13 31.0**	**-0.4**
IBDR				*e*Sg	**Sb**	**13 13 51.0**	**-0.3**
IBDR				AML	AML	13 13 58.1	
	comp=N,741nm,0.6s						
IBDR				AML	AML	13 13 59.8	
	comp=E,660nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.72**	**342**	*e*Pg	**Pn**	**13 13 33.7**	**+0.5**
KCHF				*e*		13 14 00.4	
HSAM	**Samen**	**1.75**	**26**	*e*Pg	**Pn**	**13 13 34.7**	**+1.0**
HSAM				*e*		13 13 36.7	
KER	**Kermanshah**	**1.81**	**346**	*e*Pg	**Pn**	**13 13 35.0**	**+0.7**
IBZA	**Bozab**	**1.84**	**5**	*e*Pg	**Pn**	**13 13 35.9**	**+1.1**
IBZA				*e*		13 13 39.5	
IGHG	**Ghaleghazi**	**1.93**	**332**	*e*Pg	**Pb**	**13 13 37.9**	**-0.2**
IGHG				*e*		13 14 10.4	
IVIS	**Veis**	**2.01**	**340**	*e*Pn	**Pn**	**13 13 37.6**	**+0.5**
IVIS				*e*		13 14 17.2	
NSR	**Nassriya**	**2.08**	**219**	*e*Pn	**Pn**	**13 13 37.0**	**-0.9**
NSR				*e*Sn	**Sn**	**13 14 03.0**	**-1.3**
NSR				AML	AML	13 14 23.6	
	comp=E,958nm,0.5s						
KHMZ	**Khomeyn**	**2.21**	**59**	*e*Pn	**Pn**	**13 13 41.0**	**+1.1**
KHMZ				*e*Sg	**Sb**	**13 14 11.8**	**+1.1**
KHMZ	**Khomeyn**	**2.21**	**59**	*e*Pn	**Pn**	**13 13 41.0**	**+1.1**
IALM	**Almabolaq**	**2.26**	**10**	*e*Pn	**Pn**	**13 13 41.9**	**+1.3**
IDHR	**Dehrash**	**2.33**	**333**	*e*Pn	**Pn**	**13 13 42.2**	**+0.7**
IDHR				*e*		13 14 22.8	
ILIN	**Lien**	**2.35**	**346**	*e*Pn	**Pn**	**13 13 42.8**	**+0.9**
ILIN				*e*		13 14 25.2	
SNGE	**Sanandaj**	**2.47**	**354**	*e*Pn	**Pn**	**13 13 43.9**	**+0.5**
SNGE				*e*S	**Sn**	**13 14 14.2**	**0.0**
SNGE	**Sanandaj**	**2.47**	**354**	*e*Pn	**Pn**	**13 13 43.9**	**+0.5**
HAGD	**Aghdareh**	**2.50**	**29**	*e*Pn	**Pn**	**13 13 45.0**	**+1.1**
HAGD				*e*		13 14 24.3	
JHBN	**Jahan bin**	**2.56**	**98**	*e*Pn	**Pn**	**13 13 45.6**	**+0.8**
JHBN				*e*		13 14 34.1	
IPIR	**Pirpir**	**2.71**	**88**	*e*Pn	**Pn**	**13 13 47.8**	**+0.9**
IPIR				*e*		13 14 40.5	
BHD	**Baghdad**	**2.84**	**284**	*e*Pn	**Pn**	**13 13 48.0**	**-0.4**
BHD				*e*Sn	**Sn**	**13 14 24.0**	**+0.9**
BHD				AML	AML	13 14 53.5	
	comp=E,626nm,0.6s						
ROKH	**ROKH**	**2.85**	**95**	*e*Pn	**Pn**	**13 13 49.3**	**+0.6**
ROKH				*e*		13 13 58.0	
IRAZ	**Razeghan**	**3.34**	**33**	*e*Pn	**Pn**	**13 13 57.2**	**+1.8**
IKLH	**Kolahrood**	**3.35**	**77**	*e*Pn	**Pn**	**13 13 56.9**	**+1.3**
IKLH				*e*		13 14 55.6	
QABG	**Abgarm-Qazvin**	**3.45**	**27**	*e*Pn	**Pn**	**13 13 57.8**	**+0.8**
IGAR	**Gharneh**	**3.69**	**92**	*e*Pn	**Pn**	**13 14 00.7**	**+0.4**
IGAR				*e*		13 14 12.2	
KLNJ	**Kolanjah**	**3.71**	**115**	*e*Pn	**Pn**	**13 14 01.4**	**+0.8**
KLNJ				*e*		13 14 23.7	
IZEF	**Zefreh**	**3.93**	**85**	*e*Pn	**Pn**	**13 14 04.5**	**+0.9**
QSDN	**Sirdan**	**4.05**	**17**	*e*Pn	**Pn**	**13 14 06.5**	**+1.2**
IRAM	**Ramesheh**	**4.07**	**100**	*e*Pn	**Pn**	**13 14 05.2**	**-0.3**
CHTH	**Charan**	**4.34**	**40**	*e*Pn	**Pn**	**13 14 09.9**	**+0.7**
CHTH	**Charan**	**4.34**	**40**	*e*Pn	**Pn**	**13 14 09.9**	**+0.7**
MAHB	**Mahabad**	**4.43**	**339**	*e*Pn	**Pn**	**13 14 11.0**	**+0.6**
QALM	**Alamut, Qazvin**	**4.51**	**32**	*e*Pn	**Pn**	**13 14 12.7**	**+1.1**
DAMV	**Damavand**	**4.65**	**49**	*e*Pn	**Pn**	**13 14 14.4**	**+0.9**
DAMV	**Damavand**	**4.65**	**49**	*e*Pn	**Pn**	**13 14 14.4**	**+0.9**
IDMV	**Damavand**	**4.65**	**50**	*e*Pn	**Pn**	**13 14 14.1**	**+0.5**
AHHM	**AHRAM**	**4.88**	**139**	*e*Pn	**Pn**	**13 14 17.9**	**+1.5**
ANAR	**Anarak**	**5.12**	**82**	*e*Pn	**Pn**	**13 14 20.0**	**+0.2**
ISAD	**Sadrabad**	**5.14**	**96**	*e*Pn	**Pn**	**13 14 20.3**	**+0.1**
IFIR	**Firoozkooh**	**5.17**	**53**	*e*Pn	**Pn**	**13 14 21.3**	**+0.7**
IAZR	**Azarshahr**	**5.22**	**345**	*e*Pn	**Pn**	**13 14 22.5**	**+1.2**
IHRS	**Heris**	**5.70**	**355**	*e*Pn	**Pn**	**13 14 29.7**	**+1.9**
IBAF	**Bafgh**	**6.77**	**97**	*e*Pn	**Pn**	**13 14 42.0**	**-0.6**
TPRV	**Parvadeh(Tabas**	**7.59**	**85**	*e*Pn	**Pn**	**13 14 53.9**	**+0.1**

*NNC **20** 13:16:09.8±0.5,50°.02N×78°.70E,h0^{km},mb2.9,mpv2.7,*
Error ellipse: s-maj=14.6km s-min=2.4km az=75.0,
Suspected Mining explosion.
*IDC **20** 13:16:11.0±0.8,50°.05N×78°.76E,h0^{km},mb1 2.8/3,*
mb1mx2.8/42,mbtmp2.8/3,ML2.6/3,Error ellipse:
s-maj=10.8km s-min=6.1km az=58.0
ISC 20 13:16:05.8±1.1,**50.03N**±0°.05×**77°.86E**±0°.05,**h0**^{km},**n16,**
σ1§23/31,10C-12D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.69**	**37**	⇑P	**Pb**	**13 16 21.1**	**+0.2**
KUR07				⇓S	**Sg**	**13 16 29.4**	**+1.2**
KUR06	**Kurchatov Arra**	**0.71**	**36**	⇓P	**Pb**	**13 16 21.4**	**+0.3**
KUR06				⇑S	**Sg**	**13 16 29.8**	**+1.1**
KUR17	**Kurchatov Arra**	**0.72**	**33**	⇑P	**Pn**	**13 16 22.5**	**-0.8**
KUR17				⇑S	**Sb**	**13 16 31.7**	**+0.1**
KUR16	**Kurchatov Arra**	**0.72**	**34**	⇑P	**Pb**	**13 16 22.0**	**+0.7**
KUR16				⇓S	**Sb**	**13 16 31.1**	**-0.8**
KURBB	**Kurchatov Arra**	**0.73**	**36**	Pg	**Pb**	**13 16 22.1**	**+0.6**
	2.5nm,0.3s,baz=166,slow=19,SNR=34						
KURBB				Lg	Lg	13 16 30.9	
	2.8nm,0.3s,baz=167,slow=34,SNR=12						
KURBB	**Kurchatov Arra**	**0.73**	**36**	⇑P	**Pb**	**13 16 21.6**	**+0.1**
	28nm,0.3s						
KURBB				⇓S	**Sg**	**13 16 30.8**	**+1.5**
	58nm,0.6s						
KUR15	**Kurchatov Arra**	**0.74**	**37**	⇑P	**Pb**	**13 16 21.5**	**-0.1**
KUR15				⇑S	**Sg**	**13 16 30.6**	**+1.0**
KUR05	**Kurchatov Arra**	**0.75**	**35**	⇓P	**Pb**	**13 16 21.8**	**0.0**
KUR05				⇓S	**Sg**	**13 16 30.8**	**+0.8**
KUR14	**Kurchatov Arra**	**0.75**	**39**	⇓P	**Pg**	**13 16 21.2**	**+1.0**
KUR14				⇓S	**Sg**	**13 16 29.8**	**-0.1**
KUR04	**Kurchatov Arra**	**0.77**	**34**	⇓P	**Pb**	**13 16 22.8**	**+0.7**
KUR04				⇑S	**Sg**	**13 16 31.9**	**+1.3**
KURK	**Kurchatov**	**0.84**	**35**	⇑P	**Pb**	**13 16 23.2**	**-0.1**
	7.1nm,0.3s						
KURK				⇓S	**Sg**	**13 16 33.5**	**+0.6**
	39nm,0.6s						
MK31	**Makanchi Array**	**4.38**	**136**	⇓Pn	**Pn**	**13 17 14.0**	**+0.4**
	0.1nm,0.1s,baz=322,slow=10,SNR=18						
MK31				⇓Pg	**Pb**	**13 17 23.4**	**-0.2**
	0.2nm,0.2s,baz=314,slow=12,SNR=6.5						
MK31				Lg	Lg	13 18 16.7	
	8.4nm,0.6s,baz=328,slow=27,SNR=15						
MKAR	**Makanchi Array**	**4.38**	**136**	Pn	**Pn**	**13 17 14.1**	**+0.5**
	0.4nm,0.3s,baz=320,slow=10,SNR=27						
MKAR				Pg	**Pb**	**13 17 21.1**	**-2.6**
	0.8nm,0.3s,baz=325,slow=14,SNR=13						
MKAR				Sn	**Sn**	**13 18 04.4**	**-1.0**
	0.7nm,0.3s,baz=340,slow=21,SNR=5.7						
MKAR				Lg	Lg	13 18 16.6	
	1.9nm,0.3s,baz=320,slow=30,SNR=14						
BVAR	**Borovoye Array**	**5.54**	**306**	Pn	**Pb**	**13 17 41.2**	**-2.2**
	0.2nm,0.3s,baz=122,slow=15,SNR=1.7						
BVAR				Pg	**Pg**	**13 17 52.9**	**+0.9**
	0.4nm,0.3s,baz=122,slow=16,SNR=5.4						
BVAR				Sn	**Sb**	**13 18 49.6**	**-0.8**
	0.9nm,0.3s,baz=112,slow=23,SNR=12						
ZALV	**Zalesovo Beam**	**5.82**	**45**	Pn	**Pn**	**13 17 34.4**	**+1.1**
	0.7nm,0.3s,baz=232,slow=13,SNR=11						
ZALV				Sn	**Sn**	**13 18 36.9**	**-3.8**
	0.3nm,0.3s,baz=232,slow=20,SNR=1.3						
ZALV				Lg	Lg	13 19 04.0	
	0.6nm,0.3s,baz=232,slow=24,SNR=4.8						
I31KZ	**AKTYUBINSK INF**	**12.70**	**279**	*i*		14 33 30.0	
	baz=85,slow=318,SNR=3.5						

*ISN **20** 13:18:29.4±1.4,32°.74N×47°.75E,h15$^{km}_{\pm}$7^{km}, ML2.7*
*TEH **20** 13:18:30.3,32°.71N×47°.64E,h10^{km}, ML3.0*
ISC 20 13:18:31.3±1.0,**32°.69N**±0°.05×**47°.65E**±0°.04,**h10**^{km},**n24,**
σ1§22/28,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.31**	**269**	*e*Pg	**Pg**	**13 18 36.9**	**-0.6**
DHL1				*e*Sg	**Sg**	**13 18 41.2**	**-0.4**
IKFM	**Kafar-mosalman**	**0.85**	**11**	*e*Pg	**Pg**	**13 18 45.9**	**-1.8**
IKFM				*e*		13 19 00.7	
IKMR	**Kamar-syah**	**1.03**	**37**	*e*Pg	**Pg**	**13 18 49.4**	**-1.8**
IKMR				*e*		13 19 09.3	
IDOB	**Doab**	**1.18**	**22**	*e*Pg	**Pb**	**13 18 52.9**	**-1.1**
BMDN	**Meydan**	**1.39**	**45**	*e*Pg	**Pn**	**13 18 56.9**	**-0.1**
BMDN				*e*		13 19 22.7	
IKOM	**Komasi**	**1.49**	**356**	*e*Pg	**Pn**	**13 18 58.9**	**+0.6**
IKOM				*e*		13 19 22.3	
IBDR	**Badra**	**1.50**	**287**	*e*Pg	**Pn**	**13 18 58.0**	**-0.3**
IBDR				*e*Sg	**Sn**	**13 19 19.0**	**+1.0**
IBDR				AML	AML	13 19 23.4	
	comp=E,119nm,0.4s						
IBDR				AML	AML	13 19 27.3	
	comp=N,109nm,0.6s						
HSAM	**Samen**	**1.72**	**28**	*e*		13 19 04.9	
HSAM				*e*Pg	**Pn**	**13 19 02.8**	**+1.3**
IBZA	**Bozab**	**1.79**	**6**	*e*		13 19 06.3	
IBZA				*e*Pg	**Pn**	**13 19 04.3**	**+1.8**
IGHG	**Ghaleghazi**	**1.87**	**331**	*e*		13 19 33.6	
IGHG				*e*Pg	**Pb**	**13 19 06.1**	**+0.4**
IVIS	**Veis**	**1.95**	**340**	*e*		13 19 39.0	
IVIS				*e*Pn	**Pn**	**13 19 05.3**	**+0.7**
NSR	**Nassriya**	**2.11**	**218**	*e*Pn	**Pn**	**13 19 07.0**	**+0.4**
NSR				*e*Sn	**Sn**	**13 19 33.0**	**+0.1**
IALM	**Almabolaq**	**2.21**	**11**	*e*Pn	**Pn**	**13 19 10.0**	**+1.7**
IDHR	**Dehrash**	**2.26**	**333**	*e*Pn	**Pn**	**13 19 10.3**	**+1.3**
IDHR				*e*		13 19 44.6	
ILIN	**Lien**	**2.29**	**346**	*e*Pn	**Pn**	**13 19 10.3**	**+0.8**
HAGD	**Aghdareh**	**2.46**	**30**	*e*Pn	**Pn**	**13 19 12.5**	**+0.7**
HAGD				*e*		13 19 20.3	
JHBN	**Jahan bin**	**2.59**	**99**	*e*Pn	**Pn**	**13 19 14.7**	**+1.1**
HSRG	**Sareghieh**	**2.60**	**11**	*e*Pn	**Pn**	**13 19 14.2**	**+0.5**
BHD	**Baghdad**	**2.81**	**283**	*e*Pn	**Pn**	**13 19 16.0**	**-0.2**
BHD				*e*Sn	**Sn**	**13 19 52.0**	**+1.9**
IKLH	**Kolahrood**	**3.36**	**78**	*e*Pn	**Pn**	**13 19 26.0**	**+1.8**
QABG	**Abgarm-Qazvin**	**3.41**	**28**	*e*Pn	**Pn**	**13 19 26.8**	**+2.0**
IGAR	**Gharneh**	**3.72**	**93**	*e*Pn	**Pn**	**13 19 30.1**	**+1.0**
IGAR				*e*		13 19 32.3	
KLNJ	**Kolanjah**	**3.75**	**115**	*e*Pn	**Pn**	**13 19 30.6**	**+1.0**
QSDN	**Sirdan**	**4.01**	**18**	*e*Pn	**Pn**	**13 19 34.4**	**+1.4**

*MEX **20** 13:27:35.5±0.5,14°.56N×92°.58W,h68$^{km}_{\pm}$9^{km},MD3.6*
*GCG **20** 13:27:37.4±0.7,14°.51N×92°.51W,h32$^{km}_{\pm}$999^{km},MD3.9*
ISC 20 13:27:34.6±2.9,**14°.5N**±0°.1×**92°.7W**±0°.1,**h33**$^{km}_{\pm}$5^{km},**n7,**
σ0°79/13,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.59**	**50**	*e*P	**Pb**	**13 27 46.5**	**-0.2**
THIG				*e*S	**Sn**	**13 27 54.9**	**-0.1**
PCIG		**1.26**	**338**	*e*P	**Pn**	**13 27 56.4**	**+0.4**
PCIG				*e*S	**Sn**	**13 28 12.1**	**+0.3**
FUG	**Fuego 3**	**1.83**	**92**	*e*P	**Pn**	**13 28 03.9**	**-0.1**
FUG				*e*S	**Sn**	**13 28 25.1**	**-1.0**
CCIG	**Comitan**	**1.84**	**18**	*e*P	**Pn**	**13 28 04.9**	**+0.8**
CCIG				*e*S	**Sn**	**13 28 26.4**	**+0.2**
PCG	**Pacaya**	**2.06**	**93**	*e*P	**Pn**	**13 28 08.5**	**+1.3**
PCG				*e*S	**Sn**	**13 28 31.3**	**-0.5**
IXG	**Ixpaco**	**2.25**	**99**	*e*P	**Pn**	**13 28 10.0**	**+0.3**
TGIG		**2.27**	**350**	*e*P	**Pn**	**13 28 09.7**	**-0.2**
TGIG				*i* S	**Sn**	**13 28 35.6**	**-1.2**

*ISN **20** 13:34:09.8±0.7,32°.60N×47°.81E,h14$^{km}_{\pm}$4^{km}, ML2.8*
*TEH **20** 13:34:10.5,32°.58N×47°.78E,h8^{km}, ML3.3*
ISC 20 13:34:10.7±1.0,**32°.52N**±0°.04×**47°.71E**±0°.04,**h10**^{km},**n34,**
σ1§57/37,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.40**	**294**	*e*Pg	**Pb**	**13 34 19.2**	**-0.6**
IKFM	**Kafar-mosalman**	**1.01**	**7**	*e*Pg	**Pg**	**13 34 29.6**	**-0.5**
IKFM				*e*		13 34 50.8	
IKMR	**Kamar-syah**	**1.14**	**29**	*e*Pg	**Pb**	**13 34 30.8**	**-1.7**
IKMR				*e*		13 34 53.5	
IDOB	**Doab**	**1.32**	**17**	*e*Pg	**Pn**	**13 34 35.0**	**-0.5**
AHWZ	**Ahwaz**	**1.43**	**146**	*e*Pg	**Pn**	**13 34 38.3**	**+1.6**
BMDN	**Meydan**	**1.48**	**39**	*e*Pg	**Pn**	**13 34 37.3**	**-0.3**
BMDN				*e*		13 35 01.5	
IBDR	**Badra**	**1.61**	**292**	*e*Pg	**Pb**	**13 34 40.0**	**-0.5**
IBDR				*e*Sg	**Sg**	**13 35 02.0**	**-0.5**
IBDR				AML	AML	13 35 07.7	
	comp=E,140nm,0.4s						
IBDR				AML	AML	13 35 10.8	
	comp=N,136nm,0.4s						
IKOM	**Komasi**	**1.66**	**354**	*e*Pg	**Pn**	**13 34 41.2**	**+1.2**
IKOM				*e*		13 35 07.9	
KCHF	**Cheshme Sefid,**	**1.83**	**342**	*e*	**Sg**	**13 35 13.4**	**+3.6**
HSAM	**Samen**	**1.84**	**24**	*e*Pg	**Pn**	**13 34 44.3**	**+1.6**
HSAM				*e*		13 35 17.0	
KER	**Kermanshah**	**1.92**	**346**	*e*Pn	**Pn**	**13 34 45.0**	**+1.4**
IBZA	**Bozab**	**1.95**	**4**	*e*Pg	**Pn**	**13 34 46.2**	**+2.1**
IBZA				*e*		13 35 15.7	
NSR	**Nassriya**	**2.02**	**222**	*e*Pn	**Pn**	**13 34 46.0**	**+1.2**
NSR				*e*Sn	**Sb**	**13 35 12.0**	**-0.6**
IGHG	**Gha

σ1ᵗ05/38, mb4.0/17, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.80	288	Pn	Pn	13 43 08.6	-0.1
KRVT	Keravat (AS076	1.90	284	P	Pn	13 43 09.8	-0.2
	57nm,0.3s,baz=131,slow=0.9,SNR=112						
KRVT				S	Sn	13 43 33.0	-1.1
	85nm,0.3s,baz=17,slow=21,SNR=5.8						
PMG	Port Moresby	8.10	235	P	Pn	13 44 34.7	+1.3
	8.0nm,0.3s,baz=49,slow=6.5,SNR=16						
PMG				S	Sn	13 46 04.3	+1.0
	2.1nm,0.3s,baz=278,slow=20,SNR=2.2						
PMG	Port Moresby	8.10	235		Pn	13 44 34.9	+1.5
PATS	Pohnpei	12.35	21	Pn	Pn	13 45 32.0	+1.3
JAY	Jayapura	13.34	279	P	Pn	13 45 47.0	+3.3
	0.4nm,0.3s,baz=80,slow=4.4,SNR=7.0						
COEN	Coen	13.95	228	P	P	13 45 56.4	+0.1
CTAO	Charters Tower	16.94	205		P	13 46 30.4	+1.0
CTAO				IAmb	IAmb	13 47 13.4	
	comp=Z,21nm,1.5s						
SAUI	Saumlaki	22.66	261	P	P	13 47 30.6	-0.6
MTN	Manton Dam	23.85	249	P	P	13 47 41.1	-1.2
MTN				IAmb	IAmb	13 48 00.9	
	comp=Z,14nm,1.2s						
WB0	Warramunga Arr	24.14	230	P	P	13 47 44.6	-0.3
WB0				IAmb	IAmb	13 47 46.0	
	comp=Z,3.7nm,0.6s						
WR0	Warramunga Arr	24.14	230	P	P	13 47 44.1	-0.7
WR0				IAmb	IAmb	13 48 13.3	
	comp=Z,11nm,1.4s						
WRAB	Tennant Creek	24.27	230	P	P	13 47 45.6	-0.4
WRAB				IAmb	IAmb	13 47 47.1	
	comp=Z,3.7nm,0.6s						
WB2	Warramunga Arr	24.27	230	P	P	13 47 45.9	-0.1
WB2				IAmb	IAmb	13 47 46.9	
	comp=Z,4.3nm,0.7s						
WRA	Warramunga Arr	24.28	230	P	P	13 47 46.0	-0.1
	comp=Z,3.4nm,0.7s,baz=56,slow=10,SNR=9.1						
ARMA	Armidale	25.60	184	P	P	13 47 58.5	+0.4
AS31	Alice Springs	26.91	224	P	P	13 48 09.0	-0.9
ASAR	Alice Springs	26.91	224	P	P	13 48 09.4	-0.5
	comp=Z,0.7nm,0.4s,baz=54,slow=8.8,SNR=14						
ASAR	Alice Springs	26.91	224	P	P	13 48 08.9	-1.0
KNRA	Kununurra	26.95	244	P	P	13 48 09.5	-0.8
KNRA				IAmb	IAmb	13 48 33.8	
	comp=Z,22nm,1.6s						
STKA	Stephens Creek	29.33	202	P	P	13 48 30.9	-0.3
	comp=Z,3.4nm,1.1s,baz=44,slow=12,SNR=3.2						
FITZ	Fitzroy Crossi	30.62	242	P	P	13 48 41.8	-1.1
FITZ				IAmb	IAmb	13 49 26.5	
	comp=Z,12nm,1.6s						
FORT	Forrest	35.50	220	P	P	13 49 24.1	-1.0
MYLDM	Lahad Datu	36.69	285	P	P	13 49 34.3	-1.3
MORW	Morawa	43.20	232	P	P	13 50 28.0	-1.3
PEA0B	Petropavlovsk-	57.75	3	P	P	13 52 19.7	+1.4
PEA0B				IAmb	IAmb	13 54 10.0	
	comp=Z,9.2nm,1.4s						
PETK	Petropavlovsk-	57.75	3	P	P	13 52 19.8	+1.5
	comp=Z,0.7nm,0.7s,baz=151,slow=7.9,SNR=7.6						
CMAR	Chiang Mai Arr	58.84	295	P	P	13 52 26.3	-0.2
	comp=Z,0.4nm,0.3s,baz=34,slow=23,SNR=1.7						
GSTR	Great Sitkin T	62.15	20	P	P	13 52 47.7	-0.8
SONM	Songino Array	66.87	327	P	P	13 53 19.7	+0.2
	comp=Z,0.3nm,0.3s,baz=129,slow=5.9,SNR=2.6						
MKAR	Makanchi Array	81.01	319	P	P	13 54 40.6	-1.1
	comp=Z,0.2nm,0.4s,baz=107,slow=4.1,SNR=3.9						
ILAR	Eielson Array	81.73	22	P	P	13 54 45.4	+0.4
	comp=Z,0.3nm,0.8s,baz=268,slow=4.4,SNR=2.6						
ILAR	Eielson Array	81.73	22	P	P	13 54 45.2	+0.1
MAW	Mawson	86.01	203	P	P	13 55 06.5	-0.3
	comp=Z,1.8nm,0.8s,baz=132,slow=5.4,SNR=4.8						
TORD	Torodi Ar. Bea	151.32	289	PKPbc	PKPbc	14 02 20.9	0.0
	comp=Z,0.5nm,0.3s,baz=71,slow=2.4,SNR=4.9						
TORD	Torodi Ar. Bea	151.32	289		PKPbc	14 02 19.5	-1.4

*NEIC **20** 14:00:35.3±1.6, 4.8°S±0.1°×153.7°E±0.1, h10km±8km, mb4.5/14, Error ellipse: s-maj=16.2km s-min=13.7km az=123.0*

*IDC **20** 14:00:37.2±4.0, 4.80°S×153.56°E, h120km±27km, mb3.4/6, mb1 3.6/7, mb1mx3.3/35, mbtmp3.9/7, MS3.6/1, Ms1 3.6/1, ms1mx2.5/21, Error ellipse: s-maj=47.3km s-min=17.7km az=106.0*

ISC 20 14:00:34.3±0.8, 4.83S±0.08×153.8E±0.1, h100km, n28, σ1ᵗ04/27, mb3.9/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.73	292	Pn	Pn	14 01 04.0	+0.6
KRVT	Keravat (AS076	1.82	287	P	Pn	14 01 05.3	+0.7
	46nm,0.3s,baz=134,slow=0.7,SNR=105						
KRVT				S	Sn	14 01 27.8	+0.1
	78nm,0.3s,baz=26,slow=20,SNR=6.4						
PMG	Port Moresby	7.98	235	P	Pn	14 02 30.3	+2.6
	6.3nm,0.3s,baz=47,slow=7.7,SNR=13						
PMG				S	Sn	14 03 55.9	-0.4
	1.1nm,0.3s,baz=296,slow=16,SNR=1.7						
PMG	Port Moresby	7.98	235		Pn	14 02 29.7	+2.1
PATS	Pohnpei	12.45	21	Pn	Pn	14 03 29.0	+1.0
WB0	Warramunga Arr	24.01	230	P	P	14 05 40.2	+0.1
WB0				IAmb	IAmb	14 06 04.8	
	comp=Z,6.1nm,1.1s						
WR0	Warramunga Arr	24.01	230	P	P	14 05 40.3	+0.2
WRAB	Tennant Creek	24.14	230	P	P	14 05 41.5	+0.2
WB2	Warramunga Arr	24.15	230	P	P	14 05 41.5	+0.2
WB2				IAmb	IAmb	14 06 06.7	
	comp=Z,15nm,1.6s						
WRA	Warramunga Arr	24.16	230	P	P	14 05 41.6	+0.2
	comp=Z,2.4nm,0.7s,baz=54,slow=9.9,SNR=35						
WRA	Warramunga Arr	24.16	230	IAmb	IAmb	14 05 45.8	
	comp=Z,0.3nm,1.6s						
ASAR	Alice Springs	26.79	224	P	P	14 06 05.0	-0.2
	comp=Z,0.4nm,0.4s,baz=55,slow=9.0,SNR=9.7						
ASAR	Alice Springs	26.79	224	P	P	14 06 04.7	-0.5
STKA	Stephens Creek	29.23	202	P	P	14 06 26.5	-0.3
	comp=Z,1.1nm,0.6s,baz=28,slow=15,SNR=2.0						
FITZ	Fitzroy Crossi	30.50	242		P	14 06 37.3	-0.9
	comp=Z,1.3nm,0.5s,baz=49,slow=9.5,SNR=10						
FITZ	Fitzroy Crossi	30.50	242	IAmb	IAmb	14 07 10.6	
	comp=Z,15nm,1.8s						
FORT	Forrest	35.38	220	P	P	14 07 19.7	-0.8
FORT				IAmb	IAmb	14 07 20.9	
	comp=Z,19nm,0.7s						
JHJ	Hachijo jima 2	40.01	342	LR	LR	14 23 27.6	
	comp=Z,86nm,20.3s,baz=52,slow=34						
ODZ	Otahua Downs	42.69	162	P	P	14 08 21.0	-0.2
WHZ	Wether Hill Ro	42.72	165	P	P	14 08 21.0	-0.5
SSLB	Suanglung	42.81	313	P	P	14 08 21.9	-0.7
SSLB				IAmb	IAmb	14 09 27.1	
	comp=Z,43nm,1.8s						
MORW	Morawa	43.08	232	P	P	14 08 23.7	-1.1
NWAO	Narrogin (SRO)	44.06	226	P	P	14 08 33.4	+0.8
PEA0B	Petropavlovsk-	57.82	3	P	P	14 10 16.3	+1.1
PEA0B				IAmb	IAmb	14 11 59.4	
	comp=Z,9.9nm,1.3s						
PETK	Petropavlovsk-	57.82	3	P	P	14 10 16.2	+0.9
	comp=Z,0.6nm,0.7s,baz=185,slow=8.4,SNR=2.6						
MKAR	Makanchi Array	80.99	319	P	P	14 12 38.1	0.0
	comp=Z,0.2nm,0.4s,baz=91,slow=7.1,SNR=3.3						
TORD	Torodi Ar. Bea	151.24	289	PKPbc	PKPbc	14 20 16.3	-0.9
	comp=Z,0.6nm,0.6s,baz=100,slow=1.8,SNR=4.1						
TORD	Torodi Ar. Bea	151.24	289		PKPbc	14 20 15.0	-2.2

*IDC **20** 14:03:40.0±2.4, 18.73N×145.66E, h210km±24km, mb3.2/5, mb1 3.5/7, mb1mx3.1/46, mbtmp3.9/7, MS3.4/2, Ms1 3.4/2, ms1mx2.5/20, Error ellipse: s-maj=50.8km s-min=15.6km az=107.0*

*NEIC **20** 14:03:40.7±0.5, 18.6N±0.1°×145.8E±0.3, h212km±10km, mb4.3/11, Error ellipse: s-maj=41.8km s-min=13.4km az=99.0*

ISC 20 14:03:39.2±0.7, 18.69N±0.06°×145.6E±0.2, h200km, n24, σ1ᵗ46/23, mb3.8/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	Anatahan	2.34	177	Pn	Pn	14 04 22.2	+0.8
GUMO	Guam	5.12	188	P	Pn	14 04 56.2	+1.0
	7.3nm,0.3s,baz=12,slow=14,SNR=13						
GUMO				S	Sn	14 05 53.5	-1.7
	6.4nm,0.3s,baz=12,slow=23,SNR=2.1						
GUMO	Guam	5.12	188		Pn	14 04 55.8	+0.6
JCJ	Chichijima	8.93	340	P	Pn	14 05 46.0	+1.5
	3.2nm,0.3s,baz=100,slow=21,SNR=2.2						
JCJ				S	Sn	14 07 20.6	-4.0
	3.6nm,0.3s,baz=263,slow=21,SNR=2.2						
JCJ	Chichijima	8.93	340		Pn	14 05 48.4	+3.9
SIJI	Sorong	23.99	217	LR	LR	14 14 59.2	
	comp=Z,19nm,22.0s,baz=90,slow=28						
KNRA	Kununurra	37.95	207	P	P	14 10 38.3	+0.5
WB0	Warramunga Arr	39.76	197	P	P	14 10 53.0	+0.3
WR0	Warramunga Arr	39.91	196	P	P	14 10 53.9	-0.1
WR0				IAmb	IAmb	14 11 51.1	
	comp=Z,21nm,1.9s						
WRAB	Tennant Creek	39.93	197	P	P	14 10 54.4	+0.2
WRAB				IAmb	IAmb	14 11 45.6	
	comp=Z,22nm,1.9s						
WB2	Warramunga Arr	39.94	197	P	P	14 10 54.3	0.0
WB2				IAmb	IAmb	14 11 16.6	
	comp=Z,11nm,1.5s						
WRA	Warramunga Arr	39.95	197	P	P	14 10 54.7	+0.4
	comp=Z,0.7nm,0.3s,baz=14,slow=8.2,SNR=32						
WRA	Warramunga Arr	39.95	197	P	P	14 10 54.0	-0.3
FITZ	Fitzroy Crossi	41.48	209	P	P	14 11 07.1	+0.3
	comp=Z,0.6nm,0.3s,baz=32,slow=8.8,SNR=16						
FITZ	Fitzroy Crossi	41.48	209	IAmb	IAmb	14 12 39.4	
	comp=Z,8.5nm,1.4s						
ASAR	Alice Springs	43.61	196	P	P	14 11 24.0	+0.1
	comp=Z,0.2nm,0.3s,baz=13,slow=7.6,SNR=2.6						
DZM	Mont Dzumac	45.37	152	LR	LR	14 31 20.1	
	comp=Z,219nm,18.3s,baz=46,slow=37						
AKUT	Akutan	51.24	35	P	P	14 12 22.0	-0.2
CAN	Canberra	53.81	177	P	P	14 12 40.5	-0.9
SDPT	Sand Point	54.54	35	P	P	14 12 46.6	+0.2
CNBA	Chernabura Isl	54.85	35	P	P	14 12 48.5	-0.1
CNBA				IAmb	IAmb	14 13 57.9	
	comp=Z,16nm,1.3s						
ILAR	Eielson Array	63.70	26	P	P	14 13 47.9	-1.3
	comp=Z,0.5nm,0.7s,baz=254,slow=5.6,SNR=4.4						
BMAR	Burnt Mountain	65.17	24	P	P	14 13 59.5	+0.9
NVAR	Mina Array Bea	83.24	52	P	P	14 15 43.4	-0.4
	comp=Z,0.6nm,0.7s,baz=252,slow=6.4,SNR=5.7						

*TEH **20** 14:06:21.4, 32.55N×47.74E, h18km, ML3.0*
*ISN **20** 14:06:21.9±1.2, 32.60N×47.75E, h14km±9km, ML2.7*

ISC 20 14:06:22.1±1.3, 32.53N±0.04×47.76E±0.03, h7km±11km, n23, σ1ᵗ38/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.43	291	*e*Pg	Pg	14 06 29.0	-1.5
DHL1				*e*Sg	Sg	14 06 36.6	+0.4
IKFM	Kafar-mosalman	1.00	4	*e*Pg	Pg	14 06 40.2	-1.1
IKMR	Kamar-syah	1.12	28	*e*Pg	Pg	14 06 42.8	-0.8
IKMR				*e*		14 07 02.8	
IDOB	Doab	1.31	15	*e*Pg	Pg	14 06 46.1	-1.1
IDOB				*e*Sg	Sn	14 07 04.3	-0.5
AHWZ	Ahwaz	1.41	148	*e*Pg	Pg	14 06 48.8	-0.3
IBDR	Badra	1.65	291	*e*Pn	Pn	14 06 51.0	-0.5
IBDR				*e*Sg	Sn	14 07 13.0	+0.1
IBDR				AML	AML	14 07 22.0	
	comp=N,117nm,0.6s						
IBDR				AML	AML	14 07 23.1	
	comp=E,111nm,0.7s						
IKOM	Komasi	1.66	353	*e*Pg	Pb	14 06 52.1	-1.0
IKOM				*e*		14 06 54.6	
HSAM	Samen	1.82	22	*e*Pg	Pn	14 06 54.0	-0.2
HSAM				*e*		14 06 57.7	
KCHF	Cheshme Sefid,	1.85	341	*e*	Sg	14 07 27.1	+5.6
KER	Kermanshah	1.93	344	*e*Pn	Pn	14 06 55.6	+0.1
NSR	Nassriya	2.05	223	*e*Pn	Pn	14 06 58.0	+1.1
NSR				*e*Sn	Sn	14 07 23.0	+0.3
IGHG	Ghaleghazi	2.06	331	*e*Pn	Pn	14 06 57.3	0.0
IGHG				*e*		14 07 34.4	
IVIS	Veis	2.14	339	*e*Pn	Pb	14 06 59.8	-1.4
IVIS				*e*		14 07 35.2	
IDHR	Dehrash	2.45	333	*e*Pn	Pn	14 07 02.7	-0.1
IDHR				*e*		14 07 41.8	
JHBN	Jahan bin	2.48	96	*e*Pn	Pn	14 07 02.5	-0.6
JHBN				*e*		14 07 47.0	
IPIR	Pirpir	2.65	86	*e*Pn	Pn	14 07 05.4	-0.1
IPIR				*e*		14 07 50.6	
HSRG	Sareghieh	2.74	9	*e*		14 07 53.7	
HSRG				*e*Pn	Pn	14 07 07.8	+1.0
BHD	Baghdad	2.94	286	*e*Pn	Pn	14 07 10.0	+0.8
BHD				*e*Sn	Sn	14 07 45.0	+0.2
IKLH	Kolahrood	3.31	75	*e*Pn	Pn	14 07 15.0	+0.5
IKLH				*e*		14 08 21.6	
IRAZ	Razeghan	3.39	32	*e*Pn	Pn	14 07 16.0	+0.3
QABG	Abgarm-Qazvin	3.52	25	*e*Pn	Pn	14 07 18.2	+0.8
KLNJ	Kolanjah	3.60	114	*e*Pn	Pn	14 07 18.8	+0.2
KLNJ				*e*		14 08 30.5	
IZEF	Zefreh	3.87	83	*e*Pn	Pn	14 07 22.5	+0.2

*JMA **20** 14:10:48.7±0.1, 24.46N×121.92E, h4km, M2.2*
*TAP **20** 14:10:49.0, 24.50N×121.91E, h11km, ML2.7, B*

ISC 20 14:10:48.6±0.8, 24.49N±0.02×121.95E±0.02, h12km±5km, n76, σ0ᵗ64/143, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	Nanao	0.13	253	P	Pg	14 10 52.0	+0.1
	baz=245						
ENAH				S	Sg	14 10 54.1	-0.1
	baz=245						
TWC	Suao	0.15	324	*i* P	Pg	14 10 52.2	0.0
	baz=337						
TWC				*i* S	Sg	14 10 54.1	-0.6
	baz=337						
ENA	Nanau	0.20	252	*i* P	Pg	14 10 53.0	0.0
	baz=244						
ENA				*i* S	Sg	14 10 55.5	-0.3
	baz=244						
ILA	Ilan	0.33	327	P	Pg	14 10 55.8	+0.5
	baz=333						
ILA				*e*S	Sb	14 11 00.5	-1.2
	baz=333						
TWE	Neicheng	0.34	313	*i* P	Pg	14 10 55.8	+0.2
	baz=322						
TWE				S	Sg	14 11 00.4	+0.2
	baz=322						
EGS		0.35	358	*e*P	Pb	14 10 57.0	+0.1
	baz=5.0						
EGS				S	Sb	14 11 01.7	-0.8
	baz=5.0						
ENTT	Nioudou	0.38	294	*i* P	Pg	14 10 56.3	+0.1
	baz=295						
ENTT				*i* S	Sg	14 11 01.4	+0.2
	baz=295						
NTC	Toucheng	0.38	344	*e*P	Pg	14 10 56.6	+0.4
	baz=349						
NTC				*e*S	Sg	14 11 01.9	+0.5
	baz=349						
NDT	Datong Townshi	0.41	286	*i* P	Pg	14 10 57.1	+0.3
	baz=286						
NDT				*i* S	Sg	14 11 02.2	-0.1
	baz=286						
NACB	Ninganchiao	0.45	226	P	Pg	14 10 57.4	-0.1
	baz=221						
NACB				S	Sg	14 11 03.6	+0.2
	baz=221						
TIPB	Shuangxi	0.49	347	*e*P	Pg	14 10 58.9	+0.5
	baz=1.0						
TIPB				*e*S	Sb	14 11 05.8	-0.7
	baz=1.0						
NWLT	Wulai	0.49	306	*e*P	Pb	14 10 58.7	-0.6
	baz=308						
NWLT				*e*S	Sg	14 11 05.0	0.0
	baz=308						
ETLH	Xiulin Townshi	0.51	237	P	Pg	14 10 58.5	-0.1
	baz=233						
ETLH				S	Sg	14 11 05.0	-0.4
	baz=233						
NNSB	Datong	0.52	263	*e*P	Pg	14 10 58.8	0.0
	baz=262						
NNSB				*e*S	Sg	14 11 05.6	-0.1
	baz=262						
NNSH	Datong	0.52	263	P	Pg	14 10 58.8	0.0
	baz=262						
NNSH				S	Sg	14 11 05.1	-0.5
	baz=262						
TWD	Chiawan	0.52	218	P	Pg	14 10 58.8	0.0
	baz=213						
TWD				S	Sg	14 11 06.3	+0.7
	baz=213						
TWB1	Santiao Chiao	0.52	4	P	Pb	14 10 59.7	0.0
	baz=2.0						
TWB1				S	Sg	14 11 06.4	+0.7
	baz=2.0						
NNS	Nan Shan	0.52	265	*i* P	Pg	14 10 59.0	0.0
	baz=263						
NNS				S	Sg	14 11 05.6	-0.4
	baz=263						
YHNB	Yeheng	0.55	289	P	Pb	14 10 59.7	-0.5
	baz=296						
YHNB				S	Sg	14 11 06.4	-0.3
	baz=296						
NSK	Sanguang	0.57	289	*i* P	Pb	14 10 60.0	-0.6
	baz=296						
NSK				S	Sg	14 11 06.7	-0.6
	baz=296						
TWA	Mucha	0.59	326	P	Pb	14 11 01.0	+0.1
	baz=330						
TWA				S	Sb	14 11 08.6	-0.6
	baz=330						
NWF	Wu-fen Shan	0.60	346	P	Pb	14 11 01.6	+0.5
	baz=337						
NWF				*e*S	Sb	14 11 09.4	-0.2
	baz=337						
WFSB	Wu-fen Shan	0.60	346	*e*P	Pb	14 11 01.6	+0.5
	baz=339						
WFSB				*e*S	Sb	14 11 09.2	-0.3
	baz=339						
TATO	Taipei	0.64	319	*e*P	Pb	14 11 01.9	+0.2
	baz=313						
FUSS	Fushou	0.68	250	P	Pg	14 11 01.9	0.0
	baz=248						
FUSS				S	Sg	14 11 10.9	-0.1
	baz=248						
WHF	Hehuan Shan	0.71	241	*i* P	Pg	14 11 02.4	-0.1
	baz=239						
WHF				S	Sb	14 11 12.2	-0.8
	baz=239						
YM01	YM01	0.74	333	P	Pb	14 11 04.2	+0.8
	baz=335						
YM01				*e*S	Sb	14 11 14.2	+0.7
	baz=335						
YM10	YM10	0.75	332	*e*P	Pb	14 11 04.4	+0.7
	baz=335						
YM10				S	Sb	14 11 13.7	-0.2
	baz=335						
YM11	YM11	0.75	334	*e*P	Pn	14 11 04.7	-0.5
	baz=336						
YM11				*e*S	Sb	14 11 14.1	0.0
	baz=336						
TDCB	Techi	0.76	252	P	Pb	14 11 03.9	+0.1
	baz=250						
TDCB				S	Sg	14 11 12.6	-0.6
	baz=250						
YM05	YM05	0.76	333	*e*P	Pb	14 11 04.5	+0.7
	baz=336						
YM05				*e*S	Sn	14 11 15.9	-0.7
	baz=336						
YM04	YM04	0.76	331	P	Pb	14 11 04.3	+0.5
	baz=332						
YM08	YM08	0.77	335	*e*P	Pb	14 11 04.4	+0.4
	baz=338						
YM08				*e*S	Sb	14 11 14.8	+0.5
	baz=338						
TWS1	Kuangyinshan	0.78	322	P	Pn	14 11 05.2	-0.2
	baz=316						
TWS1				*e*S	Sb	14 11 15.2	+0.6
	baz=316						
YM03	YM03	0.78	332	*e*P	Pb	14 11 04.7	+0.5
	baz=335						
YM03				*e*S	Sb	14 11 15.3	+0.5
	baz=335						
ANP	Anpu	0.80	331	*e*P	Pb	14 11 04.8	+0.4
	baz=334						
ANP				*e*S	Sb	14 11 15.4	+0.2
	baz=334						
NTST	Danshui	0.81	326	*e*P	Pb	14 11 06.3	+0.5
	baz=329						
NTST				*e*S	Sn	14 11 16.7	-1.1
	baz=329						
ESL	Shilin	0.82	215	P	Pg	14 11 04.3	-0.1
	baz=219						
ESL				*e*S	Sg	14 11 15.6	+0.4
	baz=219						
CHGB	Renai	0.82	239	P	Pg	14 11 04.7	+0.1
	baz=237						
CHGB				*e*S	Sb	14 11 16.0	-0.1
	baz=237						
NCU	National Centr	0.84	305	*e*P	Pn	14 11 06.5	+0.2
	baz=316						
NCU				*e*S	Sn	14 11 17.9	-0.7
	baz=316						
NCUH	Zhongli	0.84	305	*e*P	Pn	14 11 06.0	-0.3
	baz=306						
NCUH				*e*S	Sn	14 11 18.9	+0.4
	baz=306						
TWY	Chenhua	0.84	338	*e*P	Pn	14 11 06.0	-0.3
	baz=342						
TWY				*e*S	Sn	14 11 18.9	+0.3
	baz=342						
LIOB	Emei	0.86	281	P	Pn	14 11 06.0	-0.5
	baz=281						
LIOB				*e*S	Sb	14 11 17.1	+0.1
	baz=281						
NSTT	Nanjuang	0.87	280	P	Pn	14 11 06.2	-0.5
	baz=280						
NSTT				S	Sb	14 11 16.6	-0.7
	baz=280						
JYNG	Yonagunijimaku	0.91	92	P	Pg	14 11 06.8	+0.6
JYNG				S	Sg	14 11 18.2	0.0
SBCB	Hsinchu	0.93	289	*e*P	Pn	14 11 08.2	+0.7
	baz=282						
WHP	Taichung City	0.94	257	*e*P	Pn	14 11 07.3	-0.3
	baz=256						
WHP				S	Sg	14 11 18.6	-0.3
	baz=256						
HSN	Hsinchu	0.94	290	*e*P	Pn	14 11 07.6	0.0
	baz=285						
HSN				*e*S	Sb	14 11 19.8	+0.5
	baz=285						
EGFH	Guangfu	0.94	210	*e*P	Pg	14 11 06.2	-0.6
	baz=222						
EGFH				*e*S	Sb	14 11 20.3	+1.0
	baz=222						
YOJ	Yonaguni jima	0.97	91	*e*P	Pg	14 11 07.2	-0.2
	baz=90						
YOJ				*e*S	Sg	14 11 20.5	+0.5
	baz=90						
YOJ	Yonaguni jima	0.97	91	P	Pg	14 11 07.7	+0.3
YOJ				*e*S	Sg	14 11 20.4	+0.4
VWDT	VWDT	1.04	225	*e*P	Pg	14 11 08.2	-0.4
	baz=223						
VWDT				*e*S	Sn	14 11 23.0	-0.4
	baz=223						
NMLH	Miaoli	1.05	273	*e*P	Pn	14 11 10.3	+1.1
	baz=272						
NMLH				*e*S	Sb	14 11 22.8	+0.3
	baz=272						
TWQ1	Liyutan	1.08	263	*e*P	Pn	14 11 10.2	+0.7
	baz=271						
TWQ1				S	Sb	14 11 23.2	0.0
	baz=271						
HGSD	Ruisui	1.10	206	*e*P	Pn	14 11 11.2	+1.3
	baz=193						
HGSD				*e*S	Sn	14 11 26.8	+1.8
	baz=193						
SMLT	Sun Moon Lake	1.13	238	*e*P	Pn	14 11 10.5	+0.2
	baz=236						
SMLT				*e*S	Sb	14 11 24.7	-0.1
	baz=236						
EHY	Hungye	1.13	210	*e*P	Pb	14 11 09.6	-0.6
	baz=219						
EHY				*e*S	Sn	14 11 25.9	+0.2
	baz=219						
SS

WJS	**Zhushan**	**1.29**	**239**	*e*P		**Pg**	**14 11 14.3**	**+0.8**
	baz=230							
ALS	**Alishan**	**1.43**	**227**	*e*P		**Pg**	**14 11 16.0**	**-0.1**
	baz=209							
CHN5	**Tsauling**	**1.46**	**233**	*e*P		**Pg**	**14 11 17.9**	**+1.2**
	baz=244							
CHN5				*e*S		**Sg**	**14 11 38.9**	**+3.3**
	baz=244							
WDLH	**Douliu**	**1.51**	**239**	*e*P		**Pg**	**14 11 18.4**	**+0.7**
	baz=249							
ELDTW	**Lidau**	**1.55**	**214**	*e*P		**Pb**	**14 11 17.5**	**+0.2**
	baz=220							
ELDTW				*e*S		**Sb**	**14 11 37.5**	**+0.6**
	baz=220							
IRIF	**Iriomote-Funau**	**1.63**	**95**	P		**Pn**	**14 11 16.9**	**-0.3**
IRIF				S		**Sn**	**14 11 36.9**	**-1.2**
TPUB	**Ta-pu**	**1.69**	**226**	*e*P		**Pg**	**14 11 20.6**	**-0.4**
	baz=207							
WTP	**Ta-pu**	**1.74**	**225**	*e*P		**Pb**	**14 11 21.3**	**+0.8**
	baz=212							
WTP				*e*S		**Sg**	**14 11 44.9**	**+0.4**
	baz=212							
HATJ	**Hateruma jima**	**1.75**	**104**	*e*S		**Sn**	**14 11 41.7**	**+0.7**
TWK	**Hsinying**	**1.81**	**228**	*e*P		**Pb**	**14 11 22.1**	**+0.5**
	baz=225							
TWK				*e*S		**Sg**	**14 11 46.0**	**-0.7**
	baz=225							
JKRS	**Kuro-shima**	**1.90**	**97**	P		**Pn**	**14 11 21.4**	**+0.6**
JKRS				S		**Sn**	**14 11 44.0**	**-0.7**
JIJ	**Ishigaki jima**	**2.01**	**93**	P		**Pn**	**14 11 22.6**	**+0.3**
JIJ				S		**Sn**	**14 11 45.8**	**-1.5**
JISG	**Ishigakijimahi**	**2.16**	**87**	P		**Pn**	**14 11 23.7**	**-0.7**
JISG				S		**Sn**	**14 11 49.8**	**-1.2**
MASBT	**Mashibuluo**	**2.22**	**213**	*e*P		**Pg**	**14 11 30.4**	**-0.8**
	baz=210							
MASBT				*e*S		**Sg**	**14 11 58.6**	**-1.5**
	baz=210							
JTJ	**Tarama**	**2.52**	**86**	*e*S		**Sn**	**14 11 58.8**	**-1.1**

*ISN **20** 14:13:54.2±0.9, 32.56N×47.77E, h14km±6km, ML2.8*
*TEH **20** 14:13:55.4, 32.64N×47.74E, h8km, ML3.1*
ISC 20 14:13:56.0±1.0, **32.59N**±0.04×**47.71E**±0.04, **h10**km, **n29,**
σ1°27/33, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.38**	**284**	*e*Pg	**Pg**	**14 14 02.9**	**-0.5**
DHL1				*e*Sg	**Sg**	**14 14 09.6**	**+1.2**
IKFM	**Kafar-mosalman**	**0.94**	**7**	*e*Pg	**Pg**	**14 14 12.2**	**-1.9**
IKFM				*e*		14 14 28.9	
IKMR	**Kamar-syah**	**1.08**	**31**	*e*Pg	**Pb**	**14 14 14.9**	**-1.9**
IKMR				*e*		14 14 37.7	
IDOB	**Doab**	**1.26**	**18**	*e*Pg	**Pn**	**14 14 13.5**	**-0.3**
BMDN	**Meydan**	**1.43**	**41**	*e*Pg	**Pn**	**14 14 22.4**	**+0.3**
BMDN				*e*		14 14 49.4	
AHWZ	**Ahwaz**	**1.48**	**148**	*e*Pg	**Pn**	**14 14 24.4**	**+1.7**
IBDR	**Badra**	**1.59**	**290**	*e*Pg	**Pn**	**14 14 24.0**	**-0.2**
IBDR				*e*Sg	**Sb**	**14 14 46.0**	**+0.4**
IBDR				AML	AML	14 14 51.1	
	comp=E,128nm,0.7s						
IBDR				AML	AML	14 14 56.3	
	comp=N,158nm,0.6s						
IKOM	**Komasi**	**1.59**	**354**	*e*Pg	**Pn**	**14 14 25.5**	**+1.1**
IKOM				*e*		14 14 29.8	
KCHF	**Cheshme Sefid,**	**1.77**	**342**	*e*Pg	**Pn**	**14 14 27.4**	**+0.5**
KCHF				*e*		14 14 55.0	
HSAM	**Samen**	**1.78**	**24**	*e*Pg	**Pn**	**14 14 28.6**	**+1.5**
HSAM				*e*		14 14 57.3	
KER	**Kermanshah**	**1.85**	**345**	*e*Pn	**Pn**	**14 14 29.7**	**+1.7**
IBZA	**Bozab**	**1.88**	**4**	*e*Pg	**Pn**	**14 14 30.0**	**+1.5**
IBZA				*e*		14 14 58.4	
IGHG	**Ghaleghazi**	**1.98**	**331**	*e*Pg	**Pb**	**14 14 33.1**	**+0.8**
IGHG				*e*		14 15 14.9	
IVIS	**Veis**	**2.06**	**340**	*e*Pn	**Pn**	**14 14 32.2**	**+1.4**
IVIS				*e*		14 15 03.7	
NSR	**Nassriya**	**2.07**	**221**	*e*Pn	**Pn**	**14 14 30.0**	**-0.8**
NSR				*e*Sn	**Sn**	**14 14 55.0**	**-1.6**
IDHR	**Dehrash**	**2.38**	**333**	*e*Pn	**Pn**	**14 14 36.6**	**+1.3**
IDHR				*e*		14 15 17.5	
ILIN	**Lien**	**2.41**	**345**	*e*Pn	**Pn**	**14 14 36.9**	**+1.2**
ILIN				*e*		14 15 21.6	
JHBN	**Jahan bin**	**2.52**	**97**	*e*Pn	**Pn**	**14 14 38.7**	**+1.4**
JHBN				*e*		14 15 24.2	
IPIR	**Pirpir**	**2.68**	**87**	*e*Pn	**Pn**	**14 14 40.1**	**+0.6**
IPIR				*e*		14 15 28.9	
ROKH	**ROKH**	**2.82**	**94**	*e*Pn	**Pn**	**14 14 42.5**	**+1.2**
ROKH				*e*		14 15 40.2	
BHD	**Baghdad**	**2.88**	**285**	*e*Pn	**Pn**	**14 14 42.0**	**0.0**
BHD				*e*Sn	**Sn**	**14 15 18.0**	**+1.3**
IKLH	**Kolahrood**	**3.33**	**76**	*e*Pn	**Pn**	**14 14 50.4**	**+2.0**
IRAZ	**Razeghan**	**3.36**	**33**	*e*Pn	**Pn**	**14 14 49.4**	**+0.7**
QABG	**Abgarm-Qazvin**	**3.48**	**26**	*e*Pn	**Pn**	**14 14 51.3**	**+0.9**
KLNJ	**Kolanjah**	**3.66**	**114**	*e*Pn	**Pn**	**14 14 54.5**	**+1.5**
KLNJ				*e*		14 16 22.3	
IZEF	**Zefreh**	**3.90**	**84**	*e*Pn	**Pn**	**14 14 58.3**	**+2.0**
QSDN	**Sirdan**	**4.09**	**17**	*e*Pn	**Pn**	**14 15 00.0**	**+1.2**
QALM	**Alamut, Qazvin**	**4.53**	**31**	*e*Pn	**Pn**	**14 15 04.8**	**-0.1**
IDMV	**Damavand**	**4.66**	**49**	*e*Pn	**Pn**	**14 15 07.2**	**+0.5**

*NEIC **20** 14:16:26.6±1.4, 27.20N±0.07×128.3E±0.1, h65km±7km, mb4.4/20, Error ellipse: s-maj=15.3km s-min=9.4km az=110.0*
*NIED **20** 14:16:26.0, 27.24N×128.34E, h59km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.86; Mθθ0.13; Mϕϕ-0.99; Mrθ-0.37; Mθϕ0.50; Mϕr-0.33; Fault plane solution: M0 1.17000×10^15 NP1: ϕs185.00000°, δ57.00000°, λ126.00000°. NP2: ϕs312.00000°, δ47.00000°, λ48.00000°.*
*JMA **20** 14:16:26.0±0.1, 27.24N×128.34E, h59km±1km, M3.9*
JMA Felt II J1.
*IDC **20** 14:16:29.5±3.1, 27.32N×128.43E, h97km±33km, mb3.6/11, mb1 3.8/14, mb1mx3.6/42, mbtmp4.1/14, MS2.6/4, Ms1 2.7/4, ms1mx2.5/36, Error ellipse: s-maj=31.6km s-min=13.7km az=67.0*
ISC 20 14:16:26.0±0.7, **27.23N**±0.05×**128.34E**±0.06, **h60**km±6km,
n68, σ1°10/70, **mb4.2**/18, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYRO	**Yoronjima**	**0.23**	**154**	P	**Pn**	**14 16 35.5**	**-0.1**
JYRO				S	**Sn**	**14 16 42.3**	**-0.2**
JOKE	**Okinoerabujima**	**0.24**	**57**	P	**Pn**	**14 16 35.7**	**0.0**
JOKE				S	**Sn**	**14 16 42.4**	**-0.3**
JIH	**Iheya**	**0.39**	**240**	P	**Pn**	**14 16 36.8**	**0.0**
JIH				S	**Sn**	**14 16 44.3**	**-0.3**
JOW	**Kunigami**	**0.40**	**188**	P	**Pn**	**14 16 36.9**	**-0.1**
JOW				S	**Sn**	**14 16 45.2**	**+0.3**
JOW	**Kunigami**	**0.40**	**188**		**Pn**	**14 16 38.2**	**+1.2**
JOW				Sn	**Sn**	**14 16 45.1**	**+0.2**
JNTH	**Nagotoyohara**	**0.76**	**202**	P	**Pn**	**14 16 41.2**	**+0.2**
JNTH				*e*S	**Sn**	**14 16 52.4**	**+0.4**
JTK	**Tokunoshima**	**0.78**	**44**	P	**Pn**	**14 16 41.2**	**+0.1**
JTK				S	**Sn**	**14 16 52.3**	**0.0**
JAGN	**Aguni-jima**	**1.17**	**237**	P	**Pn**	**14 16 46.2**	**0.0**
JAGN				S	**Sn**	**14 17 01.4**	**+0.1**
JJT3	**Tamagusuku3**	**1.19**	**205**	P	**Pn**	**14 16 47.2**	**+0.7**
JJT3				*e*S	**Sn**	**14 17 03.6**	**+1.8**
JAMN	**Amaminishikomi**	**1.25**	**36**	P	**Pn**	**14 16 47.1**	**-0.2**
JAMN				S	**Sn**	**14 17 02.5**	**-0.8**
YOJ	**Yonaguni jima**	**5.54**	**241**	Pn	**Pn**	**14 17 44.7**	**-1.1**
JNU	**Nakatsue**	**6.27**	**20**	P	**Pn**	**14 17 57.9**	**+2.0**
	5.7nm,0.3s,baz=224,slow=6.0,SNR=74						
JNU				S	**Sn**	**14 19 08.0**	**+1.8**
	0.4nm,0.3s,baz=56,slow=5.6,SNR=2.3						
JNU				LR	LR	14 20 38.5	
	comp=Z,46nm,19.6s,baz=198,slow=40						
JNU	**Nakatsue**	**6.27**	**20**		**Pn**	**14 17 57.7**	**+1.9**
TATO	**Taipei**	**6.56**	**252**	Pn	**Pn**	**14 18 00.9**	**+1.2**
YHNB	**Yeheng**	**6.77**	**249**	Pn	**Pn**	**14 18 03.8**	**+1.0**
NACB	**Ninganchiao**	**6.80**	**245**	Pn	**Pn**	**14 18 01.2**	**-2.0**
YULB	**Yu-li**	**7.43**	**241**	Pn	**Pn**	**14 18 07.9**	**-3.9**
SSLB	**Suanglung**	**7.50**	**244**	Pn	**Pn**	**14 18 10.3**	**-2.4**
TWG	**Pinlang**	**7.92**	**238**	Pn	Pn	14 18 13.7	-4.8
TPUB	**Ta-pu**	**8.00**	**242**	Pn	**Pn**	**14 18 17.4**	**-2.2**
KNMB	**Chin-men Tao**	**9.38**	**255**	Pn	**Pn**	**14 18 37.8**	**-0.6**
KSRS	**Korea Array**	**10.20**	**358**	P	**Pn**	**14 18 51.8**	**+2.2**
	0.1nm,0.3s,baz=177,slow=14,SNR=7.2						
KSRS				LR	LR	14 22 55.6	
	comp=Z,15nm,19.0s,baz=250,slow=38						
JHJ	**Hachijo jima 2**	**11.51**	**57**	P	**Pn**	**14 19 08.6**	**+1.2**
	8.8nm,0.3s,baz=74,slow=22,SNR=5.3						
JHJ2	**Mitsune**	**11.53**	**57**	Pn	**Pn**	**14 19 08.6**	**+0.9**
JCJ	**Chichijima**	**12.33**	**87**	LR	LR	14 23 12.9	
	comp=Z,63nm,18.6s,baz=106,slow=33						
ERM	**Erimo**	**19.09**	**36**	P	**P**	**14 20 41.7**	**-2.0**
SONM	**Songino Array**	**26.77**	**326**	P	**P**	**14 22 01.7**	**+1.4**
	0.7nm,0.6s,baz=125,slow=11,SNR=3.5						
CHTO	**Chiang Mai**	**28.27**	**259**	P	**P**	**14 22 14.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**28.41**	**258**	P	**P**	**14 22 15.8**	**+0.9**
	0.8nm,0.5s,baz=61,slow=7.4,SNR=5.1						
CMAR				LR	LR	14 33 45.7	
	comp=Z,15nm,20.3s,baz=85,slow=36						
CMAR	**Chiang Mai Arr**	**28.41**	**258**	P	**P**	**14 22 15.1**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**36.03**	**94**	T	T	15 01 11.9	
	baz=290,slow=74,SNR=9.0						
H11N1	**WAKE ISLAND Hy**	**36.03**	**94**	T	T	15 01 12.7	
	baz=290,slow=74,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**36.05**	**94**	T	T	15 01 11.0	
	baz=290,slow=74,SNR=7.5						
H11S3	**WAKE ISLAND Hy**	**36.27**	**96**	T	T	15 01 43.0	
	baz=288						
H11S1	**WAKE ISLAND Hy**	**36.28**	**96**	T	T	15 01 43.1	
	baz=288						
H11S2	**WAKE ISLAND Hy**	**36.29**	**96**	T	T	15 01 42.5	
	baz=288						
MTN	**Manton Dam**	**39.93**	**176**	P	**P**	**14 23 54.7**	**+0.3**
MKAR	**Makanchi Array**	**40.95**	**311**	P	**P**	**14 24 02.1**	**-0.6**
	0.7nm,0.7s,baz=93,slow=11,SNR=7.2						
ZALV	**Zalesovo Beam**	**41.52**	**322**	P	**P**	**14 24 05.8**	**-1.4**
	0.8nm,0.5s,baz=124,slow=7.2,SNR=2.5						
ZALV	**Zalesovo Beam**	**41.52**	**322**	P	**P**	**14 24 06.2**	**-0.9**
KNRA	**Kununurra**	**42.65**	**179**	P	**P**	**14 24 16.8**	**+0.1**
KNRA				IAmb	IAmb	14 24 17.7	
	comp=Z,9.4nm,0.9s						
KURK	**Kurchatov**	**44.17**	**316**	P	**P**	**14 24 28.5**	**-0.1**
KURBB	**Kurchatov Arra**	**44.20**	**316**	P	**P**	**14 24 28.5**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=102,slow=9.0,SNR=6.9						
FITZ	**Fitzroy Crossi**	**45.13**	**184**	P	**P**	**14 24 36.9**	**+0.3**
FITZ				IAmb	IAmb	14 24 51.8	
	comp=Z,15nm,1.8s						
WB0	**Warramunga Arr**	**47.09**	**172**	P	**P**	**14 24 51.7**	**-0.2**
WB0				IAmb	IAmb	14 26 06.4	
	comp=Z,6.0nm,1.2s						
WRAB	**Tennant Creek**	**47.24**	**172**	P	**P**	**14 24 53.1**	**-0.1**
WRAB				IAmb	IAmb	14 24 54.2	
	comp=Z,5.6nm,1.1s						
WRA	**Warramunga Arr**	**47.25**	**172**	P	**P**	**14 24 53.2**	**0.0**
	comp=Z,1.7nm,0.5s,baz=352,slow=8.4,SNR=30						
WRA	**Warramunga Arr**	**47.25**	**172**	P	**P**	**14 24 52.7**	**-0.6**
WB2	**Warramunga Arr**	**47.25**	**172**	P	**P**	**14 24 53.0**	**-0.3**
WB2				IAmb	IAmb	14 24 54.2	
	comp=Z,5.6nm,1.0s						
WR0	**Warramunga Arr**	**47.29**	**172**	P	**P**	**14 24 53.2**	**-0.4**
AS31	**Alice Springs**	**50.88**	**173**	P	**P**	**14 25 21.1**	**0.0**
ASAR	**Alice Springs**	**50.88**	**173**	P	**P**	**14 25 21.6**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=7.7,slow=14,SNR=32						
ASAR	**Alice Springs**	**50.88**	**173**	P	**P**	**14 25 21.1**	**+0.1**
STKA	**Stephens Creek**	**60.12**	**167**	P	**P**	**14 26 27.3**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=343,slow=9.9,SNR=3.6						
STKA	**Stephens Creek**	**60.12**	**167**	IAmb	IAmb	14 26 41.1	
	comp=Z,4.8nm,1.9s						
IMAR	**Indian Mountai**	**60.55**	**27**	P	**P**	**14 26 30.5**	**+0.7**
KDAK	**Kodiak Island**	**61.66**	**37**	P	**P**	**14 26 37.6**	**+0.3**
RND	**Reindeer**	**62.83**	**30**	P	**P**	**14 26 44.3**	**-0.9**
RND				IAmb	IAmb	14 26 45.9	
	comp=Z,2.1nm,0.6s						
MDM	**Murphy Dome**	**62.92**	**28**	P	**P**	**14 26 44.1**	**-1.6**
MDM				IAmb	IAmb	14 26 47.2	
	comp=Z,2.9nm,1.0s						
BCAR	**Beaver Creek A**	**66.04**	**30**	P	**P**	**14 27 06.2**	**0.0**
TOO	**Toolangi**	**66.44**	**165**	P	**P**	**14 27 10.2**	**+1.3**
FINES	**FINESS Array B**	**72.05**	**330**	P	**P**	**14 27 41.9**	**-1.4**
	comp=Z,2.1nm,0.7s,baz=88,slow=5.9,SNR=5.7						
FINES	**FINESS Array B**	**72.05**	**330**	P	**P**	**14 27 42.6**	**-0.7**
BRTR	**Keskin Array B**	**76.50**	**308**	P	**P**	**14 28 10.1**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=96,slow=5.4,SNR=3.4						
NC405	**NORSAR Array S**	**78.22**	**334**	P	**P**	**14 28 18.4**	**-0.5**
NB2	**NORSAR Subarra**	**78.46**	**334**	P	**P**	**14 28 19.3**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=53,slow=5.9						
NOA	**NORSAR Array B**	**78.46**	**334**	P	**P**	**14 28 19.5**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=52,slow=5.6,SNR=4.3						
NC204	**NORSAR Array S**	**78.50**	**334**	P	**P**	**14 28 19.9**	**-0.6**

*TEH **20** 14:20:03.3, 32.52N×47.79E, h8km, ML3.1*
*ISN **20** 14:20:03.5±1.5, 32.56N×47.84E, h15km±8km, ML2.7*
ISC 20 14:20:05.3±1.0, **32.51N**±0.04×**47.77E**±0.04, **h15**km, **n32,**
σ1°24/34, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.45**	**292**	*e*Pg	**Pg**	**14 20 12.7**	**-1.6**
IKFM	**Kafar-mosalman**	**1.01**	**4**	*e*Pg	**Pb**	**14 20 22.9**	**-1.6**
IKFM				*e*		14 20 42.5	
IKMR	**Kamar-syah**	**1.13**	**27**	*e*Pg	**Pb**	**14 20 24.8**	**-1.5**
IKMR				*e*		14 20 47.4	
IDOB	**Doab**	**1.32**	**15**	*e*Pg	**Pn**	**14 20 28.8**	**-0.6**
AHWZ	**Ahwaz**	**1.39**	**148**	*e*Pg	**Pn**	**14 20 29.9**	**-0.3**
BMDN	**Meydan**	**1.46**	**37**	*e*Pg	**Pn**	**14 20 31.1**	**-0.2**
BMDN				*e*		14 20 55.4	
IBDR	**Badra**	**1.66**	**292**	*e*Pg	**Pn**	**14 20 34.0**	**+0.1**
IBDR				*e*Sg	**Sb**	**14 20 57.0**	**+0.7**
IBDR				AML	AML	14 21 05.0	
	comp=N,101nm,0.5s						
IBDR				AML	AML	14 21 07.3	
	comp=E,91nm,0.8s						
IKOM	**Komasi**	**1.67**	**353**	*e*Pg	**Pb**	**14 20 34.8**	**-1.1**
IKOM				*e*		14 21 03.7	
HSAM	**Samen**	**1.83**	**22**	*e*Pg	**Pb**	**14 20 37.7**	**-1.0**
HSAM				*e*		14 20 40.4	
KCHF	**Cheshme Sefid,**	**1.86**	**341**	*e*Pg	**Pb**	**14 20 39.1**	**-0.1**
KCHF				*e*		14 21 05.4	
KER	**Kermanshah**	**1.94**	**344**	*e*Pn	**Pn**	**14 20 38.3**	**+0.4**
IBZA	**Bozab**	**1.95**	**2**	*e*Pg	**Pb**	**14 20 40.6**	**-0.2**
IBZA				*e*		14 21 13.0	
NSR	**Nassriya**	**2.04**	**223**	*e*Pn	**Pn**	**14 20 40.0**	**+0.9**
NSR				*e*Sn	**Sn**	**14 21 05.0**	**+0.6**
IGHG	**Ghaleghazi**	**2.07**	**331**	*e*	**Sg**	**14 21 14.1**	**+2.0**
IVIS	**Veis**	**2.15**	**339**	*e*Pn	**Pb**	**14 20 42.2**	**-1.9**
IVIS				*e*		14 21 20.8	
IALM	**Almabolaq**	**2.37**	**8**	*e*Pn	**Pb**	**14 20 46.0**	**-1.8**
JHBN	**Jahan bin**	**2.47**	**96**	*e*Pn	**Pn**	**14 20 46.2**	**+0.9**
JHBN				*e*		14 21 30.0	
IDHR	**Dehrash**	**2.47**	**332**	*e*Pn	**Pn**	**14 20 46.4**	**+1.2**
IDHR				*e*		14 21 28.3	
ILIN	**Lien**	**2.49**	**345**	*e*Pn	**Pb**	**14 20 47.3**	**-2.7**
ILIN				*e*		14 21 27.8	
HAGD	**Aghdareh**	**2.57**	**26**	*e*Pn	**Pn**	**14 20 47.2**	**+0.5**
HAGD				*e*		14 21 29.1	
IPIR	**Pirpir**	**2.64**	**85**	*e*Pn	**Pn**	**14 20 49.0**	**+1.3**
IPIR				*e*		14 21 36.8	
HSRG	**Sareghieh**	**2.75**	**9**	*e*	**Sg**	**14 21 34.4**	**+0.5**
ROKH	**ROKH**	**2.77**	**93**	*e*	Sg	14 21 45.7	+11
BHD	**Baghdad**	**2.95**	**286**	*e*Pn	**Pn**	**14 20 52.0**	**+0.4**
BHD				*e*Sn	**Sn**	**14 21 29.0**	**+2.2**
IKLH	**Kolahrood**	**3.30**	**75**	*e*Pn	**Pn**	**14 20 57.2**	**+0.5**
IKLH				*e*		14 21 59.6	
IRAZ	**Razeghan**	**3.40**	**31**	*e*Pn	**Pn**	**14 20 59.9**	**+1.9**
QABG	**Abgarm-Qazvin**	**3.52**	**25**	*e*Pn	**Pn**	**14 21 00.8**	**+1.0**
KLNJ	**Kolanjah**	**3.58**	**114**	*e*Pn	**Pn**	**14 21 01.3**	**+0.6**
KLNJ				*e*		14 22 12.0	
IGAR	**Gharneh**	**3.61**	**91**	*e*Pn	**Pn**	**14 21 01.6**	**+0.6**
IGAR				*e*		14 21 13.7	
IZEF	**Zefreh**	**3.86**	**83**	*e*Pn	**Pn**	**14 21 05.8**	**+1.4**
QSDN	**Sirdan**	**4.15**	**16**	*e*Pn	**Pn**	**14 21 08.8**	**+0.5**
ANAR	**Anarak**	**5.06**	**81**	*e*Pn	**Pn**	**14 21 21.7**	**+0.9**

*ISN **20** 14:32:44.8±0.9, 32.76N×47.52E, h16km±6km, ML2.5*
*TEH **20** 14:32:45.8, 32.79N×47.46E, h10km, ML2.8*
ISC 20 14:32:46.1±1.3, **32.76N**±0.05×**47.47E**±0.05, **h11**km±10km,
n12, σ0°90/16, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.18**	**243**	*e*Pg	**Pg**	**14 32 49.9**	**-0.1**
DHL1				*e*		14 32 56.2	
IKFM	**Kafar-mosalman**	**0.82**	**23**	*e*Pg	**Pg**	**14 33 01.0**	**-1.0**
IDOB	**Doab**	**1.18**	**30**	*e*Pg	**Pg**	**14 33 07.8**	**-1.1**
IBDR	**Badra**	**1.34**	**285**	*e*Pg	**Pn**	**14 33 10.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**14 33 29.0**	**-0.2**
IBDR				AML	AML	14 33 50.7	
	comp=E,86nm,0.6s						
IBDR				AML	AML	14 33 51.1	
	comp=N,92nm,0.4s						
IKOM	**Komasi**	**1.41**	**1**	*e*Pg	**Pg**	**14 33 13.6**	**+0.4**
IKOM				*e*		14 33 14.0	
BMDN	**Meydan**	**1.46**	**51**	*e*Pg	**Pg**	**14 33 14.3**	**+0.2**
BMDN				*e*		14 33 40.0	
HSAM	**Samen**	**1.73**	**33**	*e*Pg	**Pg**	**14 33 18.4**	**-0.9**
HSAM				*e*Sg	**Sg**	**14 33 43.3**	**+1.5**
HSAM				*e*		14 33 45.5	
IGHG	**Ghaleghazi**	**1.73**	**335**	*e*Pg	**Pg**	**14 33 19.2**	**-0.2**
IVIS	**Veis**	**1.83**	**344**	*e*Pg	**Pg**	**14 33 20.3**	**-1.0**
IVIS				*e*		14 33 48.9	
NSR	**Nassriya**	**2.08**	**213**	*e*Pn	**Pn**	**14 33 21.0**	**+0.1**
NSR				*e*Sn	**Sn**	**14 33 46.0**	**-0.8**
IDHR	**Dehrash**	**2.13**	**335**	*e*Pg	**Pb**	**14 33 24.9**	**0.0**
IDHR				*e*		14 34 00.7	
BHD	**Baghdad**	**2.64**	**282**	*e*Pn	**Pn**	**14 33 29.0**	**+0.4**
BHD				*e*Sn	**Sn**	**14 34 02.0**	**+1.3**

IDC 20 14:33:24.3±6.9, **6.94S**×**153.80E, h93**km±47km, **mb3.1**/3, **mb1 3.3**/4, **mb1mx3.0**/23, **mbtmp3.4**/4, **Error ellipse: s-maj=73.1km s-min=26.8km az=102.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.15**	**326**	P	Pn	14 34 12.9	+0.8
	2.8nm,0.3s,baz=280,slow=4.9,SNR=7.0						
KRVT				S	Sn	14 34 48.9	+0.1
	0.9nm,0.3s,baz=38,slow=22,SNR=2.1						
WRA	**Warramunga Arr**	**22.88**	**234**	P	P	14 38 20.9	+0.6
	0.9nm,0.8s,baz=57,slow=9.7,SNR=5.4						
ASAR	**Alice Springs**	**25.33**	**227**	P	P	14 38 42.0	-0.7
	0.5nm,0.9s,baz=61,slow=8.8,SNR=5.9						
MKAR	**Makanchi Array**	**82.58**	**319**	P	P	14 45 38.5	+1.3
	0.3nm,0.7s,baz=91,slow=5.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**151.86**	**285**	PKPbc	PKPbc	14 53 08.2	-1.3
	0.3nm,0.5s,baz=101,slow=1.5,SNR=2.3						

*JMA **20** 14:34:02.2, 24.81N×122.32E, h0km, M2.5*
*TAP **20** 14:34:02.7, 24.87N×122.35E, h12km, ML2.9, C*
ISC 20 14:34:02.5±1.0, **24.86N**±0.03×**122.34E**±0.02, **h12**km±9km,
n67, σ0°68/109, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.36**	**295**	*i* P	**Pg**	**14 34 09.2**	**-0.6**
	baz=292						
TWB1				*e*S	**Sg**	**14 34 14.0**	**-0.5**
	baz=292						
EGS		**0.37**	**269**	*e*P	**Pg**	**14 34 10.5**	**+0.5**
	baz=265						
NTC	**Toucheng**	**0.47**	**270**	*e*P	**Pg**	**14 34 12.5**	**+0.8**
	baz=267						
TIPB	**Shuangxi**	**0.48**	**284**	P	**Pg**	**14 34 12.5**	**+0.4**
	baz=281						
TIPB				*e*S	**Sg**	**14 34 19.5**	**+1.0**
	baz=281						
TWC	**Suao**	**0.51**	**242**	*e*P	**Pg**	**14 34 11.9**	**-0.6**
	baz=239						
TWC				*e*S	**Sg**	**14 34 20.5**	**+1.1**
	baz=239						
ILA	**Ilan**	**0.55**	**261**	*e*P	**Pg**	**14 34 13.4**	**+0.1**
	baz=258						
NWF	**Wu-fen Shan**	**0.55**	**293**	P	**Pg**	**14 34 13.8**	**+0.4**
	baz=290						
NWF				S	**Sg**	**14 34 21.1**	**+0.3**
	baz=290						
WFSB	**Wu-fen Shan**	**0.55**	**293**	*e*P	**Pg**	**14 34 13.6**	**+0.2**
	baz=290						
WFSB				*i* S	**Sg**	**14 34 21.3**	**+0.5**
	baz=290						
TWE	**Neicheng**	**0.63**	**258**	*i* P	**Pg**	**14 34 14.6**	**-0.2**
	baz=255						
TWE				*i* S	**Sg**	**14 34 23.6**	**+0.5**
	baz=255						
ENAH	**Nanao**	**0.63**	**230**	*e*P	**Pg**	**14 34 15.1

NNSH	**Datong**	**0.97**	**244**	P	**Pg**	**14 34 20.5**	**-0.8**
	baz=243						
NNSH				S	**Sg**	**14 34 33.9**	**-0.1**
	baz=243						
NNS	**Nan Shan**	**0.97**	**245**	P	**Pg**	**14 34 20.7**	**-0.7**
	baz=243						
NNS				S	**Sg**	**14 34 33.8**	**-0.3**
	baz=243						
ETLH	**Xiulin Townshi**	**1.02**	**231**	*i* P	**Pb**	**14 34 21.3**	**-0.8**
	baz=230						
ETLH				*e*S	**Sb**	**14 34 34.2**	**-1.2**
	baz=230						
FUSS	**Fushou**	**1.17**	**239**	P	**Pb**	**14 34 23.9**	**-0.9**
	baz=238						
FUSS				S	**Sb**	**14 34 39.7**	**-0.3**
	baz=238						
WHF	**Hehuan Shan**	**1.21**	**234**	*e*P	**Pn**	**14 34 24.9**	**-0.7**
	baz=233						
WHF				*e*S	**Sb**	**14 34 41.0**	**-0.3**
	baz=233						
TWT	**Tachien**	**1.22**	**241**	*e*P	**Pn**	**14 34 25.5**	**0.0**
	baz=240						
TWT				S	**Sb**	**14 34 41.5**	**+0.1**
	baz=240						
LIOB	**Emei**	**1.23**	**260**	*e*P	**Pb**	**14 34 25.9**	**+0.3**
	baz=259						
TDCB	**Techi**	**1.23**	**241**	*e*P	**Pn**	**14 34 25.4**	**-0.3**
	baz=240						
TDCB				*e*S	**Sb**	**14 34 42.0**	**+0.2**
	baz=240						
NSTT	**Nanjuang**	**1.24**	**260**	*e*P	**Pn**	**14 34 25.9**	**+0.3**
	baz=258						
CHGB	**Renai**	**1.33**	**234**	*e*P	**Pn**	**14 34 27.3**	**+0.3**
	baz=233						
CHGB				S	**Sb**	**14 34 44.1**	**-0.4**
	baz=233						
IRIF	**Iriomote-Funau**	**1.36**	**112**	P	**Pg**	**14 34 28.5**	**-0.3**
IRIF				*e*S	**Sg**	**14 34 47.3**	**+0.8**
WHP	**Taichung City**	**1.40**	**246**	*e*P	**Pn**	**14 34 28.2**	**+0.3**
	baz=245						
WHP				*e*S	**Sn**	**14 34 46.0**	**-0.2**
	baz=245						
HATJ	**Hateruma jima**	**1.55**	**121**	P	**Pb**	**14 34 31.3**	**+0.1**
HATJ				S	**Sb**	**14 34 50.9**	**+0.1**
VWDT	**VWDT**	**1.55**	**225**	*e*P	**Pn**	**14 34 30.7**	**+0.8**
	baz=224						
HGSD	**Ruisui**	**1.59**	**212**	*e*P	**Pn**	**14 34 31.3**	**+0.8**
	baz=211						
SMLT	**Sun Moon Lake**	**1.63**	**234**	*e*P	**Pb**	**14 34 33.1**	**+0.5**
	baz=233						
JKRS	**Kuro-shima**	**1.64**	**112**	P	**Pb**	**14 34 32.5**	**-0.1**
JKRS				S	**Sb**	**14 34 53.2**	**0.0**
TYC	**Yuchr**	**1.65**	**235**	*e*P	**Pb**	**14 34 32.7**	**-0.2**
	baz=234						
SSLB	**Suanglung**	**1.65**	**230**	*e*P	**Pn**	**14 34 32.6**	**+1.2**
	baz=229						
SSLB				S	**Sn**	**14 34 53.0**	**+0.4**
	baz=229						
JIJ	**Ishigaki jima**	**1.71**	**106**	P	**Pb**	**14 34 33.3**	**-0.6**
JIJ				*e*S	**Sb**	**14 34 55.0**	**-0.3**
YULB	**Yu-li**	**1.74**	**213**	*e*P	**Pn**	**14 34 32.8**	**+0.2**
	baz=213						
JISG	**Ishigakijimahi**	**1.81**	**98**	P	**Pb**	**14 34 35.0**	**-0.6**
JISG				S	**Sg**	**14 34 59.6**	**-1.2**
FULB	**Fuli**	**1.91**	**210**	*e*P	**Pn**	**14 34 35.0**	**+0.1**
	baz=210						
CHN5	**Tsauling**	**1.97**	**231**	*e*P	**Pb**	**14 34 37.8**	**-0.5**
	baz=230						
EDH	**Donghe**	**2.10**	**207**	*e*P	**Pn**	**14 34 37.6**	**+0.1**
	baz=206						
TPUB	**Ta-pu**	**2.20**	**226**	*e*P	**Pn**	**14 34 40.9**	**+2.0**
	baz=225						
STYT	**Tauyuan**	**2.22**	**221**	*e*P	**Pn**	**14 34 39.7**	**+0.4**
	baz=220						
WTP	**Ta-pu**	**2.25**	**225**	*e*P	**Pb**	**14 34 42.3**	**-0.9**
	baz=224						
TWK	**Hsinying**	**2.32**	**227**	*e*P	**Pn**	**14 34 41.7**	**+1.1**
	baz=226						
CHN1	**Nanshi**	**2.35**	**225**	*e*P	**Pb**	**14 34 43.6**	**-1.2**
	baz=224						
SLGT	**Liugui**	**2.42**	**220**	*e*P	**Pn**	**14 34 43.9**	**+2.0**
	baz=219						
MASBT	**Mashibuluo**	**2.73**	**215**	*e*P	**Pn**	**14 34 47.7**	**+1.6**
	baz=215						
EAST	**Anshuo**	**2.82**	**209**	*e*P	**Pn**	**14 34 50.2**	**+2.9**
	baz=208						

*JMA **20** 15:21:55.6, 34.°22N×135.°31E, h5km±1km, M3.5*
JMA Felt II J1.
*NIED **20** 15:21:55.7, 34.°22N×135.°31E, h5km, MW3.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.30; Mθθ0.80; Mφφ -1.10; Mrθ-0.19; Mθφ0.31; Mφr0.09; Fault plane solution: M₀1.03000×10¹⁴ NP1: φs307.00000°, δ82.00000°, λ15.00000°. NP2: φs215.00000°, δ75.00000°, λ172.00000°.*
*IDC **20** 15:21:55.2±1.4, 34.°17N×135.°31E, h0km, mb3.5/2, mb1 3.5/6, mb1mx3.3/48, mbtmp3.4/6, ML2.7/4, MS3.2/1, Ms1 3.2/1, ms1mx2.1/32 Error ellipse: s-maj=28.7km s-min=17.2km az=158.0*
ISC 20 15:21:56.2±1.0, 34°22N±0.°03×135°32E±0.°04, h10km±8km, n13, σ1§03/19, 3C-2D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JWY	**Kouya**	**0.23**	**91**	⇓P		**Pg**	**15 22 00.2**	**-0.7**
JWY				*e*S		**Sg**	**15 22 04.0**	**-0.1**
JWM	**Minabe**	**0.38**	**175**	⇑P		**Pg**	**15 22 03.1**	**-0.5**
JWM				*e*S		**Sg**	**15 22 08.4**	**-0.2**
JAWN	**Awajishima-nag**	**0.43**	**307**	⇑P		**Pg**	**15 22 04.2**	**-0.5**
JAWN				S		**Sg**	**15 22 10.3**	**-0.1**
JTNC	**Tanabenakahech**	**0.47**	**149**	⇑P		**Pg**	**15 22 05.1**	**-0.3**
JTNC				S		**Sg**	**15 22 11.5**	**-0.1**
JHE	**Heguri**	**0.53**	**35**	⇓P		**Pg**	**15 22 06.1**	**-0.3**
JHE				S		**Sg**	**15 22 13.4**	**+0.1**
MAT	**Matsushiro**	**3.30**	**45**	P		**Pn**	**15 22 49.0**	**+1.0**
MAT				*e*S		**Sn**	**15 23 25.0**	**-2.4**
MJAR	**Matsushiro Arr**	**3.31**	**45**	Pn		**Pn**	**15 22 49.3**	**+1.3**
	0.2nm,0.3s,baz=266,slow=30,SNR=4.8							
MJAR				Pg		**Pb**	**15 22 56.3**	**+1.4**
	0.2nm,0.3s,baz=245,slow=22,SNR=5.6							
JNU	**Nakatsue**	**3.86**	**255**	Pn		**Pn**	**15 22 57.2**	**+1.5**
	0.7nm,0.3s,baz=156,slow=6.8,SNR=7.5							
JNU				Lg		Lg	15 23 57.8	
	0.5nm,0.3s,baz=243,slow=19,SNR=2.3							
JHJ	**Hachijo jima 2**	**3.88**	**105**	Pn		**Pn**	**15 22 57.3**	**+1.4**
	14nm,0.3s,baz=69,slow=20,SNR=9.2							
KSRS	**Korea Array**	**6.82**	**300**	Pn		**Pn**	**15 23 35.8**	**-0.4**
	0.1nm,0.3s,baz=118,slow=14,SNR=2.5							
NRIK	**Noril'sk**	**43.86**	**338**	LR		LR	15 50 53.7	
	comp=Z,24nm,18.1s,baz=200,slow=40							
WRA	**Warramunga Arr**	**53.87**	**181**	P		**P**	**15 31 19.1**	**-0.6**
	0.8nm,0.9s,baz=356,slow=7.5,SNR=6.5							
ASAR	**Alice Springs**	**57.59**	**182**	P		**P**	**15 31 46.3**	**0.0**
	0.2nm,0.6s,baz=8.7,slow=13,SNR=1.5							

*TEH **20** 15:23:11.4, 32.°56N×47.°73E, h12km, ML2.9*
*ISN **20** 15:23:11.4±0.9, 32.°58N×47.°72E, h14km±6km, ML2.8*
ISC 20 15:23:11.9±1.3, 32°54N±0.°07×47°74E±0.°06, h10km, n11, σ0§76/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.41**	**290**	*e*Pg		**Pg**	**15 23 19.8**	**-0.3**
IKFM	**Kafar-mosalman**	**0.98**	**5**	*e*Pg		**Pg**	**15 23 30.0**	**-0.9**
IKMR	**Kamar-syah**	**1.11**	**29**	*e*Pg		**Pb**	**15 23 32.7**	**-0.6**
IDOB	**Doab**	**1.29**	**16**	*e*Pg		**Pn**	**15 23 36.8**	**+0.5**
IDOB				*e*			15 23 37.6	
BMDN	**Meydan**	**1.45**	**39**	*e*Pg		**Pn**	**15 23 38.5**	**+0.1**
BMDN				*e*			15 24 02.7	
IBDR	**Badra**	**1.63**	**291**	*e*Pg		**Pn**	**15 23 40.0**	**-0.6**
IBDR				*e*Sg		**Sn**	**15 24 02.0**	**+0.4**
IBDR					AML	AML	15 24 11.5	
	comp=N,148nm,0.5s							
IBDR					AML	AML	15 24 23.3	
	comp=E,107nm,0.6s							
IKOM	**Komasi**	**1.64**	**353**	*e*Pg		**Pn**	**15 23 42.1**	**+1.1**
IKOM				*e*			15 24 08.0	
HSAM	**Samen**	**1.81**	**23**	*e*Pg		**Pn**	**15 23 45.0**	**+1.5**
HSAM				*e*			15 24 15.8	
IBZA	**Bozab**	**1.93**	**3**	*e*Pg		**Pb**	**15 23 47.2**	**-0.1**
IBZA				*e*			15 24 15.4	
NSR	**Nassriya**	**2.05**	**222**	*e*Pn		**Pn**	**15 23 47.0**	**+0.6**
NSR				*e*Sn		**Sn**	**15 24 12.0**	**0.0**
BHD	**Baghdad**	**2.92**	**285**	*e*Pn		**Pn**	**15 23 59.0**	**+0.6**
BHD				*e*Sn		**Sn**	**15 24 34.0**	**+0.5**

*KRNET **20** 15:31:09.7±0.1, 41.°40N×79.°11E, h18km, mb2.9*
*SOME **20** 15:31:09.3, 41.°42N×79.°05E, h0km*
*NNC **20** 15:31:12.2±2.2, 41.°49N×79.°18E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=15.3km s-min=10.2km az=159.0*
ISC 20 15:31:08.0±2.3, 41°35N±0.°08×79°04E±0.°05, h1km±12km, n47, σ1§44/80, 23C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.00**	**293**	⇑*i*P		**Pn**	**15 31 29.3**	**-0.3**
	baz=89							
TARG				⇑*i*S		**Sn**	**15 31 44.1**	**-0.4**
	baz=89							
PRZ	**Przheval'sk**	**1.23**	**337**	⇓*e*P		**Pn**	**15 31 32.6**	**+0.1**
	baz=35							
PRZ				⇓*i*S		**Sn**	**15 31 49.3**	**-0.6**
	baz=35							
KDJ	**Kajisay**	**1.60**	**300**	⇑*i*P		**Pg**	**15 31 40.0**	**+1.4**
	baz=98							
KDJ				⇑*i*S		**Sg**	**15 32 01.5**	**+2.2**
	baz=98							
ANVS	**Anan'yevo**	**1.76**	**325**	⇑*i*P		**Pg**	**15 31 42.1**	**+0.3**
	baz=23							
ANVS				⇑*i*S		**Sg**	**15 32 06.3**	**+1.7**
	baz=23							
SATY	**Saty**	**1.77**	**345**	*e*P		**Pg**	**15 31 42.5**	**+0.5**
	10nm,0.2s							
SATY				*e*S		**Sg**	**15 32 06.2**	**+1.2**
	28nm,0.2s							
SATY	**Saty**	**1.77**	**345**	P		**Pg**	**15 31 42.5**	**+0.5**
	10nm,0.2s							
SATY				S		**Sg**	**15 32 06.2**	**+1.2**
	28nm,0.2s							
UZB	**Uzynbulak**	**1.80**	**360**	*e*P		**Pb**	**15 31 41.6**	**-0.2**
	3.5nm,0.2s							
UZB				*e*S		**Sg**	**15 32 04.8**	**-1.0**
	9.4nm,0.2s							
UZB	**Uzynbulak**	**1.80**	**360**	P		**Pb**	**15 31 41.6**	**-0.2**
	3.5nm,0.2s							
UZB				S		**Sg**	**15 32 04.8**	**-1.0**
	9.4nm,0.2s							
SHLS	**Shalkode**	**1.84**	**10**	*e*P		**Pg**	**15 31 43.6**	**+0.5**
	39nm,0.3s							
SHLS				*e*S		**Sg**	**15 32 08.3**	**+1.3**
	36nm,0.3s							
SHLS	**Shalkode**	**1.84**	**10**	P		**Pg**	**15 31 43.6**	**+0.5**
	39nm,0.3s							
SHLS				S		**Sg**	**15 32 08.3**	**+1.3**
	36nm,0.3s							
KURS	**Kuram**	**2.23**	**344**	*e*P		**Pg**	**15 31 50.7**	**-0.1**
	19nm,0.3s							
KURS				*e*S		**Sg**	**15 32 20.6**	**+0.8**
	18nm,0.3s							
KURS	**Kuram**	**2.23**	**344**	Pg		**Pg**	**15 31 50.7**	**-0.1**
	19nm,0.3s							
KURS				Lg		Lg	15 32 20.6	
	18nm,0.3s							
ULHL	**Ulahol**	**2.28**	**294**	⇑*e*P		**Pb**	**15 31 51.0**	**+1.0**
	baz=93							
ULHL				⇑*i*S		**Sg**	**15 32 21.1**	**-0.1**
	baz=93							
TNSS	**Tian-Shan**	**2.30**	**318**	⇓*e*P		**Pg**	**15 31 52.6**	**+0.6**
	22nm,0.2s							
TNSS				*e*S		**Sg**	**15 32 23.8**	**+2.0**
	39nm,0.4s							
TNSS	**Tian-Shan**	**2.30**	**318**	Pg		**Pg**	**15 31 52.6**	**+0.6**
	22nm,0.2s							
TNSS				Lg		Lg	15 32 23.8	
	39nm,0.4s							
MDOK	**Medeo**	**2.34**	**321**	⇑*e*P		**Pg**	**15 31 53.0**	**+0.1**
	6.2nm,0.2s							
MDOK				*e*S		**Sg**	**15 32 24.5**	**+1.2**
	37nm,0.5s							
MDOK	**Medeo**	**2.34**	**321**	⇑Pn		**Pg**	**15 31 52.8**	**-0.1**
	6.2nm,0.6s							
MDOK				⇓Sn		**Sg**	**15 32 24.7**	**+1.5**
	26nm,0.5s							
MDOK	**Medeo**	**2.34**	**321**	Pg		**Pg**	**15 31 53.0**	**+0.1**
	6.2nm,0.2s							
MDOK				Lg		Lg	15 32 24.5	
	37nm,0.5s							
KOTS	**Kotyrbulak**	**2.37**	**323**	*e*P		**Pg**	**15 31 53.6**	**+0.2**
	27nm,0.2s							
KOTS				*e*S		**Sg**	**15 32 25.4**	**+1.3**
	68nm,0.3s							
KOTS	**Kotyrbulak**	**2.37**	**323**	Pg		**Pg**	**15 31 53.6**	**+0.2**
	27nm,0.2s							
KOTS				Lg		Lg	15 32 25.4	
	68nm,0.3s							
AAA	**Alma-Ata**	**2.44**	**320**	*e*P		**Pg**	**15 31 55.5**	**+0.7**
	22nm,0.1s							
AAA				*e*S		**Sg**	**15 32 28.7**	**+2.4**
	60nm,0.2s							
AAA	**Alma-Ata**	**2.44**	**320**	Pg		**Pg**	**15 31 55.5**	**+0.7**
	22nm,0.1s							
AAA				Lg		Lg	15 32 28.7	
	60nm,0.2s							
IZV	**Izvestkoviy**	**2.47**	**314**	*e*P		**Pg**	**15 31 55.7**	**+0.4**
	9.3nm,0.2s							
IZV				*e*S		**Sg**	**15 32 29.1**	**+1.7**
	52nm,0.2s							
IZV	**Izvestkoviy**	**2.47**	**314**	Pg		**Pg**	**15 31 55.7**	**+0.4**
	9.3nm,0.2s							
IZV				Lg		Lg	15 32 29.1	
	52nm,0.2s							
MTBS	**Maitube**	**2.63**	**313**	*e*P		**Pg**	**15 31 58.6**	**+0.1**
	5.6nm,0.3s							
MTBS				*e*S		**Sg**	**15 32 34.1**	**+1.5**
	44nm,0.2s							
MTBS	**Maitube**	**2.63**	**313**	Pg		**Pg**	**15 31 58.6**	**+0.1**
	5.6nm,0.3s							
MTBS				Lg		Lg	15 32 34.1	
	44nm,0.2s							
KST	**Kastek**	**2.85**	**308**	⇑*e*P		**Pg**	**15 32 02.2**	**-0.3**
	8.6nm,0.4s							
KST				*e*S		**Sg**	**15 32 40.4**	**+1.0**
	49nm,0.5s							
KST	**Kastek**	**2.85**	**308**	Pg		**Pg**	**15 32 02.2**	**-0.3**
	8.6nm,0.4s							
KST				Lg		Lg	15 32 40.4	
	49nm,0.5s							
CHKK	**Chushkaly**	**2.93**	**330**	*e*P		**Pg**	**15 32 02.9**	**-1.2**
	16nm,0.4s							
CHKK				*e*S		**Sg**	**15 32 41.6**	**-0.4**
	85nm,0.3s							
CHKK	**Chushkaly**	**2.93**	**330**	Pg		**Pg**	**15 32 02.9**	**-1.2**
	16nm,0.4s							
CHKK				Lg		Lg	15 32 41.6	
	85nm,0.3s							
KZA	**Kyzart**	**2.93**	**286**	⇑*i*P		**Pb**	**15 31 59.9**	**-1.4**
	baz=85							
KZA				⇑*e*S		**Sb**	**15 32 36.8**	**-0.9**
	baz=85							
KTBS	**Karatobe**	**2.94**	**324**	*e*P		**Pg**	**15 32 03.2**	**-1.0**
	4.5nm,0.5s							
KTBS				*e*S		**Sg**	**15 32 42.1**	**-0.2**
	64nm,0.2s							
KTBS	**Karatobe**	**2.94**	**324**	Pg		**Pg**	**15 32 03.2**	**-1.0**
	4.5nm,0.5s							
KTBS				Lg		Lg	15 32 42.1	
	64nm,0.2s							
ARXS	**Arharly**	**3.00**	**343**	*e*P		**Pb**	**15 32 03.6**	**+1.4**
	10nm,0.3s							
ARXS				*e*S		**Sg**	**15 32 42.5**	**-1.9**
	26nm,0.4s							
ARXS	**Arharly**	**3.00**	**343**	Pg		**Pb**	**15 32 03.6**	**+1.4**
	10nm,0.3s							
ARXS				Lg		Lg	15 32 42.5	
	26nm,0.4s							
TKM2	**Tokmak 2**	**3.01**	**303**	⇑*i*P		**Pb**	**15 32 01.0**	**-1.4**
	baz=1.0							
TKM2				⇑*i*S		**Sb**	**15 32 38.1**	**-1.6**
	baz=1.0							
TKM2	**Tokmak 2**	**3.01**	**303**	⇑Pn		**Pg**	**15 32 04.9**	**-0.7**
	2.7nm,0.4s							
TKM2				⇑Sn		**Sg**	**15 32 45.1**	**+0.5**
	13nm,0.6s							
DGS	**Degeres**	**3.08**	**309**	*e*P		**Pg**	**15 32 06.0**	**-0.9**
	3.7nm,0.4s							
DGS				*e*S		**Sg**	**15 32 46.9**	**0.0**
	18nm,0.5s							
DGS	**Degeres**	**3.08**	**309**	Pg		**Pg**	**15 32 06.0**	**-0.9**
	3.7nm,0.4s							
DGS				Lg		Lg	15 32 46.9	
	18nm,0.5s							
KRBS	**Karabastau**	**3.42**	**314**	*e*P		**Pg**	**15 32 11.7**	**-1.8**
	2.3nm,0.2s							
KRBS				*e*S		**Sg**	**15 32 56.7**	**-1.2**
	5.7nm,0.4s							
KRBS	**Karabastau**	**3.42**	**314**	Pg		**Pg**	**15 32 11.7**	**-1.8**
	2.3nm,0.2s							
KRBS				Lg		Lg	15 32 56.7	
	5.7nm,0.4s							
UCH	**Uchtor**	**3.50**	**286**	⇑*e*P		**Pb**	**15 32 08.2**	**-2.8**
	baz=85							
UCH				⇑*i*S		**Sb**	**15 32 51.0**	**-3.1**
	baz=85							
ARLS	**Aral**	**3.58**	**280**	⇑*i*P		**Pb**	**15 32 09.1**	**-3.0**
	baz=79							
ARLS				⇑*i*S		**Sb**	**15 32 52.0**	**-4.0**
	baz=79							
AAK	**Ala-Archa**	**3.63**	**292**	Pn		**Pg**	**15 32 18.3**	**+0.8**
	1.6nm,0.5s							
AAK				Sn		**Sg**	**15 33 04.7**	**+0.3**
	4.1nm,0.6s							
KAPS	**Kapalarasan**	**3.94**	**3**	*e*P		**Pg**	**15 32 22.1**	**-1.4**
	3.4nm,0.4s							
KAPS				*e*S		**Sg**	**15 33 14.6**	**-0.1**
	13nm,0.6s							
KAPS	**Kapalarasan**	**3.94**	**3**	Pg		**Pg**	**15 32 22.1**	**-1.4**
	3.4nm,0.4s							
KAPS				Lg		Lg	15 33 14.6	
	13nm,0.6s							
AML	**Almayashu**	**4.08**	**283**	⇑*e*P		**Pn**	**15 32 16.0**	**+4.2**
	baz=82							
AML				⇑*i*S		**Sn**	**15 33 04.7**	**+4.4**
	baz=82							

NNC 20 15:44:47.9±6.5, 37.°08N×70.°88E, h0km, mb4.0, mpv3.7, 3C-4D, Error ellipse: s-maj=64.4km s-min=34.0km az=154.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.02**	**357**	P		Pn	15 46 20.7	+2.5
	5.4nm,0.3s,baz=180,slow=13,SNR=152							
KK31				⇓S		Sn	15 47 31.9	+4.1
	4.0nm,0.4s,baz=181,slow=30,SNR=5.4							
AAK	**Ala-Archa**	**6.21**	**25**	⇑P		Pn	15 46 20.9	+0.1
	2.2nm,0.4s							
AAK				⇑S		Sn	15 47 33.4	+0.8
	6.4nm,0.4s							
TKM2	**Tokmak 2**	**6.86**	**30**	⇑P		Pn	15 46 29.3	-0.7
	1.6nm,0.5s							
TKM2				⇓S		Sn	15 47 48.2	-0.7
	1.7nm,0.6s							
AB31	**Akbulak array**	**14.53**	**330**	⇓P		Pn	15 48 13.5	-1.2
	0.6nm,0.3s							
AKTO	**Aktyubinsk**	**16.23**	**329**	⇓P		Pn	15 48 35.9	-1.2
	1.7nm,0.5s							

*TEH **20** 15:58:10.4, 32.°71N×47.°40E, h7km, ML3.3*
*ISN **20** 15:58:11.3±1.0, 32.°73N×47.°45E, h31km±6km, ML3.2*
ISC 20 15:58:11.5±1.1, 32°70N±0.°04×47°37E±0.°04, h12km±8km, n31, σ1§59/34, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.08**	**259**	*e*Pg		**Pg**	**15 58 13.1**	**-1.0**
IKMR	**Kamar-syah**	**1.18**	**46**	*e*Pg		**Pn**	**15 58 33.0**	**-0.8**
IKMR				*e*			15 58 57.6	
IBDR	**Badra**	**1.28**	**289**	*e*Pg		**Pg**	**15 58 36.0**	**-0.1**
IBDR				*e*Sg		**Sn**	**15 58 53.0**	**+0.7**
IBDR					AML	AML	15 58 57.7	
	comp=N,262nm,0.4s							
IBDR					AML	AML	15 58 58.8	
	comp=E,290nm,0.7s							
IDOB	**Doab**	**1.28**	**32**	*e*Pg		**Pn**	**15 58 35.0**	**-0.5**
IKOM	**Komasi**	**1.48**	**5**	*e*Pg		**Pg**	**15 58 38.5**	**-1.5**
IKOM				*e*			15 59 03.5	
BMDN	**Meydan**	**1.56**	**51**	*e*Pg		**Pb**	**15 58 39.4**	**-1.0**
BMDN				*e*			15 59 07.7	
KCHF	**Cheshme Sefid,**	**1.60**	**350**	*e*Pg		**Pg**	**15 58 40.9**	**-1.4**
KCHF				*e*			15 59 11.9	
KER	**Kermanshah**	**1.70**	**353**	*e*Pn		**Pg**	**15 58 42.8**	**-1.3**
IBZA	**Bozab**	**1.82**	**13**	*e*Pg		**Pg**	**15 58 44.5**	**-1.9**
IBZA				*e*			15 59 14.4	
HSAM	**Samen**	**1.83**	**34**	*e*Pg		**Pb**	**15 58 44.0**	**-1.1**
HSAM				*e*			15 59 14.6	
IVIS	**Veis**	**1.88**	**347**	*e*Pn		**Pb**	**15 58 45.1**	**-0.7**
IVIS				*e*			15 59 18.1	
NSR	**Nassriya**	**1.98**	**212**	*e*Pn		**Pn**	**15 58 45.0**	**+0.2**
NSR				*e*Sn		**Sn**	**15 59 09.0**	**-0.5**
IDHR	**Dehrash**	**2.16**	**338**	*e*Pn		**Pb**	**15 58 48.9**	**-1.8**
IDHR				*e*			15 59 24.1	
ILIN	**Lien**	**2.24**	**351**	*e*Pn		**Pn**	**15 58 49.2**	**+0.5**
ILIN				*e*			15 59 28.5	
IALM	**Almabolaq**	**2.26**	**17**	*e*Pn		**Pb**	**15 58 51.0**	**-1.4**
BHD	**Baghdad**	**2.58**	**284**	*e*Pn		**Pn**	**15 58 53.0**	**0.0**
BHD				*e*Sn		**Sn**	**15 59 25.0**	**+0.7**
BHD					AML	AML	15 59 30.4	
	comp=E,320nm,0.5s							
HAGD	**Aghdareh**	**2.58**	**34**	*e*Pn		**Pb**	**15 58 54.7**	**-3.2**
HAGD				*e*			15 59 30.8	
HSRG	**Sareghieh**	**2.65**	**16**	*e*		**Sg**	**15 59 42.3**	**+5.6**
JHBN	**Jahan bin**	**2.82**	**99**	*e*Pn		**Pn**	**15 58 57.8**	**+1.1**
JHBN				*e*			15 59 48.2	
IPIR	**Pirpir**	**2.97**	**89**	*e*Pn		**Pn**	**15 59 00.1**	**+1.4**
IPIR				*e*			15 59 51.4	
ROKH	**ROKH**	**3.12**	**95**	*e*Pn		**Pn**	**15 59 01.0**	**+0.3**
ROKH				*e*			15 59 59.1	
IRAZ	**Razeghan**	**3.44**	**37**	*e*Pn		**Pn**	**15 59 05.2**	**+0.1**
QABG	**Abgarm-Qazvin**	**3.52**	**31**	*e*Pn		**Pn**	**15 59 06.8**	**+0.6**
IKLH	**Kolahrood**	**3.59**	**79**	*e*Pn		**Pn**	**15 59 08.7**	**+1.5**
IKLH				*e*			16 00 13.5	
IGAR	**Gharneh**	**3.96**	**93**	*e*Pn		**Pn**	**15 59 12.1**	**-0.1**
IGAR				*e*			16 00 01.5	
KLNJ	**Kolanjah**	**3.97**	**114**	*e*Pn		**Pn**	**15 59 13.5**	**+1.0**
KLNJ				*e*			16 00 28.8	
QSDN	**Sirdan**	**4.08**	**21**	*e*Pn		**Pn**	**15 59 15.3**	**+1.4**
IZEF	**Zefreh**	**4.18**	**86**	*e*Pn		**Pn**	**15 59 16.7**	**+1.3**
IRAM

IGHG			*e*			16 03 43.6
NSR	**Nassriya**	**2.06**	**222**	*e*Pn	**Pn**	**16 02 59.0 +1.4**
NSR				*e*Sn	**Sn**	**16 03 24.0 +0.7**
IVIS	**Veis**	**2.10**	**340**	*e*Pn	**Pn**	**16 03 01.0 +2.7**
IVIS				*e*		16 03 37.7
IALM	**Almabolaq**	**2.32**	**9**	*e*Pn	**Pn**	**16 03 04.0 +2.4**
IDHR	**Dehrash**	**2.42**	**333**	*e*Pn	**Pn**	**16 03 04.3 +1.5**
IDHR				*e*		16 03 46.1
ILIN	**Lien**	**2.44**	**345**	*e*Pn	**Pn**	**16 03 04.0 +0.8**
ILIN				*e*		16 03 48.0
JHBN	**Jahan bin**	**2.50**	**97**	*e*		16 03 57.6
JHBN				*e*Pn	**Pn**	**16 03 06.4 +2.4**
HAGD	**Aghdareh**	**2.54**	**27**	*e*		16 03 51.9
HAGD				*e*Pn	**Pn**	**16 03 06.9 +2.3**
IPIR	**Pirpir**	**2.67**	**86**	*e*		16 03 55.8
IPIR				*e*Pn	**Pn**	**16 03 09.0 +2.7**
HSRG	**Sareghieh**	**2.71**	**9**	*e*	**Sb**	**16 03 46.6 +1.2**
ROKH	**ROKH**	**2.80**	**93**	*e*Pn	**Pn**	**16 03 10.3 +2.3**
ROKH				*e*		16 04 10.4
BHD	**Baghdad**	**2.91**	**285**	*e*Pn	**Pn**	**16 03 11.0 +1.6**
BHD				*e*Sn	**Sn**	**16 03 46.0 +1.6**
IKLH	**Kolahrood**	**3.32**	**76**	*e*Pn	**Pn**	**16 03 18.3 +3.1**
IKLH				*e*		16 04 18.0
IRAZ	**Razeghan**	**3.37**	**32**	*e*Pn	**Pn**	**16 03 18.9 +2.9**
QABG	**Abgarm-Qazvin**	**3.50**	**25**	*e*Pn	**Pn**	**16 03 19.3 +1.6**
KLNJ	**Kolanjah**	**3.63**	**114**	*e*Pn	**Pn**	**16 03 21.6 +2.0**
KLNJ				*e*		16 04 28.5
IGAR	**Gharneh**	**3.64**	**91**	*e*Pn	**Pn**	**16 03 21.6 +1.9**
QSDN	**Sirdan**	**4.11**	**16**	*e*Pn	**Pn**	**16 03 28.4 +2.3**
QALM	**Alamut, Qazvin**	**4.55**	**31**	*e*Pn	**Pn**	**16 03 33.5 +1.3**
WSAR	**Wadi Sarin**	**13.37**	**131**	Pn	**Pn**	**16 05 31.2 -1.7**
	comp=E,0.1nm,0.3s,baz=246,slow=8.3,SNR=1.8					
WSAR				Sn	**Sn**	**16 07 55.5 -6.1**
	comp=E,0.1nm,0.3s,baz=55,slow=6.1,SNR=1.9					
IDI	**Anoyia**	**19.15**	**284**	P	**P**	**16 06 47.1 +0.6**
	comp=E,0.4nm,0.3s,baz=85,slow=12,SNR=2.3					
AKTO	**Aktyubinsk**	**19.42**	**20**	P	**P**	**16 06 50.2 +0.9**
	comp=E,0.2nm,0.3s,baz=197,slow=11,SNR=6.4					
ATD	**Arta Tunnel**	**21.41**	**193**	LR	LR	16 16 10.0
	comp=E,33nm,19.5s,baz=8.5,slow=39					
BVAR	**Borovoye Array**	**26.16**	**32**	P	**P**	**16 07 57.0 -0.3**
	comp=E,1.0nm,0.7s,baz=216,slow=7.3,SNR=6.4					
KURBB	**Kurchatov Arra**	**28.96**	**42**	P	**P**	**16 08 22.8 +0.4**
	comp=E,0.4nm,0.7s,baz=248,slow=8.9,SNR=5.1					
MKAR	**Makanchi Array**	**29.89**	**51**	P	**P**	**16 08 30.8 +0.1**
	comp=E,0.5nm,0.6s,baz=244,slow=8.0,SNR=5.5					
ZALV	**Zalesovo Beam**	**33.88**	**40**	LR	LR	16 26 40.5
	comp=E,21nm,20.4s,baz=55,slow=43					
ESDC	**Sonseca Array**	**41.88**	**295**	P	**P**	**16 10 12.9 -0.6**
	comp=E,0.2nm,0.4s,baz=74,slow=9.2,SNR=2.6					
TORD	**Torodi Ar. Bea**	**46.21**	**256**	P	**P**	**16 10 47.7 -0.7**
	comp=E,0.2nm,0.4s,baz=65,slow=8.0,SNR=1.7					

*NEIC **20** 16:33:58.8±0.8,37°.25N±0°.03×97°.96W±0°.04,h7km±3km, mb_Lg3.1/118, Error ellipse: s-maj=4.9km s-min=3.7km az=50.0*
*ANF **20** 16:33:59.7±1.2,37°.23N×97°.98W,h9km±8km,ML4.2/15, Error ellipse: s-maj=4.0km s-min=3.2km az=28.0*
ISC 20 16:33:58.8±0.9,37°.24N±0°.03×97°.94W±0°.03,h5km±7km, n114,σ0s72/94,Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN12	**Harper NE Stat**	**0.07**	**324**	Pg	**Pg**	**16 34 00.6**	**+0.1**
KAN12				Sg	**Sg**	**16 34 01.9**	**+0.1**
KAN10	**Anthony SW Sta**	**0.17**	**227**	Pg	**Pg**	**16 34 02.0**	**-0.1**
KAN13	**South Haven SW**	**0.43**	**121**		**Pg**	**16 34 07.5**	**+0.4**
KAN13				Sg	**Sg**	**16 34 13.6**	**+0.7**
CROK	**Carrier**	**0.73**	**183**	Pg	**Pg**	**16 34 12.4**	**-0.4**
T35A	**Sooner Cattle**	**1.19**	**105**		**Pb**	**16 34 21.3**	**-0.5**
T35A				Sg	**Sg**	**16 34 37.0**	**0.0**
R32A	**Long Quarter,**	**1.33**	**333**	Pn	**Pn**	**16 34 23.3**	**-0.7**
QUOK	**Quay**	**1.46**	**137**		**Pn**	**16 34 25.5**	**-0.1**
OK029	**Liberty Lake**	**1.49**	**165**		**Pn**	**16 34 26.1**	**-0.1**
BCOK	**Bluff Creek, N**	**1.60**	**170**		**Pn**	**16 34 27.9**	**+0.2**
ADOK	**Arcadia Dam**	**1.65**	**164**	Pn	**Pn**	**16 34 28.9**	**+0.6**
OK025	**Westminster Rd**	**1.72**	**163**		**Pn**	**16 34 30.0**	**+0.7**
OKCFA	**Oklahoma City**	**1.86**	**168**		**Pn**	**16 34 31.6**	**+0.3**
OKCFA				IAmb_Lg		16 35 00.8	
	comp=E,119nm,0.8s						
OKCSW	**OKLAHOMA CITY**	**1.87**	**167**	Pn	**Pn**	**16 34 32.4**	**+1.0**
FNO	**Franklin**	**2.02**	**167**		**Pn**	**16 34 34.3**	**+0.8**
CBKS	**Cedar Bluff**	**2.12**	**319**	P	**Pn**	**16 34 35.2**	**+0.3**
	baz=138						
CBKS				S	**Sn**	**16 35 02.4**	**+0.9**
	baz=138						
CBKS	**Cedar Bluff**	**2.12**	**319**		**Pn**	**16 34 35.3**	**+0.4**
KSU1	**Kansas State U**	**2.14**	**29**	P	**Pn**	**16 34 36.3**	**+1.2**
	baz=210,SNR=9.3						
KSU1				S	**Sb**	**16 35 04.5**	**-0.2**
	baz=210						
KSU1	**Kansas State U**	**2.14**	**29**		**Pn**	**16 34 36.1**	**+1.1**
TUL1	**Leonard**	**2.18**	**127**	P	**Pn**	**16 34 36.3**	**+0.7**
	baz=308,SNR=18						
TUL1				S	**Sb**	**16 35 06.3**	**+0.4**
	baz=308						
TUL1	**Leonard**	**2.18**	**127**		**Pn**	**16 34 36.3**	**+0.7**
W35A	**Tecumseh**	**2.25**	**157**		**Pn**	**16 34 36.8**	**+0.2**
WMOK	**Wichita Mounta**	**2.58**	**195**	P	**Pn**	**16 34 41.6**	**+0.3**
	baz=14						
WMOK				S	**Sn**	**16 35 14.8**	**+1.8**
	baz=14						
WMOK	**Wichita Mounta**	**2.58**	**195**	Pn	**Pn**	**16 34 41.8**	**+0.5**
X34A	**Smith Ranch, M**	**2.63**	**178**		**Pn**	**16 34 42.8**	**+0.9**
U38A	**Gravette**	**2.96**	**105**		**Pn**	**16 34 47.5**	**+1.1**
U38A				IAmb_Lg		16 35 33.8	
	comp=Z,62nm,0.7s						
HHAR	**Hobbs**	**3.35**	**105**		**Pn**	**16 34 52.6**	**+0.8**
HHAR				IAmb_Lg		16 35 51.3	
	comp=Z,47nm,0.7s						
X37A	**Clayton**	**3.37**	**141**		**Pn**	**16 34 52.8**	**+0.9**
N33A	**J Bar K, Exete**	**3.52**	**6**	Pn	**Pn**	**16 34 54.3**	**+0.3**
S39A	**Bolivar**	**3.70**	**82**		**Pn**	**16 34 57.2**	**+0.6**
S39A				IAmb_Lg		16 36 02.4	
	comp=Z,38nm,0.8s						
AMTX	**Amarillo**	**3.83**	**233**	P	**Pn**	**16 34 58.5**	**+0.1**
	baz=51						
AMTX				S	**Sn**	**16 35 44.8**	**+0.9**
	baz=51						
AMTX	**Amarillo**	**3.83**	**233**	Pn	**Pn**	**16 34 59.2**	**+0.8**
AMTX				IAmb_Lg		16 36 00.5	
	comp=Z,35nm,0.7s						
W39A	**Magazine**	**3.93**	**120**	P	**Pn**	**16 35 00.5**	**+0.8**
	baz=303						
W39A				S	**Sn**	**16 35 46.7**	**+0.6**
	baz=303						
W39A	**Magazine**	**3.93**	**120**		**Pn**	**16 35 00.8**	**+1.1**
Z35A	**Perchaven, San**	**3.94**	**172**	IAmb_Lg		16 36 14.8	
	comp=Z,35nm,1.2s						
N35A	**Tabor**	**4.04**	**26**	Pn	**Pn**	**16 35 01.5**	**+0.4**
KSCO	**Kaye Shedlock'**	**4.10**	**297**	P	**Pn**	**16 35 02.3**	**+0.1**
	baz=114,SNR=8.7						
KSCO	**Kaye Shedlock'**	**4.10**	**297**	Pn	**Pn**	**16 35 02.2**	**+0.1**
BGNE	**Belgrade**	**4.17**	**358**	P	**Pn**	**16 35 03.7**	**+0.7**
	baz=178						
BGNE	**Belgrade**	**4.17**	**358**	Pn	**Pn**	**16 35 03.6**	**+0.7**
U40A	**Yellville**	**4.18**	**101**	P	**Pn**	**16 35 03.7**	**+0.6**
	baz=284						
U40A				S	**Sn**	**16 35 53.2**	**+0.9**
	baz=284						
U40A	**Yellville**	**4.18**	**101**	Pn	**Pn**	**16 35 03.7**	**+0.6**
P38A	**Dawn**	**4.20**	**54**	Pn	**Pn**	**16 35 04.7**	**+1.2**
MIAR	**Mount Ida**	**4.45**	**126**	P	**Pn**	**16 35 07.4**	**+0.6**
	baz=308						
MIAR				S	**Sn**	**16 35 59.0**	**+0.1**
	baz=308						
MIAR	**Mount Ida**	**4.45**	**126**	Pn	**Pn**	**16 35 07.0**	**+0.2**
MIAR				IAmb_Lg		16 36 22.5	
	comp=Z,66nm,0.9s						
R40A	**Maddies Statio**	**4.62**	**75**		**Pn**	**16 35 10.3**	**+1.2**
R40A				IAmb_Lg		16 36 26.7	
	comp=Z,30nm,1.0s						
Z38A	**Mt. Pleasant**	**4.65**	**148**	Pn	**Pn**	**16 35 10.2**	**+0.7**
Z38A				IAmb_Lg		16 36 29.5	
	comp=Z,63nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.87**	**104**		**Pn**	**16 35 12.8**	**+0.2**
FCAR				IAmb_Lg		16 36 33.8	
	comp=Z,59nm,0.8s						
L34A	**Svendsen Farm,**	**4.88**	**14**	Pn	**Pn**	**16 35 12.9**	**+0.2**
WHAR	**Wooly Hollow**	**4.96**	**111**		**Pn**	**16 35 14.2**	**+0.3**
X40A	**Basin Creek Fa**	**4.97**	**122**	P	**Pn**	**16 35 14.9**	**+0.9**
	baz=305						
X40A				S	**Sn**	**16 36 12.2**	**+0.3**
X40A	**Basin Creek Fa**	**4.97**	**122**	Pn	**Pn**	**16 35 14.6**	**+0.5**
X40A				IAmb_Lg		16 36 48.1	
	comp=Z,39nm,0.9s						
W41B	**Gary Mavity, V**	**5.04**	**112**	P	**Pn**	**16 35 15.5**	**+0.5**
	baz=296						
W41B				S	**Sn**	**16 36 13.7**	**+0.1**
	baz=296						
W41B	**Gary Mavity, V**	**5.04**	**112**		**Pn**	**16 35 15.2**	**+0.2**
W41B				IAmb_Lg		16 36 41.8	
	comp=Z,38nm,0.7s						
MSTX	**Muleshoe**	**5.11**	**232**	P	**Pn**	**16 35 16.3**	**+0.3**
	baz=49						
MSTX	**Muleshoe**	**5.11**	**232**	Pn	**Pn**	**16 35 16.3**	**+0.3**
UALR	**University of**	**5.16**	**117**	Pn	**Pn**	**16 35 17.6**	**+1.0**
UALR				IAmb_Lg		16 36 49.9	
	comp=Z,47nm,1.0s						
T25A	**Trinidad**	**5.17**	**271**	P	**Pn**	**16 35 16.6**	**-0.3**
	baz=87,SNR=16						
T25A	**Trinidad**	**5.17**	**271**	Pn	**Pn**	**16 35 16.5**	**-0.3**
T25A				IAmb_Lg		16 36 42.4	
	comp=Z,39nm,0.7s						
P40A	**Paris**	**5.17**	**62**	Pn	**Pn**	**16 35 18.0**	**+1.3**
P40A				IAmb_Lg		16 36 44.2	
	comp=Z,27nm,0.8s						
WLAR	**White Oak Lake**	**5.30**	**131**	IAmb_Lg		16 36 48.5	
	comp=Z,28nm,0.7s						
CCM	**Cathedral Cave**	**5.38**	**79**	P	**Pn**	**16 35 20.7**	**+1.1**
	baz=263						
CCM	**Cathedral Cave**	**5.38**	**79**	Pn	**Pn**	**16 35 21.1**	**+1.6**
CCM				IAmb_Lg		16 36 53.4	
	comp=Z,29nm,1.0s						
T42A	**Van Buren**	**5.48**	**90**	Pn	**Pn**	**16 35 22.4**	**+1.5**
237A	**Washetta, Mont**	**5.51**	**161**	IAmb_Lg		16 37 08.0	
	comp=Z,41nm,0.9s						
LCAR	**Lake Charles**	**5.58**	**100**	Pn	**Pn**	**16 35 22.2**	**-0.2**
LCAR				IAmb_Lg		16 37 10.5	
	comp=Z,24nm,0.8s						
Z41A	**Richland Creek**	**5.78**	**132**	S	**Sn**	**16 36 30.1**	**-1.7**
	baz=315						
Z41A	**Richland Creek**	**5.78**	**132**	IAmb_Lg		16 37 15.8	
	comp=Z,46nm,0.8s						
SCIA	**State Center**	**5.92**	**37**	S	**Sn**	**16 36 35.1**	**-0.1**
	baz=220						
SCIA	**State Center**	**5.92**	**37**	Pn	**Pn**	**16 35 27.5**	**+0.4**
Q24A	**Divide**	**5.94**	**289**	P	**Pn**	**16 35 27.3**	**-0.3**
	baz=105						
Q24A	**Divide**	**5.94**	**289**		**Pn**	**16 35 26.9**	**-0.7**
Q24A				IAmb_Lg		16 37 12.2	
	comp=Z,35nm,0.8s						
CCAR	**Cane Creek**	**6.02**	**122**	IAmb_Lg		16 37 20.9	
	comp=Z,36nm,0.8s						
SDCO	**Great Sand Dun**	**6.03**	**277**	Pn	**Pn**	**16 35 29.4**	**+0.5**
435B	**Jarrell**	**6.45**	**177**	IAmb_Lg		16 37 30.4	
	comp=Z,26nm,0.7s						
ISCO	**Idaho Springs**	**6.54**	**295**	P	**Pn**	**16 35 35.8**	**+0.1**
	baz=111						
ISCO	**Idaho Springs**	**6.54**	**295**	Pn	**Pn**	**16 35 35.3**	**-0.5**
ISCO				IAmb_Lg		16 37 30.3	
	comp=Z,23nm,0.9s						
ECSD	**EROS Data Cent**	**6.57**	**8**	P	**Pn**	**16 35 36.5**	**+0.6**
	baz=189						
ECSD	**EROS Data Cent**	**6.57**	**8**	Pn	**Pn**	**16 35 36.0**	**+0.1**
ECSD				IAmb_Lg		16 37 31.6	
	comp=Z,19nm,0.9s						
JCT	**Junction City**	**6.92**	**193**	IAmb_Lg		16 37 49.5	
	comp=Z,32nm,1.1s						
S44A	**Carbondale**	**6.92**	**84**	Pn	**Pn**	**16 35 41.4**	**+0.5**
L40A	**Anamosa**	**7.08**	**45**	Pn	**Pn**	**16 35 42.1**	**-0.8**
L40A				IAmb_Lg		16 37 58.0	
	comp=Z,34nm,0.8s						
PHWY	**Pilot Hill**	**7.10**	**307**	Pn	**Pn**	**16 35 42.5**	**-1.1**
PHWY				IAmb_Lg		16 37 58.6	
	comp=Z,18nm,0.8s						
N23A	**Red Feather La**	**7.22**	**303**	Pn	**Pn**	**16 35 43.8**	**-1.3**
SUSD	**Miller**	**7.24**	**354**	IAmb_Lg		16 38 08.1	
	comp=Z,24nm,0.9s						
W45A	**Hickory Valley**	**7.38**	**104**	IAmb_Lg		16 37 59.0	
	comp=Z,30nm,0.7s						
OXF	**Oxford**	**7.44**	**109**	Pn	**Pn**	**16 35 47.4**	**-0.5**
OXF				IAmb_Lg		16 38 04.8	
	comp=Z,34nm,0.9s						
HDIL	**Hopedale**	**7.51**	**61**	Pn	**Pn**	**16 35 49.6**	**+0.7**
HDIL				IAmb_Lg		16 38 11.8	
	comp=Z,31nm,0.7s						
I37A	**Lemond, Waseca**	**7.60**	**26**	IAmb_Lg		16 38 03.3	
	comp=Z,26nm,1.0s						
Y45A	**Yeager Farm, C**	**7.63**	**114**	IAmb_Lg		16 38 05.8	
	comp=Z,29nm,0.8s						
OLIL	**Olney**	**7.92**	**76**	IAmb_Lg		16 38 26.4	
	comp=Z,24nm,0.8s						
O44A	**Mansfield**	**7.96**	**66**	IAmb_Lg		16 38 28.9	
	comp=Z,27nm,0.7s						
JFWS	**Jewell Farm**	**8.18**	**44**	IAmb_Lg		16 38 27.4	
	comp=Z,23nm,0.7s						
WVT	**Waverly**	**8.20**	**95**	IAmb_Lg		16 38 18.0	
	comp=Z,16nm,0.9s						
MNTX	**Cornudas Mount**	**8.26**	**230**	P	**Pn**	**16 35 59.3**	**+0.1**
	baz=46						
MNTX	**Cornudas Mount**	**8.26**	**230**	IAmb_Lg		16 38 28.4	
	comp=Z,19nm,1.0s						
RWWY	**Rawlins**	**8.43**	**305**	IAmb_Lg		16 38 44.5	
	comp=Z,14nm,0.7s						
K22A	**Casper**	**8.52**	**312**	IAmb_Lg		16 38 37.4	
	comp=Z,20nm,0.9s						
T47A	**Sharon Grove**	**8.66**	**88**	IAmb_Lg		16 38 41.8	
	comp=Z,27nm,1.0s						
PV12	**Saucer Basin,**	**8.67**	**280**	IAmb_Lg		16 38 48.1	
	comp=Z,15nm,1.2s						
I40A	**Norwalk**	**8.67**	**38**	IAmb_Lg		16 38 42.2	
	comp=Z,15nm,0.8s						
F33A	**5 Mile Ranch,**	**8.68**	**8**	IAmb_Lg		16 38 33.0	
	comp=Z,17nm,0.8s						
SPMN	**Marine on St.**	**8.87**	**24**	IAmb_Lg		16 38 43.5	
	comp=Z,15nm,0.9s						
SFIN	**Lafayette**	**9.03**	**66**	IAmb_Lg		16 38 45.1	
	comp=Z,17nm,0.7s						
V48A	**Smith Brothers**	**9.08**	**96**	IAmb_Lg		16 38 48.3	
	comp=Z,18nm,1.1s						
K43A	**Burlington**	**9.18**	**51**	IAmb_Lg		16 38 59.0	
	comp=Z,24nm,0.8s						
BLO	**Bloomington**	**9.20**	**74**	IAmb_Lg		16 39 08.7	
	comp=Z,20nm,0.7s						
TX32	**Lajitas Array**	**9.22**	**213**		**Pn**	**16 36 11.9**	**-0.6**
X48A	**Hartselle**	**9.27**	**104**	IAmb_Lg		16 38 52.4	
	comp=Z,11nm,0.7s						
WCI	**Wyandotte Cave**	**9.28**	**80**	IAmb_Lg		16 38 49.6	
	comp=Z,12nm,0.7s						
CLTN	**Cedars of Leba**	**9.40**	**94**	IAmb_Lg		16 38 57.4	
	comp=Z,12nm,0.9s						
I42A	**Draeger Farm,**	**9.55**	**43**	IAmb_Lg		16 39 06.2	
	comp=Z,22nm,1.2s						
SWET	**Sewanee**	**9.91**	**98**	IAmb_Lg		16 39 18.7	
	comp=Z,11nm,0.8s						
Y49A	**Blount Mountai**	**9.98**	**106**	IAmb_Lg		16 39 18.4	
	comp=Z,12nm,0.9s						
PD31	**Pinedale Array**	**10.48**	**305**	Pn	**Pn**	**16 36 29.1**	**-0.7**

*IDC **20** 16:42:18.9±2.8,25°.29N×102°.07E,h0km,mb3.5/3, mb1 3.5/4,mb1mx3.3/34,mbtmp3.4/4,ML3.5/1,MS3.4/2, Ms1 3.4/2,ms1mx2.6/31, Error ellipse: s-maj=81.1km s-min=26.0km az=101.0*
*BJI **20** 16:42:19.0±0.0,24°.97N×102°.18E,h12km,mb3.9/5, ML3.6/13*
ISC 20 16:42:17.7±1.0,24°.89N±0°.07×102°.16E±0°.06,h10km,n11, σ0s93/14,mb3.4/3,1C,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**0.57**	**66**	*e*Pg	**Pg**	**16 42 28.3**	**-0.6**
KMI				Sg	**Sg**	**16 42 35.3**	**-1.2**
KMI				smax	smax		
	comp=N,4μm,0.5s						
KMI				smax	smax		
	comp=E,4μm,0.8s						
GYA	**Guiyang**	**4.35**	**68**	Pn	**Pn**	**16 43 25.0**	**+1.0**
GYA				Sn	**Sn**	**16 44 15.8**	**+0.9**
GYA				Sg	**Sg**	**16 44 38.4**	**+0.9**
GYA				smax	smax		
	comp=N,24nm,0.9s						
GYA				smax	smax		
	comp=E,25nm,0.9s						
CD2	**Chengdu**	**6.16**	**13**	Pn	**Pn**	**16 43 49.6**	**+0.8**
CD2				Sn	**Sn**	**16 45 00.0**	**+0.7**
CD2				Sg	**Sg**	**16 45 36.0**	**+0.6**
CD2				smax	smax		
	comp=N,50nm,1.0s						
CD2				smax	smax		
	comp=E,90nm,1.2s						
CMAR	**Chiang Mai Arr**	**7.07**	**206**	Pn	Pn	16 44 08.2	+6.9
	0.2nm,0.3s,baz=19,slow=12,SNR=2.5						
CMAR				Pg	**Pg**	**16 44 33.2**	**0.0**
	0.3nm,0.3s,baz=15,slow=16,SNR=12						
CMAR				Lg	Lg	16 46 03.0	
	0.0nm,0.3s,baz=17,slow=14,SNR=4.7						
GTA	**Gaotai**	**14.61**	**353**	*e*P	**P**	**16 45 50.9**	**-0.2**
GTA				pP	Pn	16 45 57.0	+12
GTA				sP		16 45 59.6	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WMQ	**Urumqi**	**22.28**	**332**	*e*P	**P**	**16 47 16.0**	**+0.9**
SONM	**Songino Array**	**23.14**	**7**	P	**P**	**16 47 22.8**	**-1.4**
	0.5nm,0.4s,baz=179,slow=11,SNR=3.7						
KSRS	**Korea Array**	**25.26**	**54**	LR	LR	16 58 44.0	
	comp=Z,8.8nm,19.9s,baz=265,slow=39						
MKAR	**Makanchi Array**	**27.00**	**329**	P	**P**	**16 47 59.4**	**-0.5**
	0.5nm,0.7s,baz=143,slow=10,SNR=5.7						
ZALV	**Zalesovo Beam**	**31.78**	**340**	P	**P**	**16 48 41.1**	**-0.9**
	0.4nm,0.5s,baz=146,slow=10,SNR=3.5						
MBAR	**Mbarara**	**73.45**	**261**	LR	LR	17 27 36.2	
	comp=Z,198nm,18.8s,baz=66,slow=37						

IDC 20 16:52:15.7±5.0,13°.57N×143°.67E,h102km±79km,mb3.0/3, mb1 3.2/3,mb1mx2.7/37,mbtmp3.3/3,Error ellipse: s-maj=111.0km s-min=28.2km az=81.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.17**	**89**	P	Pn	16 52 39.1	+1.0
	13nm,0.3s,baz=202,slow=1.4,SNR=22						
GUMO				S	Sn	16 52 55.0	-0.1
	36nm,0.3s,baz=182,slow=21,SNR=9.4						
WRA	**Warramunga Arr**	**34.54**	**196**	P	P	16 58 54.5	-0.2
	0.3nm,0.4s,baz=11,slow=8.5,SNR=7.5						
ASAR	**Alice Springs**	**38.22**	**195**	P	P	16 59 25.6	-0.2
	0.2nm,0.5s,baz=17,slow=13,SNR=4.4						
SONM	**Songino Array**	**46.08**	**325**	P	P	17 00 29.4	-0.2
	0.3nm,0.4s,baz=132,slow=8.9,SNR=1.8						

*TEH **20** 16:55:41.6,32°.67N×47°.74E,h12km,ML3.2*
*ISN **20** 16:55:41.9±0.9,32°.67N×47°.71E,h14km±6km,ML2.9*
ISC 20 16:55:42.6±0.9,32°.64N±0°.04×47°.71E±0°.03,h10km,n32, σ1s05/36,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.37**	**276**	*e*Pg	**Pg**	**16 55 48.9**	**-1.0**
DHL1				*e*Sg	**Sg**	**16 55 55.8**	**+1.0**
IKFM	**Kafar-mosalman**	**0.89**	**7**	*e*Pg	**Pg**	**16 55 57.5**	**-2.2**
IKFM				*e*		16 56 18.4	
IKMR	**Kamar-syah**	**1.04**	**32**	*e*Pg	**Pg**	**16 56 01.7**	**-0.9**
IKMR				*e*		16 56 21.7	
IDOB	**Doab**	**1.21**	**19**	*e*Pg	**Pb**	**16 56 05.0**	**-0.7**
BMDN	**Meydan**	**1.39**	**42**	*e*		16 56 37.1	
BMDN				*e*Pg	**Pn**	**16 56 08.1**	**-0.1**
AHWZ	**Ahwaz**	**1.53**	**149**	*e*Pg	**Pb**	**16 56 11.7**	**+0.7**
IKOM	**Komasi**	**1.54**	**354**	*e*Pg	**Pn**	**16 56 10.7**	**+0.4**
IKOM				*e*		16 56 43.5	
IBDR	**Badra**	**1.57**	**288**	*e*Pg	**Pn**	**16 56 10.0**	**-0.6**
IBDR				*e*Sg	**Sn**	**16 56 31.0**	**0.0**
IBDR				AML	AML	16 56 53.3	
	comp=E,203nm,0.4s						
IBDR				AML	AML	16 56 54.5	
	comp=N,148nm,0.8s						
KCHF	**Cheshme Sefid,**	**1.73**	**341**	*e*Pg	**Pn**	**16 56 13.9**	**+1.0**
KCHF				*e*		16 56 43.0	
HSAM	**Samen**	**1.73**	**25**	*e*Pg	**Pn**	**16 56 14.5**	**+1.4**
HSAM				*e*		16 56 17.5	
KER	**Kermanshah**	**1.81**	**345**	*e*Pn	**Pn**	**16 56 15.4**	**+1.5**
IBZA	**Bozab**	**1.83**	**4**	*e*Pg	**Pn**	**16 56 15.7**	**+1.3**
IBZA				*e*		16 56 48.7	
IGHG	**Ghaleghazi**	**1.94**	**331**	*e*Pn	**Pn**	**16 56 17.1**	**+1.3**
IGHG				*e*		16 56 54.7	
IVIS	**Veis**	**2.02**	**339**	*e*Pn	**Pn**	**16 56 17.1**	**+0.3**
IVIS				*e*		16 56 52.3	
NSR	**Nassriya**	**2.11**	**220**	*e*Pn	**Pn**	**16 56 18.0**	**+0.1**
NSR				*e*Sn	**Sn**	**16 56 44.0**	**-0.1**
IALM	**Almabolaq**	**2.25**	**10**	*e*Pn	**Pn**	**16 56 21.7**	**+1.6**
IDHR	**Dehrash**	**2.33**	**332**	*e*Pn	**Pn**	**16 56 21.9**	**+0.7**
IDHR				*e*		16 57 03.1	
ILIN	**Lien**	**2.36**	**345**	*e*Pn	**Pn**	**16 56 22.1**	**+0.5**
ILIN				*e*		16 57 01.3	
HAGD	**Aghdareh**	**2.48**	**28**	*e*Pn	**Pn**	**16 56 24.9**	**+1.6**
HAGD				*e*		16 57 07.6	
JHBN	**Jahan bin**	**2.53**	**98**	*e*Pn	**Pn**	**16 56 24.2**	**+0.2**
JHBN				*e*		16 57 11.8	
HSRG	**Sareghieh**	**2.64**	**10**	*e*Pn	**Pn**	**16 56 27.6**	**+2.1**
HSRG				*e*		16 57

IALM	**Almabolaq**	**2.29**	**16**	*e*Pn	**Pn**	**17 31 05.3**	**+1.8**
KHMZ	**Khomeyn**	**2.40**	**63**	*e*Pn	**Pb**	**17 31 08.1**	**-1.0**
KHMZ				*e*Sg	**Sb**	**17 31 40.2**	**+1.6**
KHMZ	**Khomeyn**	**2.40**	**63**	*e*Pn	**Pb**	**17 31 08.1**	**-1.0**
SNGE	**Sanandaj**	**2.42**	**359**	*e*Pn	**Pb**	**17 31 07.7**	**-1.7**
SNGE				*e*Sg	**Sb**	**17 31 39.4**	**+0.1**
SNGE	**Sanandaj**	**2.42**	**359**	*e*Pn	**Pb**	**17 31 07.7**	**-1.7**
HAGD	**Aghdareh**	**2.60**	**33**	*e*Pn	**Pn**	**17 31 10.3**	**+2.6**
HAGD				*e*		17 31 58.2	
BHD	**Baghdad**	**2.61**	**284**	*e*Pn	**Pn**	**17 31 09.0**	**+1.4**
BHD				*e*Sn	**Sn**	**17 31 41.0**	**+1.9**
BHD				AML	AML	17 32 02.2	
	comp=E,635nm,0.3s						
HSRG	**Sareghieh**	**2.68**	**16**	*e*	Sg	17 32 03.0	+11
JHBN	**Jahan bin**	**2.80**	**98**	*e*Pn	**Pn**	**17 31 12.8**	**+2.3**
JHBN				*e*		17 32 05.9	
IPIR	**Pirpir**	**2.95**	**89**	*e*Pn	**Pn**	**17 31 15.2**	**+2.6**
IPIR				*e*		17 31 55.1	
ROKH	**ROKH**	**3.09**	**95**	*e*Pn	**Pn**	**17 31 15.5**	**+1.0**
IRAZ	**Razeghan**	**3.45**	**37**	*e*Pn	**Pn**	**17 31 22.8**	**+3.4**
QABG	**Abgarm-Qazvin**	**3.54**	**30**	*e*Pn	**Pn**	**17 31 22.8**	**+2.2**
IKLH	**Kolahrood**	**3.58**	**78**	*e*Pn	**Pn**	**17 31 24.1**	**+2.9**
IKLH				*e*		17 32 28.1	
IGAR	**Gharneh**	**3.93**	**93**	*e*Pn	**Pn**	**17 31 28.2**	**+2.2**
IGAR				*e*		17 32 17.1	
KLNJ	**Kolanjah**	**3.93**	**114**	*e*Pn	**Pn**	**17 31 28.1**	**+1.9**
KLNJ				*e*		17 32 55.7	
QSDN	**Sirdan**	**4.10**	**20**	*e*Pn	**Pn**	**17 31 30.8**	**+2.4**
ZNJK	**Zanjan**	**4.14**	**15**	*e*Pn	**Pn**	**17 31 31.2**	**+2.3**
ZNJK	**Zanjan**	**4.14**	**15**	*e*Pn	**Pn**	**17 31 31.2**	**+2.3**
IZEF	**Zefreh**	**4.16**	**85**	*e*Pn	**Pn**	**17 31 32.0**	**+2.8**
IRAM	**Ramesheh**	**4.31**	**100**	*e*Pn	**Pn**	**17 31 35.1**	**+3.9**
IGZV	**Ghazvin**	**4.38**	**31**	*e*Pn	**Pn**	**17 31 35.1**	**+2.8**
CHTH	**Charan**	**4.47**	**43**	*e*Pn	**Pn**	**17 31 36.2**	**+2.8**
CHTH				*e*S	**Sn**	**17 32 24.4**	**-1.1**
CHTH	**Charan**	**4.47**	**43**	*e*Pn	**Pn**	**17 31 36.3**	**+2.8**
QALM	**Alamut, Qazvin**	**4.62**	**35**	*e*Pn	**Pn**	**17 31 37.6**	**+2.1**
DAMV	**Damavand**	**4.81**	**51**	*e*Pn	**Pn**	**17 31 41.0**	**+2.9**
DAMV	**Damavand**	**4.81**	**51**	*e*Pn	**Pn**	**17 31 41.0**	**+2.9**
IDMV	**Damavand**	**4.82**	**52**	*e*Pn	**Pn**	**17 31 40.3**	**+2.0**
IAZR	**Azarshahr**	**5.14**	**347**	*e*Pn	**Pn**	**17 31 45.4**	**+2.8**
ISRB	**Sarab**	**5.16**	**2**	*e*Pn	**Pn**	**17 31 45.8**	**+2.9**
ANAR	**Anarak**	**5.35**	**83**	*e*Pn	**Pn**	**17 31 46.8**	**+1.3**
ISAD	**Sadrabad**	**5.38**	**96**	*e*Pn	**Pn**	**17 31 47.8**	**+1.8**
IPRN	**Peran**	**5.42**	**47**	*e*Pn	**Pn**	**17 31 48.6**	**+2.1**
TPRV	**Parvadeh(Taba**	**7.83**	**85**	*e*Pn	**Pn**	**17 32 21.1**	**+1.7**
TKDS	**Koohdasht(Taba**	**8.21**	**81**	*e*Pn	**Pn**	**17 32 26.6**	**+1.9**
ASF	**Jabal al Asfar**	**8.89**	**270**	Pn	**Pn**	**17 32 34.1**	**+0.1**
	comp=E,0.4nm,0.3s,baz=300,slow=3.2,SNR=2.2						
ASF				Sn	**Sn**	**17 34 11.2**	**-2.8**
	comp=E,0.2nm,0.3s,baz=142,slow=22,SNR=1.2						
ASF				Lg	Lg	17 34 58.9	
	comp=E,0.4nm,0.3s,baz=76,slow=6.5,SNR=4.4						
MMAI	**Mount Meron Ar**	**10.10**	**275**	Lg	Lg	17 35 57.7	
	comp=E,2.9nm,0.3s,baz=88,slow=40,SNR=6.2						
MMAI				LR	LR	17 38 01.8	
	comp=E,45nm,19.9s,baz=70,slow=45						
GEYT	**Alibeck**	**10.21**	**56**	Lg	Lg	17 35 57.7	
	comp=E,0.2nm,0.3s,baz=314,slow=51,SNR=1.5						
GEYT				LR	LR	17 37 44.2	
	comp=E,111nm,18.3s,baz=330,slow=43						
EIL	**Elat**	**11.07**	**258**	Lg	Lg	17 36 21.3	
	comp=E,0.2nm,0.3s,baz=60,slow=18,SNR=2.0						
EIL				LR	LR	17 38 30.7	
	comp=E,94nm,18.1s,baz=92,slow=44						
KBZ	**Khabaz**	**11.60**	**344**	LR	LR	17 38 38.3	
	comp=E,35nm,19.9s,baz=152,slow=42						
BRTR	**Keskin Array B**	**13.15**	**306**	LR	LR	17 38 59.2	
	comp=E,20nm,20.2s,baz=54,slow=39						
WSAR	**Wadi Sarin**	**13.65**	**131**	Pn	**Pn**	**17 33 38.1**	**-1.1**
	comp=E,0.3nm,0.3s,baz=72,slow=6.0,SNR=1.4						
WSAR				Sn	**Sn**	**17 36 02.6**	**-8.0**
	comp=E,0.3nm,0.3s,baz=192,slow=15,SNR=1.9						
IDI	**Anoyia**	**18.84**	**284**	P	**Pn**	**17 34 47.4**	**+1.4**
	comp=E,0.4nm,0.3s,baz=106,slow=17,SNR=1.7						
AKASG	**Malin Array Be**	**22.46**	**329**	P	**P**	**17 35 25.7**	**+1.3**
	comp=E,1.0nm,0.5s,baz=139,slow=9.8,SNR=6.5						
ARU	**Arti**	**25.00**	**15**	P	**P**	**17 35 49.0**	**0.0**
	comp=E,0.4nm,0.4s,baz=180,slow=14,SNR=3.0						
BVAR	**Borovoye Array**	**26.22**	**32**	P	**P**	**17 36 00.0**	**-0.2**
	comp=E,1.0nm,0.7s,baz=227,slow=5.7,SNR=4.4						
KURBB	**Kurchatov Arra**	**29.08**	**43**	P	**P**	**17 36 27.1**	**+1.4**
	comp=E,0.6nm,0.5s,baz=249,slow=9.1,SNR=4.4						
MKAR	**Makanchi Array**	**30.05**	**52**	P	**P**	**17 36 35.5**	**+1.1**
	comp=E,0.8nm,0.7s,baz=252,slow=8.5,SNR=8.7						
MKAR				LR	LR	17 50 44.1	
	comp=E,26nm,18.9s,baz=220,slow=41						
FINES	**FINESS Array B**	**31.94**	**341**	P	**P**	**17 36 51.2**	**+0.3**
	comp=E,2.4nm,0.8s,baz=137,slow=9.2,SNR=1.3						
FINES				LR	LR	17 49 49.2	
	comp=E,35nm,21.2s,baz=114,slow=36						
ZALV	**Zalesovo Beam**	**33.98**	**40**	P	**P**	**17 37 08.7**	**-0.1**
	comp=E,0.7nm,0.6s,baz=230,slow=11,SNR=2.9						
ZALV				LR	LR	17 52 37.4	
	comp=E,27nm,19.2s,baz=226,slow=39						
NOA	**NORSAR Array B**	**36.82**	**331**	LR	LR	17 53 39.1	
	comp=E,13nm,20.0s,baz=230,slow=38						
ARCES	**ARCESS Array B**	**38.92**	**348**	P	**P**	**17 37 50.2**	**-0.6**
	comp=E,3.3nm,0.9s,baz=145,slow=8.6,SNR=3.7						
NRIK	**Noril'sk**	**43.03**	**20**	LR	LR	18 00 27.0	
	comp=E,34nm,18.3s,baz=19,slow=42						
TORD	**Torodi Ar. Bea**	**45.95**	**256**	P	**P**	**17 38 48.8**	**+0.2**
	comp=E,0.5nm,0.7s,baz=45,slow=9.9,SNR=3.5						
CMAR	**Chiang Mai Arr**	**48.17**	**94**	P	**P**	**17 39 05.4**	**-0.6**
	comp=E,0.4nm,0.7s,baz=291,slow=8.2,SNR=2.6						
CMAR				LR	LR	18 01 50.4	
	comp=E,14nm,18.7s,baz=170,slow=39						
DBIC	**Dimbokro**	**54.91**	**254**	LR	LR	18 06 18.6	
	comp=E,50nm,21.4s,baz=78,slow=39						
KSRS	**Korea Array**	**64.17**	**61**	LR	LR	18 11 15.1	
	comp=E,27nm,18.2s,baz=167,slow=38						
BOSA	**Boshof**	**64.47**	**202**	LR	LR	18 11 34.8	
	comp=E,64nm,18.1s,baz=72,slow=38						
SEY	**Seymchan**	**67.80**	**29**	P	**P**	**17 41 23.8**	**+0.8**
	comp=E,2.0nm,1.0s,baz=269,slow=5.2,SNR=3.5						
BATI	**Baumata**	**84.11**	**106**	LR	LR	18 21 50.7	
	comp=E,68nm,20.7s,baz=142,slow=37						

*MEX **20** 17:56:09.7±0.7, 14.58N×92.52W, h75km±9km, MD3.9*
*GCG **20** 17:56:09.1±0.6, 14.82N×92.60W, h83km±25km, MD3.9*

ISC 20 17:56:09.9±2.2, 14.6N±0.1×92.69W±0.0°08, h30km±14km, n10, σ0°73/20, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THIG		**0.54**	**50**	*i* P		**Pb**	**17 56 20.8**	**-0.2**
THIG				*i* S		**Sn**	**17 56 29.9**	**+0.2**
ERG	**Entre ros, C**	**1.09**	**96**	*e*P		**Pn**	**17 56 29.1**	**-0.1**
ERG				*e*S		**Sb**	**17 56 44.7**	**+0.5**
PCIG		**1.25**	**336**	*e*P		**Pn**	**17 56 31.3**	**0.0**
PCIG				*e*S		**Sn**	**17 56 47.4**	**+0.3**
FUG	**Fuego 3**	**1.80**	**93**	*e*P		**Pn**	**17 56 38.1**	**-0.9**
FUG				*e*S		**Sn**	**17 57 00.9**	**0.0**
CCIG	**Comitan**	**1.80**	**17**	*i* P		**Pn**	**17 56 39.6**	**+0.5**
CCIG				*e*S		**Sn**	**17 57 00.8**	**-0.2**
PCG	**Pacaya**	**2.03**	**94**	*e*P		**Pn**	**17 56 42.1**	**-0.2**
PCG				*e*S		**Sn**	**17 57 07.4**	**+0.6**
IXG	**Ixpaco**	**2.22**	**100**	*e*P		**Pn**	**17 56 44.2**	**-0.6**
IXG				*e*S		**Sn**	**17 57 10.3**	**-1.0**
TGIG		**2.25**	**349**	*e*P		**Pn**	**17 56 44.4**	**-0.8**
TGIG				*e*S		**Sn**	**17 57 10.9**	**-1.0**
NBG	**Las Nubes**	**2.27**	**89**	*e*P		**Pn**	**17 56 46.2**	**+0.5**
NBG				*e*S		**Sn**	**17 57 14.5**	**+1.6**
CMIG	**Matias Romero**	**3.29**	**320**	*i* P		**Pn**	**17 56 59.8**	**+0.4**
CMIG				*e*P		**Pn**	**17 56 59.9**	**+0.5**

ROM 20 18:04:25.2±0.1, 43.459N±0.004×12.484E±0.005, h8km±1km, ML0.6/1, Error ellipse: s-maj=0.6km s-min=0.1km az=156.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ATPI	**Pietralunga -**	**0.06**	**262**	P		Pg	18 04 27.2	+0.2
ATPI				S		Sg	18 04 28.6	+0.2
ATPI				AML		AML		
	comp=E,59μm,0.6s							
ATPI				AML		AML		
	comp=N,37μm,0.9s							
PIEI	**Pieia**	**0.09**	**26**	P		Pg	18 04 27.8	+0.3
PIEI				S		Sg	18 04 29.5	+0.5
PIEI				AML		AML		
	comp=E,72μm,0.4s							
PIEI				AML		AML		
	comp=N,52μm,0.4s							
ATFO	**Monte Foce - G**	**0.11**	**145**	P		Pg	18 04 28.2	+0.4
NARO	**Abbazia di Nar**	**0.17**	**25**	P		Pg	18 04 28.9	+0.2
BADI	**Badiali**	**0.18**	**286**	P		Pg	18 04 29.5	+0.6
BADI				S		Sg	18 04 32.9	+1.3

*ISN **20** 18:12:42.5±1.2, 32.61N×47.77E, h14km±7km, ML3.1*
*TEH **20** 18:12:43.4, 32.66N×47.71E, h8km, ML3.3*
*THR **20** 18:12:44.5±0.3, 32.61N×47.65E, h18km±6km, ML3.6*

ISC 20 18:12:43.8±1.2, 32.60N±0.003×47.69E±0.03, h4km±11km, n44, σ1°19/50, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DHL1	**Dehloran**	**0.35**	**283**	*e*Pg		**Pg**	**18 12 50.6**	**0.0**
DHL1				*e*Sg		**Sg**	**18 12 56.5**	**+1.3**
IKFM	**Kafar-mosalman**	**0.93**	**8**	*e*Pg		**Pg**	**18 13 00.2**	**-1.4**
IKFM				*e*		18 13 21.4		
IKMR	**Kamar-syah**	**1.08**	**32**	*e*Pg		**Pg**	**18 13 02.8**	**-1.8**
IKMR				*e*		18 13 26.1		
IDOB	**Doab**	**1.25**	**19**	*e*Pg		**Pg**	**18 13 05.7**	**-2.1**
BMDN	**Meydan**	**1.43**	**42**	*e*			18 13 37.5	
BMDN				*e*Pg		**Pg**	**18 13 09.8**	**-1.4**
AHWZ	**Ahwaz**	**1.51**	**147**	*e*Pg		**Pg**	**18 13 13.2**	**+0.5**
IBDR	**Badra**	**1.56**	**289**	*e*Pg		**Pn**	**18 13 12.0**	**-0.3**
IBDR				*e*Sg		**Sg**	**18 13 34.0**	**0.0**
IBDR				AML		AML	18 13 38.5	
	comp=N,284nm,0.5s							
IBDR				AML		AML	18 13 38.7	
	comp=E,278nm,0.4s							
IKOM	**Komasi**	**1.57**	**355**	*e*Pg		**Pn**	**18 13 13.0**	**+0.4**
IKOM				*e*			18 13 17.6	
KCHF	**Cheshme Sefid,**	**1.75**	**342**	*e*Pg		**Pb**	**18 13 16.2**	**-0.4**
KCHF				*e*			18 13 42.6	
HSAM	**Samen**	**1.78**	**25**	*e*Pg		**Pb**	**18 13 16.6**	**-0.5**
HSAM				*e*			18 13 44.6	
KER	**Kermanshah**	**1.84**	**346**	*e*Pn		**Pn**	**18 13 16.8**	**+0.6**
IBZA	**Bozab**	**1.87**	**4**	*e*		**Sg**	**18 13 45.6**	**+1.8**
IGHG	**Ghaleghazi**	**1.96**	**332**	*e*Pn		**Pn**	**18 13 18.1**	**+0.1**
IVIS	**Veis**	**2.04**	**340**	*e*Pn		**Pn**	**18 13 19.5**	**+0.5**
IVIS				*e*			18 13 52.8	
NSR	**Nassriya**	**2.06**	**220**	*e*Pn		**Pn**	**18 13 19.0**	**-0.2**
NSR				*e*Sn		**Sn**	**18 13 44.0**	**-1.3**
KHMZ	**Khomeyn**	**2.22**	**59**	*e*Pn		**Pb**	**18 13 23.2**	**-1.4**
KHMZ				*e*Sg		**Sg**	**18 13 55.2**	**+0.2**
KHMZ	**Khomeyn**	**2.22**	**59**	*e*Pn		**Pb**	**18 13 23.2**	**-1.4**
IALM	**Almabolaq**	**2.29**	**10**	*e*Pn		**Pb**	**18 13 24.2**	**-1.6**
IDHR	**Dehrash**	**2.35**	**333**	*e*Pn		**Pn**	**18 13 24.3**	**+0.9**
IDHR				*e*			18 14 04.9	
ILIN	**Lien**	**2.39**	**346**	*e*Pn		**Pn**	**18 13 24.4**	**+0.5**
ILIN				*e*			18 14 07.3	
SNGE	**Sanandaj**	**2.50**	**354**	*e*Pn		**Pn**	**18 13 26.4**	**+1.0**
SNGE				*e*S		**Sn**	**18 13 56.9**	**+0.5**
SNGE	**Sanandaj**	**2.50**	**354**	*e*Pn		**Pn**	**18 13 26.4**	**+1.0**
HAGD	**Aghdareh**	**2.52**	**28**	*e*Pn		**Pn**	**18 13 27.1**	**+1.4**
HAGD				*e*			18 14 06.5	
JHBN	**Jahan bin**	**2.55**	**98**	*e*Pn		**Pn**	**18 13 26.8**	**+0.7**
JHBN				*e*			18 14 23.0	
HSRG	**Sareghieh**	**2.68**	**10**	*e*		**Sg**	**18 14 14.1**	**+4.3**
IPIR	**Pirpir**	**2.71**	**87**	*e*Pn		**Pn**	**18 13 29.4**	**+1.1**
IPIR				*e*			18 14 15.0	
ROKH	**ROKH**	**2.84**	**94**	*e*Pn		**Pn**	**18 13 30.9**	**+0.8**
ROKH				*e*			18 14 18.6	
BHD	**Baghdad**	**2.86**	**284**	*e*Pn		**Pn**	**18 13 30.0**	**-0.1**
BHD				*e*Sn		**Sn**	**18 14 06.0**	**+1.1**
IKLH	**Kolahrood**	**3.35**	**77**	*e*Pn		**Pn**	**18 13 38.1**	**+1.0**
IKLH				*e*			18 14 48.8	
QABG	**Abgarm-Qazvin**	**3.47**	**26**	*e*Pn		**Pn**	**18 13 39.4**	**+0.6**
IGAR	**Gharneh**	**3.69**	**92**	*e*Pn		**Pn**	**18 13 42.0**	**+0.3**
KLNJ	**Kolanjah**	**3.69**	**115**	*e*Pn		**Pn**	**18 13 42.4**	**+0.5**
KLNJ				*e*			18 14 50.9	
IZEF	**Zefreh**	**3.92**	**85**	*e*Pn		**Pn**	**18 13 45.9**	**+0.9**
IRAM	**Ramesheh**	**4.06**	**100**	*e*Pn		**Pn**	**18 13 46.7**	**-0.2**
QSDN	**Sirdan**	**4.08**	**17**	*e*Pn		**Pn**	**18 13 47.8**	**+0.6**
CHTH	**Charan**	**4.36**	**40**	*e*Pn		**Pn**	**18 13 52.4**	**+1.4**
CHTH	**Charan**	**4.36**	**40**	*e*Pn		**Pn**	**18 13 52.4**	**+1.4**
QALM	**Alamut, Qazvin**	**4.53**	**32**	*e*Pn		**Pn**	**18 13 54.8**	**+1.4**
IDMV	**Damavand**	**4.67**	**49**	*e*Pn		**Pn**	**18 13 55.8**	**+0.5**
AHBU	**AHRAM**	**4.85**	**139**	*e*Pn		**Pn**	**18 13 59.1**	**+1.6**
ANAR	**Anarak**	**5.12**	**82**	*e*Pn		**Pn**	**18 14 01.3**	**0.0**
ISAD	**Sadrabad**	**5.13**	**96**	*e*Pn		**Pn**	**18 14 01.7**	**+0.1**
IFIR	**Firoozkooh**	**5.18**	**53**	*e*Pn		**Pn**	**18 14 02.9**	**+0.6**
IPRN	**Peran**	**5.29**	**45**	*e*Pn		**Pn**	**18 14 04.7**	**+1.1**

*SOME **20** 18:35:17.9, 42.13N×78.00E, h15km*
*IDC **20** 18:35:17.1±2.4, 42.09N×78.04E, h0km, mb3.6/2, mb1 3.8/8, mb1mx3.5/53, mbtmp3.8/8, ML3.3/6, MS3.0/4, Ms1 3.0/4, ms1mx2.4/56, Error ellipse: s-maj=33.9km s-min=13.4km az=155.0*
*NEIC **20** 18:35:17.7±2.3, 41.98N±0.10×78.2E±0.1, h10km±2km, mb4.1/2, Error ellipse: s-maj=17.6km s-min=13.4km az=146.0*
*KRNET **20** 18:35:17.9±0.1, 42.16N×77.97E, h17km, mb4.3*
*BJI **20** 18:35:18.5±0.0, 42.22N×77.93E, h7km, mb3.7/2, ML3.6/9*
*MOS **20** 18:35:18.4±1.3, 42.24N×77.97E, h8km, mb4.6/2, Error ellipse: s-maj=9.5km s-min=6.6km az=93.3*
MOS Felt (III) at Barskoon, Darkan, Dzheti-Oguz, Kyzyl-Suu, Saruu.
*NNC **20** 18:35:19.0±0.6, 42.24N×77.99E, h0km, mb4.4, mpv4.3, Error ellipse: s-maj=4.1km s-min=2.0km az=179.0*

ISC 20 18:35:18.4±1.1, 42.17N±0.02×77.93E±0.02, h4km±8km, n144, σ1°35/211, 60C-35D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TARG	**Taragay, Kyrgy**	**0.45**	**192**	⇓*i*P		**Pg**	**18 35 26.3**	**-0.8**
TARG				⇓*i*S		**Sg**	**18 35 33.3**	**+0.3**
	baz=96							
TARG	**Taragay, Kyrgy**	**0.45**	**192**			**Pg**	**18 35 24.7**	**-2.4**
PRZ	**Przheval'sk**	**0.47**	**48**	⇑*i*P		**Pg**	**18 35 26.7**	**-0.8**
PRZ	baz=46			⇑*i*S		**Sg**	**18 35 33.4**	**-0.2**
	baz=46							
PRZ	**Przheval'sk**	**0.47**	**48**	PG		**Pg**	**18 35 26.7**	**-0.8**
PRZ	**Przheval'sk**	**0.47**	**48**			**Pg**	**18 35 26.6**	**-0.8**
KDJ	**Kajisay**	**0.56**	**266**	⇓*i*P		**Pg**	**18 35 29.2**	**+0.1**
KDJ	baz=67			⇓*i*S		**Sg**	**18 35 37.2**	**+0.8**
	baz=67							
KDJ	**Kajisay**	**0.56**	**266**	PG		**Pg**	**18 35 29.3**	**+0.1**
KDJ	**Kajisay**	**0.56**	**266**			**Pg**	**18 35 29.3**	**+0.1**
ANVS	**Anan'yevo**	**0.64**	**343**	⇓*i*P		**Pg**	**18 35 30.8**	**0.0**
ANVS	baz=40			⇓*i*S		**Sg**	**18 35 40.2**	**+1.1**
	baz=40							
SATY	**Saty**	**0.96**	**21**	⇓*e*P		**Pg**	**18 35 35.6**	**-1.1**
SATY	218nm,0.4s			*e*S		**Sg**	**18 35 48.5**	**-0.7**
	576nm,0.2s							
SATY	**Saty**	**0.96**	**21**	P		**Pg**	**18 35 35.7**	**-1.1**
SATY	218nm,0.4s			S		**Sg**	**18 35 48.5**	**-0.7**
	576nm,0.2s							
TNSS	**Tian-Shan**	**1.13**	**320**	⇑*e*P		**Pg**	**18 35 39.6**	**-0.5**
TNSS	baz=19			⇑*e*S		**Sg**	**18 35 55.3**	**+0.5**
	baz=19							
TNSS	**Tian-Shan**	**1.13**	**320**	⇑*e*P		**Pg**	**18 35 39.6**	**-0.5**
TNSS	46nm,0.1s			*e*S		**Sg**	**18 35 55.3**	**+0.5**
	626nm,0.3s							
TNSS	**Tian-Shan**	**1.13**	**320**	P		**Pg**	**18 35 39.6**	**-0.5**
TNSS	46nm,0.1s			S		**Sg**	**18 35 55.3**	**+0.5**
	626nm,0.3s							
MDOK	**Medeo**	**1.19**	**327**	*e*P		**Pg**	**18 35 40.5**	**-0.7**
MDOK	baz=26			*e*S		**Sg**	**18 35 56.8**	**+0.2**
	baz=26							
MDOK	**Medeo**	**1.19**	**327**	*e*P		**Pg**	**18 35 40.5**	**-0.7**
MDOK	126nm,0.2s			*e*S		**Sg**	**18 35 56.7**	**+0.2**
	268nm,0.2s							
MDOK	**Medeo**	**1.19**	**327**	⇑P		**Pg**	**18 35 40.3**	**-0.8**
	28nm,0.2s							
MDOK				⇑S		**Sg**	**18 35 56.2**	**-0.4**
	453nm,0.6s							
MDOK	**Medeo**	**1.19**	**327**	Pg		**Pg**	**18 35 40.5**	**-0.7**
	126nm,0.2s							
MDOK				Lg		Lg	18 35 56.7	
	268nm,0.2s							
MDOK	**Medeo**	**1.19**	**327**	PG		**Pg**	**18 35 40.3**	**-0.8**
KOTS	**Kotyrbulak**	**1.22**	**331**	⇓*e*P		**Pn**	**18 35 41.3**	**-1.2**
KOTS	baz=30			⇓*e*S		**Sg**	**18 35 57.9**	**+0.2**
	baz=30							
KOTS	**Kotyrbulak**	**1.22**	**331**	⇓*e*P		**Pn**	**18 35 41.2**	**-1.2**
	478nm,0.2s							
KOTS				*e*S		**Sg**	**18 35 57.9**	**+0.2**
	633nm,0.3s							
KOTS	**Kotyrbulak**	**1.22**	**331**	P		**Pn**	**18 35 41.2**	**-1.2**
	478nm,0.2s							
KOTS				S		**Sg**	**18 35 57.9**	**+0.2**
	633nm,0.3s							
ULHL	**Ulahol**	**1.26**	**274**	⇑*i*P		**Pn**	**18 35 42.0**	**-1.0**
ULHL	baz=74			⇑*i*S		**Sb**	**18 35 59.3**	**-0.1**
	baz=74							
ULHL	**Ulahol**	**1.26**	**274**	P		**Pn**	**18 35 42.0**	**-1.0**
	SNR=523							
KNDC	**Almaty**	**1.27**	**326**	⇑P		**Pb**	**18 35 42.5**	**-0.3**
	23nm,0.2s							
KNDC				⇑S		**Sn**	**18 36 00.0**	**-0.4**
	405nm,0.3s							
KNDC	**Almaty**	**1.27**	**326**	PG		**Pb**	**18 35 42.5**	**-0.3**
UZB	**Uzunbulak**	**1.27**	**39**	⇓*e*P		**Pb**	**18 35 40.8**	**-2.2**
UZB	98nm,0.2s			*e*S		**Sg**	**18 35 57.2**	**-1.8**
	178nm,0.2s							
UZB	**Uzunbulak**	**1.27**	**39**	P		**Pb**	**18 35 40.8**	**-2.2**
	98nm,0.2s							
UZB				S		**Sg**	**18 35 57.3**	**-1.8**
	178nm,0.2s							
AAA	**Alma-Ata**	**1.28**	**325**	⇓*e*P		**Pb**	**18 35 42.9**	**-0.2**
AAA	baz=24			⇓*e*S		**Sn**	**18 36 00.6**	**-0.2**
	baz=24							
AAA	**Alma-Ata**	**1.28**	**325**	⇓*e*P		**Pb**	**18 35 42.9**	**-0.2**
	318nm,0.1s							
AAA				*e*S		**Sn**	**18 36 00.6**	**-0.2**
	890nm,0.3s							
AAA	**Alma-Ata**	**1.28**	**325**	P		**Pb**	**18 35 42.9**	**-0.2**
	318nm,0.1s							
AAA				S		**Sn**	**18 36 00.6**	**-0.2**
	890nm,0.3s							
AAA	**Alma-Ata**	**1.28**	**325**	*e*PG		**Pb**	**18 35 42.8**	**-0.2**
AAA				*e*S		**Sn**	**18 36 00.4**	**-0.4**
AAA				pmax		pmax		
	comp=Z,176nm,0.2s							
AAA				smax		smax		
	comp=N,890nm,0.3s							
IZV	**Izvestkoviy**	**1.30**	**312**	⇑*e*P		**Pn**	**18 35 42.7**	**-0.9**
	baz=12							
IZV	baz=12			⇑*e*S		**Sb**	**18 36 00.5**	**-0.2**
IZV	**Izvestkoviy**	**1.30**	**312**	⇑*e*P		**Pn**	**18 35 42.7**	**-0.9**
	comp=N,84nm,0.2s							
IZV				*e*S		**Sb**	**18 36 00.4**	**-0.2**
	comp=N,629nm,0.2s							
IZV	**Izvestkoviy**	**1.30**	**312**	P		**Pn**	**18 35 42.7**	**-0.9**
	comp=N,84nm,0.2s							
IZV				S		**Sb**	**18 36 00.4**	**-0.2**
	comp=N,629nm,0.2s							
KURS	**Kuram**	**1.33**	**8**	⇓*e*P		**Pn**	**18 35 42.7**	**-1.1**
	baz=6.0							
KURS	baz=6.0			⇓*e*S		**Sb**	**18 36 00.5**	**-0.9**
KURS	**Kuram**	**1.33**	**8**	⇓*e*P		**Pn**	**18 35 42.7**	**-1.1**
	comp=N,221nm,0.3s							
KURS				*e*S		**Sb**	**18 36 00.5**	**-0.9**
	comp=N,120nm,0.3s							
KURS	**Kuram**	**1.33**	**8**	P		**Pn**	**18 35 42.7**	**-1.1**
	comp=N,221nm,0.3s							
KURS				S		**Sb**	**18 36 00.5**	**-0.9**
	comp=N,120nm,0.3s							
MTBS	**Maitube**	**1.47**	**311**	⇑*e*P		**Pn**	**18 35 45.5**	**-0.2**
	baz=11							
MTBS	baz=11			⇑*e*S

KZA	**Kyzart**	**2.00**	**268**	⇓*i*P		**Pb**	**18 35 54.5**	**-1.0**
	baz=68								
KZA				⇓*i*S		**Sb**	**18 36 21.5**	**+0.6**
	baz=68								
KZA	**Kyzart**	**2.00**	**268**	P		**Pb**	**18 35 55.2**	**-0.3**
	SNR=283								
ARXS	**Arharly**	**2.04**	**358**	⇑*e*P		**Pb**	**18 35 55.3**	**-0.9**
	comp=N,1μm,0.3s								
ARXS				*e*S		**Sb**	**18 36 22.1**	**+0.2**
	comp=N,479nm,0.2s								
ARXS	**Arharly**	**2.04**	**358**	Pg		**Pb**	**18 35 55.3**	**-0.9**
	comp=N,1μm,0.3s								
ARXS				Lg		Lg	18 36 22.1		
	comp=N,479nm,0.2s								
KUU	**Kurty**	**2.08**	**326**	⇓*e*P		**Pb**	**18 35 56.4**	**-0.3**
	comp=N,93nm,0.3s								
KUU				*e*S		**Sb**	**18 36 23.7**	**+0.8**
	comp=N,1μm,0.4s								
KTMS	**Ketmen**	**2.19**	**54**	*e*P		**Pb**	**18 35 57.2**	**-1.5**
	baz=53								
KTMS				*e*S		**Sb**	**18 36 25.3**	**-0.9**
	baz=53								
KTMS	**Ketmen**	**2.19**	**54**	*e*P		**Pb**	**18 35 57.2**	**-1.5**
	comp=N,15nm,0.1s								
KTMS				*e*S		**Sb**	**18 36 25.4**	**-0.9**
	comp=N,1μm,0.5s								
KTMS	**Ketmen**	**2.19**	**54**	Pg		**Pb**	**18 35 57.2**	**-1.5**
	comp=N,15nm,0.1s								
KTMS				Lg		Lg	18 36 25.4		
	comp=N,1μm,0.5s								
KRBS	**Karabastau**	**2.25**	**313**	⇓*e*P		**Pb**	**18 35 59.0**	**-0.7**
	comp=N,62nm,0.3s								
KRBS				*e*S		**Sb**	**18 36 28.3**	**+0.4**
	comp=N,362nm,0.3s								
KRBS	**Karabastau**	**2.25**	**313**	Pg		**Pb**	**18 35 59.0**	**-0.7**
	comp=N,62nm,0.3s								
KRBS				Lg		Lg	18 36 28.3		
	comp=N,362nm,0.3s								
KBK	**Karagaybulak**	**2.26**	**283**	⇑*i*P		**Pb**	**18 35 58.2**	**-1.7**
	baz=83								
KBK				⇑*i*S		**Sb**	**18 36 27.7**	**-0.6**
	baz=83								
KBK	**Karagaybulak**	**2.26**	**283**	P		**Pb**	**18 35 59.1**	**-0.8**
	SNR=134								
CHMS	**Chumysh**	**2.49**	**291**	⇑*i*P		**Pn**	**18 36 01.1**	**+1.4**
	baz=90								
CHMS				⇑*i*S		**Sb**	**18 36 33.0**	**-1.7**
	baz=90								
CHMS	**Chumysh**	**2.49**	**291**	P		**Pb**	**18 36 02.4**	**-1.3**
	SNR=53								
FRU1	**Bishkek**	**2.52**	**286**	⇑*i*P		**Pn**	**18 36 01.8**	**+1.6**
	baz=86								
FRU1				⇑*i*S		**Sb**	**18 36 34.0**	**-1.7**
	baz=86								
FRU1	**Bishkek**	**2.52**	**286**	PN		**Pb**	**18 36 03.3**	**-1.0**
FRU1	**Bishkek**	**2.52**	**286**			**Pb**	**18 36 03.3**	**-1.0**
UCH	**Uchtor**	**2.54**	**272**	⇑*i*P		**Pn**	**18 36 02.2**	**+1.4**
	baz=73								
UCH				⇑*i*S		**Sb**	**18 36 34.7**	**-1.8**
	baz=73								
UCH	**Uchtor**	**2.54**	**272**	P		**Pb**	**18 36 04.3**	**-0.5**
	SNR=97								
AAK	**Ala-Archa**	**2.59**	**282**	Pn		**Pb**	**18 36 04.6**	**-0.9**
	comp=N,26nm,0.3s,baz=104,slow=8.8,SNR=98								
AAK				Lg		Lg	18 36 39.8		
	comp=N,44nm,0.3s,baz=251,slow=18,SNR=31								
AAK				LR		LR	18 37 17.0		
	comp=N,132nm,18.1s,baz=90,slow=45								
AAK	**Ala-Archa**	**2.59**	**282**	⇑*i*P		**Pn**	**18 36 02.5**	**+1.3**
	baz=82								
AAK				⇑*i*S		**Sb**	**18 36 35.6**	**-2.0**
	baz=82								
AAK	**Ala-Archa**	**2.59**	**282**	P		**Pb**	**18 36 04.5**	**-0.9**
	SNR=90								
AAK	**Ala-Archa**	**2.59**	**282**	⇑Pn		**Pb**	**18 36 04.4**	**-1.0**
	comp=N,43nm,0.5s								
AAK				⇑Lg		Lg	18 36 39.6		
	comp=N,350nm,0.8s								
AAK	**Ala-Archa**	**2.59**	**282**			**Pb**	**18 36 04.1**	**-1.3**
ARLS	**Aral**	**2.71**	**265**	⇑*i*P		**Pn**	**18 36 04.0**	**+1.2**
	baz=65								
ARLS				⇑*i*S		**Sn**	**18 36 38.0**	**+1.9**
	baz=65								
USP	**Ospenovka**	**2.76**	**295**	⇓*i*P		**Pn**	**18 36 04.9**	**+1.5**
	baz=94								
USP				⇓*i*S		**Sb**	**18 36 39.8**	**-2.6**
	baz=94								
USP	**Ospenovka**	**2.76**	**295**	P		**Pb**	**18 36 07.2**	**-1.0**
	SNR=12								
KSH	**Kashi**	**3.04**	**210**	Pg		Pg	18 36 21.6	+5.0
KSH				Sg		Sg	18 37 09.4	+13
KSH				smax		smax			
	comp=N,45nm,0.8s								
KSH				smax		smax			
	comp=N,83nm,0.6s								
EKS2	**Erkin-Say**	**3.11**	**280**	⇑*i*P		**Pn**	**18 36 10.2**	**+1.8**
	baz=81								
EKS2				⇑*i*S		**Sn**	**18 36 47.9**	**+1.8**
	baz=81								
EKS2	**Erkin-Say**	**3.11**	**280**	P		**Pb**	**18 36 13.6**	**-0.8**
	SNR=31								
AML	**Almayashu**	**3.15**	**271**	⇓*e*P		**Pn**	**18 36 10.8**	**+1.7**
	baz=71								
AML				⇓*i*S		**Sn**	**18 36 49.3**	**+1.9**
	baz=71								
AML	**Almayashu**	**3.15**	**271**	P		**Pb**	**18 36 14.8**	**-0.4**
	SNR=126								
KAPS	**Kapalarasan**	**3.28**	**18**	*e*P		**Pb**	**18 36 16.8**	**-0.4**
	comp=N,15nm,0.2s								
KAPS				*e*S		**Sb**	**18 36 58.8**	**+1.2**
	comp=N,62nm,0.5s								
KAPS	**Kapalarasan**	**3.28**	**18**	Pg		**Pb**	**18 36 16.8**	**-0.4**
	comp=N,15nm,0.2s								
KAPS				Lg		Lg	18 36 58.8		
	comp=N,62nm,0.5s								
MRKS	**Merke**	**3.53**	**281**	*e*P		**Pb**	**18 36 22.8**	**+1.4**
	comp=N,69nm,0.3s								
MRKS				*e*S		**Sg**	**18 37 09.2**	**-2.5**
	comp=N,81nm,0.4s								
MRKS	**Merke**	**3.53**	**281**	Pg		**Pb**	**18 36 22.8**	**+1.4**
	comp=N,69nm,0.3s								
MRKS				Lg		Lg	18 37 09.2		
	comp=N,81nm,0.4s								
OHH	**Osh**	**4.21**	**249**	⇑*e*P		**Pn**	**18 36 24.5**	**+1.1**
	baz=49								
OHH				⇑*i*S		**Sn**	**18 37 13.6**	**+0.6**
	baz=49								
ARK	**Arkit**	**4.46**	**267**	⇑*i*P		**Pn**	**18 36 28.3**	**+1.4**
	baz=67								
ARK				⇑*e*S		**Sn**	**18 37 20.2**	**+0.8**
	baz=67								
MAKZ	**Makanchi**	**5.47**	**31**	⇑Pn		**Pn**	**18 36 42.3**	**+1.7**
	comp=N,3.5nm,0.4s								
MAKZ				⇑Lg		Lg	18 38 03.1		
	comp=N,13nm,0.7s								
MAKZ	**Makanchi**	**5.47**	**31**	PN		**Pn**	**18 36 42.0**	**+1.4**
MAKZ	**Makanchi**	**5.47**	**31**			**Pn**	**18 36 42.0**	**+1.4**
KK31	**Karatay Array**	**5.55**	**282**	⇑Pg		**Pb**	**18 36 59.6**	**+3.7**
	comp=N,12nm,0.6s,baz=93,slow=16,SNR=25								
KK31				Lg		Lg	18 38 11.6		
	comp=N,19nm,0.5s,baz=95,slow=30,SNR=7.8								
KK31	**Karatay Array**	**5.55**	**282**			**Pb**	**18 36 57.7**	**+1.9**
KKAR	**Karatay Array**	**5.55**	**282**			**Pb**	**18 36 58.2**	**+2.4**
KKAR	**Karatay Array**	**5.55**	**282**	Pg		**Pb**	**18 36 58.0**	**+2.1**
MK31	**Makanchi Array**	**5.58**	**33**	⇓Pn		**Pn**	**18 36 43.5**	**+1.3**
	comp=N,2.3nm,0.2s,baz=205,slow=12,SNR=146								
MK31				⇑Lg		Lg	18 38 09.0		
	comp=N,19nm,0.6s								
MK31	**Makanchi Array**	**5.58**	**33**	PN		**Pn**	**18 36 42.0**	**-0.1**
MK31	**Makanchi Array**	**5.58**	**33**			**Pn**	**18 36 42.0**	**-0.1**
MKAR	**Makanchi Array**	**5.58**	**33**	Pn		**Pn**	**18 36 43.4**	**+1.2**
	comp=N,2.9nm,0.3s,baz=218,slow=16,SNR=183								
MKAR				Pg		**Pg**	**18 37 02.6**	**-2.6**
	comp=N,3.6nm,0.3s,baz=212,slow=13,SNR=6.6								
MKAR				Sn		**Sn**	**18 37 47.1**	**+0.5**
	comp=N,0.8nm,0.3s,baz=210,slow=25,SNR=1.6								
MKAR				Lg		Lg	18 38 09.1		
	comp=N,2.8nm,0.3s,baz=209,slow=26,SNR=2.3								
MKAR				LR		LR	18 39 05.7		
	comp=N,62nm,19.0s,baz=204,slow=41								
MKAR	**Makanchi Array**	**5.58**	**33**			**Pn**	**18 36 41.8**	**-0.4**
BTK	**Batken**	**5.77**	**251**	PN		**Pb**	**18 37 00.0**	**+0.4**
BTK	**Batken**	**5.77**	**251**			**Pb**	**18 36 60.0**	**+0.4**
GAR	**Garm**	**6.60**	**244**			**Pn**	**18 36 56.7**	**+0.4**
OTUK	**Ortayu**	**7.24**	**329**	⇑Pn		**Pn**	**18 37 05.5**	**+0.5**
	comp=N,0.9nm,0.5s								
OTUK				⇑Sn		**Sn**	**18 38 26.6**	**-1.2**
	comp=N,8.0nm,0.8s								
OTUK				⇑Lg		Lg	18 39 03.3		
	comp=N,61nm,0.9s								
OTUK	**Ortayu**	**7.24**	**329**	P		**Pn**	**18 37 05.5**	**+0.5**
WMQ	**Urumqi**	**7.35**	**74**	*e*Pn		**Pn**	**18 37 08.1**	**+1.6**
WMQ				Sn		**Sn**	**18 38 27.8**	**-2.5**
WMQ				smax		smax			
	comp=N,20nm,0.9s								
WMQ				smax		smax			
	comp=N,14nm,0.9s								
CHGR	**Chuyangaron**	**7.55**	**245**			**Pn**	**18 37 11.1**	**+1.7**
KURBB	**Kurchatov Arra**	**8.47**	**3**	Pn		**Pn**	**18 37 22.1**	**+0.4**
	comp=N,0.4nm,0.3s,baz=189,slow=10,SNR=4.4								
KURBB				Lg		Lg	18 39 40.5		
	comp=N,0.3nm,0.3s,baz=191,slow=30,SNR=4.8								
KURK	**Kurchatov**	**8.56**	**3**	⇑Pn		**Pn**	**18 37 23.3**	**+0.3**
	comp=N,3.7nm,0.7s								
KURK				⇑Lg		Lg	18 39 44.7		
	comp=N,16nm,0.7s								
KURK	**Kurchatov**	**8.56**	**3**	⇓*e*P		**Pn**	**18 37 23.9**	**+0.9**
KURK	**Kurchatov**	**8.56**	**3**			**Pn**	**18 37 23.5**	**+0.5**
DGZ	**Jazzator, Alta**	**10.02**	**38**	⇑*e*P		**Pn**	**18 37 45.7**	**+2.5**
BVAR	**Borovoye Array**	**11.99**	**338**	Pn		**Pn**	**18 38 09.2**	**-0.7**
	comp=N,0.4nm,0.3s,baz=152,slow=15,SNR=9.3								
BVAR				Lg		Lg	18 41 32.4		
	comp=N,0.4nm,0.3s,baz=159,slow=25,SNR=3.6								
BRVK	**Borovoye**	**12.05**	**337**	⇑*e*P		**Pn**	**18 38 11.4**	**+0.7**
BRVK	**Borovoye**	**12.05**	**337**			**Pn**	**18 38 10.3**	**-0.4**
ZAA0	**Zalesovo Array**	**12.65**	**19**			**Pn**	**18 38 19.2**	**+0.3**
ZALV	**Zalesovo Beam**	**12.65**	**19**	Pn		**Pn**	**18 38 19.7**	**+0.8**
	comp=N,0.9nm,0.3s,baz=215,slow=15,SNR=14								
ZALV				Lg		Lg	18 42 00.5		
	comp=N,0.1nm,0.3s,baz=183,slow=29,SNR=1.3								
ZALV	**Zalesovo Beam**	**12.65**	**19**	*e*P		**Pn**	**18 38 19.9**	**+1.0**
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ZALV	**Zalesovo Beam**	**12.65**	**19**			**Pn**	**18 38 18.8**	**-0.1**
AKTO	**Aktyubinsk**	**16.02**	**308**	Lg		Lg	18 43 48.7		
	comp=Z,0.1nm,0.3s,baz=158,slow=19,SNR=1.8								
GTA	**Gaotai**	**16.80**	**92**	P		**P**	**18 39 17.8**	**+1.0**
GTA				pP		sP	18 39 21.8	+2.5
GTA				sP		pP	18 39 24.6	+6.1
GTA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
ARU	**Arti**	**18.96**	**325**	P		**Pn**	**18 39 41.5**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=121,slow=14,SNR=6.3								
ARU	**Arti**	**18.96**	**325**	⇑*e*P		**Pn**	**18 39 41.7**	**+0.7**
ARU				pmax		pmax			
	comp=Z,8.0nm,1.6s								
ARU	**Arti**	**18.96**	**325**	P		**Pn**	**18 39 41.6**	**+0.6**
ARU				IAmb		IAmb	18 39 42.0		
	comp=Z,3.0nm,0.5s								
SONM	**Songino Array**	**20.84**	**64**	P		**P**	**18 40 00.7**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=269,slow=12,SNR=3.6								
SONM	**Songino Array**	**20.84**	**64**	*e*P		Pn	18 40 02.9	-0.6
KIV	**Kislovodsk**	**25.70**	**286**	P		**P**	**18 40 48.8**	**-0.8**
KIV				pmax		pmax			
	comp=Z,4.0nm,0.6s								
KIV	**Kislovodsk**	**25.70**	**286**	P		**P**	**18 40 48.8**	**-0.8**
KIV				IAmb		IAmb	18 40 49.4		
	comp=Z,4.3nm,0.6s								
MMAI	**Mount Meron Ar**	**34.61**	**269**	LR		LR	18 59 58.3		
	comp=Z,63nm,18.2s,baz=325,slow=43								
ARCES	**ARCESS Array B**	**38.23**	**333**	P		**P**	**18 42 39.0**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=89,slow=9.1,SNR=5.6								
ARCES	**ARCESS Array B**	**38.23**	**333**	*e*P		**P**	**18 42 37.5**	**-1.5**
ARCES				pmax		pmax			
	comp=Z,6.0nm,1.0s								
JNU	**Nakatsue**	**42.30**	**84**	LR		LR	19 01 48.4		
	comp=Z,39nm,19.3s,baz=192,slow=38								

*TEH **20** 18:35:46.6, 32.˚73N×47.˚50E, h11km, ML3.8*
*THR **20** 18:35:47.0±0.3, 32.˚70N×47.˚53E, h14km±6km, ML4.1*
*ISN **20** 18:35:48.1±0.5, 32.˚78N×47.˚51E, h26km±3km, ML3.4*
*DSN **20** 18:35:50.7±2.7, 32.˚55N×48.˚06E, h10km, Error ellipse: s-maj=90.0km s-min=19.0km az=34.0*
ISC 20 18:35:47.0±0.9, 32.˚70N±0.˚03×47.˚50E±0.˚03, h15km±7km, n56, σ2ˢ07/64, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
DHL1	**Dehloran**	**0.18**	**265**	*e*Pg	**Pg**	**18 35 50.8**	**-0.7**
DHL1				*e*Sg	**Sg**	**18 35 54.4**	**-0.1**
IKFM	**Kafar-mosalman**	**0.88**	**19**	*e*Sg	**Sb**	**18 36 16.0**	**+0.6**
IKFM				*e*Pg	**Pg**	**18 36 02.9**	**-1.1**
IKFM				*e*		18 36 24.7	
IKMR	**Kamar-syah**	**1.10**	**42**	*e*Sg	**Sg**	**18 36 22.4**	**-0.4**
IKMR				*e*Pg	**Pb**	**18 36 07.5**	**-0.3**
IKMR				*e*		18 36 28.0	
IDOB	**Doab**	**1.23**	**27**	*e*Pg	**Pn**	**18 36 09.9**	**+0.1**
IBDR	**Badra**	**1.38**	**288**	*e*Pg	**Pn**	**18 36 13.0**	**+1.3**
IBDR				*e*Sg	**Sn**	**18 36 31.0**	**+1.3**
IBDR				AML	AML	18 36 42.5	
	comp=N,551nm,0.6s						
IBDR				AML	AML	18 36 42.6	
	comp=E,427nm,0.5s						
IKOM	**Komasi**	**1.48**	**0**	*e*Pg	**Pn**	**18 36 14.4**	**+1.2**
IKOM				*e*		18 36 16.8	
BMDN	**Meydan**	**1.48**	**48**	*e*Pg	**Pg**	**18 36 15.5**	**0.0**
BMDN				*e*		18 36 42.0	
KCHF	**Cheshme Sefid,**	**1.62**	**346**	*e*Pg	**Pb**	**18 36 17.6**	**+0.9**
KCHF				*e*		18 36 52.9	
AHWZ	**Ahwaz**	**1.67**	**144**	*e*Pg	**Pb**	**18 36 18.7**	**+1.2**
KER	**Kermanshah**	**1.71**	**350**	*e*Pn	**Pb**	**18 36 19.1**	**+0.8**
HSAM	**Samen**	**1.77**	**31**	*e*Pg	**Pb**	**18 36 19.2**	**-0.1**
HSAM				*e*		18 36 47.7	
IBZA	**Bozab**	**1.79**	**10**	*e*Pg	**Pb**	**18 36 20.2**	**+0.5**
IBZA				*e*		18 36 24.3	
IGHG	**Ghaleghazi**	**1.81**	**335**	*e*Pn	**Pn**	**18 36 18.7**	**+0.9**
IGHG				*e*		18 37 00.5	
IVIS	**Veis**	**1.91**	**344**	*e*Pn	**Pn**	**18 36 21.0**	**+2.0**
IVIS				*e*		18 36 55.8	
NSR	**Nassriya**	**2.04**	**215**	*e*Pn	**Pn**	**18 36 23.0**	**+2.2**
NSR				*e*Sn	**Sn**	**18 36 48.0**	**+2.1**
IDHR	**Dehrash**	**2.20**	**335**	*e*Pn	**Pb**	**18 36 26.1**	**-0.6**
IDHR				*e*		18 37 03.6	
IALM	**Almabolaq**	**2.23**	**14**	*e*Pn	**Pb**	**18 36 26.5**	**-0.7**
ILIN	**Lien**	**2.26**	**349**	*e*Pn	**Pn**	**18 36 25.9**	**+1.8**
KHMZ	**Khomeyn**	**2.31**	**63**	*e*Pn	**Pn**	**18 36 26.7**	**+2.0**
KHMZ				*e*Sg	**Sb**	**18 36 59.1**	**+2.2**
KHMZ	**Khomeyn**	**2.31**	**63**	*e*Pn	**Pn**	**18 36 26.7**	**+2.0**
SNGE	**Sanandaj**	**2.39**	**357**	*e*Pn	**Pn**	**18 36 28.0**	**+2.1**
SNGE				*e*S	**Sb**	**18 36 57.9**	**-1.5**
SNGE	**Sanandaj**	**2.39**	**357**	*e*Pn	**Pn**	**18 36 28.0**	**+2.1**
HAGD	**Aghdareh**	**2.52**	**32**	*e*Pn	**Pn**	**18 36 29.7**	**+2.1**
HAGD				*e*		18 37 11.2	
HSRG	**Sareghieh**	**2.62**	**14**	*e*Pn	**Pn**	**18 36 31.4**	**+2.4**
HSRG				*e*		18 37 13.4	
BHD	**Baghdad**	**2.68**	**283**	*e*Pn	**Pn**	**18 36 31.0**	**+1.4**
BHD				*e*Sn	Sg	18 37 30.0	+17
BHD				AML	AML	18 37 31.5	
	comp=E,340nm,0.5s						
JHBN	**Jahan bin**	**2.72**	**99**	*e*Pn	**Pn**	**18 36 32.4**	**+2.0**
JHBN				*e*		18 37 20.0	
IPIR	**Pirpir**	**2.86**	**89**	*e*Pn	**Pn**	**18 36 34.8**	**+2.5**
IPIR				*e*		18 37 24.6	
ROKH	**ROKH**	**3.01**	**96**	*e*Pn	**Pn**	**18 36 36.8**	**+2.5**
ROKH				*e*		18 37 29.5	
IRAZ	**Razeghan**	**3.37**	**36**	*e*Pn	**Pn**	**18 36 42.3**	**+3.0**
QABG	**Abgarm-Qazvin**	**3.46**	**29**	*e*Pn	**Pn**	**18 36 42.5**	**+1.9**
IKLH	**Kolahrood**	**3.48**	**79**	*e*Pn	**Pn**	**18 36 43.6**	**+2.7**
IKLH				*e*		18 37 41.2	
IGAR	**Gharneh**	**3.85**	**93**	*e*Pn	**Pn**	**18 36 47.5**	**+1.7**
IGAR				*e*		18 37 36.2	
KLNJ	**Kolanjah**	**3.87**	**115**	*e*Pn	**Pn**	**18 36 48.7**	**+2.5**
KLNJ				*e*		18 37 57.9	
QSDN	**Sirdan**	**4.04**	**20**	*e*Pn	**Pn**	**18 36 51.1**	**+2.6**
IZEF	**Zefreh**	**4.07**	**86**	*e*Pn	**Pn**	**18 36 51.4**	**+2.4**
IRAM	**Ramesheh**	**4.23**	**101**	*e*Pn	**Pn**	**18 36 52.3**	**+1.2**
CHTH	**Charan**	**4.39**	**42**	*e*Pn	**Pn**	**18 36 55.2**	**+1.9**
CHTH	**Charan**	**4.39**	**42**	*e*Pn	**Pn**	**18 36 55.3**	**+1.9**
QALM	**Alamut, Qazvin**	**4.54**	**34**	*e*Pn	**Pn**	**18 36 57.0**	**+1.6**
IDMV	**Damavand**	**4.73**	**51**	*e*Pn	**Pn**	**18 36 59.7**	**+1.6**
AHBU	**AHRAM**	**5.03**	**138**	*e*Pn	**Pn**	**18 37 03.7**	**+1.9**
IAZR	**Azarshahr**	**5.12**	**346**	*e*Pn	**Pn**	**18 37 06.7**	**+3.3**
IFIR	**Firoozkooh**	**5.25**	**55**	*e*Pn	**Pn**	**18 37 07.3**	**+2.1**
ANAR	**Anarak**	**5.26**	**83**	*e*Pn	**Pn**	**18 37 06.6**	**+1.4**
ISAD	**Sadrabad**	**5.29**	**97**	*e*Pn	**Pn**	**18 37 07.0**	**+1.2**
IPRN	**Peran**	**5.34**	**47**	*e*Pn	**Pn**	**18 37 09.3**	**+3.1**
IALA	**Alasht**	**5.54**	**51**	*e*Pn	**Pn**	**18 37 12.7**	**+3.5**
TPRV	**Parvadeh(Tabas**	**7.74**	**85**	*e*Pn	**Pn**	**18 37 41.6**	**+2.4**
TKDS	**Koohdasht(Taba**	**8.12**	**81**	*e*Pn	**Pn**	**18 37 45.9**	**+1.4**
SHME	**Shamm**	**10.03**	**129**	P	**Pn**	**18 38 09.7**	**-0.9**
SHME				S	**Sn**	**18 39 59.0**	**-3.9**
BANOM	**Banah**	**10.22**	**129**	P	**Pn**	**18 38 11.0**	**-2.2**
BANOM				S	**Sn**	**18 40 01.1**	**-6.4**
NAZ	**Nazwa, Dubai**	**10.49**	**135**	*i* P	**Pn**	**18 38 17.8**	**+0.9**
	SNR=5.8						
MSFE	**Esma-Masafi**	**10.53**	**132**	*i* P	**Pn**	**18 38 16.3**	**-1.0**
	SNR=6.1						
UOSS	**Minazif**	**10.85**	**133**	P	Pn	18 38 17.7	-4.2
HATD	**Hatta, Dubai**	**10.90**	**134**	P	**Pn**	**18 38 21.8**	**-0.7**
ASHO	**Ashiyiah**	**10.96**	**135**	*i* P	**Pn**	**18 38 21.1**	**-2.2**
	SNR=8.0						

*KRNET **20** 18:41:53.5±0.1, 40.˚99N×78.˚64E, h17km, mb3.2*
*SOME **20** 18:41:54.8, 41.˚13N×78.˚67E, h5km*
*NNC **20** 18:41:56.3±0.9, 41.˚16N×78.˚69E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=6.4km s-min=4.0km az=166.0*
ISC 20 18:41:56.5±2.3, 41.˚18N±0.˚09×78.˚65E±0.˚04, h9km±14km, n51, σ1ˢ35/75, 11C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.31**	**352**	⇑*i*P	**Pn**	**18 42 20.8**	**-0.5**
	baz=54						
PRZ				⇑*i*S	**Sg**	**18 42 41.4**	**+2.6**
	baz=54						
KDJ	**Kajisay**	**1.45**	**311**	⇑*i*P	**Pn**	**18 42 22.3**	**-0.9**
	baz=17						
KDJ				⇑*i*S	**Sb**	**18 42 43.6**	**+1.0**
	baz=17						
ANVS	**Anan'yevo**	**1.76**	**336**	⇓*i*P	**Pb**	**18 42 28.7**	**-0.4**
	baz=38						
ANVS				⇓*i*S	**Sg**	**18 42 54.1**	**+1.0**
	baz=38						
SATY	**Saty**	**1.88**	**355**	*e*P	**Pb**	**18 42 31.3**	**+0.1**
	32nm,0.5s						
SATY				*e*S	**Sg**	**18 42 57.5**	**+0.4**
	89nm,0.5s						
SATY	**Saty**	**1.88**	**355**	Pg	**Pb**	**18 42 31.3**	**+0.1**
	32nm,0.5s						
SATY				Lg	Lg	18 42 57.5	
	89nm,0.5s						
UZB	**Uzynbulak**	**1.98**	**8**	*e*P	**Pb**	**18 42 32.7**	**-0.2**
	11nm,0.4s						
UZB				*e*S	**Sg**	**18 42 59.8**	**-0.4**
	78nm,0.3s						
UZB	**Uzynbulak**	**1.98**	**8**	Pg	**Pb**	**18 42 32.7**	**-0.2**
	11nm,0.4s						
UZB				Lg	Lg	18 42 59.8	
	78nm,0.3s						
SHLS	**Shalkode**	**2.06**	**17**	*e*P	**Pg**	**18 42 36.4**	**+0.4**
	39nm,0.2s						
SHLS				*e*S	**Sg**	**18 43 06.3**	**+3.5**
	122nm,0.4s						
SHLS	**Shalkode**	**2.06**	**17**	Pg	**Pg**	**18 42 36.4**	**+0.4**
	39nm,0.2s						
SHLS				Lg	Lg	18 43 06.3	
	122nm,0.4s						
PDGK	**Podgornoye**	**2.23**	**16**	Pg	**Pb**	**18 42 37.2**	**+0.1**
	6.8nm,0.2s						
PDGK				Lg	Lg	18 43 07.8	
	50nm,0.5s						
PDGK	**Podgornoye**	**2.23**	**16**	⇓Pg	**Pb**	**18 42 35.9**	**-1.2**
	10nm,0.5s						
PDGK				⇓Lg	Lg	18 43 08.9	
	81nm,0.5s						
TNSS	**Tian-Shan**	**2.25**	**326**	*e*P	**Pb**	**18 42 38.1**	**+0.6**
	60nm,0.2s						
TNSS				*e*S	**Sg**	**18 43 09.3**	**+0.5**
	74nm,0.4s						
TNSS	**Tian-Shan**	**2.25**	**326**	Pg	**Pb**	**18 42 38.1**	**+0.6**
	60nm,0.2s						
TNSS				Lg	Lg	18 43 09.3	
	74nm,0.4s						
MDOK	**Medeo**	**2.31**	**329**	*e*P	**Pb**	**18 42 38.8**	**+0.3**
	24nm,0.4s						
MDOK				*e*S	**Sg**	**18 43 10.3**	**-0.5**
	132nm,0.9s						
MDOK	**Medeo**	**2.31**	**329**	Pg	**Pb**	**18 42 38.6**	**+0.1**
	34nm,0.6s						
MDOK				Lg	Lg	18 43 11.4	
	168nm,0.8s						
MDOK

	88nm,0.5s							
DGS	**Degeres**	**2.97**	**315**	*e*P		**Pb**	**18 42 50.1**	**+0.5**
	7.9nm,0.3s							
DGS				*e*S		**Sg**	**18 43 30.0**	**-1.9**
	22nm,0.4s							
DGS	**Degeres**	**2.97**	**315**	Pg		**Pb**	**18 42 50.1**	**+0.5**
	7.9nm,0.3s							
DGS				Lg		Lg	18 43 30.0	
	22nm,0.4s							
ARXS	**Arharly**	**3.09**	**349**	*e*P		**Pb**	**18 42 53.3**	**+1.6**
	21nm,0.4s							
ARXS				*e*S		**Sg**	**18 43 35.3**	**-0.5**
	21nm,0.5s							
ARXS	**Arharly**	**3.09**	**349**	Pg		**Pb**	**18 42 53.3**	**+1.6**
	21nm,0.4s							
ARXS				Lg		Lg	18 43 35.3	
	21nm,0.5s							
KUU	**Kurty**	**3.20**	**329**	*e*P		**Pb**	**18 42 54.5**	**+0.9**
	5.0nm,0.4s							
KUU				*e*S		**Sg**	**18 43 37.7**	**-1.7**
	29nm,0.5s							
ARLS	**Aral**	**3.32**	**283**	⇑*i*P		**Pn**	**18 42 48.5**	**-0.3**
	baz=87							
ARLS				⇑*i*S		**Sn**	**18 43 27.9**	**-0.6**
	baz=87							
KRBS	**Karabastau**	**3.34**	**320**	*e*P		**Pb**	**18 42 56.9**	**+0.9**
	2.9nm,0.2s							
KRBS				*e*S		**Sg**	**18 43 41.6**	**-2.2**
	8.1nm,0.4s							
KRBS	**Karabastau**	**3.34**	**320**	Pg		**Pb**	**18 42 56.9**	**+0.9**
	2.9nm,0.2s							
KRBS				Lg		Lg	18 43 41.6	
	8.1nm,0.4s							
AAK	**Ala-Archa**	**3.43**	**296**	⇑Pg		**Pg**	**18 43 02.7**	**+0.6**
	3.3nm,0.5s							
AAK				⇑Lg		Lg	18 43 44.7	
	17nm,0.8s							
KAPS	**Kapalarasan**	**4.13**	**7**	*e*P		**Pb**	**18 43 11.7**	**+2.2**
	1.9nm,0.4s							
KAPS				*e*S		**Sg**	**18 44 07.1**	**-2.1**
	8.3nm,0.4s							
KAPS	**Kapalarasan**	**4.13**	**7**	Pg		**Pb**	**18 43 11.7**	**+2.2**
	1.9nm,0.4s							
KAPS				Lg		Lg	18 44 07.1	
	8.3nm,0.4s							
MRKS	**Merke**	**4.34**	**293**	*e*P		**Pb**	**18 43 16.1**	**+3.1**
	2.8nm,0.5s							
MRKS				*e*S		**Sg**	**18 44 14.5**	**-1.2**
	2.9nm,0.3s							
MRKS	**Merke**	**4.34**	**293**	Pg		**Pb**	**18 43 16.1**	**+3.1**
	2.8nm,0.5s							
MRKS				Lg		Lg	18 44 14.5	
	2.9nm,0.3s							
MK31	**Makanchi Array**	**6.19**	**24**	⇓Pg		**Pg**	**18 43 52.3**	**-2.8**
	0.4nm,0.4s,baz=204,slow=19,SNR=4.1							
MK31				⇑Lg		Lg	18 45 13.5	
	1.7nm,0.7s,baz=216,slow=26,SNR=4.6							
KK31	**Karatay Array**	**6.35**	**290**	Pg		**Pg**	**18 43 54.2**	**-3.8**
	0.3nm,0.4s,baz=113,slow=16,SNR=4.3							
KK31				Lg		Lg	18 45 18.7	
	1.1nm,0.6s,baz=115,slow=29,SNR=4.5							

IDC ***20*** *18:45:38.4±2.4, 32°.63N×47°.50E, h0km, mb3.6/7, mb1 3.9/9, mb1mx3.5/55, mbtmp3.8/9, ML3.8/2, MS2.7/1, Ms1 2.7/1, ms1mx2.1/50, Error ellipse: s-maj=46.5km s-min=24.7km az=33.0*
THR ***20*** *18:45:40.3±0.3, 32°.73N×47°.50E, h17km±5km, ML4.0*
TEH ***20*** *18:45:40.1, 32°.75N×47°.52E, h8km, ML3.3*

ISC 20 18:45:40.8±0.7, 32°.73N±0°.04×47°.52E±0°.04, h10km, n51, σ1§41/55, mb3.6/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.21**	**257**	*e*Pg	**Pg**	**18 45 44.4**	**-0.8**
DHL1				*e*Sg	**Sg**	**18 45 48.2**	**0.0**
IKFM	**Kafar-mosalman**	**0.84**	**19**	*e*Pg	**Pg**	**18 45 56.1**	**-1.0**
IKFM				*e*		18 46 18.2	
IKMR	**Kamar-syah**	**1.07**	**42**	*e*Pg	**Pb**	**18 46 00.1**	**-1.3**
IKMR				*e*Sg	**Sb**	**18 46 15.7**	**+0.3**
IKMR				*e*		18 46 22.5	
IDOB	**Doab**	**1.19**	**27**	*e*Pg	**Pn**	**18 46 03.8**	**0.0**
BMDN	**Meydan**	**1.44**	**49**	*e*		18 46 33.7	
BMDN				*e*Pg	**Pn**	**18 46 07.4**	**+0.2**
IKOM	**Komasi**	**1.44**	**360**	*e*		18 46 31.5	
IKOM				*e*Pg	**Pn**	**18 46 08.2**	**+1.0**
KCHF	**Cheshme Sefid,**	**1.60**	**345**	*e*Pg	**Pn**	**18 46 10.4**	**+1.1**
KCHF				*e*		18 46 39.5	
KER	**Kermanshah**	**1.69**	**349**	*e*Pg	**Pb**	**18 46 12.3**	**+0.2**
AHWZ	**Ahwaz**	**1.69**	**145**	*e*Pg	**Pb**	**18 46 12.9**	**+0.9**
HSAM	**Samen**	**1.73**	**31**	*e*Pg	**Pn**	**18 46 13.2**	**+1.9**
HSAM				*e*		18 46 41.1	
IBZA	**Bozab**	**1.76**	**9**	*e*Pg	**Pn**	**18 46 13.3**	**+1.6**
IBZA				*e*		18 46 45.7	
IGHG	**Ghaleghazi**	**1.79**	**334**	*e*Pg	**Pb**	**18 46 13.4**	**-0.4**
IGHG				*e*		18 46 55.5	
IVIS	**Veis**	**1.88**	**343**	*e*Pn	**Pn**	**18 46 14.8**	**+1.6**
IVIS				*e*		18 46 45.9	
IDHR	**Dehrash**	**2.18**	**335**	*e*Pn	**Pn**	**18 46 19.2**	**+1.8**
IDHR				*e*		18 46 54.8	
IALM	**Almabolaq**	**2.19**	**14**	*e*Pn	**Pn**	**18 46 19.6**	**+1.9**
ILIN	**Lien**	**2.23**	**348**	*e*Pn	**Pn**	**18 46 19.6**	**+1.4**
ILIN				*e*		18 47 02.8	
KHMZ	**Khomeyn**	**2.28**	**63**	*e*Pn	**Pn**	**18 46 19.5**	**+0.8**
KHMZ				*e*Sg	**Sb**	**18 46 52.7**	**+2.2**
KHMZ	**Khomeyn**	**2.28**	**63**	*e*Pn	**Pn**	**18 46 19.5**	**+0.8**
SNGE	**Sanandaj**	**2.36**	**356**	*e*Pn	**Pn**	**18 46 20.5**	**+0.6**
SNGE				*e*Sg	**Sb**	**18 46 54.4**	**+1.3**
SNGE	**Sanandaj**	**2.36**	**356**	*e*Pn	**Pn**	**18 46 20.5**	**+0.6**
HAGD	**Aghdareh**	**2.49**	**32**	*e*Pn	**Pn**	**18 46 23.5**	**+1.9**
HAGD				*e*		18 47 07.2	
HSRG	**Sareghieh**	**2.59**	**14**	*e*Pn	**Pn**	**18 46 25.8**	**+2.8**
HSRG				*e*		18 47 06.4	
JHBN	**Jahan bin**	**2.70**	**100**	*e*Pn	**Pn**	**18 46 26.2**	**+1.5**
JHBN				*e*		18 47 26.0	
IPIR	**Pirpir**	**2.84**	**90**	*e*Pn	**Pn**	**18 46 28.2**	**+1.6**
IPIR				*e*		18 47 11.6	
ROKH	**ROKH**	**2.99**	**96**	*e*Pn	**Pn**	**18 46 30.0**	**+1.4**
ROKH				*e*		18 47 23.1	
IRAZ	**Razeghan**	**3.33**	**36**	*e*Pn	**Pn**	**18 46 35.4**	**+2.1**
QABG	**Abgarm-Qazvin**	**3.43**	**29**	*e*Pn	**Pn**	**18 46 35.8**	**+1.2**
IKLH	**Kolahrood**	**3.46**	**79**	*e*Pn	**Pn**	**18 46 37.5**	**+2.5**
IKLH				*e*		18 46 39.2	
IGAR	**Gharneh**	**3.83**	**94**	*e*Pn	**Pn**	**18 46 40.7**	**+0.6**
IGAR				*e*		18 47 29.8	
KLNJ	**Kolanjah**	**3.86**	**115**	*e*Pn	**Pn**	**18 46 42.1**	**+1.4**
KLNJ				*e*		18 48 08.4	
QSDN	**Sirdan**	**4.01**	**19**	*e*Pn	**Pn**	**18 46 44.6**	**+2.1**
IZEF	**Zefreh**	**4.05**	**86**	*e*Pn	**Pn**	**18 46 45.0**	**+1.8**
IRAM	**Ramesheh**	**4.22**	**101**	*e*Pn	**Pn**	**18 46 45.9**	**+0.5**
CHTH	**Charan**	**4.35**	**42**	*e*Pn	**Pn**	**18 46 48.1**	**+0.8**
CHTH	**Charan**	**4.35**	**42**	*e*Pn	**Pn**	**18 46 48.1**	**+0.8**
QALM	**Alamut, Qazvin**	**4.50**	**34**	*e*Pn	**Pn**	**18 46 51.3**	**+1.9**
DAMV	**Damavand**	**4.69**	**51**	*e*Pn	**Pn**	**18 46 52.8**	**+0.9**
DAMV	**Damavand**	**4.69**	**51**	*e*Pn	**Pn**	**18 46 52.8**	**+0.9**
IDMV	**Damavand**	**4.70**	**52**	*e*Pn	**Pn**	**18 46 53.2**	**+1.1**
AHBU	**AHRAM**	**5.04**	**139**	*e*Pn	**Pn**	**18 46 57.4**	**+1.0**
IFIR	**Firoozkooh**	**5.22**	**55**	*e*Pn	**Pn**	**18 47 00.6**	**+1.4**
IPRN	**Peran**	**5.30**	**47**	*e*Pn	**Pn**	**18 47 02.5**	**+2.3**
WSAR	**Wadi Sarin**	**13.62**	**131**	Pn	**Pn**	**18 48 51.5**	**-2.6**
	0.6nm,0.3s,baz=322,slow=13,SNR=8.4						
WSAR				Sn	Sn	18 51 13.0	-12
	0.2nm,0.3s,baz=304,slow=4.6,SNR=2.3						
AKTO	**Aktyubinsk**	**19.32**	**21**	P	**P**	**18 50 06.5**	**+0.5**
	0.2nm,0.3s,baz=205,slow=12,SNR=6.0						
AKTO				LR	LR	19 01 19.2	
	comp=Z,22nm,18.7s,baz=214,slow=48						
MLR	**Muntele Rosu**	**20.96**	**314**	P	**P**	**18 50 25.4**	**+1.3**
	1.2nm,0.6s,baz=108,slow=9.6,SNR=3.5						
AKASG	**Malin Array Be**	**22.46**	**328**	P	**P**	**18 50 38.1**	**-1.9**
	0.8nm,0.5s,baz=135,slow=9.3,SNR=5.4						
BVAR	**Borovoye Array**	**26.11**	**32**	P	**P**	**18 51 14.3**	**-0.5**
	0.5nm,0.5s,baz=221,slow=7.7,SNR=6.1						
KURBB	**Kurchatov Arra**	**28.96**	**43**	P	**P**	**18 51 40.5**	**+0.3**
	0.8nm,0.7s,baz=247,slow=9.4,SNR=6.5						
MKAR	**Makanchi Array**	**29.92**	**52**	P	**P**	**18 51 49.2**	**+0.3**
	0.6nm,0.7s,baz=249,slow=7.8,SNR=7.7						
ZALV	**Zalesovo Beam**	**33.86**	**40**	P	**P**	**18 52 22.9**	**-0.5**
	0.7nm,0.5s,baz=256,slow=5.8,SNR=3.0						
CMAR	**Chiang Mai Arr**	**48.07**	**94**	P	**P**	**18 54 19.9**	**-0.9**
	0.5nm,0.3s,baz=301,slow=9.3,SNR=4.3						

DJA 20 18:47:51.0±0.4, 8°S±4°×107°E±7°, h10km, M3.9/12, mb4.4/1, MLv3.6/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.89**	**3**	P	Pb	18 48 08.6	+0.1
CISI	**Cisompet, Garu**	**0.97**	**49**	P	Pb	18 48 09.9	-0.1
CISI				S	Sg	18 48 20.9	-1.4
SKJI	**Sukabumi**	**1.30**	**336**	P	Pn	18 48 14.8	-0.4
CMJI	**Cimerak**	**1.42**	**73**	P	Pn	18 48 16.5	-0.3
DBJI	**Dramaga**	**1.67**	**349**	P	Pn	18 48 20.2	-0.1
JCJI	**Jatiwangi**	**2.07**	**35**	P	Pn	18 48 23.2	-2.6
UGM	**Wanagama**	**3.42**	**85**	P	Pn	18 48 44.6	+0.1
KASI	**Kota Agung**	**3.69**	**316**	P	Pn	18 48 48.0	-0.2
KLSI		**4.20**	**326**	P	Pn	18 48 55.0	-0.1
LWLI	**Liwa**	**4.36**	**316**	P	Pn	18 48 57.2	-0.3
MDSI	**Maura Dua**	**4.68**	**322**	P	Pn	18 49 01.7	-0.1
GRJI	**Gresik**	**5.50**	**77**	P	Pn	18 49 12.6	-0.5

TEH 20 18:50:22.9, 32°.66N×47°.76E, h9km, ML2.7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.87**	**5**	*e*Pg	Pg	18 50 39.5	-0.1
IKFM				*e*		18 50 43.3	
IKMR	**Kamar-syah**	**1.01**	**31**	*e*Pg	Pg	18 50 41.4	-0.9
IKMR				*e*		18 50 45.8	
IDOB	**Doab**	**1.18**	**17**	*e*Pg	Pn	18 50 46.1	+0.3
IDOB				*e*		18 50 48.8	
BMDN	**Meydan**	**1.35**	**41**	*e*	Pg	18 50 53.0	+4.1
BMDN				*e*Sg	Sg	18 51 09.1	+2.7
IKOM	**Komasi**	**1.53**	**352**	*e*Pg	Pg	18 50 52.2	-0.1
IKOM				*e*		18 51 17.7	
HSAM	**Samen**	**1.71**	**24**	*e*Pg	Pg	18 50 55.5	-0.1
HSAM				*e*		18 51 29.3	
HSAM	**Samen**	**1.71**	**24**	*e*	Sg	18 51 29.3	+12
IVIS	**Veis**	**2.01**	**338**	*e*Pn	Pb	18 50 59.9	+0.1
IVIS				*e*		18 51 32.8	

ISN ***20*** *18:52:23.6±1.1, 32°.71N×47°.60E, h14km±6km, ML2.8*
TEH ***20*** *18:52:24.3, 32°.72N×47°.54E, h10km, ML2.8*

ISC 20 18:52:24.9±1.1, 32°.68N±0°.06×47°.53E±0°.05, h10km, n15, σ1§24/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.21**	**270**	*e*Pg	**Pg**	**18 52 28.8**	**-0.5**
IKFM	**Kafar-mosalman**	**0.88**	**17**	*e*Pg	**Pg**	**18 52 40.1**	**-1.7**
IKFM				*e*		18 52 44.2	
IKMR	**Kamar-syah**	**1.09**	**40**	*e*Pg	**Pg**	**18 52 44.9**	**-1.0**
IKMR				*e*		18 53 03.2	
IDOB	**Doab**	**1.23**	**26**	*e*Pg	**Pb**	**18 52 47.4**	**-0.9**
IDOB				*e*		18 52 48.4	
IBDR	**Badra**	**1.42**	**288**	*e*Pg	**Pn**	**18 52 50.0**	**-0.6**
IBDR				*e*Sg	**Sn**	**18 53 10.0**	**+0.7**
IBDR				AML	AML	18 53 15.0	
	comp=N,221nm,0.8s						
IBDR				AML	AML	18 53 17.4	
	comp=E,142nm,0.8s						
BMDN	**Meydan**	**1.46**	**47**	*e*Pg	**Pn**	**18 52 52.3**	**+0.8**
BMDN				*e*		18 53 16.6	
IKOM	**Komasi**	**1.49**	**359**	*e*Pg	**Pn**	**18 52 51.9**	**+0.1**
IKOM				*e*		18 52 53.6	
KCHF	**Cheshme Sefid,**	**1.64**	**346**	*e*Pg	**Pn**	**18 52 54.8**	**+0.8**
KCHF				*e*		18 53 18.7	
HSAM	**Samen**	**1.77**	**30**	*e*Pg	**Pn**	**18 52 57.3**	**+1.5**
IGHG	**Ghaleghazi**	**1.83**	**334**	*e*Pn	**Pn**	**18 52 58.1**	**+1.5**
IGHG				*e*		18 53 32.2	
IVIS	**Veis**	**1.93**	**343**	*e*Pn	**Pn**	**18 52 58.9**	**+1.1**
IVIS				*e*		18 53 29.1	
NSR	**Nassriya**	**2.05**	**216**	*e*Pn	**Pn**	**18 53 00.0**	**+0.7**
NSR				*e*Sn	**Sn**	**18 53 25.0**	**+0.1**
IDHR	**Dehrash**	**2.23**	**335**	*e*Pn	**Pn**	**18 53 03.3**	**+1.3**
IDHR				*e*		18 53 40.1	
HAGD	**Aghdareh**	**2.52**	**32**	*e*		18 53 12.3	
HAGD				*e*Pn	**Pn**	**18 53 08.4**	**+2.3**
BHD	**Baghdad**	**2.71**	**283**	*e*Pn	**Pn**	**18 53 09.0**	**+0.5**
BHD				*e*Sn	**Sn**	**18 53 43.0**	**+1.6**

JMA ***20*** *18:57:54.4±0.1, 28°.98N×129°.68E, h57km, M3.9*
NIED ***20*** *18:57:54.4, 28°.98N×129°.68E, h57km, MW4.2, Moment Tensor Solution. s2 Moment tensor: Scale 10^15Nm; Mrr0.48; Mθθ0.09; Mφφ-0.57; Mrθ0.36; Mθφ-0.10; Mφr1.78; Fault plane solution: M0 1.89000×10^15 NP1:φs12.00000°, δ82.00000°, λ91.00000°. NP2:φs185.00000°, δ8.00000°, λ83.00000°.*
NEIC ***20*** *18:57:55.9±1.7, 28°.90N±0°.08×129°.7E±0°.1, h64km±3km, mb4.6/14 Error ellipse: s-maj=14.2km s-min=11.9km az=106.0*
IDC ***20*** *18:57:57.6±3.1, 29°.00N×129°.67E, h74km±33km, mb3.6/13, mb1 3.7/17, mb1mx3.5/63, mbtmp4.0/17, MS2.9/5, Ms1 2.9/5, ms1mx2.6/56, Error ellipse: s-maj=35.1km s-min=13.7km az=70.0*

ISC 20 18:57:54.9±0.7, 28°.93N±0°.03×129°.76E±0°.05, h54km±7km, n66, σ1§23/81, mb4.0/17, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.53**	**295**	P	**Pn**	**18 58 05.8**	**-1.0**
JTAJ				*e*S	**Sn**	**18 58 14.1**	**-1.2**
JAM	**Amami Oshima**	**0.53**	**194**	P	**Pn**	**18 58 06.4**	**-0.4**
JAM				*e*S	**Sn**	**18 58 14.6**	**-0.8**
JZK	**Kikaishima**	**0.64**	**163**	P	**Pn**	**18 58 09.7**	**+1.6**
JZK				*e*S	**Sn**	**18 58 20.7**	**+3.0**
JAMN	**Amaminishikomi**	**0.85**	**217**	P	**Pn**	**18 58 10.5**	**-0.3**
JAMN				*e*S	**Sn**	**18 58 22.0**	**-0.5**
JNN	**Nakanoshima**	**0.91**	**7**	P	**Pn**	**18 58 10.7**	**-0.9**
JNN				S	**Sn**	**18 58 22.4**	**-1.5**
JTK	**Tokunoshima**	**1.34**	**212**	P	**Pn**	**18 58 17.4**	**0.0**
JTK				*e*S	**Sn**	**18 58 33.8**	**-0.4**
JYAK	**Yakushimahirau**	**1.46**	**27**	P	**Pn**	**18 58 18.1**	**-0.8**
JYAK				S	**Sn**	**18 58 35.0**	**-2.0**
JKC	**Kuchinoerabu**	**1.57**	**14**	P	**Pn**	**18 58 20.1**	**-0.4**
JKC				*i*S	**Sn**	**18 58 38.5**	**-1.2**
JMTN	**Minamitane**	**1.77**	**34**	P	**Pn**	**18 58 22.9**	**-0.3**
JOKE	**Okinoerabujima**	**1.88**	**214**	P	**Pn**	**18 58 25.1**	**+0.4**
JOKE				*e*S	**Sn**	**18 58 47.5**	**+0.2**
JTN	**Tanegashima 3**	**2.02**	**31**	P	**Pn**	**18 58 26.4**	**-0.2**
JTN				*e*S	**Sn**	**18 58 53.3**	**-0.4**
JYRO	**Yoronjima**	**2.22**	**212**	P	**Pn**	**18 58 30.0**	**+0.7**
JYRO				*e*S	**Sn**	**18 58 56.7**	**+1.1**
JIH	**Iheya**	**2.46**	**220**	P	**Pn**	**18 58 33.0**	**+0.4**
JIH				*e*S	**Sn**	**18 59 00.8**	**-0.7**
JOW	**Kunigami**	**2.47**	**212**	P	**Pn**	**18 58 33.5**	**+0.8**
JOW				*e*S	**Sn**	**18 59 02.2**	**+0.5**
JNTH	**Nagotoyohara**	**2.85**	**213**	P	**Pn**	**18 58 38.9**	**+0.9**
JAGN	**Aguni-jima**	**3.23**	**224**	P	**Pn**	**18 58 44.2**	**+1.1**
JAGN				*e*S	**Sn**	**18 59 21.3**	**+1.1**
JKDJ	**Kitadaitoujima**	**3.27**	**155**	P	**Pn**	**18 58 43.1**	**-0.6**
JKDJ				*e*S	**Sn**	**18 59 18.2**	**-3.2**
JMZ	**Minamidaito 2**	**3.36**	**157**	P	**Pn**	**18 58 45.6**	**+0.6**
JMZ				*e*S	**Sn**	**18 59 20.9**	**-2.7**
JKE	**Kume jima 2**	**3.70**	**226**	P	**Pn**	**18 58 50.7**	**+1.1**
JNU	**Nakatsue**	**4.29**	**13**	P	**Pn**	**18 58 59.8**	**+2.1**
	2.4nm,0.3s,baz=191,slow=10,SNR=3.8						
JNU				S	**Sn**	**18 59 48.8**	**+2.3**
	baz=358,slow=16,SNR=1.0						
JNU	**Nakatsue**	**4.29**	**13**		**Pn**	**18 58 59.6**	**+1.9**
YOJ	**Yonaguni jima**	**7.50**	**235**	Pn	**Pn**	**18 59 41.4**	**-0.2**
YHNB	**Yeheng**	**8.61**	**242**	Pn	**Pn**	**18 59 56.1**	**-0.8**
KSRS	**Korea Array**	**8.64**	**350**	P	**Pn**	**18 59 58.9**	**+1.7**
	0.4nm,0.3s,baz=173,slow=14,SNR=7.3						
NACB	**Ninganchiao**	**8.71**	**239**	Pn	**Pn**	**18 59 57.2**	**-1.0**
YULB	**Yu-li**	**9.39**	**236**	Pn	**Pn**	**19 00 05.7**	**-1.9**
SSLB	**Suanglung**	**9.41**	**239**	Pn	**Pn**	**19 00 07.6**	**-0.3**
JHJ	**Hachijo jima 2**	**9.56**	**62**	P	**Pn**	**19 00 12.6**	**+2.7**
	4.1nm,0.3s,baz=150,slow=23,SNR=1.3						
JHJ2	**Mitsune**	**9.58**	**62**	Pn	**Pn**	**19 00 12.6**	**+2.4**
MJAR	**Matsushiro Arr**	**10.40**	**41**	LR	LR	19 04 48.0	
	comp=Z,16nm,20.1s,baz=235,slow=39						
JCJ	**Chichijima**	**11.13**	**96**	P	**Pn**	**19 00 31.7**	**+0.3**
	5.7nm,0.3s,baz=277,slow=22,SNR=13						
JCJ				LR	LR	19 04 13.8	
	comp=Z,45nm,21.8s,baz=84,slow=34						
ASAJ	**Asahikawa**	**18.30**	**31**	P	**Pn**	**19 02 06.0**	**+1.1**
	0.2nm,0.3s,baz=241,slow=8.0,SNR=4.9						
JKA	**Kamikawa-asahi**	**18.30**	**31**	P	**Pn**	**19 02 06.3**	**+1.5**
JKA				IAmb	IAmb	19 02 17.6	
	comp=Z,53nm,1.8s						
SONM	**Songino Array**	**26.13**	**323**	P	**P**	**19 03 24.1**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=134,slow=8.8,SNR=6.3						
SONM	**Songino Array**	**26.13**	**323**	P	**P**	**19 03 23.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**30.00**	**257**	LR	LR	19 16 52.2	
	comp=Z,44nm,18.5s,baz=194,slow=38						
PETK	**Petropavlovsk-comp=Z,21nm,18.7s,baz=244,slow=40**	**31.70**	**33**	LR	LR	19 18 51.3	
FAKI	**Fak Fak**	**31.76**	**175**	P	**P**	**19 04 13.9**	**-0.2**
MK31	**Makanchi Array**	**40.81**	**309**	P	**P**	**19 05 29.9**	**-1.2**
MKAR	**Makanchi Array**	**40.81**	**309**	P	**P**	**19 05 30.9**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=96,slow=9.7,SNR=8.8						
MKAR				PcP	**PcP**	**19 07 32.6**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=70,slow=4.8,SNR=4.8						
MKAR	**Makanchi Array**	**40.81**	**309**	P	**P**	**19 05 30.5**	**-0.7**
ZALV	**Zalesovo Beam**	**40.98**	**320**	P	**P**	**19 05 31.7**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=112,slow=9.1,SNR=6.3						
ZALV				LR	LR	19 24 16.0	
	comp=Z,26nm,18.6s,baz=346,slow=39						
ZALV	**Zalesovo Beam**	**40.98**	**320**	P	**P**	**19 05 31.6**	**-0.8**
TARG	**Taragay, Kyrgy**	**43.65**	**301**	P	**P**	**19 05 54.8**	**0.0**
KURK	**Kurchatov**	**43.85**	**314**	P	**P**	**19 05 54.6**	**-1.0**
KURK				IAmb	IAmb	19 06 40.1	
	comp=Z,11nm,1.9s						
KURBB	**Kurchatov Arra**	**43.89**	**314**	P	**P**	**19 05 55.3**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=98,slow=9.0,SNR=9.3						
KDJ	**Kajisay**	**44.12**	**302**	P	**P**	**19 05 57.2**	**-1.0**
KNRA	**Kununurra**	**44.35**	**181**	P	**P**	**19 06 00.8**	**+0.8**
KNRA				IAmb	IAmb	19 06 18.8	
	comp=Z,31nm,1.9s						
FITZ	**Fitzroy Crossi**	**46.92**	**185**	P	**P**	**19 06 21.2**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=23,slow=7.2,SNR=10						
FITZ	**Fitzroy Crossi**	**46.92**	**185**	P	**P**	**19 06 21.1**	**+0.9**
FITZ				IAmb	IAmb	19 07 42.7	
	comp=Z,29nm,2.0s						
WB0	**Warramunga Arr**	**48.62**	**174**	P	**P**	**19 06 34.0**	**+0.6**
WB0				IAmb	IAmb	19 07 49.7	
	comp=Z,9.6nm,1.4s						
WRAB	**Tennant Creek**	**48.78**	**174**	P	**P**	**19 06 31.8**	**-2.9**
WRA	**Warramunga Arr**	**48.79**	**174**	P	**P**	**19 06 34.9**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=353,slow=8.3,SNR=6.0						
WRA	**Warramunga Arr**	**48.79**	**174**	P	**P**	**19 06 34.2**	**-0.6**
WR0	**Warramunga Arr**	**48.82**	**174**	P	**P**	**19 06 35.7**	**+0.7**
WR0				IAmb	IAmb	19 07 07.0	
	comp=Z,11nm,1.4s						
KKAR	**Karatay Array**	**49.01**	**303**	P	**P**	**19 06 36.4**	**+0.1**
BVAR	**Borovoye Array**	**49.21**	**317**	P	**P**	**19 06 38.3**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=88,slow=9.8,SNR=7.1						
ASAR	**Alice Springs**	**52.45**	**175**	P	**P**	**19 07 04.1**	**+1.8**
	comp=Z,0.3nm,0.8s,baz=11,slow=14,SNR=5.8						
ASAR	**Alice Springs**	**52.45**	**175**	P	**P**	**19 07 01.9**	**-0.3**
MLOA	**Mauna Loa Obse**	**67.75**	**79**	P	**P**	**19 08 47.5**	**-0.4**
ARCES	**ARCESS Array B**	**68.00**	**338**	P	**P**	**19 08 47.5**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=68,slow=7.9,SNR=1.6						
KBZ	**Khabaz**	**68.51**	**309**	P	**P**	**19 08 51.8**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=90,slow=3.0,SNR=3.8						
FINES	**FINESS Array B**	**71.19**	**330**	P	**P**	**19 09 07.1**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=49,slow=6.3,SNR=6.6						
AKASG	**Malin Array Be**	**74.36**	**320**	P	**P**	**19 09 25.4**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=55,slow=8.0,SNR=2.4						
BRTR	**Keskin Array B**	**76.45**	**309**	P	**P**	**19 09 39.5**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=126,slow=3.2,SNR=6.7						
BRTR	**Keskin Array B**	**76.45**	**308**	P	**P**	**19 09 39.0**	**-0.2**

MOS ***20*** *19:03:16.5±1.4, 32°.60N×47°.51E, h16km, mb4.5/22, Error ellipse: s-maj=6.5km s-min=3.8km az=116.0*
IDC ***20*** *19:03:16.3±0.7, 32°.71N×47°.51E,

AHBU AHRAM 4.96 138 *e*Pn Pn 19 04 35.9 +3.8
ISRB Sarab 5.17 1 *e*Pn Pn 19 04 37.8 +2.7
ANAR Anarak 5.23 82 *e*Pn Pn 19 04 38.5 +2.6
ISAD Sadrabad 5.25 96 *e*Pn Pn 19 04 39.2 +2.9
IFIR Firoozkooh 5.25 54 *e*Pn Pn 19 04 38.9 +2.6
IPRN Peran 5.34 46 *e*Pn Pn 19 04 40.8 +3.3
IALA Alasht 5.54 50 *e*Pn Pn 19 04 43.2 +2.9
IHRS Heris 5.68 356 *e*Pn Pn 19 04 44.8 +2.7
HAKT HAKKARI 5.82 328 *e*Pn Pn 19 04 44.2 0.0
IMEH Mehriz 6.13 100 *e*Pn Pn 19 04 50.1 +1.7
LKRN Lenkeran, Azer 6.13 9 P Pn 19 04 49.8 +1.6
SIRT Sirnak 6.40 321 *e*Pn Pn 19 04 52.3 +0.3
IGLO Ghaloghah 6.45 52 *e*Pn Pn 19 04 55.9 +3.1
GEVA Gevas 6.74 328 Pn Pn 19 04 55.6 -1.0
AKDM Akdamar-Van 6.78 328 *e*P Pn 19 04 58.2 +0.9
MARD Mardin 7.25 312 Pn Pn 19 05 02.5 -1.1
SVAN Silvan-Diyarba 7.55 318 *e*P Pn 19 05 06.0 -1.7
TPRV Parvadeh(Tabas 7.70 85 *e*Pn Pn 19 05 12.6 +2.8
TKDS Koohdasht(Taba 8.09 81 *e*Pn Pn 19 05 18.1 +2.9
MNGR Mingechevir, A 8.12 358 P Pn 19 05 20.3 +4.9
BNGB Bingl 8.44 321 *e*P Pn 19 05 19.8 -0.1
SEKA Sheki 8.55 358 P Pn 19 05 25.5 +4.0
AKT Akhty 8.82 1 *e*P Pn 19 05 24.5 -0.7
AKT pmax pmax
comp=Z,6.0nm,0.7s
SVRC Sivrice-ELAZID 8.82 313 *e*P Pn 19 05 23.9 -1.3
ASF Jabal al Asfar 9.02 270 Pn Pn 19 05 26.8 -1.1
comp=Z,1.9nm,0.3s,baz=30,slow=6.4,SNR=18
ASF Sn **Sn** 19 07 04.6 -4.9
comp=Z,0.7nm,0.3s,baz=330,slow=20,SNR=1.2
ASF Lg Lg 19 08 04.0
comp=Z,0.9nm,0.3s,baz=189,slow=24,SNR=3.3
PTK Pertek 9.09 316 *e*P Pn 19 05 28.1 -0.9
BNDS Bandar-Abbas 9.12 123 *e*Pn Pn 19 05 33.5 +4.1
BNDS IAML 19 07 22.2
comp=N,20nm,0.4s
BNDS Bandar-Abbas 9.12 123 *e*Pn Pn 19 05 33.5 +4.1
KOPT Kop Dagi 9.30 324 Pn Pn 19 05 29.9 -1.9
MALT Malatya 9.34 310 *e*P Pn 19 05 32.7 +0.4
MALT Malatya 9.34 310 P Pn 19 05 34.6 +2.3
ITEG Tejag 9.44 85 *e*Pn Pn 19 05 36.5 +2.8
GAZ Gaziantep 9.61 301 Pn Pn 19 05 34.7 -1.3
AFRZ Afriz 9.66 82 *e*Pn Pn 19 05 39.2 +2.5
IKOO Kooshah 9.68 88 *e*Pn Pn 19 05 40.2 +3.1
SHME Shamm 9.97 129 P Pn 19 05 42.6 +1.7
SHME S **Sn** 19 07 32.3 -0.5
GEYT Alibeck 10.12 56 Pn Pn 19 05 41.3 -1.6
comp=N,0.2nm,0.3s,baz=206,slow=9.0,SNR=1.4
GEYT Alibeck 10.12 56 Pn Pn 19 05 43.1 +0.2
GYA0B ALIBECK ARRAY 10.12 56 Pn Pn 19 05 42.6 -0.3
BANOM Banah 10.16 129 P Pn 19 05 43.9 +0.4
BANOM S **Sn** 19 07 36.5 -1.0
BANOM Banah 10.16 129 P Pn 19 05 44.4 +0.9
SNR=16
MMAI Mount Meron Ar 10.22 275 Pn Pn 19 05 43.3 -1.1
comp=N,0.6nm,0.3s,baz=108,slow=9.3,SNR=1.5
MMAI Lg Lg 19 08 37.2
comp=N,0.9nm,0.3s,baz=66,slow=23,SNR=2.2
NAZ Nazwa, Dubai 10.43 135 P Pn 19 05 49.7 +2.5
NAZ Nazwa, Dubai 10.43 135 P Pn 19 05 49.5 +2.4
MSFE Esma-Masafi 10.46 132 P Pn 19 05 49.1 +1.4
MDH Madha 10.59 131 P Pn 19 05 51.7 +2.3
MDH Madha 10.59 131 P Pn 19 05 50.0 +0.5
MDH S **Sn** 19 07 44.6 -3.4
UOSS Minazif 10.79 133 P Pn 19 05 53.0 +0.9
UOSS Minazif 10.79 133 P Pn 19 05 53.7 +1.6
UOSS S **Sn** 19 07 47.8 -5.1
UOSS Minazif 10.79 133 Pn Pn 19 05 53.2 +1.1
HATD Hatta, Dubai 10.83 134 P Pn 19 05 58.2 +0.5
HATD Hatta, Dubai 10.83 134 P Pn 19 05 55.2 +2.5
ASHO Ashiyiah 10.89 135 P Pn 19 05 55.1 +1.6
SNR=12
EIL Elat 11.19 258 Pn Pn 19 05 57.3 -0.2
comp=N,1.1nm,0.3s,baz=102,slow=4.5,SNR=7.9
EIL Lg Lg 19 09 09.8
comp=N,0.5nm,0.3s,baz=58,slow=19,SNR=2.0
ALNE Al Ain 11.19 138 P Pn 19 05 59.2 +1.5
SOHO SOHO 11.59 135 P Pn 19 06 03.1 +0.1
SOHO S **Sn** 19 08 06.5 -6.1
KIV Kislovodsk 11.92 343 *e*P Pn 19 06 12.0 +4.5
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,35nm,12.0s
ARQ Araqi 12.20 137 P Pn 19 06 12.1 +0.7
SNR=7.7
HOQ Hoqain 12.47 134 P Pn 19 06 16.3 +1.1
SOC Sochi 12.53 333 *e*P Pn 19 06 17.3 +1.5
SOC *e* 19 08 42.0
SOC pmax pmax
comp=Z,12nm,0.8s
SOC MLR MLR
comp=Z,302nm,10.0s
BSY Bisya 13.04 137 P Pn 19 06 23.2 +0.2
BRTR Keskin Array B 13.26 306 Pn Pn 19 06 26.7 +0.7
comp=Z,0.1nm,0.3s,baz=134,slow=12,SNR=2.2
BRTR Keskin Array B 13.26 306 **Pn** 19 06 25.6 -0.4
SMDO Samad 13.31 133 P Pn 19 06 27.0 +0.3
WSAR Wadi Sarin 13.55 131 Pn Pn 19 06 31.4 +1.6
comp=Z,1.3nm,0.3s,baz=339,slow=8.8,SNR=15
WSAR Wadi Sarin 13.55 131 P Pn 19 06 28.2 -1.6
JMDO Jabal Madar 13.86 135 P Pn 19 06 34.1 0.0
WBK Wadi Bani Khal 14.22 132 P Pn 19 06 35.8 -0.7
JLN Jalan Bani Buh 14.83 132 P Pn 19 06 47.1 -0.2
MHTO MHTO 14.87 139 P Pn 19 06 46.6 -1.3
ELL Elmali 15.07 291 P Pn 19 06 48.6 -2.1
ELL Elmali 15.07 291 Pn Pn 19 06 48.6 -2.1
ABTO Aybut 16.09 160 P Pn 19 07 02.6 -1.3
RBK Rabkut 16.23 157 P Pn 19 07 03.8 -2.0
DMTO DMTO 16.30 154 P Pn 19 07 04.9 -1.6
MANT Manisa 16.50 296 **Pn** 19 07 10.3 +1.0
KBL Kabul 18.01 78 P Pn 19 07 27.9 -0.3
KBL pmax pmax
comp=Z,5.0nm,0.9s
KBL Kabul 18.01 78 Pn Pn 19 07 27.9 -0.3
CHGR Chuyangaron 18.54 65 P **P** 19 07 33.6 -0.8
MFTR Murfatlar 18.85 313 ⇑P Pn 19 07 38.1 0.0
JURR Jurilovca 18.89 315 ⇓P Pn 19 07 38.4 -0.2
IDI Anoyia 18.97 284 P Pn 19 07 40.1 +0.3
comp=Z,0.9nm,0.3s,baz=277,slow=1.8,SNR=8.1
IDI Anoyia 18.97 284 ⇑P **P** 19 07 37.3 -1.8
IDI Anoyia 18.97 284 IAmb IAmb 19 07 50.1
comp=Z,32nm,1.2s
TIRR Tirgusor 19.00 314 ⇓P Pn 19 07 40.6 +0.6
TIRR Tirgusor 19.00 314 P **P** 19 07 39.2 -0.1
TIRR pmax pmax
comp=Z,30nm,0.9s
TIRR Tirgusor 19.00 314 **P** 19 07 39.2 -0.1
TIRR IAmb IAmb 19 07 42.6
comp=Z,30nm,0.9s
ABKAR Akbulak array 19.01 26 P **P** 19 07 39.4 +0.1
VRH Novokhopyorsk 19.03 349 *e*P **P** 19 07 38.1 -1.4
VRH pmax pmax
comp=Z,30nm,1.1s
ALN Alexandroupoli 19.06 302 P Pn 19 07 40.5 -0.2
ALN pmax pmax
comp=Z,6.0nm,1.0s
ALN Alexandroupoli 19.06 302 P **Pn** 19 07 40.5 -0.2
TLCR 19.16 316 ⇓P Pn 19 07 41.8 0.0
TLCR 19.16 316 P Pn 19 07 41.8 0.0
TOPG Topolog 19.25 315 ⇓P Pn 19 07 43.3 +0.4
TLBR Topalu 19.27 314 ⇑P Pn 19 07 43.0 -0.1
VORD Divnogorie 19.29 344 *e*P **P** 19 07 41.3 -1.0
VORD pmax pmax
comp=Z,10.0nm,0.8s
AKTO Aktyubinsk 19.39 20 P Pn 19 07 44.4 -0.2
comp=Z,0.7nm,0.3s,baz=202,slow=12,SNR=27
HARR Harsova 19.42 314 ⇑P Pn 19 07 44.8 -0.2
HARR Harsova 19.42 314 P Pn 19 07 44.7 -0.2
GAR Garm 19.50 65 P **P** 19 07 44.5 -0.4
VSR Storozhevoye 19.55 344 *e*P **P** 19 07 43.8 -1.4
VSR pmax pmax
comp=Z,40nm,1.4s
CFR Carcaliu 19.55 315 ⇓P Pn 19 07 46.1 -0.5
CFR Carcaliu 19.55 315 P **P** 19 07 45.1 -0.2
CFR pmax pmax
comp=Z,10.0nm,0.9s
RAZG Razgrad 19.77 310 ⇑P Pn 19 07 48.4 -0.8
BTK Batken 20.12 62 P Pn 19 07 54.6 +1.2
BTK pmax pmax
comp=Z,6.0nm,0.7s
BTK Batken 20.12 62 Pn 19 07 54.6 +1.2
MILM Milestii Mici 20.19 320 ⇓P Pn 19 07 53.4 -0.7

ISR Istrita 20.48 314 P Pn 19 07 57.7 +0.1
ISR pmax pmax
comp=Z,26nm,1.1s
VRI Vrincioaia 20.76 316 ⇓P Pn 19 07 59.8 -1.0
VRI Vrincioaia 20.76 316 P Pn 19 08 00.0 -0.8
VRI pmax pmax
comp=Z,9.0nm,0.9s
NEHR Nehoiu 20.79 314 ⇓P Pn 19 08 00.0 -1.2
PLOR Plostina 20.80 315 ⇓P Pn 19 08 00.6 -0.7
PLOR Plostina 20.80 315 P Pn 19 08 00.5 -0.8
KK31 Karatay Array 20.86 53 P **P** 19 07 59.9 +0.3
KK31 pmax pmax
comp=Z,30nm,1.8s
KK31 Karatay Array 20.86 53 P **P** 19 07 59.9 +0.3
KK31 IAmb IAmb 19 08 06.2
comp=Z,30nm,1.8s
KKAR Karatay Array 20.86 53 P **P** 19 07 59.2 -0.3
KKAR pmax pmax
comp=Z,30nm,1.8s
KKAR Karatay Array 20.86 53 P **P** 19 07 59.2 -0.3
KKAR Karatay Array 20.86 53 P **P** 19 07 59.9 +0.3
KKAR IAmb IAmb 19 08 06.2
comp=Z,30nm,1.8s
SRS Serrai 20.90 301 P Pn 19 08 01.1 -1.4
SRS pmax pmax
comp=Z,7.0nm,1.4s
LPSR Galich'ya Gora 20.90 345 *e*P **P** 19 07 58.4 -1.4
LPSR pmax pmax
comp=Z,70nm,0.7s
MMB Musomiste 20.94 302 *e*P **P** 19 07 59.7 -0.7
MLR Muntele Rosu 21.04 314 P **P** 19 08 02.8 +1.2
comp=Z,5.1nm,0.6s,baz=349,slow=3.3,SNR=11
MLR Muntele Rosu 21.04 314 ⇓P **P** 19 08 02.4 +0.9
MLR Muntele Rosu 21.04 314 P **P** 19 08 03.0 +1.4
MLR pmax pmax
comp=Z,15nm,0.8s
MLR Muntele Rosu 21.04 314 P **P** 19 08 03.0 +1.4
MLR IAmb IAmb 19 08 11.3
comp=Z,15nm,0.8s
TESR Tescani 21.16 317 ⇑P **P** 19 08 03.2 +0.5
HUMR Humele 21.18 311 ⇓P **P** 19 08 04.7 +1.7
SORM Soroca 21.20 322 ⇓P **P** 19 08 04.7 +1.5
SORM Soroca 21.20 322 P **P** 19 08 04.6 +1.5
AGG Agios Georgios 21.38 294 P **P** 19 08 05.6 +0.4
AGG pmax pmax
comp=Z,18nm,1.2s
AGG Agios Georgios 21.38 294 P **P** 19 08 05.6 +0.4
AGG IAmb IAmb 19 08 19.1
comp=Z,18nm,1.2s
OZUR 21.44 315 ⇓P **P** 19 08 06.3 +0.5
MTUR Matau 21.45 312 ⇓P **P** 19 08 07.2 +1.3
ITM Ithomi 21.47 289 P **P** 19 08 06.3 +0.1
ITM IAmb IAmb 19 08 19.9
comp=Z,11nm,0.7s
NIL Nilore 21.53 80 P **P** 19 08 06.2 -0.7
NIL pmax pmax
comp=Z,24nm,1.5s
NIL Nilore 21.53 80 P **P** 19 08 06.2 -0.7
NIL IAmb IAmb 19 08 12.4
comp=Z,24nm,1.5s
VOIR 21.56 313 ⇓P **P** 19 08 08.8 +1.7
VOIR 21.56 313 P **P** 19 08 08.6 +1.5
VOIR pmax pmax
comp=Z,59nm,0.9s
DOPR Dopca 21.61 314 ⇓P **P** 19 08 08.6 +0.9
ARR Arges 21.78 312 ⇑P **P** 19 08 10.6 +1.1
LOT Lotru 22.36 312 ⇓P **P** 19 08 15.9 +0.1
KMPD K-Podol'skiy 22.45 321 P **P** 19 08 14.0 -2.5
AKASG Malin Array Be 22.54 329 P **P** 19 08 16.0 -1.5
comp=Z,5.8nm,0.7s,baz=137,slow=9.3,SNR=23
AKASG Malin Array Be 22.54 329 *i* P **P** 19 08 14.8 -2.6
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 22.54 329 P **P** 19 08 15.5 -2.0
AKBB Malin Array Si 22.54 329 ⇑*e*P **P** 19 08 16.6 -0.8
AKBB Malin Array Si 22.54 329 P **P** 19 08 16.2 -1.3
AKBB IAmb IAmb 19 08 19.1
comp=Z,11nm,0.9s
KIEV Kiev 22.54 329 P **P** 19 08 15.0 -2.5
BURAR Bucovina Array 22.58 318 ⇓P **P** 19 08 19.4 +1.3
BURAR Bucovina Array 22.58 318 P **P** 19 08 19.4 +1.3
BURAR Bucovina Array 22.58 318 P **P** 19 08 17.3 -0.8
BUR08 Bucovina Ar. S 22.61 318 P **P** 19 08 18.3 -0.1
BUR08 IAmb IAmb 19 08 23.9
comp=Z,7.5nm,0.8s
IGT Igoumenitsa 22.99 295 P **P** 19 08 23.7 +1.4
IGT pmax pmax
comp=Z,27nm,0.9s
HERR Herculane 22.99 309 ⇓P **P** 19 08 23.2 +0.9
KSV Kosov 23.06 319 P **P** 19 08 22.1 -0.9
MDVR Moldovita 23.41 309 ⇓P **P** 19 08 27.3 +0.6
AAK Ala-Archa 23.47 57 P **P** 19 08 25.9 -1.4
comp=Z,0.8nm,0.3s,baz=238,slow=8.9,SNR=1.3
AAK Ala-Archa 23.47 57 ⇓*e*P **P** 19 08 30.6 +3.2
AAK Ala-Archa 23.47 57 P **P** 19 08 26.9 -0.5
OBN Obninsk 23.76 344 P **P** 19 08 29.2 -0.6
comp=Z,1.5nm,0.3s,baz=146,slow=15,SNR=4.5
OBN Obninsk 23.76 344 *de*P **P** 19 08 30.0 +0.2
OBN *e* 19 09 00.5
OBN *e*PPP PPP 19 09 08.8
OBN *e*SS Sn 19 13 31.9 +25
OBN *e*SSS SSS 19 13 47.5
OBN pmax pmax
comp=Z,26nm,1.3s
OBN MLR MLR
comp=Z,45nm,16.0s
BZS Buzias 23.80 310 ⇓P **P** 19 08 30.0 -0.4
BZS Buzias 23.80 310 P **P** 19 08 30.6 +0.2
BZS pmax pmax
comp=Z,7.0nm,1.1s
KSH Kashi 23.91 65 *e*P **P** 19 08 28.3 -3.4
SIRR Siria 24.05 312 ⇑P **P** 19 08 33.8 +1.0
MOS Moscow 24.11 346 *e*P **P** 19 08 32.7 -0.5
MOS *e*S **S** 19 12 54.5 +4.0
MORS Morshin 24.16 320 P **P** 19 08 34.2 +0.5
UZH Uzhgorod 24.78 318 *e*P **P** 19 08 38.5 -0.9
UZH *i* 19 08 41.5
UZH *e* 19 08 49.5
KOLS Kolonicke sedl 24.95 318 *e*P **P** 19 08 41.9 +1.0
KOLS pmax pmax
comp=Z,7.0nm,0.7s
KOLS Kolonicke sedl 24.95 318 *e*P **P** 19 08 41.8 +0.9
ARU Arti 24.98 15 P **P** 19 08 40.9 -0.2
comp=Z,1.0nm,0.4s,baz=204,slow=6.4,SNR=9.2
ARU Arti 24.98 15 *de*P **P** 19 08 43.3 +2.2
ARU pmax pmax
comp=Z,13nm,1.4s
ARU Arti 24.98 15 P **P** 19 08 41.6 +0.6
ARU IAmb IAmb 19 08 44.4
comp=Z,6.7nm,0.8s
KDJ Kajisay 25.27 59 P **P** 19 08 45.3 +1.2
KDJ pmax pmax
comp=Z,5.0nm,0.9s
KDJ Kajisay 25.27 59 P **P** 19 08 45.3 +1.2
KDJ IAmb IAmb 19 08 49.3
comp=Z,5.0nm,0.8s
CRVS Cervenica-Dubn 25.39 317 *e*P **P** 19 08 46.1 +1.2
CRVS pmax pmax
comp=Z,12nm,0.8s
CRVS Cervenica-Dubn 25.39 317 *e*P **P** 19 08 46.1 +1.2
STON Ston 25.59 302 *i* P **P** 19 08 48.9 +2.1
TARG Taragay, Kyrgy 25.65 61 P **P** 19 08 46.8 -1.0
TARG IAmb IAmb 19 08 57.7
comp=Z,5.6nm,1.0s
TIP Timpagrande 25.70 293 P **P** 19 08 48.3 +0.4
TIP IAmb IAmb 19 09 16.1
comp=Z,16nm,1.3s
KECS Kecovo 25.75 316 *e*P **P** 19 08 49.8 +1.6
KECS pmax pmax
comp=Z,12nm,0.8s
KECS Kecovo 25.75 316 *e*P **P** 19 08 49.8 +1.6
PSZ Piszkesteto 25.85 314 P **P** 19 08 50.8 +1.6
PSZ pmax pmax
comp=Z,16nm,0.8s
PSZ Piszkesteto 25.85 314 P **P** 19 08 50.8 +1.6
KIRV Kirov 25.97 2 P **P** 19 08 50.1 +0.1
comp=Z,5.6nm,0.5s,baz=200,slow=8.1,SNR=5.2
KIRV Kirov 25.97 2 *e*P **P** 19 08 51.7 +1.7
BRVK Borovoye 26.14 32 ⇑*e*P **P** 19 08 52.3 +0.6
BRVK pmax pmax
comp=Z,6.0nm,1.3s
BRVK Borovoye 26.14 32 P **P** 19 08 51.7 0.0
BVAR Borovoye Array 26.17 32 P **P** 19 08 51.7 -0.2
comp=Z,2.5nm,0.8s,baz=224,slow=8.3,SNR=10
BVAR PcP **PcP** 19 12 19.1 +0.3
comp=Z,0.5nm,0.4s,baz=204,slow=3.2,SNR=1.9
BUD Budapest 26.20 313 P **P** 19 08 54.3 +2.1
BUD pmax pmax
comp=Z,25nm,0.8s
PRZ Przheval'sk 26.23 59 P **P** 19 08 52.4 -0.4
PRZ pmax pmax
comp=Z,10.0nm,1.3s
PRZ Przheval'sk 26.23 59 P **P** 19 08 52.4 -0.4
PRZ IAmb IAmb 19 08 59.0
comp=Z,10nm,1.2s
NIE Niedzica 26.31 318 P **P** 19 08 54.9 +1.6
NIE pmax pmax
comp=Z,4.0nm,0.9s
NACGM Naroch 26.64 333 *e* **P** 19 08 56.0 -0.1
LANS Liptovska Anna 26.66 316 *e*P **P** 19 08 58.0 +1.5
LANS pmax pmax
comp=Z,8.0nm,1.3s
LANS Liptovska Anna 26.66 316 *e*P **P** 19 08 58.0 +1.5
VYHS Vyhne 26.74 315 *e*P **P** 19 08 58.5 +1.4
VYHS pmax pmax
comp=Z,5.0nm,1.3s
VYHS Vyhne 26.74 315 *e*P **P** 19 08 58.5 +1.4
KIJV Kijevo 26.78 304 *i* P **P** 19 08 56.9 -0.7
OJC Ojcow 26.99 319 P **P** 19 08 57.8 -1.6
OJC pmax pmax
comp=Z,10.0nm,0.8s
OJC Ojcow 26.99 319 P **P** 19 08 57.8 -1.6
MORI Morici 27.24 304 *i* P **P** 19 08 60.0 -1.7
SUW Suwalki 27.50 328 P **P** 19 09 02.3 -1.6
SUW pmax pmax
comp=Z,43nm,1.2s
SUW Suwalki 27.50 328 P **P** 19 09 02.3 -1.6
JAVC Velka Javorina 27.59 315 *e*P **P** 19 09 08.3 +3.4
MODS Modra-Piesok 27.63 314 *e*P **P** 19 09 07.0 +1.8
MODS pmax pmax
comp=Z,26nm,1.8s
MODS Modra-Piesok 27.63 314 *e*P **P** 19 09 07.0 +1.8
SOP Sopron 27.81 312 P **P** 19 09 11.4 +4.6
MORC Moravsky Berou 28.07 316 *e*P **P** 19 09 09.7 +0.6
MORC Moravsky Berou 28.07 316 P **P** 19 09 07.6 -1.5
MORC pmax pmax
comp=Z,3.0nm,0.9s
MORC Moravsky Berou 28.07 316 P **P** 19 09 07.5 -1.5
VRAC Vranov 28.42 315 P **P** 19 09 12.3 0.0
comp=Z,1.0nm,0.4s,baz=139,slow=9.3,SNR=1.6
VRAC Vranov 28.42 315 *e*P **P** 19 09 13.2 +1.0
KRUC Moravsky 28.44 314 *e*P **P** 19 09 13.1 +0.7
KRLC Kraliky 28.64 317 *e*P **P** 19 09 14.5 +0.3
KRLC Kraliky 28.64 317 *e*P **P** 19 09 14.5 +0.3
KLMR Klimovskoe 28.71 352 *e*P **P** 19 09 12.7 -1.8
KLMR pmax pmax
comp=Z,14nm,0.8s
KLMR Klimovskoe 28.71 352 *e*P **P** 19 09 12.8 -1.8
KLMR AMP 19 09 14.4
comp=Z,14nm,0.8s
KURBB Kurchatov Arra 29.00 43 P **P** 19 09 18.8 +1.4
comp=Z,2.3nm,0.7s,baz=247,slow=9.4,SNR=16
KURBB PcP **PcP** 19 12 26.1 +0.5
comp=Z,0.2nm,0.6s,baz=238,slow=3.0,SNR=4.1
DPC Dobruska-Polom 29.02 317 *e*P **P** 19 09 18.1 +0.5
DPC Dobruska-Polom 29.02 317 *e*P **P** 19 09 18.1 +0.5
KURK Kurchatov 29.10 42 *ce*P **P** 19 09 19.4 +1.3
KURK pmax pmax
comp=Z,5.0nm,1.3s
KURK Kurchatov 29.10 42 P **P** 19 09 18.6 +0.5
KURK IAmb IAmb 19 09 20.6
comp=Z,4.0nm,0.9s
KURK Kurchatov 29.10 42 **PcP** 19 12 26.1 +0.3
CHVC Chvalec 29.28 317 *e*P **P** 19 09 20.4 +0.6
GOPC GO Pecny, Ondr 29.74 315 *e*P **P** 19 09 24.9 +1.0
GOPC GO Pecny, Ondr 29.74 315 *e*P **P** 19 09 24.9 +1.0
MK31 Makanchi Array 29.96 52 P **P** 19 09 26.5 +0.6
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 29.96 52 P **P** 19 09 26.5 +0.6
MKAR Makanchi Array 29.96 52 P **P** 19 09 27.2 +1.3
comp=Z,3.5nm,0.8s,baz=248,slow=8.4,SNR=22
MKAR PcP **PcP** 19 12 28.3 +0.1
comp=Z,0.2nm,0.6s,baz=249,slow=3.0,SNR=2.2
MKAR Makanchi Array 29.96 52 *i* P **P** 19 09 27.5 +1.6
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 29.96 52 P **P** 19 09 26.7 +0.8
GERES GERESS Array B 30.01 313 P **P** 19 09 26.4 -0.1
comp=Z,1.0nm,0.7s,baz=108,slow=8.6,SNR=7.4
GERES GERESS Array B 30.01 313 P **P** 19 09 26.0 -0.4
KHC Kasperske Hory 30.19 313 *e*P **P** 19 09 26.7 -1.2
KHC Kasperske Hory 30.19 313 *e*P **P** 19 09 26.7 -1.2
CTI Castel Tesino 30.54 307 P **P** 19 09 31.0 -0.2
CTI pmax pmax
comp=Z,5.0nm,0.7s
CTI Castel Tesino 30.54 307 P **P** 19 09 31.0 -0.2
CTI IAmb IAmb 19 09 35.1
comp=Z,5.2nm,0.7s
WTTA Wattenberg 30.85 309 *e*P **P** 19 09 34.5 +0.5
comp=Z,7.4nm,1.1s
WATA Walderalm 30.91 309 *e*P **P** 19 09 34.6 +0.2
comp=Z,7.5nm,1.0s
SQTA Sankt Quirin 31.12 309 *i* P **P** 19 09 36.6 +0.3
comp=Z,5.3nm,0.6s
MOTA Moosalm 31.22 309 *e*P **P** 19 09 37.3 +0.1
comp=Z,3.3nm,0.6s
FETA Feichten 31.39 308 *e*P **P** 19 09 39.3 +0.6
comp=Z,4.9nm,1.0s
FINES FINESS Array B 32.00 341 P **P** 19 09 43.2 -0.4
comp=Z,1.9nm,0.6s,baz=148,slow=11,SNR=8.6
FINES FINESS Array B 32.00 341 *i* P **P** 19 09 42.0 -1.6
FINES pmax pmax
comp=Z,2.0nm,0.6s
DAVA Damuels 32.02 308 *i* P **P** 19 09 44.2 0.0
comp=Z,5.0nm,0.5s
WMQ Urumqi 33.15 59 *e*P **P** 19 09 56.3 +2.2
WMQ sP sP 19 10 03.3 +4.5
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ LR LR
comp=N,110nm,10.5s
WMQ LR LR
comp=E,200nm,6.7s
WMQ LR LR
comp=Z,22nm,8.5s
SENIN Lac Senin/Sane 33.57 306 P **P** 19 09 57.9 +0.1
BNI Bardonecchia 33.81 304 P **P** 19 09 59.7 -0.1
BNI pmax pmax
comp=Z,14nm,0.8s
BNI Bardonecchia 33.81 304 P **P** 19 09 59.7 -0.1
ZAA0 Zalesovo Array 33.91 40 P **P** 19 10 00.7 +0.2
ZAA0 IAmb IAmb 19 10 04.0
comp=Z,3.2nm,0.7s
ZALV Zalesovo Beam 33.91 40 P **P** 19 09 59.9 -0.6
comp=Z,2.2nm,0.5s,baz=247,slow=8.7,SNR=12
ZALV Zalesovo Beam 33.91 40 *i* P **P** 19 10 01.2 +0.7
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 33.91 40 P **P** 19 10 00.1 -0.4
DGZ Jazzator, Alta 34.04 48 ⇓*e*P **P** 19 10 03.4 +1.6
DGZ pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra 36.89 331 P **P** 19 10 25.3 -0.8
comp=Z,0.8nm,0.6s,baz=123,slow=8.6
NOA NORSAR Array B 36.89 331 P **P** 19 10 25.1 -1.0
comp=Z,1.2nm,0.7s,baz=124,slow=8.6,SNR=4.9
LSA Lhasa 37.23 83 P **P** 19 10 30.3 +0.5
LSA pmax pmax
comp=Z,3.0nm,0.7s
LSA Lhasa 37.23 83 P **P** 19 10 30.3 +0.5
LSA IAmb IAmb 19 10 33.2
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 38.96 348 P **P** 19 10 42.0 -1.3
comp=Z,2.4nm,0.7s,baz=139,slow=7.9,SNR=10
SHL Shillong 39.15 89 P **P** 19 10 45.1 -0.7
SHL pmax pmax
comp=Z,5.0nm,0.8s
SHL Shillong 39.15 89 P **P** 19 10 45.1 -0.7
SHL IAmb IAmb 19 10 52.4
comp=Z,5.4nm,0.8s
ESDC Sonseca Array 41.70 295 P **P** 19 11 06.3 -0.3
comp=Z,0.4nm,0.7s,baz=69,slow=11,SNR=3.3
NRIK Noril'sk 43.01 20 LR LR 19 31 33.6
comp=Z,30nm,20.8s,baz=178,slow=40
TORD Torodi Ar. Bea 46.07 256 P **P** 19 11 42.0 +0.2
comp=Z,1.3nm,0.9s,baz=52,slow=8.2,SNR=7.1
TORD Torodi Ar. Bea 46.07 256 P **P** 19 11 42.1 +0.3
SONM Songino Array 46.31 53 P **P** 19 11 43.4 -0.2

	comp=Z,0.7nm,0.6s,baz=287,slow=8.3,SNR=5.7								
SONM					PcP	PcP	19 13 19.3	+0.6	
	comp=Z,0.3nm,0.5s,baz=277,slow=3.4,SNR=2.4								
SONM	**Songino Array**	**46.31**	**53**		P	P	19 11 44.2	+0.7	
SONM							19 13 19.3		
SONM					pmax	pmax			
	comp=Z,1.0nm,0.8s								
SONM	**Songino Array**	**46.31**	**53**		P	P	19 11 44.2	+0.7	
ULN	**Ulaanbaatar**	**46.75**	**53**	⇑	*e*P	P	19 11 48.1	+1.1	
ULN					pmax	pmax			
	comp=Z,4.0nm,0.8s								
ULN	**Ulaanbaatar**	**46.75**	**53**		P	P	19 11 48.3	+1.3	
ULN					IAmb	IAmb	19 11 52.0		
	comp=Z,4.4nm,0.9s								
CMAR	**Chiang Mai Arr**	**48.04**	**94**		P	P	19 11 57.0	-0.2	
	comp=Z,0.4nm,0.4s,baz=297,slow=8.0,SNR=5.3								
CMAR					PcP	PcP	19 13 26.2	+1.1	
	comp=Z,0.6nm,0.6s,baz=291,slow=3.8,SNR=2.4								
HHC	**Hu-ho-hao-te**	**50.94**	**61**		*e*P	P	19 12 19.8	+0.6	
HHC					pmax	pmax			
	comp=Z,16nm,0.9s								
HHC					pmax	pmax			
	comp=Z,98nm,6.0s								
KLR	**Kul'dur**	**62.53**	**47**	⇑	*e*P	P	19 13 41.9	+0.6	
KLR					pmax	pmax			
	comp=Z,5.0nm,1.7s								
KSRS	**Korea Array**	**64.07**	**61**		P	P	19 13 51.5	-0.2	
	comp=Z,0.9nm,0.6s,baz=282,slow=6.5,SNR=5.9								
KSRS					LR	LR	19 42 51.6		
	comp=Z,2μm,18.3s,baz=159,slow=37								
BOSA	**Boshof**	**64.50**	**202**		P	P	19 13 55.3	+0.8	
	comp=Z,3.1nm,0.9s,baz=40,slow=7.9,SNR=4.0								
BOSA	**Boshof**	**64.50**	**202**		IAmb	IAmb	19 13 59.6		
	comp=Z,35nm,1.6s								
SEY	**Seymchan**	**67.75**	**29**	*ce*	P	P	19 14 15.8	+0.8	
IMAR	**Indian Mountai**	**80.32**	**9**		P	P	19 15 28.2	-0.2	
D62A	**Allapoint, All**	**82.31**	**322**		P	P	19 15 39.7	+0.4	
O53A	**New Philadelph**	**93.37**	**323**		P	P	19 16 32.4	-0.6	
JAY	**Jayapura**	**94.00**	**90**		LR	LR	20 05 01.9		
	comp=Z,38nm,18.5s,baz=22,slow=39								
WRA	**Warramunga Arr**	**97.91**	**109**		P	P	19 16 53.7	-0.2	
	comp=Z,0.4nm,0.9s,baz=312,slow=3.9,SNR=2.0								
ASAR	**Alice Springs**	**99.51**	**112**		P	Pdif	19 17 00.7	-0.4	
	comp=Z,0.3nm,0.9s,baz=300,slow=4.8,SNR=4.8								

*JMA **20** 19:18:28.0±0.1,24.˚49N×122.˚84E,h75km±1km,M2.4*
*TAP **20** 19:18:28.9,24.˚46N×122.˚79E,h65km±1km,ML2.8,C*
ISC 20 19:18:28.7±1.3,**24.˚45N**±0.˚04×**122.˚84E**±0.˚02,**h70**km±7km,
n85,σ0.972/146,2C-2D,Taiwan region

Code	Station Name	Δ°	AZ°		Phase	ID	Time	Res
					Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.09**	**87**		P	**Pn**	**19 18 38.9**	**0.0**
JYNG					S	**Sn**	**19 18 46.9**	**+0.6**
YOJ	**Yonaguni jima**	**0.15**	**84**	⇑	*e*P	**Pn**	**19 18 39.1**	**0.0**
	baz=87							
YOJ					*e*S	**Sn**	**19 18 47.1**	**+0.5**
	baz=87							
YOJ	**Yonaguni jima**	**0.15**	**84**		P	**Pn**	**19 18 39.0**	**0.0**
YOJ					S	**Sn**	**19 18 47.0**	**+0.4**
IRIF	**Iriomote-Funau**	**0.82**	**98**		P	**Pn**	**19 18 44.7**	**-0.2**
IRIF					S	**Sn**	**19 18 57.0**	**+0.1**
EGS		**0.92**	**296**		P	**Pn**	**19 18 46.2**	**+0.1**
	baz=296							
EGS					S	**Sn**	**19 18 58.1**	**-1.0**
	baz=296							
TWC	**Suao**	**0.92**	**280**	⇓	*i*P	**Pn**	**19 18 45.7**	**-0.5**
	baz=279							
TWC					*i* S	**Sn**	**19 18 57.7**	**-1.5**
	baz=279							
ENAH	**Nanao**	**0.94**	**270**		P	**Pn**	**19 18 46.9**	**+0.5**
	baz=269							
HATJ	**Hateruma jima**	**0.96**	**114**		P	**Pn**	**19 18 47.0**	**+0.4**
HATJ					S	**Sn**	**19 19 01.0**	**+1.0**
ENA	**Nanau**	**1.00**	**269**	*i*	P	**Pn**	**19 18 47.9**	**+0.7**
	baz=267							
ENA					S	**Sn**	**19 19 01.1**	**+0.1**
	baz=267							
NTC	**Toucheng**	**1.01**	**294**		*e*P	**Pn**	**19 18 46.8**	**-0.4**
	baz=294							
NTC					*e*S	**Sn**	**19 19 00.2**	**-0.8**
	baz=294							
TIPB	**Shuangxi**	**1.06**	**300**		P	**Pn**	**19 18 47.6**	**-0.4**
	baz=300							
TIPB					*e*S	**Sn**	**19 19 01.7**	**-0.7**
	baz=300							
JKRS	**Kuro-shima**	**1.08**	**101**		P	**Pn**	**19 18 48.4**	**+0.2**
JKRS					S	**Sn**	**19 19 03.1**	**+0.3**
TWE	**Neicheng**	**1.11**	**285**	⇑	*i*P	**Pn**	**19 18 48.3**	**-0.2**
	baz=284							
TWE					*i* S	**Sn**	**19 19 02.9**	**-0.3**
	baz=284							
NWF	**Wu-fen Shan**	**1.15**	**303**		P	**Pn**	**19 18 48.9**	**-0.2**
	baz=303							
NWF					S	**Sn**	**19 19 03.2**	**-1.2**
	baz=303							
WFSB	**Wu-fen Shan**	**1.15**	**303**		*e*P	**Pn**	**19 18 48.9**	**-0.2**
	baz=303							
WFSB					*e*S	**Sn**	**19 19 04.4**	**+0.1**
	baz=303							
NACB	**Ninganchiao**	**1.17**	**257**	⇓	P	**Pn**	**19 18 49.1**	**-0.3**
	baz=255							
NACB					*e*S	**Sn**	**19 19 03.9**	**-0.9**
	baz=255							
ENTT	**Nioudou**	**1.18**	**280**	*i*	P	**Pn**	**19 18 49.8**	**+0.3**
	baz=279							
ENTT					S	**Sn**	**19 19 05.2**	**+0.1**
	baz=279							
JIJ	**Ishigaki jima**	**1.19**	**94**		P	**Pn**	**19 18 49.0**	**-0.5**
JIJ					S	**Sn**	**19 19 04.5**	**-0.6**
TWD	**Chiawan**	**1.20**	**253**		P	**Pn**	**19 18 49.8**	**+0.2**
	baz=250							
TWD					S	**Sn**	**19 19 05.0**	**-0.3**
	baz=250							
NDT	**Datong Townshi**	**1.22**	**278**	*i*	P	**Pn**	**19 18 50.9**	**+0.8**
	baz=276							
NDT					*e*S	**Sn**	**19 19 05.0**	**-1.0**
	baz=276							
ETLH	**Xiulin Townshi**	**1.27**	**259**		P	**Pn**	**19 18 50.4**	**-0.2**
	baz=258							
ETLH					S	**Sn**	**19 19 07.2**	**+0.1**
	baz=258							
NWLT	**Wulai**	**1.27**	**285**		*e*P	**Pn**	**19 18 50.9**	**+0.3**
	baz=285							
NWLT					*e*S	**Sn**	**19 19 06.2**	**-0.8**
	baz=285							
NNSB	**Datong**	**1.33**	**270**		P	**Pn**	**19 18 51.8**	**+0.2**
	baz=268							
NNSB					S	**Sn**	**19 19 08.4**	**-0.3**
	baz=268							
NNSH	**Datong**	**1.33**	**270**		*e*P	**Pn**	**19 18 51.6**	**0.0**
	baz=268							
NNSH					*e*S	**Sn**	**19 19 07.7**	**-1.0**
	baz=268							
NNS	**Nan Shan**	**1.34**	**270**		P	**Pn**	**19 18 51.6**	**-0.1**
	baz=268							
NNS					S	**Sn**	**19 19 07.7**	**-1.2**
	baz=268							
JISG	**Ishigakijimahi**	**1.34**	**84**		P	**Pn**	**19 18 51.0**	**-0.6**
JISG					S	**Sn**	**19 19 07.3**	**-1.5**
YM01	**YM01**	**1.35**	**301**		P	**Pn**	**19 18 51.6**	**-0.1**
	baz=301							
YM01					*e*S	**Sn**	**19 19 09.2**	**+0.1**
	baz=301							
YHNB	**Yeheng**	**1.35**	**280**		P	**Pn**	**19 18 52.2**	**+0.4**
	baz=279							
YHNB					*e*S	**Sn**	**19 19 09.2**	**0.0**
	baz=279							
YM08	**YM08**	**1.36**	**303**		*e*P	**Pn**	**19 18 51.6**	**-0.2**
	baz=303							
YM08					*e*S	**Sn**	**19 19 09.3**	**+0.2**
	baz=303							
YM11	**YM11**	**1.36**	**302**		*e*P	**Pn**	**19 18 51.6**	**-0.3**
	baz=302							
YM10	**YM10**	**1.36**	**301**		P	**Pn**	**19 18 52.0**	**+0.1**
	baz=301							
YM10					S	**Sn**	**19 19 08.9**	**-0.5**
	baz=301							
YM05	**YM05**	**1.36**	**302**		P	**Pn**	**19 18 51.3**	**-0.6**
	baz=302							
YM05					*e*S	**Sn**	**19 19 09.9**	**+0.5**
	baz=302							
NSK	**Sanguang**	**1.37**	**280**	*i*	P	**Pn**	**19 18 52.2**	**+0.2**
	baz=279							
NSK					S	**Sn**	**19 19 09.2**	**-0.4**
	baz=279							
YM04	**YM04**	**1.38**	**301**		P	**Pn**	**19 18 51.8**	**-0.4**
	baz=301							
YM03	**YM03**	**1.39**	**302**		*e*P	**Pn**	**19 18 52.2**	**-0.1**
	baz=302							
YM03					*e*S	**Sn**	**19 19 09.3**	**-0.7**
	baz=302							
TWY	**Chenhua**	**1.40**	**306**		*e*P	**Pn**	**19 18 52.9**	**+0.6**
	baz=306							
ESL	**Shilin**	**1.43**	**244**		P	**Pn**	**19 18 52.2**	**-0.6**
	baz=242							
ESL					S	**Sn**	**19 19 11.3**	**+0.3**
	baz=242							
TWS1	**Kuangyinshan**	**1.45**	**297**		P	**Pn**	**19 18 53.3**	**+0.3**
	baz=297							
TWS1					*e*S	**Sn**	**19 19 11.7**	**+0.4**
	baz=297							
NTST	**Danshui**	**1.46**	**300**		*e*P	**Pn**	**19 18 53.4**	**+0.3**
	baz=299							
NTST					*e*S	**Sn**	**19 19 12.5**	**+1.1**
	baz=299							
WHF	**Hehuan Shan**	**1.47**	**259**		P	**Pn**	**19 18 53.7**	**0.0**
	baz=257							
WHF					*e*S	**Sn**	**19 19 12.5**	**0.0**
	baz=257							
FUSS	**Fushou**	**1.47**	**263**		P	**Pn**	**19 18 54.2**	**+0.7**
	baz=261							
FUSS					*e*S	**Sn**	**19 19 12.6**	**+0.4**
	baz=261							
EGFH	**Guangfu**	**1.51**	**239**		P	**Pn**	**19 18 53.8**	**+0.1**
	baz=237							
EGFH					S	**Sn**	**19 19 12.5**	**-0.2**
	baz=237							
TWT	**Tachien**	**1.53**	**263**		P	**Pn**	**19 18 55.0**	**+0.8**
	baz=261							
TWT					S	**Sn**	**19 19 13.2**	**-0.3**
	baz=261							
TDCB	**Techi**	**1.55**	**263**		P	**Pn**	**19 18 55.0**	**+0.6**
	baz=262							
TDCB					S	**Sn**	**19 19 13.7**	**-0.2**
	baz=262							
CHGB	**Renai**	**1.57**	**256**		P	**Pn**	**19 18 55.0**	**+0.2**
	baz=254							
HGSD	**Ruisui**	**1.61**	**234**		P	**Pn**	**19 18 54.7**	**-0.4**
	baz=232							
EHY	**Hungye**	**1.68**	**236**		P	**Pn**	**19 18 55.6**	**-0.4**
	baz=234							
EHY					*e*S	**Sn**	**19 19 16.6**	**-0.1**
	baz=234							
LIOB	**Emei**	**1.68**	**277**		*e*P	**Pn**	**19 18 56.2**	**+0.2**
	baz=276							
NSTT	**Nanjuang**	**1.69**	**277**		*e*P	**Pn**	**19 18 56.7**	**+0.5**
	baz=275							
NSTT					*e*S	**Sn**	**19 19 15.9**	**-1.1**
	baz=275							
VWDT	**VWDT**	**1.70**	**246**		P	**Pn**	**19 18 56.8**	**+0.5**
	baz=244							
VWDT					*e*S	**Sn**	**19 19 17.2**	**0.0**
	baz=244							
JTJ	**Tarama**	**1.70**	**83**		P	**Pn**	**19 18 56.2**	**-0.1**
JTJ					S	**Sn**	**19 19 18.1**	**+0.8**
WHP	**Taichung City**	**1.74**	**265**		P	**Pn**	**19 18 58.1**	**+1.2**
	baz=263							
WHP					*e*S	**Sn**	**19 19 18.0**	**-0.3**
	baz=263							
YULB	**Yu-li**	**1.76**	**234**		P	**Pn**	**19 18 56.5**	**-0.7**
	baz=232							
YULB					*e*S	**Sn**	**19 19 18.1**	**-0.6**
	baz=232							
EYUL	**Yuli**	**1.77**	**232**		*e*P	**Pn**	**19 18 57.7**	**+0.4**
	baz=230							
EYUL					*e*S	**Sn**	**19 19 19.5**	**+0.5**
	baz=230							
TWF1	**Yuli**	**1.79**	**233**		P	**Pn**	**19 18 57.5**	**+0.1**
	baz=230							
TWF1					S	**Sn**	**19 19 18.6**	**-0.7**
	baz=230							
SSLB	**Suanglung**	**1.85**	**250**		*e*P	**Pn**	**19 18 58.3**	**0.0**
	baz=248							
SSLB					*e*S	**Sn**	**19 19 20.9**	**+0.1**
	baz=248							
SMLT	**Sun Moon Lake**	**1.86**	**253**		P	**Pn**	**19 18 59.2**	**+0.6**
	baz=251							
SMLT					*e*S	**Sn**	**19 19 20.2**	**-1.1**
	baz=251							
FULB	**Fuli**	**1.89**	**229**		*e*P	**Pn**	**19 18 58.3**	**-0.5**
	baz=227							
FULB					*e*S	**Sn**	**19 19 21.2**	**-0.5**
	baz=227							
TYC	**Yuchr**	**1.89**	**254**		P	**Pn**	**19 18 59.8**	**+0.9**
	baz=252							
TYC					*e*S	**Sn**	**19 19 21.9**	**0.0**
	baz=252							
CHKT	**Chengkung**	**1.91**	**226**		*e*P	**Pn**	**19 18 59.6**	**+0.6**
	baz=223							
WHYT	**Xinyi Township**	**1.97**	**248**		*e*P	**Pn**	**19 19 01.6**	**+1.6**
	baz=246							
WHYT					*e*S	**Sn**	**19 19 23.2**	**-0.5**
	baz=246							
WJS	**Zhushan**	**2.03**	**253**		*e*P	**Pn**	**19 19 02.6**	**+1.9**
	baz=251							
EDH	**Donghe**	**2.04**	**224**		*e*P	**Pn**	**19 19 00.7**	**-0.1**
	baz=222							
WNT	**Mingjian**	**2.05**	**254**		*e*P	**Pn**	**19 19 02.8**	**+1.7**
	baz=253							
ALS	**Alishan**	**2.08**	**244**		P	**Pn**	**19 19 03.0**	**+1.2**
	baz=242							
ALS					*e*S	**Sn**	**19 19 27.4**	**+0.5**
	baz=242							
ELDTW	**Lidau**	**2.09**	**234**		P	**Pn**	**19 19 01.3**	**-0.4**
	baz=231							
ELDTW					S	**Sn**	**19 19 25.9**	**-0.9**
	baz=231							
CHN5	**Tsauling**	**2.15**	**247**		*e*P	**Pn**	**19 19 03.4**	**+0.9**
	baz=246							
CHN5					*e*S	**Sn**	**19 19 28.0**	**-0.3**
	baz=246							
JIRB	**Irabujima**	**2.15**	**79**		P	**Pn**	**19 19 02.8**	**+0.4**
JIRB					S	**Sn**	**19 19 27.6**	**-0.5**
LDUT	**Ludao**	**2.17**	**216**		*e*P	**Pn**	**19 19 02.0**	**-0.6**
	baz=214							
LDUT					*e*S	**Sn**	**19 19 27.2**	**-1.3**
	baz=214							
WGK	**Gukeng**	**2.22**	**251**		*e*P	**Pn**	**19 19 04.9**	**+1.6**
	baz=249							
WGK					*e*S	**Sn**	**19 19 29.6**	**-0.1**
	baz=249							
WDLH	**Douliu**	**2.24**	**251**		*e*P	**Pn**	**19 19 05.0**	**+1.5**
	baz=249							
TWGBT	**Beinan**	**2.29**	**225**		*e*P	**Pn**	**19 19 04.0**	**-0.3**
	baz=223							
TWG	**Pinlang**	**2.29**	**225**		*e*P	**Pn**	**19 19 03.8**	**-0.5**
	baz=223							
STYT	**Tauyuan**	**2.30**	**237**		*e*P	**Pn**	**19 19 05.5**	**+1.0**
	baz=235							
TPUB	**Ta-pu**	**2.33**	**241**		P	**Pn**	**19 19 06.6**	**+1.8**
	baz=239							
WTP	**Ta-pu**	**2.37**	**240**		*e*P	**Pn**	**19 19 06.9**	**+1.6**
	baz=238							
WTP					*e*S	**Sn**	**19 19 32.4**	**-0.9**
	baz=238							
WTK	**Tuku**	**2.37**	**252**		*e*P	**Pn**	**19 19 05.9**	**+0.6**
	baz=250							
TWK	**Hsinying**	**2.46**	**242**		*e*P	**Pn**	**19 19 08.0**	**+1.4**
	baz=240							
CHN1	**Nanshi**	**2.46**	**240**		*e*P	**Pn**	**19 19 08.0**	**+1.3**
	baz=238							
SGST	**Jiashian**	**2.48**	**237**		*e*P	**Pn**	**19 19 08.0**	**+1.2**
	baz=235							
SGST					*e*S	**Sn**	**19 19 35.3**	**-0.8**
	baz=235							
SLGT	**Liugui**	**2.48**	**235**		*e*P	**Pn**	**19 19 08.4**	**+1.6**
	baz=233							
SSD	**Sandimen**	**2.64**	**231**		*e*P	**Pn**	**19 19 10.5**	**+1.5**
	baz=229							
LAY	**Lan-yu**	**2.67**	**207**		*e*P	**Pn**	**19 19 09.2**	**-0.3**
	baz=205							
MASBT	**Mashibuluo**	**2.73**	**228**		*e*P	**Pn**	**19 19 11.1**	**+0.9**
	baz=227							
EAST	**Anshuo**	**2.75**	**222**		*e*P	**Pn**	**19 19 10.2**	**-0.4**
	baz=220							

*IDC **20** 19:31:12.4±1.4,32.˚67N×47.˚43E,h0km,mb3.7/10,*
mb1 3.8/15,mb1mx3.6/58,mbtmp3.7/15,ML3.4/5,MS2.6/2,
Ms1 2.6/2,ms1mx2.3/63,Error ellipse: s-maj=30.6km
s-min=14.9km az=2.0
*THR **20** 19:31:13.9±0.3,32.˚71N×47.˚49E,h14km±5km,ML3.6*

*ISN **20** 19:31:14.6±0.9,32.˚76N×47.˚53E,h23km±6km,ML3.7*
*TEH **20** 19:31:14.0,32.˚73N×47.˚48E,h10km,ML3.6*
ISC 20 19:31:14.3±1.0,**32.˚66N**±0.˚03×**47.˚44E**±0.˚03,**h17**km±7km,
n68,σ2.906/71,mb3.5/9,5C-5D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.14**	**281**	*e*Pg	**Pg**	**19 31 17.5**	**-0.9**
IKFM	**Kafar-mosalman**	**0.93**	**21**	*e*Pg	**Pb**	**19 31 30.7**	**-1.3**
IKFM				*e*		19 31 54.3	
IKMR	**Kamar-syah**	**1.17**	**42**	*e*Pg	**Pn**	**19 31 35.9**	**+0.1**
IDOB	**Doab**	**1.29**	**28**	*e*Pg	**Pn**	**19 31 37.6**	**-0.1**
IBDR	**Badra**	**1.35**	**290**	*e*Pg	**Pb**	**19 31 40.0**	**+0.8**
IBDR				*e*Sg	**Sg**	**19 31 58.0**	**-0.1**
IBDR				AML	AML	19 32 04.7	
	comp=N,2μm,0.7s						
IBDR				AML	AML	19 32 05.1	
	comp=E,2μm,0.6s						
IKOM	**Komasi**	**1.52**	**2**	*e*Pg	**Pb**	**19 31 42.1**	**0.0**
IKOM				*e*		19 31 45.4	
BMDN	**Meydan**	**1.54**	**48**	*e*Pg	**Pb**	**19 31 42.6**	**+0.1**
BMDN				*e*		19 32 12.8	
KCHF	**Cheshme Sefid,**	**1.65**	**348**	*e*Pg	**Pb**	**19 31 44.2**	**-0.2**
KCHF				*e*		19 31 47.6	
AHWZ	**Ahwaz**	**1.67**	**142**	*e*Pg	**Pg**	**19 31 47.0**	**+0.6**
KER	**Kermanshah**	**1.75**	**352**	*e*Pg	**Pb**	**19 31 46.2**	**+0.2**
IGHG	**Ghaleghazi**	**1.82**	**337**	*e*Pg	**Pb**	**19 31 48.1**	**+0.7**
IGHG				*e*		19 32 26.6	
HSAM	**Samen**	**1.83**	**32**	*e*Pg	**Pb**	**19 31 47.1**	**-0.4**
IBZA	**Bozab**	**1.84**	**11**	*e*Pg	**Pb**	**19 31 47.8**	**+0.1**
IBZA				*e*		19 31 52.9	
IVIS	**Veis**	**1.93**	**345**	*e*Pn	**Pb**	**19 31 49.1**	**0.0**
IVIS				*e*		19 31 51.8	
NSR	**Nassriya**	**1.98**	**214**	*e*Pn	**Pb**	**19 31 50.0**	**+0.1**
NSR				*e*Sn	**Sb**	**19 32 15.0**	**+0.8**
NSR				AML	AML	19 32 21.0	
	comp=E,804nm,0.4s						
IDHR	**Dehrash**	**2.22**	**337**	*e*Pn	**Pn**	**19 31 52.5**	**+2.0**
IDHR				*e*		19 32 28.2	
IALM	**Almabolaq**	**2.28**	**15**	*e*Pn	**Pb**	**19 31 54.4**	**-0.8**
ILIN	**Lien**	**2.29**	**350**	*e*Pn	**Pn**	**19 31 53.5**	**+1.9**
ILIN				*e*		19 31 59.0	
KHMZ	**Khomeyn**	**2.37**	**62**	*e*Pn	**Pn**	**19 31 53.7**	**+1.1**
KHMZ				*e*Sg	**Sb**	**19 32 26.6**	**+0.9**
KHMZ	**Khomeyn**	**2.37**	**62**	*e*Pn	**Pn**	**19 31 53.7**	**+1.1**
SNGE	**Sanandaj**	**2.43**	**358**	*e*Pn	**Pn**	**19 31 54.5**	**+1.1**
SNGE				*e*S	**Sn**	**19 32 24.4**	**+1.4**
SNGE	**Sanandaj**	**2.43**	**358**	*e*Pn	**Pn**	**19 31 54.5**	**+1.1**
HAGD	**Aghdareh**	**2.58**	**33**	*e*Pn	**Pn**	**19 31 57.6**	**+2.1**
HAGD				*e*		19 32 03.7	
BHD	**Baghdad**	**2.65**	**284**	*e*Pn	**Pn**	**19 31 58.0**	**+1.8**
BHD				*e*Sn	**Sn**	**19 32 31.0**	**+3.1**
BHD				AML	AML	19 32 49.7	
	comp=E,477nm,0.3s						
HSRG	**Sareghieh**	**2.67**	**15**	*e*	Sg	19 32 46.9	+6.6
JHBN	**Jahan bin**	**2.76**	**98**	*e*Pn	**Pn**	**19 32 00.8**	**+2.8**
IPIR	**Pirpir**	**2.91**	**89**	*e*Pn	**Pn**	**19 32 02.6**	**+2.5**
IPIR				*e*		19 32 50.6	
ROKH	**ROKH**	**3.05**	**95**	*e*Pn	**Pn**	**19 32 03.7**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.52**	**30**	*e*Pn	**Pn**	**19 32 09.7**	**+1.2**
IKLH	**Kolahrood**	**3.54**	**78**	*e*Pn	**Pn**	**19 32 10.9**	**+2.2**
IKLH				*e*		19 32 15.2	
IGAR	**Gharneh**	**3.89**	**92**	*e*Pn	**Pn**	**19 32 15.9**	**+2.4**
IGAR				*e*		19 33 09.1	
QSDN	**Sirdan**	**4.10**	**20**	*e*Pn	**Pn**	**19 32 18.2**	**+1.9**
IZEF	**Zefreh**	**4.12**	**85**	*e*Pn	**Pn**	**19 32 18.3**	**+1.6**
MAHB	**Mahabad**	**4.34**	**341**	*e*Pn	**Pn**	**19 32 20.9**	**+1.2**
CHTH	**Charan**	**4.45**	**42**	*e*Pn	**Pn**	**19 32 22.2**	**+1.0**
CHTH	**Charan**	**4.45**	**42**	*e*Pn	**Pn**	**19 32 22.2**	**+1.0**
DAMV	**Damavand**	**4.79**	**50**	*e*Pn	**Pn**	**19 32 26.9**	**+1.1**
DAMV	**Damavand**	**4.79**	**50**	*e*Pn	**Pn**	**19 32 26.9**	**+1.1**
AHBU	**AHRAM**	**5.03**	**138**	*e*Pn	**Pn**	**19 32 31.2**	**+2.3**
ISRB	**Sarab**	**5.16**	**2**	*e*Pn	**Pn**	**19 32 32.5**	**+1.5**
ANAR	**Anarak**	**5.31**	**83**	*e*Pn	**Pn**	**19 32 34.7**	**+1.7**
ASF	**Jabal al Asfar**	**8.93**	**270**	Pn	**Pn**	**19 33 23.6**	**+1.0**
	comp=E,0.6nm,0.3s,baz=9.8,slow=5.0,SNR=3.2						
ASF				Sn	**Sn**	**19 34 56.2**	**-6.6**
	comp=E,0.2nm,0.3s,baz=35,slow=19,SNR=1.4						
ASF				Lg	Lg	19 35 53.2	
	comp=E,0.3nm,0.3s,baz=221,slow=20,SNR=1.7						
MMAI	**Mount Meron Ar**	**10.14**	**275**	Pn	**Pn**	**19 33 40.3**	**+1.2**
	comp=E,0.3nm,0.3s,baz=94,slow=15,SNR=1.5						
MMAI				Lg	Lg	19 36 36.5	
	comp=E,0.4nm,0.3s,baz=94,slow=39,SNR=1.9						
EIL	**Elat**	**11.11**	**258**	LR	LR	19 38 38.5	
	comp=E,29nm,18.2s,baz=288,slow=40						
BRTR	**Keskin Array B**	**13.19**	**306**	LR	LR	19 39 57.3	
	comp=E,26nm,20.6s,baz=104,slow=40						
WSAR	**Wadi Sarin**	**13.62**	**131**	Pn	**Pn**	**19 34 25.3**	**-1.4**
	comp=E,0.2nm,0.3s,baz=344,slow=14,SNR=1.5						
WSAR				Sn	**Sn**	**19 36 51.0**	**-6.6**
	comp=E,0.1nm,0.3s,baz=180,slow=19,SNR=1.3						
IDI	**Anoyia**	**18.89**	**284**	P	**P**	**19 35 32.9**	**-1.0**
	comp=E,0.1nm,0.3s,baz=233,slow=20,SNR=1.8						
CVDA	**Cernavoda**	**19.10**	**313**	⇓P	**P**	**19 35 30.2**	**-5.9**
AKTO	**Aktyubinsk**	**19.41**	**21**	P	**P**	**19 35 39.6**	**+0.2**
	comp=E,0.1nm,0.3s,baz=214,slow=11,SNR=5.8						
CFR	**Carcaliu**	**19.49**	**315**	⇑P	**P**	**19 35 36.3**	**-4.0**
VRI	**Vrincioaia**	**20.69**	**316**	⇑P	**P**	**19 35 52.8**	**-0.7**
PLOR	**Plostina**	**20.73**	**315**	⇑P	**P**	**19 35 53.2**	**-0.7**
MLR	**Muntele Rosu**	**20.96**	**314**	P	Pn	19 35 58.6	-0.5
	comp=E,1.2nm,0.6s,baz=194,slow=13,SNR=3.7						
MLR	**Muntele Rosu**	**20.96**	**314**	⇓P	**P**	**19 35 55.8**	**-0.8**
TESR	**Tescani**	**21.09**	**317**	⇓P	**P**	**19 35 58.7**	**+1.0**
OZUR		**21.37**	**315**

Plg62.0000°, Azm108.0000°; N Plg11.0000°, Azm220.0000°; P Plg25.0000°, Azm315.0000°;
JMA Felt II J1.
MOS ***20*** *19:38:23.1±0.8,33˙18N×138˙14E,h303km,mb5.3/67*
Error ellipse: s-maj=5.9km s-min=3.8km az=105.4
IDC ***20*** *19:38:24.5±0.3,33˙17N×138˙18E,h303km±2km,mb4.8/51,*
mb1 4.9/57,mb1mx4.8/62,mbtmp5.5/57,Error ellipse:
s-maj=6.2km s-min=5.4km az=41.0
BGR ***20*** *19:38:25.4±0.0,33˙23N×138˙08E,h309km±6km,mb5.4*
NEIC ***20*** *19:38:25.3±1.5,33˙20N±0˙07×138˙11E±0˙08,*
h308km±2km,mb5.2/484,Error ellipse: s-maj=10.2km
s-min=9.4km az=168.0
KEA ***20*** *19:38:26.2±0.0,33˙90N×138˙50E,h235km,mB5.9/1*
GCMT ***20*** *19:38:26.3±0.2,33˙23N±0˙02×137˙87E±0˙03,*
h308km±1km,MW5.4/108,Moment Tensor Solution.
s108,c194; Duration: 1⇧2 Moment tensor: Scale 10^{17}
Nm; Mrr0.56±.03; Mθθ-0.72±.04; Mϕϕ0.15±.04;
Mrθ-0.98±.04; Mθϕ-0.34±.04; Mϕr-1.08±.03; Best double
couple: Mo1.63600×10^{17} NP1:⇩s101.00000°,δ19.00000°,
λ145.00000°. NP2:⇩s225.00000°,δ79.00000°,λ74.00000°.
Principal axes: T 1.6080, Plg53.0000°, Azm116.0000°;
N 0.0560, Plg16.0000°, Azm228.0000°; P -1.6640,
Plg32.0000°, Azm328.0000°; nsta1 refers to body waves,
cutoff=40s. Triangular moment-rate function
ISC 20 19:38:24.9±0.2,33°25N±0.03×138°14E±0.03,h306km±1km,
h306km:pP-P,n1616,σ1⇧29/1924,mb5.2/464,120C-104D,
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
TK01	**Tokai 1**	**0.69**	**318**	P	**Pn**	**19 39 05.7**	**+1.4**
TK02	**Tokai 2**	**0.76**	**336**	⇧P	**Pn**	**19 39 06.2**	**+1.6**
TK02				S	**S**	**19 39 39.2**	**+2.9**
TTO3	**TONANKAI O.B.S**	**0.87**	**315**	⇧P	**Pn**	**19 39 06.9**	**+1.8**
TTO4	**TONANKAI O.B.S**	**0.90**	**327**	⇧P	**Pn**	**19 39 06.7**	**+1.6**
TK03	**Tokai 3**	**0.92**	**351**	P	**Pn**	**19 39 07.1**	**+1.7**
TK03				S	**S**	**19 39 40.7**	**+3.1**
TTO5	**TONANKAI O.B.S**	**1.06**	**341**	⇧P	**Pn**	**19 39 07.5**	**+1.6**
TK04	**Tokai 4**	**1.15**	**349**	⇧P	**Pn**	**19 39 08.2**	**+1.8**
TK04				S	**S**	**19 39 42.6**	**+3.0**
TTO1	**TONANKAI O.B.S**	**1.19**	**288**	⇧P	**Pn**	**19 39 08.4**	**+1.9**
JKO	**Kozu shima**	**1.25**	**42**	⇧P	**Pn**	**19 39 07.5**	**+0.4**
JMKN	**Mikurajimanish**	**1.37**	**62**	P	**Pn**	**19 39 07.4**	**-0.4**
JMKN				S	**S**	**19 39 41.9**	**-0.2**
JHJ	**Hachijo jima 2**	**1.39**	**95**	P	**Pn**	**19 39 07.0**	**-1.0**
	658nm,0.3s,baz=20,slow=4.2,SNR=516						
JHJ				S	**S**	**19 39 40.7**	**-1.6**
	1μm,0.3s,baz=290,slow=23,SNR=16						
JSKK	**Shikinejimakit**	**1.40**	**39**	⇧P	**Pn**	**19 39 08.3**	**+0.3**
JHJ2	**Mitsune**	**1.42**	**95**	⇩P	**Pn**	**19 39 07.4**	**-0.7**
JHJ2	**Mitsune**	**1.42**	**95**		**Pn**	**19 39 07.2**	**-0.9**
JSG	**Sagara**	**1.42**	**2**	⇧P	**Pn**	**19 39 09.6**	**+1.5**
JKKS	**Kakegawashinom**	**1.50**	**355**	⇧P	**Pn**	**19 39 10.1**	**+1.5**
JAOM	**Aogashimamukai**	**1.58**	**119**	⇩P	**Pn**	**19 39 09.3**	**0.0**
JIZS	**Izushimoda**	**1.59**	**23**	⇧P	**Pn**	**19 39 09.6**	**+0.4**
JTHY	**Toshimahigashi**	**1.59**	**37**	P	**Pn**	**19 39 09.3**	**+0.1**
JAA	**Atsumi**	**1.60**	**329**	⇧P	**Pn**	**19 39 10.7**	**+1.4**
HMMJ	**Hamamatsu 2**	**1.64**	**348**	⇧P	**Pn**	**19 39 10.6**	**+1.1**
JIE	**Ise**	**1.65**	**314**	⇧P	**Pn**	**19 39 11.0**	**+1.4**
JSSY	**Shinshiroyabe**	**1.74**	**343**	⇧P	**Pn**	**19 39 11.5**	**+1.3**
JYZW	**Yoshizawa**	**1.77**	**349**	P	**Pn**	**19 39 11.4**	**+1.0**
SHZ3	**Shizuoka 3**	**1.81**	**2**	P	**Pn**	**19 39 11.8**	**+1.0**
JKN2	**Miekihoku**	**1.84**	**303**	⇧P	**Pn**	**19 39 12.3**	**+1.4**
JHTM	**Izuhatsuma**	**1.85**	**23**	⇧P	**Pn**	**19 39 11.5**	**+0.5**
JMMH	**Miemihama**	**1.85**	**288**	⇧P	**Pn**	**19 39 12.2**	**+1.2**
AJI	**Ajiro2**	**1.96**	**24**	⇧P	**Pn**	**19 39 11.9**	**+0.1**
JFNN	**Fujinakano**	**1.99**	**13**	⇧P	**Pn**	**19 39 12.7**	**+0.7**
JFNN				S	**S**	**19 39 50.4**	**+0.7**
TSUJ	**Tsu 2**	**2.04**	**316**	⇧P	**Pn**	**19 39 14.0**	**+1.6**
JNY	**Yasuok**	**2.11**	**354**	⇧P	**Pn**	**19 39 14.3**	**+1.2**
JAO	**Obara**	**2.14**	**340**	⇧P	**Pn**	**19 39 14.6**	**+1.3**
JOD2	**Odawara 2**	**2.16**	**21**	⇧P	**Pn**	**19 39 13.3**	**-0.1**
JTNC	**Tanabenakahech**	**2.18**	**286**	⇧P	**Pn**	**19 39 15.0**	**+1.3**
JYN	**Shimob**	**2.27**	**8**	⇧P	**Pn**	**19 39 14.9**	**+0.5**
JICN	**Ichinomiyachia**	**2.31**	**333**	P	**Pn**	**19 39 16.1**	**+1.5**
JWY	**Kouya**	**2.33**	**295**	⇧P	**Pn**	**19 39 16.8**	**+1.9**
JWY				S	**S**	**19 39 56.8**	**+1.9**
JWM	**Minabe**	**2.40**	**285**	⇧P	**Pn**	**19 39 16.8**	**+1.4**
JGF	**Kuroka**	**2.43**	**345**	⇧P	**Pn**	**19 39 16.7**	**+1.0**
JHE	**Heguri**	**2.47**	**305**	⇧P	**Pn**	**19 39 17.6**	**+1.5**
JSGW	**Sagamiharawaka**	**2.51**	**20**	⇧P	**Pn**	**19 39 16.0**	**-0.4**
BSO4	**Boso 4**	**2.52**	**46**	⇧P	**Pn**	**19 39 15.0**	**-1.4**
JKUC	**kamogawauchiur**	**2.56**	**41**	⇧P	**Pn**	**19 39 15.2**	**-1.6**
JYTA	**Yamagatataniai**	**2.61**	**334**	⇧P	**Pn**	**19 39 18.6**	**+1.3**
JYTA				S	**S**	**19 40 00.7**	**+1.6**
JNT	**Takato**	**2.62**	**0**	⇧P	**Pn**	**19 39 18.4**	**+0.9**
BSO1	**Boso 1**	**2.75**	**59**	P	**Pn**	**19 39 15.9**	**-2.0**
TOK	**Tokyo**	**2.77**	**28**	P	**Pn**	**19 39 18.2**	**-0.6**
JRY	**Ryogami san**	**2.83**	**13**	⇧P	**Pn**	**19 39 19.6**	**+0.2**
JFM	**Mihama**	**2.88**	**323**	⇧P	**Pn**	**19 39 21.5**	**+1.6**
JWT	**Wachi**	**3.04**	**313**	⇧P	**Pn**	**19 39 22.9**	**+1.5**
JWT				S	**S**	**19 40 07.9**	**+1.4**
JGN	**Niukaw**	**3.04**	**347**	⇧P	**Pn**	**19 39 22.3**	**+0.8**
JAI	**Aioi**	**3.12**	**281**	⇧P	**Pn**	**19 39 23.8**	**+1.5**
JAI				S	**S**	**19 40 10.4**	**+2.3**
JNG	**Nsakai**	**3.15**	**359**	⇧P	**Pn**	**19 39 23.1**	**+0.6**
MJAR	**Matsushiro Arr**	**3.28**	**1**	P	**Pn**	**19 39 23.6**	**-0.2**
	62nm,0.3s,baz=181,slow=12,SNR=3664						
MJAR				S	**S**	**19 40 11.5**	**+0.5**
	15nm,0.3s,baz=242,slow=26,SNR=2.6						
MJAR	**Matsushiro Arr**	**3.28**	**1**		**Pn**	**19 39 20.5**	**-3.3**
MAJO	**Matsushiro**	**3.28**	**1**	*c iP*	**Pn**	**19 39 24.2**	**+0.3**
MAJO	**Matsushiro**	**3.28**	**1**		**Pn**	**19 39 24.1**	**+0.3**
MAT	**Matsushiro**	**3.28**	**1**	P	**Pn**	**19 39 24.1**	**+0.3**
MAT				S	**S**	**19 40 10.6**	**-0.4**
MAT	**Matsushiro**	**3.28**	**1**	P	**Pn**	**19 39 24.1**	**+0.3**
JGK	**Kuni**	**3.33**	**7**	⇧P	**Pn**	**19 39 24.4**	**+0.1**
JAG	**Ashikaga**	**3.35**	**19**	⇧P	**Pn**	**19 39 22.9**	**-1.5**
JAG				S	**S**	**19 40 09.0**	**-3.1**
JKG	**Kaga**	**3.36**	**334**	⇧P	**Pn**	**19 39 25.8**	**+1.2**
JTT	**Ttatey**	**3.41**	**349**	⇧P	**Pn**	**19 39 26.2**	**+1.1**
JKT	**Katashina**	**3.62**	**14**	⇧P	**Pn**	**19 39 26.2**	**-1.2**
JHYU	**Hitachinakayam**	**3.68**	**33**	⇧P	**Pn**	**19 39 25.5**	**-2.4**
JJH	**Hakui**	**3.83**	**344**	⇧P	**Pn**	**19 39 30.7**	**+1.2**
JJN	**Nakama**	**3.84**	**0**	⇩P	**Pn**	**19 39 29.8**	**+0.2**
JSB	**Shiboa**	**3.99**	**21**	⇧P	**Pn**	**19 39 29.9**	**-1.3**
JHK	**Hiroka**	**4.05**	**10**	⇩P	**Pn**	**19 39 30.8**	**-1.1**
JSZ	**Suzu**	**4.23**	**352**	⇩P	**Pn**	**19 39 34.0**	**+0.1**
JKU	**Kubokawa**	**4.25**	**272**	⇧P	**Pn**	**19 39 35.9**	**+1.7**
JIZZ	**Izumozaki**	**4.30**	**6**	P	**Pn**	**19 39 34.8**	**+0.3**
JFFD	**Fukushimafurud**	**4.31**	**27**	⇧P	**Pn**	**19 39 32.7**	**-2.1**
JFY	**Yanaizu**	**4.34**	**17**	⇧P	**Pn**	**19 39 33.7**	**-1.4**
ONAJ	**Iwakimizuishiy**	**4.42**	**29**	⇧P	**Pn**	**19 39 33.7**	**-2.3**
JNS	**Sasagawa**	**4.66**	**12**	P	**Pn**	**19 39 37.3**	**-1.3**
JHG	**Hegura jima**	**4.69**	**348**	⇩P	**Pn**	**19 39 39.3**	**+0.3**
JNA	**Nagahama**	**4.74**	**275**	⇧P	**Pn**	**19 39 41.7**	**+2.0**
JSD	**Sado**	**4.78**	**1**	P	**Pn**	**19 39 38.7**	**-1.3**
JMST	**Minamisoumatoc**	**5.00**	**26**	⇧P	**Pn**	**19 39 40.5**	**-2.0**
JMM	**Marumori**	**5.09**	**24**	⇧P	**Pn**	**19 39 41.7**	**-1.8**
JSKE	**Saikikamae**	**5.26**	**267**	⇧P	**Pn**	**19 39 47.5**	**+1.9**
JAW	**Awa shima**	**5.27**	**10**	P	**Pn**	**19 39 44.6**	**-1.0**
JKD	**Kudamatsu**	**5.28**	**280**	⇧P	**Pn**	**19 39 47.9**	**+2.0**
JUS	**Usuki**	**5.36**	**270**	⇧P	**Pn**	**19 39 48.8**	**+2.0**
JKI	**Kunimi**	**5.50**	**276**	⇧P	**Pn**	**19 39 50.7**	**+2.2**
JKIT	**Kitakata**	**5.65**	**265**	⇧P	**Pn**	**19 39 52.7**	**+2.5**
JTSN	**Tsuno**	**5.68**	**262**	P	**Pn**	**19 39 52.6**	**+2.1**
JIO	**Ouri**	**5.81**	**26**	⇧P	**Pn**	**19 39 49.6**	**-2.4**
JNKG	**Nichinankitago**	**5.93**	**256**	⇧P	**Pn**	**19 39 56.4**	**+2.9**
JYYZ	**Yamagatayuza**	**5.93**	**14**	P	**Pn**	**19 39 53.0**	**-0.4**
JYK	**Kaneyama**	**5.93**	**17**	⇩P	**Pn**	**19 39 52.1**	**-1.4**
JTY	**Toyota**	**5.97**	**282**	P	**Pn**	**19 39 55.9**	**+1.9**
JNAR	**Kushima--Naru**	**6.05**	**255**	⇧P	**Pn**	**19 39 57.8**	**+2.8**
JNU	**Nakatsue**	**6.08**	**271**	P	**Pn**	**19 39 57.0**	**+1.6**
	17nm,0.3s,baz=54,slow=4.2,SNR=180						
JNU				S	**S**	**19 41 10.6**	**+2.2**
	1.9nm,0.3s,baz=310,slow=21,SNR=5.6						
JNU	**Nakatsue**	**6.08**	**271**	⇧P	**Pn**	**19 39 57.3**	**+1.9**
JNU	**Nakatsue**	**6.08**	**271**		**Pn**	**19 39 57.2**	**+1.8**
JFA	**Akaike**	**6.15**	**276**	⇧P	**Pn**	**19 39 57.8**	**+1.7**
JKMT	**Kesennumamotoy**	**6.17**	**25**	P	**Pn**	**19 39 54.0**	**-2.3**
JIU3	**Izumi3**	**6.20**	**265**	P	**Pn**	**19 39 59.0**	**+2.3**
JTA	**Tamana**	**6.39**	**269**	⇧P	**Pn**	**19 40 00.9**	**+1.9**
JRG	**Rokugo**	**6.45**	**17**	⇩P	**Pn**	**19 39 58.1**	**-1.6**
OFUJ	**Ofunato**	**6.48**	**25**	⇧P	**Pn**	**19 39 57.8**	**-2.2**
JCJ	**Chichijima**	**7.07**	**149**	P	Pn	19 40 01.7	-5.6
	175nm,0.3s,baz=67,slow=12,SNR=220						
JCJ				S	S	19 41 19.0	-11
	1μm,0.3s,baz=300,slow=22,SNR=20						
JCJ	**Chichijima**	**7.07**	**149**	Pn	Pn	19 40 00.8	-6.5
JOSM	**Okushiri--Mats**	**8.88**	**6**	P	**Pn**	**19 40 27.9**	**-1.2**
KSRS	**Korea Array**	**9.33**	**300**	P	**Pn**	**19 40 36.7**	**+2.0**
	75nm,0.3s,baz=110,slow=12,SNR=1213						
KSRS				S	**S**	**19 42 23.8**	**+3.2**
	baz=111,slow=22,SNR=4.1						
KSRS				ScP	**ScP**	**19 49 24.4**	**-0.2**
	0.4nm,0.3s,baz=82,slow=0.4,SNR=16						
KSAR	**Wonju Array Be**	**9.36**	**299**	P	**Pn**	**19 40 35.5**	**+0.5**
KSAR	**Wonju Array Be**	**9.36**	**299**		**Pn**	**19 40 35.5**	**+0.5**
KS19	**Wonju Array Si**	**9.39**	**300**		**Pn**	**19 40 37.1**	**+1.6**
ERM	**Erimo**	**9.61**	**23**	*d iP*	**Pn**	**19 40 36.3**	**-1.7**
ERM	**Erimo**	**9.61**	**23**	Pn	**Pn**	**19 40 35.9**	**-2.1**
INCN	**Inchon**	**10.29**	**297**	P	**P**	**19 40 48.5**	**-1.0**
INCN	**Inchon**	**10.29**	**297**		**P**	**19 40 48.5**	**-1.0**
WOSN	**Wonsan**	**10.47**	**307**	P	**P**	**19 40 50.5**	**-0.9**
HHU	**Hamhung**	**10.81**	**311**	P	**Pn**	**19 40 53.7**	**+0.9**
HHU				pP	P	19 41 48.0	+53
HHU				S	**S**	**19 42 56.1**	**+2.2**
VLA	**Vladivostok**	**11.01**	**335**	*d iP*	**Pn**	**19 40 55.3**	**+0.2**
ASAJ	**Asahikawa**	**11.39**	**16**	P	**Pn**	**19 40 58.3**	**-1.4**
	41nm,0.3s,baz=226,slow=12,SNR=189						
ASAJ				S	**S**	**19 42 59.6**	**-7.3**
	22nm,0.3s,baz=353,slow=23,SNR=9.4						
ASAJ				ScP	**ScP**	**19 49 27.3**	**+0.1**
	0.3nm,0.3s,baz=270,slow=9.2,SNR=5.9						
JKA	**Kamikawa-asahi**	**11.39**	**16**		**Pn**	**19 40 57.2**	**-2.5**
PYAG	**Pyongyang**	**11.55**	**304**	P	**P**	**19 41 04.3**	**+0.9**
PYAG				pP	Pn	19 41 49.5	+48
PYAG				S	**S**	**19 43 11.6**	**+1.0**
PYS	**Pyongsong**	**11.58**	**305**	P	**P**	**19 41 04.5**	**+0.8**
NMR	**Nemuro--Hokkai**	**11.72**	**28**	⇩*iP*	**Pn**	**19 41 03.1**	**-0.7**
NMR				*i* S	**S**	**19 43 07.0**	**-7.3**
TEY	**Ternei**	**11.83**	**355**	⇩*eP*	**Pn**	**19 41 04.2**	**-0.8**
TEY				pmax	pmax		
	comp=E,400nm,1.8s						
TEY				pmax	pmax		
	comp=N,260nm,0.8s						
TEY				pmax	pmax		
	comp=Z,270nm,0.8s						
TEY				pmax	pmax		
	comp=E,70nm,0.7s						
USA0B	**Ussuriysk Arra**	**11.93**	**338**	*d iP*	**Pn**	**19 41 06.1**	**-0.2**
USA0B	**Ussuriysk Arra**	**11.93**	**338**	P	**Pn**	**19 41 05.8**	**-0.5**
USRK	**Ussuriysk Ar.**	**11.93**	**338**	P	**Pn**	**19 41 06.2**	**-0.1**
	baz=144,slow=10,SNR=128						
USRK				ScP	**ScP**	**19 49 27.6**	**-0.3**
	baz=343,slow=2.0,SNR=5.2						
USRK	**Ussuriysk Ar.**	**11.93**	**338**	P	**Pn**	**19 41 05.6**	**-0.7**
KGE	**Kanggye**	**11.97**	**313**	P	**P**	**19 41 08.3**	**+0.2**
GRPR	**Tuman**	**12.27**	**27**	⇩*iP*	**Pn**	**19 41 10.8**	**+0.5**
GRPR				*i* S	**S**	**19 43 20.1**	**-6.4**
GRPR				pmax	pmax		
	comp=E,178nm,0.4s						
GRPR				pmax	pmax		
	comp=Z,875nm,0.4s						
GRPR				pmax	pmax		
	comp=N,128nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**12.34**	**27**	*d iP*	**P**	**19 41 11.6**	**-0.4**
YUK				*i* S	**S**	**19 43 22.4**	**-5.7**
YUK				pmax	pmax		
	comp=E,418nm,0.5s						
YUK				pmax	pmax		
	comp=Z,1μm,0.5s						
YUK				pmax	pmax		
	comp=N,210nm,0.2s						
YUK				pmax	pmax		
	comp=E,2μm,0.7s						
YUK				pmax	pmax		
	comp=N,3μm,1.1s						
SUJ	**Sinuiju**	**12.90**	**306**	P	**P**	**19 41 19.0**	**+0.7**
SUJ				pP	Pn	19 41 50.2	+32
SUJ				S	**S**	**19 43 41.0**	**+0.3**
MDJ	**Mudanjiang**	**13.14**	**332**	P	**P**	**19 41 21.3**	**+0.3**
MDJ				sP		19 42 35.4	
MDJ				S	**S**	**19 43 45.1**	**-0.9**
MDJ				pmax	pmax		
	comp=N,790nm,1.1s						
MDJ				pmax	pmax		
	comp=N,4μm,4.4s						
MDJ	**Mudanjiang**	**13.14**	**332**	P	**P**	**19 41 21.1**	**+0.1**
KUR	**Kuril'sk**	**14.13**	**29**	⇧*iP*	**Pn**	**19 41 33.6**	**+1.0**
KUR				*e*S	**S**	**19 44 05.8**	**-1.3**
KUR				pmax	pmax		
	comp=Z,233nm,0.7s						
KUR				pmax	pmax		
	comp=N,63nm,0.6s						
KUR				pmax	pmax		
	comp=E,47nm,0.8s						
KUR				pmax	pmax		
	comp=Z,2μm,3.8s						
KUR				smax	smax		
	comp=E,5μm,3.3s						
KUR				smax	smax		
	comp=N,2μm,3.2s						
KUR				smax	smax		
	comp=N,283nm,0.3s						
KUR				smax	smax		
	comp=E,171nm,0.4s						
YSS	**Yuzh-Sakhalins**	**14.13**	**13**	⇩*iP*	**Pn**	**19 41 32.6**	**0.0**
YSS				*e*S	**S**	**19 44 00.2**	**-6.9**
YSS				pmax	pmax		
	comp=Z,2μm,0.5s						
CN2	**Changchun**	**14.46**	**320**	⇩P	**P**	**19 41 35.8**	**+0.3**
CN2				*e*S	**S**	**19 44 11.5**	**-2.3**
CN2				pmax	pmax		
	comp=Z,170nm,0.8s						
CN2				pmax	pmax		
	comp=Z,1μm,4.0s						
CN2				LR	LR		
	comp=Z,1μm,12.0s						
CN2				LR	LR		
	comp=Z,2μm,12.0s						
CN2				LR	LR		
	comp=Z,2μm,13.0s						
DL2	**Dalian**	**14.49**	**298**	⇩*iP*	**P**	**19 41 35.8**	**-0.1**
DL2				S	**S**	**19 44 10.6**	**-3.9**
DL2				ScS	**ScS**	**19 53 06.5**	**-3.3**
DL2				pmax	pmax		
	comp=Z,180nm,1.1s						
DL2				pmax	pmax		
	comp=Z,710nm,7.3s						
SSE	**Sheshan**	**14.52**	**266**	P	**P**	**19 41 35.6**	**-0.7**
SSE				S	**S**	**19 44 12.8**	**-2.5**
SSE				pmax	pmax		
	comp=Z,24nm,0.7s						
SSE				pmax	pmax		
	comp=Z,280nm,5.9s						
SSE				LR	LR		
	comp=Z,350nm,18.8s						
SSE				LR	LR		
	comp=Z,260nm,13.2s						
YOJ	**Yonaguni jima**	**15.87**	**240**	P	**P**	**19 41 50.5**	**-0.7**
YOJ				pmax	pmax		
	comp=Z,252nm,1.4s						
YOJ	**Yonaguni jima**	**15.87**	**240**	P	**P**	**19 41 50.5**	**-0.7**
YOJ				IAmb	IAmb	19 41 55.1	
	comp=Z,252nm,1.4s						
UGL	**Uglegorsk**	**16.08**	**9**	⇩*iP*	**Pn**	**19 41 55.5**	**+0.1**
UGL				*e*S	**S**	**19 44 45.1**	**-1.0**
UGL				pmax	pmax		
	comp=Z,5μm,2.0s						
UGL				pmax	pmax		
	comp=Z,1μm,1.0s						
UGL				smax	smax		
	comp=N,100nm,2.4s						
UGL				smax	smax		
	comp=E,239nm,2.0s						
UGL				smax	smax		
	comp=E,6μm,4.9s						
NJ2	**Nanjing**	**16.29**	**271**	⇩*iP*	**P**	**19 41 56.6**	**+1.0**
NJ2				sP	sP	19 43 09.1	-11
NJ2				S	**S**	**19 44 51.3**	**+0.7**
NJ2				PcP	**PcP**	**19 46 30.4**	**-0.3**
NJ2				ScP	**ScP**	**19 49 36.4**	**+0.7**
NJ2				pmax	pmax		
	comp=E,180nm,1.1s						
NJ2				pmax	pmax		
	comp=E,940nm,5.1s						
NJ2				LR	LR		
	comp=E,540nm,17.1s						
NJ2				LR	LR		
	comp=E,510nm,17.7s						
NJ2				LR	LR		
	comp=E,470nm,11.6s						
KLR	**Kul'dur**	**16.66**	**345**	P	**P**	**19 41 58.9**	**-0.6**
	comp=E,74nm,0.3s,baz=170,slow=9.0,SNR=755						
KLR				S	**S**	**19 44 57.2**	**-0.5**
	baz=238,slow=11,SNR=3.9						
KLR				ScP	**ScP**	**19 49 35.9**	**-0.2**
	comp=E,0.3nm,0.3s,baz=152,slow=2.0,SNR=9.6						
KLR	**Kul'dur**	**16.66**	**345**	*d iP*	**P**	**19 41 58.8**	**-0.7**
TATO	**Taipei**	**16.71**	**245**	P	**P**	**19 42 00.1**	**-0.2**
TATO				IAmb	IAmb	19 42 07.5	
	comp=Z,179nm,1.4s						
YHNB	**Yeheng**	**16.96**	**244**	P	**P**	**19 42 02.6**	**-0.6**
NACB	**Ninganchiao**	**17.08**	**242**	P	**P**	**19 42 02.5**	**-1.9**
TIA	**Tai'an**	**17.52**	**286**	P	**P**	**19 42 09.3**	**+0.3**
TIA				sP	**sP**	**19 43 28.5**	**-5.3**
TIA				S	**S**	**19 45 15.0**	**0.0**
TIA				pmax	pmax		
	comp=Z,220nm,1.1s						
TIA				pmax	pmax		
	comp=Z,1μm,3.5s						
TIA				LR	LR		
	comp=Z,760nm,12.0s						
TIA				LR	LR		
	comp=Z,660nm,13.0s						
TIA				LR	LR		
	comp=Z,760nm,12.2s						
GRNR	**Gornyy**	**17.55**	**356**	⇩*iP*	**P**	**19 42 10.8**	**+1.7**
GRNR				*e*S	**S**	**19 45 12.2**	**-3.0**
GRNR				pmax	pmax		
	comp=E,50nm,1.2s						
GRNR				pmax	pmax		
	comp=N,280nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,340nm,0.7s						
GRNR				smax	smax		
	comp=N,7.0nm,0.7s						
GRNR				MLR	MLR		
	comp=E,370nm,12.0s						
GRNR				MLR	MLR		
	comp=N,170nm,16.0s						
YULB	**Yu-li**	**17.76**	**241**	P	**P**	**19 42 09.7**	**-2.0**
SSLB	**Suanglung**	**17.78**	**242**	P	**P**	**19 42 10.4**	**-1.5**
TYV	**Tymovskoe**	**17.91**	**9**	*e*P	**Pn**	**19 42 14.9**	**-1.9**
TYV				*e*S	**S**	**19 45 19.2**	**-3.0**
TYV				pmax	pmax		
	comp=Z,800nm,2.2s						
TYV				pmax	pmax		
	comp=Z,112nm,0.5s						
TYV				smax	smax		
	comp=E,14nm,1.2s						
TWG	**Pinlang**	**18.27**	**240**	P	**P**	**19 42 16.4**	**-0.8**
TPUB	**Ta-pu**	**18.31**	**242**	P	**P**	**19 42 16.0**	**-1.6**
BJI	**Beijing**	**18.85**	**297**	P	**P**	**19 42 22.6**	**-0.6**
BJI				sP	**sP**	**19 43 49.0**	**+0.2**
BJI				S	**S**	**19 45 38.9**	**-2.0**
BJI				pmax	pmax		
	comp=E,210nm,1.0s						
BJI				LR	LR		
	comp=E,1μm,8.3s						
QZH	**Quanzhou**	**18.96**	**249**	*e*P	**P**	**19 42 24.5**	**+0.1**
QZH				sP	**sP**	**19 43 46.3**	**-1.5**
QZH				S	**S**	**19 45 39.0**	**-4.2**
QZH				ScS	**ScS**	**19 53 25.3**	**+2.0**
QZH				LR	LR		
	comp=E,390nm,16.6s						
WHN	**Wuhan**	**20.37**	**269**	⇩*iP*	**P**	**19 42 38.8**	**-0.3**
WHN				sP	**sP**	**19 44 07.9**	**+2.7**
WHN				S	**S**	**19 46 08.3**	**0.0**
WHN				pmax	pmax		
	comp=E,640nm,0.5s						
WHN				LR	LR		
	comp=E,1μm,6.1s						
WHN				LR	LR		
	comp=E,1μm,17.1s						
WHN				LR	LR		
	comp=E,950nm,11.6s						
GUMO	**Guam**	**20.51**	**161**	P	**P**	**19 42 38.9**	**-1.8**
	comp=E,330nm,0.4s,baz=189,slow=1.2,SNR=52						
GUMO				S	**S**	**19 46 08.9**	**-2.0**
	comp=E,37nm,0.6s,baz=343,slow=19,SNR=1.7						
GUMO				ScP	**ScP**	**19 49 44.0**	**-1.2**
	comp=E,17nm,0.6s,baz=150,slow=20,SNR=1.9						
GUMO	**Guam**	**20.51**	**161**	P	**P**	**19 42 38.4**	**-2.3**
HIA	**Hailar**	**21.06**	**325**	P	**P**	**19 42 44.7**	**-0.9**
HIA				pmax	pmax		
	comp=Z,303nm,0.6s						
HIA	**Hailar**	**21.06**	**325**	P	**P**	**19 42 44.7**	**-0.9**
TIY	**Taiyuan**	**21.37**	**289**	*e*P	**P**	**19 42 48.5**	**-0.2**
TIY				sP	**sP**	**19 44 16.9**	**+0.5**
TIY				S	**S**	**19 46 26.3**	**+1.8**
TIY				pmax	pmax		
	comp=Z,120nm,0.5s						
TIY				LR	LR		
	comp=Z,590nm,13.6s						
TIY				LR	LR		
	comp=Z,650nm,13.7s						
TIY				LR	LR		
	comp=Z,920nm,12.9s						
SKR	**Severo-Kuril's**	**21.86**	**32**	*e*P	**P**	**19 42 53.3**	**+0.5**
SKR				*e*SP	**sP**	**19 44 21.5**	**+0.1**
SKR				*i*

TGY Tagaytay City 24.66 223 P **P** 19 43 17.9 -0.8
comp=Z,59nm,0.3s,baz=212,slow=5.3,SNR=4.3
CIT Chita 25.85 324 *e*P **P** 19 43 29.6 +0.7
CIT *e* 19 44 25.9
CIT *e* 19 53 47.4
CIT pmax pmax
comp=Z,446nm,1.8s
ULN Ulaanbaatar 27.54 311*d i*P **P** 19 43 45.5 +1.4
ULN pmax pmax
comp=Z,518nm,1.5s
ULN Ulaanbaatar 27.54 311 P **P** 19 43 43.7 -0.4
MA2 Magadan 27.64 14 P **P** 19 43 44.8 +0.2
comp=Z,80nm,0.6s,baz=194,slow=11,SNR=37
MA2 S **S** 19 48 05.1 +2.0
comp=Z,2.0nm,0.2s,baz=311,slow=20,SNR=1.5
MA2 Magadan 27.64 14*d i*P **P** 19 43 45.3 +0.7
MA2 pmax pmax
comp=Z,91nm,0.7s
MA2 Magadan 27.64 14 IAmb IAmb 19 43 47.0
comp=Z,98nm,0.6s
SONM Songino Array 27.94 311 P **P** 19 43 48.9 +1.2
comp=Z,170nm,0.8s,baz=126,slow=8.3,SNR=263
SONM ScP **ScP** 19 50 04.9 -0.6
comp=Z,3.4nm,0.5s,baz=143,slow=2.4,SNR=6.9
SONM Songino Array 27.94 311 P **P** 19 43 48.2 +0.6
SONM ScP **ScP** 19 50 04.5 -1.0
GYA Guiyang 28.05 264 ⇓P **P** 19 43 47.9 -1.0
GYA pP pwP 19 44 50.9 +1.6
GYA sP sP 19 45 27.3 +5.4
GYA S **S** 19 48 06.5 -4.1
GYA ScS **ScS** 19 53 58.1 -1.4
GYA pmax pmax
comp=Z,27nm,1.2s
GYA pmax pmax
comp=Z,190nm,3.5s
GYA LR LR
comp=Z,330nm,10.6s
GYA LR LR
comp=Z,280nm,12.8s
GYA LR LR
comp=Z,260nm,13.1s
LZH Lanzhou 28.26 285 *e*P **P** 19 43 51.1 +0.4
LZH pP pP 19 44 50.6 +1.7
LZH sP sP 19 45 28.8 +4.0
LZH S **S** 19 48 10.3 -3.5
LZH pmax pmax
comp=Z,56nm,1.1s
LZH pmax pmax
comp=Z,220nm,4.0s
QIZ Qiongzhong 28.97 248 P P 19 43 51.4 -5.5
QIZ pP pP 19 44 53.3 -0.6
QIZ S **S** **19 48 28.3 +3.4**
QIZ sS sS 19 50 09.5 -0.1
QIZ SS **SS** **19 50 38.6 -4.9**
QIZ pmax pmax
comp=Z,18nm,1.7s
WAKE Wake Island 29.00 112 P **P** **19 43 57.0 -0.1**
CD2 Chengdu 29.15 275 ⇓P **P** **19 43 58.0 -0.4**
CD2 pP pP 19 44 57.0 +0.5
CD2 sP sP 19 45 34.6 +2.6
CD2 S **S** **19 48 24.1 -3.5**
CD2 sS sS 19 50 12.4 +0.1
CD2 PcS **PcS** **19 50 40.3 -0.6**
CD2 pmax pmax
comp=Z,330nm,0.6s
CD2 pmax pmax
comp=Z,240nm,3.1s
CD2 LR LR
comp=Z,650nm,11.2s
CD2 LR LR
comp=Z,1μm,13.7s
CD2 LR LR
comp=Z,1μm,12.8s
YAK Yakutsk 29.30 352 P **P** **19 43 59.4 +0.1**
comp=Z,49nm,0.5s,baz=308,slow=0.4,SNR=62
YAK S **S** **19 48 28.1 -0.9**
comp=Z,4.6nm,0.5s,baz=151,slow=19,SNR=1.5
YAK ScS **ScS** **19 54 00.6 -3.2**
comp=Z,5.6nm,0.4s,baz=117,slow=23,SNR=6.1
YAK Yakutsk 29.30 352 *i* P **P** **19 43 59.2 0.0**
YAK pmax pmax
comp=Z,231nm,1.2s
YAK Yakutsk 29.30 352 P **P** **19 43 59.3 +0.1**
BOD Bodaibo 29.51 334 *e*P **P** **19 44 01.1 -0.1**
BOD pmax pmax
comp=Z,103nm,1.3s
ZAK Zakamensk 30.74 314 *e*P **P** **19 44 12.8 +0.6**
ZAK pmax pmax
comp=Z,72nm,1.6s
IRK Irkutsk 30.88 318 *e*P **P** **19 44 14.2 +0.9**
IRK *e* 19 45 33.6
IRK pmax pmax
comp=Z,152nm,2.4s
TLY Talaya 31.01 317 P **P** **19 44 14.9 +0.5**
comp=Z,35nm,0.5s,baz=149,slow=4.8,SNR=29
TLY Talaya 31.01 317*d i*P **P** **19 44 16.0 +1.6**
TLY *e* 19 45 19.3
TLY *e*PPP PPP 19 45 37.7
TLY *e*S **S** **19 48 59.2 +3.1**
TLY *e* 19 51 06.7
TLY pmax pmax
comp=Z,218nm,1.0s
TLY MLR MLR
comp=Z,2μm,10.0s
TLY Talaya 31.01 317 P **P** **19 44 15.2 +0.7**
TLY IAmb IAmb 19 44 17.6
comp=Z,64nm,0.8s
SEY Seymchan 31.04 13*d i*P **P** **19 44 15.2 +0.7**
GTA Gaotai 31.31 292 ⇓P **P** **19 44 17.4 +0.1**
GTA pP pP 19 45 18.0 +1.7
GTA sP sP 19 45 56.3 +4.4
GTA S **S** **19 48 59.1 -2.1**
GTA ScP **ScP** **19 50 16.5 0.0**
GTA SS **SS** **19 51 17.8 -9.3**
GTA ScS **ScS** **19 54 11.5 -3.3**
GTA pmax pmax
comp=Z,63nm,1.2s
GTA pmax pmax
comp=Z,250nm,6.2s
KMI Kunming 31.83 265⇓*e*P **P** **19 44 21.8 -0.3**
KMI pP pP 19 45 18.0 -2.5
KMI PP **PP** **19 45 44.3 +3.1**
KMI sP sP 19 45 52.3 -3.3
KMI S **S** **19 49 06.8 -2.9**
KMI pmax pmax
comp=Z,61nm,0.6s
KMI pmax pmax
comp=Z,160nm,6.7s
KMI LR LR
comp=Z,250nm,13.4s
KMI LR LR
comp=Z,220nm,9.8s
KMI LR LR
comp=Z,310nm,16.5s
KMI Kunming 31.83 265 P **P** **19 44 21.6 -0.5**
KMI pmax pmax
comp=Z,47nm,0.6s
KMI Kunming 31.83 265 P **P** **19 44 21.6 -0.5**
KMI IAmb IAmb 19 44 23.7
comp=Z,47nm,0.6s
PATS Pohnpei 32.27 140 P **P** **19 44 25.7 -0.1**
SLVN Son La 32.51 257 P **P** **19 44 27.9 0.0**
MOY Mondy 32.54 316 *e*P **P** **19 44 28.8 +0.9**
MOY pmax pmax
comp=Z,119nm,1.8s
MYLDM Lahad Datu 33.38 217 P **P** **19 44 36.1 +0.7**
MYLDM IAmb IAmb 19 44 38.5
comp=Z,132nm,0.9s
TNTI Ternate 33.86 200 P **P** **19 44 38.9 -0.5**
comp=Z,1μmcomp=Z,135nm,1.5s
TNTI Ternate 33.86 200 P **P** **19 44 38.1 -1.2**
TNTI IAmb IAmb 19 44 40.5
comp=Z,125nm,1.0s
KKM Kota Kinabalu 33.88 222 P **P** **19 44 39.6 -0.1**
DLV T Lat 34.42 239 P **P** **19 44 44.6 +0.1**
AMKA Amchitka 34.85 46 P **P** **19 44 47.9 +0.4**
KMSI Cibinong 35.12 205 P **P** **19 44 50.1 -0.1**
comp=Z,7μmcomp=Z,692nm,0.6s
GTOI Gorontalo 35.42 207 P **P** **19 44 51.3 -1.4**
comp=Z,2μmcomp=Z,286nm,0.9s
FAKI Fak Fak 36.40 190 P **P** **19 45 00.1 -0.9**
FAKI IAmb IAmb 19 45 01.9
comp=Z,62nm,0.7s
LKP Lekhapani 36.80 272 *e*P **P** **19 45 05.3 +1.0**
LKP IAmb IAmb 19 45 07.5
comp=Z,149nm,0.6s
SANI Sanana 36.94 200 P **P** **19 45 03.9 -1.6**
comp=Z,3μmcomp=Z,371nm,0.6s
MPSI Mapaga 36.96 211 P **P** **19 45 05.5 -0.2**
comp=Z,1μmcomp=Z,58nm,0.8s
LUWI Luwuk 37.06 206 P **P** **19 45 05.6 -0.9**
comp=Z,2μmcomp=Z,232nm,1.1s
LUWI Luwuk 37.06 206 P **P** **19 45 04.0 -2.4**
PBKT Sadao Pong 37.34 253 P **P** **19 45 09.1 +0.3**
ADK Adak 37.40 46 P **P** **19 45 08.3 -0.6**
ADK pmax pmax
comp=Z,35nm,0.8s
ADK Adak 37.40 46 P **P** **19 45 08.3 -0.6**
MSAI Masohi 37.43 195 P **P** **19 45 11.3 +1.8**
comp=Z,524nmcomp=Z,37nm,1.4s
NLAI Namlea 37.77 198 P **P** **19 45 14.2 +1.9**
comp=Z,73nm,0.9s
CHTO Chiang Mai 37.80 258 P **P** **19 45 12.1 -0.6**
CHTO pmax pmax
comp=Z,19nm,0.9s
CHTO Chiang Mai 37.80 258 P **P** **19 45 12.1 -0.6**
GSTR Great Sitkin T 37.83 46 P **P** **19 45 11.9 -0.6**
CM31 Chiang Mai Arr 37.98 257 P **P** **19 45 15.6 +1.4**
SNR=7.7
CM31 Chiang Mai Arr 37.98 257 P **P** **19 45 13.9 -0.3**
CMAR Chiang Mai Arr 37.98 257 P **P** **19 45 14.5 +0.3**
comp=Z,6.6nm,0.5s,baz=50,slow=7.8,SNR=62
CMAR PcP **PcP** **19 47 18.2 -4.6**
comp=Z,3.2nm,0.5s,baz=47,slow=6.3,SNR=4.5
CMAR ScP **ScP** **19 50 41.5 +0.8**
comp=Z,7.3nm,1.0s,baz=27,slow=2.8,SNR=17
CMAR Chiang Mai Arr 37.98 257 P **P** **19 45 13.6 -0.7**
JORH JORHAT 38.34 272 *e*P **P** **19 45 16.2 -0.8**
BNDI Bandanaira 38.37 193 P **P** **19 45 17.4 +0.1**
comp=Z,4μmcomp=Z,493nm,1.0s
ZIRO ZIRO 38.41 274 *e*P **P** **19 45 18.4 +0.5**
ZIRO IAmb IAmb 19 45 21.6
comp=Z,84nm,0.4s
KRAR Krasnoyarsk 38.48 320⇓*e*P **P** **19 45 15.6 -2.2**
ITAN ITANAGAR 38.64 273 *e*P **P** **19 45 20.1 +0.5**
SMKI Samarinda 38.88 215 P **P** **19 45 25.4 +3.8**
ATKA Atka Island 38.97 46 P **P** **19 45 21.5 -0.4**
SBUM Sibu 39.09 224 P **P** **19 45 22.9 -0.5**
SBUM Sibu 39.09 224 P **P** **19 45 24.0 +0.7**
RABL Rabaul 39.54 158 P **P** **19 45 26.1 -0.9**
RABL IAmb IAmb 19 45 33.3
comp=Z,112nm,0.5s
TEZP TEZPUR 39.60 273 *e*P **P** **19 45 27.4 0.0**
TEZP IAmb IAmb 19 45 28.4
comp=Z,201nm,1.2s
BKB Balikpapan 39.74 215 P **P** **19 45 29.6 +0.9**
comp=Z,4μmcomp=Z,405nm,1.0s
BKB Balikpapan 39.74 215 P **P** **19 45 27.7 -1.0**
LSA Lhasa 39.97 278 *i* P **P** **19 45 32.0 +1.0**
SNR=26
LSA Lhasa 39.97 278 P **P** **19 45 31.7 +0.7**
LSA pmax pmax
comp=Z,30nm,0.7s
LSA Lhasa 39.97 278 P **P** **19 45 31.7 +0.7**
WMQ Urumqi 40.28 300 *e*P **P** **19 45 33.8 +0.9**
WMQ pP pP 19 46 36.0 +1.7
WMQ PP **PP** **19 47 15.9 +3.1**
WMQ ScP **ScP** **19 50 48.3 -1.0**
WMQ S **S** **19 51 17.1 +0.2**
WMQ ScS **ScS** **19 55 01.8 -2.5**
WMQ pmax pmax
comp=Z,71nm,0.9s
WMQ pmax pmax
comp=Z,250nm,3.8s
WMQ LR LR
comp=Z,140nm,11.1s
WMQ LR LR
comp=Z,220nm,11.1s
WMQ LR LR
comp=Z,120nm,12.7s
WMQ Urumqi 40.28 300 P **P** **19 45 32.4 -0.5**
WMQ pmax pmax
comp=Z,181nm,1.2s
WMQ Urumqi 40.28 300 P **P** **19 45 32.4 -0.5**
WMQ IAmb IAmb 19 45 37.1
comp=Z,181nm,1.2s
MTKI Muara Teweh, K 40.45 217 P **P** **19 45 34.8 +0.3**
comp=Z,3μmcomp=Z,42nm,1.5s
DGZ Jazzator, Alta 40.57 309*d i*P **P** **19 45 36.7 +1.5**
DGZ pmax pmax
comp=Z,362nm,1.0s
SHL Shillong 40.75 272 *e*P **P** **19 45 36.0 -1.0**
SHL IAmb IAmb 19 45 39.1
comp=Z,19nm,0.5s
SHL Shillong 40.75 272 P **P** **19 45 37.0 0.0**
SNR=9.9
SHL Shillong 40.75 272 P **P** **19 45 35.7 -1.3**
SHL pmax pmax
comp=Z,21nm,0.6s
SHL Shillong 40.75 272 P **P** **19 45 35.7 -1.3**
SPSI Sidrap Palu 40.90 209 P **P** **19 45 37.0 -1.0**
comp=Z,1μmcomp=Z,137nm,1.1s
KSM Kuching 41.00 225 P **P** **19 45 38.6 -0.3**
KSM Kuching 41.00 225 P **P** **19 45 40.0 +1.1**
BNSI Bone 41.16 208 P **P** **19 45 40.3 +0.1**
comp=Z,2μmcomp=Z,164nm,1.2s
KAPI Kappang 41.86 208 P **P** **19 45 45.2 -0.6**
KAPI pmax pmax
comp=Z,307nm,1.2s
KAPI Kappang 41.86 208 P **P** **19 45 45.2 -0.6**
KAPI IAmb IAmb 19 45 47.5
comp=Z,307nm,1.2s
KBKI Kotabaru 41.87 214 P **P** **19 45 47.0 +1.1**
comp=Z,768nmcomp=Z,73nm,0.9s
AGT Agartala 41.93 270 *e*P **P** **19 45 47.1 +0.7**
DHUB DHUBRI 42.16 273 *e*P **P** **19 45 47.4 -0.7**
ZSN Zaisan 42.19 306⇓*i*P **P** **19 45 49.4 +1.2**
comp=Z,155nm,1.5s,baz=306
ZSN *i* S **S** **19 51 45.6 +1.0**
baz=306
ZSN Zaisan 42.19 306*d i*P **P** **19 45 49.4 +1.2**
ZSN *i* S **S** **19 51 45.6 +1.0**
ZSN pmax pmax
comp=Z,155nm,1.5s
NIKH Nikolski High 42.31 46 P **P** **19 45 47.8 -1.2**
NIKH IAmb IAmb 19 45 50.2
comp=Z,82nm,0.5s
ZAA0 Zalesovo Array 42.60 316 P **P** **19 45 51.2 -0.1**
ZAA0 IAmb IAmb 19 45 52.9
comp=Z,119nm,0.6s
ZALV Zalesovo Beam 42.60 316 P **P** **19 45 51.5 +0.2**
comp=Z,110nm,0.5s,baz=96,slow=8.4,SNR=397
ZALV PcP **PcP** **19 47 37.5 +0.3**
comp=Z,11nm,0.5s,baz=113,slow=3.5,SNR=5.1
ZALV ScP **ScP** **19 50 57.4 -0.8**
comp=Z,17nm,0.6s,baz=119,slow=3.9,SNR=14
ZALV Zalesovo Beam 42.60 316 P **P** **19 45 51.2 -0.1**
ZALV **PcP** **19 47 37.2 0.0**
ZALV **ScP** **19 50 57.3 -0.9**
BBKI Banjar Baru 42.65 216 P **P** **19 45 51.9 -0.3**
comp=Z,1μmcomp=Z,116nm,1.1s
GTK Tadong 42.86 276 *ex* P 19 45 47.2 -6.8
PMG Port Moresby 43.28 167*c i*P **P** **19 45 56.5 -0.7**
PMG pmax pmax
comp=Z,130nm,0.6s
PMG Port Moresby 43.28 167 P **P** **19 45 56.4 -0.8**
TAPN Taplejung 43.59 276 *e*P **P** **19 46 00.3 +0.3**
comp=Z,75nm,0.5s
PBKI Pangkalan Bun 43.64 220 P **P** **19 46 02.0 +2.0**
comp=Z,120μmcomp=Z,69nm,0.9s
UNV Unalaska Valle 43.79 45 P **P** **19 45 59.6 -1.2**
MK31 Makanchi Array 43.96 305 P **P** **19 46 02.7 +0.4**
MK31 pmax pmax
comp=Z,88nm,1.0s
MK31 Makanchi Array 43.96 305 P **P** **19 46 02.7 +0.4**
MK31 IAmb IAmb 19 46 04.3
comp=Z,88nm,0.9s
MKAR Makanchi Array 43.96 305 P **P** **19 46 03.0 +0.7**
comp=Z,47nm,0.5s,baz=85,slow=10,SNR=836
MKAR ScP **ScP** **19 51 03.0 -1.0**
comp=Z,6.2nm,0.6s,baz=88,slow=4.5,SNR=8.2
MKAR Makanchi Array 43.96 305 P **P** **19 46 03.0 +0.7**
MKAR Makanchi Array 43.96 305 P **P** **19 46 02.2 -0.1**
MKAR **ScP** **19 51 02.9 -1.1**
ODAN Odare 44.03 276 *e*P **P** **19 46 03.5 +0.1**
comp=Z,147nm,0.4s
MAKZ Makanchi 44.18 305 P **P** **19 46 04.6 +0.6**
MAKZ pmax pmax
comp=Z,126nm,1.1s
MAKZ Makanchi 44.18 305 P **P** **19 46 04.6 +0.6**
MAKZ IAmb IAmb 19 46 06.1
comp=Z,126nm,1.1s
MMRI Maumere 44.32 203 P **P** **19 46 05.7 +0.3**
comp=Z,2μmcomp=Z,157nm,1.3s
MMRI Maumere 44.32 203 P **P** **19 46 04.6 -0.7**
MMRI IAmb IAmb 19 46 06.5
comp=Z,151nm,1.1s
KULM Kulim 44.59 240 P **P** **19 46 06.8 -0.8**
KULM Kulim 44.59 240 P **P** **19 46 08.0 +0.4**
RAMN Ramite 44.66 276 *e*P **P** **19 46 08.5 +0.2**
comp=Z,338nm,0.7s
JIRN Jiri 44.75 277 *e*P **P** **19 46 09.8 +0.6**
comp=Z,591nm,0.4s
SOEI Soe 44.76 200 P **P** **19 46 08.6 -0.4**
comp=Z,2μmcomp=Z,168nm,1.2s
SOEI Soe 44.76 200 P **P** **19 46 07.4 -1.6**
SOEI IAmb IAmb 19 46 27.2
comp=Z,132nm,1.0s
MYKOM Kota Tinggi 44.85 233 P **P** **19 46 09.3 -0.3**
MYKOM Kota Tinggi 44.85 233 P **P** **19 46 11.0 +1.4**
IPM Ipoh 44.88 238 P **P** **19 46 09.0 -0.8**
IPM Ipoh 44.88 238 P **P** **19 46 10.0 +0.1**
BATI Baumata 45.36 200 P **P** **19 46 12.1 -1.5**
comp=Z,80nm,0.6s,baz=65,slow=1.2,SNR=23
BATI Baumata 45.36 200 P **P** **19 46 14.0 +0.4**
comp=Z,869nmcomp=Z,67nm,0.6s
PKI Pulchoki 45.43 277 *e*P **P** **19 46 14.3 -0.1**
comp=Z,144nm,0.9s
KKN Kakani 45.46 278 *e*P **P** **19 46 15.2 +0.7**
NRIK Noril'sk 45.65 337 P **P** **19 46 15.7 +0.6**
comp=Z,141nm,0.5s,baz=111,slow=8.5,SNR=131
NRIK pP **pP** **19 47 18.1 +0.1**
comp=Z,25nm,0.8s,baz=112,slow=8.1,SNR=1.4
NRIK ScP **ScP** **19 51 09.6 -0.9**
comp=Z,13nm,0.6s,baz=99,slow=3.5,SNR=7.1
NRIK Noril'sk 45.65 337 *i* P **P** **19 46 15.6 +0.5**
NRIK pmax pmax
comp=Z,140nm,0.6s
DMN Daman 45.67 278 *e*P **P** **19 46 16.2 0.0**
comp=Z,46nm,0.5s
FALS False Pass 45.67 44 P **P** **19 46 14.4 -1.0**
GKN Gorkha 45.92 278 *e*P **P** **19 46 18.2 +0.2**
TPI Tanjungpandan 45.95 225 P **P** **19 46 19.3 +1.1**
comp=Z,624nmcomp=Z,66nm,1.1s
PLAI Plampang 46.12 208 P **P** **19 46 18.6 -0.8**
comp=Z,1μmcomp=Z,106nm,1.2s
ANM Nome 46.21 30 P **P** **19 46 19.0 -0.5**
ANM pmax pmax
comp=Z,68nm,1.3s
ANM Nome 46.21 30 P **P** **19 46 19.0 -0.5**
WBSI Waikabubak, Su 46.24 206 P **P** **19 46 19.8 -0.6**
comp=Z,55nm,0.5s
KURK Kurchatov 46.25 311*d i*P **P** **19 46 20.0 0.0**
KURK pmax pmax
comp=Z,268nm,1.0s
KURK Kurchatov 46.25 311 P **P** **19 46 20.1 +0.1**
KURK IAmb IAmb 19 46 21.7
comp=Z,209nm,0.9s
KURBB Kurchatov Arra 46.31 311 P **P** **19 46 20.7 +0.2**
comp=Z,60nm,0.5s,baz=91,slow=7.4,SNR=470
KURBB pP **pP** **19 47 23.6 -0.1**
comp=Z,28nm,0.9s,baz=88,slow=8.3,SNR=3.4
KURBB ScP **ScP** **19 51 12.8 -0.8**
comp=Z,6.5nm,0.6s,baz=92,slow=4.5,SNR=10
SHLS Shalkode 46.31 300⇓*i*P **P** **19 46 18.6 -2.3**
comp=Z,26nm,0.6s,baz=300
SHLS *i* S **S** **19 52 39.5 -4.6**
comp=Z,54nm,2.6s,baz=300
SHLS Shalkode 46.31 300*d i*P **P** **19 46 18.5 -2.3**
SHLS pmax pmax
comp=Z,26nm,0.6s
MTN Manton Dam 46.32 189 P **P** **19 46 19.6 -1.4**
MTN IAmb IAmb 19 46 20.8
comp=Z,132nm,0.6s
PPBI Pangkal Pinang 46.40 227 P **P** **19 46 23.5 +1.9**
comp=Z,46nm,1.2s
TWSI Taliwang, Sumb 46.40 210 P **P** **19 46 21.2 -0.4**
comp=Z,677nmcomp=Z,69nm,1.0s
BOK Bokaro 46.46 272 *e*P **P** **19 46 22.2 +0.1**
BOK IVmB_BB 19 46 23.2
comp=Z,1μm,0.8s
DANN Dangsing 46.53 279 *e*P **P** **19 46 23.6 +0.7**
comp=Z,412nm,0.7s
UZB Uzynbulak 46.63 300⇓*i*P **P** **19 46 23.4 +0.1**
comp=Z,24nm,0.5s,baz=300
UZB *e*S **S** **19 52 47.5 -1.1**
comp=Z,13nm,1.5s,baz=300
UZB Uzynbulak 46.63 300*d i*P **P** **19 46 23.3 0.0**
UZB pmax pmax
comp=Z,24nm,0.5s
PBA Port Blair 46.68 253 P P 19 46 23.7 -0.2
TDK Taldyqorghan 46.82 303 *i* P **P** **19 46 25.3 +0.7**
comp=Z,167nm,1.6s,baz=303
TDK Taldyqorghan 46.82 303 *i* P **P** **19 46 25.3 +0.7**
TDK pmax pmax
comp=Z,167nm,1.6s
KOLN Koldanda 46.86 278 *e*P **P** **19 46 25.6 +0.2**
SATY Saty 47.09 300⇓*i*P **P** **19 46 27.1 +0.3**
comp=Z,21nm,1.0s,baz=300
SATY *i* pP **pP** **19 47 30.3 -0.2**
baz=300
SATY Saty 47.09 300*d i*P **P** **19 46 27.1 +0.3**
SATY *i* *PP **pP** **19 47 30.2 -0.2**
SATY pmax pmax
comp=Z,21nm,1.0s
SATY Saty 47.09 300*d i*P **P** **19 46 27.1 +0.3**
SATY *i* *PP **pP** **19 47 30.2 -0.2**
SATY pmax pmax
comp=Z,21nm,1.0s
PRZ Przheval'sk 47.18 299 P **P** **19 46 28.6 +1.0**
PRZ pmax pmax
comp=Z,144nm,1.1s
PRZ Przheval'sk 47.18 299 P **P** **19 46 28.6 +1.0**
PRZ IAmb IAmb 19 46 30.2
comp=Z,144nm,1.1s
COEN Coen 47.19 173 P **P** **19 46 27.8 +0.2**
COEN IAmb IAmb 19 46 29.1
comp=Z,177nm,0.8s
PYUN Piuthan 47.25 279 *e*P **P** **19 46 29.0 +0.6**
comp=Z,754nm,0.4s
HNR Honiara 47.26 150 P **P** **19 46 28.1 -0.1**
HNR pmax pmax
comp=Z,285nm,1.1s
HNR Honiara 47.26 150 P **P** **19 46 28.1 -0.1**
JAGI Jajag, Banyuwa 47.35 213 P **P** **19 46 30.1 +1.2**
comp=Z,64nm,1.0s
JAGI Jajag, Banyuwa 47.35 213 P **P** **19 46 26.9 -2.0**
JAGI IAmb IAmb 19 46 29.7
comp=Z,94nm,1.2s
SDPT Sand Point 47.38 43 P **P** **19 46 27.8 -0.8**
SDPT IAmb IAmb 19 46 28.6
comp=Z,55nm,0.7s
RGRI Rengat 47.45 233 P **P** **19 46 32.5 +2.8**
comp=Z,37μmcomp=Z,327nm,0.5s
PSI Prapat 47.55 239 P **P** **19 46 29.5 -1.1**
PSI pmax pmax
comp=Z,22nm,0.7s
RPSI Rantau Prapat 47.62 239 P **P** **19 46 29.5 -1.6**
TARG Taragay, Kyrgy 47.75 299 P **P** **19 46 31.8 -0.4**
BKNI Bangkinang 47.82 234 P **P** **19 46 33.9 +1.3**
comp=Z,188nm,0.8s
CNBA Chernabura Isl 47.88 44 P **P** **19 46 32.3 -0.2**
CNBA IAmb IAmb 19 46 32.9
comp=Z,60nm,0.6s
CHKK Chushkaly 47.99 301⇓*i*P **P** **19 46 33.9 +0.3**
baz=301
CHKK Chushkaly 47.99 301*d i*P **P** **19 46 33.8 +0.3**
BWNR Bhubaneshwar 48.02 268 *e*P **P** **19 46 32.5 -1.5**
BWNR IAmb IAmb 19 46 33.9
comp=Z,21nm,0.6s
MDOK Medeo 48.05 301 *i* P **P** **19 46 35.1 +0.8**
baz=300
MDOK *e*S **S** **19 53 09.1 +0.4**
comp=Z,221nm,2.5s,baz=300
MDOK Medeo 48.05 301 *i* P **P** **19 46 35.0 +0.8**
MDOK *e*S **S** **19 53 09.1 +0.4**
MDOK smax smax
comp=N,221nm,2.5s
RDOG Red Dog Mine 48.08 26 P **P** **19 46 34.4 +0.6**
KDJ Kajisay 48.14 299 P **P** **19 46 35.4 +0.5**
KDJ pmax pmax
comp=Z,54nm,1.2s
KDJ Kajisay 48.14 299 P **P** **19 46 35.4 +0.5**
AAA Alma-Ata 48.14 301⇓*e*P **P** **19 46 35.8 +1.0**
comp=Z,69nm,0.9s,baz=300
AAA Alma-Ata 48.14 301*de*P **P** **19 46 35.7 +1.0**

AAA pmax pmax
comp=Z,69nm,0.9s
TNSS Tian-Shan 48.15 300 ⇓*i* P **P 19 46 36.3 +1.0**
baz=300
TNSS Tian-Shan 48.15 300*d i* P **P 19 46 36.2 +1.0**
KUU Kurty 48.44 302 ⇓*i* P **P 19 46 37.2 +0.2**
comp=Z,90nm,0.6s,baz=301
KUU *i* S **S 19 53 13.8 0.0**
comp=Z,51nm,2.4s,baz=301
KUU Kurty 48.44 302*d i* P **P 19 46 37.2 +0.2**
KUU *i* S **S 19 53 13.8 0.0**
KUU pmax pmax
comp=Z,90nm,0.6s
KUU smax smax
comp=N,51nm,2.4s
SDSI Sungai Dareh 48.48 233 P **P 19 46 37.9 +0.4**
comp=N,581nmcomp=N,44nm,1.3s
MNSI Mandailing Nat 48.49 236 P **P 19 46 37.5 -0.1**
comp=N,38nm,0.9s
MTBS Maitube 48.51 301⇓*e* P **P 19 46 38.0 +0.5**
baz=300
MTBS Maitube 48.51 301*de* P **P 19 46 38.0 +0.5**
UGM Wanagama 48.63 218 P **P 19 46 40.4 +1.7**
comp=N,184nm,2.1s
UGM Wanagama 48.63 218 P **P 19 46 37.7 -1.0**
ULHL Ulahol 48.80 299 P **P 19 46 41.1 +1.2**
SNR=8.5
TKM2 Tokmak 2 49.14 300 P **P 19 46 43.5 +1.0**
SNR=51
KLSI 49.24 226 P **P 19 46 43.9 +0.6**
comp=N,349nmcomp=N,25nm,1.1s
LHSI Lahat 49.31 228 P **P 19 46 44.8 +1.0**
comp=N,182nm,1.0s
MDSI Maura Dua 49.42 227 P **P 19 46 44.3 -0.3**
comp=N,1µmcomp=N,104nm,1.1s
BLSI Bandar Lampung 49.47 225 P **P 19 46 45.5 +0.5**
comp=N,104nm,1.0s
KNRA Kununurra 49.47 192 P **P 19 46 44.1 -0.7**
KNRA IAmb IAmb 19 46 45.5
comp=Z,232nm,1.1s
GSI Gunungsitoli 49.55 239 P **P 19 46 46.0 +0.4**
comp=Z,3µmcomp=Z,288nm,1.1s
GSI Gunungsitoli 49.55 239 P **P 19 46 45.2 -0.5**
KZA Kyzart 49.56 299 P **P 19 46 47.4 +1.5**
SNR=25
KSH Kashi 49.57 296 P **P 19 46 49.8 +4.2**
KSH pP pP 19 47 54.3 +4.3
KSH sP sP 19 48 27.4 +3.1
KSH S **S 19 53 33.1 +3.4**
KSH pmax pmax
comp=Z,71nm,0.6s
KSH LR LR
comp=Z,160nm,8.6s
KSH LR LR
comp=Z,170nm,10.3s
KBK Karagaybulak 49.66 300 P **P 19 46 47.2 +0.8**
SNR=49
JOHN Johnston Islan 49.70 96 P **P 19 46 46.5 -0.2**
CHMS Chumysh 49.74 301 P **P 19 46 47.2 +0.5**
SNR=35
SGDS Sogindy 49.74 301 ⇓*i* P **P 19 46 47.2 +0.3**
comp=Z,39nm,1.0s,baz=301
SGDS *i* pP **pP 19 47 50.0 -1.1**
baz=301
SGDS Sogindy 49.74 301*d i* P **P 19 46 47.1 +0.3**
SGDS *i* *PP **pP 19 47 50.0 -1.1**
SGDS pmax pmax
comp=Z,39nm,1.0s
KSI Kapahiang 49.76 229 P **P 19 46 47.9 +0.6**
comp=Z,50nm,1.1s
CISI Cisompet, Garu 49.77 221 P **P 19 46 46.1 -1.2**
FRU1 Bishkek 49.86 301 P **P 19 46 48.2 +0.5**
FRU1 pmax pmax
comp=Z,97nm,1.2s
FRU1 Bishkek 49.86 301 P **P 19 46 48.2 +0.5**
FRU1 IAmb IAmb 19 46 49.8
comp=Z,97nm,1.1s
USP Ospenovka 49.87 301 P **P 19 46 48.0 +0.3**
SNR=20
BTLS Baital 49.87 303 ⇓*i* P **P 19 46 48.0 +0.3**
comp=Z,68nm,1.4s,baz=303
BTLS Baital 49.87 303*d i* P **P 19 46 48.0 +0.3**
BTLS pmax pmax
comp=Z,68nm,1.4s
LWLI Liwa 49.91 227 P **P 19 46 49.7 +1.3**
comp=Z,212µmcomp=Z,2µmcomp=Z,72nm,0.8s
AAK Ala-Archa 49.99 300 P **P 19 46 48.9 +0.1**
comp=Z,21nm,0.7s,baz=97,slow=4.5,SNR=46
AAK ScP **ScP 19 51 28.6 -1.1**
comp=Z,3.9nm,0.7s,baz=6.2,slow=19,SNR=3.2
AAK Ala-Archa 49.99 300 P **P 19 46 49.2 +0.4**
SNR=26
AAK Ala-Archa 49.99 300 *i* P **P 19 46 49.3 +0.4**
SNR=30
AAK Ala-Archa 49.99 300*d i* P **P 19 46 49.0 +0.1**
AAK pmax pmax
comp=Z,35nm,0.8s
AAK Ala-Archa 49.99 300 P **P 19 46 48.9 +0.1**
KASI Kota Agung 50.04 226 P **P 19 46 49.3 +0.1**
comp=Z,63nm,1.2s
TTA Tatalina 50.05 33 P **P 19 46 49.3 +0.5**
TTA pmax pmax
comp=Z,10.0nm,1.0s
TTA Tatalina 50.05 33 P **P 19 46 49.3 +0.5**
UCH Uchtor 50.06 300 P **P 19 46 50.6 +0.9**
SNR=54
BRZS Berezniki 50.10 310 ⇓*i* P **P 19 46 49.4 +0.1**
comp=Z,136nm,1.4s,baz=310
BRZS Berezniki 50.10 310*d i* P **P 19 46 49.4 +0.1**
BRZS pmax pmax
comp=Z,136nm,1.4s
CHIR Chirikof Islan 50.13 42 P **P 19 46 50.0 +0.7**
CHIR IAmb IAmb 19 46 50.6
comp=Z,94nm,0.5s
SVW2 Sparrevohn 50.15 35 P **P 19 46 51.1 +1.6**
EKS2 Erkin-Say 50.51 300 P **P 19 46 53.0 +0.4**
SNR=41
AML Almayashu 50.68 300 P **P 19 46 55.4 +1.2**
SNR=24
SII Sitkinak Islan 50.90 41 P **P 19 46 55.4 +0.3**
SII IAmb IAmb 19 46 56.0
comp=Z,47nm,0.5s
A21K Barrow 50.97 22 P **P 19 46 57.2 +1.8**
baz=258
A21K S **S 19 53 50.2 +2.4**
baz=258
SMLA Simla 50.99 285 *e* P **P 19 46 56.0 -0.1**
SMLA IAmb IAmb 19 46 57.4
comp=Z,356nm,0.5s
SMLA *i* PP **PP 19 48 57.1 +1.1**
BVAR Borovoye Array 51.20 314 P **P 19 46 57.7 +0.3**
comp=Z,45nm,0.5s,baz=106,slow=6.7,SNR=340
BVAR pP **pP 19 48 01.0 -0.9**
comp=Z,35nm,1.0s,baz=95,slow=8.9,SNR=3.4
BVAR ScP **ScP 19 51 33.6 -0.8**
comp=Z,9.5nm,0.6s,baz=95,slow=4.9,SNR=9.8
BRVK Borovoye 51.26 314*ce* P **P 19 46 57.8 0.0**
BRVK pmax pmax
comp=Z,187nm,1.5s
BRVK Borovoye 51.26 314 P **P 19 46 57.9 +0.1**
BRVK IAmb IAmb 19 47 00.4
comp=Z,69nm,0.8s
IMAR Indian Mountai 51.26 29 P **P 19 46 58.3 +0.7**
DHRM DHARAMSHALA 51.32 287 *e* P **P 19 46 58.5 -0.4**
DHRM IAmb IAmb 19 46 60.0
comp=Z,96nm,0.4s
OHAK Old Harbor 51.36 40 P **P 19 46 58.4 -0.1**
RSO Redoubt South 51.53 36 P **P 19 47 00.7 +0.7**
KDAK Kodiak Island 51.71 40 P **P 19 47 01.4 +0.4**
comp=Z,90nm,0.5s,baz=270,slow=4.2,SNR=349
KDAK Kodiak Island 51.71 40 P **P 19 47 01.2 +0.2**
PPLA Purkeypile 51.80 33 P **P 19 47 03.5 +1.7**
PPLA IAmb IAmb 19 47 04.1
comp=Z,36nm,0.6s
SKT Skwentna 52.10 34 P **P 19 47 04.5 +0.5**
DZA Taraz 52.22 301 *e* P **P 19 47 05.5 +0.4**
comp=Z,21nm,0.6s,baz=301
DZA Taraz 52.22 301 *e* P **P 19 47 05.5 +0.4**
DZA pmax pmax
comp=Z,21nm,0.6s
CNPM China Poot 52.32 37 P **P 19 47 05.1 -0.5**
CNPM IAmb IAmb 19 47 08.0
comp=Z,44nm,0.6s
BPAW Bear Paw Mtn. 52.35 32 P **P 19 47 07.0 +1.3**
FITZ Fitzroy Crossi 52.44 195 P **P 19 47 06.4 -0.4**
FITZ IAmb IAmb 19 47 08.0
comp=Z,66nm,0.9s
SUA Susitna One 52.49 35 P **P 19 47 06.9 0.0**
BRLK Bradley Lake 52.49 37 P **P 19 47 06.0 -0.8**
TRF Thorofare Moun 52.66 32 P **P 19 47 08.7 +0.6**
COLD Coldfoot 52.75 28 P **P 19 47 10.0 +1.5**
baz=268,SNR=12
COLD S **S 19 54 15.6 +3.6**
baz=268
COLD Coldfoot 52.75 28 P **P 19 47 09.4 +0.9**
KK31 Karatay Array 52.76 302 P **P 19 47 08.9 -0.1**
KK31 Karatay Array 52.76 302 P **P 19 47 08.9 -0.1**
KK31 IAmb IAmb 19 47 10.7
comp=Z,117nm,0.8s
KKAR Karatay Array 52.76 302 P **P 19 47 09.2 +0.2**
KKAR pmax pmax
comp=Z,117nm,0.8s
KKAR Karatay Array 52.76 302 P **P 19 47 09.2 +0.2**
KKAR Karatay Array 52.76 302 P **P 19 47 09.1 +0.2**
KKAR IAmb IAmb 19 47 10.7
comp=Z,117nm,0.8s
WB0 Warramunga Arr 52.84 184 P **P 19 47 08.8 -1.0**
WRAB Tennant Creek 53.01 184 P **P 19 47 10.1 -0.9**
WRAB pmax pmax
comp=Z,204nm,0.8s
WRAB Tennant Creek 53.01 184 P **P 19 47 10.1 -0.9**
BWN Browne 53.02 32 P **P 19 47 12.2 +1.7**
BWN IAmb IAmb 19 47 13.5
comp=Z,56nm,0.6s
WB2 Warramunga Arr 53.02 184 P **P 19 47 10.2 -0.8**
WRA Warramunga Arr 53.02 184 P **P 19 47 09.8 -1.3**
comp=Z,239nm,0.4s,baz=360,slow=7.7,SNR=542
WRA pP **PcP 19 48 15.2 0.0**
comp=Z,42nm,1.0s,baz=2.8,slow=7.3,SNR=1.1
WRA ScP **ScP 19 51 42.9 +0.3**
comp=Z,1.9nm,0.6s,baz=360,slow=5.0,SNR=2.9
WRA Warramunga Arr 53.02 184 *i* P **P 19 47 08.8 -2.2**
WRA pmax pmax
comp=Z,239nm,0.4s
WRA Warramunga Arr 53.02 184 P **P 19 47 09.2 -1.9**
WR0 Warramunga Arr 53.02 184 P **P 19 47 10.4 -0.6**
O22K Cooper Landing 53.03 36 P **P 19 47 10.9 +0.3**
baz=273,SNR=9.3
TOLK Toolik Lake Re 53.05 26 P **P 19 47 12.3 +1.6**
baz=267,SNR=7.7
TOLK S **S 19 54 18.9 +2.8**
baz=267
TOLK Toolik Lake Re 53.05 26 P **P 19 47 11.3 +0.6**
NEA2 Nenana 53.18 31 P **P 19 47 13.0 +1.3**
baz=271,SNR=22
NEA2 S **S 19 54 19.3 +1.4**
baz=271
SEW Seward 53.19 37 P **P 19 47 11.8 +0.1**
SEW IAmb IAmb 19 47 12.9
comp=Z,47nm,0.6s
PMR Palmer 53.26 35 P **P 19 47 12.3 +0.1**
PMR pmax pmax
comp=Z,83nm,1.5s
PMR Palmer 53.26 35 P **P 19 47 12.3 +0.1**
MCK McKinley 53.26 32 P **P 19 47 13.0 +0.7**
MCK pmax pmax
comp=Z,31nm,0.7s
MCK McKinley 53.26 32 P **P 19 47 13.0 +0.7**
BTK Batken 53.28 298 P **P 19 47 12.8 -0.1**
BTK pmax pmax
comp=Z,70nm,1.2s
BTK Batken 53.28 298 P **P 19 47 12.8 -0.1**
NIL Nilore 53.30 290 P **P 19 47 13.7 +0.6**
NIL pmax pmax
comp=Z,138nm,0.5s
NIL Nilore 53.30 290 P **P 19 47 13.7 +0.6**
NGP Nagpur 53.30 273 *e* P **P 19 47 13.4 +0.2**
NGP IAmb IAmb 19 47 15.8
comp=Z,44nm,0.7s
RND Reindeer 53.31 32 P **P 19 47 13.2 +0.5**
RND pmax pmax
comp=Z,74nm,1.1s
RND Reindeer 53.31 32 P **P 19 47 13.2 +0.5**
RND IAmb IAmb 19 47 14.1
comp=Z,74nm,1.1s
IUG luzhnay 53.33 301 ⇓*i* P **P 19 47 14.1 +0.8**
comp=Z,116nm,0.9s,baz=300
IUG luzhnay 53.33 301*d i* P **P 19 47 14.0 +0.8**
IUG pmax pmax
comp=Z,116nm,0.9s
GHO Glory Hole Cre 53.34 35 P **P 19 47 13.7 +0.7**
MDM Murphy Dome 53.53 31 P **P 19 47 15.6 +1.4**
MDM IAmb IAmb 19 47 16.7
comp=Z,43nm,0.7s
KNK Knik Glacier 53.59 35 P **P 19 47 15.1 +0.3**
KNK IAmb IAmb 19 47 16.2
comp=Z,62nm,0.5s
CTA Charters Tower 53.60 171 P **P 19 47 15.2 -0.1**
CTA pmax pmax
comp=Z,108nm,1.0s
CTAO Charters Tower 53.60 171 P **P 19 47 14.7 -0.5**
CTAO pmax pmax
comp=Z,71nm,0.8s
CTAO Charters Tower 53.60 171 P **P 19 47 14.7 -0.5**
CTAO IAmb IAmb 19 47 16.4
comp=Z,71nm,0.8s
WRH Wood River Hil 53.61 31 P **P 19 47 15.0 +0.3**
SML Sawmill 53.62 34 P **P 19 47 15.5 +0.5**
SML IAmb IAmb 19 47 16.6
comp=Z,109nm,1.3s
TCOL CIGO, UAF Yank 53.69 31 P **P 19 47 16.2 +0.9**
baz=272
TCOL S **S 19 54 25.7 +1.1**
baz=272
COLA College 53.70 31*de* P **P 19 47 16.9 +1.6**
COLA pmax pmax
comp=Z,16nm,0.7s
COLA College 53.70 31 P **P 19 47 17.0 +1.6**
COLA IAmb IAmb 19 47 18.1
comp=Z,33nm,0.4s
CCB Clear Creek Bu 53.73 31 P **P 19 47 15.8 +0.2**
POKR Poker Plat Res 53.87 30 P **P 19 47 17.8 +1.2**
baz=272,SNR=16
POKR S **S 19 54 29.2 +2.1**
baz=272
GAR Garm 53.94 297 P **P 19 47 17.2 -0.5**
TAS Tashkent 54.07 300 P **P 19 47 19.4 +0.9**
TAS pmax pmax
comp=Z,120nm,0.7s
TAS Tashkent 54.07 300 P **P 19 47 19.4 +0.9**
TAS IAmb IAmb 19 47 20.6
comp=Z,120nm,0.7s
SCM Sheep Creek Mo 54.10 34 P **P 19 47 19.4 +0.9**
SCM pmax pmax
comp=Z,71nm,0.6s
SCM Sheep Creek Mo 54.10 34 P **P 19 47 19.4 +0.9**
SCM IAmb IAmb 19 47 20.3
comp=Z,71nm,0.6s
HDA Harding Lake 54.10 31 P **P 19 47 18.5 +0.1**
baz=273,SNR=21
HDA S **S 19 54 30.7 +0.5**
baz=273
HDA Harding Lake 54.10 31 P **P 19 47 18.5 +0.1**
IL31 54.11 31 P **P 19 47 18.4 +0.1**
ILAR Eielson Array 54.11 31 P **P 19 47 18.1 -0.3**
comp=Z,12nm,0.8s,baz=280,slow=5.9,SNR=116
ILAR pP **pP 19 48 24.1 +0.7**
comp=Z,8.0nm,0.9s,baz=278,slow=7.2,SNR=3.7
ILAR ScP **ScP 19 51 45.1 -1.8**
comp=Z,0.9nm,0.6s,baz=273,slow=4.5,SNR=3.0
ILAR Eielson Array 54.11 31 P **P 19 47 18.0 -0.4**
GLI Glacier Island 54.29 36 P **P 19 47 20.1 +0.3**
GLI IAmb IAmb 19 47 21.8
comp=Z,54nm,0.6s
FID Port Fidalgo 54.60 36 P **P 19 47 22.6 +0.6**
FID IAmb IAmb 19 47 23.5
comp=Z,64nm,0.5s
HIN Hinchinbrook I 54.63 36 P **P 19 47 23.0 +0.8**
HIN IAmb IAmb 19 47 23.8
comp=Z,44nm,0.6s
KLU Klutina 54.80 35 P **P 19 47 24.5 +1.1**
KLU IAmb IAmb 19 47 27.2
comp=Z,30nm,0.5s
Q23K Middleton Isla 54.82 37 S **S 19 54 43.1 +3.4**
baz=277
PAX Paxson 54.86 33 P **P 19 47 24.6 +0.7**
PAX pmax pmax
comp=Z,28nm,1.1s
PAX Paxson 54.86 33 P **P 19 47 24.6 +0.7**
CHGR Chuyangaron 54.91 297 P **P 19 47 25.0 +0.4**
EYAK Cordova Ski Ar 54.98 36 P **P 19 47 25.3 +0.7**
RIDG Independent Ri 55.07 32 P **P 19 47 25.5 +0.2**
RIDG IAmb IAmb 19 47 26.9
comp=Z,27nm,0.5s
HYB Hyderabad 55.43 269 *i* P **P 19 47 28.5 0.0**
HYB *ep* P **pwP 19 48 35.0 -1.2**
HYB Hyderabad 55.43 269 *e* P **P 19 47 28.2 -0.4**
HYB IAmb IAmb 19 47 31.1
comp=Z,32nm,0.6s
DOT Dot Lake 55.43 32 P **P 19 47 28.3 +0.4**
DOT IAmb IAmb 19 47 29.3
comp=Z,94nm,1.5s
RAGM Ragged Mountai 55.53 36 P **P 19 47 29.9 +1.3**
MENT Mentasta 55.66 33 P **P 19 47 31.2 +1.7**
MENT IAmb IAmb 19 47 32.0
comp=Z,59nm,0.6s
KAIM Kayak Island 55.72 37 P **P 19 47 31.4 +1.5**
KAIM IAmb IAmb 19 47 32.4
comp=Z,55nm,0.6s
GLB Gilahina Butte 55.81 35 P **P 19 47 31.7 +1.2**
VRDI Verde Repeater 56.01 35 P **P 19 47 33.2 +1.1**
SUCK Suckling Hills 56.02 36 P **P 19 47 33.5 +1.5**
SUCK IAmb IAmb 19 47 34.2
comp=Z,34nm,0.6s
MCARA McCarthy VSAT 56.19 35 P **P 19 47 34.5 +1.3**
MCARA IAmb IAmb 19 47 35.6
comp=Z,57nm,0.7s
CRQM Cirque 56.23 35 P **P 19 47 34.9 +1.2**
CRQM IAmb IAmb 19 47 36.1
comp=Z,126nm,1.4s
K27K Chicken 56.26 31 S **S 19 55 01.6 +2.9**
baz=277
KBL Kabul 56.30 292 P **P 19 47 34.8 +0.2**
SNR=25
KBL Kabul 56.30 292 P **P 19 47 33.8 -0.9**
KBL pmax pmax
comp=Z,46nm,0.7s
KBL Kabul 56.30 292 P **P 19 47 33.8 -0.9**
KBL IAmb IAmb 19 47 36.4
comp=Z,46nm,0.7s
TGL Tana Glacier 56.38 35 P **P 19 47 35.6 +1.0**
BCAR Beaver Creek A 56.52 33 P **P 19 47 36.6 +1.0**
EGAK Eagle 56.56 30 P **P 19 47 36.1 +0.4**
BALM Baldy 56.57 35 P **P 19 47 36.9 +0.9**
AS31 Alice Springs 56.74 185 P **P 19 47 36.9 -0.6**
AS31 IAmb IAmb 19 47 39.6
comp=Z,75nm,0.5s
ASAR Alice Springs 56.74 185 P **P 19 47 36.5 -1.0**
comp=Z,101nm,0.5s,baz=17,slow=11,SNR=1401
ASAR ScP **ScP 19 51 57.0 -2.0**
comp=Z,1.3nm,0.5s,baz=0.0,slow=4.0,SNR=2.3
ASAR PKP2bc 20 17 36.0
comp=Z,0.8nm,0.6s,baz=160,slow=1.7,SNR=13
ASAR Alice Springs 56.74 185 P **P 19 47 36.7 -0.8**
ASAR Alice Springs 56.74 185 P **P 19 47 36.7 -0.8**
MBWA Marble Bar 56.89 201 P **P 19 47 37.8 -0.7**
MBWA IAmb IAmb 19 47 39.1
comp=Z,104nm,0.7s
BARN Barnard Glacie 56.89 35 P **P 19 47 39.3 +0.9**
YAH Yahtse 56.97 36 P **P 19 47 40.0 +1.1**
OPA Opana 57.05 84 P **P 19 47 40.6 +0.8**
OPA pmax pmax
comp=Z,212nm,0.7s
OPA Opana 57.05 84 P **P 19 47 40.6 +0.8**
CTGM Chitina Glacie 57.07 35 P **P 19 47 40.0 +0.5**
KIP Kipapa 57.16 85*de* P **P 19 47 42.3 +1.7**
KIP pmax pmax
comp=Z,127nm,0.6s
KIP Kipapa 57.16 85 P **P 19 47 41.3 +0.7**
PSAC1 Pilbara Seismi 57.22 200 P **P 19 47 40.0 -0.9**
PSA00 Pilbara Seismi 57.24 200 P **P 19 47 40.2 -0.8**
PSA00 IAmb IAmb 19 47 41.6
comp=Z,84nm,0.8s
PSA00 Pilbara Seismi 57.24 200 P **P 19 47 40.1 -0.9**
PSA00 IAmb IAmb 19 47 41.6
comp=Z,63nm,0.7s
ARU Arti 57.45 320 P **P 19 47 42.3 +0.3**
comp=Z,26nm,0.5s,baz=86,slow=4.9,SNR=194
ARU pP **pP 19 48 48.2 0.0**
comp=Z,14nm,0.8s,baz=25,slow=5.8,SNR=3.2
ARU Arti 57.45 320*c i* P **P 19 47 42.0 0.0**
ARU 19 48 31.7
ARU *PP **pP 19 48 47.5 -0.7**
ARU 19 49 53.0
ARU PPP PPP 19 51 17.4
ARU S **S 19 55 15.9 +1.6**
ARU 19 56 59.0
ARU SS **SS 19 59 05.2 -3.7**
ARU pmax pmax
comp=Z,184nm,1.0s
ARU Arti 57.45 320 P **P 19 47 42.1 +0.1**
ARU IAmb IAmb 19 47 43.6
comp=Z,137nm,0.9s
PCA Pinnacle 57.75 36 P **P 19 47 44.2 0.0**
EPYK Eagle Plains 58.13 28 P **P 19 47 48.2 +1.6**
ABKAR Akbulak array 58.36 311 P **P 19 47 48.2 -0.2**
PALK Pallekele 58.93 257 P **P 19 47 52.5 -0.4**
comp=Z,7.3nm,0.6s,baz=144,slow=6.0,SNR=13
PALK Pallekele 58.93 257 P **P 19 47 53.6 +0.7**
PALK pmax pmax
comp=Z,12nm,1.0s
PALK Pallekele 58.93 257 P **P 19 47 53.6 +0.7**
HYT Haines Junctio 58.93 35 P **P 19 47 54.2 +1.9**
HLK Haleakala 58.93 84 P **P 19 47 54.7 +1.6**
INK Inuvik 58.96 26 P **P 19 47 53.0 +0.8**
INK pmax pmax
comp=Z,10.0nm,0.7s
INK Inuvik 58.96 26 P **P 19 47 53.0 +0.8**
AKTO Aktyubinsk 59.23 313 P **P 19 47 55.0 +0.5**
comp=Z,29nm,0.6s,baz=74,slow=13,SNR=46
AKTO pP **pP 19 49 01.1 0.0**
comp=Z,23nm,1.0s,baz=63,slow=14,SNR=3.0
EIDS Eidsvold 59.59 166 P **P 19 47 57.0 +0.1**
HPAH Hawaii Prepara 59.72 85 P **P 19 47 59.6 +1.4**
KHLU Kahalu`u 59.76 85 P **P 19 47 59.9 +1.3**
KHLU IAmb IAmb 19 48 00.4
comp=Z,84nm,0.6s
HUH Hualalai 59.77 85 P **P 19 47 59.9 +1.1**
POHA Pohakuloa 59.99 85 P **P 19 48 01.4 +1.1**
MWH Moku'aweowe 60.06 85 P **P 19 48 02.5 +1.4**
GIRL Giralia 60.08 206 P **P 19 48 01.3 +1.0**
GIRL IAmb IAmb 19 48 02.1
comp=Z,59nm,0.8s
HMH Humu'ula Sheep 60.10 85 P **P 19 48 02.7 +1.6**
KHU Kahuku 60.15 86 P **P 19 48 02.7 +1.3**
KHU pmax pmax
comp=Z,193nm,0.6s
KHU Kahuku 60.15 86 P **P 19 48 02.7 +1.3**
AIN Ainahou 60.23 85 P **P 19 48 03.5 +1.7**
MLH Mauna Loa 60.23 85 P **P 19 48 03.5 +1.6**
SKAG Skagway 60.33 36 P **P 19 48 02.8 +1.2**
UWE Uwekahuna 60.34 85 P **P 19 48 04.0 +1.5**
WRMHI West Rim 60.34 85 P **P 19 48 04.1 +1.6**
OBL Observatory Le 60.35 85 P **P 19 48 03.3 +0.7**
UWB Uwekahuna B 60.35 85 P **P 19 48 03.6 +1.0**
UWB IAmb IAmb 19 48 13.0
comp=Z,70nm,0.6s
SDHHI Sand Hill 60.36 85 P **P 19 48 03.7 +1.1**
SBLHI Steaming Bluff 60.36 85 P **P 19 48 04.2 +1.5**
SBLHI IAmb IAmb 19 48 16.1
comp=Z,77nm,0.6s
RIM Rim 60.37 85 P **P 19 48 04.0 +1.3**
BYL Byron's Ledge 60.37 85 P **P 19 48 03.8 +1.1**
KKO Keanakako`i 60.38 85 P **P 19 48 04.2 +1.4**
HLP Hilina Pali 60.39 85 P **P 19 48 03.9 +1.1**
PUH Pauahi 60.43 85 P **P 19 48 04.5 +1.4**
A36M Sachs Harbour 60.75 21 S **S 19 55 59.2 +3.2**
baz=288
BESE Bessie Mountai 60.81 37 P **P 19 48 06.5 +1.6**
JIS Juneau Island 61.13 37 P **P 19 48 08.7 +1.7**
JIS IAmb IAmb 19 48 09.3
comp=Z,32nm,0.6s
DZM Mont Dzumac 61.29 150 *e* P **P 19 48 09.9 +1.3**
comp=Z,302nm,1.3s
DZM Mont Dzumac 61.29 150 P **P 19 48 09.7 +1.1**
HRA Herat 61.59 294 P **P 19 48 11.2 +0.4**
HRA IAmb IAmb 19 48 12.9
comp=Z,51nm,0.7s
KIRV Kirov 61.66 323 P **P 19 48 11.2 +0.7**
comp=Z,228nm,0.5s,baz=70,slow=2.6,SNR=77
KIRV pP **pP 19 49 17.7 0.0**
comp=Z,47nm,0.7s,baz=85,slow=3.8,SNR=3.1
KIRV Kirov 61.66 323 *i* P **P 19 48 11.0 +0.5**
C36M Paulatuk 61.97 23 P **P 19 48 13.4 +1.0**
baz=290,SNR=14

C36M S **S** **19 56 12.8 +1.5**
baz=290
C36M Paulatuk 61.97 23 P **P** **19 48 13.3 +1.0**
C36M IAmb IAmb 19 48 14.1
comp=Z,42nm,0.5s
PRGR Permogore 62.48 327⇓ *i* P **P** **19 48 16.4 +0.5**
PRGR *i* *PP **pP** **19 49 24.3 +1.0**
PRGR *e*S **S** **19 56 17.5 -0.4**
WRAK Wrangell Islan 62.77 39 P **P** **19 48 19.2 +1.3**
HOPEN Hopen 63.05 346 *e*P **P** **19 48 20.8 +1.4**
DLBC Dease Lake 63.26 36 P **P** **19 48 22.8 +1.7**
GEYT Alibeck 63.33 299 P **P** **19 48 22.5 +0.5**
comp=Z,24nm,0.8s,baz=62,slow=3.5,SNR=59
GEYT pP **pP** **19 49 29.1 -0.2**
comp=Z,4.1nm,0.7s,baz=46,slow=13,SNR=2.1
GEYT Alibeck 63.33 299 P **P** **19 48 22.0 +0.1**
GEYT *e*P **pP** **19 49 28.9 -0.4**
GYA0B ALIBECK ARRAY 63.33 299 P **P** **19 48 22.4 +0.5**
GYA0B IAmb IAmb 19 48 23.8
comp=Z,34nm,0.9s
MSVF Nonsavu 63.43 137 P **P** **19 48 24.8 +2.0**
MSVF pmax pmax
comp=Z,241nm,1.4s
MSVF Nonsavu 63.43 137 P **P** **19 48 24.8 +2.0**
SPA0 Spitsbergen Ar 63.70 349 P **P** **19 48 24.4 +0.7**
SPA0 IAmb IAmb 19 48 25.9
comp=Z,29nm,0.9s
SPA0 Spitsbergen Ar 63.70 349 *e*P **P** **19 48 24.6 +0.9**
SPITS Spitsbergen Ar 63.70 349 P **P** **19 48 24.4 +0.7**
comp=Z,14nm,0.6s,baz=128,slow=7.7,SNR=18
DIB Dawson Inlet, 63.81 42 P **P** **19 48 25.5 +0.8**
DIB IAmb IAmb 19 48 26.2
comp=Z,30nm,0.5s
KBS Kingsbay 63.91 350⇑ *e*P **P** **19 48 26.5 +1.5**
KBS pmax pmax
comp=Z,44nm,0.9s
KBS Kingsbay 63.91 350 P **P** **19 48 26.1 +1.1**
KBS IAmb IAmb 19 48 27.6
comp=Z,34nm,0.8s
KBS Kingsbay 63.91 350 *e*P **P** **19 48 26.3 +1.4**
EUNU Eureka 64.30 8 P **P** **19 48 28.5 +0.9**
FORT Forrest 64.39 190 P **P** **19 48 28.6 0.0**
LVZ Lovozero 64.45 336⇓ *i*P **P** **19 48 30.1 +1.4**
LVZ pmax pmax
comp=Z,50nm,1.1s
HSPB Hornsund (broa 64.57 348 *e*P **P** **19 48 30.2 +1.0**
HSPB Hornsund (broa 64.57 348 *e*P **P** **19 48 30.5 +1.2**
ARMA Armidale 64.60 167 P **P** **19 48 30.9 +0.7**
ARMA IAmb IAmb 19 48 32.0
comp=Z,62nm,0.7s
NOR Nord 64.64 356 *i* P **P** **19 48 30.8 +1.1**
NOR Nord 64.64 356 *i* P **P** **19 48 30.8 +1.1**
TMCR Tamitsa 64.77 332 *e*P **P** **19 48 30.3 -0.4**
STKA Stephens Creek 64.86 177 P **P** **19 48 31.5 -0.2**
comp=Z,48nm,0.7s,baz=351,slow=6.8,SNR=115
STKA Stephens Creek 64.86 177 P **P** **19 48 31.5 -0.2**
APA Apatity 65.03 336⇑ *i*P **P** **19 48 31.7 -0.6**
APA *i* *PP **pP** **19 49 39.5 -0.8**
APA *i* **19 51 03.5**
APA *i* S **S** **19 56 46.0 -2.9**
APA *i* **19 57 18.0**
APA *i* SSS SSS **20 04 09.0**
APA pmax pmax
comp=Z,56nm,0.9s
APA MLR MLR
comp=Z,400nm,15.0s
MORW Morawa 65.42 201 P **P** **19 48 34.4 -1.0**
MORW IAmb IAmb 19 48 36.0
comp=Z,91nm,1.1s
KLMR Klimovskoe 65.52 328*d* *i*P **P** **19 48 35.7 +0.2**
KLMR *e**PP **pP** **19 49 40.6 -3.0**
KLMR *e* **19 51 02.8**
KLMR pmax pmax
comp=Z,118nm,0.7s
KLMR Klimovskoe 65.52 328⇓ *i*P **P** **19 48 35.7 +0.2**
KLMR ⇓ *i*P **P** **19 48 35.7 +0.2**
KLMR ⇑ *i*P **P** **19 48 35.7 +0.2**
KLMR AMP **19 48 37.0**
comp=Z,118nm,0.7s
KLMR *e*pP **pP** **19 49 40.7 -2.9**
KLMR *e*PP **PP** **19 51 02.8 -0.8**
BBOO Buckleboo 65.74 182 P **P** **19 48 37.0 -0.3**
KEV Kevo 66.02 339 P **P** **19 48 38.6 0.0**
KEV pmax pmax
comp=Z,33nm,0.8s
KEV Kevo 66.02 339 P **P** **19 48 38.6 0.0**
KEV IAmb IAmb 19 48 40.7
comp=Z,32nm,0.8s
HAMF Hammerfest 66.49 341 *e*P **P** **19 48 42.0 +0.4**
ARCES ARCESS Array B 66.58 339 P **P** **19 48 42.6 +0.4**
comp=Z,29nm,0.6s,baz=67,slow=8.8,SNR=78
ARCES pP **pP** **19 49 50.9 +0.4**
comp=Z,10nm,0.8s,baz=55,slow=9.2,SNR=2.4
ARCES ARCESS Array B 66.58 339 P **P** **19 48 42.3 +0.2**
ARE0 ARCESS Array S 66.58 339 P **P** **19 48 42.7 +0.5**
ARE0 ARCESS Array S 66.58 339 *e*P **P** **19 48 42.3 +0.2**
BBB Bella Bella 66.65 42 P **P** **19 48 43.0 +0.2**
comp=Z,9.4nm,0.8s,baz=313,slow=13,SNR=4.4
BBB Bella Bella 66.65 42 P **P** **19 48 43.4 +0.5**
RES Resolute Bay 66.91 13 P **P** **19 48 44.7 +0.6**
comp=Z,28nm,0.4s,baz=309,slow=4.7,SNR=92
RES Resolute Bay 66.91 13 P **P** **19 48 45.1 +1.0**
RES pmax pmax
comp=Z,37nm,0.6s
RES Resolute Bay 66.91 13 P **P** **19 48 45.1 +1.0**
RES IAmb IAmb 19 48 46.2
comp=Z,37nm,0.6s
KTK1 Kautokeino 67.54 339 *e*P **P** **19 48 49.0 +0.8**
XMAS Kiritimati 67.61 103 P **P** **19 48 50.2 +0.8**
TRO Tromso 68.40 341 *e*P **P** **19 48 53.8 +0.4**
YKA Yellowknife Ar 68.41 28 P **P** **19 48 53.8 +0.1**
comp=Z,5.9nm,0.5s,baz=307,slow=6.5,SNR=33
YKA pP **pP** **19 50 02.1 -0.1**
comp=Z,1.2nm,0.7s,baz=308,slow=6.2,SNR=1.6
VRH Novokhopyorsk 68.57 318 *e*P **P** **19 48 54.2 -0.6**
VRH *e**PP **pP** **19 50 02.4 -1.2**
VRH pmax pmax
comp=Z,80nm,0.6s
MAK Makhachkala 68.67 308 *e*P **P** **19 48 53.9 -1.6**
MAK *e**PP **pP** **19 50 01.4 -2.9**
MAK *e**SP **sP** **19 50 34.8 -2.2**
MAK *e* **19 51 29.2**
MAK *e*PPP PPP **19 53 14.1**
MAK *e*S **S** **19 57 32.6 -0.4**
MAK *e*SS **SS** **20 02 04.0 +0.4**
MAK pmax pmax
comp=Z,163nm,1.1s
MAK MLR MLR
comp=Z,664nm,15.0s
MOS Moscow 68.68 323 *e*P **P** **19 48 54.7 -0.7**
MOS *e**PP **pP** **19 50 04.0 -0.1**
MOS *e* **19 51 29.2**
MOS *e*S **S** **19 57 28.9 -3.8**
MOS *e* **19 58 20.0**
MOS *e*SS **SS** **20 02 09.6 +6.4**
MOS pmax pmax
comp=Z,181nm,1.2s
NWAO Narrogin (SRO) 68.71 199 P **P** **19 48 55.2 -0.6**
NWAO pmax pmax
comp=Z,113nm,0.8s
NWAO Narrogin (SRO) 68.71 199 P **P** **19 48 55.2 -0.6**
NWAO Narrogin (SRO) 68.71 199 P **P** **19 48 55.0 -0.8**
NWAO IAmb IAmb 19 48 56.6
comp=Z,93nm,0.8s
CAN Canberra 68.97 170 P **P** **19 48 57.2 -0.2**
CAN pmax pmax
comp=Z,146nm,1.3s
CAN Canberra 68.97 170 P **P** **19 48 57.2 -0.2**
AKT Akhty 69.17 306 *e*P **P** **19 48 59.2 +0.4**
AKT *e* **19 49 18.7**
AKT *e**PP **pP** **19 50 07.8 +0.2**
AKT *e**SP **sP** **19 50 37.3 -3.1**
AKT pmax pmax
comp=Z,67nm,0.6s
DAG Danmarks Havn 69.28 354⇓ *i*P **P** **19 48 59.4 +0.6**
comp=Z,55nm,0.9s
DAG Danmarks Havn 69.28 354⇓ *i*P **P** **19 48 59.4 +0.6**
DAG pmax pmax
comp=Z,55nm,0.9s
OBN Obninsk 69.50 323 P **P** **19 49 00.9 +0.5**
comp=Z,6.6nm,0.6s,baz=55,slow=3.9,SNR=29
OBN Obninsk 69.50 323*d* *i*P **P** **19 49 00.1 -0.3**
OBN *e* **19 49 19.5**
OBN *e**PP **pP** **19 50 07.8 -1.5**
OBN *e**SP **sP** **19 50 40.3 -2.0**
OBN *e* **19 51 37.7**
OBN *e*PPP PPP **19 53 22.1**
OBN *e*S **S** **19 57 39.8 -2.6**
OBN pmax pmax
comp=Z,161nm,1.3s
OBN Obninsk 69.50 323 P **P** **19 49 00.7 +0.3**
BIDO Bidbid 69.51 285 P **P** **19 49 03.0 +1.9**
SNR=9.3
BIDO Bidbid 69.51 285 P pP **19 50 17.0 +7.6**
SNR=5.2
SEKA Sheki 69.64 306 P **P** **19 49 00.1 -1.6**
GROC Groznyy 69.68 309 *e*P **P** **19 49 01.7 0.0**
GROC *e* **19 49 22.2**
GROC *e**PP **pP** **19 50 12.8 +2.1**
GROC *e**SP **sP** **19 50 47.2 +3.6**
GROC *e* **19 51 39.2**
GROC *e*S **S** **19 57 52.3 +7.4**
GROC pmax pmax
comp=Z,18nm,0.6s
LKRN Lenkeran, Azer 69.68 303 P **P** **19 49 02.5 +0.7**
SMDO Samad 69.79 285 P **P** **19 49 05.0 +2.1**
SNR=6.6
BANOM Banah 69.85 288 *i* P **P** **19 49 03.9 +0.8**
SNR=21
BANOM Banah 69.85 288 P **P** **19 49 05.0 +1.8**
SNR=6.2
MNGR Mingechevir, A 69.92 306 P **P** **19 49 03.9 +0.7**
SHME Shamm 69.92 288 *i* P **P** **19 49 04.3 +0.7**
SNR=30
VSR Storozhevoye 69.99 319 *e*P **P** **19 49 03.3 -0.2**
VSR *e**PP **pP** **19 50 13.1 +0.6**
VSR pmax pmax
comp=Z,70nm,0.5s
LGD Lagodekhi 70.00 307 P **P** **19 49 04.1 +0.3**
VORD Divnogorie 70.04 318 *e*P **P** **19 49 03.6 -0.2**
VORD *e**PP **pP** **19 50 13.4 +0.6**
VORD pmax pmax
comp=Z,80nm,1.4s
PUL Pulkovo 70.06 329*de*P **P** **19 49 05.5 +1.8**
PUL pmax pmax
comp=Z,110nm,0.7s
HOQ Hoqain 70.14 286 P **P** **19 49 06.2 +1.3**
SNR=13
HOQ Hoqain 70.14 286 P pP **19 50 21.0 +7.7**
SNR=5.2
MDH Madha 70.14 288 *i* P **P** **19 49 04.4 -0.5**
SNR=6.2
MSFE Esma-Masafi 70.23 288 *i* P **P** **19 49 06.0 +0.6**
SNR=11
N2IH Innhavet 70.31 340 *e*P **P** **19 49 05.8 +0.7**
UOSS Minazif 70.39 287 *i* P **P** **19 49 06.5 +0.1**
SNR=15
UOSS Minazif 70.39 287 P **P** **19 49 06.8 +0.4**
UOSS IAmb IAmb 19 49 07.9
comp=Z,27nm,0.8s
GANJ Ganja 70.49 306 P **P** **19 49 07.3 +0.5**
HATD Hatta, Dubai 70.50 287 *i* P **P** **19 49 07.7 +0.6**
SNR=21
HATD Hatta, Dubai 70.50 287 P **P** **19 49 09.0 +1.9**
SNR=8.0
HATD Hatta, Dubai 70.50 287 P pP **19 50 22.1 +6.5**
SNR=6.2
SOHO SOHO 70.51 287 *i* P **P** **19 49 07.3 +0.2**
SNR=38
STEI Steigen 70.53 340 *e*P **P** **19 49 07.0 +0.6**
GOF Gofitskoye 70.59 312⇓ *i*P **P** **19 49 07.8 +0.6**
GOF pmax pmax
comp=Z,98nm,0.6s
ASHO Ashiyiah 70.63 287 *i* P **P** **19 49 08.3 +0.5**
SNR=16
ASHO Ashiyiah 70.63 287 P **P** **19 49 09.1 +1.2**
SNR=11
ASHO Ashiyiah 70.63 287 P pP **19 50 23.0 +6.6**
SNR=7.5
BSY Bisya 70.63 285 P **P** **19 49 11.0 +3.1**
SNR=7.4
TOO Toolangi 70.79 174 P **P** **19 49 08.9 +0.5**
TOO pmax pmax
comp=Z,61nm,1.0s
TOO Toolangi 70.79 174 P **P** **19 49 08.9 +0.5**
TOO IAmb IAmb 19 49 10.6
comp=Z,61nm,0.9s
NAZ Nazwa, Dubai 70.80 288 P **P** **19 49 09.4 +0.6**
NAZ Nazwa, Dubai 70.80 288 P **P** **19 49 10.0 +1.2**
SNR=6.2
N2TV TWrnvik 70.81 340 *e*P **P** **19 49 08.8 +0.7**
FAUS Fauske 70.88 340 *e*P **P** **19 49 09.1 +0.5**
FIA1 FINESS Array S 70.89 332 P **P** **19 49 09.0 +0.3**
FINES FINESS Array B 70.89 332 P **P** **19 49 09.0 +0.4**
comp=Z,71nm,0.5s,baz=70,slow=5.2,SNR=517
FINES FINESS Array B 70.89 332 P **P** **19 49 08.5 -0.2**
ARQ Araqi 70.89 286 P **P** **19 49 11.0 +1.5**
SNR=13
ARQ Araqi 70.89 286 P pP **19 50 26.1 +8.1**
SNR=5.5
PGC Sidney 70.90 44 P **P** **19 49 10.4 +1.5**
PGC IAmb IAmb 19 49 11.6
comp=Z,26nm,0.7s
TBLG Delisi 71.05 308 P **P** **19 49 10.2 +0.1**
TBLG pmax pmax
comp=Z,49nm,1.4s
TBLG Delisi 71.05 308 P **P** **19 49 10.2 +0.1**
TBLG IAmb IAmb 19 49 11.4
comp=Z,49nm,1.4s
NBB08 Skaug oppvekst 71.07 340 *e*P **P** **19 49 10.5 +0.9**
ZEI Tsey 71.10 309 *e*P **P** **19 49 09.1 -1.5**
ZEI *e* **19 50 16.9**
ZEI pmax pmax
comp=Z,18nm,0.4s
ALNE Al Ain 71.17 287 *i* P **P** **19 49 11.6 +0.5**
SNR=13
NLWA Neilton Lookou 71.26 45 P **P** **19 49 13.2 +2.0**
KBZ Khabaz 71.31 310 P **P** **19 49 12.2 +0.7**
comp=Z,39nm,0.8s,baz=83,slow=3.8,SNR=76
KBZ Khabaz 71.31 310*d* *i*P **P** **19 49 11.9 +0.4**
KBZ pmax pmax
comp=Z,52nm,0.9s
KVAR Kislovodsk Arr 71.33 311 P **P** **19 49 13.0 +1.2**
comp=Z,19nm,0.6s,baz=270,slow=20,SNR=15
KVAR pP **pP** **19 50 20.0 -1.1**
comp=Z,23nm,1.1s,baz=90,slow=20,SNR=2.8
KIV Kislovodsk 71.34 311 *e*P **P** **19 49 12.3 +0.5**
KIV *e**PP **pP** **19 50 20.4 -0.7**
KIV *e*S **S** **19 58 05.8 +1.7**
KIV pmax pmax
comp=Z,97nm,2.8s
KIV pmax pmax
comp=Z,247nm,1.0s
KIV MLR MLR
comp=Z,453nm,18.0s
N2VA Vr_y 71.42 341 *e*P **P** **19 49 12.2 +0.5**
KZRT Kazreti 71.44 308 P **P** **19 49 13.8 +1.4**
NBB05 Inndyr 71.48 340 *e*P **P** **19 49 12.8 +0.7**
ONI Oni 71.49 309 P **P** **19 49 14.5 +1.8**
AJN Ajban 71.54 288 P **P** **19 49 14.1 +0.9**
SNR=5.7
AJN Ajban 71.54 288 P pP **19 50 28.5 +6.5**
SNR=6.5
NBB30 Finnes 71.61 340 *e*P **P** **19 49 13.4 +0.5**
D03D Eldon 71.66 45 P **P** **19 49 15.5 +2.0**
baz=299,SNR=18
D03D S **S** **19 58 10.3 +2.9**
baz=299
N2RO R_st 71.68 341 *e*P **P** **19 49 13.6 +0.3**
NAX Nakhchivan 71.74 305 P **P** **19 49 14.8 +0.5**
E03A Lebam 71.86 46 P **P** **19 49 16.5 +1.8**
E03A IAmb IAmb 19 49 16.9
comp=Z,25nm,0.7s
B05A Bryant 71.88 44 P **P** **19 49 16.3 +1.5**
baz=300,SNR=26
B05A S **S** **19 58 12.7 +2.8**
baz=300
MOR8 Moi Rana 71.95 339 *e*P **P** **19 49 14.3 -0.6**
D04E Lakebay 72.02 45 P **P** **19 49 17.8 +2.2**
baz=300
AKH Akhalkalaki 72.03 308⇑ P **P** **19 49 17.4 +1.4**
AKH Akhalkalaki 72.03 308 P **P** **19 49 17.7 +1.6**
AKH pmax pmax
comp=Z,23nm,0.8s
AKH Akhalkalaki 72.03 308 P **P** **19 49 17.7 +1.6**
AKH IAmb IAmb 19 49 18.6
comp=Z,23nm,0.8s
B06A Marblemount 72.11 43 P **P** **19 49 17.1 +1.0**
B06A IAmb IAmb 19 49 18.5
comp=Z,35nm,0.6s
KONS Konsvik 72.11 340 *e*P **P** **19 49 16.9 +1.0**
NBB40 Tonnes 72.14 340 *e*P **P** **19 49 17.0 +1.1**
F03A Seaside 72.16 47 P **P** **19 49 17.7 +1.2**
VSU Vasula 72.33 329 *e*P **P** **19 49 17.9 +0.7**
VSU Vasula 72.33 329*d* *i*P **P** **19 49 17.8 +0.6**
VSU pmax pmax
comp=Z,303nm,0.7s
F04D Rainier, OR 72.42 46 P **P** **19 49 19.5 +1.4**
baz=300
E04D Cinebar 72.45 46 P **P** **19 49 19.9 +1.7**
baz=300,SNR=9.6
D05A Enumclaw 72.48 45 P **P** **19 49 19.8 +1.5**
KARS Kars 72.68 307 P **P** **19 49 22.2 +2.3**
G03D McMinnville, O 72.69 47 P **P** **19 49 21.1 +1.4**
baz=300
C06D Leavenworth 72.75 44 P **P** **19 49 21.2 +1.2**
baz=301
LON Longmire 72.80 45 P **P** **19 49 20.9 +0.5**
LON pmax pmax
comp=Z,32nm,1.5s
LON Longmire 72.80 45 P **P** **19 49 20.9 +0.5**
F04A Amboy 72.85 46 P **P** **19 49 21.0 +0.4**
F04A IAmb IAmb 19 49 23.8
comp=Z,47nm,0.7s
I02D Swisshome 72.88 48 P **P** **19 49 22.6 +1.8**
baz=300
COR Corvallis 72.98 48 P **P** **19 49 22.0 +0.6**
COR pmax pmax
comp=Z,58nm,0.8s
COR Corvallis 72.98 48 P **P** **19 49 22.0 +0.6**
COR IAmb IAmb 19 49 25.5
comp=Z,58nm,0.8s
BATM Batumi 73.11 309⇓ P **P** **19 49 23.2 +0.9**
BATM Batumi 73.11 309 P **P** **19 49 23.1 +0.9**
KEBM Edson Butte 73.19 50 P **P** **19 49 23.0 +0.3**
LTY Liberty 73.22 44 P **P** **19 49 23.5 +0.7**
J01E Myrtle Point 73.30 49 P **P** **19 49 25.0 +1.8**
baz=300,SNR=8.4
H04D Lebanon 73.36 47 P **P** **19 49 25.3 +1.7**
baz=300,SNR=11
SOC Sochi 73.39 311 *e*P **P** **19 49 23.4 -0.4**
SOC *e**PP **pP** **19 50 34.2 +0.7**
SOC *e**SP **sP** **19 51 03.2 -2.7**
SOC *e* **19 52 17.4**
SOC *e*PPP PPP **19 53 56.9**
SOC *e*S **S** **19 58 28.3 +1.2**
SOC *e*SS **SS** **20 03 18.1 +2.4**
SOC pmax pmax
comp=Z,62nm,0.9s
I03D Drain, OR 73.40 48 P **P** **19 49 25.8 +2.0**
baz=300,SNR=30
B08A Colville Reser 73.42 43 P **P** **19 49 24.6 +0.7**
F05D White Salmon 73.45 46 P **P** **19 49 25.3 +1.2**
baz=301
KBO Bosley Butte 73.59 50 P **P** **19 49 27.1 +2.0**
KBO IAmb IAmb 19 49 27.4
comp=Z,44nm,0.7s
K02D Willamette Mer 73.70 49 P **P** **19 49 27.2 +1.5**
baz=300,SNR=14
GEVA Gevas 73.82 305 P **P** **19 49 27.1 +0.5**
GEVA IAmb IAmb 19 49 29.6
comp=Z,98nm,1.5s
NSS Namsos 73.84 339 *e*P **P** **19 49 26.1 +0.1**
G05D Wamic, OR 73.87 46 P **P** **19 49 28.0 +1.5**
baz=301,SNR=12
I04A Tendick Farm, 73.94 48 P **P** **19 49 28.3 +1.3**
baz=301,SNR=36
L02E Cave Junction 74.01 50 P **P** **19 49 29.0 +1.6**
baz=300,SNR=6.2
E07A Sunnyside 74.06 45 P **P** **19 49 28.6 +1.0**
E07A IAmb IAmb 19 49 31.2
comp=Z,71nm,1.4s
IZAR Zarasai 74.13 327 *e*P **P** **19 49 29.1 +1.4**
KRMB Red Mountain 74.14 51 P **P** **19 49 29.4 +1.1**
IDID Didziasalis 74.16 326 *e*P **P** **19 49 29.2 +1.3**
ANN Anapa 74.19 313 *e*P **P** **19 49 26.0 -2.3**
ANN *e**PP **pP** **19 50 35.6 -2.5**
ANN *e*S **S** **19 58 33.8 -2.1**
ANN pmax pmax
comp=Z,76nm,1.2s
ISAL Salakas 74.29 327 *e*P **P** **19 49 30.0 +1.4**
C09A Chrisman Ranch 74.32 43 P **P** **19 49 30.1 +1.0**
I05D Terrebonne, OR 74.32 47 P **P** **19 49 30.5 +1.3**
baz=301,SNR=12
HAWA Hanford 74.33 45 P **P** **19 49 30.3 +1.2**
HAWA IAmb IAmb 19 49 32.5
comp=Z,37nm,1.2s
D08A Wollman Farm, 74.34 44 P **P** **19 49 30.1 +0.9**
F07A Phinny Hill Vi 74.36 45 P **P** **19 49 30.8 +1.5**
F07A IAmb IAmb 19 49 32.7
comp=Z,38nm,0.7s
NACGM Naroch 74.38 326 *e* **P** **19 49 29.0 -0.2**
J04D Umpqua Nationa 74.41 48 P **P** **19 49 31.5 +1.5**
baz=301,SNR=30
JCC Jacoby Creek, 74.42 51 P **P** **19 49 31.6 +1.9**
SUMG Summit 74.43 359 *i* P **P** **19 49 31.4 +1.7**
comp=Z,149nm,1.1s
SUMG Summit 74.43 359 P **P** **19 49 31.4 +1.7**
SUMG pmax pmax
comp=Z,58nm,1.1s
SUMG Summit 74.43 359 P **P** **19 49 31.4 +1.7**
SUMG IAmb IAmb 19 49 32.9
comp=Z,58nm,1.1s
E08A Dider Farm, El 74.56 44 P **P** **19 49 31.7 +1.2**
E08A IAmb IAmb 19 49 33.2
comp=Z,32nm,0.6s
KHMM Horse Mountain 74.58 51 P **P** **19 49 32.5 +1.6**
KHMM IAmb IAmb 19 49 34.1
comp=Z,37nm,0.6s
KOPT Kop Dagi 74.69 308 P **P** **19 49 32.9 +1.2**
KOPT IAmb IAmb 19 49 34.4
comp=Z,52nm,1.4s
NEW Newport 74.72 42 P **P** **19 49 32.3 +0.9**
baz=303,SNR=9.5
NEW Newport 74.72 42 P **P** **19 49 32.3 +0.9**
NEW pmax pmax
comp=Z,12nm,0.8s
NEW Newport 74.72 42 P **P** **19 49 32.3 +0.9**
SLIT Slitere, Latvi 74.72 330 *e*P **P** **19 49 31.2 +0.1**
YBH Yreka Blue Hor 74.80 50 P **P** **19 49 33.0 +0.9**
comp=Z,18nm,0.6s,baz=19,slow=4.7,SNR=28
YBH Yreka Blue Hor 74.80 50 P **P** **19 49 33.0 +0.9**
YBH Yreka Blue Hor 74.80 50 P **P** **19 49 33.0 +0.9**
YBH IAmb IAmb 19 49 34.2
comp=Z,26nm,0.7s
L04D Klamath Falls 74.81 49 P **P** **19 49 33.6 +1.5**
baz=301,SNR=33
PINE Pine Mountain 74.85 47 P **P** **19 49 34.2 +1.8**
M02C Callahan 74.89 50 P **P** **19 49 34.3 +1.8**
baz=301,SNR=24
KMRM Mail Ridge 74.93 52 P **P** **19 49 34.4 +1.6**
KMRM IAmb IAmb 19 49 35.0
comp=Z,21nm,0.7s
J05D Fort Rock, OR 74.93 48 P **P** **19 49 34.6 +1.8**
baz=302,SNR=67
K04D Chiloquin, OR 74.95 49 P **P** **19 49 34.5 +1.5**
baz=301,SNR=8.1
E09A Wood Farm, Sta 75.08 44 P **P** **19 49 34.6 +1.2**
E09A IAmb IAmb 19 49 36.7
comp=Z,32nm,0.8s
N02D Trinity Center 75.20 51 P **P** **19 49 35.9 +1.6**
baz=301,SNR=32
G08A Pilot Rock 75.26 45 P **P** **19 49 35.5 +0.9**
KCPM Cahto Peak 75.29 52 P **P** **19 49 36.4 +1.5**
KCPM IAmb IAmb 19 49 36.9
comp=Z,46nm,0.6s
TBLU Trondheim 75.29 338 *e*P **P** **19 49 34.1 -0.2**
PABE Paberze 75.31 328 *e*P **P** **19 49 35.3 +0.8**
M04C Macdoel 75.33 50 P **P** **19 49 36.7 +1.5**
baz=302,SNR=58
K05A Summer Lake 75.44 48 P **P** **19 49 37.3 +1.5**
WDC Whiskeytown Da 75.51 51 P **P** **19 49 37.1 +1.2**
WDC pmax pmax
comp=Z,70nm,1.4s
WDC Whiskeytown Da 75.51 51 P **P** **19 49 37.1 +1.2**
WDC IAmb IAmb 19 49 38.4
comp=Z,70nm,1.4s
O02D Mt. Diablo Mer 75.56 51 P **P** **19 49 38.0 +1.6**
baz=301,SNR=34
SCO Scoresbysund 75.57 353 *i* P **P** **19 49 38.0 +2.3**
comp=Z,72nm,1.2s
SCO Scoresbysund 75.57 353 *i* P **P** **19 49 38.0 +2.3**
SCO pmax pmax
comp=Z,72nm,1.2s

SCO Scoresbysund 75.57 353 P P 19 49 37.8 +2.1
SCO IAmb IAmb 19 49 38.8
comp=Z,74nm,1.2s
I07A Izee 75.58 47 P P 19 49 37.6 +1.2
AKASG Malin Array Be 75.61 322 P P 19 49 36.3 0.0
comp=Z,24nm,0.5s,baz=52,slow=5.3,SNR=100
AKASG pP **pP 19 50 46.9 +0.6**
comp=Z,8.6nm,0.7s,baz=48,slow=6.0,SNR=2.6
AKASG Malin Array Be 75.61 322 P P 19 49 36.0 -0.3
AKBB Malin Array Si 75.61 322 P P 19 49 36.0 -0.3
AKBB pmax pmax
comp=Z,53nm,0.6s
AKBB Malin Array Si 75.61 322 P P 19 49 36.0 -0.3
MARD Mardin 75.88 305 P P 19 49 38.4 +0.1
PBUR Paburge 75.89 329 eP P 19 49 38.6 +0.8
F10A Beach Ranch, E 75.91 44 P P 19 49 39.0 +0.8
WALA Waterton Lakes 76.05 40 P P 19 49 39.9 +0.9
WALA IAmb IAmb 19 49 40.6
comp=Z,24nm,0.7s
SIM Simferopol' 76.11 315 eP P 19 49 39.2 0.0
SIM e*PP **pP 19 50 50.0 +0.6**
SIM pmax pmax
comp=Z,46nm,0.4s
O03E Paynes Creek 76.14 51 P P 19 49 40.1 +0.5
baz=302,SNR=29
MOD Modoc Plateau 76.25 49 P P 19 49 40.9 +0.6
MOD IAmb IAmb 19 49 42.9
comp=Z,32nm,0.7s
TAU Tasmania Unive 76.26 173 P P 19 49 40.9 +1.1
TAU pmax pmax
comp=Z,90nm,1.1s
TAU Tasmania Unive 76.26 173 P P 19 49 40.9 +1.1
TAU IAmb IAmb 19 49 42.1
comp=Z,90nm,1.1s
GDXM Geysers 76.27 53 P P 19 49 41.8 +1.4
GDXM IAmb IAmb 19 49 43.9
comp=Z,31nm,1.1s
NC405 NORSAR Array S 76.38 336 P P 19 49 40.9 +0.4
HFS Hagfors 76.39 335 P P 19 49 40.6 +0.1
comp=Z,56nm,0.5s,baz=101,slow=4.7,SNR=215
HFS pP **pP 19 50 51.2 +0.5**
comp=Z,19nm,1.0s,baz=94,slow=2.1,SNR=1.7
NC303 NORSAR Array S 76.41 336 P P 19 49 41.1 +0.4
BMO Blue Mountains 76.48 45 P P 19 49 42.4 +1.0
BMO pmax pmax
comp=Z,29nm,0.8s
BMO Blue Mountains 76.48 45 P P 19 49 42.4 +1.0
BMO IAmb IAmb 19 49 43.2
comp=Z,29nm,0.8s
MCCM Marconi Confer 76.56 53 P P 19 49 42.6 +0.7
MCCM IAmb IAmb 19 49 43.1
comp=Z,45nm,0.7s
DOMB Dombas 76.56 338 eP P 19 49 42.1 +0.6
NB201 NORSAR Array S 76.56 336 P P 19 49 42.0 +0.4
NB201 pP **pP 19 50 53.4 +1.6**
NC204 NORSAR Array S 76.58 337 P P 19 49 42.0 +0.4
SUW Suwalki 76.59 327 eP P 19 49 42.0 +0.3
SUW epP **pP 19 50 53.2 +1.2**
SUW Suwalki 76.59 327 P P 19 49 42.2 +0.5
SUW pmax pmax
comp=Z,63nm,0.6s
SUW Suwalki 76.59 327 P P 19 49 42.2 +0.5
J08A Circle Bar Ran 76.60 47 P P 19 49 43.6 +1.5
NB2 NORSAR Subarra 76.60 336 P P 19 49 41.9 +0.2
comp=Z,38nm,0.6s,baz=44,slow=5.9
NB2 NORSAR Subarra 76.60 336 P P 19 49 38.2 -3.5
NB2 pmax pmax
comp=Z,289nm,1.4s
NB2 NORSAR Subarra 76.60 336 P P 19 49 41.9 +0.2
baz=44,slow=5.9
NOA NORSAR Array B 76.60 336 P P 19 49 42.0 +0.2
comp=Z,28nm,0.5s,baz=54,slow=6.6,SNR=142
NOA pP **pP 19 50 52.7 +0.7**
comp=Z,19nm,1.1s,baz=43,slow=5.7,SNR=5.0
NC602 NORSAR Array S 76.71 336 P P 19 49 42.3 +0.1
NC602 IAmb IAmb 19 49 43.8
comp=Z,109nm,1.4s
ORV Oroville 76.73 51 P P 19 49 43.3 +0.5
ORV Oroville 76.73 51 P P 19 49 43.3 +0.5
ORV IAmb IAmb 19 49 43.9
comp=Z,32nm,0.6s
NBO00 NORSAR Array S 76.75 337 P P 19 49 43.0 +0.5
NAO01 NORSAR Array S 76.85 336 P P 19 49 43.4 +0.3
NAO01 IAmb IAmb 19 49 44.5
comp=Z,64nm,0.9s
NAO01 NORSAR Array S 76.85 336 eP P 19 49 43.1 0.0
MALT Malatya 76.95 307 P P 19 49 45.2 +1.0
WVOR Wild Horse Val 77.00 48 P P 19 49 45.7 +1.3
WVOR pmax pmax
comp=Z,34nm,0.7s
WVOR Wild Horse Val 77.00 48 P P 19 49 45.7 +1.3
WVOR IAmb IAmb 19 49 46.3
comp=Z,34nm,0.7s
AKN Aaknes 77.10 339 eP P 19 49 45.3 +0.9
DIKM Dikmen 77.21 311 ⇓P P 19 49 46.8 +1.3
MSO Missoula 77.31 42 P P 19 49 46.4 +0.4
baz=305,SNR=10
MSO Missoula 77.31 42 P P 19 49 46.4 +0.4
OSL Oslo 77.57 336 eP P 19 49 47.8 +0.7
BZK Bozkurt 77.82 312 ⇓P P 19 49 49.5 +0.8
SKAR Skarslia 77.82 337 eP P 19 49 49.1 +0.6
KUZ Kuaotunu 77.98 150 P P 19 49 50.9 +1.4
PAHR Pah Rah Range 78.02 50 P P 19 49 51.1 +1.0
MILM Milestii Mici 78.04 319 ⇑P P 19 49 50.3 +0.4
VCNR Virginia City 78.07 51 P P 19 49 51.6 +1.1
VCNR IAmb IAmb 19 49 53.1
comp=Z,40nm,0.6s
HYA Hoyanger 78.12 338 eP P 19 49 50.3 +0.3
FOO Floro 78.13 339 eP P 19 49 50.9 +0.8
MFID Camas Ranch 78.17 46 P P 19 49 51.9 +1.1
MFID IAmb IAmb 19 49 53.5
comp=Z,30nm,0.7s
PNTR Pine Nut 78.22 51 P P 19 49 52.6 +1.3
SAO San Andreas Ge 78.25 54 P P 19 49 51.9 +0.6
SAO pmax pmax
comp=Z,19nm,0.8s
SAO San Andreas Ge 78.25 54 P P 19 49 51.9 +0.6
CMB Columbia Colle 78.28 52 P P 19 49 52.2 +0.8
CMB pmax pmax
comp=Z,47nm,0.6s
CMB Columbia Colle 78.28 52 P P 19 49 52.2 +0.8
CMB IAmb IAmb 19 49 53.6
comp=Z,46nm,0.6s
FFC Flin Flon 78.33 31 P P 19 49 51.5 +0.2
FFC pmax pmax
comp=Z,24nm,0.7s
FFC Flin Flon 78.33 31 P P 19 49 51.5 +0.2
FFC IAmb IAmb 19 49 52.3
comp=Z,24nm,0.7s
GAZ Gaziantep 78.38 307 P P 19 49 52.9 +0.9
GAZ IAmb IAmb 19 49 54.4
comp=Z,34nm,0.8s
ILGA Ilgaz 78.51 312 P P 19 49 53.6 +0.8
ILGA IAmb IAmb 19 49 55.5
comp=Z,46nm,0.9s
YERR Yerington 78.51 51 P P 19 49 53.8 +1.0
WAKR Walker 78.64 51 P P 19 49 54.8 +1.2
WAKR IAmb IAmb 19 49 55.4
comp=Z,37nm,0.6s
TOZ Tahuroa Road 78.73 151 P P 19 49 55.0 +1.5
VASR Vaslui 78.77 319 ⇓P P 19 49 54.7 +0.9
LVV L'vov 78.81 323 ⇑iP P 19 49 54.6 +0.6
LVV e 19 51 06.9
LVV e 19 52 59.6
LVV eS **S 19 59 22.3 -3.3**
LVV e 20 04 39.9
LVV e 20 07 58.8
LVV pmax pmax
comp=Z,130nm,1.6s
EGMT Eagleton 78.89 39 P P 19 49 55.4 +0.8
baz=308,SNR=18
EGMT Eagleton 78.89 39 P P 19 49 55.4 +0.8
EGMT IAmb IAmb 19 49 57.4
comp=Z,38nm,0.9s
DLMT Dillon 78.92 43 P P 19 49 55.6 +0.7
DLMT IAmb IAmb 19 49 57.9
comp=Z,37nm,0.9s
HLID Hailey 78.92 45 P P 19 49 56.4 +1.4
baz=306,SNR=29
HLID Hailey 78.92 45 P P 19 49 56.4 +1.4
ODD1 Odda 78.95 337 eP P 19 49 58.6 +3.9
ASK Askoy 78.96 338 eP P 19 49 51.0 -3.6
PMPB Monarch Peak 78.99 54 P P 19 49 56.3 +0.9
PMPB IAmb IAmb 19 49 58.5
comp=Z,30nm,0.6s
BER Bergen 79.00 338 eP P 19 49 55.4 +0.6
TLCR 79.06 317 ⇑P P 19 49 56.0 +0.5
TLCR 79.06 317 P P 19 49 55.9 +0.5
BCYI Bear Canyon 79.08 44 P P 19 49 56.9 +1.0
BIR Birlad 79.08 319 ⇑P P 19 49 57.0 +1.5
BIR Birlad 79.08 319 P P 19 49 57.0 +1.5
BEL Belsk 79.10 326 eP P 19 49 56.5 +1.1
HIZ Hauiti 79.14 151 P P 19 49 57.2 +1.4
RYN Ryan 79.17 51 P P 19 49 57.4 +0.9
RYN IAmb IAmb 19 49 58.1
comp=Z,37nm,0.6s
VARL Varlezi 79.18 318 ⇓P P 19 49 57.2 +1.1
PRAR RASCA 79.18 320 ⇑P P 19 49 56.5 +0.4
KVN Kaiserville 79.21 50 P P 19 49 57.4 +0.7
KVN pmax pmax
comp=Z,85nm,0.5s
KVN Kaiserville 79.21 50 P P 19 49 57.4 +0.7
JURR Jurilovca 79.27 317 ⇑P P 19 49 57.9 +1.3
KARZ Kaharoa 79.28 150 P P 19 49 58.1 +1.6
BR131 Keskin Array S 79.30 311 P P 19 49 58.2 +1.2
SNR=11
BR131 Keskin Array S 79.30 311 P P 19 49 57.5 +0.4
BR131 pmax pmax
comp=Z,29nm,0.9s
BR131 Keskin Array S 79.30 311 P P 19 49 57.5 +0.4
BR131 IAmb IAmb 19 49 59.4
comp=Z,29nm,0.9s
BRTR Keskin Array B 79.30 311 P P 19 49 57.5 +0.4
comp=Z,23nm,0.7s,baz=102,slow=4.2,SNR=59
BRTR pP **pP 19 51 07.2 -0.4**
comp=Z,6.8nm,0.8s,baz=101,slow=3.9,SNR=3.8
BRTR Keskin Array B 79.30 311 P P 19 49 57.4 +0.3
GHRR 79.33 318 ⇑P P 19 49 58.5 +1.7
BOZ Bozeman (W) 79.33 42 P P 19 49 58.1 +0.9
baz=307,SNR=44
BOZ Bozeman (W) 79.33 42 P P 19 49 58.0 +0.9
BOZ pmax pmax
comp=Z,21nm,0.6s
BOZ Bozeman (W) 79.33 42 P P 19 49 58.0 +0.9
BOZ IAmb IAmb 19 49 59.5
comp=Z,20nm,0.6s
MDPB Devils Postpil 79.36 52 P P 19 49 58.4 +0.8
LHV Little Huntoon 79.40 51 P P 19 49 59.0 +1.6
OMRZ Omania 79.41 150 P P 19 49 58.5 +1.2
OMMB Old Mammoth Mi 79.42 52 P P 19 49 58.8 +0.9
OMMB IAmb IAmb 19 50 00.2
comp=Z,48nm,1.5s
NVAR Mina Array Bea 79.43 51 P P 19 49 59.0 +1.1
comp=Z,24nm,0.5s,baz=297,slow=5.3,SNR=311
NVAR Mina Array Bea 79.43 51 P P 19 49 58.2 +0.3
CFR Carcaliu 79.45 317 ⇑P P 19 49 58.0 +0.5
CFR Carcaliu 79.45 317 ⇓P PKKPbc 20 08 43.2 -0.2
CFR Carcaliu 79.45 317 P P 19 49 58.0 +0.5
TESR Tescani 79.47 319 ⇑P P 19 49 58.4 +0.8
TOPG Topolog 79.49 317 ⇑P P 19 49 58.7 +1.0
NV11 Mina Array Sit 79.52 51 P P 19 49 58.8 +0.5
NV11 IAmb IAmb 19 49 59.9
comp=Z,18nm,0.7s
MLAC Mammoth, Mammo 79.52 52 P P 19 49 59.7 +1.3
baz=304
BUR08 Bucovina Ar. S 79.56 321 P P 19 49 58.7 +0.5
BUR08 IAmb IAmb 19 50 00.2
comp=Z,22nm,0.8s
BURAR Bucovina Array 79.57 321 ⇓P P 19 49 59.6 +1.3
BURAR Bucovina Array 79.57 321 P P 19 49 59.5 +1.3
BURAR Bucovina Array 79.57 321 P P 19 49 58.2 -0.1
KWP Kalwaria Pacla 79.59 323 eP P 19 49 59.2 +0.9
KWP epP **pP 19 51 10.0 +0.9**
KWP Kalwaria Pacla 79.59 323 P P 19 49 59.1 +0.9
VRZ Vera Road 79.62 152 P P 19 49 59.8 +1.5
PAGB Antelope Grade 79.63 54 P P 19 49 59.2 +0.5
PAGB IAmb IAmb 19 50 00.5
comp=Z,44nm,0.7s
PETR Petresti 79.63 318 ⇓P P 19 50 00.0 +1.6
ODBI Odobesti 79.70 318 ⇑P P 19 50 00.4 +1.5
HAZ Te Kaha 79.71 149 P P 19 49 58.0 -0.8
TIRR Tirgusor 79.72 317 ⇑P P 19 50 00.3 +1.3
TIRR Tirgusor 79.72 317 ⇑P PKKPbc 20 08 47.3 +4.5
TIRR Tirgusor 79.72 317 P P 19 49 59.1 +0.1
TIRR pmax pmax
comp=Z,69nm,1.2s
TIRR Tirgusor 79.72 317 P P 19 49 59.1 +0.1
TIRR IAmb IAmb 19 50 00.7
comp=Z,69nm,1.2s
GKP Gorka Klasztor 79.75 328 eP P 19 49 59.9 +0.9
BR231 Keskin MP Arra 79.78 311 P P 19 49 59.8 +0.2
BR231 IAmb IAmb 19 50 01.6
comp=Z,32nm,0.7s
RATZ Rangitukua 79.81 151 P P 19 50 00.3 +0.9
VRI Vrincioaia 79.82 319 ⇑P P 19 50 00.4 +0.9
VRI Vrincioaia 79.82 319 ⇓P PKKPbc 20 08 43.1 +0.4
VRI Vrincioaia 79.82 319 P P 19 50 00.4 +0.9
RUGZ Raukumara Rang 79.84 149 P P 19 49 58.5 -1.1
URZ Urewera 79.85 150 P P 19 49 58.2 -1.3
URZ Urewera 79.85 150 P P 19 49 58.4 -1.1
HARR Harsova 79.86 317 ⇑P P 19 50 00.5 +0.7
HARR Harsova 79.86 317 P P 19 50 00.4 +0.7
PLOR Plostina 79.87 319 ⇓P P 19 50 00.5 +0.6
PLOR Plostina 79.87 319 P P 19 50 00.5 +0.6
TLBR Topalu 79.88 317 ⇑P P 19 50 00.6 +0.7
VOG Valley Oaks Go 79.89 53 P P 19 50 00.4 +0.4
baz=304
WTVZ West Tongariro 79.95 151 P P 19 50 00.6 +0.4
SMMC Simmler 80.03 54 P P 19 50 02.1 +1.2
baz=304,SNR=5.3
YHL Hebgen Lake 80.03 43 P P 19 50 02.2 +1.2
WMGZ Waiomatatini S 80.04 149 P P 19 50 00.7 +0.2
FWVZ Far West T-bar 80.05 151 P P 19 50 01.2 +0.3
MWZ Matawai 80.09 150 P P 19 50 00.7 -0.1
YHB Horse Butte 80.09 43 P P 19 50 02.5 +1.2
WHVZ Whangaehu Hut 80.09 151 P P 19 50 01.7 +0.6
RTZ Ruatahuna 80.09 150 P P 19 50 00.5 -0.4
WNVZ Wahianoa 80.13 151 P P 19 50 02.5 +1.2
PUZ Puketiti 80.18 149 P P 19 50 00.4 -1.0
OZUR 80.20 319 ⇑P P 19 50 02.8 +1.3
MTHZ Maungataniwha 80.23 150 P P 19 50 01.6 0.0
TIN Tinemaha, Big 80.25 52 P P 19 50 03.3 +1.1
baz=304
KOLS Kolonicke sedl 80.26 323 eP P 19 50 01.4 -0.4
KOLS pmax pmax
comp=Z,15nm,1.1s
KOLS Kolonicke sedl 80.26 323 eP P 19 50 01.4 -0.4
KOLS epP **pP 19 51 13.4 +0.6**
YHH Holmes Hill 80.26 42 P P 19 50 02.9 +0.7
MOVZ Moawhango 80.26 151 P P 19 50 01.6 -0.2
ICOR Ion Corvin 80.28 317 ⇑P P 19 50 03.4 +1.5
PSN Preselentsi 80.32 316 eP P 19 50 03.7 +1.5
ARCR ARCALIA 80.36 321 ⇓P P 19 50 03.8 +1.5
VES Vestal, Richgr 80.36 53 P P 19 50 02.6 +0.1
baz=304
BKZ Black Stump Fm 80.36 151 P P 19 50 01.8 -0.5
BKZ Black Stump Fm 80.36 151 P P 19 50 01.8 -0.5
BKZ IAmb IAmb 19 50 03.1
comp=Z,38nm,0.6s
ISR Istrita 80.38 318 ⇑P P 19 50 03.8 +1.2
RAHZ Arahi 80.39 150 P P 19 50 02.9 +0.5
PKM Mcpherson Peak 80.39 55 P P 19 50 04.2 +1.2
baz=304,SNR=32
YNR Norris Junctio 80.40 42 P P 19 50 04.7 +1.7
MDUB Mudurnu 80.41 312 P P 19 50 03.6 +0.7
BMR Baia Mare 80.44 321 ⇓P P 19 50 04.2 +1.5
BMR Baia Mare 80.44 321 P P 19 50 04.2 +1.5
UZH Uzhgorod 80.44 323 ciP P 19 50 03.2 +0.5
UZH e*PP **pP 19 51 14.8 +1.4**
BHHZ Black Hill Sta 80.46 151 P P 19 50 02.8 -0.1
MLR Muntele Rosu 80.48 319 P P 19 50 03.5 +0.2
comp=Z,4.9nm,0.5s,baz=336,slow=9.7,SNR=21
MLR Muntele Rosu 80.48 319 ⇓P P 19 50 04.7 +1.5
MLR Muntele Rosu 80.48 319 ⇑P PKKPbc 20 08 40.6 -0.7
MLR Muntele Rosu 80.48 319 P P 19 50 03.3 +0.1
DOPR Dopca 80.50 319 ⇓P P 19 50 04.4 +1.2
CNGZ Carnagh Statio 80.50 149 P P 19 50 03.5 +0.5
KWHZ Kaweka Forest 80.55 151 P P 19 50 03.4 +0.1
YNE Yellowstone No 80.60 42 P P 19 50 05.0 +1.0
YPP Pitchstone Pla 80.60 43 P P 19 50 06.1 +2.0
LEHL Lehliu 80.62 317 ⇑P P 19 50 05.1 +1.3
OJC Ojcow 80.63 325 eP P 19 50 04.5 +0.7
OJC epP **pP 19 51 16.0 +1.3**
OJC Ojcow 80.63 325 P P 19 50 04.2 +0.4
OJC pmax pmax
comp=Z,38nm,0.8s
OJC Ojcow 80.63 325 P P 19 50 04.2 +0.4
OJC IAmb IAmb 19 50 05.8
comp=Z,38nm,0.8s
ARHZ Aropaoanui 80.65 150 P P 19 50 04.5 +0.7
H17A Grant Village 80.65 43 P P 19 50 07.3 +2.9
baz=308,SNR=19
YMP Mirror Lake Pl 80.68 42 P P 19 50 06.3 +1.8
CRVS Cervenica-Dubn 80.69 323 eP P 19 50 05.2 +1.1
CRVS pmax pmax
comp=Z,143nm,2.1s
CRVS Cervenica-Dubn 80.69 323 eP P 19 50 05.2 +1.1
CWC Cottonwood Cre 80.69 53 P P 19 50 05.0 +0.5
baz=304
SECR 80.70 318 ⇓P P 19 50 04.5 +0.3
SBC Santa Barbara 80.71 55 P P 19 50 05.3 +0.9
baz=304
KRHZ Kereru 80.71 151 P P 19 50 04.2 +0.1
KNZ Kokohu 80.72 150 P P 19 50 03.7 -0.5
IMW Indian Meadow 80.75 43 P P 19 50 06.6 +1.7
IMW IAmb IAmb 19 50 07.3
comp=Z,22nm,0.8s
FLWY Flagg Ranch 80.78 43 P P 19 50 06.8 +1.9
FLWY IAmb IAmb 19 50 09.2
comp=Z,49nm,1.1s
SULR 80.81 318 ⇑P P 19 50 05.9 +1.1
GRAC Grapevine Rang 80.85 52 P P 19 50 06.4 +1.2
baz=305
FXWY Fox Creek 80.86 43 P P 19 50 06.2 +0.9
FXWY IAmb IAmb 19 50 08.4
comp=Z,38nm,1.3s
ISA Isabella, Lake 80.87 53 P P 19 50 05.3 -0.1
baz=304,SNR=12
ISA Isabella, Lake 80.87 53 P P 19 50 05.3 -0.1
ISA pmax pmax
comp=Z,11nm,0.7s
ISA Isabella, Lake 80.87 53 P P 19 50 05.3 -0.1
PNHZ Pukenui 80.87 151 P P 19 50 05.6 +0.6
ORH Orhaniye 80.88 313 P P 19 50 16.0 +11
NNZ Nelson 80.91 154 P P 19 50 05.0 0.0
NNZ IAmb IAmb 19 50 05.8
comp=Z,48nm,0.7s
NIE Niedzica 80.92 324 eP P 19 50 06.5 +1.1
NIE epP **pP 19 51 17.8 +1.4**
ARVC Arvin 80.93 54 P P 19 50 06.1 +0.5
baz=304
RLMT Red Lodge 80.94 41 P P 19 50 07.1 +1.3
baz=308
RLMT Red Lodge 80.94 41 P P 19 50 06.9 +1.2
RLMT IAmb IAmb 19 50 08.4
comp=Z,35nm,0.9s
HVU Hansel Valley 80.95 46 P P 19 50 07.3 +1.5
HVU pmax pmax
comp=Z,56nm,0.5s
HVU Hansel Valley 80.95 46 P P 19 50 07.3 +1.5
TPAW Teton Pass 80.99 43 P P 19 50 06.8 +0.7
TPAW IAmb IAmb 19 50 07.3
comp=Z,21nm,0.7s
BORG Borgarnes 81.00 351 P P 19 50 06.2 +0.9
comp=Z,21nm,1.0s,baz=72,slow=3.1,SNR=3.8
SCZ2 Santa Cruz Isl 81.01 55 P P 19 50 06.7 +0.6
baz=304
VOIR 81.01 319 ⇑P P 19 50 06.7 +0.8
VOIR 81.01 319 ⇑P PKKPbc 20 08 41.2 +1.1
VOIR 81.01 319 P P 19 50 06.7 +0.8
ECR Eagle Creek 81.01 44 P P 19 50 06.7 +0.5
FRB Frobisher Bay 81.03 12 P P 19 50 06.1 +0.6
comp=Z,16nm,0.5s,baz=340,slow=5.1,SNR=14
FRB pP **pP 19 51 17.0 +1.0**
comp=Z,15nm,1.0s,baz=346,slow=7.0,SNR=3.2
PRD Provadia 81.06 316 eP P 19 50 07.2 +1.1
LOHW Long Hollow 81.12 43 P P 19 50 07.8 +1.1
LOHW IAmb IAmb 19 50 10.2
comp=Z,33nm,1.4s
SNOW Snow King Moun 81.12 43 P P 19 50 07.0 +0.2
SNOW IAmb IAmb 19 50 09.0
comp=Z,19nm,0.8s
REDW Red Top Meadow 81.13 44 P P 19 50 08.0 +1.2
REDW IAmb IAmb 19 50 09.6
comp=Z,48nm,1.3s
DVHZ Dannevirke 81.19 152 P P 19 50 06.4 -0.2
R11A Troy Canyon, C 81.23 50 P P 19 50 08.4 +1.1
baz=306,SNR=119
R11A Troy Canyon, C 81.23 50 P P 19 50 08.3 +1.0
R11A IAmb IAmb 19 50 09.0
comp=Z,34nm,0.6s
MRZ Mangatainoka R 81.26 152 P P 19 50 06.8 -0.1
ARR Arges 81.28 319 ⇓P P 19 50 08.5 +1.1
OSI Osito Audit: C 81.29 54 P P 19 50 08.3 +0.8
baz=304
OSI Osito Audit: C 81.29 54 P P 19 50 08.4 +0.8
OSI IAmb IAmb 19 50 10.0
comp=Z,31nm,0.7s
TUWZ Tuamarina 81.30 154 P P 19 50 06.7 -0.4
MPMC Manual Prospec 81.30 53 P P 19 50 08.5 +0.7
baz=305,SNR=82
BGU Big Grassy Mou 81.31 47 P P 19 50 08.8 +1.1
AHID Auburn Hatcher 81.35 44 P P 19 50 08.9 +1.0
RAZG Razgrad 81.36 317 ⇓P P 19 50 08.8 +1.2
DRGR 81.41 321 ⇑P P 19 50 09.4 +1.4
SPUT South Promonto 81.43 46 P P 19 50 09.3 +1.0
HOWZ Holdsworth Sta 81.44 152 P P 19 50 08.0 +0.1
KECS Kecovo 81.45 323 eP P 19 50 09.3 +1.2
KECS pmax pmax
comp=Z,8.0nm,1.1s
KECS Kecovo 81.45 323 eP P 19 50 09.3 +1.2
DGMT Dagmar 81.47 37 P P 19 50 08.5 +0.3
baz=311
DGMT Dagmar 81.47 37 P P 19 50 08.5 +0.3
DGMT IAmb IAmb 19 50 09.9
comp=Z,21nm,0.7s
FURC Furnace Creek, 81.48 52 P P 19 50 09.5 +1.1
baz=305,SNR=43
LRMC Laurel Mtn Rad 81.50 53 P P 19 50 09.3 +0.5
baz=305,SNR=16
LANS Liptovska Anna 81.51 324 eP P 19 50 09.8 +1.4
LANS pmax pmax
comp=Z,34nm,1.7s
LANS Liptovska Anna 81.51 324 eP P 19 50 09.8 +1.4
LANS epP **pP 19 51 23.1 +3.8**
BFZ Birch Farm 81.55 152 P P 19 50 08.5 +0.1
BOLV Bolvadin 81.59 311 P P 19 50 10.0 +0.9
BOLV IAmb IAmb 19 50 11.1
comp=Z,41nm,0.7s
TPNV Topopah Spring 81.61 51 P P 19 50 10.2 +0.9
baz=305,SNR=78
TPNV Topopah Spring 81.61 51 P P 19 50 10.2 +0.9
TPNV pmax pmax
comp=Z,62nm,0.7s
TPNV Topopah Spring 81.61 51 P P 19 50 10.2 +0.9
HUMR Humele 81.62 318 ⇑P P 19 50 09.5 +0.4
EDW2 Edwards Air Fo 81.63 54 P P 19 50 10.2 +0.8
baz=305,SNR=36
OKC Ostrava-Krasne 81.68 325 eP P 19 50 09.8 +0.6
OKC Ostrava-Krasne 81.68 325 eP P 19 50 09.8 +0.6
LOT Lotru 81.70 320 ⇓P P 19 50 11.4 +1.8
COPA Copaseanca 81.73 318 ⇑P P 19 50 11.3 +1.7
DECC Green Verdugo 81.76 54 P P 19 50 10.5 +0.5
baz=305
HWUT Hardware Ranch 81.78 45 P P 19 50 11.4 +1.3
HWUT IAmb IAmb 19 50 13.6
comp=Z,56nm,0.8s
RUE Ruedersdorf 81.80 329 eP P 19 50 10.6 +0.8
comp=Z,67nm,1.0s,baz=42,slow=4.8
RUE epP **pP 19 51 24.0 +3.2**
KSP Ksiaz 81.85 327 eP P 19 50 10.9 +0.8
KSP epP **pP 19 51 21.7 +0.3**
KSP Ksiaz 81.85 327 P P 19 50 11.3 +1.2
SZH Strazhica 81.87 317 eP P 19 50 11.2 +0.9
DUG Dugway, Tooele 81.88 47 P P 19 50 12.0 +1.4
baz=307,SNR=68
DUG Dugway, Tooele 81.88 47 P P 19 50 11.9 +1.2
DUG pmax pmax
comp=Z,46nm,0.7s
DUG Dugway, Tooele 81.88 47 P P 19 50 11.9 +1.2
DUG IAmb IAmb 19 50 12.6
comp=Z,46nm,0.7s
DEV Deva 81.89 320 ⇑P P 19 50 12.3 +1.8
DEV Deva 81.89 320 P P 19 50 12.2 +1.8
MMAI Mount Meron Ar 81.91 304 P P 19 50 11.3 +0.5
comp=Z,5.4nm,0.5s,baz=40,slow=6.6,SNR=18
MMAI pP **pP 19 51 22.9 +1.1**
comp=Z,25nm,1.1s,baz=27,slow=5.6,SNR=4.7
MWC Mount Wilson 81.96 54 P P 19 50 11.7 +0.4
MWC pmax pmax

	comp=Z,24nm,0.8s						
MWC	**Mount Wilson**	**81.96**	**54**	P	**P**	**19 50 11.7**	**+0.4**
MWC				IAmb	IAmb	19 50 13.1	
	comp=Z,24nm,0.8s						
MORC	**Moravsky Berou**	**82.01**	**326**	⇓P	**P**	**19 50 11.5**	**+0.5**
MORC	**Moravsky Berou**	**82.01**	**326**	⇑P	**PKKPbc**	**20 08 34.0**	**-4.0**
MORC	**Moravsky Berou**	**82.01**	**326**	*e*P	**P**	**19 50 11.5**	**+0.5**
MORC				*e*pP	**pP**	**19 51 23.1**	**+0.8**
MORC	**Moravsky Berou**	**82.01**	**326**	P	**P**	**19 50 11.4**	**+0.5**
MORC				pmax	pmax		
	comp=Z,23nm,0.8s						
MORC	**Moravsky Berou**	**82.01**	**326**	P	**P**	**19 50 11.4**	**+0.5**
MORC				IAmb	IAmb	19 50 13.0	
	comp=Z,23nm,0.8s						
OSTC	**Ostas**	**82.08**	**327**	*e*P	**P**	**19 50 13.3**	**+2.0**
FMP	**Fort Macarthur**	**82.09**	**55**	P	**P**	**19 50 12.2**	**+0.5**
	baz=305						
PSZ	**Piszkesteto**	**82.12**	**323**	⇓P	**P**	**19 50 12.4**	**+0.8**
PSZ	**Piszkesteto**	**82.12**	**323**	P	**P**	**19 50 11.9**	**+0.3**
PSZ				pmax	pmax		
	comp=Z,31nm,1.0s						
PSZ	**Piszkesteto**	**82.12**	**323**	P	**P**	**19 50 11.9**	**+0.3**
PSZ				IAmb	IAmb	19 50 13.8	
	comp=Z,31nm,1.0s						
PRN	**Pahroc Range**	**82.12**	**50**	P	**P**	**19 50 13.0**	**+1.1**
PRN				IAmb	IAmb	19 50 15.2	
	comp=Z,39nm,1.1s						
CHVC	**Chvalec**	**82.14**	**327**	*e*P	**P**	**19 50 12.5**	**+0.9**
KRLC	**Kraliky**	**82.16**	**326**	*e*P	**P**	**19 50 12.3**	**+0.5**
KRLC				*e**PP	**pP**	**19 51 25.3**	**+2.2**
KRLC				*e*		20 00 00.4	
KRLC	**Kraliky**	**82.16**	**326**	*e*P	**P**	**19 50 12.3**	**+0.5**
KRLC				*e*pP	**pP**	**19 51 25.3**	**+2.2**
KRLC				*e*SKS	**SKSac**	**20 00 00.4**	**-2.1**
BSEG	**Bad Segeberg**	**82.16**	**332**	*e*P	**P**	**19 50 12.2**	**+0.6**
	comp=Z,43nm,1.1s,baz=42,slow=4.8						
BSEG				*e*pP	**pP**	**19 51 24.2**	**+1.5**
TCUT	**Toone Canyon**	**82.17**	**46**	P	**P**	**19 50 13.5**	**+1.2**
DPC	**Dobruska-Polom**	**82.18**	**327**	*e*P	**P**	**19 50 12.8**	**+0.9**
DPC				*e**PP	**pP**	**19 51 25.3**	**+2.1**
DPC				*e*		19 59 58.7	
DPC	**Dobruska-Polom**	**82.18**	**327**	*e*P	**P**	**19 50 12.8**	**+0.9**
DPC				*e*pP	**pP**	**19 51 25.3**	**+2.1**
DPC				*e*SKS	**SKSac**	**19 59 58.7**	**-3.9**
CIS	**Catalina Islan**	**82.18**	**55**	P	**P**	**19 50 12.6**	**+0.4**
	baz=305,SNR=5.8						
GSC	**Goldstone, Bar**	**82.19**	**53**	P	**P**	**19 50 13.0**	**+0.7**
	baz=305,SNR=26						
GSC	**Goldstone, Bar**	**82.19**	**53**	P	**P**	**19 50 12.8**	**+0.5**
GSC				pmax	pmax		
	comp=Z,30nm,0.9s						
GSC	**Goldstone, Bar**	**82.19**	**53**	P	**P**	**19 50 12.8**	**+0.5**
GSC				IAmb	IAmb	19 50 14.4	
	comp=Z,30nm,0.9s						
SHOC	**Shoshone, Teco**	**82.20**	**52**	P	**P**	**19 50 12.9**	**+0.7**
	baz=306,SNR=8.1						
UPC	**Upice**	**82.21**	**327**	*e*P	**P**	**19 50 12.8**	**+0.8**
UPC				*e*		20 00 00.4	
UPC	**Upice**	**82.21**	**327**	*e*P	**P**	**19 50 12.8**	**+0.8**
UPC				*e*SKS	**SKSac**	**20 00 00.4**	**-2.3**
CSS	**Mathiatis**	**82.21**	**307**	P	**P**	**19 50 12.1**	**-0.2**
CSS				IAmb	IAmb	19 50 14.0	
	comp=Z,56nm,1.2s						
PSUT	**Pine Spring**	**82.22**	**49**	P	**P**	**19 50 13.2**	**+0.7**
CTU	**Camp Tracy**	**82.22**	**46**	P	**P**	**19 50 13.6**	**+1.2**
BFSC	**Mount Baldy Ra**	**82.22**	**54**	P	**P**	**19 50 13.0**	**+0.4**
	baz=305						
BW06	**Boulder Array**	**82.24**	**43**	P	**P**	**19 50 13.1**	**+0.5**
	baz=309,SNR=17						
BW06	**Boulder Array**	**82.24**	**43**	P	**P**	**19 50 13.1**	**+0.5**
BW06				IAmb	IAmb	19 50 15.1	
	comp=Z,28nm,1.1s						
PD31	**Pinedale Array**	**82.24**	**43**	P	**P**	**19 50 13.1**	**+0.5**
PD31				IAmb	IAmb	19 50 15.1	
	comp=Z,26nm,1.1s						
PDAR	**Pinedale Array**	**82.24**	**43**	P	**P**	**19 50 12.8**	**+0.3**
	comp=Z,9.4nm,0.6s,baz=281,slow=3.7,SNR=119						
PDAR				pP	**pP**	**19 51 23.3**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=294,slow=2.7,SNR=0.9						
PDAR	**Pinedale Array**	**82.24**	**43**	P	**P**	**19 50 12.4**	**-0.2**
VYHS	**Vyhne**	**82.26**	**324**	*e*P	**P**	**19 50 13.2**	**+0.9**
VYHS				pmax	pmax		
	comp=Z,52nm,1.4s						
VYHS	**Vyhne**	**82.26**	**324**	*e*P	**P**	**19 50 13.2**	**+0.9**
VYHS				*e*pP	**pP**	**19 51 25.6**	**+2.3**
VLAD	**Vladila**	**82.28**	**318**	⇓P	**P**	**19 50 13.0**	**+0.6**
OXZ	**Oxford**	**82.28**	**156**	P	**P**	**19 50 12.3**	**+0.1**
OXZ				IAmb	IAmb	19 50 13.3	
	comp=Z,76nm,1.3s						
RRX	**Edison Barstow**	**82.31**	**53**	P	**P**	**19 50 13.6**	**+0.8**
	baz=305						
SCI2	**San Clemente I**	**82.33**	**56**	P	**P**	**19 50 13.3**	**+0.4**
	baz=305						
LEF	**Lefka**	**82.42**	**307**	⇑P	**P**	**19 50 13.4**	**+0.1**
JLU	**Jordanelle**	**82.46**	**46**	P	**P**	**19 50 14.8**	**+1.0**
SRE	**Strehaia**	**82.52**	**319**	⇓P	**P**	**19 50 14.6**	**+0.9**
JAVC	**Velka Javorina**	**82.58**	**325**	*e*P	**P**	**19 50 15.6**	**+1.7**
JAVC				*e*pP	**pP**	**19 51 27.0**	**+2.0**
SHPR	**Sheep Range**	**82.58**	**51**	P	**P**	**19 50 15.2**	**+0.9**
SHPR				IAmb	IAmb	19 50 16.0	
	comp=Z,53nm,1.3s						
TUQ	**Turquoise Moun**	**82.70**	**52**	P	**P**	**19 50 15.7**	**+0.8**
	baz=306,SNR=6.7						
BBRC	**Big Bear Solar**	**82.71**	**54**	P	**P**	**19 50 15.4**	**+0.2**
	baz=305						
BZS	**Buzias**	**82.75**	**321**	⇑P	**P**	**19 50 15.4**	**+0.6**
BZS	**Buzias**	**82.75**	**321**	⇓P	**PKKPbc**	**20 08 36.0**	**-0.1**
BZS	**Buzias**	**82.75**	**321**	P	**P**	**19 50 15.4**	**+0.6**
VRAC	**Vranov**	**82.78**	**326**	P	**P**	**19 50 15.6**	**+0.7**
	comp=Z,24nm,0.6s,baz=45,slow=3.9,SNR=37						
VRAC				pP	**pP**	**19 51 26.4**	**+0.4**
	comp=Z,6.4nm,1.0s,baz=73,slow=4.6,SNR=2.0						
VRAC	**Vranov**	**82.78**	**326**	⇑P	**P**	**19 50 15.7**	**+0.8**
VRAC	**Vranov**	**82.78**	**326**	*e*P	**P**	**19 50 15.7**	**+0.8**
VRAC				*e*pP	**pP**	**19 51 27.4**	**+1.4**
HEC	**Hector,Ludlow**	**82.78**	**53**	P	**P**	**19 50 16.0**	**+0.7**
	baz=306,SNR=30						
HERR	**Herculane**	**82.80**	**320**	⇓P	**P**	**19 50 15.4**	**+0.3**
HERR	**Herculane**	**82.80**	**320**	⇑P	**PKKPbc**	**20 08 35.8**	**-0.1**
PVCC	**Panska Ves**	**82.85**	**328**	*e*P	**P**	**19 50 16.3**	**+1.1**
PVCC				*e*		20 00 04.6	
PVCC	**Panska Ves**	**82.85**	**328**	*e*P	**P**	**19 50 16.3**	**+1.1**
PVCC				*e*SKS	**SKSac**	**20 00 04.6**	**-2.3**
DIM	**Dimitrovgrad**	**82.86**	**316**	*e*P	**P**	**19 50 16.4**	**+1.0**
BRG	**Berggiesshubel**	**82.88**	**328**	*i* P	**P**	**19 50 15.8**	**+0.4**
	comp=Z,28nm,0.9s						
BRG				*e*pP	**pP**	**19 51 28.9**	**+2.2**
	comp=Z,23nm,1.2s						
BRG				*e*PP	**PP**	**19 53 30.2**	**+0.4**
	comp=Z,18nm,1.1s						
BRG				S	**SKSac**	**20 00 04.0**	**-3.1**
BRG				SS	**SS**	**20 05 32.0**	**-4.9**
BRG				*e*PKKS		20 12 07.3	
	comp=Z,2.9nm,0.5s						
BRG	**Berggiesshubel**	**82.88**	**328**	*i* P	**P**	**19 50 15.8**	**+0.4**
BRG				*e**PP	**pP**	**19 51 28.9**	**+2.2**
BRG				*e*		19 53 30.2	
BRG				S	**SKSac**	**20 00 04.0**	**-3.1**
BRG				pmax	pmax		
	comp=Z,29nm,0.9s						
BRG				pmax	pmax		
	comp=Z,18nm,1.1s						
BRG	**Berggiesshubel**	**82.88**	**328**	*e*P	**P**	**19 50 15.9**	**+0.5**
	comp=Z,28nm,0.9s,baz=42,slow=4.8						
BRG				*e*pP	**pP**	**19 51 28.9**	**+2.2**
MURC	**Murrieta**	**82.91**	**54**	P	**P**	**19 50 16.4**	**+0.4**
	baz=305,SNR=6.4						
PUNG	**Punghina**	**82.91**	**319**	⇑P	**P**	**19 50 16.6**	**+0.9**
SMOL	**Smolenice**	**82.93**	**325**	*e*P	**P**	**19 50 17.6**	**+1.9**
SMOL				pmax	pmax		
	comp=Z,20nm,0.8s						
SMOL	**Smolenice**	**82.93**	**325**	*e*P	**P**	**19 50 17.6**	**+1.9**
SMOL				*e*pP	**pP**	**19 51 28.0**	**+1.2**
SRO2	**Moca**	**82.97**	**324**	*e*P	**P**	**19 50 15.8**	**-0.1**
SRO2				pmax	pmax		
	comp=Z,16nm,1.1s						
SRO2	**Moca**	**82.97**	**324**	*e*P	**P**	**19 50 15.8**	**-0.1**
SRO2				*e*pP	**pP**	**19 51 29.7**	**+2.6**
CLL	**Collm**	**82.98**	**329**	⇓*i*P	**P**	**19 50 16.1**	**+0.2**
	comp=Z,68nm,1.0s						
CLL				*i* pP	**pP**	**19 51 29.0**	**+1.8**
	comp=Z,38nm,1.1s						
CLL				*e*sP	**sP**	**19 51 58.0**	**-1.4**
CLL				*e*		19 53 03.0	
CLL				*e*PP	**PP**	**19 53 30.0**	**-0.6**
	comp=Z,44nm,1.5s						
CLL				*e*S	**SKSac**	**20 00 07.0**	**-0.7**
CLL				*e*		20 00 54.0	
CLL				*e*sS	**sS**	**20 02 12.0**	**-2.8**
CLL				*e*SS	**SS**	**20 05 42.0**	**+3.7**
CLL				*e*SSS	SSS	20 09 06.0	
CLL				*e*SSSS		20 12 06.0	
CLL	**Collm**	**82.98**	**329**	⇓*i*P	**P**	**19 50 16.1**	**+0.2**
CLL				*i* *PP	**pP**	**19 51 29.0**	**+1.8**
CLL				*e*S	**SKSac**	**20 00 07.0**	**-0.7**
CLL				pmax	pmax		
	comp=Z,68nm,1.0s						
CLL	**Collm**	**82.98**	**329**	*e*P	**P**	**19 50 16.1**	**+0.2**
	comp=Z,68nm,1.0s,baz=42,slow=4.8						
CLL				*e*pP	**pP**	**19 51 29.2**	**+1.9**
CLL	**Collm**	**82.98**	**329**	P	**P**	**19 50 15.5**	**-0.4**
CLL				IAmb	IAmb	19 50 17.4	
	comp=Z,45nm,0.8s						
KRUC	**Moravsky**	**83.04**	**326**	*e*P	**P**	**19 50 16.9**	**+0.6**
KRUC				*e*pP	**pP**	**19 51 28.8**	**+1.4**
MODS	**Modra-Piesok**	**83.10**	**325**	*e*P	**P**	**19 50 17.0**	**+0.4**
MODS				pmax	pmax		
	comp=Z,60nm,1.5s						
MODS	**Modra-Piesok**	**83.10**	**325**	*e*P	**P**	**19 50 17.0**	**+0.4**
MODS				*e*pP	**pP**	**19 51 30.0**	**+2.2**
FBE	**Freiberg**	**83.11**	**328**	*e*P	**P**	**19 50 17.4**	**+0.8**
	comp=Z,76nm,1.1s,baz=42,slow=4.8						
CCUT	**Cedar City**	**83.12**	**49**	P	**P**	**19 50 18.2**	**+1.0**
GOPC	**GO Pecny, Ondr**	**83.19**	**327**	*e*P	**P**	**19 50 17.8**	**+0.8**
GOPC	**GO Pecny, Ondr**	**83.19**	**327**	*e*P	**P**	**19 50 17.8**	**+0.8**
PRA	**Prague**	**83.24**	**327**	*e*P	**P**	**19 50 18.3**	**+1.1**
PRA	**Prague**	**83.24**	**327**	*e*P	**P**	**19 50 18.3**	**+1.1**
MDVR	**Moldovita**	**83.25**	**320**	⇑P	**P**	**19 50 17.9**	**+0.5**
MDVR	**Moldovita**	**83.25**	**320**	⇓P	**PKKPbc**	**20 08 33.8**	**-1.2**
PRU	**Pruhonice**	**83.25**	**327**	*e*P	**P**	**19 50 17.8**	**+0.5**
PRU				*e**PP	**pP**	**19 51 31.1**	**+2.5**
PRU				*e*		20 00 08.3	
PRU	**Pruhonice**	**83.25**	**327**	*e*P	**P**	**19 50 17.8**	**+0.5**
PRU				*e*pP	**pP**	**19 51 31.1**	**+2.5**
PRU				*e*SKS	**SKSac**	**20 00 08.3**	**-1.2**
GMRC	**Granite Mounta**	**83.25**	**53**	P	**P**	**19 50 18.5**	**+0.7**
	baz=306,SNR=33						
SZCU	**Shurtz Canyon**	**83.26**	**49**	P	**P**	**19 50 18.6**	**+0.7**
ALN	**Alexandroupoli**	**83.28**	**315**	P	**P**	**19 50 17.7**	**+0.1**
ALN				pmax	pmax		
	comp=Z,18nm,0.9s						
ALN	**Alexandroupoli**	**83.28**	**315**	P	**P**	**19 50 17.7**	**+0.1**
MSU	**Marysvale**	**83.28**	**48**	P	**P**	**19 50 19.7**	**+1.7**
MSU	**Marysvale**	**83.28**	**48**	P	**P**	**19 50 19.7**	**+1.7**
TREC	**Trest**	**83.31**	**326**	*e*P	**P**	**19 50 18.3**	**+0.7**
TREC	**Trest**	**83.31**	**326**	*e*P	**P**	**19 50 18.3**	**+0.7**
NRDL	**Niedersach Rie**	**83.33**	**331**	*e*P	**P**	**19 50 18.0**	**+0.5**
	comp=Z,25nm,1.1s,baz=42,slow=4.8						
NRDL				*e*pP	**pP**	**19 51 29.4**	**+0.6**
NRDL				*e*PP	**PP**	**19 53 34.3**	**+1.1**
ASSE	**Asse, Remlinge**	**83.36**	**330**	*e*P	**P**	**19 50 18.1**	**+0.4**
	comp=Z,28nm,1.1s,baz=42,slow=4.8						
ASSE				*e*pP	**pP**	**19 51 29.8**	**+0.9**
109C	**Camp Elliot, M**	**83.38**	**55**	P	**P**	**19 50 18.7**	**+0.4**
	baz=305						
109C	**Camp Elliot, M**	**83.38**	**55**	P	**P**	**19 50 18.1**	**-0.1**
109C				IAmb	IAmb	19 50 20.9	
	comp=Z,33nm,0.9s						
PFO	**Pinyon Flats O**	**83.40**	**54**	P	**P**	**19 50 19.1**	**+0.6**
	baz=306,SNR=40						
PFO	**Pinyon Flats O**	**83.40**	**54***c*	*i*P	**P**	**19 50 18.9**	**+0.4**
PFO				pmax	pmax		
	comp=Z,156nm,1.6s						
PFO	**Pinyon Flats O**	**83.40**	**54**	P	**P**	**19 50 18.4**	**-0.1**
PFO				IAmb	IAmb	19 50 21.0	
	comp=Z,45nm,0.9s						
TMUT	**Trail Mountain**	**83.40**	**47**	P	**P**	**19 50 19.7**	**+1.0**
ELL	**Elmali**	**83.42**	**310**	P	**P**	**19 50 18.8**	**+0.2**
ELL				pmax	pmax		
	comp=Z,160nm,0.5s						
ELL	**Elmali**	**83.42**	**310**	P	**P**	**19 50 18.8**	**+0.2**
BELC	**Belle Mtn. Jos**	**83.49**	**54**	P	**P**	**19 50 19.3**	**+0.3**
	baz=306,SNR=40						
LCMT	**Little Creek M**	**83.52**	**50**	P	**P**	**19 50 20.2**	**+1.1**
RZN	**Rozhen**	**83.56**	**316**	*e*P	**P**	**19 50 20.4**	**+1.1**
MTPU	**Mount Pierson**	**83.56**	**48**	P	**P**	**19 50 20.9**	**+1.3**
P17A	**Butcher Ranch,**	**83.58**	**47**	P	**P**	**19 50 20.7**	**+1.2**
NEUB	**Neuenburg**	**83.58**	**329**	*e*P	**P**	**19 50 19.3**	**+0.4**
	comp=Z,74nm,1.1s,baz=42,slow=4.8						
RDMU	**Red Mountain**	**83.60**	**45**	P	**P**	**19 50 20.7**	**+1.1**
CLZ	**Clausthal**	**83.70**	**330**	*e*P	**P**	**19 50 20.2**	**+0.6**
	comp=Z,62nm,1.0s,baz=42,slow=4.8						
CLZ				*e*pP	**pP**	**19 51 32.4**	**+1.4**
CLZ				*e*PP	**PP**	**19 53 37.7**	**+1.2**
KNB	**Kanab**	**83.78**	**50**	P	**P**	**19 50 21.8**	**+1.3**
KNB				pmax	pmax		
	comp=Z,64nm,0.7s						
KNB	**Kanab**	**83.78**	**50**	P	**P**	**19 50 21.8**	**+1.3**
VTS	**Vitosha**	**83.81**	**318**	*e*P	**P**	**19 50 21.0**	**+0.5**
MONP2	**Monument Peak**	**83.84**	**55**	P	**P**	**19 50 21.4**	**+0.5**
	baz=306,SNR=22						
PKCU	**Pink Cliffs**	**83.85**	**49**	P	**P**	**19 50 22.7**	**+1.7**
TANN	**Tannenbergstha**	**83.87**	**328**	*e*P	**P**	**19 50 20.8**	**+0.3**
	comp=Z,48nm,1.4s,baz=42,slow=4.8						
TANN				*e*PP	**PP**	**19 53 38.7**	**+0.9**
MORH	**Mrgy, Hungar**	**83.90**	**323**	*e*P	**P**	**19 50 20.7**	**+0.1**
WERD	**Werda**	**83.91**	**329**	*e*P	**P**	**19 50 20.9**	**+0.2**
	comp=Z,19nm,1.3s,baz=42,slow=4.8						
WERD				*e*PP	**PP**	**19 53 39.0**	**+0.8**
AKAS	**Kas**	**83.92**	**310**	P	**P**	**19 50 20.8**	**-0.4**
AKAS				IAmb	IAmb	19 50 22.1	
	comp=Z,29nm,0.9s						
SOP	**Sopron**	**83.92**	**325**	P	**P**	**19 50 22.5**	**+1.8**
SRU	**San Rafael Swe**	**83.94**	**47**	P	**P**	**19 50 22.2**	**+1.0**
SRU				pmax	pmax		
	comp=Z,178nm,0.5s						
SRU	**San Rafael Swe**	**83.94**	**47**	P	**P**	**19 50 22.2**	**+1.0**
PLN	**Plauen**	**83.95**	**329**	*e*P	**P**	**19 50 21.2**	**+0.4**
	comp=Z,29nm,1.4s,baz=42,slow=4.8						
PLN				*e*PP	**PP**	**19 53 39.6**	**+1.1**
GUNZ	**Gunzen**	**83.96**	**329**	*e*P	**P**	**19 50 21.4**	**+0.5**
	comp=Z,37nm,1.2s,baz=42,slow=4.8						
GUNZ				*e*pP	**pP**	**19 51 34.0**	**+1.6**
GUNZ				*e*PP	**PP**	**19 53 39.2**	**+0.5**
IRM	**Iron Mountain**	**83.97**	**53**	P	**P**	**19 50 22.0**	**+0.8**
	baz=306,SNR=20						
WERN	**Wernitzgruen**	**84.00**	**328**	*e*P	**P**	**19 50 21.7**	**+0.6**
	comp=Z,47nm,1.3s,baz=42,slow=4.8						
WERN				*e*pP	**pP**	**19 51 34.4**	**+1.7**
WERN				*e*PP	**PP**	**19 53 40.1**	**+1.2**
NKC	**Novy Kostel**	**84.01**	**328**	*e*P	**P**	**19 50 22.2**	**+1.1**
NKC				*e*		20 00 11.7	
NKC	**Novy Kostel**	**84.01**	**328**	*e*P	**P**	**19 50 22.2**	**+1.1**
NKC				*e*SKS	**SKSac**	**20 00 11.7**	**-2.8**
FRGS	**Fruska Gora**	**84.01**	**321**	*e*P	**P**	**19 50 20.9**	**-0.3**
CBX	**Cerro Bola**	**84.01**	**55**	P	**P**	**19 50 22.1**	**+0.4**
K22A	**Casper**	**84.04**	**42**	P	**P**	**19 50 22.1**	**+0.4**
	baz=310,SNR=17						
K22A	**Casper**	**84.04**	**42**	P	**P**	**19 50 22.6**	**+1.0**
K22A				IAmb	IAmb	19 50 23.6	
	comp=Z,28nm,0.6s						
BC3	**Big Chuckawall**	**84.06**	**54**	P	**P**	**19 50 22.5**	**+0.6**
	baz=306,SNR=26						
MOX	**Moxa**	**84.07**	**329**	*e*P	**P**	**19 50 21.8**	**+0.4**
	comp=Z,41nm,1.5s,baz=42,slow=4.8						
MOX				*e*pP	**pP**	**19 51 34.3**	**+1.3**
MOX				*e*PP	**PP**	**19 53 38.9**	**-0.5**
CONA	**Conrad Observa**	**84.09**	**325**	*i* PcP	**P**	**19 50 22.5**	**+0.8**
	comp=Z,15nm,0.7s,SNR=11						
CONA				*e*pP	**pP**	**19 51 36.2**	**+3.2**
	comp=Z,34nm,1.6s,SNR=8.2						
GTTG	**Gottingen**	**84.09**	**330**	*e*P	**P**	**19 50 21.9**	**+0.4**
	comp=Z,45nm,1.0s,baz=42,slow=4.8						
GTTG				*e*pP	**pP**	**19 51 35.0**	**+2.1**
GTTG				*e*PP	**PP**	**19 53 40.3**	**+0.7**
ULM	**Lac du Bonnet**	**84.13**	**31**	P	**P**	**19 50 21.6**	**-0.1**
	comp=Z,10nm,0.4s,baz=328,slow=4.9,SNR=9.8						
ULM	**Lac du Bonnet**	**84.13**	**31**	P	**P**	**19 50 21.6**	**-0.1**
ULM				IAmb	IAmb	19 50 23.7	
	comp=Z,22nm,0.9s						
MDND	**Maddock**	**84.14**	**35**	P	**P**	**19 50 22.6**	**+0.8**
	baz=315						
MDND	**Maddock**	**84.14**	**35**	P	**P**	**19 50 22.9**	**+1.1**
MMB	**Musomiste**	**84.19**	**317**	*e*P	**P**	**19 50 23.3**	**+1.0**
IKP	**In-Ko-Pah, Jac**	**84.20**	**55**	P	**P**	**19 50 23.2**	**+0.7**
	baz=306,SNR=13						
SWSC	**Sam W. Stewart**	**84.24**	**54**	P	**P**	**19 50 22.9**	**+0.4**
	baz=306,SNR=6.8						
W13A	**Hualapai Mount**	**84.24**	**52**	P	**P**	**19 50 23.5**	**+0.6**
W13A				IAmb	IAmb	19 50 24.1	
	comp=Z,18nm,0.7s						
RMX	**La Rumorosa**	**84.25**	**55**	P	**P**	**19 50 24.0**	**+1.1**
RMX				IAmb	IAmb	19 50 25.8	
	comp=Z,28nm,1.0s						
RWWY	**Rawlins**	**84.27**	**43**	P	**P**	**19 50 23.0**	**0.0**
RWWY				IAmb	IAmb	19 50 24.3	
	comp=Z,37nm,0.8s						
KHC	**Kasperske Hory**	**84.30**	**327***c*	*e*P	**P**	**19 50 23.3**	**+0.7**
KHC				pmax	pmax		
	comp=Z,39nm,0.8s						
KHC	**Kasperske Hory**	**84.30**	**327**	*e*P	**P**	**19 50 22.7**	**+0.1**
KHC				*e*pP	**pP**	**19 51 34.0**	**0.0**
KHC				*e*SKS	**SKSac**	**20 00 15.5**	**-0.9**
KHC	**Kasperske Hory**	**84.30**	**327**	P	**P**	**19 50 22.5**	**-0.1**
MANZ	**Manzenberg**	**84.34**	**328**	*e*P	**P**	**19 50 23.3**	**+0.5**
	comp=Z,31nm,1.6s,baz=42,slow=4.8						
MANZ				*e*pP	**pP**	**19 51 35.8**	**+1.6**
MANZ				*e*PP	**PP**	**19 53 42.7**	**+1.0**
LEWI	**Lewis, Hebride**	**84.34**	**342**	*e*P	**P**	**19 50 23.7**	**+1.1**
LEWI				IAmb	IAmb	19 50 24.9	
	comp=Z,74nm,1.2s						
IBBN	**Ibbenburen**	**84.41**	**332**	*e*P	**P**	**19 50 23.2**	**+0.2**
	comp=Z,63nm,0.8s,baz=42,slow=4.8						
IBBN				*e*pP	**pP**	**19 51 36.3**	**+1.8**
IBBN				*e*PP	**PP**	**19 53 42.2**	**+0.2**
RSSD	**Black Hills**	**84.44**	**40**	P	**P**	**19 50 23.9**	**+0.2**
	baz=312						
RSSD	**Black Hills**	**84.44**	**40**	P	**P**	**19 50 23.6**	**-0.1**
RSSD				pmax	pmax		
	comp=Z,21nm,0.7s						
RSSD	**Black Hills**	**84.44**	**40**	P	**P**	**19 50 23.6**	**-0.1**
RSSD				IAmb	IAmb	19 50 26.1	
	comp=Z,21nm,0.7s						
GEC2	**GERESS Array S**	**84.45**	**327**	*e*P	**P**	**19 50 23.5**	**+0.1**
	comp=Z,11nm,0.8s,baz=42,slow=4.8						
GEC2				*e*pP	**pP**	**19 51 35.5**	**+0.6**
GEC2				*e*PP	**PP**	**19 53 43.8**	**+1.1**
GEC2	**GERESS Array S**	**84.45**	**327**	P	**P**	**19 50 23.0**	**-0.5**
GERES	**GERESS Array B**	**84.45**	**327**	P	**P**	**19 50 23.6**	**+0.1**
	comp=Z,7.4nm,0.6s,baz=40,slow=5.7,SNR=80						
GERES				pP	**pP**	**19 51 34.7**	**-0.2**
	comp=Z,4.6nm,1.0s,baz=45,slow=4.3,SNR=2.7						
GERES				PP	**PP**	**19 53 41.5**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=47,slow=8.7,SNR=3.1						
GERES				PKKPbc	**PKKPbc**	**20 08 31.7**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=172,slow=2.7,SNR=4.0						
GERES	**GERESS Array B**	**84.45**	**327**	P	**P**	**19 50 22.4**	**-1.1**
GERES					**PP**	**19 53 41.4**	**-1.3**
ROTZ	**Rotzenmuhle**	**84.45**	**328**	*e*P	**P**	**19 50 24.0**	**+0.7**
	comp=Z,58nm,1.6s,baz=42,slow=4.8						
ROTZ				*e*pP	**pP**	**19 51 36.8**	**+2.0**
ROTZ				*e*PP	**PP**	**19 53 43.3**	**+0.7**
U15A	**North Rim**	**84.48**	**50**	P	**P**	**19 50 25.0**	**+0.9**
KAC	**Achnashellach**	**84.49**	**341**	*e*P	**P**	**19 50 24.1**	**+0.8**
PDMCI	**Parker Dam,Lak**	**84.55**	**52**	P	**P**	**19 50 24.8**	**+0.7**
	baz=307,SNR=15						
WET	**Wettzell**	**84.61**	**327**	P	**P**	**19 50 25.5**	**+1.3**
WET	**Wettzell**	**84.61**	**327**	*e*P	**P**	**19 50 24.3**	**+0.1**
	comp=Z,11nm,1.2s,baz=42,slow=4.8						
WET				*e*pP	**pP**	**19 51 37.8**	**+2.2**
DIVS	**Divibare**	**84.62**	**320**	*e*P	**P**	**19 50 23.8**	**-0.6**
DIVS	**Divibare**	**84.62**	**320**	P	**P**	**19 50 24.2**	**-0.2**
UBBA	**Unterbreizbach**	**84.62**	**330**	*e*P	**P**	**19 50 24.2**	**+0.2**
	comp=Z,12nm,1.0s,baz=42,slow=4.8						
UBBA				*e*pP	**pP**	**19 51 37.2**	**+1.6**
UBBA				*e*PP	**PP**	**19 53 43.5**	**-0.3**
O20A	**White River Ci**	**84.67**	**45**	P	**P**	**19 50 25.7**	**+0.8**
	baz=310,SNR=18						
O20A	**White River Ci**	**84.67**	**45**	P	**P**	**19 50 25.4**	**+0.5**
O20A				IAmb	IAmb	19 50 27.6	
	comp=Z,35nm,0.8s						
ESJX	**Sierra Juarez**	**84.69**	**55**	P	**P**	**19 50 25.7**	**+0.6**
ESJX				IAmb	IAmb	19 50 26.4	
	comp=Z,22nm,0.6s						
KPL	**Plockton**	**84.72**	**341**	*e*P	**P**	**19 50 25.4**	**+0.9**
ARSA	**Arzberg**	**84.73**	**325**	*e*PcP	**P**	**19 50 25.2**	**+0.4**
	comp=Z,4.6nm,0.5s,SNR=5.5						
ARSA				*i* pP	**pP**	**19 51 39.0**	**+2.6**
	comp=Z,18nm,1.6s,SNR=5.1						
GLA	**Glamis**	**84.83**	**54**	P	**P**	**19 50 26.5**	**+0.9**
	baz=307,SNR=15						
GLA	**Glamis**	**84.83**	**54**	P	**P**	**19 50 26.4**	**+0.8**
GLA				pmax	pmax		
	comp=Z,37nm,0.6s						
GLA	**Glamis**	**84.83**	**54**	P	**P**	**19 50 26.4**	**+0.8**
GLA				IAmb	IAmb	19 50 27.0	
	comp=Z,37nm,0.6s						
MOA	**Molln**	**84.90**	**326**	*e*PcP	**P**	**19 50 26.0**	**+0.3**
	comp=Z,3.6nm,0.7s						
MOA				*i* pP	**pP**	**19 51 38.9**	**+1.7**
	comp=Z,24nm,1.3s,SNR=7.7						
GRA1	**Grafenberg Arr**	**84.94**	**329**	P	**P**	**19 50 26.6**	**+0.8**
GRA1				IAmb	IAmb	19 50 27.9	
	comp=Z,36nm,1.2s						
GRA1				pP	**pP**	**19 51 38.6**	**+1.3**
GRF	**Grafenberg Arr**	**84.94**	**329**	P	**P**	**19 50 27.5**	**+1.7**
GRF	**Grafenberg Arr**	**84.94**	**329**	*e*P	**P**	**19 50 26.1**	**+0.3**
	comp=Z,40nm,1.2s,baz=42,slow=4.8						
GRF				*e*pP	**pP**	**19 51 38.5**	**+1.2**
STIP	**Stip**	**85.01**	**317**	*i* P	**P**	**19 50 26.4**	**+0.2**
VAY	**Valandovo**	**85.03**	**317**	*i* P	**P**	**19 50 27.5**	**+1.1**
INVG	**Invergeldie, C**	**85.06**	**340**	*e*P	**P**	**19 50 26.5**	**+0.3**
INVG				IAmb	IAmb	19 50 27.6	
	comp=Z,28nm,0.5s						
ESY	**Stoneypath**	**85.08**	**339**	*e*P	**P**	**19 50 26.8**	**+0.5**
BBLS	**Lazići**	**85.09**	**320**	*e*P	**P**	**19 50 27.0**	**+0.3**
PV21	**Cone Mtn., Par**	**85.22**	**46**	P	**P**	**19 50 28.6**	**+0.8**
PMOR	**Pomariorio Ree**	**85.23**	**111**	*e*P	**P**	**19 50 28.0**	**+0.4**
	comp=Z,120nm,1.3s						
SKO	**Skopje**	**85.24**	**318**	*i* P	**P**	**19 50 29.3**	**+1.8**
BUG	**Bochum--Univer**	**85.27**	**332**	*e*P	**P**	**19 50 27.1**	**-0.2**
	comp=Z,26nm,0.9s,baz=42,slow=4.8						
BUG				*e*pP	**pP**	**19 51 40.7**	**+1.7**
BUG				*e*PP	**PP**	**19 53 49.8**	**+0.8**
PV23	**Carpenter Ridg**	**85.27**	**47**	P	**P**	**19 50 28.9**	**+0.9**
GROS	**Grobnik**	**85.30**	**324**	*e*P	**P**	**19 50 27.4**	**-0.3**
GROS				*e*pP	**pP**	**19 51 41.2**	**+1.8**
PV10	**Paradox Valley**	**85.30**	**47**	P	**P**	**19 50 29.4**	**+1.3**
PV14	**Lion Creek, Pa**	**85.31**	**47**	P	**P**	**19 50 29.3**	**+1.2**
PV22	**Blue Mesa, Par**	**85.35**	**46**	P	**P**	**19 50 29.2**	**+0.9**
PV22				IAmb	IAmb	19 50 31.4	
	comp=Z,33nm,0.7s						
EAB	**Aberfoyle**	**85.36**	**340**	*e*P	**P**	**19 50 28.3**	**+0.7**
PERS	**Pernice**	**85.36**	**325**	*i* P	**P**	**19 50 28.2**	**+0.2**
PERS				*e*PP	**PP**	**19 53 53.1**	**+3.0**
PV20	**West Nyswonger**	**85.37**	**47**	P	**P**	**19 50 29.0**	**+0.7**
PV04	**Paradox Valley**	**85.37**	**47**	P	**P**	**19 50 29.4**	**+1.1**
SOKA	**Soboth**	**85.37**	**325**	*e*P	**P**	**19 50 28.0**	**0.0**
	comp=Z,9.0nm,0.6s,SNR=7.9						
SOKA				*e*pP	**pP**	**19 51 39.0**	**-0.7**
	comp=Z,37nm,1.1s,SNR=11						
PV19	**Morning Glory**	**85.38**	**47**	P	**P**	**19 50 29.3**	**+0.8**
PV17	**East Wray Mesa**	**85.41**	**47**	P	**P**	**19 50 29.6**	**+1.0**
PV16	**Nyswonger Mesa**	**85.42**	**47**	P	**P**	**19 50 29.6**	**+1.0**
PV11	**David Mesa, Pa**	**85.45**	**47**	P	**P**	**19 50 29.7**	**+1.0**
PV18	**Skein Mesa, Pa**	**85.46**	**47**	P	**P**	**19 50 29.8**	**+1.0**
PLE	**Pljevlja**	**85.46**	**320**	P	**P**	**19 50 29.9**	**+1.3**
PV12	**Saucer Basin,**	**85.48**	**47**	P	**P**	**19 50 29.9**	**+1.0**
PV03	**Paradox Valley**	**85.49**	**47**	P	**P**	**19 50 29.8**	**+0.7**
PV07	**Paradox Valley**	**85.50**	**46**	P	**P**	**19 50 29.9**	**+0.8**
PV07				IAmb	IAmb	19 50 31.4	
	comp=Z,44nm,1.2s						
N23A	**Red Feather La**	**85.51**	**43**	P	**P**	**19 50 30.6**	**+1.5**
	baz=311,SNR=21						
N23A	**Red Feather La**	**85.51**	**43**	P	**P**	**19 50 30.3**	**+1.1**
N23A				IAmb	IAmb	19 50 31.9	
	comp=Z,64nm,1.1s						
Y14A	**Wickenburg**	**85.52**	**52**	P	**P**	**19 50 29.5**	**+0.5**
Y14A				IAmb	IAmb	19 50 31.6	
	comp=Z,33nm,1.1s						
PHWY	**Pilot Hill**	**85.52**	**43**	P	**P**	**19 50 29.8**	**+0.6**
PHWY				IAmb	IAmb	19 50 32.0	
	comp=Z,36nm,1.1s						
GOLS	**Golise**	**85.56**	**324**	*i* P	**P**	**19 50 28.9**	**0.0**
GOLS				*e*SKSac	**SKSac**	**20 00 19.9**	**-4.5**
AGMN	**Agassiz Nation**	**85.56**	**33**	P	**P**	**19 50 28.7**	**-0.2**
	baz=317,SNR=13						
AGMN	**Agassiz Nation**	**85.56**	**33**	P	**P**	**19 50 28.7**	**-0.2**
AGMN				IAmb	IAmb	19 50 29.2	
	comp=Z,16nm,0.7s						
PV13	**Radium Mtn., P**	**85.57**	**47**	P	**P**	**19 50 30.3**	**+0.9**
VAH	**Vaihoa**	**85.57**	**111**	*e*P	**P**	**19 50 29.4**	**+0.1**

comp=Z,73nm,1.3s
SPX San Pedro Mart 85.59 56 P **P** **19 50 30.0 +0.3**
LAWE Loch Awe, Argy 85.59 341 *e*P **P** **19 50 29.4 +0.6**
LAWE IAmb IAmb 19 50 30.3
comp=Z,78nm,1.4s
PV02 Paradox Valley 85.59 47 P **P** **19 50 30.3 +0.8**
PV02 IAmb IAmb 19 50 32.6
comp=Z,55nm,1.0s
WUAZ Wupatki 85.62 50 P **P** **19 50 30.6 +1.0**
baz=308,SNR=20
WUAZ Wupatki 85.62 50 P **P** **19 50 30.3 +0.7**
WUAZ IAmb IAmb 19 50 32.6
comp=Z,42nm,1.1s
BLY Banja Luka 85.65 322 *e*P **P** **19 50 29.2 -0.2**
PV15 Paradox Valley 85.66 46 P **P** **19 50 30.9 +1.0**
PV15 IAmb IAmb 19 50 32.3
comp=Z,31nm,0.7s
RJOB Jochberg 85.67 326 *e*P **P** **19 50 28.6 -0.8**
comp=Z,16nm,1.5s,baz=42,slow=4.8
113A Mohawk Valley, 85.72 53 P **P** **19 50 30.1 +0.2**
PGBU Glenifferbraes 85.72 340 *e*P **P** **19 50 30.2 +0.8**
PGBU IAmb IAmb 19 50 31.7
comp=Z,79nm,1.2s
TNS Taunus Mts 85.72 330 *e*P **P** **19 50 29.9 +0.2**
comp=Z,26nm,1.6s,baz=42,slow=4.8
TNS *e*pP **pP** **19 51 43.0 +1.7**
TNS *e*PP **PP** **19 53 54.0 +1.2**
PV01 Paradox Valley 85.74 47 P **P** **19 50 31.2 +1.0**
EKA Eskdalemuir Ar 85.74 339 P **P** **19 50 29.8 +0.2**
comp=Z,6.0nm,0.5s,baz=37,slow=4.6,SNR=52
EKA pP **pP** **19 51 41.7 +0.6**
comp=Z,4.3nm,0.8s,baz=27,slow=5.6,SNR=4.0
EKA PP **PP** **19 53 51.0 -1.7**
comp=Z,8.4nm,0.9s,baz=31,slow=7.3,SNR=4.7
CRES Cresnjev 85.77 324 *e*P **P** **19 50 29.2 -0.7**
LIT Litokhoron 85.87 316 P **P** **19 50 29.9 -0.7**
LIT pmax pmax
comp=Z,20nm,0.6s
LIT Litokhoron 85.87 316 P **P** **19 50 29.9 -0.7**
LIT IAmb IAmb 19 50 31.0
comp=Z,20nm,0.6s
MGRS Mrkonjic Grad 85.93 322 *e*P P 19 50 37.7 +6.9
AHRW Bad Neuenahr-A 86.04 331 *e*P **P** **19 50 31.4 +0.3**
comp=Z,33nm,1.4s,baz=42,slow=4.8
AHRW *e*pP **pP** **19 51 44.7 +1.9**
FUR Furstenfeldbru 86.05 328 *e*P **P** **19 50 31.5 +0.2**
comp=Z,13nm,0.9s,baz=42,slow=4.8
FUR *e*pP **pP** **19 51 45.0 +2.0**
LJU Ljubljana 86.07 324 *e*P **P** **19 50 31.1 -0.3**
LJU *e*pP **pP** **19 51 47.1 +4.0**
LJU *e*SKSac **SKSac** **20 00 22.6 -4.9**
LJU Ljubljana 86.07 324 *e*P **P** **19 50 30.8 -0.6**
MYKA Terra Mystica 86.08 325 *e*P **P** **19 50 31.1 -0.4**
comp=Z,8.2nm,1.0s
MYKA *i* pP **pP** **19 51 45.7 +2.4**
comp=Z,23nm,1.7s
PDG Podgorica 86.14 319 ⇑P **P** **19 50 32.4 +0.6**
PDG Podgorica 86.14 319 *e*P **P** **19 50 31.4 -0.4**
PDG Podgorica 86.14 319 P **P** **19 50 31.0 -0.7**
PDG IAmb IAmb 19 50 46.9
comp=Z,46nm,1.5s
OHR Ohrid 86.17 318 *i* P **P** **19 50 28.8 -3.3**
BRY Bratogost 86.21 320 *e*P **P** **19 50 30.9 -1.4**
NEWG New Galloway 86.25 339 *e*P **P** **19 50 31.9 -0.1**
PRED Cave del Predi 86.25 325 P **P** **19 50 31.8 -0.6**
X16A Lo Mia Camp, P 86.25 51 P **P** **19 50 33.5 +0.8**
X16A IAmb IAmb 19 50 35.9
comp=Z,29nm,1.3s
CEY Cerknica 86.34 324 *e*P **P** **19 50 32.1 -0.6**
DRME Dracevica, Mon 86.35 319 *e*P **P** **19 50 30.6 -2.2**
MVCO Mesa Verde 86.37 47 P **P** **19 50 34.2 +0.8**
baz=310,SNR=9.3
MVCO Mesa Verde 86.37 47 P **P** **19 50 33.9 +0.6**
BEBN Eben Emael 86.40 332 P **P** **19 50 32.7 -0.1**
BEBN pP **pP** **19 51 45.5 +0.9**
MEM Membach 86.42 332 P **P** **19 50 32.5 -0.4**
MEM pP **pP** **19 51 45.3 +0.6**
ISCO Idaho Springs 86.42 44 P **P** **19 50 34.9 +1.3**
baz=311,SNR=26
ISCO Idaho Springs 86.42 44 P **P** **19 50 34.6 +1.0**
ISCO pmax pmax
comp=Z,16nm,0.7s
ISCO Idaho Springs 86.42 44 P **P** **19 50 34.6 +1.0**
ISCO IAmb IAmb 19 50 35.4
comp=Z,16nm,0.7s
HPK Haverah Park 86.43 338 *e*P **P** **19 50 33.6 +0.7**
ZOU Zoufplan 86.45 326 P **P** **19 50 32.3 -1.2**
B35A Bob, Littlefor 86.47 32 P **P** **19 50 33.6 +0.3**
B35A IAmb IAmb 19 50 34.1
comp=Z,26nm,0.7s
STU Stuttgart 86.51 329 *e*pP pP 19 51 46.9 +1.6
ABTA Abfaltersbach 86.52 326 *e*P **P** **19 50 32.6 -1.0**
comp=Z,5.8nm,0.6s,SNR=6.6
ABTA *i* pP **pP** **19 51 46.2 +0.6**
comp=Z,21nm,1.3s
WATA Walderalm 86.53 327 *i* P **P** **19 50 33.2 -0.5**
comp=Z,2.9nm,0.5s
WATA *i* pP **pP** **19 51 47.3 +1.7**
comp=Z,13nm,1.0s
RICI Ricice 86.55 321 P **P** **19 50 32.4 -1.4**
WTTA Wattenberg 86.55 327 *i* PcP **P** **19 50 34.1 +0.2**
comp=Z,5.3nm,0.5s
WTTA *i* pP **pP** **19 51 47.6 +1.9**
comp=Z,17nm,1.4s
KIJV Kijevo 86.57 322 *i* P **P** **19 50 33.3 -0.6**
GAL1 Galloway 86.60 340 *e*P **P** **19 50 35.0 +1.3**
GAL1 IAmb IAmb 19 50 35.4
comp=Z,26nm,0.8s
BSTI Sart Tilman 86.61 332 PcP **P** **19 50 34.3 +0.4**
BSTI pP **pP** **19 51 47.7 +2.0**
BHOU Houvegnez 86.62 332 pP pP 19 51 47.1 +1.4
MOTA Moosalm 86.74 327 *i* P **P** **19 50 34.3 -0.4**
comp=Z,4.2nm,0.5s
MOTA *i* pP **pP** **19 51 49.0 +2.4**
comp=Z,30nm,1.7s
SQTA Sankt Quirin 86.78 327 *e*P **P** **19 50 34.1 -0.8**
comp=Z,6.3nm,0.5s
SQTA *i* pP **pP** **19 51 48.3 +1.4**
comp=Z,16nm,1.4s
RETA Reutte 86.78 327 *i* pP pP 19 51 47.9 +1.1
comp=Z,36nm,1.2s,SNR=9.4
CLGH Cloghs, Cushen 86.82 340 *e*P **P** **19 50 35.5 +0.7**
CLGH IAmb IAmb 19 50 36.2
comp=Z,82nm,1.2s
BCLA Clavier 86.84 332 pP pP 19 51 47.8 +1.1
214A Organ Pipe Nat 86.85 54 P **P** **19 50 36.0 +0.6**
baz=308
214A Organ Pipe Nat 86.85 54 P **P** **19 50 34.0 -1.4**
SUSD Miller 86.86 37 P **P** **19 50 35.5 +0.2**
baz=315
SUSD S **S** **20 00 44.9 -1.9**
baz=315
SUSD Miller 86.86 37 P **P** **19 50 35.3 +0.1**
CIMO Cimolais 86.88 326 P **P** **19 50 33.9 -1.4**
CIMO **pP** **19 51 46.2 -1.1**
UCC Uccle 86.91 333 pP pP 19 51 47.6 +0.6
W18A Petrified Fore 86.92 50 P **P** **19 50 36.6 +0.7**
baz=309
LBWR Ladybower, Pea 86.93 337 *e*P **P** **19 50 35.3 -0.1**
LBWR IAmb IAmb 19 50 37.3
comp=Z,94nm,1.3s
BGES Gesves 86.96 332 pP pP 19 51 48.4 +1.1
MORI Morici 87.03 322 *i* P **P** **19 50 34.3 -1.7**
S22A 4UR Ranch, Cre 87.04 46 P **P** **19 50 38.1 +1.4**
baz=311,SNR=33
S22A 4UR Ranch, Cre 87.04 46 P **P** **19 50 37.7 +1.1**
S22A IAmb IAmb 19 50 40.1
comp=Z,28nm,1.2s
WLF Walferdange 87.10 331 pP pP 19 51 49.9 +1.8
WLF Walferdange 87.10 331 *e*pP pP 19 51 50.0 +1.8
BMRD Maredsous 87.15 332 P **P** **19 50 34.4 -2.0**
BMRD pP **pwP** **19 51 49.3 -0.9**
FETA Feichten 87.15 327 *i* PcP **P** **19 50 36.5 -0.2**
comp=Z,8.5nm,0.8s
FETA *i* pP **pP** **19 51 50.0 +1.3**
comp=Z,20nm,1.2s,SNR=7.4
F33A 5 Mile Ranch, 87.16 35 P **P** **19 50 37.0 +0.4**
F33A IAmb IAmb 19 50 37.8
comp=Z,34nm,0.8s
SNF Seneffe 87.17 333 P **P** **19 50 35.3 -1.2**
SNF PcP **P** **19 50 36.9 +0.4**
SNF pP **pP** **19 51 50.0 +1.6**
BFO Black Forest 87.22 329 P **P** **19 50 36.2 -0.7**
BFO pmax pmax
comp=Z,20nm,1.4s
BFO Black Forest 87.22 329 *e*P **P** **19 50 36.7 -0.2**
comp=Z,18nm,1.4s,baz=42,slow=4.8
BFO *e*pP **pP** **19 51 50.1 +1.3**
BFO Black Forest 87.22 329 P **P** **19 50 36.2 -0.7**
DAVA Damuels 87.33 328 *i* PcP **P** **19 50 37.5 -0.1**
comp=Z,11nm,0.6s,SNR=6.3
DAVA *i* pP **pP** **19 51 51.6 +2.1**
comp=Z,41nm,1.1s,SNR=9.1
DOU Dourbes 87.38 332 P **P** **19 50 36.1 -1.4**
DOU pP **pP** **19 51 50.2 +0.9**
CTI Castel Tesino 87.44 326 P **P** **19 50 37.5 -0.6**
CTI pmax pmax
comp=Z,9.0nm,0.6s
CTI Castel Tesino 87.44 326 P **P** **19 50 37.5 -0.6**
GMM Mts of Mourne 87.51 340 *e*P **P** **19 50 38.7 +0.6**
IDI Anoyia 87.52 311 P **P** **19 50 37.2 -1.4**
comp=Z,5.9nm,0.4s,baz=123,slow=7.9,SNR=23
IDI pP **pP** **19 51 50.9 +0.5**
comp=Z,9.3nm,0.9s,baz=129,slow=2.8,SNR=2.5
IDI Anoyia 87.52 311 ⇑P **P** **19 50 37.8 -0.7**
IDI Anoyia 87.52 311 P **P** **19 50 37.5 -1.1**
IDI IAmb IAmb 19 50 45.2
comp=Z,26nm,1.4s
BAIF Baives 87.56 332 *e*P **P** **19 50 39.0 +0.6**
BAIF pmax pmax
comp=Z,42nm,2.0s
CDF Champ du Feu 87.61 330 *e*P **P** **19 50 38.4 -0.4**
CDF pmax pmax
comp=Z,6.0nm,0.8s
FUORN Ofenpass-Fuorn 87.66 327 P **P** **19 50 39.2 0.0**
DAVOX Davos/Dischmat 87.71 327 P **P** **19 50 39.4 0.0**
comp=Z,16nm,0.5s,baz=354,slow=1.1,SNR=51
DAVOX pP **pP** **19 51 52.1 +0.7**
comp=Z,8.6nm,0.8s,baz=235,slow=0.7,SNR=3.8
DAVOX PP **PP** **19 54 10.0 +1.1**
comp=Z,2.6nm,0.7s,baz=339,slow=2.7,SNR=3.7
WME Myndd Eilian 87.75 339 *e*P **P** **19 50 39.1 -0.1**
EYMN Ely 87.76 31 P **P** **19 50 39.9 +0.5**
baz=320,SNR=20
EYMN Ely 87.76 31 P **P** **19 50 39.7 +0.3**
EYMN IAmb IAmb 19 50 40.5
comp=Z,19nm,0.8s
ECH Echery 87.81 330 P **P** **19 50 39.6 -0.1**
ECH pmax pmax
comp=Z,9.0nm,1.3s
ECH Echery 87.81 330 P **P** **19 50 39.5 -0.1**
SDCO Great Sand Dun 87.84 45 P **P** **19 50 41.5 +1.1**
baz=311,SNR=8.6
SDCO Great Sand Dun 87.84 45 P **P** **19 50 40.0 -0.3**
TAOE Nuku Hiva Isla 87.95 102 *e*P **P** **19 50 41.0 +0.1**
comp=Z,291nm,1.3s
ITM Ithomi 88.12 314 P **P** **19 50 40.2 -1.1**
ITM IAmb IAmb 19 50 41.6
comp=Z,36nm,0.6s
ITM pP **pP** **19 51 53.2 -0.1**
ATD Arta Tunnel 88.13 282 P pP 19 51 57.9 +4.2
SNR=5.9
TUE Stuetta 88.19 327 P **P** **19 50 41.4 -0.3**
TUE IAmb IAmb 19 50 42.7
comp=Z,13nm,0.7s
TUE pP **pP** **19 51 54.3 +0.4**
HINF Hinteralfeld 88.25 330 *e*P **P** **19 50 41.9 +0.1**
HINF pmax pmax
comp=Z,4.0nm,1.0s
K31A O'Neill 88.26 38 P **P** **19 50 42.2 +0.3**
HAU Haudompre 88.31 330 *e*P **P** **19 50 44.7 +2.7**
HAU pmax pmax
comp=Z,14nm,1.4s
F36A Milaca 88.44 33 P **P** **19 50 42.7 0.0**
MCH1 Michaelchurch 88.53 337 *e*P **P** **19 50 43.2 +0.3**
ECSD EROS Data Cent 88.55 36 P **P** **19 50 43.5 +0.3**
baz=317,SNR=15
ECSD EROS Data Cent 88.55 36 P **P** **19 50 43.5 +0.3**
ECSD IAmb IAmb 19 50 45.6
comp=Z,29nm,1.1s
KSCO Kaye Shedlock' 88.67 43 P **P** **19 50 44.7 +0.7**
baz=313
KSCO Kaye Shedlock' 88.67 43 P **P** **19 50 44.2 +0.2**
KSCO IAmb IAmb 19 50 46.7
comp=Z,26nm,1.0s
E38A The Farm, Brul 88.77 32 P **P** **19 50 44.5 +0.4**
T25A Trinidad 88.89 45 P **P** **19 50 46.2 +1.0**
baz=312,SNR=8.3
T25A Trinidad 88.89 45 P **P** **19 50 45.9 +0.7**
T25A IAmb IAmb 19 50 48.4
comp=Z,18nm,1.0s
ANMO Albuquerque 89.09 48 P **P** **19 50 44.9 -1.3**
ANMO pmax pmax
comp=Z,218nm,0.8s
ANMO Albuquerque 89.09 48 P **P** **19 50 44.9 -1.3**
SENIN Lac Senin/Sane 89.18 328 P **P** **19 50 46.4 0.0**
SPMN Marine on St. 89.26 33 P **P** **19 50 46.9 +0.4**
AQU L'Aquila 89.29 322 P **P** **19 50 46.6 -0.1**
AQU pmax pmax
comp=Z,18nm,0.8s
AQU L'Aquila 89.29 322 *e*P **P** **19 50 47.1 +0.4**
AQU L'Aquila 89.29 322 P **P** **19 50 46.6 -0.1**
AQU IAmb IAmb 19 50 48.6
comp=Z,18nm,0.8s
BGNE Belgrade 89.44 39 P **P** **19 50 47.5 +0.1**
baz=316,SNR=8.9
BGNE Belgrade 89.44 39 P **P** **19 50 47.7 +0.2**
BNM Barren Site 89.50 49 P **P** **19 50 49.0 +0.9**
319A Douglas 89.57 52 P **P** **19 50 49.2 +0.8**
SCHQ Schefferville 89.68 14 P **P** **19 50 48.2 0.0**
comp=Z,1.9nm,0.5s,baz=26,slow=18,SNR=4.5
SCHQ pP **pP** **19 52 01.3 +1.2**
comp=Z,4.5nm,0.8s,baz=344,slow=9.5,SNR=2.3
SCHQ Schefferville 89.68 14 P **P** **19 50 47.5 -0.8**
D41A Chassel 89.69 30 P **P** **19 50 48.7 +0.2**
D41A IAmb IAmb 19 50 50.9
comp=Z,38nm,0.7s
TIP Timpagrande 89.75 318 ⇑P **P** **19 50 49.5 +0.5**
121A Cookes Peak, D 89.81 50 P **P** **19 50 50.5 +1.0**
baz=310,SNR=8.5
121A Cookes Peak, D 89.81 50 P **P** **19 50 49.0 -0.5**
I37A Lemond, Waseca 89.89 34 P **P** **19 50 49.8 +0.3**
LOR Lormes 89.93 331 *e*P **P** **19 50 49.2 -0.4**
LOR pmax pmax
comp=Z,13nm,1.3s
L34A Svendsen Farm, 89.95 37 P **P** **19 50 49.9 +0.1**
LPL La Plagne 90.09 328 *e*P **P** **19 50 50.3 -0.3**
LPL pmax pmax
comp=Z,8.0nm,0.7s
LPG La Plagne 90.09 328 *e*P **P** **19 50 50.4 -0.3**
LPG pmax pmax
comp=Z,11nm,0.8s
COWI Conover 90.21 31 P **P** **19 50 51.5 +0.6**
COWI IAmb IAmb 19 50 53.3
comp=Z,27nm,1.3s
FLN La Foliniere 90.39 334 *e*P **P** **19 50 52.6 +1.0**
FLN pmax pmax
comp=Z,21nm,1.4s
G40A Rib Lake 90.40 32 P **P** **19 50 52.1 +0.3**
G40A IAmb IAmb 19 50 53.1
comp=Z,27nm,0.6s
CBKS Cedar Bluff 90.43 41 P **P** **19 50 52.0 -0.1**
baz=315
BNI Bardonecchia 90.47 328 P **P** **19 50 52.2 -0.1**
BNI pmax pmax
comp=Z,6.0nm,0.9s
BNI Bardonecchia 90.47 328 P **P** **19 50 52.2 -0.1**
AVF Avril sur Loir 90.52 331 *e*P **P** **19 50 52.0 -0.3**
AVF pmax pmax
comp=Z,17nm,1.1s
GRR Gorron 90.84 334 *e*P **P** **19 50 53.7 0.0**
GRR pmax pmax
comp=Z,25nm,1.1s
E43A Lone Tree Farm 90.89 29 P **P** **19 50 54.6 +0.6**
E43A IAmb IAmb 19 50 55.2
comp=Z,13nm,0.7s
SSB Saint Sauveur 91.23 329 P **P** **19 50 55.8 +0.1**
SSB pmax pmax
comp=Z,7.0nm,0.7s
SSB Saint Sauveur 91.23 329 P **P** **19 50 55.8 +0.1**
VIVF Saint-Julien-l 91.51 329 *e*P **P** **19 50 56.6 -0.4**
VIVF pmax pmax
comp=Z,11nm,0.8s
SCIA State Center 91.58 36 P **P** **19 50 58.1 +0.8**
baz=319
SCIA State Center 91.58 36 P **P** **19 50 57.6 +0.3**
SCIA IAmb IAmb 19 50 59.3
comp=Z,67nm,1.4s
D46A Sault St. Mari 91.65 27 P **P** **19 50 57.9 +0.3**
baz=326,SNR=14
D47A Chapleau 91.87 27 P **P** **19 50 59.0 +0.4**
baz=326,SNR=12
MNTX Cornudas Mount 91.90 50 P **P** **19 50 59.8 +0.8**
baz=312,SNR=21
MNTX Cornudas Mount 91.90 50 P **P** **19 50 59.6 +0.6**
MNTX IAmb IAmb 19 51 01.9
comp=Z,24nm,1.3s
KSU1 Kansas State U 91.92 39 P **P** **19 50 59.1 +0.2**
baz=317
KSU1 Kansas State U 91.92 39 P **P** **19 50 59.2 +0.2**
KSU1 IAmb IAmb 19 51 00.2
comp=Z,28nm,0.6s
MSTX Muleshoe 92.01 47 P **P** **19 50 59.8 +0.2**
baz=313,SNR=5.9
MSTX Muleshoe 92.01 47 P **P** **19 50 59.5 -0.1**
AMTX Amarillo 92.04 45 P **P** **19 50 00.5 +0.8**
baz=314
AMTX Amarillo 92.04 45 P **P** **19 51 00.5 +0.8**
I42A Draeger Farm, 92.05 32 P **P** **19 50 59.8 +0.4**
I42A IAmb IAmb 19 51 00.5
comp=Z,15nm,0.6s
H43A Windswept, Lux 92.09 31 P **P** **19 51 00.4 +0.8**
H43A IAmb IAmb 19 51 02.2
comp=Z,32nm,1.3s
JFWS Jewell Farm 92.21 33 P **P** **19 51 00.2 0.0**
baz=321
JFWS Jewell Farm 92.21 33 P **P** **19 51 00.3 +0.1**
JFWS pmax pmax
comp=Z,13nm,0.6s
JFWS Jewell Farm 92.21 33 P **P** **19 51 00.3 +0.1**
JFWS IAmb IAmb 19 51 00.8
comp=Z,13nm,0.6s
GDL2 Guadalupe Moun 92.21 49 P **P** **19 51 01.3 +0.7**
D48A Paudash Townsh 92.25 26 P **P** **19 51 00.4 +0.1**
baz=328
LSQQ Lebel-sur-Quev 92.28 22 P **P** **19 51 00.9 +0.5**
baz=331
E47A Iron Bridge 92.30 27 P **P** **19 51 01.0 +0.5**
baz=326,SNR=9.8
D49A Beulah Townshi 92.33 26 P **P** **19 51 00.7 0.0**
baz=328
L40A Anamosa 92.42 34 P **P** **19 51 01.2 +0.1**
L40A IAmb IAmb 19 51 03.3
comp=Z,16nm,0.8s
RJF Les Rejaudoux 92.47 331 *e*P **P** **19 51 01.5 +0.1**
RJF pmax pmax
comp=Z,15nm,0.9s
CLNB Carlsbad 92.48 48 P **P** **19 51 01.1 -0.6**
G45A Suttons Bay 92.52 29 P **P** **19 51 02.3 +0.7**
CAF Calviac 92.56 330 *e*P **P** **19 51 02.1 +0.3**
CAF pmax pmax
comp=Z,8.0nm,0.8s
E48A Lockeyer 92.70 27 P **P** **19 51 02.6 +0.2**
baz=327,SNR=5.4
D50A G1974 Best Tow 92.96 25 P **P** **19 51 03.4 -0.1**
baz=329
D50A S **S** **20 01 40.4 -1.9**
baz=329
CROK Carrier 93.05 42 P **P** **19 51 04.6 +0.4**
F48A Evansville 93.08 27 P **P** **19 51 04.6 +0.5**
baz=327,SNR=6.3
F48A S **S** **20 01 41.5 -1.8**
baz=327
P38A Dawn 93.14 37 P **P** **19 51 04.6 +0.1**
P38A IAmb IAmb 19 51 05.9
comp=Z,19nm,0.6s
L42A Oliver, Polo 93.19 34 P **P** **19 51 04.5 -0.2**
L42A IAmb IAmb 19 51 05.1
comp=Z,11nm,0.7s
D51A Lot 18 Range I 93.19 25 P **P** **19 51 04.4 -0.2**
baz=329
D51A S **S** **20 01 42.6 -1.7**
baz=329
E50A Wahnapitae 93.28 26 P **P** **19 51 05.3 +0.3**
baz=328
F49A Sandfield 93.35 27 P **P** **19 51 05.6 +0.2**
baz=327
T35A Sooner Cattle 93.56 41 P **P** **19 51 06.9 +0.4**
T35A IAmb IAmb 19 51 08.4
comp=Z,16nm,0.7s
D52A ZEK Kipawa Sen 93.62 24 P **P** **19 51 06.6 0.0**
baz=330
E51A G1948 Merrick 93.63 25 P **P** **19 51 06.2 -0.5**
baz=329
N41A Harden Midland 93.64 35 P **P** **19 51 07.1 +0.3**
N41A IAmb IAmb 19 51 09.0
comp=Z,20nm,1.1s
D53A Lac Vacive, Po 93.78 24 P **P** **19 51 07.3 0.0**
baz=331
D53A S **S** **20 01 48.3 -1.0**
baz=331
D53A Lac Vacive, Po 93.78 24 P **P** **19 51 07.3 0.0**
WMOK Wichita Mounta 93.85 44 P **P** **19 51 08.2 +0.3**
baz=315,SNR=7.1
WMOK Wichita Mounta 93.85 44 P **P** **19 51 08.0 +0.1**
WMOK pmax pmax
comp=Z,10.0nm,0.7s
WMOK Wichita Mounta 93.85 44 P **P** **19 51 08.0 +0.1**
WMOK IAmb IAmb 19 51 09.7
comp=Z,10nm,0.7s
OK029 Liberty Lake 93.85 42 P **P** **19 51 08.1 +0.2**
P40A Paris 93.96 37 P **P** **19 51 08.6 +0.3**
P40A IAmb IAmb 19 51 09.3
comp=Z,15nm,0.7s
D54A Lac Fusel, La 94.06 23 P **P** **19 51 08.3 -0.3**
baz=331
E52A Mattawa 94.14 25 P **P** **19 51 08.6 -0.3**
baz=330
E53A Dumoine, Ponti 94.40 24 P **P** **19 51 09.9 -0.3**
baz=331
E53A S **S** **20 01 54.0 -0.8**
baz=331
HDIL Hopedale 94.50 34 P **P** **19 51 10.9 +0.2**
baz=322
E54A Lac Daplat, Po 94.51 24 P **P** **19 51 10.4 -0.2**
baz=331
E54A S **S** **20 01 53.1 -2.7**
baz=331
D55A Sainte-Anne-du 94.56 22 P **P** **19 51 11.0 +0.2**
baz=332
TX31 Lajitas Ar. Si 94.57 51 P **P** **19 51 12.2 +0.8**
TX32 Lajitas Array 94.57 51 P **P** **19 51 12.4 +0.9**
TX32 IAmb IAmb 19 51 14.3
comp=Z,31nm,1.1s
TXAR Lajitas Array 94.57 51 P **P** **19 51 12.1 +0.7**
comp=Z,15nm,0.6s,baz=298,slow=2.8,SNR=226
TXAR pP **pP** **19 52 24.6 +0.7**
comp=Z,1.7nm,0.9s,baz=302,slow=4.1,SNR=1.2
TXAR Lajitas Array 94.57 51 P **P** **19 51 11.6 +0.2**
ALGO Algonquin Park 94.64 24 P **P** **19 51 11.1 -0.1**
baz=330
W35A Tecumseh 94.64 42 P **P** **19 51 11.6 +0.1**
TUL1 Leonard 94.69 41 P **P** **19 51 12.1 +0.4**
baz=317
TUL1 Leonard 94.69 41 P **P** **19 51 11.9 +0.2**
TUL1 IAmb IAmb 19 51 13.4
comp=Z,14nm,0.6s
S39A Bolivar 94.70 39 P **P** **19 51 11.1 -0.6**
S39A IAmb IAmb 19 51 13.0
comp=Z,9.1nm,0.8s
D56A ZEC Mazanza, M 94.76 22 P **P** **19 51 12.1 +0.3**
baz=333,SNR=6.1
R40A Maddies Statio 94.79 37 P **P** **19 51 12.0 -0.1**
R40A IAmb IAmb 19 51 12.5
comp=Z,11nm,0.7s
ABTX Abilene, Hawle 94.83 46 P **P** **19 51 13.0 +0.6**
baz=315
ABTX Abilene, Hawle 94.83 46 P **P** **19 51 12.7 +0.3**
ABTX IAmb IAmb 19 51 14.4
comp=Z,42nm,1.4s
HPIG 94.84 54 P **P** **19 51 13.2 +0.4**
E55A Montcerf-Lytto 94.87 23 P **P** **19 51 12.3 0.0**
baz=332
D57A Chemin Vers le 95.06 21 P **P** **19 51 13.4 +0.2**
baz=334
U38A Gravette 95.07 40 P **P** **19 51 13.3 -0.2**
G54A Lake Saint Pet 95.11 25 P **P** **19 51 13.7 +0.3**
baz=330
E56A St. Veronique 95.12 22 P **P** **19 51 13.8 +0.3**
baz=333
ETSF Etsaut 95.30 331 *e*P **P** **19 51 14.7 +0.3**
ETSF pmax pmax
comp=Z,4.0nm,0.8s
F55A Otter Lake 95.32 23 P **P** **19 51 14.0 -0.3**
baz=332
I51A Listowel 95.39 27 P **P** **19 51 15.6 +0.9**

baz=328
CCM Cathedral Cave 95.49 37 P P 19 51 15.1 -0.2
baz=320
CCM Cathedral Cave 95.49 37 P P 19 51 14.7 -0.6
CCM pmax pmax
comp=Z,25nm,1.4s
CCM Cathedral Cave 95.49 37 P P 19 51 14.7 -0.6
CCM IAmb IAmb 19 51 17.3
comp=Z,25nm,1.4s
E57A Chemin Saint G 95.52 22 P P 19 51 15.6 +0.3
baz=333
H53A Bobcaygeon 95.64 25 P P 19 51 15.7 -0.1
baz=330
SFIN Lafayette 95.66 33 P P 19 51 15.8 -0.2
baz=323
SFIN Lafayette 95.66 33 P P 19 51 15.9 0.0
SFIN IAmb IAmb 19 51 17.6
comp=Z,7.0nm,0.7s
G55A Calabogie 95.70 24 P P 19 51 16.1 0.0
baz=331
E58A La Victoria 95.82 21 P P 19 51 16.8 +0.2
baz=334
N47A Urbana 95.89 32 P P 19 51 16.6 -0.5
N47A IAmb IAmb 19 51 18.2
comp=Z,28nm,1.4s
U40A Yellville 95.95 39 P P 19 51 17.2 -0.2
baz=319,SNR=10
U40A Yellville 95.95 39 P P 19 51 16.5 -0.9
U40A IAmb IAmb 19 51 19.2
comp=Z,13nm,0.7s
D60A Saint Jean D'O 96.02 20 P P 19 51 17.5 +0.1
baz=336
H55A Tweed 96.16 25 P P 19 51 18.0 -0.1
baz=331
JCT Junction City 96.23 47 P P 19 51 19.1 +0.2
baz=314
JCT Junction City 96.23 47 P P 19 51 18.4 -0.5
JCT pmax pmax
comp=Z,10.0nm,0.7s
JCT Junction City 96.23 47 P P 19 51 18.4 -0.5
JCT IAmb IAmb 19 51 20.5
comp=Z,10nm,0.7s
KEST Kesra 96.30 320 P P 19 51 18.9 -0.3
comp=Z,1.6nm,0.5s,baz=64,slow=2.2,SNR=4.4
W39A Magazine 96.32 40 P P 19 51 19.3 +0.2
baz=318
T42A Van Buren 96.35 38 P P 19 51 18.3 -0.9
T42A IAmb IAmb 19 51 20.5
comp=Z,18nm,1.4s
H56A Elgin 96.44 24 P P 19 51 19.5 +0.1
baz=332
MIAR Mount Ida 96.92 41 P P 19 51 22.1 +0.3
baz=319,SNR=6.7
MIAR Mount Ida 96.92 41 P P 19 51 22.5 +0.7
MIAR pmax pmax
comp=Z,8.0nm,0.7s
MIAR Mount Ida 96.92 41 P P 19 51 22.5 +0.7
MIAR IAmb IAmb 19 51 23.5
comp=Z,8.2nm,0.7s
ESDC Sonseca Array 99.40 331 PKKP PKKPbc 20 07 55.0 +0.5
comp=Z,0.7nm,0.5s,baz=242,slow=2.1,SNR=12
VNDA Vanda 111.46 175 PKiKP PKiKP 19 56 21.4 -0.1
comp=Z,1.9nm,0.6s,baz=331,slow=5.7,SNR=14
VNDA PP PP 19 57 05.4 -2.9
comp=Z,2.4nm,1.0s,baz=334,slow=9.1,SNR=3.6
VNDA SKP 19 59 27.3
comp=Z,1.6nm,0.8s,baz=329,slow=4.3,SNR=3.7
MAW Mawson 114.99 204 PKiKP PKiKP 19 56 29.1 +0.6
comp=Z,3.8nm,0.5s,baz=73,slow=2.4,SNR=19
MAW PP PP 19 57 32.4 -0.9
comp=Z,6.2nm,1.0s,baz=59,slow=11,SNR=7.7
MAW SKP 19 59 34.7
comp=Z,2.0nm,0.8s,baz=233,slow=1.6,SNR=4.7
MAW PKKPbc PKKPbc 20 07 05.8 -1.7
comp=Z,0.6nm,0.5s,baz=264,slow=9.2,SNR=1.5
MAW Mawson 114.99 204 PKiKP 19 56 28.8 +0.4
TAO Torodi Ar. Sit 117.92 311 PKPdf 19 56 35.1 -0.7
TORD Torodi Ar. Bea 117.92 311 PKP PKPdf 19 56 34.9 -0.9
comp=Z,2.9nm,0.5s,baz=53,slow=1.9,SNR=50
TORD SKP 19 59 40.2
comp=Z,2.3nm,0.6s,baz=13,slow=1.6,SNR=7.7
TORD PKKPbc PKKPbc 20 06 54.5 -1.3
comp=Z,1.2nm,0.5s,baz=222,slow=2.3,SNR=13
TORD Torodi Ar. Bea 117.92 311 PKPdf PKPdf 19 56 34.2 -1.6
QSPA South Pole Qui 123.00 180 PKPdf PKPdf 19 56 43.2 -0.8
BOSA Boshof 123.12 255 PKP PKPdf 19 56 45.6 +0.1
comp=Z,5.2nm,0.6s,baz=92,slow=1.9,SNR=15
BOSA PKKPab PKKPab 20 06 38.5 +1.6
comp=Z,1.4nm,0.5s,baz=262,slow=2.1,SNR=10.0
BOSA Boshof 123.12 255 PKPdf 19 56 45.2 -0.4
SYO Syowa Base 123.64 205 *eP* PKiKP PKiKP 19 56 47.0 +1.7
DBIC Dimbokro 126.99 312 PKP PKPdf 19 56 52.9 -0.3
comp=Z,3.6nm,0.3s,baz=30,slow=3.0,SNR=13
DBIC Dimbokro 126.99 312 PKPdf 19 56 52.6 -0.7
SDV Santo Domingo 129.95 38 *eP* PKiKP 19 57 00.6 +0.6
RUSC La Rusia 131.09 43 PKPdf PKPdf 19 57 00.5 -1.1
OTAV Otavalo 132.11 53 *eP* PKiKP 19 57 04.8 +0.2
VNA2 Neumayer--Stat 137.95 196 PKPdf PKPdf 19 57 13.4 -0.7
VNA3 Neumayer Olymp 138.23 195 PKPdf PKPdf 19 57 11.2 -1.4
VNA1 Neumayer--Stat 138.35 196 PKPdf PKPdf 19 57 12.8 0.0
MDP Montagnes des 140.51 14 SKP SKPdf 20 00 25.1 +1.5
comp=Z,10nm,0.9s,baz=68,slow=4.2,SNR=5.9
NNA Nana 141.67 65 SKPbc SKPbc 20 00 27.8 -0.6
comp=Z,5.0nm,0.3s,baz=271,slow=2.8,SNR=4.3
CZSB Cruzeiro do Su 141.81 55 *eP* PKPdf 19 57 21.8 +1.0
MACA Manacapuru-AM 145.27 34 *eP* PKPab 19 57 29.2 +1.4
PMSA Palmer Station 145.65 163 *eP* PKPab 19 57 28.5 +0.8
MCPB Macapa, AP 145.91 18 *eP* PKPbc 19 57 29.4 +0.2
MALB Monte Alegre 146.67 23 *eP* PKPbc 19 57 31.1 -0.2
ETMB Extrema 147.65 49 *eP* PKPbc 19 57 33.7 -0.3
ITTB Itaituba 148.48 27 *eP* PKPbc 19 57 35.2 -1.0
TMAB Tom-Au,PA,Br 148.73 12 *eP* PKPbc 19 57 35.0 -1.8
SAML Samuel 148.82 44 PKP2 PKPbc 19 57 36.9 -0.1
SAML Samuel 148.82 44 PKPbc 19 57 36.9 -0.1
SAML Samuel 148.82 44 *eP* PKPbc 19 57 35.7 -1.3
ROSB Rosrio 149.73 4 *eP* PKPdf 19 57 35.5 +1.2
PB12 IPOC Station P 150.66 67 PKPdf PKPdf 19 57 35.9 +0.2
LPAZ La Paz 150.90 61 PKPbc PKiKP 19 57 43.3 +0.1
comp=Z,25nm,0.7s,baz=317,slow=1.7,SNR=30
LPAZ La Paz 150.90 61 PKPbc PKiKP 19 57 43.2 0.0
LPAZ La Paz 150.90 61 *eP* PKPdf 19 57 38.4 +1.7
NPGB Novo Progresso 151.07 29 *eP* PKPdf 19 57 39.1 +2.7
PB16 IPOC Station P 151.13 66 PKPbc PKiKP 19 57 43.6 0.0
PSGCX Pisagua 151.38 69 PKPbc 19 57 43.1 0.0
MNMC Minye Minye 151.53 67 PKPbc PKPbc 19 57 43.7 0.0
PB11 IPOC Station P 151.84 68 PKPdf PKPdf 19 57 36.8 -0.7
PB11 PKPbc PKiKP 19 57 44.8 +0.3
TA01 Diego Aracena 151.86 70 PKPbc 19 57 43.6 -0.4
PRPB Paraiapebas 152.06 17 *eP* PKPdf 19 57 40.5 +2.7
RCBR Riachuelo 152.15 347 *eP* PKPdf 19 57 40.7 +2.6
PB08 IPOC Station P 152.44 69 PKPbc 19 57 45.7 -0.1
PB01 IPOC Station P 152.67 71 PKPbc 19 57 45.4 -0.5
PB07 IPOC Station P 152.71 72 PKPbc 19 57 46.1 0.0
PB04 IPOC Station P 152.80 74 PKiKP 19 57 46.5 +0.1
PB14 IPOC Station P 153.65 78 PKPbc 19 57 48.1 -0.2
PB14 PKPab 19 58 02.9 +0.6
VILB Vilhena 153.76 44 *eP* PKPdf 19 57 43.0 +2.8
PB15 IPOC Station P 153.77 75 PKiKP 19 57 49.1 +0.7
LVC Limon Verde 153.93 73 PKP PKPdf 19 57 40.6 -0.1
comp=Z,3.4nm,0.8s,baz=229,slow=16,SNR=3.0
LVC PKPab PKPab 19 58 04.7 +1.1
comp=Z,22nm,0.5s,baz=308,slow=3.3,SNR=22
LVC Limon Verde 153.93 73 PKPdf 19 57 40.3 -0.4
LVC PKiKP 19 57 49.5 +0.5
LVC PKPab 19 58 04.3 +0.7
LVC Limon Verde 153.93 73 *eP* PKPdf 19 57 42.1 +1.4
CLDB Colider 154.31 33 *eP* PKPdf 19 57 43.8 +2.8
GO03 Copiap 154.94 85 PKPdf 19 57 42.0 +0.4
GO03 PKiKP 19 57 50.9 +0.4
SMTB Santa Maria do 155.16 14 *eP* PKPdf 19 57 45.8 +3.6
GO04 Tololo Observa 155.23 91 PKPdf 19 57 41.6 -0.5
AC05 El Transito 155.30 87 PKPdf 19 57 41.2 -0.9
CO02 Combarbal 155.30 93 PKPdf 19 57 41.2 -0.9
CO03 El Pedregal 155.48 92 PKPdf 19 57 40.4 -1.8
SIV San Ignacio 155.57 50 PKP PKPdf 19 57 42.8 +0.1
comp=Z,3.0nm,0.7s,baz=150,slow=0.2,SNR=14
SIV PKPab PKPab 19 58 09.9 -0.3
comp=Z,9.3nm,0.5s,baz=293,slow=5.3,SNR=17
CO01 Juntas del Tor 155.77 90 PKPdf PKPdf 19 57 42.5 -0.4
PLCA Paso Flores 155.97 116 PKP PKPdf 19 57 42.1 -0.5
comp=Z,1.4nm,0.7s,baz=309,slow=3.7,SNR=3.5
PLCA PKPab PKPab 19 58 11.8 +0.2
comp=Z,6.4nm,0.6s,baz=270,slow=3.4,SNR=4.2
PLCA Paso Flores 155.97 116 PKPdf 19 57 42.2 -0.3
PLCA PKPab 19 58 11.9 +0.3
PLCA Paso Flores 155.97 116 *eP* PKPdf 19 57 43.6 +1.0
BO02 Sierra Bellavi 156.02 102 PKPdf 19 57 42.2 -0.6
PTLB Pontes e Lacer 156.36 46 *eP* PKPdf 19 57 45.9 +2.3
ZON Zonda 157.31 93 PKP2 PKPab 19 58 18.2 +0.6
ZON Zonda 157.31 93 PKPab PKPab 19 58 18.2 +0.6
PEXB Peixe 158.14 17 *eP* PKPdf 19 57 48.5 +2.5
NBCP Cabaceiras do 159.29 353 *eP* PKPdf 19 57 49.6 +2.3
ARAG Araguaiana, MT 160.35 30 *eP* PKPdf 19 57 49.7 +1.3
BDFB Brasilia 161.60 19 PKP PKPdf 19 57 50.2 +0.3
comp=Z,1.1nm,0.3s,baz=213,slow=1.5,SNR=3.6
BDFB PKPab PKPab 19 58 36.7 +0.3
comp=Z,1.7nm,0.5s,baz=14,slow=5.9,SNR=3.5
CPUP Villa Florida 164.91 67 PKP PKPdf 19 57 52.5 -0.1
comp=Z,1.2nm,0.7s,baz=27,slow=2.3,SNR=2.8
CPUP PKPab PKPab 19 58 50.3 -0.5
comp=Z,1.6nm,0.5s,baz=279,slow=3.6,SNR=3.8
BSCB Bom Sucesso 167.52 13 *eP* PKPdf 19 57 56.9 +2.0
PTGB Pitanga 167.68 49 *eP* PKPdf 19 57 56.4 +1.4
VAO Valinhos 168.84 25 *eP* PKPdf 19 57 59.0 +3.3
SPB Sao Paulo 169.20 28 *eP* PKPdf 19 57 57.6 +1.7
MAN01 Angra dos Reis 169.49 11 *eP* PKPdf 19 57 57.4 +1.3
TIJ01 Guaruva-PR 169.94 40 *eP* PKPdf 19 57 57.2 +0.8
PLTB Pedras Altas 169.98 85 *eP* PKPdf 19 57 57.5 +1.4

NEIC ***20*** *20:01:02.7±1.7,5°.54S±0°.10×150°.87E±0°.08,h5km±4km, mb4.6/26, Error ellipse: s-maj=16.3km s-min=9.0km az=144.0*
IDC ***20*** *20:01:03.0±0.7,5°.41S×150°.74E, h0km, mb4.3/12, mb1 4.5/14,mb1mx4.2/38,mbtmp4.3/14,ML2.1/1,MS3.8/6, Ms1 3.8/6,ms1mx3.6/30,Error ellipse: s-maj=20.2km s-min=10.3km az=133.0*
DJA ***20*** *20:01:05.8±0.3,5°.53S×151°.1E±°, h10km,M4.7/29, mb4.6/29,mB5.6/5,MLv4.5/2,Mw(mB)5.1/5*
ISC 20 20:01:04.6±0.6, 5°.43S±0°.07×150°.85E±0°.08, h10km, n65, σ1§52/63, mb4.6/31, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.62**	**46**	Pg	**Pn**	**20 01 32.8**	**-0.4**
	17nm,0.3s,baz=250,slow=2.5,SNR=22						
KRVT				Lg	Lg	20 01 56.7	
	93nm,0.3s,baz=69,slow=21,SNR=7.9						
RABL	**Rabaul**	**1.80**	**47**		**Pn**	**20 01 34.7**	**-1.0**
PMG	**Port Moresby**	**5.38**	**223**	Pn	**Pn**	**20 02 24.9**	**-0.1**
	4.1nm,0.3s,baz=23,slow=8.5,SNR=12						
PMG				Sn	**Sn**	**20 03 28.5**	**+1.4**
	0.5nm,0.3s,baz=43,slow=17,SNR=1.7						
PMG				LR	LR	20 04 06.1	
	comp=Z,490nm,19.4s,baz=328,slow=34						
PMG	**Port Moresby**	**5.38**	**223**		**Pn**	**20 02 22.4**	**-2.6**
HNR	**Honiara**	**9.86**	**114**	LR	LR	20 07 04.4	
	comp=Z,430nm,19.4s,baz=278,slow=36						
JAY	**Jayapura**	**10.52**	**286**	Pn	**Pn**	**20 03 34.4**	**-1.3**
	baz=312,slow=20,SNR=4.3						
GENI	**Genyem**	**11.02**	**284**	P	Pn	20 03 49.6	+7.2
SMPI	**Sarmi**	**12.58**	**285**	P	**Pn**	**20 04 05.0**	**+1.2**
	553nm23nm,1.8s						
CTA	**Charters Tower**	**15.24**	**197**	Pn	**P**	**20 04 47.7**	**+2.7**
	0.3nm,0.3s,baz=354,slow=16,SNR=6.7						
MTN	**Manton Dam**	**20.80**	**248**	P	**P**	**20 05 45.2**	**-1.1**
BNDI	**Bandanaira**	**20.88**	**272**	P	Pn	20 05 49.3	-0.4
	188nm,0.9s						
WB0	**Warramunga Arr**	**21.44**	**227**	P	**P**	**20 05 51.8**	**-1.3**
WB0				IAmb	IAmb	20 05 56.5	
	comp=Z,23nm,0.9s						
WR0	**Warramunga Arr**	**21.45**	**226**	P	**P**	**20 05 51.0**	**-2.3**
WR0				IAmb	IAmb	20 06 06.3	
	comp=Z,19nm,0.9s						
WRAB	**Tennant Creek**	**21.57**	**227**	P	**P**	**20 05 52.1**	**-2.4**
WB2	**Warramunga Arr**	**21.58**	**227**	P	**P**	**20 05 51.5**	**-3.1**
WB2				IAmb	IAmb	20 05 59.9	
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**21.59**	**227**	P	**P**	**20 05 52.4**	**-2.4**
	comp=Z,5.2nm,0.8s,baz=51,slow=10,SNR=21						
WRA				LR	LR	20 15 42.0	
	comp=Z,274nm,18.1s,baz=45,slow=41						
WRA	**Warramunga Arr**	**21.59**	**227**	P	**P**	**20 05 52.3**	**-2.4**
DZM	**Mont Dzumac**	**22.39**	**139**	P	**P**	**20 06 04.9**	**+1.5**
	comp=Z,5.7nm,1.0s,baz=331,slow=19,SNR=2.0						
KNRA	**Kununurra**	**23.95**	**243**	P	**P**	**20 06 18.0**	**-1.3**
KNRA				IAmb	IAmb	20 06 21.4	
	comp=Z,14nm,0.8s						
AS31	**Alice Springs**	**24.39**	**220**	P	**P**	**20 06 22.1**	**-1.2**
ASAR	**Alice Springs**	**24.39**	**220**	P	**P**	**20 06 22.4**	**-1.0**
	comp=Z,8.5nm,0.7s,baz=50,slow=8.5,SNR=38						
ASAR				LR	LR	20 17 10.8	
	comp=Z,189nm,18.4s,baz=40,slow=40						
ASAR	**Alice Springs**	**24.39**	**220**	P	**P**	**20 06 22.3**	**-1.1**
SANI	**Sanana**	**25.03**	**277**	P	**P**	**20 06 31.4**	**+2.2**
	comp=Z,24nm,1.1s						
FITZ	**Fitzroy Crossi**	**27.65**	**241**	P	**P**	**20 06 50.2**	**-2.7**
	comp=Z,5.2nm,0.6s,baz=91,slow=8.0,SNR=19						
FITZ	**Fitzroy Crossi**	**27.65**	**241**	P	**P**	**20 06 49.2**	**-3.6**
STKA	**Stephens Creek**	**27.70**	**197**	P	**P**	**20 06 54.0**	**+0.9**
	comp=Z,4.7nm,0.6s,baz=27,slow=14,SNR=12						
STKA				LR	LR	20 18 01.0	
	comp=Z,283nm,18.9s,baz=9.7,slow=37						
STKA	**Stephens Creek**	**27.70**	**197**	P	**P**	**20 06 52.7**	**-0.4**
MYLDM	**Lahad Datu**	**33.98**	**288**	P	**P**	**20 07 47.6**	**-1.1**
MTKI	**Muara Teweh, K**	**36.16**	**276**	P	**P**	**20 08 09.0**	**+1.4**
	comp=Z,12nm,0.5s						
SBUM	**Sibu**	**39.37**	**281**	P	**P**	**20 08 35.1**	**+0.3**
URZ	**Urewera**	**40.46**	**148**	LR	LR	20 22 48.7	
	comp=Z,121nm,20.0s,baz=4.0,slow=32						
KSRS	**Korea Array**	**47.72**	**335**	P	**P**	**20 09 41.0**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=154,slow=7.8,SNR=4.1						
NJ2	**Nanjing**	**48.14**	**323**	*eP*	**P**	**20 09 47.0**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SLVN	**Son La**	**53.15**	**302**	P	**P**	**20 10 23.7**	**+0.5**
SLVN				IAmb	IAmb	20 10 26.6	
	comp=Z,7.9nm,1.0s						
ENH	**Enshi**	**53.18**	**314**	P	**P**	**20 10 22.7**	**-0.5**
MLSI	**Meulaboh, Aceh**	**55.22**	**279**	P	**P**	**20 10 39.6**	**+1.2**
	comp=Z,31nm,1.5s						
KMI	**Kunming**	**55.74**	**305**	*eP*	**P**	**20 10 45.3**	**+3.1**
KMI				pmax	pmax		
	comp=Z,14nm,1.1s						
KMI	**Kunming**	**55.74**	**305**	P	**P**	**20 10 42.4**	**+0.2**
XAN	**Xi'an**	**55.76**	**318**	P	**P**	**20 10 40.4**	**-1.6**
XAN				IAmb	IAmb	20 10 46.6	
	comp=Z,8.9nm,1.1s						
CM31	**Chiang Mai Arr**	**56.40**	**296**	P	**P**	**20 10 44.9**	**-1.8**
CM31				IAmb	IAmb	20 10 49.9	
	comp=Z,8.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**56.40**	**296**	P	**P**	**20 10 47.0**	**+0.3**
	comp=Z,4.2nm,0.9s,baz=120,slow=5.8,SNR=23						
CMAR	**Chiang Mai Arr**	**56.40**	**296**	P	**P**	**20 10 46.3**	**-0.4**
CHTO	**Chiang Mai**	**56.52**	**297**	P	**P**	**20 10 48.1**	**+0.5**
CHTO				IAmb	IAmb	20 10 50.4	
	comp=Z,5.3nm,1.0s						
HHC	**Hu-ho-hao-te**	**58.45**	**326**	*eP*	**P**	**20 11 00.3**	**-0.6**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,96nm,6.7s						
PETK	**Petropavlovsk-**	**58.61**	**5**	P	**P**	**20 11 02.6**	**+1.0**
	comp=Z,4.1nm,0.7s,baz=175,slow=7.9,SNR=9.7						
PETK	**Petropavlovsk-**	**58.61**	**5**	P	**P**	**20 11 00.2**	**-1.4**
GTA	**Gaotai**	**64.81**	**318**	P	**P**	**20 11 45.9**	**+1.9**
GTA				pP	sP	20 11 50.3	+2.0
GTA				sP	pP	20 11 53.1	+6.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,77nm,4.8s						
GTA				LR	LR		
	comp=N,6μm,15.6s						
GTA				LR	LR		
	comp=E,4μm,15.2s						
GTA				LR	LR		
	comp=Z,2μm,15.9s						
SHL	**Shillong**	**64.96**	**301**	P	**P**	**20 11 44.4**	**-0.8**
ULN	**Ulaanbaatar**	**65.52**	**329**	P	**P**	**20 11 48.5**	**+0.1**
ULN				IAmb	IAmb	20 11 52.9	
	comp=Z,5.6nm,1.1s						
SONM	**Songino Array**	**65.84**	**329**	P	**P**	**20 11 50.0**	**-0.4**
	comp=Z,4.8nm,0.9s,baz=142,slow=6.5,SNR=26						
SONM	**Songino Array**	**65.84**	**329**	P	**P**	**20 11 50.8**	**+0.4**
LSA	**Lhasa**	**67.00**	**305**	P	**P**	**20 11 57.9**	**-0.8**
LSA				IAmb	IAmb	20 12 02.1	
	comp=Z,4.8nm,0.9s						
WMQ	**Urumqi**	**74.90**	**318**	*eP*	**P**	**20 12 48.4**	**+2.5**
WMQ				pP	sP	20 12 51.9	+1.6
WMQ				PcP	**PcP**	**20 13 00.9**	**+1.1**
WMQ				LR	LR		
	comp=N,3μm,9.3s						
WMQ				LR	LR		
	comp=E,2μm,13.3s						
WMQ				LR	LR		
	comp=Z,7.0nm,11.3s						
MK31	**Makanchi Array**	**79.53**	**319**	P	**P**	**20 13 11.6**	**-0.2**
MKAR	**Makanchi Array**	**79.53**	**319**	P	**P**	**20 13 11.3**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=96,slow=6.1,SNR=15						
MKAR	**Makanchi Array**	**79.53**	**319**	P	**P**	**20 13 10.8**	**-1.0**
MAKZ	**Makanchi**	**79.74**	**319**	P	**P**	**20 13 13.0**	**+0.1**
MAKZ				IAmb	IAmb	20 13 15.4	
	comp=Z,5.2nm,1.1s						
ZALV	**Zalesovo Beam**	**80.60**	**327**	P	**P**	**20 13 16.6**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=108,slow=6.0,SNR=7.5						
ZALV	**Zalesovo Beam**	**80.60**	**327**	P	**P**	**20 13 15.7**	**-1.7**
ILAR	**Eielson Array**	**83.48**	**22**	P	**P**	**20 13 31.3**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=253,slow=6.2,SNR=5.0						
QSPA	**South Pole Qui**	**84.53**	**180**	P	**P**	**20 13 36.9**	**-1.0**
KK31	**Karatay Array**	**86.65**	**314**	P	**P**	**20 13 48.2**	**-0.5**
KK31				IAmb	IAmb	20 14 00.2	
	comp=Z,3.1nm,1.2s						
KKAR	**Karatay Array**	**86.65**	**314**	P	**P**	**20 13 48.8**	**0.0**
KKAR	**Karatay Array**	**86.65**	**314**	P	**P**	**20 13 48.5**	**-0.2**
KKAR				IAmb	IAmb	20 14 00.2	
	comp=Z,3.1nm,1.2s						
TORD	**Torodi Ar. Bea**	**148.63**	**286**	PKPbc	**PKiKP**	**20 20 53.9**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=43,slow=2.4,SNR=4.1						

WEL ***20*** *20:10:25.9±0.8,32°.5±8°×17°.9E±1°.4, h33km, M4.8/12, mB5.0/3, ML5.0/11, MLv4.9/12, Mw(mB)4.4/3, Error ellipse: s-maj=0.0km s-min=0.0km az=116.1*
IDC ***20*** *20:10:33.6±8.2,32°.29S×179°.72W, h326km±91km, mb3.5/2, mb1 3.7/3,mb1mx3.2/31,mbtmp4.2/3, Error ellipse: s-maj=103.5km s-min=38.2km az=2.0*
ISC 20 20:10:37.4±1.3, 32°.6S±0°.1×179°.8W±0°.2, h350km, n25, σ1§99/41, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.69**	**26**	S	**Pn**	**20 11 46.6**	**+3.2**
MXZ	**Matakaoa Point**	**5.19**	**197**	P	**Pn**	**20 11 57.7**	**-1.3**
WMGZ	**Waiomatatini S**	**5.41**	**196**	P	**Pn**	**20 12 00.8**	**-0.6**
WMGZ				S	**S**	**20 13 11.2**	**+1.8**
HAZ	**Te Kaha**	**5.52**	**201**	P	**Pn**	**20 12 00.3**	**-2.3**
HAZ				S	**S**	**20 13 14.4**	**+2.8**
PUZ	**Puketiti**	**5.69**	**196**	P	**Pn**	**20 12 02.4**	**-2.1**
RUGZ	**Raukumara Rang**	**5.74**	**201**	P	**Pn**	**20 12 03.0**	**-2.2**
RUGZ				S	**S**	**20 13 14.3**	**-2.1**
TWGZ	**Tauwhareparae**	**5.85**	**198**	P	**Pn**	**20 12 06.2**	**-0.2**
TWGZ				S	**S**	**20 13 20.1**	**+1.4**
MWZ	**Matawai**	**6.13**	**200**	P	Pn	20 12 04.3	-5.2
MWZ				S	**S**	**20 13 26.3**	**+1.9**
TKGZ	**Te Karaka**	**6.14**	**198**	P	**Pn**	**20 12 09.6**	**0.0**
TKGZ				S	**S**	**20 13 29.6**	**+5.1**
URZ	**Urewera**	**6.19**	**204**	P	**Pn**	**20 12 10.1**	**-0.1**
	2.0nm,0.3s,baz=90,slow=3.0,SNR=25						
URZ				S	**S**	**20 13 26.3**	**+0.7**
	baz=9.5,slow=18						
URZ	**Urewera**	**6.19**	**204**	P	**Pn**	**20 12 09.8**	**-0.5**
URZ				S	**S**	**20 13 26.3**	**+0.7**
HIZ	**Hauiti**	**7.35**	**215**	P	**Pn**	**20 12 27.1**	**+3.4**
BHHZ	**Black Hill Sta**	**7.65**	**205**	P	**Pn**	**20 12 25.8**	**-1.6**
BHHZ				S	**S**	**20 14 00.8**	**+3.8**
KRHZ	**Kereru**	**7.69**	**203**	P	**Pn**	**20 12 27.0**	**-0.7**
KRHZ				S	**S**	**20 13 59.0**	**+1.3**
WNVZ	**Wahianoa**	**7.69**	**208**	P	**Pn**	**20 12 27.4**	**-0.5**
PNHZ	**Pukenui**	**7.99**	**203**	P	**Pn**	**20 12 29.2**	**-2.1**
PNHZ				S	**S**	**20 14 05.5**	**+1.3**
TSZ	**Takapari Road**	**8.20**	**204**	P	**Pn**	**20 12 33.2**	**-0.6**
TSZ				S	**S**	**20 14 12.1**	**+3.3**
BFZ	**Birch Farm**	**8.67**	**201**	P	**Pn**	**20 12 38.2**	**-1.2**
BFZ				S	**S**	**20 14 19.3**	**+0.2**
MRZ	**Mangatainoka R**	**8.87**	**204**	P	**Pn**	**20 12 39.4**	**-2.2**
MRZ				S	**S**	**20 14 22.4**	**-0.8**
HOWZ	**Holdsworth Sta**	**9.10**	**203**	P	**Pn**	**20 12 42.4**	**-2.1**
HOWZ				S	**S**	**20 14 28.0**	**-0.4**
OGWZ	**Otaki Gorge**	**9.15**	**205**	P	**Pn**	**20 12 44.1**	**-0.9**
OGWZ				S	**S**	**20 14 30.4**	**+1.0**
KIW	**Kapiti Island**	**9.28**	**206**	P	**Pn**	**20 12 45.0**	**-1.6**
KIW				S	**S**	**20 14 33.9**	**+1.5**
ASAR	**Alice Springs**	**41.56**	**270**	P	**P**	**20 17 50.9**	**-1.4**
	1.3nm,0.5s,baz=106,slow=7.4,SNR=33						
WRA	**Warramunga Arr**	**42.75**	**275**	P	**P**	**20 17 59.7**	**-2.1**
	3.0nm,0.5s,baz=115,slow=7.6,SNR=38						
FINES	**FINESS Array B**	**146.66**	**338**	PKPbc	**PKPdf**	**20 29 34.7**	**-0.6**
	2.3nm,0.5s,baz=60,slow=3.4,SNR=13						

BJI ***20*** *20:12:37.3±0.0,52°.89N×175°.05E, h5km, mB5.3/65, mb5.1/79,Ms5.6/88,Ms7 5.4/81*
NEIC ***20*** *20:12:37.9,52°.52N×175°.40E, h6km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.28; Mθθ-1.95; Mφφ 2.23; Mrθ-0.54; Mθφ-0.47; Mφr-0.25; Fault plane solution: Mo2.24000×10¹⁷ NP1:φs37.41000°, δ81.25000°, λ-15.00000°. NP2:φs129.74000°, δ75.17000°, λ-170.95000°. Principal axes: T 2.2931, Plg4.0000°, Azm84.0000°; N -0.1198, Plg73.0000°, Azm188.0000°; P -2.1733, Plg17.0000°, Azm353.0000°;*
AEIC ***20*** *20:12:37±2.2,52°.38N±0°.08×175°.38E±0°.08, h11km±3km Error ellipse: s-maj=12.0km s-min=5.9km az=198.0*
IDC ***20*** *20:12:37.7±0.3,52°.57N×175°.35E, h0km, mb4.9/48, mb1 5.0/52,mb1mx5.0/61,mbtmp4.9/52,ML5.0/3,MS5.0/33, Ms1 5.0/33,ms1mx4.9/41,Error ellipse: s-maj=11.3km s-min=7.0km az=160.0*
NEIC ***20*** *20:12:38.2±1.8,52°.51N±0°.08×175°.38E±0°.07, h5km±2km, mb5.4/490,Ms_20 5.3/786,Mwb5.5/71,ML5.0(AEIC), Mwc5.6(GCMT), Error ellipse: s-maj=11.6km s-min=5.9km az=192.0*
MOS ***20*** *20:12:38.6±1.1,52°.49N×175°.30E, h17km, mb5.4/88, MS5.2/54, Error ellipse: s-maj=6.6km s-min=4.1km az=105.7*
NEIC ***20*** *20:12:41,52°.63N×175°.39E, h13km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.52; Mθθ-2.77; Mφφ 3.

TAFP Sn 20 14 32.1 +1.2
KICM Kanaga Island 4.63 94 Pn 20 13 49.5 +0.6
KIMD Kanaga Island 4.63 96 Pn 20 13 49.4 +0.4
KIKV Kanaga Island 4.65 95 Pn 20 13 49.9 +0.7
ADK Adak 4.94 94 P **Pn 20 13 52.0 -1.2**
ADK Adak 4.94 94 Pn **Pn 20 13 52.0 -1.2**
GSTD Great Sitkin T 5.25 91 Pn 20 13 56.6 -0.9
GSTR Great Sitkin T 5.29 91 Pn **Pn 20 13 55.8 -2.3**
GSMY Great Sitkin M 5.30 91 Pn 20 13 57.1 -1.1
ATKA Atka Island 6.42 88 Pn **Pn 20 14 11.8 -1.7**
KOFP Korovin Flat P 6.47 88 Pn 20 14 13.4 -0.9
KOSE Korovin Southe 6.49 87 Pn 20 14 14.2 -0.4
NIKH Nikolski High 9.60 81 Pn 20 14 56.8 -0.4
OKCE Okmok Cone E 10.00 78 Pn 20 15 02.9 +0.3
OKNC Okmok New Cone 10.02 78 Pn 20 15 02.0 -0.9
PET Petropavlovsk 10.13 280 *e*P **Pn 20 15 04.3 -0.1**
PET pmax pmax
comp=Z,1µm,1.7s
PEA0B Petropavlovsk- 10.70 280 *c i*P **Pn 20 15 12.8 +0.6**
PEA0B Petropavlovsk- 10.70 280 Pn **Pn 20 15 11.7 -0.5**
PETK Petropavlovsk- 10.70 280 Pn **Pn 20 15 12.8 +0.6**
comp=Z,23nm,0.3s,baz=79,slow=16,SNR=154
PETK Sn **Sn 20 17 09.0 -3.0**
comp=Z,10nm,0.3s,baz=299,slow=44,SNR=6.8
PETK LR LR 20 19 15.8
comp=Z,7µm,20.9s,baz=105,slow=37
PETK Petropavlovsk- 10.70 280 Pn **Pn 20 15 11.5 -0.7**
UNV Unalaska Valle 10.98 76 Pn **Pn 20 15 15.3 -0.7**
AKUT Akutan 11.42 74 Pn **Pn 20 15 21.6 -0.3**
SKR Severo-Kuril's 12.09 269 *e*P **Pn 20 15 30.8 -0.4**
SKR *e*S **Sn 20 17 38.5 -7.5**
SKR pmax pmax
comp=Z,101nm,0.7s
SKR pmax pmax
comp=Z,800nm,2.6s
SKR smax smax
comp=E,746nm,0.7s
SKR smax smax
comp=N,799nm,0.6s
SKR MLR MLR
comp=Z,3µm,17.0s
SKR MLR MLR
comp=Z,3µm,16.0s
FALS False Pass 12.81 71 Pn 20 15 40.4 -0.5
SDPT Sand Point 14.51 69 Pn **Pn 20 16 04.1 -0.1**
CNBA Chernabura Isl 15.02 71 Pn 20 16 10.1 -1.0
MA2 Magadan 15.39 307 Pn **Pn 20 16 16.1 +0.1**
comp=Z,0.6nm,0.3s,baz=91,slow=13,SNR=2.4
MA2 LR LR 20 21 38.0
comp=Z,7µm,19.1s,baz=110,slow=35
MA2 Magadan 15.39 307 *ce*P **Pn 20 16 17.9 +1.9**
ANM Nome 15.65 32 P **Pn 20 16 19.7 +0.3**
ANM pmax pmax
comp=Z,447nm,1.9s
ANM Nome 15.65 32 Pn **Pn 20 16 19.7 +0.3**
ANM IAmb IAmb 20 16 25.0
comp=Z,447nm,1.9s
SEY Seymchan 16.02 320 Pn **Pn 20 16 23.3 -0.8**
comp=Z,0.2nm,0.3s,baz=114,slow=13,SNR=32
SEY LR LR 20 21 25.2
comp=Z,6µm,21.2s,baz=118,slow=33
SEY Seymchan 16.02 320 *d i*P **Pn 20 16 24.7 +0.6**
CHIR Chirikof Islan 17.27 67 Pn 20 16 39.5 -0.4
CHIR IAmb IAmb 20 17 00.7
comp=Z,323nm,1.6s
SVW2 Sparrevohn 17.97 50 P **P 20 16 49.4 +0.2**
SII Sitkinak Islan 18.07 65 Pn 20 16 49.7 -0.2
TTA Tatalina 18.36 44 P **P 20 16 54.4 +0.9**
TTA pmax pmax
comp=Z,124nm,1.2s
TTA Tatalina 18.36 44 P **P 20 16 54.4 +0.9**
OHAK Old Harbor 18.57 63 P **P 20 16 54.7 -1.1**
OHAK IAmb IAmb 20 17 06.5
comp=Z,443nm,1.5s
RDOG Red Dog Mine 18.79 26 P **Pn 20 16 58.8 +0.2**
RDOG IAmb IAmb 20 17 06.2
comp=Z,198nm,1.4s
KDAK Kodiak Island 18.97 61 P **P 20 17 00.2 +0.1**
comp=Z,8.4nm,0.3s,baz=258,slow=4.4,SNR=119
KDAK S **Sn 20 20 33.5 +0.6**
comp=Z,0.2nm,0.3s,baz=106,slow=20,SNR=8.1
KDAK Kodiak Island 18.97 61 P **P 20 16 59.7 -0.4**
RSO Redoubt South 19.18 53 P **P 20 17 02.4 -0.3**
KUR Kuril'sk 19.40 259 *e*P **Pn 20 17 05.6 -0.4**
KUR pmax pmax
comp=Z,377nm,2.1s
KUR pmax pmax
comp=Z,4µm,4.0s
KUR pmax pmax
comp=E,5µm,3.8s
KUR pmax pmax
comp=N,2µm,4.5s
KUR MLR MLR
comp=E,4µm,12.0s
KUR MLR MLR
comp=Z,3µm,12.0s
KUR MLR MLR
comp=N,2µm,11.0s
CNPM China Poot 19.80 56 P **P 20 17 08.0 -1.2**
PPLA Purkeypile 20.00 46 Pn 20 17 12.9 -0.5
CAPN Captain Cook N 20.01 52 P **P 20 17 10.9 -0.6**
baz=261
CAPN S **S 20 20 56.2 +0.1**
baz=261
SKT Skwentna 20.07 49 IAmb IAmb 20 17 25.8
comp=Z,217nm,1.0s
TYV Tymovskoe 20.24 278 *e*P Pn 20 17 15.8 -0.3
TYV *e*S Sn 20 21 06.0 +2.2
TYV pmax pmax
comp=Z,59nm,1.1s
TYV pmax pmax
comp=Z,1µm,3.2s
TYV smax smax
comp=E,33nm,1.9s
TYV smax smax
comp=E,2µm,5.9s
SUA Susitna One 20.32 50 IAmb IAmb 20 17 21.8
comp=Z,232nm,1.1s
IMAR Indian Mountai 20.50 37 P **P 20 17 17.2 +0.4**
O22K Cooper Landing 20.66 53 P **P 20 17 18.5 -0.1**
baz=263,SNR=19
O22K S **S 20 21 06.0 -3.1**
baz=263
CUT Chulitna 20.74 48 P **P 20 17 19.2 -0.1**
baz=257
CUT S **S 20 21 12.4 +1.8**
baz=257
KTH Kantishna Hill 20.74 45 P **P 20 17 20.6 +1.1**
SEW Seward 20.75 55 P **P 20 17 19.0 -0.6**
PMR Palmer 21.11 50 P **P 20 17 22.7 -0.7**
PMR pmax pmax
comp=Z,32nm,1.0s
PMR MLR MLR
comp=Z,5µm,18.0s
PMR Palmer 21.11 50 P **P 20 17 22.6 -0.7**
GHO Glory Hole Cre 21.24 50 P **P 20 17 23.5 -1.4**
YUK Yuzh-Kuril'sk 21.25 258 *e*P **P 20 17 21.1 -3.9**
YUK *e* 20 17 43.9
YUK *e*S Sn 20 21 25.2 -2.8
YUK *e*SS **SnSn 20 21 46.4 +3.6**
YUK pmax pmax
comp=Z,888nm,1.4s
YUK pmax pmax
comp=N,133nm,1.4s
YUK pmax pmax
comp=Z,736nm,1.4s
YUK pmax pmax
comp=E,639nm,1.5s
YUK MLR MLR
comp=Z,2µm,14.0s
YUK MLR MLR
comp=E,2µm,12.0s
YUK MLR MLR
comp=N,3µm,13.0s
KNK Knik Glacier 21.40 51 IAmb IAmb 20 17 37.4
comp=Z,255nm,1.6s
KNK IAMs_20 IAMs_20 20 26 59.2
comp=Z,11µm,20.0s
SML Sawmill 21.52 50 IAmb IAmb 20 17 35.1
comp=Z,171nm,0.8s
MCK McKinley 21.64 45 IAmb IAmb 20 17 33.0
comp=Z,198nm,1.2s
YSS Yuzh-Sakhalins 21.66 268 *e*P **P 20 17 31.3 +1.9**
YSS *e* 20 17 58.9
YSS *e*S **S 20 21 27.1 -1.9**
YSS pmax pmax
comp=Z,90nm,1.3s
YSS smax smax
comp=E,5µm,13.2s
YSS MLR MLR
comp=N,6µm,14.0s
YSS MLR MLR
comp=E,3µm,15.0s
NEA2 Nenana 21.82 42 P **P 20 17 31.8 +0.8**
baz=253,SNR=91
NEA2 S **S 20 21 33.9 +1.9**
baz=253
GLI Glacier Island 21.99 53 IAmb IAmb 20 17 38.6
comp=Z,113nm,0.9s
SCM Sheep Creek Mo 22.00 50 IAmb IAmb 20 17 39.5
comp=Z,199nm,0.9s
SCM IAMs_20 IAMs_20 20 27 22.6
comp=Z,10µm,20.0s
HIN Hinchinbrook I 22.25 54 IAmb IAmb 20 17 43.4
comp=Z,99nm,0.8s
MDM Murphy Dome 22.27 42 IAmb IAmb 20 17 44.2
comp=Z,227nm,1.3s
Q23K Middleton Isla 22.28 57 S **S 20 21 39.9 -0.9**
baz=269
FID Port Fidalgo 22.28 53 IAmb IAmb 20 17 49.9
comp=Z,87nm,0.9s
MID Middleton Isla 22.29 57 IAMs_20 IAMs_20 20 25 34.7
comp=Z,9µm,21.0s
COLD Coldfoot 22.32 35 P **P 20 17 36.5 +0.2**
baz=246,SNR=28
COLD S **S 20 21 41.9 +0.5**
baz=246
CCB Clear Creek Bu 22.36 43 IAmb IAmb 20 17 41.9
comp=Z,99nm,1.2s
TCOL CIGO, UAF Yank 22.40 42 P **P 20 17 37.6 +0.4**
baz=254,SNR=16
TCOL S **S 20 21 43.8 +1.0**
baz=254
COLA College 22.40 42 *d i*P **P 20 17 38.1 +0.9**
COLA pmax pmax
comp=Z,117nm,1.0s
COLA College 22.40 42 P **P 20 17 37.7 +0.5**
COLA IAmb IAmb 20 17 43.2
comp=Z,125nm,1.0s
KLU Klutina 22.62 51 IAmb IAmb 20 17 46.0
comp=Z,130nm,1.5s
POKR Poker Flat Res 22.64 42 P **P 20 17 40.5 +0.7**
baz=254,SNR=52
POKR S **S 20 21 48.1 +0.6**
baz=254
A21K Barrow 22.64 23 P **P 20 17 38.8 -0.9**
baz=228
A21K S **S 20 21 45.9 -1.3**
baz=228
HDA Harding Lake 22.66 44 P **P 20 17 39.4 -0.6**
baz=256,SNR=43
HDA S **S 20 21 44.4 -3.3**
baz=256
ILAR Eielson Array 22.77 43 P **P 20 17 40.8 -0.4**
comp=Z,25nm,0.8s,baz=251,slow=7.3,SNR=86
ILAR PcP **PcP 20 21 32.5 +0.2**
comp=Z,2.4nm,0.7s,baz=280,slow=3.4,SNR=3.8
ILAR Eielson Array 22.77 43 P **P 20 17 38.7 -2.5**
PAX Paxson 23.02 48 IAmb IAmb 20 17 49.5
comp=Z,208nm,1.3s
TOLK Toolik Lake Re 23.14 32 P **P 20 17 45.1 +0.1**
baz=243,SNR=43
TOLK S **S 20 21 56.1 -0.1**
baz=243
RAGM Ragged Mountai 23.15 54 IAmb IAmb 20 18 03.6
comp=Z,135nm,1.0s
JKA Kamikawa-asahi 23.17 262 IAmb IAmb 20 17 57.8
comp=Z,339nm,2.0s
ASAJ Asahikawa 23.17 262 P **P 20 17 46.0 +0.6**
comp=Z,22nm,0.8s,baz=88,slow=11,SNR=14
ASAJ LR LR 20 27 15.9
comp=Z,3µm,19.1s,baz=72,slow=38
KAIM Kayak Island 23.27 55 IAmb IAmb 20 17 55.9
comp=Z,120nm,0.9s
KAIM IAMs_20 IAMs_20 20 27 19.6
comp=Z,10µm,18.0s
RIDG Independent Ri 23.42 46 IAmb IAmb 20 17 57.4
comp=Z,72nm,1.0s
SUCK Suckling Hills 23.59 55 IAMs_20 IAMs_20 20 26 49.2
comp=Z,12µm,19.0s
GLB Gilahina Butte 23.63 52 IAmb IAmb 20 18 02.1
comp=Z,118nm,1.2s
GLB IAMs_20 IAMs_20 20 26 36.0
comp=Z,8µm,19.0s
DOT Dot Lake 23.75 46 IAmb IAmb 20 17 55.3
comp=Z,55nm,0.8s
VRDI Verde Repeater 23.79 52 IAmb IAmb 20 18 04.5
comp=Z,292nm,2.0s
CRQM Cirque 23.92 53 IAmb IAmb 20 18 08.5
comp=Z,91nm,0.9s
CRQM IAMs_20 IAMs_20 20 28 24.4
comp=Z,12µm,18.0s
MCARA McCarthy VSAT 24.00 52 IAmb IAmb 20 18 00.8
comp=Z,80nm,0.8s
MCARA IAMs_20 IAMs_20 20 26 56.9
comp=Z,10µm,19.0s
GRNR Gornyy 24.03 282 ⇑ *i*P **P 20 17 54.0 +0.2**
GRNR *e* 20 18 22.9
GRNR *e*S **S 20 22 13.4 +2.7**
GRNR pmax pmax
comp=E,20nm,0.7s
GRNR pmax pmax
comp=Z,30nm,0.7s
GRNR smax smax
comp=E,4.0nm,0.8s
GRNR MLR MLR
comp=E,2µm,15.0s
GRNR MLR MLR
comp=Z,2µm,15.0s
GRNR MLR MLR
comp=N,2µm,16.0s
ERM Erimo 24.03 257 *de*P **P 20 17 56.8 +2.9**
ERM pmax pmax
comp=Z,206nm,1.6s
ERM Erimo 24.03 257 P **P 20 17 55.5 +1.6**
ERM IAmb IAmb 20 18 19.2
comp=Z,157nm,1.1s
TGL Tana Glacier 24.07 53 IAmb IAmb 20 18 16.5
comp=Z,119nm,1.1s
TGL IAMs_20 IAMs_20 20 28 27.9
comp=Z,13µm,18.0s
BALM Baldy 24.32 53 P **P 20 17 55.2 -1.4**
BALM Baldy 24.32 53 P **P 20 17 55.2 -1.4**
BMAR Burnt Mountain 24.42 37 P **P 20 17 57.2 -0.2**
YAH Yahtse 24.61 54 IAMs_20 IAMs_20 20 28 24.9
comp=Z,14µm,19.0s
BARN Barnard Glacie 24.65 53 IAmb IAmb 20 18 12.8
comp=Z,95nm,1.0s
BARN IAMs_20 IAMs_20 20 28 37.1
comp=Z,7µm,19.0s
K27K Chicken 24.68 46 S **S 20 22 20.3 -0.7**
baz=262
BCAR Beaver Creek A 24.70 48 P **P 20 17 59.5 -0.4**
CTGM Chitina Glacie 24.81 53 P **P 20 18 00.3 -0.8**
CTGM IAmb IAmb 20 18 08.2
comp=Z,194nm,1.5s
CTGM IAMs_20 IAMs_20 20 28 50.2
comp=Z,8µm,19.0s
MIDW Midway 24.85 165 P **P 20 18 01.4 0.0**
MIDW IAmb IAmb 20 18 04.9
comp=Z,94nm,1.1s
PCA Pinnacle 25.36 55 IAMs_20 IAMs_20 20 28 44.9
comp=Z,12µm,20.0s
BCPM Bancas Point 25.68 55 IAMs_20 IAMs_20 20 28 43.2
comp=Z,7µm,22.0s
YAK Yakutsk 25.94 310 P **P 20 18 10.2 -0.8**
comp=Z,14nm,0.5s,baz=71,slow=4.4,SNR=18
YAK LR LR 20 28 03.2
comp=Z,5µm,18.5s,baz=92,slow=36
YAK Yakutsk 25.94 310 *d i*P **P 20 18 09.5 -1.5**
YAK *e**PP **pwP 20 18 18.5 +1.9**
YAK *e*PPP PPP 20 18 54.1
YAK *e* 20 21 39.5
YAK *e*S **S 20 22 36.3 -4.6**
YAK *e* 20 29 07.8
YAK pmax pmax
comp=Z,49nm,0.9s
YAK pmax pmax
comp=E,26nm,1.0s
YAK pmax pmax
comp=N,13nm,1.2s
YAK smax smax
comp=E,459nm,2.3s
YAK smax smax
comp=N,747nm,2.8s
YAK MLR MLR
comp=Z,5µm,17.0s
YAK MLR MLR
comp=E,3µm,19.0s
YAK MLR MLR
comp=N,5µm,15.0s
YAK Yakutsk 25.94 310 P **P 20 18 10.2 -0.8**
YAK IAmb IAmb 20 18 35.3
comp=Z,62nm,0.8s
TEY Ternei 26.34 269 ⇑ *e*P **P 20 18 16.5 +1.6**
TEY pmax pmax
comp=Z,10.0nm,0.9s
HYT Haines Junctio 26.68 53 IAmb IAmb 20 18 33.2
comp=Z,87nm,1.2s
EPYK Eagle Plains 27.22 41 S **S 20 23 01.9 +0.6**
baz=263
EPYK Eagle Plains 27.22 41 IAmb IAmb 20 18 31.0
comp=Z,114nm,1.4s
KLR Kul'dur 27.40 281 P **P 20 18 23.9 -0.4**
comp=Z,17nm,0.8s,baz=56,slow=9.5,SNR=31
KLR LR LR 20 29 42.5
comp=Z,4µm,19.2s,baz=69,slow=37
KLR Kul'dur 27.40 281 *ce*P **P 20 18 23.7 -0.6**
KLR pmax pmax
comp=Z,45nm,1.0s
BESE Bessie Mountai 28.27 58 IAMs_20 IAMs_20 20 31 03.8
comp=Z,7µm,18.0s
SIT Sitka 28.31 61 IAmb IAmb 20 18 47.9
comp=Z,48nm,1.0s
ZEA Zeya 28.46 292 *e*P **P 20 18 32.8 -1.0**
ZEA *e* 20 19 24.0
ZEA *e*S **S 20 23 19.0 -1.9**
ZEA pmax pmax
comp=E,59nm,1.0s
ZEA pmax pmax
comp=Z,92nm,1.2s
ZEA pmax pmax
comp=E,200nm,5.0s
ZEA pmax pmax
comp=Z,500nm,5.0s
ZEA pmax pmax
comp=E,500nm,14.0s
ZEA pmax pmax
comp=Z,900nm,14.0s
ZEA smax smax
comp=E,2µm,15.0s
ZEA MLR MLR
comp=E,4µm,14.0s
ZEA MLR MLR
comp=Z,6µm,14.0s
ZEA MLR MLR
comp=N,2µm,15.0s
JIS Juneau Island 28.57 58 IAmb IAmb 20 19 36.8
comp=Z,59nm,1.4s
JIS IAMs_20 IAMs_20 20 29 47.7
comp=Z,6µm,20.0s
INK Inuvik 28.70 37 P **P 20 18 36.1 +0.4**
comp=Z,11nm,1.1s,baz=249,slow=7.2,SNR=12
INK Inuvik 28.70 37 P **P 20 18 34.6 -1.1**
USRK Ussuriysk Ar. 29.60 271 P **P 20 18 44.0 +0.1**
comp=Z,11nm,0.6s,baz=57,slow=8.3,SNR=32
USRK PcP **PcP 20 21 49.0 +0.6**
comp=Z,14nm,0.9s,baz=58,slow=3.6,SNR=9.1
USRK Ussuriysk Ar. 29.60 271 P **P 20 18 42.5 -1.4**
USRK PcP **PcP 20 21 48.9 +0.5**
WRAK Wrangell Islan 30.05 61 IAmb IAmb 20 18 57.7
comp=Z,74nm,1.4s
WRAK Wrangell Islan 30.05 61 IAMs_20 IAMs_20 20 29 36.6
comp=Z,8µm,22.0s
VLA Vladivostok 30.24 270 *ce*P **P 20 18 51.5 +1.8**
VLA pmax pmax
comp=Z,84nm,1.8s
MJAR Matsushiro Arr 30.49 253 P **P 20 18 52.6 +0.6**
comp=Z,2.5nm,0.6s,baz=24,slow=5.0,SNR=12
MJAR PcP **PcP 20 21 52.4 +1.4**
comp=Z,2.0nm,0.7s,baz=74,slow=0.7,SNR=4.4
MJAR LR LR 20 30 17.6
comp=Z,1µm,22.0s,baz=260,slow=35
MJAR Matsushiro Arr 30.49 253 P **P 20 18 52.2 +0.2**
MAJO Matsushiro 30.50 253 *de*P **P 20 18 53.6 +1.6**
MAJO pmax pmax
comp=Z,41nm,1.0s
MAJO Matsushiro 30.50 253 P **P 20 18 51.6 -0.4**
MAJO IAmb IAmb 20 19 01.1
comp=Z,36nm,0.9s
MAT Matsushiro 30.50 253 P **P 20 18 53.2 +1.2**
MAT S **S 20 23 56.0 +2.8**
DLBC Dease Lake 30.78 57 LR LR 20 32 52.4
comp=Z,6µm,18.2s,baz=283,slow=40
DLBC Dease Lake 30.78 57 IAmb IAmb 20 19 06.1
comp=Z,28nm,0.9s
DLBC IAMs_20 IAMs_20 20 32 41.3
comp=Z,7µm,18.0s
MDJ Mudanjiang 30.84 274 P **P 20 18 54.3 -0.7**
MDJ PP **PnPn 20 19 56.5 +1.5**
MDJ S **S 20 24 03.3 +4.9**
MDJ pmax pmax
comp=Z,19nm,1.1s
MDJ pmax pmax
comp=Z,240nm,7.8s
MDJ LR LR
comp=Z,5µm,11.8s
MDJ LR LR
comp=Z,5µm,22.1s
MDJ LR LR
comp=Z,6µm,21.2s
MDJ Mudanjiang 30.84 274 IAMs_20 IAMs_20 20 29 35.6
comp=Z,5µm,22.0s
DIB Dawson Inlet, 30.95 68 IAmb IAmb 20 19 11.0
comp=Z,48nm,1.5s
A36M Sachs Harbour 31.92 30 P **P 20 19 03.1 -1.0**
baz=265
A36M S **S 20 24 16.4 +1.7**
baz=265
JHJ Hachijo jima 2 32.03 247 P **P 20 19 04.5 -1.0**
comp=Z,55nm,0.8s,baz=66,slow=20,SNR=2.2
C36M Paulatuk 32.19 35 P **P 20 19 05.4 -1.2**
baz=270
C36M S **S 20 24 17.1 -1.8**
baz=270
C36M Paulatuk 32.19 35 IAmb IAmb 20 19 17.0
comp=Z,53nm,1.2s
BBB Bella Bella 33.79 67 IAmb IAmb 20 19 32.3
comp=Z,64nm,1.3s
CN2 Changchun 33.80 275 *e*P **P 20 19 20.1 -0.8**
CN2 *e*S **S 20 24 36.3 -8.2**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,190nm,4.0s
CN2 LR LR
comp=Z,5µm,19.0s
CN2 LR LR
comp=Z,5µm,19.0s
CN2 LR LR
comp=Z,4µm,20.0s
BOD Bodaibo 34.37 304 *e*P **P 20 19 24.7 -1.0**
BOD *e* 20 24 51.1
BOD pmax pmax
comp=Z,97nm,1.3s
HIA Hailar 34.50 287 P **P 20 19 25.3 -1.6**
HIA pmax pmax
comp=Z,34nm,1.1s
HIA MLR MLR
comp=Z,5µm,18.0s
HIA Hailar 34.50 287 P **P 20 19 25.3 -1.6**
HIA IAmb IAmb 20 19 30.8
comp=Z,34nm,1.1s
HIA Hailar 34.50 287 IAMs_20 IAMs_20 20 34 10.8
comp=Z,5µm,18.0s
H11S1 WAKE ISLAND Hy 34.58 195 T T 20 56 05.3
baz=8.6,slow=76
H11S3 WAKE ISLAND Hy 34.59 195 T T 20 56 05.4
baz=8.6,slow=76
H11S2 WAKE ISLAND Hy 34.60 195 T T 20 56 13.3
baz=8.6,slow=76
KGE Kanggye 34.71 270 P **P 20 19 30.9 +2.1**
JCJ Chichijima 35.43 237 P **P 20 19 35.0 -0.1**
comp=Z,53nm,0.7s,baz=282,slow=19,SNR=2.3
JCJ LR LR 20 31 15.4
comp=Z,1µm,20.9s,baz=27,slow=32
JCJ Chichijima 35.43 237 IAmb IAmb 20 19 43.9
comp=Z,99nm,0.8s
KEKH Kekaha 35.99 138 IAMs_20 IAMs_20 20 34 54.9

comp=Z,4µm,18.0s
SNY Shenyang 36.05 274 ⇑P **P** **20 19 42.6 +2.3**
SNY S **S** **20 25 22.3 +3.2**
SNY pmax pmax
comp=Z,5.0nm,0.4s
SNY pmax pmax
comp=Z,280nm,4.4s
SNY LR LR
comp=Z,5µm,21.6s
SNY LR LR
comp=Z,3µm,17.2s
SNY LR LR
comp=Z,4µm,32.4s
KSRS Korea Array 36.06 265 P **P** **20 19 42.1 +1.7**
comp=Z,14nm,0.9s,baz=58,slow=7.9,SNR=32
KSRS PcP **PcP** **20 22 07.5 +1.1**
comp=Z,2.7nm,0.6s,baz=12,slow=2.6,SNR=8.0
KSRS LR LR 20 33 01.4
comp=Z,1µm,21.7s,baz=50,slow=34
KS19 Wonju Array Si 36.06 265 P **P** **20 19 40.8 +0.3**
KSAR Wonju Array Be 36.09 265 P **P** **20 19 41.7 +1.0**
KSAR Wonju Array Be 36.09 265 P **P** **20 19 41.7 +1.0**
CIT Chita 36.80 295 *e*P **P** **20 19 45.6 -1.1**
CIT *e* 20 19 53.1
CIT *e* 20 21 08.8
CIT *e*S **S** **20 25 22.7 -7.9**
CIT pmax pmax
comp=Z,103nm,1.2s
INCN Inchon 36.83 266 P **P** **20 19 48.0 +1.0**
INCN pmax pmax
comp=Z,39nm,0.8s
INCN MLR MLR
comp=Z,2µm,20.0s
INCN Inchon 36.83 266 P **P** **20 19 48.0 +1.0**
INCN IAmb IAmb 20 19 53.2
comp=Z,39nm,0.8s
HJU Haeju 37.02 267 P **P** **20 19 49.0 +0.3**
YKA Yellowknife Ar 37.09 46 P **P** **20 19 49.8 +0.8**
comp=Z,9.3nm,0.9s,baz=290,slow=8.2,SNR=17
YKA PcP **PcP** **20 22 10.6 +1.5**
comp=Z,2.1nm,0.7s,baz=289,slow=3.0,SNR=3.3
YKA LR LR 20 37 27.0
comp=Z,7µm,18.4s,baz=0.0,slow=40
KIP Kipapa 37.20 136⇓ *e*P **P** **20 19 52.5 +2.3**
KIP pmax pmax
comp=Z,119nm,1.0s
KIP Kipapa 37.20 136 IAMs_20 IAMs_20 20 36 12.7
comp=Z,3µm,18.0s
JNU Nakatsue 37.20 256 P **P** **20 19 51.6 +1.3**
comp=Z,25nm,0.9s,baz=10,slow=5.5,SNR=6.2
JNU Nakatsue 37.20 256 P **P** **20 19 51.3 +1.1**
JNU IAmb IAmb 20 19 58.6
comp=Z,88nm,1.3s
JNU IAMs_20 IAMs_20 20 33 28.3
comp=Z,4µm,20.0s
JOHN Johnston Islan 37.62 156 IAMs_20 IAMs_20 20 32 09.5
comp=Z,4µm,20.0s
A04D Lummi Island 38.44 70 P **P** **20 19 59.5 -0.9**
baz=300
HLK Haleakala 38.54 134 IAMs_20 IAMs_20 20 36 16.2
comp=Z,3µm,18.0s
D03D Eldon 38.81 72 P **P** **20 20 03.3 -0.4**
baz=301
DL2 Dalian 38.99 272 P **P** **20 20 05.8 +0.6**
DL2 PP **PnPn** **20 21 37.0 +0.2**
DL2 S **S** **20 26 01.1 -2.7**
DL2 pmax pmax
comp=Z,57nm,0.7s
DL2 pmax pmax
comp=Z,250nm,4.7s
DL2 LR LR
comp=Z,4µm,17.4s
DL2 LR LR
comp=Z,2µm,16.6s
DL2 LR LR
comp=Z,4µm,31.3s
B05A Bryant 39.02 70 P **P** **20 20 05.2 -0.2**
baz=301
E04D Cinebar 39.63 73 P **P** **20 20 09.7 -0.8**
baz=302,SNR=6.8
G03D McMinnville, O 39.95 75 P **P** **20 20 11.9 -1.3**
baz=303
EUNU Eureka 40.19 15 IAmb IAmb 20 20 17.3
comp=Z,166nm,1.8s
RES Resolute Bay 40.23 24 P **P** **20 20 15.6 +0.5**
comp=Z,30nm,1.2s,baz=287,slow=4.0,SNR=5.3
RES Resolute Bay 40.23 24 P **P** **20 20 15.1 -0.1**
RES IAmb IAmb 20 20 20.4
comp=Z,110nm,1.5s
COR Corvallis 40.27 76 IAMs_20 IAMs_20 20 35 29.6
comp=Z,3µm,19.0s
LTY Liberty 40.36 71 IAMs_20 IAMs_20 20 39 23.1
comp=Z,3µm,18.0s
C09A Chrisman Ranch 41.45 69 IAMs_20 IAMs_20 20 39 22.7
comp=Z,4µm,18.0s
F07A Phinny Hill Vi 41.53 72 IAMs_20 IAMs_20 20 36 32.9
comp=Z,3µm,18.0s
NRIK Noril'sk 41.57 328 P **P** **20 20 26.0 -0.3**
comp=Z,18nm,1.0s,baz=78,slow=9.4,SNR=17
NRIK LR LR 20 39 44.9
comp=Z,2µm,18.1s,baz=73,slow=39
NRIK Noril'sk 41.57 328 *i* P **P** **20 20 25.7 -0.6**
BJI Beijing 41.61 277 P **P** **20 20 28.6 +1.6**
BJI PP **PP** **20 22 01.9 -1.0**
BJI S **S** **20 26 37.8 -5.2**
BJI pmax pmax
comp=Z,13nm,0.9s
BJI pmax pmax
comp=Z,250nm,6.3s
BJI LR LR
comp=Z,4µm,18.9s
BJT Baijiatuau 41.63 277 IAMs_20 IAMs_20 20 37 34.8
comp=Z,3µm,20.0s
IRK Irkutsk 41.76 299 *e*P **P** **20 20 27.5 -0.5**
IRK *e* 20 22 18.1
IRK pmax pmax
comp=Z,70nm,1.6s
NEW Newport 41.86 68 P **P** **20 20 28.3 -0.7**
baz=302,SNR=11
NEW Newport 41.86 68 IAMs_20 IAMs_20 20 38 24.4
comp=Z,3µm,19.0s
PINE Pine Mountain 42.12 75 IAMs_20 IAMs_20 20 36 39.6
comp=Z,3µm,18.0s
L04D Klamath Falls 42.23 78 P **P** **20 20 31.3 -0.9**
baz=306
J05D Fort Rock, OR 42.24 76 P **P** **20 20 31.9 -0.3**
baz=306,SNR=9.5
YBH Yreka Blue Hor 42.27 79 P **P** **20 20 32.6 +0.1**
comp=Z,3.9nm,0.9s,baz=227,slow=4.8,SNR=5.9
YBH LR LR 20 34 38.9
comp=Z,2µm,21.2s,baz=302,slow=31
TLY Talaya 42.38 299 P **P** **20 20 32.9 -0.2**
comp=Z,9.2nm,0.7s,baz=60,slow=7.8,SNR=11
TLY Talaya 42.38 299 *e*P **P** **20 20 32.6 -0.5**
TLY *e* 20 22 16.3
TLY *e* 20 22 25.6
TLY *e*S **S** **20 26 50.7 -3.4**
TLY *e*SS **SS** **20 30 00.9 -1.6**
TLY *e* 20 30 31.7
TLY pmax pmax
comp=Z,98nm,1.1s
TLY MLR MLR
comp=Z,12µm,18.0s
TLY Talaya 42.38 299 P **P** **20 20 33.2 +0.1**
G08A Pilot Rock 42.43 72 P **P** **20 20 34.6 +0.8**
ULN Ulaanbaatar 42.50 292 *d* iP **P** **20 20 34.3 0.0**
ULN pmax pmax
comp=Z,59nm,1.7s
ULN Ulaanbaatar 42.50 292 P **P** **20 20 34.9 +0.6**
N02D Trinity Center 42.73 80 P **P** **20 20 34.9 -1.3**
baz=308
M04C Macdoel 42.76 78 P **P** **20 20 35.7 -0.9**
baz=307
SONM Songino Array 42.89 292 P **P** **20 20 37.2 -0.2**
comp=Z,21nm,0.7s,baz=60,slow=8.0,SNR=67
SONM PcP **PcP** **20 22 28.7 +0.5**
comp=Z,6.6nm,1.0s,baz=90,slow=4.2,SNR=4.3
SONM Songino Array 42.89 292 P **P** **20 20 36.7 -0.8**
O02D Mt. Diablo Mer 43.17 81 P **P** **20 20 38.9 -0.9**
baz=308
WALA Waterton Lakes 43.23 65 IAmb IAmb 20 20 42.3
comp=Z,88nm,0.8s
WALA IAMs_20 IAMs_20 20 39 58.7
comp=Z,4µm,18.0s
ZAK Zakamensk 43.25 297 *e*P **P** **20 20 39.3 -1.0**
ZAK *e* 20 22 24.4
ZAK pmax pmax
comp=Z,37nm,1.5s
ZAK pmax pmax
comp=Z,10.0nm,1.1s
MOD Modoc Plateau 43.61 77 IAMs_20 IAMs_20 20 37 55.8
comp=Z,3µm,18.0s
O03E Paynes Creek 43.69 80 P **P** **20 20 42.6 -1.3**
baz=308
HOPS Hopland Field 43.73 83 IAMs_20 IAMs_20 20 35 47.4
comp=Z,3µm,20.0s
MOY Mondy 43.80 300 *e*P **P** **20 20 44.7 0.0**
MOY pmax pmax
comp=Z,60nm,1.7s
HHC Hu-ho-hao-te 43.90 281 *e*P **P** **20 20 48.0 +2.3**
HHC PP **PcP** **20 22 31.6 0.0**
HHC S **S** **20 27 20.8 +3.9**
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,280nm,4.6s
HHC LR LR
comp=Z,5µm,13.3s
HHC LR LR
comp=Z,4µm,13.5s
HHC LR LR
comp=Z,3µm,15.3s
GDXM Geysers 44.02 83 IAMs_20 IAMs_20 20 34 31.9
comp=Z,4µm,21.0s
MCCM Marconi Confer 44.38 83 IAMs_20 IAMs_20 20 35 42.7
comp=Z,4µm,20.0s
MSO Missoula 44.45 68 P **P** **20 20 49.0 -1.0**
baz=305,SNR=12
MSO Missoula 44.45 68 IAmb IAmb 20 20 52.2
comp=Z,72nm,1.8s
MSO IAMs_20 IAMs_20 20 40 06.9
comp=Z,4µm,19.0s
SSE Sheshan 44.45 263 P **P** **20 20 50.0 0.0**
SSE S **S** **20 27 28.5 +3.7**
SSE pmax pmax
comp=Z,26nm,0.8s
SSE pmax pmax
comp=Z,150nm,3.2s
SSE LR LR
comp=Z,2µm,22.7s
SSE LR LR
comp=Z,600nm,23.3s
BTO Baotou 44.98 282 *e*P **P** **20 20 54.5 +0.2**
BTO S **S** **20 27 24.6 -7.9**
NJ2 Nanjing 45.20 266 *e*P **P** **20 20 56.4 +0.4**
NJ2 S **S** **20 27 36.8 +1.1**
NJ2 pmax pmax
comp=Z,24nm,0.9s
NJ2 pmax pmax
comp=Z,250nm,4.1s
NJ2 LR LR
comp=Z,3µm,11.4s
NJ2 LR LR
comp=Z,3µm,14.9s
NJ2 LR LR
comp=Z,3µm,15.7s
TIY Taiyuan 45.34 277 *e*P **P** **20 20 59.3 +2.1**
TIY pmax pmax
comp=Z,65nm,1.1s
TIY pmax pmax
comp=Z,280nm,4.3s
TIY LR LR
comp=Z,4µm,16.6s
TIY LR LR
comp=Z,1µm,15.1s
TIY LR LR
comp=Z,2µm,23.2s
KRAR Krasnoyarsk 45.60 309 *ce*P **P** **20 20 55.5 -3.3**
CMB Columbia Colle 45.97 82 IAMs_20 IAMs_20 20 36 20.6
comp=Z,3µm,20.0s
HLID Hailey 46.08 72 P **P** **20 21 02.5 -0.6**
baz=307,SNR=7.4
EGMT Eagleton 46.10 64 P **P** **20 21 02.4 -0.7**
baz=305,SNR=17
EGMT Eagleton 46.10 64 IAmb IAmb 20 21 04.4
comp=Z,43nm,0.8s
EGMT IAMs_20 IAMs_20 20 42 21.6
comp=Z,3µm,19.0s
SAO San Andreas Ge 46.14 84 IAMs_20 IAMs_20 20 36 39.4
comp=Z,3µm,20.0s
WAKR Walker 46.24 81 P **P** **20 21 04.7 +0.3**
FFC Flin Flon 46.39 53 IAMs_20 IAMs_20 20 43 13.0
comp=Z,3µm,21.0s
BOZ Bozeman (W) 46.47 68 P **P** **20 21 04.9 -1.2**
baz=306,SNR=30
BOZ Bozeman (W) 46.47 68 IAmb IAmb 20 21 08.1
comp=Z,85nm,1.8s
BOZ IAMs_20 IAMs_20 20 41 38.4
comp=Z,3µm,18.0s
LHV Little Huntoon 46.96 80 IAMs_20 IAMs_20 20 36 52.9
comp=Z,3µm,21.0s
NVAR Mina Array Bea 46.97 80 P **P** **20 21 08.9 -1.2**
comp=Z,4.6nm,1.0s,baz=291,slow=7.6,SNR=3.0
NVAR LR LR 20 37 21.1
comp=Z,2µm,21.7s,baz=301,slow=32
MDPB Devils Postpil 47.02 81 IAMs_20 IAMs_20 20 37 56.3
comp=Z,3µm,20.0s
OMMB Old Mammoth Mi 47.08 81 IAMs_20 IAMs_20 20 36 56.9
comp=Z,3µm,21.0s
LKWY Lake 47.78 68 IAMs_20 IAMs_20 20 41 16.3
comp=Z,3µm,18.0s
H17A Grant Village 47.79 69 P **P** **20 21 15.3 -1.2**
baz=308
H17A Grant Village 47.79 69 IAmb IAmb 20 21 23.8
comp=Z,69nm,1.6s
IMW Indian Meadow 47.88 69 IAMs_20 IAMs_20 20 42 41.9
comp=Z,2µm,19.0s
FLWY Flagg Ranch 47.91 69 IAmb IAmb 20 21 20.1
comp=Z,19nm,0.8s
FXWY Fox Creek 47.99 70 IAMs_20 IAMs_20 20 43 14.8
comp=Z,2µm,18.0s
RLMT Red Lodge 48.09 67 P **P** **20 21 17.6 -1.2**
baz=307,SNR=20
RLMT Red Lodge 48.09 67 IAmb IAmb 20 21 21.4
comp=Z,33nm,1.1s
RLMT IAMs_20 IAMs_20 20 42 57.2
comp=Z,4µm,18.0s
TPAW Teton Pass 48.13 70 IAMs_20 IAMs_20 20 43 09.4
comp=Z,2µm,18.0s
LOHW Long Hollow 48.25 69 IAMs_20 IAMs_20 20 42 52.6
comp=Z,3µm,19.0s
SNOW Snow King Moun 48.26 70 IAMs_20 IAMs_20 20 43 39.8
comp=Z,3µm,18.0s
REDW Red Top Meadow 48.26 70 IAMs_20 IAMs_20 20 43 06.0
comp=Z,2µm,18.0s
CWC Cottonwood Cre 48.40 82 P **P** **20 21 20.3 -1.0**
baz=312
KBS Kingsbay 48.47 356 *de*P **P** **20 21 21.7 +0.7**
KBS pmax pmax
comp=Z,78nm,2.5s
KBS Kingsbay 48.47 356 P **P** **20 21 21.4 +0.4**
KBS Kingsbay 48.47 356 *e*P **P** **20 21 21.7 +0.7**
R11A Troy Canyon, C 48.65 78 P **P** **20 21 22.0 -1.1**
baz=311,SNR=12
ISA Isabella, Lake 48.67 83 IAMs_20 IAMs_20 20 37 51.3
comp=Z,3µm,21.0s
TATO Taipei 48.73 257 IAMs_20 IAMs_20 20 40 17.7
comp=Z,3µm,18.0s
DGMT Dagmar 48.85 61 P **P** **20 21 22.9 -1.5**
baz=307
DGMT Dagmar 48.85 61 IAmb IAmb 20 21 29.9
comp=Z,54nm,1.2s
DGMT Dagmar 48.85 61 IAMs_20 IAMs_20 20 43 16.2
comp=Z,4µm,18.0s
SPA0 Spitsbergen Ar 48.96 354 P **P** **20 21 24.3 -0.5**
SPA0 Spitsbergen Ar 48.96 354 *e*P **P** **20 21 24.5 -0.3**
SPITS Spitsbergen Ar 48.96 354 P **P** **20 21 24.6 -0.2**
SPITS pmax pmax
comp=Z,27nm,0.4s
MPMC Manual Prospec 49.01 82 P **P** **20 21 24.1 -1.8**
baz=312
WHN Wuhan 49.01 268 ⇓P **P** **20 21 26.4 +0.7**
WHN S **S** **20 28 30.3 +0.3**
WHN LR LR
comp=Z,4µm,13.4s
WHN LR LR
comp=Z,4µm,14.8s
WHN LR LR
comp=Z,5µm,18.1s
YHNB Yeheng 49.03 257 IAMs_20 IAMs_20 20 40 28.6
comp=Z,3µm,20.0s
DUG Dugway, Tooele 49.11 74 P **P** **20 21 24.9 -1.7**
baz=310
DUG Dugway, Tooele 49.11 74 P **P** **20 21 28.1 +1.5**
DUG pmax pmax
comp=Z,12nm,1.0s
DUG Dugway, Tooele 49.11 74 IAmb IAmb 20 22 55.9
comp=Z,33nm,1.4s
FURC Furnace Creek, 49.12 81 P **P** **20 21 24.9 -1.5**
baz=312
TPNV Topopah Spring 49.17 80 P **P** **20 21 26.3 -0.8**
baz=311,SNR=11
TPNV Topopah Spring 49.17 80 IAMs_20 IAMs_20 20 39 24.3
comp=Z,3µm,20.0s
BW06 Boulder Array 49.38 70 IAMs_20 IAMs_20 20 41 33.4
comp=Z,2µm,20.0s
PDAR Pinedale Array 49.38 70 P **P** **20 21 27.1 -1.7**
comp=Z,9.6nm,0.7s,baz=314,slow=2.5,SNR=74
PDAR Pinedale Array 49.38 70 P **P** **20 21 27.8 -0.9**
PRN Pahroc Range 49.59 79 IAMs_20 IAMs_20 20 38 45.3
comp=Z,3µm,21.0s
SNCC San Nicolas Is 49.67 86 IAMs_20 IAMs_20 20 38 25.1
comp=Z,3µm,19.0s
XAN Xi'an 49.91 276 P **P** **20 21 33.4 +0.7**
XAN S **S** **20 28 42.6 -0.1**
XAN pmax pmax
comp=Z,34nm,0.9s
XAN pmax pmax
comp=Z,280nm,5.5s
XAN LR LR
comp=Z,2µm,14.7s
XAN LR LR
comp=Z,4µm,15.7s
XAN LR LR
comp=Z,4µm,14.2s
XAN Xi'an 49.91 276 IAmb IAmb 20 21 38.1
comp=Z,51nm,1.3s
XAN Xi'an 49.91 276 IAMs_20 IAMs_20 20 42 36.3
comp=Z,4µm,21.0s
GSC Goldstone, Bar 49.93 82 P **P** **20 21 32.0 -0.8**
baz=312,SNR=8.3
GSC Goldstone, Bar 49.93 82 P **P** **20 21 32.1 -0.8**
GSC pmax pmax
comp=Z,15nm,1.0s
GSC MLR MLR
comp=Z,2µm,21.0s
GSC Goldstone, Bar 49.93 82 P **P** **20 21 32.1 -0.8**
SSLB Suanglung 49.94 257 IAMs_20 IAMs_20 20 40 12.9
comp=Z,3µm,22.0s
YULB Yu-li 50.04 256 P **P** **20 21 34.4 +0.7**
SHPR Sheep Range 50.12 80 IAMs_20 IAMs_20 20 39 24.5
comp=Z,3µm,20.0s
HSPB Hornsund (broa 50.15 354 *e*P **P** **20 21 34.1 +0.3**
HSPB Hornsund (broa 50.15 354 *e*P **P** **20 21 33.8 0.0**
QZH Quanzhou 50.49 260 ⇑ *i*P **P** **20 21 39.6 +2.5**
QZH PP **PP** **20 23 35.3 +2.7**
QZH S **S** **20 28 53.8 +3.0**
QZH pmax pmax
comp=Z,210nm,5.6s
QZH LR LR
comp=Z,990nm,14.2s
QZH LR LR
comp=Z,900nm,18.9s
QZH LR LR
comp=Z,1µm,14.2s
TPUB Ta-pu 50.51 257 P **P** **20 21 38.9 +1.7**
TPUB IAmb IAmb 20 21 45.3
comp=Z,24nm,0.7s
TPUB IAMs_20 IAMs_20 20 40 29.8
comp=Z,2µm,21.0s
MSU Marysvale 50.58 76 PcP **PcP** **20 22 55.7 +0.1**
ZAA0 Zalesovo Array 50.59 310 IAMs_20 IAMs_20 20 43 59.2
comp=Z,3µm,19.0s
ZALV Zalesovo Beam 50.59 310 P **P** **20 21 36.5 -1.0**
comp=Z,7.3nm,0.6s,baz=54,slow=6.4,SNR=14
ZALV PcP **PcP** **20 22 57.6 +2.7**
comp=Z,8.7nm,0.8s,baz=70,slow=1.7,SNR=6.2
ZALV LR LR 20 44 09.3
comp=Z,3µm,18.3s,baz=50,slow=37
ZALV Zalesovo Beam 50.59 310 P **P** **20 21 36.6 -0.8**
ZALV Zalesovo Beam 50.59 310 P **P** **20 21 36.6 -0.8**
ZALV **PcP** **20 22 56.2 +1.2**
TWG Pinlang 50.61 256 IAMs_20 IAMs_20 20 42 05.5
comp=Z,4µm,20.0s
DAG Danmarks Havn 50.70 4 *i* P **P** **20 21 37.7 -0.3**
comp=Z,2µm,18.0s
DAG Danmarks Havn 50.70 4 *e*P **P** **20 21 37.7 -0.3**
DAG MLR MLR
comp=Z,2µm,18.0s
MURC Murrieta 50.84 84 P **P** **20 21 38.3 -1.4**
baz=313
GMRC Granite Mounta 50.97 82 P **P** **20 21 39.6 -1.2**
baz=313
K22A Casper 51.18 68 IAMs_20 IAMs_20 20 44 56.1
comp=Z,2µm,19.0s
PFO Pinyon Flats O 51.28 83 P **P** **20 21 43.9 +0.8**
comp=Z,1.3nm,0.5s,baz=328,slow=3.7,SNR=2.3
PFO Pinyon Flats O 51.28 83 P **P** **20 21 43.2 +0.1**
PFO Pinyon Flats O 51.28 83 IAMs_20 IAMs_20 20 38 57.5
comp=Z,3µm,21.0s
XPFO Pion Flat 51.28 83 IAMs_20 IAMs_20 20 39 08.4
comp=Z,2µm,20.0s
RWWY Rawlins 51.41 69 IAMs_20 IAMs_20 20 42 59.1
comp=Z,2µm,19.0s
LZH Lanzhou 51.60 281 *e*P **P** **20 21 46.6 +1.1**
LZH pP sP 20 21 50.6 +1.0
LZH S **S** **20 29 04.3 -2.0**
LZH sS sS 20 29 16.3 +6.3
LZH pmax pmax
comp=Z,35nm,1.3s
LZH pmax pmax
comp=Z,310nm,6.5s
LZH LR LR
comp=Z,5µm,14.6s
LZH LR LR
comp=Z,4µm,13.6s
LZH LR LR
comp=Z,5µm,14.7s
RSSD Black Hills 51.63 65 P **P** **20 21 44.4 -1.3**
baz=310
RSSD Black Hills 51.63 65 P **P** **20 21 45.5 -0.2**
RSSD pmax pmax
comp=Z,15nm,0.8s
RSSD MLR MLR
comp=Z,3µm,20.0s
RSSD Black Hills 51.63 65 P **P** **20 21 45.5 -0.2**
RSSD Black Hills 51.63 65 IAMs_20 IAMs_20 20 43 35.0
comp=Z,3µm,20.0s
MDND Maddock 51.66 59 P **P** **20 21 44.2 -1.5**
baz=309
IRM Iron Mountain 51.71 82 P **P** **20 21 45.2 -1.0**
baz=313
GTA Gaotai 51.78 287 ⇓P **P** **20 21 47.3 +0.5**
GTA pP sP 20 21 51.3 +0.5
GTA sP pwP 20 21 54.4 +4.7
GTA S **S** **20 29 06.9 -1.8**
GTA sS sS 20 29 13.3 +0.8
GTA pmax pmax
comp=Z,29nm,1.0s
GTA pmax pmax
comp=Z,180nm,4.4s
GTA LR LR
comp=Z,6µm,16.5s
GTA LR LR
comp=Z,5µm,17.8s
GTA LR LR
comp=Z,4µm,16.2s
MONP2 Monument Peak 51.80 84 P **P** **20 21 45.8 -1.3**
baz=314
O20A White River Ci 51.82 71 P **P** **20 21 45.1 -2.1**
baz=311
U15A North Rim 51.89 78 IAMs_20 IAMs_20 20 41 34.9
comp=Z,3µm,21.0s
E28A Huff 51.89 61 IAmb IAmb 20 21 53.1
comp=Z,70nm,1.1s
DGZ Jazzator, Alta 51.96 305 *d* iP **P** **20 21 47.9 -0.1**
DGZ pmax pmax
comp=Z,34nm,0.9s
ULM Lac du Bonnet 52.05 54 P **P** **20 21 48.0 -0.5**
comp=Z,8.2nm,0.8s,baz=319,slow=7.6,SNR=6.0
ULM LR LR 20 44 40.8
comp=Z,4µm,19.3s,baz=318,slow=37
CBX Cerro Bola 52.05 85 P **P** **20 21 48.0 -0.9**
IKP In-Ko-Pah, Jac 52.16 84 P **P** **20 21 48.8 -0.8**
baz=314
ENH Enshi 52.17 272 IAmb IAmb 20 21 54.4
comp=Z,35nm,1.1s
PDMCI Parker Dam,Lak 52.21 81 P **P** **20 21 48.6 -1.3**
baz=313
BJO1 Bjornoya 52.30 352 *e*P **P** **20 21 48.1 -1.9**

PV14 **Lion Creek, Pa** 52.53 74 IAMs_20 IAMs_20 20 45 49.9
comp=Z,3μm,18.0s
PV04 **Paradox Valley** 52.58 74 IAMs_20 IAMs_20 20 46 07.5
comp=Z,3μm,19.0s
PV19 **Morning Glory** 52.59 74 IAMs_20 IAMs_20 20 46 08.7
comp=Z,2μm,19.0s
PV16 **Nyswonger Mesa** 52.63 74 IAMs_20 IAMs_20 20 45 52.7
comp=Z,3μm,18.0s
N23A **Red Feather La** 52.65 69 P **P** **20 21 52.4 -1.0**
baz=311
N23A **Red Feather La** 52.65 69 IAMs_20 IAMs_20 20 45 46.0
comp=Z,3μm,18.0s
GLA **Glamis** 52.66 83 P **P** **20 21 52.1 -1.2**
baz=314
GLA **Glamis** 52.66 83 IAmb IAmb 20 22 12.9
comp=Z,56nm,1.9s
GLA IAMs_20 IAMs_20 20 40 03.8
comp=Z,2μm,20.0s
PV11 **David Mesa, Pa** 52.66 74 IAMs_20 IAMs_20 20 45 53.6
comp=Z,3μm,18.0s
PV18 **Skein Mesa, Pa** 52.68 74 IAMs_20 IAMs_20 20 46 37.9
comp=Z,2μm,20.0s
PV12 **Saucer Basin,** 52.69 74 IAMs_20 IAMs_20 20 46 10.3
comp=Z,4μm,19.0s
PV07 **Paradox Valley** 52.70 73 IAMs_20 IAMs_20 20 46 28.6
comp=Z,3μm,19.0s
PV03 **Paradox Valley** 52.71 74 IAMs_20 IAMs_20 20 46 12.7
comp=Z,3μm,19.0s
PV13 **Radium Mtn., P** 52.79 74 IAmb IAmb 20 21 58.6
comp=Z,26nm,0.8s
PV15 **Paradox Valley** 52.86 73 IAMs_20 IAMs_20 20 46 23.9
comp=Z,3μm,19.0s
PV01 **Paradox Valley** 52.95 74 IAMs_20 IAMs_20 20 46 01.2
comp=Z,3μm,20.0s
SUMG **Summit** 53.03 12 ⇓*i* P **P** **20 21 56.0 +0.1**
comp=Z,285nm,1.2s
comp=Z,4μm,18.0s
SUMG **Summit** 53.03 12 ⇓*i* P **P** **20 21 56.0 +0.1**
SUMG pmax pmax
comp=Z,290nm,1.2s
SUMG MLR MLR
comp=Z,4μm,18.0s
SUMG **Summit** 53.03 12 P **P** **20 21 55.7 -0.2**
WUAZ **Wupatki** 53.05 78 IAMs_20 IAMs_20 20 41 16.7
comp=Z,3μm,20.0s
AGMN **Agassiz Nation** 53.30 56 P **P** **20 21 56.0 -1.8**
baz=310,SNR=7.4
AGMN **Agassiz Nation** 53.30 56 IAmb IAmb 20 22 01.1
comp=Z,40nm,1.3s
AGMN IAMs_20 IAMs_20 20 45 11.9
comp=Z,3μm,20.0s
113A **Mohawk Valley,** 53.50 82 IAMs_20 IAMs_20 20 41 02.0
comp=Z,2μm,20.0s
ISCO **Idaho Springs** 53.56 70 P **P** **20 21 59.3 -0.9**
baz=312
ISCO **Idaho Springs** 53.56 70 IAMs_20 IAMs_20 20 46 41.1
comp=Z,3μm,18.0s
MVCO **Mesa Verde** 53.61 74 P **P** **20 21 59.7 -0.8**
baz=313
FRB **Frobisher Bay** 53.91 30 P **P** **20 22 02.0 0.0**
FRB pmax pmax
comp=Z,58nm,0.9s
ILULI **Ilulissat** 53.94 19 *i* P **P** **20 22 02.0 -0.1**
comp=Z,2μm,18.0s
ILULI **Ilulissat** 53.94 19 *i* P **P** **20 22 02.0 -0.1**
ILULI MLR MLR
comp=Z,2μm,18.0s
ILULI **Ilulissat** 53.94 19 IAmb IAmb 20 22 03.2
comp=Z,30nm,0.9s
SUSD **Miller** 54.20 62 P **P** **20 22 03.9 -0.5**
baz=311,SNR=6.9
SUSD **Miller** 54.20 62 IAmb IAmb 20 22 05.7
comp=Z,47nm,0.8s
SUSD IAMs_20 IAMs_20 20 47 19.5
comp=Z,3μm,18.0s
S22A **4UR Ranch, Cre** 54.23 73 P **P** **20 22 03.8 -1.2**
baz=313
W18A **Petrified Fore** 54.30 77 IAMs_20 IAMs_20 20 42 30.8
comp=Z,3μm,20.0s
214A **Organ Pipe Nat** 54.64 82 IAMs_20 IAMs_20 20 41 15.3
comp=Z,2μm,20.0s
ZSN **Zaisan** 54.71 304 *e* P **P** **20 22 07.6 -0.5**
comp=Z,28nm,1.5s,baz=304
ZSN *e* S **S** **20 29 48.1 -0.1**
comp=Z,56nm,4.7s,baz=304
ZSN LR LR 20 47 12.7
comp=Z,491nm,13.1s,baz=304
ZSN **Zaisan** 54.71 304 *e* P **P** **20 22 07.6 -0.5**
ZSN *e* S **S** **20 29 48.1 -0.1**
ZSN pmax pmax
comp=Z,28nm,1.5s
ZSN MLR MLR
comp=Z,491nm,13.0s
OGNE **Ogallala** 54.83 67 P **P** **20 22 08.1 -1.1**
baz=312
OGNE **Ogallala** 54.83 67 IAMs_20 IAMs_20 20 47 01.7
comp=Z,3μm,18.0s
SDCO **Great Sand Dun** 55.00 72 P **P** **20 22 09.9 -0.8**
baz=313,SNR=11
XMAS **Kiritimati** 55.14 146 IAMs_20 IAMs_20 20 42 27.5
comp=Z,3μm,19.0s
CD2 **Chengdu** 55.22 277 *e* P **P** **20 22 11.0 -1.0**
CD2 S **S** **20 29 56.3 +0.9**
CD2 ScS **ScS** **20 32 02.3 +1.0**
CD2 pmax pmax
comp=Z,60nm,0.6s
CD2 pmax pmax
comp=Z,250nm,4.5s
CD2 LR LR
comp=Z,4μm,21.4s
CD2 LR LR
comp=Z,5μm,16.3s
CD2 LR LR
comp=Z,4μm,18.4s
K31A **O'Neill** 55.52 63 IAMs_20 IAMs_20 20 49 32.8
comp=Z,3μm,18.0s
KURK **Kurchatov** 55.58 310 *d* *i* P **P** **20 22 13.6 -0.7**
KURK pmax pmax
comp=Z,310nm,1.7s
KURK **Kurchatov** 55.58 310 P **P** **20 22 13.8 -0.4**
WMQ **Urumqi** 55.66 299 *e* P **P** **20 22 17.8 +2.7**
WMQ pP sP 20 22 19.4 +1.2
WMQ sP pwP 20 22 23.9 +2.8
WMQ S **S** **20 29 59.3 -1.7**
WMQ sS sS 20 30 07.5 +2.5
WMQ pmax pmax
comp=Z,53nm,0.9s
WMQ pmax pmax
comp=Z,37nm,3.7s
WMQ LR LR
comp=Z,9μm,15.9s
WMQ LR LR
comp=Z,4μm,18.7s
WMQ LR LR
comp=Z,3μm,17.3s
KURBB **Kurchatov Arra** 55.68 310 P **P** **20 22 14.3 -0.7**
comp=Z,60nm,0.7s,baz=46,slow=6.7,SNR=242
EYMN **Ely** 55.73 54 P **P** **20 22 15.2 -0.3**
baz=312,SNR=16
EYMN **Ely** 55.73 54 P **P** **20 22 15.5 0.0**
EYMN IAmb IAmb 20 22 21.1
comp=Z,24nm,0.8s
EYMN **Ely** 55.73 54 IAMs_20 IAMs_20 20 46 51.1
comp=Z,3μm,19.0s
KSCO **Kaye Shedlock'** 55.80 69 P **P** **20 22 15.9 -0.3**
baz=313
KSCO **Kaye Shedlock'** 55.80 69 IAMs_20 IAMs_20 20 45 32.4
comp=Z,2μm,20.0s
SFJD **Kangerlussuaq** 55.91 20 P **P** **20 22 15.5 -0.8**
comp=Z,16nm,0.7s,baz=342,slow=7.4,SNR=5.2
SFJD **Kangerlussuaq** 55.91 20 P **P** **20 22 15.8 -0.6**
SFJD pmax pmax
comp=Z,127nm,1.9s
SFJD MLR MLR
comp=Z,1μm,19.0s
SFJD **Kangerlussuaq** 55.91 20 P **P** **20 22 15.8 -0.6**
ECSD **EROS Data Cent** 55.93 61 P **P** **20 22 15.7 -1.2**
baz=313,SNR=12
T25A **Trinidad** 56.05 72 P **P** **20 22 17.5 -0.7**
baz=314,SNR=6.6
F36A **Milaca** 56.12 57 IAMs_20 IAMs_20 20 45 46.3
comp=Z,2μm,22.0s
ARCES **ARCESS Array B** 56.31 348 P **P** **20 22 18.0 -1.2**
comp=Z,7.1nm,0.7s,baz=37,slow=9.1,SNR=21
ARCES LR LR 20 46 19.0
comp=Z,1μm,21.8s,baz=23,slow=36
ARCES **ARCESS Array B** 56.31 348 P **P** **20 22 19.1 -0.2**
ARCES **ARCESS Array B** 56.31 348 P **P** **20 22 19.1 -0.2**
ANMO **Albuquerque** 56.37 75 ⇑*e* P **P** **20 22 21.7 +1.3**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
LVZ **Lovozero** 56.40 343 ⇓*i* P **P** **20 22 20.0 0.0**
LVZ pmax pmax
comp=Z,126nm,2.5s
LVZ **Lovozero** 56.40 343 IAMs_20 IAMs_20 20 51 05.8
comp=Z,3μm,19.0s
MK31 **Makanchi Array** 56.46 305 IAmb IAmb 20 22 24.5
comp=Z,40nm,1.1s
MKAR **Makanchi Array** 56.46 305 P **P** **20 22 19.3 -1.4**
comp=Z,11nm,0.5s,baz=54,slow=6.9,SNR=109
MKAR **Makanchi Array** 56.46 305 P **P** **20 22 19.4 -1.3**
MKAR **Makanchi Array** 56.46 305 P **P** **20 22 19.4 -1.3**
MAKZ **Makanchi** 56.61 305 P **P** **20 22 20.6 -1.1**
MAKZ pmax pmax
comp=Z,51nm,1.0s
MAKZ MLR MLR
comp=Z,4μm,19.0s
MAKZ **Makanchi** 56.61 305 P **P** **20 22 20.6 -1.1**
MAKZ IAmb IAmb 20 22 25.5
comp=Z,51nm,0.9s
E38A **The Farm, Brul** 56.61 56 IAmb IAmb 20 22 23.3
comp=Z,30nm,0.8s
GYA **Guiyang** 56.63 271 ⇓P P **20 22 22.5 +0.2**
GYA PP **PP** **20 24 25.8 -2.3**
GYA pmax pmax
comp=Z,17nm,1.2s
GYA pmax pmax
comp=Z,190nm,4.2s
GYA LR LR
comp=Z,2μm,17.3s
GYA LR LR
comp=Z,2μm,18.6s
GYA LR LR
comp=Z,1μm,20.3s
BGNE **Belgrade** 56.67 64 P **P** **20 22 21.3 -1.1**
baz=313,SNR=8.7
BGNE **Belgrade** 56.67 64 IAMs_20 IAMs_20 20 49 00.4
comp=Z,3μm,18.0s
Y22D **IRIS PASSCAL I** 56.70 76 IAMs_20 IAMs_20 20 44 24.2
comp=Z,3μm,20.0s
SCO **Scoresbysund** 56.70 7 *i* P **P** **20 22 22.7 +0.7**
comp=Z,2μm,16.0s
SCO **Scoresbysund** 56.70 7 *i* P **P** **20 22 22.7 +0.7**
SCO MLR MLR
comp=Z,2μm,16.0s
SCO **Scoresbysund** 56.70 7 P **P** **20 22 22.4 +0.4**
SCO IAmb IAmb 20 22 24.1
comp=Z,69nm,1.2s
SCO IAMs_20 IAMs_20 20 49 50.3
comp=Z,2μm,18.0s
APA **Apatity** 56.91 344 ⇑*i* P **P** **20 22 20.4 -3.1**
APA *i* 20 22 32.5
APA pmax pmax
comp=Z,11nm,1.2s
SPMN **Marine on St.** 56.92 57 P **P** **20 22 22.9 -1.0**
baz=313
SPMN **Marine on St.** 56.92 57 IAmb IAmb 20 22 29.7
comp=Z,77nm,1.6s
SPMN IAMs_20 IAMs_20 20 45 35.6
comp=Z,4μm,22.0s
TRO **Tromso** 56.98 350 *e* P **P** **20 22 24.1 +0.2**
KTK1 **Kautokeino** 57.09 348 *e* P **P** **20 22 24.4 -0.4**
319A **Douglas** 57.18 80 IAMs_20 IAMs_20 20 46 24.1
comp=Z,2μm,18.0s
L34A **Svendsen Farm,** 57.26 62 IAMs_20 IAMs_20 20 46 16.8
comp=Z,3μm,21.0s
121A **Cookes Peak, D** 57.26 78 P **P** **20 22 24.1 -2.7**
baz=315
121A **Cookes Peak, D** 57.26 78 IAMs_20 IAMs_20 20 51 11.5
comp=Z,2μm,18.0s
N33A **J Bar K, Exete** 57.52 64 IAMs_20 IAMs_20 20 49 19.8
comp=Z,3μm,19.0s
CBKS **Cedar Bluff** 57.57 67 P **P** **20 22 27.9 -0.8**
baz=314,SNR=6.1
CBKS **Cedar Bluff** 57.57 67 IAMs_20 IAMs_20 20 48 58.3
comp=Z,3μm,18.0s
BVAR **Borovoye Array** 57.64 316 P **P** **20 22 28.9 0.0**
comp=Z,18nm,0.6s,baz=51,slow=6.6,SNR=63
BRVK **Borovoye** 57.66 316 *d* *i* P **P** **20 22 28.3 -0.8**
BRVK pmax pmax
comp=Z,72nm,1.7s
BRVK **Borovoye** 57.66 316 P **P** **20 22 28.2 -0.8**
BRVK IAmb IAmb 20 22 33.6
comp=Z,29nm,0.7s
D41A **Chassel** 57.79 53 IAmb IAmb 20 22 31.9
comp=Z,44nm,0.9s
D41A IAMs_20 IAMs_20 20 46 07.4
comp=Z,3μm,21.0s
COWI **Conover** 58.17 55 IAmb IAmb 20 22 38.2
comp=Z,19nm,0.8s
COWI IAMs_20 IAMs_20 20 48 07.7
comp=Z,3μm,19.0s
G40A **Rib Lake** 58.22 56 IAmb IAmb 20 22 36.6
comp=Z,74nm,1.6s
SRIG **Santa Rosalia** 58.29 86 IAMs_20 IAMs_20 20 43 42.5
comp=Z,2μm,18.0s
R32A **Long Quarter,** 58.42 67 IAmb IAmb 20 22 36.6
comp=Z,53nm,1.2s
R32A IAMs_20 IAMs_20 20 49 57.8
comp=Z,3μm,18.0s
N35A **Tabor** 58.42 63 IAMs_20 IAMs_20 20 47 04.6
comp=Z,3μm,22.0s
BRZS **Berezniki** 58.82 313 *e* P **P** **20 22 36.5 -0.8**
comp=Z,37nm,1.3s,baz=312
BRZS *e* S **S** **20 30 42.1 -0.3**
comp=Z,74nm,0.0s,baz=312
BRZS LR LR 20 48 43.0
comp=Z,930nm,13.5s,baz=312
BRZS **Berezniki** 58.82 313 *e* P **P** **20 22 36.4 -0.8**
BRZS *e* S **S** **20 30 42.0 -0.3**
BRZS pmax pmax
comp=Z,37nm,1.3s
BRZS MLR MLR
comp=Z,930nm,14.0s
F42A **Maple Grove Fa** 58.91 54 IAMs_20 IAMs_20 20 48 29.2
comp=Z,3μm,19.0s
I40A **Norwalk** 58.97 57 IAMs_20 IAMs_20 20 46 26.8
comp=Z,3μm,22.0s
STEI **Steigen** 58.98 351 *e* P **P** **20 22 38.1 0.0**
SCIA **State Center** 59.00 61 P **P** **20 22 37.8 -0.8**
baz=315,SNR=7.6
E43A **Lone Tree Farm** 59.04 53 IAmb IAmb 20 22 40.3
comp=Z,35nm,0.8s
E43A IAMs_20 IAMs_20 20 46 56.5
comp=Z,3μm,22.0s
TMCR **Tamitsa** 59.05 340 *e* P **P** **20 22 37.3 -1.2**
KSU1 **Kansas State U** 59.12 65 P **P** **20 22 38.3 -1.2**
baz=315
KSU1 **Kansas State U** 59.12 65 IAMs_20 IAMs_20 20 50 22.2
comp=Z,3μm,19.0s
AMTX **Amarillo** 59.21 72 P **P** **20 22 38.7 -1.5**
baz=315
AMTX **Amarillo** 59.21 72 IAmb IAmb 20 22 45.0
comp=Z,22nm,1.0s
AMTX IAMs_20 IAMs_20 20 49 57.7
comp=Z,2μm,18.0s
MSTX **Muleshoe** 59.22 73 P **P** **20 22 39.3 -1.0**
baz=315
MSTX **Muleshoe** 59.22 73 IAmb IAmb 20 22 45.5
comp=Z,40nm,1.6s
MNTX **Cornudas Mount** 59.29 77 P **P** **20 22 40.6 -0.1**
baz=316,SNR=13
PRGR **Permogore** 59.43 335 ⇓*i* P **P** **20 22 41.5 +0.3**
PRGR pmax pmax
comp=Z,197nm,1.2s
FAUS **Fauske** 59.51 351 *e* P **P** **20 22 41.5 -0.3**
ANGG **Ammassalik, Gr** 59.54 15 IAMs_20 IAMs_20 20 51 09.4
comp=Z,2μm,20.0s
TDK **Taldyqorghan** 59.65 305 *e* P **P** **20 22 42.6 -0.5**
TDK LR LR 20 48 57.9
comp=Z,2μm,14.5s,baz=305
TDK **Taldyqorghan** 59.65 305 *e* P **P** **20 22 42.5 -0.5**
TDK pmax pmax
comp=Z,19nm,1.1s
TDK MLR MLR
comp=Z,2μm,14.0s
ARU **Arti** 59.68 325 P **P** **20 22 43.2 +0.2**
comp=Z,28nm,0.5s,baz=38,slow=7.3,SNR=4.8
ARU **Arti** 59.68 325 P **P** **20 22 43.0 -0.1**
ARU IAMs_20 IAMs_20 20 50 20.0
comp=Z,2μm,20.0s
RABL **Rabaul** 59.79 207 IAMs_20 IAMs_20 20 45 33.6
comp=Z,2μm,19.0s
JFWS **Jewell Farm** 59.85 58 P **P** **20 22 43.1 -1.3**
baz=315,SNR=7.0
JFWS **Jewell Farm** 59.85 58 IAmb IAmb 20 22 45.0
comp=Z,30nm,0.9s
JFWS **Jewell Farm** 59.85 58 IAMs_20 IAMs_20 20 47 04.1
comp=Z,4μm,22.0s
L40A **Anamosa** 59.95 59 IAmb IAmb 20 22 49.2
comp=Z,41nm,1.0s
H43A **Windswept, Lux** 60.01 55 IAmb IAmb 20 22 46.7
comp=Z,30nm,0.8s
KMI **Kunming** 60.01 273 ⇑*e* P **P** **20 22 47.0 +1.0**
KMI pP pP 20 22 48.8 -0.2
KMI S **S** **20 30 58.3 -0.5**
KMI SS **SS** **20 34 49.8 -5.2**
KMI pmax pmax
comp=Z,13nm,1.2s
KMI pmax pmax
comp=Z,180nm,4.9s
KMI LR LR
comp=Z,2μm,17.9s
KMI LR LR
comp=Z,2μm,17.9s
KMI LR LR
comp=Z,2μm,22.2s
KMI **Kunming** 60.01 273 IAMs_20 IAMs_20 20 50 56.9
comp=Z,2μm,18.0s
D46A **Sault St. Mari** 60.10 51 P **P** **20 22 45.2 -0.8**
baz=316,SNR=9.1
CROK **Carrier** 60.18 68 P **P** **20 22 47.5 +0.7**
QIZ **Qiongzhong** 60.24 263 P **P** **20 22 45.3 -2.1**
QIZ S **S** **20 31 04.3 +2.9**
QIZ SS **SS** **20 35 01.0 +2.6**
QIZ LR LR
comp=Z,1μm,17.2s
QIZ LR LR
comp=Z,1μm,18.1s
QIZ LR LR
comp=Z,1μm,28.9s
D47A **Chapleau** 60.42 50 P **P** **20 22 47.6 -0.7**
baz=317,SNR=19
SHLS **Shalkode** 60.43 303 *e* P **P** **20 22 46.6 -2.0**
comp=Z,30nm,1.1s,baz=303
SHLS *e* S **S** **20 31 00.6 -3.0**
comp=Z,33nm,2.5s,baz=303
SHLS LR LR 20 50 15.3
comp=Z,441nm,13.4s,baz=303
SHLS **Shalkode** 60.43 303 *e* P **P** **20 22 46.6 -2.0**
SHLS *e* S **S** **20 31 00.5 -3.0**
SHLS pmax pmax
comp=Z,30nm,1.1s
SHLS MLR MLR
comp=Z,441nm,13.0s
P38A **Dawn** 60.44 63 IAmb IAmb 20 23 12.5
comp=Z,29nm,1.1s
P38A IAMs_20 IAMs_20 20 48 17.0
comp=Z,3μm,20.0s
G45A **Suttons Bay** 60.65 53 IAMs_20 IAMs_20 20 47 45.1
comp=Z,2μm,21.0s
UZB **Uzynbulak** 60.67 303 *e* P **P** **20 22 49.8 -0.5**
comp=Z,24nm,1.3s,baz=303
UZB *e* S **S** **20 31 06.5 -0.1**
comp=Z,43nm,4.4s,baz=303
UZB LR LR 20 49 20.6
comp=Z,713nm,15.0s,baz=303
UZB **Uzynbulak** 60.67 303 *e* P **P** **20 22 49.7 -0.5**
UZB *e* S **S** **20 31 06.5 -0.1**
UZB pmax pmax
comp=Z,24nm,1.3s
UZB MLR MLR
comp=Z,713nm,15.0s
T35A **Sooner Cattle** 60.72 67 IAmb IAmb 20 22 55.8
comp=Z,23nm,1.1s
T35A IAMs_20 IAMs_20 20 48 53.6
comp=Z,2μm,20.0s
E47A **Iron Bridge** 60.77 51 P **P** **20 22 49.4 -1.3**
baz=317,SNR=14
MOR8 **Moi Rana** 60.77 351 *e* P **P** **20 22 49.1 -1.3**
MATQ **Matagami** 60.91 45 P **P** **20 22 50.1 -1.4**
baz=318,SNR=8.5
KIRV **Kirov** 60.92 331 *i* P **P** **20 22 52.0 +0.6**
D48A **Paudash Townsh** 60.94 50 P **P** **20 22 50.2 -1.6**
baz=317,SNR=5.8
K43A **Burlington** 60.99 57 IAMs_20 IAMs_20 20 50 06.2
comp=Z,3μm,20.0s
WMOK **Wichita Mounta** 60.99 70 P **P** **20 22 51.4 -1.0**
baz=316,SNR=7.8
WMOK **Wichita Mounta** 60.99 70 P **P** **20 22 51.9 -0.5**
WMOK pmax pmax
comp=Z,36nm,1.4s
WMOK MLR MLR
comp=Z,3μm,20.0s
WMOK **Wichita Mounta** 60.99 70 P **P** **20 22 51.9 -0.5**
WMOK IAmb IAmb 20 22 55.0
comp=Z,36nm,1.4s
WMOK **Wichita Mounta** 60.99 70 IAMs_20 IAMs_20 20 48 47.8
comp=Z,3μm,20.0s
OK029 **Liberty Lake** 60.99 68 IAmb IAmb 20 22 58.3
comp=Z,52nm,1.2s
OK029 IAMs_20 IAMs_20 20 51 27.7
comp=Z,2μm,18.0s
SATY **Saty** 61.04 304 *e* P **P** **20 22 52.7 -0.1**
comp=Z,28nm,1.3s,baz=304
SATY *i* S **S** **20 31 11.7 +0.3**
comp=Z,60nm,3.9s,baz=304
SATY LR LR 20 49 22.8
comp=Z,564nm,15.2s,baz=304
SATY **Saty** 61.04 304 *e* P **P** **20 22 52.6 -0.1**
SATY *i* S **S** **20 31 11.6 +0.3**
SATY pmax pmax
comp=Z,28nm,1.3s
SATY MLR MLR
comp=Z,564nm,15.0s
SATY **Saty** 61.04 304 *e* P **P** **20 22 52.6 -0.1**
SATY *i* S **S** **20 31 11.6 +0.3**
SATY pmax pmax
comp=Z,28nm,1.3s
SATY MLR MLR
comp=Z,564nm,15.0s
D49A **Beulah Townshi** 61.08 49 P **P** **20 22 51.1 -1.6**
baz=317,SNR=8.2
CHKK **Chushkaly** 61.18 305 *e* P **P** **20 22 52.4 -1.1**
baz=305
CHKK **Chushkaly** 61.18 305 *e* P **P** **20 22 52.4 -1.1**
OK025 **Westminster Rd** 61.21 68 IAMs_20 IAMs_20 20 51 22.5
comp=Z,3μm,18.0s
OKCFA **Oklahoma City** 61.26 69 IAMs_20 IAMs_20 20 51 36.0
comp=Z,2μm,19.0s
E48A **Lockeyer** 61.28 50 P **P** **20 22 53.0 -1.2**
baz=317,SNR=15
SCHQ **Schefferville** 61.30 36 P **P** **20 22 54.3 +0.1**
comp=Z,49nm,0.8s,baz=337,slow=7.2,SNR=54
SCHQ LR LR 20 50 50.5
comp=Z,3μm,19.1s,baz=322,slow=37
SCHQ **Schefferville** 61.30 36 P **P** **20 22 53.9 -0.3**
SCHQ IAMs_20 IAMs_20 20 50 39.1
comp=Z,3μm,19.0s
GLMI **Grayling** 61.31 53 IAMs_20 IAMs_20 20 48 17.7
comp=Z,3μm,21.0s
IVI **Ivigtut** 61.47 22 P **P** **20 22 55.2 +0.1**
IVI IAMs_20 IAMs_20 20 54 25.2
comp=Z,2μm,18.0s
KUU **Kurty** 61.48 306 *e* P **P** **20 22 54.0 -1.6**
comp=Z,11nm,1.0s,baz=306
KUU *i* S **S** **20 31 15.4 -1.2**
comp=Z,72nm,2.5s,baz=306
KUU LR LR 20 50 48.7
comp=Z,1μm,13.4s,baz=306
KUU **Kurty** 61.48 306 *e* P **P** **20 22 54.0 -1.6**
KUU *i* S **S** **20 31 15.4 -1.2**
KUU pmax pmax
comp=Z,11nm,1.0s
KUU MLR MLR
comp=Z,1μm,13.0s
F48A **Evansville** 61.55 51 P **P** **20 22 55.1 -0.8**
baz=317,SNR=10.0
L44A **Lake County Fo** 61.58 57 P **P** **20 22 55.3 -0.9**
baz=316
L44A **Lake County Fo** 61.58 57 IAMs_20 IAMs_20 20 49 17.9
comp=Z,3μm,20.0s
KLMR **Klimovskoe** 61.62 337 *c* *i* P **P** **20 22 56.2 0.0**
KLMR *e* S **S** **20 31 19.7 +1.8**
KLMR pmax pmax
comp=Z,74nm,1.1s
KLMR **Klimovskoe** 61.62 337 ⇑*i* P **P** **20 22 56.2 0.0**
KLMR *i* P **P** **20 22 56.2 0.0**
KLMR *i* P **P** **20 22 56.2 0.0**
KLMR AMP 20 22 57.6

comp=Z,74nm,1.1s
KLMR eS S 20 31 19.7 +1.8
KLMR eS S 20 31 19.7 +1.8
KLMR LQ LQ 20 45 22.3
KLMR LQ LQ 20 45 22.3
KLMR LR LR 20 49 47.1
KLMR AMP 20 56 03.7
comp=Z,2µm,16.1s
X34A Smith Ranch, M 61.63 69 IAMs_20 IAMs_20 20 49 26.7
comp=Z,3µm,20.0s
MDOK Medeo 61.65 305 eP P 20 22 56.8 -0.2
baz=305
MDOK LR LR 20 50 01.8
comp=Z,2µm,14.1s,baz=305
MDOK Medeo 61.65 305 eP P 20 22 56.7 -0.2
MDOK MLR MLR
comp=Z,2µm,14.0s
AAA Alma-Ata 61.69 305 eP P 20 22 57.0 -0.1
comp=Z,36nm,1.0s,baz=305
AAA eS S 20 31 19.6 +0.1
baz=305
AAA LR LR 20 50 02.5
comp=Z,1µm,13.9s,baz=305
AAA Alma-Ata 61.69 305 eP P 20 22 56.9 -0.1
AAA eS S 20 31 19.5 +0.1
AAA pmax pmax
comp=Z,35nm,1.0s
AAA MLR MLR
comp=Z,1µm,14.0s
LSQQ Lebel-sur-Quev 61.72 45 P P 20 22 55.4 -1.7
baz=319
BTLS Baital 61.77 308 eP P 20 22 56.8 -0.6
comp=Z,18nm,1.0s,baz=308
BTLS LR LR 20 50 26.7
comp=Z,461nm,15.6s,baz=308
BTLS Baital 61.77 308 eP P 20 22 56.8 -0.6
BTLS pmax pmax
comp=Z,18nm,1.0s
BTLS MLR MLR
comp=Z,461nm,16.0s
TNSS Tian-Shan 61.80 305 eP P 20 22 57.8 -0.4
baz=304
TNSS Tian-Shan 61.80 305 eP P 20 22 57.8 -0.4
TUL1 Leonard 61.84 67 P P 20 22 57.1 -1.0
baz=316
TUL1 Leonard 61.84 67 IAmb IAmb 20 23 03.8
comp=Z,34nm,1.2s
TUL1 IAMs_20 IAMs_20 20 49 38.4
comp=Z,3µm,19.0s
D50A G1974 Best Tow 61.85 48 P P 20 22 56.7 -1.3
baz=318,SNR=18
F49A Sandfield 61.87 51 P P 20 22 56.5 -1.6
baz=318,SNR=10.0
MTBS Maitube 61.99 305 eP P 20 22 58.9 -0.3
baz=305
MTBS Maitube 61.99 305 eP P 20 22 58.8 -0.3
E50A Wahnapitae 61.99 50 P P 20 22 57.5 -1.4
baz=318,SNR=8.1
ABTX Abilene, Hawle 62.01 72 P P 20 22 58.3 -1.0
baz=316,SNR=7.5
ABTX Abilene, Hawle 62.01 72 IAMs_20 IAMs_20 20 46 30.9
comp=Z,2µm,22.0s
TX31 Lajitas Ar. Si 62.01 78 P P 20 22 59.2 -0.2
TX32 Lajitas Array 62.01 78 IAmb IAmb 20 23 03.9
comp=Z,16nm,1.0s
TXAR Lajitas Array 62.01 78 P P 20 22 59.2 -0.3
comp=Z,9.9nm,0.9s,baz=303,slow=3.2,SNR=22
TXAR LR LR 20 47 28.2
comp=Z,1µm,20.9s,baz=0.0,slow=34
TXAR PKP2bc 20 52 16.3
comp=Z,0.1nm,0.5s,baz=146,slow=36,SNR=1.5
TXAR PKP2ab 20 52 22.4
comp=Z,1.1nm,1.1s,baz=123,slow=9.1,SNR=3.6
TXAR Lajitas Array 62.01 78 P P 20 22 58.3 -1.2
HDIL Hopedale 62.04 59 P P 20 22 57.6 -1.7
baz=317
HDIL Hopedale 62.04 59 P P 20 22 58.8 -0.6
R40A Maddies Statio 62.08 63 IAmb IAmb 20 23 05.8
comp=Z,16nm,0.7s
R40A IAMs_20 IAMs_20 20 49 18.5
comp=Z,3µm,20.0s
JAY Jayapura 62.09 220 P P 20 23 00.0 +0.1
comp=Z,17nm,0.9s,baz=11,slow=5.6,SNR=3.1
JAY Jayapura 62.09 220 P P 20 23 00.5 +0.6
comp=Z,11nm,0.9s
SLVN Son La 62.12 269 IAmb IAmb 20 23 06.0
comp=Z,31nm,1.1s
SLVN IAMs_20 IAMs_20 20 51 20.0
comp=Z,1µm,19.0s
D51A Lot 18 Range I 62.12 48 P P 20 22 58.4 -1.4
baz=318,SNR=18
NRS Narsarsuaq 62.13 21 IAMs_20 IAMs_20 20 54 22.8
comp=Z,2µm,18.0s
CHGQ Chibougamau 62.19 43 P P 20 22 58.9 -1.4
baz=320,SNR=26
U38A Gravette 62.25 66 IAMs_20 IAMs_20 20 52 12.1
comp=Z,2µm,18.0s
TARG Taragay, Kyrgy 62.31 303 IAmb IAmb 20 23 17.6
comp=Z,35nm,1.5s
TARG IAMs_20 IAMs_20 20 51 03.9
comp=Z,3µm,18.0s
GENI Genyem 62.37 221 P P 20 23 03.1 +1.4
comp=Z,39nm,1.0s
J47A Sunmer 62.37 54 IAMs_20 IAMs_20 20 50 34.7
comp=Z,3µm,19.0s
SMPI Sarmi 62.41 222 P P 20 23 03.6 +1.6
comp=Z,428nmcomp=Z,15nm,1.8s
E51A G1948 Merrick 62.48 49 P P 20 23 00.7 -1.5
baz=318,SNR=9.6
TKM2 Tokmak 2 62.56 305 P P 20 23 02.8 -0.3
SNR=23
TKM2 Tokmak 2 62.56 305 *i* P P 20 23 02.5 -0.6
TKM2 pmax pmax
comp=Z,37nm,1.1s
LKP Lekhapani 62.58 280 eP P 20 23 04.8 +1.7
LKP IAmb IAmb 20 23 08.9
comp=Z,53nm,0.4s
P43A Skaggs, Pawnee 62.58 60 IAmb IAmb 20 23 09.9
comp=Z,27nm,0.9s
NSS Namsos 62.61 352 eP P 20 23 03.1 +0.4
HHAR Hobbs 62.61 65 IAmb IAmb 20 23 09.5
comp=Z,12nm,0.7s
HHAR IAMs_20 IAMs_20 20 50 09.0
comp=Z,2µm,19.0s
D52A ZEK Kipawa Sen 62.65 48 P P 20 23 01.7 -1.6
baz=319,SNR=12
SGDS Sogindy 62.65 306 eP P 20 23 03.3 -0.2
comp=Z,38nm,1.4s,baz=306
SGDS LR LR 20 50 33.1
comp=Z,612nm,12.4s,baz=306
SGDS Sogindy 62.65 306 eP P 20 23 03.2 -0.2
SGDS pmax pmax
comp=Z,38nm,1.4s
SGDS MLR MLR
comp=Z,612nm,12.0s
ULHL Ulahol 62.73 304 P P 20 23 04.2 0.0
SNR=20
CCM Cathedral Cave 62.81 62 P P 20 23 02.8 -1.7
baz=317
CCM Cathedral Cave 62.81 62 P P 20 23 03.8 -0.7
CCM pmax pmax
comp=Z,11nm,0.7s
CCM MLR MLR
comp=Z,2µm,18.0s
CCM Cathedral Cave 62.81 62 P P 20 23 03.8 -0.7
CCM IAmb IAmb 20 23 10.8
comp=Z,11nm,0.7s
CCM Cathedral Cave 62.81 62 IAMs_20 IAMs_20 20 51 36.7
comp=Z,2µm,18.0s
USP Ospenovka 62.85 306 P P 20 23 05.6 +0.8
SNR=26
Z35A Perchaven, San 62.88 70 IAMs_20 IAMs_20 20 50 07.8
comp=Z,3µm,21.0s
D53A Lac Vacive, Po 62.89 47 P P 20 23 03.5 -1.4
baz=319,SNR=18
D53A Lac Vacive, Po 62.89 47 P P 20 23 03.5 -1.4
D53A IAmb IAmb 20 23 05.3
comp=Z,30nm,0.9s
CHMS Chumysh 62.92 306 P P 20 23 05.3 +0.1
SNR=19
X37A Clayton 63.04 68 IAmb IAmb 20 23 31.9
comp=Z,26nm,1.4s
X37A IAMs_20 IAMs_20 20 52 30.0
comp=Z,2µm,19.0s
E52A Mattawa 63.05 48 P P 20 23 04.4 -1.6
baz=319,SNR=12
KBK Karagaybulak 63.08 306 P P 20 23 07.2 +0.7
SNR=16
FRU1 Bishkek 63.12 306 IAMs_20 IAMs_20 20 50 24.1
comp=Z,3µm,20.0s
U40A Yellville 63.16 65 P P 20 23 05.4 -1.5
baz=317,SNR=14
U40A Yellville 63.16 65 IAmb IAmb 20 23 11.0
comp=Z,27nm,1.1s
D54A Lac Fusel, La 63.30 47 P P 20 23 05.9 -1.8
baz=320,SNR=7.7
SFIN Lafayette 63.31 58 P P 20 23 06.4 -1.5
baz=317
AAK Ala-Archa 63.31 306 P P 20 23 08.0 0.0
comp=Z,31nm,1.0s,baz=73,slow=4.7,SNR=26
AAK Ala-Archa 63.31 306 P P 20 23 08.6 +0.5
SNR=21
AAK Ala-Archa 63.31 306 *i* P P 20 23 08.2 +0.2
SNR=27
AAK Ala-Archa 63.31 306 P P 20 23 08.1 0.0
AAK pmax pmax
comp=Z,50nm,1.1s
AAK MLR MLR
comp=Z,3µm,20.0s
AAK Ala-Archa 63.31 306 P P 20 23 08.1 0.0
AAK Ala-Archa 63.31 306 IAMs_20 IAMs_20 20 50 38.2
comp=Z,3µm,20.0s
KZA Kyzart 63.35 305 P P 20 23 08.8 +0.2
SNR=8.2
E53A Dumoine, Ponti 63.44 48 P P 20 23 06.9 -1.6
baz=319,SNR=13
JCT Junction City 63.47 74 P P 20 23 07.9 -1.2
baz=317
JCT Junction City 63.47 74 IAmb IAmb 20 23 13.8
comp=Z,17nm,0.8s
JCT IAMs_20 IAMs_20 20 53 27.7
comp=Z,2µm,18.0s
W39A Magazine 63.49 66 P P 20 23 07.8 -1.3
baz=317,SNR=18
W39A Magazine 63.49 66 IAmb IAmb 20 23 17.0
comp=Z,27nm,0.9s
W39A IAMs_20 IAMs_20 20 53 01.9
comp=Z,3µm,18.0s
L48A N Adams 63.52 55 IAmb IAmb 20 23 14.2
comp=Z,50nm,1.4s
L48A IAMs_20 IAMs_20 20 51 22.1
comp=Z,3µm,19.0s
E54A Lac Daplat, Po 63.61 47 P P 20 23 08.1 -1.6
baz=320,SNR=20
UCH Uchtor 63.61 305 P P 20 23 11.1 +0.7
SNR=16
ZIRO ZIRO 63.63 281 eP P 20 23 11.3 +0.9
ZIRO IAmb IAmb 20 23 15.3
comp=Z,18nm,0.6s
T42A Van Buren 63.64 63 IAMs_20 IAMs_20 20 50 15.7
comp=Z,2µm,20.0s
AAM Ann Arbor 63.64 54 IAMs_20 IAMs_20 20 51 25.3
comp=Z,3µm,20.0s
LSA Lhasa 63.65 285 *i* P P 20 23 11.3 +0.5
SNR=31
LSA Lhasa 63.65 285 IAMs_20 IAMs_20 20 53 04.6
comp=Z,2µm,19.0s
EKS2 Erkin-Say 63.65 306 P P 20 23 10.5 +0.3
SNR=43
N47A Urbana 63.66 57 IAmb IAmb 20 23 14.5
comp=Z,33nm,1.3s
WHTX Lake Whitney, 63.73 71 P P 20 23 09.9 -0.8
baz=317
WHTX Lake Whitney, 63.73 71 IAMs_20 IAMs_20 20 48 12.6
comp=Z,2µm,22.0s
K50A Casco 63.80 53 IAMs_20 IAMs_20 20 47 57.5
comp=Z,3µm,22.0s
I51A Listowel 63.81 52 P P 20 23 10.9 -0.2
baz=319,SNR=10
FINES FINESS Array B 63.81 344 P P 20 23 10.2 -0.5
comp=Z,12nm,0.8s,baz=16,slow=3.6,SNR=16
FINES LR LR 20 54 17.4
comp=Z,2µm,20.2s,baz=28,slow=39
FCAR Ozark Folk Cen 63.91 65 P P 20 23 10.7 -1.1
FCAR IAMs_20 IAMs_20 20 53 08.8
comp=Z,3µm,19.0s
D55A Sainte-Anne-du 63.92 46 P P 20 23 10.3 -1.5
baz=320,SNR=26
SADO Sadowa 63.97 50 P P 20 23 11.4 -0.7
comp=Z,16nm,0.8s,baz=338,slow=7.4,SNR=16
SADO Sadowa 63.97 50 P P 20 23 11.4 -0.7
SADO IAmb IAmb 20 23 12.4
comp=Z,17nm,0.8s
SADO IAMs_20 IAMs_20 20 50 41.9
comp=Z,3µm,20.0s
G54A Lake Saint Pet 63.98 49 P P 20 23 10.5 -1.7
baz=319
ITAN ITANAGAR 63.99 281 eP P 20 23 13.9 +1.4
ITAN IAmb IAmb 20 23 18.0
comp=Z,133nm,0.9s
TBLU Trondheim 64.01 353 eP P 20 23 11.6 -0.5
MIAR Mount Ida 64.08 67 P P 20 23 11.9 -1.1
baz=317,SNR=18
AML Almayashu 64.09 306 P P 20 23 13.3 -0.1
SNR=34
D56A ZEC Mazanza, M 64.22 46 P P 20 23 11.7 -2.0
baz=320,SNR=13
WHAR Wooly Hollow 64.25 65 IAmb IAmb 20 23 20.7
comp=Z,21nm,1.0s
WHAR IAMs_20 IAMs_20 20 53 28.1
comp=Z,2µm,18.0s
W41B Gary Mavity, V 64.36 65 P P 20 23 13.5 -1.3
baz=318,SNR=10
W41B Gary Mavity, V 64.36 65 IAmb IAmb 20 23 20.3
comp=Z,32nm,1.2s
W41B IAMs_20 IAMs_20 20 53 41.9
comp=Z,2µm,18.0s
H53A Bobcaygeon 64.38 50 P P 20 23 13.2 -1.6
baz=319,SNR=9.0
N49A Columbus Grove 64.40 56 IAmb IAmb 20 23 15.8
comp=Z,19nm,0.8s
F55A Otter Lake 64.44 47 P P 20 23 12.8 -2.3
baz=320
E56A St. Veronique 64.48 46 P P 20 23 13.9 -1.5
baz=320,SNR=11
X40A Basin Creek Fa 64.54 66 P P 20 23 14.5 -1.5
baz=318
X40A Basin Creek Fa 64.54 66 IAmb IAmb 20 23 21.6
comp=Z,59nm,1.8s
X40A IAMs_20 IAMs_20 20 55 39.6
comp=Z,2µm,18.0s
435B Jarrell 64.54 72 P P 20 23 14.8 -1.3
baz=318
UALR University of 64.60 66 IAMs_20 IAMs_20 20 53 52.3
comp=Z,2µm,18.0s
M50A Fremont 64.61 55 IAMs_20 IAMs_20 20 52 05.1
comp=Z,3µm,20.0s
D57A Chemin Vers le 64.62 45 P P 20 23 14.3 -2.0
baz=321,SNR=6.4
PARMO Parma 64.64 62 IAMs_20 IAMs_20 20 52 43.0
comp=Z,2µm,19.0s
DZA Taraz 64.67 308 eP P 20 23 16.6 -0.2
baz=308
DZA LR LR 20 52 01.9
comp=Z,463nm,14.6s,baz=308
DZA Taraz 64.67 308 eP P 20 23 16.6 -0.2
DZA MLR MLR
comp=Z,463nm,15.0s
237A Washetta, Mont 64.68 70 IAMs_20 IAMs_20 20 51 14.5
comp=Z,3µm,20.0s
SIJI Sorong 64.70 230 P P 20 23 17.7 +0.5
comp=Z,67nm,1.0s,baz=43,slow=6.5,SNR=10
G55A Calabogie 64.72 48 P P 20 23 15.3 -1.7
baz=320,SNR=7.0
HENM Henderson Moun 64.75 62 IAMs_20 IAMs_20 20 52 55.0
comp=Z,2µm,18.0s
ABKAR Akulak array 64.79 319 P P 20 23 17.2 -0.2
LATQ La Tuque 64.81 44 IAmb IAmb 20 23 17.9
comp=Z,13nm,0.8s
P48A Milroy 64.86 58 P P 20 23 17.4 -0.6
PENMO Penman 64.86 63 IAMs_20 IAMs_20 20 52 50.0
comp=Z,2µm,19.0s
DELO Deloro Mine 64.87 49 IAmb IAmb 20 23 21.6
comp=Z,26nm,1.2s
DELO IAMs_20 IAMs_20 20 51 07.6
comp=Z,2µm,20.0s
MOL Molde 64.88 354 eP P 20 23 18.6 +0.9
KSH Kashi 64.88 303 P P 20 23 21.9 +3.6
KSH S S 20 32 04.4 +4.8
KSH pmax pmax
comp=Z,64nm,1.1s
KSH pmax pmax
comp=Z,220nm,2.6s
KSH LR LR
comp=Z,3µm,16.6s
KSH LR LR
comp=Z,2µm,14.9s
KSH LR LR
comp=Z,3µm,15.6s
KK31 Karatay Array 64.91 309 IAmb IAmb 20 23 22.8
comp=Z,28nm,0.9s
KKAR Karatay Array 64.91 309 P P 20 23 17.6 -0.7
KKAR Karatay Array 64.91 309 P P 20 23 17.6 -0.7
KKAR Karatay Array 64.91 309 IAmb IAmb 20 23 22.8
comp=Z,28nm,0.9s
TEZP TEZPUR 64.94 281 eP P 20 23 18.9 +0.2
TEZP IAmb IAmb 20 23 23.0
comp=Z,25nm,1.0s
WLAR White Oak Lake 64.97 67 IAmb IAmb 20 23 23.3
comp=Z,31nm,0.9s
WLAR IAMs_20 IAMs_20 20 51 48.1
comp=Z,2µm,20.0s
E57A Chemin Saint G 64.97 46 P P 20 23 16.9 -1.8
baz=321,SNR=18
PEBM Pemiscott Bayo 64.98 63 IAMs_20 IAMs_20 20 52 46.2
comp=Z,2µm,18.0s
D58A Chemin du LacG 64.99 44 P P 20 23 17.4 -1.3
baz=321,SNR=7.6
GNAR Gosnell 65.01 63 IAMs_20 IAMs_20 20 51 07.9
comp=Z,2µm,20.0s
HICK Hickman 65.01 62 IAMs_20 IAMs_20 20 53 04.9
comp=Z,2µm,19.0s
H55A Tweed 65.05 49 P P 20 23 18.1 -1.0
baz=320,SNR=5.7
I55A Frankford 65.07 49 P P 20 23 18.0 -1.3
baz=320,SNR=5.3
LPAR Lepanto 65.12 64 IAMs_20 IAMs_20 20 51 12.3
comp=Z,2µm,20.0s
P49A Miami Univ. Ec 65.17 57 P P 20 23 18.5 -1.5
baz=318
TNTI Ternate 65.17 235 P P 20 23 21.5 +1.2
comp=Z,668nmcomp=Z,21nm,1.4s
GLAT Glass 65.18 62 IAMs_20 IAMs_20 20 53 08.4
comp=Z,2µm,19.0s
LNXT Lenox 65.19 63 IAMs_20 IAMs_20 20 52 59.8
comp=Z,2µm,18.0s
833A Chaparral WMA, 65.29 75 IAMs_20 IAMs_20 20 54 14.4
comp=Z,2µm,18.0s
DOMB Dombas 65.30 353 eP P 20 23 20.9 +0.4
AKN Aaknes 65.31 354 eP P 20 23 21.1 +0.5
N51A Ashland 65.31 55 P P 20 23 19.3 -1.6
baz=319
N51A Ashland 65.31 55 IAmb IAmb 20 23 21.5
comp=Z,26nm,0.8s
N51A IAMs_20 IAMs_20 20 52 26.6
comp=Z,3µm,20.0s
WCI Wyandotte Cave 65.32 59 P P 20 23 19.8 -1.2
baz=318
WCI Wyandotte Cave 65.32 59 P P 20 23 19.0 -2.0
WCI pmax pmax
comp=Z,21nm,0.9s
WCI MLR MLR
comp=Z,5µm,18.0s
WCI Wyandotte Cave 65.32 59 P P 20 23 19.0 -2.0
WCI IAmb IAmb 20 23 28.2
comp=Z,21nm,0.8s
J54A Appleton 65.34 51 P P 20 23 20.1 -1.0
J54A IAmb IAmb 20 23 22.1
comp=Z,21nm,0.8s
J54A IAMs_20 IAMs_20 20 51 33.2
comp=Z,2µm,20.0s
M52A Chesterland 65.35 53 P P 20 23 19.5 -1.6
baz=319
M52A Chesterland 65.35 53 P P 20 23 19.8 -1.3
M52A IAmb IAmb 20 23 21.7
comp=Z,27nm,0.8s
M52A IAMs_20 IAMs_20 20 50 42.4
comp=Z,2µm,22.0s
E58A La Victoria 65.38 45 P P 20 23 20.1 -1.2
baz=321,SNR=5.0
MEDO Medina 65.51 51 IAmb IAmb 20 23 23.2
comp=Z,33nm,1.1s
MEDO IAMs_20 IAMs_20 20 50 11.7
comp=Z,3µm,22.0s
NATX Nacogdoches 65.51 69 IAMs_20 IAMs_20 20 54 32.6
comp=Z,2µm,18.0s
ACSO Alum Creek Sta 65.53 55 IAMs_20 IAMs_20 20 52 24.2
comp=Z,3µm,19.0s
CCAR Cane Creek 65.55 66 IAMs_20 IAMs_20 20 51 50.5
comp=Z,2µm,21.0s
L53A Girard 65.57 53 P P 20 23 22.1 -0.5
baz=320,SNR=11
ERPA Erie 65.58 52 P P 20 23 21.9 -0.7
baz=320,SNR=9.8
ERPA Erie 65.58 52 IAMs_20 IAMs_20 20 50 48.5
comp=Z,3µm,22.0s
PECO Prince Edward 65.61 49 IAmb IAmb 20 23 23.3
comp=Z,24nm,0.9s
PECO IAMs_20 IAMs_20 20 51 40.1
comp=Z,2µm,21.0s
G57A Newington 65.62 47 P P 20 23 21.4 -1.5
baz=321
MET Memphis--Engin 65.68 64 IAMs_20 IAMs_20 20 51 29.7
comp=Z,2µm,20.0s
N52A McGinn's Farm, 65.73 54 P P 20 23 22.5 -1.2
baz=319
J55A Hilton 65.73 50 P P 20 23 22.6 -1.0
baz=320,SNR=10
J55A Hilton 65.73 50 IAmb IAmb 20 23 24.4
comp=Z,27nm,0.8s
J55A IAMs_20 IAMs_20 20 51 45.6
comp=Z,2µm,21.0s
M53A WI Miller and 65.76 53 P P 20 23 23.0 -0.8
baz=320,SNR=9.7
O51A Pataskala 65.78 55 P P 20 23 22.7 -1.3
baz=319
L54A Sinclairville 65.81 52 P P 20 23 23.2 -1.0
baz=320,SNR=12
T47A Sharon Grove 65.82 60 IAMs_20 IAMs_20 20 51 49.2
comp=Z,3µm,21.0s
K54A Basiliko Farm, 65.82 51 P P 20 23 23.4 -0.9
baz=320,SNR=5.3
IUG luzhnay 65.86 308 eP P 20 23 24.8 +0.2
comp=Z,51nm,1.4s,baz=308
IUG *i* S S 20 32 11.9 +0.4
IUG comp=Z,97nm,3.8s,baz=308
IUG LR LR 20 52 11.8
comp=Z,275nm,12.9s,baz=308
IUG luzhnay 65.86 308 eP P 20 23 24.8 +0.2
IUG *i* S S 20 32 11.8 +0.4
IUG pmax pmax
comp=Z,51nm,1.4s
IUG MLR MLR
comp=Z,275nm,13.0s
GUWA GUWAHATI 65.91 282 eP P 20 23 24.6 -0.4
H57A Richville 65.93 48 P P 20 23 23.4 -1.4
baz=321,SNR=7.9
D60A Saint Jean D'O 65.96 43 P P 20 23 24.0 -1.0
baz=322,SNR=7.3
G58A Ormstown 66.00 46 P P 20 23 23.6 -1.7
baz=321
WVNY West Valley, N 66.02 51 IAMs_20 IAMs_20 20 54 38.2
comp=Z,2µm,18.0s
K55A Perry 66.03 51 P P 20 23 24.8 -0.8
baz=320,SNR=6.2
D61A St Aubert, Com 66.04 43 P P 20 23 24.1 -1.4
baz=323,SNR=12
KMPI Kaimana, Papua 66.05 227 P P 20 23 27.9 +2.0
comp=Z,116nm,0.7s
W45A Hickory Valley 66.06 63 IAMs_20 IAMs_20 20 53 18.8
comp=Z,2µm,19.0s
WVT Waverly 66.07 62 P P 20 23 25.0 -0.9
baz=318
WVT Waverly 66.07 62 P P 20 23 24.8 -1.1
WVT pmax pmax
comp=Z,19nm,0.9s
WVT MLR MLR
comp=Z,4µm,18.0s
WVT Waverly 66.07 62 P P 20 23 24.8 -1.1
WVT IAmb IAmb 20 23 30.3
comp=Z,19nm,0.8s
MMNY Mt. Morris Dam 66.10 51 IAmb IAmb 20 23 26.7
comp=Z,29nm,0.9s
MMNY IAMs_20 IAMs_20 20 51 10.3
comp=Z,3µm,22.0s
NB2 NORSAR Subarra 66.11 352 P P 20 23 25.2 -0.6
comp=Z,64nm,1.1s,baz=11,slow=6.5
NB2 NORSAR Subarra 66.11 352 P P 20 23 25.2 -0.6
baz=11,slow=6.5
NOA NORSAR Array B 66.11 352 P P 20 23 25.7 -0.1
comp=Z,18nm,0.8s,baz=11,slow=6.4,SNR=45
NOA LR LR 20 52 39.9
comp=Z,1µm,20.6s,baz=5.0,slow=36

N53A	**Lisbon**	**66.16**	**54**	P	**P**	**20 23 24.9**	**-1.5**
	baz=320						
N53A	**Lisbon**	**66.16**	**54**	IAMs_20	IAMs_20	20 51 40.9	
	comp=Z,2µm,21.0s						
MYLDM	**Lahad Datu**	**66.17**	**246**	P	**P**	**20 23 27.7**	**+1.0**
MYLDM				IAmb	IAmb	20 23 44.5	
	comp=Z,49nm,1.4s						
E60A	**Ste Agathe de**	**66.17**	**44**	P	**P**	**20 23 25.1**	**-1.3**
	baz=322,SNR=6.6						
LONY	**Lake Ozonia**	**66.17**	**47**	P	**P**	**20 23 24.7**	**-1.7**
	baz=321,SNR=6.0						
LONY	**Lake Ozonia**	**66.17**	**47**	IAmb	IAmb	20 23 32.2	
	comp=Z,34nm,1.6s						
LONY				IAMs_20	IAMs_20	20 51 18.0	
	comp=Z,2µm,20.0s						
J56A	**Wolcott**	**66.17**	**49**	P	**P**	**20 23 24.8**	**-1.6**
	baz=321,SNR=10						
J56A	**Wolcott**	**66.17**	**49**	IAmb	IAmb	20 23 26.9	
	comp=Z,31nm,0.8s						
J56A				IAMs_20	IAMs_20	20 51 49.2	
	comp=Z,2µm,20.0s						
HKT	**Hockley**	**66.18**	**72**	IAMs_20	IAMs_20	20 54 34.0	
	comp=Z,2µm,18.0s						
O52A	**Adamsville**	**66.19**	**55**	P	**P**	**20 23 25.8**	**-0.8**
	baz=319,SNR=5.5						
O52A	**Adamsville**	**66.19**	**55**	IAmb	IAmb	20 23 27.3	
	comp=Z,27nm,0.8s						
M54A	**Oil Creek Stat**	**66.20**	**52**	P	**P**	**20 23 25.7**	**-1.0**
	baz=320,SNR=13						
PMG	**Port Moresby**	**66.21**	**211⇑**	*eP*	**P**	**20 23 26.8**	**-0.1**
PMG				pmax	pmax		
	comp=Z,27nm,1.3s						
I57A	**Carthage**	**66.22**	**48**	P	**P**	**20 23 25.4**	**-1.3**
	baz=321						
SHL	**Shillong**	**66.26**	**281**	*eP*	**P**	**20 23 26.5**	**-1.0**
SHL				IAmb	IAmb	20 23 31.4	
	comp=Z,39nm,0.7s						
SHL	**Shillong**	**66.26**	**281**	P	**P**	**20 23 28.2**	**+0.7**
	SNR=36						
F60A	**Warwick**	**66.27**	**45**	P	**P**	**20 23 25.5**	**-1.6**
	baz=322						
L55A	**Hinsdale**	**66.27**	**51**	P	**P**	**20 23 26.0**	**-1.1**
	baz=320,SNR=6.7						
HYA	**Hoyanger**	**66.36**	**354**	*eP*	**P**	**20 23 28.0**	**+0.6**
NC602	**NORSAR Array S**	**66.38**	**351**	*eP*	**P**	**20 23 27.9**	**+0.3**
NORES	**NORESS Array B**	**66.38**	**351**	P	**P**	**20 23 30.2**	**+2.7**
O53A	**New Philadelph**	**66.40**	**54**	P	**P**	**20 23 27.0**	**-1.0**
	baz=320						
O53A	**New Philadelph**	**66.40**	**54**	IAMs_20	IAMs_20	20 53 21.2	
	comp=Z,2µm,20.0s						
K56A	**Middlesex**	**66.40**	**50**	P	**P**	**20 23 27.1**	**-0.9**
	baz=320,SNR=19						
P52A	**Corning**	**66.40**	**55**	P	**P**	**20 23 26.2**	**-1.8**
	baz=320						
OXF	**Oxford**	**66.42**	**64**	P	**P**	**20 23 26.7**	**-1.4**
	baz=318,SNR=8.1						
OXF	**Oxford**	**66.42**	**64**	IAMs_20	IAMs_20	20 51 52.3	
	comp=Z,2µm,20.0s						
G59A	**Clarenceville**	**66.44**	**46**	P	**P**	**20 23 26.0**	**-2.1**
	baz=322						
FRNY	**Flat Rock**	**66.45**	**46**	IAMs_20	IAMs_20	20 51 05.8	
	comp=Z,3µm,20.0s						
N54A	**Moraine State**	**66.46**	**53**	P	**P**	**20 23 27.4**	**-1.0**
	baz=320,SNR=5.9						
J57A	**Williamstown**	**66.47**	**49**	P	**P**	**20 23 27.0**	**-1.3**
	baz=321,SNR=5.0						
J57A	**Williamstown**	**66.47**	**49**	IAmb	IAmb	20 23 31.1	
	comp=Z,42nm,1.4s						
J57A				IAMs_20	IAMs_20	20 52 16.9	
	comp=Z,2µm,19.0s						
VSU	**Vasula**	**66.50**	**343**	*eP*	**P**	**20 23 27.7**	**-0.5**
VSU	**Vasula**	**66.50**	**343⇓**	*eP*	**P**	**20 23 27.5**	**-0.7**
VSU				pmax	pmax		
	comp=Z,108nm,1.3s						
H58A	**Gabriels**	**66.51**	**47**	P	**P**	**20 23 26.8**	**-1.9**
	baz=321						
E61A	**Lac Etchemin**	**66.53**	**43**	P	**P**	**20 23 27.3**	**-1.4**
	baz=323						
H59A	**Cadyville**	**66.55**	**47**	P	**P**	**20 23 26.7**	**-2.1**
	baz=322						
D62A	**Allapoint, All**	**66.61**	**42**	P	**P**	**20 23 28.0**	**-1.2**
	baz=323,SNR=7.8						
D62A	**Allapoint, All**	**66.61**	**42**	IAmb	IAmb	20 23 30.1	
	comp=Z,18nm,0.9s						
MOS	**Moscow**	**66.63**	**336**	*eP*	**P**	**20 23 28.3**	**-0.8**
MOS				pmax	pmax		
	comp=Z,70nm,1.0s						
MOS				MLR	MLR		
	comp=Z,4µm,20.0s						
143A	**Socs Landing,**	**66.66**	**66**	IAMs_20	IAMs_20	20 52 48.8	
	comp=Z,2µm,20.0s						
M55A	**Ridgway**	**66.66**	**52**	P	**P**	**20 23 28.7**	**-1.0**
	baz=320,SNR=23						
M55A	**Ridgway**	**66.66**	**52**	IAMs_20	IAMs_20	20 51 33.2	
	comp=Z,3µm,22.0s						
F61A	**St Evariste**	**66.68**	**44**	P	**P**	**20 23 28.0**	**-1.6**
	baz=322,SNR=7.7						
SKAR	**Skarslia**	**66.70**	**353**	*eP*	**P**	**20 23 30.3**	**+0.7**
I58A	**Old Forge**	**66.72**	**48**	P	**P**	**20 23 28.0**	**-2.0**
	baz=321,SNR=6.3						
L56A	**Greenwood**	**66.72**	**51**	P	**P**	**20 23 28.3**	**-1.7**
	baz=321,SNR=21						
L56A	**Greenwood**	**66.72**	**51**	IAMs_20	IAMs_20	20 55 18.8	
	comp=Z,2µm,19.0s						
K57A	**Scipio Center**	**66.75**	**50**	P	**P**	**20 23 29.1**	**-1.1**
	baz=321,SNR=5.9						
KVTX	**Kingsville**	**66.76**	**75**	IAMs_20	IAMs_20	20 50 25.8	
	comp=Z,2µm,18.0s						
E62A	**Clayton Lake**	**66.78**	**43**	P	**P**	**20 23 29.5**	**-0.8**
	baz=323,SNR=13						
E62A	**Clayton Lake**	**66.78**	**43**	IAmb	IAmb	20 23 31.0	
	comp=Z,31nm,1.0s						
G60A	**Masonville**	**66.79**	**45**	P	**P**	**20 23 28.5**	**-1.9**
	baz=322						
PLAL	**Pickwick Lake**	**66.79**	**63**	IAmb	IAmb	20 23 34.5	
	comp=Z,20nm,0.8s						
PLAL				IAMs_20	IAMs_20	20 54 08.2	
	comp=Z,2µm,19.0s						
J58A	**Remsen**	**66.83**	**48**	P	**P**	**20 23 29.2**	**-1.5**
	baz=321,SNR=11						
J58A	**Remsen**	**66.83**	**48**	IAmb	IAmb	20 23 31.1	
	comp=Z,29nm,1.1s						
NCB	**Newcomb**	**66.84**	**47**	IAmb	IAmb	20 23 33.2	
	comp=Z,32nm,1.5s						
NCB				IAMs_20	IAMs_20	20 51 47.6	
	comp=Z,2µm,20.0s						
Q52A	**Bidwell**	**66.84**	**56**	P	**P**	**20 23 29.3**	**-1.6**
	baz=320						
O54A	**Avella**	**66.86**	**54**	P	**P**	**20 23 29.6**	**-1.3**
	baz=320						
O54A	**Avella**	**66.86**	**54**	IAMs_20	IAMs_20	20 52 12.5	
	comp=Z,2µm,20.0s						
U49A	**Red Boiling Sp**	**66.88**	**60**	IAmb	IAmb	20 23 34.1	
	comp=Z,14nm,0.7s						
P53A	**Whipple**	**66.89**	**55**	P	**P**	**20 23 30.4**	**-0.7**
	baz=320						
CLTN	**Cedars of Leba**	**66.90**	**61**	IAMs_20	IAMs_20	20 52 10.9	
	comp=Z,2µm,21.0s						
V48A	**Smith Brothers**	**66.90**	**61**	IAmb	IAmb	20 23 35.5	
	comp=Z,25nm,1.1s						
GTK	**Tadong**	**66.91**	**285**	*eP*	**P**	**20 23 27.0**	**-4.6**
M56A	**Emporium**	**66.93**	**52**	P	**P**	**20 23 30.7**	**-0.6**
	baz=320,SNR=16						
G61A	**St-Isidore-de-**	**67.00**	**45**	P	**P**	**20 23 30.2**	**-1.5**
	baz=322,SNR=7.6						
D63A	**Stockholm**	**67.03**	**42**	P	**P**	**20 23 30.5**	**-1.3**
	baz=324						
CHTO	**Chiang Mai**	**67.05**	**271**	P	**P**	**20 23 32.2**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,36nm,1.0s						
CHTO				MLR	MLR		
	comp=Z,1µm,18.0s						
CHTO	**Chiang Mai**	**67.05**	**271**	P	**P**	**20 23 32.2**	**-0.2**
CHTO				IAmb	IAmb	20 23 37.4	
	comp=Z,36nm,1.0s						
CHTO	**Chiang Mai**	**67.05**	**271**	IAMs_20	IAMs_20	20 54 01.5	
	comp=Z,1µm,18.0s						
DHUB	**DHUBRI**	**67.05**	**283**	*eP*	**P**	**20 23 31.7**	**-0.5**
DHUB				IAmb	IAmb	20 23 36.5	
	comp=Z,15nm,1.0s						
H60A	**Morristown**	**67.06**	**46**	P	**P**	**20 23 31.0**	**-1.1**
	baz=322						
KMSI	**Cibinong**	**67.06**	**238**	P	**P**	**20 23 34.2**	**+1.8**
	comp=Z,36nm,0.8s						
BTK	**Batken**	**67.08**	**306**	IAMs_20	IAMs_20	20 53 52.7	
	comp=Z,2µm,18.0s						
N55A	**Marion Center**	**67.08**	**53**	P	**P**	**20 23 31.3**	**-1.1**
	baz=320,SNR=7.8						
441A	**DeRidder**	**67.10**	**69**	IAMs_20	IAMs_20	20 55 39.7	
	comp=Z,2µm,18.0s						
J59A	**Piesco**	**67.11**	**48**	P	**P**	**20 23 31.0**	**-1.5**
	baz=322,SNR=8.2						
J59A	**Piesco**	**67.11**	**48**	IAmb	IAmb	20 23 32.5	
	comp=Z,12nm,0.7s						
J59A				IAMs_20	IAMs_20	20 56 23.8	
	comp=Z,3µm,19.0s						
K58A	**Earlville**	**67.13**	**49**	P	**P**	**20 23 31.3**	**-1.4**
	baz=321,SNR=5.7						
K58A	**Earlville**	**67.13**	**49**	IAmb	IAmb	20 23 43.7	
	comp=Z,28nm,1.2s						
K58A				IAMs_20	IAMs_20	20 52 28.5	
	comp=Z,2µm,21.0s						
I59A	**Olmsteadville**	**67.14**	**47**	P	**P**	**20 23 31.0**	**-1.6**
	baz=322,SNR=8.5						
L57A	**Andrews Acres**	**67.17**	**50**	P	**P**	**20 23 31.5**	**-1.4**
	baz=321,SNR=7.6						
S51A	**Beattyville**	**67.17**	**58**	IAmb	IAmb	20 23 33.7	
	comp=Z,23nm,0.8s						
F62A	**Pittston Farm,**	**67.17**	**44**	P	**P**	**20 23 31.4**	**-1.4**
	baz=323,SNR=8.4						
F62A	**Pittston Farm,**	**67.17**	**44**	IAmb	IAmb	20 23 36.5	
	comp=Z,26nm,1.1s						
VT1	**Waterbury**	**67.21**	**46**	IAmb	IAmb	20 23 35.6	
	comp=Z,45nm,1.5s						
P54A	**Burton**	**67.25**	**54**	P	**P**	**20 23 32.2**	**-1.3**
	baz=320						
Q53A	**Leroy**	**67.30**	**56**	P	**P**	**20 23 32.6**	**-1.1**
	baz=320						
N56A	**West Decatur**	**67.31**	**52**	P	**P**	**20 23 32.8**	**-1.0**
	baz=321,SNR=18						
CM31	**Chiang Mai Arr**	**67.33**	**271**	P	**P**	**20 23 35.1**	**+0.9**
	SNR=17						
CM31	**Chiang Mai Arr**	**67.33**	**271**	IAmb	IAmb	20 23 39.4	
	comp=Z,27nm,0.8s						
CMAR	**Chiang Mai Arr**	**67.33**	**271**	P	**P**	**20 23 34.8**	**+0.6**
	comp=Z,19nm,0.8s,baz=25,slow=7.1,SNR=54						
CMAR				PKPPKP	**P'P'df**	**20 51 58.5**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=229,slow=4.6,SNR=4.6						
CMAR				LR	LR	20 57 03.9	
	comp=Z,826nm,18.0s,baz=82,slow=40						
CMAR	**Chiang Mai Arr**	**67.33**	**271**	P	**P**	**20 23 34.2**	**+0.1**
I60A	**Shoreham**	**67.36**	**47**	P	**P**	**20 23 32.1**	**-1.8**
	baz=322						
O55A	**Ligonier**	**67.37**	**53**	P	**P**	**20 23 32.9**	**-1.3**
	baz=320						
E63A	**Oxbow**	**67.40**	**42**	P	**P**	**20 23 32.7**	**-1.5**
	baz=324,SNR=6.8						
E63A	**Oxbow**	**67.40**	**42**	IAmb	IAmb	20 23 37.4	
	comp=Z,27nm,1.2s						
TAPN	**Taplejung**	**67.41**	**286**	*eP*	**P**	**20 23 35.3**	**+0.3**
	comp=Z,393nm,1.2s						
BINY	**Binghamton**	**67.42**	**50**	P	**P**	**20 23 33.1**	**-1.3**
	baz=321						
BINY	**Binghamton**	**67.42**	**50**	IAMs_20	IAMs_20	20 52 37.0	
	comp=Z,3µm,21.0s						
H61A	**Lyndonville**	**67.42**	**46**	P	**P**	**20 23 32.8**	**-1.6**
	baz=322						
OBN	**Obninsk**	**67.46**	**336**	*d iP*	**P**	**20 23 34.2**	**-0.2**
OBN				*i* *PP	**sP**	**20 23 38.1**	**+0.5**
OBN				*e*		20 24 00.8	
OBN				*e*		20 26 01.4	
OBN				*e*	PPP	20 27 39.4	
OBN				*e*	S	**20 32 30.7**	**+0.7**
OBN				*e*	SS	**20 36 54.7**	**+5.7**
OBN				pmax	pmax		
	comp=Z,77nm,1.3s						
OBN				MLR	MLR		
	comp=Z,3µm,19.0s						
G62A	**West of Eustis**	**67.47**	**44**	P	**P**	**20 23 33.8**	**-0.9**
	baz=323,SNR=7.0						
G62A	**West of Eustis**	**67.47**	**44**	IAmb	IAmb	20 23 35.6	
	comp=Z,25nm,1.1s						
R53A	**Hurricane**	**67.49**	**56**	P	**P**	**20 23 34.2**	**-0.7**
	baz=320						
R53A	**Hurricane**	**67.49**	**56**	IAMs_20	IAMs_20	20 52 17.2	
	comp=Z,3µm,21.0s						
K59A	**Cooperstown**	**67.49**	**49**	P	**P**	**20 23 33.7**	**-1.1**
	baz=322,SNR=7.1						
VBMS	**Vicksburg**	**67.52**	**66**	IAMs_20	IAMs_20	20 55 54.5	
	comp=Z,2µm,18.0s						
MCWV	**Mont Chateau**	**67.53**	**54**	P	**P**	**20 23 34.4**	**-0.7**
	baz=320						
PBKT	**Sadao Pong**	**67.53**	**268**	IAmb	IAmb	20 23 40.5	
	comp=Z,14nm,0.9s						
ZAIG	**Zacatecas**	**67.53**	**82**	IAMs_20	IAMs_20	20 51 41.1	
	comp=Z,1µm,19.0s						
M57A	**Sunshine Farm,**	**67.55**	**51**	P	**P**	**20 23 34.3**	**-1.0**
	baz=321,SNR=11						
M57A	**Sunshine Farm,**	**67.55**	**51**	IAmb	IAmb	20 23 35.9	
	comp=Z,34nm,1.0s						
M57A				IAMs_20	IAMs_20	20 51 12.5	
	comp=Z,3µm,22.0s						
ACCN	**Adirondack Com**	**67.55**	**47**	IAmb	IAmb	20 23 35.5	
	comp=Z,22nm,0.9s						
ACCN				IAMs_20	IAMs_20	20 53 48.5	
	comp=Z,2µm,19.0s						
ODD1	**Odda**	**67.58**	**354**	*eP*	**P**	**20 23 38.4**	**+3.2**
L58A	**Harry Jones Me**	**67.60**	**50**	P	**P**	**20 23 34.1**	**-1.5**
	baz=321,SNR=5.8						
E64A	**Bridgewater**	**67.64**	**42**	P	**P**	**20 23 34.3**	**-1.4**
	baz=324,SNR=7.1						
LBNH	**Lisbon**	**67.65**	**46**	P	**P**	**20 23 34.7**	**-1.1**
	baz=322,SNR=7.1						
LBNH	**Lisbon**	**67.65**	**46**	IAmb	IAmb	20 23 36.4	
	comp=Z,17nm,1.0s						
P55A	**Reedsville**	**67.65**	**54**	P	**P**	**20 23 34.6**	**-1.4**
	baz=320						
BATG	**Bathurst New B**	**67.66**	**40**	IAmb	IAmb	20 23 36.7	
	comp=Z,33nm,1.2s						
O56A	**Blue Knob Stat**	**67.68**	**53**	P	**P**	**20 23 34.6**	**-1.6**
	baz=321						
O56A	**Blue Knob Stat**	**67.68**	**53**	IAmb	IAmb	20 23 36.9	
	comp=Z,20nm,0.8s						
F63A	**Nahmakanta, Br**	**67.69**	**43**	P	**P**	**20 23 34.7**	**-1.4**
	baz=324,SNR=6.5						
F63A	**Nahmakanta, Br**	**67.69**	**43**	IAmb	IAmb	20 23 36.8	
	comp=Z,22nm,0.9s						
H62A	**Milan**	**67.72**	**45**	P	**P**	**20 23 35.0**	**-1.3**
	baz=323,SNR=11						
H62A	**Milan**	**67.72**	**45**	IAmb	IAmb	20 23 36.9	
	comp=Z,32nm,1.0s						
H62A				IAMs_20	IAMs_20	20 51 35.8	
	comp=Z,2µm,20.0s						
SSPA	**Standing Stone**	**67.73**	**52**	P	**P**	**20 23 35.4**	**-1.0**
	baz=321						
SSPA	**Standing Stone**	**67.73**	**52**	P	**P**	**20 23 35.6**	**-0.7**
SSPA	**Standing Stone**	**67.73**	**52**	IAMs_20	IAMs_20	20 52 06.3	
	comp=Z,3µm,22.0s						
X48A	**Hartselle**	**67.75**	**62**	IAmb	IAmb	20 23 40.2	
	comp=Z,57nm,1.8s						
X48A				IAMs_20	IAMs_20	20 54 46.5	
	comp=Z,2µm,18.0s						
I61A	**Oroboro, Fairl**	**67.77**	**46**	P	**P**	**20 23 35.6**	**-1.0**
	baz=322						
J60A	**Lant Hill Farm**	**67.77**	**47**	P	**P**	**20 23 35.4**	**-1.2**
	baz=322,SNR=8.2						
SWET	**Sewanee**	**67.77**	**61**	IAMs_20	IAMs_20	20 56 51.0	
	comp=Z,2µm,18.0s						
N57A	**Milroy**	**67.80**	**52**	P	**P**	**20 23 35.8**	**-1.1**
	baz=321,SNR=15						
M58A	**Price's Panora**	**67.84**	**51**	P	**P**	**20 23 35.9**	**-1.2**
	baz=321,SNR=6.1						
L59A	**Walton**	**67.86**	**49**	P	**P**	**20 23 35.9**	**-1.4**
	baz=322,SNR=11						
L59A	**Walton**	**67.86**	**49**	IAmb	IAmb	20 23 37.8	
	comp=Z,25nm,0.8s						
L59A				IAMs_20	IAMs_20	20 52 51.7	
	comp=Z,2µm,20.0s						
F64A	**Sherman**	**67.88**	**43**	P	**P**	**20 23 35.8**	**-1.4**
	baz=324,SNR=9.6						
F64A	**Sherman**	**67.88**	**43**	IAmb	IAmb	20 23 37.8	
	comp=Z,24nm,0.9s						
HNH	**Hanover**	**67.92**	**46**	IAMs_20	IAMs_20	20 52 01.1	
	comp=Z,3µm,20.0s						
Q55A	**Buckhannon**	**67.92**	**54**	P	**P**	**20 23 36.5**	**-1.2**
	baz=320						
G63A	**Kingsbury**	**67.95**	**44**	P	**P**	**20 23 36.5**	**-1.2**
	baz=323,SNR=6.6						
PKME	**Peaks-Kenny Pk**	**67.96**	**44**	P	**P**	**20 23 36.8**	**-1.0**
	baz=324,SNR=5.8						
PKME	**Peaks-Kenny Pk**	**67.96**	**44**	IAmb	IAmb	20 24 48.6	
	comp=Z,18nm,0.6s						
ODAN	**Odare**	**67.97**	**286**	*eP*	**P**	**20 23 38.6**	**+0.2**
	comp=Z,128nm,1.0s						
KSPA	**Keystone Colle**	**68.02**	**50**	IAMs_20	IAMs_20	20 53 06.9	
	comp=Z,3µm,21.0s						
TZTN	**Tazewell**	**68.03**	**58**	P	**P**	**20 23 37.4**	**-1.0**
	baz=320						
TZTN	**Tazewell**	**68.03**	**58**	IAmb	IAmb	20 23 43.9	
	comp=Z,24nm,1.0s						
SLIT	**Slitere, Latvi**	**68.05**	**345**	*eP*	**P**	**20 23 36.7**	**-1.4**
TRY	**Troy**	**68.06**	**48**	IAMs_20	IAMs_20	20 54 29.1	
	comp=Z,2µm,18.0s						
JIRN	**Jiri**	**68.07**	**287**	*eP*	**P**	**20 23 39.6**	**+0.4**
	comp=Z,437nm,1.1s						
J61A	**Chester**	**68.08**	**47**	P	**P**	**20 23 37.4**	**-1.1**
	baz=322						
R54A	**Victor**	**68.09**	**56**	P	**P**	**20 23 38.0**	**-0.7**
	baz=320						
W50A	**Signal Mountai**	**68.12**	**61**	IAmb	IAmb	20 23 43.2	
	comp=Z,19nm,0.8s						
W50A				IAMs_20	IAMs_20	20 57 10.1	
	comp=Z,2µm,18.0s						
N58A	**Sunbury**	**68.13**	**51**	P	**P**	**20 23 38.1**	**-0.8**
	baz=321,SNR=12						
N58A	**Sunbury**	**68.13**	**51**	IAmb	IAmb	20 23 39.9	
	comp=Z,28nm,0.8s						
N58A				IAMs_20	IAMs_20	20 52 32.0	
	comp=Z,2µm,22.0s						
Z47A	**Carrollton**	**68.14**	**64**	IAMs_20	IAMs_20	20 52 53.8	
	comp=Z,1µm,20.0s						
P56A	**Dayton Farm, R**	**68.14**	**53**	P	**P**	**20 23 38.3**	**-0.7**
	baz=321,SNR=11						
V51A	**Loudon**	**68.17**	**59**	IAmb	IAmb	20 23 43.6	
	comp=Z,24nm,0.8s						
O57A	**Amberson**	**68.18**	**52**	P	**P**	**20 23 38.3**	**-0.9**
	baz=321,SNR=8.4						
M59A	**Waymart**	**68.19**	**50**	P	**P**	**20 23 38.2**	**-1.1**
	baz=322						
I62A	**Tamworth**	**68.20**	**46**	P	**P**	**20 23 38.3**	**-1.0**
	baz=323						
G64A	**Maxfield**	**68.20**	**43**	P	**P**	**20 23 38.5**	**-0.8**
	baz=324,SNR=5.3						
S54A	**Dingess, Beckl**	**68.22**	**56**	IAMs_20	IAMs_20	20 54 09.5	
	comp=Z,3µm,20.0s						
SANI	**Sanana**	**68.29**	**235**	P	**P**	**20 23 40.1**	**0.0**
	comp=Z,28nm,1.1s						
K61A	**Williamstown**	**68.29**	**48**	P	**P**	**20 23 38.6**	**-1.3**
	baz=322,SNR=6.7						
Q56A	**Snyder Ridge,**	**68.33**	**54**	IAMs_20	IAMs_20	20 52 35.9	
	comp=Z,2µm,22.0s						
CPCT	**Cooper Cave**	**68.35**	**60**	IAmb	IAmb	20 23 42.3	
	comp=Z,51nm,1.5s						
RAMN	**Ramite**	**68.37**	**286**	*eP*	**P**	**20 23 41.0**	**+0.1**
	comp=Z,166nm,0.5s						
WVL	**Waterville**	**68.37**	**44**	IAmb	IAmb	20 23 40.8	
	comp=Z,20nm,1.1s						
I63A	**Otisfield**	**68.39**	**45**	P	**P**	**20 23 39.3**	**-1.1**
	baz=323,SNR=6.3						
I63A	**Otisfield**	**68.39**	**45**	IAmb	IAmb	20 23 41.3	
	comp=Z,24nm,1.0s						
I63A				IAMs_20	IAMs_20	20 51 56.5	
	comp=Z,2µm,19.0s						
L60A	**Shokan**	**68.40**	**49**	P	**P**	**20 23 39.4**	**-1.2**
	baz=322,SNR=5.7						
H64A	**Troy**	**68.50**	**44**	P	**P**	**20 23 39.8**	**-1.4**
	baz=324						
J62A	**Henniker**	**68.50**	**46**	P	**P**	**20 23 39.9**	**-1.3**
	baz=323						
N59A	**State Game Lan**	**68.52**	**50**	P	**P**	**20 23 40.7**	**-0.6**
	baz=322,SNR=8.5						
N59A	**State Game Lan**	**68.52**	**50**	IAmb	IAmb	20 23 44.6	
	comp=Z,50nm,1.4s						
N59A				IAMs_20	IAMs_20	20 53 23.2	
	comp=Z,3µm,20.0s						
P57A	**Homestead Farm**	**68.56**	**53**	P	**P**	**20 23 40.6**	**-1.0**
	baz=321						
O58A	**Lewisberry**	**68.59**	**52**	P	**P**	**20 23 40.8**	**-1.0**
	baz=321,SNR=6.2						
PKI	**Pulchoki**	**68.60**	**288**	*eP*	**P**	**20 23 42.2**	**-0.2**
PAGS	**Pennsylvania G**	**68.60**	**51**	IAmb	IAmb	20 23 53.1	
	comp=Z,47nm,1.2s						
PAGS				IAMs_20	IAMs_20	20 55 59.5	
	comp=Z,2µm,18.0s						
T54A	**Tazewell**	**68.65**	**57**	P	**P**	**20 23 41.8**	**-0.5**
	baz=320,SNR=6.3						
Q57A	**Strasburg**	**68.71**	**53**	P	**P**	**20 23 41.6**	**-1.0**
	baz=321						
GKN	**Gorkha**	**68.72**	**288**	*eP*	**P**	**20 23 43.2**	**+0.2**
	comp=Z,247nm,1.2s						
M60A	**Port Jervis**	**68.73**	**49**	P	**P**	**20 23 41.4**	**-1.3**
	baz=322						
L61B	**Northampton**	**68.73**	**47**	P	**P**	**20 23 41.3**	**-1.3**
	baz=323						
G65A	**Princeton**	**68.74**	**42**	P	**P**	**20 23 41.6**	**-1.0**
	baz=324,SNR=5.1						
G65A	**Princeton**	**68.74**	**42**	IAmb	IAmb	20 23 43.9	
	comp=Z,18nm,0.9s						
DMN	**Daman**	**68.75**	**288**	*eP*	**P**	**20 23 43.5**	**+0.2**
	comp=Z,94nm,0.9s						
K62A	**Royalston**	**68.76**	**47**	P	**P**	**20 23 41.5**	**-1.3**
	baz=323						
K62A	**Royalston**	**68.76**	**47**	IAMs_20	IAMs_20	20 54 27.5	
	comp=Z,2µm,20.0s						
NLAI	**Namlea**	**68.77**	**233**	P	**P**	**20 23 44.4**	**+1.3**
	comp=Z,16nm,0.8s						
J63A	**Strafford**	**68.79**	**46**	P	**P**	**20 23 41.3**	**-1.7**
	baz=323						
O59A	**Robesonia**	**68.79**	**51**	P	**P**	**20 23 42.3**	**-0.8**
	baz=322,SNR=10						
LRAL	**Lakeview Retre**	**68.85**	**63**	P	**P**	**20 23 42.5**	**-1.0**
	baz=320						
LRAL	**Lakeview Retre**	**68.85**	**63**	IAmb	IAmb	20 23 47.0	
	comp=Z,33nm,1.6s						
LRAL				IAMs_20	IAMs_20	20 56 17.6	
	comp=Z,2µm,19.0s						
H65A	**Eastbrook**	**68.86**	**43**	P	**P**	**20 23 42.2**	**-1.2**
	baz=324,SNR=7.3						
N60A	**Cedar Hill Far**	**68.87**	**50**	P	**P**	**20 23 42.5**	**-1.0**
	baz=322						
I64A	**Boothb

P59A	**Jarrettsville**	**69.22**	**52**	P	**P**	**20 23 44.8**	**-0.9**		comp=Z,2µm,20.0s	
	baz=322,SNR=8.5							**451A**	**Vernon**	**71.38**	**64**	IAMs_20	IAMs_20	20 57 59.7	
R57A	**Stanardsville**	**69.23**	**54**	P	**P**	**20 23 45.0**	**-0.8**		comp=Z,2µm,20.0s							
	baz=321,SNR=6.2							**W58A**	**Raeford**	**71.42**	**57**	P	**P**	**20 23 57.7**	**-1.5**
BRNJ	**Basking Ridge**	**69.27**	**50**	IAMs_20	IAMs_20	20 53 56.0			baz=322							
	comp=Z,2µm,21.0s							**COEN**	**Coen**	**71.77**	**213**	IAmb	IAmb	20 24 03.2	
PAL	**Palisades**	**69.32**	**49**	P	**P**	**20 23 45.0**	**-1.3**		comp=Z,19nm,0.9s							
	baz=322							**TIGA**	**Tifton**	**71.92**	**62**	IAMs_20	IAMs_20	20 58 20.9	
PAL	**Palisades**	**69.32**	**49**	IAmb	IAmb	20 23 49.0			comp=Z,2µm,18.0s							
	comp=Z,24nm,0.8s							**TAOE**	**Nuku Hiva Isla**	**71.94**	**133**	*e*S	**S**	**20 33 20.6**	**-3.3**
PAL				IAMs_20	IAMs_20	20 53 46.3			comp=Z,1µm,27.5s							
	comp=Z,3µm,20.0s							TAOE				*e*LQ	LQ	20 42 43.5	
ISAL	**Salakas**	**69.34**	**342**	*e*P	**P**	**20 23 46.8**	**+0.6**		comp=Z,2µm,28.2s							
U55A	**TA2, Sparta**	**69.35**	**57**	P	**P**	**20 23 45.4**	**-1.3**	TAOE				*e*LR	LR	20 45 43.8	
	baz=321								comp=Z,1µm,22.2s							
WES	**Weston**	**69.39**	**47**	IAmb	IAmb	20 24 06.5		**SBUM**	**Sibu**	**71.95**	**250**	IAmb	IAmb	20 25 42.5	
	comp=Z,78nm,1.9s								comp=Z,16nm,0.8s							
WES				IAMs_20	IAMs_20	20 53 04.2		**255A**	**Hazlehurst**	**72.14**	**61**	IAMs_20	IAMs_20	20 58 52.7	
	comp=Z,3µm,20.0s								comp=Z,2µm,18.0s							
MPSI	**Mapaga**	**69.42**	**242**	P	**P**	**20 23 48.3**	**+1.1**	**V61A**	**Roper**	**72.16**	**54**	IAMs_20	IAMs_20	20 56 11.7	
	comp=Z,354nmcomp=Z,22nm,1.1s								comp=Z,2µm,19.0s							
S57A	**Dark Hollow, R**	**69.43**	**55**	P	**P**	**20 23 46.1**	**-1.0**	**UNM**	**Universidad Na**	**72.19**	**81**	IAMs_20	IAMs_20	20 54 08.5	
	baz=321								comp=Z,1µm,19.0s							
S57A	**Dark Hollow, R**	**69.43**	**55**	IAmb	IAmb	20 23 49.5		**KBL**	**Kabul**	**72.25**	**304**	P	**P**	**20 24 03.7**	**-0.9**
	comp=Z,63nm,1.6s								SNR=21							
M62A	**Hamden**	**69.44**	**48**	P	**P**	**20 23 45.6**	**-1.4**	KBL				P	**P**	**20 24 03.7**	**-0.9**
	baz=323								SNR=21							
V54A	**Nebo**	**69.44**	**58**	P	**P**	**20 23 46.3**	**-0.9**	**KBL**	**Kabul**	**72.25**	**304**	P	**P**	**20 24 03.6**	**-0.9**
	baz=321,SNR=7.5							KBL				pmax	pmax		
PSUB	**Penn St. - Bra**	**69.44**	**51**	IAmb	IAmb	20 23 50.3			comp=Z,46nm,0.8s							
	comp=Z,64nm,1.8s							KBL				MLR	MLR		
PSUB				IAMs_20	IAMs_20	20 53 12.7			comp=Z,2µm,20.0s							
	comp=Z,3µm,22.0s							**KBL**	**Kabul**	**72.25**	**304**	P	**P**	**20 24 03.6**	**-1.0**
P60A	**Greenville**	**69.45**	**51**	IAMs_20	IAMs_20	20 53 22.6		KBL				IAMs_20	IAMs_20	20 58 34.8	
	comp=Z,3µm,21.0s								comp=Z,2µm,20.0s							
T56A	**Rocky Mt**	**69.46**	**56**	P	**P**	**20 23 46.5**	**-0.8**	**RGN**	**Rugen**	**72.29**	**349**	IAMs_20	IAMs_20	20 57 41.7	
	baz=321								comp=Z,2µm,19.0s							
IDID	**Didziasalis**	**69.46**	**341**	*e*P	**P**	**20 23 47.8**	**+0.8**	**553A**	**Crawfordville**	**72.43**	**63**	IAMs_20	IAMs_20	20 58 20.4	
R58A	**Rapidan**	**69.48**	**54**	P	**P**	**20 23 46.3**	**-1.1**		comp=Z,1µm,18.0s							
	baz=321,SNR=5.5							**EKA**	**Eskdalemuir Ar**	**72.54**	**359**	P	**P**	**20 24 05.7**	**+0.1**
KOLN	**Koldanda**	**69.50**	**289**	*e*P	**P**	**20 23 48.3**	**+0.4**	**SPSI**	**Sidrap Palu**	**73.11**	**239**	P	**P**	**20 24 10.4**	**+0.9**
	comp=Z,117nm,1.1s								comp=Z,3µmcomp=Z,14nm,1.3s							
BG3	**Lake Jocassee**	**69.53**	**59**	IAmb	IAmb	20 23 53.0		**BSEG**	**Bad Segeberg**	**73.21**	**351**	*e*P	**P**	**20 24 10.5**	**+0.9**
	comp=Z,44nm,1.5s								comp=Z,68nm,1.8s,baz=9.9,slow=5.8							
VRH	**Novokhopyorsk**	**69.53**	**331**	*e*P	**P**	**20 23 47.2**	**-0.2**	**MTKI**	**Muara Teweh, K**	**73.22**	**245**	P	**P**	**20 24 10.6**	**+0.4**
VRH				pmax	pmax				comp=Z,740nmcomp=Z,8.4nm,0.5s							
	comp=Z,30nm,0.6s							**AKASG**	**Malin Array Be**	**73.27**	**338**	P	**P**	**20 24 09.7**	**-0.3**
VRH				MLR	MLR				comp=Z,20nm,0.7s,baz=24,slow=6.0,SNR=56							
	comp=Z,3µm,16.0s							AKASG				LR	LR	21 02 00.1	
PYUN	**Piuthan**	**69.60**	**290**	*e*P	**P**	**20 23 49.1**	**+0.6**		comp=Z,846nm,18.0s,baz=30,slow=40							
	comp=Z,154nm,0.9s							**AKASG**	**Malin Array Be**	**73.27**	**338**	P	**P**	**20 24 08.7**	**-1.4**
PBUR	**Paburge**	**69.65**	**344**	*e*P	**P**	**20 23 48.5**	**+0.4**	**AKBB**	**Malin Array Si**	**73.27**	**338**	*d* iP	**P**	**20 24 09.6**	**-0.4**
BRYW	**Bryant College**	**69.67**	**47**	IAMs_20	IAMs_20	20 53 23.6		**AKBB**	**Malin Array Si**	**73.27**	**338**	IAmb	IAmb	20 24 11.1	
	comp=Z,2µm,21.0s								comp=Z,28nm,0.8s							
PABE	**Paberze**	**69.80**	**343**	*e*P	**P**	**20 23 49.3**	**+0.3**	**BNSI**	**Bone**	**73.30**	**239**	P	**P**	**20 24 12.1**	**+1.5**
Y52A	**Lilburn**	**69.80**	**61**	IAmb	IAmb	20 23 56.5			comp=Z,15nm,1.2s							
	comp=Z,20nm,0.9s							**KSM**	**Kuching**	**73.84**	**251**	P	P	20 24 19.0	+5.1
Y52A				IAMs_20	IAMs_20	20 58 03.7		**BWNR**	**Bhubaneshwar**	**73.89**	**282**	*e*P	**P**	**20 24 11.6**	**-2.5**
	comp=Z,2µm,18.0s							BWNR				IAmb	IAmb	20 24 18.5	
NACGM	**Naroch**	**69.84**	**341**	*e*	**P**	**20 23 48.0**	**-1.3**		comp=Z,82nm,0.2s							
NACGM				*e*LQ	LQ	20 46 26.0		**TLIG**	**Tlapa**	**73.92**	**82**	IAMs_20	IAMs_20	20 50 11.2	
NACGM				*e*LR	LR	20 50 43.0			comp=Z,1µm,21.0s							
W54A	**Cherokee Point**	**69.85**	**59**	P	**P**	**20 23 48.7**	**-1.0**	**656A**	**Willston**	**74.10**	**63**	IAMs_20	IAMs_20	20 59 02.6	
	baz=321								comp=Z,2µm,18.0s							
M63A	**Gales Ferry**	**69.85**	**48**	P	**P**	**20 23 48.5**	**-1.0**	**RUE**	**Ruedersdorf**	**74.26**	**348**	*e*P	**P**	**20 24 16.3**	**+0.5**
	baz=323								comp=Z,32nm,1.3s,baz=9.9,slow=5.8							
P61A	**Hammonton**	**69.96**	**51**	IAMs_20	IAMs_20	20 54 16.3		**PMOR**	**Pomariorio Ree**	**74.34**	**143**	*e*P	**P**	**20 24 17.6**	**+1.0**
	comp=Z,2µm,21.0s								comp=Z,47nm,1.2s							
MSVF	**Nonsavu**	**69.96**	**177**	P	**P**	**20 23 51.7**	**+1.3**	**PMOR**	**Pomariorio Ree**	**74.34**	**143**	*e*T	T	21 44 52.0	
MSVF				pmax	pmax				comp=Z,63nm,0.3s							
	comp=Z,23nm,1.2s							**GOF**	**Gofitskoye**	**74.54**	**327**	ǁ *i*P	**P**	**20 24 18.5**	**+0.9**
MSVF				MLR	MLR			GOF				pmax	pmax		
	comp=Z,2µm,21.0s								comp=Z,159nm,1.3s							
MSVF	**Nonsavu**	**69.96**	**177**	P	**P**	**20 23 51.7**	**+1.3**	**DSB**	**Dublin**	**74.63**	**1**	IAMs_20	IAMs_20	20 59 28.2	
MSVF				IAmb	IAmb	20 23 59.4			comp=Z,1µm,20.0s							
	comp=Z,23nm,1.1s							**DZM**	**Mont Dzumac**	**74.64**	**189**	P	**P**	**20 24 20.6**	**+2.2**
MSVF	**Nonsavu**	**69.96**	**177**	IAMs_20	IAMs_20	20 47 46.3			comp=Z,24nm,1.0s,baz=74,slow=15,SNR=6.0							
	comp=Z,2µm,21.0s							**DZM**	**Mont Dzumac**	**74.64**	**189**	*e*P	**P**	**20 24 20.3**	**+1.9**
S58A	**Poland Farm, P**	**70.00**	**54**	P	**P**	**20 23 49.3**	**-1.3**		comp=Z,60nm,1.1s							
	baz=322							DZM				*e*S	**S**	**20 33 54.9**	**+0.8**
S58A	**Poland Farm, P**	**70.00**	**54**	IAmb	IAmb	20 23 55.0			comp=Z,2µm,27.1s							
	comp=Z,57nm,1.7s							**DZM**	**Mont Dzumac**	**74.64**	**189**	*e*LR	LR	20 47 02.2	
S58A				IAMs_20	IAMs_20	20 54 10.5			comp=Z,6µm,30.6s							
	comp=Z,2µm,19.0s							**DZM**	**Mont Dzumac**	**74.64**	**189**	P	**P**	**20 24 18.6**	**+0.2**
MICGM	**Minsk**	**70.00**	**340**	*e*P	**P**	**20 23 50.0**	**-0.3**	DZM				IAmb	IAmb	20 24 22.0	
MICGM				*e*LR	LR	20 51 21.0			comp=Z,26nm,1.0s							
MNK	**Minsk**	**70.00**	**340**	*e*P	**P**	**20 23 50.0**	**-0.3**	DZM				IAMs_20	IAMs_20	20 51 22.2	
250A	**Grady**	**70.05**	**63**	P	**P**	**20 23 49.4**	**-1.5**		comp=Z,2µm,20.0s							
250A				IAMs_20	IAMs_20	20 56 56.5		**NRDL**	**Niedersach Rie**	**74.66**	**351**	*e*P	**P**	**20 24 18.4**	**+0.4**
	comp=Z,2µm,20.0s								comp=Z,38nm,1.9s,baz=9.9,slow=5.8							
V56A	**Mocksville**	**70.17**	**57**	P	**P**	**20 23 50.2**	**-1.4**	**VAH**	**Vaihoa**	**74.66**	**143**	*e*P	**P**	**20 24 19.1**	**+0.7**
	baz=321								comp=Z,52nm,1.2s							
X54A	**Belton**	**70.17**	**59**	P	**P**	**20 23 50.4**	**-1.2**	**GEYT**	**Alibeck**	**74.75**	**313**	P	**P**	**20 24 19.6**	**+0.7**
	baz=321,SNR=7.6								comp=Z,30nm,1.1s,baz=341,slow=3.1,SNR=25							
DHRM	**DHARAMSHALA**	**70.20**	**297**	*e*P	**P**	**20 23 51.2**	**-1.0**	**GEYT**	**Alibeck**	**74.75**	**313**	P	**P**	**20 24 19.2**	**+0.3**
BRAL	**Brewton**	**70.24**	**65**	IAMs_20	IAMs_20	20 56 55.5		**GYA0B**	**ALIBECK ARRAY**	**74.75**	**313**	P	**P**	**20 24 19.0**	**+0.1**
	comp=Z,2µm,18.0s							GYA0B				IAmb	IAmb	20 24 24.4	
PAULI	**Pauline**	**70.25**	**58**	IAmb	IAmb	20 23 55.0			comp=Z,52nm,1.1s							
	comp=Z,77nm,1.7s							**MAK**	**Makhachkala**	**74.81**	**323**	*e*P	**P**	**20 24 15.5**	**-3.7**
KMSC	**Kings Mountain**	**70.25**	**58**	P	**P**	**20 23 50.9**	**-1.2**	MAK				*e*PPP	PPP	20 28 49.3	
	baz=321,SNR=8.4							MAK				*e*S	**SKiKP**	**20 33 49.4**	**+5.7**
KMSC	**Kings Mountain**	**70.25**	**58**	IAmb	IAmb	20 23 57.1		MAK				*e*SS	**SS**	**20 38 46.5**	**+4.2**
	comp=Z,50nm,1.4s							MAK				*e*SSS	SSS	20 41 56.3	
VSR	**Storozhevoye**	**70.26**	**332**	*e*P	**P**	**20 23 51.8**	**-0.1**	MAK				pmax	pmax		
VSR				pmax	pmax				comp=Z,315nm,1.4s							
	comp=Z,50nm,1.2s							MAK				MLR	MLR		
VSR				MLR	MLR				comp=Z,2µm,17.0s							
	comp=Z,3µm,19.0s							**ASSE**	**Asse, Remlinge**	**74.96**	**350**	*e*P	**P**	**20 24 20.4**	**+0.7**
U57A	**Blanch**	**70.27**	**56**	P	**P**	**20 23 51.0**	**-1.3**		comp=Z,52nm,1.9s,baz=9.9,slow=5.8							
	baz=321							**IBBN**	**Ibbenburen**	**75.06**	**352**	*e*P	**P**	**20 24 21.2**	**+0.8**
T58A	**Grand View Acr**	**70.28**	**55**	P	**P**	**20 23 51.3**	**-1.0**		comp=Z,88nm,1.5s,baz=9.9,slow=5.8							
	baz=322							**LVV**	**L'vov**	**75.20**	**341**	*e*P	**P**	**20 24 21.5**	**+0.2**
152A	**Waverly Hall**	**70.36**	**62**	IAmb	IAmb	20 23 57.1		LVV				*e*S	**S**	**20 34 03.2**	**+3.4**
	comp=Z,47nm,1.6s							LVV				MLR	MLR		
VORD	**Divnogorie**	**70.45**	**332**	*e*P	**P**	**20 23 53.2**	**+0.1**		comp=E,1µm,19.0s							
VORD				pmax	pmax			LVV				MLR	MLR		
	comp=Z,20nm,0.7s								comp=N,2µm,20.0s							
GOGA	**Godfrey**	**70.47**	**61**	P	**P**	**20 23 52.3**	**-1.2**	LVV				MLR	MLR		
	baz=321								comp=Z,2µm,21.0s							
GOGA	**Godfrey**	**70.47**	**61**	IAmb	IAmb	20 23 55.3		**GROC**	**Groznyy**	**75.22**	**324**	*i* P	**P**	**20 24 19.4**	**-2.2**
	comp=Z,28nm,1.4s							GROC				*e*		20 24 33.6	
GOGA	**Godfrey**	**70.47**	**61**	IAMs_20	IAMs_20	20 58 49.3		GROC				*e*S	**SKiKP**	**20 33 51.2**	**+6.8**
	comp=Z,2µm,18.0s							GROC				pmax	pmax		
HODGE	**Hodges**	**70.47**	**59**	IAmb	IAmb	20 23 58.0			comp=Z,80nm,1.4s							
	comp=Z,24nm,0.8s							**CLZ**	**Clausthal**	**75.28**	**350**	*e*P	**P**	**20 24 22.5**	**+0.8**
V57A	**Coltrane Farms**	**70.47**	**56**	P	**P**	**20 23 52.2**	**-1.3**		comp=Z,70nm,1.8s,baz=9.9,slow=5.8							
	baz=321							**BBKI**	**Banjar Baru**	**75.34**	**244**	P	**P**	**20 24 22.8**	**+0.3**
SMLA	**Simla**	**70.58**	**296**	*e*P	**P**	**20 23 54.0**	**-0.2**		comp=Z,17nm,2.1s							
SMLA				IAmb	IAmb	20 23 59.0		**MTN**	**Manton Dam**	**75.36**	**225**	IAmb	IAmb	20 24 24.1	
	comp=Z,18nm,0.8s								comp=Z,53nm,1.1s							
X55A	**Gracelyn & Ava**	**70.61**	**59**	P	**P**	**20 23 53.5**	**-0.9**	**CLL**	**Collm**	**75.51**	**349**	*i* P	**P**	**20 24 22.5**	**-0.6**
	baz=321,SNR=8.6								comp=Z,20nm,1.4s							
W56A	**Indian Trail**	**70.64**	**57**	P	**P**	**20 23 53.5**	**-1.0**	CLL				*e*(PcP)	**PcP**	**20 24 34.0**	**-2.1**
	baz=321							CLL				*e*S	**S**	**20 34 05.0**	**+1.8**
T59A	**Double "B" Far**	**70.74**	**54**	P	**P**	**20 23 54.1**	**-1.0**	CLL				*e*SS	**SS**	**20 38 54.0**	**+1.6**
	baz=322							CLL				*e*SSS	SSS	20 42 06.0	
T59A	**Double "B" Far**	**70.74**	**54**	IAmb	IAmb	20 23 58.5		CLL				*e*(SSSS)		20 43 36.0	
	comp=Z,18nm,1.0s							CLL				LmH		20 59 00.0	
T59A				IAMs_20	IAMs_20	20 55 27.3			comp=N,2µm,19.4s							
	comp=Z,2µm,19.0s							CLL				LmH		20 59 00.0	
NIL	**Nilore**	**70.76**	**300**	P	**P**	**20 23 54.8**	**-0.5**		comp=E,1µm,20.1s							
NIL				pmax	pmax			CLL				LmV		21 00 00.0	
	comp=Z,109nm,1.2s								comp=Z,2µm,19.1s							
NIL				MLR	MLR			**CLL**	**Collm**	**75.51**	**349**	*i* P	**P**	**20 24 22.5**	**-0.6**
	comp=Z,3µm,19.0s							CLL				*e*		20 24 34.0	
NIL	**Nilore**	**70.76**	**300**	P	**P**	**20 23 54.8**	**-0.5**	CLL				*e*S	**S**	**20 34 05.0**	**+1.8**
V58A	**Windy Hill, Pi**	**70.88**	**56**	P	**P**	**20 23 54.7**	**-1.3**	CLL				pmax	pmax		
	baz=322								comp=Z,20nm,1.4s							
Y55A	**Saluda**	**70.91**	**59**	P	**P**	**20 23 55.1**	**-1.1**	CLL				MLR	MLR		
	baz=321,SNR=7.2								comp=Z,2µm,19.1s							
X56A	**White Oak**	**70.91**	**58**	P	**P**	**20 23 55.5**	**-0.7**	**CLL**	**Collm**	**75.51**	**349**	*e*P	**P**	**20 24 23.0**	**-0.1**
	baz=321								comp=Z,20nm,1.4s,baz=9.9,slow=5.8							
W57A	**Gilead**	**70.93**	**57**	P	**P**	**20 23 55.3**	**-1.0**	**CLL**	**Collm**	**75.51**	**349**	IAMs_20	IAMs_20	21 00 01.9	
	baz=321								comp=Z,2µm,19.0s							
BIRD	**Birdtown, Kers**	**71.09**	**58**	IAmb	IAmb	20 24 01.6		**KSP**	**Ksiaz**	**75.53**	**346**	*e*P	**P**	**20 24 23.2**	**0.0**
	comp=Z,16nm,0.9s							**OJC**	**Ojcow**	**75.59**	**344**	*e*P	**P**	**20 24 24.0**	**+0.4**
352A	**Blakely**	**71.16**	**63**	IAMs_20	IAMs_20	20 57 04.9		**OJC**	**Ojcow**	**75.59**	**344**	IAmb	IAmb	20 24 25.4	
	comp=Z,2µm,18.0s								comp=Z,34nm,1.3s							
BOK	**Bokaro**	**71.17**	**285**	*e*P	**P**	**20 23 58.4**	**+0.5**	**GTTG**	**Gottingen**	**75.61**	**351**	*e*P	**P**	**20 24 24.2**	**+0.6**
BOK				IAmb	IAmb	20 24 03.3			comp=Z,53nm,1.9s,baz=9.9,slow=5.8							
	comp=Z,34nm,0.6s							**KIV**	**Kislovodsk**	**75.64**	**327**	*e*P	**P**	**20 24 24.5**	**+0.4**
154A	**Montrose**	**71.27**	**61**	IAMs_20	IAMs_20	20 55 17.7		KIV				*e*S	**S**	**20 34 05.8**	**+0.7**
	comp=Z,2µm,20.0s							KIV				pmax	pmax		
V59A	**Middlesex**	**71.35**	**55**	P	**P**	**20 23 57.8**	**-1.0**		comp=Z,77nm,1.1s							
	baz=322,SNR=7.3							KIV				pmax	pmax		
SUW	**Suwalki**	**71.36**	**343**	*e*P	**P**	**20 23 58.0**	**-0.6**		comp=Z,170nm,4.8s							
SUW	**Suwalki**	**71.36**	**343**	IAMs_20	IAMs_20	20 55 55.3		KIV				MLR	MLR		
	comp=Z,4µm,18.0s								comp=Z,4µm,18.0s							
KIV	**Kislovodsk**	**75.64**	**327**	IAMs_20	IAMs_20	21 01 38.1		**DWPF**	**Disney Wildern**	**75.68**	**63**	IAMs_20	IAMs_20	21 00 49.6	
	comp=Z,2µm,19.0s								comp=Z,2µm,18.0s							
KWP	**Kalwaria Pacla**	**75.64**	**342**	*e*P	**P**	**20 24 24.6**	**+0.8**	**HRA**	**Herat**	**75.73**	**308**	IAmb	IAmb	20 24 30.4	
KWP	**Kalwaria Pacla**	**75.64**	**342**	IAMs_20	IAMs_20	21 04 07.5			comp=Z,26nm,0.8s							
	comp=Z,2µm,19.0s							**NEUB**	**Neuenburg**	**75.75**	**349**	*e*P	**P**	**20 24 24.7**	**+0.3**
DWPF	**Disney Wildern**	**75.68**	**63**	IAMs_20	IAMs_20	21 00 49.6			comp=Z,51nm,1.7s,baz=9.9,slow=5.8							
	comp=Z,2µm,18.0s							**KBZ**	**Khabaz**	**75.77**	**327**	P	**P**	**20 24 26.1**	**+1.5**
HRA	**Herat**	**75.73**	**308**	IAmb	IAmb	20 24 30.4			comp=Z,24nm,1.0s,baz=51,slow=2.6,SNR=28							
	comp=Z,26nm,0.8s							KBZ				LR	LR	21 03 05.2	
NEUB	**Neuenburg**	**75.75**	**349**	*e*P	**P**	**20 24 24.7**	**+0.3**		comp=Z,2µm,18.8s,baz=25,slow=40							
	comp=Z,51nm,1.7s,baz=9.9,slow=5.8							**KBZ**	**Khabaz**	**75.77**	**327**	*d* iP	**P**	**20 24 25.4**	**+0.8**
KBZ	**Khabaz**	**75.77**	**327**	P	**P**	**20 24 26.1**	**+1.5**	KBZ				pmax	pmax		
	comp=Z,24nm,1.0s,baz=51,slow=2.6,SNR=28								comp=Z,59nm,1.3s							
KBZ				LR	LR	21 03 05.2		**CHVC**	**Chvalec**	**75.81**	**347**	*e*P	**P**	**20 24 25.1**	**+0.2**
	comp=Z,2µm,18.8s,baz=25,slow=40							CHVC				AMS	AMS	21 01 40.0	
KBZ	**Khabaz**	**75.77**	**327**	*d* iP	**P**	**20 24 25.4**	**+0.8**		comp=Z,2µm,19.3s							
KBZ				pmax	pmax			**BRG**	**Berggiesshubel**	**75.82**	**348**	*e*P	**P**	**20 24 21.4**	**-3.4**
	comp=Z,59nm,1.3s								comp=Z,30nm,1.7s							
CHVC	**Chvalec**	**75.81**	**347**	*e*P	**P**	**20 24 25.1**	**+0.2**	BRG				*i* PCP	**pwP**	**20 24 32.3**	**+1.5**
CHVC				AMS	AMS	21 01 40.0			comp=Z,8.8nm,1.4s							
	comp=Z,2µm,19.3s							BRG				*e*PP	**PP**	**20 27 13.6**	**-0.4**
BRG	**Berggiesshubel**	**75.82**	**348**	*e*P	**P**	**20 24 21.4**	**-3.4**		comp=Z,14nm,1.7s							
	comp=Z,30nm,1.7s								comp=N,2µm,17.6s							
BRG				*i*		20 24 32.3			comp=E,2µm,15.5s							
BRG				*e*		20 27 13.6			comp=Z,898nm,15.4s							
BRG				pmax	pmax			**BRG**	**Berggiesshubel**	**75.82**	**348**	*e*P	**P**	**20 24 24.9**	**+0.1**
	comp=Z,30nm,1.7s								comp=Z,30nm,1.7s,baz=9.9,slow=5.8							
BRG				pmax	pmax			**OSTC**	**Ostas**	**75.82**	**346**	*e*P	**P**	**20 24 25.3**	**+0.4**
	comp=Z,14nm,1.7s							OSTC				AMS	AMS	21 02 40.0	
BRG				MLR	MLR				comp=Z,2µm,17.7s							
	comp=N,2µm,17.6s							**FBE**	**Freiberg**	**75.85**	**348**	*e*P	**P**	**20 24 25.5**	**+0.5**
BRG				MLR	MLR				comp=Z,50nm,1.7s,baz=9.9,slow=5.8							
	comp=E,2µm,15.5s							**SORM**	**Soroca**	**75.88**	**338**	⇑P	**P**	**20 24 25.8**	**+0.6**
BRG				MLR	MLR			**SORM**	**Soroca**	**75.88**	**338**	P	**P**	**20 24 25.8**	**+0.6**
	comp=Z,898nm,15.4s							**UPC**	**Upice**	**75.90**	**347**	AMS	AMS	21 01 40.0	
BRG	**Berggiesshubel**	**75.82**	**348**	*e*P	**P**	**20 24 24.9**	**+0.1**		comp=Z,2µm,19.2s							
	comp=Z,30nm,1.7s,baz=9.9,slow=5.8							**BUG**	**Bochum–Univer**	**75.96**	**352**	*e*P	**P**	**20 24 25.9**	**+0.3**
OSTC	**Ostas**	**75.82**	**346**	*e*P	**P**	**20 24 25.3**	**+0.4**		comp=Z,86nm,1.9s,baz=9.9,slow=5.8							
OSTC				AMS	AMS	21 02 40.0		**DPC**	**Dobruska-Polom**	**76.01**	**346**	*e*P	**P**	**20 24 26.6**	**+0.6**
	comp=Z,2µm,17.7s							DPC				*e*		20 24 32.1	
FBE	**Freiberg**	**75.85**	**348**	*e*P	**P**	**20 24 25.5**	**+0.5**	DPC				MLR	MLR		
	comp=Z,50nm,1.7s,baz=9.9,slow=5.8								comp=Z,2µm,18.3s							
SORM	**Soroca**	**75.88**	**338**	⇑P	**P**	**20 24 25.8**	**+0.6**	**DPC**	**Dobruska-Polom**	**76.01**	**346**	*e*P	**P**	**20 24 26.6**	**+0.6**
SORM	**Soroca**	**75.88**	**338**	P	**P**	**20 24 25.8**	**+0.6**	DPC				*ex*	x	20 24 32.1	
UPC	**Upice**	**75.90**	**347**	AMS	AMS	21 01 40.0		DPC				AMS	AMS	21 02 20.0	
	comp=Z,2µm,19.2s								comp=Z,2µm,18.3s							
BUG	**Bochum–Univer**	**75.96**	**352**	*e*P	**P**	**20 24 25.9**	**+0.3**	**AKT**	**Akhty**	**76.01**	**322**	*e*P	**P**	**20 24 26.9**	**+0.6**
	comp=Z,86nm,1.9s,baz=9.9,slow=5.8							AKT				*e*		20 24 37.8	
DPC	**Dobruska-Polom**	**76.01**	**346**	*e*P	**P**	**20 24 26.6**	**+0.6**	AKT				pmax	pmax		
DPC				*e*		20 24 32.1			comp=Z,97nm,1.2s							
DPC				MLR	MLR			**PVCC**	**Panska Ves**	**76.08**	**347**	AMS	AMS	21 04 20.0	
	comp=Z,2µm,18.3s								comp=Z,1µm,15.1s							
DPC	**Dobruska-Polom**	**76.01**	**346**	*e*P	**P**	**20 24 26.6**	**+0.6**	**PPT**	**Papeete**	**76.11**	**146**	LR	LR	20 52 28.1	
DPC				*ex*	x	20 24 32.1			comp=Z,2µm,19.2s,baz=328,slow=31							
DPC				AMS	AMS	21 02 20.0		**PPT2**	**Papeete2**	**76.13**	**146**	*e*S	**S**	**20 34 08.0**	**-2.8**
	comp=Z,2µm,18.3s								comp=Z,157nm,24.2s							
AKT	**Akhty**	**76.01**	**322**	*e*P	**P**	**20 24 26.9**	**+0.6**	PPT2				*e*SS	**SS**	**20 38 59.7**	**-4.9**
AKT				*e*		20 24 37.8			comp=Z,204nm,23.8s							
AKT				pmax	pmax			PPT2				*e*LQ	LQ	20 44 18.5	
	comp=Z,97nm,1.2s								comp=Z,3µm,27.0s							
PVCC	**Panska Ves**	**76.08**	**347**	AMS	AMS	21 04 20.0		PPT2				*e*LR	LR	20 47 38.2	
	comp=Z,1µm,15.1s								comp=Z,2µm,21.8s,baz=342							
**

LANS pmax pmax
comp=Z,22nm,1.3s
LANS Liptovska Anna 76.68 344 *e*P **P 20 24 31.5 +1.7**
BEBN Eben Emael 76.72 353 sP **P 20 24 30.0 +0.1**
AHRW Bad Neuenahr-A 76.87 352 *e*P **P 20 24 31.5 +0.7**
comp=Z,15nm,1.1s,baz=9.9,slow=5.8
MEM Membach 76.88 353 sP **P 20 24 31.1 +0.2**
TBLG Delisi 76.89 324 P **P 20 24 32.2 +1.1**
MILM Milestii Mici 76.91 337 ⇓P **P 20 24 31.8 +0.7**
MANZ Manzenberg 76.92 349 *e*P **P 20 24 31.5 +0.4**
comp=Z,31nm,2.0s,baz=9.9,slow=5.8
IPM Ipoh 76.93 260 P **P 20 24 31.0 -0.7**
IPM IAmb IAmb 20 24 35.8
comp=Z,21nm,1.1s
IPM Ipoh 76.93 260 P **P 20 24 36.0 +4.3**
MEH Mehetia 76.93 144 *e*T T 21 48 06.5
comp=Z,39nm,0.3s
CHVG Ch'k'valeri 76.94 327 ⇓P **P 20 24 33.8 +2.5**
BSTI Sart Tilman 76.94 353 sP **P 20 24 31.6 +0.4**
SOC Sochi 76.94 329*c i*P **P 20 24 31.8 +0.5**
SOC *e* 20 27 23.1
SOC *e*PPP PPP 20 29 06.9
SOC *e*S **S 20 34 23.2 +4.1**
SOC *e*SS **SS 20 39 16.7 +2.3**
SOC pmax pmax
comp=Z,18nm,0.8s
VRAC Vranov 76.98 346 ⇓P **P 20 24 32.1 +0.6**
VRAC Vranov 76.98 346 *e*P **P 20 24 31.8 +0.3**
VRAC Vranov 76.98 346 P **P 20 24 32.1 +0.6**
BUR08 Bucovina Ar. S 77.04 340 IAmb IAmb 20 24 38.9
comp=Z,17nm,0.7s
BURAR Bucovina Array 77.06 340 ⇓P **P 20 24 32.5 +0.4**
BURAR Bucovina Array 77.06 340 P **P 20 24 32.5 +0.4**
BURAR Bucovina Array 77.06 340 P **P 20 24 32.1 0.0**
TNS Taunus Mts 77.06 351 *e*P **P 20 24 32.5 +0.5**
comp=Z,22nm,1.5s,baz=9.9,slow=5.8
PRAR RASCA 77.08 339 ⇑P **P 20 24 32.7 +0.6**
060A Indiantown 77.11 62 IAMs_20 IAMs_20 20 55 52.4
comp=Z,2μm,20.0s
ROTZ Rotzenmuhle 77.12 349 *e*P **P 20 24 32.8 +0.6**
comp=Z,32nm,1.8s,baz=9.9,slow=5.8
BHOU Houvegnez 77.14 353 sP **P 20 24 33.0 +0.6**
KECS Kecovo 77.15 343 *e*P **P 20 24 33.2 +0.8**
KECS pmax pmax
comp=Z,10.0nm,1.0s
KECS Kecovo 77.15 343 *e*P **P 20 24 33.2 +0.8**
TREC Trest 77.16 347 AMS AMS 21 02 30.0
comp=Z,2μm,20.0s
BGES Gesves 77.17 354 sP **P 20 24 32.4 -0.1**
NGP Nagpur 77.22 288 *e*P **P 20 24 33.0 -0.3**
NGP IAmb IAmb 20 24 39.9
comp=Z,25nm,1.0s
KRUC Moravsky 77.25 346 *e*P **P 20 24 33.2 +0.2**
JAVC Velka Javorina 77.26 345 *e*P **P 20 24 34.7 +1.6**
BMRD Maredsous 77.27 354 sP **P 20 24 33.4 +0.3**
GRA1 Grafenberg Arr 77.31 350 IAmb IAmb 20 24 35.3
comp=Z,65nm,1.8s
GRA1 IAMs_20 IAMs_20 21 02 22.4
comp=Z,1μm,18.0s
GRF Grafenberg Arr 77.31 350 *e*P **P 20 24 34.1 +0.8**
comp=Z,74nm,1.9s,baz=9.9,slow=5.8
GRF *e*L L 21 02 23.4
comp=Z,1μm,18.8s
MYKOM Kota Tinggi 77.38 256 P **P 20 24 38.0 +3.9**
VYHS Vyhne 77.42 344 *e*P **P 20 24 34.9 +0.9**
VYHS pmax pmax
comp=Z,57nm,1.9s
VYHS Vyhne 77.42 344 *e*P **P 20 24 34.9 +0.9**
GIVF Givet 77.47 354 *e*P **P 20 24 33.9 -0.3**
GIVF pmax pmax
comp=Z,21nm,1.3s
DOU Dourbes 77.49 354 sP **P 20 24 34.3 +0.1**
BAIF Baives 77.55 354 *e*P **P 20 24 34.6 0.0**
BAIF pmax pmax
comp=Z,43nm,1.6s
KHC Kasperske Hory 77.58 348*de*P **P 20 24 34.9 0.0**
KHC pmax pmax
comp=Z,43nm,1.7s
KHC Kasperske Hory 77.58 348 *e*P **P 20 24 35.3 +0.4**
KHC *e*pP **pwP 20 24 40.8 -0.1**
KHC AMS AMS 21 08 20.0
comp=Z,1μm,15.7s
AKH Akhalkalaki 77.61 325 ⇓P **P 20 24 37.5 +2.1**
AKH Akhalkalaki 77.61 325 P **P 20 24 37.2 +1.8**
AKH Akhalkalaki 77.61 325 IAmb IAmb 20 24 41.8
comp=Z,61nm,1.3s
AKH IAMs_20 IAMs_20 21 03 13.7
comp=Z,2μm,20.0s
SMOL Smolenice 77.63 345 *e*P **P 20 24 36.5 +1.4**
SMOL pmax pmax
comp=Z,23nm,1.7s
SMOL Smolenice 77.63 345 *e*P **P 20 24 36.5 +1.4**
WET Wettzell 77.65 348 P **P 20 24 36.9 +1.6**
WET Wettzell 77.65 348 *e*P **P 20 24 36.0 +0.8**
comp=Z,34nm,1.9s,baz=9.9,slow=5.8
061Z Ochoppi 77.74 64 IAMs_20 IAMs_20 21 01 09.1
comp=Z,1μm,19.0s
ARCR ARCALIA 77.75 340 ⇓P **P 20 24 37.4 +1.6**
MODS Modra-Piesok 77.79 345 *e*P **P 20 24 35.9 -0.1**
MODS pmax pmax
comp=Z,64nm,1.8s
MODS Modra-Piesok 77.79 345 *e*P **P 20 24 35.9 -0.1**
TESR Tescani 77.80 338 ⇓P **P 20 24 36.5 +0.4**
PSZ Piszkesteto 77.80 343 ⇓P **P 20 24 36.9 +0.8**
PSZ Piszkesteto 77.80 343 IAmb IAmb 20 24 38.8
comp=Z,59nm,1.5s
PSZ IAMs_20 IAMs_20 21 02 55.6
comp=Z,2μm,18.0s
WLF Walferdange 77.81 353 sP **P 20 24 36.2 +0.1**
WLF Walferdange 77.81 353 *e*P **P 20 24 37.0 +0.9**
comp=Z,53nm,1.8s,baz=9.9,slow=5.8
WLF Walferdange 77.81 353 IAMs_20 IAMs_20 21 01 20.4
comp=Z,1μm,20.0s
GEC2 GERESS Array S 77.84 348 *e*P **P 20 24 36.8 +0.4**
comp=Z,32nm,1.9s,baz=9.9,slow=5.8
GEC2 GERESS Array S 77.84 348 IAMs_20 IAMs_20 21 04 29.6
comp=Z,1μm,18.0s
GERES GERESS Array B 77.84 348 P **P 20 24 36.3 -0.1**
comp=Z,1.1nm,0.7s,baz=38,slow=6.8,SNR=9.8
GERES LR LR 21 03 15.0
comp=Z,942nm,18.0s,baz=14,slow=39
GERES GERESS Array B 77.84 348 P **P 20 24 35.8 -0.6**
TEIG Tepich 77.99 73 IAMs_20 IAMs_20 21 05 47.2
comp=Z,1μm,19.0s
GHRR 78.05 338 ⇓P **P 20 24 38.8 +1.3**
BATM Batumi 78.06 326 ⇓P **P 20 24 39.1 +1.4**
BATM Batumi 78.06 326 P **P 20 24 39.0 +1.4**
WBSI Waikabubak, Su 78.11 237 P **P 20 24 38.5 +0.3**
comp=Z,40nm,1.1s
SRO2 Moca 78.20 344 *e*P **P 20 24 38.8 +0.5**
SRO2 Moca 78.20 344 *e*P **P 20 24 38.8 +0.5**
PLAI Plampang 78.26 238 P **P 20 24 39.7 +0.7**
comp=Z,36nm,1.2s
OZUR 78.38 339 ⇑P **P 20 24 40.8 +1.4**
VRI Vrincioaia 78.39 338 ⇓P **P 20 24 40.3 +0.9**
VRI Vrincioaia 78.39 338 P **P 20 24 40.3 +0.9**
ODBI Odobesti 78.41 338 ⇑P **P 20 24 40.7 +1.3**
PLOR Plostina 78.42 338 ⇓P **P 20 24 40.4 +0.8**
PLOR Plostina 78.42 338 P **P 20 24 40.4 +0.8**
CONA Conrad Observa 78.44 346 *i* sP **P 20 24 41.1 +1.3**
comp=Z,20nm,1.6s,SNR=8.9
TLCR 78.54 337 ⇑P **P 20 24 41.7 +1.5**
TLCR 78.54 337 P **P 20 24 41.7 +1.5**
SOP Sopron 78.57 346 P **P 20 24 42.7 +2.3**
SOP pmax pmax
comp=Z,14nm,1.8s
DOPR Dopca 78.59 339 ⇑P **P 20 24 41.6 +1.1**
CFR Carcaliu 78.71 337 ⇓P **P 20 24 42.2 +1.1**
MOA Molln 78.74 347 *i* sP **P 20 24 42.2 +0.9**
comp=Z,11nm,1.6s
DSRI Dabo 78.76 254 P **P 20 24 42.6 +0.8**
comp=Z,17nm,1.6s
LHMI Lhok Sumawe 78.81 264 P **P 20 24 42.3 +0.2**
comp=Z,2μmcomp=Z,156nm,1.2s
FUR Furstenfeldbru 78.81 349 *e*P **P 20 24 42.2 +0.6**
comp=Z,73nm,2.1s,baz=9.9,slow=5.8
KNRA Kununurra 78.91 225 P **P 20 24 42.3 -0.1**
KNRA IAmb IAmb 20 24 43.9
comp=Z,26nm,1.0s
JURR Jurilovca 78.92 336 ⇓P **P 20 24 43.2 +0.9**
MLR Muntele Rosu 78.92 339 ⇓P **P 20 24 43.5 +1.0**
MLR Muntele Rosu 78.92 339 IAmb IAmb 20 24 49.0
comp=Z,18nm,0.8s
MLR IAMs_20 IAMs_20 21 06 19.5
comp=Z,2μm,18.0s
TOPG Topolog 78.94 337 ⇓P **P 20 24 43.0 +0.6**
BFO Black Forest 78.95 351 P **P 20 24 42.6 +0.1**
BFO pmax pmax
comp=Z,43nm,1.8s
BFO MLR MLR
comp=Z,1μm,20.0s
BFO Black Forest 78.95 351 *e*P **P 20 24 42.9 +0.4**
comp=Z,36nm,1.8s,baz=9.9,slow=5.8
BFO Black Forest 78.95 351 P **P 20 24 42.6 +0.1**
BFO IAmb IAmb 20 24 44.0
comp=Z,43nm,1.8s
CDF Champ du Feu 78.96 352 *e*P **P 20 24 42.2 -0.4**
CDF pmax pmax
comp=Z,37nm,1.8s
RJOB Jochberg 79.05 348 *e*P **P 20 24 45.9 +2.9**
comp=Z,52nm,2.5s,baz=9.9,slow=5.8
FLN La Foliniere 79.06 357 *e*P **P 20 24 42.6 -0.4**
FLN pmax pmax
comp=Z,62nm,1.4s
SIRR Siria 79.07 342 ⇑P **P 20 24 44.5 +1.4**
ISR Istrita 79.14 338 ⇑P **P 20 24 44.8 +1.2**
ISR Istrita 79.14 338 P **P 20 24 44.7 +1.2**
ARSA Arzberg 79.15 346 *i* sP **P 20 24 45.1 +1.5**
comp=Z,18nm,1.8s,SNR=5.5
ECH Echery 79.17 352 IAmb IAmb 20 24 45.1
comp=Z,44nm,1.8s
VOIR 79.17 339 ⇑P **P 20 24 44.9 +1.1**
VOIR 79.17 339 P **P 20 24 44.9 +1.1**
HARR Harsova 79.22 337 ⇓P **P 20 24 45.4 +1.5**
HARR Harsova 79.22 337 P **P 20 24 45.4 +1.5**
TIRR Tirgusor 79.32 337 ⇓P **P 20 24 44.9 +0.4**
TIRR Tirgusor 79.32 337 P **P 20 24 44.8 +0.4**
TIRR Tirgusor 79.32 337 IAmb IAmb 20 24 46.2
comp=Z,76nm,1.3s
TIRR Tirgusor 79.32 337 *e*P **P 20 24 44.5 0.0**
ARR Arges 79.33 339 ⇓P **P 20 24 45.5 +0.9**
TLBR Topalu 79.33 337 ⇑P **P 20 24 46.1 +1.6**
UBR Ueberruh 79.42 350 *e*P **P 20 24 45.5 +0.5**
comp=Z,38nm,1.8s,baz=9.9,slow=5.8
LOT Lotru 79.43 340 ⇑P **P 20 24 47.0 +1.8**
PSI Prapat 79.52 261 LR LR 20 57 22.4
comp=Z,135nm,20.9s,baz=89,slow=34
RETA Reutte 79.53 349 *i* pP **P 20 24 45.8 +0.1**
comp=Z,8.3nm,1.4s
MFTR Murfatlar 79.58 336 ⇑P **P 20 24 47.4 +1.5**
HINF Hinteralfeld 79.59 352 *e*P **P 20 24 45.4 -0.6**
HINF pmax pmax
comp=Z,33nm,1.8s
WATA Walderalm 79.59 349 *i* sP **P 20 24 46.9 +0.8**
comp=Z,22nm,1.5s,SNR=9.0
RPSI Rantau Prapat 79.61 261 IAmb IAmb 20 24 50.7
comp=Z,42nm,1.3s
SGMF Saint Gilles 79.62 359 *e*P **P 20 24 46.0 -0.1**
SGMF pmax pmax
comp=Z,10.0nm,0.6s
KBA Koelnbreinsper 79.62 348 *es*P **P 20 24 47.8 +1.5**
comp=Z,24nm,0.6s
MOTA Moosalm 79.64 349 *i* sP **P 20 24 47.1 +0.7**
comp=Z,16nm,1.2s,SNR=8.9
WTTA Wattenberg 79.65 349 *i* sP **P 20 24 47.5 +1.0**
comp=Z,19nm,1.5s,SNR=8.7
MORH Mrgy, Hungar 79.66 344 ⇓*i*P **P 20 24 45.9 -0.4**
BZS Buzias 79.70 342 ⇓P **P 20 24 46.8 +0.3**
SQTA Santa Quirin 79.75 349 *i* sP **P 20 24 47.9 +0.9**
comp=Z,20nm,1.7s,SNR=7.1
SOKA Soboth 79.78 346 *i* sP **P 20 24 48.3 +1.2**
comp=Z,33nm,1.5s,SNR=14
DAVA Damuels 79.83 350 *i* sP **P 20 24 47.9 +0.5**
comp=Z,9.8nm,1.4s
HUEH Huehuetenango 79.91 78 IAMs_20 IAMs_20 20 55 20.4
comp=Z,1μm,22.0s
QUIF Quistinic 79.97 359 *e*P **P 20 24 49.0 +1.1**
QUIF pmax pmax
comp=Z,59nm,1.6s
FETA Feichten 80.00 349 *i* sP **P 20 24 49.3 +0.9**
comp=Z,15nm,1.6s,SNR=5.9
OBKA Obir 80.02 347 *i* sP **P 20 24 49.6 +1.2**
comp=Z,15nm,1.1s,SNR=7.7
MYKA Terra Mystica 80.02 347 *es*P **P 20 24 49.1 +0.7**
comp=Z,20nm,1.8s,SNR=5.5
ABTA Abfaltersbach 80.05 348 *i* sP **P 20 24 49.4 +0.8**
comp=Z,21nm,1.9s,SNR=7.4
DIKM Diknen 80.07 331 ⇑P **P 20 24 50.0 +1.4**
KALN Kalnik 80.10 345 *i* P **P 20 24 49.0 +0.3**
PSN Preselentsi 80.11 336 *e*P **P 20 24 50.2 +1.4**
ZOU Zoufplan 80.18 348 IAMs_20 IAMs_20 21 03 10.3
comp=Z,1μm,20.0s
PRED Cave del Predi 80.22 347 IAMs_20 IAMs_20 21 03 14.4
comp=Z,1μm,19.0s
HERR Herculane 80.25 341 ⇑P **P 20 24 50.3 +0.8**
WB0 Warramunga Arr 80.27 219 IAmb IAmb 20 24 51.0
comp=Z,34nm,0.9s
LOR Lormes 80.36 354 *e*P **P 20 24 49.8 -0.3**
LOR pmax pmax
comp=Z,45nm,1.8s
KVT Kavak 80.36 330 P **P 20 24 52.5 +2.2**
EIDS Eidsvold 80.38 202 P **P 20 24 50.6 +0.4**
WR0 Warramunga Arr 80.39 219 IAmb IAmb 20 24 54.6
comp=Z,23nm,0.7s
HYB Hyderabad 80.42 286 *i* P **P 20 24 51.5 +0.6**
HYB Hyderabad 80.42 286 *e*P **P 20 24 50.4 -0.5**
HYB IAmb IAmb 20 24 56.2
comp=Z,18nm,0.7s
WRAB Tennant Creek 80.44 219*ce*P **P 20 24 50.5 -0.2**
WRAB pmax pmax
comp=Z,50nm,1.0s
WRAB Tennant Creek 80.44 219 P **P 20 24 50.3 -0.5**
WRAB IAmb IAmb 20 24 52.0
comp=Z,46nm,1.0s
FUORN Ofenpass-Fuorn 80.44 350 IAMs_20 IAMs_20 21 05 28.4
comp=Z,1μm,19.0s
WB2 Warramunga Arr 80.45 219 IAmb IAmb 20 24 52.1
comp=Z,43nm,0.9s
WRA Warramunga Arr 80.45 219 P **P 20 24 50.5 -0.3**
comp=Z,30nm,0.9s,baz=32,slow=6.1,SNR=95
WRA LR LR 20 56 54.6
comp=Z,595nm,21.8s,baz=30,slow=33
WRA Warramunga Arr 80.45 219 P **P 20 24 50.2 -0.6**
FRGS Fruska Gora 80.48 343 ⇓*i*P **P 20 24 50.6 -0.2**
MDVR Moldovita 80.48 341 ⇑P **P 20 24 51.6 +0.7**
CIMO Cimolais 80.49 348 IAMs_20 IAMs_20 21 03 07.7
comp=Z,1μm,20.0s
GEVA Gevas 80.51 324 IAmb IAmb 20 24 57.2
comp=Z,30nm,1.2s
CRES Cresnjev 80.55 346 ⇓*i*P **P 20 24 50.5 -0.7**
SSF Saint Saulge 80.58 354 *e*P **P 20 24 51.1 -0.2**
SSF pmax pmax
comp=Z,6.0nm,0.7s
BBSR BB Station 80.61 48 IAMs_20 IAMs_20 21 00 26.2
comp=Z,1μm,20.0s
RAZG Razgrad 80.62 338 ⇑P **P 20 24 52.3 +0.8**
VLAD Vladila 80.68 339 ⇑P **P 20 24 52.9 +1.1**
TUE Stuetta 80.69 350 IAMs_20 IAMs_20 21 01 48.7
comp=Z,1μm,20.0s
MNSI Mandailing Nat 80.72 259 P **P 20 24 53.4 +1.0**
comp=Z,697nmcomp=Z,7.1nm,0.5s
NEF NEVSHA 80.72 337 *e*P **P 20 24 52.2 +0.1**
CEY Cerknica 80.79 347 ⇓*i*P **P 20 24 51.6 -0.9**
CTI Castel Tesino 80.85 349 IAmb IAmb 20 24 53.9
comp=Z,48nm,1.9s
CTI IAMs_20 IAMs_20 21 03 28.1
comp=Z,1μm,20.0s
AVF Avril sur Loir 80.86 354 *e*P **P 20 24 52.6 -0.2**
AVF pmax pmax
comp=Z,46nm,1.6s
SDSI Sungai Dareh 80.99 257 P **P 20 24 53.6 -0.3**
comp=Z,8.9nm,1.5s
SZH Strezhica 81.03 338 *e*P **P 20 24 53.9 +0.1**
ILGA Ilgaz 81.08 332 IAmb IAmb 20 25 00.6
comp=Z,34nm,1.2s
ILGA IAMs_20 IAMs_20 21 04 07.0
comp=Z,1μm,22.0s
BLY Banja Luka 81.33 344 *e*P **P 20 24 55.6 +0.3**
SALO Salr 81.41 349 IAMs_20 IAMs_20 21 02 54.8
comp=Z,1μm,21.0s
DIVS Divibare 81.47 342 ⇓*i*P **P 20 24 56.0 -0.2**
DIVS Divibare 81.47 342 IAMs_20 IAMs_20 21 02 23.9
comp=Z,1μm,20.0s
TBI Tubuai 81.52 148 *e*S **S 20 35 04.8 -3.1**
comp=Z,1μm,38.2s
TBI *e*SS **SS 20 40 23.0 -2.4**
comp=Z,297nm,33.2s
TBI *e*LQ LQ 20 46 18.7
comp=Z,2μm,30.5s
TBI *e*LR LR 20 50 08.9
comp=Z,2μm,30.0s,baz=336
GSI Gunungsitoli 81.52 261 P **P 20 24 56.8 +0.1**
comp=Z,47nm,1.6s
MGRS Mrkonjic Grad 81.67 344 *e*P P 20 25 10.6 +13
BBLS Lazići 81.81 343 ⇓*i*P **P 20 24 58.8 +0.8**
LPL La Plagne 81.88 352 *e*P **P 20 24 59.2 +0.7**
LPL pmax pmax
comp=Z,38nm,1.7s
LPG La Plagne 81.90 352 *e*P **P 20 25 00.7 +2.0**
LPG pmax pmax
comp=Z,32nm,1.4s
RUDO Rudo 82.05 343 *e*P **P 20 25 00.4 +1.2**
MALT Malatya 82.11 327 P **P 20 25 01.7 +2.0**
KIJV Kijevo 82.18 345 *i* P **P 20 25 00.3 +0.4**
MARD Mardin 82.21 325 IAmb IAmb 20 25 06.3
comp=Z,58nm,1.3s
MARD IAMs_20 IAMs_20 21 07 45.4
comp=Z,1μm,21.0s
MDSI Maura Dua 82.22 252 P **P 20 24 58.6 -1.8**
CBJI Citeko 82.25 249 P **P 20 25 01.8 +1.3**
comp=Z,31nm,0.8s
VTS Vitosha 82.25 340 *e*P **P 20 25 00.9 +0.5**
PRMA PARMA 82.27 349 IAMs_20 IAMs_20 21 00 07.8
comp=Z,1μm,22.0s
POO Poona 82.28 290 *e*P **P 20 25 00.9 +0.1**
POO IAmb IAmb 20 25 05.2
comp=Z,56nm,1.0s
POO Poona 82.28 290 *e*P **P 20 25 02.0 +1.2**
SSB Saint Sauveur 82.29 353 IAmb IAmb 20 25 02.2
comp=Z,42nm,1.8s
BR131 Keskin Array S 82.33 331 P **P 20 25 02.5 +1.6**
SNR=7.8
BR131 P **P 20 25 02.5 +1.6**
SNR=7.8
BRTR Keskin Array B 82.33 331 P **P 20 25 00.8 0.0**
comp=Z,6.6nm,0.7s,baz=46,slow=3.6,SNR=19
BRTR LR LR 21 05 44.8
comp=Z,479nm,18.8s,baz=7.5,slow=39
BRTR Keskin Array B 82.33 331 P **P 20 25 00.7 -0.1**
BNI Bardonecchia 82.35 352 P **P 20 25 02.7 +1.8**
BNI Bardonecchia 82.35 352 IAmb IAmb 20 25 11.6
comp=Z,25nm,1.2s
BNI IAMs_20 IAMs_20 21 07 29.7
comp=Z,1μm,20.0s
FITZ Fitzroy Crossi 82.42 227 IAmb IAmb 20 25 03.2
comp=Z,42nm,1.2s
MORI Morici 82.43 345 *i* P **P 20 25 01.3 +0.2**
RJF Les Rejaudoux 82.44 356 *e*P **P 20 25 03.1 +1.9**
RJF pmax pmax
comp=Z,12nm,1.3s
UPM Unac-Piva 82.54 343 *e*P **P 20 25 01.6 -0.4**
SNET Serv Nac Est T 82.54 77 IAMs_20 IAMs_20 20 57 11.1
comp=Z,1μm,21.0s
ORIF Oris-en-Rattie 82.55 352 *e*P **P 20 25 02.5 +0.6**
ORIF pmax pmax
comp=Z,6.0nm,0.6s
RICI Ricice 82.56 344 P **P 20 25 02.0 +0.2**
ZIRJ Zirje 82.65 345 *i* P **P 20 25 02.2 -0.1**
MBDF Montbardon 82.67 352 *e*P **P 20 25 03.0 +0.5**
MBDF pmax pmax
comp=Z,6.0nm,0.7s
VIVF Saint-Julien-l 82.70 353 *e*P **P 20 25 02.9 +0.3**
VIVF pmax pmax
comp=Z,24nm,1.5s
CAF Calviac 82.79 355 *e*P **P 20 25 03.3 +0.2**
CAF pmax pmax
comp=Z,20nm,1.3s
VLC Villacollemand 82.86 349 IAMs_20 IAMs_20 21 00 28.2
comp=Z,2μm,22.0s
BRY Bratogost 82.89 343 *e*P **P 20 25 02.5 -1.3**
MMB Musomiste 83.13 339 *e*P **P 20 25 06.0 +1.2**
PDG Podgorica 83.22 342 ⇓P **P 20 25 05.8 +0.5**
PDG Podgorica 83.22 342 *e*P **P 20 25 04.1 -1.1**
PDG Podgorica 83.22 342 IAmb IAmb 20 25 06.5
comp=Z,36nm,1.1s
PDG IAMs_20 IAMs_20 21 07 29.1
comp=Z,2μm,18.0s
SKO Skopje 83.24 341 *i* P **P 20 25 06.0 +0.6**
ALN Alexandroupoli 83.25 337 IAmb IAmb 20 25 10.7
comp=Z,26nm,1.2s
STIP Stip 83.36 340 *i* P **P 20 25 05.9 -0.1**
DRME Dracevica, Mon 83.47 342 *e*P **P 20 25 06.1 -0.5**
GAZ Gaziantep 83.55 328 IAMs_20 IAMs_20 21 07 39.5
comp=Z,1μm,19.0s
SRS Serrai 83.61 339 P **P 20 25 07.5 +0.2**
SRS pmax pmax
comp=Z,27nm,0.8s
VAY Valandovo 83.63 340 *i* P **P 20 25 07.9 +0.5**
ASAR Alice Springs 84.00 218 P **P 20 25 09.6 +0.2**
comp=Z,12nm,0.9s,baz=27,slow=4.4,SNR=56
ASAR LR LR 21 01 11.5
comp=Z,357nm,19.0s,baz=20,slow=35
ASAR Alice Springs 84.00 218 P **P 20 25 08.9 -0.5**
OHR Ohrid 84.20 341 *i* P **P 20 25 10.0 -0.4**
EZN Ezine 84.20 337 P **P 20 25 11.5 +1.2**
LATE Laterza 84.21 348 IAmb IAmb 20 25 11.8
comp=Z,30nm,1.4s
AQU L'Aquila 84.25 347 P P 20 25 15.4 +4.8
AQU pmax pmax
comp=Z,55nm,1.4s
AQU L'Aquila 84.25 347 ⇓*i*P **P 20 25 11.2 +0.6**
AQU L'Aquila 84.25 347 IAMs_20 IAMs_20 21 07 13.0
comp=Z,2μm,21.0s
INTR Introdacqua 84.52 346 IAmb IAmb 20 25 18.2
comp=Z,23nm,1.1s
PGF Pioggiola 84.61 350 *e*P **P 20 25 16.9 +4.4**
PGF pmax pmax
comp=Z,48nm,1.3s
EPF Esparros 84.76 356 *e*P **P 20 25 17.3 +4.1**
EPF pmax pmax
comp=Z,11nm,1.3s
LIT Litokhoron 84.82 339 IAMs_20 IAMs_20 21 07 17.6
comp=Z,1μm,19.0s
ETSF Etsaut 84.92 357 *e*P **P 20 25 14.4 +0.4**
ETSF pmax pmax
comp=Z,63nm,1.6s
ISP Isparta 84.99 333 IAMs_20 IAMs_20 21 06 08.0
comp=Z,995nm,20.0s
ARMA Armidale 85.12 200 P **P 20 25 16.8 +1.9**
ARMA IAmb IAmb 20 25 18.0
comp=Z,25nm,1.0s
ARMA IAMs_20 IAMs_20 20 57 23.8
comp=Z,2μm,20.0s
SHME Shamm 85.57 308 P **P 20 25 16.9 -0.6**
BANOM Banah 85.60 308 *i* P **P 20 25 19.2 +1.6**
SNR=6.8
BOAB BOACC BROADBAN 85.63 75 IAMs_20 IAMs_20 21 07 25.3
comp=Z,2μm,20.0s
SCTE Santa Cesarea 85.65 342 IAMs_20 IAMs_20 21 03 04.4
comp=Z,2μm,22.0s
MTDJ Mount Denham 85.71 66 IAMs_20 IAMs_20 21 02 34.3
comp=Z,1μm,19.0s
IGT Igoumenitsa 85.81 341 P **P 20 25 20.3 +1.8**
IGT pmax pmax
comp=Z,17nm,0.8s
PGAV Gavieira, Arco 85.87 3 A A 21 22 27.9
comp=Z,673nm,16.0s
AGG Agios Georgios 85.89 339 IAMs_20 IAMs_20 21 08 11.7
comp=Z,1μm,21.0s
MSFE Esma-Masafi 86.14 308 *i* P **P 20 25 20.7 +0.3**
SNR=6.2
ELL Elmali 86.16 333 P **P 20 25 24.7 +4.3**
UOSS Minazif 86.47 307 *i* P **P 20 25 21.1 -0.8**
SNR=7.3
UOSS Minazif 86.47 307 P **P 20 25 19.4 -2.5**
UOSS Minazif 86.47 307 IAMs_20 IAMs_20 21 05 03.2
comp=Z,2μm,21.0s
HATD Hatta, Dubai 86.61 307 *i* P **P 20 25 22.4 -0.2**
SNR=9.1
HATD Hatta, Dubai 86.61 307 P **P 20 25 26.0 +3.5**
SNR=7.7
HATD P **P 20 25 26.0 +3.5**
SNR=7.7
NAZ Nazwa, Dubai 86.70 308 *i* P **P 20 25 24.9 +1.9**
SNR=6.7
WSAR Wadi Sarin 86.70 305 P **P 20 25 27.5 +4.4**
SNR=5.3
MVO Moncorvo 86.70 2 *e*P **P 20 25 22.5 -0.4**
comp=Z,27nm,2.3s
MVO Moncorvo 86.70 2 A A 21 12 54.8
comp=Z,798nm,18.0s
AKAS Kas 86.73 333 P **P 20 25 22.3 -0.9**
AKAS IAmb IAmb 20 25 27.5
comp=Z,40nm,1.2s
AKAS IAMs_20 IAMs_20 21 11 23.3
comp=Z,834nm,18.0s

ASHO	Ashiyiah	86.76	307	*i* P		P		20 25 23.0	-0.4	
	SNR=8.0									
ASHO	Ashiyiah	86.76	307	P		P		20 25 27.0	+3.6	
ASHO	SNR=7.4			P		P		20 25 27.0	+3.6	
	SNR=7.4									
CSS	Mathiatis	86.82	330	IAmb	IAmb		20 25 28.3			
	comp=Z,21nm,0.9s									
TIP	Timpagrande	86.83	343	IAMs_20	IAMs_20		21 07 53.3			
	comp=Z,1µm,19.0s									
RKT	Rikitea	86.83	135	*e*LQ	LQ		20 49 02.4			
RKT	comp=Z,1µm,31.0s			*e*LR	LR		20 52 35.9			
	comp=Z,1µm,22.5s									
SOHO	SOHO	86.99	307	*i* P		P		20 25 25.4	+1.0	
	SNR=8.9									
PALK	Pallekele	87.11	278	IAMs_20	IAMs_20		21 08 52.6			
	comp=Z,1µm,18.0s									
PVIS	Viseu	87.13	2	*e*P	P		20 25 25.2	+0.2		
ALNE	Al Ain	87.44	307	*i* P	P		20 25 26.9	+0.2		
	SNR=6.0									
MTE	Manteigas	87.45	2	*e*P	P		20 25 25.6	-0.9		
MTE	Manteigas	87.45	2	A	A		21 12 45.5			
	comp=Z,757nm,18.0s									
COI	Coimbra	87.62	3	IAMs_20	IAMs_20		21 05 51.9			
	comp=Z,1µm,21.0s									
ARQ	Araqi	87.67	306	P	P		20 25 31.0	+3.3		
	SNR=9.0									
ARQ				P	P		20 25 31.0	+3.3		
	SNR=9.0									
JMDO	Jabal Madar	87.69	305	P	P		20 25 32.0	+4.1		
	SNR=6.6									
JMDO				P	P		20 25 32.0	+4.1		
	SNR=6.6									
SANT	Santorini	87.69	336	IAMs_20	IAMs_20		21 08 35.8			
	comp=Z,2µm,19.0s									
ITM	Ithomi	87.74	339	IAMs_20	IAMs_20		21 11 12.1			
	comp=Z,1µm,18.0s									
BSY	Bisya	87.83	305	P	P		20 25 32.0	+3.4		
	SNR=7.1									
BSY				P	P		20 25 32.0	+3.4		
	SNR=7.1									
CEL	Celeste	87.87	344	IAMs_20	IAMs_20		21 07 59.9			
	comp=Z,1µm,20.0s									
KARP	Karpathos	88.04	335	IAMs_20	IAMs_20		21 09 17.0			
	comp=Z,1µm,20.0s									
PSAA2	Pilbara Seismi	88.09	230	IAMs_20	IAMs_20		21 11 08.2			
	comp=Z,998nm,21.0s									
PSA00	Pilbara Seismi	88.10	230	P	P		20 25 27.6	-2.0		
ES18	SONSECA Array	88.17	359	IAMs_20	IAMs_20		21 08 35.6			
	comp=Z,994nm,20.0s									
ES19	SONSECA Array	88.18	359	IAMs_20	IAMs_20		21 10 41.8			
	comp=Z,1µm,20.0s									
ES08	SONSECA Array	88.19	359	IAMs_20	IAMs_20		21 10 43.0			
	comp=Z,1µm,20.0s									
ES07	SONSECA Array	88.20	359	IAMs_20	IAMs_20		21 08 36.2			
	comp=Z,982nm,21.0s									
ES16	SONSECA Array	88.20	359	IAMs_20	IAMs_20		21 08 37.2			
	comp=Z,916nm,20.0s									
ES09	SONSECA Array	88.21	359	IAMs_20	IAMs_20		21 10 42.5			
	comp=Z,1µm,20.0s									
ES02	SONSECA Array	88.21	359	IAMs_20	IAMs_20		21 10 44.4			
	comp=Z,941nm,21.0s									
ES06	SONSECA Array	88.21	359	IAMs_20	IAMs_20		21 10 43.6			
	comp=Z,961nm,21.0s									
ESBB	Sonseca Array	88.21	359	IAMs_20	IAMs_20		21 08 36.6			
	comp=Z,916nm,21.0s									
ESDC	Sonseca Array	88.21	359	P	P		20 25 29.2	-0.9		
	comp=Z,2.1nm,1.0s,baz=350,slow=4.1,SNR=10									
ESDC	Sonseca Array	88.21	359	P	P		20 25 29.0	-1.1		
ES01	SONSECA Array	88.22	359	IAMs_20	IAMs_20		21 10 43.8			
	comp=Z,945nm,20.0s									
ES03	SONSECA Array	88.22	359	IAMs_20	IAMs_20		21 11 49.7			
	comp=Z,918nm,21.0s									
ES15	SONSECA Array	88.22	359	IAMs_20	IAMs_20		21 08 36.8			
	comp=Z,965nm,21.0s									
ES05	SONSECA Array	88.22	359	IAMs_20	IAMs_20		21 08 35.8			
	comp=Z,1µm,21.0s									
ES10	SONSECA Array	88.23	359	IAMs_20	IAMs_20		21 08 36.9			
	comp=Z,1µm,21.0s									
ES04	SONSECA Array	88.23	359	IAMs_20	IAMs_20		21 10 44.1			
	comp=Z,955nm,20.0s									
ES14	SONSECA Array	88.23	359	IAMs_20	IAMs_20		21 11 39.1			
	comp=Z,678nm,20.0s									
ES13	SONSECA Array	88.23	359	IAMs_20	IAMs_20		21 08 37.1			
	comp=Z,983nm,21.0s									
ES11	SONSECA Array	88.24	359	IAMs_20	IAMs_20		21 10 44.3			
	comp=Z,1µm,21.0s									
ES12	SONSECA Array	88.25	359	IAMs_20	IAMs_20		21 10 44.6			
	comp=Z,864nm,20.0s									
PAB	San Pablo	88.34	360	IAMs_20	IAMs_20		21 11 18.1			
	comp=Z,858nm,20.0s									
PMRV	Marv??o	88.43	2	A	A		21 06 02.3			
	comp=Z,714nm,20.0s									
SDDR	Presa de Saban	88.49	60	IAMs_20	IAMs_20		21 03 06.8			
	comp=Z,2µm,22.0s									
IDI	Anoyia	88.86	336	IAMs_20	IAMs_20		21 09 49.6			
	comp=Z,1µm,20.0s									
MHTO	MHTO	88.91	304	P	P		20 25 38.0	+4.4		
	SNR=6.6									
MHTO				P	P		20 25 38.0	+4.4		
	SNR=6.6									
CLTB	Caltabellotta	88.96	346	IAMs_20	IAMs_20		21 12 39.7			
	comp=Z,2µm,18.0s									
STKA	Stephens Creek	89.04	208	P	P		20 25 33.9	+0.1		
	comp=Z,9.8nm,0.6s,baz=350,slow=7.4,SNR=14									
STKA				LR	LR		21 05 07.8			
	comp=Z,993nm,18.6s,baz=10,slow=35									
CART	Cartagena	90.24	357	IAMs_20	IAMs_20		21 08 41.4			
	comp=Z,847nm,20.0s									
PVAQ	Vaqueiros	90.44	2	A	A		21 06 39.6			
	comp=Z,920nm,20.0s									
PVAQ	Vaqueiros	90.44	2	IAMs_20	IAMs_20		21 06 10.6			
	comp=Z,1µm,20.0s									
PFVI	Vila Bisbo	90.68	3	IAMs_20	IAMs_20		21 14 22.9			
	comp=Z,1µm,18.0s									
KEST	Kesra	91.30	349	P	P		20 25 45.0	+0.2		
	comp=Z,1.9nm,0.7s,baz=18,slow=3.2,SNR=2.2									
KEST				LR	LR		21 08 56.8			
	comp=Z,913nm,19.9s,baz=330,slow=37									
KEST	Kesra	91.30	349	IAmb	IAmb		20 29 03.9			
	comp=Z,44nm,1.9s									
KEST				IAMs_20	IAMs_20		21 08 24.6			
	comp=Z,1µm,21.0s									
BBOO	Buckleboo	91.61	212	IAMs_20	IAMs_20		21 05 08.5			
	comp=Z,1µm,20.0s									
MTP	Monte Pirata	92.21	56	IAmb	IAmb		20 25 54.3			
	comp=Z,16nm,0.7s									
PAYG	Puerto Ayora	93.20	87	IAMs_20	IAMs_20		20 57 37.6			
	comp=Z,1µm,22.0s									
SABA	Saba	93.78	55	IAMs_20	IAMs_20		21 07 55.5			
	comp=Z,2µm,21.0s									
SEUS	St. Eustatius	94.02	55	IAMs_20	IAMs_20		21 04 07.8			
	comp=Z,1µm,21.0s									
SKI	Saint Kitts	94.27	54	IAMs_20	IAMs_20		21 05 17.5			
	comp=Z,2µm,21.0s									
PMOZ	Porto Moniz, M	94.34	11	A	A		21 12 23.0			
	comp=Z,529nm,18.0s									
ANWB	Willy Bob	94.46	53	IAMs_20	IAMs_20		21 14 48.4			
	comp=Z,1µm,18.0s									
DLPL	La Plaine	96.72	54	IAMs_20	IAMs_20		21 17 34.3			
	comp=Z,1µm,18.0s									
SDV	Santo Domingo	97.16	65	IAMs_20	IAMs_20		21 10 45.7			
	comp=Z,1µm,20.0s									
FDF	Fort de France	97.28	54	IAMs_20	IAMs_20		21 18 34.2			
	comp=Z,1µm,18.0s									
ROSC	El Rosal	98.36	71	LR	LR		21 14 38.5			
	comp=Z,437nm,19.5s,baz=357,slow=38									
ROSC	El Rosal	98.36	71	IAMs_20	IAMs_20		21 11 16.3			
	comp=Z,825nm,20.0s									
TAM	Tamanrasset	104.52	350	IAMs_20	IAMs_20		21 17 20.7			
	comp=Z,797nm,22.0s									
FURI	Furi	108.54	314	IAMs_20	IAMs_20		21 21 41.3			
	comp=Z,656nm,19.0s									
PTGA	Pitinga	110.98	62	IAMs_20	IAMs_20		21 21 35.4			
	comp=Z,753nm,21.0s									
TOC1	Torodi Ar. Sit	114.38	353	IAMs_20	IAMs_20		21 19 40.9			
	comp=Z,839nm,22.0s									
TOC7	Torodi Ar. Sit	114.39	353	IAMs_20	IAMs_20		21 19 41.2			
	comp=Z,657nm,21.0s									
TOB1	Torodi Ar. Sit	114.39	353	IAMs_20	IAMs_20		21 19 42.1			
	comp=Z,686nm,21.0s									
TOC2	Torodi Ar. Sit	114.39	353	IAMs_20	IAMs_20		21 29 22.3			
	comp=Z,655nm,18.0s									
TOB5	Torodi Ar. Sit	114.40	353	IAMs_20	IAMs_20		21 29 21.5			
	comp=Z,712nm,19.0s									
TOA0	Torodi Ar. Sit	114.41	353	IAMs_20	IAMs_20		21 19 42.6			
	comp=Z,710nm,22.0s									
TOA2	Torodi Ar. Sit	114.41	353	IAMs_20	IAMs_20		21 19 41.6			
	comp=Z,757nm,22.0s									
TORD	Torodi Ar. Bea	114.41	353	PKiKP	PKiKP		20 31 17.9	-1.2		
	comp=Z,0.7nm,0.8s,baz=274,slow=2.3,SNR=3.5									
TORD				PKKPab	PKKPab		20 42 03.9	-3.4		
	comp=Z,1.7nm,0.7s,baz=190,slow=4.0,SNR=8.8									
TOA3	Torodi Ar. Sit	114.41	353	IAMs_20	IAMs_20		21 29 22.7			
	comp=Z,662nm,20.0s									
TOB3	Torodi Ar. Sit	114.41	353	IAMs_20	IAMs_20		21 29 22.8			
	comp=Z,664nm,19.0s									
TOC3	Torodi Ar. Sit	114.41	353	IAMs_20	IAMs_20		21 29 22.8			
	comp=Z,680nm,20.0s									
TOB4	Torodi Ar. Sit	114.42	353	IAMs_20	IAMs_20		21 29 22.9			
	comp=Z,669nm,19.0s									
TOC5	Torodi Ar. Sit	114.43	353	IAMs_20	IAMs_20		21 29 23.0			
	comp=Z,765nm,18.0s									
TOC4	Torodi Ar. Sit	114.43	353	IAMs_20	IAMs_20		21 29 22.3			
	comp=Z,680nm,19.0s									
SAML	Samuel	115.96	70	IAMs_20	IAMs_20		21 25 32.3			
	comp=Z,874nm,20.0s									
KMBO	Kilima Mbogo	118.06	311	IAMs_20	IAMs_20		21 25 05.1			
	comp=Z,945nm,20.0s									
AP01	Chacalluta	119.14	82	IAMs_20	IAMs_20		21 11 21.8			
	comp=Z,1µm,21.0s									
MBAR	Mbarara	120.44	318	IAMs_20	IAMs_20		21 27 57.6			
	comp=Z,1µm,21.0s									
DBIC	Dimbokro	121.07	0	PKP	PKPdf		20 31 31.1	-1.0		
	comp=Z,4.9nm,0.8s,baz=255,slow=8.7,SNR=3.3									
DBIC	Dimbokro	121.07	0	PKIKP	PKPdf		20 31 31.2	-0.8		
DBIC	Dimbokro	121.07	0		PKPdf		20 31 31.2	-0.8		
RCBR	Riachuelo	126.87	40	IAMs_20	IAMs_20		21 29 56.7			
	comp=Z,824nm,18.0s									
AC05	El Transito	126.95	90	IAMs_20	IAMs_20		21 16 21.1			
	comp=Z,801nm,20.0s									
BDFB	Brasilia	129.82	59	PKP	PKiKP		20 31 49.3	-0.2		
	comp=Z,4.5nm,0.8s,baz=338,slow=4.7,SNR=5.9									
BDFB	Brasilia	129.82	59	IAMs_20	IAMs_20		21 29 35.3			
	comp=Z,774nm,21.0s									
VNDA	Vanda	130.01	184	PKP	PKiKP		20 31 48.3	+0.3		
	comp=Z,0.5nm,0.6s,baz=283,slow=2.0,SNR=1.6									
BO01	Tunca	130.32	96	IAMs_20	IAMs_20		21 17 00.6			
	comp=Z,884nm,20.0s									
BO02	Sierra Bellavi	130.78	96	IAMs_20	IAMs_20		21 20 16.7			
	comp=Z,903nm,20.0s									
BI02	San Fabin de	131.73	99	PKPdf	PKiKP		20 31 52.8	+0.1		
CPUP	Villa Florida	132.99	77	PKP	PKiKP		20 31 55.0	-0.4		
	comp=Z,4.1nm,0.9s,baz=6.2,slow=3.7,SNR=5.8									
CPUP	Villa Florida	132.99	77	PKIKP	PKPdf		20 31 54.5	+0.2		
CPUP	Villa Florida	132.99	77	PKPdf	PKPdf		20 31 54.5	+0.2		
PLCA	Paso Flores	134.76	102	PKP	PKPdf		20 31 57.7	+0.4		
	comp=Z,6.9nm,0.7s,baz=213,slow=1.8,SNR=24									
PLCA	Paso Flores	134.76	102	PKPdf	PKiKP		20 31 58.6	-0.2		
SPB	Sao Paulo	136.61	65	IAMs_20	IAMs_20		21 32 41.6			
	comp=Z,733nm,20.0s									
MATP	Matopo	139.00	309	PKP	PKPdf		20 32 05.8	0.0		
	comp=Z,1.5nm,0.7s,baz=331,slow=1.1,SNR=7.3									
QSPA	South Pole Qui	142.24	180	PKiKP	PKPpre		20 32 06.7			
	comp=Z,7.4nm,0.9s,baz=319,slow=0.1,SNR=14									
QSPA	South Pole Qui	142.24	180		PKPpre		20 32 05.7			
QSPA					PKPdf	PKPdf		20 32 07.9	-2.3	
QSPA	South Pole Qui	142.24	180	IAMs_20	IAMs_20		21 23 05.6			
	comp=Z,675nm,22.0s									
TSUM	Tsumeb	142.52	324	PKP	PKPdf		20 32 11.9	-0.4		
	comp=Z,4.6nm,0.9s,baz=42,slow=4.2,SNR=4.7									
LBTB	Lobatse	144.29	308	PKP	PKPdf		20 32 14.4	-0.7		
	comp=Z,28nm,0.8s,baz=25,slow=1.9,SNR=21									
MAW	Mawson	145.13	218	PKPbc	PKPbc		20 32 14.3	-0.4		
	comp=Z,24nm,0.9s,baz=78,slow=3.3,SNR=38									
MAW	Mawson	145.13	218		PKPbc	PKPbc		20 32 14.2	-0.5	
BOSA	Boshof	147.46	305	PKPbc	PKPbc		20 32 23.6	+0.6		
	comp=Z,33nm,0.7s,baz=48,slow=2.0,SNR=36									
BOSA	Boshof	147.46	305		PKPbc	PKPbc		20 32 23.1	+0.1	
PMSA	Palmer Station	148.03	136	PKPbc	PKPbc		20 32 23.5	+0.3		
	comp=Z,14nm,0.6s,baz=320,slow=1.3,SNR=17									
PMSA	Palmer Station	148.03	136		PKPbc	PKPbc		20 32 24.0	+0.8	
SYO	Syowa Base	153.63	214	*e*PKPdf	PKPdf		20 32 30.6	+2.0		
SYO	Syowa Base	153.63	214	*e*PKPbc	PKiKP		20 32 37.6	+1.2		
SYO	Syowa Base	153.63	214	*e*PKPbc	pPKPbc		20 32 40.0	+0.5		
NVL	N'lazarevskaya	160.19	196	*e*PKP2	PKPab		20 33 17.1	-0.3		
VNA3	Neumayer Olymp	161.04	175	PKPab	PKPab		20 33 20.8	-0.3		
VNA2	Neumayer--Watz	161.46	177	PKPab	PKPab		20 33 22.7	-0.2		
VNA1	Neumayer--Stat	161.70	176	PKPab	PKPab		20 33 23.0	-0.9		

*IDC **20** 20:16:58.6±1.5, 52.˚50N×175.˚20E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.7/59, mbtmp3.9/9, ML2.5/1, Error ellipse: s-maj=41.7km s-min=24.8km az=168.0*
*NEIC **20** 20:16:59.9±2.4, 52.˚6N±0.˚3×175.˚3E±0.˚1, h10km±2km, mb4.5/8, Error ellipse: s-maj=44.3km s-min=7.6km az=193.0*

ISC 20 20:16:59.8±0.8, 52.˚5N±0.˚2×175.˚26E±0.˚08, h10km, n23, σ0s99/23, mb4.1/13, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMY	Shemya	0.74	288	Pg		Pg	20 17 14.5	+0.3
AMKA	Amchitka	2.74	113	Pn		Pn	20 17 43.8	0.0
PETK	Petropavlovsk-	10.65	280	Pn		Pn	20 19 32.4	+0.1
	comp=N,0.3s,baz=96,slow=18,SNR=1.4							
PETK	Petropavlovsk-	10.65	280	Pn		Pn	20 19 31.5	-0.8
ILAR	Eielson Array	22.80	43	P		P	20 22 03.3	+1.0
	2.0nm,0.9s,baz=243,slow=9.8,SNR=1.5							
VRDI	Verde Repeater	23.82	52	P		P	20 22 13.0	+0.2
MENT	Mentasta	23.84	48	P		P	20 22 10.8	-2.0
MENT				IAmb		IAmb	20 22 21.0	
	comp=Z,30nm,1.1s							
CRQM	Cirque	23.95	53	P		P	20 22 12.3	-1.8
CRQM				IAmb		IAmb	20 22 23.6	
	comp=Z,12nm,1.1s							
MCARA	McCarthy VSAT	24.03	52	P		P	20 22 13.7	-0.9
MCARA				IAmb		IAmb	20 22 14.9	
	comp=Z,13nm,1.0s							
TGL	Tana Glacier	24.11	53	P		P	20 22 13.9	-1.5
BARN	Barnard Glacie	24.68	53	P		P	20 22 23.0	+2.2
BARN				IAmb		IAmb	20 22 30.3	
	comp=Z,5.5nm,1.2s							
BCAR	Beaver Creek A	24.73	48	P		P	20 22 21.9	+0.9
YAK	Yakutsk	25.89	310	P		P	20 22 30.4	-1.0
YAK				IAmb		IAmb	20 22 42.4	
	comp=Z,16nm,1.0s							
SONM	Songino Array	42.84	292	P		P	20 24 58.3	+0.4
	comp=Z,0.7nm,0.7s,baz=51,slow=9.4,SNR=2.3							
SONM	Songino Array	42.84	292	P		P	20 24 58.0	+0.1
PDAR	Pinedale Array	49.42	70	P		P	20 25 50.3	+0.4
	comp=Z,0.4nm,0.6s,baz=312,slow=4.2,SNR=1.4							
PDAR	Pinedale Array	49.42	70	P		P	20 25 49.5	-0.3
KURK	Kurchatov	55.53	310	P		P	20 26 35.2	+0.5
KURBB	Kurchatov Arra	55.64	310	P		P	20 26 35.7	+0.1
	comp=Z,3.7nm,0.9s,baz=46,slow=7.0,SNR=4.1							
MKAR	Makanchi Array	56.41	305	P		P	20 26 41.0	-0.2
	comp=Z,0.9nm,0.6s,baz=47,slow=6.9,SNR=5.2							
NOA	NORSAR Array B	66.09	352	P		P	20 27 46.9	+0.4
	comp=Z,1.7nm,0.8s,baz=11,slow=6.4,SNR=3.1							
AKASG	Malin Array Be	73.24	338	P		P	20 28 30.6	-0.1
	comp=Z,0.4nm,0.3s,baz=22,slow=5.9,SNR=3.2							
WRA	Warramunga Arr	80.43	219	P		P	20 29 11.8	+0.3
	comp=Z,0.7nm,0.7s,baz=31,slow=6.1,SNR=2.5							

*TEH **20** 20:21:37.8, 32.˚64N×47.˚66E, h10km, ML2.8*
*ISN **20** 20:21:37.4±1.2, 32.˚63N×47.˚67E, h15km±6km, ML2.3*

ISC 20 20:21:38.3±1.2, 32.˚62N±0.˚06×47.˚65E±0.˚05, h10km, n13, σ0s97/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DHL1	Dehloran	0.32	281	*e*Pg		Pg	20 21 44.7	0.0
IKFM	Kafar-mosalman	0.91	10	*e*Pg		Pg	20 21 54.8	-1.2
IKFM				*e*			20 22 10.5	
IKMR	Kamar-syah	1.08	34	*e*Pg		Pg	20 21 57.9	-1.3
IKMR				*e*			20 22 00.7	
IDOB	Doab	1.24	21	*e*Pn		Pn	20 22 01.7	-0.3
IDOB				*e*			20 22 23.2	
BMDN	Meydan	1.44	43	*e*			20 22 27.4	
BMDN				*e*Pg		Pn	20 22 04.9	+0.3
IBDR	Badra	1.53	289	*e*Pg		Pn	20 22 05.0	-0.7
IBDR				*e*Sg		Sn	20 22 26.0	+0.4
IBDR				AML		AML	20 22 32.8	
	comp=E,44nm,0.8s							
IBDR				AML		AML	20 22 46.5	
	comp=N,53nm,0.5s							
IKOM	Komasi	1.55	356	*e*			20 22 08.5	
IKOM				*e*Pn		Pn	20 22 06.5	+0.3
HSAM	Samen	1.77	26	*e*Pn		Pn	20 22 10.6	+1.3
HSAM				*e*			20 22 11.8	
IBZA	Bozab	1.85	5	*e*Pn		Pn	20 22 12.0	+1.6
IBZA				*e*			20 22 14.9	
IVIS	Veis	2.01	341	*e*Pn		Pn	20 22 12.8	+0.3
IVIS				*e*			20 22 49.2	
NSR	Nassriya	2.06	219	*e*Pn		Pn	20 22 13.0	0.0
NSR				*e*Sn		Sn	20 22 38.0	-0.7
IPIR	Pirpir	2.73	88	*e*Pn		Pn	20 22 23.9	+1.3
IPIR				*e*			20 23 16.1	
BHD	Baghdad	2.83	284	*e*Pn		Pn	20 22 24.0	+0.5
BHD				*e*Sn		Sn	20 22 59.0	+1.4

*BJI **20** 20:21:46.0±0.0, 52.˚40N×175.˚50E, h5km, mB5.1/29, mb4.9/53, Ms5.5/19, Ms7 5.2/21*
*AEIC **20** 20:21:47±2.2, 52.˚3N±0.˚1×175.˚26E±0.˚08, h17km±3km, Error ellipse: s-maj=15.1km s-min=5.8km az=196.0*
*IDC **20** 20:21:48.2±0.5, 52.˚52N×175.˚34E, h0km, mb4.3/35, mb1 4.4/39, mb1mx4.4/63, mbtmp4.3/39, ML4.8/3, MS4.4/3, Ms1 4.4/3, ms1mx4.0/42, Error ellipse: s-maj=15.3km s-min=10.1km az=165.0*
*NEIC **20** 20:21:49.6±2.2, 52.˚5N±0.˚1×175.˚36E±0.˚08, h10km±1km, mb5.0/154, ML4.6(AEIC), Error ellipse: s-maj=17.6km s-min=7.0km az=194.0*
*MOS **20** 20:21:49.8±1.3, 52.˚55N×175.˚39E, h19km, mb5.1/60, MS4.6/6, Error ellipse: s-maj=9.4km s-min=7.8km az=160.0*
*GCMT **20** 20:21:52.6±0.2, 52.˚59N±0.˚02×175.˚37E±0.˚02, h19km±1km, MW5.1/127, Moment Tensor Solution. s11,c13; s127,c220; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.86±.25; Mθθ-5.18±.18; Mφφ6.04±.22; Mrθ0.38±.40; Mθφ0.39±.13; Mφ/0.42±.34; Best double couple: M05.65200×10^16^ NP1:φs317.00000°,δ84.00000°, λ-179.00000°. NP2:φs227.00000°,δ89.00000°, λ-6.00000°. Principal axes: T 6.0800, Plg4.0000°, Azm272.0000°; N -0.8530, Plg84.0000°, Azm39.0000°; P -5.2240, Plg5.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 20:21:50.1±0.3, 52.˚36N±0.˚07×175.˚40E±0.˚03, h10km, n437, σ1s98/433, mb4.9/168, MS4.8/16, 21C-24D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMY	Shemya	0.87	295	P		Pg	20 22 03.7	-3.2
SMY							20 22 15.8	
SMY	Shemya	0.87	295	Pg		Pg	20 22 03.7	-3.2
LSNW	Little Sitkin	1.96	100			Pn	20 22 23.1	-0.3
LSSA	Little Sitkin	1.96	101			Pn	20 22 23.6	+0.1
LSPA	Little Sitkin	2.00	100			Pn	20 22 24.5	+0.6
CEAP	Semis' Anvil P	2.60	96			Pn	20 22 32.8	+0.7
CESW	Semis' Southwe	2.61	99			Pn	20 22 32.4	+0.2
AMKA	Amchitka	2.61	111			Sb	20 23 05.9	-3.2
AMKA	Amchitka	2.61	111	Pn		Pn	20 22 31.5	-0.8
CERAA	Semis' Rag'd T	2.68	98			Pn	20 22 34.5	+1.2
GALAA	Gareloi Lava P	3.65	97			Pn	20 22 47.7	+1.2
GAEA	Gareloi East	3.66	97			Pn	20 22 48.2	+1.5
TASE	Tanaga Southea	4.08	95			Pn	20 22 53.7	+1.1
TAFP	Tanaga Falls P	4.11	94			Pn	20 22 53.0	+0.1
TAFP						Sn	20 23 42.8	+1.9
KICM	Kanaga Island	4.58	93			Pn	20 23 00.1	+0.7
KIMD	Kanaga Island	4.59	95			Pn	20 23 00.3	+0.9
ADK	Adak	4.90	92	P		Pn	20 23 03.5	-0.2
ADK	Adak	4.90	92	Pn		Pn	20 23 03.5	-0.2
GSTR	Great Sitkin T	5.26	90			Pn	20 23 08.0	-0.7
GSMY	Great Sitkin M	5.27	90			Pn	20 23

MCK pmax pmax
comp=Z,83nm,1.2s
MCK McKinley 21.71 45 P **P** **20 26 38.9 -2.0**
MCK lAmb lAmb 20 26 50.4
comp=Z,83nm,1.2s
GLI Glacier Island 22.04 53 P **P** **20 26 42.3 -2.2**
GLI lAmb lAmb 20 26 52.0
comp=Z,31nm,0.9s
SCM Sheep Creek Mo 22.05 50 P **P** **20 26 43.6 -1.1**
SCM pmax pmax
comp=Z,80nm,0.9s
SCM Sheep Creek Mo 22.05 50 P **P** **20 26 43.5 -1.1**
SCM lAmb lAmb 20 26 54.1
comp=Z,80nm,0.9s
WRH Wood River Hil 22.26 43 P **P** **20 26 45.7 -1.2**
WRH lAmb lAmb 20 26 56.7
comp=Z,39nm,1.2s
HIN Hinchinbrook I 22.29 54 P **P** **20 26 44.8 -2.5**
MID Middleton Isla 22.33 56 P **P** **20 26 44.8 -2.8**
MID pmax pmax
comp=Z,45nm,1.0s
MID Middleton Isla 22.33 56 P **P** **20 26 44.8 -2.8**
MID lAmb lAmb 20 26 57.3
comp=Z,45nm,1.0s
FID Port Fidalgo 22.33 53 P **P** **20 26 46.8 -0.9**
FID lAmb lAmb 20 27 03.9
comp=Z,44nm,1.0s
MDM Murphy Dome 22.34 42 P **P** **20 26 47.8 0.0**
MDM lAmb lAmb 20 27 05.4
comp=Z,78nm,1.3s
COLD Coldfoot 22.40 35 P **P** **20 26 46.0 -2.2**
CCB Clear Creek Bu 22.43 43 P **P** **20 26 47.7 -0.9**
CCB lAmb lAmb 20 26 58.3
comp=Z,28nm,1.0s
COLA College 22.47 42⇓ *e*P **P** **20 26 49.1 +0.1**
COLA pmax pmax
comp=Z,46nm,1.7s
COLA College 22.47 42 P **P** **20 26 48.1 -1.0**
COLA lAmb lAmb 20 26 59.7
comp=Z,42nm,0.9s
KLU Klutina 22.67 51 P **P** **20 26 51.1 -0.3**
KLU lAmb lAmb 20 27 04.8
comp=Z,28nm,1.0s
EYAK Cordova Ski Ar 22.67 54 P **P** **20 26 50.0 -1.2**
HDA Harding Lake 22.73 43 P **P** **20 26 49.5 -2.3**
IL31 22.84 42 P **P** **20 26 50.8 -2.1**
ILAR Eielson Array 22.84 42 P **P** **20 26 52.2 -0.8**
comp=Z,3.2nm,0.6s,baz=253,slow=7.0,SNR=20
ILAR ScP **ScP** **20 34 21.1 0.0**
comp=Z,0.4nm,0.9s,baz=256,slow=3.6,SNR=1.7
ILAR Eielson Array 22.84 42 P **P** **20 26 52.0 -1.0**
PAX Paxson 23.08 47 P **P** **20 26 54.3 -1.3**
PAX pmax pmax
comp=Z,48nm,1.1s
PAX Paxson 23.08 47 P **P** **20 26 54.3 -1.3**
PAX lAmb lAmb 20 27 03.5
comp=Z,48nm,1.1s
JKA Kamikawa-asahi 23.18 262 P **P** **20 26 57.6 +0.9**
JKA lAmb lAmb 20 27 01.8
comp=Z,57nm,1.3s
ASAJ Asahikawa 23.19 262 P **P** **20 26 56.9 +0.2**
comp=Z,18nm,1.0s,baz=289,slow=2.2,SNR=8.5
ASAJ Asahikawa 23.19 262 P **P** **20 26 57.6 +0.9**
ASAJ pmax pmax
comp=Z,57nm,1.3s
RAGM Ragged Mountai 23.20 54 P **P** **20 26 57.2 +0.4**
RAGM lAmb lAmb 20 27 13.0
comp=Z,33nm,0.8s
TOLK Toolik Lake Re 23.23 32 P **P** **20 26 55.9 -1.1**
TOLK lAmb lAmb 20 27 05.8
comp=Z,34nm,0.8s
KAIM Kayak Island 23.31 55 P **P** **20 26 57.9 0.0**
KAIM lAmb lAmb 20 27 06.5
comp=Z,34nm,0.7s
RIDG Independent Ri 23.49 46 P **P** **20 26 57.0 -2.6**
RIDG lAmb lAmb 20 27 06.5
comp=Z,29nm,1.2s
GLB Gilahina Butte 23.68 51 P **P** **20 27 01.3 -0.3**
GLB lAmb lAmb 20 27 08.5
comp=Z,41nm,1.3s
DOT Dot Lake 23.82 46 P **P** **20 27 00.8 -2.0**
DOT lAmb lAmb 20 27 11.9
comp=Z,23nm,0.9s
VRDI Verde Repeater 23.84 52 P **P** **20 27 02.2 -1.1**
MENT Mentasta 23.87 48 P **P** **20 27 02.7 -0.6**
MENT lAmb lAmb 20 27 11.9
comp=Z,33nm,1.0s
CRQM Cirque 23.97 53 P **P** **20 27 04.8 +0.3**
CRQM lAmb lAmb 20 27 19.4
comp=Z,41nm,1.0s
ERM Erimo 24.04 257⇓ *e*P **P** **20 27 06.1 +1.0**
ERM pmax pmax
comp=Z,79nm,1.3s
MCARA McCarthy VSAT 24.05 52 P **P** **20 27 04.2 -0.9**
MCARA lAmb lAmb 20 27 15.2
comp=Z,49nm,0.9s
GRNR Gornyy 24.09 282⇑ *i*P **P** **20 27 04.9 -0.6**
GRNR *e*S **S** **20 31 21.6 -1.1**
GRNR pmax pmax
comp=E,5.0nm,1.0s
GRNR pmax pmax
comp=N,3.0nm,0.8s
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR smax smax
comp=N,2.0nm,0.6s
GRNR MLR MLR
comp=E,840nm,11.0s
GRNR MLR MLR
comp=N,790nm,12.0s
GRNR MLR MLR
comp=Z,970nm,12.0s
TGL Tana Glacier 24.12 53 P **P** **20 27 05.8 -0.1**
TGL lAmb lAmb 20 27 13.8
comp=Z,37nm,1.1s
BALM Baldy 24.36 53 P **P** **20 27 06.5 -1.6**
BALM Baldy 24.36 53 P **P** **20 27 06.5 -1.6**
BMAR Burnt Mountain 24.50 37 P **P** **20 27 08.6 -0.6**
YAH Yahtse 24.65 54 P **P** **20 27 09.9 -0.9**
YAH lAmb lAmb 20 27 22.5
comp=Z,34nm,0.9s
BARN Barnard Glacie 24.70 52 P **P** **20 27 10.3 -0.9**
BARN lAmb lAmb 20 27 20.0
comp=Z,45nm,1.0s
BCAR Beaver Creek A 24.76 48 P **P** **20 27 09.7 -1.9**
CTGM Chitina Glacie 24.86 53 P **P** **20 27 12.6 0.0**
CTGM lAmb lAmb 20 27 21.4
comp=Z,29nm,1.0s
EGAK Eagle 25.25 44 P **P** **20 27 13.5 -2.3**
EGAK lAmb lAmb 20 27 24.6
comp=Z,52nm,1.1s
PCA Pinnacle 25.40 55 P **P** **20 27 11.6 -5.8**
BCPM Bancas Point 25.72 55 P **P** **20 27 15.2 -5.0**
BCPM lAmb lAmb 20 27 31.6
comp=Z,30nm,0.9s
YAK Yakutsk 26.04 310 P **P** **20 27 21.8 -1.3**
comp=Z,6.2nm,0.4s,baz=152,slow=0.8,SNR=15
YAK Yakutsk 26.04 310 *e*P **P** **20 27 21.5 -1.6**
YAK *e**PP **sP** **20 27 29.6 +2.4**
YAK *e* 20 28 06.9
YAK *e*S **S** **20 31 51.8 -1.9**
YAK pmax pmax
comp=Z,52nm,1.3s
YAK pmax pmax
comp=E,56nm,1.3s
YAK pmax pmax
comp=N,12nm,1.4s
YAK smax smax
comp=N,743nm,4.8s
YAK smax smax
comp=E,375nm,5.9s
YAK MLR MLR
comp=Z,2µm,12.0s
YAK MLR MLR
comp=N,1µm,12.0s
YAK MLR MLR
comp=E,580nm,10.0s
YAK Yakutsk 26.04 310 P **P** **20 27 20.6 -2.5**
YAK lAmb lAmb 20 27 30.8
comp=Z,41nm,0.9s
HYT Haines Junctio 26.73 53 P **P** **20 27 29.1 -0.5**
HYT lAmb lAmb 20 27 45.4
comp=Z,22nm,0.9s
EPYK Eagle Plains 27.30 41 P **P** **20 27 34.1 -0.3**
EPYK lAmb lAmb 20 27 43.1

comp=Z,22nm,1.1s
KLR Kul'dur 27.45 281 P **P** **20 27 35.0 -0.9**
comp=Z,6.1nm,0.9s,baz=61,slow=8.9,SNR=12
KLR LR LR 20 38 02.7
comp=Z,940nm,18.8s,baz=68,slow=36
KLR Kul'dur 27.45 281⇓ *i*P **P** **20 27 35.1 -0.9**
KLR pmax pmax
comp=Z,29nm,1.3s
SKAG Skagway 27.94 56 P **P** **20 27 38.8 -1.3**
SIT Sitka 28.34 61 P **P** **20 27 42.9 -0.8**
SIT pmax pmax
comp=Z,23nm,1.2s
SIT Sitka 28.34 61 P **P** **20 27 42.9 -0.8**
SIT lAmb lAmb 20 27 52.2
comp=Z,23nm,1.2s
ZEA Zeya 28.54 292 *e*P P 20 27 37.1 -8.5
INK Inuvik 28.77 37 P **P** **20 27 46.6 -0.9**
comp=Z,2.2nm,1.1s,baz=260,slow=10,SNR=2.3
INK Inuvik 28.77 37 lAmb lAmb 20 27 59.8
comp=Z,18nm,1.1s
USRK Ussuriysk Ar. 29.63 272 P **P** **20 27 53.5 -1.8**
comp=Z,1.5nm,0.5s,baz=65,slow=9.3,SNR=7.0
USRK Ussuriysk Ar. 29.63 272 P **P** **20 27 53.8 -1.6**
USRK Ussuriysk Ar. 29.63 272 P **P** **20 27 53.8 -1.6**
MJAR Matsushiro Arr 30.49 254 P **P** **20 28 03.1 0.0**
comp=Z,3.4nm,0.9s,baz=35,slow=5.9,SNR=9.0
MJAR LR LR 20 40 07.8
comp=Z,537nm,21.4s,baz=275,slow=36
MJAR Matsushiro Arr 30.49 254 P **P** **20 28 01.9 -1.2**
MAJO Matsushiro 30.49 254⇓ *e*P **P** **20 28 06.2 +3.1**
MAJO pmax pmax
comp=Z,16nm,1.0s
MAJO Matsushiro 30.49 254 P **P** **20 28 03.8 +0.7**
MAJO lAmb lAmb 20 28 07.9
comp=Z,16nm,1.0s
MAT Matsushiro 30.49 254 P **P** **20 28 00.3 -2.8**
DLBC Dease Lake 30.82 57 P **P** **20 28 05.2 -0.6**
comp=Z,0.9nm,0.7s,baz=296,slow=7.2,SNR=2.2
DLBC Dease Lake 30.82 57 lAmb lAmb 20 28 15.1
comp=Z,16nm,1.2s
MDJ Mudanjiang 30.88 274 P **P** **20 28 04.9 -1.5**
MDJ pmax pmax
comp=Z,250nm,7.7s
CN2 Changchun 33.85 276 *e*P **P** **20 28 33.8 +1.4**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
H11S1 WAKE ISLAND Hy 34.47 195 T T 21 05 11.4
baz=8.6,slow=76
BOD Bodaibo 34.47 304 *e*P **P** **20 28 36.2 -1.5**
BOD pmax pmax
comp=Z,51nm,1.3s
H11S3 WAKE ISLAND Hy 34.48 195 T T 21 05 23.7
baz=8.6,slow=76
H11S2 WAKE ISLAND Hy 34.48 195 T T 21 05 23.2
baz=8.6,slow=76
HIA Hailar 34.57 288⇓ *e*P **P** **20 28 40.1 +1.5**
HIA pmax pmax
comp=Z,23nm,1.3s
HIA Hailar 34.57 288 P **P** **20 28 36.5 -2.2**
HIA lAmb lAmb 20 28 40.8
comp=Z,21nm,1.2s
KSRS Korea Array 36.08 265 P **P** **20 28 52.7 +1.0**
comp=Z,4.3nm,0.8s,baz=55,slow=8.0,SNR=16
KSAR Wonju Array Be 36.11 265 P **P** **20 28 51.4 -0.6**
KSAR Wonju Array Be 36.11 265 P **P** **20 28 51.4 -0.6**
YKA Yellowknife Ar 37.16 46 P **P** **20 29 01.1 +0.4**
comp=Z,1.7nm,0.8s,baz=276,slow=5.5,SNR=3.3
JNU Nakatsue 37.20 257 P **P** **20 29 02.6 +1.3**
comp=Z,16nm,0.9s,baz=42,slow=5.3,SNR=6.5
JNU Nakatsue 37.20 257 lAmb lAmb 20 29 11.1
comp=Z,27nm,1.0s
B08A Colville Reser 40.57 69 P **P** **20 29 28.4 -1.0**
C09A Chrisman Ranch 41.46 69 P **P** **20 29 35.0 -1.8**
HAWA Hanford 41.49 71 P **P** **20 29 35.4 -1.6**
NRIK Noril'sk 41.70 328 P **P** **20 29 37.7 -0.7**
comp=Z,3.5nm,0.5s,baz=86,slow=7.6,SNR=8.2
NRIK Noril'sk 41.70 328 *e*P **P** **20 29 39.1 +0.7**
NRIK pmax pmax
comp=Z,27nm,1.4s
NEW Newport 41.87 68 P **P** **20 29 40.8 +0.6**
NEW pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 42.58 292⇑ *e*P **P** **20 29 47.9 +1.9**
ULN pmax pmax
comp=Z,18nm,1.5s
SONM Songino Array 42.97 293 P **P** **20 29 48.0 -1.2**
comp=Z,4.2nm,0.6s,baz=56,slow=8.0,SNR=18
SONM ScP **ScP** **20 35 31.2 +0.8**
comp=Z,0.9nm,0.9s,baz=66,slow=3.6,SNR=2.3
SONM Songino Array 42.97 293 P **P** **20 29 48.2 -1.0**
SONM pmax pmax
comp=Z,8.0nm,1.1s
SONM Songino Array 42.97 293 P **P** **20 29 48.2 -1.0**
WALA Waterton Lakes 43.25 65 lAmb lAmb 20 30 02.1
comp=Z,27nm,1.1s
ZAK Zakamensk 43.33 297 *e*P **P** **20 29 51.6 -0.5**
ZAK *e* 20 31 34.9
ZAK pmax pmax
comp=Z,17nm,1.4s
ZAK pmax pmax
comp=Z,5.0nm,1.4s
MOY Mondy 43.89 300 *e*P **P** **20 29 55.4 -1.1**
MOY pmax pmax
comp=Z,32nm,1.5s
HHC Hu-ho-hao-te 43.96 281 *e*P **P** **20 29 54.9 -2.3**
HHC pmax pmax
comp=Z,36nm,0.8s
HHC pmax pmax
comp=Z,210nm,6.9s
MSO Missoula 44.46 68 P **P** **20 30 00.8 -0.4**
BTO Baotou 45.04 282 *e*P **P** **20 30 08.3 +2.5**
NJ2 Nanjing 45.23 266 *e*P **P** **20 30 05.3 -2.0**
NJ2 pmax pmax
comp=Z,3.0nm,0.6s
TIY Taiyuan 45.39 277 *e*P **P** **20 30 13.1 +4.4**
TIY S **S** **20 36 52.9 +3.3**
TIY pmax pmax
comp=Z,75nm,1.5s
TIY LR LR
comp=Z,3µm,14.0s
TIY LR LR
comp=Z,2µm,13.4s
TIY LR LR
comp=Z,2µm,14.3s
PNTR Pine Nut 45.76 80 P **P** **20 30 13.7 +1.9**
WAKR Walker 46.23 80 P **P** **20 30 15.5 +0.1**
NVAR Mina Array Bea 46.96 80 P **P** **20 30 20.9 -0.3**
comp=Z,0.3nm,0.5s,baz=306,slow=7.7,SNR=3.4
NVAR PcP **PcP** **20 31 54.6 +1.1**
comp=Z,1.5nm,0.8s,baz=302,slow=4.1,SNR=2.7
NVAR Mina Array Bea 46.96 80 P **P** **20 30 19.8 -1.3**
WHN Wuhan 49.04 268⇓ *i*P **P** **20 30 40.0 +3.0**
WHN S **S** **20 37 38.3 -3.2**
WHN pmax pmax
comp=Z,160nm,1.5s
WHN LR LR
comp=Z,2µm,15.1s
WHN LR LR
comp=Z,2µm,12.1s
WHN LR LR
comp=Z,3µm,13.4s
SPA0 Spitsbergen Ar 49.09 354 P **P** **20 30 37.2 +0.3**
PDAR Pinedale Array 49.39 70 P **P** **20 30 39.2 -0.7**
comp=Z,1.3nm,0.5s,baz=278,slow=1.9,SNR=14
PDAR Pinedale Array 49.39 70 P **P** **20 30 37.9 -2.0**
GSC Goldstone, Bar 49.91 82 P **P** **20 30 44.3 +0.5**
GSC pmax pmax
comp=Z,9.0nm,1.4s
GSC Goldstone, Bar 49.91 82 P **P** **20 30 44.3 +0.5**
XAN Xi'an 49.96 276 P **P** **20 30 43.6 -0.5**
XAN pmax pmax
comp=Z,31nm,1.3s
XAN Xi'an 49.96 276 P **P** **20 30 43.6 -0.5**
XAN lAmb lAmb 20 30 48.2
comp=Z,32nm,1.3s
ZALV Zalesovo Beam 50.69 310 P **P** **20 30 46.4 -2.9**
comp=Z,1.0nm,0.6s,baz=56,slow=6.1,SNR=2.9
ZALV PcP **PcP** **20 32 04.9 -1.6**
comp=Z,1.4nm,0.8s,baz=29,slow=3.3,SNR=1.1
ZALV Zalesovo Beam 50.69 310 P **P** **20 30 48.1 -1.2**
ZALV Zalesovo Beam 50.69 310 P **P** **20 30 48.1 -1.2**
LZH Lanzhou 51.66 282 *e*P **P** **20 31 01.1 +4.1**
LZH pP sP 20 31 04.8 +3.6
LZH sP pP 20 31 07.5 +7.5
LZH pmax pmax
comp=Z,25nm,1.2s

GTA Gaotai 51.85 287⇓ P **P** **20 30 58.3 -0.1**
GTA pP pP 20 31 01.9 +0.5
GTA sP sP 20 31 04.3 +1.8
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA pmax pmax
comp=Z,75nm,4.9s
GTA LR LR
comp=Z,2µm,14.6s
GTA LR LR
comp=Z,1µm,14.6s
GTA LR LR
comp=Z,2µm,16.5s
DGZ Jazzator, Alta 52.06 305*d* *i*P **P** **20 31 02.2 +2.4**
DGZ pmax pmax
comp=Z,23nm,1.1s
ENH Enshi 52.21 272 P **P** **20 31 00.9 -0.2**
ENH lAmb lAmb 20 31 05.7
comp=Z,28nm,1.4s
SUMG Summit 53.15 12 *i*P **P** **20 31 10.0 +2.1**
comp=Z,36nm,1.0s
SUMG Summit 53.15 12 *e*P **P** **20 31 10.0 +2.1**
SUMG pmax pmax
comp=Z,36nm,1.0s
SUMG Summit 53.15 12 P **P** **20 31 06.6 -1.3**
SUMG lAmb lAmb 20 31 11.5
comp=Z,16nm,1.0s
FRB Frobisher Bay 54.01 30 P **P** **20 31 15.2 +1.5**
FRB pmax pmax
comp=Z,20nm,1.2s
ZSN Zaisan 54.81 304 *e*P **P** **20 31 20.7 +0.7**
comp=Z,96nm,4.4s,baz=304
ZSN LR LR 20 56 09.9
comp=Z,188nm,11.8s,baz=304
ZSN Zaisan 54.81 304 *e*P **P** **20 31 20.6 +0.7**
ZSN MLR MLR
comp=Z,188nm,12.0s
CD2 Chengdu 55.26 277 *e*P **P** **20 31 22.0 -1.4**
KURK Kurchatov 55.69 310*d* *i*P **P** **20 31 25.0 -1.1**
KURK pmax pmax
comp=Z,102nm,1.3s
KURK Kurchatov 55.69 310 P **P** **20 31 24.8 -1.3**
WMQ Urumqi 55.75 299 *e*P **P** **20 31 27.3 +0.5**
WMQ pP sP 20 31 31.8 +0.8
WMQ sP pP 20 31 34.1 +4.3
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ pmax pmax
comp=Z,220nm,3.7s
WMQ LR LR
comp=Z,490nm,10.1s
WMQ LR LR
comp=Z,770nm,12.1s
WMQ LR LR
comp=Z,950nm,13.1s
WMQ Urumqi 55.75 299 P **P** **20 31 26.7 -0.1**
WMQ pmax pmax
comp=Z,31nm,1.0s
WMQ Urumqi 55.75 299 P **P** **20 31 26.7 -0.1**
KSCO Kaye Shedlock' 55.81 69 P **P** **20 31 27.0 -0.4**
KSCO lAmb lAmb 20 31 37.5
comp=Z,26nm,1.4s
ARCES ARCESS Array B 56.44 348 P **P** **20 31 29.4 -1.9**
comp=Z,6.7nm,0.9s,baz=42,slow=8.5,SNR=6.5
MK31 Makanchi Array 56.56 305 lAmb lAmb 20 31 35.2
comp=Z,10nm,0.9s
MKAR Makanchi Array 56.56 305 P **P** **20 31 29.9 -2.6**
comp=Z,2.9nm,0.5s,baz=50,slow=7.0,SNR=32
MKAR Makanchi Array 56.56 305 P **P** **20 31 28.8 -3.6**
GYA Guiyang 56.67 271⇓ P **P** **20 31 36.3 +2.7**
GYA pmax pmax
comp=Z,18nm,1.4s
BGNE Belgrade 56.70 64 P **P** **20 31 32.3 -1.2**
MAKZ Makanchi 56.70 305 P **P** **20 31 31.6 -1.9**
MAKZ pmax pmax
comp=Z,19nm,1.0s
MAKZ Makanchi 56.70 305 P **P** **20 31 31.6 -1.9**
MAKZ lAmb lAmb 20 31 38.1
comp=Z,19nm,1.0s
SPMN Marine on St. 56.96 57 P **P** **20 31 34.8 -0.5**
SPMN lAmb lAmb 20 31 44.0
comp=Z,16nm,1.1s
BVAR Borovoye Array 57.75 316 P **P** **20 31 38.5 -2.3**
comp=Z,2.1nm,0.6s,baz=46,slow=8.0,SNR=11
BRVK Borovoye 57.77 316⇑ *e*P **P** **20 31 42.8 +1.9**
BRVK pmax pmax
comp=Z,19nm,1.3s
BRVK Borovoye 57.77 316 P **P** **20 31 39.1 -1.8**
BRVK lAmb lAmb 20 31 45.3
comp=Z,18nm,1.2s
BRZS Berezniki 58.93 313 *e*P **P** **20 31 50.2 +1.1**
comp=Z,22nm,1.2s,baz=313
BRZS LR LR 20 57 14.5
comp=Z,375nm,12.8s,baz=313
BRZS Berezniki 58.93 313 *e*P **P** **20 31 50.2 +1.1**
BRZS pmax pmax
comp=Z,22nm,1.2s
BRZS MLR MLR
comp=Z,375nm,13.0s
MSF Maaselka 59.28 345 P **P** **20 31 53.6 +2.3**
MSF pmax pmax
comp=Z,20nm,1.3s
PRGR Permogore 59.56 335 *e*P **P** **20 31 53.5 +0.3**
PRGR pmax pmax
comp=Z,93nm,1.4s
TDK Taldyqorghan 59.75 305 *e*P **P** **20 31 56.2 +1.3**
baz=305
TDK LR LR 20 58 06.2
comp=Z,619nm,14.3s,baz=305
TDK Taldyqorghan 59.75 305 *e*P **P** **20 31 56.1 +1.3**
TDK MLR MLR
comp=Z,619nm,14.0s
ARU Arti 59.80 325 P **P** **20 31 53.0 -2.0**
comp=Z,3.5nm,0.5s,baz=16,slow=6.8,SNR=18
ARU Arti 59.80 325 P **P** **20 31 54.5 -0.5**
ARU 20 32 42.6
ARU 20 34 05.6
ARU S **S** **20 40 04.0 -1.8**
ARU Arti 59.80 325 P **P** **20 31 53.3 -1.7**
UZB Uzynbulak 60.76 304 *e*P **P** **20 32 03.4 +1.4**
comp=Z,9.4nm,1.3s,baz=304
UZB LR LR 20 58 00.1
comp=Z,155nm,11.3s,baz=304
UZB Uzynbulak 60.76 304 *e*P **P** **20 32 03.4 +1.4**
UZB pmax pmax
comp=Z,9.0nm,1.3s
UZB MLR MLR
comp=Z,155nm,11.0s
KIRV Kirov 61.04 331 *e*P **P** **20 32 05.3 +1.9**
SATY Saty 61.14 304 *e*P **P** **20 32 06.3 +1.8**
comp=Z,18nm,1.5s,baz=304
SATY Saty 61.14 304 *e*P **P** **20 32 06.3 +1.8**
SATY pmax pmax
comp=Z,17nm,1.5s
SATY Saty 61.14 304 *e*P **P** **20 32 06.3 +1.8**
SATY pmax pmax
comp=Z,17nm,1.5s
SCHQ Schefferville 61.38 36 P **P** **20 32 04.6 -1.2**
comp=Z,9.3nm,0.8s,baz=354,slow=9.8,SNR=4.4
SCHQ Schefferville 61.38 36 P **P** **20 32 05.1 -0.7**
KLMR Klimovskoe 61.75 337 *e*P **P** **20 32 08.6 +0.5**
KLMR pmax pmax
comp=Z,39nm,1.2s
KLMR Klimovskoe 61.75 337 *e*P **P** **20 32 08.6 +0.5**
KLMR AMP 20 32 14.7
comp=Z,39nm,1.2s
MDOK Medeo 61.75 305 *i* P **P** **20 32 10.8 +2.1**
baz=305
MDOK Medeo 61.75 305 *i* P **P** **20 32 10.7 +2.1**
AAA Alma-Ata 61.79 305 *e*P **P** **20 32 10.7 +1.8**
baz=305
AAA Alma-Ata 61.79 305 *e*P **P** **20 32 10.6 +1.8**
TXAR Lajitas Array 62.01 78 P **P** **20 32 09.2 -1.3**
comp=Z,1.7nm,0.9s,baz=305,slow=6.1,SNR=11
TXAR Lajitas Array 62.01 78 P **P** **20 32 09.5 -1.0**
TXAR Lajitas Array 62.01 78 P **P** **20 32 09.4 -1.0**
R40A Maddies Statio 62.11 63 lAmb lAmb 20 32 22.8
comp=Z,11nm,1.2s
SLVN Son La 62.15 269 P **P** **20 32 12.3 +0.8**
VLDQ Val d'Or 62.28 46 lAmb lAmb 20 32 16.5
comp=Z,13nm,0.8s
TKM2 Tokmak 2 62.66 305 P **P** **20 32 17.9 +3.0**
SNR=9.3
SUF Sumiainen 62.73 345 P **P** **20 32 14.9 +0.2**
SUF pmax pmax
comp=Z,31nm,1.3s

SGDS **Sogindy** 62.75 306 *e*P **P** 20 32 17.2 +1.9
comp=Z,21nm,1.5s,baz=306
SGDS **Sogindy** 62.75 306 *e*P **P** 20 32 17.1 +1.9
SGDS pmax pmax
comp=Z,21nm,1.5s
ULHL **Ulahol** 62.83 305 P **P** 20 32 19.1 +3.1
SNR=7.2
USP **Ospenovka** 62.95 306 P **P** 20 32 18.6 +2.0
SNR=13
VAF **Ylistaro** 62.95 346 *e*P **P** 20 32 15.6 -0.5
VAF pmax pmax
comp=Z,29nm,1.9s
CHMS **Chumysh** 63.02 306 P **P** 20 32 19.7 +2.7
SNR=12
KBK **Karagaybulak** 63.18 306 P **P** 20 32 20.2 +2.0
SNR=9.9
U40A **Yellville** 63.19 65 IAmb IAmb 20 32 26.7
comp=Z,12nm,1.1s
AAK **Ala-Archa** 63.42 306 P **P** 20 32 23.0 +3.2
SNR=11
AAK **Ala-Archa** 63.42 306 *d* *i*P **P** 20 32 22.3 +2.5
AAK pmax pmax
comp=Z,28nm,1.3s
AAK **Ala-Archa** 63.42 306 P **P** 20 32 20.1 +0.3
W39A **Magazine** 63.51 66 IAmb IAmb 20 32 28.5
comp=Z,12nm,1.0s
UCH **Uchtor** 63.71 306 P **P** 20 32 24.8 +2.7
SNR=6.9
LSA **Lhasa** 63.71 285 IAmb IAmb 20 32 26.9
comp=Z,11nm,0.8s
EKS2 **Erkin-Say** 63.75 306 P **P** 20 32 22.1 +0.1
SNR=12
FINES **FINESS Array B** 63.94 344 P **P** 20 32 21.4 -1.3
comp=Z,6.4nm,1.0s,baz=15,slow=5.8,SNR=13
FINES **FINESS Array B** 63.94 344 P **P** 20 32 21.7 -1.0
FINES **FINESS Array B** 63.94 344 P **P** 20 32 21.6 -1.0
MIAR **Mount Ida** 64.10 67 P **P** 20 32 22.5 -1.7
MIAR pmax pmax
comp=Z,12nm,1.0s
MIAR **Mount Ida** 64.10 67 P **P** 20 32 22.4 -1.7
MIAR IAmb IAmb 20 32 33.2
comp=Z,12nm,1.0s
AML **Almayashu** 64.19 306 P **P** 20 32 27.7 +2.6
SNR=9.9
DZA **Taraz** 64.78 308 *e*P **P** 20 32 30.6 +2.1
baz=308
DZA LR LR 21 00 44.9
comp=Z,265nm,13.2s,baz=308
DZA **Taraz** 64.78 308 *e*P **P** 20 32 30.6 +2.1
DZA MLR MLR
comp=Z,265nm,13.0s
ABKAR **Akbulak array** 64.91 319 P **P** 20 32 27.8 -1.5
KSH **Kashi** 64.98 303 P P 20 32 35.9 +5.9
KSH sP sP 20 32 39.1 +4.8
KSH S **S** 20 41 18.8 +7.0
KSH pmax pmax
comp=Z,51nm,1.3s
KSH pmax pmax
comp=Z,210nm,4.6s
KSH LR LR
comp=Z,650nm,12.1s
KSH LR LR
comp=Z,960nm,13.2s
KSH LR LR
comp=Z,1μm,13.0s
KK31 **Karatay Array** 65.01 309 P **P** 20 32 28.3 -1.8
KK31 pmax pmax
comp=Z,15nm,1.2s
KK31 **Karatay Array** 65.01 309 P **P** 20 32 28.2 -1.8
KK31 IAmb IAmb 20 32 35.1
comp=Z,15nm,1.1s
KKAR **Karatay Array** 65.01 309 P **P** 20 32 28.4 -1.6
KKAR pmax pmax
comp=Z,15nm,1.2s
KKAR **Karatay Array** 65.01 309 P **P** 20 32 28.4 -1.6
KKAR **Karatay Array** 65.01 309 P **P** 20 32 28.7 -1.4
KKAR IAmb IAmb 20 32 35.1
comp=Z,15nm,1.1s
ERPA **Erie** 65.63 52 P **P** 20 32 32.5 -1.6
IUG **Iuzhnay** 65.97 308 *e*P **P** 20 32 38.6 +2.2
comp=Z,26nm,1.5s,baz=308
IUG **Iuzhnay** 65.97 308 *e*P **P** 20 32 38.5 +2.2
IUG pmax pmax
comp=Z,26nm,1.5s
NB2 **NORSAR Subarra** 66.24 352 P **P** 20 32 36.4 -1.3
comp=Z,25nm,1.2s,baz=12,slow=6.5
NB2 **NORSAR Subarra** 66.24 352 P **P** 20 32 36.4 -1.3
baz=12,slow=6.5
NOA **NORSAR Array B** 66.24 352 P **P** 20 32 35.8 -2.0
comp=Z,3.0nm,0.7s,baz=9.6,slow=6.3,SNR=9.5
NORES **NORESS Array B** 66.51 351 P **P** 20 32 41.9 +2.5
MOS **Moscow** 66.76 336 *e*P **P** 20 32 43.6 +2.6
MOS pmax pmax
comp=Z,36nm,0.9s
E62A **Clayton Lake** 66.85 43 IAmb IAmb 20 32 47.4
comp=Z,14nm,1.1s
CHTO **Chiang Mai** 67.09 271 P **P** 20 32 42.9 -0.8
CHTO pmax pmax
comp=Z,24nm,1.3s
CHTO **Chiang Mai** 67.09 271 P **P** 20 32 42.9 -0.8
J59A **Piesco** 67.17 48 IAmb IAmb 20 32 48.9
comp=Z,6.6nm,0.8s
CMAR **Chiang Mai Arr** 67.36 271 P **P** 20 32 44.1 -1.4
comp=Z,2.1nm,0.8s,baz=26,slow=6.9,SNR=2.6
CMAR **Chiang Mai Arr** 67.36 271 *i* P **P** 20 32 48.5 +3.1
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR **Chiang Mai Arr** 67.36 271 P **P** 20 32 44.4 -1.0
TAPN **Taplejung** 67.48 286 *e*P **P** 20 32 49.5 +3.0
comp=Z,177nm,1.3s
OBN **Obninsk** 67.58 336 ⇓ *i* P **P** 20 32 46.8 +0.5
OBN *i* *PP **sP** 20 32 50.5 0.0
OBN *e* 20 33 12.6
OBN *e* 20 35 16.1
OBN *e*PPP PPP 20 36 46.9
OBN *e*S **S** 20 41 41.0 -1.6
OBN *e*SS **SS** 20 46 02.8 +0.7
OBN pmax pmax
comp=Z,32nm,1.3s
OBN MLR MLR
comp=Z,995nm,18.0s
SSPA **Standing Stone** 67.78 52 P **P** 20 32 46.3 -1.5
ODAN **Odare** 68.03 286 *e*P **P** 20 32 52.9 +3.0
comp=Z,93nm,1.2s
JIRN **Jiri** 68.14 287 *e*P **P** 20 32 53.6 +2.9
RAMN **Ramite** 68.43 286 *e*P **P** 20 32 54.7 +2.3
PKI **Pulchoki** 68.67 288 *e*P **P** 20 32 56.8 +2.8
comp=Z,58nm,1.0s
GKN **Gorkha** 68.79 288 *e*P **P** 20 32 57.1 +2.6
comp=Z,82nm,1.1s
DMN **Daman** 68.81 288 *e*P **P** 20 32 57.5 +2.7
comp=Z,107nm,1.5s
DANN **Dangsing** 69.04 289 *e*P **P** 20 32 59.5 +3.3
LPSR **Galich'ya Gora** 69.22 333 *e*P **P** 20 32 57.1 +0.5
LPSR pmax pmax
comp=Z,20nm,1.0s
KOLN **Koldanda** 69.57 289 *e*P **P** 20 33 02.1 +2.7
comp=Z,28nm,0.9s
VRH **Novokhopyorsk** 69.66 331 *e*P **P** 20 33 01.1 +1.8
VRH pmax pmax
comp=Z,30nm,0.7s
PYUN **Piuthan** 69.67 290 *e*P **P** 20 33 02.7 +2.6
comp=Z,109nm,1.2s
MICGM **Minsk** 70.13 341 *e* **P** 20 33 06.0 +3.9
MNK **Minsk** 70.13 341 *e*P **P** 20 33 06.0 +3.9
VSR **Storozhevoye** 70.39 332 *e*P **P** 20 33 05.7 +1.9
VSR pmax pmax
comp=Z,20nm,1.0s
VORD **Divnogorie** 70.58 332 *e*P **P** 20 33 06.0 +1.1
VORD pmax pmax
comp=Z,20nm,1.2s
NIL **Nilore** 70.85 300 P **P** 20 33 06.8 -0.1
NIL pmax pmax
comp=Z,23nm,1.0s
NIL **Nilore** 70.85 300 P **P** 20 33 06.8 -0.1
JSC **Jenkinsville** 70.99 58 P **P** 20 33 06.0 -1.7
JSC pmax pmax
comp=Z,10.0nm,0.9s
JSC **Jenkinsville** 70.99 58 P **P** 20 33 06.0 -1.7
JSC IAmb IAmb 20 33 10.0
comp=Z,9.5nm,0.9s
KBL **Kabul** 72.34 304 P **P** 20 33 14.5 -1.7
KBL pmax pmax
comp=Z,13nm,0.9s
KBL **Kabul** 72.34 304 P **P** 20 33 14.5 -1.7
KBL IAmb IAmb 20 33 18.8
comp=Z,13nm,0.8s
EKA **Eskdalemuir Ar** 72.66 359 P **P** 20 33 16.8 -0.6
AKASG **Malin Array Be** 73.40 338 P **P** 20 33 19.6 -2.3
comp=Z,7.3nm,0.5s,baz=24,slow=6.0,SNR=17
AKASG **Malin Array Be** 73.40 338 P **P** 20 33 20.1 -1.8
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG **Malin Array Be** 73.40 338 P **P** 20 33 20.1 -1.8
AKBB **Malin Array Si** 73.40 338 ⇑ *e*P **P** 20 33 22.7 +0.8
AKBB **Malin Array Si** 73.40 338 IAmb IAmb 20 33 28.1
comp=Z,24nm,1.2s
GOF **Gofitskoye** 74.67 327 ⇑ *e*P **P** 20 33 27.8 -1.6
GOF pmax pmax
comp=Z,90nm,1.0s
GEYT **Alibeck** 74.86 313 P **P** 20 33 30.7 +0.1
comp=Z,4.6nm,0.8s,baz=2.9,slow=3.0,SNR=16
GEYT **Alibeck** 74.86 313 P **P** 20 33 30.4 -0.3
CLL **Collm** 75.64 349 *e*P **P** 20 33 38.0 +3.1
CLL *e*PP **PP** 20 36 25.0 +1.4
CLL Lm MLR 21 05 00.0
comp=N,1μm,19.9s
CLL Lm MLR 21 05 00.0
comp=E,500nm,18.4s
CLL **Collm** 75.64 349 *e*P **P** 20 33 38.0 +3.1
KIV **Kislovodsk** 75.76 327 *e*P **P** 20 33 39.4 +3.6
KIV *e*S **S** 20 43 20.2 +2.7
KIV pmax pmax
comp=Z,64nm,3.6s
KIV pmax pmax
comp=Z,42nm,1.1s
KBZ **Khabaz** 75.89 327 P **P** 20 33 37.1 +0.7
comp=Z,5.7nm,0.9s,baz=11,slow=3.9,SNR=15
KBZ **Khabaz** 75.89 327 ⇓ *e*P **P** 20 33 38.9 +2.5
KBZ pmax pmax
comp=Z,28nm,1.3s
MORS **Morshin** 76.02 341 P **P** 20 33 38.6 +1.5
AKT **Akhty** 76.13 322 *e*P **P** 20 33 40.6 +2.6
AKT *e* 20 33 51.8
AKT pmax pmax
comp=Z,53nm,1.5s
DPC **Dobruska-Polom** 76.14 346 *e*P **P** 20 33 39.9 +2.1
DPC **Dobruska-Polom** 76.14 346 *e*P **P** 20 33 39.9 +2.1
KRLC **Kraliky** 76.34 346 *e*P **P** 20 33 42.2 +3.2
KRLC **Kraliky** 76.34 346 *e*P **P** 20 33 42.2 +3.2
ZEI **Tsey** 76.38 325 *e*P **P** 20 33 40.1 +0.6
ZEI pmax pmax
comp=Z,48nm,1.3s
MORC **Moravsky Berou** 76.51 345 *e*P **P** 20 33 42.4 +2.4
KOLS **Kolonicke sedl** 76.52 342 *e*P **P** 20 33 41.5 +1.5
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS **Kolonicke sedl** 76.52 342 *e*P **P** 20 33 41.5 +1.5
KSV **Kosov** 76.56 340 P **P** 20 33 42.8 +2.6
CRVS **Cervenica-Dubn** 76.70 343 *e*P **P** 20 33 45.2 +4.2
CRVS pmax pmax
comp=Z,109nm,2.5s
CRVS **Cervenica-Dubn** 76.70 343 *e*P **P** 20 33 45.2 +4.2
LANS **Liptovska Anna** 76.81 344 *e*P **P** 20 33 45.0 +3.4
LANS pmax pmax
comp=Z,8.0nm,1.0s
LANS **Liptovska Anna** 76.81 344 *e*P **P** 20 33 45.0 +3.4
VRAC **Vranov** 77.11 346 ⇑ P **P** 20 33 44.6 +1.2
VRAC **Vranov** 77.11 346 *e*P **P** 20 33 46.1 +2.8
VRAC **Vranov** 77.11 346 P **P** 20 33 44.5 +1.2
BUR08 **Bucovina Ar. S** 77.17 340 IAmb IAmb 20 33 48.5
comp=Z,21nm,1.3s
BURAR **Bucovina Array** 77.19 340 P **P** 20 33 42.4 -1.5
BURAR **Bucovina Array** 77.19 340 P **P** 20 33 42.4 -1.5
TRSU **Trosnyk** 77.19 341 P **P** 20 33 46.8 +3.1
KRUC **Moravsky** 77.38 346 *e*P **P** 20 33 47.3 +2.5
JAVC **Velka Javorina** 77.39 345 *e*P **P** 20 33 48.3 +3.4
VYHS **Vyhne** 77.55 344 *e*P **P** 20 33 48.5 +2.7
VYHS pmax pmax
comp=Z,27nm,1.9s
VYHS **Vyhne** 77.55 344 *e*P **P** 20 33 48.5 +2.7
GIVF **Givet** 77.60 354 *e*P **P** 20 33 48.1 +2.1
GIVF pmax pmax
comp=Z,43nm,1.7s
KHC **Kasperske Hory** 77.71 348 ⇑ *e*P **P** 20 33 50.3 +3.6
KHC pmax pmax
comp=Z,18nm,1.7s
KHC **Kasperske Hory** 77.71 348 *e*P **P** 20 33 49.7 +3.0
AKH **Akhalkalaki** 77.74 325 ⇑ P **P** 20 33 51.4 +4.3
ARCR **ARCALIA** 77.88 340 ⇓ P **P** 20 33 49.7 +2.1
MODS **Modra-Piesok** 77.92 345 *e*P **P** 20 33 48.2 +0.4
MODS pmax pmax
comp=Z,23nm,1.7s
MODS **Modra-Piesok** 77.92 345 *e*P **P** 20 33 48.2 +0.4
TESR **Tescani** 77.92 339 ⇑ P **P** 20 33 50.1 +2.2
GERES **GERESS Array B** 77.97 348 P **P** 20 33 46.6 -1.6
comp=Z,0.5nm,0.6s,baz=27,slow=6.6,SNR=2.3
GERES **GERESS Array B** 77.97 348 P **P** 20 33 46.8 -1.4
GERES **GERESS Array B** 77.97 348 P **P** 20 33 46.8 -1.4
OZUR 78.51 339 ⇑ P **P** 20 33 53.7 +2.5
VRI **Vrincioaia** 78.52 338 ⇓ P **P** 20 33 53.7 +2.5
VRI **Vrincioaia** 78.52 338 P **P** 20 33 53.7 +2.5
ODBI **Odobesti** 78.54 338 ⇑ P **P** 20 33 53.6 +2.4
PLOR **Plostina** 78.55 338 ⇑ P **P** 20 33 53.6 +2.2
PLOR **Plostina** 78.55 338 P **P** 20 33 53.6 +2.2
CONA **Conrad Observa** 78.57 346 *i* sP **P** 20 33 55.4 +3.9
comp=Z,10nm,1.5s
DOPR **Dopca** 78.72 339 ⇑ P **P** 20 33 54.4 +2.1
CFR **Carcaliu** 78.84 337 ⇑ P **P** 20 33 55.6 +2.6
CFR **Carcaliu** 78.84 337 P **P** 20 33 55.5 +2.6
MLR **Muntele Rosu** 79.05 339 ⇓ P **P** 20 33 56.4 +2.2
MLR **Muntele Rosu** 79.05 339 IAmb IAmb 20 34 05.8
comp=Z,15nm,1.0s
FLN **La Foliniere** 79.19 357 *e*P **P** 20 33 55.5 +0.7
FLN pmax pmax
comp=Z,33nm,1.5s
SIRR **Siria** 79.20 342 ⇓ P **P** 20 33 56.7 +1.8
ARSA **Arzberg** 79.28 346 *es*P **P** 20 33 58.7 +3.3
comp=Z,6.9nm,1.5s
VOIR 79.30 339 ⇑ P **P** 20 33 57.9 +2.3
VOIR 79.30 339 P **P** 20 33 57.8 +2.3
ARR **Arges** 79.45 339 ⇑ P **P** 20 33 58.9 +2.5
GRR **Gorron** 79.58 357 *e*P **P** 20 33 56.2 -0.7
GRR pmax pmax
comp=Z,32nm,1.3s
RETA **Reutte** 79.66 349 *i* PcP **P** 20 34 01.5 +4.0
comp=Z,4.9nm,1.5s
WATA **Walderalm** 79.72 349 *e*P **P** 20 33 54.8 -3.1
comp=Z,4.0nm,0.8s
MOTA **Moosalm** 79.77 349 *es*P **P** 20 34 00.0 +1.9
comp=Z,6.9nm,1.5s
BZS **Buzias** 79.83 342 ⇑ P **P** 20 34 00.7 +2.4
BZS **Buzias** 79.83 342 P **P** 20 34 01.6 +3.3
BZS pmax pmax
comp=Z,17nm,1.3s
SQTA **Sankt Quirin** 79.88 349 sP **P** 20 34 00.9 +2.2
comp=Z,7.6nm,1.3s
SOKA **Soboth** 79.91 346 *es*P **P** 20 34 01.9 +3.0
comp=Z,17nm,1.4s
WR0 **Warramunga Arr** 80.31 219 P **P** 20 33 59.6 -1.5
WRAB **Tennant Creek** 80.36 219 P **P** 20 34 01.1 -0.3
WRAB pmax pmax
comp=Z,25nm,1.5s
WRAB **Tennant Creek** 80.36 219 P **P** 20 34 01.1 -0.3
WRAB IAmb IAmb 20 34 16.6
comp=Z,25nm,1.4s
WB2 **Warramunga Arr** 80.37 219 IAmb IAmb 20 34 09.6
comp=Z,8.0nm,0.7s
WRA **Warramunga Arr** 80.38 219 P **P** 20 34 00.9 -0.5
comp=Z,3.9nm,0.9s,baz=32,slow=6.2,SNR=17
WRA **Warramunga Arr** 80.38 219 P **P** 20 33 59.9 -1.6
HERR **Herculane** 80.38 341 ⇑ P **P** 20 34 03.2 +1.9
LOR **Lormes** 80.48 354 *e*P **P** 20 34 04.1 +2.2
LOR pmax pmax
comp=Z,26nm,1.8s
HYB **Hyderabad** 80.49 286 *i* P **P** 20 34 02.0 -0.4
FUORN **Ofenpass-Fuorn** 80.58 350 P **P** 20 34 00.8 -1.8
MDVR **Moldovita** 80.61 341 ⇓ P **P** 20 34 05.3 +2.6
VLAD **Vladila** 80.81 339 ⇓ P **P** 20 34 06.1 +2.5
AVF **Avril sur Loir** 80.99 354 *e*P **P** 20 34 05.6 +1.1
AVF pmax pmax
comp=Z,13nm,1.6s
SMF **Signal de Mont** 81.11 354 *e*P **P** 20 34 08.4 +3.2
SMF pmax pmax
comp=Z,15nm,1.4s
DIVS **Divibare** 81.60 342 IAmb IAmb 20 34 15.1
comp=Z,16nm,1.4s
FITZ **Fitzroy Crossi** 82.36 227 P **P** 20 34 11.4 -0.6
FITZ IAmb IAmb 20 34 19.9
comp=Z,6.7nm,0.8s
BRTR **Keskin Array B** 82.45 331 P **P** 20 34 12.2 -0.4
comp=Z,2.4nm,0.8s,baz=108,slow=3.2,SNR=3.3
BRTR **Keskin Array B** 82.45 331 *i* P **P** 20 34 16.6 +4.0
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR **Keskin Array B** 82.45 331 P **P** 20 34 11.7 -0.9
RJF **Les Rejaudoux** 82.57 356 *e*P **P** 20 34 16.4 +3.5
RJF pmax pmax
comp=Z,20nm,1.8s
ORIF **Oris-en-Rattie** 82.68 353 *e*P **P** 20 34 17.6 +4.0
ORIF pmax pmax
comp=Z,13nm,1.3s
CAF **Calviac** 82.92 355 *e*P **P** 20 34 18.5 +3.7
CAF pmax pmax
comp=Z,15nm,1.4s
PDG **Podgorica** 83.35 342 ⇑ P **P** 20 34 18.8 +1.8
SKO **Skopje** 83.37 341 *i* P **P** 20 34 20.2 +3.1
STIP **Stip** 83.48 340 *i* P **P** 20 34 20.4 +2.7
VAY **Valandovo** 83.76 340 *i* P **P** 20 34 21.4 +2.3
ASAR **Alice Springs** 83.92 218 P **P** 20 34 19.4 -0.6
comp=Z,1.5nm,0.6s,baz=23,slow=5.3,SNR=11
ASAR **Alice Springs** 83.92 218 P **P** 20 34 18.8 -1.2
OHR **Ohrid** 84.33 341 *i* P **P** 20 34 23.9 +1.8
SJPF **Ste Jean** 84.86 358 *e*P **P** 20 34 26.7 +2.0
SJPF pmax pmax
comp=Z,5.0nm,1.1s
EPF **Esparros** 84.89 356 *e*P **P** 20 34 28.0 +3.1
EPF pmax pmax
comp=Z,6.0nm,1.1s
ETSF **Etsaut** 85.05 357 *e*P **P** 20 34 27.4 +1.6
ETSF pmax pmax
comp=Z,6.0nm,0.9s
WSAR **Wadi Sarin** 86.80 305 P **P** 20 34 33.5 -1.1
comp=Z,4.2nm,0.9s,baz=72,slow=6.4,SNR=1.7
ESDC **Sonseca Array** 88.34 360 P **P** 20 34 41.5 -0.3
comp=Z,0.4nm,0.6s,baz=356,slow=3.9,SNR=3.2
ESDC **Sonseca Array** 88.34 360 IAmb IAmb 20 34 49.0
comp=Z,5.6nm,1.1s
STKA **Stephens Creek** 88.94 208 P **P** 20 34 44.9 +0.5
comp=Z,1.7nm,0.7s,baz=357,slow=6.3,SNR=10
STKA **Stephens Creek** 88.94 208 P **P** 20 34 44.4 -0.1
LBTB **Lobatse** 144.39 308 PKP **PKPdf** 20 41 26.6 +0.2
comp=Z,6.0nm,0.8s,baz=58,slow=1.8,SNR=7.2
MAW **Mawson** 145.05 218 PKPbc **PKPbc** 20 41 25.7 +0.3
comp=Z,4.6nm,0.8s,baz=74,slow=5.9,SNR=4.3
BOSA **Boshof** 147.56 305 PKPbc **PKPbc** 20 41 33.8 -0.5
comp=Z,8.8nm,1.0s,baz=9.2,slow=2.9,SNR=9.4
SYO **Syowa Base** 153.54 214 ⇑ *ep*PKPbc **PKiKP** 20 41 52.0 +4.7
SYO **Syowa Base** 153.54 214 ⇓ *ep*PKiKP **PKiKP** 20 41 53.4 +6.1

IDC 20 20:25:33.4±4.9, 29.72S×178.48W, h0km, mb4.2/2, mb1 4.5/2, mb1mx3.8/21, mbtmp4.2/2, Error ellipse: s-maj=215.2km s-min=78.7km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.73**	**266**	P	P	20 33 32.0	-0.6
	1.1nm,0.5s,baz=106,slow=7.5,SNR=33						
WRA	**Warramunga Arr**	**43.66**	**272**	P	P	20 33 40.5	+0.4
	2.2nm,0.3s,baz=112,slow=8.0,SNR=71						
FINES	**FINESS Array B**	**144.37**	**340**	PKP	PKPdf	20 45 10.0	-0.8
	4.7nm,1.1s,baz=23,slow=2.6,SNR=3.9						

IDC 20 21:19:46.8±46.0, 15.66S×173.67W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/32, mbtmp3.9/3, Error ellipse: s-maj=890.3km s-min=189.3km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.68**	**240**	P	P	21 27 53.9	+0.2
	1.1nm,0.5s,baz=96,slow=10.0,SNR=3.4						
WRA	**Warramunga Arr**	**49.53**	**257**	P	P	21 28 39.3	-0.4
	0.3nm,0.6s,baz=93,slow=7.2,SNR=6.5						
ASAR	**Alice Springs**	**49.78**	**252**	P	P	21 28 41.6	-0.1
	3.2nm,0.7s,baz=88,slow=8.2,SNR=35						

*BJI **20** 21:24:36.0±0.0, 11.80S×165.20E, h10km, mB5.0/24, mb4.8/37, Ms4.6/6, Ms7 4.4/6*
*IDC **20** 21:24:36.0±0.8, 11.76S×165.19E, h0km, mb4.4/16, mb1 4.5/19, mb1mx4.4/35, mbtmp4.4/19, ML4.7/3, MS3.7/11, Ms1 3.8/11, ms1mx3.5/31, Error ellipse: s-maj=22.9km s-min=16.7km az=119.0*
*NEIC **20** 21:24:37.8±0.9, 11.81S±0.07×165.14E±0.03, h10km±1km, mb4.8/42, Error ellipse: s-maj=12.6km s-min=5.6km az=178.0*

ISC 20 21:24:38.2±0.5, 11.90S±0.06×165.12E±0.08, h10km, n94, σ1s44/86, mb4.7/44, MS4.0/9, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.65**	**295**	Pn	**Pn**	**21 26 02.1**	**-0.1**
	66nm,0.3s,baz=172,slow=3.4,SNR=10.0						
HNR				Sn	**Sn**	**21 27 06.1**	**-1.1**
	24nm,0.3s,baz=299,slow=23,SNR=5.6						
HNR				LR	LR	21 27 28.3	
	comp=Z,142nm,21.7s,baz=186,slow=30						
HNR	**Honiara**	**5.65**	**295**	Pn	**Pn**	**21 26 01.4**	**-0.9**
HNR				Sn	**Sn**	**21 27 06.0**	**-1.3**
DZM	**Mont Dzumac**	**10.19**	**173**	Pn	**Pn**	**21 27 05.9**	**+1.2**
	17nm,0.3s,baz=348,slow=12,SNR=114						
DZM				Sn	**Sn**	**21 28 55.0**	**-4.2**
	0.6nm,0.3s,baz=128,slow=19,SNR=1.6						
DZM				LR	LR	21 30 46.9	
	comp=Z,713nm,18.1s,baz=44,slow=36						
DZM	**Mont Dzumac**	**10.19**	**173**		**Pn**	**21 27 05.6**	**+0.9**
DZM				Sn	**Sn**	**21 28 57.7**	**-1.5**
KRVT	**Keravat (AS076**	**14.99**	**299**	LR	LR	21 34 48.9	
	comp=Z,208nm,18.0s,baz=85,slow=41						
PMG	**Port Moresby**	**17.83**	**276**	LR	LR	21 34 36.7	
	comp=Z,273nm,20.1s,baz=100,slow=34						
EIDS	**Eidsvold**	**18.86**	**223**	P	**P**	**21 28 59.6**	**+1.0**
CTA	**Charters Tower**	**19.87**	**243**	P	**P**	**21 29 11.6**	**+1.9**
	0.3nm,0.3s,baz=72,slow=11,SNR=9.3						
CTAO	**Charters Tower**	**19.87**	**243**	P	**P**	**21 29 10.6**	**+0.9**
ARMA	**Armidale**	**22.27**	**212**	P	**P**	**21 29 36.2**	**+0.5**
JAY	**Jayapura**	**25.93**	**289**	P	**P**	**21 30 10.4**	**-0.6**
	3.5nm,0.6s,baz=157,slow=15,SNR=2.1						
SMPI	**Sarmi**	**27.98**	**289**	P	**P**	**21 30 28.4**	**-0.9**
	22nm,0.9s						
BKZ	**Black Stump Fm**	**28.97**	**162**	P	**P**	**21 30 39.1**	**+1.1**
BKZ				IAmb	IAmb	21 30 53.0	
	comp=Z,38nm,1.4s						
STKA	**Stephens Creek**	**29.40**	**224**	P	**P**	**21 30 42.6**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=6.6,slow=16,SNR=4.2						
STKA				LR	LR	21 41 30.3	
	comp=Z,205nm,20.7s,baz=8.7,slow=34						
STKA	**Stephens Creek**	**29.40**	**224**	P	**P**	**21 30 42.6**	**+0.7**
H11S2	**WAKE ISLAND Hy**	**30.24**	**3**	T	T	22 02 25.3	
	baz=184,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.24**	**3**	T	T	22 02 27.3	
	baz=184,slow=76						
H11S1	**WAKE ISLAND Hy**	**30.26**	**3**	T	T	22 02 28.0	
	baz=184,slow=76						
WR0	**Warramunga Arr**	**30.44**	**251**	P	**P**	**21 30 50.9**	**-0.3**
WB0	**Warramunga Arr**	**30.54**	**251**	P	**P**	**21 30 52.4**	**+0.3**
WB0				IAmb	IAmb	21 30 55.6	
	comp=Z,11nm,1.1s						
WB2	**Warramunga Arr**	**30.61**	**251**	P	**P**	**21 30 52.6**	**-0.1**
WB2				IAmb	IAmb	21 30 56.7	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**30.62**	**251**	P	**P**	**21 30 52.5**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=83,slow=8.8,SNR=15						
WRA				PcP	**PcP**	**21 33 51.3**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=85,slow=3.5,SNR=4.8						
WRA				LR	LR	21 42 56.1	
	comp=Z,98nm,18.4s,baz=20,slow=36						
WRA	**Warramunga Arr**	**30.62**	**251**	P	**P**	**21 30 52.1**	**-0.8**
WRA					**PcP**	**21 33 50.7**	**-0.7**
TOO	**Toolangi**	**31.03**	**211**	P	**P**	**21 30 56.6**	**+0.4**
TOO				IAmb	IAmb	21 31 02.7	
	comp=Z,16nm,1.2s						
AS31	**Alice Springs**	**31.87**	**244**	P	**P**	**21 31 03.6**	**-0.2**
ASAR	**Alice Springs**	**31.87**	**244**	P	**P**	**21 31 03.1**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=74,slow=8.8,SNR=20						
ASAR				PcP	**PcP**	**21 33 54.3**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=80,slow=1.0,SNR=4.5						
ASAR				LR	LR	21 42 04.4	
	comp=Z,142nm,20.0s,baz=40,slow=33						
ASAR	**Alice Springs**	**31.87**	**244**	P	**P**	**21 31 03.7**	**-0.2**
ASAR					**PcP**	**21 33 53.2**	**-1.5**
RPZ	**Rata Peaks**	**32.11**	**172**	LR	LR	21 44 21.2	

comp=Z,314nm,18.0s,baz=344,slow=37
GUMO Guam 32.33 321 LR LR 21 41 50.5
comp=Z,123nm,21.0s,baz=150,slow=32
BBOO Buckleboo 33.80 227 P **P** **21 31 20.4 -0.2**
BBOO IAmb IAmb 21 31 37.4
comp=Z,12nm,1.1s
KNRA Kununurra 35.48 260 P **P** **21 31 35.4 +0.1**
KNRA IAmb IAmb 21 31 46.8
comp=Z,8.6nm,0.8s
FITZ Fitzroy Crossi 38.57 256 P **P** **21 32 01.5 -0.1**
MYLDM Lahad Datu 49.37 287 P **P** **21 33 28.3 -0.1**
MYLDM IAmb IAmb 21 33 31.5
comp=Z,16nm,1.0s
KKM Kota Kinabalu 51.80 288 P **P** **21 33 46.7 -0.2**
KKM IAmb IAmb 21 33 48.3
comp=Z,18nm,0.9s
MJAR Matsushiro Arr 54.45 333 P P 21 34 03.5 -2.5
comp=Z,4.4nm,0.7s,baz=170,slow=8.2,SNR=12
MJAR Matsushiro Arr 54.45 333 P P 21 34 03.8 -2.1
MAJO Matsushiro 54.45 333 P P 21 34 04.0 -1.9
MAJO IAmb IAmb 21 34 05.3
comp=Z,9.3nm,0.9s
MAT Matsushiro 54.45 333 P P 21 34 04.3 -1.6
JNU Nakatsue 55.42 325 P P 21 34 11.1 -1.9
comp=Z,7.0nm,0.7s,baz=350,slow=2.0,SNR=4.4
JNU Nakatsue 55.42 325 P **P** **21 34 11.8 -1.3**
KSM Kuching 56.04 280 P **P** **21 34 17.7 -0.1**
KSM IAmb IAmb 21 34 19.3
comp=Z,10nm,1.0s
JKA Kamikawa-asahi 59.40 341 P **P** **21 34 40.3 -0.5**
ASAJ Asahikawa 59.40 341 P P 21 34 39.1 -1.7
comp=Z,9.9nm,0.9s,baz=226,slow=12,SNR=8.2
KSRS Korea Array 60.24 326 P P 21 34 45.0 -1.7
comp=Z,2.8nm,0.9s,baz=143,slow=7.0,SNR=9.1
KSAR Wonju Array Be 60.25 326 P **P** **21 34 46.3 -0.6**
NJ2 Nanjing 62.20 316 *eP* **P** **21 34 59.9 -0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
USA0B Ussuriysk Arra 63.44 334 P **P** **21 35 07.7 -0.4**
USRK Ussuriysk Ar. 63.44 334 P **P** **21 35 07.8 -0.3**
comp=Z,3.8nm,0.7s,baz=122,slow=6.5,SNR=18
USRK Ussuriysk Ar. 63.44 334 P **P** **21 35 07.6 -0.5**
BKNI Bangkinang 64.75 276 P **P** **21 35 18.0 +0.6**
PEA0B Petropavlovsk- 65.06 355 P **P** **21 35 17.8 -0.8**
PETK Petropavlovsk- 65.06 355 P **P** **21 35 17.6 -1.1**
comp=Z,2.2nm,0.8s,baz=128,slow=9.6,SNR=7.2
ENH Enshi 67.97 310 P **P** **21 35 37.0 -0.7**
BJT Baijiatuau 68.76 322 P **P** **21 35 42.0 -0.5**
BJT IAmb IAmb 21 35 43.2
comp=Z,5.4nm,1.1s
BJI Beijing 68.77 322 P **P** **21 35 41.5 -1.0**
BJI S **S** **21 44 51.4 +5.3**
BJI pmax pmax
comp=Z,4.0nm,1.0s
PBKT Sadao Pong 69.44 293 P **P** **21 35 46.8 -0.3**
PBKT IAmb IAmb 21 35 48.9
comp=Z,5.3nm,1.0s
XAN Xi'an 70.25 313 P **P** **21 35 51.8 -0.1**
XAN pP pP 21 35 57.0 +3.4
XAN pmax pmax
comp=Z,10.0nm,0.9s
XAN Xi'an 70.25 313 P **P** **21 35 51.6 -0.2**
XAN IAmb IAmb 21 35 52.5
comp=Z,12nm,1.1s
CM31 Chiang Mai Arr 71.90 294 P **P** **21 36 02.4 +0.3**
CM31 IAmb IAmb 21 36 03.9
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 71.90 294 P **P** **21 36 02.8 +0.6**
comp=Z,3.5nm,0.9s,baz=119,slow=4.7,SNR=27
CMAR Chiang Mai Arr 71.90 294 P **P** **21 36 02.4 +0.2**
CHTO Chiang Mai 72.02 294 P **P** **21 36 02.9 +0.1**
CHTO IAmb IAmb 21 36 04.3
comp=Z,12nm,1.4s
HHC Hu-ho-hao-te 72.09 320 *eP* **P** **21 36 01.8 -1.2**
HHC pmax pmax
comp=Z,20nm,1.1s
HHC pmax pmax
comp=Z,78nm,7.0s
HIA Hailar 72.81 331 P **P** **21 36 06.6 -0.4**
LZH Lanzhou 74.88 313 *eP* **P** **21 36 20.6 +1.0**
LZH pP sP 21 36 26.0 +4.1
LZH sP pwP 21 36 29.3 +1.6
LZH pmax pmax
comp=Z,13nm,1.0s
QSPA South Pole Qui 78.11 180 P **P** **21 36 37.6 +0.3**
QSPA IAmb IAmb 21 36 41.2
comp=Z,9.0nm,1.1s
ULN Ulaanbaatar 78.64 324 P **P** **21 36 40.1 -0.4**
ULN IAmb IAmb 21 36 41.6
comp=Z,4.7nm,0.8s
YAK Yakutsk 78.74 344 P **P** **21 36 40.2 -0.4**
SONM Songino Array 79.00 324 P **P** **21 36 42.2 -0.3**
comp=Z,1.3nm,0.7s,baz=140,slow=6.1,SNR=10
SONM Songino Array 79.00 324 P **P** **21 36 41.7 -0.8**
GTA Gaotai 79.21 314 ⇓P **P** **21 36 44.5 +0.6**
GTA pP pP 21 36 48.0 +2.4
GTA sP sP 21 36 50.8 +4.6
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,79nm,4.6s
GTA LR LR
comp=Z,68nm,17.8s
GTA LR LR
comp=Z,78nm,18.7s
GTA LR LR
comp=Z,72nm,20.6s
SHL Shillong 80.39 299 P **P** **21 36 50.3 -0.3**
SHL IAmb IAmb 21 36 51.6
comp=Z,15nm,1.4s
IMAR Indian Mountai 83.41 16 P **P** **21 37 04.5 -0.9**
BALM Baldy 83.64 23 P **P** **21 37 06.0 -0.8**
ILAR Eielson Array 84.52 19 P **P** **21 37 10.6 -0.5**
HYT Haines Junctio 85.42 24 P **P** **21 37 15.2 -0.7**
HYT IAmb IAmb 21 37 16.5
comp=Z,6.0nm,1.2s
BMAR Burnt Mountain 87.00 17 P **P** **21 37 23.1 -0.3**
NVAR Mina Array Bea 87.04 50 P **P** **21 37 23.1 -1.4**
comp=Z,1.3nm,0.9s,baz=216,slow=4.5,SNR=6.8
NVAR LR LR 22 10 21.4
comp=Z,82nm,18.7s,baz=280,slow=32
NV11 Mina Array Sit 87.15 50 P **P** **21 37 23.6 -1.3**
EPYK Eagle Plains 88.82 20 P **P** **21 37 30.9 -1.2**
EPYK IAmb IAmb 21 37 33.0
comp=Z,9.7nm,1.2s
WMQ Urumqi 89.27 315 *eP* **P** **21 37 35.3 +0.5**
WMQ pP pP 21 37 39.8 +3.3
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ LR LR
comp=Z,100nm,15.7s
WMQ LR LR
comp=Z,130nm,15.7s
MK31 Makanchi Array 93.73 317 P **P** **21 37 54.5 -0.8**
MKAR Makanchi Array 93.73 317 P P 21 37 53.7 -1.7
comp=Z,2.0nm,0.7s,baz=94,slow=6.4,SNR=23
MKAR Makanchi Array 93.73 317 P **P** **21 37 54.6 -0.8**
ZAA0 Zalesovo Array 93.89 324 P P 21 37 54.0 -1.8
ZAA0 IAmb IAmb 21 37 55.0
comp=Z,3.1nm,1.0s
ZALV Zalesovo Beam 93.89 324 P P 21 37 53.8 -2.1
comp=Z,0.5nm,0.4s,baz=83,slow=3.6,SNR=5.3
ZALV Zalesovo Beam 93.89 324 P P 21 37 53.9 -2.0
YKA Yellowknife Ar 96.01 27 P P 21 38 03.4 -1.9
comp=Z,1.9nm,0.9s,baz=263,slow=4.9,SNR=5.2
YKA LR LR 22 14 01.3
comp=Z,61nm,21.4s,baz=0.0,slow=31
ARCES ARCESS Array B 117.00 345 PKP **PKPdf** **21 43 21.5 -1.4**
comp=Z,5.3nm,1.0s,baz=46,slow=3.9,SNR=5.1
KEST Kesra 147.71 321 PKPbc **PKPdf** **21 44 23.2 +2.2**
comp=Z,5.3nm,0.9s,baz=35,slow=16,SNR=4.8
ESDC Sonseca Array 150.70 343 PKPbc **PKPdf** **21 44 30.2 +4.6**
comp=Z,0.9nm,0.8s,baz=7.9,slow=1.8,SNR=8.8
ESDC PKPab **sPKPbc** **21 44 37.1 +3.6**
comp=Z,1.6nm,1.0s,baz=11,slow=3.3,SNR=8.7
ESDC Sonseca Array 150.70 343 **PKPdf** **21 44 30.4 +4.7**
ESDC **sPKPbc** **21 44 37.5 +4.0**
TORD Torodi Ar. Bea 163.77 276 PKP **PKPdf** **21 44 40.9 -1.7**
comp=Z,0.9nm,1.0s,baz=348,slow=2.1,SNR=3.8
TORD Torodi Ar. Bea 163.77 276 **PKPdf** **21 44 41.0 -1.6**

*NEIC **20** 21:32:57.2±0.8, 17.9S±0.2×178.17W±0.09, h456km±9km, mb4.0/8, Error ellipse: s-maj=23.9km s-min=8.3km*

az=154.0
*IDC **20** 21:32:58.2±5.1, 17.87S×178.27W, h456km±65km, mb3.0/8, mb1 3.3/9, mb1mx3.1/34, mbtmp3.8/9, Error ellipse: s-maj=51.5km s-min=21.0km az=164.0*
ISC 20 21:32:57.1±0.6, **17.9S**±0.1×**178.2W**±0.1, **h450km, n28,**
σ0s**69**/28, **mb3.6**/12, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.60**	**272**	P	**P**	**21 34 09.4**	**+0.3**
AFI	**Afiamalu**	**7.32**	**58**	P	**P**	**21 34 45.1**	**-0.3**
RAO	**Raoul Island**	**11.30**	**179**	P	**P**	**21 35 29.0**	**+0.6**
	195nm,0.3s,baz=72,slow=22,SNR=3.6						
RAO	**Raoul Island**	**11.30**	**179**	P	**P**	**21 35 28.4**	**0.0**
DZM	**Mont Dzumac**	**15.04**	**251**	P	**P**	**21 36 10.3**	**+1.4**
	0.1nm,0.3s,baz=68,slow=18,SNR=1.5						
DZM	**Mont Dzumac**	**15.04**	**251**	P	**P**	**21 36 08.7**	**-0.2**
DZM				IAmb	IAmb	21 36 22.2	
	comp=Z,4.9nm,1.0s						
STKA	**Stephens Creek**	**38.83**	**241**	P	**P**	**21 39 42.8**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=70,slow=8.4,SNR=4.4						
STKA	**Stephens Creek**	**38.83**	**241**	P	**P**	**21 39 42.0**	**-0.1**
BBOO	**Buckleboo**	**43.61**	**241**	P	**P**	**21 40 19.9**	**-0.4**
BBOO				IAmb	IAmb	21 40 23.0	
	comp=Z,5.6nm,0.9s						
WRA	**Warramunga Arr**	**44.85**	**259**	P	**P**	**21 40 29.3**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=96,slow=8.1,SNR=2.1						
WRA	**Warramunga Ar**	**44.85**	**259**	P	**P**	**21 40 29.6**	**-0.6**
ASAR	**Alice Springs**	**45.01**	**254**	P	**P**	**21 40 31.1**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=90,slow=8.3,SNR=20						
ASAR	**Alice Springs**	**45.01**	**254**	P	**P**	**21 40 30.4**	**-1.0**
QSPA	**South Pole Qui**	**72.15**	**180**	P	**P**	**21 43 34.3**	**-0.6**
QSPA				IAmb	IAmb	21 43 34.9	
	comp=Z,2.6nm,1.1s						
PETK	**Petropavlovsk-**	**73.73**	**345**	P	**P**	**21 43 44.2**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=152,slow=9.4,SNR=3.8						
PETK	**Petropavlovsk-**	**73.73**	**345**	P	**P**	**21 43 43.2**	**-0.6**
NVAR	**Mina Array Bea**	**79.26**	**44**	P	**P**	**21 44 16.7**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=222,slow=8.9,SNR=6.7						
SCM	**Sheep Creek Mo**	**83.17**	**14**	P	**P**	**21 44 34.9**	**+0.4**
SCM				IAmb	IAmb	21 44 36.0	
	comp=Z,4.2nm,0.9s						
TRF	**Thorofare Moun**	**83.96**	**12**	P	**P**	**21 44 38.4**	**-0.2**
TRF				IAmb	IAmb	21 44 40.5	
	comp=Z,4.3nm,1.0s						
RND	**Reindeer**	**84.21**	**13**	P	**P**	**21 44 40.1**	**+0.4**
IMAR	**Indian Mountai**	**85.64**	**10**	P	**P**	**21 44 46.5**	**0.0**
TXAR	**Lajitas Array**	**85.80**	**58**	P	**P**	**21 44 49.1**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=208,slow=7.2,SNR=4.9						
TXAR	**Lajitas Array**	**85.80**	**58**	P	**P**	**21 44 47.3**	**-1.1**
ILAR	**Eielson Array**	**85.83**	**13**	P	**P**	**21 44 46.8**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=226,slow=5.5,SNR=5.2						
ILAR	**Eielson Array**	**85.83**	**13**	P	**P**	**21 44 47.7**	**+0.2**
PDAR	**Pinedale Array**	**87.19**	**43**	P	**P**	**21 44 55.0**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=250,slow=1.8,SNR=2.6						
PDAR	**Pinedale Array**	**87.19**	**43**	P	**P**	**21 44 54.5**	**-0.4**
GERES	**GERESS Array B**	**147.66**	**345**	PKPbc	**PKPbc**	**21 51 50.2**	**0.0**
	comp=Z,0.2nm,0.4s,baz=14,slow=5.4,SNR=2.1						

*TEH **20** 21:48:39.3, 32.66N×47.57E, h8km, ML3.0*
*ISN **20** 21:48:39.1±0.8, 32.65N×47.57E, h15km±5km, ML3.4*
ISC 20 21:48:40.2±0.9, **32.64N**±0.04×**47.53E**±0.03, **h10**km, **n31,**
σ0s**94**/36, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.21**	**282**	*e*Pg	**Pg**	**21 48 44.1**	**-0.5**
DHL1				*e*Sg	**Sg**	**21 48 49.1**	**+1.5**
IKFM	**Kafar-mosalman**	**0.93**	**17**	*e*Pg	**Pg**	**21 48 57.0**	**-1.1**
IKFM				*e*		21 49 12.6	
IKMR	**Kamar-syah**	**1.14**	**39**	*e*Pg	**Pb**	**21 49 00.4**	**-1.5**
IKMR				*e*Sg	**Sb**	**21 49 16.8**	**+0.1**
IKMR				*e*		21 49 19.8	
IDOB	**Doab**	**1.27**	**25**	*e*Pg	**Pn**	**21 49 03.6**	**-0.7**
IBDR	**Badra**	**1.42**	**290**	*e*Pg	**Pn**	**21 49 06.0**	**-0.1**
IBDR				*e*Sg	**Sb**	**21 49 25.0**	**0.0**
IBDR				AML	AML	21 49 31.1	
	comp=N,899nm,0.4s						
IBDR				AML	AML	21 49 31.5	
	comp=E,687nm,0.6s						
BMDN	**Meydan**	**1.50**	**46**	*e*		21 49 34.0	
BMDN				*e*Pg	**Pn**	**21 49 07.5**	**+0.1**
IKOM	**Komasi**	**1.53**	**360**	*e*		21 49 09.7	
IKOM				*e*Pg	**Pn**	**21 49 08.5**	**+0.7**
AHWZ	**Ahwaz**	**1.61**	**144**	*e*Pg	**Pn**	**21 49 09.7**	**+1.0**
KCHF	**Cheshme Sefid,**	**1.68**	**346**	*e*Pg	**Pn**	**21 49 10.7**	**+0.8**
KCHF				*e*		21 49 36.7	
KER	**Kermanshah**	**1.77**	**349**	*e*Pn	**Pn**	**21 49 11.8**	**+0.7**
HSAM	**Samen**	**1.81**	**30**	*e*Pg	**Pn**	**21 49 12.5**	**+0.8**
HSAM				*e*		21 49 45.8	
IBZA	**Bozab**	**1.85**	**9**	*e*Pg	**Pn**	**21 49 13.1**	**+0.8**
IBZA				*e*		21 49 48.2	
IGHG	**Ghaleghazi**	**1.87**	**335**	*e*Pn	**Pn**	**21 49 13.6**	**+1.1**
IGHG				*e*		21 50 00.8	
IVIS	**Veis**	**1.97**	**344**	*e*Pn	**Pn**	**21 49 14.9**	**+1.2**
IVIS				*e*		21 49 47.6	
NSR	**Nassriya**	**2.00**	**216**	*e*Pn	**Pn**	**21 49 14.0**	**-0.1**
NSR				*e*Sn	**Sn**	**21 49 39.0**	**-0.2**
IDHR	**Dehrash**	**2.27**	**336**	*e*Pn	**Pn**	**21 49 18.2**	**+0.3**
IDHR				*e*		21 50 04.8	
IALM	**Almabolaq**	**2.28**	**13**	*e*Pn	**Pn**	**21 49 18.5**	**+0.3**
ILIN	**Lien**	**2.32**	**349**	*e*Pn	**Pn**	**21 49 19.6**	**+0.8**
ILIN				*e*		21 50 00.5	
HAGD	**Aghdareh**	**2.56**	**31**	*e*Pn	**Pn**	**21 49 22.8**	**+0.8**
HAGD				*e*		21 50 04.4	
HSRG	**Sareghieh**	**2.67**	**13**	*e*Pn	**Pn**	**21 49 25.3**	**+1.7**
HSRG				*e*		21 50 09.8	
JHBN	**Jahan bin**	**2.69**	**98**	*e*Pn	**Pn**	**21 49 24.1**	**+0.3**
JHBN				*e*		21 50 13.8	
BHD	**Baghdad**	**2.72**	**284**	*e*Pn	**Pn**	**21 49 24.0**	**+0.1**
BHD				*e*Sn	**Sn**	**21 49 58.0**	**+1.1**
BHD				AML	AML	21 50 17.1	
	comp=E,208nm,0.4s						
IPIR	**Pirpir**	**2.84**	**88**	*e*Pn	**Pn**	**21 49 26.7**	**+0.8**
IPIR				*e*		21 50 25.8	
ROKH	**ROKH**	**2.98**	**95**	*e*Pn	**Pn**	**21 49 28.7**	**+0.9**
ROKH				*e*		21 50 28.7	
IRAZ	**Razeghan**	**3.41**	**35**	*e*Pn	**Pn**	**21 49 34.8**	**+1.2**
IKLH	**Kolahrood**	**3.47**	**78**	*e*Pn	**Pn**	**21 49 36.1**	**+1.5**
IKLH				*e*		21 50 41.6	
QABG	**Abgarm-Qazvin**	**3.51**	**29**	*e*Pn	**Pn**	**21 49 35.2**	**+0.2**
KLNJ	**Kolanjah**	**3.82**	**114**	*e*Pn	**Pn**	**21 49 40.6**	**+1.1**
KLNJ				*e*		21 51 03.1	
IZEF	**Zefreh**	**4.05**	**85**	*e*Pn	**Pn**	**21 49 43.3**	**+0.7**
QSDN	**Sirdan**	**4.09**	**19**	*e*Pn	**Pn**	**21 49 44.5**	**+1.5**
QALM	**Alamut, Qazvin**	**4.58**	**33**	*e*Pn	**Pn**	**21 49 51.1**	**+1.3**

TAP 20 21:53:29.8, 23.70N×121.39E, h28km, ML1.7, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGFH	**Guangfu**	**0.04**	**132**	P	Pb	21 53 34.9	+0.4
	baz=131						
EGFH				S	Sb	21 53 37.7	0.0
	baz=131						
ESL	**Shilin**	**0.12**	**17**	*i* P	Pn	21 53 35.5	-0.5
	baz=21						
ESL				*i* S	Sb	21 53 38.3	-0.2
	baz=21						
EHY	**Hungye**	**0.20**	**199**	*i* P	Pb	21 53 36.2	+0.5
	baz=196						
EHY				*i* S	Sb	21 53 40.4	+0.6
	baz=196						
HGSD	**Ruisui**	**0.21**	**172**	*e*P	Pn	21 53 37.1	0.0
	baz=172						
VWDT	**VWDT**	**0.24**	**284**	⇑P	Pn	21 53 37.2	-0.3
	baz=283						
VWDT				S	Sb	21 53 41.4	+0.9
	baz=283						
YULB	**Yu-li**	**0.32**	**196**	P	Pb	21 53 37.9	+0.6
	baz=196						
YULB				S	Sb	21 53 43.3	+1.0
	baz=196						
OWD	**Renai**	**0.32**	**322**	*e*P	Pb	21 53 37.5	0.0
	baz=322						
HWA	**Hwalien**	**0.34**	**35**	*e*P	Pn	21 53 38.6	-0.3
	baz=36						
HWA				*e*S	Sn	21 53 44.7	-0.2
	baz=36						
TWF1	**Yuli**	**0.35**	**194**	*i* P	Pn	21 53 38.8	-0.3
	baz=193						
TWF1				S	Sn	21 53 44.8	-0.5
	baz=193						
EYUL	**Yuli**	**0.35**	**191**	*e*P	Pn	21 53 38.5	-0.6
	baz=190						
EYUL				*e*S	Sn	21 53 44.7	-0.6
	baz=190						
SSLB	**Suanglung**	**0.41**	**283**	*e*P	Pn	21 53 39.5	-0.5
	baz=282						
CHGB	**Renai**	**0.41**	**331**	*e*S	Sb	21 53 45.2	+0.1
	baz=330						
TWD	**Chiawan**	**0.42**	**26**	*e*P	Pb	21 53 39.5	+0.6
	baz=26						
WHF	**Hehuan Shan**	**0.46**	**345**	P	Pn	21 53 40.5	-0.6
	baz=346						
WHF				*i* S	Sn	21 53 47.8	-0.7
	baz=346						
SMLT	**Sun Moon Lake**	**0.49**	**292**	P	Pb	21 53 40.2	+0.2
	baz=292						
SMLT				S	Sn	21 53 48.4	-0.4
	baz=292						
WHYT	**Xinyi Township**	**0.49**	**270**	P	Pb	21 53 40.6	+0.5
	baz=269						
WHYT				*e*S	Sn	21 53 48.7	-0.1
	baz=269						
NACB	**Ninganchiao**	**0.51**	**21**	*e*P	Pb	21 53 40.4	+0.1
	baz=21						
NACB				*e*S	Sb	21 53 48.0	+0.6
	baz=21						
ETLH	**Xiulin Townshi**	**0.51**	**9**	*e*P	Pb	21 53 40.9	+0.4
	baz=9.0						
ETLH				S	Sn	21 53 48.6	-0.8
	baz=9.0						
FUSS	**Fushou**	**0.56**	**346**	*e*P	Pn	21 53 42.4	+0.1
	baz=346						
FUSS				S	Sn	21 53 50.3	-0.5
	baz=346						
TWT	**Tachien**	**0.59**	**340**	P	Pb	21 53 41.4	-0.3
	baz=338						
TWT				S	Sb	21 53 50.4	+0.6
	baz=338						
TDCB	**Techi**	**0.59**	**339**	P	Pn	21 53 42.6	0.0
	baz=338						
TDCB				S	Sb	21 53 50.2	+0.3
	baz=338						
WJS	**Zhushan**	**0.62**	**282**	*e*P	Pn	21 53 42.8	0.0
	baz=281						
CHN5	**Tsauling**	**0.66**	**262**	*e*P	Pn	21 53 43.4	-0.1
	baz=261						
WHP	**Taichung City**	**0.71**	**325**	*e*P	Pb	21 53 43.8	+0.2
	baz=324						
WHP				*e*S	Sn	21 53 54.2	+0.1
	baz=324						
EDH	**Donghe**	**0.73**	**186**	*e*S	Sn	21 53 54.9	+0.4
	baz=186						
NNSB	**Datong**	**0.73**	**359**	P	Pn	21 53 44.7	+0.3
	baz=359						
NNSB				S	Sn	21 53 54.7	0.0
	baz=359						
NNSH	**Datong**	**0.73**	**359**	P	Pb	21 53 44.1	+0.1
	baz=359						
NNSH				*e*S	Sn	21 53 54.8	+0.1
	baz=359						
NNS	**Nan Shan**	**0.74**	**359**	*e*S	Sn	21 53 55.1	+0.1
	baz=359						
LONT	**Longtian**	**0.82**	**197**	*e*P	Pn	21 53 46.0	+0.4
	baz=197						
LONT				*e*S	Sn	21 53 56.6	-0.2
	baz=197						
LONT	**Longtian**	**0.82**	**197**	*e*S	Pn	21 53 45.8	+0.2
	baz=143						
NDT	**Datong Townshi**	**0.91**	**7**	*e*P	Pn	21 53 46.0	-0.8
	baz=6.0						
NSY	**Sanyi**	**0.92**	**321**	*e*P	Pb	21 53 47.4	+0.2
	baz=321						
TWG	**Pinlang**	**0.92**	**199**	*e*S	Sn	21 53 59.9	+0.6
	baz=198						
TWGBT	**Beinan**	**0.92**	**198**	*e*S	Sn	21 53 59.9	+0.6
	baz=198						
TWK	**Hsinying**	**0.94**	**243**	*e*S	Sn	21 53 59.8	+0.1
	baz=242						
TTN	**Taitung**	**0.97**	**194**	*e*P	Pn	21 53 46.7	-0.8
	baz=193						
TTN				*e*S	Sb	21 54 00.1	-0.2
	baz=193						
YHNB	**Yeheng**	**0.97**	**359**	*e*P	Pb	21 53 48.3	+0.2
	baz=359						
YHNB				*e*S	Sn	21 54 00.8	+0.3
	baz=359						
NSTT	**Nanjuang**	**1.00**	**339**	*e*P	Pn	21 53 48.1	+0.2
	baz=339						
NSTT				*e*S	Sn	21 54 00.8	-0.3
	baz=339						

TAP 20 21:53:34.8, 23.14N×120.95E, h7km±1km, ML1.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELDTW	**Lidau**	**0.08**	**54**	*i* P	Pg	21 53 37.7	+0.8
	baz=57						
ELDTW				*i* S	Sg	21 53 39.2	+0.9
	baz=57						
LONT	**Longtian**	**0.29**	**144**	P	Pb	21 53 41.6	-0.7
	baz=143						
SLGT	**Liugui**	**0.31**	**242**	P	Pb	21 53 42.0	-0.7
	baz=242						
SLGT				S	Sb	21 53 47.1	-0.9
	baz=242						
WTP	**Ta-pu**	**0.32**	**289**	*i* P	Pb	21 53 42.2	-0.7
	baz=289						
WTP				*i* S	Sb	21 53 47.6	-0.8
	baz=289						
FULB	**Fuli**	**0.33**	**80**	S	Sb	21 53 48.3	-0.2
	baz=190						
FULB	**Fuli**	**0.33**	**80**	*i* P	Pb	21 53 42.7	-0.3
	baz=79						
FULB				*i* S	Sb	21 53 48.1	-0.3
	baz=79						
TPUB	**Ta-pu**	**0.33**	**299**	P	Pb	21 53 42.5	-0.6
	baz=298						
TPUB				S	Sb	21 53 47.2	-1.4
	baz=298						
SGST	**Jiashian**	**0.34**	**260**	*i* P	Pg	21 53 41.5	+0.1
	baz=259						
SGST				*i* S	Sg	21 53 46.9	+1.0
	baz=259						
TWG	**Pinlang**	**0.34**	**160**	*i* P	Pb	21 53 42.7	-0.4
	baz=158						
TWG				*i* S	Sb	21 53 47.4	-1.4
	baz=158						
TWGBT	**Beinan**	**0.34**	**159**	P	Pb	21 53 42.7	-0.5
	baz=158						
TWGBT				S	Sb	21 53 47.6	-1.3
	baz=158						
EDH	**Donghe**	**0.37**	**117**	*e*P	Pb	21 53 43.9	+0.2
	baz=116						
EDH				*e*S	Sb	21 53 49.9	+0.2
	baz=116						
EDH	**Donghe**	**0.37**	**117**	*e*P	Pb	21 53 44.1	+0.4
	baz=186						
CHN1	**Nanshi**	**0.39**	**277**	*i* P	Pb	21 53 44.2	+0.2
	baz=276						
CHN1				*i* S	Sb	21 53 49.9	-0.3
	baz=276						
TWF1	**Yuli**	**0.39**	**57**	*e*P	Pb	21 53 43.5	-0.5
	baz=57						
TWF1				S	Sb	21 53 49.3	-0.9
	baz=57						
ALS	**Alishan**	**0.39**	**341**	*i* S	Sg	21 53 48.9	+1.2
	baz=250						
ALS	**Alishan**	**0.39**	**341**	*i* P	Pg	21 53 43.1	+0.6
	baz=341						
ALS				*i* S	Sg	21 53 48.9	+1.2
	baz=341						
EYUL	**Yuli**	**0.40**	**59**	*e*S	Sb	21 53 50.0	-0.6
	baz=59						
SNST	**Tainan City**	**0.42**	**281**	*e*P	Pb	21 53 44.8	+0.2
	baz=280						
SNST				*e*S	Sb	21 53 51.9	+0.8
	baz=280						
TTN	**Taitung**	**0.43**	**154**	*e*P	Pb	21 53 44.8	+0.1
	baz=153						
TTN				*e*S	Sb	21 53 51.7	+0.4
	baz=153						
TWK	**Hsinying**	**0.44**	**287**	P	Pb	21 53 45.0	+0.1
	baz=286						
TWK				S	Sb	21 53 52.4	+0.6
	baz=286						

SCST	**Cishan**	**0.49**	**239**	*e*P	Pb	21 53 46.1	+0.4
	baz=238						
SSD	**Sandimen**	**0.49**	**216**	*i* P	Pg	21 53 44.8	+0.6
	baz=215						
SSD				S	Sb	21 53 52.6	-0.5
	baz=215						
TSMG	**Majia**	**0.51**	**213**	*e*P	Pg	21 53 45.2	+0.5
	baz=212						
TSMG				*e*S	Sb	21 53 55.0	+1.2
	baz=212						
CHN5	**Tsauling**	**0.52**	**332**	P	Pb	21 53 45.7	-0.6
	baz=331						
CHN5				S	Sb	21 53 53.2	-0.8
	baz=331						
CHN5	**Tsauling**	**0.52**	**332**	S	Sb	21 53 53.2	-0.8
	baz=261						
CHN3	**Shinhua**	**0.54**	**263**	S	Sb	21 53 55.3	+0.8
	baz=263						
ECL	**Taimali**	**0.54**	**179**	*e*S	Sb	21 53 56.4	+1.8
	baz=178						
WHYT	**Xinyi Township**	**0.56**	**351**	*e*S	Sb	21 53 56.1	+0.8
	baz=351						
HGSD	**Ruisui**	**0.56**	**51**	*e*P	Pb	21 53 46.9	-0.1
	baz=51						
HGSD				S	Sb	21 53 55.9	+0.6
	baz=51						
TWM1	**Shoushan**	**0.57**	**237**	*e*P	Pb	21 53 47.3	+0.1
	baz=236						
TWM1				*e*S	Sb	21 53 57.4	+1.7
	baz=236						
SGLT	**Jiouru**	**0.59**	**225**	*e*P	Pb	21 53 48.3	+0.8
	baz=224						
SGLT				S	Sb	21 53 57.7	+1.7
	baz=224						
VWDT	**VWDT**	**0.64**	**16**	*e*S	Sb	21 53 58.2	+0.8
	baz=16						
SSLB	**Suanglung**	**0.65**	**1**	P	Pb	21 53 48.5	+0.1
SSLB				S	Sb	21 53 58.7	+1.0
ICHU	**Yijhu**	**0.65**	**290**	*e*S	Sn	21 53 59.4	-1.6
	baz=289						
CHN8	**Yiju**	**0.71**	**287**	*e*P	Pb	21 53 49.3	-0.1
	baz=287						
WJS	**Zhushan**	**0.71**	**344**	*e*P	Pg	21 53 48.7	+0.3
	baz=343						
WJS				*e*S	Sb	21 54 00.6	+1.2
	baz=343						

IDC ***20*** *22:00:26.3±3.0,20°.48S×176°.86W,h232km±32km,mb3.2/5, mb1 3.5/7,mb1mx3.3/23,mbtmp3.9/7,Error ellipse: s-maj=35.5km s-min=18.3km az=126.0*

ISC 20 22:00:26.9±0.9,20°.7S±0°.1×176°.6W±0°.2,h250km,n8, σ2§14/9,mb3.2/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.23**	**35**	P	**Pn**	**22 02 21.9**	**-1.4**
	3.5nm,0.3s,baz=256,slow=21,SNR=1.9						
AFI				S	S	22 03 46.8	-10
	2.8nm,0.3s,baz=285,slow=20,SNR=2.5						
URZ	**Urewera**	**18.27**	**196**	P	**Pn**	**22 04 23.9**	**-1.6**
	2.1nm,0.3s,baz=279,slow=3.0,SNR=10						
URZ				S	**S**	**22 07 35.5**	**-2.5**
	0.4nm,0.3s,baz=84,slow=19,SNR=1.9						
RPZ	**Rata Peaks**	**25.10**	**201**	P	**P**	**22 05 32.1**	**+3.2**
	8.5nm,0.7s,baz=349,slow=5.2,SNR=1.3						
ASAR	**Alice Springs**	**45.70**	**257**	P	**P**	**22 08 23.8**	**+0.3**
	0.3nm,0.7s,baz=88,slow=8.2,SNR=4.0						
WRA	**Warramunga Arr**	**45.83**	**262**	P	**P**	**22 08 24.2**	**-0.3**
	0.7nm,1.0s,baz=95,slow=7.8,SNR=5.9						
TXAR	**Lajitas Array**	**86.12**	**57**	P	**P**	**22 12 42.5**	**+2.3**
	0.3nm,0.7s,baz=210,slow=8.4,SNR=2.8						
ILAR	**Eielson Array**	**88.28**	**12**	P	**P**	**22 12 48.6**	**-0.9**
	0.7nm,1.1s,baz=226,slow=5.2,SNR=2.2						
GERES	**GERESS Array B**	**150.76**	**346**	PKPbc	**PKiKP**	**22 19 49.9**	**-0.3**
	0.8nm,0.7s,baz=31,slow=2.5,SNR=7.4						

GUC ***20*** *22:11:23.7±0.6,21°.72S×67°.57W,h221km±7km, ML3.9*
SCB ***20*** *22:11:27.4±1.7,21°.72S×67°.40W,h153km±20km,ML3.6/3, Error ellipse: s-maj=7.7km s-min=5.8km az=0.0*

ISC 20 22:11:22.0±2.1,21°.74S±0°.05×67°.40W±0°.06, h202km±17km,n28,σ1§45/45,7C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.64**	**238**	*e*P	**Pn**	**22 11 58.6**	**+1.1**
LVC				*e*S	**Sn**	**22 12 25.0**	**-0.2**
PB09	**IPOC Station P**	**1.71**	**268**	*i*P	**Pn**	**22 11 59.3**	**+1.3**
PB09				*e*S	**Sn**	**22 12 27.4**	**+1.5**
MOCB	**Mochara**	**1.71**	**74**	P	**Pn**	**22 11 58.2**	**-0.2**
YJA	**Yavi**	**1.81**	**104**	P	**Pn**	**22 11 59.4**	**+0.2**
PB01	**IPOC Station P**	**2.06**	**289**	*i* P	**Pn**	**22 12 02.2**	**+0.8**
PB01				*i* S	**Sn**	**22 12 32.1**	**+0.1**
PB01				IAML		22 12 32.9	
	comp=N,618nm,0.2s						
PB01	**IPOC Station P**	**2.06**	**289**	P	**Pn**	**22 12 02.3**	**+0.9**
PB01				S	**Sn**	**22 12 28.7**	**-3.3**
PB01				IAML		22 12 33.8	
	comp=N,310nm,0.2s						
PB03	**IPOC Station P**	**2.20**	**262**	*i* P	**Pn**	**22 12 03.9**	**+0.9**
PB06	**IPOC Station P**	**2.23**	**244**	*e*P	**Pn**	**22 12 04.2**	**+1.0**
PB06				*e*S	**Sn**	**22 12 35.6**	**+0.4**
PB06	**IPOC Station P**	**2.23**	**244**	P	**Pn**	**22 12 05.3**	**+2.1**
PB06				S	**Sn**	**22 12 32.0**	**-3.3**
PB06				IAML		22 12 36.3	
	comp=N,82nm,0.2s						
PB08	**IPOC Station P**	**2.29**	**314**⇓	*e*P	**Pn**	**22 12 05.7**	**+1.6**
PB08				*e*S	**Sn**	**22 12 37.6**	**+0.8**
PB08	**IPOC Station P**	**2.29**	**314**	P	**Pn**	**22 12 05.7**	**+1.6**
PB07	**IPOC Station P**	**2.31**	**270**⇑	*i*P	**Pn**	**22 12 05.1**	**+1.0**
PB07				*e*S	**Sn**	**22 12 36.4**	**-0.5**
PB07				IAML		22 12 37.3	
	comp=N,348nm,0.1s						
PB02	**IPOC Station P**	**2.36**	**280**⇑	*i*P	**Pn**	**22 12 05.5**	**+0.9**
PB02				*e*S	**Sn**	**22 12 36.9**	**-0.8**
PB02				IAML		22 12 38.5	
	comp=E,588nm,0.2s						
PB02	**IPOC Station P**	**2.36**	**280**	P	**Pn**	**22 12 05.5**	**+0.9**
PB02				S	**Sn**	**22 12 34.1**	**-3.6**
PB02				IAML		22 12 38.5	
	comp=E,487nm,0.4s						
PB15	**IPOC Station P**	**2.41**	**232**⇑	*i*P	**Pn**	**22 12 06.5**	**+1.4**
PB15				*e*S	**Sn**	**22 12 39.4**	**+0.5**
PB04	**IPOC Station P**	**2.62**	**257**	*i* P	**Pn**	**22 12 08.2**	**+0.7**
PB04				*i* S	**Sn**	**22 12 42.0**	**-1.0**
PB04				IAML		22 12 43.3	
	comp=N,192nm,0.1s						
PB04	**IPOC Station P**	**2.62**	**257**	P	**Pn**	**22 12 08.4**	**+0.9**
PB05	**IPOC Station P**	**2.82**	**246**⇑	*i*P	**Pn**	**22 12 10.8**	**+1.0**
TA01	**Diego Aracena**	**2.85**	**294**⇑	*i*P	**Pn**	**22 12 10.3**	**+0.4**
TA01				*e*S	**Sn**	**22 12 45.7**	**-1.7**
TA01				IAML		22 12 48.1	
	comp=N,186nm,0.3s						
PB11	**IPOC Station P**	**2.89**	**313**⇑	*i*P	**Pn**	**22 12 11.1**	**+0.5**
PB11				*e*S	**Sn**	**22 12 47.3**	**-1.2**
PB11				IAML		22 12 48.8	
	comp=N,239nm,0.5s						
PB11	**IPOC Station P**	**2.89**	**313**	P	**Pn**	**22 12 11.2**	**+0.5**
MNMC	**Minye Minye**	**3.31**	**321**	*i* P	**Pn**	**22 12 16.9**	**+1.1**
MNMC				*i* S	**Sn**	**22 12 57.4**	**-0.4**
MNMC	**Minye Minye**	**3.31**	**321**	P	**Pn**	**22 12 17.1**	**+1.3**
PSGC	**Pisagua**	**3.33**	**309**	*i* P	**Pn**	**22 12 15.3**	**-0.4**
PSGC				*i* S	**Sn**	**22 12 55.4**	**-2.3**
PSGC				IAML		22 12 57.9	
	comp=N,59nm,0.5s						
PB10	**IPOC Station P**	**3.40**	**238**	*i* P	**Pn**	**22 12 17.1**	**+0.6**
PB10				*i* S	**Sn**	**22 12 57.0**	**-2.3**
PB10				IAML		22 13 01.7	
	comp=N,47nm,0.3s						
PB10	**IPOC Station P**	**3.40**	**238**	P	**Pn**	**22 12 17.2**	**+0.7**
BBOE	**La Paz, Chanca**	**4.94**	**354**	P	**Pn**	**22 12 37.8**	**+1.5**
LPAZ	**La Paz**	**5.47**	**353**	P	**Pn**	**22 12 44.4**	**+1.2**

TEH ***20*** *22:33:42.5,32°.73N×47°.37E,h9km,ML3.1*
ISN ***20*** *22:33:42.0±1.0,32°.67N×47°.48E,h15km±7km,ML3.0*

ISC 20 22:33:43.2±1.1,32°.71N±0°.05×47°.36E±0°.04,h11km±9km, n30,σ1§27/32,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.07**	**250**	*e*Pg	**Pg**	**22 33 45.1**	**-0.5**
IKFM	**Kafar-mosalman**	**0.91**	**26**	*e*Pg	**Pg**	**22 33 59.7**	**-1.1**
IKFM				*e*		22 34 17.7	
IKMR	**Kamar-syah**	**1.18**	**46**	*e*		22 34 29.5	
IKMR				*e*Pg	**Pb**	**22 34 04.8**	**-0.8**
IBDR	**Badra**	**1.27**	**289**	*e*Pg	**Pb**	**22 34 07.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**22 34 26.0**	**+1.9**
IBDR				AML	AML	22 34 30.2	
	comp=N,131nm,0.4s						
IBDR				AML	AML	22 34 30.7	
	comp=E,186nm,0.5s						
IDOB	**Doab**	**1.28**	**32**	*e*Pg	**Pg**	**22 34 07.2**	**-0.6**
IKOM	**Komasi**	**1.47**	**5**	*e*Pg	**Pb**	**22 34 10.4**	**-0.3**
IKOM				*e*		22 34 35.6	
BMDN	**Meydan**	**1.56**	**51**	*e*Pg	**Pb**	**22 34 12.0**	**-0.2**
BMDN				*e*		22 34 40.2	
KCHF	**Cheshme Sefid,**	**1.59**	**350**	*e*Pg	**Pb**	**22 34 12.1**	**-0.6**
KCHF				*e*		22 34 39.8	
KER	**Kermanshah**	**1.69**	**354**	*e*Pg	**Pb**	**22 34 14.7**	**+0.3**
IGHG	**Ghaleghazi**	**1.75**	**338**	*e*Pg	**Pb**	**22 34 15.8**	**+0.3**
IGHG				*e*		22 34 50.6	
IBZA	**Bozab**	**1.81**	**13**	*e*Pg	**Pb**	**22 34 16.7**	**+0.2**
IBZA				*e*		22 34 46.5	
HSAM	**Samen**	**1.82**	**34**	*e*Pg	**Pb**	**22 34 16.7**	**-0.1**
HSAM				*e*		22 34 46.5	
IVIS	**Veis**	**1.87**	**347**	*e*Pn	**Pb**	**22 34 17.9**	**+0.5**
IVIS				*e*		22 34 22.6	
NSR	**Nassriya**	**1.98**	**212**	*e*Pn	**Pn**	**22 34 17.0**	**+0.3**
NSR				*e*Sn	**Sn**	**22 34 41.0**	**-0.6**
NSR				AML	AML	22 34 48.0	
	comp=E,287nm,0.3s						
IDHR	**Dehrash**	**2.15**	**338**	*e*Pn	**Pb**	**22 34 21.2**	**-1.1**
IDHR				*e*		22 34 56.0	
ILIN	**Lien**	**2.23**	**352**	*e*Pn	**Pb**	**22 34 22.2**	**-1.5**
ILIN				*e*		22 35 00.4	
IALM	**Almabolaq**	**2.25**	**17**	*e*Pn	**Pn**	**22 34 21.9**	**+1.2**
BHD	**Baghdad**	**2.57**	**283**	*e*Pn	**Pn**	**22 34 26.0**	**+1.3**
BHD				*e*Sn	**Sb**	**22 34 59.0**	**-1.9**
BHD				AML	AML	22 35 16.7	
	comp=E,124nm,0.3s						
HAGD	**Aghdareh**	**2.58**	**35**	*e*Pn	**Pb**	**22 34 27.0**	**-2.6**
HAGD				*e*		22 35 03.1	
HSRG	**Sareghieh**	**2.64**	**17**	*e*	Sg	22 35 17.7	+10
JHBN	**Jahan bin**	**2.83**	**99**	*e*Pn	**Pn**	**22 34 30.0**	**+1.3**
JHBN				*e*		22 35 20.9	
IPIR	**Pirpir**	**2.98**	**89**	*e*Pn	**Pn**	**22 34 32.4**	**+1.7**
IPIR				*e*		22 35 12.1	
IRAZ	**Razeghan**	**3.43**	**38**	*e*Pn	**Pn**	**22 34 38.2**	**+1.3**
QABG	**Abgarm-Qazvin**	**3.52**	**31**	*e*Pn	**Pn**	**22 34 38.8**	**+0.8**
IKLH	**Kolahrood**	**3.59**	**79**	*e*Pn	**Pn**	**22 34 40.9**	**+1.8**
IKLH				*e*		22 35 42.3	
KLNJ	**Kolanjah**	**3.98**	**114**	*e*Pn	**Pn**	**22 34 45.8**	**+1.3**
KLNJ				*e*		22 36 14.3	
QSDN	**Sirdan**	**4.07**	**21**	*e*Pn	**Pn**	**22 34 47.1**	**+1.4**
IZEF	**Zefreh**	**4.19**	**86**	*e*Pn	**Pn**	**22 34 48.9**	**+1.6**
IRAM	**Ramesheh**	**4.35**	**101**	*e*Pn	**Pn**	**22 34 51.0**	**+1.6**
QALM	**Alamut, Qazvin**	**4.60**	**35**	*e*Pn	**Pn**	**22 34 54.2**	**+1.3**

ISN ***20*** *22:38:57.1±0.9,32°.54N×47°.72E,h14km±6km,ML3.0*
TEH ***20*** *22:38:58.3,32°.60N×47°.73E,h10km,ML3.1*

ISC 20 22:38:58.6±1.0,32°.53N±0°.04×47°.68E±0°.04,h10km,n34, σ1§20/37,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.37**	**294**	*e*Pg	**Pg**	**22 39 06.4**	**+0.5**
IKFM	**Kafar-mosalman**	**1.00**	**8**	*e*Pg	**Pg**	**22 39 16.6**	**-1.3**
IKFM				*e*		22 39 40.5	
IKMR	**Kamar-syah**	**1.15**	**31**	*e*Pg	**Pb**	**22 39 18.7**	**-1.8**
IKMR				*e*		22 39 41.2	
IDOB	**Doab**	**1.32**	**18**	*e*Pg	**Pn**	**22 39 23.2**	**-0.1**
AHWZ	**Ahwaz**	**1.45**	**145**	*e*Pg	**Pn**	**22 39 26.9**	**+2.0**
BMDN	**Meydan**	**1.49**	**40**	*e*Pg	**Pn**	**22 39 25.5**	**-0.1**
BMDN				*e*		22 39 56.4	
IBDR	**Badra**	**1.58**	**292**	*e*Pg	**Pn**	**22 39 26.0**	**-0.7**
IBDR				*e*Sg	**Sn**	**22 39 48.0**	**+0.8**
IBDR				AML	AML	22 39 54.9	
	comp=E,168nm,0.8s						
IBDR				AML	AML	22 39 55.1	
	comp=N,242nm,0.8s						
IKOM	**Komasi**	**1.65**	**355**	*e*Pg	**Pn**	**22 39 28.5**	**+0.7**
IKOM				*e*		22 40 02.2	
KCHF	**Cheshme Sefid,**	**1.82**	**343**	*e*Pg	**Pn**	**22 39 31.3**	**+1.1**
KCHF				*e*		22 40 03.4	
HSAM	**Samen**	**1.85**	**24**	*e*Pg	**Pn**	**22 39 32.1**	**+1.5**
HSAM				*e*		22 40 03.4	
KER	**Kermanshah**	**1.91**	**346**	*e*Pg	**Pn**	**22 39 32.5**	**+1.2**
IBZA	**Bozab**	**1.94**	**4**	*e*Pg	**Pb**	**22 39 34.0**	**-0.2**
IBZA				*e*		22 40 04.4	
NSR	**Nassriya**	**2.00**	**221**	*e*Pn	**Pn**	**22 39 32.0**	**-0.5**
NSR				*e*Sn	**Sn**	**22 39 57.0**	**-0.6**
NSR				AML	AML	22 40 10.8	
	comp=E,210nm,0.4s						
IGHG	**Ghaleghazi**	**2.02**	**333**	*e*Pn	**Pn**	**22 39 34.4**	**+1.4**
IGHG				*e*		22 40 30.0	
IVIS	**Veis**	**2.11**	**341**	*e*Pn	**Pn**	**22 39 35.2**	**+1.1**
IALM	**Almabolaq**	**2.36**	**10**	*e*Pn	**Pn**	**22 39 39.2**	**+1.5**
IDHR	**Dehrash**	**2.42**	**334**	*e*Pn	**Pn**	**22 39 39.7**	**+1.3**
IDHR				*e*		22 40 22.0	
ILIN	**Lien**	**2.46**	**346**	*e*Pn	**Pn**	**22 39 40.7**	**+1.7**
ILIN				*e*		22 40 23.5	
JHBN	**Jahan bin**	**2.54**	**96**	*e*Pn	**Pn**	**22 39 41.2**	**+1.0**
JHBN				*e*		22 40 26.0	
HAGD	**Aghdareh**	**2.59**	**28**	*e*Pn	**Pn**	**22 39 42.3**	**+1.5**
HAGD				*e*		22 40 28.9	
IPIR	**Pirpir**	**2.71**	**86**	*e*Pn	**Pn**	**22 39 44.0**	**+1.4**
IPIR				*e*		22 40 27.6	
HSRG	**Sareghieh**	**2.75**	**10**	*e*Pn	**Pn**	**22 39 45.1**	**+2.0**
HSRG				*e*		22 40 11.0	
ROKH	**ROKH**	**2.84**	**93**	*e*Pn	**Pn**	**22 39 45.2**	**+0.9**
ROKH				*e*		22 40 33.3	
BHD	**Baghdad**	**2.87**	**286**	*e*Pn	**Pn**	**22 39 45.0**	**+0.6**
BHD				*e*Sn	**Sn**	**22 40 20.0**	**+0.9**
BHD				AML	AML	22 40 39.5	
	comp=E,81nm,0.5s						
IKLH	**Kolahrood**	**3.37**	**75**	*e*Pn	**Pn**	**22 39 53.3**	**+1.7**
IKLH				*e*		22 40 53.7	
IRAZ	**Razeghan**	**3.42**	**32**	*e*Pn	**Pn**	**22 39 54.2**	**+2.0**
QABG	**Abgarm-Qazvin**	**3.54**	**26**	*e*Pn	**Pn**	**22 39 54.7**	**+0.8**
KLNJ	**Kolanjah**	**3.66**	**113**	*e*Pn	**Pn**	**22 39 56.3**	**+0.7**
KLNJ				*e*		22 41 09.6	
IGAR	**Gharneh**	**3.69**	**91**	*e*Pn	**Pn**	**22 39 56.8**	**+0.9**
IGAR				*e*		22 40 41.9	
IZEF	**Zefreh**	**3.94**	**83**	*e*Pn	**Pn**	**22 40 00.5**	**+1.2**
IRAM	**Ramesheh**	**4.05**	**99**	*e*Pn	**Pn**	**22 40 01.4**	**+0.5**
QSDN	**Sirdan**	**4.15**	**17**	*e*Pn	**Pn**	**22 40 01.9**	**-0.4**
IDMV	**Damavand**	**4.72**	**49**	*e*Pn	**Pn**	**22 40 10.4**	**+0.3**
ANAR	**Anarak**	**5.13**	**81**	*e*Pn	**Pn**	**22 40 16.0**	**+0.3**

DDA 20 22:42:33.6,38°.52N×42°.76E,h7km±2km,ML1.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.31**	**131**	*i* P	Pg	22 42 39.8	0.0
GEVA				*i* S	Sg	22 42 45.2	+1.4
GEVA				IAML		22 42 46.0	
	comp=E,57nm,0.6s						
GEVA				IAML		22 42 47.0	
	comp=N,68nm,0.2s						
BLIS	**Bitlis-Merkez**	**0.52**	**259**	*i* P	Pg	22 42 44.2	+0.6
BLIS				*i* S	Sb	22 42 52.1	-0.8
BLIS				IAML		22 42 54.0	
	comp=N,26nm,0.3s						
SRTM	**Siirt_Merkez**	**0.84**	**232**	*i* P	Pn	22 42 53.3	+1.3
SRTM				*i* S	Sn	22 43 05.1	+0.4
TUTA	**Tutak**	**0.89**	**3**	*i* P	Pg	22 42 51.0	+0.4
TUTA				*i* S	Sb	22 43 03.5	-0.2
TUTA				IAML		22 43 04.0	
	comp=N,19nm,0.4s						
MUSM	**Mu-Merkez**	**1.00**	**282**	*i* P	Pn	22 42 53.8	-0.4
MUSM				*i* S	Sb	22 43 07.2	+0.4
CLDR	**Caldiran**	**1.10**	**55**	*i* P	Pg	22 42 53.9	-0.8
CLDR				*i* S	Sg	22 43 08.4	-0.5
HAKT	**HAKKARI**	**1.21**	**142**	*i* P	Pn	22 42 57.5	+0.3

NORS ***20*** *22:43:31.8±0.0,42°.47N×45°.49E,h13km,MPVA4.0*
TIF ***20*** *22:43:31.6,42°.60N×45°.50E,h11km±1km*
DDA ***20*** *22:43:35.6,42°.30N×45°.46E,h6km±1km,ML2.6*

ISC 20 22:43:32.2±1.1,42°.50N±0°.02×45°.51E±0°.02,h12km±9km, n33,σ0§97/57,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.56**	**72**	*i* Pg	**Pb**	**22 43 43.8**	**-0.1**
BTLR				*e*Sg	**Sb**	**22 43 51.3**	**-0.5**
PNSH	**Pansheti**	**0.67**	**282**	S	**Sg**	**22 43 52.8**	**-1.3**
PNSH	**Pansheti**	**0.67**	**282**	P	**Pg**	**22 43 44.5**	**-0.7**
KMGR	**Komgaron**	**0.73**	**320**	*i* Pg	**Pg**	**22 43 46.1**	**-0.3**
KMGR				*e*Sg	**Sb**	**22 43 57.4**	**+0.6**
VLKR	**Vladikavkaz**	**0.82**	**312**	*i* Pg	**Pg**	**22 43 48.1**	**+0.1**
VLKR				*e*Pg	**Pg**	**22 43 48.1**	**+0.1**
VLKR				*e*Sg	**Sn**	**22 44 01.0**	**-0.6**
VLKR				*e*Sg	**Sn**	**22 44 01.1**	**-0.6**
LGD	**Lagodekhi**	**0.86**	**140**	P	**Pn**	**22 43 50.3**	**+0.2**
LGD				S	**Sn**	**22 44 02.2**	**-0.4**
XNZR	**Khunzakh**	**0.89**	**87**	*e*Pg	**Pn**	**22 43 50.5**	**-0.1**
XNZR				*e*Sg	**Sb**	**22 44 02.2**	**+0.8**
TBLG	**Delisi**	**0.96**	**217**	P	**Pn**	**22 43 52.2**	**+0.8**
TBLG				S	**Sn**	**22 44 06.7**	**+1.7**
DBC	**Dubki**	**1.11**	**61**	*e*Pg	**Pb**	**22 43 53.2**	**0.0**
DBC				*e*Sg	**Sn**	**22 44 09.1**	**+0.3**
ARNR	**Ardon**	**1.13**	**308**	*e*Pg	**Pg**	**22 43 53.8**	**0.0**
ARNR				*e*Sg	**Sn**	**22 44 10.2**	**+1.0**
DDFL	**Dedoflistskaro**	**1.15**	**156**	*i* P	Pg	22 43 59.5	+5.2
DDFL				*i* S	Sn	22 44 21.1	+11
DDFL	**Dedoflistskaro**	**1.15**	**156**	P	Pg	22 43 59.9	+5.7
DDFL				S	Sn	22 44 21.3	+12
KORR	**Kora**	**1.21**	**299**	*i* Pg	**Pb**	**22 43 55.2**	**+0.2**
KORR				*e*Sg	**Sg**	**22 44 11.7**	**+0.5**
ZEI	**Tsey**	**1.22**	**284**	*e*Pg	**Pn**	**22 43 54.4**	**-0.9**
ZEI				*e*Sg	**Sb**	**22 44 11.1**	**+0.1**
TRKR	**Terskaya**	**1.35**	**335**	*e*Pg	**Pb**	**22 43 57.7**	**+0.3**
TRKR				*e*Sg	**Sg**	**22 44 16.2**	**+0.6**
STDR	**Stavd-Durt**	**1.37**	**310**	*e*Pg	**Pg**	**22 43 58.4**	**-0.1**
STDR				*e*Sg	**Sg**	**22 44 18.6**	**+2.2**
KZRT	**Kazreti**	**1.39**	**217**	*i* Pg	**Pg**	**22 43 58.9**	**+0.2**
KZRT				*i* S	**Sg**	**22 44 16.2**	**-0.5**
KZRT	**Kazreti**	**1.39**	**217**	P	**Pg**	**22 43 59.3**	**+0.6**
KZRT				S	**Sg**	**22 44 18.6**	**+1.9**
TRLG	**Trialeti**	**1.42**	**228**	P	**Pg**	**22 44 00.2**	**+0.7**
TRLG				S	**Sg**	**22 44 20.4**	**+2.5**
LSNR	**Lesken**	**1.46**	**303**	*i* Pg	**Pg**	**22 43 59.8**	**-0.4**
LSNR				*e*Sg	**Sg**	**22 44 19.4**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.47**	**286**	*i* Pg	**Pb**	**22 43 59.3**	**-0.4**
DIGR				*e*Sg	**Sn**	**22 44 17.7**	**-0.3**
ONI	**Oni**	**1.52**	**274**	P	**Pb**	**22 44 00.5**	**+0.1**
DMNI	**Dmanisi**	**1.53**	**220**	P	**Pg**	**22 44 01.4**	**0.0**
DMNI				S	**Sg**	**22 44 22.6**	**+1.3**
BKRG	**Bakuriani**	**1.65**	**244**	P	**Pg**	**22 44 03.3**	**-0.6**
BKRG				S	**Sg**	**22 44 26.1**	**+0.9**
AKH	**Akhalkalaki**	**1.85**	**235**	P	**Pb**	**22 44 06.8**	**+0.7**
AKH				S	**Sg**	**22 44 32.3**	**+0.5**
TKB	**Tkibuli**	**1.86**	**266**	P	**Pb**	**22 44 06.4**	**+0.2**
TKB				S	**Sg**	**22 44 31.4**	**-0.8**
AKT	**Akhty**	**1.95**	**121**	*e*Pg	**Pg**	**22 44 08.8**	**-0.7**
AKT				*e*Sg	**Sg**	**22 44 34.6**	**-0.2**
EPOS	**Posof**	**2.30**	**245**	*i* P	**Pb**	**22 44 13.5**	**-0.1**
EPOS				*i* S	**Sg**	**22 44 44.6**	**-1.4**
EAK	**Akyaka**	**2.30**	**219**	*i* P	**Pb**	**22 44 13.8**	**+0.1**
EAK				*i* S	**Sg**	**22 44 45.5**	**-0.7**
EAK				IAML		22 44 46.0	
	comp=E,53nm,0.6s						
EAK				IAML		22 44 49.0	
	comp=N,45nm,0.6s						
DAGI	**Agillar**	**3.04**	**243**	*i* P	**Pb**	**22 44 24.8**	**-1.4**
DBOC	**Borcka**	**3.09**	**249**	*i* P	**Pb**	**22 44 25.1**	**-1.9**
DBAD	**Bademkaya**	**3.21**	**244**	*i* P	**Pb**	**22 44 29.0**	**-0.2**
EATA	**Eleskirt**	**3.48**	**222**	*i* P	**Pb**	**22 44 30.8**	**-3.1**

MOS ***20*** *22:45:13.4±1.2,32°.64N×47°.51E,h13km,mb4.6/21,Error ellipse: s-maj=6.6km s-min=4.1km az=119.7*
TEH ***20*** *22:45:15.2,32°.75N×47°.49E,h12km,ML4.2*
THR ***20*** *22:45:15.7±0.3,32°.77N×47°.47E,h15km±6km, ML4.4*
IDC ***20*** *22:45:16.0±3.2,32°.75N×47°.50E,h15km±19km,mb3.9/26, mb1 4.0/33,mb1mx3.9/53,mbtmp4.0/33,ML4.0/6,MS3.4/14, Ms1 3.4/14,ms1mx3.1/48,Error ellipse: s-maj=16.2km s-min=11.6km az=178.0*
NEIC ***20*** *22:45:18.4±1.3,32°.69N±0°.04×47°.47E±0°.06,h35km±6km, Error ellipse: s-maj=9.0km s-min=4.8km az=53.0*
OMAN ***20*** *22:45:25.7,32°.28N×47°.81E,h86km,mb5.0/14*

ISC 20 22:45:15.0±0.8,32°.66N±0°.03×47°.52E±0°.03,h11km±5km, n328,σ1§43/335,mb4.3/73,MS3.3/10,16C-18D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.20**	**275**	*e*Pg	**Pg**	**22

QALM Alamut, Qazvin 4.56 34 *e*Pn **Pn** **22 46 25.6 +1.4**
KAZ1 Kazerun 4.65 130 *e*Pn **Pn** **22 46 27.8 +2.4**
IDMV Damavand 4.74 51 *e*Pn **Pn** **22 46 28.2 +1.5**
AHBU AHRAM 4.99 138 *e*Pn **Pn** **22 46 33.5 +3.6**
ANAR Anarak 5.25 83 *e*Pn **Pn** **22 46 35.2 +1.6**
IFIR Firoozkooh 5.26 54 *e*Pn **Pn** **22 46 35.8 +1.9**
ISAD Sadrabad 5.28 97 *e*Pn **Pn** **22 46 36.1 +2.0**
IPRN Peran 5.35 47 *e*Pn **Pn** **22 46 37.2 +2.3**
IALA Alasht 5.55 51 *e*Pn **Pn** **22 46 39.7 +1.9**
YOVA Hakkari_Yksek 5.58 333 *e*Pn **Pn** **22 46 38.6 +0.4**
CUKT Cukurca 5.59 326 *e*Pn **Pn** **22 46 37.2 -1.0**
HAKT HAKKARI 5.80 328 *e*Pn **Pn** **22 46 41.1 -0.1**
AHAR Ahar 5.83 356 *e*Pn **Pn** **22 46 43.8 +2.3**
IMEH Mehriz 6.16 100 *e*Pn **Pn** **22 46 47.4 +1.2**
SIRT Sirnak 6.37 321 *e*Pn **Pn** **22 46 48.6 -0.4**
IGLO Ghaloghah 6.46 52 *e*Pn **Pn** **22 46 52.8 +2.5**
GEVA Gevas 6.71 328 **Pn** **22 46 54.0 +0.3**
GEVA Sn **Sn** **22 48 08.9 -1.3**
MARD Mardin 7.22 312 **Pn** **22 46 59.3 -1.4**
TPRV Parvadeh(Tabas 7.72 85 *e*Pn **Pn** **22 47 09.8 +2.3**
TKDS Koohdasht(Taba 8.11 81 *e*Pn **Pn** **22 47 14.7 +1.8**
ASF Jabal al Asfar 8.99 270 Pn **Pn** **22 47 24.6 -0.4**
1.3nm,0.3s,baz=40,slow=7.3,SNR=13
ASF Sn **Sn** **22 48 59.9 -6.4**
0.4nm,0.3s,baz=93,slow=19,SNR=1.4
ASF Lg Lg 22 49 59.0
0.3nm,0.3s,baz=31,slow=22,SNR=3.8
BNDS Bandar-Abbas 9.15 123 *e*Pn **Pn** **22 47 31.1 +3.9**
BNDS IAML 22 49 18.0
comp=E,29nm,0.4s
BNDS Bandar-Abbas 9.15 123 *e*Pn **Pn** **22 47 31.1 +3.9**
MALT Malatya 9.31 310 P Pn 22 47 34.1 +4.8
ITEG Tejag 9.46 86 *e*Pn **Pn** **22 47 33.0 +1.6**
AFRZ Afriz 9.68 82 *e*Pn **Pn** **22 47 36.1 +1.7**
IKOO Kooshah 9.70 88 *e*Pn **Pn** **22 47 36.8 +2.0**
GEYT Alibeck 10.13 56 Pn **Pn** **22 47 41.6 +1.1**
GYA0B ALIBECK ARRAY 10.13 56 Pn **Pn** **22 47 41.6 +1.2**
BANOM Banah 10.19 129 P **Pn** **22 47 43.6 +2.3**
MMAI Mount Meron Ar 10.20 275 Pn **Pn** **22 47 41.8 +0.2**
comp=E,0.5nm,0.3s,baz=72,slow=14,SNR=1.7
MMAI Lg Lg 22 50 33.0
comp=E,1.4nm,0.3s,baz=94,slow=31,SNR=3.5
NAZ Nazwa, Dubai 10.46 135 P **Pn** **22 47 47.7 +2.7**
NAZ S **Sn** **22 49 41.0 -1.2**
SNR=5.9
MDH Madha 10.62 131 P **Pn** **22 47 49.1 +1.9**
UOSS Minazif 10.82 133 P **Pn** **22 47 51.0 +1.0**
UOSS Minazif 10.82 133 **Pn** **22 47 50.6 +0.7**
ASHO Ashiyiah 10.92 135 P **Pn** **22 47 53.0 +1.6**
ASHO P 22 47 53.1
ASHO S **Sn** **22 49 53.0 -0.7**
SNR=9.4
SNR=9.7
EIL Elat 11.17 258 Pn **Pn** **22 47 54.6 -0.1**
comp=E,0.5nm,0.3s,baz=45,slow=2.9,SNR=2.4
EIL Lg Lg 22 51 12.1
comp=E,0.3nm,0.3s,baz=74,slow=19,SNR=1.5
EIL LR LR 22 52 27.9
comp=E,113nm,18.9s,baz=90,slow=39
SOHO SOHO 11.62 135 P **Pn** **22 48 02.1 +1.2**
KBZ Khabaz 11.63 343 LR LR 22 53 28.6
comp=E,154nm,19.7s,baz=148,slow=43
KIV Kislovodsk 11.89 343 *e*P **Pn** **22 48 07.5 +2.9**
KIV pmax pmax
comp=Z,16nm,1.0s
ARQ Araqi 12.22 137 P **Pn** **22 48 10.9 +1.7**
SNR=5.5
HOQ Hoqain 12.50 134 P **Pn** **22 48 14.1 +1.1**
SOC Sochi 12.51 333 *e*P **Pn** **22 48 14.5 +1.6**
SOC *e* 22 50 39.4
SOC pmax pmax
comp=Z,15nm,0.9s
SOC MLR MLR
comp=Z,502nm,12.0s
BSY Bisya 13.07 137 P **Pn** **22 48 22.3 +1.4**
SNR=6.7
BSY P P 22 48 22.3 -8.9
BRTR Keskin Array B 13.23 306 Pn **Pn** **22 48 25.5 +2.5**
baz=100,slow=15,SNR=1.3
BRTR LR LR 22 55 06.8
comp=Z,42nm,21.4s,baz=114,slow=45
BRTR Keskin Array B 13.23 306 **Pn** **22 48 23.8 +0.8**
SMDO Samad 13.34 133 P **Pn** **22 48 25.8 +1.2**
SNR=8.5
WSAR Wadi Sarin 13.58 131 Pn **Pn** **22 48 26.9 -0.7**
comp=Z,1.7nm,0.3s,baz=317,slow=10,SNR=21
WSAR Sn **Sn** **22 50 50.8 -7.8**
comp=Z,0.6nm,0.3s,baz=22,slow=19,SNR=2.8
WSAR LR LR 22 54 39.0
comp=Z,170nm,18.8s,baz=304,slow=41
WSAR Wadi Sarin 13.58 131 P **Pn** **22 48 28.1 +0.4**
SNR=7.5
JMDO Jabal Madar 13.89 135 P **Pn** **22 48 33.0 +1.0**
ANN Anapa 14.43 330 *e*P **Pn** **22 48 37.9 -1.3**
ANN *e*S **Sn** **22 51 19.9 +0.7**
ANN pmax pmax
comp=Z,50nm,1.2s
MHTO MHTO 14.90 139 P **Pn** **22 48 46.0 +0.3**
SNR=12
MHTO S **Sn** **22 51 27.0 -3.8**
SNR=11
KBL Kabul 18.03 78 P **P** **22 49 27.7 +1.4**
SNR=5.8
KBL Kabul 18.03 78 P **P** **22 49 26.4 +0.1**
KBL pmax pmax
comp=Z,8.0nm,1.1s
KBL Kabul 18.03 78 P **P** **22 49 26.4 +0.1**
CHGR Chuyangaron 18.55 65 **P** **22 49 32.0 +0.1**
JURR Jurilovca 18.86 315 ⇓P **Pn** **22 49 34.9 -0.2**
IDI Anoyia 18.95 284 Pn **Pn** **22 49 37.2 +0.3**
comp=Z,0.7nm,0.3s,baz=60,slow=9.6,SNR=7.4
IDI Anoyia 18.95 284 ⇓P **Pn** **22 49 37.2 +0.3**
IDI Anoyia 18.95 284 **P** **22 49 36.0 -0.3**
IDI IAmb IAmb 22 49 50.9
comp=Z,11nm,0.7s
ABKAR Akbulak array 19.00 26 **P** **22 49 36.2 -0.4**
VRH Novokhopyorsk 19.01 349 *e*P **P** **22 49 35.4 -1.3**
VRH pmax pmax
comp=Z,30nm,0.9s
ALN Alexandroupoli 19.03 302 P **P** **22 49 37.1 +0.1**
ALN pmax pmax
comp=Z,7.0nm,0.8s
ALN Alexandroupoli 19.03 302 **P** **22 49 37.1 +0.1**
NEF NEVSHA 19.10 309 *e*P **Pn** **22 49 39.1 +0.5**
TLCR 19.13 316 ⇑P **P** **22 49 38.2 +0.1**
TLBR Topalu 19.24 314 ⇓P **Pn** **22 49 39.8 -0.5**
VORD Divnogorie 19.27 344 *e*P **P** **22 49 38.5 -1.0**
VORD pmax pmax
comp=Z,10.0nm,0.8s
AKTO Aktyubinsk 19.38 21 P **P** **22 49 40.6 -0.2**
comp=Z,0.4nm,0.3s,baz=208,slow=10,SNR=14
AKTO LR LR 22 59 41.5
comp=Z,102nm,19.0s,baz=200,slow=45
HARR Harsova 19.39 314 ⇑P **Pn** **22 49 41.3 -0.7**
HARR Harsova 19.39 314 P **Pn** **22 49 41.3 -0.7**
GAR Garm 19.51 65 **P** **22 49 42.8 +0.4**
CFR Carcaliu 19.52 315 P **P** **22 49 41.7 -0.7**
CFR pmax pmax
comp=Z,11nm,0.9s
VSR Storozhevoye 19.53 344 *e*P **P** **22 49 40.4 -2.0**
VSR pmax pmax
comp=Z,20nm,1.3s
RAZG Razgrad 19.74 309 ⇑P **Pn** **22 49 45.7 -0.6**
SZH Strazhica 19.99 308 *e*P **P** **22 49 46.6 -0.9**
BTK Batken 20.13 62 P **P** **22 49 49.8 +0.7**
BTK pmax pmax
comp=Z,7.0nm,1.0s
BTK Batken 20.13 62 P **P** **22 49 49.8 +0.7**
MILM Milestii Mici 20.16 320 ⇓P **P** **22 49 49.6 +0.3**
PLD Plovdiv 20.38 304 P Pn 22 49 53.3 -0.5
ISR Istrita 20.45 314 P Pn 22 49 55.5 +0.8
ISR pmax pmax
comp=Z,30nm,1.1s
VRI Vrincioaia 20.73 316 ⇓P Pn 22 49 56.5 -1.4
VRI Vrincioaia 20.73 316 P **P** **22 49 55.9 +0.4**
VRI pmax pmax
comp=Z,6.0nm,0.8s
PLOR Plostina 20.77 315 ⇑P **P** **22 49 56.8 +0.8**
PLOR Plostina 20.77 315 P **P** **22 49 56.7 +0.8**
KK31 Karatay Array 20.86 53 P **P** **22 49 57.7 +0.7**
KK31 pmax pmax
comp=Z,8.0nm,1.1s
KK31 Karatay Array 20.86 53 **P** **22 49 57.7 +0.7**
KKAR Karatay Array 20.86 53 P **P** **22 49 57.8 +0.7**
KKAR pmax pmax
comp=Z,8.0nm,1.1s
KKAR Karatay Array 20.86 53 P **P** **22 49 57.8 +0.7**
KKAR Karatay Array 20.86 53 **P** **22 49 57.4 +0.2**
SRS Serrai 20.87 301 P Pn 22 49 58.7 -0.9
SRS pmax pmax
comp=Z,5.0nm,1.1s
LPSR Galich'ya Gora 20.88 345 *e*P **P** **22 49 55.5 -1.5**
LPSR pmax pmax
comp=Z,100nm,0.8s
MMB Musomiste 20.91 302 *e*P Pn 22 49 59.5 -0.5
SOH Sokhos 20.96 300 P **P** **22 49 58.9 +0.8**
SOH pmax pmax
comp=Z,5.0nm,1.0s
MLR Muntele Rosu 21.00 314 P **P** **22 49 59.6 +0.9**
comp=Z,3.8nm,0.8s,baz=91,slow=10,SNR=6.9
MLR Muntele Rosu 21.00 314 ⇓P **P** **22 49 59.5 +0.9**
MLR Muntele Rosu 21.00 314 P **P** **22 49 58.7 0.0**
MLR IAmb IAmb 22 50 08.0
comp=Z,14nm,0.9s
HUMR Humele 21.15 311 ⇑P **P** **22 50 01.4 +1.3**
SORM Soroca 21.17 322 ⇓P **P** **22 50 00.9 +0.6**
SORM Soroca 21.17 322 P **P** **22 50 00.8 +0.6**
SOCY Socotra 21.23 162 P **P** **22 49 58.8 -2.4**
SOCY IAmb IAmb 22 50 18.0
comp=Z,20nm,1.0s
VLAD Vladila 21.30 309 ⇑P **P** **22 50 02.9 +1.2**
AGG Agios Georgios 21.35 294 P **P** **22 50 02.0 -0.3**
AGG pmax pmax
comp=Z,18nm,1.2s
AGG Agios Georgios 21.35 294 P **P** **22 50 02.0 -0.3**
AGG IAmb IAmb 22 50 14.9
comp=Z,18nm,1.2s
OZUR 21.41 315 ⇑P **P** **22 50 03.4 +0.5**
ITM Ithomi 21.44 289 P **P** **22 50 02.2 -1.1**
ITM IAmb IAmb 22 50 17.9
comp=Z,15nm,0.9s
VOIR 21.53 313 ⇓P **P** **22 50 05.1 +0.8**
VOIR 21.53 313 P **P** **22 50 05.3 +1.1**
VOIR pmax pmax
comp=Z,54nm,0.9s
NIL Nilore 21.55 80 P **P** **22 50 04.6 0.0**
NIL pmax pmax
comp=Z,8.0nm,0.9s
NIL Nilore 21.55 80 P **P** **22 50 04.5 0.0**
NIL IAmb IAmb 22 50 16.1
comp=Z,8.2nm,0.8s
DOPR Dopca 21.58 314 ⇑P **P** **22 50 05.6 +0.8**
PRAR RASCA 21.84 318 ⇓P **P** **22 50 08.0 +0.6**
LOT Lotru 22.33 312 ⇑P **P** **22 50 13.3 +0.4**
KMPD K-Podol'skiy 22.42 321 P **P** **22 50 11.0 -2.7**
AKASG Malin Array Be 22.51 329 P **P** **22 50 13.6 -1.0**
comp=Z,4.8nm,0.6s,baz=137,slow=9.5,SNR=19
AKASG Malin Array Be 22.51 329 *i* P **P** **22 50 11.5 -3.1**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKASG Malin Array Be 22.51 329 P **P** **22 50 10.8 -3.8**
AKBB Malin Array Si 22.51 329 *e*P **P** **22 50 14.7 +0.1**
AKBB Malin Array Si 22.51 329 P **P** **22 50 12.6 -2.0**
AKBB IAmb IAmb 22 50 18.9
comp=Z,14nm,0.9s
KIEV Kiev 22.51 329 P **P** **22 50 14.0 -0.6**
BURAR Bucovina Array 22.55 318 ⇓P **P** **22 50 16.1 +0.9**
BURAR Bucovina Array 22.55 318 P **P** **22 50 16.1 +0.9**
BURAR Bucovina Array 22.55 318 P **P** **22 50 14.8 -0.4**
BUR08 Bucovina Ar. S 22.58 318 P **P** **22 50 15.5 0.0**
BUR08 IAmb IAmb 22 50 20.6
comp=Z,8.9nm,0.8s
HERR Herculane 22.96 309 ⇑P **P** **22 50 19.8 +0.4**
KSV Kosov 23.03 319 ⇑P **P** **22 50 20.7 +0.6**
MDVR Moldovita 23.38 309 ⇑P **P** **22 50 24.0 +0.2**
AAK Ala-Archa 23.48 57 P **P** **22 50 25.3 +0.5**
comp=Z,0.8nm,0.3s,baz=244,slow=9.6,SNR=1.6
AAK LR LR 23 00 08.0
comp=Z,188nm,19.2s,baz=255,slow=38
AAK Ala-Archa 23.48 57 ⇓*e*P **P** **22 50 25.2 +0.3**
AAK pmax pmax
comp=Z,5.0nm,1.8s
AAK Ala-Archa 23.48 57 P **P** **22 50 24.7 -0.2**
OBN Obninsk 23.73 344 P **P** **22 50 26.6 -0.4**
comp=Z,2.8nm,0.6s,baz=132,slow=19,SNR=3.3
OBN Obninsk 23.73 344 *e*P **P** **22 50 27.1 +0.1**
OBN *e*'PP **pP** **22 50 29.3 -1.0**
OBN *e*PPP PPP 22 51 03.3
OBN pmax pmax
comp=Z,22nm,1.2s
OBN MLR MLR
comp=Z,76nm,17.0s
OBN Obninsk 23.73 344 P **P** **22 50 25.8 -1.2**
BZS Buzias 23.77 310 P **P** **22 50 27.3 -0.2**
BZS pmax pmax
comp=Z,7.0nm,1.5s
SIRR Siria 24.02 312 ⇑P **P** **22 50 30.5 +0.6**
MOS Moscow 24.09 346 *e*P **P** **22 50 30.1 -0.3**
MORS Morshin 24.13 320 P **P** **22 50 30.5 -0.4**
UZH Uzhgorod 24.75 318 *e*P **P** **22 50 34.8 -1.7**
UZH *e* 22 50 41.1
KOLS Kolonicke sedl 24.92 318 *e*P **P** **22 50 38.7 +0.6**
KOLS pmax pmax
comp=Z,10.0nm,0.7s
KOLS Kolonicke sedl 24.92 318 *e*P **P** **22 50 38.7 +0.6**
ARU Arti 24.97 15 P **P** **22 50 37.9 -0.5**
comp=Z,1.1nm,0.5s,baz=184,slow=9.2,SNR=6.4
ARU Arti 24.97 15 *d* /P **P** **22 50 40.1 +1.7**
ARU 22 51 12.4
ARU S **S** **22 55 06.4 +4.6**
ARU SS **SnSn** **22 55 56.0 +6.0**
ARU pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 24.97 15 P **P** **22 50 38.2 -0.2**
ARU IAmb IAmb 22 50 40.6
comp=Z,5.7nm,0.9s
KWP Kalwaria Pacla 25.05 320 *e*P **P** **22 50 39.8 +0.5**
KWP Kalwaria Pacla 25.05 320 P **P** **22 50 39.4 +0.1**
KWP pmax pmax
comp=Z,16nm,0.7s
KWP Kalwaria Pacla 25.05 320 P **P** **22 50 39.4 +0.1**
KDJ Kajisay 25.28 60 P **P** **22 50 40.7 -0.9**
KDJ pmax pmax
comp=Z,6.0nm,1.0s
KDJ Kajisay 25.28 60 P **P** **22 50 40.7 -0.9**
KDJ IAmb IAmb 22 50 48.2
comp=Z,6.2nm,1.0s
CRVS Cervenica-Dubn 25.36 317 *e*P **P** **22 50 42.9 +0.8**
CRVS pmax pmax
comp=Z,15nm,0.8s
CRVS Cervenica-Dubn 25.36 317 *e*P **P** **22 50 42.9 +0.8**
TARG Taragay, Kyrgy 25.66 61 P **P** **22 50 45.0 -0.3**
TARG IAmb IAmb 22 50 54.5
comp=Z,5.4nm,0.9s
TIP Timpagrande 25.67 293 ⇓P **P** **22 50 46.3 +1.2**
KECS Kecovo 25.73 316 *e*P **P** **22 50 46.5 +1.1**
KECS pmax pmax
comp=Z,12nm,0.8s
KECS Kecovo 25.73 316 *e*P **P** **22 50 46.5 +1.1**
PSZ Piszkesteto 25.82 314 P **P** **22 50 46.1 -0.3**
PSZ pmax pmax
comp=Z,15nm,0.8s
PSZ Piszkesteto 25.82 314 P **P** **22 50 46.1 -0.3**
KIRV Kirov 25.96 2 P **P** **22 50 46.3 -1.0**
comp=Z,6.8nm,0.6s,baz=189,slow=2.9,SNR=5.3
KIRV LR LR 23 03 22.0
comp=Z,94nm,19.0s,baz=197,slow=42
KIRV Kirov 25.96 2 ⇓*e*P **P** **22 50 47.7 +0.4**
BRVK Borovoye 26.14 32 ⇓*i*P **P** **22 50 49.3 +0.2**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
BRVK Borovoye 26.14 32 P **P** **22 50 49.0 0.0**
BVAR Borovoye Array 26.16 32 P **P** **22 50 49.3 0.0**
comp=Z,1.5nm,0.6s,baz=224,slow=8.3,SNR=11
BVAR PcP **PcP** **22 54 16.3 +0.1**
comp=Z,0.5nm,0.4s,baz=222,slow=2.0,SNR=3.7
BVAR ScP **ScP** **22 57 54.4 -1.5**
comp=Z,0.8nm,0.8s,baz=220,slow=3.2,SNR=4.8
BVAR LR LR 23 03 01.9
comp=Z,105nm,18.7s,baz=329,slow=41
BUD Budapest 26.17 313 P **P** **22 50 50.6 +1.2**
BUD pmax pmax
comp=Z,28nm,0.8s
PRZ Przheval'sk 26.24 59 P **P** **22 50 50.3 0.0**
PRZ pmax pmax
comp=Z,5.0nm,0.7s
PRZ Przheval'sk 26.24 59 P **P** **22 50 50.3 0.0**
PRZ IAmb IAmb 22 50 53.5
comp=Z,5.2nm,0.7s
NIE Niedzica 26.28 318 *e*P **P** **22 50 51.6 +1.2**
NIE Niedzica 26.28 318 P **P** **22 50 53.3 +2.8**
NACGM Naroch 26.61 333 *e* **P** **22 50 53.0 -0.3**
LANS Liptovska Anna 26.63 316 *e*P **P** **22 50 54.6 +1.0**
LANS pmax pmax
comp=Z,5.0nm,0.8s
LANS Liptovska Anna 26.63 316 *e*P **P** **22 50 54.6 +1.0**
SRO2 Moca 26.67 313 *e*P **P** **22 50 55.3 +1.4**
SRO2 pmax pmax
comp=Z,9.0nm,0.6s
SRO2 Moca 26.67 313 *e*P **P** **22 50 55.3 +1.4**
VYHS Vyhne 26.71 315 *e*P **P** **22 50 54.7 +0.4**
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 26.71 315 *e*P **P** **22 50 54.7 +0.4**
OJC Ojcow 26.96 319 *e*P **P** **22 50 56.7 +0.1**
OJC Ojcow 26.96 319 P **P** **22 50 55.9 -0.7**
OJC pmax pmax
comp=Z,10.0nm,0.8s
OJC Ojcow 26.96 319 P **P** **22 50 55.9 -0.7**
SUW Suwalki 27.48 328 P **P** **22 51 00.9 -0.2**
SUW pmax pmax
comp=Z,36nm,1.1s
SUW Suwalki 27.48 328 P **P** **22 51 00.9 -0.2**
JAVC Velka Javorina 27.56 315 *e*P **P** **22 51 02.3 +0.3**
MODS Modra-Piesok 27.60 314 *e*P **P** **22 51 02.6 +0.3**
MODS Modra-Piesok 27.60 314 *e*P **P** **22 51 02.6 +0.3**
SOP Sopron 27.78 312 P **P** **22 51 08.2 +4.3**
SOP pmax pmax
comp=Z,12nm,0.9s
MORC Moravsky Berou 28.04 316 *e*P **P** **22 51 05.6 -0.6**
MORC Moravsky Berou 28.04 316 P **P** **22 51 05.4 -0.8**
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 28.04 316 P **P** **22 51 05.4 -0.8**
MORC IAmb IAmb 22 51 07.8
comp=Z,4.1nm,0.8s
VRAC Vranov 28.39 315 P **P** **22 51 08.8 -0.5**
comp=Z,2.3nm,0.8s,baz=110,slow=14,SNR=4.6
VRAC LR LR 23 05 45.8
comp=Z,64nm,18.5s,baz=134,slow=43
KRUC Moravsky 28.41 314 *e*P **P** **22 51 08.8 -0.7**
KRLC Kraliky 28.61 317 *e*P **P** **22 51 11.1 -0.2**
KRLC Kraliky 28.61 317 *e*P **P** **22 51 11.1 -0.2**
KLMR Klimovskoe 28.68 352 *e*P **P** **22 51 09.7 -2.0**
KLMR pmax pmax
comp=Z,10.0nm,0.7s
KLMR Klimovskoe 28.68 352 *e*P **P** **22 51 09.8 -2.0**
KLMR AMP 22 51 11.2
comp=Z,10.0nm,0.7s
DPC Dobruska-Polom 28.99 317 *e*P **P** **22 51 14.7 0.0**
DPC Dobruska-Polom 28.99 317 *e*P **P** **22 51 14.7 0.0**
KURBB Kurchatov Arra 29.01 43 P **P** **22 51 15.3 +0.6**
comp=Z,2.7nm,0.8s,baz=248,slow=9.3,SNR=13
KURBB ScP **ScP** **22 58 04.0 -0.6**
comp=Z,0.4nm,0.5s,baz=242,slow=2.0,SNR=1.5
KURK Kurchatov 29.10 42 ⇑*e*P **P** **22 51 16.4 +0.8**
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 29.10 42 P **P** **22 51 15.1 -0.5**
KURK IAmb IAmb 22 51 17.3
comp=Z,4.2nm,0.9s
CHVC Chvalec 29.25 317 *e*P **P** **22 51 17.3 +0.3**
MOA Molln 29.29 311 *i* P **P** **22 51 17.6 +0.2**
comp=Z,3.1nm,0.8s
MK31 Makanchi Array 29.96 52 P **P** **22 51 23.4 0.0**
MK31 pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 29.96 52 P **P** **22 51 23.4 0.0**
MK31 IAmb IAmb 22 51 27.7
comp=Z,3.1nm,0.8s
MKAR Makanchi Array 29.96 52 P **P** **22 51 24.1 +0.7**
comp=Z,3.1nm,0.8s,baz=247,slow=7.2,SNR=21
MKAR PcP **PcP** **22 54 25.0 -0.7**
comp=Z,0.5nm,0.7s,baz=252,slow=2.7,SNR=3.6
MKAR LR LR 23 04 11.2
comp=Z,89nm,20.6s,baz=244,slow=38
MKAR Makanchi Array 29.96 52 *i* P **P** **22 51 24.2 +0.8**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 29.96 52 P **P** **22 51 23.5 +0.1**
GERES GERESS Array B 29.98 313 P **P** **22 51 22.9 -0.7**
comp=Z,0.7nm,0.8s,baz=94,slow=9.4,SNR=9.9
GERES GERESS Array B 29.98 313 P **P** **22 51 22.7 -0.9**
KHC Kasperske Hory 30.16 313 *e*P **P** **22 51 27.4 +2.3**
KHC Kasperske Hory 30.16 313 *e*P **P** **22 51 27.4 +2.3**
CTI Castel Tesino 30.51 307 P **P** **22 51 27.9 -0.4**
CTI pmax pmax
comp=Z,6.0nm,0.9s
CTI Castel Tesino 30.51 307 P **P** **22 51 27.9 -0.4**
CTI IAmb IAmb 22 51 31.9
comp=Z,5.6nm,0.9s
WTTA Wattenberg 30.82 309 *i* P **P** **22 51 30.9 -0.3**
comp=Z,8.1nm,0.9s
WTTA Wattenberg 30.82 309 P **P** **22 51 34.1 +3.0**
WTTA pmax pmax
comp=Z,9.0nm,0.9s
VLC Villacollemand 31.03 303 P **P** **22 51 32.9 +0.1**
SQTA Sankt Quirin 31.09 309 *i* P **P** **22 51 32.9 -0.5**
comp=Z,6.0nm,0.6s
MOTA Moosalm 31.19 309 *i* P **P** **22 51 33.7 -0.6**
comp=Z,7.8nm,0.9s
CLL Collm 31.31 317 *i* P **P** **22 51 34.7 -0.4**
comp=Z,5.0nm,1.1s
CLL Collm 31.31 317 *i* P **P** **22 51 34.7 -0.4**
CLL pmax pmax
comp=Z,5.0nm,1.1s
FETA Feichten 31.36 308 *i* P **P** **22 51 35.6 -0.3**
comp=Z,3.9nm,0.8s
GRA1 Grafenberg Arr 31.79 313 P **P** **22 51 39.3 -0.2**
GRF Grafenberg Arr 31.79 313 P **P** **22 51 39.3 -0.2**
GRF pmax pmax
comp=Z,7.0nm,0.9s
FINES FINESS Array B 31.97 341 P **P** **22 51 39.8 -1.0**
comp=Z,6.3nm,0.9s,baz=153,slow=11,SNR=8.0
FINES LR LR 23 07 12.7
comp=Z,50nm,21.4s,baz=197,slow=41
FINES FINESS Array B 31.97 341 *i* P **P** **22 51 39.5 -1.3**
FINES pmax pmax
comp=Z,6.0nm,0.9s
FINES FINESS Array B 31.97 341 P **P** **22 51 40.2 -0.6**
DAVA Damuels 31.99 308 *i* P **P** **22 51 40.9 -0.5**
comp=Z,6.9nm,0.6s
SENIN Lac Senin/Sane 33.54 306 P **P** **22 51 54.9 -0.1**
SENIN IAmb IAmb 22 52 01.4
comp=Z,2.7nm,0.8s
BNI Bardonecchia 33.78 304 P **P** **22 51 56.8 -0.2**
BNI pmax pmax
comp=Z,12nm,0.6s
BNI Bardonecchia 33.78 304 P **P** **22 51 56.8 -0.2**
ZAA0 Zalesovo Array 33.91 40 P **P** **22 51 57.7 -0.2**
ZAA0 IAmb IAmb 22 52 00.6
comp=Z,7.3nm,1.2s
ZALV Zalesovo Beam 33.91 40 P **P** **22 51 58.0 +0.1**
comp=Z,4.3nm,0.8s,baz=254,slow=9.0,SNR=16
ZALV Zalesovo Beam 33.91 40 P **P** **22 51 58.0 +0.1**
ZALV Zalesovo Beam 33.91 40 P **P** **22 51 57.4 -0.5**
DGZ Jazzator, Alta 34.04 48 ⇓*i*P **P** **22 52 00.4 +1.1**
DGZ pmax pmax
comp=Z,9.0nm,2.4s
NB2 NORSAR Subarra 36.86 331 P **P** **22 52 21.2 -2.0**
comp=Z,2.6nm,0.8s,baz=124,slow=8.6
NOA NORSAR Array B 36.86 331 P **P** **22 52 21.8 -1.5**
comp=Z,1.8nm,0.7s,baz=124,slow=8.6,SNR=8.5
NOA LR LR 23 08 40.8
comp=Z,34nm,19.8s,baz=225,slow=38
ARCES ARCESS Array B 38.94 348 P **P** **22 52 40.2 -0.4**
comp=Z,3.5nm,0.7s,baz=163,slow=8.9,SNR=11
ARCES PcP **PcP** **22 54 50.9 -0.1**
comp=Z,5.0nm,1.0s,baz=122,slow=1.2,SNR=3.5
ARCES ARCESS Array B 38.94 348 P **P** **22 52 40.7 +0.1**
ARCES ARCESS Array B 38.94 348 P **P** **22 52 40.7 +0.1**
SHL Shillong 39.18 89 P **P** **22 52 43.2 -0.2**
SHL pmax pmax
comp=Z,7.0nm,1.1s
SHL Shillong 39.18 89 P **P** **22 52 43.2 -0.2**
SHL IAmb IAmb 22 52 44.0
comp=Z,7.4nm,1.1s
ESDC Sonseca Array 41.67 295 P **P** **22 53 03.8 0.0**
comp=Z,0.6nm,0.8s,baz=67,slow=8.7,SNR=4.9
GTA Gaotai 42.33 66 *e*P **P** **22 53 10.0 +0.8**
GTA pP sP 22 53 13.8 -0.3
GTA sP pP 22 53 16.8 +4.1
GTA pmax pmax

	comp=Z,2.0nm,0.9s								
NRIK	**Noril'sk**	**43.00**	**20**	P		**P**		**22 53 14.3**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=253,slow=4.8,SNR=3.6								
NRIK				LR		LR		23 15 33.6	
	comp=Z,82nm,18.6s,baz=192,slow=42								
DSB	**Dublin**	**43.28**	**315**	P		**P**		**22 53 16.4**	**-0.1**
MVO	**Moncorvo**	**43.81**	**297**	*e*LR		LR		00 01 23.2	
	comp=Z,234nm,18.0s								
MTE	**Manteigas**	**44.30**	**296**	A		A		00 14 18.5	
	comp=Z,182nm,18.0s								
PMRV	**Marv??o**	**44.33**	**295**	*e*LR		LR		23 59 46.8	
	comp=Z,226nm,18.0s								
PGAV	**Gavieira, Arco**	**44.64**	**299**	A		A		00 15 28.4	
	comp=Z,183nm,18.0s								
PVAQ	**Vaqueiros**	**44.94**	**292**	*e*LR		LR		00 00 45.2	
	comp=Z,142nm,18.0s								
TORD	**Torodi Ar. Bea**	**46.05**	**256**	P		**P**		**22 53 39.4**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=62,slow=7.9,SNR=4.2								
SONM	**Songino Array**	**46.32**	**53**	P		**P**		**22 53 41.0**	**0.0**
	comp=Z,1.0nm,0.9s,baz=275,slow=8.8,SNR=5.7								
SONM				PcP		**PcP**		**22 55 15.0**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=272,slow=5.2,SNR=2.7								
SONM	**Songino Array**	**46.32**	**53**	P		**P**		**22 53 41.0**	**0.0**
SONM								22 55 15.0	
SONM	**Songino Array**	**46.32**	**53**	P		**P**		**22 53 40.9**	**0.0**
ULN	**Ulaanbaatar**	**46.76**	**53**	*e*P		**P**		**22 53 44.6**	**+0.1**
ULN				pmax		pmax			
	comp=Z,7.0nm,1.3s								
ULN	**Ulaanbaatar**	**46.76**	**53**	P		**P**		**22 53 44.2**	**-0.3**
CHTO	**Chiang Mai**	**47.90**	**94**	P		**P**		**22 53 53.8**	**+0.2**
CHTO				pmax		pmax			
	comp=Z,4.0nm,1.1s								
CHTO	**Chiang Mai**	**47.90**	**94**	P		**P**		**22 53 53.8**	**+0.2**
CHTO				IAmb		IAmb		22 53 54.8	
	comp=Z,3.7nm,1.1s								
CMAR	**Chiang Mai Arr**	**48.07**	**94**	P		**P**		**22 53 54.9**	**0.0**
	comp=Z,1.8nm,1.0s,baz=300,slow=8.9,SNR=9.7								
CMAR				PcP		**PcP**		**22 55 22.9**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=288,slow=4.3,SNR=2.8								
CMAR				LR		LR		23 16 41.3	
	comp=Z,21nm,18.4s,baz=190,slow=39								
CMAR	**Chiang Mai Arr**	**48.07**	**94**	P		**P**		**22 53 55.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**48.07**	**94**	P		**P**		**22 53 55.0**	**+0.1**
XAN	**Xi'an**	**50.61**	**71**	P		**P**		**22 54 14.8**	**+0.6**
XAN				pmax		pmax			
	comp=Z,8.0nm,1.2s								
XAN	**Xi'an**	**50.61**	**71**	P		**P**		**22 54 14.8**	**+0.6**
XAN				IAmb		IAmb		22 54 23.3	
	comp=Z,7.9nm,1.2s								
PMOZ	**Porto Moniz, M**	**53.62**	**289**	*e*LR		LR		00 01 23.2	
	comp=Z,139nm,18.0s								
MATP	**Matopo**	**55.84**	**202**	P		**P**		**22 54 54.2**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=38,slow=7.8,SNR=4.2								
SDSI	**Sungai Dareh**	**60.78**	**112**	P		**P**		**22 55 29.3**	**+1.9**
KLR	**Kul'dur**	**62.53**	**47**	⇑*i*P		**P**		**22 55 38.0**	**-0.8**
KLR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
KSRS	**Korea Array**	**64.08**	**61**	P		**P**		**22 55 48.8**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=298,slow=5.4,SNR=2.9								
USRK	**Ussuriysk Ar.**	**64.43**	**53**	P		**P**		**22 55 49.8**	**-1.6**
	comp=Z,2.8nm,0.8s,baz=269,slow=5.8,SNR=4.8								
SEY	**Seymchan**	**67.75**	**29**	⇓*i*P		**P**		**22 56 13.0**	**+0.6**
YSS	**Yuzh-Sakhalins**	**70.21**	**46**	⇓*e*P		**P**		**22 56 26.7**	**-1.2**
YSS				pmax		pmax			
	comp=Z,9.0nm,0.6s								
SCHQ	**Schefferville**	**76.30**	**327**	P		**P**		**22 57 04.1**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=83,slow=8.1,SNR=1.8								
SCHQ	**Schefferville**	**76.30**	**327**	P		**P**		**22 57 03.9**	**+0.1**
SCHQ				IAmb		IAmb		22 57 13.8	
	comp=Z,3.3nm,0.9s								
ILAR	**Eielson Array**	**82.23**	**6**	P		**P**		**22 57 36.6**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=330,slow=6.3,SNR=3.0								
WRA	**Warramunga Arr**	**97.94**	**108**	P		Pdif		22 58 51.9	+0.4
	comp=Z,0.2nm,0.7s,baz=323,slow=4.1,SNR=1.6								

TAP 20 22:48:23.1, 23.34N×120.80E, h6km±1km, ML0.8, 2C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TPUB	**Ta-pu**	**0.16**	**255**	P		Pg	22 48 27.0	+0.7
	baz=255							
TPUB				S		Sg	22 48 30.0	+1.5
	baz=255							
ALS	**Alishan**	**0.17**	**3**	⇑*i*P		Pg	22 48 27.4	+0.7
	baz=6.0							
ALS				*i* S		Sg	22 48 30.3	+1.3
	baz=6.0							
STYT	**Tauyuan**	**0.18**	**191**	⇑*i*P		Pg	22 48 27.5	+0.7
	baz=188							
STYT				*i* S		Sg	22 48 30.3	+1.0
	baz=188							
WTP	**Ta-pu**	**0.19**	**240**	*i* P		Pg	22 48 27.7	+0.7
	baz=245							
WTP				*i* S		Sg	22 48 30.9	+1.4
	baz=245							
ELDTW	**Lidau**	**0.26**	**127**	*e*P		Pg	22 48 28.4	+0.3
	baz=116							
ELDTW				*e*S		Sg	22 48 32.7	+1.2
	baz=116							
CHN5	**Tsauling**	**0.28**	**337**	P		Pg	22 48 29.3	+0.7
	baz=346							
CHN5				S		Sb	22 48 34.8	-0.8
	baz=346							
CHN1	**Nanshi**	**0.29**	**238**	P		Pb	22 48 29.9	-0.9
	baz=237							
CHN1				S		Sb	22 48 35.0	-0.9
	baz=237							
TWK	**Hsinying**	**0.29**	**255**	P		Pb	22 48 30.1	-0.8
	baz=254							
TWK				S		Sb	22 48 34.9	-1.1
	baz=254							
SGST	**Jiashian**	**0.32**	**217**	*e*P		Pg	22 48 30.1	+0.6
	baz=206							
SGST				S		Sg	22 48 35.3	+1.5
	baz=206							
SLGT	**Liugui**	**0.37**	**202**	*e*P		Pg	22 48 30.7	+0.3
	baz=189							
SLGT				*e*S		Sb	22 48 37.4	-0.9
	baz=189							
CHY	**Chiayi**	**0.37**	**295**	*e*P		Pg	22 48 31.1	+0.7
	baz=296							
CHY				*e*S		Sb	22 48 37.8	-0.5
	baz=296							
WDLH	**Douliu**	**0.42**	**326**	*e*S		Sb	22 48 39.6	+0.1
	baz=326							
TWF1	**Yuli**	**0.46**	**89**	*e*P		Pg	22 48 32.6	+0.6
	baz=89							
TWF1				*e*S		Sb	22 48 39.7	-1.1
	baz=89							
SSLB	**Suanglung**	**0.47**	**18**	*e*S		Sb	22 48 40.0	-1.0
	baz=25							
WLGB	**Puzi**	**0.47**	**287**	*e*P		Pb	22 48 33.6	-0.3
	baz=288							
CHN3	**Shinhua**	**0.48**	**236**	*e*P		Pb	22 48 33.4	-0.6
	baz=249							
FULB	**Fuli**	**0.48**	**107**	*e*P		Pg	22 48 33.1	+0.7
	baz=106							
FULB				*e*S		Sb	22 48 40.8	-0.6
	baz=106							
WJS	**Zhushan**	**0.48**	**353**	*e*P		Pb	22 48 33.7	-0.4
	baz=359							
WJS				*e*S		Sb	22 48 41.5	+0.1
	baz=359							

TAP 20 22:48:25.8, 23.72N×121.38E, h18km±1km, ML1.3, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EGFH	**Guangfu**	**0.07**	**141**	*e*P		Pg	22 48 29.6	+0.4
	baz=140							
EGFH				*e*S		Sg	22 48 32.1	+0.6
	baz=140							
ESL	**Shilin**	**0.10**	**27**	P		Pg	22 48 30.1	+0.5
	baz=30							
ESL				S		Sg	22 48 32.9	+0.8
	baz=30							
EHY	**Hungye**	**0.22**	**194**	*i* P		Pg	22 48 31.4	+0.3
	baz=192							
EHY				*i* S		Sg	22 48 35.8	+1.2
	baz=192							
VWDT	**VWDT**	**0.22**	**279**	⇑P		Pb	22 48 32.1	+1.0
	baz=278							
VWDT				S		Sg	22 48 36.2	+1.5
	baz=278							

HGSD	**Ruisui**	**0.23**	**170**	*e*P		Pb		22 48 32.1	+0.8
	baz=170								
OWD	**Renai**	**0.30**	**321**	P		Pg		22 48 32.5	+0.1
	baz=321								
OWD				S		Sb		22 48 38.7	+1.4
	baz=321								
HWA	**Hwalien**	**0.33**	**39**	P		Pb		22 48 33.7	+0.5
	baz=39								
HWA				S		Sb		22 48 39.9	+1.8
	baz=39								
YULB	**Yu-li**	**0.34**	**193**	P		Pg		22 48 33.1	+0.2
	baz=84								
YULB				S		Sb		22 48 39.3	+1.0
	baz=84								
YULB	**Yu-li**	**0.34**	**193**	P		Pg		22 48 33.1	+0.1
	baz=193								
YULB				S		Sb		22 48 39.4	+1.0
	baz=193								
TWF1	**Yuli**	**0.37**	**192**	*i* P		Pb		22 48 34.0	0.0
	baz=190								
TWF1				*i* S		Sb		22 48 40.3	+0.8
	baz=190								
EYUL	**Yuli**	**0.38**	**189**	*e*P		Pb		22 48 34.2	+0.2
	baz=188								
EYUL				S		Sb		22 48 40.8	+1.3
	baz=188								
CHGB	**Renai**	**0.39**	**331**	P		Pb		22 48 34.4	+0.1
	baz=330								
CHGB				*e*S		Sb		22 48 40.7	+0.6
	baz=330								
TWD	**Chiawan**	**0.41**	**29**	*e*P		Pb		22 48 35.2	+0.6
	baz=29								
TWD				*e*S		Sn		22 48 42.4	-1.6
	baz=29								
WHF	**Hehuan Shan**	**0.44**	**346**	P		Pb		22 48 35.3	0.0
	baz=346								
WHF				S		Sb		22 48 42.0	+0.3
	baz=346								
SMLT	**Sun Moon Lake**	**0.47**	**290**	P		Pg		22 48 35.5	+0.1
	baz=290								
SMLT				*e*S		Sb		22 48 43.1	+0.8
	baz=290								
NACB	**Ninganchiao**	**0.49**	**23**	*e*P		Pb		22 48 36.2	+0.3
	baz=23								
NACB				*e*S		Sb		22 48 43.0	+0.1
	baz=23								
ETLH	**Xiulin Townshi**	**0.49**	**11**	P		Pb		22 48 36.8	+0.8
	baz=10.0								
ETLH				*e*S		Sb		22 48 43.4	+0.5
	baz=10.0								
FULB	**Fuli**	**0.53**	**189**	*e*P		Pb		22 48 37.3	+0.8
	baz=188								
FULB				*e*S		Sn		22 48 45.5	-1.4
	baz=188								
FUSS	**Fushou**	**0.54**	**346**	*e*P		Pg		22 48 36.8	0.0
	baz=346								
FUSS				*e*S		Sb		22 48 45.0	+0.6
	baz=346								
TWT	**Tachien**	**0.56**	**340**	*e*P		Pn		22 48 38.4	-0.7
	baz=339								
TWT				*e*S		Sb		22 48 46.3	+1.3
	baz=339								
ALS	**Alishan**	**0.57**	**249**	*e*P		Pb		22 48 38.1	+0.8
	baz=248								
ALS				*e*S		Sn		22 48 46.9	-1.5
	baz=248								
CHN5	**Tsauling**	**0.66**	**259**	*e*P		Pg		22 48 39.2	+0.3
	baz=259								
CHN5				*e*S		Sg		22 48 48.8	+1.1
	baz=259								
NNSB	**Datong**	**0.70**	**0**	*e*P		Pg		22 48 39.7	0.0
NNSB				*e*S		Sb		22 48 49.0	0.0
NNSH	**Datong**	**0.70**	**0**	*e*P		Pg		22 48 40.0	+0.3
NNSH				*e*S		Sb		22 48 48.8	-0.2

*TEH **20** 23:05:07.3, 32.71N×47.51E, h8km, ML3.3*
*ISN **20** 23:05:08.6±1.2, 32.74N×47.55E, h27km±8km, ML3.2*
ISC 20 23:05:08.8±1.2, 32.68N±0.04×47.46E±0.04, h10km±10km, n37, σ1s20/40, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DHL1	**Dehloran**	**0.15**	**269**	*e*Pg		**Pg**	**23 05 11.9**	**-0.3**
IKFM	**Kafar-mosalman**	**0.90**	**21**	*e*Pg		**Pb**	**23 05 23.5**	**-3.0**
IKFM				*e*			23 05 45.8	
IKMR	**Kamar-syah**	**1.14**	**43**	*e*Pg		**Pb**	**23 05 28.4**	**-2.1**
IKMR				*e*			23 05 49.1	
IDOB	**Doab**	**1.25**	**28**	*e*Pg		**Pn**	**23 05 30.8**	**-1.8**
IBDR	**Badra**	**1.36**	**289**	*e*Pg		**Pn**	**23 05 34.0**	**+0.2**
IBDR				*e*Sg		**Sg**	**23 05 53.0**	**+0.5**
IBDR				AML		AML	23 05 58.2	
	comp=N,544nm,0.6s							
IBDR				AML		AML	23 05 58.6	
	comp=E,394nm,0.5s							
IKOM	**Komasi**	**1.49**	**2**	*e*Pg		**Pb**	**23 05 35.7**	**-0.9**
IKOM				*e*			23 05 37.4	
BMDN	**Meydan**	**1.51**	**49**	*e*Pg		**Pb**	**23 05 35.8**	**-1.2**
BMDN				*e*			23 06 01.2	
KCHF	**Cheshme Sefid,**	**1.63**	**348**	*e*Pg		**Pb**	**23 06 38.0**	**-1.0**
KCHF				*e*			23 06 05.7	
AHWZ	**Ahwaz**	**1.68**	**143**	*e*Pg		**Pb**	**23 05 38.8**	**-1.0**
KER	**Kermanshah**	**1.72**	**351**	*e*Pg		**Pb**	**23 05 39.7**	**-0.9**
HSAM	**Samen**	**1.80**	**32**	*e*Pg		**Pb**	**23 05 40.7**	**-1.3**
HSAM				*e*			23 06 09.0	
IGHG	**Ghaleghazi**	**1.80**	**336**	*e*Pn		**Pb**	**23 05 40.8**	**-1.3**
IGHG				*e*			23 06 21.3	
IBZA	**Bozab**	**1.81**	**10**	*e*Pg		**Pb**	**23 05 41.0**	**-1.2**
IBZA				*e*			23 06 10.8	
IVIS	**Veis**	**1.91**	**345**	*e*Pn		**Pn**	**23 05 41.9**	**+0.4**
IVIS				*e*			23 06 13.1	
NSR	**Nassriya**	**2.01**	**214**	*e*Pn		**Pn**	**23 05 44.0**	**+1.2**
NSR				*e*Sn		**Sn**	**23 06 08.0**	**0.0**
NSR				AML		AML	23 06 20.6	
	comp=E,143nm,0.4s							
IDHR	**Dehrash**	**2.20**	**336**	*e*Pn		**Pb**	**23 05 46.9**	**-1.9**
IDHR				*e*			23 06 23.0	
IALM	**Almabolaq**	**2.25**	**15**	*e*Pn		**Pn**	**23 05 46.7**	**+0.4**
ILIN	**Lien**	**2.27**	**350**	*e*Pn		**Pn**	**23 05 46.7**	**+0.1**
ILIN				*e*			23 06 30.5	
HAGD	**Aghdareh**	**2.55**	**33**	*e*Pn		**Pn**	**23 05 51.3**	**+0.9**
HAGD				*e*			23 06 31.9	
HSRG	**Sareghieh**	**2.64**	**15**	*e*		**Sg**	**23 06 37.1**	**+3.4**
BHD	**Baghdad**	**2.66**	**284**	*e*Pn		**Pn**	**23 05 52.0**	**+0.4**
BHD				*e*Sn		**Sn**	**23 06 25.0**	**+1.2**
BHD				AML		AML	23 06 50.5	
	comp=E,143nm,0.5s							
JHBN	**Jahan bin**	**2.75**	**99**	*e*Pn		**Pn**	**23 05 53.7**	**+0.5**
JHBN				*e*			23 06 42.0	
IPIR	**Pirpir**	**2.89**	**89**	*e*Pn		**Pn**	**23 05 55.9**	**+0.7**
IPIR				*e*			23 06 45.9	
ROKH	**ROKH**	**3.04**	**95**	*e*Pn		**Pn**	**23 05 57.1**	**0.0**
IRAZ	**Razeghan**	**3.40**	**36**	*e*Pn		**Pn**	**23 06 03.0**	**+0.9**
QABG	**Abgarm-Qazvin**	**3.49**	**30**	*e*Pn		**Pn**	**23 06 03.3**	**-0.1**
IKLH	**Kolahrood**	**3.52**	**79**	*e*			**23 06 03.6**	**+0.9**
IKLH				*e*Pn		**Pn**	**23 06 04.9**	**+1.2**
IGAR	**Gharneh**	**3.88**	**93**	*e*Pn		**Pn**	**23 06 09.3**	**+0.6**
KLNJ	**Kolanjah**	**3.89**	**114**	*e*Pn		**Pn**	**23 06 09.0**	**0.0**
KLNJ				*e*			23 07 40.3	
QSDN	**Sirdan**	**4.06**	**20**	*e*Pn		**Pn**	**23 06 12.3**	**+1.1**
IZEF	**Zefreh**	**4.11**	**86**	*e*Pn		**Pn**	**23 06 12.4**	**+0.6**
IRAM	**Ramesheh**	**4.26**	**101**	*e*Pn		**Pn**	**23 06 13.7**	**-0.2**
QALM	**Alamut, Qazvin**	**4.57**	**34**	*e*Pn		**Pn**	**23 06 18.6**	**+0.4**
IDMV	**Damavand**	**4.76**	**51**	*e*Pn		**Pn**	**23 06 21.0**	**+0.1**
TNSJ	**Nastanj**	**7.76**	**78**	*e*Pn		**Pn**	**23 07 02.8**	**+0.9**
TPRV	**Parvadeh(Tabas**	**7.77**	**85**	*e*Pn		**Pn**	**23 07 02.4**	**+0.4**
TKDS	**Koohdasht(Taba**	**8.15**	**81**	*e*Pn		**Pn**	**23 07 07.2**	**-0.1**

*UCR **20** 23:16:58.2±1.8, 9.37N×83.85W, h59km±3km, MD3.6*
*UPA **20** 23:16:58.8±1.0, 9.44N×83.81W, h58km±10km, MW3.9*
ISC 20 23:16:58.9±1.3, 9.41N±0.05×83.82W±0.04, h57km±6km, n40, σ0s83/59, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PEZE	**Perez Zeledon,**	**0.14**	**99**	*e*P		**Pn**	**23 17 07.5**	**-0.5**
PEZE				*e*S		**Sn**	**23 17 15.4**	**+0.9**
CDM	**Cerro de Muert**	**0.16**	**21**	*e*P		**Pn**	**23 17 07.9**	**-0.6**
CDM				*e*S		**Sn**	**23 17 16.0**	**+0.7**
EDDO	**Dominical**	**0.16**	**196**	*e*P		**Pn**	**23 17 07.4**	**-0.5**
EDDO				*e*S		**Sn**	**23 17 15.5**	**+1.2**
EDLM	**Las Mercedes**	**0.26**	**119**	*e*P		**Pn**	**23 17 08.3**	**-0.3**
EDLM				*e*S		**Sn**	**23 17 16.7**	**+1.1**
RIMA	**Rio Macho**	**0.36**	**353**	*e*P		**Pn**	**23 17 08.8**	**-0.8**
RIMA				*e*S		**Sn**	**23 17 17.5**	**+0.3**
LCR2	**La Lucha 2**	**0.38**	**332**	*e*P		**Pn**	**23 17 08.8**	**-1.0**
LCR2				*e*S		**Sn**	**23 17 17.5**	**0.0**
EDPN	**Palmar Norte**	**0.57**	**141**	*e*P		**Pn**	**23 17 11.6**	**+0.1**
SJS	**Escuela Geolog**	**0.58**	**337**	*e*P		**Pn**	**23 17 11.4**	**-0.4**
SJS				*e*S		**Sn**	**23 17 21.6**	**+0.6**
DRK0	**Durika**	**0.58**	**104**	⇑*i*P		**Pn**	**23 17 11.2**	**-0.7**
DRK0				*e*S		**Sn**	**23 17 21.4**	**+0.1**
DRK0	**Durika**	**0.58**	**104**	*e*P		**Pn**	**23 17 11.0**	**-0.9**
DRK0				*e*S		**Sn**	**23 17 21.7**	**+0.4**
EDBA	**Buenos Aires**	**0.59**	**114**	*e*P		**Pn**	**23 17 10.6**	**-1.2**
EDBA				*e*S		**Sn**	**23 17 20.6**	**-0.5**
CVTR	**Volcan Turrial**	**0.61**	**6**	*e*P		**Pn**	**23 17 12.0**	**-0.5**
HDC	**Heredia**	**0.66**	**334**	*e*P		**Pn**	**23 17 12.5**	**-0.3**
HDC				*e*S		**Sn**	**23 17 22.9**	**+0.1**
HDC	**Heredia**	**0.66**	**334**	*e*P		**Pn**	**23 17 12.4**	**-0.3**
HDC				*e*S		**Sn**	**23 17 22.9**	**+0.1**
RIOS	**Rincon, Osa**	**0.76**	**157**	*e*P		**Pn**	**23 17 12.7**	**-1.1**
SRA1	**San Ramn**	**0.94**	**316**	*e*P		**Pn**	**23 17 14.7**	**-1.5**
PIRO	**Carate, Puerto**	**1.10**	**154**	*e*P		**Pn**	**23 17 18.5**	**+0.2**
PIRO				*e*S		**Sn**	**23 17 33.5**	**+0.9**
PIRO	**Carate, Puerto**	**1.10**	**154**	*e*P		**Pn**	**23 17 17.3**	**-1.0**
LAFE	**Finca La Fe, P**	**1.15**	**290**	*e*P		**Pn**	**23 17 17.2**	**-1.6**
RGM0	**Gandoca**	**1.21**	**81**	*e*S		**Sn**	**23 17 35.2**	**+0.1**
BRU2	**Volcan**	**1.27**	**119**	*e*P		**Pn**	**23 17 20.0**	**-0.7**
BRU2				*e*S		**Sn**	**23 17 37.2**	**+0.3**
BRU2	**Volcan**	**1.27**	**119**	*e*P		**Pn**	**23 17 20.1**	**-0.5**
FORC	**Fortuna**	**1.35**	**322**	*i* P		**Pn**	**23 17 20.9**	**-0.7**
ARE1	**Arenal 1**	**1.37**	**320**	*e*P		**Pn**	**23 17 21.6**	**-0.3**
CEDE	**Laguna Cedeo**	**1.38**	**321**	*e*P		**Pn**	**23 17 21.9**	**-0.2**
CEDE				*i* S		**Sn**	**23 17 41.2**	**+1.8**
JTS	**Las Juntas de**	**1.42**	**308**	*e*P		**Pn**	**23 17 21.4**	**-1.1**
JTS				*e*S		**Sn**	**23 17 40.8**	**+0.5**
JTS	**Las Juntas de**	**1.42**	**308**	*e*P		**Pn**	**23 17 21.2**	**-1.3**
BCO2	**Palmira**	**1.45**	**118**	*e*P		**Pn**	**23 17 22.8**	**-0.2**
BCO2				*e*S		**Sn**	**23 17 41.1**	**0.0**
PSOM3	**Paja de Sombre**	**1.64**	**116**	*e*S		**Sn**	**23 17 46.0**	**+0.3**
DVD	**David**	**1.66**	**125**	*e*S		**Sn**	**23 17 47.3**	**+1.3**
ACAL	**Aguas Claras**	**1.71**	**316**	*i* P		**Pn**	**23 17 26.7**	**+0.2**
CHGR2	**Aguacate**	**1.72**	**106**	*e*P		**Pn**	**23 17 25.9**	**-0.6**
CHGR2				*e*S		**Sn**	**23 17 49.0**	**+1.5**
PLVR	**Palo Verde**	**1.77**	**302**	*e*P		**Pn**	**23 17 26.1**	**-1.4**
CUI	**Cuipilapa**	**1.82**	**313**	*i* P		**Pn**	**23 17 28.1**	**+0.2**
CUI				*i* S		**Sn**	**23 17 51.4**	**+1.4**
COLC	**Colonia**	**1.85**	**313**	*i* P		**Pn**	**23 17 27.9**	**-0.5**
HORNC	**Hornillas**	**1.86**	**314**	*i* P		**Pn**	**23 17 28.5**	**-0.1**
ORTG	**Ortega, Santa**	**1.87**	**301**	*e*P		**Pn**	**23 17 28.7**	**-0.1**
BUEV	**Buena Vista**	**2.09**	**312**	*e*P		**Pn**	**23 17 32.4**	**+0.7**
GB1A	**Borinquen Arri**	**2.09**	**312**	*e*P		**Pn**	**23 17 30.8**	**-1.0**
HZTE	**Horizontes, Gu**	**2.18**	**307**	*e*P		**Pn**	**23 17 31.7**	**-1.1**

*IDC **20** 23:18:18.8±0.6, 59.16S×17.25W, h0km, mb4.3/18, mb1 4.3/18, mb1mx4.2/34, mbtmp4.3/18, MS4.7/20, Ms1 4.7/20, ms1mx4.6/23, Error ellipse: s-maj=19.1km s-min=14.5km az=8.0*
*NEIC **20** 23:18:20.3±1.0, 59.1S±0.1×17.1W±0.2, h10km±1km, mb4.9/56, Ms_20 5.0/475, Mwb5.5/19, Mwc5.6(GCMT), Error ellipse: s-maj=18.0km s-min=15.1km az=216.0*
*NEIC **20** 23:18:20.2, 59.10S×17.10W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr-0.19; Mθθ-0.26; Mφφ 0.44; Mrθ 0.32; Mφr 2.15; Mθr-0.30; Fault plane solution: M0 2.23000×10^17 NP1:φs356.06000°, δ81.52000°, λ-170.84000°. NP2:φs264.70000°, δ80.95000°, λ-8.58000°. Principal axes: T 2.2751, Plg0.0000°, Azm130.0000°; N -0.0897, Plg78.0000°, Azm39.0000°; P -2.1854, Plg12.0000°, Azm220.0000°;*
*NEIC **20** 23:18:26, 59.28S×17.04W, h21km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr-0.10; Mθθ-0.42; Mφφ 0.52; Mrθ 0.45; Mφφ 3.16; Mθr-0.00; Fault plane solution: M0 3.23000×10^17 NP1:φs356.00000°, δ82.00000°, λ-179.00000°. NP2:φs266.00000°, δ89.00000°, λ-8.00000°. Principal axes: T 3.2715, Plg5.0000°, Azm311.0000°; N -0.0896, Plg82.0000°, Azm79.0000°; P -3.1818, Plg6.0000°, Azm220.0000°;*
*GCMT **20** 23:18:26.3±0.1, 59.25S±0.01×16.97W±0.01, h20km, MW5.6/148, Moment Tensor Solution. s111,c195; s148,c263; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr-0.21±.04; Mθθ 0.04±.04; Mφφ 0.16±.04; Mrθ-0.28±.07; Mφφ 3.22±.04; Mθr 0.03±.06; Best double couple: M0 3.23300×10^17 NP1:φs179.00000°, δ85.00000°, λ-179.00000°. NP2:φs89.00000°, δ89.00000°, λ-5.00000°. Principal axes: T 3.3330, Plg3.0000°, Azm135.0000°; N -0.2010, Plg85.0000°, Azm258.0000°; P -3.1320, Plg4.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 23:18:20.1±0.3, 59.23S±0.07×17.38W±0.06, h10km, n402, σ1s74/147, mb4.8/40, MS5.0/263, 2C-2D, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res

BI03 Tigo 41.85 277 IAMs_20 IAMs_20 23 41 52.6
comp=Z,2µm,19.0s
TCA Tanti 42.04 290 *i* P **P** **23 26 13.1 +1.4**
BOSA Boshof 42.16 63 P **P** **23 26 10.2 -2.6**
comp=Z,3.7nm,1.1s,baz=196,slow=7.4,SNR=2.1
BOSA LR LR 23 39 47.5
comp=Z,585nm,20.1s,baz=208,slow=31
BOSA Boshof 42.16 63 P **P** **23 26 10.7 -2.0**
PTGB Pitanga 42.17 310 *eP* **P** **23 26 12.9 +0.2**
BO02 Sierra Bellavi 42.31 281 P **P** **23 26 14.6 +0.7**
FRTB Fartura 42.45 313 *eP* **P** **23 26 17.5 +2.5**
AAGR Agrelo 42.69 284 *i* P **P** **23 26 18.7 +1.6**
GO05 Huala 42.72 280 P **P** **23 26 18.2 +1.1**
GO05 IAmb IAmb 23 26 19.6
comp=Z,18nm,1.1s
GO05 Huala 42.72 280 *i* P **P** **23 26 18.1 +0.9**
BO01 Tunca 42.78 281 P **P** **23 26 18.7 +1.1**
BO01 IAmb IAmb 23 26 20.2
comp=Z,28nm,0.9s
BO01 IAMs_20 IAMs_20 23 42 18.0
comp=Z,2µm,19.0s
CPUP Villa Florida 42.94 302 P **P** **23 26 18.2 -0.6**
comp=Z,6.8nm,1.0s,baz=138,slow=7.6,SNR=12
CPUP LR LR 23 44 35.5
comp=Z,576nm,18.6s,baz=156,slow=37
CPUP Villa Florida 42.94 302 P **P** **23 26 19.2 +0.3**
CPUP Villa Florida 42.94 302 *eP* **P** **23 26 17.9 -1.0**
ARCO CERRO ARCO 42.94 285 *i* P **P** **23 26 20.6 +1.5**
ASAL Salagasta 43.09 285 *i* P **P** **23 26 21.1 +0.9**
MT05 Renca 43.40 282 P **P** **23 26 23.7 +1.0**
VNDA Vanda 43.51 180 LR LR 23 43 40.1
comp=Z,1µm,19.4s,baz=182,slow=35
VNDA Vanda 43.51 180 P **P** **23 26 24.3 +1.3**
RTCV Cerro Valdivia 43.53 286 *i* P **P** **23 26 24.8 +1.0**
PEL Peldehue 43.57 283 P **P** **23 26 25.0 +0.9**
PEL Peldehue 43.57 283 *i* P **P** **23 26 25.3 +1.2**
AUSP Uspallata 43.66 285 *i* P **P** **23 26 26.5 +1.4**
MT02 Curacav 43.71 282 P **P** **23 26 26.2 +1.1**
MT02 IAmb IAmb 23 26 28.8
comp=Z,14nm,0.7s
APLL PUNTA DE LOS L 43.75 289 *i* P **P** **23 26 26.5 +1.0**
VA03 San Esteban 43.81 283 P **P** **23 26 27.1 +1.0**
ZON Zonda 43.86 286 P **P** **23 26 27.4 +1.0**
ZON Zonda 43.86 286 *i* P **P** **23 26 28.1 +1.7**
ROC1 El Roble 43.87 282 P **P** **23 26 27.6 +0.9**
RTLL Cerro Villicun 43.94 286 *i* P **P** **23 26 28.1 +1.1**
RTLS Leoncito 43.96 285 *i* P **P** **23 26 29.8 +2.3**
TRCB Terra Rica 44.12 310 *eP* **P** **23 26 30.3 +1.8**
PCMB Pacaembu 44.66 312 *eP* **P** **23 26 34.9 +2.0**
ACLC CERRO LA CRUZ 44.76 289 *i* P **P** **23 26 35.1 +1.4**
ACCO Cerro Coronel 44.83 286 *i* P **P** **23 26 36.8 +2.3**
CYA Choya 45.02 291 *i* P **P** **23 26 37.2 +1.5**
CO02 Combarbal 45.29 284 P **P** **23 26 38.4 +0.4**
CO02 IAmb IAmb 23 26 41.0
comp=Z,23nm,1.1s
CO02 IAMs_20 IAMs_20 23 44 41.3
comp=Z,2µm,18.0s
LBTB Lobatse 45.41 60 P **P** **23 26 37.3 -1.6**
LBTB IAmb IAmb 23 26 53.5
comp=Z,7.6nm,1.0s
CO03 El Pedregal 45.43 285 P **P** **23 26 40.4 +1.4**
CO03 IAmb IAmb 23 26 54.6
comp=Z,15nm,1.0s
CO03 IAMs_20 IAMs_20 23 44 59.0
comp=Z,2µm,20.0s
AGUA GUANDACOL 45.45 288 *i* P **P** **23 26 41.5 +2.3**
CO01 Juntas del Tor 45.84 286 P **P** **23 26 43.2 +0.8**
CO01 IAMs_20 IAMs_20 23 45 43.7
comp=Z,2µm,21.0s
VCA Vinchina 45.94 289 *i* P **P** **23 26 43.7 +0.6**
GO04 Tololo Observa 46.03 285 P **P** **23 26 44.8 +0.9**
GO04 IAMs_20 IAMs_20 23 45 35.8
comp=Z,1µm,18.0s
ITRB Iturama 46.06 315 *eP* P 23 26 49.1 +5.2
AC05 El Transito 46.87 286 P **P** **23 26 50.7 +0.3**
IPMB Ipameri, GO 46.89 318 *eP* P 23 26 55.6 +5.1
LCO Las Campanas 46.93 286 P **P** **23 26 52.1 +1.1**
LCO IAmb IAmb 23 27 09.4
comp=Z,14nm,1.0s
TSUM Tsumeb 47.26 48 P **P** **23 26 54.3 +0.8**
comp=Z,2.2nm,0.8s,baz=195,slow=9.3,SNR=2.8
TSUM Tsumeb 47.26 48 P **P** **23 26 52.5 -1.0**
AC04 Llanos de Chal 47.78 286 P **P** **23 26 58.4 +1.1**
AC04 IAMs_20 IAMs_20 23 47 43.5
comp=Z,1µm,19.0s
GO03 Copiap 47.88 287 P **P** **23 26 58.7 +0.5**
GO03 IAmb IAmb 23 27 08.4
comp=Z,8.9nm,0.9s
AC02 Maricunga 47.97 289 P **P** **23 27 00.7 +1.3**
AC02 IAmb IAmb 23 27 02.8
comp=Z,12nm,0.9s
GDU01 Guandu, BA 48.33 331 *eP* P 23 27 14.1 +12
CASY Casey 48.97 155 P **P** **23 27 06.4 +0.4**
CASY IAmb IAmb 23 27 18.0
comp=Z,9.4nm,0.9s
BDFB Brasilia 49.00 319 P **P** **23 27 07.1 +0.1**
comp=Z,1.9nm,0.4s,baz=172,slow=8.1,SNR=4.4
BDFB LR LR 23 44 52.2
comp=Z,3µm,19.4s,baz=150,slow=32
BDFB Brasilia 49.00 319 P **P** **23 27 06.9 0.0**
AC01 Pan de Azucar 49.26 288 P **P** **23 27 09.2 +0.5**
AC01 IAmb IAmb 23 27 15.1
comp=Z,15nm,1.1s
GO02 Mina Guanaco 49.59 290 P **P** **23 27 12.8 +1.1**
H10S2 ASCENSION HYDR 50.20 4 T T 00 21 33.8
baz=39,slow=74,SNR=15
H10S3 ASCENSION HYDR 50.20 3 T T 00 21 21.9
baz=181,slow=74,SNR=26
ARAG Araguaiana, MT 50.27 315 *eP* **P** **23 27 18.1 +1.7**
MATP Matopo 50.71 60 P **P** **23 27 20.1 +0.2**
comp=Z,2.5nm,0.9s,baz=205,slow=7.2,SNR=4.9
PB15 IPOC Station P 51.19 291 P **P** **23 27 23.9 +0.3**
PB15 IAmb IAmb 23 27 34.4
comp=Z,13nm,0.8s
PB15 IAMs_20 IAMs_20 23 47 06.1
comp=Z,1µm,21.0s
H10N1 ASCENSION HYDR 51.31 4 T T 00 22 50.8
baz=190
H10N3 ASCENSION HYDR 51.31 4 T T 00 22 45.7
baz=190,slow=74
H10N2 ASCENSION HYDR 51.33 4 T T 00 22 44.7
baz=190,slow=74
LVC Limon Verde 51.43 292 P **P** **23 27 26.3 +0.7**
comp=Z,18nm,0.9s,baz=130,slow=6.9,SNR=7.8
LVC Limon Verde 51.43 292 P **P** **23 27 26.1 +0.5**
LVC Limon Verde 51.43 292 *eP* P 23 27 19.7 -6.0
SALV Santo Asenio 51.56 310 *eP* **P** **23 27 27.6 +1.4**
PB06 IPOC Station P 51.67 292 P **P** **23 27 28.7 +1.5**
PB06 IAmb IAmb 23 27 38.8
comp=Z,18nm,0.9s
PB04 IPOC Station P 52.26 291 P **P** **23 27 31.2 -0.4**
PB09 IPOC Station P 52.28 292 P **P** **23 27 33.5 +1.7**
PB09 IAMs_20 IAMs_20 23 46 45.0
comp=Z,1µm,21.0s
PEXB Peixe 52.40 321 *eP* P 23 27 38.7 +6.2
PB01 IPOC Station P 53.05 293 IAMs_20 IAMs_20 23 48 18.2
comp=Z,1µm,22.0s
PTLB Pontes e Lacer 53.35 307 *eP* **P** **23 27 38.8 -0.7**
PB08 IPOC Station P 53.66 294 P **P** **23 27 43.4 +1.2**
PB08 IAmb IAmb 23 28 00.3
comp=Z,17nm,1.0s
SIV San Ignacio 53.67 304 P **P** **23 27 42.4 +0.5**
comp=Z,3.1nm,0.8s,baz=160,slow=6.7,SNR=14
GO01 Chusmiza 54.09 294 P **P** **23 27 45.9 +0.4**
GO01 IAmb IAmb 23 27 51.9
comp=Z,8.4nm,0.9s
GO01 IAMs_20 IAMs_20 23 48 51.8
comp=Z,1µm,21.0s
PB11 IPOC Station P 54.23 293 P **P** **23 27 47.2 +1.2**
PB11 IAmb IAmb 23 27 52.4
comp=Z,14nm,0.9s
PSGCX Pisagua 54.59 293 P **P** **23 27 49.1 +0.5**
PSGCX IAmb IAmb 23 27 54.9
comp=Z,8.4nm,0.9s
MNMC Minye Minye 54.74 294 P **P** **23 27 50.9 +1.0**
MNMC IAmb IAmb 23 28 04.2
comp=Z,15nm,0.9s
LSZ Lusaka 55.11 57 P **P** **23 27 51.0 -1.5**
PB16 IPOC Station P 55.39 294 P **P** **23 27 56.0 +1.1**
PB16 IAMs_20 IAMs_20 23 51 20.2
comp=Z,1µm,21.0s
VILB Vilhena 56.03 307 *eP* **P** **23 27 59.6 +0.6**
LPAZ La Paz 56.53 297 P **P** **23 28 03.4 +0.2**
comp=Z,7.4nm,1.1s,baz=139,slow=6.9,SNR=14
LPAZ LR LR 23 51 20.1
comp=Z,833nm,21.8s,baz=155,slow=35
LPAZ La Paz 56.53 297 P **P** **23 28 04.1 +0.9**
LPAZ IAmb IAmb 23 28 09.1
comp=Z,19nm,1.1s
LPAZ La Paz 56.53 297 *eP* **P** **23 28 00.2 -3.0**
ROSB Rosrio 59.89 329 *eP* P 23 28 35.9 +10
SAML Samuel 60.88 306 P **P** **23 28 33.1 +0.3**
SAML IAmb IAmb 23 28 38.7
comp=Z,12nm,0.9s
SAML Samuel 60.88 306 *eP* **P** **23 28 33.5 +0.8**
ETMB Extrema 61.39 302 *eP* **P** **23 28 35.3 -1.0**
ITTB Itaituba 62.16 316 *eP* **P** **23 28 46.1 +4.7**
MALB Monte Alegre 63.98 318 *eP* P 23 28 59.4 +5.9
NNA Nana 64.36 291 P **P** **23 28 57.4 +1.3**
NNA Nana 64.36 291 IAMs_20 IAMs_20 23 55 31.2
comp=Z,1µm,21.0s
MCPB Macapa, AP 64.64 321 *eP* P 23 29 03.1 +5.3
DBIC Dimbokro 66.44 14 P **P** **23 29 08.7 -0.7**
comp=Z,2.3nm,0.7s,baz=180,slow=13,SNR=1.4
DBIC LR LR 23 51 19.1
comp=Z,250nm,19.8s,baz=172,slow=30
DBIC Dimbokro 66.44 14 P **P** **23 29 08.4 -1.0**
DBIC IAmb IAmb 23 29 26.4
comp=Z,11nm,1.0s
PTGA Pitinga 67.08 313 P **P** **23 29 13.6 +0.1**
comp=Z,4.1nm,0.8s,baz=141,slow=14,SNR=4.5
PTGA Pitinga 67.08 313 P **P** **23 29 13.8 +0.2**
PTGA IAmb IAmb 23 29 27.8
comp=Z,6.8nm,1.1s
ATAH Atahualpa 69.32 292 P **P** **23 29 28.6 +0.4**
comp=Z,4.4nm,0.8s,baz=153,slow=2.3,SNR=2.4
MBAR Mbarara 69.38 53 P **P** **23 29 28.4 +0.3**
MBAR Mbarara 69.38 53 IAMs_20 IAMs_20 23 56 00.5
comp=Z,993nm,21.0s
TOA0 Torodi Ar. Sit 73.77 19 P **P** **23 29 53.3 -1.0**
TOA0 IAmb IAmb 23 30 04.1
comp=Z,9.9nm,1.1s
TORD Torodi Ar. Bea 73.77 19 P **P** **23 29 54.5 +0.2**
comp=Z,3.8nm,0.7s,baz=186,slow=5.5,SNR=10
TORD LR LR 23 55 05.6
comp=Z,399nm,21.9s,baz=175,slow=30
TORD Torodi Ar. Bea 73.77 19 P **P** **23 29 54.4 +0.1**
OTAV Otavalo 75.81 295 *eP* **P** **23 30 04.1 -2.7**
ROSC El Rosal 78.02 301 LR LR 00 06 00.4
comp=Z,480nm,19.9s,baz=166,slow=37
ROSC El Rosal 78.02 301 IAMs_20 IAMs_20 00 09 46.6
comp=Z,671nm,18.0s
RUSC La Rusia 78.42 303 P **P** **23 30 21.4 -0.1**
RKT Rikitea 83.36 235 *eS* **S** **23 41 04.1 -4.0**
comp=Z,5µm,50.8s
RKT Rikitea 83.36 235 *eLQ* LQ 23 53 27.0
comp=Z,1µm,31.5s
RKT *eLR* LR 23 57 02.7
comp=Z,1µm,28.8s
TAM Tamanrasset 83.87 21 P **P** **23 30 49.5 -0.2**
SEUS St. Eustatius 85.00 317 IAMs_20 IAMs_20 00 06 40.6
comp=Z,662nm,21.0s
SABA Saba 85.21 317 IAMs_20 IAMs_20 00 05 31.2
comp=Z,672nm,22.0s
ATD Arta Tunnel 85.42 59 IAMs_20 IAMs_20 00 06 06.6
comp=Z,573nm,20.0s
STKA Stekenjokk 87.57 162 LR LR 00 07 47.5
comp=Z,338nm,20.0s,baz=187,slow=34
TBI Tubuai 88.78 223 *eS* **S** **23 41 58.3 -2.8**
comp=Z,405nm,30.2s
TBI Tubuai 88.78 223 *eLR* LR 23 59 31.3
comp=Z,368nm,28.2s
SDDR Presa de Saban 89.47 310 IAMs_20 IAMs_20 00 09 46.3
comp=Z,588nm,21.0s
SC01 Santiago de lo 89.65 311 IAMs_20 IAMs_20 00 11 00.1
comp=Z,393nm,21.0s
MTDJ Mount Denham 91.34 304 IAMs_20 IAMs_20 00 11 10.4
comp=Z,685nm,22.0s
GRTK Grand Turk 91.69 311 IAMs_20 IAMs_20 00 11 40.3
comp=Z,600nm,21.0s
GTBY Guantanamo Bay 91.85 307 IAMs_20 IAMs_20 00 13 46.7
comp=Z,653nm,20.0s
MDT Midelt 92.31 11 LR LR 00 07 58.0
comp=Z,324nm,18.1s,baz=184,slow=32
ESQI Esquipulas 93.44 293 IAMs_20 IAMs_20 00 20 14.8
comp=Z,671nm,21.0s
ASAR Alice Springs 94.08 154 P **P** **23 31 39.5 +0.8**
comp=Z,0.4nm,0.7s,baz=189,slow=5.2,SNR=2.1
ASAR LR LR 00 11 04.4
comp=Z,283nm,19.7s,baz=194,slow=34
ASAR Alice Springs 94.08 154 P **P** **23 31 39.0 +0.3**
PPT2 Papeete2 94.12 225 *eS* **S** **23 42 44.8 -5.0**
comp=Z,335nm,28.5s
PPT2 Papeete2 94.12 225 *eLR* LR 00 02 03.4
comp=Z,492nm,22.5s,baz=156
PPT Papeete 94.14 225 LR LR 00 04 45.6
comp=Z,289nm,21.6s,baz=150,slow=30
KEST Kesra 97.18 22 LR LR 00 11 47.3
comp=Z,272nm,19.1s,baz=188,slow=33
KEST Kesra 97.18 22 IAMs_20 IAMs_20 00 12 22.8
comp=Z,407nm,19.0s
WB1 Warramunga Ar. 97.76 153 IAMs_20 IAMs_20 00 10 07.7
comp=Z,554nm,22.0s
WRA Warramunga Arr 97.77 153 LR LR 00 13 23.0
comp=Z,277nm,20.7s,baz=165,slow=34
WB5 Warramunga Arr 97.84 153 IAMs_20 IAMs_20 00 13 25.9
comp=Z,487nm,19.0s
WB7 Warramunga Arr 97.88 153 IAMs_20 IAMs_20 00 17 40.7
comp=Z,488nm,21.0s
TAOE Nuku Hiva Isla 98.27 237 *eLR* LR 00 03 56.6
comp=Z,961nm,27.9s
DZM Mont Dzumac 98.95 184 IAMs_20 IAMs_20 00 17 53.9
comp=Z,597nm,18.0s
ESDC Sonseca Array 99.17 10 LR LR 00 12 51.7
comp=Z,149nm,18.7s,baz=155,slow=33
656A Willston 103.29 306 IAMs_20 IAMs_20 00 19 49.9
comp=Z,623nm,20.0s
553A Crawfordville 104.81 304 IAMs_20 IAMs_20 00 18 57.0
comp=Z,549nm,21.0s
257A Skidaway Islan 104.95 308 IAMs_20 IAMs_20 00 22 19.6
comp=Z,364nm,19.0s
255A Hazlehurst 105.50 307 IAMs_20 IAMs_20 00 20 05.3
comp=Z,472nm,20.0s
NHSC New Hope 105.60 309 IAMs_20 IAMs_20 00 19 05.8
comp=Z,412nm,22.0s
451A Vernon 105.74 304 IAMs_20 IAMs_20 00 20 23.7
comp=Z,479nm,21.0s
Z56A Williston 106.27 308 IAMs_20 IAMs_20 00 22 03.6
comp=Z,387nm,21.0s
154A Montrose 106.36 307 IAMs_20 IAMs_20 00 20 20.0
comp=Z,490nm,20.0s
Y57A Sumter 106.49 309 IAMs_20 IAMs_20 00 19 30.2
comp=Z,460nm,22.0s
X58A Rowland 106.54 311 IAMs_20 IAMs_20 00 19 53.6
comp=Z,486nm,21.0s
BRAL Brewton 106.77 303 IAMs_20 IAMs_20 00 22 25.3
comp=Z,488nm,20.0s
V60A Jim Taylor Roa 106.81 313 IAMs_20 IAMs_20 00 16 31.5
comp=Z,414nm,22.0s
152A Waverly Hall 107.08 305 IAMs_20 IAMs_20 00 21 36.1
comp=Z,562nm,19.0s
250A Grady 107.13 304 IAMs_20 IAMs_20 00 20 40.8
comp=Z,387nm,21.0s
MDUB Mudurnu 107.16 37 IAMs_20 IAMs_20 00 25 58.6
comp=Z,425nm,20.0s
GOGA Godfrey 107.20 307 IAMs_20 IAMs_20 00 20 11.3
comp=Z,554nm,21.0s
W57A Gilead 107.32 310 IAMs_20 IAMs_20 00 20 27.3
comp=Z,506nm,22.0s
V58A Windy Hill, Pi 107.54 311 IAMs_20 IAMs_20 00 20 43.0
comp=Z,370nm,21.0s
T60A Surry 107.83 314 IAMs_20 IAMs_20 00 20 01.4
comp=Z,429nm,20.0s
Z51A Franklin 107.83 305 IAMs_20 IAMs_20 00 21 48.0
comp=Z,592nm,21.0s
Y52A Lilburn 107.84 307 IAMs_20 IAMs_20 00 21 46.2
comp=Z,439nm,20.0s
KMSC Kings Mountain 107.84 309 IAMs_20 IAMs_20 00 19 46.1
comp=Z,399nm,22.0s
T59A Double "B" Far 107.99 313 IAMs_20 IAMs_20 00 20 01.6
comp=Z,391nm,19.0s
IPM Ipoh 108.08 113 IAMs_20 IAMs_20 00 12 43.1
comp=Z,369nm,20.0s
LRAL Lakeview Retre 108.36 304 IAMs_20 IAMs_20 00 23 33.1
comp=Z,392nm,19.0s
V55A Taylorsville 108.42 310 IAMs_20 IAMs_20 00 20 26.2
comp=Z,425nm,22.0s
U56A King 108.52 311 IAMs_20 IAMs_20 00 20 51.0
comp=Z,386nm,21.0s
KULM Kulim 108.61 112 IAMs_20 IAMs_20 00 11 34.1
comp=Z,478nm,21.0s
S58A Poland Farm, P 108.74 313 IAMs_20 IAMs_20 00 20 22.5
comp=Z,368nm,20.0s
V53A Saluda 108.89 308 IAMs_20 IAMs_20 00 22 53.0
comp=Z,424nm,20.0s
146A Union 108.90 302 IAMs_20 IAMs_20 00 19 57.7
comp=Z,416nm,21.0s
Z47A Carrollton 108.96 303 IAMs_20 IAMs_20 00 21 51.0
comp=Z,527nm,21.0s
R58B Mineral 108.98 313 IAMs_20 IAMs_20 00 20 16.9
comp=Z,444nm,20.0s
CBN Corbin Frederi 109.00 314 IAMs_20 IAMs_20 00 19 44.5
comp=Z,435nm,20.0s
VBMS Vicksburg 109.19 301 IAMs_20 IAMs_20 00 20 13.3
comp=Z,406nm,21.0s
U54A Nelsons Funny 109.24 310 IAMs_20 IAMs_20 00 20 49.0
comp=Z,439nm,22.0s
TKL Tuckaleechee C 109.27 308 IAMs_20 IAMs_20 00 19 44.1
comp=Z,449nm,22.0s
V52A Sevierville 109.36 308 IAMs_20 IAMs_20 00 23 56.4
comp=Z,485nm,20.0s
W50A Signal Mountai 109.51 306 IAMs_20 IAMs_20 00 22 38.5
comp=Z,409nm,20.0s
X48A Hartselle 109.59 305 IAMs_20 IAMs_20 00 24 17.8
comp=Z,507nm,20.0s
V51A Loudon 109.63 307 IAMs_20 IAMs_20 00 20 20.7
comp=Z,450nm,22.0s
P60A Greenville 109.79 316 IAMs_20 IAMs_20 00 18 34.1
comp=Z,508nm,20.0s
PSUB Penn St. - Bra 109.83 316 IAMs_20 IAMs_20 00 18 35.0
comp=Z,584nm,22.0s
TZTN Tazewell 109.95 308 IAMs_20 IAMs_20 00 23 45.9
comp=Z,438nm,21.0s
143A Socs Landing, 109.99 300 IAMs_20 IAMs_20 00 20 49.6
comp=Z,366nm,20.0s
S54A Dingess, Beckl 110.15 311 IAMs_20 IAMs_20 00 22 30.0
comp=Z,339nm,20.0s
WSPT Westport, CT 110.19 318 IAMs_20 IAMs_20 00 16 45.4
comp=Z,505nm,21.0s
MVL Millersville 110.21 315 IAMs_20 IAMs_20 00 19 19.3
comp=Z,544nm,21.0s
PAL Palisades 110.24 318 IAMs_20 IAMs_20 00 16 49.9
comp=Z,620nm,22.0s
P57A Homestead Farm 110.37 314 IAMs_20 IAMs_20 00 20 25.5
comp=Z,449nm,19.0s
Q56A Snyder Ridge, 110.42 313 IAMs_20 IAMs_20 00 21 43.9
comp=Z,355nm,19.0s
PLAL Pickwick Lake 110.48 304 IAMs_20 IAMs_20 00 24 27.4
comp=Z,510nm,19.0s
PAGS Pennsylvania G 110.55 315 IAMs_20 IAMs_20 00 19 30.2
comp=Z,560nm,20.0s
OXF Oxford 110.65 303 IAMs_20 IAMs_20 00 21 13.0
comp=Z,501nm,22.0s
NATX Nacogdoches 110.66 297 IAMs_20 IAMs_20 00 26 44.6
comp=Z,319nm,18.0s
U49A Red Boiling Sp 110.83 307 IAMs_20 IAMs_20 00 22 45.4
comp=Z,424nm,20.0s
R53A Hurricane 110.86 311 IAMs_20 IAMs_20 00 21 44.9
comp=Z,411nm,20.0s
T50A Nancy 110.88 308 IAMs_20 IAMs_20 00 25 21.7
comp=Z,429nm,19.0s
S51A Beattyville 110.91 309 IAMs_20 IAMs_20 00 24 39.4
comp=Z,511nm,22.0s
Q54A Coxs Mills 110.99 312 IAMs_20 IAMs_20 00 15 43.3
comp=Z,391nm,22.0s
N58A Sunbury 111.08 316 IAMs_20 IAMs_20 00 19 05.4
comp=Z,535nm,21.0s
O56A Blue Knob Stat 111.26 314 IAMs_20 IAMs_20 00 20 39.1
comp=Z,541nm,22.0s
SSPA Standing Stone 111.33 315 IAMs_20 IAMs_20 00 20 07.0
comp=Z,528nm,21.0s
WVT Waverly 111.36 305 IAMs_20 IAMs_20 00 21 44.5
comp=Z,458nm,22.0s
MET Memphis--Engin 111.40 303 IAMs_20 IAMs_20 00 21 45.7
comp=Z,508nm,22.0s
EMMW East Machias 111.47 324 IAMs_20 IAMs_20 00 16 37.8
comp=Z,482nm,19.0s
FFD Franklin Falls 111.68 321 IAMs_20 IAMs_20 00 18 46.6
comp=Z,512nm,20.0s
L59A Walton 111.68 317 IAMs_20 IAMs_20 00 17 56.1
comp=Z,536nm,20.0s
R50A Paris 111.76 309 IAMs_20 IAMs_20 00 24 53.8
comp=Z,507nm,21.0s
I63A Otisfield 111.85 322 IAMs_20 IAMs_20 00 19 13.1
comp=Z,464nm,21.0s
O54A Avella 111.86 313 IAMs_20 IAMs_20 00 22 09.2
comp=Z,524nm,21.0s
I62A Tamworth 111.93 321 IAMs_20 IAMs_20 00 18 24.4
comp=Z,456nm,20.0s
G65A Princeton 111.95 324 IAMs_20 IAMs_20 00 16 53.5
comp=Z,437nm,21.0s
BINY Binghamton 112.02 317 IAMs_20 IAMs_20 00 21 21.1
comp=Z,531nm,20.0s
P52A Corning 112.06 311 IAMs_20 IAMs_20 00 24 15.5
comp=Z,349nm,21.0s
HNH Hanover 112.09 320 IAMs_20 IAMs_20 00 19 09.7
comp=Z,547nm,21.0s
R49A Shelbyville 112.11 308 IAMs_20 IAMs_20 00 24 20.1
comp=Z,419nm,20.0s
X40A Basin Creek Fa 112.13 300 IAMs_20 IAMs_20 00 23 36.4
comp=Z,430nm,22.0s
M56A Emporium 112.18 315 IAMs_20 IAMs_20 00 20 32.4
comp=Z,518nm,20.0s
O53A New Philadelph 112.24 312 IAMs_20 IAMs_20 00 23 02.2
comp=Z,503nm,22.0s
O52A Adamsville 112.36 312 IAMs_20 IAMs_20 00 14 55.5
comp=Z,338nm,20.0s
M55A Ridgway 112.38 314 IAMs_20 IAMs_20 00 21 11.8
comp=Z,500nm,22.0s
N54A Moraine State 112.39 313 IAMs_20 IAMs_20 00 28 19.2
comp=Z,416nm,20.0s
PENMO Penman 112.39 304 IAMs_20 IAMs_20 00 25 05.0
comp=Z,502nm,20.0s
K58A Earlville 112.40 317 IAMs_20 IAMs_20 00 18 18.0
comp=Z,538nm,21.0s
LBNH Lisbon 112.45 321 IAMs_20 IAMs_20 00 19 09.1
comp=Z,470nm,21.0s
T45A Paducah 112.46 305 IAMs_20 IAMs_20 00 21 53.5
comp=Z,506nm,22.0s
H62A Milan 112.50 321 IAMs_20 IAMs_20 00 19 43.4
comp=Z,547nm,21.0s
WCI Wyandotte Cave 112.51 307 IAMs_20 IAMs_20 00 26 40.8
comp=Z,400nm,20.0s
PKME Peaks-Kenny Pk 112.53 323 IAMs_20 IAMs_20 00 17 12.1
comp=Z,499nm,21.0s
N53A Lisbon 112.58 313 IAMs_20 IAMs_20 00 22 51.1
comp=Z,488nm,20.0s
M54A Oil Creek Stat 112.75 314 IAMs_20 IAMs_20 00 23 34.5
comp=Z,328nm,20.0s
F64A Sherman 112.78 324 IAMs_20 IAMs_20 00 24 54.6
comp=Z,406nm,20.0s
J58A Remsen 112.80 318 IAMs_20 IAMs_20 00 18 05.6
comp=Z,581nm,22.0s
USIN University of 112.85 306 IAMs_20 IAMs_20 00 21 51.9
comp=Z,384nm,22.0s
F63A Nahmakanta, Br 112.87 323 IAMs_20 IAMs_20 00 17 20.9
comp=Z,450nm,21.0s
G62A West of Ridge 112.88 322 IAMs_20 IAMs_20 00 17 47.4
comp=Z,528nm,20.0s
ACSO Alum Creek Sta 112.90 311 IAMs_20 IAMs_20 00 22 41.9
comp=Z,347nm,20.0s
CLL Collm 112.90 20 *e*(SSS) 23 57 18.0
CLL Collm 112.90 20 *e*SSSS 00 00 48.0
CLL Collm 112.90 20 Lm MLR 00 20 00.0
comp=Z,200nm,21.2s
CLL Collm 112.90 20 *e*PS **Pn** **23 47 20.0 +0.1**
CLL Collm 112.90 20 *e*PPS PPS 23 48 28.0
CLL Collm 112.90 20 *e*SS 23 53 28.0
ALLY Alegheny Colle 113.05 314 IAMs_20 IAMs_20 00 21 25.5
comp=Z,393nm,21.0s
M53A WI Miller and 113.06 313 IAMs_20 IAMs_20 00 22 22.0
comp=Z,501nm,20.0s
J57A Williamstown 113.09 317 IAMs_20 IAMs_20 00 21 01.3
comp=Z,555nm,21.0s
W39A Magazine 113.15 300 IAMs_20 IAMs_20 00 23 02.3
comp=Z,451nm,21.0s
P48A Milroy 113.21 309 IAMs_20 IAMs_20 00 25 36.2
comp=Z,420nm,19.0s
N51A Ashland 113.26 312 IAMs_20 IAMs_20 00 24 07.3
comp=Z,363nm,21.0s
S44A Carbondale 113.28 305 IAMs_20 IAMs_20 00 26 48.5
comp=Z,422nm,20.0s
E63A Oxbow 113.31 324 IAMs_20 IAMs_20 00 25 10.5
comp=Z,468nm,19.0s
F62A Pittston Farm, 113.31 323 IAMs_20 IAMs_20 00 18 09.6
comp=Z,507nm,20.0s
ERPA Erie 113.39 314 IAMs_20 IAMs_20 00 23 53.7
comp=Z,372nm,21.0s
O49A Covington 113.40 310 IAMs_20 IAMs_20 00 23 34.1

comp=Z,309nm,19.0s
BLO Bloomington 113.41 308 IAMs_20 IAMs_20 00 25 22.5
comp=Z,457nm,20.0s
M52A Chesterland 113.41 313 IAMs_20 IAMs_20 00 23 05.1
comp=Z,523nm,21.0s
FRNY Flat Rock 113.53 320 IAMs_20 IAMs_20 00 20 16.7
comp=Z,524nm,20.0s
OLIL Olney 113.68 306 IAMs_20 IAMs_20 00 22 03.9
comp=Z,375nm,22.0s
U40A Yellville 113.71 301 IAMs_20 IAMs_20 00 26 45.0
comp=Z,434nm,20.0s
E62A Clayton Lake 113.82 323 IAMs_20 IAMs_20 00 17 59.1
comp=Z,455nm,22.0s
M50A Fremont 113.93 311 IAMs_20 IAMs_20 00 24 38.1
comp=Z,340nm,20.0s
N49A Columbus Grove 113.96 310 IAMs_20 IAMs_20 00 23 26.0
comp=Z,383nm,22.0s
P46A Rosedale 114.06 307 IAMs_20 IAMs_20 00 25 22.9
comp=Z,374nm,20.0s
Q44A Meyer Farm, Va 114.21 306 IAMs_20 IAMs_20 00 23 21.9
comp=Z,414nm,22.0s
CCM Cathedral Cave 114.44 304 IAMs_20 IAMs_20 00 26 37.1
comp=Z,506nm,20.0s
X34A Smith Ranch, M 114.49 297 IAMs_20 IAMs_20 00 17 56.9
comp=Z,467nm,20.0s
N47A Urbana 114.53 309 IAMs_20 IAMs_20 00 26 29.0
comp=Z,442nm,20.0s
DELO Deloro Mine 114.62 317 IAMs_20 IAMs_20 00 22 30.0
comp=Z,508nm,20.0s
SFIN Lafayette 114.66 308 IAMs_20 IAMs_20 00 24 46.8
comp=Z,555nm,21.0s
L48A N Adams 114.93 311 IAMs_20 IAMs_20 00 25 53.7
comp=Z,419nm,21.0s
AAM Ann Arbor 114.94 311 IAMs_20 IAMs_20 00 24 10.7
comp=Z,395nm,20.0s
K50A Casco 114.95 312 IAMs_20 IAMs_20 00 24 12.9
comp=Z,444nm,20.0s
S39A Bolivar 115.03 302 IAMs_20 IAMs_20 00 25 52.0
comp=Z,475nm,20.0s
O44A Mansfield 115.03 307 IAMs_20 IAMs_20 00 24 49.6
comp=Z,439nm,22.0s
P43A Skaggs, Pawnee 115.04 306 IAMs_20 IAMs_20 00 27 08.9
comp=Z,424nm,20.0s
R40A Maddies Statio 115.07 303 IAMs_20 IAMs_20 00 29 10.0
comp=Z,384nm,19.0s
MNTX Cornudas Mount 115.67 289 IAMs_20 IAMs_20 00 19 52.8
comp=Z,482nm,22.0s
HDIL Hopedale 115.71 306 IAMs_20 IAMs_20 00 25 53.7
comp=Z,417nm,21.0s
L46A Eue Claire 115.72 309 IAMs_20 IAMs_20 00 27 36.7
comp=Z,400nm,21.0s
P40A Paris 116.01 304 IAMs_20 IAMs_20 00 27 54.8
comp=Z,447nm,20.0s
I49A Point Hope 116.02 313 IAMs_20 IAMs_20 00 23 50.2
comp=Z,452nm,20.0s
HQIL Hanson Quary C 116.17 308 IAMs_20 IAMs_20 00 29 06.6
comp=Z,438nm,19.0s
J47A Sunmer 116.19 311 IAMs_20 IAMs_20 00 22 14.8
comp=Z,553nm,22.0s
EPT El Paso 116.28 288 IAMs_20 IAMs_20 00 21 55.0
comp=Z,358nm,20.0s
N41A Harden Midland 116.49 305 IAMs_20 IAMs_20 00 24 17.3
comp=Z,562nm,22.0s
L44A Lake County Fo 116.51 308 IAMs_20 IAMs_20 00 29 17.6
comp=Z,477nm,20.0s
P38A Dawn 116.73 303 IAMs_20 IAMs_20 00 27 50.8
comp=Z,384nm,20.0s
L42A Oliver, Polo 117.08 307 IAMs_20 IAMs_20 00 29 12.7
comp=Z,321nm,19.0s
K43A Burlington 117.12 308 IAMs_20 IAMs_20 00 29 16.8
comp=Z,469nm,20.0s
I45A Fountain 117.41 311 IAMs_20 IAMs_20 00 28 32.2
comp=Z,508nm,20.0s
GLMI Grayling 117.45 312 IAMs_20 IAMs_20 00 24 47.1
comp=Z,501nm,21.0s
KSU1 Kansas State U 117.64 300 IAMs_20 IAMs_20 00 25 12.2
comp=Z,473nm,22.0s
L40A Anamosa 117.77 306 IAMs_20 IAMs_20 00 26 05.1
comp=Z,408nm,22.0s
G45A Suttons Bay 118.03 312 IAMs_20 IAMs_20 00 25 28.5
comp=Z,493nm,21.0s
JFWS Jewell Farm 118.07 307 IAMs_20 IAMs_20 00 26 47.1
comp=Z,347nm,20.0s
DLV T Lat 118.11 116 IAMs_20 IAMs_20 00 16 58.1
comp=Z,332nm,22.0s
I42A Draeger Farm, 118.34 309 IAMs_20 IAMs_20 00 26 24.1
comp=Z,516nm,22.0s
H43A Windswept, Lux 118.37 310 IAMs_20 IAMs_20 00 30 08.8
comp=Z,399nm,20.0s
N35A Tabor 118.66 302 IAMs_20 IAMs_20 00 26 19.1
comp=Z,330nm,22.0s
ANMO Albuquerque 118.83 290 IAMs_20 IAMs_20 00 21 51.5
comp=Z,375nm,22.0s
I40A Norwalk 119.03 308 IAMs_20 IAMs_20 00 28 01.5
comp=Z,335nm,20.0s
F42A Maple Grove Fa 119.59 311 IAMs_20 IAMs_20 00 29 56.9
comp=Z,399nm,20.0s
E43A Lone Tree Farm 119.66 312 IAMs_20 IAMs_20 00 23 54.7
comp=Z,486nm,22.0s
BGNE Belgrade 120.20 301 IAMs_20 IAMs_20 00 27 49.0
comp=Z,462nm,22.0s
I37A Lemond, Waseca 120.28 306 IAMs_20 IAMs_20 00 26 56.6
comp=Z,350nm,21.0s
KSCO Kaye Shedlock' 120.30 296 IAMs_20 IAMs_20 00 27 49.9
comp=Z,307nm,21.0s
SDCO Great Sand Dun 120.63 293 IAMs_20 IAMs_20 00 29 38.8
comp=Z,308nm,19.0s
D41A Chassel 120.83 311 IAMs_20 IAMs_20 00 24 52.8
comp=Z,504nm,21.0s
ESJX Sierra Juarez 121.16 281 IAMs_20 IAMs_20 00 22 45.7
comp=Z,301nm,19.0s
OGNE Ogallala 121.58 298 IAMs_20 IAMs_20 00 26 35.5
comp=Z,345nm,22.0s
E38A The Farm, Brul 121.64 309 IAMs_20 IAMs_20 00 28 12.3
comp=Z,460nm,20.0s
F36A Milaca 121.83 307 IAMs_20 IAMs_20 00 27 28.6
comp=Z,338nm,20.0s
EYMN Ely 122.70 310 IAMs_20 IAMs_20 00 33 01.4
comp=Z,430nm,20.0s
F33A 5 Mile Ranch, 122.97 305 IAMs_20 IAMs_20 00 28 40.7
comp=Z,406nm,20.0s
SUSD Miller 122.99 302 IAMs_20 IAMs_20 00 30 52.6
comp=Z,467nm,20.0s
O20A White River Ci 123.82 293 IAMs_20 IAMs_20 00 25 48.4
comp=Z,477nm,21.0s
B35A Bob, Littlefor 123.92 309 IAMs_20 IAMs_20 00 27 21.8
comp=Z,455nm,22.0s
D32A Dogwood Acres, 124.30 306 IAMs_20 IAMs_20 00 28 33.0
comp=Z,431nm,21.0s
QIZ Qiongzhong 124.91 113 PKP **PKiKP** **23 37 20.6 +0.2**
QIZ PP **PP** **23 39 08.0 -0.3**
QIZ Qiongzhong 124.91 113 SS SS 23 56 05.0 +1.6
QIZ LR LR
comp=N,200nm,22.6s
QIZ LR LR
comp=E,170nm,22.6s
QIZ LR LR
comp=Z,250nm,32.4s
RSSD Black Hills 124.99 299 IAMs_20 IAMs_20 00 33 14.8
comp=Z,445nm,20.0s
PRN Pahroc Range 124.99 286 IAMs_20 IAMs_20 00 27 26.8
comp=Z,274nm,18.0s
E28A Huff 125.42 303 IAMs_20 IAMs_20 00 33 17.0
comp=Z,305nm,20.0s
BW06 Boulder Array 126.49 294 IAMs_20 IAMs_20 00 27 33.9
comp=Z,404nm,22.0s
HWUT Hardware Ranch 126.55 291 IAMs_20 IAMs_20 00 30 15.6
comp=Z,317nm,22.0s
AHID Auburn Hatcher 127.22 293 IAMs_20 IAMs_20 00 28 37.2
comp=Z,319nm,20.0s
LAO LASA Array 127.95 299 IAMs_20 IAMs_20 00 30 48.1
comp=Z,445nm,22.0s
IMW Indian Meadow 128.00 294 IAMs_20 IAMs_20 00 35 53.9
comp=Z,299nm,19.0s
WAKR Walker 128.03 283 IAMs_20 IAMs_20 00 25 28.3
comp=Z,311nm,20.0s
RLMT Red Lodge 128.15 296 IAMs_20 IAMs_20 00 35 34.6
comp=Z,344nm,19.0s
DGMT Dagmar 128.40 302 IAMs_20 IAMs_20 00 32 23.8
comp=Z,342nm,20.0s
BOZ Bozeman (W) 129.60 295 IAMs_20 IAMs_20 00 36 30.3
comp=Z,357nm,20.0s
HKPS Hong Kong Po S 129.72 116 IAMs_20 IAMs_20 00 24 57.5
comp=Z,392nm,22.0s
ORV Oroville 129.87 282 IAMs_20 IAMs_20 00 24 37.0
comp=Z,287nm,22.0s
WVOR Wild Horse Val 130.61 287 IAMs_20 IAMs_20 00 30 07.4
comp=Z,290nm,22.0s

MSO Missoula 131.60 294 IAMs_20 IAMs_20 00 35 37.0
comp=Z,373nm,22.0s
CD2 Chengdu 131.83 99 PKP **PKPdf** **23 37 33.0 0.0**
KHMM Horse Mountain 131.98 282 IAMs_20 IAMs_20 00 30 33.1
comp=Z,439nm,22.0s
G08A Pilot Rock 132.87 289 IAMs_20 IAMs_20 00 32 22.1
comp=Z,353nm,21.0s
HUMO Hull Mountain 132.88 284 IAMs_20 IAMs_20 00 26 28.7
comp=Z,259nm,20.0s
KBO Bosley Butte 133.22 283 IAMs_20 IAMs_20 00 42 11.9
comp=Z,382nm,20.0s
WMQ Urumqi 133.52 75 *e*P **PKiKP** **23 37 36.8 -0.2**
WMQ LR LR
comp=N,110nm,10.9s
WMQ LR LR
comp=E,220nm,12.7s
WMQ LR LR
comp=Z,200nm,19.9s
F07A Phinny Hill Vi 133.78 289 IAMs_20 IAMs_20 00 40 24.1
comp=Z,370nm,20.0s
C09A Chrisman Ranch 134.34 292 IAMs_20 IAMs_20 00 36 23.8
comp=Z,330nm,20.0s
LON Longmire 135.30 289 IAMs_20 IAMs_20 00 32 09.5
comp=Z,298nm,22.0s
B06A Marblemount 136.38 291 IAMs_20 IAMs_20 00 35 05.9
comp=Z,338nm,21.0s
GTA Gaotai 136.42 88 *e*PKP **PKiKP** **23 37 47.1 +4.0**
GTA PP **PP** **23 40 28.1 +4.9**
NJ2 Nanjing 140.20 113 *e*P **PKPdf** **23 37 48.9 +0.5**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
BBB Bella Bella 141.99 291 IAMs_20 IAMs_20 00 40 22.3
comp=Z,406nm,22.0s
HHC Hu-ho-hao-te 143.51 97 *e*P **PKiKP** **23 37 56.4 -1.2**
SONM Songino Array 145.73 84 PKPbc **PKPdf** **23 37 57.9 0.0**
comp=Z,1.7nm,0.8s,baz=203,slow=5.8,SNR=4.9
SONM Songino Array 145.73 84 **PKPdf** **23 37 57.7 -0.1**
NRIK Noril'sk 148.09 40 PKPbc **PKiKP** **23 38 05.1 -0.8**
comp=Z,1.4nm,0.4s,baz=198,slow=1.6,SNR=1.5
SKAG Skagway 149.37 298 IAMs_20 IAMs_20 00 43 21.8
comp=Z,291nm,20.0s
BCPM Bancas Point 151.55 297 IAMs_20 IAMs_20 00 49 24.6
comp=Z,270nm,20.0s
INK Inuvik 151.69 315 PKPbc **PKPbc** **23 38 13.4 +0.5**
comp=Z,3.9nm,1.0s,baz=82,slow=3.4,SNR=4.5
INK Inuvik 151.69 315 PKPdf **PKPdf** **23 38 08.4 +1.8**
PCA Pinnacle 151.90 297 **PKPab** **23 38 23.6 +0.5**
PCA IAMs_20 IAMs_20 00 46 59.6
comp=Z,316nm,20.0s
BALM Baldy 153.21 298 IAMs_20 IAMs_20 00 45 57.2
comp=Z,327nm,21.0s
CRQM Cirque 153.47 297 IAMs_20 IAMs_20 00 46 30.6
comp=Z,261nm,20.0s
MCARA McCarthy VSAT 153.64 298 IAMs_20 IAMs_20 00 45 54.5
comp=Z,287nm,21.0s
GLB Gilahina Butte 154.01 298 IAMs_20 IAMs_20 00 44 04.5
comp=Z,328nm,21.0s
SCM Sheep Creek Mo 155.73 298 IAMs_20 IAMs_20 00 48 07.0
comp=Z,300nm,19.0s
ILAR Eielson Array 156.22 305 PKPab **PKPab** **23 38 40.1 -1.2**
comp=Z,1.3nm,0.9s,baz=135,slow=1.2,SNR=6.6
ILAR Eielson Array 156.22 305 PKPdf **PKPdf** **23 38 15.0 +1.8**
GHO Glory Hole Cre 156.44 297 IAMs_20 IAMs_20 00 50 26.8
comp=Z,220nm,18.0s
CCB Clear Creek Bu 156.59 304 **PKPab** **23 38 44.4 +1.5**
WRH Wood River Hil 156.68 304 **PKPab** **23 38 44.9 +1.6**
MDM Murphy Dome 156.82 305 **PKPab** **23 38 45.2 +1.3**
TOLK Toolik Lake Re 157.60 315 IAMs_20 IAMs_20 00 48 17.5
comp=Z,298nm,20.0s
SKT Skwentna 157.69 297 IAMs_20 IAMs_20 00 47 35.9
comp=Z,318nm,21.0s

*NEIC **20** 23:29:43.0±1.1,2°.63S±0°.09×138°.56E±0°.06,h44km±6km, mb4.4/38, Error ellipse: s-maj=13.1km s-min=8.5km az=180.0*
*IDC **20** 23:29:43.9±2.3,2°.59S×138°.62E,h51km±21km,mb3.9/13, mb1 4.0/17,mb1mx3.8/35,mbtmp4.2/17,ML3.8/4,MS3.4/3, Ms1 3.4/3,ms1mx2.9/32,Error ellipse: s-maj=20.2km s-min=13.7km az=77.0*
*DJA **20** 23:29:45.0±0.6,3°S±4°×13°9E±°,h15km±6km,M4.6/6, mb4.8/4,MLv4.5/6*
ISC 20 23:29:42.2±0.4,2°.64S±0°.05×138°.59E±0°.04,h32km,n89,
σ1§46/92,mb4.4/29,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.66**	**11**	P		**Pn**		**23 29 56.6**	**+1.4**
SMPI				S		**Sb**		**23 30 03.9**	**-0.3**
GENI	**Genyem**	**1.58**	**88**	P		**Pn**		**23 30 10.3**	**+2.3**
GENI				S		**Sn**		**23 30 29.0**	**+1.6**
JAY	**Jayapura**	**2.12**	**87**	P		**Pn**		**23 30 16.6**	**+1.1**
	31nm,0.3s,baz=242,slow=10,SNR=149								
JAY				S		**Sn**		**23 30 41.2**	**+0.4**
	104nm,0.3s,baz=180,slow=20,SNR=10								
JAY				LR		LR		23 31 29.9	
	comp=Z,440nm,21.6s,baz=145,slow=51								
JAY	**Jayapura**	**2.12**	**87**	P		**Pn**		**23 30 16.9**	**+1.4**
JAY				S		**Sn**		**23 30 41.0**	**+0.2**
SRPI	**Serui, Papua**	**2.46**	**288**	P		**Pb**		**23 30 26.4**	**+0.6**
RKPI	**Ransiki, Papua**	**4.54**	**284**	P		Pn		23 30 55.7	+6.9
FAKI	**Fak Fak**	**6.33**	**267**	P		Pn		23 31 20.7	+7.3
	0.2nm55nm,1.5s								
FAKI	**Fak Fak**	**6.33**	**267**	Pn		**Pn**		**23 31 15.2**	**+1.8**
FAKI				Sn		**Sn**		**23 32 23.6**	**-1.1**
SIJI	**Sorong**	**7.52**	**283**	P		**Pn**		**23 31 32.0**	**+2.3**
	2.0nm,0.3s,baz=129,slow=18,SNR=18								
SIJI				S		**Sn**		**23 32 52.9**	**-1.1**
	2.2nm,0.3s,baz=150,slow=20,SNR=1.9								
COEN	**Coen**	**12.13**	**158**			**Pn**		**23 32 33.5**	**+0.7**
MTN	**Manton Dam**	**12.54**	**216**			**Pn**		**23 32 38.8**	**+0.3**
SOEI	**Soe**	**15.88**	**243**	P		**P**		**23 33 31.5**	**+4.4**
	73nm,1.1s								
SOEI	**Soe**	**15.88**	**243**			**Pn**		**23 33 25.9**	**+2.2**
SOEI				IAmb		IAmb		23 33 36.6	
	comp=Z,38nm,1.0s								
KNRA	**Kununurra**	**16.17**	**216**	Pn		**Pn**		**23 33 26.2**	**-1.0**
KNRA				IAmb		IAmb		23 33 44.0	
	comp=Z,20nm,0.7s								
BATI	**Baumata**	**16.62**	**242**	P		**P**		**23 33 39.1**	**+4.1**
	comp=Z,8.5nm,0.3s,baz=103,slow=4.0,SNR=11								
BATI	**Baumata**	**16.62**	**242**	P		**P**		**23 33 41.0**	**+5.9**
GUMO	**Guam**	**17.29**	**21**	LR		LR		23 40 03.2	
	comp=Z,29nm,18.5s,baz=252,slow=36								
WB0	**Warramunga Arr**	**17.51**	**193**			**Pn**		**23 33 42.6**	**-1.4**
WB0				IAmb		IAmb		23 33 56.8	
	comp=Z,28nm,1.0s								
WR0	**Warramunga Arr**	**17.66**	**193**			**Pn**		**23 33 44.0**	**-1.9**
WB2	**Warramunga Arr**	**17.69**	**193**	P		**Pn**		**23 33 45.8**	**-0.5**
WB2				IAmb		IAmb		23 33 58.9	
	comp=Z,35nm,0.8s								
WRA	**Warramunga Arr**	**17.69**	**193**	P		**Pn**		**23 33 44.8**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=17,slow=12,SNR=37								
WRA				S		Sn		23 36 50.5	-12
	comp=Z,0.4nm,0.3s,baz=15,slow=22,SNR=8.6								
WRA	**Warramunga Arr**	**17.69**	**193**			**Pn**		**23 33 45.1**	**-1.1**
CTA	**Charters Tower**	**18.89**	**157**	P		**P**		**23 34 00.7**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=336,slow=13,SNR=1.7								
CTAO	**Charters Tower**	**18.89**	**157**			**P**		**23 34 00.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.93**	**219**	P		**P**		**23 34 11.7**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=43,slow=14,SNR=2.4								
FITZ				S		S		23 37 42.7	-12
	comp=Z,0.2nm,0.3s,baz=38,slow=20,SNR=3.9								
FITZ	**Fitzroy Crossi**	**19.93**	**219**	P		**P**		**23 34 10.2**	**-1.2**
AS31	**Alice Springs**	**21.39**	**192**	P		**P**		**23 34 26.7**	**-0.6**
AS31				IAmb		IAmb		23 34 40.2	
	comp=Z,16nm,0.8s								
ASAR	**Alice Springs**	**21.39**	**192**	P		**P**		**23 34 27.4**	**+0.1**
	comp=Z,5.0nm,0.8s,baz=22,slow=10,SNR=38								
ASAR				S		**S**		**23 38 19.0**	**-4.2**
	comp=Z,5.1nm,0.7s,baz=16,slow=24,SNR=11								
ASAR	**Alice Springs**	**21.39**	**192**	P		**P**		**23 34 27.1**	**-0.2**
KKM	**Kota Kinabalu**	**23.95**	**291**	P		**P**		**23 34 53.3**	**-0.6**
KKM				IAmb		IAmb		23 35 03.6	
	comp=Z,10.0nm,0.9s								
STKA	**Stephens Creek**	**29.22**	**175**	P		**P**		**23 35 40.6**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=356,slow=9.7,SNR=4.1								
STKA	**Stephens Creek**	**29.22**	**175**	P		**P**		**23 35 40.5**	**-0.5**
ARMA	**Armidale**	**30.27**	**157**	P		**P**		**23 35 51.2**	**+0.7**
ENH	**Enshi**	**42.93**	**322**	P		**P**		**23 37 38.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**44.29**	**300**	P		**P**		**23 37 49.2**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=126,slow=5.9,SNR=6.8								
XAN	**Xi'an**	**45.95**	**325**	P		**P**		**23 38 01.0**	**-1.3**
HHC	**Hu-ho-hao-te**	**49.81**	**333**	*e*P		**P**		**23 38 33.4**	**+1.2**
HHC				pmax		pmax			
	comp=Z,19nm,0.9s								
HHC				pmax		pmax			
	comp=Z,62nm,7.0s								
TUWZ	**Tuamarina**	**50.00**	**145**	P		**P**		**23 38 33.4**	**-0.1**
BKZ	**Black Stump Fm**	**50.10**	**141**	P		**P**		**23 38 33.9**	**-0.4**
LZH	**Lanzhou**	**50.35**	**323**	*e*P		**P**		**23 38 37.3**	**+0.8**
LZH				pP		pP		23 38 40.0	-6.4
LZH				sP		sP		23 38 42.4	-8.0
LZH				pmax		pmax			
	comp=Z,19nm,1.1s								
ULN	**Ulaanbaatar**	**57.35**	**335**	P		**P**		**23 39 26.9**	**-0.5**
ULN				IAmb		IAmb		23 39 28.1	
	comp=Z,3.6nm,0.7s								
SONM	**Songino Array**	**57.60**	**335**	P		**P**		**23 39 29.1**	**0.0**
	comp=Z,1.9nm,0.7s,baz=145,slow=7.7,SNR=2.4								
SONM	**Songino Array**	**57.60**	**335**	P		**P**		**23 39 28.5**	**-0.7**
PEA0B	**Petropavlovsk-**	**57.82**	**13**	P		**P**		**23 39 29.8**	**-0.7**
PEA0B				IAmb		IAmb		23 39 33.6	
	comp=Z,3.6nm,1.1s								
PETK	**Petropavlovsk-**	**57.82**	**13**	P		**P**		**23 39 30.6**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=158,slow=7.3,SNR=6.0								
PETK	**Petropavlovsk-**	**57.82**	**13**	P		**P**		**23 39 30.4**	**0.0**
YAK	**Yakutsk**	**64.85**	**355**	P		**P**		**23 40 17.8**	**0.0**
WMQ	**Urumqi**	**64.88**	**322**	*e*P		**P**		**23 40 19.4**	**+0.9**
WMQ				sP		sP		23 40 38.3	+5.7
WMQ				pmax		pmax			
	comp=Z,6.0nm,0.9s								
WMQ				LR		LR			
	comp=N,28nm,12.1s								
WMQ				LR		LR			
	comp=E,20nm,13.3s								
WMQ				LR		LR			
	comp=Z,210nm,17.1s								
MK31	**Makanchi Array**	**69.66**	**322**	P		**P**		**23 40 47.8**	**-0.9**
MK31				IAmb		IAmb		23 40 49.4	
	comp=Z,4.9nm,1.4s								
MKAR	**Makanchi Array**	**69.66**	**322**	P		**P**		**23 40 48.3**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=104,slow=7.6,SNR=14								
MKAR	**Makanchi Array**	**69.66**	**322**	P		**P**		**23 40 48.0**	**-0.6**
ZAA0	**Zalesovo Array**	**71.81**	**330**	P		**P**		**23 40 59.7**	**-1.8**
ZALV	**Zalesovo Beam**	**71.81**	**330**	P		**P**		**23 41 00.0**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=120,slow=5.1,SNR=4.0								
ZALV	**Zalesovo Beam**	**71.81**	**330**	P		**P**		**23 40 59.7**	**-1.9**
KURK	**Kurchatov**	**73.59**	**325**	P		**P**		**23 41 11.4**	**-0.8**
VNDA	**Vanda**	**75.86**	**175**	P		**P**		**23 41 25.1**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=331,slow=7.5,SNR=13								
VNDA	**Vanda**	**75.86**	**175**	P		**P**		**23 41 25.2**	**+0.3**
VNDA				IAmb		IAmb		23 41 25.6	
	comp=Z,2.6nm,0.7s								
KK31	**Karatay Array**	**75.99**	**316**	P		**P**		**23 41 25.5**	**-0.8**
KKAR	**Karatay Array**	**75.99**	**316**	P		**P**		**23 41 25.1**	**-1.2**
BRVK	**Borovoye**	**79.25**	**325**	P		**P**		**23 41 43.4**	**-0.9**
BRVK				IAmb		IAmb		23 41 44.1	
	comp=Z,2.8nm,0.7s								
NRIK	**Noril'sk**	**79.62**	**344**	P		**P**		**23 41 44.9**	**-1.0**
	comp=Z,2.1nm,0.4s,baz=118,slow=3.6,SNR=3.6								
OHAK	**Old Harbor**	**80.56**	**31**	P		**P**		**23 41 50.4**	**-0.8**
KDAK	**Kodiak Island**	**81.11**	**30**	P		**P**		**23 41 53.7**	**-0.4**
KDAK				IAmb		IAmb		23 41 54.7	
	comp=Z,5.8nm,0.9s								
MAW	**Mawson**	**82.14**	**202**	P		**P**		**23 41 59.7**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=90,slow=6.1,SNR=5.6								
SUA	**Susitna One**	**83.18**	**27**	P		**P**		**23 42 04.1**	**-1.1**
SUA				IAmb		IAmb		23 42 04.3	
	comp=Z,3.3nm,0.9s								
IMAR	**Indian Mountai**	**83.47**	**22**	P		**P**		**23 42 05.5**	**-0.9**
GEYT	**Alibeck**	**84.10**	**308**	LR		LR		00 22 50.8	
	comp=Z,199nm,21.9s,baz=10.0,slow=38								
ABKAR	**Akbulak array**	**84.59**	**320**	P		**P**		**23 42 11.0**	**-1.3**
RND	**Reindeer**	**84.61**	**26**	P		**P**		**23 42 10.6**	**-1.7**
RND				IAmb		IAmb		23 42 12.1	
	comp=Z,4.7nm,1.0s								
GLI	**Glacier Island**	**84.71**	**28**	P		**P**		**23 42 11.9**	**-0.9**
COLD	**Coldfoot**	**85.23**	**22**	P		**P**		**23 42 15.0**	**-0.3**
CCB	**Clear Creek Bu**	**85.41**	**24**	P		**P**		**23 42 14.4**	**-1.7**
CCB				IAmb		IAmb		23 42 15.6	
	comp=Z,3.4nm,0.8s								
IL31		**85.82**	**24**	P		**P**		**23 42 16.4**	**-1.8**
IL31				IAmb		IAmb		23 42 16.8	
	comp=Z,2.1nm,0.7s								
ILAR	**Eielson Array**	**85.82**	**24**	P		**P**		**23 42 15.9**	**-2.3**
	comp=Z,1.9nm,0.7s,baz=263,slow=4.5,SNR=11								
ILAR	**Eielson Array**	**85.82**	**24**	P		**P**		**23 42 16.3**	**-1.9**
RIDG	**Independent Ri**	**86.43**	**26**	P		**P**		**23 42 20.2**	**-1.2**
ARU	**Arti**	**86.67**	**327**	P		**P**		**23 42 21.7**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=53,slow=5.1,SNR=3.3								
DOT	**Dot Lake**	**86.75**	**26**	P		**P**		**23 42 21.7**	**-1.2**
QSPA	**South Pole Qui**	**87.31**	**180**	P		**P**		**23 42 25.3**	**-0.4**
	comp=Z,3.7nm,0.6s,baz=335,slow=2.1,SNR=30								
QSPA	**South Pole Qui**	**87.31**	**180**	P		**P**		**23 42 25.3**	**-0.4**
BMAR	**Burnt Mountain**	**87.38**	**22**	P		**P**		**23 42 26.2**	**+0.3**
BCAR	**Beaver Creek A**	**87.64**	**27**	P		**P**		**23 42 27.3**	**+0.1**
EGAK	**Eagle**	**88.22**	**25**	P		**P**		**23 42 29.2**	**-0.6**
EGAK				IAmb		IAmb		23 42 30.2	
	comp=Z,3.1nm,0.9s								
HYT	**Haines Junctio**	**89.31**	**29**	P		**P**		**23 42 34.8**	**-0.5**
HYT				IAmb		IAmb		23 42 35.9	
	comp=Z,2.1nm,0.8s								
TORD	**Torodi Ar. Bea**	**136.12**	**286**	PKP		**PKPdf**		**23 49 00.6**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=50,slow=3.0,SNR=4.2								
TORD	**Torodi Ar. Bea**	**136.12**	**286**			**PKPdf**		**23 49 00.8**	**-0.5**
CPUP	**Villa Florida**	**147.35**	**153**	PKPbc		**PKPdf**		**23 49 23.0**	**+2.0**
	comp=Z,2.4nm,1.0s,baz=236,slow=5.2,SNR=4.8								
LPAZ	**La Paz**	**147.59**	**126**	PKPbc		**PKPdf**		**23 49 24.1**	**+1.6**
	comp=Z,2.8nm,0.9s,baz=259,slow=2.9,SNR=7.8								
RUSC	**La Rusia**	**148.26**	**83**			**PKPdf**		**23 49 23.3**	**-0.2**

*REY **20** 23:38:04.2,64°.62N×17°.47W,h8km*
*IDC **20** 23:38:04.5±0.7,64°.39N×17°.69W,h0km,mb3.7/12, mb1 4.0/14,mb1mx3.8/41,mbtmp3.8/14,ML3.4/2,MS3.5/2, Ms1 3.5/2,ms1mx2.6/48,Error ellipse: s-maj=23.9km s-min=13.2km az=22.0*
ISC 20 23:38:05.6±0.5,64°.62N±0°.03×17°.48W±0°.03,h10km,n50,
σ2§23/50,mb3.8/13,Iceland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.13**	**297**	P		**Pg**		**23 38 07.0**	**-1.7**
	baz=294								
IDJK	**Dyngjujokull**	**0.15**	**136**	P		**Pg**		**23 38 07.4**	**-1.7**
	baz=139								
IDYN	**Dyngjuhals**	**0.18**	**16**	P		**Pg**		**23 38 07.9**	**-1.6**
	baz=14								
IGRF	**Grimsfjall**	**0.23**	**156**	P		**Pg**		**23 38 08.7**	**-1.7**
	baz=158								
IHUS	**Husbondi**	**0.33**	**193**	P		**Pg**		**23 38 10.6**	**-1.6**
	baz=194								
IVOT	**Vottur**	**0.37**	**159**	P		**Pg**		**23 38 11.2**	**-1.7**
	baz=160								
ISKR	**Skrokkalda**	**0.39**	**262**	P		**Pg**		**23 38 11.5**	**-1.9**
	baz=262								
IJOK	**Jokulheimar**	**0.44**	**227**	P		**Pg**		**23 38 12.2**	**-2.0**
	baz=228								
**I

	baz=19								
IREN	**Reynihlio**	**1.06**	**13**	P		**Pg**	**23 38 22.4**	**-3.6**
	baz=13								
BORG	**Borgarnes**	**1.66**	**276**	Pn		**Pn**	**23 38 32.1**	**-2.5**
	34nm,0.3s,baz=100,slow=8.6,SNR=60								
BORG				Sn		**Sb**	**23 38 55.6**	**-1.5**
	16nm,0.3s,baz=30,slow=20,SNR=8.0								
BORG				LR		LR	23 38 57.5		
	comp=Z,62nm,21.0s,baz=309,slow=33								
JMIC	**Jan Mayen**	**7.24**	**24**	LR		LR	23 42 19.8		
	comp=Z,44nm,19.5s,baz=266,slow=34								
EKA	**Eskdalemuir Ar**	**11.72**	**136**	Pn		**Pn**	**23 40 51.4**	**-1.2**
	baz=322,slow=13,SNR=16								
NOA	**NORSAR Array B**	**13.52**	**92**	Pn		**Pn**	**23 41 16.7**	**-0.6**
	0.0nm,0.3s,baz=300,slow=13,SNR=2.6								
CLL	**Collm**	**20.68**	**116**	*i* P		Pn	23 42 47.6	0.0	
	comp=Z,11nm,1.3s								
CLL				*e*			23 42 58.0		
BRG	**Berggiesshubel**	**21.38**	**115**	*e*P		**P**	**23 42 53.7**	**+0.7**
	comp=Z,13nm,1.5s								
OSTC	**Ostas**	**22.53**	**113**	*e*P		**P**	**23 43 08.6**	**+3.3**
KHC	**Kasperske Hory**	**22.64**	**118**	*e*P		**P**	**23 43 07.1**	**+0.6**
DPC	**Dobruska-Polom**	**22.73**	**113**	*e*P		**P**	**23 43 10.0**	**+2.5**
GERES	**GERESS Array B**	**22.92**	**119**	P		**P**	**23 43 09.9**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=333,slow=7.5,SNR=6.9								
SMOL	**Smolenice**	**24.63**	**114**	*e*P		**P**	**23 43 26.9**	**+1.0**
LANS	**Liptovska Anna**	**24.94**	**111**	*e*P		**P**	**23 43 31.7**	**+3.0**
VYHS	**Vyhne**	**25.21**	**112**	*e*P		**P**	**23 43 31.9**	**+0.8**
SRO2	**Moca**	**25.62**	**114**	*e*P		**P**	**23 43 36.4**	**+1.6**
ESDC	**Sonseca Array**	**26.20**	**156**	P		**P**	**23 43 39.6**	**-0.6**
	comp=Z,0.9nm,1.0s,baz=345,slow=9.5,SNR=6.7								
KOLS	**Kolonicke sedl**	**26.25**	**108**	*e*P		**P**	**23 43 42.3**	**+1.7**
BRTR	**Keskin Array B**	**38.46**	**105**	P		**P**	**23 45 28.1**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=337,slow=6.9,SNR=6.3								
ILAR	**Eielson Array**	**45.73**	**332**	P		**P**	**23 46 27.2**	**+0.9**
	comp=Z,1.9nm,1.1s,baz=24,slow=6.9,SNR=1.0								
ZALV	**Zalesovo Beam**	**47.66**	**51**	P		**P**	**23 46 43.6**	**+2.2**
	comp=Z,0.4nm,0.5s,baz=336,slow=6.5,SNR=3.7								
MKAR	**Makanchi Array**	**52.75**	**58**	P		**P**	**23 47 21.2**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=318,slow=6.5,SNR=4.9								
TORD	**Torodi Ar. Bea**	**53.09**	**156**	P		**P**	**23 47 20.5**	**-2.5**
	comp=Z,1.9nm,1.1s,baz=337,slow=7.7,SNR=5.3								
PDAR	**Pinedale Array**	**53.20**	**293**	P		**P**	**23 47 23.9**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=51,slow=7.6,SNR=5.0								
SONM	**Songino Array**	**59.67**	**40**	P		**P**	**23 48 11.7**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=322,slow=7.5,SNR=1.9								
NVAR	**Mina Array Bea**	**60.33**	**297**	P		**P**	**23 48 16.4**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=15,slow=7.5,SNR=2.3								
TXAR	**Lajitas Array**	**62.30**	**280**	P		**P**	**23 48 29.7**	**+1.9**
	comp=Z,0.9nm,1.0s,baz=32,slow=4.6,SNR=5.9								
MDP	**Montagnes des**	**64.49**	**219**	LR		LR	00 12 02.9		
	comp=Z,265nm,18.5s,baz=208,slow=32								
CMAR	**Chiang Mai Arr**	**84.15**	**59**	P		**P**	**23 50 39.3**	**+2.5**
	comp=Z,0.8nm,0.3s,baz=335,slow=4.0,SNR=1.5								

*IDC **20** 23:38:44.8±2.1,5.°32S×145.°81E,h86km±19km,mb3.6/6, mb1 3.7/9,mb1mx3.5/34,mbtmp3.9/9,MS3.8/3,Ms1 3.8/3, ms1mx3.0/28,Error ellipse: s-maj=23.6km s-min=12.3km az=59.0*

ISC 20 23:38:44.1±0.9,5.°30S±0.°09×145.°8E±0.°1,h69km,n13, σ1s56/12,mb3.9/6,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.28**	**162**	P	**Pn**	**23 39 48.0**	**+1.3**
	14nm,0.3s,baz=354,slow=9.2,SNR=8.8						
PMG				S	**Sn**	**23 40 36.3**	**+0.8**
	19nm,0.3s,baz=61,slow=19,SNR=12						
PMG				LR	LR	23 41 12.3	
	comp=Z,50nm,19.2s,baz=218,slow=34						
JAY	**Jayapura**	**5.83**	**298**	P	**Pn**	**23 40 08.8**	**+0.9**
	0.7nm,0.3s,baz=165,slow=16,SNR=1.7						
JAY				S	**Sn**	**23 41 14.4**	**+0.9**
	0.3nm,0.3s,baz=203,slow=20,SNR=1.1						
WRA	**Warramunga Arr**	**18.36**	**217**	P	**P**	**23 42 52.0**	**-1.3**
	0.3nm,0.3s,baz=32,slow=11,SNR=13						
ASAR	**Alice Springs**	**21.58**	**211**	P	**P**	**23 43 28.3**	**+0.1**
	0.6nm,0.4s,baz=44,slow=7.4,SNR=7.2						
FITZ	**Fitzroy Crossi**	**23.48**	**236**	P	**P**	**23 43 45.6**	**-2.2**
	2.6nm,0.6s,baz=44,slow=10,SNR=11						
STKA	**Stephens Creek**	**26.73**	**188**	P	**P**	**23 44 17.0**	**-0.2**
	0.8nm,0.3s,baz=36,slow=9.6,SNR=4.6						
TGY	**Tagaytay City**	**31.34**	**308**	LR	LR	23 57 29.2	
	comp=Z,190nm,21.9s,baz=178,slow=36						
KSRS	**Korea Array**	**45.70**	**340**	LR	LR	00 05 24.3	
	comp=Z,26nm,21.1s,baz=205,slow=35						
PETK	**Petropavlovsk-**	**59.05**	**8**	P	**P**	**23 48 36.6**	**-0.3**
	0.7nm,0.4s,baz=175,slow=4.9,SNR=2.5						
QSPA	**South Pole Qui**	**84.66**	**180**	P	**P**	**23 51 09.1**	**-1.1**
	0.7nm,0.6s,baz=293,slow=1.2,SNR=12						
ILAR	**Eielson Array**	**85.30**	**23**	P	**P**	**23 51 11.4**	**-1.7**
	0.8nm,0.6s,baz=254,slow=5.3,SNR=10						
ILAR				pP	**pP**	**23 51 34.4**	**+2.7**
	0.6nm,0.8s,baz=253,slow=3.7,SNR=4.4						
YKA	**Yellowknife Ar**	**99.09**	**28**	LR	LR	00 36 23.6	
	comp=Z,128nm,19.3s,baz=0.0,slow=35						
TORD	**Torodi Ar. Bea**	**143.80**	**285**	PKP	PKPbc	23 58 10.2	-0.1
	0.2nm,0.6s,baz=107,slow=2.2,SNR=1.7						

*ATH **20** 23:42:47.4,34.°10N×26.°47E,h21km±2km,ML2.4/4,Error ellipse: s-maj=4.7km s-min=1.6km az=355.0*
*HLW **20** 23:42:51.3,34.°16N×26.°63E,h29km±11km,Md3.6*
*THE **20** 23:42:51.0,34.°30N×26.°46E,h1km±2km,ML2.3/2,Error ellipse: s-maj=4.5km s-min=1.2km az=177.0*
*NIC **20** 23:42:52.3±0.0,34.°17N×26.°80E,h22km±5km,MI3.7/3*
*GII **20** 23:42:59.6±0.6,34.°20N×27.°31E,h60km,MD3.2/1*

ISC 20 23:42:49.7±2.1,34.°11N±0.°04×26.°56E±0.°04,h29km±19km, n48,σ1s61/65,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**1.04**	**344**	P	**Pn**	**23 43 07.3**	**-1.2**
ZKR	**Zakros**	**1.04**	**344**	P	**Pn**	**23 43 07.6**	**-0.9**
ZKR				S	**Sb**	**23 43 21.5**	**-1.0**
ZKR				AML	AML	23 43 23.3	
	comp=E,568μm,0.5s						
ZKR				AML	AML	23 43 24.1	
	comp=N,226μm,0.4s						
STIA	**Sitia Lasithi**	**1.16**	**341**	P	**Pn**	**23 43 09.6**	**-0.4**
STIA				S	**Sn**	**23 43 23.4**	**-1.5**
LAST	**Lasithi**	**1.38**	**320**	P	**Pn**	**23 43 12.8**	**-0.3**
LAST				S	**Sn**	**23 43 30.6**	**+0.2**
	comp=N,112nm,0.6s						
LAST	**Lasithi**	**1.38**	**320**	P	**Pn**	**23 43 12.4**	**-0.7**
LAST				S	**Sn**	**23 43 31.1**	**+0.7**
LAST				AML	AML	23 43 37.2	
	comp=N,198μm,0.5s						
LAST				AML	AML	23 43 41.1	
	comp=E,242μm,0.6s						
NPS	**Neapolis**	**1.39**	**326**	P	**Pn**	**23 43 13.1**	**-0.2**
NPS	**Neapolis**	**1.39**	**326**	P	**Pn**	**23 43 13.1**	**-0.2**
KARP	**Karpathos**	**1.52**	**19**	P	**Pn**	**23 43 16.0**	**+1.0**
KARP				S	**Sn**	**23 43 35.0**	**+1.1**
KARP	**Karpathos**	**1.52**	**19**	P	**Pn**	**23 43 16.0**	**+1.0**
KARP	**Karpathos**	**1.52**	**19**	P	**Pn**	**23 43 16.1**	**+1.1**
KARP				S	**Sb**	**23 43 35.5**	**-0.7**
SIVA	**Sivas**	**1.70**	**303**	P	**Pn**	**23 43 17.5**	**0.0**
SIVA				S	**Sn**	**23 43 38.9**	**+0.6**
SIVA				AML	AML	23 43 58.2	
	comp=E,390μm,0.8s						
SIVA				AML	AML	23 43 59.6	
	comp=N,329μm,0.7s						
IDI	**Anoyia**	**1.81**	**311**	P	**Pn**	**23 43 18.7**	**-0.3**
IDI	**Anoyia**	**1.81**	**311**	P	**Pn**	**23 43 18.7**	**-0.3**
GVD	**Gavdhos**	**2.17**	**290**	P	**Pn**	**23 43 23.8**	**-0.1**
GVD				S	**Sn**	**23 43 50.2**	**+0.4**
GVD				AML	AML	23 44 09.6	
	comp=N,80μm,0.6s						
GVD				AML	AML	23 44 09.8	
	comp=E,111μm,0.4s						
VAM	**Vamos**	**2.33**	**304**	P	**Pn**	**23 43 26.0**	**-0.1**
ARG	**Arkhangelos**	**2.46**	**31**	P	**Pn**	**23 43 29.8**	**+1.8**
ARG				S	**Sn**	**23 43 58.0**	**+0.9**
	comp=E,40nm,0.3s						
ARG	**Arkhangelos**	**2.46**	**31**	P	**Pn**	**23 43 29.7**	**+1.8**
ARG	**Arkhangelos**	**2.46**	**31**	P	**Pn**	**23 43 29.7**	**+1.8**
ARG				S	**Sn**	**23 43 57.9**	**+0.8**
IMMV	**Iera Moni Meta**	**2.51**	**303**	P	**Pn**	**23 43 28.6**	**0.0**
IMMV	**Iera Moni Meta**	**2.51**	**303**	P	**Pn**	**23 43 28.6**	**0.0**
SLUM	**Salum**	**2.84**	**204**	P	**Pn**	**23 43 35.5**	**+2.3**
	baz=205						
KSL	**Kastellorizon**	**3.21**	**50**	P	**Pn**	**23 43 39.1**	**+0.9**
KSL	**Kastellorizon**	**3.21**	**50**	P	**Pn**	**23 43 39.3**	**+1.1**
ELL	**Elmali**	**3.80**	**45**	P	**Pn**	**23 43 48.2**	**+1.8**
OSC1	**CSNet OBS 1**	**3.98**	**97**	P	**Pn**	**23 43 50.1**	**+1.3**
OSC1				S	**Sn**	**23 44 34.5**	**+0.1**
AKMS	**Akamas**	**4.85**	**78**	P	**Pn**	**23 44 01.6**	**+0.7**
AKMS				AML	AML	23 44 55.7	
	comp=E,0.2nm,0.3s						
AKMS				AML	AML	23 44 56.5	
	comp=E,0.3nm,0.2s						
OSC2	**CSNet OBS 4**	**4.88**	**101**	S	**Sn**	**23 44 57.5**	**+0.9**
SWA2		**4.94**	**191**	P	**Pn**	**23 44 04.2**	**+2.1**
	baz=192						
SWA2				S	**Sn**	**23 44 57.3**	**-0.9**
	baz=192						
NATA	**Nata**	**5.01**	**81**	P	**Pn**	**23 44 04.1**	**+1.0**
ALFC	**Alefka**	**5.09**	**76**	P	**Pn**	**23 44 04.9**	**+0.8**
ALFC				AML	AML	23 45 00.3	
	comp=E,0.2nm,0.3s						
ALFC				AML	AML	23 45 01.1	
	comp=E,0.2nm,0.2s						
SZAC	**Souni**	**5.27**	**81**	P	**Pn**	**23 44 07.5**	**+0.9**
SZAC				AML	AML	23 45 07.8	
	comp=E,0.2nm,0.3s						
SZAC				AML	AML	23 45 11.6	
	comp=E,0.1nm,0.2s						
ASGA	**Asgata**	**5.57**	**81**	P	**Pn**	**23 44 12.2**	**+1.5**
CSS	**Mathiatis**	**5.66**	**79**	P	**Pn**	**23 44 12.8**	**+0.9**
CSS	**Mathiatis**	**5.66**	**79**	Pn	**Pn**	**23 44 12.4**	**+0.5**
CSS	**Mathiatis**	**5.66**	**79**	P	**Pn**	**23 44 12.8**	**+0.9**
MVOU	**Mavrovouni**	**5.91**	**79**	P	**Pn**	**23 44 17.1**	**+1.9**
HSAF	**As Saff**	**6.17**	**135**	P	**Pn**	**23 44 20.5**	**+1.5**
	baz=135						
GLL	**Jalalah**	**6.29**	**134**	P	**Pn**	**23 44 22.0**	**+1.3**
	baz=135						
NBNS	**Bani Suef**	**6.80**	**142**	P	**Pn**	**23 44 29.4**	**+1.8**
	baz=142						
HFRF	**Wahat Farafira**	**7.10**	**167**	P	**Pn**	**23 44 34.1**	**+2.4**
	baz=167						
HFRF				S	**Sn**	**23 45 49.1**	**-2.3**
	baz=167						
KZIT	**Kziot**	**7.35**	**114**	Pn	**Pn**	**23 44 37.3**	**+2.2**
KZIT				Sn	**Sn**	**23 45 54.4**	**-3.2**
AMAZ	**Amatzia**	**7.49**	**108**	Pn	**Pn**	**23 44 39.4**	**+2.3**
AMAZ				Sn	**Sn**	**23 45 56.9**	**-4.1**
NATI	**Neve Ativ**	**7.70**	**94**	Pn	**Pn**	**23 44 41.2**	**+1.3**
DSI	**Dead Sea**	**7.84**	**106**	Pn	**Pn**	**23 44 43.7**	**+1.8**
KRMI	**Paran Flat**	**7.99**	**118**	Pn	**Pn**	**23 44 46.7**	**+2.8**
KRMI				Sn	**Sn**	**23 46 10.2**	**-3.1**
PRNI	**Paran**	**8.07**	**115**	Pn	**Pn**	**23 44 47.8**	**+2.7**
GHAJ	**Ghor Haditha**	**8.09**	**108**	Pn	**Pn**	**23 44 47.7**	**+2.4**
MBRI	**Mt Berech**	**8.30**	**119**	Pn	**Pn**	**23 44 50.8**	**+2.6**
MBRI				Sn	**Sn**	**23 46 18.2**	**-2.9**

*IDC **20** 23:45:32.1±2.1,19.°93S×177.°82W,h444km±27km,mb3.2/8, mb1 3.5/10,mb1mx3.3/30,mbtmp4.2/10,Error ellipse: s-maj=31.1km s-min=13.7km az=142.0*
*NEIC **20** 23:45:42.4±0.9,20.°09S±0.°09×178.°0W±0.°2,h570km±7km, mb4.2/19,Error ellipse: s-maj=26.1km s-min=12.3km az=100.0*

ISC 20 23:45:36.2±0.6,20.°0S±0.°1×177.°7W±0.°1,h500km,n33, σ1s21/31,mb4.0/17,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.56**	**298**	P	P	23 47 07.6	+8.1
AFI	**Afiamalu**	**8.30**	**44**	P	P	23 47 30.5	-5.4
	14nm,0.3s,baz=227,slow=15,SNR=19						
AFI				S	**S**	**23 49 11.5**	**-2.5**
	1.1nm,0.3s,baz=180,slow=23,SNR=1.1						
DZM	**Mont Dzumac**	**14.91**	**259**	P	**P**	**23 48 48.9**	**+3.2**
URZ	**Urewera**	**18.77**	**193**	P	**P**	**23 49 21.9**	**-1.5**
	5.7nm,0.3s,baz=279,slow=2.0,SNR=15						
QRZ	**Quartz Range**	**22.39**	**200**	P	**P**	**23 49 55.9**	**-0.4**
THZ	**Tophouse**	**23.13**	**198**	P	**P**	**23 50 02.3**	**-0.7**
OXZ	**Oxford**	**24.82**	**198**	P	**P**	**23 50 17.1**	**-0.9**
WHZ	**Wether Hill Ro**	**28.42**	**201**	P	**P**	**23 50 50.2**	**+0.6**
WHZ				IAmb	IAmb	23 50 58.8	
	comp=Z,20nm,1.2s						
ARMA	**Armidale**	**29.52**	**243**	P	**P**	**23 51 00.3**	**+0.7**
ARMA				IAmb	IAmb	23 51 18.1	
	comp=Z,18nm,1.1s						
CTA	**Charters Tower**	**33.78**	**263**	P	**P**	**23 51 35.6**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=82,slow=7.9,SNR=2.0						
CTAO	**Charters Tower**	**33.78**	**263**	P	**P**	**23 51 35.9**	**-0.2**
CTAO				IAmb	IAmb	23 51 55.0	
	comp=Z,10nm,1.1s						
TOO	**Toolangi**	**36.41**	**233**	P	**P**	**23 51 57.5**	**-0.3**
TOO				IAmb	IAmb	23 52 02.2	
	comp=Z,7.1nm,1.1s						
STKA	**Stephens Creek**	**38.24**	**244**	P	**P**	**23 52 13.0**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=80,slow=17,SNR=3.0						
STKA	**Stephens Creek**	**38.24**	**244**	P	**P**	**23 52 12.7**	**-0.2**
BBOO	**Buckleboo**	**43.00**	**243**	P	**P**	**23 52 50.1**	**-0.9**
BBOO				IAmb	IAmb	23 52 59.4	
	comp=Z,12nm,1.1s						
WR0	**Warramunga Arr**	**44.73**	**261**	P	**P**	**23 53 03.9**	**-0.7**
WR0				IAmb	IAmb	23 53 07.2	
	comp=Z,2.9nm,1.1s						
ASAR	**Alice Springs**	**44.88**	**256**	P	**P**	**23 53 05.3**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=89,slow=8.5,SNR=31						
WB0	**Warramunga Arr**	**44.89**	**262**	P	**P**	**23 53 05.2**	**-0.7**
WB0				IAmb	IAmb	23 53 10.2	
	comp=Z,3.1nm,1.0s						
WB2	**Warramunga Arr**	**44.90**	**261**	P	**P**	**23 53 05.2**	**-0.8**
WB2				IAmb	IAmb	23 53 24.7	
	comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**44.91**	**261**	P	**P**	**23 53 04.8**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=97,slow=7.6,SNR=37						
WRA	**Warramunga Arr**	**44.91**	**261**	P	**P**	**23 53 05.2**	**-0.8**
FORT	**Forrest**	**49.73**	**246**	P	**P**	**23 53 40.5**	**-1.7**
PSA00	**Pilbara Seismi**	**58.02**	**257**	P	**P**	**23 54 39.8**	**-1.3**
PSA00				IAmb	IAmb	23 54 40.6	
	comp=Z,6.4nm,0.9s						
VNDA	**Vanda**	**58.46**	**185**	P	**P**	**23 54 44.3**	**+1.2**
NWAO	**Narrogin (SRO)**	**58.82**	**243**	P	**P**	**23 54 45.0**	**-1.4**
NWAO				IAmb	IAmb	23 54 45.0	
	comp=Z,19nm,1.1s						
CASY	**Casey**	**64.55**	**205**	P	**P**	**23 55 22.8**	**-0.3**
QSPA	**South Pole Qui**	**70.10**	**180**	P	**P**	**23 55 57.6**	**+0.1**
PETK	**Petropavlovsk-**	**75.82**	**345**	P	**P**	**23 56 30.7**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=139,slow=9.0,SNR=2.4						
PETK	**Petropavlovsk-**	**75.82**	**345**	P	**P**	**23 56 30.6**	**+0.3**
TXAR	**Lajitas Array**	**86.57**	**57**	P	**P**	**23 57 28.6**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=220,slow=7.0,SNR=7.0						
ILAR	**Eielson Array**	**87.74**	**13**	P	**P**	**23 57 30.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=215,slow=6.2,SNR=3.3						
PDAR	**Pinedale Array**	**88.41**	**43**	P	**P**	**23 57 35.8**	**+1.0**
	comp=Z,0.1nm,0.6s,baz=216,slow=4.5,SNR=2.1						
AKASG	**Malin Array Be**	**142.66**	**332**	PKhKP	PKPpre	00 04 07.5	
	comp=Z,0.5nm,0.4s,baz=43,slow=4.1,SNR=4.8						

ISC 20 23:45:44.8±1.2,50.°11N±0.°06×19.°06E±0.°03,h0km,n16, σ0s56/23,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.49**	**77**	*e*Pg	**Pg**	**23 45 53.9**	**-0.1**
OJC				*e*Sg	**Sg**	**23 46 00.5**	**+0.2**
LANS	**Liptovska Anna**	**1.00**	**164**	*e*PG	**Pg**	**23 46 04.3**	**+0.4**
LANS				*e*SG	**Sb**	**23 46 17.7**	**-0.9**
LANS				*e*LG	Lg	23 46 21.0	
LANS	**Liptovska Anna**	**1.00**	**164**	*e*PG	**Pg**	**23 46 04.2**	**+0.4**
LANS				*e*SG	**Sb**	**23 46 17.7**	**-0.9**
LANS				*e*LG	Lg	23 46 21.1	
MORC	**Moravsky Berou**	**1.04**	**252**	*e*PG	**Pb**	**23 46 05.8**	**+0.2**
MORC				*e*SG	**Sg**	**23 46 17.8**	**-0.2**
NIE	**Niedzica**	**1.06**	**130**	*e*Pg	**Pg**	**23 46 04.9**	**-0.1**
NIE				*e*Sg	**Sb**	**23 46 21.4**	**+0.9**
JAVC	**Velka Javorina**	**1.55**	**216**	*e*PN	**Pg**	**23 46 15.0**	**+0.6**
JAVC				*e*SG	**Sg**	**23 46 34.5**	**+0.1**
VYHS	**Vyhne**	**1.62**	**185**	*e*SN	**Sn**	**23 46 35.9**	**-0.4**
VYHS	**Vyhne**	**1.62**	**185**	*e*SN	**Sn**	**23 46 35.9**	**-0.4**
VYHS	**Vyhne**	**1.62**	**185**	*e*PN	**Pn**	**23 46 14.3**	**-0.3**
VYHS	**Vyhne**	**1.62**	**185**	*e*PN	**Pn**	**23 46 14.4**	**-0.2**
VRAC	**Vranov**	**1.79**	**244**	*e*PN	**Pb**	**23 46 18.4**	**-0.1**
VRAC				*e*SG	**Sb**	**23 46 41.8**	**+0.3**
CRVS	**Cervenica-Dubn**	**1.98**	**127**	*e*PN	**Pb**	**23 46 21.2**	**-0.4**
KRUC	**Moravsky**	**2.03**	**240**	*e*SG	**Sg**	**23 46 49.2**	**-0.7**
MODS	**Modra-Piesok**	**2.10**	**215**	*e*PG	**Pb**	**23 46 24.3**	**+0.7**
KOLS	**Kolonicke sedl**	**2.40**	**118**	*e*PG	**Pb**	**23 46 29.6**	**+0.8**
KOLS	**Kolonicke sedl**	**2.40**	**118**	*e*PG	**Pb**	**23 46 29.7**	**+0.9**

DDA 21 00:02:05.0,39.°61N×25.°89E,h7km±3km,ML1.4,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.26**	**28**	*i* P	Pg	00 02 09.2	-1.0
BOZC				*i* P	Pb	00 02 10.9	-1.2
BOZC				IAML		00 02 12.0	
	comp=E,55nm,1.1s						
BOZC				*i* S	Sg	00 02 14.2	+0.4
BOZC				*i* S	Sb	00 02 14.7	-2.1
BOZC				IAML		00 02 15.0	
	comp=N,54nm,0.3s						
BOZC				IAML		00 02 19.0	
	comp=N,74nm,0.9s						
BAYC	**CANAKKALE_Bayr**	**0.52**	**75**	*i* P	Pg	00 02 15.3	+0.1
BAYC				*i* S	Sg	00 02 23.1	+1.2
GOKA	**anakkale-Gk**	**0.58**	**1**	*i* P	Pg	00 02 16.8	+0.6
GOKA				IAML		00 02 21.0	
	comp=N,21nm,0.7s						
GOKA				*i* S	Sg	00 02 24.1	+0.3
AYVA	**Ayvalik**	**0.69**	**116**	*i* P	Pg	00 02 18.3	+0.1
AYVA				*i* S	Sb	00 02 28.1	-0.9

ATH 21 00:02:57.4,38.°63N×25.°64E,h14km±4km,ML1.6/4,Error ellipse: s-maj=5.2km s-min=1.1km az=247.0,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSRA	**Psara**	**0.10**	**216**	P	Pg	00 03 00.7	+0.1
PSRA				S	Sg	00 03 03.0	+0.2
PSRA				AML	AML	00 03 03.2	
	comp=E,1465μm,0.2s						
PSRA				AML	AML	00 03 04.7	
	comp=N,1964μm,0.2s						
CHOS	**Chios island**	**0.40**	**126**	P	Pg	00 03 05.5	0.0
CHOS				S	Sg	00 03 10.7	-0.3
CHOS				AML	AML	00 03 11.5	
	comp=N,166μm,0.3s						
CHOS				AML	AML	00 03 12.2	
	comp=E,258μm,0.3s						
SIGR	**SIGRI**	**0.61**	**16**	P	Pg	00 03 08.9	-0.4
SIGR				S	Sg	00 03 17.5	+0.1
SIGR				AML	AML	00 03 20.6	
	comp=N,164μm,0.3s						
SIGR				AML	AML	00 03 20.6	
	comp=E,116μm,0.2s						
PRK	**Paraskevi**	**0.79**	**38**	P	Pb	00 03 12.9	0.0
PRK				S	Sb	00 03 23.6	+0.2
PRK				AML	AML	00 03 28.1	
	comp=N,72μm,0.5s						
PRK				AML	AML	00 03 28.8	
	comp=E,65μm,0.4s						
SMG	**Samos**	**1.31**	**134**	P	Pg	00 03 22.3	-0.4
LIA	**Limnos Island**	**1.32**	**344**	P	Pb	00 03 21.9	0.0

*KRSC **21** 00:25:16.2±1.8,54.°94N×165.°58E,h40km±14km,ML4.0*
*IDC **21** 00:25:16.6±1.6,55.°42N×165.°56E,h0km,mb3.3/6, mb1 3.6/7,mb1mx3.3/49,mbtmp3.4/7,ML3.2/1,Error ellipse: s-maj=69.1km s-min=23.5km az=168.0*

ISC 21 00:25:16.4±1.4,55.°04N±0.°05×165.°39E±0.°05,h7km±11km, n53,σ2s35/78,mb3.4/6,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.37**	**64**	*e*P	**Pg**	**00 25 24.6**	**+1.0**
BKI				*e*S	**Sg**	**00 25 29.2**	**+0.7**
KBTR	**Krutoberegovo**	**1.87**	**310**	*e*P	**Pn**	**00 25 49.2**	**+0.4**
KBG	**Krutoberegovo**	**1.95**	**310**	P	**Pn**	**00 25 50.6**	**+0.8**
KBG				*e*S	**Sb**	**00 26 15.3**	**-1.3**
SMKR	**Semkarok**	**2.70**	**307**	*e*P	**Pn**	**00 26 02.6**	**+2.4**
SMKR				*e*S	**Sb**	**00 26 35.7**	**-2.6**
BDR	**Baidarnaya**	**2.81**	**305**	*e*P	**Pb**	**00 26 04.8**	**-2.1**
BDR				*e*S	**Sb**	**00 26 40.2**	**-1.4**
BZGR	**Bezymyannyi-Gr**	**2.82**	**291**	*e*P	**Pb**	**00 26 05.2**	**-1.8**
BZGR				*e*S	**Sb**	**00 26 39.7**	**-2.1**
TUMD	**Tumrok D**	**2.87**	**275**	*e*P	**Pn**	**00 26 05.5**	**+2.9**
TUMD				*e*S	**Sn**	**00 26 39.9**	**+2.6**
SRKR	**Sorokina**	**2.88**	**306**	*e*P	**Pn**	**00 26 05.3**	**+2.6**
SRKR				*e*S	**Sn**	**00 26 39.7**	**+2.1**
KZV	**Kizimen**	**2.93**	**273**	*e*P	**Pn**	**00 26

PDAR	**Pinedale Array**	**53.86**	**65**	P		**P**	**00 34 40.1**	**0.0**
	0.3nm,0.8s,baz=318,slow=6.2,SNR=2.7							
TXAR	**Lajitas Array**	**67.03**	**71**	P		**P**	**00 36 10.4**	**+0.2**
	0.2nm,0.5s,baz=300,slow=5.4,SNR=2.8							

*IDC **21** 00:25:31.8±1.1,32.˚59N×47.˚51E,h0km,mb3.8/13, mb1 4.0/20,mb1mx3.8/51,mbtmp3.8/20,ML3.6/6,MS3.9/3, Ms1 3.9/3,ms1mx2.9/47,Error ellipse: s-maj=24.4km s-min=13.2km az=176.0*

*ISN **21** 00:25:33.5±1.2,32.˚72N×47.˚49E,h15km±6km,ML3.9*

*TEH **21** 00:25:34.2,32.˚75N×47.˚48E,h8km,ML3.8*

*THR **21** 00:25:35.1±0.3,32.˚78N×47.˚48E,h14km±5km,ML3.8*

*NEIC **21** 00:25:36.3±1.9,32.˚61N±0.˚08×47.˚46E±0.˚07,h33km±8km, Error ellipse: s-maj=12.0km s-min=8.0km az=177.0*

ISC 21 00:25:34.7±1.1,**32.˚69N**±0.˚03×**47.˚48E**±0.˚03,**h15**km±7km, **n140,**σ1$**48**/148,**mb4.0**/20,**14C-8D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.17**	**266**	*e*Pg	**Pg**	**00 25 37.9**	**-1.0**
IKFM	**Kafar-mosalman**	**0.88**	**20**	*e*Pg	**Pb**	**00 25 50.1**	**-1.7**
IKFM	**Kafar-mosalman**	**0.88**	**20**	Pg	**Pb**	**00 25 50.1**	**-1.7**
IKMR	**Kamar-syah**	**1.12**	**42**	*e*Pg	**Pb**	**00 25 55.4**	**-0.3**
IKMR				*e*Sg	**Sb**	**00 26 11.0**	**+0.9**
IKMR				*e*		00 26 16.7	
IKMR	**Kamar-syah**	**1.12**	**42**	Pg	**Pb**	**00 25 54.9**	**-0.8**
IDOB	**Doab**	**1.24**	**28**	*e*Pg	**Pn**	**00 25 57.7**	**0.0**
IDOB	**Doab**	**1.24**	**28**		**Pn**	**00 25 57.1**	**-0.6**
IBDR	**Badra**	**1.37**	**288**	*e*Pg	**Pn**	**00 25 58.0**	**-1.3**
IBDR				*e*Sg	**Sn**	**00 26 17.0**	**-0.2**
IBDR				AML	AML	00 26 24.5	
	comp=N,2μm,0.5s						
IBDR				AML	AML	00 26 24.8	
	comp=E,3μm,0.7s						
IKOM	**Komasi**	**1.48**	**1**	*e*Pg	**Pn**	**00 26 01.9**	**+0.9**
IKOM				*e*Sg	**Sb**	**00 26 21.5**	**+0.8**
IKOM				*e*		00 26 29.9	
IKOM	**Komasi**	**1.48**	**1**		**Pb**	**00 26 02.5**	**+0.5**
BMDN	**Meydan**	**1.49**	**49**	*e*Pg	**Pn**	**00 26 02.0**	**+0.8**
BMDN				*e*		00 26 30.8	
BMDN	**Meydan**	**1.49**	**49**		**Pn**	**00 26 01.9**	**+0.8**
KCHF	**Cheshme Sefid,**	**1.62**	**347**	*e*		00 26 31.4	
KCHF				*e*Pg	**Pb**	**00 26 04.5**	**0.0**
KCHF	**Cheshme Sefid,**	**1.62**	**347**		**Pn**	**00 26 04.2**	**+1.2**
AHWZ	**Ahwaz**	**1.68**	**144**	*e*Pg	**Pb**	**00 26 07.0**	**+1.7**
KER	**Kermanshah**	**1.71**	**350**	*e*Pg	**Pb**	**00 26 06.0**	**0.0**
HSAM	**Samen**	**1.78**	**31**	*e*		00 26 36.3	
HSAM				*e*Pg	**Pb**	**00 26 07.4**	**+0.1**
IBZA	**Bozab**	**1.80**	**10**	*e*		00 26 35.7	
IBZA				*e*Pg	**Pb**	**00 26 07.5**	**-0.1**
IGHG	**Ghaleghazi**	**1.80**	**335**	*e*		00 26 43.8	
IGHG				*e*Pn	**Pb**	**00 26 07.4**	**-0.2**
IGHG	**Ghaleghazi**	**1.80**	**335**	Pg	**Pb**	**00 26 07.5**	**-0.2**
IVIS	**Veis**	**1.90**	**344**	*e*		00 26 12.1	
IVIS				*e*Pn	**Pn**	**00 26 08.1**	**+1.3**
NSR	**Nassriya**	**2.03**	**215**	*e*Pn	**Pn**	**00 26 09.0**	**+0.6**
NSR				*e*Sn	**Sn**	**00 26 34.0**	**+0.5**
IDHR	**Dehrash**	**2.20**	**336**	*e*Pn	**Pn**	**00 26 12.3**	**+1.3**
IDHR				*e*		00 26 51.2	
IALM	**Almabolaq**	**2.24**	**15**	*e*Pn	**Pn**	**00 26 13.7**	**+2.2**
ILIN	**Lien**	**2.26**	**349**	*e*Pn	**Pn**	**00 26 13.6**	**+1.7**
ILIN				*e*		00 26 59.3	
KHMZ	**Khomeyn**	**2.32**	**63**	*e*Pn	**Pn**	**00 26 14.7**	**+2.0**
KHMZ				*e*Sg	**Sb**	**00 26 47.2**	**+2.1**
KHMZ	**Khomeyn**	**2.32**	**63**	*e*Pn	**Pn**	**00 26 14.7**	**+2.0**
SNGE	**Sanandaj**	**2.40**	**357**	*e*Pn	**Pn**	**00 26 14.7**	**+1.0**
SNGE				*e*S	**Sn**	**00 26 43.8**	**+0.9**
SNGE	**Sanandaj**	**2.40**	**357**	*e*Pn	**Pn**	**00 26 14.7**	**+1.0**
HAGD	**Aghdareh**	**2.53**	**33**	*e*Pn	**Pn**	**00 26 17.8**	**+2.2**
HAGD				*e*		00 27 06.5	
HSRG	**Sareghieh**	**2.63**	**14**	*e*Pn	**Pb**	**00 26 19.9**	**-1.8**
HSRG				*e*		00 27 03.6	
BHD	**Baghdad**	**2.67**	**283**	*e*Pn	**Pn**	**00 26 18.0**	**+0.8**
BHD				*e*Sn	**Sn**	**00 26 51.0**	**+1.7**
BHD				AML	AML	00 27 10.2	
	comp=E,762nm,0.4s						
JHBN	**Jahan bin**	**2.73**	**99**	*e*Pn	**Pn**	**00 26 20.6**	**+2.3**
JHBN				*e*		00 27 19.3	
IPIR	**Pirpir**	**2.88**	**89**	*e*Pn	**Pn**	**00 26 23.0**	**+2.7**
IPIR				*e*		00 27 12.5	
ROKH	**ROKH**	**3.02**	**96**	*e*Pn	**Pn**	**00 26 24.3**	**+2.0**
IRAZ	**Razeghan**	**3.38**	**36**	*e*Pn	**Pn**	**00 26 30.2**	**+3.0**
QABG	**Abgarm-Qazvin**	**3.48**	**29**	*e*Pn	**Pn**	**00 26 30.1**	**+1.6**
IKLH	**Kolahrood**	**3.50**	**79**	*e*Pn	**Pn**	**00 26 31.7**	**+2.9**
IKLH				*e*		00 26 35.0	
IGAR	**Gharneh**	**3.86**	**93**	*e*Pn	**Pn**	**00 26 35.7**	**+1.9**
IGAR				*e*		00 28 01.1	
KLNJ	**Kolanjah**	**3.88**	**115**	*e*Pn	**Pn**	**00 26 36.5**	**+2.3**
KLNJ				*e*		00 28 08.2	
IMHD	**Mahdasht**	**3.98**	**41**	*e*Pn	**Pn**	**00 26 38.1**	**+2.7**
QSDN	**Sirdan**	**4.05**	**20**	*e*Pn	**Pn**	**00 26 39.0**	**+2.6**
IZEF	**Zefreh**	**4.09**	**86**	*e*Pn	**Pn**	**00 26 39.2**	**+2.2**
IRAM	**Ramesheh**	**4.24**	**101**	*e*Pn	**Pn**	**00 26 40.6**	**+1.5**
MAHB	**Mahabad**	**4.32**	**341**	*e*Pn	**Pn**	**00 26 41.6**	**+1.6**
IGZV	**Ghazvin**	**4.32**	**31**	*e*Pn	**Pn**	**00 26 41.6**	**+1.5**
CHTH	**Charan**	**4.40**	**42**	*e*Pn	**Pn**	**00 26 43.0**	**+1.7**
CHTH	**Charan**	**4.40**	**42**	*e*Pn	**Pn**	**00 26 43.0**	**+1.7**
QALM	**Alamut, Qazvin**	**4.55**	**34**	*e*Pn	**Pn**	**00 26 44.8**	**+1.5**
IDMV	**Damavand**	**4.75**	**51**	*e*Pn	**Pn**	**00 26 47.7**	**+1.7**
AHBU	**AHRAM**	**5.03**	**138**	*e*Pn	**Pn**	**00 26 53.2**	**+3.5**
IFIR	**Firoozkooh**	**5.27**	**55**	*e*Pn	**Pn**	**00 26 54.8**	**+1.6**
ANAR	**Anarak**	**5.28**	**83**	*e*Pn	**Pn**	**00 26 54.2**	**+1.0**
ISAD	**Sadrabad**	**5.31**	**97**	*e*Pn	**Pn**	**00 26 55.4**	**+1.6**
IPRN	**Peran**	**5.35**	**47**	*e*Pn	**Pn**	**00 26 57.0**	**+2.8**
IALA	**Alasht**	**5.55**	**51**	*e*Pn	**Pn**	**00 27 00.4**	**+3.3**
IGLO	**Ghaloghah**	**6.47**	**52**	*e*Pn	**Pn**	**00 27 12.4**	**+2.8**
GEVA	**Gevas**	**6.67**	**328**	Pn	**Pn**	**00 27 12.7**	**+0.4**
MARD	**Mardin**	**7.18**	**312**	Pn	**Pn**	**00 27 18.7**	**-0.5**
ASF	**Jabal al Asfar**	**8.96**	**270**	Pn	**Pn**	**00 27 41.6**	**-2.2**
	comp=E,0.6nm,0.3s,baz=36,slow=5.9,SNR=7.7						
ASF				Lg	Lg	00 30 18.4	
	comp=E,0.4nm,0.3s,baz=240,slow=20,SNR=3.9						
GEYT	**Alibeck**	**10.14**	**56**	Pn	**Pn**	**00 28 00.7**	**+0.9**
	comp=E,0.1nm,0.3s,baz=238,slow=14,SNR=4.0						
GEYT				LR	LR	00 32 39.8	
	comp=E,171nm,21.9s,baz=285,slow=42						
GEYT	**Alibeck**	**10.14**	**56**		**Pn**	**00 28 00.2**	**+0.4**
MMAI	**Mount Meron Ar**	**10.17**	**275**	Pn	**Pn**	**00 27 59.0**	**-1.3**
	comp=E,0.3nm,0.3s,baz=97,slow=12,SNR=1.7						
MMAI				Lg	Lg	00 31 03.7	
	comp=E,0.5nm,0.3s,baz=66,slow=32,SNR=2.8						
UOSS	**Minazif**	**10.86**	**133**	Pn	**Pn**	**00 28 08.8**	**-0.9**
EIL	**Elat**	**11.15**	**258**	Lg	Lg	00 31 34.6	
	comp=E,0.5nm,0.3s,baz=78,slow=16,SNR=2.3						
BRTR	**Keskin Array B**	**13.19**	**306**	Pn	**Pn**	**00 28 43.2**	**+1.6**
	baz=122,slow=12,SNR=4.1						
WSAR	**Wadi Sarin**	**13.62**	**131**	Pn	**Pn**	**00 28 46.4**	**-1.0**
	comp=E,0.4nm,0.3s,baz=327,slow=15,SNR=6.4						
WSAR				Sn	**Sn**	**00 31 13.4**	**-5.2**
	comp=E,0.2nm,0.3s,baz=178,slow=18,SNR=1.8						
MANT	**Manisa**	**16.44**	**296**	Pn	**Pn**	**00 29 24.3**	**-0.7**
KBL	**Kabul**	**18.05**	**78**	P	**Pn**	**00 29 44.8**	**-0.4**
JURR	**Jurilovca**	**18.82**	**315**	⇓P	**P**	**00 29 53.8**	**+0.1**
IDI	**Anoyia**	**18.91**	**284**	P	**P**	**00 29 55.7**	**+0.9**
	comp=E,0.4nm,0.3s,baz=96,slow=8.9,SNR=6.9						
IDI	**Anoyia**	**18.91**	**284**	⇓P	**P**	**00 29 55.5**	**+0.6**
IDI	**Anoyia**	**18.91**	**284**	⇑P	**P**	**00 29 55.8**	**+0.9**
TIRR	**Tirgusor**	**18.93**	**314**	⇑P	**P**	**00 29 55.3**	**+0.3**
TIRR	**Tirgusor**	**18.93**	**314**	P	**P**	**00 29 54.3**	**-0.7**
TIRR				IAmb	IAmb	00 30 03.3	
	comp=Z,16nm,1.1s						
ABKAR	**Akbulak array**	**18.99**	**26**	P	**P**	**00 29 55.9**	**+0.2**
TOPG	**Topolog**	**19.18**	**315**	⇑P	**P**	**00 29 58.2**	**+0.5**
HARR	**Harsova**	**19.34**	**314**	⇑P	**P**	**00 30 00.5**	**+1.0**
AKTO	**Aktyubinsk**	**19.36**	**21**	P	**P**	**00 30 00.9**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=203,slow=9.7,SNR=11						
CFR	**Carcaliu**	**19.48**	**315**	⇑P	**P**	**00 30 01.6**	**+0.6**
VRI	**Vrincioaia**	**20.69**	**316**	⇑P	**P**	**00 30 15.9**	**+1.7**
PLOR	**Plostina**	**20.73**	**315**	⇑P	**P**	**00 30 15.8**	**+1.1**
KKAR	**Karatay Array**	**20.87**	**54**	P	**P**	**00 30 16.0**	**-0.2**
MLR	**Muntele Rosu**	**20.96**	**314**	P	**P**	**00 30 18.3**	**+1.0**
	comp=Z,3.2nm,0.6s,baz=64,slow=11,SNR=5.9						
MLR	**Muntele Rosu**	**20.96**	**314**	⇑P	**P**	**00 30 19.1**	**+1.8**
MLR	**Muntele Rosu**	**20.96**	**314**	P	**P**	**00 30 19.0**	**+1.7**
MLR				IAmb	IAmb	00 30 25.7	
	comp=Z,8.3nm,0.9s						
TESR	**Tescani**	**21.09**	**317**	⇓P	**P**	**00 30 19.8**	**+1.4**
SORM	**Soroca**	**21.13**	**322**	⇓P	**P**	**00 30 20.6**	**+1.7**
OZUR		**21.37**	**315**	⇓P	**P**	**00 30 22.4**	**+0.8**
VOIR		**21.49**	**313**	⇑P	**P**	**00 30 24.6**	**+1.7**
DOPR	**Dopca**	**21.54**	**314**	⇑P	**P**	**00 30 24.9**	**+1.5**
NIL	**Nilore**	**21.58**	**80**	P	**P**	**00 30 24.4**	**+0.5**
ARR	**Arges**	**21.71**	**312**	⇑P	**P**	**00 30 26.7**	**+1.4**
LOT	**Lotru**	**22.29**	**312**	⇑P	**P**	**00 30 32.1**	**+0.5**
AKASG	**Malin Array Be**	**22.47**	**329**	P	**P**	**00 30 32.5**	**-0.7**
	comp=Z,3.8nm,0.7s,baz=136,slow=9.9,SNR=12						
AKASG	**Malin Array Be**	**22.47**	**329**	P	**P**	**00 30 31.1**	**-2.2**
AKBB	**Malin Array Si**	**22.47**	**329**	P	**P**	**00 30 32.6**	**-0.6**
AKBB				IAmb	IAmb	00 30 35.1	
	comp=Z,7.2nm,0.9s						
BURAR	**Bucovina Array**	**22.51**	**318**	⇑P	**P**	**00 30 35.1**	**+1.2**
BURAR	**Bucovina Array**	**22.51**	**318**	P	**P**	**00 30 32.5**	**-1.4**
BUR08	**Bucovina Ar. S**	**22.54**	**318**	P	**P**	**00 30 33.2**	**-1.0**
BUR08				IAmb	IAmb	00 30 39.8	
	comp=Z,5.0nm,0.8s						
ARCR	**ARCALIA**	**22.73**	**316**	⇓P	**P**	**00 30 37.8**	**+1.8**
HERR	**Herculane**	**22.92**	**309**	⇑P	**P**	**00 30 38.9**	**+0.9**
MDVR	**Moldovita**	**23.34**	**309**	⇑P	**P**	**00 30 43.6**	**+1.2**
BZS	**Buzias**	**23.73**	**310**	⇓P	**P**	**00 30 47.0**	**+0.8**
SIRR	**Siria**	**23.98**	**312**	⇑P	**P**	**00 30 51.2**	**+2.6**
KOLS	**Kolonicke sedl**	**24.88**	**318**	*e*P	**P**	**00 30 57.8**	**+1.0**
KWP	**Kalwaria Pacla**	**25.01**	**320**	P	**P**	**00 30 58.5**	**+0.6**
KWP				IAmb	IAmb	00 31 01.5	
	comp=Z,11nm,1.0s						
CRVS	**Cervenica-Dubn**	**25.32**	**317**	*e*P	**P**	**00 31 01.9**	**+1.1**
KECS	**Kecovo**	**25.68**	**316**	*e*P	**P**	**00 31 07.1**	**+3.0**
PSZ	**Piszkesteto**	**25.78**	**314**	P	**P**	**00 31 06.7**	**+1.7**
BVAR	**Borovoye Array**	**26.16**	**32**	P	**P**	**00 31 08.9**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=226,slow=10,SNR=8.7						
BVAR				PcP	**PcP**	**00 34 35.6**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=242,slow=3.1,SNR=3.0						
BVAR				ScP	**ScP**	**00 38 13.2**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=226,slow=6.0,SNR=7.3						
LANS	**Liptovska Anna**	**26.59**	**316**	*e*P	**P**	**00 31 13.9**	**+1.6**
VYHS	**Vyhne**	**26.67**	**315**	*e*P	**P**	**00 31 14.9**	**+1.9**
OJC	**Ojcow**	**26.92**	**319**	P	**P**	**00 31 16.2**	**+1.0**
OJC				IAmb	IAmb	00 31 19.6	
	comp=Z,5.4nm,0.8s						
KURBB	**Kurchatov Arra**	**29.01**	**43**	P	**P**	**00 31 34.4**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=248,slow=9.4,SNR=8.4						
KURBB				ScP	**ScP**	**00 38 21.4**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=146,slow=11,SNR=4.8						
KURK	**Kurchatov**	**29.10**	**43**	P	**P**	**00 31 34.5**	**-0.2**
KURK				IAmb	IAmb	00 31 38.9	
	comp=Z,2.8nm,0.8s						
GERES	**GERESS Array B**	**29.94**	**313**	P	**P**	**00 31 43.4**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=110,slow=12,SNR=4.5						
GERES	**GERESS Array B**	**29.94**	**313**	P	**P**	**00 31 41.9**	**-0.4**
MK31	**Makanchi Array**	**29.97**	**52**	P	**P**	**00 31 42.7**	**+0.2**
MKAR	**Makanchi Array**	**29.97**	**52**	P	**P**	**00 31 43.0**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=253,slow=7.7,SNR=7.3						
MKAR	**Makanchi Array**	**29.97**	**52**	P	**P**	**00 31 41.9**	**-0.6**
CLL	**Collm**	**31.27**	**317**	*e*P	**P**	**00 31 54.0**	**+0.2**
CLL				LmV		02 25 00.0	
	comp=Z,100nm,18.3s						
FINES	**FINESS Array B**	**31.93**	**341**	P	**P**	**00 31 59.2**	**-0.3**
	comp=Z,4.9nm,1.0s,baz=165,slow=7.9,SNR=6.5						
WMQ	**Urmqi**	**33.17**	**59**	P	**P**	**00 32 11.2**	**+0.5**
SENIN	**Lac Senin/Sane**	**33.50**	**306**	P	**P**	**00 32 13.7**	**0.0**
SENIN				IAmb	IAmb	00 32 24.7	
	comp=Z,2.1nm,0.9s						
BNI	**Bardonecchia**	**33.73**	**303**	P	**P**	**00 32 16.4**	**+0.7**
ZALV	**Zalesovo Beam**	**33.91**	**40**	P	**P**	**00 32 16.1**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=271,slow=8.6,SNR=6.6						
ZALV	**Zalesovo Beam**	**33.91**	**40**	P	**P**	**00 32 16.5**	**-0.5**
NB2	**NORSAR Subarra**	**36.82**	**331**	P	**P**	**00 32 41.0**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=122,slow=8.6						
NOA	**NORSAR Array B**	**36.82**	**331**	P	**P**	**00 32 41.1**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=124,slow=8.5,SNR=4.2						
ARCES	**ARCESS Array B**	**38.90**	**348**	P	**P**	**00 32 59.3**	**0.0**
	comp=Z,2.3nm,0.8s,baz=141,slow=7.8,SNR=6.4						
ESDC	**Sonseca Array**	**41.63**	**295**	P	**P**	**00 33 23.1**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=99,slow=8.1,SNR=4.4						
DSB	**Dublin**	**43.24**	**315**	P	**P**	**00 33 35.9**	**+0.6**
TOA0	**Torodi Ar. Sit**	**46.03**	**256**	P	**P**	**00 33 57.8**	**-0.2**
TOA0				IAmb	IAmb	00 34 05.0	
	comp=Z,1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**46.03**	**256**	P	**P**	**00 33 57.6**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=68,slow=5.9,SNR=6.4						
TORD	**Torodi Ar. Bea**	**46.03**	**256**	P	**P**	**00 33 57.1**	**-0.9**
ULN	**Ulaanbaatar**	**46.76**	**53**	P	**P**	**00 34 03.7**	**+0.1**
ULN				IAmb	IAmb	00 34 09.2	
	comp=Z,2.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**48.10**	**94**	P	**P**	**00 34 12.0**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=291,slow=7.6,SNR=1.3						
ULM	**Lac du Bonnet**	**91.27**	**337**	LR	LR	01 20 46.6	
	comp=Z,60nm,18.9s,baz=316,slow=36						
JAY	**Jayapura**	**94.06**	**90**	LR	LR	01 26 51.1	
	comp=Z,236nm,18.5s,baz=359,slow=39						

*MEX **21** 00:46:09.7±1.1,32.˚46N×115.˚16W,h27km±6km,MD3.7*

*ECX **21** 00:46:09.8±0.7,32.˚30N×115.˚37W,h2km±3km,MD2.4, ML2.6*

ISC 21 00:46:08.3±1.0,**32.˚37N**±0.˚05×**115.˚28W**±0.˚05,**h23**km±7km, **n15,**σ0$**37**/22,**3C-1D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.06**	**338**	⇓*e*P	**Pb**	**00 46 12.3**	**-0.1**
CPBX				⇑*e*		00 46 16.2	
CPBX				IAML		00 46 16.2	
	comp=N,7μm,0.1s						
CPBX				IAML		00 46 16.4	
	comp=E,7μm,0.2s						
MBIG	**Mexicali**	**0.08**	**60**	*e*P	**Pb**	**00 46 12.4**	**-0.2**
MBIG				*e*P		00 46 13.7	
MBIG				*e*S	**Sb**	**00 46 15.7**	**+0.3**
MBIG				*i* S		00 46 16.0	
GUVIX	**Guadalupe Vict**	**0.18**	**110**	*e*P	**Pn**	**00 46 15.2**	**-0.4**
EMSC	**East Mesa**	**0.45**	**34**	*e*P	**Pn**	**00 46 19.5**	**+0.3**
IKP	**In-Ko-Pah, Jac**	**0.76**	**292**	⇑*i* P	**Pb**	**00 46 22.5**	**-0.3**
ECBX	**El Chinero**	**0.91**	**168**	*e*P	**Pn**	**00 46 26.4**	**+0.8**
ECBX				*i* S	**Sn**	**00 46 38.4**	**+0.3**
MONP2	**Monument Peak**	**1.10**	**299**	*e*P	**Pb**	**00 46 28.9**	**+0.1**
CBX	**Cerro Bola**	**1.17**	**268**	*e*P	**Pn**	**00 46 29.5**	**+0.1**
CBX				*i* S	**Sn**	**00 46 44.2**	**-0.4**
CBX	**Cerro Bola**	**1.17**	**268**	*e*P	**Pn**	**00 46 29.5**	**+0.1**
CBX				*e*S	**Sn**	**00 46 44.3**	**-0.4**
CBX				IAML		00 46 45.5	
	comp=N,128nm,0.2s						
CBX				⇑*e*		00 46 45.5	
TJIG	**Tijuana**	**1.18**	**274**	*i* P	**Pn**	**00 46 29.6**	**+0.3**
TJIG				*i* S	**Sn**	**00 46 44.4**	**-0.3**
TJIG	**Tijuana**	**1.18**	**274**	*e*P	**Pn**	**00 46 29.4**	**0.0**
BAR	**Barrett**	**1.22**	**285**	*e*P	**Pn**	**00 46 30.4**	**+0.5**
SPIG	**San Pedro Mart**	**1.33**	**187**	*i* P	**Pn**	**00 46 31.7**	**0.0**
SPIG				*i* S	**Sn**	**00 46 49.2**	**+0.4**
SPIG	**San Pedro Mart**	**1.33**	**187**	*e*P	**Pn**	**00 46 31.6**	**-0.1**
SPX	**San Pedro Mart**	**1.34**	**187**	*e*P	**Pn**	**00 46 31.5**	**-0.3**
SPX				*e*S	**Sn**	**00 46 48.6**	**-0.4**

*IDC **21** 01:17:52.4±0.5, 12.˚03N×143.˚45E,h0km,mb4.5/26, mb1 4.6/28,mb1mx4.5/50,mbtmp4.4/28,ML4.6/2,MS3.8/17, Ms1 3.8/17,ms1mx3.6/45,Error ellipse: s-maj=17.0km s-min=10.8km az=92.0*

*GCMT **21** 01:17:56.4±0.2, 12.˚09N±0.˚02×143.˚45E±0.˚01,h16km, MW4.9/111,Moment Tensor Solution. s50,c58; s111,c159; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.62±.12; Mθθ-0.05±.07; Mϕϕ2.67±.09; Mrθ1.56±.31; Mθϕ0.11±.06; Mϕr0.29±.22; Best double couple: M=3.02900×10^16^ NP1:ϕs205.00000°,δ48.00000°, λ-55.00000°. NP2:ϕs338.00000°,δ53.00000°, λ-122.00000°. Principal axes: T 2.6860, Plg3.0000°, Azm91.0000°; N 0.6870, Plg25.0000°, Azm359.0000°; P -3.3720, Plg65.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **21** 01:17:57.4±0.7, 12.˚00N±0.˚08×143.˚5E±0.˚1,h38km,6km, mb4.8/110 Error ellipse: s-maj=15.8km s-min=11.5km az=110.0*

*DJA **21** 01:18:01.5±0.6, 12˚N±3˚×14˚4E±˚,h76km±7km,M4.6/23, mb4.8/23,mB5.3/6,MLv4.4/1,Mw(mB)4.8/6*

ISC 21 01:17:55.9±0.4,**12.04N**±0.˚06×**143.56E**±0.˚07,**h25**km,**n167,** σ1$**58**/137,**mb4.8**/82,**MS3.9**/17,**1D,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.00**	**40**	Pn	**Pn**	**01 18 29.7**	**+1.6**
	348nm,0.3s,baz=218,slow=1.9,SNR=123						
GUMO				Sn	**Sn**	**01 18 52.0**	**-0.3**
	215nm,0.3s,baz=180,slow=20,SNR=9.4						
GUMO	**Guam**	**2.00**	**40**	Pn	**Pn**	**01 18 29.0**	**+0.9**
GUMO					**Sn**	**01 18 53.4**	**+1.0**
JAY	**Jayapura**	**14.73**	**191**	P	**P**	**01 21 28.0**	**-0.7**
	11nm,1.5s						
SMPI	**Sarmi**	**14.75**	**199**	P	**P**	**01 21 28.7**	**-0.1**
	1μm17nm,1.3s						
GENI	**Genyem**	**14.92**	**193**	P	**P**	**01 21 30.9**	**+0.1**
	38nm,0.7s						
PATS	**Pohnpei**	**15.44**	**108**		**Pn**	**01 21 31.1**	**-1.2**
SIJI	**Sorong**	**17.71**	**224**	P	**Pn**	**01 21 58.4**	**-2.6**
	1.0nm,0.3s,baz=134,slow=19,SNR=1.9						
SIJI				LR	LR	01 27 15.5	
	comp=Z,450nm,20.1s,baz=50,slow=32						
KRVT	**Keravat (AS076**	**18.29**	**152**	LR	LR	01 28 30.2	
	comp=Z,277nm,19.6s,baz=335,slow=35						
DAV	**Davao City (W)**	**18.40**	**256**	LR	LR	01 31 51.6	
	comp=Z,76nm,18.2s,baz=159,slow=46						
KMPI	**Kaimana, Papua**	**18.42**	**213**	P	**Pn**	**01 22 14.7**	**+5.0**
	311nm,0.9s						
FAKI	**Fak Fak**	**18.64**	**218**	P	**Pn**	**01 22 17.5**	**+5.2**
	62nm,1.5s						
MSAI	**Masohi**	**21.10**	**224**	P	**P**	**01 22 41.6**	**+2.8**
	3μm15nm,1.0s						
TGY	**Tagaytay City**	**22.13**	**278**	LR	LR	01 31 38.1	
	comp=Z,369nm,18.2s,baz=67,slow=38						
H11S3	**WAKE ISLAND Hy**	**23.20**	**71**	T	T	01 47 14.2	
	baz=252,slow=77,SNR=35						
H11S1	**WAKE ISLAND Hy**	**23.22**	**71**	T	T	01 47 13.8	
	baz=252,slow=77,SNR=32						
H11S2	**WAKE ISLAND Hy**	**23.22**	**71**	T	T	01 47 16.6	
	baz=252,slow=77,SNR=36						
GTOI	**Gorontalo**	**23.33**	**242**	P	**P**	**01 23 06.2**	**+3.8**
	434nm23nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**23.68**	**68**	T	T	01 47 55.9	
	baz=255,slow=75,SNR=31						
H11N2	**WAKE ISLAND Hy**	**23.69**	**68**	T	T	01 47 55.5	
	baz=255,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**23.70**	**68**	T	T	01 47 54.5	
	baz=255,slow=75,SNR=36						
LUWI	**Luwuk**	**24.40**	**239**	P	**P**	**01 23 16.6**	**+4.1**
	4μm92nm,1.1s						
SSLB	**Suanglung**	**24.43**	**302**	P	**P**	**01 23 12.7**	**-0.2**
MJAR	**Matsushiro Arr**	**24.87**	**350**	P	**P**	**01 23 15.0**	**-1.6**
	1.1nm,0.4s,baz=185,slow=9.5,SNR=2.0						
MJAR				LR	LR	01 31 20.4	
	comp=Z,147nm,21.8s,baz=210,slow=32						
MJAR	**Matsushiro Arr**	**24.87**	**350**	P	**P**	**01 23 15.6**

comp=Z,4.5nm,0.9s,baz=130,slow=6.5,SNR=6.2
NRIK LR LR 01 58 13.1
comp=Z,123nm,19.4s,baz=184,slow=36
CNPM China Poot 67.20 30 P **P 01 28 47.6 -0.2**
CNPM IAmb IAmb 01 28 49.5
comp=Z,10nm,0.8s
PPLA Purkeypile 67.73 26 IAmb IAmb 01 29 06.1
comp=Z,8.8nm,1.2s
SKT Skwentna 67.75 28 P **P 01 28 50.9 -0.4**
SKT IAmb IAmb 01 28 52.5
comp=Z,9.8nm,1.2s
SUA Susitna One 67.97 28 P **P 01 28 52.8 +0.1**
SUA IAmb IAmb 01 29 07.8
comp=Z,5.3nm,0.9s
IMAR Indian Mountai 68.11 23 P **P 01 28 54.1 +0.7**
KTH Kantishna Hill 68.48 26 P **P 01 28 56.1 +0.3**
KTH IAmb IAmb 01 28 57.6
comp=Z,14nm,1.1s
BPAW Bear Paw Mtn. 68.61 25 P **P 01 28 56.6 0.0**
BPAW IAmb IAmb 01 29 05.7
comp=Z,8.1nm,1.1s
TRF Thorofare Moun 68.72 26 P **P 01 28 57.5 0.0**
GHO Glory Hole Cre 68.89 28 P **P 01 28 58.6 +0.2**
GHO IAmb IAmb 01 29 04.6
comp=Z,9.1nm,1.0s
KNK Knik Glacier 69.02 29 P **P 01 28 58.9 -0.2**
KNK IAmb IAmb 01 29 01.8
comp=Z,16nm,1.1s
RND Reindeer 69.33 26 P **P 01 29 01.1 -0.1**
KK31 Karatay Array 69.51 312 **P 01 29 02.2 -0.4**
KKAR Karatay Array 69.51 312 P **P 01 29 02.4 -0.2**
GLI Glacier Island 69.54 29 P **P 01 29 02.5 +0.1**
SCM Sheep Creek Mo 69.64 28 P **P 01 29 03.1 0.0**
FID Port Fidalgo 69.81 29 P **P 01 29 03.7 -0.3**
FID IAmb IAmb 01 29 06.2
comp=Z,17nm,1.2s
COLD Coldfoot 69.86 22 P **P 01 29 04.1 -0.1**
COLD IAmb IAmb 01 29 07.8
comp=Z,11nm,0.9s
WRH Wood River Hil 69.93 25 P **P 01 29 05.1 +0.4**
WRH IAmb IAmb 01 29 12.9
comp=Z,11nm,1.1s
MDM Murphy Dome 70.00 25 P **P 01 29 05.0 -0.2**
MDM IAmb IAmb 01 29 08.1
comp=Z,10nm,1.2s
CCB Clear Creek Bu 70.09 25 P **P 01 29 06.3 +0.6**
CCB IAmb IAmb 01 29 07.0
comp=Z,9.6nm,1.2s
EYAK Cordova Ski Ar 70.12 30 P **P 01 29 05.6 -0.3**
EYAK IAmb IAmb 01 29 13.3
comp=Z,7.5nm,1.0s
KLU Klutina 70.22 29 P **P 01 29 06.6 -0.1**
KLU IAmb IAmb 01 29 09.2
comp=Z,10.0nm,1.0s
HDA Harding Lake 70.39 26 IAmb IAmb 01 29 08.6
comp=Z,9.3nm,1.2s
BRVK Borovoye 70.42 322 **P 01 29 08.1 +0.1**
BRVK IAmb IAmb 01 29 18.3
comp=Z,7.3nm,0.8s
IL31 70.50 25 P **P 01 29 08.1 -0.1**
ILAR Eielson Array 70.50 25 P **P 01 29 08.0 -0.3**
comp=Z,3.9nm,0.7s,baz=249,slow=6.0,SNR=36
ILAR LR LR 01 57 35.1
comp=Z,68nm,21.5s,baz=292,slow=34
ILAR Eielson Array 70.50 25 P **P 01 29 08.3 0.0**
TOLK Toolik Lake Re 70.51 21 P **P 01 29 08.6 +0.3**
TOLK IAmb IAmb 01 29 16.3
comp=Z,9.9nm,0.7s
PAX Paxson 70.72 27 P **P 01 29 09.9 +0.2**
PAX IAmb IAmb 01 29 21.4
comp=Z,8.7nm,1.2s
RIDG Independent Ri 71.15 26 P **P 01 29 12.2 -0.1**
RIDG IAmb IAmb 01 29 23.9
comp=Z,9.7nm,0.9s
GLB Gilahina Butte 71.21 29 P **P 01 29 12.1 -0.6**
GLB IAmb IAmb 01 29 15.1
comp=Z,15nm,1.1s
VRDI Verde Repeater 71.34 29 IAmb IAmb 01 29 15.9
comp=Z,9.0nm,1.2s
CRQM Cirque 71.42 30 P **P 01 29 14.2 +0.1**
DOT Dot Lake 71.48 27 P **P 01 29 14.4 +0.2**
DOT IAmb IAmb 01 29 16.7
comp=Z,10nm,0.9s
MENT Mentasta 71.51 27 P **P 01 29 14.5 +0.1**
BALM Baldy 71.85 30 P **P 01 29 16.6 0.0**
BMAR Burnt Mountain 72.02 23 P **P 01 29 17.6 +0.2**
PPT2 Papeete2 72.28 113 *e*S **SKiKP 01 38 50.7 -4.1**
comp=Z,110nm,25.8s
PPT2 Papeete2 72.28 113 *e*LR LR 01 51 00.8
comp=Z,313nm,30.0s
CTGM Chitina Glacie 72.33 30 P **P 01 29 19.6 +0.1**
CTGM IAmb IAmb 01 29 22.4
comp=Z,17nm,1.1s
BCAR Beaver Creek A 72.40 27 P **P 01 29 19.9 +0.1**
EGAK Eagle 72.92 26 P **P 01 29 23.1 +0.3**
HYT Haines Junctio 74.18 30 P **P 01 29 30.5 +0.1**
HYT IAmb IAmb 01 29 33.7
comp=Z,17nm,1.1s
SKAG Skagway 75.20 31 P **P 01 29 36.5 +0.3**
SKAG IAmb IAmb 01 29 39.5
comp=Z,9.4nm,1.0s
BESE Bessie Mountai 75.43 32 P **P 01 29 37.8 +0.2**
JIS Juneau Island 75.68 33 IAmb IAmb 01 29 42.2
comp=Z,16nm,1.2s
HRA Herat 76.19 303 P **P 01 29 42.2 -0.5**
INK Inuvik 76.28 22 P **P 01 29 42.4 +0.3**
INK IAmb IAmb 01 29 44.8
comp=Z,14nm,1.1s
ABKAR Akbulak array 76.83 318 P **P 01 29 45.7 0.0**
ARU Arti 77.31 325 P **P 01 29 48.6 +0.3**
ARU IAmb IAmb 01 29 50.1
comp=Z,8.3nm,1.0s
DLBC Dease Lake 77.97 32 P **P 01 29 52.1 +0.1**
GEYT Alibeck 79.14 307 P **P 01 29 59.4 +0.6**
comp=Z,3.6nm,0.9s,baz=129,slow=2.1,SNR=14
GEYT Alibeck 79.14 307 P **P 01 29 58.4 -0.5**
GYA0B ALIBECK ARRAY 79.14 307 IAmb IAmb 01 30 01.7
comp=Z,8.4nm,1.1s
KIRV Kirov 81.98 328 LR LR 02 09 37.9
comp=Z,83nm,19.7s,baz=96,slow=38
YKA Yellowknife Ar 84.81 27 P **P 01 30 29.2 +1.2**
comp=Z,1.7nm,0.5s,baz=287,slow=5.0,SNR=12
YKA LR LR 02 06 24.1
comp=Z,89nm,21.0s,baz=0.0,slow=34
KLMR Klimovskoe 86.30 332 *e*P **P 01 30 33.6 -1.9**
KLMR AMP 01 30 37.4
comp=Z,7.0nm,1.1s
AFDM Forest Hills D 86.73 51 IAmb IAmb 01 30 41.6
comp=Z,4.7nm,1.1s
E09A Wood Farm, Sta 87.00 43 IAmb IAmb 01 30 49.6
comp=Z,6.4nm,0.9s
CMB Columbia Colle 87.38 52 IAmb IAmb 01 30 44.9
comp=Z,4.3nm,0.9s
WVOR Wild Horse Val 87.65 47 P **P 01 30 41.9 -0.8**
WVOR IAmb IAmb 01 30 55.6
comp=Z,3.7nm,0.8s
PAHR Pah Rah Range 87.75 50 IAmb IAmb 01 30 47.2
comp=Z,7.3nm,1.1s
BMO Blue Mountains 87.98 45 IAmb IAmb 01 30 53.6
comp=Z,7.5nm,1.1s
ARCES ARCESS Array B 88.16 342 P **P 01 30 44.5 +0.2**
comp=Z,2.3nm,0.4s,baz=78,slow=7.2,SNR=34
ARCES ARCESS Array B 88.16 342 P **P 01 30 44.8 +0.5**
MDPB Devils Postpil 88.48 52 IAmb IAmb 01 30 50.5
comp=Z,5.1nm,1.1s
RYN Ryan 88.66 51 IAmb IAmb 01 30 54.4
comp=Z,6.8nm,1.0s
NVAR Mina Array Bea 88.88 51 P **P 01 30 51.6 +2.9**
comp=Z,3.5nm,0.6s,baz=266,slow=5.7,SNR=35
NVAR Mina Array Bea 88.88 51 P **P 01 30 48.3 -0.4**
NV11 Mina Array Sit 88.99 51 IAmb IAmb 01 31 00.5
comp=Z,6.7nm,0.9s
ISA Isabella, Lake 89.43 54 IAmb IAmb 01 30 54.3
comp=Z,3.7nm,1.0s
OBN Obninsk 89.69 327 LR LR 02 14 39.6
comp=Z,25nm,18.6s,baz=359,slow=38
VNDA Vanda 90.01 176 P **P 01 30 53.5 +0.8**
comp=Z,2.0nm,1.1s,baz=321,slow=5.5,SNR=3.9
PFO Pinyon Flats O 91.56 55 P **P 01 30 59.6 -1.6**
PFO IAmb IAmb 01 31 07.1
comp=Z,5.2nm,1.1s
PRN Pahroc Range 91.63 51 IAmb IAmb 01 31 08.5
comp=Z,3.6nm,1.1s
SHPR Sheep Range 91.80 52 IAmb IAmb 01 31 06.4
comp=Z,6.3nm,1.2s
FINES FINESS Array B 92.02 335 P **P 01 31 01.6 -0.8**
comp=Z,1.9nm,0.4s,baz=64,slow=4.6,SNR=29
FINES FINESS Array B 92.02 335 P **P 01 31 01.8 -0.7**
IMW Indian Meadow 92.62 44 IAmb IAmb 01 31 11.2
comp=Z,3.9nm,1.1s
W13A Hualapai Mount 93.19 53 IAmb IAmb 01 31 12.6
comp=Z,6.3nm,1.1s
PDAR Pinedale Array 93.96 45 P **P 01 31 12.7 +0.5**
comp=Z,0.3nm,0.7s,baz=258,slow=4.5,SNR=2.3
NOA NORSAR Array B 98.03 339 P **P 01 31 28.8 -1.3**
comp=Z,0.8nm,0.9s,baz=47,slow=4.8,SNR=1.8
VYHS Vyhne 102.47 326 *e*PDIFF **Pdif 01 31 50.6 +0.5**
VNA2 Neumayer--Watz 118.48 190 P **Pdif 01 32 57.0 -3.7**
baz=339,slow=15
VNA3 Neumayer Olymp 118.60 190 P **Pdif 01 32 57.2 -4.0**
VNA1 Neumayer--Stat 118.87 190 P **Pdif 01 32 52.4 -10**
TORD Torodi Ar. Bea 134.65 302 PKP **PKPdf 01 37 12.1 -1.3**
comp=Z,1.3nm,0.9s,baz=34,slow=1.6,SNR=7.4
PLCA Paso Flores 138.61 140 PKP **PKPdf 01 37 18.2 -1.9**
comp=Z,1.7nm,0.9s,baz=194,slow=8.8,SNR=1.8
PLCA Paso Flores 138.61 140 **PKPdf 01 37 18.5 -1.5**
DBIC Dimbokro 143.50 299 PKP **PKPdf 01 37 29.3 -0.2**
comp=Z,4.8nm,0.7s,baz=37,slow=10,SNR=2.5
DBIC Dimbokro 143.50 299 PKPbc 01 37 28.3 +1.5
KIC Kosan Boka 143.56 298 *e*PKIKP PKPbc 01 37 27.4 +0.5
comp=Z,79nm,1.6s
TIC Toumodi 143.66 299 *e*PKIKP PKPab 01 37 27.2 +0.8
LIC Lamto 143.88 298 *e*PKIKP PKPab 01 37 27.7 +0.5
comp=Z,53nm,1.2s
LVC Limon Verde 147.34 113 PKPbc **PKPbc 01 37 39.9 +1.2**
comp=Z,17nm,1.0s,baz=201,slow=10.0,SNR=8.6
LPAZ La Paz 149.00 102 PKPbc **PKPdf 01 37 42.6 +3.1**
comp=Z,8.4nm,0.8s,baz=38,slow=3.6,SNR=8.9
SIV San Ignacio 155.79 102 PKP **PKPdf 01 37 48.8 0.0**
comp=Z,1.6nm,1.1s,baz=209,slow=5.3,SNR=4.0

*NDI **21** 01:19:12.6±2.6, 32°.25N×76°.22E, h10km, ML2.8*
*NNC **21** 01:19:14.5±4.2, 32°.65N×75°.12E, h0km, mb3.8, Error ellipse: s-maj=63.9km s-min=32.9km az=86.0*
ISC 21 01:19:07.9±1.2, **32°.33N**±0°.06×**76°.34E**±0°.07, **h8**km±8km, **n10**, σ**2**s**63**/18, **5C-1D, Kashmir-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHRM	**DHARAMSHALA**	**0.09**	**201**	*e*P	**Pg**	**01 19 09.8**	**-0.4**
DHRM				*e*S	**Sg**	**01 19 11.4**	**-0.5**
DHRM				IAML		01 19 12.3	
	comp=N,21μm,0.2s						
DHRM				IAML		01 19 13.6	
	comp=E,27μm,0.3s						
THN	**Thein Dam**	**0.54**	**281**	*e*P	**Pb**	**01 19 20.5**	**+0.9**
THN				*e*S	**Sb**	**01 19 29.0**	**+1.5**
JMU	**Jammu**	**1.27**	**288**	*e*P	Pg	01 19 42.5	+10
SMLA	**Simla**	**1.39**	**149**	*e*P	**Pb**	**01 19 34.2**	**0.0**
SMLA				*e*S	**Sg**	**01 19 54.8**	**+2.1**
SMLA				IAML		01 19 56.8	
	comp=N,2μm,0.3s						
NDI	**New Delhi**	**3.71**	**168**	*e*P	**Pn**	**01 20 03.1**	**-2.6**
NDI				*e*P	**Pb**	**01 20 11.5**	**-2.3**
NDI				*e*S	Sn	01 20 36.2	-13
SONA	**Sohna**	**4.12**	**171**	*ex*	**Pb**	**01 20 21.7**	**+1.0**
SONA				*ex*	x	01 20 22.8	
SONA				*e*S	**Sn**	**01 20 59.2**	**-0.3**
SONA				*ex*	x	01 20 59.6	
SONA				IAML		01 21 01.3	
	comp=E,45nm,0.2s						
SONA				IAML		01 21 01.5	
	comp=N,16nm,0.3s						
KUDL	**Kundal**	**4.17**	**178**	*e*P	**Pn**	**01 20 13.7**	**+1.8**
KUDL				*e*S	**Sn**	**01 21 01.9**	**+1.0**
AAK	**Ala-Archa**	**10.39**	**352**	⇑P*n*	**Pn**	**01 21 39.3**	**+1.8**
	comp=N,1.2nm,0.7s						
AAK				⇑S*n*	**Sn**	**01 23 32.3**	**-2.0**
	comp=N,1.2nm,0.5s						
TKM2	**Tokmak 2**	**10.59**	**357**	⇑P*n*	**Pn**	**01 21 42.2**	**+2.0**
	comp=N,0.8nm,0.6s						
TKM2				⇑S*n*	**Sn**	**01 23 41.9**	**+2.7**
	comp=N,1.0nm,0.5s						
KK31	**Karatay Array**	**11.70**	**338**	⇑P*n*	**Pn**	**01 21 54.6**	**-0.6**
	comp=N,1.0nm,0.4s,baz=147,slow=12,SNR=26						
KK31				⇓S*n*	**Sn**	**01 23 58.8**	**-7.2**
	comp=N,1.2nm,0.5s,baz=157,slow=23,SNR=4.7						

*IDC **21** 01:24:23.7±1.2, 6°.54N×127°.02E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.6/44, mbtmp3.9/6, Error ellipse: s-maj=53.3km s-min=16.5km az=61.0*
*MAN **21** 01:24:30.5, 6°.28N×126°.58E, h27km, MS3.5*
*NEIC **21** 01:24:30.7±1.0, 6°.3N±0°.1×126°.7E±0°.1, h64km±4km, mb4.3/16, Error ellipse: s-maj=20.7km s-min=12.1km az=45.0*
ISC 21 01:24:31.0±1.3, **6°.21N**±0°.08×**126°.51E**±0°.09, **h59**km±13km, **n34**, σ**1**s**53**/40, **mb4.1**/14, **1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.77**	**341**	*e*P	**Pn**	**01 24 44.7**	**-1.4**
MATI				*e*S	**Sn**	**01 24 56.9**	**-0.3**
DAV	**Davao City (W)**	**1.25**	**313**	P*n*	**Pn**	**01 24 53.6**	**+1.2**
	126nm,0.3s,baz=76,slow=7.1,SNR=7.9						
DAV				S*n*	**Sn**	**01 25 08.2**	**-0.2**
	184nm,0.3s,baz=49,slow=20,SNR=21						
DAV	**Davao City (W)**	**1.25**	**313**	P*n*	**Pn**	**01 24 53.4**	**+1.0**
DAV					**Sn**	**01 25 10.3**	**+1.9**
KCP	**Kidapawan**	**1.61**	**299**	⇑*i*P	**Pn**	**01 24 57.4**	**+0.1**
KCP				*i* S	**Sn**	**01 25 15.7**	**-1.4**
SKMP	**Bagumbayan, Su**	**1.98**	**279**	*e*P	**Pn**	**01 25 01.3**	**-0.9**
SKMP				*e*S	**Sn**	**01 25 20.8**	**-5.1**
BUKP	**Musuan**	**2.19**	**319**	*e*P	**Pn**	**01 25 06.2**	**+1.1**
BUKP				*e*S	**Sn**	**01 25 32.4**	**+1.3**
PAGZ	**Pagadian**	**3.50**	**298**	*e*P	**Pn**	**01 25 23.5**	**+0.5**
SBUM	**Sibu**	**14.73**	**256**	P*n*	**Pn**	**01 27 57.2**	**+1.1**
MTN	**Manton Dam**	**19.48**	**166**	P	**P**	**01 28 52.7**	**-0.6**
MTN				IAmb	IAmb	01 29 01.1	
	comp=Z,11nm,1.0s						
KNRA	**Kununurra**	**21.86**	**174**	P	**P**	**01 29 18.3**	**-0.6**
KNRA				IAmb	IAmb	01 29 23.4	
	comp=Z,11nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.17**	**182**	P	**P**	**01 29 44.4**	**+2.5**
	comp=Z,1.0nm,0.3s,baz=8.4,slow=7.8,SNR=5.7						
FITZ	**Fitzroy Crossi**	**24.17**	**182**	P	**P**	**01 29 40.7**	**-1.2**
WB0	**Warramunga Arr**	**26.96**	**163**	P	**P**	**01 30 06.0**	**-1.2**
WB0				IAmb	IAmb	01 30 14.8	
	comp=Z,3.9nm,0.9s						
WRA	**Warramunga Arr**	**27.11**	**164**	P	**P**	**01 30 11.0**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=340,slow=10,SNR=14						
WRA	**Warramunga Arr**	**27.11**	**164**	P	**P**	**01 30 07.7**	**-0.9**
WB2	**Warramunga Arr**	**27.11**	**164**	P	**P**	**01 30 06.9**	**-1.6**
PSA00	**Pilbara Seismi**	**28.38**	**193**	P	**P**	**01 30 20.8**	**+0.9**
PSA00				IAmb	IAmb	01 30 22.3	
	comp=Z,6.6nm,0.6s						
ASAR	**Alice Springs**	**30.56**	**167**	P	**P**	**01 30 40.7**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=342,slow=6.5,SNR=7.0						
ASAR	**Alice Springs**	**30.56**	**167**	P	**P**	**01 30 38.8**	**-0.5**
FORT	**Forrest**	**36.81**	**178**	P	**P**	**01 31 33.4**	**0.0**
BBOO	**Buckleboo**	**39.86**	**167**	P	**P**	**01 31 58.4**	**-0.5**
BBOO				IAmb	IAmb	01 32 04.9	
	comp=Z,3.4nm,0.7s						
NWAO	**Narrogin (SRO)**	**39.91**	**192**	P	**P**	**01 32 01.1**	**+1.7**
NWAO				IAmb	IAmb	01 32 20.9	
	comp=Z,13nm,0.9s						
STKA	**Stephens Creek**	**40.52**	**160**	P	**P**	**01 32 06.0**	**+1.6**
	comp=Z,1.5nm,0.6s,baz=338,slow=14,SNR=3.4						
STKA	**Stephens Creek**	**40.52**	**160**	P	**P**	**01 32 05.3**	**+0.9**
MK31	**Makanchi Array**	**55.41**	**324**	P	**P**	**01 33 58.4**	**-1.0**
MK31				IAmb	IAmb	01 34 04.7	
	comp=Z,1.6nm,1.1s						
MKAR	**Makanchi Array**	**55.41**	**324**	P	**P**	**01 33 59.1**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=121,slow=8.7,SNR=10						
MKAR	**Makanchi Array**	**55.41**	**324**	P	**P**	**01 33 58.4**	**-0.9**
KURK	**Kurchatov**	**59.55**	**327**	P	**P**	**01 34 28.3**	**0.0**
KURK				IAmb	IAmb	01 34 30.4	
	comp=Z,2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**59.55**	**327**	P	**P**	**01 34 29.9**	**+1.6**
	comp=Z,1.9nm,0.9s,baz=126,slow=5.8,SNR=13						
AIN	**Ainahou**	**76.70**	**72**	P	**P**	**01 36 14.7**	**-2.0**
SEW	**Seward**	**81.68**	**30**	P	**P**	**01 36 41.6**	**-1.2**
FID	**Port Fidalgo**	**83.16**	**30**	P	**P**	**01 36 48.8**	**-1.8**
FID				IAmb	IAmb	01 37 05.9	
	comp=Z,6.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**121.91**	**290**	PKP	**PKiKP**	**01 43 20.2**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=71,slow=2.2,SNR=6.5						
TORD	**Torodi Ar. Bea**	**121.91**	**290**		**PKPdf**	**01 43 18.9**	**-0.8**

*NNC **21** 01:26:51.0±1.2, 42°.95N×80°.51E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=7.3km s-min=6.2km az=159.0*
*SOME **21** 01:26:51.4, 43°.00N×80°.53E, h15km*
*KRNET **21** 01:26:52.1±0.1, 42°.74N×80°.61E, mb2.8*
ISC 21 01:26:54.3±1.5, **43°.02N**±0°.05×**80°.39E**±0°.06, **h10**km, **n40**, σ**1**s**89**/69, **10C-12D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**0.42**	**356**	*e*P	**Pg**	**01 27 01.4**	**-1.3**
	14nm,0.1s						
KTMS				*e*S	**Sg**	**01 27 08.8**	**+0.4**
	159nm,0.2s						
KTMS	**Ketmen**	**0.42**	**356**	P	**Pg**	**01 27 01.4**	**-1.3**
	14nm,0.1s						
KTMS				S	**Sg**	**01 27 08.8**	**+0.4**
	159nm,0.2s						
SHLS	**Shalkode**	**0.69**	**282**	*e*P	Pg	01 27 02.1	-5.7
	56nm,0.1s						
SHLS				*e*S	**Sg**	**01 27 09.8**	**-7.0**
	126nm,0.2s						
SHLS	**Shalkode**	**0.69**	**282**	P	Pg	01 27 02.1	-5.7
	56nm,0.1s						
SHLS				S	**Sg**	**01 27 09.9**	**-7.0**
	126nm,0.2s						
PDGK	**Podgornoye**	**0.73**	**295**	P	Pg	**01 27 07.5**	**-0.9**
	3.4nm,0.2s						
PDGK				S	**Sb**	**01 27 19.2**	**0.0**
	12nm,0.2s						
PDGK	**Podgornoye**	**0.73**	**295**	⇑P	Pg	**01 27 07.4**	**-1.0**
	3.7nm,0.4s						
PDGK				⇓S	**Sb**	**01 27 19.0**	**-0.3**
	15nm,0.5s						
UZB	**Uzynbulak**	**1.01**	**278**	*e*P	**Pb**	**01 27 12.2**	**-1.6**
	14nm,0.2s						
UZB				*e*S	**Sb**	**01 27 27.6**	**+0.1**
	24nm,0.2s						
UZB	**Uzynbulak**	**1.01**	**278**	P	**Pg**	**01 27 12.2**	**-1.6**
	14nm,0.2s						
UZB				S	**Sb**	**01 27 27.5**	**+0.1**
	24nm,0.2s						
DJR	**Jarkent**	**1.38**	**342**	*e*P	Pn	**01 27 18.9**	**-0.8**
	2.0nm,0.2s						
DJR				*e*S	Sn	**01 27 38.5**	**+0.4**
	23nm,0.1s						
SATY	**Saty**	**1.45**	**272**	*e*P	Pn	**01 27 20.5**	**-0.3**
	9.3nm,0.3s						
SATY				*e*S	**Sg**	**01 27 41.3**	**+0.2**
	56nm,0.1s						
SATY	**Saty**	**1.45**	**272**	P	Pn	**01 27 20.5**	**-0.3**
	9.3nm,0.3s						
SATY				S	**Sg**	**01 27 41.3**	**+0.2**
	56nm,0.1s						
PRZ	**Przheval'sk**	**1.56**	**250**	⇑*i*P	Pn	**01 27 22.4**	**+0.1**
	baz=62						
PRZ				⇑*i*S	**Sg**	**01 27 44.5**	**-0.1**
	baz=62						
KURS	**Kuram**	**1.69**	**287**	*e*P	Pn	**01 27 24.5**	**+0.5**
	9.2nm,0.5s						
KURS				*e*S	**Sg**	**01 27 48.6**	**+0.1**
	16nm,0.5s						
KURS	**Kuram**	**1.69**	**287**	P	Pn	**01 27 24.5**	**+0.5**
	9.2nm,0.5s						
KURS				S	**Sg**	**01 27 48.6**	**+0.1**
	16nm,0.5s						
ANVS	**Anan'yevo**	**2.01**	**264**	⇓*i*P	**Pb**	**01 27 30.2**	**-1.0**
	baz=72						
ANVS				⇓*i*S	**Sg**	**01 27 58.0**	**-1.1**
	baz=72						
ARXS	**Arharly**	**2.21**	**303**	*e*P	Pn	**01 27 32.7**	**+1.6**
	9.2nm,0.3s						
ARXS				*e*S	**Sb**	**01 28 02.9**	**+1.0**
	29nm,0.7s						
ARXS	**Arharly**	**2.21**	**303**	Pg	Pn	**01 27 32.7**	**+1.6**
	9.2nm,0.3s						
ARXS				Lg	Lg	01 28 02.9	
	29nm,0.7s						
TARG	**Taragay, Kyrgy**	**2.31**	**237**	⇓*i*P	Pn	**01 27 32.8**	**0.0**
	baz=45						
TARG				⇓*i*S	Sn	**01 28 03.0**	**+1.5**
	baz=45						
KAPS	**Kapalarasan**	**2.38**	**342**	*e*P	Pb	**01 27 35.8**	**-1.5**
	1.8nm,0.3s						
KAPS				*e*S	**Sb**	**01 28 07.9**	**+1.1**
	12nm,0.4s						
KAPS	**Kapalarasan**	**2.38**	**342**	Pg	Pb	**01 27 35.8**	**-1.5**
	1.8nm,0.3s						
KAPS				Lg	Lg	01 28 07.9	
	12nm,0.4s						
MDOK	**Medeo**	**2.45**	**274**	*e*P	Pb	**01 27 37.7**	**-0.9**
	baz=80						
MDOK				*e*S	**Sb**	**01 28 10.8**	**+1.9**
	baz=80						
MDOK	**Medeo**	**2.45**	**274**	*e*P	Pb	**01 27 37.7**	**-0.9**
	1.9nm,0.3s						
MDOK				*e*S	**Sb**	**01 28 10.7**	**+1.9**
	16nm,0.6s						
MDOK	**Medeo**	**2.45**	**274**	Pg	Pn	**01 27 35.8**	**+1.3**
	1.3nm,0.4s						
MDOK				Lg	Lg	01 28 11.6	
	14nm,0.6s						
MDOK	**Medeo**	**2.45**	**274**	Pg	Pb	**01 27 37.7**	**-0.9**
	1.9nm,0.3s						
MDOK				Lg	Lg	01 28 10.7	
	16nm,0.6s						
TNSS	**Tian-Shan**	**2.52**	**272**	*e*P	Pb	**01 27 38.9**	**-1.0**
	4.7nm,0.4s						
TNSS				*e*S	**Sb**	**01 28 13.0**	**+1.8**
	17nm,0.3s						
TNSS	**Tian-Shan**	**2.52**	**272**	Pg	Pb	**01 27 38.9**	**-1.0**
	4.7nm,0.4s						
TNSS				Lg	Lg	01 28 13.0	
	17nm,0.3s						
KDJ	**Kajisay**	**2.53**	**250**	⇓*i*P	Pn	**01 27 36.2**	**+0.5**
	baz=58						
KDJ				⇓*i*S	**Sb**	**01 28 08.9**	**-2.4**
	baz=58						
CHKK	**Chushkaly**	**2.61**	**290**	*e*P	Pb	**01 27 40.6**	**-0.7**
	baz=94						
CHKK				*e*S	**Sb**	**01 28 15.7**	**+2.3**
	baz=94						
CHKK	**Chushkaly**	**2.61**	**290**	*e*P	Pb	**01 27 40.6**	**-0.7**
	1.1nm,0.2s						
CHKK				*e*S	**Sb**	**01 28 15.7**	**+2.3**
	15nm,0.3s						
CHKK	**Chushkaly**	**2.61**	**290**	Pg	Pb	**01 27 40.6**	**-0.7**
	1.1nm,0.2s						
CHKK				Lg	Lg	01 28 15.7	
	15nm,0.3s						
MTBS	**Maitube**	**2.90**	**273**	*e*P	Pb	**01 27 45.5**	**-0.8**
	4.2nm,0.2s						
MTBS				*e*S	**Sb**	**01 28 24.2**	**+2.4**
	11nm,0.4s						
MTBS	**Maitube**	**2.90**	**273**	Pg	Pb	**01 27 45.5**	**-0.8**
	4.2nm,0.2s						
MTBS				Lg	Lg	01 28 24.2	
	11nm,0.4s						
ULHL	**Ulahol**	**3.16**	**257**	⇑*i*P	Pn	**01 27 45.7**	**+1.4**
	baz=63						
ULHL				⇑*i*S	**Sn**	**01 28 24.5**	**+2.4**
	baz=63						
KST	**Kastek**	**3.25**	**272**	*e*P	Pb	**01 27 52.0**	**-0.2**
	3.5nm,0.3s						
KST				*e*S	**Sg**	**01 28 35.2**	**-3.3**
	6.8nm,0.6s						
KST	**Kastek**	**3.25**	**272**	Pg	Pb	**01 27 52.0**	**-0.2**
	3.5nm,0.3s						
KST				Lg	Lg	01 28 35.2	
	6.8nm,0.6s						
TKM2	**Tokmak 2**	**3.52**	**270**	⇑P*n*	Pn	**01 27 52.2**	**+3.0**
	1.0nm,0.5s						
TKM2				⇓Lg	Lg	01 28 42.9	
	1.5nm,0.3s						
KZA	**Kyzart**	**3.91**	**258**	⇑*e*P	Pn	**01 27 56.3**	**+1.4**
	baz=62						
KZA				⇑*i*S	**Sn**	**01 28 43.2**	**+2.2**
	baz=62						
USP	**Ospenovka**	**4.32**	**275**	⇑*i*P	Pn	**01 28 02.5**	**+2.4**
	baz=79						
USP				⇑*i*S	**Sn**	**01 28 54.4**	**+3.9**
	baz=79						
UCH	**Uchtor**	**4.41**	**262**	⇓*i*P	Pn	**01 28 03.4**	**+1.7**
	baz=66						
UCH				⇓*i*S	**S

AML ⇓*i*S **Sn** **01 29 09.8 +1.4**
baz=66

IDC ***21*** *01:50:37.8±2.4, 32.°64N×47.°57E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/26, mbtmp3.7/4, MS2.8/2, Ms1 2.8/2, ms1mx2.4/46, Error ellipse: s-maj=60.0km s-min=29.9km az=152.0*

ISN ***21*** *01:50:38.0±0.8, 32.°52N×47.°76E, h14km±6km, ML3.2*

TEH ***21*** *01:50:39.2, 32.°64N×47.°74E, h9km, ML3.5*

THR ***21*** *01:50:40.3±0.3, 32.°67N×47.°76E, h14km±5km, ML3.4*

ISC 21 01:50:39.4±1.3, 32.°56N±0.°03×47.°69E±0.°03, h10km±9km, n55, σ1§22/58, mb3.5/4, 3D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.37**	**289**	*e*Pg	**Pg**	**01 50 47.2**	**+0.5**
IKFM	**Kafar-mosalman**	**0.97**	**8**	*e*Pg	**Pg**	**01 50 56.4**	**-1.6**
IKFM				*e*		01 51 16.3	
IKMR	**Kamar-syah**	**1.11**	**31**	*e*Pg	**Pb**	**01 50 58.9**	**-1.9**
IKMR				*e*		01 51 23.2	
IDOB	**Doab**	**1.29**	**18**	*e*Pg	**Pn**	**01 51 03.5**	**-0.2**
BMDN	**Meydan**	**1.46**	**40**	*e*		01 51 32.9	
BMDN				*e*Pg	**Pn**	**01 51 05.9**	**-0.1**
AHWZ	**Ahwaz**	**1.47**	**146**	*e*Pg	**Pg**	**01 51 08.0**	**+0.3**
IBDR	**Badra**	**1.58**	**291**	*e*Pg	**Pn**	**01 51 08.0**	**+0.5**
IBDR				*e*Sg	**Sg**	**01 51 30.0**	**-0.3**
IBDR				AML	AML	01 51 35.8	
	comp=N,280nm,0.5s						
IBDR				AML	AML	01 51 35.8	
	comp=E,310nm,0.4s						
IKOM	**Komasi**	**1.61**	**355**	*e*		01 51 36.6	
IKOM				*e*Pg	**Pb**	**01 51 09.5**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.79**	**342**	*e*Pg	**Pb**	**01 51 11.7**	**-0.8**
KCHF				*e*		01 51 45.2	
HSAM	**Samen**	**1.81**	**25**	*e*Pg	**Pb**	**01 51 12.6**	**-0.3**
HSAM				*e*		01 51 14.1	
KER	**Kermanshah**	**1.88**	**346**	*e*Pg	**Pb**	**01 51 13.6**	**-0.3**
IBZA	**Bozab**	**1.91**	**4**	*e*Pg	**Pb**	**01 51 13.9**	**-0.6**
IBZA				*e*		01 51 42.9	
IGHG	**Ghaleghazi**	**2.00**	**332**	*e*Pn	**Pn**	**01 51 14.8**	**+1.3**
IGHG				*e*		01 51 54.4	
NSR	**Nassriya**	**2.04**	**221**	*e*Pn	**Pn**	**01 51 13.0**	**-0.8**
NSR				*e*Sn	**Sn**	**01 51 38.0**	**-1.3**
IVIS	**Veis**	**2.08**	**340**	*e*Pn	**Pn**	**01 51 15.4**	**+0.9**
IVIS				*e*		01 51 49.9	
KHMZ	**Khomeyn**	**2.23**	**58**	*e*Pn	**Pn**	**01 51 17.7**	**+1.0**
KHMZ				*e*Sg	**Sb**	**01 51 47.6**	**-0.3**
KHMZ	**Khomeyn**	**2.23**	**58**	*e*Pn	**Pn**	**01 51 17.7**	**+1.0**
IALM	**Almabolaq**	**2.33**	**10**	*e*Pn	**Pn**	**01 51 19.1**	**+1.0**
IDHR	**Dehrash**	**2.39**	**333**	*e*Pn	**Pn**	**01 51 19.9**	**+1.0**
IDHR				*e*		01 52 00.6	
ILIN	**Lien**	**2.43**	**346**	*e*Pn	**Pn**	**01 51 20.8**	**+1.4**
ILIN				*e*		01 52 02.1	
JHBN	**Jahan bin**	**2.54**	**97**	*e*Pn	**Pn**	**01 51 21.7**	**+0.7**
JHBN				*e*		01 52 07.0	
SNGE	**Sanandaj**	**2.54**	**354**	*e*Pn	**Pn**	**01 51 21.8**	**+0.9**
SNGE				*e*S	**Sn**	**01 51 52.3**	**+0.2**
SNGE				IAML		01 52 04.4	
	comp=N,165nm,0.8s						
SNGE	**Sanandaj**	**2.54**	**354**	*e*Pn	**Pn**	**01 51 21.8**	**+0.9**
HAGD	**Aghdareh**	**2.56**	**28**	*e*Pn	**Pn**	**01 51 23.0**	**+1.8**
HAGD				*e*		01 52 05.8	
IPIR	**Pirpir**	**2.70**	**87**	*e*Pn	**Pn**	**01 51 24.5**	**+1.2**
IPIR				*e*		01 52 17.9	
HSRG	**Sareghieh**	**2.72**	**10**	*e*	**Sg**	**01 52 07.6**	**+0.9**
ROKH	**ROKH**	**2.83**	**93**	*e*Pn	**Pn**	**01 51 25.9**	**+0.9**
BHD	**Baghdad**	**2.87**	**285**	*e*Pn	**Pn**	**01 51 26.0**	**+0.7**
BHD				*e*Sn	**Sn**	**01 52 02.0**	**+2.0**
BHD				AML	AML	01 52 19.3	
	comp=E,211nm,0.4s						
IKLH	**Kolahrood**	**3.35**	**76**	*e*Pn	**Pn**	**01 51 33.9**	**+1.7**
IKLH				*e*		01 52 33.7	
IRAZ	**Razeghan**	**3.39**	**33**	*e*Pn	**Pn**	**01 51 34.5**	**+1.9**
QABG	**Abgarm-Qazvin**	**3.51**	**26**	*e*Pn	**Pn**	**01 51 35.5**	**+1.2**
KLNJ	**Kolanjah**	**3.67**	**114**	*e*Pn	**Pn**	**01 51 37.4**	**+0.9**
KLNJ				*e*		01 52 27.8	
IGAR	**Gharneh**	**3.68**	**91**	*e*Pn	**Pn**	**01 51 36.8**	**+0.2**
IGAR				*e*		01 52 23.9	
IZEF	**Zefreh**	**3.92**	**84**	*e*Pn	**Pn**	**01 51 41.3**	**+1.3**
IRAM	**Rameshieh**	**4.05**	**99**	*e*Pn	**Pn**	**01 51 42.0**	**+0.3**
QSDN	**Sirdan**	**4.12**	**17**	*e*Pn	**Pn**	**01 51 44.4**	**+1.8**
CHTH	**Charan**	**4.38**	**40**	*e*Pn	**Pn**	**01 51 47.1**	**+0.8**
CHTH	**Charan**	**4.38**	**40**	*e*Pn	**Pn**	**01 51 47.1**	**+0.8**
QALM	**Alamut, Qazvin**	**4.56**	**31**	*e*Pn	**Pn**	**01 51 49.9**	**+1.1**
DAMV	**Damavand**	**4.69**	**48**	*e*Pn	**Pn**	**01 51 51.5**	**+1.0**
DAMV	**Damavand**	**4.69**	**48**	*e*Pn	**Pn**	**01 51 51.5**	**+1.0**
IDMV	**Damavand**	**4.69**	**49**	*e*Pn	**Pn**	**01 51 51.4**	**+0.8**
AHBU	**AHRAM**	**4.82**	**139**	*e*Pn	**Pn**	**01 51 55.2**	**+3.1**
ANAR	**Anarak**	**5.12**	**81**	*e*Pn	**Pn**	**01 51 57.0**	**+0.7**
ISAD	**Sadrabad**	**5.12**	**96**	*e*Pn	**Pn**	**01 51 56.4**	**-0.1**
IPRN	**Peran**	**5.31**	**45**	*e*Pn	**Pn**	**01 52 00.6**	**+1.6**
BRTR	**Keskin Array B**	**13.41**	**306**	LR	LR	01 59 32.6	
	comp=E,22nm,21.8as,baz=236,slow=40						
AKTO	**Aktyubinsk**	**19.42**	**20**	LR	LR	02 05 42.2	
	comp=E,58nm,19.6s,baz=58,slow=47						
TESR	**Tescani**	**21.30**	**317**	∥P	**P**	**01 55 29.4**	**+3.2**
SORM	**Soroca**	**21.34**	**322**	∥P	**P**	**01 55 28.1**	**+1.5**
VOIR		**21.70**	**313**	∥P	**P**	**01 55 31.4**	**+0.8**
MKAR	**Makanchi Array**	**29.91**	**51**	P	**P**	**01 56 47.8**	**+0.3**
	comp=E,0.5nm,0.8s,baz=253,slow=9.9,SNR=3.5						
FINES	**FINESS Array B**	**32.11**	**341**	P	**P**	**01 57 05.2**	**-1.5**
	comp=E,7.1nm,1.1s,baz=146,slow=8.9,SNR=8.4						
ESDC	**Sonseca Array**	**41.85**	**295**	P	**P**	**01 58 28.9**	**-0.8**
	comp=E,0.1nm,0.3s,baz=76,slow=8.5,SNR=6.7						
TORD	**Torodi Ar. Bea**	**46.17**	**256**	P	**P**	**01 59 03.5**	**-1.1**
	comp=E,0.4nm,0.5s,baz=66,slow=7.2,SNR=7.7						

BJI ***21*** *02:11:29.8±0.0, 5.°2S×151.°09E, h17km, mB5.8/74, mb5.5/84, Ms5.8/91, Ms7.5 7/85*

NEIC ***21*** *02:11:30.8, 5.°24S×150.°65E, h15km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.47; Mθθ=7.56; Mφφ=-8.03; Mrθ=1.95; Mrφ=1.72; Mθφ=-0.16; Fault plane solution: M₀8.23000×10¹⁷ NP1:φs129.61000°, δ82.01000°, λ.11.71000°. Principal axes: T 8.2262, Plg14.0000°, Azm354.0000°; N 0.0095, Plg76.0000°, Azm163.0000°; P -8.2358, Plg3.0000°, Azm263.0000°;*

MOS ***21*** *02:11:30.3±0.9, 5.°30S×150.°69E, h13km, mb5.6/38, MS5.6/33 Error ellipse: s-maj=8.3km s-min=5.2km az=110.5*

IDC ***21*** *02:11:30.1±0.4, 5.°35S×150.°65E, h0km, mb5.1/22, mb1 5.2/28, mb1mx5.2/30, mbtmp5.2/28, ML4.0/6, MS5.5/38, Ms1 5.5/38, ms1mx5.5/39, Error ellipse: s-maj=11.8km s-min=9.9km az=104.0*

NEIC ***21*** *02:11:31.0±1.1, 5.°29S±0.°06×150.°69E±0.°05, h8km±1km, mb5.4/196, Ms_20 5.8/911, Mwb5.9/45, Mww5.9, Mwc5.9(GCMT), Error ellipse: s-maj=11.0km s-min=7.4km az=141.0*

DJA ***21*** *02:11:32.6±0.2, 5.°S±2.°×15.°1E±.°, h10km, M5.7/73, mB6.1/61, mb5.5/73, MLv6.1/2, Mw(mB)5.8/61, Mwp5.7/28*

NEIC ***21*** *02:11:35, 5.28S×150.°63E, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.10; Mθθ=1.01; Mφφ=-0.91; Mrθ=-0.06; Mrφ=0.40; Mθφ=0.00; Fault plane solution: M₀1.04000×10¹⁸ NP1:φs214.00000°, δ87.00000°, λ.179.00000°. NP2:φs304.00000°, δ89.00000°, λ.3.00000°. Principal axes: T 1.0916, Plg3.0000°, Azm169.0000°; N -0.1029, Plg87.0000°, Azm330.0000°; P -0.9886, Plg1.0000°, Azm79.0000°;*

GCMT ***21*** *02:11:36.0±0.1, 5.°27S×150.°59E, h12km, MW5.9/164, Moment Tensor Solution. s158,c342; s164,c566; Duration: 2e3 Moment tensor: Scale 10¹⁸Nm; Mrr=0.10±.01; Mθθ=0.98±.01; Mφφ=-0.88±.01; Mrθ=0.07±.01; Mθφ=0.38±.01; Mrφ=0.04±.01; Best double couple: M₀1.00700×10¹⁸ NP1:φs124.00000°, δ86.00000°, λ.1.00000°. NP2:φs34.00000°, δ89.00000°, λ.176.00000°. Principal axes: T 1.0590, Plg4.0000°, Azm349.0000°; N -0.1030, Plg86.0000°, Azm194.0000°; P -0.9560, Plg2.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***21*** *02:11:37, 5.°12S×150.°45E, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.59; Mθθ=6.87; Mφφ=-6.28; Mrθ=-3.21; Mrφ=3.47; Mθφ=2.66; Fault plane solution: M₀8.54000×10¹⁷ NP1:φs212.00000°, δ61.00000°, λ.-174.00000°. NP2:φs120.00000°, δ85.00000°, λ.-29.00000°. Principal axes: T 8.4618, Plg17.0000°, Azm170.0000°; N 0.1498, Plg61.0000°, Azm291.0000°; P -8.6116, Plg24.0000°, Azm72.0000°;*

ISC 21 02:11:32.5±0.5, 5.°33S±0.°03×150.°67E±0.°03, h15km±2km, h15km:pP-P, n986, σ1§85/576, mb5.4/194, MS5.8/542, 31C-5D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.69**	**53**	Pg	**Pn**	**02 11 59.5**	**-2.1**
	191nm,0.3s,baz=233,slow=4.0,SNR=324						
KRVT				Lg	Lg	02 12 18.4	
	2µm,0.3s,baz=180,slow=20,SNR=5.8						
RABL	**Rabaul**	**1.87**	**53**		**Pn**	**02 12 03.2**	**-0.9**
RABL				Sn	**Sn**	**02 12 26.3**	**-1.1**
PMG	**Port Moresby**	**5.34**	**221**	Pn	**Pn**	**02 12 52.6**	**+0.8**
	41nm,0.3s,baz=40,slow=10,SNR=20						
PMG				Sn	**Sn**	**02 13 51.6**	**-1.6**
	21nm,0.3s,baz=36,slow=20,SNR=7.0						
PMG				LR	LR	02 14 42.8	
	comp=Z,65µm,18.4s,baz=39,slow=36						
PMG	**Port Moresby**	**5.34**	**221**	P	**Pn**	**02 12 52.4**	**+0.6**
PMG						02 13 54.5	
PMG	**Port Moresby**	**5.34**	**221**	Pn	**Pn**	**02 12 52.4**	**+0.6**
PMG				Sn	**Sn**	**02 13 54.5**	**+1.4**
HNR	**Honiara**	**10.06**	**114**	Pn	**Pn**	**02 13 57.4**	**+0.8**
	13nm,0.3s,baz=270,slow=14,SNR=1.5						
HNR				LR	LR	02 17 32.3	
	comp=Z,34µm,18.1s,baz=274,slow=36						
HNR	**Honiara**	**10.06**	**114**	P	**Pn**	**02 13 56.9**	**+0.3**
HNR				SN	**Sn**	**02 15 52.1**	**+2.8**
HNR	**Honiara**	**10.06**	**114**	Pn	**Pn**	**02 13 56.9**	**+0.3**
HNR				Sn	**Sn**	**02 15 50.2**	**+1.0**
JAY	**Jayapura**	**10.33**	**285**	Pn	**Pn**	**02 14 00.8**	**+0.4**
	0.5nm,0.3s,baz=103,slow=8.9,SNR=18						
JAY				LR	LR	02 18 30.3	
	comp=Z,40µm,18.7s,baz=80,slow=41						
JAY	**Jayapura**	**10.33**	**285**	P	**Pn**	**02 14 00.2**	**-0.2**
	5µm235nm,2.0s						
GENI	**Genyem**	**10.83**	**284**	P	**Pn**	**02 14 05.5**	**-1.7**
	24µm26µm1µm,2.2s						
COEN	**Coen**	**11.31**	**220**	P	**Pn**	**02 14 13.0**	**-0.8**
	baz=11,SNR=7.7						
COEN	**Coen**	**11.31**	**220**	Pn	**Pn**	**02 14 14.2**	**+0.3**
SMPI	**Sarmi**	**12.39**	**285**	P	**Pn**	**02 14 28.6**	**0.0**
	14µm10µm483nm,2.1s						
MTSU	**Mount Surprise**	**14.16**	**205**	P	**Pn**	**02 14 54.1**	**+1.4**
	baz=14,SNR=68						
PATS	**Pohnpei**	**14.29**	**32**	P	**Pn**	**02 14 54.6**	**+0.1**
	baz=14,SNR=8.1						
PATS	**Pohnpei**	**14.29**	**32**		**Pn**	**02 14 53.5**	**-1.1**
CTA	**Charters Tower**	**15.28**	**196**	Pn	**Pn**	**02 15 08.5**	**+0.6**
	0.4nm,0.3s,baz=20,slow=14,SNR=23						
CTA				LR	LR	02 20 18.0	
	comp=Z,31µm,21.8s,baz=14,slow=35						
CTA	**Charters Tower**	**15.28**	**196**	P	**Pn**	**02 15 09.0**	**+1.0**
	baz=15						
CTAO	**Charters Tower**	**15.28**	**196**	P	**Pn**	**02 15 08.6**	**+0.6**
CTAO	**Charters Tower**	**15.28**	**196**	Pn	**Pn**	**02 15 08.6**	**+0.6**
KMPI	**Kaimana, Papua**	**17.00**	**275**	P	**Pn**	**02 15 29.3**	**-0.7**
	7µm284nm,0.7s						
FAKI	**Fak Fak**	**18.53**	**277**	P	**P**	**02 15 46.8**	**-2.0**
	16µm7µm286nm,2.0s						
FAKI	**Fak Fak**	**18.53**	**277**	P	**P**	**02 15 46.6**	**-2.2**
QIS	**Mount Isa**	**18.57**	**214**	P	**Pn**	**02 15 49.5**	**+0.1**
	baz=18,SNR=29						
KDU	**Kakadu**	**19.39**	**247**	P	**P**	**02 15 56.6**	**-1.6**
	baz=19,SNR=7.9						
GUMO	**Guam**	**19.66**	**343**	P	**P**	**02 16 01.4**	**+0.3**
	1.8nm,0.3s,baz=179,slow=4.5,SNR=13						
GUMO				LR	LR	02 21 55.5	
	comp=Z,19µm,21.1s,baz=152,slow=32						
GUMO	**Guam**	**19.66**	**343**	P	**P**	**02 16 00.2**	**-0.9**
GUMO				pmax	pmax		
	comp=Z,473nm,1.2s						
GUMO	**Guam**	**19.66**	**343**	P	**P**	**02 16 00.2**	**-0.9**
SIJI	**Sorong**	**19.88**	**282**	P	**P**	**02 16 03.3**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=81,slow=9.7,SNR=25						
EIDS	**Eidsvold**	**19.93**	**179**	P	**Pn**	**02 16 05.3**	**-0.3**
	baz=20,SNR=21						
EIDS	**Eidsvold**	**19.93**	**179**	P	**P**	**02 16 04.5**	**+0.5**
EIDS				IAmb	IAmb	02 16 10.2	
	comp=Z,273nm,1.1s						
MTN	**Manton Dam**	**20.68**	**248**	P	**P**	**02 16 10.6**	**-1.6**
	baz=20,SNR=15						
MTN	**Manton Dam**	**20.68**	**248**	P	**P**	**02 16 10.6**	**-1.6**
MTN				IAmb	IAmb	02 16 22.0	
	comp=Z,127nm,0.8s						
RMQ	**Roma**	**21.11**	**185**	P	**P**	**02 16 18.3**	**+1.4**
	baz=21,SNR=32						
WB0	**Warramunga Arr**	**21.38**	**226**	P	**P**	**02 16 19.0**	**-0.8**
WR0	**Warramunga Arr**	**21.39**	**226**	P	**P**	**02 16 18.8**	**-1.1**
WRAB	**Tennant Creek**	**21.51**	**226**	*de*P	**P**	**02 16 20.5**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,1µm,1.6s						
WRAB				MLR	MLR		
	comp=Z,26µm,16.0s						
WRAB	**Tennant Creek**	**21.51**	**226**	P	**P**	**02 16 20.6**	**-0.7**
WC3	**Warramunga Arr**	**21.52**	**226**	IAMs_20	IAMs_20	02 26 06.8	
	comp=Z,28µm,18.0s						
WB2	**Warramunga Arr**	**21.52**	**226**	P	**P**	**02 16 20.6**	**-0.7**
WRA	**Warramunga Arr**	**21.53**	**226**	P	**P**	**02 16 20.6**	**-0.8**
	comp=Z,87nm,0.8s,baz=52,slow=11,SNR=154						
WRA				S	**S**	**02 20 15.8**	**-4.1**
	comp=Z,55nm,1.3s,baz=49,slow=20,SNR=10						
WRA				ScP	**ScP**	**02 24 00.5**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=55,slow=3.4,SNR=2.4						
WRA				LR	LR	02 25 05.7	
	comp=Z,17µm,18.3s,baz=50,slow=38						
WRA	**Warramunga Arr**	**21.53**	**226**	P	**P**	**02 16 19.7**	**-1.7**
WRA	**Warramunga Arr**	**21.53**	**226**	P	**P**	**02 16 19.7**	**-1.7**
WRA					**ScP**	**02 24 00.2**	**-0.6**
QLP	**Quilpie**	**22.01**	**196**	P	**P**	**02 16 26.7**	**+0.3**
	baz=22,SNR=109						
ANA2	**Anatahan**	**22.09**	**347**	P	**P**	**02 16 26.3**	**-1.0**
DZM	**Mont Dzumac**	**22.58**	**139**	P	**P**	**02 16 33.5**	**+0.9**
	comp=Z,123nm,0.8s,baz=352,slow=9.4,SNR=50						
DZM				LR	LR	02 24 06.6	
	comp=Z,48µm,19.6s,baz=326,slow=34						
DZM	**Mont Dzumac**	**22.58**	**139**	*e*P	**P**	**02 16 33.6**	**+0.9**
	comp=Z,1µm,1.1s						
DZM				*e*LQ	LQ	02 21 04.8	
	comp=Z,69µm,27.1s						
DZM				*e*LR	LR	02 22 02.2	
	comp=Z,50µm,21.8s						
DZM	**Mont Dzumac**	**22.58**	**139**	P	**P**	**02 16 32.8**	**+0.1**
TARA	**Tarawa**	**23.20**	**74**	P	**P**	**02 16 38.5**	**-0.6**
TARA	**Tarawa**	**23.20**	**74**	IAMs_20	IAMs_20	02 24 13.1	
	comp=Z,33µm,22.0s						
LBMI	**Labuha**	**23.60**	**281**	P	**P**	**02 16 43.2**	**0.0**
	comp=Z,793µmcomp=Z,66µmcomp=Z,1µm,1.0s						
KNRA	**Kununurra**	**23.84**	**243**	P	**P**	**02 16 43.2**	**-2.2**
	baz=24,SNR=44						
KNRA	**Kununurra**	**23.84**	**243**	P	**P**	**02 16 43.0**	**-2.5**
KNRA				IAMs_20	IAMs_20	02 26 51.8	
	comp=Z,34µm,18.0s						
TNTI	**Ternate**	**24.05**	**284**	P	**P**	**02 16 48.9**	**+1.4**
	comp=Z,4µmcomp=Z,9µmcomp=Z,506nm,1.9s						
TNTI	**Ternate**	**24.05**	**284**	P	**P**	**02 16 47.0**	**-0.5**
TNTI				IAmb	IAmb	02 16 57.1	
	comp=Z,104nm,1.0s						
ASAR	**Alice Springs**	**24.36**	**220**	P	**P**	**02 16 49.7**	**-0.6**
	comp=Z,31nm,0.8s,baz=51,slow=8.5,SNR=105						
ASAR				S	**S**	**02 21 10.1**	**+0.8**
	comp=Z,11nm,1.1s,baz=47,slow=17,SNR=3.1						
ASAR				LR	LR	02 26 20.8	
	comp=Z,11µm,19.7s,baz=44,slow=37						
ASAR	**Alice Springs**	**24.36**	**220**	P	**P**	**02 16 49.4**	**-0.8**
ASAR				S	**S**	**02 21 09.5**	**+0.2**
ASAR	**Alice Springs**	**24.36**	**220**	P	**P**	**02 16 49.4**	**-0.8**
ASAR				S	**S**	**02 21 09.5**	**+0.2**
SANI	**Sanana**	**24.85**	**277**	P	**P**	**02 16 54.8**	**+0.1**
	comp=Z,9µmcomp=Z,4µmcomp=Z,206nm,2.1s						
ARMA	**Armidale**	**24.97**	**178**	P	**P**	**02 16 56.6**	**+0.8**
	baz=25,SNR=26						
ARMA	**Armidale**	**24.97**	**178**	P	**P**	**02 16 56.2**	**+0.4**
ARMA				IAmb	IAmb	02 17 01.6	
	comp=Z,74nm,0.9s						
CMSA	**Cobar Meteorol**	**26.48**	**190**	P	**P**	**02 17 09.4**	**+0.1**
	baz=26,SNR=39						
SOEI	**Soe**	**26.54**	**259**	P	**P**	**02 17 13.0**	**+2.8**
	comp=Z,12µmcomp=Z,4µmcomp=Z,90nm,1.6s						
SOEI	**Soe**	**26.54**	**259**	P	**P**	**02 17 09.8**	**-0.4**
SOEI				IAMs_20	IAMs_20	02 29 34.5	
	comp=Z,29µm,21.0s						
BATI	**Baumata**	**27.19**	**258**	P	**P**	**02 17 15.6**	**-0.3**
	comp=Z,9.2nm,0.3s,baz=90,slow=20,SNR=1.1						
BATI				LR	LR	02 30 46.1	
	comp=Z,19µm,19.2s,baz=95,slow=43						
BATI	**Baumata**	**27.19**	**258**	P	**P**	**02 17 18.2**	**+2.2**
	comp=Z,6µmcomp=Z,3µmcomp=Z,46nm,1.3s						
LHI	**Lord Howe Isla**	**27.21**	**164**	P	**P**	**02 17 17.4**	**+1.5**
	baz=27,SNR=4.7						
LHI	**Lord Howe Isla**	**27.21**	**164**	P	**P**	**02 17 15.6**	**-0.3**
KMSI	**Cibinong**	**27.30**	**282**	P	**P**	**02 17 16.5**	**-0.4**
	comp=Z,340nmcomp=Z,330nm,1.1s						
FITZ	**Fitzroy Crossi**	**27.55**	**240**	P	**P**	**02 17 17.4**	**-1.8**
	comp=Z,68nm,0.8s,baz=66,slow=7.5,SNR=55						
FITZ				LR	LR	02 29 35.1	
	comp=Z,19µm,18.6s,baz=69,slow=39						
FITZ	**Fitzroy Crossi**	**27.55**	**240**	P	**P**	**02 17 16.7**	**-2.4**
	baz=27,SNR=136						
FITZ	**Fitzroy Crossi**	**27.55**	**240**	P	**P**	**02 17 16.9**	**-2.2**
FITZ				IAMs_20	IAMs_20	02 29 23.7	
	comp=Z,20µm,18.0s						
MGCD	**Mangrove Creek**	**27.74**	**179**	P	**P**	**02 17 21.2**	**+0.6**
	baz=28						
STKA	**Stephens Creek**	**27.74**	**197**	P	**P**	**02 17 19.2**	**-1.5**
	comp=Z,77nm,1.0s,baz=360,slow=8.4,SNR=54						
STKA				LR	LR	02 28 20.7	
	comp=Z,26µm,20.0s,baz=12,slow=36						
STKA	**Stephens Creek**	**27.74**	**197**	P	**P**	**02 17 20.0**	**-0.7**
	baz=28,SNR=45						
STKA	**Stephens Creek**	**27.74**	**197**	P	**P**	**02 17 19.7**	**-1.0**
STKA				pmax	pmax		
	comp=Z,20nm,1.0s						
STKA				MLR	MLR		
	comp=Z,6µm,20.0s						
STKA	**Stephens Creek**	**27.74**	**197**	P	**P**	**02 17 19.7**	**-1.0**
DAV	**Davao City (W)**	**27.91**	**296**	P	**P**	**02 17 22.3**	**-0.1**
	comp=Z,206nm,0.3s,baz=51,slow=6.5,SNR=1.8						
DAV				LR	LR	02 28 53.2	
	comp=Z,8µm,18.2s,baz=110,slow=37						
DAV	**Davao City (W)**	**27.91**	**296**	P	**P**	**02 17 21.9**	**-0.5**
DAV	**Davao City (W)**	**27.91**	**296**	∥*e*P	**P**	**02 17 22.5**	**0.0**
LUWI	**Luwuk**	**28.18**	**278**	P	**P**	02 17 31.3	+6.5
GTOI	**Gorontalo**	**28.26**	**281**	P	**P**	**02 17 26.3**	**+0.8**
	comp=Z,2µmcomp=Z,100nm,2.0s						
YNG	**Young**	**28.90**	**184**	P	**P**	**02 17 31.8**	**+0.8**
	baz=29,SNR=12						
EDFI	**Ende, Flores**	**28.96**	**262**	P	**P**	**02 17 33.9**	**+2.0**
	comp=Z,5µmcomp=Z,896nmcomp=Z,29nm,1.1s						
WRKA	**Warakurna**	**29.06**	**225**	P	**P**	**02 17 30.5**	**-2.1**
	baz=29,SNR=72						
MSVF	**Nonsavu**	**29.46**	**117**	∥*e*P	**P**	**02 17 37.3**	**+1.0**
MSVF				pmax	pmax		
	comp=Z,250nm,1.6s						
MSVF				MLR	MLR		
	comp=Z,8µm,14.0s						
MSVF	**Nonsavu**	**29.46**	**117**	P	**P**	**02 17 36.3**	**0.0**
MSVF				IAmb	IAmb	02 17 46.7	
	comp=Z,104nm,1.1s						
CNB	**Canberra Magne**	**29.86**	**182**	P	**P**	**02 17 40.6**	**+1.0**
	baz=30,SNR=9.4						
HTT	**Hallett**	**30.02**	**200**	P	**P**	**02 17 40.9**	**-0.1**
	baz=30,SNR=11						
BBOO	**Buckleboo**	**30.55**	**205**	P	**P**	**02 17 45.0**	**-0.6**
	baz=31,SNR=7.0						
BBOO	**Buckleboo**	**30.55**	**205**	IAmb	IAmb	02 17 55.2	
	comp=Z,50nm,1.1s						
KAPI	**Kappang**	**30.80**	**269**	LR	LR	02 33 12.0	
	comp=Z,4µm,18.8s,baz=93,slow=42						
MPSI	**Mapaga**	**31.25**	**279**	P	**P**	**02 17 50.6**	**-1.4**
	comp=Z,2µmcomp=Z,101nm,2.0s						
ARPS	**Mount Arapiles**	**32.32**	**193**	P	**P**	**02 18 01.2**	**+0.1**
	baz=32,SNR=28						
TOO	**Toolangi**	**32.44**	**188**	P	**P**	**02 18 02.9**	**+0.6**
	baz=32,SNR=18						
TOO	**Toolangi**	**32.44**	**188**	IAmb	IAmb	02 18 11.2	
	comp=Z,62nm,1.1s						
TOO				IAMs_20	IAMs_20	02 30 35.5	
	comp=Z,21µm,21.0s						
FORT	**Forrest**	**33.06**	**217**	P	**P**	**02 18 07.0**	**-0.7**
	baz=33,SNR=11						
JCJ	**Chichijima**	**33.27**	**346**	P	**P**	**02 18 08.8**	**-0.8**
MYLDM	**Lahad Datu**	**33.78**	**287**	IAMs_20	IAMs_20	02 27 25.8	
	comp=Z,21µm,20.0s						
PSAD2	**Pilbara Seismi**	**33.86**	**239**	IAMs_20	IAMs_20	02 33 49.5	
	comp=Z,15µm,21.0s						
MBWA	**Marble Bar**	**33.87**	**239**	IAMs_20	IAMs_20	02 33 27.3	
	comp=Z,16µm,18.0s						
PSAD1

	comp=Z,121nm,1.1s						
NNZ				IAMs_20	IAMs_20	02 35 38.9	
	comp=Z,14µm,18.0s						
THZ	**Tophouse**	**41.34 155**		P	**P**	**02 19 18.3**	**+0.4**
THZ				IAmb	IAmb	02 19 23.2	
	comp=Z,80nm,0.8s						
THZ				IAMs_20	IAMs_20	02 35 44.3	
	comp=Z,10µm,18.0s						
TATO	**Taipei**	**41.39 318**		P	**P**	**02 19 17.8**	**-0.7**
TATO	**Taipei**	**41.39 318**		IAMs_20	IAMs_20	02 33 33.8	
	comp=Z,12µm,19.0s						
NWAO	**Narrogin (SRO)**	**41.52 224**		P	**P**	**02 19 18.4**	**-1.1**
	baz=41,SNR=4.1						
NWAO	**Narrogin (SRO)**	**41.52 224**		IAMs_20	IAMs_20	02 36 44.3	
	comp=Z,12µm,18.0s						
MUN	**Mundaring**	**41.73 226**		P	**P**	**02 19 20.0**	**-1.2**
	baz=42,SNR=8.9						
SNZO	**South Karori**	**41.77 153**		IAMs_20	IAMs_20	02 34 12.6	
	comp=Z,17µm,21.0s						
CMJI	**Cimerak**	**42.01 264**		P	**P**	**02 19 24.5**	**+0.7**
	comp=Z,1µmcomp=Z,76nm,1.2s						
KHZ	**Kahutara**	**42.14 155**		P	**P**	**02 19 24.9**	**+0.5**
KHZ				IAMs_20	IAMs_20	02 34 25.6	
	comp=Z,17µm,21.0s						
RPZ	**Rata Peaks**	**42.23 158**		P	**P**	**02 19 25.6**	**+0.4**
OXZ	**Oxford**	**42.28 157**		IAmb	IAmb	02 19 32.1	
	comp=Z,88nm,1.0s						
DCZ	**Deep Cove**	**42.48 163**		P	**P**	**02 19 27.7**	**+0.6**
DCZ				IAmb	IAmb	02 19 36.3	
	comp=Z,78nm,1.0s						
WKZ	**Wanaka**	**42.49 161**		IAMs_20	IAMs_20	02 34 03.7	
	comp=Z,13µm,21.0s						
LBZ	**Lake Benmore**	**42.50 159**		IAmb	IAmb	02 19 33.3	
	comp=Z,139nm,1.2s						
LBZ				IAMs_20	IAMs_20	02 37 26.0	
	comp=Z,12µm,18.0s						
JNU	**Nakatsue**	**42.61 335**		LR	LR	02 36 53.9	
	comp=Z,2µm,18.1s,baz=163,slow=36						
RKGY	**Rocky Gully**	**42.65 222**		P	**P**	**02 19 29.0**	**+0.3**
	baz=43,SNR=4.6						
MLZ	**Mavora Lakes**	**42.68 162**		P	**P**	**02 19 29.2**	**+0.4**
MQZ	**McQueen's Vall**	**42.84 156**		IAMs_20	IAMs_20	02 35 45.2	
	comp=Z,15µm,19.0s						
TPI	**Tanjungpandan**	**42.98 272**		P	**P**	**02 19 30.6**	**-1.1**
	comp=Z,857nmcomp=Z,31nm,1.3s						
WHZ	**Wether Hill Ro**	**43.10 162**		P	**P**	**02 19 32.7**	**+0.5**
WHZ				IAmb	IAmb	02 19 34.3	
	comp=Z,66nm,1.2s						
ODZ	**Otahua Downs**	**43.23 159**		IAMs_20	IAMs_20	02 37 49.5	
	comp=Z,11µm,19.0s						
MJAR	**Matsushiro Arr**	**43.26 345**		P	**P**	**02 19 31.9**	**-1.7**
	comp=Z,13nm,0.9s,baz=158,slow=7.8,SNR=32						
MJAR				LR	LR	02 36 58.4	
	comp=Z,5µm,19.6s,baz=210,slow=35						
MJAR	**Matsushiro Arr**	**43.26 345**		P	**P**	**02 19 32.3**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MJAR	**Matsushiro Arr**	**43.26 345**		P	**P**	**02 19 32.3**	**-1.3**
MAJO	**Matsushiro**	**43.26 345**	*c i*	P	**P**	**02 19 31.4**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,87nm,1.6s						
MAJO				MLR	MLR		
	comp=Z,7µm,19.0s						
MAJO	**Matsushiro**	**43.26 345**		P	**P**	**02 19 32.2**	**-1.3**
MAT	**Matsushiro**	**43.26 345**		P	**P**	**02 19 31.8**	**-1.8**
MAT				S	**S**	**02 25 59.6**	**-0.8**
CNJI	**Cibinong**	**43.31 265**		P	**P**	**02 19 35.9**	**+1.5**
	comp=Z,3µmcomp=Z,248nm,1.0s						
QZH	**Quanzhou**	**43.35 315**	⇑*i*	P	**P**	**02 19 34.5**	**0.0**
QZH				S	**S**	**02 26 02.3**	**+0.3**
QZH				SS	**SS**	**02 29 13.5**	**-2.5**
QZH				pmax	pmax		
	comp=Z,130nm,1.2s						
QZH				pmax	pmax		
	comp=Z,770nm,6.1s						
QZH				LR	LR		
	comp=Z,4µm,18.0s						
QZH				LR	LR		
	comp=Z,4µm,20.4s						
QZH				LR	LR		
	comp=Z,6µm,18.9s						
KLSI		**45.77 269**		P	**P**	**02 19 55.1**	**+1.1**
	comp=Z,3.9nm,1.3s						
SSE	**Sheshan**	**45.89 324**		P	**P**	**02 19 55.5**	**+0.9**
SSE				S	**S**	**02 26 39.4**	**+0.7**
SSE				sS	**sS**	**02 26 48.6**	**+2.7**
SSE				pmax	pmax		
	comp=Z,65nm,1.0s						
SSE				pmax	pmax		
	comp=Z,690nm,10.7s						
SSE				LR	LR		
	comp=Z,2µm,22.5s						
GZH	**Guangzhou**	**46.12 309**		P	**P**	**02 19 58.0**	**+1.4**
GZH				PP	**PP**	**02 21 47.0**	**+2.0**
GZH				S	**S**	**02 26 43.8**	**+1.5**
GZH				LR	LR		
	comp=Z,2µm,11.8s						
GZH				LR	LR		
	comp=Z,6µm,17.7s						
MDSI	**Maura Dua**	**46.33 269**		P	**P**	**02 19 58.6**	**+0.2**
	comp=Z,839nmcomp=Z,28nm,1.9s						
QIZ	**Qiongzhong**	**46.94 302**		P	**P**	**02 20 03.4**	**+0.3**
QIZ				PcP	**PcP**	**02 21 33.0**	**-2.7**
QIZ				S	**S**	**02 26 57.3**	**+3.2**
QIZ				pmax	pmax		
	comp=Z,47nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,420nm,3.7s						
QIZ				LR	LR		
	comp=Z,8µm,18.6s						
QIZ				LR	LR		
	comp=Z,3µm,21.1s						
QIZ				LR	LR		
	comp=Z,5µm,22.6s						
KSRS	**Korea Array**	**47.56 335**		P	**P**	**02 20 08.1**	**+0.5**
	comp=Z,11nm,1.0s,baz=149,slow=9.4,SNR=36						
KSRS				LR	LR	02 38 18.2	
	comp=Z,4µm,21.6s,baz=164,slow=34						
KSAR	**Wonju Array Be**	**47.56 335**		P	**P**	**02 20 07.2**	**-0.5**
KSAR	**Wonju Array Be**	**47.56 335**		P	**P**	**02 20 07.2**	**-0.5**
ERM	**Erimo**	**47.62 352**	*ce*	P	**P**	**02 20 08.1**	**+0.1**
ERM				pmax	pmax		
	comp=Z,112nm,1.3s						
ERM				MLR	MLR		
	comp=Z,5µm,19.0s						
ERM	**Erimo**	**47.62 352**		P	**P**	**02 20 07.3**	**-0.7**
ERM				IAmb	IAmb	02 20 15.5	
	comp=Z,37nm,1.0s						
KS19	**Wonju Array Si**	**47.62 335**		IAmb	IAmb	02 20 18.1	
	comp=Z,18nm,0.9s						
NJ2	**Nanjing**	**47.96 323**	⇑	P	**P**	**02 20 11.6**	**+0.8**
NJ2				pP	**pP**	**02 20 15.5**	**+0.2**
NJ2				sP	**sP**	**02 20 17.0**	**-0.1**
NJ2				PP	**PP**	**02 22 06.3**	**+3.3**
NJ2				S	**S**	**02 27 11.4**	**+3.2**
NJ2				sS	**sS**	**02 27 17.8**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,65nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,1µm,3.6s						
NJ2				LR	LR		
	comp=Z,4µm,20.8s						
NJ2				LR	LR		
	comp=Z,6µm,18.0s						
NJ2				LR	LR		
	comp=Z,7µm,19.9s						
INCN	**Inchon**	**48.13 334**		P	**P**	**02 20 11.5**	**-0.6**
INCN				pmax	pmax		
	comp=Z,195nm,1.2s						
INCN	**Inchon**	**48.13 334**		P	**P**	**02 20 11.5**	**-0.6**
HJU	**Haeju**	**48.99 334**		P	**P**	**02 20 19.4**	**+0.7**
WOSN	**Wonsan**	**49.22 336**		P	**P**	**02 20 22.0**	**+1.6**
YUK	**Yuzh-Kuril'sk**	**49.33 355**	*e*	P	**P**	**02 20 19.5**	**-1.7**
YUK			*e*			02 21 42.4	
YUK			*e*			02 22 14.3	
YUK			*e*	PPP	PPP	02 23 05.3	
YUK			*e*	S	**S**	**02 27 25.7**	**-1.5**
YUK			*e*	SS	**SS**	**02 30 56.0**	**-3.1**
YUK			*e*	SSS	SSS	02 32 17.2	
YUK				pmax	pmax		
	comp=Z,334nm,1.2s						
YUK				pmax	pmax		
	comp=Z,235nm,1.0s						
YUK				pmax	pmax		
	comp=N,178nm,0.9s						
SDSI	**Sungai Dareh**	**49.35 273**		P	**P**	**02 20 21.6**	**-0.3**
	comp=N,3µmcomp=N,46nm,0.8s						
JKA	**Kamikawa-asahi**	**49.76 352**		IAmb	IAmb	02 20 37.2	
	comp=Z,65nm,1.0s						
ASAJ	**Asahikawa**	**49.76 352**		LR	LR	02 39 55.2	
	comp=Z,5µm,21.7s,baz=184,slow=34						
WHN	**Wuhan**	**49.80 318**	⇓	P	**P**	**02 20 26.4**	**+1.4**
WHN				S	**S**	**02 27 38.9**	**+4.6**
WHN				pmax	pmax		
	comp=Z,220nm,1.3s						
WHN				LR	LR		
	comp=Z,26µm,27.2s						
WHN				LR	LR		
	comp=Z,10µm,15.9s						
WHN				LR	LR		
	comp=Z,18µm,20.5s						
PYAG	**Pyongyang**	**49.82 335**		P	**P**	**02 20 26.3**	**+1.3**
PYAG				S	S	02 27 45.0	+11
HHU	**Hamhung**	**49.83 337**		P	**P**	**02 20 25.5**	**+0.4**
HHU				S	**S**	**02 27 42.2**	**+7.9**
PYS	**Pyongsong**	**49.94 335**		P	**P**	**02 20 26.8**	**+0.9**
PDSI	**Padang**	**50.31 273**		P	**P**	**02 20 30.9**	**+1.6**
	comp=Z,21nm,0.8s						
KUR	**Kuril'sk**	**50.40 357**	*c i*	P	**P**	**02 20 28.9**	**-0.4**
KUR			*i*	S	**S**	**02 27 48.4**	**+6.3**
KUR				pmax	pmax		
	comp=Z,424nm,1.4s						
CHJN	**Chongjin**	**50.63 340**		P	**P**	**02 20 29.8**	**-1.3**
KULM	**Kulim**	**51.05 281**		P	**P**	**02 20 34.0**	**-0.8**
KGE	**Kanggye**	**51.06 337**		P	**P**	**02 20 35.6**	**+1.2**
VLA	**Vladivostok**	**51.15 342**	*c i*	P	**P**	**02 20 35.7**	**+0.8**
VLA				pmax	pmax		
	comp=Z,228nm,1.9s						
VLA				MLR	MLR		
	comp=Z,3µm,17.0s						
SKNT	**Sakolnakorn**	**51.19 297**		P	**P**	**02 20 36.8**	**+1.1**
SUJ	**Sinuiju**	**51.23 334**		P	**P**	**02 20 35.7**	**+0.1**
SUJ				S	**S**	**02 27 58.3**	**+4.5**
MNSI	**Mandailing Nat**	**51.39 275**		P	**P**	**02 20 37.0**	**-0.3**
DL2	**Dalian**	**51.58 331**		P	**P**	**02 20 38.8**	**+0.5**
DL2				S	**S**	**02 28 01.3**	**+2.6**
DL2				pmax	pmax		
	comp=Z,60nm,1.1s						
DL2				pmax	pmax		
	comp=Z,980nm,9.5s						
DL2				LR	LR		
	comp=Z,4µm,21.6s						
DL2				LR	LR		
	comp=Z,2µm,21.6s						
DL2				LR	LR		
	comp=Z,6µm,24.1s						
TEY	**Ternei**	**51.70 347**	*e*	P	**P**	**02 20 39.3**	**+0.2**
TIA	**Tai'an**	**51.92 325**		P	**P**	**02 20 41.0**	**+0.1**
TIA				S	**S**	**02 28 03.4**	**-0.1**
TIA				pmax	pmax		
	comp=Z,29nm,1.6s						
TIA				pmax	pmax		
	comp=Z,710nm,9.0s						
TIA				LR	LR		
	comp=Z,4µm,22.1s						
TIA				LR	LR		
	comp=Z,4µm,21.1s						
TIA				LR	LR		
	comp=Z,7µm,21.6s						
SRAK	**Srakaew**	**51.94 292**		P	**P**	**02 20 37.9**	**-3.5**
USA0B	**Ussuriysk Arra**	**52.10 343**		IAmb	IAmb	02 20 46.9	
	comp=Z,36nm,1.1s						
USRK	**Ussuriysk Ar.**	**52.10 343**		P	**P**	**02 20 42.6**	**+0.6**
	comp=Z,25nm,1.1s,baz=159,slow=8.1,SNR=49						
USRK				LR	LR	02 42 30.1	
	comp=Z,3µm,19.1s,baz=155,slow=36						
USRK	**Ussuriysk Ar.**	**52.10 343**		P	**P**	**02 20 41.5**	**-0.6**
USRK	**Ussuriysk Ar.**	**52.10 343**		P	**P**	**02 20 41.5**	**-0.6**
RPSI	**Rantau Prapat**	**52.30 278**		P	**P**	**02 20 43.5**	**-0.6**
PSI	**Prapat**	**52.32 278**		P	**P**	**02 20 43.5**	**-0.9**
PSI				pmax	pmax		
	comp=Z,23nm,1.0s						
PSI				MLR	MLR		
	comp=Z,3µm,21.0s						
XMAS	**Kiritimati**	**52.34 83**		P	**P**	**02 20 43.9**	**-0.5**
TRTT	**Trang**	**52.51 284**		P	**P**	**02 20 45.6**	**-0.1**
YSS	**Yuzh-Sakhalins**	**52.53 353**	⇑*e*	P	**P**	**02 20 45.1**	**-0.1**
YSS			*e*			02 20 48.7	
YSS			*e*	*SP	**pP**	**02 20 50.4**	**+0.7**
YSS			*e*			02 21 55.2	
YSS			*e*			02 22 40.9	
YSS			*e*	S	**S**	**02 28 12.5**	**+1.1**
YSS			*e*			02 30 30.7	
YSS			*e*	SS	**SS**	**02 31 49.5**	**-0.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,500nm,5.3s						
YSS				pmax	pmax		
	comp=N,200nm,4.8s						
YSS				smax	smax		
	comp=N,2µm,10.4s						
YSS				smax	smax		
	comp=E,2µm,5.8s						
YSS				MLR	MLR		
	comp=Z,2µm,18.0s						
YSS				MLR	MLR		
	comp=N,1µm,14.0s						
YSS				MLR	MLR		
	comp=E,1µm,15.0s						
YSS	**Yuzh-Sakhalins**	**52.53 353**		P	**P**	**02 20 44.8**	**-0.4**
YSS				IAmb	IAmb	02 20 51.0	
	comp=Z,67nm,1.1s						
PBSI	**Pulau Batu**	**52.58 274**		P	**P**	**02 20 46.5**	**+0.3**
	comp=Z,78nm,1.6s						
CHAI	**Chaiyaphum**	**52.60 295**		P	**P**	**02 20 46.4**	**+0.1**
PATY	**Pattaya**	**52.70 291**		P	**P**	**02 20 50.2**	**+3.1**
ENH	**Enshi**	**52.99 314**		IAmb	IAmb	02 21 06.8	
	comp=Z,47nm,1.1s						
SNY	**Shenyang**	**53.05 335**	⇑	P	**P**	**02 20 49.0**	**-0.1**
SNY				S	**S**	**02 28 20.3**	**+1.6**
SNY				pmax	pmax		
	comp=Z,37nm,1.2s						
SNY				pmax	pmax		
	comp=Z,850nm,6.2s						
SNY				LR	LR		
	comp=Z,4µm,24.0s						
SNY				LR	LR		
	comp=Z,2µm,23.0s						
SNY				LR	LR		
	comp=Z,7µm,28.9s						
GYA	**Guiyang**	**53.05 309**	⇑	P	**P**	**02 20 50.6**	**+1.0**
GYA				pP	pP	02 20 55.0	+0.8
GYA				PP	**PP**	**02 22 49.8**	**+0.2**
GYA				S	**S**	**02 28 22.3**	**+2.7**
GYA				SS	**SS**	**02 32 00.0**	**+0.8**
GYA				pmax	pmax		
	comp=Z,33nm,1.9s						
GYA				pmax	pmax		
	comp=Z,430nm,3.5s						
GYA				LR	LR		
	comp=Z,3µm,18.9s						
GYA				LR	LR		
	comp=Z,3µm,18.0s						
GYA				LR	LR		
	comp=Z,4µm,18.3s						
MDJ	**Mudanjiang**	**53.21 341**		IAmb	IAmb	02 21 01.3	
	comp=Z,52nm,1.1s						
GSI	**Gunungsitoli**	**53.44 276**		P	**P**	**02 20 54.9**	**+2.3**
	comp=Z,6µmcomp=Z,65nm,0.8s						
GSI	**Gunungsitoli**	**53.44 276**		P	**P**	**02 20 52.1**	**-0.5**
GSI				IAmb	IAmb	02 20 55.6	
	comp=Z,49nm,0.8s						
SURT	**Suratani**	**53.63 285**		P	**P**	**02 20 52.9**	**-1.0**
PBKT	**Sadao Pong**	**53.74 295**		P	**P**	**02 20 56.0**	**+1.3**
PBKT	**Sadao Pong**	**53.74 295**		IAmb	IAmb	02 20 59.3	
	comp=Z,39nm,1.1s						
PKDT	**Phuket**	**53.84 284**		P	**P**	**02 20 56.0**	**+0.5**
PHET	**Kaeng Krachan**	**53.85 290**		P	**P**	**02 20 57.0**	**+1.5**
CN2	**Changchun**	**53.95 338**	*e*	P	**P**	**02 20 54.5**	**-1.2**
CN2			*e*	PP	**PP**	**02 22 57.6**	**+0.4**
CN2			*e*	S	**S**	**02 28 28.5**	**-2.4**
CN2				pmax	pmax		
	comp=Z,40nm,1.7s						
CN2				pmax	pmax		
	comp=Z,930nm,5.0s						
CN2				LR	LR		
	comp=Z,3µm,25.0s						
CN2				LR	LR		
	comp=Z,3µm,25.0s						
CN2				LR	LR		
	comp=Z,7µm,25.0s						
PHIT	**Phitsanulok**	**54.45 295**		P	**P**	**02 21 00.5**	**+0.6**
UTTA	**Uttaradit**	**54.52 296**		P	**P**	**02 21 01.5**	**+1.2**
SRDT	**SRDT**	**54.74 292**		P	**P**	**02 21 03.8**	**+1.8**
PHRA	**Phrae**	**55.07 297**		P	**P**	**02 21 05.6**	**+1.3**
BJI	**Beijing**	**55.19 328**		P	**P**	**02 21 05.0**	**+0.2**
BJI				S	**S**	**02 28 46.9**	**-0.8**
BJI				pmax	pmax		
	comp=Z,21nm,1.9s						
BJI				pmax	pmax		
	comp=Z,740nm,4.5s						
BJI				LR	LR		
	comp=Z,4µm,23.0s						
BJI				LR	LR		
	comp=Z,3µm,24.3s						
SUKH	**Sukhothai**	**55.26 295**		P	**P**	**02 21 07.0**	**+1.3**
KMI	**Kunming**	**55.55 305**	⇑*e*	P	**P**	**02 21 09.3**	**+1.3**
KMI				pP	pP	02 21 12.1	-0.4
KMI				sP	sP	02 21 14.3	+0.1
KMI				S	**S**	**02 28 55.0**	**+1.5**
KMI				SS	**SS**	**02 32 40.1**	**+1.3**
KMI				pmax	pmax		
	comp=Z,66nm,1.4s						
KMI				pmax	pmax		
	comp=Z,820nm,3.5s						
KMI				LR	LR		
	comp=Z,3µm,21.6s						
KMI				LR	LR		
	comp=Z,3µm,19.5s						
KMI				LR	LR		
	comp=Z,5µm,20.9s						
CRAI	**Chiangrai**	**55.56 299**		P	**P**	**02 21 08.8**	**+0.9**
XAN	**Xi'an**	**55.57 318**	⇑	P	**P**	**02 21 07.6**	**-0.2**
XAN				PP	**PP**	**02 23 16.8**	**+4.8**
XAN				S	**S**	**02 28 47.4**	**-5.8**
XAN				SS	**SS**	**02 32 37.6**	**-0.9**
XAN				pmax	pmax		
	comp=Z,220nm,1.4s						
XAN				pmax	pmax		
	comp=Z,1µm,3.6s						
XAN				LR	LR		
	comp=Z,5µm,17.6s						
XAN				LR	LR		
	comp=Z,4µm,18.6s						
XAN				LR	LR		
	comp=Z,11µm,19.5s						
XAN	**Xi'an**	**55.57 318**		IAMs_20	IAMs_20	02 43 02.2	
	comp=Z,8µm,20.0s						
TIY	**Taiyuan**	**55.67 324**	*e*	P	**P**	**02 21 08.3**	**-0.1**
TIY				S	**S**	**02 28 57.0**	**+2.6**
TIY				LR	LR		
	comp=Z,4µm,16.7s						
TIY				LR	LR		
	comp=Z,2µm,12.5s						
TIY				LR	LR		
	comp=Z,5µm,16.9s						
PAYA	**Payao**	**55.69 298**		P	**P**	**02 21 09.6**	**+0.8**
SKR	**Severo-Kuril's**	**55.99 4**	*e*	P	**P**	**02 21 10.3**	**0.0**
SKR			*e*			02 23 17.5	
SKR			*e*	PPP	PPP	02 24 33.8	
SKR			*i*	S	**S**	**02 29 00.3**	**+2.3**
SKR				pmax	pmax		
	comp=Z,68nm,1.1s						
SKR				pmax	pmax		
	comp=Z,400nm,4.6s						
SKR				pmax	pmax		
	comp=Z,300nm,11.4s						
SKR				MLR	MLR		
	comp=Z,3µm,18.0s						
SKR				MLR	MLR		
	comp=Z,3µm,18.0s						
CM36	**Chiang Mai Arr**	**56.08 296**		P	**P**	**02 21 13.0**	**+1.4**
CM35	**Chiang Mai Arr**	**56.09 297**		P	**P**	**02 21 13.9**	**+2.3**
CM04	**Chiang Mai Arr**	**56.15 296**		P	**P**	**02 21 13.5**	**+1.4**
CM34	**Chiang Mai Arr**	**56.15 297**		P	**P**	**02 21 13.4**	**+1.3**
CM09	**Chiang Mai Arr**	**56.15 296**		P	**P**	**02 21 13.5**	**+1.4**
CM01	**Chiang Mai Arr**	**56.17 296**		P	**P**	**02 21 13.7**	**+1.4**
CM05	**Chiang Mai Arr**	**56.18 296**		P	**P**	**02 21 13.8**	**+1.5**
CM02	**Chiang Mai Arr**	**56.19 296**		P	**P**	**02 21 13.8**	**+1.4**
CM31	**Chiang Mai Arr**	**56.20 296**		P	**P**	**02 21 13.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**56.20 296**		P	**P**	**02 21 13.4**	**+0.9**
	comp=Z,31nm,1.0s,baz=117,slow=5.5,SNR=50						
CMAR				LR	LR	02 45 53.8	
	comp=Z,1µm,19.4s,baz=144,slow=37						
CMAR				PKP2bc		02 51 19.6	
	comp=Z,1.0nm,0.3s,baz=268,slow=4.3,SNR=6.5						
CMAR	**Chiang Mai Arr**	**56.20 296**	*i*	P	**P**	**02 21 13.3**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,33nm,1.0s						
CMAR	**Chiang Mai Arr**	**56.20 296**		P	**P**	**02 21 11.8**	**-0.7**
CM15	**Chiang Mai Arr**	**56.21 296**		P	**P**	**02 21 13.8**	**+1.2**
CM13	**Chiang Mai Arr**	**56.22 296**		P	**P**	**02 21 14.2**	**+1.5**
CMMT	**Chiang Mai**	**56.31 297**		P	**P**	**02 21 14.1**	**+0.8**
CM33	**Chiang Mai Arr**	**56.32 297**		P	**P**	**02 21 14.6**	**+1.3**
CHTO	**Chiang Mai**	**56.32 297**		P	**P**	**02 21 12.7**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,57nm,1.2s						
CHTO	**Chiang Mai**	**56.32 297**		P	**P**	**02 21 12.7**	**-0.6**
CHTO				IAmb	IAmb	02 21 17.8	
	comp=Z,57nm,1.1s						
CM32	**Chiang Mai Arr**	**56.35 296**		P	**P**	**02 21 15.4**	**+1.8**
TYV	**Tymovskoe**	**56.40 354**	*e*	P	**P**	**02 21 13.7**	**+0.4**
TYV			*e*	S	**S**	**02 29 06.6**	**+3.2**
TYV				pmax	pmax		
	comp=Z,60nm,1.4s						
TYV				pmax	pmax		
	comp=Z,600nm,4.6s						
TYV				smax	smax		
	comp=N,2µm,8.7s						
TYV				MLR	MLR		
	comp=Z,5µm,18.0s						
TYV				MLR	MLR		
	comp=N,4µm,18.0s						
KLR	**Kul'dur**	**56.79 345**	*c i*	P	**P**	**02 21 15.8**	**-0.3**
KLR				pmax	pmax		
	comp=Z,57nm,2.1s						
HON	**Honolulu**	**56.85 60**		IAMs_20	IAMs_20	02 41 26.2	
	comp=Z,7µm,20.0s						
KIP	**Kipapa**	**56.88 60**		IAMs_20	IAMs_20	02 41 24.9	
	comp=Z,7µm,21.0s						
OPA	**Opana**	**56.98 60**		IAMs_20	IAMs_20	02 41 39.5	
	comp=Z,8µm,20.0s						
MHMT	**Maesarieng**	**57.01 296**		P	**P**	**02 21 19.7**	**+1.4**
GRNR	**Gornyy**	**57.22 349**	⇑*i*	P	**P**	**02 21 19.2**	**+0.1**
GRNR			*e*			02 29 13.4	
GRNR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GRNR				MLR	MLR		
	comp=E,720nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,2µm,17.0s						
CD2	**Chengdu**	**57.49 312**	⇑	P	**P**	**02 21 22.3**	**+0.8**
CD2				sP	sP	02 21 30.0	+2.2
CD2				S	**S**	**02 29 19.8**	**+1.0**
CD2				ScS	**ScS**	**02 31 07.8**	**-3.2**
CD2				pmax	pmax		
	comp=Z,330nm,0.9s						
CD2				pmax	pmax		
	comp=Z,630nm,4.9s						
CD2				LR	LR		
	comp=Z,7µm,18.0s						
CD2				LR	LR		
	comp=Z,8µm,22.4s						
CD2				LR	LR		
	comp=Z,7µm,23.9s						
HLK	**Haleakala**	**58.18 62**		IAMs_20	IAMs_20	02 41 57.3	
	comp=Z,9µm,20.0s						
HHC	**Hu-ho-hao-te**	**58.27 326**	*e*	P	**P**	**02 21 27.4**	**+0.6**
HHC				sP	sP	02 21 33.4	+0.2
HHC				S	**S**	**02 29 35.0**	**+6.3**
HHC				SS	**SS**	**02 33 20.9**	**0.0**
HHC				pmax	pmax		
	comp=Z,54nm,1.1s						
HHC				pmax	pmax		
	comp=Z,930nm,5.6s						
HHC				LR	LR		
	comp=Z,5µm,18.9s						
HHC				LR	LR		
	comp=Z,4µm,18.1s						
HHC				LR	LR		
	comp=Z,7µm,15.3s						
MLOA	**Mauna Loa Obse**	**58.36 63**		IAMs_20	IAMs_20	02 44 20.1	
	comp=Z,10µm,20.0s						
HPAH	**Hawaii Prepara**	**58.41 63**		IAMs_20	IAMs_20	02 42 23.6	
	comp=Z,7µm,19.0s						

POHA Pohakuloa 58.47 63 IAMs_20 IAMs_20 02 42 36.1
comp=Z,7μm,20.0s
PEA0B Petropavlovsk- 58.52 5 P **P** **02 21 27.8 -0.4**
PEA0B pmax pmax
comp=Z,124nm,1.2s
PEA0B Petropavlovsk- 58.52 5 P **P** **02 21 27.8 -0.4**
PETK Petropavlovsk- 58.52 5 P **P** **02 21 28.2 -0.1**
comp=Z,41nm,0.8s,baz=160,slow=4.7,SNR=86
PETK LR LR 02 42 55.0
comp=Z,5μm,21.6s,baz=187,slow=32
PETK PKP2bc 02 51 18.5
comp=Z,1.0nm,0.9s,baz=76,slow=12,SNR=2.1
PETK Petropavlovsk- 58.52 5 P **P** **02 21 27.8 -0.4**
PETK Petropavlovsk- 58.52 5 P **P** **02 21 27.8 -0.4**
PET Petropavlovsk 58.53 6 *eP* **P** **02 21 26.9 -1.3**
PET *eS* **S** **02 29 29.6 -1.7**
PET pmax pmax
comp=Z,500nm,16.7s
PET MLR MLR
comp=Z,3μm,17.0s
BTO Baotou 58.98 325 *eP* **P** **02 21 31.9 +0.1**
BTO S **S** **02 29 31.3 -6.7**
PPT Papeete 59.59 107 LR LR 02 44 40.2
comp=Z,1μm,18.1s,baz=272,slow=33
PPT2 Papeete2 59.59 107 *eP* **P** **02 21 38.3 +1.9**
comp=Z,195nm,1.5s
PPT2 *eS* **S** **02 29 45.6 -0.9**
comp=Z,2μm,23.0s
PPT2 *e*LQ LQ 02 36 40.6
comp=Z,6μm,24.0s
PPT2 *e*LR LR 02 39 11.5
comp=Z,4μm,23.8s,baz=284
PAE Paea 59.59 107 *eP* **P** **02 21 37.8 +1.5**
comp=Z,25nm,1.3s
TIAR Tiarei 59.81 107 *eP* **P** **02 21 39.4 +1.6**
comp=Z,54nm,1.2s
TVO Taravao 59.91 107 *eP* **P** **02 21 39.6 +1.0**
comp=Z,75nm,1.2s
LZH Lanzhou 60.16 317 ⇑P **P** **02 21 41.1 +1.0**
LZH pP sP 02 21 46.8 +0.4
LZH sP pP 02 21 50.6 +5.9
LZH PP **PP** **02 23 50.8 -2.1**
LZH S **S** **02 29 53.3 -0.1**
LZH sS sS 02 30 01.4 +0.6
LZH SS **SS** **02 33 53.5 +2.7**
LZH pmax pmax
comp=Z,120nm,1.4s
LZH pmax pmax
comp=Z,1μm,7.1s
LZH LR LR
comp=Z,4μm,17.4s
LZH LR LR
comp=Z,3μm,18.4s
LZH LR LR
comp=Z,4μm,17.9s
TBI Tubuai 60.28 114 *eS* **S** **02 29 55.0 -0.1**
comp=Z,1μm,22.8s
TBI *e*LQ LQ 02 36 58.2
comp=Z,24μm,34.5s
TBI *e*LR LR 02 39 24.3
comp=Z,8μm,32.0s
MEH Mehetia 61.05 107 *eP* **P** **02 21 47.9 +1.6**
comp=Z,30nm,1.0s
PMOR Pomariorio Ree 61.06 104 *eP* **P** **02 21 48.0 +1.6**
comp=Z,301nm,1.4s
VAH Vaihoa 61.33 104 *eP* **P** **02 21 49.4 +1.2**
comp=Z,74nm,1.1s
ZEA Zeya 62.06 344*ceP* **P** **02 21 53.0 +0.6**
ZEA *eS* **S** **02 30 20.0 +3.3**
ZEA *ePS* **PnS** **02 30 40.0 +7.9**
ZEA *eSSS* SSS 02 37 00.5
ZEA pmax pmax
comp=N,210nm,1.8s
ZEA pmax pmax
comp=Z,330nm,1.8s
ZEA pmax pmax
comp=N,600nm,10.0s
ZEA pmax pmax
comp=Z,1μm,10.0s
ZEA smax smax
comp=N,1μm,12.0s
ZEA smax smax
comp=E,2μm,12.0s
LKP Lekhapani 62.09 305 *ex* **P** **02 21 56.2 +3.1**
SAIH SAIHA 62.80 298 *eP* **P** **02 21 58.2 0.0**
ITAN ITANAGAR 63.77 304 *eP* **P** **02 22 05.5 +1.1**
ITAN IAmb IAmb 02 22 09.1
comp=Z,152nm,1.1s
ZIRO ZIRO 63.80 304 *eP* **P** **02 22 04.8 -0.1**
TEZP TEZPUR 64.35 303 *eP* **P** **02 22 07.8 -0.4**
TEZP IAmb IAmb 02 22 14.4
comp=Z,166nm,1.3s
GTA Gaotai 64.62 318 ⇑P **P** **02 22 10.6 +0.7**
GTA pP sP 02 22 15.6 -0.7
GTA sP pP 02 22 18.8 +4.3
GTA S **S** **02 30 53.3 +3.7**
GTA sS sS 02 31 03.8 +6.6
GTA SS **SS** **02 35 01.1 +0.5**
GTA pmax pmax
comp=Z,27nm,1.4s
GTA pmax pmax
comp=Z,410nm,4.8s
GTA LR LR
comp=Z,2μm,17.5s
GTA LR LR
comp=Z,3μm,20.0s
GTA LR LR
comp=Z,5μm,19.4s
MA2 Magadan 64.70 0 LR LR 02 52 44.2
comp=Z,4μm,18.0s,baz=179,slow=38
MA2 Magadan 64.70 0*c iP* **P** **02 22 09.5 -0.3**
MA2 pmax pmax
comp=Z,154nm,1.5s
MA2 MLR MLR
comp=Z,5μm,19.0s
MA2 Magadan 64.70 0 P **P** **02 22 09.7 -0.1**
MA2 IAMs_20 IAMs_20 02 50 43.0
comp=Z,6μm,19.0s
SHL Shillong 64.76 301 *eP* **P** **02 22 10.8 -0.3**
SHL *i* x x 02 22 13.0
SHL IAmb IAmb 02 22 16.5
comp=Z,453nm,1.9s
SHL *i* x x 02 30 56.0
SHL Shillong 64.76 301 P **P** **02 22 10.5 -0.6**
SHL pmax pmax
comp=Z,89nm,1.2s
SHL Shillong 64.76 301 P **P** **02 22 10.5 -0.6**
GUWA GUWAHATI 65.14 302 *eP* **P** **02 22 13.2 -0.1**
GUWA IAmb IAmb 02 22 23.3
comp=Z,176nm,1.5s
CIT Chita 65.29 336 *eP* **P** **02 22 15.2 +1.3**
CIT *e* 02 22 45.3
CIT pmax pmax
comp=Z,717nm,1.6s
ULN Ulaanbaatar 65.35 329*c iP* **P** **02 22 15.2 +0.7**
ULN pmax pmax
comp=Z,380nm,1.6s
ULN MLR MLR
comp=Z,3μm,17.0s
ULN Ulaanbaatar 65.35 329 IAMs_20 IAMs_20 02 49 44.7
comp=Z,5μm,20.0s
SONM Songino Array 65.67 329 P **P** **02 22 17.8 +1.3**
comp=Z,101nm,1.0s,baz=141,slow=5.5,SNR=125
SONM LR LR 02 49 56.4
comp=Z,5μm,21.1s,baz=136,slow=35
SONM PKPPKP 02 50 51.3
comp=Z,0.7nm,0.9s,baz=162,slow=0.5,SNR=4.5
SONM PKP2bc 02 51 03.7
comp=Z,3.3nm,1.0s,baz=292,slow=2.3,SNR=9.5
SONM Songino Array 65.67 329 P **P** **02 22 16.0 -0.5**
SONM pmax pmax
comp=Z,185nm,1.2s
SONM Songino Array 65.67 329 P **P** **02 22 16.0 -0.5**
LSA Lhasa 66.80 305 P **P** **02 22 25.1 +0.5**
LSA pmax pmax
comp=Z,100nm,1.7s
LSA Lhasa 66.80 305 IAmb IAmb 02 22 42.6
comp=Z,22nm,0.9s
CASY Casey 66.90 196 P **P** **02 22 23.4 -0.5**
CASY IAmb IAmb 02 22 31.2
comp=Z,34nm,1.0s
CASY Casey 66.90 196 IAMs_20 IAMs_20 02 48 30.1
comp=Z,7μm,20.0s
SEY Seymchan 68.09 1 LR LR 02 53 12.5
comp=Z,3μm,18.6s,baz=176,slow=37
SEY Seymchan 68.09 1*c iP* **P** **02 22 31.6 +0.2**

TAOE Nuku Hiva Isla 68.66 97 IAMs_20 IAMs_20 02 48 26.5
comp=Z,6μm,20.0s
ZAK Zakamensk 68.86 330 *eP* **P** **02 22 37.2 +0.5**
ZAK pmax pmax
comp=Z,246nm,1.4s
TAPN Taplejung 68.88 302 *eP* **P** **02 22 38.1 +0.6**
comp=Z,927nm,1.8s
ODAN Odare 69.00 301 *eP* **P** **02 22 39.1 +0.9**
comp=Z,1μm,1.9s
UNV Unalaska Valle 69.00 26 P **P** **02 22 37.0 -0.3**
UNV IAmb IAmb 02 22 52.3
comp=Z,34nm,1.1s
YAK Yakutsk 69.09 350 LR LR 02 55 49.4
comp=Z,737nm,18.7s,baz=126,slow=38
YAK Yakutsk 69.09 350 *eP* **P** **02 22 37.9 +0.2**
YAK *eS* **S** **02 31 43.8 +1.4**
YAK *e* 02 32 21.4
YAK pmax pmax
comp=Z,87nm,1.1s
YAK pmax pmax
comp=N,69nm,1.3s
YAK pmax pmax
comp=E,25nm,1.4s
YAK smax smax
comp=E,198nm,3.8s
YAK smax smax
comp=N,712nm,6.7s
BOK Bokaro 69.42 298 *eP* **P** **02 22 40.4 -0.2**
BOK *eP* **P** **02 22 40.5 -0.2**
BOK IAmb IAmb 02 22 48.7
comp=Z,119nm,1.7s
TLY Talaya 69.49 331*c iP* **P** **02 22 41.0 +0.5**
TLY *eS* **S** **02 31 50.4 +2.8**
TLY pmax pmax
comp=Z,619nm,1.9s
TLY MLR MLR
comp=Z,6μm,16.0s
TLY Talaya 69.49 331 P **P** **02 22 40.1 -0.3**
TLY IAmb IAmb 02 22 42.3
comp=Z,30nm,1.1s
AKUT Akutan 69.51 26 P **P** **02 22 39.5 -0.9**
AKUT IAmb IAmb 02 22 56.9
comp=Z,48nm,1.2s
BOD Bodaibo 69.55 340 *eP* **P** **02 22 40.6 0.0**
BOD pmax pmax
comp=Z,191nm,1.8s
IRK Irkutsk 69.55 332 *eP* **P** **02 22 41.5 +0.7**
IRK *e* 02 23 03.6
IRK pmax pmax
comp=Z,384nm,1.8s
RAMN Ramite 69.70 301 *eP* **P** **02 22 43.1 +0.6**
comp=Z,478nm,2.0s
JIRN Jiri 70.26 302 *eP* **P** **02 22 46.8 +0.7**
MOY Mondy 70.79 330 *eP* **P** **02 22 50.0 +1.4**
MOY pmax pmax
comp=Z,704nm,2.0s
PKI Pulchoki 70.89 301 *eP* **P** **02 22 50.5 +0.6**
comp=Z,579nm,2.0s
DMN Daman 71.16 301 *eP* **P** **02 22 52.2 +0.7**
comp=Z,911nm,2.0s
GKN Gorkha 71.67 302 *eP* **P** **02 22 55.0 +0.6**
comp=Z,717nm,1.8s
VNDA Vanda 72.39 177 P **P** **02 22 58.0 +0.4**
comp=Z,36nm,1.1s,baz=327,slow=6.8,SNR=16
VNDA LR LR 02 53 21.8
comp=Z,3μm,18.6s,baz=349,slow=35
KOLN Koldanda 72.49 301 *eP* **P** **02 22 59.0 -0.4**
comp=Z,596nm,1.8s
DANN Dangsing 72.51 302 *eP* **P** **02 22 59.6 0.0**
comp=Z,245nm,1.3s
CNBA Chenabura Isl 72.71 28 IAmb IAmb 02 23 05.4
comp=Z,36nm,1.2s
PYUN Piuthan 73.10 301 *eP* **P** **02 23 02.5 -0.5**
comp=Z,192nm,1.2s
RKT Rikitea 73.54 112 *eS* **S** **02 32 35.3 -0.1**
comp=Z,1μm,26.0s
RKT *e*LQ LQ 02 42 32.2
comp=Z,9μm,37.0s
RKT *e*LR LR 02 45 38.2
comp=Z,3μm,24.8s
HYB Hyderabad 74.67 290 *i* P **P** **02 23 12.5 +0.3**
WMQ Urumqi 74.71 318 *eP* **P** **02 23 12.1 +0.1**
WMQ pP pP 02 23 16.0 -0.7
WMQ sP sP 02 23 18.6 +0.2
WMQ PcP **PcP** **02 23 24.6 -1.5**
WMQ pmax pmax
comp=Z,39nm,1.9s
WMQ pmax pmax
comp=Z,170nm,3.8s
NGP Nagpur 74.94 293 *eP* **P** **02 23 12.3 -1.4**
NGP *ex* x 02 33 01.1
ANM Nome 76.92 18 IAMs_20 IAMs_20 02 53 01.6
comp=Z,6μm,20.0s
OHAK Old Harbor 76.99 28 IAmb IAmb 02 23 40.2
comp=Z,20nm,1.0s
DGZ Jazzator, Alta 77.24 324*c iP* **P** **02 23 26.5 +0.1**
DGZ pmax pmax
comp=Z,189nm,1.6s
DGZ MLR MLR
comp=Z,6μm,20.0s
KDAK Kodiak Island 77.61 27 P **P** **02 23 27.9 -0.1**
KDAK pmax pmax
comp=Z,24nm,1.2s
KDAK Kodiak Island 77.61 27 P **P** **02 23 27.9 -0.1**
KDAK IAmb IAmb 02 23 39.6
comp=Z,24nm,1.1s
ZSN Zaisan 77.93 321 *i* P **P** **02 23 30.5 +0.3**
comp=Z,44nm,1.9s,baz=321
ZSN *eS* **S** **02 33 23.9 +0.9**
baz=321
ZSN Zaisan 77.93 321 *i* P **P** **02 23 30.4 +0.3**
ZSN *eS* **S** **02 33 23.9 +0.9**
ZSN pmax pmax
comp=Z,44nm,1.9s
SVW2 Sparrevohn 78.15 24 IAmb IAmb 02 23 38.0
comp=Z,25nm,0.9s
SVW2 IAMs_20 IAMs_20 02 51 25.1
comp=Z,4μm,22.0s
SMLA Simla 78.76 303 *eP* **P** **02 23 35.0 0.0**
SMLA *eS* **S** **02 33 29.5 -3.1**
TTA Tatalina 79.04 22 IAmb IAmb 02 23 47.9
comp=Z,33nm,1.2s
MK31 Makanchi Array 79.34 319 *i* P **P** **02 23 38.0 +0.1**
MKAR Makanchi Array 79.34 319 P **P** **02 23 38.3 +0.3**
comp=Z,25nm,1.0s,baz=101,slow=3.7,SNR=39
MKAR PKKPbc **PKKPbc** **02 42 31.2 +1.2**
comp=Z,0.7nm,0.9s,baz=282,slow=2.4,SNR=3.9
MKAR LR LR 02 58 02.3
comp=Z,2μm,20.0s,baz=103,slow=35
MKAR Makanchi Array 79.34 319 P **P** **02 23 37.5 -0.4**
MKAR Makanchi Array 79.34 319 P **P** **02 23 37.5 -0.4**
BRLK Bradley Lake 79.39 26 IAmb IAmb 02 23 49.0
comp=Z,29nm,1.0s
MAKZ Makanchi 79.55 319 P **P** **02 23 38.7 -0.3**
MAKZ pmax pmax
comp=Z,19nm,1.0s
MAKZ MLR MLR
comp=Z,3μm,20.0s
MAKZ Makanchi 79.55 319 P **P** **02 23 38.7 -0.3**
DHRM DHARAMSHALA 79.73 304 *eP* **P** **02 23 38.0 -2.7**
SHLS Shalkode 80.11 315 *i* P **P** **02 23 41.0 -1.4**
comp=Z,25nm,1.4s,baz=315
SHLS Shalkode 80.11 315 *i* P **P** **02 23 40.9 -1.4**
SHLS pmax pmax
comp=Z,25nm,1.4s
PDGK Podgornoye 80.14 315 P **P** **02 23 42.0 -0.5**
SEW Seward 80.19 26 IAmb IAmb 02 23 53.5
comp=Z,65nm,1.2s
SEW IAMs_20 IAMs_20 03 04 56.4
comp=Z,3μm,19.0s
UZB Uzunbulak 80.42 315 *eP* **P** **02 23 44.1 +0.1**
comp=Z,41nm,2.1s,baz=315
UZB *eS* **S** **02 33 50.3 +0.2**
baz=315
UZB LR LR 02 58 35.1
comp=Z,321nm,16.3s,baz=315
UZB Uzunbulak 80.42 315 *eP* **P** **02 23 44.1 +0.1**
UZB *eS* **S** **02 33 50.2 +0.2**
UZB pmax pmax
comp=Z,41nm,2.1s
UZB MLR MLR
comp=Z,321nm,16.0s
ZAA0 Zalesovo Array 80.43 327 IAmb IAmb 02 23 47.5
comp=Z,27nm,0.9s
ZALV Zalesovo Beam 80.43 327 P **P** **02 23 43.0 -0.6**
comp=Z,18nm,0.7s,baz=114,slow=5.1,SNR=26
ZALV LR LR 02 59 44.7
comp=Z,2μm,19.6s,baz=114,slow=36
ZALV Zalesovo Beam 80.43 327 *i* P **P** **02 23 45.0 +1.4**
ZALV pmax pmax
comp=Z,18nm,0.7s
ZALV Zalesovo Beam 80.43 327 P **P** **02 23 42.8 -0.8**
PPLA Purkeypile 80.48 23 IAmb IAmb 02 23 57.9
comp=Z,28nm,1.1s
PPLA IAMs_20 IAMs_20 02 57 26.9
comp=Z,3μm,19.0s
PRZ Przheval'sk 80.67 314 IAmb IAmb 02 24 01.2
comp=Z,31nm,1.1s
SATY Saty 80.83 315 *eP* **P** **02 23 46.3 +0.1**
comp=Z,33nm,2.0s,baz=315
SATY *eS* **S** **02 33 54.6 +0.3**
baz=315
SATY Saty 80.83 315 *eP* **P** **02 23 46.3 +0.1**
SATY *eS* **S** **02 33 54.5 +0.3**
SATY pmax pmax
comp=Z,33nm,2.0s
PMR Palmer 81.05 25 IAmb IAmb 02 23 57.7
comp=Z,28nm,1.2s
GHO Glory Hole Cre 81.22 25 IAMs_20 IAMs_20 03 00 36.6
comp=Z,4μm,20.0s
KNK Knik Glacier 81.25 25 IAmb IAmb 02 23 59.3
comp=Z,26nm,1.0s
KNK IAMs_20 IAMs_20 02 56 09.3
comp=Z,4μm,21.0s
KTH Kantishna Hill 81.31 23 IAMs_20 IAMs_20 02 57 05.9
comp=Z,4μm,20.0s
TDK Taldyqorghan 81.37 317 *eP* **P** **02 23 49.1 +0.2**
baz=317
TDK LR LR 02 59 46.9
comp=Z,2μm,20.2s,baz=317
TDK Taldyqorghan 81.37 317 *eP* **P** **02 23 49.1 +0.2**
TDK MLR MLR
comp=Z,2μm,20.0s
KDJ Kajisay 81.45 314 IAmb IAmb 02 24 05.8
comp=Z,45nm,1.1s
SML Sawmill 81.49 25 IAmb IAmb 02 24 00.4
comp=Z,36nm,1.0s
TRF Thorofare Moun 81.50 23 IAMs_20 IAMs_20 03 00 51.0
comp=Z,3μm,20.0s
GLI Glacier Island 81.58 26 IAmb IAmb 02 24 00.9
comp=Z,38nm,1.1s
IMAR Indian Mountai 81.60 20 P **P** **02 23 48.3 -1.3**
HIN Hinchinbrook I 81.62 27 IAmb IAmb 02 24 01.4
comp=Z,40nm,1.2s
HIN IAMs_20 IAMs_20 03 05 41.4
comp=Z,3μm,18.0s
KSH Kashi 81.68 311 P **P** **02 23 52.6 +1.8**
KSH pP pP 02 23 55.8 +0.3
KSH S **S** **02 34 04.9 +1.6**
KSH pmax pmax
comp=Z,87nm,1.7s
KSH pmax pmax
comp=Z,370nm,3.5s
KSH LR LR
comp=Z,2μm,19.2s
KSH LR LR
comp=Z,3μm,19.8s
KSH LR LR
comp=Z,4μm,26.7s
FID Port Fidalgo 81.79 26 IAmb IAmb 02 24 04.8
comp=Z,22nm,1.0s
MDOK Medeo 81.81 315 *eP* **P** **02 23 51.8 +0.4**
MDOK baz=315 *eS* **S** **02 34 04.9 +0.3**
baz=315
MDOK Medeo 81.81 315 *eP* **P** **02 23 51.8 +0.4**
MDOK *eS* **S** **02 34 04.8 +0.3**
TNSS Tian-Shan 81.85 315 *i* P **P** **02 23 52.5 +0.5**
baz=315
TNSS Tian-Shan 81.85 315 *i* P **P** **02 23 52.4 +0.5**
AAA Alma-Ata 81.92 315 *eP* **P** **02 23 52.5 +0.6**
AAA baz=315 *eS* **S** **02 34 05.9 +0.4**
baz=315
AAA LR LR 03 00 04.1
comp=Z,958nm,18.7s,baz=315
AAA Alma-Ata 81.92 315 *eP* **P** **02 23 52.4 +0.6**
AAA *eS* **S** **02 34 05.8 +0.4**
AAA MLR MLR
comp=Z,958nm,19.0s
SCM Sheep Creek Mo 81.92 25 IAmb IAmb 02 23 59.4
comp=Z,30nm,1.0s
CHKK Chushkaly 82.03 315 *eP* **P** **02 23 52.9 +0.4**
baz=316
CHKK Chushkaly 82.03 315 *eP* **P** **02 23 52.8 +0.4**
RND Reindeer 82.04 23 IAmb IAmb 02 24 02.6
comp=Z,37nm,1.0s
RND IAMs_20 IAMs_20 02 57 09.2
comp=Z,4μm,20.0s
ULHL Ulahol 82.15 314 P **P** **02 23 55.2 +1.9**
SNR=11
MCK McKinley 82.17 23 IAMs_20 IAMs_20 02 54 38.6
comp=Z,5μm,22.0s
BWN Browne 82.18 22 IAmb IAmb 02 24 08.6
comp=Z,31nm,1.0s
BWN IAMs_20 IAMs_20 02 59 10.6
comp=Z,3μm,18.0s
KLU Klutina 82.36 26 IAmb IAmb 02 24 05.6
comp=Z,46nm,1.1s
RAGM Ragged Mountai 82.44 27 IAmb IAmb 02 24 06.0
comp=Z,33nm,1.0s
NIL Nilore 82.53 305 P **P** **02 23 54.8 -0.5**
NIL pmax pmax
comp=Z,27nm,0.8s
NIL Nilore 82.53 305 P **P** **02 23 54.8 -0.5**
NIL IAmb IAmb 02 24 02.6
comp=Z,27nm,0.8s
TKM2 Tokmak 2 82.78 314 P **P** **02 23 57.2 +0.7**
SNR=13
TKM2 Tokmak 2 82.78 314 P **P** **02 23 55.7 -0.9**
KZA Kyzart 82.83 313 P **P** **02 23 58.7 +1.6**
SNR=32
WRH Wood River Hil 82.85 23 IAmb IAmb 02 24 06.6
comp=Z,29nm,1.0s
WRH IAMs_20 IAMs_20 03 00 47.6
comp=Z,4μm,19.0s
KURK Kurchatov 82.89 322*c iP* **P** **02 23 55.1 -1.6**
KURK pmax pmax
comp=Z,143nm,1.9s
KURK MLR MLR
comp=Z,3μm,19.0s
KURK Kurchatov 82.89 322 P **P** **02 23 56.5 -0.2**
KURK IAmb IAmb 02 24 09.5
comp=Z,35nm,1.1s
KURK Kurchatov 82.89 322 IAMs_20 IAMs_20 03 00 50.1
comp=Z,4μm,20.0s
CCB Clear Creek Bu 83.05 22 IAMs_20 IAMs_20 03 02 26.7
comp=Z,3μm,19.0s
COLA College 83.14 22⇑ *eP* **P** **02 23 56.1 -1.5**
COLA pmax pmax
comp=Z,30nm,1.1s
COLA MLR MLR
comp=Z,2μm,18.0s
GLB Gilahina Butte 83.26 26 IAmb IAmb 02 24 10.7
comp=Z,22nm,1.2s
HDA Harding Lake 83.26 23 IAMs_20 IAMs_20 03 00 01.5
comp=Z,4μm,20.0s
VRDI Verde Repeater 83.33 26 IAmb IAmb 02 24 10.4
comp=Z,19nm,1.1s
UCH Uchtor 83.39 313 P **P** **02 24 01.5 +1.5**
SNR=26
CHMS Chumysh 83.40 314 P **P** **02 23 58.6 -1.0**
SNR=6.8
IL31 83.45 22 IAmb IAmb 02 24 08.7
comp=Z,19nm,1.1s
ILAR Eielson Array 83.45 22 P **P** **02 23 56.9 -2.4**
comp=Z,4.9nm,0.8s,baz=248,slow=3.9,SNR=28
ILAR LR LR 03 00 57.0
comp=Z,3μm,18.8s,baz=257,slow=36
COLD Coldfoot 83.46 20 IAmb IAmb 02 24 05.9
comp=Z,17nm,1.1s
COLD IAMs_20 IAMs_20 02 56 23.5
comp=Z,5μm,22.0s
AAK Ala-Archa 83.50 314 P **P** **02 24 02.2 +2.0**
SNR=8.8
AAK Ala-Archa 83.50 314*c iP* **P** **02 24 00.3 +0.1**
AAK pmax pmax
comp=Z,64nm,1.9s
AAK MLR MLR
comp=Z,4μm,21.0s
AAK Ala-Archa 83.50 314 P **P** **02 23 59.7 -0.6**
AAK Ala-Archa 83.50 314 IAMs_20 IAMs_20 03 00 31.9
comp=Z,4μm,22.0s

SGDS	**Sogindy**	83.59	315	*e*P		**P**		02 24 00.1	-0.5	
	comp=Z,38nm,2.3s,baz=315									
SGDS	**Sogindy**	83.59	315	*e*P		**P**		02 24 00.1	-0.5	
SGDS				pmax		pmax				
	comp=Z,37nm,2.3s									
USP	**Ospenovka**	83.64	314	P		**P**		02 24 01.5	+0.7	
	SNR=22									
RIDG	**Independent Ri**	83.79	24	IAmb		IAmb		02 24 16.6		
	comp=Z,17nm,1.0s									
RIDG				IAMs_20		IAMs_20		02 55 03.6		
	comp=Z,5µm,22.0s									
MENT	**Mentasta**	83.92	25	IAmb		IAmb		02 24 09.8		
	comp=Z,17nm,1.0s									
AML	**Almayashu**	83.96	313	P		**P**		02 24 05.4	+2.4	
	SNR=42									
EKS2	**Erkin-Say**	84.02	314	P		**P**		02 24 05.2	+2.3	
	SNR=23									
DOT	**Dot Lake**	84.07	24	IAmb		IAmb		02 24 10.2		
	comp=Z,31nm,1.1s									
CTGM	**Chitina Glacie**	84.18	27	IAmb		IAmb		02 24 10.1		
	comp=Z,19nm,0.8s									
MAW	**Mawson**	84.27	203	P		**P**		02 24 02.9	-0.5	
	comp=Z,31nm,1.1s,baz=95,slow=7.9,SNR=24									
MAW				LR		LR		02 58 43.1		
	comp=Z,5µm,21.8s,baz=86,slow=34									
MAW	**Mawson**	84.27	203	P		**P**		02 24 02.7	-0.7	
	baz=84,SNR=24									
MAW	**Mawson**	84.27	203	P		**P**		02 24 02.6	-0.8	
MAW				pmax		pmax				
	comp=Z,7.0nm,1.1s									
MAW	**Mawson**	84.27	203	P		**P**		02 24 02.6	-0.8	
BTLS	**Baital**	84.37	316	*e*P		**P**		02 24 04.4	-0.1	
	comp=Z,47nm,1.7s,baz=316									
BTLS				*e*S		**S**		02 34 27.2	-2.9	
	baz=316									
BTLS	**Baital**	84.37	316	*e*P		**P**		02 24 04.3	-0.1	
BTLS				*e*S		**S**		02 34 27.1	-2.9	
BTLS				pmax		pmax				
	comp=Z,47nm,1.7s									
TOLK	**Toolik Lake Re**	84.39	19	IAmb		IAmb		02 24 21.9		
	comp=Z,17nm,1.1s									
TOLK				IAMs_20		IAMs_20		02 57 07.9		
	comp=Z,6µm,22.0s									
QSPA	**South Pole Qui**	84.63	180	P		**P**		02 24 05.5	0.0	
QSPA	**South Pole Qui**	84.63	180	IAMs_20		IAMs_20		03 00 36.8		
	comp=Z,4µm,21.0s									
BCAR	**Beaver Creek A**	84.78	25	P		**P**		02 24 05.5	-0.6	
BMAR	**Burnt Mountain**	85.48	21	P		**P**		02 24 08.9	-0.6	
EGAK	**Eagle**	85.69	24	IAmb		IAmb		02 24 18.7		
	comp=Z,39nm,1.1s									
EGAK				IAMs_20		IAMs_20		02 57 09.5		
	comp=Z,4µm,22.0s									
NRIK	**Noril'sk**	85.79	341	P		**P**		02 24 11.8	+0.8	
	comp=Z,15nm,0.9s,baz=116,slow=4.3,SNR=7.7									
NRIK				LR		LR		03 00 37.1		
	comp=Z,3µm,21.8s,baz=128,slow=34									
NRIK	**Noril'sk**	85.79	341	*e*P		**P**		02 24 11.5	+0.5	
DZA	**Taraz**	85.83	314	*e*P		**P**		02 24 11.9	0.0	
	baz=314									
DZA	**Taraz**	85.83	314	*e*P		**P**		02 24 11.8	0.0	
SIT	**Sitka**	85.84	32	IAMs_20		IAMs_20		02 58 00.2		
	comp=Z,4µm,19.0s									
GAR	**Garm**	85.87	310	IAmb		IAmb		02 24 28.2		
	comp=Z,22nm,1.0s									
GAR				IAMs_20		IAMs_20		03 05 06.9		
	comp=Z,4µm,18.0s									
HYT	**Haines Junctio**	85.89	28	IAmb		IAmb		02 24 17.4		
	comp=Z,25nm,0.9s									
OTUK	**Ortayu**	86.22	319	P		**P**		02 24 13.5	-0.1	
KK31	**Karatay Array**	86.46	314	*i* P		**P**		02 24 15.0	+0.1	
KK31	**Karatay Array**	86.46	314	IAmb		IAmb		02 24 22.8		
	comp=Z,21nm,1.0s									
KKAR	**Karatay Array**	86.46	314	P		**P**		02 24 14.6	-0.4	
KKAR	**Karatay Array**	86.46	314	P		**P**		02 24 14.6	-0.4	
KKAR	**Karatay Array**	86.46	314	IAmb		IAmb		02 24 22.9		
	comp=Z,21nm,1.0s									
BESE	**Bessie Mountai**	86.50	30	IAmb		IAmb		02 24 27.2		
	comp=Z,31nm,1.2s									
BESE				IAMs_20		IAMs_20		02 59 39.7		
	comp=Z,4µm,19.0s									
SKAG	**Skagway**	86.51	29	IAMs_20		IAMs_20		02 59 56.9		
	comp=Z,3µm,20.0s									
IUG	**luzhnay**	86.64	313	*e*P		**P**		02 24 16.2	+0.3	
	baz=313									
IUG				*e*S		**SKSac**		02 34 42.2	-0.4	
	baz=313									
IUG				LR		LR		03 03 25.6		
	comp=Z,370nm,16.2s,baz=313									
IUG	**luzhnay**	86.64	313	*e*P		**P**		02 24 16.2	+0.3	
IUG				*e*S		**SKSac**		02 34 42.1	-0.4	
IUG				MLR		MLR				
	comp=Z,370nm,16.0s									
JIS	**Juneau Island**	86.66	31	IAMs_20		IAMs_20		02 59 15.3		
	comp=Z,4µm,19.0s									
CHGR	**Chuyangaron**	86.70	309	IAmb		IAmb		02 24 32.6		
	comp=Z,34nm,1.0s									
WRAK	**Wrangell Islan**	87.25	33	IAmb		IAmb		02 24 22.7		
	comp=Z,15nm,1.1s									
WRAK	**Wrangell Islan**	87.25	33	IAMs_20		IAMs_20		02 54 45.8		
	comp=Z,4µm,22.0s									
BVA0	**Borovoye Array**	88.40	323	*i* P		**P**		02 24 23.1	-0.9	
BVAR	**Borovoye Array**	88.40	323	LR		LR		03 05 15.5		
	comp=Z,1µm,20.1s,baz=20,slow=36									
BRVK	**Borovoye**	88.47	323	*ce*P		**P**		02 24 23.4	-0.9	
BRVK				pmax		pmax				
	comp=Z,18nm,1.3s									
BRVK				MLR		MLR				
	comp=Z,3µm,20.0s									
BRVK	**Borovoye**	88.47	323	P		**P**		02 24 24.1	-0.2	
BBB	**Bella Bella**	88.80	37	IAMs_20		IAMs_20		02 57 18.1		
	comp=Z,4µm,20.0s									
DLBC	**Dease Lake**	88.93	31	IAmb		IAmb		02 24 38.3		
	comp=Z,18nm,1.1s									
DLBC				IAMs_20		IAMs_20		03 00 16.8		
	comp=Z,5µm,20.0s									
INK	**Inuvik**	89.71	21	LR		LR		03 01 12.3		
	comp=Z,2µm,20.9s,baz=248,slow=33									
INK	**Inuvik**	89.71	21	IAmb		IAmb		02 24 43.7		
	comp=Z,18nm,1.1s									
INK				IAMs_20		IAMs_20		03 00 51.8		
	comp=Z,4µm,21.0s									
JCC	**Jacoby Creek,**	89.89	49	IAMs_20		IAMs_20		03 01 07.2		
	comp=Z,4µm,20.0s									
KBO	**Bosley Butte**	89.92	48	IAMs_20		IAMs_20		03 01 40.7		
	comp=Z,3µm,18.0s									
KEBM	**Edson Butte**	89.92	47	IAMs_20		IAMs_20		02 54 38.8		
	comp=Z,4µm,22.0s									
KRMB	**Red Mountain**	90.07	48	IAMs_20		IAMs_20		03 02 12.8		
	comp=Z,3µm,18.0s									
MCCM	**Marconi Confer**	90.47	52	IAMs_20		IAMs_20		03 02 27.6		
	comp=Z,4µm,19.0s									
F03A	**Seaside**	90.85	44	IAMs_20		IAMs_20		03 02 08.9		
	comp=Z,4µm,19.0s									
COR	**Corvallis**	90.87	45	IAMs_20		IAMs_20		03 00 07.7		
	comp=Z,4µm,20.0s									
YBH	**Yreka Blue Hor**	90.99	48	P		**P**		02 24 36.0	-0.5	
YBH				pmax		pmax				
	comp=Z,8.0nm,1.2s									
YBH	**Yreka Blue Hor**	90.99	48	P		**P**		02 24 36.0	-0.5	
WDC	**Whiskeytown Da**	90.99	50	IAMs_20		IAMs_20		02 59 38.2		
	comp=Z,4µm,20.0s									
SAO	**San Andreas Ge**	91.46	53	IAMs_20		IAMs_20		02 58 58.0		
	comp=Z,3µm,20.0s									
F04A	**Amboy**	91.64	44	IAMs_20		IAMs_20		03 00 38.9		
	comp=Z,3µm,21.0s									
H04A	**Detroit Lake**	91.68	45	IAMs_20		IAMs_20		03 01 11.7		
	comp=Z,3µm,19.0s									
ORV	**Oroville**	91.68	51	IAMs_20		IAMs_20		03 02 27.6		
	comp=Z,3µm,20.0s									
PMPB	**Monarch Peak**	91.92	54	IAMs_20		IAMs_20		02 58 41.4		
	comp=Z,3µm,20.0s									
AFDM	**Forest Hills D**	92.03	51	IAMs_20		IAMs_20		03 03 36.6		
	comp=Z,3µm,18.0s									
D05A	**Enumclaw**	92.06	43	IAMs_20		IAMs_20		03 05 17.9		
	comp=Z,3µm,19.0s									
LON	**Longmire**	92.14	43	IAMs_20		IAMs_20		03 04 59.0		
	comp=Z,3µm,19.0s									
PAGB	**Antelope Grade**	92.33	55	IAmb		IAmb		02 24 48.6		
	comp=Z,14nm,1.2s									
PAGB				IAMs_20		IAMs_20		02 57 18.1		
	comp=Z,3µm,22.0s									
CMB	**Columbia Colle**	92.41	52	IAMs_20		IAMs_20		03 02 44.1		
	comp=Z,4µm,19.0s									
K05A	**Summer Lake**	92.43	47	P		**P**		02 24 42.6	-0.7	
K05A				IAmb		IAmb		02 24 53.4		
	comp=Z,13nm,1.1s									
SYO	**Syowa Base**	92.46	200⇑	*e*X		**P**		02 24 40.4	-2.2	
SYO	**Syowa Base**	92.46	200⇑	*i*PcP		**PcP**		02 24 43.0	-0.3	
SYO	**Syowa Base**	92.46	200⇑	*i*pP		pP		02 24 45.1	-2.4	
SYO	**Syowa Base**	92.46	200⇑	*i*sP		sP		02 24 46.2	-3.0	
PINE	**Pine Mountain**	92.48	46	P		**P**		02 24 42.9	-0.7	
PINE				IAmb		IAmb		02 24 55.5		
	comp=Z,12nm,1.1s									
PINE				IAMs_20		IAMs_20		03 03 39.4		
	comp=Z,3µm,19.0s									
RUBR	**Rubicon Trail**	92.68	51	IAMs_20		IAMs_20		03 03 57.1		
	comp=Z,3µm,19.0s									
MOD	**Modoc Plateau**	92.80	48	IAmb		IAmb		02 25 03.3		
	comp=Z,18nm,1.1s									
MOD				IAMs_20		IAMs_20		03 05 28.9		
	comp=Z,3µm,19.0s									
LTY	**Liberty**	92.96	43	IAMs_20		IAMs_20		03 04 32.8		
	comp=Z,4µm,19.0s									
VCNR	**Virginia City**	93.09	51	IAMs_20		IAMs_20		03 04 29.9		
	comp=Z,3µm,18.0s									
PNTR	**Pine Nut**	93.11	51	IAMs_20		IAMs_20		03 04 29.5		
	comp=Z,4µm,19.0s									
WAKR	**Walker**	93.19	52	IAmb		IAmb		02 25 08.4		
	comp=Z,12nm,1.1s									
WAKR				IAMs_20		IAMs_20		03 03 10.8		
	comp=Z,4µm,20.0s									
PAHR	**Pah Rah Range**	93.32	51	IAmb		IAmb		02 25 06.6		
	comp=Z,16nm,1.1s									
PAHR				IAMs_20		IAMs_20		03 03 28.1		
	comp=Z,4µm,19.0s									
F07A	**Phinny Hill Vi**	93.37	44	IAMs_20		IAMs_20		03 01 31.6		
	comp=Z,3µm,20.0s									
YERR	**Yerington**	93.38	51	IAMs_20		IAMs_20		03 02 40.7		
	comp=Z,3µm,20.0s									
MDPB	**Devils Postpil**	93.41	53	IAmb		IAmb		02 25 04.0		
	comp=Z,27nm,1.2s									
MDPB				IAMs_20		IAMs_20		03 00 10.7		
	comp=Z,3µm,20.0s									
E07A	**Sunnyside**	93.47	44	IAMs_20		IAMs_20		03 01 59.2		
	comp=Z,4µm,20.0s									
OMMB	**Old Mammoth Mi**	93.47	53	IAmb		IAmb		02 25 05.0		
	comp=Z,11nm,1.1s									
OMMB				IAMs_20		IAMs_20		03 00 12.3		
	comp=Z,4µm,20.0s									
OSI	**Osito Audit: C**	93.49	56	IAMs_20		IAMs_20		02 58 35.0		
	comp=Z,3µm,21.0s									
I07A	**Izee**	93.54	46	IAMs_20		IAMs_20		03 00 28.4		
	comp=Z,4µm,20.0s									
HAWA	**Hanford**	93.68	44	IAMs_20		IAMs_20		03 02 04.8		
	comp=Z,3µm,20.0s									
ISA	**Isabella, Lake**	93.76	55	IAMs_20		IAMs_20		02 58 12.2		
	comp=Z,4µm,21.0s									
PASC	**Pasadena Art C**	93.90	56	IAMs_20		IAMs_20		02 58 28.0		
	comp=Z,4µm,22.0s									
LHV	**Little Huntoon**	93.91	52	IAmb		IAmb		02 25 05.7		
	comp=Z,30nm,1.1s									
LHV				IAMs_20		IAMs_20		03 01 10.7		
	comp=Z,4µm,20.0s									
RYN	**Ryan**	93.92	52	IAMs_20		IAMs_20		03 03 52.0		
	comp=Z,3µm,18.0s									
G08A	**Pilot Rock**	94.01	45	IAMs_20		IAMs_20		03 01 48.6		
	comp=Z,3µm,20.0s									
E08A	**Dider Farm, El**	94.01	44	IAMs_20		IAMs_20		03 02 04.6		
	comp=Z,4µm,20.0s									
MWC	**Mount Wilson**	94.01	56	IAMs_20		IAMs_20		02 58 20.9		
	comp=Z,4µm,22.0s									
WVOR	**Wild Horse Val**	94.07	48	IAMs_20		IAMs_20		03 06 32.5		
	comp=Z,3µm,18.0s									
NVAR	**Mina Array Bea**	94.08	52	P		**P**		02 24 50.7	-0.3	
	comp=Z,2.2nm,0.7s,baz=253,slow=6.2,SNR=13									
NVAR				LR		LR		03 00 52.1		
	comp=Z,3µm,20.7s,baz=270,slow=31									
NVAR	**Mina Array Bea**	94.08	52	P		**P**		02 24 50.3	-0.8	
D08A	**Wollman Farm,**	94.14	43	IAMs_20		IAMs_20		03 06 19.9		
	comp=Z,3µm,19.0s									
NV11	**Mina Array Sit**	94.19	52	IAMs_20		IAMs_20		03 04 09.3		
	comp=Z,3µm,19.0s									
KVN	**Kaiserville**	94.27	51	IAMs_20		IAMs_20		03 03 28.3		
	comp=Z,3µm,20.0s									
AB31	**Akbulak array**	94.48	319	P		**P**		02 24 50.2	-2.1	
ABKAR	**Akbulak array**	94.48	319	P		**P**		02 24 50.6	-1.7	
C09A	**Chrisman Ranch**	94.62	43	IAMs_20		IAMs_20		03 06 40.5		
	comp=Z,3µm,19.0s									
E09A	**Wood Farm, Sta**	94.64	44	IAMs_20		IAMs_20		03 02 22.3		
	comp=Z,3µm,20.0s									
CCX	**Cicese**	95.04	59	IAMs_20		IAMs_20		02 58 07.4		
	comp=Z,3µm,22.0s									
CBX	**Cerro Bola**	95.06	58	IAMs_20		IAMs_20		03 07 27.0		
	comp=Z,3µm,19.0s									
GSC	**Goldstone, Bar**	95.10	55	IAMs_20		IAMs_20		03 03 41.7		
	comp=Z,3µm,19.0s									
TKX	**Tecate**	95.13	58	IAMs_20		IAMs_20		02 59 43.4		
	comp=Z,5µm,21.0s									
BMO	**Blue Mountains**	95.16	46	IAMs_20		IAMs_20		03 01 20.0		
	comp=Z,3µm,20.0s									
GEYT	**Alibeck**	95.26	308	P		**P**		02 24 56.5	+0.3	
	comp=Z,0.6nm,0.4s,baz=79,slow=15,SNR=2.1									
GEYT				LR		LR		03 10 49.4		
	comp=Z,2µm,19.1s,baz=95,slow=37									
GEYT	**Alibeck**	95.26	308	P		**P**		02 24 55.7	-0.5	
PFO	**Pinyon Flats O**	95.30	57⇓	*e*P		**P**		02 24 58.7	+2.0	
PFO				pmax		pmax				
	comp=Z,29nm,1.4s									
PFO				MLR		MLR				
	comp=Z,2µm,17.0s									
PFO	**Pinyon Flats O**	95.30	57	P		**P**		02 24 55.9	-0.8	
PFO				IAmb		IAmb		02 25 13.6		
	comp=Z,12nm,1.1s									
ARU	**Arti**	95.58	326	P		**P**		02 24 55.4	-1.8	
ARU								02 28 46.1		
ARU				PPP		PPP		02 30 47.9		
ARU				S		**SKSac**		02 35 31.1	-1.7	
ARU				SP		SP		02 37 30.4	-0.5	
ARU				SS		**SS**		02 42 40.1	-1.9	
ARU				SSS		SSS		02 46 25.2		
ARU				MLR		MLR				
	comp=Z,5µm,21.0s									
TPNV	**Topopah Spring**	95.63	53	IAmb		IAmb		02 25 10.1		
	comp=Z,14nm,1.0s									
ESJX	**Sierra Juarez**	95.66	58	IAMs_20		IAMs_20		02 58 26.7		
	comp=Z,5µm,22.0s									
SPX	**San Pedro Mart**	96.02	59	IAMs_20		IAMs_20		03 10 13.5		
	comp=Z,3µm,18.0s									
R11A	**Troy Canyon, C**	96.21	52	IAMs_20		IAMs_20		03 02 05.6		
	comp=Z,3µm,20.0s									
CPBX	**Cerro Prieto**	96.22	58	IAMs_20		IAMs_20		02 58 55.5		
	comp=Z,3µm,22.0s									
GUVIX	**Guadalupe Vict**	96.41	58	IAMs_20		IAMs_20		02 59 22.5		
	comp=Z,3µm,20.0s									
SHPR	**Sheep Range**	96.49	54	IAmb		IAmb		02 25 22.5		
	comp=Z,13nm,1.2s									
SHPR				IAMs_20		IAMs_20		03 00 03.3		
	comp=Z,3µm,22.0s									
SFX	**San Felipe**	96.55	59	IAMs_20		IAMs_20		03 12 35.4		
	comp=Z,3µm,19.0s									
PRN	**Pahroc Range**	96.60	53	IAmb		IAmb		02 25 21.3		
	comp=Z,19nm,1.2s									
PRN				IAMs_20		IAMs_20		03 01 45.1		
	comp=Z,3µm,20.0s									
YKA	**Yellowknife Ar**	96.88	28	P		**P**		02 25 02.2	-0.8	
	comp=Z,2.2nm,1.1s,baz=274,slow=4.5,SNR=4.4									
YKA				PKKPbc		**PKKPbc**		02 41 47.4	+0.2	
	comp=Z,1.9nm,1.1s,baz=77,slow=3.2,SNR=4.2									
YKA				LR		LR		03 04 59.7		
	comp=Z,2µm,20.1s,baz=0.0,slow=33									
HLID	**Hailey**	97.20	47	IAMs_20		IAMs_20		03 06 46.4		
	comp=Z,2µm,18.0s									
JTMT	**Jette**	97.31	43	IAMs_20		IAMs_20		03 04 21.7		
	comp=Z,4µm,20.0s									
113A	**Mohawk Valley,**	97.53	58	IAMs_20		IAMs_20		03 01 08.2		
	comp=Z,4µm,20.0s									
MSO	**Missoula**	97.54	44	IAMs_20		IAMs_20		03 04 14.0		
	comp=Z,3µm,20.0s									
WALA	**Waterton Lakes**	97.55	41	IAmb		IAmb		02 25 13.4		
	comp=Z,8.2nm,1.1s									
WALA				IAMs_20		IAMs_20		03 01 03.8		
	comp=Z,3µm,22.0s									
PIX	**Pinacate**	97.76	59	IAMs_20		IAMs_20		03 12 07.4		
	comp=Z,2µm,18.0s									
214A	**Organ Pipe Nat**	98.32	59	IAMs_20		IAMs_20		03 00 20.2		
	comp=Z,4µm,22.0s									
DUG	**Dugway, Tooele**	98.39	50	IAMs_20		IAMs_20		03 13 47.1		
	comp=Z,2µm,18.0s									
U15A	**North Rim**	98.80	54	IAmb		IAmb		02 25 32.0		
	comp=Z,7.6nm,1.1s									
NVL	**N'lazarevskaya**	99.28	193	*e*P		**Pdif**		02 25 18.2	+4.5	
NVL				*e*S		**SKSac**		02 35 57.7	+6.3	
NVL				pmax		pmax				
	comp=Z,41nm,1.3s									
NVL				MLR		MLR				
	comp=Z,3µm,16.0s									
HWUT	**Hardware Ranch**	99.32	49	IAMs_20		IAMs_20		03 05 33.5		
	comp=Z,4µm,20.0s									
X16A	**Lo Mia Camp, P**	99.49	56	IAMs_20		IAMs_20		03 01 50.9		
	comp=Z,4µm,21.0s									
WUAZ	**Wupatki**	99.54	55	IAMs_20		IAMs_20		03 03 24.2		
	comp=Z,3µm,20.0s									
FXWY	**Fox Creek**	99.66	47	IAMs_20		IAMs_20		03 00 50.4		
	comp=Z,3µm,22.0s									
IMW	**Indian Meadow**	99.72	47	IAMs_20		IAMs_20		03 08 01.8		
	comp=Z,2µm,19.0s									
HSIG		99.88	62	IAMs_20		IAMs_20		03 09 25.9		
	comp=Z,3µm,18.0s									
FLWY	**Flagg Ranch**	99.88	46	IAMs_20		IAMs_20		03 08 16.2		
	comp=Z,3µm,19.0s									
FOMA	**Nahampoana Res**	100.09	244	IAMs_20		IAMs_20		03 11 12.6		
	comp=Z,3µm,18.0s									
EGMT	**Eagleton**	100.34	42	IAMs_20		IAMs_20		03 10 25.0		
	comp=Z,2µm,19.0s									
PDAR	**Pinedale Array**	100.77	48	P		**Pdif**		02 25 19.9	-1.3	
	comp=Z,0.6nm,0.6s,baz=217,slow=1.5,SNR=7.0									
W18A	**Petrified Fore**	100.89	55	IAMs_20		IAMs_20		03 02 16.8		
	comp=Z,4µm,22.0s									
319A	**Douglas**	101.33	59	IAMs_20		IAMs_20		03 03 19.9		
	comp=Z,3µm,20.0s									
PV10	**Paradox Valley**	101.35	52	IAMs_20		IAMs_20		03 08 27.9		
	comp=Z,4µm,20.0s									
PV19	**Morning Glory**	101.40	52	IAMs_20		IAMs_20		03 05 03.0		
	comp=Z,3µm,21.0s									
PV20	**West Nyswonger**	101.41	52	IAMs_20		IAMs_20		03 05 03.3		
	comp=Z,4µm,21.0s									
RES	**Resolute Bay**	101.44	14	IAMs_20		IAMs_20		03 07 21.4		
	comp=Z,3µm,22.0s									
PV04	**Paradox Valley**	101.46	52	IAMs_20		IAMs_20		03 04 55.6		
	comp=Z,4µm,21.0s									
PV18	**Skein Mesa, Pa**	101.46	52	IAMs_20		IAMs_20		03 08 30.6		
	comp=Z,3µm,19.0s									
PV03	**Paradox Valley**	101.51	52	IAMs_20		IAMs_20		03 08 31.9		
	comp=Z,4µm,19.0s									
PV13	**Radium Mtn., P**	101.53	52	IAMs_20		IAMs_20		03 08 23.6		
	comp=Z,3µm,19.0s									
PV22	**Blue Mesa, Par**	101.54	52	IAMs_20		IAMs_20		03 10 08.8		
	comp=Z,3µm,19.0s									
PV02	**Paradox Valley**	101.60	52	IAMs_20		IAMs_20		03 07 57.3		
	comp=Z,4µm,21.0s									
PV07	**Paradox Valley**	101.66	52	IAMs_20		IAMs_20		03 10 19.9		
	comp=Z,3µm,20.0s									
PV15	**Paradox Valley**	101.79	52	IAMs_20		IAMs_20		03 08 32.4		
	comp=Z,4µm,20.0s									
O20A	**White River Ci**	101.89	50	IAMs_20		IAMs_20		03 10 17.8		
	comp=Z,3µm,18.0s									
VNA3	**Neumayer Olymp**	102.47	186	P		**Pdif**		02 25 29.4	+1.5	
VNA2	**Neumayer--Watz**	102.50	187	P		**Pdif**		02 25 29.5	+1.5	
121A	**Cookes Peak, D**	102.57	58	IAMs_20		IAMs_20		03 02 50.8		
	comp=Z,4µm,22.0s									
RWWY	**Rawlins**	102.57	49	IAMs_20		IAMs_20		03 08 09.7		
	comp=Z,3µm,20.0s									
LAO	**LASA Array**	102.85	43	IAMs_20		IAMs_20		03 10 50.3		
	comp=Z,2µm,20.0s									
K22A	**Casper**	103.01	48	IAMs_20		IAMs_20		03 08 10.1		
	comp=Z,2µm,21.0s									
S22A	**4UR Ranch, Cre**	103.12	53	IAMs_20		IAMs_20		03 20 31.8		
	comp=Z,3µm,18.0s									
Y22D	**IRIS PASSCAL I**	103.24	56	IAMs_20		IAMs_20		03 05 04.3		
	comp=Z,4µm,20.0s				

L34A	Svendsen Farm,	110.55	47	IAMs_20	IAMs_20	03 12 48.4		
	comp=Z,3µm,19.0s							
X34A	Smith Ranch, M	110.68	55	IAMs_20	IAMs_20	03 10 11.7		
	comp=Z,3µm,20.0s							
UNM	Universidad Na	110.75	71	IAMs_20	IAMs_20	03 09 26.6		
	comp=Z,3µm,20.0s							
OK029	Liberty Lake	110.81	54	IAMs_20	IAMs_20	03 09 45.2		
	comp=Z,3µm,21.0s							
B35A	Bob, Littlefor	110.84	40	IAMs_20	IAMs_20	03 11 59.1		
	comp=Z,3µm,20.0s							
OKCFA	Oklahoma City	110.87	54	IAMs_20	IAMs_20	03 10 17.8		
	comp=Z,4µm,21.0s							
KSU1	Kansas State U	110.93	50	IAMs_20	IAMs_20	03 14 45.8		
	comp=Z,3µm,19.0s							
OK025	Westminster Rd	110.94	54	IAMs_20	IAMs_20	03 10 20.5		
	comp=Z,3µm,21.0s							
N35A	Tabor	111.32	48	IAMs_20	IAMs_20	03 15 03.8		
	comp=Z,3µm,20.0s							
Z35A	Perchaven, San	111.33	56	IAMs_20	IAMs_20	03 08 26.3		
	comp=Z,3µm,22.0s							
WHTX	Lake Whitney,	111.34	58	IAMs_20	IAMs_20	03 13 54.6		
	comp=Z,3µm,19.0s							
435B	Jarrell	111.37	59	IAMs_20	IAMs_20	03 12 13.7		
	comp=Z,3µm,20.0s							
T35A	Sooner Cattle	111.39	53	IAMs_20	IAMs_20	03 10 53.2		
	comp=Z,2µm,20.0s							
KVTX	Kingsville	111.44	63	IAMs_20	IAMs_20	03 16 06.9		
	comp=Z,3µm,19.0s							
F36A	Milaca	111.65	43	IAMs_20	IAMs_20	03 15 10.8		
	comp=Z,3µm,19.0s							
GAZ	Gaziantep	111.85	308	IAMs_20	IAMs_20	03 22 41.8		
	comp=Z,2µm,22.0s							
SPMN	Marine on St.	112.31	43	IAMs_20	IAMs_20	03 15 35.3		
	comp=Z,3µm,21.0s							
EYMN	Ely	112.39	40	IAMs_20	IAMs_20	03 09 42.1		
	comp=Z,2µm,22.0s							
GO09	Cerro Castillo	112.68	152	IAMs_20	IAMs_20	03 09 51.4		
	comp=Z,3µm,20.0s							
237A	Washetta, Mont	112.72	58	IAMs_20	IAMs_20	03 14 03.2		
	comp=Z,2µm,19.0s							
E38A	The Farm, Brul	112.75	41	IAMs_20	IAMs_20	03 15 20.9		
	comp=Z,3µm,20.0s							
SCIA	State Center	112.86	47	IAMs_20	IAMs_20	03 14 20.6		
	comp=Z,3µm,20.0s							
K38A	Parkersburg	113.00	46	IAMs_20	IAMs_20	03 13 58.1		
	comp=Z,2µm,22.0s							
U38A	Gravette	113.15	53	IAMs_20	IAMs_20	03 12 06.0		
	comp=Z,3µm,21.0s							
Z38A	Mt. Pleasant	113.22	56	IAMs_20	IAMs_20	03 14 10.3		
	comp=Z,2µm,20.0s							
HHAR	Hobbs	113.54	53	IAMs_20	IAMs_20	03 11 56.1		
	comp=Z,3µm,20.0s							
AKBB	Malin Array Si	113.68	324	IAMs_20	IAMs_20	03 23 46.2		
	comp=Z,2µm,19.0s							
NATX	Nacogdoches	113.72	58	IAMs_20	IAMs_20	03 26 35.7		
	comp=Z,2µm,19.0s							
S39A	Bolivar	113.74	51	IAMs_20	IAMs_20	03 13 19.2		
	comp=Z,2µm,21.0s							
W39A	Magazine	113.87	54	IAMs_20	IAMs_20	03 10 36.1		
	comp=Z,3µm,22.0s							
G40A	Rib Lake	114.06	42	IAMs_20	IAMs_20	03 17 47.5		
	comp=Z,2µm,20.0s							
MIAR	Mount Ida	114.15	55	IAMs_20	IAMs_20	03 11 56.7		
	comp=Z,2µm,20.0s							
L40A	Anamosa	114.26	46	IAMs_20	IAMs_20	03 14 54.5		
	comp=Z,3µm,20.0s							
P40A	Paris	114.30	49	IAMs_20	IAMs_20	03 13 12.8		
	comp=Z,3µm,20.0s							
U40A	Yellville	114.38	52	IAMs_20	IAMs_20	03 12 02.5		
	comp=Z,3µm,21.0s							
R40A	Maddies Statio	114.42	50	IAMs_20	IAMs_20	03 15 31.2		
	comp=Z,2µm,19.0s							
COWI	Conover	114.50	41	IAMs_20	IAMs_20	03 18 03.2		
	comp=Z,3µm,19.0s							
D41A	Chassel	114.55	40	IAMs_20	IAMs_20	03 14 32.4		
	comp=Z,3µm,21.0s							
WLAR	White Oak Lake	114.69	55	IAMs_20	IAMs_20	03 18 01.1		
	comp=Z,2µm,20.0s							
JFWS	Jewell Farm	114.72	45	IAMs_20	IAMs_20	03 18 06.4		
	comp=Z,2µm,19.0s							
X40A	Basin Creek Fa	114.77	55	IAMs_20	IAMs_20	03 10 41.0		
	comp=Z,3µm,22.0s							
N41A	Harden Midland	114.89	47	IAMs_20	IAMs_20	03 21 36.2		
	comp=Z,3µm,19.0s							
Z41A	Richland Creek	115.02	56	IAMs_20	IAMs_20	03 10 55.9		
	comp=Z,2µm,22.0s							
WHAR	Wooly Hollow	115.05	54	IAMs_20	IAMs_20	03 20 22.3		
	comp=Z,2µm,18.0s							
W41B	Gary Mavity, V	115.11	54	IAMs_20	IAMs_20	03 11 58.8		
	comp=Z,3µm,21.0s							
441A	DeRidder	115.12	59	IAMs_20	IAMs_20	03 18 37.0		
	comp=Z,3µm,19.0s							
CCM	Cathedral Cave	115.26	50	IAMs_20	IAMs_20	03 17 19.4		
	comp=Z,2µm,20.0s							
F42A	Maple Grove Fa	115.27	41	IAMs_20	IAMs_20	03 16 18.6		
	comp=Z,2µm,20.0s							
L42A	Oliver, Polo	115.39	46	IAMs_20	IAMs_20	03 19 43.3		
	comp=Z,3µm,20.0s							
SUW	Suwalki	115.61	329	IAMs_20	IAMs_20	03 18 27.7		
	comp=Z,3µm,22.0s							
T42A	Van Buren	115.61	51	IAMs_20	IAMs_20	03 13 27.0		
	comp=Z,3µm,20.0s							
CCAR	Cane Creek	115.74	55	IAMs_20	IAMs_20	03 21 15.8		
	comp=Z,2µm,18.0s							
342A	Flagon Creek P	115.75	58	IAMs_20	IAMs_20	03 19 35.5		
	comp=Z,2µm,19.0s							
LCAR	Lake Charles	115.78	52	IAMs_20	IAMs_20	03 11 27.6		
	comp=Z,3µm,22.0s							
FVM	French Village	115.90	50	IAMs_20	IAMs_20	03 15 22.4		
	comp=Z,2µm,21.0s							
H43A	Windswept, Lux	115.95	43	IAMs_20	IAMs_20	03 14 15.6		
	comp=Z,2µm,21.0s							
HDIL	Hopedale	116.07	47	IAMs_20	IAMs_20	03 18 12.5		
	comp=Z,2µm,19.0s							
P43A	Skaggs, Pawnee	116.16	48	IAMs_20	IAMs_20	03 19 23.9		
	comp=Z,3µm,19.0s							
HBAR	Harrisburg	116.29	53	IAMs_20	IAMs_20	03 18 08.2		
	comp=Z,3µm,20.0s							
LPAR	Lepanto	116.57	53	IAMs_20	IAMs_20	03 14 27.4		
	comp=Z,2µm,19.0s							
L44A	Lake County Fo	116.58	45	IAMs_20	IAMs_20	03 15 28.8		
	comp=Z,3µm,20.0s							
GNAR	Gosnell	116.70	52	IAMs_20	IAMs_20	03 17 29.0		
	comp=Z,3µm,20.0s							
Q44A	Meyer Farm, Va	116.73	49	IAMs_20	IAMs_20	03 17 42.3		
	comp=Z,3µm,20.0s							
HQIL	Hanson Quary C	116.74	46	IAMs_20	IAMs_20	03 22 34.1		
	comp=Z,2µm,19.0s							
O44A	Mansfield	116.79	47	IAMs_20	IAMs_20	03 19 47.6		
	comp=Z,3µm,19.0s							
PEBM	Pemiscott Bayo	116.79	52	IAMs_20	IAMs_20	03 13 25.3		
	comp=Z,2µm,21.0s							
S44A	Carbondale	116.87	50	IAMs_20	IAMs_20	03 12 57.1		
	comp=Z,3µm,22.0s							
MET	Memphis--Engin	116.97	53	IAMs_20	IAMs_20	03 14 28.1		
	comp=Z,3µm,21.0s							
LVV	L'vov	117.08	324	*i* PKIKP	PKiKP	02 30 18.7	+1.5	
LVV				*e*		02 31 26.9		
LVV				*e*PPP	PPP	02 34 00.6		
LVV				*e*SS	SS	02 47 47.8	+13	
LVV				*e*SSS	SSS	02 51 49.4		
LVV				MLR	MLR			
	comp=Z,2µm,23.0s							
LVV				MLR	MLR			
	comp=N,2µm,22.0s							
LVV				MLR	MLR			
	comp=E,700nm,22.0s							
LNXT	Lenox	117.09	52	IAMs_20	IAMs_20	03 13 57.1		
	comp=Z,3µm,21.0s							
VBMS	Vicksburg	117.11	57	IAMs_20	IAMs_20	03 17 51.3		
	comp=Z,2µm,20.0s							
I45A	Fountain	117.13	43	IAMs_20	IAMs_20	03 20 51.0		
	comp=Z,3µm,19.0s							
G45A	Suttons Bay	117.16	42	IAMs_20	IAMs_20	03 17 25.6		
	comp=Z,3µm,20.0s							
GLAT	Glass	117.21	52	IAMs_20	IAMs_20	03 13 50.2		
	comp=Z,3µm,21.0s							
HALT	Halls	117.25	52	IAMs_20	IAMs_20	03 17 53.4		
	comp=Z,2µm,20.0s							
OLIL	Olney	117.47	49	IAMs_20	IAMs_20	03 14 50.7		
	comp=Z,2µm,21.0s							
T45A	Paducah	117.52	51	IAMs_20	IAMs_20	03 14 37.3		
	comp=Z,3µm,20.0s							
OXF	Oxford	117.53	54	IAMs_20	IAMs_20	03 13 19.9		
	comp=Z,3µm,21.0s							
Y45A	Yeager Farm, C	117.56	55	IAMs_20	IAMs_20	03 11 29.1		
	comp=Z,3µm,22.0s							
BOSA	Boshof	117.61	234	PKP	PKPdf	02 30 18.5	-0.5	
	comp=Z,2.2nm,0.8s,baz=112,slow=5.4,SNR=2.0							
BOSA	Boshof	117.61	234	PKIKP	PKPdf	02 30 18.2	-0.8	
BOSA	Boshof	117.61	234		PKPdf	02 30 18.2	-0.8	
MLR	Muntele Rosu	117.69	319	IAMs_20	IAMs_20	03 24 41.8		
	comp=Z,3µm,21.0s							
L46A	Eue Claire	117.78	45	IAMs_20	IAMs_20	03 16 21.3		
	comp=Z,2µm,21.0s							
P46A	Rosedale	117.88	48	IAMs_20	IAMs_20	03 16 30.3		
	comp=Z,3µm,20.0s							
KWP	Kalwaria Pacla	117.93	325	IAMs_20	IAMs_20	03 22 14.7		
	comp=Z,2µm,22.0s							
346A	Big Creek Wild	118.15	57	IAMs_20	IAMs_20	03 21 20.1		
	comp=Z,2µm,19.0s							
KONO	Kongsberg	118.22	339	IAMs_20	IAMs_20	03 25 10.9		
	comp=Z,3µm,20.0s							
146A	Union	118.23	56	IAMs_20	IAMs_20	03 25 07.9		
	comp=Z,3µm,18.0s							
WVT	Waverly	118.38	52	IAMs_20	IAMs_20	03 16 10.3		
	comp=Z,3µm,20.0s							
LL01	San Ignacio de	118.48	145	IAMs_20	IAMs_20	03 13 31.5		
	comp=Z,3µm,21.0s							
PLAL	Pickwick Lake	118.48	53	IAMs_20	IAMs_20	03 15 32.1		
	comp=Z,3µm,21.0s							
BLO	Bloomington	118.52	48	IAMs_20	IAMs_20	03 14 34.3		
	comp=Z,3µm,21.0s							
N47A	Urbana	118.58	46	IAMs_20	IAMs_20	03 16 41.7		
	comp=Z,2µm,20.0s							
UZH	Uzhgorod	118.64	324	*i* PKIKP	PKiKP	02 30 29.0	+8.8	
UZH				*e*		02 31 47.0		
UZH				*e*		02 34 08.0		
UZH				*e*		02 37 18.8		
T47A	Sharon Grove	118.71	51	IAMs_20	IAMs_20	03 15 05.9		
	comp=Z,3µm,20.0s							
Z47A	Carrollton	118.92	55	IAMs_20	IAMs_20	03 18 46.9		
	comp=Z,2µm,20.0s							
WCI	Wyandotte Cave	118.97	49	IAMs_20	IAMs_20	03 16 27.5		
	comp=Z,3µm,21.0s							
CRVS	Cervenica-Dubn	119.00	324	*e*PP	PP	02 31 41.7	+1.7	
L48A	N Adams	119.11	44	IAMs_20	IAMs_20	03 23 42.4		
	comp=Z,2µm,18.0s							
V48A	Smith Brothers	119.27	52	IAMs_20	IAMs_20	03 16 16.0		
	comp=Z,3µm,22.0s							
X48A	Hartselle	119.44	53	IAMs_20	IAMs_20	03 23 20.5		
	comp=Z,3µm,18.0s							
I49A	Point Hope	119.45	42	IAMs_20	IAMs_20	03 22 42.3		
	comp=Z,2µm,19.0s							
CLTN	Cedars of Leba	119.56	51	IAMs_20	IAMs_20	03 16 05.4		
	comp=Z,3µm,20.0s							
N49A	Columbus Grove	119.64	45		PKPdf	02 30 22.0	-0.4	
N49A				IAMs_20	IAMs_20	03 17 40.8		
	comp=Z,3µm,20.0s							
MBAR	Mbarara	119.73	266	IAMs_20	IAMs_20	03 24 37.9		
	comp=Z,2µm,19.0s							
O49A	Covington	119.79	46	IAMs_20	IAMs_20	03 16 50.7		
	comp=Z,3µm,20.0s							
R49A	Shelbyville	119.79	49	IAMs_20	IAMs_20	03 16 55.2		
	comp=Z,3µm,22.0s							
LRAL	Lakeview Retre	119.83	55	IAMs_20	IAMs_20	03 14 11.0		
	comp=Z,2µm,22.0s							
U49A	Red Boiling Sp	119.87	51	IAMs_20	IAMs_20	03 15 48.5		
	comp=Z,3µm,22.0s							
Y49A	Blount Mountai	120.10	54	IAMs_20	IAMs_20	03 18 47.0		
	comp=Z,2µm,21.0s							
SWET	Sewanee	120.11	52	IAMs_20	IAMs_20	03 15 08.2		
	comp=Z,3µm,21.0s							
BRAL	Brewton	120.22	57	IAMs_20	IAMs_20	03 21 28.7		
	comp=Z,3µm,20.0s							
M50A	Fremont	120.27	45	IAMs_20	IAMs_20	03 22 38.3		
	comp=Z,2µm,19.0s							
MTO3	Montecristo	120.31	77	IAMs_20	IAMs_20	03 11 48.4		
	comp=Z,3µm,22.0s							
PSZ	Piszkesteto	120.38	324	IAMs_20	IAMs_20	03 26 34.6		
	comp=Z,2µm,19.0s							
R50A	Paris	120.43	48	IAMs_20	IAMs_20	03 23 26.9		
	comp=Z,3µm,20.0s							
T50A	Nancy	120.44	50		PKPdf	02 30 23.3	-0.7	
PLCA	Paso Flores	120.60	144	PKP	PKiKP	02 30 25.8	+1.3	
	comp=Z,3.5nm,0.9s,baz=189,slow=3.6,SNR=7.9							
250A	Grady	120.68	56	IAMs_20	IAMs_20	03 26 51.8		
	comp=Z,2µm,18.0s							
VYHS	Vyhne	120.71	325	*e*PP	PP	02 31 57.3	+5.6	
ACSO	Alum Creek Sta	120.74	46	IAMs_20	IAMs_20	03 20 01.9		
	comp=Z,2µm,20.0s							
MORC	Moravsky Berou	120.77	327	*e*PKP	PKPdf	02 30 14.3	-10	
MORC				*e*PP	PP	02 31 46.9	-5.2	
MORC	Moravsky Berou	120.77	327	IAMs_20	IAMs_20	03 27 59.5		
	comp=Z,2µm,20.0s							
N51A	Ashland	120.92	45	IAMs_20	IAMs_20	03 19 22.5		
	comp=Z,2µm,21.0s							
TEIG	Tepich	120.93	70	IAMs_20	IAMs_20	03 16 29.2		
	comp=Z,3µm,20.0s							
KRLC	Kraliky	121.03	327	*e*PKIKP	PKiKP	02 30 31.6	+6.7	
KRLC				MLR	MLR			
	comp=Z,2µm,19.7s							
KRLC	Kraliky	121.03	327	*e*PKP	PKiKP	02 30 31.6	+6.7	
KRLC				AMS	AMS	03 23 20.0		
	comp=Z,2µm,19.7s							
OSTC	Ostas	121.06	328	AMS	AMS	03 23 30.0		
	comp=Z,2µm,19.5s							
DPC	Dobruska-Polom	121.12	328	AMS	AMS	03 22 40.0		
	comp=Z,2µm,20.6s							
CHVC	Chvalec	121.13	328	AMS	AMS	03 24 00.0		
	comp=Z,3µm,19.0s							
CPCT	Cooper Cave	121.15	52	IAMs_20	IAMs_20	03 17 22.6		
	comp=Z,3µm,20.0s							
V51A	Loudon	121.18	51	IAMs_20	IAMs_20	03 17 45.4		
	comp=Z,3µm,21.0s							
S51A	Beattyville	121.18	49	IAMs_20	IAMs_20	03 20 19.3		
	comp=Z,2µm,20.0s							
JAVC	Velka Javorina	121.19	326	*e*PP	PP	02 31 52.7	-2.3	
UPC	Upice	121.20	328	*e*SP	SP	02 41 42.2	-2.7	
UPC				AMS	AMS	03 23 50.0		
	comp=Z,3µm,20.2s							
Z51A	Franklin	121.23	54	IAMs_20	IAMs_20	03 15 06.2		
	comp=Z,2µm,22.0s							
D53A	Lac Vacive, Po	121.30	37	IAMs_20	IAMs_20	03 16 18.3		
	comp=Z,2µm,21.0s							
M52A	Chesterland	121.39	44	IAMs_20	IAMs_20	03 21 56.8		
	comp=Z,3µm,20.0s							
451A	Vernon	121.44	57	IAMs_20	IAMs_20	03 19 47.0		
	comp=Z,2µm,19.0s							
VRAC	Vranov	121.55	327	*e*PP	PP	02 31 54.0	-3.3	
P52A	Corning	121.57	46	IAMs_20	IAMs_20	03 20 37.8		
	comp=Z,3µm,20.0s							
O52A	Adamsville	121.60	46	IAMs_20	IAMs_20	03 21 49.6		
	comp=Z,3µm,22.0s							
MODS	Modra-Susok	121.67	325	*e*PP	PP	02 31 57.9	-0.3	
TKL	Tuckaleechee C	121.67	51	IAMs_20	IAMs_20	03 18 09.4		
	comp=Z,3µm,21.0s							
W52A	Murphy	121.72	52	IAMs_20	IAMs_20	03 16 18.8		
	comp=Z,3µm,21.0s							
V52A	Sevierville	121.75	51	IAMs_20	IAMs_20	03 19 14.5		
	comp=Z,3µm,20.0s							
KRUC	Moravsky	121.79	326	*e*PKP	PKiKP	02 30 26.8	+0.4	
KRUC				*e*PP	PP	02 31 55.7	-3.3	
352A	Blakely	121.91	56	IAMs_20	IAMs_20	03 20 21.3		
	comp=Z,2µm,20.0s							
PVCC	Panska Ves	121.94	329	*e*PP	PP	02 31 59.8	-0.1	
PVCC				AMS	AMS	03 22 10.0		
	comp=Z,4µm,23.7s							
Y52A	Lilburn	121.97	53	IAMs_20	IAMs_20	03 17 10.7		
	comp=Z,2µm,21.0s							
O53A	New Philadelph	121.99	45	IAMs_20	IAMs_20	03 20 05.2		
	comp=Z,2µm,22.0s							
N53A	Lisbon	122.04	45	IAMs_20	IAMs_20	03 22 18.1		
	comp=Z,2µm,20.0s							
BRG	Berggiesshubel	122.06	329	*e*PKP	PKiKP	02 30 32.4	+5.5	
BRG	comp=Z,15nm,1.7s			*e*PP	PP	02 31 55.0	-5.7	
	comp=Z,44nm,1.9s							
BRG				SS	SS	02 48 36.0	-2.4	
	comp=N,2µm,23.2s							
	comp=E,2µm,22.3s							
	comp=Z,3µm,21.0s							
BRG	Berggiesshubel	122.06	329	*e*PKIKP	PKiKP	02 30 32.4	+5.5	
BRG				SS	SS	02 48 36.0	-2.4	
BRG				pmax	pmax			
	comp=Z,15nm,1.7s							
BRG				MLR	MLR			
	comp=N,2µm,23.2s							
BRG				MLR	MLR			
	comp=E,2µm,22.3s							
BRG				MLR	MLR			
	comp=Z,3µm,21.0s							
ERPA	Erie	122.09	43	IAMs_20	IAMs_20	03 20 57.2		
	comp=Z,3µm,20.0s							
TREC	Trest	122.16	327	AMS	AMS	03 23 30.0		
	comp=Z,2µm,20.2s							
SCHQ	Schefferville	122.16	25	PKKPbc	PKKPbc	02 40 24.7	-0.4	
	comp=Z,9.6nm,1.1s,baz=163,slow=4.0,SNR=4.6							
GOPC	GO Pecny, Ondr	122.18	328	AMS	AMS	03 24 10.0		
	comp=Z,2µm,18.8s							
PRU	Pruhonice	122.27	328	*e*SP	SP	02 41 54.3	-0.1	
PRU				AMS	AMS	03 22 10.0		
	comp=Z,3µm,23.4s							
CLL	Collm	122.27	330	*e*Pdif	Pdif	02 26 55.0	-1.3	
CLL				*e*PKPdf	PKPdf	02 30 27.0	-0.1	
CLL				*i* PP	PP	02 32 04.2	+2.1	
	comp=Z,29nm,1.6s							
CLL				*e*		02 32 22.0		
CLL				*e*SKPdf	SKPdf	02 34 01.0	-1.3	
CLL				*e*SKKSac	SKKSac	02 39 12.0	+11	
CLL				*e*PS	PS	02 41 51.0	-6.2	
CLL				*e*		02 43 00.0		
CLL				*e*		02 44 16.0		
CLL				*e*SS	SS	02 48 37.0	-4.1	
CLL				*e*SSS	SSS	02 53 00.0		
CLL				*e*		02 54 18.0		
CLL				*e*SSSS		02 56 54.0		
CLL				LmV		03 27 00.0		
	comp=Z,3µm,20.3s							
CLL	Collm	122.27	330	*e*P	Pdif	02 26 55.0	-1.3	
CLL				*i*		02 32 04.2		
CLL				pmax	pmax			
	comp=Z,29nm,1.6s							
CLL				MLR	MLR			
	comp=Z,3µm,20.3s							
PRA	Prague	122.28	328	*e*SP	SP	02 41 52.5	-1.9	
PRA				AMS	AMS	03 22 20.0		
	comp=Z,2µm,21.6s							
V53A	Saluda	122.41	51	IAMs_20	IAMs_20	03 20 12.9		
	comp=Z,2µm,19.0s							
IVI	Ivigtut	122.48	11	IAMs_20	IAMs_20	03 22 24.0		
	comp=Z,2µm,21.0s							
J54A	Appleton	122.49	41	IAMs_20	IAMs_20	03 23 40.6		
	comp=Z,2µm,21.0s							
BG3	Lake Jocassee	122.53	52	IAMs_20	IAMs_20	03 17 16.1		
	comp=Z,2µm,20.0s							
N54A	Moraine State	122.57	44	IAMs_20	IAMs_20	03 21 38.0		
	comp=Z,3µm,21.0s							
GOGA	Godfrey	122.58	54	IAMs_20	IAMs_20	03 20 59.7		
	comp=Z,2µm,19.0s							
O54A	Avella	122.61	45	IAMs_20	IAMs_20	03 19 34.2		
	comp=Z,3µm,22.0s							
553A	Crawfordville	122.64	57	IAMs_20	IAMs_20	03 23 34.0		
	comp=Z,2µm,19.0s							
MEDO	Medina	122.66	41	IAMs_20	IAMs_20	03 18 27.1		
	comp=Z,2µm,21.0s							
Q54A	Coxs Mills	122.74	46		PKPdf	02 30 27.9	-0.5	
Q54A				IAMs_20	IAMs_20	03 23 04.0		
	comp=Z,2µm,20.0s							
TIGA	Tifton	123.03	56	IAMs_20	IAMs_20	03 22 05.9		
	comp=Z,2µm,20.0s							
NKC	Novy Kostel	123.21	329	*e*PP	PP	02 32 08.9	+0.4	
NKC				*e*SP	SP	02 41 51.0	-12	
NKC				AMS	AMS	03 28 00.0		
	comp=Z,4µm,18.8s							
KHC	Kasperske Hory	123.28	328	*e*PKIKP	PKiKP	02 30 32.0	+2.6	
KHC				*e*		02 30 38.5		
KHC				*e*		02 32 12.1		
KHC				MLR	MLR			
	comp=Z,3µm,23.8s							
KHC	Kasperske Hory	123.28	328	*e*PKP	PKiKP	02 30 32.0	+2.6	
KHC				*ex*	x	02 30 38.5		
KHC				*e*PP	PP	02 32 12.1	+3.0	
KHC				AMS	AMS	03 22 50.0		
	comp=Z,3µm,23.8s							
HODGE	Hodges	123.30	52	IAMs_20	IAMs_20	03 17 16.5		
	comp=Z,3µm,20.0s							
PDG	Podgorica	123.35	318	IAMs_20	IAMs_20	03 24 53.7		
	comp=Z,3µm,22.0s							
GEC2	GERESS Array S	123.38	327	IAMs_20	IAMs_20	03 24 33.4		
	comp=Z,3µm,21.0s							
GERES	GERESS Array B	123.38	327	PKP	PKPdf	02 30 28.0	-1.5	
	comp=Z,0.5nm,0.7s,baz=105,slow=2.3,SNR=2.5							
GERES				PKKPbc	PKKPbc	02 40 20.1	-0.2	
	comp=Z,1.8nm,1.1s,baz=226,slow=3.5,SNR=6.2							
GERES	GERESS Array B	123.38	327	PKIKP	PKPdf	02 30 28.8	-0.6	
GERES	GERESS Array B	123.38	327		PKPdf	02 30 28.8	-0.6	
L56A	Greenwood	123.71	42	IAMs_20	IAMs_20	03 24 35.0		
	comp=Z,3µm,20.0s							
255A	Hazlehurst	123.81	55	IAMs_20	IAMs_20	03 21 37.3		
	comp=Z,2µm,20.0s							
O56A	Blue Knob Stat	123.84	44	IAMs_20	IAMs_20	03 22 37.7		
	comp=Z,2µm,20.0s							
Q56A	Snyder Ridge,	123.90	46	IAMs_20	IAMs_20	03 23 37.7		
	comp=Z,2µm,20.0s							
SSPA	Standing Stone	124.15	44	IAMs_20	IAMs_20	03 22 01.9		
	comp=Z,3µm,21.0s							
BO01	Tunca	124.22	138	IAMs_20	IAMs_20	03

ZCCA	**Zocca**	**127.53**	**324**		IAMs_20	IAMs_20	03 27 39.4		
	comp=Z,2µm,21.0s								
TSUM	**Tsumeb**	**127.78**	**241**		IAMs_20	IAMs_20	03 20 27.8		
	comp=Z,3µm,22.0s								
OSSC	**Osservatorio P**	**127.84**	**323**		IAMs_20	IAMs_20	03 29 54.0		
	comp=Z,2µm,21.0s								
AC05	**El Transito**	**127.99**	**133**			**PKPdf**	**02 30 38.1**	**-0.8**	
AC05					IAMs_20	IAMs_20	03 14 47.5		
	comp=Z,2µm,22.0s								
SENIN	**Lac Senin/Sane**	**128.32**	**328**		IAMs_20	IAMs_20	03 28 00.9		
	comp=Z,3µm,22.0s								
CASP	**Castiglione de**	**128.49**	**323**		IAMs_20	IAMs_20	03 30 26.2		
	comp=Z,2µm,22.0s								
EMMW	**East Machias**	**128.55**	**34**		IAMs_20	IAMs_20	03 20 52.0		
	comp=Z,3µm,21.0s								
PB14	**IPOC Station P**	**130.16**	**129**		IAMs_20	IAMs_20	03 21 04.3		
	comp=Z,2µm,19.0s								
SSB	**Saint Sauveur**	**130.48**	**329**		IAMs_20	IAMs_20	03 27 59.0		
	comp=Z,3µm,22.0s								
PB10	**IPOC Station P**	**130.60**	**127**		IAMs_20	IAMs_20	03 18 15.2		
	comp=Z,2µm,21.0s								
MTDJ	**Mount Denham**	**131.25**	**70**		IAMs_20	IAMs_20	03 20 32.7		
	comp=Z,2µm,20.0s								
PB15	**IPOC Station P**	**131.61**	**127**		IAMs_20	IAMs_20	03 19 25.0		
	comp=Z,2µm,21.0s								
PB07	**IPOC Station P**	**132.02**	**126**		IAMs_20	IAMs_20	03 20 13.0		
	comp=Z,2µm,19.0s								
BBAC	**Balboa, Cauca**	**132.08**	**92**	*e*P		**PKiKP**	**02 30 49.4**	**+1.2**	
TA01	**Diego Aracena**	**132.34**	**124**		IAMs_20	IAMs_20	03 22 42.5		
	comp=Z,2µm,18.0s								
PB09	**IPOC Station P**	**132.51**	**126**		IAMs_20	IAMs_20	03 21 23.8		
	comp=Z,2µm,21.0s								
PUAC	**Puerto Asis, P**	**132.60**	**94**	*e*P		**PKiKP**	**02 30 52.8**	**+3.7**	
PB01	**IPOC Station P**	**132.68**	**125**		IAMs_20	IAMs_20	03 19 50.4		
	comp=Z,2µm,21.0s								
POPC	**Popayan, Colom**	**132.69**	**91**	*e*P		**PKPdf**	**02 30 47.8**	**-0.6**	
PCON	**Cinco Dias**	**132.95**	**92**	*e*P		**PKPdf**	**02 30 48.3**	**-1.0**	
YOTC	**Yotoco, Valle**	**133.12**	**92**	*e*P		**PKPdf**	**02 30 47.1**	**-1.9**	
GTBY	**Guantanamo Bay**	**133.20**	**68**		IAMs_20	IAMs_20	03 21 24.0		
	comp=Z,2µm,22.0s								
DBBC	**Dabeiba**	**133.37**	**85**	*e*P		**PKPdf**	**02 30 43.8**	**-5.6**	
PB08	**IPOC Station P**	**133.38**	**124**		IAMs_20	IAMs_20	03 20 20.3		
	comp=Z,2µm,21.0s								
MARP	**Paez Belalcaza**	**133.43**	**91**	*e*P		**PKiKP**	**02 30 50.5**	**-0.5**	
CBOC	**Ciudad Bolivar**	**133.54**	**87**	*e*P		**PKiKP**	**02 30 55.2**	**+4.1**	
GARC	**Garzon, Huila**	**133.84**	**92**	*e*P		**PKiKP**	**02 30 55.3**	**+3.5**	
BETC	**Betania**	**133.93**	**91**	*e*P		**PKiKP**	**02 30 53.4**	**+1.6**	
HELC	**Santa Helena**	**134.03**	**87**	*e*P		**PKiKP**	**02 30 55.0**	**+2.6**	
ANIL	**Santa Ana**	**134.09**	**89**	*e*P		**PKiKP**	**02 30 54.8**	**+2.4**	
GUY2C	**Guyana, Caldas**	**134.16**	**88**	*e*P		**PKiKP**	**02 30 54.2**	**+1.4**	
RREF	**El Recreo**	**134.17**	**88**	*e*P		**PKPdf**	**02 30 48.5**	**-3.1**	
TOLC	**Tolima**	**134.18**	**89**	*e*P		**PKiKP**	**02 30 55.3**	**+2.7**	
ORTC	**Ortega, Tolima**	**134.22**	**90**	*e*P		**PKiKP**	**02 30 54.3**	**+2.0**	
SJCC	**San Jacinto, C**	**134.35**	**81**	*e*P		**PKPdf**	**02 30 49.7**	**-1.5**	
NORC	**Norcasia**	**134.67**	**87**	*e*P		**PKPdf**	**02 30 50.9**	**-1.0**	
ZARC	**Zaragoza, Cauc**	**134.72**	**85**	*e*P		**PKPdf**	**02 30 49.7**	**-2.2**	
ROSC	**El Rosal**	**135.19**	**89**	PKP		**PKPdf**	**02 30 52.7**	**-0.5**	
	comp=Z,8.1nm,0.7s,baz=246,slow=20,SNR=2.2								
ROSC	**El Rosal**	**135.19**	**89**			**PKPdf**	**02 30 51.5**	**-1.7**	
ROSC					IAMs_20	IAMs_20	03 29 14.6		
	comp=Z,2µm,19.0s								
SPBC	**San Pablo de B**	**135.47**	**87**	*e*P		**PKPdf**	**02 30 53.0**	**-0.4**	
MACC	**Macarena, Meta**	**135.47**	**92**	*e*P		**PKiKP**	**02 30 56.2**	**+1.3**	
CHIC	**Chingaza**	**135.76**	**89**	*e*P		PKPdf	02 30 44.7	-10	
BRRC	**Barranca, Sant**	**135.85**	**85**	*e*P		**PKiKP**	**02 30 59.4**	**+3.8**	
LPAZ	**La Paz**	**136.01**	**120**		PKhKP	PKPpre	02 30 45.2		
	comp=Z,2.5nm,0.9s,baz=177,slow=3.7,SNR=4.9								
LPAZ					PKP		**PKiKP**	**02 30 55.8**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=180,slow=3.0,SNR=5.5								
LPAZ					SKPbc		**SKPbc**	**02 34 28.5**	**+2.0**
	comp=Z,4.4nm,1.2s,baz=202,slow=18,SNR=3.1								
LPAZ	**La Paz**	**136.01**	**120**		PKIKP		**PKPdf**	**02 30 53.2**	**-1.7**
LPAZ	**La Paz**	**136.01**	**120**				**PKPdf**	**02 30 53.2**	**-1.7**
BARC	**Barichara**	**136.37**	**86**	*e*P			**PKPdf**	**02 30 50.6**	**-4.6**
GRTK	**Grand Turk**	**136.45**	**64**		IAMs_20	IAMs_20	03 24 42.6		
	comp=Z,2µm,20.0s								
RUSC	**La Rusia**	**136.46**	**87**	*e*P		**PKPdf**	**02 30 53.7**	**-2.0**	
PAMC	**Pamplona, Colo**	**136.86**	**85**	*e*P		**PKPdf**	**02 30 49.8**	**-6.7**	
SC01	**Santiago de lo**	**137.34**	**67**		IAMs_20	IAMs_20	03 30 22.6		
	comp=Z,2µm,19.0s								
URIC	**Uribia, Colomb**	**137.37**	**79**	*e*P		**PKiKP**	**02 31 03.8**	**+5.2**	
CPUP	**Villa Florida**	**138.44**	**141**	PKP		**PKiKP**	**02 30 59.7**	**-0.9**	
	comp=Z,2.9nm,0.9s,baz=335,slow=2.5,SNR=5.9								
CART	**Cartagena**	**138.80**	**325**		IAMs_20	IAMs_20	03 33 28.7		
	comp=Z,2µm,21.0s								
ES18	**SONSECA Array**	**138.83**	**330**		IAMs_20	IAMs_20	03 36 18.8		
	comp=Z,2µm,21.0s								
ES08	**SONSECA Array**	**138.83**	**330**		IAMs_20	IAMs_20	03 36 02.9		
	comp=Z,2µm,20.0s								
ES10	**SONSECA Array**	**138.84**	**330**		IAMs_20	IAMs_20	03 36 04.3		
	comp=Z,2µm,20.0s								
ES02	**SONSECA Array**	**138.85**	**330**		IAMs_20	IAMs_20	03 36 03.3		
	comp=Z,2µm,20.0s								
ES07	**SONSECA Array**	**138.85**	**330**		IAMs_20	IAMs_20	03 36 03.3		
	comp=Z,2µm,20.0s								
ES17	**SONSECA Array**	**138.85**	**330**		IAMs_20	IAMs_20	03 36 02.3		
	comp=Z,2µm,20.0s								
ES03	**SONSECA Array**	**138.85**	**330**		IAMs_20	IAMs_20	03 36 04.5		
	comp=Z,2µm,20.0s								
ES06	**SONSECA Array**	**138.86**	**330**		IAMs_20	IAMs_20	03 36 19.6		
	comp=Z,2µm,20.0s								
ES01	**SONSECA Array**	**138.86**	**330**		IAMs_20	IAMs_20	03 36 04.6		
	comp=Z,2µm,20.0s								
ES11	**SONSECA Array**	**138.86**	**330**		IAMs_20	IAMs_20	03 36 05.7		
	comp=Z,2µm,21.0s								
ESBB	**Sonseca Array**	**138.86**	**330**		IAMs_20	IAMs_20	03 36 17.7		
	comp=Z,2µm,21.0s								
ES04	**SONSECA Array**	**138.87**	**330**		IAMs_20	IAMs_20	03 36 18.9		
	comp=Z,2µm,20.0s								
ES16	**SONSECA Array**	**138.87**	**330**		IAMs_20	IAMs_20	03 36 18.9		
	comp=Z,2µm,21.0s								
ES05	**SONSECA Array**	**138.87**	**330**		IAMs_20	IAMs_20	03 36 05.9		
	comp=Z,2µm,20.0s								
SDV	**Santo Domingo**	**138.88**	**83**	*e*P		**PKPdf**	**02 30 57.6**	**-2.2**	
SDV	**Santo Domingo**	**138.88**	**83**	PKPdf		**PKPdf**	**02 30 58.4**	**-1.4**	
SDV	**Santo Domingo**	**138.88**	**83**		IAMs_20	IAMs_20	03 23 38.2		
	comp=Z,2µm,20.0s								
ES12	**SONSECA Array**	**138.88**	**330**		IAMs_20	IAMs_20	03 36 03.2		
	comp=Z,2µm,20.0s								
ES13	**SONSECA Array**	**138.88**	**330**		IAMs_20	IAMs_20	03 36 19.3		
	comp=Z,2µm,21.0s								
ES15	**SONSECA Array**	**138.89**	**330**		IAMs_20	IAMs_20	03 36 18.4		
	comp=Z,2µm,21.0s								
ES14	**SONSECA Array**	**138.89**	**330**		IAMs_20	IAMs_20	03 36 19.5		
	comp=Z,2µm,20.0s								
PGAV	**Gavieira, Arco**	**138.98**	**336**	*e*PP		PP	02 33 54.3	+3.9	
PGAV	**Gavieira, Arco**	**138.98**	**336**	*e*SS		SS	02 52 43.0	+37	
PGAV	**Gavieira, Arco**	**138.98**	**336**	*e*LR		LR	03 19 22.8		
	comp=Z,2µm,20.0s								
MVO	**Moncorvo**	**139.12**	**334**	*e*SS		SS	02 52 47.6	+40	
MVO	**Moncorvo**	**139.12**	**334**	*e*LR		LR	03 18 18.2		
	comp=Z,2µm,20.0s								
MTE	**Manteigas**	**139.97**	**334**	*e*SS		SS	02 52 57.4	+40	
MTE	**Manteigas**	**139.97**	**334**	*e*LR		LR	03 19 31.8		
	comp=Z,2µm,20.0s								
MTE	**Manteigas**	**139.97**	**334**		IAMs_20	IAMs_20	03 39 32.7		
	comp=Z,2µm,19.0s								
COI	**Coimbra**	**140.51**	**335**		IAMs_20	IAMs_20	03 39 13.7		
	comp=Z,2µm,19.0s								
PMRV	**Marv??o**	**140.69**	**333**	*e*SS		SS	02 53 02.2	+36	
PMRV	**Marv??o**	**140.69**	**333**	*e*LR		LR	03 22 19.1		
	comp=Z,2µm,18.0s								
PSBE	**So Bento**	**141.25**	**334**	*e*SS		SS	02 53 05.4	+33	
PMTG	**Montargil**	**141.36**	**333**	*e*SS		SS	02 53 02.3	+29	
PBEJ	**Beja**	**142.04**	**332**	*e*PP		PP	02 34 09.7	+0.6	
SFS	**San Fernando**	**142.45**	**329**		IAMs_20	IAMs_20	03 43 46.9		
	comp=Z,1µm,19.0s								
PVAQ	**Vaqueiros**	**142.47**	**331**	*e*PP		PP	02 34 12.9	+1.2	
PVAQ	**Vaqueiros**	**142.47**	**331**	*e*SS		SS	02 53 00.3	+14	
PVAQ	**Vaqueiros**	**142.47**	**331**	*e*LR		LR	03 23 07.7		
	comp=Z,2µm,20.0s								
PVAQ	**Vaqueiros**	**142.47**	**331**		IAMs_20	IAMs_20	03 38 40.2		
	comp=Z,2µm,20.0s								
MORF	**Marmelete**	**142.99**	**332**	*e*PKPdf		**PKPdf**	**02 31 05.9**	**-0.5**	
MORF				AMS		AMS	03 37 00.8		
	comp=N,2µm,20.6s								
PFVI	**Vila Bisbo**	**143.21**	**332**		IAMs_20	IAMs_20	03 36 29.7		
	comp=Z,2µm,22.0s								
SAML	**Samuel**	**143.39**	**113**		IAMs_20	IAMs_20	03 28 46.3		
	comp=Z,1µm,20.0s								
SPB	**Sao Paulo**	**146.25**	**149**			**PKPdf**	**02 31 12.6**	**+0.3**	
SPB					IAMs_20	IAMs_20	03 34 37.5		
	comp=Z,2µm,21.0s								
FDF	**Fort de France**	**147.34**	**71**		IAMs_20	IAMs_20	03 49 25.3		
	comp=Z,1µm,19.0s								
MCLT	**Moule a Chique**	**147.76**	**73**		IAMs_20	IAMs_20	03 29 51.6		
	comp=Z,2µm,20.0s								
TOC2	**Torodi Ar. Sit**	**148.42**	**286**		IAMs_20	IAMs_20	03 47 00.9		
	comp=Z,2µm,22.0s								
TOC3	**Torodi Ar. Sit**	**148.42**	**286**		IAMs_20	IAMs_20	03 45 53.0		
	comp=Z,1µm,20.0s								
TOB3	**Torodi Ar. Sit**	**148.44**	**286**		IAMs_20	IAMs_20	03 45 53.4		
	comp=Z,1µm,20.0s								
TOA2	**Torodi Ar. Sit**	**148.44**	**286**		IAMs_20	IAMs_20	03 47 00.4		
	comp=Z,2µm,22.0s								
TOB1	**Torodi Ar. Sit**	**148.44**	**286**		IAMs_20	IAMs_20	03 47 00.5		
	comp=Z,2µm,22.0s								
TOA0	**Torodi Ar. Sit**	**148.44**	**286**			**PKPab**	**02 31 22.3**	**-0.7**	
TOA0					IAMs_20	IAMs_20	03 47 00.6		
	comp=Z,2µm,22.0s								
TOC4	**Torodi Ar. Sit**	**148.44**	**286**		IAMs_20	IAMs_20	03 43 52.6		
	comp=Z,1µm,22.0s								
TORD	**Torodi Ar. Bea**	**148.44**	**286**	PKPbc		**PKPdf**	**02 31 17.9**	**+1.7**	
	comp=Z,10nm,0.9s,baz=51,slow=1.9,SNR=28								
TORD	**Torodi Ar. Bea**	**148.44**	**286**	PKPdf		**PKPdf**	**02 31 15.1**	**-1.1**	
TOA3	**Torodi Ar. Sit**	**148.44**	**286**		IAMs_20	IAMs_20	03 46 02.6		
	comp=Z,1µm,20.0s								
TOB4	**Torodi Ar. Sit**	**148.45**	**286**		IAMs_20	IAMs_20	03 46 03.9		
	comp=Z,1µm,20.0s								
TOB5	**Torodi Ar. Sit**	**148.45**	**286**		IAMs_20	IAMs_20	03 46 03.9		
	comp=Z,1µm,20.0s								
TOC7	**Torodi Ar. Sit**	**148.45**	**286**		IAMs_20	IAMs_20	03 46 03.9		
	comp=Z,1µm,20.0s								
TOC5	**Torodi Ar. Sit**	**148.46**	**286**		IAMs_20	IAMs_20	03 46 04.2		
	comp=Z,1µm,20.0s								
TOSP	**Speyside**	**148.57**	**77**			**PKiKP**	**02 31 22.3**	**+0.7**	
PTGA	**Pitinga**	**148.81**	**100**			**PKPdf**	**02 31 18.8**	**+1.9**	
PMPST	**Porto Santo, M**	**149.85**	**338**	*e*PKP		**PKPdf**	**02 31 11.1**	**-6.9**	
PMOZ	**Porto Moniz, M**	**150.40**	**339**	A		A	03 42 23.1		
	comp=Z,1µm,20.0s								
BDFB	**Brasilia**	**152.13**	**139**	PKPbc		**PKPbc**	**02 31 26.9**	**-1.9**	
	comp=Z,14nm,0.8s,baz=204,slow=1.4,SNR=19								
BDFB	**Brasilia**	**152.13**	**139**	PKIKP		**PKPdf**	**02 31 21.0**	**-1.1**	
BDFB	**Brasilia**	**152.13**	**139**	PKPdf		**PKPdf**	**02 31 21.0**	**-1.1**	

GCG ***21*** *02:34:16.7±0.7, 13°.67N×92°.87W, h90*km*±39*km*, MD4.1*
MEX ***21*** *02:34:26.5±0.8, 14°.30N×92°.07W, h84*km*±13*km*, MD4.1*
SNET ***21*** *02:34:30.1±2.1, 14°.26N×91°.99W, h26*km*±999*km*, ML3.9*
UCR ***21*** *02:34:30.1±2.1, 14°.25N×91°.96W, h20*km*±999*km*, ML3.7*

ISC 21 02:34:23.5±2.5, 14°.03N±0°.09×92°.36W±0°.09, h15km**±12**km**, n22,σ1°55/34, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ERG	**Entre ros, C**	**0.87**	**62**	*e*P		**Pn**	**02 34 42.3**	**+1.1**
THIG		**0.88**	**6**	*i* P		**Pg**	**02 34 40.5**	**0.0**
THIG				*i* S		**Sg**	**02 34 51.7**	**-0.4**
FUG	**Fuego 3**	**1.53**	**74**	*e*P		**Pn**	**02 34 50.4**	**-0.1**
PCG	**Pacaya**	**1.73**	**78**	*e*P		**Pn**	**02 34 53.8**	**+0.4**
PCIG		**1.86**	**334**	*i* P		**Pn**	**02 34 54.5**	**-0.5**
PCIG				*i* S		Sn	02 35 10.1	-8.1
IXG	**Ixpaco**	**1.86**	**85**	*e*P		**Pn**	**02 34 55.4**	**+0.2**
NBG	**Las Nubes**	**2.03**	**74**	*e*P		**Pb**	**02 34 59.0**	**-1.2**
CCIG	**Comitan**	**2.25**	**5**	*i* P		**Pn**	**02 35 02.0**	**+1.6**
CCIG				*i* S		**Sn**	**02 35 28.5**	**+0.5**
NUBE	**Las Nubes**	**2.50**	**93**	*e*P		**Pn**	**02 35 05.0**	**+1.0**
NUBE				*e*S		**Sn**	**02 35 31.1**	**-3.2**
NUBE	**Las Nubes**	**2.50**	**93**	*e*P		**Pn**	**02 35 05.0**	**+1.0**
NUBE				*e*S		**Sn**	**02 35 31.1**	**-3.2**
CEVE	**Cerro Verde**	**2.66**	**94**	*e*P		**Pn**	**02 35 07.3**	**+1.1**
CEVE				*e*S		**Sn**	**02 35 37.5**	**-0.8**
CEVE				IAML			02 35 50.2	
	comp=Z,2µm,0.3s							
CEVE	**Cerro Verde**	**2.66**	**94**	*e*P		**Pn**	**02 35 07.3**	**+1.1**
CEVE				*e*S		**Sn**	**02 35 37.5**	**-0.8**
CEVE				IAML			02 35 50.2	
	comp=Z,2µm,0.3s							
MRL	**Marmol**	**2.79**	**68**	*e*P		**Pn**	**02 35 08.7**	**+0.8**
MRL				*e*S		**Sb**	**02 35 49.4**	**+2.0**
TGIG		**2.83**	**345**	*i* P		**Pn**	**02 35 09.1**	**+0.8**
TGIG				*i* S		**Sn**	**02 35 41.8**	**-0.5**
LALI	**Alcalda de L**	**3.00**	**100**	*e*P		**Pn**	**02 35 11.3**	**+0.7**
LALI				*e*S		**Sn**	**02 35 44.5**	**-1.8**
LALI				IAML			02 35 49.9	
	comp=Z,212nm,0.3s							
LALI	**Alcalda de L**	**3.00**	**100**	*e*P		**Pn**	**02 35 11.3**	**+0.7**
LALI				*e*S		**Sn**	**02 35 44.5**	**-1.8**
LALI				IAML			02 35 49.9	
	comp=Z,212nm,0.3s							
PAVA	**Las Pavas**	**3.34**	**95**	*e*P		**Pn**	**02 35 16.8**	**+1.5**
PAVA	**Las Pavas**	**3.34**	**95**	*e*P		**Pn**	**02 35 16.8**	**+1.5**
COEB	**Comit de Eme**	**3.75**	**98**	*e*P		**Pn**	**02 35 23.0**	**+1.9**
COEB	**Comit de Eme**	**3.75**	**98**	*e*P		**Pn**	**02 35 23.0**	**+1.9**
LCND	**La Caada**	**4.40**	**99**	*e*P		**Pn**	**02 35 32.7**	**+2.8**
LCND				*e*S		**Sn**	**02 36 20.8**	**-0.1**
LCND	**La Caada**	**4.40**	**99**	*e*P		**Pn**	**02 35 32.7**	**+2.8**
LCND				*e*S		**Sn**	**02 36 20.8**	**-0.1**

KRSC 21 02:37:07.9±2.1, 50°.46N×157°.73E, h75km**±27**km**, ML4.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SKR	**Severo-Kuril's**	**1.05**	**283**	*i* P		Pn	02 37 28.0	+0.7
SKR				*e*S		Sn	02 37 41.8	+0.1
PAU	**Pauzhetka**	**1.16**	**330**	*e*P		Pn	02 37 30.5	+1.8
PAU				*e*S		Sn	02 37 46.0	+1.8
KDTR	**Khodutka, Kamc**	**1.37**	**9**	*i* P		Pn	02 37 33.4	+2.1
KDTR				*e*S		Sn	02 37 50.6	+1.7
ALID	**Alaid**	**1.44**	**287**	*i* P		Pn	02 37 33.7	+1.2
ALID				*e*S		Sn	02 37 51.4	+0.5
MIPR	**Malaya Ipel'ka**	**1.92**	**342**	*e*P		Pn	02 37 41.0	+2.4
MIPR				*e*S		Sn	02 38 04.2	+2.3
ASAK	**Asacha**	**1.93**	**3**	*e*P		Pn	02 37 41.4	+2.6
ASAK				*e*S		Sn	02 38 04.7	+2.4
RUS	**Russkaya**	**2.04**	**14**	*e*P		Pn	02 37 42.2	+2.1
RUS				*e*S		Sn	02 38 06.5	+1.8
MTVR	**Mutnovka**	**2.05**	**8**	*e*P		Pn	02 37 43.0	+2.6
MTVR				*e*S		Sn	02 38 07.4	+2.3
GRL	**Gorelyy**	**2.11**	**6**	*e*P		Pn	02 37 44.2	+3.0
GRL				*e*S		Sn	02 38 09.3	+2.7
KRMR	**Karymshinskiy**	**2.39**	**6**	*e*P		Pn	02 37 47.9	+3.1
KRMR				*e*S		Sn	02 38 15.6	+2.5
APC	**Apacha**	**2.49**	**352**	*e*P		Pn	02 37 49.0	+2.7
PET	**Petropavlovsk**	**2.63**	**12**	*e*P		Pn	02 37 50.6	+2.5
PET				*e*S		Sn	02 38 21.2	+2.2
DALK	**Dalny**	**2.65**	**14**	*e*P		Pn	02 37 50.9	+2.5
DALK				*e*S		Sn	02 38 21.8	+2.3
UGLR	**Uglovaya**	**2.84**	**13**	*e*P		Pn	02 37 53.8	+2.8
UGLR				*e*S		Sn	02 38 26.7	+2.5
AVH	**Avacha**	**2.88**	**12**	*e*P		Pn	02 37 55.2	+3.6
AVH				*e*S		Sn	02 38 28.3	+3.2
SMAR	**Somma**	**2.88**	**13**	*e*P		Pn	02 37 55.0	+3.2
SMAR				*e*S		Sn	02 38 28.5	+3.0
KOK	**Koryaka**	**2.89**	**11**	*e*P		Pn	02 37 55.7	+3.9
KOK				*e*S		Sn	02 38 29.5	+4.0
NLC	**Nalytchevo**	**2.90**	**20**	*e*P		Pn	02 37 53.0	+1.3
NLC				*e*S		Sn	02 38 25.7	+0.3
SDLR	**Sedlovina**	**2.91**	**14**	*e*P		Pn	02 37 55.0	+2.9
KRER	**Koryakskii**	**2.92**	**12**	*e*P		Pn	02 37 55.7	+3.5
KRER				*e*S		Sn	02 38 29.4	+3.1
KRX	**Arik**	**2.96**	**11**	*e*P		Pn	02 37 56.4	+3.7
KRX				*e*S		Sn	02 38 30.0	+2.8
SPN	**Mys Shipunski**	**3.00**	**27**	*e*P		Pn	02 37 55.8	+2.6
SPN				*e*S		Sn	02 38 29.1	+1.1
TUMD	**Tumrok D**	**5.02**	**18**	*e*S		Sn	02 39 18.5	+1.2
TUMR	**Tumrok**	**5.05**	**16**	*e*P		Pn	02 38 25.1	+4.2
SRDR	**Sredinnyy**	**5.99**	**11**	*e*P		Pn	02 38 38.6	+4.7
SMKR	**Semkarok**	**6.53**	**19**	*e*P		Pn	02 38 44.1	+2.9
SRKR	**Sorokina**	**6.54**	**17**	*e*P		Pn	02 38 43.9	+2.6
BKI	**Bering**	**6.89**	**43**	*e*S		Sn	02 39 59.2	-3.8

IDC ***21*** *02:51:32.1±1.6, 29°.71S×177°.98W, h204*km*±13*km*, mb3.3/2, mb1 3.5/4, mb1mx3.2/39, mbtmp4.0/4, Error ellipse: s-maj=48.9km s-min=24.0km az=104.0*

ISC 21 02:51:32.4±1.0, 29.58S±0.08×178.4W±0.2, h200km**, n30,σ2°79/50, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GLKZ	**Green Lake**	**0.49**	**50**	P		**Pn**	**02 51 59.6**	**+0.1**
GLKZ				S		**Sn**	**02 52 18.4**	**-2.0**
RIZ	**Raoul Island**	**0.50**	**48**	P		**Pn**	**02 51 59.6**	**+0.1**
RIZ				S		**Sn**	**02 52 17.5**	**-2.9**
RAO	**Raoul Island**	**0.50**	**49**	P		**Pn**	**02 52 00.0**	**+0.5**
	202nm,0.3s,baz=107,slow=20,SNR=9.4							
RAO					S	**Sn**	**02 52 18.3**	**-2.1**
	1µm,0.3s,baz=187,slow=18,SNR=14							
MXZ	**Matakaoa Point**	**8.43**	**198**		P	**Pn**	**02 53 32.7**	**+1.5**
MXZ					S	**Sn**	**02 55 08.2**	**+2.3**
WMGZ	**Waiomatatini S**	**8.64**	**197**		S	**Sn**	**02 55 15.3**	**+4.3**
HAZ	**Te Kaha**	**8.77**	**201**		P	**Pn**	**02 53 36.3**	**+0.8**
HAZ					S	**Sn**	**02 55 19.4**	**+5.5**
PUZ	**Puketiti**	**8.92**	**197**		P	**Pn**	**02 53 38.5**	**+0.8**
PUZ					S	**Sn**	**02 55 19.7**	**+2.0**
RUGZ	**Raukumara Rang**	**8.99**	**200**		P	**Pn**	**02 53 40.6**	**+2.0**
RUGZ					S	**Sn**	**02 55 23.0**	**+3.6**
TWGZ	**Tauwhareparae**	**9.10**	**199**		P	**Pn**	**02 53 42.2**	**+2.2**
TWGZ					S	**Sn**	**02 55 25.9**	**+4.0**
MWZ	**Matawai**	**9.37**	**200**		P	**Pn**	**02 53 43.8**	**+0.3**
MWZ					S	**Sn**	**02 55 30.4**	**+1.9**
URZ	**Urewera**	**9.44**	**202**		P	**Pn**	**02 53 43.2**	**-1.1**
	1.3nm,0.3s,baz=353,slow=17,SNR=14							
URZ					S	**Sn**	**02 55 30.1**	**+0.2**
	1.5nm,0.3s,baz=115,slow=17,SNR=1.6							
URZ	**Urewera**	**9.44**	**202**		P	**Pn**	**02 53 42.6**	**-1.7**
URZ					S	**Sn**	**02 55 34.3**	**+4.4**
RIGZ	**Rimuhau**	**9.65**	**198**		P	**Pn**	**02 53 48.4**	**+1.4**
RIGZ					S	**Sn**	**02 55 39.4**	**+4.4**
RAHZ	**Arahi**	**10.04**	**201**		P	**Pn**	**02 53 54.5**	**+2.3**
RAHZ					S	**S**	**02 55 47.2**	**+2.4**
MTHZ	**Maungataniwha**	**10.06**	**202**		P	**Pn**	**02 53 53.2**	**+0.8**
WHHZ	**Waihua**	**10.15**	**200**		S	**S**	**02 55 49.4**	**+2.1**
BKZ	**Black Stump Fm**	**10.46**	**203**		P	**Pn**	**02 53 57.2**	**-0.3**
BKZ					S	**S**	**02 55 55.5**	**+0.8**
HIZ	**Hauiti**	**10.54**	**210**		P	**P**	**02 54 03.1**	**-2.6**
**PNH

ASAR	**Alice Springs**	**44.46**	**257**	P		**P**	**03 09 14.8**	**-0.1**
	comp=Z,8.9nm,0.6s,baz=97,slow=7.6,SNR=111							
ASAR				PcP		**PcP**	**03 10 47.3**	**+2.2**
	comp=Z,1.1nm,0.5s,baz=103,slow=3.9,SNR=7.4							
ASAR	**Alice Springs**	**44.46**	**257**	P		**P**	**03 09 13.9**	**-1.0**
ASAR						**PcP**	**03 10 45.2**	**+0.1**
WB0	**Warramunga Arr**	**44.50**	**262**	P		**P**	**03 09 14.8**	**-0.5**
WB0				IAmb		IAmb	03 09 14.9	
	comp=Z,4.9nm,0.7s							
WB2	**Warramunga Arr**	**44.52**	**262**	P		**P**	**03 09 14.7**	**-0.7**
WB2				IAmb		IAmb	03 09 15.6	
	comp=Z,11nm,1.1s							
WRA	**Warramunga Arr**	**44.53**	**262**	P		**P**	**03 09 14.7**	**-0.7**
	comp=Z,3.7nm,0.6s,baz=97,slow=7.7,SNR=54							
WRA	**Warramunga Arr**	**44.53**	**262**	P		**P**	**03 09 14.7**	**-0.7**
UWB	**Uwekahuna B**	**45.44**	**31**	P		**P**	**03 09 21.3**	**-1.1**
MLH	**Mauna Loa**	**45.45**	**31**	P		**P**	**03 09 22.5**	**-0.1**
MTN	**Manton Dam**	**49.07**	**270**	P		**P**	**03 09 48.5**	**-1.1**
MTN				IAmb		IAmb	03 09 50.6	
	comp=Z,6.4nm,0.6s							
FORT	**Forrest**	**49.26**	**247**	P		**P**	**03 09 50.8**	**+0.1**
KNRA	**Kununurra**	**50.58**	**266**	P		**P**	**03 09 60.0**	**-0.5**
KNRA				IAmb		IAmb	03 10 01.4	
	comp=Z,7.2nm,0.7s							
FITZ	**Fitzroy Crossi**	**52.95**	**262**	P		**P**	**03 10 18.2**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=66,slow=3.9,SNR=11							
FITZ	**Fitzroy Crossi**	**52.95**	**262**	P		**P**	**03 10 16.7**	**-0.9**
PSA00	**Pilbara Seismi**	**57.60**	**257**	P		**P**	**03 10 49.7**	**0.0**
PSA00				IAmb		IAmb	03 10 50.9	
	comp=Z,5.6nm,0.8s							
GIRL	**Giralia**	**62.49**	**254**	P		**P**	**03 11 22.0**	**+0.1**
CASY	**Casey**	**64.03**	**205**	P		**P**	**03 11 31.1**	**+0.2**
QSPA	**South Pole Qui**	**69.68**	**180**	P		**P**	**03 12 05.0**	**-0.8**
TXAR	**Lajitas Array**	**87.07**	**57**	P		**P**	**03 13 38.8**	**0.0**
ILAR	**Eielson Array**	**88.22**	**13**	P		**P**	**03 13 45.1**	**+1.9**
	comp=Z,0.3nm,0.4s,baz=213,slow=5.1,SNR=4.4							
ILAR	**Eielson Array**	**88.22**	**13**	P		**P**	**03 13 43.3**	**+0.1**
AKASG	**Malin Array Be**	**142.87**	**331**	PKP		**PKPdf**	**03 20 20.9**	**-0.4**
	comp=Z,2.5nm,0.5s,baz=40,slow=4.2,SNR=6.7							
BRTR	**Keskin Array B**	**146.70**	**312**	PKPbc		**PKPab**	**03 20 33.3**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=123,slow=4.6,SNR=5.9							
BUR08	**Bucovina Ar. S**	**146.90**	**331**			**PKPab**	**03 20 34.6**	**-0.3**
BURAR	**Bucovina Array**	**146.92**	**331**			**PKPab**	**03 20 34.6**	**-0.4**
CLL	**Collm**	**147.93**	**347**	*i* PKPbc		**PKPab**	**03 20 36.6**	**-2.2**
	comp=Z,5.0nm,0.7s							
GERES	**GERESS Array B**	**150.07**	**344**	PKPbc		**PKiKP**	**03 20 42.2**	**+2.3**
	comp=Z,0.5nm,0.5s,baz=60,slow=3.2,SNR=6.0							

*IDC **21** 03:04:23.3±1.0,52.75N×169.91W,h0km,mb3.7/8, mb1 3.9/11,mb1mx3.7/36,mbtmp3.7/11,ML3.0/3,Error ellipse: s-maj=35.1km s-min=17.9km az=151.0*
*AEIC **21** 03:04:26.3±1.8,52.8N±0.2×169.6W±0.1,h6km±5km, ML3.6,mb3.7/1(NEIC),Error ellipse: s-maj=27.2km s-min=4.6km az=156.0*

ISC 21 03:04:25.5±1.5,52.9N±0.1×169.72W±0.07,h9km±10km, n40,σ1s18/39,mb3.6/8,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.53**	**80**		**Pg**	**03 04 35.7**	**0.0**
NIKH					**Sg**	**03 04 43.1**	**+0.4**
OKSP	**Okmok Steeple**	**0.94**	**66**		**Pg**	**03 04 42.8**	**-0.7**
OKCE	**Okmok Cone E**	**1.08**	**59**		**Pg**	**03 04 45.9**	**-0.4**
OKCE					**Sb**	**03 05 02.2**	**+1.6**
OKNC	**Okmok New Cone**	**1.12**	**59**		**Pg**	**03 04 46.1**	**-0.8**
OKFG	**Magazine Ridge**	**1.21**	**63**		**Pg**	**03 04 47.5**	**-1.2**
OKFG					**Sg**	**03 05 04.2**	**-0.2**
MAPS	**Pakushin South**	**1.91**	**60**		**Pn**	**03 04 58.1**	**0.0**
MSW	**Makushin Switc**	**2.04**	**58**		**Pn**	**03 05 00.2**	**+0.3**
MSW					**Sn**	**03 05 26.2**	**+0.7**
MNAT	**Makushin Natee**	**2.08**	**60**		**Pn**	**03 05 00.4**	**-0.1**
MNAT					**Sn**	**03 05 26.7**	**+0.2**
UNV	**Unalaska Valle**	**2.15**	**62**		**Pn**	**03 05 01.2**	**-0.3**
AKRB	**Akutan Reef Bi**	**2.51**	**59**		**Pn**	**03 05 07.4**	**+0.9**
AKMO	**Akutan Morgan**	**2.52**	**60**		**Pn**	**03 05 07.6**	**+0.9**
AKBBA	**Akutan Broad B**	**2.57**	**60**		**Pn**	**03 05 08.4**	**+1.2**
AKGG	**Akutan Green G**	**2.58**	**58**		**Pn**	**03 05 08.9**	**+1.4**
AKLV	**Akutan Long Va**	**2.59**	**59**		**Pn**	**03 05 09.1**	**+1.6**
AKUT	**Akutan**	**2.67**	**60**	Pn	**Pn**	**03 05 08.0**	**-0.6**
AKSA	**Akutan Strait**	**2.71**	**61**		**Pn**	**03 05 10.3**	**+1.2**
KOFP	**Korovin Flat P**	**2.74**	**259**		**Pn**	**03 05 11.3**	**+1.7**
ATKA	**Atka Island**	**2.82**	**258**		**Pn**	**03 05 11.6**	**+1.0**
ADK	**Adak**	**4.38**	**260**		**Pn**	**03 05 34.0**	**+1.9**
KDAK	**Kodiak Island**	**10.91**	**56**	Pn	**Pn**	**03 07 04.5**	**+2.9**
	0.3nm,0.3s,baz=255,slow=14,SNR=5.3							
KDAK	**Kodiak Island**	**10.91**	**56**		**Pn**	**03 07 01.9**	**+0.3**
ILAR	**Eielson Array**	**16.65**	**35**	Pn	**Pn**	**03 08 19.0**	**+0.3**
	0.1nm,0.3s,baz=228,slow=11,SNR=4.7							
ILAR	**Eielson Array**	**16.65**	**35**		**Pn**	**03 08 19.6**	**+0.8**
PETK	**Petropavlovsk-**	**19.52**	**284**	P	**P**	**03 08 50.6**	**-2.3**
	0.1nm,0.3s,baz=84,slow=13,SNR=1.7							
DLBC	**Dease Lake**	**22.81**	**60**	P	**P**	**03 09 30.6**	**+2.3**
	3.3nm,0.9s,baz=267,slow=11,SNR=6.4							
INK	**Inuvik**	**23.03**	**34**	P	**P**	**03 09 30.1**	**-0.4**
	1.0nm,0.7s,baz=235,slow=8.1,SNR=4.3							
INK	**Inuvik**	**23.03**	**34**	P	**P**	**03 09 29.9**	**-0.6**
INK				IAmb	IAmb	03 09 34.8		
	comp=Z,2.7nm,1.1s							
YKA	**Yellowknife Ar**	**30.07**	**49**	P	**P**	**03 10 35.2**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=274,slow=7.6,SNR=1.9							
H11N2	**WAKE ISLAND Hy**	**37.73**	**218**	T	T	03 51 41.9		
	baz=23,slow=76,SNR=33							
H11N3	**WAKE ISLAND Hy**	**37.73**	**218**	T	T	03 51 43.2		
	baz=23,slow=76,SNR=37							
H11N1	**WAKE ISLAND Hy**	**37.75**	**218**	T	T	03 51 41.1		
	baz=23,slow=76,SNR=26							
NVAR	**Mina Array Bea**	**37.89**	**91**	P	**P**	**03 11 43.8**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=298,slow=6.7,SNR=5.5							
NVAR	**Mina Array Bea**	**37.89**	**91**	P	**P**	**03 11 42.5**	**-0.5**
H11S1	**WAKE ISLAND Hy**	**38.92**	**217**	T	T	03 52 57.9		
	baz=23,slow=76,SNR=366							
H11S2	**WAKE ISLAND Hy**	**38.94**	**217**	T	T	03 52 58.3		
	baz=23,slow=76,SNR=267							
H11S3	**WAKE ISLAND Hy**	**38.94**	**217**	T	T	03 53 05.5		
	baz=23,slow=76,SNR=181							
PDAR	**Pinedale Array**	**40.52**	**79**	P	**P**	**03 12 04.5**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=297,slow=4.3,SNR=9.5							
TXAR	**Lajitas Array**	**52.95**	**89**	P	**P**	**03 13 41.6**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=297,slow=5.5,SNR=21							
WRA	**Warramunga Arr**	**87.16**	**231**	P	**P**	**03 17 10.1**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=34,slow=6.0,SNR=5.3							
ASAR	**Alice Springs**	**90.56**	**230**	P	**P**	**03 17 26.9**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=42,slow=5.9,SNR=8.2							

*NNC **21** 03:08:36.7±30.0,44.08N×97.48E,h0km,mb3.9,Error ellipse: s-maj=199.4km s-min=140.9km az=96.0*

BJI 21 03:09:55.8±0.0,45.06N×94.11E,h9km,mb4.0/1,ML3.8/4, 3C-3D,Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**4.76**	**257**	*e*Pn	Pn	03 11 10.3	+2.6
WMQ				Sg	Sb	03 12 20.8	+4.0
WMQ				smax	smax		
	comp=N,170nm,0.9s						
WMQ				smax	smax		
	comp=E,89nm,0.9s						
GTA	**Gaotai**	**7.05**	**141**	Pn	Pn	03 11 41.8	+2.5
GTA				Pg	Pb	03 12 04.6	+6.1
GTA				Sn	Sn	03 13 01.5	+1.8
GTA				Sg	Sg	03 13 35.6	-6.6
GTA				smax	smax		
	comp=N,35nm,1.1s						
GTA				smax	smax		
	comp=E,37nm,1.3s						
MK31	**Makanchi Array**	**8.42**	**286**	⇑Pg	Pn	03 11 58.1	+0.2
	1.0nm,0.5s,baz=107,slow=14,SNR=9.3						
MK31				⇓Lg	Lg	03 14 26.7	
	20nm,1.1s,baz=96,slow=26,SNR=4.6						
MAKZ	**Makanchi**	**8.64**	**286**	⇑Pg	Pn	03 12 00.8	-0.1
	1.8nm,0.7s						
MAKZ				⇓Lg	Lg	03 14 33.6	
	5.5nm,0.6s						
KURK	**Kurchatov**	**11.83**	**304**	⇑Lg	Lg	03 16 13.1	
	13nm,0.8s						
KURBB	**Kurchatov Arra**	**11.85**	**304**	⇓Lg	Lg	03 16 14.5	
	32nm,0.8s						

*ISN **21** 03:18:51.9±1.2,32.77N×47.55E,h15km±6km,ML3.3*
*TEH **21** 03:18:52.2,32.77N×47.56E,h7km,ML3.0*

ISC 21 03:18:53.0±0.9,32.73N±0.04×47.51E±0.04,h10km,n36, σ1s24/40,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.20**	**256**	*e*Pg	**Pg**	**03 18 57.0**	**-0.2**
IKFM	**Kafar-mosalman**	**0.84**	**19**	*e*		03 19 34.0	
IKFM				*e*Pg	**Pg**	**03 19 07.4**	**-1.8**
IKMR	**Kamar-syah**	**1.07**	**43**	*e*Pg	**Pb**	**03 19 12.0**	**-1.7**
IKMR				*e*		03 19 33.7	
IDOB	**Doab**	**1.19**	**28**	*e*Pg	**Pb**	**03 19 15.0**	**-0.9**
IBDR	**Badra**	**1.38**	**286**	*e*Pg	**Pn**	**03 19 17.0**	**-1.4**
IBDR				*e*Sg	**Sb**	**03 19 37.0**	**+0.3**
IBDR				AML	AML	03 19 43.5	
	comp=N,614nm,0.4s						
IBDR				AML	AML	03 19 43.8	
	comp=E,547nm,0.4s						
IKOM	**Komasi**	**1.44**	**360**	*e*Pg	**Pn**	**03 19 19.7**	**+0.3**
IKOM				*e*Sg	**Sn**	**03 19 39.1**	**+0.7**
IKOM				*e*		03 19 48.2	
BMDN	**Meydan**	**1.45**	**49**	*e*Pg	**Pn**	**03 19 19.2**	**-0.3**
BMDN				*e*		03 19 44.4	
KCHF	**Cheshme Sefid,**	**1.59**	**346**	*e*Pn	**Pn**	**03 19 22.4**	**+1.0**
KER	**Kermanshah**	**1.68**	**349**	*e*Pn	**Pn**	**03 19 24.4**	**+1.8**
AHWZ	**Ahwaz**	**1.69**	**145**	*e*Pg	**Pb**	**03 19 25.1**	**+0.8**
HSAM	**Samen**	**1.74**	**31**	*e*Pg	**Pn**	**03 19 24.5**	**+1.0**
HSAM				*e*		03 19 27.7	
IBZA	**Bozab**	**1.76**	**9**	*e*Pg	**Pn**	**03 19 25.4**	**+1.6**
IBZA				*e*		03 19 54.6	
IGHG	**Ghaleghazi**	**1.78**	**334**	*e*Pn	**Pn**	**03 19 25.1**	**+1.0**
IGHG				*e*		03 19 59.5	
IVIS	**Veis**	**1.88**	**343**	*e*Pn	**Pn**	**03 19 26.9**	**+1.6**
IVIS				*e*		03 19 57.8	
NSR	**Nassriya**	**2.07**	**215**	*e*Pn	**Pn**	**03 19 28.0**	**+0.1**
NSR				*e*Sn	**Sn**	**03 19 53.0**	**-0.8**
IDHR	**Dehrash**	**2.18**	**335**	*e*Pn	**Pn**	**03 19 31.0**	**+1.5**
IDHR				*e*		03 20 05.2	
IALM	**Almabolaq**	**2.19**	**14**	*e*Pn	**Pn**	**03 19 31.6**	**+1.8**
ILIN	**Lien**	**2.23**	**348**	*e*Pn	**Pn**	**03 19 31.3**	**+1.0**
ILIN				*e*		03 20 13.8	
HAGD	**Aghdareh**	**2.49**	**33**	*e*Pn	**Pn**	**03 19 35.5**	**+1.7**
HAGD				*e*		03 20 18.1	
HSRG	**Sareghieh**	**2.58**	**14**	*e*Pn	**Pn**	**03 19 37.6**	**+2.4**
HSRG				*e*		03 20 21.8	
BHD	**Baghdad**	**2.69**	**282**	*e*Pn	**Pn**	**03 19 37.0**	**+0.7**
BHD				*e*Sn	**Sn**	**03 20 10.0**	**+1.1**
JHBN	**Jahan bin**	**2.71**	**100**	*e*Pn	**Pn**	**03 19 37.6**	**+0.6**
JHBN				*e*		03 20 27.5	
IPIR	**Pirpir**	**2.85**	**90**	*e*Pn	**Pn**	**03 19 39.8**	**+0.9**
IPIR				*e*		03 20 23.2	
ROKH	**ROKH**	**3.00**	**96**	*e*Pn	**Pn**	**03 19 41.8**	**+0.9**
ROKH				*e*		03 19 50.5	
IRAZ	**Razeghan**	**3.34**	**36**	*e*Pn	**Pn**	**03 19 47.2**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.43**	**29**	*e*Pn	**Pn**	**03 19 47.9**	**+1.1**
IKLH	**Kolahrood**	**3.47**	**79**	*e*Pn	**Pn**	**03 19 48.9**	**+1.6**
IKLH				*e*		03 19 53.4	
IGAR	**Gharneh**	**3.84**	**94**	*e*Pn	**Pn**	**03 19 54.2**	**+1.8**
IGAR				*e*		03 19 55.3	
KLNJ	**Kolanjah**	**3.87**	**115**	*e*Pn	**Pn**	**03 19 53.3**	**+0.3**
KLNJ				*e*		03 20 20.6	
QSDN	**Sirdan**	**4.01**	**20**	*e*Pn	**Pn**	**03 19 56.2**	**+1.5**
IZEF	**Zefreh**	**4.06**	**86**	*e*Pn	**Pn**	**03 19 56.9**	**+1.4**
IRAM	**Ramesheh**	**4.23**	**101**	*e*Pn	**Pn**	**03 19 57.9**	**+0.2**
IGZV	**Ghazvin**	**4.28**	**31**	*e*Pn	**Pn**	**03 19 59.0**	**+0.6**
IDMV	**Damavand**	**4.70**	**52**	*e*Pn	**Pn**	**03 20 05.3**	**+1.0**
ANAR	**Anarak**	**5.25**	**83**	*e*Pn	**Pn**	**03 20 11.6**	**0.0**
ISAD	**Sadrabad**	**5.29**	**97**	*e*Pn	**Pn**	**03 20 12.9**	**+0.5**

*IDC **21** 03:23:18.9±1.1,51.55N×176.15W,h0km,mb3.7/7, mb1 3.9/8,mb1mx3.6/44,mbtmp3.7/8,ML3.6/1,Error ellipse: s-maj=40.2km s-min=19.2km az=168.0*
*AEIC **21** 03:23:22.9±1.9,51.33N±0.08×176.01W±0.05,h23km±5km, ML3.5,mb3.6/1(NEIC),Error ellipse: s-maj=11.7km s-min=4.2km az=165.0*

ISC 21 03:23:25.2±0.7,51.5N±0.1×176.05W±0.04,h47km,n45, σ0s89/38,mb3.8/6,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**0.40**	**327**		**Pn**	**03 23 34.6**	**-0.5**
GSMY	**Great Sitkin M**	**0.52**	**360**		**Pn**	**03 23 37.0**	**+0.5**
ADK	**Adak**	**0.53**	**312**		**Pn**	**03 23 36.1**	**-0.5**
GSTD	**Great Sitkin T**	**0.53**	**354**		**Pn**	**03 23 37.3**	**+0.6**
GSTR	**Great Sitkin T**	**0.57**	**360**		**Pn**	**03 23 38.0**	**+0.8**
KIMD	**Kanaga Island**	**0.77**	**288**		**Pn**	**03 23 38.7**	**-1.1**
KIMD					**Sn**	**03 23 49.2**	**-1.2**
KIKV	**Kanaga Island**	**0.78**	**297**		**Pn**	**03 23 39.5**	**-0.4**
KICM	**Kanaga Island**	**0.81**	**299**		**Pn**	**03 23 40.1**	**-0.2**
TAFP	**Tanaga Falls P**	**1.26**	**288**		**Pn**	**03 23 46.0**	**-0.4**
TASE	**Tanaga Southea**	**1.27**	**285**		**Pn**	**03 23 46.3**	**-0.3**
ATKA	**Atka Island**	**1.33**	**59**		**Pn**	**03 23 46.4**	**-1.0**
ATKA					**Sn**	**03 24 03.3**	**-0.6**
KOFP	**Korovin Flat P**	**1.42**	**58**		**Pn**	**03 23 48.5**	**-0.2**
KOSE	**Korovin Southe**	**1.48**	**56**		**Pn**	**03 23 49.5**	**0.0**
GAEA	**Gareloi East**	**1.70**	**280**		**Pn**	**03 23 52.5**	**+0.2**
GALAA	**Gareloi Lava P**	**1.71**	**279**		**Pn**	**03 23 52.6**	**0.0**
CERAA	**Semis' Rag'd T**	**2.68**	**280**		**Pn**	**03 24 06.8**	**+1.0**
CESW	**Semis' Southwe**	**2.75**	**280**		**Pn**	**03 24 07.2**	**+0.4**
CEAP	**Semis' Anvil P**	**2.76**	**282**		**Pn**	**03 24 07.6**	**+0.8**
AMKA	**Amchitka**	**2.91**	**269**		**Pn**	**03 24 08.2**	**-0.7**
LSPA	**Little Sitkin**	**3.37**	**279**		**Pn**	**03 24 16.2**	**+0.9**
LSNW	**Little Sitkin**	**3.40**	**280**		**Pn**	**03 24 16.4**	**+0.7**
KDAK	**Kodiak Island**	**14.91**	**56**	Pn	**Pn**	**03 26 50.2**	**-2.5**
	0.2nm,0.3s,baz=234,slow=8.7,SNR=17						
ILAR	**Eielson Array**	**20.07**	**38**	P	**P**	**03 27 53.4**	**-0.8**
	0.6nm,0.4s,baz=233,slow=9.9,SNR=12						
ILAR	**Eielson Array**	**20.07**	**38**	P	**Pn**	**03 27 56.2**	**-0.1**
INK	**Inuvik**	**26.36**	**34**	P	**P**	**03 28 56.6**	**+0.2**
	1.1nm,0.9s,baz=226,slow=3.6,SNR=2.3						
INK	**Inuvik**	**26.36**	**34**	IAmb	IAmb	03 29 01.2	
	comp=Z,1.9nm,1.1s						
KLR	**Kul'dur**	**32.79**	**287**	P	**P**	**03 29 53.8**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=56,slow=7.9,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**34.45**	**209**	T	T	04 06 43.3	
	baz=18,slow=76,SNR=84						
H11N3	**WAKE ISLAND Hy**	**34.45**	**209**	T	T	04 06 44.1	
	baz=18,slow=76,SNR=87						
H11N1	**WAKE ISLAND Hy**	**34.46**	**209**	T	T	04 06 44.7	
	baz=18,slow=76,SNR=84						
H11S1	**WAKE ISLAND Hy**	**35.66**	**209**	T	T	04 08 10.9	
	baz=18,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**35.67**	**209**	T	T	04 08 16.0	
	baz=18,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**35.67**	**209**	T	T	04 08 08.5	
	baz=18,slow=76,SNR=13						
PDAR	**Pinedale Array**	**44.62**	**74**	P	**P**	**03 31 34.2**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=306,slow=4.4,SNR=12						
PDAR	**Pinedale Array**	**44.62**	**74**	P	**P**	**03 31 33.5**	**+0.5**
TXAR	**Lajitas Array**	**56.93**	**83**	P	**P**	**03 33 06.3**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=305,slow=6.9,SNR=12						
TXAR				pP	**pP**	**03 33 20.7**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=288,slow=4.3,SNR=4.2						
TXAR	**Lajitas Array**	**56.93**	**83**	P	**P**	**03 33 05.7**	**+0.1**
MKAR	**Makanchi Array**	**61.27**	**310**	P	**P**	**03 33 34.8**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=46,slow=7.0,SNR=4.5						
MKAR	**Makanchi Array**	**61.27**	**310**	P	**P**	**03 33 35.1**	**-0.2**
WRA	**Warramunga Arr**	**83.33**	**226**	P	**P**	**03 35 46.5**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=33,slow=6.0,SNR=1.8						
TORD	**Torodi Ar. Bea**	**115.57**	**2**	PKP	**PKiKP**	**03 42 02.3**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=360,slow=2.6,SNR=7.7						
H03N2	**Juan Fernandez**	**119.54**	**108**	T	T	05 53 18.0	
	baz=317,slow=77,SNR=8.5						
H03N1	**Juan Fernandez**	**119.55**	**107**	T	T	05 53 05.2	
	baz=317,slow=77,SNR=8.8						
H03N3	**Juan Fernandez**	**119.56**	**108**	T	T	05 53 07.0	
	baz=317,slow=77,SNR=9.1						
BOSA	**Boshof**	**152.09**	**317**	PKPbc	**PKiKP**	**03 43 15.9**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=346,slow=3.3,SNR=6.1						

*TEH **21** 03:30:17.0,32.66N×47.53E,h9km,ML2.9*
*ISN **21** 03:30:17.1±1.1,32.66N×47.54E,h15km±6km,ML2.9*

ISC 21 03:30:17.7±1.1,32.64N±0.06×47.52E±0.05,h10km,n15, σ0s84/19,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.21**	**281**	*e*Pg	**Pg**	**03 30 21.3**	**-0.7**
DHL1				*e*Sg	**Sg**	**03 30 25.4**	**+0.4**
DHL1				*e*		03 30 26.0	
IKFM	**Kafar-mosalman**	**0.92**	**17**	*e*Pg	**Pg**	**03 30 34.9**	**-0.5**
IKMR	**Kamar-syah**	**1.13**	**39**	*e*Pg	**Pb**	**03 30 38.9**	**-0.4**
IDOB	**Doab**	**1.27**	**25**	*e*Pg	**Pn**	**03 30 40.7**	**-1.0**
IBDR	**Badra**	**1.42**	**290**	*e*Pg	**Pn**	**03 30 43.0**	**-0.5**
IBDR				*e*Sg	**Sb**	**03 31 02.0**	**-0.4**
IBDR				AML	AML	03 31 07.3	
	comp=N,243nm,0.5s						
IBDR				AML	AML	03 31 07.8	
	comp=E,181nm,0.4s						
BMDN	**Meydan**	**1.50**	**46**	*e*Pg	**Pb**	**03 30 45.5**	**-0.2**
BMDN				*e*		03 31 12.7	
IKOM	**Komasi**	**1.53**	**360**	*e*Pg	**Pb**	**03 30 45.7**	**-0.5**
IKOM				*e*		03 30 46.6	
KCHF	**Cheshme Sefid,**	**1.68**	**346**	*e*Pn	**Pn**	**03 30 47.7**	**+0.4**
KCHF				*e*		03 31 17.0	
IBZA	**Bozab**	**1.84**	**9**	*e*Pn	**Pn**	**03 30 51.1**	**-0.6**
IBZA				*e*		03 31 19.6	
IVIS	**Veis**	**1.96**	**344**	*e*Pn	**Pb**	**03 30 52.7**	**-0.9**
IVIS				*e*		03 31 22.6	
NSR	**Nassriya**	**2.01**	**216**	*e*Pn	**Pn**	**03 30 52.0**	**+0.4**
NSR				*e*Sn	**Sn**	**03 31 17.0**	**+0.2**
IDHR	**Dehrash**	**2.26**	**336**	*e*Pn	**Pn**	**03 30 56.3**	**+1.0**
IDHR				*e*		03 31 34.0	
IALM	**Almabolaq**	**2.28**	**13**	*e*Pn	**Pn**	**03 30 56.7**	**+1.1**
IALM				*e*		03 31 01.5	
HAGD	**Aghdareh**	**2.56**	**31**	*e*Pn	**Pn**	**03 31 00.6**	**+1.2**
HAGD				*e*		03 31 06.0	
BHD	**Baghdad**	**2.71**	**284**	*e*Pn	**Pn**	**03 31 02.0**	**+0.7**
BHD				*e*Sn	**Sn**	**03 31 36.0**	**+1.8**

*IDC **21** 03:35:26.5±8.4,51.97N×178.30E,h75km±75km,mb3.7/11, mb1 4.0/12,mb1mx3.6/43,mbtmp4.1/12,ML4.7/1,Error ellipse: s-maj=32.8km s-min=22.0km az=167.0*
*AEIC **21** 03:35:31.6±1.2,51.9N±0.2×178.33E±0.08,h121km±3km, ML3.5/26,mb4.1/54(NEIC),Error ellipse: s-maj=22.9km s-min=6.1km az=189.0*
*NEIC **21** 03:35:31.1±1.2,52.0N±0.2×178.4E±0.1,h118km±5km, Error ellipse: s-maj=23.5km s-min=8.9km az=183.0*

ISC 21 03:35:31.1±0.7,52.0N±0.1×178.39E±0.05,h119km±5km, n95,σ0s81/81,mb4.0/26,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.09**	**110**		**Pn**	**03 35 47.5**	**+0.1**
LSSA	**Little Sitkin**	**0.09**	**123**		**Pn**	**03 35 47.6**	**+0.2**
LSPA	**Little Sitkin**	**0.12**	**110**		**Pn**	**03 35 47.5**	**+0.1**
LSPA					**Sn**	**03 36 01.0**	**+1.3**
CESW	**Semis' Southwe**	**0.73**	**97**		**Pn**	**03 35 50.7**	**+0.1**
CEAP	**Semis' Anvil P**	**0.74**	**89**		**Pn**	**03 35 51.3**	**+0.7**
CEAP					**Sn**	**03 36 05.0**	**-0.3**
CERAA	**Semis' Rag'd T**	**0.81**	**96**		**Pn**	**03 35 51.4**	**+0.2**
AMKA	**Amchitka**	**0.84**	**137**		**Pn**	**03 35 51.3**	**-0.2**
AMKA					**Sn**	**03 36 05.5**	**-1.4**
GALAA	**Gareloi Lava P**	**1.78**	**97**		**Pn**	**03 36 01.8**	**+0.1**
GAEA	**Gareloi East**	**1.79**	**96**		**Pn**	**03 36 01.9**	**0.0**
TASE	**Tanaga Southea**	**2.22**	**93**		**Pn**	**03 36 07.3**	**0.0**
TAFP	**Tanaga Falls P**	**2.25**	**91**		**Pn**	**03 36 07.5**	**-0.1**
TAFP					**Sn**	**03 36 35.9**	**+0.3**
KIMD	**Kanaga Island**	**2.72**	**93**		**Pn**	**03 36 13.5**	**-0.2**
SMY	**Shemya**	**2.73**	**287**		**Pn**	**03 36 13.0**	**-0.7**
SMY					**Sn**	**03 36 46.2**	**-0.4**
KICM	**Kanaga Island**	**2.73**	**90**		**Pn**

	comp=Z,1.6nm,0.5s								
NVAR	**Mina Array Bea**	**45.20**	**81**	P		**P**	**03 43 36.9**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=293,slow=7.8,SNR=16								
NVAR	**Mina Array Bea**	**45.20**	**81**	P		**P**	**03 43 36.4**	**+0.1**
TPNV	**Topopah Spring**	**47.40**	**82**	P		**P**	**03 43 53.4**	**0.0**
TPNV				IAmb		IAmb	03 43 54.5	
	comp=Z,3.6nm,0.9s								
PD31	**Pinedale Array**	**47.78**	**71**	P		**P**	**03 43 55.6**	**-0.7**
PDAR	**Pinedale Array**	**47.78**	**71**	P		**P**	**03 43 55.3**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=308,slow=3.7,SNR=15								
PDAR	**Pinedale Array**	**47.78**	**71**	P		**P**	**03 43 55.7**	**-0.6**
PRN	**Pahroc Range**	**47.84**	**80**	P		**P**	**03 43 57.0**	**+0.3**
PRN				IAmb		IAmb	03 43 57.9	
	comp=Z,2.7nm,0.7s								
PSUT	**Pine Spring**	**47.84**	**78**	P		**P**	**03 43 56.8**	**-0.1**
U15A	**North Rim**	**50.15**	**79**	IAmb		IAmb	03 44 15.3	
	comp=Z,2.5nm,0.5s								
MKAR	**Makanchi Array**	**58.27**	**307**	P		**P**	**03 45 12.1**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=35,slow=5.6,SNR=4.7								
MKAR	**Makanchi Array**	**58.27**	**307**	P		**P**	**03 45 12.6**	**-0.3**
TXAR	**Lajitas Array**	**60.28**	**80**	P		**P**	**03 45 26.9**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=302,slow=4.8,SNR=24								
TXAR				pP		pP	03 45 48.1	-7.6	
	comp=Z,0.4nm,0.4s,baz=309,slow=6.1,SNR=4.5								
WRA	**Warramunga Arr**	**81.28**	**221**	P		**P**	**03 47 33.6**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=32,slow=5.9,SNR=13								
WRA	**Warramunga Arr**	**81.28**	**221**	P		**P**	**03 47 33.5**	**-0.5**
ASAR	**Alice Springs**	**84.80**	**220**	P		**P**	**03 47 52.5**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=24,slow=4.8,SNR=6.5								
ASAR	**Alice Springs**	**84.80**	**220**	P		**P**	**03 47 51.7**	**-0.3**
STKA	**Stephens Creek**	**89.53**	**211**	P		**P**	**03 48 15.8**	**+1.2**
	comp=Z,1.0nm,0.4s,baz=357,slow=7.6,SNR=4.4								
TORD	**Torodi Ar. Bea**	**115.06**	**356**	PKP		**PKiKP**	**03 53 57.5**	**-0.8**
	comp=Z,1.1nm,1.2s,baz=359,slow=1.4,SNR=2.2								
TORD	**Torodi Ar. Bea**	**115.06**	**356**			**PKiKP**	**03 53 57.3**	**-0.9**
CPUP	**Villa Florida**	**131.25**	**80**	PKP		**PKiKP**	**03 54 30.1**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=349,slow=3.4,SNR=3.1								
MAW	**Mawson**	**145.90**	**218**	PKPbc		**PKPbc**	**03 54 55.3**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=74,slow=2.4,SNR=8.7								
MAW	**Mawson**	**145.90**	**218**	PKPdf		**PKPbc**	**03 54 55.2**	**+0.1**
BOSA	**Boshof**	**149.24**	**309**	PKPbc		**PKPbc**	**03 55 06.0**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=97,slow=1.3,SNR=4.9								
BOSA	**Boshof**	**149.24**	**309**			**PKPbc**	**03 55 05.8**	**+0.2**

*TEH **21** 03:40:38.7, 32.°70N× 47.°61E, h8km, ML3.1*
*ISN **21** 03:40:38.9±0.5, 32.°71N× 47.°63E, h14km±3km, ML3.1*
*THR **21** 03:40:43.1±0.6, 32.°94N× 47.°77E, h14km±3.6km, ML3.1*

ISC 21 03:40:39.5±0.9, 32.°67N±0.°03× 47.°63E±0.°03, h10km, n46, σ1ᵖ30/50, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.29**	**272**	*e*Pg	**Pg**	**03 40 44.8**	**-0.6**
IKFM	**Kafar-mosalman**	**0.87**	**12**	*e*Pg	**Pg**	**03 40 54.9**	**-1.4**
IKFM				*e*		03 41 11.6	
IKMR	**Kamar-syah**	**1.06**	**37**	*e*Pg	**Pg**	**03 40 58.1**	**-1.8**
IKMR				*e*		03 41 21.4	
IDOB	**Doab**	**1.21**	**22**	*e*Pg	**Pb**	**03 41 01.1**	**-1.5**
BMDN	**Meydan**	**1.42**	**45**	*e*		03 41 36.9	
BMDN				*e*Pg	**Pb**	**03 41 06.1**	**-0.1**
IBDR	**Badra**	**1.49**	**288**	*e*Pg	**Pn**	**03 41 06.0**	**-0.4**
IBDR				*e*Sg	**Sn**	**03 41 26.0**	**+0.1**
IBDR				AML	AML	03 41 31.7	
	comp=N,310nm,0.5s						
IBDR				AML	AML	03 41 31.9	
	comp=E,310nm,0.4s						
IKOM	**Komasi**	**1.50**	**356**	*e*		03 41 32.2	
IKOM				*e*Pg	**Pb**	**03 41 07.5**	**-0.2**
AHWZ	**Ahwaz**	**1.59**	**147**	*e*Pg	**Pg**	**03 41 09.9**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.67**	**343**	*e*Pg	**Pb**	**03 41 10.0**	**-0.6**
KCHF				*e*		03 41 35.8	
HSAM	**Samen**	**1.74**	**28**	*e*Pg	**Pb**	**03 41 11.5**	**-0.3**
HSAM				*e*		03 41 17.1	
KER	**Kermanshah**	**1.76**	**347**	*e*Pn	**Pn**	**03 41 10.4**	**+0.2**
IBZA	**Bozab**	**1.81**	**6**	*e*Pg	**Pb**	**03 41 12.2**	**-0.7**
IBZA				*e*		03 41 44.2	
IGHG	**Ghaleghazi**	**1.88**	**332**	*e*Pg	**Pb**	**03 41 13.5**	**-0.5**
IGHG				*e*		03 42 01.1	
IVIS	**Veis**	**1.96**	**341**	*e*Pn	**Pn**	**03 41 13.7**	**+0.7**
IVIS				*e*		03 41 45.2	
NSR	**Nassriya**	**2.08**	**218**	*e*Pn	**Pn**	**03 41 15.0**	**+0.5**
NSR				*e*Sn	**Sn**	**03 41 41.0**	**+0.5**
KHMZ	**Khomeyn**	**2.23**	**61**	*e*Pn	**Pb**	**03 41 18.6**	**-1.5**
KHMZ	**Khomeyn**	**2.23**	**61**	*e*Pn	**Pb**	**03 41 18.6**	**-1.5**
IALM	**Almabolaq**	**2.23**	**12**	*e*Pn	**Pb**	**03 41 18.5**	**-1.6**
IDHR	**Dehrash**	**2.27**	**333**	*e*Pn	**Pn**	**03 41 18.6**	**+1.3**
IDHR				*e*		03 41 57.2	
ILIN	**Lien**	**2.31**	**346**	*e*Pn	**Pn**	**03 41 19.0**	**+1.1**
ILIN				*e*		03 41 59.6	
SNGE	**Sanandaj**	**2.43**	**355**	*e*Pn	**Pn**	**03 41 20.9**	**+1.4**
SNGE				*e*Sg	**Sb**	**03 41 51.8**	**-1.7**
SNGE				IAML		03 42 03.4	
	comp=N,104nm,0.5s						
SNGE	**Sanandaj**	**2.43**	**355**	*e*Pn	**Pn**	**03 41 20.9**	**+1.4**
HAGD	**Aghdareh**	**2.49**	**30**	*e*Pn	**Pn**	**03 41 21.9**	**+1.5**
HAGD				*e*		03 41 29.9	
JHBN	**Jahan bin**	**2.61**	**99**	*e*Pn	**Pn**	**03 41 23.3**	**+1.2**
JHBN				*e*		03 42 12.3	
HSRG	**Sareghieh**	**2.62**	**12**	*e*	**Sg**	**03 42 06.4**	**+2.6**
IPIR	**Pirpir**	**2.75**	**89**	*e*Pn	**Pn**	**03 41 25.4**	**+1.3**
IPIR				*e*		03 42 15.0	
BHD	**Baghdad**	**2.79**	**283**	*e*Pn	**Pn**	**03 41 25.0**	**+0.7**
BHD				*e*Sn	**Sn**	**03 41 59.0**	**+1.0**
IRAZ	**Razeghan**	**3.33**	**34**	*e*Pn	**Pn**	**03 41 33.8**	**+1.9**
IKLH	**Kolahrood**	**3.38**	**78**	*e*Pn	**Pn**	**03 41 34.9**	**+2.2**
IKLH				*e*		03 42 32.6	
QABG	**Abgarm-Qazvin**	**3.44**	**28**	*e*Pn	**Pn**	**03 41 34.3**	**+0.9**
KLNJ	**Kolanjah**	**3.76**	**115**	*e*Pn	**Pn**	**03 41 38.9**	**+0.9**
KLNJ				*e*		03 42 51.8	
IZEF	**Zefreh**	**3.97**	**85**	*e*Pn	**Pn**	**03 41 42.3**	**+1.6**
QSDN	**Sirdan**	**4.03**	**18**	*e*Pn	**Pn**	**03 41 43.3**	**+1.7**
ZNJK	**Zanjan**	**4.08**	**12**	*e*Pn	**Pn**	**03 41 44.1**	**+1.8**
ZNJK	**Zanjan**	**4.08**	**12**	*e*Pn	**Pn**	**03 41 44.1**	**+1.8**
IRAM	**Rameshesh**	**4.12**	**101**	*e*Pn	**Pn**	**03 41 43.0**	**+0.2**
IQZV	**Ghazvin**	**4.28**	**29**	*e*Pn	**Pn**	**03 41 46.7**	**+1.7**
CHTH	**Charan**	**4.34**	**41**	*e*Pn	**Pn**	**03 41 47.2**	**+1.4**
CHTH	**Charan**	**4.34**	**41**	*e*Pn	**Pn**	**03 41 47.2**	**+1.4**
DAMV	**Damavand**	**4.66**	**49**	*e*Pn	**Pn**	**03 41 51.6**	**+1.5**
DAMV	**Damavand**	**4.66**	**49**	*e*Pn	**Pn**	**03 41 51.7**	**+1.5**
IDMV	**Damavand**	**4.67**	**50**	*e*Pn	**Pn**	**03 41 50.3**	**0.0**
ANAR	**Anarak**	**5.16**	**83**	*e*Pn	**Pn**	**03 41 56.9**	**-0.1**
IAZR	**Azarshahr**	**5.17**	**345**	*e*Pn	**Pn**	**03 41 59.3**	**+2.0**
IFIR	**Firoozkooh**	**5.18**	**54**	*e*Pn	**Pn**	**03 41 57.6**	**+0.2**
IALA	**Alasht**	**5.47**	**50**	*e*Pn	**Pn**	**03 42 02.1**	**+0.7**

*IDC **21** 03:41:00.5±1.4, 63.°95N× 149.°24W, h102km±12km, mb3.6/10, mb1 3.7/13, mb1mx3.5/36, mbtmp3.9/13, Error ellipse: s-maj=18.1km s-min=13.7km az=50.0*
*AEIC **21** 03:41:01.4±0.9, 63.°88N±0.°03× 148.°86W±0.°07, h111km±3km, ML3.5, Error ellipse: s-maj=4.9km s-min=4.6km az=145.0*

ISC 21 03:41:01.2±0.7, 63.°86N±0.°03× 148.°87W±0.°03, h114km±5km, n120, σ0ᵖ89/138, mb3.8/10, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCK	**McKinley**	**0.13**	**192**		**Pn**	**03 41 17.1**	**+0.1**
MCK					**Sn**	**03 41 28.5**	**-0.4**
BWN	**Browne**	**0.41**	**320**		**Pn**	**03 41 17.9**	**-0.1**
BWN					**Sn**	**03 41 29.9**	**-0.7**
RND	**Reindeer**	**0.46**	**179**		**Pn**	**03 41 18.3**	**0.0**
RND					**Sn**	**03 41 30.7**	**-0.5**
WRH	**Wood River Hil**	**0.70**	**29**		**Pn**	**03 41 19.9**	**-0.1**
WRH					**Sn**	**03 41 32.9**	**-1.2**
NEA2	**Nenana**	**0.74**	**353**		**Pn**	**03 41 20.1**	**-0.2**
NEA2					**Sn**	**03 41 33.6**	**-1.1**
TRF	**Thorofare Moun**	**0.76**	**238**		**Pn**	**03 41 20.9**	**+0.3**
TRF					**Sn**	**03 41 35.3**	**0.0**
WAT2	**Susitna Watana**	**0.91**	**172**		**Pn**	**03 41 21.9**	**-0.1**
CCB	**Clear Creek Bu**	**0.92**	**30**		**Pn**	**03 41 21.6**	**-0.2**
CCB					**Sn**	**03 41 36.5**	**-1.0**
HUR	**Hurricane**	**0.95**	**202**		**Pn**	**03 41 22.4**	**+0.2**
BPAW	**Bear Paw Mtn.**	**0.96**	**285**		**Pn**	**03 41 22.3**	**-0.1**
BPAW					**Sn**	**03 41 37.4**	**-0.9**
KTH	**Kantishna Hill**	**0.96**	**252**		**Pn**	**03 41 22.6**	**+0.2**
KTH					**Sn**	**03 41 38.2**	**-0.3**
HDA	**Harding Lake**	**1.01**	**56**		**Pn**	**03 41 22.7**	**-0.1**
HDA					**Sn**	**03 41 38.4**	**-0.8**
WAT7	**Susitna Watana**	**1.03**	**179**		**Pn**	**03 41 22.9**	**-0.3**
WAT1	**Susitna Watana**	**1.05**	**172**		**Pn**	**03 41 23.1**	**-0.2**
TCOL	**CIGO, UAF Yank**	**1.11**	**23**		**Pn**	**03 41 23.8**	**0.0**
COLA	**College**	**1.11**	**23**		**Pn**	**03 41 23.7**	**-0.1**
COLA					**Sn**	**03 41 39.8**	**-1.1**
MDM	**Murphy Dome**	**1.14**	**14**		**Pn**	**03 41 24.0**	**-0.2**
MDM					**Sn**	**03 41 40.6**	**-0.9**
IL31		**1.26**	**43**		**Pn**	**03 41 25.0**	**-0.4**
ILAR	**Eielson Array**	**1.26**	**43**	P	**Pn**	**03 41 25.0**	**-0.4**
	20nm,0.3s,baz=226,slow=11,SNR=452						
ILAR				S	**Sn**	**03 41 42.6**	**-1.2**
	17nm,0.3s,baz=231,slow=19,SNR=21						
ILAR	**Eielson Array**	**1.26**	**43**	Pn	**Pn**	**03 41 24.6**	**-0.8**
ILAR					**Sn**	**03 41 42.9**	**-0.9**
WAT6	**Susitna Watana**	**1.38**	**158**		**Pn**	**03 41 27.1**	**+0.1**
POKR	**Poker Plat Res**	**1.41**	**26**		**Pn**	**03 41 27.1**	**0.0**
POKR					**Sn**	**03 41 45.8**	**-1.1**
MLY	**Manley**	**1.43**	**326**		**Pn**	**03 41 27.5**	**+0.1**
PS10	**TAPS Pump St10**	**1.45**	**106**		**Pn**	**03 41 28.0**	**+0.3**
PS07	**TAPS Pump Stn7**	**1.48**	**10**		**Pn**	**03 41 28.1**	**+0.2**
PS07					**Sn**	**03 41 47.8**	**-0.5**
CAST	**Castle Rocks**	**1.50**	**254**		**Pn**	**03 41 28.2**	**-0.1**
CHUM	**Lake Minchumin**	**1.52**	**272**		**Pn**	**03 41 28.7**	**+0.2**
CUT	**Chulitna**	**1.59**	**204**		**Pn**	**03 41 29.4**	**+0.1**
PAX	**Paxson**	**1.77**	**119**		**Pn**	**03 41 31.9**	**+0.3**
PPLA	**Purkeypile**	**1.78**	**239**		**Pn**	**03 41 32.0**	**+0.3**
RIDG	**Independent Ri**	**1.79**	**92**		**Pn**	**03 41 31.6**	**-0.2**
PS06	**TAPS Pump Stn6**	**2.04**	**350**		**Pn**	**03 41 35.0**	**+0.3**
PS06					**Sn**	**03 41 59.3**	**-1.2**
SML	**Sawmill**	**2.08**	**173**		**Pn**	**03 41 35.7**	**+0.4**
GHO	**Glory Hole Cre**	**2.10**	**181**		**Pn**	**03 41 36.0**	**+0.3**
DOT	**Dot Lake**	**2.15**	**94**		**Pn**	**03 41 35.9**	**-0.3**
SCM	**Sheep Creek Mo**	**2.15**	**160**		**Pn**	**03 41 36.7**	**+0.4**
SKT	**Skwentna**	**2.25**	**214**		**Pn**	**03 41 37.2**	**-0.3**
PMR	**Palmer**	**2.28**	**183**		**Pn**	**03 41 38.3**	**+0.4**
PS11	**TAPS Pump St11**	**2.37**	**138**		**Pn**	**03 41 39.5**	**+0.5**
KNK	**Knik Glacier**	**2.46**	**175**		**Pn**	**03 41 40.6**	**+0.3**
MENT	**Mentasta**	**2.50**	**109**		**Pn**	**03 41 40.9**	**+0.2**
SUA	**Susitna One**	**2.56**	**201**		**Pn**	**03 41 42.3**	**+0.8**
STLK	**Strandline Lak**	**2.74**	**211**		**Pn**	**03 41 43.8**	**0.0**
KLU	**Klutina**	**2.74**	**149**		**Pn**	**03 41 43.6**	**-0.2**
IM03		**2.98**	**318**		**Pn**	**03 41 46.8**	**-0.1**
IMAR	**Indian Mountai**	**2.98**	**318**	Pn	**Pn**	**03 41 46.7**	**-0.2**
K27K	**Chicken**	**3.00**	**84**		**Pn**	**03 41 47.0**	**-0.3**
JPK	**Jack Peak**	**3.01**	**158**		**Pn**	**03 41 46.8**	**-0.6**
PWL	**Port Wells**	**3.02**	**175**		**Pn**	**03 41 47.7**	**+0.1**
PS05	**TAPS Pump Stn5**	**3.06**	**347**		**Pn**	**03 41 48.1**	**+0.1**
GLI	**Glacier Island**	**3.10**	**164**		**Pn**	**03 41 48.0**	**-0.7**
BC03		**3.28**	**101**		**Pn**	**03 41 50.6**	**-0.2**
BCAR	**Beaver Creek A**	**3.28**	**101**	Pn	**Pn**	**03 41 50.4**	**-0.6**
CAPN	**Captain Cook N**	**3.28**	**200**		**Pn**	**03 41 53.7**	**+2.8**
FID	**Port Fidalgo**	**3.32**	**159**		**Pn**	**03 41 51.2**	**-0.2**
TTA	**Tatalina**	**3.35**	**257**		**Pn**	**03 41 51.6**	**-0.3**
TT01	**Tatalina**	**3.36**	**257**		**Pn**	**03 41 51.8**	**-0.2**
GLB	**Gilahina Butte**	**3.37**	**134**		**Pn**	**03 41 52.1**	**0.0**
O22K	**Cooper Landing**	**3.42**	**187**		**Pn**	**03 41 52.8**	**+0.1**
SLKM	**Skilak Lake**	**3.42**	**191**		**Pn**	**03 41 53.5**	**+0.6**
COLD	**Coldfoot**	**3.43**	**351**		**Pn**	**03 41 52.8**	**0.0**
EGAK	**Eagle**	**3.48**	**71**		**Pn**	**03 41 53.2**	**-0.3**
EYAK	**Cordova Ski Ar**	**3.63**	**155**		**Pn**	**03 41 55.3**	**-0.3**
VRDI	**Verde Repeater**	**3.64**	**134**		**Pn**	**03 41 55.6**	**-0.3**
HIN	**Hinchinbrook I**	**3.65**	**161**		**Pn**	**03 41 55.5**	**-0.4**
MCARA	**McCarthy VSAT**	**3.67**	**130**		**Pn**	**03 41 57.2**	**+1.0**
RDJH	**Redoubt Jeurge**	**3.76**	**211**		**Pn**	**03 41 59.2**	**+1.7**
SEW	**Seward**	**3.78**	**184**		**Pn**	**03 41 57.3**	**-0.3**
GOAT	**Goat Mountain**	**3.82**	**148**		**Pn**	**03 41 57.7**	**-0.5**
RSO	**Redoubt South**	**3.87**	**210**		**Pn**	**03 41 59.0**	**+0.1**
RED	**Redoubt Volcan**	**3.91**	**210**		**Pn**	**03 42 00.2**	**+0.8**
BVCY	**Beaver Creek**	**3.92**	**108**		**Pn**	**03 41 59.1**	**-0.3**
BM03	**Burnt Mountain**	**3.99**	**24**		**Pn**	**03 41 60.0**	**-0.4**
BMAR	**Burnt Mountain**	**4.00**	**24**	Pn	**Pn**	**03 41 60.0**	**-0.6**
PTPK	**Patty Peak**	**4.00**	**129**		**Pn**	**03 42 01.3**	**+0.5**
RAGM	**Ragged Mountai**	**4.00**	**149**		**Pn**	**03 42 00.2**	**-0.4**
CRQM	**Cirque**	**4.11**	**137**		**Pn**	**03 42 02.4**	**+0.3**
BALM	**Baldy**	**4.15**	**130**		**Pn**	**03 42 02.1**	**-0.5**
SVW2	**Sparrevohn**	**4.17**	**231**		**Pn**	**03 42 03.0**	**+0.2**
DAWY	**Dawson**	**4.18**	**83**		**Pn**	**03 42 02.6**	**-0.5**
TGL	**Tana Glacier**	**4.20**	**135**		**Pn**	**03 42 03.5**	**+0.2**
BRLK	**Bradley Lake**	**4.22**	**194**		**Pn**	**03 42 03.6**	**+0.1**
KIAG	**Kiagna River**	**4.23**	**131**		**Pn**	**03 42 02.7**	**-1.0**
BRSE	**Bradley Lake S**	**4.23**	**193**		**Pn**	**03 42 03.7**	**+0.1**
YUK2	**White River**	**4.23**	**116**		**Pn**	**03 42 04.0**	**+0.3**
NICHA	**Nichawak Mount**	**4.31**	**145**		**Pn**	**03 42 04.3**	**-0.4**
BARN	**Barnard Glacie**	**4.37**	**127**		**Pn**	**03 42 05.6**	**-0.1**
ISLE	**Juniper Island**	**4.47**	**134**		**Pn**	**03 42 07.1**	**+0.1**
CNPM	**China Poot**	**4.49**	**196**		**Pn**	**03 42 07.2**	**0.0**
SUCK	**Suckling Hills**	**4.50**	**145**	Pn	**Pn**	**03 42 07.1**	**-0.1**
CTGM	**Chitina Glacie**	**4.55**	**126**		**Pn**	**03 42 08.1**	**0.0**
KULT	**Kultieth River**	**4.64**	**139**		**Pn**	**03 42 08.6**	**-0.5**
OPT	**Oil Point**	**4.70**	**208**		**Pn**	**03 42 10.5**	**+0.5**
TOLK	**Toolik Lake Re**	**4.81**	**357**	Pn	**Pn**	**03 42 11.2**	**-0.2**
MESA	**MESA**	**4.93**	**135**		**Pn**	**03 42 12.5**	**-0.6**
AU22	**Augustine Moun**	**4.99**	**207**		**Pn**	**03 42 14.4**	**+0.6**
AUL	**Augustine Lava**	**4.99**	**208**		**Pn**	**03 42 14.9**	**+1.0**
AUQ	**Augustine Qik'**	**5.01**	**208**		**Pn**	**03 42 15.2**	**+1.0**
KAHC	**Katmai Hardscr**	**6.01**	**212**		**Pn**	**03 42 28.0**	**+0.3**
KAKN	**Katmai Knife C**	**6.34**	**211**		**Pn**	**03 42 31.3**	**-0.8**
KDAK	**Kodiak Island**	**6.36**	**198**	P	**Pn**	**03 42 30.8**	**-1.5**
	0.9nm,0.3s,baz=51,slow=6.4,SNR=19						
KDAK				S	**Sn**	**03 43 38.2**	**-5.3**
	2.2nm,0.3s,baz=274,slow=23,SNR=6.9						
KDAK	**Kodiak Island**	**6.36**	**198**		**Sn**	**03 43 40.6**	**-2.9**
OHAK	**Old Harbor**	**7.01**	**200**		**Pn**	**03 42 39.6**	**-1.5**
INK	**Inuvik**	**7.65**	**48**	P	**Pn**	**03 42 50.7**	**+1.0**
	0.4nm,0.3s,baz=237,slow=17,SNR=18						
INK	**Inuvik**	**7.65**	**48**	Pn	**Pn**	**03 42 49.7**	**+0.1**
YKA	**Yellowknife Ar**	**15.42**	**80**	P	**P**	**03 44 34.6**	**+0.5**
	0.3nm,0.3s,baz=290,slow=12,SNR=7.8						
RES	**Resolute Bay**	**21.00**	**37**	P	**P**	**03 45 36.1**	**+1.1**
	4.3nm,0.7s,baz=248,slow=13,SNR=6.6						
SEY	**Seymchan**	**25.53**	**295**	P	**P**	**03 46 18.2**	**-0.4**
	1.4nm,0.5s,baz=75,slow=9.0,SNR=4.8						
PDAR	**Pinedale Array**	**30.80**	**114**	P	**P**	**03 47 08.0**	**+1.9**
	1.4nm,0.7s,baz=322,slow=4.5,SNR=14						
NVAR	**Mina Array Bea**	**31.30**	**130**	P	**P**	**03 47 12.8**	**+2.4**
	1.4nm,0.7s,baz=317,slow=7.9,SNR=10						
NVAR	**Mina Array Bea**	**31.30**	**130**	P	**P**	**03 47 10.7**	**+0.4**
TXAR	**Lajitas Array**	**44.81**	**118**	P	**P**	**03 49 05.4**	**+1.9**
	1.4nm,0.8s,baz=328,slow=7.0,SNR=17						
TXAR	**Lajitas Array**	**44.81**	**118**	P	**P**	**03 49 03.8**	**+0.4**
SONM	**Songino Array**	**54.08**	**306**	P	**P**	**03 50 14.7**	**+1.1**
	0.8nm,0.7s,baz=23,slow=8.0,SNR=4.6						
SONM	**Songino Array**	**54.08**	**306**	P	**P**	**03 50 13.1**	**-0.6**
FINES	**FINESS Array B**	**54.95**	**3**	P	**P**	**03 50 19.0**	**-0.6**
	2.2nm,0.8s,baz=352,slow=8.4,SNR=3.4						
ZALV	**Zalesovo Beam**	**55.38**	**325**	P	**P**	**03 50 21.3**	**-1.5**
	0.9nm,0.5s,baz=32,slow=5.8,SNR=3.8						
MKAR	**Makanchi Array**	**62.58**	**323**	P	**P**	**03 51 10.9**	**-1.6**
	0.8nm,0.6s,baz=47,slow=7.2,SNR=7.1						
MKAR	**Makanchi Array**	**62.58**	**323**	P	**P**	**03 51 11.2**	**-1.4**
AKASG	**Malin Array Be**	**65.77**	**1**	P	**P**	**03 51 33.2**	**0.0**
	1.4nm,0.4s,baz=0.8,slow=6.7,SNR=7.0						

IDC 21 03:56:55.5±4.9, 6.°22S× 154.°80E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/21, mbtmp3.8/4, Error ellipse: s-maj=126.3km s-min=37.4km az=106.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.11**	**234**	P	P	04 02 13.4	+0.3
	1.3nm,0.5s,baz=58,slow=9.7,SNR=14						
ASAR	**Alice Springs**	**26.55**	**227**	P	P	04 02 34.8	-0.6
	0.4nm,0.5s,baz=55,slow=9.3,SNR=2.8						
H11S3	**WAKE ISLAND Hy**	**27.21**	**25**	T	T	04 30 58.8	
	baz=205,slow=74,SNR=6.4						
H11S2	**WAKE ISLAND Hy**	**27.21**	**25**	T	T	04 31 02.1	
	baz=205,slow=74,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**27.23**	**25**	T	T	04 30 57.8	
	baz=205						
CMAR	**Chiang Mai Arr**	**60.27**	**295**	P	P	04 07 07.3	+1.0
	0.9nm,0.3s,baz=125,slow=5.6,SNR=4.3						
MKAR	**Makanchi Array**	**82.69**	**319**	P	P	04 09 20.4	-0.8
	0.5nm,0.7s,baz=103,slow=4.6,SNR=4.7						

*BJI **21** 04:11:02.3±0.0, 25.°88N× 100.°50E, h12km, mB4.6/6, mb4.3/15, ML4.4/14, Ms4.2/22, Ms7 3.9/17*
*IDC **21** 04:11:03.1±0.9, 25.°98N× 100.°80E, h0km, mb4.1/10, mb1 4.2/11, mb1mx3.8/48, mbtmp4.1/11, ML4.2/1, MS3.8/2, Ms1 3.8/2, ms1mx3.2/43, Error ellipse: s-maj=25.3km s-min=15.6km az=71.0*
*NEIC **21** 04:11:06.7±1.5, 25.°89N±0.°06× 100.°70E±0.°07, h39km±4km, mb4.3/14, Error ellipse: s-maj=10.2km s-min=8.5km az=46.0*

ISC 21 04:11:03.6±0.6, 25.°96N±0.°05× 100.°65E±0.°05, h10km, n52, σ1ᵖ84/55, mb4.3/16, 1C-1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.06**	**113**	*e*Pg	**Pb**	**04 11 42.6**	**+1.3**
KMI				Sg	**Sg**	**04 12 12.6**	**+2.7**
KMI				smax	smax		
	comp=N,4μm,1.1s						
KMI				smax	smax		
	comp=E,4μm,0.8s						
KMI	**Kunming**	**2.06**	**113**	Pn	**Pn**	**04 11 36.9**	**-1.6**
KMI				Sn	**Sn**	**04 12 00.4**	**-4.0**
GYA	**Guiyang**	**5.42**	**83**	↑Pn	Pn	04 12 30.0	+5.4
GYA				Pg	**Pg**	**04 12 48.4**	**+0.9**
GYA				Sn	**Sb**	**04 13 39.1**	**-4.6**
GYA				Sg	**Sg**	**04 14 04.9**	**+7.2**
GYA				smax	smax		
	comp=N,81nm,1.0s						
GYA				smax	smax		
	comp=E,75nm,0.9s						
GYA				LR	LR		
	comp=N,2μm,5.8s						
GYA				LR	LR		
	comp=E,1μm,7.3s						
GYA				LR	LR		
	comp=Z,1μm,6.2s						
SLVN	**Son La**	**5.49**	**146**		**Pn**	**04 12 24.3**	**-1.2**
CD2	**Chengdu**	**5.63**	**28**	Pn	**Pn**	**04 12 31.3**	**+3.8**
CD2				Sg	**Sg**	**04 14 05.3**	**+0.7**
CD2				smax	smax		
	comp=Z,380nm,1.4s						
CD2				smax	smax		
	comp=Z,360nm,1.8s						
CD2				LR	LR		
	comp=Z,4μm,6.6s						
CD2				LR	LR		
	comp=Z,4μm,9.3s						
CD2				LR	LR		
	comp=Z,2μm,7.1s						
CHTO	**Chiang Mai**	**7.29**	**193**	Pn	**Pn**	**04 12 50.0**	**-0.2**
CM31	**Chiang Mai Arr**	**7.64**	**192**	Pn	**Pn**	**04 12 54.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**7.64**	**192**	Pn	**Pn**	**04 12 57.3**	**+2.3**
	comp=Z,0.9n

comp=Z,3.9nm,0.8s
ASAR Alice Springs 58.90 144 P P 04 21 03.5 +0.4
comp=Z,1.7nm,0.9s,baz=330,slow=6.7,SNR=9.5
CLL Collm 68.77 318 *e*pP pP 04 22 18.0 +6.4
BMAR Burnt Mountain 75.16 21 P P 04 22 45.6 -0.2

*NEIC **21** 04:12:11.8±1.2,21°.97S±0°.04×68°.6W±0°.1,h120km±6km, Error ellipse: s-maj=14.7km s-min=5.3km az=92.0*
*VAO **21** 04:12:12.1±0.4,21°.82S×68°.65W,h116km±4km,mb4.3*
*IDC **21** 04:12:12.5±0.8,21°.83S×68°.41W,h104km±11km,mb3.6/7, mb1 3.8/9,mb1mx3.6/21,mbtmp4.0/9, Error ellipse: s-maj=26.8km s-min=19.6km az=146.0*
*GUC **21** 04:12:14.4±0.7,21°.96S×68°.71W,h123km±4km,ML4.0*
ISC 21 04:12:12.3±0.6,21°.94S±0°.04×68°.59W±0°.05,h123km±6km, n105,σ1°35/124,mb3.8/6,11C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.63**	**283**	⇑	*i*P		**Pn**	**04 12 32.6**	**+1.1**
PB09					*e*S		**Sn**	**04 12 47.1**	**+1.1**
PB09	**IPOC Station P**	**0.63**	**283**				**Pn**	**04 12 31.4**	**-0.2**
PB09						Sn	**Sn**	**04 12 45.4**	**-0.7**
LVC	**Limon Verde**	**0.73**	**204**	P			**Pn**	**04 12 33.4**	**+0.8**
	378nm,0.3s,baz=30,slow=6.9,SNR=2598								
LVC				S			**Sn**	**04 12 48.3**	**+0.3**
	402nm,0.3s,baz=317,slow=22,SNR=15								
LVC	**Limon Verde**	**0.73**	**204**	*e*P			**Pn**	**04 12 33.4**	**+0.8**
LVC				*e*S			**Sn**	**04 12 48.3**	**+0.3**
LVC	**Limon Verde**	**0.73**	**204**				**Pn**	**04 12 32.3**	**-0.3**
LVC							**Sn**	**04 12 46.9**	**-1.0**
LVC	**Limon Verde**	**0.73**	**204**	*e*P			**Pn**	**04 12 33.4**	**+0.8**
LVC				*e*S			**Sn**	**04 12 48.2**	**+0.3**
PB03	**IPOC Station P**	**1.09**	**264**	⇑	*i*P		**Pn**	**04 12 36.2**	**+0.6**
PB03				*e*S			**Sn**	**04 12 52.4**	**-0.9**
PB03				IAML				04 12 54.2	
	comp=E,3μm,0.4s								
PB06	**IPOC Station P**	**1.19**	**230**	⇑	*i*P		**Pn**	**04 12 37.5**	**+0.9**
PB06				*e*S			**Sn**	**04 12 55.6**	**+0.5**
PB06				IAML				04 12 57.0	
	comp=N,3μm,0.4s								
PB06	**IPOC Station P**	**1.19**	**230**				**Pn**	**04 12 36.3**	**-0.4**
PB01	**IPOC Station P**	**1.23**	**317**	⇑	*i*P		**Pn**	**04 12 37.6**	**+0.7**
PB01				*e*S			**Sn**	**04 12 56.0**	**+0.4**
PB01				IAML				04 12 58.0	
	comp=E,4μm,0.4s								
PB01	**IPOC Station P**	**1.23**	**317**	Pn			**Pn**	**04 12 36.9**	**0.0**
PB07	**IPOC Station P**	**1.23**	**280**	⇑	*i*P		**Pn**	**04 12 37.6**	**+0.6**
PB07				*i*	S		**Sn**	**04 12 55.3**	**-0.5**
PB07				IAML				04 12 58.1	
	comp=E,3μm,0.3s								
PB07	**IPOC Station P**	**1.23**	**280**				**Pn**	**04 12 36.9**	**-0.2**
PB02	**IPOC Station P**	**1.37**	**297**	⇑	*i*P		**Pn**	**04 12 38.9**	**+0.4**
PB02				*e*S			**Sn**	**04 12 57.9**	**-0.5**
PB02				IAML				04 12 58.7	
	comp=N,4μm,0.4s								
PB04	**IPOC Station P**	**1.50**	**255**	*e*P			**Pn**	**04 12 40.4**	**+0.3**
PB04				*i*	S		**Sn**	**04 13 00.1**	**-1.1**
PB04				IAML				04 13 03.0	
	comp=N,2μm,0.3s								
PB04	**IPOC Station P**	**1.50**	**255**				**Pn**	**04 12 39.8**	**-0.2**
PB15	**IPOC Station P**	**1.50**	**213**	⇑	*i*P		**Pn**	**04 12 41.2**	**+1.0**
PB15				*e*S			**Sn**	**04 13 02.3**	**+1.0**
PB15	**IPOC Station P**	**1.50**	**213**				**Pn**	**04 12 39.8**	**-0.4**
PB05	**IPOC Station P**	**1.75**	**238**	⇑	*i*P		**Pn**	**04 12 43.4**	**+0.4**
PB05				*e*S			**Sn**	**04 13 05.6**	**-0.8**
PB05				IAML				04 13 07.8	
	comp=N,1μm,0.5s								
PB08	**IPOC Station P**	**1.87**	**343**	⇑	*i*P		**Pn**	**04 12 46.4**	**+1.8**
PB08				*e*S			**Sn**	**04 13 11.4**	**+2.1**
PB08				IAML				04 13 13.6	
	comp=E,836nm,0.2s								
PB08	**IPOC Station P**	**1.87**	**343**	Pn			**Pn**	**04 12 44.5**	**-0.1**
TA01	**Diego Aracena**	**2.02**	**312**	⇑	*i*P		**Pn**	**04 12 46.0**	**-0.1**
TA01				*i*	S		**Sn**	**04 13 11.4**	**-0.6**
TA01				IAML				04 13 14.3	
	comp=N,1μm,0.2s								
TA01	**Diego Aracena**	**2.02**	**312**				**Pn**	**04 12 46.2**	**+0.1**
TA02	**Huaiquique**	**2.20**	**319**	IAML				04 13 21.3	
	comp=N,2μm,0.1s								
GO01	**Chusmiza**	**2.33**	**346**	*i*	P		**Pn**	**04 12 51.9**	**+1.4**
GO01				*i*	S		**Sn**	**04 13 21.6**	**+1.9**
GO01				IAML				04 13 23.4	
	comp=N,2μm,0.1s								
GO01	**Chusmiza**	**2.33**	**346**				**Pn**	**04 12 50.2**	**-0.3**
PB11	**IPOC Station P**	**2.39**	**335**	⇑	*i*P		**Pn**	**04 12 51.3**	**+0.4**
PB11				*e*S			**Sn**	**04 13 20.2**	**-0.4**
PB11				IAML				04 13 21.5	
	comp=E,1μm,0.3s								
PB11	**IPOC Station P**	**2.39**	**335**	Pn			**Pn**	**04 12 51.0**	**0.0**
PB10	**IPOC Station P**	**2.40**	**229**	⇓	*i*P		**Pn**	**04 12 50.9**	**0.0**
PB10				*e*S			**Sn**	**04 13 19.0**	**-1.6**
PB10				IAML				04 13 20.8	
	comp=E,586nm,0.7s								
PB10	**IPOC Station P**	**2.40**	**229**	Pn			**Pn**	**04 12 50.7**	**-0.2**
PSGCX	**Pisagua**	**2.74**	**328**				**Pn**	**04 12 54.7**	**-0.7**
PSGC	**Pisagua**	**2.74**	**328**	*e*P			**Pn**	**04 12 54.5**	**-0.9**
PSGC				*e*S			**Sn**	**04 13 26.0**	**-2.6**
PSGC				IAML				04 13 34.9	
	comp=E,306nm,0.2s								
MNMC	**Minye Minye**	**2.95**	**341**				**Pn**	**04 12 58.3**	**-0.1**
PB14	**IPOC Station P**	**3.15**	**212**	*e*P			**Pn**	**04 13 00.5**	**-0.5**
PB14	**IPOC Station P**	**3.15**	**212**	Pn			**Pn**	**04 13 00.7**	**-0.3**
PB14				Sn			Sn	04 13 30.3	-8.3
GO02	**Mina Guanaco**	**3.34**	**196**				**Pn**	**04 13 03.1**	**-0.3**
PB16	**IPOC Station P**	**3.69**	**346**				**Pn**	**04 13 08.0**	**-0.3**
PB12	**IPOC Station P**	**3.69**	**333**	Pn			**Pn**	**04 13 06.9**	**-1.0**
AC01	**Pan de Azucar**	**4.58**	**203**	Pn			**Pn**	**04 13 18.1**	**-1.4**
AC02	**Maricunga**	**4.90**	**186**				**Pn**	**04 13 24.0**	**-0.4**
LPAZ	**La Paz**	**5.64**	**4**	P			**Pn**	**04 13 37.4**	**+2.9**
	comp=E,7.2nm,0.3s,baz=196,slow=3.7,SNR=249								
LPAZ	**La Paz**	**5.64**	**4**	Pn			**Pn**	**04 13 34.4**	**-0.1**
GO03	**Copiap**	**5.83**	**195**				**Pn**	**04 13 34.6**	**-1.8**
AC04	**Llanos de Chal**	**6.63**	**199**	Pn			**Pn**	**04 13 43.6**	**-3.7**
AC05	**El Transito**	**7.04**	**192**				**Pn**	**04 13 50.7**	**-2.2**
LCO	**Las Campanas**	**7.30**	**195**	Pn			**Pn**	**04 13 53.4**	**-3.1**
CO01	**Juntas del Tor**	**8.12**	**189**				**Pn**	**04 14 05.9**	**-1.7**
GO04	**Tololo Observa**	**8.44**	**193**	Pn			**Pn**	**04 14 08.2**	**-3.7**
CO03	**El Pedregal**	**9.06**	**192**				**Pn**	**04 14 16.5**	**-3.6**
SIV	**San Ignacio**	**9.25**	**52**	P			**Pn**	**04 14 20.6**	**-2.1**
	comp=E,4.5nm,0.3s,baz=245,slow=10,SNR=88								
SIV				S			**Sn**	**04 15 58.2**	**-6.9**
	comp=E,0.6nm,0.3s,baz=266,slow=16,SNR=5.1								
CO02	**Combarbal**	**9.48**	**193**				Pn	04 14 21.2	-4.6
PTLB	**Pontes e Lacer**	**11.03**	**56**	*e*P			**Pn**	**04 14 44.9**	**-1.8**
VILB	**Vilhena**	**11.99**	**43**	*e*P			**Pn**	**04 14 58.7**	**-0.7**
ETMB	**Extrema**	**12.27**	**11**	*e*P			**Pn**	**04 15 01.4**	**-1.6**
SALV	**Santo Antonio**	**13.59**	**66**	*e*P			**Pn**	**04 15 19.3**	**-0.9**
SAML	**Samuel**	**13.92**	**23**	Pn			**Pn**	**04 15 23.0**	**-1.4**
SAML	**Samuel**	**13.92**	**23**	*e*P			**Pn**	**04 15 24.2**	**-0.2**
VA04	**Juan Fernndez**	**14.76**	**216**	Pn			**Pn**	**04 15 34.1**	**-0.7**
TRCB	**Terra Rica**	**14.78**	**96**	*e*P			**Pn**	**04 15 36.2**	**+0.8**
PTGB	**Pitanga**	**15.43**	**104**	*e*P			**P**	**04 15 47.1**	**+1.9**
ITAB	**Concordia**	**15.86**	**113**	*e*P			**P**	**04 15 51.0**	**+1.0**
PCMB	**Pacaembu**	**16.10**	**92**	*e*P			**P**	**04 15 53.3**	**+0.6**
CLDB	**Colider**	**16.47**	**50**	*e*P			**P**	**04 15 57.3**	**+0.5**
ARAG	**Araguaiana, MT**	**17.04**	**72**	*e*P			**P**	**04 16 03.9**	**+0.8**
ITRB	**Iturama**	**17.18**	**86**	*e*P			**Pn**	**04 16 04.9**	**-0.1**
FRTB	**Fartura**	**17.62**	**98**	*e*P			**Pn**	**04 16 10.7**	**+0.5**
BB19B	**Bebedouro**	**18.69**	**91**	*e*P			**Pn**	**04 16 21.8**	**-1.2**
PLCA	**Paso Flores**	**18.81**	**185**	P			**Pn**	**04 16 25.3**	**+1.0**
	comp=E,0.1nm,0.3s,baz=0.0,slow=10,SNR=2.9								
PLCA	**Paso Flores**	**18.81**	**185**	P			**P**	**04 16 22.4**	**0.0**
IPMB	**Ipameri, GO**	**19.55**	**82**	*e*P			**P**	**04 16 31.3**	**+0.7**
NPGB	**Novo Progresso**	**19.55**	**43**	*e*P			**P**	**04 16 30.3**	**-0.3**
SPB	**Sao Paulo**	**19.58**	**99**	*e*P			**P**	**04 16 31.6**	**+0.9**
PET01	**Itanhaem-SP**	**19.74**	**101**	*e*P			**Pn**	**04 16 33.9**	**-1.3**
VAO	**Valinhos**	**20.01**	**97**	*e*P			**P**	**04 16 35.8**	**+0.3**
MACA	**Manacapuru-AM**	**20.18**	**23**	*e*P			**P**	**04 16 36.6**	**-0.7**
BDFB	**Brasilia**	**20.45**	**76**	P			**P**	**04 16 39.9**	**-0.4**
	comp=E,4.0nm,0.5s,baz=238,slow=9.0,SNR=8.6								
BDFB	**Brasilia**	**20.45**	**76**	P			**P**	**04 16 40.3**	**-0.1**
BDFB				IAmb			IAmb	04 16 42.8	
	comp=Z,11nm,1.2s								
PEXB	**Peixe**	**21.70**	**67**	*e*P			**P**	**04 16 52.8**	**-0.8**
BSCB	**Bom Sucesso**	**22.18**	**92**	*e*P			**P**	**04 16 59.9**	**+1.2**
PTGA	**Pitinga**	**22.69**	**23**	P			**P**	**04 17 03.6**	**-0.1**
	comp=Z,3.6nm,0.4s,baz=201,slow=16,SNR=14								
PTGA	**Pitinga**	**22.69**	**23**	P			**P**	**04 17 02.8**	**-0.9**
PTGA				IAmb			IAmb	04 17 10.9	
	comp=Z,4.4nm,0.7s								

MC01	**Montes Claros**	**23.82**	**82**	*e*P			**P**	**04 17 14.3**	**+0.1**
PRPB	**Parauapebas**	**23.98**	**52**	*e*P			**P**	**04 17 15.8**	**+0.2**
JANB	**Januaria**	**24.00**	**78**	*e*P			**P**	**04 17 16.0**	**+0.1**
SMTB	**Santa Maria do**	**24.02**	**60**	*e*P			**P**	**04 17 17.0**	**+1.0**
MALB	**Monte Alegre**	**24.35**	**37**	*e*P			**P**	**04 17 19.8**	**+0.9**
SDBA	**SAO DESIDERIO**	**24.50**	**71**	*e*P			**P**	**04 17 20.4**	**0.0**
SJMB	**Sao Joao De Ma**	**25.88**	**88**	*e*P			**P**	**04 17 33.5**	**+0.6**
RIB01	**Linhares ES**	**26.50**	**89**	*e*P			**P**	**04 17 40.4**	**+2.0**
MCPB	**Macapa, AP**	**26.83**	**39**	*e*P			**P**	**04 17 42.1**	**+0.8**
NAN01	**Guarapari, ES**	**27.05**	**86**	*e*P			**P**	**04 17 44.0**	**+0.6**
RUSC	**La Rusia**	**28.01**	**350**	P			**P**	**04 17 52.0**	**-0.4**
GDU01	**Guandu, BA**	**28.76**	**78**	*e*P			**P**	**04 17 58.8**	**+0.1**
SABA	**Saba**	**39.66**	**8**	P			**P**	**04 19 31.5**	**-0.9**
DBIC	**Dimbokro**	**68.57**	**73**	P			**P**	**04 23 03.5**	**+1.2**
	comp=Z,2.6nm,0.5s,baz=127,slow=4.1,SNR=3.7								
DBIC	**Dimbokro**	**68.57**	**73**	P			**P**	**04 23 02.4**	**0.0**
DBIC				IAmb			IAmb	04 23 04.5	
	comp=Z,12nm,1.1s								
PDAR	**Pinedale Array**	**74.64**	**330**	P			**P**	**04 23 40.6**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=148,slow=8.7,SNR=3.6								
PDAR	**Pinedale Array**	**74.64**	**330**	P			**P**	**04 23 38.6**	**+0.2**
NVAR	**Mina Array Bea**	**76.02**	**322**	P			**P**	**04 23 48.4**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=149,slow=9.5,SNR=3.6								
NVAR	**Mina Array Bea**	**76.02**	**322**	P			**P**	**04 23 46.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**77.22**	**70**	P			**P**	**04 23 54.1**	**+0.8**
	comp=Z,1.2nm,0.4s,baz=257,slow=5.3,SNR=22								
TORD	**Torodi Ar. Bea**	**77.22**	**70**	P			**P**	**04 23 52.8**	**-0.5**
YKA	**Yellowknife Ar**	**91.70**	**340**	P			**P**	**04 25 07.3**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=134,slow=4.7,SNR=5.8								
MKAR	**Makanchi Array**	**145.81**	**37**	PKPbc			**PKPab**	**04 31 39.6**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=287,slow=4.5,SNR=4.5								
MKAR	**Makanchi Array**	**145.81**	**37**	PKPab			**PKPab**	**04 31 38.7**	**+0.9**

*JMA **21** 04:25:06.1±0.1,24°.35N×121°.87E,h46km±2km,M2.3*
*TAP **21** 04:25:06.8,24°.41N×121°.92E,h20km,ML3.2,B*
ISC 21 04:25:06.5±0.9,24°.39N±0°.02×121°.93E±0°.02,h26km±5km, n80,σ0°.96/138,3C-7D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.12**	**297**	⇓	*i*P		**Pb**	**04 25 11.4**	**-0.1**
	baz=290								
ENAH					S		**Sb**	**04 25 14.8**	**0.0**
	baz=290								
ENA	**Nanau**	**0.18**	**282**		*i*	P	**Pb**	**04 25 11.9**	**-0.1**
	baz=275								
ENA					*i*	S	**Sb**	**04 25 15.7**	**0.0**
	baz=275								
TWC	**Suao**	**0.23**	**341**	⇓	*i*P		**Pn**	**04 25 12.5**	**-1.7**
	baz=345								
TWC					*i*	S	**Sn**	**04 25 16.3**	**-0.4**
	baz=345								
NACB	**Ninganchiao**	**0.38**	**235**	⇓	P		**Pb**	**04 25 15.0**	**+0.2**
	baz=230								
NACB					S		**Sn**	**04 25 21.6**	**-1.1**
	baz=230								
TWE	**Neicheng**	**0.41**	**324**	⇓	*i*P		**Pb**	**04 25 15.4**	**+0.2**
	baz=325								
TWE					*i*	S	**Sb**	**04 25 21.4**	**+0.2**
	baz=325								
ILA	**Ilan**	**0.41**	**336**	⇑	*i*P		**Pn**	**04 25 15.7**	**-1.0**
	baz=337								
ILA					*i*	S	**Sn**	**04 25 22.0**	**-1.5**
	baz=337								
ENTT	**Nioudou**	**0.41**	**307**	⇑	*i*P		**Pb**	**04 25 15.6**	**+0.2**
	baz=305								
ENTT					*i*	S	**Sb**	**04 25 21.8**	**+0.4**
	baz=305								
NDT	**Datong Townshi**	**0.44**	**299**	⇓	*i*P		**Pn**	**04 25 16.1**	**-1.0**
	baz=297								
NDT					*i*	S	**Sb**	**04 25 22.1**	**+0.1**
	baz=297								
TWD	**Chiawan**	**0.44**	**225**	*i*	P		**Pb**	**04 25 16.1**	**+0.5**
	baz=220								
TWD					*i*	S	**Sn**	**04 25 24.0**	**-0.2**
	baz=220								
EGS		**0.45**	**360**	⇓	*i*P		**Pn**	**04 25 16.2**	**-1.0**
	baz=3.0								
EGS					S		**Sn**	**04 25 23.1**	**-1.4**
	baz=3.0								
ETLH	**Xiulin Townshi**	**0.45**	**246**	P			**Pb**	**04 25 16.2**	**+0.3**
	baz=242								
ETLH					S		**Sn**	**04 25 23.8**	**-0.9**
	baz=242								
NTC	**Toucheng**	**0.47**	**349**	⇓	*e*P		**Pb**	**04 25 16.3**	**0.0**
	baz=349								
NTC					*e*S		**Sb**	**04 25 23.3**	**+0.4**
	baz=349								
NNSB	**Datong**	**0.50**	**274**	⇑	P		**Pb**	**04 25 17.0**	**+0.2**
	baz=271								
NNSB					S		**Sn**	**04 25 24.6**	**-1.4**
	baz=271								
NNSH	**Datong**	**0.50**	**274**	P			**Pn**	**04 25 17.2**	**-0.9**
	baz=271								
NNSH					S		**Sn**	**04 25 24.8**	**-1.2**
	baz=271								
HWA	**Hwalien**	**0.51**	**216**	P			**Pn**	**04 25 17.6**	**-0.5**
	baz=212								
HWA					*e*S		**Sn**	**04 25 25.5**	**-0.5**
	baz=212								
NNS	**Nan Shan**	**0.51**	**275**	*i*	P		**Pb**	**04 25 17.2**	**+0.2**
	baz=272								
NNS					*i*	S	**Sn**	**04 25 24.8**	**-1.5**
	baz=272								
NWLT	**Wulai**	**0.55**	**314**	*i*	P		**Pn**	**04 25 17.9**	**-0.8**
	baz=313								
NWLT					*i*	S	**Sb**	**04 25 25.4**	**+0.3**
	baz=313								
YHNB	**Yeheng**	**0.58**	**299**	*e*P			**Pb**	**04 25 18.3**	**+0.2**
	baz=297								
YHNB					*e*S		**Sn**	**04 25 26.4**	**-1.4**
	baz=297								
TIPB	**Shuangxi**	**0.58**	**350**	*i*	P		**Pb**	**04 25 18.4**	**+0.2**
	baz=351								
TIPB					*i*	S	**Sn**	**04 25 26.7**	**-1.2**
	baz=351								
NSK	**Sanguang**	**0.59**	**298**	P			**Pb**	**04 25 18.5**	**+0.2**
	baz=297								
NSK					*e*S		**Sb**	**04 25 26.6**	**+0.1**
	baz=297								
TWB1	**Santiao Chiao**	**0.61**	**5**	*i*	P		**Pb**	**04 25 18.9**	**+0.2**
	baz=7.0								
TWB1					S		**Sb**	**04 25 27.1**	**+0.1**
	baz=7.0								
FUSS	**Fushou**	**0.65**	**257**	P			**Pb**	**04 25 19.8**	**+0.5**
	baz=254								
FUSS					S		**Sn**	**04 25 29.7**	**0.0**
	baz=254								
WHF	**Hehuan Shan**	**0.66**	**248**	*i*	P		**Pb**	**04 25 20.1**	**+0.5**
	baz=245								
WHF					S		**Sn**	**04 25 29.5**	**-0.7**
	baz=245								
TWA	**Mucha**	**0.67**	**332**	P			**Pb**	**04 25 20.0**	**+0.5**
	baz=332								
TWA					S		**Sb**	**04 25 28.9**	**+0.5**
	baz=332								
NWF	**Wu-fen Shan**	**0.69**	**349**	P			**Pb**	**04 25 20.5**	**+0.5**
	baz=349								
NWF					S		**Sb**	**04 25 29.8**	**+0.6**
	baz=349								
WFSB	**Wu-fen Shan**	**0.69**	**349**	P			**Pb**	**04 25 20.5**	**+0.5**
	baz=349								
WFSB					S		**Sb**	**04 25 29.9**	**+0.8**
	baz=349								
TWT	**Tachien**	**0.70**	**259**	P			**Pb**	**04 25 21.2**	**+0.9**
	baz=256								
TWT					S		**Sb**	**04 25 31.4**	**+1.7**
	baz=256								
TATO	**Taipei**	**0.71**	**325**	P			**Pb**	**04 25 21.0**	**+0.8**
	baz=325								
TATO					S		**Sb**	**04 25 30.2**	**+0.6**
	baz=325								
TDCB	**Techi**	**0.72**	**259**	P			**Pb**	**04 25 21.2**	**+0.7**
	baz=256								
TDCB					S		**Sb**	**04 25 31.3**	**+1.2**
	baz=256								
ESL	**Shilin**	**0.73**	**219**	*i*	P		**Pb**	**04 25 20.6**	**0.0**
	baz=215								
ESL					S		**Sb**	**04 25 31.9**	**+1.5**
	baz=215								
TAP1	**Taipei**	**0.74**	**330**	*e*S			**Sb**	**04 25 32.4**	**+1.9**
	baz=329								
TAP	**Taipei**	**0.75**	**329**	*i*	S		**Sb**	**04 25 32.2**	**+1.4**
	baz=329								
CHGB	**Renai**	**0.77**	**245**	P			**Pb**	**04 25 21.9**	**+0.6**
	baz=242								
CHGB					S		**Sb**	**04 25 33.0**	**+1.5**
	baz=242								
YM01	**YM01**	**0.82**	**336**	P			**Pb**	**04 25 23.0**	**+0.9**
	baz=336								
YM01					S		**Sb**	**04 25 33.6**	**+0.8**
	baz=336								
YM10	**YM10**	**0.83**	**336**	P			**Pb**	**04 25 23.3**	**+0.9**
	baz=336								
YM10					S		**Sb**	**04 25 34.5**	**+1.3**
	baz=336								
YM11	**YM11**	**0.84**	**337**	*e*P			**Pb**	**04 25 23.5**	**+1.0**
	baz=337								
YM05	**YM05**	**0.84**	**337**	P			**Pb**	**04 25 23.4**	**+0.9**
	baz=336								
YM05					S		**Sb**	**04 25 34.9**	**+1.5**
	baz=336								
YM04	**YM04**	**0.84**	**335**	P			**Pb**	**04 25 23.5**	**+1.0**
	baz=334								
YM04					S		**Sb**	**04 25 34.3**	**+0.9**
	baz=334								
TWS1	**Kuangyinshan**	**0.85**	**327**	P			**Pb**	**04 25 23.9**	**+1.3**
	baz=326								
TWS1					S		**Sb**	**04 25 35.1**	**+1.5**
	baz=326								
YM08	**YM08**	**0.85**	**339**	*e*P			**Pb**	**04 25 23.1**	**+0.4**
	baz=339								
YM08					*e*S		**Sb**	**04 25 35.5**	**+1.8**
	baz=339								
EGFH	**Guangfu**	**0.86**	**213**	*e*P			**Pb**	**04 25 22.9**	**+0.2**
	baz=211								
EGFH					*e*S		**Sb**	**04 25 36.3**	**+2.5**
	baz=211								
YM03	**YM03**	**0.86**	**336**	P			**Pb**	**04 25 23.3**	**+0.4**
	baz=335								
YM03					*e*S		**Sb**	**04 25 35.5**	**+1.4**
	baz=335								
LIOB	**Emei**	**0.87**	**287**	P			**Pb**	**04 25 24.3**	**+1.3**
	baz=285								
NSTT	**Nanjuang**	**0.88**	**286**	P			**Pb**	**04 25 23.9**	**+0.7**
	baz=284								
NSTT					S		**Sb**	**04 25 35.5**	**+1.0**
	baz=284								
NTST	**Danshui**	**0.89**	**330**	*e*P			**Pb**	**04 25 24.5**	**+1.3**
	baz=330								
NTST					*e*S		**Sb**	**04 25 36.9**	**+2.3**
	baz=330								
NCUH	**Zhongli**	**0.89**	**310**	*e*P			**Pb**	**04 25 24.5**	**+1.2**
	baz=309								
NCUH					*e*S		**Sb**	**04 25 36.3**	**+1.5**
	baz=309								
WHP	**Taichung City**	**0.91**	**263**	*e*P			**Pb**	**04 25 24.6**	**+1.0**
	baz=261								
WHP					*e*S		**Sb**	**04 25 36.9**	**+1.6**
	baz=261								
JYNG	**Yonagunijimaku**	**0.93**	**86**	P			**Pb**	**04 25 23.9**	**0.0**
JYNG					S		**Sb**	**04 25 36.8**	**+1.0**
TWY	**Chenhua**	**0.93**	**341**	*e*P			**Pb**	**04 25 25.1**	**+1.1**
	baz=341								
TWY					*e*S		**Sb**	**04 25 37.1**	**+1.2**
	baz=341								
VWDT	**VWDT**	**0.96**	**229**	P			**Pb**	**04 25 24.7**	**+0.2**
	baz=227								
VWDT					S		**Sb**	**04 25 38.5**	**+1.7**
	baz=227								
YOJ	**Yonaguni jima**	**0.98**	**86**	*e*P			**Pb**	**04 25 25.1**	**+0.2**
	baz=86								
YOJ					*e*S		**Sb**	**04 25 38.1**	**+0.6**
	baz=86								
YOJ	**Yonaguni jima**	**0.98**	**86**	P			**Pb**	**04 25 24.7**	**-0.2**
YOJ					S		**Sb**	**04 25 37.9**	**+0.4**
HGSD	**Ruisui**	**1.01**	**208**	P			**Pb**	**04 25 26.3**	**+1.0**
	baz=206								
HGSD					*e*S		**Sb**	**04 25 40.4**	**+2.2**
	baz=206								
NMLH	**Miaoli**	**1.05**	**278**	*e*P			**Pb**	**04 25 26.7**	**+0.7**
	baz=276								
NMLH					*e*S		**Sb**	**04 25 41.2**	**+1.8**
	baz=276								
TWQ1	**Liyutan**	**1.06**	**268**	*e*P			**Pb**	**04 25 27.1**	**+1.0**
	baz=266								
TWQ1					S		**Sb**	**04 25 41.2**	**+1.6**
	baz=266								
NSY	**Sanyi**	**1.07**	**272**	*e*S			**Sb**	**04

baz=267,slow=75,SNR=12
H11N2 WAKE ISLAND Hy 40.53 75 T T 05 21 58.5
baz=267,slow=75,SNR=9.2
H11N3 WAKE ISLAND Hy 40.54 75 T T 05 21 58.6
baz=267,slow=75,SNR=9.2
MKAR Makanchi Array 48.93 322 P **P** **04 39 04.2 +1.8**
0.6nm,0.8s,baz=111,slow=7.9,SNR=4.3

ANF ***21*** *04:33:49.9±0.9,36°.62N×121°.09W,h16km±7km,ML4.2/37, Error ellipse: s-maj=2.7km s-min=2.0km az=33.0*
NEIC ***21*** *04:33:49.6,36°.68N×121°.02W,h8km,Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr6.84; Mθθ-6.09; Mϕϕ-0.76; Mrθ-1.71; Mθϕ2.75; Mϕr0.13; Fault plane solution: M07.26000×10^14^ NP1:ϕs117.74000°, δ38.71000°,λ97.39000°. NP2:ϕs288.30000°,δ51.68000°, λ84.11000°. Principal axes: T 7.0747, Plg82.0000°, Azm167.0000°; N 0.3643, Plg5.0000°, Azm292.0000°; P -7.4391, Plg7.0000°, Azm22.0000°;*
NCEDC ***21*** *04:33:49.6±1.4,36°.69N±0°.01×121°.01W±0°.02,h8km±3km, Mwr3.8/7,mb4.3/32(NEIC) Error ellipse: s-maj=2.0km s-min=1.6km az=113.0*
NEIC ***21*** *04:33:49.8±1.1,36°.67N±0°.02×121°.06W±0°.03,h16km±2km, Error ellipse: s-maj=3.2km s-min=2.6km az=77.0*
IDC ***21*** *04:33:49.9±1.1,36°.59N×120°.86W,h0km,mb3.8/7, mb1 4.0/11,mb1mx3.8/33,mbtmp3.7/11,ML3.9/4,Error ellipse: s-maj=14.0km s-min=10.9km az=81.0*

ISC 21 04:33:49.9±0.7,**36°.67N**±0°.01×**121°.02W**±0°.02,**h10**km±4km, **n381,σ1s06**/407,**mb4.2**/21,**Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAVM	**Antelope Valle**	**0.03**	**189**		**Pg**	**04 33 50.7**	**-1.1**
BEMM	**Emmet**	**0.06**	**258**		**Pg**	**04 33 51.1**	**-1.0**
BBGB	**Big Mountain B**	**0.10**	**187**		**Pg**	**04 33 52.0**	**-0.5**
BEHM	**Elkhorn Ranch**	**0.12**	**266**		**Pg**	**04 33 52.4**	**-0.5**
BVL	**Bear Valley**	**0.17**	**234**		**Pg**	**04 33 53.6**	**0.0**
BMSM	**Mercy Hot Spri**	**0.19**	**95**		**Pg**	**04 33 54.2**	**+0.3**
BHRM	**Hodges Ranch**	**0.20**	**286**		**Pg**	**04 33 54.1**	**0.0**
BLRM	**Lewis Ranch**	**0.20**	**268**		**Pg**	**04 33 54.5**	**+0.4**
BPIM	**Pinnacles**	**0.22**	**212**		**Pg**	**04 33 54.1**	**-0.3**
BRMM	**Rolling Bench**	**0.23**	**45**		**Pb**	**04 33 55.6**	**-0.6**
BJOM	**Mount Johnson**	**0.24**	**259**		**Pg**	**04 33 54.7**	**-0.1**
BJOM					**Sg**	**04 33 58.6**	**+0.6**
LRV	**Little Rabbit**	**0.25**	**179**		**Pg**	**04 33 55.3**	**+0.3**
BCGM	**Cienega Road**	**0.26**	**278**		**Pg**	**04 33 55.5**	**+0.3**
HJSM	**John Smith Roa**	**0.26**	**303**		**Pg**	**04 33 55.4**	**+0.1**
BSLM	**Silva Ranch**	**0.28**	**291**		**Pg**	**04 33 55.9**	**+0.3**
SCZ	**Santa Cruz**	**0.31**	**256**		**Pg**	**04 33 55.8**	**-0.4**
SCZ					**Sg**	**04 34 00.5**	**+0.1**
BSGM	**Shirttail Gulc**	**0.32**	**216**		**Pg**	**04 33 55.8**	**-0.5**
BVYM	**Vineyard**	**0.32**	**284**		**Pg**	**04 33 56.5**	**+0.2**
BJCM	**Johnson Can.**	**0.32**	**247**		**Pg**	**04 33 55.9**	**-0.4**
PHRM	**Hernandez Vall**	**0.34**	**151**		**Pg**	**04 33 57.0**	**+0.2**
SAO	**San Andreas Ge**	**0.35**	**285**		**Pg**	**04 33 57.0**	**0.0**
SAO					**Sg**	**04 34 02.8**	**+1.2**
PBWM	**Bitterwater Cr**	**0.37**	**168**		**Pg**	**04 33 57.5**	**+0.3**
FRP	**Fremont Peak**	**0.38**	**282**		**Pg**	**04 33 57.3**	**-0.2**
SFJWR	**San Luis Fatjo**	**0.39**	**342**		**Pg**	**04 33 57.9**	**+0.2**
PACP	**Pacheco Peak**	**0.40**	**328**		**Pg**	**04 33 57.7**	**-0.1**
PACP					**Sg**	**04 34 04.0**	**+1.0**
BSRM	**Salinas Radio**	**0.40**	**269**		**Pg**	**04 33 57.5**	**-0.3**
LRC	**Lone Oak Road**	**0.43**	**182**		**Pg**	**04 33 58.1**	**-0.2**
SLD	**San Luis Dam**	**0.43**	**339**		**Pg**	**04 33 58.3**	**-0.1**
HFEM	**San Felipe**	**0.43**	**316**		**Pg**	**04 33 58.5**	**0.0**
BSMM	**Soledad Missio**	**0.43**	**226**		**Pg**	**04 33 58.2**	**-0.3**
HPCM	**Pacheco Lake**	**0.43**	**332**		**Pg**	**04 33 58.4**	**-0.1**
HBTM	**San Juan Bauti**	**0.46**	**293**		**Pg**	**04 33 59.3**	**+0.4**
HJGM	**San Juan Grade**	**0.46**	**286**		**Pg**	**04 33 58.8**	**-0.1**
PMPB	**Monarch Peak**	**0.49**	**158**		**Pb**	**04 33 59.9**	**-0.8**
PMPB					**Sb**	**04 34 08.2**	**+0.2**
BPCNC	**Pine Canyon**	**0.49**	**259**		**Pg**	**04 33 59.4**	**-0.2**
CDC	**Canada Road**	**0.51**	**314**		**Pg**	**04 33 59.9**	**+0.1**
HCAM	**Canada Road**	**0.51**	**314**		**Pg**	**04 33 60.0**	**+0.1**
SCKWR	**San Luis Creek**	**0.51**	**356**		**Pb**	**04 34 00.7**	**-0.3**
SCKWR					**Sb**	**04 34 09.4**	**+1.0**
HAST	**Hastings Reser**	**0.51**	**236**		**Pg**	**04 33 59.4**	**-0.5**
HTUM	**Tustin Road**	**0.52**	**287**		**Pg**	**04 33 59.9**	**-0.1**
CSR	**Chase Ranch**	**0.53**	**302**		**Pg**	**04 34 00.1**	**-0.2**
GHS	**Gilroy Hot Spr**	**0.54**	**321**		**Pg**	**04 34 00.5**	**0.0**
HERM	**Elkhorn Road**	**0.56**	**283**		**Pg**	**04 34 00.9**	**0.0**
BCWM	**Chews Ridge**	**0.57**	**230**		**Pg**	**04 34 00.7**	**-0.4**
CBC	**Chamberlain**	**0.57**	**297**		**Pg**	**04 34 01.1**	**0.0**
HCOM	**Corn Cob Canyo**	**0.59**	**291**		**Pg**	**04 34 01.3**	**-0.1**
HSPM	**Sheep**	**0.59**	**318**		**Pg**	**04 34 01.4**	**-0.1**
PCCM	**Crazy Canyon**	**0.59**	**191**		**Pg**	**04 34 01.5**	**0.0**
HLPM	**Lions Peak**	**0.61**	**307**		**Pg**	**04 34 01.3**	**-0.5**
PDRM	**Domengine Ranc**	**0.63**	**122**		**Pb**	**04 34 02.9**	**-0.1**
PSAM	**San Ardo**	**0.66**	**170**		**Pg**	**04 34 02.5**	**-0.1**
CADM	**Anderson Res.**	**0.69**	**316**		**Pg**	**04 34 02.9**	**-0.3**
JELB	**Ellicott, Sant**	**0.69**	**292**		**Pg**	**04 34 03.0**	**-0.4**
PARM	**Anticline Ridg**	**0.69**	**127**		**Pn**	**04 34 04.2**	**-1.7**
PSMM	**Smith Mountain**	**0.69**	**150**		**Pb**	**04 34 03.6**	**-0.6**
PWMM	**Westland Maint**	**0.70**	**110**		**Pn**	**04 34 04.5**	**-1.3**
BAPM	**Anderson Peak**	**0.70**	**225**		**Pg**	**04 34 03.1**	**-0.5**
CMPM	**Mikes Peak**	**0.72**	**341**		**Pg**	**04 34 04.1**	**+0.2**
HMOM	**Monterey**	**0.72**	**264**		**Pg**	**04 34 03.4**	**-0.5**
JLAB	**Laurel Hill**	**0.74**	**310**		**Pg**	**04 34 03.8**	**-0.5**
PHPM	**Hope Ranch**	**0.77**	**154**		**Pg**	**04 34 04.6**	**-0.2**
JHLM	**Holstrom Ranch**	**0.78**	**304**		**Pg**	**04 34 04.4**	**-0.6**
CCCB	**Coe Ranch Numb**	**0.78**	**319**		**Pg**	**04 34 05.5**	**+0.4**
ARN	**Arnold Ranch**	**0.79**	**329**		**Pb**	**04 34 05.0**	**-0.7**
PAPM	**Alder Peak**	**0.81**	**200**		**Pb**	**04 34 05.2**	**-0.9**
JSTM	**Santa Teresa H**	**0.82**	**311**		**Pb**	**04 34 05.0**	**-1.2**
AMC	**Almaden**	**0.82**	**307**		**Pb**	**04 34 04.8**	**-1.4**
PKD	**Bear Valley Ra**	**0.82**	**152**		**Pb**	**04 34 05.6**	**-0.8**
MHC	**Mount Hamilton**	**0.83**	**324**		**Pb**	**04 34 05.7**	**-0.8**
JRGM	**Rodeo Gulch Ro**	**0.84**	**296**		**Pb**	**04 34 05.1**	**-1.5**
PVCM	**Vineyard Canyo**	**0.85**	**152**		**Pb**	**04 34 06.1**	**-0.7**
JUMM	**Mount Umunhum**	**0.85**	**305**		**Pb**	**04 34 05.7**	**-1.2**
PSTM	**Stockdale Moun**	**0.85**	**151**		**Pb**	**04 34 06.0**	**-0.8**
MYLM	**Yosemite Lake**	**0.86**	**34**		**Pb**	**04 34 06.0**	**-0.9**
CMMM	**Mount Mocho**	**0.87**	**334**		**Pb**	**04 34 06.6**	**-0.5**
PPO	**Portuguese Can**	**0.87**	**158**		**Pg**	**04 34 06.8**	**+0.1**
PANM	**San Antonio Re**	**0.90**	**174**		**Pb**	**04 34 07.0**	**-0.7**
SCCB	**Santa Clara Co**	**0.91**	**313**		**Pb**	**04 34 07.1**	**-0.7**
MOBB	**Monterey Bay O**	**0.92**	**271**		**Pb**	**04 34 07.4**	**-0.4**
CTM	**Castle Mountai**	**0.93**	**143**		**Pn**	**04 34 08.2**	**-1.0**
JJOM	**Saint Joseph's**	**0.93**	**305**		**Pb**	**04 34 08.8**	**-1.4**
CMLM	**Mount Lewis**	**0.95**	**328**		**Pb**	**04 34 08.0**	**-0.5**
PKEM	**Kettleman Hill**	**0.96**	**129**		**Pn**	**04 34 09.0**	**-0.5**
PHAM	**Harlan Ranch**	**0.98**	**149**		**Pg**	**04 34 08.6**	**-0.2**
PHCM	**Hearst Castle**	**0.99**	**186**		**Pb**	**04 34 08.5**	**-0.7**
PCMM	**Cholame Hills**	**1.00**	**150**		**Pg**	**04 34 09.1**	**-0.1**
GHC	**Gold Hill**	**1.00**	**147**		**Pb**	**04 34 08.8**	**-0.6**
MHDM	**Hidden Dam**	**1.01**	**64**		**Pb**	**04 34 08.2**	**-1.2**
PSRM	**Scobie Ranch**	**1.01**	**143**		**Pg**	**04 34 09.1**	**-0.3**
JBNB	**Ben Lomond Mou**	**1.01**	**297**		**Pb**	**04 34 07.9**	**-1.7**
RAMR	**Ramage Ranch**	**1.04**	**173**		**Pb**	**04 34 09.4**	**-0.6**
PKLM	**Kerr Lake**	**1.05**	**148**		**Pb**	**04 34 09.7**	**-0.6**
PSNM	**Stone Corral**	**1.06**	**146**		**Pb**	**04 34 09.6**	**-0.8**
CMJM	**Mission San Jo**	**1.08**	**321**		**Pb**	**04 34 09.5**	**-1.3**
PMRM	**Maxey Ranch**	**1.09**	**144**		**Pb**	**04 34 10.2**	**-0.8**
TCHL	**Shandon**	**1.10**	**153**		**Pg**	**04 34 11.3**	**+0.1**
WENL	**Wente Vineyard**	**1.11**	**328**		**Pb**	**04 34 10.4**	**-0.9**
PAGB	**Antelope Grade**	**1.13**	**146**		**Pb**	**04 34 10.8**	**-0.8**
PAGB	**Antelope Grade**	**1.13**	**146**	Sn	**Sg**	**04 34 27.1**	**+0.7**
BLDC	**Black Mountain**	**1.14**	**175**		**Pb**	**04 34 11.1**	**-0.7**
BLDC	**Black Mountain**	**1.14**	**175**		**Pb**	**04 34 11.1**	**-0.7**
THIS	**South End of C**	**1.15**	**146**		**Pg**	**04 34 11.7**	**-0.3**
CVLM	**Vallecito**	**1.15**	**326**		**Pn**	**04 34 10.9**	**-1.2**
PCBM	**Cambria**	**1.15**	**181**		**Pn**	**04 34 11.0**	**-1.1**
JJRM	**Joaquin Road**	**1.16**	**306**		**Pn**	**04 34 10.9**	**-1.3**
JFP	**Foothills Park**	**1.16**	**307**		**Pn**	**04 34 10.0**	**-2.2**
TRAM	**Private Proper**	**1.17**	**148**		**Pb**	**04 34 11.7**	**-0.5**
JSFB	**Stanford Teles**	**1.18**	**309**		**Pn**	**04 34 10.6**	**-1.9**
JPSM		**1.18**	**297**		**Pn**	**04 34 10.6**	**-1.9**
CNIC	**Niles Canyon**	**1.20**	**321**		**Pn**	**04 34 11.1**	**-1.7**
ARDC	**Alexander Ranc**	**1.21**	**178**		**Pn**	**04 34 11.8**	**-1.0**
PTRM	**Twissleman Ran**	**1.21**	**147**		**Pg**	**04 34 12.8**	**-0.4**
JRSC	**Jasper Ridge**	**1.22**	**307**		**Pn**	**04 34 11.1**	**-1.9**
CBSNC	**Byron Hot Spri**	**1.24**	**337**		**Pn**	**04 34 12.7**	**-0.7**
BGH	**Bear Gulch**	**1.25**	**303**		**Pn**	**04 34 11.8**	**-1.6**
CGPM	**Gavin Park**	**1.25**	**321**		**Pn**	**04 34 12.6**	**-0.9**
TSCN	**Private Proper**	**1.25**	**154**		**Pb**	**04 34 13.2**	**-0.4**
MMIM	**Miami Mountain**	**1.27**	**54**		**Pn**	**04 34 12.8**	**-1.0**
JHPM	**Huddart Park**	**1.28**	**307**		**Pn**	**04 34 12.2**	**-1.7**
CMOB	**Morgan Territo**	**1.29**	**332**		**Pn**	**04 34 13.1**	**-1.0**
PTAM	**Tassajara Cree**	**1.30**	**169**		**Pn**	**04 34 13.3**	**-1.0**
PBPM	**Bitterwater Pu**	**1.33**	**145**		**Pb**	**04 34 14.6**	**-0.5**
MCUB	**Copperopolis B**	**1.34**	**14**		**Pn**	**04 34 13.5**	**-1.2**
CLCB	**Lake Chabot**	**1.35**	**322**		**Pn**	**04 34 13.2**	**-1.6**
CSLM	**San Leandro Hi**	**1.36**	**321**		**Pn**	**04 34 13.8**	**-1.3**
VOG	**Valley Oaks Go** baz=286,SNR=72	**1.37**	**104**	P	**Pn**	**04 34 13.7**	**-1.4**
VOG	baz=286			S	**Sb**	**04 34 32.2**	**-0.9**
JCHM	**Cahill Ridge**	**1.37**	**308**		**Pn**	**04 34 13.2**	**-1.9**
EFD	**Emergency Oper**	**1.37**	**170**		**Pn**	**04 34 14.3**	**-0.8**
LSDC	**Los Osos Digit**	**1.38**	**174**		**Pn**	**04 34 14.7**	**-0.5**
JCPM	**Coyote Point**	**1.38**	**312**		**Pn**	**04 34 13.3**	**-2.0**
BGC	**Bolinger Road**	**1.41**	**324**		**Pn**	**04 34 14.2**	**-1.5**
CRHM	**Round Hill Res**	**1.41**	**327**		**Pn**	**04 34 15.1**	**-0.7**
VPDC	**Valencia Peak**	**1.44**	**175**		**Pn**	**04 34 15.1**	**-1.0**
CMCM	**Mills College**	**1.44**	**321**		**Pn**	**04 34 15.5**	**-0.6**
BDM	**Black Diamond**	**1.44**	**333**		**Pn**	**04 34 14.9**	**-1.3**
CMB	**Columbia Colle**	**1.45**	**20**		**Pn**	**04 34 15.6**	**-0.7**
DPD	**Davis Peak**	**1.45**	**172**		**Pn**	**04 34 15.4**	**-0.8**
SMCB	**Saint Mary's C**	**1.45**	**324**		**Pn**	**04 34 15.1**	**-1.2**
DCD	**Diablo Creek**	**1.47**	**174**		**Pn**	**04 34 15.4**	**-1.1**
MNHB	**New Hogan Dam**	**1.48**	**6**		**Pn**	**04 34 15.4**	**-1.3**
RCTC	**Rector, Farmer**	**1.48**	**104**		**Pn**	**04 34 15.7**	**-1.0**
JMGM	**Milagra Ridge**	**1.50**	**310**		**Pn**	**04 34 14.9**	**-2.1**
BRIB	**Briones**	**1.53**	**324**		**Pn**	**04 34 15.9**	**-1.5**
CVPM	**Vollmer Peak**	**1.54**	**322**		**Pn**	**04 34 16.7**	**-0.8**
BKS	**Berkeley--Byer**	**1.54**	**322**		**Pn**	**04 34 15.9**	**-1.6**
BL67	**Building 67, L**	**1.55**	**321**		**Pn**	**04 34 16.7**	**-1.0**
VAK	**Adit at Lawren**	**1.55**	**321**		**Pn**	**04 34 16.4**	**-1.2**
BL88	**Building 88, L**	**1.55**	**321**		**Pn**	**04 34 17.0**	**-0.6**
BRK	**Berkeley--Havi**	**1.55**	**321**		**Pn**	**04 34 16.5**	**-1.1**
CYBM	**Yerba Buena Is**	**1.56**	**317**		**Pn**	**04 34 15.9**	**-1.8**
CTAM	**Taylor**	**1.56**	**330**		**Pn**	**04 34 17.0**	**-0.8**
SMMC	**Simmler** baz=329,SNR=120	**1.59**	**148**	P	**Pn**	**04 34 17.6**	**-0.6**
SMMC	baz=329			Sb	**Sb**	**04 34 39.5**	**-0.2**
SMMC	**Simmler**	**1.59**	**148**		**Pb**	**04 34 18.5**	**-1.0**
HELL	**Mitchell Peak,**	**1.61**	**89**		**Pn**	**04 34 17.5**	**-1.1**
MRHM	**Rocky Hill**	**1.61**	**103**		**Pn**	**04 34 16.7**	**-1.7**
JPRM	**Presidio of Sa**	**1.61**	**314**		**Pn**	**04 34 16.9**	**-1.5**
CPIM	**Pinon Ridge**	**1.62**	**325**		**Pn**	**04 34 17.4**	**-1.1**
CSPM	**San Pablo Ridg**	**1.64**	**322**		**Pn**	**04 34 18.1**	**-0.8**
HERB	**Hercules**	**1.66**	**324**		**Pn**	**04 34 18.2**	**-0.9**
CARC	**Carrizo Plain**	**1.66**	**145**		**Pn**	**04 34 19.0**	**-0.2**
BCH	**Branch Mountai**	**1.67**	**153**		**Pn**	**04 34 18.6**	**-0.7**
CPMM	**Point Molate**	**1.69**	**320**		**Pn**	**04 34 17.8**	**-1.7**
NLHM	**Lake Herman**	**1.70**	**329**		**Pn**	**04 34 19.3**	**-0.4**
AASM	**Arroyo Seco**	**1.75**	**358**		**Pn**	**04 34 19.3**	**-1.1**
VES	**Vestal, Richgr** baz=299,SNR=223	**1.77**	**117**	P	**Pn**	**04 34 19.5**	**-1.1**
VES	baz=299			S	**Sn**	**04 34 42.5**	**-0.8**
VES	**Vestal, Richgr**	**1.77**	**117**		**Pn**	**04 34 19.8**	**-0.8**
CRGC	**Crocker Grade**	**1.77**	**143**		**Pb**	**04 34 20.9**	**-1.7**
PMLM	**Mount Lospe**	**1.81**	**169**		**Pn**	**04 34 20.5**	**-0.7**
MRDM	**Red Cones**	**1.82**	**59**		**Pb**	**04 34 22.6**	**-1.0**
MDPB	**Devils Postpil**	**1.82**	**58**		**Pb**	**04 34 22.4**	**-1.2**
MDPB	**Devils Postpil**	**1.82**	**58**	Sn	**Sn**	**04 34 43.7**	**-1.3**
MINS	**Minaret Summit**	**1.85**	**57**		**Pb**	**04 34 23.2**	**-0.8**
MMPM	**Mammoth Pass**	**1.85**	**59**		**Pb**	**04 34 23.0**	**-1.1**
MMSM	**Mammoth Summit**	**1.86**	**58**		**Pb**	**04 34 23.3**	**-0.9**
MLIM	**Lincoln Peak**	**1.87**	**58**		**Pb**	**04 34 23.8**	**-0.6**
OMMB	**Old Mammoth Mi**	**1.87**	**59**		**Pb**	**04 34 23.3**	**-1.0**
OMMB	**Old Mammoth Mi**	**1.87**	**59**	Sn	**Sn**	**04 34 45.0**	**-1.2**
FARB	**Farallon Islan**	**1.88**	**304**		**Pn**	**04 34 20.3**	**-1.8**
SPG2	**Springville 2**	**1.88**	**104**		**Pn**	**04 34 21.2**	**-1.0**
MDYM	**Dry Creek**	**1.88**	**58**		**Pb**	**04 34 24.1**	**-0.6**
MDCM	**Deadman Creek**	**1.89**	**56**		**Pb**	**04 34 23.4**	**-1.3**
MMLB	**Mammoth Lakes**	**1.91**	**58**		**Pb**	**04 34 24.5**	**-0.5**
MLCM	**Laurel Creek C**	**1.93**	**60**		**Pb**	**04 34 24.4**	**-0.9**
NADM	**Allendale**	**1.94**	**337**		**Pn**	**04 34 22.7**	**-0.2**
MEMM	**East Mammoth H**	**1.94**	**59**		**Pb**	**04 34 24.8**	**-0.7**
MGPM	**Gravel Pit**	**1.94**	**60**		**Pb**	**04 34 24.8**	**-0.8**
MCSM	**Casa Diablo Ho**	**1.96**	**59**		**Pb**	**04 34 25.1**	**-0.7**
MCMM	**Convict Lake**	**1.96**	**61**		**Pb**	**04 34 24.9**	**-0.9**
MCBM	**Casa Benchmark**	**1.96**	**60**		**Pb**	**04 34 25.3**	**-0.5**
NOLM	**Olema**	**1.96**	**315**		**Pn**	**04 34 21.1**	**-2.2**
SCHCA	**Scheelite**	**1.99**	**69**		**Pb**	**04 34 25.1**	**-1.3**
MLAC	**Mammoth, Mammo** baz=242,SNR=1000	**1.99**	**61**	Pb	**Pb**	**04 34 25.8**	**-0.7**
MLAC	baz=242			Sb	**Sg**	**04 34 52.6**	**-1.4**
MLAC	**Mammoth, Mammo**	**1.99**	**61**		**Pb**	**04 34 25.7**	**-0.7**
MDRNC	**Doe Ridge**	**2.00**	**61**		**Pb**	**04 34 25.8**	**-0.7**
RCCR	**Rock Creek Can**	**2.01**	**66**		**Pb**	**04 34 25.7**	**-1.1**
LLIL	**Lundy Lake**	**2.01**	**46**		**Pb**	**04 34 25.8**	**-1.0**
CVS	**Carmenet Viney**	**2.02**	**326**		**Pn**	**04 34 22.5**	**-1.6**
MLHM	**Little Hot Cre**	**2.03**	**60**		**Pb**	**04 34 26.5**	**-0.6**
PKM	**Mcpherson Peak** baz=332,SNR=65	**2.04**	**151**	P	**Pn**	**04 34 24.0**	**-0.4**
PKM	baz=332			Sb	**Sb**	**04 34 53.1**	**+0.5**
PKM	**Mcpherson Peak**	**2.04**	**151**		**Pn**	**04 34 24.5**	**0.0**
NPRM	**Point Reyes**	**2.06**	**310**		**Pn**	**04 34 23.1**	**-1.6**
MCCM	**Marconi Confer**	**2.08**	**315**		**Pn**	**04 34 22.9**	**-2.0**
MTUM	**Tungsten Hills**	**2.08**	**70**		**Pb**	**04 34 26.5**	**-1.5**
FIGC	**Figueroa Mtn.**	**2.12**	**156**		**Pn**	**04 34 25.2**	**-0.2**
ORC	**Owens River**	**2.12**	**62**		**Pb**	**04 34 27.7**	**-1.0**
BHPR	**Bishop**	**2.13**	**72**		**Pn**	**04 34 25.4**	**-0.3**
NTM	**Taylor**	**2.15**	**323**		**Pn**	**04 34 24.3**	**-1.5**
GATR	**Grnd/Air Tx Cnt**	**2.16**	**168**		**Pn**	**04 34 25.4**	**-0.6**
WOFM	**Oak Flat**	**2.19**	**121**		**Pn**	**04 34 25.8**	**-0.7**
NBPM	**Berryessa Peak**	**2.20**	**335**		**Pn**	**04 34 26.1**	**-0.4**
NDHM	**Dunnigan Hills**	**2.20**	**342**		**Pn**	**04 34 26.1**	**-0.5**
MFBM	**Five Bridges**	**2.21**	**69**		**Pb**	**04 34 28.8**	**-1.2**
BENR	**Benton**	**2.22**	**61**		**Pb**	**04 34 28.9**	**-1.4**
WAKR	**Walker**	**2.22**	**34**		**Pb**	**04 34 28.7**	**-1.6**
WAKR	**Walker**	**2.22**	**34**	Sn	**Sn**	**04 34 53.5**	**-1.1**
MCDM	**Chidago Canyon**	**2.24**	**66**		**Pb**	**04 34 29.7**	**-0.9**
NJQ	**Nojoqui County**	**2.24**	**162**		**Pn**	**04 34 26.7**	**-0.4**
MRCM	**Red Rock Canyo**	**2.25**	**63**		**Pb**	**04 34 29.3**	**-1.4**
AFDM	**Forest Hills D**	**2.27**	**1**		**Pn**	**04 34 27.4**	**-0.2**
TIN	**Tinemaha, Big** baz=262,SNR=145	**2.27**	**80**	P	**Pn**	**04 34 28.2**	**+0.6**
TIN	baz=262			Sb	**Sb**	**04 34 59.8**	**+0.5**
TIN	**Tinemaha, Big**	**2.27**	**80**		**Pb**	**04 34 29.8**	**-1.3**
ISA	**Isabella, Lake** baz=297,SNR=204	**2.30**	**115**	P	**Pn**	**04 34 27.5**	**-0.4**
ISA	baz=297			S	**Sn**	**04 34 56.2**	**-0.1**
ISA	**Isabella, Lake**	**2.30**	**115**		**Pn**	**04 34 27.7**	**-0.2**
POCCA	**Poleta Canyon**	**2.30**	**72**		**Pb**	**04 34 29.8**	**-1.9**
SYP	**Santa Ynez Pea**	**2.31**	**158**		**Pn**	**04 34 27.9**	**-0.3**
MAC	**Mark West Spri**	**2.31**	**325**		**Pn**	**04 34 27.2**	**-0.8**
MLNR	**Milner Canyon**	**2.33**	**66**		**Pb**	**04 34 30.8**	**-1.4**
ABL	**Mount Abel**	**2.34**	**141**		**Pn**	**04 34 28.4**	**-0.5**
NHSM	**Mount Saint He**	**2.35**	**328**		**Pn**	**04 34 27.4**	**-1.2**
ARVC	**Arvin** baz=312,SNR=77	**2.36**	**130**	P	**Pn**	**04 34 27.5**	**-1.2**
ARVC	baz=312			S	**Sn**	**04 34 57.6**	**-0.1**
ARVC	**Arvin**	**2.36**	**130**		**Pn**	**04 34 28.5**	**-0.2**
TEJ	**El Tejon**	**2.38**	**127**		**Pn**	**04 34 28.3**	**-0.8**
CWC	**Cottonwood Cre** baz=277	**2.38**	**95**	P	**Pn**	**04 34 29.7**	**+0.5**
CWC	**Cottonwood Cre**	**2.38**	**95**		**Pn**	**04 34 30.0**	**+0.8**
NMTM	**Middletown**	**2.41**	**333**		**Pn**	**04 34 28.2**	**-1.2**
NMCNC	**Mill Creek, So**	**2.43**	**322**		**Pn**	**04 34 28.0**	**-1.7**
GNO	**Genoa**	**2.44**	**22**		**Pn**	**04 34 31.5**	**-2.5**
GAXM	**Alexander Vall**	**2.45**	**327**		**Pn**	**04 34 28.1**	**-1.5**
SBC	**Santa Barbara** baz=335,SNR=6.8	**2.47**	**154**	P	**Pn**	**04 34 29.9**	**-0.3**
SBC	baz=335			S	**Sn**	**04 34 59.7**	**-0.7**
SBC	**Santa Barbara**	**2.47**	**154**		**Pn**	**04 34 30.4**	**+0.2**
MNRC	**McLaughlin Min**	**2.47**	**333**		**Pn**	**04 34 29.5**	**-0.9**
RUBR	**Rubicon Trail**	**2.47**	**16**		**Pn**	**04 34 31.9**	**+1.4**
BFC	**Buffalo Canyon**	**2.48**	**26**		**Pn**	**04 34 31.8**	**+1.2**
GCRM	**Castle Rock Sp**	**2.49**	**328**		**Pn**	**04 34 28.9**	**-1.6**
FTR	**Fort Ross**	**2.51**	**318**		**Pn**	**04 34 28.9**	**-1.9**
GBGM	**Boggs Mountain**	**2.51**	**329**		**Pn**	**04 34 29.5**	**-1.3**
WCHM	**Chimney Peak**	**2.51**	**107**		**Pn**	**04 34 31.7**	**+0.6**
BONR	**Boundary Peak**	**2.52**	**59**		**Pb**	**04 34 30.0**	**-2.4**
LHV	**Little Hunttoon**	**2.55**	**51**		**Pb**	**04 34 33.3**	**-2.5**
GDXM	**Geysers**	**2.55**	**327**		**Pn**	**04 34 30.2**	**-1.2**
GSGM	**Seigler Mounta**	**2.56**	**329**		**Pn**	**04 34 30.5**	**-1.0**
TAHR	**Tahoe**	**2.57**	**15**		**Pn**	**04 34 33.1**	**+1.3**
GSSM	**Skaggs Springs**	**2.57**	**323**		**Pn**	**04 34 29.6**	**-1.9**
GHCM	**House Creek**	**2.59**	**319**		**Pn**	**04 34 29.9**	**-2.0**
GCVM	**Cloverdale**	**2.62**	**324**		**Pn**	**04 34 30.8**	**-1.5**
SUTB	**Sutter Butte**	**2.62**	**347**		**Pn**	**04 34 30.4**	**-1.9**
GACM	**Adobe Creek**	**2.63**	**327**		**Pn**	**04 34 31.9**	**-0.7**
GPMM	**Pine Mountain**	**2.65**	**326**		**Pn**	**04 34 31.6**	**-1.2**
WNMM	**Nine Mile Cany**	**2.65**	**107**		**Pn**	**04 34 33.6**	**+0.8**
PNTR	**Pine Nut**	**2.66**	**25**		**Pn**	**04 34 34.5**	**+1.4**
OHCM	**Honcut**	**2.68**	**352**		**Pn**	**04 34 32.7**	**-0.4**
YERR	**Yerington**	**2.71**	**31**		**Pn**	**04 34 32.9**	**-0.8**
DONR	**Donner Summit**	**2.73**	**12**		**Pn**	**04 34 36.0**	**+1.9**
OSI	**Osito Audit: C** baz=319,SNR=14	**2.78**	**137**	P	**Pn**	**04 34 34.2**	**-0.3**
OSI	**Osito Audit: C**	**2.78**	**137**		**Pn**	**04 34 34.3**	**-0.3**
NVAR	**Mina Array Bea** 43nm,0.3s,baz=228,slow=28,SNR=139	**2.78**	**50**	Pn	**Pn**	**04 34 35.7**	**+0.9**
NVAR	47nm,0.3s,baz=238,slow=21,SNR=134			Pg	**Pb**	**04 34 39.3**	**-0.6**
NVAR	88nm,0.3s,baz=218,slow=17,SNR=6.2			Lg	Lg	04 35 16.9	
NVAR	**Mina Array Bea**	**2.78**	**50**	Pn	**Pn**	**

	comp=Z,14nm,1.1s							
K38A	**Parkersburg**	**22.50**	**66**	P	**P**	**04 38 49.2**	**-0.3**
K38A				IAmb	IAmb	04 38 56.0	
	comp=Z,12nm,1.1s							
F36A	**Milaca**	**22.52**	**57**	P	**P**	**04 38 49.5**	**-0.3**
F36A				IAmb	IAmb	04 38 55.2	
	comp=Z,8.3nm,0.8s							
DLBC	**Dease Lake**	**22.57**	**348**	P	**P**	**04 38 54.6**	**+4.4**
	comp=Z,1.7nm,0.8s,baz=182,slow=9.7,SNR=3.3							
DLBC	**Dease Lake**	**22.57**	**348**	P	**P**	**04 38 50.0**	**-0.2**
ULM	**Lac du Bonnet**	**22.61**	**45**	P	**P**	**04 38 52.2**	**+1.5**
	comp=Z,4.9nm,0.7s,baz=245,slow=9.9,SNR=4.7							
ULM	**Lac du Bonnet**	**22.61**	**45**	P	**P**	**04 38 50.4**	**-0.3**
ULM				IAmb	IAmb	04 38 53.2	
	comp=Z,7.1nm,0.9s							
U40A	**Yellville**	**22.61**	**82**	P	**P**	**04 38 50.5**	**-0.4**
R40A	**Maddies Statio**	**22.84**	**77**	P	**P**	**04 38 52.9**	**-0.3**
SPMN	**Marine on St.**	**22.87**	**59**	P	**P**	**04 38 53.2**	**-0.3**
SPMN				IAmb	IAmb	04 38 57.2	
	comp=Z,9.2nm,0.6s							
B35A	**Bob, Littlefor**	**23.14**	**51**	P	**P**	**04 38 56.0**	**-0.2**
B35A				IAmb	IAmb	04 39 01.7	
	comp=Z,7.2nm,1.1s							
WHAR	**Wooly Hollow**	**23.26**	**85**	P	**P**	**04 38 57.3**	**-0.3**
WHAR				IAmb	IAmb	04 39 00.5	
	comp=Z,7.4nm,1.1s							
L40A	**Anamosa**	**23.59**	**68**	P	**P**	**04 39 00.8**	**0.0**
L40A				IAmb	IAmb	04 39 01.9	
	comp=Z,14nm,1.0s							
CCM	**Cathedral Cave**	**23.67**	**78**	P	**P**	**04 39 01.4**	**-0.2**
CCM				IAmb	IAmb	04 39 03.1	
	comp=Z,7.3nm,1.1s							
N41A	**Harden Midland**	**23.83**	**71**	P	**P**	**04 39 02.9**	**-0.2**
T42A	**Van Buren**	**23.91**	**80**	P	**P**	**04 39 03.7**	**-0.3**
T42A				IAmb	IAmb	04 39 05.6	
	comp=Z,5.1nm,1.1s							
E38A	**The Farm, Brul**	**24.03**	**56**	P	**P**	**04 39 04.7**	**-0.3**
E38A				IAmb	IAmb	04 39 08.8	
	comp=Z,9.8nm,1.1s							
I40A	**Norwalk**	**24.20**	**63**	P	**P**	**04 39 06.2**	**-0.3**
JFWS	**Jewell Farm**	**24.37**	**66**	P	**P**	**04 39 07.6**	**-0.5**
	baz=266,SNR=8.7							
JFWS	**Jewell Farm**	**24.37**	**66**	P	**P**	**04 39 07.8**	**-0.3**
EYMN	**Ely**	**24.42**	**53**	P	**P**	**04 39 08.3**	**-0.3**
EYMN				IAmb	IAmb	04 39 10.6	
	comp=Z,5.4nm,1.0s							
G40A	**Rib Lake**	**24.69**	**60**	P	**P**	**04 39 10.7**	**-0.3**
G40A				IAmb	IAmb	04 39 12.9	
	comp=Z,4.1nm,0.7s							
L42A	**Oliver, Polo**	**24.75**	**68**	P	**P**	**04 39 11.3**	**-0.3**
Q44A	**Meyer Farm, Va**	**25.33**	**75**	P	**P**	**04 39 16.6**	**-0.2**
I42A	**Draeger Farm,**	**25.42**	**64**	P	**P**	**04 39 17.1**	**-0.6**
I42A				IAmb	IAmb	04 39 20.4	
	comp=Z,7.4nm,0.7s							
COWI	**Conover**	**25.57**	**58**	P	**P**	**04 39 18.7**	**-0.2**
YKA	**Yellowknife Ar**	**26.15**	**7**	P	**P**	**04 39 27.3**	**+3.3**
	comp=Z,0.8nm,0.7s,baz=195,slow=9.6,SNR=5.4							
ILAR	**Eielson Array**	**32.08**	**339**	P	**P**	**04 40 19.0**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=159,slow=8.2,SNR=6.4							
ILAR	**Eielson Array**	**32.08**	**339**	P	**P**	**04 40 16.8**	**+0.1**
Q56A	**Snyder Ridge,**	**32.91**	**73**	P	**P**	**04 40 24.1**	**-0.3**
IMAR	**Indian Mountai**	**34.97**	**337**	P	**P**	**04 40 42.0**	**+0.1**
FINES	**FINESS Array B**	**78.63**	**15**	P	**P**	**04 45 53.1**	**+1.5**
	comp=Z,2.7nm,0.8s,baz=325,slow=2.2,SNR=4.4							
FINES	**FINESS Array B**	**78.63**	**15**	P	**P**	**04 45 51.8**	**+0.2**
ESDC	**Sonseca Array**	**84.50**	**44**	P	**P**	**04 46 24.6**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=306,slow=5.5,SNR=7.6							
ESDC	**Sonseca Array**	**84.50**	**44**	P	**P**	**04 46 22.8**	**-0.4**
MKAR	**Makanchi Array**	**94.31**	**344**	P	**P**	**04 47 10.1**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=22,slow=8.0,SNR=3.9							
MKAR	**Makanchi Array**	**94.31**	**344**	P	**P**	**04 47 09.4**	**-0.1**

*JMA **21** 04:36:04.2,24°.35N×121°.87E,h46$^{km}_{\pm}$1^{km},M2.6*
*TAP **21** 04:36:04.5,24°.41N×121°.93E,h25^{km},ML3.2,B*
ISC 21 04:36:04.6±0.9,**24°.38N**±0°.02×**121°.99E**±0°.02,**h17**$^{km}_{\pm}$6^{km},
n99,σ0**°72**/187,**2C-7D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.18**	**292**	⇓*i*P		**Pb**	**04 36 09.4**	**+0.1**
	baz=299							
ENAH				S		**Sg**	**04 36 12.3**	**+0.2**
	baz=299							
ENA	**Nanau**	**0.23**	**281**	⇓*i*P		**Pg**	**04 36 09.9**	**+0.1**
	baz=277							
ENA				*i* S		**Sg**	**04 36 13.8**	**+0.4**
	baz=277							
TWC	**Suao**	**0.26**	**331**	⇓*i*P		**Pg**	**04 36 10.6**	**+0.2**
	baz=341							
TWC				*i* S		**Sg**	**04 36 14.4**	**+0.2**
	baz=341							
NACB	**Ninganchiao**	**0.41**	**240**	⇓P		**Pg**	**04 36 13.0**	**0.0**
	baz=237							
NACB				S		**Sb**	**04 36 19.6**	**+0.2**
	baz=237							
ILA	**Ilan**	**0.44**	**330**	P		**Pg**	**04 36 13.7**	**+0.2**
	baz=329							
ILA				S		**Sb**	**04 36 20.2**	**0.0**
	baz=329							
TWE	**Neicheng**	**0.45**	**319**	⇓*i*P		**Pg**	**04 36 13.4**	**-0.2**
	baz=324							
TWE				*i* S		**Sg**	**04 36 19.4**	**-0.3**
	baz=324							
ENTT	**Nioudou**	**0.46**	**304**	*i* P		**Pg**	**04 36 13.6**	**-0.3**
	baz=306							
ENTT				S		**Sg**	**04 36 19.4**	**-0.8**
	baz=306							
EGS		**0.46**	**354**	⇓*i*P		**Pb**	**04 36 14.2**	**-0.1**
	baz=2.0							
EGS				S		**Sb**	**04 36 21.1**	**+0.2**
	baz=2.0							
TWD	**Chiawan**	**0.47**	**230**	*i* P		**Pg**	**04 36 14.1**	**+0.1**
	baz=226							
TWD				*i* S		**Sb**	**04 36 21.9**	**+0.9**
	baz=226							
NDT	**Datong Townshi**	**0.49**	**297**	⇓*i*P		**Pg**	**04 36 14.1**	**-0.2**
	baz=298							
NDT				*i* S		**Sg**	**04 36 20.6**	**-0.3**
	baz=298							
NTC	**Toucheng**	**0.49**	**343**	*e*P		**Pg**	**04 36 14.4**	**0.0**
	baz=349							
NTC				*e*S		**Sg**	**04 36 21.1**	**0.0**
	baz=349							
ETLH	**Xiulin Townshi**	**0.49**	**249**	P		**Pg**	**04 36 14.3**	**-0.2**
	baz=248							
ETLH				S		**Sb**	**04 36 22.1**	**+0.2**
	baz=248							
HWA	**Hwalien**	**0.53**	**221**	P		**Pg**	**04 36 15.4**	**+0.2**
	baz=214							
HWA				*e*S		**Sn**	**04 36 26.0**	**0.0**
	baz=214							
NNSB	**Datong**	**0.55**	**275**	⇑P		**Pg**	**04 36 15.1**	**-0.6**
	baz=279							
NNSB				S		**Sg**	**04 36 22.7**	**-0.4**
	baz=279							
NNSH	**Datong**	**0.55**	**275**	*e*P		**Pg**	**04 36 15.2**	**-0.4**
	baz=277							
NNSH				S		**Sg**	**04 36 22.8**	**-0.3**
	baz=277							
NNS	**Nan Shan**	**0.56**	**276**	*i* P		**Pg**	**04 36 15.4**	**-0.4**
	baz=280							
NNS				*i* S		**Sg**	**04 36 22.8**	**-0.6**
	baz=280							
NWLT	**Wulai**	**0.59**	**312**	*e*P		**Pg**	**04 36 15.8**	**-0.5**
	baz=314							
NWLT				*e*S		**Sg**	**04 36 23.1**	**-1.1**
	baz=314							
TIPB	**Shuangxi**	**0.60**	**346**	*i* P		**Pg**	**04 36 16.3**	**-0.3**
	baz=356							
TIPB				*i* S		**Sg**	**04 36 24.7**	**0.0**
	baz=356							
TWB1	**Santiao Chiao**	**0.62**	**360**	*i* P		**Pb**	**04 36 17.1**	**0.0**
	baz=1.0							
TWB1				*i* S		**Sg**	**04 36 25.1**	**-0.1**
	baz=1.0							
YHNB	**Yeheng**	**0.63**	**297**	⇑P		**Pg**	**04 36 16.3**	**-0.7**
	baz=298							
YHNB				S		**Sg**	**04 36 24.4**	**-1.0**
	baz=298							
NSK	**Sanguang**	**0.65**	**297**	*i* P		**Pg**	**04 36 16.6**	**-0.7**
	baz=298							
NSK				*i* S		**Sg**	**04 36 24.7**	**-1.2**
	baz=298							
FUSS	**Fushou**	**0.69**	**259**	*e*P		**Pg**	**04 36 17.9**	**-0.3**
	baz=261							
FUSS				S		**Sg**	**04 36 27.6**	**+0.1**
	baz=261							
TWA	**Mucha**	**0.70**	**328**	*i* P		**Pg**	**04 36 18.9**	**+0.6**
	baz=323							
TWA				*i* S		**Sb**	**04 36 27.3**	**-0.4**
	baz=323							
WHF	**Hehuan Shan**	**0.70**	**250**	*i* P		**Pg**	**04 36 18.1**	**-0.4**
	baz=253							
WHF				*i* S		**Sg**	**04 36 27.6**	**-0.2**
	baz=253							
NWF	**Wu-fen Shan**	**0.71**	**345**	*i* P		**Pg**	**04 36 18.6**	**0.0**
	baz=342							
NWF				S		**Sg**	**04 36 28.1**	**+0.1**
	baz=342							
WFSB	**Wu-fen Shan**	**0.71**	**345**	P		**Pg**	**04 36 18.6**	**+0.1**
	baz=342							
WFSB				S		**Sg**	**04 36 28.1**	**+0.1**
	baz=342							
TATO	**Taipei**	**0.75**	**322**	P		**Pb**	**04 36 18.1**	**-1.0**
	baz=318							
TATO				S		**Sb**	**04 36 27.8**	**-1.2**
	baz=318							
TWT	**Tachien**	**0.75**	**260**	P		**Pb**	**04 36 19.2**	**-0.1**
	baz=258							
TWT				*i* S		**Sg**	**04 36 29.8**	**+0.4**
	baz=258							
ESL	**Shilin**	**0.76**	**222**	*i* P		**Pb**	**04 36 18.7**	**-0.6**
	baz=233							
ESL				S		**Sg**	**04 36 29.9**	**+0.4**
	baz=233							
TDCB	**Techi**	**0.77**	**261**	*e*P		**Pb**	**04 36 19.4**	**-0.2**
	baz=258							
TDCB				*e*S		**Sb**	**04 36 29.6**	**-0.2**
	baz=258							
TAP1	**Taipei**	**0.78**	**327**	*e*P		**Pn**	**04 36 20.3**	**-0.5**
	baz=329							
TAP1				*e*S		**Sg**	**04 36 30.4**	**+0.3**
	baz=329							
TAP	**Taipei**	**0.79**	**326**	P		**Pb**	**04 36 19.4**	**-0.5**
	baz=329							
TAP				*i* S		**Sg**	**04 36 30.6**	**+0.2**
	baz=329							
CHGB	**Renai**	**0.81**	**247**	P		**Pb**	**04 36 19.8**	**-0.5**
	baz=244							
CHGB				S		**Sb**	**04 36 30.7**	**-0.3**
	baz=244							
YM01	**YM01**	**0.85**	**334**	P		**Pb**	**04 36 20.9**	**0.0**
	baz=349							
YM01				S		**Sg**	**04 36 32.5**	**+0.1**
	baz=349							
YM10	**YM10**	**0.86**	**333**	P		**Pb**	**04 36 20.6**	**-0.5**
	baz=349							
YM10				S		**Sn**	**04 36 33.8**	**-0.5**
	baz=349							
YM11	**YM11**	**0.87**	**334**	*e*P		**Pb**	**04 36 20.6**	**-0.6**
	baz=350							
YM11				*e*S		**Sb**	**04 36 32.5**	**-0.1**
	baz=350							
YM05	**YM05**	**0.87**	**334**	P		**Pb**	**04 36 21.0**	**-0.3**
	baz=349							
YM05				S		**Sg**	**04 36 33.3**	**+0.4**
	baz=349							
YM04	**YM04**	**0.87**	**332**	P		**Pb**	**04 36 21.1**	**-0.1**
	baz=334							
YM04				S		**Sg**	**04 36 32.8**	**-0.2**
	baz=334							
JYNG	**Yonaguni jima**	**0.88**	**85**	P		**Pn**	**04 36 22.0**	**-0.1**
JYNG				S		**Sn**	**04 36 34.7**	**+0.3**
EGFH	**Guangfu**	**0.88**	**216**	*e*P		**Pb**	**04 36 21.0**	**-0.4**
	baz=226							
EGFH				*e*S		**Sb**	**04 36 33.0**	**+0.3**
	baz=226							
YM08	**YM08**	**0.88**	**336**	P		**Pb**	**04 36 21.1**	**-0.3**
	baz=338							
YM08				S		**Sg**	**04 36 33.2**	**-0.2**
	baz=338							
TWS1	**Kuangyinshan**	**0.88**	**324**	*i* P		**Pb**	**04 36 21.6**	**+0.2**
	baz=323							
TWS1				*i* S		**Sn**	**04 36 34.3**	**-0.4**
	baz=323							
YM03	**YM03**	**0.89**	**333**	P		**Pb**	**04 36 21.5**	**-0.2**
	baz=335							
YM03				S		**Sg**	**04 36 34.1**	**+0.4**
	baz=335							
ANP	**Anpu**	**0.91**	**332**	*e*P		**Pb**	**04 36 21.5**	**-0.5**
	baz=335							
ANP				*e*S		**Sg**	**04 36 34.3**	**+0.1**
	baz=335							
NTST	**Danshui**	**0.92**	**328**	P		**Pb**	**04 36 22.1**	**0.0**
	baz=340							
NTST				*e*S		**Sn**	**04 36 35.9**	**+0.3**
	baz=340							
LIOB	**Emei**	**0.92**	**287**	P		**Pb**	**04 36 22.1**	**0.0**
	baz=287							
LIOB				*e*S		**Sg**	**04 36 34.8**	**+0.1**
	baz=287							
NSTT	**Nanjuang**	**0.93**	**286**	*i* P		**Pb**	**04 36 22.1**	**-0.2**
	baz=285							
NSTT				S		**Sb**	**04 36 34.1**	**-0.3**
	baz=285							
NCU	**National Centr**	**0.94**	**309**	S		**Sn**	**04 36 36.1**	**+0.1**
	baz=296							
NCUH	**Zhongli**	**0.94**	**309**	P		**Pb**	**04 36 22.6**	**+0.3**
	baz=296							
NCUH				S		**Sn**	**04 36 36.1**	**+0.1**
	baz=296							
YOJ	**Yonaguni jima**	**0.94**	**85**	P		**Pg**	**04 36 22.9**	**+0.2**
	baz=80							
YOJ				S		**Sn**	**04 36 36.6**	**+0.6**
	baz=80							
YOJ	**Yonaguni jima**	**0.94**	**85**	P		**Pg**	**04 36 22.8**	**+0.1**
YOJ				S		**Sn**	**04 36 36.1**	**+0.2**
TWY	**Chenhua**	**0.96**	**338**	*e*P		**Pg**	**04 36 23.1**	**-0.1**
	baz=341							
TWY				*e*S		**Sg**	**04 36 35.5**	**-0.3**
	baz=341							
WHP	**Taichung City**	**0.96**	**264**	P		**Pb**	**04 36 22.4**	**-0.3**
	baz=262							
WHP				S		**Sb**	**04 36 35.6**	**+0.4**
	baz=262							
VWDT	**VWDT**	**1.00**	**231**	P		**Pb**	**04 36 22.4**	**-0.9**
	baz=228							
VWDT				S		**Sb**	**04 36 36.6**	**+0.4**
	baz=228							
SBCB	**Hsinchu**	**1.00**	**294**	*e*S		**Sn**	**04 36 39.0**	**+1.4**
	baz=295							
HSN	**Hsinchu**	**1.02**	**294**	*e*S		**Sb**	**04 36 36.8**	**-0.1**
	baz=297							
HGSD	**Ruisui**	**1.03**	**210**	P		**Pb**	**04 36 24.1**	**+0.2**
	baz=207							
HGSD				S		**Sn**	**04 36 40.3**	**+2.1**
	baz=207							
EHY	**Hungye**	**1.06**	**215**	P		**Pb**	**04 36 22.3**	**-2.3**
	baz=211							
EHY				*e*S		**Sb**	**04 36 37.1**	**-1.1**
	baz=211							
NMLH	**Miaoli**	**1.10**	**278**	P		**Pn**	**04 36 25.7**	**+0.4**
	baz=278							
NMLH				S		**Sg**	**04 36 41.5**	**+1.1**
	baz=278							
TWQ1	**Liyutan**	**1.11**	**268**	*e*P		**Pg**	**04 36 26.2**	**+0.1**
	baz=267							
TWQ1				S		**Sn**	**04 36 40.3**	**0.0**
	baz=267							
SMLT	**Sun Moon Lake**	**1.11**	**244**	P		**Pb**	**04 36 24.7**	**-0.7**
	baz=234							
SMLT				*e*S		**Sb**	**04 36 39.5**	**-0.2**
	baz=234							
SSLB	**Suanglung**	**1.12**	**238**	*e*P		**Pn**	**04 36 24.6**	**-0.9**
	baz=227							
SSLB				*e*S		**Sb**	**04 36 39.7**	**0.0**
	baz=227							
NSY	**Sanyi**	**1.12**	**272**	*e*S		**Sg**	**04 36 42.1**	**+1.2**
	baz=271							
TYC	**Yuchr**	**1.14**	**245**	P		**Pn**	**04 36 25.3**	**-0.4**
	baz=251							
TYC				*e*S		**Sb**	**04 36 39.8**	**-0.6**
	baz=251							
YULB	**Yu-li**	**1.17**	**213**	*e*P		**Pn**	**04 36 23.7**	**-2.5**
	baz=210							
EYUL	**Yuli**	**1.20**	**211**	*e*P		**Pn**	**04 36 25.9**	**-0.6**
	baz=222							
EYUL				*e*S		**Sb**	**04 36 40.7**	**-1.3**
	baz=222							
TWF1	**Yuli**	**1.21**	**212**	P		**Pn**	**04 36 25.0**	**-1.6**
	baz=222							
TWF1				*e*S		**Sb**	**04 36 42.5**	**+0.2**
	baz=222							
WDJ	**Dajia District**	**1.23**	**269**	*e*S		**Sg**	**04 36 44.9**	**+0.5**
	baz=268							
WHYT	**Xinyi Township**	**1.24**	**237**	*e*P		**Pb**	**04 36 27.6**	**0.0**
	baz=234							
WHYT				*e*S		**Sn**	**04 36 44.4**	**+0.8**
	baz=234							
PCYT	**Pengchaiyu**	**1.24**	**3**	*e*P		**Pn**	**04 36 26.5**	**-0.7**
	baz=6.0							
PCYT				*e*S		**Sn**	**04 36 43.9**	**+0.3**
	baz=6.0							
WNT	**Mingjian**	**1.29**	**247**	P		**Pb**	**04 36 28.9**	**+0.5**
	baz=245							
WNT				S		**Sg**	**04 36 46.8**	**+0.4**
	baz=245							
FULB	**Fuli**	**1.34**	**209**	P		**Pn**	**04 36 28.0**	**-0.6**
	baz=219							
FULB				*e*S		**Sb**	**04 36 47.0**	**+0.8**
	baz=219							
WCHH	**Zhanghua**	**1.34**	**257**	*e*P		**Pb**	**04 36 29.9**	**+0.7**
	baz=255							
WCHH				*e*S		**Sg**	**04 36 47.6**	**-0.3**
	baz=255							
ALS	**Alishan**	**1.39**	**232**	P		**Pn**	**04 36 29.1**	**-0.3**
	baz=217							
ALS				S		**Sn**	**04 36 47.8**	**+0.2**
	baz=217							
CHKT	**Chengkung**	**1.40**	**204**	*e*P		**Pn**	**04 36 29.4**	**+0.1**
	baz=185							
CHKT				*e*S		**Sb**	**04 36 48.8**	**+1.0**
	baz=185							
CHN5	**Tsauling**	**1.43**	**237**	P		**Pn**	**04 36 30.4**	**+0.5**
	baz=235							
CHN5				S		**Sb**	**04 36 50.1**	**+1.2**
	baz=235							
ELDTW	**Lidau**	**1.48**	**217**	P		**Pn**	**04 36 29.3**	**-1.4**
	baz=214							
ELDTW				*e*S		**Sn**	**04 36 49.8**	**+0.1**
	baz=214							
WDLH	**Douliu**	**1.50**	**243**	*e*P		**Pb**	**04 36 31.7**	**-0.2**
	baz=241							
WDLH				*e*S		**Sg**	**04 36 53.2**	**+0.3**
	baz=241							
EDH	**Donghe**	**1.54**	**204**	*e*P		**Pn**	**04 36 29.3**	**-2.0**
	baz=189							
EDH				*e*S		**Sn**	**04 36 49.4**	**-1.4**
	baz=189							
RLNB	**Erlin**	**1.57**	**252**	*e*P		**Pn**	**04 36 32.4**	**+0.7**
	baz=250							
RLNB				*e*S		**Sb**	**04 36 53.6**	**+1.0**
	baz=250							
IRIF	**Iriomote-Funau**	**1.59**	**91**	P		**Pn**	**04 36 32.1**	**+0.2**
IRIF				S		**Sb**	**04 36 53.2**	**-0.1**
TPUB	**Ta-pu**	**1.65**	**229**	*e*P		**Pn**	**04 36 33.3**	**+0.6**
	baz=227							
TPUB				*e*S		**Sb**	**04 36 55.4**	**+0.5**
	baz=227							
STYT	**Tauyuan**	**1.66**	**223**	P		**Pn**	**04 36 33.2**	**+0.2**
	baz=210							
STYT				*e*S		**Sb**	**04 36 55.8**	**+0.4**
	baz=210							
WTP	**Ta-pu**	**1.69**	**228**	P		**Pn**	**04 36 33.8**	**+0.4**
	baz=226							
WTP				*e*S		**Sb**	**04 36 57.9**	**+1.5**
	baz=226							
TWG	**Pinlang**	**1.77**	**209**	*e*P		**Pn**	**04 36 34.1**	**-0.3**
	baz=195							
TWGBT	**Beinan**	**1.77**	**208**	*e*P		**Pn**	**04 36 34.3**	**-0.1**
	baz=195							
TWK	**Hsinying**	**1.77**	**231**	P		**Pn**	**04 36 35.0**	**+0.5**
	baz=229							
TWK				*e*S		**Sb**	**04 36 58.4**	**-0.1**
	baz=229							
SNST	**Tainan City**	**1.79**	**230**	*e*P		**Pb**	**04 36 37.2**	**+0.3**
	baz=228							
SNST				*e*S		**Sb**	**04 37 00.8**	**+1.7**
	baz=228							
CHN1	**Nanshi**	**1.79**	**229**	*e*P		**Pn**	**04 36 35.8**	**+1.0**
	baz=227							
CHN1				*e*S		**Sb**	**04 36 58.7**	**-0.5**
	baz=227							
JKRS	**Kuro-shima**	**1.85**	**94**	P		**Pn**	**04 36 36.1**	**+0.6**
JKRS				S		**Sn**	**04 36 59.3**	**+0.8**
SLGT	**Liugui**	**1.85**	**222**	*e*P		**Pn**	**04 36 36.2**	**+0.7**
	baz=220							
SLGT				S		**Sb**	**04 37 00.8**	**-0.1**
	baz=220							
ICHU	**Yijhu**	**1.87**	**237**	*e*P		**Pn**	**04 36 36.6**	**+0.8**
	baz=221							
ICHU				*e*S		**Sn**	**04 36 60.0**	**+1.1**
	baz=221							
JIJ	**Ishigaki jima**	**1.96**	**90**	P		**Pn**	**04 36 37.8**	**+0.7**
JIJ				S		**Sn**	**04 37 00.9**	**-0.5**
SSD	**Sandimen**	**2.05**	**218**	*e*P		**Pn**	**04 36 39.5**	**+1.2**
	baz=216							
TSMG	**Majia**	**2.08**	**217**	*e*P		**Pn**	**04 36 40.2**	**+1.5**
	baz=216							
JISG	**Ishigakijimahi**	**2.12**	**84**	P		**Pn**	**04 36 39.4**	**+0.1**
JISG				S		**Sn**	**04 37 05.7**	**+0.4**
MASBT	**Mashibuluo**	**2.16**	**216**	*e*P		**Pn**	**04 36 41.5**	**+1.7**
	baz=214							
MASBT				*e*S		**Sn**	**04 37 07.3**	**+1.2**
	baz=214							
EAST	**Anshuo**	**2.25**	**208**	*e*P		**Pn**	**04 36 40.2**	**-0.9**
	baz=197							
LAY	**Lan-yu**	**2.37**	**190**	*e*P		**Pn**	**04 36 41.0**	**-1.7**
	baz=179							
LAY				*e*S		**Sn**	**04 37 08.3**	**-3.1**
	baz=179							

*JMA **21** 04:51:33.4±0.2,24°.31N×121°.87E,h46$^{km}_{\pm}$4^{km},M3.1*
*TAP **21** 04:51:33.8,24°.41N×121°.93E,h26^{km},ML3.9,B*
ISC 21 04:51:34.1±1.0,**24°.39N**±0°.01×**121°.95E**±0°.02,**h19**$^{km}_{\pm}$2^{km},
n121,σ0**°72**/212,**8C-14D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.15**	**296**	⇓*i*P		**Pg**	**04 51 38.8**	**+0.4**
	baz=300							
ENAH				*i* S		**Sg**	**04 51 42.4**	**+1.1**
	baz=300							
ENA	**Nanau**	**0.20**	**282**	⇓*i*P		**Pg**	**04 51 39.3**	**+0.2**
	baz=277							
ENA				*i* S		**Sg**	**04 51 43.2**	**+0.6**
	baz=277							
TWC	**Suao**	**0.24**	**337**	⇓*i*P		**Pg**	**04 51 39.9**	**+0.1**
	baz=342							
TWC				*i* S		**Sg**	**04 51 43.9**	**+0.2**
	baz=342							
NACB	**Ninganchiao**	**0.39**	**237**	⇓*i*P		**Pg**	**04 51 42.2**	**0.0**
	baz=237							
NACB				S		**Sb**	**04 51 48.9**	**+0.7**
	baz=237							
ILA	**Ilan**	**0.42**	**334**	*i* P		**Pb**	**04 51 43.1**	**0.0**
	baz=330							
ILA				*i* S		**Sb**	**04 51 49.4**	**+0.2**
	baz=330							
TWE	**Neicheng**	**0.42**	**322**	⇓*i*P		**Pg**	**04 51 42.8**	**-0.1**
	baz=324							
TWE				*i* S		**Sg**	**04 51 48.9**	**+0.1**
	baz=324							
ENTT	**Nioudou**	**0.43**	**306**	⇑*i*P		**Pg**	**04 51 43.0**	**-0.1**
	baz=306							
ENTT				*i* S		**Sg**	**04 51 49.2**	**0.0**
	baz=306							
TWD	**Chiawan**	**0.45**	**227**

NNSB	**Datong** baz=279	**0.52**	**275**⇑	*i*P	**Pb**	**04 51 44.4**	**-0.3**
NNSB				S	**Sg**	**04 51 52.0**	**+0.1**
NNSH	**Datong** baz=276	**0.52**	**275**⇑	*i*P	**Pb**	**04 51 44.4**	**-0.3**
NNSH				*e*S	**Sg**	**04 51 51.9**	**+0.1**
NNS	**Nan Shan** baz=277	**0.53**	**276**⇑	*i*P	**Pb**	**04 51 44.5**	**-0.4**
NNS				*e*S	**Sb**	**04 51 52.3**	**0.0**
NWLT	**Wulai** baz=314	**0.57**	**314**⇑	*i*P	**Pb**	**04 51 45.1**	**-0.3**
NWLT				*e*S	**Sb**	**04 51 52.5**	**-0.6**
TIPB	**Shuangxi** baz=356	**0.60**	**349**⇓	*i*P	**Pb**	**04 51 45.7**	**-0.2**
TIPB				*e*S	**Sb**	**04 51 53.7**	**-0.2**
YHNB	**Yeheng** baz=298	**0.60**	**298**⇑	*i*P	**Pb**	**04 51 45.7**	**-0.3**
YHNB				*i* S	**Sb**	**04 51 53.8**	**-0.3**
NSK	**Sanguang** baz=298	**0.61**	**298**	P	**Pb**	**04 51 45.8**	**-0.4**
NSK				S	**Sb**	**04 51 54.1**	**-0.4**
TWB1	**Santiao Chiao** baz=1.0	**0.62**	**3**⇓	*i*P	**Pb**	**04 51 46.2**	**-0.1**
TWB1				*e*S	**Sb**	**04 51 54.7**	**+0.1**
FUSS	**Fushou** baz=261	**0.66**	**258**⇑	*i*P	**Pb**	**04 51 47.1**	**0.0**
FUSS				S	**Sg**	**04 51 56.6**	**+0.3**
WHF	**Hehuan Shan** baz=255	**0.67**	**249**⇓	*i*P	**Pb**	**04 51 47.3**	**-0.2**
WHF				S	**Sg**	**04 51 57.1**	**+0.5**
TWA	**Mucha** baz=325	**0.68**	**330**	*i* P	**Pb**	**04 51 47.4**	**+0.1**
TWA				*e*S	**Sb**	**04 51 56.0**	**-0.4**
NWF	**Wu-fen Shan** baz=342	**0.70**	**347**⇓	*i*P	**Pb**	**04 51 47.9**	**+0.1**
NWF				*e*S	**Sb**	**04 51 56.9**	**-0.1**
WFSB	**Wu-fen Shan** baz=342	**0.70**	**347**⇓	*i*P	**Pb**	**04 51 47.9**	**+0.1**
WFSB				S	**Sg**	**04 51 57.5**	**+0.1**
TWT	**Tachien** baz=258	**0.72**	**260**	P	**Pg**	**04 51 48.6**	**+0.2**
TWT				*e*S	**Sg**	**04 51 58.7**	**+0.6**
TATO	**Taipei** baz=320	**0.72**	**324**	*i* P	**Pb**	**04 51 48.0**	**-0.1**
TATO				S	**Sb**	**04 51 57.7**	**0.0**
TDCB	**Techi** baz=258	**0.74**	**260**	*i* P	**Pb**	**04 51 48.5**	**+0.1**
TDCB				S	**Sb**	**04 51 58.4**	**+0.1**
ESL	**Shilin** baz=231	**0.74**	**220**	*e*P	**Pb**	**04 51 47.8**	**-0.6**
ESL				*e*S	**Sg**	**04 51 59.2**	**+0.6**
TAP1	**Taipei** baz=329	**0.76**	**329**	P	**Pg**	**04 51 49.2**	**+0.2**
TAP1				S	**Sg**	**04 51 59.5**	**+0.3**
TAP	**Taipei** baz=329	**0.77**	**328**	*e*P	**Pb**	**04 51 48.1**	**-0.8**
TAP				S	**Sb**	**04 51 58.7**	**-0.2**
CHGB	**Renai** baz=244	**0.78**	**246**⇓	*i*P	**Pb**	**04 51 49.0**	**-0.2**
CHGB				*e*S	**Sb**	**04 51 59.9**	**+0.3**
OWD	**Renai** baz=226	**0.83**	**239**	*e*P	**Pb**	**04 51 49.2**	**-0.8**
YM01	**YM01** baz=348	**0.83**	**335**	P	**Pb**	**04 51 50.2**	**+0.1**
YM01				*e*S	**Sb**	**04 52 01.0**	**+0.1**
YM10	**YM10** baz=347	**0.85**	**335**	P	**Pb**	**04 51 50.5**	**+0.2**
YM10				*e*S	**Sg**	**04 52 01.8**	**-0.2**
YM11	**YM11** baz=348	**0.85**	**336**	*e*P	**Pb**	**04 51 50.6**	**+0.3**
YM11				*e*S	**Sg**	**04 52 02.1**	**0.0**
YM05	**YM05** baz=348	**0.85**	**336**	P	**Pb**	**04 51 50.2**	**-0.1**
YM05				*e*S	**Sg**	**04 52 02.1**	**0.0**
YM04	**YM04** baz=334	**0.85**	**334**	P	**Pb**	**04 51 50.2**	**-0.1**
YM04				S	**Sb**	**04 52 01.8**	**+0.3**
NWRT	**Kuosheng** baz=343	**0.86**	**342**	*e*P	**Pb**	**04 51 50.0**	**-0.4**
EGFH	**Guangfu** baz=226	**0.86**	**214**	*e*P	**Pb**	**04 51 49.4**	**-1.1**
EGFH				*e*S	**Sg**	**04 52 02.4**	**+0.1**
TWS1	**Kuangyinshan** baz=337	**0.86**	**326**	*e*P	**Pb**	**04 51 50.7**	**+0.2**
TWS1				S	**Sn**	**04 52 03.3**	**-0.1**
YM08	**YM08** baz=350	**0.86**	**338**	*e*P	**Pb**	**04 51 50.4**	**-0.2**
YM08				*e*S	**Sb**	**04 52 01.8**	**0.0**
YM03	**YM03** baz=335	**0.88**	**335**	*e*P	**Pb**	**04 51 50.8**	**+0.1**
YM03				*e*S	**Sg**	**04 52 02.9**	**0.0**
ANP	**Anpu** baz=322	**0.89**	**334**	*e*P	**Pb**	**04 51 51.1**	**+0.1**
LIOB	**Emei** baz=286	**0.89**	**287**	P	**Pg**	**04 51 51.6**	**0.0**
LIOB				*e*S	**Sn**	**04 52 04.7**	**+0.5**
NTST	**Danshui** baz=340	**0.90**	**329**	*e*P	**Pb**	**04 51 51.0**	**-0.2**
NTST				*e*S	**Sn**	**04 52 04.1**	**-0.2**
NSTT	**Nanjuang** baz=285	**0.90**	**286**	*e*P	**Pb**	**04 51 51.3**	**+0.1**
NSTT				*e*S	**Sg**	**04 52 03.5**	**-0.2**
JYNG	**Yonaguniimaku**	**0.91**	**86**	P	**Pb**	**04 51 51.1**	**-0.1**
JYNG				S	**Sn**	**04 52 04.4**	**0.0**
NCU	**National Centr** baz=296	**0.91**	**310**	*e*P	**Pg**	**04 51 51.8**	**-0.1**
NCU				*e*S	**Sn**	**04 52 05.1**	**+0.6**
NCUH	**Zhongli** baz=296	**0.91**	**310**	*e*P	**Pb**	**04 51 51.4**	**+0.1**
NCUH				*e*S	**Sg**	**04 52 04.1**	**+0.2**
WHP	**Taichung City** baz=262	**0.93**	**264**	*e*P	**Pb**	**04 51 51.9**	**+0.3**
WHP				*e*S	**Sg**	**04 52 04.6**	**+0.1**
TWY	**Chenhua** baz=341	**0.94**	**340**	P	**Pn**	**04 51 52.4**	**+0.1**
TWY				*e*S	**Sb**	**04 52 04.3**	**+0.3**
YOJ	**Yonaguni jima** baz=79	**0.97**	**85**	*i* P	**Pb**	**04 51 52.2**	**0.0**
YOJ				*e*S	**Sb**	**04 52 05.3**	**+0.6**
YOJ	**Yonaguni jima** baz=79	**0.97**	**85**	P	**Pb**	**04 51 52.3**	**0.0**
YOJ				S	**Sg**	**04 52 05.7**	**0.0**
SBCB	**Hsinchu** baz=294	**0.97**	**295**	*e*P	**Pb**	**04 51 52.5**	**+0.1**
SBCB				*e*S	**Sn**	**04 52 07.0**	**+1.0**
VWDT	**VWDT** baz=228	**0.97**	**230**	P	**Pb**	**04 51 51.8**	**-0.5**
VWDT				*e*S	**Sn**	**04 52 06.5**	**+0.4**
HSN	**Hsinchu** baz=297	**0.99**	**295**	*e*P	**Pb**	**04 51 52.8**	**+0.1**
HSN				*e*S	**Sn**	**04 52 06.1**	**-0.3**
HGSD	**Ruisui** baz=207	**1.01**	**209**	*e*P	**Pb**	**04 51 52.4**	**-0.7**
HGSD				*e*S	**Sg**	**04 52 08.0**	**+0.8**
EHY	**Hungye** baz=212	**1.05**	**214**	*e*P	**Pb**	**04 51 51.6**	**-2.1**
EHY				*e*S	**Sn**	**04 52 08.1**	**+0.1**
NMLH	**Miaoli** baz=277	**1.07**	**278**	*e*P	**Pb**	**04 51 54.1**	**0.0**
NMLH				*e*S	**Sg**	**04 52 09.6**	**+0.6**
TWQ1	**Liyutan** baz=267	**1.08**	**268**	*e*P	**Pg**	**04 51 54.9**	**-0.2**
TWQ1				*e*S	**Sg**	**04 52 09.7**	**+0.5**
SMLT	**Sun Moon Lake** baz=234	**1.08**	**243**	*e*P	**Pb**	**04 51 53.8**	**-0.6**
SMLT				*e*S	**Sn**	**04 52 09.0**	**0.0**
NSY	**Sanyi** baz=271	**1.09**	**272**	*e*P	**Pg**	**04 51 55.0**	**-0.2**
NSY				*e*S	**Sg**	**04 52 11.2**	**+1.7**
SSLB	**Suanglung** baz=227	**1.09**	**237**	P	**Pb**	**04 51 53.7**	**-0.7**
SSLB				*e*S	**Sn**	**04 52 09.1**	**+0.1**
TYC	**Yuchr** baz=243	**1.11**	**245**	P	**Pn**	**04 51 54.5**	**-0.2**
TYC				*e*S	**Sb**	**04 52 09.0**	**+0.2**
PTSB	**Yuanli** baz=272	**1.14**	**273**	*e*P	**Pn**	**04 51 54.5**	**-0.6**
PTSB				*e*S	**Sg**	**04 52 12.2**	**+0.9**
YULB	**Yu-li** baz=210	**1.16**	**211**	P	**Pn**	**04 51 53.2**	**-2.1**
YULB				*e*S	**Sn**	**04 52 11.1**	**+0.5**
EYUL	**Yuli** baz=222	**1.19**	**209**	*e*P	**Pn**	**04 51 55.5**	**-0.2**
TCU	**Taichung** baz=257	**1.19**	**259**	*e*P	**Pg**	**04 51 57.5**	**+0.4**
TCU				*e*S	**Sg**	**04 52 12.4**	**-0.4**
TWF1	**Yuli** baz=222	**1.19**	**210**	P	**Pn**	**04 51 53.9**	**-1.9**
TWF1				*e*S	**Sg**	**04 52 12.5**	**-0.3**
WDJ	**Dajia District** baz=267	**1.20**	**268**	*e*P	**Pn**	**04 51 55.8**	**-0.1**
WDJ				*e*S	**Sg**	**04 52 13.1**	**+0.1**
PCYT	**Pengchaiyu** baz=7.0	**1.24**	**5**	P	**Pn**	**04 51 55.4**	**-1.1**
WNT	**Mingjian** baz=245	**1.27**	**247**	*e*P	**Pb**	**04 51 58.2**	**+0.8**
WNT				*e*S	**Sg**	**04 52 15.8**	**+0.6**
WCHH	**Zhanghua** baz=255	**1.31**	**257**	*e*P	**Pn**	**04 51 57.6**	**+0.2**
WCHH				*e*S	**Sg**	**04 52 15.8**	**-0.8**
FULB	**Fuli** baz=219	**1.33**	**207**	*e*P	**Pn**	**04 51 56.7**	**-1.0**
FULB				*e*S	**Sb**	**04 52 15.2**	**+0.1**
ALS	**Alishan** baz=218	**1.36**	**231**	P	**Pn**	**04 51 58.5**	**+0.1**
ALS				*e*S	**Sn**	**04 52 16.4**	**+0.2**
CHKT	**Chengkung** baz=187	**1.39**	**203**	*e*P	**Pn**	**04 51 56.5**	**-2.0**
CHN5	**Tsauling** baz=235	**1.41**	**236**	*e*P	**Pn**	**04 51 59.5**	**+0.6**
CHN5				*e*S	**Sb**	**04 52 18.5**	**+1.1**
ELDTW	**Lidau** baz=204	**1.47**	**216**	*e*P	**Pn**	**04 51 58.3**	**-1.4**
WDLH	**Douliu** baz=241	**1.47**	**242**	*e*P	**Pb**	**04 52 00.6**	**-0.2**
WDLH				*e*S	**Sg**	**04 52 21.4**	**-0.2**
EDH	**Donghe** baz=190	**1.53**	**203**	*e*P	**Pn**	**04 51 58.4**	**-2.0**
RLNB	**Erlin** baz=250	**1.54**	**252**	*e*P	**Pn**	**04 52 01.2**	**+0.7**
RLNB				*e*S	**Sb**	**04 52 21.4**	**+0.3**
WTK	**Tuku** baz=242	**1.59**	**244**	*e*P	**Pn**	**04 52 01.8**	**+0.6**
CHN2	**Minshiung** baz=237	**1.60**	**238**	*e*P	**Pb**	**04 52 03.6**	**+0.6**
CHN2				*e*S	**Sg**	**04 52 24.7**	**-1.0**
IRIF	**Iriomote-Funau**	**1.62**	**91**	P	**Pn**	**04 52 01.5**	**-0.2**
IRIF				S	**Sn**	**04 52 21.7**	**-0.3**
TPUB	**Ta-pu** baz=214	**1.62**	**229**	*e*P	**Pn**	**04 52 02.3**	**+0.5**
TPUB				*e*S	**Sb**	**04 52 23.5**	**-0.1**
STYT	**Tauyuan** baz=211	**1.64**	**222**	*e*P	**Pn**	**04 52 02.5**	**+0.5**
STYT				*e*S	**Sb**	**04 52 24.7**	**+0.7**
CHY	**Chiayi** baz=237	**1.66**	**238**	*e*P	**Pb**	**04 52 03.4**	**-0.6**
CHY				*e*S	**Sb**	**04 52 25.0**	**+0.5**
WTP	**Ta-pu** baz=226	**1.67**	**228**	*e*P	**Pn**	**04 52 03.4**	**+0.9**
WTP				*e*S	**Sg**	**04 52 27.1**	**-1.0**
HATJ	**Hateruma jima**	**1.72**	**101**	S	**Sn**	**04 52 24.0**	**-0.5**
TWGBT	**Beinan** baz=195	**1.75**	**207**	*e*P	**Pn**	**04 52 01.6**	**-2.0**
TWG	**Pinlang** baz=195	**1.75**	**208**	*e*P	**Pn**	**04 52 01.6**	**-1.9**
LDUT	**Ludao** baz=182	**1.76**	**195**	*e*P	**Pn**	**04 52 01.1**	**-2.6**
SNST	**Tainan City** baz=228	**1.77**	**229**	*e*P	**Pb**	**04 52 05.1**	**-0.9**
CHN1	**Nanshi** baz=227	**1.77**	**228**	*e*P	**Pn**	**04 52 05.0**	**+1.2**
SGST	**Jiashian** baz=211	**1.81**	**224**	*e*P	**Pn**	**04 52 04.9**	**+0.7**
SGST				*e*S	**Sb**	**04 52 30.2**	**+1.3**
SLGT	**Liugui** baz=220	**1.83**	**221**	*e*P	**Pn**	**04 52 05.6**	**+0.9**
SLGT				*e*S	**Sb**	**04 52 31.3**	**+1.6**
ICHU	**Yijhu** baz=221	**1.84**	**237**	*e*P	**Pn**	**04 52 05.8**	**+1.1**
ICHU				*e*S	**Sb**	**04 52 30.1**	**+0.2**
JKRS	**Kuro-shima**	**1.88**	**94**	P	**Pn**	**04 52 05.8**	**+0.5**
JKRS				S	**Sn**	**04 52 29.0**	**+0.5**
CHN8	**Yiju** baz=223	**1.90**	**237**	*e*S	**Sb**	**04 52 33.2**	**+1.6**
JIJ	**Ishigaki jima**	**2.00**	**90**	P	**Pn**	**04 52 07.3**	**+0.4**
JIJ				*e*S	**Sn**	**04 52 30.7**	**-0.6**
ECL	**Taimali** baz=197	**2.00**	**207**	*e*P	**Pn**	**04 52 05.1**	**-1.9**
SCST	**Cishan** baz=222	**2.00**	**222**	*e*P	**Pb**	**04 52 08.7**	**-1.3**
SSD	**Sandimen** baz=217	**2.03**	**217**	*e*P	**Pn**	**04 52 09.0**	**+1.6**
TSMG	**Majia** baz=216	**2.06**	**216**	*e*P	**Pn**	**04 52 09.1**	**+1.4**
MASBT	**Mashibuluo** baz=215	**2.14**	**215**	*e*P	**Pn**	**04 52 09.4**	**+0.5**
MASBT				*e*S	**Sn**	**04 52 36.7**	**+1.8**
JISG	**Ishigakijimahi**	**2.16**	**84**	P	**Pn**	**04 52 08.8**	**-0.3**
JISG				S	**Sn**	**04 52 35.4**	**+0.1**
EAST	**Anshuo** baz=199	**2.24**	**207**	*e*P	**Pn**	**04 52 11.2**	**+1.0**
TAW	**Tawu** baz=206	**2.24**	**206**	*e*P	**Pn**	**04 52 10.2**	**0.0**
PTTC	**Pingtan** baz=298	**2.27**	**300**	*e*P	**Pn**	**04 52 09.7**	**-1.0**
PNG	**Penghu** baz=247	**2.34**	**250**	*e*P	**Pn**	**04 52 10.5**	**-1.1**
PNG				*e*S	**Sn**	**04 52 39.2**	**-0.6**
PHUB	**P'eng-hu** baz=246	**2.35**	**249**	*e*P	**Pn**	**04 52 11.4**	**-0.3**
PHUB				*e*S	**Sn**	**04 52 40.0**	**+0.1**
SCZT	**Fangliau** baz=200	**2.35**	**212**	*e*P	**Pn**	**04 52 12.6**	**+0.9**
WDGT	**Dungji** baz=240	**2.38**	**242**	*e*P	**Pn**	**04 52 12.1**	**0.0**
SLIU	**Shizi** baz=199	**2.41**	**206**	*e*P	**Pn**	**04 52 13.4**	**+0.9**
JTJ	**Tarama**	**2.52**	**84**	P	**Pn**	**04 52 15.3**	**+1.3**
JTJ				*e*S	**Sn**	**04 52 44.8**	**+0.6**
TWKBT	**Hengchun** baz=194	**2.65**	**204**	*e*P	**Pn**	**04 52 15.5**	**-0.4**
PTMZ	**Houxiangcun** baz=280	**2.66**	**285**	*e*P	**Pn**	**04 52 15.0**	**-1.0**
MHZQ	**Yeshan** baz=302	**3.15**	**303**	*e*P	**Pn**	**04 52 21.8**	**-0.9**
KNMB	**Chin-men Tao** baz=267	**3.25**	**272**	*e*P	**Pn**	**04 52 23.1**	**-1.0**

*MEX **21** 04:59:33.9±0.7, 15°.76N×95°.49W, h10km±11km, MD4.3*
ISC 21 04:59:31.0±1.3, **15°.80N**±0°.05×**95°.49W**±0°.03, **h11**km±10km, **n36**, σ1.9**71**/55, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
HUIG	**Huatulco**	**0.59**	**267**	*i* P		**Pb**		**04 59 44.6**	**+1.3**
HUIG				*i* S		**Sb**		**04 59 52.5**	**+0.8**
HUIG	**Huatulco**	**0.59**	**267**			**Pb**		**04 59 44.6**	**+1.3**
HUIG						**Sb**		**04 59 52.5**	**+0.8**
PANG	**Puerto Angel**	**0.95**	**262**	*i* P		**Pg**		**04 59 49.2**	**-0.1**
PANG				*i* S		**Sg**		**05 00 01.3**	**-0.4**
PANG	**Puerto Angel**	**0.95**	**262**			**Pg**		**04 59 49.2**	**-0.1**
PANG						**Sg**		**05 00 00.5**	**-1.2**
CMIG	**Matias Romero**	**1.41**	**24**	*i* P		**Pn**		**04 59 56.2**	**-0.3**
CMIG				*i* S		**Sb**		**05 00 14.2**	**-1.1**
CMIG	**Matias Romero**	**1.41**	**24**			**Pn**		**04 59 56.2**	**-0.3**
CMIG						**Sb**		**05 00 14.2**	**-1.1**
PEIG	**Puerto Escondi**	**1.60**	**277**	*i* P		**Pn**		**04 59 58.5**	**-0.7**
PEIG				*i* S		**Sn**		**05 00 19.0**	**-0.9**
OXBJ	**Oaxaca**	**1.73**	**317**	*i* P		**Pn**		**04 59 59.5**	**-1.5**
OXBJ				*i* S		**Sn**		**05 00 23.4**	**+0.2**
OXBJ	**Oaxaca**	**1.73**	**317**			**Sg**		**05 00 26.7**	**+0.1**
PCIG		**2.19**	**92**	*i* P		**Pn**		**05 00 07.2**	**-0.1**
PCIG				*i* S		**Sn**		**05 00 33.0**	**-1.5**
PCIG		**2.19**	**92**			**Pn**		**05 00 07.2**	**-0.1**
PCIG						**Sn**		**05 00 33.0**	**-1.5**
YOIG	**Yosondua**	**2.23**	**298**	*e*P		**Pn**		**05 00 09.4**	**+1.3**
YOIG				*i* S		**Sn**		**05 00 35.8**	**0.0**
PNIG	**Pinotepa**	**2.60**	**283**	*i* P		**Pn**		**05 00 13.1**	**+0.2**
PNIG				*i* S		**Sn**		**05 00 44.3**	**-0.2**
PNIG	**Pinotepa**	**2.60**	**283**			**Pn**		**05 00 13.1**	**+0.2**
PNIG						**Sn**		**05 00 46.7**	**+2.2**
TXIG	**Tlaxiaco**	**2.62**	**304**	*e*P		**Pn**		**05 00 15.0**	**+1.6**
TXIG				*i* S		**Sn**		**05 00 44.7**	**-0.6**
TOIG	**Toxpalan**	**2.73**	**327**	*i* P		**Pb**		**05 00 18.5**	**-1.4**
TOIG				*i* S		**Sb**		**05 00 55.1**	**+1.6**
CCIG	**Comitan**	**3.26**	**81**			**Pn**		**05 00 22.9**	**+0.7**
CCIG					Sn	**Sn**		**05 01 02.4**	**+1.2**
TLIG	**Tlapa**	**3.43**	**301**	*i* P		**Pn**		**05 00 26.8**	**+2.4**
TLIG				*e*S		**Sb**		**05 01 11.5**	**-2.0**
TLIG	**Tlapa**	**3.43**	**301**			**Pn**		**05 00 25.0**	**+0.6**
TLIG						**Sn**		**05 01 08.8**	**+3.8**
CRIG	**Cruz Grande**	**3.62**	**285**	*i* P		**Pn**		**05 00 27.4**	**+0.5**
CRIG				*i* S		**Sn**		**05 01 04.2**	**-5.4**
HUEH	**Huehuetenango**	**3.88**	**97**	Pn		**Pn**		**05 00 30.6**	**-0.1**
RTAL	**Retalhuleu**	**3.88**	**109**	Pn		**Pn**		**05 00 29.9**	**-0.7**
CAIG	**El Cayaco**	**4.75**	**286**	*e*P		**Pn**		**05 00 43.5**	**+1.1**
CAIG				*e*S		**Sn**		**05 01 30.2**	**-7.2**
PETF	**Flores**	**5.51**	**78**	Pn		**Pn**		**05 00 54.0**	**+0.9**
ESQI	**Esquipulas**	**6.07**	**101**	Pn		**Pn**		**05 01 00.3**	**-0.4**
MTO3	**Montecristo**	**6.09**	**102**	Pn		**Pn**		**05 01 00.7**	**-0.4**
TEIG	**Tepich**	**8.15**	**56**	Pn		**Pn**		**05 01 29.4**	**+0.1**
CRIN	**San Cristobal**	**8.75**	**110**	Pn		**Pn**		**05 01 37.0**	**-0.5**
435B	**Jarrell**	**15.03**	**353**	Pn		**Pn**		**05 03 04.9**	**+1.5**
TX32	**Lajitas Array**	**15.43**	**332**	Pn		**Pn**		**05 03 10.1**	**+1.4**
MIAR	**Mount Ida**	**18.74**	**5**	P		**P**		**05 03 49.3**	**-0.5**
MIAR				IAmb		IAmb		05 04 08.8	
	comp=Z,4.0nm,0.8s								
FCAR	**Ozark Folk Cen**	**20.23**	**8**	P		**P**		**05 04 05.3**	**-0.8**
LCAR	**Lake Charles**	**20.55**	**10**	P		Pn		05 04 10.9	-0.9
LCAR				IAmb		IAmb		05 04 13.5	
	comp=Z,4.4nm,0.9s								
U38A	**Gravette**	**20.58**	**3**	P		**P**		**05 04 11.0**	**+1.2**
U38A				IAmb		IAmb		05 04 17.7	
	comp=Z,3.6nm,0.9s								
U40A	**Yellville**	**20.61**	**6**	P		**P**		**05 04 09.8**	**-0.4**
T42A	**Van Buren**	**21.50**	**10**	P		**P**		**05 04 21.1**	**+1.3**
T42A				IAmb		IAmb		05 04 23.5	
	comp=Z,5.2nm,0.9s								

*IDC **21** 05:11:19.9±1.1, 26°.00N×100°.95E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/51, mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=33.1km s-min=18.5km az=75.0*
*BJI **21** 05:11:21.5±0.0, 25°.85N×100°.48E, h18km, ML3.9/14, Ms3.8/6, Ms7 3.6/3*
ISC 21 05:11:23.8±0.8, **26°.20N**±0°.05×**100°.54E**±0°.06, **h10**km, **n14**, σ2.**09**/18, **mb3.9**/6, **1C**, **Yunnan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KMI	**Kunming**	**2.25**	**118**⇑	*e*Pg		**Pn**		**05 11 58.8**	**-2.6**
KMI					Sg	**Sn**		**05 12 29.4**	**+0.1**
KMI					smax	smax			
	comp=N,2μm,1.1s								
KMI					smax	smax			
	comp=E,2μm,0.8s								
CD2	**Chengdu**	**5.48**	**30**		Pn	**Pn**		**05 12 47.8**	**+2.2**
CD2					Pg	Pb		05 13 07.3	+7.6
CD2					Sg	**Sg**		**05 14 18.4**	**-1.4**
CD2					smax	smax			
	comp=N,140nm,1.3s								
CD2					smax	smax			
	comp=E,150nm,1.4s								
GYA	**Guiyang**	**5.50**	**86**		Pn	**Pn**		**05 12 49.1**	**+3.2**
GYA					Sn	**Sn**		**05 13 49.0**	**-0.3**
GYA					Sg	**Sg**		**05 14 20.9**	**+0.5**
GYA					smax	smax			
	comp=N,52nm,1.0s								
GYA					smax	smax			
	comp=E,29nm,0.9s								
GYA					LR	LR			
	comp=N,720nm,5.4s								
GYA					LR	LR			
	comp=E,590nm,7.1s								
GYA					LR	LR			
	comp=Z,410nm,7.2s								
CMAR	**Chiang Mai Arr**	**7.84**	**191**		Pn	**Pn**		**05 13 15.7**	**-2.4**
	0.3nm,0.3s,baz=9.2,slow=12,SNR=5.1								
CMAR					Pg	**Pb**		**05 13 41.4**	**+1.5**
	2.2nm,0.3s,baz=359,slow=17,SNR=44								
CMAR					Lg	Lg		05 15 16.5	
	2.4nm,0.3s,baz=7.8,slow=29,SNR=14								
LZH	**Lanzhou**	**10.26**	**15**	*e*P		Pn		05 13 49.3	-1.9
LZH					pP			05 13 52.9	
LZH					sP			05 13 54.8	
LZH					pmax	pmax			
	comp=Z,12nm,1.1s								
LZH					pmax	pmax			
	comp=Z,99nm,4.3s								
LZH					LR	LR			
	comp=N,310nm,9.2s								
LZH					LR	LR			
	comp=E,780nm,9.3s								
LZH					LR	LR			
	comp=Z,300nm,9.2s								
XAN	**Xi'an**	**10.66**	**41**	P		**Pn**		**05 13 56.3**	**-0.3**
XAN				S		**Sn**		**05 15 55.9**	**-0.2**
XAN				LR		LR			
	comp=Z,330nm,7.8s								
XAN				LR		LR			
	comp=Z,270nm,12.7s								
XAN				LR		LR			
	comp=Z,190nm,11.9s								
QIZ	**Qiongzhong**	**11.16**	**128**	P		Pn		05 13 56.1	-7.4
QIZ				S		**Sn**		**05 16 09.9**	**+1.5**
QIZ				LR		LR			
	comp=N,190nm,20.6s								
WMQ	**Urumqi**	**20.45**	**333**	*e*P		**P**		**05 16 01.3**	**-0.1**

WMQ				pP	Pn	05 16 05.3	+1.7		
WMQ				sP	sP	05 16 08.8	+2.4		
WMQ				PP	PnPn	**05 16 22.8**	**+4.1**		
SONM	**Songino Array**	**22.08**	**11**	P	**P**	**05 16 18.1**	**-1.0**		
	comp=N,0.7nm,0.4s,baz=18,slow=42,SNR=2.1								
MKAR	**Makanchi Array**	**25.14**	**330**	P	**P**	**05 16 49.3**	**+0.2**		
	comp=N,2.8nm,0.6s,baz=136,slow=10,SNR=23								
KSRS	**Korea Array**	**25.74**	**57**	P	**P**	**05 16 51.0**	**-3.5**		
	comp=N,1.2nm,0.6s,baz=250,slow=9.4,SNR=4.9								
BVAR	**Borovoye Array**	**35.00**	**328**	P	**P**	**05 18 17.4**	**+1.2**		
	comp=N,0.6nm,0.4s,baz=114,slow=6.6,SNR=3.8								
WRA	**Warramunga Arr**	**56.39**	**141**	P	P	05 20 59.6	-6.0		
	comp=N,2.0nm,1.0s,baz=330,slow=7.7,SNR=7.1								
ASAR	**Alice Springs**	**59.15**	**144**	P	P	05 21 19.8	-5.2		
	comp=N,0.4nm,0.4s,baz=317,slow=6.4,SNR=4.8								

ASRS 21 05:15:27.7±0.4, 52°N±3°×9°6E±°, h10km, MLv3.8/8, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDJR	**Todzha**	**0.67**	**9**	Pg	Pn	05 15 45.5	+2.1
TDJR				Sg	Sn	05 15 55.5	+1.4
KZLR	**Kyzyl**	**0.92**	**269**	Pg	Pn	05 15 48.6	+1.9
KZLR				Sg	Sn	05 16 00.6	+0.6
ARDR	**Aradan**	**1.75**	**300**	Pg	Pg	05 16 03.4	+2.1
ARDR				Sg	Sg	05 16 26.9	+2.7
ORL	**Orlik**	**2.52**	**70**	Pg	Pg	05 16 16.4	+0.3
ORL				Sg	Sg	05 16 48.9	+0.1
DJOS	**Djoyskaya Sosn**	**2.98**	**293**	Pg	Pg	05 16 25.1	+0.4
DJOS				Sg	Sg	05 17 01.9	-1.4
CERR	**Cheremushki**	**2.99**	**294**	Pg	Pg	05 16 25.7	+0.7
CERR				Sg	Sg	05 17 03.4	-0.3
DJO	**Djoy, Khakassi**	**3.08**	**292**	Pg	Pg	05 16 27.9	+1.3
DJO				Sg	Sg	05 17 06.2	-0.3
MOY	**Mondy**	**3.15**	**89**	Pg	Pg	05 16 27.6	-0.5
MOY				Sg	Sg	05 17 08.5	-0.4
ABNR	**Abakan**	**3.38**	**308**	Pg	Pg	05 16 32.4	-0.1
ABNR				Sg	Sg	05 17 17.4	+1.2
TBTR	**Tabat**	**3.41**	**293**	Pg	Pg	05 16 33.3	+0.3
TBTR				Sg	Sg	05 17 15.4	-1.8

IDC 21 05:20:06.2±428.0, 42°27N×115°30W, h0km, Error ellipse: s-maj=167.4km s-min=117.0km az=172.0, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**6.13**	**349**	*i*		05 53 50.0	
	baz=167,slow=325,SNR=2.3						
I57US	**PINON FLAT INF**	**8.70**	**186**	*i*		06 14 20.0	
	baz=4.8,slow=303,SNR=0.7						
I53US	**FAIRBANKS INFR**	**29.16**	**332**	*i*		08 22 20.0	
	baz=126,slow=330,SNR=0.5						

*ECX **21** 05:23:36.7±1.0, 31°.23N×115°.90W, h7km±16km, MD2.5, ML2.7*
*MEX **21** 05:23:37.0±0.6, 31°.04N×115°.96W, h16km±17km, MD3.5*
ISC 21 05:23:35.7±1.0, 31°.23N±0°.03×115°.90W±0°.03, h11km±8km, n19, σ0°.86/35, 4C-3D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTX	**Valle De La Tr**	**0.19**	**33**	↑*iP*	**Pg**	**05 23 39.6**	**-0.3**
VTX				*i* S	**Sg**	**05 23 42.3**	**-0.4**
SVX	**San Vicente**	**0.31**	**288**	↑*iP*	**Pg**	**05 23 42.9**	**+0.9**
SVX				*eS*	**Sg**	**05 23 47.2**	**+1.0**
SPIG	**San Pedro Mart**	**0.42**	**116**	*iP*	**Pg**	**05 23 44.6**	**+0.6**
SPIG				*i* S	**Sg**	**05 23 50.2**	**+0.5**
SPIG	**San Pedro Mart**	**0.42**	**116**	*eP*	**Pg**	**05 23 44.2**	**+0.1**
SPIG				*eS*	**Sg**	**05 23 50.1**	**+0.5**
SPX	**San Pedro Mart**	**0.42**	**117**	*eP*	**Pg**	**05 23 44.0**	**-0.1**
SPX				*i* S	**Sg**	**05 23 50.1**	**+0.4**
SPX	**San Pedro Mart**	**0.42**	**117**	↓*iP*	**Pg**	**05 23 44.6**	**+0.5**
SPX				*eS*	**Sg**	**05 23 50.2**	**+0.4**
SPX				*e*		05 23 51.1	
SPX				IAML		05 23 51.1	
	comp=E,612nm,0.1s						
SJX	**San Joaquin**	**0.53**	**355**	*eP*	**Pn**	**05 23 50.5**	**+1.2**
SJX				*eS*	**Sn**	**05 24 00.3**	**+2.0**
SJX				IAML		05 24 02.0	
	comp=N,658nm,0.1s						
SJX				↓*e*		05 24 02.0	
SQX	**San Quintin**	**0.65**	**178**	↓*eP*	**Pg**	**05 23 47.5**	**-0.8**
SQX				*i* S	**Sg**	**05 23 56.4**	**-0.5**
ECBX	**El Chinero**	**0.77**	**71**	↑*iP*	**Pg**	**05 23 50.9**	**+0.4**
ECBX				*i* S	**Sg**	**05 24 00.8**	**+0.2**
CCX	**Cicese**	**0.91**	**315**	*eP*	**Pg**	**05 23 53.1**	**-0.1**
CCX				*eS*	**Sg**	**05 24 05.6**	**+0.5**
SFX	**San Felipe**	**0.92**	**102**	*eP*	**Pg**	**05 23 52.4**	**-1.1**
SFX				*eS*	**Sg**	**05 24 05.2**	**-0.3**
SFX				IAML		05 24 07.7	
	comp=N,237nm,0.2s						
SFX				↑*e*		05 24 07.7	
CBX	**Cerro Bola**	**1.26**	**329**	*eP*	**Pn**	**05 23 58.6**	**-0.8**
CBX				*i* S	**Sg**	**05 24 14.7**	**-1.6**
CBX	**Cerro Bola**	**1.26**	**329**	*eP*	**Pn**	**05 23 58.5**	**-0.8**
CBX				*eS*	**Sg**	**05 24 15.5**	**-0.8**
CBX				IAML		05 24 19.9	
	comp=N,157nm,0.3s						
MBIG	**Mexicali**	**1.32**	**27**	*eP*	**Pn**	**05 23 59.9**	**-0.1**
MBIG				*i* S	**Sb**	**05 24 17.9**	**+0.5**
TJIG	**Tijuana**	**1.37**	**332**	*eP*	**Pn**	**05 24 00.2**	**-0.5**
TJIG				*i* S	**Sb**	**05 24 18.0**	**-0.8**
TJIG	**Tijuana**	**1.37**	**332**	*iP*	**Pn**	**05 24 00.2**	**-0.5**
RMX	**La Rumorosa**	**1.38**	**354**	*eP*	**Pn**	**05 23 59.7**	**-1.3**
RMX				*eS*	**Sb**	**05 24 17.5**	**-1.7**
BAR	**Barrett**	**1.59**	**336**	*eP*	**Pn**	**05 24 03.8**	**0.0**
SDRC	**San Diego Road**	**1.74**	**330**	*eP*	**Pn**	**05 24 06.6**	**+0.7**

*IDC **21** 05:24:54.0±5.3, 4°.29S×150°.06E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/29, mbtmp3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/37, Error ellipse: s-maj=132.5km s-min=29.0km az=160.0*
*NEIC **21** 05:24:54.3±1.7, 3°.65S±0°.1×149°.87E±0°.07, h36km±16km, mb4.2/8, Error ellipse: s-maj=18.7km s-min=8.9km az=202.0*
ISC 21 05:24:51.4±2.9, 3°.65S±0°.4×150°.2E±0°.1, h19km, n16, σ1°.08/15, mb4.1/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.96**	**110**	Pn	**Pg**	**05 25 28.5**	**-0.6**
	7.9nm,0.3s,baz=188,slow=13,SNR=2.3						
RABL	**Rabaul**	**2.06**	**105**	Pn	**Pg**	**05 25 30.9**	**0.0**
PMG	**Port Moresby**	**6.46**	**207**	Pn	**Pn**	**05 26 25.9**	**+0.3**
WB0	**Warramunga Arr**	**22.23**	**223**	P	**P**	**05 29 45.3**	**-1.8**
WB0				IAmb	IAmb	05 29 54.4	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**22.26**	**222**	P	**P**	**05 29 46.1**	**-1.3**
WR0				IAmb	IAmb	05 30 06.1	
	comp=Z,6.4nm,1.1s						
WB2	**Warramunga Arr**	**22.38**	**222**	P	**P**	**05 29 48.1**	**-0.6**
WB2				IAmb	IAmb	05 30 01.0	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**22.38**	**222**	P	**P**	**05 29 48.0**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=49,slow=10,SNR=10.0						
WRA	**Warramunga Arr**	**22.38**	**222**	P	**P**	**05 29 48.8**	**0.0**
ASAR	**Alice Springs**	**25.37**	**217**	P	**P**	**05 30 17.6**	**0.0**
	comp=Z,0.9nm,0.5s,baz=54,slow=8.4,SNR=7.7						
ASAR	**Alice Springs**	**25.37**	**217**	P	**P**	**05 30 18.7**	**+1.1**
ARMA	**Armidale**	**26.67**	**177**	P	**P**	**05 30 28.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**27.99**	**237**	P	**P**	**05 30 39.2**	**-2.0**
FITZ				IAmb	IAmb	05 30 51.9	
	comp=Z,4.0nm,0.8s						
STKA	**Stephens Creek**	**29.22**	**195**	P	**P**	**05 30 52.3**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=14,slow=16,SNR=4.1						
STKA	**Stephens Creek**	**29.22**	**195**	P	**P**	**05 30 52.6**	**+0.6**
PETK	**Petropavlovsk-**	**56.90**	**5**	LR	LR	05 55 13.0	
	comp=Z,60nm,21.6s,baz=238,slow=32						
QSPA	**South Pole Qui**	**86.31**	**180**	P	**P**	**05 37 33.0**	**+1.1**
QSPA				IAmb	IAmb	05 37 38.4	
	comp=Z,6.3nm,1.5s						

IDC 21 05:26:13.1±7.1, 30°.52S×178°.59W, h44km±52km, mb3.6/2, mb1 3.9/2, mb1mx3.4/28, mbtmp3.8/2, Error ellipse: s-maj=109.4km s-min=32.2km az=136.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.39**	**25**	P	Pn	05 26 35.8	-0.2
	137nm,0.3s,baz=39,slow=22,SNR=2.2						
RAO				S	Sn	05 26 53.1	-0.1
	268nm,0.3s,baz=80,slow=22,SNR=4.3						
ASAR	**Alice Springs**	**42.59**	**267**	P	P	05 34 04.8	-0.3
	0.2nm,0.3s,baz=109,slow=7.5,SNR=2.8						
WRA	**Warramunga Arr**	**43.59**	**273**	P	P	05 34 13.1	-0.1
	0.9nm,0.3s,baz=111,slow=8.0,SNR=20						
H03S2	**Juan Fernandez**	**80.82**	**124**	T	T	07 07 20.5	
	baz=238,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**80.83**	**124**	T	T	07 07 23.7	
	baz=238,slow=74,SNR=11						
H03S3	**Juan Fernandez**	**80.84**	**124**	T	T	07 07 23.5	
	baz=238,slow=74,SNR=9.0						
H03N3	**Juan Fernandez**	**81.02**	**123**	T	T	07 07 31.5	
	baz=241,slow=73,SNR=5.0						
H03N2	**Juan Fernandez**	**81.02**	**123**	T	T	07 07 33.1	
	baz=241,slow=73,SNR=3.7						
H03N1	**Juan Fernandez**	**81.03**	**123**	T	T	07 07 33.2	
	baz=241,slow=73,SNR=8.6						
FINES	**FINESS Array B**	**145.08**	**339**	PKPbc	PKPbc	05 45 43.5	-0.8
	10nm,1.2s,baz=56,slow=4.8,SNR=4.9						

*BJI **21** 05:26:38.8±0.0, 38°.34N×76°.22E, h6km, ML3.6/4*
*NNC **21** 05:26:42.5±1.7, 38°.58N×76°.22E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=12.3km s-min=8.0km az=167.0*
ISC 21 05:27:05.1±6.5, 39°.5N±0°.5×76°.24E±0°.08, h10km, n15, σ2°.91/13, 5C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.20**	**267**	Pg	Pg	05 26 57.3	-12
KSH				Sn	Sg	05 27 08.6	-3.8
KSH				smax	smax		
	comp=N,380nm,0.3s						
KSH				smax	smax		
	comp=E,400nm,0.3s						
KZA	**Kyzart**	**2.66**	**344**	P	**Pn**	**05 27 47.8**	**-0.5**
	SNR=36						
ULHL	**Ulahol**	**2.72**	**0**	P	**Pn**	**05 27 51.4**	**+2.4**
	SNR=12						
UCH	**Uchtor**	**3.00**	**335**	P	**Pn**	**05 27 54.8**	**+1.7**
	SNR=5.3						
AML	**Almayashu**	**3.24**	**324**	P	**Pn**	**05 27 58.4**	**+2.1**
	SNR=15						
KBK	**Karagaybulak**	**3.27**	**343**	P	**Pn**	**05 28 00.6**	**+3.9**
	SNR=9.6						
AAK	**Ala-Archa**	**3.37**	**338**	P	**Pn**	**05 27 58.8**	**+0.8**
	SNR=8.2						
AAK	**Ala-Archa**	**3.37**	**338**	⇑Pg	**Pn**	**05 28 00.1**	**+2.2**
	18nm,0.8s						
AAK				Lg	Lg	05 28 58.4	
	27nm,0.6s						
TKM2	**Tokmak 2**	**3.42**	**352**	P	**Pb**	**05 28 06.5**	**+0.5**
	SNR=5.8						
TKM2	**Tokmak 2**	**3.42**	**352**	⇑Pg	**Pn**	**05 28 01.1**	**+2.4**
	9.9nm,0.5s						
TKM2				⇓Lg	Lg	05 29 01.3	
	27nm,0.5s						
EKS2	**Erkin-Say**	**3.64**	**330**	P	Pn	05 28 08.5	+6.9
	SNR=5.9						
MDOK	**Medeo**	**3.68**	**9**	Pg	**Pn**	**05 28 06.2**	**+3.9**
	16nm,1.0s						
MDOK				Lg	Lg	05 29 10.6	
	48nm,0.7s						
PDGK	**Podgornoye**	**4.52**	**32**	⇑Pg	Pb	05 28 20.1	-4.4
	12nm,0.6s						
PDGK				⇓Lg	Lg	05 29 33.9	
	34nm,0.7s						
KK31	**Karatay Array**	**5.60**	**312**	⇑Pn	Pn	05 28 16.9	-11
	3.1nm,0.6s,baz=135,slow=14,SNR=24						
KK31				⇑Sn	**Sn**	**05 29 29.3**	**-3.5**
	2.2nm,0.5s,baz=105,slow=23,SNR=4.2						
KK31				⇓Lg	Lg	05 30 00.2	
	2.5nm,0.4s,baz=135,slow=27,SNR=4.2						
WMQ	**Urumqi**	**9.59**	**60**	*eP*	Pn	05 29 10.8	-12
WMQ				S	**Sn**	**05 31 07.8**	**-3.1**
WMQ				SS	**SnSn**	**05 31 19.8**	**-2.6**

*IDC **21** 05:52:07.5±4.7, 16°.73S×173°.78W, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.6/32, mbtmp4.3/4, ML4.2/1, MS2.4/1, Ms1 2.4/1, ms1mx2.4/32, Error ellipse: s-maj=202.0km s-min=30.2km az=137.0*
*NEIC **21** 05:52:12.5±0.8, 16°.61S±0°.08×173°.8W±0°.1, h41km±10km, mb4.5/10, Error ellipse: s-maj=17.6km s-min=12.1km az=83.0*
ISC 21 05:52:11.6±0.8, 16°.59S±0°.06×173°.67W±0°.09, h35km, n18, σ1°.44/21, mb4.5/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.23**	**35**	Pn	**Pn**	**05 53 01.9**	**+2.0**
	25nm,0.3s,baz=183,slow=2.9,SNR=25						
AFI				Sn	**Sn**	**05 53 35.0**	**-2.1**
	62nm,0.3s,baz=38,slow=24,SNR=24						
AFI				LR	LR	05 53 36.0	
	comp=Z,62nm,20.5s,baz=201,slow=26						
AFI	**Afiamalu**	**3.23**	**35**		**Pn**	**05 53 01.9**	**+2.0**
AFI				Sn	**Sn**	**05 53 34.7**	**-2.4**
NIUE	**Niue**	**4.34**	**125**		**Pn**	**05 53 17.2**	**+2.2**
NIUE				Sn	**Sn**	**05 54 01.8**	**-2.6**
BKZ	**Black Stump Fm**	**24.09**	**199**	P	**P**	**05 57 23.8**	**-0.1**
TUWZ	**Tuamarina**	**26.96**	**201**	P	**P**	**05 57 49.6**	**-0.3**
ARMA	**Armidale**	**34.52**	**240**	P	**P**	**05 58 57.7**	**+0.8**
STKA	**Stephens Creek**	**43.23**	**241**	P	**P**	**06 00 09.9**	**+0.2**
	1.3nm,0.5s,baz=70,slow=8.4,SNR=5.3						
STKA	**Stephens Creek**	**43.23**	**241**	P	**P**	**06 00 09.2**	**-0.5**
BBOO	**Buckleboo**	**48.00**	**241**	P	**P**	**06 00 46.0**	**-1.4**
WR0	**Warramunga Arr**	**49.14**	**258**	P	**P**	**06 00 55.1**	**-1.3**
WR0				IAmb	IAmb	06 01 08.7	
	comp=Z,9.9nm,1.4s						
WB0	**Warramunga Arr**	**49.30**	**258**	P	**P**	**06 00 56.5**	**-1.0**
WB0				IAmb	IAmb	06 01 22.0	
	comp=Z,4.7nm,1.1s						
WB2	**Warramunga Arr**	**49.32**	**258**	P	**P**	**06 00 57.3**	**-0.5**
WB2				IAmb	IAmb	06 01 07.7	
	comp=Z,9.1nm,1.4s						
WRA	**Warramunga Arr**	**49.34**	**258**	P	**P**	**06 00 57.5**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=97,slow=7.0,SNR=16						
WRA	**Warramunga Arr**	**49.34**	**258**	P	**P**	**06 00 57.2**	**-0.6**
ASAR	**Alice Springs**	**49.51**	**253**	P	**P**	**06 00 58.8**	**-0.3**
	comp=Z,8.2nm,0.6s,baz=88,slow=8.6,SNR=105						
ASAR	**Alice Springs**	**49.51**	**253**	P	**P**	**06 00 58.6**	**-0.5**
SAO	**San Andreas Ge**	**72.38**	**42**	P	**P**	**06 03 34.8**	**+0.6**
SAO				IAmb	IAmb	06 04 00.2	
	comp=Z,13nm,1.4s						
QSPA	**South Pole Qui**	**73.47**	**180**	P	**P**	**06 03 40.7**	**+0.4**
QSPA				IAmb	IAmb	06 04 00.8	
	comp=Z,2.8nm,1.3s						

*TEH **21** 05:53:00.3, 32°.70N×47°.55E, h10km, ML3.0*
*ISN **21** 05:53:00.6±1.3, 32°.65N×47°.59E, h15km±7km, ML3.2*
ISC 21 05:53:01.4±0.9, 32°.68N±0°.04×47°.56E±0°.04, h10km, n29, σ0°.98/32, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.23**	**271**	*ePg*	**Pg**	**05 53 05.4**	**-0.8**
IKFM	**Kafar-mosalman**	**0.88**	**16**	*ePg*	**Pg**	**05 53 16.4**	**-2.0**
IKFM				*e*		05 53 38.8	
IKMR	**Kamar-syah**	**1.09**	**39**	*ePg*	**Pg**	**05 53 21.8**	**-0.6**
IKMR				*e*		05 53 40.6	
IDOB	**Doab**	**1.23**	**25**	*ePg*	**Pb**	**05 53 24.0**	**-0.8**
IBDR	**Badra**	**1.43**	**288**	*ePg*	**Pn**	**05 53 27.0**	**-0.5**
IBDR				*eSg*	**Sn**	**05 53 47.0**	**+0.6**
IBDR				AML	AML	05 53 52.3	
	comp=N,564nm,0.4s						
IBDR				AML	AML	05 53 52.7	
	comp=E,337nm,0.5s						
BMDN	**Meydan**	**1.46**	**47**	*ePg*	**Pn**	**05 53 27.8**	**-0.2**
BMDN				*e*		05 53 56.8	
IKOM	**Komasi**	**1.50**	**359**	*ePg*	**Pn**	**05 53 28.9**	**+0.4**
IKOM				*e*		05 53 52.5	
AHWZ	**Ahwaz**	**1.63**	**145**	*ePg*	**Pb**	**05 53 32.3**	**+0.7**
KCHF	**Cheshme Sefid,**	**1.65**	**345**	*ePg*	**Pn**	**05 53 31.6**	**+0.9**
KCHF				*e*		05 53 56.8	

KER	**Kermanshah**	**1.74**	**348**	*ePn*	**Pn**	**05 53 32.7**	**+0.8**
HSAM	**Samen**	**1.76**	**29**	*ePg*	**Pn**	**05 53 33.1**	**+0.8**
HSAM				*e*		05 54 03.1	
IBZA	**Bozab**	**1.81**	**8**	*ePg*	**Pn**	**05 53 33.6**	**+0.7**
IBZA				*e*		05 54 02.2	
IGHG	**Ghaleghazi**	**1.84**	**334**	*ePg*	**Pn**	**05 53 34.5**	**+1.1**
IGHG				*e*		05 54 13.1	
IVIS	**Veis**	**1.94**	**342**	*ePn*	**Pn**	**05 53 35.3**	**+0.8**
IVIS				*e*		05 54 09.9	
NSR	**Nassriya**	**2.05**	**216**	*ePn*	**Pn**	**05 53 36.0**	**0.0**
NSR				*eSn*	**Sn**	**05 54 00.5**	**-1.1**
IALM	**Almabolaq**	**2.24**	**13**	*ePn*	**Pn**	**05 53 39.9**	**+1.1**
IDHR	**Dehrash**	**2.24**	**335**	*ePn*	**Pn**	**05 53 39.5**	**+0.7**
IDHR				*e*		05 54 18.5	
ILIN	**Lien**	**2.29**	**348**	*ePn*	**Pn**	**05 53 40.6**	**+1.1**
ILIN				*e*		05 54 21.5	
HAGD	**Aghdareh**	**2.52**	**31**	*ePn*	**Pn**	**05 53 43.4**	**+0.8**
HAGD				*e*		05 54 28.0	
HSRG	**Sareghieh**	**2.63**	**13**	*ePn*	**Pn**	**05 53 45.5**	**+1.3**
HSRG				*e*		05 54 31.5	
JHBN	**Jahan bin**	**2.67**	**99**	*ePn*	**Pn**	**05 53 45.3**	**+0.6**
BHD	**Baghdad**	**2.73**	**283**	*ePn*	**Pn**	**05 53 46.0**	**+0.6**
BHD				*eSn*	**Sn**	**05 54 20.5**	**+2.0**
IPIR	**Pirpir**	**2.81**	**89**	*ePn*	**Pn**	**05 53 47.6**	**+0.8**
IPIR				*e*		05 54 38.7	
ROKH	**ROKH**	**2.96**	**95**	*ePn*	**Pn**	**05 53 48.9**	**+0.2**
ROKH				*e*		05 54 48.1	
IRAZ	**Razeghan**	**3.36**	**35**	*ePn*	**Pn**	**05 53 54.2**	**0.0**
IKLH	**Kolahrood**	**3.44**	**78**	*ePn*	**Pn**	**05 53 56.9**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.46**	**28**	*ePn*	**Pn**	**05 53 56.3**	**+0.7**
KLNJ	**Kolanjah**	**3.82**	**115**	*ePn*	**Pn**	**05 54 00.9**	**+0.3**
KLNJ				*e*		05 55 30.9	
QSDN	**Sirdan**	**4.04**	**19**	*ePn*	**Pn**	**05 54 04.8**	**+1.2**

*IDC **21** 06:22:27.1±1.3, 21°.61S×179°.09W, h560km±13km, mb3.7/18, mb1 3.9/20, mb1mx3.8/38, mbtmp4.6/20, Error ellipse: s-maj=15.7km s-min=11.4km az=152.0*
*NEIC **21** 06:22:29.1±1.4, 21°.62S±0°.09×179°.2W±0°.1, h587km±6km, mb4.6/66, Error ellipse: s-maj=14.7km s-min=13.2km az=125.0*
ISC 21 06:22:29.9±0.3, 21°.74S±0°.06×179°.11W±0°.06, h602km, n182, σ1°.61/195, mb4.5/61, 14C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.80**	**326**	P	**P**	**06 23 58.9**	**-2.7**
MSVF				S	**S**	**06 25 14.5**	**-1.6**
GLKZ	**Green Lake**	**7.57**	**172**	P	**P**	**06 24 21.8**	**-3.3**
GLKZ				S	S	06 25 51.3	-8.2
NIUE	**Niue**	**9.01**	**75**	P	**P**	**06 24 35.5**	**-3.5**
NIUE				S	**S**	**06 26 23.0**	**-0.9**
AFI	**Afiamalu**	**10.45**	**43**	P	P	06 24 47.6	-5.7
	5.5nm,0.3s,baz=81,slow=1.7,SNR=6.8						
DZM	**Mont Dzumac**	**13.42**	**266**	P	**P**	**06 25 21.1**	**-1.9**
	1.6nm,0.3s,baz=123,slow=23,SNR=13						
DZM	**Mont Dzumac**	**13.42**	**266**	*eP*	**P**	**06 25 21.0**	**-2.0**
	16nm,0.6s						
DZM	**Mont Dzumac**	**13.42**	**266**	P	**P**	**06 25 21.0**	**-2.0**
OUZ	**Omahuta**	**14.88**	**204**	P	**P**	**06 25 38.5**	**+1.9**
WCZ	**Waipu Caves**	**15.26**	**201**	P	**P**	**06 25 42.3**	**+2.1**
KUZ	**Kuaotunu**	**15.62**	**196**	P	**P**	**06 25 42.8**	**-0.6**
MXZ	**Matakaoa Point**	**15.93**	**188**	P	**P**	**06 25 45.3**	**-0.9**
MKAZ	**Moumakai**	**16.10**	**197**	P	**P**	**06 25 48.7**	**+0.9**
WMGZ	**Waiomatatini S**	**16.17**	**187**	P	**P**	**06 25 45.3**	**-3.1**
HAZ	**Te Kaha**	**16.19**	**189**	P	**P**	**06 25 48.2**	**-0.4**
HAZ				S	**S**	**06 28 24.5**	**-6.0**
RUGZ	**Raukumara Rang**	**16.41**	**189**	P	**P**	**06 25 49.9**	**-0.9**
TGRZ	**Tauranga**	**16.43**	**193**	P	**P**	**06 25 52.5**	**+1.7**
TWGZ	**Tauwhareparae**	**16.58**	**188**	P	**P**	**06 25 51.3**	**-0.9**
TOZ	**Tahuroa Road**	**16.61**	**195**	P	**P**	**06 25 54.0**	**+1.5**
URZ	**Urewera**	**16.79**	**190**	P	**P**	**06 25 51.2**	**-2.9**
	2.7nm,0.3s,baz=321,slow=0.4,SNR=13						
URZ	**Urewera**	**16.79**	**190**	P	**P**	**06 25 51.5**	**-2.6**
URZ				S	**S**	**06 28 35.2**	**-5.2**
URZ	**Urewera**	**16.79**	**190**	P	**P**	**06 25 54.1**	**0.0**
MWZ	**Matawai**	**16.79**	**189**	P	**P**	**06 25 52.4**	**-1.8**
MWZ				S	**S**	**06 28 37.8**	**-2.7**
HRRZ	**Handcock Road**	**17.07**	**192**	P	**P**	**06 25 57.0**	**+0.3**
HIZ	**Hauiti**	**17.51**	**196**	P	**P**	**06 26 02.9**	**+2.2**
HIZ	**Hauiti**	**17.51**	**196**	P	**P**	**06 26 02.0**	**+1.3**
NMHZ	**Naumai**	**17.66**	**191**	P	**P**	**06 26 01.0**	**-1.1**
BKZ	**Black Stump Fm**	**17.78**	**191**	P	**P**	**06 25 58.0**	**-5.3**
BKZ				S	**S**	**06 28 48.5**	**-8.1**
BKZ	**Black Stump Fm**	**17.78**	**191**	P	**P**	**06 26 04.8**	**+1.6**
BKZ				IAmb	IAmb	06 26 08.7	
	comp=Z,26nm,1.2s						
OTVZ	**Oturere**	**17.94**	**193**	P	**P**	**06 26 03.7**	**-1.1**
WNVZ	**Wahianoa**	**18.11**	**193**	P	**P**	**06 26 05.0**	**-1.4**
VRZ	**Vera Road**	**18.11**	**196**	P	**P**	**06 26 08.2**	**+2.1**
MOVZ	**Moawhango**	**18.15**	**193**	P	**P**	**06 26 05.6**	**-1.0**
BHHZ	**Black Hill Sta**	**18.17**	**192**	P	**P**	**06 26 04.1**	**-2.7**
PNHZ	**Pukenui**	**18.56**	**191**	P	**P**	**06 26 08.9**	**-1.3**
TSZ	**Takapari Road**	**18.74**	**192**	P	**P**	**06 26 11.1**	**-0.8**
QRZ	**Quartz Range**	**20.31**	**199**	P	**P**

FORT	**Forrest**	**47.86**	**248**	P		**P**	**06 30 14.3**	**-0.5**
MTN	**Manton Dam**	**48.16**	**272**	P		**P**	**06 30 16.3**	**-0.9**
KNRA	**Kununurra**	**49.56**	**268**	P		**P**	**06 30 27.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**51.85**	**264**	P		**P**	**06 30 43.8**	**-0.2**
FITZ				IAmb	IAmb		06 30 45.0	
	comp=Z,23nm,1.4s							
SIJI	**Sorong**	**52.57**	**286**	P		**P**	**06 30 49.1**	**-0.1**
	comp=Z,79nm,0.7s,baz=86,slow=5.8,SNR=16							
SOEI	**Soe**	**55.52**	**273**	P		**P**	**06 31 11.5**	**+1.5**
	comp=Z,81nm,0.6s							
SOEI	**Soe**	**55.52**	**273**	P		**P**	**06 31 11.0**	**+1.0**
BATI	**Baumata**	**55.93**	**272**	P		**P**	**06 31 14.3**	**+1.6**
	comp=Z,30nm,0.7s							
PSA00	**Pilbara Seismi**	**56.39**	**258**	P		**P**	**06 31 15.7**	**-0.1**
PSA00				IAmb	IAmb		06 31 16.2	
	comp=Z,22nm,0.9s							
VNDA	**Vanda**	**56.59**	**185**	P		**P**	**06 31 18.1**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=250,slow=15,SNR=5.5							
VNDA	**Vanda**	**56.59**	**185**	P		**P**	**06 31 19.1**	**+2.9**
NWAO	**Narrogin (SRO)**	**56.90**	**244**	P		**P**	**06 31 19.7**	**+0.6**
NWAO				IAmb	IAmb		06 31 32.3	
	comp=Z,21nm,1.1s							
EDFI	**Ende, Flores**	**58.25**	**273**	P		**P**	**06 31 28.3**	**-0.3**
	comp=Z,18nm,1.1s							
MORW	**Morawa**	**58.41**	**248**	P		**P**	**06 31 29.2**	**-0.1**
GIRL	**Giralia**	**61.23**	**255**	P		**P**	**06 31 49.2**	**+1.1**
GIRL				IAmb	IAmb		06 31 55.1	
	comp=Z,60nm,1.2s							
PLAI	**Plampang**	**61.86**	**271**	P		**P**	**06 31 52.2**	**-0.1**
	comp=Z,39nm,0.9s							
CASY	**Casey**	**62.41**	**205**	P		**P**	**06 31 56.1**	**+1.2**
TWSI	**Taliwang, Sumb**	**62.72**	**271**	P		**P**	**06 31 57.8**	**-0.1**
	comp=Z,21nm,0.9s							
MPSI	**Mapaga**	**63.34**	**282**	P		**P**	**06 32 01.8**	**0.0**
QSPA	**South Pole Qui**	**68.34**	**180**	P		**P**	**06 32 33.6**	**+1.6**
QSPA				IAmb	IAmb		06 32 34.5	
	comp=Z,7.6nm,0.8s							
UGM	**Wanagama**	**68.91**	**270**	P		**P**	**06 32 36.6**	**+0.2**
ADK	**Adak**	**73.33**	**2**	P		**P**	**06 33 00.8**	**-0.4**
TPUB	**Ta-pu**	**73.79**	**304**	P		**P**	**06 33 03.4**	**-1.0**
TPUB				IAmb	IAmb		06 33 04.2	
	comp=Z,23nm,0.7s							
SSLB	**Suanglung**	**73.80**	**304**	P		**P**	**06 33 04.1**	**-0.4**
SSLB				IAmb	IAmb		06 33 04.7	
	comp=Z,13nm,0.6s							
JKA	**Kamikawa-asahi**	**74.33**	**332**	P		**P**	**06 33 06.1**	**-0.9**
JKA				IAmb	IAmb		06 33 09.7	
	comp=Z,7.7nm,0.9s							
ASAJ	**Asahikawa**	**74.33**	**332**	P		**P**	**06 33 08.3**	**+1.3**
	comp=Z,2.3nm,0.3s,baz=226,slow=3.5,SNR=5.2							
UNV	**Unalaska Valle**	**76.05**	**8**	P		**P**	**06 33 15.6**	**-0.6**
UNV				IAmb	IAmb		06 33 20.7	
	comp=Z,18nm,1.4s							
KSRS	**Korea Array**	**77.14**	**319**	P		**P**	**06 33 23.6**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=144,slow=5.5,SNR=4.2							
PETK	**Petropavlovsk-**	**77.20**	**346**	P		**P**	**06 33 22.6**	**-0.1**
	comp=Z,5.2nm,0.7s,baz=126,slow=7.5,SNR=10							
CNBA	**Chernabura Isl**	**78.06**	**11**	P		**P**	**06 33 26.4**	**-0.7**
USRK	**Ussuriysk Ar.**	**79.41**	**327**	P		**P**	**06 33 35.7**	**+1.1**
	comp=Z,3.7nm,0.8s,baz=87,slow=4.0,SNR=9.5							
USRK	**Ussuriysk Ar.**	**79.41**	**327**	P		**P**	**06 33 35.4**	**+0.8**
NJ2	**Nanjing**	**79.88**	**310**	*e*P		**P**	**06 33 37.8**	**+0.5**
NJ2				pmax	pmax			
	comp=Z,5.0nm,0.6s							
PMSA	**Palmer Station**	**80.56**	**157**	P		**P**	**06 33 42.4**	**+2.1**
MDPB	**Devils Postpil**	**81.67**	**44**	P		**P**	**06 33 48.5**	**+1.7**
PNTR	**Pine Nut**	**82.19**	**43**	P		**P**	**06 33 50.5**	**+1.2**
PNTR				IAmb	IAmb		06 33 51.5	
	comp=Z,6.2nm,0.8s							
YERR	**Yerington**	**82.35**	**43**	P		**P**	**06 33 51.1**	**+1.0**
NVAR	**Mina Array Bea**	**82.63**	**44**	P		**P**	**06 33 52.4**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=224,slow=8.7,SNR=13							
NVAR	**Mina Array Bea**	**82.63**	**44**	P		**P**	**06 33 52.1**	**+0.6**
NV11	**Mina Array Sit**	**82.73**	**44**	P		**P**	**06 33 53.0**	**+1.1**
KLR	**Kul'dur**	**83.07**	**330**	P		**P**	**06 33 54.4**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=352,slow=2.4,SNR=6.5							
KVN	**Kaiserville**	**83.12**	**43**	P		**P**	**06 33 54.5**	**+0.6**
U15A	**North Rim**	**85.55**	**48**	P		**P**	**06 34 06.8**	**+0.8**
SUA	**Susitna One**	**85.99**	**13**	P		**P**	**06 34 07.2**	**0.0**
SUA				IAmb	IAmb		06 34 07.7	
	comp=Z,5.8nm,0.6s							
GLI	**Glacier Island**	**86.30**	**15**	P		**P**	**06 34 08.7**	**+0.2**
GLI				IAmb	IAmb		06 34 09.3	
	comp=Z,7.6nm,0.8s							
KNK	**Knik Glacier**	**86.45**	**14**	P		**P**	**06 34 09.5**	**+0.2**
KNK				IAmb	IAmb		06 34 10.5	
	comp=Z,4.0nm,0.8s							
PMR	**Palmer**	**86.46**	**14**	P		**P**	**06 34 09.3**	**+0.1**
PMR				IAmb	IAmb		06 34 09.5	
	comp=Z,3.0nm,0.6s							
GHO	**Glory Hole Cre**	**86.66**	**14**	P		**P**	**06 34 10.3**	**0.0**
GHO				IAmb	IAmb		06 34 11.2	
	comp=Z,9.6nm,0.7s							
VNA3	**Neumayer Olymp**	**86.98**	**177**	P		**P**	**06 34 11.8**	**0.0**
SCM	**Sheep Creek Mo**	**87.08**	**14**	P		**P**	**06 34 12.3**	**0.0**
SCM				IAmb	IAmb		06 34 13.2	
	comp=Z,9.7nm,0.6s							
SEY	**Seymchan**	**87.34**	**347**	P		**P**	**06 34 14.0**	**+0.6**
	comp=Z,4.5nm,0.8s,baz=141,slow=3.2,SNR=9.4							
VNA2	**Neumayer--Watz**	**87.41**	**177**	P		**P**	**06 34 14.4**	**+0.6**
VNA1	**Neumayer--Stat**	**87.64**	**177**	P		**P**	**06 34 15.4**	**+0.6**
KTH	**Kantishna Hill**	**87.84**	**12**	P		**P**	**06 34 14.3**	**-1.5**
TRF	**Thorofare Moun**	**87.87**	**13**	P		**P**	**06 34 14.2**	**-1.9**
TRF				IAmb	IAmb		06 34 16.6	
	comp=Z,8.0nm,0.7s							
XAN	**Xi'an**	**88.06**	**308**	P		**P**	**06 34 19.1**	**+1.6**
XAN				pmax	pmax			
	comp=Z,7.0nm,0.6s							
RND	**Reindeer**	**88.13**	**13**	P		**P**	**06 34 17.0**	**-0.2**
RND				IAmb	IAmb		06 34 18.3	
	comp=Z,6.8nm,0.8s							
MNTX	**Cornudas Mount**	**88.31**	**55**	P		**P**	**06 34 20.1**	**+1.4**
BPAW	**Bear Paw Mtn.**	**88.32**	**12**	P		**P**	**06 34 18.1**	**+0.1**
TX31	**Lajitas Ar. Si**	**88.59**	**58**	P		**P**	**06 34 21.9**	**+1.8**
TX31				IAmb	IAmb		06 34 22.3	
	comp=Z,8.6nm,1.0s							
TX32	**Lajitas Array**	**88.59**	**58**	P		**P**	**06 34 21.8**	**+1.6**
TXAR	**Lajitas Array**	**88.59**	**58**	P		**P**	**06 34 21.9**	**+1.8**
	comp=Z,1.8nm,0.8s,baz=218,slow=5.8,SNR=21							
TXAR	**Lajitas Array**	**88.59**	**58**	P		**P**	**06 34 21.2**	**+1.0**
PLCA	**Paso Flores**	**89.17**	**134**	P		**P**	**06 34 24.6**	**+1.9**
	comp=Z,3.0nm,0.9s,baz=234,slow=6.4,SNR=10							
PLCA	**Paso Flores**	**89.17**	**134**			**P**	**06 34 24.2**	**+1.5**
PLCA				IAmb	IAmb		06 34 26.3	
	comp=Z,7.8nm,1.3s							
HDA	**Harding Lake**	**89.42**	**13**	P		**P**	**06 34 22.8**	**-0.3**
HDA				IAmb	IAmb		06 34 23.4	
	comp=Z,3.3nm,0.6s							
CCB	**Clear Creek Bu**	**89.44**	**13**	P		**P**	**06 34 22.8**	**-0.3**
CCB				IAmb	IAmb		06 34 23.2	
	comp=Z,2.7nm,0.6s							
HHC	**Hu-ho-hao-te**	**89.48**	**315**	*e*P		**P**	**06 34 22.6**	**-1.4**
HHC				pmax	pmax			
	comp=Z,23nm,1.2s							
HHC				pmax	pmax			
	comp=Z,84nm,6.1s							
IMAR	**Indian Mountai**	**89.55**	**10**	P		**P**	**06 34 23.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**89.56**	**290**	P		**P**	**06 34 26.9**	**+2.2**
	comp=Z,3.7nm,0.6s,baz=131,slow=3.3,SNR=22							
CMAR	**Chiang Mai Arr**	**89.56**	**290**	P		**P**	**06 34 25.9**	**+1.1**
ILAR	**Eielson Array**	**89.75**	**13**	P		**P**	**06 34 23.9**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=223,slow=5.4,SNR=7.5							
ILAR	**Eielson Array**	**89.75**	**13**	P		**P**	**06 34 24.5**	**-0.1**
PDAR	**Pinedale Array**	**90.57**	**44**	P		**P**	**06 34 29.1**	**0.0**
	comp=Z,0.7nm,0.7s,baz=218,slow=2.4,SNR=7.4							
PDAR	**Pinedale Array**	**90.57**	**44**	P		**P**	**06 34 29.5**	**+0.3**
LZH	**Lanzhou**	**92.70**	**308**	*e*P		P	06 34 43.9	+4.8
LZH				pP		pP	06 36 32.3	-16
LZH				sP		sP	06 37 45.0	-2.5
LZH				PP		**PP**	**06 38 25.8**	**-6.5**
LZH				pmax	pmax			
	comp=Z,25nm,1.3s							
LZH				pmax	pmax			
	comp=Z,110nm,4.9s							
BVAR	**Borovoye Array**	**119.35**	**320**	PKP		**PKPdf**	**06 40 11.3**	**-0.2**
	comp=Z,1.8nm,0.4s,baz=137,slow=2.8,SNR=8.5							
KIRV	**Kirov**	**129.51**	**329**	SKPbc	SKPbc		06 43 00.0	+2.7
	comp=Z,7.7nm,0.5s,baz=261,slow=3.0,SNR=3.6							
ARCES	**ARCESS Array B**	**129.94**	**349**	PKP		**PKPdf**	**06 40 31.4**	**+0.1**
	comp=Z,4.2nm,1.0s,baz=45,slow=1.9,SNR=9.6							
FINES	**FINESS Array B**	**136.65**	**343**	PKhKP	PKPpre		06 40 33.9	
	comp=Z,2.8nm,1.0s,baz=125,slow=10.0,SNR=3.6							
FINES				PKP		**PKPdf**	**06 40 43.5**	**-0.5**
	comp=Z,3.8nm,0.9s,baz=102,slow=3.5,SNR=5.8							
FINES				SKPbc		**SKiKP**	**06 43 24.0**	**-1.7**
	comp=Z,1.4nm,0.5s,baz=132,slow=2.8,SNR=6.2							
MBAR	**Mbarara**	**143.37**	**237**			**PKPdf**	**06 40 58.2**	**+0.3**
AKASG	**Malin Array Be**	**143.57**	**329**	PKP		PKPab	06 40 55.1	-0.7
	comp=Z,4.1nm,0.4s,baz=41,slow=4.2,SNR=35							
AKASG	**Malin Array Be**	**143.57**	**329**			PKPab	06 40 54.6	-1.2
AKBB	**Malin Array Si**	**143.57**	**329**			PKPab	06 40 55.2	-0.6
SORM	**Soroca**	**145.69**	**327**	⇑P		**PKPbc**	**06 41 02.4**	**+0.1**
BZK	**Bozkurt**	**145.70**	**314**	⇓P		**PKPbc**	**06 41 02.3**	**-0.2**
BR131	**Keskin Array S**	**146.87**	**310**			**PKPbc**	**06 41 06.0**	**-0.1**
BRTR	**Keskin Array B**	**146.87**	**310**	PKPbc		**PKPbc**	**06 41 06.0**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=132,slow=4.0,SNR=10							
BUR08	**Bucovina Ar. S**	**147.59**	**329**			**PKiKP**	**06 41 08.5**	**-0.6**
BURAR	**Bucovina Array**	**147.60**	**329**	⇓P		**PKiKP**	**06 41 09.0**	**0.0**
BURAR	**Bucovina Array**	**147.60**	**329**			**PKPbc**	**06 41 08.1**	**+0.5**
CFR	**Carcaliu**	**147.66**	**323**	⇑P		**PKPbc**	**06 41 08.3**	**+0.7**
KOLS	**Kolonicke sedl**	**147.96**	**333**	*e*PKP		**PKPbc**	**06 41 08.7**	**+0.3**
VRI	**Vrincioaia**	**148.01**	**325**	⇑P		**PKPbc**	**06 41 09.0**	**+0.5**
CRVS	**Cervenica-Dubn**	**148.33**	**334**	*e*PKP		**PKiKP**	**06 41 10.3**	**-0.1**
CRVS				*e*			06 41 15.4	
DOPR	**Dopca**	**148.65**	**326**	⇑P		**PKiKP**	**06 41 11.0**	**-0.2**
MLR	**Muntele Rosu**	**148.67**	**325**	⇑P		**PKPbc**	**06 41 10.7**	**+0.3**
LANS	**Liptovska Anna**	**148.91**	**336**	*e*PKP		**PKiKP**	**06 41 12.3**	**+0.7**
DPC	**Dobruska-Polom**	**148.97**	**341**	⇑*e*PKP		**PKiKP**	**06 41 11.9**	**+0.2**
DPC				*e*PKP	AB	**PKPab**	**06 41 18.6**	**+1.1**
CLL	**Collm**	**149.01**	**345**	⇓*i*PKPbc		**PKiKP**	**06 41 11.4**	**-0.3**
	comp=Z,11nm,1.0s							
CLL				*i* PKPab		**PKPab**	**06 41 17.7**	**+0.2**
KRLC	**Kraliky**	**149.06**	**340**	⇑*e*PKP		**PKPbc**	**06 41 11.6**	**+0.5**
KRLC				*e*PKPAB		**PKPab**	**06 41 18.6**	**+0.7**
BRG	**Berggiesshubel**	**149.17**	**344**	*i* PKP		**PKPbc**	**06 41 11.7**	**+0.5**
	comp=Z,4.6nm,0.6s							
VOIR		**149.18**	**326**	⇑P		**PKPbc**	**06 41 10.8**	**-0.7**
ARR	**Arges**	**149.44**	**326**	⇓P		**PKiKP**	**06 41 14.1**	**+1.2**
VYHS	**Vyhne**	**149.69**	**336**	*e*PKP		**PKiKP**	**06 41 13.4**	**+0.2**
VYHS				*e*			06 41 21.4	
GOPC	**GO Pecny, Ondr**	**149.81**	**342**	⇑*e*PKP		**PKiKP**	**06 41 13.6**	**+0.2**
PRU	**Pruhonice**	**149.81**	**342**	⇑*e*PKP		**PKPbc**	**06 41 13.1**	**+0.3**
SIRR	**Siria**	**150.26**	**330**	⇑P		**PKiKP**	**06 41 14.9**	**+0.4**
BZS	**Buzias**	**150.76**	**329**	⇑P		**PKiKP**	**06 41 15.5**	**0.0**
KHC	**Kasperske Hory**	**150.86**	**343**	⇑ePKP		**PKiKP**	**06 41 15.6**	**-0.1**
KHC				*e*PKPAB		**PKPab**	**06 41 26.1**	**+0.7**
HERR	**Herculane**	**150.91**	**328**	⇑P		**PKiKP**	**06 41 15.9**	**0.0**
GERES	**GERESS Array B**	**151.08**	**342**	PKPbc		**PKPbc**	**06 41 16.0**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=52,slow=2.2,SNR=12							
GERES				PKPab		**PKPab**	**06 41 26.8**	**+0.3**
	comp=Z,0.3nm,0.2s,baz=298,slow=32,SNR=4.3							
MDVR	**Moldovita**	**151.33**	**328**	⇓P		**PKPbc**	**06 41 16.7**	**+0.2**
VSL	**Villasalto**	**160.87**	**340**	PKPdf		**PKPdf**	**06 41 22.0**	**-0.2**
ESDC	**Sonseca Array**	**161.65**	**12**	PKPab		**PKPab**	**06 42 12.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=343,slow=2.0,SNR=4.1							
DBIC	**Dimbokro**	**164.02**	**159**	PKPab		**PKPab**	**06 42 24.7**	**+1.5**
TORD	**Torodi Ar. Bea**	**171.42**	**185**	PKPab		**PKPab**	**06 42 56.5**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=166,slow=3.5,SNR=2.5							
TORD	**Torodi Ar. Bea**	**171.42**	**185**			**PKPab**	**06 42 56.9**	**+1.1**

*NNC **21** 06:30:25.5±3.1,54˚43N×86˚59E,h0km,mb2.9,mpv2.7, Error ellipse: s-maj=32.4km s-min=15.3km az=170.0, Suspected Mining explosion.*
*IDC **21** 06:30:28.1±3.0,54˚59N×86˚25E,h0km,mb1 2.9/2, mb1mx2.9/57,mbtmp2.9/2,ML2.6/2,Error ellipse: s-maj=23.9km s-min=15.3km az=41.0*

ISC 21 06:30:23.0±1.7,53˚03N±0˚06×86˚0E±0˚1,h0km,n9, σ1§72/13,9C-5D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.15**	**324**	*i*		06 36 10.0	
	baz=50,slow=312,SNR=2.3						
ZAA0	**Zalesovo Array**	**1.15**	**324**	⇑P	**Pn**	**06 30 46.9**	**+0.5**
	0.2nm,0.3s						
ZAA0				⇑S	**Sn**	**06 31 03.1**	**+0.3**
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**1.15**	**324**	Pg	**Pn**	**06 30 46.9**	**+0.5**
	0.8nm,0.3s,baz=52,slow=17,SNR=7.7						
ZALV				Lg	Lg	06 31 03.2	
	5.9nm,0.3s,baz=52,slow=28,SNR=28						
KURK	**Kurchatov**	**5.11**	**246**	⇑Pn	**Pg**	**06 31 59.2**	**-1.7**
	0.8nm,0.7s						
KURK				⇑Sn	**Sg**	**06 33 07.0**	**0.0**
	0.8nm,0.6s						
KURK				⇓Lg	Lg	06 33 40.8	
	4.4nm,1.1s						
KURBB	**Kurchatov Arra**	**5.21**	**245**	Pn	**Pg**	**06 32 01.2**	**-1.4**
	0.1nm,0.3s,baz=50,slow=14,SNR=11						
KURBB				Lg	Lg	06 33 45.9	
	0.1nm,0.3s,baz=49,slow=33,SNR=4.9						
KURBB	**Kurchatov Arra**	**5.21**	**245**	⇑Pn	**Pg**	**06 32 01.1**	**-1.6**
	1.6nm,0.7s						
KURBB				⇓Sn	**Sg**	**06 33 10.9**	**+0.8**
	2.1nm,0.6s						
KURBB				⇑Lg	Lg	06 33 45.9	
	7.8nm,0.8s						
MK31	**Makanchi Array**	**6.68**	**202**	⇑Pn	**Pg**	**06 32 28.0**	**-2.8**
	0.3nm,0.6s,baz=24,slow=13,SNR=6.8						
MK31				⇑Sn	**Sg**	**06 33 59.3**	**+2.1**
	0.5nm,0.5s,baz=185,slow=23,SNR=8.8						
MK31				⇓Lg	Lg	06 34 42.0	
	0.9nm,0.8s,baz=24,slow=26						
MKAR	**Makanchi Array**	**6.68**	**202**	Pn	**Pg**	**06 32 28.7**	**-2.1**
	0.1nm,0.3s,baz=23,slow=12,SNR=7.1						
MAKZ	**Makanchi**	**6.74**	**204**	⇓Pn	**Pb**	**06 32 21.9**	**+1.0**
	1.0nm,0.9s						
MAKZ				⇑Sn	**Sg**	**06 34 01.0**	**+1.8**
	0.7nm,0.7s						
MAKZ				⇓Lg	Lg	06 34 45.7	
	3.3nm,1.1s						

*JMA **21** 06:31:34.9±0.2,34˚53N×140˚65E,h53km±2km,M3.6*
*NIED **21** 06:31:35.0,34˚53N×140˚65E,h52km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr2.48; Mθθ0.44; Mφφ-2.93; Mrθ1.30; Mθφ-1.29; Mφr5.16; Fault plane solution: M06.07000×10^14 NP1:φs14.00000°, δ76.00000°,λ87.00000°. NP2:φs206.00000°,δ15.00000°, λ102.00000°.*
*IDC **21** 06:31:35.2±4.9,34˚55N×140˚80E,h36km±36km,mb3.6/7, mb1 3.8/9,mb1mx3.5/55,mbtmp3.8/9,ML3.8/2,MS2.7/4, Ms1 2.7/4,ms1mx2.4/47 Error ellipse: s-maj=51.7km s-min=15.9km az=75.0*

ISC 21 06:31:36.3±1.0,34˚54N±0˚04×140˚62E±0˚06,h42km±10km, n33,σ0§61/32,mb3.7/7,1C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.28**	**341**	⇓P	**Pn**	**06 31 44.3**	**+0.1**
BSO1	**Boso 1**	**0.32**	**69**	⇑P	**Pn**	**06 31 44.1**	**-0.2**
BSO1				X		06 31 50.9	
BSO4	**Boso 4**	**0.50**	**333**	⇓P	**Pn**	**06 31 47.2**	**+0.1**
BSO4				X		06 31 56.2	
KTR	**Katsuura**	**0.66**	**338**	P	**Pn**	**06 31 48.8**	**-0.4**
KTR				S	**Sn**	**06 31 57.9**	**-0.5**
JKUC	**kamogawauchiur**	**0.71**	**331**	⇓P	**Pn**	**06 31 49.3**	**-0.6**
JKUC				S	**Sn**	**06 31 59.3**	**-0.3**
TATJ	**Tateyama 2**	**0.77**	**309**	⇓P	**Pn**	**06 31 50.8**	**0.0**
JCN	**Nagara**	**0.94**	**339**	P	**Pn**	**06 31 52.9**	**-0.1**
JCN				S	**Sn**	**06 32 05.9**	**+0.6**
JIM2	**Oshima 3**	**1.00**	**280**	⇓P	**Pn**	**06 31 53.1**	**-0.7**
JMKN	**Mikurajimanish**	**1.07**	**233**	P	**Pn**	**06 31 54.5**	**-0.3**
JMKN				S	**Sn**	**06 32 08.2**	**-0.3**
JTHY	**Toshimahigashi**	**1.10**	**269**	P	**Pn**	**06 31 54.9**	**-0.3**
JTHY				S	**Sn**	**06 32 09.0**	**-0.2**
JSMT	**Sammumatsuo**	**1.11**	**353**	P	**Pn**	**06 31 54.6**	**-0.7**
JSMT				S	**Sn**	**06 32 08.7**	**-0.7**
JKO	**Kozu shima**	**1.28**	**254**	P	**Pn**	**06 31 57.7**	**+0.1**
KTJ3	**Kamata3**	**1.33**	**287**	⇓P	**Pn**	**06 31 57.5**	**-0.9**
JHJ	**Hachijo jima 2**	**1.58**	**206**	Pn	**Pn**	**06 32 02.0**	**+0.2**
	24nm,0.3s,baz=85,slow=21,SNR=1.9						
JHJ				Sn	**Sn**	**06 32 20.9**	**-0.1**
	244nm,0.3s,baz=1.7,slow=24,SNR=6.1						
MJAR	**Matsushiro Arr**	**2.80**	**316**	Pn	**Pn**	**06 32 17.9**	**-0.7**
	2.6nm,0.3s,baz=125,slow=19,SNR=34						
MJAR				LR	LR	06 33 41.7	
	comp=Z,98nm,19.9s,baz=210,slow=44						
MAT	**Matsushiro**	**2.80**	**316**	P	**Pn**	**06 32 18.9**	**+0.3**
MAT				S	**Sn**	**06 32 50.9**	**-0.3**
JCJ	**Chichijima**	**7.54**	**169**	Pn	**Pn**	**06 33 22.7**	**-1.1**
	6.4nm,0.3s,baz=355,slow=22,SNR=11						
JNU	**Nakatsue**	**8.23**	**263**	LR	LR	06 36 52.0	
	comp=Z,28nm,21.5s,baz=16,slow=38						
KSRS	**Korea Array**	**10.69**	**289**	LR	LR	06 38 04.5	
	comp=Z,28nm,20.5s,baz=80,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.54**	**116**	T	T	07 06 37.1	
	baz=309,slow=75,SNR=78						
H11N1	**WAKE ISLAND Hy**	**27.55**	**116**	T	T	07 06 33.6	
	baz=309,slow=75,SNR=65						
H11N3	**WAKE ISLAND Hy**	**27.56**	**116**	T	T	07 06 38.9	
	baz=309,slow=75,SNR=40						
H11S3	**WAKE ISLAND Hy**	**28.16**	**118**	T	T	07 07 23.5	
	baz=311,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**28.16**	**118**	T	T	07 07 23.8	
	baz=311,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**28.17**	**118**	T	T	07 07 50.0	
	baz=311,slow=75,SNR=12						
SONM	**Songino Array**	**28.72**	**308**	P	**P**	**06 37 31.5**	**+1.8**
	0.3nm,0.3s,baz=94,slow=7.7,SNR=2.2						
ZALV	**Zalesovo Beam**	**43.15**	**314**	P	**P**	**06 39 32.8**	**+0.2**
	0.9nm,0.6s,baz=98,slow=7.6,SNR=4.0						
MKAR	**Makanchi Array**	**44.94**	**304**	P	**P**	**06 39 47.0**	**0.0**
	0.6nm,0.7s,baz=87,slow=9.3,SNR=6.5						
WRA	**Warramunga Arr**	**54.51**	**187**	P	**P**	**06 40 59.1**	**-0.9**
	0.7nm,0.5s,baz=2.4,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**58.24**	**187**	P	**P**	**06 41 26.7**	**+0.2**
	0.3nm,0.5s,baz=19,slow=11,SNR=6.3						
ARCES	**ARCESS Array B**	**66.10**	**340**	P	**P**	**06 42 18.2**	**-0.4**
	4.6nm,0.9s,baz=49,slow=8.4,SNR=2.6						
YBH	**Yreka Blue Hor**	**72.39**	**51**	LR	LR	07 11 27.5	
	comp=Z,20nm,18.9s,baz=290,slow=33						
NOA	**NORSAR Array B**	**76.23**	**337**	P	**P**	**06 43 20.0**	**-0.1**
	0.8nm,0.7s,baz=42,slow=5.9,SNR=3.6						

*SKHL **21** 06:34:23.7±0.3,48˚39N×155˚88E,h52km±5km,mb5.0/12, msh5.2/2*
*KRSC **21** 06:34:23.6±2.3,48˚59N×155˚49E,h61km±23km,ML5.1*
*MOS **21** 06:34:25.3±0.9,48˚66N×155˚19E,h45km,mb4.5/7,Error ellipse: s-maj=10.7km s-min=3.1km az=71.2*
*NEIC **21** 06:34:27.7±1.5,48˚65N±0˚07×155˚2E±0˚1,h45km±5km, mb4.5/35,Error ellipse: s-maj=14.6km s-min=7.5km az=121.0*
*IDC **21** 06:34:27.1±0.6,48˚73N×155˚00E,h44km±6km,mb3.7/15, mb1 4.0/18,mb1mx3.7/61,mbtmp4.0/18,ML5.3/1,MS3.0/9, Ms1 3.1/9,ms1mx2.8/47,Error ellipse: s-maj=22.5km s-min=11.7km az=137.0*

ISC 21 06:34:26.9±0.5,48˚60N±0˚05×155˚28E±0˚05,h47km±5km, h47km:pP-P,n261,σ1§58/304,mb4.3/37,MS3.1/9,5C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.16**	**14**	*i* P	**Pn**	**06 34 58.5**	**-1.8**
SKR				*e*S	**Sn**	**06 35 23.2**	**-2.7**
SKR	**Severo-Kuril's**	**2.16**	**14**	*i* P	**Pn**	**06 34 58.6**	**-1.8**
SKR				AMB	AMB	06 35 00.0	
	400nm,0.3s						
SKR				AMB	AMB	06 35 00.0	
	360nm,0.5s						
SKR				*i* S	**Sn**	**06 35 24.5**	**-1.4**

KRX	Arik	5.22	23	eP	Pn	06 35 43.2	+0.7		
KRX				eS	Sn	06 36 39.8	-1.6		
KRX	Arik	5.22	23	PN	Pn	06 35 43.2	+0.7		
NLC	Nalytchevo	5.25	28	eP	Pn	06 35 40.9	-1.9		
NLC				eS	Sn	06 36 37.5	-4.4		
NLC	Nalytchevo	5.25	28	PN	Pn	06 35 40.9	-1.9		
SPN	Mys Shipunski	5.42	32	eP	Pn	06 35 44.1	-0.9		
SPN				eS	Sn	06 36 42.9	-3.1		
SPN	Mys Shipunski	5.42	32	PN	Pn	06 35 44.1	-0.9		
KII	Karymskiy	6.04	24	eP	Pn	06 35 54.5	+0.8		
KII				eS	Sn	06 37 01.6	+0.1		
KII	Karymskiy	6.04	24	PN	Pn	06 35 54.5	+0.8		
KUR	Kuril'sk	6.09	239	iP	Pn	06 35 57.0	+2.7		
KUR	comp=Z,10.0nm,0.3s			AMB	AMB	06 35 58.0			
KUR	comp=Z,10.0nm,0.3s			AMB	AMB	06 35 58.0			
KUR	comp=Z,30nm,0.3s			AMB	AMB	06 35 58.0			
KUR				iS	Sn	06 37 05.5	+2.9		
KUR	comp=Z,700nm,2.0s			A	A	06 37 11.0			
KUR	comp=Z,700nm,2.0s			A	A	06 37 11.0			
KUR	comp=Z,210nm,0.4s			A	A	06 37 11.0			
KUR	comp=Z,230nm,0.4s			A	A	06 37 11.0			
KUR	Kuril'sk	6.09	239	diPN	Pn	06 35 56.6	+2.3		
KUR				iS	Sn	06 37 05.7	+3.1		
KUR	comp=Z,295nm,0.3s			pmax	pmax				
KUR	comp=N,80nm,0.2s			pmax	pmax				
KUR	comp=E,33nm,0.1s			pmax	pmax				
KUR	comp=N,214nm,0.3s			smax	smax				
KUR	comp=E,234nm,0.4s			smax	smax				
KUR	comp=N,721nm,1.4s			smax	smax				
KUR	comp=E,703nm,1.4s			smax	smax				
KZV	Kizimen	7.23	24	eP	Pn	06 36 10.6	+0.6		
KZV	Kizimen	7.23	24	PN	Pn	06 36 10.6	+0.6		
TUMD	Tumrok D	7.33	24	eP	Pn	06 36 10.6	-0.7		
TUMR	Tumrok	7.34	22	eP	Pn	06 36 12.1	+0.6		
TUMR	Tumrok	7.34	22	PN	Pn	06 36 12.1	+0.6		
KMNR	Kamenistaya	7.79	21	eP	Pn	06 36 19.3	+1.7		
KMNR	Kamenistaya	7.79	21	PN	Pn	06 36 19.3	+1.7		
YUK	Yuzh-Kuril'sk	7.95	239	iP	Pn	06 36 21.0	+1.2		
YUK	comp=E,20nm,0.4s			AMB	AMB	06 36 21.0			
YUK	comp=E,20nm,0.4s			AMB	AMB	06 36 21.0			
YUK	comp=E,50nm,0.4s			AMB	AMB	06 36 21.0			
YUK				iS	Sn	06 37 46.9	-1.5		
YUK	comp=E,200nm,2.0s			A	A	06 37 48.9			
YUK	comp=E,400nm,2.0s			A	A	06 37 48.9			
YUK	Yuzh-Kuril'sk	7.95	239	⇓iPN	Pn	06 36 21.0	+1.2		
YUK	comp=N,157nm,0.2s			pmax	pmax				
YUK	comp=E,198nm,0.2s			pmax	pmax				
YUK	comp=Z,540nm,0.2s			pmax	pmax				
KPT	Kopyto	7.98	20	eP	Pn	06 36 20.9	+0.7		
KPT	Kopyto	7.98	20	PN	Pn	06 36 20.9	+0.7		
KOZ	Kozyrevsk	7.98	19	P	Pn	06 36 21.4	+1.2		
KOZ	Kozyrevsk	7.98	19	iP	Pn	06 36 21.4	+1.2		
KOZ	Kozyrevsk	7.98	19	PN	Pn	06 36 21.4	+1.2		
KIRR	Kirishev	7.99	21	eP	Pn	06 36 20.4	-0.1		
KIRR	Kirishev	7.99	21	PN	Pn	06 36 20.4	-0.1		
GRPR	Tuman	8.03	239	eP	Pn	06 36 22.0	+1.1		
GRPR	comp=Z,10.0nm,0.4s			AMB	AMB	06 36 23.0			
GRPR	comp=Z,10.0nm,0.4s			AMB	AMB	06 36 23.0			
GRPR	comp=Z,20nm,0.4s			AMB	AMB	06 36 23.0			
GRPR				iS	Sn	06 37 49.0	-1.3		
GRPR	Tuman	8.03	239	⇑ePN	Pn	06 36 22.0	+1.1		
GRPR	comp=N,119nm,0.2s			pmax	pmax				
GRPR	comp=E,117nm,0.2s			pmax	pmax				
GRPR	comp=Z,119nm,0.2s			pmax	pmax				
BZWR	Bezymyannyi-We	8.04	21	eP	Pn	06 36 21.7	+0.6		
BZWR	Bezymyannyi-We	8.04	21	PN	Pn	06 36 21.7	+0.6		
BZGR	Bezymyannyi-Gr	8.07	22	eP	Pn	06 36 23.3	+1.9		
BZGR	Bezymyannyi-Gr	8.07	22	PN	Pn	06 36 23.3	+1.9		
ZLN	Zelenaya	8.16	22	eP	Pn	06 36 24.2	+1.4		
ZLN	Zelenaya	8.16	22	PN	Pn	06 36 24.2	+1.4		
SRDR	Sredinnyy	8.19	18	eP	Pn	06 36 24.0	+0.9		
SRDR	Sredinnyy	8.19	18	PN	Pn	06 36 24.0	+0.9		
CIRR	Tsirk	8.24	22	eP	Pn	06 36 25.0	+1.2		
CIRR	Tsirk	8.24	22	PN	Pn	06 36 25.0	+1.2		
KRSR	Krestovskiy	8.29	21	eP	Pn	06 36 26.3	+1.9		
KRSR	Krestovskiy	8.29	21	PN	Pn	06 36 26.3	+1.9		
JRA	Rausu	8.44	240	P	Pn	06 36 27.5	+1.1		
NEM2	Nemuro 2	8.45	235	P	Pn	06 36 25.0	-1.6		
NEM2				eS	Sn	06 37 54.3	-6.2		
NMR	Nemuro--Hokkai	8.46	235	iP	Pn	06 36 25.1	-1.6		
NMR	Nemuro--Hokkai	8.46	235	⇓iPN	Pn	06 36 25.1	-1.6		
TYV	Tymovskoe	8.49	290	eP	Pn	06 36 31.9	+4.8		
TYV	comp=Z,80nm,0.6s			AMB	AMB	06 36 35.8			
YSS	Yuzh-Sakhalins	8.59	264	iP	Pn	06 36 30.2	+1.6		
YSS				iP	Pn	06 36 30.2	+1.6		
YSS	comp=Z,30nm,0.5s			AMB	AMB	06 36 30.6			
YSS	comp=Z,60nm,0.5s			AMB	AMB	06 36 30.6			
YSS	comp=Z,200nm,3.0s			AMB	AMB	06 36 31.9			
YSS				eS	Sn	06 38 07.1	+3.0		
YSS	Yuzh-Sakhalins	8.59	264	⇑ePN	Pn	06 36 29.9	+1.3		
YSS	comp=Z,60nm,0.5s			pmax	pmax				
YSS	comp=N,30nm,0.4s			pmax	pmax				
YSS	comp=E,40nm,0.7s			pmax	pmax				
YSS	comp=Z,100nm,3.0s			MLR	MLR				
YSS	comp=Z,200nm,17.0s			Pn	Pn	06 36 28.0	-0.6		
UGL	Uglegorsk	8.73	278	eP	Pn	06 36 35.4	+5.0		
UGL	comp=Z,90nm,0.6s			AMB	AMB	06 36 41.0			
SRKR	Sorokina	8.83	22	eP	Pn	06 36 30.7	-1.1		
SRKR	Sorokina	8.83	22	PN	Pn	06 36 30.7	-1.1		
SMKR	Semkarok	8.84	23	eP	Pn	06 36 33.3	+1.4		
SMKR	Semkarok	8.84	23	PN	Pn	06 36 33.3	+1.4		
JNK	Nakash	8.88	240	P	Pn	06 36 32.8	+0.3		
JNK				eS	Sn	06 38 10.4	-0.8		
KBTR	Krutoberegovo	8.90	28	eP	Pn	06 36 31.2	-1.6		
KBTR	Krutoberegovo	8.90	28	PN	Pn	06 36 31.2	-1.6		
KBG	Krutoberegovo	8.91	28	eP	Pn	06 36 32.9	+0.1		
KBG	Krutoberegovo	8.91	28	PN	Pn	06 36 32.9	+0.1		
JTKR	Abashiri--Toko	9.13	244	P	Pn	06 36 36.9	+1.0		
JAK	Akkeshi	9.27	237	P	Pn	06 36 36.0	-1.8		
JAK				eS	Sn	06 38 13.7	-6.9		
BKI	Bering	9.35	41	eP	Pn	06 36 36.4	-2.4		
BKI				eS	Sn	06 38 11.8	-11		
BKI	Bering	9.35	41	PN	Pn	06 36 36.4	-2.4		
JSE	Soyaes	9.44	252	P	Pn	06 36 42.3	+2.2		
JAR	Ashorobuto	9.61	241	P	Pn	06 36 42.7	+0.3		
JWK2	Keihoku	9.72	255	P	Pn	06 36 47.9	+3.9		
JOB	Onbets	9.81	239	P	Pn	06 36 44.0	-1.3		
JKA	Kamikawa-asahi	9.84	248	eP	Pn	06 36 48.1	+2.4		
JKA	Kamikawa-asahi	9.84	248	Pn	Pn	06 36 48.1	+2.4		
ASAJ	Asahikawa	9.84	248	P	Pn	06 36 49.0	+3.3		
ASAJ	comp=Z,15nm,0.3s,baz=74,slow=14,SNR=39 Asahikawa	9.84	248	P	Pn	06 36 48.7	+3.0		
ASAJ	Asahikawa	9.84	248	PN	Pn	06 36 48.1	+2.4		
JKK2	Kamakawa 2	9.88	246	P	Pn	06 36 48.4	+2.2		
JSS	Shosan	10.16	251	P	Pn	06 36 53.8	+3.8		
JRBN	Rebuntou	10.21	257	P	Pn	06 36 53.1	+2.4		
JCH	Churui	10.26	239	P	Pn	06 36 49.5	-1.9		
JCH				eS	Sn	06 38 37.6	-7.4		
JBT2	Biratori 2	10.74	242	P	Pn	06 36 57.9	0.0		
JEM	Erimo	10.77	237	P	Pn	06 36 56.9	-1.5		
ERM	Erimo	10.77	237	PN	Pn	06 36 57.7	-0.7		
ERM	Erimo	10.77	237	Pn	Pn	06 36 57.7	-0.7		
JNBK	Urakawa-nobuka	10.82	239	P	Pn	06 36 56.3	-2.8		
MA2	Magadan	11.31	348	P	Pn	06 37 04.7	-1.0		
MA2	comp=Z,2.1nm,0.3s,baz=173,slow=17,SNR=3.1			LR	LR	06 41 34.5			
MA2	comp=Z,69nm,19.8s,baz=144,slow=38 Magadan	11.31	348	iPN	Pn	06 37 04.0	-1.7		
MA2	comp=Z,8.0nm,0.4s			pmax	pmax				
MA2	Magadan	11.31	348	Pn	Pn	06 37 04.2	-1.5		
JNB	Noboribetsu	11.71	244	P	Pn	06 37 09.8	-1.4		
JKB	Kayabe	12.06	242	P	Pn	06 37 13.1	-2.9		
JKB				eS	Sn	06 39 17.5	-12		
JSH	Shimam	12.21	246	P	Pn	06 37 18.3	+0.4		
JYM2	Yakumo 2	12.31	244	P	Pn	06 37 17.7	-1.8		
SMY	Shemya	12.63	64	PN	Pn	06 37 23.5	-0.2		
SMY	Shemya	12.63	64	Pn	Pn	06 37 23.5	-0.2		
JTM	Tenmabayashi	12.76	238	P	Pn	06 37 21.3	-4.2		
JANG	Nango	12.80	235	P	Pn	06 37 20.9	-5.1		
JTH	Tanohata	12.92	233	P	Pn	06 37 23.5	-4.2		
TEY	Ternei	13.27	261	iP	Pn	06 37 33.5	+1.0		
TEY	comp=Z,10.0nm,0.4s			AMB	AMB	06 37 37.1			
TEY	Ternei	13.27	261	⇑ePN	Pn	06 37 36.1	+3.6		
TEY	comp=E,10.0nm,1.6s			pmax	pmax				
TEY	comp=Z,10.0nm,2.3s			pmax	pmax				
OFUJ	Ofunato	13.65	231	P	Pn	06 37 31.5	-6.2		
JRG	Rokugo	13.97	234	P	Pn	06 37 37.6	-4.4		
SEY	Seymchan	14.46	355	P	Pn	06 37 49.4	+0.9		
SEY	comp=Z,0.5nm,0.3s,baz=170,slow=13,SNR=7.3 Seymchan	14.46	355	iP	Pn	06 37 47.5	-0.9		
SEY	Seymchan	14.46	355	iP	Pn	06 37 47.5	-0.9		
EKMR	Ekimchan	14.78	296	eP	Pn	06 37 53.6	+0.9		
EKMR	comp=Z,10.0nm,0.8s			AMB	AMB	06 38 04.5			
KLR	Kul'dur	15.47	281	LR	LR	06 44 21.3			
KLR	comp=Z,64nm,18.4s,baz=86,slow=39 Kul'dur	15.47	281	eP	Pn	06 38 00.3	-1.5		
KLR	comp=Z,10.0nm,1.0s			AMB	AMB	06 38 08.1			
KLR	Kul'dur	15.47	281	iP	Pn	06 38 00.3	-1.5		
KLR	comp=Z,4.0nm,1.0s			pmax	pmax				
USA0B	Ussuriysk Arra	16.63	263	iP	Pn	06 38 16.5	0.0		
USA0B	Ussuriysk Arra	16.63	263	P	P	06 38 19.1	+0.8		
USRK	Ussuriysk Ar.	16.63	263	P	P	06 38 17.8	-0.5		
USRK	baz=67,slow=12,SNR=13 Ussuriysk Ar.	16.63	263	P	P	06 38 17.7	-0.7		
MJA0	Matsu Arr-Jizo	17.34	232	eP	P	06 38 28.4	+2.1		
MAJO	Matsushiro	17.36	232	P	Pn	06 38 26.2	+0.5		
MAJO	comp=Z,12nm,0.8s			pmax	pmax				
MAJO	Matsushiro	17.36	232	P	Pn	06 38 26.2	+0.5		
MAT	Matsushiro	17.36	232	P	Pn	06 38 23.9	-1.8		
MAT				eS	Sn	06 41 39.8	+1.9		
MJAR	Matsushiro Arr	17.36	232	P	Pn	06 38 24.2	-1.5		
MJAR	comp=Z,0.1nm,0.3s,baz=24,slow=15,SNR=2.8 Matsushiro Arr	17.36	232	P	Pn	06 38 26.1	+0.4		
BMKR	Bomnak	17.44	300	eP	P	06 38 27.4	+0.2		
YAK	Yakutsk	19.64	323	iP	P	06 38 47.1	-4.2		
YAK	comp=Z,12nm,0.9s			pmax	pmax				
KSRS	Korea Array	22.77	251	P	P	06 39 24.7	-0.3		
KSRS	comp=Z,1.0nm,0.5s,baz=51,slow=10,SNR=4.9 Korea Array	22.77	251	eP	P	06 39 24.3	-0.8		
KSRS	Korea Array	22.77	251	eP	P	06 39 24.3	-0.8		
KSRS	comp=Z,1.0nm,0.4s			pmax	pmax				
KS19	Wonju Array Si	22.77	251	P	P	06 39 24.0	-1.2		
KS19	comp=Z,13nm,1.1s			IAmb	IAmb	06 39 32.6			
KSAR	Wonju Array Be	22.80	251	eP	P	06 39 25.8	+0.4		
KSAR	Wonju Array Be	22.80	251	P	P	06 39 25.8	+0.4		
KSAR	Wonju Array Be	22.80	251	P	P	06 39 25.8	+0.4		
JNU	Nakatsue	23.93	239	LR	LR	06 49 17.3			
H11N2	comp=Z,30nm,19.2s,baz=26,slow=37 WAKE ISLAND Hy 30.29 158 baz=345,slow=77,SNR=282			T	T	07 12 22.3			
H11N1	WAKE ISLAND Hy 30.30 158 baz=345,slow=77,SNR=322			T	T	07 12 28.7			
H11N3	WAKE ISLAND Hy 30.30 158 baz=345,slow=77,SNR=118			T	T	07 12 27.7			
IMAR	Indian Mountai	31.41	38	P	P	06 40 44.5	+1.4		
IMAR				pP	pP	06 40 55.7	+0.7		
H11S1	WAKE ISLAND Hy 31.41 159 baz=345,slow=76,SNR=5407			T	T	07 13 54.9			
H11S3	WAKE ISLAND Hy 31.42 159 baz=345,slow=76,SNR=3663			T	T	07 13 55.1			
H11S2	WAKE ISLAND Hy 31.43 159 baz=345,slow=76,SNR=2179			T	T	07 13 54.7			
HHC	Hu-ho-hao-te	31.65	272	eP	P	06 40 46.6	+1.1		
HHC	comp=Z,22nm,0.9s			pmax	pmax				
HHC	comp=Z,84nm,4.9s			pmax	pmax				
HHC	comp=N,150nm,12.3s			LR	LR				
HHC	comp=E,98nm,13.2s			LR	LR				
HHC	comp=Z,94nm,13.8s			LR	LR				
KDAK	Kodiak Island	31.81	53	P	P	06 40 46.5	-0.2		
KDAK	comp=Z,5.0nm,0.9s,baz=301,slow=8.3,SNR=4.6			LR	LR	06 53 59.8			
KDAK	comp=Z,57nm,18.6s,baz=266,slow=37 Kodiak Island	31.81	53	P	P	06 40 47.3	+0.7		
KDAK	comp=Z,5.0nm,1.3s			pmax	pmax				
KDAK	Kodiak Island	31.81	53	P	P	06 40 47.3	+0.7		
NJ2	Nanjing	31.94	252	eP	P	06 40 49.4	+1.4		
NJ2	comp=Z,8.0nm,0.5s			pmax	pmax				
KTH	Kantishna Hill	32.41	42	P	P	06 40 52.5	+0.6		
KTH	comp=Z,5.3nm,1.1s			IAmb	IAmb	06 40 54.0			
KTH				pP	pP	06 41 05.7	+1.8		
COLD	Coldfoot	32.98	36	P	P	06 40 57.6	+0.9		
COLD				pP	pP	06 41 09.4	+0.7		
ANA2	Anatahan	33.11	197	P	P	06 40 59.7	+1.4		
ANA2				pP	pP	06 41 11.0	+0.4		
MCK	McKinley	33.30	42	P	P	06 41 01.1	+1.5		
MCK				pP	pP	06 41 12.6	+1.0		
MCK	comp=Z,3.5nm,0.7s			IAmb	IAmb	06 41 12.9			
RND	Reindeer	33.34	43	P	P	06 41 00.2	+0.2		
RND				*PP	pP	06 41 12.4	+0.4		
RND	comp=Z,4.0nm,0.8s			pmax	pmax				
RND	Reindeer	33.34	43	P	P	06 41 00.2	+0.2		
RND				pP	pP	06 41 12.4	+0.4		
RND	comp=Z,3.8nm,0.8s			IAmb	IAmb	06 41 12.9			
KNK	Knik Glacier	33.59	46	P	P	06 41 02.9	+0.7		
KNK	comp=Z,7.5nm,0.9s			IAmb	IAmb	06 41 03.9			
SML	Sawmill	33.63	46	P	P	06 41 03.1	+0.6		
COLA	College	33.78	40	iP	P	06 41 04.5	+0.8		
COLA	comp=Z,3.0nm,0.7s			pmax	pmax				
COLA	College	33.78	40	P	P	06 41 05.6	+1.9		
COLA					pP	06 41 16.4	+0.7		
COLA	comp=Z,8.0nm,0.8s			IAmb	IAmb	06 41 17.3			
CCB	Clear Creek Bu	33.80	40	P	P	06 41 06.2	+2.3		
CCB				pP	pP	06 41 16.8	+0.9		
SCM	Sheep Creek Mo	34.10	45	P	P	06 41 07.7	+1.0		
SCM	comp=Z,6.0nm,0.9s			pmax	pmax				
SCM	Sheep Creek Mo	34.10	45	P	P	06 41 07.7	+1.0		
SCM	comp=Z,5.5nm,0.9s			IAmb	IAmb	06 41 08.6			
HDA	Harding Lake	34.17	41	P	P	06 41 08.5	+1.4		
HDA				pP	pP	06 41 19.2	0.0		
HDA	comp=Z,3.0nm,0.6s			IAmb	IAmb	06 41 19.9			
IL31		34.19	40	P	P	06 41 07.8	+0.6		
IL31				pP	pP	06 41 20.5	+1.2		
ILAR	Eielson Array	34.19	40	P	P	06 41 07.0	-0.4		
ILAR	comp=Z,0.4nm,0.4s,baz=255,slow=9.3,SNR=6.4			pP	pP	06 41 19.5	+0.1		
ILAR	comp=Z,1.7nm,0.7s,baz=254,slow=7.4,SNR=9.7 Eielson Array	34.19	40	eP	P	06 41 07.5	+0.2		
ILAR	comp=Z,1.0nm,0.8s			pmax	pmax				
ILAR	Eielson Array	34.19	40	P	P	06 41 08.5	+1.2		
BMAR	Burnt Mountain	35.17	36	P	P	06 41 17.3	+1.5		
GUMO	Guam	35.95	197	P	P	06 41 22.9	0.0		
GUMO	Guam	35.95	197	P	P	06 41 22.9	0.0		
CRQM	Cirque	36.23	47	P	P	06 41 26.3	+1.2		
BCAR	Beaver Creek A	36.55	43	P	P	06 41 29.0	+1.3		
BCAR				pP	pP	06 41 41.4	+1.7		
EGAK	Eagle	36.64	40	P	P	06 41 28.3	0.0		
EGAK	comp=Z,4.5nm,0.8s			IAmb	IAmb	06 41 41.7			
NRIK	Noril'sk	37.95	328	iP	P	06 41 34.9	-4.5		
NRIK	comp=Z,1.0nm,0.9s			pmax	pmax				
INK	Inuvik	39.30	34	P	P	06 41 51.7	+1.1		
INK	comp=Z,1.2nm,0.5s,baz=301,slow=11,SNR=14 Inuvik	39.30	34	P	P	06 41 51.2	+0.5		
INK	comp=Z,8.0nm,1.5s			pmax	pmax				
INK	Inuvik	39.30	34	P	P	06 41 51.2	+0.5		
INK	comp=Z,7.9nm,1.5s			IAmb	IAmb	06 42 03.9			
LZH	Lanzhou	39.30	271	eP	P	06 41 52.0	+0.7		
LZH				pP	pP	06 42 01.6	-2.3		
LZH				sP	sP	06 42 07.3	-2.1		
LZH				PP	PnPn	06 43 23.5	-1.5		
LZH	comp=Z,18nm,1.2s			pmax	pmax				
LZH	comp=Z,84nm,4.3s			pmax	pmax				
WMQ	Urumqi	45.63	291	eP	P	06 42 46.8	+4.3		
WMQ	comp=Z,13nm,1.1s			pmax	pmax				
WMQ	comp=Z,110nm,6.5s			pmax	pmax				
WMQ	comp=N,200nm,10.1s			LR	LR				
WMQ	comp=E,2μm,29.1s			LR	LR				
WMQ	comp=Z,280nm,23.5s			LR	LR				
BBB	Bella Bella	46.85	55	LR	LR	07 00 24.4			
MKAR	comp=Z,14nm,19.5s,baz=80,slow=33 Makanchi Array	47.40	297	P	P	06 42 55.4	-0.9		
MKAR	comp=Z,0.3nm,0.6s,baz=61,slow=10,SNR=3.1			LR	LR	07 05 12.4			
MKAR	comp=Z,17nm,18.4s,baz=48,slow=39 Makanchi Array	47.40	297	P	P	06 42 55.8	-0.5		
MKAR	Makanchi Array	47.40	297	P	P	06 42 55.8	-0.5		
YKA	Yellowknife Ar	48.57	38	P	P	06 43 03.8	-1.2		
BRVK	comp=Z,0.8nm,0.8s,baz=287,slow=10,SNR=4.5 Borovoye	50.86	309	iP	P	06 43 21.6	-0.9		
BRVK	comp=Z,1.0nm,0.8s			pmax	pmax				
CMAR	Chiang Mai Arr	54.22	257	P	P	06 43 48.3	+0.4		
CMAR	comp=Z,2.1nm,0.6s,baz=34,slow=7.2,SNR=12			LR	LR	07 07 45.6			
CMAR	comp=Z,14nm,19.3s,baz=205,slow=37 Chiang Mai Arr	54.22	257	eP	P	06 43 48.7	+0.8		
CMAR	comp=Z,2.0nm,0.6s			pmax	pmax				
CMAR	Chiang Mai Arr	54.22	257	P	P	06 43 48.2	+0.3		
ARCES	ARCESS Array B	56.58	341	P	P	06 44 02.0	-2.2		
ARCES	comp=Z,4.2nm,0.9s,baz=36,slow=6.8,SNR=2.2 ARCESS Array B	56.58	341	P	P	06 44 05.5	+1.3		
ARCES	ARCESS Array B	56.58	341	P	P	06 44 05.5	+1.3		
JTMT	Jette	56.74	54	P	P	06 44 06.5	+0.8		
ABKAR	Akbulak array	58.36	310	P	P	06 44 16.5	-0.4		
BOZ	Bozeman (W)	59.51	54	P	P	06 44 26.8	+1.6		
BOZ	comp=Z,3.0nm,1.1s			pmax	pmax				
BOZ	Bozeman (W)	59.51	54	P	P	06 44 26.8	+1.6		
BOZ	comp=Z,3.5nm,1.1s			IAmb	IAmb	06 44 27.3			
NVAR	Mina Array Bea	60.30	64	P	P	06 44 32.6	+1.9		
BW06	comp=Z,1.5nm,1.1s,baz=278,slow=8.0,SNR=7.0 Boulder Array	62.49	56	P	P	06 44 46.8	+1.2		
BW06	comp=Z,6.7nm,1.5s			IAmb	IAmb	06 44 47.5			
PDAR	Pinedale Array	62.49	56	P	P	06 44 46.9	+1.4		
PDAR	comp=Z,1.6nm,0.8s,baz=296,slow=2.1,SNR=16			pP	pP	06 45 00.4	+2.1		
PDAR	comp=Z,0.6nm,0.6s,baz=339,slow=1.5,SNR=4.3 Pinedale Array	62.49	56	P	P	06 44 46.2	+0.7		
PDAR				pP	pP	06 44 58.6	+0.3		
FINES	FINESS Array B	62.98	335	P	P	06 44 46.0	-2.1		
FINES	comp=Z,1.6nm,0.9s,baz=21,slow=6.3,SNR=4.3 FINESS Array B	62.98	335	P	P	06 44 48.1	-0.1		
FINES	FINESS Array B	62.98	335	P	P	06 44 48.1	-0.1		
RDMU	Red Mountain	63.95	58	P	P	06 44 57.0	+1.8		
SRU	San Rafael Swe	64.40	59	P	P	06 45 00.2	+2.0		
SRU	comp=Z,3.0nm,0.7s			pmax	pmax				
SRU	San Rafael Swe	64.40	59	P	P	06 45 00.2	+2.0		
OBN	Obninsk	64.60	326	ceP	P	06 44 56.8	-2.1		
OBN				e		06 47 19.4			
OBN				eS	S	06 53 35.0	+0.3		
OBN	comp=Z,5.0nm,0.8s			pmax	pmax				
OBN	comp=Z,21nm,16.0s			MLR	MLR				
PV17	East Wray Mesa	65.86	59	P	P	06 45 09.6	+1.9		
NOA	NORSAR Array B	66.94	342	LR	LR	07 17 45.8			
SMRI	comp=Z,11nm,20.2s,baz=195,slow=39 Semarang	67.91	229	P	P	06 45 20.8	+0.2		
LENM	Lemitar	69.89	61	P	P	06 45 35.0	+2.0		
WB0	Warramunga Arr	70.57	201	P	P	06 45 38.0	+1.1		
WB0	comp=Z,7.0nm,1.2s			IAmb	IAmb	06 45 47.2			
WB2	Warramunga Arr	70.75	201	P	P	06 45 39.7	+1.7		
WB2	comp=Z,4.6nm,0.8s			IAmb	IAmb	06 45 51.4			
WRA	Warramunga Arr	70.75	201	P	P	06 45 38.6	+0.6		
WRA	comp=Z,0.5nm,0.8s,baz=18,slow=6.5,SNR=3.5			pP	pP	06 45 50.9	-0.4		
WRA	comp=Z,1.9nm,0.7s,baz=16,slow=6.2,SNR=10 Warramunga Arr	70.75	201	P	P	06 45 40.5	+2.5		
WRA	Warramunga Arr	70.75	201	P	P	06 45 40.5	+2.5		
SCHQ	Schefferville	71.03	24	P	P	06 45 40.3	+0.9		
SCHQ	comp=Z,1.5nm,0.5s,baz=14,slow=7.7,SNR=8.0			IAmb	IAmb	06 45 58.5			
SCHQ	Schefferville	71.03	24	P	P	06 45 40.3	+0.9		
ASAR	comp=Z,7.5nm,1.2s Alice Springs	74.44	200	P	P	06 46 01.4	+1.5		
ASAR	comp=Z,0.3nm,0.6s,baz=13,slow=5.1,SNR=2.5			pP	PcP	06 46 13.5	-0.7		
TX31	comp=Z,0.6nm,0.6s,baz=16,slow=5.7,SNR=5.5 Lajitas Ar. Si	75.32	62	P	P	06 46 06.7	+1.4		
TX31				IAmb	IAmb	06 46 07.5			
TX32	comp=Z,9.0nm,1.0s Lajitas Array	75.32	62	P	P	06 46 06.6	+1.3		
TXAR	Lajitas Array	75.33	62

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.74**	**5**		**Sn**	**06 42 58.7**	**+0.4**
ATKA	**Atka Island**	**1.74**	**5**		**Pn**	**06 42 36.9**	**-0.5**
KOFP	**Korovin Flat P**	**1.82**	**6**		**Pn**	**06 42 38.6**	**+0.2**
GSMY	**Great Sitkin M**	**1.88**	**327**		**Pn**	**06 42 38.9**	**-0.5**
GSTD	**Great Sitkin T**	**1.92**	**326**		**Pn**	**06 42 39.6**	**-0.4**
GSTD					**Sn**	**06 43 02.8**	**-0.2**
GSTR	**Great Sitkin T**	**1.92**	**328**	Pn	**Pn**	**06 42 39.6**	**-0.4**
GSTR					**Sn**	**06 43 03.9**	**+1.0**
ADK	**Adak**	**2.01**	**316**		**Sn**	**06 43 03.9**	**-1.1**
ADK	**Adak**	**2.01**	**316**		**Pn**	**06 42 40.1**	**-0.9**
KIMD	**Kanaga Island**	**2.19**	**307**		**Pn**	**06 42 42.9**	**-0.7**
KINC	**Kanaga Island**	**2.25**	**312**		**Pn**	**06 42 44.1**	**-0.2**
KINC					**Sn**	**06 43 10.3**	**-0.5**
KICM	**Kanaga Island**	**2.27**	**311**		**Pn**	**06 42 44.5**	**-0.1**
TASE	**Tanaga Southea**	**2.66**	**302**		**Pn**	**06 42 50.3**	**+0.2**
TAFP	**Tanaga Falls P**	**2.66**	**304**		**Pn**	**06 42 50.0**	**0.0**
TAFP					**Sn**	**06 43 20.8**	**-0.2**
AMKA	**Amchitka**	**4.08**	**285**		**Pn**	**06 43 07.8**	**-1.6**
NIKH	**Nikolski High**	**4.27**	**52**		**Pn**	**06 43 11.8**	**-0.3**
NIKH				Sn	**Sn**	**06 43 59.9**	**-0.8**
MREP	**Makushin Rep't**	**5.79**	**52**		**Pn**	**06 43 32.6**	**-0.4**
MSW	**Makushin Switc**	**5.82**	**51**		**Pn**	**06 43 33.4**	**-0.1**
UNV	**Unalaska Valle**	**5.93**	**52**		**Pn**	**06 43 35.1**	**+0.3**
UNV				Sn	**Sn**	**06 44 41.5**	**+0.1**
AKUT	**Akutan**	**6.45**	**52**	Pn	**Pn**	**06 43 42.0**	**0.0**
SDPT	**Sand Point**	**9.73**	**55**	Pn	**Pn**	**06 44 27.0**	**+0.1**
CNBA	**Chernabura Isl**	**10.00**	**58**	Pn	**Pn**	**06 44 30.4**	**-0.3**
CHIR	**Chirikof Islan**	**12.47**	**57**	Pn	**Pn**	**06 45 03.0**	**-1.4**
OHAK	**Old Harbor**	**14.15**	**53**	Pn	**Pn**	**06 45 25.3**	**-2.0**
KDAK	**Kodiak Island**	**14.70**	**52**	Pn	**Pn**	**06 45 31.2**	**-3.5**
	0.2nm,0.3s,baz=248,slow=12,SNR=12						
KDAK	**Kodiak Island**	**14.70**	**52**		**Pn**	**06 45 31.6**	**-3.1**
SVW2	**Sparrevohn**	**14.95**	**37**	Pn	**Pn**	**06 45 37.1**	**-1.0**
CNPM	**China Poot**	**16.02**	**47**	Pn	**Pn**	**06 45 51.1**	**-0.9**
CNPM				IAmb	IAmb	06 46 00.8	
	comp=Z,5.1nm,1.2s						
BRLK	**Bradley Lake**	**16.27**	**46**	P	**Pn**	**06 45 54.4**	**-0.9**
BRLK				IAmb	IAmb	06 46 10.0	
	comp=Z,5.7nm,1.1s						
SKT	**Skwentna**	**17.05**	**39**	P	**Pn**	**06 46 05.4**	**+0.3**
SUA	**Susitna One**	**17.11**	**41**	P	**P**	**06 46 06.6**	**-0.7**
SUA				IAmb	IAmb	06 46 06.8	
	comp=Z,8.5nm,1.4s						
PETK	**Petropavlovsk-**	**17.41**	**290**	P	**P**	**06 46 11.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=90,slow=18,SNR=7.5						
PETK	**Petropavlovsk-**	**17.41**	**290**	P	**P**	**06 46 10.2**	**-0.4**
GHO	**Glory Hole Cre**	**18.02**	**41**	P	**Pn**	**06 46 16.5**	**-0.6**
KTH	**Kantishna Hill**	**18.16**	**35**	P	**P**	**06 46 18.9**	**0.0**
KTH				IAmb	IAmb	06 46 30.7	
	comp=Z,5.8nm,1.4s						
HIN	**Hinchinbrook I**	**18.55**	**47**	P	**P**	**06 46 21.9**	**-1.2**
FID	**Port Fidalgo**	**18.68**	**46**	P	**P**	**06 46 24.0**	**-0.5**
FID				IAmb	IAmb	06 46 28.3	
	comp=Z,2.6nm,0.7s						
SCM	**Sheep Creek Mo**	**18.73**	**42**	P	**Pn**	**06 46 26.2**	**+0.4**
SCM				IAmb	IAmb	06 46 28.1	
	comp=Z,6.9nm,1.2s						
KLU	**Klutina**	**19.21**	**44**	P	**P**	**06 46 30.1**	**-0.2**
ILAR	**Eielson Array**	**20.31**	**35**	P	**P**	**06 46 42.4**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=231,slow=9.6,SNR=10						
RIDG	**Independent Ri**	**20.59**	**39**	P	**P**	**06 46 44.5**	**-0.9**
BCAR	**Beaver Creek A**	**21.58**	**42**	P	**P**	**06 46 56.5**	**+0.4**
EGAK	**Eagle**	**22.49**	**38**	P	**P**	**06 47 05.5**	**-0.1**
EGAK				IAmb	IAmb	06 47 08.6	
	comp=Z,3.5nm,1.1s						
HYT	**Haines Junctio**	**22.95**	**49**	P	**P**	**06 47 10.9**	**+0.3**
PDAR	**Pinedale Array**	**43.92**	**74**	P	**P**	**06 50 13.9**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=312,slow=4.6,SNR=2.4						
TXAR	**Lajitas Array**	**56.02**	**84**	P	**P**	**06 51 45.0**	**0.0**
	comp=Z,0.3nm,0.8s,baz=289,slow=4.7,SNR=4.8						
KURBB	**Kurchatov Arra**	**61.73**	**316**	P	**P**	**06 52 25.6**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=44,slow=6.5,SNR=6.8						
MKAR	**Makanchi Array**	**62.74**	**311**	P	**P**	**06 52 32.2**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=50,slow=6.9,SNR=2.2						

*DDA **21** 06:43:22.3,35.°95N×29.°34E,h29km, ML2.0*
*NIC **21** 06:43:23.1±0.0,36.°34N×29.°51E,h35km±2km, Ml2.8/3*
*ISK **21** 06:43:23.5,36.°00N×29.°32E,h18km, ML2.3/7*
ISC 21 06:43:23.9±1.2,35.°96N±0.°05×29.°38E±0.°03,h24km±9km, n23,σ0°78/40,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.25**	**41**	P	**Pb**	**06 43 29.6**	**-0.4**
KSL				S	**Sb**	**06 43 35.3**	**+1.0**
KSL				AML	AML	06 43 36.5	
	1.3nm,0.6s						
KSL				AML	AML	06 43 36.5	
	1.3nm,0.6s						
AKAS	**Kas**	**0.33**	**34**	PG	**Pb**	**06 43 30.9**	**-0.4**
AKAS	**Kas**	**0.33**	**34**	*i* P	**Pb**	**06 43 30.7**	**-0.7**
AKAS				*i* S	**Sb**	**06 43 36.3**	**-0.1**
AKAS				IAML		06 43 38.0	
	comp=E,136nm,0.3s						
AKAS				IAML		06 43 39.0	
	comp=N,253nm,0.4s						
DEMR	**Demre-Antalya**	**0.51**	**57**	PG	**Pb**	**06 43 34.6**	**+0.5**
FETY	**Fethiye**	**0.71**	**340**	PG	**Pb**	**06 43 37.0**	**-0.7**
FETY				SG	**Sb**	**06 43 46.8**	**-0.3**
FETY	**Fethiye**	**0.71**	**340**	*i* P	**Pb**	**06 43 36.3**	**-1.4**
FETY				*i* S	**Sb**	**06 43 47.4**	**+0.3**
FETY				IAML		06 43 48.0	
	comp=N,91nm,0.3s						
FETY				IAML		06 43 48.0	
	comp=E,143nm,0.4s						
AKUM	**Antalya-Kumluc**	**0.86**	**65**	*i* P	**Pb**	**06 43 39.1**	**-1.0**
AKUM				*i* S	**Sn**	**06 43 52.5**	**+0.2**
AKUM				IAML		06 44 00.0	
	comp=E,28nm,0.3s						
DALY	**Dalyan (Mula)**	**1.04**	**326**	PG	**Pb**	**06 43 42.8**	**-0.3**
DALY				SG	**Sn**	**06 43 56.9**	**+0.2**
DALY	**Dalyan (Mula)**	**1.04**	**326**	*i* P	**Pb**	**06 43 42.0**	**-1.1**
DALY				*i* S	**Sb**	**06 43 55.4**	**-0.9**
DALY				IAML		06 43 57.0	
	comp=E,28nm,0.6s						
DALY				IAML		06 43 58.0	
	comp=N,40nm,0.4s						
ARG	**Arkhangelos**	**1.05**	**284**	PG	**Pb**	**06 43 43.0**	**-0.3**
ARG				SG	**Sn**	**06 43 57.3**	**+0.3**
TURN	**Turunc**	**1.23**	**312**	PN	**Pb**	**06 43 45.4**	**+1.1**
GOLH	**Golhisar**	**1.28**	**6**	*i* P	**Pn**	**06 43 46.7**	**+0.3**
GOLH				*i* S	**Sb**	**06 44 05.5**	**+2.0**
GOLH				IAML		06 44 07.0	
	comp=N,27nm,0.3s						
GOLH				IAML		06 44 34.0	
	comp=E,48nm,1.7s						
YER	**Yerkesik**	**1.47**	**323**	PN	**Pn**	**06 43 48.9**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.55**	**346**	*i* P	**Pn**	**06 43 50.0**	**-0.1**
TAVA				*i* S	**Sn**	**06 44 09.7**	**+0.2**
TAVA				IAML		06 44 12.0	
	comp=E,27nm,0.3s						
TAVA				IAML		06 44 15.0	
	comp=N,19nm,0.3s						
DAT	**Datca**	**1.65**	**298**	PN	**Pn**	**06 43 51.4**	**0.0**
DAT				SN	**Sn**	**06 44 11.6**	**-0.3**
DAT	**Datca**	**1.65**	**298**	*i* P	**Pb**	**06 43 53.9**	**+0.3**
DAT				*i* S	**Sn**	**06 44 11.3**	**-0.6**
DAT				IAML		06 44 33.0	
	comp=N,10nm,1.5s						
KARP	**Karpathos**	**1.85**	**258**	P	**Pn**	**06 43 55.6**	**+1.4**
BODT	**Bodrum**	**2.00**	**304**	PN	**Pn**	**06 43 55.6**	**-0.6**
KEPZ	**Antalya-Kepez**	**2.02**	**62**	*i* P	**Pn**	**06 43 57.2**	**+0.6**
KEPZ				*i* S	**Sn**	**06 44 22.0**	**+0.9**
KEPZ				IAML		06 44 23.0	
	comp=N,7.9nm,0.9s						
AYDN	**Tasoluk**	**2.08**	**325**	*i* P	**Pb**	**06 43 59.6**	**-1.4**
AYDN				*i* S	**Sn**	**06 44 23.4**	**+0.8**
AYDN				IAML		06 44 29.0	
	comp=E,17nm,0.5s						
AYDN				IAML		06 44 31.0	
	comp=N,15nm,0.3s						
AKMS	**Akamas**	**2.59**	**110**	P	**Pn**	**06 44 03.8**	**-0.5**
AKMS				AML	AML	06 44 34.8	
	comp=N,0.1nm,0.3s						
AKMS				AML	AML	06 44 34.8	
	comp=N,0.1nm,0.3s						
AKMS				S	**Sn**	**06 44 35.1**	**+0.1**
AKMS				AML	AML	06 44 35.3	
	comp=N,0.2nm,0.3s						
AKMS				AML	AML	06 44 35.3	
	comp=N,0.2nm,0.3s						
ALFC	**Alefka**	**2.74**	**106**	P	**Pn**	**06 44 05.6**	**-0.8**
ALFC				AML	AML	06 44 37.9	
	comp=N,0.1nm,0.4s						
ALFC				AML	AML	06 44 37.9	
	comp=N,0.1nm,0.4s						
ALFC				S	**Sn**	**06 44 38.5**	**-0.4**
SZAC	**Souni**	**3.10**	**112**	P	**Pn**	**06 44 10.9**	**-0.5**
SZAC				S	**Sn**	**06 44 48.4**	**+0.6**

*TEH **21** 06:43:41.0,32.°71N×47.°56E,h8km, ML3.0*
*ISN **21** 06:43:42.1±1.1,32.°73N×47.°56E,h15km±5km, ML3.3*
ISC 21 06:43:42.4±1.0,32.°71N±0.°04×47.°56E±0.°04,h10km,n30, σ0°95/33,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.85**	**17**	*e*Pg	**Pg**	**06 43 57.4**	**-1.3**
IKFM				*e*		06 44 13.8	
IKMR	**Kamar-syah**	**1.06**	**40**	*e*		06 44 06.0	
IKMR				*e*Pg	**Pg**	**06 44 01.8**	**-1.0**
IDOB	**Doab**	**1.19**	**26**	*e*Pg	**Pb**	**06 44 04.7**	**-0.6**
IBDR	**Badra**	**1.43**	**287**	*e*Pg	**Pn**	**06 44 08.0**	**-0.4**
IBDR				*e*Sg	**Sn**	**06 44 27.0**	**-0.2**
IBDR				AML	AML	06 44 32.5	
	comp=N,636nm,0.3s						
IBDR				AML	AML	06 44 32.9	
	comp=E,356nm,0.5s						
BMDN	**Meydan**	**1.43**	**48**	*e*		06 44 17.4	
BMDN				*e*Pg	**Pn**	**06 44 09.0**	**+0.4**
IKOM	**Komasi**	**1.46**	**358**	*e*		06 44 12.1	
IKOM				*e*Pg	**Pn**	**06 44 09.4**	**+0.4**
IKOM				*e*Sg	**Sg**	**06 44 29.9**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.62**	**345**	*e*Pg	**Pb**	**06 44 12.2**	**-0.3**
KCHF				*e*		06 44 37.8	
AHWZ	**Ahwaz**	**1.66**	**146**	*e*Pg	**Pn**	**06 44 11.8**	**+0.3**
KER	**Kermanshah**	**1.71**	**348**	*e*Pn	**Pb**	**06 44 14.0**	**0.0**
HSAM	**Samen**	**1.73**	**30**	*e*Pg	**Pb**	**06 44 13.9**	**-0.6**
HSAM				*e*		06 44 18.3	
IBZA	**Bozab**	**1.77**	**8**	*e*Pg	**Pn**	**06 44 14.3**	**+0.9**
IBZA				*e*		06 44 19.8	
IGHG	**Ghaleghazi**	**1.81**	**333**	*e*Pn	**Pn**	**06 44 15.0**	**+1.1**
IGHG				*e*		06 44 58.7	
IVIS	**Veis**	**1.90**	**342**	*e*Pn	**Pb**	**06 44 16.6**	**-0.7**
IVIS				*e*		06 44 49.1	
NSR	**Nassriya**	**2.08**	**216**	*e*Pn	**Pn**	**06 44 18.0**	**+0.6**
NSR				*e*Sn	**Sn**	**06 44 43.5**	**+0.1**
IALM	**Almabolaq**	**2.20**	**13**	*e*Pn	**Pn**	**06 44 20.8**	**+1.5**
IDHR	**Dehrash**	**2.21**	**334**	*e*Pn	**Pn**	**06 44 20.0**	**+0.6**
IDHR				*e*		06 44 59.9	
ILIN	**Lien**	**2.26**	**347**	*e*Pn	**Pn**	**06 44 20.7**	**+0.6**
ILIN				*e*		06 45 01.7	
HAGD	**Aghdareh**	**2.48**	**32**	*e*Pn	**Pn**	**06 44 23.2**	**0.0**
HAGD				*e*		06 45 07.5	
HSRG	**Sareghieh**	**2.59**	**13**	*e*Pn	**Pn**	**06 44 26.6**	**+1.9**
HSRG				*e*		06 45 10.5	
JHBN	**Jahan bin**	**2.67**	**100**	*e*Pn	**Pn**	**06 44 27.3**	**+1.5**
JHBN				*e*		06 45 16.9	
BHD	**Baghdad**	**2.73**	**283**	*e*Pn	**Pn**	**06 44 27.0**	**+0.7**
BHD				*e*Sn	**Sn**	**06 45 01.0**	**+1.7**
IPIR	**Pirpir**	**2.81**	**90**	*e*Pn	**Pn**	**06 44 28.2**	**+0.5**
IPIR				*e*		06 45 21.9	
ROKH	**ROKH**	**2.96**	**96**	*e*	Sg	06 45 27.2	+10
IRAZ	**Razeghan**	**3.33**	**36**	*e*Pn	**Pn**	**06 44 36.6**	**+1.8**
QABG	**Abgarm-Qazvin**	**3.43**	**29**	*e*Pn	**Pn**	**06 44 36.8**	**+0.7**
IKLH	**Kolahrood**	**3.43**	**79**	*e*Pn	**Pn**	**06 44 36.4**	**+0.2**
IKLH				*e*		06 45 36.3	
KLNJ	**Kolanjah**	**3.83**	**115**	*e*Pn	**Pn**	**06 44 43.4**	**+1.6**
QSDN	**Sirdan**	**4.01**	**19**	*e*Pn	**Pn**	**06 44 45.1**	**+0.9**
IZEF	**Zefreh**	**4.02**	**86**	*e*Pn	**Pn**	**06 44 44.6**	**+0.3**
IVRN	**Varamin**	**4.15**	**56**	*e*Pn	**Pn**	**06 44 46.3**	**+0.4**

*AEIC **21** 06:45:18.7±1.5,52.°2N±0.°1×175.°15E±0.°08,h12km±8km, ML2.9,Error ellipse: s-maj=15.8km s-min=4.5km az=201.0*
*IDC **21** 06:45:19.0±1.5,52.°46N×175.°20E,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.5/49,mbtmp3.6/7,ML2.7/1,Error ellipse: s-maj=43.3km s-min=25.6km az=171.0*
*NEIC **21** 06:45:20.1±0.6,52.°4N±0.°2×175.°2E±0.°1,h24km±7km, Error ellipse: s-maj=36.1km s-min=3.0km az=197.0*
ISC 21 06:45:19.8±0.8,52.°3N±0.°2×175.°22E±0.°07,h10km,n14, σ1°02/17,mb3.6/6,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.79**	**300**	Pg	**Pg**	**06 45 35.1**	**+0.1**
SMY					**Sb**	**06 45 45.9**	**-0.5**
LSNW	**Little Sitkin**	**2.06**	**99**		**Pn**	**06 45 55.3**	**+0.8**
LSSA	**Little Sitkin**	**2.07**	**100**		**Pn**	**06 45 55.3**	**+0.7**
LSPA	**Little Sitkin**	**2.10**	**99**		**Pn**	**06 45 55.7**	**+0.6**
LSPA					**Sb**	**06 46 23.7**	**-0.5**
AMKA	**Amchitka**	**2.71**	**109**		**Pn**	**06 46 02.8**	**-0.6**
AMKA					**Sn**	**06 46 34.8**	**-1.4**
PEA0B	**Petropavlovsk-**	**10.66**	**281**		**Pn**	**06 47 50.6**	**-1.8**
PETK	**Petropavlovsk-**	**10.66**	**281**	Pn	**Pn**	**06 47 53.5**	**+1.1**
	0.3nm,0.3s,baz=100,slow=16,SNR=5.3						
PETK	**Petropavlovsk-**	**10.66**	**281**		**Pn**	**06 47 50.6**	**-1.8**
ILAR	**Eielson Array**	**22.93**	**42**	P	**P**	**06 50 23.4**	**-0.3**
	0.3nm,0.6s,baz=245,slow=8.6,SNR=4.4						
PDAR	**Pinedale Array**	**49.50**	**69**	P	**P**	**06 54 11.0**	**+0.5**
	0.1nm,0.5s,baz=318,slow=4.9,SNR=2.1						
KURBB	**Kurchatov Arra**	**55.72**	**310**	P	**P**	**06 54 56.0**	**-0.2**
	1.5nm,0.9s,baz=50,slow=7.5,SNR=7.2						
MKAR	**Makanchi Array**	**56.48**	**305**	P	**P**	**06 55 01.3**	**-0.4**
	0.5nm,0.7s,baz=54,slow=7.3,SNR=4.7						
AKTO	**Aktyubinsk**	**64.68**	**321**	P	**P**	**06 55 58.0**	**+0.5**
	0.7nm,0.3s,baz=63,slow=2.3,SNR=3.9						
WRA	**Warramunga Arr**	**80.29**	**219**	P	**P**	**06 57 32.1**	**+1.4**
	0.6nm,0.9s,baz=28,slow=6.5,SNR=2.5						

*NNC **21** 07:21:56.5±5.2,53.°54N×88.°25E,h3km±37km, mb3.2, mpv2.8,Error ellipse: s-maj=44.1km s-min=19.9km az=70.0,Suspected Mining explosion.*
*IDC **21** 07:21:57.4±3.0,53.°70N×88.°00E,h0km,mb1 2.8/2, mb1mx2.8/37,mbtmp2.8/2,ML2.5/2,Error ellipse: s-maj=28.2km s-min=18.3km az=52.0*
ISC 21 07:21:55.9±3.3,53.°7N±0.°1×88.°1E±0.°2,h0km,n9,σ1°75/13, 5C-9D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.98**	**278**	*i*		07 34 39.9	
	baz=92,slow=312,SNR=3.5						
ZAA0	**Zalesovo Array**	**1.98**	**278**	⇓Pn	**Pb**	**07 22 31.6**	**-1.2**
	0.3nm,0.4s						
ZAA0				⇓Sn	**Sg**	**07 22 59.7**	**+0.2**
	5.5nm,0.9s						
ZALV	**Zalesovo Beam**	**1.98**	**278**	Pn	**Pn**	**07 22 31.0**	**+0.4**
	1.2nm,0.3s,baz=100,slow=15,SNR=12						
ZALV				Lg	Lg	07 22 57.5	
	3.1nm,0.3s,baz=100,slow=22,SNR=16						
KURK	**Kurchatov**	**6.57**	**247**	⇓Pn	**Pn**	**07 23 34.9**	**+1.3**
	0.9nm,0.8s						
KURK				⇓Sn	**Sn**	**07 24 52.2**	**+3.0**
	1.3nm,1.0s						
KURK				⇓Lg	Lg	07 25 21.2	
	3.6nm,0.9s						
KURBB	**Kurchatov Arra**	**6.67**	**246**	Pn	**Pn**	**07 23 35.8**	**+0.9**
	0.1nm,0.3s,baz=62,slow=14,SNR=8.8						
KURBB				Lg	Lg	07 25 26.8	
	0.0nm,0.3s,baz=62,slow=32,SNR=4.9						
KURBB	**Kurchatov Arra**	**6.67**	**246**	⇑Pn	**Pn**	**07 23 35.0**	**0.0**
	0.4nm,0.3s						
KURBB				⇑Sn	**Sn**	**07 24 50.9**	**-0.7**
	1.5nm,0.5s						
KURBB				⇓Lg	Lg	07 25 25.4	
	5.3nm,0.8s						
MK31	**Makanchi Array**	**7.86**	**211**	⇑Pn	**Pn**	**07 23 53.3**	**+1.8**
	0.1nm,0.5s,baz=33,slow=14,SNR=6.2						
MK31				⇓Sn	**Sn**	**07 25 19.0**	**-2.2**
	1.5nm,1.1s						
MK31				⇓Lg	Lg	07 26 02.3	
	2.3nm,1.1s,baz=38,slow=23,SNR=12						
MKAR	**Makanchi Array**	**7.86**	**211**	Pn	**Pn**	**07 23 53.6**	**+2.1**
	0.1nm,0.3s,baz=29,slow=14,SNR=5.4						
MKAR				Lg	Lg	07 26 04.5	
	0.1nm,0.3s,baz=39,slow=28,SNR=3.9						
MAKZ	**Makanchi**	**7.95**	**212**	⇓Pn	**Pn**	**07 23 53.2**	**+0.6**
	5.3nm,0.6s						
MAKZ				⇑Sn	**Sn**	**07 25 21.2**	**-2.0**
	1.7nm,1.2s						
MAKZ				⇑Lg	Lg	07 26 06.1	
	2.8nm,1.3s						

*TEH **21** 07:33:40.2,32.°73N×47.°62E,h10km, ML2.9*
*ISN **21** 07:33:41.1±0.9,32.°74N×47.°62E,h22km±6km, ML2.6*
ISC 21 07:33:40.7±1.1,32.°73N±0.°06×47.°60E±0.°04,h10km,n18, σ1°07/21,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.81**	**15**	*e*Pg	**Pg**	**07 33 54.6**	**-1.8**
IKMR	**Kamar-syah**	**1.02**	**40**	*e*Pg	**Pg**	**07 33 59.7**	**-0.6**
IDOB	**Doab**	**1.16**	**25**	*e*Pg	**Pb**	**07 34 02.3**	**-0.6**
IDOB				*e*		07 34 20.9	
BMDN	**Meydan**	**1.39**	**47**	*e*		07 34 11.0	
BMDN				*e*Pg	**Pn**	**07 34 06.4**	**+0.1**
IKOM	**Komasi**	**1.44**	**357**	*e*		07 34 08.3	
IKOM				*e*Pg	**Pn**	**07 34 07.1**	**+0.1**
IBDR	**Badra**	**1.45**	**285**	*e*Pg	**Pn**	**07 34 07.0**	**0.0**
IBDR				*e*Sg	**Sb**	**07 34 27.0**	**+0.6**
IBDR				AML	AML	07 34 31.5	
	comp=N,93nm,0.6s						
IBDR				AML	AML	07 34 32.4	
	comp=E,102nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.61**	**343**	*e*		07 34 33.9	
KCHF				*e*Pn	**Pn**	**07 34 09.7**	**+0.4**
HSAM	**Samen**	**1.69**	**29**	*e*Pn	**Pb**	**07 34 12.1**	**0.0**
HSAM				*e*		07 34 12.6	
IBZA	**Bozab**	**1.74**	**7**	*e*Pn	**Pb**	**07 34 12.6**	**-0.4**
IBZA				*e*		07 34 41.0	
IGHG	**Ghaleghazi**	**1.81**	**332**	*e*Pn	**Pb**	**07 34 13.8**	**-0.3**
IGHG				*e*		07 34 50.4	
IVIS	**Veis**	**1.89**	**341**	*e*Pn	**Pb**	**07 34 14.8**	**-0.6**
NSR	**Nassriya**	**2.12**	**216**	*e*Pn	**Pn**	**07 34 17.0**	**+0.8**
NSR				*e*Sn	**Sn**	**07 34 42.0**	**-0.6**
IALM	**Almabolaq**	**2.17**	**12**	*e*Pn	**Pn**	**07 34 18.6**	**+1.4**
IALM				*e*		07 34 22.5	
IDHR	**Dehrash**	**2.21**	**333**	*e*Pn	**Pn**	**07 34 19.2**	**+1.6**
IDHR				*e*		07 34 23.4	
HAGD	**Aghdareh**	**2.44**	**31**	*e*Pn	**Pn**	**07 34 22.5**	**+1.6**
HAGD				*e*		07 34 25.7	
HSRG	**Sareghieh**	**2.56**	**13**	*e*Pn	**Pn**	**07 34 24.7**	**+2.1**
HSRG				*e*		07 35 11.5	
BHD	**Baghdad**	**2.76**	**282**	*e*Pn	**Pn**	**07 34 26.0**	**+1.1**
BHD				*e*Sn	**Sn**	**07 34 59.0**	**+0.7**
IPIR	**Pirpir**	**2.77**	**90**	*e*Pn	**Pn**	**07 34 26.4**	**+0.9**
IPIR				*e*		07 35 17.2	

*TEH **21** 07:53:14.0,32.°68N×47.°83E,h10km, ML2.8*
*ISN **21** 07:53:15.2±1.0,32.°71N×47.°71E,h14km±7km, ML2.4*
ISC 21 07:53:14.9±1.1,32.°68N±0.°05×47.°79E±0.°05,h10km,n16, σ0°69/20,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.85**	**3**	*e*Pg	**Pg**	**07 53 30.4**	**-0.8**
IKFM				*e*Sg	**Sg**	**07 53 42.5**	**+0.3**
IKMR	**Kamar-syah**	**0.97**	**30**	*e*Pg	**Pn**	**07 53 34.7**	**+0.1**
IDOB	**Doab**	**1.15**	**16**	*e*Pg	**Pb**	**07 53 36.2**	**-0.9**
BMDN	**Meydan**	**1.32**	**41**	*e*Pg	**Pn**	**07 53 39.5**	**0.0**
BMDN				*e*		07 53 42.8	
IKOM	**Komasi**	**1.51**	**351**	*e*Pg	**Pn**	**07 53 42.7**	**+0.5**
IKOM				*e*		07 54 06.7	
IBDR	**Badra**	**1.63**	**286**	*e*Pg	**Pn**	**07 53 43.0**	**-0.6**
IBDR				*e*Sg	**Sn**	**07 54 04.0**	**-0.6**
IBDR				AML	AML	07 54 08.3	
	comp=N,65nm,0.4s						
IBDR				AML	AML	07 54 14.4	
	comp=E,54nm,0.5s						
HSAM	**Samen**	**1.67**	**24**	*e*Pn	**Pn**	**07 53 45.4**	**+0.9**
IBZA	**Bozab**	**1.79**	**2**	*e*	**Pg**	**07 53 49.7**	**+0.5**
IGHG	**Ghaleghazi**	**1.94**	**328**	*e*Pn	**Pb**	**07 53 50.2**	**-0.3**
IVIS	**Veis**	**2.01**	**337**	*e*Pn	**Pn**	**07 53 49.9**	**+1.0**
NSR	**Nassriya**	**2.18**	**221**	*e*Pn	**Pn**	**07 53 52.0**	**+0.9**
NSR				*e*Sn	**Sn**	**07 54 18.0**	**-0.1**
IALM	**Almabolaq**	**2.20**	**8**	*e*Pn	**Pn**	**07 53 52.4**	**+0.7**
JHBN	**Jahan bin**	**2.47**	**100**	*e*Pn	**Pn**	**07 53 55.8**	**+0.3**
JHBN				*e*		07 54 37.2	
HSRG	**Sareghieh**	**2.59**	**9**	*e*Pn	**Pn**	**07 53 58.4**	**+1.3**
IPIR	**Pirpir**	**2.61**	**89**	*e*Pn	**Pn**	**07 53 57.9**	**+0.5**
IPIR				*e*		07 54 49.9	
BHD	**Baghdad**	**2.93**	**283**	*e*Pn	**Pn**	**07 54 02.

LSNR	**Lesken**	**1.21**	**14**	*e*PG		**Pn**	**07 57 14.3**	**-0.8**
LSNR				*e*S		**Sn**	**07 57 31.1**	**-0.9**
ARNR	**Ardon**	**1.25**	**31**	*i* Pg		**Pg**	**07 57 15.9**	**+0.6**
ARNR				*e*Sg		**Sn**	**07 57 33.5**	**+0.6**
ARNR	**Ardon**	**1.25**	**31**	*e*PG		**Pg**	**07 57 15.2**	**-0.1**
ARNR				*e*S		**Sn**	**07 57 33.5**	**+0.6**
VLKR	**Vladikavkaz**	**1.32**	**44**	*e*Pg		**Pg**	**07 57 17.3**	**+0.6**
VLKR				*e*Sg		**Sn**	**07 57 35.6**	**+0.7**
VLKR	**Vladikavkaz**	**1.32**	**44**	*e*PG		**Pg**	**07 57 17.0**	**+0.3**
VLKR				*e*S		**Sn**	**07 57 35.5**	**+0.7**
STDR	**Stavd-Durt**	**1.35**	**21**	*e*Pg		**Pg**	**07 57 17.8**	**+0.6**
STDR				*e*Sg		**Sg**	**07 57 36.9**	**+2.3**
STDR	**Stavd-Durt**	**1.35**	**21⇓**	*e*PG		**Pg**	**07 57 17.8**	**+0.6**
STDR				*e*S		**Sg**	**07 57 37.0**	**+2.3**
BATM	**Batumi**	**1.38**	**249**	PN		**Pn**	**07 57 17.1**	**-0.6**
BATM				SN		**Sg**	**07 57 36.9**	**+1.3**
BATM	**Batumi**	**1.38**	**249**	*i* P		**Pn**	**07 57 17.0**	**-0.4**
BATM	**Batumi**	**1.38**	**249**	PG		**Pb**	**07 57 17.1**	**-0.6**
BATM				S		**Sg**	**07 57 36.4**	**+0.8**
BATM	**Batumi**	**1.38**	**249**	P		**Pb**	**07 57 17.1**	**-0.6**
BATM				S		**Sg**	**07 57 36.4**	**+0.8**
EAK	**Akyaka**	**1.43**	**174**	*i* P		**Pn**	**07 57 17.0**	**-1.2**
EAK				*i* S		**Sn**	**07 57 36.7**	**-0.8**
EAK				IAML			07 57 38.0	
	comp=E,400nm,0.5s							
EAK				IAML			07 57 38.0	
	comp=N,264nm,0.3s							
KMGR	**Komgaron**	**1.43**	**48**	*e*Pg		**Pg**	**07 57 19.2**	**+0.4**
KMGR				*e*Sg		**Sg**	**07 57 42.0**	**+4.6**
KMGR	**Komgaron**	**1.43**	**48**	*e*PG		**Pg**	**07 57 19.2**	**+0.4**
KMGR				*e*S		**Sg**	**07 57 39.9**	**+2.5**
ARTV	**Artvin**	**1.45**	**231**	*i* P		**Pb**	**07 57 18.9**	**-0.1**
ARTV				*i* S		**Sg**	**07 57 38.5**	**+0.8**
ARTV				IAML			07 57 41.0	
	comp=E,559nm,0.4s							
KARS	**Kars**	**1.50**	**190**	PN		**Pn**	**07 57 19.2**	**0.0**
KARS	**Kars**	**1.50**	**190**	PG		**Pn**	**07 57 18.8**	**-0.4**
DBOC	**Borcka**	**1.51**	**240**	*i* P		**Pb**	**07 57 19.6**	**-0.4**
DBOC				*i* S		**Sb**	**07 57 39.3**	**-0.2**
DBOC				IAML			07 57 41.0	
	comp=E,553nm,0.3s							
BTKR	**Batakoyurt**	**1.51**	**33**	*e*Pg		**Pg**	**07 57 21.2**	**+0.8**
BTKR				*e*Sg		**Sg**	**07 57 42.5**	**+2.5**
BTKR	**Batakoyurt**	**1.51**	**33**	*e*PG		**Pg**	**07 57 21.0**	**+0.6**
BTKR				*e*S		**Sg**	**07 57 41.3**	**+1.3**
DBAD	**Bademkaya**	**1.69**	**230**	*i* P		**Pb**	**07 57 22.8**	**-0.2**
DBAD				IAML			07 57 47.0	
	comp=N,757nm,0.6s							
DBAD				IAML			07 57 48.0	
	comp=E,654nm,0.5s							
SENK	**Senkaya-Erzuru**	**1.74**	**208**	PN		**Pn**	**07 57 22.6**	**+0.1**
DOMR	**Dombai**	**1.77**	**313**	*e*PN		**Pb**	**07 57 23.7**	**-0.8**
DOMR				*e*S		**Sb**	**07 57 46.6**	**-0.6**
KIV	**Kislovodsk**	**1.92**	**344**	PN		**Pn**	**07 57 23.8**	**-1.2**
KIV	**Kislovodsk**	**1.92**	**344**	*i* PN		**Pb**	**07 57 25.0**	**-2.0**
BEYR	**Belyy Ugol+**	**1.95**	**347**	*e*PN		**Pb**	**07 57 27.2**	**-0.3**
LGD	**Lagodekhi**	**2.13**	**96**	PN		**Pn**	**07 57 28.1**	**+0.4**
LGD				S		**Sb**	**07 57 55.4**	**-1.8**
LGD	**Lagodekhi**	**2.13**	**96**	P		**Pn**	**07 57 28.1**	**+0.4**
LGD				S		**Sb**	**07 57 55.4**	**-1.8**
DDFL	**Dedoflistskaro**	**2.13**	**107**	*i* P		**Pg**	**07 57 31.1**	**-0.9**
DDFL	**Dedoflistskaro**	**2.13**	**107**	PN		**Pg**	**07 57 31.9**	**-0.2**
DDFL	**Dedoflistskaro**	**2.13**	**107**	P		**Pg**	**07 57 31.9**	**-0.2**
ARXR	**Arkhyz**	**2.14**	**313**	*i* PN		**Pb**	**07 57 29.0**	**-1.8**
ARXR				*e*S		**Sb**	**07 57 56.7**	**-1.1**
BTLR	**Botlikh**	**2.15**	**74**	*e*PN		**Pb**	**07 57 30.1**	**-0.8**
BTLR				*e*S		**Sb**	**07 57 56.7**	**-1.3**
TASB	**TASBURUN-IGDIR**	**2.21**	**163**	PN		**Pn**	**07 57 29.1**	**+0.2**
CHOM	**Cayeli-Rize**	**2.23**	**244**	PN		**Pn**	**07 57 29.4**	**+0.3**
ZKTA	**Zakatala**	**2.44**	**100**	PN		**Pn**	**07 57 32.1**	**+0.1**
GANJ	**Ganja**	**2.63**	**123**	PN		**Pn**	**07 57 33.8**	**-0.8**
GNBR	**Gunib**	**2.65**	**83**	*e*PN		**Pn**	**07 57 36.0**	**+1.1**
GNBR				*e*S		**Sb**	**07 58 11.0**	**-1.3**
DBC	**Dubki**	**2.68**	**69**	*e*PN		**Pn**	**07 57 36.1**	**+0.7**
DBC				*e*S		**Sb**	**07 58 11.7**	**-1.6**
GOF	**Gofitskoye**	**2.96**	**355⇑**	*e*PN		Pn	07 57 33.5	-5.7
GOF				*e*S		**Sn**	**07 58 14.1**	**-1.1**
GOF				pmax		pmax		
	comp=Z,23nm,0.5s							
GOF				smax		smax		
	comp=N,38nm,0.6s							
SEKA	**Sheki**	**2.97**	**106**	PN		**Pn**	**07 57 39.6**	**+0.2**
SOC	**Sochi**	**3.09**	**300**	*e*PN		**Pn**	**07 57 40.2**	**-0.7**
SOC				*e*			07 57 47.8	
SOC				*e*			07 58 18.2	
SOC				pmax		pmax		
	comp=Z,3.0nm,0.3s							
SOC				MLR		MLR		
	comp=Z,131nm,8.0s							
MAK	**Makhachkala**	**3.14**	**73**	*i* PN		**Pb**	**07 57 46.4**	**-1.3**
AKT	**Akhty**	**3.29**	**100**	*e*PN		**Pn**	**07 57 44.6**	**+0.9**
AKT				*e*			07 57 52.2	
AKT				*e*			07 57 53.7	
AKT				*e*S		**Sb**	**07 58 28.5**	**-2.2**
AKT				*e*			07 58 38.1	
AKT				pmax		pmax		
	comp=Z,13nm,0.3s							
AKT				smax		smax		
	comp=E,42nm,0.3s							
AKT				smax		smax		
	comp=N,16nm,0.6s							
AKT				smax		smax		
	comp=E,37nm,0.3s							
AKT				MLR		MLR		
	comp=Z,18nm,2.0s							
OBN	**Obninsk**	**13.77**	**343⇑**	*e*P		**Pn**	**08 00 08.0**	**+0.8**
OBN				*e*S		**Sn**	**08 02 41.0**	**+0.5**
OBN				pmax		pmax		
	comp=Z,8.0nm,0.4s							
OBN				MLR		MLR		
	comp=Z,22nm,18.0s							
BRVK	**Borovoye**	**21.05**	**49**	*i* P		**P**	**08 01 40.2**	**+4.1**

*IDC **21** 08:00:00.6±0.9,36°.64N×70°.61E, h0km, mb3.6/7, mb1 3.8/13,mb1mx3.7/57, mbtmp3.7/13, ML3.4/6, MS2.9/4, Ms1 2.9/4, ms1mx2.5/58, Error ellipse: s-maj=19.5km s-min=16.2km az=123.0*

*NEIC **21** 08:00:06.5±3.0, 36°.82N±0°.04×70°.63E±0°.07, h35km±2km, mb4.1/8, Error ellipse: s-maj=9.1km s-min=7.5km az=268.0*

*NNC **21** 08:00:06.8±5.0, 36°.90N×70°.26E, h10km±102km, mb4.8, mpv4.3, Error ellipse: s-maj=107.1km s-min=18.4km az=2.0*

ISC 21 08:00:09.1±0.5, 36°.82N±0°.05×70°.54E±0°.05, h64km, n62, σ2$9 03/69, mb3.8/10, 1C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHGR	**Chuyangaron**	**2.13**	**330**		**Pn**	**08 00 43.4**	**+0.9**
CHGR					LR	08 01 14.1	
GAR	**Garm**	**2.18**	**356**		**Pn**	**08 00 44.5**	**+1.3**
KBL	**Kabul**	**2.58**	**209**	Pn	**Pn**	**08 00 50.0**	**+1.2**
KBL				Sn	**Sn**	**08 01 22.9**	**+3.8**
CEP	**Cherat**	**3.20**	**159**	P	**Pn**	**08 00 55.9**	**-1.2**
CEP				S	**Sn**	**08 01 41.0**	**+6.9**
NIL	**Nilore**	**3.87**	**144**	Pn	**Pn**	**08 01 04.8**	**-1.3**
NIL				Sn	**Sn**	**08 01 52.9**	**+2.6**
THW	**Thamme Wali**	**4.14**	**166**	P	**Pn**	**08 01 08.1**	**-1.8**
ARSB	**Arslanbob**	**4.88**	**22**		**Pn**	**08 01 20.8**	**+0.7**
AML	**Almayashu**	**5.84**	**24**	P	**Pn**	**08 01 34.3**	**+0.9**
	SNR=146						
THN	**Thein Dam**	**6.12**	**134**	*e*P	**Pn**	**08 01 35.3**	**-1.6**
THN				*e*S	**Sn**	**08 02 45.0**	**-0.4**
UCH	**Uchtor**	**6.21**	**28**	P	**Pn**	**08 01 39.3**	**+0.7**
	SNR=13						
KK31	**Karatay Array**	**6.27**	**360**	P	**Pn**	**08 01 39.0**	**0.0**
	8.5nm,0.5s,baz=186,slow=13,SNR=115						
KK31				S	**Sn**	**08 02 50.3**	**+1.0**
	13nm,0.7s,baz=181,slow=34,SNR=4.5						
KK31	**Karatay Array**	**6.27**	**360**	Pn	**Pn**	**08 01 39.3**	**+0.3**
KKAR	**Karatay Array**	**6.27**	**360**	Pn	**Pn**	**08 01 39.2**	**+0.2**
KKAR	**Karatay Array**	**6.27**	**360**		**Pn**	**08 01 39.5**	**+0.5**
EKS2	**Erkin-Say**	**6.34**	**22**	P	**Pn**	**08 01 41.4**	**+1.3**
	SNR=29						
KZA	**Kyzart**	**6.39**	**33**	P	**Pn**	**08 01 41.7**	**+0.8**
	SNR=8.7						
AAK	**Ala-Archa**	**6.56**	**26**	Pn	**Pn**	**08 01 42.5**	**-0.6**
	2.0nm,0.3s,baz=200,slow=8.1,SNR=20						
AAK				Sn	**Sn**	**08 03 00.9**	**+4.4**
	2.1nm,0.3s,baz=253,slow=14,SNR=5.6						
AAK				Lg	Lg	08 03 32.6	
	1.2nm,0.3s,baz=359,slow=19,SNR=1.6						
AAK				LR	LR	08 04 15.4	
	comp=Z,73nm,20.0s,baz=192,slow=38						
AAK	**Ala-Archa**	**6.56**	**26**	P	**Pn**	**08 01 44.6**	**+1.6**
	SNR=8.4						
AAK	**Ala-Archa**	**6.56**	**26**	P	**Pn**	**08 01 44.0**	**+0.9**
	13nm,0.5s						
AAK				S	**Sn**	**08 03 00.1**	**+3.6**
	31nm,0.8s						
AAK	**Ala-Archa**	**6.56**	**26**	Pn	**Pn**	**08 01 43.2**	**+0.1**
KBK	**Karagaybulak**	**6.74**	**29**	P	**Pn**	**08 01 46.6**	**+1.0**
	SNR=5.0						
FRU1	**Bishkek**	**6.76**	**27**	Pn	**Pn**	**08 01 42.9**	**-2.8**
CHMS	**Chumysh**	**6.97**	**26**	P	**Pn**	**08 01 49.6**	**+1.1**
	SNR=8.3						
USP	**Ospenovka**	**7.12**	**24**	P	**Pn**	**08 01 51.5**	**+0.9**
	SNR=10						
HRA	**Herat**	**7.18**	**253**	Pn	**Pn**	**08 01 49.5**	**-2.1**
TKM2	**Tokmak 2**	**7.23**	**31**	P	**Pn**	**08 01 53.6**	**+1.4**
	SNR=5.1						
TKM2	**Tokmak 2**	**7.23**	**31**	P	**Pn**	**08 01 51.9**	**-0.3**
	19nm,0.7s						
TKM2				S	**Sn**	**08 03 17.7**	**+4.8**
	9.7nm,0.8s						
KDJ	**Kajisay**	**7.38**	**42**	Pn	Pn	08 01 50.3	-4.0
TARG	**Taragay, Kyrgy**	**7.47**	**47**	Pn	**Pn**	**08 01 52.8**	**-2.9**
GEYT	**Alibeck**	**9.95**	**280**	Pn	**Pn**	**08 02 27.1**	**-2.2**
	1.1nm,0.3s,baz=108,slow=9.3,SNR=6.6						
GEYT				LR	LR	08 07 49.1	
	comp=Z,149nm,19.5s,baz=135,slow=47						
GEYT	**Alibeck**	**9.95**	**280**	Pn	**Pn**	**08 02 28.3**	**-1.0**
GYA0B	**ALIBECK ARRAY**	**9.95**	**280**	Pn	**Pn**	**08 02 28.0**	**-1.3**
MAKZ	**Makanchi**	**13.11**	**37**	Pn	**Pn**	**08 03 10.3**	**-2.0**
MK31	**Makanchi Array**	**13.26**	**38**	Pn	**Pn**	**08 03 13.3**	**-1.0**
MKAR	**Makanchi Array**	**13.26**	**38**	Pn	**Pn**	**08 03 12.8**	**-1.5**
	0.1nm,0.3s,baz=222,slow=14,SNR=19						
MKAR	**Makanchi Array**	**13.26**	**38**	Pn	**Pn**	**08 03 12.0**	**-2.3**
AB31	**Akbulak array**	**14.62**	**332**	P	**Pn**	**08 03 29.8**	**-2.5**
	24nm,0.5s,baz=158,slow=11,SNR=125						
AB31				S	**Sn**	**08 06 10.8**	**-2.2**
	4.9nm,0.5s,baz=156,slow=22,SNR=2.7						
ABKAR	**Akbulak array**	**14.62**	**332**	Pn	**Pn**	**08 03 30.3**	**-2.0**
KURBB	**Kurchatov Arra**	**14.94**	**20**	Pn	**Pn**	**08 03 33.6**	**-2.8**
	0.0nm,0.3s,baz=212,slow=12,SNR=2.7						
BVAR	**Borovoye Array**	**16.20**	**360**	Pn	**Pn**	**08 03 50.6**	**-1.9**
	0.2nm,0.3s,baz=163,slow=11,SNR=6.9						
BRVK	**Borovoye**	**16.23**	**359**		**Pn**	**08 03 51.3**	**-1.6**
AKTO	**Aktyubinsk**	**16.32**	**330**	Pn	**Pn**	**08 03 50.3**	**-3.6**
	0.1nm,0.3s,baz=156,slow=12,SNR=2.6						
AKTO	**Aktyubinsk**	**16.32**	**330**	P	**P**	**08 03 57.0**	**+1.1**
	18nm,0.7s						
AKTO				⇑S	**Sn**	**08 06 54.0**	**0.0**
	8.1nm,1.4s						
ZAA0	**Zalesovo Array**	**19.78**	**26**		**P**	**08 04 31.5**	**-2.4**
ZAA0				IAmb	IAmb	08 04 43.0	
	comp=Z,5.9nm,0.6s						
ZALV	**Zalesovo Beam**	**19.78**	**26**	P	**P**	**08 04 33.0**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=206,slow=13,SNR=5.5						
SHL	**Shillong**	**21.39**	**116**	P	**P**	**08 04 48.9**	**-2.8**
SHL				IAmb	IAmb	08 05 08.1	
	comp=Z,5.1nm,0.8s						
AKH	**Akhalkalaki**	**21.44**	**291**	P	**P**	**08 04 52.4**	**+0.3**
AKH				IAmb	IAmb	08 04 56.5	
	comp=Z,9.7nm,1.2s						
KIRV	**Kirov**	**25.79**	**334**	LR	LR	08 16 10.9	
	comp=Z,27nm,18.5s,baz=185,slow=37						
EIL	**Elat**	**30.48**	**267**	LR	LR	08 19 21.9	
	comp=Z,17nm,19.3s,baz=285,slow=38						
CMAR	**Chiang Mai Arr**	**30.94**	**119**	P	**P**	**08 06 19.5**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=308,slow=7.7,SNR=5.6						
NOA	**NORSAR Array B**	**43.90**	**323**	P	**P**	**08 08 10.6**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=98,slow=8.0,SNR=1.6						
ESDC	**Sonseca Array**	**56.98**	**297**	P	**P**	**08 09 49.5**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=69,slow=8.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**65.35**	**268**	P	**P**	**08 10 44.4**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=46,slow=5.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**65.35**	**268**	P	**P**	**08 10 44.8**	**-0.2**
TOLK	**Toolik Lake Re**	**70.70**	**14**	P	**P**	**08 11 19.7**	**+1.9**
TOLK				IAmb	IAmb	08 11 30.3	
	comp=Z,2.1nm,0.8s						
IMAR	**Indian Mountai**	**71.98**	**17**	P	**P**	**08 11 27.0**	**+1.6**
C36M	**Paulatuk**	**73.59**	**5**	P	**P**	**08 11 35.3**	**+0.4**
YKA	**Yellowknife Ar**	**80.94**	**2**	P	**P**	**08 12 18.4**	**+2.3**
	comp=Z,0.6nm,0.8s,baz=354,slow=5.1,SNR=2.6						
WRA	**Warramunga Arr**	**82.48**	**122**	P	**P**	**08 12 22.9**	**-2.0**
	comp=Z,0.5nm,0.9s,baz=324,slow=4.9,SNR=2.0						
WRA	**Warramunga Arr**	**82.48**	**122**	P	**P**	**08 12 24.7**	**-0.1**
ASAR	**Alice Springs**	**84.75**	**125**	P	**P**	**08 12 35.8**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=323,slow=5.9,SNR=1.6						
ASAR	**Alice Springs**	**84.75**	**125**	P	**P**	**08 12 36.7**	**+0.3**

*NEIC **21** 08:03:28.8±2.6, 5°.50S±0°.09×151°.0E±0°.1, h10km±1km, mb4.3/12, Error ellipse: s-maj=23.9km s-min=9.6km az=120.0*

*IDC **21** 08:03:28.6±1.4, 5°.36S×150°.63E, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.8/32, mbtmp4.1/5, MS3.1/6, Ms1 3.1/6, ms1mx2.8/40, Error ellipse: s-maj=48.3km s-min=19.5km az=133.0*

ISC 21 08:03:29.3±0.8, 5°.5S±0°.1×151°.0E±0°.2, h10km, n25, σ1$61/24, mb4.2/10, MS3.1/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.53**	**42**	Pn	**Pb**	**08 03 59.9**	**+2.1**
	22nm,0.3s,baz=69,slow=3.2,SNR=10						
RABL	**Rabaul**	**1.71**	**43**	Pn	**Pn**	**08 03 58.0**	**-1.1**
PMG	**Port Moresby**	**5.47**	**224**	Pn	**Pn**	**08 04 53.3**	**+2.4**
	1.9nm,0.3s,baz=39,slow=14,SNR=2.3						
PMG				Sn	**Sn**	**08 05 56.0**	**+2.0**
	1.5nm,0.3s,baz=159,slow=12,SNR=4.9						
PMG				LR	LR	08 06 47.9	
	comp=Z,111nm,19.1s,baz=120,slow=38						
PMG	**Port Moresby**	**5.47**	**224**		**Pn**	**08 04 51.1**	**+0.2**
PMG					**Sn**	**08 05 52.0**	**-1.9**
JAY	**Jayapura**	**10.68**	**285**	LR	LR	08 09 17.9	
	comp=Z,69nm,18.2s,baz=1.5,slow=34						
GUMO	**Guam**	**19.88**	**342**	LR	LR	08 15 43.5	
	comp=Z,30nm,18.1s,baz=157,slow=37						
WB0	**Warramunga Arr**	**21.53**	**227**	P	**P**	**08 08 16.4**	**-2.4**
WB0				IAmb	IAmb	08 08 26.5	
	comp=Z,16nm,1.2s						
WR0	**Warramunga Arr**	**21.55**	**227**	P	**P**	**08 08 18.4**	**-0.6**
WR0				IAmb	IAmb	08 08 36.7	
	comp=Z,7.6nm,1.0s						
WRAB	**Tennant Creek**	**21.67**	**227**	P	**P**	**08 08 18.1**	**-2.2**
WRAB				IAmb	IAmb	08 08 27.7	
	comp=Z,6.6nm,0.7s						
WB2	**Warramunga Arr**	**21.67**	**227**	P	**P**	**08 08 18.5**	**-1.8**
WB2				IAmb	IAmb	08 08 27.5	
	comp=Z,9.3nm,1.1s						
WRA	**Warramunga Arr**	**21.68**	**227**	P	**P**	**08 08 18.6**	**-1.9**
	comp=Z,3.0nm,0.6s,baz=49,slow=11,SNR=11						
WRA	**Warramunga Arr**	**21.68**	**227**	P	**P**	**08 08 17.6**	**-2.9**
KNRA	**Kununurra**	**24.08**	**243**	P	**P**	**08 08 43.8**	**-1.3**
KNRA				IAmb	IAmb	08 09 30.4	
	comp=Z,46nm,1.6s						
AS31	**Alice Springs**	**24.48**	**221**	P	**P**	**08 08 48.1**	**-0.7**
ASAR	**Alice Springs**	**24.48**	**221**	P	**P**	**08 08 47.8**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=54,slow=8.7,SNR=16						
ASAR				LR	LR	08 18 26.3	
	comp=Z,59nm,18.4s,slow=37						
ASAR	**Alice Springs**	**24.48**	**221**	P	**P**	**08 08 49.0**	**+0.2**
STKA	**Stephens Creek**	**27.72**	**197**	P	**P**	**08 09 17.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.78**	**241**	P	**P**	**08 09 17.3**	**-1.3**
	comp=Z,5.3nm,0.8s,baz=64,slow=11,SNR=5.8						
FITZ				LR	LR	08 21 02.6	
	comp=Z,84nm,19.0s,baz=94,slow=38						
FITZ	**Fitzroy Crossi**	**27.78**	**241**	P	**P**	**08 09 17.7**	**-0.9**
FITZ				IAmb	IAmb	08 09 23.3	
	comp=Z,8.4nm,1.0s						
KAPI	**Kappang**	**31.13**	**269**	LR	LR	08 23 02.0	
	comp=Z,37nm,19.9s,baz=76,slow=38						
CMAR	**Chiang Mai Arr**	**56.55**	**296**	P	**P**	**08 13 11.4**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=114,slow=4.2,SNR=4.7						
PETK	**Petropavlovsk-**	**58.62**	**5**	P	**P**	**08 13 26.7**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=165,slow=6.2,SNR=3.7						
PETK	**Petropavlovsk-**	**58.62**	**5**	P	**P**	**08 13 27.3**	**+0.9**
SONM	**Songino Array**	**65.94**	**329**	P	**P**	**08 14 16.6**	**+0.8**
QSPA	**South Pole Qui**	**84.51**	**180**	P	**P**	**08 16 02.1**	**-0.3**

*VAO **21** 08:09:47.1±1.1, 3°.57S×79°.00W, h122km±10km, mb4.3*

*NEIC **21** 08:09:56.0±1.9, 2°.69S±0°.05×77°.71W±0°.09, h98km±7km, mb4.4/108, Error ellipse: s-maj=13.7km s-min=7.4km az=85.0*

*IDC **21** 08:09:55.2±2.9, 2°.75S×77°.83W, h92km±32km, mb3.8/13, mb1 4.1/16, mb1mx3.8/38, mbtmp4.2/16, MS2.8/4, Ms1 2.8/4, ms1mx2.6/38, Error ellipse: s-maj=24.6km s-min=16.0km az=28.0*

*IGQ **21** 08:09:57.2±0.4, 3°.5S±2°.×7°.8W±°, h79km, M4.3*

ISC 21 08:09:54.7±0.7, 2°.86S±0°.04×77°.82W±0°.05, h90km±7km, n213, σ1$63/218, mb4.4/58, 1C, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSC	**San Juan Bosco**	**0.73**	**247**	P	**Pn**	**08 10 12.2**	**+0.4**
BOSC				S	**Sn**	**08 10 24.6**	**+0.1**
SANGA	**Volcan Sangay**	**0.97**	**326**	P	**Pn**	**08 10 15.3**	**+0.7**
PKYU	**Pakayacu**	**1.22**	**11**	P	**Pn**	**08 10 18.1**	**+1.0**
PUYO	**Puyo, Santa Ro**	**1.37**	**352**	P	**Pn**	**08 10 19.6**	**+0.6**
BPAT	**Tungurahua Vol**	**1.48**	**336**	P	**Pn**	**08 10 22.1**	**+1.4**
BPAT				S	**Sn**	**08 10 41.2**	**+1.0**
ARRY	**Arrayan**	**1.48**	**335**	P	**Pn**	**08 10 21.0**	**+0.3**
BMAS	**Trigal station**	**1.50**	**334**	P	**Pn**	**08 10 21.2**	**+0.3**
BMAS				S	**Sn**	**08 10 40.2**	**-0.3**
BULB	**Ulba Tungurahu**	**1.53**	**337**	P	**Pn**	**08 10 21.5**	**+0.3**
BULB				S	**Sn**	**08 10 41.2**	**-0.1**
RETU	**Refugio**	**1.53**	**336**	P	**Pn**	**08 10 21.9**	**+0.5**
BRUN	**Tungurahua Vol**	**1.54**	**338**	P	**Pn**	**08 10 21.8**	**+0.4**
BBIL	**Ulba Tungurahu**	**1.55**	**335**	P	**Pn**	**08 10 21.6**	**+0.1**
JUI6	**Juive**	**1.56**	**336**	P	**Pn**	**08 10 22.0**	**+0.4**
IGUA	**Igualata**	**1.58**	**329**	P	**Pn**	**08 10 24.4**	**+2.3**
ATEN	**Tena**	**1.84**	**0**	P	**Pn**	**08 10 28.6**	**+3.7**
ATEN				S	**Sn**	**08 10 49.2**	**+1.4**
ARDO	**Archidona, Ten**	**1.85**	**1**	P	**Pn**	**08 10 25.1**	**-0.1**
ARDO				S	**Sn**	**08 10 47.0**	**-1.2**
PIS1	**Pisayambo**	**1.87**	**343**	P	**Pn**	**08 10 26.6**	**+0.8**
PIS1				S	**Sn**	**08 10 49.4**	**0.0**
SAGO	**Sagoatoa**	**1.89**	**334**	P	**Pn**	**08 10 28.7**	**+2.6**
AMIL	**Milagro (Trans**	**1.91**	**292**	P	**Pn**	**08 10 22.3**	**-3.4**
AMIL				S	**Sn**	**08 10 46.0**	**-3.4**
GONZ	**Gonzanam**	**2.08**	**229**	P	**Pn**	**08 10 29.4**	**+1.0**
VCES	**Cotopaxi**	**2.12**	**344**	P	**Pn**	**08 10 30.4**	**+1.4**
TAMB	**Tambo**	**2.22**	**346**	P	**Pn**	**08 10 31.6**	**+1.2**
BTAM	**Cotopaxi Volca**	**2.24**	**345**	P	**Pn**	**08 10 32.1**	**+1.4**
BREF	**Cotopaxi Volca**	**2.26**	**344**	P	**Pn**	**08 10 33.4**	**+2.4**
VC1	**Cotopaxi 1**	**2.28**	**345**	P	**Pn**	**08 10 32.7**	**+1.6**
ILLI	**Illinizas Sur**	**2.31**	**337**	P	**Pn**	**08 10 33.4**	**+1.8**
ANTM	**Antisana-La Mi**	**2.34**	**350**	P	**Pn**	**08 10 32.6**	**+0.6**
ARNL	**Arenillas**	**2.34**	**253**	P	**Pn**	**08 10 29.8**	**-1.6**
ISPG	**Isla Puna-Puer**	**2.35**	**267**	P	**Pn**	**08 10 31.3**	**-0.3**
ANTS	**Antisana-Sarah**	**2.37**	**352**	P	**Pn**	**08 10 33.0**	**+0.6**
ANTG	**Antisana-Guama**	**2.38**	**350**	P	**Pn**	**08 10 33.4**	**+0.9**
MORR	**Playas El Morr**	**2.52**	**275**	P	**Pn**	**08 10 32.9**	**-0.9**
MCRA	**Macar, Loja**	**2.60**	**235**	P	**Pn**	**08 10 33.9**	**-1.1**
REVS	**Reventador Sur**	**2.74**	**4**	P	**Pn**	**08 10 37.0**	**-0.1**
LAV4	**Lava4-Reventad**	**2.75**	**4**	P	**Pn**	**08 10 37.2**	**-0.1**
CONE	**Cono NE Rev Vo**	**2.78**	**4**	P	**Pn**	**08 10 37.7**	**+0.1**
PINO	**Pino**	**2.79**	**344**	P	**Pn**	**08 10 39.4**	**+1.3**
YANA	**Yana**	**2.82**	**345**	P	**Pn**	**08 10 39.2**	**+0.8**
OTAV	**Otavalo**	**3.14**	**348**	*e*P	**Pn**	**08 10 45.9**	**+3.3**
OTAV	**Otavalo**	**3.14**	**348**	Pn	**Pn**	**08 10 41.7**	**-0.9**
OTAV					Sn	08 11 10.0	-9.4
OTAV	**Otavalo**	**3.14**	**348**	*e*P	**Pn**	**08 10 44.5**	**+1.9**
PPLP	**Puerto

comp=Z,6.3nm,1.5s
237A Washetta, Mont 38.65 335 P **P** **08 17 10.1 +0.5**
V48A Smith Brothers 39.31 348 P **P** **08 17 13.8 -1.2**
V48A IAmb IAmb 08 17 14.3
comp=Z,7.5nm,0.8s
W41B Gary Mavity, V 40.18 342 P **P** **08 17 20.9 -1.3**
W41B IAmb IAmb 08 17 21.6
comp=Z,4.8nm,1.0s
WHAR Wooly Hollow 40.30 342 P **P** **08 17 22.4 -0.9**
WHAR IAmb IAmb 08 17 22.4
comp=Z,4.0nm,0.8s
S57A Dark Hollow, R 40.43 359 P **P** **08 17 24.2 -0.1**
S57A IAmb IAmb 08 17 41.0
comp=Z,10nm,1.5s
TXAR Lajitas Array 40.47 324 P **P** **08 17 24.6 -0.3**
comp=Z,0.7nm,0.6s,baz=158,slow=8.1,SNR=12
TXAR PcP **PcP** **08 19 26.8 +0.7**
comp=Z,0.7nm,0.7s,baz=146,slow=6.3,SNR=11
TXAR Lajitas Array 40.47 324 P **P** **08 17 25.2 +0.4**
TX31 Lajitas Ar. Si 40.47 324 P **P** **08 17 25.3 +0.4**
TX32 Lajitas Array 40.47 324 P **P** **08 17 23.8 -1.1**
T47A Sharon Grove 40.57 349 P **P** **08 17 24.0 -1.4**
T47A IAmb IAmb 08 17 24.1
comp=Z,2.9nm,0.7s
LCAR Lake Charles 40.68 343 P **P** **08 17 25.1 -1.2**
LCAR IAmb IAmb 08 17 25.2
comp=Z,6.5nm,0.9s
W39A Magazine 40.71 340 P **P** **08 17 25.0 -1.6**
W39A IAmb IAmb 08 17 26.7
comp=Z,3.2nm,0.8s
FCAR Ozark Folk Cen 40.80 342 P **P** **08 17 26.3 -1.1**
R55A Marlinton 40.99 357 P **P** **08 17 28.6 -0.4**
R55A IAmb IAmb 08 17 29.6
comp=Z,4.2nm,0.8s
U40A Yellville 41.46 342 **P** **08 17 31.3 -1.5**
U40A IAmb IAmb 08 17 32.1
comp=Z,5.7nm,0.8s
T42A Van Buren 41.56 344 P **P** **08 17 31.6 -2.0**
T42A IAmb IAmb 08 17 31.7
comp=Z,4.6nm,0.6s
MGMO Mountain Grove 42.02 343 P **P** **08 17 35.9 -1.4**
WMOK Wichita Mounta 42.27 334 P **P** **08 17 39.1 -0.3**
WMOK IAmb IAmb 08 17 39.8
comp=Z,6.2nm,0.9s
FVM French Village 42.28 345 P **P** **08 17 37.7 -1.7**
FVM IAmb IAmb 08 17 38.7
comp=Z,5.0nm,0.9s
CCM Cathedral Cave 42.56 344 P **P** **08 17 39.7 -2.0**
CCM IAmb IAmb 08 17 41.0
comp=Z,4.7nm,0.7s
MNTX Cornudas Mount 43.21 325 P **P** **08 17 45.9 -1.2**
MSTX Muleshoe 43.53 329 P **P** **08 17 49.2 -0.5**
HDIL Hopedale 44.46 348 P **P** **08 17 54.3 -2.6**
T25A Trinidad 46.85 331 IAmb IAmb 08 18 17.8
comp=Z,7.7nm,1.1s
SDCO Great Sand Dun 47.86 330 IAmb IAmb 08 18 25.4
comp=Z,4.2nm,0.8s
S22A 4UR Ranch, Cre 48.53 329 IAmb IAmb 08 18 31.3
comp=Z,5.3nm,1.4s
X16A Lo Mia Camp, P 48.72 322 IAmb IAmb 08 18 31.9
comp=Z,2.5nm,0.7s
WUAZ Wupatki 49.43 324 P **P** **08 18 36.8 +0.9**
WUAZ IAmb IAmb 08 18 38.1
comp=Z,5.5nm,0.8s
ISCO Idaho Springs 49.52 332 P **P** **08 18 37.0 +0.2**
E43A Lone Tree Farm 49.69 352 P **P** **08 18 35.1 -2.4**
E43A IAmb IAmb 08 18 36.3
comp=Z,6.0nm,1.1s
PV01 Paradox Valley 49.73 328 IAmb IAmb 08 18 40.1
comp=Z,4.7nm,1.0s
E63A Oxbow 49.77 9 P **P** **08 18 38.0 0.0**
E62A Clayton Lake 49.81 7 P **P** **08 18 38.7 +0.3**
E62A IAmb IAmb 08 18 39.3
comp=Z,3.7nm,0.8s
PV12 Saucer Basin, 49.98 328 P **P** **08 18 41.0 +0.8**
PV11 David Mesa, Pa 50.01 328 P **P** **08 18 41.0 +0.7**
PV16 Nyswonger Mesa 50.04 328 IAmb IAmb 08 18 42.7
comp=Z,5.0nm,0.9s
PV22 Blue Mesa, Par 50.14 328 IAmb IAmb 08 18 42.2
comp=Z,3.5nm,0.9s
W13A Hualapai Mount 50.68 321 P **P** **08 18 46.4 +1.0**
W13A IAmb IAmb 08 18 47.0
comp=Z,2.6nm,0.7s
CCUT Cedar City 51.98 324 P **P** **08 18 56.5 +1.3**
K22A Casper 52.20 333 P **P** **08 18 56.9 +0.3**
K22A IAmb IAmb 08 18 57.2
comp=Z,2.9nm,0.7s
E28A Huff 53.20 340 P **P** **08 19 01.7 -2.0**
AGMN Agassiz Nation 53.33 345 P **P** **08 19 03.3 -1.3**
TCUT Toone Canyon 53.40 329 P **P** **08 19 06.7 +1.1**
DUG Dugway, Tooele 53.49 327 P **P** **08 19 06.6 +0.4**
DUG IAmb IAmb 08 19 08.3
comp=Z,2.5nm,0.8s
BW06 Boulder Array 53.70 331 P **P** **08 19 07.6 -0.2**
PD31 Pinedale Array 53.70 331 P **P** **08 19 06.7 -1.1**
PDAR Pinedale Array 53.70 331 P **P** **08 19 06.9 -0.9**
comp=Z,1.0nm,0.6s,baz=124,slow=8.6,SNR=19
PDAR PcP **PcP** **08 20 12.2 -0.7**
comp=Z,0.5nm,0.8s,baz=134,slow=5.2,SNR=2.8
PDAR Pinedale Array 53.70 331 P **P** **08 19 07.0 -0.7**
HWUT Hardware Ranch 53.84 329 P **P** **08 19 08.3 -0.4**
BGU Big Grassy Mou 54.12 327 P **P** **08 19 10.9 +0.1**
AHID Auburn Hatcher 54.45 330 P **P** **08 19 11.9 -1.2**
REDW Red Top Meadow 54.77 331 P **P** **08 19 15.4 -0.1**
REDW IAmb IAmb 08 19 16.2
comp=Z,6.7nm,1.4s
SNOW Snow King Moun 54.80 331 P **P** **08 19 15.7 -0.1**
LOHW Long Hollow 54.84 331 P **P** **08 19 15.7 -0.3**
TPAW Teton Pass 54.92 331 P **P** **08 19 14.9 -1.7**
TPAW IAmb IAmb 08 19 15.9
comp=Z,2.0nm,0.6s
FXWY Fox Creek 55.06 331 P **P** **08 19 17.4 -0.2**
ULM Lac du Bonnet 55.13 346 P **P** **08 19 16.0 -1.6**
comp=Z,4.6nm,0.8s,baz=173,slow=5.7,SNR=2.9
IMW Indian Meadow 55.21 331 P **P** **08 19 18.5 -0.3**
IMW IAmb IAmb 08 19 20.4
comp=Z,3.2nm,0.7s
FLWY Flagg Ranch 55.24 332 P **P** **08 19 18.0 -0.8**
RLMT Red Lodge 55.37 333 P **P** **08 19 18.8 -1.0**
NVAR Mina Array Bea 55.53 322 P **P** **08 19 21.2 +0.2**
comp=Z,0.6nm,0.5s,baz=126,slow=6.6,SNR=7.3
NVAR PcP **PcP** **08 20 20.0 0.0**
comp=Z,0.6nm,0.6s,baz=117,slow=3.9,SNR=4.9
NVAR Mina Array Bea 55.53 322 P **P** **08 19 19.8 -1.3**
YNE Yellowstone No 55.62 333 P **P** **08 19 20.8 -0.8**
YHH Holmes Hill 55.84 332 P **P** **08 19 23.6 +0.4**
YHL Hebgen Lake 56.04 332 P **P** **08 19 25.7 +1.0**
GCMT Greycliff 56.06 334 P **P** **08 19 24.8 +0.1**
HLID Hailey 56.71 329 P **P** **08 19 29.5 +0.2**
BCYI Bear Canyon 56.73 330 P **P** **08 19 29.5 +0.1**
BOZ Bozeman (W) 56.81 332 P **P** **08 19 29.9 0.0**
BOZ IAmb IAmb 08 19 30.3
comp=Z,3.1nm,0.8s
MCMT McKenzie Canyo 56.83 331 P **P** **08 19 31.1 +0.9**
MFID Camas Ranch 57.35 328 P **P** **08 19 31.3 -2.4**
WVOR Wild Horse Val 58.24 325 P **P** **08 19 38.6 -1.4**
WVOR IAmb IAmb 08 19 40.7
comp=Z,3.6nm,0.9s
K05A Summer Lake 59.73 324 P **P** **08 19 50.9 +0.5**
F10A Beach Ranch, E 59.82 329 P **P** **08 19 50.8 0.0**
F10A IAmb IAmb 08 19 52.3
comp=Z,2.8nm,0.6s
G08A Pilot Rock 60.27 328 **P** **08 19 53.7 -0.2**
G08A IAmb IAmb 08 19 54.9
comp=Z,4.6nm,1.0s
PINE Pine Mountain 60.41 325 P **P** **08 19 55.8 +0.8**
NEW Newport 61.34 331 **P** **08 19 59.6 -1.5**
NEW IAmb IAmb 08 20 01.5
comp=Z,2.9nm,0.8s
YKA Yellowknife Ar 70.88 343 P **P** **08 21 00.4 -1.3**
comp=Z,1.3nm,0.7s,baz=134,slow=6.7,SNR=13
DLBC Dease Lake 73.75 334 P **P** **08 21 19.5 +0.4**
comp=Z,2.2nm,0.9s,baz=185,slow=9.9,SNR=5.4
DLBC Dease Lake 73.75 334 P **P** **08 21 19.5 +0.4**
BORG Borgarnes 78.95 21 LR LR 08 57 20.6
comp=Z,255nm,18.2s,baz=250,slow=36
TORD Torodi Ar. Bea 80.46 76 P **P** **08 21 57.1 -0.3**
comp=Z,0.3nm,0.3s,baz=276,slow=5.6,SNR=4.7
TORD Torodi Ar. Bea 80.46 76 P **P** **08 21 57.1 -0.3**
INK Inuvik 80.60 342 P **P** **08 21 57.1 +0.1**
comp=Z,1.8nm,0.5s,baz=119,slow=4.3,SNR=9.4
INK Inuvik 80.60 342 P **P** **08 21 57.3 +0.2**
INK IAmb IAmb 08 21 58.6
comp=Z,5.4nm,1.0s
EGAK Eagle 81.53 337 P **P** **08 22 02.1 0.0**
EGAK IAmb IAmb 08 22 02.8
comp=Z,5.3nm,0.8s
HDA Harding Lake 83.69 336 P **P** **08 22 13.1 -0.2**
HDA IAmb IAmb 08 22 13.4
comp=Z,3.6nm,0.6s
ILAR Eielson Array 83.79 336 P **P** **08 22 12.6 -1.2**
comp=Z,1.1nm,0.7s,baz=121,slow=3.9,SNR=12
ILAR Eielson Array 83.79 336 P **P** **08 22 12.9 -0.9**
RND Reindeer 84.15 335 P **P** **08 22 15.7 -0.1**
RND IAmb IAmb 08 22 17.9
comp=Z,4.4nm,1.0s
MDM Murphy Dome 84.39 336 P **P** **08 22 16.4 -0.5**
MDM IAmb IAmb 08 22 17.4
comp=Z,5.7nm,1.3s
TRF Thorofare Moun 84.78 335 P **P** **08 22 17.7 -1.3**
SKT Skwentna 84.91 333 P **P** **08 22 19.2 -0.4**
KTH Kantishna Hill 85.08 335 P **P** **08 22 19.9 -0.5**
KTH IAmb IAmb 08 22 21.1
comp=Z,3.7nm,0.8s
RSO Redoubt South 85.09 331 P **P** **08 22 19.0 -1.7**
BPAW Bear Paw Mtn. 85.27 335 P **P** **08 22 20.9 -0.4**
BPAW IAmb IAmb 08 22 21.5
comp=Z,7.0nm,1.1s
PPLA Purkeypile 85.45 334 P **P** **08 22 21.8 -0.6**
PPLA IAmb IAmb 08 22 22.6
comp=Z,5.5nm,0.9s
QSPA South Pole Qui 87.21 180 P **P** **08 22 32.6 +1.7**
QSPA IAmb IAmb 08 22 33.6
comp=Z,5.6nm,1.1s
SYO Syowa Base 96.86 161⇑ *eP* **P** **08 23 19.6 +4.2**
MKAR Makanchi Array 132.94 19 PKP **PKPdf** **08 28 59.7 -0.2**
comp=Z,0.2nm,0.5s,baz=338,slow=2.7,SNR=4.0

*NDI **21** 08:11:16.8±3.4, 32°.25N×76°.08E, h10^{km}±20^{km}, mb5.0, ML5.1, mb4.9(NEIC)*
*IDC **21** 08:11:17.3±0.5, 32°.28N×76°.35E, h0^{km}, mb4.7/32, mb1 4.7/37, mb1mx4.6/64, mbtmp4.7/37, ML4.0/5, MS3.7/23, Ms1 3.7/23, ms1mx3.5/54, Error ellipse: s-maj=13.2km s-min=9.2km az=38.0*
*NEIC **21** 08:11:18.8±1.5, 32°.33N±0°.07×76°.43E±0°.08, h10^{km}±1^{km}, mb4.9/134, Error ellipse: s-maj=12.0km s-min=11.1km az=205.0*
*MOS **21** 08:11:19.5±1.0, 32°.41N×76°.45E, h23^{km}, mb5.0/67, Error ellipse: s-maj=5.4km s-min=3.1km az=102.3*
*BJI **21** 08:11:20.4±0.0, 32°.46N×76°.51E, h25^{km}, mB4.8/38, mb4.7/53, ML4.5/2, Ms4.5/46, Ms7 4.2/42*
*NNC **21** 08:11:22.4±3.2, 32°.33N×76°.22E, h50^{km}±24^{km}, mb4.9, Error ellipse: s-maj=27.6km s-min=22.5km az=132.0*
ISC 21 08:11:19.2±0.5, 32°26N±0°.03×76°32E±0°.03, h15^{km}±2km, h15^{km}:pP-P,n533,σ1§94/597, mb4.8/161, MS3.9/36, 30C-18D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**0.02**	**240**	*eP*		**Pg**	**08 11 20.9**	**-1.3**
DHRM				*eS*		**Sg**	**08 11 22.7**	**-1.5**
DHRM				IAML			08 11 25.1	
	comp=N,474μm,0.7s							
DHRM				IAML			08 11 25.3	
	comp=E,762μm,0.8s							
JMU	**Jammu**	**1.28**	**291**	*ex*		Pn	08 11 31.0	-12
JMU				*eS*		**Sb**	**08 11 53.0**	**-6.4**
SMLA	**Simla**	**1.34**	**147**	*eP*		**Pg**	**08 11 44.9**	**-0.1**
SMLA				*eP*		**Pg**	**08 11 44.9**	**-0.1**
SMLA				*eS*		**Sg**	**08 12 03.5**	**+1.0**
SMLA				IAML			08 12 07.6	
	comp=E,43μm,0.3s							
SMLA				IAML			08 12 07.8	
	comp=N,64μm,0.4s							
SRNI	**Srinagar**	**2.21**	**326**	*eP*		**Pn**	**08 11 54.0**	**-1.4**
SRNI				*ex*		**Sg**	**08 12 33.0**	**+2.7**
KKR	**Kurukshetra**	**2.33**	**169**	*eP*		**Pb**	**08 12 01.1**	**+0.1**
KKR				*eS*		**Sb**	**08 12 30.5**	**+0.9**
DDI	**Dehra Dun**	**2.44**	**142**	*eP*		**Pb**	**08 12 02.2**	**-0.6**
DDI				*eS*		**Sb**	**08 12 31.9**	**-0.8**
DDI				IAML			08 12 37.7	
	comp=N,13μm,0.5s							
DDI				IAML			08 12 39.0	
	comp=E,14μm,0.6s							
NIL	**Nilore**	**2.93**	**299**	P		**Pb**	**08 12 08.9**	**-2.3**
NIL	**Nilore**	**2.93**	**299**	P		**Pb**	**08 12 08.7**	**-2.5**
NIL	**Nilore**	**2.93**	**299**			**Pb**	**08 12 08.7**	**-2.5**
SARP	**Sargodha**	**3.12**	**265**	P		**Pb**	**08 12 11.4**	**-2.9**
BHGR	**Bahadurgarh**	**3.60**	**171**	*ex*		**Pn**	**08 12 17.2**	**+2.7**
NDI	**New Delhi**	**3.65**	**168**	*ex*		Pn	08 12 03.4	-12
NDI				*ex*		x	08 12 03.8	
NDI				*ex*		**Pg**	**08 12 26.5**	**-2.6**
NDI				*eS*		**Sn**	**08 12 57.8**	**-0.2**
NDI				*eS*		**Sb**	**08 13 00.0**	**-7.5**
THW	**Thamme Wali**	**3.90**	**279**	P		**Pn**	**08 12 21.1**	**+2.4**
CEP	**Cherat**	**4.02**	**294**	P		**Pn**	**08 12 22.6**	**+2.2**
SONA	**Sohna**	**4.05**	**170**	*eP*		**Pn**	**08 12 23.5**	**+2.8**
SONA				*i*	x	x	08 12 34.9	
SONA				*ex*		**Sn**	**08 13 09.7**	**+1.8**
KBL	**Kabul**	**6.50**	**292**	P		**Pn**	**08 12 56.6**	**+2.1**
	SNR=22							
KBL				S		**Sn**	**08 14 09.9**	**+1.4**
KBL	**Kabul**	**6.50**	**292**	P		**Pn**	**08 12 56.4**	**+1.9**
KBL	**Kabul**	**6.50**	**292**	Pn		**Pn**	**08 12 56.4**	**+1.9**
JASL	**Jaisalmer**	**7.11**	**223**	*ex*		**Pn**	**08 13 04.5**	**+1.8**
PYUN	**Piuthan**	**7.11**	**124**	*eP*		**Pn**	**08 13 05.4**	**+2.5**
	comp=E,348nm,0.3s							
KSH	**Kashi**	**7.25**	**358**	P		**Pn**	**08 13 04.1**	**-0.6**
KSH				Pn		**Pn**	**08 13 04.8**	**+0.1**
KSH				Sn		**Sn**	**08 14 19.9**	**-6.9**
KSH				pmax		pmax		
	comp=Z,160nm,0.8s							
KSH				smax		smax		
	comp=N,190nm,0.6s							
KSH				smax		smax		
	comp=E,440nm,0.6s							
DANN	**Dangsing**	**7.52**	**119**	*eP*		**Pn**	**08 13 10.5**	**+1.9**
	comp=E,893nm,0.9s							
KOLN	**Koldanda**	**7.74**	**123**	*eP*		**Pn**	**08 13 13.3**	**+1.8**
	comp=E,270nm,0.5s							
GAR	**Garm**	**8.31**	**326**	Pn		**Pn**	**08 13 19.9**	**+0.5**
GKN	**Gorkha**	**8.36**	**118**	*eP*		**Pn**	**08 13 21.4**	**+1.4**
	comp=E,202nm,0.2s							
CHGR	**Chuyangaron**	**8.65**	**320**	Pn		**Pn**	**08 13 24.1**	**+0.1**
DMN	**Daman**	**8.92**	**119**	*eP*		**Pn**	**08 13 28.9**	**+1.1**
	comp=E,740nm,1.0s							
KKN	**Kakani**	**8.95**	**118**	*eP*		**Pn**	**08 13 28.7**	**+0.5**
	comp=E,520nm,0.7s							
PKI	**Pulchoki**	**9.16**	**118**	*eP*		**Pn**	**08 13 31.4**	**+0.2**
	comp=E,276nm,0.5s							
GUN	**Gumba**	**9.35**	**115**	*eP*		**Pn**	**08 13 34.2**	**+0.5**
	comp=E,316nm,0.7s							
ARSB	**Arslanbob**	**9.43**	**344**	P		**Pn**	**08 13 35.1**	**+0.4**
ARSB	**Arslanbob**	**9.43**	**344**	Pn		**Pn**	**08 13 35.1**	**+0.4**
TARG	**Taragay, Kyrgy**	**9.53**	**7**			**Pn**	**08 13 34.4**	**-1.8**
JBP	**Jabalpur**	**9.62**	**159**	*ex*		**Pn**	**08 13 37.1**	**-0.1**
JBP				*ex*		x	08 16 21.7	
JIRN	**Jiri**	**9.71**	**116**	*eP*		**Pn**	**08 13 38.7**	**0.0**
KZA	**Kyzart**	**9.84**	**355**	P		**Pn**	**08 13 41.5**	**+1.1**
	SNR=37							
KDJ	**Kajisay**	**9.88**	**4**	P		**Pn**	**08 13 40.6**	**-0.2**
KDJ	**Kajisay**	**9.88**	**4**			**Pn**	**08 13 40.6**	**-0.2**
ULHL	**Ulahol**	**9.97**	**360**	P		**Pn**	**08 13 43.6**	**+1.6**
	SNR=12							
UCH	**Uchtor**	**10.05**	**352**	P		**Pn**	**08 13 44.5**	**+1.1**
	SNR=107							
AML	**Almayashu**	**10.07**	**349**	P		**Pn**	**08 13 44.3**	**+0.6**
	SNR=48							
RAMN	**Ramite**	**10.39**	**118**	*eP*		**Pn**	**08 13 46.8**	**-1.2**
KBK	**Karagaybulak**	**10.44**	**354**	P		**Pn**	**08 13 51.1**	**+2.6**
	SNR=8.9							
AAK	**Ala-Archa**	**10.46**	**353**	Pn		**Pn**	**08 13 49.9**	**+1.1**
	comp=E,1.8nm,0.3s,baz=162,slow=8.4,SNR=21							
AAK				Sn		**Sn**	**08 15 44.4**	**-1.3**
	comp=E,0.9nm,0.3s,baz=308,slow=24,SNR=2.4							
AAK				LR		LR	08 18 07.5	
	comp=E,961nm,19.3s,baz=164,slow=39							
AAK	**Ala-Archa**	**10.46**	**353**	P		**Pn**	**08 13 50.0**	**+1.2**
	SNR=14							
AAK	**Ala-Archa**	**10.46**	**353**	P		**Pn**	**08 13 50.0**	**+1.2**
	comp=E,45nm,0.8s							
AAK				S		**Sn**	**08 15 43.1**	**-2.7**
AAK	**Ala-Archa**	**10.46**	**353**	P		**Pn**	**08 13 49.8**	**+1.1**
AAK				S		**Sn**	**08 15 42.8**	**-3.0**
AAK	**Ala-Archa**	**10.46**	**353**	P		**Pn**	**08 13 49.9**	**+1.1**
AAK				S		**Sn**	**08 15 43.1**	**-2.7**
AAK	**Ala-Archa**	**10.46**	**353**	Pn		**Pn**	**08 13 48.0**	**-0.8**
EKS2	**Erkin-Say**	**10.58**	**350**	P		**Pn**	**08 13 51.3**	**+1.0**
	SNR=42							
TKM2	**Tokmak 2**	**10.66**	**357**	P		**Pn**	**08 13 52.9**	**+1.3**
	SNR=38							
TKM2	**Tokmak 2**	**10.66**	**357**	⇑P		**Pn**	**08 13 52.3**	**+0.8**
	comp=E,52nm,1.1s							
TKM2				⇓S		**Sn**	**08 15 50.7**	**0.0**
	comp=E,50nm,1.3s							
TKM2	**Tokmak 2**	**10.66**	**357**	P		**Pn**	**08 13 52.3**	**+0.8**
TKM2				S		**Sn**	**08 15 50.7**	**0.0**
TNSS	**Tian-Shan**	**10.77**	**2**	*eP*		**Pn**	**08 13 53.6**	**+0.4**
	baz=2.3							
TNSS	**Tian-Shan**	**10.77**	**2**	*eP*		**Pn**	**08 13 53.6**	**+0.4**
CHMS	**Chumysh**	**10.79**	**354**	P		**Pn**	**08 13 54.2**	**+1.0**
	SNR=14							
MTBS	**Maitube**	**10.85**	**0**	*eP*		**Pn**	**08 13 54.8**	**+0.7**
	baz=0.3							
MTBS	**Maitube**	**10.85**	**0**	*eP*		**Pn**	**08 13 54.8**	**+0.7**
MDOK	**Medeo**	**10.90**	**3**	*eP*		**Pn**	**08 13 55.5**	**+0.6**
	baz=2.7							
MDOK				LR		LR	08 18 03.7	
	comp=E,851nm,9.6s,baz=2.7							
MDOK	**Medeo**	**10.90**	**3**	P		**Pn**	**08 13 54.7**	**-0.1**
	comp=E,52nm,0.8s							
MDOK	**Medeo**	**10.90**	**3**	*eP*		**Pn**	**08 13 55.4**	**+0.6**
MDOK				MLR		MLR		
	comp=E,851nm,10.0s							
SATY	**Saty**	**10.90**	**8**	*eP*		**Pn**	**08 13 55.5**	**+0.6**
	comp=Z,27nm,0.9s,baz=8.1							
SATY				LR		LR	08 18 02.9	
	comp=Z,599nm,10.7s,baz=8.1							
SATY	**Saty**	**10.90**	**8**	*eP*		**Pn**	**08 13 55.4**	**+0.6**
SATY				pmax		pmax		
	comp=Z,27nm,0.9s							
SATY				MLR		MLR		
	comp=Z,599nm,11.0s							
SATY	**Saty**	**10.90**	**8**	*eP*		**Pn**	**08 13 55.4**	**+0.6**
SATY				pmax		pmax		
	comp=Z,27nm,0.9s							
SATY				MLR		MLR		
	comp=Z,599nm,11.0s							
IUG	**Iuzhnay**	**11.06**	**335**	*eP*		**Pn**	**08 13 57.4**	**+0.3**
	comp=Z,30nm,0.7s,baz=334							
IUG				*eS*		**Sn**	**08 16 01.3**	**+0.7**
	baz=334							
IUG				LR		LR	08 17 57.1	
	comp=Z,199nm,8.9s,baz=334							
IUG	**Iuzhnay**	**11.06**	**335**	*eP*		**Pn**	**08 13 57.3**	**+0.3**
IUG				*eS*		**Sn**	**08 16 01.2**	**+0.7**
IUG				pmax		pmax		
	comp=Z,30nm,0.7s							
IUG				MLR		MLR		
	comp=Z,199nm,9.0s							
UZB	**Uzynbulak**	**11.07**	**10**	*eP*		**Pn**	**08 13 57.4**	**+0.1**
	comp=Z,46nm,1.6s,baz=10							
UZB				*eS*		**Sn**	**08 16 00.2**	**-0.6**
	baz=10							
UZB				LR		LR	08 18 01.3	
	comp=Z,538nm,9.8s,baz=10							
UZB	**Uzynbulak**	**11.07**	**10**	*eP*		**Pn**	**08 13 57.3**	**+0.1**
UZB				*eS*		**Sn**	**08 16 00.2**	**-0.6**
UZB				pmax		pmax		
	comp=Z,46nm,1.6s							
UZB				MLR		MLR		
	comp=Z,538nm,10.0s							
SHLS	**Shalkode**	**11.16**	**12**	*eP*		**Pn**	**08 14 00.0**	**+1.7**
	comp=Z,33nm,0.6s,baz=14							
SHLS				LR		LR	08 17 58.4	
	comp=Z,226nm,10.2s,baz=14							
SHLS	**Shalkode**	**11.16**	**12**	*eP*		**Pn**	**08 14 00.0**	**+1.7**
SHLS				pmax		pmax		
	comp=Z,33nm,0.6s							
SHLS				MLR		MLR		
	comp=Z,226nm,10.0s							
SGDS	**Sogindy**	**11.25**	**354**	*eP*		**Pn**	**08 13 59.1**	**-0.5**
	comp=Z,16nm,1.1s,baz=353							
SGDS	**Sogindy**	**11.25**	**354**	*eP*		**Pn**	**08 13 59.0**	**-0.5**
SGDS				pmax		pmax		
	comp=Z,16nm,1.1s							
DZA	**Taraz**	**11.32**	**341**	*eP*		**Pn**	**08 14 01.3**	**+0.8**
	baz=341							
DZA				LR		LR	08 17 44.3	
	comp=Z,287nm,9.6s,baz=341							
DZA	**Taraz**	**11.32**	**341**	*eP*		**Pn**	**08 14 01.3**	**+0.8**
DZA				MLR		MLR		
	comp=Z,287nm,10.0s							
PDGK	**Podgornoye**	**11.33**	**12**	⇑P		**Pn**	**08 14 01.2**	**+0.6**
	comp=Z,80nm,0.9s							
PDGK				⇓S		**Sn**	**08 16 07.1**	**+0.1**
	comp=Z,170nm,1.1s							
PDGK	**Podgornoye**	**11.33**	**12**	P		**Pn**	**08 14 01.2**	**+0.6**
PDGK				S		**Sn**	**08 16 07.8**	**+0.8**
NGP	**Nagpur**	**11.33**	**167**	*eP*		**Pn**	**08 13 60.0**	**-0.7**
NGP				*ex*		x	08 14 03.9	
	comp=Z,386nm,0.8s							
NGP				IAmb		IAmb	08 14 06.9	
	comp=Z,341nm,1.5s							
NGP				*eS*		**Sn**	**08 16 00.3**	**-6.7**
CHKK	**Chushkaly**	**11.59**	**2**	*eP*		**Pn**	**08 14 03.7**	**-0.4**
	baz=2.3							
CHKK	**Chushkaly**	**11.59**	**2**	*eP*		**Pn**	**08 14 03.6**	**-0.4**
KK31	**Karatay Array**	**11.76**	**339**	P		**Pn**	**08 14 05.3**	**-1.1**
	comp=Z,31nm,0.6s,baz=149,slow=12,SNR=362							
KK31				⇓S		**Sn**	**08 16 13.2**	**-4.1**
	comp=Z,25nm,0.6s,baz=144,slow=22,SNR=2.7							
KK31	**Karatay Array**	**11.76**	**339**	*eP*		**Pn**	**08 14 05.3**	**-1.1**
KK31				S		**Sn**	**08 16 13.2**	**-4.1**
KK31	**Karatay Array**	**11.76**	**339**	Pn		**Pn**	**08 14 05.7**	**-0.7**
KKAR	**Karatay Array**	**11.76**	**339**	P		**Pn**	**08 14 05.7**	**-0.7**
KKAR	**Karatay Array**	**11.76**	**339**			**Pn**	**08 14 05.7**	**-0.7**
BOK	**Bokaro**	**11.93**	**133**	*eP*		**Pn**	**08 14 06.8**	**-2.0**
BOK				*ex*		x	08 16 12.8	
TDK	**Taldyqorghan**	**12.83**	**7**	*eP*		**Pn**	**08 14 20.9**	**-0.2**
	baz=6.6							
TDK				LR		LR	08 19 09.6	
	comp=Z,2μm,13.2s,baz=6.6							
TDK	**Taldyqorghan**	**12.83**	**7**	*eP*		**Pn**	**08 14 20.8**	**-0.2**
TDK				MLR		MLR		
	comp=Z,2μm,13.0s							
BTLS	**Baital**	**12.88**	**353**	*eP*		**Pn**	**08 14 22.0**	**+0.2**
	comp=Z,9.5nm,1.0s,baz=352							
BTLS				LR		LR	08 18 24.4	
	comp=Z,203nm,9.7s,baz=352							
BTLS	**Baital**	**12.88**	**353**	*eP*		**Pn**	**08 14 22.0**	**+0.2**
BTLS				pmax		pmax		
	comp=Z,10.0nm,1.0s							
BTLS				MLR		MLR		
	comp=Z,203nm,10.0s							
LSA	**Lhasa**	**12.98**	**97**	P		**Pn**	**08 14 24.6**	**+1.0**
LSA				LR		LR		
	comp=Z,3μm,9.3s							
LSA				LR		LR		
	comp=Z,2μm,9.3s							
LSA				LR		LR		
	comp=Z,3μm,8.5s							
LSA	**Lhasa**	**12.98**	**97**	P		**Pn**	**08 14 24.3**	**+0.8**
SRSP	**Sriramsagar**	**13.40**	**172**	*eP*		**Pn**	**08 14 24.5**	**-4.5**
SRSP				IVmB_BB			08 14 27.4	
	comp=Z,616nm,0.7s							
SRSP				*e*			08 16 45.9	
SRSP				IVMs_BB		IVMs_BB	08 19 45.1	
	comp=Z,1μm,6.0s							
RPR	**Rampur**	**13.61**	**168**	*eP*		**Pn**	**08 14 28.6**	**-3.2**
RPR				IVmB_BB			08 14 32.1	
	comp

comp=Z,2µm,5.0s
WMQ Urumqi 14.59 35 *e*P **Pn 08 14 45.0 -0.2**
BWNR Bhubaneshwar 14.63 142 *ex* Pn 08 14 40.3 -5.4
BWNR *ex* x 08 17 16.1
HYBB Hyderabad (bro 14.91 172 *e*P **Pn 08 14 45.9 -3.8**
HYBB IVmB_BB 08 14 47.4
comp=Z,372nm,0.6s
HYBB *e* 08 17 23.3
HYBB IVMs_BB IVMs_BB 08 20 43.7
comp=Z,981nm,8.2s
HYB Hyderabad 14.92 172 *i* P **Pn 08 14 46.5 -3.2**
comp=Z,71nm,0.8s
HYB *e* 08 17 23.5
HYB *e*S **Sn 08 17 38.0 +3.3**
HYB Hyderabad 14.92 172 *ex* **Pn 08 14 45.0 -4.7**
HYB *ex* x 08 14 45.6
HYB *ex* x 08 17 23.8
KAD Karad 15.01 188⇑ *ix* **Pn 08 14 47.1 -3.9**
MAKZ Makanchi 15.16 15 ⇓P **Pn 08 14 51.6 -1.2**
comp=Z,43nm,1.1s
MAKZ ⇓S **Sn 08 17 40.1 -0.3**
comp=Z,20nm,1.1s
MAKZ Makanchi 15.16 15 P **Pn 08 14 51.6 -1.2**
MAKZ S **Sn 08 17 40.8 +0.4**
MAKZ Makanchi 15.16 15 **Pn 08 14 52.4 -0.4**
MAKZ IAmb IAmb 08 15 05.4
comp=Z,30nm,0.8s
SHL Shillong 15.16 112 *ex* **Pn 08 14 51.5 -1.6**
SHL *ex* **Sn 08 17 32.5 -8.4**
SHL Shillong 15.16 112 P **P 08 14 58.8 +0.6**
SNR=14
SHL Shillong 15.16 112 P **Pn 08 14 52.1 -1.0**
SHL pmax pmax
comp=Z,58nm,0.8s
SHL Shillong 15.16 112 **Pn 08 14 52.1 -1.0**
SHL IAmb IAmb 08 15 01.9
comp=Z,58nm,0.8s
MK31 Makanchi Array 15.22 16 ⇑P **Pn 08 14 51.6 -2.0**
comp=Z,17nm,0.7s,baz=193,slow=13,SNR=117
MK31 ⇓S **Sn 08 17 39.8 -2.0**
comp=Z,72nm,1.2s,baz=190,slow=22,SNR=10
MK31 Makanchi Array 15.22 16 P **Pn 08 14 51.6 -2.0**
MK31 S **Sn 08 17 39.8 -2.0**
MK31 Makanchi Array 15.22 16 **Pn 08 14 52.2 -1.4**
MKAR Makanchi Array 15.22 16 Pn **Pn 08 14 50.6 -3.0**
comp=Z,1.1nm,0.3s,baz=198,slow=9.1,SNR=72
MKAR Sn **Sn 08 17 34.4 -7.4**
comp=Z,1.0nm,0.3s,baz=193,slow=20,SNR=6.4
MKAR LR LR 08 20 42.5
comp=Z,70nm,20.6s,baz=197,slow=37
MKAR Makanchi Array 15.22 16 P **Pn 08 14 52.1 -1.5**
MKAR 08 17 34.4
MKAR Makanchi Array 15.22 16 **Pn 08 14 52.1 -1.5**
CHLP Challavanipeta 15.37 151 *e*P **Pn 08 14 52.4 -3.2**
CHLP IVmB_BB 08 15 04.1
comp=Z,137nm,1.9s
CHLP *e* 08 17 34.2
CHLP IVMsBB 08 20 50.5
comp=Z,591nm,8.2s
TEZP TEZPUR 15.41 107 *ex* **Pn 08 14 53.5 -2.7**
TEZP *ex* x 08 17 35.6
PVM Polavaram 15.70 161 *e*P **Pn 08 14 57.1 -2.8**
PVM IVmB_BB 08 15 13.3
comp=Z,258nm,0.9s
PVM *e* 08 17 40.2
PVM IVMs_BB IVMs_BB 08 21 01.6
comp=Z,1µm,8.2s
NJS Nagarjunasagar 15.87 169 *e*P **Pn 08 14 58.1 -4.1**
NJS IVmB_BB 08 14 59.4
comp=Z,524nm,0.8s
NJS *e* 08 17 44.5
NJS IVMs_BB IVMs_BB 08 21 11.6
comp=Z,913nm,8.8s
GEYT Alibeck 15.93 296 Pn **Pn 08 15 01.0 -1.9**
comp=Z,0.4nm,0.3s,baz=124,slow=12,SNR=15
GEYT LR LR 08 22 23.0
comp=Z,208nm,19.6s,baz=105,slow=42
GEYT Alibeck 15.93 296 **Pn 08 15 03.0 +0.1**
GYA0B ALIBECK ARRAY 15.93 296 **Pn 08 15 03.3 +0.4**
MYLAV Mylavaram 15.93 165 *e*P **Pn 08 14 59.8 -3.1**
MYLAV IVmB_BB 08 15 11.8
comp=Z,290nm,2.2s
MYLAV *e* 08 17 46.8
MYLAV IVMs_BB IVMs_BB 08 21 13.6
comp=Z,620nm,11.8s
OTUK Ortayu 16.25 350 ⇓P **Pn 08 15 06.1 -0.8**
comp=Z,51nm,0.9s
OTUK Ortayu 16.25 350 P **Pn 08 15 06.9 0.0**
SRLM Srisailam 16.26 171 *e*P **Pn 08 15 03.4 -3.8**
SRLM IVmBBB 08 15 04.8
comp=Z,584nm,0.7s
SRLM *e* 08 17 54.9
SRLM IVMs_BB IVMs_BB 08 22 27.9
comp=Z,829nm,5.9s
ZSN Zaisan 16.51 21 *e*P **Pn 08 15 10.2 -0.1**
baz=21
ZSN LR LR 08 21 51.1
comp=Z,156nm,9.8s,baz=21
ZSN Zaisan 16.51 21 *e*P **Pn 08 15 10.1 -0.1**
ZSN MLR MLR
comp=Z,156nm,10.0s
BRDH Bariadhala 16.60 121 Sn **Sn 08 18 05.1 -10**
comp=Z,86nm,0.3s,baz=190,slow=0.1,SNR=11
ADKI Addanki 16.68 168 *e*P **Pn 08 15 09.6 -2.9**
ADKI IVmBBB 08 15 13.0
comp=Z,256nm,0.5s
ADKI *e* 08 18 03.0
ADKI IVMs_BB IVMs_BB 08 21 36.0
comp=Z,853nm,8.9s
URV Uravakonda 17.26 177 *e*P **Pn 08 15 16.2 -3.6**
URV IVmBBB 08 15 25.6
comp=Z,211nm,0.9s
URV *e* 08 18 19.1
URV IVMs_BB IVMs_BB 08 21 56.2
comp=Z,803nm,8.4s
WSAR Wadi Sarin 18.03 245 Pn **P 08 15 31.0 +1.2**
comp=Z,0.7nm,0.3s,baz=103,slow=6.8,SNR=7.7
WSAR Sn Sn 08 18 37.9 -12
comp=Z,0.5nm,0.3s,baz=21,slow=11,SNR=2.0
WSAR Wadi Sarin 18.03 245 P **P 08 15 31.1 +1.2**
JLN Jalan Bani Buh 18.08 240 P **P 08 15 33.9 +3.7**
SNR=5.0
WBK Wadi Bani Khal 18.13 242 P **P 08 15 32.1 +1.2**
WBK P **P 08 15 32.1 +1.2**
KURBB Kurchatov Arra 18.42 4 Pn **P 08 15 31.1 -2.7**
comp=Z,0.3nm,0.3s,baz=192,slow=11,SNR=41
KURBB Kurchatov Arra 18.42 4⇑P **P 08 15 31.9 -2.0**
comp=Z,62nm,1.4s
KURBB Kurchatov Arra 18.42 4 P **P 08 15 31.8 -2.0**
KURK Kurchatov 18.52 5 ⇓P **P 08 15 30.5 -4.4**
comp=Z,52nm,0.9s
KURK Kurchatov 18.52 5 P **P 08 15 32.6 -2.2**
KURK P **P 08 15 32.6 -2.2**
KURK Kurchatov 18.52 5 P **P 08 15 32.5 -2.4**
KURK pmax pmax
comp=Z,56nm,1.0s
KURK Kurchatov 18.52 5 P **P 08 15 32.5 -2.4**
KURK IAmb IAmb 08 15 41.2
comp=Z,56nm,0.9s
SMDO Samad 18.58 245 P **Pn 08 15 42.5 +6.4**
SMDO P **Pn 08 15 42.5 +6.4**
BANOM Banah 18.59 255 P **Pn 08 15 41.6 +5.4**
BANOM P **Pn 08 15 41.6 +5.4**
SKHT Srikalahasti 18.69 170 *e*P **P 08 15 36.0 -1.1**
SKHT IVmBBB 08 15 37.4
comp=Z,195nm,0.8s
SKHT *e* 08 18 51.8
SKHT IVMs_BB IVMs_BB 08 22 45.5
comp=Z,821nm,7.6s
HOQ Hoqain 18.87 248 P **Pn 08 15 44.8 +5.2**
HOQ P **Pn 08 15 44.8 +5.2**
UOSS Minazif 19.09 253 P **Pn 08 15 43.0 +0.8**
DGZ Jazzator, Alta 19.30 22*c i*P **P 08 15 43.7 0.0**
DGZ pmax pmax
comp=Z,43nm,1.0s
ASHO Ashiyiah 19.33 252 P **Pn 08 15 48.9 +3.7**
SNR=8.8
ASHO P **Pn 08 15 48.9 +3.7**
SNR=8.8
ASHO S **Sn 08 19 17.6 -4.1**
ASHO S **Sn 08 19 17.6 -4.1**
GTA Gaotai 20.31 63⇑P **P 08 15 55.5 +0.8**
GTA pP pP 08 16 00.0 0.0
GTA sP sP 08 16 02.4 0.0
GTA S **S 08 19 39.3 -2.7**
GTA sS Sn 08 19 45.5 +0.3
GTA pmax pmax
comp=Z,26nm,1.0s
GTA pmax pmax
comp=Z,310nm,8.4s
GTA LR LR
comp=Z,470nm,15.2s
GTA LR LR
comp=Z,410nm,15.6s
GTA LR LR
comp=Z,420nm,13.6s
AB31 Akbulak array 20.95 329 P **P 08 16 01.2 -0.2**
ABKAR Akbulak array 20.95 329 P **P 08 16 01.4 0.0**
BVA0 Borovoye Array 21.19 350 ⇓P **P 08 16 03.6 -0.5**
comp=Z,138nm,1.1s,baz=157,slow=12,SNR=396
BVA0 Borovoye Array 21.19 350 *i* P **P 08 16 03.5 -0.5**
BVAR Borovoye Array 21.19 350 P **P 08 16 04.3 +0.2**
comp=Z,64nm,0.8s,baz=163,slow=11,SNR=222
BRVK Borovoye 21.24 350 ⇓P **P 08 16 03.9 -0.6**
comp=Z,161nm,0.9s
BRVK Borovoye 21.24 350 P **P 08 16 04.8 +0.3**
BRVK Borovoye 21.24 350*ce*P **P 08 16 04.7 +0.2**
BRVK pmax pmax
comp=Z,188nm,1.0s
BRVK Borovoye 21.24 350 P **P 08 16 03.8 -0.7**
ZAA0 Zalesovo Array 22.52 13⇑P **P 08 16 17.5 -0.6**
comp=Z,3.6nm,0.9s
ZAA0 Zalesovo Array 22.52 13 P **P 08 16 16.7 -1.5**
ZALV Zalesovo Beam 22.52 13 P **P 08 16 16.5 -1.7**
comp=Z,14nm,0.7s,baz=206,slow=9.9,SNR=20
ZALV Zalesovo Beam 22.52 13 *i* P **P 08 16 19.2 +1.0**
ZALV pmax pmax
comp=Z,25nm,0.7s
ZALV Zalesovo Beam 22.52 13 P **P 08 16 15.4 -2.8**
AKTO Aktyubinsk 22.66 329 P **P 08 16 19.7 -0.1**
comp=Z,42nm,0.8s,baz=123,slow=9.9,SNR=70
AKTO Aktyubinsk 22.66 329⇑P **P 08 16 17.6 -2.2**
comp=Z,70nm,0.9s
LZH Lanzhou 23.06 73⇑P **P 08 16 24.3 0.0**
LZH pP pP 08 16 29.3 -0.2
LZH S **S 08 20 33.4 -1.4**
LZH sS pS 08 20 41.8 +0.9
LZH pmax pmax
comp=Z,22nm,1.3s
LZH pmax pmax
comp=Z,230nm,5.4s
LZH LR LR
comp=Z,720nm,12.5s
LZH LR LR
comp=Z,530nm,11.9s
LZH LR LR
comp=Z,860nm,12.5s
CD2 Chengdu 23.39 86 P **P 08 16 28.3 +0.7**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 LR LR
comp=Z,1µm,18.6s
CD2 LR LR
comp=Z,750nm,13.2s
CD2 LR LR
comp=Z,730nm,13.7s
KMI Kunming 24.20 100 P **P 08 16 35.0 -0.6**
KMI pmax pmax
comp=Z,33nm,0.6s
KMI Kunming 24.20 100 P **P 08 16 35.0 -0.6**
CHTO Chiang Mai 24.35 118 P **P 08 16 36.8 +0.1**
CHTO pmax pmax
comp=Z,40nm,0.8s
CHTO Chiang Mai 24.35 118 P **P 08 16 36.8 +0.1**
CHTO IAmb IAmb 08 16 41.3
comp=Z,40nm,0.8s
AKT Akhty 24.56 300 *e*P **P 08 16 40.5 +1.9**
AKT *e* 08 17 09.7
AKT *e*S **S 08 21 03.5 +4.5**
AKT pmax pmax
comp=Z,31nm,1.1s
CM31 Chiang Mai Arr 24.57 119 P **P 08 16 39.7 +1.0**
SNR=74
CM31 Chiang Mai Arr 24.57 119 P **P 08 16 39.1 +0.4**
CMAR Chiang Mai Arr 24.57 119 P **P 08 16 39.2 +0.5**
comp=Z,74nm,0.9s,baz=310,slow=8.8,SNR=137
CMAR S **S 08 21 04.2 +5.2**
comp=Z,1.1nm,0.4s,baz=311,slow=16,SNR=5.3
CMAR ScP **ScP 08 23 55.2 +0.3**
comp=Z,1.0nm,0.3s,baz=290,slow=4.4,SNR=5.1
CMAR LR LR 08 29 24.7
comp=Z,39nm,20.3s,baz=295,slow=44
MAK Makhachkala 25.09 303 *e*P **P 08 16 38.9 -4.3**
MAK *e*S **S 08 21 01.1 -6.0**
MAK pmax pmax
comp=Z,214nm,1.4s
MAK MLR MLR
comp=Z,100nm,11.0s
PALK Pallekele 25.20 170 P **P 08 16 46.7 +2.4**
PALK pmax pmax
comp=Z,27nm,1.0s
PALK Pallekele 25.20 170 P **P 08 16 46.7 +2.4**
PALK IAmb IAmb 08 17 01.8
comp=Z,27nm,0.9s
PBA Port Blair 25.48 140 P **P** 08 16 48.6 +1.7
LGD Lagodekhi 25.73 300 P **P 08 16 52.3 +3.3**
GROC Groznyy 26.36 303 *e*P **P 08 16 56.6 +1.9**
GROC *e* 08 20 22.9
GROC pmax pmax
comp=Z,72nm,1.4s
TBLG Delisi 26.81 300 P **P 08 17 04.7 +5.8**
SLVN Son La 26.84 107 P **P 08 16 59.5 +0.1**
SLVN IAmb IAmb 08 17 04.6
comp=Z,17nm,0.8s
ZAK Zakamensk 26.93 40 *e*P **P 08 17 00.0 +0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
KZRT Kazreti 27.00 299 P **P 08 17 06.9 +6.3**
GYA Guiyang 27.02 94 *e*P **P 08 17 03.5 +2.6**
GYA pP sP 08 17 14.9 +6.0
GYA S **S 08 21 39.1 +0.9**
GYA SS **SnSn 08 22 49.9 +5.7**
GYA pmax pmax
comp=Z,13nm,0.9s
GYA LR LR
comp=Z,190nm,8.2s
GYA LR LR
comp=Z,260nm,12.5s
GYA LR LR
comp=Z,210nm,12.4s
PBKT Sadao Pong 27.25 119 P **P 08 17 04.4 +1.5**
XAN Xi'an 27.29 77 P **P 08 17 02.8 -0.4**
XAN pP sP 08 17 15.0 +3.9
XAN PP **PnPn 08 17 48.8 +1.7**
XAN S **S 08 21 35.4 -6.9**
XAN sS sS 08 21 56.0 +4.4
XAN pmax pmax
comp=Z,14nm,0.7s
XAN LR LR
comp=Z,620nm,17.5s
XAN LR LR
comp=Z,250nm,16.3s
XAN LR LR
comp=Z,380nm,16.3s
XAN Xi'an 27.29 77 P **P 08 17 02.9 -0.4**
XAN pmax pmax
comp=Z,10.0nm,0.9s
XAN Xi'an 27.29 77 P **P 08 17 02.9 -0.4**
SONM Songino Array 27.56 47 P **P 08 17 06.8 +1.1**
comp=Z,8.8nm,0.7s,baz=246,slow=9.5,SNR=29
SONM ScP **ScP 08 24 03.8 +0.5**
comp=Z,0.6nm,0.4s,baz=208,slow=4.9,SNR=3.8
SONM LR LR 08 29 46.9
comp=Z,159nm,18.5s,baz=154,slow=40
SONM Songino Array 27.56 47 P **P 08 17 06.6 +1.0**
SONM pmax pmax
comp=Z,11nm,0.9s
SONM Songino Array 27.56 47 P **P 08 17 06.6 +1.0**
ZEI Tsey 27.62 302 *e*P **P 08 17 09.8 +3.5**
ZEI pmax pmax
comp=Z,21nm,0.9s
AKH Akhalkalaki 27.68 299 P **P 08 17 09.2 +2.3**
AKH pmax pmax
comp=Z,31nm,0.9s
AKH Akhalkalaki 27.68 299 P **P 08 17 09.2 +2.3**
AKH IAmb IAmb 08 17 14.5
comp=Z,31nm,0.9s
GEVA Gevas 27.72 292 P **P 08 17 08.8 +1.6**
TLY Talaya 27.83 38 *i* P **P 08 17 07.6 -0.3**
TLY pmax pmax
comp=Z,2.0nm,0.4s
ONI Oni 27.91 301 P **P 08 17 13.9 +5.2**
ULN Ulaanbaatar 27.98 47*ce*P **P 08 17 08.2 -1.2**
ULN pmax pmax
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 27.98 47 P **P 08 17 08.4 -1.0**
BTO Baotou 28.23 63 *e*P **P 08 17 10.9 -0.8**
BTO S **S 08 21 56.0 -1.0**
KBZ Khabaz 28.54 303 LR LR 08 31 32.4
comp=Z,96nm,18.1s,baz=102,slow=43
KBZ Khabaz 28.54 303 *i* P **P 08 17 17.6 +3.4**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 28.73 304 *e*P **P 08 17 15.5 -0.6**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,375nm,15.0s
HHC Hu-ho-hao-te 29.42 63 *e*P **P 08 17 19.8 -2.5**
HHC PP **PnPn 08 18 19.5 +3.4**
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,100nm,4.6s
HHC LR LR
comp=Z,240nm,12.4s
HHC LR LR
comp=Z,230nm,14.2s
HHC LR LR
comp=Z,240nm,12.1s
MARD Mardin 29.51 290 P **P 08 17 24.6 +1.5**
MALT Malatya 31.36 292 P **P 08 17 43.0 +3.6**
VRH Novokhopyorsk 31.61 317 *e*P **P 08 17 40.1 -1.2**
VRH pmax pmax
comp=Z,10.0nm,1.0s
KIRV Kirov 31.98 333 P **P 08 17 45.6 +1.2**
comp=Z,35nm,0.8s,baz=130,slow=16,SNR=11
KIRV LR LR 08 31 51.9
comp=Z,243nm,18.3s,baz=130,slow=39
GAZ Gaziantep 32.36 290 P **P 08 17 50.6 +2.5**
GAZ IAmb IAmb 08 18 01.7
comp=Z,13nm,0.9s
QIZ Qiongzhong 32.82 105 P **P 08 17 51.3 -1.0**
QIZ S **S 08 23 09.8 +0.7**
QIZ LR LR
comp=Z,110nm,12.8s
QIZ LR LR
comp=Z,120nm,14.7s
QIZ LR LR
comp=Z,120nm,9.4s
BJT Baijiatuao 32.88 65 P **P 08 17 53.6 +0.9**
BJT pmax pmax
comp=Z,10.0nm,0.8s
BJT Baijiatuao 32.88 65 P **P 08 17 53.5 +0.9**
BJT IAmb IAmb 08 17 58.5
comp=Z,9.7nm,0.8s
BJI Beijing 32.89 65 P **P 08 17 53.8 +1.1**
BJI pmax pmax
comp=Z,12nm,1.1s
BJI pmax pmax
comp=Z,100nm,7.1s
BJI LR LR
comp=Z,190nm,13.3s
BJI LR LR
comp=Z,58nm,7.1s
VSR Storozhevoye 33.10 316 *e*P **P 08 17 53.2 -1.2**
VSR pmax pmax
comp=Z,20nm,1.4s
MLSI Meulaboh, Aceh 33.61 142 P **P 08 17 58.6 -0.6**
comp=Z,41nm,0.6s
LPSR Galich'ya Gora 33.74 318 *e*P **P 08 17 58.7 -1.3**
LPSR pmax pmax
comp=Z,20nm,0.7s
TIA Tai'an 33.79 72 P **P 08 18 01.3 +0.7**
TIA pmax pmax
comp=Z,9.0nm,1.4s
TIA LR LR
comp=Z,460nm,17.3s
TIA LR LR
comp=Z,290nm,14.1s
TIA LR LR
comp=Z,470nm,14.3s
TPTI 34.87 142 P **P 08 18 10.2 +0.1**
comp=Z,4.5nm,1.1s
KCSI Kotacane, Aceh 34.97 140 P **P 08 18 12.2 +1.3**
comp=Z,451nmcomp=Z,13nm,0.7s
ILGA Ilgaz 35.00 297 P **P 08 18 11.8 +0.6**
ILGA IAmb IAmb 08 18 17.5
comp=Z,19nm,1.1s
BR131 Keskin Array S 35.07 294 P **P 08 18 13.9 +2.1**
SNR=8.2
BR131 Keskin Array S 35.07 294 P **P 08 18 12.8 +1.0**
BR131 pmax pmax
comp=Z,15nm,1.2s
BR131 Keskin Array S 35.07 294 P **P 08 18 12.8 +1.0**
BR131 IAmb IAmb 08 18 14.4
comp=Z,15nm,1.1s
BRTR Keskin Array B 35.07 294 P **P 08 18 13.0 +1.2**
comp=Z,6.3nm,0.9s,baz=110,slow=7.0,SNR=27
BRTR Keskin Array B 35.07 294*ce*P **P 08 18 13.6 +1.8**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 35.07 294 P **P 08 18 13.1 +1.3**
KULM Kulim 35.17 135 P **P 08 18 13.4 +0.7**
KULM IAmb IAmb 08 18 16.6
comp=Z,22nm,1.2s
PRGR Permogore 35.45 335 *e*P **P 08 18 12.8 -1.8**
PRGR pmax pmax
comp=Z,61nm,0.9s
MOS Moscow 35.70 323 *e*P **P 08 18 15.9 -0.9**
MOS *e* 08 19 37.1
MOS pmax pmax
comp=Z,30nm,0.9s
NJ2 Nanjing 35.84 79 *e*P **P 08 18 17.0 -1.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.7s
OBN Obninsk 36.00 321*de*P **P 08 18 20.2 +0.8**
OBN *e* 08 19 42.8
OBN *e*S **S 08 23 53.8 -3.6**
OBN *e*SS **SS 08 26 46.1 +12**
OBN pmax pmax
comp=Z,21nm,1.1s
OBN MLR MLR
comp=Z,92nm,16.0s
IPM Ipoh 36.04 135 P **P 08 18 19.4 -0.8**
IPM IAmb IAmb 08 18 23.4
comp=Z,27nm,1.0s
BOD Bodaibo 36.14 34 *e*P **P 08 18 20.4 -0.2**
BOD pmax pmax
comp=Z,6.0nm,1.8s
PSI Prapat 36.19 139 LR LR 08 34 19.4
comp=Z,124nm,18.0s,baz=270,slow=38
PSI Prapat 36.19 139 P **P 08 18 22.0 +0.4**
PSI pmax pmax
comp=Z,14nm,1.0s
RPSI Rantau Prapat 36.28 140 P **P 08 18 22.0 -0.2**
RPSI IAmb IAmb 08 18 24.0
comp=Z,14nm,1.0s
GSI Gunungsitoli 36.73 143 P **P 08 18 29.9 +3.8**
GSI Gunungsitoli 36.73 143 P **P 08 18 26.9 +0.8**
MDUB Mudurnu 36.92 296 P **P 08 18 28.0 +0.4**
ATD Arta Tunnel 37.05 244 P **P 08 18 30.4 +1.6**
BOLV Bolvadin 37.20 293 P **P 08 18 31.7 +1.7**
BOLV IAmb IAmb 08 18 36.1
comp=Z,17nm,0.9s
KLMR Klimovskoe 37.32 331 *e*P **P 08 18 28.4 -2.1**
KLMR *e* 08 19 53.8
KLMR pmax pmax
comp=Z,27nm,1.4s
KLMR Klimovskoe 37.32 331 *e*P **P 08 18 28.5 -2.1**
KLMR AMP 08 18 32.6
comp=Z,27nm,1.4s
KLMR *e*PP **PP 08 19 53.9 -1.7**
NRIK Noril'sk 37.67 6 P **P 08 18 34.7 +1.3**
comp=Z,15nm,1.1s,baz=191,slow=7.6,SNR=12
NRIK LR LR 08 35 59.7
comp=Z,218nm,19.5s,baz=190,slow=39
ELL Elmali 38.22 290 P **P 08 18 40.0 +1.3**
ELL pmax pmax
comp=Z,140nm,1.0s
ELL Elmali 38.22 290 P **P 08 18 40.0 +1.3**
AKASG Malin Array Be 39.04 312 P **P 08 18 45.1 -0.1**
comp=Z,8.6nm,0.9s,baz=87,slow=6.5,SNR=12
AKASG LR LR 08 37 35.4
comp=Z,73nm,18.2s,baz=105,slow=40
AKASG Malin Array Be 39.04 312*ce*P **P 08 18 45.5 +0.3**

AKASG pmax pmax
comp=Z,9.0nm,0.9s
AKASG Malin Array Be 39.04 312 P **P** **08 18 45.2 0.0**
AKBB Malin Array Si 39.04 312 P **P** **08 18 45.2 0.0**
AKBB pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 39.04 312 P **P** **08 18 45.2 0.0**
CFR Carcaliu 39.19 303 P **P** **08 18 47.6 +1.1**
CFR Carcaliu 39.19 303 P **P** **08 18 47.6 +1.1**
HARR Harsova 39.32 303 P **P** **08 18 48.6 +1.0**
HARR Harsova 39.32 303 P **P** **08 18 48.6 +1.0**
BKNI Bangkinang 39.41 139 P **P** **08 18 51.5 +2.8**
comp=Z,116nm,1.0s
PRD Provadia 39.70 300 *e*P **P** **08 18 52.9 +2.1**
TMCR Tamitsa 39.75 335 *e*P **P** **08 18 50.7 -0.2**
NEF NEVSHA 39.79 300 *e*P **P** **08 18 53.4 +1.8**
PDSI Padang 40.12 141 P **P** **08 18 55.0 +0.4**
comp=Z,4µmcomp=Z,41nm,1.0s
VRI Vrincioaia 40.20 304 ⇑P **P** **08 18 56.5 +1.5**
VRI Vrincioaia 40.20 304 ⇑P **P** **08 18 56.5 +1.5**
PLOR Plostina 40.26 304 ⇑P **P** **08 18 57.5 +2.0**
PLOR Plostina 40.26 304 ⇑P **P** **08 18 57.5 +2.0**
ISR Istrita 40.31 303 P **P** **08 18 57.4 +1.4**
ISR Istrita 40.31 303 P **P** **08 18 57.4 +1.4**
RAZG Razgrad 40.34 301 P **P** **08 18 56.9 +0.8**
TWG Piniang 40.54 92 P **P** **08 18 58.8 +0.8**
MLR Muntele Rosu 40.74 304 ⇓P **P** **08 19 01.6 +2.0**
MLR Muntele Rosu 40.74 304 P **P** **08 19 01.2 +1.6**
MLR pmax pmax
comp=Z,43nm,1.0s
MLR Muntele Rosu 40.74 304 P **P** **08 19 01.2 +1.6**
ALN Alexandroupoli 40.81 297 P **P** **08 19 01.7 +1.7**
ALN pmax pmax
comp=Z,32nm,1.5s
ALN Alexandroupoli 40.81 297 P **P** **08 19 01.7 +1.7**
ALN IAmb IAmb 08 19 04.8
comp=Z,32nm,1.5s
DOPR Dopca 41.14 305 ⇓P **P** **08 19 04.6 +1.8**
BURAR Bucovina Array 41.31 307 P **P** **08 19 05.4 +1.2**
BURAR Bucovina Array 41.31 307 P **P** **08 19 05.4 +1.2**
BURAR Bucovina Array 41.31 307 P **P** **08 19 04.5 +0.3**
BUR08 Bucovina Ar. S 41.33 307 P **P** **08 19 05.0 +0.6**
VOIR 41.37 304 ⇑P **P** **08 19 05.3 +0.5**
VOIR 41.37 304 ⇑P **P** **08 19 05.3 +0.5**
KRJI Kerinci 41.65 140 P **P** **08 19 09.8 +2.5**
comp=Z,8µmcomp=Z,242nm,1.2s
ARR Arges 41.67 304 ⇑P **P** **08 19 07.6 +0.5**
ZEA Zeya 41.88 44 *e*P **P** **08 19 10.1 +1.4**
ZEA pmax pmax
comp=Z,21nm,1.2s
ZEA MLR MLR
comp=Z,400nm,15.0s
ZEA MLR MLR
comp=E,200nm,14.0s
PGB Panagyurishte 42.10 299 *e*P **P** **08 19 10.9 +0.2**
KS19 Wonju Array Si 42.18 68 P **P** **08 19 11.0 -0.3**
KSAR Wonju Array Be 42.20 68 P **P** **08 19 10.6 -0.9**
KSAR Wonju Array Be 42.20 68 P **P** **08 19 10.6 -0.9**
KSRS Korea Array 42.23 68 P **P** **08 19 10.8 -0.9**
comp=E,5.3nm,0.8s,baz=275,slow=7.4,SNR=14
KSRS LR LR 08 38 26.5
comp=E,148nm,19.8s,baz=280,slow=39
MMB Musomiste 42.49 298 *e*P **P** **08 19 14.6 +0.7**
VTS Vitosha 42.78 300 *e*P **P** **08 19 18.3 +2.0**
MDJ Mudanjiang 42.80 57 P **P** **08 19 16.3 0.0**
MDJ IAmb IAmb 08 19 17.9
comp=Z,25nm,0.8s
KWP Kalwaria Pacla 43.08 310 P **P** **08 19 20.0 +1.4**
KWP pmax pmax
comp=Z,22nm,1.1s
KWP Kalwaria Pacla 43.08 310 P **P** **08 19 20.0 +1.4**
KWP IAmb IAmb 08 19 27.5
comp=Z,22nm,1.1s
APA Apatity 43.23 338 *e*P **P** **08 19 18.0 -1.4**
APA pmax pmax
comp=Z,4.0nm,0.9s
APA MLR MLR
comp=Z,200nm,16.0s
UZH Uzhgorod 43.31 308 *e*P **P** **08 19 20.8 +0.4**
UZH *i* 08 19 24.4
UZH *e* 08 19 31.1
UZH *e*S **S** **08 25 44.5 -2.7**
KOLS Kolonicke sedl 43.34 309 *e*P **P** **08 19 20.9 +0.3**
KOLS pmax pmax
comp=Z,6.0nm,1.2s
KOLS Kolonicke sedl 43.34 309 *e*P **P** **08 19 20.9 +0.3**
FIA1 FINESS Array S 43.43 328 P **P** **08 19 21.9 +0.7**
FIA1 IAmb IAmb 08 19 25.1
comp=Z,21nm,1.1s
FINES FINESS Array B 43.43 327 P **P** **08 19 21.5 +0.4**
comp=Z,7.2nm,0.7s,baz=116,slow=8.5,SNR=26
FINES LR LR 08 38 37.1
comp=Z,148nm,19.9s,baz=89,slow=38
FINES FINESS Array B 43.43 327*ce*P **P** **08 19 22.0 +0.9**
FINES pmax pmax
comp=Z,7.0nm,0.7s
KSI Kapahiang 43.56 140 P **P** **08 19 24.9 +2.1**
comp=Z,16µmcomp=Z,89nm,0.6s
SIRR Siria 43.73 305 ⇑P **P** **08 19 25.2 +1.3**
MDVR Moldovita 43.75 303 ⇓P **P** **08 19 25.2 +1.2**
BZS Buzias 43.78 304 ⇓P **P** **08 19 24.4 +0.2**
BZS Buzias 43.78 304 ⇓P **P** **08 19 24.4 +0.2**
AGG Agios Georgios 43.85 295 P **P** **08 19 24.7 -0.2**
AGG pmax pmax
comp=Z,36nm,1.5s
AGG Agios Georgios 43.85 295 P **P** **08 19 24.7 -0.2**
AGG IAmb IAmb 08 19 30.1
comp=Z,36nm,1.5s
KLR Kul'dur 44.25 51*ce*P **P** **08 19 28.0 +0.1**
KLR pmax pmax
comp=Z,8.0nm,0.8s
KSM Kuching 44.29 127 P **P** **08 19 29.2 +0.6**
USA0B Ussuriysk Arra 44.54 58 P **P** **08 19 30.3 0.0**
USA0B pmax pmax
comp=Z,8.0nm,1.0s
USA0B Ussuriysk Arra 44.54 58 P **P** **08 19 30.3 0.0**
USRK Ussuriysk Ar. 44.54 58 P **P** **08 19 30.2 -0.1**
comp=Z,5.5nm,0.8s,baz=286,slow=5.3,SNR=12
USRK Ussuriysk Ar. 44.54 58 P **P** **08 19 29.8 -0.6**
SBUM Sibu 44.91 124 P **P** **08 19 33.9 +0.4**
SBUM IAmb IAmb 08 19 48.0
comp=Z,16nm,0.8s
PSZ Piszkesteto 44.91 307 ⇓P **P** **08 19 35.0 +1.7**
PSZ Piszkesteto 44.91 307 P **P** **08 19 33.9 +0.6**
PSZ pmax pmax
comp=Z,8.0nm,0.9s
PSZ Piszkesteto 44.91 307 P **P** **08 19 33.9 +0.6**
YAK Yakutsk 45.02 32 *e*P **P** **08 19 33.9 0.0**
YAK pmax pmax
comp=Z,20nm,0.8s
DIVS Divibare 45.02 302 P **P** **08 19 34.5 +0.2**
DIVS IAmb IAmb 08 19 39.6
comp=Z,21nm,1.5s
JNU Nakatsue 45.48 74 LR LR 08 40 49.2
comp=Z,134nm,19.5s,baz=296,slow=39
VYHS Vyhne 45.61 308 *e*P **P** **08 19 40.1 +1.3**
VYHS pmax pmax
comp=Z,14nm,1.4s
VYHS Vyhne 45.61 308 *e*P **P** **08 19 40.1 +1.3**
PDG Podgorica 45.72 300 ⇑P **P** **08 19 38.8 -0.9**
JAVC Velka Javorina 46.37 309 *e*P **P** **08 19 47.0 +2.2**
MORC Moravsky Berou 46.44 310 ⇑P **P** **08 19 45.8 +0.5**
MORC Moravsky Berou 46.44 310 *e*P **P** **08 19 45.8 +0.5**
MORC Moravsky Berou 46.44 310 ⇑P **P** **08 19 45.8 +0.5**
MORC Moravsky Berou 46.44 310 P **P** **08 19 45.8 +0.5**
MORC IAmb IAmb 08 19 53.8
comp=Z,6.4nm,0.8s
MODS Modra-Piesok 46.65 308 *e*P **P** **08 19 47.0 0.0**
MODS pmax pmax
comp=Z,9.0nm,1.0s
MODS Modra-Piesok 46.65 308 *e*P **P** **08 19 47.0 0.0**
ARCES ARCESS Array B 46.72 338 P **P** **08 19 48.7 +1.5**
comp=Z,6.1nm,0.6s,baz=113,slow=8.1,SNR=25
ARCES LR LR 08 41 00.0
comp=Z,288nm,18.5s,baz=124,slow=38
ARCES ARCESS Array B 46.72 338 P **P** **08 19 48.3 +1.1**
KRLC Kraliky 46.92 311 *e*P **P** **08 19 50.4 +1.3**
KRLC Kraliky 46.92 311 *e*P **P** **08 19 50.4 +1.3**
VRAC Vranov 47.06 309 P **P** **08 19 51.6 +1.4**
VRAC Vranov 47.06 309 *e*P **P** **08 19 51.5 +1.3**
VRAC Vranov 47.06 309 P **P** **08 19 51.6 +1.4**
KRUC Moravsky 47.20 309 *e*P **P** **08 19 52.6 +1.3**
DPC Dobruska-Polom 47.21 311 *e*P **P** **08 19 52.8 +1.4**
DPC MLR MLR
comp=Z,100nm,13.1s
DPC Dobruska-Polom 47.21 311 *e*P **P** **08 19 52.8 +1.4**
DPC AMS AMS 08 43 10.0
comp=Z,100nm,13.1s
UPC Upice 47.41 311 *e*P **P** **08 19 54.5 +1.6**
UPC Upice 47.41 311 *e*P **P** **08 19 54.5 +1.6**
CONA Conrad Observa 47.62 308 *i* pP **P** **08 19 56.1 +1.4**
comp=Z,15nm,1.1s
ARSA Arzberg 47.90 307 *e*pP **P** **08 19 57.9 +1.1**
comp=Z,5.6nm,1.1s
SOKA Soboth 48.28 306 *i* pP **P** **08 20 00.9 +1.2**
comp=Z,21nm,1.5s
PRU Pruhonice 48.37 310 *e*P **P** **08 20 01.5 +1.2**
PRU Pruhonice 48.37 310 *e*P **P** **08 20 01.5 +1.2**
SGRT San Giovanni R 48.41 299 P **P** **08 20 01.0 +0.2**
MOA Molln 48.70 308 *i* P **P** **08 20 03.8 +0.9**
comp=Z,16nm,1.1s
BRG Berggiesshubel 48.71 312 *e*P **P** **08 20 03.7 +0.8**
comp=Z,9.8nm,1.1s
BRG Berggiesshubel 48.71 312 *e*P **P** **08 20 03.7 +0.8**
BRG pmax pmax
comp=Z,10.0nm,1.1s
GERES GERESS Array B 48.99 309 P **P** **08 20 05.9 +0.7**
comp=Z,1.4nm,0.9s,baz=77,slow=7.0,SNR=9.3
GERES LR LR 08 42 34.2
comp=Z,39nm,18.2s,slow=38
GERES GERESS Array B 48.99 309 P **P** **08 20 05.5 +0.2**
KHC Kasperske Hory 49.05 309*ce*P **P** **08 20 06.6 +1.0**
KHC pmax pmax
comp=Z,12nm,1.7s
KHC Kasperske Hory 49.05 309 *e*P **P** **08 20 06.5 +1.0**
KHC Kasperske Hory 49.05 309 P **P** **08 20 05.5 -0.1**
HFS Hagfors 49.09 324 LR LR 08 40 58.0
comp=Z,77nm,18.7s,baz=107,slow=36
CLL Collm 49.28 312 *e*P **P** **08 20 09.0 +1.7**
CLL *e*(pP) **pP** **08 20 13.0 +0.2**
CLL Collm 49.28 312 *e*P **P** **08 20 09.0 +1.7**
PRED Cave del Predi 49.31 306 P **P** **08 20 08.0 +0.3**
PRED IAmb IAmb 08 20 09.6
comp=Z,16nm,1.2s
KMBO Kilima Mbogo 49.66 236 LR LR 08 41 58.4
comp=Z,92nm,18.9s,baz=92,slow=37
KMBO Kilima Mbogo 49.66 236 P **P** **08 20 11.6 +0.7**
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 49.66 236 P **P** **08 20 11.6 +0.7**
STAL STALIGIAL 49.92 306 P **P** **08 20 12.8 +0.5**
ABTA Abfaltersbach 50.00 306 *e*P **P** **08 20 13.9 +1.0**
comp=Z,2.9nm,0.6s
CIMO Cimolais 50.10 306 P **P** **08 20 14.1 +0.5**
CIMO IAmb IAmb 08 20 18.8
comp=Z,18nm,1.1s
NC405 NORSAR Array S 50.15 325 P **P** **08 20 14.0 +0.2**
NC303 NORSAR Array S 50.32 325 P **P** **08 20 14.9 -0.2**
NB2 NORSAR Subarra 50.39 325 P **P** **08 20 15.5 -0.1**
comp=Z,5.0nm,0.7s,baz=94,slow=7.9
NOA NORSAR Array B 50.39 325 P **P** **08 20 15.4 -0.1**
comp=Z,4.6nm,0.9s,baz=97,slow=7.5,SNR=10
NOA LR LR 08 43 26.6
comp=Z,67nm,21.0s,baz=80,slow=38
MAJO Matsushiro 50.47 67 *i* P **P** **08 20 15.4 -1.2**
MAJO pmax pmax
comp=Z,17nm,0.9s
MAJO Matsushiro 50.47 67 P **P** **08 20 15.6 -1.0**
MAJO IAmb IAmb 08 20 16.8
comp=Z,15nm,0.9s
MAT Matsushiro 50.47 67 P **P** **08 20 15.8 -0.8**
MJAR Matsushiro Arr 50.48 67 P **P** **08 20 16.3 -0.3**
comp=Z,8.6nm,0.8s,baz=283,slow=12,SNR=19
MJAR LR LR 08 43 10.3
comp=Z,46nm,19.0s,baz=255,slow=38
MJAR Matsushiro Arr 50.48 67 P **P** **08 20 16.1 -0.5**
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR Matsushiro Arr 50.48 67 P **P** **08 20 16.1 -0.5**
WTTA Wattenberg 50.53 307 *i* pP **P** **08 20 18.1 +1.1**
comp=Z,15nm,1.3s
WATA Walderalm 50.56 307 *i* P **P** **08 20 18.0 +0.7**
comp=Z,10.0nm,1.2s
NBO00 NORSAR Array S 50.60 325 P **P** **08 20 17.9 +0.7**
NC204 NORSAR Array S 50.62 325 P **P** **08 20 17.3 -0.1**
SQTA Sankt Quirin 50.82 307 *i* P **P** **08 20 19.9 +0.7**
comp=Z,8.0nm,1.0s
MOTA Moosalm 50.88 307 *e*P **P** **08 20 20.1 +0.4**
RETA Reutte 51.09 307 *i* P **P** **08 20 22.0 +0.9**
comp=Z,8.7nm,1.2s
FETA Feichten 51.17 307 *i* P **P** **08 20 22.0 +0.1**
comp=Z,15nm,1.3s
TYV Tymovskoe 51.21 48 *e*P **P** **08 20 23.1 +1.2**
TYV pmax pmax
comp=Z,18nm,0.9s
TYV pmax pmax
comp=Z,100nm,3.8s
DAVA Damuels 51.71 307 *i* pP **P** **08 20 26.9 +1.0**
comp=Z,25nm,1.2s
YSS Yuzh-Sakhalins 51.75 53⇓*e*P **P** **08 20 25.6 -0.4**
YSS *e*S **S** **08 27 40.9 -6.4**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,100nm,5.4s
YSS MLR MLR
comp=E,200nm,12.0s
YSS MLR MLR
comp=Z,200nm,12.0s
YSS MLR MLR
comp=N,100nm,15.0s
YSS Yuzh-Sakhalins 51.75 53 P **P** **08 20 26.2 +0.2**
ASAJ Asahikawa 52.12 57 P **P** **08 20 29.3 +0.5**
ASAJ pmax pmax
comp=Z,10.0nm,0.7s
JKA Kamikawa-asahi 52.12 57 P **P** **08 20 29.3 +0.5**
JKA IAmb IAmb 08 20 34.9
comp=Z,10.0nm,0.7s
SPITS Spitsbergen Ar 52.61 347 P **P** **08 20 33.5 +1.6**
comp=Z,4.3nm,0.8s,baz=122,slow=16,SNR=2.4
ERM Erimo 52.95 59 *i* P **P** **08 20 34.3 -0.6**
ERM pmax pmax
comp=Z,9.0nm,0.5s
ERM Erimo 52.95 59 P **P** **08 20 35.0 +0.1**
SENIN Lac Senin/Sane 53.61 307 P **P** **08 20 40.7 +0.6**
SENIN IAmb IAmb 08 20 57.8
comp=Z,7.4nm,0.9s
KBS Kingsbay 53.70 348 P **P** **08 20 40.3 +0.4**
KBS pmax pmax
comp=Z,10.0nm,0.9s
KBS Kingsbay 53.70 348 P **P** **08 20 40.3 +0.4**
KBS IAmb IAmb 08 20 51.9
comp=Z,10nm,0.9s
KEST Kesra 54.66 293 P **P** **08 20 49.1 +1.4**
comp=Z,5.8nm,0.8s,baz=281,slow=3.0,SNR=7.7
KEST Kesra 54.66 293 P **P** **08 20 46.5 -1.2**
KEST IAmb IAmb 08 20 53.6
comp=Z,12nm,0.9s
MA2 Magadan 55.05 37*ce*P **P** **08 20 50.6 +0.6**
MA2 pmax pmax
comp=Z,10.0nm,1.1s
MA2 Magadan 55.05 37 P **P** **08 20 50.5 +0.4**
MA2 IAmb IAmb 08 20 58.8
comp=Z,18nm,1.0s
KAPI Kappang 55.47 124 P **P** **08 20 54.5 +0.9**
comp=Z,25nm,1.1s,baz=304,slow=8.7,SNR=4.9
KAPI Kappang 55.47 124 P **P** **08 20 54.3 +0.7**
KAPI pmax pmax
comp=Z,32nm,1.1s
KAPI Kappang 55.47 124 P **P** **08 20 54.3 +0.7**
SEY Seymchan 55.55 33 *i* P **P** **08 20 53.8 +0.2**
NOR Nord 58.74 350 *i* P **P** **08 21 17.1 +1.2**
comp=Z,5.4nm,0.8s
NOR Nord 58.74 350 *i* P **P** **08 21 17.1 +1.2**
NOR pmax pmax
comp=Z,5.0nm,0.8s
PETK Petropavlovsk- 59.97 44 P **P** **08 21 24.2 -0.7**
comp=Z,3.8nm,0.8s,baz=258,slow=1.4,SNR=8.3
PETK LR LR 08 48 47.4
comp=Z,66nm,21.6s,baz=240,slow=38
PETK Petropavlovsk- 59.97 44 P **P** **08 21 23.7 -1.1**
SOEI Soe 61.97 124 P **P** **08 21 37.8 -1.2**
ESDC Sonseca Array 63.38 302 P **P** **08 21 48.3 +0.2**
comp=Z,2.2nm,0.8s,baz=60,slow=7.2
PAB San Pablo 63.70 302 P **P** **08 21 50.1 -0.2**
PAB pmax pmax
comp=Z,12nm,1.3s
PAB San Pablo 63.70 302 P **P** **08 21 50.1 -0.2**
PAB IAmb IAmb 08 21 51.5
comp=Z,12nm,1.3s
SUMG Summit 66.45 343 *i* P **P** **08 22 09.2 +1.2**
comp=Z,24nm,0.8s
SUMG Summit 66.45 343 *i* P **P** **08 22 09.2 +1.2**
SUMG pmax pmax
comp=Z,24nm,0.8s
SUMG Summit 66.45 343 P **P** **08 22 07.8 -0.1**
PSA00 Pilbara Seismi 67.81 136 P **P** **08 22 17.9 +1.1**
FITZ Fitzroy Crossi 68.82 129 P **P** **08 22 23.3 +0.1**
FITZ IAmb IAmb 08 22 26.6
comp=Z,13nm,1.1s
TOA0 Torodi Ar. Sit 70.19 273 P **P** **08 22 31.3 -0.5**
TOA0 IAmb IAmb 08 22 34.7
comp=Z,9.7nm,0.8s
TORD Torodi Ar. Bea 70.19 273 P **P** **08 22 31.2 -0.6**
comp=Z,8.2nm,0.9s,baz=41,slow=5.2,SNR=13
TORD Torodi Ar. Bea 70.19 273 P **P** **08 22 31.0 -0.8**
TOLK Toolik Lake Re 73.84 16 P **P** **08 22 53.0 0.0**
COLD Coldfoot 74.79 17 P **P** **08 22 58.1 -0.3**
COLD IAmb IAmb 08 23 00.3
comp=Z,11nm,1.0s
IMAR Indian Mountai 74.81 19 P **P** **08 22 58.7 +0.2**
WB0 Warramunga Arr 75.91 125 P **P** **08 23 04.7 -0.8**
BMAR Burnt Mountain 75.95 15 P **P** **08 23 05.0 -0.1**
WRA Warramunga Arr 75.99 125 P **P** **08 23 06.0 0.0**
comp=Z,6.9nm,0.8s,baz=324,slow=6.0,SNR=28
WRA Warramunga Arr 75.99 125 P **P** **08 23 04.7 -1.3**
WRA Warramunga Arr 75.99 125 P **P** **08 23 04.7 -1.3**
WRAB Tennant Creek 75.99 125 P **P** **08 23 05.9 -0.1**
WRAB pmax pmax
comp=Z,17nm,1.0s
WRAB Tennant Creek 75.99 125 P **P** **08 23 05.9 -0.1**
WB2 Warramunga Arr 76.00 125 P **P** **08 23 06.1 +0.1**
WR0 Warramunga Arr 76.14 125 P **P** **08 23 06.5 -0.3**
WR0 IAmb IAmb 08 23 10.3
comp=Z,9.2nm,0.9s
TTA Tatalina 76.38 22 P **P** **08 23 08.7 +1.0**
TTA pmax pmax
comp=Z,3.0nm,0.8s
TTA Tatalina 76.38 22 P **P** **08 23 08.7 +1.0**
BPAW Bear Paw Mtn. 77.00 19 P **P** **08 23 11.4 +0.3**
BPAW IAmb IAmb 08 23 21.9
comp=Z,8.5nm,0.9s
MDM Murphy Dome 77.07 18 P **P** **08 23 12.1 +0.6**
MDM IAmb IAmb 08 23 13.2
comp=Z,10nm,0.9s
COLA College 77.24 18 P **P** **08 23 13.0 +0.7**
COLA pmax pmax
comp=Z,18nm,1.0s
COLA College 77.24 18 P **P** **08 23 13.0 +0.7**
INK Inuvik 77.30 11 P **P** **08 23 13.2 +0.6**
comp=Z,7.3nm,0.9s,baz=356,slow=6.1,SNR=13
INK Inuvik 77.30 11 P **P** **08 23 12.8 +0.2**
INK pmax pmax
comp=Z,11nm,1.0s
INK Inuvik 77.30 11 P **P** **08 23 12.8 +0.2**
INK IAmb IAmb 08 23 14.3
comp=Z,11nm,1.0s
CCB Clear Creek Bu 77.43 18 P **P** **08 23 13.3 -0.2**
KTH Kantishna Hill 77.44 20 P **P** **08 23 14.1 +0.5**
KTH IAmb IAmb 08 23 15.1
comp=Z,9.6nm,0.9s
WRH Wood River Hil 77.50 18 P **P** **08 23 13.8 -0.1**
WRH IAmb IAmb 08 23 14.7
comp=Z,6.2nm,0.8s
IL31 77.57 17 P **P** **08 23 13.9 -0.3**
ILAR Eielson Array 77.57 17 P **P** **08 23 13.8 -0.4**
comp=Z,4.1nm,0.8s,baz=311,slow=4.8,SNR=38
ILAR LR LR 09 02 25.4
comp=Z,66nm,19.5s,baz=318,slow=40
ILAR Eielson Array 77.57 17 P **P** **08 23 12.9 -1.3**
PPLA Purkeypile 77.58 21 P **P** **08 23 15.0 +0.5**
PPLA IAmb IAmb 08 23 22.2
comp=Z,14nm,1.4s
BOSA Boshof 77.58 224 P **P** **08 23 15.3 +0.4**
comp=Z,4.7nm,0.6s,baz=45,slow=2.0,SNR=8.8
BOSA LR LR 08 54 51.3
comp=Z,46nm,20.5s,baz=89,slow=34
BOSA Boshof 77.58 224 P **P** **08 23 15.7 +0.8**
BOSA pmax pmax
comp=Z,29nm,1.5s
BOSA Boshof 77.58 224 P **P** **08 23 15.7 +0.8**
C36M Paulatuk 77.59 7 P **P** **08 23 13.8 -0.4**
C36M IAmb IAmb 08 23 14.7
comp=Z,13nm,0.9s
TRF Thorofare Moun 77.70 20 P **P** **08 23 15.8 +0.6**
HDA Harding Lake 77.84 18 P **P** **08 23 15.0 -0.7**
MCK McKinley 77.86 19 P **P** **08 23 16.2 +0.3**
MCK pmax pmax
comp=Z,5.0nm,1.0s
MCK McKinley 77.86 19 P **P** **08 23 16.2 +0.3**
SVW2 Sparrevohn 77.86 23 P **P** **08 23 16.7 +0.8**
RND Reindeer 78.14 19 P **P** **08 23 17.1 -0.4**
RND pmax pmax
comp=Z,18nm,1.5s
RND Reindeer 78.14 19 P **P** **08 23 17.1 -0.4**
RND IAmb IAmb 08 23 18.2
comp=Z,18nm,1.5s
AS31 Alice Springs 78.20 128 P **P** **08 23 17.1 -1.3**
ASAR Alice Springs 78.20 128 P **P** **08 23 18.4 0.0**
comp=Z,5.7nm,0.9s,baz=316,slow=5.6,SNR=26
ASAR Alice Springs 78.20 128 P **P** **08 23 18.1 -0.2**
SKT Skwentna 78.48 21 P **P** **08 23 19.2 -0.1**
SKT IAmb IAmb 08 23 20.3
comp=Z,19nm,1.1s
RIDG Independent Ri 78.93 17 P **P** **08 23 21.7 -0.1**
RIDG IAmb IAmb 08 23 22.7
comp=Z,18nm,1.3s
EGAK Eagle 78.94 15 P **P** **08 23 21.8 0.0**
SUA Susitna One 79.11 21 P **P** **08 23 23.3 +0.3**
SUA IAmb IAmb 08 23 30.8
comp=Z,12nm,1.0s
RSO Redoubt South 79.26 22 P **P** **08 23 24.5 +0.6**
PAX Paxson 79.40 18 P **P** **08 23 24.5 0.0**
PAX pmax pmax
comp=Z,7.0nm,0.8s
PAX Paxson 79.40 18 P **P** **08 23 24.4 0.0**
PAX IAmb IAmb 08 23 26.6
comp=Z,7.2nm,0.8s
GHO Glory Hole Cre 79.41 20 P **P** **08 23 24.9 +0.3**
GHO IAmb IAmb 08 23 25.5
comp=Z,7.6nm,0.8s
PMR Palmer 79.50 20 P **P** **08 23 24.5 -0.3**
PMR pmax pmax
comp=Z,5.0nm,0.7s
PMR Palmer 79.50 20 P **P** **08 23 24.5 -0.3**
SML Sawmill 79.56 20 P **P** **08 23 25.3 0.0**
SCM Sheep Creek Mo 79.82 19 P **P** **08 23 26.6 -0.2**
SCM pmax pmax
comp=Z,10.0nm,0.7s
SCM Sheep Creek Mo 79.82 19 P **P** **08 23 26.6 -0.2**
SCM IAmb IAmb 08 23 28.0
comp=Z,9.6nm,0.7s
KNK Knik Glacier 79.84 20 P **P** **08 23 27.1 +0.3**
KNK IAmb IAmb 08 23 32.2
comp=Z,11nm,0.9s
MENT Mentasta 79.88 17 P **P** **08 23 28.0 +1.0**
BRLK Bradley Lake 80.39 22 P **P** **08 23 29.6 -0.3**
BRLK IAmb IAmb 08 23 30.6
comp=Z,12nm,0.8s
CNPM China Poot 80.47 22 P **P** **08 23 29.9 -0.3**
CNPM IAmb IAmb 08 23 39.2
comp=Z,7.2nm,0.8s
KLU Klutina 80.49 19 P **P** **08 23 31.0 +0.6**
SEW Seward 80.58 21 P **P** **08 23 30.9 +0.2**
GLI Glacier Island 80.66 20 P **P** **08 23 31.4 +0.2**
GLI IAmb IAmb 08 23 32.1
comp=Z,7.7nm,0.8s
FID Port Fidalgo 80.94 20 P **P** **08 23 32.5 -0.2**
FID IAmb IAmb 08 23 34.0
comp=Z,6.5nm,0.7s
GLB Gilahina Butte 81.11 18 P **P** **08 23 33.7 0.0**
HIN Hinchinbrook I 81.22 20 P **P** **08 23 35.5 +1.2**
HIN IAmb IAmb 08 23 39.4
comp=Z,18nm,1.0s
EYAK Cordova Ski Ar 81.31 20 P **P** **08 23 35.4 +0.8**
EYAK IAmb IAmb 08 23 36.7
comp=Z,9.9nm,0.8s
KDAK Kodiak Island 81.36 24 P **P** **08 23 35.7 +0.8**
comp=Z,13nm,0.7s,baz=306,slow=3.6,SNR=17
KDAK Kodiak Island 81.36 24 P **P** **08 23 35.4 +0.4**
KDAK pmax pmax
comp=Z,21nm,1.0s

KDAK	**Kodiak Island**	**81.36**	**24**	P	**P**	**08 23 35.4**	**+0.4**
VRDI	**Verde Repeater**	**81.38**	**18**	P	**P**	**08 23 35.8**	**+0.5**
VRDI				IAmb	IAmb	08 23 37.1	
	comp=Z,10nm,1.0s						
OHAK	**Old Harbor**	**81.54**	**25**	P	**P**	**08 23 36.9**	**+1.0**
OHAK				IAmb	IAmb	08 23 37.9	
	comp=Z,19nm,1.1s						
BALM	**Baldy**	**81.83**	**18**	P	**P**	**08 23 39.0**	**+1.4**
BALM				IAmb	IAmb	08 23 45.4	
	comp=Z,6.7nm,0.8s						
BARN	**Barnard Glacie**	**81.99**	**18**	P	**P**	**08 23 39.0**	**+0.5**
BARN				IAmb	IAmb	08 23 40.6	
	comp=Z,8.6nm,1.1s						
CTGM	**Chitina Glacie**	**82.16**	**18**	P	**P**	**08 23 40.2**	**+0.8**
CTGM				IAmb	IAmb	08 23 40.9	
	comp=Z,5.7nm,0.9s						
HYT	**Haines Junctio**	**83.21**	**16**	P	**P**	**08 23 46.1**	**+1.3**
HYT				IAmb	IAmb	08 23 50.6	
	comp=Z,6.4nm,1.0s						
CTA	**Charters Tower**	**84.73**	**118**	P	**P**	**08 23 53.2**	**+0.3**
	comp=Z,10nm,0.9s,baz=324,slow=4.9,SNR=7.7						
CTAO	**Charters Tower**	**84.73**	**118**	P	**P**	**08 23 52.9**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,14nm,0.9s						
CTAO	**Charters Tower**	**84.73**	**118**	P	**P**	**08 23 52.9**	**-0.1**
SKAG	**Skagway**	**84.93**	**16**	P	**P**	**08 23 54.6**	**+1.2**
SKAG				IAmb	IAmb	08 23 55.6	
	comp=Z,7.3nm,1.0s						
YKA	**Yellowknife Ar**	**85.17**	**5**	P	**P**	**08 23 54.5**	**0.0**
	comp=Z,5.7nm,0.8s,baz=347,slow=5.4,SNR=34						
DLBC	**Dease Lake**	**86.39**	**14**	P	**P**	**08 24 04.5**	**+0.7**
	comp=Z,3.1nm,1.0s,baz=326,slow=5.3,SNR=6.5						
DLBC	**Dease Lake**	**86.99**	**14**	P	**P**	**08 24 04.6**	**+0.8**
STKA	**Stephens Creek**	**88.72**	**129**	P	**P**	**08 24 12.4**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=353,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**88.72**	**129**	P	**P**	**08 24 12.6**	**+0.4**
STKA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
STKA	**Stephens Creek**	**88.72**	**129**	P	**P**	**08 24 12.6**	**+0.4**
ULM	**Lac du Bonnet**	**97.56**	**355**	LR	LR	09 12 10.6	
	comp=Z,68nm,19.6s,baz=307,slow=38						
TXAR	**Lajitas Array**	**118.74**	**360**	PKP	**PKiKP**	**08 30 08.1**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=318,slow=1.2,SNR=2.6						
TXAR	**Lajitas Array**	**118.74**	**360**		**PKPdf**	**08 30 07.0**	**-0.4**
VNA3	**Neumayer Olymp**	**118.91**	**202**	PKPdf	**PKiKP**	**08 30 09.1**	**+2.9**
QSPA	**South Pole Qui**	**122.06**	**180**		**PKPdf**	**08 30 11.5**	**-0.9**
CPUP	**Villa Florida**	**139.39**	**266**	PKP	**PKPdf**	**08 30 46.4**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=157,slow=5.3,SNR=3.6						
CPUP	**Villa Florida**	**139.39**	**266**		**PKPdf**	**08 30 46.1**	**-0.1**
EFI	**East Falkland**	**141.69**	**226***c*	*i*PKIKP	**PKiKP**	**08 30 56.1**	**+3.7**
EFI				pmax	pmax		
	comp=Z,118nm,2.5s						
LVC	**Limon Verde**	**147.80**	**279**	PKP2	**PKPbc**	**08 31 04.2**	**-0.2**
LVC	**Limon Verde**	**147.80**	**279**		**PKPbc**	**08 31 04.2**	**-0.2**
TA01	**Diego Aracena**	**147.94**	**283**	PKPbc	**PKPbc**	**08 31 03.6**	**-0.8**
TA01					**pPKPdf**	**08 31 08.0**	**+0.5**
GO02	**Mina Guanaco**	**149.37**	**275**	PKPbc	**PKPbc**	**08 31 08.2**	**-0.2**
GO02					**pPKPbc**	**08 31 13.9**	**-0.5**
AC02	**Maricunga**	**149.55**	**271**		**PKPbc**	**08 31 08.6**	**-0.4**
GO03	**Copiap**	**150.72**	**270**		**PKiKP**	**08 31 12.0**	**+0.1**
AC05	**El Transito**	**151.09**	**268**		**PKiKP**	**08 31 12.7**	**-0.1**
AC05				PKPab	**PKPab**	**08 31 19.8**	**-0.1**
CO01	**Juntas del Tor**	**151.22**	**266**		**PKPbc**	**08 31 11.7**	**-0.9**
LCO	**Las Campanas**	**151.50**	**268**	PKIKP	**PKiKP**	**08 31 13.8**	**+0.1**
LCO	**Las Campanas**	**151.50**	**268**		**PKiKP**	**08 31 13.8**	**+0.1**
GO04	**Tololo Observa**	**151.86**	**265**		**PKiKP**	**08 31 14.4**	**0.0**
CO03	**El Pedregal**	**151.91**	**264**		**PKiKP**	**08 31 14.5**	**+0.2**
VA03	**San Esteban**	**152.12**	**260**		**PKiKP**	**08 31 15.6**	**+0.9**
PLCA	**Paso Flores**	**152.19**	**243**	PKPbc	**PKiKP**	**08 31 15.4**	**+0.9**
	comp=Z,8.4nm,1.1s,baz=146,slow=4.3,SNR=9.2						
PLCA	**Paso Flores**	**152.19**	**243**	PKIKP	**PKiKP**	**08 31 16.3**	**+1.8**
PLCA						08 31 24.7	
PLCA	**Paso Flores**	**152.19**	**243**		**PKiKP**	**08 31 16.3**	**+1.8**
PLCA				PKPab	**PKPab**	**08 31 24.7**	**+0.7**
BO02	**Sierra Bellavi**	**152.53**	**256**	PKPdf	**PKPdf**	**08 31 07.2**	**-1.1**
BO02					**sPKPdf**	**08 31 16.0**	**-0.5**
BO02				PKPab	**PKPab**	**08 31 26.9**	**+1.3**
MT02	**Curacav**	**152.67**	**259**	PKPdf	**PKPdf**	**08 31 06.6**	**-1.8**
MT02					**sPKPdf**	**08 31 16.5**	**-0.1**
MT02				PKPab	**sPKPbc**	**08 31 23.7**	**0.0**

*ISN **21** 08:18:16.2±0.7, 32.°80N×47.°42E, h7km±4km, ML2.8*
*TEH **21** 08:18:17.6, 32.°78N×47.°41E, h12km, ML2.9*
ISC 21 08:18:17.7±1.5, **32.°81N**±0.°05×**47.°42E**±0.°05, **h9**km±11km, **n15**, σ0**974**/18, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.18**	**223**	*e*Pg	**Pg**	**08 18 21.4**	**+0.1**
DHL1				*e*		08 18 23.0	
IKFM	**Kafar-mosalman**	**0.80**	**26**	*e*Pg	**Pn**	**08 18 34.2**	**-0.9**
IKMR	**Kamar-syah**	**1.07**	**48**	*e*Pg	**Pn**	**08 18 38.4**	**-0.4**
IDOB	**Doab**	**1.16**	**33**	*e*Pg	**Pn**	**08 18 40.5**	**+0.2**
IDOB				*e*		08 19 02.1	
IBDR	**Badra**	**1.29**	**284**	*e*Pg	**Pn**	**08 18 41.0**	**-0.9**
IBDR				*e*Sg	**Sn**	**08 18 59.0**	**-0.3**
IBDR				AML	AML	08 19 08.3	
	comp=N,202nm,0.8s						
IBDR				AML	AML	08 19 08.7	
	comp=E,191nm,0.6s						
IKOM	**Komasi**	**1.36**	**3**	*e*Pg	**Pg**	**08 18 44.3**	**+0.5**
IKOM				*e*		08 18 48.6	
BMDN	**Meydan**	**1.46**	**53**	*e*Pg	**Pg**	**08 18 46.1**	**+0.5**
BMDN				*e*		08 19 15.0	
KCHF	**Cheshme Sefid,**	**1.50**	**348**	*e*Pg	**Pg**	**08 18 47.1**	**+0.7**
KCHF				*e*		08 19 16.0	
IGHG	**Ghaleghazi**	**1.67**	**335**	*e*Pg	**Pg**	**08 18 49.4**	**-0.4**
IBZA	**Bozab**	**1.69**	**12**	*e*Pg	**Pg**	**08 18 51.2**	**+1.0**
IBZA				*e*		08 18 55.8	
HSAM	**Samen**	**1.71**	**35**	*e*Pn	**Pg**	**08 18 49.7**	**-0.8**
IVIS	**Veis**	**1.78**	**345**	*e*Pn	**Pg**	**08 18 50.9**	**-0.8**
IDHR	**Dehrash**	**2.07**	**336**	*e*Pg	**Pg**	**08 18 57.5**	**+0.1**
IDHR				*e*		08 19 35.1	
NSR	**Nassriya**	**2.10**	**212**	*e*Pn	**Pn**	**08 18 53.0**	**0.0**
NSR				*e*Sn	**Sn**	**08 19 19.0**	**-0.3**
BHD	**Baghdad**	**2.60**	**281**	*e*Pn	**Pn**	**08 19 00.0**	**+0.2**
BHD				*e*Sn	**Sn**	**08 19 33.0**	**+1.5**

*NNC **21** 08:30:26.0±7.3, 37.°82N×72.°25E, h0km, mb4.1, mpv3.7,*
Error ellipse: s-maj=55.7km s-min=47.1km az=169.0
ISC 21 08:30:26.1±4.8, **37.°7N**±0.°3×**72.°2E**±0.°2, **h10**km, **n9,**
σ1**949**/12, **3C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.58**	**14**	P	**Pn**	**08 31 37.0**	**+1.2**
	SNR=88						
UCH	**Uchtor**	**4.86**	**21**	P	**Pn**	**08 31 40.5**	**+0.7**
	SNR=8.1						
KZA	**Kyzart**	**4.96**	**27**	P	**Pn**	**08 31 41.3**	**+0.2**
	SNR=5.3						
EKS2	**Erkin-Say**	**5.11**	**13**	P	**Pn**	**08 31 44.5**	**+1.7**
	SNR=6.1						
AAK	**Ala-Archa**	**5.24**	**19**	P	**Pn**	**08 31 45.7**	**+1.0**
	SNR=7.2						
AAK	**Ala-Archa**	**5.24**	**19**	⇑P	**Pn**	**08 31 44.6**	**-0.1**
	7.7nm,0.7s						
AAK				⇓S	**Sn**	**08 32 47.3**	**+2.1**
	14nm,0.8s						
KK31	**Karatay Array**	**5.56**	**347**	⇓P	**Pn**	**08 31 48.5**	**-0.4**
	3.2nm,0.5s,baz=157,slow=11,SNR=32						
KK31				⇓S	**Sn**	**08 32 52.1**	**-0.8**
	7.2nm,0.5s,baz=154,slow=18,SNR=18						
TKM2	**Tokmak 2**	**5.83**	**25**	⇑P	**Pn**	**08 31 52.8**	**0.0**
	SNR=11						
TKM2	**Tokmak 2**	**5.83**	**25**	⇑P	**Pn**	**08 31 51.4**	**-1.4**
	5.7nm,0.6s						
TKM2				⇑S	**Sn**	**08 32 57.2**	**-2.6**
	2.5nm,0.6s						

*ISN **21** 08:37:39.3±0.8, 32.°67N×47.°76E, h14km±5km, ML2.9*
*TEH **21** 08:37:40.3, 32.°71N×47.°79E, h12km, ML3.1*
ISC 21 08:37:40.6±1.3, **32.°63N**±0.°04×**47.°76E**±0.°03, **h10**km±11km, **n30**, σ1**962**/37, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.41**	**278**	*e*Pg	**Pg**	**08 37 48.9**	**+0.3**
IKFM	**Kafar-mosalman**	**0.90**	**5**	*e*Pg	**Pg**	**08 37 56.1**	**-1.8**
IKFM				*e*	**Sn**	**08 38 11.9**	**-0.4**
IKMR	**Kamar-syah**	**1.03**	**30**	*e*Pg	**Pg**	**08 37 58.4**	**-2.0**
IKMR				*e*		08 38 03.6	
IDOB	**Doab**	**1.21**	**17**	*e*Pg	**Pb**	**08 38 02.4**	**-1.3**
BMDN	**Meydan**	**1.37**	**40**	*e*	**Sg**	**08 38 28.6**	**+3.8**
BMDN				*e*Pg	**Pn**	**08 38 05.4**	**-0.6**
AHWZ	**Ahwaz**	**1.50**	**150**	*e*Pg	**Pn**	**08 38 10.5**	**+3.0**
IKOM	**Komasi**	**1.56**	**352**	*e*		08 38 38.4	
IKOM				*e*Pg	**Pn**	**08 38 09.1**	**+0.6**
IBDR	**Badra**	**1.61**	**288**	*e*Pg	**Pn**	**08 38 08.0**	**-1.1**
IBDR				*e*Sg	**Sn**	**08 38 30.0**	**0.0**
IBDR				AML	AML	08 38 36.5	
	comp=E,131nm,0.7s						
IBDR				AML	AML	08 38 37.4	
	comp=N,190nm,0.8s						
HSAM	**Samen**	**1.73**	**24**	*e*Pg	**Pn**	**08 38 12.0**	**+1.0**
HSAM				*e*		08 38 14.2	
KCHF	**Cheshme Sefid,**	**1.75**	**340**	*e*Pg	**Pn**	**08 38 12.2**	**+1.0**
KCHF				*e*	**Sg**	**08 38 39.5**	**+2.6**
KER	**Kermanshah**	**1.83**	**344**	*e*Pn	**Pn**	**08 38 13.0**	**+0.7**
IBZA	**Bozab**	**1.84**	**3**	*e*Pg	**Pn**	**08 38 13.9**	**+1.4**
IGHG	**Ghaleghazi**	**1.97**	**330**	*e*Pg	**Pn**	**08 38 16.9**	**+2.7**
IGHG				*e*	Sg	08 38 49.6	+5.7
IVIS	**Veis**	**2.04**	**338**	*e*Pn	**Pn**	**08 38 15.5**	**+0.4**
IVIS				*e*	Sg	08 38 50.3	+4.1
NSR	**Nassriya**	**2.12**	**221**	*e*Pn	**Pn**	**08 38 16.0**	**-0.1**
NSR				*e*Sn	**Sn**	**08 38 42.0**	**-0.5**
IALM	**Almabolaq**	**2.25**	**9**	*e*Pn	**Pn**	**08 38 20.0**	**+1.8**
IDHR	**Dehrash**	**2.36**	**331**	*e*Pn	**Pn**	**08 38 19.5**	**-0.1**
IDHR				*e*	Sg	08 39 01.0	+4.5
HAGD	**Aghdareh**	**2.47**	**27**	*e*Pn	**Pn**	**08 38 23.0**	**+1.8**
HAGD				*e*	Sg	08 39 04.2	+4.1
JHBN	**Jahan bin**	**2.49**	**98**	*e*Pn	**Pn**	**08 38 22.8**	**+1.3**
JHBN				*e*		08 39 11.6	
HSRG	**Sareghieh**	**2.64**	**9**	*e*Pn	**Pn**	**08 38 26.0**	**+2.4**
HSRG				*e*		08 39 14.7	
IPIR	**Pirpir**	**2.64**	**88**	*e*Pn	**Pn**	**08 38 25.0**	**+1.4**
IPIR				*e*	**Sg**	**08 39 03.4**	**-2.2**
ROKH	**ROKH**	**2.78**	**95**	*e*Pn	**Pn**	**08 38 26.8**	**+1.3**
ROKH				*e*		08 38 35.8	
BHD	**Baghdad**	**2.91**	**284**	*e*Pn	**Pn**	**08 38 27.0**	**0.0**
BHD				*e*Sn	**Sn**	**08 39 02.0**	**0.0**
IKLH	**Kolahrood**	**3.29**	**77**	*e*Pn	**Pn**	**08 38 33.7**	**+1.3**
IKLH				*e*	Sg	08 39 28.1	+2.0
IRAZ	**Razeghan**	**3.31**	**32**	*e*Pn	**Pn**	**08 38 34.8**	**+2.2**
QABG	**Abgarm-Qazvin**	**3.42**	**26**	*e*Pn	**Pn**	**08 38 35.5**	**+1.2**
IQOM	**Qom**	**3.54**	**50**	*e*Pn	**Pn**	**08 38 36.3**	**+0.5**
KLNJ	**Kolanjah**	**3.64**	**115**	*e*Pn	**Pn**	**08 38 38.2**	**+0.8**
QSDN	**Sirdan**	**4.04**	**16**	*e*Pn	**Pn**	**08 38 43.3**	**+0.6**
IVRN	**Varamin**	**4.06**	**53**	*e*Pn	**Pn**	**08 38 44.3**	**+1.4**

*GUC **21** 08:48:51.5±0.5, 24.°18S×67.°24W, h225km±10km, ML4.2*
*IDC **21** 08:48:54.2±1.2, 23.°77S×66.°99W, h209km±12km, mb2.8/2, mb1 3.1/7, mb1mx3.0/32, mbtmp3.4/7, Error ellipse:*
s-maj=22.0km s-min=19.3km az=41.0
ISC 21 08:48:51.4±0.9, **24.°13S**±0.°06×**67.°06W**±0.°08, **h200**km, **n17,**
σ1**964**/24, **5C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.27**	**311**	P	**Pn**	**08 49 34.1**	**+0.8**
	9.2nm,0.3s,baz=116,slow=8.1,SNR=236						
LVC				S	**Sn**	**08 50 06.7**	**+1.0**
	48nm,0.3s,baz=309,slow=19,SNR=16						
LVC	**Limon Verde**	**2.27**	**311**	*e*P	**Pn**	**08 49 34.1**	**+0.8**
LVC				*i*S	**Sn**	**08 50 06.3**	**+0.6**
GO02	**Mina Guanaco**	**2.52**	**245**	⇑*i*P	**Pn**	**08 49 36.1**	**+0.2**
GO02				*i*S	**Sn**	**08 50 10.3**	**-0.1**
GO02				IAML		08 50 13.9	
	comp=N,1μm,0.1s						
PB14	**IPOC Station P**	**3.09**	**260**	*e*P	**Pn**	**08 49 42.4**	**0.0**
PB14				*e*S	**Sn**	**08 50 20.8**	**-1.4**
PB14				IAML		08 50 23.2	
	comp=E,157nm,0.4s						
PB05	**IPOC Station P**	**3.15**	**293**	⇑*i*P	**Pn**	**08 49 43.6**	**+0.6**
PB05				*i*S	**Sn**	**08 50 22.0**	**-1.2**
PB05				IAML		08 50 28.6	
	comp=N,199nm,0.2s						
PB03	**IPOC Station P**	**3.23**	**309**	⇑*i*P	**Pn**	**08 49 44.3**	**+0.4**
PB03				*i*S	**Sn**	**08 50 24.3**	**-0.7**
PB03				IAML		08 50 26.0	
	comp=N,363nm,0.2s						
PB10	**IPOC Station P**	**3.26**	**280**	⇑*i*P	**Pn**	**08 49 44.6**	**+0.5**
PB10				*i*S	**Sn**	**08 50 24.3**	**-1.0**
PB10				IAML		08 50 29.0	
	comp=E,185nm,0.5s						
AC02	**Maricunga**	**3.28**	**214**	*e*P	**Pn**	**08 49 44.7**	**-0.1**
AC01	**Pan de Azucar**	**3.78**	**237**	⇑*i*P	**Pn**	**08 49 49.2**	**-1.3**
AC01				*i*S	**Sn**	**08 50 34.0**	**-2.9**
AC01				IAML		08 50 35.5	
	comp=N,200nm,0.5s						
LPAZ	**La Paz**	**7.87**	**352**	P	**Pn**	**08 50 43.5**	**0.0**
	comp=N,0.4nm,0.3s,baz=138,slow=6.6,SNR=15						
CPUP	**Villa Florida**	**9.08**	**106**	P	Pn	08 51 03.3	+4.6
	comp=N,0.3nm,0.3s,baz=278,slow=11,SNR=6.5						
SIV	**San Ignacio**	**9.86**	**36**	P	**Pn**	**08 51 06.9**	**-2.1**
	comp=N,0.3nm,0.3s,baz=234,slow=9.4,SNR=5.6						
PLCA	**Paso Flores**	**16.81**	**189**	P	**Pn**	**08 52 40.9**	**+5.5**
	comp=N,0.1nm,0.3s,baz=348,slow=11,SNR=5.0						
TXAR	**Lajitas Array**	**63.75**	**325**	P	**P**	**08 59 03.1**	**+1.0**
	comp=N,0.2nm,0.8s,baz=145,slow=9.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**76.67**	**69**	P	**P**	**09 00 20.0**	**-0.7**
	comp=N,0.5nm,1.0s,baz=257,slow=4.4,SNR=4.2						
WRA	**Warramunga Arr**	**131.49**	**207**	PKP	**PKiKP**	**09 07 41.3**	**-0.6**
	comp=N,0.5nm,1.0s,baz=156,slow=1.8,SNR=6.0						
MKAR	**Makanchi Array**	**146.66**	**40**	PKPbc	**PKPab**	**09 08 09.9**	**-1.1**
	comp=N,1.0nm,0.6s,baz=318,slow=1.6,SNR=5.6						

*ISN **21** 08:49:44.7±1.5, 32.°58N×47.°80E, h15km±8km, ML2.5*
*TEH **21** 08:49:45.9, 32.°58N×47.°79E, h9km, ML3.0*
ISC 21 08:49:46.8±0.9, **32.°54N**±0.°04×**47.°75E**±0.°04, **h10**km, **n27,**
σ1**961**/30, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.42**	**290**	*e*Pg	**Pg**	**08 49 55.1**	**0.0**
IKFM	**Kafar-mosalman**	**0.99**	**5**	*e*		08 50 25.5	
IKFM				*e*Pg	**Pg**	**08 50 04.3**	**-1.6**
IKMR	**Kamar-syah**	**1.11**	**28**	*e*		08 50 09.2	
IKMR				*e*Pg	**Pg**	**08 50 05.9**	**-2.4**
IDOB	**Doab**	**1.30**	**16**	*e*Pg	**Pn**	**08 50 09.8**	**-1.5**
AHWZ	**Ahwaz**	**1.42**	**147**	*e*Pg	**Pg**	**08 50 13.3**	**-0.9**
BMDN	**Meydan**	**1.45**	**38**	*e*Pg	**Pn**	**08 50 12.5**	**-0.8**
BMDN				*e*		08 50 38.3	
IBDR	**Badra**	**1.63**	**291**	*e*Pg	**Pn**	**08 50 14.0**	**-1.7**
IBDR				*e*Sg	**Sn**	**08 50 37.0**	**+0.3**
IBDR				AML	AML	08 50 45.2	
	comp=E,78nm,0.6s						
IBDR				AML	AML	08 50 56.1	
	comp=N,72nm,0.4s						
IKOM	**Komasi**	**1.65**	**353**	*e*Pg	**Pb**	**08 50 16.9**	**-0.5**
IKOM				*e*		08 50 46.1	
HSAM	**Samen**	**1.82**	**23**	*e*Pg	**Pb**	**08 50 19.8**	**-0.6**
HSAM				*e*		08 50 22.5	
KCHF	**Cheshme Sefid,**	**1.83**	**341**	*e*Pg	**Pb**	**08 50 20.5**	**-0.1**
KCHF				*e*	**Sg**	**08 50 48.4**	**+2.6**
KER	**Kermanshah**	**1.91**	**345**	*e*Pn	**Pb**	**08 50 21.0**	**-1.0**
IBZA	**Bozab**	**1.93**	**3**	*e*Pg	**Pb**	**08 50 21.7**	**-0.6**
IBZA				*e*		08 50 55.8	
IGHG	**Ghaleghazi**	**2.04**	**331**	*e*Pn	**Pn**	**08 50 21.7**	**+0.2**
IGHG				*e*		08 51 04.8	
NSR	**Nassriya**	**2.05**	**222**	*e*Pn	**Pn**	**08 50 21.0**	**-0.3**
NSR				*e*Sn	**Sn**	**08 50 46.0**	**-0.9**
IVIS	**Veis**	**2.12**	**340**	*e*	Sg	08 51 03.6	+8.6
IALM	**Almabolaq**	**2.34**	**8**	*e*Pn	**Pn**	**08 50 26.3**	**+0.6**
IDHR	**Dehrash**	**2.44**	**333**	*e*	**Sg**	**08 51 10.2**	**+5.0**
JHBN	**Jahan bin**	**2.49**	**96**	*e*Pn	**Pn**	**08 50 28.6**	**+0.9**
JHBN				*e*		08 51 12.6	
HAGD	**Aghdareh**	**2.56**	**27**	*e*Pn	**Pn**	**08 50 28.6**	**0.0**
IPIR	**Pirpir**	**2.66**	**86**	*e*Pn	**Pn**	**08 50 31.1**	**+1.1**
IPIR				*e*		08 51 19.6	
HSRG	**Sareghieh**	**2.73**	**9**	*e*Pn	**Pb**	**08 50 32.9**	**-3.1**
HSRG				*e*		08 51 21.8	
BHD	**Baghdad**	**2.93**	**285**	*e*Pn	**Pn**	**08 50 33.0**	**-0.4**
BHD				*e*Sn	**Sn**	**08 51 09.0**	**+0.4**
BHD				AML	AML	08 51 31.4	
	comp=E,27nm,0.9s						
IKLH	**Kolahrood**	**3.31**	**75**	*e*Pn	**Pn**	**08 50 40.7**	**+1.7**
IKLH				*e*		08 51 31.0	
IRAZ	**Razeghan**	**3.39**	**32**	*e*Pn	**Pn**	**08 50 41.4**	**+1.4**
QABG	**Abgarm-Qazvin**	**3.51**	**25**	*e*Pn	**Pn**	**08 50 41.6**	**-0.1**
KLNJ	**Kolanjah**	**3.61**	**114**	*e*Pn	**Pn**	**08 50 43.8**	**+0.6**
KLNJ				*e*		08 51 55.2	
IVRN	**Varamin**	**4.12**	**52**	*e*Pn	**Pn**	**08 50 51.7**	**+1.7**

*IDC **21** 08:55:31.5±1.6, 2.°06N×126.°74E, h0km, mb3.8/5,*
mb1 3.9/5, mb1mx3.6/54, mbtmp3.8/5, MS3.9/2, Ms1 3.9/2,
ms1mx2.9/55, Error ellipse: s-maj=118.2km s-min=19.3km
az=69.0
*NEIC **21** 08:55:33.4±1.2, 1.°98N±0.°06×126.°47E±0.°09, h10km±2km,*
mb4.1/10, Error ellipse: s-maj=16.0km s-min=9.6km
az=81.0
ISC 21 08:55:38.3±1.0, **1.°8N**±0.°1×**126.°4E**±0.°1, **h47**km, **n20,**
σ0**971**/19, **mb4.0/8, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.45**	**135**	Pn	**Pn**	**08 56 02.8**	**+0.7**
LUWI	**Luwuk**	**4.56**	**232**	Pn	**Pn**	**08 56 45.2**	**+0.4**
MTN	**Manton Dam**	**15.31**	**162**	Pn	**Pn**	**08 59 10.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**19.79**	**182**	P	**Pn**	**09 00 07.4**	**+0.7**
	0.6nm,0.3s,baz=12,slow=12,SNR=6.7						
FITZ	**Fitzroy Crossi**	**19.79**	**182**	P	**Pn**	**09 00 06.4**	**-0.3**
FITZ				IAmb	IAmb	09 00 06.8	
	comp=Z,11nm,1.6s						
WB0	**Warramunga Arr**	**22.85**	**160**	P	**P**	**09 00 37.4**	**-0.4**
WB0				IAmb	IAmb	09 00 38.7	
	comp=Z,7.1nm,1.2s						
WRA	**Warramunga Arr**	**22.99**	**160**	P	**P**	**09 00 38.6**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=338,slow=10,SNR=51						
WRA	**Warramunga Arr**	**22.99**	**160**	P	**P**	**09 00 37.4**	**-1.9**
WB2	**Warramunga Arr**	**23.00**	**160**	P	**P**	**09 00 38.3**	**-1.0**
WB2				IAmb	IAmb	09 00 51.1	
	comp=Z,22nm,1.6s						
WR0	**Warramunga Arr**	**23.08**	**160**	P	**P**	**09 00 39.6**	**-0.5**
WR0				IAmb	IAmb	09 00 53.4	
	comp=Z,6.3nm,1.1s						
AS31	**Alice Springs**	**26.37**	**164**	P	**P**	**09 01 11.2**	**+0.9**
ASAR	**Alice Springs**	**26.37**	**164**	P	**P**	**09 01 11.0**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=344,slow=12,SNR=7.5						
KRVT	**Keravat (AS076**	**26.37**	**103**	LR	LR	09 09 48.2	
	comp=Z,213nm,18.4s,baz=171,slow=33						
STKA	**Stephens Creek**	**36.49**	**158**	P	**P**	**09 02 39.1**	**0.0**
MK31	**Makanchi Array**	**58.92**	**326**	P	**P**	**09 05 32.5**	**-0.3**
MK31				IAmb	IAmb	09 05 43.3	
	comp=Z,2.4nm,1.5s						
MKAR	**Makanchi Array**	**58.92**	**326**	P	**P**	**09 05 32.6**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=119,slow=8.6,SNR=10						
MKAR				LR	LR	09 31 48.3	
	comp=Z,131nm,21.1s,baz=128,slow=37						
MKAR	**Makanchi Array**	**58.92**	**326**	P	**P**	**09 05 32.5**	**-0.3**
KURBB	**Kurchatov Arra**	**63.15**	**328**	P	**P**	**09 06 01.2**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=127,slow=6.0,SNR=6.2						
KURK	**Kurchatov**	**63.15**	**328**	P	**P**	**09 06 01.3**	**-0.1**
ABKAR	**Akbulak array**	**73.39**	**321**	P	**P**	**09 07 05.5**	**+0.1**

*IDC **21** 09:00:58.2±0.5, 17.°73S×172.°95W, h0km, mb4.7/25,*
mb1 4.8/25, mb1mx4.7/50, mbtmp4.7/25, MS4.8/25,
Ms1 4.8/25, ms1mx4.8/30, Error ellipse: s-maj=19.5km
s-min=13.3km az=145.0
*BJI **21** 09:00:59.3±0.0, 17.°27S×172.°77W, h8km, mB5.7/42,*
mb5.1/34, Ms5.1/38, Ms7 4.9/37
*NEIC **21** 09:01:00.3±2.5, 17.°56S±0.°08×172.°88W±0.°09, h10km±1km,*
mb5.1/139, Error ellipse: s-maj=15.3km s-min=12.0km
az=131.0
*MOS **21** 09:01:03.0±2.1, 17.°26S×173.°29W, h21km, mb5.1/28,*
MS4.9/10, Error ellipse: s-maj=9.5km s-min=9.0km
*az=77

NMHZ Naumai 23.04 201 P **P** **09 06 09.8 +4.3**
BKZ Black Stump Fm 23.20 201 P **P** **09 06 09.3 +2.1**
BKZ S **S** **09 10 12.8 -4.7**
BKZ Black Stump Fm 23.20 201 P **P** **09 06 08.0 +0.9**
BKZ IAmb IAmb 09 06 16.0
comp=Z,48nm,0.7s
HIZ Hauiti 23.25 205 P **P** **09 06 11.3 +3.7**
HIZ Hauiti 23.25 205 P **P** **09 06 10.2 +2.7**
BHHZ Black Hill Sta 23.64 202 P **P** **09 06 13.0 +1.5**
WNVZ Wahianoa 23.67 203 P **P** **09 06 14.0 +2.1**
MOVZ Moawhango 23.68 202 P **P** **09 06 13.1 +1.2**
PKVZ Pokaka 23.73 203 P **P** **09 06 11.5 -0.8**
VRZ Vera Road 23.81 204 P **P** **09 06 16.6 +3.6**
PXZ Pawanui 23.86 200 P **P** **09 06 18.4 +4.9**
PNHZ Pukenui 23.97 201 P **P** **09 06 17.1 +2.4**
PMOR Pomariorio Ree 24.13 87 *e*P **P** **09 06 12.7 -3.5**
comp=Z,94nm,1.3s
TSZ Takapari Road 24.19 201 P **P** **09 06 19.6 +3.0**
TSZ S **S** **09 10 37.1 +3.9**
DVHZ Dannevirke 24.33 201 P **P** **09 06 22.1 +4.2**
ANWZ Angora Road 24.37 200 P **P** **09 06 24.6 +6.4**
BFZ Birch Farm 24.65 200 P **P** **09 06 21.5 +0.8**
BFZ Birch Farm 24.65 200 P **P** **09 06 21.6 +0.8**
MRZ Mangatainoka R 24.85 201 P **P** **09 06 25.6 +3.0**
HOWZ Holdsworth Sta 25.09 201 P **P** **09 06 27.9 +3.1**
HOWZ S **S** **09 10 51.5 +3.7**
DUWZ D'Urville Isla 25.58 204 P **P** **09 06 33.2 +4.0**
TUWZ Tuamarina 26.12 203 P **P** **09 06 37.0 +3.0**
NNZ Nelson 26.15 204 P **P** **09 06 37.4 +3.1**
QRZ Quartz Range 26.16 206 P **P** **09 06 36.9 +2.5**
BSWZ Blackbirch Sta 26.39 203 P **P** **09 06 38.3 +1.8**
BSWZ Blackbirch Sta 26.39 203 P **P** **09 06 40.2 +3.7**
THZ Tophouse 26.80 204 P **P** **09 06 40.7 +0.4**
THZ IAmb IAmb 09 06 55.5
comp=Z,29nm,0.7s
KHZ Kahutara 27.12 202 P **P** **09 06 44.9 +1.9**
HNR Honiara 27.66 284 LR LR 09 16 03.7
comp=Z,3µm,19.2s,baz=116,slow=33
LTZ Lake Taylor 27.91 204 P **P** **09 06 48.9 -1.3**
OXZ Oxford 28.46 203 P **P** **09 06 56.7 +1.6**
RPZ Rata Peaks 29.18 204 P **P** **09 07 03.4 +2.0**
FOZ Fox Glacier 29.52 206 P **P** **09 07 05.6 +1.1**
LBZ Lake Benmore 30.08 205 P **P** **09 07 12.3 +2.9**
WKZ Wanaka 30.91 205 P **P** **09 07 19.7 +2.9**
MLZ Mavora Lakes 31.72 206 P **P** **09 07 27.2 +3.2**
DCZ Deep Cove 32.21 207 P **P** **09 07 30.5 +2.3**
DCZ IAmb IAmb 09 07 37.2
comp=Z,43nm,1.2s
WHZ Wether Hill Ro 32.22 205 P **P** **09 07 31.9 +3.7**
TAOE Nuku Hiva Isla 33.02 79 *e*T T 09 42 13.1
comp=Z,22nm,0.3s
ARMA Armidale 34.59 242 P **P** **09 07 49.3 0.0**
baz=35,SNR=5.9
ARMA Armidale 34.59 242 P **P** **09 07 49.5 +0.2**
RKT Rikitea 35.84 105 *e*LR LR 09 17 17.4
comp=Z,4µm,27.8s
RMQ Roma 36.45 249 P **P** **09 08 04.5 -0.7**
baz=37,SNR=7.9
CNB Canberra Magne 37.73 235 P **P** **09 08 15.8 -0.2**
baz=38,SNR=5.5
CTA Charters Tower 38.65 260 P **P** **09 08 22.7 -1.2**
comp=Z,6.6nm,0.4s,baz=89,slow=10,SNR=17
CTAO Charters Tower 38.65 260 P **P** **09 08 23.2 -0.7**
CTAO pmax pmax
comp=Z,15nm,0.9s
CTAO Charters Tower 38.65 260 P **P** **09 08 23.2 -0.7**
PMG Port Moresby 39.65 277 *i*P **P** **09 08 30.0 -2.3**
PMG pmax pmax
comp=Z,56nm,1.6s
CMSA Cobar Meteorol 39.81 242 P **P** **09 08 32.5 -1.0**
baz=40,SNR=7.2
QLP Quilpie 40.50 250 P **P** **09 08 38.0 -1.2**
baz=41,SNR=7.1
TOO Toolangi 41.38 233 P **P** **09 08 46.6 +0.2**
baz=42,SNR=4.9
TOO Toolangi 41.38 233 P **P** **09 08 46.1 -0.2**
TOO pmax pmax
comp=Z,9.0nm,0.9s
TOO Toolangi 41.38 233 P **P** **09 08 46.1 -0.2**
COEN Coen 42.37 269 P **P** **09 08 53.6 -1.1**
baz=43,SNR=7.0
COEN Coen 42.37 269 P **P** **09 08 52.5 -2.2**
STKA Stephens Creek 43.31 242 P **P** **09 09 00.6 -1.5**
comp=Z,4.6nm,0.6s,baz=97,slow=10,SNR=22
STKA LR LR 09 26 33.0
comp=Z,2µm,18.5s,baz=77,slow=36
STKA Stephens Creek 43.31 242 P **P** **09 09 01.0 -1.2**
baz=44,SNR=20
HTT Hallett 45.75 240 P **P** **09 09 20.9 -0.8**
baz=46,SNR=8.3
BBOO Buckleboo 48.07 242 P **P** **09 09 38.8 -1.0**
baz=48,SNR=42
WR0 Warramunga Arr 49.63 259 IAmb IAmb 09 10 01.4
comp=Z,18nm,1.4s
WB0 Warramunga Arr 49.79 259 P **P** **09 09 51.6 -1.5**
WB0 IAmb IAmb 09 10 11.4
comp=Z,14nm,0.8s
WB2 Warramunga Arr 49.81 259 IAmb IAmb 09 09 54.8
comp=Z,13nm,0.9s
WRAB Tennant Creek 49.81 259 *ce*P **P** **09 09 54.5 +1.2**
WRAB pmax pmax
comp=Z,20nm,1.7s
WRAB Tennant Creek 49.81 259 P **P** **09 09 51.2 -2.1**
WRA Warramunga Arr 49.82 259 P **P** **09 09 50.9 -2.4**
comp=Z,4.4nm,0.4s,baz=98,slow=6.7,SNR=114
WRA LR LR 09 31 25.6
comp=Z,2µm,19.1s,baz=95,slow=37
WRA Warramunga Arr 49.82 259 P **P** **09 09 51.3 -2.1**
WRA Warramunga Arr 49.82 259 P **P** **09 09 51.3 -2.1**
AS31 Alice Springs 49.88 254 IAmb IAmb 09 09 54.2
comp=Z,10nm,0.7s
ASAR Alice Springs 49.88 254 P **P** **09 09 52.0 -1.9**
comp=Z,40nm,0.7s,baz=90,slow=8.5,SNR=436
ASAR S **S** **09 17 00.4 -2.2**
comp=Z,1.7nm,1.0s,baz=91,slow=13,SNR=5.6
ASAR LR LR 09 28 16.3
comp=Z,730nm,21.8s,slow=33
ASAR Alice Springs 49.88 254 P **P** **09 09 52.4 -1.4**
ASAR Alice Springs 49.88 254 P **P** **09 09 52.4 -1.4**
KDU Kakadu 52.82 267 P **P** **09 10 14.9 -0.9**
baz=53,SNR=4.2
FORT Forrest 54.80 245 P **P** **09 10 28.7 -1.5**
FORT IAmb IAmb 09 10 29.9
comp=Z,16nm,0.8s
WRKA Warakurna 54.88 252 P **P** **09 10 29.9 -1.0**
baz=55,SNR=54
KNRA Kununurra 55.73 263 P **P** **09 10 35.8 -1.2**
baz=56,SNR=3.3
KNRA Kununurra 55.73 263 P **P** **09 10 35.9 -1.2**
KNRA IAmb IAmb 09 10 45.2
comp=Z,11nm,0.7s
FITZ Fitzroy Crossi 58.23 259 P **P** **09 10 54.1 -0.7**
comp=Z,2.1nm,0.7s,baz=51,slow=2.2,SNR=9.3
FITZ Fitzroy Crossi 58.23 259 P **P** **09 10 54.1 -0.7**
baz=59,SNR=7.2
FITZ Fitzroy Crossi 58.23 259 P **P** **09 10 54.3 -0.5**
VNDA Vanda 61.05 186 LR LR 09 34 19.4
comp=Z,418nm,19.5s,baz=21,slow=33
PSA00 Pilbara Seismi 63.02 254 P **P** **09 11 26.3 -1.1**
PSA00 IAmb IAmb 09 11 33.1
comp=Z,11nm,0.8s
MEEK Meekatharra 63.38 249 P **P** **09 11 29.3 -0.5**
baz=64,SNR=3.6
BLDU Balliduu 64.57 244 P **P** **09 11 36.3 -1.2**
baz=65,SNR=10
MUN Mundaring 64.85 243 P **P** **09 11 38.2 -1.2**
baz=65,SNR=4.6
CASY Casey 68.44 205 P **P** **09 12 02.5 +0.9**
CASY IAmb IAmb 09 12 07.8
comp=Z,20nm,1.3s
MJAR Matsushiro Arr 71.09 320 P **P** **09 12 17.8 -0.5**
comp=Z,2.2nm,0.9s,baz=186,slow=6.4,SNR=5.3
MJAR LR LR 09 38 38.2
comp=Z,394nm,21.3s,baz=210,slow=32
MJAR Matsushiro Arr 71.09 320 P **P** **09 12 17.8 -0.5**
MJAR pmax pmax
comp=Z,3.0nm,1.2s
MAJO Matsushiro 71.09 320 *i*P **P** **09 12 17.6 -0.8**
MAJO pmax pmax
comp=Z,28nm,2.4s
MAT Matsushiro 71.09 320 P **P** **09 12 17.6 -0.8**
MAT S **S** **09 21 36.0 +2.6**
UNV Unalaska Valle 71.57 4 P **P** **09 12 19.6 -1.2**
UNV IAmb IAmb 09 12 26.5
comp=Z,9.6nm,1.0s

ERM Erimo 72.04 327 *ce*P **P** **09 12 24.8 +0.9**
ERM pmax pmax
comp=Z,28nm,2.5s
KUR Kuril'sk 72.17 332 *e*P **P** **09 12 24.3 -0.3**
KUR MLR MLR
comp=E,533nm,13.0s
KUR MLR MLR
comp=Z,554nm,13.0s
KUR MLR MLR
comp=N,453nm,17.0s
YUK Yuzh-Kuril'sk 72.18 330 *e*P **P** **09 12 21.0 -3.7**
YUK *e* 09 12 42.5
YUK *e* 09 15 03.9
YUK *e*PPP PPP 09 16 47.1
YUK *e*S **S** **09 21 44.2 -1.3**
YUK *e* 09 22 30.5
YUK *e*SS **SS** **09 26 24.3 +0.4**
YUK pmax pmax
comp=Z,124nm,1.4s
YUK MLR MLR
comp=Z,303nm,17.0s
YUK MLR MLR
comp=E,195nm,15.0s
YUK MLR MLR
comp=N,245nm,17.0s
QSPA South Pole Qui 72.25 180 P **P** **09 12 26.7 +1.6**
QSPA IAmb IAmb 09 12 45.0
comp=Z,14nm,0.9s
PKM Mcpherson Peak 72.69 43 P **P** **09 12 27.8 -0.5**
baz=233
SMMC Simmler 72.83 43 P **P** **09 12 29.1 +0.2**
baz=233
PMPB Monarch Peak 72.86 42 **PcP** **09 12 42.9 -3.2**
SKR Severo-Kuril's 73.44 340 *c*P **P** **09 12 31.7 -0.3**
SKR *e*S **S** **09 21 57.7 -1.9**
SKR pmax pmax
comp=Z,200nm,4.1s
SKR pmax pmax
comp=Z,100nm,10.6s
SKR pmax pmax
comp=Z,22nm,1.1s
SKR MLR MLR
comp=Z,300nm,18.0s
SKR MLR MLR
comp=Z,300nm,16.0s
KMRM Mail Ridge 73.66 37 P **P** **09 12 33.0 -0.6**
MURC Murrieta 73.69 46 P **P** **09 12 33.3 -0.7**
baz=235
VES Vestal, Richgr 73.74 43 P **P** **09 12 34.1 -0.1**
baz=233
BFSC Mount Baldy Ra 73.74 45 P **P** **09 12 33.6 -0.8**
baz=235
JNU Nakatsue 73.80 313 P **P** **09 12 34.9 +0.2**
comp=Z,9.2nm,0.8s,baz=54,slow=5.5,SNR=4.9
JNU Nakatsue 73.80 313 P **P** **09 12 34.0 -0.6**
JNU IAmb IAmb 09 12 43.7
comp=Z,29nm,1.1s
MONP2 Monument Peak 73.82 47 P **P** **09 12 34.0 -1.0**
baz=236
JKA Kamikawa-asahi 73.83 328 IAmb IAmb 09 12 36.0
comp=Z,15nm,1.0s
ASAJ Asahikawa 73.83 328 P **P** **09 12 35.5 +1.0**
comp=Z,6.9nm,0.7s,baz=165,slow=6.1,SNR=9.0
ASAJ LR LR 09 39 17.6
comp=Z,402nm,21.3s,baz=176,slow=31
EDW2 Edwards Air Fo 73.89 44 P **P** **09 12 34.3 -0.9**
baz=234,SNR=6.5
IKP In-Ko-Pah, Jac 73.91 47 P **P** **09 12 34.6 -0.8**
baz=236
ISA Isabella, Lake 74.03 44 P **P** **09 12 35.8 -0.2**
baz=234,SNR=5.7
O02D Mt. Diablo Mer 74.16 38 P **P** **09 12 36.5 -0.2**
baz=230
PFO Pinyon Flats O 74.20 46 P **P** **09 12 35.9 -1.1**
baz=236
LRMC Laurel Mtn Rad 74.45 44 P **P** **09 12 37.7 -0.8**
baz=234
N02D Trinity Center 74.73 37 P **P** **09 12 38.8 -1.1**
baz=229
BELC Belle Mtn. Jos 74.74 46 P **P** **09 12 38.6 -1.7**
baz=236,SNR=5.1
CWC Cottonwood Cre 74.75 43 P **P** **09 12 39.5 -0.8**
baz=234
O03E Paynes Creek 74.81 38 P **P** **09 12 39.9 -0.5**
baz=230
MPMC Manual Prospec 74.91 44 P **P** **09 12 40.2 -1.0**
baz=234,SNR=19
M02C Callahan 74.91 37 P **P** **09 12 39.9 -1.1**
baz=229
BC3 Big Chuckawall 74.92 47 P **P** **09 12 40.6 -0.7**
baz=236
GSC Goldstone, Bar 74.93 45 P **P** **09 12 39.8 -1.4**
baz=235,SNR=5.3
MLAC Mammoth, Mammo 74.97 42 P **P** **09 12 41.0 -0.6**
baz=233
HEC Hector,Ludlow 74.98 45 P **P** **09 12 40.4 -1.1**
baz=235,SNR=6.7
TIN Tinemaha, Big 75.02 42 P **P** **09 12 41.4 -0.3**
baz=234
GLA Glamis 75.03 48 P **P** **09 12 41.2 -0.6**
baz=237
PEA0B Petropavlovsk- 75.06 342 *i*P **P** **09 12 39.8 -1.6**
PETK Petropavlovsk- 75.06 342 P **P** **09 12 41.0 -0.5**
comp=Z,5.1nm,0.9s,baz=132,slow=8.4,SNR=9.4
PETK LR LR 09 43 55.0
comp=Z,379nm,19.2s,baz=169,slow=34
PETK Petropavlovsk- 75.06 342 P **P** **09 12 40.9 -0.5**
K02D Willamette Mer 75.32 35 P **P** **09 12 43.7 +0.4**
baz=229
GMRC Granite Mounta 75.41 46 P **P** **09 12 43.5 -0.6**
baz=236
IRM Iron Mountain 75.41 46 P **P** **09 12 44.6 +0.6**
baz=236,SNR=6.1
GRAC Grapevine Rang 75.54 43 P **P** **09 12 44.2 -0.5**
baz=234,SNR=6.1
YERR Yerington 75.54 40 IAmb IAmb 09 12 47.8
comp=Z,12nm,1.0s
FURC Furnace Creek, 75.56 44 P **P** **09 12 44.5 -0.2**
baz=235
TUQ Turquoise Moun 75.60 45 P **P** **09 12 44.5 -0.7**
baz=236
SHOC Shoshone, Teco 75.62 44 P **P** **09 12 45.1 0.0**
baz=235
M04C Macdoel 75.75 37 P **P** **09 12 45.3 -0.6**
baz=230
L04D Klamath Falls 75.76 36 P **P** **09 12 44.9 -1.0**
baz=229
NVAR Mina Array Bea 75.79 41 P **P** **09 12 45.2 -1.0**
comp=Z,10nm,0.9s,baz=226,slow=10.0,SNR=32
NVAR LR LR 09 41 02.2
comp=Z,1µm,18.5s,baz=234,slow=32
NVAR Mina Array Bea 75.79 41 P **P** **09 12 45.4 -0.9**
YSS Yuzh-Sakhalins 75.81 330 *ce*P **P** **09 12 43.4 -2.4**
YSS *e* 09 12 53.6
YSS *e* 09 15 32.8
YSS *e*S **S** **09 22 21.4 -4.9**
YSS *e* 09 23 00.6
YSS *e*SS **SS** **09 27 10.0 -9.1**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS pmax pmax
comp=Z,500nm,4.4s
YSS smax smax
comp=N,600nm,12.4s
YSS smax smax
comp=E,200nm,13.4s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS MLR MLR
comp=N,200nm,14.0s
YSS MLR MLR
comp=E,100nm,14.0s
214A Organ Pipe Nat 75.88 49 P **P** **09 12 45.5 -1.2**
baz=238
PDMCI Parker Dam,Lak 76.19 47 P **P** **09 12 48.3 -0.1**
baz=237
TPNV Topopah Spring 76.24 44 P **P** **09 12 47.9 -0.9**
baz=230
KVN Kaiserville 76.29 41 P **P** **09 12 48.7 -0.4**
KVN pmax pmax
comp=Z,12nm,1.1s
KVN Kaiserville 76.29 41 P **P** **09 12 48.7 -0.4**
KVN IAmb IAmb 09 12 52.7
comp=Z,12nm,1.1s
J04D Umpqua Nationa 76.54 36 P **P** **09 12 49.5 -0.9**
baz=229
TPUB Ta-pu 76.71 300 P **P** **09 12 50.9 -0.6**

I04A Tendick Farm, 76.73 35 P **P** **09 12 50.9 -0.4**
baz=229
Y14A Wickenburg 76.79 48 IAmb IAmb 09 12 55.0
comp=Z,10nm,0.9s
K05A Summer Lake 76.89 37 P **P** **09 12 51.8 -0.6**
K05A IAmb IAmb 09 12 56.5
comp=Z,25nm,1.0s
H04D Lebanon 77.04 34 P **P** **09 12 53.0 +0.1**
baz=229
J05D Fort Rock, OR 77.06 36 P **P** **09 12 52.8 -0.5**
baz=230
KDAK Kodiak Island 77.17 11 P **P** **09 12 52.9 -0.5**
comp=Z,3.6nm,0.9s,baz=207,slow=2.2,SNR=5.8
KDAK Kodiak Island 77.17 11 P **P** **09 12 54.2 +0.9**
KDAK pmax pmax
comp=Z,30nm,1.3s
KDAK Kodiak Island 77.17 11 P **P** **09 12 54.2 +0.9**
KDAK IAmb IAmb 09 13 06.2
comp=Z,30nm,1.3s
G03D McMinnville, O 77.22 34 P **P** **09 12 53.7 -0.2**
baz=228
R11A Troy Canyon, C 77.47 43 P **P** **09 12 54.7 -1.0**
baz=235,SNR=7.2
PINE Pine Mountain 77.54 36 IAmb IAmb 09 13 00.2
comp=Z,24nm,1.0s
I05D Terrebonne, OR 77.67 35 P **P** **09 12 57.0 +0.5**
baz=230
KSM Kuching 77.90 275 P **P** **09 12 59.9 +1.4**
LEM Lembang 77.98 267 P **P** **09 12 59.3 +0.2**
comp=Z,33nm,0.6s,baz=121,slow=6.8,SNR=5.5
WVOR Wild Horse Val 78.01 38 IAmb IAmb 09 13 02.4
comp=Z,12nm,1.1s
X16A Lo Mia Camp, P 78.14 48 IAmb IAmb 09 13 03.2
comp=Z,9.8nm,0.9s
319A Douglas 78.18 52 IAmb IAmb 09 13 03.9
comp=Z,16nm,0.9s
KSRS Korea Array 78.22 316 P **P** **09 13 00.6 +1.0**
comp=Z,9.8nm,1.2s,baz=131,slow=5.6,SNR=13
KSRS LR LR 09 42 53.2
comp=Z,286nm,20.2s,baz=118,slow=32
KSAR Wonju Array Be 78.23 316 P **P** **09 13 00.4 +0.7**
KSAR Wonju Array Be 78.23 316 P **P** **09 13 00.4 +0.7**
G05D Wamic, OR 78.27 34 P **P** **09 12 60.0 +0.2**
baz=230
E04D Cinebar 78.47 33 P **P** **09 13 00.5 -0.3**
baz=228
F05D White Salmon 78.61 34 P **P** **09 13 01.6 0.0**
baz=230
TYV Tymovskoe 78.71 333 *e*P **P** **09 13 02.0 0.0**
TYV *e*S **S** **09 22 58.9 +1.3**
TYV pmax pmax
comp=Z,10.0nm,1.4s
TYV pmax pmax
comp=Z,400nm,4.4s
TYV smax smax
comp=N,800nm,7.3s
WUAZ Wupatki 78.76 47 P **P** **09 13 02.5 -0.4**
baz=239
D03D Eldon 78.86 32 P **P** **09 13 03.1 +0.2**
baz=228
LON Longmire 78.99 33 IAmb IAmb 09 13 23.9
comp=Z,18nm,1.5s
CNPM China Poot 79.06 11 P **P** **09 13 04.4 +0.6**
CNPM IAmb IAmb 09 13 07.7
comp=Z,21nm,1.3s
QZH Quanzhou 79.10 301 ⇑ *i*P **P** **09 13 05.6 +0.8**
QZH S **S** **09 23 04.6 +1.8**
QZH pmax pmax
comp=Z,370nm,5.3s
QZH LR LR
comp=Z,170nm,15.2s
QZH LR LR
comp=Z,300nm,19.9s
QZH LR LR
comp=Z,280nm,19.4s
MTPU Mount Pierson 79.54 44 P **P** **09 13 08.2 +0.8**
USA0B Ussuriysk Arra 79.59 323 *i*P **P** **09 13 07.0 0.0**
USRK Ussuriysk Ar. 79.59 323 P **P** **09 13 07.4 +0.4**
comp=Z,1.6nm,0.8s,baz=116,slow=4.4,SNR=10
USRK LR LR 09 42 40.5
comp=Z,476nm,20.9s,baz=120,slow=32
USRK Ussuriysk Ar. 79.59 323 P **P** **09 13 07.7 +0.6**
USRK Ussuriysk Ar. 79.59 323 P **P** **09 13 07.7 +0.6**
W18A Petrified Fore 79.70 48 P **P** **09 13 07.3 -0.9**
baz=240
B05A Bryant 79.84 32 P **P** **09 13 08.2 -0.1**
baz=229
121A Cookes Peak, D 79.85 51 P **P** **09 13 07.8 -1.2**
baz=241
121A Cookes Peak, D 79.85 51 P **P** **09 13 09.7 +0.7**
BMO Blue Mountains 80.25 37 P **P** **09 13 09.8 -0.9**
BMO pmax pmax
comp=Z,8.0nm,1.0s
BMO Blue Mountains 80.25 37 P **P** **09 13 09.8 -0.9**
DUG Dugway, Tooele 80.29 42 P **P** **09 13 10.0 -1.1**
baz=237,SNR=5.6
DUG Dugway, Tooele 80.29 42 P **P** **09 13 12.4 +1.3**
DUG pmax pmax
comp=Z,7.0nm,1.1s
DUG Dugway, Tooele 80.29 42 P **P** **09 13 12.4 +1.3**
Q16A Castle Valley 80.67 44 P **P** **09 13 14.4 +1.2**
HIN Hinchinbrook I 80.80 13 P **P** **09 13 15.2 +2.0**
HIN IAmb IAmb 09 13 16.8
comp=Z,16nm,1.0s
SUA Susitna One 80.96 11 P **P** **09 13 13.4 -0.8**
SUA IAmb IAmb 09 13 17.6
comp=Z,27nm,1.4s
F10A Beach Ranch, E 80.97 36 P **P** **09 13 13.9 -0.7**
F10A IAmb IAmb 09 13 17.8
comp=Z,15nm,0.9s
FID Port Fidalgo 81.12 13 P **P** **09 13 17.4 +2.5**
FID IAmb IAmb 09 13 26.1
comp=Z,18nm,1.3s
HLID Hailey 81.17 39 P **P** **09 13 15.0 -0.8**
baz=235,SNR=20
HLID Hailey 81.17 39 P **P** **09 13 15.7 -0.2**
MNTX Cornudas Mount 81.27 53 P **P** **09 13 15.8 -0.6**
baz=243
MNTX Cornudas Mount 81.27 53 P **P** **09 13 16.1 -0.3**
SKT Skwentna 81.31 10 P **P** **09 13 15.9 0.0**
PMR Palmer 81.37 11 P **P** **09 13 15.2 -1.0**
PMR pmax pmax
comp=Z,24nm,1.4s
PMR Palmer 81.37 11 P **P** **09 13 15.2 -1.0**
PMR IAmb IAmb 09 13 28.5
comp=Z,24nm,1.4s
GRNR Gornyy 81.47 330 *e*P **P** **09 13 14.7 -2.3**
TXAR Lajitas Array 81.55 56 P **P** **09 13 17.8 -0.2**
comp=Z,4.8nm,1.0s,baz=230,slow=5.9,SNR=20
TXAR LR LR 09 43 50.6
comp=Z,378nm,18.2s,baz=0.0,slow=32
TXAR Lajitas Array 81.55 56 P **P** **09 13 17.6 -0.4**
TTA Tatalina 81.56 8 P **P** **09 13 16.3 -0.9**
TTA pmax pmax
comp=Z,9.0nm,1.0s
TTA Tatalina 81.56 8 P **P** **09 13 16.3 -0.9**
GHO Glory Hole Cre 81.57 11 IAmb IAmb 09 13 21.6
comp=Z,14nm,0.8s
PV14 Lion Creek, Pa 81.84 45 P **P** **09 13 19.6 0.0**
PV14 IAmb IAmb 09 13 37.3
comp=Z,17nm,1.1s
PV13 Radium Mtn., P 81.87 46 IAmb IAmb 09 13 39.8
comp=Z,16nm,1.2s
PV16 Nyswonger Mesa 81.88 46 IAmb IAmb 09 13 37.6
comp=Z,18nm,1.4s
PV23 Carpenter Ridg 81.88 45 P **P** **09 13 19.4 -0.4**
PV23 IAmb IAmb 09 13 23.3
comp=Z,14nm,1.0s
PV04 Paradox Valley 81.93 45 IAmb IAmb 09 13 37.9
comp=Z,17nm,1.3s
SCM Sheep Creek Mo 81.94 12 IAmb IAmb 09 13 23.1
comp=Z,15nm,0.9s
PV12 Saucer Basin, 81.96 46 IAmb IAmb 09 13 38.1
comp=Z,28nm,1.3s
PV21 Cone Mtn., Par 81.96 45 P **P** **09 13 20.2 0.0**
PV21 IAmb IAmb 09 13 38.0
comp=Z,17nm,1.2s
ANMO Albuquerque 81.97 49 *ce*P **P** **09 13 20.1 -0.2**
ANMO pmax pmax
comp=Z,11nm,1.0s
NJ2 Nanjing 82.00 307 *e*P **P** **09 13 21.5 +1.3**
NJ2 S **S** **09 23 35.3 +2.3**
NJ2 sS **sS** **09 23 44.5 -0.4**
NJ2 SS **SS** **09 28 55.8 +3.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s

NJ2 pmax pmax
comp=Z,430nm,3.6s
NJ2 LR LR
comp=Z,390nm,17.5s
NJ2 LR LR
comp=Z,350nm,18.0s
NJ2 LR LR
comp=Z,750nm,18.5s
PV01 Paradox Valley 82.03 46 IAmb IAmb 09 13 23.8
comp=Z,11nm,1.0s
VRDI Verde Repeater 82.22 14 IAmb IAmb 09 13 24.8
comp=Z,18nm,1.1s
GLB Gilahina Butte 82.32 14 P **P** **09 13 21.7 +0.4**
GLB IAmb IAmb 09 13 34.0
comp=Z,21nm,1.4s
RDMU Red Mountain 82.59 43 P **P** **09 13 23.1 -0.3**
KLR Kul'dur 82.80 327 *i* P **P** **09 13 24.2 +0.2**
KLR pmax pmax
comp=Z,4.0nm,1.1s
KTH Kantishna Hill 82.89 10 P **P** **09 13 22.5 -1.7**
KTH IAmb IAmb 09 13 41.8
comp=Z,16nm,1.1s
TRF Thorofare Moun 82.89 10 P **P** **09 13 22.8 -1.6**
TRF IAmb IAmb 09 13 28.9
comp=Z,18nm,0.9s
S22A 4UR Ranch, Cre 83.04 47 P **P** **09 13 25.9 0.0**
baz=241
S22A 4UR Ranch, Cre 83.04 47 IAmb IAmb 09 13 30.4
comp=Z,16nm,1.1s
RND Reindeer 83.10 11 P **P** **09 13 25.7 +0.4**
RND pmax pmax
comp=Z,20nm,1.0s
RND Reindeer 83.10 11 P **P** **09 13 25.7 +0.4**
RND IAmb IAmb 09 13 41.3
comp=Z,20nm,1.0s
DL2 Dalian 83.21 314⇑ *i* P **P** **09 13 27.8 +1.5**
DL2 S **S** **09 23 49.3 +4.3**
DL2 pmax pmax
comp=Z,19nm,1.4s
DL2 pmax pmax
comp=Z,460nm,7.6s
DL2 LR LR
comp=Z,230nm,17.6s
DL2 LR LR
comp=Z,260nm,16.8s
DL2 LR LR
comp=Z,300nm,18.6s
REDW Red Top Meadow 83.23 40 P **P** **09 13 27.1 +0.5**
REDW IAmb IAmb 09 13 43.1
comp=Z,22nm,1.2s
O20A White River Ci 83.24 44 P **P** **09 13 26.6 -0.1**
baz=240
MSO Missoula 83.31 36 P **P** **09 13 26.7 -0.2**
baz=235,SNR=6.2
BPAW Bear Paw Mtn. 83.39 9 P **P** **09 13 26.7 0.0**
BW06 Boulder Array 83.72 41 P **P** **09 13 28.0 -1.3**
baz=239,SNR=8.7
BW06 Boulder Array 83.72 41 IAmb IAmb 09 13 32.6
comp=Z,19nm,1.2s
PDAR Pinedale Array 83.72 41 P **P** **09 13 28.2 -1.0**
comp=Z,6.1nm,0.9s,baz=204,slow=3.3,SNR=23
PDAR LR LR 09 46 41.3
comp=Z,554nm,18.2s,baz=256,slow=33
PDAR Pinedale Array 83.72 41 P **P** **09 13 28.1 -1.2**
DLBC Dease Lake 83.75 21 P **P** **09 13 28.2 -0.6**
comp=Z,3.3nm,0.9s,baz=210,slow=5.0,SNR=9.9
YHL Hebgen Lake 83.82 39 P **P** **09 13 30.2 +0.4**
H17A Grant Village 83.94 40 P **P** **09 13 29.4 -0.9**
baz=238,SNR=5.1
BOZ Bozeman (W) 83.96 38 P **P** **09 13 29.3 -0.9**
baz=237,SNR=22
BOZ Bozeman (W) 83.96 38 P **P** **09 13 29.9 -0.4**
BOZ pmax pmax
comp=Z,34nm,1.5s
BOZ Bozeman (W) 83.96 38 P **P** **09 13 29.9 -0.4**
SDCO Great Sand Dun 83.96 47 P **P** **09 13 29.6 -1.0**
baz=242
NEA2 Nenana 84.16 10 P **P** **09 13 30.2 -0.4**
baz=203
MSTX Muleshoe 84.24 52 P **P** **09 13 30.4 -1.5**
baz=244
QIZ Qiongzhong 84.26 292 P **P** **09 13 32.1 -0.1**
QIZ S **S** **09 23 57.3 +0.8**
QIZ sS **pS** **09 24 04.8 -1.1**
QIZ SS **SS** **09 29 32.5 +5.8**
QIZ pmax pmax
comp=Z,340nm,6.3s
QIZ LR LR
comp=Z,200nm,16.7s
QIZ LR LR
comp=Z,340nm,18.6s
QIZ LR LR
comp=Z,390nm,19.6s
HDA Harding Lake 84.36 11 P **P** **09 13 30.5 -1.2**
baz=205,SNR=17
CCB Clear Creek Bu 84.42 11 P **P** **09 13 31.8 -0.2**
HRY Holter Researc 84.45 37 P **P** **09 13 32.3 -0.3**
T25A Trinidad 84.45 48 P **P** **09 13 31.6 -1.4**
baz=243
TCOL CIGO, UAF Yank 84.62 10 P **P** **09 13 32.5 -0.5**
baz=204,SNR=6.2
COLA College 84.62 10 *i* P **P** **09 13 34.5 +1.6**
COLA pmax pmax
comp=Z,37nm,1.0s
IL31 84.70 11 P **P** **09 13 32.5 -0.7**
IL31 IAmb IAmb 09 13 46.4
comp=Z,16nm,1.1s
ILAR Eielson Array 84.70 11 P **P** **09 13 31.4 -2.0**
comp=Z,2.6nm,0.6s,baz=223,slow=6.2,SNR=18
ILAR LR LR 09 46 52.1
comp=Z,592nm,19.7s,baz=205,slow=32
ILAR Eielson Array 84.70 11 P **P** **09 13 32.3 -1.1**
ILAR Eielson Array 84.70 11 P **P** **09 13 32.3 -1.1**
IMAR Indian Mountai 84.78 8 P **P** **09 13 33.0 -0.7**
Q24A Divide 84.78 46 P **P** **09 13 33.7 -1.1**
baz=242
WHN Wuhan 84.85 304⇑ P **P** **09 13 35.9 +1.0**
WHN S **S** **09 24 03.0 +1.1**
WHN LR LR
comp=Z,610nm,20.1s
ISCO Idaho Springs 84.85 46 P **P** **09 13 33.9 -1.2**
baz=242
POKR Poker Plat Res 84.92 11 P **P** **09 13 33.1 -1.3**
baz=204,SNR=6.5
SEY Seymchan 84.96 345 P **P** **09 13 34.5 -0.2**
comp=Z,16nm,1.0s,baz=154,slow=5.7,SNR=10
SEY Seymchan 84.96 345 *i* P **P** **09 13 35.1 +0.4**
K27K Chicken 84.99 13 P **P** **09 13 35.3 +0.5**
baz=209
JCT Junction City 85.07 56 P **P** **09 13 35.2 -0.9**
baz=246
RLMT Red Lodge 85.12 40 P **P** **09 13 35.8 -0.4**
baz=239,SNR=6.9
N23A Red Feather La 85.14 44 P **P** **09 13 35.5 -1.0**
baz=242
AMTX Amarillo 85.45 51 P **P** **09 13 37.0 -0.9**
baz=245
K22A Casper 85.60 43 P **P** **09 13 38.1 -0.6**
baz=241
MAW Mawson 85.68 199 LR LR 09 51 33.5
comp=Z,2µm,18.4s,baz=102,slow=35
MAW Mawson 85.68 199 P **P** **09 13 39.5 +1.1**
MAW Mawson 85.68 199 P **P** **09 13 39.5 +1.1**
EGAK Eagle 85.84 13 P **P** **09 13 38.9 -0.1**
EGAK IAmb IAmb 09 13 52.0
comp=Z,20nm,1.2s
ABTX Abilene, Hawle 86.06 54 P **P** **09 13 40.4 -0.6**
baz=246
EGMT Eagleton 86.34 37 P **P** **09 13 41.8 -0.2**
baz=238
COLD Coldfoot 86.43 9 P **P** **09 13 42.4 +0.5**
baz=202
BJI Beijing 87.47 313 P **P** **09 13 48.3 +0.7**
BJI PP **PP** **09 17 08.4 -4.4**
BJI SKS **SKSac** **09 24 16.4 +2.7**
BJI S **ScS** **09 24 30.8 -3.2**
BJI pmax pmax
comp=Z,14nm,1.3s
BJI pmax pmax
comp=Z,200nm,9.7s
BJI LR LR
comp=Z,95nm,14.5s
PLCA Paso Flores 87.54 132 P **P** **09 13 49.2 +1.0**
comp=Z,5.5nm,0.9s,baz=229,slow=7.3,SNR=11
PLCA LR LR 09 46 12.6
comp=Z,797nm,18.0s,baz=299,slow=31

PLCA Paso Flores 87.54 132 P **P** **09 13 50.4 +2.2**
PLCA pmax pmax
comp=Z,14nm,1.2s
PLCA Paso Flores 87.54 132 P **P** **09 13 50.4 +2.2**
PLCA IAmb IAmb 09 13 53.5
comp=Z,14nm,1.1s
WMOK Wichita Mounta 87.56 52 P **P** **09 13 47.4 -0.8**
baz=247
ZEA Zeya 87.73 329 *e*P **P** **09 13 45.1 -3.4**
ZEA *e*PS 09 24 20.0
ZEA pmax pmax
comp=Z,72nm,1.8s
ZEA pmax pmax
comp=Z,400nm,8.0s
RSSD Black Hills 87.89 42 P **P** **09 13 49.8 0.0**
baz=243
HKT Hockley 88.03 58 *i* P **P** **09 13 52.5 +2.1**
HKT pmax pmax
comp=Z,5.0nm,1.3s
PSI Prapat 89.13 273 P **P** **09 13 55.9 -0.3**
comp=Z,2.1nm,0.3s,baz=180,slow=5.2,SNR=8.9
TIY Taiyuan 89.17 310 *e*P **P** **09 13 57.3 +1.5**
TIY pmax pmax
comp=Z,290nm,4.1s
TIY LR LR
comp=Z,140nm,15.0s
TIY LR LR
comp=Z,270nm,15.8s
TIY LR LR
comp=Z,420nm,24.5s
GYA Guiyang 89.60 298⇑ P **P** **09 13 59.9 +1.7**
GYA pP pP 09 14 04.4 -1.1
GYA PP **PP** **09 17 34.3 +4.0**
GYA S **S** **09 24 53.4 +5.3**
GYA pmax pmax
comp=Z,15nm,1.7s
GYA pmax pmax
comp=Z,410nm,4.1s
DGMT Dagmar 89.80 38 P **P** **09 13 58.7 +0.3**
baz=243
SYO Syowa Base 90.35 191⇑ *e*PcP **PcP** **09 14 03.2 +1.3**
SYO Syowa Base 90.35 191⇑ *e*pP pP 09 14 05.6 -2.1
VNA3 Neumayer Olymp 90.43 175 P **P** **09 14 04.0 +2.9**
XAN Xi'an 90.43 306 P **P** **09 14 03.0 +1.2**
XAN pmax pmax
comp=Z,13nm,1.5s
XAN pmax pmax
comp=Z,350nm,7.1s
XAN LR LR
comp=Z,330nm,17.3s
XAN LR LR
comp=Z,160nm,24.9s
XAN LR LR
comp=Z,380nm,18.4s
INK Inuvik 90.47 14 P **P** **09 14 00.3 -0.8**
comp=Z,3.4nm,0.9s,baz=184,slow=6.7,SNR=8.3
CO02 Combarbal 90.65 123 P **P** **09 14 05.8 +2.7**
VNA2 Neumayer--Watz 90.93 175 P **P** **09 14 08.0 +4.6**
HHC Hu-ho-hao-te 91.02 313 *e*P **P** **09 14 04.9 +0.5**
HHC SS SS 09 31 02.3 -2.6
HHC pmax pmax
comp=Z,21nm,1.3s
HHC pmax pmax
comp=Z,270nm,6.3s
HHC LR LR
comp=Z,310nm,17.9s
HHC LR LR
comp=Z,250nm,16.8s
HHC LR LR
comp=Z,310nm,17.3s
VNA1 Neumayer--Stat 91.12 175 P **P** **09 14 07.8 +3.5**
MIAR Mount Ida 91.47 54 P **P** **09 14 06.0 -0.5**
baz=250
YAK Yakutsk 91.51 337 LR LR 09 48 47.9
comp=Z,99nm,21.3s,baz=113,slow=31
W39A Magazine 91.54 54 P **P** **09 14 06.6 -0.3**
baz=249
BTO Baotou 92.01 312 *e*P **P** **09 14 08.8 -0.2**
AC05 El Transito 92.10 121 P **P** **09 14 12.3 +2.4**
AC05 IAmb IAmb 09 14 14.7
comp=Z,8.2nm,0.8s
YKA Yellowknife Ar 92.10 23 P **P** **09 14 10.4 +1.6**
comp=Z,2.7nm,0.9s,baz=241,slow=4.1,SNR=10
YKA LR LR 09 50 49.9
comp=Z,509nm,18.9s,baz=0.0,slow=32
MDND Maddock 92.30 40 P **P** **09 14 10.2 +0.1**
baz=246
ECSD EROS Data Cent 92.61 45 P **P** **09 14 11.8 +0.2**
baz=248
U40A Yellville 92.65 53 P **P** **09 14 11.7 -0.3**
baz=250
W41B Gary Mavity, V 92.71 54 P **P** **09 14 12.4 +0.2**
baz=250
MGMO Mountain Grove 93.36 52 P **P** **09 14 15.9 +0.6**
CD2 Chengdu 93.48 301 P **P** **09 14 16.0 0.0**
CD2 pP pP 09 14 20.0 -3.3
CD2 S **S** **09 25 24.5 +1.6**
CD2 pmax pmax
comp=Z,250nm,6.3s
CD2 LR LR
comp=Z,270nm,15.7s
CD2 LR LR
comp=Z,490nm,17.7s
CD2 LR LR
comp=Z,530nm,17.1s
C36M Paulatuk 93.53 16 P **P** **09 14 15.7 +0.5**
baz=226
R40A Maddies Statio 93.75 51 P **P** **09 14 17.6 +0.7**
AC02 Maricunga 93.78 120 P **P** **09 14 21.6 +3.4**
CMAR Chiang Mai Arr 93.83 288 P **P** **09 14 19.3 +1.5**
CMAR LR LR 09 52 32.1
comp=Z,1.0nm,0.3s,baz=119,slow=2.0,SNR=7.8
CMAR Chiang Mai Arr 93.83 288 *c*P **P** **09 14 20.1 +2.3**
comp=Z,313nm,21.2s,baz=146,slow=33
CMAR pmax pmax
comp=Z,1.0nm,0.3s
LCAR Lake Charles 93.85 53 P **P** **09 14 18.4 +1.0**
LCAR IAmb IAmb 09 14 21.2
comp=Z,14nm,1.4s
T42A Van Buren 94.21 53 P **P** **09 14 21.3 +2.2**
T42A IAmb IAmb 09 14 21.8
comp=Z,5.7nm,1.1s
OXF Oxford 94.70 55 P **P** **09 14 20.6 -0.8**
baz=252
AGMN Agassiz Nation 94.78 41 P **P** **09 14 21.1 -0.4**
baz=249
AGMN Agassiz Nation 94.78 41 P **P** **09 14 22.0 +0.5**
AGMN IAmb IAmb 09 14 23.9
comp=Z,9.0nm,1.2s
I37A Lemond, Waseca 94.88 45 P **P** **09 14 24.6 +2.6**
LZH Lanzhou 95.04 306⇑ P **P** **09 14 23.4 +0.2**
LZH sP pP 09 14 30.4 -0.1
LZH SS SS 09 32 06.5 +3.6
LZH pmax pmax
comp=Z,10.0nm,1.0s
LZH pmax pmax
comp=Z,98nm,4.9s
LZH LR LR
comp=Z,330nm,16.8s
LZH LR LR
comp=Z,420nm,17.3s
LZH LR LR
comp=Z,460nm,17.2s
ULM Lac du Bonnet 95.48 39 LR LR 09 54 24.1
comp=Z,1µm,18.0s,baz=260,slow=34
PB01 IPOC Station P 95.61 114 IAmb IAmb 09 14 36.7
comp=Z,3.2nm,0.5s
SPMN Marine on St. 95.69 44 P **P** **09 14 27.8 +2.1**
MNMC Minye Minye 96.20 112 IAmb IAmb 09 14 50.7
comp=Z,9.1nm,1.1s
ULN Ulaanbaatar 96.55 318 *i* P **P** **09 14 31.8 +2.0**
ULN pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 96.96 318 LR LR 09 54 36.4
comp=Z,187nm,20.2s,baz=104,slow=33
I42A Draeger Farm, 97.91 47 P Pdif 09 14 37.7 +1.8
I42A IAmb IAmb 09 14 38.6
comp=Z,6.9nm,1.1s
COWI Conover 98.40 44 P Pdif 09 14 40.0 +2.0
LPAZ La Paz 98.53 110 LR LR 09 50 33.1
comp=Z,380nm,19.2s,baz=266,slow=30
GTA Gaotai 99.06 308 *e*P **Pdif** **09 14 41.8 +0.6**
GTA pP pP 09 14 46.4 -2.2
GTA sP sP 09 14 48.8 -2.4
GTA PP **PP** **09 18 45.8 +1.9**
GTA SKS **SKSac** **09 25 21.4 +3.3**

GTA S **S** **09 26 08.3 -2.5**
GTA sS pS 09 26 18.8 -1.5
GTA SS **SS** **09 33 00.0 +0.6**
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,140nm,8.9s
GTA LR LR
comp=Z,170nm,18.1s
GTA LR LR
comp=Z,350nm,19.4s
GTA LR LR
comp=Z,450nm,19.0s
ROSC El Rosal 99.60 88 LR LR 09 49 55.1
comp=Z,177nm,20.7s,baz=232,slow=30
TLY Talaya 99.81 321 *i* P **Pdif** **09 14 46.4 +2.3**
TLY pmax pmax
comp=Z,14nm,1.7s
KURK Kurchatov 115.26 318 PKIKP **PKPdf** **09 19 41.4 +0.2**
KURBB Kurchatov Arra 115.32 318 PKP **PKPdf** **09 19 41.4 0.0**
comp=Z,1.3nm,1.0s,baz=85,slow=1.8,SNR=8.2
BVAR Borovoye Array 120.07 321 PKP **PKPdf** **09 19 50.1 -0.4**
comp=Z,1.5nm,0.6s,baz=104,slow=3.1,SNR=6.8
BRVK Borovoye 120.13 321 *i* PKIKP **PKiKP** **09 19 52.5 +1.9**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 121.29 310 PKIKP **PKPdf** **09 19 52.0 -1.2**
KKAR Karatay Array 121.29 310 PKPdf **PKPdf** **09 19 52.0 -1.2**
ARCES ARCESS Array B 127.05 352 PKP **PKiKP** **09 20 04.0 +0.1**
comp=Z,3.5nm,0.7s,baz=347,slow=1.6,SNR=10
ABKAR Akbulak array 127.36 319 PKPdf **PKPdf** **09 20 02.6 -2.0**
FINES FINESS Array B 134.39 347 PKP **PKiKP** **09 20 18.7 -0.2**
comp=Z,6.2nm,1.1s,baz=42,slow=5.9,SNR=5.9
FINES FINESS Array B 134.39 347 *c i* PKIKP **PKPdf** **09 20 17.7 +0.2**
FINES pmax pmax
comp=Z,2.0nm,0.6s
OBN Obninsk 136.50 336⇑ *e*PKIKP **PKiKP** **09 20 23.2 -0.1**
OBN *e* 09 23 05.5
OBN *e*PPP PPP 09 26 02.8
OBN pmax pmax
comp=Z,10.0nm,0.4s
MAK Makhachkala 137.65 315 *e*P **Pdif** **09 17 26.9 -5.7**
MAK *i* 09 20 21.5
MAK *e* 09 27 32.0
MAK *e*SS SS 09 41 11.2 -6.8
MAK *e*SSS SSS 09 46 24.7
KBZ Khabaz 140.32 318 *i* PKIKP **PKiKP** **09 20 32.0 +0.5**
KBZ pmax pmax
comp=Z,1.0nm,0.9s
KIV Kislovodsk 140.34 319 *i* PKIKP **PKiKP** **09 20 32.3 +0.6**
KIV pmax pmax
comp=Z,14nm,1.0s
AKASG Malin Array Be 142.74 337 *c i* PKIKP **PKiKP** **09 20 37.5 +1.3**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
SIRT Sirnak 143.37 310 *e*P PKPab 09 20 30.4 -0.4
SVAN Silvan-Diyarba 144.00 311 *e*P PKPbc 09 20 34.6 +0.9
BNGB Bingl 144.01 313 *e*P **PKPdf** **09 20 35.1 -0.8**
MARD Mardin 144.65 310 **PKPdf** **09 20 37.2 +0.2**
MAZI Mazidag 144.83 311 *e*P **PKPdf** **09 20 37.3 -0.1**
KMBO Kilima Mbogo 144.87 241 PKP **PKiKP** **09 20 40.7 -1.4**
comp=Z,1.6nm,0.3s,baz=100,slow=2.9,SNR=8.4
KMBO Kilima Mbogo 144.87 241 *c i* PKIKP **PKiKP** **09 20 40.4 -1.7**
KMBO pmax pmax
comp=Z,2.0nm,0.3s
KMBO Kilima Mbogo 144.87 241 **PKPdf** **09 20 39.5 +1.2**
PTK Pertek 144.95 313 *e*P **PKPdf** **09 20 38.3 +0.7**
SVRC Sivrice-ELAZID 145.25 313 *e*P **PKPdf** **09 20 39.4 +1.3**
LVV L'vov 145.28 341 *e*PKIKP **PKPdf** **09 20 39.4 +1.8**
RSDY Resadiye-TOKAT 145.59 317 *e*P **PKPab** **09 20 39.7 +0.8**
MALT Malatya 145.89 313 *e*P **PKPab** **09 20 41.3 +1.1**
SNOP Sinop 145.99 321 *e*P **PKPab** **09 20 40.5 +0.2**
URFA Urfa 146.01 312 *e*P **PKPab** **09 20 41.7 +1.0**
KVT Kavak 146.03 319 *e*P **PKPab** **09 20 41.4 +0.8**
SVSK Karacayir 146.05 317 *e*P **PKPab** **09 20 41.8 +1.2**
OJC Ojcow 146.10 345 *e*PKP **PKPbc** **09 20 40.0 +0.1**
OJC Ojcow 146.10 345 PKIKP **PKPbc** **09 20 40.0 +0.1**
OJC Ojcow 146.10 345 **PKPbc** **09 20 40.0 +0.1**
TOKT Tokat 146.13 318 *e*P **PKPab** **09 20 40.9 -0.1**
DIKM Dikmen 146.18 321 *e*P **PKPab** **09 20 41.1 0.0**
KSP Ksiaz 146.24 350 *e*PKP **PKPab** **09 20 40.8 -0.2**
CLL Collm 146.25 353 *e*PKPdf **PKPdf** **09 20 39.0 -0.2**
CLL *e*PKPbc **PKPbc** **09 20 40.0 -0.3**
comp=Z,40nm,1.4s
CLL *i* PKiKP **PKiKP** **09 20 43.1 -0.3**
CLL *i* 09 20 50.1
comp=Z,69nm,1.1s
CLL *e* 09 21 24.0
CLL *e*PSKS 09 34 18.0
CLL *e*SSS SSS 09 48 30.0
CLL LmV 10 29 00.0
comp=Z,500nm,18.7s
CLL LmH 10 30 00.0
comp=N,300nm,18.9s
CLL LmH 10 30 00.0
comp=E,200nm,21.4s
CLL Collm 146.25 353 *e*PKIKP **PKPdf** **09 20 39.0 -0.2**
CLL *e* 09 20 40.0
CLL pmax pmax
comp=Z,40nm,1.4s
CHVC Chvalec 146.52 350 *e*PKP **PKPab** **09 20 42.0 -0.1**
OSTC Ostas 146.52 349 *e*PKP **PKPab** **09 20 42.1 0.0**
OSTC *e*SS SS 09 43 07.7 +8.6
OSTC AMS AMS 10 39 00.0
comp=Z,400nm,15.6s
BRG Berggiesshubel 146.56 352 *i* PKP **PKPbc** **09 20 41.4 +0.2**
comp=Z,18nm,1.1s
BRG SS SS 09 42 57.0 -2.4
comp=N,400nm,19.1s
comp=E,108nm,25.5s
comp=Z,448nm,15.6s
BRG Berggiesshubel 146.56 352 *i* PKP2 **PKPbc** **09 20 41.4 +0.2**
BRG SS SS 09 42 57.0 -2.4
BRG pmax pmax
comp=Z,18nm,1.1s
BRG MLR MLR
comp=N,400nm,19.1s
BRG MLR MLR
comp=E,108nm,25.5s
BRG MLR MLR
comp=Z,448nm,15.6s
KOLS Kolonicke sedl 146.60 342 *e*PKP2 **PKPab** **09 20 42.3 -0.2**
KOLS Kolonicke sedl 146.60 342 *e*PKP **PKPab** **09 20 42.3 -0.2**
KOLS *e* 09 20 47.0
UPC Upice 146.61 350 *e*PKP2 **PKPab** **09 20 42.0 -0.4**
UPC MLR MLR
comp=Z,400nm,21.9s
UPC Upice 146.61 350 *e*PKP **PKPab** **09 20 42.0 -0.4**
UPC AMS AMS 10 25 00.0
comp=Z,400nm,21.9s
DPC Dobruska-Polom 146.70 349 *e*PKP2 **PKPbc** **09 20 42.1 +0.4**
DPC MLR MLR
comp=Z,400nm,20.0s
DPC Dobruska-Polom 146.70 349 *e*PKP **PKPbc** **09 20 42.1 +0.4**
DPC AMS AMS 10 25 50.0
comp=Z,400nm,20.0s
NIE Niedzica 146.71 344 *e*PKP **PKiKP** **09 20 44.0 -0.5**
BZK Bozkurt 146.74 322 *e*P **PKPab** **09 20 43.2 0.0**
BURAR Bucovina Array 146.77 337⇑ P **PKiKP** **09 20 46.1 +1.3**
BURAR Bucovina Array 146.77 337⇑ PKP2 **PKiKP** **09 20 46.1 +1.3**
BURAR Bucovina Array 146.77 337 **PKPab** **09 20 42.6 -0.6**
PVCC Panska Ves 146.81 351 *e*PKP2 **PKPab** **09 20 43.1 -0.1**
PVCC MLR MLR
comp=Z,300nm,18.5s
PVCC Panska Ves 146.81 351 *e*PKP **PKPab** **09 20 43.1 -0.1**
PVCC AMS AMS 10 29 50.0
comp=Z,300nm,18.5s
UZH Uzhgorod 146.87 341 *e*PKIKP **PKPdf** **09 20 40.6 +0.3**
UZH *e* 09 20 43.0
UZH *i* 09 20 46.8
KRLC Kraliky 146.88 349 *e*PKP2 **PKPab** **09 20 43.0 -0.6**
KRLC MLR MLR
comp=Z,300nm,18.8s
KRLC Kraliky 146.88 349 *e*PKP **PKPab** **09 20 43.0 -0.6**
KRLC AMS AMS 10 32 50.0
comp=Z,300nm,18.8s
MORC Moravsky Berou 147.02 348⇑ P **PKPab** **09 20 43.9 -0.2**
MORC Moravsky Berou 147.02 348 *e*PKP **PKPbc** **09 20 42.5 -0.1**
MORC Moravsky Berou 147.02 348⇑ PKP2 **PKPab** **09 20 43.9 -0.2**
SARI SarD1z-Kayseri 147.22 315 *e*P **PKPab** **09 20 44.8 -0.7**
MEM Membach 147.26 1 PKiKP **PKPab** **09 20 44.9 -0.1**
GAZ Gaziantep 147.27 312 *e*P **PKPab** **09 20 44.9 -0.7**
GAZ Gaziantep 147.27 312 **PKPbc** **09 20 44.2 +0.4**
PRA Prague 147.28 351 AMS AMS 10 30 10.0

comp=Z,300nm,20.9s
YOZ Yozgat 147.29 318 eP PKPbc 09 20 44.6 +0.7
KMRS Kahramanmaras 147.33 313 eP PKPab 09 20 44.8 -1.0
PRU Pruhonice 147.34 351 ePKP2 PKPbc 09 20 43.7 +0.2
PRU eSS SS 09 43 05.8 -2.5
PRU MLR MLR
comp=Z,500nm,18.8s
PRU Pruhonice 147.34 351 ePKP PKPbc 09 20 43.7 +0.2
PRU eSS SS 09 43 05.8 -2.5
PRU AMS AMS 10 30 20.0
comp=Z,500nm,18.8s
NKC Novy Kostel 147.37 354 AMS AMS 10 29 30.0
comp=Z,400nm,17.6s
BNN Bunyan 147.37 316 eP PKPab 09 20 45.0 -1.0
GOPC GO Pecny, Ondr 147.38 351 AMS AMS 10 30 30.0
comp=Z,500nm,18.8s
CORM Corum 147.43 319 eP PKPab 09 20 45.2 -1.0
ILGA Ilgaz 147.47 321 PKPbc 09 20 45.1 +0.7
BHOU Houvegnez 147.52 1 PKiKP PKiKP 09 20 46.1 -0.1
CFR Carcaliu 147.55 332 ⇑P PKPbc 09 20 44.6 +0.4
CFR Carcaliu 147.55 332 ⇑PKP2 PKPbc 09 20 44.6 +0.4
VRI Vrincioaia 147.62 334 ⇑P PKPbc 09 20 43.3 -1.1
VRI Vrincioaia 147.62 334 ⇑PKiKP PKPbc 09 20 43.3 -1.1
VRAC Vranov 147.65 348 ePKP PKPbc 09 20 44.7 +0.3
PLOR Plostina 147.66 334 ⇑P PKPbc 09 20 45.4 +0.9
PLOR Plostina 147.66 334 ⇑PKP2 PKPbc 09 20 45.4 +0.9
DOU Dourbes 147.72 3 pPKP PKPab 09 20 47.3 +0.5
CANT Cankiri 147.80 320 eP PKPbc 09 20 45.6 +0.5
OZUR 147.82 335 ⇓P PKPab 09 20 48.1 +0.7
JAVC Velka Javorina 147.86 347 ePKP PKiKP 09 20 46.1 -0.8
TREC Trest 147.87 350 AMS AMS 10 31 20.0
comp=Z,400nm,18.3s
KRUC Moravsky 147.93 348 ePKP PKPbc 09 20 45.0 -0.1
VYHS Vyhne 147.94 345 ePKP2 PKPbc 09 20 46.0 +0.8
VYHS Vyhne 147.94 345 ePKP PKPbc 09 20 46.0 +0.8
TIRR Tirgusor 147.97 331 eP PKPbc 09 20 45.9 +0.6
HARR Harsova 148.02 331 ⇓P PKPab 09 20 48.4 +0.2
HARR Harsova 148.02 331 ⇓PKP2 PKPab 09 20 48.4 +0.2
DOPR Dopca 148.08 336 ⇑P PKPbc 09 20 46.3 +0.6
KOZT Kozan 148.09 314 eP PKPbc 09 20 46.1 +0.2
PSZ Piszkesteto 148.20 344 PKP2 PKPbc 09 20 46.3 +0.3
PSZ Piszkesteto 148.20 344 PKPbc 09 20 46.3 +0.3
MLR Muntele Rosu 148.25 334 ⇑P PKiKP 09 20 47.4 -0.5
MLR Muntele Rosu 148.25 334 ⇑PKP2 PKiKP 09 20 47.4 -0.5
BR131 Keskin Array S 148.31 319 PKP2 PKPbc 09 20 46.9 +0.3
BR131 Keskin Array S 148.31 319 PKPbc 09 20 46.9 +0.3
BRTR Keskin Array B 148.31 319 PKPbc PKPbc 09 20 46.3 -0.3
comp=Z,8.3nm,0.9s,baz=101,slow=3.9,SNR=19
BRTR Keskin Array B 148.31 319 PKP2 PKPbc 09 20 46.0 -0.6
BRTR Keskin Array B 148.31 319 PKPbc 09 20 46.0 -0.6
KHC Kasperske Hory 148.32 352 c iPKiKP PKPbc 09 20 44.8 -1.4
KHC pmax pmax
comp=Z,39nm,1.0s
KHC Kasperske Hory 148.32 352 ePKP PKPbc 09 20 46.9 +0.7
KHC ex x 09 20 56.0
KHC AMS AMS 10 39 10.0
comp=Z,300nm,19.8s
MODS Modra-Piesok 148.41 347 ePKP2 PKPbc 09 20 46.8 +0.4
MODS Modra-Piesok 148.41 347 ePKP PKPbc 09 20 46.8 +0.4
GEC2 GERESS Array S 148.58 352 PKPbc 09 20 47.1 +0.1
GERES GERESS Array B 148.58 352 PKPbc PKPbc 09 20 46.9 -0.1
comp=Z,2.9nm,0.7s,baz=29,slow=3.0,SNR=12
GERES GERESS Array B 148.58 352 PKPbc 09 20 46.1 -0.8
VOIR 148.65 335 ⇑P PKPbc 09 20 46.6 -0.6
VOIR 148.65 335 ⇑PKP2 PKPbc 09 20 46.6 -0.6
KAIA Karaisali 148.73 314 eP PKiKP 09 20 49.2 +0.2
LOD Lodumlu 148.75 320 eP PKPbc 09 20 47.5 +0.2
SERE Sereflikochisa 148.81 318 eP PKiKP 09 20 48.6 -0.7
AFSR Afar-Bala (An 148.83 319 eP PKPbc 09 20 47.2 -0.7
CONA Conrad Observa 149.12 349 i PKiKP PKiKP 09 20 48.9 -0.7
comp=Z,32nm,1.5s
SIRR Siria 149.16 340 ⇓P PKiKP 09 20 49.3 -0.4
MERS Mersin 149.30 314 eP PKiKP 09 20 49.9 -0.4
PRD Provadia 149.40 330 eP PKiKP 09 20 50.8 +0.6
CHBY Cihanbeyli 149.45 318 eP PKPbc 09 20 49.6 +0.1
MOA Molln 149.47 351 ePKPab PKPab 09 20 52.6 -1.3
comp=Z,10.0nm,1.1s
BFO Black Forest 149.54 358 PKP2 PKPab 09 20 52.3 -1.9
BFO Black Forest 149.54 358 PKPab PKPab 09 20 52.3 -1.9
BZS Buzias 149.75 340 ⇓P PKiKP 09 20 50.5 -0.3
BZS Buzias 149.75 340 ⇓PKP2 PKiKP 09 20 50.5 -0.3
KIZK Mersin 149.76 313 eP PKPbc 09 20 50.2 0.0
AUSIV SIVRIHISAR 149.77 321 eP PKPbc 09 20 50.4 +0.1
ARSA Arzberg 149.83 349 ePKPbc PKPbc 09 20 50.1 0.0
comp=Z,10nm,1.0s
KIZT Kizilcal 149.91 319 eP PKPbc 09 20 50.8 +0.2
LADK Ladik-KONYA 150.00 318 eP PKPbc 09 20 50.7 -0.2
KONT Konya--Tatoy 150.16 317 eP PKPbc 09 20 50.8 -0.3
IKL Isikli 150.20 313 eP PKPbc 09 20 51.3 +0.1
RETA Reutte 150.25 355 i PKiKP PKiKP 09 20 51.9 0.0
comp=Z,16nm,1.3s
WATA Walderalm 150.32 354 i PKiKP PKiKP 09 20 51.9 -0.2
comp=Z,17nm,1.2s
AKKU Akkuyu-Mersin 150.33 313 eP PKPbc 09 20 51.6 0.0
JMB Yambol 150.35 330 eP PKiKP 09 20 52.4 +0.2
MOTA Moosalm 150.36 355 i PKiKP PKiKP 09 20 52.3 +0.1
comp=Z,15nm,1.1s
KBA Koelnbreinsper 150.36 351 i sPKPbc PKPab 09 20 55.1 -2.7
comp=Z,12nm,1.1s
WTTA Wattenberg 150.39 354 i PKiKP PKiKP 09 20 52.2 -0.1
comp=Z,13nm,0.8s
MDVR Moldovita 150.45 339 ⇑P PKPbc 09 20 50.3 -1.3
SQTA Sankt Quirin 150.47 354 i PKiKP PKiKP 09 20 52.3 -0.2
comp=Z,17nm,1.1s
SOKA Soboth 150.47 349 i PKiKP PKPbc 09 20 51.8 +0.1
comp=Z,8.2nm,0.9s
DAVA Damuels 150.51 356 i PKiKP PKiKP 09 20 53.1 +0.5
comp=Z,9.4nm,0.6s
TEKE Tekeli-Mersin 150.64 314 eP PKPbc 09 20 52.3 0.0
FETA Feichten 150.71 355 ePKPbc PKPbc 09 20 51.7 -0.6
comp=Z,15nm,0.9s
OBKA Obir 150.72 349 ePKiKP PKiKP 09 20 53.8 +0.8
comp=Z,16nm,1.4s
MYKA Terra Mystica 150.75 351 ePKiKP PKiKP 09 20 53.7 +0.7
comp=Z,18nm,1.5s
ABTA Abfaltersbach 150.80 352 i PKiKP PKPbc 09 20 52.6 +0.2
comp=Z,18nm,0.7s
ZOU Zoufplan 150.92 352 PKiKP 09 20 54.4 +0.9
CSS Mathiatis 151.09 311 eP PKiKP 09 20 54.9 +0.9
CSS Mathiatis 151.09 311 PKPbc 09 20 50.8 -2.6
FUORN Ofenpass-Fuorn 151.15 356 PKPdf 09 20 48.8 +1.2
CIMO Cimolais 151.24 352 PKPdf 09 20 49.6 +2.2
TUE Stuetta 151.35 357 PKiKP 09 20 54.4 0.0
SENIN Lac Senin/Sane 151.52 360 PKiKP 09 20 55.5 +0.7
KDZ Kurdzhali 151.53 330 eP PKiKP 09 20 55.5 +0.8
VTS Vitosha 151.72 334 eP PKPbc 09 20 53.9 -0.9
MMB Musomiste 152.35 332 eP PKPbc 09 20 55.7 -0.4
PGAV Gavieira, Arco 152.56 25 ePKPab PKPab 09 21 08.0 +0.9
PGAV Gavieira, Arco 152.56 25 eSS SS 09 44 14.7 +7.4
PGAV Gavieira, Arco 152.56 25 eLR LR 10 24 22.1
comp=Z,746nm,20.0s
PMOZ Porto Moniz, M 153.51 51 ePKPab PKPab 09 21 12.0 +0.6
PMOZ Porto Moniz, M 153.51 51 eLR LR 10 21 10.5
comp=Z,326nm,18.0s
MVO Moncorvo 153.74 25 ePKPab PKPab 09 21 07.1 -4.9
MVO Moncorvo 153.74 25 eSS SS 09 44 26.5 +6.4
MVO Moncorvo 153.74 25 eLR LR 10 26 14.9
comp=Z,340nm,18.0s
PMAR Madeira 153.76 51 ePKPab PKPab 09 21 14.9 +2.3
PCAS Casmilo, Conde 154.04 28 eSS SS 09 44 39.0 +16
MTE Manteigas 154.17 26 eLR LR 10 24 37.5
comp=Z,465nm,18.0s
PMAFR Mafra 154.54 31 ePKPab PKPab 09 21 14.9 -0.5
PMRV Marv??o 155.04 27 eSS SS 09 44 38.8 +4.5
PMRV Marv??o 155.04 27 eLR LR 10 22 06.6
comp=Z,491nm,18.0s
EVO Evora 155.49 30 ePKPab PKPab 09 21 15.1 -4.3
PFVI Vila Bisbo 156.18 33 ePKPab PKPab 09 21 25.2 +2.8
ESDC Sonseca Array 156.18 22 PKPab PKPab 09 21 24.8 +2.4
comp=Z,0.9nm,0.8s,baz=313,slow=3.6,SNR=6.1
ESDC Sonseca Array 156.18 22 PKPab 09 21 25.5 +3.1
PVAQ Vaqueiros 156.52 31 eLR LR 10 19 14.5
comp=Z,268nm,20.0s
DBIC Dimbokro 163.91 132 PKPab PKPab 09 21 58.2 +1.5
comp=Z,6.3nm,0.9s,baz=314,slow=5.4,SNR=3.1
TORD Torodi Ar. Bea 173.02 131 PKP PKPdf 09 21 11.2 +1.2
comp=Z,1.1nm,0.9s,baz=330,slow=1.9,SNR=4.5
TORD PKPab PKPab 09 22 37.5 +0.6
comp=Z,5.7nm,1.0s,baz=263,slow=4.4,SNR=12
TORD Torodi Ar. Bea 173.02 131 PKPdf 09 21 11.7 +1.6

*IDC **21** 09:05:42.6±0.8, 10.67N×121.70E, h0km, mb3.9/10,*

mb1 4.1/10, mb1mx3.8/61, mbtmp3.9/10, MS3.5/2, Ms1 3.5/2, ms1mx3.0/55, Error ellipse: s-maj=42.1km s-min=17.6km az=74.0
*MAN **21** 09:05:44.4, 10.78N×121.68E, h21km, MS3.5*
MAN Intensity III - San Jose City, Antique.
*NEIC **21** 09:05:48.2±1.1, 10.7N±0.1×121.7E±0.2, h37km±6km, mb4.3/6, Error ellipse: s-maj=27.1km s-min=16.0km az=92.0*
ISC 21 09:05:45.1±1.0, **10.78N**±0.04×**121.67E**±0.03, **h16**km±6km, **n32**, σ1s**28**/38, **mb4.0**/12, **1C-1D, Panay**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
JAP	**San Jose, Anti**	**0.28**	**97**	⇓iP	**Pg**	**09 05 50.6**	**-0.5**
JAP				*i* S	**Sg**	**09 05 56.2**	**+1.1**
CUYO	**Cuyo Island**	**0.64**	**276**	*e*P	**Pg**	**09 05 57.8**	**0.0**
CUYO				*e*S	**Sg**	**09 06 05.5**	**-0.8**
GUIM	**Jordan**	**0.92**	**100**	*e*P	**Pg**	**09 06 01.8**	**-1.1**
GUIM				*e*S	**Sb**	**09 06 15.3**	**+0.7**
CNOP	**Candoni, Negro**	**1.34**	**135**	*e*P	**Pn**	**09 06 07.2**	**-2.0**
CNOP				*e*S	**Sb**	**09 06 24.5**	**-2.5**
OTRP	**Odiongan**	**1.61**	**12**	*e*P	**Pn**	**09 06 11.1**	**-1.8**
OTRP				*e*S	**Sn**	**09 06 31.1**	**-2.2**
BUSP	**Coron**	**1.89**	**310**	*e*P	**Pb**	**09 06 19.9**	**+0.8**
BUSP				*e*S	**Sg**	**09 06 46.2**	**+0.4**
ENPP	**El Nido**	**2.24**	**281**	*e*P	**Pn**	**09 06 19.6**	**-2.0**
ENPP				*e*S	**Sn**	**09 06 47.0**	**-2.0**
LLP	**Lapu-Lapu**	**2.31**	**101**	⇑*i*P	**Pn**	**09 06 23.9**	**+1.4**
LLP				*i* S	**Sb**	**09 06 54.4**	**-0.2**
BOAC	**Boac**	**2.67**	**4**	*e*P	**Pn**	**09 06 26.3**	**-1.1**
BOAC				*e*S	**Sn**	**09 06 59.9**	**+0.4**
PAGZ	**Pagadian**	**3.37**	**150**	*e*P	**Pn**	**09 06 36.3**	**-0.8**
DAV	**Davao City (W)**	**5.34**	**133**	LR	LR	09 09 28.7	
	comp=Z,226nm,18.4s,baz=354,slow=43						
MYLDM	**Lahad Datu**	**6.39**	**210**	Pn	**Pn**	**09 07 20.8**	**+2.1**
GUMO	**Guam**	**22.85**	**81**	LR	LR	09 18 07.7	
	comp=Z,240nm,20.2s,baz=341,slow=33						
WRA	**Warramunga Arr**	**32.98**	**158**	P	**P**	**09 12 17.9**	**-1.6**
	1.1nm,0.6s,baz=334,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**32.98**	**158**	IAmb	IAmb	09 12 18.0	
	comp=Z,0.3nm,1.2s						
USRK	**Ussuriysk Ar.**	**34.47**	**13**	P	**P**	**09 12 33.5**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=170,slow=6.1,SNR=5.8						
ASAR	**Alice Springs**	**36.27**	**161**	P	**P**	**09 12 47.0**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=338,slow=7.1,SNR=5.2						
KLR	**Kul'dur**	**39.24**	**10**	P	**P**	**09 13 13.6**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=228,slow=5.5,SNR=8.7						
STKA	**Stephens Creek**	**46.51**	**156**	P	**P**	**09 14 11.3**	**-0.6**
	comp=Z,3.8nm,0.8s,baz=338,slow=9.2,SNR=4.9						
STKA	**Stephens Creek**	**46.51**	**156**	IAmb	IAmb	09 14 29.2	
	comp=Z,0.7nm,1.1s						
MKAR	**Makanchi Array**	**48.94**	**325**	P	**P**	**09 14 31.7**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=141,slow=8.1,SNR=4.6						
MKAR				PcP	**PcP**	**09 15 54.9**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=151,slow=2.8,SNR=3.6						
KURBB	**Kurchatov Arra**	**53.13**	**327**	P	**P**	**09 15 02.8**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=132,slow=6.6,SNR=6.1						
ABKAR	**Akbulak array**	**63.55**	**320**	P	**P**	**09 16 15.5**	**+0.6**
TTA	**Tatalina**	**76.98**	**28**	P	**P**	**09 17 38.1**	**+1.1**
TTA				IAmb	IAmb	09 17 38.8	
	comp=Z,4.6nm,1.1s						
BPAW	**Bear Paw Mtn.**	**79.22**	**27**	P	**P**	**09 17 49.6**	**+0.3**
MCK	**McKinley**	**80.15**	**27**	P	**P**	**09 17 53.1**	**-1.3**
MCK				IAmb	IAmb	09 17 55.4	
	comp=Z,6.1nm,0.8s						
ILAR	**Eielson Array**	**80.95**	**26**	P	**P**	**09 17 58.7**	**0.0**
	comp=Z,0.5nm,0.8s,baz=257,slow=5.9,SNR=4.1						
BMAR	**Burnt Mountain**	**81.57**	**23**	P	**P**	**09 18 03.2**	**+1.3**
BRTR	**Keskin Array B**	**81.70**	**309**	P	**P**	**09 18 03.9**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=123,slow=4.6,SNR=4.4						
CTGM	**Chitina Glacie**	**84.04**	**29**	P	**P**	**09 18 16.4**	**+1.4**
INK	**Inuvik**	**85.46**	**21**	P	**P**	**09 18 22.6**	**+0.8**
	comp=Z,4.1nm,1.1s,baz=324,slow=3.8,SNR=3.7						
BURAR	**Bucovina Array**	**86.44**	**318**	P	**P**	**09 18 27.0**	**-0.2**

*HEL **21** 09:34:45.4±0.8, 67.58N×34.38E, h0km, ML2.2, Explosion*
*KOLA **21** 09:34:46.4, 67.70N×34.31E, h0km*
*NAO **21** 09:34:47.6±1.3, 67.64N×34.10E, ML2.5*
ISC 21 09:34:49.7±1.5, **67.78N**±0.04×**33.49E**±0.08, **h0**km, **n22**, σ2s**17**/47, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
APA	**Apatity**	**0.22**	**189**	P	**Pg**	**09 34 53.0**	**-0.9**
APA				S	**Sg**	**09 34 57.8**	**+1.2**
APZ9	**Apatity**	**0.22**	**189**	Pg	**Pg**	**09 34 53.2**	**-0.6**
APZ9				Lg		09 34 57.6	
APZ9	**Apatity**	**0.22**	**189**	Pg	**Pg**	**09 34 53.2**	**-0.6**
APZ9				Sg	**Sg**	**09 34 57.6**	**+1.0**
APA0	**Apatity Array**	**0.26**	**227**	Pg	**Pg**	**09 34 55.5**	**+0.8**
	baz=85,slow=16						
APA0				Lg	Lg	09 35 01.9	
	baz=85,slow=37						
APA0				Rg	Rg	09 35 04.3	
	baz=72,slow=28						
APA0	**Apatity Array**	**0.26**	**227**	P	**Pg**	**09 34 55.5**	**+0.8**
APA0				S	**Sb**	**09 35 02.2**	**-0.1**
APA0	**Apatity Array**	**0.26**	**227**	Pg	**Pg**	**09 34 55.5**	**+0.8**
	baz=85,slow=16						
APA0				Sg	**Sb**	**09 35 01.9**	**-0.4**
	baz=85,slow=37						
APA0				Rg	Rg	09 35 04.3	
	baz=72,slow=28						
VRF	**Varrio**	**1.48**	**270**	PG	**Pb**	**09 35 18.1**	**+0.1**
VRF				MSG		09 35 40.1	
	comp=Z,27nm,0.2s						
VRF				SG	**Sn**	**09 35 40.2**	**+2.8**
KU6	**Riekki**	**2.27**	**220**	PG	**Pn**	**09 35 27.4**	**-0.9**
	baz=45						
KU6				MSG		09 35 55.4	
	comp=Z,8.8nm,0.2s						
KU6				SG	**Sb**	**09 35 58.6**	**-1.3**
MSF	**Maaselka**	**2.58**	**225**	PG	**Pn**	**09 35 32.7**	**+0.1**
SGF	**Sodankyl**	**2.69**	**266**	PG	**Pb**	**09 35 39.3**	**+0.7**
SGF				SG	**Sg**	**09 36 16.4**	**+0.5**
ARA0	**ARCESS Array S**	**3.41**	**305**	Pn	**Pn**	**09 35 44.9**	**+0.9**
	baz=124,slow=16						
ARA0				Pg	**Pg**	**09 35 54.4**	**-0.5**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**09 36 27.4**	**+2.4**
	baz=120,slow=28						
ARA0				Lg	Lg	09 36 38.1	
	baz=110,slow=37						
ARA0	**ARCESS Array S**	**3.41**	**305**	Pn	**Pn**	**09 35 44.9**	**+0.9**
	baz=124,slow=16						
ARA0				Pg	**Pg**	**09 35 54.4**	**-0.5**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**09 36 27.4**	**+2.4**
	baz=120,slow=28						
ARA0				Sg	**Sg**	**09 36 38.1**	**-0.9**
	baz=110,slow=37						
ARE0	**ARCESS Array S**	**3.41**	**305**	PN	**Pn**	**09 35 44.9**	**+0.8**
ARE0				SN	**Sb**	**09 36 30.7**	**-2.1**
ARE0	**ARCESS Array S**	**3.41**	**305**	*e*P	**Pn**	**09 35 44.8**	**+0.8**
ARE0				*e*S	**Sn**	**09 36 24.4**	**-0.6**
ARE0				IAML		09 36 45.3	
	comp=Z,12nm,0.3s						
KTK1	**Kautokeino**	**3.99**	**293**	*e*P	**Pn**	**09 35 53.8**	**+1.9**
KTK1				*e*S	**Sn**	**09 36 37.1**	**-2.3**
KTK1				IAML		09 37 07.0	
	comp=Z,12nm,0.6s						
LANU	**Lannavaara**	**4.35**	**279**	PN	**Pn**	**09 35 56.8**	**-0.1**
LANU				SN	**Sn**	**09 36 51.6**	**+3.3**
HAMF	**Hammerfest**	**4.52**	**314**	Pn	**Pn**	**09 36 00.2**	**+1.0**
HAMF				Sn	**Sn**	**09 36 53.9**	**+1.5**
HAMF				Lg	Lg	09 37 13.6	
HAMF	**Hammerfest**	**4.52**	**314**	Pn	**Pn**	**09 36 00.2**	**+1.0**
HAMF				Sn	**Sn**	**09 36 53.9**	**+1.5**
HAMF				Sg	**Sg**	**09 37 13.6**	**-1.1**
KIF	**Kilpisjarvi**	**4.85**	**290**	Pn	**Pn**	**09 36 03.4**	**-0.3**
KIF				Sn	**Sn**	**09 37 01.6**	**+1.2**
KIF				Lg	Lg	09 37 20.9	
KIF	**Kilpisjarvi**	**4.85**	**290**	Pn	**Pn**	**09 36 03.4**	**-0.3**
KIF				Sn	**Sn**	**09 37 01.6**	**+1.2**
KIF				Sg	**Sg**	**09 37 20.9**	**-4.2**
FIA0	**FINESS Array S**	**7.11**	**210**	Pn	**Pn**	**09 36 32.8**	**-2.0**
	baz=32,slow=12						
FIA0				Sn	**Sn**	**09 37 49.8**	**-6.5**
	baz=24,slow=18						
FIA0				Lg	Lg	09 38 24.7	
FIA0	**FINESS Array S**	**7.11**	**210**	Pn	**Pn**	**09 36 32.8**	**-2.0**
	baz=32,slow=12						
FIA0				Sn	**Sn**	**09 37 49.8**	**-6.5**
	baz=24,slow=18						
FIA0				Sg	**Sb**	**09 38 24.7**	**+5.5**

HEL 21 09:36:06.4±0.4, **65.82N**×**28.85E**, **h0**km, **ML1.7, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
MSF	**Maaselka**	**0.12**	**42**	PG	**Pg**	**09 36 08.9**	**+0.2**
	baz=215						
MSF				SG	**Sg**	**09 36 10.8**	**+0.6**
MSF	**Maaselka**	**0.12**	**42**	SG	**Pg**	**09 36 08.8**	**+0.2**
TOF	**Tornio**	**1.87**	**280**	SN	**Pb**	**09 36 40.8**	**-0.6**
TOF	**Tornio**	**1.87**	**280**	PG	**Pb**	**09 36 40.5**	**-0.9**
TOF				MSG		09 37 01.9	
	comp=Z,4.3nm,0.2s						
ERTU	**Ertsjaerv**	**2.80**	**288**	PG	Pb	09 36 55.4	-1.8
LANU	**Lannavaara**	**3.50**	**313**	PG	Pb	09 37 09.0	-0.2
KAF	**Kangasniemi**	**3.89**	**198**	PG	Pb	09 37 17.6	+1.9
KEF	**Keuruu**	**4.07**	**207**	PB	Pn	09 37 14.2	+4.5
KIF	**Kilpisjarvi**	**4.45**	**319**	PB	Pb	09 37 22.2	-3.1

*IDC **21** 09:39:50.9±3.6, 34.56N×25.12E, h14km±24km, mb3.6/2, mb1 3.6/4, mb1mx3.3/41, mbtmp3.6/4, ML3.9/2, Error ellipse: s-maj=25.7km s-min=18.2km az=95.0*
*ISK **21** 09:39:53.6, 34.70N×24.97E, h24km, ML3.4/10*
*ATH **21** 09:39:54.5, 34.77N×24.91E, h41km±1km, ML3.0/11, Error ellipse: s-maj=3.2km s-min=1.2km az=351.0*
*THE **21** 09:39:55.1, 34.73N×24.95E, h26km, ML3.0/9, Error ellipse: s-maj=0.8km s-min=0.3km az=353.0*
ISC 21 09:39:54.5±1.1, **34.72N**±0.05×**24.93E**±0.02, **h32**km±7km, **n63**, σ0s**73**/79, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.31**	**341**	P	**Pb**	**09 40 02.1**	**-0.2**
SIVA				S	**Sb**	**09 40 07.8**	**+0.2**
	10μm,0.3s						
SIVA	**Sivas**	**0.31**	**341**	P	**Pb**	**09 40 02.1**	**-0.2**
SIVA				S	**Sb**	**09 40 08.1**	**+0.4**
SIVA				AML	AML	09 40 09.8	
	comp=E,22766μm,0.4s						
SIVA				AML	AML	09 40 10.7	
	comp=N,16852μm,0.3s						
TMBK	**Timbaki Herakl**	**0.38**	**339**	P	**Pb**	**09 40 03.1**	**-0.1**
IDI	**Anoyia**	**0.57**	**357**	Pg	**Pb**	**09 40 05.6**	**-0.6**
	comp=N,70nm,0.3s,baz=160,slow=13,SNR=257						
IDI				Lg	Lg	09 40 15.8	
	comp=N,162nm,0.3s,baz=317,slow=15,SNR=18						
IDI				LR	LR	09 40 40.1	
	comp=N,122nm,20.8s,baz=248,slow=66						
IDI	**Anoyia**	**0.57**	**357**	P	**Pb**	**09 40 05.8**	**-0.4**
IDI				S	**Sb**	**09 40 14.3**	**+0.1**
	comp=N,1μm,0.4s						
IDI	**Anoyia**	**0.57**	**357**	P	**Pb**	**09 40 05.8**	**-0.4**
IDI				S	**Sn**	**09 40 14.8**	**+0.1**
IDI				AML	AML	09 40 17.4	
	comp=E,2312μm,0.5s						
IDI				AML	AML	09 40 18.7	
	comp=N,2314μm,0.4s						
IDI	**Anoyia**	**0.57**	**357**	PG	**Pb**	**09 40 06.1**	**-0.1**
IDI				SG	**Sn**	**09 40 15.2**	**+0.5**
KSTL	**Kastelli Herak**	**0.59**	**11**	P	**Pb**	**09 40 06.2**	**-0.3**
IACM	**Heraklion**	**0.59**	**11**	P	**Pb**	**09 40 06.2**	**-0.4**
IACM	**Heraklion**	**0.59**	**11**	P	**Pb**	**09 40 06.8**	**+0.3**
LAST	**Lasithi**	**0.63**	**46**	P	**Pb**	**09 40 06.9**	**-0.3**
LAST				S	**Sb**	**09 40 15.8**	**-0.1**
	comp=N,1μm,0.6s						
LAST	**Lasithi**	**0.63**	**46**	P	**Pb**	**09 40 07.4**	**+0.2**
LAST				S	**Sn**	**09 40 17.0**	**+0.7**
LAST				AML	AML	09 40 18.3	
	comp=N,1854μm,0.7s						
LAST				AML	AML	09 40 21.8	
	comp=E,2518μm,0.5s						
GVDS	**Gavdos**	**0.70**	**280**	P	**Pn**	**09 40 08.8**	**+0.6**
GVDS				S	**Sn**	**09 40 19.2**	**+1.2**
	comp=E,1μm,0.5s						
GVDS	**Gavdos**	**0.70**	**280**	PG	**Pn**	**09 40 09.1**	**+0.9**
GVD	**Gavdhos**	**0.70**	**280**	P	**Pb**	**09 40 08.4**	**0.0**
GVD				S	**Sb**	**09 40 18.3**	**+0.5**
	comp=E,2μm,0.8s						
GVD	**Gavdhos**	**0.70**	**280**	P	**Pn**	**09 40 08.6**	**+0.4**
GVD				S	**Sn**	**09 40 18.8**	**+0.8**
GVD				AML	AML	09 40 22.6	
	comp=N,3810μm,0.5s						
GVD				AML	AML	09 40 26.3	
	comp=E,3973μm,0.5s						
GVD	**Gavdhos**	**0.70**	**280**	PG	**Pn**	**09 40 08.7**	**+0.4**
PRNS	**Prines Rethymn**	**0.73**	**331**	P	**Pb**	**09 40 08.7**	**-0.2**
NPS	**Neapolis**	**0.78**	**46**	P	**Pb**	**09 40 08.9**	**-0.7**
NPS				S	**Sb**	**09 40 19.4**	**-0.5**
	comp=E,1μm,0.6s						
NPS	**Neapolis**	**0.78**	**46**	P	**Pn**	**09 40 09.8**	**+0.5**
NPS				S	**Sn**	**09 40 21.2**	**+1.4**
NPS				AML	AML	09 40 24.4	
	comp=E,2669μm,0.7s						
NPS				AML	AML	09 40 26.3	
	comp=N,2125μm,0.6s						
VAM	**Vamos**	**0.91**	**319**	P	**Pn**	**09 40 11.0**	**-0.1**
VAM				S	**Sb**	**09 40 23.6**	**0.0**
	comp=N,1μm,0.4s						
VAM	**Vamos**	**0.91**	**319**	P	**Pn**	**09 40 11.4**	**+0.3**
STIA	**Sitia Lasithi**	**1.07**	**63**	P	**Pn**	**09 40 13.2**	**0.0**
IMMV	**Iera Moni Meta**	**1.07**	**314**	P	**Pn**	**09 40 13.3**	**0.0**
IMMV				S	**Sn**	**09 40 27.7**	**+0.6**
	comp=N,1μm,0.6s						
IMMV	**Iera Moni Meta**	**1.07**	**314**	P	**Pn**	**09 40 14.1**	**+0.8**
IMMV				AML	AML	09 40 34.3	
	comp=N,2208μm,0.6s						
IMMV				AML	AML	09 40 36.0	
	comp=E,1946μm,0.7s						
IMMV	**Iera Moni Meta**	**1.07**	**314**	PN	**Pn**	**09 40 14.1**	**+0.8**
CHAN	**Chania**	**1.08**	**318**	P	**Pn**	**09 40 13.6**	**+0.2**
ZKR	**Zakros**	**1.13**	**69**	P	**Pn**	**09 40 13.8**	**-0.3**
ZKR				S	**Sn**	**09 40 28.6**	**+0.1**
	comp=E,485nm,0.6s						
ZKR	**Zakros**	**1.13**	**69**	P	**Pb**	**09 40 15.5**	**+0.1**
ZKR				S	**Sb**	**09 40 29.7**	**-0.1**
ZKR				AML

VLI	**Veliai**	**2.57**	**321**	P	**Pn**	**09 40 33.6**	**-0.3**
DAT	**Datca**	**2.94**	**46**	PN	**Pn**	**09 40 40.2**	**+1.1**
ARG	**Arkhangelos**	**3.00**	**59**	Pn	**Pn**	**09 40 40.9**	**+1.0**
DID	**Didima**	**3.10**	**334**	P	**Pn**	**09 40 40.8**	**-0.4**
YER	**Yerkesik**	**3.63**	**48**	Pn	**Pn**	**09 40 50.0**	**+1.4**
DALY	**Dalyan (Mula)**	**3.68**	**54**	PN	**Pn**	**09 40 50.3**	**+1.2**
AKAS	**Kas**	**4.10**	**67**	PN	**Pn**	**09 40 56.5**	**+1.4**
AKASG	**Malin Array Be**	**16.27**	**10**	Pn	**Pn**	**09 43 40.3**	**-0.3**
	comp=E,0.8nm,0.3s,baz=200,slow=11,SNR=4.8						
GERES	**GERESS Array B**	**16.38**	**333**	Pn	**Pn**	**09 43 43.6**	**+1.6**
	comp=E,0.2nm,0.3s,baz=147,slow=13,SNR=5.0						
TORD	**Torodi Ar. Bea**	**30.06**	**230**	P	**P**	**09 45 59.7**	**-1.2**
	comp=E,0.6nm,0.5s,baz=37,slow=8.4,SNR=7.4						
MKAR	**Makanchi Array**	**44.17**	**56**	P	**P**	**09 47 59.0**	**-1.3**
	comp=E,0.3nm,0.4s,baz=264,slow=8.6,SNR=7.1						

BER ***21*** *10:10:42.0±0.9, 60.47°N×15.71°E, h20km±690km, ML1.3*
UPP 21 10:10:41.8±0.1, 60.62°N×15.11°E, h0km, ML1.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FALU	**Falun**	**0.38**	**109**	P	Pg	10 10 49.1	+0.1
FALU				S	Sg	10 10 54.3	+0.4
ROTU	**Roteberg**	**0.87**	**23**	P	Pg	10 10 58.2	-0.3
ROTU				S	Sg	10 11 09.7	0.0
UDD	**Uddeholm**	**0.92**	**235**	P	Pg	10 10 59.0	-0.3
UDD				S	Sg	10 11 10.7	-0.5
NRAU	**Nora**	**1.05**	**182**	P	Pg	10 11 01.3	-0.6
IGGU	**Iggoen**	**1.11**	**76**	P	Pg	10 11 02.6	-0.5
FIBU	**Brunna**	**1.33**	**122**	P	Pg	10 11 06.7	-0.6
HUDU	**Hudiksvall**	**1.48**	**40**	P	Pn	10 11 09.2	-0.5
HUDU				S	Sg	10 11 28.1	-1.3
ARNU	**Arnoeviken**	**1.54**	**45**	P	Pn	10 11 10.0	-0.4
ARNU				S	Sn	10 11 30.3	-0.8
NC602	**NORSAR Array S**	**1.76**	**275**	*e*P	Pn	10 11 14.0	+0.5
NC602				*e*S	Sb	10 11 37.2	-0.4
NC602				IAML		10 11 40.6	
	comp=Z,4.1nm,0.4s						
NB201	**NORSAR Array S**	**1.92**	**285**	*e*P	Pn	10 11 16.6	+0.9
NB201				*e*S	Sb	10 11 42.3	+0.2
NB201				IAML		10 11 44.5	
	comp=Z,2.6nm,0.4s						
NC303	**NORSAR Array S**	**1.93**	**290**	*e*P	Pn	10 11 16.4	+0.7
NC303				*e*S	Sb	10 11 42.0	-0.3
NC303				IAML		10 11 44.5	
	comp=Z,5.6nm,0.3s						
NAO01	**NORSAR Array S**	**2.09**	**278**	*e*P	Pn	10 11 19.1	+1.1
NAO01				*e*S	Sb	10 11 46.4	-0.5
NAO01				IAML		10 11 48.9	
	comp=Z,4.0nm,0.5s						
NBO00	**NORSAR Array S**	**2.16**	**283**	*e*P	Pn	10 11 19.6	+0.5
NBO00				IAML		10 11 53.1	
	comp=Z,2.9nm,0.3s						
NC204	**NORSAR Array S**	**2.22**	**289**	*e*P	Pn	10 11 20.7	+0.8
NC204				*e*S	Sb	10 11 49.9	-1.0
NC204				IAML		10 11 52.5	
	comp=Z,4.0nm,0.4s						
SKAR	**Skarslia**	**3.35**	**274**	*e*P	Pn	10 11 36.3	+0.9
SKAR				*e*S	Sn	10 12 16.1	+0.2
SKAR				IAML		10 12 32.7	
	comp=Z,1.7nm,0.4s						

HEL 21 10:10:44.7±0.4, 62.94°N×27.99°E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUF	**Sumiainen**	**0.88**	**256**	PG	Pg	10 11 00.9	-0.5
	baz=72						
SUF				SB	Sg	10 11 12.5	-0.2
KAF	**Kangasniemi**	**1.14**	**224**	PG	Pg	10 11 05.3	-1.2
KEF	**Keuruu**	**1.64**	**243**	PG	Pn	10 11 14.3	-0.5
KEF				MSG		10 11 34.0	
	comp=Z,1.1nm,0.2s						
KEF				SN	Sb	10 11 37.0	0.0
FIA0	**FINESS Array S**	**1.75**	**212**	PG	Pn	10 11 16.0	-0.2
FIA0				SG	Sn	10 11 39.1	-0.1
OUF	**Merijarvi**	**2.04**	**316**	PG	Pn	10 11 21.2	+0.9
	baz=130						
OUF				MSG		10 11 45.3	
	comp=Z,0.7nm,0.2s						
OUF				SG	Sg	10 11 49.4	-0.8
VAF	**Ylistaro**	**2.43**	**275**	PG	Pn	10 11 27.4	+1.8
	baz=95						
VAF				MSG		10 11 56.7	
	comp=Z,1.6nm,0.2s						
RAF	**Rauma**	**3.51**	**240**	SB	Sn	10 12 26.5	+3.9
HEMU	**Hemsoen**	**4.58**	**271**	PN	Pn	10 11 56.7	+1.7
AAL	**Aland**	**4.72**	**238**	PN	Pn	10 11 56.7	-0.3

IDC ***21*** *10:22:08.2±1.1, 8.16°S×116.25E, h0km, mb4.0/6, mb1 4.3/8, mb1mx4.0/42, mbtmp4.1/8, ML4.0/2, MS3.2/2, Ms1 3.4/2, ms1mx2.8/32, Error ellipse: s-maj=36.3km s-min=18.3km az=59.0*
DJA ***21*** *10:22:10.6±0.2, 8.5±3.3°×11.6E±.°, h10km, M4.4/12, mB4.5/1, mb4.6/3, MLv4.3/12, Mw(mB)3.7/1*
NEIC ***21*** *10:22:11.9±2.1, 8.36S±0.08×116.14E±0.06, h26km±6km, mb4.5/18, Error ellipse: s-maj=11.3km s-min=8.0km az=187.0*
ISC 21 10:22:09.6±0.5, 8.34S±0.05×116.16E±0.04, h10km, n60, σ1°32/60, mb4.4/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWSI	**Taliwang, Sumb**	**0.82**	**119**	P	**Pb**	**10 22 26.7**	**+0.8**
TWSI				S	**Sb**	**10 22 38.8**	**+1.8**
SRBI	**Singaraja**	**0.97**	**285**	P	**Pg**	**10 22 28.5**	**+0.2**
SRBI				S	**Sb**	**10 22 42.0**	**+0.5**
DNP	**Denpasar**	**1.00**	**250**	P	**Pn**	**10 22 29.9**	**+0.2**
DNP				S	**Sn**	**10 22 44.4**	**+0.5**
PLAI	**Plampang**	**1.67**	**107**	P	**Pn**	**10 22 40.8**	**+1.8**
JAGI	**Jajag, Banyuwa**	**1.99**	**266**	P	**Pn**	**10 22 43.3**	**-0.1**
JAGI	**Jajag, Banyuwa**	**1.99**	**266**		**Pn**	**10 22 43.3**	**-0.1**
GMJI	**Gumukmas**	**2.69**	**271**	P	**Pn**	**10 22 53.7**	**+0.7**
GMJI				S	**Sn**	**10 23 24.9**	**-0.7**
WBSI	**Waikabubak, Su**	**3.44**	**112**	P	**Pn**	**10 23 04.8**	**+1.4**
GRJI	**Gresik**	**3.91**	**291**	P	**Pn**	**10 23 10.6**	**+0.8**
KAPI	**Kappang**	**4.86**	**47**	Pn	Pn	10 23 19.5	-3.4
	1.7nm,0.3s,baz=153,slow=17,SNR=3.2						
KAPI				Sn	**Sn**	**10 24 17.2**	**-2.1**
	9.0nm,0.3s,baz=188,slow=23,SNR=7.6						
KAPI	**Kappang**	**4.86**	**47**		**Pn**	**10 23 23.1**	**+0.2**
BKSI	**Bulukumba**	**4.95**	**53**	P	**Pn**	**10 23 24.6**	**+0.6**
KBKI	**Kotabaru**	**5.01**	**0**	P	**Pn**	**10 23 24.8**	**-0.1**
EDFI	**Ende, Flores**	**5.49**	**95**	P	**Pn**	**10 23 33.2**	**+1.6**
	0.1nm471nm24nm,0.6s						
UGM	**Wanagama**	**5.60**	**274**	P	**Pn**	**10 23 34.1**	**+1.1**
	0.7nm133nm,1.9s						
UGM	**Wanagama**	**5.60**	**274**	Pn	**Pn**	**10 23 33.2**	**+0.2**
SOEI	**Soe**	**8.13**	**101**	P	**Pn**	**10 24 09.4**	**+1.5**
SOEI	**Soe**	**8.13**	**101**	Pn	**Pn**	**10 24 08.8**	**+0.8**
PMBI	**Palembang**	**12.54**	**295**	Pn	**Pn**	**10 25 09.3**	**+1.1**
MBWA	**Marble Bar**	**13.20**	**165**	Pn	**Pn**	**10 25 16.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**13.38**	**137**	Pn	**Pn**	**10 25 19.1**	**-0.6**
	1.7nm,0.3s,baz=322,slow=7.6,SNR=40						
FITZ				Sn	**Sn**	**10 27 44.2**	**-4.5**
	0.6nm,0.3s,baz=192,slow=15,SNR=4.1						
FITZ	**Fitzroy Crossi**	**13.38**	**137**		**Pn**	**10 25 19.0**	**-0.8**
PSAD1	**Pilbara Seismi**	**13.51**	**165**	Pn	**Pn**	**10 25 20.6**	**-0.9**
PSA00	**Pilbara Seismi**	**13.63**	**165**		**Pn**	**10 25 22.2**	**-0.9**
KNRA	**Kununurra**	**14.32**	**122**		**Pn**	**10 25 32.5**	**-0.1**
GIRL	**Giralia**	**14.34**	**187**	Pn	**Pn**	**10 25 31.7**	**-1.2**
MTN	**Manton Dam**	**15.38**	**108**	Pn	**Pn**	**10 25 46.8**	**-0.1**
MTN				IAmb	IAmb	10 25 49.2	
	comp=Z,21nm,1.4s						
FAKI	**Fak Fak**	**16.89**	**72**	P	**P**	**10 26 09.3**	**+1.0**
FAKI				IAmb	IAmb	10 26 12.0	
	comp=Z,26nm,0.9s						
DAV	**Davao City (W)**	**17.96**	**32**	LR	LR	10 33 20.0	
	comp=Z,59nm,19.3s,baz=54,slow=38						
MORW	**Morawa**	**20.62**	**180**	P	**P**	**10 26 48.9**	**-0.4**
MORW				IAmb	IAmb	10 26 59.6	
	comp=Z,11nm,0.9s						
WB0	**Warramunga Arr**	**21.00**	**125**	P	**P**	**10 26 53.9**	**+0.5**
WB0				IAmb	IAmb	10 26 54.5	
	comp=Z,16nm,0.5s						
WRA	**Warramunga Arr**	**21.04**	**125**	P	**P**	**10 26 54.2**	**+0.3**
	comp=Z,12nm,0.4s,baz=302,slow=12,SNR=254						
WRA	**Warramunga Arr**	**21.04**	**125**	P	**P**	**10 26 54.4**	**+0.5**
WRAB	**Tennant Creek**	**21.04**	**125**	P	**P**	**10 26 54.7**	**+0.8**
WRAB				IAmb	IAmb	10 26 55.2	
	comp=Z,14nm,0.8s						
WB2	**Warramunga Arr**	**21.05**	**125**	P	**P**	**10 26 54.7**	**+0.7**
WB2				IAmb	IAmb	10 26 55.1	
	comp=Z,15nm,0.5s						
WR0	**Warramunga Arr**	**21.21**	**125**	P	**P**	**10 26 56.6**	**+0.9**
AS31	**Alice Springs**	**22.83**	**134**	P	**P**	**10 27 13.7**	**+0.6**
ASAR	**Alice Springs**	**22.83**	**134**	P	**P**	**10 27 13.5**	**+0.4**
	comp=Z,6.6nm,0.8s,baz=308,slow=8.4,SNR=108						
NWAO	**Narrogin (SRO)**	**24.49**	**178**	P	**P**	**10 27 28.9**	**-0.3**
FORT	**Forrest**	**24.94**	**155**	P	**P**	**10 27 31.3**	**-1.9**
COEN	**Coen**	**27.07**	**104**	P	**P**	**10 27 53.7**	**+0.9**
COEN				IAmb	IAmb	10 27 54.2	
	comp=Z,7.3nm,0.6s						
BBOO	**Buckleboo**	**30.54**	**146**	P	**P**	**10 28 24.0**	**+0.6**
BBOO				IAmb	IAmb	10 28 37.1	
	comp=Z,12nm,1.2s						
CMAR	**Chiang Mai Arr**	**31.59**	**328**	LR	LR	10 43 28.9	
	comp=Z,61nm,18.2s,baz=201,slow=41						
STKA	**Stephens Creek**	**33.28**	**138**	P	**P**	**10 28 48.5**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=312,slow=11,SNR=4.5						
STKA	**Stephens Creek**	**33.28**	**138**	P	**P**	**10 28 44.7**	**-2.8**
ARMA	**Armidale**	**39.76**	**128**	P	**P**	**10 29 44.2**	**+1.3**
H08S2	**Diego Garcia H**	**43.23**	**268**	T	T	11 16 18.2	
	baz=96,slow=74,SNR=4.7						
H08S3	**Diego Garcia H**	**43.24**	**268**	T	T	11 16 03.2	
	baz=96,slow=74,SNR=3.3						
H08S1	**Diego Garcia H**	**43.25**	**268**	T	T	11 16 28.5	
	baz=96						
LZH	**Lanzhou**	**45.68**	**346**	*e*P	**P**	**10 30 34.3**	**+3.3**
LZH				pP	sP	10 30 39.1	+3.9
LZH				sP	pP	10 30 41.8	+7.8
LZH				PP	**PP**	**10 32 15.6**	**-2.5**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				pmax	pmax		
	comp=Z,66nm,4.3s						
GTA	**Gaotai**	**49.87**	**343**	*e*P	**P**	**10 31 04.5**	**+1.1**
GTA				pP	sP	10 31 11.3	+3.7
GTA				sP	pP	10 31 14.1	+7.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**56.59**	**352**	P	**P**	**10 31 52.9**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=175,slow=8.9,SNR=5.8						
SONM	**Songino Array**	**56.59**	**352**	P	**P**	**10 31 53.7**	**+1.0**
MKAR	**Makanchi Array**	**62.62**	**334**	P	**P**	**10 32 33.1**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=157,slow=7.8,SNR=3.2						
MKAR	**Makanchi Array**	**62.62**	**334**	P	**P**	**10 32 34.0**	**-0.3**
ZALV	**Zalesovo Beam**	**67.46**	**341**	P	**P**	**10 33 03.4**	**-2.1**
	comp=Z,1.1nm,0.5s,baz=128,slow=9.3,SNR=3.1						
MAW	**Mawson**	**68.92**	**199**	P	**P**	**10 33 14.9**	**+0.4**
VNDA	**Vanda**	**73.08**	**171**	P	**P**	**10 33 40.8**	**+1.2**
ABKAR	**Akbulak array**	**75.42**	**326**	P	**P**	**10 33 51.7**	**-2.0**
CPUP	**Villa Florida**	**144.96**	**190**	PKPbc	PKPbc	10 41 47.7	+0.6
	comp=Z,2.2nm,0.9s,baz=159,slow=8.3,SNR=3.8						

IDC ***21*** *10:27:13.4±2.1, 21.0°S×178.24W, h513km±24km, mb3.5/9, mb1 3.6/12, mb1mx3.3/32, mbtmp4.4/12, Error ellipse: s-maj=26.8km s-min=16.6km az=150.0*
ISC 21 10:27:17.1±1.1, 21.1S±0.2×178.4W±0.1, h550km, n14, σ0.75/14, mb3.9/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.54**	**43**	P	P	10 29 23.9	-6.7
	10nm,0.3s,baz=211,slow=1.4,SNR=18						
DZM	**Mont Dzumac**	**14.11**	**263**	P	**P**	**10 30 16.6**	**-1.0**
	0.6nm,0.3s,baz=76,slow=18,SNR=9.5						
URZ	**Urewera**	**17.55**	**192**	P	**P**	**10 30 50.1**	**-0.4**
	1.1nm,0.3s,baz=297,slow=3.7,SNR=5.8						
CTA	**Charters Tower**	**33.04**	**265**	P	**P**	**10 33 08.2**	**+0.6**
	2.0nm,0.4s,baz=86,slow=10,SNR=7.3						
JAY	**Jayapura**	**43.85**	**289**	P	**P**	**10 34 35.5**	**+0.2**
	6.3nm,0.3s,baz=153,slow=6.9,SNR=9.5						
ASAR	**Alice Springs**	**44.00**	**257**	P	**P**	**10 34 36.3**	**0.0**
	1.9nm,0.5s,baz=93,slow=7.9,SNR=35						
ASAR				PcP	**PcP**	**10 36 10.0**	**+0.1**
	0.7nm,0.7s,baz=107,slow=3.4,SNR=4.9						
ASAR				S	**S**	**10 40 29.0**	**+0.2**
	0.7nm,0.9s,baz=89,slow=16,SNR=4.4						
WRA	**Warramunga Arr**	**44.13**	**263**	P	**P**	**10 34 37.0**	**-0.4**
	1.0nm,0.4s,baz=97,slow=7.4,SNR=31						
SIJI	**Sorong**	**53.01**	**286**	P	**P**	**10 35 43.5**	**+0.2**
	22nm,0.7s,baz=104,slow=4.2,SNR=5.3						
MJAR	**Matsushiro Arr**	**70.44**	**324**	P	**P**	**10 37 35.7**	**-0.7**
	1.1nm,0.6s,baz=202,slow=1.9,SNR=4.5						
PETK	**Petropavlovsk-**	**76.73**	**345**	P	**P**	**10 38 10.9**	**-0.8**
	1.3nm,0.4s,baz=112,slow=9.8,SNR=3.6						
TXAR	**Lajitas Array**	**87.70**	**57**	P	**P**	**10 39 08.2**	**+0.3**
	0.4nm,0.9s,baz=193,slow=5.0,SNR=4.1						
CMAR	**Chiang Mai Arr**	**89.93**	**290**	P	**P**	**10 39 20.2**	**+1.8**
	1.5nm,0.4s,baz=136,slow=2.1,SNR=7.7						
AKASG	**Malin Array Be**	**143.33**	**330**	PKP	PKPab	10 45 46.2	-0.8
	1.3nm,0.5s,baz=43,slow=4.2,SNR=12						
GERES	**GERESS Array B**	**150.65**	**344**	PKPbc	**PKPbc**	**10 46 06.8**	**-0.4**
	0.5nm,0.6s,baz=358,slow=6.7,SNR=5.2						

IDC 21 10:28:60.0±2.1, 16.48S×173.10W, h0km, mb3.7/5, mb1 4.1/6, mb1mx3.8/32, mbtmp3.8/6, ML3.9/1, Error ellipse: s-maj=105.3km s-min=22.4km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.86**	**27**	Pn	Pn	10 29 47.1	+0.2
	19nm,0.3s,baz=176,slow=2.3,SNR=25						
AFI				Sn	Sn	10 30 15.8	-6.3
	84nm,0.3s,baz=56,slow=23,SNR=7.6						
WRA	**Warramunga Arr**	**49.88**	**258**	P	P	10 37 55.6	0.0
	0.2nm,0.4s,baz=96,slow=7.1,SNR=5.4						
ASAR	**Alice Springs**	**50.06**	**253**	P	P	10 37 56.9	-0.1
	2.8nm,0.6s,baz=88,slow=9.0,SNR=31						
NVAR	**Mina Array Bea**	**74.94**	**42**	P	P	10 40 43.6	+0.3
	0.4nm,0.8s,baz=222,slow=10.0,SNR=4.4						
PDAR	**Pinedale Array**	**82.88**	**42**	P	P	10 41 26.8	-0.1
	0.3nm,0.7s,baz=232,slow=5.3,SNR=2.7						
ILAR	**Eielson Array**	**83.44**	**11**	P	P	10 41 28.6	-0.4
	0.5nm,0.6s,baz=215,slow=5.2,SNR=11						

IDC ***21*** *10:39:44.5±1.3, 21.05S×178.66W, h507km±13km, mb3.6/13, mb1 3.8/16, mb1mx3.7/27, mbtmp4.5/16, Error ellipse: s-maj=16.4km s-min=12.0km az=135.0*
NEIC ***21*** *10:39:45.7±1.8, 21.0S±0.1×178.7W±0.1, h529km±6km, mb4.5/47, Error ellipse: s-maj=17.7km s-min=14.6km az=128.0*
ISC 21 10:39:48.4±0.4, 21.27S±0.07×178.76W±0.07, h550km, n139, σ1°82/149, mb4.5/40, 17C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.63**	**319**		P	10 41 12.3	-3.1
NIUE	**Niue**	**8.58**	**77**	P	P	10 41 47.0	-4.9
NIUE					**S**	**10 43 32.5**	**-0.7**
AFI	**Afiamalu**	**9.89**	**43**	P	P	10 41 57.3	-8.1
	12nm,0.3s,baz=129,slow=1.2,SNR=19						
AFI				S	S	10 43 43.5	-14
	22nm,0.3s,baz=203,slow=22,SNR=14						
AFI	**Afiamalu**	**9.89**	**43**	P	P	10 41 57.7	-7.7
DZM	**Mont Dzumac**	**13.78**	**264**	P	**P**	**10 42 44.8**	**-0.7**
	0.6nm,0.3s,baz=81,slow=20,SNR=8.9						
OUZ	**Omahuta**	**15.44**	**204**	P	**P**	**10 43 03.5**	**+1.3**
OUZ	**Omahuta**	**15.44**	**204**	P	**P**	**10 43 01.3**	**-0.9**
GRZ	**Great Barrier**	**15.76**	**197**	P	**P**	**10 43 05.4**	**0.0**
WCZ	**Waipu Caves**	**15.81**	**201**	P	**P**	**10 43 06.0**	**0.0**
KUZ	**Kuaotunu**	**16.16**	**196**	P	**P**	**10 43 09.1**	**-0.2**
WIAZ	**Waiheke Island**	**16.36**	**198**	P	**P**	**10 43 10.6**	**-0.5**
MXZ	**Matakaoa Point**	**16.44**	**188**	P	**P**	**10 43 17.2**	**+5.4**
ETAZ	**East Tamaki Re**	**16.57**	**198**	P	**P**	**10 43 14.1**	**+1.1**
MKAZ	**Moumakai**	**16.64**	**197**	P	**P**	**10 43 13.9**	**+0.2**
WMGZ	**Waiomatatini S**	**16.68**	**188**	P	**P**	**10 43 16.0**	**+2.1**
HAZ	**Te Kaha**	**16.70**	**190**	P	**P**	**10 43 13.5**	**-0.7**
HAZ				S	**S**	**10 45 58.2**	**-3.8**
PUZ	**Puketiti**	**16.95**	**188**	P	**P**	**10 43 17.1**	**+0.6**
TWGZ	**Tauwhareparae**	**17.09**	**189**	P	**P**	**10 43 17.4**	**-0.3**
TWGZ				S	**S**	**10 46 08.4**	**-0.1**
URZ	**Urewera**	**17.31**	**191**	P	**P**	**10 43 18.7**	**-0.9**
	2.6nm,0.3s,baz=301,slow=2.5,SNR=9.1						
URZ	**Urewera**	**17.31**	**191**	P	**P**	**10 43 18.3**	**-1.4**
URZ				S	**S**	**10 46 06.9**	**-5.1**
URZ	**Urewera**	**17.31**	**191**	P	**P**	**10 43 17.8**	**-1.9**
MWZ	**Matawai**	**17.31**	**190**	P	**P**	**10 43 19.3**	**-0.5**
MWZ				S	**S**	**10 46 05.1**	**-7.0**
TKGZ	**Te Karaka**	**17.36**	**189**	P	**P**	**10 43 21.7**	**+1.5**
MUGZ	**Murupara**	**17.58**	**192**	P	**P**	**10 43 21.1**	**-1.1**
HRRZ	**Handcock Road**	**17.59**	**193**	P	**P**	**10 43 22.5**	**+0.1**
TLZ	**Tolley Road**	**17.70**	**195**	P	**P**	**10 43 23.7**	**+0.3**
KNTN	**Kanton**	**19.62**	**21**	P	**P**	**10 43 37.1**	**-4.0**
BFZ	**Birch Farm**	**19.82**	**191**	P	**P**	**10 43 42.0**	**-0.5**
QRZ	**Quartz Range**	**20.86**	**199**	P	**P**	**10 43 53.2**	**+1.3**
THZ	**Tophouse**	**21.61**	**197**	P	**P**	**10 43 58.8**	**-0.1**
KHZ	**Kahutara**	**22.06**	**195**	P	**P**	**10 44 02.3**	**-0.5**
LTZ	**Lake Taylor**	**22.73**	**197**	P	**P**	**10 44 07.1**	**-1.7**
OXZ	**Oxford**	**23.30**	**197**	P	**P**	**10 44 13.0**	**-0.8**
OXZ				IAmb	IAmb	10 44 22.0	
	comp=Z,23nm,1.0s						
MLZ	**Mavora Lakes**	**26.35**	**201**	P	**P**	**10 44 41.9**	**+1.0**
WHZ	**Wether Hill Ro**	**26.87**	**201**	P	**P**	**10 44 45.9**	**+0.5**
EIDS	**Eidsvold**	**27.96**	**256**	P	**P**	**10 44 55.2**	**-0.1**
EIDS				IAmb	IAmb	10 44 55.9	
	comp=Z,11nm,0.9s						
ARMA	**Armidale**	**28.10**	**245**	P	**P**	**10 44 57.5**	**+1.0**
ARMA				IAmb	IAmb	10 44 58.3	
	comp=Z,6.6nm,0.7s						
CAN	**Canberra**	**31.50**	**237**	P	**P**	**10 45 24.9**	**-0.8**
CAN				IAmb	IAmb	10 45 27.6	
	comp=Z,11nm,0.9s						
CTAO	**Charters Tower**	**32.72**	**266**	P	**P**	**10 45 36.4**	**+0.2**
CTAO				IAmb	IAmb	10 45 37.1	
	comp=Z,17nm,0.6s						
TOO	**Toolangi**	**34.87**	**234**	P	**P**	**10 45 55.2**	**+1.1**
TOO				IAmb	IAmb	10 45 55.7	
	comp=Z,17nm,0.7s						
STKA	**Stephens Creek**	**36.82**	**245**	P	**P**	**10 46 10.9**	**+0.7**
	comp=Z,5.4nm,0.7s,baz=86,slow=11,SNR=13						
STKA	**Stephens Creek**	**36.82**	**245**	P	**P**	**10 46 10.9**	**+0.7**
COEN	**Coen**	**36.93**	**275**	P	**P**	**10 46 11.8**	**+0.4**
COEN				IAmb	IAmb	10 46 12.5	
	comp=Z,13nm,0.9s						
BBOO	**Buckleboo**	**41.57**	**244**	P	**P**	**10 46 48.3**	**-0.2**
BBOO				IAmb	IAmb	10 46 49.3	
	comp=Z,21nm,0.8s						
WR0	**Warramunga Arr**	**43.61**	**263**	P	**P**	**10 47 03.7**	**-1.0**
WR0				IAmb	IAmb	10 47 05.4	
	comp=Z,7.5nm,0.9s						
AS31	**Alice Springs**	**43.66**	**258**	P	**P**	**10 47 04.7**	**-0.3**
AS31				IAmb	IAmb	10 47 06.1	
	comp=Z,14nm,1.4s						
ASAR	**Alice Springs**	**43.66**	**258**	P	**P**	**10 47 04.8**	**-0.2**
	comp=Z,15nm,0.7s,baz=91,slow=8.3,SNR=266						
ASAR				PcP	**PcP**	**10 48 40.0**	**0.0**
	comp=Z,2.7nm,0.8s,baz=100,slow=3.9,SNR=7.5						
ASAR				ScP	**ScP**	**10 51 43.8**	**+4.3**
	comp=Z,0.6nm,0.7s,baz=127,slow=4.3,SNR=4.2						
ASAR				S	**S**	**10 52 50.9**	**-4.4**
	comp=Z,0.8nm,0.9s,baz=99,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**43.66**	**258**	P	**P**	**10 47 04.0**	**-1.0**
WB0	**Warramunga Arr**	**43.78**	**263**	P	**P**	**10 47 05.4**	**-0.6**
WB0				IAmb	IAmb	10 47 06.0	
	comp=Z,16nm,0.7s						
WB2	**Warramunga Arr**	**43.79**	**263**	P	**P**	**10 47 05.0**	**-1.1**
WB2				IAmb	IAmb	10 47 06.2	
	comp=Z,15nm,0.9s						
WRAB	**Tennant Creek**	**43.79**	**263**	P	**P**	**10 47 04.6**	**-1.4**
WRAB				IAmb	IAmb	10 47 06.1	
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**43.80**	**263**	P	**P**	**10 47 05.2**	**-0.9**
	comp=Z,5.0nm,0.3s,baz=97,slow=7.6,SNR=148						
WRA	**Warramunga Arr**	**43.80**	**263**	P	**P**	**10 47 05.2**	**-0.9**
FORT	**Forrest**	**48.34**	**247**	P	**P**	**10 47 39.8**	**-0.6**
MTN	**Manton Dam**	**48.47**	**271**	P	**P**	**10 47 40.9**	**-0.7**
MTN				IAmb	IAmb	10 47 41.4	
	comp=Z,18nm,0.6s						
KNRA	**Kununurra**	**49.91**	**267**	IAmb	IAmb	10 47 52.6	
	comp=Z,23nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.23**	**263**	P	**P**	**10 48 09.1**	**+0.1**
	comp=Z,6.4nm,0.8s,baz=130,slow=7.4,SNR=4.3						
SOEI	**Soe**	**55.82**	**273**	P	**P**	**10 48 36.5**	**+2.0**
PSA00	**Pilbara Seismi**	**56.81**	**258**	P	**P**	**10 48 40.4**	**-0.7**

KKAR	Karatay Array	119.17	308	PKPdf	PKPdf	10 57 33.7	-1.5	
ARCES	ARCESS Array B	129.54	349	PKP	PKPdf	10 57 53.1	-1.1	
	comp=Z,3.5nm,0.6s,baz=39,slow=0.9,SNR=19							
FINES	FINESS Array B	136.30	343	PKP	PKPdf	10 58 07.6	+0.5	
	comp=Z,2.4nm,0.7s,baz=111,slow=3.1,SNR=6.7							
FINES				SKPbc	SKPbc	11 00 50.1	+2.2	
	comp=Z,6.8nm,0.7s,baz=130,slow=3.0,SNR=9.2							
NB2	NORSAR Subarra	139.65	353	PKP	PKPdf	10 58 06.0	-7.3	
	comp=Z,0.9nm,0.6s,baz=10,slow=3.2							
NOA	NORSAR Array B	139.65	353	PKP	PKPdf	10 58 14.6	+1.2	
	comp=Z,0.5nm,0.6s,baz=15,slow=3.8,SNR=3.8							
NOA				SKPbc	SKPbc	11 00 59.9	+2.5	
	comp=Z,2.1nm,0.8s,baz=14,slow=4.3,SNR=5.6							
AKASG	Malin Array Be	143.33	330	PKhKP	PKPab	10 58 16.9	-1.5	
	comp=Z,4.1nm,0.4s,baz=42,slow=4.3,SNR=28							
AKASG				SKPbc	SKiKP	11 01 09.6	+1.8	
	comp=Z,0.3nm,0.3s,baz=56,slow=1.5,SNR=4.2							
MBAR	Mbarara	143.90	237		PKPbc	10 58 22.6	+0.8	
SORM	Soroca	145.48	327	⇓P	PKPdf	10 58 24.4	+0.5	
BR131	Keskin Array S	146.82	311		PKPdf	10 58 28.9	+2.2	
BRTR	Keskin Array B	146.82	311	PKPbc	PKPdf	10 58 28.6	+1.9	
	comp=Z,3.3nm,0.7s,baz=140,slow=3.8,SNR=14							
BRTR	Keskin Array B	146.82	311		PKPdf	10 58 28.4	+1.7	
BURAR	Bucovina Array	147.37	329	⇑P	PKPbc	10 58 31.2	+0.6	
BURAR	Bucovina Array	147.37	329		PKPdf	10 58 30.4	+3.1	
TESR	Tescani	147.42	327	⇓P	PKPdf	10 58 30.2	+2.9	
CFR	Carcaliu	147.49	323	⇓P	PKPdf	10 58 29.6	+2.2	
TOPG	Topolog	147.54	323	⇑P	PKPdf	10 58 30.8	+3.4	
KOLS	Kolonicke sedl	147.69	334	*e*PKP	PKPdf	10 58 30.4	+2.8	
VRI	Vrincioaia	147.81	326	⇑P	PKPdf	10 58 31.2	+3.3	
PLOR	Plostina	147.86	326	⇑P	PKPdf	10 58 30.9	+2.9	
HARR	Harsova	147.90	323	⇑P	PKPdf	10 58 31.7	+3.7	
CRVS	Cervenica-Dubn	148.05	334	*e*PKP	PKiKP	10 58 36.7	+3.2	
DOPR	Dopca	148.43	327	⇓P	PKPbc	10 58 33.0	-0.3	
MLR	Muntele Rosu	148.47	326	⇑P	PKPdf	10 58 32.8	+3.7	
MLR	Muntele Rosu	148.47	326		PKPdf	10 58 32.3	+3.2	
OSTC	Ostas	148.48	342	⇑*e*PKP	PKPbc	10 58 33.1	-0.1	
LANS	Liptovska Anna	148.61	337	*e*PKP	PKPbc	10 58 34.5	+0.9	
LANS				*e*		10 58 40.3		
DPC	Dobruska-Polom	148.63	341	⇑*e*PKP	PKPbc	10 58 33.8	+0.2	
CLL	Collm	148.64	346	⇓*i*PKPbc	PKPdf	10 58 32.9	+3.9	
	comp=Z,13nm,1.0s							
CLL				*i* PKiKP	PKPbc	10 58 34.9	+1.4	
	comp=Z,9.0nm,0.7s							
CLL				*e*pPKPbc	pPKPdf	11 00 35.0	-2.7	
KRLC	Kraliky	148.73	341	⇑*e*PKP	PKPbc	10 58 33.6	-0.3	
VOIR		148.97	327	⇑P	PKPbc	10 58 34.2	-0.4	
ARR	Arges	149.23	327	⇑P	PKPbc	10 58 36.0	+0.8	
VYHS	Vyhne	149.39	337	*e*PKP	PKPbc	10 58 34.9	-0.6	
GOPC	GO Pecny, Ondr	149.47	343	⇑*e*PKP	PKPbc	10 58 35.2	-0.4	
PRU	Pruhonice	149.47	343	⇑*e*PKP	PKPbc	10 58 35.0	-0.6	
SIRR	Siria	150.01	331	⇑P	PKPbc	10 58 36.4	-0.7	
KHC	Kasperske Hory	150.51	343	⇑*e*PKP	PKPbc	10 58 37.6	-0.5	
BZS	Buzias	150.52	330	⇑P	PKPbc	10 58 37.8	-0.4	
HERR	Herculane	150.68	328	⇓P	PKPbc	10 58 37.9	-0.7	
GERES	GERESS Array B	150.73	343	PKPbc	PKPbc	10 58 38.0	-0.8	
	comp=Z,2.7nm,0.6s,baz=42,slow=2.2,SNR=22							
MDVR	Moldovita	151.10	329	⇑P	PKPbc	10 58 39.2	-0.5	
ALN	Alexandroupoli	151.28	319		PKPbc	10 58 39.0	-1.1	
TORD	Torodi Ar. Bea	171.91	183	PKP	PKPdf	10 58 53.7	-1.3	
	comp=Z,2.3nm,0.9s,baz=7.7,slow=0.7,SNR=9.6							
TORD				PKPab	PKPab	11 00 21.1	-0.1	
	comp=Z,1.7nm,0.8s,baz=170,slow=3.7,SNR=6.6							

NNC 21 10:40:21.7±6.9, 36°34'N×69°92'E, h240km±103km, mb2.7, mpv3.6, 4C-4D, Error ellipse: s-maj=64.3km s-min=49.7km az=39.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.77**	**4**	⇓P	Pn	10 41 59.4	+0.2
	0.9nm,0.2s,baz=196,slow=14,SNR=34						
KK31				⇓S	S	10 43 18.0	+0.7
	0.8nm,0.3s,baz=190,slow=25,SNR=4.2						
AAK	**Ala-Archa**	**7.21**	**28**	⇑P	Pn	10 42 05.7	+0.6
	3.8nm,0.5s						
AAK				⇑S	S	10 43 27.8	0.0
	8.3nm,1.0s						
TKM2	**Tokmak 2**	**7.90**	**32**	⇓P	Pn	10 42 11.2	-2.5
	2.4nm,0.8s						
TKM2				⇓S	S	10 43 45.5	+1.7
	2.2nm,0.7s						
AB31	**Akbulak array**	**14.82**	**334**	⇑P	P	10 43 43.3	+3.4
	2.2nm,0.3s,baz=148,slow=14,SNR=14						
AB31				⇑S	S	10 46 21.2	-2.4
	0.2nm,0.3s						

*JMA **21** 10:41:12.3,24°.47N×121°.92E,h14km,M2.7*
*TAP **21** 10:41:12.5,24°.50N×121°.91E,h11km,ML3.2,B*
ISC 21 10:41:12.0±0.8, 24°48N±0°.01×121°95E±0°.02, h11km±6km, n111, σ0s66/174, 8C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.13**	**256**	P	Pg	10 41 15.4	+0.3
	baz=244						
ENAH				S	Sg	10 41 17.4	+0.1
	baz=244						
TWC	**Suao**	**0.16**	**324**	⇑*i*P	Pg	10 41 15.7	+0.1
	baz=337						
TWC				*i* S	Sg	10 41 17.5	-0.5
	baz=337						
ENA	**Nanau**	**0.20**	**255**	⇓*i*P	Pg	10 41 16.4	+0.2
	baz=243						
ENA				S	Sg	10 41 19.0	-0.1
	baz=243						
ILA	**Ilan**	**0.34**	**327**	P	Pg	10 41 19.4	+0.6
	baz=333						
ILA				S	Sg	10 41 24.1	+0.7
	baz=333						
TWE	**Neicheng**	**0.35**	**313**	⇑*i*P	Pg	10 41 19.2	+0.2
	baz=322						
TWE				S	Sb	10 41 24.6	-1.2
	baz=322						
EGS		**0.36**	**357**	*e*P	Pg	10 41 19.9	+0.6
	baz=6.0						
EGS				*e*S	Sg	10 41 24.0	-0.1
	baz=6.0						
ENTT	**Nioudou**	**0.39**	**294**	⇑*i*P	Pg	10 41 19.8	+0.1
	baz=295						
ENTT				*e*S	Sg	10 41 23.8	-1.0
	baz=295						
NTC	**Toucheng**	**0.39**	**344**	⇑*e*P	Pg	10 41 20.1	+0.4
	baz=349						
NTC				S	Sg	10 41 25.1	+0.2
	baz=349						
NDT	**Datong Townshi**	**0.42**	**287**	⇑*i*P	Pg	10 41 20.6	+0.3
	baz=286						
NDT				*i* S	Sg	10 41 25.5	-0.3
	baz=286						
NACB	**Ninganchiao**	**0.45**	**227**	⇓*i*P	Pg	10 41 20.9	+0.1
	baz=221						
NACB				S	Sg	10 41 26.9	+0.2
	baz=221						
TIPB	**Shuangxi**	**0.50**	**347**	P	Pg	10 41 22.1	+0.3
	baz=1.0						
TIPB				S	Sg	10 41 28.1	-0.4
	baz=1.0						
NWLT	**Wulai**	**0.50**	**306**	⇑P	Pg	10 41 22.1	+0.3
	baz=308						
NWLT				*e*S	Sg	10 41 28.7	+0.1
	baz=308						
ETLH	**Xiulin Townshi**	**0.51**	**238**	⇓*i*P	Pg	10 41 22.0	+0.1
	baz=233						
ETLH				*e*S	Sg	10 41 28.4	-0.2
	baz=233						
TWD	**Chiawan**	**0.51**	**219**	⇓*i*P	Pg	10 41 22.2	+0.2
	baz=213						
TWD				*e*S	Sb	10 41 29.6	-0.9
	baz=213						
NNSB	**Datong**	**0.52**	**264**	*e*P	Pg	10 41 22.2	0.0
	baz=262						
NNSB				S	Sg	10 41 28.5	-0.6
	baz=262						
NNSH	**Datong**	**0.52**	**264**	*e*P	Pg	10 41 22.2	0.0
	baz=262						
NNSH				*e*S	Sg	10 41 28.4	-0.7
	baz=262						
TWB1	**Santiao Chiao**	**0.53**	**4**	*e*P	Pb	10 41 23.3	0.0
	baz=11						
TWB1				*e*S	Sg	10 41 28.8	-0.4
	baz=11						
NNS	**Nan Shan**	**0.53**	**266**	P	Pg	10 41 22.4	+0.1
	baz=263						
NNS				S	Sg	10 41 29.0	-0.3
	baz=263						
YHNB	**Yeheng**	**0.56**	**290**	⇑*i*P	Pb	10 41 23.2	-0.6
	baz=290						
YHNB				*e*S	Sg	10 41 29.9	-0.4
	baz=290						
NSK	**Sanguang**	**0.57**	**290**	⇑*i*P	Pb	10 41 23.5	-0.6
	baz=295						
NSK				S	Sg	10 41 30.1	-0.7
	baz=295						
HWA	**Hwalien**	**0.59**	**212**	*e*P	Pb	10 41 24.9	+0.5
	baz=214						
TWA	**Mucha**	**0.60**	**326**	*i* P	Pb	10 41 24.2	-0.3
	baz=330						
TWA				*e*S	Sg	10 41 32.0	+0.4
	baz=330						
NWF	**Wu-fen Shan**	**0.61**	**345**	*e*P	Pb	10 41 24.6	-0.1
	baz=337						
NWF				*e*S	Sb	10 41 32.7	-0.6
	baz=337						
WFSB	**Wu-fen Shan**	**0.61**	**345**	*e*P	Pb	10 41 24.6	-0.1
	baz=339						
WFSB				*e*S	Sb	10 41 32.7	-0.5
	baz=339						
TATO	**Taipei**	**0.65**	**320**	P	Pb	10 41 25.2	-0.1
	baz=312						
TATO				*e*S	Sb	10 41 34.0	-0.4
	baz=312						
TAP1	**Taipei**	**0.68**	**325**	*e*P	Pb	10 41 25.9	+0.1
	baz=317						
TAP1				*e*S	Sb	10 41 34.7	-0.6
	baz=317						
FUSS	**Fushou**	**0.69**	**250**	P	Pg	10 41 25.5	+0.2
	baz=247						
FUSS				*e*S	Sg	10 41 33.8	-0.6
	baz=247						
TAP	**Taipei**	**0.69**	**324**	*e*P	Pb	10 41 26.4	+0.3
	baz=315						
TAP				*e*S	Sb	10 41 35.4	-0.1
	baz=315						
WHF	**Hehuan Shan**	**0.71**	**242**	⇓*i*P	Pg	10 41 25.9	+0.1
	baz=238						
WHF				*e*S	Sg	10 41 34.9	-0.3
	baz=238						
YM01	**YM01**	**0.75**	**333**	*e*P	Pb	10 41 27.4	+0.3
	baz=335						
YM01				*e*S	Sg	10 41 35.9	-0.4
	baz=335						
TDCB	**Techi**	**0.76**	**253**	*e*P	Pg	10 41 26.8	+0.1
	baz=250						
TDCB				S	Sg	10 41 35.8	-0.8
	baz=250						
YM10	**YM10**	**0.76**	**332**	*e*P	Pb	10 41 27.5	+0.2
	baz=335						
YM10				*e*S	Sg	10 41 36.8	+0.1
	baz=335						
YM11	**YM11**	**0.76**	**333**	*e*P	Pb	10 41 27.7	+0.4
	baz=336						
YM11				*e*S	Sb	10 41 38.1	+0.3
	baz=336						
YM05	**YM05**	**0.77**	**333**	*e*P	Pb	10 41 27.6	+0.2
	baz=335						
NWRT	**Kuosheng**	**0.77**	**340**	*e*S	Sb	10 41 38.2	+0.4
	baz=343						
YM04	**YM04**	**0.77**	**331**	*i* P	Pb	10 41 27.6	+0.2
	baz=334						
YM04				*e*S	Sn	10 41 39.3	-1.1
	baz=334						
YM08	**YM08**	**0.78**	**335**	P	Pb	10 41 27.6	0.0
	baz=337						
TWS1	**Kuangyinshan**	**0.79**	**322**	*e*P	Pn	10 41 28.3	-0.7
	baz=316						
TWS1				*e*S	Sb	10 41 38.9	+0.6
	baz=316						
YM03	**YM03**	**0.79**	**332**	*e*P	Pb	10 41 28.1	+0.3
	baz=319						
YM03				*e*S	Sb	10 41 38.6	+0.1
	baz=319						
ESL	**Shilin**	**0.81**	**216**	*e*P	Pg	10 41 27.5	-0.2
	baz=211						
NTST	**Danshui**	**0.82**	**326**	*e*P	Pn	10 41 28.8	-0.7
	baz=329						
NTST				*e*S	Sb	10 41 39.8	+0.5
	baz=329						
CHGB	**Renai**	**0.82**	**240**	*e*P	Pb	10 41 28.2	-0.3
	baz=237						
CHGB				*e*S	Sb	10 41 39.5	-0.2
	baz=237						
NCU	**National Centr**	**0.85**	**305**	*e*P	Pn	10 41 29.1	-0.7
	baz=311						
NCUH	**Zhongli**	**0.85**	**305**	*e*P	Pb	10 41 28.6	-0.2
	baz=306						
NCUH				*e*S	Sn	10 41 43.3	+0.9
	baz=306						
TWY	**Chenhua**	**0.85**	**338**	*e*P	Pn	10 41 29.6	-0.4
	baz=342						
TWY				*e*S	Sg	10 41 39.8	+0.1
	baz=342						
LIOB	**Emei**	**0.87**	**281**	P	Pn	10 41 29.5	-0.6
	baz=281						
LIOB				*e*S	Sb	10 41 40.4	-0.4
	baz=281						
NSTT	**Nanjuang**	**0.88**	**280**	*i* P	Pn	10 41 29.6	-0.7
	baz=279						
NSTT				*e*S	Sg	10 41 40.0	-0.4
	baz=279						
OWD	**Renai**	**0.88**	**234**	*e*P	Pb	10 41 29.2	-0.2
	baz=220						
JYNG	**Yonagunijimaku**	**0.91**	**92**	P	Pg	10 41 30.0	+0.5
JYNG				*e*S	Sg	10 41 41.6	+0.3
SBCB	**Hsinchu**	**0.93**	**290**	*e*P	Pn	10 41 31.3	+0.3
	baz=283						
SBCB				*e*S	Sn	10 41 45.2	+0.8
	baz=283						
WHP	**Taichung City**	**0.94**	**258**	P	Pn	10 41 30.6	-0.6
	baz=256						
WHP				*e*S	Sb	10 41 42.1	-0.7
	baz=256						
EGFH	**Guangfu**	**0.94**	**211**	*e*P	Pg	10 41 30.2	+0.1
	baz=220						
EGFH				*e*S	Sn	10 41 44.0	-0.6
	baz=220						
YOJ	**Yonaguni jima**	**0.97**	**91**	P	Pb	10 41 30.6	-0.1
	baz=91						
YOJ				S	Sb	10 41 44.1	+0.6
	baz=91						
YOJ	**Yonaguni jima**	**0.97**	**91**	P	Pb	10 41 30.7	-0.1
YOJ				*e*S	Sb	10 41 44.2	+0.6
VWDT	**VWDT**	**1.03**	**226**	P	Pb	10 41 31.7	-0.2
	baz=223						
VWDT				*e*S	Sn	10 41 46.1	-0.8
	baz=223						
NMLH	**Miaoli**	**1.06**	**273**	*e*P	Pn	10 41 33.8	+1.1
	baz=272						
NMLH				*e*S	Sn	10 41 46.6	-0.9
	baz=272						
TWQ1	**Liyutan**	**1.08**	**263**	*e*P	Pn	10 41 33.5	+0.4
	baz=271						
TWQ1				*e*S	Sn	10 41 47.7	-0.4
	baz=271						
NSY	**Sanyi**	**1.09**	**267**	*e*P	Pn	10 41 34.4	+1.2
	baz=275						
NSY				*e*S	Sn	10 41 47.6	-0.7
	baz=275						
HGSD	**Ruisui**	**1.09**	**206**	P	Pn	10 41 34.1	+0.9
	baz=193						
HGSD				*e*S	Sn	10 41 51.2	+2.8
	baz=193						
EHY	**Hungye**	**1.13**	**211**	*e*P	Pb	10 41 33.5	0.0
	baz=218						
EHY				*e*S	Sn	10 41 49.8	+0.5
	baz=218						
SMLT	**Sun Moon Lake**	**1.13**	**238**	*e*P	Pn	10 41 33.9	+0.1
	baz=235						
PTSB	**Yuanli**	**1.14**	**269**	*e*P	Pg	10 41 33.9	+0.1
	baz=266						
SSLB	**Suanglung**	**1.14**	**233**	⇓*i*P	Pb	10 41 33.7	-0.1
	baz=230						
SSLB				*e*S	Sb	10 41 48.1	-0.5
	baz=230						
PCYT	**Pengchaiyu**	**1.15**	**5**	*e*P	Pb	10 41 33.4	-0.5
	baz=8.0						
TYC	**Yuchr**	**1.15**	**240**	*e*P	Pg	10 41 34.1	-0.1
	baz=238						
TYC				*e*S	Sn	10 41 49.9	+0.1
	baz=238						
WDJ	**Dajia District**	**1.20**	**264**	*e*P	Pg	10 41 36.6	+1.5
	baz=263						
WDJ				*e*S	Sn	10 41 52.3	+1.2
	baz=263						
TCU	**Taichung**	**1.21**	**254**	*e*P	Pg	10 41 37.4	+2.1
	baz=241						
YULB	**Yu-li**	**1.24**	**209**	*e*P	Pn	10 41 34.9	-0.4
	baz=216						
YULB				*e*S	Sb	10 41 50.4	-1.0
	baz=216						
EYUL	**Yuli**	**1.27**	**207**	*e*P	Pg	10 41 36.8	+0.4
	baz=216						
WHYT	**Xinyi Township**	**1.27**	**232**	*e*P	Pg	10 41 36.6	+0.2
	baz=229						
TWF1	**Yuli**	**1.27**	**208**	*e*P	Pn	10 41 35.6	-0.1
	baz=215						
WJS	**Zhushan**	**1.29**	**240**	*e*P	Pg	10 41 37.3	+0.4
	baz=229						
WNT	**Mingjian**	**1.30**	**243**	*e*P	Pg	10 41 38.6	+1.5
	baz=255						
WCHH	**Zhanghua**	**1.33**	**253**	*e*P	Pg	10 41 37.6	0.0
	baz=250						
FULB	**Fuli**	**1.41**	**205**	*e*P	Pn	10 41 37.8	+0.2
	baz=218						
ALS	**Alishan**	**1.43**	**228**	*e*P	Pg	10 41 39.4	-0.1
	baz=209						
CHN5	**Tsauling**	**1.46**	**233**	*e*P	Pg	10 41 40.9	+0.9
	baz=229						
WDLH	**Douliu**	**1.51**	**239**	*e*P	Pg	10 41 41.5	+0.5
	baz=249						
ELDTW	**Lidau**	**1.54**	**214**	*e*P	Pn	10 41 40.0	+0.4
	baz=199						
RLNB	**Erlin**	**1.57**	**248**	*e*P	Pg	10 41 42.8	+0.7
	baz=245						
EDH	**Donghe**	**1.61**	**202**	*e*P	Pn	10 41 40.5	+0.1
	baz=187						
IRIF	**Iriomote-Funau**	**1.63**	**95**	P	Pn	10 41 40.2	-0.4
IRIF				*e*S	Sn	10 42 00.4	-1.2
WTK	**Tuku**	**1.63**	**241**	*e*P	Pg	10 41 43.3	0.0
	baz=239						
WTK				*e*S	Sg	10 42 05.1	+0.6
	baz=239						
TPUB	**Ta-pu**	**1.69**	**226**	*e*P	Pb	10 41 43.4	+0.4
	baz=211						
TPUB				*e*S	Sg	10 42 06.0	-0.2
	baz=211						
STYT	**Tauyuan**	**1.71**	**220**	*e*P	Pb	10 41 44.1	+0.6
	baz=216						
WTP	**Ta-pu**	**1.73**	**225**	*e*P	Pg	10 41 45.2	-0.1
	baz=221						
HATJ	**Hateruma jima**	**1.74**	**104**	*e*S	Sn	10 42 04.6	+0.2
TWK	**Hsinying**	**1.80**	**228**	*e*P	Pg	10 41 45.9	-0.7
	baz=224						
CHN1	**Nanshi**	**1.83**	**226**	*e*P	Pb	10 41 46.2	+0.7
	baz=221						
TWG	**Pinlang**	**1.84**	**206**	*e*P	Pb	10 41 45.2	-0.4
	baz=192						
TWGBT	**Beinan**	**1.84**	**206**	*e*P	Pb	10 41 44.7	-0.9
	baz=192						
ICHU	**Yijhu**	**1.89**	**234**	*e*P	Pb	10 41 47.2	+0.7
	baz=230						
JKRS	**Kuro-shima**	**1.89**	**97**	P	Pn	10 41 44.0	-0.2
JKRS				S	Sn	10 42 07.0	-1.1
SLGT	**Liugui**	**1.90**	**219**	*e*P	Pb	10 41 46.8	0.0
	baz=215						
JIJ	**Ishigaki jima**	**2.00**	**93**	P	Pn	10 41 46.1	+0.3
JIJ				S	Sn	10 42 09.1	-1.7
ECL	**Taimali**	**2.09**	**206**	*e*P	Pn	10 41 46.8	-0.2
	baz=195						
SSD	**Sandimen**	**2.11**	**215**	*e*P	Pb	10 41 49.2	-1.1
	baz=211						
TSMG	**Majia**	**2.13**	**214**	*e*P	Pb	10 41 51.7	+1.0
	baz=211						
JISG	**Ishigakijimahi**	**2.15**	**87**	P	Pn	10 41 47.5	-0.3
MASBT	**Mashibuluo**	**2.22**	**213**	*e*P	Pb	10 41 51.7	-0.4
	baz=210						
PTTC	**Pingtan**	**2.22**	**298**	*e*P	Pn	10 41 50.2	+1.4
	baz=296						
EAST	**Anshuo**	**2.32**	**206**	*e*P	Pn	10 41 51.3	+1.1
	baz=196						
VWUC	**VWUC**	**2.33**	**283**	*e*P	Pn	10 41 50.3	+0.1
	baz=281						
PNG	**Penghu**	**2.37**	**248**	*e*P	Pb	10 41 53.4	-1.3
	baz=244						
PHUB	**P'eng-hu**	**2.38**	**247**	*e*P	Pn	10 41 51.6	+0.7
	baz=243						
WDGT	**Dungji**	**2.42**	**240**	*e*P	Pn	10 41 53.0	+1.5
	baz=248						
MATB	**Ma-tsu**	**2.46**	**313**	*e*P	Pn	10 41 52.9	+0.8
	baz=311						
JTJ	**Tarama**	**2.51**	**86**	P	Pn	10 41 53.9	+1.2
JTJ				*e*S	Sn	10 42 22.4	-1.0
PTMZ	**Houxiangcun**	**2.63**	**283**	*e*P	Pn	10 41 55.4	+1.0
	baz=280						
LYJJ	**Jianjiangzhen**	**2.86**	**317**	*e*P	Pn	10 41 57.6	+0.1
	baz=316						
KNMB	**Chin-men Tao**	**3.25**	**270**	*e*P	Pn	10 42 03.7	+0.9
	baz=267						

*JMA **21** 10:41:48.6,24°.44N×121°.89E,h28km,M2.7*
*TAP **21** 10:41:48.5,24°.50N×121°.91E,h11km,ML3.2,B*
ISC 21 10:41:47.9±0.9, 24°47N±0°.02×121°93E±0°.02, h15km±6km, n67, σ0s74/104, 5C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.11**	**258**	⇓*i*P	Pg	10 41 51.5	+0.2
	baz=244						
ENAH				*e*S	Sg	10 41 53.5	-0.1
	baz=244						
TWC	**Suao**	**0.15**	**330**	⇑*i*P	Pb	10 41 51.7	-0.7
	baz=337						
TWC				*e*S	Sb	10 41 53.6	-1.9
	baz=337						
ENA	**Nanau**	**0.18**	**255**	⇓*i*P	Pb	10 41 52.5	-0.4
	baz=243						
ENA				S	Sb	10 41 55.0	-1.2
	baz=243						
ILA	**Ilan**	**0.34**	**330**	*i* P	Pg	10 41 55.4	+0.5
	baz=333						
ILA				*e*S	Sg	10 42 00.1	+0.5
	baz=333						
TWE	**Neicheng**	**0.34**	**316**	⇑*i*P	Pg	10 41 55.2	+0.2
	baz=322						
TWE				*e*S	Sg	10 42 00.4	+0.5
	baz=322						
EGS		**0.37**	**360**	*e*P	Pb	10 41 56.9	+0.8
	baz=6.0						
EGS				*e*S	Sg	10 42 00.7	+0.1
	baz=6.0						
ENTT	**Nioudou**	**0.37**	**296**	⇑*i*P	Pg	10 41 55.9	+0.3
	baz=295						
ENTT				*e*S	Sg	10 42 00.5	-0.2
	baz=295						
NTC	**Toucheng**	**0.39**	**346**	P	Pg	10 41 56.0	+0.2
	baz=349						
NTC				*e*S	Sg	10 42 00.8	-0.4
	baz=349						
NDT	**Datong Townshi**	**0.40**	**289**	⇑*i*P	Pb	10 41 56.6	-0.1
	baz=286						
NDT				*e*S	Sg	10 42 01.5	-0.1
	baz=286						
NACB	**Ninganchiao**	**0.43**	**226**	P	Pg	10 41 56.9	+0.4
	baz=221						
NACB				S	Sb	10 42 03.1	-0.3
	baz=221						
ETLH	**Xiulin Townshi**	**0.49**	**237**	*i* P	Pg	10 41 58.1	+0.4
	baz=233						
ETLH				*e*S	Sg	10 42 04.4	+0.1
	baz=233						
NWLT	**Wulai**	**0.49**	**308**	*i* P	Pg	10 41 58.2	+0.5
	baz=298						
NWLT				*e*S	Sg	10 42 04.2	-0.2

	baz=1.0								
NNS	**Nan Shan**	**0.51**	**266**	P		**Pb**	**10 41 58.5**	**-0.1**
	baz=263								
NNS				*e*S		**Sg**	**10 42 05.0**	**+0.1**
	baz=263								
TWB1	**Santiao Chiao**	**0.54**	**5**	*e*P		**Pb**	**10 41 58.4**	**-0.6**
	baz=11								
TWB1				*e*S		**Sb**	**10 42 05.3**	**-1.1**
	baz=11								
YHNB	**Yeheng**	**0.54**	**291**	P		**Pg**	**10 41 59.3**	**+0.6**
	baz=295								
YHNB				*e*S		**Sb**	**10 42 05.8**	**-0.9**
	baz=295								
NSK	**Sanguang**	**0.56**	**291**	⇑*i*P		**Pg**	**10 41 59.5**	**+0.5**
	baz=295								
NSK				*e*S		**Sb**	**10 42 06.2**	**-1.1**
	baz=295								
TWA	**Mucha**	**0.60**	**328**	*e*P		**Pb**	**10 42 00.1**	**+0.1**
	baz=330								
TWA				*e*S		**Sb**	**10 42 07.6**	**-0.6**
	baz=330								
NWF	**Wu-fen Shan**	**0.61**	**347**	*e*P		**Pb**	**10 42 00.7**	**+0.4**
	baz=337								
NWF				*e*S		**Sb**	**10 42 08.5**	**-0.2**
	baz=337								
WFSB	**Wu-fen Shan**	**0.61**	**347**	*e*P		**Pb**	**10 42 00.4**	**+0.1**
	baz=339								
WFSB				*e*S		**Sb**	**10 42 07.8**	**-0.9**
	baz=339								
TATO	**Taipei**	**0.64**	**321**	P		**Pg**	**10 42 01.1**	**+0.6**
	baz=312								
TATO				*e*S		**Sg**	**10 42 09.4**	**+0.4**
	baz=312								
FUSS	**Fushou**	**0.67**	**250**	*i*P		**Pg**	**10 42 01.7**	**+0.7**
	baz=247								
FUSS				*e*S		**Sg**	**10 42 10.0**	**+0.1**
	baz=247								
WHF	**Hehuan Shan**	**0.69**	**242**	P		**Pg**	**10 42 01.9**	**+0.4**
	baz=238								
WHF				*e*S		**Sb**	**10 42 10.5**	**-0.9**
	baz=238								
TDCB	**Techi**	**0.74**	**253**	P		**Pn**	**10 42 03.3**	**-0.5**
	baz=250								
TDCB				*e*S		**Sb**	**10 42 11.8**	**-0.7**
	baz=250								
YM01	**YM01**	**0.75**	**334**	*e*P		**Pg**	**10 42 03.3**	**+0.8**
	baz=334								
YM10	**YM10**	**0.76**	**334**	P		**Pn**	**10 42 03.9**	**-0.1**
	baz=335								
YM10				*e*S		**Sb**	**10 42 12.9**	**-0.1**
	baz=335								
YM11	**YM11**	**0.76**	**335**	*e*P		**Pn**	**10 42 04.1**	**0.0**
	baz=335								
YM05	**YM05**	**0.76**	**334**	*e*P		**Pg**	**10 42 03.7**	**+0.9**
	baz=335								
YM04	**YM04**	**0.77**	**332**	*e*P		**Pn**	**10 42 03.9**	**-0.2**
	baz=333								
YM04				*e*S		**Sn**	**10 42 14.6**	**-0.8**
	baz=333								
YM08	**YM08**	**0.78**	**336**	*e*P		**Pg**	**10 42 03.7**	**+0.7**
	baz=337								
TWS1	**Kuangyinshan**	**0.78**	**323**	*e*P		**Pn**	**10 42 04.3**	**0.0**
	baz=316								
TWS1				*e*S		**Sg**	**10 42 14.4**	**+1.0**
	baz=316								
YM03	**YM03**	**0.79**	**333**	*e*P		**Pn**	**10 42 04.4**	**-0.1**
	baz=333								
ESL	**Shilin**	**0.80**	**215**	*e*P		**Pg**	**10 42 03.7**	**+0.3**
	baz=211								
ANP	**Anpu**	**0.80**	**332**	*e*P		**Pg**	**10 42 04.4**	**+0.9**
	baz=333								
CHGB	**Renai**	**0.81**	**239**	*e*P		**Pg**	**10 42 04.0**	**+0.4**
	baz=237								
CHGB				*e*S		**Sg**	**10 42 14.7**	**+0.4**
	baz=237								
NTST	**Danshui**	**0.82**	**328**	*e*P		**Pn**	**10 42 05.1**	**+0.3**
	baz=328								
NCUH	**Zhongli**	**0.84**	**306**	*e*P		**Pn**	**10 42 06.2**	**+1.1**
	baz=309								
LIOB	**Emei**	**0.85**	**282**	P		**Pn**	**10 42 05.6**	**+0.3**
	baz=281								
LIOB				*e*S		**Sn**	**10 42 16.7**	**-0.8**
	baz=281								
TWY	**Chenhua**	**0.85**	**339**	*e*P		**Pn**	**10 42 05.4**	**+0.1**
	baz=342								
TWY				*e*S		**Sb**	**10 42 15.8**	**+0.2**
	baz=342								
NSTT	**Nanjuang**	**0.86**	**281**	*e*P		**Pn**	**10 42 05.6**	**+0.1**
	baz=279								
NSTT				*e*S		**Sg**	**10 42 16.0**	**0.0**
	baz=279								
SBCB	**Hsinchu**	**0.92**	**290**	*e*P		**Pn**	**10 42 07.7**	**+1.5**
	baz=289								
WHP	**Taichung City**	**0.92**	**258**	*e*P		**Pn**	**10 42 06.2**	**-0.1**
	baz=256								
WHP				*e*S		**Sg**	**10 42 18.0**	**+0.1**
	baz=256								
JYNG	**Yonagunijimaku**	**0.92**	**91**	P		**Pb**	**10 42 06.4**	**+0.9**
JYNG				S		**Sb**	**10 42 17.9**	**+0.3**
EGFH	**Guangfu**	**0.93**	**210**	*e*P		**Pn**	**10 42 06.1**	**-0.2**
	baz=223								
YOJ	**Yonaguni jima**	**0.98**	**90**	*e*P		**Pb**	**10 42 06.4**	**-0.1**
	baz=92								
VWDT	**VWDT**	**1.02**	**225**	*e*P		**Pg**	**10 42 08.2**	**+0.6**
	baz=222								
NMLH	**Miaoli**	**1.04**	**274**	*e*P		**Pg**	**10 42 10.0**	**+1.9**
	baz=271								
TWQ1	**Liyutan**	**1.06**	**263**	*e*P		**Pg**	**10 42 10.7**	**+2.2**
	baz=261								
NSY	**Sanyi**	**1.07**	**267**	*e*P		**Pg**	**10 42 10.2**	**+1.7**
	baz=265								
SMLT	**Sun Moon Lake**	**1.11**	**238**	*e*P		**Pg**	**10 42 10.0**	**+0.6**
	baz=235								
EHY	**Hungye**	**1.11**	**210**	*e*P		**Pb**	**10 42 09.4**	**+0.6**
	baz=219								
PTSB	**Yuanli**	**1.12**	**269**	*e*P		**Pg**	**10 42 12.0**	**+2.5**
	baz=266								
SSLB	**Suanglung**	**1.13**	**233**	*e*P		**Pg**	**10 42 09.9**	**+0.3**
	baz=231								
SSLB				*e*S		**Sg**	**10 42 24.4**	**0.0**
	baz=231								
TYC	**Yuchr**	**1.14**	**240**	*e*P		**Pg**	**10 42 10.3**	**+0.5**
	baz=237								
WDJ	**Dajia District**	**1.19**	**264**	*e*P		**Pg**	**10 42 12.7**	**+1.9**
	baz=262								
YULB	**Yu-li**	**1.22**	**209**	*e*P		**Pg**	**10 42 12.2**	**+0.7**
	baz=217								
TWF1	**Yuli**	**1.26**	**208**	*e*P		**Pg**	**10 42 12.4**	**+0.3**
	baz=215								
WNT	**Mingjian**	**1.29**	**243**	*e*P		**Pg**	**10 42 13.6**	**+0.9**
	baz=255								
CHN5	**Tsauling**	**1.44**	**233**	*e*P		**Pg**	**10 42 16.6**	**+1.0**
	baz=229								
IRIF	**Iriomote-Funau**	**1.64**	**94**	*e*S		**Sn**	**10 42 36.5**	**-0.5**
HATJ	**Hateruma jima**	**1.76**	**103**	*e*S		**Sn**	**10 42 38.8**	**-1.0**
JKRS	**Kuro-shima**	**1.91**	**97**	*e*S		**Sn**	**10 42 43.2**	**-0.3**
JJ	**Ishigaki jima**	**2.02**	**93**	S		**Sn**	**10 42 45.2**	**-1.0**
JISG	**Ishigakijimahi**	**2.17**	**87**	S		**Sn**	**10 42 49.4**	**-0.5**

*KRNET **21** 10:56:50.9±0.1, 42°.31N×73°.24E, h20km, mb2.2*
*SOME **21** 10:56:51.1, 42°.33N×73°.20E, h5km*
*NNC **21** 10:56:52.1±0.8, 42°.33N×73°.32E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=8.0km s-min=3.2km az=5.0*

ISC 21 10:56:50.1±1.0, **42°.34N**±0°.03×**73°.22E**±0°.02, **h15**km±12km, **n29**, σ0**°81**/53, **14C-16D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRKS	**Merke**	**0.41**	**1**	*e*P	**Pb**	**10 56 59.9**	**+0.8**
	baz=58						
MRKS				*e*S	**Sb**	**10 57 06.3**	**+1.1**
	baz=58						
MRKS	**Merke**	**0.41**	**1**	*e*P	**Pb**	**10 56 59.9**	**+0.8**
	6.1nm,0.2s						
MRKS				*e*S	**Sb**	**10 57 06.3**	**+1.1**
	33nm,0.2s						
MRKS	**Merke**	**0.41**	**1**	P	**Pb**	**10 56 59.9**	**+0.8**
	6.1nm,0.2s						
MRKS				S	**Sb**	**10 57 06.3**	**+1.1**
	33nm,0.2s						
AML	**Almayashu**	**0.41**	**120**	⇑*i*P	**Pg**	**10 56 58.9**	**+0.4**
	baz=18						
AML				⇑*i*S	**Sg**	**10 57 04.2**	**0.0**
	baz=18						
EKS2	**Erkin-Say**	**0.53**	**52**	⇑*e*P	**Pb**	**10 57 01.1**	**-0.1**
	baz=48						
EKS2				⇑*i*S	**Sb**	**10 57 08.5**	**-0.2**
	baz=48						
ARLS	**Aral**	**0.95**	**120**	⇓*i*P	**Pg**	**10 57 08.4**	**-0.1**
	baz=18						
ARLS				⇓*i*S	**Sg**	**10 57 20.5**	**-0.5**
	baz=18						
UCH	**Uchtor**	**0.97**	**96**	⇓*i*P	**Pg**	**10 57 08.9**	**0.0**
	baz=94						
UCH				⇓*i*S	**Sb**	**10 57 21.9**	**+0.2**
	baz=94						
AAK	**Ala-Archa**	**0.99**	**72**	⇓*i*P	**Pb**	**10 57 09.0**	**-0.1**
	baz=70						
AAK				⇓*i*S	**Sb**	**10 57 22.4**	**+0.3**
	baz=70						
AAK	**Ala-Archa**	**0.99**	**72**	⇑P	**Pg**	**10 57 09.2**	**-0.1**
	1.3nm,0.3s						
AAK				⇑S	**Sb**	**10 57 22.7**	**+0.6**
	3.9nm,0.3s						
ARSB	**Arslanbob**	**1.03**	**190**	⇓*i*P	**Pb**	**10 57 09.6**	**-0.1**
	baz=91						
ARSB				⇓*i*S	**Sb**	**10 57 23.0**	**0.0**
	baz=91						
ARK	**Arkit**	**1.08**	**240**	⇑*i*P	**Pb**	**10 57 10.8**	**+0.3**
	baz=41						
ARK				⇑*i*S	**Sg**	**10 57 25.4**	**+0.4**
	baz=41						
CHMS	**Chumysh**	**1.31**	**59**	⇓*i*P	**Pg**	**10 57 14.9**	**-0.5**
	baz=58						
CHMS				⇓*i*S	**Sg**	**10 57 32.3**	**-0.2**
	baz=58						
KBK	**Karagaybulak**	**1.32**	**75**	⇑*i*P	**Pb**	**10 57 15.1**	**+0.4**
	baz=74						
KBK				⇑*i*S	**Sg**	**10 57 32.5**	**-0.3**
	baz=74						
USP	**Ospenovka**	**1.33**	**45**	⇑*i*P	**Pg**	**10 57 15.4**	**-0.3**
	baz=44						
USP				⇑*i*S	**Sg**	**10 57 33.2**	**+0.3**
	baz=44						
SGDS	**Sogindy**	**1.52**	**43**	P	**Pg**	**10 57 20.0**	**+0.6**
	1.4nm,0.2s						
SGDS				S	**Sg**	**10 57 40.8**	**+1.5**
	4.3nm,0.2s						
KZA	**Kyzart**	**1.53**	**99**	⇓*i*P	**Pb**	**10 57 18.8**	**+0.3**
	baz=98						
KZA				⇓*i*S	**Sg**	**10 57 39.1**	**-0.5**
	baz=98						
TKM2	**Tokmak 2**	**1.85**	**71**	⇓*i*P	**Pb**	**10 57 24.1**	**+0.3**
	baz=70						
TKM2				⇓*i*S	**Sg**	**10 57 48.4**	**-1.3**
	baz=70						
TKM2	**Tokmak 2**	**1.85**	**71**	⇓Pn	**Pg**	**10 57 25.2**	**-0.5**
	1.3nm,0.3s						
TKM2				⇓Sn	**Sg**	**10 57 49.3**	**-0.4**
	1.9nm,0.3s						
KK31	**Karatay Array**	**2.13**	**292**	⇑Pn	**Pg**	**10 57 30.2**	**-0.8**
	0.9nm,0.4s,baz=119,slow=12,SNR=17						
KK31				⇑Sn	**Sg**	**10 57 59.1**	**+0.3**
	0.9nm,0.3s,baz=127,slow=24,SNR=9.2						
KST	**Kastek**	**2.15**	**70**	*e*P	**Pg**	**10 57 31.2**	**0.0**
	3.5nm,0.3s						
KST				*e*S	**Sg**	**10 58 00.1**	**+1.0**
	12nm,0.3s						
KST	**Kastek**	**2.15**	**70**	Pg	**Pg**	**10 57 31.2**	**0.0**
	3.5nm,0.3s						
KST				Lg	Lg	10 58 00.1	
	12nm,0.3s						
BTLS	**Baital**	**2.77**	**12**	*e*P	**Pg**	**10 57 41.5**	**-1.7**
	0.8nm,0.2s						
BTLS				*e*S	**Sg**	**10 58 17.3**	**-1.8**
	3.5nm,0.3s						
BTLS	**Baital**	**2.77**	**12**	Pg	**Pg**	**10 57 41.5**	**-1.7**
	0.8nm,0.2s						
BTLS				Lg	Lg	10 58 17.3	
	3.5nm,0.3s						
TNSS	**Tian-Shan**	**2.84**	**74**	*e*P	**Pg**	**10 57 43.8**	**-0.7**
	1.8nm,0.3s						
TNSS				*e*S	**Sg**	**10 58 21.5**	**+0.1**
	5.9nm,0.5s						
TNSS	**Tian-Shan**	**2.84**	**74**	Pg	**Pg**	**10 57 43.8**	**-0.7**
	1.8nm,0.3s						
TNSS				Lg	Lg	10 58 21.5	
	5.9nm,0.5s						
KTBS	**Karatobe**	**2.89**	**60**	*e*P	**Pg**	**10 57 44.0**	**-1.5**
	0.8nm,0.3s						
KTBS				*e*S	**Sg**	**10 58 21.6**	**-1.4**
	7.9nm,0.2s						
KTBS	**Karatobe**	**2.89**	**60**	Pg	**Pg**	**10 57 44.0**	**-1.5**
	0.8nm,0.3s						
KTBS				Lg	Lg	10 58 21.6	
	7.9nm,0.2s						
ARXS	**Arharly**	**3.85**	**59**	*e*P	**Pg**	**10 58 03.6**	**-0.3**
ARXS				*e*S	**Sg**	**10 58 55.2**	**+1.3**
ARXS	**Arharly**	**3.85**	**59**	Pg	**Pg**	**10 58 03.6**	**-0.3**
ARXS				Lg	Lg	10 58 55.2	

IDC 21 11:43:09.0±4.4, **28°.33S×177°.63W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/41, mbtmp3.7/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/32, Error ellipse: s-maj=83.4km s-min=25.4km az=83.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.95**	**196**	Pn	Pn	11 43 30.0	+0.4
	124nm,0.3s,baz=95,slow=19,SNR=2.5						
RAO				Sn	Sn	11 43 44.1	+0.3
	280nm,0.3s,baz=58,slow=17,SNR=6.5						
STKA	**Stephens Creek**	**35.31**	**254**	P	P	11 50 06.4	+0.5
	0.6nm,0.4s,baz=107,slow=11,SNR=2.9						
KRVT	**Keravat (AS076**	**37.46**	**304**	LR	LR	12 04 08.7	
	comp=Z,62nm,19.2s,baz=269,slow=34						
ASAR	**Alice Springs**	**43.59**	**265**	P	P	11 51 14.4	-0.7
	1.4nm,0.9s,baz=102,slow=7.3,SNR=10						
WRA	**Warramunga Arr**	**44.39**	**270**	P	P	11 51 21.8	+0.2
	0.5nm,0.3s,baz=111,slow=7.9,SNR=4.0						
FINES	**FINESS Array B**	**143.31**	**341**	PKP	PKPdf	12 02 43.5	-1.1
	3.2nm,0.8s,baz=68,slow=5.1,SNR=4.6						

*NAO **21** 11:44:09.5±0.7, 60°.52N×11°.20E, ML1.8*
*DNK **21** 11:44:55.4±0.5, 56°.65N×12°.98E, h0km, ML1.3(UPP), Explosion*

BER 21 11:44:10.7±3.0, **60°.55N×11°.26E, h0km, ML1.5, ML1.8**(NAO), **1C, Suspected explosion, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NC6	**NORSAR Subarra**	**0.23**	**26**	Pg	Pg	11 44 14.3	-0.7
NC6				Lg	Lg	11 44 17.6	
NC6	**NORSAR Subarra**	**0.23**	**26**	Pg	Pg	11 44 14.3	-0.7
NC6				Sg	Sg	11 44 17.6	-0.4
NC602	**NORSAR Array S**	**0.24**	**36**	⇑*i*P	Pg	11 44 15.5	+0.3
NC602				*e*S	Sg	11 44 18.9	+0.7
NC602				IAML		11 44 21.8	
	comp=Z,120nm,0.6s						
NRA0	**NORESS Array S**	**0.24**	**36**	Pg	Pg	11 44 15.4	+0.2
	baz=218,slow=18						
NRA0				Lg	Lg	11 44 18.8	
	baz=215,slow=28						
NRA0				Rg	Rg	11 44 20.9	
	baz=207,slow=37						
NRA0	**NORESS Array S**	**0.24**	**36**	Pg	Pg	11 44 15.4	+0.2
	baz=218,slow=18						
NRA0				Sg	Sg	11 44 18.8	+0.5
	baz=215,slow=28						
NRA0				Rg	Rg	11 44 20.9	
	baz=207,slow=37						
NAO	**NORSAR Subarra**	**0.35**	**323**	Pg	Pg	11 44 16.8	-0.6
NAO				Lg	Lg	11 44 21.6	
NAO	**NORSAR Subarra**	**0.35**	**323**	Pg	Pg	11 44 16.8	-0.6
NAO				Sg	Sg	11 44 21.6	-0.4
NB2	**NORSAR Subarra**	**0.50**	**357**	Pg	Pg	11 44 19.4	-0.8
	baz=178,slow=18						
NB2				Lg	Lg	11 44 25.1	
NB2				Rg	Rg	11 44 27.9	
NB2	**NORSAR Subarra**	**0.50**	**357**	Pg	Pg	11 44 19.4	-0.8
	baz=178,slow=18						
NB2				Sg	Sg	11 44 25.1	-1.5
NB2				Rg	Rg	11 44 27.9	
NBO	**NORSAR Subarra**	**0.54**	**334**	Pg	Pg	11 44 20.5	-0.6
NBO				Lg	Lg	11 44 28.2	
NBO	**NORSAR Subarra**	**0.54**	**334**	Pg	Pg	11 44 20.5	-0.6
NBO				Sg	Sg	11 44 28.2	+0.1
NC4	**NORSAR Subarra**	**0.58**	**23**	Pg	Pg	11 44 21.1	-0.8
NC4				Lg	Lg	11 44 28.8	
NC4	**NORSAR Subarra**	**0.58**	**23**	Pg	Pg	11 44 21.1	-0.8
NC4				Sg	Sg	11 44 28.8	-0.5
NC3	**NORSAR Subarra**	**0.72**	**6**	Pg	Pg	11 44 23.2	-1.3
NC3	**NORSAR Subarra**	**0.72**	**6**	Pg	Pg	11 44 23.2	-1.3
NC2	**NORSAR Subarra**	**0.77**	**344**	Pg	Pg	11 44 24.1	-1.3
NC2				Lg	Lg	11 44 33.8	
NC2	**NORSAR Subarra**	**0.77**	**344**	Pg	Pg	11 44 24.1	-1.3
NC2				Sg	Sg	11 44 33.8	-1.5
KON	**Kongsberg**	**1.23**	**224**	Pg	Pg	11 44 32.6	-1.5
KON				Lg	Lg	11 44 49.0	
KONO	**Kongsberg**	**1.23**	**224**	Pg	Pg	11 44 32.6	-1.5
KONO				*e*P	Pb	11 44 32.8	-1.9
KONO				*e*S	Sg	11 44 49.0	-1.0
KONO				Sg	Sb	11 44 49.0	-2.0
KONO				IAML		11 44 52.6	
	comp=Z,4.9nm,0.4s						
HFS	**Hagfors**	**1.28**	**108**	Pg	Pg	11 44 33.7	-1.5
	baz=277,slow=22						
HFS				Lg	Lg	11 44 50.2	
	baz=278,slow=28						
HFS	**Hagfors**	**1.28**	**108**	Pg	Pg	11 44 33.7	-1.5
	baz=277,slow=22						
HFS				Sg	Sg	11 44 50.2	-1.5
	baz=278,slow=28						
SKAR	**Skarslia**	**1.46**	**277**	*e*P	Pn	11 44 36.6	-1.8
SKAR				*e*S	Sg	11 44 54.9	-2.8
SKAR				IAML		11 44 59.6	
	comp=Z,7.8nm,0.2s						
DOMB	**Dombas**	**1.84**	**326**	*e*P	Pn	11 44 42.8	-0.8
DOMB				IAML		11 45 11.1	
	comp=Z,4.7nm,0.1s						
HYA	**Hoyanger**	**2.56**	**286**	*e*P	Pn	11 44 52.8	-0.5
HYA				IAML		11 45 31.2	
	comp=Z,6.9nm,0.5s						
BLS5	**Blasjo**	**2.66**	**247**	*e*P	Pn	11 44 54.1	-0.7
BLS5				IAML		11 45 33.5	
	comp=Z,6.0nm,0.5s						
FKPU	**Falk**	**2.71**	**151**	P	Sn	11 45 24.1	-4.7
EKSU	**Eksjoe**	**3.64**	**143**	P	Pg	11 45 23.5	+3.2
VXJU	**Vaexsjoe**	**4.11**	**151**	P	Pn	11 45 15.9	+1.2

*IDC **21** 11:49:43.3±2.2, 62°.98N×150°.31W, h83km±28km, mb2.7/1, mb1 3.3/5, mb1mx3.0/67, mbtmp3.3/5, Error ellipse: s-maj=22.7km s-min=18.4km az=110.0*
*AEIC **21** 11:49:43±1.1, 63°.07N±0°.04×150°.48W±0°.09, h107km±5km, ML3.1, Error ellipse: s-maj=6.1km s-min=5.2km az=62.0*
*NEIC **21** 11:49:43.5±0.8, 63°.08N±0°.04×150°.47W±0°.07, h109km±5km, Error ellipse: s-maj=5.7km s-min=4.1km az=213.0*

ISC 21 11:49:43.2±1.0, **63°.06N**±0°.03×**150°.49W**±0°.04, **h116**km±6km, **n116**, σ0**°92**/136, **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUR	**Hurricane**	**0.40**	**102**		**Pn**	**11 49 59.8**	**-0.2**
HUR					**Sn**	**11 50 12.2**	**-0.6**
TRF	**Thorofare Moun**	**0.40**	**13**		**Pn**	**11 50 00.1**	**-0.2**
TRF					**Sn**	**11 50 12.5**	**-0.7**
KTH	**Kantishna Hill**	**0.53**	**339**		**Pn**	**11 50 00.7**	**-0.2**
KTH					**Sn**	**11 50 13.2**	**-1.1**
CUT	**Chulitna**	**0.67**	**171**		**Pn**	**11 50 01.8**	**0.0**
CUT					**Sn**	**11 50 15.6**	**-0.2**
WAT7	**Susitna Watana**	**0.79**	**106**		**Pn**	**11 50 02.7**	**-0.3**
WAT7					**Sn**	**11 50 17.1**	**-0.8**
PPLA	**Purkeypile**	**0.79**	**259**		**Pn**	**11 50 03.2**	**+0.1**
CAST	**Castle Rocks**	**0.81**	**297**		**Pn**	**11 50 02.6**	**-0.4**
RND	**Reindeer**	**0.82**	**64**		**Pn**	**11 50 03.0**	**-0.2**
RND					**Sn**	**11 50 17.7**	**-0.5**
WAT2	**Susitna Watana**	**0.88**	**96**		**Pn**	**11 50 03.5**	**-0.3**
WAT2					**Sn**	**11 50 18.4**	**-0.9**
WAT1	**Susitna Watana**	**0.92**	**104**		**Pn**	**11 50 04.0**	**-0.1**
MCK	**McKinley**	**0.97**	**45**		**Pn**	**11 50 04.5**	**0.0**
MCK					**Sn**	**11 50 20.0**	**-0.8**
BPAW	**Bear Paw Mtn.**	**1.07**	**348**		**Pn**	**11 50 05.2**	**-0.3**
BPAW					**Sn**	**11 50 20.9**	**-1.5**
CHUM	**Lake Minchumin**	**1.16**	**316**		**Pn**	**11 50 06.5**	**0.0**
SKT	**Skwentna**	**1.19**	**204**		**Pn**	**11 50 06.5**	**-0.3**
SKT					**Sn**	**11 50 24.1**	**-0.6**
BWN	**Browne**	**1.21**	**22**		**Pn**	**11 50 07.4**	**+0.4**
WAT6	**Susitna Watana**	**1.35**	**110**		**Pn**	**11 50 08.6**	**-0.1**
WAT6					**Sn**	**11 50 27.4**	**-0.7**
GHO	**Glory Hole Cre**	**1.48**	**150**		**Pn**	**11 50 10.5**	**+0.2**
PMR	**Palmer**	**1.60**	**156**		**Pn**	**11 50 11.4**	**-0.1**
SUA	**Susitna One**	**1.61**	**184**		**Pn**	**11 50 11.8**	**+0.1**
SML	**Sawmill**	**1.61**	**140**		**Pn**	**11 50 11.5**	**-0.2**
NEA2	**Nenana**	**1.66**	**22**		**Pn**	**11 50 11.9**	**-0.3**
NEA2					**Sn**	**11 50 32.8**	**-1.5**
STLK	**Strandline Lak**	**1.69**	**202**		**Pn**	**11 50 12.6**	**-0.1**
WRH	**Wood River Hil**	**1.77**	**36**		**Pn**	**11 50 13.5**	**-0.1**
KNK	**Knik Glacier**	**1.91**	**149**		**Pn**	**11 50 15.5**	**+0.2**
SPCG	**Spurr Capps Gl**	**1.92**	**203**		**Pn**	**11 50 15.5**	**0.0**
SCM	**Sheep Creek Mo**	**1.92**	**129**		**Pn**	**11 50 15.1**	**-0.4**
FIS	**Fire Island**	**1.93**	**176**		**Pn**	**11 50 17.0**	**+1.5**
MLY	**Manley**	**1.98**	**357**	Pn	**Pn**	**11 50 15.0**	**-1.2**
CCB	**Clear Creek Bu**	**1.99**	**36**		**Pn**	**11 50 16.1**	**-0.1**
CCB					**Sn**	**11 50 40.4**	**-1.1**
SPNN	**North Nagishla**	**1.99**	**212**		**Pn**	**11 50 16.6**	**+0.2**
SPU	**Mount Spurr**	**2.02**	**202**	Pn	**Pn**	**11 50 17.8**	**+1.1**
HDA	**Harding Lake**	**2.08**	**48**		**Pn**	**11 50 17.2**	**-0.1**
HDA					**Sn**	**11 50 42.1**	**-1.4**
MDM	**Murphy Dome**	**2.15**	**27**		**Pn**	**11 50 18.3**	**0.0**
TCOL	**CIGO, UAF Yank**	**2.16**	**31**		**Pn**	**11 50 18.2**	**-0.2**
COLA	**College**	**2.16**	**31**	Pn	**Pn**	**11 50 18.2**	**-0.2**
COLA	**College**	**2.16**	**31**		**Sn**	**11 50 43.9**	**-1.4**
PS10	**TAPS Pump St10**	**2.17**	**78**		**Pn**	**11 50 19.7**	**+1.2**
PS08	**TAPS Pump Stn8**	**2.21**	**46**		**Pn**	**11 50 18.8**	**-0.2**
PS08					**Sn**	**11 50 44.6**	**-1.8**
PAX	**Paxson**	**2.29**	**90**		**Pn**	**11 50 20.6**	**+0.4**
CAPN	**Captain Cook N**	**2.32**	**188**		**Pn**	**11 50 20.5**	**+2.1**
IL31		**2.34**	**41**		**Pn**	**11 50 20.5**	**-0.1**
ILAR	**Eielson Array**	**2.34**	**41**	P	**Pn**	**11 50 20.4**	**-0.3**
	3.5nm,0.3s,baz=223,slow=13,SNR=197						
ILAR				S	**Sn**	**11 50 48.2**	**-1.3**
	8.6nm,0.3s,baz=216,slow=23,SNR=6.1						

TGL	**Tana Glacier**	**4.30**	**119**		**Pn**	11 50 46.0	**-0.7**
BALM	**Baldy**	**4.34**	**114**		**Pn**	11 50 46.6	**-0.6**
KIAG	**Kiagna River**	**4.39**	**116**		**Pn**	11 50 46.8	**-1.2**
EGAK	**Eagle**	**4.47**	**63**		**Pn**	11 50 48.6	**-0.1**
BVCY	**Beaver Creek**	**4.48**	**94**		**Pn**	11 50 48.9	**-0.1**
BARN	**Barnard Glacie**	**4.61**	**112**		**Pn**	11 50 51.0	**0.0**
BARK	**Barkley Ridge**	**4.64**	**121**		**Pn**	11 50 50.5	**-0.8**
KULT	**Kultieth River**	**4.66**	**124**		**Pn**	11 50 51.0	**-0.5**
YUK2	**White River**	**4.66**	**102**		**Pn**	11 50 52.0	**+0.5**
GRNC	**Granite Creek**	**4.75**	**116**		**Pn**	11 50 51.8	**-1.0**
CTGM	**Chitina Glacie**	**4.80**	**112**	Pn	**Pn**	11 50 53.6	**+0.1**
YUK3	**Moose Creek**	**4.84**	**101**		**Pn**	11 50 54.4	**+0.4**
KAHC	**Katmai Hardscr**	**4.95**	**209**		**Pn**	11 50 55.4	**0.0**
YAH	**Yahtse**	**4.96**	**119**		**Pn**	11 50 54.8	**-0.9**
MESA	**MESA**	**5.00**	**122**		**Pn**	11 50 55.0	**-1.2**
BM03	**Burnt Mountain**	**5.03**	**27**		**Pn**	11 50 56.4	**+0.1**
BMAR	**Burnt Mountain**	**5.04**	**27**	Pn	**Pn**	11 50 55.8	**-0.7**
KAKN	**Katmai Knife C**	**5.28**	**207**		**Pn**	11 51 00.3	**+0.4**
KABU	**Katmai Buttres**	**5.35**	**208**		**Pn**	11 51 00.9	**+0.1**
KDAK	**Kodiak Island**	**5.40**	**192**	P	**Pn**	11 51 00.0	**-1.3**
	0.7nm,0.3s,baz=61,slow=6.6,SNR=66						
KDAK				S	**Sn**	11 51 57.2	**-5.0**
	2.2nm,0.3s,baz=129,slow=23,SNR=8.0						
KDAK	**Kodiak Island**	**5.40**	**192**		**Pn**	11 50 59.6	**-1.7**
TOLK	**Toolik Lake Re**	**5.62**	**3**		**Pn**	11 51 03.8	**-0.5**
PCA	**Pinnacle**	**5.72**	**117**	Pn	**Pn**	11 51 05.3	**-0.5**
OHAK	**Old Harbor**	**6.02**	**195**		**Pn**	11 51 07.9	**-1.8**
HYT	**Haines Junctio**	**6.52**	**104**	Pn	**Pn**	11 51 16.8	**+0.2**
SII	**Sitkinak Islan**	**6.78**	**198**	Pn	**Pn**	11 51 20.2	**+0.1**
INK	**Inuvik**	**8.73**	**46**	P	**Pn**	11 51 47.9	**+1.6**
	0.1nm,0.3s,baz=235,slow=13,SNR=7.3						
INK	**Inuvik**	**8.73**	**46**		**Pn**	11 51 46.2	**-0.1**
BESE	**Bessie Mountai**	**8.85**	**113**	Pn	**Pn**	11 51 47.5	**-0.6**
YKA	**Yellowknife Ar**	**16.30**	**76**	P	**P**	11 53 26.7	**+0.9**
	0.1nm,0.3s,baz=289,slow=10,SNR=8.2						
TXAR	**Lajitas Array**	**45.09**	**116**	P	**P**	11 57 49.6	**+2.0**
	0.1nm,0.6s,baz=328,slow=6.7,SNR=2.4						

IDC 21 11:50:01.1±3.1, 28°.79S×178°.27W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/38, mbtmp3.9/3, Error ellipse: s-maj=81.9km s-min=14.1km az=39.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.56**	**146**	Pn	Pn	11 50 16.8	+0.5
	200nm,0.3s,baz=58,slow=21,SNR=8.5						
RAO				Sn	Sn	11 50 26.4	+0.1
	468nm,0.3s,baz=36,slow=21,SNR=10						
STKA	**Stephens Creek**	**34.64**	**255**	P	P	11 56 52.1	-0.1
	1.1nm,0.5s,baz=101,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**42.98**	**265**	P	P	11 58 02.3	-0.1
	0.6nm,0.7s,baz=103,slow=7.6,SNR=11						
WRA	**Warramunga Arr**	**43.82**	**271**	P	P	11 58 09.1	0.0
	1.3nm,0.5s,baz=112,slow=7.9,SNR=23						
FINES	**FINESS Array B**	**143.55**	**341**	PKP	PKPbc	12 09 34.5	+0.1
	2.7nm,0.8s,baz=46,slow=4.0,SNR=3.8						

*BJI **21** 11:52:07.3±0.0, 39°.51N×73°.14E, h7km, mB4.2/5, mb4.2/9, ML3.8/4, Ms3.7/5, Ms7 3.6/3*
*SOME **21** 11:52:08.8, 39°.52N×73°.15E, h0km*
*KRNET **21** 11:52:09.6±0.1, 39°.51N×73°.38E, h14km, mb4.3*
*IDC **21** 11:52:13.2±4.0, 39°.43N×73°.31E, h30km±28km, mb3.7/12, mb1 3.8/19, mb1mx3.7/66, mbtmp3.8/19, ML3.4/7, MS3.0/15, Ms1 3.0/15, ms1mx2.9/55, Error ellipse: s-maj=19.8km s-min=14.2km az=164.0*
*NNC **21** 11:52:13.1±1.2, 39°.74N×73°.07E, h0km, mb4.6, mpv4.4, Error ellipse: s-maj=10.1km s-min=6.1km az=174.0*
*MOS **21** 11:52:14.0±1.8, 39°.54N×73°.31E, h29km, mb4.2/12, Error ellipse: s-maj=9.1km s-min=4.9km az=79.3*
*NEIC **21** 11:52:14.9±2.6, 39°.56N±0°.06×73°.23E±0°.08, h35km±2km, mb4.3/6, Error ellipse: s-maj=10.6km s-min=8.8km az=306.0*

ISC 21 11:52:12.3±1.5, 39°.54N±0°.03×73°.26E±0°.03, h10km±9km, n178, r2°27/225, mb3.9/20, MS3.1/10, 44C-33D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.04**	**340**	⇓*i*P	**Pb**	**11 52 30.1**	**-2.4**
	baz=36						
OHH				⇓*i*S	**Sb**	11 52 46.2	**-0.1**
	baz=36						
ARSB	**Arslanbob**	**1.79**	**353**	⇓*i*P	**Pn**	11 52 43.5	**+0.1**
	baz=51						
ARSB				⇓*i*S	**Sb**	11 53 08.3	**+0.5**
	baz=51						
ARSB	**Arslanbob**	**1.79**	**353**	PN	**Pn**	11 52 44.2	**+0.8**
ARSB	**Arslanbob**	**1.79**	**353**		**Pn**	11 52 44.2	**+0.8**
BTK	**Batken**	**1.95**	**286**	⇓*i*P	**Pn**	11 52 46.4	**+0.9**
	baz=86						
BTK				⇓*i*S	**Sb**	11 53 13.9	**+1.6**
	baz=86						
BTK	**Batken**	**1.95**	**286**	PN	**Pn**	11 52 44.9	**-0.6**
BTK	**Batken**	**1.95**	**286**	Pn	**Pn**	11 52 44.9	**-0.6**
KSH	**Kashi**	**2.10**	**90**	Pn	Pn	11 52 42.9	-4.7
KSH				Sn	**Sn**	11 53 13.6	**-0.2**
KSH				smax	smax		
	comp=N,890nm,0.5s						
KSH				smax	smax		
	comp=E,1μm,0.8s						
GAR	**Garm**	**2.35**	**258**	⇑*i*P	**Pn**	11 52 51.4	**+0.4**
	baz=59						
GAR				⇑*i*S	**Sb**	11 53 22.9	**-0.9**
	baz=59						
GAR	**Garm**	**2.35**	**258**	Pn	**Pn**	11 52 52.8	**+1.8**
ARLS	**Aral**	**2.45**	**19**	⇑*i*P	**Pn**	11 52 52.0	**-0.5**
	baz=17						
ARLS				⇑*i*S	**Sn**	11 53 23.5	**+0.9**
	baz=17						
ARK	**Arkit**	**2.46**	**337**	⇑*i*P	**Pn**	11 52 52.8	**+0.3**
	baz=35						
ARK				⇑*i*S	**Sn**	11 53 25.2	**+2.5**
	baz=35						
AML	**Almayashu**	**2.61**	**7**	⇑*i*P	**Pn**	11 52 54.4	**-0.4**
	baz=5.0						
AML				⇑*i*S	**Sn**	11 53 28.1	**+1.4**
	baz=5.0						
AML	**Almayashu**	**2.61**	**7**	P	**Pn**	11 52 56.5	**+1.6**
	SNR=212						
UCH	**Uchtor**	**2.84**	**19**	⇑*i*P	**Pn**	11 52 57.3	**-0.8**
	baz=17						
UCH				⇑*i*S	**Sn**	11 53 32.8	**+0.1**
	baz=17						
UCH	**Uchtor**	**2.84**	**19**	P	**Pn**	11 52 59.9	**+1.7**
	SNR=238						
KZA	**Kyzart**	**2.95**	**30**	⇑*i*P	**Pn**	11 52 58.1	**-1.4**
	baz=28						
KZA				⇑*i*S	**Sn**	11 53 34.6	**-0.6**
	baz=28						
KZA	**Kyzart**	**2.95**	**30**	P	**Pn**	11 53 01.3	**+1.8**
	SNR=34						
EKS2	**Erkin-Say**	**3.14**	**7**	⇑*i*P	**Pn**	11 53 01.6	**-0.3**
	baz=5.0						
EKS2				⇑*i*S	**Sn**	11 53 40.5	**+1.0**
	baz=5.0						
EKS2	**Erkin-Say**	**3.14**	**7**	P	**Pn**	11 53 04.3	**+2.4**
	SNR=29						
MRKS	**Merke**	**3.20**	**360**	*e*P	**Pb**	11 53 08.6	**-0.6**
	119nm,0.5s						
MRKS				*e*S	**Sb**	11 53 52.2	**+3.9**
	498nm,0.4s						
MRKS	**Merke**	**3.20**	**360**	Pg	**Pn**	11 53 04.8	**+2.2**
	119nm,0.5s						
MRKS				Lg	Lg	11 53 46.6	
	498nm,0.4s						
AAK	**Ala-Archa**	**3.23**	**16**	Pn	**Pn**	11 53 05.5	**+2.4**
	18nm,0.3s,baz=186,slow=9.5,SNR=172						
AAK				Sn	**Sb**	11 53 47.1	**-2.1**
	14nm,0.3s,baz=330,slow=21,SNR=9.4						
AAK				LR	LR	11 54 37.0	
	comp=Z,91nm,19.9s,baz=163,slow=43						
AAK	**Ala-Archa**	**3.23**	**16**	⇓*i*P	**Pn**	11 53 02.7	**-0.5**
	baz=15						
AAK				⇓*i*S	**Sn**	11 53 41.9	**+0.2**
	baz=15						
AAK	**Ala-Archa**	**3.23**	**16**	P	**Pn**	11 53 05.5	**+2.4**
	SNR=66						
AAK	**Ala-Archa**	**3.23**	**16**	⇑Pg	**Pb**	11 53 09.0	**-0.8**
	67nm,0.5s						
AAK				⇑Lg	Lg	11 53 47.7	
	206nm,0.7s						
AAK	**Ala-Archa**	**3.23**	**16**	Pn	**Pn**	11 53 05.1	**+1.9**
CHGR	**Chuyangaron**	**3.31**	**256**	⇓*i*P	**Pn**	11 53 03.9	**-0.3**
	baz=57						
CHGR				⇓*i*S	**Sn**	11 53 46.0	**+2.3**
	baz=57						
CHGR	**Chuyangaron**	**3.31**	**256**	Pn	**Pn**	11 53 04.0	**-0.2**
KBK	**Karagaybulak**	**3.36**	**22**	⇓*i*P	**Pn**	11 53 04.1	**-0.9**
	baz=20						
KBK				⇓*i*S	**Sn**	11 53 44.8	**-0.2**
	baz=20						
KBK	**Karagaybulak**	**3.36**	**22**	P	**Pn**	11 53 07.2	**+2.2**
	SNR=17						
FRU1	**Bishkek**	**3.42**	**17**	⇑*e*P	**Pn**	11 53 05.1	**-0.7**
	baz=16						
FRU1				⇑*i*S	**Sn**	11 53 46.6	**+0.2**
	baz=16						
FRU1	**Bishkek**	**3.42**	**17**	PN	**Pn**	11 53 07.1	**+1.4**
FRU1	**Bishkek**	**3.42**	**17**	Pn	**Pn**	11 53 07.1	**+1.4**
TAS	**Tashkent**	**3.51**	**302**	⇑*i*P	**Pn**	11 53 07.8	**+0.9**
	baz=2.0						
TAS				⇑*i*S	**Sn**	11 53 51.4	**+2.9**
	baz=2.0						
TAS	**Tashkent**	**3.51**	**302**	PN	**Pb**	11 53 13.7	**-0.8**
ULHL	**Ulahol**	**3.52**	**39**	⇑*i*P	**Pn**	11 53 05.9	**-1.3**
	baz=38						
ULHL				⇑*i*S	**Sn**	11 53 47.4	**-1.6**
	baz=38						
ULHL	**Ulahol**	**3.52**	**39**	P	**Pn**	11 53 09.8	**+2.6**
	SNR=13						
CHMS	**Chumysh**	**3.63**	**18**	⇓*i*P	**Pn**	11 53 08.0	**-0.6**
	baz=16						
CHMS				⇓*i*S	**Sn**	11 53 51.1	**-0.4**
	baz=16						
CHMS	**Chumysh**	**3.63**	**18**	P	**Pn**	11 53 10.8	**+2.2**
	SNR=30						
DZA	**Taraz**	**3.65**	**337**	*e*P	**Pb**	11 53 17.2	**+0.4**
	89nm,0.1s						
DZA				*e*S	**Sb**	11 54 06.5	**+5.4**
	620nm,0.5s						
DZA	**Taraz**	**3.65**	**337**	Pg	**Pn**	11 53 11.7	**+2.9**
	333nm,0.1s						
DZA				Lg	Lg	11 53 58.1	
	436nm,0.3s						
TKM2	**Tokmak 2**	**3.81**	**27**	⇓*i*P	**Pn**	11 53 10.4	**-0.7**
	baz=25						
TKM2				⇓*i*S	**Sn**	11 53 55.2	**-0.9**
	baz=25						
TKM2	**Tokmak 2**	**3.81**	**27**	P	**Pn**	11 53 13.0	**+1.8**
	SNR=19						
TKM2	**Tokmak 2**	**3.81**	**27**	⇑Pn	**Pn**	11 53 12.6	**+1.4**
	11nm,0.6s						
TKM2				⇓Pg	**Pb**	11 53 23.7	**+4.0**
	39nm,0.6s						
TKM2				⇑Lg	Lg	11 54 12.1	
	69nm,0.6s						
TKM2	**Tokmak 2**	**3.81**	**27**	PN	**Pn**	11 53 12.5	**+1.4**
TKM2				PG	**Pb**	11 53 23.6	**+4.0**
TKM2				SG	**Sb**	11 54 12.1	**+6.2**
TKM2				pmax	pmax		
	comp=Z,11nm,0.6s						
USP	**Ospenovka**	**3.83**	**14**	⇑*i*P	**Pn**	11 53 11.0	**-0.4**
	baz=12						
USP				⇑*i*S	**Sn**	11 53 56.7	**+0.2**
	baz=12						
USP	**Ospenovka**	**3.83**	**14**	P	**Pn**	11 53 13.2	**+1.8**
	SNR=16						
KDJ	**Kajisay**	**3.94**	**48**	⇓*i*P	**Pn**	11 53 11.5	**-1.4**
	baz=47						
KDJ				⇓*i*S	**Sn**	11 53 57.7	**-1.6**
	baz=47						
KDJ	**Kajisay**	**3.94**	**48**	PN	**Pn**	11 53 13.7	**+0.8**
KDJ	**Kajisay**	**3.94**	**48**	Pn	**Pn**	11 53 13.7	**+0.8**
SGDS	**Sogindy**	**4.04**	**14**	Pg	**Pb**	11 53 23.4	**-0.1**
	comp=Z,46nm,0.7s						
SGDS				Lg	Lg	11 54 17.4	
	comp=Z,100nm,0.7s						
KST	**Kastek**	**4.05**	**29**	*e*P	**Pb**	11 53 25.9	**+2.2**
	comp=Z,80nm,0.8s						
KST				*e*S	**Sg**	11 54 22.0	**-0.2**
	comp=Z,162nm,0.7s						
KST	**Kastek**	**4.05**	**29**	Pg	**Pb**	11 53 25.9	**+2.2**
	comp=Z,80nm,0.8s						
KST				Lg	Lg	11 54 22.0	
	comp=Z,162nm,0.7s						
TARG	**Taragay, Kyrgy**	**4.09**	**56**	⇓*i*P	**Pn**	11 53 13.3	**-1.9**
	baz=55						
TARG				⇓*i*S	**Sn**	11 54 00.1	**-3.2**
	baz=55						
TARG	**Taragay, Kyrgy**	**4.09**	**56**	Pn	**Pn**	11 53 16.1	**+0.8**
KK31	**Karatay Array**	**4.11**	**331**	⇑Pn	**Pn**	11 53 16.0	**+0.8**
	comp=Z,8.0nm,0.3s,baz=141,slow=13,SNR=207						
KK31				⇓Pg	**Pb**	11 53 26.2	**+1.4**
	comp=Z,29nm,0.4s,baz=144,slow=16,SNR=7.2						
KK31				⇓Sn	**Sn**	11 54 04.8	**+1.5**
	comp=Z,26nm,0.4s,baz=140,slow=24,SNR=4.2						
KK31				⇑Lg	Lg	11 54 19.3	
	comp=Z,46nm,0.3s,baz=345,slow=38,SNR=4.0						
KK31	**Karatay Array**	**4.11**	**331**	PN	**Pn**	11 53 16.0	**+0.8**
KK31				*e*PG	**Pb**	11 53 28.4	**+3.6**
KK31				SN	**Sn**	11 54 08.5	**+5.1**
KK31				SG	**Sg**	11 54 23.6	**-0.8**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KK31	**Karatay Array**	**4.11**	**331**	Pn	**Pn**	11 53 16.6	**+1.4**
KKAR	**Karatay Array**	**4.11**	**331**	PN	**Pn**	11 53 16.6	**+1.4**
KKAR	**Karatay Array**	**4.11**	**331**	Pn	**Pn**	11 53 16.1	**+0.9**
KKAR	**Karatay Array**	**4.11**	**331**		**Pn**	11 53 16.6	**+1.4**
MTBS	**Maitube**	**4.30**	**33**	*e*P	**Pb**	11 53 29.4	**+1.4**
	comp=Z,76nm,0.7s						
MTBS				*e*S	**Sg**	11 54 28.4	**-2.1**
	comp=Z,75nm,0.5s						
MTBS	**Maitube**	**4.30**	**33**	Pg	**Pb**	11 53 29.4	**+1.4**
	comp=Z,76nm,0.7s						
MTBS				Lg	Lg	11 54 28.4	
	comp=Z,75nm,0.5s						
IZV	**Izvestkoviy**	**4.31**	**35**	*e*P	**Pb**	11 53 29.8	**+1.6**
	comp=Z,65nm,0.6s						
IZV				*e*S	**Sg**	11 54 29.3	**-1.3**
	comp=Z,124nm,0.8s						
IZV	**Izvestkoviy**	**4.31**	**35**	Pg	**Pb**	11 53 29.8	**+1.6**
	comp=Z,65nm,0.6s						
IZV				Lg	Lg	11 54 29.3	
	comp=Z,124nm,0.8s						
TNSS	**Tian-Shan**	**4.46**	**37**	*e*P	**Pb**	11 53 33.7	**+2.8**
	comp=Z,59nm,0.7s						
TNSS				*e*S	**Sg**	11 54 34.8	**-0.7**
	comp=Z,65nm,0.5s						
TNSS	**Tian-Shan**	**4.46**	**37**	Pg	**Pb**	11 53 33.7	**+2.8**
	comp=Z,59nm,0.7s						
TNSS				Lg	Lg	11 54 34.8	
	comp=Z,65nm,0.5s						
KRBS	**Karabastau**	**4.53**	**23**	*e*P	**Pb**	11 53 33.3	**+1.5**
	comp=Z,42nm,0.8s						
KRBS				*e*S	**Sg**	11 54 35.3	**-2.3**
	comp=Z,54nm,0.7s						
KRBS	**Karabastau**	**4.53**	**23**	Pg	**Pb**	11 53 33.3	**+1.5**
	comp=Z,42nm,0.8s						
KRBS				Lg	Lg	11 54 35.3	
	comp=Z,54nm,0.7s						
AAA	**Alma-Ata**	**4.58**	**36**	*e*P	**Pb**	11 53 35.3	**+2.6**
	comp=Z,32nm,0.2s						
AAA				*e*S	**Sg**	11 54 37.6	**-1.7**
	comp=Z,98nm,0.5s						
AAA	**Alma-Ata**	**4.58**	**36**	Pg	**Pb**	11 53 35.3	**+2.6**
	comp=Z,32nm,0.2s						
AAA				Lg	Lg	11 54 37.6	
	comp=Z,98nm,0.5s						
AAA	**Alma-Ata**	**4.58**	**36**	*e*PN	Pb	11 53 38.0	+5.3
AAA				pmax	pmax		
	comp=Z,57nm,0.5s						
MDOK	**Medeo**	**4.61**	**37**	*e*P	**Pb**	11 53 36.5	**+3.3**
	comp=Z,47nm,0.6s						
MDOK				*e*S	**Sg**	11 54 39.9	**-0.2**
	comp=Z,72nm,0.7s						
MDOK	**Medeo**	**4.61**	**37**	⇑Pn	**Pn**	11 53 24.1	**+2.0**
	comp=Z,17nm,0.6s						
MDOK				⇑Pg	**Pb**	11 53 36.9	**+3.7**
	comp=Z,40nm,0.6s						
MDOK				⇑Lg	Lg	11 54 36.1	
	comp=Z,79nm,0.7s						
MDOK	**Medeo**	**4.61**	**37**	Pg	**Pb**	11 53 36.5	**+3.3**
	comp=Z,47nm,0.6s						
MDOK				Lg	Lg	11 54 39.9	
	comp=Z,72nm,0.7s						
MDOK	**Medeo**	**4.61**	**37**	PN	**Pn**	11 53 24.8	**+2.7**
MDOK				PG	**Pb**	11 53 36.9	**+3.7**
ANVS	**Anan'yevo**	**4.64**	**44**	⇓*e*P	**Pn**	11 53 21.5	**-1.1**
	baz=43						
ANVS				⇓*i*S	**Sn**	11 54 14.1	**-2.5**
	baz=43						
KOTS	**Kotyrbulak**	**4.69**	**37**	*e*P	**Pb**	11 53 36.4	**+1.7**
	comp=Z,91nm,0.6s						
KOTS				*e*S	**Sg**	11 54 39.9	**-2.9**
	comp=Z,371nm,0.6s						
KOTS	**Kotyrbulak**	**4.69**	**37**	Pg	**Pb**	11 53 36.3	**+1.7**
	comp=Z,91nm,0.6s						
KOTS				Lg	Lg	11 54 39.9	
	comp=Z,371nm,0.6s						
PRZ	**Przheval'sk**	**4.87**	**51**	PN	**Pn**	11 53 26.4	**+0.6**
PRZ	**Przheval'sk**	**4.87**	**51**		**Pn**	11 53 26.4	**+0.6**
KTBS	**Karatobe**	**4.89**	**31**	*e*P	**Pb**	11 53 41.0	**+3.0**
	comp=Z,19nm,0.7s						
KTBS				*e*S	**Sg**	11 54 47.7	**-1.6**
	comp=Z,140nm,0.7s						
KTBS	**Karatobe**	**4.89**	**31**	Pg	**Pb**	11 53 41.0	**+3.0**
	comp=Z,19nm,0.7s						
KTBS				Lg	Lg	11 54 47.7	
	comp=Z,140nm,0.7s						
CHKK	**Chushkaly**	**5.13**	**32**	*e*P	**Pb**	11 53 44.7	**+2.6**
	comp=Z,17nm,0.7s						
CHKK				*e*S	**Sg**	11 54 53.7	**-3.3**
	comp=Z,52nm,0.5s						
CHKK	**Chushkaly**	**5.13**	**32**	Pg	**Pb**	11 53 44.7	**+2.6**
	comp=Z,17nm,0.7s						
CHKK				Lg	Lg	11 54 53.7	
	comp=Z,52nm,0.5s						
KURS	**Kuram**	**5.39**	**41**	*e*P	**Pb**	11 53 49.3	**+2.6**
KURS				*e*S	**Sg**	11 55 01.5	**-4.0**
KURS	**Kuram**	**5.39**	**41**	Pg	**Pb**	11 53 49.3	**+2.6**
KURS				Lg	Lg	11 55 01.5	
BTLS	**Baital**	**5.53**	**6**	*e*P	**Pb**	11 53 49.9	**+1.1**
	comp=Z,4.0nm,0.5s						
BTLS				*e*S	**Sb**	11 55 02.4	**+7.4**
	comp=Z,34nm,0.5s						
UZB	**Uzynkulak**	**5.63**	**48**	*e*P	**Pb**	11 53 54.1	**+3.3**
	comp=Z,17nm,0.7s						
UZB				*e*S	**Sg**	11 55 09.8	**-3.4**
	comp=Z,34nm,0.8s						
UZB	**Uzynkulak**	**5.63**	**48**	Pg	**Pb**	11 53 54.1	**+3.3**
	comp=Z,17nm,0.7s						
UZB				Lg	Lg	11 55 09.8	
	comp=Z,34nm,0.8s						
ARXS	**Arharly**	**5.78**	**35**	*e*P	**Pb**	11 53 55.8	**+2.7**
	comp=Z,69nm,0.7s						
ARXS				*e*S	**Sg**	11 55 13.4	**-4.3**
	comp=Z,56nm,0.9s						
ARXS	**Arharly**	**5.78**	**35**	Pg	**Pb**	11 53 55.8	**+2.7**
	comp=Z,69nm,0.7s						
ARXS				Lg	Lg	11 55 13.4	
	comp=Z,56nm,0.9s						
CEP	**Cherat**	**5.81**	**191**	P	**Pn**	11 53 41.0	**+2.4**
CEP				S	**Sn**	11 54 51.0	**+5.6**
NIL	**Nilore**	**5.88**	**180**	PN	**Pn**	11 53 41.2	**+1.7**
NIL	**Nilore**	**5.88**	**180**	Pn	**Pn**	11 53 41.2	**+1.7**
PDGK	**Podgornoye**	**6.02**	**49**	⇓Pn	**Pn**	11 53 42.0	**+0.5**
	comp=Z,5.1nm,0.7s						
PDGK				⇑Pg	**Pb**	11 54 01.4	**+4.1**
	comp=Z,27nm,0.7s						
PDGK				⇑Lg	Lg	11 55 20.4	
	comp=Z,73nm,1.1s						
PDGK	**Podgornoye**	**6.02**	**49**	PN	**Pn**	11 53 41.9	**+0.5**
PDGK				PG	**Pb**	11 54 01.4	**+4.1**
KBL	**Kabul**	**6.03**	**215**	PN	**Pn**	11 53 41.3	**-0.3**
KBL	**Kabul**	**6.03**	**215**	Pn	**Pn**	11 53 41.3	**-0.3**
KTMS	**Ketmen**	**6.60**	**51**	*e*P	Pb	11 54 13.9	+6.7
	comp=Z,4.6nm,0.3s						
KTMS				*e*S	**Sg**	11 55 43.8	**-0.3**
	comp=Z,17nm,1.1s						
KTMS	**Ketmen**	**6.60**	**51**	Pg	Pb	11 54 13.9	+6.7
	comp=Z,4.6nm,0.3s						
KTMS				Lg	Lg	11 55 43.8	
	comp=Z,17nm,1.1s						
TDK	**Taldyqorghan**	**6.66**	**33**	*e*P	**Pb**	11 54 12.2	**+4.2**
	comp=Z,80nm,0.3s						
TDK				*e*S	**Sg**	11 55 41.0	**-4.9**
	comp=Z,180nm,0.9s						
TDK	**Taldyqorghan**	**6.66**	**33**	Pg	**Pb**	11 54 12.2	**+4.2**
	comp=Z,80nm,0.3s						
TDK				Lg	Lg	11 55 41.0	
	comp=Z,180nm,0.9s						
THW	**Thamme Wali**	**6.85**	**191**	P	**Pn**	11 53 54.3	**+1.5**
OTUK	**Ortayu**	**8.72**	**356**	⇓Pn	**Pn**	11 54 18.5	**0.0**
	comp=Z,2.3nm,0.7s						
OTUK				⇑Lg	Lg	11 56 43.8	
	comp=Z,26nm,0.9s						
OTUK	**Ortayu**	**8.72**	**356**	P	**Pn**	11 54 18.5	**0.0**
MAKZ	**Makanchi**	**9.65**	**38**	⇓Pn	**Pn**	11 54 32.4	**+1.2**
	comp=Z,3.4nm,0.8s						
MAKZ				⇑Lg	Lg	11 57 17.4	
	comp=Z,12nm,1.4s						
MAKZ	**Makanchi**	**9.65**	**38**	P	**Pn**	11 54 32.3	**+1.1**
MAKZ	**Makanchi**	**9.65**	**38**	Pn	**Pn**	11 54 32.3	**+1.1**
MK31	**Makanchi Array**	**9.79**	**39**	⇑Pn	**Pn**	11 54 34.7	**+1.6**
	comp=Z,3.5nm,1.0s,baz=211,slow=12,SNR=13						
MK31				⇓Lg	Lg	11 57 21.4	
	comp=Z,5.1nm,0.7s						
MK31	**Makanchi Array**	**9.79**	**39**	P	**Pn**	11 54 35.0	**+1.9**
MK31	**Makanchi Array**	**9.79**	**39**	Pn	**Pn**	11 54 35.0	**+1.9**
MKAR	**Makanchi Array**	**9.79**	**39**	Pn	**Pn**	11 54 34.6	**+1.4**
	comp=Z,0.1nm,0.3s,baz=216,slow=14,SNR=12						
MKAR				Lg	L

ZALV	**Zalesovo Beam**	**16.41**	**25**	*e*P		**P**	**11 56 05.9**	**+0.6**
ZALV	**Zalesovo Beam**	**16.41**	**25**			**Pn**	**11 56 01.5**	**-0.9**
ARU	**Arti**	**19.48**	**335**	LR	LR	LR	12 04 30.7	
	comp=Z,55nm,18.1s,baz=132,slow=38							
ARU	**Arti**	**19.48**	**335**	*d* iP		**Pn**	**11 56 42.3**	**+2.0**
ARU					S	**S**	**12 00 23.7**	**+4.7**
ARU					pmax	pmax		
	comp=Z,2.0nm,0.4s							
GTA	**Gaotai**	**20.48**	**82**	⇑P		**P**	**11 56 49.8**	**-0.5**
GTA					pP	Pn	11 56 53.9	+1.5
GTA					sP	pP	11 56 56.8	+2.5
GTA					S	Sn	12 00 44.0	+0.8
GTA					pmax	pmax		
	comp=Z,14nm,1.0s							
GTA					pmax	pmax		
	comp=Z,62nm,6.4s							
GTA					LR	LR		
	comp=Z,82nm,12.4s							
GTA					LR	LR		
	comp=Z,89nm,11.4s							
GTA					LR	LR		
	comp=Z,66nm,14.3s							
KBZ	**Khabaz**	**23.01**	**290**	*i* P		**P**	**11 57 19.6**	**+2.5**
KBZ					pmax	pmax		
	comp=Z,2.0nm,1.0s							
KIV	**Kislovodsk**	**23.16**	**291**	*e*P		**P**	**11 57 23.4**	**+4.5**
KIV					pmax	pmax		
	comp=Z,20nm,1.0s							
KIV					MLR	MLR		
	comp=Z,41nm,14.0s							
TLY	**Talaya**	**24.28**	**50**	*i* P		**P**	**11 57 31.7**	**+2.1**
TLY					pmax	pmax		
	comp=Z,7.0nm,0.9s							
KIRV	**Kirov**	**24.41**	**329**	LR	LR	LR	12 07 45.9	
	comp=Z,60nm,18.3s,baz=111,slow=38							
SONM	**Songino Array**	**25.20**	**60**	P		**P**	**11 57 37.1**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=272,slow=9.4,SNR=7.8							
SONM					LR	LR	12 08 17.8	
	comp=Z,48nm,21.7s,baz=269,slow=38							
SONM	**Songino Array**	**25.20**	**60**	P		**P**	**11 57 37.4**	**-0.6**
SONM					pmax	pmax		
	comp=Z,2.0nm,1.0s							
SONM	**Songino Array**	**25.20**	**60**	P		**P**	**11 57 37.4**	**-0.6**
ULN	**Ulaanbaatar**	**25.64**	**60**	*ce*P		**P**	**11 57 43.0**	**+0.9**
ULN					pmax	pmax		
	comp=Z,2.0nm,0.7s							
OBN	**Obninsk**	**28.93**	**315**	LR	LR	LR	12 10 34.2	
	comp=Z,19nm,21.1s,baz=166,slow=38							
OBN	**Obninsk**	**28.93**	**315**	*i* P		**P**	**11 58 13.5**	**+2.3**
OBN				*e*			11 59 09.1	
OBN				*e*S		**S**	**12 02 59.5**	**-2.0**
OBN					pmax	pmax		
	comp=Z,6.0nm,1.0s							
OBN					MLR	MLR		
	comp=Z,49nm,19.0s							
BRTR	**Keskin Array B**	**30.34**	**283**	P		**P**	**11 58 23.5**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=205,slow=33,SNR=2.4							
BRTR	**Keskin Array B**	**30.34**	**283**	*ce*P		**P**	**11 58 28.2**	**+4.0**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**30.57**	**126**	LR	LR	LR	12 12 28.6	
	comp=Z,22nm,19.7s,baz=205,slow=40							
CMAR	**Chiang Mai Arr**	**30.57**	**126**	*ce*P		**P**	**11 58 28.1**	**+1.9**
CMAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
FINES	**FINESS Array B**	**36.04**	**323**	P		**P**	**11 59 12.1**	**-1.2**
	comp=Z,3.6nm,0.6s,baz=109,slow=10,SNR=9.6							
FINES					LR	LR	12 14 40.5	
	comp=Z,43nm,21.9s,baz=62,slow=37							
FINES	**FINESS Array B**	**36.04**	**323**	*e*P		**P**	**11 59 13.0**	**-0.4**
FINES					pmax	pmax		
	comp=Z,4.0nm,0.6s							
ARCES	**ARCESS Array B**	**39.06**	**336**	P		**P**	**11 59 38.2**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=107,slow=10,SNR=7.4							
KLR	**Kul'dur**	**41.95**	**57**	*i* P		**P**	**12 00 04.3**	**+1.3**
KLR					pmax	pmax		
	comp=Z,4.0nm,1.8s							
GERES	**GERESS Array B**	**42.70**	**303**	P		**P**	**12 00 08.4**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=47,slow=8.7,SNR=3.8							
GERES	**GERESS Array B**	**42.70**	**303**	*e*P		**P**	**12 00 12.1**	**+2.8**
CLL	**Colim**	**42.74**	**307**	*e*pP		pP	12 00 17.0	+3.2
NOA	**NORSAR Array B**	**43.08**	**321**	LR	LR	LR	12 18 59.9	
	comp=Z,39nm,19.2s,baz=280,slow=37							
MA2	**Magadan**	**50.88**	**40**	LR	LR	LR	12 23 33.8	
	comp=Z,24nm,19.4s,baz=290,slow=37							
ESDC	**Sonseca Array**	**57.64**	**297**	P		**P**	**12 02 02.4**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=54,slow=7.5,SNR=5.1							
TORD	**Torodi Ar. Bea**	**67.57**	**269**	P		**P**	**12 03 06.2**	**-3.0**
	comp=Z,0.7nm,0.6s,baz=50,slow=5.9,SNR=7.0							
TORD	**Torodi Ar. Bea**	**67.57**	**269**	IAmb		IAmb	12 03 14.1	
	comp=Z,0.7nm,0.9s							
INK	**Inuvik**	**70.61**	**10**	P		**P**	**12 03 25.6**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=350,slow=3.8,SNR=8.6							
INK	**Inuvik**	**70.61**	**10**	P		**P**	**12 03 25.6**	**-1.6**
INK					pmax	pmax		
	comp=Z,4.0nm,1.3s							
INK	**Inuvik**	**70.61**	**10**	IAmb		IAmb	12 03 27.5	
	comp=Z,4.0nm,1.2s							
ILAR	**Eielson Array**	**71.36**	**17**	P		**P**	**12 03 29.1**	**-2.7**
	comp=Z,0.5nm,0.7s,baz=316,slow=3.9,SNR=6.0							
JAY	**Jayapura**	**74.42**	**107**	LR		LR	12 36 27.0	
	comp=Z,26nm,19.9s,baz=198,slow=36							
YKA	**Yellowknife Ar**	**78.11**	**4**	P		**P**	**12 04 08.9**	**-2.1**
	comp=Z,1.4nm,0.7s,baz=354,slow=5.8,SNR=8.4							
WB0	**Warramunga Arr**	**82.05**	**124**	P		**P**	**12 04 31.8**	**-1.1**
WB0					IAmb	IAmb	12 04 38.6	
	comp=Z,6.4nm,1.4s							
WRA	**Warramunga Arr**	**82.14**	**124**	P		**P**	**12 04 30.1**	**-3.3**
	comp=Z,0.8nm,1.0s,baz=323,slow=4.9,SNR=3.6							
WRA	**Warramunga Arr**	**82.14**	**124**	*e*P		**P**	**12 04 36.1**	**+2.8**
WRA					pmax	pmax		
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**82.14**	**124**	P		**P**	**12 04 31.5**	**-1.8**
WB2	**Warramunga Arr**	**82.15**	**124**	P		**P**	**12 04 30.4**	**-2.9**
WB2					IAmb	IAmb	12 04 31.3	
	comp=Z,4.5nm,1.4s							
ASAR	**Alice Springs**	**84.58**	**127**	P		**P**	**12 04 43.8**	**-2.1**
	comp=Z,0.4nm,0.8s,baz=322,slow=5.7,SNR=4.1							
EFI	**East Falkland**	**144.50**	**234**	*c* iPKIKP		**PKiKP**	**12 11 53.0**	**+1.2**

*TEH **21** 11:57:09.7, 32.60N×47.79E, h8km, ML3.0*
*ISN **21** 11:57:09.7±1.1, 32.65N×47.75E, h14km±7km, ML2.6*
ISC 21 11:57:10.4±1.0, **32.61N**±0.04×**47.76E**±0.04, **h10km, n26, σ1§03/29, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.41**	**280**	*e*Pg		**Pg**	**11 57 18.0**	**-0.5**
IKFM	**Kafar-mosalman**	**0.91**	**5**	*e*Pg		**Pb**	**11 57 28.2**	**-0.2**
IKFM				*e*			11 57 47.7	
IKMR	**Kamar-syah**	**1.04**	**30**	*e*Pg		**Pg**	**11 57 29.8**	**-0.7**
IKMR				*e*			11 57 34.2	
IDOB	**Doab**	**1.22**	**17**	*e*Pg		**Pn**	**11 57 34.0**	**+0.2**
BMDN	**Meydan**	**1.39**	**40**	*e*Pg		**Pn**	**11 57 35.8**	**-0.2**
BMDN				*e*			11 57 41.1	
AHWZ	**Ahwaz**	**1.48**	**149**	*e*Pg		**Pn**	**11 57 38.1**	**+0.9**
IKOM	**Komasi**	**1.57**	**352**	*e*Pg		**Pg**	**11 57 39.8**	**-0.8**
IKOM				*e*			11 58 08.6	
IBDR	**Badra**	**1.62**	**288**	*e*Pg		**Pn**	**11 57 39.0**	**0.0**
IBDR				*e*Sg		**Sn**	**11 58 00.0**	**+0.1**
IBDR					AML	AML	11 58 06.3	
	comp=N,107nm,0.5s							
IBDR					AML	AML	11 58 13.8	
	comp=E,70nm,0.5s							
HSAM	**Samen**	**1.75**	**24**	*e*Pg		**Pg**	**11 57 43.1**	**-0.8**
HSAM				*e*			11 57 44.6	
KCHF	**Cheshme Sefid,**	**1.76**	**340**	*e*Pn		**Pb**	**11 57 43.0**	**0.0**
KCHF				*e*			11 58 10.6	
KER	**Kermanshah**	**1.84**	**344**	*e*Pn		**Pb**	**11 57 44.4**	**+0.1**
IBZA	**Bozab**	**1.85**	**3**	*e*Pg		**Pg**	**11 57 45.2**	**-0.8**
IBZA				*e*			11 58 18.1	
IGHG	**Ghaleghazi**	**1.98**	**330**	*e*Pg		**Pg**	**11 57 48.1**	**-0.3**
IGHG				*e*			11 58 28.0	
IVIS	**Veis**	**2.06**	**339**	*e*Pn		**Pb**	**11 57 48.2**	**+0.3**
IVIS				*e*			11 58 21.9	
NSR	**Nassriya**	**2.11**	**221**	*e*Pn		**Pn**	**11 57 46.0**	**+0.2**
NSR				*e*Sn		**Sn**	**11 58 12.0**	**0.0**
IALM	**Almabolaq**	**2.27**	**9**	*e*Pn		**Pb**	**11 57 50.3**	**-1.4**
ILIN	**Lien**	**2.39**	**344**	*e*Pn		**Pn**	**11 57 51.2**	**+1.2**
ILIN				*e*			11 58 32.8	
HAGD	**Aghdareh**	**2.49**	**27**	*e*Pn		**Pb**	**11 57 53.5**	**-1.9**
HAGD				*e*			11 57 58.0	
JHBN	**Jahan bin**	**2.49**	**98**	*e*Pn		**Pn**	**11 57 52.0**	**+0.7**
JHBN				*e*			11 58 35.1	
IPIR	**Pirpir**	**2.64**	**88**	*e*Pn		**Pn**	**11 57 54.5**	**+1.1**
IPIR				*e*			11 58 38.4	
HSRG	**Sareghieh**	**2.66**	**9**	*e*Pn		**Pn**	**11 57 55.2**	**+1.6**
HSRG				*e*			11 58 39.5	
ROKH	**ROKH**	**2.78**	**95**	*e*Pn		**Pn**	**11 57 56.1**	**+0.8**
ROKH				*e*			11 58 51.5	
BHD	**Baghdad**	**2.92**	**284**	*e*Pn		**Pn**	**11 57 57.0**	**+0.1**
BHD				*e*Sn		**Sn**	**11 58 33.0**	**+1.1**
IKLH	**Kolahrood**	**3.29**	**77**	*e*Pn		**Pn**	**11 58 04.1**	**+1.8**
IKLH				*e*			11 59 04.8	
IRAZ	**Razeghan**	**3.32**	**32**	*e*Pn		**Pn**	**11 58 05.2**	**+2.6**
KLNJ	**Kolanjah**	**3.63**	**115**	*e*Pn		**Pn**	**11 58 08.0**	**+0.9**
KLNJ				*e*			11 59 18.1	

BJI 21 12:00:33.0±0.0, **31.43N**×**105.21E, h16km, ML3.5**/17, **2C, Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.35**	**248**	⇑*i* Pg		Pn	12 00 54.8	-2.4
CD2					Sg	Sn	12 01 13.3	-1.5
CD2					smax	smax		
	comp=N,2μm,1.1s							
CD2					smax	smax		
	comp=E,1μm,0.7s							
XAN	**Xi'an**	**4.07**	**49**	Pg		Pb	12 01 41.8	-2.5
XAN					Sg	Sb	12 02 37.8	+4.5
XAN					smax	smax		
	comp=N,440nm,1.1s							
XAN					smax	smax		
	comp=E,310nm,1.0s							
LZH	**Lanzhou**	**4.78**	**347**	*e*Pn		Pn	12 01 43.8	-0.7
LZH					Pg	Pb	12 01 54.6	-1.9
LZH					Sn	Sn	12 02 38.1	-1.6
LZH					Sg	Sb	12 02 58.0	+4.1
LZH					smax	smax		
	comp=N,190nm,0.7s							
LZH					smax	smax		
	comp=E,280nm,0.7s							
GYA	**Guiyang**	**5.12**	**165**	⇑Pg		Pg	12 02 08.6	-2.4
GYA					Sn	Sb	12 03 08.4	+4.9
GYA					Sg	Sg	12 03 23.3	+6.0
GYA					smax	smax		
	comp=N,59nm,0.9s							
GYA					smax	smax		
	comp=E,97nm,0.9s							
WMQ	**Urumqi**	**18.54**	**317**	*e*P		P	12 04 46.9	-2.0

IDC 21 12:04:21.5±3.5, **30.04S**×**177.65W, h0km, mb3.6**/2, **mb1 3.9**/2, **mb1mx3.5**/30, **mbtmp3.6**/2, **Error ellipse: s-maj=70.3km s-min=22.6km az=97.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.82**	**343**	Pn		Pn	12 04 40.6	+0.4
	98nm,0.3s,baz=19,slow=17,SNR=7.7							
RAO					Sn	Sn	12 04 53.4	+0.3
	293nm,0.3s,baz=50,slow=21,SNR=9.0							
ASAR	**Alice Springs**	**43.44**	**266**	P		P	12 12 26.2	-0.2
	0.4nm,0.7s,baz=103,slow=7.5,SNR=6.1							
WRA	**Warramunga Arr**	**44.39**	**272**	P		P	12 12 33.9	-0.1
	1.1nm,0.7s,baz=110,slow=8.1,SNR=12							
FINES	**FINESS Array B**	**144.91**	**340**	PKP		PKPab	12 23 58.9	-0.1
	2.0nm,0.8s,baz=343,slow=3.3,SNR=1.5							

*PDG **21** 12:12:45.5±0.4, 44.28N×18.03E, h10km±1km, MD3.5/1, ML3.3/12, Error ellipse: s-maj=0.6km s-min=1.3km az=0.0*
*LDG **21** 12:12:45.6±0.1, 44.33N×18.00E, h5km, Ml3.4/11, Error ellipse: s-maj=3.6km s-min=2.4km az=36.0*
*BEO **21** 12:12:45.0±0.3, 44.27N×17.88E, h7km±3km, ML3.5/8*
*PRU **21** 12:12:45.7±0.0, 44.25N×17.90E, h0km*
*RHSSO **21** 12:12:46.0±0.2, 44.28N×17.95E, h3km±2km, ML3.5/13*
*VIE **21** 12:12:50.9±1.7, 44.58N×17.91E, h14km±9km, mb2.9/9, ml3.0/10, ms2.9/1, Error ellipse: s-maj=13.9km s-min=9.4km az=64.0 65 km S of Slavonski Brod*
ISC 21 12:12:45.4±1.0, **44.28N**±0.02×**17.94E**±0.02, **h10km**±8km, **n117, σ1§89/188, 18C-11D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BLY	**Banja Luka**	**0.72**	**311**	*e*Pg		**Pg**	**12 12 59.4**	**+0.1**
BLY				*e*Sg		**Sg**	**12 13 09.3**	**+0.6**
BLY	**Banja Luka**	**0.72**	**311**	*e*Pg		**Pg**	**12 12 59.4**	**+0.1**
BLY				*e*Sg		**Sg**	**12 13 09.5**	**+0.8**
RICI	**Ricice**	**0.97**	**217**	*i* Pg		**Pg**	**12 13 03.5**	**-0.7**
RICI					Sg	**Sg**	**12 13 17.0**	**+0.2**
PRIJ	**Prijedor**	**1.12**	**309**	*e*Pg		**Pg**	**12 13 06.0**	**-0.9**
PRIJ				*e*Sg		**Sg**	**12 13 21.7**	**+0.2**
BBLS	**Lazi?i**	**1.13**	**111**	*e*Pg		**Pg**	**12 13 07.1**	**-0.1**
BBLS				*e*Sg		**Sn**	**12 13 23.4**	**+0.4**
BBLS	**Lazi?i**	**1.13**	**111**	⇓*i* Pg		**Pg**	**12 13 06.6**	**-0.6**
BBLS				*e*Sg		**Sg**	**12 13 21.2**	**-0.7**
KIJV	**Kijevo**	**1.14**	**257**	*e*Pg		**Pg**	**12 13 06.3**	**-0.9**
KIJV					Sg	**Sg**	**12 13 22.4**	**+0.4**
TEKS	**Tekeris**	**1.17**	**76**	*e*Pg		**Pg**	**12 13 07.3**	**-0.6**
TEKS				*e*Sg		**Sn**	**12 13 24.2**	**+0.3**
TEKS	**Tekeris**	**1.17**	**76**	*e*Pg		**Pg**	**12 13 07.0**	**-0.9**
TEKS				*e*Sg		**Sg**	**12 13 23.2**	**+0.1**
MAKA	**Makarska**	**1.19**	**214**	*i* Pg		**Pg**	**12 13 07.2**	**-1.1**
MAKA					Sg	**Sg**	**12 13 24.2**	**+0.5**
RUDO	**Rudo**	**1.22**	**122**	*e*Pg		**Pg**	**12 13 07.2**	**-1.7**
RUDO				*e*Sg		**Sg**	**12 13 24.5**	**-0.3**
UPM	**Unac-Piva**	**1.28**	**147**	⇓*i* Pg		**Pn**	**12 13 08.9**	**-0.5**
UPM				*i* Sg		**Sn**	**12 13 28.5**	**+1.7**
UPM	**Unac-Piva**	**1.28**	**147**	⇑*i* Pg		**Pg**	**12 13 09.0**	**-0.5**
UPM				*e*Sg		**Sb**	**12 13 27.0**	**+0.8**
PLE	**Pljevlja**	**1.41**	**132**	⇑*i* Pg		**Pn**	**12 13 11.1**	**-0.1**
PLE				*i* Sg		**Sg**	**12 13 32.6**	**+1.8**
STON	**Ston**	**1.41**	**187**	*e*Pn		**Pn**	**12 13 11.4**	**+0.2**
STON				Sn		**Sn**	**12 13 30.9**	**+1.2**
BRY	**Bratogost**	**1.44**	**162**	⇑*i* Pg		**Pn**	**12 13 11.4**	**-0.2**
BRY				*i* Sg		**Sg**	**12 13 33.6**	**+1.9**
BRY	**Bratogost**	**1.44**	**162**	*e*Pg		**Pn**	**12 13 11.4**	**-0.2**
BRY				*e*Sg		**Sg**	**12 13 32.0**	**+0.3**
DIVS	**Divibare**	**1.49**	**96**	*e*Pg		**Pn**	**12 13 12.4**	**+0.2**
DIVS	**Divibare**	**1.49**	**96**	*e*Pg		**Pn**	**12 13 12.4**	**+0.2**
DIVS				*e*Sg		**Sg**	**12 13 33.2**	**0.0**
MOSL	**Moslavina**	**1.58**	**328**	*i* Pn		**Pn**	**12 13 13.8**	**+0.4**
MOSL					Sn	**Sn**	**12 13 34.5**	**+0.5**
TREB	**Trebinje**	**1.59**	**169**	*e*Pg		**Pn**	**12 13 14.0**	**+0.5**
TREB	**Trebinje**	**1.59**	**169**	*e*Pn		**Pn**	**12 13 14.0**	**+0.5**
TREB				*e*Sn		**Sg**	**12 13 36.8**	**+0.4**
FRGS	**Fruska Gora**	**1.60**	**56**	*e*Pg		**Pn**	**12 13 13.5**	**-0.2**
FRGS				*e*Sg		**Sg**	**12 13 37.2**	**+0.4**
FRGS	**Fruska Gora**	**1.60**	**56**	*e*Sn		**Sb**	**12 13 36.1**	**+0.8**
DBRK	**Dubrovnik**	**1.61**	**175**	*e*Pn		**Pn**	**12 13 15.2**	**+1.3**
DBRK					Sn	**Sg**	**12 13 38.4**	**+1.2**
NKY	**Niksic**	**1.65**	**152**	⇑*i* Pn		**Pn**	**12 13 15.5**	**+1.0**
NKY				*i* Sn		**Sg**	**12 13 38.8**	**+0.3**
MORI	**Morici**	**1.66**	**257**	*e*Pn		**Pn**	**12 13 15.9**	**+1.4**
MORI				Sn		**Sg**	**12 13 40.5**	**+1.7**
NKME	**Niksic**	**1.68**	**154**	⇑*i* Pn		**Pn**	**12 13 15.4**	**+0.6**
NKME				*i* Sn		**Sg**	**12 13 39.5**	**+0.2**
ZIRJ	**Zirje**	**1.77**	**250**	*i* Pn		**Pb**	**12 13 17.9**	**0.0**
ZIRJ				Sn		**Sg**	**12 13 43.0**	**+0.7**
TRUS	**Trudelj**	**1.77**	**91**	*e*Pg		**Pn**	**12 13 16.4**	**+0.3**
TRUS				*e*Sg		**Sg**	**12 13 42.4**	**0.0**
SJES	**Sjenica**	**1.79**	**124**	*e*Pg		**Pn**	**12 13 17.3**	**+0.9**
SJES				*e*Sg		**Sg**	**12 13 42.9**	**0.0**
KOME	**Kolasin**	**1.83**	**141**	⇑*i* Pn		**Pn**	**12 13 17.9**	**+1.0**
KOME				*i* Sn		**Sg**	**12 13 42.7**	**+0.8**
CEME	**Cevo**	**1.87**	**157**	⇓*i* Pn		**Pn**	**12 13 18.7**	**+1.2**
CEME				*i* Sn		**Sb**	**12 13 44.4**	**+1.3**
HCY	**Herceg Novi**	**1.87**	**167**	⇑*i* Pn		**Pb**	**12 13 19.5**	**-0.2**
HCY				*i* Sn		**Sb**	**12 13 43.2**	**+0.1**
HCY	**Herceg Novi**	**1.87**	**167**	*e*Pn		**Pb**	**12 13 19.4**	**-0.2**
HCY				*e*Sn		**Sb**	**12 13 43.1**	**0.0**
IVA	**Berane**	**2.00**	**134**	⇑*i* Pn		**Pn**	**12 13 20.2**	**+1.0**
IVA				*i* Sn		**Sb**	**12 13 46.6**	**-0.1**
MORH	**Mrgy, Hungar**	**2.00**	**14**	*e*Pn		**Pb**	**12 13 21.1**	**-0.8**
MORH				*e*Sn		**Sn**	**12 13 46.1**	**+1.8**
PDG	**Podgorica**	**2.08**	**152**	*e*Pg		**Pb**	**12 13 22.8**	**-0.4**
PDG				*e*Sg		**Sb**	**12 13 51.0**	**+2.0**
PDG	**Podgorica**	**2.08**	**152**	⇑P		**Pn**	**12 13 22.2**	**+1.9**
PDG				⇓S		**Sb**	**12 13 49.5**	**+0.5**
PDG	**Podgorica**	**2.08**	**152**	⇓*i* Pn		**Pn**	**12 13 21.8**	**+1.5**
PDG				*e*Sn		**Sn**	**12 13 48.1**	**+1.9**
TTG	**Podgorica**	**2.08**	**152**	⇑*i* Pn		**Pn**	**12 13 21.3**	**+1.0**
TTG				*i* Sn		**Sb**	**12 13 49.0**	**0.0**
ZAG	**Zagreb**	**2.08**	**319**	*e*Pn		**Pb**	**12 13 23.9**	**+0.7**
ZAG				Sn		**Sg**	**12 13 54.7**	**+2.5**
BUM	**Brajici-Budva**	**2.09**	**160**	⇓*i* Pn		**Pn**	**12 13 21.6**	**+1.1**
BUM				*i* Sn		**Sb**	**12 13 49.6**	**+0.1**
DUGI	**Dugi Otok**	**2.09**	**263**	*e*Pn		**Pn**	**12 13 22.6**	**+2.1**
DUGI				Sn		**Sb**	**12 13 50.8**	**+1.3**
NVLJ	**Novalja**	**2.22**	**279**	*e*Pn		**Pn**	**12 13 23.6**	**+1.4**
NVLJ				Sn		**Sn**	**12 13 51.8**	**+2.2**
PVY	**Plav**	**2.23**	**138**	⇓*i* Pn		**Pn**	**12 13 23.2**	**+0.7**
PVY				*i* Sn		**Sn**	**12 13 52.4**	**+2.2**
BOJS	**Bojanci**	**2.27**	**304**	*e*Pg		**Pn**	**12 13 25.1**	**+2.2**
DRME	**Dracevica, Mon**	**2.28**	**156**	⇑*i* Pn		**Pn**	**12 13 24.1**	**+1.1**
DRME				*i* Sn		**Sn**	**12 13 53.3**	**+2.2**
DRME	**Dracevica, Mon**	**2.28**	**156**	*e*Pn		**Pn**	**12 13 25.0**	**+2.0**
DRME				*e*Sn		**Sn**	**12 13 53.3**	**+2.2**
BEHE	**Becsehely**	**2.34**	**340**	*e*Pn		**Pn**	**12 13 25.2**	**+1.3**
BEHE				*e*Sn		**Sn**	**12 13 54.5**	**+1.8**
CRES	**Cresnjev**	**2.35**	**312**	*e*Pn		**Pn**	**12 13 24.9**	**+0.9**
CRES				*e*Sn		**Sn**	**12 13 55.0**	**+2.2**
ULC	**Ulcinj**	**2.50**	**157**	⇑*i* Pn		**Pn**	**12 13 27.8**	**+1.7**
ULC				*i* Sn		**Sn**	**12 13 59.4**	**+2.8**
SELS	**Selova**	**2.53**	**114**	*e*Pn		**Pn**	**12 13 26.8**	**+0.2**
RIY	**Rijeka**	**2.67**	**294**	*e*Pn		**Pn**	**12 13 30.6**	**+2.1**
MDVR	**Moldovita**	**2.75**	**78**	⇑P		**Pn**	**12 13 29.7**	**+0.2**
BOVS	**Bovan**	**2.79**	**102**	*e*Pn		**Pn**	**12 13 30.5**	**+0.4**
CEY	**Cerknica**	**2.89**	**302**	*e*Pg		**Pb**	**12 13 35.0**	**-2.0**
CEY	**Cerknica**	**2.89**	**302**	*e*Pn		**Pn**	**12 13 33.0**	**+1.5**
CEY				*e*Sn		**Sn**	**12 14 08.0**	**+1.7**
BZS	**Buzias**	**2.94**	**62**	*e*Pn		**Pn**	**12 13 31.6**	**-0.5**
BZS	**Buzias**	**2.94**	**62**	⇑P		**Pn**	**12 13 31.8**	**-0.2**
LJU	**Ljubljana**	**2.99**	**307**	*e*Pg		**Pb**	**12 13 37.0**	**-1.8**
LJU	**Ljubljana**	**2.99**	**307**	⇓*i* Pn		**Pn**	**12 13 34.5**	**+1.6**
LJU				*e*Sn		**Sn**	**12 14 10.3**	**+1.5**
BRJN	**Brijuni**	**3.06**	**283**	*e*Pn		**Pn**	**12 13 35.5**	**+1.8**
ZAGS	**Zajecar**	**3.13**	**97**	*e*Pn		**Pn**	**12 13 35.2**	**+0.5**
SOKA	**Soboth**	**3.15**	**321**	*e*Pn		**Pn**	**12 13 35.8**	**+0.7**
	3.2nm,0.2s							
SOKA				*e*Sn		**Sn**	**12 14 11.7**	**-1.2**
	18nm,0.5s							
BARS	**Barje**	**3.17**	**116**	*e*Pn		**Pn**	**12 13 36.4**	**+1.1**
HERR	**Herculane**	**3.25**	**78**	⇑P		**Pn**	**12 13 37.2**	**+0.7**
OBKA	**Obir**	**3.27**	**314**	*i* Pn		**Pn**	**12 13 38.2**	**+1.5**
	2.5nm,0.2s,SNR=4.4							
SIRR	**Siria**	**3.30**	**52**	⇑P		**Pn**	**12 13 36.6**	**-0.4**
ARSA	**Arzberg**	**3.42**	**331**	*e*Pn		**Pn**	**12 13 39.5**	**+0.7**
ARSA	**Arzberg**	**3.42**	**331**	*i* Pn		**Pn**	**12 13 39.7**	**+0.9**
	25nm,0.3s							
ARSA				*i* Sn		**Sn**	**12 14 18.7**	**-0.7**
	18nm,0.4s							
BLKB	**Belogradchik**	**3.48**	**99**	⇓S		**Sn**	**12 14 20.1**	**-0.7**
SRO2	**Moca**	**3.50**	**5**	*e*PN		**Pn**	**12 13 39.9**	**+0.1**
SRO2				*e*LG		Lg	12 14 43.0	
ZAPS	**Zavoj**	**3.54**	**105**	*e*Pn		**Pn**	**12 13 40.8**	**+0.3**
SRO	**Srobarova**	**3.55**	**4**	*e*SN		**Sn**	**12 14 24.5**	**+2.1**
SRO				*e*SG		**Sg**	**12 14 43.7**	**+4.4**
SRO				*e*LG		Lg	12 14 44.6	
BOSS	**Bosilegrad**	**3.76**	**117**	*e*Pn		**Pn**	**12 13 43.9**	**+0.5**
MYKA	**Terra Mystica**	**3.83**	**309**	*i* P

BMDN	**Meydan**	**1.55**	**45**	*e*Pg	**Pn**	**12 17 14.1**	**-0.4**
BMDN				*e*		12 17 42.0	
IKOM	**Komasi**	**1.59**	**360**	*e*Pg	**Pn**	**12 17 14.2**	**-0.8**
IKOM				*e*		12 17 15.4	
HSAM	**Samen**	**1.86**	**29**	*e*Pg	**Pn**	**12 17 18.7**	**-0.2**
IGHG	**Ghaleghazi**	**1.91**	**336**	*e*Pn	**Pn**	**12 17 21.1**	**+1.6**
IGHG				*e*		12 17 58.2	
NSR	**Nassriya**	**1.96**	**217**	*e*Pn	**Pn**	**12 17 21.0**	**+1.1**
NSR				*e*Sn	**Sb**	**12 17 46.0**	**-0.8**
IVIS	**Veis**	**2.02**	**344**	*e*Pn	**Pn**	**12 17 21.3**	**+0.4**
IVIS				*e*		12 17 54.7	
IALM	**Almabolaq**	**2.34**	**13**	*e*Pn	**Pn**	**12 17 25.2**	**-0.2**
HAGD	**Aghdareh**	**2.61**	**31**	*e*Pn	**Pn**	**12 17 28.5**	**-0.7**
HAGD				*e*		12 17 34.3	
BHD	**Baghdad**	**2.72**	**285**	*e*Pn	**Pn**	**12 17 30.0**	**-0.4**
BHD				*e*Sn	**Sn**	**12 18 05.0**	**+1.6**
HSRG	**Sareghieh**	**2.73**	**13**	*e*Pn	**Pn**	**12 17 31.0**	**+0.2**
IPIR	**Pirpir**	**2.85**	**87**	*e*Pn	**Pn**	**12 17 32.6**	**+0.1**
IRAZ	**Razeghan**	**3.46**	**35**	*e*Pn	**Pn**	**12 17 41.0**	**+0.2**
QABG	**Abgarm-Qazvin**	**3.56**	**28**	*e*Pn	**Pn**	**12 17 41.8**	**-0.4**

BJI ***21*** *12:27:33.9±0.0,2°.36N×126°.18E,h118km,mB4.7/25, mb4.8/31*
IDC ***21*** *12:27:41.5±1.3,2°.85N×125°.72E,h126km±11km,mb4.2/26, mb1 4.3/29,mb1mx4.2/41,mbtmp4.6/29,MS3.2/9, Ms1 3.2/9,ms1mx3.0/32,Error ellipse: s-maj=17.7km s-min=7.5km az=71.0*
DJA ***21*** *12:27:41.4±0.2,3°.N±2°×12°.6E±°,h125km±2km,M4.8/56, mb4.8/56,mB5.3/24,MLv5.3/14,Mw(mB)4.7/24,Mwp5.5/3*
KLM ***21*** *12:27:42.0,3°.03N×126°.11E,h134km,mb4.9*
NEIC ***21*** *12:27:42.0±2.5,2°.95N±0°.06×125°.96E±0°.08,h132km±6km, mb4.8/56,Error ellipse: s-maj=11.7km s-min=7.9km az=69.0*
MAN ***21*** *12:27:44.1,3°.34N×126°.01E,h134km,MS4.7*
GCMT ***21*** *12:27:44.0±0.4,3°.03N±0°.02×125°.71E±0°.03,h130km±4km, MW4.9/66,Moment Tensor Solution. s18,c22; s66,c81; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.15±.12; Mθθ=1.69±.10; Mϕϕ 1.85±.13; Mrθ 0.33±.07; Mθϕ -1.05±.10; Mϕr1.40±.10; Best double couple: Mo2.48200×10^16 NP1:ϕs29.00000°,δ88.00000°,λ34.00000°. Principal axes: T 2.7140, Plg24.0000°, Azm258.0000°; N -0.4590, Plg56.0000°, Azm32.0000°; P -2.2500, Plg22.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 12:27:41.6±0.7,2°.95N±0°.04×125°.92E±0°.05,h125km±6km, n193,σ1ᵎ44/199,mb4.7/58,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.60**	**146**	P	**Pn**	**12 28 21.6**	**-1.3**
TNTI				S	**Sn**	**12 28 53.8**	**-0.9**
TNTI	**Ternate**	**2.60**	**146**	Pn	**Pn**	**12 28 22.1**	**-0.8**
KMSI	**Cibinong**	**3.05**	**219**	P	**Pn**	**12 28 29.3**	**+0.6**
DDMP	**Don Marcelino,**	**3.14**	**356**	*e*P	**Pn**	**12 28 28.4**	**-1.4**
DDMP				*e*S	**Sn**	**12 29 03.1**	**-4.0**
GTOI	**Gorontalo**	**3.71**	**232**	P	**Pn**	**12 28 37.6**	**+0.3**
SKMP	**Bagumbayan, Su**	**3.80**	**339**	*e*P	**Pn**	**12 28 37.8**	**-0.8**
SKMP				*e*S	**Sn**	**12 29 23.3**	**+0.5**
MATI	**Mati**	**3.98**	**5**	*e*P	**Pn**	**12 28 39.4**	**-1.7**
MATI				*e*S	**Sn**	**12 29 28.3**	**+1.2**
DAV	**Davao City (W)**	**4.11**	**355**	P	**Pn**	**12 28 43.6**	**+0.9**
	136nm,0.3s,baz=70,slow=5.9,SNR=4.1						
DAV				S	**Sn**	**12 29 33.3**	**+3.3**
	72nm,0.3s,baz=315,slow=23,SNR=1.5						
DAV	**Davao City (W)**	**4.11**	**355**	*e*P	**Pn**	**12 28 42.6**	**0.0**
SANI	**Sanana**	**4.97**	**179**	P	**Pn**	**12 28 51.4**	**-2.8**
	11nm53µm2µm,0.9s						
BUKP	**Musuan**	**4.97**	**350**	*e*P	**Pn**	**12 28 53.7**	**-0.6**
BUKP				*e*S	**Sn**	**12 29 46.0**	**-4.8**
LUWI	**Luwuk**	**5.06**	**218**	P	**Pn**	**12 28 57.0**	**+1.5**
	3.5nm5µm330nm,0.7s						
LUWI	**Luwuk**	**5.06**	**218**	Pn	**Pn**	**12 28 57.4**	**+1.9**
PAGZ	**Pagadian**	**5.48**	**333**	*e*P	**Pn**	**12 29 01.0**	**0.0**
NLAI	**Namlea**	**6.26**	**169**	P	**Pn**	**12 29 09.9**	**-1.7**
	7.9nm47µm2µm,1.0s						
MPSI	**Mapaga**	**6.55**	**247**	P	**Pn**	**12 29 16.3**	**+0.7**
	0.5nm1µm156nm,0.9s						
SIJI	**Sorong**	**6.55**	**125**	P	**Pn**	**12 29 16.3**	**+0.7**
	5.6nm,0.3s,baz=332,slow=19,SNR=12						
SIJI				S	**Sn**	**12 30 31.5**	**+2.4**
	1.1nm,0.3s,baz=270,slow=23,SNR=1.1						
SIJI				LR	LR	12 31 37.8	
	comp=Z,193nm,19.4s,baz=270,slow=36						
MSAI	**Masohi**	**6.94**	**154**	P	**Pn**	**12 29 20.8**	**0.0**
AAI	**Ambon**	**6.97**	**161**	P	**Pn**	**12 29 20.4**	**-0.9**
TBP	**Tagbilaran**	**7.00**	**343**	*e*P	**Pn**	**12 29 22.6**	**+1.0**
MSLP	**Maasin**	**7.21**	**352**	*e*P	**Pn**	**12 29 23.6**	**-0.8**
MYLDM	**Lahad Datu**	**7.72**	**287**	Pn	**Pn**	**12 29 34.7**	**+3.3**
GUIM	**Jordan**	**8.31**	**337**	*e*P	**Pn**	**12 29 38.9**	**-0.4**
FAKI	**Fak Fak**	**8.61**	**133**	P	**Pn**	**12 29 43.8**	**+0.5**
	2µm118nm,1.5s						
FAKI	**Fak Fak**	**8.61**	**133**	Pn	**Pn**	**12 29 42.8**	**-0.4**
SPSI	**Sidrap Palu**	**9.22**	**222**	P	**Pn**	**12 29 52.1**	**+0.6**
	600nm41nm,0.7s						
SPMM	**Sapulut**	**9.59**	**281**	P	**Pn**	**12 30 00.0**	**+3.4**
KAPI	**Kappang**	**10.03**	**218**	P	**Pn**	**12 30 03.7**	**+1.3**
	2.6nm,0.3s,baz=85,slow=13,SNR=3.9						
KAPI				LR	LR	12 33 43.5	
	comp=Z,98nm,20.8s,baz=60,slow=37						
KAPI	**Kappang**	**10.03**	**218**		**Pn**	**12 30 05.6**	**+3.2**
BKSI	**Bulukumba**	**10.05**	**215**	P	**Pn**	**12 30 03.5**	**+0.7**
	17nm,0.9s						
KKM	**Kota Kinabalu**	**10.15**	**288**	Pn	**Pn**	**12 30 06.7**	**+2.5**
PVCP	**Virac**	**10.72**	**351**	*e*P	**Pn**	**12 30 09.9**	**-1.8**
EDFI	**Ende, Flores**	**12.37**	**200**	P	**Pn**	**12 30 35.7**	**+2.1**
	1µm22nm,0.7s						
SOEI	**Soe**	**12.73**	**187**	P	**Pn**	**12 30 39.5**	**+1.2**
	2µm112nm,1.1s						
SOEI	**Soe**	**12.73**	**187**	Pn	**Pn**	**12 30 38.7**	**+0.3**
BBKI	**Banjar Baru**	**12.77**	**240**	P	**Pn**	**12 30 41.0**	**+2.2**
	1µm45nm,1.6s						
BATI	**Baumata**	**13.26**	**190**	P	**Pn**	**12 30 44.4**	**-0.7**
	2.2nm,0.3s,baz=314,slow=16,SNR=3.8						
BATI	**Baumata**	**13.26**	**190**	P	**Pn**	**12 30 45.8**	**+0.6**
	84nm,0.8s						
SBUM	**Sibu**	**13.69**	**268**	P	**P**	**12 30 53.0**	**-2.1**
WBSI	**Waikabubak, Su**	**14.10**	**207**	P	**P**	**12 30 58.8**	**-0.9**
	64nm,0.8s						
BASI	**Baing, Sumba**	**14.12**	**202**	P	**P**	**12 30 59.5**	**-0.4**
	97nm,1.3s						
PLAI	**Plampang**	**14.24**	**215**	P	**P**	**12 30 59.7**	**-1.5**
	91nm,0.9s						
TWSI	**Taliwang, Sumb**	**14.70**	**218**	P	**P**	**12 31 05.4**	**-0.9**
	575nm24nm,1.1s						
KSM	**Kuching**	**15.67**	**265**		**P**	**12 31 17.7**	**+0.6**
KSM				IAmb	IAmb	12 31 19.8	
	comp=Z,53nm,0.9s						
KSM	**Kuching**	**15.67**	**265**	P	**P**	**12 31 19.0**	**+1.9**
JAGI	**Jajag, Banyuwa**	**16.32**	**226**	P	**P**	**12 31 26.6**	**+2.3**
	comp=Z,58nm,0.6s						
JAGI	**Jajag, Banyuwa**	**16.32**	**226**		**P**	**12 31 25.3**	**+0.9**
JAGI				IAmb	IAmb	12 31 34.9	
	comp=Z,68nm,1.1s						
MTN	**Manton Dam**	**16.52**	**162**	P	**Pn**	**12 31 23.1**	**-3.0**
MTN				IAmb	IAmb	12 31 26.6	
	comp=Z,28nm,0.7s						
GMJI	**Gumukmas**	**16.71**	**228**	P	**P**	**12 31 31.5**	**+2.9**
	comp=Z,53nm,1.1s						
KNRA	**Kunumurra**	**18.72**	**171**	P	**P**	**12 31 49.9**	**-0.7**
	baz=19,SNR=94						
KNRA	**Kununurra**	**18.72**	**171**	P	**P**	**12 31 50.0**	**-0.6**
UGM	**Wanagama**	**18.77**	**235**	P	**Pn**	**12 31 53.9**	**+0.7**
	comp=Z,136nm,1.6s						
TPI	**Tanjungpandan**	**19.12**	**253**	P	**P**	**12 31 55.4**	**+0.4**
	comp=Z,20µmcomp=Z,670nmcomp=Z,54nm,1.4s						
TWG	**Pinlang**	**20.30**	**347**	P	**P**	**12 32 04.8**	**-3.0**
LEM	**Lembang**	**20.69**	**242**	P	Pn	12 32 13.9	-1.8
	comp=Z,97nm,0.8s,baz=60,slow=9.2,SNR=7.8						
LEM	**Lembang**	**20.69**	**242**	P	Pn	12 32 14.5	-1.3
	comp=Z,67nm,0.8s						
CISI	**Cisompet, Garu**	**20.86**	**240**	P	Pn	12 32 15.9	-1.8
	comp=Z,94nm,1.0s						
CISI	**Cisompet, Garu**	**20.86**	**240**	P	**P**	**12 32 14.9**	**+1.0**
TPUB	**Ta-pu**	**20.87**	**346**	P	**P**	**12 32 12.6**	**-1.3**
TPUB				IAmb	IAmb	12 32 17.0	
	comp=Z,24nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.92**	**181**	P	**P**	**12 32 13.2**	**-1.2**
	comp=Z,19nm,0.6s,baz=14,slow=8.8,SNR=139						
FITZ	**Fitzroy Crossi**	**20.92**	**181**	P	**P**	**12 32 13.0**	**-1.4**
	baz=21,SNR=78						
FITZ	**Fitzroy Crossi**	**20.92**	**181**	P	**P**	**12 32 13.3**	**-1.0**
FITZ				IAmb	IAmb	12 32 17.9	
	comp=Z,37nm,1.0s						
SSLB	**Suanglung**	**21.26**	**347**	P	**P**	**12 32 16.8**	**-1.3**
CNJI	**Cibinong**	**21.34**	**241**	P	**P**	**12 32 19.8**	**+0.8**
	comp=Z,147nm,1.1s						
SKJI	**Sukabumi**	**21.71**	**243**	P	**P**	**12 32 24.0**	**+1.1**
	comp=Z,96nm,0.9s						
YHNB	**Yeheng**	**22.03**	**349**	P	**P**	**12 32 24.8**	**-1.4**
YHNB				IAmb	IAmb	12 32 30.4	
	comp=Z,33nm,1.4s						
MYKOM	**Kota Tinggi**	**22.08**	**268**	P	**P**	**12 32 26.4**	**-0.4**
MYKOM				IAmb	IAmb	12 32 29.5	
	comp=Z,29nm,0.8s						
MYKOM	**Kota Tinggi**	**22.08**	**268**	P	**P**	**12 32 27.0**	**+0.2**
QIZ	**Qiongzhong**	**22.42**	**317**	P	**P**	**12 32 29.8**	**-0.4**
QIZ				S	**S**	**12 36 30.0**	**+2.4**
QIZ				LR	LR		
	comp=Z,270nm,20.1s						
QIZ				LR	LR		
	comp=Z,230nm,17.2s						
KLSI		**22.49**	**250**	P	**P**	**12 32 32.8**	**+1.9**
	comp=Z,492nmcomp=Z,49nm,1.2s						
MDSI	**Maura Dua**	**22.95**	**251**	P	**P**	**12 32 34.7**	**-0.6**
	comp=Z,598nmcomp=Z,35nm,1.4s						
KASI	**Kota Agung**	**22.99**	**249**	P	**P**	**12 32 35.6**	**-0.2**
	comp=Z,1µmcomp=Z,110nm,0.9s						
LWLI	**Liwa**	**23.23**	**250**	P	**P**	**12 32 39.1**	**+1.0**
	comp=Z,6µmcomp=Z,48nm,0.8s						
COEN	**Coen**	**23.98**	**135**	P	**P**	**12 32 43.1**	**-1.7**
	baz=24,SNR=9.9						
COEN	**Coen**	**23.98**	**135**	P	**P**	**12 32 44.2**	**-0.6**
COEN				IAmb	IAmb	12 32 58.1	
	comp=Z,22nm,1.3s						
WB0	**Warramunga Arr**	**24.06**	**160**	P	**P**	**12 32 44.5**	**-0.9**
WRAB	**Tennant Creek**	**24.20**	**160**	P	**P**	**12 32 45.8**	**-0.9**
WRA	**Warramunga Arr**	**24.21**	**160**	P	**P**	**12 32 46.0**	**-0.8**
	comp=Z,50nm,0.3s,baz=339,slow=10,SNR=890						
WRA				S	**S**	**12 36 52.8**	**-3.6**
	comp=Z,2.9nm,1.0s,baz=332,slow=15,SNR=5.2						
WRA				ScP	**ScP**	**12 39 52.3**	**+0.8**
	comp=Z,1.7nm,1.1s,baz=338,slow=3.2,SNR=4.6						
WRA	**Warramunga Arr**	**24.21**	**160**	P	**P**	**12 32 45.3**	**-1.5**
WB2	**Warramunga Arr**	**24.21**	**160**	P	**P**	**12 32 46.5**	**-0.4**
WR0	**Warramunga Arr**	**24.29**	**160**	P	**P**	**12 32 46.8**	**-0.8**
IPM	**Ipoh**	**24.89**	**274**	P	**P**	**12 32 55.0**	**+1.9**
PSA00	**Pilbara Seismi**	**25.09**	**193**	P	**P**	**12 32 54.4**	**-0.3**
QIS	**Mount Isa**	**26.95**	**151**	P	**P**	**12 33 11.7**	**+0.2**
	baz=27,SNR=19						
PSI	**Prapat**	**26.96**	**270**	P	**P**	**12 33 11.1**	**-0.8**
	comp=Z,4.9nm,0.7s,baz=182,slow=0.8,SNR=6.1						
RPSI	**Rantau Prapat**	**26.96**	**270**	P	**P**	**12 33 11.1**	**-0.7**
RPSI	**Rantau Prapat**	**26.96**	**270**	P	**P**	**12 33 11.1**	**-0.7**
RABL	**Rabaul**	**27.17**	**105**	P	**P**	**12 33 16.7**	**+3.1**
RABL				IAmb	IAmb	12 33 18.7	
	comp=Z,28nm,0.6s						
AS31	**Alice Springs**	**27.58**	**164**	P	**P**	**12 33 16.8**	**-0.3**
ASAR	**Alice Springs**	**27.58**	**164**	P	**P**	**12 33 16.8**	**-0.4**
	comp=Z,5.1nm,0.4s,baz=343,slow=8.0,SNR=121						
ASAR				S	**S**	**12 37 48.5**	**-1.1**
	comp=Z,1.8nm,0.9s,baz=347,slow=16,SNR=4.8						
ASAR	**Alice Springs**	**27.58**	**164**	P	**P**	**12 33 17.1**	**0.0**
MTSU	**Mount Surprise**	**27.71**	**140**	P	**P**	**12 33 15.8**	**-2.6**
	baz=28,SNR=4.2						
WRKA	**Warakurna**	**27.92**	**175**	P	**P**	**12 33 20.1**	**0.0**
	baz=28,SNR=48						
PBKT	**Sadao Pong**	**28.01**	**301**	P	**P**	**12 33 21.7**	**+0.6**
KCSI	**Kotacane, Aceh**	**28.11**	**272**	P	**P**	**12 33 19.4**	**-2.6**
	comp=Z,6.9nm,0.8s						
TPTI		**28.70**	**271**	P	**P**	**12 33 26.9**	**-0.3**
	comp=Z,2.6nm,0.7s						
NJ2	**Nanjing**	**29.70**	**348**	*e*P	**P**	**12 33 37.0**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MEEK	**Meekatharra**	**30.25**	**193**	P	**P**	**12 33 40.3**	**-0.5**
	baz=30,SNR=9.6						
CTAO	**Charters Tower**	**30.38**	**140**	P	**P**	**12 33 43.3**	**+1.3**
CTAO				IAmb	IAmb	12 33 44.1	
	comp=Z,22nm,1.2s						
CMAR	**Chiang Mai Arr**	**30.58**	**302**	P	**P**	**12 33 43.8**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=118,slow=7.2,SNR=22						
CMAR				PcP	**PcP**	**12 36 38.5**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=180,slow=1.8,SNR=1.5						
CMAR				ScP	**ScP**	**12 40 11.7**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=132,slow=2.1,SNR=4.1						
CHTO	**Chiang Mai**	**30.74**	**303**	P	**P**	**12 33 45.0**	**-0.3**
MORW	**Morawa**	**33.22**	**196**	P	**P**	**12 34 06.7**	**0.0**
	baz=34,SNR=3.5						
FORT	**Forrest**	**33.60**	**177**	P	**P**	**12 34 09.9**	**-0.2**
	baz=34,SNR=11						
FORT	**Forrest**	**33.60**	**177**	P	**P**	**12 34 09.9**	**-0.2**
QLP	**Quilpie**	**34.28**	**150**	P	**P**	**12 34 16.0**	**0.0**
	baz=34,SNR=5.6						
KSRS	**Korea Array**	**34.39**	**3**	P	**P**	**12 34 18.1**	**+1.4**
	comp=Z,3.2nm,0.5s,baz=184,slow=9.9,SNR=16						
KSRS				LR	LR	12 48 02.7	
	comp=Z,37nm,21.3s,baz=178,slow=35						
KS19	**Wonju Array Si**	**34.43**	**3**	P	**P**	**12 34 18.4**	**+1.2**
KS19				IAmb	IAmb	12 34 28.4	
	comp=Z,20nm,1.2s						
CD2	**Chengdu**	**34.80**	**325**	*e*P	**P**	**12 34 22.0**	**+1.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MJAR	**Matsushiro Arr**	**35.30**	**17**	LR	LR	12 47 38.4	
	comp=Z,29nm,22.0s,baz=245,slow=34						
RMQ	**Roma**	**36.66**	**144**	P	**P**	**12 34 36.3**	**0.0**
	baz=37,SNR=4.6						
BBOO	**Buckleboo**	**36.84**	**166**	P	**P**	**12 34 37.8**	**0.0**
	baz=37,SNR=65						
BBOO	**Buckleboo**	**36.84**	**166**	P	**P**	**12 34 37.7**	**-0.1**
EIDS	**Eidsvold**	**37.25**	**141**	P	**P**	**12 34 41.5**	**0.0**
	baz=37,SNR=9.6						
EIDS	**Eidsvold**	**37.25**	**141**	P	**P**	**12 34 41.4**	**0.0**
EIDS				IAmb	IAmb	12 34 43.0	
	comp=Z,35nm,1.2s						
STKA	**Stephens Creek**	**37.70**	**158**	P	**P**	**12 34 45.5**	**+0.4**
	comp=Z,24nm,0.9s,baz=332,slow=8.6,SNR=36						
STKA	**Stephens Creek**	**37.70**	**158**	P	**P**	**12 34 45.6**	**+0.5**
	baz=38,SNR=6.0						
STKA	**Stephens Creek**	**37.70**	**158**	P	**P**	**12 34 45.6**	**+0.5**
STKA				IAmb	IAmb	12 34 46.5	
	comp=Z,8.1nm,1.0s						
HTT	**Hallett**	**38.22**	**162**	P	**P**	**12 34 49.9**	**+0.4**
	baz=38,SNR=10						
LZH	**Lanzhou**	**38.77**	**331**	⇑P	**P**	**12 34 55.3**	**+1.1**
LZH				pP	pP	12 35 20.6	-1.5
LZH				sP	sP	12 35 35.9	-0.4
LZH				PP	**PnPn**	**12 36 34.1**	**+4.9**
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				pmax	pmax		
	comp=Z,69nm,4.9s						
CMSA	**Cobar Meteorol**	**39.12**	**153**	P	**P**	**12 34 58.0**	**+1.0**
	baz=39,SNR=8.2						
SHL	**Shillong**	**39.70**	**308**	P	**P**	**12 35 01.8**	**-0.2**
SHL				IAmb	IAmb	12 35 02.9	
	comp=Z,13nm,0.8s						
HHC	**Hu-ho-hao-te**	**39.89**	**343**	*e*P	**P**	**12 35 00.9**	**-2.5**
HHC				sP	sP	12 35 49.5	+4.1
HHC				pmax	pmax		
	comp=Z,21nm,1.0s						
HHC				pmax	pmax		
	comp=Z,93nm,4.9s						
ARMA	**Armidale**	**41.28**	**145**	P	**P**	**12 35 16.4**	**+1.5**
ARMA				IAmb	IAmb	12 35 17.1	
	comp=Z,34nm,1.1s						
USRK	**Ussuriysk Ar.**	**41.43**	**7**	P	**P**	**12 35 17.0**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=192,slow=8.3,SNR=8.0						
USRK	**Ussuriysk Ar.**	**41.43**	**7**	P	**P**	**12 35 17.9**	**+2.1**
ARPS	**Mount Arapiles**	**42.21**	**161**	P	**P**	**12 35 23.2**	**+1.0**
	baz=42,SNR=14						
LSA	**Lhasa**	**42.35**	**313**	P	**P**	**12 35 24.7**	**+0.6**
LSA				IAmb	IAmb	12 35 25.7	
	comp=Z,11nm,0.7s						
GTA	**Gaotai**	**43.36**	**330**	*e*P	**P**	**12 35 31.8**	**+0.1**
GTA				pP	pP	12 35 59.8	-0.2
GTA				sP	sP	12 36 13.3	-0.8
GTA				PcP	**PcP**	**12 37 19.8**	**+1.6**
GTA				S	**S**	**12 41 52.5**	**+2.2**
GTA				sS	sS	12 42 42.6	+4.5
GTA				SS	**SS**	**12 45 06.1**	**-2.9**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,78nm,8.1s						
GTA				LR	LR		
	comp=Z,39nm,18.1s						
GTA				LR	LR		
	comp=Z,69nm,19.7s						
GTA				LR	LR		
	comp=Z,91nm,17.8s						
TAPN	**Taplejung**	**43.83**	**307**	*e*P	**P**	**12 35 35.8**	**-0.1**
ODAN	**Odare**	**43.87**	**307**	*e*P	**P**	**12 35 35.3**	**-0.8**
	comp=Z,54nm,0.8s						
TOO	**Toolangi**	**44.22**	**158**	P	**P**	**12 35 40.6**	**+2.1**
TOO				IAmb	IAmb	12 35 41.4	
	comp=Z,34nm,1.2s						
RAMN	**Ramite**	**44.54**	**306**	*e*P	**P**	**12 35 41.3**	**-0.2**
	comp=Z,49nm,0.9s						
JIRN	**Jiri**	**45.18**	**307**	*e*P	**P**	**12 35 46.4**	**-0.3**
	comp=Z,49nm,0.4s						
PKI	**Pulchoki**	**45.77**	**306**	*e*P	**P**	**12 35 50.2**	**-1.1**
	comp=Z,11nm,0.4s						
KKN	**Kakani**	**45.96**	**307**	*e*P	**P**	**12 35 52.0**	**-0.7**
	comp=Z,27nm,0.4s						
DMN	**Daman**	**46.03**	**306**	*e*P	**P**	**12 35 52.6**	**-0.6**
	comp=Z,46nm,0.8s						
GKN	**Gorkha**	**46.57**	**307**	*e*P	**P**	**12 35 56.5**	**-0.8**
	comp=Z,25nm,0.6s						
KOLN	**Koldanda**	**47.31**	**306**	*e*P	**P**	**12 36 02.7**	**-0.4**
	comp=Z,107nm,0.6s						
SONM	**Songino Array**	**47.78**	**342**	P	**P**	**12 36 06.3**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=156,slow=8.6,SNR=7.4						
SONM				LR	LR	12 57 28.6	
	comp=Z,43nm,20.0s,baz=172,slow=37						
SONM	**Songino Array**	**47.78**	**342**	IAmb	IAmb	12 36 07.3	
	comp=Z,4.1nm,1.4s						
PYUN	**Piuthan**	**47.94**	**306**	*e*P	**P**	**12 36 07.8**	**-0.2**
	comp=Z,57nm,0.4s						
HYB	**Hyderabad**	**48.62**	**291**	*i* P	**P**	**12 36 12.0**	**-1.2**
WMQ	**Urumqi**	**52.90**	**326**	*e*P	**P**	**12 36 46.8**	**+1.9**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,58nm,6.1s						
WMQ				LR	LR		
	comp=Z,560nm,29.1s						
WMQ				LR	LR		
	comp=Z,790nm,28.9s						
WMQ				LR	LR		
	comp=Z,90nm,28.8s						
PETK	**Petropavlovsk-**	**56.45**	**22**	P	**P**	**12 37 11.6**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=186,slow=6.8,SNR=8.3						
MKAR	**Makanchi Array**	**57.73**	**326**	P	**P**	**12 37 18.6**	**-0.9**
	comp=Z,3.9nm,0.4s,baz=119,slow=7.7,SNR=94						
MKAR				PcP	**PcP**	**12 38 11.9**	**+1.0**
	comp=Z,3.2nm,0.6s,baz=123,slow=6.1,SNR=12						
MKAR				LR	LR	13 03 09.7	
	comp=Z,30nm,21.4s,baz=128,slow=37						
MKAR	**Makanchi Array**	**57.73**	**326**	P	**P**	**12 37 18.4**	**-1.1**
TARG	**Taragay, Kyrgy**	**57.79**	**319**	P	**P**	**12 37 19.8**	**-0.6**
MAKZ	**Makanchi**	**57.92**	**326**	P	**P**	**12 37 19.9**	**-0.8**
MAKZ				IAmb	IAmb	12 37 21.2	
	comp=Z,3.9nm,0.5s						
KSH	**Kashi**	**58.03**	**316**	*e*P	**P**	**12 37 22.5**	**+0.8**
KSH				pmax	pmax		
	comp=Z,14nm,1.0s						
KDJ	**Kajisay**	**58.39**	**319**	P	**P**	**12 37 24.3**	**0.0**
KDJ				IAmb	IAmb	12 37 25.9	
	comp=Z,14nm,1.2s						
ARSB	**Arslanbob**	**60.86**	**317**	IAmb	IAmb	12 37 42.4	
	comp=Z,26nm,1.3s						
ZALV	**Zalesovo Beam**	**60.91**	**334**	P	**P**	**12 37 39.2**	**-1.9**
	comp=Z,1.2nm,0.4s,baz=132,slow=6.6,SNR=5.1						
ZALV	**Zalesovo Beam**	**60.91**	**334**	P	**P**	**12 37 39.7**	**-1.4**
KURK	**Kurchatov**	**61.96**	**328**	P	**P**	**12 37 47.3**	**-0.9**
CHGR	**Chuyangaron**	**62.59**	**312**	IAmb	IAmb	12 37 52.6	
	comp=Z,18nm,1.1s						
KKAR	**Karatay Array**	**63.25**	**318**	P	**P**	**12 37 55.7**	**-1.3**
KKAR					**PcP**	**12 38 33.2**	**0.0**
KKAR	**Karatay Array**	**63.25**	**318**	IAmb	IAmb	12 37 56.9	
	comp=Z,4.7nm,0.9s						
BRVK	**Borovoye**	**67.60**	**327**	P	**P**	**12 38 24.1**	**-0.7**
BRVK				IAmb	IAmb	12 38 25.8	
	comp=Z,9.5nm,1.1s						
GEYT	**Alibeck**	**70.75**	**309**	P	**P**	**12 38 43.8**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=111,slow=7.9,SNR=2.1						
GEYT				PcP	**PcP**	**12 39 04.8**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=159,slow=4.5,SNR=4.7		

IBDR					*e*Sg	**Sg**	**12 35 45.0**	**+0.7**
IBDR					AML	AML	12 35 52.3	
	comp=E,222nm,0.6s							
IBDR					AML	AML	12 35 52.9	
	comp=N,147nm,0.3s							
IKOM	**Komasi**	**1.41**	**2**	*e*Pg	**Pg**	**12 35 29.7**	**+0.7**
IKOM				*e*		12 35 32.1	
BMDN	**Meydan**	**1.47**	**52**	*e*Pg	**Pg**	**12 35 30.6**	**+0.4**
BMDN				*e*		12 35 58.7	
IBZA	**Bozab**	**1.74**	**11**	*e*Pg	**Pg**	**12 35 35.7**	**+0.4**
IBZA				*e*		12 36 05.2	
HSAM	**Samen**	**1.74**	**34**	*e*Pg	**Pg**	**12 35 34.8**	**-0.5**
HSAM				*e*		12 36 02.8	
IVIS	**Veis**	**1.83**	**345**	*e*Pn	**Pg**	**12 35 36.8**	**-0.2**
IVIS				*e*		12 35 39.5	
NSR	**Nassriya**	**2.07**	**213**	*e*Pn	**Pn**	**12 35 37.0**	**+0.8**
NSR				*e*Sn	**Sb**	**12 36 03.0**	**-1.8**
IALM	**Almabolaq**	**2.18**	**16**	*e*Pn	**Pb**	**12 35 41.0**	**-0.3**
ILIN	**Lien**	**2.19**	**350**	*e*Pn	**Pb**	**12 35 41.4**	**0.0**
HAGD	**Aghdareh**	**2.50**	**34**	*e*Pn	**Pb**	**12 35 45.0**	**-1.7**
HAGD				*e*		12 36 26.0	
HSRG	**Sareghieh**	**2.57**	**15**	*e*Pn	**Pb**	**12 35 46.6**	**-1.4**
HSRG				*e*		12 36 28.2	
BHD	**Baghdad**	**2.62**	**282**	*e*Pn	**Pn**	**12 35 45.0**	**+1.2**
BHD				*e*Sn	**Sb**	**12 36 19.0**	**-1.7**
IPIR	**Pirpir**	**2.91**	**91**	*e*Pn	**Pn**	**12 35 49.8**	**+1.7**
IPIR				*e*		12 36 28.5	
IKLH	**Kolahrood**	**3.52**	**80**	*e*Pn	**Pn**	**12 35 58.6**	**+2.2**
IKLH				*e*		12 36 56.1	
KLNJ	**Kolanjah**	**3.94**	**115**	*e*Pn	**Pn**	**12 36 03.1**	**+0.8**
KLNJ				*e*		12 37 26.6	

IDC 21 12:47:21.4±2.6,**6°49S**×**129°89E,h132**km±38km,**mb3.1**/1,
mb1 3.2/5,**mb1mx3.0**/31,**mbtmp3.6**/5,**Error ellipse:**
s-maj=68.8km s-min=16.8km az=92.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.75**	**14**	P	Pn	12 48 46.0	+1.4
	1.4nm,0.3s,baz=120,slow=6.7,SNR=31						
SIJI				S	Sn	12 49 49.0	-0.4
	1.3nm,0.3s,baz=220,slow=22,SNR=7.0						
FITZ	**Fitzroy Crossi**	**12.27**	**199**	P	Pn	12 50 11.4	-0.3
	0.2nm,0.3s,baz=36,slow=10,SNR=16						
FITZ				S	Sn	12 52 19.9	-7.2
	0.2nm,0.3s,baz=313,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	**14.06**	**163**	P	Pn	12 50 33.4	-1.5
	0.2nm,0.3s,baz=345,slow=12,SNR=13						
WRA				S	Sn	12 53 00.7	-10
	0.4nm,0.3s,baz=341,slow=22,SNR=9.0						
ASAR	**Alice Springs**	**17.52**	**168**	P	Pn	12 51 17.8	+0.1
	0.2nm,0.3s,baz=342,slow=9.1,SNR=13						
MKAR	**Makanchi Array**	**67.74**	**327**	P	P	12 58 04.8	0.0
	0.3nm,0.5s,baz=108,slow=9.3,SNR=3.7						

*IDC **21** 13:04:40.1*±*1.5,5°74S*×*151°11E,h0km,mb4.4/11,*
mb1 4.5/11,mb1mx4.2/34,mbtmp4.4/11,MS3.7/29,
Ms1 3.7/29,ms1mx3.6/45,Error ellipse: s-maj=45.0km
s-min=16.5km az=125.0
*NEIC **21** 13:04:42.9*±*2.0,5°4S*±*0°1*×*150°8E*±*0°1,h10km*±*2km,*
mb4.8/20,Error ellipse: s-maj=27.9km s-min=16.7km
az=132.0
*DJA **21** 13:04:46.2*±*0.3,5°S*±*3°*×*15°1E*±*°,h10km,M4.7/16,*
mb4.6/16,mB5.1/7,MLv4.8/2,Mw(mB)4.5/7
ISC 21 13:04:44.0±0.6,**5°36S**±0°08×**150°91E**±0°09,**h10**km,**n65,**
σ**2§11**/44,**mb4.6**/20,**MS3.8**/28,**1C,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.53**	**47**	Pn	**Pn**	**13 05 11.1**	**-0.2**
	33nm,0.3s,baz=247,slow=2.4,SNR=31						
RABL	**Rabaul**	**1.71**	**47**		**Pn**	**13 05 14.3**	**+0.5**
PMG	**Port Moresby**	**5.48**	**223**	LR	LR	13 07 51.9	
	comp=Z,713nm,18.1s,baz=52,slow=36						
PMG	**Port Moresby**	**5.48**	**223**		**Pn**	**13 06 07.5**	**+1.8**
JAY	**Jayapura**	**10.57**	**285**	LR	LR	13 11 30.9	
	comp=Z,409nm,20.1s,baz=82,slow=38						
GENI	**Genyem**	**11.06**	**284**	P	**Pn**	**13 07 24.7**	**+2.3**
	1um54nm,0.7s						
SMPI	**Sarmi**	**12.63**	**285**	P	**Pn**	**13 07 45.5**	**+1.7**
	610nm38nm,1.7s						
CTAO	**Charters Tower**	**15.32**	**197**		**P**	**13 08 25.0**	**-0.3**
CTAO				IAmb	IAmb	13 08 35.2	
	comp=Z,84nm,1.6s						
GUMO	**Guam**	**19.76**	**342**	LR	LR	13 15 06.4	
	comp=Z,190nm,21.3s,baz=160,slow=31						
EIDS	**Eidsvold**	**19.90**	**180**	P	**Pn**	**13 09 18.2**	**+0.9**
EIDS				IAmb	IAmb	13 09 24.8	
	comp=Z,60nm,1.4s						
WB0	**Warramunga Arr**	**21.53**	**227**	P	**P**	**13 09 31.3**	**-2.2**
WB0				IAmb	IAmb	13 09 47.1	
	comp=Z,74nm,1.4s						
WR0	**Warramunga Arr**	**21.55**	**226**	P	**P**	**13 09 31.0**	**-2.7**
WR0				IAmb	IAmb	13 09 48.1	
	comp=Z,82nm,1.5s						
WRAB	**Tennant Creek**	**21.67**	**227**	P	**P**	**13 09 32.3**	**-2.7**
WRAB				IAmb	IAmb	13 09 49.2	
	comp=Z,31nm,1.1s						
WB2	**Warramunga Arr**	**21.67**	**227**	P	**P**	**13 09 32.5**	**-2.6**
WB2				IAmb	IAmb	13 09 52.8	
	comp=Z,24nm,0.9s						
WRA	**Warramunga Arr**	**21.68**	**227**	P	**P**	**13 09 32.0**	**-3.1**
	0.4nm,0.3s,baz=52,slow=11,SNR=55						
WRA	**Warramunga Arr**	**21.68**	**227**	P	**P**	**13 09 32.5**	**-2.6**
DZM	**Mont Dzumac**	**22.40**	**139**	LR	LR	13 17 15.9	
	comp=Z,441nm,19.1s,baz=335,slow=34						
DZM	**Mont Dzumac**	**22.40**	**139**	*e*P	**P**	**13 09 46.3**	**+3.4**
	comp=Z,58nm,1.1s						
DZM				*e*LQ	LQ	13 14 22.5	
	comp=Z,1μm,26.3s						
DZM				*e*LR	LR	13 15 19.1	
	comp=Z,341nm,21.6s						
KNRA	**Kununurra**	**24.04**	**243**	P	**P**	**13 09 56.0**	**-3.5**
AS31	**Alice Springs**	**24.49**	**220**	P	**P**	**13 10 02.6**	**-1.0**
ASAR	**Alice Springs**	**24.49**	**220**	P	**P**	**13 10 00.9**	**-2.7**
	comp=Z,6.7nm,0.8s,baz=52,slow=8.7,SNR=48						
ASAR				LR	LR	13 19 30.8	
	comp=Z,174nm,20.1s,baz=44,slow=37						
ASAR	**Alice Springs**	**24.49**	**220**	P	**P**	**13 10 01.1**	**-2.5**
BATI	**Baumata**	**27.41**	**258**	LR	LR	13 23 23.4	
	comp=Z,312nm,19.2s,baz=82,slow=41						
FITZ	**Fitzroy Crossi**	**27.74**	**241**	P	**P**	**13 10 29.1**	**-3.9**
	comp=Z,12nm,0.7s,baz=61,slow=8.8,SNR=17						
FITZ				LR	LR	13 22 55.8	
	comp=Z,234nm,19.8s,baz=70,slow=40						
FITZ	**Fitzroy Crossi**	**27.74**	**241**	P	**P**	**13 10 29.3**	**-3.7**
FITZ				IAmb	IAmb	13 10 37.1	
	comp=Z,18nm,0.8s						
STKA	**Stephens Creek**	**27.79**	**197**	LR	LR	13 21 31.8	
	comp=Z,288nm,20.8s,baz=24,slow=37						
STKA	**Stephens Creek**	**27.79**	**197**	P	**P**	**13 10 32.6**	**-0.6**
MJAR	**Matsushiro Arr**	**43.35**	**345**	LR	LR	13 30 09.3	
	comp=Z,58nm,19.5s,baz=215,slow=35						
DLV	**T Lat**	**45.56**	**292**	P	**P**	**13 13 03.3**	**-1.4**
KSRS	**Korea Array**	**47.68**	**335**	P	**P**	**13 13 22.1**	**+1.4**
	comp=Z,2.4nm,0.8s,baz=157,slow=6.4,SNR=6.5						
KSRS				LR	LR	13 33 41.9	
	comp=Z,23nm,18.2s,baz=163,slow=36						
CMAR	**Chiang Mai Arr**	**56.42**	**296**	P	**P**	**13 14 26.2**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=118,slow=5.5,SNR=14						
CMAR				LR	LR	13 40 04.1	
	comp=Z,13nm,18.8s,baz=95,slow=37						
CHTO	**Chiang Mai**	**56.54**	**297**	P	**P**	**13 14 22.9**	**-4.2**
CHTO				IAmb	IAmb	13 14 30.6	
	comp=Z,14nm,1.4s						
KLR	**Kul'dur**	**56.88**	**345**	LR	LR	13 37 45.3	
	comp=Z,39nm,18.3s,baz=158,slow=35						
PETK	**Petropavlovsk-**	**58.53**	**5**	P	**P**	**13 14 40.6**	**+0.2**
	comp=Z,7.9nm,0.7s,baz=171,slow=6.8,SNR=16						
PETK				LR	LR	13 35 23.5	
	comp=Z,60nm,21.0s,baz=236,slow=31						
PETK	**Petropavlovsk-**	**58.53**	**5**	P	**P**	**13 14 40.8**	**+0.4**
PPT2	**Papeete2**	**59.35**	**107**	*e*LR	LR	13 32 11.6	
	comp=Z,41nm,22.2s						
MA2	**Magadan**	**64.73**	**360**	LR	LR	13 45 36.9	
	comp=Z,53nm,18.0s,baz=150,slow=38						
GTA	**Gaotai**	**64.80**	**318**	⇑P	**P**	**13 15 24.3**	**+1.0**
GTA				pP	**sP**	**13 15 32.6**	**+4.9**
GTA				sP	pP	13 15 36.8	+10
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,44nm,7.8s						
GTA				LR	LR		
	comp=N,60nm,17.1s						
GTA				LR	LR		
	comp=E,59nm,18.7s						
GTA				LR	LR		
	comp=Z,91nm,16.8s						
SONM	**Songino Array**	**65.81**	**329**	P	**P**	**13 15 30.6**	**+0.9**
	comp=Z,3.6nm,0.7s,baz=138,slow=6.1,SNR=20						
SONM				LR	LR	13 43 18.8	
	comp=Z,62nm,21.6s,baz=131,slow=35						
SONM	**Songino Array**	**65.81**	**329**	P	**P**	**13 15 30.1**	**+0.5**
SEY	**Seymchan**	**68.11**	**1**	LR	LR	13 43 42.5	
	comp=Z,35nm,20.9s,baz=172,slow=34						
TLY	**Talaya**	**69.63**	**331**	LR	LR	13 43 38.3	
	comp=Z,46nm,21.7s,baz=122,slow=33						
VNDA	**Vanda**	**72.35**	**178**	LR	LR	13 46 24.3	
	comp=Z,74nm,18.0s,baz=1.5,slow=35						
KDAK	**Kodiak Island**	**77.53**	**27**	LR	LR	13 48 00.7	
	comp=Z,47nm,18.7s,baz=255,slow=33						
CNPM	**China Poot**	**79.04**	**26**		**P**	**13 16 48.0**	**-0.2**
CNPM				IAmb	IAmb	13 16 51.2	
	comp=Z,14nm,1.0s						
MKAR	**Makanchi Array**	**79.52**	**319**	P	**P**	**13 16 50.8**	**-0.3**
	comp=Z,3.1nm,1.0s,baz=110,slow=6.6,SNR=11						
MKAR	**Makanchi Array**	**79.52**	**319**	P	**P**	**13 16 50.0**	**-1.0**
MAKZ	**Makanchi**	**79.72**	**319**	P	**P**	**13 16 52.3**	**+0.1**
ZALV	**Zalesovo Beam**	**80.58**	**327**	P	**P**	**13 16 57.3**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=118,slow=6.7,SNR=4.8						
ZALV				LR	LR	13 52 57.7	
	comp=Z,28nm,20.4s,baz=98,slow=36						
ZALV	**Zalesovo Beam**	**80.58**	**327**	P	**P**	**13 16 54.4**	**-2.2**
SCM	**Sheep Creek Mo**	**81.84**	**25**	P	**P**	**13 17 02.1**	**-1.2**
KURBB	**Kurchatov Arra**	**83.08**	**322**	P	**P**	**13 17 10.2**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=112,slow=4.4,SNR=6.3						
IL31		**83.39**	**22**	P	**P**	**13 17 09.8**	**-1.3**
ILAR	**Eielson Array**	**83.39**	**22**	P	**P**	**13 17 09.8**	**-1.4**
	comp=Z,1.5nm,0.8s,baz=251,slow=5.5,SNR=17						
ILAR				LR	LR	13 53 56.9	
	comp=Z,40nm,18.3s,baz=270,slow=35						
ILAR	**Eielson Array**	**83.39**	**22**		**P**	**13 17 10.9**	**-0.3**
MAW	**Mawson**	**84.33**	**203**	LR	LR	13 52 15.5	
	comp=Z,69nm,21.2s,baz=62,slow=34						
QSPA	**South Pole Qui**	**84.60**	**180**	LR	LR	13 51 10.7	
	comp=Z,48nm,21.5s,baz=12,slow=33						
BCAR	**Beaver Creek A**	**84.70**	**25**	P	**P**	**13 17 18.0**	**0.0**
EGAK	**Eagle**	**85.62**	**23**		**P**	**13 17 21.5**	**-0.9**
EGAK				IAmb	IAmb	13 17 23.7	
	comp=Z,4.6nm,1.2s						
NRIK	**Noril'sk**	**85.89**	**341**	LR	LR	13 56 10.8	
	comp=Z,32nm,19.9s,baz=188,slow=36						
BBB	**Bella Bella**	**88.68**	**37**	LR	LR	13 51 27.9	
	comp=Z,50nm,19.5s,baz=256,slow=32						
INK	**Inuvik**	**89.65**	**21**	LR	LR	13 54 11.7	
	comp=Z,42nm,20.6s,baz=222,slow=33						
YBH	**Yreka Blue Hor**	**90.83**	**48**	LR	LR	13 55 15.8	
	comp=Z,35nm,18.8s,baz=275,slow=33						
NVAR	**Mina Array Bea**	**93.91**	**52**	LR	LR	13 54 32.2	
	comp=Z,41nm,19.7s,baz=238,slow=32						
PFO	**Pinyon Flats O**	**95.12**	**57**	LR	LR	13 52 51.5	
	comp=Z,44nm,20.3s,baz=278,slow=30						

*IDC **21** 13:16:38.5*±*1.9,7°50S*×*128°48E,h158km*±*20km,mb3.6/6,*
mb1 3.8/11,mb1mx3.5/31,mbtmp4.2/11,MS3.5/1,
Ms1 3.5/1,ms1mx2.5/32,Error ellipse: s-maj=20.0km
s-min=16.4km az=86.0
*NEIC **21** 13:16:39.5*±*2.1,7°49S*±*0°08*×*128°6E*±*0°1,h172km*±*8km,*
mb4.0/6,Error ellipse: s-maj=14.9km s-min=11.8km
az=98.0
ISC 21 13:16:37.4±0.6,**7°60S**±0°05×**128°64E**±0°08,**h151**km,**n32,**
σ**2§29**/33,**mb3.8**/7,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.83**	**243**		**Pn**	**13 17 50.4**	**+1.7**
BATI	**Baumata**	**5.56**	**242**	P	**Pn**	**13 18 00.1**	**+1.7**
	38nm,0.3s,baz=325,slow=1.7,SNR=30						
BATI				S	**Sn**	**13 19 00.6**	**-0.9**
	28nm,0.3s,baz=267,slow=23,SNR=9.3						
MTN	**Manton Dam**	**5.76**	**155**	Pn	**Pn**	**13 18 05.0**	**+4.1**
FAKI	**Fak Fak**	**5.88**	**38**	Pn	**Pn**	**13 18 03.3**	**+0.8**
SIJI	**Sorong**	**7.18**	**21**	P	**Pn**	**13 18 20.5**	**+0.5**
	6.3nm,0.3s,baz=196,slow=22,SNR=26						
SIJI				S	**Sn**	**13 19 37.0**	**-3.5**
	2.8nm,0.3s,baz=61,slow=23,SNR=7.2						
KNRA	**Kununurra**	**8.03**	**179**		**Pn**	**13 18 33.7**	**+2.4**
FITZ	**Fitzroy Crossi**	**10.84**	**195**	P	**Pn**	**13 19 08.4**	**-0.1**
	4.4nm,0.3s,baz=24,slow=10,SNR=106						
FITZ				S	**Sn**	**13 21 03.5**	**-4.9**
	2.0nm,0.3s,baz=259,slow=12,SNR=3.6						
FITZ	**Fitzroy Crossi**	**10.84**	**195**		**Pn**	**13 19 08.7**	**+0.2**
WB0	**Warramunga Arr**	**13.32**	**156**		**Pn**	**13 19 42.3**	**+1.5**
WRAB	**Tennant Creek**	**13.45**	**156**	Pn	**Pn**	**13 19 43.2**	**+0.8**
WRA	**Warramunga Arr**	**13.45**	**156**	P	**Pn**	**13 19 43.7**	**+1.2**
	1.4nm,0.3s,baz=340,slow=12,SNR=68						
WRA				S	**Sn**	**13 22 06.6**	**-4.9**
	2.3nm,0.3s,baz=336,slow=22,SNR=7.8						
WRA	**Warramunga Arr**	**13.45**	**156**		**Pn**	**13 19 42.4**	**-0.1**
WB2	**Warramunga Arr**	**13.46**	**156**		**Pn**	**13 19 44.1**	**+1.6**
WR0	**Warramunga Arr**	**13.55**	**156**		**Pn**	**13 19 45.2**	**+1.5**
AS31	**Alice Springs**	**16.75**	**163**		**Pn**	**13 20 27.2**	**+3.9**
AS31				IAmb	IAmb	13 20 28.7	
	comp=Z,2.5nm,0.3s						
ASAR	**Alice Springs**	**16.75**	**163**	P	**Pn**	**13 20 26.3**	**+2.9**
	comp=Z,0.8nm,0.3s,baz=333,slow=10,SNR=94						
ASAR				S	**S**	**13 23 29.1**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=317,slow=18,SNR=5.9						
ASAR	**Alice Springs**	**16.75**	**163**		**Pn**	**13 20 27.3**	**+3.9**
KSM	**Kuching**	**20.39**	**296**	P	**P**	**13 21 03.9**	**+1.2**
KSM				IAmb	IAmb	13 21 07.9	
	comp=Z,7.5nm,0.8s						
FORT	**Forrest**	**23.07**	**181**	P	**P**	**13 21 30.9**	**+1.2**
STKA	**Stephens Creek**	**27.00**	**155**	P	**P**	**13 22 08.0**	**+2.6**
	comp=Z,1.1nm,0.5s,baz=349,slow=10,SNR=3.9						
STKA	**Stephens Creek**	**27.00**	**155**	IAmb	IAmb	13 22 09.9	
	comp=Z,0.6nm,1.1s						
PALK	**Pallekele**	**50.04**	**286**	LR	LR	13 47 03.8	
	comp=Z,46nm,19.3s,baz=216,slow=37						
SONM	**Songino Array**	**58.60**	**343**	P	**P**	**13 26 18.6**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=167,slow=7.1,SNR=3.2						
SONM	**Songino Array**	**58.60**	**343**	IAmb	IAmb	13 26 19.8	
	comp=Z,0.8nm,1.0s						
PETK	**Petropavlovsk-**	**65.32**	**19**	P	**P**	**13 27 03.1**	**0.0**
	comp=Z,1.5nm,0.6s,baz=174,slow=5.5,SNR=4.5						
MKAR	**Makanchi Array**	**68.00**	**328**	P	**P**	**13 27 19.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=114,slow=7.9,SNR=10.0						
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	**P**	**13 27 40.2**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=168,slow=1.4,SNR=3.7						
KURBB	**Kurchatov Arra**	**72.32**	**329**	P	**P**	**13 27 45.6**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=130,slow=5.0,SNR=16						
KURK	**Kurchatov**	**72.33**	**329**	P	**P**	**13 27 45.6**	**-0.9**
KURK	**Kurchatov**	**72.33**	**329**	IAmb	IAmb	13 27 46.7	
	comp=Z,1.2nm,0.8s						
ABKAR	**Akbulak array**	**82.14**	**322**	P	**P**	**13 28 39.2**	**-2.1**
QSPA	**South Pole Qui**	**82.38**	**180**	P	**P**	**13 28 42.7**	**+0.3**

*IDC **21** 13:34:49.8*±*1.3,17°04N*×*60°18W,h0km,mb3.4/4,*
mb1 3.8/4,mb1mx3.5/35,mbtmp3.4/4,Error ellipse:
s-maj=30.4km s-min=21.4km az=110.0
*TRN **21** 13:34:50.6,17°16N*×*60°25W,h20km,MD3.6*
ISC 21 13:34:51.0±2.6,**17°09N**±0°05×**60°27W**±0°06,**h6**km±15km,
n42,σ**1§03**/67,**mb3.5**/4,**Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H05N1	**Guadeloupe/Mar**	**1.08**	**224**	Pn	**Pb**	**13 35 11.9**	**-0.1**
H05N1				Sn	**Sb**	**13 35 26.0**	**-0.4**
	SNR=1297						
ABD	**La Joyeuse, An**	**1.32**	**242**	*e*P	**Pb**	**13 35 16.0**	**-0.1**
ABD				*e*S	**Sn**	**13 35 34.0**	**+0.1**
MAGL	**Barre de l'ile**	**1.50**	**221**	*e*P	**Pn**	**13 35 18.2**	**-0.2**
MAGL				*e*S	**Sn**	**13 35 36.9**	**-1.3**
ANWB	**Willy Bob**	**1.56**	**292**	*e*P	**Pn**	**13 35 18.3**	**-0.9**
ANWB				*e*S	**Sn**	**13 35 38.7**	**-1.0**
CBE	**Ff, Capester**	**1.64**	**232**	*e*P	**Pb**	**13 35 21.1**	**-0.5**
CBE				*e*S	**Sg**	**13 35 44.2**	**+0.6**
TDBA	**Terre de Bas,**	**1.80**	**227**	*e*P	**Pn**	**13 35 23.2**	**+0.6**
TDBA				*e*S	**Sg**	**13 35 48.4**	**-0.6**
TBG	**Guadaloupe-3**	**1.81**	**227**	*e*P	**Pb**	**13 35 23.5**	**-1.0**
TBG				*e*S	**Sn**	**13 35 46.7**	**+0.8**
MDPV	**Dominica, Penn**	**1.83**	**217**	*e*P	**Pn**	**13 35 23.7**	**+0.7**
MDPV				*e*S	**Sn**	**13 35 46.9**	**+0.4**
MLYT	**Lee's Yard**	**1.88**	**259**	*e*P	**Pn**	**13 35 24.6**	**+0.9**
MLYT				*e*S	**Sn**	**13 35 47.2**	**-0.4**
DSLB	**Salisbury**	**1.98**	**214**	*e*P	**Pn**	**13 35 25.4**	**+0.3**
DSLB				*e*S	**Sn**	**13 35 49.6**	**-0.7**
DLPL	**La Plaine**	**1.99**	**208**	*e*P	**Pb**	**13 35 26.2**	**-1.3**
DLPL				*e*S	**Sn**	**13 35 49.0**	**-1.3**
MDN	**Morne-Daniel**	**2.07**	**212**	*e*P	**Pn**	**13 35 26.4**	**+0.1**
MDN				*e*S	**Sn**	**13 35 52.3**	**0.0**
DPMT	**Pointe Michel**	**2.11**	**210**	*e*P	**Pb**	**13 35 28.8**	**-0.8**
DSHT	**Scott's Head**	**2.15**	**210**	*e*P	**Pb**	**13 35 30.5**	**+0.2**
DSHT				*e*S	**Sn**	**13 35 54.5**	**+0.1**
NVRH	**Round Hill, Ne**	**2.23**	**273**	*e*P	**Pn**	**13 35 28.6**	**+0.1**
NVBH	**Bath Hotel, Ne**	**2.25**	**271**	*e*P	**Pn**	**13 35 29.4**	**+0.7**
SKI	**Saint Kitts**	**2.37**	**276**	*e*P	**Pn**	**13 35 29.6**	**+0.1**
SKI				*e*S	**Sn**	**13 36 00.9**	**+1.0**
ILAM	**Ilet Lapin Mar**	**2.38**	**194**	*e*P	**Pn**	**13 35 30.8**	**+0.3**
ILAM				*e*S	**Sn**	**13 35 59.1**	**-0.9**
SVN	**Savane Anatole**	**2.40**	**201**	*e*P	**Pn**	**13 35 32.1**	**+1.3**
BAMF	**Morne Balai**	**2.42**	**201**	*e*P	**Pn**	**13 35 32.0**	**+0.9**
CXM	**Morne La Croix**	**2.43**	**201**	*e*P	**Pn**	**13 35 32.2**	**+0.8**
PCM	**Pelee Case Pet**	**2.44**	**202**	*e*P	**Pn**	**13 35 31.5**	**+0.1**
GBMF	**Grand Be**	**2.44**	**201**	*e*P	**Pn**	**13 35 31.8**	**+0.3**
FDF	**Fort de France**	**2.49**	**200**	*e*P	**Pn**	**13 35 32.0**	**-0.1**
FDF				*e*S	**Sn**	**13 36 00.8**	**-2.2**
LPMF	**Morne Lapointe**	**2.59**	**195**	*e*P	**Pn**	**13 35 33.6**	**+0.2**
MVM	**Montagne Vaucl**	**2.59**	**194**	*e*P	**Pn**	**13 35 34.9**	**+1.3**
ZAM	**Aeronautique**	**2.61**	**196**	*e*P	**Pn**	**13 35 34.0**	**+0.3**
BIM	**Bigot**	**2.67**	**197**	*e*P	**Pn**	**13 35 36.3**	**+1.6**
BIM				*e*S	**Sn**	**13 36 06.8**	**-0.6**
MPOM	**Morne Pois Mar**	**2.69**	**192**	*e*P	**Pn**	**13 35 35.3**	**+0.4**
MPOM				*e*S	**Sn**	**13 36 08.1**	**+0.3**
H05S1	**Guadeloupe/Mar**	**2.71**	**192**	Pn	**Pn**	**13 35 35.8**	**+0.8**
H05S1				Sn	**Sn**	**13 36 06.7**	**-1.5**
	SNR=67						
SLW	**Petit Monier**	**3.12**	**192**	*e*P	**Pn**	**13 35 42.4**	**+1.6**
SLW				*e*S	**Sn**	**13 36 18.2**	**-0.3**
SLBI	**Saint Lucia, B**	**3.13**	**193**	*e*P	**Pn**	**13 35 42.6**	**+1.7**
SLBI				*e*S	**Sn**	**13 36 18.9**	**+0.4**
SLAC	**Saint Lucia, A**	**3.23**	**191**	*e*P	**Pn**	**13 35 43.2**	**+0.9**
SLAC				*e*S	**Sn**	**13 36 20.3**	**-0.9**
SLB	**Belfond**	**3.33**	**193**	*e*P	**Pn**	**13 35 44.6**	**+0.9**
SLB				*e*S	**Sn**	**13 36 25.2**	**+1.5**
MCLT	**Moule a Chique**	**3.42**	**191**	*e*P	**Pn**	**13 35 46.5**	**+1.5**
MCLT				*e*S	**Sn**	**13 36 24.9**	**-1.1**
SVB	**Belmont**	**3.92**	**194**	*e*P	**Pn**	**13 35 53.9**	**+2.2**
SVB				*e*S	**Sn**	**13 36 36.6**	**-1.5**
GCMP	**Grenada, Carri**	**4.71**	**194**	*e*S	**Sn**	**13 36 54.4**	**-3.4**
GRGR	**Grenville**	**5.11**	**195**	*e*S	**Sn**	**13 37 08.2**	**+0.7**
TXAR	**Lajitas Array**	**41.48**	**295**	P	**P**	**13 42 40.3**	**+1.1**
	0.2nm,0.6s,baz=113,slow=9.6,SNR=3.7						
PDAR	**Pinedale Array**	**48.93**	**312**	P	**P**	**13 43 38.9**	**+0.6**
	0.3nm,0.6s,baz=110,slow=12,SNR=3.4						
TORD	**Torodi Ar. Bea**	**59.74**	**85**	P	**P**	**13 44 56.2**	**-1.0**
	0.6nm,0.8s,baz=278,slow=7.5,SNR=2.8						
ILAR	**Eielson Array**	**73.25**	**333**	P	**P**	**13 46 22.9**	**+0.1**
	0.4nm,0.8s,baz=101,slow=4.6,SNR=4.5						

*DJA **21** 13:40:12.6*±*0.3,7°S*±*3°*×*12°9E*±*°,h199km*±*12km,M4.3/12,*
mB4.7/2,mb4.0/9,MLv4.5/12,Mw(mB)3.9/2
*IDC **21** 13:40:12.5*±*2.0,7°28S*×*129°11E,h157km*±*22km,mb3.5/3,*
mb1 3.7/8,mb1mx3.3/44,mbtmp4.1/8,Error ellipse:
s-maj=20.8km s-min=16.6km az=80.0
ISC 21 13:40:12.3±0.7,**7°38S**±0°05×**129°26E**±0°08,**h200**km,**n16,**
σ**3§35**/21,**mb3.6**/3,**Banda Sea**

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

JAY				S	Sn	13 51 46.0	+0.3	
GENI	**Genyem**	**3.56**	**316**	P	Pn	13 51 12.0	+0.2	
GENI				S	Sn	13 51 52.5	-0.2	
MMPI	**Merauke**	**3.98**	**214**	P	Pn	13 51 18.2	+0.7	
MMPI				S	Sn	13 52 05.3	+2.3	
SMPI	**Sarmi**	**5.05**	**309**	P	Pn	13 51 32.9	+0.7	
SMPI				S	Sn	13 52 28.2	-1.1	
WRA	**Warramunga Arr**	**16.77**	**208**	P	Pn	13 54 08.0	-3.3	
	0.1nm,0.3s,baz=20,slow=13,SNR=2.3							
ASAR	**Alice Springs**	**20.24**	**204**	P	**P**	13 54 50.8	-0.5	
	0.1nm,0.3s,baz=29,slow=11,SNR=15							
MKAR	**Makanchi Array**	**74.14**	**322**	P	**P**	14 01 52.7	+0.9	
	0.1nm,0.3s,baz=105,slow=7.6,SNR=3.6							

*ISN **21** 14:36:34.8±1.5, 32.˙65N×47.˙82E, h15km±8km, ML2.6*
*TEH **21** 14:36:35.8, 32.˙65N×47.˙72E, h20km, ML3.1*
ISC 21 14:36:35.6±1.0, 32.˙67N±0.˙03×47.˙77E±0.˙03, h10km, n29,
σ1§34/33, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.41**	**272**	*e*Pg	**Pg**	**14 36 44.1**	**+0.4**
IKFM	**Kafar-mosalman**	**0.86**	**5**	*e*Pg	**Pn**	**14 36 53.2**	**-0.5**
IKFM				*e*		14 36 56.7	
IKMR	**Kamar-syah**	**0.99**	**31**	*e*Pg	**Pn**	**14 36 55.4**	**-0.2**
IKMR				*e*	**Sb**	**14 37 04.6**	**-3.5**
IDOB	**Doab**	**1.17**	**17**	*e*Pg	**Pn**	**14 36 58.5**	**+0.2**
BMDN	**Meydan**	**1.34**	**41**	*e*Pg	**Pg**	**14 37 01.6**	**+0.3**
BMDN				*e*		14 37 25.0	
IKOM	**Komasi**	**1.52**	**352**	*e*		14 37 30.1	
IKOM				*e*Pg	**Pg**	**14 37 04.6**	**-0.2**
AHWZ	**Ahwaz**	**1.53**	**151**	*e*Pg	**Pg**	**14 37 04.2**	**-0.7**
IBDR	**Badra**	**1.61**	**286**	*e*Pg	**Pn**	**14 37 04.0**	**0.0**
IBDR				*e*Sg	**Sg**	**14 37 27.0**	**-0.3**
IBDR				AML	AML	14 37 32.3	
	comp=N,95nm,0.6s						
IBDR				AML	AML	14 37 35.4	
	comp=E,82nm,0.7s						
HSAM	**Samen**	**1.69**	**24**	*e*		14 37 42.2	
HSAM				*e*Pg	**Pg**	**14 37 07.8**	**-0.3**
IBZA	**Bozab**	**1.80**	**2**	*e*		14 37 42.2	
IBZA				*e*Pg	**Pg**	**14 37 09.4**	**-0.8**
NSR	**Nassriya**	**2.15**	**220**	*e*Pn	**Pn**	**14 37 12.0**	**+0.4**
NSR				*e*Sn	**Sn**	**14 37 37.5**	**-0.8**
IALM	**Almabolaq**	**2.21**	**9**	*e*Pn	**Pn**	**14 37 13.9**	**+1.2**
IDHR	**Dehrash**	**2.33**	**331**	*e*Pn	**Pn**	**14 37 14.4**	**+0.2**
IDHR				*e*		14 38 00.1	
HAGD	**Aghdareh**	**2.44**	**28**	*e*Pn	**Pn**	**14 37 16.8**	**+1.1**
HAGD				*e*		14 38 02.1	
JHBN	**Jahan bin**	**2.49**	**99**	*e*Pn	**Pn**	**14 37 17.3**	**+0.8**
JHBN				*e*		14 38 06.7	
HSRG	**Sareghieh**	**2.60**	**9**	*e*Pn	**Pn**	**14 37 19.1**	**+1.1**
HSRG				*e*		14 37 22.5	
IPIR	**Pirpir**	**2.64**	**89**	*e*Pn	**Pn**	**14 37 19.9**	**+1.4**
IPIR				*e*		14 38 08.0	
ROKH	**ROKH**	**2.78**	**96**	*e*Pn	**Pn**	**14 37 21.4**	**+1.0**
BHD	**Baghdad**	**2.91**	**283**	*e*Pn	**Pn**	**14 37 23.0**	**+1.1**
BHD				*e*Sn	**Sn**	**14 37 59.0**	**+2.0**
IRAZ	**Razeghan**	**3.27**	**33**	*e*Pn	**Pn**	**14 37 29.0**	**+1.9**
IKLH	**Kolahrood**	**3.27**	**77**	*e*Pn	**Pn**	**14 37 28.3**	**+1.1**
IKLH				*e*		14 38 29.4	
QABG	**Abgarm-Qazvin**	**3.39**	**26**	*e*Pn	**Pn**	**14 37 31.3**	**+2.5**
IGAR	**Gharneh**	**3.62**	**93**	*e*Pn	**Pn**	**14 37 32.8**	**+0.8**
IGAR				*e*		14 38 40.8	
KLNJ	**Kolanjah**	**3.65**	**116**	*e*Pn	**Pn**	**14 37 33.3**	**+0.8**
IZEF	**Zefreh**	**3.85**	**85**	*e*Pn	**Pn**	**14 37 37.0**	**+1.8**
QSDN	**Sirdan**	**4.00**	**16**	*e*Pn	**Pn**	**14 37 39.0**	**+1.8**
QALM	**Alamut, Qazvin**	**4.45**	**32**	*e*Pn	**Pn**	**14 37 45.7**	**+2.4**
IDMV	**Damavand**	**4.58**	**49**	*e*Pn	**Pn**	**14 37 45.9**	**+0.7**
ANAR	**Anarak**	**5.04**	**82**	*e*Pn	**Pn**	**14 37 52.4**	**+1.0**

*IDC **21** 14:43:13.4±1.3, 40.˙35N×53.˙06E, h0km, mb3.5/4, mb1 3.8/10, mb1mx3.6/40, mbtmp3.7/10, ML3.5/6, MS2.7/3, Ms1 2.7/3, ms1mx2.3/38, Error ellipse: s-maj=25.7km s-min=11.0km az=16.0*
*TEH **21** 14:43:14.4, 40.˙11N×53.˙12E, h10km, ML4.0*
*MOS **21** 14:43:15.4±1.1, 40.˙25N×53.˙11E, h25km, mb4.0/4, Error ellipse: s-maj=11.6km s-min=8.6km az=26.5*
*NNC **21** 14:43:16.4±8.6, 40.˙54N×53.˙21E, h31km±102km, mb4.4, Error ellipse: s-maj=68.1km s-min=34.4km az=62.0*
*THR **21** 14:43:30.0±0.5, 38.˙64N×52.˙68E, h14km±49km, ML3.4*
ISC 21 14:43:17.7±0.7, 40.˙40N±0.˙06×53.˙22E±0.˙04, h35km, n78,
σ1§81/84, mb3.6/5, 11C-4D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GBS	**Qobustan**	**3.27**	**274**	*e*Pn	**Pn**	**14 44 09.1**	**+2.6**
SIZA	**Siyzn**	**3.35**	**283**	*e*Pn	**Pn**	**14 44 09.8**	**+2.1**
IMND	**Minoodasht**	**3.57**	**151**	*e*		14 44 52.1	
IMND				*e*Pn	**Pn**	**14 44 09.8**	**-0.8**
ASTR	**Astara**	**3.89**	**243**	*e*Pn	**Pn**	**14 44 13.5**	**-1.5**
QSAR	**Qusar**	**3.92**	**288**	*e*Pn	**Pn**	**14 44 18.4**	**+3.0**
IGLO	**Ghaloghah**	**3.92**	**173**	*e*Pn	**Pn**	**14 44 13.3**	**-2.3**
IGLO				*e*		14 44 58.2	
XNQ	**Khinaliq**	**3.93**	**283**	*e*Pn	**Pn**	**14 44 16.7**	**+0.9**
YRD	**Yardimli**	**4.12**	**251**	*e*Pn	**Pn**	**14 44 17.8**	**-0.5**
LRK	**Lerik**	**4.16**	**247**	*e*Pn	**Pn**	**14 44 17.3**	**-1.6**
IPRN	**Peran**	**4.21**	**190**	*e*Pn	**Pn**	**14 44 16.5**	**-3.0**
AKT	**Akhty**	**4.30**	**286**	*e*P	**Pn**	**14 44 21.4**	**+0.7**
AKT				*e*S	**Sn**	**14 45 11.8**	**+2.2**
AKT				pmax	pmax		
	comp=Z,8.0nm,0.2s						
AKT				smax	smax		
	comp=N,58nm,0.6s						
AKT				smax	smax		
	comp=E,81nm,0.3s						
AKT				smax	smax		
	comp=E,67nm,0.3s						
AKT				MLR	MLR		
	comp=Z,866nm,18.0s						
IALA	**Alasht**	**4.32**	**184**	*e*Pn	**Pn**	**14 44 18.4**	**-2.8**
QALM	**Alamut, Qazvin**	**4.45**	**208**	*e*Pn	**Pn**	**14 44 19.8**	**-3.1**
GEYT	**Alibeck**	**4.54**	**121**	Pn	**Pn**	**14 44 23.7**	**-0.2**
	comp=Z,5.0nm,0.3s,baz=305,slow=15,SNR=100						
GEYT				Lg	Lg	14 45 42.8	
	comp=Z,9.7nm,0.3s,baz=290,slow=14,SNR=4.2						
GEYT				LR	LR	14 46 30.4	
	comp=Z,72nm,18.9s,baz=60,slow=43						
GYA0	**ALIBECK ARRAY**	**4.54**	**121**	P	**Pn**	**14 44 23.7**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**4.54**	**121**	⇑Pn	**Pn**	**14 44 23.7**	**-0.1**
GYA0B				⇓Lg	Lg	14 45 42.9	
SEKA	**Sheki**	**4.64**	**282**	P	**Pn**	**14 44 26.3**	**+0.9**
SEKA	**Sheki**	**4.64**	**282**	*e*Pn	**Pn**	**14 44 26.3**	**+0.9**
IGZV	**Ghazvin**	**4.65**	**211**	*e*Pn	**Pn**	**14 44 23.8**	**-1.9**
IFIR	**Firoozkooh**	**4.77**	**185**	*e*Pn	**Pn**	**14 44 26.1**	**-1.2**
CHTH	**Charan**	**4.78**	**201**	*e*Pg	**Pn**	**14 44 24.1**	**-3.3**
IDMV	**Damavand**	**4.91**	**191**	*e*Pn	**Pn**	**14 44 28.1**	**-1.1**
SHRO	**Shahrood**	**4.92**	**153**	*e*Pn	**Pn**	**14 44 29.2**	**-0.1**
SHRO				IAML		14 45 32.5	
	comp=E,32nm,0.7s						
ISFR	**Sfrayin**	**5.01**	**130**	*e*Pn	**Pn**	**14 44 30.7**	**0.0**
ISFR				*e*		14 46 35.0	
QSDN	**Sirdan**	**5.02**	**221**	*e*Pn	**Pn**	**14 44 27.9**	**-2.9**
ISRB	**Sarab**	**5.03**	**241**	*e*Pn	**Pn**	**14 44 30.2**	**-0.6**
ISRB				*e*		14 44 31.4	
GNBR	**Gunib**	**5.11**	**295**	*i* P	**Pn**	**14 44 33.0**	**+1.2**
IMHD	**Mahdasht**	**5.12**	**204**	*e*Pn	**Pn**	**14 44 31.3**	**-0.7**
ZKTA	**Zakatala**	**5.14**	**286**	P	**Pn**	**14 44 32.8**	**+0.6**
ZNJK	**Zanjan**	**5.15**	**225**	*e*Pn	**Pn**	**14 44 29.4**	**-3.1**
ZNJK				IAML		14 45 29.9	
	comp=E,66nm,0.2s						
IEMG	**Emamgholi**	**5.18**	**123**	*e*Pn	**Pn**	**14 44 32.9**	**-0.1**
IEMG				*e*		14 46 29.0	
IHRS	**Heris**	**5.22**	**249**	*e*Pn	**Pn**	**14 44 33.8**	**+0.3**
IHRS				*e*		14 44 37.6	
GANJ	**Ganja**	**5.26**	**275**	P	**Pn**	**14 44 32.9**	**-1.0**
GANJ	**Ganja**	**5.26**	**275**	*e*Pn	**Pn**	**14 44 32.9**	**-1.0**
DBC	**Dubki**	**5.45**	**301**	*i* P	**Pn**	**14 44 37.6**	**+1.1**
QABG	**Abgarm-Qazvin**	**5.49**	**213**	*e*Pn	**Pn**	**14 44 34.4**	**-2.9**
GDB	**GEDABAY**	**5.70**	**276**	*e*Pn	**Pn**	**14 44 40.6**	**+0.6**
IAKL	**Akhelmad**	**5.76**	**129**	*e*Pn	**Pn**	**14 44 40.7**	**-0.3**
IMRD	**Marand**	**6.05**	**256**	*e*Pn	**Pn**	**14 44 46.1**	**+1.3**
IMRD				*e*		14 44 51.0	
IAZR	**Azarshahr**	**6.26**	**247**	*e*Pn	**Pn**	**14 44 48.1**	**+0.3**
IAZR				*e*		14 44 59.4	
HAGD	**Aghdareh**	**6.44**	**211**	*e*Pn	**Pn**	**14 44 49.7**	**-0.6**
HSRG	**Sareghieh**	**6.47**	**219**	*e*Pn	**Pn**	**14 44 49.3**	**-1.4**
IMYA	**Miami**	**6.75**	**125**	*e*Pn	**Pn**	**14 44 54.9**	**+0.4**
TNSJ	**Nastanj**	**6.97**	**156**	*e*Pn	**Pn**	**14 44 56.4**	**-1.0**
ANAR	**Anarak**	**7.21**	**177**	*e*Pn	**Pn**	**14 44 58.4**	**-2.3**
TABS	**Tabas**	**7.42**	**154**	*e*Pn	**Pn**	**14 45 03.0**	**-0.6**
TABS				IAML		14 46 25.3	
	comp=E,5.7nm,0.6s						
TABS				IAML		14 46 29.2	
	comp=N,9.7nm,0.5s						
TKDS	**Koohdasht(Taba**	**7.46**	**154**	*e*Pn	**Pn**	**14 45 04.0**	**-0.1**
KBZ	**Khabaz**	**8.37**	**297**	Pn	**Pn**	**14 45 16.6**	**+0.2**
	comp=N,0.2nm,0.3s,baz=56,slow=7.7,SNR=1.9						
KBZ				Sn	**Sn**	**14 46 47.9**	**-1.7**
	comp=N,0.6nm,0.3s,baz=243,slow=15,SNR=1.6						
KVAR	**Kislovodsk Arr**	**8.59**	**298**	Pn	**Pn**	**14 45 16.5**	**-3.0**
	baz=90,slow=20,SNR=1.3						
AB31	**Akbulak array**	**10.05**	**26**	⇓Pn	**Pn**	**14 45 36.7**	**-2.8**
	comp=N,17nm,0.3s,baz=203,slow=14,SNR=78						
AB31				⇑Sn	**Sn**	**14 47 28.1**	**-2.9**
	comp=N,60nm,0.6s,baz=213,slow=27,SNR=5.1						
AB31	**Akbulak array**	**10.05**	**26**	P	**Pn**	**14 45 36.7**	**-2.8**
AB31				Sn	**Sn**	**14 47 28.8**	**-2.1**
AKTO	**Aktyubinsk**	**10.58**	**17**	Pn	**Pn**	**14 45 43.9**	**-2.8**
	comp=N,0.2nm,0.3s,baz=211,slow=13,SNR=2.9						
AKTO				LR	LR	14 51 11.0	
	comp=N,32nm,20.7s,baz=208,slow=45						
AKTO	**Aktyubinsk**	**10.58**	**17**	⇑Pn	**Pn**	**14 45 45.6**	**-1.1**
	comp=N,4.9nm,0.7s						
AKTO				⇑Sn	**Sn**	**14 47 38.3**	**-5.6**
	comp=N,3.5nm,0.4s						
AKTO	**Aktyubinsk**	**10.58**	**17**	P	**Pn**	**14 45 45.6**	**-1.1**
KK31	**Karatay Array**	**13.19**	**73**	⇓P	**Pn**	**14 46 19.9**	**-2.6**
	comp=N,0.6nm,0.3s,baz=260,slow=14,SNR=6.6						
KK31				⇑S	**Sn**	**14 48 49.5**	**+1.7**
	comp=N,0.7nm,0.3s						
KK31	**Karatay Array**	**13.19**	**73**	P	**Pn**	**14 46 19.9**	**-2.6**
KK31				S	**Sn**	**14 48 48.5**	**+0.7**
AAK	**Ala-Archa**	**16.09**	**75**	LR	LR	14 53 56.9	
	comp=N,35nm,19.0s,baz=235,slow=40						
AAK	**Ala-Archa**	**16.09**	**75**	*i* P	**Pn**	**14 47 02.3**	**+1.0**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARU	**Arti**	**16.42**	**11**	*d* iP	**P**	**14 47 09.2**	**+1.6**
ARU				S	**S**	**14 50 17.3**	**-0.1**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**17.18**	**37**	*ce*P	**P**	**14 47 17.8**	**+1.7**
BRVK				pmax	pmax		
	comp=Z,12nm,2.5s						
BVAR	**Borovoye Array**	**17.20**	**37**	Pn	**Pn**	**14 47 13.8**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=226,slow=43,SNR=3.9						
OBN	**Obninsk**	**18.42**	**329**	⇑*e*P	**Pn**	**14 47 31.5**	**+1.5**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,21nm,16.0s						
AKASG	**Malin Array Be**	**19.63**	**310**	P	**P**	**14 47 42.6**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=106,slow=10,SNR=4.9						
AKASG	**Malin Array Be**	**19.63**	**310**	*i* P	**P**	**14 47 43.2**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	**Malin Array Si**	**19.63**	**310**	*i* P	**P**	**14 47 43.6**	**+0.6**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KURBB	**Kurchatov Arra**	**20.38**	**51**	P	Pn	14 47 53.0	-0.4
	comp=Z,0.7nm,0.7s,baz=253,slow=12,SNR=4.6						
KURK	**Kurchatov**	**20.46**	**51**	*i* P	**P**	**14 47 53.5**	**+1.4**
VOIR		**21.18**	**293**	⇑P	**P**	**14 48 01.2**	**+1.2**
VOIR				⇑S	**pP**	**14 48 08.1**	**-1.2**
BURAR	**Bucovina Array**	**21.32**	**299**	⇑P	**P**	**14 48 02.0**	**+0.6**
BURAR				⇑S	**pP**	**14 48 11.4**	**+0.7**
MK31	**Makanchi Array**	**21.92**	**63**	*e*P	**P**	**14 48 09.8**	**+1.9**
MKAR	**Makanchi Array**	**21.92**	**63**	P	**P**	**14 48 09.6**	**+1.7**
	comp=Z,2.6nm,0.9s,baz=256,slow=9.9,SNR=14						
KOLS	**Kolonicke sedl**	**23.48**	**302**	*e*P	pP	14 48 35.3	+1.7
KOLS	**Kolonicke sedl**	**23.48**	**302**	*e*PN	pP	14 48 35.3	+1.7
ZALV	**Zalesovo Beam**	**25.14**	**47**	P	**P**	**14 48 40.9**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=254,slow=10,SNR=4.8						
DGZ	**Jazzator, Alta**	**25.70**	**57**	*i* P	**P**	**14 48 46.6**	**+2.0**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ULN	**Ulaanbaatar**	**38.67**	**60**	*i* P	**P**	**14 50 39.7**	**+1.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,2.1s						
CMAR	**Chiang Mai Arr**	**44.83**	**105**	P	**P**	**14 51 29.4**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=300,slow=9.2,SNR=4.7						
CMAR	**Chiang Mai Arr**	**44.83**	**105**	*i* P	**P**	**14 51 31.2**	**+2.7**

JMA 21 15:20:41.3±0.1, 39.˙04N×142.˙39E, h31km±2km, M2.1,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.56**	**274**	P	Pb	15 20 52.6	-0.2
OFUJ				S	Sb	15 21 00.3	-0.4
MIYJ	**Miyakonagasawa**	**0.69**	**321**	P	Pb	15 20 54.3	-0.7
MIYJ				S	Sb	15 21 03.5	-0.8
JKMT	**Kesennumamotoy**	**0.75**	**253**	P	Pn	15 20 55.1	-0.6
JKMT				S	Sb	15 21 04.6	-1.2
JMK	**Ichinoseki**	**0.92**	**265**	P	Pn	15 20 57.9	-0.1
JMK				S	Sn	15 21 09.6	-0.5
JOM	**Ohasama**	**0.96**	**297**	P	Pn	15 20 58.9	+0.3
JOM				S	Sn	15 21 11.3	+0.2
JTH	**Tanohata**	**0.99**	**336**	P	Pn	15 20 59.2	+0.2
JIO	**Ouri**	**1.00**	**235**	P	Pn	15 20 58.5	-0.7
JIO				S	Sn	15 21 10.6	-1.7
JKZ	**Kuzumaki**	**1.25**	**319**	P	Pn	15 21 03.5	+0.8
JRG	**Rokugo**	**1.41**	**285**	P	Pn	15 21 05.9	+1.1
JOU	**Okura**	**1.51**	**244**	P	Pn	15 21 07.3	+1.1

*IDC **21** 15:20:44.5±1.0, 39.˙56N×143.˙45E, h0km, mb3.9/10, mb1 4.0/14, mb1mx3.8/44, mbtmp4.0/14, ML3.6/3, MS3.2/12, Ms1 3.2/12, ms1mx2.9/47, Error ellipse: s-maj=25.4km s-min=16.1km az=100.0*
*MOS **21** 15:20:44.1±1.0, 39.˙59N×143.˙62E, h17km, mb4.4/8, Error ellipse: s-maj=11.0km s-min=6.2km az=94.0*
*NIED **21** 15:20:45.5, 39.˙67N×143.˙60E, h25km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}0.72; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-0.60; $M_{r\theta}$0.41; $M_{\theta\phi}$-0.33; $M_{\phi r}$0.52; Fault plane solution: $M_0$1.00000×10¹⁵ NP1:ϕs35.00000°, δ66.00000°, λ97.00000°. NP2:ϕs198.00000°, δ25.00000°, λ75.00000°.*
*JMA **21** 15:20:45.5±0.2, 39.˙67N×143.˙60E, h25km, M4.3*
*NEIC **21** 15:20:46.0±2.1, 39.˙55N±0.˙06×143.˙7E±0.˙1, h20km±5km, mb4.4/24, Error ellipse: s-maj=16.2km s-min=8.3km az=106.0*
ISC 21 15:20:44.4±0.6, 39.˙56N±0.˙05×143.˙78E±0.˙06, h11km, n114,
σ1§81/110, mb4.3/28, MS3.4/9, 2C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.52**	**271**	P	**Pn**	**15 21 09.6**	**-1.9**
JTH	**Tanohata**	**1.53**	**285**	P	**Pn**	**15 21 09.0**	**-2.6**
JTH				*e*S	**Sn**	**15 21 26.8**	**-4.7**
JKEN	**Kujiedanarisaw**	**1.72**	**293**	P	**Pn**	**15 21 11.8**	**-2.4**
JANG	**Nango**	**1.92**	**296**	P	**Pn**	**15 21 14.5**	**-2.5**
JOM	**Ohasama**	**1.93**	**268**	P	**Pn**	**15 21 16.2**	**-0.9**
JOM				*e*S	**Sn**	**15 21 38.0**	**-3.4**
JIO	**Ouri**	**2.20**	**241**	P	**Pn**	**15 21 20.0**	**-0.8**
ERM	**Erimo**	**2.50**	**349**	P	**Pn**	**15 21 25.2**	**+0.3**
ERM	**Erimo**	**2.50**	**349**		**Pn**	**15 21 25.2**	**+0.3**
JYK	**Kaneyama**	**2.74**	**257**	P	**Pn**	**15 21 27.8**	**-0.4**
JOT	**Ohata**	**2.77**	**312**	P	**Pn**	**15 21 27.4**	**-1.2**
JNBK	**Urakawa-nobuka**	**2.83**	**344**	P	**Pn**	**15 21 29.4**	**0.0**
JCH	**Churui**	**3.07**	**354**	P	**Pn**	**15 21 32.5**	**-0.2**
JCH				*e*S	**Sn**	**15 22 06.0**	**-3.4**
JKB	**Kayabe**	**3.12**	**319**	P	**Pn**	**15 21 33.6**	**+0.1**
JFT	**Otama**	**3.39**	**234**	P	**Pn**	**15 21 37.3**	**+0.1**
JFT				*e*S	**Sn**	**15 22 14.9**	**-2.5**
NMR	**Nemuro--Hokkai**	**4.07**	**20**	⇑*i*P	**Pn**	**15 21 47.0**	**+0.4**
NMR				*e*S	**Sn**	**15 22 31.0**	**-3.2**
JKA	**Kamikawa-asahi**	**4.63**	**349**	Pn	**Pn**	**15 21 55.4**	**+1.1**
ASAJ	**Asahikawa**	**4.64**	**349**	Pn	**Pn**	**15 21 55.2**	**+0.9**
	2.7nm,0.3s,baz=200,slow=14,SNR=41						
ASAJ	**Asahikawa**	**4.64**	**349**	P	**Pn**	**15 21 55.4**	**+1.1**
GRPR	**Tuman**	**4.67**	**18**	*e*P	**Pn**	**15 21 55.2**	**+0.4**
GRPR				*e*S	**Sn**	**15 22 44.3**	**-4.6**
GRPR				pmax	pmax		
	comp=N,50nm,0.1s						
GRPR				pmax	pmax		
	comp=E,30nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,57nm,0.1s						
GRPR				smax	smax		
	comp=N,440nm,0.5s						
GRPR				smax	smax		
	comp=E,560nm,0.4s						
GRPR				MLR	MLR		
	comp=Z,417nm,10.0s						
YUK	**Yuzh-Kuril'sk**	**4.73**	**18**	*e*P	**Pn**	**15 21 55.8**	**+0.2**
YUK				*e*S	**Sn**	**15 22 46.3**	**-4.1**
YUK				smax	smax		
	comp=N,443nm,0.6s						
YUK				smax	smax		
	comp=E,218nm,0.6s						
YUK				MLR	MLR		
	comp=Z,39nm,6.0s						
MJAR	**Matsushiro Arr**	**5.33**	**237**	Pn	**Pn**	**15 22 02.5**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=31,slow=11,SNR=40						
MJAR				LR	LR	15 24 17.1	
	comp=Z,95nm,19.7s,baz=230,slow=42						
MJAR	**Matsushiro Arr**	**5.33**	**237**	P	**Pn**	**15 22 02.9**	**-1.0**
MJAR	**Matsushiro Arr**	**5.33**	**237**		**Pn**	**15 22 02.9**	**-1.0**
MAJO	**Matsushiro**	**5.33**	**237**	P	**Pn**	**15 22 04.9**	**+1.0**
MAJO	**Matsushiro**	**5.33**	**237**		**Pn**	**15 22 04.9**	**+1.0**
MAT	**Matsushiro**	**5.33**	**237**	P	**Pn**	**15 22 05.1**	**+1.1**
MAT				*e*S	**Sn**	**15 23 05.6**	**+0.2**
KUR	**Kuril'sk**	**6.42**	**27**	*e*P	**Pn**	**15 22 20.4**	**+1.6**
KUR				*e*S	**Sn**	**15 23 29.0**	**-3.0**
KUR				pmax	pmax		
	comp=Z,26nm,0.4s						
KUR				pmax	pmax		
	comp=N,5.0nm,0.2s						
KUR				pmax	pmax		
	comp=E,11nm,0.2s						
KUR				smax	smax		
	comp=E,74nm,0.3s						
KUR				smax	smax		
	comp=N,35nm,0.2s						
JHJ2	**Mitsune**	**7.19**	**208**	Pn	**Pn**	**15 22 30.1**	**+0.7**
JHJ	**Hachijo jima 2**	**7.19**	**208**	Pn	**Pn**	**15 22 29.2**	**-0.2**
	comp=N,14nm,0.3s,baz=272,slow=23,SNR=17						
JHJ				Sn	**Sn**	**15 23 43.4**	**-7.8**
	comp=N,19nm,0.3s,baz=141,slow=23,SNR=7.7						
YSS	**Yuzh-Sakhalins**	**7.43**	**355**	*e*P	**Pn**	**15 22 34.5**	**+1.9**
YSS				MLR	MLR		
	comp=Z,100nm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.43**	**355**	Pn	**Pn**	**15 22 32.5**	**-0.1**
TEY	**Ternei**	**7.63**	**318**	*e*P	**Pn**	**15 22 36.1**	**+0.7**
USA0B	**Ussuriysk Arra**	**9.94**	**302**	P	**Pn**	**15 23 08.2**	**+1.1**
USA0B	**Ussuriysk Arra**	**9.94**	**302**		**Pn**	**15 23 08.2**	**+1.1**
USRK	**Ussuriysk Ar.**	**9.94**	**302**	Pn	**Pn**	**15 23 06.9**	**-0.2**
	baz=102,slow=12,SNR=26						
USRK	**Ussuriysk Ar.**	**9.94**	**302**		**Pn**	**15 23 06.7**	**-0.4**
JNU	**Nakatsue**	**12.22**	**242**	LR	LR	15 28 44.1	
	comp=Z,150nm,18.3s,baz=36,slow=40						
JCJ	**Chichijima**	**12.51**	**187**	Pn	**Pn**	**15 23 40.8**	**-1.5**
KSRS	**Korea Array**	**12.60**	**265**	LR	LR	15 28 09.8	
	comp=Z,95nm,18.1s,baz=92,slow=36						
KLR	**Kul'dur**	**12.92**	**322**	LR	LR	15 28 52.0	
	comp=Z,63nm,20.0s,baz=115,slow=38						
PETK	**Petropavlovsk-**	**16.57**	**31**	LR	LR	15 30 21.1	
	comp=Z,33nm,19.9s,baz=74,slow=34						
ZEA	**Zeya**	**18.10**	**327**	*e*P	**Pn**	**15 24 54.8**	**-0.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				MLR	MLR		
	comp=N,200nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,14.0s						
MA2	**Magadan**	**20.52**	**10**	P	Pn	15 25 25.2	+0.7
	comp=Z,11nm,0.8s,baz=152,slow=7.5,SNR=6.5						
MA2	**Magadan**	**20.52**	**10**	Pn	Pn	15 25 24.9	+0.4
SEY	**Seymchan**	**23.97**	**10**	P	**P**	**15 26 00.0**	**+1.6**
	comp=Z,5.4nm,0.8s,baz=195,slow=9.0,SNR=13						
YAK	**Yakutsk**	**24.09**	**344**	P

	comp=Z,11nm,1.5s						
KDAK	**Kodiak Island**	**43.98**	**44**	P	**P**	**15 28 52.5**	**+1.2**
KDAK				IAmb	IAmb	15 29 36.3	
	comp=Z,11nm,1.4s						
MK31	**Makanchi Array**	**44.41**	**300**	P	**P**	**15 28 54.4**	**-0.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MK31	**Makanchi Array**	**44.41**	**300**	P	**P**	**15 28 54.4**	**-0.5**
MKAR	**Makanchi Array**	**44.41**	**300**	P	**P**	**15 28 54.8**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=84,slow=9.1,SNR=20						
MKAR	**Makanchi Array**	**44.41**	**300**	P	**P**	**15 28 54.2**	**-0.8**
MAKZ	**Makanchi**	**44.61**	**300**	P	**P**	**15 28 55.2**	**-1.4**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MAKZ	**Makanchi**	**44.61**	**300**	P	**P**	**15 28 55.2**	**-1.4**
MAKZ				IAmb	IAmb	15 28 57.4	
	comp=Z,2.6nm,0.9s						
GHO	**Glory Hole Cre**	**45.58**	**38**	P	**P**	**15 29 04.2**	**+0.1**
GHO				IAmb	IAmb	15 29 54.9	
	comp=Z,7.4nm,1.6s						
KURK	**Kurchatov**	**45.88**	**307**	P	**P**	**15 29 06.0**	**-0.6**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KURK	**Kurchatov**	**45.88**	**307**	P	**P**	**15 29 06.0**	**-0.6**
KURK				IAmb	IAmb	15 29 07.2	
	comp=Z,4.6nm,0.9s						
ILAR	**Eielson Array**	**46.36**	**34**	P	**P**	**15 29 13.5**	**+3.3**
	comp=Z,0.4nm,0.7s,baz=262,slow=6.7,SNR=8.4						
ILAR	**Eielson Array**	**46.36**	**34**	P	**P**	**15 29 11.2**	**+1.1**
GLI	**Glacier Island**	**46.52**	**39**	P	**P**	**15 29 11.4**	**0.0**
GLI				IAmb	IAmb	15 30 13.8	
	comp=Z,5.0nm,0.9s						
DOT	**Dot Lake**	**47.67**	**35**	P	**P**	**15 29 20.6**	**+0.2**
SUCK	**Suckling Hills**	**48.26**	**40**	P	**P**	**15 29 24.1**	**-0.9**
BCAR	**Beaver Creek A**	**48.76**	**36**	P	**P**	**15 29 30.5**	**+1.6**
EGAK	**Eagle**	**48.81**	**33**	P	**P**	**15 29 32.2**	**+3.1**
TARG	**Taragay, Kyrgy**	**48.99**	**295**	P	**P**	**15 29 31.7**	**+0.3**
TARG				IAmb	IAmb	15 30 41.9	
	comp=Z,3.4nm,0.8s						
CTGM	**Chitina Glacie**	**49.30**	**38**	P	**P**	**15 29 35.2**	**+2.0**
CTGM				IAmb	IAmb	15 31 00.2	
	comp=Z,6.5nm,1.3s						
KSH	**Kashi**	**51.11**	**293**	Pn	**P**	**15 29 46.9**	**-0.2**
KSH				smax	smax		
	comp=N,49nm,0.6s						
KSH				smax	smax		
	comp=E,46nm,1.0s						
HYT	**Haines Junctio**	**51.16**	**38**	P	**P**	**15 29 49.7**	**+2.5**
HYT				IAmb	IAmb	15 29 55.9	
	comp=Z,5.3nm,1.3s						
KKAR	**Karatay Array**	**53.50**	**299**	P	**P**	**15 30 04.0**	**-0.7**
KKAR	**Karatay Array**	**53.50**	**299**	P	**P**	**15 30 04.0**	**-0.7**
ABKAR	**Akbulak array**	**57.75**	**310**	P	**P**	**15 30 34.9**	**-0.2**
KBS	**Kingsbay**	**58.49**	**350**	P	**P**	**15 30 41.3**	**+1.4**
KBS				pmax	pmax		
	comp=Z,13nm,1.0s						
KBS	**Kingsbay**	**58.49**	**350**	P	**P**	**15 30 41.2**	**+1.4**
WB0	**Warramunga Arr**	**59.67**	**190**	P	**P**	**15 30 50.5**	**+1.8**
WRA	**Warramunga Arr**	**59.85**	**190**	P	**P**	**15 30 51.8**	**+1.8**
	comp=Z,0.9nm,0.9s,baz=8.0,slow=6.9,SNR=5.4						
WRA	**Warramunga Arr**	**59.85**	**190**	P	**P**	**15 30 50.7**	**+0.8**
WRA	**Warramunga Arr**	**59.85**	**190**	P	**P**	**15 30 50.7**	**+0.8**
ASAR	**Alice Springs**	**63.57**	**190**	P	**P**	**15 31 16.3**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=18,slow=6.8,SNR=5.4						
ASAR	**Alice Springs**	**63.57**	**190**	P	**P**	**15 31 17.2**	**+2.2**
ASAR	**Alice Springs**	**63.57**	**190**	P	**P**	**15 31 17.2**	**+2.2**
FINES	**FINESS Array B**	**67.44**	**333**	P	**P**	**15 31 40.5**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=81,slow=12,SNR=4.1						
HFS	**Hagfors**	**72.54**	**336**	LR	LR	16 06 36.8	
	comp=Z,28nm,18.6s,baz=26,slow=38						
NB2	**NORSAR Subarra**	**72.56**	**338**	P	**P**	**15 32 11.9**	**+0.7**
	comp=Z,4.7nm,1.1s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**72.56**	**338**	LR	LR	16 08 12.8	
	comp=Z,14nm,19.1s,baz=195,slow=39						
AKASG	**Malin Array Be**	**73.42**	**323**	P	**P**	**15 32 16.8**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=39,slow=5.8,SNR=5.1						
AKASG	**Malin Array Be**	**73.42**	**323**	P	**P**	**15 32 16.8**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,1.3s						
VRAC	**Vranov**	**79.99**	**328**	LR	LR	16 09 56.0	
	comp=Z,28nm,18.3s,baz=52,slow=37						

IDC 21 15:23:27.8±8.3, 26°.14S×29°.11E, h0km, mb1 2.7/1, mb1mx2.7/26, mbtmp2.7/1, ML2.1/1, Error ellipse: s-maj=89.1km s-min=55.9km az=143.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**4.22**	**233**	Pn	Pn	15 24 35.2	+1.6
	0.1nm,0.3s,baz=55,slow=15,SNR=1.2						
BOSA				Pg	Pb	15 24 43.0	-0.1
	0.3nm,0.3s,baz=58,slow=16,SNR=6.7						
BOSA				Sn	Sn	15 25 23.8	0.0
	0.5nm,0.3s,baz=340,slow=17,SNR=1.7						
BOSA				Lg	Lg	15 25 42.6	
	4.8nm,0.3s,baz=144,slow=17,SNR=20						
I47ZA	**BOSHOF INFRASO**	**4.24**	**233**	*i*		15 53 30.0	
	baz=56,slow=324,SNR=1.1						
I35NA	**TSUMEB INFRASO**	**12.69**	**301**	*i*		16 40 40.0	
	baz=125,slow=329,SNR=0.7						

*ISK **21** 15:32:54.4, 37°.30N×42°.53E, h5km, ML2.6/10*
*DDA **21** 15:32:55.5, 37°.32N×42°.60E, h7km±3km, ML2.5*

ISC 21 15:32:55.7±1.2, 37°.32N±0°.05×42°.60E±0°.03, h9km±9km, n20, σ0°64/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.22**	**325**	PG	**Pg**	**15 32 59.8**	**-0.4**
SIRN	**Sırnak**	**0.23**	**320**	*i* P	**Pg**	**15 32 60.0**	**-0.4**
SIRN				*i* S	**Sg**	**15 33 04.2**	**+0.7**
CUKT	**Cukurca**	**0.81**	**95**	PG	**Pb**	**15 33 12.1**	**0.0**
CUKT				SG	**Sn**	**15 33 25.2**	**-0.5**
CUKT	**Cukurca**	**0.81**	**95**	*i* P	**Pg**	**15 33 11.3**	**0.0**
CUKT				*i* S	**Sn**	**15 33 25.5**	**-0.2**
CUKT				IAML		15 33 33.0	
	comp=E,151nm,0.5s						
SRTM	**Siirt_Merkez**	**0.85**	**322**	*i* P	**Pg**	**15 33 12.0**	**-0.2**
SRTM				*i* S	**Sn**	**15 33 25.6**	**-1.1**
HAKT	**HAKKARI**	**0.92**	**75**	*i* P	**Pg**	**15 33 12.6**	**-0.8**
HAKT				*i* S	**Sb**	**15 33 26.2**	**-0.1**
AKDM	**Akdamar-Van**	**1.05**	**17**	PN	**Pb**	**15 33 16.2**	**0.0**
GEVA	**Gevas**	**1.05**	**20**	*i* P	**Pb**	**15 33 16.2**	**0.0**
GEVA				*i* S	**Sg**	**15 33 30.0**	**+0.2**
BLIS	**Bitlis-Merkez**	**1.15**	**341**	*i* P	**Pn**	**15 33 18.6**	**+0.3**
BTMN	**Batman**	**1.20**	**299**	*i* P	**Pg**	**15 33 19.8**	**+1.1**
BTMN				*i* S	**Sn**	**15 33 36.1**	**+1.0**
BTMN				IAML		15 33 39.0	
	comp=N,123nm,0.8s						
BTMN				IAML		15 33 40.0	
	comp=E,112nm,0.3s						
GURO	**Guroymak-BITLI**	**1.30**	**340**	PN	**Pg**	**15 33 20.7**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.38**	**307**	PN	**Pb**	**15 33 21.5**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.38**	**307**	*i* P	**Pg**	**15 33 22.0**	**-0.2**
SVAN				*i* S	**Sb**	**15 33 39.2**	**-0.4**
MARD	**Mardin**	**1.45**	**270**	*i* P	**Pg**	**15 33 23.2**	**-0.3**
MARD				*i* S	**Sg**	**15 33 42.2**	**-0.1**
MARD				IAML		15 33 46.0	
	comp=E,182nm,0.8s						
MARD				IAML		15 33 47.0	
	comp=N,184nm,0.4s						
MUSM	**Mu-Merkez**	**1.64**	**329**	*i* P	**Pb**	**15 33 25.8**	**-0.4**
MUSM				*i* S	**Sn**	**15 33 44.8**	**-1.4**
MAZI	**Mazidag**	**1.72**	**275**	PN	**Pn**	**15 33 25.8**	**-0.1**
DYBB	**Diyarbakir**	**2.05**	**289**	PN	**Pn**	**15 33 30.8**	**+0.4**
AGRB	**Hanur-Agry**	**2.27**	**8**	PN	**Pn**	**15 33 35.0**	**+1.4**
SVRC	**Sivrice-ELAZID**	**2.81**	**293**	PN	**Pn**	**15 33 41.6**	**+0.6**
URFA	**Urfa**	**3.01**	**273**	PN	**Pn**	**15 33 44.2**	**+0.6**

IDC 21 15:33:59.3±25.0, 18°.42S×179°.30W, h596km±236km, mb2.6/3, mb1 2.9/3, mb1mx2.6/28, mbtmp3.6/3, Error ellipse: s-maj=310.7km s-min=51.6km az=132.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.71**	**260**	P	P	15 41 12.6	-0.8
	0.3nm,0.6s,baz=96,slow=7.7,SNR=6.7						
ASAR	**Alice Springs**	**43.84**	**255**	P	P	15 41 14.6	+0.3
	1.3nm,0.8s,baz=89,slow=7.8,SNR=31						
ASAR				PcP	PcP	15 42 46.8	-0.5
	0.1nm,0.5s,baz=97,slow=4.0,SNR=4.2						
ILAR	**Eielson Array**	**86.57**	**13**	P	P	15 45 39.7	0.0
	0.7nm,1.2s,baz=224,slow=3.8,SNR=4.1						

MAN 21 15:34:12.6, 13°.22N×122°.45E, h6km, MS3.6, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOAC	**Boac**	**0.63**	**292**	*e*P	Pg	15 34 24.2	-0.6
BOAC				*e*S	Sg	15 34 33.0	0.0
GQP	**Guinayangan**	**0.68**	**0**	*e*P	Pg	15 34 25.6	-0.1
GQP				*i* S	Sb	15 34 37.0	+0.4
OTRP	**Odiongan**	**0.95**	**206**	*e*P	Pn	15 34 32.0	-0.5
OTRP				*e*S	Sn	15 34 45.8	-0.6
LQP	**Lukban**	**1.25**	**315**	*e*P	Pg	15 34 36.4	-0.2
LQP				*i* S	Sg	15 34 50.8	-2.1
POLP	**Polilio Island**	**1.58**	**342**	*e*P	Pn	15 34 40.0	-1.1
POLP				*e*S	Sn	15 35 01.9	+0.1
TGY	**Tagaytay City**	**1.71**	**301**	*e*P	Pn	15 34 43.5	+0.5
GUIM	**Jordan**	**2.58**	**177**	*e*P	Pn	15 34 56.5	+1.5
GUIM				*e*S	Sb	15 35 29.6	-1.9
BALP	**Baler**	**2.64**	**342**	*e*P	Pn	15 34 55.9	+0.1
BALP				*e*S	Sn	15 35 29.6	+1.5
SMPP	**San Manuel, Pa**	**3.38**	**330**	*e*P	Pn	15 35 05.5	-0.4
CNOP	**Candoni, Negro**	**3.38**	**177**	*e*P	Pn	15 35 06.2	+0.3
CNOP				*e*S	Sb	15 35 50.7	-3.6
ENPP	**El Nido**	**3.57**	**236**	*e*P	Pn	15 35 07.8	-0.7
CAUP	**Cauayan**	**3.75**	**351**	*e*P	Pn	15 35 11.4	+0.3
CAUP				*e*S	Sn	15 35 55.4	-0.1

*IDC **21** 15:45:47.0±0.6, 28°.15N×142°.14E, h0km, mb3.9/11, mb1 4.0/15, mb1mx3.8/50, mbtmp3.9/15, ML3.5/3, MS2.8/6, Ms1 2.8/6, ms1mx2.6/36, Error ellipse: s-maj=26.1km s-min=12.4km az=84.0*
*JMA **21** 15:45:50.3±0.1, 28°.22N×142°.21E, h43km±4km, M4.4*
*NIED **21** 15:45:50.4, 28°.22N×142°.21E, h43km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}4.53; $M_{\theta\theta}$-2.30; $M_{\phi\phi}$-2.23; $M_{r\theta}$0.76; $M_{r\phi}$-2.32; $M_{\theta\phi}$1.42; Fault plane solution: $M_0$4.83000×10^{14} NP1:ϕ_s40.00000°, δ55.00000°, λ83.00000°. NP2:ϕ_s231.00000°, δ36.00000°, λ99.00000°.*
*NEIC **21** 15:45:51.8±1.6, 28°.15N±0°.06×142°.1E±0°.1, h34km±2km, mb4.6/21 Error ellipse: s-maj=17.9km s-min=7.4km az=76.0*

ISC 21 15:45:50.5±0.5, 28°.21N±0°.05×142°.2E±0°.1, h21km±5km, n77, σ1°19/83, mb4.3/20, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.11**	**179**	P	**Pn**	**15 46 10.0**	**-0.7**
CBIJ				*e*S	**Sb**	**15 46 24.2**	**-0.7**
JCJ	**Chichijima**	**1.11**	**179**	Pn	**Pn**	**15 46 10.1**	**-0.6**
	142nm,0.3s,baz=7.8,slow=7.6,SNR=215						
JCJ				LR	LR	15 46 27.1	
	comp=Z,43nm,20.1s,baz=78,slow=38						
JHH2	**Haha-jima-NKT2**	**1.57**	**179**	P	**Pn**	**15 46 16.6**	**-0.5**
JHH2				*e*S	**Sn**	**15 46 36.2**	**-0.5**
JHCJ	**Hachijojimakas**	**5.26**	**338**	P	**Pn**	**15 47 07.8**	**0.0**
JHJ2	**Mitsune**	**5.29**	**338**	P	**Pn**	**15 47 09.1**	**+0.9**
JHJ2	**Mitsune**	**5.29**	**338**	Pn	**Pn**	**15 47 08.7**	**+0.6**
JHJ	**Hachijo jima 2**	**5.30**	**338**	Pn	**Pn**	**15 47 08.5**	**+0.1**
	4.6nm,0.3s,baz=88,slow=22,SNR=10						
JHJ				Sn	**Sn**	**15 48 06.1**	**-2.8**
	9.8nm,0.3s,baz=108,slow=22,SNR=3.8						
JHJ				LR	LR	15 49 16.4	
	comp=Z,83nm,19.5s,baz=344,slow=39						
BSO1	**Boso 1**	**6.50**	**351**	P	**Pn**	**15 47 25.1**	**+0.7**
BSO1				*e*S	**Sn**	**15 48 36.3**	**-1.4**
BSO3	**Boso 3**	**6.72**	**348**	P	**Pn**	**15 47 28.4**	**+0.8**
BSO4	**Boso 4**	**6.94**	**348**	P	**Pn**	**15 47 32.4**	**+1.7**
JOD2	**Odawara 2**	**7.50**	**340**	P	**Pn**	**15 47 39.8**	**+1.2**
JYT	**Yasato**	**8.17**	**349**	P	**Pn**	**15 47 47.7**	**0.0**
JRY	**Ryogami san**	**8.26**	**341**	P	**Pn**	**15 47 49.8**	**+0.8**
JRY				*e*S	**Sn**	**15 49 20.2**	**-1.5**
JHO	**Hitachi**	**8.48**	**351**	P	**Pn**	**15 47 51.4**	**-0.7**
JAG	**Ashikaga**	**8.51**	**345**	P	**Pn**	**15 47 51.9**	**-0.5**
MJAR	**Matsushiro Arr**	**8.95**	**339**	Pn	**Pn**	**15 47 59.6**	**+1.1**
	0.3nm,0.3s,baz=165,slow=12,SNR=14						
MJAR				LR	LR	15 51 18.3	
	comp=Z,35nm,20.6s,baz=250,slow=37						
MJAR	**Matsushiro Arr**	**8.95**	**339**		**Pn**	**15 47 58.5**	**0.0**
MAJO	**Matsushiro**	**8.95**	**339**		**Pn**	**15 47 58.8**	**+0.3**
MAT	**Matsushiro**	**8.95**	**339**	P	**Pn**	**15 48 00.1**	**+1.6**
MAT				*e*S	**Sn**	**15 49 35.9**	**-2.9**
JNU	**Nakatsue**	**10.87**	**300**	LR	LR	15 52 26.2	
	comp=Z,54nm,19.3s,baz=172,slow=37						
ERM	**Erimo**	**13.80**	**3**	Pn	**Pn**	**15 49 00.6**	**-4.2**
KSRS	**Korea Array**	**15.09**	**311**	LR	LR	15 54 57.7	
	comp=Z,42nm,18.6s,baz=130,slow=36						
JKA	**Kamikawa-asahi**	**15.88**	**1**		**Pn**	**15 49 32.0**	**-0.6**
ASAJ	**Asahikawa**	**15.88**	**1**	Pn	**Pn**	**15 49 30.9**	**-1.7**
	0.4nm,0.3s,baz=207,slow=18,SNR=5.4						
USRK	**Ussuriysk Ar.**	**17.92**	**336**	P	**Pn**	**15 49 57.5**	**-0.8**
	baz=145,slow=5.3,SNR=4.2						
USRK				LR	LR	15 56 42.8	
	comp=Z,54nm,20.1s,baz=353,slow=36						
USRK	**Ussuriysk Ar.**	**17.92**	**336**	P	**Pn**	**15 49 57.1**	**-1.2**
KLR	**Kul'dur**	**22.46**	**342**	P	**P**	**15 50 49.0**	**+0.9**
	2.6nm,0.6s,baz=150,slow=11,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**24.10**	**105**	T	T	16 15 51.0	
	baz=297,slow=75,SNR=104						
H11N1	**WAKE ISLAND Hy**	**24.10**	**105**	T	T	16 15 52.1	
	baz=297,slow=75,SNR=106						
H11N3	**WAKE ISLAND Hy**	**24.12**	**105**	T	T	16 15 57.7	
	baz=297,slow=75,SNR=108						
H11S3	**WAKE ISLAND Hy**	**24.47**	**108**	T	T	16 16 29.7	
	baz=297,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hy**	**24.48**	**108**	T	T	16 16 26.4	
	baz=297,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy**	**24.49**	**108**	T	T	16 16 36.0	
	baz=297,slow=75,SNR=20						
CMAR	**Chiang Mai Arr**	**40.66**	**266**	LR	LR	16 08 47.8	
	comp=Z,6.4nm,21.8s,baz=190,slow=34						
MTN	**Manton Dam**	**42.18**	**196**	P	**P**	**15 53 40.7**	**-1.1**
MTN				IAmb	IAmb	15 53 57.2	
	comp=Z,30nm,1.5s						
JAGI	**Jajag, Banyuwa**	**45.41**	**221**	P	**P**	**15 54 06.9**	**-0.9**
KULM	**Kulim**	**45.47**	**248**	P	**P**	**15 54 07.7**	**-0.6**
KULM				IAmb	IAmb	15 54 17.2	
	comp=Z,5.7nm,1.0s						
KNRA	**Kununurra**	**45.51**	**198**	P	**P**	**15 54 08.1**	**-0.5**
KNRA				IAmb	IAmb	15 54 28.2	
	comp=Z,16nm,1.3s						
WB0	**Warramunga Arr**	**48.28**	**190**	P	**P**	**15 54 29.2**	**-1.0**
WB0				IAmb	IAmb	15 54 29.9	
	comp=Z,9.6nm,0.9s						
WB0				PcP	**PcP**	**15 55 57.1**	**+0.2**
WR0	**Warramunga Arr**	**48.45**	**190**	P	**P**	**15 54 30.7**	**-0.8**
WR0				IAmb	IAmb	15 54 31.2	
	comp=Z,6.3nm,0.9s						
WR0				PcP	**PcP**	**15 55 57.6**	**0.0**
WRAB	**Tennant Creek**	**48.45**	**190**	P	**P**	**15 54 30.4**	**-1.0**
WB2	**Warramunga Arr**	**48.46**	**190**	P	**P**	**15 54 30.6**	**-0.9**
WB2				PcP	**PcP**	**15 55 57.8**	**+0.2**
WRA	**Warramunga Arr**	**48.46**	**190**	P	**P**	**15 54 30.6**	**-1.0**
	comp=Z,8.8nm,0.7s,baz=7.6,slow=7.8,SNR=98						
WRA				PcP	**PcP**	**15 55 57.8**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=0.0,slow=3.4,SNR=4.7						
WRA	**Warramunga Arr**	**48.46**	**190**	P	**P**	**15 54 29.8**	**-1.7**
WRA					**PcP**	**15 55 57.3**	**-0.3**
ZALV	**Zalesovo Beam**	**48.64**	**318**	P	**P**	**15 54 33.4**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=123,slow=10,SNR=2.3						
ZALV	**Zalesovo Beam**	**48.64**	**318**	P	**P**	**15 54 32.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**48.73**	**201**	P	**P**	**15 54 33.4**	**-0.2**
FITZ				IAmb	IAmb	15 54 34.2	
	comp=Z,4.2nm,1.1s						
MKAR	**Makanchi Array**	**49.75**	**309**	P	**P**	**15 54 40.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=85,slow=10,SNR=4.6						
MKAR				PcP	**PcP**	**15 56 02.4**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=84,slow=8.6,SNR=8.1						
MKAR	**Makanchi Array**	**49.75**	**309**	P	**P**	**15 54 38.8**	**-2.5**
MKAR					**PcP**	**15 56 01.9**	**-0.1**
MAKZ	**Makanchi**	**49.97**	**309**	P	**P**	**15 54 42.2**	**-0.7**
GSI	**Gunungsitoli**	**50.27**	**246**	P	**P**	**15 54 46.4**	**+0.8**
GSI				IAmb	IAmb	15 55 22.5	
	comp=Z,9.3nm,1.0s						
AS31	**Alice Springs**	**52.18**	**190**	P	**P**	**15 54 57.6**	**-2.1**
ASAR	**Alice Springs**	**52.18**	**190**	P	**P**	**15 54 57.4**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=82,slow=8.4,SNR=46						
ASAR				PcP	**PcP**	**15 56 11.4**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=12,slow=4.3,SNR=5.8						
ASAR	**Alice Springs**	**52.18**	**190**	P	**P**	**15 54 57.1**	**-2.6**
ASAR					**PcP**	**15 56 11.0**	**-0.3**
KURK	**Kurchatov**	**52.19**	**314**	P	**P**	**15 54 57.9**	**-1.6**
KURK				IAmb	IAmb	15 55 22.9	
	comp=Z,7.9nm,1.8s						
IMAR	**Indian Mountai**	**54.07**	**27**	P	**P**	**15 55 13.7**	**+0.5**
KTH	**Kantishna Hill**	**54.88**	**30**	P	**P**	**15 55 21.9**	**+2.8**
ILAR	**Eielson Array**	**56.76**	**29**	P	**P**	**15 55 33.0**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=247,slow=7.4,SNR=5.2						
ILAR	**Eielson Array**	**56.76**	**29**	P	**P**	**15 55 32.7**	**+0.2**
BMAR	**Burnt Mountain**	**57.87**	**26**	P	**P**	**15 55 41.4**	**+1.0**
KKAR	**Karatay Array**	**58.42**	**305**	P	**P**	**15 55 44.0**	**-0.6**
FORT	**Forrest**	**60.18**	**194**	P	**P**	**15 55 55.6**	**-1.0**
INK	**Inuvik**	**62.03**	**25**	P	**P**	**15 56 09.5**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=270,slow=7.1,SNR=4.5						
INK	**Inuvik**	**62.03**	**25**	P	**P**	**15 56 09.1**	**+0.3**
INK				IAmb	IAmb	15 56 10.0	
	comp=Z,4.6nm,1.3s						
ABKAR	**Akbulak array**	**64.30**	**314**	P	**P**	**15 56 24.6**	**+0.4**
YKA	**Yellowknife Ar**	**71.18**	**29**	P	**P**	**15 57 07.0**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=295,slow=6.0,SNR=4.0						
NNZ	**Nelson**	**74.89**	**156**	P	**P**	**15 57 29.3**	**-0.1**
FINES	**FINESS Array B**	**76.94**	**334**	P	**P**	**15 57 41.0**	**0.0**
	comp=Z,3.5nm,1.0s,baz=81,slow=6.0,SNR=7.4						
FINES	**FINESS Array B**	**76.94**	**334**	P	**P**	**15 57 40.9**	**-0.1**
KBZ	**Khabaz**	**77.23**	**313**	P	**P**	**15 57 44.3**	**+1.3**
	comp=Z,2.3nm,0.7s,baz=83,slow=2.9,SNR=4.9						
NVAR	**Mina Array Bea**	**79.86**	**52**	P	**P**	**15 57 58.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=283,slow=7.3,SNR=4.1						
NVAR	**Mina Array Bea**	**79.86**	**52**	P	**P**	**15 57 57.3**	**-0.6**
NOA	**NORSAR Array B**	**82.57**	**338**	P	**P**	**15 58 10.1**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=42,slow=17,SNR=2.9						
LPAZ	**La Paz**	**149.65**	**73**	PKPbc	**PKPbc**	**16 05 40.3**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=13,slow=5.2,SNR=6.9						
LPAZ	**La Paz**	**149.65**	**73**		**PKPbc**	**16 05 39.4**	**-0.5**
PLCA	**Paso Flores**	**150.46**	**124**	PKPbc	**PKPbc**	**16 05 40.8**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=234,slow=3.4,SNR=3.6						
PLCA	**Paso Flores**	**150.46**	**124**		**PKPbc**	**16 05 39.5**	**-1.0**

*THE **21** 16:00:32.1, 35°.63N×27°.67E, h3km±2km, ML2.5/3, Error ellipse: s-maj=4.1km s-min=0.8km az=322.0*
*ATH **21** 16:00:33.0, 35°.78N×27°.51E, h9km±3km, ML2.5/4, Error ellipse: s-maj=5.0km s-min=1.4km az=142.0*

ISK 21 16:00:31.3, 35°.50N×27°.76E, h18km, ML2.8/13, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.49**	**276**	P	Pg	16 00 40.6	-0.6
KARP				S	Sg	16 00 47.3	-0.6
	798nm,0.4s						
KARP	**Karpathos**	**0.49**	**276**	P	Pg	16 00 40.6	-0.6
KARP				S	Sg	16 00 45.3	-2.5
KARP				AML	AML	16 00 50.3	
	comp=E,1432μm,0.2s						
KARP				AML	AML	16 00 52.2	
	comp=N,1650μm,0.4s						
KARP	**Karpathos**	**0.49**	**276**	PG	Pg	16 00 40.7	-0.5
KARP				SG	Sb	16 00 49.3	+1.0
ARG	**Arkhangelos**	**0.78**	**22**	P	Pb	16 00 45.5	-0.8
ARG				S	Sb	16 00 56.0	-0.6
	comp=N,465nm,0.3s						
ARG	**Arkhangelos**	**0.78**	**22**	P	Pb	16 00 45.5	-0.8
ARG				S	Sb	16 00 54.9	-1.7
ARG				AML	AML	16 00 57.8	
	comp=E,1160μm,0.3s						
ARG				AML	AML	16 00 59.6	
	comp=N,521μm,0.4s						
ARG	**Arkhangelos**	**0.78**	**22**	PG	Pg	16 00 46.5	0.0
DAT	**Datca**	**1.24**	**353**	PN	Pb	16 00 54.4	+0.1
DAT				SN	Sg	16 01 11.2	-0.3
DAT	**Datca**	**1.24**	**353**	*i* P	Pb	16 00 54.6	+0.3
DAT				*i* S	Sb	16 01 07.6	-2.3
ZKR	**Zakros**	**1.32**	**254**	P	Pb	16 00 55.6	+0.1
ZKR				S	Sg	16 01 13.1	-0.8
	comp=

	comp=Z,1μm,27.8s							
RAR	**Rarotonga**	**18.01**	**110**	LR	LR	16 10 17.0		
	comp=Z,160nm,21.3s,baz=282,slow=32							
BFZ	**Birch Farm**	**25.12**	**190**	P	**P**	**16 06 17.6**	**+1.8**	
QRZ	**Quartz Range**	**26.09**	**197**	P	**P**	**16 06 25.9**	**+1.2**	
PPT2	**Papeete2**	**27.22**	**97**	*e*LR	LR	16 13 13.9		
	comp=Z,470nm,27.0s							
PPT	**Papeete**	**27.22**	**97**	LR	LR	16 14 20.1		
	comp=Z,118nm,19.0s,baz=303,slow=30							
TBI	**Tubuai**	**27.79**	**110**	*e*LR	LR	16 13 33.9		
	comp=Z,521nm,28.8s,baz=274							
TAOE	**Nuku Hiva Isla**	**37.56**	**84**	*e*LR	LR	16 18 13.7		
	comp=Z,367nm,25.1s							
STKA	**Stephens Creek**	**39.95**	**239**	P	**P**	**16 08 27.0**	**+1.6**	
	3.6nm,1.1s,baz=108,slow=6.4,SNR=4.1							
STKA	**Stephens Creek**	**39.95**	**239**	P	**P**	**16 08 26.5**	**+1.1**	
RKT	**Rikitea**	**41.02**	**107**	*e*LR	LR	16 19 33.3		
	comp=Z,405nm,27.2s							
BBOO	**Buckleboo**	**44.73**	**239**	P	**P**	**16 09 02.4**	**-1.9**	
WR0	**Warramunga Arr**	**45.23**	**258**	P	**P**	**16 09 06.4**	**-2.2**	
WR0				IAmb	IAmb	16 09 09.2		
	comp=Z,17nm,1.6s							
WB0	**Warramunga Arr**	**45.38**	**258**	P	**P**	**16 09 07.4**	**-2.3**	
WB0				IAmb	IAmb	16 09 08.1		
	comp=Z,9.3nm,1.4s							
WRA	**Warramunga Arr**	**45.42**	**258**	P	**P**	**16 09 11.7**	**+1.6**	
	comp=Z,0.9nm,1.0s,baz=92,slow=8.1,SNR=3.5							
WRA				LR	LR	16 28 08.6		
	comp=Z,112nm,18.9s,baz=100,slow=36							
AS31	**Alice Springs**	**45.74**	**252**	P	**P**	**16 09 13.3**	**+0.7**	
ASAR	**Alice Springs**	**45.74**	**252**	P	**P**	**16 09 13.2**	**+0.6**	
	comp=Z,1.6nm,0.6s,baz=83,slow=8.4,SNR=39							
ASAR	**Alice Springs**	**45.74**	**252**	P	**P**	**16 09 12.4**	**-0.2**	
FORT	**Forrest**	**51.23**	**243**	P	**P**	**16 09 55.4**	**+0.8**	
PSAC2	**Pilbara Seismi**	**58.77**	**254**	P	**P**	**16 10 48.6**	**-0.7**	
PSAB2	**Pilbara Seismi**	**58.80**	**254**	P	**P**	**16 10 49.1**	**-0.5**	
PETK	**Petropavlovsk-**	**71.94**	**345**	P	**P**	**16 12 16.5**	**+2.7**	
	comp=Z,2.3nm,0.8s,baz=132,slow=6.4,SNR=6.0							
PETK				LR	LR	16 37 57.5		
	comp=Z,33nm,21.2s,baz=241,slow=31							
KSRS	**Korea Array**	**73.56**	**318**	LR	LR	16 38 39.5		
	comp=Z,23nm,19.5s,baz=138,slow=31							
MDPB	**Devils Postpil**	**76.81**	**44**	P	**P**	**16 12 43.0**	**+0.1**	
NJ2	**Nanjing**	**77.05**	**309**	*e*P	**P**	**16 12 44.4**	**+0.4**	
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.5s							
NVAR	**Mina Array Bea**	**77.75**	**44**	P	**P**	**16 12 48.2**	**+0.2**	
	comp=Z,2.0nm,0.9s,baz=227,slow=9.4,SNR=12							
NVAR				LR	LR	16 45 01.6		
	comp=Z,32nm,18.2s,baz=278,slow=34							
NVAR	**Mina Array Bea**	**77.75**	**44**	P	**P**	**16 12 47.4**	**-0.6**	
NV11	**Mina Array Sit**	**77.85**	**44**	P	**P**	**16 12 47.8**	**-0.8**	
KVN	**Kaiserville**	**78.21**	**43**	P	**P**	**16 12 50.3**	**-0.3**	
KVN				IAmb	IAmb	16 12 57.7		
	comp=Z,6.8nm,1.6s							
KLR	**Kul'dur**	**78.68**	**329**	LR	LR	16 42 25.1		
	comp=Z,31nm,20.2s,baz=144,slow=32							
PINE	**Pine Mountain**	**79.02**	**38**	P	**P**	**16 12 55.5**	**+0.5**	
PINE				IAmb	IAmb	16 12 57.5		
	comp=Z,5.7nm,1.0s							
TTA	**Tatalina**	**80.51**	**10**	P	**P**	**16 13 02.9**	**+0.4**	
TTA				IAmb	IAmb	16 13 09.2		
	comp=Z,6.8nm,1.1s							
X16A	**Lo Mia Camp, P**	**80.63**	**50**	P	**P**	**16 13 03.5**	**-0.4**	
G08A	**Pilot Rock**	**81.04**	**38**	P	**P**	**16 13 06.3**	**+0.6**	
G08A				IAmb	IAmb	16 13 20.8		
	comp=Z,6.7nm,1.5s							
BMO	**Blue Mountains**	**81.78**	**39**	P	**P**	**16 13 09.7**	**0.0**	
HLID	**Hailey**	**82.91**	**41**	P	**P**	**16 13 15.5**	**-0.1**	
WRH	**Wood River Hil**	**83.41**	**13**	P	**P**	**16 13 17.4**	**-0.1**	
WRH				IAmb	IAmb	16 13 20.6		
	comp=Z,6.3nm,1.2s							
DOT	**Dot Lake**	**83.60**	**15**	P	**P**	**16 13 18.7**	**+0.1**	
DOT				IAmb	IAmb	16 13 21.0		
	comp=Z,4.2nm,1.3s							
CCB	**Clear Creek Bu**	**83.62**	**13**	P	**P**	**16 13 19.3**	**+0.7**	
CCB				IAmb	IAmb	16 13 25.8		
	comp=Z,6.6nm,1.4s							
BCAR	**Beaver Creek A**	**83.69**	**16**	P	**P**	**16 13 18.0**	**-1.0**	
IMAR	**Indian Mountai**	**83.72**	**10**	P	**P**	**16 13 19.1**	**0.0**	
MDM	**Murphy Dome**	**83.81**	**12**	P	**P**	**16 13 19.5**	**-0.1**	
MDM				IAmb	IAmb	16 13 24.4		
	comp=Z,5.0nm,1.2s							
ILAR	**Eielson Array**	**83.92**	**13**	P	**P**	**16 13 20.4**	**+0.3**	
	comp=Z,1.6nm,1.0s,baz=230,slow=5.8,SNR=11							
ILAR				LR	LR	16 44 37.6		
	comp=Z,35nm,19.7s,baz=207,slow=31							
ILAR	**Eielson Array**	**83.92**	**13**	P	**P**	**16 13 20.1**	**-0.1**	
PV05	**Paradox Valley**	**83.94**	**48**	P	**P**	**16 13 20.8**	**-0.3**	
PV14	**Lion Creek, Pa**	**84.12**	**48**	P	**P**	**16 13 21.9**	**-0.1**	
PV14				IAmb	IAmb	16 13 27.3		
	comp=Z,4.8nm,1.0s							
MNTX	**Cornudas Mount**	**84.13**	**55**	P	**P**	**16 13 21.9**	**-0.1**	
MNTX				IAmb	IAmb	16 13 36.4		
	comp=Z,3.8nm,1.1s							
TXAR	**Lajitas Array**	**84.61**	**58**	P	**P**	**16 13 23.3**	**-1.4**	
	comp=Z,1.6nm,1.1s,baz=251,slow=5.4,SNR=5.7							
EGAK	**Eagle**	**85.25**	**15**	P	**P**	**16 13 27.1**	**+0.2**	
EGAK				IAmb	IAmb	16 13 33.3		
	comp=Z,3.0nm,0.9s							
PMSA	**Palmer Station**	**85.41**	**157**	LR	LR	16 45 52.6		
	comp=Z,13nm,19.4s,baz=110,slow=32							
S22A	**4UR Ranch, Cre**	**85.43**	**49**	P	**P**	**16 13 28.8**	**0.0**	
S22A				IAmb	IAmb	16 13 45.2		
	comp=Z,6.4nm,1.4s							
YHL	**Hebgen Lake**	**85.56**	**41**	P	**P**	**16 13 29.8**	**+0.5**	
PDAR	**Pinedale Array**	**85.67**	**43**	P	**P**	**16 13 29.6**	**-0.2**	
	comp=Z,0.8nm,0.9s,baz=236,slow=4.8,SNR=5.5							
PDAR				LR	LR	16 44 04.4		
	comp=Z,22nm,21.2s,baz=266,slow=30							
MAW	**Mawson**	**85.81**	**200**	LR	LR	16 49 11.9		
	comp=Z,72nm,20.2s,baz=58,slow=34							
HHC	**Hu-ho-hao-te**	**86.23**	**314**	*e*P	**P**	**16 13 34.6**	**+2.2**	
HHC				pmax	pmax			
	comp=Z,18nm,1.3s							
HHC				pmax	pmax			
	comp=Z,79nm,6.4s							
KMI	**Kunming**	**87.34**	**297**	*e*P	**P**	**16 13 37.0**	**-1.3**	
KMI				pmax	pmax			
	comp=Z,13nm,0.8s							
CMAR	**Chiang Mai Arr**	**88.64**	**290**	LR	LR	16 50 57.6		
	comp=Z,19nm,20.1s,baz=170,slow=34							
LZH	**Lanzhou**	**90.06**	**308**	*e*P	**P**	**16 13 52.5**	**+1.6**	
LZH				pP	**pP**	**16 14 00.8**	**-0.4**	
LZH				sP	**sP**	**16 14 03.4**	**-1.5**	
LZH				PP	**PP**	**16 17 24.9**	**+0.3**	
LZH				pmax	pmax			
	comp=Z,25nm,1.0s							
LZH				pmax	pmax			
	comp=Z,110nm,5.4s							
PLCA	**Paso Flores**	**92.35**	**133**	LR	LR	16 49 55.5		
	comp=Z,20nm,19.5s,baz=132,slow=32							
YKA	**Yellowknife Ar**	**92.41**	**25**	LR	LR	16 48 23.4		
	comp=Z,78nm,21.0s,baz=0.0,slow=31							
TLY	**Talaya**	**95.37**	**322**	LR	LR	16 53 29.3		
	comp=Z,20nm,18.8s,baz=116,slow=33							
ULM	**Lac du Bonnet**	**97.17**	**40**	LR	LR	16 51 07.2		
	comp=Z,26nm,19.2s,baz=40,slow=31							
BRTR	**Keskin Array B**	**143.70**	**317**	PKP	**PKPdf**	**16 20 25.2**	**-0.8**	
	comp=Z,3.3nm,1.0s,baz=132,slow=2.1,SNR=12							
BRTR	**Keskin Array B**	**143.70**	**317**		**PKPdf**	**16 20 24.7**	**-1.3**	
KHC	**Kasperske Hory**	**145.62**	**347**	*e*PKP	**PKPab**	**16 20 29.0**	**-0.5**	
GERES	**GERESS Array B**	**145.86**	**346**	PKPbc	**PKiKP**	**16 20 30.7**	**-2.9**	
	comp=Z,0.7nm,0.8s,baz=29,slow=3.0,SNR=6.1							

*DDA **21** 16:00:54.4, 39.39N×33.01E, 5km×2km, ML2.5*
ISK 21 16:00:54.2, 39.44N×33.02E, 4km, ML2.1/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Afar-Bala (An**	**0.04**	**77**	PG	Pg	16 00 55.7	+0.3
BBAL	**Bala**	**0.13**	**37**	*i* P	Pg	16 00 58.0	+1.1
BBAL				*i* S	Sg	16 00 59.7	+1.0
BBAL				IAML		16 01 00.0	
	comp=E,2μm,0.3s						
BBAL				IAML		16 01 02.0	
	comp=N,1μm,0.4s						
KKUL	**Konya-Kulu**	**0.28**	**197**	*i* P	Pg	16 01 00.4	+0.8
KKUL				*i* S	Sg	16 01 04.1	+0.9
KULU	**Kulu**	**0.40**	**182**	PG	Pg	16 01 02.5	+0.7
KULU				SG	Sb	16 01 09.0	-1.2
LOD	**Lodumlu**	**0.49**	**336**	PG	Pg	16 01 03.9	+0.2
SERE	**Sereflikochisa**	**0.65**	**139**	PG	Pb	16 01 07.5	-0.6
KIRS	**Kırehir-Merke**	**0.76**	**113**	*i* P	Pg	16 01 08.2	-0.6
KIRS				*i* S	Sg	16 01 16.2	-2.4
YAYX	**Yaylak**	**0.79**	**129**	PG	Pg	16 01 09.7	+0.3
CHBY	**Cihanbeyli**	**0.86**	**187**	PG	Pg	16 01 11.1	+0.4
DELI	**KIRIKKALE**	**0.89**	**51**	*i* P	Pg	16 01 10.7	-0.6
DELI				*i* S	Sg	16 01 19.3	-3.6
AKSY	**AKSARAY - Alti**	**0.97**	**144**	*i* P	Pg	16 01 13.2	+0.3
AKSY				*i* S	Sg	16 01 25.1	-0.5
KIZT	**Kizilcal**	**1.05**	**238**	PG	Pg	16 01 14.5	+0.2
KIZT				SG	Sn	16 01 30.0	-0.8
CDAG	**Cicekdag**	**1.06**	**79**	*i* P	Pg	16 01 14.0	-0.6
CDAG				*i* S	Sg	16 01 24.8	-3.5
CMDR	**Camlidere-ANKA**	**1.14**	**339**	*i* P	Pb	16 01 16.4	-0.1
CMDR				*i* S	Sg	16 01 29.1	-1.7
KDHN	**Kadinhani**	**1.16**	**218**	*i* P	Pb	16 01 16.9	+0.1
KDHN				*i* S	Sg	16 01 31.1	-0.2
KDHN	**Kadinhani**	**1.16**	**218**	*i* P	Pb	16 01 16.9	+0.1
KDHN				*i* S	Sg	16 01 30.7	-0.6
SVRH	**Sivrihisar-ESK**	**1.16**	**271**	PN	Pb	16 01 16.9	+0.1
AUMIH	**MIHALICIK**	**1.26**	**290**	PN	Pn	16 01 18.9	+0.2
AUMIH				SN	Sn	16 01 37.8	+1.6
LADK	**Ladik-KONYA**	**1.34**	**203**	PN	Pb	16 01 20.1	+0.2
YUVA	**Yuva-Kibriscik**	**1.40**	**313**	PN	Pg	16 01 21.6	+0.6
CORM	**Corum**	**1.44**	**59**	PN	Pg	16 01 21.9	0.0
GULA	**Gulagac**	**1.45**	**139**	PN	Pg	16 01 21.9	0.0
CIFT	**Cifteler, Eski**	**1.52**	**268**	PN	Pb	16 01 22.7	-0.3
AVNS	**Nevsehir-Avano**	**1.56**	**113**	*i* P	Pg	16 01 23.9	-0.1
AVNS				*i* S	Sn	16 01 42.6	-0.8
AVNS				IAML		16 01 52.0	
	comp=N,56nm,1.0s						
AVNS				IAML		16 01 54.0	
	comp=E,73nm,0.6s						
BCAM	**Yenicaga**	**1.56**	**332**	*i* P	Pg	16 01 24.2	+0.1
BCAM				*i* S	Sn	16 01 43.1	-0.4
KONT	**Konya--Tatoy**	**1.58**	**199**	PN	Pn	16 01 23.4	+0.5
SIRC	**Yozgat**	**1.65**	**93**	*i* P	Pn	16 01 24.4	+0.3
SIRC				*i* S	Sn	16 01 42.0	-3.8
ILGA	**Ilgaz**	**1.70**	**18**	*i* P	Pb	16 01 25.9	-0.3
COAL	**Corum-Alaca**	**1.72**	**61**	*i* P	Pn	16 01 25.1	+0.1
COAL				*i* S	Sn	16 01 44.2	-3.2
YOZ	**Yozgat**	**1.79**	**83**	PN	Pn	16 01 26.8	+0.8
SRCK	**Saricakaya, Es**	**1.94**	**289**	PN	Pn	16 01 28.9	+1.0
CMRD	**Camardi-Nigde**	**2.35**	**138**	PN	Pn	16 01 34.7	+1.0

JMA 21 16:14:04.3±0.1, 37.57N×142.10E, h29km±2km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.89**	**326**	P	Pn	16 14 20.8	-0.1
JIKH				*e*S	Sb	16 14 32.2	-0.6
JMST	**Minamisoumatoc**	**0.97**	**279**	P	Pn	16 14 21.9	-0.1
JMST				S	Sn	16 14 34.6	-0.3
JFK	**Kawauchi**	**1.00**	**259**	P	Pn	16 14 22.2	-0.2
JFK				S	Sn	16 14 35.5	0.0
JIO	**Ouri**	**1.06**	**326**	P	Pn	16 14 23.4	+0.2
JIO				S	Sn	16 14 37.2	+0.1
JMM	**Marumori**	**1.08**	**286**	P	Pn	16 14 23.6	+0.2
JMM				S	Sn	16 14 37.4	0.0
ONAJ	**Iwakimizuishiy**	**1.14**	**246**	P	Pn	16 14 24.3	0.0
ONAJ				*e*S	Sn	16 14 38.7	-0.3
JOU	**Okura**	**1.39**	**305**	P	Pb	16 14 28.9	-0.7
JOU				S	Sb	16 14 46.6	-0.3
JFT	**Otama**	**1.40**	**268**	P	Pb	16 14 29.2	-0.6
JFT				S	Sb	16 14 47.0	-0.3
JMK	**Ichinoseki**	**1.54**	**334**	P	Pn	16 14 30.7	+0.9
JMK				S	Sn	16 14 50.0	+1.1
JYS	**Shirataka**	**1.74**	**293**	P	Pb	16 14 34.1	-1.4
JFY	**Yanaizu**	**1.91**	**266**	P	Pb	16 14 36.8	-1.7
JFY				S	Sb	16 15 00.4	-1.6
JYK	**Kaneyama**	**1.92**	**315**	P	Pn	16 14 36.4	+1.4
JOM	**Ohasama**	**2.00**	**342**	P	Pn	16 14 37.6	+1.4
JOM				*e*S	Sn	16 15 01.8	+1.5
JYA	**Atsumi**	**2.14**	**299**	P	Pn	16 14 39.5	+1.4
JRG	**Rokugo**	**2.16**	**328**	P	Pn	16 14 40.2	+1.9
MAT	**Matsushiro**	**3.28**	**253**	P	Pn	16 14 56.8	+3.1
MAT				*e*S	Sb	16 15 37.8	-3.5

*TEH **21** 16:26:24.7, 32.76N×47.59E, h10km, ML3.2*
*ISN **21** 16:26:25.1±0.7, 32.62N×47.59E, h14km±4km, ML3.1*
*THR **21** 16:26:26.1±0.4, 32.70N×47.57E, h18km±4km, ML3.1*
ISC 21 16:26:24.8±1.3, 32.73N±0.04×47.55E±0.03, h10km±11km, n32, σ1§54/37, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.23**	**259**	*e*Pg	**Pg**	**16 26 29.3**	**-0.3**
IKFM	**Kafar-mosalman**	**0.83**	**17**	*e*Pg	**Pg**	**16 26 40.3**	**-0.5**
IKFM				*e*		16 26 54.6	
IKMR	**Kamar-syah**	**1.05**	**41**	*e*Pg	**Pb**	**16 26 44.2**	**-0.8**
IKMR				*e*		16 26 48.2	
IKMR				*e*Sg	**Sb**	**16 26 57.7**	**-1.1**
IDOB	**Doab**	**1.18**	**26**	*e*Pg	**Pn**	**16 26 47.7**	**+0.2**
IBDR	**Badra**	**1.42**	**286**	*e*Pg	**Pg**	**16 26 52.0**	**0.0**
IBDR				*e*Sg	**Sg**	**16 27 12.0**	**+1.6**
IBDR				AML	AML	16 27 15.7	
	comp=N,263nm,0.4s						
IBDR				AML	AML	16 27 16.1	
	comp=E,317nm,0.6s						
BMDN	**Meydan**	**1.42**	**48**	*e*Pg	**Pg**	**16 26 51.5**	**-0.6**
BMDN				*e*		16 27 19.1	
IKOM	**Komasi**	**1.44**	**359**	*e*Pg	**Pg**	**16 26 52.5**	**0.0**
IKOM				*e*		16 27 18.1	
KCHF	**Cheshme Sefid,**	**1.60**	**345**	*e*Pg	**Pg**	**16 26 55.0**	**-0.5**
KCHF				*e*		16 27 20.2	
KER	**Kermanshah**	**1.69**	**348**	*e*Pn	**Pb**	**16 26 56.1**	**+0.1**
HSAM	**Samen**	**1.72**	**30**	*e*Pg	**Pg**	**16 26 57.0**	**-0.8**
HSAM				*e*		16 27 27.3	
IBZA	**Bozab**	**1.76**	**8**	*e*Pg	**Pg**	**16 26 57.9**	**-0.6**
IBZA				*e*		16 27 00.3	
IGHG	**Ghaleghazi**	**1.80**	**333**	*e*Pg	**Pg**	**16 26 59.1**	**-0.2**
IGHG				*e*		16 27 36.3	
IVIS	**Veis**	**1.89**	**342**	*e*Pg	**Pb**	**16 26 59.7**	**+0.3**
IVIS				*e*		16 27 34.3	
NSR	**Nassriya**	**2.09**	**215**	*e*Pn	**Pn**	**16 27 00.0**	**+0.2**
NSR				*e*Sn	**Sn**	**16 27 25.0**	**-0.9**
IALM	**Almabolaq**	**2.19**	**13**	*e*Pn	**Pb**	**16 27 03.7**	**-0.9**
IDHR	**Dehrash**	**2.19**	**334**	*e*Pn	**Pb**	**16 27 02.8**	**-1.9**
IDHR				*e*		16 27 39.3	
ILIN	**Lien**	**2.24**	**347**	*e*Pn	**Pb**	**16 27 04.0**	**-1.5**
ILIN				*e*		16 27 51.8	
KHMZ	**Khomeyn**	**2.25**	**63**	*e*Pn	**Pb**	**16 27 04.9**	**-0.8**
SNGE	**Sanandaj**	**2.37**	**356**	*e*Pn	**Pb**	**16 27 06.7**	**-0.9**
SNGE				*e*Sg	**Sg**	**16 27 41.4**	**+0.5**
SNGE				IAML		16 27 50.2	
	comp=N,88nm,0.6s						
HSRG	**Sareghieh**	**2.58**	**13**	*e*		16 27 54.5	
HSRG				*e*Pn	**Pb**	**16 27 08.6**	**-2.7**
JHBN	**Jahan bin**	**2.68**	**100**	*e*		16 27 58.4	
JHBN				*e*Pn	**Pn**	**16 27 09.7**	**+1.5**
BHD	**Baghdad**	**2.72**	**282**	*e*Pn	**Pn**	**16 27 11.0**	**+2.5**
BHD				*e*Sn	**Sb**	**16 27 45.0**	**-1.9**
IPIR	**Pirpir**	**2.81**	**90**	*e*Pn	**Pn**	**16 27 12.0**	**+1.9**
IPIR				*e*		16 28 09.1	
ROKH	**ROKH**	**2.96**	**96**	*e*Pn	**Pn**	**16 27 14.3**	**+2.2**
IRAZ	**Razeghan**	**3.32**	**36**	*e*Pn	**Pn**	**16 27 18.4**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.42**	**29**	*e*Pn	**Pn**	**16 27 19.9**	**+1.6**
IKLH	**Kolahrood**	**3.43**	**79**	*e*Pn	**Pn**	**16 27 20.6**	**+2.1**
IKLH				*e*		16 28 25.7	
KLNJ	**Kolanjah**	**3.84**	**115**	*e*Pn	**Pn**	**16 27 26.0**	**+1.8**
KLNJ				*e*		16 28 38.4	
QSDN	**Sirdan**	**4.00**	**19**	*e*Pn	**Pn**	**16 27 28.7**	**+2.4**
CHTH	**Charan**	**4.34**	**42**	*e*Pn	**Pn**	**16 27 33.4**	**+2.5**
QALM	**Alamut, Qazvin**	**4.49**	**34**	*e*Pn	**Pn**	**16 27 34.7**	**+1.6**
DAMV	**Damavand**	**4.67**	**50**	*e*Pn	**Pn**	**16 27 38.3**	**+2.8**

*IDC **21** 16:34:30.5±0.9, 60.68S×41.62W, h0km, mb4.1/5, mb1 4.1/6, mb1mx3.9/21, mbtmp4.0/6, ML3.4/1, MS3.5/2, Ms1 3.5/2, ms1mx3.1/16, Error ellipse: s-maj=35.2km s-min=25.5km az=89.0*
*NEIC **21** 16:34:32.4±1.5, 60.7S±0.1×41.5W±0.2, h13km±3km, mb4.5/9, Error ellipse: s-maj=14.7km s-min=13.7km az=152.0*
ISC 21 16:34:31.8±0.7, 60.7S±0.1×41.6W±0.1, h10km, n39, σ0§91/31, mb4.2/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.98**	**26**		**Pn**	**16 36 12.9**	**-1.1**
PMSA	**Palmer Station**	**11.05**	**239**	Pn	**Pn**	**16 37 09.2**	**-0.4**
	0.3nm,0.3s,baz=61,slow=11,SNR=3.8						
PMSA	**Palmer Station**	**11.05**	**239**		**Pn**	**16 37 09.7**	**+0.2**
GO09	**Cerro Castillo**	**19.42**	**285**	P	**Pn**	**16 38 58.9**	**-0.1**
GO09				IAmb	IAmb	16 39 10.7	
	comp=Z,32nm,0.9s						
PLCA	**Paso Flores**	**26.72**	**305**	P	**P**	**16 40 11.2**	**0.0**
	comp=Z,1.7nm,0.9s,baz=182,slow=23,SNR=3.2						
PLCA	**Paso Flores**	**26.72**	**305**	P	**P**	**16 40 10.8**	**-0.4**
LC01	**Lunco**	**28.82**	**305**	P	**P**	**16 40 27.2**	**-2.6**
QSPA	**South Pole Qui**	**29.56**	**180**	P	**P**	**16 40 36.1**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=179,slow=3.3,SNR=5.5						
QSPA	**South Pole Qui**	**29.56**	**180**	P	**P**	**16 40 35.5**	**-0.9**
CPUP	**Villa Florida**	**35.97**	**336**	LR	LR	16 56 31.0	
	comp=Z,52nm,19.9s,baz=123,slow=37						
VNDA	**Vanda**	**41.29**	**188**	LR	LR	17 00 48.8	
	comp=Z,65nm,18.5s,baz=194,slow=38						
BDFB	**Brasilia**	**45.21**	**351**	P	**P**	**16 42 50.3**	**+1.3**
	comp=Z,2.9nm,0.6s,baz=197,slow=4.5,SNR=3.4						
BDFB	**Brasilia**	**45.21**	**351**	P	**P**	**16 42 49.5**	**+0.6**
BDFB				IAmb	IAmb	16 42 50.6	
	comp=Z,5.1nm,0.9s						
GO01	**Chusmiza**	**45.38**	**322**	P	**P**	**16 42 51.8**	**+1.1**
GO01				IAmb	IAmb	16 43 20.3	
	comp=Z,7.1nm,1.4s						
MNMC	**Minye Minye**	**46.00**	**322**	P	**P**	**16 42 56.3**	**+0.9**
MNMC				IAmb	IAmb	16 43 07.7	
	comp=Z,4.7nm,0.7s						
SAML	**Samuel**	**54.07**	**333**	P	**P**	**16 43 56.9**	**+0.5**
H10N3	**ASCENSION HYDR**	**56.49**	**33**	T	T	17 46 12.7	
	baz=192						
H10N1	**ASCENSION HYDR**	**56.49**	**33**	T	T	17 46 10.6	
	baz=192						
H10N2	**ASCENSION HYDR**	**56.51**	**33**	T	T	17 46 12.7	
	baz=192						
TORD	**Torodi Ar. Bea**	**81.25**	**43**	P	**P**	**16 46 48.0**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=198,slow=5.5,SNR=6.5						
TORD	**Torodi Ar. Bea**	**81.25**	**43**	P	**P**	**16 46 48.2**	**+0.4**
H08S1	**Diego Carcia H**	**94.83**	**115**	T	T	18 34 05.2	
	baz=204,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**94.84**	**115**	T	T	18 34 02.1	
	baz=204,slow=76,SNR=5.2						
H08S3	**Diego Garcia H**	**94.85**	**115**	T	T	18 34 02.0	
	baz=204,slow=76,SNR=10						
ASAR	**Alice Springs**	**95.89**	**176**	P	**P**	**16 48 00.5**	**+2.0**
	comp=Z,0.2nm,0.6s,baz=175,slow=4.1,SNR=2.9						
ASAR	**Alice Springs**	**95.89**	**176**	P	**P**	**16 47 58.6**	**0.0**
INK	**Inuvik**	**144.50**	**320**	PKP	**PKPab**	**16 54 04.7**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=127,slow=3.5,SNR=3.6						
BCAR	**Beaver Creek A**	**144.54**	**309**		**PKPab**	**16 54 04.9**	**-0.4**
MKAR	**Makanchi Array**	**145.20**	**88**	PKPbc	**PKPbc**	**16 54 06.8**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=316,slow=3.3,SNR=4.2						
MKAR	**Makanchi Array**	**145.20**	**88**		**PKPbc**	**16 54 07.8**	**-0.3**
RIDG	**Independent Ri**	**146.06**	**309**		**PKPab**	**16 54 11.2**	**+0.2**
ILAR	**Eielson Array**	**147.35**	**310**	PKPbc	**PKPbc**	**16 54 13.4**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=144,slow=2.2,SNR=8.5						
ILAR	**Eielson Array**	**147.35**	**310**		**PKPbc**	**16 54 13.3**	**-0.7**
RND	**Reindeer**	**147.45**	**307**		**PKPdf**	**16 54 13.0**	**+1.2**
WRH	**Wood River Hil**	**147.66**	**309**		**PKPbc**	**16 54 13.9**	**-0.9**
BMAR	**Burnt Mountain**	**147.73**	**315**		**PKPbc**	**16 54 15.2**	**+0.2**
MDM	**Murphy Dome**	**147.94**	**310**		**PKiKP**	**16 54 17.7**	**+0.3**
KTH	**Kantishna Hill**	**148.34**	**306**		**PKiKP**	**16 54 18.2**	**-0.1**
IMAR	**Indian Mountai**	**150.47**	**310**		**PKPbc**	**16 54 21.2**	**-0.6**

*IDC **21** 16:48:31.3±2.2, 5.43S×147.10E, h157km±22km, mb3.7/3, mb1 4.0/5, mb1mx3.3/33, mbtmp4.3/5, Error ellipse: s-maj=45.2km s-min=16.4km az=112.0*
*NEIC **21**

WRA				S	S	17 28 26.7	-2.0
	0.1nm,0.3s,baz=339,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**14.42**	**157**	P	P	**17 25 49.9**	**-0.4**
WB2	**Warramunga Arr**	**14.43**	**157**		P	**17 25 50.6**	**+0.3**
WR0	**Warramunga Arr**	**14.52**	**157**		Pn	**17 25 52.2**	**0.0**
COEN	**Coen**	**16.21**	**118**		P	**17 26 10.1**	**+0.2**
COEN				IAmb	IAmb	17 26 13.6	
	comp=Z,16nm,1.3s						
AS31	**Alice Springs**	**17.74**	**163**	P	P	**17 26 28.3**	**+1.9**
AS31				IAmb	IAmb	17 26 28.5	
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**17.74**	**163**	P	P	**17 26 28.1**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=343,slow=12,SNR=60						
ASAR	**Alice Springs**	**17.74**	**163**	P	P	**17 26 28.0**	**+1.6**
MK31	**Makanchi Array**	**67.08**	**327**	P	P	**17 33 02.1**	**+1.1**
MKAR	**Makanchi Array**	**67.08**	**327**	P	P	**17 33 01.9**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=125,slow=8.2,SNR=5.6						
MKAR	**Makanchi Array**	**67.08**	**327**	P	P	**17 33 02.5**	**+1.5**
KDJ	**Kajisay**	**67.31**	**321**	P	P	**17 33 02.9**	**+0.1**
KDJ				IAmb	IAmb	17 33 03.9	
	comp=Z,1.7nm,1.2s						
ZALV	**Zalesovo Beam**	**70.57**	**334**	P	P	**17 33 23.1**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=134,slow=4.2,SNR=2.2						
ABKAR	**Akbulak array**	**81.26**	**322**	P	P	**17 34 23.7**	**+1.3**
WAX	**Waxell Ridge**	**95.07**	**30**	P	P	**17 35 28.9**	**+0.5**
TGL	**Tana Glacier**	**95.10**	**30**	P	P	**17 35 29.7**	**+1.1**
TGL				IAmb	IAmb	17 35 30.5	
	comp=Z,5.2nm,0.4s						

*VAO **21** 17:33:16.7±1.3, 16°.60S×71°.15W, h88km±8km, mb4.2*
*GUC **21** 17:33:17.9±0.7, 16°.85S×71°.47W, h110km±6km, ML4.0*
*NEIC **21** 17:33:17.1±1.9, 16°.83S±0°.01×71°.14W±0°.1, h106km±6km, mb4.1/6, Error ellipse: s-maj=15.0km s-min=1.4km az=93.0*
*IDC **21** 17:33:20.8±1.7, 16°.59S×71°.17W, h132km±14km, mb3.4/7, mb1 3.7/10, mb1mx3.6/28, mbtmp4.0/10, MS3.3/1, Ms1 3.3/1, ms1mx2.4/23, Error ellipse: s-maj=22.5km s-min=13.2km az=24.0*

ISC 21 17:33:16.7±0.5, 16°.76S±0°.05×71°.27W±0°.06, h100km, n86, σ1§74/92, mb3.8/7, 2C-2D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.83**	**151**	⇓*iP*		**Pn**	**17 33 49.2**	**+2.0**
AP01				*i* S		**Sn**	**17 34 13.1**	**+2.7**
PB12	**IPOC Station P**	**2.05**	**154**	⇑*iP*		**Pn**	**17 33 51.5**	**+1.3**
PB12				*i* S		**Sn**	**17 34 17.0**	**+1.4**
PB12				IAML			17 34 26.9	
	comp=N,1μm,0.4s							
PB12	**IPOC Station P**	**2.05**	**154**			**Pn**	**17 33 51.4**	**+1.3**
PB16	**IPOC Station P**	**2.30**	**133**	⇑*iP*		**Pn**	**17 33 56.4**	**+2.6**
PB16				*i* S		**Sn**	**17 34 25.6**	**+3.5**
PB16				IAML			17 34 33.3	
	comp=E,356nm,0.3s							
PB16	**IPOC Station P**	**2.30**	**133**			**Pn**	**17 33 56.5**	**+2.7**
MNMC	**Minye Minye**	**2.85**	**146**	⇓*iP*		**Pn**	**17 34 02.3**	**+1.5**
MNMC				*i* S		**Sn**	**17 34 36.8**	**+2.2**
MNMC	**Minye Minye**	**2.85**	**146**			**Pn**	**17 34 02.2**	**+1.4**
PSGC	**Pisagua**	**3.03**	**159**	*eP*		**Pn**	**17 34 03.6**	**+0.6**
PSGC				*i* S		**Sn**	**17 34 38.0**	**-0.6**
PSGC				IAML			17 34 45.2	
	comp=E,234nm,0.5s							
PSGCX	**Pisagua**	**3.03**	**159**			**Pn**	**17 34 03.4**	**+0.4**
LPAZ	**La Paz**	**3.05**	**82**	P		**Pn**	**17 34 07.1**	**+3.4**
LPAZ				S		**Sn**	**17 34 44.0**	**+4.2**
	baz=330,slow=5.1,SNR=1.0							
PB11	**IPOC Station P**	**3.36**	**153**	*eP*		**Pn**	**17 34 08.0**	**+0.5**
PB11				*eS*		**Sn**	**17 34 46.2**	**-0.4**
PB11				IAML			17 35 01.4	
	comp=E,369nm,0.3s							
PB11	**IPOC Station P**	**3.36**	**153**			**Pn**	**17 34 08.0**	**+0.5**
GO01	**Chusmiza**	**3.50**	**146**	*eP*		**Pn**	**17 34 11.9**	**+2.1**
GO01				*i* S		**Sn**	**17 34 53.4**	**+2.8**
GO01	**Chusmiza**	**3.50**	**146**	Pn		**Pn**	**17 34 11.7**	**+2.0**
PB08	**IPOC Station P**	**3.92**	**150**	Pn		**Pn**	**17 34 16.6**	**+1.4**
TA01	**Diego Aracena**	**3.93**	**165**			**Pn**	**17 34 15.5**	**+0.5**
PB01	**IPOC Station P**	**4.59**	**159**			**Pn**	**17 34 24.3**	**+0.3**
PB07	**IPOC Station P**	**5.11**	**165**			**Pn**	**17 34 31.4**	**+0.1**
PB09	**IPOC Station P**	**5.37**	**159**			**Pn**	**17 34 35.4**	**+0.7**
PB04	**IPOC Station P**	**5.65**	**169**			**Pn**	**17 34 38.1**	**-0.3**
PB06	**IPOC Station P**	**6.13**	**165**			**Pn**	**17 34 44.0**	**-1.0**
LVC	**Limon Verde**	**6.23**	**159**	P		**Pn**	**17 34 47.3**	**+0.8**
	comp=E,3.7nm,0.3s,baz=357,slow=7.6,SNR=28							
LVC	**Limon Verde**	**6.23**	**159**			**Pn**	**17 34 47.1**	**+0.6**
LVC	**Limon Verde**	**6.23**	**159**	*eP*		**Pn**	**17 34 47.5**	**+0.9**
PB15	**IPOC Station P**	**6.64**	**166**			**Pn**	**17 34 51.6**	**-0.3**
PB10	**IPOC Station P**	**6.76**	**174**			**Pn**	**17 34 52.3**	**-1.1**
NNA	**Nana**	**7.18**	**311**	P		**Pn**	**17 35 01.7**	**+2.4**
	comp=E,1.4nm,0.3s,baz=45,slow=9.7,SNR=2.0							
NNA				S		**Sn**	**17 36 24.5**	**+5.1**
	comp=E,1.5nm,0.3s,baz=231,slow=15,SNR=1.8							
PB14	**IPOC Station P**	**7.87**	**174**			**Pn**	**17 35 07.1**	**-1.7**
ETMB	**Extrema**	**8.47**	**36**	*eP*		**Pn**	**17 35 15.1**	**-1.6**
GO02	**Mina Guanaco**	**8.51**	**170**			**Pn**	**17 35 16.5**	**-0.9**
AC01	**Pan de Azucar**	**9.37**	**176**	Pn		**Pn**	**17 35 27.7**	**-1.2**
SIV	**San Ignacio**	**9.82**	**87**	P		**Pn**	**17 35 33.9**	**-1.2**
	comp=E,3.9nm,0.3s,baz=277,slow=8.9,SNR=37							
AC02	**Maricunga**	**10.22**	**169**	Pn		**Pn**	**17 35 40.1**	**-0.9**
SAML	**Samuel**	**11.06**	**46**	*eP*		**Pn**	**17 35 48.2**	**-3.7**
SAML	**Samuel**	**11.06**	**46**			**Pn**	**17 35 48.2**	**-3.7**
SAML	**Samuel**	**11.06**	**46**	*eP*		**Pn**	**17 35 48.5**	**-3.5**
VILB	**Vilhena**	**11.35**	**72**	*eP*		**Pn**	**17 35 53.3**	**-2.6**
AC04	**Llanos de Chal**	**11.40**	**179**			**Pn**	**17 35 57.6**	**+1.2**
PTLB	**Pontes e Lacer**	**11.73**	**85**	*eP*		**Pn**	**17 35 59.2**	**-1.8**
AC05	**El Transito**	**12.06**	**176**	Pn		**Pn**	**17 36 04.6**	**-0.7**
LCO	**Las Campanas**	**12.21**	**178**	Pn		**Pn**	**17 36 06.5**	**-1.0**
CO03	**El Pedregal**	**14.03**	**178**	P		**P**	**17 36 36.1**	**+0.3**
SALV	**Santo Antonio**	**14.98**	**89**	*eP*		**Pn**	**17 36 43.3**	**0.0**
CLDB	**Colider**	**16.12**	**71**	*eP*		**Pn**	**17 36 56.6**	**-1.1**
H03N1	**Juan Fernandez**	**17.98**	**201**	T		T	17 55 22.9	
	baz=25,slow=73,SNR=85							
H03N2	**Juan Fernandez**	**17.99**	**201**	T		T	17 55 28.2	
	baz=25,slow=73,SNR=61							
H03N3	**Juan Fernandez**	**18.00**	**201**	T		T	17 55 23.5	
	baz=25,slow=73,SNR=101							
NPGB	**Novo Progresso**	**18.30**	**60**	*eP*		**P**	**17 37 20.6**	**-2.5**
PTGA	**Pitinga**	**19.43**	**36**	P		**P**	**17 37 33.7**	**-1.7**
	comp=E,1.3nm,0.3s,baz=224,slow=13,SNR=9.0							
PTGA	**Pitinga**	**19.43**	**36**	P		**P**	**17 37 34.5**	**-0.9**
PTGA				IAmb		IAmb	17 37 37.3	
	comp=Z,11nm,1.1s							
BBAC	**Balboa, Cauca**	**19.57**	**342**	*eP*		**Pn**	**17 37 39.4**	**0.0**
PTGB	**Pitanga**	**19.61**	**117**	*eP*		**P**	**17 37 38.3**	**+0.9**
POPC	**Popayan, Colom**	**19.90**	**344**	*eP*		**P**	**17 37 42.3**	**+1.5**
ORTC	**Ortega, Tolima**	**20.91**	**349**	*eP*		**P**	**17 37 49.8**	**-1.6**
GUY2C	**Guyana, Caldas**	**22.21**	**349**	*eP*		**P**	**17 38 03.2**	**-2.5**
RUSC	**La Rusia**	**22.57**	**355**	*eP*		**P**	**17 38 08.2**	**-1.2**
RUSC	**La Rusia**	**22.57**	**355**			**P**	**17 38 09.1**	**-0.4**
CBOC	**Ciudad Bolivar**	**22.96**	**348**	*eP*		**P**	**17 38 12.5**	**-0.5**
BARC	**Barichara**	**23.28**	**355**	*eP*		**P**	**17 38 12.5**	**-3.6**
PLCA	**Paso Flores**	**23.90**	**179**	P		**P**	**17 38 23.0**	**+1.7**
	comp=Z,2.3nm,0.9s,baz=346,slow=10.0,SNR=5.5							
PLCA				LR		LR	17 48 56.1	
	comp=Z,69nm,18.4s,baz=112,slow=39							
PLCA	**Paso Flores**	**23.90**	**179**	P		**P**	**17 38 19.9**	**-1.5**
PLCA				IAmb		IAmb	17 38 32.7	
	comp=Z,12nm,1.6s							
SMTB	**Santa Maria do**	**24.37**	**74**	*eP*		**P**	**17 38 25.9**	**+0.1**
MCPB	**Macapa, AP**	**24.98**	**51**	*eP*		**P**	**17 38 30.8**	**-0.5**
SMLC	**San Martn de**	**25.54**	**354**	*eP*		**P**	**17 38 32.1**	**-4.2**
TXAR	**Lajitas Array**	**55.48**	**325**	P		**P**	**17 42 41.2**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=148,slow=8.5,SNR=5.7							
TXAR	**Lajitas Array**	**55.48**	**325**	P		**P**	**17 42 41.1**	**-0.4**
NVAR	**Mina Array Bea**	**70.40**	**322**	P		**P**	**17 44 20.8**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=143,slow=6.6,SNR=3.0							
NVAR	**Mina Array Bea**	**70.40**	**322**	P		**P**	**17 44 20.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**77.96**	**72**	P		**P**	**17 45 03.5**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=274,slow=4.6,SNR=12							
TORD	**Torodi Ar. Bea**	**77.96**	**72**	P		**P**	**17 45 03.8**	**-0.7**
ESDC	**Sonseca Array**	**84.08**	**46**	P		**P**	**17 45 36.4**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=33,slow=39,SNR=2.5							
ESDC	**Sonseca Array**	**84.08**	**46**	P		**P**	**17 45 36.2**	**-0.4**
YKA	**Yellowknife Ar**	**86.00**	**341**	P		**P**	**17 45 44.8**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=131,slow=4.5,SNR=6.7							
MAW	**Mawson**	**89.49**	**164**	P		**P**	**17 46 03.9**	**+1.6**
	comp=Z,1.0nm,0.7s,baz=180,slow=9.1,SNR=2.2							
MAW	**Mawson**	**89.49**	**164**	P		**P**	**17 46 03.0**	**+0.7**
MAW				IAmb		IAmb	17 47 58.0	
	comp=Z,2.2nm,1.7s							
WRA	**Warramunga Arr**	**135.69**	**216**	PKP		**PKPdf**	**17 52 26.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=136,slow=1.6,SNR=12							
ZALV	**Zalesovo Beam**	**138.49**	**21**	PKP		**PKPdf**	**17 52 30.4**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=225,slow=3.1,SNR=5.1							
ZALV	**Zalesovo Beam**	**138.49**	**21**			**PKPdf**	**17 52 30.5**	**0.0**
MKAR	**Makanchi Array**	**142.90**	**30**	PKP		**PKPdf**	**17 52 38.6**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=238,slow=11,SNR=3.0							
MKAR	**Makanchi Array**	**142.90**	**30**			**PKPdf**	**17 52 38.8**	**0.0**
USRK	**Ussuriysk Ar.**	**146.32**	**329**	PKPbc		**PKPbc**	**17 52 46.4**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=48,slow=4.6,SNR=4.7							
MJAR	**Matsushiro Arr**	**147.30**	**313**	PKPbc		**PKPbc**	**17 52 49.6**	**+0.5**
	comp=Z,3.2nm,0.9s,baz=260,slow=2.6,SNR=7.2							
MJAR	**Matsushiro Arr**	**147.30**	**313**			**PKPbc**	**17 52 49.5**	**+0.4**
SONM	**Songino Array**	**148.95**	**3**	PKPbc		**PKPbc**	**17 52 53.3**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=334,slow=1.7,SNR=5.0							
SONM	**Songino Array**	**148.95**	**3**			**PKPbc**	**17 52 53.0**	**-0.2**
KSRS	**Korea Array**	**153.32**	**324**	PKPbc		**PKPbc**	**17 53 02.5**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=30,slow=2.3,SNR=3.2							

*IDC **21** 18:02:17.4±1.9, 43°.95N×105°.66W, h0km, mb1 3.7/3, mb1mx3.4/43, mbtmp3.4/3, ML3.3/3, Error ellipse: s-maj=65.7km s-min=10.0km az=147.0*
*NEIC **21** 18:02:18.6±1.1, 43°.77N±0°.02×105°.30W±0°.08, h0km±2km, ML3.2/61, Error ellipse: s-maj=10.8km s-min=3.1km az=72.0*

ISC 21 18:02:17.5±1.1, 43°.77N±0°.05×105°.32W±0°.05, h0km, n58, σ1§31/59, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**69**			**Pb**	**18 02 36.6**	**-1.1**
K22A	**Casper**	**1.42**	**219**			**Pn**	**18 02 43.5**	**-1.2**
K22A				IAML			18 03 07.7	
	comp=N,440nm,0.3s							
K22A				IAML			18 03 09.3	
	comp=E,272nm,0.3s							
PHWY	**Pilot Hill**	**2.46**	**182**			**Pn**	**18 02 59.6**	**+0.4**
PHWY				IAML			18 03 39.3	
	comp=E,108nm,0.4s							
RWWY	**Rawlins**	**2.50**	**215**			**Pn**	**18 03 01.1**	**+1.5**
RWWY				IAML			18 03 36.2	
	comp=E,150nm,0.7s							
RWWY				IAML			18 03 38.3	
	comp=E,157nm,0.9s							
N23A	**Red Feather La**	**2.91**	**189**	Pn		**Pn**	**18 03 06.5**	**+1.2**
N23A				IAML			18 03 51.8	
	comp=N,91nm,0.4s							
N23A				IAML			18 03 55.0	
	comp=E,70nm,0.7s							
LAO	**LASA Array**	**2.99**	**348**			**Pn**	**18 03 07.1**	**+0.9**
LAO				IAML			18 04 24.5	
	comp=E,96nm,1.0s							
RLMT	**Red Lodge**	**3.14**	**297**			**Pn**	**18 03 09.2**	**+0.8**
RLMT				IAML			18 04 07.5	
	comp=E,53nm,0.3s							
RLMT				IAML			18 04 07.6	
	comp=E,52nm,0.4s							
BW06	**Boulder Array**	**3.25**	**254**			**Pn**	**18 03 11.4**	**+1.4**
PD31	**Pinedale Array**	**3.25**	**254**	Pn		**Pn**	**18 03 10.8**	**+0.8**
PDAR	**Pinedale Array**	**3.25**	**254**	Pn		**Pn**	**18 03 10.8**	**+0.8**
	comp=E,3.6nm,0.3s,baz=72,slow=16,SNR=53							
PDAR				Pg		**Pb**	**18 03 15.5**	**-0.7**
	comp=E,13nm,0.3s,baz=71,slow=18,SNR=42							
PDAR				Lg	Lg		18 03 55.8	
	comp=E,7.7nm,0.3s,baz=332,slow=9.4,SNR=2.4							
PDAR	**Pinedale Array**	**3.25**	**254**			**Pn**	**18 03 10.6**	**+0.6**
YNE	**Yellowstone No**	**3.58**	**292**			**Pn**	**18 03 15.2**	**+0.7**
YMP	**Mirror Lake Pl**	**3.61**	**287**			**Pn**	**18 03 15.9**	**+1.0**
GCMT	**Greycliff**	**3.70**	**305**			**Pn**	**18 03 16.8**	**+0.8**
OGNE	**Ogallala**	**3.72**	**138**	Pn		**Pn**	**18 03 17.7**	**+1.4**
LOHW	**Long Hollow**	**3.84**	**270**			**Pb**	**18 03 24.3**	**-1.9**
H17A	**Grant Village**	**3.84**	**281**			**Pn**	**18 03 19.5**	**+1.5**
H17A				IAML			18 04 24.0	
	comp=N,33nm,0.4s							
H17A				IAML			18 04 26.3	
	comp=E,37nm,0.1s							
FLWY	**Flagg Ranch**	**3.90**	**277**			**Pn**	**18 03 20.0**	**+1.1**
FLWY				IAML			18 04 28.5	
	comp=E,41nm,1.6s							
FLWY				IAML			18 04 30.6	
	comp=E,27nm,2.0s							
ISCO	**Idaho Springs**	**3.97**	**183**	Pn		**Pn**	**18 03 21.1**	**+1.2**
YPP	**Pitchstone Pla**	**3.99**	**279**			**Pn**	**18 03 20.6**	**+0.4**
REDW	**Red Top Meadow**	**4.04**	**266**			**Pn**	**18 03 22.1**	**+1.3**
REDW				IAML			18 04 38.9	
	comp=E,35nm,0.7s							
REDW				IAML			18 04 38.9	
	comp=E,47nm,0.7s							
IMW	**Indian Meadow**	**4.07**	**274**			**Pn**	**18 03 23.4**	**+2.1**
IMW				IAML			18 03 52.7	
	comp=E,27nm,0.4s							
TPAW	**Teton Pass**	**4.10**	**268**			**Pn**	**18 03 22.2**	**+0.5**
TPAW				IAML			18 04 49.9	
	comp=E,32nm,1.0s							
YHH	**Holmes Hill**	**4.10**	**286**	Pn		**Pn**	**18 03 23.7**	**+2.0**
FXWY	**Fox Creek**	**4.14**	**270**			**Pn**	**18 03 23.4**	**+1.2**
O20A	**White River Ci**	**4.23**	**212**			**Pn**	**18 03 24.1**	**+0.7**
O20A				IAML			18 04 39.4	
	comp=E,31nm,0.8s							
O20A				IAML			18 04 57.5	
	comp=N,37nm,1.9s							
E28A	**Huff**	**4.31**	**48**			**Pn**	**18 03 25.6**	**+1.3**
AHID	**Auburn Hatcher**	**4.34**	**259**			**Pn**	**18 03 26.9**	**+2.1**
AHID				IAML			18 04 41.6	
	comp=E,25nm,0.9s							
YHL	**Hebgen Lake**	**4.35**	**286**			**Pn**	**18 03 27.2**	**+2.2**
ECR	**Eagle Creek**	**4.47**	**263**			**Pn**	**18 03 28.2**	**+1.6**
RDMU	**Red Mountain**	**4.49**	**226**			**Pn**	**18 03 27.9**	**+1.0**
DGMT	**Dagmar**	**4.77**	**9**	Pn		**Pn**	**18 03 32.1**	**+1.5**
BOZ	**Bozeman (W)**	**4.86**	**294**			**Pn**	**18 03 33.2**	**+1.3**
BOZ				IAML			18 04 51.4	
	comp=E,13nm,1.2s							
BOZ				IAML			18 04 53.8	
	comp=E,14nm,1.3s							
HWUT	**Hardware Ranch**	**5.08**	**247**	Pn		**Pn**	**18 03 36.1**	**+1.0**
HWUT				IAML			18 05 03.6	
	comp=E,20nm,1.1s							
HWUT				IAML			18 05 15.8	
	comp=E,17nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.16**	**156**			**Pn**	**18 03 36.7**	**+0.6**
EGMT	**Eagleton**	**5.26**	**326**			**Pn**	**18 03 37.6**	**+0.1**
HRY	**Holter Researc**	**5.46**	**305**			**Pn**	**18 03 41.4**	**+1.2**
LRM	**Limekiln Ridge**	**5.48**	**295**			**Pn**	**18 03 42.0**	**+1.5**
MCMT	**McKenzie Canyo**	**5.51**	**284**			**Pn**	**18 03 43.3**	**+2.3**
MDND	**Maddock**	**5.71**	**42**			**Pn**	**18 03 43.9**	**+0.4**
PV22	**Blue Mesa, Par**	**5.84**	**208**			**Pn**	**18 03 47.4**	**+1.9**
PV07	**Paradox Valley**	**5.89**	**206**	Pn		**Pn**	**18 03 48.0**	**+1.9**
PV21	**Cone Mtn., Par**	**5.89**	**209**			**Pn**	**18 03 47.5**	**+1.4**
PV23	**Carpenter Ridg**	**6.00**	**209**			**Pn**	**18 03 49.0**	**+1.4**
PV04	**Paradox Valley**	**6.01**	**208**			**Pn**	**18 03 49.3**	**+1.5**
PV12	**Saucer Basin,**	**6.05**	**207**			**Pn**	**18 03 49.4**	**+1.1**
PV14	**Lion Creek, Pa**	**6.07**	**209**			**Pn**	**18 03 49.8**	**+1.1**
PV11	**David Mesa, Pa**	**6.09**	**207**			**Pn**	**18 03 50.0**	**+1.2**
PV16	**Nyswonger Mesa**	**6.09**	**208**			**Pn**	**18 03 50.4**	**+1.4**
PV03	**Paradox Valley**	**6.12**	**207**			**Pn**	**18 03 50.3**	**+1.0**
PV02	**Paradox Valley**	**6.12**	**206**			**Pn**	**18 03 51.5**	**+2.1**
PV18	**Skein Mesa, Pa**	**6.15**	**207**	Pn		**Pn**	**18 03 50.3**	**+0.6**
PV13	**Radium Mtn., P**	**6.20**	**207**			**Pn**	**18 03 51.2**	**+0.8**
TMUT	**Trail Mountain**	**6.28**	**227**			**Pn**	**18 03 53.1**	**+1.4**
DUG	**Dugway, Tooele**	**6.63**	**240**			**Pn**	**18 03 56.6**	**+0.4**
ULM	**Lac du Bonnet**	**9.14**	**42**	Pn		**Pn**	**18 04 29.6**	**-1.0**
	comp=E,1.2nm,0.3s,baz=239,slow=13,SNR=2.7							
ULM				Pg			18 05 03.5	
	comp=E,0.9nm,0.3s,baz=210,slow=16,SNR=3.5							
ULM				Lg	Lg		18 06 59.1	
	comp=E,0.5nm,0.3s,baz=335,slow=18,SNR=1.5							
ULM	**Lac du Bonnet**	**9.14**	**42**			**Pn**	**18 04 29.7**	**-0.8**
NVAR	**Mina Array Bea**	**11.15**	**246**	Pn		**Pn**	**18 04 59.4**	**+1.1**
	comp=E,0.1nm,0.3s,baz=49,slow=11,SNR=3.3							

*NEIC **21** 18:12:46.4±1.4, 24°.56S±0°.05×68°.15W±0°.07, h107km±6km, mb4.5/16, Error ellipse: s-maj=10.7km s-min=6.4km az=60.0*
*SJA **21** 18:12:47.7±1.0, 24°.57S×68°.40W, h100km, ML4.0, MW3.9*
*IDC **21** 18:12:48.2±2.6, 24°.48S×68°.12W, h114km±18km, mb3.7/7, mb1 3.8/10, mb1mx3.5/33, mbtmp4.0/10, Error ellipse: s-maj=31.7km s-min=16.1km az=26.0*
*GUC **21** 18:12:48.6±0.7, 24°.50S×68°.53W, h139km±6km, ML4.1*
*VAO **21** 18:12:50.1±1.3, 24°.33S×68°.31W, h146km±7km, mb4.2*

ISC 21 18:12:47.8±0.7, 24°.53S±0°.03×68°.41W±0°.04, h121km±7km, n124, σ1§45/154, mb4.3/13, 10C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**1.24**	**239**	⇑*iP*		**Pn**	**18 13 14.2**	**+1.5**
GO02				*i* S		**Sn**	**18 13 34.0**	**+2.4**
GO02	**Mina Guanaco**	**1.24**	**239**			**Pn**	**18 13 14.2**	**+1.5**
PB15	**IPOC Station P**	**1.63**	**323**	⇑*iP*		**Pn**	**18 13 18.2**	**+1.1**
PB15				*i* S		**Sn**	**18 13 40.6**	**+1.3**
PB15	**IPOC Station P**	**1.63**	**323**			**Pn**	**18 13 18.1**	**+1.1**
PB15	**IPOC Station P**	**1.63**	**323**	*eP*		**Pn**	**18 13 18.2**	**+1.1**
PB15				*eS*		**Sn**	**18 13 40.8**	**+1.5**
PB15				IAML			18 13 49.4	
	comp=Z,4μm,0.2s							
PB14	**IPOC Station P**	**1.82**	**267**	⇑*iP*		**Pn**	**18 13 20.2**	**+0.9**
PB14				*i* S		**Sn**	**18 13 44.4**	**+1.1**
PB14	**IPOC Station P**	**1.82**	**267**			**Pn**	**18 13 20.2**	**+0.9**
PB14	**IPOC Station P**	**1.82**	**267**	*eP*		**Pn**	**18 13 20.2**	**+0.9**
PB14				*eS*		**Sn**	**18 13 44.8**	**+1.4**
PB14				IAML			18 13 49.0	
	comp=Z,989nm,0.5s							
LVC	**Limon Verde**	**1.96**	**346**	P		**Pn**	**18 13 22.4**	**+1.2**
	comp=Z,23nm,0.3s,baz=158,slow=12,SNR=284							
LVC				S		**Sn**	**18 13 47.5**	**+0.8**
	comp=Z,87nm,0.3s,baz=135,slow=13,SNR=7.0							
LVC				LR		LR	18 14 31.4	
	comp=Z,69nm,19.7s,baz=182,slow=52							
LVC	**Limon Verde**	**1.96**	**346**	⇑*iP*		**Pn**	**18 13 22.4**	**+1.2**
LVC				*i* S		**Sn**	**18 13 47.5**	**+0.8**
LVC	**Limon Verde**	**1.96**	**346**	*eP*		**Pn**	**18 13 23.0**	**+1.8**
LVC				*eS*		**Sn**	**18 13 47.9**	**+1.2**
LVC	**Limon Verde**	**1.96**	**346**	*eP*		**Pn**	**18 13 22.4**	**+1.2**
LVC				*eS*		**Sn**	**18 13 47.9**	**+1.2**
PB06	**IPOC Station P**	**2.10**	**329**	⇑*iP*		**Pn**	**18 13 23.6**	**+0.9**
PB06				*i* S		**Sn**	**18 13 49.8**	**+0.3**
PB06				IAML			18 13 51.0	
	comp=N,958nm,0.3s							
PB06	**IPOC Station P**	**2.10**	**329**			**Pn**	**18 13 23.6**	**+0.9**
PB06	**IPOC Station P**	**2.10**	**329**	*eP*		**Pn**	**18 13 23.7**	**+0.9**
PB06				*eS*		**Sn**	**18 13 50.3**	**+0.8**
PB06				IAML			18 13 54.0	
	comp=Z,838nm,0.2s							
PB10	**IPOC Station P**	**2.20**	**297**	⇓*iP*		**Pn**	**18 13 24.5**	**+0.7**
PB10				*i* S		**Sn**	**18 13 51.0**	**-0.5**
PB10				IAML			18 14 00.0	
	comp=N,653nm,0.3s							
PB10	**IPOC Station P**	**2.20**	**297**			**Pn**	**18 13 24.8**	**+1.0**
PB10	**IPOC Station P**	**2.20**	**297**	*eP*		**Pn**	**18 13 25.0**	**+1.2**
PB10				*eS*		**Sn**	**18 13 51.9**	**+0.4**
PB10				IAML			18 14 01.7	
	comp=Z,446nm,0.5s							
PB05	**IPOC Station P**	**2.34**	**315**	⇑*iP*		**Pn**	**18 13 26.6**	**+0.9**
PB05				*i* S		**Sn**	**18 13 55.1**	**+0.4**
PB05	**IPOC Station P**	**2.34**	**315**	*eP*		**Pn**	**18 13 26.6**	**+0.

RTCV	**Cerro Valdivia**	**7.31**	**181**	*eP*		**Pn**	**18 14 30.8**	**-1.1**
RTCV				*eS*		**Sn**	**18 15 48.3**	**-5.0**
RTCV				IAML			18 15 52.6	
	comp=Z,31nm,1.4s							
AUSP	**Uspallata**	**7.71**	**186**	*eS*		**Sn**	**18 16 01.5**	**-2.0**
LPAZ	**La Paz**	**8.20**	**2**	P		**Pn**	**18 14 45.2**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=163,slow=3.0,SNR=7.2							
LPAZ				S		**Sn**	**18 16 14.0**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=192,slow=5.6,SNR=2.0							
LPAZ	**La Paz**	**8.20**	**2**			**Pn**	**18 14 41.2**	**-3.4**
MT02	**Curacav**	**9.02**	**195**			Pn	18 14 50.3	-4.7
BO01	**Tunca**	**10.10**	**193**	Pn		Pn	18 15 04.7	-4.9
CPUP	**Villa Florida**	**10.18**	**102**	P		Pn	18 15 06.3	-4.3
	comp=Z,0.2nm,0.3s,baz=284,slow=12,SNR=4.1							
BO02	**Sierra Bellavi**	**10.43**	**191**	Pn		Pn	18 15 09.8	-4.3
SIV	**San Ignacio**	**10.93**	**40**	P		Pn	18 15 16.9	-4.0
	comp=Z,5.0nm,0.3s,baz=250,slow=8.7,SNR=55							
SIV				S		Sn	18 17 02.5	-19
	comp=Z,0.1nm,0.3s,baz=253,slow=19,SNR=1.0							
AQDB	**Aquidauana**	**12.42**	**74**	*eP*		**Pn**	**18 15 40.9**	**+0.4**
PTLB	**Pontes e Lacer**	**12.55**	**46**	*eP*		**Pn**	**18 15 39.5**	**-2.7**
VILB	**Vilhena**	**13.89**	**35**	*eP*		**Pn**	**18 15 58.4**	**-1.1**
TRCB	**Terra Rica**	**14.56**	**86**	*eP*		**Pn**	**18 16 08.9**	**+0.8**
SALV	**Santo Antonio**	**14.69**	**57**	*eP*		**Pn**	**18 16 09.4**	**-0.4**
ARAG	**Araguaiana, MT**	**17.88**	**64**	*eP*		**P**	**18 16 47.2**	**-0.7**
CLDB	**Colider**	**18.11**	**44**	*eP*		**P**	**18 16 48.9**	**-1.6**
VAO	**Valinhos**	**19.69**	**90**	*eP*		**P**	**18 17 05.7**	**-2.0**
IPMB	**Ipameri, GO**	**19.91**	**75**	*eP*		**P**	**18 17 08.8**	**-1.3**
BDFB	**Brasilia**	**21.08**	**69**	P		**P**	**18 17 20.6**	**-2.1**
	comp=Z,9.0nm,0.6s,baz=225,slow=11,SNR=7.6							
BDFB	**Brasilia**	**21.08**	**69**	P		**P**	**18 17 21.1**	**-1.7**
BDFB				IAmb		IAmb	18 17 22.3	
	comp=Z,10.0nm,0.6s							
PEXB	**Peixe**	**22.70**	**61**	*eP*		**P**	**18 17 36.8**	**-2.7**
JANB	**Januaria**	**24.52**	**72**	*eP*		**P**	**18 17 54.9**	**-1.4**
SMTB	**Santa Maria do**	**25.25**	**55**	*eP*		**P**	**18 18 01.5**	**-1.3**
MALB	**Monte Alegre**	**26.37**	**33**	*eP*		**P**	**18 18 11.8**	**-1.1**
RUSC	**La Rusia**	**30.58**	**351**	P		**P**	**18 18 51.0**	**+0.3**
TXAR	**Lajitas Array**	**63.37**	**326**	P		**P**	**18 23 05.7**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=155,slow=6.9,SNR=4.9							
MIAR	**Mount Ida**	**63.42**	**337**	P		**P**	**18 23 04.6**	**+0.1**
U40A	**Yellville**	**64.81**	**338**	P		**P**	**18 23 14.2**	**+0.6**
R40A	**Maddies Statio**	**66.38**	**340**	P		**P**	**18 23 24.2**	**+0.6**
R40A				IAmb		IAmb	18 23 24.8	
	comp=Z,4.3nm,0.9s							
M54A	**Oil Creek Stat**	**66.53**	**351**	P		**P**	**18 23 24.5**	**0.0**
M54A				IAmb		IAmb	18 23 25.6	
	comp=Z,5.3nm,0.8s							
L59A	**Walton**	**66.67**	**355**	P		**P**	**18 23 26.9**	**+1.4**
J59A	**Piesco**	**67.89**	**355**	P		**P**	**18 23 33.9**	**+0.8**
J59A				IAmb		IAmb	18 23 35.3	
	comp=Z,7.7nm,0.9s							
J56A	**Wolcott**	**67.92**	**353**	P		**P**	**18 23 33.9**	**+0.8**
J56A				IAmb		IAmb	18 23 34.6	
	comp=Z,6.7nm,0.7s							
DBIC	**Dimbokro**	**69.19**	**72**	P		**P**	**18 23 43.3**	**+1.5**
	comp=Z,2.9nm,0.8s,baz=256,slow=17,SNR=1.3							
K43A	**Burlington**	**69.38**	**344**	P		**P**	**18 23 42.1**	**-0.2**
K43A				IAmb		IAmb	18 23 48.4	
	comp=Z,14nm,1.3s							
I49A	**Point Hope**	**69.41**	**349**	P		**P**	**18 23 43.3**	**+0.9**
I42A	**Draeger Farm,**	**70.64**	**344**	P		**P**	**18 23 50.4**	**+0.5**
I42A				IAmb		IAmb	18 23 50.7	
	comp=Z,4.7nm,0.6s							
I37A	**Lemond, Waseca**	**71.96**	**341**	P		**P**	**18 23 58.5**	**+0.5**
E46A	**Sault Ste Mari**	**72.02**	**348**	P		**P**	**18 23 58.3**	**+0.1**
CCUT	**Cedar City**	**74.83**	**324**	P		P	18 24 18.4	+3.2
MSU	**Marysvale**	**74.93**	**326**	P		P	18 24 19.1	+3.3
PDAR	**Pinedale Array**	**76.95**	**330**	P		**P**	**18 24 28.7**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=138,slow=9.6,SNR=4.4							
PDAR	**Pinedale Array**	**76.95**	**330**	P		**P**	**18 24 28.6**	**+1.4**
TORD	**Torodi Ar. Bea**	**77.96**	**69**	P		**P**	**18 24 32.9**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=263,slow=5.0,SNR=15							
TORD	**Torodi Ar. Bea**	**77.96**	**69**	P		**P**	**18 24 33.2**	**+0.1**
NVAR	**Mina Array Bea**	**78.15**	**322**	P		**P**	**18 24 36.2**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=162,slow=7.1,SNR=2.1							
YKA	**Yellowknife Ar**	**94.18**	**340**	P		**P**	**18 25 53.1**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=129,slow=4.2,SNR=4.8							
ASAR	**Alice Springs**	**127.43**	**206**	PKP		**PKiKP**	**18 31 39.8**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=132,slow=1.8,SNR=8.2							
WRA	**Warramunga Arr**	**130.56**	**209**	PKP		**PKiKP**	**18 31 46.0**	**0.0**
	comp=Z,0.4nm,0.3s,baz=152,slow=1.8,SNR=11							
WRA	**Warramunga Arr**	**130.56**	**209**			**PKiKP**	**18 31 46.0**	**0.0**
ZALV	**Zalesovo Beam**	**144.46**	**27**	PKP		**PKPdf**	**18 32 09.4**	**0.0**
	comp=Z,4.0nm,0.6s,baz=303,slow=3.9,SNR=10							
ZALV	**Zalesovo Beam**	**144.46**	**27**			**PKPdf**	**18 32 08.9**	**-0.5**
MKAR	**Makanchi Array**	**147.75**	**39**	PKP		**PKPbc**	**18 32 15.6**	**-2.7**
	comp=Z,2.4nm,0.7s,baz=75,slow=1.4,SNR=24							
MKAR				PKPbc		**PKiKP**	**18 32 19.0**	**-1.2**
	comp=Z,2.7nm,0.7s,baz=308,slow=3.0,SNR=25							

*IDC **21** 19:04:53.5±5.9, 33.77N×75.89E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.4/34, mbtmp3.6/4, ML2.3/1, Error ellipse: s-maj=139.4km s-min=32.6km az=128.0*
*SOME **21** 19:05:42.6, 39.48N×73.25E, h0km*
*KRNET **21** 19:05:42.0±0.1, 39.41N×73.36E, mb3.2*
*ISU **21** 19:05:43.7, 39.47N×73.13E, h10km*
*NNC **21** 19:05:50.2±2.5, 39.78N×73.34E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=23.7km s-min=14.4km az=174.0*

ISC 21 19:05:46.7±1.7, 39.62N±0.06×73.31E±0.03, h6km±10km, n58, σ2s34/97, 27C-25D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.99**	**336**	⇑*iP*	**Pg**	**19 06 04.8**	**-1.0**
OHH	baz=38			⇑*iS*	**Sn**	**19 06 21.8**	**+0.2**
	baz=38						
OHH	**Osh**	**0.99**	**336**	*eP*	**Pg**	**19 06 04.7**	**-1.0**
OHH				*eS*	**Sn**	**19 06 20.3**	**-1.3**
ANR	**Andizhan**	**1.35**	**328**	*eP*	**Pn**	**19 06 12.4**	**+0.3**
ANR				*eS*	**Sn**	**19 06 34.6**	**+4.3**
CHMI	**Chimion**	**1.52**	**296**	*eP*	**Pn**	**19 06 13.8**	**-0.7**
CHMI				*eS*	**Sn**	**19 06 35.3**	**+0.7**
FRG	**Fergana**	**1.62**	**314**	*eP*	Pn	19 06 11.5	-4.3
FRG				*eS*	**Sn**	**19 06 32.1**	**-4.8**
ARSB	**Arslanbob**	**1.72**	**352**	⇑*iP*	**Pn**	**19 06 18.2**	**+0.9**
ARSB	baz=52			⇑*iS*	**Sg**	**19 06 44.1**	**+2.1**
	baz=52						
BTK	**Batken**	**1.97**	**284**	⇓*iP*	**Pn**	**19 06 20.3**	**-0.4**
BTK	baz=89			⇓*iS*	**Sn**	**19 06 48.0**	**+2.3**
	baz=89						
BTK	**Batken**	**1.97**	**284**	*eP*	**Pn**	**19 06 20.0**	**-0.7**
BTK				*eS*	**Sn**	**19 06 48.9**	**+3.2**
ARLS	**Aral**	**2.37**	**19**	⇓*iP*	**Pn**	**19 06 27.2**	**+1.0**
ARLS	baz=16			⇓*iS*	**Sg**	**19 06 59.7**	**-3.0**
	baz=16						
GAR	**Garm**	**2.41**	**256**	⇓*iP*	Pn	19 06 25.1	-1.6
GAR	baz=61			⇓*iS*	**Sn**	**19 06 56.4**	**-0.1**
	baz=61						
ARK	**Arkit**	**2.41**	**335**	⇓*iP*	**Pn**	**19 06 27.7**	**+1.0**
ARK	baz=36			⇓*iS*	**Sb**	**19 07 00.6**	**+0.2**
	baz=36						
ARK	**Arkit**	**2.41**	**335**	*eP*	**Pn**	**19 06 28.4**	**+1.7**
ARK				*eS*	**Sb**	**19 07 01.4**	**+1.0**
AML	**Almayashu**	**2.53**	**6**	⇑*iP*	**Pn**	**19 06 29.6**	**+1.0**
AML	baz=5.0			⇑*iS*	**Sb**	**19 07 04.1**	**0.0**
	baz=5.0						
AML	**Almayashu**	**2.53**	**6**	P	**Pb**	**19 06 31.4**	**-1.3**
	SNR=73						
UCH	**Uchtor**	**2.76**	**19**	⇓*iP*	**Pn**	**19 06 32.5**	**+0.6**
UCH	baz=17			⇓*iS*	**Sb**	**19 07 09.1**	**-1.8**
	baz=17						
UCH	**Uchtor**	**2.76**	**19**	P	**Pb**	**19 06 35.1**	**-1.5**
	SNR=19						
KZA	**Kyzart**	**2.86**	**30**	⇑*iP*	**Pn**	**19 06 33.7**	**+0.5**
KZA	baz=28			⇑*iS*	**Sb**	**19 07 11.0**	**-2.8**
	baz=28						
KZA	**Kyzart**	**2.86**	**30**	P	**Pb**	**19 06 37.2**	**-1.2**
	SNR=9.2						
EKS2	**Erkin-Say**	**3.06**	**6**	⇑*iP*	**Pn**	**19 06 36.8**	**+1.1**
EKS2	baz=5.0			⇑*iS*	**Sb**	**19 07 16.5**	**-2.7**
	baz=5.0						
EKS2	**Erkin-Say**	**3.06**	**6**	P	**Pb**	**19 06 39.5**	**-2.1**
	SNR=15						
MRKS	**Merke**	**3.12**	**359**	*eP*	**Pb**	**19 06 44.2**	**+1.5**
MRKS	20nm,0.5s			*eS*	**Sg**	**19 07 28.6**	**+1.6**
	32nm,0.4s						
AAK	**Ala-Archa**	**3.15**	**16**	⇑*iP*	**Pn**	**19 06 37.9**	**+1.0**
AAK	baz=15			⇑*iS*	**Sb**	**19 07 18.1**	**-3.6**
	baz=15						
AAK	**Ala-Archa**	**3.15**	**16**	P	**Pb**	**19 06 40.8**	**-2.3**
	SNR=20						
AAK	**Ala-Archa**	**3.15**	**16**	⇓Pn	**Pn**	**19 06 40.2**	**+3.4**
AAK	25nm,0.7s			⇑Lg	Lg	19 07 23.2	
	69nm,1.1s						
KBK	**Karagaybulak**	**3.28**	**22**	⇓*iP*	**Pn**	**19 06 39.2**	**+0.5**
KBK	baz=20			⇓*iS*	**Sb**	**19 07 20.9**	**-4.6**
	baz=20						
KBK	**Karagaybulak**	**3.28**	**22**	P	**Pb**	**19 06 43.2**	**-2.1**
	SNR=20						
FRU1	**Bishkek**	**3.34**	**17**	⇑*iP*	**Pn**	**19 06 40.3**	**+0.8**
FRU1	baz=15			⇑*iS*	**Sb**	**19 07 23.3**	**-3.9**
	baz=15						
CHGR	**Chuyangaron**	**3.37**	**255**	⇓*iP*	Pn	19 06 38.2	-1.7
CHGR	baz=58			⇓*iS*	**Sn**	**19 07 19.0**	**-1.3**
	baz=58						
ULHL	**Ulahol**	**3.44**	**39**	⇑*iP*	**Pn**	**19 06 41.0**	**+0.1**
ULHL	baz=37			⇑*iS*	**Sn**	**19 07 24.0**	**+1.9**
	baz=37						
ULHL	**Ulahol**	**3.44**	**39**	P	**Pb**	**19 06 50.5**	**+2.4**
	SNR=5.6						
CHMS	**Chumysh**	**3.55**	**17**	⇓*iP*	**Pn**	**19 06 43.0**	**+0.7**
CHMS	baz=16			⇓*iS*	**Sb**	**19 07 27.7**	**-5.4**
	baz=16						
CHMS	**Chumysh**	**3.55**	**17**	P	**Pn**	**19 06 46.0**	**+3.7**
	SNR=12						
TKM2	**Tokmak 2**	**3.72**	**27**	⇑*iP*	**Pn**	**19 06 45.6**	**+0.8**
TKM2	baz=25			⇑*iS*	**Sn**	**19 07 31.8**	**+2.7**
	baz=25						
TKM2	**Tokmak 2**	**3.72**	**27**	P	**Pn**	**19 06 48.4**	**+3.5**
	SNR=6.5						
TKM2	**Tokmak 2**	**3.72**	**27**	⇓Pn	**Pn**	**19 06 47.7**	**+2.9**
TKM2	6.6nm,0.6s			⇓Lg	Lg	19 07 47.0	
	31nm,1.0s						
USP	**Ospenovka**	**3.75**	**13**	P	**Pn**	**19 06 48.6**	**+3.5**
	SNR=6.0						
KDJ	**Kajisay**	**3.86**	**48**	⇑*iP*	**Pn**	**19 06 46.6**	**-0.1**
KDJ	baz=46			⇑*iS*	**Sn**	**19 07 33.6**	**+1.2**
	baz=46						
KST	**Kastek**	**3.96**	**29**	*eP*	**Pb**	**19 06 58.0**	**+1.1**
KST	3.6nm,0.7s			*eS*	**Sg**	**19 07 51.8**	**-2.0**
	27nm,0.8s						
TARG	**Taragay, Kyrgy**	**4.01**	**57**	⇓*iP*	**Pn**	**19 06 48.5**	**-0.6**
TARG	baz=54			⇓*iS*	**Sn**	**19 07 37.1**	**+0.5**
	baz=54						
KK31	**Karatay Array**	**4.07**	**330**	⇑Pn	**Pn**	**19 06 51.3**	**+1.8**
	0.7nm,0.3s,baz=148,slow=12,SNR=106						
KK31				⇓Pg	**Pb**	**19 07 02.3**	**+3.6**
	5.7nm,0.4s,baz=147,slow=16,SNR=17						
KK31				⇓Lg	Lg	19 07 55.2	
	5.2nm,0.3s,baz=139,slow=23,SNR=3.5						
MTBS	**Maitube**	**4.22**	**33**	*eP*	**Pg**	**19 07 05.3**	**-2.2**
	11nm,0.5s						
MTBS				*eS*	**Sg**	**19 08 04.9**	**+2.8**
	11nm,0.3s						
IZV	**Izvestkoviy**	**4.22**	**35**	*eP*	**Pb**	**19 07 04.6**	**+3.1**
	11nm,0.7s						
IZV				*eS*	**Sg**	**19 08 04.2**	**+1.9**
	46nm,0.8s						
TNSS	**Tian-Shan**	**4.38**	**38**	*eP*	**Pb**	**19 07 06.2**	**+2.0**
	8.7nm,0.5s						
TNSS				*eS*	**Sg**	**19 08 06.5**	**-0.8**
	17nm,0.5s						
KRBS	**Karabastau**	**4.44**	**23**	*eP*	**Pb**	**19 07 08.0**	**+2.9**
	11nm,0.7s						
KRBS				*eS*	**Sg**	**19 08 09.9**	**+0.6**
	31nm,0.6s						
AAA	**Alma-Ata**	**4.49**	**36**	*eP*	**Pb**	**19 07 09.5**	**+3.5**
	10nm,0.1s						
AAA				*eS*	**Sg**	**19 08 12.2**	**+1.2**
	15nm,0.3s						
MDOK	**Medeo**	**4.52**	**37**	*eP*	**Pb**	**19 07 10.3**	**+3.9**
	7.7nm,0.8s						
MDOK				*eS*	**Sg**	**19 08 13.7**	**+1.9**
	15nm,0.9s						
MDOK	**Medeo**	**4.52**	**37**	Pg	**Pb**	**19 07 06.9**	**+0.4**
	8.9nm,0.8s						
MDOK				Lg	Lg	19 08 10.9	
	28nm,0.7s						
ANVS	**Anan'yevo**	**4.56**	**45**	⇓*iP*	**Pn**	**19 06 56.6**	**+0.3**
	baz=43						
ANVS				⇓*iS*	**Sn**	**19 07 50.3**	**+0.6**
	baz=43						
KOTS	**Kotyrbulak**	**4.60**	**37**	*eP*	**Pb**	**19 07 11.1**	**+3.1**
	19nm,0.6s						
KOTS				*eS*	**Sg**	**19 08 15.2**	**+0.7**
	28nm,0.9s						
PRZ	**Przheval'sk**	**4.79**	**52**	⇑*iP*	**Pn**	**19 06 59.6**	**0.0**
	baz=50						
PRZ				⇑*iS*	**Sn**	**19 07 55.7**	**+0.2**
	baz=50						
KTBS	**Karatobe**	**4.80**	**31**	*eP*	**Pb**	**19 07 15.2**	**+3.9**
	4.0nm,0.7s						
KTBS				*eS*	**Sg**	**19 08 22.0**	**+1.1**
	21nm,0.8s						
KUU	**Kurty**	**4.83**	**27**	*eP*	**Pb**	**19 07 15.4**	**+3.7**
	3.8nm,0.3s						
KUU				*eS*	**Sg**	**19 08 22.4**	**+0.6**
	14nm,0.7s						
BTLS	**Baital**	**5.45**	**5**	*eP*	**Pb**	**19 07 26.1**	**+3.9**
	1.8nm,0.6s						
BTLS				*eS*	**Sg**	**19 08 40.6**	**-0.8**
	5.8nm,0.6s						
ARXS	**Arharly**	**5.69**	**35**	*eP*	**Pb**	**19 07 30.2**	**+3.8**
	4.3nm,0.7s						
ARXS				*eS*	**Sg**	**19 08 47.6**	**-1.8**
	13nm,1.0s						
PDGK	**Podgornoye**	**5.94**	**49**	⇑Pn	**Pn**	**19 07 17.5**	**+2.3**
	1.9nm,0.6s						
PDGK				⇑Pg	**Pb**	**19 07 35.3**	**+4.6**
	3.0nm,0.7s						
PDGK				⇑Lg	Lg	19 08 53.9	
	11nm,0.9s						
MKAR	**Makanchi Array**	**9.71**	**39**	Pn	**Pn**	**19 08 11.0**	**+4.1**
	0.0nm,0.3s,baz=210,slow=9.6,SNR=3.7						
MKAR				Sn	Sn	19 10 47.0	+51
	0.0nm,0.3s,baz=246,slow=26,SNR=1.7						
ZALV	**Zalesovo Beam**	**16.32**	**25**	P	**P**	**19 09 40.1**	**+0.8**
	0.8nm,0.6s,baz=205,slow=16,SNR=1.9						
FINES	**FINESS Array B**	**36.00**	**323**	P	**P**	**19 12 45.5**	**-2.5**
	3.8nm,1.0s,baz=109,slow=8.4,SNR=6.1						

*IDC **21** 19:07:32.4±29.0, 31.50N×47.40E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.4/29, mbtmp3.7/4, MS3.1/2, Ms1 3.1/2, ms1mx2.4/44, Error ellipse: s-maj=583.8km s-min=39.7km az=14.0*
*TEH **21** 19:07:42.6, 32.57N×47.73E, h16km, ML3.5*
*ISN **21** 19:07:42.4±1.0, 32.65N×47.74E, h14km±6km, ML3.2*

ISC 21 19:07:43.2±1.2, 32.53N±0.03×47.74E±0.03, h17km±9km, n41, σ1s39/46, mb3.7/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.41**	**291**	*ePg*	**Pg**	**19 07 50.5**	**-1.1**
IKFM	**Kafar-mosalman**	**1.00**	**5**	*ePg*	**Pg**	**19 07 59.8**	**-2.7**
IKMR	**Kamar-syah**	**1.12**	**29**	*e*		19 08 27.7	
IKMR				*ePg*	**Pn**	**19 08 04.0**	**-0.1**
IDOB	**Doab**	**1.31**	**16**	*ePg*	**Pn**	**19 08 06.5**	**-0.4**
AHWZ	**Ahwaz**	**1.42**	**147**	*ePg*	**Pg**	**19 08 10.1**	**-0.5**
BMDN	**Meydan**	**1.46**	**38**	*e*		19 08 36.8	
BMDN				*ePg*	**Pb**	**19 08 09.6**	**-0.4**
IBDR	**Badra**	**1.63**	**291**	*ePg*	**Pn**	**19 08 11.0**	**-0.1**
IBDR				*eSg*	**Sn**	**19 08 33.0**	**+1.4**
IBDR				AML	AML	19 08 39.0	
	comp=N,514nm,0.6s						
IBDR				AML	AML	19 08 41.7	
	comp=E,292nm,0.6s						
IKOM	**Komasi**	**1.65**	**353**	*ePg*	**Pb**	**19 08 12.6**	**-0.7**
IKOM				*e*		19 08 41.6	
HSAM	**Samen**	**1.83**	**23**	*ePg*	**Pb**	**19 08 16.0**	**-0.3**
HSAM				*e*		19 08 52.8	
KCHF	**Cheshme Sefid,**	**1.83**	**342**	*ePg*	**Pb**	**19 08 16.0**	**-0.4**
KCHF				*e*	**Sg**	**19 08 43.3**	**+1.0**
KER	**Kermanshah**	**1.92**	**345**	*ePn*	**Pb**	**19 08 17.8**	**0.0**
IBZA	**Bozab**	**1.94**	**3**	*ePg*	**Pb**	**19 08 17.5**	**-0.7**
IBZA				*e*		19 08 51.2	
NSR	**Nassriya**	**2.04**	**222**	*ePn*	**Pb**	**19 08 19.0**	**-0.7**
NSR				*eSn*	**Sb**	**19 08 44.5**	**-0.2**
IGHG	**Ghaleghazi**	**2.04**	**332**	*ePg*	**Pb**	**19 08 20.5**	**+0.5**
IGHG				*e*	**Sg**	**19 08 52.7**	**+3.7**
IVIS	**Veis**	**2.12**	**340**	*ePn*	**Pb**	**19 08 19.8**	**-1.5**
IVIS				*e*		19 08 56.7	
IDHR	**Dehrash**	**2.44**	**333**	*e*	**Sg**	**19 09 04.8**	**+3.1**
ILIN	**Lien**	**2.47**	**345**	*ePn*	**Pn**	**19 08 23.9**	**+1.0**
ILIN				*e*	**Sg**	**19 09 03.9**	**+1.3**
JHBN	**Jahan bin**	**2.50**	**96**	*ePn*	**Pn**	**19 08 24.6**	**+1.3**
JHBN				*e*		19 09 09.5	
HAGD	**Aghdareh**	**2.57**	**27**	*ePn*	**Pn**	**19 08 25.5**	**+1.3**
HAGD				*e*		19 09 15.1	
IPIR	**Pirpir**	**2.67**	**86**	*ePn*	**Pn**	**19 08 27.1**	**+1.5**
IPIR				*e*		19 09 14.7	
HSRG	**Sareghieh**	**2.74**	**9**	*ePn*	**Pn**	**19 08 28.1**	**+1.4**
HSRG				*e*	**Sg**	**19 09 12.2**	**+0.8**
ROKH	**ROKH**	**2.79**	**93**	*ePn*	**Pn**	**19 08 28.3**	**+1.0**
ROKH				*e*		19 09 23.7	
BHD	**Baghdad**	**2.92**	**286**	*ePn*	**Pn**	**19 08 30.0**	**+1.2**
BHD				*eSn*	**Sn**	**19 09 05.0**	**+1.5**
IKLH	**Kolahrood**	**3.33**	**75**	*ePn*	**Pn**	**19 08 36.5**	**+1.8**
IRAZ	**Razeghan**	**3.40**	**32**	*ePn*	**Pn**	**19 08 37.3**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.52**	**25**	*ePn*	**Pn**	**19 08 38.6**	**+1.3**
KLNJ	**Kolanjah**	**3.62**	**114**	*ePn*	**Pn**	**19 08 40.0**	**+1.3**
KLNJ				*e*		19 09 59.0	
IZEF	**Zefreh**	**3.89**	**83**	*ePn*	**Pn**	**19 08 43.9**	**+1.5**
IRAM	**Ramesheh**	**4.00**	**99**	*ePn*	**Pn**	**19 08 44.3**	**+0.3**
QSDN	**Sirdan**	**4.14**	**16**	*ePn*	**Pn**	**19 08 47.2**	**+1.4**
QALM	**Alamut, Qazvin**	**4.57**	**31**	*ePn*	**Pn**	**19 08 54.0**	**+2.2**
IDMV	**Damavand**	**4.68**	**48**	*ePn*	**Pn**	**19 08 54.6**	**+1.2**
ANAR	**Anarak**	**5.08**	**81**	*ePn*	**Pn**	**19 08 59.7**	**+1.0**
IPRN	**Peran**	**5.31**	**45**	*ePn*	**Pn**	**19 09 03.1**	**+1.3**
AKASG	**Malin Array Be**	**22.72**	**328**	P	**P**	**19 12 43.7**	**-0.3**
	comp=E,0.6nm,0.4s,baz=137,slow=9.6,SNR=2.0						
MKAR	**Makanchi Array**	**29.90**	**51**	P	**P**	**19 13 49.7**	**-0.3**
	comp=E,0.6nm,0.7s,baz=249,slow=7.1,SNR=6.2						
FINES	**FINESS Array B**	**32.16**	**341**	P	**P**	**19 14 08.7**	**-0.9**
	comp=E,2.3nm,1.0s,baz=182,slow=23,SNR=1.2						
ZALV	**Zalesovo Beam**	**33.90**	**40**	P	**P**	**19 14 25.1**	**+0.2**
	comp=E,0.6nm,0.6s,baz=281,slow=9.7,SNR=1.7						
NOA	**NORSAR Array B**	**37.07**	**331**	LR	LR	19 31 36.9	
	comp=E,13nm,19.0s,baz=185,slow=38						
TORD	**Torodi Ar. Bea**	**46.20**	**256**	P	**P**	**19 16 06.1**	**-1.4**
	comp=E,0.6nm,0.7s,baz=60,slow=7.7,SNR=3.6						
MJAR	**Matsushiro Arr**	**71.84**	**58**	LR	LR	19 52 46.7	
	comp=E,21nm,19.3s,baz=250,slow=37						

TEH 21 19:12:19.1, 32.61N×47.78E, h10km, ML2.8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.42**	**280**	*ePg*	Pg	19 12 27.9	+0.4
DHL1	**Dehloran**	**0.42**	**280**	*ePg*	Pn	19 12 33.7	+2.4
DHL1				*e*		19 12 35.8	
IKFM	**Kafar-mosalman**	**0.91**	**4**	*ePg*	Pg	19 12 36.8	+0.1
IKFM				*e*		19 12 53.4	
IKFM	**Kafar-mosalman**	**0.91**	**4**	*ePg*	Pn	19 12 38.5	+0.5
IKMR	**Kamar-syah**	**1.04**	**29**	*ePg*	Pg	19 12 38.8	-0.2
IKMR				*e*		19 12 45.4	
IKMR	**Kamar-syah**	**1.04**	**29**	*ePg*	Pg	19 12 38.9	-0.1
IDOB	**Doab**	**1.22**	**16**	*ePg*	Pg	19 12 43.6	+1.0
IDOB	**Doab**	**1.22**	**16**	*ePg*	Pg	19 12 43.8	+1.2
BMDN	**Meydan**	**1.38**	**39**	*ePg*	Pg	19 12 46.1	+0.6
BMDN				*e*		19 13 10.2	
BMDN	**Meydan**	**1.38**	**39**	*ePg*	Pg	19 12 46.2	+0.7
BMDN				*e*		19 13 10.0	
AHWZ	**Ahwaz**	**1.47**	**150**	*ePg*	Pg	19 12 47.4	0.0
IKOM	**Komasi**	**1.57**	**352**	*ePg*	Pg	19 12 49.8	+0.4
IKOM				*e*		19 12 53.3	
IKOM	**Komasi**	**1.57**	**352**	*ePg*	Pg	19 12 49.8	+0.4
IKOM				*e*		19 13 24.6	
HSAM	**Samen**

WR0					IAmb	IAmb	19 32 42.8	
	comp=Z,5.0nm,1.2s							
AS31	**Alice Springs**	**46.97**	**256**		P	**P**	**19 32 25.5**	**-0.5**
ASAR	**Alice Springs**	**46.97**	**256**		P	**P**	**19 32 25.7**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=100,slow=7.0,SNR=46							
ASAR	**Alice Springs**	**46.97**	**256**		P	**P**	**19 32 25.1**	**-0.9**
WB0	**Warramunga Arr**	**47.04**	**261**		P	**P**	**19 32 26.9**	**+0.4**
WB0					IAmb	IAmb	19 32 28.7	
	comp=Z,5.7nm,0.8s							
WB2	**Warramunga Arr**	**47.05**	**261**		P	**P**	**19 32 26.9**	**+0.3**
WB2					IAmb	IAmb	19 32 28.0	
	comp=Z,2.6nm,0.5s							
WRA	**Warramunga Arr**	**47.06**	**261**		P	**P**	**19 32 27.8**	**+1.1**
	comp=Z,1.5nm,0.2s,baz=93,slow=8.3,SNR=202							
WRA	**Warramunga Arr**	**47.06**	**261**		P	**P**	**19 32 26.9**	**+0.3**
FORT	**Forrest**	**51.68**	**246**		P	**P**	**19 32 58.9**	**-3.0**
FITZ	**Fitzroy Crossi**	**55.48**	**261**		P	**P**	**19 33 32.4**	**+2.5**
	comp=Z,1.3nm,0.5s,baz=71,slow=7.5,SNR=10							
FITZ	**Fitzroy Crossi**	**55.48**	**261**		P	**P**	**19 33 28.6**	**-1.2**
MORW	**Morawa**	**62.23**	**247**		P	**P**	**19 34 15.1**	**-1.5**
MAW	**Mawson**	**82.77**	**199**		P	**P**	**19 36 18.6**	**+0.5**

*IDC **21** 19:29:35.1±1.3,32.°40N×105.°24E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.4/64, mbtmp3.6/6, ML3.7/2, Error ellipse: s-maj=32.5km s-min=26.8km az=50.0*
*BJI **21** 19:29:36.1±0.0,32.°56N×105.°26E, h19km, mB3.6/1, ML3.9/16, Ms3.5/3, Ms7 3.3/5*
ISC 21 19:29:38.1±0.6,**32.°66N**±0.°04×**105.°36E**±0.°05,**h11**km,**n12,** σ2§**73**/23**, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.22**	**218**	Pn	**Pn**	**19 30 14.6**	**-0.2**
CD2				Pg	**Pb**	**19 30 16.0**	**-2.2**
CD2				Sg	**Sn**	**19 30 42.5**	**+0.2**
CD2				smax	smax		
	comp=N,3μm,0.6s						
CD2				smax	smax		
	comp=E,2μm,0.6s						
XAN	**Xi'an**	**3.28**	**64**	Pn	**Pn**	**19 30 30.4**	**+1.0**
XAN				Pg	**Pg**	**19 30 39.5**	**-1.4**
XAN				Sn	**Sn**	**19 31 04.3**	**-4.2**
XAN				Sg	**Sb**	**19 31 18.9**	**+2.6**
XAN				smax	smax		
	comp=N,550nm,0.6s						
XAN				smax	smax		
	comp=E,620nm,0.9s						
XAN				LR	LR		
	comp=Z,410nm,9.8s						
LZH	**Lanzhou**	**3.64**	**340**	*e*Pn	**Pn**	**19 30 37.6**	**+3.1**
LZH				Pg	**Pb**	**19 30 43.9**	**+1.4**
LZH				Sn	**Sn**	**19 31 17.4**	**-0.1**
LZH				Sg	**Sg**	**19 31 34.5**	**-0.5**
LZH				smax	smax		
	comp=N,440nm,0.7s						
LZH				smax	smax		
	comp=E,470nm,0.7s						
LZH				LR	LR		
	comp=N,500nm,5.4s						
LZH				LR	LR		
	comp=E,950nm,5.4s						
LZH				LR	LR		
	comp=Z,140nm,5.4s						
GYA	**Guiyang**	**6.29**	**169**	Pn	**Pn**	**19 31 10.9**	**+0.1**
GYA				Pg	**Pb**	**19 31 30.5**	**+2.9**
GYA				Sn	**Sn**	**19 32 20.5**	**-2.2**
GYA				Sg	**Sb**	**19 32 51.1**	**+8.2**
GYA				smax	smax		
	comp=N,60nm,0.6s						
GYA				smax	smax		
	comp=E,54nm,1.0s						
GTA	**Gaotai**	**8.09**	**328**	P	**Pn**	**19 31 35.3**	**-0.3**
GTA				smax	smax		
	comp=N,11nm,1.2s						
GTA				smax	smax		
	comp=E,11nm,0.8s						
GTA				LR	LR		
	comp=N,89nm,9.8s						
GTA				LR	LR		
	comp=E,150nm,8.6s						
GTA				LR	LR		
	comp=Z,99nm,10.2s						
CMAR	**Chiang Mai Arr**	**15.28**	**204**	Pn	**Pn**	**19 33 10.4**	**-3.4**
	0.1nm,0.3s,baz=15,slow=12,SNR=2.6						
WMQ	**Urumqi**	**17.76**	**314**	*e*P	**Pn**	**19 33 45.4**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,14nm,4.5s						
KSRS	**Korea Array**	**19.06**	**69**	P	**P**	**19 34 00.2**	**-0.2**
	0.2nm,0.3s,baz=247,slow=10,SNR=5.5						
MKAR	**Makanchi Array**	**22.56**	**315**	P	**P**	**19 34 38.5**	**+0.3**
	0.4nm,0.6s,baz=140,slow=11,SNR=5.6						
KLR	**Kul'dur**	**25.72**	**42**	P	**P**	**19 35 10.2**	**+2.0**
	0.5nm,0.3s,baz=275,slow=9.8,SNR=4.4						
FINES	**FINESS Array B**	**56.88**	**326**	P	**P**	**19 39 21.6**	**-1.0**
	1.6nm,0.8s,baz=141,slow=21,SNR=1.5						
WRA	**Warramunga Arr**	**59.20**	**148**	P	**P**	**19 39 36.6**	**-2.7**
	1.2nm,0.7s,baz=339,slow=7.4,SNR=4.6						

*IDC **21** 19:30:11.8±8.7,37.°02N×70.°62E, h187km±58km, mb3.4/3, mb1 3.2/9, mb1mx2.9/62, mbtmp3.8/9, MS3.3/1, Ms1 3.3/1, ms1mx2.2/41, Error ellipse: s-maj=85.7km s-min=44.8km az=172.0*
*NNC **21** 19:30:12.5±3.0,37.°09N×70.°85E, h233km±32km, mb3.1, mpv3.9, Error ellipse: s-maj=27.9km s-min=21.3km az=33.0*
ISC 21 19:30:12.2±1.9,**37.°1N**±0.°1×**70.°75E**±0.°10,**h200**km,**n23,** σ1§**12**/28**, mb3.7**/3**, 6C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.57**	**23**	P	**Pn**	**19 31 34.0**	**-0.1**
	SNR=74						
UCH	**Uchtor**	**5.94**	**28**	P	**Pn**	**19 31 38.7**	**-0.3**
	SNR=5.5						
KK31	**Karatay Array**	**6.05**	**358**	⇑P	**Pn**	**19 31 40.8**	**+0.8**
	7.0nm,0.6s,baz=188,slow=14,SNR=67						
KK31				⇓S	**Sn**	**19 32 50.5**	**+0.8**
	8.2nm,0.4s,baz=188,slow=23,SNR=19						
EKS2	**Erkin-Say**	**6.07**	**22**	P	**Pn**	**19 31 40.7**	**+0.3**
	SNR=12						
AAK	**Ala-Archa**	**6.29**	**26**	P	**Pn**	**19 31 43.4**	**+0.2**
	1.9nm,0.3s,baz=195,slow=7.2,SNR=12						
AAK				S	**Sn**	**19 32 56.2**	**+0.9**
	0.5nm,0.3s,baz=316,slow=19,SNR=2.2						
AAK	**Ala-Archa**	**6.29**	**26**	P	**Pn**	**19 31 43.4**	**+0.2**
	SNR=5.1						
AAK	**Ala-Archa**	**6.29**	**26**	⇑P	**Pn**	**19 31 42.2**	**-1.0**
	2.5nm,0.3s						
AAK				⇓S	**Sn**	**19 32 56.7**	**+1.3**
	7.9nm,1.0s						
KBK	**Karagaybulak**	**6.47**	**29**	P	**Pn**	**19 31 45.7**	**+0.1**
	SNR=5.1						
CHMS	**Chumysh**	**6.69**	**26**	P	**Pn**	**19 31 48.4**	**+0.1**
	SNR=6.2						
TKM2	**Tokmak 2**	**6.95**	**31**	P	**Pn**	**19 31 51.5**	**-0.4**
	SNR=13						
TKM2	**Tokmak 2**	**6.95**	**31**	⇑P	**Pn**	**19 31 50.9**	**-0.9**
	5.9nm,0.6s						
TKM2				⇑S	**Sn**	**19 33 10.5**	**-0.5**
	2.3nm,0.8s						
MKAR	**Makanchi Array**	**12.98**	**38**	P	**P**	**19 33 11.8**	**-0.7**
	0.0nm,0.3s,baz=219,slow=9.4,SNR=6.5						
AB31	**Akbulak array**	**14.51**	**331**	⇓P	**Pn**	**19 33 28.0**	**-0.2**
	21nm,0.3s,baz=138,slow=12,SNR=30						
AB31				⇓S	**S**	**19 36 09.6**	**+0.3**
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**14.68**	**20**	P	**P**	**19 33 31.3**	**0.0**
	0.1nm,0.3s,baz=215,slow=9.4,SNR=7.7						
BVAR	**Borovoye Array**	**15.98**	**359**	P	**P**	**19 33 46.2**	**+0.5**
	0.3nm,0.3s,baz=152,slow=11,SNR=4.4						
AKTO	**Aktyubinsk**	**16.21**	**330**	P	**P**	**19 33 48.7**	**+0.5**
	0.7nm,0.3s,baz=138,slow=11,SNR=6.8						
AKTO	**Aktyubinsk**	**16.21**	**330**	⇑P	**P**	**19 33 47.8**	**-0.4**
	2.6nm,0.6s						
AKTO				⇑S	**S**	**19 36 43.1**	**-4.6**
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**19.51**	**25**	P	**P**	**19 34 24.7**	**+0.7**
	0.3nm,0.3s,baz=223,slow=11,SNR=6.5						
FINES	**FINESS Array B**	**36.92**	**326**	P	**P**	**19 37 02.3**	**+0.8**
	3.3nm,1.0s,baz=120,slow=8.2,SNR=5.7						
ARCES	**ARCESS Array B**	**40.56**	**337**	P	**P**	**19 37 32.6**	**+1.0**
	1.6nm,0.7s,baz=105,slow=7.6,SNR=7.6						
NB2	**NORSAR Subarra**	**43.82**	**323**	P	**P**	**19 37 58.3**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**43.82**	**323**	P	**P**	**19 37 57.7**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=103,slow=7.3,SNR=5.0						
MA2	**Magadan**	**54.06**	**38**	LR	LR	20 01 54.4	
	comp=Z,27nm,19.2s,baz=159,slow=35						

*IDC **21** 19:30:41.9±0.8,2.°72S×138.°99E, h0km, mb4.0/7, mb1 4.3/8, mb1mx3.8/40, mbtmp4.1/8, ML4.0/1, MS3.1/6, Ms1 3.1/6, ms1mx2.8/32, Error ellipse: s-maj=19.9km s-min=12.2km az=171.0*
*DJA **21** 19:30:48.1±0.6,3.°5S×13.°9E±.°, h31km±9km, M4.2/5, mb4.5/3, MLv4.1/5*
*NEIC **21** 19:30:48.2±1.7,2.°9S±0.°1×139.°12E±0.°07, h55km±8km, mb4.2/13, Error ellipse: s-maj=16.3km s-min=10.4km az=179.0*
ISC 21 19:30:43.4±0.5,**2.°79S**±0.°06×**139.°06E**±0.°04,**h10**km,**n41,** σ1§**39**/41**, mb4.2**/9**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.86**	**336**	P	**Pn**	**19 31 02.3**	**+0.7**
SMPI				S	**Sg**	**19 31 11.2**	**-0.1**
GENI	**Genyem**	**1.12**	**80**	P	**Pn**	**19 31 07.1**	**+1.9**
GENI				S	**Sn**	**19 31 22.6**	**+1.9**
JAY	**Jayapura**	**1.67**	**81**	Pn	**Pn**	**19 31 13.6**	**+0.9**
	34nm,0.3s,baz=228,slow=6.6,SNR=170						
JAY				Pg	**Pb**	**19 31 14.7**	**+0.5**
	34nm,0.3s,baz=244,slow=10,SNR=39						
JAY				Lg	Lg	19 31 35.5	
	81nm,0.3s,baz=87,slow=19,SNR=11						
JAY	**Jayapura**	**1.67**	**81**	P	**Pb**	**19 31 14.3**	**+0.1**
JAY				S	**Sb**	**19 31 36.1**	**+0.8**
SRPI	**Serui, Papua**	**2.96**	**288**	P	**Pn**	**19 31 32.9**	**+2.5**
SRPI				S	**Sn**	**19 32 05.1**	**-1.0**
FAKI	**Fak Fak**	**6.80**	**269**	Pn	**Pn**	**19 32 27.0**	**+3.7**
SIJI	**Sorong**	**8.02**	**284**	Pn	**Pn**	**19 32 43.2**	**+3.2**
	3.4nm,0.3s,baz=98,slow=13,SNR=10						
SIJI				Sn	**Sn**	**19 34 09.6**	**-1.3**
	1.1nm,0.3s,baz=269,slow=19,SNR=4.1						
PMG	**Port Moresby**	**10.40**	**130**	LR	LR	19 38 31.0	
	comp=Z,28nm,21.5s,baz=348,slow=45						
COEN	**Coen**	**11.82**	**160**	Pn	**Pn**	**19 33 33.1**	**+0.9**
SOEI	**Soe**	**16.24**	**244**	P	P	19 34 48.1	+13
KNRA	**Kununurra**	**16.34**	**218**	P	**P**	**19 34 34.8**	**-1.1**
KNRA				IAmb	IAmb	19 34 42.0	
	comp=Z,28nm,0.8s						
GUMO	**Guam**	**17.26**	**19**	LR	LR	19 41 00.9	
	comp=Z,136nm,20.1s,baz=264,slow=36						
WB0	**Warramunga Arr**	**17.48**	**195**	P	**Pn**	**19 34 47.0**	**-0.5**
WR0	**Warramunga Arr**	**17.63**	**194**	P	**Pn**	**19 34 48.3**	**-1.0**
WR0				IAmb	IAmb	19 35 09.1	
	comp=Z,31nm,1.7s						
WB2	**Warramunga Arr**	**17.66**	**195**	P	**Pn**	**19 34 49.4**	**-0.3**
WRA	**Warramunga Arr**	**17.66**	**195**	P	**Pn**	**19 34 49.5**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=18,slow=12,SNR=23						
WRA	**Warramunga Arr**	**17.66**	**195**	P	**Pn**	**19 34 47.3**	**-2.4**
KAPI	**Kappang**	**19.39**	**263**	LR	LR	19 42 44.6	
	comp=Z,42nm,20.9s,baz=83,slow=37						
FITZ	**Fitzroy Crossi**	**20.11**	**220**	P	**P**	**19 35 17.4**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=43,slow=12,SNR=7.2						
FITZ				LR	LR	19 44 00.4	
	comp=Z,121nm,18.1s,baz=28,slow=40						
FITZ	**Fitzroy Crossi**	**20.11**	**220**	P	**P**	**19 35 16.8**	**-0.8**
AS31	**Alice Springs**	**21.35**	**193**	P	**P**	**19 35 30.1**	**-0.8**
ASAR	**Alice Springs**	**21.35**	**193**	P	**P**	**19 35 31.4**	**+0.5**
	comp=Z,5.3nm,0.6s,baz=19,slow=11,SNR=29						
ASAR	**Alice Springs**	**21.35**	**193**	P	**P**	**19 35 31.0**	**+0.1**
BKB	**Balikpapan**	**22.20**	**273**	P	**P**	**19 35 42.2**	**+2.1**
KSRS	**Korea Array**	**41.35**	**347**	LR	LR	19 53 54.9	
	comp=Z,16nm,19.7s,baz=176,slow=34						
GSI	**Gunungsitoli**	**41.67**	**275**	P	**P**	**19 38 31.8**	**-0.8**
THZ	**Tophouse**	**49.26**	**147**	P	**P**	**19 39 30.4**	**-1.9**
KLR	**Kul'dur**	**52.19**	**354**	LR	LR	20 00 56.9	
	comp=Z,15nm,18.7s,baz=169,slow=35						
MK31	**Makanchi Array**	**70.06**	**322**	P	**P**	**19 41 56.5**	**+0.8**
MK31				IAmb	IAmb	19 42 29.6	
	comp=Z,5.6nm,1.9s						
MKAR	**Makanchi Array**	**70.06**	**322**	P	**P**	**19 41 56.3**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=108,slow=8.3,SNR=25						
MKAR	**Makanchi Array**	**70.06**	**322**	P	**P**	**19 41 56.4**	**+0.7**
MAKZ	**Makanchi**	**70.26**	**322**	P	**P**	**19 41 57.5**	**+0.5**
MAKZ				IAmb	IAmb	19 41 58.4	
	comp=Z,3.6nm,1.1s						
KURK	**Kurchatov**	**73.98**	**325**	P	**P**	**19 42 18.2**	**-0.9**
KURK				IAmb	IAmb	19 43 41.0	
	comp=Z,5.0nm,1.5s						
KURBB	**Kurchatov Arra**	**73.99**	**325**	P	**P**	**19 42 18.5**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=116,slow=7.1,SNR=4.0						
VNDA	**Vanda**	**75.67**	**175**	P	**P**	**19 42 29.1**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=330,slow=6.3,SNR=10						
VNDA	**Vanda**	**75.67**	**175**	P	**P**	**19 42 26.6**	**-1.8**
VNDA				IAmb	IAmb	19 42 29.9	
	comp=Z,2.1nm,0.8s						
BVAR	**Borovoye Array**	**79.57**	**325**	P	**P**	**19 42 49.4**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=116,slow=8.1,SNR=5.4						
ABKAR	**Akbulak array**	**85.00**	**320**	P	**P**	**19 43 18.1**	**-1.1**
ILAR	**Eielson Array**	**85.76**	**24**	P	**P**	**19 43 21.4**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=254,slow=4.9,SNR=6.2						
ILAR	**Eielson Array**	**85.76**	**24**	P	**P**	**19 43 21.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**136.61**	**286**	PKP	**PKPdf**	**19 50 07.7**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=92,slow=2.3,SNR=1.5						

IDC 21 20:03:37.5±1.3,**3.°63S**×**139.°27E, h0**km,**mb3.2**/2**, mb1 3.5**/4**, mb1mx3.4**/31**, mbtmp3.4**/4**, ML3.4**/2**, Error ellipse: s-maj=38.8km s-min=12.7km az=138.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.81**	**52**	Pn	Pb	20 04 11.2	-0.2
	20nm,0.3s,baz=207,slow=8.5,SNR=121						
JAY				Pg	Pg	20 04 12.4	+0.3
	20nm,0.3s,baz=222,slow=13,SNR=17						
JAY				Lg	Lg	20 04 32.4	
	27nm,0.3s,baz=60,slow=20,SNR=9.3						
SIJI	**Sorong**	**8.46**	**289**	Pn	Pn	20 05 50.9	+10
	1.5nm,0.3s,baz=26,slow=19,SNR=5.0						
WRA	**Warramunga Arr**	**16.92**	**196**	Pn	Pn	20 07 34.6	-1.2
	0.1nm,0.3s,baz=18,slow=13,SNR=12						
WRA				Sn	Sn	20 10 32.6	-12
	0.1nm,0.3s,baz=11,slow=22,SNR=2.1						
FITZ	**Fitzroy Crossi**	**19.62**	**222**	P	Pn	20 08 09.1	+0.1
	0.1nm,0.3s,baz=27,slow=7.5,SNR=7.4						
FITZ				S	Sn	20 11 37.0	-13
	0.2nm,0.3s,baz=212,slow=11,SNR=1.5						
ASAR	**Alice Springs**	**20.59**	**194**	P	P	20 08 17.4	-0.8
	0.5nm,0.5s,baz=25,slow=10,SNR=13						
MKAR	**Makanchi Array**	**70.85**	**322**	P	P	20 14 55.5	-0.7
	0.2nm,0.4s,baz=98,slow=7.4,SNR=4.9						

*ATH **21** 20:19:10.1,34.°55N×27.°74E, h10km±3km, ML2.6/4, Error ellipse: s-maj=4.4km s-min=1.9km az=344.0*
*ISK **21** 20:19:14.6,34.°70N×27.°64E, h81km, ML2.9/8*
*NIC **21** 20:19:14.7±0.0,34.°60N×27.°57E, h41km±16km, Ml3.5/3*
*DDA **21** 20:19:42.5,36.°54N×28.°67E, h7km±8km, ML1.4*
ISC 21 20:19:17.2±6.0,**34.°73N**±0.°06×**27.°67E**±0.°03,**h39**km±14km, **n53,** σ1§**87**/61**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.92**	**333**	P	**Pn**	**20 19 30.4**	**-3.3**
KARP	**Karpathos**	**0.92**	**333**	P	**Pn**	**20 19 30.7**	**-2.9**
KARP				S	**Sn**	**20 19 46.4**	**+0.7**
KARP				AML	AML	20 19 55.8	
	comp=N,643μm,0.3s						
KARP				AML	AML	20 19 58.6	
	comp=E,859μm,0.4s						
KARP	**Karpathos**	**0.92**	**333**	PG	**Pn**	**20 19 33.1**	**-0.6**
KARP				SG	**Sn**	**20 19 47.4**	**+1.7**
KARP	**Karpathos**	**0.92**	**333**	P	**Pn**	**20 19 32.5**	**-1.2**
KARP				AML	AML	20 19 59.3	
	comp=E,1.2nm,0.6s						
KARP				AML	AML	20 19 59.9	
	comp=E,1.0nm,0.7s						
ZKR	**Zakros**	**1.26**	**288**	P	**Pn**	**20 19 35.0**	**-3.3**
ZKR	**Zakros**	**1.26**	**288**	P	**Pn**	**20 19 35.8**	**-2.5**
ZKR				S	**Sn**	**20 19 54.7**	**+0.7**
ZKR				AML	AML	20 20 04.1	
	comp=N,284μm,0.7s						
ZKR				AML	AML	20 20 11.4	
	comp=E,569μm,0.7s						
ZKR	**Zakros**	**1.26**	**288**	PN	**Pn**	**20 19 37.6**	**-0.7**
STIA	**Sitia Lasithi**	**1.38**	**290**	P	**Pn**	**20 19 41.3**	**+1.3**
ARG	**Arkhangelos**	**1.53**	**14**	P	**Pn**	**20 19 41.3**	**-0.7**
ARG	**Arkhangelos**	**1.53**	**14**	P	**Pn**	**20 19 41.6**	**-0.4**
ARG				AML	AML	20 20 28.2	
	comp=N,309μm,0.6s						
ARG				AML	AML	20 20 29.1	
	comp=E,202μm,0.6s						
ARG	**Arkhangelos**	**1.53**	**14**	PN	**Pn**	**20 19 41.8**	**-0.2**
ARG	**Arkhangelos**	**1.53**	**14**	P	**Pn**	**20 19 41.8**	**-0.2**
LAST	**Lasithi**	**1.85**	**284**	P	**Pn**	**20 19 45.5**	**-1.0**
LAST	**Lasithi**	**1.85**	**284**	P	**Pn**	**20 19 45.1**	**-1.4**
LAST				S	**Sn**	**20 20 11.1**	**+2.3**
LAST				AML	AML	20 20 24.4	
	comp=N,130μm,1.2s						
LAST				AML	AML	20 20 31.8	
	comp=E,168μm,1.0s						
DAT	**Datca**	**2.00**	**358**	PN	**Pn**	**20 19 48.2**	**-0.3**
DAT	**Datca**	**2.00**	**358**	*i* P	**Pn**	**20 19 46.7**	**-1.9**
DAT				*i* S	**Sn**	**20 20 14.6**	**+2.2**
TURN	**Turunc**	**2.09**	**13**	PN	**Pn**	**20 19 49.5**	**-0.2**
TURN	**Turunc**	**2.09**	**13**	*i* P	**Pn**	**20 19 49.4**	**-0.4**
TURN	**Turunc**	**2.09**	**13**	*i* S	**Sn**	**20 20 15.7**	**+1.1**
KOSK	**Kos Island**	**2.09**	**345**	PN	**Pn**	**20 19 49.6**	**-0.2**
KSL	**Kastellorizon**	**2.11**	**47**	P	**Pn**	**20 19 50.5**	**+0.5**
AKAS	**Kas**	**2.18**	**46**	PN	**Pn**	**20 19 50.7**	**-0.3**
AKAS	**Kas**	**2.18**	**46**	*i* P	**Pn**	**20 19 50.8**	**-0.2**
AKAS				*i* S	**Sn**	**20 20 10.1**	**-6.7**
FETY	**Fethiye**	**2.22**	**31**	PN	**Pn**	**20 19 51.3**	**-0.3**
FETY	**Fethiye**	**2.22**	**31**	*i* P	**Pn**	**20 19 50.0**	**-1.5**
FETY	**Fethiye**	**2.22**	**31**	*i* S	**Sn**	**20 20 13.0**	**-4.8**
DALY	**Dalyan (Mula)**	**2.23**	**21**	PN	**Pn**	**20 19 51.4**	**-0.2**
DALY	**Dalyan (Mula)**	**2.23**	**21**	*i* P	**Pn**	**20 19 51.4**	**-0.2**
DALY	**Dalyan (Mula)**	**2.23**	**21**	*i* S	**Sn**	**20 20 24.9**	**+7.0**
BODT	**Bodrum**	**2.34**	**353**	PN	**Pn**	**20 19 53.1**	**-0.2**
IDI	**Anoyia**	**2.35**	**284**	P	**Pn**	**20 19 51.5**	**-1.9**
IDI	**Anoyia**	**2.35**	**284**	P	**Pn**	**20 19 52.6**	**-0.8**
IDI	**Anoyia**	**2.35**	**284**	PN	**Pn**	**20 19 52.3**	**-1.1**
SIVA	**Sivas**	**2.37**	**278**	P	**Pn**	**20 19 52.7**	**-0.9**
SANT	**Santorini**	**2.44**	**313**	PN	**Pn**	**20 19 53.9**	**-0.6**
YER	**Yerkesik**	**2.45**	**11**	PN	**Pn**	**20 19 54.6**	**-0.1**
ELL	**Elmali**	**2.71**	**41**	PN	**Pn**	**20 19 58.1**	**-0.3**
TAVA	**DENIZLI_Tavas**	**2.91**	**20**	*i* P	**Pn**	**20 20 00.4**	**-0.6**
TAVA				*i* S	Sn	20 20 13.6	-21
TAVA				IAML		20 21 06.0	
	comp=N,12nm,0.9s						
TAVA				IAML		20 21 11.0	
	comp=E,11nm,0.7s						
APE	**Apeiranthos**	**2.91**	**324**	PN	**Pn**	**20 20 00.8**	**-0.2**
APE	**Apeiranthos**	**2.91**	**324**	P	**Pn**	**20 19 59.8**	**-1.3**
GOLH	**Golhisar**	**2.93**	**31**	*i* P	**Pn**	**20 20 02.0**	**+0.5**
GOLH				*i* S	Sn	20 20 21.7	-14
GOLH				IAML		20 20 47.0	
	comp=N,14nm,1.0s						
GOLH				IAML		20 21 35.0	
	comp=E,39nm,2.9s						
GVD	**Gavdhos**	**2.95**	**273**	P	**Pn**	**20 20 00.6**	**-1.0**
IMMV	**Iera Moni Meta**	**3.11**	**285**	P	**Pn**	**20 20 03.4**	**-0.4**
IMMV	**Iera Moni Meta**	**3.11**	**285**	P	**Pn**	**20 20 04.0**	**+0.2**
RODP	**Rodopos**	**3.31**	**286**	P	**Pn**	**20 20 06.9**	**+0.4**
URLA	**Izmir**	**3.73**	**347**	PN	**Pn**	**20 20 11.7**	**-0.5**
AKMS	**Akamas**	**3.84**	**84**	P	**Pn**	**20 20 13.3**	**-0.6**
AKMS				S	**Sn**	**20 20 59.4**	**+1.6**
AKMS				AML	AML	20 20 59.9	
	comp=E,0.2nm,0.3s						
AKMS				AML	AML	20 20 59.9	
	comp=E,0.2nm,0.3s						
AKMS				AML	AML	20 21 00.7	
	comp=E,0.3nm,0.3s						
AKMS				AML	AML	20 21 00.7	
	comp=E,0.3nm,0.3s						
NATA	**Nata**	**4.03**	**88**	P	**Pn**	**20 20 16.5**	**+0.1**
ALFC	**Alefka**	**4.07**	**83**	P	**Pn**	**20 20 16.6**	**-0.4**
ALFC				S	**Sn**	**20 21 04.3**	**+1.0**
ALFC				AML	AML	20 21 08.0	
	comp=E,0.2nm,0.4s						
ALFC				AML	AML	20 21 08.0	
	comp=E,0.2nm,0.4s						
ALFC				AML	AML	20 21 08.0	
	comp=E,0.2nm,0.4s						
ALFC				AML	AML	20 21 08.0	
	comp=E,0.2nm,0.4s						
SZAC	**Souni**	**4.29**	**88**	P	**Pn**	**20 20 19.8**	**-0.2**
ASGA	**Asgata**	**4.59**	**88**	P	**Pn**	**20 20 23.8**	**-0.2**
CSS	**Mathiatis**	**4.66**	**86**	P	**Pn**	**20 20 25.0**	**-0.1**
MVOU	**Mavrovouni**	**4.91**	**85**	P	**Pn**	**20 20 28.7**	**+0.3**

*IDC **21** 20:23:56.4±0.7,8.°21S×125.°17E, h0km, mb4.0/8, mb1 4.2/12, mb1mx4.0/43, mbtmp4.1/12, ML4.0/4, MS3.2/8, Ms1 3.2/8, ms1mx3.0/29, Error ellipse: s-maj=32.0km s-min=14.5km az=73.0*
*NEIC **21** 20:23:59.5±1.5,8.°26S±0.°06×125.°03E±0.°07, h18km±5km, mb4.4/12, Error ellipse: s-maj=10.6km s-min=8.7km az=94.0*
*DJA **21** 20:24:00.2±0.2,8.°5S±3.°×12.°5E±.°, h10km, M4.5/13, mb4.7/13, mB5.3/4, MLv4.4/13, Mw(mB)4.7/4, Mwp5.2/1*
ISC 21 20:23:57.6±0.5,**8.°41S**±0.°05×**125.°26E**±0.

PMG	**Port Moresby**	**21.66**	**94**	P	**P**	**20 28 45.6**	**-3.0**
FORT	**Forrest**	**22.41**	**174**	P	**P**	**20 28 58.3**	**+1.8**
FORT				IAmb	IAmb	20 29 05.9	
	comp=Z,37nm,1.1s						
KRJI	**Kerinci**	**24.50**	**284**	P	**P**	**20 29 21.0**	**+3.5**
NWAO	**Narrogin (SRO)**	**25.50**	**196**	LR	LR	20 41 06.9	
	comp=Z,79nm,19.6s,baz=260,slow=40						
STKA	**Stephens Creek**	**27.86**	**149**	P	**P**	**20 29 50.4**	**+2.8**
	comp=Z,1.4nm,0.6s,baz=320,slow=12,SNR=5.2						
STKA				LR	LR	20 42 43.2	
	comp=Z,107nm,19.0s,baz=24,slow=40						
CMAR	**Chiang Mai Arr**	**37.24**	**316**	P	**P**	**20 31 08.2**	**-1.6**
	comp=Z,1.5nm,0.9s,baz=144,slow=6.8,SNR=14						
CMAR	**Chiang Mai Arr**	**37.24**	**316**	P	**P**	**20 31 07.8**	**-1.9**
CHTO	**Chiang Mai**	**37.49**	**316**	P	**P**	**20 31 10.7**	**-1.2**
CHTO				IAmb	IAmb	20 31 11.6	
	comp=Z,2.8nm,0.8s						
KSRS	**Korea Array**	**45.69**	**3**	LR	LR	20 51 49.7	
	comp=Z,9.9nm,20.5s,baz=240,slow=37						
MJAR	**Matsushiro Arr**	**46.34**	**14**	P	**P**	**20 32 23.7**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=214,slow=11,SNR=8.1						
MDJ	**Mudanjiang**	**52.93**	**4**	P	**P**	**20 33 14.3**	**+0.3**
GTA	**Gaotai**	**53.11**	**335**	⇑P	**P**	**20 33 16.3**	**+0.6**
GTA				pP	pwP	20 33 21.3	+0.2
GTA				sP	sP	20 33 24.9	+5.8
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULN	**Ulaanbaatar**	**58.30**	**346**	P	**P**	**20 33 52.1**	**-0.7**
ULN				IAmb	IAmb	20 33 54.0	
	comp=Z,3.8nm,1.1s						
SONM	**Songino Array**	**58.44**	**345**	P	**P**	**20 33 53.2**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=157,slow=8.0,SNR=6.2						
SONM	**Songino Array**	**58.44**	**345**	P	**P**	**20 33 53.1**	**-0.7**
MK31	**Makanchi Array**	**66.93**	**329**	P	**P**	**20 34 49.0**	**-1.3**
MK31				IAmb	IAmb	20 34 50.8	
	comp=Z,2.5nm,1.0s						
MKAR	**Makanchi Array**	**66.93**	**329**	P	**P**	**20 34 48.9**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=128,slow=6.2,SNR=21						
MKAR	**Makanchi Array**	**66.93**	**329**	P	**P**	**20 34 48.7**	**-1.7**
ZAA0	**Zalesovo Array**	**70.86**	**336**	P	**P**	**20 35 12.3**	**-2.2**
ZAA0				IAmb	IAmb	20 35 14.8	
	comp=Z,2.7nm,1.1s						
ZALV	**Zalesovo Beam**	**70.86**	**336**	P	**P**	**20 35 12.0**	**-2.6**
	comp=Z,0.6nm,0.4s,baz=123,slow=5.5,SNR=5.7						
ZALV	**Zalesovo Beam**	**70.86**	**336**	P	**P**	**20 35 12.3**	**-2.3**
KURK	**Kurchatov**	**71.36**	**331**	P	**P**	**20 35 16.3**	**-1.4**
KURK				IAmb	IAmb	20 35 21.5	
	comp=Z,3.7nm,1.0s						
VNDA	**Vanda**	**71.66**	**172**	P	**P**	**20 35 20.4**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=342,slow=2.5,SNR=5.6						
ABKAR	**Akbulak array**	**80.74**	**323**	P	**P**	**20 36 09.4**	**-1.8**
QSPA	**South Pole Qui**	**81.58**	**180**	P	**P**	**20 36 16.9**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=143,slow=2.2,SNR=9.7						
QSPA	**South Pole Qui**	**81.58**	**180**	P	**P**	**20 36 17.0**	**+1.4**
QSPA				IAmb	IAmb	20 36 24.2	
	comp=Z,4.3nm,0.9s						
CPUP	**Villa Florida**	**145.37**	**176**	PKPbc	**PKPdf**	**20 43 37.5**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=80,slow=4.2,SNR=3.1						
LPAZ	**La Paz**	**152.11**	**152**	PKPbc	**PKiKP**	**20 43 57.2**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=170,slow=4.0,SNR=4.4						
LPAZ	**La Paz**	**152.11**	**152**		**PKiKP**	**20 43 57.0**	**+1.5**

IDC 21 20:25:37.5±999.0**, 16°.49S**×**72°.20W, h0**km**, Error ellipse: s-maj=572.1km s-min=80.5km az=88.0, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I08BO	**LAS PENAS INFR**	**3.61**	**86**	*i*		20 50 40.0	
	baz=266,slow=322,SNR=12						
I41PY	**VILLA FLORIDA**	**16.96**	**128**	*i*		22 11 10.0	
	baz=303,slow=310,SNR=18						
I09BR	**BRASILIA INFRA**	**23.25**	**91**	*i*		22 45 45.0	
	baz=260,slow=327,SNR=9.2						

*KRNET **21** 20:26:27.0±0.1,39°.43N×73°.33E,mb3.5*
*ISU **21** 20:26:27.1,39°.49N×73°.15E,h5km*
*NNC **21** 20:26:31.7±1.6,39°.65N×73°.26E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=13.6km s-min=7.8km az=171.0*
ISC 21 20:26:29.5±1.7**, 39°.51N**±0°.05×**73°.23E**±0°.04**, h0**km±11**km, n43**,σ1f47/66**, 29C-13D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.07**	**341**	⇓*i*P	**Pg**	**20 26 49.2**	**-0.7**
	baz=39						
OHH				⇓*i*S	**Sn**	**20 27 05.9**	**-1.4**
	baz=39						
OHH	**Osh**	**1.07**	**341**	*e*P	**Pg**	20 26 48.2	-1.7
OHH				*e*S	**Sg**	**20 27 03.9**	**+0.1**
ANR	**Andizhan**	**1.41**	**332**	*e*P	**Pn**	20 26 55.9	-0.5
ANR				*e*S	**Sg**	**20 27 18.0**	**+3.2**
CHMI	**Chimion**	**1.52**	**300**	*e*P	**Pn**	20 26 57.0	-0.9
CHMI				*e*S	**Sg**	**20 27 20.0**	**+1.8**
ARSB	**Arslanbob**	**1.82**	**354**	⇓*i*P	**Pn**	**20 27 02.4**	**+0.2**
	baz=52						
ARSB				⇓*i*S	**Sg**	**20 27 28.7**	**+0.8**
	baz=52						
BTK	**Batken**	**1.94**	**287**	⇑*i*P	**Pb**	**20 27 05.0**	**-0.7**
	baz=89						
BTK				⇑*i*S	**Sg**	**20 27 32.1**	**+0.3**
	baz=89						
BTK	**Batken**	**1.94**	**287**	*e*P	**Pb**	20 27 05.1	-0.7
BTK				*e*S	**Sg**	**20 27 32.4**	**+0.6**
MINT	**Mingtut**	**1.98**	**299**	*e*P	**Pb**	20 27 06.7	+0.3
MINT				*e*S	**Sg**	**20 27 35.0**	**+1.9**
GAR	**Garm**	**2.32**	**258**	⇑*i*P	**Pn**	**20 27 09.6**	**+0.5**
	baz=61						
GAR				⇑*i*S	**Sb**	**20 27 40.6**	**-1.0**
	baz=61						
ARLS	**Aral**	**2.49**	**19**	⇑*e*P	**Pn**	**20 27 11.6**	**+0.2**
	baz=17						
ARLS				⇑*i*S	**Sb**	**20 27 44.5**	**-1.9**
	baz=17						
AML	**Almayashu**	**2.64**	**7**	⇑*e*P	**Pn**	**20 27 13.8**	**+0.1**
	baz=6.0						
AML				⇑*e*S	**Sb**	**20 27 48.2**	**-2.7**
	baz=6.0						
AML	**Almayashu**	**2.64**	**7**	P	**Pn**	**20 27 14.7**	**+1.0**
	SNR=52						
UCH	**Uchtor**	**2.88**	**19**	⇑*i*P	**Pn**	**20 27 17.4**	**+0.4**
	baz=17						
UCH				⇑*i*S	**Sb**	**20 27 54.0**	**-3.9**
	baz=17						
UCH	**Uchtor**	**2.88**	**19**	P	**Pn**	**20 27 18.7**	**+1.6**
	SNR=11						
KZA	**Kyzart**	**2.98**	**30**	⇓*i*P	**Pn**	**20 27 18.3**	**-0.1**
	baz=28						
KZA				⇓*i*S	**Sn**	**20 27 55.9**	**+0.8**
	baz=28						
EKS2	**Erkin-Say**	**3.17**	**7**	⇑*e*P	**Pn**	**20 27 21.5**	**+0.7**
	baz=6.0						
EKS2				⇑*e*S	**Sn**	**20 28 01.0**	**+1.7**
	baz=6.0						
EKS2	**Erkin-Say**	**3.17**	**7**	P	**Pn**	**20 27 22.8**	**+2.1**
	SNR=12						
MRKS	**Merke**	**3.23**	**360**	Pg	**Pb**	**20 27 28.0**	**+0.2**
	13nm,0.3s						
MRKS				Lg	Lg	20 28 13.2	
	34nm,0.3s						
AAK	**Ala-Archa**	**3.26**	**17**	⇑*e*P	**Pn**	**20 27 22.5**	**+0.5**
	baz=15						
AAK				⇑*i*S	**Sn**	**20 28 02.9**	**+1.2**
	baz=15						
AAK	**Ala-Archa**	**3.26**	**17**	P	**Pn**	**20 27 23.8**	**+1.7**
	SNR=19						
AAK	**Ala-Archa**	**3.26**	**17**	⇑Pn	**Pn**	**20 27 23.6**	**+1.6**
	13nm,0.6s						
AAK				⇑Lg	Lg	20 28 09.0	
	16nm,0.6s						
CHGR	**Chuyangaron**	**3.29**	**256**	⇑*e*P	**Pn**	**20 27 22.4**	**+0.1**
	baz=58						
CHGR				⇑*i*S	**Sn**	**20 28 03.4**	**+1.3**
	baz=58						
KBK	**Karagaybulak**	**3.40**	**22**	⇓*i*P	**Pn**	**20 27 24.3**	**+0.4**
	baz=20						
KBK				⇓*i*S	**Sn**	**20 28 06.2**	**+1.2**
	baz=20						
KBK	**Karagaybulak**	**3.40**	**22**	P	**Pb**	**20 27 27.1**	**-3.5**
	SNR=9.7						
FRU1	**Bishkek**	**3.46**	**17**	⇑*e*P	**Pn**	**20 27 25.0**	**+0.4**
	baz=16						
FRU1				⇑*i*S	**Sn**	**20 28 07.4**	**+1.1**
	baz=16						
ULHL	**Ulahol**	**3.56**	**39**	⇑*e*P	**Pn**	**20 27 26.1**	**0.0**
	baz=37						
ULHL				⇑*i*S	**Sn**	**20 28 08.8**	**-0.2**
	baz=37						
IUG	**Iuzhnay**	**3.58**	**318**	Pg	**Pb**	**20 27 34.3**	**+0.5**
	45nm,0.4s						
IUG				Lg	Lg	20 28 23.9	
	56nm,0.5s						
CHMS	**Chumysh**	**3.66**	**18**	P	**Pn**	**20 27 29.4**	**+1.9**
	SNR=10						
TKM2	**Tokmak 2**	**3.84**	**27**	⇑*e*P	**Pn**	**20 27 30.2**	**+0.1**
	baz=25						
TKM2				⇑*e*S	**Sn**	**20 28 16.2**	**+0.2**
	baz=25						
TKM2	**Tokmak 2**	**3.84**	**27**	⇑Pn	**Pn**	**20 27 31.5**	**+1.4**
	8.2nm,0.7s						
TKM2				⇓Lg	Lg	20 28 29.7	
	17nm,1.3s						
USP	**Ospenovka**	**3.87**	**14**	P	**Pn**	**20 27 32.6**	**+2.3**
	SNR=5.5						
KDJ	**Kajisay**	**3.97**	**48**	⇑*i*P	**Pn**	**20 27 31.9**	**+0.1**
	baz=46						
KDJ				⇑*i*S	**Sn**	**20 28 19.1**	**-0.1**
	baz=46						
KST	**Kastek**	**4.08**	**29**	Pg	**Pb**	**20 27 41.9**	**-0.4**
	4.3nm,0.4s						
KST				Lg	Lg	20 28 36.7	
	14nm,0.8s						
KK31	**Karatay Array**	**4.13**	**331**	⇓Pn	**Pn**	**20 27 35.0**	**+1.2**
	1.0nm,0.5s,baz=140,slow=14,SNR=12						
KK31				⇑Pg	**Pb**	**20 27 45.3**	**+2.3**
	2.7nm,0.5s,baz=147,slow=16,SNR=14						
KK31				⇑Lg	Lg	20 28 36.8	
	5.0nm,0.5s,baz=153,slow=26,SNR=2.9						
IZV	**Izvestkoviy**	**4.34**	**35**	Pg	**Pb**	**20 27 48.9**	**+2.1**
	4.6nm,0.6s						
IZV				Lg	Lg	20 28 48.4	
	19nm,0.7s						
TNSS	**Tian-Shan**	**4.50**	**37**	Pg	**Pb**	**20 27 50.9**	**+1.4**
	5.4nm,0.4s						
TNSS				Lg	Lg	20 28 52.7	
	12nm,0.6s						
MDOK	**Medeo**	**4.64**	**37**	Pg	**Pb**	**20 27 52.1**	**+0.3**
	3.7nm,0.5s						
MDOK				Lg	Lg	20 28 54.9	
	10nm,0.7s						
MDOK	**Medeo**	**4.64**	**37**	Pg	**Pb**	**20 27 52.9**	**+1.1**
	1.8nm,0.3s						
MDOK				Lg	Lg	20 28 56.7	
	7.4nm,0.7s						
KOTS	**Kotyrbulak**	**4.72**	**37**	Pg	**Pb**	**20 27 54.7**	**+1.4**
	7.5nm,0.4s						
KOTS				Lg	Lg	20 28 58.6	
	26nm,0.6s						
KTBS	**Karatobe**	**4.93**	**31**	Pg	**Pb**	**20 27 58.3**	**+1.7**
	3.1nm,0.5s						
KTBS				Lg	Lg	20 29 05.4	
	17nm,0.5s						
KUU	**Kurty**	**4.95**	**27**	Pg	**Pb**	**20 27 57.2**	**+0.1**
	1.9nm,0.7s						
KUU				Lg	Lg	20 29 04.3	
	5.5nm,0.8s						
ARXS	**Arharly**	**5.81**	**35**	Pg	**Pb**	**20 28 15.1**	**+3.3**
	8.4nm,0.3s						
ARXS				Lg	Lg	20 29 34.7	
	9.9nm,0.5s						
PDGK	**Podgornoye**	**6.05**	**49**	⇓Pn	**Pn**	**20 28 00.4**	**+0.1**
	1.9nm,0.6s						
PDGK				⇓Pg	**Pg**	**20 28 24.2**	**-1.3**
	2.5nm,0.8s						
PDGK				⇓Lg	Lg	20 29 37.9	
	5.5nm,0.8s						

*ISN **21** 20:36:32.7±1.1,32°.63N×47°.72E,h14km±7km, ML2.8*
*TEH **21** 20:36:33.3,32°.69N×47°.69E,h10km, ML3.1*
ISC 21 20:36:34.7±0.9**, 32°.63N**±0°.03×**47°.63E**±0°.03**, h10**km**, n29, σ1f75/37, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.30**	**281**	*e*Pg	**Pg**	**20 36 39.7**	**-1.0**
IKFM	**Kafar-mosalman**	**0.92**	**11**	*e*Pg	**Pg**	**20 36 49.8**	**-2.5**
IKFM				*e*	**Sn**	**20 37 05.3**	**-1.6**
IKMR	**Kamar-syah**	**1.09**	**35**	*e*Pg	**Pb**	**20 36 52.5**	**-3.2**
IKMR				*e*	**Sn**	**20 37 14.9**	**+3.7**
IDOB	**Doab**	**1.25**	**21**	*e*Pg	**Pn**	**20 36 56.9**	**-1.5**
BMDN	**Meydan**	**1.45**	**44**	*e*Pg	**Pn**	**20 36 59.5**	**-1.6**
BMDN				*e*	**Sb**	**20 37 24.4**	**+4.0**
IBDR	**Badra**	**1.51**	**289**	*e*Pg	**Pn**	**20 37 01.0**	**-0.8**
IBDR				*e*Sg	**Sg**	**20 37 23.0**	**-0.3**
IBDR				AML	AML	20 37 28.4	
	comp=E,176nm,0.6s						
IBDR				AML	AML	20 37 28.5	
	comp=N,141nm,0.5s						
IKOM	**Komasi**	**1.55**	**356**	*e*Pg	**Pb**	**20 37 02.7**	**-0.9**
IKOM				*e*	**Sb**	**20 37 28.1**	**+4.7**
AHWZ	**Ahwaz**	**1.55**	**146**	*e*Pg	**Pg**	**20 37 04.5**	**0.0**
KCHF	**Cheshme Sefid,**	**1.72**	**344**	*e*Pn	**Pn**	**20 37 04.9**	**0.0**
HSAM	**Samen**	**1.78**	**27**	*e*	**Sb**	**20 37 34.0**	**+3.9**
HSAM				*e*Pg	**Pn**	**20 37 06.0**	**+0.2**
KER	**Kermanshah**	**1.80**	**347**	*e*Pn	**Pb**	**20 37 06.6**	**-1.3**
IBZA	**Bozab**	**1.85**	**6**	*e*Pg	**Pb**	**20 37 07.5**	**-1.3**
IVIS	**Veis**	**2.00**	**341**	*e*Pn	**Pn**	**20 37 07.9**	**-0.8**
NSR	**Nassriya**	**2.05**	**219**	*e*Pn	**Pn**	**20 37 09.0**	**-0.2**
NSR				*e*Sn	**Sn**	**20 37 34.0**	**-0.8**
IDHR	**Dehrash**	**2.31**	**334**	*e*Pn	**Pn**	**20 37 13.3**	**+0.2**
IDHR				*e*		20 37 54.0	
ILIN	**Lien**	**2.35**	**347**	*e*Pn	**Pn**	**20 37 13.9**	**+0.2**
ILIN				*e*		20 37 56.8	
HAGD	**Aghdareh**	**2.53**	**29**	*e*Pn	**Pn**	**20 37 16.1**	**+0.1**
HAGD				*e*		20 37 20.6	
JHBN	**Jahan bin**	**2.60**	**98**	*e*Pn	**Pn**	**20 37 16.4**	**-0.7**
JHBN				*e*		20 38 05.2	
IPIR	**Pirpir**	**2.75**	**88**	*e*Pn	**Pn**	**20 37 19.6**	**+0.4**
IPIR				*e*		20 38 05.6	
BHD	**Baghdad**	**2.81**	**284**	*e*Pn	**Pn**	**20 37 20.0**	**+0.4**
BHD				*e*Sn	**Sn**	**20 37 55.0**	**+1.5**
ROKH	**ROKH**	**2.89**	**95**	*e*Pn	**Pn**	**20 37 20.7**	**-0.3**
ROKH				*e*		20 38 15.5	
IRAZ	**Razeghan**	**3.37**	**34**	*e*Pn	**Pn**	**20 37 27.0**	**-0.6**
IKLH	**Kolahrood**	**3.39**	**77**	*e*Pn	**Pn**	**20 37 27.7**	**-0.2**
IKLH				*e*		20 38 27.1	
QABG	**Abgarm-Qazvin**	**3.48**	**27**	*e*Pn	**Pn**	**20 37 29.2**	**+0.1**
KLNJ	**Kolanjah**	**3.74**	**114**	*e*Pn	**Pn**	**20 37 32.4**	**-0.4**
KLNJ				*e*		20 38 54.0	
IZEF	**Zefreh**	**3.97**	**85**	*e*Pn	**Pn**	**20 37 36.1**	**+0.2**
QSDN	**Sirdan**	**4.07**	**18**	*e*Pn	**Pn**	**20 37 36.8**	**-0.5**
IRAM	**Ramesheh**	**4.11**	**100**	*e*Pn	**Pn**	**20 37 36.9**	**-0.9**
QALM	**Alamut, Qazvin**	**4.54**	**32**	*e*Pn	**Pn**	**20 37 42.8**	**-0.9**

IDC 21 20:37:07.1±1.9**, 19°.40S**×**172°.41W, h0**km**, mb3.8**/4**, mb1 4.1**/5**, mb1mx3.8**/36**, mbtmp3.8**/5**, ML3.5**/1**, Error ellipse: s-maj=80.7km s-min=25.7km az=141.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.49**	**6**	Pn	Pn	20 38 30.8	+0.6
	1.6nm,0.3s,baz=59,slow=23,SNR=1.4						
AFI				Sn	Sn	20 39 22.0	-12
	4.6nm,0.3s,baz=108,slow=22,SNR=1.9						
ASAR	**Alice Springs**	**49.89**	**255**	P	P	20 46 03.0	+0.1
	1.1nm,0.6s,baz=98,slow=7.8,SNR=14						
WRA	**Warramunga Arr**	**49.97**	**260**	P	P	20 46 02.9	-0.5
	0.3nm,0.3s,baz=97,slow=7.6,SNR=14						
NVAR	**Mina Array Bea**	**76.68**	**41**	P	P	20 48 59.9	-0.5
	0.5nm,0.6s,baz=243,slow=6.0,SNR=3.4						
ILAR	**Eielson Array**	**86.17**	**11**	P	P	20 49 49.5	-0.3
	0.6nm,0.7s,baz=210,slow=5.2,SNR=6.3						
ARCES	**ARCESS Array B**	**128.68**	**352**	PKP	PKiKP	20 56 16.4	0.0
	1.2nm,0.8s,baz=57,slow=4.5,SNR=4.2						

*DDA **21** 20:37:14.9,35°.51N×27°.63E,h5km, MW4.6*
*IDC **21** 20:37:16.1±0.5,35°.52N×27°.79E,h0km,mb4.2/24, mb1 4.3/38,mb1mx4.2/62,mbtmp4.2/38,ML3.9/14, MS3.8/31,Ms1 3.8/31,ms1mx3.7/52, Error ellipse: s-maj=12.1km s-min=10.0km az=171.0*
*MOS **21** 20:37:16.2±1.2,35°.42N×27°.71E,h11km,mb4.4/15, Error ellipse: s-maj=4.6km s-min=3.3km az=84.1*
*ATH **21** 20:37:17.4,35°.55N×27°.75E,h26km±1km, ML4.3/11, Error ellipse: s-maj=1.7km s-min=0.8km az=332.0*
*NIC **21** 20:37:17.1±0.0,35°.51N×27°.77E,h10km,Ml4.6/3*
*THE **21** 20:37:18.5,35°.65N×27°.69E,h1km, ML4.2/23, Error ellipse: s-maj=0.6km s-min=0.2km az=148.0*
*NEIC **21** 20:37:18.7±2.2,35°.45N±0°.04×27°.80E±0°.06,h18km±4km, Error ellipse: s-maj=7.8km s-min=3.8km az=52.0*
*MED_RC **21** 20:37:18.0±0.4,35°.56N×27°.70E,h10km,MW4.7/23, Moment Tensor Solution. Body waves: s1,c2;Mantle waves: s23,c29; Duration: 1s1 Moment tensor: Scale 10^{16}Nm; M_{rr}0.32±.06; $M_{\theta\theta}$-1.19±.05; $M_{\phi\phi}$0.86±.04; $M_{r\theta}$0.01±.18; $M_{\theta\phi}$0.64±.05; $M_{\phi r}$-0.39±.12; Best double couple: $M_0$1.29000×10^{16} NP1:ϕ_s243.00000°,δ71.00000°, λ14.00000°. NP2:ϕ_s149.00000°,δ77.00000°,λ161.00000°. Principal axes: T 1.2100, Plg23.0000°, Azm105.0000°; N 0.1700, Plg67.0000°, Azm296.0000°; P -1.3800, Plg4.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*
*ISK **21** 20:37:18.4,35°.59N×27°.71E,h14km,ML4.3/17*
*GII **21** 20:37:19.1±0.0,35°.34N×27°.92E,h10km,mb4.4/4, MD4.3/4*
*GCMT **21** 20:37:19.5±0.4,35°.53N±0°.03×27°.62E±0°.02,h12km±2km, MW4.7/84,Moment Tensor Solution. s8,c8; s84,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.14±.07; $M_{\theta\theta}$-1.06±.05; $M_{\phi\phi}$0.91±.06; $M_{r\theta}$0.63±.24; $M_{\theta\phi}$0.70±.06; $M_{\phi r}$-0.62±.22; Best double couple: $M_0$1.47600×10^{16} NP1:ϕ_s241.00000°,δ55.00000°,λ-1.00000°. NP2: ϕ_s331.00000°,δ89.00000°,λ-145.00000°. Principal axes: T 1.3100, Plg23.0000°, Azm100.0000°; N 0.3320, Plg55.0000°, Azm332.0000°; P -1.6420, Plg24.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*HLW **21** 20:37:21.7,35°.24N×27°.86E,h11km±12km,Md4.2,Ml4.5*
*BGR **21** 20:37:34.7±4.3,36°.45N×26°.90E,h10km, Error ellipse: s-maj=71.2km s-min=42.3km az=149.0*
ISC 21 20:37:18.1±0.9**, 35°.52N**±0°.02×**27°.73E**±0°.02**, h13**km±5**km, n616**,σ1f92/726**, mb4.4**/63**, MS3.9**/26**, 40C-7D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.47**	**274**	P	**Pg**	**20 37 27.4**	**+0.1**
KARP				S	**Sb**	**20 37 34.9**	**-0.2**
	45μm,0.7s						
KARP	**Karpathos**	**0.47**	**274**	P	**Pg**	**20 37 27.1**	**-0.3**
KARP				S	**Sb**	**20 37 34.6**	**-0.6**
KARP				AML	AML	20 37 37.8	
	comp=E,82495μm,0.4s						
KARP				AML	AML	20 37 40.7	
	comp=N,92078μm,0.8s						
KARP	**Karpathos**	**0.47**	**274**	PG	**Pg**	**20 37 27.1**	**-0.3**
KARP				SG	**Sb**	**20 37 34.5**	**-0.6**
KARP	**Karpathos**	**0.47**	**274**	⇑P	**Pg**	**20 37 27.0**	**-0.3**
KARP				S	**Sb**	**20 37 34.8**	**-0.3**
KARP				AML	AML	20 37 37.4	
	comp=N,83nm,0.4s						
KARP				AML	AML	20 37 37.4	
	comp=N,83nm,0.4s						
KARP				AML	AML	20 37 39.5	
	comp=N,96nm,0.9s						
KARP				AML	AML	20 37 39.5	
	comp=N,96nm,0.9s						
KARP	**Karpathos**	**0.47**	**274**	Pg	**Pg**	**20 37 26.6**	**-0.7**
ARG	**Arkhangelos**	**0.77**	**24**	P	**Pg**	**20 37 31.7**	**-1.2**
ARG				S	**Sg**	**20 37 42.4**	**-0.7**
	comp=N,15μm,1.1s						
ARG	**Arkhangelos**	**0.77**	**24**	P	**Pg**	**20 37 31.7**	**-1.2**
ARG				S	**Sg**	**20 37 41.8**	**-1.3**
ARG				AML	AML	20 37 49.6	
	comp=E,28653μm,0.9s						
ARG				AML	AML	20 37 50.7	
	comp=N,26938μm,1.1s						
ARG	**Arkhangelos**	**0.77**	**24**	PG	**Pg**	**20 37 31.8**	**-1.2**
ARG	**Arkhangelos**	**0.77**	**24**	P	**Pn**	**20 37 35.0**	**+0.3**
ARG				S	**Sn**	**20 37 45.6**	**-0.6**
ARG	**Arkhangelos**	**0.77**	**24**	⇑P	**Pg**	**20 37 31.8**	**-1.2**
ARG				S	**Sg**	**20 37 43.0**	**-0.1**
NISR	**Nisiros**	**1.20**	**336**	P	**Pb**	**20 37 39.0**	**-1.7**
NISR	**Nisiros**	**1.20**	**336**	P	**Pb**	**20 37 40.5**	**-0.2**
NISR				S	**Sg**	**20 37 56.5**	**-0.3**
DAT	**Datca**	**1.22**	**354**	PN	**Pn**	**20 37 40.5**	**-0.5**
DAT	**Datca**	**1.22**	**354**	*i* P	**Pn**	**20 37 39.7**	**-1.2**
DAT				*i* S	**Sb**	**20 37 55.3**	**-1.5**
ZKR	**Zakros**	**1.30**	**253**	P	**Pb**	**20 37 42.6**	**+0.1**
ZKR				S	**Sg**	**20 38 01.1**	**+1.0**
	comp=N,32μm,0.9s						
ZKR	**Zakros**	**1.30**	**253**	P	**Pn**	**20 37 42.2**	**+0.2**
ZKR				S	**Sg**	**20 38 01.0**	**+0.9**
ZKR				AML	AML	20 38 10.3	
	comp=E,95173μm,0.8s						
ZKR				AML	AML	20 38 10.9	
	comp=N,35943μm,0.8s						
ZKR	**Zakros**	**1.30**	**253**	PN	**Pb**	**20 37 42.7**	**+0.2**
TURN	**Turunc**	**1.32**	**18**	PN	**Pn**	**20 37 42.0**	**-0.3**
TURN	**Turunc**	**1.32**	**18**	*i* P	**Pn**	**20 37 41.4**	**-0.9**
TURN				*i* S	**Sb**	**20 37 59.2**	**-0.5**
TURN				IAML		20 38 07.0	
	comp=N,5μm,0.6s						
TURN				IAML		20 38 07.0	
	comp=E,4μm,1.1s						
KOSK	**Kos Island**	**1.38**	**334**	PN	**Pn**	**20 37 43.1**	**+0.1**
DALY	**Dalyan (Mula)**	**1.50**	**30**	PN	**Pn**	**20 37 45.1**	**+0.4**
DALY	**Dalyan (Mula)**	**1.50**	**30**	*i* P	**Pn**	**20 37 44.5**	**-0.2**
DALY				*i* S	**Sg**	**20 38 06.1**	**-0.2**
DALY				IAML		20 38 19.0	
	comp=E,2μm,1.3s						
DALY				IAML		20 38 20.0	
	comp=N,2μm,1.4s						
FETY	**Fethiye**	**1.56**	**44**	PN	**Pn**	**20 37 45.9**	**+0.3**

comp=E,28623µm,0.9s
DEMR Demre-Antalya 1.91 67 PN Pn 20 37 51.3 +1.0
AMGA Amorgos Island 1.98 312 P Pn 20 37 50.3 -1.1
AMGA S Sn 20 38 14.6 -1.6
comp=E,7µm,1.2s
AMGA Amorgos Island 1.98 312 P Pn 20 37 50.8 -0.6
AMGA AML AML 20 38 27.8
comp=E,11880µm,1.2s
AMGA AML AML 20 38 29.3
comp=N,10288µm,0.7s
SANT Santorini 2.03 295 P Pn 20 37 52.0 -0.2
SANT AML AML 20 38 25.4
comp=E,14060µm,0.7s
SANT AML AML 20 38 26.7
comp=N,6052µm,1.3s
SANT Santorini 2.03 295 ⇓P Pn 20 37 52.3 +0.2
SANT ⇑S Sn 20 38 18.8 +1.4
SANT Santorini 2.03 295 PN Pn 20 37 52.4 +0.2
SANT Santorini 2.03 295 Pn Pn 20 37 52.0 -0.2
SNT3 Karterados, Sa 2.06 296 P Pn 20 37 52.7 +0.3
SAP2K Karterados 2.06 296 P Pn 20 37 53.2 +0.7
SNT1 Gialos, Santor 2.07 296 P Pn 20 37 52.4 -0.2
SAP1 Santorini-Akro 2.08 295 P Pn 20 37 52.7 0.0
THT2 Imerovigli 2.09 297 PN Pn 20 37 53.2 +0.3
CMBO Columbo, Santo 2.12 297 P Pn 20 37 53.2 0.0
SAP4 Santorini-Oia 2.14 297 P Pn 20 37 53.9 +0.4
AYDN Tasoluk 2.14 3 *i* P Pn 20 37 54.3 +0.6
AYDN IAML 20 38 29.0
comp=N,2µm,0.7s
AYDN IAML 20 38 31.0
comp=E,1µm,0.9s
ELL Elmali 2.15 54 PN Pn 20 37 54.5 +0.7
ELL Elmali 2.15 54 P Pn 20 37 54.7 +0.9
TAVA DENIZLI_Tavas 2.17 26 *i* P Pn 20 37 55.6 +1.6
TAVA *i* S Sn 20 38 21.6 +0.8
TAVA IAML 20 38 34.0
comp=E,1µm,0.5s
TAVA IAML 20 38 47.0
comp=N,1µm,0.8s
IACM Heraklion 2.19 265 P Pn 20 37 55.2 +1.0
GCAM G?zelcaml? 2.22 350 PN Pn 20 37 55.1 +0.5
GCAM G?zelcaml? 2.22 350 *i* P Pn 20 37 54.9 +0.3
GCAM *i* S Sn 20 38 17.9 -4.0
GCAM IAML 20 38 33.0
comp=N,837nm,0.6s
GCAM IAML 20 38 47.0
comp=E,1µm,1.3s
GOLH Golhisar 2.26 40 *i* P Pb 20 37 57.5 -1.5
GOLH *i* S Sb 20 38 27.8 +0.9
GOLH IAML 20 38 44.0
comp=N,2µm,1.0s
AKUM Antalya-Kumluc 2.27 68 *i* P Pn 20 37 55.1 -0.2
AKUM *i* S Sn 20 38 20.6 -2.5
SMG Samos 2.30 342 P Pn 20 37 54.5 -1.3
SMG S Sn 20 38 22.1 -2.0
comp=N,2µm,0.8s
SMG Samos 2.30 342 P Pn 20 37 55.8 0.0
SMG AML AML 20 38 36.9
comp=N,1850µm,0.6s
SMG AML AML 20 38 38.5
comp=E,3407µm,0.5s
IOSP Ios island 2.32 302 P Pn 20 37 55.2 -0.8
IOSP S Sn 20 38 23.7 -0.7
comp=E,4µm,0.6s
IOSP Ios island 2.32 302 P Pn 20 37 55.7 -0.3
IDI Anoyia 2.33 265 Pn Pn 20 37 57.0 +0.7
comp=E,35nm,0.3s,baz=72,slow=14,SNR=156
IDI Sn Sn 20 38 26.4 +1.5
comp=E,179nm,0.3s,baz=306,slow=8.3,SNR=9.3
IDI LR LR 20 39 01.5
comp=E,2µm,21.4s,baz=56,slow=44
IDI Anoyia 2.33 265 P Pn 20 37 56.3 0.0
IDI Anoyia 2.33 265 P Pn 20 37 56.9 +0.7
IDI Anoyia 2.33 265 ⇓P Pn 20 37 57.3 +1.0
IDI ⇑S Sn 20 38 25.0 +0.1
IDI Anoyia 2.33 265 PN Pn 20 37 57.2 +1.0
IDI Anoyia 2.33 265 Pn Pn 20 37 57.0 +0.7
APE Apeiranthos 2.36 312 P Pn 20 37 55.4 -1.2
APE S Sn 20 38 24.2 -1.3
comp=E,2µm,0.7s
APE Apeiranthos 2.36 312 P Pn 20 37 56.5 -0.2
APE AML AML 20 38 32.0
comp=N,3764µm,0.6s
APE AML AML 20 38 35.6
comp=E,2712µm,0.7s
APE Apeiranthos 2.36 312 ⇑P Pn 20 37 56.4 -0.2
APE ⇑S Sn 20 38 27.3 +1.7
APE Apeiranthos 2.36 312 PN Pn 20 37 56.6 0.0
APE Apeiranthos 2.36 312 P Pn 20 37 58.6 +2.0
APE S Sn 20 38 27.2 +1.7
APE Apeiranthos 2.36 312 ⇑P Pn 20 37 56.4 -0.2
APE S Sn 20 38 26.8 +1.2
SIVA Sivas 2.44 259 P Pn 20 37 58.7 +1.0
KEMT Kemer-ANTALYA 2.53 64 PN Pn 20 38 00.4 +1.5
KORT Korkueli 2.58 54 PN Pn 20 38 01.8 +1.0
KORT Korkueli 2.58 54 *i* P Pn 20 38 01.6 +1.8
KORT *i* S Sn 20 38 32.9 +1.8
KORT IAML 20 38 50.0
comp=N,485nm,0.8s
KORT IAML 20 38 53.0
comp=E,762nm,1.0s
DGB zmir 2.62 345 *i* P Pn 20 37 59.9 -0.2
DGB *i* S Sn 20 38 32.7 +0.8
ANTB Antalya 2.74 59 PN Pn 20 38 03.1 +1.4
BRDR BURDUR-Merkez 2.87 40 *i* P Pn 20 38 04.6 +0.9
BRDR *i* S Sg 20 38 49.5 -0.8
BRDR IAML 20 39 04.0
comp=N,448nm,0.7s
BRDR IAML 20 39 10.0
comp=E,623nm,1.0s
VAM Vamos 2.89 269 P Pn 20 38 04.2 +0.4
VAM S Sn 20 38 39.8 +1.4
comp=E,3µm,0.9s
VAM Vamos 2.89 269 P Pn 20 38 04.5 +0.7
VAM Vamos 2.89 269 P Pn 20 38 04.2 +0.4
VAM S Sn 20 38 39.8 +1.4
BLCB Balcova 2.92 349 PN Pn 20 38 04.7 +0.5
MHLO Agia Marina, M 2.94 294 P Pn 20 38 05.1 +0.5
MHLO S Sn 20 38 39.3 -0.5
comp=E,4µm,0.6s
MHLO Agia Marina, M 2.94 294 P Pn 20 38 05.6 +1.0
MHLA Plaka, Milos I 2.95 296 P Pn 20 38 05.4 +0.7
URLA Izmir 2.98 343 PN Pn 20 38 05.6 +0.4
URLA Izmir 2.98 343 *i* P Pn 20 38 05.4 +0.3
URLA *i* S Sn 20 38 44.0 +3.2
URLA IAML 20 39 06.0
comp=N,426nm,1.0s
URLA IAML 20 39 13.0
comp=E,324nm,1.6s
BCK Bucak 3.01 49 PN Pn 20 38 06.7 +1.1
BASM Basmaki-Afyon 3.04 37 PN Pn 20 38 06.7 +0.7
MANT Manisa 3.04 12 *i* P Pn 20 38 07.0 +0.8
MANT *i* S Sn 20 38 43.9 +1.3
MANT IAML 20 39 08.0
comp=N,387nm,1.0s
MANT Manisa 3.04 12 Pn Pn 20 38 08.1 +1.9
GVDS Gavdos 3.06 258 P Pb 20 38 09.4 -3.0
GVD Gavdhos 3.06 258 P Pn 20 38 08.7 +2.5
GVD Gavdhos 3.06 258 P Pn 20 38 08.3 +2.1
IMMV Iera Moni Meta 3.06 270 P Pn 20 38 06.2 -0.1
IMMV Iera Moni Meta 3.06 270 P Pn 20 38 07.5 +1.3
KULA Kula-Manisa 3.08 14 PN Pn 20 38 07.4 +0.8
SERI Serifos 3.09 303 P Pn 20 38 06.4 -0.3
SERI S Sn 20 38 42.6 -1.0
comp=N,620nm,0.6s
CHOS Chios island 3.17 335 P Pn 20 38 07.4 -0.3
CHOS S Sn 20 38 43.6 -1.8
comp=N,530nm,1.6s
CHOS Chios island 3.17 335 P Pn 20 38 08.1 +0.4
CHOS Chios island 3.17 335 PN Pn 20 38 08.4 +0.7
GOMA Golmarmara-Man 3.19 3 PN Pn 20 38 08.8 +0.8
ISP Isparta 3.21 43 PN Pn 20 38 09.4 +0.9
ISP Isparta 3.21 43 P Pn 20 38 09.3 +0.9
ISP Isparta 3.21 43 Pn Pn 20 38 09.3 +0.9
KRBN Karaburun 3.21 343 PN Pn 20 38 09.1 +0.8
KZIL AFYON_Kizioren 3.35 34 *i* P Pn 20 38 11.0 +0.7
KZIL *i* S Sg 20 39 03.3 -2.4
KZIL IAML 20 39 14.0
comp=N,285nm,0.8s
KZIL IAML 20 39 26.0
comp=E,416nm,1.9s
USAK Uak-Merkez 3.35 17 *i* P Pn 20 38 11.4 +1.1
USAK *i* S Sg 20 39 04.7 -1.2
USAK IAML 20 39 14.0
comp=E,284nm,1.4s
AKHS Akhisar 3.36 1 *i* P Pn 20 38 11.5 +1.2
AKHS *i* S Sn 20 38 49.8 -0.3
AKS Akhisar 3.36 1 PN Pn 20 38 11.3 +1.0
KEPZ Antalya-Kepez 3.42 65 *i* P Pn 20 38 12.4 +1.1
KEPZ *i* S Sn 20 38 55.0 +3.2
KEPZ IAML 20 38 58.0
comp=N,212nm,1.4s
ZEDA zmir-Bergama 3.48 352 *i* P Pn 20 38 12.1 +0.1
ZEDA *i* S Sn 20 38 56.7 +3.6
ZEDA IAML 20 39 19.0
comp=N,297nm,1.1s
ZEDA IAML 20 39 28.0
comp=E,354nm,1.6s
OSC1 CSNet OBS 1 3.55 123 P Pn 20 38 12.1 -0.8
OSC1 S Sn 20 38 55.1 +0.3
DKL Dikili 3.61 350 PN Pn 20 38 14.3 +0.6
ANKY Antikythira Is 3.62 277 P Pn 20 38 14.7 +0.7
ANKY S Sn 20 38 56.7 +0.1
comp=E,2µm,0.7s
ANKY Antikythira Is 3.62 277 P Pn 20 38 14.8 +0.9
KARY Karystos 3.65 314 P Pn 20 38 14.6 +0.3
KARY S Sn 20 38 55.6 -1.6
comp=E,525nm,1.1s
SIMA Simav-Kutahya 3.70 15 PN Pn 20 38 15.9 +0.8
GEDZ Gediz 3.77 20 PN Pn 20 38 17.1 +1.1
SHUT Suhut-Afyon 3.78 36 PN Pn 20 38 17.4 +1.2
GAZI Gazipasa 3.79 78 *i* P Pn 20 38 15.3 -0.9
GAZI *i* S Sn 20 38 51.8 -9.0
AKMS Akamas 3.80 96 P Pn 20 38 15.6 -0.7
AKMS S Sn 20 39 01.1 +0.2
AKMS AML AML 20 39 05.1
comp=E,2.2nm,0.5s
AKMS AML AML 20 39 05.1
comp=E,2.2nm,0.5s
AKMS AML AML 20 39 08.9
comp=E,3.1nm,0.5s
AKMS AML AML 20 39 08.9
comp=E,3.1nm,0.5s
GDZ Gediz 3.83 21 *i* P Pn 20 38 17.3 +0.3
GDZ *i* S Sn 20 39 03.4 +1.5
STEP BALIKESIR_Sava 3.85 360 *i* P Pn 20 38 18.1 +0.9
STEP *i* S Sn 20 39 05.0 +2.7
STEP IAML 20 39 33.0
comp=N,736nm,0.9s
STEP IAML 20 39 47.0
comp=E,394nm,1.2s
KTHA Kythira Island 3.86 282 P Pn 20 38 18.2 +0.9
KTHA S Sn 20 39 02.8 +0.2
comp=E,2µm,0.8s
KTHA Kythira Island 3.86 282 P Pn 20 38 17.6 +0.3
AYVA Ayvalik 3.88 348 *i* P Pn 20 38 18.4 +1.0
AYVA *i* S Sb 20 39 11.5 -1.7
AYVA IAML 20 39 42.0
comp=E,191nm,1.0s
AYVA IAML 20 40 01.0
comp=N,163nm,1.0s
PRK Paraskevi 3.90 343 P Pn 20 38 18.1 +0.3
PRK Paraskevi 3.90 343 P Pn 20 38 17.9 +0.1
VLY Voula,Athens 3.93 308 P Pn 20 38 19.4 +1.2
VLY S Sn 20 39 03.2 -1.0
comp=N,980nm,0.8s
DION Dionisos Attik 3.98 311 P Pn 20 38 19.8 +0.9
DION S Sn 20 39 04.3 -1.2
comp=N,1µm,1.2s
SIGR SIGRI 3.98 338 P Pn 20 38 19.2 +0.4
SIGR SIGRI 3.98 338 P Pn 20 38 19.2 +0.4
SIGR SIGRI 3.98 338 PN Pn 20 38 19.9 +1.1
ALFC Alefka 3.99 94 ⇑P Pn 20 38 18.0 -1.1
ALFC S Sn 20 39 05.3 -0.5
ALFC AML AML 20 39 09.5
comp=N,2.2nm,1.0s
ALFC AML AML 20 39 09.5
comp=N,2.2nm,1.0s
ALFC AML AML 20 39 11.0
comp=N,2.3nm,0.5s
ALFC AML AML 20 39 11.0
comp=N,2.3nm,0.5s
PTL Penteli 4.00 310 P Pn 20 38 20.2 +1.0
ATHU Athens Univers 4.00 309 P Pn 20 38 19.6 +0.4
ATHU S Sn 20 39 04.2 -1.8
comp=N,350nm,1.5s
NATA Nata 4.03 99 P Pn 20 38 18.8 -0.8
ATH Athens Observa 4.05 308 P Pn 20 38 21.1 +1.3
ATH Athens Observa 4.05 308 P Pn 20 38 21.1 +1.3
VLI Veliai 4.06 289 P Pn 20 38 21.1 +1.1
VLI S Sn 20 39 07.2 -0.3
comp=N,1µm,0.8s
VLI Veliai 4.06 289 P Pn 20 38 20.9 +0.8
DOGA KONYA_Doganhis 4.08 50 *i* P Pn 20 38 22.6 +2.2
DOGA IAML 20 39 14.0
comp=N,272nm,0.8s
DOGA IAML 20 39 59.0
comp=E,162nm,1.8s
BOLV Bolvadin 4.10 38 *i* P Pn 20 38 23.6 +3.0
BOLV *i* S Sb 20 39 24.3 +4.5
BOLV IAML 20 39 40.0
comp=E,135nm,1.2s
BOLV IAML 20 39 47.0
comp=N,141nm,1.3s
BOLV Bolvadin 4.10 38 Pn 20 38 20.7 0.0
BALB Balikesir 4.12 2 PN Pn 20 38 22.1 +1.4
DURS Dursunbey 4.12 8 *i* P Pn 20 38 21.6 +0.7
DURS *i* S Sn 20 39 08.5 -0.5
DURS IAML 20 39 51.0
comp=N,208nm,2.3s
DURS IAML 20 40 02.0
comp=E,180nm,2.4s
DID Didima 4.13 300 P Pn 20 38 21.9 +0.9
DID S Sn 20 39 08.3 -0.9
comp=E,402nm,1.0s
DST Dursunbey 4.14 10 PN Pn 20 38 22.3 +1.2
TVSB Tavsanli 4.16 19 PN Pn 20 38 22.6 +1.2
BALY Balya 4.22 359 *i* P Pn 20 38 23.4 +1.2
BALY *i* S Sn 20 39 11.9 +0.5
BALY IAML 20 39 48.0
comp=N,287nm,0.9s
BALY IAML 20 39 58.0
comp=E,216nm,1.5s
LEF Lefka 4.24 94 *i* P Pn 20 38 20.1 -2.3
LEF *i* S Sn 20 39 04.3 -7.4
KYMI Kymi, Euboea I 4.26 318 P Pn 20 38 23.7 +1.0
SZAC Souni 4.29 99 ⇑P Pn 20 38 22.2 -0.9
SZAC S Sn 20 39 13.2 +0.1
BAYC CANAKKALE_Bayr 4.32 348 *i* P Pn 20 38 23.7 +0.1
BAYC *i* S Sn 20 39 17.1 +3.3
ERMK Ermenek 4.34 74 *i* P Pn 20 38 25.0 +1.0
ERMK *i* S Sn 20 39 15.5 +0.8
ERMK IAML 20 39 19.0
comp=E,576nm,0.8s
ERMK IAML 20 39 37.0
comp=N,456nm,0.8s
KMER Konya-Meram 4.35 58 *i* P Pn 20 38 26.4 +2.3
KMER IAML 20 39 20.0
comp=N,157nm,1.0s
KMER IAML 20 39 24.0
comp=E,219nm,1.1s
VILL Villia 4.42 308 P Pn 20 38 26.4 +1.4
KONT Konya--Tatoy 4.44 56 *i* P Pn 20 38 27.4 +2.3
KONT *i* S Sn 20 39 18.0 +1.2
KONT IAML 20 39 27.0
comp=E,114nm,1.0s
KONT IAML 20 39 30.0
comp=N,116nm,1.8s
OSC2 CSNet OBS 4 4.47 122 P Pn 20 38 25.5 -0.1
BOZC Bozcaada 4.52 343 *i* P Pn 20 38 26.6 +0.4
BOZC *i* S Sb 20 39 26.1 -5.6
SLUM Salum 4.53 208 P Pn 20 38 27.1 +0.6
baz=212
SLUM AMP 20 39 00.0
baz=212
SLUM S Sn 20 39 14.8 -4.3
baz=212
LOUT Loutraki 4.55 304 P Pn 20 38 29.4 +2.7
LTK Loutraki 4.57 305 P Pn 20 38 28.7 +1.7
ASGA Asgata 4.58 98 P Pn 20 38 26.2 -0.8
ASGA S Sn 20 39 20.6 +0.5
CSS Mathiatis 4.61 95 Pn Pn 20 38 26.4 -1.2
CSS Mathiatis 4.61 95 ⇑P Pn 20 38 26.7 -0.9
CSS Mathiatis 4.61 95 Pn Pn 20 38 26.1 -1.5
KDHN Kadinhani 4.61 48 *i* P Pn 20 38 28.7 +1.0
VLX Vlachokerasia 4.70 295 P Pn 20 38 31.1 +2.3
VLX S Sn 20 39 22.5 -0.7
comp=N,768nm,1.1s
KNL Balıkesir 4.75 358 *i* P Pn 20 38 30.1 +0.6
KNL IAML 20 40 08.0
comp=E,263nm,1.5s
KNL IAML 20 40 12.0
comp=N,246nm,1.5s
ULDT Uludag 4.75 13 *i* P Pn 20 38 30.6 +1.0
ULDT IAML 20 40 03.0
comp=E,234nm,1.4s
ULDT IAML 20 40 26.0
comp=N,93nm,1.6s
GULN MERSIN_Gulnar 4.77 80 *i* P Pn 20 38 29.0 -0.7
GULN *i* S Sn 20 39 21.3 -3.5
AOS Alonnisos 4.77 321 P Pn 20 38 33.4 +3.7
LIA Limnos Island 4.82 336 P Pn 20 38 31.5 +1.1
TRIP Tripoli 4.84 296 P Pn 20 38 33.2 +2.5
MVOU Mavrovouni 4.85 94 ⇑P Pn 20 38 29.9 -1.0
IGD Bursa 4.88 13 *i* P Pn 20 38 32.7 +1.4
IGD IAML 20 40 16.0
comp=E,97nm,2.9s
GOKA anakkale-Gk 4.88 343 *i* P Pn 20 38 33.2 +2.0
GOKA IAML 20 39 33.0
comp=E,120nm,0.6s
GOKA IAML 20 39 36.0
comp=N,115nm,0.8s
LKR Lokris 4.91 311 P Pn 20 38 32.9 +1.3
GUR Goura 4.96 301 P Pn 20 38 34.7 +2.3
ITM Ithomi 4.97 291 P Pn 20 38 36.0 +3.5
ITM Ithomi 4.97 291 Pn Pn 20 38 35.6 +3.1
SKIA Skiathos 4.98 318 P Pn 20 38 34.7 +2.0
PYL PYLOS 5.04 288 P Pn 20 38 35.7 +2.3
DSF Desfina 5.07 306 P Pn 20 38 35.9 +2.0
AXAR Agios Charalam 5.19 310 P Pn 20 38 37.3 +1.8
NEO Neokhori 5.21 318 P Pn 20 38 37.4 +1.5
ERKN Erenkoy 5.25 88 *i* P Pn 20 38 33.0 -2.4
EREN *i* S Sn 20 39 33.8 -2.9
AMT Artemida-Makis 5.25 294 P Pn 20 38 39.8 +3.4
XOR Xorichti 5.28 318 P Pn 20 38 38.3 +1.6
KIZK Mersin 5.29 78 *i* P Pn 20 38 37.9 +1.1
KIZK *i* S Sn 20 39 36.6 -1.0
KIZK IAML 20 39 52.0
comp=E,90nm,1.2s
KIZK IAML 20 40 00.0
comp=N,138nm,1.0s
TRIZ Trizonia 5.35 304 P Pn 20 38 38.4 +0.7
KESN Edirne-Kesan 5.37 351 *i* P Pn 20 38 40.2 +1.9
KESN IAML 20 39 48.0
comp=N,62nm,0.8s
KESN IAML 20 40 33.0
comp=E,107nm,1.9s
DRO Drossia 5.41 298 P Pn 20 38 41.6 +3.0
KERG Konya-Eregli 5.49 68 *i* P Pn 20 38 39.5 -0.2
KERG *i* S Sn 20 39 43.2 +0.4
EFP Efpalio 5.50 304 P Pn 20 38 42.2 +2.5
ALN Alexandroupoli 5.53 347 P Pn 20 38 41.1 +0.9
ALN Alexandroupoli 5.53 347 Pn Pn 20 38 41.1 +0.9
AGG Agios Georgios 5.55 311 P Pn 20 38 43.1 +2.6
AGG Agios Georgios 5.55 311 P Pn 20 38 42.8 +2.3
AGG Agios Georgios 5.55 311 Pn Pn 20 38 42.8 +2.3
ANX Ano Chora 5.57 305 P Pn 20 38 43.1 +2.3
RLS Riolos of Patr 5.63 299 P Pn 20 38 46.2 +4.6
MAKR Makrakomi, Fth 5.67 310 P Pn 20 38 44.9 +2.8
EVN Evrytania 5.82 307 P Pn 20 38 46.8 +2.6
PVO Paravola 5.85 304 P Pn 20 38 47.7 +3.2
BR231 Keskin MP Arra 5.88 41 Pn 20 38 44.8 -0.4
KIRS Kırehir-Merke 6.11 52 *i* P Pn 20 38 49.8 +1.6
KIRS *i* S Sn 20 39 49.1 -8.9
KIRS IAML 20 41 28.0
comp=E,38nm,4.3s
LIT Litokhoron 6.18 319 P Pn 20 38 51.7 +2.6
LIT Litokhoron 6.18 319 Pn Pn 20 38 51.7 +2.6
HMYD Mayadein 6.26 155 P Pn 20 38 49.7 -0.6
baz=154
BR131 Keskin Array S 6.29 46 *i* P Pn 20 38 52.2 +1.4
BR131 Keskin Array S 6.29 46 Pn Pn 20 38 51.7 +0.9
BRTR Keskin Array B 6.29 46 Pn Pn 20 38 51.6 +0.8
comp=E,0.8nm,0.3s,baz=216,slow=13,SNR=15
BRTR Sn Sn 20 40 01.6 -1.0
baz=217,slow=21,SNR=1.8
BRTR LR LR 20 41 51.1
comp=E,1µm,20.1s,baz=208,slow=44
BRTR Keskin Array B 6.29 46 Pn Pn 20 38 51.3 +0.5
HNAT Natroun 6.35 157 P Pn 20 38 51.5 +0.1
baz=156
KDZ Kurdzhali 6.39 344 *eP* Pn 20 38 54.2 +2.3
SWA2 6.54 198 P Pn 20 38 55.0 +0.9
baz=200
SWA2 S Sn 20 40 02.6 -6.0
baz=200
HSAF As Saff 6.71 150 P Pn 20 38 56.0 -0.4
baz=149
DQRL Deir Qamar 6.71 103 *eP* Pn 20 38 55.1 -1.3
DIM Dimitrovgrad 6.75 346 *eP* Pn 20 39 00.0 +3.2
MMAI Mount Meron Ar 6.82 109 Pn Pn 20 38 55.9 -2.1
comp=E,9.4nm,0.3s,baz=308,slow=13,SNR=18
MMAI Sn Sn 20 40 13.9 -1.7
comp=E,8.5nm,0.3s,baz=298,slow=26,SNR=1.7
MMAI LR LR 20 43 04.2
comp=E,704nm,19.7s,baz=315,slow=51
MMB Musomiste 6.83 334 *eP* Pn 20 39 02.7 +4.7
QRWL Qaraoun 6.85 104 *eP* Pn 20 38 56.8 -1.6
HWQ Hawqa 6.86 98 *eP* Pn 20 38 57.1 -1.4
SLTI Sal'it 6.90 116 Pn Pn 20 38 58.2 -0.8
SHBL Chebaa 6.96 106 *eP* Pn 20 38 57.7 -2.3
RCY Rachaya 6.99 104 *eP* Pn 20 38 58.6 -1.7
NATI Neve Ativ 6.99 106 Pn Pn 20 38 58.3 -1.9
NATI Sn Sn 20 40 16.8 -2.7
JMB Yambol 7.00 353 *eP* Pn 20 39 06.2 +5.9
VAY Valandovo 7.07 327 *i* Pn Pn 20 39 07.0 +5.7
MMLI Mount Malkishu 7.08 113 Pn Pn 20 39 01.0 -0.6
AMAZ Amatzia 7.19 121 Pn Pn 20 39 02.3 -0.7
AMAZ Sn Sn 20 40 21.6 -3.0
KZIT Kziot 7.23 128 Pn Pn 20 39 02.0 -1.6
HMDT Nahal Hemdat 7.25 114 Pn Pn 20 39 02.6 -1.2
HMDT Sn Sn 20 40 23.0 -3.0
ILGA Ilgaz 7.26 39 Pn Pn 20 39 04.7 +0.6
YTIR Yattir 7.43 122 Pn Pn 20 39 05.0 -1.4
YTIR Sn Sn 20 40 27.4 -3.2
DSI Dead Sea 7.50 119 Pn Pn 20 39 06.2 -1.0
DSI Sn Sn 20 40 28.8 -3.3
STIP Stip 7.54 327 *i* Pn Pn 20 39 11.6 +3.8
GHAJ Ghor Haditha 7.78 120 Pn Pn 20 39 10.6 -0.4
OHR Ohrid 7.80 318 *i* Pn Pn 20 39 10.5 -0.9
SZH Strazhica 7.87 350 *eP* Pn 20 39 14.4 +2.2
VTS Vitosha 7.91 335 *eP* Pn 20 39 17.9 +5.0
ZFRI Zfri 7.97 126 Pn Pn 20 39 11.7 -2.0
ZFRI Sn Sn 20 40 39.7 -4.0
KRMI Paran Flat 7.97 131 Pn Pn 20 39 11.8 -2.0
PRNI Paran 7.99 128 Pn Pn 20 39 12.5 -1.5
PRNI Sn Sn 20 40 40.4 -3.9
RAZG Razgrad 8.10 354 ⇑P Pn 20 38 18.1 +2.8
SKO Skopje 8.11 325 *i* Pn Pn 20 39 19.4 +3.9
HRFI Mount Harif 8.22 130 Pn Pn 20 39 15.6 -1.6
HRFI Sn Sn 20 40 47.1 -3.0
TAMRE El Minia 8.27 160 P Pn 20 39 16.0 -1.8
baz=160
ASF Jabal al Asfar 8.32 111 Pn Pn 20 39 16.7 -1.8
comp=E,0.6nm,0.3s,baz=241,slow=14,SNR=7.4
TOKA Tokat 8.41 53 Pn Pn 20 39 23.3 +3.5
EIL Elat 8.43 132 Pn Pn 20 39 18.6 -1.4
comp=E,2.5nm,0.3s,baz=298,slow=3.0,SNR=26
EIL Sn Sn 20 40 51.1 -3.9
comp=E,5.4nm,0.3s,baz=339,slow=20,SNR=7.4
EIL Elat 8.43 132 Pn Pn 20 39 18.5 -1.4
EIL Sn Sn 20 40 49.7 -5.3
TIR Tirane 8.48 316 P Pn 20 39 21.2 +0.5
TIR Tirane 8.48 316 Pn Pn 20 39 21.2 +0.5
TIRR Tirgusor 8.95 3 ⇑P Pn 20 39 29.6 +2.6
TIRR Tirgusor 8.95 3 P Pn 20 39 29.0 +2.0
TIRR Tirgusor 8.95 3 Pn Pn 20 39 29.0 +2.0
MALT Malatya 9.01 69 P Pn 20 39 31.3 +3.3
DRME Dracevica, Mon 9.42 318 *eP* Pn 20 39 34.3 +0.8
TIP Timpagrande 9.47 296 ⇑P Pn 20 39 34.5 +0.2
TIP Timpagrande 9.47 296 Pn Pn 20 39 34.5 +0.2
PDG Podgorica 9.55 319 ⇑P Pn 20 39 36.3 +1.1
PDG Podgorica 9.55 319 *ePn* Pn 20 39 36.9 +1.6
PDG Podgorica 9.55 319 Pn Pn 20 39 39.0 +3.8
CFR Carcaliu 9.66 2 ⇑P Pn 20 39 38.2 +1.5
CEL Celeste 9.87 290 Pn Pn 20 39 39.6 -0.2
NEHR Nehoiu 9.96 354 ⇑P Pn 20 39 43.9 +2.9
MLR Muntele Rosu 10.06 353 Pn Pn 20 39 43.7 +1.4
comp=E,0.5nm,0.3s,baz=132,slow=5.9,SNR=22

MLR LR LR 20 43 52.0
comp=E,451nm,18.5s,baz=184,slow=39
MLR Muntele Rosu 10.06 353 ⇑P **Pn** **20 39 44.7 +2.4**
MLR Muntele Rosu 10.06 353 P **Pn** **20 39 44.8 +2.4**
MLR Muntele Rosu 10.06 353 Pn **Pn** **20 39 44.8 +2.4**
MATE Matera 10.09 304 ⇑P **Pn** **20 39 44.4 +1.8**
VOIR 10.12 349 ⇑P **Pn** **20 39 45.4 +2.2**
ARR Arges 10.12 347 ⇓P **Pn** **20 39 45.6 +2.4**
HERR Herculane 10.20 338 ⇓P **Pn** **20 39 47.2 +3.1**
TREB Trebinje 10.23 317 *e*Pn **Pn** **20 39 46.5 +1.8**
BRY Bratogost 10.26 319 *e*Pn **Pn** **20 39 47.0 +1.9**
UPM Unac-Piva 10.27 321 *e*Pn **Pn** **20 39 47.6 +2.2**
DBRK Dubrovnik 10.32 317 *e*Pn **Pn** **20 39 47.2 +1.4**
DBRK Sn **Sn** **20 41 39.8 -1.5**
MDVR Moldovita 10.33 335 ⇓P **Pn** **20 39 48.5 +2.5**
RUDO Rudo 10.35 324 *e*Pn **Pn** **20 39 48.8 +2.6**
PLOR Plostina 10.36 356 ⇑P **Pn** **20 39 49.8 +3.3**
PLOR Plostina 10.36 356 P **Pn** **20 39 49.7 +3.3**
VRI Vrincioaia 10.37 356 ⇑P **Pn** **20 39 49.4 +2.9**
VARL Varlezi 10.37 0 ⇑P **Pn** **20 39 50.0 +3.4**
DIVS Divibare 10.43 328 *e*Pn **Pn** **20 39 51.5 +4.0**
DIVS Divibare 10.43 328 Pn **Pn** **20 39 51.8 +4.3**
BBLS Lazići 10.52 325 *e*Pn **Pn** **20 39 52.4 +3.8**
DOPR Dopca 10.59 351 ⇑P **Pn** **20 39 52.6 +3.0**
SIM Simferopol' 10.61 25 *e*P **Pn** **20 39 53.7 +3.9**
SIM *e*S **Sn** **20 41 48.0 -0.4**
SIM pmax pmax
comp=Z,15nm,0.7s
OZUR 10.67 353 ⇑P **Pn** **20 39 52.5 +1.8**
STON Ston 10.70 316 *e*Pn **Pn** **20 39 51.9 +0.9**
STON Sn **Sn** **20 41 49.2 -1.4**
VAE Valguarnera 10.90 284 Pn **Pn** **20 39 56.8 +2.8**
comp=Z,1.1nm,0.3s,baz=19,slow=5.1,SNR=4.7
VAE Sn **Sn** **20 41 53.9 -1.9**
comp=Z,2.7nm,0.3s,baz=224,slow=14,SNR=3.5
TESR Tescani 11.02 356 ⇑P **Pn** **20 39 57.3 +1.9**
KOPT Kop Dagi 11.05 62 **Pn** **20 39 56.4 +0.2**
BZS Buzias 11.11 337 ⇑P **Pn** **20 39 59.5 +2.9**
SGRT San Giovanni R 11.25 307 Pn **Pn** **20 39 59.3 +0.6**
RICI Ricice 11.42 317 *e*Pn **Pn** **20 40 03.1 +2.2**
RICI Sn **Sn** **20 42 09.1 +0.8**
SIRR Siria 11.68 339 ⇑P **Pn** **20 40 07.3 +2.8**
PAOL Paolisi 11.72 302 **Pn** **20 40 06.0 +1.0**
CORL Corleone 11.82 286 Pn **Pn** **20 40 08.5 +2.0**
KIJV Kijevo 12.15 318 *e*Pn **Pn** **20 40 11.9 +1.0**
KIJV Sn **Sn** **20 42 26.5 +0.3**
BURAR Bucovina Array 12.23 352 ⇑P **Pn** **20 40 15.1 +2.9**
BURAR Bucovina Array 12.23 352 P **Pn** **20 40 15.0 +2.9**
BURAR Bucovina Array 12.23 352 Pn **Pn** **20 40 14.6 +2.5**
BLY Banja Luka 12.24 322 *e*Pn **Pn** **20 40 10.4 -1.8**
BUR08 Bucovina Ar. S 12.26 352 Pn **Pn** **20 40 15.3 +2.8**
ZIRJ Zirje 12.36 315 *e*Pn **Pn** **20 40 14.3 +0.6**
ZIRJ Sn **Sn** **20 42 30.6 -0.7**
MORI Morici 12.45 316 *e*Pn **Pn** **20 40 17.3 +2.3**
INTR Introdacqua 12.58 305 Pn **Pn** **20 40 18.4 +1.5**
MORH Mrgy, Hungar 12.70 330 *e*Pn **Pn** **20 40 21.0 +2.6**
DUGI Dugi Otok 12.90 315 *e*Pn **Pn** **20 40 21.6 +0.4**
DUGI Sn **Sn** **20 42 41.6 -3.0**
KARS Kars 13.12 63 P P 20 40 29.6 -4.9
NVLJ Novalja 13.36 316 *e*Pn **Pn** **20 40 27.4 +0.1**
NRCA Norcia 13.48 307 **Pn** **20 40 30.2 +1.0**
AKH Akhalkalaki 13.67 60 P **Pn** **20 40 33.1 +1.3**
AKH Akhalkalaki 13.67 60 Pn **Pn** **20 40 33.1 +1.3**
PSZ Piszkesteto 13.70 337 ⇑P **Pn** **20 40 33.7 +1.6**
PSZ Piszkesteto 13.70 337 P **Pn** **20 40 36.3 +4.3**
PSZ Piszkesteto 13.70 337 Pn **Pn** **20 40 36.3 +4.3**
UZH Uzhgorod 13.71 345 *e*P **P** **20 40 37.6 -3.2**
UZH *e*S **Sn** **20 43 12.8 +8.6**
UZH MLR MLR
comp=Z,110nm,12.0s
CRES Cresnjev 13.87 322 *e*Pn **Pn** **20 40 31.9 -2.5**
KOLS Kolonicke sedl 14.00 345 P **P** **20 40 43.0 -1.1**
KOLS Kolonicke sedl 14.00 345 *e*P **P** **20 40 46.2 +2.1**
MURB Monte Urbino 14.06 308 **Pn** **20 40 37.5 +0.4**
BRJN Brijuni 14.20 316 *e*Pn **Pn** **20 40 39.6 +0.8**
KIV Kislovodsk 14.25 49 *e*P **Pn** **20 40 41.0 +1.4**
KIV *e*S **Sn** **20 43 22.4 +4.9**
KIV pmax pmax
comp=Z,50nm,1.0s
KIV MLR MLR
comp=Z,305nm,13.0s
KIV Kislovodsk 14.25 49 P **P** **20 40 46.7 -0.3**
KVAR Kislovodsk Arr 14.25 49 Pn **P** **20 40 43.6 -3.5**
baz=282,slow=20,SNR=1.5
KBZ Khabaz 14.26 50 Pn **Pn** **20 40 41.3 +1.6**
comp=Z,0.2nm,0.3s,baz=284,slow=10,SNR=3.2
KBZ LR LR 20 46 59.2
comp=Z,244nm,22.0s,baz=234,slow=41
KBZ Khabaz 14.26 50 *ce*P **Pn** **20 40 41.9 +2.2**
KBZ pmax pmax
comp=Z,13nm,1.0s
CEY Cerknica 14.35 319 *e*Pn **Pn** **20 40 42.6 +1.7**
ZEI Tsey 14.48 55 *e*P **Pn** **20 40 45.0 +2.0**
ZEI pmax pmax
comp=Z,12nm,0.6s
LJU Ljubljana 14.49 321 *e*Pn **Pn** **20 40 42.2 -0.7**
VYHS Vyhne 14.54 336 *e*P **P** **20 40 50.9 +0.8**
VYHS Vyhne 14.54 336 *e*P **P** **20 40 50.8 +0.7**
LVV L'vov 14.55 350 *e*P **P** **20 40 47.3 -2.9**
LVV MLR MLR
comp=N,400nm,12.0s
LVV MLR MLR
comp=E,900nm,12.0s
LVV MLR MLR
comp=Z,400nm,12.0s
NAX Nakhchivan 14.59 70 P **P** **20 40 48.4 -2.4**
TBLG Delisi 14.66 60 P **Pn** **20 40 47.3 +2.1**
TBLG Delisi 14.66 60 Pn **Pn** **20 40 47.3 +2.1**
SOKA Soboth 14.68 323 *i* Pn **Pn** **20 40 48.5 +3.1**
comp=Z,21nm,1.1s,SNR=11
OBKA Obir 14.80 322 *e*Pn **Pn** **20 40 50.1 +2.9**
comp=Z,15nm,1.3s
ARSA Arzberg 14.86 326 *i* Pn **Pn** **20 40 50.6 +2.7**
comp=Z,6.1nm,0.8s
LANS Liptovska Anna 14.92 338 *e*P **P** **20 40 56.3 +2.0**
LANS Liptovska Anna 14.92 338 *e*P **P** **20 40 56.3 +2.0**
CASP Castiglione de 14.95 304 P **P** **20 40 54.5 -0.3**
KEST Kesra 14.96 276 Pn **Pn** **20 40 50.5 +1.1**
comp=Z,0.1nm,0.3s,baz=345,slow=3.3,SNR=4.6
MODS Modra-Piesok 15.00 332 *e*P **P** **20 40 55.1 -0.1**
MODS Modra-Piesok 15.00 332 *e*P **P** **20 40 55.1 -0.1**
OSSC Osservatorio P 15.01 307 P **P** **20 40 55.1 -0.2**
GOF Gofitskoye 15.05 46 ⇑*e*P **P** **20 40 58.7 +2.9**
AKASG Malin Array Be 15.22 4 Pn **Pn** **20 40 52.9 +0.3**
comp=Z,0.3nm,0.3s,baz=194,slow=11,SNR=1.5
AKASG LR LR 20 47 12.6
comp=Z,200nm,20.7s,baz=170,slow=39
AKASG Malin Array Be 15.22 4 P **P** **20 40 58.3 +0.7**
AKBB Malin Array Si 15.22 4 *ce*P **Pn** **20 40 54.7 +2.1**
AKBB pmax pmax
comp=Z,3.0nm,0.4s
AKBB Malin Array Si 15.22 4 P **Pn** **20 40 54.8 +2.1**
AKBB IAmb IAmb 20 41 00.5
comp=Z,18nm,1.3s
JAVC Velka Javorina 15.26 334 *e*PN **P** **20 41 01.1 +3.0**
PRED Cave del Predi 15.26 320 P **Pn** **20 40 54.7 +1.5**
PRED IAmb IAmb 20 41 15.1
comp=Z,8.5nm,1.0s
MYKA Terra Mystica 15.34 321 *e*Pn **Pn** **20 40 55.8 +1.4**
comp=Z,12nm,0.7s
GANJ Ganja 15.50 65 P **P** **20 40 59.5 -1.4**
STAL STALIGIAL 15.60 318 **Pn** **20 40 58.2 +0.5**
ZOU Zoufplan 15.64 319 **Pn** **20 40 59.2 +0.8**
ZOU IAmb IAmb 20 41 12.5
comp=Z,21nm,0.8s
CIMO Cimolais 15.78 318 Pn **Pn** **20 41 00.2 +0.2**
CIMO IAmb IAmb 20 41 19.8
comp=Z,11nm,0.9s
OJC Ojcow 15.79 341 *e*P **P** **20 41 05.8 +1.8**
OJC Ojcow 15.79 341 P **P** **20 41 04.9 +1.0**
OJC pmax pmax
comp=Z,14nm,0.7s
OJC Ojcow 15.79 341 P **P** **20 41 04.9 +1.0**
OJC IAmb IAmb 20 41 08.2
comp=Z,14nm,0.7s
KBA Koelnbreinsper 15.79 321 *i* Pn **P** **20 41 04.4 +0.2**
comp=Z,6.6nm,0.4s,SNR=11
MOA Molln 15.88 325 *e*Pn **P** **20 41 04.2 -0.8**
comp=Z,4.1nm,0.7s
KRUC Moravsky 15.90 332 *e*PN **P** **20 41 04.7 -0.5**
GROC Groznyy 15.92 56 *e*P **Pn** **20 41 01.9 +0.1**
GROC pmax pmax
comp=Z,23nm,1.6s
GROC MLR MLR
comp=Z,326nm,11.0s
ZKTA Zakatala 15.97 62 P **P** **20 41 05.8 -0.3**
ABTA Abfaltersbach 16.01 319 *i* Pn **Pn** **20 41 04.1 +1.0**
comp=Z,14nm,0.7s,SNR=8.9
VRAC Vranov 16.02 333 Pn **P** **20 41 05.5 -1.0**
comp=Z,0.3nm,0.3s,baz=149,slow=10,SNR=8.4
VRAC Vranov 16.02 333 ⇑P **Pn** **20 41 04.3 +1.1**
VRAC Vranov 16.02 333 *e*PN **P** **20 41 06.5 -0.1**
VRAC Vranov 16.02 333 *e*SN **S** **20 44 12.3 -2.1**
CTI Castel Tesino 16.07 316 P **Pn** **20 41 04.1 +0.3**
CTI Castel Tesino 16.07 316 Pn **Pn** **20 41 04.1 +0.3**
CTI P **P** **20 41 07.7 +0.5**
CTI IAmb IAmb 20 41 12.0
comp=Z,56nm,1.0s
MORC Moravsky Berou 16.08 336 ⇑P **P** **20 41 06.2 -1.0**
MORC Moravsky Berou 16.08 336 *e*PN **P** **20 41 07.5 +0.3**
MORC Moravsky Berou 16.08 336 *e*SN **S** **20 44 15.8 +0.2**
MORC Moravsky Berou 16.08 336 P **P** **20 41 08.1 +0.9**
MORC pmax pmax
comp=Z,9.0nm,0.9s
MORC Moravsky Berou 16.08 336 P **P** **20 41 08.1 +0.9**
MNGR Mingechevir, A 16.09 65 P **P** **20 41 07.1 -0.3**
SEKA Sheki 16.28 64 P **P** **20 41 09.8 +0.3**
GNBR Gunib 16.44 60 *i* P **Pn** **20 41 09.7 +1.1**
SALO Salr 16.48 313 P **P** **20 41 12.0 +0.3**
SALO IAmb IAmb 20 41 18.2
comp=Z,30nm,0.9s
RJOB Jochberg 16.51 322 *e*P **Pn** **20 41 09.4 0.0**
DBC Dubki 16.56 57 *i* P **Pn** **20 41 11.4 +1.3**
KRLC Kraliky 16.59 335 *e*P **P** **20 41 14.8 +1.9**
KRLC *e*S **S** **20 44 26.0 -0.1**
KRLC MLR MLR
comp=Z,600nm,11.6s
KRLC Kraliky 16.59 335 *e*P **P** **20 41 14.8 +1.9**
KRLC *e*S **S** **20 44 26.0 -0.1**
KRLC AMS AMS 20 48 50.0
comp=Z,600nm,11.6s
WTTA Wattenberg 16.80 319 *i* Pn **P** **20 41 15.5 +0.1**
comp=Z,19nm,1.2s,SNR=13
GEC2 GERESS Array S 16.86 326 *e*P **P** **20 41 15.7 -0.2**
GEC2 GERESS Array S 16.86 326 P **P** **20 41 16.1 +0.1**
GERES GERESS Array B 16.86 326 Pn **P** **20 41 15.7 -0.2**
comp=Z,0.3nm,0.3s,baz=143,slow=11,SNR=56
GERES GERESS Array B 16.86 326 P **P** **20 41 15.8 -0.1**
GERES GERESS Array B 16.86 326 *e*P **P** **20 41 15.8 -0.1**
WATA Walderalm 16.88 319 *i* Pn **P** **20 41 16.2 0.0**
comp=Z,51nm,1.0s,SNR=26
DPC Dobruska-Polom 16.99 334 *e*P **P** **20 41 18.5 +1.2**
DPC *e*S **S** **20 44 29.6 -4.5**
DPC MLR MLR
comp=Z,500nm,14.5s
DPC Dobruska-Polom 16.99 334 *e*P **P** **20 41 18.5 +1.2**
DPC *e*S **S** **20 44 29.6 -4.5**
DPC AMS AMS 20 48 00.0
comp=Z,500nm,14.5s
MAK Makhachkala 17.00 58 *e*P **Pn** **20 41 13.8 -1.8**
MAK *e*S **Sn** **20 44 21.6 -2.8**
MAK pmax pmax
comp=Z,129nm,1.3s
MAK MLR MLR
comp=Z,146nm,15.0s
SQTA Sankt Quirin 17.01 318 *i* Pn **P** **20 41 16.9 -0.7**
comp=Z,22nm,0.9s,SNR=15
LKRN Lenkeran, Azer 17.08 73 P **P** **20 41 19.6 +1.3**
KHC Kasperske Hory 17.12 327 *e*P **P** **20 41 18.5 -0.3**
KHC *e*S **S** **20 44 33.6 -3.3**
KHC MLR MLR
comp=Z,600nm,15.8s
KHC Kasperske Hory 17.12 327 *e*P **P** **20 41 18.5 -0.3**
KHC *ex* x 20 41 29.0
KHC *e*S **S** **20 44 33.6 -3.3**
KHC AMS AMS 20 47 50.0
comp=Z,600nm,15.8s
KHC Kasperske Hory 17.12 327 **P** **20 41 18.5 -0.3**
MOTA Moosalm 17.14 319 *i* Pn **Pn** **20 41 18.4 +0.9**
comp=Z,25nm,1.2s,SNR=9.6
FETA Feichten 17.15 317 *i* Pn **P** **20 41 19.3 +0.1**
comp=Z,57nm,0.9s,SNR=36
FETA S S 20 44 51.8 +14
FUORN Ofenpass-Fuorn 17.18 316 **Pn** **20 41 18.5 +0.4**
FUORN IAmb IAmb 20 41 22.6
comp=Z,24nm,0.9s
OSTC Ostas 17.20 334 *e*P **P** **20 41 21.2 +1.6**
OSTC *e*S **S** **20 44 36.4 -1.9**
OSTC AMS AMS 20 48 00.0
comp=Z,600nm,13.6s
GOPC GO Pecny, Ondr 17.21 331 *e*P **P** **20 41 19.6 -0.1**
GOPC *e*S **Sn** **20 44 34.0 +4.6**
GOPC MLR MLR
comp=Z,500nm,11.2s
GOPC GO Pecny, Ondr 17.21 331 *e*P **P** **20 41 19.6 -0.1**
GOPC *e*S **Sn** **20 44 34.0 +4.6**
GOPC AMS AMS 20 48 30.0
comp=Z,500nm,11.2s
UPC Upice 17.23 334 AMS AMS 20 47 50.0
comp=Z,600nm,13.9s
CHVC Chvalec 17.28 334 *e*P **P** **20 41 21.7 +1.2**
CHVC AMS AMS 20 48 00.0
comp=Z,500nm,13.9s
PRU Pruhonice 17.37 330 *e*P **P** **20 41 21.7 +0.3**
PRU *e*S **Sn** **20 44 33.0 -0.2**
PRU MLR MLR
comp=Z,700nm,9.9s
PRU Pruhonice 17.37 330 *e*P **P** **20 41 21.7 +0.3**
PRU *e*S **Sn** **20 44 33.0 -0.2**
PRU AMS AMS 20 48 30.0
comp=Z,700nm,9.9s
RETA Reutte 17.41 319 *i* Pn **P** **20 41 22.2 +0.2**
comp=Z,18nm,1.0s
KSP Ksiaz 17.41 335 *e*P **P** **20 41 23.6 +1.7**
WET Wettzell 17.45 326 *e*P **P** **20 41 22.2 -0.2**
PRA Prague 17.48 330 AMS AMS 20 48 40.0
comp=Z,300nm,12.4s
DAVOX Davos/Dischmat 17.49 315 P **P** **20 41 23.5 +0.4**
comp=Z,0.5nm,0.3s,baz=138,slow=15,SNR=13
DAVOX LR LR 20 48 20.0
comp=Z,477nm,19.6s,baz=120,slow=38
FUR Furstenfeldbru 17.56 321 *e*P **Pn** **20 41 22.9 +0.3**
TUE Stuetta 17.63 314 **P** **20 41 24.6 0.0**
VSR Storozhevoye 17.72 24 *e*P **P** **20 41 27.3 +2.0**
VSR pmax pmax
comp=Z,20nm,1.7s
DAVA Damuels 17.77 317 *i* Pn **P** **20 41 26.1 -0.1**
comp=Z,16nm,0.6s,SNR=9.4
PVCC Panska Ves 17.78 332 *e*P **P** **20 41 30.3 +4.3**
PVCC MLR MLR
comp=Z,400nm,10.2s
PVCC Panska Ves 17.78 332 *e*P **P** **20 41 30.3 +4.3**
PVCC AMS AMS 20 49 10.0
comp=Z,400nm,10.2s
UBR Ueberruh 17.88 318 *e*P **Pn** **20 41 26.5 0.0**
ROTZ Rotzenmuhle 18.20 326 *e*P **P** **20 41 31.1 +0.4**
BRG Berggiesshubel 18.30 331 *e*P **P** **20 41 32.7 +1.0**
comp=Z,5.8nm,0.9s
BRG S **Sn** **20 44 53.0 -2.7**
comp=N,392nm,15.7s
comp=E,708nm,17.1s
comp=Z,502nm,9.7s
BRG Berggiesshubel 18.30 331 *e*P **P** **20 41 32.7 +1.0**
BRG S **Sn** **20 44 53.0 -2.7**
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG MLR MLR
comp=N,392nm,15.7s
BRG MLR MLR
comp=E,708nm,17.1s
BRG MLR MLR
comp=Z,502nm,9.7s
BRG Berggiesshubel 18.30 331 *e*P **P** **20 41 32.9 +1.2**
MANZ Manzenberg 18.40 327 *e*P **Pn** **20 41 33.6 +0.7**
NKC Novy Kostel 18.43 328 *e*P **Pn** **20 41 35.1 +1.8**
NKC MLR MLR
comp=Z,800nm,11.0s
NKC Novy Kostel 18.43 328 *e*P **Pn** **20 41 35.1 +1.8**
NKC AMS AMS 20 49 10.0
comp=Z,800nm,11.0s
WERN Wernitzgruen 18.50 328 *e*P **Pn** **20 41 35.6 +1.5**
TANN Tannenbergstha 18.56 328 *e*P **P** **20 41 34.7 +0.1**
FBE Freiberg 18.57 330 *e*P **Pn** **20 41 35.0 +0.1**
GUNZ Gunzen 18.58 328 *e*P **P** **20 41 35.0 +0.2**
GRA1 Grafenberg Arr 18.61 325 P **P** **20 41 35.1 +0.1**
GRA1 IAmb IAmb 20 41 49.9
comp=Z,18nm,0.9s
GRF Grafenberg Arr 18.61 325 P **P** **20 41 35.2 +0.1**
GRF pmax pmax
comp=Z,18nm,0.9s
GRF Grafenberg Arr 18.61 325 *e*P **Pn** **20 41 36.0 +0.6**
BNI Bardonecchia 18.63 307 P **Pn** **20 41 37.1 +1.3**
BNI pmax pmax
comp=Z,15nm,1.3s
BNI Bardonecchia 18.63 307 P **Pn** **20 41 37.1 +1.3**
VRH Novokhopyorsk 18.64 28 *e*P **Pn** **20 41 37.6 +1.9**
VRH pmax pmax
comp=Z,10.0nm,0.6s
PLN Plauen 18.75 328 *e*P **Pn** **20 41 38.7 +1.7**
SUW Suwalki 18.77 352 P **P** **20 41 37.1 +0.3**
SUW pmax pmax
comp=Z,31nm,1.0s
SUW Suwalki 18.77 352 **P** **20 41 37.1 +0.3**
SUW IAmb IAmb 20 42 01.6
comp=Z,31nm,1.0s
SENIN Lac Senin/Sane 18.81 311 P **P** **20 41 37.1 -0.4**
SENIN IAmb IAmb 20 41 44.6
comp=Z,18nm,0.7s
LPSR Galich'ya Gora 18.84 22 *e*P **Pn** **20 41 38.4 +0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 19.01 331 *e*(P) **P** **20 41 38.0 -1.5**
CLL *i* 20 41 40.9
comp=Z,10.0nm,0.8s
CLL *e* 20 41 46.0
CLL *e*S **Sn** **20 45 12.0 -0.9**
CLL LmH 20 48 00.0
comp=N,400nm,19.2s
CLL LmH 20 48 00.0
comp=E,700nm,18.5s
CLL Lmax 20 50 00.0
CLL Collm 19.01 331 *e*P **P** **20 41 38.0 -1.5**
CLL *e*S **Sn** **20 45 12.0 -0.9**
CLL Collm 19.01 331 *e*P **Pn** **20 41 41.7 +1.5**
CLL Collm 19.01 331 **Pn** **20 41 42.1 +1.9**
MOX Moxa 19.10 327 P **Pn** **20 41 42.6 +1.3**
MOX Moxa 19.10 327 *e*P **Pn** **20 41 42.3 +1.0**
BFO Black Forest 19.23 318 P **Pn** **20 41 43.6 +0.7**
BFO pmax pmax
comp=Z,15nm,0.9s
BFO Black Forest 19.23 318 *e*P **Pn** **20 41 44.9 +2.0**
BFO Black Forest 19.23 318 P **Pn** **20 41 43.6 +0.7**
BFO IAmb IAmb 20 41 45.5
comp=Z,15nm,0.9s
GKP Gorka Klasztor 19.23 341 *e*P **Pn** **20 41 43.1 +0.2**
RUE Ruedersdorf 19.65 334 *e*P **Pn** **20 41 49.2 +1.4**
ECH Echery 19.82 316 P **P** **20 41 48.8 +0.4**
ECH pmax pmax
comp=Z,10.0nm,1.1s
ECH Echery 19.82 316 P **P** **20 41 48.8 +0.4**
SSB Saint Sauveur 20.11 306 P **P** **20 41 51.9 +0.2**
SSB pmax pmax
comp=Z,6.0nm,0.8s
SSB Saint Sauveur 20.11 306 P **P** **20 41 51.9 +0.2**
TNS Taunus Mts 20.30 322 *e*P Pn 20 41 56.8 +1.1
GTTG Gottingen 20.47 327 *e*P Pn 20 41 59.2 +1.6
OBN Obninsk 20.53 15 P **P** **20 41 57.1 +1.1**
comp=Z,3.0nm,0.4s,baz=306,slow=5.0,SNR=4.7
OBN LR LR 20 50 24.0
comp=Z,86nm,21.2s,baz=186,slow=38
OBN Obninsk 20.53 15 ⇓*e*P **P** **20 41 56.4 +0.4**
OBN *e* 20 42 13.8
OBN pmax pmax
comp=Z,13nm,1.0s
OBN MLR MLR
comp=Z,256nm,19.0s
WLF Walferdange 21.17 319 P **P** **20 42 05.5 +2.5**
WLF pmax pmax
comp=Z,18nm,1.0s
WLF Walferdange 21.17 319 P **P** **20 42 05.5 +2.5**
WLF IAmb IAmb 20 42 17.6
comp=Z,18nm,1.0s
MOS Moscow 21.33 15 *e*P **P** **20 42 05.6 +0.9**
CAF Calviac 21.66 304 *e*P **P** **20 42 07.2 -1.2**
CAF pmax pmax
comp=Z,12nm,0.9s
TCF Toulx Ste Croi 22.00 307 *e*P **P** **20 42 10.9 -1.1**
TCF pmax pmax
comp=Z,9.0nm,1.0s
LFF La Frestale 22.57 303 *e*P **P** **20 42 17.9 -0.2**
LFF pmax pmax
comp=Z,8.0nm,0.7s
TAM Tamanrasset 23.11 243 P **P** **20 42 25.1 +1.0**
TAM pmax pmax
comp=Z,18nm,1.3s
TAM Tamanrasset 23.11 243 P **P** **20 42 25.1 +1.0**
TAM IAmb IAmb 20 42 30.1
comp=Z,18nm,1.3s
MFF Saint Martin d 23.64 306 *e*P **P** **20 42 28.2 -0.8**
MFF pmax pmax
comp=Z,15nm,1.1s
GEYT Alibeck 24.42 75 P **P** **20 42 36.5 0.0**
comp=Z,2.9nm,0.5s,baz=280,slow=8.9,SNR=7.5
GEYT LR LR 20 54 26.6
comp=Z,121nm,19.1s,baz=200,slow=42
GEYT Alibeck 24.42 75 P **P** **20 42 36.4 -0.1**
GYA0B ALIBECK ARRAY 24.42 75 P **P** **20 42 36.4 -0.1**
GYA0B IAmb IAmb 20 42 46.7
comp=Z,7.1nm,0.7s
ESBB Sonseca Array 25.38 289 P **P** **20 42 45.3 +0.1**
ESBB IAmb IAmb 20 42 49.9
comp=Z,8.6nm,0.8s
ESDC Sonseca Array 25.38 289 P **P** **20 42 45.2 +0.1**
comp=Z,9.6nm,0.7s,baz=81,slow=9.4,SNR=80
ESDC LR LR 20 53 21.0
comp=Z,130nm,21.4s,baz=120,slow=38
ESDC Sonseca Array 25.38 289 P **P** **20 42 44.7 -0.5**
PAB San Pablo 25.68 289 P **P** **20 42 47.8 -0.2**
PAB pmax pmax
comp=Z,12nm,1.0s
PAB San Pablo 25.68 289 P **P** **20 42 47.8 -0.2**
PAB IAmb IAmb 20 42 50.5
comp=Z,12nm,1.0s
FINES FINESS Array B 25.97 358 P **P** **20 42 49.8 -0.3**
comp=Z,2.1nm,0.6s,baz=162,slow=12,SNR=12
FINES PcP **PcP** **20 46 18.9 +0.7**
comp=Z,0.9nm,0.7s,baz=145,slow=4.7,SNR=3.9
FINES LR LR 20 53 08.9
comp=Z,156nm,18.2s,baz=184,slow=37
FINES FINESS Array B 25.97 358 *i* P **P** **20 42 52.2 +2.0**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 25.97 358 P **P** **20 42 49.7 -0.4**
HFS Hagfors 26.26 344 P **P** **20 42 52.2 -0.6**
comp=Z,10.0nm,0.8s,baz=148,slow=12,SNR=10
HFS LR LR 20 53 42.7
comp=Z,366nm,18.0s,baz=164,slow=38
KLMR Klimovskoe 26.46 13 *e*P **P** **20 42 52.8 -1.8**
KLMR pmax pmax
comp=Z,11nm,1.0s
KLMR Klimovskoe 26.46 13 *e*P **P** **20 42 52.8 -1.8**
KLMR AMP 20 42 56.6
comp=Z,11nm,1.0s
AKTO Aktyubinsk 26.47 46 P **P** **20 42 54.4 -0.5**
comp=Z,5.7nm,0.8s,baz=249,slow=9.6,SNR=16
AKTO LR LR 20 56 31.7
comp=Z,120nm,18.5s,baz=229,slow=44
MDT Midelt 26.83 274 LR LR 20 56 58.4
comp=Z,125nm,18.9s,baz=72,slow=44
KIRV Kirov 27.16 25 LR LR 20 55 33.4
comp=Z,163nm,20.9s,baz=219,slow=40
KIRV Kirov 27.16 25 *e*P **P** **20 43 03.2 +2.3**
ABKAR Akbulak array 27.23 50 P **P** **20 43 02.6 +0.8**
PBRG Braganca 27.52 294 *e*P **P** **20 43 04.2 -0.2**
comp=Z,26nm,1.6s
ATD Arta Tunnel 27.53 146 LR LR 20 54 40.5
comp=Z,88nm,20.0s,baz=332,slow=38
NB2 NORSAR Subarra 27.64 343 P **P** **20 43 03.7 -1.6**
comp=Z,3.5nm,0.8s,baz=150,slow=9.3
NOA NORSAR Array B 27.64 343 P **P** **20 43 03.9 -1.4**
comp=Z,1.6nm,0.8s,baz=139,slow=10,SNR=6.6
NOA LR LR 20 55 03.1
comp=Z,311nm,18.5s,baz=160,slow=39
MVO Moncorvo 27.72 292 *e*P **P** **20 43 06.2 -0.1**
comp=Z,19nm,1.3s
MVO *e*S S 20 48 07.7 +19
PMRV Marv??o 28.04 289 *e*P **P** **20 43 08.4 -0.7**
comp=Z,19nm,1.4s
PMRV *e*S S 20 48 03.1 +10
PCBR Castelo Branco 28.09 289 *e*P **P** **20 43 10.4 +0.9**
comp=Z,14nm,1.5s
MTE Manteigas 28.12 291 *e*P **P** **20 43 10.9 +1.1**

MTE eS S 20 48 08.9 +14
PVIS Viseu 28.38 291 eP **P 20 43 12.3 +0.2**
comp=Z,17nm,1.5s
PCAB Cabril 28.48 293 eP **P 20 43 13.1 +0.1**
comp=Z,19nm,1.5s
PRGR Permogore 28.49 18 eP **P 20 43 12.9 +0.1**
PBEJ Beja 28.52 286 eP **P 20 43 14.4 +1.0**
comp=Z,15nm,1.3s
PGAV Gavieira, Arco 28.66 294 eS **S 20 48 03.1 -0.1**
PCVE Castro Verde 28.70 285 eP **P 20 43 15.1 +0.1**
comp=Z,14nm,1.3s
PMTG Montargil 28.71 288 eP **P 20 43 16.8 +1.8**
comp=Z,12nm,1.9s
COI Coimbra 28.79 290 eS S 20 48 26.6 +22
PCAS Casmilo, Conde 28.86 290 eS **S 20 48 04.8 -1.4**
EKA Eskdalemuir Ar 29.00 323 P **P 20 43 17.2 -0.2**
comp=Z,0.6nm,0.5s,baz=118,slow=11,SNR=2.6
PNCL Nicolau / Gran 29.03 286 eP **P 20 43 18.4 +0.5**
comp=Z,13nm,2.6s
PSBE So Bento 29.12 289 eS **S 20 48 01.8 -8.6**
TMCR Tamitsa 29.36 9 eP **P 20 43 20.3 -0.2**
ARU Arti 29.53 35 LR LR 20 57 21.3
comp=Z,176nm,21.0s,baz=246,slow=41
ARU Arti 29.53 35*d iP* **P 20 43 23.5 +1.4**
ARU 20 46 25.4
ARU S **S 20 48 21.2 +4.8**
ARU SS **SnSn 20 49 44.6 +0.5**
ARU pmax pmax
comp=Z,7.0nm,1.6s
ARU MLR MLR
comp=Z,176nm,22.0s
PMAFR Mafra 29.54 288 eP **P 20 43 22.5 +0.1**
comp=Z,43nm,1.3s
PMAFR eS **S 20 48 23.1 +6.2**
TOA0 Torodi Ar. Sit 32.36 233 P **P 20 43 47.9 +0.5**
TORD Torodi Ar. Bea 32.36 233 P **P 20 43 47.1 -0.3**
comp=Z,11nm,0.7s,baz=31,slow=8.6,SNR=61
TORD PcP **PcP 20 46 36.3 +1.1**
comp=Z,0.4nm,0.7s,baz=6.7,slow=5.1,SNR=1.5
TORD LR LR 21 00 11.1
comp=Z,285nm,18.1s,baz=40,slow=42
TORD Torodi Ar. Bea 32.36 233 P **P 20 43 47.6 +0.2**
CHGR Chuyangaron 33.00 72 P **P 20 43 52.5 -0.5**
KKAR Karatay Array 33.66 64 P **P 20 43 56.8 -1.9**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 33.66 64 P **P 20 43 57.6 -1.0**
KKAR Karatay Array 33.66 64 P **P 20 43 56.8 -1.9**
KKAR IAmb IAmb 20 44 07.8
comp=Z,2.2nm,0.8s
GAR Garm 33.85 71 P **P 20 44 01.7 +1.2**
GAR IAmb IAmb 20 44 11.5
comp=Z,8.7nm,0.9s
ARCES ARCESS Array B 34.10 359 P **P 20 44 00.8 -1.3**
comp=Z,0.9nm,0.5s,baz=170,slow=7.4,SNR=8.2
ARCES PcP **PcP 20 46 41.4 +2.3**
comp=Z,2.6nm,0.9s,baz=340,slow=10,SNR=1.8
ARCES LR LR 20 58 08.0
comp=Z,230nm,19.0s,baz=172,slow=37
ARCES ARCESS Array B 34.10 359 P **P 20 44 02.7 +0.6**
BTK Batken 34.10 69 P **P 20 44 02.5 -0.1**
BTK pmax pmax
comp=Z,4.0nm,1.1s
BTK Batken 34.10 69 P **P 20 44 02.5 -0.1**
BTK IAmb IAmb 20 44 36.7
comp=Z,3.9nm,1.1s
BRVK Borovoye 34.53 46 *i P* **P 20 44 07.2 +1.2**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
ARSB Arslanbob 35.61 67 P **P 20 44 15.8 +0.2**
ARSB pmax pmax
comp=Z,5.0nm,0.9s
ARSB Arslanbob 35.61 67 P **P 20 44 15.8 +0.2**
ARSB IAmb IAmb 20 44 25.4
comp=Z,5.4nm,0.8s
AAK Ala-Archa 36.61 64*ceP* **P 20 44 23.7 -0.5**
AAK pmax pmax
comp=Z,5.0nm,1.3s
NIL Nilore 37.27 79 P **P 20 44 30.7 +0.9**
NIL pmax pmax
comp=Z,9.0nm,0.8s
NIL Nilore 37.27 79 P **P 20 44 30.7 +0.9**
NIL IAmb IAmb 20 44 32.7
comp=Z,9.3nm,0.8s
KDJ Kajisay 38.64 65 P **P 20 44 42.3 +0.8**
KDJ pmax pmax
comp=Z,4.0nm,0.9s
KDJ Kajisay 38.64 65 P **P 20 44 42.3 +0.8**
KURK Kurchatov 39.32 51*ceP* **P 20 44 47.0 +0.2**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 39.32 51 P **P 20 44 46.6 -0.2**
DBIC Dimbokro 41.45 234 P **P 20 45 04.4 -0.4**
comp=Z,8.9nm,0.7s,baz=34,slow=7.5,SNR=10
DBIC LR LR 21 05 26.2
comp=Z,194nm,18.9s,baz=12,slow=41
DBIC Dimbokro 41.45 234 P **P 20 45 04.5 -0.4**
TIC Toumodi 41.58 234 eP **P 20 45 05.6 -0.3**
MAKZ Makanchi 41.60 57 P **P 20 45 05.9 +0.1**
MAKZ pmax pmax
comp=Z,10.0nm,2.0s
MAKZ Makanchi 41.60 57 P **P 20 45 05.9 +0.1**
MAKZ IAmb IAmb 20 45 09.1
comp=Z,9.6nm,1.9s
KIC Kosan Boka 41.61 233 eP **P 20 45 06.1 0.0**
comp=Z,21nm,0.7s
MK31 Makanchi Array 41.82 57 P **P 20 45 07.2 -0.3**
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 41.82 57 P **P 20 45 07.2 -0.3**
MKAR Makanchi Array 41.82 57 P **P 20 45 07.8 +0.2**
comp=Z,1.4nm,0.6s,baz=278,slow=6.3,SNR=18
MKAR ScP **ScP 20 50 52.5 -1.0**
comp=Z,0.3nm,0.6s,baz=272,slow=5.9,SNR=3.5
MKAR Makanchi Array 41.82 57 P **P 20 45 07.5 -0.1**
LIC Lamto 41.90 234 eP **P 20 45 08.5 0.0**
comp=Z,19nm,0.7s
SPITS Spitsbergen Ar 43.04 357 P **P 20 45 16.8 -0.3**
comp=Z,2.3nm,0.7s,baz=118,slow=12,SNR=1.2
ZAA0 Zalesovo Array 43.24 46 P **P 20 45 18.4 -0.5**
ZAA0 IAmb IAmb 20 45 21.6
comp=Z,18nm,2.0s
ZALV Zalesovo Beam 43.24 46 P **P 20 45 18.6 -0.4**
comp=Z,2.1nm,0.6s,baz=264,slow=8.7,SNR=7.7
ZALV Zalesovo Beam 43.24 46 P **P 20 45 18.3 -0.6**
DGZ Jazzator, Alta 45.00 52 *i P* **P 20 45 33.3 0.0**
DGZ pmax pmax
comp=Z,5.0nm,1.5s
NRIK Noril'sk 46.67 25 P **P 20 45 46.5 +0.5**
comp=Z,1.5nm,0.4s,baz=335,slow=6.3,SNR=3.9
NRIK LR LR 21 08 32.6
comp=Z,107nm,19.6s,baz=192,slow=40
PYUN Piuthan 47.02 83 eP **P 20 45 50.3 +0.7**
KOLN Koldanda 47.65 83 eP **P 20 45 54.8 +0.3**
comp=Z,34nm,0.9s
GKN Gorkha 48.39 82 eP **P 20 46 00.3 +0.1**
comp=Z,29nm,0.7s
DMN Daman 48.93 82 eP **P 20 46 04.7 +0.2**
comp=Z,29nm,0.8s
KKN Kakani 49.00 82 eP **P 20 46 04.8 -0.1**
comp=Z,13nm,0.6s
PKI Pulchoki 49.19 82 eP **P 20 46 06.3 -0.3**
comp=Z,42nm,1.1s
JIRN Jiri 49.79 82 eP **P 20 46 11.3 +0.1**
comp=Z,22nm,0.6s
RAMN Ramite 50.41 82 eP **P 20 46 14.8 -1.0**
comp=Z,14nm,0.9s
TAPN Taplejung 51.14 81 eP **P 20 46 21.4 +0.1**
comp=Z,20nm,0.7s
LSA Lhasa 52.94 77 P **P 20 46 35.4 +0.5**
LSA pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 52.94 77 P **P 20 46 35.4 +0.5**
LSA IAmb IAmb 20 46 35.9
comp=Z,3.6nm,0.8s
GTA Gaotai 55.93 63 ⇑P **P 20 46 56.3 +0.2**
GTA pP sP 20 47 01.8 +0.7
GTA sP pP 20 47 04.8 +5.0
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,64nm,7.5s
GTA LR LR
comp=N,88nm,18.7s
GTA LR LR
comp=E,96nm,19.4s
GTA LR LR
comp=Z,81nm,17.8s
SONM Songino Array 57.63 51 P **P 20 47 08.5 +0.4**
comp=Z,1.5nm,0.7s,baz=285,slow=7.0,SNR=3.3
SONM Songino Array 57.63 51 P **P 20 47 08.4 +0.4**
ULN Ulaanbaatar 58.04 51*ceP* **P 20 47 11.2 +0.3**
ULN pmax pmax
comp=Z,5.0nm,1.1s
FRB Frobisher Bay 61.42 330 LR LR 21 15 17.4
comp=Z,77nm,18.1s,baz=31,slow=37
BOSA Boshof 63.83 182 P **P 20 47 50.9 +0.6**
comp=Z,3.9nm,0.8s,baz=5.1,slow=6.2,SNR=5.6
BOSA Boshof 63.83 182 P **P 20 47 51.2 +0.9**
BOSA Boshof 63.83 182 P **P 20 47 51.1 +0.9**
RES Resolute Bay 63.85 346 LR LR 21 16 11.6
comp=Z,74nm,18.6s,baz=310,slow=37
SCHQ Schefferville 64.27 320 P **P 20 47 51.8 -1.1**
comp=Z,2.4nm,0.4s,baz=82,slow=3.7,SNR=6.5
SCHQ LR LR 21 14 22.4
comp=Z,57nm,21.0s,baz=96,slow=35
SCHQ Schefferville 64.27 320 P **P 20 47 53.3 +0.4**
CMAR Chiang Mai Arr 64.44 85 P **P 20 47 54.1 -0.5**
comp=Z,1.3nm,0.8s,baz=298,slow=8.0,SNR=13
CMAR Chiang Mai Arr 64.44 85*ceP* **P 20 47 54.5 -0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.9s
CMAR Chiang Mai Arr 64.44 85 P **P 20 47 51.8 -2.7**
PBKT Sadao Pong 67.07 86 P **P 20 48 11.6 +0.1**
LMN Caledonia Moun 67.15 311 P **P 20 48 11.6 0.0**
BATG Bathurst New B 67.24 313 P **P 20 48 12.1 -0.1**
E62A Allapoint, All 69.12 313 P **P 20 48 24.9 +0.9**
F64A Sherman 69.31 312 P **P 20 48 25.5 +0.3**
E62A Clayton Lake 69.64 313 P **P 20 48 27.8 +0.6**
F63A Nahmakanta, Br 69.85 312 P **P 20 48 29.3 +0.8**
USRK Ussuriysk Ar. 75.09 46 P **P 20 48 59.4 -0.3**
comp=Z,1.8nm,0.6s,baz=324,slow=5.5,SNR=7.1
INK Inuvik 75.54 353 LR LR 21 25 26.3
comp=Z,52nm,18.5s,baz=12,slow=38
SADO Sadowa 76.28 315 LR LR 21 22 35.3
comp=Z,65nm,18.2s,baz=76,slow=36
KSRS Korea Array 76.39 54 P **P 20 49 07.0 -0.3**
comp=Z,0.8nm,0.6s,baz=338,slow=29,SNR=2.9
YKA Yellowknife Ar 77.74 343 P **P 20 49 14.3 -0.1**
comp=Z,0.6nm,0.6s,baz=19,slow=6.5,SNR=3.0
YKA LR LR 21 26 55.5
comp=Z,71nm,18.3s,baz=0.0,slow=38
ILAR Eielson Array 79.95 358 P **P 20 49 25.6 -1.0**
comp=Z,0.5nm,0.7s,baz=8.7,slow=2.8,SNR=4.3
ULM Lac du Bonnet 81.17 327 P **P 20 49 33.4 0.0**
comp=Z,2.5nm,0.5s,baz=53,slow=6.6,SNR=2.7
ULM LR LR 21 25 40.7
comp=Z,71nm,18.6s,baz=88,slow=36
ULM Lac du Bonnet 81.17 327 P **P 20 49 33.4 0.0**
ULM pmax pmax
comp=Z,12nm,1.4s
ULM Lac du Bonnet 81.17 327 IAmb IAmb 20 49 51.4
comp=Z,12nm,1.4s
PETK Petropavlovsk- 81.63 28 LR LR 21 29 45.5
comp=Z,55nm,20.3s,baz=246,slow=39
PDAR Pinedale Array 92.88 330 LR LR 21 36 05.3
comp=Z,59nm,18.1s,baz=32,slow=38
NVAR Mina Array Bea 99.99 334 LR LR 21 38 57.4
comp=Z,56nm,19.2s,baz=79,slow=37
WRA Warramunga Arr 114.55 98 PKP **PKiKP 20 55 58.7 +0.3**
comp=Z,0.4nm,0.8s,baz=318,slow=1.9,SNR=1.8
ASAR Alice Springs 116.05 101 PKP **PKiKP 20 56 01.7 +0.4**
comp=Z,0.4nm,0.6s,baz=312,slow=1.3,SNR=5.1

*IDC **21** 20:37:57.2±1.0, 64°.19N×18°.28W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.5/59, mbtmp3.7/8, ML4.2/1, Error ellipse: s-maj=33.5km s-min=18.3km az=20.0*
*NEIC **21** 20:37:58.8±1.4, 64°.2N±0°.1×18°.4W±0°.2, h10km±1km, mb4.4/3, Error ellipse: s-maj=24.8km s-min=9.2km az=218.0*
ISC 21 20:37:58.5±0.7, 64°.4N±0°.1×18°.09W±0°.09, h10km, n19, σ1s28/19, mb3.8/7, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**1.45**	**287**		Pg	**Pn**	**20 38 24.3**	**-0.4**
	22nm,0.3s,baz=92,slow=8.0,SNR=53							
BORG					Lg	Lg	20 38 48.0	
	11nm,0.3s,baz=224,slow=21,SNR=14							
BORG	**Borgarnes**	**1.45**	**287**			**Pn**	**20 38 24.1**	**-0.6**
SCO	**Scoresbysund**	**6.32**	**348**		Pn	**Pn**	**20 39 29.0**	**-2.6**
ESK	**Eskdalemuir**	**11.73**	**134**		Pn	**Pn**	**20 40 44.9**	**-0.7**
EKA	**Eskdalemuir Ar**	**11.73**	**134**		Pn	**Pn**	**20 40 44.0**	**-1.6**
	baz=324,slow=13,SNR=11							
FINES	**FINESS Array B**	**20.02**	**78**	P		**P**	**20 42 32.3**	**+1.4**
	2.3nm,1.0s,baz=287,slow=7.8,SNR=3.8							
SCHQ	**Schefferville**	**25.79**	**271**	P		**P**	**20 43 27.4**	**-1.8**
	3.1nm,0.7s,baz=57,slow=17,SNR=3.0							
SCHQ	**Schefferville**	**25.79**	**271**	P		**P**	**20 43 27.6**	**-1.6**
SCHQ					IAmb	IAmb	20 43 27.8	
	comp=Z,16nm,1.4s							
ILAR	**Eielson Array**	**45.83**	**332**	P		**P**	**20 46 20.3**	**+0.3**
	comp=Z,1.9nm,1.2s,baz=29,slow=6.5,SNR=8.4							
ILAR	**Eielson Array**	**45.83**	**332**	P		**P**	**20 46 20.9**	**+1.0**
IMAR	**Indian Mountai**	**46.03**	**337**	P		**P**	**20 46 22.2**	**+0.7**
BCAR	**Beaver Creek A**	**46.23**	**328**	P		**P**	**20 46 24.8**	**+1.6**
TORD	**Torodi Ar. Bea**	**52.97**	**156**	P		**P**	**20 47 14.4**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=339,slow=7.7,SNR=3.8							
TORD	**Torodi Ar. Bea**	**52.97**	**156**	P		**P**	**20 47 14.7**	**-0.3**
PDAR	**Pinedale Array**	**53.06**	**293**	P		**P**	**20 47 16.0**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=60,slow=4.9,SNR=7.6							
PDAR	**Pinedale Array**	**53.06**	**293**	P		**P**	**20 47 15.9**	**+0.2**
MKAR	**Makanchi Array**	**53.10**	**58**	P		**P**	**20 47 17.4**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=316,slow=4.0,SNR=1.6							
PV13	**Radium Mtn., P**	**56.66**	**289**	P		**P**	**20 47 42.2**	**+0.4**
PV13					IAmb	IAmb	20 47 46.1	
	comp=Z,4.3nm,1.1s							
TXAR	**Lajitas Array**	**62.08**	**280**	P		**P**	**20 48 19.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=64,slow=6.1,SNR=3.0							

*ISK **21** 20:59:28.4, 34°.99N×29°.26E, h73km, ML3.0/28*
*NIC **21** 20:59:30.9±0.0, 35°.09N×29°.31E, h31km±24km, Ml3.6/3*
*DDA **21** 20:59:34.5, 35°.44N×29°.31E, h53km±6km, ML2.5*
*GII **21** 20:59:35.5±0.5, 34°.78N×29°.60E, h40km*
*HLW **21** 20:59:37.5, 35°.45N×27°.05E, h9km±10km, Md3.2, Ml3.2*
ISC 21 20:59:29.9±1.2, 35°.09N±0°.04×29°.27E±0°.03, h62km±28km, n76, σ1s89/94, 1C-1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.08**	**13**	P		**Pn**	**20 59 49.7**	**+0.5**
KSL				S		**Sn**	**21 00 04.1**	**+0.7**
AKAS	**Kas**	**1.17**	**13**	PN		**Pn**	**20 59 51.9**	**+1.5**
AKAS				SN		**Sn**	**21 00 08.1**	**+2.5**
AKAS	**Kas**	**1.17**	**13**	*i* P		**Pn**	**20 59 52.1**	**+1.7**
AKAS				*i* S		**Sn**	**21 00 03.6**	**-2.0**
ARG	**Arkhangelos**	**1.46**	**321**	PN		**Pn**	**20 59 54.7**	**+0.6**
ARG	**Arkhangelos**	**1.46**	**321**	P		**Pn**	**20 59 54.5**	**+0.4**
AKUM	**Antalya-Kumluc**	**1.50**	**35**	*i* P		**Pn**	**20 59 56.1**	**+1.4**
AKUM				*i* S		**Sn**	**21 00 11.8**	**-1.5**
FETY	**Fethiye**	**1.55**	**354**	PN		**Pn**	**20 59 56.0**	**+0.7**
FETY	**Fethiye**	**1.55**	**354**	*i* P		**Pn**	**20 59 56.0**	**+0.7**
FETY				*i* S		**Sn**	**21 00 13.2**	**-1.3**
ELL	**Elmali**	**1.73**	**17**	PN		**Pn**	**20 59 58.9**	**+1.0**
KARP	**Karpathos**	**1.79**	**285**	PN		**Pn**	**20 59 59.4**	**+0.9**
KARP	**Karpathos**	**1.79**	**285**	P		**Pn**	**20 59 59.5**	**+0.9**
KARP				S		**Sn**	**21 00 22.7**	**+2.5**
DALY	**Dalyan (Mula)**	**1.79**	**344**	PN		**Pn**	**20 59 59.7**	**+1.1**
DALY	**Dalyan (Mula)**	**1.79**	**344**	*i* P		**Pn**	**20 59 59.3**	**+0.7**
DALY				*i* S		**Sn**	**21 00 18.0**	**-2.3**
DALY				IAML			21 00 57.0	
	comp=E,65nm,1.7s							
TURN	**Turunc**	**1.87**	**334**	PN		**Pn**	**21 00 00.7**	**+1.2**
KORT	**Korkueli**	**2.09**	**24**	PN		**Pn**	**21 00 04.0**	**+1.2**
KORT	**Korkueli**	**2.09**	**24**	*i* P		**Pn**	**21 00 05.6**	**+2.8**
KORT				*i* S		**Sn**	**21 00 26.5**	**-1.4**
ANTB	**Antalya**	**2.12**	**31**	PN		**Pn**	**21 00 04.4**	**+1.4**
DAT	**Datca**	**2.13**	**320**	PN		**Pn**	**21 00 04.1**	**+0.8**
DAT	**Datca**	**2.13**	**320**	*i* P		**Pn**	**21 00 04.4**	**+1.1**
DAT				*i* S		**Sn**	**21 00 23.6**	**-5.2**
GOLH	**Golhisar**	**2.15**	**6**	*i* P		**Pn**	**21 00 07.0**	**+3.4**
GOLH				*i* S		**Sn**	**21 00 27.9**	**-1.3**
YER	**Yerkesik**	**2.19**	**339**	PN		**Pn**	**21 00 06.0**	**+2.0**
OSC1	**CSNet OBS 1**	**2.30**	**133**	P		**Pn**	**21 00 06.0**	**+0.5**
OSC1				S		**Sn**	**21 00 33.5**	**+0.9**
TAVA	**DENIZLI_Tavas**	**2.38**	**353**	*i* P		**Pn**	**21 00 08.7**	**+2.0**
TAVA				*i* S		**Sn**	**21 00 33.1**	**-1.8**
ZKR	**Zakros**	**2.50**	**271**	PN		**Pn**	**21 00 07.9**	**-0.4**
AKMS	**Akamas**	**2.51**	**91**	P		**Pn**	**21 00 09.6**	**+1.2**
AKMS				S		**Sn**	**21 00 39.1**	**+1.2**
AKMS				AML		AML	21 00 39.4	
	comp=E,0.7nm,0.3s							
AKMS				AML		AML	21 00 39.4	
	comp=E,0.7nm,0.3s							
AKMS				AML		AML	21 00 40.6	
	comp=E,0.8nm,0.2s							
AKMS				AML		AML	21 00 40.6	
	comp=E,0.8nm,0.2s							
BODT	**Bodrum**	**2.53**	**322**	PN		**Pn**	**21 00 09.6**	**+1.0**
KEPZ	**Antalya-Kepez**	**2.61**	**46**	*i* P		**Pn**	**21 00 12.1**	**+2.3**
KEPZ				*i* S		**Sn**	**21 00 39.1**	**-1.3**
ALFC	**Alefka**	**2.73**	**88**	⇑P		**Pn**	**21 00 12.5**	**+1.2**
ALFC				S		**Sn**	**21 00 44.5**	**+1.3**
ALFC				AML		AML	21 00 44.7	
	comp=E,0.8nm,0.3s							
ALFC				AML		AML	21 00 44.7	
	comp=E,0.8nm,0.3s							
ALFC				AML		AML	21 00 45.1	
	comp=E,0.7nm,0.2s							
ALFC				AML		AML	21 00 45.1	
	comp=E,0.7nm,0.2s							
GAZI	**Gazipasa**	**2.73**	**64**	PN		**Pn**	**21 00 12.2**	**+0.9**
GAZI	**Gazipasa**	**2.73**	**64**	*i* P		**Pn**	**21 00 12.8**	**+1.5**
GAZI				*i* S		**Sn**	**21 00 37.4**	**-5.8**
NATA	**Nata**	**2.73**	**96**	P		**Pn**	**21 00 12.9**	**+1.5**
AYDN	**Tasoluk**	**2.80**	**337**	*i* P		**Pn**	**21 00 14.1**	**+1.8**
AYDN				*i* S		**Sn**	**21 00 42.0**	**-3.0**
AYDN				IAML			21 00 46.0	
	comp=E,26nm,0.5s							
AYDN				IAML			21 00 48.0	
	comp=N,26nm,0.4s							
LEF	**Lefka**	**2.97**	**88**	PN		**Pn**	**21 00 14.6**	**0.0**
LEF	**Lefka**	**2.97**	**88**	*i* P		**Pn**	**21 00 15.2**	**+0.7**
LEF				*i* S		**Sn**	**21 00 42.3**	**-6.7**
SZAC	**Souni**	**2.98**	**95**	⇓P		**Pn**	**21 00 16.1**	**+1.3**
SZAC				AML		AML	21 00 52.0	
	comp=N,0.6nm,0.2s							
SZAC				AML		AML	21 00 52.6	
	comp=N,0.4nm,0.2s							
GCAM	**G?zelcaml?**	**3.08**	**328**	PN		**Pn**	**21 00 17.7**	**+1.6**
GCAM	**G?zelcaml?**	**3.08**	**328**	*i* P		**Pn**	**21 00 17.5**	**+1.5**
GCAM				*i* S		**Sn**	**21 00 49.6**	**-2.1**
GCAM				IAML			21 01 03.0	
	comp=E,15nm,0.3s							
GCAM				IAML			21 01 53.0	
	comp=N,27nm,1.3s							
SEYD	**Seydisehir-KON**	**3.10**	**41**	PN		**Pn**	**21 00 18.1**	**+1.6**
OSC2	**CSNet OBS 4**	**3.20**	**128**	P		**Pn**	**21 00 19.2**	**+1.5**
OSC2				S		**Sn**	**21 00 56.2**	**+1.5**
ASGA	**Asgata**	**3.28**	**94**	P		**Pn**	**21 00 20.0**	**+1.1**
TEKE	**Tekeli-Mersin**	**3.30**	**70**	PN		**Pn**	**21 00 20.3**	**+1.2**
CSS	**Mathiatis**	**3.33**	**91**	PN		**Pn**	**21 00 20.1**	**+0.5**
CSS	**Mathiatis**	**3.33**	**91**	Pn		**Pn**	**21 00 20.8**	**+1.2**
CSS	**Mathiatis**	**3.33**	**91**	P		**Pn**	**21 00 20.8**	**+1.2**
SANT	**Santorini**	**3.35**	**293**	PN		**Pn**	**21 00 20.6**	**+0.7**
LFK	**Lefkose**	**3.49**	**86**	PN		**Pn**	**21 00 22.5**	**+0.8**
DOGA	**KONYA_Doganhis**	**3.57**	**32**	*i* P		**Pn**	**21 00 27.2**	**+4.2**
DOGA				IAML			21 01 09.0	
	comp=N,19nm,0.5s							
DOGA				IAML			21 01 14.0	
	comp=E,11nm,0.4s							
MVOU	**Mavrovouni**	**3.58**	**90**	P		**Pn**	**21 00 24.4**	**+1.4**
APE	**Apeiranthos**	**3.62**	**304**	PN		**Pn**	**21 00 24.5**	**+1.0**
USAK	**Uak-Merkez**	**3.62**	**357**	*i* P		**Pn**	**21 00 24.7**	**+1.2**
USAK				*i* S		**Sn**	**21 01 02.0**	**-3.0**
USAK				IAML			21 02 21.0	
	comp=N,45nm,5.1s							
USAK				IAML			21 02 21.0	
	comp=E,70nm,4.5s							
AKKU	**Akkuyu-Mersin**	**3.64**	**72**	PN		**Pn**	**21 00 25.1**	**+1.3**
TEVE	**Tevekalti-Mers**	**3.65**	**67**	PN		**Pn**	**21 00 25.3**	**+1.4**
IKL	**Isikli**	**3.77**	**71**	PN		**Pn**	**21 00 27.2**	**+1.6**
KONT	**Konya--Tatoy**	**3.78**	**40**	PN		**Pn**	**21 00 27.8**	**+2.1**
KRMN	**Karaman**	**3.84**	**56**	PN		**Pn**	**21 00 28.3**	**+1.7**
URLA	**Izmir**	**3.91**	**327**	PN		**Pn**	**21 00 29.3**	**+1.9**
CHOS	**Chios island**	**4.18**	**323**	PN		**Pn**	**21 00 33.1**	**+1.9**
TVSB	**Tavsanli**	**4.35**	**2**	PN		**Pn**	**21 00 34.9**	**+1.3**
SLUM	**Salum**	**4.95**	**225**	P		**Pn**	**21 00 41.9**	**+0.2**
	baz=202							
SLUM				AMP			21 01 00.0	
	baz=202							
SLUM				S		Sn	21 01 28.9	-8.6
	baz=202							
ULDT	**Uludag**	**5.04**	**359**	*i* P		Pn	21 00 32.1	-11
HMYD	**Mayadein**	**5.44**	**166**	P		Pn	21 01 07.3	+19
	baz=149							
MMA0B	**Mount Meron ar**	**5.50**	**110**	Pn		**Pn**	**21 00 49.7**	**+0.4**
HNAT	**Natroun**	**5.56**	**168**	P		Pn	21 01 07.5	+17
	baz=151							
NATI	**Neve Ativ**	**5.66**	**107**	Pn		**Pn**	**21 00 52.9**	**+1.5**
NATI				Sn		**Sn**	**21 01 53.6**	**-1.5**
HSAF	**As Saff**	**5.79**	**160**	P		Pn	21 01 19.6	+26
	baz=145							
AMAZ	**Amatzia**	**5.91**	**125**	Pn		**Pn**	**21 00 56.3**	**+1.4**
HMDT	**Nahal Hemdat**	**5.93**	**117**	Pn		**Pn**	**21 00 57.1**	**+1.9**
KZIT	**Kziot**	**6.00**	**133**	Pn		**Pn**	**21 00 56.5**	**+0.4**
YTIR	**Yattir**	**6.15**	**126**	Pn		**Pn**	**21 00 59.0**	**+0.8**
DSI	**Dead Sea**	**6.20**	**123**	Pn		**Pn**	**21 00 59.9**	**+1.0**
GHAJ	**Ghor Haditha**	**6.49**	**124**	Pn		**Pn**	**21 01 03.9**	**+1.1**
NBNS	**Bani Suef**	**6.68**	**165**	P		Pn	21 01 28.2	+23
	baz=151							
ZFRI	**Zfri**	**6.72**	**131**	Pn		**Pn**	**21 01 06.3**	**+0.3**
PRNI	**Paran**	**6.76**	**133**	Pn		**Pn**	**21 01 06.6**	**+0.1**
HRFI	**Mount Harif**	**7.01**	**134**	Pn		**Pn**	**21 01 10.4**	**+0.5**
HRFI				Sn		**Sn**	**21 02 24.4**	**-3.8**
MBRI	**Mt Berech**	**7.12**	**136**	Pn		**Pn**	**21 01 11.8**	**+0.3**

*IDC **21** 21:00:52.1±1.2, 13°.16N×145°.94E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.4/51, mbtmp3.6/6, Error ellipse: s-maj=30.7km s-min=23.4km az=94.0*
ISC 21 21:00:58.4±1.1, 13°.2N±0°.1×145°.8E±0°.1, h43km, n7, σ1s39/8, mb3.6/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.98**	**295**	Pn		**Pn**	**21 01 14.6**	**-1.1**
	369nm,0.3s,baz=127,slow=10,SNR=171							
GUMO				Sn		**Sn**	**21 01 28.5**	**+0.1**
	418nm,0.3s,baz=11,slow=21,SNR=8.6							
WRA	**Warramunga Arr**	**34.78**	**199**	P		**P**	**21 07 44.9**	**-0.1**
	0.4nm,0.6s,baz=23,slow=9.7,SNR=4.8							
ASAR	**Alice Springs**	**38.41**	**198**	P		**P**	**21 08 16.0**	**0.0**
	0.4nm,0.9s,baz=16,slow=13,SNR=2.1							
PETK	**Petropavlovsk-**	**40.96**	**11**	P		**P**	**21 08 37.6**	**+0.9**
	2.2nm,1.0s,baz=235,slow=10,SNR=1.8							
MKAR	**Makanchi Array**	**62.41**	**316**	P		**P**	**21 11 18.3**	**+1.3**
	0.3nm,0.5s,baz=100,slow=6.0,SNR=2.6							
ILAR	**Eielson Array**	**68.57**	**25**	P		**P**	**21 11 54.2**	**-2.2**
	0.2nm,0.6s,baz=249,slow=6.5,SNR=2.0							
FINES	**FINESS Array B**	**91.91**	**335**	P		**P**	**21 14 03.1**	**+1.1**
	1.0nm,0.8s,baz=42,slow=6.4,SNR=1.2							

*KRNET **21** 21:06:36.0±0.1, 39°.75N×75°.47E, mb3.8*
*SOME **21** 21:06:37.4, 39°.83N×75°.38E, h15km*
*NNC **21** 21:06:41.3±1.0, 39°.95N×75°.32E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=7.5km s-min=6.0km az=156.0*
**ISC

UCH	**Uchtor**	**2.61**	**345**	⇑*iP*		**Pn**	**21 07 21.6**	**-1.3**
	baz=44								
UCH				⇑*iS*		**Sn**	**21 07 54.6**	**-0.8**
	baz=44								
UCH	**Uchtor**	**2.61**	**345**	P		**Pn**	**21 07 22.2**	**-0.7**
	SNR=46								
ULHL	**Ulahol**	**2.62**	**14**	⇑*iP*		**Pn**	**21 07 21.1**	**-1.7**
	baz=13								
ULHL				⇑*iS*		**Sn**	**21 07 54.0**	**-1.2**
	baz=13								
ULHL	**Ulahol**	**2.62**	**14**	P		**Pn**	**21 07 21.9**	**-0.8**
	SNR=23								
TARG	**Taragay, Kyrgy**	**2.72**	**41**	⇑*iP*		**Pn**	**21 07 22.6**	**-1.8**
	baz=41								
TARG				⇑*iS*		**Sn**	**21 07 56.1**	**-2.0**
	baz=41								
AML	**Almayashu**	**2.75**	**332**	⇑*iP*		**Pn**	**21 07 23.3**	**-1.5**
	baz=31								
AML				⇑*iS*		**Sn**	**21 07 58.1**	**-0.7**
	baz=31								
AML	**Almayashu**	**2.75**	**332**	P		**Pn**	**21 07 23.6**	**-1.1**
	SNR=72								
KDJ	**Kajisay**	**2.77**	**28**	⇓*iP*		**Pn**	**21 07 23.2**	**-1.7**
	baz=28								
KDJ				⇓*iS*		**Sn**	**21 07 57.3**	**-1.7**
	baz=28								
KBK	**Karagaybulak**	**2.97**	**353**	⇓*iP*		**Pn**	**21 07 26.0**	**-1.6**
	baz=53								
KBK				⇓*iS*		**Sn**	**21 08 03.0**	**-0.9**
	baz=53								
KBK	**Karagaybulak**	**2.97**	**353**	P		**Pn**	**21 07 27.3**	**-0.3**
	SNR=21								
AAK	**Ala-Archa**	**3.01**	**347**	⇓*iP*		**Pn**	**21 07 26.6**	**-1.5**
	baz=46								
AAK				⇓*iS*		**Sn**	**21 08 04.0**	**-0.9**
	baz=46								
AAK	**Ala-Archa**	**3.01**	**347**	P		**Pn**	**21 07 28.1**	**-0.1**
	SNR=44								
AAK	**Ala-Archa**	**3.01**	**347**	⇓Pn		**Pn**	**21 07 27.9**	**-0.2**
	28nm,0.5s								
AAK				⇓Lg		Lg	21 08 05.0		
	34nm,0.6s								
FRU1	**Bishkek**	**3.16**	**350**	⇑*iP*		**Pn**	**21 07 28.6**	**-1.5**
	baz=49								
FRU1				⇑*iS*		**Sn**	**21 08 07.2**	**-1.2**
	baz=49								
EKS2	**Erkin-Say**	**3.20**	**338**	⇓*iP*		**Pn**	**21 07 29.1**	**-1.6**
	baz=37								
EKS2				⇓*iS*		**Sn**	**21 08 08.8**	**-0.7**
	baz=37								
EKS2	**Erkin-Say**	**3.20**	**338**	P		**Pn**	**21 07 30.4**	**-0.3**
	SNR=29								
TKM2	**Tokmak 2**	**3.22**	**3**	⇑*iP*		**Pn**	**21 07 29.5**	**-1.5**
	baz=2.0								
TKM2				⇑*iS*		**Sn**	**21 08 08.8**	**-1.2**
	baz=2.0								
TKM2	**Tokmak 2**	**3.22**	**3**	P		**Pn**	**21 07 30.9**	**-0.1**
	SNR=65								
TKM2	**Tokmak 2**	**3.22**	**3**	⇓Pn		**Pn**	**21 07 30.4**	**-0.6**
	18nm,0.4s								
TKM2				⇑Lg		Lg	21 08 15.1		
	52nm,0.6s								
CHMS	**Chumysh**	**3.33**	**352**	⇓*eP*		**Pn**	**21 07 31.0**	**-1.4**
	baz=51								
CHMS				⇓*iS*		**Sn**	**21 08 11.3**	**-1.2**
	baz=51								
CHMS	**Chumysh**	**3.33**	**352**	P		**Pn**	**21 07 32.2**	**-0.2**
	SNR=22								
KST	**Kastek**	**3.36**	**7**	*eP*		**Pb**	**21 07 38.9**	**-0.8**
	29nm,0.5s								
KST				*eS*		**Sb**	**21 08 22.3**	**+1.2**
	135nm,0.8s								
KST	**Kastek**	**3.36**	**7**	Pg		**Pb**	**21 07 38.9**	**-0.8**
	29nm,0.5s								
KST				Lg		Lg	21 08 22.3		
	135nm,0.8s								
IZV	**Izvestkoviy**	**3.45**	**15**	*eP*		**Pb**	**21 07 40.5**	**-0.7**
	27nm,0.4s								
IZV				*eS*		**Sb**	**21 08 25.2**	**+1.5**
	86nm,0.5s								
IZV	**Izvestkoviy**	**3.45**	**15**	Pg		**Pb**	**21 07 40.5**	**-0.7**
	27nm,0.4s								
IZV				Lg		Lg	21 08 25.2		
	86nm,0.5s								
MRKS	**Merke**	**3.46**	**332**	*eP*		**Pb**	**21 07 39.5**	**-1.8**
	8.1nm,0.4s								
MRKS				*eS*		**Sb**	**21 08 23.7**	**0.0**
	24nm,0.3s								
MRKS	**Merke**	**3.46**	**332**	Pg		**Pb**	**21 07 40.6**	**-0.6**
	39nm,0.3s								
MRKS				Lg		Lg	21 08 23.7		
	24nm,0.3s								
MTBS	**Maitube**	**3.51**	**12**	*eP*		**Pb**	**21 07 41.6**	**-0.5**
	10nm,0.4s								
MTBS				*eS*		**Sb**	**21 08 26.8**	**+1.6**
	51nm,0.6s								
MTBS	**Maitube**	**3.51**	**12**	Pg		**Pb**	**21 07 41.6**	**-0.5**
	10nm,0.4s								
MTBS				Lg		Lg	21 08 26.8		
	51nm,0.6s								
ANVS	**Anan'yevo**	**3.52**	**28**	⇑*eP*		**Pn**	**21 07 33.5**	**-1.6**
	baz=28								
ANVS				⇑*iS*		**Sn**	**21 08 15.5**	**-1.9**
	baz=28								
TNSS	**Tian-Shan**	**3.53**	**19**	*eP*		**Pb**	**21 07 42.0**	**-0.6**
	20nm,0.4s								
TNSS				*eS*		**Sb**	**21 08 27.9**	**+1.9**
	62nm,0.6s								
TNSS	**Tian-Shan**	**3.53**	**19**	Pg		**Pb**	**21 07 42.0**	**-0.6**
	20nm,0.4s								
TNSS				Lg		Lg	21 08 28.0		
	62nm,0.6s								
BTK	**Batken**	**3.55**	**277**	⇓*iP*		**Pn**	**21 07 35.5**	**+0.1**
	baz=76								
BTK				⇓*iS*		**Sn**	**21 08 18.6**	**+0.6**
	baz=76								
PRZ	**Przheval'sk**	**3.58**	**38**	⇓*eP*		**Pn**	**21 07 34.5**	**-1.5**
	baz=38								
PRZ				⇓*iS*		**Sn**	**21 08 17.3**	**-1.7**
	baz=38								
USP	**Ospenovka**	**3.62**	**349**	P		**Pn**	**21 07 35.8**	**-0.6**
	SNR=13								
MDOK	**Medeo**	**3.67**	**19**	*eP*		**Pb**	**21 07 44.2**	**-0.7**
	9.4nm,0.4s								
MDOK				*eS*		**Sb**	**21 08 31.6**	**+1.6**
	85nm,0.8s								
MDOK	**Medeo**	**3.67**	**19**	Pn		**Pn**	**21 07 36.8**	**-0.4**
	4.6nm,0.4s								
MDOK				Pg		**Pb**	**21 07 44.0**	**-0.9**
	5.9nm,0.4s								
MDOK				Lg		Lg	21 08 31.1		
	119nm,1.0s								
MDOK	**Medeo**	**3.67**	**19**	Pg		**Pb**	**21 07 44.2**	**-0.7**
	9.4nm,0.4s								
MDOK				Lg		Lg	21 08 31.6		
	85nm,0.8s								
KNDC	**Almaty**	**3.70**	**18**	⇓Pn		**Pn**	**21 07 37.3**	**-0.2**
	9.4nm,0.3s								
KNDC				⇓Pg		**Pb**	**21 07 45.0**	**-0.4**
	34nm,0.7s								
KNDC				⇑Lg		Lg	21 08 32.7		
	299nm,0.8s								
KOTS	**Kotyrbulak**	**3.75**	**19**	*eP*		**Pb**	**21 07 46.2**	**-0.2**
	32nm,0.4s								
KOTS				*eS*		**Sb**	**21 08 34.6**	**+2.2**
	151nm,0.6s								
KOTS	**Kotyrbulak**	**3.75**	**19**	Pg		**Pb**	**21 07 46.2**	**-0.2**
	32nm,0.4s								
KOTS				Lg		Lg	21 08 34.6		
	151nm,0.6s								
SGDS	**Sogindy**	**3.79**	**351**	Pg		**Pb**	**21 07 45.0**	**-1.9**
	12nm,0.3s								
SGDS				Lg		Lg	21 08 33.8		
	34nm,0.4s								
KRBS	**Karabastau**	**4.00**	**3**	*eP*		**Pb**	**21 07 49.8**	**-0.6**
	16nm,0.3s								
KRBS				*eS*		**Sb**	**21 08 40.8**	**+1.6**
	23nm,0.5s								
KRBS	**Karabastau**	**4.00**	**3**	Pg		**Pb**	**21 07 49.8**	**-0.6**
	16nm,0.3s								
KRBS				Lg		Lg	21 08 40.8		
	23nm,0.5s								
SATY	**Saty**	**4.04**	**33**	*eP*		**Pb**	**21 07 50.9**	**-0.4**
	6.8nm,0.5s								
SATY				*eS*		**Sb**	**21 08 42.6**	**+2.0**
	30nm,1.0s								
KTBS	**Karatobe**	**4.12**	**13**	*eP*		**Pb**	**21 07 52.1**	**-0.4**
	9.1nm,0.4s								
KTBS				*eS*		**Sb**	**21 08 44.6**	**+1.9**
	120nm,0.6s								
KTBS	**Karatobe**	**4.12**	**13**	Pg		**Pb**	**21 07 52.1**	**-0.4**
	9.1nm,0.4s								
KTBS				Lg		Lg	21 08 44.6		
	120nm,0.6s								
KUU	**Kurty**	**4.24**	**9**	*eP*		**Pb**	**21 07 54.7**	**+0.1**
	9.5nm,0.5s								
KUU				*eS*		**Sb**	**21 08 48.8**	**+2.5**
	28nm,0.5s								
KUU	**Kurty**	**4.24**	**9**	Pg		**Pb**	**21 07 54.7**	**+0.1**
	9.5nm,0.5s								
KUU				Lg		Lg	21 08 48.8		
	28nm,0.5s								
UZB	**Uzynbulak**	**4.38**	**37**	*eP*		**Pb**	**21 07 57.6**	**+0.5**
	3.1nm,0.7s								
UZB				*eS*		**Sb**	**21 08 53.7**	**+3.2**
	15nm,0.5s								
SHLS	**Shalkode**	**4.61**	**40**	*eP*		**Pg**	**21 08 06.2**	**-1.3**
	6.3nm,1.0s								
SHLS				*eS*		**Sg**	**21 09 08.5**	**+1.3**
	24nm,1.1s								
PDGK	**Podgornoye**	**4.75**	**39**	⇑Pn		**Pn**	**21 07 49.8**	**-2.1**
	2.4nm,0.8s								
PDGK				⇑Pg		**Pb**	**21 08 05.9**	**+2.7**
	6.5nm,0.7s								
PDGK				⇓Lg		Lg	21 09 06.0		
	17nm,0.7s								
IUG	**Iuzhnay**	**4.75**	**303**	*eP*		**Pb**	**21 08 04.1**	**+0.8**
	15nm,0.4s								
IUG				*eS*		**Sb**	**21 09 05.3**	**+4.4**
	39nm,0.8s								
IUG	**Iuzhnay**	**4.75**	**303**	Pg		**Pb**	**21 08 04.1**	**+0.8**
	15nm,0.4s								
IUG				Lg		Lg	21 09 05.3		
	39nm,0.8s								
ARXS	**Arharly**	**4.85**	**21**	*eP*		**Pb**	**21 08 04.6**	**-0.4**
	7.5nm,0.6s								
ARXS				*eS*		**Sb**	**21 09 05.8**	**+1.9**
	18nm,0.6s								
ARXS	**Arharly**	**4.85**	**21**	Pg		**Pb**	**21 08 05.8**	**+0.8**
	12nm,0.4s								
ARXS				Lg		Lg	21 09 07.4		
	18nm,0.6s								
KK31	**Karatay Array**	**5.01**	**314**	⇑Pg		**Pb**	**21 08 05.3**	**-2.3**
	1.5nm,0.5s,baz=129,slow=13,SNR=14								
KK31				⇑Lg		Lg	21 09 15.9		
	5.9nm,0.6s,baz=130,slow=28,SNR=4.3								
BTLS	**Baital**	**5.43**	**350**	*eP*		**Pb**	**21 08 15.8**	**+1.0**
	5.0nm,0.7s								
BTLS				*eS*		**Sb**	**21 09 24.9**	**+4.5**
	18nm,0.5s								
BTLS	**Baital**	**5.43**	**350**	Pg		**Pb**	**21 08 15.8**	**+1.0**
	5.0nm,0.7s								
BTLS				Lg		Lg	21 09 24.8		
	18nm,0.5s								
KAPS	**Kapalarasan**	**6.30**	**26**	*eP*		**Pb**	**21 08 31.1**	**+1.5**
	3.0nm,0.6s								
KAPS				*eS*		**Sb**	**21 09 51.7**	**+6.3**
	8.7nm,0.6s								
KAPS	**Kapalarasan**	**6.30**	**26**	Pg		**Pb**	**21 08 31.1**	**+1.5**
	3.0nm,0.6s								
KAPS				Lg		Lg	21 09 51.7		
	8.7nm,0.6s								

*BJI **21** 21:44:54.0±0.0,0.˚69N×121.˚79E, h46km, mB4.9/35, mb4.8/46, Ms4.2/12, Ms7 3.9/11*
*DJA **21** 21:44:56.0±0.2, 1.˚1N±2.˚2×12.˚1E±.˚, h10km, M4.8/29, mb4.9/29, mB5.2/13, MLv5.0/16, Mw(mB)4.6/13*
*NEIC **21** 21:44:58.5±1.9, 1.˚17N±0.˚06×121.˚49E±0.˚06, h45km±2km, mb4.9/93, Error ellipse: s-maj=9.9km s-min=8.0km az=223.0*
*KLM **21** 21:44:59.0, 1.˚14N×121.˚49E, h49km, mb4.8*
*IDC **21** 21:45:00.1±2.1, 1.˚16N×121.˚53E, h58km±18km, mb4.3/26, mb1 4.3/30, mb1mx4.3/38, mbtmp4.5/30, ML4.3/4, MS3.5/15, Ms1 3.5/15, ms1mx3.2/44, Error ellipse: s-maj=15.2km s-min=8.6km az=69.0*

ISC 21 21:44:58.8±0.8, 1.˚20N±0.˚04×121.˚48E±0.˚04, h44km±7km, n260, σ1$46/262, mb4.8/82, MS3.6/14, 7D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
				Op	ISC			
MPSI	**Mapaga**	**1.80**	**242**	P	**Pn**		**21 45 25.5**	**-1.9**
MPSI				S	**Sn**		**21 45 49.2**	**+0.2**
LUWI	**Luwuk**	**2.57**	**150**	P	**Pn**		**21 45 38.9**	**+1.0**
LUWI				S	**Sn**		**21 46 11.8**	**+3.8**
LUWI	**Luwuk**	**2.57**	**150**	Pn	**Pn**		**21 45 37.8**	**-0.1**
KMSI	**Cibinong**	**2.57**	**104**	P	**Pn**		**21 45 38.9**	**+0.9**
MYLDM	**Lahad Datu**	**4.95**	**323**	Pn	**Pn**		**21 46 10.5**	**-0.2**
BKB	**Balikpapan**	**5.20**	**242**	P	**Pn**		**21 46 11.5**	**-2.5**
	0.7nm2µm161nm,0.7s							
BKB				S	**Sn**		**21 47 12.3**	**-0.4**
	0.7nm2µm161nm,0.7s							
BKB	**Balikpapan**	**5.20**	**242**	Pn	**Pn**		**21 46 12.2**	**-1.8**
SPSI	**Sidrap Palu**	**5.41**	**198**	P	**Pn**		**21 46 17.4**	**+0.5**
	0.9nm3µm328nm,0.8s							
SANI	**Sanana**	**5.54**	**126**	P	**Pn**		**21 46 19.8**	**+1.1**
	1.0nm1µm103nm,0.6s							
BNSI	**Bone**	**5.73**	**194**	P	**Pn**		**21 46 23.5**	**+2.2**
	0.8nm2µm202nm,0.9s							
TNTI	**Ternate**	**5.90**	**94**	Pn	**Pn**		**21 46 22.5**	**-1.2**
SKMP	**Bagumbayan, Su**	**6.11**	**30**	*eP*	**Pn**		**21 46 22.9**	**-3.6**
SPMM	**Sapulut**	**6.11**	**305**	P	**Pn**		**21 46 25.0**	**-1.6**
KAPI	**Kappang**	**6.41**	**196**	P	**Pn**		**21 46 32.4**	**+1.7**
	5.4nm,0.3s,baz=334,slow=6.0,SNR=8.4							
KAPI				S	**Sn**		**21 47 51.0**	**+8.5**
	2.7nm,0.3s,baz=151,slow=19,SNR=1.2							
KAPI				LR	LR		21 49 33.3	
	comp=Z,177nm,20.8s,baz=10.0,slow=43							
KAPI	**Kappang**	**6.41**	**196**	Pn	**Pn**		**21 46 29.5**	**-1.2**
DDMP	**Don Marcelino,**	**6.45**	**41**	*eP*	**Pn**		**21 46 29.9**	**-1.3**
DDMP				*eS*	**Sn**		**21 47 41.7**	**-1.9**
BKSI	**Bulukumba**	**6.62**	**192**	P	**Pn**		**21 46 34.0**	**+0.5**
PAGZ	**Pagadian**	**6.87**	**16**	*eP*	**Pn**		**21 46 35.4**	**-1.7**
MTKI	**Muara Teweh, K**	**6.92**	**252**	P	**Pn**		**21 46 37.0**	**-0.8**
	0.3nm2µm42nm,0.5s							
KBKI	**Kotabaru**	**6.94**	**230**	P	**Pn**		**21 46 38.0**	**0.0**
	0.3nm1µm88nm,0.6s							
DAV	**Davao City (W)**	**7.12**	**35**	S	**Sn**		**21 48 04.3**	**+4.1**
	26nm,0.3s,baz=263,slow=19,SNR=1.2							
DAV				LR	LR		21 49 29.1	
	comp=Z,305nm,19.3s,baz=204,slow=38							
KKM	**Kota Kinabalu**	**7.13**	**313**	Pn	**Pn**		**21 46 39.1**	**-1.6**
NLAI	**Namlea**	**7.14**	**128**	P	**Pn**		**21 46 43.3**	**+2.6**
	1.0nm2µm186nm,0.8s							
BUKP	**Musuan**	**7.54**	**28**	*eP*	**Pn**		**21 46 43.3**	**-2.9**
BUKP				*eS*	Sn		21 48 00.1	-10
BBKI	**Banjar Baru**	**8.09**	**235**	P	Pn		21 47 05.5	+12
MSAI	**Masohi**	**8.70**	**121**	P	Pn		21 47 14.2	+12
SBUM	**Sibu**	**9.34**	**278**	Pn	**Pn**		**21 47 10.1**	**-0.9**
SBUM	**Sibu**	**9.34**	**278**	P	**Pn**		**21 47 12.0**	**+1.0**
MMRI	**Maumere**	**9.79**	**176**	Pn	**Pn**		**21 47 17.3**	**+0.1**
SIJI	**Sorong**	**9.99**	**102**	P	**Pn**		**21 47 22.1**	**+2.1**
	1.3nm,0.3s,baz=115,slow=11,SNR=3.5							
KSM	**Kuching**	**11.18**	**272**	Pn	**Pn**		**21 47 35.6**	**-0.4**
KSM	**Kuching**	**11.18**	**272**	P	**Pn**		**21 47 37.0**	**+0.9**
SOEI	**Soe**	**11.23**	**166**	Pn	**Pn**		**21 47 35.9**	**-0.9**
FAKI	**Fak Fak**	**11.51**	**111**	Pn	**Pn**		**21 47 41.7**	**+1.0**
BATI	**Baumata**	**11.53**	**169**	P	**Pn**		**21 47 44.5**	**+3.5**
	3.5nm,0.3s,baz=260,slow=6.1,SNR=2.2							
BATI				LR	LR		21 52 46.5	
	comp=Z,259nm,19.7s,baz=354,slow=41							
SMRI	**Semarang**	**13.73**	**233**		**Pn**		**21 48 08.8**	**-2.2**
CISI	**Cisompet, Garu**	**16.17**	**237**	P	pP		21 48 55.8	-0.5
CISI	**Cisompet, Garu**	**16.17**	**237**	Pn	**Pn**		**21 48 42.0**	**-1.2**
CISI				IAmb	IAmb		21 49 00.2	
	comp=Z,87nm,1.1s							
CBJI	**Citeko**	**16.45**	**242**	P	**P**		**21 48 54.5**	**+5.7**
DLV	**T Let**	**16.74**	**310**	Pn	**Pn**		**21 48 50.5**	**+0.1**
MTN	**Manton Dam**	**16.92**	**146**	P	**P**		**21 48 53.9**	**-0.1**
	baz=17							
MTN	**Manton Dam**	**16.92**	**146**	P	**Pn**		**21 48 52.7**	**+0.1**
MTN				IAmb	IAmb		21 48 56.3	
	comp=Z,34nm,0.5s							
KDU	**Kakadu**	**17.58**	**142**	P	**P**		**21 49 01.0**	**-0.4**
	baz=18							
MYKOM	**Kota Tinggi**	**17.64**	**272**	P	**Pn**		**21 49 01.3**	**-0.2**
MYKOM	**Kota Tinggi**	**17.64**	**272**	P	**Pn**		**21 49 01.0**	**-0.5**
KLSI		**17.73**	**251**	P	pP		21 49 13.0	-0.6
MDSI	**Maura Dua**	**18.19**	**252**	P	**Pn**		**21 49 15.0**	**+6.8**
KASI	**Kota Agung**	**18.23**	**248**	P	pP		21 49 18.8	-0.4
KNRA	**Kununurra**	**18.24**	**157**	P	**Pn**		**21 49 09.0**	**+0.2**
	baz=18							
KNRA	**Kununurra**	**18.24**	**157**	P	**Pn**		**21 49 09.0**	**+0.2**
KNRA				IAmb	IAmb		21 49 15.9	
	comp=Z,48nm,0.6s							
LWLI	**Liwa**	**18.47**	**250**	P	sP		21 49 27.8	+0.3
KSI	**Kapahiang**	**19.49**	**256**	P	Pn		21 49 32.3	+8.4
JAY	**Jayapura**	**19.57**	**101**	P	**P**		**21 49 23.5**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=229,slow=12,SNR=5.8							
FITZ	**Fitzroy Crossi**	**19.60**	**168**	P	**P**		**21 49 23.4**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=2.8,slow=7.3,SNR=43							
FITZ				LR	LR		21 58 37.0	
	comp=Z,70nm,19.9s,baz=349,slow=42							
FITZ	**Fitzroy Crossi**	**19.60**	**168**	P	**P**		**21 49 23.5**	**0.0**
	baz=20							
FITZ	**Fitzroy Crossi**	**19.60**	**168**	P	**P**		**21 49 23.8**	**+0.2**
SDSI	**Sungai Dareh**	**20.17**	**264**	P	Pn		21 49 31.0	-0.9
	comp=Z,13nm,1.3s							
BKNI	**Bangkinang**	**20.46**	**268**		Pn		21 49 34.1	-1.3
BKNI				IAmb	IAmb		21 49 42.3	
	comp=Z,75nm,1.0s							
IPM	**Ipoh**	**20.69**	**279**	P	**P**		**21 49 35.8**	**+0.3**
IPM	**Ipoh**	**20.69**	**279**	P	**P**		**21 49 36.0**	**+0.6**
QIZ	**Qiongzhong**	**21.08**	**328**	P	**P**		**21 49 40.4**	**+0.8**
PDSI	**Padang**	**21.12**	**264**	P	**P**		**21 49 42.2**	**+2.0**
	comp=Z,33nm,1.2s							
KULM	**Kulim**	**21.19**	**282**	P	**P**		**21 49 39.9**	**-0.9**
KULM	**Kulim**	**21.19**	**282**	P	**P**		**21 49 39.0**	**-1.8**
TWG	**Pinlang**	**21.50**	**359**	P	**P**		**21 49 44.6**	**+0.6**
MNSI	**Mandailing Nat**	**21.91**	**269**	P	**P**		**21 49 50.1**	**+1.6**
	comp=Z,30nm,0.8s							
TPUB	**Ta-pu**	**21.99**	**358**	P	**P**		**21 49 49.7**	**+0.4**
TPUB				IAmb	IAmb		21 49 52.5	
	comp=Z,18nm,0.8s							
YULB	**Yu-li**	**22.07**	**360**	P	**P**		**21 49 49.8**	**-0.3**
SSLB	**Suanglung**	**22.46**	**359**	P	**P**		**21 49 54.8**	**+0.4**
RPSI	**Rantau Prapat**	**22.60**	**274**	P	**P**		**21 49 56.1**	**+0.2**
PSI	**Prapat**	**22.60**	**274**	P	**P**		**21 49 56.8**	**+0.7**
	comp=Z,4.2nm,0.6s,baz=177,slow=2.3,SNR=5.2							
PSI				LR	LR		21 58 51.8	
	comp=Z,163nm,18.9s,baz=93,slow=37							
PSA00	**Pilbara Seismi**	**22.69**	**184**	P	**P**		**21 49 55.6**	**-1.1**
PSA00				IAmb	IAmb		21 50 04.9	
	comp=Z,17nm,0.8s							
YOJ	**Yonaguni jima**	**23.18**	**4**	P	**P**		**21 50 01.3**	**-0.4**
YOJ				IAmb	IAmb		21 50 04.1	
	comp=Z,21nm,0.8s							
YHNB	**Yeheng**	**23.34**	**360**	P	**P**		**21 50 01.9**	**-1.5**
GSI	**Gunungsitoli**	**23.90**	**271**	P	**P**		**21 50 08.3**	**-0.5**
	comp=Z,37nm,0.6s							
GSI	**Gunungsitoli**	**23.90**	**271**	P	**P**		**21 50 08.1**	**-0.7**
GSI				IAmb	IAmb		21 50 09.6	
	comp=Z,28nm,0.6s							
WRAB	**Tennant Creek**	**24.50**	**150**	P	**P**		**21 50 13.0**	**-1.2**
WRAB				IAmb	IAmb		21 50 20.2	
	comp=Z,40nm,0.6s							
WRA	**Warramunga Arr**	**24.50**	**150**	P	**P**		**21 50 12.8**	**-1.4**
	comp=Z,24nm,0.7s,baz=325,slow=11,SNR=544							
WRA	**Warramunga Arr**	**24.50**	**150**	P	**P**		**21 50 12.5**	**-1.7**
WB2	**Warramunga Arr**	**24.51**	**150**	P	**P**		**21 50 13.0**	**-1.3**
	baz=25							
GIRL	**Giralia**	**24.73**	**196**	P	**P**		**21 50 15.3**	**-0.9**
GIRL				IAmb	IAmb		21 50 33.4	
	comp=Z,72nm,1.1s							
MLSI	**Meulaboh, Aceh**	**25.23**	**277**	P	sP		21 50 35.5	-2.4
PBKT	**Sadao Pong**	**25.33**	**308**	P	**P**		**21 50 21.7**	**0.0**
GUMO	**Guam**	**26.21**	**61**	LR	LR		21 58 51.5	
	comp=Z,71nm,21.4s,baz=235,slow=32							
COEN	**Coen**	**26.24**	**126**	P	**P**		**21 50 29.4**	**-0.6**
	baz=26							
COEN	**Coen**	**26.24**	**126**	P	**P**		**21 50 29.7**	**-0.4**
SLVN	**Son La**	**26.35**	**321**	P	**P**		**21 50 31.6**	**+0.5**
WRKA	**Warakurna**	**26.90**	**166**	P	**P**		**21 50 35.1**	**-0.8**
	baz=27							
AS31	**Alice Springs**	**27.51**	**155**	IAmb	IAmb		21 50 42.0	
	comp=Z,6.6nm,0.5s							
ASAR	**Alice Springs**	**27.51**	**155**	P	**P**		**21 50 40.5**	**-0.8**
	comp=Z,12nm,0.6s,baz=344,slow=13,SNR=234							
ASAR				PcP	**PcP**		**21 53 58.5**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=348,slow=2.2,SNR=6.8							
ASAR				S	**S**		**21 55 19.4**	**-0.1**
	comp=Z,1.3nm,1.0s,baz=328,slow=21,SNR=5.5							
ASAR				LR	LR		22 03 14.5	
	comp=Z,140nm,18.3s,baz=344,slow=40							
ASAR	**Alice Springs**	**27.51**	**155**	P	**P**		**21 50 40.1**	**-1.2**
ASAR				PcP	**PcP**		**21 53 58.4**	**-0.5**
PMG	**Port Moresby**	**27.66**	**113**	P	**P**		**21 50 41.6**	**-1.1**
	comp=Z,12nm,0.6s,baz=14,slow=14,SNR=4.0							
PMG	**Port Moresby**	**27.66**	**113**	IAmb	IAmb		21 50 43.4	
	comp=Z,15nm,0.7s							
MEEK	**Meekatharra**	**27.81**	**186**	P	**P**		**21 50 43.1**	**-0.9**
	baz=28							
QIS	**Mount Isa**	**27.97**	**142**	P	**P**		**21 50 44.9**	**-0.7**
	baz=28							
CMAR	**Chiang Mai Arr**	**27.

LZH pmax pmax
comp=Z,120nm,5.4s
LZH LR LR
comp=Z,350nm,14.6s
LZH LR LR
comp=Z,370nm,15.0s
LZH LR LR
comp=Z,490nm,17.8s
MJAR Matsushiro Arr 38.43 22 P **P 21 52 14.8 -1.5**
comp=Z,5.8nm,0.9s,baz=213,slow=11,SNR=14
MAT Matsushiro 38.43 22 P **P 21 52 14.9 -1.4**
MAT *e*S **S 21 58 15.6 +7.1**
BJT Baijiatuau 38.94 354 P **P 21 52 20.7 +0.2**
BJT IAmb IAmb 21 52 22.2
comp=Z,22nm,0.6s
BJI Beijing 38.96 354 P **P 21 52 21.3 +0.6**
BJI S **S 21 58 20.4 +4.0**
BJI pmax pmax
comp=Z,29nm,0.6s
CMSA Cobar Meteorol 39.84 147 P **P 21 52 28.2 0.0**
baz=40
HHC Hu-ho-hao-te 40.48 348 *e*P **P 21 52 35.4 +1.9**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,77nm,5.1s
HHC LR LR
comp=Z,100nm,13.4s
HHC LR LR
comp=Z,110nm,13.8s
HHC LR LR
comp=Z,100nm,15.9s
ODAN Odare 41.50 311 *e*P **P 21 52 43.0 +0.7**
comp=Z,41nm,0.9s
RAMN Ramite 42.15 310 *e*P **P 21 52 48.7 +1.1**
comp=Z,53nm,1.1s
ARPS Mount Arapiles 42.24 155 P **P 21 52 47.6 -0.2**
baz=42
ARMA Armidale 42.57 140 P **P 21 52 50.3 -0.5**
baz=43
ARMA Armidale 42.57 140 P **P 21 52 50.0 -0.8**
ARMA IAmb IAmb 21 52 58.8
comp=Z,11nm,0.9s
JIRN Jiri 42.83 311 *e*P **P 21 52 53.9 +0.7**
comp=Z,70nm,1.0s
GTA Gaotai 42.87 335 *e*P **P 21 52 54.1 +1.0**
GTA pP sP 21 53 07.9 -2.2
GTA sP pP 21 53 13.4 +8.4
GTA PcP **PcP 21 54 44.1 +0.6**
GTA S **S 21 59 13.8 -1.0**
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,36nm,7.1s
GTA LR LR
comp=Z,53nm,17.5s
GTA LR LR
comp=Z,59nm,17.8s
GTA LR LR
comp=Z,70nm,18.1s
PKI Pulchoki 43.38 310 *e*P **P 21 52 57.6 0.0**
comp=Z,29nm,1.0s
KKN Kakani 43.59 311 *e*P **P 21 52 59.7 +0.5**
comp=Z,44nm,1.1s
DMN Daman 43.62 310 *e*P **P 21 53 00.4 +0.9**
comp=Z,63nm,1.1s
USA0B Ussuriysk Arra 43.83 11 P **P 21 53 00.6 +0.1**
USA0B IAmb IAmb 21 53 02.0
comp=Z,11nm,0.9s
USRK Ussuriysk Ar. 43.83 11 P **P 21 53 01.0 +0.4**
comp=Z,8.4nm,0.8s,baz=200,slow=8.1,SNR=21
USRK Ussuriysk Ar. 43.83 11 P **P 21 53 00.8 +0.2**
MDJ Mudanjiang 43.83 8 P **P 21 53 00.9 +0.4**
MDJ IAmb IAmb 21 53 02.3
comp=Z,26nm,1.0s
GKN Gorkha 44.18 310 *e*P **P 21 53 04.5 +0.6**
comp=Z,78nm,1.0s
CAN Canberra 44.51 147 P **P 21 53 06.9 +0.7**
baz=45
CAN Canberra 44.51 147 P **P 21 53 06.3 +0.1**
CAN IAmb IAmb 21 53 14.4
comp=Z,21nm,0.8s
TOO Toolangi 44.51 153 P **P 21 53 06.7 +0.5**
baz=45
KOLN Koldanda 44.86 310 *e*P **P 21 53 10.2 +0.8**
comp=Z,75nm,0.9s
ERM Erimo 45.07 23 P **P 21 53 11.6 +1.0**
ERM IAmb IAmb 21 53 25.1
comp=Z,20nm,1.1s
PYUN Piuthan 45.49 310 *e*P **P 21 53 15.4 +1.0**
comp=Z,140nm,1.0s
ULN Ulaanbaatar 48.14 347 P **P 21 53 35.4 +0.7**
ULN IAmb IAmb 21 53 36.7
comp=Z,8.4nm,0.8s
SONM Songino Array 48.26 346 P **P 21 53 36.4 +0.9**
comp=Z,7.7nm,0.8s,baz=162,slow=8.3,SNR=15
SONM PcP **PcP 21 55 01.0 -1.1**
comp=Z,2.0nm,0.7s,baz=151,slow=3.3,SNR=2.7
SONM Songino Array 48.26 346 P **P 21 53 36.5 +0.9**
DZM Mont Dzumac 49.57 121 P **P 21 53 46.4 +0.3**
DZM IAmb IAmb 21 53 57.9
comp=Z,20nm,1.0s
TAU Tasmania Unive 49.68 155 P **P 21 53 43.6 -2.8**
WMQ Urumqi 51.99 329 *e*P **P 21 54 06.3 +2.4**
TLY Talaya 52.50 346 P **P 21 54 06.8 -0.6**
TLY IAmb IAmb 21 54 09.8
comp=Z,7.4nm,0.9s
NIL Nilore 55.46 311 P **P 21 54 28.9 -0.5**
NIL IAmb IAmb 21 54 33.5
comp=Z,7.8nm,0.7s
ZSN Zaisan 55.95 331 *i* P **P 21 54 34.0 +1.3**
baz=331
SHLS Shalkode 56.11 324 ||*i*P **P 21 54 33.6 -0.3**
comp=Z,12nm,1.2s,baz=324
SHLS *e*S **S 22 02 19.6 -0.4**
baz=324
KSH Kashi 56.28 318 P **P 21 54 36.9 +1.6**
KSH pmax pmax
comp=Z,8.0nm,0.7s
TARG Taragay, Kyrgy 56.29 322 P **P 21 54 35.3 -0.4**
TARG IAmb IAmb 21 54 44.4
comp=Z,8.0nm,0.7s
PRZ Przheval'sk 56.35 323 P **P 21 54 36.7 +0.9**
UZB Uzynbulak 56.36 324 ||*i*P **P 21 54 37.0 +1.2**
baz=323
SATY Saty 56.68 323 ||*i*P **P 21 54 39.6 +1.6**
comp=Z,8.1nm,0.6s,baz=323
MK31 Makanchi Array 56.81 329 IAmb IAmb 21 54 40.8
comp=Z,4.1nm,0.6s
MKAR Makanchi Array 56.81 329 P **P 21 54 39.7 +1.0**
comp=Z,4.7nm,0.5s,baz=128,slow=8.9,SNR=137
MKAR PcP **PcP 21 55 33.8 -0.4**
comp=Z,3.1nm,0.7s,baz=189,slow=3.6,SNR=6.3
MKAR Makanchi Array 56.81 329 P **P 21 54 39.5 +0.8**
KDJ Kajisay 56.90 322 P **P 21 54 40.6 +0.8**
KDJ IAmb IAmb 21 54 42.3
comp=Z,11nm,0.8s
MAKZ Makanchi 56.98 329 P **P 21 54 40.8 +0.8**
MAKZ IAmb IAmb 21 54 42.7
comp=Z,5.3nm,0.9s
TNSS Tian-Shan 57.55 322 *e*P **P 21 54 46.2 +1.7**
baz=322
MDOK Medeo 57.56 323 *i* P **P 21 54 45.9 +1.6**
baz=322
AAA Alma-Ata 57.66 323 *e*P **P 21 54 46.5 +1.6**
comp=Z,12nm,0.9s,baz=322
TDK Taldyqorghan 57.81 325 *i* P **P 21 54 47.2 +1.3**
comp=Z,18nm,0.5s,baz=325
MTBS Maitube 57.91 322 *e*P **P 21 54 47.9 +1.2**
baz=322
KZA Kyzart 58.08 321 P **P 21 54 50.1 +1.8**
SNR=12
TKM2 Tokmak 2 58.31 322 P **P 21 54 51.1 +1.4**
SNR=21
KUU Kurty 58.39 323 ||*i*P **P 21 54 51.1 +1.2**
comp=Z,34nm,0.7s,baz=323
KBK Karagaybulak 58.58 321 P **P 21 54 53.3 +1.8**
SNR=10
UCH Uchtor 58.63 321 P **P 21 54 53.7 +1.6**
SNR=11
AAK Ala-Archa 58.85 321 P **P 21 54 55.1 +1.7**
SNR=8.1
AAK Ala-Archa 58.85 321 P **P 21 54 54.4 +1.0**
AAK IAmb IAmb 21 54 55.9
comp=Z,11nm,0.8s
CHMS Chumysh 58.88 321 P **P 21 54 54.6 +1.2**
SNR=5.8

KBL Kabul 59.02 310 P **P 21 54 55.2 +0.5**
AML Almayashu 59.10 320 P **P 21 54 57.0 +1.6**
SNR=20
USP Ospenovka 59.18 322 P **P 21 54 56.6 +1.1**
SNR=8.8
SGDS Sogindy 59.20 322 *e*P **P 21 54 56.5 +0.8**
comp=Z,4.3nm,0.8s,baz=322
EKS2 Erkin-Say 59.32 321 P **P 21 54 58.2 +1.7**
SNR=15
PETK Petropavlovsk- 59.81 24 P **P 21 55 00.1 +0.5**
comp=Z,2.4nm,0.7s,baz=239,slow=0.8,SNR=6.9
GAR Garm 59.90 315 P **P 21 55 01.4 +0.8**
BTK Batken 60.02 317 P **P 21 55 02.0 +0.6**
BTK IAmb IAmb 21 55 04.1
comp=Z,7.4nm,0.9s
BTLS Baital 60.39 323 ||*i*P **P 21 55 04.5 +0.8**
baz=323
CHGR Chuyangaron 60.57 315 P **P 21 55 05.6 +0.4**
ZAA0 Zalesovo Array 60.61 336 P **P 21 55 05.2 +0.2**
ZAA0 IAmb IAmb 21 55 06.0
comp=Z,12nm,1.1s
ZALV Zalesovo Beam 60.61 336 P **P 21 55 05.1 +0.1**
comp=Z,3.7nm,0.6s,baz=120,slow=5.3,SNR=21
ZALV LR LR 22 23 47.7
comp=Z,22nm,18.4s,baz=100,slow=38
ZALV Zalesovo Beam 60.61 336 P **P 21 55 04.5 -0.5**
KURK Kurchatov 61.19 330 P **P 21 55 09.6 +0.6**
IUG Iuzhnay 61.50 319 ||*i*P **P 21 55 12.5 +1.1**
comp=Z,15nm,1.3s,baz=318
KK31 Karatay Array 61.63 320 P **P 21 55 12.2 +0.1**
KK31 IAmb IAmb 21 55 13.9
comp=Z,6.6nm,0.9s
KKAR Karatay Array 61.63 320 **P 21 55 12.2 0.0**
KKAR Karatay Array 61.63 320 P **P 21 55 12.2 0.0**
KKAR IAmb IAmb 21 55 13.8
comp=Z,6.6nm,0.9s
QRZ Quartz Range 62.39 138 P **P 21 55 17.8 +0.6**
LBZ Lake Benmore 62.70 143 P **P 21 55 17.8 -1.5**
LBZ IAmb IAmb 21 55 32.6
comp=Z,9.6nm,1.0s
RPZ Rata Peaks 62.88 142 P **P 21 55 20.2 -0.3**
THZ Tophouse 63.09 139 P **P 21 55 20.5 -1.5**
TUWZ Tumarina 63.61 138 P **P 21 55 25.5 +0.1**
KHZ Kahutara 63.81 139 P **P 21 55 26.6 0.0**
BRZS Berezniki 63.84 327 ||*i*P **P 21 55 27.7 +0.9**
comp=Z,12nm,0.6s,baz=327
SNZO South Karori 64.07 138 P **P 21 55 27.5 -0.8**
BKZ Black Stump Fm 64.36 135 P **P 21 55 30.6 +0.2**
BKZ IAmb IAmb 21 55 34.4
comp=Z,16nm,0.8s
URZ Urewera 64.43 134 P **P 21 55 29.7 -1.1**
URZ IAmb IAmb 21 55 30.9
comp=Z,20nm,0.9s
MSWZ Moikau Station 64.48 138 P **P 21 55 29.8 -1.3**
WSAR Wadi Sarin 64.68 295 LR LR 22 28 33.5
comp=Z,41nm,18.5s,baz=160,slow=40
BFZ Birch Farm 64.83 137 P **P 21 55 32.7 -0.8**
BRVK Borovoye 66.76 329 P **P 21 55 45.8 +0.3**
GEYT Alibeck 68.46 311 P **P 21 55 57.0 +0.3**
comp=Z,4.4nm,0.8s,baz=154,slow=4.8,SNR=10
GEYT Alibeck 68.46 311 P **P 21 55 57.2 +0.5**
ABKAR Akbulak array 70.86 322 P **P 21 56 11.0 -0.2**
NRIK Noril'sk 71.71 348 P **P 21 56 16.2 +0.3**
comp=Z,5.7nm,0.7s,baz=114,slow=5.4,SNR=10
AKTO Aktyubinsk 72.45 323 LR LR 22 31 35.4
comp=Z,21nm,19.0s,baz=137,slow=39
ATKA Atka Island 73.56 35 P **P 21 56 25.9 -1.3**
ATKA IAmb IAmb 21 56 27.4
comp=Z,30nm,1.0s
ARU Arti 74.33 329 LR LR 22 32 10.1
comp=Z,33nm,19.0s,baz=128,slow=38
ARU Arti 74.33 329 P **P 21 56 31.4 -0.3**
ABPO Ambohimpanom 75.53 250 P **P 21 56 38.4 -1.1**
AKUT Akutan 78.97 35 P **P 21 56 57.9 +0.1**
GEVA Gevas 80.18 309 P **P 21 57 05.4 +0.3**
GEVA IAmb IAmb 21 57 07.0
comp=Z,16nm,0.8s
KBZ Khabaz 80.93 314 P **P 21 57 08.0 -0.7**
comp=Z,1.8nm,0.7s,baz=78,slow=5.5,SNR=6.1
VNDA Vanda 81.64 172 P **P 21 57 11.1 -0.7**
comp=Z,0.9nm,0.7s,baz=306,slow=8.2,SNR=5.1
VNDA LR LR 22 32 04.6
comp=Z,44nm,20.2s,baz=132,slow=35
VNDA Vanda 81.64 172 P **P 21 57 12.3 +0.6**
KMBO Kilima Mbogo 84.26 269 P **P 21 57 28.5 +1.5**
comp=Z,4.4nm,1.1s,baz=55,slow=9.0,SNR=5.8
KLMR Klimovskoe 85.04 331 *e*P **P 21 57 28.3 -1.3**
KLMR AMP 21 57 29.8
comp=Z,30nm,1.0s
TTA Tatalina 85.52 27 P **P 21 57 31.3 -0.8**
SII Sitkinak Islan 85.88 34 P **P 21 57 34.2 +0.3**
SII IAmb IAmb 21 57 35.6
comp=Z,11nm,0.9s
IMAR Indian Mountai 86.78 24 P **P 21 57 38.7 +0.6**
BRTR Keskin Array B 87.58 310 P **P 21 57 41.6 -1.2**
comp=Z,1.8nm,0.8s,baz=111,slow=6.8,SNR=8.8
BRTR Keskin Array B 87.58 310 P **P 21 57 41.7 -1.1**
CSS Mathiatis 87.81 305 P **P 21 57 43.4 -0.4**
CSS IAmb IAmb 21 57 44.3
comp=Z,5.5nm,0.8s
ILAR Eielson Array 89.62 25 P **P 21 57 51.0 -0.7**
comp=Z,0.3nm,0.5s,baz=223,slow=7.5,SNR=4.1
BMAR Burnt Mountain 90.42 23 P **P 21 57 56.1 +0.7**
AKASG Malin Array Be 90.52 321 P **P 21 57 56.1 0.0**
comp=Z,0.3nm,0.2s,baz=76,slow=3.9,SNR=1.5
ARCES ARCESS Array B 90.99 340 P **P 21 57 56.8 -1.1**
comp=Z,4.1nm,0.8s,baz=76,slow=5.1,SNR=9.2
ARE0 ARCESS Array S 90.99 340 P **P 21 57 57.0 -0.9**
QSPA South Pole Qui 91.12 180 P **P 21 57 58.1 -0.7**
GLB Gilahina Butte 91.22 29 P **P 21 57 58.6 -0.7**
FIA1 FINESS Array S 91.55 331 P **P 21 57 59.0 -1.7**
FIA1 IAmb IAmb 21 58 01.5
comp=Z,9.0nm,1.1s
FINES FINESS Array B 91.55 331 P **P 21 57 59.5 -1.2**
comp=Z,2.7nm,0.6s,baz=81,slow=4.8,SNR=11
FINES FINESS Array B 91.55 331 P **P 21 57 59.3 -1.4**
SPA0 Spitsbergen Ar 91.92 349 P **P 21 58 00.7 -1.4**
KBS Kingsbay 92.54 349 P **P 21 58 04.0 -0.9**
NB2 NORSAR Subarra 98.65 332 P **P 21 58 31.1 -2.1**
comp=Z,3.2nm,1.0s,baz=75,slow=4.6
NB2 NORSAR Subarra 98.65 332 P **P 21 58 31.1 -2.1**
baz=75,slow=4.6
NOA NORSAR Array B 98.65 332 P **P 21 58 31.6 -1.7**
comp=Z,1.0nm,0.7s,baz=102,slow=3.8,SNR=4.2
CLL Collm 100.53 323 *e*PP **PP 22 02 47.0 -1.7**
TORD Torodi Ar. Bea 118.63 286 PKP **PKPdf 22 03 41.8 -1.3**
comp=Z,1.0nm,0.9s,baz=85,slow=1.4,SNR=4.3
TXAR Lajitas Array 127.27 51 PKP **PKPdf 22 03 59.6 +0.2**
comp=Z,0.3nm,0.7s,baz=200,slow=1.0,SNR=3.6
S39A Bolivar 129.69 36 **PKPdf 22 04 03.2 -0.5**
PLCA Paso Flores 139.16 166 PKP **PKiKP 22 04 24.0 +0.3**
comp=Z,1.8nm,0.7s,baz=235,slow=4.2,SNR=4.7
CPUP Villa Florida 154.98 183 PKP **PKPdf 22 04 47.9 +0.1**
comp=Z,0.9nm,0.4s,baz=165,slow=3.5,SNR=3.5
CPUP PKPbc **PKPbc 22 04 56.2 -0.3**
comp=Z,1.7nm,0.4s,baz=197,slow=4.4,SNR=4.8
CPUP PKPab **PKPab 22 05 11.0 -0.8**
comp=Z,1.7nm,0.3s,baz=313,slow=1.6,SNR=4.8
LPAZ La Paz 162.26 148 PKP **PKPdf 22 04 57.0 -0.5**
comp=Z,1.2nm,0.8s,baz=55,slow=2.7,SNR=4.7

IDC 21 21:58:13.9±1.7, 6.93S×128.50E, h0km, mb3.8/2, mb1 4.2/4, mb1mx3.8/23, mbtmp4.0/4, ML4.2/2, Error ellipse: s-maj=136.4km s-min=25.7km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.12**	**157**	Pn	Pn	22 01 37.3	+1.9
	1.0nm,0.3s,baz=334,slow=12,SNR=46						
WRA				Sn	Sn	22 04 02.1	-11
	2.8nm,0.3s,baz=333,slow=23,SNR=15						
ASAR	**Alice Springs**	**17.43**	**163**	P	P	22 02 20.7	+0.7
	1.3nm,0.3s,baz=346,slow=12,SNR=118						
ASAR				S	Sn	22 05 23.1	-10
	0.6nm,0.3s,baz=321,slow=19,SNR=6.2						
STKA	**Stephens Creek**	**27.67**	**155**	P	P	22 04 02.0	-1.6
	0.7nm,0.4s,baz=342,slow=13,SNR=3.2						
MKAR	**Makanchi Array**	**67.36**	**327**	P	P	22 09 11.1	+0.2
	0.3nm,0.4s,baz=117,slow=7.3,SNR=7.8						

*IDC **21** 22:15:58.1±1.2, 9.17S×108.82W, h0km, mb3.9/10, mb1 4.2/10, mb1mx3.9/29, mbtmp3.9/10, MS4.2/19, Ms1 4.2/19, ms1mx4.2/20, Error ellipse: s-maj=44.3km s-min=17.6km az=52.0*

*NEIC **21** 22:15:59.1±2.6, 9.71S×108.7W×0.1, h10km±1km, mb4.6/97, Error ellipse: s-maj=22.3km s-min=19.0km az=233.0*

*GCMT **21** 22:16:05.0±0.2, 9.01S×0.01×108.50W×0.01, h20km±1km, MW5.0/131, Moment Tensor Solution. s61,c75; s131,c208; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.00±.12; Mθθ0.10±.10; Mϕϕ-0.09±.10; Mrθ-0.09±.20; Mθϕ4.26±.09; Mϕr-1.16±.21; Best double couple: Mo4.41700×10¹⁶ NP1:ϕs271.00000°, δ75.00000°, λ1.00000°. NP2:ϕs181.00000°, δ89.00000°, λ165.00000°. Principal axes: T 4.4370, Plg11.0000°, Azm135.0000°; N -0.0400, Plg75.0000°, Azm357.0000°; P -4.3970, Plg10.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 21 22:16:00.1±0.7, 9.1S×0.1×108.7W×0.1, h15km, n146, σ1§33/112, mb4.6/57, MS4.3/21, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**17.93**	**182**	LR	LR	22 25 10.0	
	comp=Z,617nm,19.0s,baz=7.0,slow=31						
RKT	**Rikitea**	**28.77**	**238**	*e*LR	LR	22 29 19.8	
	comp=Z,1μm,27.2s						
CMIG	**Matias Romero**	**29.39**	**28**	LR	LR	22 31 08.5	
	comp=Z,886nm,21.7s,baz=204,slow=31						
ATAH	**Atahualpa**	**30.04**	**89**	LR	LR	22 30 58.7	
	comp=Z,373nm,19.9s,baz=261,slow=30						
JTS	**Las Juntas de**	**30.48**	**51**	LR	LR	22 31 10.8	
	comp=Z,1μm,20.8s,baz=290,slow=30						
TAOE	**Nuku Hiva Isla**	**31.08**	**268**	P	**P**	**22 22 16.0**	**-2.2**
ACON	**Acoyapa**	**31.38**	**49**	P	**P**	**22 22 20.7**	**0.0**
NNA	**Nana**	**31.42**	**98**	P	**P**	**22 22 18.5**	**-2.6**
ZAIG	**Zacatecas**	**32.24**	**11**	P	**P**	**22 22 27.9**	**-0.6**
H03N2	**Juan Fernandez**	**36.56**	**136**	T	T	23 01 42.9	
	baz=308,slow=77,SNR=83						
H03N1	**Juan Fernandez**	**36.58**	**136**	T	T	23 01 49.5	
	baz=308,slow=77,SNR=100						
H03N3	**Juan Fernandez**	**36.58**	**136**	T	T	23 01 48.8	
	baz=308,slow=77,SNR=82						
ROSC	**El Rosal**	**36.95**	**69**	LR	LR	22 35 30.6	
	comp=Z,252nm,18.9s,baz=259,slow=32						
KVTX	**Kingsville**	**37.91**	**16**	P	**P**	**22 23 18.6**	**+1.7**
RUSC	**La Rusia**	**38.48**	**69**	P	**P**	**22 23 24.0**	**+1.4**
TX32	**Lajitas Array**	**38.52**	**7**	P	**P**	**22 23 23.2**	**+0.9**
TXAR	**Lajitas Array**	**38.52**	**7**	P	**P**	**22 23 23.6**	**+1.4**
	1.1nm,1.0s,baz=212,slow=3.2,SNR=3.2						
TXAR				LR	LR	22 36 09.0	
	comp=Z,109nm,20.2s,baz=0.0,slow=31						
TX31	**Lajitas Ar. Si**	**38.52**	**7**	P	**P**	**22 23 23.0**	**+0.8**
TX31				IAmb	IAmb	22 23 25.5	
	comp=Z,14nm,1.5s						
PSGCX	**Pisagua**	**38.69**	**110**	P	**P**	**22 23 23.6**	**-0.3**
PSGCX				IAmb	IAmb	22 23 25.1	
	comp=Z,17nm,1.4s						
PMOR	**Pomariorio Ree**	**38.75**	**257**	*e*T	T	23 04 06.0	
	comp=Z,2.3nm,0.2s						
TA01	**Diego Aracena**	**38.82**	**111**	P	**P**	**22 23 23.8**	**-1.0**
TA01				IAmb	IAmb	22 23 26.1	
	comp=Z,16nm,1.1s						
PB16	**IPOC Station P**	**39.07**	**108**	P	**P**	**22 23 28.5**	**+1.0**
MNMC	**Minye Minye**	**39.11**	**109**	P	**P**	**22 23 27.1**	**-0.5**
MNMC				IAmb	IAmb	22 23 28.8	
	comp=Z,12nm,1.2s						
PB11	**IPOC Station P**	**39.16**	**110**	P	**P**	**22 23 26.2**	**-1.6**
PB11				IAmb	IAmb	22 23 28.8	
	comp=Z,24nm,1.5s						
PB04	**IPOC Station P**	**39.22**	**114**	P	**P**	**22 23 28.5**	**+0.1**
PB07	**IPOC Station P**	**39.33**	**113**	P	**P**	**22 23 29.4**	**+0.2**
PB07				IAmb	IAmb	22 23 31.0	
	comp=Z,27nm,1.3s						
PB01	**IPOC Station P**	**39.55**	**112**	P	**P**	**22 23 32.1**	**+1.1**
GO01	**Chusmiza**	**39.57**	**110**	P	**P**	**22 23 32.4**	**+0.8**
PB08	**IPOC Station P**	**39.69**	**111**	P	**P**	**22 23 32.7**	**+0.2**
PB06	**IPOC Station P**	**39.83**	**115**	P	**P**	**22 23 32.8**	**-0.6**
PB06				IAmb	IAmb	22 23 35.0	
	comp=Z,17nm,1.1s						
LPAZ	**La Paz**	**40.14**	**104**	P	**P**	**22 23 37.5**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=307,slow=7.1,SNR=8.1						
LPAZ				LR	LR	22 36 36.3	
	comp=Z,377nm,20.0s,baz=259,slow=31						
LPAZ	**La Paz**	**40.14**	**104**	P	**P**	**22 23 37.5**	**+0.9**
319A	**Douglas**	**40.26**	**359**	P	**P**	**22 23 37.6**	**+0.9**
JCT	**Junction City**	**40.28**	**12**	P	**P**	**22 23 37.5**	**+0.7**
SFX	**San Felipe**	**40.35**	**352**	P	**P**	**22 23 36.4**	**-1.0**
LVC	**Limon Verde**	**40.40**	**114**	P	**P**	**22 23 39.4**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=225,slow=7.5,SNR=4.9						
LVC	**Limon Verde**	**40.40**	**114**	IAmb	IAmb	22 23 41.0	
	comp=Z,21nm,1.5s						
GO02	**Mina Guanaco**	**40.44**	**118**	P	**P**	**22 23 38.2**	**-0.4**
GO02				IAmb	IAmb	22 23 40.5	
	comp=Z,10nm,0.8s						
SPX	**San Pedro Mart**	**40.44**	**351**	P	**P**	**22 23 38.7**	**+0.2**
PPT	**Papeete**	**40.60**	**254**	LR	LR	22 36 24.4	
	comp=Z,330nm,20.2s,baz=76,slow=30						
PPT2	**Papeete2**	**40.60**	**254**	*e*S	S	22 29 38.2	-11
	comp=Z,96nm,25.5s						
PPT2				*e*LQ	LQ	22 33 03.2	
	comp=Z,1μm,30.0s						
GO03	**Copiap**	**40.63**	**122**	P	**P**	**22 23 39.5**	**-0.4**
GO03				IAmb	IAmb	22 23 42.6	
	comp=Z,7.0nm,0.6s						
MNTX	**Cornudas Mount**	**40.70**	**4**	P	**P**	**22 23 41.2**	**+0.9**
AC05	**El Transito**	**41.02**	**124**	P	**P**	**22 23 44.6**	**+1.4**
AC05				IAmb	IAmb	22 23 48.9	
	comp=Z,12nm,1.5s						
214A	**Organ Pipe Nat**	**41.02**	**355**	P	**P**	**22 23 44.5**	**+1.6**
GO04	**Tololo Observa**	**41.09**	**126**	P	**P**	**22 23 41.0**	**-2.8**
GO04				IAmb	IAmb	22 23 55.9	
	comp=Z,13nm,1.2s						
TUC	**Tucson**	**41.23**	**357**	P	**P**	**22 23 43.9**	**-0.8**
CO03	**El Pedregal**	**41.44**	**127**	P	**P**	**22 23 47.1**	**+0.5**
CO03				IAmb	IAmb	22 23 47.8	
	comp=Z,22nm,1.4s						
ESJX	**Sierra Juarez**	**41.47**	**351**	P	**P**	**22 23 45.0**	**-1.8**
ESJX				IAmb	IAmb	22 23 45.7	
	comp=Z,13nm,1.5s						
TBI	**Tubuai**	**41.47**	**245**	*e*LQ	LQ	22 33 22.9	
	comp=Z,802nm,30.8s						
TBI				*e*LR	LR	22 35 13.3	
	comp=Z,977nm,27.5s,baz=68						
CO01	**Juntas del Tor**	**41.58**	**125**	P	**P**	**22 23 47.2**	**-0.7**
VA01	**Torpederas**	**41.62**	**130**	P	**P**	**22 23 48.4**	**+0.6**
VA01				IAmb	IAmb	22 24 03.6	
	comp=Z,15nm,0.9s						
SDV	**Santo Domingo**	**41.90**	**66**	P	**P**	**22 23 53.6**	**+3.0**
	comp=Z,10nm,0.3s,baz=54,slow=5.2,SNR=3.4						
MT02	**Curacav**	**42.10**	**130**	P	**P**	**22 23 52.8**	**+0.9**
MT02				IAmb	IAmb	22 23 53.5	
	comp=Z,21nm,1.4s						
GO05	**Huala**	**42.32**	**133**	P	**P**	**22 23 53.5**	**-0.1**
GO05				IAmb	IAmb	22 23 54.6	
	comp=Z,14nm,1.2s						
ABTX	**Abilene, Hawle**	**42.39**	**11**	P	**P**	**22 23 54.4**	**+0.4**
ABTX				IAmb	IAmb	22 24 00.4	
	comp=Z,12nm,1.2s						
PEL	**Peldehue**	**42.39**	**130**	P	**P**	**22 23 54.1**	**-0.2**
PEL				IAmb	IAmb	22 23 55.8	
	comp=Z,19nm,1.3s						
MT05	**Renca**	**42.46**	**130**	P	**P**	**22 23 55.0**	**+0.2**
BO01	**Tunca**	**42.65**	**132**	P	**P**	**22 23 57.2**	**+0.9**
BO02	**Sierra Bellavi**	**43.05**	**132**	P	**P**	**22 23 56.4**	**-3.2**
BO02				IAmb	IAmb	22 24 01.0	
	comp=Z,11nm,0.9s						
ZON	**Zonda**	**43.30**	**127**	P	**P**	**22 24 01.3**	**-0.4**
BI02	**San Fabin de**	**43.59**	**135**	P	**P**	**22 24 02.9**	**-1.0**
BI02				IAmb	IAmb	22 24 05.8	
	comp=Z,18nm,1.4s						
W13A	**Hualapai Mount**	**44.24**	**354**	P	**P**	**22 24 09.3**	**+0.1**
Z41A	**Richland Creek**	**44.76**	**19**	P	**P**	**22 24 13.4**	**+0.3**
SAML	**Samuel**	**44.91**	**94**	P	**P**	**22 24 13.5**	**-1.2**
SAML				IAmb	IAmb	22 24 21.8	
	comp=Z,8.6nm,1.1s						
WLAR	**White Oak Lake**	**45.06**	**18**	P	**P**	**22 24 15.1**	**-0.5**
MIAR	**Mount Ida**	**45.72**	**17**	P	**P**	**22 24 21.1**	**+0.4**
SHPR	**Sheep Range**	**45.78**	**353**	P	**P**	**22 24 21.4**	**0.0**
PLCA	**Paso Flores**	**46.17**	**139**	P	**P**	**22 24 26.1**	**+1.7**
	comp=Z,3.9nm,1.1s,baz=306,slow=10,SNR=4.5						
PLCA				LR	LR	22 39 09.2	

comp=Z,611nm,18.7s,baz=318,slow=30
PLCA Paso Flores 46.17 139 P P 22 24 26.4 +2.0
PKCU Pink Cliffs 46.43 356 P P 22 24 26.6 -0.1
S22A 4UR Ranch, Cre 46.64 2 P P 22 24 28.8 +0.4
PRN Pahroc Range 46.66 353 P P 22 24 29.5 +1.3
PRN IAmb IAmb 22 24 40.5
comp=Z,6.8nm,1.3s
W41B Gary Mavity, V 46.70 19 P P 22 24 29.2 +0.7
LRAL Lakeview Retre 46.72 25 P P 22 24 28.7 0.0
LRAL IAmb IAmb 22 24 43.4
comp=Z,3.7nm,0.9s
WHAR Wooly Hollow 46.80 18 P P 22 24 29.4 +0.1
SC01 Santiago de lo 46.93 53 P P 22 24 31.1 +0.5
TIGA Tifton 46.94 30 P P 22 24 29.9 -0.5
T35A Sooner Cattle 47.19 13 P P 22 24 31.3 -0.9
T35A IAmb IAmb 22 24 37.5
comp=Z,5.9nm,0.9s
U40A Yellville 47.61 17 IAmb IAmb 22 24 41.1
comp=Z,5.1nm,0.9s
PLAL Pickwick Lake 47.99 23 P P 22 24 37.0 -1.5
PLAL IAmb IAmb 22 24 52.8
comp=Z,7.3nm,1.1s
LHV Little Huntoon 48.00 350 P P 22 24 39.5 +1.0
LHV IAmb IAmb 22 24 50.8
comp=Z,5.0nm,1.2s
SRU San Rafael Swe 48.00 358 P P 22 24 38.9 +0.1
NVAR Mina Array Bea 48.14 350 P P 22 24 41.6 +1.7
comp=Z,0.4nm,0.6s,baz=182,slow=8.9,SNR=5.5
NVAR LR LR 22 40 36.7
comp=Z,399nm,19.1s,baz=179,slow=31
NVAR Mina Array Bea 48.14 350 P P 22 24 42.2 +2.3
RYN Ryan 48.37 350 P P 22 24 42.8 +1.2
RYN IAmb IAmb 22 24 54.4
comp=Z,7.6nm,1.2s
MGMO Mountain Grove 48.53 18 P P 22 24 41.9 -0.8
Y52A Lilburn 48.72 27 P P 22 24 43.0 -1.1
Y52A IAmb IAmb 22 24 48.7
comp=Z,9.0nm,1.3s
MPR Mayaguez 49.18 56 P P 22 24 46.4 -1.5
CLTN Cedars of Leba 49.64 24 P P 22 24 50.2 -1.0
CCM Cathedral Cave 49.67 18 P P 22 24 51.1 -0.3
CCM IAmb IAmb 22 25 03.7
comp=Z,5.5nm,1.1s
W52A Murphy 49.80 27 P P 22 24 52.4 -0.2
W52A IAmb IAmb 22 25 01.7
comp=Z,7.1nm,0.9s
GCPR Guaynabo City 50.09 57 P P 22 24 52.7 -2.3
BG3 Lake Jocassee 50.17 28 P P 22 24 54.3 -1.0
BG3 IAmb IAmb 22 25 09.8
comp=Z,15nm,1.5s
V51A Loudon 50.22 26 P P 22 24 54.6 -1.0
V51A IAmb IAmb 22 24 55.8
comp=Z,12nm,1.4s
P40A Paris 50.80 17 P P 22 24 58.9 -1.0
P40A IAmb IAmb 22 25 10.0
comp=Z,4.1nm,0.8s
T50A Nancy 51.05 25 P P 22 25 01.4 -0.4
T50A IAmb IAmb 22 25 20.2
comp=Z,12nm,1.4s
CPUP Villa Florida 51.47 116 P P 22 25 05.0 -0.3
comp=Z,5.5nm,0.9s,baz=271,slow=8.3,SNR=9.9
CPUP LR LR 22 42 48.7
comp=Z,453nm,21.6s,baz=275,slow=31
CPUP Villa Florida 51.47 116 P P 22 25 05.6 +0.3
PDAR Pinedale Array 51.63 359 P P 22 25 06.0 -0.4
comp=Z,0.3nm,0.6s,baz=193,slow=3.7,SNR=3.9
PDAR LR LR 22 44 01.4
comp=Z,137nm,19.5s,baz=194,slow=33
V55A Taylorsville 51.67 29 P P 22 25 05.7 -0.8
V55A IAmb IAmb 22 25 21.4
comp=Z,7.5nm,1.1s
W57A Gilead 51.70 30 P P 22 25 05.5 -1.2
R49A Shelbyville 52.01 23 P P 22 25 07.9 -1.1
R49A IAmb IAmb 22 25 22.8
comp=Z,19nm,1.5s
YBH Yreka Blue Hor 52.21 347 P P 22 25 08.1 -2.4
comp=Z,2.1nm,0.6s,baz=195,slow=16,SNR=2.4
YBH Yreka Blue Hor 52.21 347 IAmb IAmb 22 25 13.2
comp=Z,8.4nm,1.2s
R50A Paris 52.34 24 P P 22 25 09.2 -2.3
R50A IAmb IAmb 22 25 25.0
comp=Z,12nm,1.4s
TPAW Teton Pass 52.39 358 P P 22 25 11.6 -0.5
P46A Rosedale 52.41 21 P P 22 25 11.2 -0.8
P46A IAmb IAmb 22 25 23.6
comp=Z,8.2nm,0.8s
LOHW Long Hollow 52.50 358 P P 22 25 12.5 -0.4
FXWY Fox Creek 52.54 358 P P 22 25 13.0 -0.2
FLWY Flagg Ranch 52.97 358 P P 22 25 17.4 +1.1
FLWY IAmb IAmb 22 25 31.1
comp=Z,14nm,1.4s
RSSD Black Hills 53.15 4 P P 22 25 16.8 -0.8
RSSD IAmb IAmb 22 25 17.6
comp=Z,2.6nm,0.5s
YHB Horse Butte 53.66 358 P P 22 25 19.6 -1.8
P53A Whipple 54.58 26 P P 22 25 27.0 -1.0
BDFB Brasilia 59.45 103 LR LR 22 49 00.6
comp=Z,168nm,19.2s,slow=33
ULM Lac du Bonnet 60.16 9 LR LR 22 50 34.5
comp=Z,74nm,18.4s,baz=264,slow=34
ACCN Adirondack Com 61.18 29 P P 22 26 12.9 -1.4
ACCN IAmb IAmb 22 26 14.2
comp=Z,8.8nm,1.2s
FRNY Flat Rock 62.33 28 P P 22 26 21.6 -0.3
D53A Lac Vacive, Po 62.37 23 P P 22 26 23.0 +0.8
DLBC Dease Lake 69.51 348 P P 22 27 07.3 -0.7
comp=Z,0.4nm,0.3s,baz=163,slow=19,SNR=1.4
DLBC Dease Lake 69.51 348 IAmb IAmb 22 27 14.5
comp=Z,4.8nm,1.4s
YKA Yellowknife Ar 71.53 357 P P 22 27 21.4 +1.3
comp=Z,0.8nm,0.8s,baz=142,slow=5.1,SNR=3.0
YKA LR LR 22 55 35.3
comp=Z,86nm,19.0s,baz=0.0,slow=33
SCHQ Schefferville 72.70 24 LR LR 22 57 51.2
comp=Z,184nm,20.3s,baz=216,slow=34
KDAK Kodiak Island 75.62 337 LR LR 22 52 57.3
comp=Z,459nm,20.6s,baz=133,slow=29
RIDG Independent Ri 77.66 344 IAmb IAmb 22 28 05.1
comp=Z,4.4nm,0.8s
ILAR Eielson Array 79.02 344 P P 22 28 03.1 -0.1
comp=Z,0.5nm,0.9s,baz=168,slow=7.2,SNR=4.5
ILAR LR LR 22 55 54.2
comp=Z,111nm,19.6s,baz=148,slow=30
WRH Wood River Hil 79.11 344 IAmb IAmb 22 28 08.0
comp=Z,6.1nm,1.2s
KTH Kantishna Hill 79.24 342 pP 22 28 08.5 0.0
BMAR Burnt Mountain 80.58 347 P P 22 28 11.5 -0.1
QSPA South Pole Qui 80.97 180 pP 22 28 18.3 +0.3
COLD Coldfoot 81.78 345 IAmb IAmb 22 28 24.8
comp=Z,5.7nm,1.3s
H11S2 WAKE ISLAND Hy 87.80 289 T T 00 06 10.0
baz=100,slow=75,SNR=134
H11S1 WAKE ISLAND Hy 87.81 289 T T 00 06 00.9
baz=100,slow=75,SNR=121
H11S3 WAKE ISLAND Hy 87.82 289 T T 00 06 09.4
baz=100,slow=75,SNR=100
H11N3 WAKE ISLAND Hy 87.83 290 T T 00 06 07.9
baz=100,slow=74,SNR=85
H11N2 WAKE ISLAND Hy 87.84 290 T T 00 06 03.4
baz=100,slow=74,SNR=93
H11N1 WAKE ISLAND Hy 87.85 290 T T 00 06 05.8
baz=100,slow=74,SNR=48
PETK Petropavlovsk- 99.39 322 LR LR 23 05 19.0
comp=Z,202nm,21.9s,baz=62,slow=30
KURK Kurchatov 138.09 353 PKiKP 22 35 30.9 +4.3
KURBB Kurchatov Arra 138.19 353 PKP PKiKP 22 35 30.9 +4.1
comp=Z,0.3nm,0.7s,baz=59,slow=2.4,SNR=2.7
MKAR Makanchi Array 141.30 348 PKP PKiKP 22 35 37.4 +4.1
comp=Z,0.3nm,0.8s,baz=17,slow=6.5,SNR=3.8
KMBO Kilima Mbogo 144.57 105 PKP PKPbc 22 35 36.3 +0.1
comp=Z,0.5nm,0.3s,baz=184,slow=19,SNR=1.7
GEYT Alibeck 148.93 20 PKPbc PKiKP 22 35 48.7 -0.6
comp=Z,1.0nm,0.6s,baz=196,slow=1.1,SNR=3.7
GEYT Alibeck 148.93 20 PKiKP 22 35 49.3 0.0
CMAR Chiang Mai Arr 151.65 292 PKPbc PKiKP 22 35 56.2 +0.8
comp=Z,0.7nm,0.6s,baz=39,slow=1.0,SNR=5.7
CMAR Chiang Mai Arr 151.65 292 PKiKP 22 35 55.7 +0.4

IDC ***21*** *22:17:37.0±1.3, 32°.64N×47°.67E, h0km, mb3.9/14, mb1 3.9/18, mb1mx3.7/53, mbtmp3.8/18, ML3.4/4, Error ellipse: s-maj=29.3km s-min=15.5km az=167.0*
THR ***21*** *22:17:37.8±0.9, 32°.56N×47°.69E, h18km±97km, ML3.8*
ISN ***21*** *22:17:38.4±0.9, 32°.58N×47°.72E, h14km±6km, ML3.9*

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TEH ***21*** *22:17:38.3, 32°.64N×47°.73E, h9km, ML3.9*
NEIC ***21*** *22:17:41.1±2.1, 32°.57N±0°.07×47°.73E±0°.08, h33km±7km, Error ellipse: s-maj=12.2km s-min=8.1km az=140.0*
ISC 21 22:17:37.7±1.4, 32°.57N±0°.04×47°.71E±0°.03, h5km±9km, n130,σ1°.95/136, mb4.0/25, 6C-2D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
DHL1	**Dehloran**	**0.38**	**287**	*e*Pg		**Pg**	**22 17 46.3**	**+1.2**
IKFM	**Kafar-mosalman**	**0.96**	**7**	*e*Pg		**Pb**	**22 17 55.9**	**-0.9**
IKMR	**Kamar-syah**	**1.10**	**30**	*e*Pg		**Pg**	**22 17 57.8**	**-1.0**
IDOB	**Doab**	**1.28**	**18**	*e*Pg		**Pn**	**22 18 02.4**	**+0.1**
BMDN	**Meydan**	**1.44**	**40**	*e*			22 18 32.5	
BMDN					*e*Pg	**Pg**	**22 18 05.4**	**0.0**
IBDR	**Badra**	**1.60**	**290**	*e*Pg		**Pn**	**22 18 07.0**	**+0.5**
IBDR					*e*Sg	**Sg**	**22 18 29.0**	**0.0**
IBDR					AML	AML	22 18 34.1	
	comp=N,2μm,0.5s							
IBDR					AML	AML	22 18 34.5	
	comp=E,2μm,0.6s							
IKOM	**Komasi**	**1.61**	**354**	*e*			22 18 38.6	
IKOM					*e*Pg	**Pg**	**22 18 07.9**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.79**	**342**	*e*Pg		**Pb**	**22 18 10.6**	**-0.5**
KCHF					*e*	**Sb**	**22 18 38.9**	**+4.9**
HSAM	**Samen**	**1.80**	**24**	*e*Pg		**Pg**	**22 18 11.8**	**-0.4**
HSAM					*e*	**Sb**	**22 18 39.9**	**+5.7**
KER	**Kermanshah**	**1.88**	**345**	*e*Pg		**Pb**	**22 18 11.9**	**-0.6**
IBZA	**Bozab**	**1.90**	**4**	*e*Pg		**Pg**	**22 18 13.0**	**-1.1**
IBZA					*e*	**Sb**	**22 18 41.9**	**+4.8**
IGHG	**Ghaleghazi**	**2.00**	**332**	*e*Pn		**Pb**	**22 18 13.8**	**-0.9**
IGHG					*e*		22 18 51.8	
NSR	**Nassriya**	**2.05**	**221**	*e*Pn		**Pn**	**22 18 14.0**	**+1.2**
NSR					*e*Sn	**Sn**	**22 18 39.0**	**+0.3**
IVIS	**Veis**	**2.08**	**340**	*e*Pn		**Pb**	**22 18 14.4**	**-1.6**
IVIS					*e*		22 18 55.9	
KHMZ	**Khomeyn**	**2.21**	**58**	*e*Pn		**Pb**	**22 18 16.5**	**-1.8**
KHMZ	**Khomeyn**	**2.21**	**58**	*e*Pn		**Pb**	**22 18 16.5**	**-1.8**
IALM	**Almabolaq**	**2.32**	**9**	*e*Pn		**Pb**	**22 18 17.8**	**-2.3**
IDHR	**Dehrash**	**2.40**	**333**	*e*Pn		**Pn**	**22 18 18.6**	**+0.9**
IDHR					*e*		22 18 58.6	
ILIN	**Lien**	**2.43**	**345**	*e*Pn		**Pb**	**22 18 19.4**	**-2.5**
ILIN					*e*		22 19 02.7	
JHBN	**Jahan bin**	**2.52**	**97**	*e*Pn		**Pn**	**22 18 21.6**	**+2.1**
JHBN					*e*		22 19 13.1	
SNGE	**Sanandaj**	**2.54**	**353**	*e*Pn		**Pn**	**22 18 20.4**	**+0.7**
SNGE					*e*Sg	**Sg**	**22 18 57.5**	**-1.6**
SNGE					IAML		22 19 02.6	
	comp=N,336nm,0.6s							
SNGE	**Sanandaj**	**2.54**	**353**	*e*Pn		**Pn**	**22 18 20.4**	**+0.7**
HAGD	**Aghdareh**	**2.54**	**27**	*e*Pn		**Pb**	**22 18 21.7**	**-2.2**
HAGD					*e*	**Sb**	**22 19 00.3**	**+4.7**
IPIR	**Pirpir**	**2.68**	**87**	*e*Pn		**Pn**	**22 18 24.1**	**+2.3**
IPIR					*e*	**Sb**	**22 19 05.8**	**+6.1**
HSRG	**Sareghieh**	**2.71**	**10**	*e*Pn		**Pb**	**22 18 23.9**	**-2.9**
HSRG					*e*		22 19 17.6	
ROKH	**ROKH**	**2.82**	**94**	*e*Pn		**Pn**	**22 18 25.8**	**+2.3**
BHD	**Baghdad**	**2.89**	**285**	*e*Pn		**Pn**	**22 18 26.0**	**+1.7**
BHD					*e*Sn	**Sn**	**22 19 01.0**	**+1.6**
BHD					AML	AML	22 19 25.3	
	comp=E,779nm,0.4s							
IKLH	**Kolahrood**	**3.33**	**76**	*e*Pn		**Pn**	**22 18 33.2**	**+2.5**
IKLH					*e*		22 19 32.9	
IRAZ	**Razeghan**	**3.37**	**32**	*e*Pn		**Pn**	**22 18 33.7**	**+2.5**
QABG	**Abgarm-Qazvin**	**3.49**	**26**	*e*Pn		**Pn**	**22 18 34.1**	**+1.2**
KLNJ	**Kolanjah**	**3.65**	**114**	*e*Pn		**Pn**	**22 18 36.7**	**+1.6**
IGAR	**Gharneh**	**3.66**	**91**	*e*Pn		**Pn**	**22 18 37.3**	**+2.2**
IZEF	**Zefreh**	**3.90**	**84**	*e*Pn		**Pn**	**22 18 40.6**	**+2.1**
IRAM	**Ramesheh**	**4.03**	**100**	*e*Pn		**Pn**	**22 18 41.3**	**+1.1**
QSDN	**Sirdan**	**4.11**	**17**	*e*Pn		**Pn**	**22 18 43.3**	**+2.0**
IHSB	**Hasanabad**	**4.12**	**45**	*e*Pn		**Pn**	**22 18 43.1**	**+1.8**
IGZV	**Ghazvin**	**4.33**	**28**	*e*Pn		**Pn**	**22 18 45.6**	**+1.2**
CHTH	**Charan**	**4.37**	**39**	*e*Pn		**Pn**	**22 18 46.2**	**+1.3**
CHTH	**Charan**	**4.37**	**39**	*e*Pn		**Pn**	**22 18 46.2**	**+1.3**
MAHB	**Mahabad**	**4.50**	**339**	*e*Pn		**Pn**	**22 18 48.0**	**+1.4**
QALM	**Alamut, Qazvin**	**4.55**	**31**	*e*Pn		**Pn**	**22 18 48.4**	**+1.0**
DAMV	**Damavand**	**4.67**	**48**	*e*Pn		**Pn**	**22 18 49.3**	**+0.3**
DAMV	**Damavand**	**4.67**	**48**	*e*Pn		**Pn**	**22 18 49.3**	**+0.3**
IDMV	**Damavand**	**4.67**	**49**	*e*Pn		**Pn**	**22 18 50.6**	**+1.5**
ANAR	**Anarak**	**5.10**	**81**	*e*Pn		**Pn**	**22 18 56.5**	**+1.7**
ISAD	**Sadrabad**	**5.10**	**96**	*e*Pn		**Pn**	**22 18 56.4**	**+1.4**
IFIR	**Firoozkooh**	**5.18**	**52**	*e*Pn		**Pn**	**22 18 57.7**	**+1.6**
ILAS	**Lasjerd**	**5.18**	**56**	*e*Pn		**Pn**	**22 18 58.2**	**+2.1**
IPRN	**Peran**	**5.29**	**45**	*e*Pn		**Pn**	**22 19 00.2**	**+2.7**
IALA	**Alasht**	**5.48**	**49**	*e*Pn		**Pn**	**22 19 02.5**	**+2.3**
ISHM	**Shahmirzad**	**5.64**	**54**	*e*Pn		**Pn**	**22 19 04.9**	**+2.5**
ICHK	**Chekchek**	**5.67**	**91**	*e*Pn		**Pn**	**22 19 04.2**	**+1.4**
IANJ	**Anjilo**	**5.90**	**59**	*e*Pn		**Pn**	**22 19 07.6**	**+1.6**
AHAR	**Ahar**	**5.93**	**355**	*e*Pn		**Pn**	**22 19 07.8**	**+1.5**
IGLO	**Ghaloghah**	**6.39**	**50**	*e*Pn		**Pn**	**22 19 14.7**	**+2.0**
IBAF	**Bafgh**	**6.74**	**96**	*e*Pn		**Pn**	**22 19 18.7**	**+1.4**
GEVA	**Gevas**	**6.88**	**328**	Pn		**Pn**	**22 19 20.6**	**+1.4**
GEVA				Sn		**Sn**	**22 20 39.8**	**+1.9**
MARD	**Mardin**	**7.40**	**312**			**Pn**	**22 19 26.6**	**+0.2**
MARD				Sn		**Sn**	**22 20 47.6**	**-3.3**
TPRV	**Parvadeh(Tabas**	**7.57**	**84**	*e*Pn		**Pn**	**22 19 30.2**	**+1.5**
TKDS	**Koohdasht(Taba**	**7.96**	**80**	*e*Pn		**Pn**	**22 19 35.0**	**+0.8**
NGRK	**Negar Kerman**	**8.26**	**108**	*e*Pn		**Pn**	**22 19 39.0**	**+0.5**
ASF	**Jabal al Asfar**	**9.16**	**270**	Pn		**Pn**	**22 19 49.3**	**-1.2**
	comp=E,0.2nm,0.3s,baz=50,slow=12,SNR=2.1							
ASF				Sn		**Sn**	**22 21 28.5**	**-5.5**
	comp=E,0.8nm,0.3s,baz=288,slow=20,SNR=3.0							
ASF				Lg		Lg	22 22 23.4	
	comp=E,0.2nm,0.3s,baz=0.3,slow=23,SNR=3.6							
AKH	**Akhalkalaki**	**9.45**	**340**	Pn		**Pn**	**22 19 53.4**	**-1.1**
GEYT	**Alibeck**	**10.04**	**55**	Pn		**Pn**	**22 20 06.5**	**+3.9**
	comp=E,0.4nm,0.3s,baz=240,slow=14,SNR=1.5							
GEYT	**Alibeck**	**10.04**	**55**			**Pn**	**22 20 03.0**	**+0.3**
MMAI	**Mount Meron Ar**	**10.37**	**276**	Pn		**Pn**	**22 20 07.5**	**+0.3**
	comp=E,0.3nm,0.3s,baz=83,slow=15,SNR=2.2							
MMAI				Lg		Lg	22 23 14.0	
	comp=E,1.3nm,0.3s,baz=105,slow=34,SNR=2.6							
EIL	**Elat**	**11.31**	**259**	Pn		Pn	22 20 26.0	+6.0
	comp=E,0.2nm,0.3s,baz=39,slow=11,SNR=1.4							
EIL				Lg		Lg	22 23 40.4	
	comp=E,0.6nm,0.3s,baz=106,slow=9.7,SNR=2.0							
KVAR	**Kislovodsk Ar**	**12.03**	**342**	Pn		Pn	22 20 37.6	+7.8
	baz=253,slow=20,SNR=1.8							
WSAR	**Wadi Sarin**	**13.39**	**131**	Pn		**Pn**	**22 20 46.0**	**-2.4**
	comp=E,0.2nm,0.3s,baz=300,slow=8.1,SNR=1.8							
WSAR				Sn		Sn	22 23 05.2	-12
	comp=E,0.1nm,0.3s,baz=145,slow=12,SNR=1.2							
BRTR	**Keskin Array B**	**13.42**	**306**	Pn		**Pn**	**22 20 52.0**	**+3.1**
	comp=E,0.1nm,0.3s,baz=138,slow=9.4,SNR=5.3							
AKAS	**Kas**	**15.39**	**289**	Pn		**Pn**	**22 21 16.8**	**+1.2**
AKAS					IAmb	IAmb	22 21 31.0	
	comp=Z,16nm,1.2s							
MANT	**Manisa**	**16.67**	**296**			**P**	**22 21 33.4**	**-1.2**
KBL	**Kabul**	**17.89**	**78**			**P**	**22 21 47.7**	**-0.4**
CHGR	**Chuyangaron**	**18.45**	**65**	P		**P**	**22 21 53.8**	**-0.3**
IDI	**Anoyia**	**19.13**	**284**	P		**Pn**	**22 22 04.8**	**+2.4**
	comp=Z,0.5nm,0.3s,baz=87,slow=14,SNR=6.9							
IDI	**Anoyia**	**19.13**	**284**	P		**P**	**22 22 01.7**	**+0.1**
IDI					IAmb	IAmb	22 22 05.5	
	comp=Z,7.7nm,1.0s							
ALN	**Alexandroupoli**	**19.22**	**302**	P		**Pn**	**22 22 03.7**	**+0.3**
GAR	**Garm**	**19.40**	**64**			**P**	**22 22 04.2**	**-0.5**
GAR					IAmb	IAmb	22 22 11.5	
	comp=Z,6.7nm,0.8s							
AKTO	**Aktyubinsk**	**19.41**	**20**	P		**P**	**22 22 04.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=204,slow=12,SNR=17							
BTK	**Batken**	**20.03**	**62**	P		**Pn**	**22 22 12.1**	**-1.1**
KK31	**Karatay Array**	**20.79**	**53**	P		**P**	**22 22 20.1**	**+0.5**
KKAR	**Karatay Array**	**20.79**	**53**	P		**P**	**22 22 19.4**	**-0.2**
KKAR	**Karatay Array**	**20.79**	**53**	P		**P**	**22 22 20.1**	**+0.5**
KKAR					IAmb	IAmb	22 22 30.1	
	comp=Z,2.3nm,0.8s							
VRI	**Vrincioaia**	**20.91**	**315**	⇓P		Pn	22 22 22.8	-0.6
PLOR	**Plostina**	**20.95**	**315**	⇑P		Pn	22 22 26.0	+2.1
MLR	**Muntele Rosu**	**21.19**	**314**	⇑P		**P**	**22 22 27.2**	**+3.1**
MLR	**Muntele Rosu**	**21.19**	**314**	P		**P**	**22 22 24.7**	**+0.7**
TESR	**Tescani**	**21.31**	**317**	⇑P		**P**	**22 22 28.9**	**+3.7**
OZUR		**21.59**	**315**	⇑P		**P**	**22 22 27.1**	**-1.2**
VOIR		**21.71**	**313**	⇓P		**P**	**22 22 29.9**	**+0.3**
DOPR	**Dopca**	**21.77**	**314**	⇑P		**P**	**22 22 24.7**	**-5.4**
AKASG	**Malin Array Be**	**22.68**	**328**	P		**P**	**22 22 38.0**	**-1.8**
	comp=Z,0.6nm,0.4s,baz=140,slow=9.9,SNR=4.7							
BURAR	**Bucovina Array**	**22.73**	**318**	P		**P**	**22 22 40.5**	**0.0**
BUR08	**Bucovina Ar. S**	**22.76**	**318**	P		**P**	**22 22 40.0**	**-0.8**
BUR08					IAmb	IAmb	22 22 52.8	
	comp=Z,12nm,1.8s							
MDVR	**Moldovita**	**23.57**	**309**	⇑P		**P**	**22 22 49.6**	**+0.6**
OBN	**Obninsk**	**23.87**	**344**	P		**P**	**22 22 51.6**	**-0.2**
OBN					IAmb	IAmb	22 22 56.7	
	comp=E,8.1nm,0.6s							
ARU	**Arti**	**25.02**	**14**	P		**P**	**22 23 02.3**	**0.0**
	comp=Z,0.6nm,0.5s,baz=201,slow=16,SNR=3.9							
ARU	**Arti**	**25.02**	**14**		IAmb	IAmb	22 23 04.0	
	comp=Z,3.1nm,0.8s							
KDJ	**Kajisay**	**25.19**	**59**	P		**P**	**22 23 02.9**	**-1.3**
KDJ					IAmb	IAmb	22 23 07.6	
	comp=Z,2.4nm,0.9s							
KWP	**Kalwaria Pacla**	**25.23**	**320**	P		**P**	**22 23 04.7**	**+0.4**
TARG	**Taragay, Kyrgy**	**25.56**	**60**	P		**P**	**22 23 06.9**	**-1.0**
TARG					IAmb	IAmb	22 23 08.8	
	comp=Z,2.7nm,0.6s							
TIP	**Timpagrande**	**25.86**	**294**	P		**P**	**22 23 09.2**	**-1.0**
PSZ	**Piszkesteto**	**26.00**	**314**	P		**P**	**22 23 11.9**	**+0.5**
PSZ					IAmb	IAmb	22 23 14.4	
	comp=Z,4.0nm,0.8s							
KIRV	**Kirov**	**26.05**	**2**	P		**P**	**22 23 10.9**	**-0.6**
	comp=Z,8.9nm,0.6s,baz=265,slow=1.9,SNR=4.8							
BVAR	**Borovoye Array**	**26.16**	**32**	P		**P**	**22 23 12.4**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=227,slow=5.9,SNR=14							
OJC	**Ojcow**	**27.14**	**319**	P		**P**	**22 23 22.5**	**+0.9**
OJC					IAmb	IAmb	22 23 28.6	
	comp=Z,4.0nm,0.7s							
MORC	**Moravsky Berou**	**28.22**	**316**	P		**P**	**22 23 31.4**	**+0.1**
MORC					IAmb	IAmb	22 23 44.5	
	comp=Z,2.2nm,0.9s							
KURBB	**Kurchatov Arra**	**28.97**	**42**	P		**P**	**22 23 38.7**	**+0.9**
	comp=Z,0.6nm,0.2s,baz=243,slow=8.2,SNR=2.0							
KURK	**Kurchatov**	**29.06**	**42**	P		**P**	**22 23 38.2**	**-0.5**
KURK					IAmb	IAmb	22 23 39.6	
	comp=Z,9.2nm,1.9s							
MK31	**Makanchi Array**	**29.89**	**51**	P		**P**	**22 23 45.8**	**-0.4**
MK31					IAmb	IAmb	22 23 47.4	
	comp=Z,1.7nm,0.8s							
MKAR	**Makanchi Array**	**29.89**	**51**	P		**P**	**22 23 46.7**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=248,slow=7.5,SNR=19							
MKAR	**Makanchi Array**	**29.89**	**51**	P		**P**	**22 23 46.3**	**+0.1**
GERES	**GERESS Array B**	**30.17**	**313**	P		**P**	**22 23 49.7**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=94,slow=8.0,SNR=2.3							
CLL	**Colln**	**31.49**	**317**	*e*(P)		**P**	**22 24 03.0**	**+2.8**
KEST	**Kesra**	**31.77**	**286**	P		**P**	**22 24 06.6**	**+3.6**
	comp=Z,3.1nm,0.9s,baz=315,slow=4.3,SNR=2.8							
FINES	**FINESS Array B**	**32.12**	**341**	P		**P**	**22 24 04.1**	**-1.4**
	comp=Z,4.0nm,1.0s,baz=141,slow=9.0,SNR=5.0							
RGN	**Rugen**	**32.72**	**322**	P		**P**	**22 24 10.7**	**-0.1**
ZAA0	**Zalesovo Array**	**33.88**	**40**	P		**P**	**22 24 19.4**	**-1.7**
ZAA0					IAmb	IAmb	22 24 23.2	
	comp=Z,1.8nm,0.8s							
ZALV	**Zalesovo Beam**	**33.88**	**40**	P		**P**	**22 24 19.6**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=268,slow=7.4,SNR=5.9							
ZALV	**Zalesovo Beam**	**33.88**	**40**	P		**P**	**22 24 19.7**	**-1.4**
BNI	**Bardonecchia**	**33.97**	**304**	P		**P**	**22 24 20.8**	**-1.4**
ARCES	**ARCESS Array B**	**39.06**	**348**	P		**P**	**22 25 04.4**	**-0.7**
	comp=Z,2.6nm,1.0s,baz=145,slow=11,SNR=2.4							
ESDC	**Sonseca Array**	**41.86**	**295**	P		**P**	**22 25 28.6**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=75,slow=8.2,SNR=9.4							
ESDC	**Sonseca Array**	**41.86**	**295**	IAmb		IAmb	22 25 30.8	
	comp=Z,6.2nm,1.6s							
TORD	**Torodi Ar. Bea**	**46.19**	**256**	P		**P**	**22 26 03.0**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=84,slow=6.7,SNR=7.6							
SONM	**Songino Array**	**46.24**	**53**	P		**P**	**22 26 02.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**47.90**	**94**	P		**P**	**22 26 17.4**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=292,slow=7.4,SNR=1.7							
YKA	**Yellowknife Ar**	**84.20**	**352**	P		**P**	**22 30 09.2**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=351,slow=5.6,SNR=2.0							
FID	**Port Fidalgo**	**86.29**	**7**	P		**P**	**22 30 16.9**	**-3.4**
YAH	**Yahtse**	**87.08**	**5**	P		**P**	**22 30 25.2**	**+0.9**

IDC 21 22:22:53.8±1.6, 0°.65N×122°.54E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/39, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=139.3km s-min=24.4km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
FITZ	**Fitzroy Crossi**	**18.88**	**171**	P		Pn	22 27 16.6	+0.1
	0.1nm,0.3s,baz=353,slow=9.2,SNR=1.7							
WRA	**Warramunga Arr**	**23.51**	**151**	P		P	22 28 06.4	+0.7
	0.2nm,0.3s,baz=328,slow=11,SNR=1.1							
ASAR	**Alice Springs**	**26.58**	**156**	P		P	22 28 32.8	-1.1
	0.2nm,0.5s,baz=342,slow=15,SNR=4.3							
MKAR	**Makanchi Array**	**57.82**	**328**	P

ANAR	**Anarak**	**5.20**	**83**	*e*Pn	**Pn**	**22 24 24.9**	**+0.9**
IPRN	**Peran**	**5.29**	**47**	*e*Pn	**Pn**	**22 24 27.2**	**+1.9**
IALA	**Alasht**	**5.50**	**51**	*e*Pn	**Pn**	**22 24 29.8**	**+1.6**
ASF	**Jabal al Asfar**	**9.03**	**270**	Pn	**Pn**	**22 25 16.9**	**+0.3**
	comp=E,0.2nm,0.3s,baz=155,slow=19,SNR=1.4						
ASF				Sn	**Sn**	**22 26 56.0**	**-2.2**
	comp=E,0.2nm,0.3s,baz=272,slow=21,SNR=1.3						
AKTO	**Aktyubinsk**	**19.34**	**21**	P	**P**	**22 27 31.5**	**+0.2**
	comp=E,0.3nm,0.3s,baz=202,slow=12,SNR=4.6						
BVAR	**Borovoye Array**	**26.12**	**32**	P	**P**	**22 28 39.3**	**-0.6**
	comp=E,0.4nm,0.5s,baz=217,slow=6.9,SNR=3.8						
MKAR	**Makanchi Array**	**29.91**	**52**	P	**P**	**22 29 14.0**	**+0.1**
	comp=E,0.5nm,0.7s,baz=251,slow=5.1,SNR=7.0						
ZALV	**Zalesovo Beam**	**33.86**	**40**	P	**P**	**22 29 48.1**	**-0.4**
	comp=E,0.7nm,0.5s,baz=258,slow=6.9,SNR=2.9						
ARCES	**ARCESS Array B**	**38.91**	**348**	P	**P**	**22 30 30.2**	**-1.2**
	comp=E,0.9nm,0.7s,baz=157,slow=9.5,SNR=1.6						
TORD	**Torodi Ar. Bea**	**46.10**	**256**	P	**P**	**22 31 30.7**	**+0.2**
	comp=E,0.6nm,0.8s,baz=66,slow=7.0,SNR=4.0						

*IDC **21** 23:02:09.3±0.9, 15°.45S×173°.23W, h0km, mb4.1/10, mb1 4.4/11,mb1mx4.1/29,mbtmp4.1/11, ML4.3/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/29, Error ellipse: s-maj=43.6km s-min=16.6km az=140.0*

*NEIC **21** 23:02:12.9±1.3, 15°.41S±0°.06×173°.13W±0°.08, h22km±5km, mb4.5/95, Error ellipse: s-maj=12.0km s-min=7.9km az=120.0*

ISC 21 23:02:13.5±0.5, 15°.46S±0°.06×173°.05W±0°.07, h29km, n135, σ1s05/126, mb4.5/49, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.97**	**39**	Pn	**Pn**	**23 02 44.5**	**-0.6**
	96nm,0.3s,baz=159,slow=0.7,SNR=34						
AFI				Sn	**Sn**	**23 03 06.0**	**-2.9**
	65nm,0.3s,baz=49,slow=22,SNR=6.4						
AFI				LR	LR	23 03 24.3	
	comp=Z,599nm,18.5s,baz=210,slow=36						
AFI	**Afiamalu**	**1.97**	**39**		**Pn**	**23 02 44.8**	**-0.3**
NIUE	**Niue**	**4.68**	**141**		**Pn**	**23 03 22.4**	**+0.2**
NIUE				Sn	**Sn**	**23 04 10.1**	**-5.5**
MSVF	**Nonsavu**	**8.83**	**254**	Pn	**Pn**	**23 04 18.1**	**-1.2**
KNTN	**Kanton**	**12.67**	**6**	Pn	**Pn**	**23 05 11.7**	**-0.2**
RAR	**Rarotonga**	**13.84**	**116**	Pn	**Pn**	**23 05 29.8**	**+1.9**
DZM	**Mont Dzumac**	**20.49**	**248**	P	**P**	**23 06 50.1**	**+0.7**
DZM				IAmb	IAmb	23 06 58.2	
	comp=Z,17nm,1.1s						
PPT	**Papeete**	**22.60**	**99**	LR	LR	23 13 17.3	
	comp=Z,73nm,19.0s,baz=153,slow=29						
URZ	**Urewera**	**24.32**	**199**	P	**P**	**23 07 27.5**	**-1.1**
	comp=Z,9.9nm,0.6s,baz=355,slow=3.3,SNR=2.5						
URZ	**Urewera**	**24.32**	**199**	P	**P**	**23 07 28.1**	**-0.6**
BKZ	**Black Stump Fm**	**25.34**	**199**	P	**P**	**23 07 38.5**	**+0.5**
BKZ				IAmb	IAmb	23 07 47.2	
	comp=Z,16nm,1.2s						
BFZ	**Birch Farm**	**26.80**	**198**	P	**P**	**23 07 51.1**	**-0.1**
QRZ	**Quartz Range**	**28.21**	**204**	P	**P**	**23 08 05.5**	**+1.7**
QRZ				IAmb	IAmb	23 08 06.3	
	comp=Z,8.8nm,0.8s						
NNZ	**Nelson**	**28.24**	**202**	P	**P**	**23 08 04.4**	**+0.4**
THZ	**Tophouse**	**28.89**	**202**	P	**P**	**23 08 11.3**	**+1.5**
THZ				IAmb	IAmb	23 08 20.1	
	comp=Z,8.6nm,0.8s						
KHZ	**Kahutara**	**29.24**	**201**	P	**P**	**23 08 14.8**	**+1.9**
ODZ	**Otahua Downs**	**32.55**	**202**	P	**P**	**23 08 43.8**	**+1.7**
WKZ	**Wanaka**	**32.97**	**204**	P	**P**	**23 08 46.6**	**+0.8**
MLZ	**Mavora Lakes**	**33.77**	**204**	P	**P**	**23 08 53.9**	**+1.1**
DCZ	**Deep Cove**	**34.24**	**205**	P	**P**	**23 08 56.4**	**-0.4**
H11S2	**WAKE ISLAND Hy**	**39.18**	**329**	T	T	23 50 02.6	
H11S3	**WAKE ISLAND Hy**	**39.20**	**329**	T	T	23 50 02.2	
	baz=164,slow=74						
H11S1	**WAKE ISLAND Hy**	**39.20**	**329**	T	T	23 50 06.2	
	baz=282,slow=74						
H11N3	**WAKE ISLAND Hy**	**40.13**	**330**	T	T	23 52 33.6	
	baz=154						
H11N1	**WAKE ISLAND Hy**	**40.13**	**330**	T	T	23 52 29.9	
	baz=154						
H11N2	**WAKE ISLAND Hy**	**40.14**	**330**	T	T	23 52 30.9	
	baz=154						
STKA	**Stephens Creek**	**44.30**	**240**	P	**P**	**23 10 20.1**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=119,slow=19,SNR=1.4						
WB2	**Warramunga Arr**	**50.15**	**257**	P	**P**	**23 11 06.5**	**-0.3**
WRA	**Warramunga Arr**	**50.16**	**257**	P	**P**	**23 11 05.4**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=93,slow=6.5,SNR=5.6						
WRA	**Warramunga Arr**	**50.16**	**257**	IAmb	IAmb	23 11 06.9	
	comp=Z,0.2nm,1.1s						
ASAR	**Alice Springs**	**50.41**	**252**	P	**P**	**23 11 07.3**	**-1.5**
	comp=Z,1.6nm,0.5s,baz=87,slow=8.1,SNR=25						
ASAR				LR	LR	23 30 34.4	
	comp=Z,60nm,20.6s,baz=110,slow=34						
PETK	**Petropavlovsk-**	**72.79**	**342**	P	**P**	**23 13 38.7**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=119,slow=7.3,SNR=5.3						
PETK	**Petropavlovsk-**	**72.79**	**342**	P	**P**	**23 13 39.0**	**-0.1**
YBH	**Yreka Blue Hor**	**73.44**	**37**	LR	LR	23 38 37.3	
	comp=Z,34nm,20.6s,baz=320,slow=30						
NVAR	**Mina Array Bea**	**74.14**	**42**	P	**P**	**23 13 49.0**	**+1.3**
	comp=Z,2.0nm,0.9s,baz=227,slow=9.8,SNR=14						
NVAR	**Mina Array Bea**	**74.14**	**42**	P	**P**	**23 13 48.9**	**+1.2**
QSPA	**South Pole Qui**	**74.59**	**180**	P	**P**	**23 13 52.1**	**+2.4**
PINE	**Pine Mountain**	**75.75**	**36**	P	**P**	**23 13 58.4**	**+1.6**
SBUM	**Sibu**	**75.97**	**277**	P	**P**	**23 13 58.8**	**+0.3**
WVOR	**Wild Horse Val**	**76.27**	**38**	P	**P**	**23 13 58.2**	**-1.5**
WVOR				IAmb	IAmb	23 14 01.5	
	comp=Z,4.5nm,0.8s						
I07A	**Izee**	**76.74**	**37**		**P**	**23 14 03.0**	**+0.7**
I07A				IAmb	IAmb	23 14 04.8	
	comp=Z,5.0nm,1.0s						
CCUT	**Cedar City**	**76.93**	**45**	P	**P**	**23 14 04.8**	**+1.1**
U15A	**North Rim**	**77.10**	**46**	P	**P**	**23 14 05.4**	**+0.7**
U15A				IAmb	IAmb	23 14 07.5	
	comp=Z,4.7nm,1.1s						
PSUT	**Pine Spring**	**77.11**	**44**	P	**P**	**23 14 05.4**	**+0.7**
SZCU	**Shurtz Canyon**	**77.14**	**45**	P	**P**	**23 14 03.8**	**-1.1**
WUAZ	**Wupatki**	**77.29**	**47**	P	**P**	**23 14 06.4**	**+0.7**
WUAZ				IAmb	IAmb	23 14 08.4	
	comp=Z,4.7nm,1.1s						
RSO	**Redoubt South**	**77.40**	**10**	P	**P**	**23 14 06.5**	**+0.8**
PKCU	**Pink Cliffs**	**77.60**	**45**	P	**P**	**23 14 07.6**	**+0.1**
G08A	**Pilot Rock**	**77.78**	**36**		**P**	**23 14 08.4**	**+0.3**
G08A				IAmb	IAmb	23 14 10.4	
	comp=Z,6.6nm,1.1s						
MTPU	**Mount Pierson**	**77.98**	**45**	P	**P**	**23 14 09.9**	**+0.2**
LTY	**Liberty**	**78.05**	**33**	P	**P**	**23 14 09.8**	**+0.2**
E07A	**Sunnyside**	**78.06**	**34**	P	**P**	**23 14 10.0**	**+0.4**
HAWA	**Hanford**	**78.13**	**35**	P	**P**	**23 14 10.1**	**+0.2**
HAWA				IAmb	IAmb	23 14 12.3	
	comp=Z,6.4nm,1.1s						
MSU	**Marysvale**	**78.23**	**44**	P	**P**	**23 14 12.3**	**+1.4**
E08A	**Dider Farm, El**	**78.45**	**35**	P	**P**	**23 14 12.6**	**+0.9**
BMO	**Blue Mountains**	**78.47**	**37**	P	**P**	**23 14 13.0**	**+1.0**
BMO				IAmb	IAmb	23 14 13.8	
	comp=Z,3.8nm,1.1s						
MFID	**Camas Ranch**	**78.52**	**39**	P	**P**	**23 14 13.1**	**+0.8**
MFID				IAmb	IAmb	23 14 14.4	
	comp=Z,3.7nm,0.9s						
DUG	**Dugway, Tooele**	**78.67**	**43**	P	**P**	**23 14 13.9**	**+0.6**
D08A	**Wollman Farm,**	**78.87**	**34**	P	**P**	**23 14 14.3**	**+0.3**
D08A				IAmb	IAmb	23 14 16.3	
	comp=Z,4.7nm,0.8s						
E09A	**Wood Farm, Sta**	**78.97**	**35**	P	**P**	**23 14 15.3**	**+0.8**
KNK	**Knik Glacier**	**79.07**	**12**	P	**P**	**23 14 14.9**	**+0.2**
KNK				IAmb	IAmb	23 14 17.3	
	comp=Z,3.6nm,1.0s						
F10A	**Beach Ranch, E**	**79.17**	**36**	P	**P**	**23 14 15.9**	**+0.2**
F10A				IAmb	IAmb	23 14 17.4	
	comp=Z,6.1nm,0.8s						
TMUT	**Trail Mountain**	**79.28**	**44**	P	**P**	**23 14 17.6**	**+0.8**
B08A	**Colville Reser**	**79.44**	**33**	P	**P**	**23 14 16.6**	**-0.5**
HLID	**Hailey**	**79.46**	**39**	P	**P**	**23 14 18.1**	**+0.6**
HLID				IAmb	IAmb	23 14 20.0	
	comp=Z,5.2nm,0.9s						
SPUT	**South Promonto**	**79.49**	**42**	P	**P**	**23 14 18.3**	**+0.6**
SRU	**San Rafael Swe**	**79.65**	**45**	P	**P**	**23 14 18.4**	**-0.3**
C09A	**Chrisman Ranch**	**79.67**	**34**	P	**P**	**23 14 18.9**	**+0.6**
P17A	**Butcher Ranch,**	**79.68**	**44**	P	**P**	**23 14 19.5**	**+0.7**
JLU	**Jordanelle**	**79.77**	**43**	P	**P**	**23 14 19.2**	**-0.2**
MNTX	**Cornudas Mount**	**79.99**	**53**	P	**P**	**23 14 21.7**	**+1.3**
TCUT	**Toone Canyon**	**80.06**	**42**	P	**P**	**23 14 21.6**	**+0.7**
BNM	**Barren Site**	**80.10**	**50**	P	**P**	**23 14 21.2**	**-0.1**
PV19	**Morning Glory**	**80.31**	**46**	P	**P**	**23 14 22.7**	**+0.4**
PV14	**Lion Creek, Pa**	**80.32**	**46**	P	**P**	**23 14 23.7**	**+1.3**
PV14				IAmb	IAmb	23 14 36.5	
	comp=Z,7.6nm,1.0s						
PV17	**East Wray Mesa**	**80.32**	**46**	P	**P**	**23 14 22.6**	**+0.2**
PV17				IAmb	IAmb	23 14 24.7	
	comp=Z,9.6nm,1.2s						
PV18	**Skein Mesa, Pa**	**80.33**	**46**	P	**P**	**23 14 23.2**	**+0.8**
PV18				IAmb	IAmb	23 14 24.7	
	comp=Z,5.3nm,1.1s						
PV20	**West Nyswonger**	**80.34**	**46**	P	**P**	**23 14 23.6**	**+1.1**
PV20				IAmb	IAmb	23 14 24.7	
	comp=Z,8.2nm,1.0s						
PV13	**Radium Mtn., P**	**80.36**	**46**	P	**P**	**23 14 23.6**	**+1.1**
PV13				IAmb	IAmb	23 14 24.7	
	comp=Z,5.8nm,1.2s						
PV16	**Nyswonger Mesa**	**80.36**	**46**	P	**P**	**23 14 22.4**	**-0.2**
PV16				IAmb	IAmb	23 14 24.9	
	comp=Z,5.9nm,1.2s						
TX31	**Lajitas Ar. Si**	**80.36**	**56**	P	**P**	**23 14 23.5**	**+0.8**
TX31				IAmb	IAmb	23 14 24.5	
	comp=Z,6.3nm,1.1s						
TX32	**Lajitas Array**	**80.36**	**56**	P	**P**	**23 14 23.5**	**+0.8**
TXAR	**Lajitas Array**	**80.36**	**56**	P	**P**	**23 14 24.2**	**+1.5**
	comp=Z,1.9nm,1.1s,baz=232,slow=6.2,SNR=10						
TXAR				LR	LR	23 42 17.1	
	comp=Z,23nm,21.8s,baz=0.0,slow=30						
TXAR	**Lajitas Array**	**80.36**	**56**	P	**P**	**23 14 23.6**	**+1.0**
PV03	**Paradox Valley**	**80.38**	**46**	P	**P**	**23 14 23.8**	**+1.1**
PV11	**David Mesa, Pa**	**80.39**	**46**	P	**P**	**23 14 23.5**	**+0.8**
PV11				IAmb	IAmb	23 14 25.7	
	comp=Z,3.6nm,0.7s						
PV04	**Paradox Valley**	**80.41**	**46**	P	**P**	**23 14 22.6**	**-0.1**
PV04				IAmb	IAmb	23 14 25.2	
	comp=Z,5.4nm,1.0s						
PV02	**Paradox Valley**	**80.44**	**46**	P	**P**	**23 14 23.4**	**+0.4**
PV02				IAmb	IAmb	23 14 25.3	
	comp=Z,6.0nm,1.1s						
PV21	**Cone Mtn., Par**	**80.44**	**46**	P	**P**	**23 14 23.2**	**+0.2**
PV12	**Saucer Basin,**	**80.44**	**46**	P	**P**	**23 14 24.2**	**+1.2**
BCYI	**Bear Canyon**	**80.47**	**39**	P	**P**	**23 14 23.4**	**+0.3**
PV01	**Paradox Valley**	**80.52**	**46**	P	**P**	**23 14 23.8**	**+0.4**
PV01				IAmb	IAmb	23 14 25.7	
	comp=Z,9.3nm,1.2s						
PV22	**Blue Mesa, Par**	**80.56**	**46**	P	**P**	**23 14 24.3**	**+0.7**
NEW	**Newport**	**80.56**	**34**	P	**P**	**23 14 21.8**	**-1.4**
NEW				IAmb	IAmb	23 14 24.5	
	comp=Z,3.9nm,1.1s						
PV07	**Paradox Valley**	**80.61**	**46**	P	**P**	**23 14 23.6**	**-0.3**
PV07				IAmb	IAmb	23 14 26.0	
	comp=Z,5.5nm,1.1s						
KTH	**Kantishna Hill**	**80.61**	**10**	P	**P**	**23 14 23.0**	**-0.1**
RND	**Reindeer**	**80.83**	**11**	P	**P**	**23 14 25.1**	**+0.8**
GDL2	**Guadalupe Moun**	**80.98**	**53**	P	**P**	**23 14 26.2**	**+0.3**
AHID	**Auburn Hatcher**	**81.10**	**41**	P	**P**	**23 14 27.7**	**+1.3**
AHID				IAmb	IAmb	23 14 33.7	
	comp=Z,3.4nm,0.9s						
MENT	**Mentasta**	**81.43**	**13**	P	**P**	**23 14 28.4**	**+0.9**
MSO	**Missoula**	**81.53**	**37**	P	**P**	**23 14 27.8**	**-0.6**
MSO				IAmb	IAmb	23 14 30.5	
	comp=Z,3.0nm,0.9s						
REDW	**Red Top Meadow**	**81.56**	**41**	P	**P**	**23 14 30.0**	**+1.1**
REDW				IAmb	IAmb	23 14 30.5	
	comp=Z,3.3nm,1.0s						
TPAW	**Teton Pass**	**81.56**	**41**	P	**P**	**23 14 28.7**	**-0.2**
TPAW				IAmb	IAmb	23 14 30.2	
	comp=Z,4.2nm,1.1s						
S22A	**4UR Ranch, Cre**	**81.56**	**47**	P	**P**	**23 14 29.6**	**+0.6**
S22A				IAmb	IAmb	23 14 31.8	
	comp=Z,5.7nm,0.9s						
FXWY	**Fox Creek**	**81.59**	**40**	P	**P**	**23 14 29.4**	**+0.4**
DLBC	**Dease Lake**	**81.63**	**21**	P	**P**	**23 14 26.8**	**-1.8**
IMW	**Indian Meadow**	**81.77**	**40**	P	**P**	**23 14 30.6**	**+0.5**
IMW				IAmb	IAmb	23 14 33.2	
	comp=Z,3.8nm,1.1s						
LOHW	**Long Hollow**	**81.84**	**41**	P	**P**	**23 14 31.2**	**+0.9**
WRH	**Wood River Hil**	**81.94**	**11**	IAmb	IAmb	23 14 31.4	
	comp=Z,5.2nm,1.0s						
QLMT	**Earthquake Lak**	**81.95**	**39**	P	**P**	**23 14 32.5**	**+1.6**
YHB	**Horse Butte**	**82.05**	**39**	P	**P**	**23 14 32.6**	**+1.2**
PDAR	**Pinedale Array**	**82.08**	**42**	P	**P**	**23 14 32.4**	**+0.8**
	comp=Z,1.5nm,0.9s,baz=209,slow=2.7,SNR=10						
PDAR	**Pinedale Array**	**82.08**	**42**	P	**P**	**23 14 31.8**	**+0.1**
HDA	**Harding Lake**	**82.09**	**11**	P	**P**	**23 14 31.1**	**+0.3**
HDA				IAmb	IAmb	23 14 32.0	
	comp=Z,3.9nm,1.2s						
YHL	**Hebgen Lake**	**82.11**	**39**	P	**P**	**23 14 32.2**	**+0.4**
CCB	**Clear Creek Bu**	**82.15**	**11**	IAmb	IAmb	23 14 32.3	
	comp=Z,3.6nm,0.9s						
BOZ	**Bozeman (W)**	**82.22**	**38**	P	**P**	**23 14 32.9**	**+0.7**
H17A	**Grant Village**	**82.25**	**40**	P	**P**	**23 14 34.2**	**+1.7**
YHH	**Holmes Hill**	**82.28**	**39**	P	**P**	**23 14 33.6**	**+0.9**
IL31		**82.43**	**11**	P	**P**	**23 14 32.6**	**+0.1**
ILAR	**Eielson Array**	**82.43**	**11**	P	**P**	**23 14 32.9**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=228,slow=6.4,SNR=6.5						
ILAR	**Eielson Array**	**82.43**	**11**	P	**P**	**23 14 32.4**	**-0.2**
IMAR	**Indian Mountai**	**82.48**	**8**	P	**P**	**23 14 33.3**	**+0.4**
HRY	**Holter Researc**	**82.69**	**37**	P	**P**	**23 14 34.8**	**+0.2**
YNE	**Yellowstone No**	**82.91**	**40**	P	**P**	**23 14 36.2**	**+0.3**
MSTX	**Muleshoe**	**82.93**	**52**	P	**P**	**23 14 36.1**	**0.0**
MSTX				IAmb	IAmb	23 14 38.7	
	comp=Z,5.6nm,1.1s						
RWWY	**Rawlins**	**83.10**	**44**	P	**P**	**23 14 37.8**	**+0.8**
DAWY	**Dawson**	**83.39**	**14**	P	**P**	**23 14 37.9**	**+0.2**
DAWY				IAmb	IAmb	23 14 39.7	
	comp=Z,3.0nm,1.1s						
GCMT	**Greycliff**	**83.51**	**39**	P	**P**	**23 14 39.7**	**+0.9**
ABTX	**Abilene, Hawle**	**84.82**	**54**	P	**P**	**23 14 45.7**	**0.0**
BMAR	**Burnt Mountain**	**85.24**	**11**	P	**P**	**23 14 48.1**	**+1.1**
KULM	**Kulim**	**87.84**	**276**	P	**P**	**23 15 00.1**	**-0.8**
YKA	**Yellowknife Ar**	**90.01**	**23**	P	**P**	**23 15 11.1**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=251,slow=5.8,SNR=4.7						
GERES	**GERESS Array B**	**146.24**	**352**	PKPbc	**PKPbc**	**23 21 51.1**	**-0.3**
	comp=Z,1.3nm,1.0s,baz=89,slow=6.9,SNR=6.3						
BRTR	**Keskin Array B**	**146.41**	**321**	PKPbc	**PKPab**	**23 21 53.1**	**0.0**
	comp=Z,1.3nm,0.7s,baz=55,slow=7.6,SNR=7.4						

*NEIC **21** 23:14:45.7±1.4, 26°.49S±0°.05×27°.68E±0°.05, h5km±1km, mb4.5/37, Error ellipse: s-maj=9.2km s-min=7.2km az=143.0*

*PRE **21** 23:14:45.2±1.1, 26°.50S×27°.59E, h2km, ML3.8*

*IDC **21** 23:14:46.2±0.6, 26°.45S×27°.50E, h0km, mb4.2/20, mb1 4.4/27,mb1mx4.2/54, mbtmp4.3/27, ML4.3/5, Error ellipse: s-maj=13.9km s-min=11.9km az=109.0*

ISC 21 23:14:45.3±1.2, 26°.51S±0°.03×27°.59E±0°.04, h3km±7km, n131, σ1s71/156, mb4.5/45, 9C, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.16**	**8**	*e*P	**Pg**	**23 14 48.6**	**+0.2**
KLOF				*e*S	**Sg**	**23 14 50.2**	**-0.3**
KLOF				AML	AML	23 14 50.6	
	comp=Z,162μm,0.3s						
WDLM	**Western Deep L**	**0.17**	**299**	*e*P	**Pg**	**23 14 49.0**	**+0.3**
WDLM				*e*S	**Sg**	**23 14 51.1**	**+0.3**
WDLM				AML	AML	23 14 51.9	
	comp=Z,25μm,0.3s						
PRYS	**Parys**	**0.47**	**206**	*e*P	**Pg**	**23 14 54.1**	**-0.1**
PRYS				*e*S	**Sg**	**23 15 00.8**	**+0.4**
PRYS				AML	AML	23 15 08.9	
	comp=Z,4μm,0.6s						
KSR	**Koster**	**0.90**	**316**	*e*P	**Pg**	**23 15 01.3**	**-1.2**
KSR				*e*S	**Sg**	**23 15 14.0**	**-0.2**
KSR				AML	AML	23 15 21.2	
	comp=Z,592nm,0.4s						
SLR	**Silverton**	**0.99**	**39**	*e*P	**Pb**	**23 15 04.0**	**-1.2**
SLR				*e*S	**Sb**	**23 15 17.1**	**-1.5**
SLR				AML	AML	23 15 23.7	
	comp=Z,2μm,0.3s						
SWZ	**Schweizer**	**2.12**	**251**	*e*P	**Pn**	**23 15 22.9**	**+1.1**
SWZ				*e*S	**Sn**	**23 15 49.5**	**+0.7**
SWZ				AML	AML	23 15 53.3	
	comp=Z,1μm,0.6s						
LBTB	**Lobatse**	**2.33**	**309**	Pn	**Pn**	**23 15 26.1**	**+1.5**
	comp=Z,225nm,0.3s,baz=132,slow=14,SNR=1256						
LBTB				Lg	Lg	23 15 56.6	
	comp=Z,196nm,0.3s,baz=54,slow=9.4,SNR=42						
LBTB	**Lobatse**	**2.33**	**309**	*i* P	**Pn**	**23 15 26.8**	**+2.2**
LBTB				*i* Sg	**Sn**	**23 15 55.3**	**+1.6**
LBTB	**Lobatse**	**2.33**	**309**	*e*P	**Pn**	**23 15 25.7**	**+1.1**
LBTB				*e*S	**Sn**	**23 15 54.0**	**+0.3**
LBTB				AML	AML	23 15 57.6	
	comp=Z,1μm,0.6s						
LBTB	**Lobatse**	**2.33**	**309**		**Pn**	**23 15 25.7**	**+1.1**
LBTB				Sn	**Sn**	**23 15 56.8**	**+3.0**
LBTB	**Lobatse**	**2.33**	**309**	*i* P	**Pn**	**23 15 26.8**	**+2.2**
LBTB				*i* Sg	**Sn**	**23 15 55.3**	**+1.6**
BOSA	**Boshof**	**2.95**	**224**	Pn	**Pn**	**23 15 34.5**	**+1.3**
	comp=Z,21nm,0.3s,baz=46,slow=13,SNR=456						
BOSA				Sn	**Sn**	**23 16 08.8**	**-0.4**
	comp=Z,26nm,0.3s,baz=46,slow=15,SNR=11						
BOSA				Lg	Lg	23 16 18.6	
	comp=Z,94nm,0.3s,baz=324,slow=12,SNR=14						
BOSA	**Boshof**	**2.95**	**224**	*e*P	**Pn**	**23 15 33.5**	**+0.3**
BOSA				*e*S	**Sn**	**23 16 08.9**	**-0.2**
BOSA				AML	AML	23 16 25.2	
	comp=Z,438nm,0.4s						
POGA	**Pongola**	**3.77**	**104**	*e*P	**Pn**	**23 15 45.3**	**+0.9**
POGA				*e*S	**Sn**	**23 16 28.1**	**-1.2**
POGA				AML	AML	23 16 46.6	
	comp=Z,509nm,0.4s						
KSD	**Kokstad**	**4.33**	**159**	*e*P	**Pn**	**23 15 52.8**	**+0.6**
KSD				*e*S	**Sn**	**23 16 41.1**	**-2.1**
KSD				AML	AML	23 17 07.7	
	comp=Z,341nm,0.5s						
HVD	**Gariep Dam**	**4.48**	**204**	*e*P	**Pn**	**23 15 54.3**	**+0.1**
HVD				*e*S	**Sn**	**23 16 45.3**	**-1.7**
HVD				AML	AML	23 17 15.2	
	comp=Z,207nm,0.7s						
MOPA	**Mopani**	**4.56**	**50**	*e*P	**Pn**	**23 15 55.2**	**0.0**
MOPA				*e*S	**Sn**	**23 16 46.5**	**-2.3**
MOPA				AML	AML	23 17 17.5	
	comp=Z,290nm,0.4s						
UPI	**Upington**	**5.92**	**250**	*e*P	**Pn**	**23 16 14.7**	**+0.6**
UPI				*e*S	**Sn**	**23 17 20.0**	**-2.5**
UPI				AML	AML	23 17 54.1	
	comp=Z,77nm,0.5s						
MATP	**Matopo**	**6.11**	**8**	Pn	**Pn**	**23 16 16.7**	**+0.1**
	comp=Z,20nm,0.3s,baz=188,slow=13,SNR=326						
MATP				Sn	**Sn**	**23 17 22.4**	**-4.8**
	comp=Z,12nm,0.3s,baz=198,slow=14,SNR=12						
MATP				Lg	Lg	23 17 51.9	
	comp=Z,38nm,0.3s,baz=96,slow=23,SNR=30						
KEIM	**Keimoes**	**6.27**	**248**	*e*P	**Pn**	**23 16 19.0**	**+0.3**
KEIM				*e*S	**Sn**	**23 17 28.1**	**-2.8**
KEIM				AML	AML	23 18 06.2	
	comp=Z,224nm,0.5s						
BLWY	**Bulawayo**	**6.41**	**9**	*i* P	**Pn**	**23 16 17.9**	**-2.8**
BLWY				*i* S	Sn	23 17 22.2	-12
BLWY	**Bulawayo**	**6.41**	**9**	*i* P	**Pn**	**23 16 17.9**	**-2.8**
BLWY				*i* S	Sn	23 17 22.2	-12
GRAN	**Grantham**	**7.46**	**218**	*e*P	**Pn**	**23 16 35.5**	**+0.4**
GRAN				*e*S	**Sn**	**23 17 56.3**	**-4.0**
GRAN				AML	AML	23 18 15.0	
	comp=Z,52nm,0.6s						
SUR	**Sutherland**	**8.31**	**224**	Pn	**Pn**	**23 16 49.0**	**+2.0**
	comp=Z,3.9nm,0.3s,baz=39,slow=9.9,SNR=102						
SUR				Sn	**Sn**	**23 18 18.2**	**-3.3**
	comp=Z,7.7nm,0.3s,baz=9.2,slow=17,SNR=9.5						
SUR				Lg	Lg	23 19 05.7	
	comp=Z,13nm,0.3s,baz=138,slow=22,SNR=10						
SUR	**Sutherland**	**8.31**	**224**		**Pn**	**23 16 48.1**	**+1.1**
SUR					**Sn**	**23 18 18.7**	**-2.8**
CVNA	**Calvinia**	**8.46**	**232**	*e*P	**Pn**	**23 16 49.1**	**+0.3**
CVNA				*e*S	**Sn**	**23 18 20.5**	**-4.3**
CVNA				AML	AML	23 19 13.3	
	comp=Z,148nm,0.5s						
KOMG	**Komaggas**	**9.50**	**247**	*e*P	**Pn**	**23 17 03.8**	**+0.7**
KOMG				*e*S	**Sn**	**23 18 45.1**	**-5.2**
KOMG				AML	AML	23 19 45.2	
	comp=Z,67nm,0.6s						
LSZ	**Lusaka**	**11.19**	**3**	Pn	**Pn**	**23 17 25.0**	**-1.3**
	comp=Z,6.4nm,0.3s,baz=184,slow=13,SNR=70						
LSZ				Sn	**Sn**	**23 19 23.4**	**-8.6**
	comp=Z,2.4nm,0.3s,baz=76,slow=12,SNR=6.9						
LSZ	

CONA	Conrad Observa	74.84	352	*i* P		P		23 26 29.5	+2.5
	comp=Z,4.3nm,0.8s								
SQTA	Sankt Quirin	74.86	349	*i* P		P		23 26 29.0	+1.9
	comp=Z,2.8nm,0.6s								
WATA	Walderalm	74.90	349	*i* P		P		23 26 28.9	+1.5
	comp=Z,2.5nm,0.5s								
MOA	Molln	74.97	351	*i* P		P		23 26 29.8	+2.2
	comp=Z,7.4nm,1.3s								
MOTA	Moosalm	75.00	348	*i* P		P		23 26 29.2	+1.3
	comp=Z,6.2nm,1.3s								
RETA	Reutte	75.19	348	*e*P		P		23 26 30.0	+1.0
	comp=Z,5.4nm,1.2s								
CHGR	Chuyangaron	75.60	32	P		P		23 26 31.3	-0.3
CHGR				IAmb	IAmb			23 26 34.4	
	comp=Z,6.0nm,1.1s								
GEC2	GERESS Array S	76.03	351	P		P		23 26 34.1	+0.3
GEC2				IAmb	IAmb			23 26 36.5	
	comp=Z,4.5nm,1.1s								
GERES	GERESS Array B	76.03	351	P		P		23 26 34.5	+0.8
	comp=Z,0.5nm,0.8s,baz=163,slow=5.0,SNR=8.4								
GERES	GERESS Array B	76.03	351	P		P		23 26 34.4	+0.6
OJC	Ojcow	76.69	355	P		P		23 26 36.6	-0.7
OJC				IAmb	IAmb			23 26 39.1	
	comp=Z,3.6nm,1.0s								
AKASG	Malin Array Be	76.88	1	P		P		23 26 39.3	+1.0
	comp=Z,1.7nm,0.7s,baz=192,slow=5.9,SNR=4.8								
AKASG	Malin Array Be	76.88	1	P		P		23 26 38.1	-0.3
AKBB	Malin Array Si	76.88	1	P		P		23 26 37.6	-0.8
AKBB				IAmb	IAmb			23 26 40.8	
	comp=Z,3.4nm,1.1s								
GRA1	Grafenberg Arr	77.24	349	P		P		23 26 40.5	0.0
KK31	Karatay Array	79.73	30	P		P		23 26 55.4	+0.9
KK31				IAmb	IAmb			23 26 56.9	
	comp=Z,3.5nm,0.8s								
KKAR	Karatay Array	79.73	30	P		P		23 26 54.7	+0.3
KKAR	Karatay Array	79.73	30	P		P		23 26 54.6	+0.2
KKAR				IAmb	IAmb			23 26 56.9	
	comp=Z,3.5nm,0.8s								
ABKAR	Akbulak array	80.76	21	P		P		23 27 00.2	+0.4
AKTO	Aktyubinsk	81.21	19	P		P		23 27 01.9	-0.3
	comp=Z,0.8nm,0.6s,baz=162,slow=3.2,SNR=2.4								
CMAR	Chiang Mai Arr	82.40	65	P		P		23 27 08.6	-0.6
LSA	Lhasa	82.63	52	P		P		23 27 09.9	-0.9
ARU	Arti	86.69	17	P		P		23 27 30.9	+0.9
	comp=Z,0.9nm,0.5s,baz=197,slow=11,SNR=5.2								
ARU	Arti	86.69	17	P		P		23 27 29.6	-0.4
ARU				IAmb	IAmb			23 27 32.2	
	comp=Z,3.8nm,0.8s								
BRVK	Borovoye	87.50	24	P		P		23 27 34.3	+0.3
BVAR	Borovoye Array	87.51	24	P		P		23 27 35.5	+1.4
	comp=Z,0.5nm,0.5s,baz=220,slow=4.1,SNR=6.4								
PB11	IPOC Station P	87.55	249	P		P		23 27 36.1	+0.7
PB11				IAmb	IAmb			23 27 54.2	
	comp=Z,4.7nm,1.1s								
FINES	FINESS Array B	87.64	359	P		P		23 27 36.0	+1.5
	comp=Z,2.0nm,0.6s,baz=151,slow=4.9,SNR=15								
FINES	FINESS Array B	87.64	359	P		P		23 27 35.2	+0.7
FIA1	FINESS Array S	87.64	359	P		P		23 27 34.9	+0.4
LPAZ	La Paz	87.82	253	P		P		23 27 38.4	+1.1
	comp=Z,1.5nm,0.9s,baz=129,slow=3.7,SNR=4.9								
LPAZ	La Paz	87.82	253	P		P		23 27 34.9	-2.4
LPAZ				IAmb	IAmb			23 27 39.0	
	comp=Z,3.3nm,1.1s								
MKAR	Makanchi Array	88.10	34	P		P		23 27 38.2	+1.1
	comp=Z,1.0nm,0.6s,baz=227,slow=4.5,SNR=7.4								
KURBB	Kurchatov Arra	89.00	30	P		P		23 27 42.1	+1.0
	comp=Z,0.7nm,0.7s,baz=236,slow=5.4,SNR=2.1								
WMQ	Urumqi	89.03	39	*e*P		P		23 27 42.8	+1.2
WMQ				pmax	pmax				
	comp=Z,12nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,39nm,4.5s								
WMQ				LR	LR				
	comp=N,130nm,28.9s								
WMQ				LR	LR				
	comp=E,390nm,28.8s								
WMQ				LR	LR				
	comp=Z,30nm,29.3s								
KURK	Kurchatov	89.11	30	P		P		23 27 42.1	+0.5
LZH	Lanzhou	95.04	52	*e*P		P		23 28 10.0	+0.2
LZH				pP		sP		23 28 13.0	+1.1
LZH				sP		pP		23 28 15.4	+4.0
LZH				PP		PP		23 31 51.1	-8.4
LZH				pmax	pmax				
	comp=Z,11nm,1.1s								
LZH				pmax	pmax				
	comp=Z,95nm,5.4s								
TXAR	Lajitas Array	137.08	285	PKP		PKiKP		23 34 11.8	-0.4
	comp=Z,0.2nm,0.6s,baz=67,slow=3.0,SNR=2.7								
TXAR	Lajitas Array	137.08	285			PKPdf		23 34 08.8	-1.5
ILAR	Eielson Array	141.56	356	PKP		PKPdf		23 34 17.9	+0.7
	comp=Z,0.3nm,0.6s,baz=354,slow=4.7,SNR=2.9								
PDAR	Pinedale Array	141.63	306	PKP		PKPdf		23 34 18.6	+0.1
	comp=Z,0.3nm,0.6s,baz=86,slow=2.1,SNR=3.5								
MTPU	Mount Pierson	144.35	299			PKPdf		23 34 23.9	+0.3
GLB	Gilahina Butte	144.59	353			PKPdf		23 34 22.9	+0.1
KLU	Klutina	144.75	355			PKPdf		23 34 23.8	+0.7
VRDI	Verde Repeater	144.76	352			PKPdf		23 34 24.1	+0.8
SUA	Susitna One	145.03	359			PKPdf		23 34 24.4	+0.8
B08A	Colville Reser	146.25	319			PKPdf		23 34 25.9	-0.1
NV11	Mina Array Sit	148.92	301	PKPbc		PKPbc		23 34 35.4	+0.5
NVAR	Mina Array Bea	149.03	301	PKPbc		PKiKP		23 34 37.9	+1.3
	comp=Z,0.7nm,0.5s,baz=62,slow=4.8,SNR=11								
NVAR	Mina Array Bea	149.03	301			PKiKP		23 34 36.2	-0.4

ISN ***21*** *23:15:27.4± 1.0, 32.˚78N×47.˚56E, h14km±5km, ML3.9*
NEIC ***21*** *23:15:27.7± 1.8, 32.˚64N± 0.˚08×47.˚61E± 0.˚07, h10km± 1km, mb4.3/43, Error ellipse: s-maj=13.7km s-min=10.1km az=195.0*
MOS ***21*** *23:15:27.0± 1.2, 32.˚59N×47.˚47E, h18km, mb4.5/16, Error ellipse: s-maj=6.7km s-min=4.1km az=104.7*
TEH ***21*** *23:15:28.4, 32.˚74N×47.˚53E, h8km, ML4.3*
IDC ***21*** *23:15:29.9± 3.7, 32.˚67N×47.˚53E, h20km± 23km, mb3.9/21, mb1 3.9/27, mb1mx3.8/52, mbtmp4.0/27, ML3.7/6, MS3.3/7, Ms1 3.3/7, ms1mx3.0/51, Error ellipse: s-maj=19.8km s-min=12.3km az=178.0*
THR ***21*** *23:15:29.5± 0.4, 32.˚78N×47.˚42E, h14km± 34km, ML4.3*
ISC 21 23:15:29.0± 0.9, **32.˚70N**± 0.˚03×**47.˚51E**± 0.˚03, **h14**km± 5km, **n280**, σ1$49/282, **mb4.2**/61, **MS3.5**/8, **30C-4D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
DHL1	Dehloran	0.19	263	*e*Pg	Pg	23 15 32.9	-0.5
DHL1				*e*Sg	Sg	23 15 36.9	+0.5
IKFM	Kafar-mosalman	0.87	19	*e*Pg	Pg	23 15 44.4	-1.4
IKMR	Kamar-syah	1.09	42	*e*Pg	Pb	23 15 48.4	-1.3
IKMR				*e*		23 16 10.0	
IDOB	Doab	1.22	27	*e*Pg	Pn	23 15 50.8	-1.0
IBDR	Badra	1.39	287	*e*Pg	Pn	23 15 53.5	-0.4
IBDR				*e*Sg	Sn	23 16 12.0	0.0
IBDR				AML	AML	23 16 19.2	
	comp=N,2μm,0.6s						
IBDR				AML	AML	23 16 19.6	
	comp=E,2μm,0.6s						
IKOM	Komasi	1.47	0	*e*Pg	Pb	23 15 55.9	-0.3
IKOM				*e*		23 15 58.5	
BMDN	Meydan	1.47	49	*e*Pg	Pg	23 15 56.9	-0.4
BMDN				*e*		23 16 24.4	
KCHF	Cheshme Sefid,	1.61	346	*e*Pg	Pb	23 15 58.9	+0.2
KCHF				*e*		23 16 33.4	
AHWZ	Ahwaz	1.68	144	*e*Pg	Pg	23 16 01.0	-0.2
AHWZ				*e*Sg	Sg	23 16 25.0	+2.0
KER	Kermanshah	1.71	350	*e*Pg	Pb	23 16 00.3	+0.1
HSAM	Samen	1.76	31	*e*Pg	Pb	23 16 01.5	+0.2
HSAM				*e*		23 16 29.9	
IBZA	Bozab	1.79	9	*e*Pg	Pb	23 16 01.9	+0.2
IBZA				*e*		23 16 32.0	
IGHG	Ghaleghazi	1.80	335	*e*Pg	Pb	23 16 01.1	-0.8
IGHG				*e*		23 16 50.1	
IVIS	Veis	1.90	343	*e*Pn	Pb	23 16 02.7	-0.8
IVIS				*e*		23 16 34.5	
NSR	Nassriya	2.05	215	*e*Pn	Pn	23 16 04.0	+1.0
NSR				*e*Sn	Sn	23 16 30.0	+1.6
IDHR	Dehrash	2.20	335	*e*		23 16 50.4	
IDHR				*e*Pn	Pb	23 16 06.9	-1.8
IALM	Almabolaq	2.22	14	*e*Pn	Pb	23 16 08.0	-1.1
ILIN	Lien	2.25	349	*e*		23 16 54.7	
ILIN				*e*Pn	Pb	23 16 07.8	-1.9
KHMZ	Khomeyn	2.30	63	*e*Pn	Pb	23 16 09.8	-0.6
KHMZ	Khomeyn	2.30	63	*e*Pn	Pb	23 16 09.8	-0.6
SNGE	Sanandaj	2.39	357	*e*Pn	Pn	23 16 09.3	+1.4
SNGE				*e*Sg	Sb	23 16 42.3	+1.0
SNGE	Sanandaj	2.39	357	*e*Pn	Pn	23 16 09.3	+1.4
HAGD	Aghdareh	2.51	32	*e*Pn	Pb	23 16 12.1	-2.0
HAGD				*e*		23 16 52.9	
HSRG	Sareghieh	2.61	14	*e*Pn	Pn	23 16 13.2	+2.1
BHD	Baghdad	2.69	283	*e*Pn	Pn	23 16 12.0	+0.2
BHD				*e*Sn	Sn	23 16 46.0	+1.9
BHD				AML	AML	23 17 09.4	
	comp=E,854nm,0.6s						
JHBN	Jahan bin	2.71	99	*e*Pn	Pn	23 16 14.7	+2.2
JHBN				*e*		23 17 08.2	
IPIR	Pirpir	2.86	89	*e*Pn	Pn	23 16 16.7	+2.3
IPIR				*e*		23 17 06.7	
ROKH	ROKH	3.00	96	*e*Pn	Pn	23 16 18.6	+2.2
IRAZ	Razeghan	3.36	36	*e*Pn	Pn	23 16 24.1	+2.8
QABG	Abgarm-Qazvin	3.46	29	*e*Pn	Pn	23 16 24.5	+1.9
IKLH	Kolahrood	3.48	79	*e*Pn	Pn	23 16 25.6	+2.7
IKLH				*e*		23 17 34.5	
IGAR	Gharneh	3.84	93	*e*Pn	Pn	23 16 29.8	+1.9
IGAR				*e*		23 17 34.4	
KLNJ	Kolanjah	3.87	115	*e*Pn	Pn	23 16 30.1	+1.7
KLNJ				*e*		23 17 53.7	
IMHD	Mahdasht	3.96	41	*e*Pn	Pn	23 16 32.0	+2.5
QSDN	Sirdan	4.03	19	*e*Pn	Pn	23 16 33.5	+3.0
IZEF	Zefreh	4.07	86	*e*Pn	Pn	23 16 33.1	+2.1
ZNJK	Zanjan	4.08	13	*e*Pn	Pn	23 16 33.3	+2.2
ZNJK	Zanjan	4.08	13	*e*Pn	Pn	23 16 33.3	+2.2
IHSB	Hasanabad	4.15	48	*e*Pn	Pn	23 16 34.4	+2.4
IRAM	Ramesheh	4.23	101	*e*Pn	Pn	23 16 34.1	+0.9
IGZV	Ghazvin	4.30	31	*e*Pn	Pn	23 16 35.9	+1.7
MAHB	Mahabad	4.32	340	*e*Pn	Pn	23 16 36.0	+1.7
CHTH	Charan	4.38	42	*e*Pn	Pn	23 16 37.8	+2.5
CHTH	Charan	4.38	42	*e*Pn	Pn	23 16 37.8	+2.5
QALM	Alamut, Qazvin	4.53	34	*e*Pn	Pn	23 16 39.9	+2.5
KAZ1	Kazerun	4.69	130	*e*Pn	Pn	23 16 41.4	+2.0
IDMV	Damavand	4.72	51	*e*Pn	Pn	23 16 42.0	+1.9
IFIR	Firoozkooh	5.25	55	*e*Pn	Pn	23 16 49.2	+2.0
ANAR	Anarak	5.25	83	*e*Pn	Pn	23 16 48.3	+1.1
ILAS	Lasjerd	5.26	58	*e*Pn	Pn	23 16 48.8	+1.4
ISAD	Sadrabad	5.29	97	*e*Pn	Pn	23 16 49.3	+1.4
IPRN	Peran	5.33	47	*e*Pn	Pn	23 16 50.9	+2.7
IALA	Alasht	5.53	51	*e*Pn	Pn	23 16 53.9	+2.7
CUKT	Cukurca	5.55	326	*e*P	Pn	23 16 51.8	+0.5
HAKT	HAKKARI	5.76	328	*e*Pn	Pn	23 16 56.0	+1.8
AHAR	Ahar	5.79	356	*e*Pn	Pn	23 16 57.4	+2.9
ICHK	Chekchek	5.85	93	*e*Pn	Pn	23 16 56.4	+0.9
IANJ	Anjilo	5.99	61	*e*Pn	Pn	23 16 58.4	+1.0
YZKH	Yazd	5.99	91	IAML		23 18 57.3	
	comp=E,27nm,0.7s						
LKRN	Lenkeran, Azer	6.08	9	P	Pn	23 17 00.6	+2.1
SIRT	Sirnak	6.34	320	*e*P	Pn	23 17 02.3	+0.3
IGLO	Ghaloghah	6.45	52	*e*Pn	Pn	23 17 06.4	+2.7
NAX	Nakhchivan	6.66	346	P	Pn	23 17 09.6	+3.1
GEVA	Gevas	6.67	328	Pn	Pn	23 17 06.4	-0.2
AKDM	Akdamar-Van	6.72	328	*e*P	Pn	23 17 08.8	+1.5
IBAF	Bafgh	6.93	97	*e*Pn	Pn	23 17 13.5	+3.3
MARD	Mardin	7.18	312	Pn	Pn	23 17 13.6	-0.2
LMD1	Lamerd	7.25	136	*e*Pn	Pn	23 17 16.0	+1.4
GURO	Guroymak-BITLI	7.34	324	*e*P	Pn	23 17 17.2	+1.3
MAZI	Mazidag	7.48	311	*e*P	Pn	23 17 17.8	0.0
SVAN	Silvan-Diyarba	7.48	318	*e*P	Pn	23 17 18.3	+0.5
TNSJ	Nastanj	7.72	78	*e*Pn	Pn	23 17 22.6	+1.5
TPRV	Parvadeh(Tabas	7.73	85	*e*Pn	Pn	23 17 23.2	+2.0
GANJ	Ganja	7.98	354	P	Pn	23 17 27.5	+2.9
MNGR	Mingechevir, A	8.06	358	P	Pn	23 17 28.3	+2.7
TKDS	Koohdasht(Taba	8.12	81	*e*Pn	Pn	23 17 28.3	+1.8
SEKA	Sheki	8.49	358	P	Pn	23 17 34.2	+2.6
URFA	Urfa	8.54	306	*e*P	Pn	23 17 31.5	-0.8
SVRC	Sivrice-ELAZID	8.76	313	*e*P	Pn	23 17 34.6	-0.7
AKT	Akhty	8.76	1	*i* P	Pn	23 17 38.2	+2.8
ZKTA	Zakatala	8.95	356	P	Pn	23 17 40.6	+2.8
ASF	Jabal al Asfar	8.98	269	Pn	Pn	23 17 38.1	-0.3
	comp=E,0.8nm,0.3s,baz=44,slow=4.9,SNR=7.9						
ASF				Sn	Sn	23 19 13.5	-5.8
	comp=E,0.1nm,0.3s,baz=53,slow=20,SNR=1.0						
ASF				Lg	Lg	23 20 21.8	
	comp=E,0.7nm,0.3s,baz=232,slow=19,SNR=2.2						
PTK	Pertek	9.03	315	*e*P	Pn	23 17 38.9	-0.2
KOPT	Kop Dagi	9.23	324	Pn	Pn	23 17 42.3	+0.4
AFRZ	Afriz	9.69	83	*e*Pn	Pn	23 17 49.6	+1.5
KEMA	Kemaliye	9.81	314	*e*Pn	Pn	23 17 53.2	+3.5
GEYT	Alibeck	10.12	56	Pn	Pn	23 17 58.8	+5.0
	comp=E,0.3nm,0.3s,baz=256,slow=12,SNR=4.5						
GEYT	Alibeck	10.12	56	Pn	Pn	23 17 50.9	-2.9
GYA0B	ALIBECK ARRAY	10.12	56	Pn	Pn	23 17 50.3	-3.5
MMAI	Mount Meron Ar	10.19	275	Pn	Pn	23 17 56.7	+1.9
	comp=E,0.5nm,0.3s,baz=90,slow=16,SNR=2.4						
MMAI				Lg	Lg	23 20 56.9	
	comp=E,0.6nm,0.3s,baz=88,slow=39,SNR=2.0						
MMAI				LR	LR	23 21 45.1	
	comp=E,39nm,20.5s,baz=90,slow=37						
BANOM	Banah	10.22	129	P	Pn	23 17 54.7	-0.6
	SNR=16						
NAZ	Nazwa, Dubai	10.49	135	P	Pn	23 17 59.5	+0.5
GROC	Groznyy	10.57	353	*e*P	Pn	23 18 03.1	+3.1
GROC				*e*S	Sn	23 20 00.6	+2.5
GROC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GROC				MLR	MLR		
	comp=Z,127nm,8.0s						
MDH	Madha	10.66	132	P	Pn	23 18 00.6	-0.6
UOSS	Minazif	10.86	133		Pn	23 18 02.0	-2.0
HATD	Hatta, Dubai	10.90	134	P	Pn	23 18 04.1	-0.5
ASHO	Ashiyiah	10.96	135	P	Pn	23 18 05.2	-0.3
	SNR=10						
EIL	Elat	11.17	258	Pn	Pn	23 18 08.2	0.0
	comp=Z,0.4nm,0.3s,baz=42,slow=12,SNR=1.6						
EIL				Lg	Lg	23 21 25.3	
	comp=Z,0.2nm,0.3s,baz=127,slow=20,SNR=1.4						
EIL				LR	LR	23 22 56.3	
	comp=Z,77nm,20.5s,baz=88,slow=40						
KBZ	Khabaz	11.59	343	*i* P	Pn	23 18 13.5	-0.4
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SOHO	SOHO	11.66	135	P	Pn	23 18 14.0	-0.9
KIV	Kislovodsk	11.85	343	*e*P	Pn	23 18 18.4	+0.8
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
KIV				MLR	MLR		
	comp=Z,97nm,10.0s						
KIV	Kislovodsk	11.85	343		Pn	23 18 19.4	+1.7
BRTR	Keskin Array B	13.20	306	Pn	Pn	23 18 38.8	+2.7
	comp=Z,0.1nm,0.3s,baz=131,slow=12,SNR=1.9						
BRTR	Keskin Array B	13.20	306	P	Pn	23 18 36.6	+0.5
BRTR	Keskin Array B	13.20	306	Pn	Pn	23 18 36.6	+0.5
BR131	Keskin Array S	13.20	306	P	Pn	23 18 36.6	+0.5
BR131	Keskin Array S	13.20	306	Pn	Pn	23 18 36.6	+0.5
WSAR	Wadi Sarin	13.61	131	Pn	Pn	23 18 40.0	-1.6
	comp=Z,1.1nm,0.3s,baz=313,slow=11,SNR=12						
WSAR				Sn	Sn	23 21 02.7	-10
	comp=Z,0.5nm,0.3s,baz=17,slow=19,SNR=2.6						
JMDO	Jabal Madar	13.93	135	P	Pn	23 18 45.4	-0.6
WBK	Wadi Bani Khal	14.28	132	P	Pn	23 18 49.7	-1.1
	SNR=7.0						
KBL	Kabul	18.03	78	P	Pn	23 19 39.5	+0.1
KBL				pmax	pmax		
	comp=Z,14nm,1.1s						
KBL	Kabul	18.03	78		Pn	23 19 39.5	+0.1
CHGR	Chuyangaron	18.55	65		P	23 19 44.7	-0.7
CHGR				IAmb	IAmb	23 19 58.1	
	comp=Z,19nm,1.1s						
TIRR	Tirgusor	18.94	314	⇑P	P	23 19 49.4	0.0
TIRR	Tirgusor	18.94	314	⇑P	P	23 19 49.4	0.0
TIRR	Tirgusor	18.94	314	P	P	23 19 48.3	-1.1
VRH	Novokhopyorsk	18.97	349	*e*P	P	23 19 49.0	-0.7
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ABKAR	Akbulak array	18.97	26	P	P	23 19 49.7	-0.1
ALN	Alexandroupoli	19.00	302	P	P	23 19 49.9	-0.3
ALN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ALN	Alexandroupoli	19.00	302		P	23 19 49.9	-0.3
TLCR		19.09	316	⇑P	Pn	23 19 53.1	+1.1
TLCR		19.09	316	⇑P	Pn	23 19 53.1	+1.1
TOPG	Topolog	19.18	315	⇑P	Pn	23 19 53.7	+0.7
VORD	Divnogorie	19.22	344	*e*P	P	23 19 52.0	-0.5
VORD				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AKTO	Aktyubinsk	19.35	21	P	Pn	23 19 55.1	0.0
	comp=Z,0.5nm,0.3s,baz=200,slow=12,SNR=18						
AKTO				LR	LR	23 29 54.8	
	comp=Z,83nm,20.2s,baz=172,slow=45						
VSR	Storozhevoye	19.49	344	*e*P	P	23 19 54.4	-1.0
VSR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
RAZG	Razgrad	19.70	309	⇓P	Pn	23 19 59.9	+0.6
BTK	Batken	20.12	62	P	P	23 20 01.5	-1.1
BTK				pmax	pmax		
	comp=Z,15nm,1.3s						
BTK	Batken	20.12	62	P	P	23 20 01.5	-1.1
BTK				IAmb	IAmb	23 20 07.1	
	comp=Z,15nm,1.2s						
VASR	Vaslui	20.52	318	⇑P	Pn	23 20 12.3	+3.4
VRI	Vrincioaia	20.69	315	⇑P	Pn	23 20 09.8	-1.2
VRI	Vrincioaia	20.69	315	⇑P	Pn	23 20 09.8	-1.2
PLOR	Plostina	20.73	315	⇑P	Pn	23 20 10.2	-1.2
PLOR	Plostina	20.73	315	⇑P	P	23 20 10.2	+1.1
LPSR	Galich'ya Gora	20.83	345	*e*P	P	23 20 09.1	-0.9
LPSR				pmax	pmax		
	comp=Z,70nm,0.7s						
KK31	Karatay Array	20.85	54	P	P	23 20 10.4	0.0
KK31				pmax	pmax		
	comp=Z,17nm,1.4s						
KK31	Karatay Array	20.85	54	P	P	23 20 10.4	0.0
KK31				IAmb	IAmb	23 20 15.3	
	comp=Z,17nm,1.4s						
KKAR	Karatay Array	20.85	54	P	P	23 20 10.6	+0.2
KKAR				pmax	pmax		
	comp=Z,17nm,1.4s						
KKAR	Karatay Array	20.85	54	P	P	23 20 10.6	+0.2
KKAR	Karatay Array	20.85	54	P	P	23 20 10.2	-0.1
KKAR				IAmb	IAmb	23 20 15.3	
	comp=Z,17nm,1.4s						
MLR	Muntele Rosu	20.97	314	P	Pn	23 20 13.7	-0.7
	comp=Z,12nm,0.9s,baz=300,slow=4.0,SNR=7.7						
MLR	Muntele Rosu	20.97	314	⇑P	Pn	23 20 14.2	-0.1
MLR	Muntele Rosu	20.97	314	P	P	23 20 12.4	+0.7
MLR				pmax	pmax		
	comp=Z,14nm,0.9s						
MLR	Muntele Rosu	20.97	314	P	P	23 20 12.4	+0.7
MLR				IAmb	IAmb	23 20 21.3	
	comp=Z,14nm,0.9s						
TESR	Tescani	21.09	317	⇑P	P	23 20 13.9	+1.0
HUMR	Humele	21.12	310	⇑P	P	23 20 14.6	+1.4
AGG	Agios Georgios	21.32	294	P	P	23 20 15.8	+0.3
AGG				pmax	pmax		
	comp=Z,13nm,1.2s						
AGG	Agios Georgios	21.32	294	P	P	23 20 15.8	+0.3
AGG				IAmb	IAmb	23 20 29.8	
	comp=Z,12nm,1.2s						
OZUR		21.37	315	⇓P	P	23 20 17.2	+1.2
ITM	Ithomi	21.41	289	P	P	23 20 17.6	+1.1
ITM				IAmb	IAmb	23 20 25.7	
	comp=Z,9.2nm,0.8s						
VOIR		21.49	313	⇑P	P	23 20 19.1	+1.8
VOIR		21.49	313	⇑P	P	23 20 19.1	+1.8
ATD	Arta Tunnel	21.50	193	P	P	23 20 20.6	+3.1
	comp=Z,4.8nm,0.8s,baz=12,slow=20,SNR=2.1						
ATD				LR	LR	23 29 27.6	
	comp=Z,119nm,21.0s,baz=14,slow=39						
ATD	Arta Tunnel	21.50	193	P	P	23 20 17.1	-0.5
DOPR	Dopca	21.55	314	⇑P	P	23 20 18.6	+0.8
NIL	Nilore	21.56	80	P	P	23 20 18.1	0.0
NIL				pmax	pmax		
	comp=Z,25nm,1.2s						
NIL	Nilore	21.56	80	P	P	23 20 18.1	0.0
NIL				IAmb	IAmb	23 20 33.8	
	comp=Z,25nm,1.2s						
ARR	Arges	21.72	312	⇑P	P	23 20 21.1	+1.4
PRAR	RASCA	21.80	318	⇑P	P	23 20 21.1	+0.5
LOT	Lotru	22.30	312	⇑P	P	23 20 27.1	+1.1
AKASG	Malin Array Be	22.47	329	P	P	23 20 26.4	-1.2
	comp=Z,2.9nm,0.6s,baz=136,slow=9.3,SNR=23						
AKASG	Malin Array Be	22.47	329	*ce*P	P	23 20 26.3	-1.3
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKASG	Malin Array Be	22.47	329	P	P	23 20 26.8	-0.8
AKBB	Malin Array Si	22.47	329	P	P	23 20 27.9	+0.3
AKBB				pmax	pmax		
	comp=Z,9.0nm,0.6s		

SUW	**Suwalki**	**27.44**	**328**	P		**P**	**23 21 12.1**	**-2.1**	
MORC	**Moravsky Berou**	**28.00**	**316**	P		**P**	**23 21 18.2**	**-1.1**	
MORC				pmax		pmax			
	comp=Z,2.0nm,0.8s								
MORC	**Moravsky Berou**	**28.00**	**316**	P		**P**	**23 21 18.2**	**-1.1**	
VRAC	**Vranov**	**28.36**	**315**	P		**P**	**23 21 24.2**	**+1.7**	
	comp=Z,1.1nm,0.3s,baz=87,slow=8.1,SNR=4.1								
KRLC	**Kraliky**	**28.57**	**317**	*e*P		**P**	**23 21 24.9**	**+0.5**	
KRLC	**Kraliky**	**28.57**	**317**	*e*P		**P**	**23 21 24.9**	**+0.5**	
KLMR	**Klimovskoe**	**28.64**	**352**	*e*P		**P**	**23 21 23.4**	**-1.5**	
KLMR				pmax		pmax			
	comp=Z,8.0nm,0.7s								
KLMR	**Klimovskoe**	**28.64**	**352**	*e*P		**P**	**23 21 23.4**	**-1.5**	
KLMR				AMP			23 21 24.9		
	comp=Z,8.0nm,0.7s								
DPC	**Dobruska-Polom**	**28.96**	**317**	*e*P		**P**	**23 21 28.5**	**+0.6**	
DPC	**Dobruska-Polom**	**28.96**	**317**	*e*P		**P**	**23 21 28.5**	**+0.6**	
KURBB	**Kurchatov Arra**	**28.99**	**43**	P		**P**	**23 21 29.2**	**+1.2**	
	comp=Z,1.4nm,0.6s,baz=247,slow=9.4,SNR=9.9								
KURK	**Kurchatov**	**29.08**	**43**	*ce*P		**P**	**23 21 30.7**	**+1.9**	
KURK				pmax		pmax			
	comp=Z,7.0nm,1.7s								
KURK	**Kurchatov**	**29.08**	**43**	P		**P**	**23 21 28.7**	**-0.1**	
OSTC	**Ostas**	**29.11**	**317**	*e*P		**P**	**23 21 29.7**	**+0.5**	
CHVC	**Chvalec**	**29.21**	**317**	*e*P		**P**	**23 21 30.6**	**+0.5**	
KBA	**Koelnbreinsper**	**29.62**	**309**	*i* pP		**P**	**23 21 35.1**	**+1.2**	
MAKZ	**Makanchi**	**29.75**	**52**	P		**P**	**23 21 33.0**	**-1.9**	
MAKZ				pmax		pmax			
	comp=Z,2.0nm,1.1s								
MAKZ	**Makanchi**	**29.75**	**52**	P		**P**	**23 21 33.0**	**-1.9**	
GERES	**GERESS Array B**	**29.95**	**313**	P		**P**	**23 21 36.9**	**+0.1**	
	comp=Z,0.5nm,0.5s,baz=103,slow=9.7,SNR=5.8								
MK31	**Makanchi Array**	**29.95**	**52**	P		**P**	**23 21 37.0**	**+0.3**	
MK31				pmax		pmax			
	comp=Z,2.0nm,0.7s								
MK31	**Makanchi Array**	**29.95**	**52**	P		**P**	**23 21 37.0**	**+0.3**	
MKAR	**Makanchi Array**	**29.95**	**52**	P		**P**	**23 21 37.5**	**+0.9**	
	comp=Z,1.7nm,0.6s,baz=251,slow=9.7,SNR=15								
MKAR	**Makanchi Array**	**29.95**	**52**	P		**P**	**23 21 36.8**	**+0.1**	
MKAR	**Makanchi Array**	**29.95**	**52**	P		**P**	**23 21 36.8**	**+0.1**	
KHC	**Kasperske Hory**	**30.12**	**313**	*i* P		**P**	**23 21 38.0**	**-0.2**	
KHC				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KHC	**Kasperske Hory**	**30.12**	**313**	*e*P		**P**	**23 21 35.0**	**-3.2**	
KHC				*ex*		x	23 21 50.9		
KHC	**Kasperske Hory**	**30.12**	**313**	P		**P**	**23 21 37.6**	**-0.6**	
CTI	**Castel Tesino**	**30.48**	**306**	P		**P**	**23 21 41.7**	**+0.2**	
CTI				pmax		pmax			
	comp=Z,5.0nm,0.8s								
CTI	**Castel Tesino**	**30.48**	**306**	P		**P**	**23 21 41.7**	**+0.2**	
CTI				IAmb		IAmb	23 21 43.7		
	comp=Z,4.8nm,0.8s								
WTTA	**Wattenberg**	**30.79**	**309**	*e*P		**P**	**23 21 44.9**	**+0.6**	
	comp=Z,5.9nm,1.0s								
WATA	**Walderalm**	**30.85**	**309**	*i* P		**P**	**23 21 45.1**	**+0.3**	
	comp=Z,3.2nm,0.8s								
SQTA	**Sankt Quirin**	**31.06**	**309**	*i* P		**P**	**23 21 47.1**	**+0.5**	
	comp=Z,3.0nm,0.5s								
MOTA	**Moosalm**	**31.16**	**309**	*i* P		**P**	**23 21 47.7**	**+0.2**	
	comp=Z,4.7nm,0.7s								
CLL	**Collm**	**31.27**	**317**	*e*P		**P**	**23 21 47.0**	**-1.2**	
FETA	**Feichten**	**31.33**	**308**	*i* P		**P**	**23 21 49.5**	**+0.4**	
	comp=Z,3.3nm,0.8s								
RETA	**Reutte**	**31.42**	**309**	*i* P		**P**	**23 21 49.7**	**0.0**	
	comp=Z,3.8nm,1.0s								
FINES	**FINESS Array B**	**31.93**	**341**	P		**P**	**23 21 53.3**	**-0.6**	
	comp=Z,5.0nm,1.0s,baz=153,slow=9.4,SNR=9.1								
FINES	**FINESS Array B**	**31.93**	**341**	*i* P		**P**	**23 21 53.0**	**-0.9**	
FINES				pmax		pmax			
	comp=Z,5.0nm,1.0s								
DAVA	**Damuels**	**31.95**	**308**	*i* P		**P**	**23 21 54.3**	**-0.2**	
	comp=Z,4.5nm,0.6s								
WMQ	**Urumqi**	**33.15**	**59**	*e*P		**P**	**23 22 06.3**	**+1.3**	
WMQ				pmax		pmax			
	comp=Z,9.0nm,0.6s								
WMQ				pmax		pmax			
	comp=Z,22nm,3.8s								
WMQ				LR		LR			
	comp=N,160nm,29.3s								
WMQ				LR		LR			
	comp=E,140nm,28.8s								
WMQ				LR		LR			
	comp=Z,62nm,25.7s								
SENIN	**Lac Senin/Sane**	**33.51**	**306**	P		**P**	**23 22 08.4**	**+0.2**	
SENIN				IAmb		IAmb	23 22 25.3		
	comp=Z,4.6nm,1.0s								
LPL	**La Plagne**	**33.77**	**304**	*e*P		**P**	**23 22 10.5**	**0.0**	
LPL				pmax		pmax			
	comp=Z,11nm,0.9s								
ZAA0	**Zalesovo Array**	**33.89**	**40**	P		**P**	**23 22 10.6**	**-0.6**	
ZAA0				IAmb		IAmb	23 22 12.9		
	comp=Z,2.1nm,0.6s								
ZALV	**Zalesovo Beam**	**33.89**	**40**	P		**P**	**23 22 11.5**	**+0.4**	
	comp=Z,1.8nm,0.5s,baz=242,slow=8.2,SNR=6.6								
ZALV	**Zalesovo Beam**	**33.89**	**40**	P		**P**	**23 22 10.4**	**-0.7**	
DGZ	**Jazzator, Alta**	**34.03**	**48**	*i* P		**P**	**23 22 13.1**	**+0.5**	
DGZ				pmax		pmax			
	comp=Z,7.0nm,1.5s								
NB201	**NORSAR Array S**	**36.80**	**331**	P		**P**	**23 22 35.7**	**-0.4**	
NB2	**NORSAR Subarra**	**36.82**	**331**	P		**P**	**23 22 35.7**	**-0.6**	
	comp=Z,0.2nm,0.4s,baz=123,slow=9.3								
NOA	**NORSAR Array B**	**36.82**	**331**	P		**P**	**23 22 35.4**	**-0.9**	
	comp=Z,1.4nm,0.8s,baz=125,slow=8.8,SNR=5.4								
MFF	**Saint Martin d**	**38.64**	**305**	*e*P		**P**	**23 22 51.0**	**-0.8**	
MFF				pmax		pmax			
	comp=Z,9.0nm,1.3s								
ARCES	**ARCESS Array B**	**38.90**	**348**	P		**P**	**23 22 53.8**	**+0.1**	
	comp=Z,1.3nm,0.6s,baz=157,slow=9.0,SNR=14								
ARCES				PcP		**PcP**	**23 25 04.5**	**+0.2**	
	comp=Z,1.2nm,0.6s,baz=140,slow=4.0,SNR=4.1								
ESDC	**Sonseca Array**	**41.64**	**295**	P		**P**	**23 23 16.7**	**-0.2**	
	comp=Z,1.0nm,1.0s,baz=75,slow=10,SNR=6.2								
ESDC	**Sonseca Array**	**41.64**	**295**	IAmb		IAmb	23 23 20.0		
	comp=Z,2.8nm,1.2s								
GTA	**Gaotai**	**42.32**	**66**	*e*P		**P**	**23 23 23.8**	**+1.2**	
GTA				pP		sP	23 23 28.5	-0.5	
GTA				sP		pP	23 23 30.9	+3.8	
GTA				PcP		**PcP**	**23 25 18.0**	**+2.0**	
GTA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
GTA				pmax		pmax			
	comp=Z,51nm,6.3s								
GTA				LR		LR			
	comp=N,79nm,16.2s								
GTA				LR		LR			
	comp=E,79nm,17.8s								
GTA				LR		LR			
	comp=Z,91nm,17.8s								
NRIK	**Noril'sk**	**42.97**	**20**	*i* P		**P**	**23 23 27.8**	**+0.6**	
NRIK				pmax		pmax			
	comp=Z,9.0nm,1.8s								
MTE	**Manteigas**	**44.27**	**296**	P		**P**	**23 23 38.6**	**+0.4**	
TLY	**Talaya**	**44.50**	**48**	*i* P		**P**	**23 23 41.3**	**+1.5**	
TLY				pmax		pmax			
	comp=Z,4.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**46.05**	**256**	P		**P**	**23 23 53.6**	**+1.1**	
	comp=Z,1.1nm,0.8s,baz=40,slow=9.6,SNR=4.2								
LZH	**Lanzhou**	**46.06**	**69**	*e*P		**P**	**23 23 51.1**	**-1.5**	
LZH				pP		pP	23 23 54.8	-2.4	
LZH				sP		sP	23 23 58.0	-1.0	
LZH				PP		**PcP**	**23 25 24.5**	**-4.4**	
LZH				pmax		pmax			
	comp=Z,19nm,1.1s								
LZH				pmax		pmax			
	comp=Z,120nm,4.9s								
LZH				LR		LR			
	comp=N,200nm,15.4s								
LZH				LR		LR			
	comp=E,200nm,16.0s								
LZH				LR		LR			
	comp=Z,280nm,17.2s								
SONM	**Songino Array**	**46.30**	**53**	P		**P**	**23 23 52.5**	**-1.8**	
	comp=Z,1.6nm,0.7s,baz=278,slow=10.0,SNR=4.4								
SONM	**Songino Array**	**46.30**	**53**	P		**P**	**23 23 52.9**	**-1.4**	
SONM				pmax		pmax			
	comp=Z,2.0nm,1.0s								
SONM	**Songino Array**	**46.30**	**53**	P		**P**	**23 23 52.9**	**-1.4**	
ULN	**Ulaanbaatar**	**46.74**	**53**	*ce*P		**P**	**23 23 59.1**	**+1.3**	
ULN				pmax		pmax			
	comp=Z,14nm,2.5s								
ULN	**Ulaanbaatar**	**46.74**	**53**	P		**P**	**23 23 57.3**	**-0.5**	
ULN				IAmb		IAmb	23 24 02.6		
	comp=Z,4.4nm,1.0s								
CHTO	**Chiang Mai**	**47.92**	**94**	P		**P**	**23 24 06.0**	**-1.1**	
CHTO				pmax		pmax			
	comp=Z,4.0nm,1.0s								
CHTO	**Chiang Mai**	**47.92**	**94**	P		**P**	**23 24 06.0**	**-1.1**	
CHTO				IAmb		IAmb	23 24 11.2		
	comp=Z,3.6nm,0.9s								
CMAR	**Chiang Mai Arr**	**48.08**	**94**	P		**P**	**23 24 08.8**	**+0.4**	
	comp=Z,1.1nm,0.7s,baz=300,slow=8.2,SNR=5.5								
CMAR	**Chiang Mai Arr**	**48.08**	**94**	P		**P**	**23 24 05.9**	**-2.5**	
PBKT	**Sadao Pong**	**50.67**	**95**	P		**P**	**23 24 27.2**	**-0.9**	
PBKT				IAmb		IAmb	23 24 31.6		
	comp=Z,6.1nm,1.2s								
HHC	**Hu-ho-hao-te**	**50.94**	**61**	*e*P		**P**	**23 24 31.3**	**+1.2**	
HHC				pmax		pmax			
	comp=Z,10.0nm,1.2s								
HHC				pmax		pmax			
	comp=Z,62nm,6.0s								
DBIC	**Dimbokro**	**55.01**	**254**	LR		LR	23 51 15.0		
	comp=Z,71nm,19.2s,baz=30,slow=39								
KULM	**Kulim**	**56.44**	**107**	P		**P**	**23 25 09.3**	**-1.2**	
KSRS	**Korea Array**	**64.07**	**61**	P		**P**	**23 26 00.9**	**-1.6**	
	comp=Z,0.5nm,0.4s,baz=290,slow=7.9,SNR=2.2								
USA0B	**Ussuriysk Arra**	**64.41**	**53**	P		**P**	**23 26 03.7**	**-1.0**	
USA0B				pmax		pmax			
	comp=Z,7.0nm,1.3s								
USA0B	**Ussuriysk Arra**	**64.41**	**53**	P		**P**	**23 26 03.7**	**-1.0**	
USRK	**Ussuriysk Ar.**	**64.41**	**53**	P		**P**	**23 26 03.9**	**-0.8**	
	comp=Z,1.0nm,0.6s,baz=243,slow=6.3,SNR=2.5								
JHJ	**Hachijo jima 2**	**74.67**	**60**	LR		LR	00 03 52.2		
	comp=Z,24nm,19.5s,baz=65,slow=39								
WRA	**Warramunga Arr**	**97.96**	**108**	P		**P**	**23 29 03.7**	**-1.3**	
	comp=Z,0.3nm,0.8s,baz=310,slow=4.5,SNR=1.9								

*NEIC **21** 23:15:35.1±1.8, 18.30N±0.08×94.51E±0.09, h49km±8km, mb4.3/12, Error ellipse: s-maj=12.0km s-min=11.0km az=73.0*
*IDC **21** 23:15:37.1±4.3, 18.49N×94.63E, h58km±38km, mb3.7/16, mb1 3.9/17, mb1mx3.6/49, mbtmp4.0/17, ML3.9/1, MS2.9/3, Ms1 2.9/3, ms1mx2.7/45, Error ellipse: s-maj=37.7km s-min=13.4km az=48.0*

ISC 21 23:15:33.6±0.5, **18.17N**±0.07×**94.41E**±0.06, **h35km**, **n67,** σ1§**39**/67, **mb4.1**/22, **Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
MHMT	**Maesarieng**	**3.34**	**89**	P		**Pn**	**23 16 23.1**	**-0.3**
CM05	**Chiang Mai Arr**	**4.31**	**86**	P		**Pn**	**23 16 36.6**	**-0.1**
CM31	**Chiang Mai Arr**	**4.31**	**85**			**Pn**	**23 16 36.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**4.31**	**85**	P		**Pn**	**23 16 37.1**	**+0.4**
	2.0nm,0.3s,baz=262,slow=15,SNR=35							
CMAR				S		**Sn**	**23 17 28.4**	**+2.5**
	2.8nm,0.3s,baz=272,slow=15,SNR=5.6							
CMAR				LR		LR	23 18 34.7	
	comp=Z,104nm,19.3s,baz=280,slow=43							
CMAR	**Chiang Mai Arr**	**4.31**	**85**			**Pn**	**23 16 37.8**	**+1.0**
CHTO	**Chiang Mai**	**4.35**	**81**			**Pn**	**23 16 36.8**	**-0.4**
CMMT	**Chiang Mai**	**4.35**	**81**	P		**Pn**	**23 16 36.5**	**-0.8**
PAYA	**Payao**	**5.30**	**76**	P		**Pn**	**23 16 50.7**	**+0.3**
PHRA	**Phrae**	**5.54**	**86**	P		**Pn**	**23 16 53.1**	**-0.4**
PHIT	**Phitsanulok**	**5.80**	**99**	P		**Pn**	**23 16 56.6**	**-0.6**
SRDT	**SRDT**	**5.90**	**129**	P		**Pn**	**23 16 59.5**	**+1.0**
CRAI	**Chiangrai**	**6.00**	**69**	P		**Pn**	**23 17 00.9**	**+1.0**
PBKT	**Sadao Pong**	**6.46**	**103**	P		**Pn**	**23 17 04.7**	**-1.5**
PBKT	**Sadao Pong**	**6.46**	**103**			**Pn**	**23 17 05.5**	**-0.7**
PBA	**Port Blair**	**6.67**	**194**	Pn		Pn	23 17 12.4	+3.3
SHL	**Shillong**	**7.73**	**343**	*i* P		**Pn**	**23 17 26.5**	**+2.7**
SHL				*i* S		**Sn**	**23 18 54.0**	**+3.7**
SHL	**Shillong**	**7.73**	**343**	Pn		**Pn**	**23 17 22.7**	**-1.2**
CHLP	**Challavanipeta**	**9.84**	**274**	*e*P		**Pn**	**23 17 51.0**	**-1.6**
LSA	**Lhasa**	**11.86**	**346**			**Pn**	**23 18 19.4**	**-1.3**
JIRN	**Jiri**	**12.11**	**323**	*e*P		**Pn**	**23 18 22.6**	**-1.4**
	38nm,0.5s							
PVM	**Polavaram**	**12.22**	**268**	*e*P		**Pn**	**23 18 25.2**	**0.0**
PKI	**Pulchoki**	**12.50**	**320**	*e*P		**Pn**	**23 18 28.1**	**-1.3**
	16nm,0.5s							
DMN	**Daman**	**12.72**	**319**	*e*P		**Pn**	**23 18 30.6**	**-1.6**
	8.4nm,0.4s							
MYLAV	**Mylavaram**	**13.22**	**266**	*e*P		**Pn**	**23 18 41.4**	**+2.5**
GKN	**Gorkha**	**13.29**	**319**	*e*P		**Pn**	**23 18 38.4**	**-1.5**
	27nm,0.3s							
KOLN	**Koldanda**	**13.79**	**316**	*e*P		**Pn**	**23 18 45.1**	**-1.8**
	21nm,0.4s							
RPR	**Rampur**	**14.36**	**275**	*e*P		**Pn**	**23 18 56.2**	**+1.8**
SRSP	**Sriramsagar**	**15.26**	**275**	*e*P		**Pn**	**23 19 07.9**	**+1.4**
PSI	**Prapat**	**15.90**	**163**	LR		LR	23 26 31.1	
	comp=Z,64nm,18.1s,baz=272,slow=40							
URV	**Uravakonda**	**16.75**	**262**	*e*P		**P**	**23 19 28.3**	**+0.6**
KLRI	**Killari**	**16.94**	**272**	*e*P		**Pn**	**23 19 26.0**	**-2.0**
PALK	**Pallekele**	**17.19**	**233**			**P**	**23 19 33.6**	**+1.1**
AAK	**Ala-Archa**	**29.69**	**329**	P		**P**	**23 21 36.7**	**+0.4**
	0.9nm,0.4s,baz=205,slow=14,SNR=1.7							
SONM	**Songino Array**	**31.17**	**16**	P		**P**	**23 21 48.0**	**-1.4**
	1.1nm,0.7s,baz=204,slow=10,SNR=3.6							
SONM	**Songino Array**	**31.17**	**16**	IAmb		IAmb	23 21 52.0	
	comp=Z,1.3nm,0.9s							
KURBB	**Kurchatov Arra**	**34.78**	**342**	P		**P**	**23 22 20.3**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=154,slow=8.4,SNR=7.6							
KURBB				PcP		**PcP**	**23 24 53.4**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=160,slow=2.6,SNR=6.9							
KURK	**Kurchatov**	**34.83**	**342**	P		**P**	**23 22 20.3**	**-0.8**
KURK	**Kurchatov**	**34.83**	**342**	IAmb		IAmb	23 22 25.3	
	comp=Z,2.1nm,0.7s							
KSRS	**Korea Array**	**35.06**	**50**	LR		LR	23 39 21.4	
	comp=Z,13nm,18.8s,baz=70,slow=41							
ZALV	**Zalesovo Beam**	**36.48**	**350**	P		**P**	**23 22 34.9**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=155,slow=11,SNR=4.3							
GEYT	**Ailbeck**	**37.28**	**309**	P		**P**	**23 22 43.7**	**+1.4**
	comp=Z,4.9nm,0.9s,baz=164,slow=7.4,SNR=7.2							
BVAR	**Borovoye Array**	**39.51**	**337**	PcP		**PcP**	**23 25 08.1**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=143,slow=5.2,SNR=5.2							
ABKAR	**Akbulak array**	**41.61**	**326**			**P**	**23 23 18.5**	**+0.3**
AKTO	**Aktyubinsk**	**43.31**	**326**	P		**P**	**23 23 31.7**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=131,slow=6.3,SNR=4.5							
KBZ	**Khabaz**	**50.03**	**312**	P		**P**	**23 24 25.0**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=160,slow=4.2,SNR=3.8							
WB0	**Warramunga Arr**	**54.41**	**132**	P		**P**	**23 24 58.3**	**+0.7**
WB0				IAmb		IAmb	23 25 01.8	
	comp=Z,4.1nm,1.1s							
WRA	**Warramunga Arr**	**54.49**	**132**	P		**P**	**23 24 59.2**	**+1.1**
	comp=Z,2.2nm,1.0s,baz=319,slow=7.2,SNR=7.4							
WRA				PcP		**PcP**	**23 26 03.1**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=320,slow=3.6,SNR=6.5							
WRA	**Warramunga Arr**	**54.49**	**132**	P		**P**	**23 24 59.8**	**+1.7**
WB2	**Warramunga Arr**	**54.50**	**132**	P		**P**	**23 24 58.5**	**+0.3**
WB2				IAmb		IAmb	23 25 01.4	
	comp=Z,3.2nm,1.0s							
WR0	**Warramunga Arr**	**54.64**	**132**	P		**P**	**23 25 00.4**	**+1.2**
WR0				IAmb		IAmb	23 25 12.2	
	comp=Z,3.4nm,1.1s							
ASAR	**Alice Springs**	**56.70**	**136**	P		**P**	**23 25 15.8**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=315,slow=6.7,SNR=7.9							
ASAR				PcP		**PcP**	**23 26 10.2**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=331,slow=4.2,SNR=5.5							
COEN	**Coen**	**57.71**	**120**	P		**P**	**23 25 18.5**	**-2.7**
COEN				IAmb		IAmb	23 25 38.1	
	comp=Z,5.7nm,1.1s							
AKASG	**Malin Array Be**	**60.47**	**318**	P		**P**	**23 25 38.4**	**-1.5**
	comp=Z,2.2nm,0.3s,baz=82,slow=6.5,SNR=5.1							
MLR	**Muntele Rosu**	**62.24**	**312**	P		**P**	**23 25 53.2**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=87,slow=17,SNR=2.4							
FINES	**FINESS Array B**	**63.87**	**330**	P		**P**	**23 26 01.8**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=103,slow=6.3,SNR=1.7							
ARCES	**ARCESS Array B**	**65.77**	**339**	P		**P**	**23 26 14.9**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=98,slow=7.5,SNR=5.7							
ARCES	**ARCESS Array B**	**65.77**	**339**	P		**P**	**23 26 13.8**	**-0.9**
ARE0	**ARCESS Array S**	**65.77**	**339**	P		**P**	**23 26 15.0**	**+0.3**
GERES	**GERESS Array B**	**70.49**	**316**	P		**P**	**23 26 45.0**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=83,slow=5.8,SNR=6.5							
NB2	**NORSAR Subarra**	**71.00**	**329**	P		**P**	**23 26 46.7**	**-0.9**
	comp=Z,4.2nm,1.0s,baz=87,slow=5.9							
NOA	**NORSAR Array B**	**71.00**	**329**	P		**P**	**23 26 47.0**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=87,slow=5.9,SNR=3.9							
ILAR	**Eielson Array**	**85.17**	**22**	P		**P**	**23 28 03.9**	**-2.1**
	comp=Z,0.6nm,0.8s,baz=305,slow=5.3,SNR=4.6							
ILAR	**Eielson Array**	**85.17**	**22**	P		**P**	**23 28 05.1**	**-0.8**
SUA	**Susitna One**	**85.41**	**26**	P		**P**	**23 28 04.2**	**-3.2**
SUA				IAmb		IAmb	23 28 18.3	
	comp=Z,2.2nm,1.0s							
C36M	**Paulatuk**	**88.53**	**13**	P		**P**	**23 28 22.1**	**-0.2**
MCARA	**McCarthy VSAT**	**88.55**	**24**	P		**P**	**23 28 21.9**	**-0.7**
CPUP	**Villa Florida**	**152.66**	**248**	PKPbc		**PKiKP**	**23 35 29.9**	**+2.5**
	comp=Z,2.2nm,0.8s,baz=144,slow=1.9,SNR=6.3							

*NNC **21** 23:29:03.5±1.0, 46.79N×84.21E, h10km±gkm, mb3.8,*

mpv3.5, Error ellipse: s-maj=8.8km s-min=5.6km az=113.0
*SOME **21** 23:29:05.2, 46.97N×83.80E, h10km*
*ASRS **21** 23:29:06.8±0.3, 47.7°N×8.4E±°, h10km, MLh3.3/19, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 21 23:29:02.7±0.8, **46.80N**±0.04×**84.20E**±0.04, **h10km**, **n32,** σ2§**11**/59, **6C-6D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
ZSN	**Zaisan**	**0.79**	**35**	*e*P		**Pg**	**23 29 17.1**	**-0.9**
	29nm,0.1s							
ZSN				*e*S		**Sg**	**23 29 26.8**	**-1.6**
	151nm,0.2s							
ZSN	**Zaisan**	**0.79**	**35**	P		**Pg**	**23 29 17.1**	**-0.9**
	29nm,0.1s							
ZSN				S		**Sg**	**23 29 26.8**	**-1.6**
	151nm,0.2s							
MK31	**Makanchi Array**	**1.31**	**270**	⇓P		**Pg**	**23 29 28.4**	**+0.6**
	8.8nm,0.2s,baz=91,slow=16,SNR=1259							
MK31				⇑S		**Sg**	**23 29 45.4**	**+0.6**
	19nm,0.3s,baz=87,slow=24,SNR=20							
MKAR	**Makanchi Array**	**1.31**	**270**			**Pg**	**23 29 28.8**	**+0.9**
MKAR						Sg	**23 29 46.1**	**+1.3**
MAKZ	**Makanchi**	**1.53**	**271**			**Pg**	**23 29 32.0**	**+0.1**
MAKZ						Sg	**23 29 52.3**	**+0.5**
MAKZ	**Makanchi**	**1.53**	**271**	⇑P		**Pg**	**23 29 31.9**	**0.0**
	13nm,0.2s							
MAKZ				⇑S		**Sg**	**23 29 52.0**	**+0.3**
	44nm,0.3s							
DGZ	**Jazzator, Alta**	**3.62**	**35**	Pn		**Pn**	**23 30 00.3**	**+1.4**
DGZ				Pg		**Pg**	**23 30 10.3**	**-1.6**
DGZ				S		**Sn**	**23 30 42.8**	**+1.0**
DGZ				Sg		**Sg**	**23 30 57.0**	**-1.8**
TUNR	**Tungur**	**3.65**	**22**	Pn		**Pn**	**23 30 00.6**	**+1.3**
TUNR				Pg		**Pg**	**23 30 10.7**	**-1.9**
TUNR				S		**Sn**	**23 30 41.7**	**-0.7**
TUNR				Sg		**Sg**	**23 30 57.6**	**-2.2**
KAPS	**Kapalarasan**	**3.70**	**248**	*e*P		**Pg**	**23 30 11.2**	**-2.3**
	1.2nm,0.2s							
KAPS				*e*S		**Sg**	**23 30 58.4**	**-3.0**
	10nm,0.3s							
KAPS	**Kapalarasan**	**3.70**	**248**	Pg		**Pg**	**23 30 11.2**	**-2.3**
	1.2nm,0.2s							
KAPS				Lg		Lg	23 30 58.4	
	10nm,0.3s							
CHBI	**Chibit, Altay**	**4.14**	**31**	P		**Pn**	**23 30 08.0**	**+1.9**
CHBI				S		**Sn**	**23 30 54.3**	**-0.3**
CHBI				Sg		**Sg**	**23 31 12.7**	**-3.0**
UKR	**Ust'-Kan**	**4.16**	**5**	P		**Pn**	**23 30 07.2**	**+1.0**
UKR				S		**Sn**	**23 30 54.0**	**-0.9**
UKR				Sg		**Sg**	**23 31 11.1**	**-5.0**
AKAR	**Aktash**	**4.19**	**32**	Pn		**Pn**	**23 30 08.8**	**+2.0**
AKAR				S		**Sn**	**23 30 55.9**	**+0.1**
CUR	**Chagan-Uzun**	**4.30**	**38**	Pn		**Pn**	**23 30 09.7**	**+1.4**
CUR				S		**Sn**	**23 30 59.8**	**+1.1**
KTMS	**Ketmen**	**4.32**	**220**	Pg		**Pn**	**23 30 11.8**	**+3.2**
KTMS				Lg		Lg	23 31 19.9	
TDK	**Taldyqorghan**	**4.42**	**248**	*e*P		**Pb**	**23 30 23.2**	**+2.7**
	16nm,0.2s							
TDK				*e*S		**Sg**	**23 31 20.8**	**-3.9**

HSRG	**Sareghieh**	**2.60**	**15**	*e*Pn	**Pb**	**23 32 17.9**	**-2.0**
HSRG				*e*		23 32 59.3	
BHD	**Baghdad**	**2.65**	**283**	*e*Pn	**Pn**	**23 32 16.0**	**+0.2**
BHD				*e*Sn	**Sn**	**23 32 50.0**	**+2.1**
JHBN	**Jahan bin**	**2.75**	**100**	*e*Pn	**Pn**	**23 32 18.1**	**+0.5**
JHBN				*e*		23 33 08.1	
IPIR	**Pirpir**	**2.89**	**90**	*e*Pn	**Pn**	**23 32 20.8**	**+1.3**
IPIR				*e*		23 33 11.8	
IRAZ	**Razeghan**	**3.36**	**37**	*e*Pn	**Pn**	**23 32 27.6**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.45**	**30**	*e*Pn	**Pn**	**23 32 28.1**	**+1.0**
IKLH	**Kolahrood**	**3.51**	**79**	*e*Pn	**Pn**	**23 32 29.9**	**+2.0**
IKLH				*e*		23 32 34.4	
IGAR	**Gharneh**	**3.88**	**94**	*e*Pn	**Pn**	**23 32 33.5**	**+0.5**
KLNJ	**Kolanjah**	**3.91**	**115**	*e*Pn	**Pn**	**23 32 34.0**	**+0.5**
QSDN	**Sirdan**	**4.02**	**20**	*e*Pn	**Pn**	**23 32 37.0**	**+2.1**
IZEF	**Zefreh**	**4.10**	**86**	*e*Pn	**Pn**	**23 32 37.2**	**+1.1**
IRAM	**Ramesheh**	**4.27**	**101**	*e*Pn	**Pn**	**23 32 38.9**	**+0.6**
QALM	**Alamut, Qazvin**	**4.53**	**35**	*e*Pn	**Pn**	**23 32 44.3**	**+2.3**

TEH ***21*** *23:41:41.9,32.˚67N×47.˚61E,h10km,ML3.4*
ISN ***21*** *23:41:41.4±0.8,32.˚67N×47.˚59E,h14km±5km,ML3.3*
THR ***21*** *23:41:44.4±0.5,32.˚61N×47.˚76E,h18km±16km,ML3.7*
ISC 21 23:41:42.4±1.4,**32.˚61N**±0.˚03×**47.˚55E**±0.˚03,**h5**km±11km,
n39,σ1°**09**/45,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.24**	**286**	*e*Pg	**Pg**	**23 41 47.5**	**+0.5**
IKFM	**Kafar-mosalman**	**0.94**	**15**	*e*Pg	**Pg**	**23 41 58.2**	**-2.3**
IKFM				*e*	**Sn**	**23 42 15.9**	**-0.3**
IKMR	**Kamar-syah**	**1.14**	**37**	*e*Pg	**Pg**	**23 42 02.1**	**-2.2**
IKMR				*e*	**Sn**	**23 42 22.9**	**+1.9**
IDOB	**Doab**	**1.28**	**24**	*e*Pg	**Pg**	**23 42 05.6**	**-1.4**
IBDR	**Badra**	**1.45**	**290**	*e*Pg	**Pn**	**23 42 08.0**	**-1.3**
IBDR				*e*Sg	**Sb**	**23 42 28.0**	**-0.7**
IBDR				AML	AML	23 42 36.2	
	comp=E,360nm,0.9s						
IBDR				AML	AML	23 42 38.7	
	comp=N,466nm,0.9s						
BMDN	**Meydan**	**1.50**	**45**	*e*Pg	**Pn**	**23 42 09.2**	**-1.0**
IKOM	**Komasi**	**1.56**	**359**	*e*Pg	**Pn**	**23 42 10.9**	**0.0**
IKOM				*e*		23 42 36.6	
AHWZ	**Ahwaz**	**1.58**	**144**	*e*Pg	**Pg**	**23 42 12.6**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.71**	**346**	*e*Pn	**Pn**	**23 42 12.7**	**-0.4**
KCHF				*e*		23 42 43.0	
KER	**Kermanshah**	**1.80**	**349**	*e*Pn	**Pb**	**23 42 15.5**	**-0.5**
HSAM	**Samen**	**1.82**	**29**	*e*Pg	**Pb**	**23 42 15.4**	**-1.0**
HSAM				*e*		23 42 44.4	
IBZA	**Bozab**	**1.87**	**8**	*e*Pg	**Pb**	**23 42 16.2**	**-1.0**
IBZA				*e*		23 42 48.5	
IGHG	**Ghaleghazi**	**1.90**	**335**	*e*Pn	**Pn**	**23 42 16.4**	**+0.7**
IGHG				*e*		23 42 58.2	
IVIS	**Veis**	**2.00**	**343**	*e*Pn	**Pb**	**23 42 19.2**	**-0.1**
IVIS				*e*		23 42 53.7	
NSR	**Nassriya**	**2.00**	**217**	*e*Pn	**Pn**	**23 42 17.0**	**+0.2**
NSR				*e*Sn	**Sn**	**23 42 42.0**	**-0.2**
NSR				AML	AML	23 42 53.5	
	comp=E,487nm,0.7s						
IDHR	**Dehrash**	**2.30**	**335**	*e*Pn	**Pn**	**23 42 21.9**	**+0.8**
IDHR				*e*		23 43 00.4	
IALM	**Almabolaq**	**2.30**	**13**	*e*Pn	**Pn**	**23 42 22.1**	**+0.9**
KHMZ	**Khomeyn**	**2.31**	**60**	*e*Pn	**Pn**	**23 42 22.4**	**+1.1**
KHMZ	**Khomeyn**	**2.31**	**60**	*e*Pn	**Pn**	**23 42 22.4**	**+1.1**
ILIN	**Lien**	**2.35**	**348**	*e*Pn	**Pn**	**23 42 22.1**	**+0.2**
ILIN				*e*		23 43 00.8	
SNGE	**Sanandaj**	**2.48**	**356**	*e*Pn	**Pb**	**23 42 26.9**	**-0.7**
SNGE				*e*Sg	**Sg**	**23 43 03.4**	**+1.3**
HAGD	**Aghdareh**	**2.57**	**31**	*e*Pn	**Pn**	**23 42 26.0**	**+1.1**
HAGD				*e*		23 42 30.8	
JHBN	**Jahan bin**	**2.66**	**97**	*e*Pn	**Pn**	**23 42 26.4**	**+0.1**
JHBN				*e*		23 43 30.7	
HSRG	**Sareghieh**	**2.69**	**13**	*e*	**Sg**	**23 43 11.8**	**+3.0**
BHD	**Baghdad**	**2.75**	**285**	*e*Pn	**Pn**	**23 42 27.0**	**-0.1**
BHD				*e*Sn	**Sn**	**23 43 01.0**	**+0.3**
BHD				AML	AML	23 43 27.8	
	comp=E,164nm,0.7s						
IPIR	**Pirpir**	**2.82**	**88**	*e*Pn	**Pn**	**23 42 28.6**	**+0.2**
IPIR				*e*		23 43 18.8	
ROKH	**ROKH**	**2.96**	**94**	*e*Pn	**Pn**	**23 42 30.3**	**+0.1**
ROKH				*e*		23 43 27.0	
IRAZ	**Razeghan**	**3.41**	**35**	*e*Pn	**Pn**	**23 42 38.2**	**+1.7**
IKLH	**Kolahrood**	**3.46**	**77**	*e*Pn	**Pn**	**23 42 37.7**	**+0.5**
IKLH				*e*		23 43 41.3	
QABG	**Abgarm-Qazvin**	**3.52**	**28**	*e*Pn	**Pn**	**23 42 37.7**	**-0.2**
KLNJ	**Kolanjah**	**3.79**	**114**	*e*Pn	**Pn**	**23 42 41.7**	**-0.2**
KLNJ				*e*		23 44 21.5	
IZEF	**Zefreh**	**4.04**	**85**	*e*Pn	**Pn**	**23 42 45.9**	**+0.8**
QSDN	**Sirdan**	**4.11**	**19**	*e*Pn	**Pn**	**23 42 47.2**	**+1.2**
IRAM	**Ramesheh**	**4.17**	**100**	*e*Pn	**Pn**	**23 42 46.1**	**-0.9**
CHTH	**Charan**	**4.42**	**41**	*e*Pn	**Pn**	**23 42 51.6**	**+1.2**
CHTH	**Charan**	**4.42**	**41**	*e*Pn	**Pn**	**23 42 51.6**	**+1.2**
QALM	**Alamut, Qazvin**	**4.59**	**33**	*e*Pn	**Pn**	**23 42 53.5**	**+0.8**
YZKH	**Yazd**	**5.95**	**90**	*e*Pn	**Pn**	**23 43 12.1**	**+0.8**
YZKH	**Yazd**	**5.95**	**90**	*e*Pn	**Pn**	**23 43 12.1**	**+0.8**

REY ***21*** *23:50:20.7,64.˚62N×17.˚46W,h4km*
MOS ***21*** *23:50:21.1±1.0,64.˚48N×17.˚60W,h10km,mb5.0/59,Error ellipse: s-maj=7.0km s-min=4.5km az=107.6*
BGS ***21*** *23:50:21.2±2.0,64.˚51N×17.˚61W,h5km,MS4.2*
IDC ***21*** *23:50:21.6±0.4,64.˚47N×17.˚55W,h0km,mb4.4/35, mb1 4.5/41,mb1mx4.4/60,mbtmp4.4/41,ML3.2/4,MS3.7/43, Ms1 3.7/43,ms1mx3.6/58,Error ellipse: s-maj=12.2km s-min=8.8km az=15.0*
IEPN ***21*** *23:50:22.2,64.˚75N×17.˚71W,h10km*
NEIC ***21*** *23:50:22.6±1.2,64.˚51N±0.˚07×17.˚6W±0.˚1,h7km±3km, mb4.8/444,Error ellipse: s-maj=10.2km s-min=8.1km az=181.0*
GCMT ***21*** *23:50:23.6±0.3,64.˚48N±0.˚03×17.˚12W±0.˚05,h21km±1km, MW4.8/91,Moment Tensor Solution. s20,c23; s91,c117; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.83±. 13; Mθθ=0.96±.09; Mϕϕ=0.87±.08; Mrθ=-0.75±. 14; Mϕθ=-0.85±.05; Mϕr=-0.48±. 12; Best double couple: Mo=1.98000×10^16 NP1:ϕs=333.00000°,δ52.00000°,λ-60.00000°. NP2: ϕs=113.00000°,δ52.00000°,λ-117.00000°. Principal axes: T 1.7830, Plg4.0000°, Azm222.0000°; N 0.3990, Plg21.0000°, Azm130.0000°; P -2.1770, Plg69.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DNK ***21*** *23:50:24.6±4.2,64.˚76N×17.˚32W,h0km±574km*
NAO ***21*** *23:50:25.2±9.7,64.˚67N×16.˚85W,ML4.8*
ISC 21 23:50:22.8±0.2,**64.˚61N**±0.˚02×**17.˚54W**±0.˚02,**h10**km,
n1152,σ1°**39**/1136,**mb4.8**/342,**MS3.8**/53,**39C-10D**,
Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.11**	**302**	P	**Pg**	**23 50 23.7**	**-2.0**
IVON				S	**Sg**	**23 50 26.4**	**-1.2**
	baz=293						
IDJK	**Dyngjujokull**	**0.17**	**130**	P	**Pg**	**23 50 24.1**	**-2.6**
	baz=140						
IDYN	**Dyngjuhals**	**0.19**	**22**	P	**Pg**	**23 50 24.4**	**-2.5**
	baz=13						
IGRF	**Grimsfjall**	**0.24**	**151**	P	**Pg**	**23 50 25.3**	**-2.5**
	baz=159						
IHUS	**Husbondi**	**0.32**	**189**	P	**Pg**	**23 50 27.2**	**-2.1**
	baz=195						
ISKR	**Skrokkalda**	**0.37**	**262**	P	**Pg**	**23 50 28.2**	**-2.0**
	baz=262						
IVOT	**Vottur**	**0.38**	**156**	P	**Pg**	**23 50 27.7**	**-2.6**
	baz=161						
IJOK	**Jokulheimar**	**0.42**	**225**	P	**Pg**	**23 50 28.9**	**-2.3**
	baz=228						
IJOK				S	**Sg**	**23 50 35.6**	**-1.1**
	baz=228						
IKRE	**Kreppuhraun**	**0.52**	**71**	P	**Pg**	**23 50 29.5**	**-3.5**
	baz=70						
IKRE				S	**Sg**	**23 50 36.9**	**-3.1**
	baz=70						
IASK	**Askja**	**0.58**	**40**	P	**Pg**	**23 50 30.7**	**-3.4**
	baz=38						
IIEY	**Innrieyrar**	**0.58**	**206**	P	**Pg**	**23 50 31.4**	**-2.7**
	baz=209						
IIEY				S	**Sg**	**23 50 40.2**	**-1.5**
	baz=209						
IMKO	**Mokollar**	**0.63**	**54**	P	**Pg**	**23 50 31.7**	**-3.3**
	baz=53						
IKSK	**Karasker**	**0.65**	**134**	S	**Sg**	**23 50 40.7**	**-3.1**
	baz=137						
IKSK				P	**Pg**	**23 50 31.5**	**-3.8**
	baz=137						
IKAL	**Kalfafell**	**0.67**	**186**	P	**Pg**	**23 50 32.9**	**-2.9**
	baz=188						
IKAL				S	**Sg**	**23 50 42.7**	**-1.8**
	baz=188						
ISVA	**Svartarkot**	**0.74**	**9**	P	**Pg**	**23 50 33.5**	**-3.5**
	baz=6.8						
IVAT	**Vatnsfell**	**0.74**	**235**	P	**Pg**	**23 50 34.4**	**-2.6**
	baz=236						
IVAT				S	**Sg**	**23 50 44.2**	**-2.4**
	baz=236						
IVSH	**V-Sauoahnukur**	**0.80**	**75**	P	**Pg**	**23 50 34.3**	**-3.9**
	baz=75						
IFAG	**Fagurholsmyri**	**0.84**	**152**	P	**Pg**	**23 50 35.3**	**-3.6**
	baz=154						
IFAG				S	**Sg**	**23 50 47.3**	**-2.5**
	baz=154						
IHVE	**Hveravellir**	**0.91**	**287**	P	**Pg**	**23 50 36.7**	**-3.6**
	baz=286						
IADA	**Aoalbol**	**0.93**	**63**	P	**Pg**	**23 50 36.4**	**-4.3**
	baz=63						
ISNB	**Snabyli**	**1.00**	**209**	P	**Pg**	**23 50 38.4**	**-3.7**
	baz=211						
ISNB				S	**Sg**	**23 50 52.7**	**-2.4**
	baz=211						
IMEL	**Melhnausar**	**1.03**	**21**	P	**Pg**	**23 50 38.3**	**-4.3**
	baz=19						
ISLY	**Slysaalda**	**1.05**	**222**	P	**Pg**	**23 50 39.5**	**-3.6**
	baz=223						
IREN	**Reynihlio**	**1.07**	**14**	P	**Pg**	**23 50 39.0**	**-4.4**
	baz=12						
IREN				S	**Sg**	**23 50 53.7**	**-3.6**
	baz=12						
IFED	**Fedgar**	**1.11**	**239**	P	**Pb**	**23 50 40.5**	**-3.5**
	baz=240						
IRJU	**Rjupnafell**	**1.12**	**207**	P	**Pb**	**23 50 40.5**	**-3.7**
	baz=208						
IRJU				S	**Sg**	**23 50 56.1**	**-2.7**
	baz=208						
IKVO	**Krokottuvotn**	**1.14**	**14**	P	**Pb**	**23 50 39.9**	**-4.7**
	baz=12						
IMJO	**Mjoaskard**	**1.16**	**235**	P	**Pb**	**23 50 41.2**	**-3.7**
	baz=236						
IGRS	**Grimsstaoir**	**1.19**	**30**	P	**Pb**	**23 50 40.9**	**-4.5**
	baz=28						
IGYG	**Gygjarholskot**	**1.21**	**255**	P	**Pn**	**23 50 41.9**	**-3.8**
	baz=255						
IHVO	**Lagu-Hvolar**	**1.24**	**208**	P	**Pn**	**23 50 42.6**	**-3.5**
	baz=210						
IHVO				S	**Sb**	**23 50 59.8**	**-2.3**
	baz=210						
IGOD	**Go??abunga**	**1.24**	**220**	P	**Pn**	**23 50 42.9**	**-3.4**
	baz=221						
IHAU	**Haukadalur**	**1.24**	**240**	P	**Pn**	**23 50 42.4**	**-3.8**
	baz=240						
IHAU				S	**Sg**	**23 51 00.8**	**-1.9**
	baz=240						
ISKI	**Skilingahlsh**	**1.28**	**9**	P	**Pn**	**23 50 42.5**	**-4.3**
	baz=8.0						
IGHA	**Grjothals**	**1.29**	**16**	P	**Pn**	**23 50 42.4**	**-4.5**
	baz=15						
IGRA	**Granastaoir**	**1.31**	**359**	P	**Pn**	**23 50 42.9**	**-4.2**
	baz=358						
ISMJ	**Smjorgil**	**1.32**	**226**	P	**Pn**	**23 50 44.1**	**-3.3**
	baz=226						
IALF	**Alftagrof**	**1.34**	**213**	P	**Pn**	**23 50 44.2**	**-3.4**
	baz=215						
IALF				S	**Sg**	**23 51 04.0**	**-1.9**
	baz=215						
IDIM	**Dimmadalss**	**1.38**	**10**	P	**Pn**	**23 50 44.0**	**-4.1**
	baz=9.1						
IESK	**Eystri-Skogar**	**1.38**	**218**	P	**Pn**	**23 50 44.8**	**-3.3**
	baz=219						
IHLA	**Hella**	**1.38**	**345**	P	**Pn**	**23 50 44.6**	**-3.5**
	baz=344						
ISAU	**Saurbar**	**1.40**	**245**	P	**Pn**	**23 50 44.7**	**-3.7**
	baz=245						
IMID	**Miomork**	**1.41**	**228**	P	**Pn**	**23 50 45.5**	**-2.9**
	baz=229						
IMID				S	**Sn**	**23 51 05.1**	**-2.0**
	baz=229						
IHED	**Heoinshofoi**	**1.48**	**4**	P	**Pn**	**23 50 45.5**	**-3.9**
	baz=2.4						
IHED				S	**Sn**	**23 51 06.5**	**-2.2**
	baz=2.4						
IBRE	**Brettingsstaoi**	**1.52**	**354**	P	**Pn**	**23 50 46.3**	**-3.8**
	baz=353						
IGIL	**Gilhagi**	**1.55**	**18**	P	**Pn**	**23 50 46.4**	**-4.1**
	baz=17						
IASM	**Asmuli**	**1.56**	**241**	P	**Pn**	**23 50 47.7**	**-2.8**
	baz=242						
IASM				S	**Sn**	**23 51 08.9**	**-1.8**
	baz=242						
BORG	**Borgarnes**	**1.64**	**276**	Pg	**Pn**	**23 50 48.8**	**-2.8**
	109nm,0.3s,baz=97,slow=10,SNR=467						
BORG				Lg	Lg	23 51 12.8	
	49nm,0.3s,baz=103,slow=14,SNR=3.4						
BORG	**Borgarnes**	**1.64**	**276**	P	**Pn**	**23 50 48.5**	**-3.1**
BORG	**Borgarnes**	**1.64**	**276**		**Pn**	**23 50 48.5**	**-3.1**
IASB	**`sbjarnarst**	**1.64**	**276**	P	**Pn**	**23 50 48.6**	**-2.9**
	baz=276						
ISOL	**Solvholt**	**1.64**	**247**	P	**Pn**	**23 50 48.6**	**-3.0**
	baz=247						
ISOL				S	**Sb**	**23 51 11.7**	**-2.0**
	baz=247						
IKRO	**Krokur**	**1.64**	**253**	P	**Pn**	**23 50 48.6**	**-3.1**
	baz=254						
IKRO				S	**Sb**	**23 51 11.8**	**-2.1**
	baz=254						
IHEI	**Heioarbar**	**1.66**	**257**	P	**Pn**	**23 50 48.8**	**-3.1**
	baz=257						
IVME	**Vestmannaeyjar**	**1.70**	**227**	P	**Pn**	**23 50 50.2**	**-2.3**
	baz=228						
IBJA	**Bjarnastaoir**	**1.77**	**249**	P	**Pn**	**23 50 50.5**	**-3.0**
	baz=250						
ILEI	**Leirhofn**	**1.85**	**13**	P	**Pn**	**23 50 51.2**	**-3.4**
	baz=12						
SCO	**Scoresbysund**	**6.13**	**346**	*i* P	**Pn**	**23 51 52.7**	**-0.6**
SCO	**Scoresbysund**	**6.13**	**346**	*i* P	**Pn**	**23 51 52.7**	**-0.6**
SCO	**Scoresbysund**	**6.13**	**346**	Pn	**Pn**	**23 51 52.1**	**-1.2**
SCO	**Scoresbysund**	**6.13**	**346**	*i* P	**Pn**	**23 51 52.8**	**-0.6**
JMIC	**Jan Mayen**	**7.25**	**24**	Pn	**Pn**	**23 52 09.8**	**+1.2**
JMIC	**Jan Mayen**	**7.25**	**24**	Pn	**Pn**	**23 52 10.0**	**+1.4**
	baz=201,slow=9.0,SNR=6.1						
JMIC				LR	LR	23 54 26.6	
	comp=Z,680nm,18.5s,baz=230,slow=33						
ANGG	**Ammassalik, Gr**	**8.53**	**286**	Pn	**Pn**	**23 52 26.8**	**+0.6**
ANGG	**Ammassalik, Gr**	**8.53**	**286**	*i* P	Pn	23 52 31.3	+5.2
WAL1	**Walls**	**8.57**	**113**	*e*P	**Pn**	**23 52 25.2**	**-1.5**
LRW	**Lerwick**	**8.81**	**113**	*e*P	**Pn**	**23 52 27.7**	**-2.4**
LRW				IAMs_20	IAMs_20	23 56 46.1	
	comp=Z,1μm,11.5s						
KAC	**Achnashellach**	**9.26**	**135**	*e*P	**Pn**	**23 52 33.9**	**-2.4**
KPL	**Plockton**	**9.29**	**136**	*e*P	**Pn**	**23 52 34.6**	**-2.0**
ICESG	**Greenland Ices**	**9.76**	**307**	*e*P	**Pn**	**23 52 45.3**	**+2.0**
DBG	**Daneborg**	**9.79**	**356**	*i* P	Pn	23 52 52.5	+9.1
MCD	**Coleburn Disti**	**9.85**	**129**	*e*P	**Pn**	**23 52 43.6**	**-0.7**
LAWE	**Loch Awe, Argy**	**10.28**	**139**	*e*P	**Pn**	**23 52 48.9**	**-1.3**
LAWE				IAMs_20	IAMs_20	23 57 33.4	
	comp=Z,2μm,11.7s						
INVG	**Invergeldie, C**	**10.54**	**135**	*e*P	**Pn**	**23 52 51.6**	**-2.1**
INVG				IAMs_20	IAMs_20	23 57 12.4	
	comp=Z,2μm,13.5s						
EAB	**Aberfoyle**	**10.65**	**136**	*e*P	**Pn**	**23 52 54.3**	**-1.0**
PGBU	**Glenifferbraes**	**10.93**	**138**	*e*P	**Pn**	**23 52 57.7**	**-1.4**
PGBU				IAMs_20	IAMs_20	23 57 40.9	
	comp=Z,2μm,11.0s						
SUMG	**Summit**	**10.98**	**326**	*i* P	**Pn**	**23 53 01.8**	**+1.8**
SUMG	**Summit**	**10.98**	**326**	*i* P	**Pn**	**23 53 01.8**	**+1.8**
SUMG	**Summit**	**10.98**	**326**	Pn	**Pn**	**23 53 01.1**	**+1.1**
SUMG	**Summit**	**10.98**	**326**	*i* P	**Pn**	**23 53 01.9**	**+1.8**
CLGH	**Cloghs, Cushen**	**11.13**	**144**	*e*P	**Pn**	**23 52 59.9**	**-1.9**
CLGH				IAMs_20	IAMs_20	23 58 47.7	
	comp=Z,1μm,10.2s						
EDI	**Edinburgh**	**11.22**	**134**	*e*P	**Pn**	**23 53 01.4**	**-1.7**
EDI				IAMs_20	IAMs_20	23 57 41.5	
	comp=Z,1μm,11.6s						
EBL	**Broad Law**	**11.39**	**134**	*e*P	**Pn**	**23 53 03.8**	**-1.7**
NEWG	**New Galloway**	**11.61**	**139**	*e*P	**Pn**	**23 53 06.9**	**-1.4**
NEWG				IAMs_20	IAMs_20	23 58 10.9	
	comp=Z,2μm,13.2s						
GAL1	**Galloway**	**11.69**	**141**	*e*P	**Pn**	**23 53 08.1**	**-1.4**
GAL1				IAMs_20	IAMs_20	23 58 22.4	
	comp=Z,2μm,10.8s						
EKA	**Eskdalemuir Ar**	**11.73**	**136**	Pn	**Pn**	**23 53 09.0**	**-1.0**
	baz=326,slow=13,SNR=41						
ESK	**Eskdalemuir**	**11.73**	**136**	*e*P	**Pn**	**23 53 09.3**	**-0.8**
ESK				IAMs_20	IAMs_20	23 57 59.4	
	comp=Z,2μm,13.9s						
ESK	**Eskdalemuir**	**11.73**	**136**	P	**Pn**	**23 53 08.2**	**-1.8**
ESK	**Eskdalemuir**	**11.73**	**136**	Pn	**Pn**	**23 53 08.2**	**-1.8**
DAG	**Danmarks Havn**	**12.23**	**359**	*i* P	**Pn**	**23 53 19.0**	**+2.3**
DAG	**Danmarks Havn**	**12.23**	**359**	*i* P	**Pn**	**23 53 19.0**	**+2.3**
DAG	**Danmarks Havn**	**12.23**	**359**	*i* P	**Pn**	**23 53 19.0**	**+2.3**
DAG				*i* P		23 53 20.0	
KESW	**Keswick, Cumbr**	**12.39**	**137**	*e*P	**Pn**	**23 53 17.1**	**-1.9**
KESW				IAMs_20	IAMs_20	23 58 29.2	
	comp=Z,2μm,12.1s						
DSB	**Dublin**	**12.75**	**148**	Pn	**Pn**	**23 53 22.1**	**-1.8**
NC204	**NORSAR Array S**	**13.24**	**92**		**Pn**	**23 53 29.2**	**-1.5**
NBO00	**NORSAR Array S**	**13.36**	**93**		**Pn**	**23 53 31.4**	**-0.9**
NAO01	**NORSAR Array S**	**13.50**	**93**	Pn	**Pn**	**23 53 32.7**	**-1.5**
NC303	**NORSAR Array S**	**13.53**	**91**	Pn	**Pn**	**23 53 34.5**	**-0.1**
NB2	**NORSAR Subarra**	**13.55**	**92**	P	**Pn**	**23 53 31.8**	**-3.0**
	comp=Z,28nm,1.4s,baz=298,slow=14						
NOA	**NORSAR Array B**	**13.55**	**92**	Pn	**Pn**	**23 53 31.3**	**-3.5**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=6.8						
KONO	**Kongsberg**	**13.56**	**99**	P	**Pn**	**23 53 33.6**	**-1.4**
KONO	**Kongsberg**	**13.56**	**99**	Pn	**Pn**	**23 53 33.6**	**-1.4**
NB201	**NORSAR Array S**	**13.58**	**92**	Pn	**Pn**	**23 53 34.9**	**-0.3**
SFJD	**Kangerlussuaq**	**13.67**	**295**	LR	LR	23 58 54.5	
	comp=Z,359nm,18.0s,baz=88,slow=37						
SFJD	**Kangerlussuaq**	**13.67**	**295**	P	**Pn**	**23 53 35.3**	**-1.2**
SFJD	**Kangerlussuaq**	**13.67**	**295**	Pn	**Pn**	**23 53 35.2**	**-1.2**
NC405	**NORSAR Array S**	**13.73**	**91**	Pn	**Pn**	**23 53 36.0**	**-1.3**
ILULI	**Ilulissat**	**13.81**	**304**	P	**Pn**	**23 53 37.3**	**-1.0**
ILULI	**Ilulissat**	**13.81**	**304**	Pn	**Pn**	**23 53 37.3**	**-1.0**
LBWR	**Ladybower, Pea**	**13.83**	**137**	*e*P	**Pn**	**23 53 37.6**	**-1.0**
NC602	**NORSAR Array S**	**13.83**	**93**	Pn	**Pn**	**23 53 36.5**	**-2.2**
STNC	**Stoke**	**13.96**	**139**	*e*P	**Pn**	**23 53 39.9**	**-2.5**
HLM1	**Long Mynd**	**14.28**	**141**	*e*P	**Pn**	**23 53 42.7**	**-2.2**
IVI	**Ivigtut**	**14.28**	**270**	Pn	**Pn**	**23 53 43.5**	**-1.3**
HFS	**Hagfors**	**15.06**	**93**	Pn	**Pn**	**23 53 53.6**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=310,slow=6.8,SNR=2.0						
STRD	**Stroud**	**15.14**	**141**	*e*P	**Pn**	**23 53 55.0**	**-1.5**
STRD				IAMs_20	IAMs_20	00 00 28.8	
	comp=Z,2μm,10.2s						
MUD	**Monsted U'grnd**	**15.36**	**110**	*i* P	**P**	**23 54 01.6**	**-2.4**
MUD	**Monsted U'grnd**	**15.36**	**110**	*e*P	**P**	**23 54 01.6**	**-2.4**
MUD	**Monsted U'grnd**	**15.36**	**110**	*e*P	**P**	**23 54 01.7**	**-2.4**
HSPB	**Hornsund (broa**	**16.12**	**26**	*e*P	**Pn**	**23 54 03.9**	**-5.2**
HSPB				*e*S	**Sn**	**23 57 01.4**	**-6.1**
KBS	**Kingsbay**	**16.70**	**19**	P	**P**	**23 54 16.6**	**-2.1**
KBS	**Kingsbay**	**16.70**	**19**	*e*P	**P**	**23 54 17.7**	**-1.0**
KBS				*e*S	**Sn**	**23 57 25.4**	**+4.0**
KBS	**Kingsbay**	**16.70**	**19**	*i* P	**P**	**23 54 17.6**	**-1.1**
KBS				pmax	pmax		
	comp=Z,70nm,2.0s						
KBS	**Kingsbay**	**16.70**	**19**	Pn	**P**	**23 54 16.9**	**-1.8**
KBS				IAmb	IAmb	23 54 30.4	
	comp=Z,123nm,1.9s						
SPA0	**Spitsbergen Ar**	**16.92**	**23**	*e*P	**Pn**	**23 54 16.2**	**-3.1**
SPA0				*e*S	**Sn**	**23 57 24.7**	**-2.3**
SPA0	**Spitsbergen Ar**	**16.92**	**23**	Pn	**P**	**23 54 20.9**	**-0.4**
SPA0				IAmb	IAmb	23 54 34.7	
	comp=Z,81nm,1.4s						
SPITS	**Spitsbergen Ar**	**16.92**	**23**	P	**P**	**23 54 22.6**	**+1.3**
	baz=211,slow=13,SNR=1.8						
NOR	**Nord**	**17.08**	**0**	P	**P**	**23 54 24.9**	**+2.0**
NOR	**Nord**	**17.08**	**0**	*i* P	**P**	**23 54 24.6**	**+1.7**
NOR	**Nord**	**17.08**	**0**	*i* P	**P**	**23 54 24.6**	**+1.7**
NOR	**Nord**	**17.08**	**0**	*i* P	**P**	**23 54 24.7**	**+1.7**
ARA0	**ARCESS Array S**	**17.16**	**54**	P	**P**	**23 54 23.2**	**-0.7**
	baz=280,slow=10						
ARCES	**ARCESS Array B**	**17.16**	**54**	P	**P**	**23 54 21.8**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=283,slow=11,SNR=12						
ARCES					LR	23 59 42.4	
	comp=Z,317nm,18.8s,baz=306,slow=32						
ARCES	**ARCESS Array B**	**17.16**	**54**	P	**P**	**23 54 22.9**	**-1.1**
ARCES	**ARCESS Array B**	**17.16**	**54**		**P**	**23 54 22.9**	**-1.1**
ARE0	**

comp=Z,43nm,1.4s
LVZ Lovozero 20.73 58 P **P** 23 55 02.4 -0.7
LVZ IAmb IAmb 23 55 09.2
comp=Z,92nm,1.4s
GKP Gorka Klasztor 20.92 106 *eP* Pn 23 55 06.2 -1.4
SSF Saint Saulge 21.00 137 *eP* **P** **23 55 05.1 -1.0**
SSF pmax pmax
comp=Z,122nm,1.4s
PLN Plauen 21.03 118 *eP* **P** **23 55 06.1 -0.2**
comp=Z,89nm,1.4s,baz=326,slow=11
WERD Werda 21.11 118 *eP* **P** **23 55 06.6 -0.7**
comp=Z,25nm,1.2s,baz=326,slow=11
ECH Echery 21.13 129 P **P** **23 55 07.1 -0.5**
ECH pmax pmax
comp=Z,44nm,1.2s
ECH Echery 21.13 129 P **P** **23 55 07.1 -0.5**
ECH IAmb IAmb 23 55 10.6
comp=Z,44nm,1.2s
FBE Freiberg 21.14 116 *eP* **P** **23 55 07.3 -0.2**
comp=Z,90nm,1.4s,baz=326,slow=11
GUNZ Gunzen 21.19 118 *eP* **P** **23 55 07.9 -0.3**
comp=Z,77nm,1.5s,baz=326,slow=11
TANN Tannenbergstha 21.20 118 *eP* **P** **23 55 07.9 -0.4**
comp=Z,350nm,1.9s,baz=326,slow=11
WERN Wernitzgruen 21.27 118 *eP* **P** **23 55 08.8 -0.2**
comp=Z,70nm,1.3s,baz=326,slow=11
GRA1 Grafenberg Arr 21.32 121 P **P** **23 55 09.8 +0.3**
GRA1 IAmb IAmb 23 55 24.0
comp=Z,90nm,1.4s
GRF Grafenberg Arr 21.32 121 P **P** **23 55 09.8 +0.3**
GRF pmax pmax
comp=Z,90nm,1.4s
GRF Grafenberg Arr 21.32 121 *eP* **P** **23 55 09.4 -0.1**
comp=Z,67nm,1.2s,baz=326,slow=11
NKC Novy Kostel 21.34 118 *eP* **P** **23 55 09.4 -0.3**
NKC MLR MLR
comp=Z,400nm,11.9s
NKC Novy Kostel 21.34 118 *eP* **P** **23 55 09.4 -0.3**
NKC AMS AMS 00 05 50.0
comp=Z,400nm,11.9s
STU Stuttgart 21.36 125 P **P** **23 55 09.3 -0.6**
STU pmax pmax
comp=Z,67nm,1.1s
STU Stuttgart 21.36 125 *eP* **P** **23 55 10.1 +0.2**
comp=Z,87nm,1.3s,baz=326,slow=11
STU Stuttgart 21.36 125 P **P** **23 55 09.3 -0.6**
STU IAmb IAmb 23 55 13.1
comp=Z,67nm,1.1s
BRG Berggiesshubel 21.41 115 *i* P **P** **23 55 10.1 -0.3**
comp=Z,123nm,1.7s
BRG S Sn 23 59 12.0 -3.4
comp=N,328nm,14.5s
comp=E,430nm,13.7s
comp=Z,429nm,11.2s
BRG Berggiesshubel 21.41 115 *i* P **P** **23 55 10.1 -0.3**
BRG S Sn 23 59 12.0 -3.4
BRG pmax pmax
comp=Z,123nm,1.7s
BRG MLR MLR
comp=N,328nm,14.5s
BRG MLR MLR
comp=E,430nm,13.7s
BRG MLR MLR
comp=Z,429nm,11.2s
BRG Berggiesshubel 21.41 115 *eP* **P** **23 55 09.9 -0.5**
comp=Z,124nm,1.7s,baz=326,slow=11
MANZ Manzenberg 21.41 119 *eP* **P** **23 55 09.8 -0.7**
comp=Z,105nm,2.0s,baz=326,slow=11
BFO Black Forest 21.43 127 P **P** **23 55 10.6 -0.1**
BFO pmax pmax
comp=Z,57nm,1.1s
BFO Black Forest 21.43 127 *eP* **P** **23 55 10.9 +0.2**
comp=Z,69nm,1.2s,baz=326,slow=11
BFO Black Forest 21.43 127 P **P** **23 55 10.6 -0.1**
BFO IAmb IAmb 23 55 15.2
comp=Z,57nm,1.1s
VSU Vasula 21.59 86 *eP* **P** **23 55 13.1 +0.8**
VSU Vasula 21.59 86 *i* P **P** **23 55 12.6 +0.3**
VSU pmax pmax
comp=Z,72nm,1.0s
ROTZ Rotzenmuhle 21.63 119 *eP* **P** **23 55 12.3 -0.5**
comp=Z,108nm,1.8s,baz=326,slow=11
FRB Frobisher Bay 21.75 291 P **P** **23 55 16.1 +2.2**
comp=Z,11nm,0.9s,baz=71,slow=8.3,SNR=4.1
FRB LR LR 00 02 36.7
comp=Z,137nm,21.1s,baz=106,slow=34
PVCC Panska Ves 21.92 115 AMS AMS 00 06 40.0
comp=Z,300nm,9.4s
SLVR Solovky 22.10 65 *eP* **P** **23 55 16.6 -1.1**
comp=Z,85nm,1.2s
LFF La Frestale 22.19 144 *eP* **P** **23 55 19.5 +0.6**
LFF pmax pmax
comp=Z,60nm,1.1s
PABE Paberze 22.22 95 *eP* **P** **23 55 20.6 +1.5**
PABE IAmb IAmb 23 55 23.5
comp=Z,188nm,1.3s
PRA Prague 22.23 116 *eP* **P** **23 55 18.8 -0.5**
PRA MLR MLR
comp=Z,200nm,11.6s
PRA Prague 22.23 116 *eP* **P** **23 55 18.8 -0.5**
PRA AMS AMS 00 06 30.0
comp=Z,200nm,11.6s
PRU Pruhonice 22.34 116 *eP* **P** **23 55 20.0 -0.5**
PRU *eS* **S** **23 59 29.0 +3.2**
PRU MLR MLR
comp=Z,400nm,12.0s
PRU Pruhonice 22.34 116 *eP* **P** **23 55 20.0 -0.5**
PRU *eS* **S** **23 59 29.0 +3.2**
PRU AMS AMS 00 06 20.0
comp=Z,400nm,12.0s
KSP Ksiaz 22.36 112 *eP* **P** **23 55 20.8 +0.1**
WET Wettzell 22.39 119 *eP* **P** **23 55 20.7 -0.3**
comp=Z,132nm,2.2s,baz=326,slow=11
CHVC Chvalec 22.46 113 *eP* **P** **23 55 21.3 -0.5**
CHVC AMS AMS 00 06 40.0
comp=Z,300nm,13.1s
GOPC GO Pecny, Ondr 22.50 115 *eP* **P** **23 55 21.4 -0.8**
GOPC GO Pecny, Ondr 22.50 115 *eP* **P** **23 55 21.4 -0.8**
UPC Upice 22.51 113 *eS* **S** **23 59 32.1 +3.2**
UPC AMS AMS 00 08 10.0
comp=Z,400nm,9.5s
CAF Calviac 22.55 142 *eP* **P** **23 55 20.6 -2.2**
CAF pmax pmax
comp=Z,73nm,1.5s
OSTC Ostas 22.55 112 AMS AMS 00 07 00.0
comp=Z,300nm,10.0s
UBR Ueberruh 22.61 125 *eP* **P** **23 55 23.5 +0.1**
comp=Z,126nm,1.5s,baz=326,slow=11
KHC Kasperske Hory 22.66 118 *eP* **P** **23 55 23.5 -0.5**
KHC *e* 23 55 30.0
KHC MLR MLR
comp=Z,400nm,9.9s
KHC Kasperske Hory 22.66 118 *eP* **P** **23 55 23.5 -0.5**
KHC *epP* **sP** **23 55 30.0 +1.2**
KHC *eS* **S** **23 59 36.5 +4.7**
KHC AMS AMS 00 08 00.0
comp=Z,400nm,9.9s
KHC Kasperske Hory 22.66 118 P **P** **23 55 23.8 -0.2**
DPC Dobruska-Polom 22.75 113 *eP* **P** **23 55 25.0 +0.1**
DPC AMS AMS 00 06 40.0
comp=Z,300nm,11.3s
SENIN Lac Senin/Sane 22.80 131 P **P** **23 55 25.6 0.0**
SENIN IAmb IAmb 23 55 50.3
comp=Z,54nm,1.4s
DAVA Damuels 22.86 126 *i* pP **P** **23 55 27.6 +1.4**
comp=Z,38nm,1.4s,SNR=14
SUW Suwalki 22.89 98 *eP* **P** **23 55 26.5 +0.3**
SUW Suwalki 22.89 98 P **P** **23 55 25.8 -0.4**
SUW pmax pmax
comp=Z,52nm,1.1s
SUW Suwalki 22.89 98 P **P** **23 55 25.8 -0.4**
SUW IAmb IAmb 23 55 33.8
comp=Z,52nm,1.1s
SSB Saint Sauveur 22.92 137 P **P** **23 55 26.0 -0.7**
SSB pmax pmax
comp=Z,113nm,1.9s
SSB Saint Sauveur 22.92 137 P **P** **23 55 26.0 -0.7**
GEC2 GERESS Array S 22.94 119 *eP* **P** **23 55 26.7 -0.2**
comp=Z,67nm,1.5s,baz=326,slow=11
GEC2 GERESS Array S 22.94 119 P **P** **23 55 26.3 -0.6**
GEC2 IAmb IAmb 23 55 31.8
comp=Z,57nm,1.4s
GERES GERESS Array B 22.94 119 P **P** **23 55 26.9 0.0**
comp=Z,7.1nm,1.0s,baz=324,slow=8.9,SNR=23
GERES LR LR 00 05 10.9
comp=Z,244nm,18.5s,slow=39
GERES GERESS Array B 22.94 119 P **P** **23 55 26.5 -0.5**
RETA Reutte 23.00 125 *i* P **P** **23 55 27.9 +0.3**
comp=Z,40nm,1.6s,SNR=12
IZAR Zarasai 23.04 92 *eP* **P** **23 55 28.6 +0.8**
ISAL Salakas 23.11 92 *eP* **P** **23 55 29.8 +1.3**
ISAL IAmb IAmb 23 55 50.8
comp=Z,19nm,1.0s
KRLC Kraliky 23.15 113 *eP* **P** **23 55 28.9 -0.2**
KRLC MLR MLR
comp=Z,400nm,12.9s
KRLC Kraliky 23.15 113 *eP* **P** **23 55 28.9 -0.2**
KRLC AMS AMS 00 07 00.0
comp=Z,400nm,12.9s
MOTA Moosalm 23.24 124 *i* P **P** **23 55 30.4 +0.3**
comp=Z,52nm,1.7s,SNR=16
TREC Trest 23.27 115 *eS* Sn 23 59 49.4 -11
TREC AMS AMS 00 06 30.0
comp=Z,400nm,11.6s
DAVOX Davos/Dischmat 23.30 127 P **P** **23 55 30.8 +0.1**
comp=Z,4.6nm,0.9s,baz=300,slow=8.7,SNR=9.6
DAVOX LR LR 00 05 28.7
comp=Z,218nm,19.5s,baz=298,slow=39
PGAV Gavieira, Arco 23.31 162⇓ *eP* **P** **23 55 29.7 -1.0**
comp=Z,70nm,1.9s
PGAV *eS* Sn 23 59 52.9 -8.2
LPL La Plagne 23.37 133 *eP* **P** **23 55 30.6 -0.9**
LPL pmax pmax
comp=Z,26nm,1.3s
TMCR Tamitsa 23.38 66 *eP* **P** **23 55 32.2 +1.1**
comp=Z,1.0nm,0.8s
TMCR Tamitsa 23.38 66 *eP* **P** **23 55 31.7 +0.6**
TUE Stuetta 23.39 128 P **P** **23 55 31.6 0.0**
TUE IAmb IAmb 23 55 36.0
comp=Z,55nm,1.5s
SQTA Sankt Quirin 23.39 124 *i* P **P** **23 55 32.0 +0.5**
comp=Z,66nm,1.8s,SNR=15
FETA Feichten 23.39 125 *i* P **P** **23 55 31.9 +0.3**
comp=Z,17nm,1.5s
WATA Walderalm 23.42 124 *i* P **P** **23 55 31.9 0.0**
comp=Z,43nm,1.5s,SNR=16
BEL Belsk 23.44 105 *eP* **P** **23 55 32.5 +0.6**
WTTA Wattenberg 23.50 124 *i* pP **P** **23 55 33.3 +0.6**
comp=Z,50nm,1.5s,SNR=20
RJOB Jochberg 23.52 121 *eP* **P** **23 55 31.6 -1.3**
comp=Z,79nm,1.9s,baz=326,slow=11
IDID Didziasalis 23.54 92 *eP* **P** **23 55 33.6 +0.8**
IDID IAmb IAmb 23 55 36.6
comp=Z,28nm,1.0s
FUORN Ofenpass-Fuorn 23.57 126 P **P** **23 55 33.8 +0.3**
FUORN IAmb IAmb 23 56 00.7
comp=Z,53nm,1.4s
PCAB Cabril 23.59 162 *eP* **P** **23 55 33.2 -0.3**
comp=Z,56nm,1.9s
PBRG Braganca 23.68 160⇓ *eP* **P** **23 55 34.3 0.0**
comp=Z,53nm,1.9s
PBRG *eS* Sn 23 59 57.8 -12
VRAC Vranov 23.69 114 P **P** **23 55 33.9 -0.5**
comp=Z,9.0nm,1.0s,baz=326,slow=12,SNR=20
VRAC LR LR 00 06 05.8
comp=Z,191nm,19.3s,baz=332,slow=40
VRAC Vranov 23.69 114 ⇑P **P** **23 55 35.1 +0.7**
VRAC Vranov 23.69 114 *eP* **P** **23 55 33.5 -0.8**
VRAC Vranov 23.69 114 ⇑P **P** **23 55 35.1 +0.7**
MORC Moravsky Berou 23.69 112 ⇑P **P** **23 55 34.5 0.0**
MORC Moravsky Berou 23.69 112 *eP* **P** **23 55 34.0 -0.4**
MORC Moravsky Berou 23.69 112 P **P** **23 55 34.1 -0.4**
MORC pmax pmax
comp=Z,77nm,1.6s
MORC Moravsky Berou 23.69 112 P **P** **23 55 34.1 -0.3**
EUNU Eureka 23.71 336 P **P** **23 55 35.6 +1.3**
EUNU IAmb IAmb 23 55 37.5
comp=Z,25nm,0.9s
BNI Bardonecchia 23.77 134 P **P** **23 55 35.4 +0.1**
BNI pmax pmax
comp=Z,56nm,1.4s
BNI Bardonecchia 23.77 134 P **P** **23 55 35.4 +0.1**
BNI IAmb IAmb 23 55 46.1
comp=Z,56nm,1.4s
KRUC Moravsky 23.81 115 *eP* **P** **23 55 34.6 -0.9**
MOA Molln 23.98 119 *i* P **P** **23 55 37.0 -0.1**
comp=Z,24nm,1.5s,SNR=11
PVRL Vila Real 24.06 162 *eP* **P** **23 55 38.3 +0.3**
comp=Z,83nm,1.6s
ABTA Abfaltersbach 24.26 123 *i* pP **P** **23 55 41.1 +1.3**
comp=Z,23nm,1.6s,SNR=9.5
OJC Ojcow 24.26 109 *eP* **P** **23 55 39.5 -0.2**
OJC Ojcow 24.26 109 P **P** **23 55 39.4 -0.3**
OJC pmax pmax
comp=Z,85nm,1.8s
OJC Ojcow 24.26 109 P **P** **23 55 39.4 -0.3**
MVO Moncorvo 24.26 160 *eP* **P** **23 55 40.1 +0.2**
comp=Z,84nm,1.7s
MVO *eS* S 00 00 07.6 +9.3
KBA Koelnbreinsper 24.28 121 *i* pP **P** **23 55 41.3 +1.2**
comp=Z,36nm,1.7s,SNR=9.5
JAVC Velka Javorina 24.47 113 *eP* **P** **23 55 42.2 +0.5**
CONA Conrad Observa 24.52 117 *i* P **P** **23 55 42.5 +0.3**
comp=Z,13nm,0.9s,SNR=10
SALO Salr 24.53 127 P **P** **23 55 43.4 +1.1**
SALO IAmb IAmb 23 56 01.9
comp=Z,54nm,1.6s
CTI Castel Tesino 24.55 125 P **P** **23 55 42.7 +0.2**
CTI pmax pmax
comp=Z,27nm,1.0s
CTI Castel Tesino 24.55 125 P **P** **23 55 42.7 +0.2**
CTI IAmb IAmb 23 55 49.4
comp=Z,27nm,1.0s
MICGM Minsk 24.57 93⇑ *eP* **P** **23 55 43.0 +0.5**
MICGM PM 23 55 45.0
comp=Z,0.3nm,2.0s
MICGM PM 23 55 46.0
comp=N,0.4nm,2.0s
MICGM PM 23 55 46.0
comp=E,0.2nm,2.0s
MNK Minsk 24.57 93 *eP* **P** **23 55 43.0 +0.5**
MNK pmax pmax
comp=Z,250nm,2.0s
PVIS Viseu 24.59 162⇑ *eP* **P** **23 55 43.8 +1.0**
comp=Z,72nm,1.5s
ZOU Zoufplan 24.59 123 P **P** **23 55 43.1 +0.1**
CIMO Cimolais 24.61 124 P **P** **23 55 42.6 -0.3**
CIMO IAmb IAmb 23 56 00.8
comp=Z,20nm,1.2s
SMOL Smolenice 24.65 114 *eP* **P** **23 55 44.1 +0.7**
SMOL pmax pmax
comp=Z,18nm,1.3s
SMOL Smolenice 24.65 114 *eP* **P** **23 55 44.0 +0.7**
MODS Modra-Piesok 24.71 114 *eP* **P** **23 55 42.3 -1.5**
MODS pmax pmax
comp=Z,37nm,1.4s
MODS Modra-Piesok 24.71 114 *eP* **P** **23 55 42.3 -1.5**
MYKA Terra Mystica 24.77 122 *i* pP **P** **23 55 47.5 +3.0**
comp=Z,25nm,1.7s
PRED Cave del Predi 24.90 122 P **P** **23 55 45.0 -0.6**
MTE Manteigas 24.94 162⇑ *eP* **P** **23 55 47.9 +1.9**
comp=Z,102nm,1.5s
MTE *eS* S 00 00 26.5 +17
MTE Manteigas 24.94 162 P **P** **23 55 46.2 +0.2**
ARSA Arzberg 24.95 118 *i* P **P** **23 55 46.8 +0.7**
comp=Z,12nm,1.0s
LANS Liptovska Anna 24.96 111 *eP* **P** **23 55 47.4 +1.3**
LANS pmax pmax
comp=Z,11nm,0.9s
LANS Liptovska Anna 24.96 111 *eP* **P** **23 55 47.4 +1.3**
COI Coimbra 25.02 163 P **P** **23 55 46.9 +0.3**
COI pmax pmax
comp=Z,67nm,1.2s
COI Coimbra 25.02 163 *eP* **P** **23 55 48.9 +2.3**
comp=Z,124nm,1.4s
COI *eS* S 00 00 25.1 +15
COI Coimbra 25.02 163 P **P** **23 55 46.9 +0.3**
NIE Niedzica 25.09 109 *eP* **P** **23 55 48.7 +1.5**
PCAS Casmilo, Conde 25.16 164 *eS* S 00 00 30.0 +17
OBKA Obir 25.21 121 *i* sP **P** **23 55 50.6 +2.2**
comp=Z,18nm,1.3s
PRMA PARMA 25.21 129 P **P** **23 55 47.7 -0.6**
VYHS Vyhne 25.23 112 *eP* **P** **23 55 47.8 -0.7**
VYHS Vyhne 25.23 112 *eP* **P** **23 55 47.8 -0.7**
SOKA Soboth 25.25 120 *i* P **P** **23 55 49.1 +0.4**
comp=Z,32nm,1.6s,SNR=9.5
PERS Pernice 25.31 120 *i* P **P** **23 55 49.0 -0.3**
MOZS Mozjanca 25.35 121 *eP* **P** **23 55 49.4 -0.2**
PCBR Castelo Branco 25.50 162⇑ *eP* **P** **23 55 51.6 +0.6**
PCBR A A 23 55 54.8
comp=Z,3.0nm,13.2s
LJU Ljubljana 25.59 121 *eP* **P** **23 55 50.5 -1.3**
KLMR Klimovskoe 25.64 72 *eP* **P** **23 55 51.2 -0.8**
comp=Z,52nm,1.2s
KLMR *eS* **S** **00 00 21.7 +1.9**
KLMR Klimovskoe 25.64 72 *eP* **P** **23 55 51.3 -0.8**
KLMR *e* 23 59 21.8
KLMR *eS* **S** **00 00 21.4 +1.6**
KLMR pmax pmax
comp=Z,52nm,1.2s
KLMR Klimovskoe 25.64 72 *eP* **P** **23 55 51.4 -0.6**
KLMR AMP 23 55 57.4
comp=Z,52nm,1.2s
KLMR *ePcP* **PcP** **23 59 21.8 -0.3**
KLMR *eS* **S** **00 00 21.5 +1.6**
KLMR *eS* **S** **00 00 21.5 +1.6**
KLMR LQ LQ 00 02 49.8
KLMR LQ LQ 00 02 49.8
KLMR LR LR 00 04 39.1
SRO2 Moca 25.64 114 *eP* **P** **23 55 51.9 -0.3**
SRO2 pmax pmax
comp=Z,22nm,1.2s
SRO2 Moca 25.64 114 *eP* **P** **23 55 51.9 -0.3**
PSBE So Bento 25.66 164 *eS* **S** **00 00 27.9 +7.3**
VLC Villacollemand 25.77 129 P **P** **23 55 53.6 +0.2**
ZCCA Zocca 25.80 128 P **P** **23 55 54.2 +0.5**
KECS Kecovo 25.90 110 *eP* **P** **23 55 54.7 +0.1**
KECS pmax pmax
comp=Z,12nm,1.2s
KECS Kecovo 25.90 110 *eP* **P** **23 55 54.7 +0.1**
KWP Kalwaria Pacla 25.91 106 *eP* **P** **23 55 55.2 +0.5**
KWP Kalwaria Pacla 25.91 106 P **P** **23 55 54.4 -0.3**
KWP pmax pmax
comp=Z,168nm,1.4s
KWP Kalwaria Pacla 25.91 106 P **P** **23 55 54.4 -0.3**
PMRV Marv??o 25.92 162 *eP* **P** **23 55 54.1 -0.7**
comp=Z,78nm,1.8s
PMRV *eS* S 00 00 44.3 +20
CRVS Cervenica-Dubn 25.96 108 *eP* **P** **23 55 55.0 -0.2**
CRVS pmax pmax
comp=Z,204nm,2.3s
CRVS Cervenica-Dubn 25.96 108 *eP* **P** **23 55 55.0 -0.2**
LSH Leshukonskoye 26.01 60 *eP* **P** **23 55 55.5 +0.1**
comp=Z,39nm,0.9s
LSH *eS* **S** **00 00 28.5 +2.9**
SCHQ Schefferville 26.02 271 P **P** **23 55 55.2 -0.5**
comp=Z,22nm,0.9s,baz=52,slow=8.6,SNR=13
SCHQ LR LR 00 04 33.5
comp=Z,142nm,20.6s,baz=59,slow=33
SCHQ Schefferville 26.02 271 P **P** **23 55 54.6 -1.0**
SCHQ IAmb IAmb 23 55 59.4
comp=Z,25nm,0.9s
DRLN Deer Lake 26.09 253 P **P** **23 55 56.2 0.0**
PSZ Piszkesteto 26.11 112 ⇑P **P** **23 55 57.4 +0.8**
PSZ Piszkesteto 26.11 112 P **P** **23 55 56.7 +0.1**
PSZ pmax pmax
comp=Z,154nm,1.8s
PSZ Piszkesteto 26.11 112 P **P** **23 55 56.7 +0.1**
PMAFR Mafra 26.15 165 *eP* **P** **23 55 56.7 -0.2**
comp=Z,105nm,1.8s
PMAFR *eS* S 00 00 52.3 +24
PMTG Montargil 26.16 163⇑ *eP* **P** **23 55 56.4 -0.6**
comp=Z,41nm,1.8s
PMTG *eS* S 00 00 47.2 +19
ESBB Sonseca Array 26.21 156 P **P** **23 55 57.3 -0.2**
ESBB IAmb IAmb 23 56 02.1
comp=Z,27nm,1.4s
ESDC Sonseca Array 26.21 156 P **P** **23 55 57.2 -0.3**
comp=Z,4.0nm,0.9s,baz=349,slow=9.0,SNR=31
ESDC LR LR 00 05 54.5
comp=Z,104nm,18.6s,baz=320,slow=36
ESDC Sonseca Array 26.21 156 P **P** **23 55 55.9 -1.7**
PAB San Pablo 26.27 157 P **P** **23 55 57.6 -0.5**
PAB pmax pmax
comp=Z,84nm,2.0s
PAB San Pablo 26.27 157 P **P** **23 55 57.6 -0.5**
KOLS Kolonicke sedl 26.27 107 *eP* **P** **23 55 57.5 -0.5**
KOLS pmax pmax
comp=Z,58nm,1.5s
KOLS Kolonicke sedl 26.27 107 *eP* **P** **23 55 57.5 -0.5**
LVV L'vov 26.32 104 *eP* **P** **23 55 56.2 -2.1**
UZH Uzhgorod 26.52 108 *eP* **P** **23 55 59.5 -0.7**
UZH *i* 23 56 02.1
UZH *e* 23 56 06.8
OSSC Osservatorio P 26.62 129 P **P** **23 56 01.6 +0.5**
PNCL Nicolau / Gran 27.07 164 *eP* **P** **23 56 04.7 -0.5**
comp=Z,28nm,1.9s
PBEJ Beja 27.24 163⇑ *eP* **P** **23 56 07.0 +0.3**
comp=Z,40nm,1.8s
MURB Monte Urbino 27.29 127 P **P** **23 56 07.1 -0.1**
PTEO Sao Teotonio 27.61 165 *eP* **P** **23 56 10.1 +0.1**
comp=Z,48nm,1.7s
LATE Laterza 27.61 129 P **P** **23 56 09.7 -0.4**
PRGR Permogore 27.66 67 *eP* **P** **23 56 10.9 +0.6**
PRGR Permogore 27.66 67 *eP* **P** **23 56 10.9 +0.6**
PRGR *e* 23 56 53.9
PRGR *e* 23 59 28.3
AKASG Malin Array Be 27.85 97 P **P** **23 56 11.1 -1.0**
comp=Z,1.1nm,0.5s,baz=322,slow=9.4,SNR=18
AKASG LR LR 00 07 03.4
comp=Z,52nm,21.5s,baz=300,slow=36
AKASG Malin Array Be 27.85 97 P **P** **23 56 10.6 -1.5**
AKASG pmax pmax
comp=Z,6.0nm,1.2s
AKASG Malin Array Be 27.85 97 P **P** **23 56 10.6 -1.5**
AKBB Malin Array Si 27.85 97 *ceP* **P** **23 56 11.2 -0.9**
AKBB pmax pmax
comp=Z,27nm,1.6s
AKBB Malin Array Si 27.85 97 P **P** **23 56 10.2 -1.9**
AKBB IAmb IAmb 23 56 17.1
comp=Z,32nm,1.5s
MORF Marmelete 27.85 165 *eP* **P** **23 56 12.3 0.0**
comp=Z,34nm,1.7s
NRCA Norcia 27.87 127 P **P** **23 56 12.6 +0.1**
NRCA IAmb IAmb 23 56 23.1
comp=Z,24nm,1.3s
OBN Obninsk 27.90 84 P **P** **23 56 10.5 -2.0**
comp=Z,2.5nm,0.4s,baz=321,slow=4.7,SNR=12
OBN LR LR 00 07 41.0
comp=Z,39nm,18.0s,baz=8.5,slow=37
OBN Obninsk 27.90 84 *ceP* **P** **23 56 12.6 +0.1**
OBN *e* 23 56 55.8
OBN *eS* **S** **00 01 02.4 +6.7**
OBN *eSS* **SnSn** **00 02 10.8 +2.0**
OBN pmax pmax
comp=Z,83nm,1.7s
OBN MLR MLR
comp=Z,132nm,17.0s
OBN Obninsk 27.90 84 P **P** **23 56 11.1 -1.4**
MOS Moscow 27.94 82 *eP* **P** **23 56 11.9 -0.9**
MOS *e* 23 57 17.1
MOS *e* 23 59 28.0
MOS pmax pmax
comp=Z,50nm,1.5s
MOS pmax pmax
comp=Z,100nm,1.7s
PBDV Barranco-do-Ve 28.00 164 *eP* **P** **23 56 18.7 +5.1**
PBDV *eS* S 00 01 17.3 +20
SIRR Siria 28.16 112 ⇑P **P** **23 56 15.1 +0.2**
AQU L'Aquila 28.39 127 P **P** **23 56 16.3 -0.8**
AQU pmax pmax
comp=Z,21nm,1.2s
AQU L'Aquila 28.39 127 **P** **23 56 16.3 -0.8**
AQU IAmb IAmb 23 56 32.5
comp=Z,21nm,1.2s
BUR08 Bucovina Ar. S 28.50 106 P **P** **23 56 17.4 -0.7**
BURAR Bucovina Array 28.53 106 ⇑P **P** **23 56 19.6 +1.3**
BURAR Bucovina Array 28.53 106 ⇑P **P** **23 56 19.6 +1.3**
BURAR Bucovina Array 28.53 106 P **P** **23 56 17.6 -0.7**
CJR Cluj-Napoca 28.58 109 ⇓P **P** **23 56 20.0 +1.3**
CJR Cluj-Napoca 28.58 109 ⇓P **P** **23 56 20.0 +1.3**
BZS Buzias 28.68 113 ⇑P **P** **23 56 19.2 -0.3**
BZS Buzias 28.68 113 ⇑P **P** **23 56 19.2 -0.3**
CART Cartagena 28.80 152 P **P** **23 56 18.9 -1.7**
INTR Introdacqua 28.87 126 P **P** **23 56 19.1 -2.2**
SFS San Fernando 28.99 161 P **P** **23 56 22.1 -0.3**
SFS pmax pmax
comp=Z,134nm,1.1s
SFS San Fernando 28.99 161 P **P** **23 56 22.1 -0.3**
DIVS Divibare 29.30 116 P **P** **23 56 25.2 0.0**
MDVR Moldovita 29.40 113 ⇑P **P** **23 56 26.5 +0.5**
HERR Herculane 29.60 112 ⇑P **P** **23 56 28.5 +0.8**
VSL Villasalto 29.66 135 P **P** **23 56 28.3 +0.1**
VSL IAmb IAmb 23 56 34.1
comp=Z,16nm,1.1s

SGRT San Giovanni R 29.74 124 P **P** **23 56 28.8 -0.2**
SGRT IAmb IAmb 23 56 31.7
comp=Z,22nm,1.1s

PAOL Paolisi 29.96 126 P **P** **23 56 31.4 +0.4**
PAOL IAmb IAmb 23 56 33.7
comp=Z,21nm,1.2s

OZUR 29.98 107 ⇑P **P** **23 56 32.4 +1.3**
TESR Tescani 30.00 106 ⇑P **P** **23 56 33.2 +1.9**
ARR Arges 30.09 109 ⇑P **P** **23 56 33.3 +1.1**
VOIR 30.21 109 ⇑P **P** **23 56 33.3 +0.1**
VOIR 30.21 109 ⇑P **P** **23 56 33.3 +0.1**
PDG Podgorica 30.44 119 P **P** **23 56 34.0 -1.1**
PLOR Plostina 30.53 106 ⇓P **P** **23 56 38.3 +2.3**
PLOR Plostina 30.53 106 ⇓P **P** **23 56 38.3 +2.3**
MLR Muntele Rosu 30.53 108 P **P** **23 56 35.3 -0.8**
comp=Z,5.9nm,1.0s,baz=281,slow=8.0,SNR=7.6
MLR LR LR 00 09 51.9
comp=Z,101nm,18.4s,baz=298,slow=38
MLR Muntele Rosu 30.53 108 ⇑P **P** **23 56 33.8 -2.3**
MLR Muntele Rosu 30.53 108 P **P** **23 56 36.3 +0.2**
MLR pmax pmax
comp=Z,25nm,1.4s
MLR Muntele Rosu 30.53 108 P **P** **23 56 36.3 +0.2**
MLR IAmb IAmb 23 56 41.7
comp=Z,25nm,1.4s
VRI Vrincioaia 30.55 106 ⇓P **P** **23 56 36.4 +0.3**
VRI Vrincioaia 30.55 106 ⇓P **P** **23 56 36.4 +0.3**
GBN Guysborough 30.80 253 P **P** **23 56 38.7 +0.5**
KIRV Kirov 31.01 69 LR LR 00 08 34.2
comp=Z,173nm,18.2s,baz=312,slow=35
KIRV Kirov 31.01 69 *e*P **P** **23 56 40.5 +0.5**
TIR Tirane 31.61 119 P **P** **23 56 45.2 -0.2**
TIR pmax pmax
comp=Z,45nm,1.3s
TIR Tirane 31.61 119 P **P** **23 56 45.2 -0.2**
SKO Skopje 31.67 117 *i* P **P** **23 56 46.8 +0.8**
CFR Carcaliu 31.69 106 ⇑P **P** **23 56 45.0 -1.1**
CFR Carcaliu 31.69 106 ⇑P **P** **23 56 45.0 -1.1**
VSR Storozhevoye 31.75 87 *e*P **P** **23 56 46.9 +0.3**
VSR pmax pmax
comp=Z,30nm,1.4s
VORD Divnogorie 31.99 88 *e*P **P** **23 56 48.4 -0.3**
VORD pmax pmax
comp=Z,30nm,1.8s
OHR Ohrid 32.16 118 *i* P **P** **23 56 52.2 +1.8**
D63A Stockholm 32.27 262 P **P** **23 56 50.5 -0.7**
baz=39
RAZG Razgrad 32.34 109 ⇑P **P** **23 56 51.7 -0.1**
CORL Corleone 32.36 131 P **P** **23 56 51.7 -0.4**
TIP Timpagrande 32.38 125 P **P** **23 56 51.4 -0.9**
TIP IAmb IAmb 23 57 12.1
comp=Z,26nm,1.5s
CLTB Caltabellotta 32.62 131 P **P** **23 56 54.5 +0.1**
VAY Valandovo 32.66 116 *i* P **P** **23 56 54.7 0.0**
CHGQ Chibougamau 32.77 271 P **P** **23 56 55.2 -0.4**
baz=42,SNR=6.7
VRH Novokhopyorsk 32.86 85 *e*P **P** **23 56 56.7 +0.4**
VRH pmax pmax
comp=Z,20nm,1.1s
CEL Celeste 32.90 127 P **P** **23 56 55.5 -1.4**
CEL IAmb IAmb 23 57 02.5
comp=Z,11nm,0.8s
KEST Kesra 33.13 138 P **P** **23 56 58.3 -0.7**
comp=Z,7.8nm,1.0s,baz=273,slow=7.5,SNR=6.2
KEST LR LR 00 09 36.0
comp=Z,142nm,20.2s,baz=271,slow=35
KEST Kesra 33.13 138 P **P** **23 56 58.9 -0.1**
GGN Saint George 33.26 258 P **P** **23 56 59.2 -0.6**
GGN IAmb IAmb 23 57 03.5
comp=Z,12nm,1.2s
G65A Princeton 33.50 259 P **P** **23 57 01.6 -0.4**
baz=37
D60A Saint Jean D'O 33.58 264 P **P** **23 57 01.4 -1.2**
baz=39
LIT Litokhoron 33.68 117 P **P** **23 57 00.6 -3.0**
LIT pmax pmax
comp=Z,12nm,1.1s
LIT Litokhoron 33.68 117 P **P** **23 57 00.6 -3.0**
LIT IAmb IAmb 23 57 08.7
comp=Z,12nm,1.1s
H66A Whiting 33.72 258 P **P** **23 57 03.7 -0.2**
baz=36
F63A Nahmakanta, Br 33.75 261 P **P** **23 57 04.5 +0.3**
F63A IAmb IAmb 23 57 39.9
comp=Z,17nm,1.4s
EMMW East Machias 33.85 258 P **P** **23 57 06.1 +1.2**
EMMW IAmb IAmb 23 57 09.7
comp=Z,14nm,1.3s
G64A Maxfield 33.96 260 P **P** **23 57 05.7 -0.3**
baz=37
F62A Pittston Farm, 33.96 262 P **P** **23 57 06.2 +0.2**
baz=38
F62A Pittston Farm, 33.96 262 P **P** **23 57 05.8 -0.3**
LATQ La Tuque 34.01 267 P **P** **23 57 06.5 +0.1**
E60A Ste Agathe de 34.23 264 P **P** **23 57 08.3 0.0**
baz=38
D58A Chemin du LacG 34.27 266 P **P** **23 57 08.0 -0.7**
baz=39
MATQ Matagami 34.29 274 P **P** **23 57 08.6 -0.2**
baz=42
F61A St Evariste 34.34 263 P **P** **23 57 08.9 -0.4**
baz=38
LSQQ Lebel-sur-Quev 34.53 272 P **P** **23 57 10.8 -0.1**
baz=41
G62A West of Eustis 34.74 262 P **P** **23 57 12.1 -0.7**
baz=37
F60A Warwick 34.76 264 P **P** **23 57 12.6 -0.3**
baz=38
D57A Chemin Vers le 34.77 267 P **P** **23 57 13.1 +0.1**
baz=39,SNR=9.2
E58A La Victoria 35.01 266 P **P** **23 57 14.3 -0.8**
baz=38
D56A ZEC Mazanza, M 35.12 268 P **P** **23 57 15.6 -0.4**
baz=39
G61A St-Isidore-de- 35.12 263 P **P** **23 57 16.0 0.0**
baz=37
F59A Saint Guilaume 35.21 265 P **P** **23 57 16.9 +0.2**
baz=38
A36M Sachs Harbour 35.24 329 P **P** **23 57 16.7 0.0**
baz=46
E57A Chemin Saint G 35.35 267 P **P** **23 57 17.7 -0.4**
baz=39
MOQ Mont Orford 35.41 264 P **P** **23 57 17.8 -0.8**
D55A Sainte-Anne-du 35.45 269 P **P** **23 57 19.0 +0.2**
baz=39,SNR=6.6
VLDQ Val d'Or 35.46 272 P **P** **23 57 19.8 +0.9**
H62A Milan 35.53 262 P **P** **23 57 19.3 -0.2**
baz=37
G60A Masonville 35.61 264 P **P** **23 57 20.3 0.0**
baz=37
E56A St. Veronique 35.63 268 P **P** **23 57 20.5 +0.1**
baz=39,SNR=6.2
D54A Lac Fusel, La 35.86 270 P **P** **23 57 22.0 -0.3**
baz=39,SNR=6.3
ANN Anapa 35.92 96 *e*P **P** **23 57 22.5 -0.4**
ANN pmax pmax
comp=Z,18nm,0.9s
ANN MLR MLR
comp=Z,175nm,12.0s
G59A Clarenceville 35.99 264 P **P** **23 57 23.4 -0.1**
baz=37
ITM Ithomi 36.02 120 P **P** **23 57 23.9 +0.1**
ITM IAmb IAmb 23 57 38.6
comp=Z,12nm,1.1s
ARU Arti 36.12 66 P **P** **23 57 24.9 +0.4**
comp=Z,1.1nm,0.6s,baz=326,slow=5.5,SNR=6.1
ARU LR LR 00 11 23.5
comp=Z,176nm,20.3s,baz=302,slow=35
ARU Arti 36.12 66 *c i*P **P** **23 57 25.3 +0.8**
ARU 23 58 47.6
ARU 23 59 51.8
ARU S **S** **00 03 08.3 +4.8**
ARU SS **SnSn** **00 05 30.3 +2.1**
ARU pmax pmax
comp=Z,23nm,1.3s
ARU MLR MLR
comp=Z,160nm,15.0s
ARU Arti 36.12 66 P **P** **23 57 25.7 +1.3**
ARU IAmb IAmb 23 57 28.5
comp=Z,24nm,1.3s
LBNH Lisbon 36.12 262 P **P** **23 57 24.6 0.0**
baz=37
LBNH Lisbon 36.12 262 P **P** **23 57 23.7 -1.0**
LBNH pmax pmax
comp=Z,32nm,1.7s

LBNH Lisbon 36.12 262 P **P** **23 57 23.7 -1.0**
LBNH IAmb IAmb 23 57 49.6
comp=Z,32nm,1.6s
E55A Montcerf-Lytto 36.14 269 P **P** **23 57 24.6 -0.1**
baz=39
I62A Tamworth 36.17 261 P **P** **23 57 25.1 +0.1**
baz=36
H60A Morristown 36.20 263 P **P** **23 57 25.4 +0.1**
baz=37
FRNY Flat Rock 36.36 265 P **P** **23 57 26.6 -0.1**
D53A Lac Vacive, Po 36.36 271 P **P** **23 57 26.8 +0.1**
baz=39,SNR=8.6
D53A Lac Vacive, Po 36.36 271 P **P** **23 57 26.5 -0.2**
D53A IAmb IAmb 23 57 29.5
comp=Z,15nm,0.9s
I61A Oroboro, Fairl 36.49 262 P **P** **23 57 28.4 +0.6**
baz=36
NRIK Noril'sk 36.51 35 P **P** **23 57 29.0 +1.3**
comp=Z,7.6nm,1.0s,baz=317,slow=4.3,SNR=11
NRIK LR LR 00 14 21.5
comp=Z,46nm,18.4s,baz=345,slow=39
NRIK Noril'sk 36.51 35 P **P** **23 57 29.0 +1.3**
H59A Cadyville 36.55 265 P **P** **23 57 28.6 +0.3**
baz=37
E54A Lac Daplat, Po 36.65 270 P **P** **23 57 28.8 -0.3**
baz=39
G57A Newington 36.74 266 P **P** **23 57 30.4 +0.5**
baz=38,SNR=5.8
D52A ZEK Kipawa Sen 36.75 271 P **P** **23 57 29.8 -0.2**
baz=39
F55A Otter Lake 36.76 268 P **P** **23 57 30.3 +0.3**
baz=38
C36M Paulatuk 36.86 325 P **P** **23 57 31.2 +0.6**
baz=44
C36M Paulatuk 36.86 325 P **P** **23 57 32.3 +1.7**
E53A Dumoine, Ponti 36.89 270 P **P** **23 57 31.4 +0.2**
baz=39,SNR=14
J62A Henniker 36.89 261 P **P** **23 57 32.1 +0.9**
baz=37
H58A Gabriels 36.95 265 P **P** **23 57 32.3 +0.6**
baz=37
LONY Lake Ozonia 36.96 265 P **P** **23 57 32.3 +0.5**
baz=37
LONY Lake Ozonia 36.96 265 P **P** **23 57 31.4 -0.4**
D51A Lot 18 Range I 37.08 272 P **P** **23 57 33.4 +0.6**
baz=39
D50A G1974 Best Tow 37.22 273 P **P** **23 57 34.1 +0.2**
baz=39
G55A Calabogie 37.37 268 P **P** **23 57 35.5 +0.2**
baz=38
ALGO Algonquin Park 37.39 270 P **P** **23 57 35.4 0.0**
baz=38
E52A Mattawa 37.40 271 P **P** **23 57 36.0 +0.5**
baz=38
ILGA Ilgaz 37.40 104 P **P** **23 57 36.3 +0.5**
ILGA IAmb IAmb 23 57 40.0
comp=Z,48nm,1.7s
H57A Richville 37.43 266 P **P** **23 57 35.6 -0.1**
baz=37
E51A G1948 Merrick 37.56 272 P **P** **23 57 37.1 +0.2**
baz=39,SNR=6.0
PLVO Plevna 37.70 268 P **P** **23 57 38.0 -0.1**
D49A Beulah Townshi 37.79 274 P **P** **23 57 38.8 0.0**
baz=39
G54A Lake Saint Pet 37.85 269 P **P** **23 57 39.7 +0.4**
baz=38
I57A Carthage 37.97 266 P **P** **23 57 40.6 +0.3**
baz=37
M64A Tiverton 38.01 259 P **P** **23 57 41.4 +0.7**
baz=34
D48A Paudash Townsh 38.06 274 P **P** **23 57 41.2 +0.1**
baz=39
SANT Santorini 38.07 117 P **P** **23 57 40.1 -1.2**
GOF Gofitskoye 38.13 91⇑ *e*P **P** **23 57 42.5 +0.8**
GOF pmax pmax
comp=Z,101nm,1.4s
H55A Tweed 38.13 268 P **P** **23 57 42.0 +0.4**
baz=37,SNR=7.7
E50A Wahnapitae 38.18 273 P **P** **23 57 42.2 +0.1**
baz=39
BOLV Bolvadin 38.23 109 P **P** **23 57 43.5 +0.9**
J58A Remsen 38.27 265 P **P** **23 57 43.4 +0.5**
baz=36
J58A Remsen 38.27 265 P **P** **23 57 43.4 +0.5**
K60A Five Rivers En 38.28 263 P **P** **23 57 42.8 -0.1**
baz=36
DELO Deloro Mine 38.35 268 P **P** **23 57 44.1 +0.6**
BR131 Keskin Array S 38.48 105 P **P** **23 57 45.2 +0.3**
BR131 pmax pmax
comp=Z,43nm,1.8s
BR131 Keskin Array S 38.48 105 P **P** **23 57 45.2 +0.3**
BR131 IAmb IAmb 23 57 49.1
comp=Z,43nm,1.8s
BRTR Keskin Array B 38.48 105 P **P** **23 57 45.1 +0.2**
comp=Z,5.7nm,1.1s,baz=352,slow=7.5,SNR=21
BRTR Keskin Array B 38.48 105 *ce*P **P** **23 57 45.9 +1.0**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
BRTR Keskin Array B 38.48 105 P **P** **23 57 45.5 +0.6**
J57A Williamstown 38.54 266 P **P** **23 57 45.1 0.0**
baz=36
J57A Williamstown 38.54 266 P **P** **23 57 44.6 -0.5**
PECO Prince Edward 38.54 267 P **P** **23 57 45.2 +0.1**
K59A Cooperstown 38.56 264 P **P** **23 57 45.7 +0.4**
baz=36
I55A Frankford 38.61 268 P **P** **23 57 46.0 +0.3**
baz=37
D47A Chapleau 38.71 275 P **P** **23 57 46.8 +0.3**
baz=39,SNR=7.7
H53A Bobcaygeon 38.72 269 P **P** **23 57 47.0 +0.4**
baz=37
E48A Lockeyer 38.75 274 P **P** **23 57 46.7 -0.2**
baz=39
SADO Sadowa 38.80 270 P **P** **23 57 47.7 +0.4**
IDI Anoyia 38.81 118 IAmb IAmb 23 57 51.6
comp=Z,15nm,0.9s
M62A Hamden 38.81 261 P **P** **23 57 47.7 +0.3**
baz=34
KIV Kislovodsk 38.86 92 *e*P **P** **23 57 47.9 0.0**
KIV pmax pmax
comp=Z,38nm,1.1s
KIV MLR MLR
comp=Z,193nm,16.0s
KIV Kislovodsk 38.86 92 P **P** **23 57 48.3 +0.4**
KVAR Kislovodsk Arr 38.86 92 P **P** **23 57 48.9 +0.9**
comp=Z,3.9nm,1.0s,baz=139,slow=20,SNR=3.5
KVAR LR LR 00 13 58.4
comp=Z,120nm,19.7s,baz=255,slow=36
K58A Earlville 38.91 265 P **P** **23 57 48.1 -0.2**
baz=36
L60A Shokan 38.93 262 P **P** **23 57 46.3 -2.2**
baz=35
J56A Wolcott 39.02 266 P **P** **23 57 49.1 0.0**
baz=36
J56A Wolcott 39.02 266 P **P** **23 57 49.1 0.0**
L59A Walton 39.12 263 P **P** **23 57 50.4 +0.4**
baz=35
KBZ Khabaz 39.13 92 P **P** **23 57 51.1 +1.1**
comp=Z,7.9nm,1.0s,baz=320,slow=12,SNR=20
KBZ LR LR 00 14 14.0
comp=Z,92nm,20.1s,baz=328,slow=37
KBZ Khabaz 39.13 92 *ce*P **P** **23 57 50.7 +0.7**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
TOKA Tokat 39.17 102 P **P** **23 57 51.5 +0.9**
WSPT Westport, CT 39.22 261 P **P** **23 57 49.1 -1.8**
WSPT IAmb IAmb 23 57 50.0
comp=Z,20nm,1.1s
D46A Sault St. Mari 39.23 276 P **P** **23 57 51.0 +0.1**
baz=39
YKA Yellowknife Ar 39.24 313 P **P** **23 57 50.5 -0.2**
comp=Z,4.6nm,1.0s,baz=41,slow=9.0,SNR=8.7
YKA PcP **PcP** **00 00 00.9 +1.5**
comp=Z,3.2nm,1.0s,baz=45,slow=4.4,SNR=6.2
YKA LR LR 00 14 09.7
comp=Z,88nm,18.2s,baz=0.0,slow=36
E47A Iron Bridge 39.25 275 P **P** **23 57 51.3 +0.3**
baz=38,SNR=7.2
F49A Sandfield 39.26 273 P **P** **23 57 51.5 +0.3**
baz=38,SNR=8.0
K57A Scipio Center 39.31 265 P **P** **23 57 51.2 -0.4**
baz=36
F48A Evansville 39.46 274 P **P** **23 57 53.1 +0.3**
baz=38
BINY Binghamton 39.52 264 P **P** **23 57 51.6 -1.7**
BINY IAmb IAmb 23 59 14.7
comp=Z,35nm,1.9s

PAL Palisades 39.61 261 P **P** **23 57 54.2 +0.1**
baz=34
E46A Sault Ste Mari 39.76 276 P **P** **23 57 56.3 +1.0**
E46A IAmb IAmb 23 57 58.4
comp=Z,23nm,0.9s
MEDO Medina 39.79 268 P **P** **23 57 55.7 +0.1**
MEDO IAmb IAmb 23 57 58.5
comp=Z,16nm,1.0s
M59A Waymart 39.82 263 P **P** **23 57 55.8 0.0**
baz=35
AKAS Kas 39.82 112 P **P** **23 57 56.0 -0.1**
AKAS IAmb IAmb 23 57 58.8
comp=Z,30nm,1.2s
INK Inuvik 39.88 329 P **P** **23 57 56.8 +0.8**
INK 00 00 03.1
INK pmax pmax
comp=Z,9.0nm,1.2s
INK Inuvik 39.88 329 P **P** **23 57 56.8 +0.8**
INK PcP **PcP** **00 00 03.1 +1.8**
MMNY Mt. Morris Dam 39.91 267 P **P** **23 57 55.9 -0.7**
K55A Perry 39.98 267 P **P** **23 57 57.0 -0.2**
baz=36
L56A Greenwood 40.24 266 P **P** **23 57 59.2 -0.2**
baz=35
AKTO Aktyubinsk 40.32 73 P **P** **23 57 60.0 +0.1**
comp=Z,8.7nm,0.9s,baz=317,slow=12,SNR=19
AKTO LR LR 00 14 24.5
comp=Z,124nm,19.9s,baz=322,slow=36
AKTO Aktyubinsk 40.32 73 P **P** **23 58 00.0 +0.1**
ZEI Tsey 40.32 92 *e*P **P** **23 58 01.3 +1.1**
ZEI pmax pmax
comp=Z,50nm,1.5s
K54A Basiliko Farm, 40.34 267 P **P** **23 58 00.1 -0.1**
baz=36
I51A Listowel 40.38 271 P **P** **23 58 00.3 -0.2**
baz=37
WVNY West Valley, N 40.47 267 P **P** **23 58 00.6 -0.7**
N59A State Game Lan 40.48 263 P **P** **23 58 02.2 +0.9**
baz=34
L55A Hinsdale 40.58 267 P **P** **23 58 01.9 -0.3**
baz=36
FFC Flin Flon 40.60 297 P **P** **23 58 02.4 +0.2**
FFC pmax pmax
comp=Z,18nm,1.4s
FFC Flin Flon 40.60 297 P **P** **23 58 02.4 +0.2**
M57A Sunshine Farm, 40.71 265 P **P** **23 58 03.4 +0.2**
baz=35
M57A Sunshine Farm, 40.71 265 P **P** **23 58 03.6 +0.4**
GROC Groznyy 40.80 90 *e*P **P** **23 58 04.9 +1.0**
GROC *e*S **S** **00 04 17.1 +2.6**
GROC pmax pmax
comp=Z,46nm,1.3s
E43A Lone Tree Farm 40.91 278 P **P** **23 58 04.1 -0.7**
L54A Sinclairville 40.92 268 P **P** **23 58 05.3 +0.4**
baz=36
N58A Sunbury 40.94 264 P **P** **23 58 05.0 -0.1**
baz=34
N58A Sunbury 40.94 264 P **P** **23 58 04.6 -0.5**
D41A Chassel 41.03 280 P **P** **23 58 05.3 -0.5**
D41A IAmb IAmb 23 58 09.5
comp=Z,26nm,0.9s
M56A Emporium 41.04 266 P **P** **23 58 06.3 +0.3**
baz=35
M56A Emporium 41.04 266 P **P** **23 58 05.9 -0.1**
GLMI Grayling 41.12 275 P **P** **23 58 07.0 +0.5**
baz=37
GLMI Grayling 41.12 275 P **P** **23 58 06.5 0.0**
KOPT Kop Dagi 41.13 98 P **P** **23 58 08.2 +1.1**
KOPT IAmb IAmb 23 58 12.7
comp=Z,34nm,1.4s
O59A Robesonia 41.15 263 P **P** **23 58 06.5 -0.4**
baz=34
AKH Akhalkalaki 41.27 94 P **P** **23 58 10.1 +2.1**
M55A Ridgway 41.31 266 P **P** **23 58 08.7 +0.5**
baz=35
N57A Milroy 41.37 265 P **P** **23 58 09.0 +0.3**
baz=34
G45A Suttons Bay 41.39 276 P **P** **23 58 08.8 +0.1**
G45A IAmb IAmb 23 58 12.2
comp=Z,14nm,0.8s
PAGS Pennsylvania G 41.45 263 P **P** **23 58 09.3 0.0**
PAGS IAmb IAmb 23 58 43.5
comp=Z,26nm,1.6s
MVL Millersville 41.48 263 P **P** **23 58 09.8 +0.3**
TBLG Delisi 41.54 92 P **P** **23 58 11.0 +0.9**
TBLG pmax pmax
comp=Z,39nm,1.3s
TBLG Delisi 41.54 92 P **P** **23 58 11.0 +0.9**
TBLG IAmb IAmb 23 58 14.5
comp=Z,39nm,1.3s
L53A Girard 41.55 268 P **P** **23 58 10.7 +0.5**
baz=35
N56A West Decatur 41.56 265 P **P** **23 58 10.8 +0.6**
baz=35
EYMN Ely 41.58 283 P **P** **23 58 10.4 +0.1**
baz=39
EYMN Ely 41.58 283 P **P** **23 58 10.6 +0.3**
EYMN IAmb IAmb 23 58 14.7
comp=Z,19nm,1.2s
ULM Lac du Bonnet 41.60 289 LR LR 00 14 10.2
comp=Z,77nm,19.3s,baz=65,slow=34
ULM Lac du Bonnet 41.60 289 P **P** **23 58 10.5 0.0**
ULM pmax pmax
comp=Z,36nm,2.0s
ULM Lac du Bonnet 41.60 289 P **P** **23 58 10.5 0.0**
ULM IAmb IAmb 23 59 42.3
comp=Z,36nm,2.0s
SSPA Standing Stone 41.61 265 P **P** **23 58 10.7 0.0**
O58A Lewisberry 41.62 263 P **P** **23 58 11.4 +0.7**
baz=34
M54A Oil Creek Stat 41.66 267 P **P** **23 58 11.7 +0.6**
baz=35,SNR=8.3
M54A Oil Creek Stat 41.66 267 P **P** **23 58 11.6 +0.6**
M54A IAmb IAmb 23 58 15.0
comp=Z,22nm,0.9s
MAK Makhachkala 41.73 89 *e*P P 23 58 04.9 -6.7
MAK *e*SS SS 00 07 23.1 -10
MAK pmax pmax
comp=Z,96nm,1.2s
O57A Amberson 41.86 264 P **P** **23 58 13.1 +0.4**
baz=34
K50A Casco 41.90 271 P **P** **23 58 13.4 +0.4**
K50A IAmb IAmb 23 58 15.5
comp=Z,24nm,1.0s
N55A Marion Center 41.97 266 P **P** **23 58 14.1 +0.5**
baz=35
ABKAR Akbulak array 42.02 73 P **P** **23 58 13.7 -0.2**
COWI Conover 42.03 280 P **P** **23 58 13.9 -0.2**
Q60A Greensboro 42.10 261 P **P** **23 58 15.6 +1.1**
baz=33
M53A WI Miller and 42.15 268 P **P** **23 58 15.7 +0.7**
baz=35
M53A WI Miller and 42.15 268 P **P** **23 58 15.4 +0.3**
B35A Bob, Littlefor 42.19 285 P **P** **23 58 15.4 +0.1**
N54A Moraine State 42.25 267 P **P** **23 58 16.5 +0.6**
baz=35,SNR=6.5
N54A Moraine State 42.25 267 P **P** **23 58 15.5 -0.4**
N54A IAmb IAmb 23 58 19.9
comp=Z,13nm,0.9s
M52A Chesterland 42.36 269 P **P** **23 58 17.3 +0.5**
baz=35
M52A Chesterland 42.36 269 P **P** **23 58 17.0 +0.2**
M52A IAmb IAmb 23 58 20.6
comp=Z,27nm,1.1s
CSS Mathiatis 42.42 109 P **P** **23 58 16.8 -0.6**
CSS IAmb IAmb 23 58 35.0
comp=Z,17nm,1.2s
ZKTA Zakatala 42.43 91 P **P** **23 58 17.0 -0.3**
J47A Sunmer 42.48 273 P **P** **23 58 17.4 -0.3**
J47A IAmb IAmb 23 59 27.7
comp=Z,9.7nm,0.7s
O55A Ligonier 42.58 266 P **P** **23 58 18.6 +0.1**
baz=34
N53A Lisbon 42.74 268 P **P** **23 58 20.0 +0.2**
baz=35
N53A Lisbon 42.74 268 P **P** **23 58 20.6 +0.8**
N53A IAmb IAmb 23 58 21.8
comp=Z,18nm,1.2s
H43A Windswept, Lux 42.75 277 P **P** **23 58 20.1 +0.2**
H43A IAmb IAmb 23 58 23.0
comp=Z,16nm,0.9s
TOLK Toolik Lake Re 42.79 336 P **P** **23 58 20.7 +0.7**
baz=28
TOLK Toolik Lake Re 42.79 336 P **P** **23 58 20.9 +0.9**
M51A Elyria 42.89 269 P **P** **23 58 21.6 +0.5**
baz=35

Q58A Fox Den Farm, 42.93 263 P **P** **23 58 21.8 +0.4**
baz=33
BMAR Burnt Mountain 42.93 333 P **P** **23 58 22.2 +1.1**
BMAR PcP **PcP** **00 00 13.4 +2.0**
P56A Dayton Farm, R 42.96 265 P **P** **23 58 22.4 +0.8**
baz=34
SEKA Sheki 43.03 91 P **P** **23 58 20.9 -1.4**
AKT Akhty 43.04 90 *e*P **P** **23 58 23.8 +1.4**
AKT *e* 00 00 13.4
AKT pmax pmax
comp=Z,19nm,1.3s
O54A Avella 43.06 267 P **P** **23 58 23.0 +0.5**
baz=34
O54A Avella 43.06 267 P **P** **23 58 22.9 +0.5**
N52A McGinn's Farm, 43.10 268 P **P** **23 58 23.5 +0.7**
baz=35
GANJ Ganja 43.11 92 P **P** **23 58 23.1 +0.2**
AGMN Agassiz Nation 43.12 287 P **P** **23 58 23.5 +0.6**
baz=38
AGMN Agassiz Nation 43.12 287 P **P** **23 58 23.1 +0.3**
G40A Rib Lake 43.15 280 P **P** **23 58 23.5 +0.4**
Q57A Strasburg 43.17 264 P **P** **23 58 24.2 +0.9**
baz=34
BRVK Borovoye 43.17 62*ce*P **P** **23 58 24.8 +1.6**
BRVK pmax pmax
comp=Z,22nm,1.7s
BRVK Borovoye 43.17 62 P **P** **23 58 24.0 +0.8**
BRVK IAmb IAmb 23 58 28.4
comp=Z,20nm,1.4s
M50A Fremont 43.20 270 P **P** **23 58 24.1 +0.6**
MCWV Mont Chateau 43.26 266 P **P** **23 58 25.0 +0.9**
baz=34
N51A Ashland 43.31 269 P **P** **23 58 25.6 +1.1**
baz=35
N51A Ashland 43.31 269 P **P** **23 58 24.1 -0.3**
N51A IAmb IAmb 23 58 27.8
comp=Z,22nm,1.0s
MNGR Mingechevir, A 43.34 91 P **P** **23 58 24.9 +0.2**
L48A N Adams 43.36 272 IAmb IAmb 23 58 27.9
comp=Z,21nm,0.9s
O53A New Philadelph 43.36 268 P **P** **23 58 25.5 +0.6**
baz=34
O53A New Philadelph 43.36 268 P **P** **23 58 24.8 -0.1**
O53A IAmb IAmb 23 58 29.0
comp=Z,15nm,1.1s
MARD Mardin 43.52 100 P **P** **23 58 27.5 +1.2**
P54A Burton 43.58 266 P **P** **23 58 26.6 -0.1**
baz=34
GEVA Gevas 43.65 97 P **P** **23 58 29.3 +1.9**
I42A Draeger Farm, 43.70 277 P **P** **23 58 28.0 +0.4**
I42A IAmb IAmb 23 58 30.9
comp=Z,12nm,0.9s
O52A Adamsville 43.74 268 P **P** **23 58 28.7 +0.7**
baz=34
O52A Adamsville 43.74 268 P **P** **23 58 28.4 +0.5**
O52A IAmb IAmb 23 58 31.9
comp=Z,18nm,0.9s
R57A Stanardsville 43.83 264 P **P** **23 58 29.0 +0.4**
baz=33
Q55A Buckhannon 43.92 266 P **P** **23 58 28.8 -0.6**
baz=34
NAX Nakhchivan 43.98 94 P P 23 58 33.5 +3.6
T60A Surry 44.04 261 P **P** **23 58 30.6 +0.3**
baz=32
O51A Pataskala 44.05 269 P **P** **23 58 31.1 +0.7**
baz=34,SNR=11
P53A Whipple 44.07 267 P **P** **23 58 31.4 +0.8**
baz=34,SNR=8.3
P53A Whipple 44.07 267 P **P** **23 58 30.9 +0.3**
P53A IAmb IAmb 23 58 34.4
comp=Z,21nm,1.0s
N49A Columbus Grove 44.09 271 P **P** **23 58 31.1 +0.4**
L46A Eue Claire 44.11 274 P **P** **23 58 31.0 +0.2**
L46A IAmb IAmb 23 58 34.3
comp=Z,18nm,0.8s
R56A Bull Pasture M 44.12 264 P **P** **23 58 31.8 +0.7**
baz=33
ACSO Alum Creek Sta 44.14 269 P **P** **23 58 31.8 +0.7**
baz=34
ACSO Alum Creek Sta 44.14 269 P **P** **23 58 31.8 +0.7**
ACSO IAmb IAmb 23 58 34.8
comp=Z,18nm,0.9s
COLD Coldfoot 44.16 336 P **P** **23 58 31.3 +0.3**
baz=27
COLD Coldfoot 44.16 336 P **P** **23 58 32.2 +1.3**
Q54A Coxs Mills 44.25 266 P **P** **23 58 32.9 +0.9**
baz=34
Q54A Coxs Mills 44.25 266 P **P** **23 58 32.6 +0.6**
P52A Corning 44.27 268 P **P** **23 58 32.5 +0.3**
baz=34
P52A Corning 44.27 268 P **P** **23 58 32.4 +0.2**
P52A IAmb IAmb 23 58 35.9
comp=Z,17nm,1.1s
SPMN Marine on St. 44.29 282 P **P** **23 58 32.3 0.0**
K43A Burlington 44.42 276 P **P** **23 58 33.4 +0.1**
S57A Dark Hollow, R 44.47 264 P **P** **23 58 33.9 +0.1**
baz=33
TAM Tamanrasset 44.47 149 P **P** **23 58 34.4 +0.3**
TAM pmax pmax
comp=Z,33nm,1.7s
TAM Tamanrasset 44.47 149 P **P** **23 58 34.4 +0.3**
TAM IAmb IAmb 23 58 37.4
comp=Z,33nm,1.7s
R55A Marlinton 44.53 265 P **P** **23 58 34.9 +0.6**
baz=33
T59A Double "B" Far 44.53 262 P **P** **23 58 34.6 +0.3**
baz=32
T59A Double "B" Far 44.53 262 P **P** **23 58 33.1 -1.2**
T59A IAmb IAmb 23 58 35.5
comp=Z,25nm,1.8s
U61A Possum Corner 44.60 260 P **P** **23 58 35.4 +0.5**
baz=32
Q53A Leroy 44.65 267 P **P** **23 58 36.1 +0.8**
baz=34,SNR=7.0
L44A Lake County Fo 44.66 275 P **P** **23 58 35.7 +0.4**
baz=35
DAWY Dawson 44.73 328 IAmb IAmb 23 58 41.2
comp=Z,14nm,1.4s
N47A Urbana 44.77 272 P **P** **23 58 36.9 +0.7**
N47A IAmb IAmb 23 58 39.0
comp=Z,18nm,1.0s
P51A Williamsport 44.79 269 P **P** **23 58 37.1 +0.8**
baz=34
Q52A Bidwell 44.88 268 P **P** **23 58 37.5 +0.4**
baz=34
R54A Victor 44.99 266 P **P** **23 58 38.2 +0.2**
baz=33
JFWS Jewell Farm 45.07 278 P **P** **23 58 38.8 +0.3**
baz=36
JFWS Jewell Farm 45.07 278 P **P** **23 58 38.8 +0.3**
JFWS pmax pmax
comp=Z,7.0nm,0.9s
JFWS Jewell Farm 45.07 278 P **P** **23 58 38.8 +0.3**
S55A Lewisburg 45.12 265 P **P** **23 58 39.3 +0.3**
baz=33
F33A 5 Mile Ranch, 45.25 285 P **P** **23 58 40.2 +0.3**
F33A IAmb IAmb 23 58 43.8
comp=Z,11nm,0.9s
R53A Hurricane 45.27 267 P **P** **23 58 40.4 +0.2**
baz=33
R53A Hurricane 45.27 267 P **P** **23 58 40.8 +0.6**
R53A IAmb IAmb 23 58 42.4
comp=Z,12nm,1.1s
Q51A Peebles 45.30 269 P **P** **23 58 40.0 -0.4**
K27K Chicken 45.37 329 P **P** **23 58 40.9 +0.3**
baz=30
S54A Dingess, Beckl 45.44 266 P **P** **23 58 42.0 +0.4**
baz=33
S54A Dingess, Beckl 45.44 266 P **P** **23 58 42.1 +0.5**
S54A IAmb IAmb 23 58 44.8
comp=Z,15nm,1.1s
U58A Oxford 45.44 262 P **P** **23 58 41.6 +0.1**
baz=32
P49A Miami Univ. Ec 45.46 270 P **P** **23 58 41.9 +0.2**
baz=34
P49A Miami Univ. Ec 45.46 270 P **P** **23 58 41.4 -0.3**
P49A IAmb IAmb 23 58 45.0
comp=Z,14nm,0.8s
POKR Poker Plat Res 45.52 333 P **P** **23 58 41.7 -0.2**
baz=28
L42A Oliver, Polo 45.56 277 P **P** **23 58 42.4 -0.1**
L42A IAmb IAmb 23 58 44.2
comp=Z,16nm,1.1s
IL31 45.72 332 P **P** **23 58 44.6 +1.3**
IL31 IAmb IAmb 23 58 50.0
comp=Z,18nm,1.4s
IL31 **PcP** **00 00 22.2 +1.3**
ILAR Eielson Array 45.72 332 P **P** **23 58 45.4 +1.9**
comp=Z,7.1nm,1.1s,baz=22,slow=5.7,SNR=22
ILAR PcP **PcP** **00 00 21.2 +0.3**
ILAR comp=Z,3.2nm,0.9s,baz=352,slow=3.1,SNR=13 LR LR 00 19 17.7
comp=Z,65nm,19.3s,baz=36,slow=38
U57A Blanch 45.75 263 P **P** **23 58 44.1 +0.2**
baz=32
LKRN Lenkeran, Azer 45.78 91 P **P** **23 58 46.3 +2.2**
SFIN Lafayette 45.79 273 P **P** **23 58 44.7 +0.4**
baz=34
SFIN Lafayette 45.79 273 P **P** **23 58 44.8 +0.6**
SFIN IAmb IAmb 23 58 47.4
comp=Z,18nm,1.1s
T55A Pulaski 45.79 265 P **P** **23 58 44.9 +0.5**
baz=32
MDM Murphy Dome 45.82 333 IAmb IAmb 23 58 50.4
comp=Z,22nm,1.3s
COLA College 45.82 333 P **P** **23 58 46.3 +2.1**
COLA College 45.82 333 P **P** **23 58 46.3 +2.1**
P48A Milroy 45.83 271 P **P** **23 58 44.7 +0.1**
S53A Williamson 45.89 266 P **P** **23 58 45.4 +0.3**
baz=33
IMAR Indian Mountai 45.90 337 P **P** **23 58 46.2 +1.4**
IMAR PcP **PcP** **00 00 22.7 +1.1**
CCB Clear Creek Bu 46.02 333 P **P** **23 58 47.3 +1.5**
CCB IAmb IAmb 23 58 52.1
comp=Z,18nm,1.7s
HDA Harding Lake 46.06 332 P **P** **23 58 47.3 +1.2**
HDA IAmb IAmb 23 58 52.6
comp=Z,26nm,1.7s
DOT Dot Lake 46.13 330 P **P** **23 58 48.6 +1.9**
DOT IAmb IAmb 23 58 51.0
comp=Z,9.1nm,1.2s
BCAR Beaver Creek A 46.14 329 P **P** **23 58 48.2 +1.3**
BCAR PcP **PcP** **00 00 23.7 +1.2**
L40A Anamosa 46.18 278 P **P** **23 58 47.1 -0.2**
L40A IAmb IAmb 23 58 51.4
comp=Z,9.3nm,0.8s
T54A Tazewell 46.18 265 P **P** **23 58 47.8 +0.4**
baz=32,SNR=7.0
WRH Wood River Hil 46.23 333 P **P** **23 58 48.9 +1.5**
U56A King 46.27 264 P **P** **23 58 48.4 +0.4**
baz=32
U56A King 46.27 264 P **P** **23 58 48.0 -0.1**
NEA2 Nenana 46.31 333 P **P** **23 58 49.1 +1.0**
baz=27,SNR=12
R50A Paris 46.34 269 P **P** **23 58 48.1 -0.5**
R50A IAmb IAmb 23 58 51.6
comp=Z,7.5nm,0.8s
K38A Parkersburg 46.36 280 P **P** **23 58 48.7 0.0**
V57A Coltrane Farms 46.40 263 P **P** **23 58 49.5 +0.4**
baz=32
U55A TA2, Sparta 46.42 265 P **P** **23 58 50.0 +0.6**
baz=32,SNR=5.8
BRZS Berezniki 46.52 63 *e*P **P** **23 58 50.0 0.0**
comp=Z,22nm,1.4s,baz=63
BRZS Berezniki 46.52 63 *e*P **P** **23 58 49.9 0.0**
BRZS pmax pmax
comp=Z,21nm,1.4s
S51A Beattyville 46.56 268 P **P** **23 58 50.2 -0.1**
O44A Mansfield 46.57 274 P **P** **23 58 51.4 +1.0**
HDIL Hopedale 46.59 275 P **P** **23 58 50.9 +0.4**
baz=34
HDIL Hopedale 46.59 275 P **P** **23 58 51.0 +0.4**
T53A Wise 46.66 266 P **P** **23 58 51.6 +0.4**
baz=32
MENT Mentasta 46.69 330 P **P** **23 58 52.3 +1.2**
R49A Shelbyville 46.70 270 P **P** **23 58 51.6 +0.2**
R49A IAmb IAmb 23 58 54.3
comp=Z,14nm,1.4s
U54A Nelsons Funny 46.74 265 P **P** **23 58 52.5 +0.7**
baz=32
U54A Nelsons Funny 46.74 265 P **P** **23 58 52.3 +0.5**
U54A IAmb IAmb 23 58 55.4
comp=Z,9.8nm,1.0s
BWN Browne 46.77 333 P **P** **23 58 52.6 +1.0**
V56A Mocksville 46.77 264 P **P** **23 58 52.8 +0.7**
baz=32
PAX Paxson 47.03 330 IAmb IAmb 23 58 54.4
comp=Z,7.7nm,0.7s
V55A Taylorsville 47.05 264 P **P** **23 58 55.2 +1.1**
baz=32
V55A Taylorsville 47.05 264 P **P** **23 58 54.1 0.0**
V55A IAmb IAmb 23 58 58.4
comp=Z,16nm,1.4s
HYT Haines Junctio 47.07 325 P **P** **23 58 55.4 +1.2**
HYT IAmb IAmb 23 59 02.5
comp=Z,9.7nm,1.2s
ECSD EROS Data Cent 47.09 284 P **P** **23 58 54.5 0.0**
baz=35
ECSD EROS Data Cent 47.09 284 P **P** **23 58 55.0 +0.5**
DLBC Dease Lake 47.10 318 LR LR 00 18 27.5
comp=Z,66nm,19.1s,baz=1.5,slow=36
DLBC Dease Lake 47.10 318 P **P** **23 58 55.6 +1.1**
W57A Gilead 47.12 263 P **P** **23 58 55.5 +0.8**
baz=32
W57A Gilead 47.12 263 P **P** **23 58 54.6 0.0**
W57A IAmb IAmb 23 58 59.1
comp=Z,8.0nm,1.1s
BPAW Bear Paw Mtn. 47.12 334 P **P** **23 58 55.5 +1.0**
BPAW IAmb IAmb 23 58 58.9
comp=Z,7.6nm,1.0s
SCIA State Center 47.15 279 P **P** **23 58 55.5 +0.6**
WCI Wyandotte Cave 47.23 271 P **P** **23 58 56.2 +0.7**
baz=33
WCI Wyandotte Cave 47.23 271 P **P** **23 58 56.1 +0.5**
WCI pmax pmax
comp=Z,22nm,0.9s
WCI Wyandotte Cave 47.23 271 P **P** **23 58 56.1 +0.5**
DHY Denali Highway 47.34 332 P **P** **23 58 57.1 +0.8**
DHY IAmb IAmb 00 00 30.5
comp=Z,8.8nm,1.1s
RND Reindeer 47.34 333 P **P** **23 58 58.0 +1.8**
RND pmax pmax
comp=Z,9.0nm,1.4s
RND Reindeer 47.34 333 P **P** **23 58 58.0 +1.8**
RND IAmb IAmb 23 59 13.3
comp=Z,9.5nm,1.4s
W56A Indian Trail 47.38 263 P **P** **23 58 57.4 +0.6**
baz=32
V54A Nebo 47.42 265 P **P** **23 58 57.7 +0.6**
baz=32,SNR=7.2
P43A Skaggs, Pawnee 47.45 275 P **P** **23 58 56.8 -0.4**
P43A IAmb IAmb 23 59 00.5
comp=Z,9.0nm,0.8s
TZTN Tazewell 47.46 267 P **P** **23 58 58.1 +0.7**
baz=32
TZTN Tazewell 47.46 267 P **P** **23 58 56.3 -1.1**
TZTN IAmb IAmb 23 59 10.8
comp=Z,14nm,1.4s
TRF Thorofare Moun 47.58 333 P **P** **23 58 58.9 +0.7**
TRF IAmb IAmb 23 59 09.3
comp=Z,9.6nm,1.3s
OLIL Olney 47.59 273 P **P** **23 58 58.2 -0.1**
T50A Nancy 47.62 268 P **P** **23 58 58.6 0.0**
T50A IAmb IAmb 23 59 01.7
comp=Z,7.8nm,1.0s
ZAA0 Zalesovo Array 47.68 51 P **P** **23 58 59.5 +0.6**
ZAA0 IAmb IAmb 23 59 01.9
comp=Z,19nm,1.6s
ZALV Zalesovo Beam 47.68 51 P **P** **23 59 00.9 +2.1**
comp=Z,2.6nm,0.9s,baz=114,slow=3.6,SNR=7.0
ZALV PcP **PcP** **00 00 29.0 +1.0**
comp=Z,1.3nm,0.7s,baz=318,slow=4.1,SNR=2.5
ZALV LR LR 00 21 37.5
comp=Z,35nm,18.4s,baz=313,slow=39
ZALV Zalesovo Beam 47.68 51 P **P** **23 59 00.3 +1.4**
KMSC Kings Mountain 47.70 264 P **P** **23 58 59.2 -0.1**
baz=32
KMSC Kings Mountain 47.70 264 P **P** **23 58 59.1 -0.2**
KMSC IAmb IAmb 23 59 02.5
comp=Z,15nm,1.2s
GLB Gilahina Butte 48.03 329 P **P** **23 59 03.3 +1.8**
GLB IAmb IAmb 23 59 08.3
comp=Z,15nm,1.6s
USIN University of 48.04 272 P **P** **23 59 02.4 +0.6**
BALM Baldy 48.05 327 P **P** **23 59 03.8 +2.0**
V52A Sevierville 48.08 266 P **P** **23 59 02.5 +0.3**
V52A IAmb IAmb 23 59 05.4
comp=Z,10nm,1.1s
W54A Cherokee Point 48.11 265 P **P** **23 59 03.1 +0.6**
baz=32
X56A White Oak 48.12 263 P **P** **23 59 03.2 +0.7**
baz=31
VRDI Verde Repeater 48.14 328 P **P** **23 59 03.7 +1.2**
VRDI IAmb IAmb 23 59 46.3
comp=Z,13nm,1.6s
KURK Kurchatov 48.15 58*ce*P **P** **23 59 03.4 +0.8**
KURK pmax pmax
comp=Z,17nm,1.0s
KURK Kurchatov 48.15 58 P **P** **23 59 02.9 +0.3**
PAULI Pauline 48.18 264 P **P** **23 59 02.6 -0.3**
KURBB Kurchatov Arra 48.20 58 P **P** **23 59 03.3 +0.4**
comp=Z,9.4nm,1.0s,baz=324,slow=7.5,SNR=45
TKL Tuckaleechee C 48.31 266 P **P** **23 59 03.8 -0.2**
TKL pmax pmax
comp=Z,7.0nm,1.1s
TKL Tuckaleechee C 48.31 266 P **P** **23 59 03.8 -0.2**
TKL IAmb IAmb 23 59 07.2
comp=Z,7.3nm,1.1s
BESE Bessie Mountai 48.32 321 P **P** **23 59 04.8 +1.0**
BESE IAmb IAmb 23 59 11.5
comp=Z,6.7nm,1.0s
X55A Gracelyn & Ava 48.40 264 P **P** **23 59 05.2 +0.5**
baz=31
JSC Jenkinsville 48.40 263 P **P** **23 59 04.6 0.0**
JSC pmax pmax
comp=Z,6.0nm,1.0s
JSC Jenkinsville 48.40 263 P **P** **23 59 04.6 0.0**
V51A Loudon 48.43 267 P **P** **23 59 05.0 0.0**
V51A IAmb IAmb 23 59 08.9
comp=Z,12nm,1.1s
PPLA Purkeypile 48.45 334 P **P** **23 59 06.6 +1.7**
PPLA IAmb IAmb 23 59 12.5
comp=Z,19nm,1.4s
KLU Klutina 48.45 330 P **P** **23 59 05.5 +0.7**
U49A Red Boiling Sp 48.45 269 IAmb IAmb 23 59 08.5
comp=Z,13nm,1.0s
CRQM Cirque 48.48 328 P **P** **23 59 06.2 +1.0**
BG3 Lake Jocassee 48.51 265 P **P** **23 59 05.7 +0.1**
BG3 IAmb IAmb 23 59 09.4
comp=Z,4.9nm,0.7s
Z58A St. Stephen 48.59 261 P **P** **23 59 06.7 +0.6**
baz=31
LAO LASA Array 48.60 293 P **P** **23 59 06.0 -0.2**
baz=35
LAO LASA Array 48.60 293 P **P** **23 59 07.1 +0.9**
P40A Paris 48.62 277 IAmb IAmb 00 00 34.7
comp=Z,8.8nm,1.1s
X54A Belton 48.65 264 P **P** **23 59 07.0 +0.4**
baz=31
WAX Waxell Ridge 48.69 327 P **P** **23 59 08.8 +2.2**
WAX IAmb IAmb 23 59 14.2
comp=Z,18nm,1.3s
CPCT Cooper Cave 48.81 267 P **P** **23 59 08.1 +0.3**
CPCT IAmb IAmb 23 59 20.3
comp=Z,21nm,1.6s
GHO Glory Hole Cre 48.83 332 P **P** **23 59 08.1 +0.4**
GHO IAmb IAmb 23 59 12.8
comp=Z,9.3nm,1.0s
W52A Murphy 48.85 266 P **P** **23 59 08.0 -0.2**
W52A IAmb IAmb 23 59 11.4
comp=Z,16nm,1.2s
HODGE Hodges 48.87 264 P **P** **23 59 08.0 -0.3**
HODGE IAmb IAmb 23 59 12.0
comp=Z,14nm,1.1s
EGMT Eagleton 48.88 297 P **P** **23 59 08.9 +0.5**
baz=35,SNR=18
EGMT Eagleton 48.88 297 P **P** **23 59 08.6 +0.2**
NHSC New Hope 48.94 261 P **P** **23 59 09.7 +0.8**
baz=31
NHSC New Hope 48.94 261 P **P** **23 59 08.5 -0.3**
Y55A Saluda 48.95 263 P **P** **23 59 09.7 +0.8**
baz=31
ANM Nome 48.98 342 P **P** **23 59 10.8 +2.0**
ANM pmax pmax
comp=Z,14nm,1.0s
ANM Nome 48.98 342 P **P** **23 59 10.8 +2.0**
ANM IAmb IAmb 23 59 13.9
comp=Z,14nm,1.0s
Z57A Bowman 49.01 262 P **P** **23 59 09.7 +0.4**
baz=31
CLTN Cedars of Leba 49.04 269 P **P** **23 59 09.8 +0.2**
CLTN IAmb IAmb 23 59 12.6
comp=Z,10.0nm,1.0s
TTA Tatalina 49.10 336 IAmb IAmb 23 59 16.4
comp=Z,8.8nm,1.1s
HMT Hamilton 49.11 328 P **P** **23 59 11.7 +1.8**
HMT IAmb IAmb 23 59 16.6
comp=Z,11nm,1.1s
SKT Skwentna 49.16 333 IAmb IAmb 23 59 14.9
comp=Z,17nm,1.5s
RAGM Ragged Mountai 49.16 328 P **P** **23 59 12.0 +1.8**
RAGM IAmb IAmb 23 59 17.3
comp=Z,14nm,1.3s
FVM French Village 49.22 274 IAmb IAmb 23 59 13.5
comp=Z,11nm,1.1s
FID Port Fidalgo 49.24 330 P **P** **23 59 12.3 +1.5**
FID IAmb IAmb 00 00 10.7
comp=Z,6.4nm,0.7s
SUCK Suckling Hills 49.24 328 P **P** **23 59 11.8 +0.9**
SUCK IAmb IAmb 00 00 19.6
comp=Z,20nm,1.3s
EYAK Cordova Ski Ar 49.26 329 P **P** **23 59 12.6 +1.7**
EYAK IAmb IAmb 23 59 15.4
comp=Z,20nm,1.4s
W50A Signal Mountai 49.36 268 P **P** **23 59 13.1 +1.0**
CCM Cathedral Cave 49.51 275 P **P** **23 59 13.2 +0.1**
CCM pmax pmax
comp=Z,4.0nm,0.9s
CCM Cathedral Cave 49.51 275 P **P** **23 59 13.2 +0.1**
V48A Smith Brothers 49.55 269 IAmb IAmb 23 59 16.4
comp=Z,8.9nm,0.9s
HIN Hinchinbrook I 49.56 330 P **P** **23 59 14.8 +1.5**
HIN IAmb IAmb 00 00 05.2
comp=Z,7.7nm,0.8s
WALA Waterton Lakes 49.60 301 P **P** **23 59 14.6 +0.7**
WVT Waverly 49.66 271 P **P** **23 59 14.4 +0.1**
baz=32
WVT Waverly 49.66 271 P **P** **23 59 13.1 -1.2**
WVT pmax pmax
comp=Z,5.0nm,1.1s
WVT Waverly 49.66 271 P **P** **23 59 13.1 -1.2**
RSSD Black Hills 49.84 290 P **P** **23 59 15.6 -0.3**
baz=34
RSSD Black Hills 49.84 290 P **P** **23 59 16.8 +0.9**
RSSD pmax pmax
comp=Z,6.0nm,1.0s
RSSD pmax pmax
comp=Z,60nm,1.9s
RSSD Black Hills 49.84 290 P **P** **23 59 16.8 +0.9**
HICK Hickman 49.91 272 P **P** **23 59 14.8 -1.4**
Y52A Lilburn 49.96 266 P **P** **23 59 16.6 0.0**
Y52A IAmb IAmb 23 59 19.8
comp=Z,11nm,0.9s
FPAL Fort Paine 50.05 267 IAmb IAmb 23 59 20.1
comp=Z,11nm,1.0s
GOGA Godfrey 50.09 265 P **P** **23 59 17.9 +0.3**
baz=31,SNR=8.1
GOGA Godfrey 50.09 265 IAmb IAmb 23 59 20.7
comp=Z,12nm,1.0s
CAPN Captain Cook N 50.19 332 P **P** **23 59 19.1 +1.1**
baz=24
GEYT Alibeck 50.45 84 P **P** **23 59 20.8 +0.4**
comp=Z,2.1nm,0.6s,baz=303,slow=8.3,SNR=11
GEYT LR LR 00 21 22.6
comp=Z,63nm,20.3s,baz=10.0,slow=37
GEYT Alibeck 50.45 84 P **P** **23 59 21.7 +1.4**
GYA0B ALIBECK ARRAY 50.45 84 P **P** **23 59 21.5 +1.2**
GYA0B IAmb IAmb 23 59 26.2
comp=Z,29nm,1.6s
154A Montrose 50.62 264 P **P** **23 59 21.6 0.0**
MGMO Mountain Grove 50.70 275 P **P** **23 59 21.6 -0.7**
S39A Bolivar 50.70 276 IAmb IAmb 23 59 24.4
comp=Z,10nm,0.9s
SVW2 Sparrevohn 50.73 335 P **P** **23 59 23.3 +1.2**
GNAR Gosnell 50.74 272 P **P** **23 59 22.5 0.0**
X48A Hartselle 50.74 269 IAmb IAmb 23 59 24.6
comp=Z,12nm,0.9s
RSO Redoubt South 50.79 333 P **P** **23 59 24.4 +1.5**
Z51A Franklin 50.91 266 P **P** **23 59 24.1 +0.3**
Z51A IAmb IAmb 23 59 26.1
comp=Z,10nm,0.9s
KSU1 Kansas State U 50.92 280 P **P** **23 59 24.7 +0.8**
baz=33
KSU1 Kansas State U 50.92 280 P **P** **23 59 24.0 +0.1**
KSU1 IAmb IAmb 23 59 26.5
comp=Z,13nm,0.9s
Y49A Blount Mountai 50.98 268 IAmb IAmb 23 59 26.8
comp=Z,9.1nm,0.9s

RLMT **Red Lodge** 51.09 295 P **P** 23 59 26.0 +0.6
baz=34,SNR=6.0
RLMT **Red Lodge** 51.09 295 IAmb IAmb 23 59 27.4
comp=Z,12nm,1.2s
BTLS **Baital** 51.10 66 *e*P **P** 23 59 27.3 +2.2
baz=66
BTLS *e*S **S** 00 06 46.4 +3.9
baz=66
BTLS **Baital** 51.10 66 *e*P **P** 23 59 27.3 +2.2
BTLS *e*S **S** 00 06 46.4 +3.9
LCAR **Lake Charles** 51.14 273 P **P** 23 59 25.7 +0.2
KK31 **Karatay Array** 51.31 70 P **P** 23 59 28.1 +1.3
KK31 pmax pmax
comp=Z,60nm,1.9s
KK31 **Karatay Array** 51.31 70 P **P** 23 59 28.1 +1.3
KKAR **Karatay Array** 51.31 70 P **P** 23 59 26.9 +0.2
KKAR **Karatay Array** 51.31 70 P **P** 23 59 27.6 +0.9
KKAR IAmb IAmb 23 59 31.5
comp=Z,60nm,1.9s
NEW **Newport** 51.44 303 P **P** 23 59 28.0 +0.3
baz=33
MSO **Missoula** 51.47 299 P **P** 23 59 28.2 +0.2
baz=33
MSO **Missoula** 51.47 299 P **P** 23 59 27.7 -0.3
YNE **Yellowstone No** 51.48 295 P **P** 23 59 28.6 +0.3
BOZ **Bozeman (W)** 51.62 297 P **P** 23 59 29.9 +0.7
baz=33,SNR=31
BOZ **Bozeman (W)** 51.62 297 IAmb IAmb 23 59 33.1
comp=Z,16nm,1.0s
U40A **Yellville** 51.63 275 P **P** 23 59 28.9 -0.2
baz=32
U40A **Yellville** 51.63 275 P **P** 23 59 28.5 -0.7
U40A IAmb IAmb 23 59 31.4
comp=Z,10nm,1.1s
FCAR **Ozark Folk Cen** 51.71 274 IAmb IAmb 00 00 14.4
comp=Z,15nm,0.8s
YMP **Mirror Lake Pl** 51.76 295 P **P** 23 59 30.9 +0.5
DZA **Taraz** 51.82 69 *e*P **P** 23 59 32.7 +2.1
baz=69
DZA **Taraz** 51.82 69 *e*P **P** 23 59 32.6 +2.0
TIGA **Tifton** 51.84 263 P **P** 23 59 30.7 -0.1
baz=30
TIGA **Tifton** 51.84 263 P **P** 23 59 30.3 -0.4
BBB **Bella Bella** 51.85 313 LR LR 00 21 51.4
comp=Z,99nm,18.5s,baz=352,slow=36
IUG **Iuzhnay** 51.91 71 *e*P **P** 23 59 32.2 +0.8
comp=Z,29nm,2.0s,baz=71
IUG **Iuzhnay** 51.91 71 *e*P **P** 23 59 32.1 +0.8
IUG pmax pmax
comp=Z,29nm,2.0s
LRAL **Lakeview Retre** 51.93 268 P **P** 23 59 30.9 -0.6
baz=31,SNR=7.8
LRAL **Lakeview Retre** 51.93 268 IAmb IAmb 23 59 33.5
comp=Z,12nm,1.1s
YHH **Holmes Hill** 51.99 296 P **P** 23 59 32.4 +0.2
K22A **Casper** 52.07 291 P **P** 23 59 32.6 0.0
baz=33
K22A **Casper** 52.07 291 P **P** 23 59 32.2 -0.4
YHL **Hebgen Lake** 52.07 296 P **P** 23 59 33.1 +0.4
DGZ **Jazzator, Alta** 52.12 53 *i* P **P** 23 59 33.5 +0.6
DGZ pmax pmax
comp=Z,14nm,1.4s
B08A **Colville Reser** 52.15 304 P **P** 23 59 33.5 +0.5
QLMT **Earthquake Lak** 52.18 296 P **P** 23 59 34.9 +1.5
H17A **Grant Village** 52.21 295 P **P** 23 59 35.2 +1.4
baz=33
H17A **Grant Village** 52.21 295 P **P** 23 59 34.8 +1.0
H17A IAmb IAmb 23 59 38.9
comp=Z,12nm,1.1s
C09A **Chrisman Ranch** 52.25 303 P **P** 23 59 34.1 +0.5
C09A IAmb IAmb 23 59 45.5
comp=Z,31nm,1.9s
WHAR **Wooly Hollow** 52.29 274 IAmb IAmb 00 00 03.8
comp=Z,15nm,1.4s
W41B **Gary Mavity, V** 52.37 274 P **P** 23 59 34.8 +0.2
baz=32
W41B **Gary Mavity, V** 52.37 274 P **P** 23 59 35.3 +0.6
352A **Blakely** 52.38 265 P **P** 23 59 34.8 0.0
352A IAmb IAmb 23 59 37.4
comp=Z,24nm,1.3s
R32A **Long Quarter,** 52.38 282 P **P** 23 59 34.1 -0.7
R32A IAmb IAmb 23 59 37.7
comp=Z,20nm,1.2s
YPP **Pitchstone Pla** 52.41 295 P **P** 23 59 36.5 +1.2
CBKS **Cedar Bluff** 52.49 283 P **P** 23 59 36.0 +0.4
baz=33
CBKS **Cedar Bluff** 52.49 283 P **P** 23 59 35.6 0.0
CBKS pmax pmax
comp=Z,11nm,0.9s
CBKS **Cedar Bluff** 52.49 283 P **P** 23 59 35.6 0.0
CBKS IAmb IAmb 23 59 38.9
comp=Z,11nm,0.8s
FLWY **Flagg Ranch** 52.52 295 IAmb IAmb 23 59 39.7
comp=Z,11nm,1.0s
SEY **Seymchan** 52.54 6 P **P** 23 59 36.9 +1.4
comp=Z,1.6nm,0.3s,baz=355,slow=12,SNR=2.1
SEY **Seymchan** 52.54 6 *i* P **P** 23 59 36.7 +1.1
MAKZ **Makanchi** 52.64 58 P **P** 23 59 37.7 +1.1
MAKZ pmax pmax
comp=Z,29nm,1.7s
MAKZ **Makanchi** 52.64 58 P **P** 23 59 37.7 +1.1
MAKZ IAmb IAmb 23 59 39.7
comp=Z,29nm,1.6s
SGDS **Sogindy** 52.66 66 *e*P **P** 23 59 37.1 +0.2
comp=Z,27nm,1.9s,baz=66
SGDS **Sogindy** 52.66 66 *e*P **P** 23 59 37.1 +0.2
SGDS pmax pmax
comp=Z,27nm,1.9s
T35A **Sooner Cattle** 52.72 279 P **P** 23 59 37.5 +0.2
MK31 **Makanchi Array** 52.77 58 P **P** 23 59 37.9 +0.4
MK31 pmax pmax
comp=Z,12nm,1.4s
MK31 **Makanchi Array** 52.77 58 P **P** 23 59 37.9 +0.4
MK31 IAmb IAmb 23 59 40.4
comp=Z,12nm,1.4s
MKAR **Makanchi Array** 52.77 58 P **P** 23 59 37.5 0.0
comp=Z,6.0nm,1.0s,baz=334,slow=4.2,SNR=22
MKAR LR LR 00 22 39.3
comp=Z,55nm,18.2s,baz=291,slow=37
MKAR **Makanchi Array** 52.77 58 *ce*P **P** 23 59 38.5 +1.0
MKAR pmax pmax
comp=Z,5.0nm,1.0s
PHWY **Pilot Hill** 52.77 289 P **P** 23 59 38.3 +0.4
USP **Ospenovka** 52.77 66 P **P** 23 59 40.3 +2.6
SNR=7.7
IMW **Indian Meadow** 52.77 295 P **P** 23 59 37.6 -0.3
TDK **Taldyqorghan** 52.83 62 *e*P **P** 23 59 38.4 +0.3
baz=62
TDK **Taldyqorghan** 52.83 62 *e*P **P** 23 59 38.3 +0.3
KUU **Kurty** 52.96 65 *e*P **P** 23 59 39.1 +0.1
comp=Z,10nm,1.2s,baz=65
KUU *e*S **S** 00 07 09.9 +1.8
baz=65
KUU **Kurty** 52.96 65 *e*P **P** 23 59 39.1 +0.1
KUU *e*S **S** 00 07 09.9 +1.8
KUU pmax pmax
comp=Z,10.0nm,1.2s
EKS2 **Erkin-Say** 52.99 67 P **P** 23 59 41.8 +2.4
SNR=21
W39A **Magazine** 53.01 275 P **P** 23 59 38.9 -0.5
baz=32
FXWY **Fox Creek** 53.03 295 P **P** 23 59 40.0 +0.3
SNOW **Snow King Moun** 53.07 295 P **P** 23 59 40.9 +0.8
SNOW IAmb IAmb 23 59 47.5
comp=Z,17nm,1.2s
TOA0 **Torodi Ar. Sit** 53.10 156 IAmb IAmb 23 59 45.0
comp=Z,11nm,0.8s
TORD **Torodi Ar. Bea** 53.10 156 P **P** 23 59 39.2 -1.0
comp=Z,10nm,0.9s,baz=342,slow=8.7,SNR=20
TORD LR LR 00 22 54.4
comp=Z,47nm,18.3s,baz=185,slow=37
TORD **Torodi Ar. Bea** 53.10 156 P **P** 23 59 39.0 -1.2
D08A **Wollman Farm,** 53.11 303 P **P** 23 59 41.6 +1.6
TPAW **Teton Pass** 53.12 295 P **P** 23 59 40.5 -0.1
ZSN **Zaisan** 53.14 56 *e*P **P** 23 59 40.9 +0.6
baz=56
ZSN **Zaisan** 53.14 56 *e*P **P** 23 59 40.9 +0.6
RWWY **Rawlins** 53.15 291 P **P** 23 59 40.5 -0.3
RWWY IAmb IAmb 23 59 43.4
comp=Z,10nm,1.1s
BW06 **Boulder Array** 53.18 293 P **P** 23 59 40.6 -0.3
baz=33
BW06 **Boulder Array** 53.18 293 IAmb IAmb 23 59 43.2
comp=Z,12nm,0.9s
PD31 **Pinedale Array** 53.18 293 IAmb IAmb 23 59 43.2
comp=Z,10nm,0.9s

PDAR **Pinedale Array** 53.18 293 P **P** 23 59 40.9 -0.1
comp=Z,10nm,0.9s,baz=53,slow=5.2,SNR=68
PDAR LR LR 00 22 10.1
comp=Z,103nm,19.7s,baz=34,slow=36
PDAR **Pinedale Array** 53.18 293 P **P** 23 59 40.4 -0.5
FRU1 **Bishkek** 53.20 67 P **P** 23 59 42.5 +1.6
FRU1 pmax pmax
comp=Z,22nm,1.3s
FRU1 **Bishkek** 53.20 67 P **P** 23 59 42.5 +1.6
FRU1 IAmb IAmb 23 59 45.0
comp=Z,22nm,1.2s
X40A **Basin Creek Fa** 53.20 274 P **P** 23 59 41.4 +0.5
baz=31
KDAK **Kodiak Island** 53.24 332 LR LR 00 23 41.1
comp=Z,101nm,21.0s,baz=98,slow=38
553A **Crawfordville** 53.28 263 P **P** 23 59 39.9 -1.6
AAK **Ala-Archa** 53.30 67 P **P** 23 59 45.6 +4.0
SNR=6.4
AAK **Ala-Archa** 53.30 67 *ce*P **P** 23 59 43.5 +1.8
AAK pmax pmax
comp=Z,28nm,1.7s
AAK **Ala-Archa** 53.30 67 P **P** 23 59 43.2 +1.6
AAK IAmb IAmb 23 59 45.8
comp=Z,19nm,1.2s
N23A **Red Feather La** 53.31 289 P **P** 23 59 41.8 -0.1
baz=33
N23A **Red Feather La** 53.31 289 P **P** 23 59 42.7 +0.8
N23A IAmb IAmb 23 59 45.3
comp=Z,13nm,1.0s
BCYI **Bear Canyon** 53.38 297 P **P** 23 59 42.7 +0.3
AML **Almayashu** 53.40 68 P **P** 23 59 46.2 +3.5
SNR=13
MIAR **Mount Ida** 53.48 275 P **P** 23 59 43.1 +0.3
baz=31
MIAR **Mount Ida** 53.48 275 IAmb IAmb 23 59 45.3
comp=Z,9.1nm,1.1s
TKM2 **Tokmak 2** 53.49 66 P P 23 59 46.5 +3.3
SNR=9.7
UCH **Uchtor** 53.65 67 P **P** 23 59 47.6 +3.0
SNR=13
ECR **Eagle Creek** 53.65 295 P **P** 23 59 45.2 +0.9
AAA **Alma-Ata** 53.76 65 *e*P **P** 23 59 46.0 +1.0
baz=65
AAA **Alma-Ata** 53.76 65 *e*P **P** 23 59 45.9 +1.0
MDOK **Medeo** 53.85 65 *e*P **P** 23 59 46.9 +1.1
comp=Z,110nm,15.6s,baz=65
MDOK LR LR 00 21 35.0
baz=65
MDOK **Medeo** 53.85 65 *e*P **P** 23 59 46.8 +1.1
MDOK pmax pmax
comp=Z,110nm,15.6s
OHAK **Old Harbor** 53.90 332 P **P** 23 59 46.6 +0.9
OHAK IAmb IAmb 23 59 50.0
comp=Z,9.1nm,1.0s
TNSS **Tian-Shan** 53.92 65 *e*P **P** 23 59 47.3 +0.7
baz=65
TNSS **Tian-Shan** 53.92 65 *e*P **P** 23 59 47.2 +0.7
ISCO **Idaho Springs** 54.10 288 P **P** 23 59 47.7 0.0
baz=32
Z41A **Richland Creek** 54.24 273 P **P** 23 59 48.2 -0.2
baz=31
HLID **Hailey** 54.40 297 P **P** 23 59 50.5 +0.7
baz=32
HLID **Hailey** 54.40 297 P **P** 23 59 49.9 +0.1
HLID IAmb IAmb 00 00 23.6
comp=Z,14nm,1.9s
LON **Longmire** 54.40 305 P **P** 23 59 49.6 0.0
LON pmax pmax
comp=Z,7.0nm,1.3s
LON **Longmire** 54.40 305 P **P** 23 59 49.6 0.0
CHGR **Chuyangaron** 54.49 74 P **P** 23 59 51.4 +1.0
UZB **Uzynbulak** 54.63 63 *e*P **P** 23 59 52.0 +0.5
comp=Z,20nm,2.2s,baz=63
UZB **Uzynbulak** 54.63 63 *e*P **P** 23 59 51.9 +0.5
UZB pmax pmax
comp=Z,20nm,2.2s
SII **Sitkinak Islan** 54.70 332 P **P** 23 59 53.0 +1.5
KDJ **Kajisay** 54.78 65 IAmb IAmb 23 59 56.4
comp=Z,12nm,1.2s
SHLS **Shalkode** 54.79 63 *e*P **P** 23 59 54.9 +2.3
comp=Z,12nm,1.0s,baz=62
SHLS **Shalkode** 54.79 63 *e*P **P** 23 59 54.8 +2.3
SHLS pmax pmax
comp=Z,12nm,1.0s
E04D **Cinebar** 54.84 305 P **P** 23 59 52.2 -0.4
baz=31
O20A **White River Ci** 54.88 290 P **P** 23 59 53.0 -0.4
baz=32
O20A **White River Ci** 54.88 290 IAmb IAmb 23 59 54.9
comp=Z,18nm,1.4s
PRZ **Przheval'sk** 54.96 64 IAmb IAmb 23 59 57.8
comp=Z,20nm,1.4s
HRA **Herat** 55.21 82 P **P** 23 59 56.8 +1.1
HRA IAmb IAmb 23 59 59.5
comp=Z,17nm,1.4s
X34A **Smith Ranch, M** 55.25 278 P **P** 23 59 56.6 +0.8
X34A IAmb IAmb 23 59 59.6
comp=Z,13nm,0.9s
TCUT **Toone Canyon** 55.31 294 P **P** 23 59 56.7 +0.2
TARG **Taragay, Kyrgy** 55.37 65 P **P** 23 59 58.0 +0.9
TARG IAmb IAmb 00 00 04.0
comp=Z,12nm,1.0s
TLY **Talaya** 55.45 40 *i* P **P** 23 59 58.2 +1.2
TLY pmax pmax
comp=Z,4.0nm,1.1s
WMOK **Wichita Mounta** 55.54 279 P **P** 23 59 58.5 +0.6
baz=31
WMOK **Wichita Mounta** 55.54 279 P **P** 23 59 57.8 -0.1
WMOK pmax pmax
comp=Z,9.0nm,1.1s
WMOK **Wichita Mounta** 55.54 279 P **P** 23 59 57.8 -0.1
WMOK IAmb IAmb 00 00 02.4
comp=Z,8.6nm,1.1s
SPUT **South Promonto** 55.56 294 P **P** 23 59 58.3 +0.2
JLU **Jordanelle** 55.77 293 P **P** 00 00 00.4 +0.6
SDCO **Great Sand Dun** 55.79 287 P **P** 00 00 00.1 0.0
baz=31
CTU **Camp Tracy** 55.81 294 P **P** 00 00 01.1 +1.1
T25A **Trinidad** 55.86 285 P **P** 00 00 01.0 +0.6
baz=31
T25A **Trinidad** 55.86 285 P **P** 23 59 59.9 -0.5
BGU **Big Grassy Mou** 56.11 295 P **P** 00 00 02.0 -0.1
S22A **4UR Ranch, Cre** 56.34 288 P **P** 00 00 03.5 -0.4
baz=31
S22A **4UR Ranch, Cre** 56.34 288 P **P** 00 00 03.8 -0.1
MPU **Maple Canyon** 56.34 293 P **P** 00 00 03.9 +0.1
MTP **Monte Pirata** 56.44 238 P **P** 00 00 04.1 -0.4
P17A **Butcher Ranch,** 56.45 292 P **P** 00 00 04.5 0.0
PV22 **Blue Mesa, Par** 56.47 290 P **P** 00 00 04.3 -0.4
PV07 **Paradox Valley** 56.49 290 P **P** 00 00 04.8 -0.2
PV15 **Paradox Valley** 56.51 289 P **P** 00 00 05.6 +0.5
PV21 **Cone Mtn., Par** 56.52 290 P **P** 00 00 05.1 0.0
PV21 IAmb IAmb 00 00 07.7
comp=Z,10nm,0.9s
KSH **Kashi** 56.53 68 P **P** 00 00 07.5 +2.4
KSH S **S** 00 07 55.5 -0.9
KSH pmax pmax
comp=Z,38nm,1.4s
KSH pmax pmax
comp=Z,110nm,2.5s
NLU **North Lily Min** 56.57 293 P **P** 00 00 05.4 -0.1
PV23 **Carpenter Ridg** 56.63 290 P **P** 00 00 06.3 +0.4
PV04 **Paradox Valley** 56.63 290 P **P** 00 00 06.5 +0.6
PV04 IAmb IAmb 00 00 08.6
comp=Z,10nm,1.0s
DUG **Dugway, Tooele** 56.65 294 P **P** 00 00 06.7 +0.7
baz=31,SNR=6.9
DUG **Dugway, Tooele** 56.65 294 P **P** 00 00 06.3 +0.3
DUG pmax pmax
comp=Z,7.0nm,1.1s
DUG **Dugway, Tooele** 56.65 294 P **P** 00 00 06.3 +0.3
H04D **Lebanon** 56.65 304 P **P** 00 00 06.0 +0.3
baz=30
PV12 **Saucer Basin,** 56.66 290 IAmb IAmb 00 00 15.7
comp=Z,8.6nm,0.9s
PV14 **Lion Creek, Pa** 56.70 290 IAmb IAmb 00 00 09.5
comp=Z,13nm,0.8s
PV11 **David Mesa, Pa** 56.70 290 P **P** 00 00 06.7 +0.3
PV11 IAmb IAmb 00 00 09.7
comp=Z,14nm,1.1s
PV20 **West Nyswonger** 56.70 290 P **P** 00 00 06.9 +0.5
PV20 IAmb IAmb 00 00 09.6
comp=Z,7.4nm,0.7s
PV16 **Nyswonger Mesa** 56.71 290 P **P** 00 00 06.6 +0.2
PV01 **Paradox Valley** 56.72 289 IAmb IAmb 00 00 10.1
comp=Z,14nm,1.0s

PV02 **Paradox Valley** 56.73 290 P **P** 00 00 06.7 +0.1
PV03 **Paradox Valley** 56.73 290 IAmb IAmb 00 00 09.5
comp=Z,12nm,1.0s
PV19 **Morning Glory** 56.74 290 P **P** 00 00 06.4 -0.3
PV17 **East Wray Mesa** 56.75 290 P **P** 00 00 06.9 +0.2
PV17 IAmb IAmb 00 00 09.6
comp=Z,11nm,0.9s
PV18 **Skein Mesa, Pa** 56.76 290 P **P** 00 00 06.8 0.0
MLPR **Magueyes Islan** 57.10 240 P **P** 00 00 10.0 +0.9
J05D **Fort Rock, OR** 57.19 302 P **P** 00 00 09.6 -0.1
baz=30
MVCO **Mesa Verde** 57.48 289 P **P** 00 00 11.8 -0.2
ABTX **Abilene, Hawle** 57.72 279 P **P** 00 00 14.1 +0.7
baz=30
MSU **Marysvale** 57.85 293 P **P** 00 00 16.0 +1.5
MSU **Marysvale** 57.85 293 P **P** 00 00 16.0 +1.5
TCRU **Three Creeks R** 57.87 293 P **P** 00 00 15.3 +0.6
KBL **Kabul** 57.96 76 P **P** 00 00 16.5 +1.1
KBL pmax pmax
comp=Z,11nm,1.3s
KBL **Kabul** 57.96 76 P **P** 00 00 16.4 +1.1
KBL IAmb IAmb 00 00 18.5
comp=Z,11nm,1.3s
FDF **Fort de France** 57.99 232 P **P** 00 00 16.1 +0.6
FDF pmax pmax
comp=Z,66nm,1.1s
FDF **Fort de France** 57.99 232 P **P** 00 00 16.1 +0.6
MOD **Modoc Plateau** 58.04 301 P **P** 00 00 15.5 -0.3
MTPU **Mount Pierson** 58.26 292 P **P** 00 00 17.8 +0.3
PSUT **Pine Spring** 58.49 294 P **P** 00 00 19.7 +0.7
L04D **Klamath Falls** 58.50 303 P **P** 00 00 19.1 +0.1
baz=29
DBIC **Dimbokro** 58.54 165 P **P** 00 00 17.8 -1.4
comp=Z,12nm,1.0s,baz=343,slow=7.2,SNR=5.6
DBIC LR LR 00 26 52.1
comp=Z,78nm,18.2s,baz=315,slow=38
DBIC **Dimbokro** 58.54 165 P **P** 00 00 17.8 -1.4
DBIC pmax pmax
comp=Z,25nm,1.2s
DBIC **Dimbokro** 58.54 165 IAmb IAmb 00 00 24.3
comp=Z,25nm,1.1s
TIC **Toumodi** 58.55 165 *e*P **P** 00 00 18.3 -1.0
ANMO **Albuquerque** 58.59 286 *ce*P **P** 00 00 19.5 -0.2
ANMO pmax pmax
comp=Z,4.0nm,1.0s
PKCU **Pink Cliffs** 58.82 292 P **P** 00 00 21.8 +0.3
KIC **Kosan Boka** 58.86 165 *e*P **P** 00 00 19.4 -2.1
comp=Z,97nm,1.4s
ZEA **Zeya** 58.89 24 *e*P P 00 00 25.8 +4.5
LIC **Lamto** 58.97 165 *e*P **P** 00 00 20.8 -1.4
comp=Z,72nm,1.2s
R11A **Troy Canyon, C** 59.33 295 P **P** 00 00 25.4 +0.6
baz=30,SNR=9.5
PAHR **Pah Rah Range** 59.61 299 IAmb IAmb 00 00 30.1
comp=Z,8.2nm,1.1s
JCT **Junction City** 59.64 278 P **P** 00 00 27.6 +0.8
baz=30
SONM **Songino Array** 59.69 40 P **P** 00 00 28.8 +1.7
comp=Z,1.7nm,0.9s,baz=324,slow=7.3,SNR=7.7
SONM LR LR 00 27 24.6
comp=Z,63nm,20.7s,baz=46,slow=37
SONM **Songino Array** 59.69 40 P **P** 00 00 28.8 +1.7
SONM pmax pmax
comp=Z,7.0nm,1.4s
SONM **Songino Array** 59.69 40 P **P** 00 00 28.8 +1.7
U15A **North Rim** 59.69 291 IAmb IAmb 00 00 30.3
comp=Z,10.0nm,0.9s
KVN **Kaiserville** 59.69 298 IAmb IAmb 00 00 30.7
comp=Z,8.2nm,1.0s
W18A **Petrified Fore** 59.79 289 P **P** 00 00 28.8 +0.8
baz=30
W18A **Petrified Fore** 59.79 289 P **P** 00 00 28.9 +0.8
ULN **Ulaanbaatar** 59.85 40 *ce*P **P** 00 00 29.5 +1.3
ULN pmax pmax
comp=Z,14nm,1.7s
ULN **Ulaanbaatar** 59.85 40 P **P** 00 00 29.7 +1.6
ULN IAmb IAmb 00 01 56.4
comp=Z,8.0nm,1.0s
PRN **Pahroc Range** 59.94 294 P **P** 00 00 29.3 +0.3
PRN IAmb IAmb 00 02 36.1
comp=Z,17nm,1.6s
WUAZ **Wupatki** 60.11 290 P **P** 00 00 30.0 -0.2
baz=30
WUAZ **Wupatki** 60.11 290 P **P** 00 00 30.2 +0.1
WUAZ IAmb IAmb 00 00 33.8
comp=Z,11nm,0.9s
YERR **Yerington** 60.18 298 P **P** 00 00 31.3 +0.6
YERR IAmb IAmb 00 00 34.6
comp=Z,10nm,0.9s
RYN **Ryan** 60.22 298 P **P** 00 00 31.4 +0.5
NV11 **Mina Array Sit** 60.25 297 P **P** 00 00 32.0 +0.9
NVAR **Mina Array Bea** 60.31 297 P **P** 00 00 31.6 +0.1
comp=Z,2.4nm,0.9s,baz=50,slow=5.5,SNR=14
NVAR LR LR 00 25 49.0
comp=Z,125nm,18.1s,baz=36,slow=35
NVAR **Mina Array Bea** 60.31 297 P **P** 00 00 32.7 +1.1
NIL **Nilore** 60.48 73 P **P** 00 00 33.5 +1.0
NIL pmax pmax
comp=Z,24nm,1.2s
NIL **Nilore** 60.48 73 P **P** 00 00 33.5 +1.0
WAKR **Walker** 60.68 298 P **P** 00 00 34.5 +0.5
WAKR IAmb IAmb 00 00 38.0
comp=Z,7.0nm,1.1s
SHPR **Sheep Range** 60.77 294 P **P** 00 00 35.2 +0.6
SHPR IAmb IAmb 00 00 38.4
comp=Z,8.7nm,1.0s
TPNV **Topopah Spring** 60.81 295 P **P** 00 00 34.9 0.0
baz=29
TPNV **Topopah Spring** 60.81 295 IAmb IAmb 00 00 39.8
comp=Z,5.8nm,1.0s
MNTX **Cornudas Mount** 60.95 283 P **P** 00 00 36.2 +0.4
baz=30
MNTX **Cornudas Mount** 60.95 283 P **P** 00 00 36.1 +0.4
X16A **Lo Mia Camp, P** 61.09 290 P **P** 00 00 37.2 +0.3
X16A IAmb IAmb 00 00 40.5
comp=Z,9.4nm,0.9s
121A **Cookes Peak, D** 61.23 285 P **P** 00 00 38.7 +0.9
baz=30
OMMB **Old Mammoth Mi** 61.29 297 P **P** 00 00 39.0 +0.6
OMMB IAmb IAmb 00 00 52.5
comp=Z,10nm,1.5s
833A **Chaparral WMA,** 61.33 276 P **P** 00 00 39.3 +0.9
baz=29
833A **Chaparral WMA,** 61.33 276 P **P** 00 00 38.8 +0.4
CWC **Cottonwood Cre** 61.96 296 P **P** 00 00 42.7 0.0
baz=29
MPMC **Manual Prospec** 62.07 295 P **P** 00 00 43.2 -0.3
baz=29
TX32 **Lajitas Array** 62.28 280 IAmb IAmb 00 00 47.5
comp=Z,5.2nm,1.0s
TXAR **Lajitas Array** 62.28 280 P **P** 00 00 45.2 +0.4
comp=Z,4.5nm,0.9s,baz=60,slow=3.4,SNR=25
TXAR PcP **PcP** 00 01 25.4 +0.8
comp=Z,2.3nm,1.0s,baz=57,slow=4.6,SNR=5.1
TXAR LR LR 00 26 54.6
comp=Z,73nm,19.3s,baz=0.0,slow=35
PDMC **Parker Dam,Lak** 62.28 292 P **P** 00 00 45.1 +0.4
baz=29
GSC **Goldstone, Bar** 62.46 294 P **P** 00 00 45.7 -0.3
baz=29
GMRC **Granite Mounta** 62.47 293 P **P** 00 00 46.4 +0.3
baz=29
PEA0B **Petropavlovsk-** 62.55 3 P **P** 00 00 47.4 +1.2
PEA0B pmax pmax
comp=Z,36nm,1.6s
PEA0B **Petropavlovsk-** 62.55 3 P **P** 00 00 47.4 +1.2
PETK **Petropavlovsk-** 62.55 3 P **P** 00 00 48.5 +2.3
comp=Z,6.4nm,1.2s,baz=58,slow=9.1,SNR=4.6
PETK **Petropavlovsk-** 62.55 3 P **P** 00 00 48.7 +2.5
PETK **Petropavlovsk-** 62.55 3 P **P** 00 00 48.7 +2.5
TUC **Tucson** 62.66 288 P **P** 00 00 47.8 +0.4
baz=29
TUC **Tucson** 62.66 288 P **P** 00 00 48.2 +0.8
TUC pmax pmax
comp=Z,4.0nm,0.9s
TUC **Tucson** 62.66 288 P **P** 00 00 48.2 +0.8
TUC IAmb IAmb 00 00 51.1
comp=Z,4.5nm,0.9s
ISA **Isabella, Lake** 62.80 296 P **P** 00 00 48.2 0.0
baz=28
ISA **Isabella, Lake** 62.80 296 P **P** 00 00 48.6 +0.4
ISA pmax pmax
comp=Z,6.0nm,0.9s
ISA **Isabella, Lake** 62.80 296 P **P** 00 00 48.6 +0.4
ISA IAmb IAmb 00 00 51.7
comp=Z,6.2nm,0.9s

319A	**Douglas**	**62.85**	**286**	P		**P**	**00 00 49.6**	**+0.9**
HATO	**Hato, Curacao**	**63.13**	**239**	P		**P**	**00 00 49.8**	**-0.6**
EDW2	**Edwards Air Fo**	**63.30**	**295**	P		**P**	**00 00 51.8**	**+0.3**
	baz=28							
BC3	**Big Chuckawall**	**63.37**	**292**	P		**P**	**00 00 52.0**	**-0.1**
	baz=29							
PFO	**Pinyon Flats O**	**63.81**	**293**	LR		LR	00 27 15.4	
	comp=Z,58nm,19.5s,baz=24,slow=35							
MONP2	**Monument Peak**	**64.43**	**293**	P		**P**	**00 00 59.8**	**+0.6**
	baz=28							
GTA	**Gaotai**	**65.35**	**49**	*e*P		**P**	**00 01 04.8**	**-0.2**
GTA				pP		sP	00 01 09.9	-0.3
GTA				sP		pP	00 01 13.3	+4.5
GTA				S		**S**	**00 09 49.6**	**+0.9**
GTA				sS		sS	00 09 58.3	+3.3
GTA	**Gaotai**	**65.35**	**49**	SS		SS	00 14 04.0	+3.2
GTA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,120nm,6.5s							
GTA				LR		LR		
	comp=N,81nm,17.8s							
GTA				LR		LR		
	comp=E,130nm,19.4s							
GTA				LR		LR		
	comp=Z,110nm,16.8s							
HSIG		**65.61**	**286**	P		**P**	**00 01 07.2**	**+0.6**
HHC	**Hu-ho-hao-te**	**67.56**	**40**	*e*P		**P**	**00 01 18.4**	**-0.7**
HHC				S		S	00 10 23.5	+8.0
HHC				pmax		pmax		
	comp=Z,13nm,1.1s							
HHC				pmax		pmax		
	comp=Z,110nm,6.0s							
HHC				LR		LR		
	comp=N,110nm,17.7s							
HHC				LR		LR		
	comp=E,100nm,17.5s							
HHC				LR		LR		
	comp=Z,100nm,18.0s							
ZAIG	**Zacatecas**	**67.56**	**276**	P		**P**	**00 01 20.6**	**+1.1**
ZAIG				IAmb		IAmb	00 01 24.1	
	comp=Z,9.1nm,0.9s							
USRK	**Ussuriysk Ar.**	**68.92**	**23**	LR		LR	00 35 07.9	
	comp=Z,37nm,18.8s,baz=285,slow=39							
MATN	**Matagalpa**	**69.18**	**256**	P		**P**	**00 01 28.1**	**-1.4**
MTO3	**Montecristo**	**69.31**	**260**	P		**P**	**00 01 30.4**	**-0.1**
LZH	**Lanzhou**	**69.68**	**48**	*e*P		**P**	**00 01 35.0**	**+2.6**
LZH				pP		sP	00 01 39.1	+1.4
LZH				sP		pP	00 01 41.4	+5.1
LZH				PP		**PP**	**00 04 04.9**	**-1.0**
LZH				pmax		pmax		
	comp=Z,12nm,1.2s							
LZH				pmax		pmax		
	comp=Z,64nm,4.3s							
LZH				LR		LR		
	comp=N,300nm,16.8s							
LZH				LR		LR		
	comp=E,310nm,17.0s							
LZH				LR		LR		
	comp=Z,370nm,17.5s							
ACON	**Acoyapa**	**69.73**	**255**	P		**P**	**00 01 30.1**	**-2.7**
LSA	**Lhasa**	**71.06**	**61**	P		**P**	**00 01 43.2**	**+1.9**
LSA				pmax		pmax		
	comp=Z,7.0nm,1.0s							
LSA	**Lhasa**	**71.06**	**61**	P		**P**	**00 01 43.2**	**+1.9**
LSA				IAmb		IAmb	00 01 45.6	
	comp=Z,6.9nm,1.0s							
ROSC	**El Rosal**	**71.89**	**241**	P		**P**	**00 01 47.1**	**+0.7**
	comp=Z,7.8nm,0.5s,baz=44,slow=5.4,SNR=7.3							
ROSC				LR		LR	00 29 14.6	
	comp=Z,123nm,21.3s,baz=220,slow=32							
PTGA	**Pitinga**	**72.14**	**225**	P		**P**	**00 01 46.3**	**-1.0**
PTGA				IAmb		IAmb	00 01 50.4	
	comp=Z,8.4nm,1.1s							
XAN	**Xi'an**	**73.14**	**44**	P		**P**	**00 01 53.6**	**+0.4**
XAN				pmax		pmax		
	comp=Z,9.0nm,1.1s							
XAN	**Xi'an**	**73.14**	**44**	P		**P**	**00 01 53.6**	**+0.4**
XAN				IAmb		IAmb	00 01 59.1	
	comp=Z,8.9nm,1.1s							
CD2	**Chengdu**	**74.41**	**50**	*e*P		**P**	**00 02 00.0**	**-0.7**
KSRS	**Korea Array**	**74.70**	**28**	LR		LR	00 38 59.0	
	comp=Z,21nm,18.4s,baz=0.0,slow=39							
KMBO	**Kilima Mbogo**	**76.65**	**123**	LR		LR	00 39 37.8	
	comp=Z,36nm,19.1s,baz=252,slow=39							
MJAR	**Matsushiro Arr**	**77.38**	**20**	P		**P**	**00 02 18.5**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=312,slow=9.1,SNR=1.9							
MJAR	**Matsushiro Arr**	**77.38**	**20**	P		**P**	**00 02 18.5**	**+0.9**
MJAR				pmax		pmax		
	comp=Z,2.0nm,1.0s							
OTAV	**Otavalo**	**77.69**	**243**	P		**P**	**00 02 19.6**	**-0.4**
OTAV				pmax		pmax		
	comp=Z,9.0nm,1.2s							
OTAV	**Otavalo**	**77.69**	**243**	P		**P**	**00 02 19.6**	**-0.4**
OTAV				IAmb		IAmb	00 02 23.9	
	comp=Z,9.0nm,1.1s							
NJ2	**Nanjing**	**77.79**	**37**	*e*P		**P**	**00 02 19.8**	**-0.1**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.6s							
GYA	**Guiyang**	**79.47**	**49**	⇑P		**P**	**00 02 31.6**	**+2.2**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.6s							
SAML	**Samuel**	**80.89**	**226**	P		**P**	**00 02 36.9**	**+0.1**
SAML				pmax		pmax		
	comp=Z,6.0nm,1.1s							
SAML	**Samuel**	**80.89**	**226**	P		**P**	**00 02 36.9**	**+0.1**
SLVN	**Son La**	**83.30**	**53**	P		**P**	**00 02 49.5**	**-0.2**
SLVN				IAmb		IAmb	00 02 52.4	
	comp=Z,6.3nm,1.1s							
CHTO	**Chiang Mai**	**83.85**	**59**	P		**P**	**00 02 53.3**	**+0.9**
CHTO				pmax		pmax		
	comp=Z,19nm,1.5s							
CHTO	**Chiang Mai**	**83.85**	**59**	P		**P**	**00 02 53.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**84.17**	**59**	P		**P**	**00 02 54.0**	**-0.1**
	comp=Z,2.7nm,0.3s,baz=335,slow=4.0,SNR=2.9							
CMAR				PP		**PP**	**00 06 09.0**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=329,slow=9.2,SNR=4.5							
CMAR				LR		LR	00 44 50.1	
	comp=Z,30nm,18.3s,baz=322,slow=39							
ATAH	**Atahualpa**	**84.44**	**241**	P		**P**	**00 02 55.1**	**-0.7**
	comp=Z,7.7nm,0.9s,baz=45,slow=10.0,SNR=3.2							
PBKT	**Sadao Pong**	**86.65**	**58**	P		**P**	**00 03 06.0**	**-0.5**
PBKT				IAmb		IAmb	00 03 09.2	
	comp=Z,10nm,1.4s							
LPAZ	**La Paz**	**89.35**	**228**	P		**P**	**00 03 20.1**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=29,slow=3.2,SNR=2.1							
LPAZ				LR		LR	00 42 05.9	
	comp=Z,30nm,18.0s,baz=88,slow=35							
PB16	**IPOC Station P**	**91.71**	**228**	P		**P**	**00 03 30.0**	**-0.8**
PB16				IAmb		IAmb	00 03 34.1	
	comp=Z,4.5nm,1.1s							
LVC	**Limon Verde**	**95.53**	**226**	P		**P**	**00 03 48.7**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=272,slow=3.5,SNR=3.6							
LVC	**Limon Verde**	**95.53**	**226**	P		**P**	**00 03 45.7**	**-2.3**
LVC				pmax		pmax		
	comp=Z,30nm,2.0s							
LVC	**Limon Verde**	**95.53**	**226**	P		**P**	**00 03 45.7**	**-2.3**
CPUP	**Villa Florida**	**95.79**	**215**	LR		LR	00 41 41.3	
	comp=Z,67nm,20.5s,baz=76,slow=32							
WRA	**Warramunga Arr**	**131.57**	**36**	PKP		**PKiKP**	**00 09 38.0**	**+1.7**
	comp=Z,1.8nm,1.1s,baz=332,slow=2.2,SNR=5.1							
WRA	**Warramunga Arr**	**131.57**	**36**	PKIKP		**PKiKP**	**00 09 38.0**	**+1.7**
WRA	**Warramunga Arr**	**131.57**	**36**			**PKPdf**	**00 09 33.6**	**-1.7**
ASAR	**Alice Springs**	**135.02**	**38**	PKP		**PKiKP**	**00 09 41.5**	**-1.7**
	comp=Z,1.5nm,1.0s,baz=354,slow=2.4,SNR=8.7							
ASAR	**Alice Springs**	**135.02**	**38**	PKIKP		**PKiKP**	**00 09 42.9**	**-0.3**
ASAR	**Alice Springs**	**135.02**	**38**			**PKiKP**	**00 09 42.9**	**-0.3**
MAW	**Mawson**	**143.70**	**140**	PKP		**PKPdf**	**00 09 53.7**	**-2.3**
	comp=Z,1.9nm,1.1s,baz=315,slow=7.1,SNR=2.9							
STKA	**Stephens Creek**	**144.77**	**32**	PKP		**PKPdf**	**00 09 57.8**	**-1.3**
	comp=Z,5.4nm,1.0s,baz=343,slow=1.7,SNR=5.2							
QSPA	**South Pole Qui**	**154.53**	**180**			**PKPdf**	**00 10 14.8**	**+1.4**
QSPA				PKPbc		**pPKPbc**	**00 10 24.7**	**-1.2**

*IDC **21** 23:52:17.2±1.2,23°.64S×115°.50W,h0km,mb3.9/6, mb1 4.2/6,mb1mx3.9/26,mbtmp3.9/6,MS3.7/5,Ms1 3.7/5, ms1mx3.3/32,Error ellipse: s-maj=51.2km s-min=25.8km az=42.0*

*NEIC **21** 23:52:18.7±1.4,23°.5S±0°.1×115°.2W±0°.2,h10km±1km, mb4.6/39,Error ellipse: s-maj=25.2km s-min=22.7km az=246.0*

ISC 21 23:52:18.6±0.6,23°.5S±0°.1×115°.2W±0°.1,h10km,n67, σ0§93/52,mb4.5/23,MS3.5/6,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.43**	**125**	LR	LR	23 55 54.6	
	comp=Z,945nm,18.2s,baz=292,slow=33						
PTCN	**Pitcairn Islan**	**13.64**	**261**	Pn	**Pn**	**23 55 32.4**	**+0.2**
RKT	**Rikitea**	**18.14**	**267**	*e*LR	LR	00 00 25.4	
	comp=Z,552nm,40.2s						
TBI	**Tubuai**	**31.36**	**263**	*e*LR	LR	00 06 38.2	
	comp=Z,137nm,25.5s						
PPT2	**Papeete2**	**32.64**	**274**	eLR	LR	00 07 06.6	
	comp=Z,110nm,25.0s						
PPT	**Papeete**	**32.65**	**274**	LR	LR	00 07 58.2	
	comp=Z,87nm,20.5s,baz=164,slow=29						
H03N2	**Juan Fernandez**	**33.26**	**115**	T	T	00 34 15.4	
	baz=282,slow=75,SNR=8.6						
H03N3	**Juan Fernandez**	**33.27**	**116**	T	T	00 34 26.9	
	baz=282,slow=75,SNR=9.0						
H03N1	**Juan Fernandez**	**33.27**	**115**	T	T	00 34 26.2	
	baz=282,slow=75,SNR=8.8						
BO01	**Tunca**	**39.84**	**116**	P	**P**	**23 59 51.8**	**-0.6**
CO03	**El Pedregal**	**40.08**	**110**	P	**P**	**23 59 55.0**	**+0.5**
LCO	**Las Campanas**	**40.13**	**108**	P	**P**	**23 59 54.4**	**-0.7**
LCO				IAmb	IAmb	00 00 07.6	
	comp=Z,13nm,1.3s						
AC05	**El Transito**	**40.51**	**107**	P	**P**	**23 59 57.0**	**-1.2**
PLCA	**Paso Flores**	**41.07**	**126**	P	**P**	**00 00 04.8**	**+2.2**
	comp=Z,1.0nm,0.5s,baz=253,slow=9.9,SNR=3.5						
PLCA				LR	LR	00 12 57.6	
	comp=Z,119nm,19.7s,baz=302,slow=30						
PLCA	**Paso Flores**	**41.07**	**126**	P	**P**	**00 00 02.1**	**-0.4**
ZON	**Zonda**	**41.79**	**112**	P	**P**	**00 00 08.8**	**+0.2**
ZON				IAmb	IAmb	00 00 17.9	
	comp=Z,16nm,1.4s						
LPAZ	**La Paz**	**44.71**	**90**	P	**P**	**00 00 34.4**	**+1.4**
	comp=Z,1.2nm,0.6s,baz=285,slow=5.0,SNR=4.2						
LPAZ				LR	LR	00 15 04.5	
	comp=Z,53nm,19.5s,baz=134,slow=30						
LPAZ	**La Paz**	**44.71**	**90**	P	**P**	**00 00 31.5**	**-1.5**
AFI	**Afiamalu**	**54.11**	**270**	LR	LR	00 18 53.6	
	comp=Z,53nm,20.2s,baz=36,slow=30						
JCT	**Junction City**	**55.70**	**16**	P	**P**	**00 01 55.9**	**+0.5**
JCT				IAmb	IAmb	00 02 02.8	
	comp=Z,5.9nm,0.8s						
113A	**Mohawk Valley,**	**56.00**	**1**	P	**P**	**00 01 55.2**	**-2.1**
WHTX	**Lake Whitney,**	**57.77**	**18**	P	**P**	**00 02 09.1**	**-0.8**
U15A	**North Rim**	**59.70**	**3**	P	**P**	**00 02 23.4**	**-0.2**
SHPR	**Sheep Range**	**59.71**	**0**	P	**P**	**00 02 24.2**	**+0.6**
SHPR				IAmb	IAmb	00 02 32.2	
	comp=Z,6.9nm,1.3s						
PRN	**Pahroc Range**	**60.61**	**0**	P	**P**	**00 02 29.9**	**+0.2**
CCUT	**Cedar City**	**60.78**	**2**	P	**P**	**00 02 32.0**	**+1.1**
SDCO	**Great Sand Dun**	**61.63**	**9**	P	**P**	**00 02 36.8**	**0.0**
NV11	**Mina Array Sit**	**61.69**	**357**	P	**P**	**00 02 37.5**	**+0.5**
NV11				IAmb	IAmb	00 02 48.7	
	comp=Z,4.0nm,1.1s						
NVAR	**Mina Array Bea**	**61.70**	**357**	P	**P**	**00 02 38.9**	**+1.8**
	comp=Z,1.7nm,1.0s,baz=185,slow=9.6,SNR=7.3						
NVAR	**Mina Array Bea**	**61.70**	**357**	P	**P**	**00 02 37.4**	**+0.2**
U40A	**Yellville**	**63.20**	**20**	P	**P**	**00 02 46.6**	**-0.4**
U40A				IAmb	IAmb	00 02 48.8	
	comp=Z,3.1nm,0.9s						
Y49A	**Blount Mountai**	**63.32**	**27**	P	**P**	**00 02 48.0**	**+0.1**
Y49A				IAmb	IAmb	00 02 50.1	
	comp=Z,3.5nm,0.8s						
BDFB	**Brasilia**	**63.34**	**96**	P	**P**	**00 02 50.0**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=44,slow=5.7,SNR=3.5						
BDFB	**Brasilia**	**63.34**	**96**	P	**P**	**00 02 48.2**	**-0.4**
BDFB				IAmb	IAmb	00 02 52.1	
	comp=Z,4.1nm,1.0s						
JLU	**Jordanelle**	**63.90**	**3**	P	**P**	**00 02 52.2**	**+0.4**
RDMU	**Red Mountain**	**63.98**	**5**	P	**P**	**00 02 52.5**	**+0.1**
BGU	**Big Grassy Mou**	**64.15**	**2**	P	**P**	**00 02 54.1**	**+0.8**
S39A	**Bolivar**	**64.29**	**19**	P	**P**	**00 02 54.7**	**+0.6**
S39A				IAmb	IAmb	00 03 00.6	
	comp=Z,5.7nm,1.2s						
SWET	**Sewanee**	**64.69**	**26**	P	**P**	**00 02 55.7**	**-1.2**
SWET				IAmb	IAmb	00 02 58.5	
	comp=Z,5.1nm,1.0s						
V48A	**Smith Brothers**	**64.79**	**25**	P	**P**	**00 02 57.6**	**+0.2**
V48A				IAmb	IAmb	00 02 58.8	
	comp=Z,3.4nm,1.0s						
MOD	**Modoc Plateau**	**65.27**	**356**	P	**P**	**00 03 00.1**	**-0.5**
S44A	**Carbondale**	**65.61**	**22**	P	**P**	**00 03 03.1**	**+0.3**
BG3	**Lake Jocassee**	**65.77**	**29**	P	**P**	**00 03 03.8**	**-0.1**
BG3				IAmb	IAmb	00 03 10.6	
	comp=Z,4.6nm,1.2s						
U49A	**Red Boiling Sp**	**65.88**	**26**	P	**P**	**00 03 06.0**	**+1.6**
U49A				IAmb	IAmb	00 03 10.6	
	comp=Z,3.1nm,0.9s						
JSC	**Jenkinsville**	**65.94**	**30**	P	**P**	**00 03 04.3**	**-0.6**
JSC				IAmb	IAmb	00 03 06.1	
	comp=Z,7.3nm,1.5s						
PD31	**Pinedale Array**	**66.17**	**5**	P	**P**	**00 03 05.2**	**-1.3**
PDAR	**Pinedale Array**	**66.17**	**5**	P	**P**	**00 03 07.2**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=202,slow=4.5,SNR=3.5						
PDAR	**Pinedale Array**	**66.17**	**5**	P	**P**	**00 03 05.5**	**-1.0**
V53A	**Saluda**	**66.39**	**28**	P	**P**	**00 03 08.2**	**+0.3**
V53A				IAmb	IAmb	00 03 09.8	
	comp=Z,5.8nm,1.1s						
QSPA	**South Pole Qui**	**66.63**	**180**	P	**P**	**00 03 09.3**	**+0.1**
QSPA				IAmb	IAmb	00 03 17.8	
	comp=Z,5.4nm,1.2s						
HLID	**Hailey**	**66.76**	**1**	P	**P**	**00 03 09.9**	**-0.3**
Q44A	**Meyer Farm, Va**	**66.78**	**22**	P	**P**	**00 03 09.9**	**-0.3**
TPAW	**Teton Pass**	**66.80**	**3**	P	**P**	**00 03 09.7**	**-0.9**
TPAW				IAmb	IAmb	00 03 16.8	
	comp=Z,3.7nm,1.1s						
PINE	**Pine Mountain**	**67.19**	**356**	P	**P**	**00 03 14.3**	**+1.3**
PINE				IAmb	IAmb	00 03 16.2	
	comp=Z,4.4nm,0.9s						
YKA	**Yellowknife Ar**	**85.72**	**0**	P	**P**	**00 04 58.6**	**+1.3**
	comp=Z,1.2nm,1.0s,baz=172,slow=4.7,SNR=5.0						
H11S2	**WAKE ISLAND Hy**	**86.84**	**292**	T	T	01 40 51.2	
	baz=116,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**86.86**	**292**	T	T	01 40 43.7	
	baz=116,slow=75,SNR=34						
H11S3	**WAKE ISLAND Hy**	**86.86**	**292**	T	T	01 40 52.3	
	baz=116,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**87.20**	**293**	T	T	01 41 14.5	
	baz=117,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy**	**87.22**	**293**	T	T	01 41 18.7	
	baz=117,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**87.22**	**293**	T	T	01 41 19.1	
	baz=117,slow=76,SNR=44						
ZALV	**Zalesovo Beam**	**146.08**	**339**	PKPbc	**PKPab**	**00 11 59.0**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=70,slow=4.7,SNR=3.2						
ARU	**Arti**	**146.82**	**6**	PKPbc	**PKPbc**	**00 12 00.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=354,slow=9.2,SNR=2.2						
CMAR	**Chiang Mai Arr**	**147.75**	**268**	PKPbc	**PKPbc**	**00 12 03.6**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=50,slow=2.3,SNR=4.1						
BRTR	**Keskin Array B**	**149.16**	**51**	PKPbc	**PKiKP**	**00 12 08.3**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=270,slow=33,SNR=7.4						
BVAR	**Borovoye Array**	**150.24**	**353**	PKPbc	**PKPbc**	**00 12 08.8**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=33,slow=3.4,SNR=3.7						
MKAR	**Makanchi Array**	**152.84**	**333**	PKPbc	**PKPbc**	**00 12 14.3**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=29,slow=2.8,SNR=4.5						

ROM 21 23:53:59.5±0.1,42°.985N±0°.004×13°.010E±0°.005, h11km,ML1.2/4,1D,Error ellipse: s-maj=0.5km s-min=0.4km az=178.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.08**	**284**	⇓P	Pg	23 54 02.5	+0.6
CESI				S	Sg	23 54 04.5	+0.7
CESI				AML	AML		
	comp=N,102μm,0.2s						
CESI				AML	AML		
	comp=N,102μm,0.2s						
CESI				AML	AML		
	comp=E,138μm,0.3s						
NRCA	**Norcia**	**0.17**	**153**	P	Pg	23 54 03.8	+0.5
NRCA				S	Sg	23 54 06.9	+1.0
NRCA				AML	AML		
	comp=N,250μm,0.1s						
NRCA				AML	AML		
	comp=E,151μm,0.4s						
CSP1	**Cessapalombo**	**0.18**	**53**	P	Pg	23 54 03.9	+0.5
CSP1				S	Sg	23 54 07.0	+0.8
ASSB	**Assisi San Ben**	**0.26**	**283**	P	Pg	23 54 05.3	+0.4
ASSB				S	Sb	23 54 09.8	-1.1
SNTG	**Esanatoglia**	**0.27**	**349**	P	Pg	23 54 05.4	+0.3
SNTG				S	Sb	23 54 10.2	-1.0
ATCC	**AVT- Casa Cast**	**0.34**	**306**	P	Pg	23 54 06.9	+0.6
EL6	**Elcito**	**0.35**	**11**	P	Pg	23 54 06.8	+0.3
EL6				S	Sb	23 54 12.7	-0.8
CING	**Cingoli**	**0.41**	**19**	P	Pg	23 54 07.9	+0.3
CING				S	Sb	23 54 14.6	-0.6
SSFR	**Montelago di S**	**0.48**	**340**	P	Pg	23 54 09.1	+0.2
SSFR				AML	AML		
	comp=E,30μm,0.3s						
SSFR				AML	AML		
	comp=N,25μm,0.2s						
FRON	**Frontone**	**0.57**	**339**	P	Pg	23 54 10.7	+0.1
GUMA	**Gualdo di Mace**	**0.68**	**83**	P	Pg	23 54 05.4	-7.3
GUMA				S	Sg	23 54 09.9	-12
GUMA				AML	AML		
	comp=E,176μm,0.2s						
GUMA				AML	AML		
	comp=N,80μm,0.7s						
NARO	**Abbazia di Nar**	**0.70**	**334**	P	Pg	23 54 12.8	-0.2
LPEL	**Lama dei Pelig**	**1.28**	**137**	S	Sg	23 54 42.0	+1.4

*IDC **21** 23:54:42.2±1.3,40°.53N×122°.26E,h0km,mb3.7/3, mb1 3.9/6,mb1mx3.5/52,mbtmp3.8/6,ML3.3/3,MS2.7/1, Ms1 2.7/1,ms1mx2.3/55,Error ellipse: s-maj=35.8km s-min=21.4km az=40.0*

*KEA **21** 23:54:42.0±0.0,40°.60N×122°.32E,h0km,ML4.3/6*

*BJI **21** 23:54:43.4±0.0,40°.45N×122°.32E,h8km,mb4.2/1, ML4.2/15,Ms3.9/2,Ms7 3.7/1*

ISC 21 23:54:44.1±0.6,40°.46N±0°.04×122°.21E±0°.03,h10km,n22, σ1§84/34,2D,Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DL2	**Dalian**	**1.62**	**196**	Pn	**Pn**	**23 55 12.3**	**-0.3**
DL2				Pg	**Pb**	**23 55 13.8**	**-0.2**
DL2				Sg	**Sb**	**23 55 35.4**	**+1.0**
DL2				smax	smax		
	comp=N,4μm,0.6s						
DL2				smax	smax		
	comp=E,5μm,0.6s						
SNY	**Shenyang**	**1.71**	**37**	⇓Pn	**Pn**	**23 55 11.8**	**-2.2**
SNY				⇓Pg	**Pb**	**23 55 14.0**	**-1.6**
SNY				Sg	**Sn**	**23 55 35.8**	**-0.1**
SNY				smax	smax		
	comp=N,2μm,0.8s						
SNY				smax	smax		
	comp=E,1μm,1.0s						
SUJ	**Sinuiju**	**1.78**	**101**	Pg	**Pn**	**23 55 14.6**	**-0.3**
SUJ				Sg	**Sn**	**23 55 36.8**	**-0.8**
PYS	**Pyongsong**	**3.05**	**112**	Pg	**Pb**	**23 55 38.0**	**-0.5**
PYS				Sg	**Sb**	**23 56 16.0**	**+0.2**
PYAG	**Pyongyang**	**3.08**	**116**	Pg	**Pb**	**23 55 37.8**	**-1.1**
PYAG				Sg	**Sb**	**23 56 16.9**	**+0.5**
KGE	**Kanggye**	**3.38**	**80**	Pg	**Pb**	**23 55 43.5**	**-0.6**
KGE				Sg	**Sb**	**23 56 25.7**	**+0.4**
HJU	**Haeju**	**3.64**	**130**	Pg	**Pb**	**23 55 48.7**	**+0.2**
HJU				Sg	**Sb**	**23 56 34.6**	**+1.8**
HHU	**Hamhung**	**4.11**	**96**	Pg	**Pb**	**23 55 58.3**	**+1.8**
HHU				Sg	**Sb**	**23 56 49.3**	**+3.2**
CN2	**Changchun**	**4.12**	**35**	*e*Pg	**Pb**	**23 55 56.8**	**+0.2**
CN2				Sg	**Sb**	**23 56 50.3**	**+3.9**
CN2				smax	smax		
	comp=N,640nm,0.9s						
CN2				smax	smax		
	comp=E,540nm,0.9s						
BJI	**Beijing**	**4.64**	**267**	Pn	**Pn**	**23 55 53.1**	**-1.1**
BJI				Sn	**Sn**	**23 56 51.1**	**+3.1**
BJI				Sg	**Sg**	**23 57 12.3**	**-0.7**
BJI				smax	smax		
	comp=N,210nm,0.4s						
BJI				smax	smax		
	comp=E,500nm,0.7s						
KSRS	**Korea Array**	**5.37**	**122**	Pn	**Pn**	**23 56 02.6**	**-1.6**
	2.3nm,0.3s,baz=305,slow=14,SNR=39						
KSRS				Pg	**Pb**	**23 56 21.0**	**+3.1**
	5.5nm,0.3s,baz=307,slow=17,SNR=20						
KSRS				Sn	**Sn**	**23 57 01.2**	**-4.9**
	3.3nm,0.3s,baz=299,slow=24,SNR=5.7						
KSRS				Lg	Lg	23 57 26.2	
	8.4nm,0.3s,baz=307,slow=27,SNR=9.6						
USRK	**Ussuriysk Ar.**	**8.15**	**60**	Pn	**Pn**	**23 56 40.6**	**-1.8**
	baz=251,slow=12,SNR=11						
USRK				Pg	Pb	23 57 10.8	+5.5
	baz=245,slow=15,SNR=12						
USRK				Lg	Lg	23 58 56.1	
	baz=250,slow=26,SNR=14						
JNU	**Nakatsue**	**10.09**	**134**	Lg	Lg	23 59 57.9	
	0.4nm,0.3s,baz=196,slow=15,SNR=2.0						
KLR	**Kul'dur**	**11.07**	**34**	Lg	Lg	00 00 26.8	
	0.2nm,0.3s,baz=253,slow=15,SNR=4.1						
SONM	**Songino Array**	**13.52**	**308**	Pn	**Pn**	**23 57 56.9**	**+0.8**
	0.3nm,0.3s,baz=118,slow=12,SNR=2.5						
SONM				Lg	Lg	00 01 56.5	
	0.2nm,0.3s,baz=124,slow=31,SNR=3.7						
LZH	**Lanzhou**	**15.07**	**259**	*e*P	**Pn**	**23 58 16.6**	**-0.6**
LZH				pP	P	23 58 20.1	-2.4
LZH				sP	pP	23 58 23.0	-2.4
LZH				pmax	pmax		
	comp=Z,11nm,1.1s						
LZH				LR	LR		
	comp=N,220nm,10.8s						
LZH				LR	LR		
	comp=E,160nm,9.8s						
LZH				LR	LR		
	comp=Z,240nm,11.2s						
TLY	**Talaya**	**17.03**	**317**	LR	LR	00 06 15.6	
	comp=Z,27nm,19.2s,baz=154,slow=41						
WMQ

NIKH	Nikolski High	7.61	70		Pn	00 13 20.2	+0.6
MAPS	Pakushin South	8.90	66		Pn	00 13 39.8	+2.4
MREP	Makushin Rep't	9.02	66		Pn	00 13 41.4	+2.4
UNV	Unalaska Valle	9.16	66	Pn	Pn	00 13 42.0	+1.2
AKUT	Akutan	9.65	65	Pn	Pn	00 13 48.1	+0.6
FALS	False Pass	11.15	63	Pn	Pn	00 14 09.0	+0.9
PET	Petropavlovsk	12.86	287	Pn	Pn	00 14 32.3	+0.8
SDPT	Sand Point	12.91	62	Pn	Pn	00 14 31.1	-1.0
CNBA	Chernabura Isl	13.32	65	Pn	Pn	00 14 37.7	-0.1
CHIR	Chirikof Islan	15.71	62	Pn	Pn	00 15 08.2	-1.6
ANM	Nome	15.83	25	Pn	Pn	00 15 09.2	-2.3
SII	Sitkinak Islan	16.60	60	Pn	Pn	00 15 19.2	-2.2
SII				IAmb	IAmb	00 15 25.9	
	comp=Z,9.2nm,0.6s						
OHAK	Old Harbor	17.20	58	Pn	Pn	00 15 25.9	-2.9
OHAK				IAmb	IAmb	00 15 36.3	
	comp=Z,7.8nm,0.9s						
SVW2	Sparrevohn	17.21	44		Pn	00 15 30.2	+1.2
KDAK	Kodiak Island	17.67	56	P	Pn	00 15 33.2	-1.5
	comp=Z,0.8nm,0.3s,baz=131,slow=2.6,SNR=16						
KDAK	Kodiak Island	17.67	56	Pn	Pn	00 15 32.5	-2.2
KDAK				IAmb	IAmb	00 15 60.0	
	comp=Z,28nm,1.9s						
CNPM	China Poot	18.73	51	P	P	00 15 47.7	+0.4
SKT	Skwentna	19.34	44	P	P	00 15 54.7	+0.6
SKT				IAmb	IAmb	00 15 57.2	
	comp=Z,8.2nm,1.1s						
PPLA	Purkeypile	19.42	41	P	P	00 15 55.4	+0.4
PPLA				IAmb	IAmb	00 16 12.4	
	comp=Z,17nm,1.6s						
SUA	Susitna One	19.52	46	P	P	00 15 55.6	-0.5
SEW	Seward	19.75	50	P	P	00 15 57.8	-0.6
PMR	Palmer	20.29	46	P	P	00 16 04.7	+0.3
IMAR	Indian Mountai	20.37	32	P	P	00 16 05.4	+0.2
BPAW	Bear Paw Mtn.	20.43	39	P	P	00 16 05.9	+0.1
TRF	Thorofare Moun	20.44	41	P	P	00 16 07.3	+1.2
GHO	Glory Hole Cre	20.44	46	P	P	00 16 05.7	-0.4
GHO				IAmb	IAmb	00 16 14.2	
	comp=Z,3.2nm,0.6s						
HIN	Hinchinbrook I	21.25	50	P	P	00 16 15.0	+0.2
HIN				IAmb	IAmb	00 16 20.1	
	comp=Z,5.1nm,0.8s						
FID	Port Fidalgo	21.33	49	P	P	00 16 15.7	+0.2
DHY	Denali Highway	21.53	43	P	P	00 16 18.3	+0.4
DHY				IAmb	IAmb	00 16 19.7	
	comp=Z,4.4nm,0.8s						
WRH	Wood River Hil	21.73	39	P	P	00 16 18.4	-1.4
WRH				IAmb	IAmb	00 16 45.6	
	comp=Z,12nm,1.8s						
MDM	Murphy Dome	21.87	38	P	P	00 16 21.1	-0.3
KAIM	Kayak Island	22.20	52	P	P	00 16 23.5	-1.4
COLD	Coldfoot	22.24	32	P	P	00 16 25.4	+0.1
ILAR	Eielson Array	22.33	39	P	P	00 16 24.8	-1.4
	comp=Z,0.3nm,0.6s,baz=235,slow=8.2,SNR=6.0						
ILAR	Eielson Array	22.33	39	P	P	00 16 25.5	-0.7
GLB	Gilahina Butte	22.73	48	P	P	00 16 30.6	-0.1
VRDI	Verde Repeater	22.87	49	P	P	00 16 31.4	-0.8
VRDI				IAmb	IAmb	00 16 49.1	
	comp=Z,14nm,1.9s						
DOT	Dot Lake	23.13	43	P	P	00 16 35.0	+0.2
DOT				IAmb	IAmb	00 17 17.9	
	comp=Z,5.7nm,1.5s						
BCAR	Beaver Creek A	23.98	45	P	P	00 16 42.4	-0.7
BMAR	Burnt Mountain	24.25	34	P	P	00 16 44.8	-0.8
EGAK	Eagle	24.66	41	P	P	00 16 48.8	-0.4
EGAK				IAmb	IAmb	00 16 50.9	
	comp=Z,3.2nm,0.9s						
HYT	Haines Junctio	25.70	51	P	P	00 16 57.1	-1.8
HYT				IAmb	IAmb	00 17 17.5	
	comp=Z,6.9nm,1.7s						
INK	Inuvik	28.49	35	P	P	00 17 24.3	+0.6
	comp=Z,0.9nm,0.5s,baz=264,slow=8.0,SNR=4.3						
INK	Inuvik	28.49	35	P	P	00 17 24.3	+0.6
INK				IAmb	IAmb	00 17 30.0	
	comp=Z,4.8nm,1.4s						
H11N2	WAKE ISLAND Hy	32.67	202	T	T	00 53 05.9	
	baz=19,slow=75,SNR=14						
H11N3	WAKE ISLAND Hy	32.68	202	T	T	00 53 02.2	
	baz=19,slow=75,SNR=18						
H11N1	WAKE ISLAND Hy	32.69	202	T	T	00 53 05.8	
	baz=19,slow=75,SNR=12						
YKA	Yellowknife Ar	36.39	46	P	P	00 18 31.7	-1.2
	comp=Z,0.6nm,0.5s,baz=284,slow=7.8,SNR=5.4						
NVAR	Mina Array Bea	44.82	81	P	P	00 19 45.9	+2.9
	comp=Z,0.3nm,0.5s,baz=297,slow=8.0,SNR=2.4						
TLY	Talaya	45.25	302	LR	LR	00 39 50.0	
	comp=Z,36nm,18.4s,baz=56,slow=38						
SONM	Songino Array	45.73	296	P	P	00 19 50.8	+0.8
	comp=Z,0.6nm,0.6s,baz=46,slow=8.3,SNR=1.5						
PDAR	Pinedale Array	47.60	71	P	P	00 20 05.0	+0.1
	comp=Z,1.4nm,0.8s,baz=295,slow=3.3,SNR=12						
MKAR	Makanchi Array	59.32	308	P	P	00 21 30.2	-0.4
	comp=Z,0.7nm,0.4s,baz=49,slow=6.0,SNR=16						
NB2	NORSAR Subarra	67.93	354	P	P	00 22 25.4	-1.8
	comp=Z,0.5nm,0.7s,baz=9.2,slow=6.5						
NOA	NORSAR Array B	67.93	354	P	P	00 22 25.6	-1.5
	comp=Z,0.8nm,0.7s,baz=10,slow=6.5,SNR=3.8						
H03N2	Juan Fernandez	122.22	105	T	T	02 44 44.0	
	baz=317,slow=77,SNR=12						
H03N1	Juan Fernandez	122.23	105	T	T	02 44 40.1	
	baz=317,slow=77,SNR=15						
H03N3	Juan Fernandez	122.23	105	T	T	02 44 39.1	
	baz=317,slow=77,SNR=9.9						

IDC ***22*** *00:15:33.0±3.8, 53.˚46N× 166.˚71W, h0km, mb3.7/3, mb1 4.1/5, mb1mx3.5/69, mbtmp3.8/5, ML3.5/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/46, Error ellipse: s-maj=67.0km s-min=40.7km az=105.0*

NEIC ***22*** *00:15:39.6±1.9, 53.˚29N±0.˚09× 166.˚83W±0.˚09, h57km±11km, Error ellipse: s-maj=15.5km s-min=4.4km az=151.0*

AEIC ***22*** *00:15:41±2.0, 53.˚4N±0.˚1× 167.˚0W±0.˚1, h59km±7km, ML3.7/50, mb4.0/17(NEIC), Error ellipse: s-maj=17.4km s-min=4.5km az=153.0*

ISC 22 00:15:39.7±1.2, 53.˚3N±0.˚1× 166.˚80W±0.˚07, h62km±11km, n104, σ1§21/103, mb3.8/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGOD	Makushin Gods	0.49	355		Pn	00 15 52.1	+0.4
MREP	Makushin Rep't	0.50	4		Pn	00 15 52.2	+0.3
MAPS	Pakushin South	0.50	350		Pn	00 15 52.1	+0.3
MAPS					Sn	00 16 01.2	+0.5
UNV	Unalaska Valle	0.56	18		Pn	00 15 52.8	+0.4
UNV				Sn	Sn	00 16 01.4	-0.3
MNAT	Makushin Natee	0.58	7		Pn	00 15 52.8	+0.1
MNAT					Sn	00 16 02.3	+0.2
MSW	Makushin Switc	0.60	1		Pn	00 15 52.8	-0.1
MSW					Sn	00 16 02.6	0.0
MCIR	Makushin Cirqu	0.64	355		Pn	00 15 53.4	-0.1
MTBL	Makushin Table	0.66	6		Pn	00 15 53.7	0.0
OKFG	Magazine Ridge	0.67	279		Pn	00 15 53.9	+0.2
OKFG					Sn	00 16 03.9	-0.1
OKNC	Okmok New Cone	0.81	281		Pn	00 15 54.6	-0.8
OKNC					Sn	00 16 05.7	-1.2
OKCE	Okmok Cone E	0.83	279		Pn	00 15 55.8	+0.2
OKSP	Okmok Steeple	0.90	267		Pn	00 15 56.8	+0.2
AKMO	Akutan Morgan	0.91	31		Pn	00 15 57.3	+0.6
AKMO					Sn	00 16 10.5	+1.3
AKRB	Akutan Reef Bi	0.93	28		Pn	00 15 57.5	+0.7
AKRB					Sn	00 16 10.7	+1.1
AKBBA	Akutan Broad B	0.94	33		Pn	00 15 57.8	+0.7
AKBBA					Sn	00 16 11.3	+1.4
LVA	Lava Point	0.96	28		Pn	00 15 57.8	+0.5
AKLV	Akutan Long Va	0.99	30		Pn	00 15 58.0	+0.4
AKGG	Akutan Green G	1.01	28		Pn	00 15 58.4	+0.5
AKGG					Sn	00 16 12.5	+1.1
AKUT	Akutan	1.03	36		Pn	00 15 58.7	+0.6
AKSA	Akutan Strait	1.05	38		Pn	00 15 59.0	+0.5
NIKH	Nikolski High	1.28	255		Pn	00 16 01.9	+0.4
WESP	Westdahl Peak	1.71	45		Pn	00 16 08.1	+0.9
WEBT	Westdahl Beart	1.76	43		Pn	00 16 08.7	+0.8
SSBA	Shishaldin	2.15	46		Pn	00 16 13.9	+0.6
SSLW	Shishaldin Wes	2.15	46		Pn	00 16 14.1	+0.9
FALS	False Pass	2.52	51		Pn	00 16 19.3	+1.1
DT1	Dutton Round H	3.21	54		Pn	00 16 28.7	+1.2
SDPT	Sand Point	4.23	59		Pn	00 16 42.9	+1.4
CNBA	Chernabura Isl	4.51	68		Pn	00 16 45.6	+0.3
KOFP	Korovin Flat P	4.55	260		Pn	00 16 46.6	+0.6
ATKA	Atka Island	4.63	259		Pn	00 16 47.0	+0.1
GSTR	Great Sitkin T	5.76	261	Pn	Pn	00 17 02.6	+0.1
GSMY	Great Sitkin M	5.77	261		Pn	00 17 02.7	0.0
ADK	Adak	6.19	261		Pn	00 17 07.8	-0.5
CHIR	Chirikof Islan	6.97	64		Pn	00 17 19.2	+0.2
SII	Sitkinak Islan	7.96	61		Pn	00 17 32.8	+0.3
OHAK	Old Harbor	8.65	58		Pn	00 17 41.1	-0.8
AMKA	Amchitka	8.73	263		Pn	00 17 41.6	-1.4
KDAK	Kodiak Island	9.21	55	Pn	Pn	00 17 48.4	-1.2
	1.2nm,0.3s,baz=252,slow=8.9,SNR=15						
KDAK				Sn	Sn	00 19 26.9	-4.8
	0.5nm,0.3s,baz=114,slow=23,SNR=1.7						
RSO	Redoubt South	10.49	41	Pn	Pn	00 18 09.4	+2.1
CNPM	China Poot	10.62	48	Pn	Pn	00 18 09.0	+0.1
BRLK	Bradley Lake	10.89	47	Pn	Pn	00 18 12.6	+0.1
TTA	Tatalina	11.18	26	Pn	Pn	00 18 16.9	+0.3
SMY	Shemya	11.52	275	Pn	Pn	00 18 20.4	-0.7
SEW	Seward	11.69	48	Pn	Pn	00 18 22.9	-0.5
SUA	Susitna One	11.87	40	Pn	Pn	00 18 26.3	+0.2
PPLA	Purkeypile	12.29	33	Pn	Pn	00 18 33.6	+1.8
KNK	Knik Glacier	12.76	43	Pn	Pn	00 18 36.6	-1.4
GHO	Glory Hole Cre	12.77	41	Pn	Pn	00 18 37.5	-0.7
MID	Middleton Isla	12.86	53	Pn	Pn	00 18 37.2	-2.1
GLI	Glacier Island	13.08	47	Pn	Pn	00 18 40.1	-2.2
HIN	Hinchinbrook I	13.14	49	Pn	Pn	00 18 41.9	-1.3
FID	Port Fidalgo	13.29	48		Pn	00 18 42.8	-2.5
TRF	Thorofare Moun	13.30	34	Pn	Pn	00 18 43.4	-2.1
EYAK	Cordova Ski Ar	13.54	49	Pn	Pn	00 18 47.1	-1.5
RND	Reindeer	13.76	36	Pn	Pn	00 18 52.6	+1.0
KLU	Klutina	13.86	46		Pn	00 18 50.6	-2.3
KAIM	Kayak Island	13.94	53	Pn	Pn	00 18 55.0	+1.1
RAGM	Ragged Mountai	13.97	51	Pn	Pn	00 18 54.7	+0.3
DHY	Denali Highway	14.10	38	Pn	Pn	00 18 55.4	-0.7
IMAR	Indian Mountai	14.27	22	Pn	Pn	00 18 59.3	+1.1
SUCK	Suckling Hills	14.29	53	Pn	Pn	00 18 59.5	+0.9
WRH	Wood River Hil	14.71	33	Pn	Pn	00 19 03.9	0.0
PAX	Paxson	14.77	41	Pn	Pn	00 19 04.7	-0.2
CRQM	Cirque	14.81	50	Pn	Pn	00 19 04.4	-1.1
WAX	Waxell Ridge	14.85	52	Pn	Pn	00 19 06.2	+0.3
CCB	Clear Creek Bu	14.91	33		Pn	00 19 06.9	+0.3
TGL	Tana Glacier	14.96	51	Pn	Pn	00 19 07.8	+0.5
MDM	Murphy Dome	14.99	32	Pn	Pn	00 19 07.7	+0.1
HDA	Harding Lake	15.05	35	P	Pn	00 19 07.8	-0.6
MCARA	McCarthy VSAT	15.09	48	IAmb	IAmb	00 19 09.5	
	comp=Z,8.7nm,0.8s						
ISLE	Juniper Island	15.14	51	Pn	Pn	00 19 08.2	-1.4
ISLE				IAmb	IAmb	00 19 17.7	
	comp=Z,7.0nm,0.8s						
MESA	MESA	15.20	53	Pn	Pn	00 19 12.3	+1.8
BALM	Baldy	15.27	50	IAmb	IAmb	00 19 30.0	
	comp=Z,3.9nm,0.8s						
IL31		15.30	34	Pn	Pn	00 19 12.1	+0.6
ILAR	Eielson Array	15.30	34	Pn	Pn	00 19 06.9	-4.6
	comp=Z,0.1nm,0.3s,baz=229,slow=10,SNR=3.9						
ILAR	Eielson Array	15.30	34		Pn	00 19 10.1	-1.5
YAH	Yahtse	15.35	53	Pn	Pn	00 19 13.6	+1.1
MENT	Mentasta	15.45	42	Pn	Pn	00 19 14.6	+1.0
MENT				IAmb	IAmb	00 19 25.5	
	comp=Z,4.5nm,0.4s						
BARN	Barnard Glacie	15.60	50	Pn	Pn	00 19 16.0	+0.4
BARN				IAmb	IAmb	00 19 17.2	
	comp=Z,4.6nm,0.5s						
DOT	Dot Lake	15.66	40		Pn	00 19 16.1	-0.2
CTGM	Chitina Glacie	15.72	51	Pn	Pn	00 19 17.5	+0.4
CTGM				IAmb	IAmb	00 19 36.0	
	comp=Z,19nm,1.2s						
PCA	Pinnacle	16.00	54	Pn	Pn	00 19 19.1	-1.5
COLD	Coldfoot	16.11	24	Pn	Pn	00 19 22.5	+0.6
BCAR	Beaver Creek A	16.30	43	Pn	Pn	00 19 22.3	-1.9
HYT	Haines Junctio	17.49	53		P	00 19 41.2	+1.6
HYT				IAmb	IAmb	00 19 45.8	
	comp=Z,12nm,0.9s						
BMAR	Burnt Mountain	17.75	29		Pn	00 19 41.9	-0.3
PEA0B	Petropavlovsk-	21.13	284	P	P	00 20 19.7	+0.5
PETK	Petropavlovsk-	21.13	284	P	P	00 20 19.4	+0.3
INK	Inuvik	21.70	33	P	P	00 20 22.9	-2.1
	comp=Z,1.9nm,0.3s,baz=240,slow=8.2,SNR=17						
INK				LR	LR	00 28 56.0	
	comp=Z,56nm,18.9s,baz=6.0,slow=37						
INK	Inuvik	21.70	33	P	P	00 20 23.1	-1.8
INK				IAmb	IAmb	00 20 26.6	
	comp=Z,2.6nm,0.6s						
C36M	Paulatuk	25.27	34	P	P	00 21 00.1	+0.5
C36M				IAmb	IAmb	00 21 01.3	
	comp=Z,9.0nm,1.2s						
YKA	Yellowknife Ar	28.44	50	P	P	00 21 27.4	-0.7
	comp=Z,0.5nm,0.3s,baz=276,slow=8.5,SNR=10						
H11N2	WAKE ISLAND Hy	39.18	221	T	T	01 04 39.5	
	baz=25,slow=76,SNR=43						
H11N3	WAKE ISLAND Hy	39.19	221	T	T	01 04 46.6	
	baz=25,slow=76,SNR=51						
H11N1	WAKE ISLAND Hy	39.20	221	T	T	01 04 39.6	
	baz=25,slow=76,SNR=44						
H11S1	WAKE ISLAND Hy	40.36	221	T	T	01 06 17.4	
	baz=24,slow=76,SNR=42						
H11S2	WAKE ISLAND Hy	40.38	221	T	T	01 06 11.6	
	baz=24,slow=76,SNR=39						
H11S3	WAKE ISLAND Hy	40.38	221	T	T	01 06 13.4	
	baz=24,slow=76,SNR=20						
SFJD	Kangerlussuaq	50.84	27	LR	LR	00 48 01.8	
	comp=Z,25nm,18.9s,baz=106,slow=38						
TXAR	Lajitas Array	51.19	92	P	P	00 24 37.7	+1.0
	comp=Z,0.3nm,0.4s,baz=307,slow=6.2,SNR=5.0						
H03N2	Juan Fernandez	114.84	113	T	T	02 39 26.0	
	baz=322,slow=78,SNR=12						
H03N1	Juan Fernandez	114.85	113	T	T	02 39 33.0	
	baz=322,slow=78,SNR=17						
H03N3	Juan Fernandez	114.86	113	T	T	02 39 28.5	
	baz=322,slow=78,SNR=16						

CRAAG ***22*** *00:22:46.2, 35.˚78N× 0.˚21E, Ml3.9*

NEIC ***22*** *00:22:46.4±2.6, 35.˚72N±0.˚03× 0.˚15E±0.˚05, h16km±6km, mb4.1/4, ML3.9(ALG), Error ellipse: s-maj=6.6km s-min=3.7km az=110.0*

IDC ***22*** *00:22:46.3±1.3, 35.˚75N× 0.˚21E, h0km, mb3.3/2, mb1 3.6/7, mb1mx3.4/51, mbtmp3.4/7, ML3.5/5, MS3.1/1, Ms1 3.1/1, ms1mx2.3/28, Error ellipse: s-maj=27.4km s-min=17.5km az=135.0*

LDG ***22*** *00:22:47.6±0.3, 35.˚88N× 0.˚16E, h15km, Ml2.9/16, Error ellipse: s-maj=6.1km s-min=3.7km az=164.0*

INMG ***22*** *00:22:48.3±1.2, 35.˚70N× 0.˚24E, h31km, Mb4.1, Error ellipse: s-maj=5.7km s-min=3.2km az=137.0*

MDD ***22*** *00:22:48.2±0.4, 35.˚66N× 0.˚26E, h21km±5km, mb4.2/37, Error ellipse: s-maj=7.3km s-min=3.7km az=146.0, PRXIMO*

CNRM ***22*** *00:22:53.8±7.3, 35.˚82N× 0.˚46W, h13km±48km, Error ellipse: s-maj=59.9km s-min=16.9km az=92.0*

ISC 22 00:22:46.9±1.1, 35.˚76N±0.˚03× 0.˚29E±0.˚03, h21km±4km, n169, σ2§04/212, mb4.1/4, 1C-2D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJBR	Djebel Berber	0.18	165	P	Pb	00 22 52.0	-0.8
OJBR	Djebel Berber	0.18	165	P	Pb	00 22 52.0	-0.8
OKGL	Djebel Kef Gue	0.40	46	P	Pb	00 22 51.0	-4.3
OKGL	Djebel Kef Gue	0.40	46	P	Pn	00 22 56.5	-1.1
	SNR=7.9						
OKGL				S	Sn	00 23 05.1	+0.4
	8µm,0.4s,SNR=7.9						
OKGL	Djebel Kef Gue	0.40	46		Pn	00 22 56.5	-1.1
OKGL					Sn	00 23 05.1	+0.4
OJGS	Djebel Guires	0.45	123	P	Pb	00 22 53.0	-3.2
OJGS	Djebel Guires	0.45	123	P	Pb	00 22 53.0	-3.2
ODJA	Bouhanifia	0.55	220	P	Pb	00 22 58.5	+0.4
ODJA	Bouhanifia	0.55	220	P	Pb	00 22 58.5	+0.4
USTO	Oran	0.68	268	P	Pn	00 23 01.0	-0.4
USTO	Oran	0.68	268	P	Pn	00 23 01.0	-0.4
EANR	'Ain N'Sour	0.69	73	P	Pn	00 23 01.4	-0.1
EANR	'Ain N'Sour	0.69	73	P	Pn	00 23 01.4	-0.1
ETRT	Tiaret	0.90	114	P	Pn	00 23 04.7	+0.2
ETRT	Tiaret	0.90	114	P	Pn	00 23 04.7	+0.2
ECHF	Ech Chlef	0.94	65	P	Pb	00 23 01.6	-3.0
ECHA	Ech Chlef	0.96	65	P	Pb	00 23 01.6	-3.2
OTSS	Djebel Tessala	1.00	242	P	Pn	00 23 06.0	+0.1
OTSS	Djebel Tessala	1.00	242	P	Pn	00 23 06.0	+0.1
EBNR	Beni Rached	1.14	62	P	Pb	00 23 07.9	-0.1
OLHC	Oulhaca	1.48	251	P	Pb	00 23 13.5	-0.3
OLHC	Oulhaca	1.48	251	P	Pb	00 23 13.5	-0.3
CART	Cartagena	2.10	331	P	Pn	00 23 20.5	-0.4
CART				S	Sn	00 23 43.4	-3.0
CART	Cartagena	2.10	331	⇓iP	Pn	00 23 20.5	-0.4
CART				eS	Sn	00 23 43.4	-3.0
CART				eCod		00 24 56.8	
CART	Cartagena	2.10	331		Pn	00 23 20.6	-0.4
ENIJ	Nijar	2.35	302	P	Pn	00 23 23.9	-0.4
	17nm,0.1s,SNR=7.9						
ENIJ				S	Sn	00 23 50.2	-2.5
	108nm,0.7s,SNR=7.9						
ENIJ	Nijar	2.35	302		Pn	00 23 23.9	-0.4
ENIJ					Sn	00 23 51.1	-1.5
TAF	Taforalt	2.40	248	P	Pn	00 23 25.5	+0.4
	SNR=13						
EMUR	La Murta	2.42	330	P	Pn	00 23 24.9	-0.4
	9.6nm,0.2s,SNR=28						
EMUR				S	Sn	00 23 52.4	-1.9
	31nm,0.9s,SNR=8.5						
EMUR	La Murta	2.42	330		Pn	00 23 25.2	-0.1
EMUR					Sn	00 23 53.7	-0.6
TLOR	Lorca, Murcia	2.47	321	P	Pn	00 23 26.3	+0.3
	333nm,0.2s,SNR=7.9						
TLOR				S	Sn	00 23 54.1	-1.6
	103nm,1.5s,SNR=7.9						
MELI	Melilla	2.67	261		Pn	00 23 27.5	-1.2
MELI					Sn	00 23 58.0	-2.4
EALB	Alboran	2.71	275	P	Pn	00 23 28.9	-0.3
	3.0nm,0.1s,SNR=10						
EALB				S	Sn	00 23 59.2	-2.1
	12nm,0.4s						
EALB	Alboran	2.71	275		Pn	00 23 28.9	-0.3
EALB					Sn	00 23 59.2	-2.1
GOG	Mont Gurugu	2.73	260	P	Pn	00 23 28.4	-1.2
GOG				P	Pb	00 23 29.0	-6.2
	SNR=37						
JBK	JBK	2.74	240	P	Pn	00 23 30.7	+0.9
JBK				P	Pb	00 23 32.0	-3.3
	SNR=14						
EBER	Berja	2.81	295	P	Pn	00 23 30.6	-0.2
	35nm,0.1s,SNR=405						
EBER				S	Sn	00 24 02.9	-1.2
	21nm,0.6s						
EBER	Berja	2.81	295		Pn	00 23 30.6	-0.2
EBER					Sn	00 24 02.9	-1.2
EBEN2	Beniarda presa	2.94	353	P	Pn	00 23 34.2	+1.7
	12nm,0.2s,SNR=7.9						
EBEN2				S	Sn	00 24 05.2	-2.0
	58nm,1.0s,SNR=7.9						
EBEN2	Beniarda presa	2.94	353		Pn	00 23 34.2	+1.7
EBEN2					Sn	00 24 08.9	+1.7
AFON	Font Roja	2.98	347	P	Pn	00 23 34.9	+1.8
	5.1nm,0.2s,SNR=10						
AFON				S	Sn	00 24 10.1	+1.8
	26nm,0.4s,SNR=7.2						
AFON	Font Roja	2.98	347		Pn	00 23 34.9	+1.8
GORA	Gorafe	3.18	304	P	Pn	00 23 36.9	+1.0
	45nm,0.2s,SNR=7.9						
ETOB	Tobarra	3.23	334	P	Pn	00 23 38.1	+1.5
	14nm,0.2s,SNR=164						
ETOB				S	Sn	00 24 13.5	-1.0
	14nm,0.4s,SNR=5.1						
SESP	Santiago Espad	3.27	317	P	Pn	00 23 38.7	+1.5
	23nm,0.1s,SNR=7.9						
SESP				S	Sn	00 24 15.4	-0.2
	67nm,0.8s,SNR=7.9						
SESP	Santiago Espad	3.27	317	P	Pn	00 23 39.1	+1.9
	SNR=169						
TDRA	Tendrara	3.32	216	S	Sb	00 24 22.7	-2.5
	SNR=13						
EQUE	Quentar	3.33	297	⇓P	Pn	00 23 39.2	+1.2
	18nm,0.2s,SNR=18						
EQUE				S	Sn	00 24 15.4	-1.6
	4.4nm,0.4s						
ELGU	Los Guajares,	3.35	290	P	Pn	00 23 37.5	-0.7
	16nm,0.1s,SNR=7.9						
ELGU				S	Sn	00 24 15.3	-2.0
	4.5nm,0.6s,SNR=7.9						
EIBI	Ibiza	3.37	14	P	Pn	00 23 40.5	+2.1
	5.3nm,0.2s,SNR=7.9						
EIBI				S	Sn	00 24 16.9	-0.9
	18nm,0.7s						
EQES	Quesada	3.38	308	P	Pn	00 23 40.4	+1.8
	29nm,0.1s,SNR=325						
EQES				S	Sn	00 24 17.6	-0.6
	23nm,1.0s						
AKLM	AKL	3.62	251	P	Pn	00 23 43.2	+1.3
AKLM				P	Pb	00 23 43.3	-7.0
	SNR=28						
EGOR	Sierra Gorda,	3.79	292	P	Pn	00 23 45.0	+0.6
	4.1nm,0.2s,SNR=7.9						
EMAL	Malaga-Limoner	3.94	286	P	Pn	00 23 45.3	-0.9
EMAL				S	Sn	00 24 26.7	-5.1
EMAL	Malaga-Limoner	3.94	286	eP	Pn	00 23 45.3	-0.9
EMAL				eS	Sn	00 24 26.7	-5.1
ECHE	Chera	3.96	346	P	Pn	00 23 47.8	+1.4
	5.2nm,0.3s,SNR=7.9						
ECHE				S	Sn	00 24 31.2	-1.1
	41nm,0.6s,SNR=7.9

CFON					S		Sn	00 25 26.3	-2.0
	23nm,1.4s,SNR=7.9								
CFON	**Fontmartina**	**6.23**	**15**				**Pn**	**00 24 19.8**	**+2.1**
EGRO	**El Granado**	**6.50**	**288**	P			**Pn**	**00 24 20.8**	**-0.5**
	0.5nm,0.1s,SNR=7.9								
EPLA	**Plasencia**	**6.62**	**312**	P			**Pn**	**00 24 24.5**	**+1.4**
	1.9nm,0.3s,SNR=9.5								
CSOR	**Sort**	**6.64**	**5**	P			**Pn**	**00 24 26.1**	**+2.7**
	0.6nm,0.2s,SNR=7.9								
CSOR					S		**Sn**	**00 25 38.2**	**-0.4**
	6.5nm,1.3s,SNR=7.9								
CSOR	**Sort**	**6.64**	**5**				**Pn**	**00 24 26.1**	**+2.7**
CLLI	**Llivia**	**6.84**	**11**	S			**Sn**	**00 25 43.2**	**-0.3**
	6.0nm,1.6s,SNR=7.9								
PBEJ	**Beja**	**6.92**	**292**	P			**Pn**	**00 24 27.1**	**0.0**
PBEJ	**Beja**	**6.92**	**292**	*e*Pn			**Pn**	**00 24 27.1**	**0.0**
PMRV	**Marv??o**	**7.11**	**303**	P			**Pn**	**00 24 31.5**	**+1.7**
PMRV	**Marv??o**	**7.11**	**303**	*e*Pn			**Pn**	**00 24 31.5**	**+1.7**
ETSF	**Etsaut**	**7.16**	**355**	*e*P			**Pn**	**00 24 33.8**	**+3.3**
ETSF				*e*Sn			Sn	00 25 43.1	-8.2
	1.3nm,0.4s								
ETSF	**Etsaut**	**7.16**	**355**	P			**Pn**	**00 24 33.8**	**+3.3**
ETSF				S			Sn	00 25 43.1	-8.2
	0.6nm,0.4s								
EVO	**Evora**	**7.18**	**295**	P			**Pn**	**00 24 31.0**	**+0.2**
EVO	**Evora**	**7.18**	**295**	*e*Pn			**Pn**	**00 24 31.0**	**+0.2**
EORO	**Oroz-Betelu**	**7.23**	**351**	P			**Pn**	**00 24 34.4**	**+2.9**
	1.0nm,0.3s,SNR=8.7								
EPF	**Esparros**	**7.27**	**0**	*e*P			**Pn**	**00 24 35.5**	**+3.6**
EPF				*e*Sn			Sn	00 25 46.0	-7.8
	0.5nm,0.3s								
EPF	**Esparros**	**7.27**	**0**	P			**Pn**	**00 24 35.5**	**+3.6**
EPF				S			Sn	00 25 46.0	-7.8
	0.2nm,0.3s								
ATE	**Arette**	**7.36**	**354**	P			**Pn**	**00 24 36.4**	**+3.2**
	0.3nm,0.2s,SNR=7.9								
ATE				S			**Sn**	**00 25 54.0**	**-2.1**
	7.9nm,1.0s,SNR=7.9								
KEST	**Kesra**	**7.37**	**88**	Pn			**Pn**	**00 24 36.0**	**+2.6**
	0.6nm,0.3s,baz=247,slow=7.7,SNR=13								
KEST	**Kesra**	**7.37**	**88**	Pn			**Pn**	**00 24 34.3**	**+1.0**
PCBR	**Castelo Branco**	**7.38**	**306**	P			**Pn**	**00 24 34.5**	**+1.1**
PCBR	**Castelo Branco**	**7.38**	**306**	*e*Pn			**Pn**	**00 24 34.5**	**+1.1**
SJPF	**Ste Jean**	**7.44**	**351**	*e*P			**Pn**	**00 24 37.8**	**+3.5**
SJPF				*e*Sn			Sn	00 25 49.1	-9.0
	1.0nm,0.3s								
SJPF	**Ste Jean**	**7.44**	**351**	P			**Pn**	**00 24 37.8**	**+3.5**
SJPF				S			Sn	00 25 49.1	-9.0
	0.5nm,0.3s								
PNCL	**Nicolau / Gran**	**7.44**	**291**	P			**Pn**	**00 24 34.6**	**+0.3**
PNCL	**Nicolau / Gran**	**7.44**	**291**	*e*Pn			**Pn**	**00 24 34.6**	**+0.3**
PMTG	**Montargil**	**7.54**	**299**	P			**Pn**	**00 24 36.0**	**+0.4**
PMTG	**Montargil**	**7.54**	**299**	*e*Pn			**Pn**	**00 24 36.0**	**+0.4**
EALK	**Alkurruntz**	**7.58**	**350**	P			**Pn**	**00 24 39.5**	**+3.2**
	SNR=7.9								
EALK				S			**Sn**	**00 25 59.8**	**-1.8**
	12nm,0.9s,SNR=11								
MTE	**Manteigas**	**7.72**	**309**	P			**Pn**	**00 24 38.0**	**-0.2**
MTE	**Manteigas**	**7.72**	**309**	*e*Pn			**Pn**	**00 24 38.0**	**-0.2**
MTE	**Manteigas**	**7.72**	**309**	Pn			**Pn**	**00 24 37.1**	**-1.1**
MTLF	**Montolieu**	**7.72**	**11**	*e*P			**Pn**	**00 24 41.0**	**+2.9**
MTLF				*e*Sn			Sn	00 25 57.0	-7.9
	0.4nm,0.3s								
MTLF	**Montolieu**	**7.72**	**11**	P			**Pn**	**00 24 41.0**	**+2.9**
MTLF				S			Sn	00 25 57.0	-7.9
	0.2nm,0.3s								
MVO	**Moncorvo**	**7.88**	**315**	P			**Pn**	**00 24 41.8**	**+1.5**
	1.4nm,0.3s,SNR=7.9								
MVO	**Moncorvo**	**7.88**	**315**	*e*Pn			**Pn**	**00 24 42.7**	**+2.3**
ELAN	**Lanestosa**	**8.00**	**340**	P			**Pn**	**00 24 44.6**	**+2.6**
	0.7nm,0.2s,SNR=6.4								
ELAN				S			**Sn**	**00 26 09.2**	**-2.7**
	14nm,1.6s,SNR=5.6								
PVIS	**Viseu**	**8.12**	**310**	P			**Pn**	**00 24 45.7**	**+2.0**
PVIS	**Viseu**	**8.12**	**310**	*e*Pn			**Pn**	**00 24 45.7**	**+2.0**
VSL	**Villasalto**	**8.12**	**60**	Pn			**Pn**	**00 24 43.5**	**-0.2**
PSBE	**So Bento**	**8.12**	**300**	*e*Pn			**Pn**	**00 24 44.7**	**+1.0**
PBRG	**Braganca**	**8.16**	**320**	P			**Pn**	**00 24 46.3**	**+2.1**
PBRG	**Braganca**	**8.16**	**320**	*e*Pn			**Pn**	**00 24 46.3**	**+2.1**
COI	**Coimbra**	**8.18**	**306**	Pn			**Pn**	**00 24 43.2**	**-1.2**
ECAL	**Calabor**	**8.26**	**321**	P			**Pn**	**00 24 47.3**	**+1.8**
	4.7nm,0.4s,SNR=10								
EARI	**Arriondas**	**8.65**	**332**	P			**Pn**	**00 24 53.3**	**+2.4**
	1.4nm,0.5s,SNR=6.7								
LASF	**Ste Croix**	**8.75**	**17**	*e*P			**Pn**	**00 24 55.2**	**+2.9**
LASF				*e*Sn			Sn	00 26 21.6	-8.7
	0.6nm,0.3s								
LASF	**Ste Croix**	**8.75**	**17**	P			**Pn**	**00 24 55.2**	**+2.9**
LASF				S			Sn	00 26 21.6	-8.7
	0.3nm,0.3s								
LMR	**La Mourre**	**8.96**	**31**	*e*P			**Pn**	**00 24 57.4**	**+2.3**
LMR				*e*Sn			Sn	00 26 27.6	-7.8
	0.7nm,0.3s								
LMR	**La Mourre**	**8.96**	**31**	P			**Pn**	**00 24 57.4**	**+2.3**
LMR				S			Sn	00 26 27.6	-7.8
	0.3nm,0.3s								
LFF	**La Frestale**	**9.18**	**2**	*e*P			**Pn**	**00 25 01.0**	**+2.9**
LFF				*e*Sn			Sn	00 26 31.2	-10
	1.7nm,0.4s								
LFF	**La Frestale**	**9.18**	**2**	P			**Pn**	**00 25 01.0**	**+2.9**
LFF				S			Sn	00 26 31.2	-10
	0.9nm,0.4s								
FRF	**La Foret Royal**	**9.21**	**30**	*e*P			**Pn**	**00 25 00.7**	**+2.2**
FRF				*e*Sn			Sn	00 26 33.2	-8.2
	0.2nm,0.2s								
FRF	**La Foret Royal**	**9.21**	**30**	P			**Pn**	**00 25 00.7**	**+2.2**
FRF				S			Sn	00 26 33.2	-8.2
	0.1nm,0.2s								
CAF	**Calviac**	**9.26**	**8**	*e*P			**Pn**	**00 25 02.1**	**+2.9**
CAF				*e*Sn			Sn	00 26 33.7	-9.1
	0.3nm,0.2s								
CAF	**Calviac**	**9.26**	**8**	P			**Pn**	**00 25 02.1**	**+2.9**
CAF				S			Sn	00 26 33.7	-9.1
	0.2nm,0.2s								
EPON	**Pontenova**	**9.49**	**325**	P			**Pn**	**00 25 04.4**	**+2.0**
	4.5nm,0.4s,SNR=10.0								
PGF	**Pioggiola**	**9.58**	**42**	*e*Pn			**Pn**	**00 25 01.7**	**-2.0**
PGF				*e*Sn			Sn	00 26 43.3	-7.4
	0.4nm,0.2s								
PGF	**Pioggiola**	**9.58**	**42**	P			**Pn**	**00 25 01.7**	**-2.0**
PGF				S			Sn	00 26 43.3	-7.4
	0.2nm,0.2s								
SBF	**Sospel**	**9.78**	**32**	*e*P			**Pn**	**00 25 09.9**	**+3.4**
SBF				*e*Sn			Sn	00 26 47.3	-8.4
	6.7nm,0.6s								
SBF	**Sospel**	**9.78**	**32**	P			**Pn**	**00 25 09.9**	**+3.4**
SBF				S			Sn	00 26 47.3	-8.4
	3.3nm,0.6s								
SSB	**Saint Sauveur**	**10.05**	**17**	Pn			**Pn**	**00 25 11.9**	**+1.8**
CASP	**Castiglione de**	**10.79**	**46**	Pn			**Pn**	**00 25 19.6**	**-0.6**
MSSA	**Maissana**	**11.09**	**37**	Pn			**Pn**	**00 25 22.0**	**-2.3**
QUIF	**Quistinic**	**12.42**	**349**	*e*P			**Pn**	**00 25 44.7**	**+2.3**
QUIF				*e*Sn			Sn	00 27 48.0	-12
	0.6nm,0.4s								
QUIF	**Quistinic**	**12.42**	**349**	P			**Pn**	**00 25 44.7**	**+2.3**
QUIF				S			Sn	00 27 48.0	-12
	0.3nm,0.4s								
GRR	**Gorron**	**12.65**	**357**	*e*P			**Pn**	**00 25 49.0**	**+3.4**
GRR	**Gorron**	**12.65**	**357**	P			**Pn**	**00 25 49.0**	**+3.4**
ROSF	**Rostrenen**	**12.85**	**349**	*e*P			**Pn**	**00 25 51.8**	**+3.6**
ROSF				*e*Sn			Sn	00 27 57.1	-13
	0.3nm,0.2s								
ROSF	**Rostrenen**	**12.85**	**349**	P			**Pn**	**00 25 51.8**	**+3.6**
ROSF				S			Sn	00 27 57.1	-13
	0.2nm,0.2s								
GEC2	**GERESS Array S**	**16.38**	**33**	Pn			**Pn**	**00 26 32.4**	**-3.2**
GEC2				IAmb			IAmb	00 26 41.4	
	comp=Z,1.8nm,0.8s								
GERES	**GERESS Array B**	**16.38**	**33**	Pn			**P**	**00 26 40.3**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=218,slow=12,SNR=12								
GERES	**GERESS Array B**	**16.38**	**33**	Pn			**Pn**	**00 26 33.6**	**-2.1**
KHC	**Kasperske Hory**	**16.55**	**32**				**Pn**	**00 26 38.2**	**+0.6**
CLL	**Collm**	**18.03**	**27**	*e*PP			P	00 27 09.0	+13
CLL				*i* pPP				00 27 12.3	
EKA	**Eskdalemuir Ar**	**19.72**	**354**	P			**Pn**	**00 27 17.5**	**+1.0**
	baz=181,slow=7.1,SNR=2.0								
EKB	**Eskdalemuir**	**19.73**	**354**	P			**P**	**00 27 13.5**	**-1.5**
EKB				IAmb			IAmb	00 28 05.2	
	comp=Z,143nm,1.8s								
MLR	**Muntele Rosu**	**21.69**	**56**	LR			LR	00 36 34.7	
	comp=Z,48nm,19.8s,baz=292,slow=38								
TORD	**Torodi Ar. Bea**	**22.55**	**176**	P			**P**	**00 27 48.5**	**+2.8**
	comp=Z,1.1nm,0.7s,baz=0.9,slow=11,SNR=5.7								
NC405	**NORSAR Array S**	**26.40**	**12**	P			**P**	**00 28 22.1**	**+0.3**
FINES	**FINESS Array B**	**30.45**	**24**	P			**P**	**00 28 57.6**	**-0.1**

MKAR	**Makanchi Array**	**59.97**	**52**	P			**P**	**00 32 53.8**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=286,slow=7.3,SNR=2.5								
WMQ	**Urumqi**	**64.66**	**53**	*e*P			**P**	**00 33 26.3**	**+3.1**
LZH	**Lanzhou**	**79.24**	**53**	*e*P			**P**	**00 34 53.4**	**+2.4**
LZH				pP			pP	00 34 57.8	0.0
LZH				sP			sP	00 35 00.6	+0.3
LZH				PP			**PP**	**00 37 46.5**	**-3.7**
LZH				pmax			pmax		
	comp=Z,13nm,1.2s								
LZH				pmax			pmax		
	comp=Z,64nm,5.0s								
HHC	**Hu-ho-hao-te**	**81.08**	**46**	*e*P			**P**	**00 35 02.3**	**+1.6**
HHC				pmax			pmax		
	comp=Z,11nm,1.3s								
HHC				pmax			pmax		
	comp=Z,83nm,7.0s								

*NEIC **22** 00:29:01.7±2.4, 6.°09S±0.°06×129.°62E±0.°07, h113km±11km, mb4.1/6, Error ellipse: s-maj=11.5km s-min=6.0km az=57.0*
*IDC **22** 00:29:04.6±2.9, 6.°16S×129.°92E, h108km±39km, mb3.7/1, mb1 3.8/5, mb1mx3.4/38, mbtmp4.1/5, MS3.4/1, Ms1 3.4/1, ms1mx2.5/24, Error ellipse: s-maj=72.7km s-min=21.1km az=89.0*

ISC 22 00:29:04.7±0.7, 6.°21S±0.°05×130.°03E±0.°09, h146km, n27, σ2s99/33, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.17**	**145**			**Pn**	**00 29 42.8**	**+1.2**
SAUI					Sn	**Sn**	**00 30 09.3**	**-0.7**
FAKI	**Fak Fak**	**3.94**	**34**		Pn	**Pn**	**00 30 02.7**	**-1.4**
SIJI	**Sorong**	**5.44**	**13**	P		**Pn**	**00 30 23.4**	**-0.6**
	6.5nm,0.3s,baz=192,slow=20,SNR=32							
SIJI				S		**Sn**	**00 31 19.0**	**-6.9**
	23nm,0.3s,baz=222,slow=12,SNR=16							
MTN	**Manton Dam**	**6.69**	**171**	Pn		**Pn**	**00 30 42.3**	**+1.7**
MTN				Sn		**Sn**	**00 31 57.5**	**+1.8**
SOEI	**Soe**	**6.71**	**238**	Pn		Pn	00 30 33.7	-7.6
KNRA	**Kununurra**	**9.49**	**187**	Pn		**Pn**	**00 31 18.6**	**+0.5**
KNRA						**Sn**	**00 33 00.1**	**-3.2**
FITZ	**Fitzroy Crossi**	**12.57**	**200**	P		**Pn**	**00 31 59.6**	**+1.1**
	0.7nm,0.3s,baz=26,slow=11,SNR=22							
FITZ				S		**Sn**	**00 34 13.1**	**-4.5**
	1.1nm,0.3s,baz=129,slow=20,SNR=7.6							
FITZ	**Fitzroy Crossi**	**12.57**	**200**	Pn		**Pn**	**00 31 57.2**	**-1.3**
WB0	**Warramunga Arr**	**14.13**	**163**	Pn		**Pn**	**00 32 19.4**	**+0.9**
WRAB	**Tennant Creek**	**14.28**	**163**	Pn		**Pn**	**00 32 20.9**	**+0.5**
WRA	**Warramunga Arr**	**14.28**	**163**	P		**Pn**	**00 32 21.1**	**+0.7**
	1.4nm,0.3s,baz=347,slow=13,SNR=28							
WRA				S		**Sn**	**00 34 51.2**	**-7.6**
	2.2nm,0.3s,baz=352,slow=21,SNR=8.5							
WB2	**Warramunga Arr**	**14.29**	**163**	Pn		**Pn**	**00 32 21.4**	**+1.0**
WR0	**Warramunga Arr**	**14.36**	**163**	Pn		**Pn**	**00 32 21.9**	**+0.5**
COEN	**Coen**	**15.05**	**122**	Pn		**P**	**00 32 33.3**	**+1.4**
COEN				IAmb		IAmb	00 32 37.3	
	comp=Z,12nm,1.1s							
AS31	**Alice Springs**	**17.76**	**168**			**Pn**	**00 33 03.3**	**+0.4**
ASAR	**Alice Springs**	**17.76**	**168**	P		**Pn**	**00 33 06.5**	**+3.5**
	comp=Z,0.6nm,0.3s,baz=344,slow=9.1,SNR=24							
ASAR				S		**S**	**00 36 16.1**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=356,slow=27,SNR=6.7							
ASAR	**Alice Springs**	**17.76**	**168**	P		**Pn**	**00 33 03.6**	**+0.6**
CTAO	**Charters Tower**	**20.95**	**133**	P		**P**	**00 33 40.2**	**+4.0**
CTAO				IAmb		IAmb	00 33 43.9	
	comp=Z,6.2nm,1.0s							
CISI	**Cisompet, Garu**	**22.09**	**265**	P		**P**	**00 33 43.8**	**-4.6**
BBOO	**Buckleboo**	**27.06**	**169**	P		**P**	**00 34 32.9**	**-0.6**
BBOO				IAmb		IAmb	00 34 33.6	
	comp=Z,16nm,1.1s							
KSRS	**Korea Array**	**43.48**	**358**	LR		LR	00 55 24.5	
	comp=Z,44nm,20.0s,baz=110,slow=36							
LZH	**Lanzhou**	**48.72**	**332**	*e*P		**P**	**00 37 37.5**	**+2.8**
LZH				pP		pP	00 38 03.3	-3.2
LZH				sP		pwP	00 38 11.8	-0.7
LZH				PP		**PP**	**00 39 34.6**	**+5.3**
LZH				pmax		pmax		
	comp=Z,19nm,1.2s							
LZH				pmax		pmax		
	comp=Z,78nm,5.4s							
HHC	**Hu-ho-hao-te**	**49.80**	**342**	*e*P		**P**	**00 37 43.6**	**+0.9**
HHC				pmax		pmax		
	comp=Z,18nm,1.0s							
HHC				pmax		pmax		
	comp=Z,79nm,5.6s							
WMQ	**Urumqi**	**62.75**	**327**	*e*P		**P**	**00 39 16.9**	**+2.5**
MK31	**Makanchi Array**	**67.58**	**327**	P		**P**	**00 39 44.6**	**-0.9**
MK31				IAmb		IAmb	00 39 49.5	
	comp=Z,1.2nm,0.8s							
MKAR	**Makanchi Array**	**67.58**	**327**	P		**P**	**00 39 48.9**	**+3.3**
	comp=Z,1.1nm,0.6s,baz=125,slow=7.8,SNR=13							
MKAR	**Makanchi Array**	**67.58**	**327**	P		**P**	**00 39 45.7**	**+0.2**

*CNRM **22** 00:38:00.6±2.0, 35.°85N×7.°53W, h89km±97km, Error ellipse: s-maj=20.9km s-min=8.4km az=75.0*
*MDD **22** 00:38:02.5±1.4, 35.°90N×7.°67W, h39km±30km, mbLg2.2/14, Error ellipse: s-maj=16.9km s-min=5.6km az=24.0, PRXIMO*
*SFS **22** 00:38:02.0, 35.°92N×7.°66W, h43km, ML3.5, GOLFO DE CADIZ*
*INMG **22** 00:38:03.4±0.9, 35.°92N×7.°65W, h27km±12km, ML1.7, Error ellipse: s-maj=9.0km s-min=3.3km az=27.0*

ISC 22 00:37:59.8±1.3, 35.°84N±0.°04×7.°63W±0.°04, h35km, n49, σ1s83/91, 1C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**1.42**	**350**	P		**Pn**	**00 38 24.4**	**+1.3**
PBDV				S		**Sn**	**00 38 40.2**	**-0.4**
	5.2nm,0.2s							
PBDV	**Barranco-do-Ve**	**1.42**	**350**	*e*Pn		**Pn**	**00 38 24.4**	**+1.3**
PBDV				*e*Sn		**Sn**	**00 38 40.2**	**-0.4**
PBDV				A		A	00 38 43.9	
	5.2nm,0.2s							
PFVI	**Vila Bisbo**	**1.61**	**323**	P		**Pn**	**00 38 25.9**	**+0.2**
	SNR=7.9							
PFVI				S		**Sn**	**00 38 44.7**	**-0.5**
	2.5nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**1.61**	**323**	*e*Sn		**Sn**	**00 38 44.8**	**-0.5**
PFVI				A		A	00 38 48.4	
	5.1nm,0.4s							
MORF	**Marmelete**	**1.68**	**331**	S		**Sn**	**00 38 47.2**	**+0.2**
MORF	**Marmelete**	**1.68**	**331**	*e*Sn		**Sn**	**00 38 47.2**	**+0.2**
EGRO	**El Granado**	**1.69**	**4**	P		**Pn**	**00 38 28.6**	**+1.7**
	1.4nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**00 38 47.0**	**-0.3**
	10nm,0.1s,SNR=10							
ESPR	**Espera**	**1.76**	**54**	P		**Pn**	**00 38 30.1**	**+2.3**
	2.1nm,0.3s,SNR=9.8							
ESPR				S		**Sn**	**00 38 49.7**	**+0.7**
	19nm,0.4s,SNR=6.1							
PTEO	**Sao Teotonio**	**1.91**	**333**	P		**Pn**	**00 38 31.5**	**+1.6**
PTEO				S		**Sn**	**00 38 52.6**	**-0.1**
	1.6nm,0.6s							
PTEO	**Sao Teotonio**	**1.91**	**333**	*e*Pn		**Pn**	**00 38 31.5**	**+1.6**
PTEO				*e*Sn		**Sn**	**00 38 52.6**	**-0.1**
PTEO				A		A	00 38 54.0	
	3.1nm,0.6s							
EMIN	**Mina Concepcio**	**2.07**	**22**	P		**Pn**	**00 38 33.6**	**+1.6**
	1.9nm,0.3s,SNR=8.4							
EMIN				S		**Sn**	**00 38 55.6**	**-1.0**
	2.6nm,0.1s,SNR=9.5							
PNCL	**Nicolau / Gran**	**2.38**	**343**	P		**Pn**	**00 38 37.5**	**+1.2**
PNCL				S		**Sn**	**00 39 03.3**	**-0.9**
	1.6nm,0.2s							
PNCL	**Nicolau / Gran**	**2.38**	**343**	*e*Pn		**Pn**	**00 38 37.5**	**+1.2**
PNCL				*e*Sn		**Sn**	**00 39 03.3**	**-0.9**
PNCL				A		A	00 39 07.1	
	1.6nm,0.2s							
EMIJ	**Mijas**	**2.42**	**72**	P		**Pn**	**00 38 38.8**	**+1.9**
	2.4nm,0.3s,SNR=7.9							
EMIJ				S		**Sn**	**00 39 06.5**	**+1.2**
	0.6nm,0.2s,SNR=4.0							
EVO	**Evora**	**2.70**	**354**	P		**Pn**	**00 38 42.2**	**+1.5**
EVO				S		**Sn**	**00 39 12.1**	**-0.1**
EVO	**Evora**	**2.70**	**354**	*e*P		**Pn**	**00 38 42.3**	**+1.6**
EVO				*e*S		**Sn**	**00 39 10.7**	**-1.5**
EVO	**Evora**	**2.70**	**354**	*e*Pn		**Pn**	**00 38 42.2**	**+1.5**
EVO				*e*Sn		**Sn**	**00 39 12.1**	**-0.1**
HORN	**Hornachuelos**	**2.76**	**43**	P		**Pn**	**00 38 41.3**	**-0.3**
HORN				S		**Sn**	**00 39 14.4**	**+0.7**

ECAB	**El Cabril**	**2.84**	**38**	P			**Pn**	**00 38 44.8**	**+2.1**
	1.6nm,0.4s,SNR=7.9								
ECAB				S			**Sn**	**00 39 14.0**	**-1.9**
	1.5nm,0.3s,SNR=8.7								
EGOR	**Sierra Gorda,**	**3.10**	**65**	P			**Pn**	**00 38 49.4**	**+3.0**
	1.4nm,1.2s,SNR=7.9								
EGOR				S			**Sn**	**00 39 23.1**	**+0.7**
	1.8nm,0.3s,SNR=7.9								
PMTG	**Montargil**	**3.25**	**352**	P			**Pn**	**00 38 49.5**	**+1.2**
PMTG				S			**Sn**	**00 39 25.0**	**-0.8**
	1.2nm,0.3s								
PMTG	**Montargil**	**3.25**	**352**	*e*Pn			**Pn**	**00 38 49.5**	**+1.2**
PMTG				*e*Sn			**Sn**	**00 39 25.0**	**-0.8**
PMTG				A			A	00 39 27.4	
	1.2nm,0.3s								
AKLM	**AKL**	**3.36**	**112**	P			**Pn**	**00 38 47.6**	**-2.3**
AKLM				S			**Sn**	**00 39 27.9**	**-0.7**
EADA	**Adamuz**	**3.37**	**46**	P			**Pn**	**00 38 52.1**	**+2.2**
	2.8nm,0.5s,SNR=7.9								
EADA				S			**Sn**	**00 39 27.9**	**-0.9**
	0.9nm,0.6s,SNR=7.9								
PMAFR	**Mafra**	**3.37**	**338**	P			**Pn**	**00 38 50.9**	**+1.0**
	2.2nm,0.7s,SNR=4.0								
PMAFR				S			**Sn**	**00 39 26.2**	**-2.6**
	4.4nm,0.3s,SNR=5.6								
PMAFR	**Mafra**	**3.37**	**338**	*e*Pn			**Pn**	**00 38 52.3**	**+2.3**
PMAFR				*e*Sn			**Sn**	**00 39 27.9**	**-0.9**
ELGU	**Los Guajares,**	**3.39**	**71**	P			**Pn**	**00 38 52.8**	**+2.6**
	1.9nm,0.3s,SNR=7.9								
ELGU				S			**Sn**	**00 39 29.0**	**-0.2**
	2.7nm,0.5s,SNR=7.9								
PMRV	**Marv??o**	**3.58**	**3**	P			**Pn**	**00 38 54.3**	**+1.4**
PMRV				S			**Sn**	**00 39 31.2**	**-2.8**
	1.8nm,0.2s								
PMRV	**Marv??o**	**3.58**	**3**	*e*Pn			**Pn**	**00 38 54.3**	**+1.4**
PMRV				*e*Sn			**Sn**	**00 39 31.2**	**-2.8**
PMRV				A			A	00 39 35.0	
	1.8nm,0.2s								
PSBE	**So Bento**	**3.78**	**346**	*e*Pn			**Pn**	**00 38 57.3**	**+1.7**
PSBE				*e*Sn			**Sn**	**00 39 37.0**	**-1.8**
MD31	**MD31**	**3.80**	**141**	P			**Pn**	**00 38 58.2**	**+2.2**
MD31				S			**Sn**	**00 39 39.5**	**0.0**
MDT	**Midelt**	**3.92**	**140**	P			**Pn**	**00 38 58.4**	**+0.7**
MDT				S			**Sn**	**00 39 41.9**	**-0.6**
PCBR	**Castelo Branco**	**3.99**	**2**	P			**Pn**	**00 39 00.1**	**+1.6**
PCBR				S			**Sn**	**00 39 42.4**	**-1.6**
	0.6nm,0.2s								
PCBR	**Castelo Branco**	**3.99**	**2**	*e*Pn			**Pn**	**00 39 00.1**	**+1.6**
PCBR				*e*Sn			**Sn**	**00 39 42.4**	**-1.6**
PCBR				A			A	00 39 44.5	
	1.1nm,0.2s								
EQES	**Quesada**	**4.15**	**61**	P			**Pn**	**00 39 02.6**	**+1.9**
	1.0nm,0.4s,SNR=7.9								
EQES				S			**Sn**	**00 39 47.3**	**-0.7**
	0.4nm,0.2s,SNR=7.9								
EPLA	**Plasencia**	**4.39**	**16**	P			**Pn**	**00 39 06.5**	**+2.6**
	0.4nm,0.8s,SNR=7.9								
EPLA				S			**Sn**	**00 39 51.6**	**-2.2**
	2.5nm,0.4s,SNR=7.9								
JBK	**JBK**	**4.42**	**108**	P			**Pn**	**00 39 04.2**	**-0.3**
JBK				S			**Sn**	**00 39 51.5**	**-3.3**
PAB	**San Pablo**	**4.52**	**34**	P			**Pn**	**00 39 07.4**	**+1.6**
	1.0nm,1.8s,SNR=7.9								
PAB				S			**Sn**	**00 39 54.0**	**-3.1**
	0.6nm,0.2s,SNR=7.9								
MTE	**Manteigas**	**4.55**	**1**	P			**Pn**	**00 39 07.8**	**+1.6**
MTE				S			**Sn**	**00 39 55.9**	**-2.0**
	0.9nm,0.4s								
MTE	**Man

BOSA	**Boshof**	**63.90**	**256**	LR	LR	01 15 31.0		
	comp=Z,77nm,18.1s,baz=177,slow=30							
CMAR	**Chiang Mai Arr**	**67.20**	**352**	P	**P**	**00 54 07.5**	**-0.2**	
	comp=Z,0.8nm,0.3s,baz=187,slow=5.3,SNR=5.6							
CMAR				LR	LR	01 23 13.1		
	comp=Z,36nm,18.0s,baz=198,slow=36							
PLCA	**Paso Flores**	**90.97**	**182**	LR	LR	01 37 16.9		
	comp=Z,46nm,18.0s,baz=116,slow=36							
INK	**Inuvik**	**144.69**	**34**	PKP	PKPbc	01 02 48.3	+0.4	
	comp=Z,2.3nm,1.0s,baz=90,slow=1.5,SNR=4.7							
NVAR	**Mina Array Bea**	**146.03**	**90**	PKPbc	**PKPab**	**01 02 54.1**	**+0.1**	
	comp=Z,1.0nm,0.8s,baz=217,slow=5.4,SNR=7.3							
TXAR	**Lajitas Array**	**149.61**	**118**	PKPbc	**PKiKP**	**01 03 04.3**	**+0.1**	
	comp=Z,0.6nm,0.7s,baz=191,slow=4.3,SNR=2.7							
YKA	**Yellowknife Ar**	**153.25**	**43**	PKPbc	**PKPbc**	**01 03 10.3**	**-0.1**	
	comp=Z,0.6nm,0.7s,baz=304,slow=2.6,SNR=3.2							

IDC ***22*** *00:47:21.0±1.6, 52.75N×35.07W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.5/42, mbtmp3.6/7, ML3.3/2, MS3.3/15, Ms1 3.3/15, ms1mx3.1/39, Error ellipse: s-maj=55.1km s-min=22.1km az=8.0*

ISC 22 00:47:23.0±1.5, 52.8N±0.3×35.1W±0.1, h14km, n20, σ0.36/9, MS3.2/13, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**13.94**	**25**	LR	LR	00 54 32.8	
	comp=Z,58nm,18.7s,baz=238,slow=31						
SCHQ	**Schefferville**	**18.80**	**289**	P	**P**	**00 51 41.5**	**-0.2**
	0.4nm,0.3s,baz=81,slow=11,SNR=5.1						
SCHQ				LR	LR	00 57 41.2	
	comp=Z,115nm,20.4s,baz=49,slow=33						
EKA	**Eskdalemuir Ar**	**18.83**	**69**	P	**Pn**	**00 51 42.8**	**+0.2**
	baz=278,slow=12,SNR=4.0						
FRB	**Frobisher Bay**	**20.50**	**316**	LR	LR	00 58 14.7	
	comp=Z,106nm,18.4s,baz=46,slow=32						
JMIC	**Jan Mayen**	**21.82**	**23**	LR	LR	00 58 23.6	
	comp=Z,51nm,19.9s,baz=241,slow=30						
ESDC	**Sonseca Array**	**24.96**	**109**	P	**P**	**00 52 46.0**	**+0.1**
	0.2nm,0.6s,baz=314,slow=7.9,SNR=1.6						
ESDC				LR	LR	01 00 46.6	
	comp=Z,77nm,18.6s,baz=315,slow=32						
NOA	**NORSAR Array B**	**26.09**	**53**	LR	LR	01 01 56.9	
	comp=Z,47nm,19.1s,baz=265,slow=34						
HFS	**Hagfors**	**27.38**	**55**	LR	LR	01 02 39.1	
	comp=Z,43nm,18.5s,baz=282,slow=34						
DAVOX	**Davos/Dischmat**	**29.25**	**83**	LR	LR	01 03 06.8	
	comp=Z,69nm,19.4s,baz=266,slow=32						
SADO	**Sadowa**	**29.73**	**272**	LR	LR	01 04 10.8	
	comp=Z,76nm,21.5s,baz=88,slow=34						
GERES	**GERESS Array B**	**30.60**	**77**	LR	LR	01 04 27.3	
	comp=Z,42nm,18.1s,baz=297,slow=34						
FINES	**FINESS Array B**	**33.15**	**50**	P	**P**	**00 53 58.1**	**-0.3**
	2.2nm,0.8s,baz=277,slow=11,SNR=2.4						
FINES				LR	LR	01 05 26.6	
	comp=Z,68nm,21.7s,baz=266,slow=33						
ULM	**Lac du Bonnet**	**36.95**	**291**	LR	LR	01 08 16.0	
	comp=Z,74nm,18.2s,baz=84,slow=34						
BRTR	**Keskin Array B**	**47.49**	**77**	LR	LR	01 17 24.1	
	comp=Z,26nm,19.2s,baz=228,slow=38						
PDAR	**Pinedale Array**	**48.93**	**290**	P	**P**	**00 56 08.9**	**+0.2**
	0.2nm,0.5s,baz=71,slow=8.6,SNR=4.8						
PDAR				LR	LR	01 15 22.1	
	comp=Z,45nm,18.8s,baz=98,slow=34						
KBZ	**Khabaz**	**50.30**	**67**	LR	LR	01 18 47.1	
	comp=Z,24nm,18.3s,baz=321,slow=38						
ILAR	**Eielson Array**	**51.64**	**330**	P	**P**	**00 56 28.8**	**+0.2**
	0.8nm,1.0s,baz=31,slow=6.2,SNR=5.6						
MKAR	**Makanchi Array**	**67.36**	**41**	P	**P**	**00 58 17.5**	**+0.2**
	0.4nm,0.6s,baz=338,slow=6.4,SNR=3.8						
WRA	**Warramunga Arr**	**146.24**	**18**	PKPbc	**PKPbc**	**01 07 02.2**	**-0.7**
	0.6nm,0.7s,baz=341,slow=3.0,SNR=2.9						
ASAR	**Alice Springs**	**149.77**	**20**	PKPbc	**PKPbc**	**01 07 12.2**	**-0.1**
	0.3nm,0.4s,baz=5.7,slow=3.7,SNR=4.5						

TEH ***22*** *01:02:02.1, 32.73N×47.55E, h8km, ML3.5*
ISN ***22*** *01:02:02.1±1.0, 32.77N×47.53E, h15km±5km, ML3.5*

ISC 22 01:02:02.1±1.4, 32.67N±0.03×47.49E±0.03, h1km±12km, n39, σ1.41/45, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.18**	**273**	*e*Pg	**Pg**	**01 02 06.5**	**+1.0**
IKFM	**Kafar-mosalman**	**0.90**	**19**	*e*Pg	**Pg**	**01 02 18.0**	**-1.4**
IKFM				*e*	**Sn**	**01 02 39.6**	**+4.0**
IKMR	**Kamar-syah**	**1.13**	**41**	*e*Pg	**Pb**	**01 02 21.9**	**-2.5**
IKMR				*e*	**Sn**	**01 02 42.1**	**+1.0**
IDOB	**Doab**	**1.25**	**27**	*e*Pg	**Pn**	**01 02 24.2**	**-2.8**
IBDR	**Badra**	**1.39**	**289**	*e*Pg	**Pn**	**01 02 27.0**	**-1.6**
IBDR				*e*Sg	**Sb**	**01 02 46.0**	**-1.0**
IBDR				AML	AML	01 02 53.0	
	comp=N,976nm,0.6s						
IBDR				AML	AML	01 02 53.3	
	comp=E,648nm,0.8s						
BMDN	**Meydan**	**1.50**	**48**	*e*Pg	**Pb**	**01 02 30.0**	**-0.9**
BMDN				*e*		01 02 58.5	
IKOM	**Komasi**	**1.50**	**1**	*e*Pg	**Pb**	**01 02 29.9**	**-1.0**
IKOM				*e*		01 02 31.7	
KCHF	**Cheshme Sefid,**	**1.64**	**347**	*e*Pg	**Pb**	**01 02 33.0**	**-0.3**
KCHF				*e*	**Sg**	**01 02 57.6**	**+2.7**
AHWZ	**Ahwaz**	**1.66**	**144**	*e*Pg	**Pg**	**01 02 34.8**	**+1.0**
KER	**Kermanshah**	**1.74**	**350**	*e*Pg	**Pb**	**01 02 34.2**	**-0.7**
HSAM	**Samen**	**1.79**	**31**	*e*Pg	**Pb**	**01 02 35.2**	**-0.8**
HSAM				*e*		01 03 03.0	
IBZA	**Bozab**	**1.82**	**10**	*e*Pg	**Pb**	**01 02 35.4**	**-1.0**
IBZA				*e*		01 03 05.6	
IGHG	**Ghaleghazi**	**1.82**	**335**	*e*Pn	**Pb**	**01 02 36.1**	**-0.4**
IGHG				*e*		01 03 22.0	
IVIS	**Veis**	**1.93**	**344**	*e*Pn	**Pn**	**01 02 36.0**	**-0.2**
IVIS				*e*		01 03 08.0	
NSR	**Nassriya**	**2.02**	**215**	*e*Pn	**Pb**	**01 02 38.0**	**-1.6**
NSR				*e*Sn	**Sb**	**01 03 04.0**	**-1.2**
IDHR	**Dehrash**	**2.22**	**336**	*e*Pn	**Pb**	**01 02 41.2**	**-2.0**
IDHR				*e*		01 03 18.0	
IALM	**Almabolaq**	**2.25**	**14**	*e*Pn	**Pb**	**01 02 41.4**	**-2.4**
ILIN	**Lien**	**2.29**	**349**	*e*Pn	**Pn**	**01 02 41.3**	**+0.1**
ILIN				*e*		01 03 20.4	
HAGD	**Aghdareh**	**2.55**	**32**	*e*Pn	**Pn**	**01 02 45.6**	**+0.8**
HAGD				*e*		01 03 33.1	
HSRG	**Sareghieh**	**2.65**	**14**	*e*Pn	**Pb**	**01 02 47.8**	**-2.7**
HSRG				*e*		01 03 30.9	
BHD	**Baghdad**	**2.68**	**284**	*e*Pn	**Pn**	**01 02 47.0**	**+0.6**
BHD				*e*Sn	**Sn**	**01 03 20.0**	**+0.4**
JHBN	**Jahan bin**	**2.72**	**98**	*e*Pn	**Pn**	**01 02 47.7**	**+0.5**
JHBN				*e*		01 03 44.6	
IPIR	**Pirpir**	**2.87**	**89**	*e*Pn	**Pn**	**01 02 50.1**	**+0.8**
IPIR				*e*		01 03 28.3	
ROKH	**ROKH**	**3.01**	**95**	*e*Pn	**Pn**	**01 02 52.4**	**+1.2**
ROKH				*e*		01 03 49.9	
IRAZ	**Razeghan**	**3.40**	**36**	*e*Pn	**Pn**	**01 02 57.7**	**+1.2**
QABG	**Abgarm-Qazvin**	**3.49**	**29**	*e*Pn	**Pn**	**01 02 57.8**	**0.0**
IKLH	**Kolahrood**	**3.49**	**78**	*e*Pn	**Pn**	**01 02 58.5**	**+0.6**
IGAR	**Gharneh**	**3.85**	**93**	*e*Pn	**Pn**	**01 03 01.8**	**-0.9**
IGAR				*e*		01 03 17.4	
KLNJ	**Kolanjah**	**3.86**	**114**	*e*Pn	**Pn**	**01 03 03.0**	**0.0**
KLNJ				*e*		01 04 23.0	
QSDN	**Sirdan**	**4.07**	**19**	*e*Pn	**Pn**	**01 03 06.8**	**+1.1**
IZEF	**Zefreh**	**4.08**	**86**	*e*Pn	**Pn**	**01 03 06.3**	**+0.4**
IRAM	**Ramesheh**	**4.23**	**100**	*e*Pn	**Pn**	**01 03 07.2**	**-0.8**
IGZV	**Ghazvin**	**4.33**	**31**	*e*Pn	**Pn**	**01 03 10.0**	**+0.6**
QALM	**Alamut, Qazvin**	**4.57**	**34**	*e*Pn	**Pn**	**01 03 12.9**	**+0.3**
IDMV	**Damavand**	**4.75**	**51**	*e*Pn	**Pn**	**01 03 15.2**	**0.0**
ANAR	**Anarak**	**5.27**	**83**	*e*Pn	**Pn**	**01 03 20.8**	**-1.3**
ILAS	**Lasjerd**	**5.28**	**58**	*e*Pn	**Pn**	**01 03 22.8**	**+0.4**
IALA	**Alasht**	**5.56**	**51**	*e*Pn	**Pn**	**01 03 26.1**	**-0.2**
ICHK	**Chekchek**	**5.86**	**92**	*e*Pn	**Pn**	**01 03 30.2**	**-0.2**

TEH ***22*** *01:14:20.8, 32.70N×47.52E, h8km, ML3.1*
ISN ***22*** *01:14:23.0±1.3, 32.68N×47.55E, h25km±9km, ML3.0*

ISC 22 01:14:22.0±1.2, 32.69N±0.03×47.54E±0.03, h8km±10km, n36, σ1.28/44, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.22**	**267**	*e*Pg	**Pg**	**01 14 25.5**	**-0.9**
IKFM	**Kafar-mosalman**	**0.87**	**17**	*e*Pg	**Pg**	**01 14 36.9**	**-1.8**
IKFM				*e*		01 14 58.5	
IKMR	**Kamar-syah**	**1.08**	**40**	*e*Pg	**Pg**	**01 14 41.2**	**-1.6**
IDOB	**Doab**	**1.21**	**26**	*e*Pg	**Pb**	**01 14 44.2**	**-1.2**
IDOB				*e*Sg	**Sn**	**01 15 02.9**	**+0.6**
IBDR	**Badra**	**1.42**	**287**	*e*Pg	**Pn**	**01 14 48.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**01 15 08.0**	**+0.5**
IBDR				AML	AML	01 15 11.8	
	comp=N,300nm,0.4s						
IBDR				AML	AML	01 15 12.0	
	comp=E,276nm,0.8s						
BMDN	**Meydan**	**1.45**	**48**	*e*Pg	**Pb**	**01 14 49.2**	**-0.2**
BMDN				*e*		01 15 17.4	
IKOM	**Komasi**	**1.48**	**359**	*e*Pg	**Pb**	**01 14 49.3**	**-0.5**
IKOM				*e*		01 15 15.2	
KCHF	**Cheshme Sefid,**	**1.63**	**345**	*e*Pg	**Pb**	**01 14 51.7**	**-0.8**
KCHF				*e*	**Sg**	**01 15 16.5**	**+2.0**
AHWZ	**Ahwaz**	**1.65**	**145**	*e*Pg	**Pb**	**01 14 53.2**	**+0.5**
KER	**Kermanshah**	**1.72**	**349**	*e*Pn	**Pn**	**01 14 52.7**	**+0.3**
HSAM	**Samen**	**1.75**	**30**	*e*Pg	**Pb**	**01 14 54.3**	**-0.3**
HSAM				*e*		01 14 58.4	
IBZA	**Bozab**	**1.79**	**9**	*e*Pg	**Pb**	**01 14 54.3**	**-1.0**
IBZA				*e*		01 15 24.5	
IVIS	**Veis**	**1.92**	**343**	*e*Pn	**Pb**	**01 14 56.2**	**-1.1**
IVIS				*e*	**Sg**	**01 15 26.6**	**+3.0**
NSR	**Nassriya**	**2.06**	**216**	*e*Pn	**Pn**	**01 14 57.0**	**+0.1**
NSR				*e*Sn	**Sn**	**01 15 22.0**	**-0.8**
IDHR	**Dehrash**	**2.22**	**335**	*e*Pn	**Pn**	**01 14 59.9**	**+0.6**
IDHR				*e*		01 15 39.9	
IALM	**Almabolaq**	**2.22**	**13**	*e*Pn	**Pb**	**01 15 00.8**	**-1.8**
ILIN	**Lien**	**2.27**	**348**	*e*Pn	**Pn**	**01 15 00.0**	**-0.1**
KHMZ	**Khomeyn**	**2.28**	**62**	*e*Pn	**Pb**	**01 15 02.1**	**-1.5**
HAGD	**Aghdareh**	**2.51**	**32**	*e*Pn	**Pn**	**01 15 02.9**	**-0.4**
HAGD				*e*		01 15 52.0	
HSRG	**Sareghieh**	**2.62**	**13**	*e*	**Sg**	**01 15 49.6**	**+3.5**
JHBN	**Jahan bin**	**2.68**	**99**	*e*		01 15 55.6	
JHBN				*e*Pn	**Pn**	**01 15 06.4**	**+0.6**
BHD	**Baghdad**	**2.72**	**283**	*e*Pn	**Pn**	**01 15 08.0**	**+2.0**
BHD				*e*Sn	**Sn**	**01 15 39.0**	**0.0**
IPIR	**Pirpir**	**2.83**	**89**	*e*	**Sb**	**01 15 47.1**	**-0.7**
IPIR				*e*Pn	**Pn**	**01 15 09.0**	**+1.2**
ROKH	**ROKH**	**2.97**	**96**	*e*Pn	**Pn**	**01 15 11.2**	**+1.5**
ROKH				*e*	**Sg**	**01 15 58.1**	**+0.5**
IRAZ	**Razeghan**	**3.35**	**36**	*e*Pn	**Pn**	**01 15 16.7**	**+1.8**
IKLH	**Kolahrood**	**3.45**	**79**	*e*Pn	**Pn**	**01 15 18.0**	**+1.7**
IKLH				*e*		01 15 22.9	
QABG	**Abgarm-Qazvin**	**3.45**	**29**	*e*Pn	**Pn**	**01 15 16.6**	**+0.3**
IGAR	**Gharneh**	**3.81**	**93**	*e*Pn	**Pn**	**01 15 22.0**	**+0.7**
IGAR				*e*		01 15 37.6	
KLNJ	**Kolanjah**	**3.84**	**115**	*e*Pn	**Pn**	**01 15 22.2**	**+0.5**
KLNJ				*e*		01 16 41.9	
QSDN	**Sirdan**	**4.03**	**19**	*e*Pn	**Pn**	**01 15 25.8**	**+1.5**
IZEF	**Zefreh**	**4.04**	**86**	*e*Pn	**Pn**	**01 15 26.0**	**+1.6**
IRAM	**Ramesheh**	**4.20**	**101**	*e*Pn	**Pn**	**01 15 26.5**	**0.0**
CHTH	**Charan**	**4.37**	**42**	*e*Pn	**Pn**	**01 15 29.9**	**+1.0**
QALM	**Alamut, Qazvin**	**4.53**	**34**	*e*Pn	**Pn**	**01 15 31.6**	**+0.5**
DAMV	**Damavand**	**4.70**	**50**	*e*Pn	**Pn**	**01 15 33.8**	**+0.3**
IDMV	**Damavand**	**4.71**	**51**	*e*Pn	**Pn**	**01 15 33.6**	**0.0**

LDG 22 01:23:51.6±0.1, 44.81N×6.60E, h2km, Md1.2/2, Error ellipse: s-maj=2.8km s-min=1.8km az=38.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	**0.15**	**125**	*e*Pg	Pg	01 23 54.7	+0.2
MBDF				*e*Sg	Sg	01 23 57.1	+0.6
	1.8nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.52**	**282**	*e*Pg	Pg	01 24 02.1	+0.5
ORIF				*e*Sg	Sg	01 24 08.8	+0.4
	1.3nm,0.3s						
LPL	**La Plagne**	**0.71**	**7**	*e*Pg	Pg	01 24 05.4	+0.2
LPL				*e*Sg	Sg	01 24 14.5	+0.1
	0.3nm,0.2s						

ZUR 22 01:24:21.0, 46.72N×9.72E, h2km±3km, MLh0.5/7, 3C, Error ellipse: s-maj=7.5km s-min=1.0km az=108.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAVOX	**Davos/Dischmat**	**0.13**	**61**	↑Pg	Pg	01 24 23.9	+0.4
DAVOX				Sg	Sg	01 24 25.9	+0.6
SVAM	**Vaz, Muldain**	**0.13**	**259**	↑Pg	Pg	01 24 23.9	+0.2
SVAM				Sg	Sg	01 24 25.9	+0.5
VDL	**Val di Lei**	**0.30**	**218**	Pg	Pg	01 24 27.1	+0.3
FUORN	**Ofenpass-Fuorn**	**0.39**	**104**	↑Pg	Pg	01 24 28.8	+0.3

TAP ***22*** *01:28:54.3, 24.34N×122.96E, h46km, ML3.1, D*
JMA ***22*** *01:28:54.6±0.1, 24.34N×122.98E, h48km±1km, M2.6*

ISC 22 01:28:54.6±1.2, 24.27N±0.04×122.97E±0.02, h45km±7km, n76, σ0.98/130, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.18**	**352**	P	**Pn**	**01 29 02.2**	**0.0**
JYNG				S	**Sn**	**01 29 07.5**	**-0.1**
YOJ	**Yonaguni jima**	**0.19**	**10**	P	**Pn**	**01 29 02.2**	**-0.1**
	baz=14						
YOJ				S	**Sn**	**01 29 07.8**	**+0.1**
	baz=14						
YOJ	**Yonaguni jima**	**0.19**	**10**	P	**Pn**	**01 29 02.4**	**+0.1**
YOJ				S	**Sn**	**01 29 07.7**	**0.0**
IRIF	**Iriomote-Funau**	**0.69**	**85**	P	**Pn**	**01 29 08.0**	**-0.1**
IRIF				S	**Sn**	**01 29 18.1**	**+0.3**
HATJ	**Hateruma jima**	**0.79**	**106**	P	**Pn**	**01 29 09.7**	**+0.3**
JKRS	**Kuro-shima**	**0.95**	**92**	P	**Pn**	**01 29 12.0**	**+0.5**
JKRS				S	**Sn**	**01 29 24.8**	**+0.9**
JIJ	**Ishigaki jima**	**1.07**	**85**	P	**Pn**	**01 29 12.9**	**-0.3**
JIJ				S	**Sn**	**01 29 26.4**	**-0.5**
ENAH	**Nanao**	**1.07**	**280**	P	**Pn**	**01 29 13.1**	**-0.2**
	baz=287						
ENAH				S	**Sn**	**01 29 26.2**	**-0.7**
	baz=287						
TWC	**Suao**	**1.08**	**288**	P	**Pn**	**01 29 12.5**	**-0.8**
	baz=295						
TWC				S	**Sn**	**01 29 25.4**	**-1.6**
	baz=295						
ENA	**Nanau**	**1.13**	**278**	P	**Pn**	**01 29 14.1**	**0.0**
	baz=284						
ENA				*e*S	**Sn**	**01 29 28.2**	**-0.3**
	baz=284						
TWB1	**Santiao Chiao**	**1.16**	**309**	*e*P	**Pn**	**01 29 13.6**	**-0.7**
	baz=317						
TWB1				*e*S	**Sn**	**01 29 27.1**	**-1.9**
	baz=317						
NTC	**Toucheng**	**1.19**	**299**	*e*P	**Pn**	**01 29 14.5**	**-0.3**
	baz=297						
NTC				*e*S	**Sn**	**01 29 28.8**	**-1.1**
	baz=297						
TIPB	**Shuangxi**	**1.25**	**304**	P	**Pn**	**01 29 15.3**	**-0.4**
	baz=311						
TIPB				S	**Sn**	**01 29 29.7**	**-1.8**
	baz=311						
JISG	**Ishigakijimahi**	**1.26**	**75**	P	**Pn**	**01 29 15.5**	**-0.2**
JISG				*e*S	**Sn**	**01 29 31.2**	**-0.3**
NACB	**Ninganchiao**	**1.26**	**266**	P	**Pn**	**01 29 16.0**	**+0.2**
	baz=263						
NACB				*e*S	**Sn**	**01 29 32.0**	**+0.4**
	baz=263						
TWE	**Neicheng**	**1.27**	**291**	P	**Pn**	**01 29 16.1**	**+0.1**
	baz=289						
TWE				*e*S	**Sn**	**01 29 30.4**	**-1.4**
	baz=289						
TWD	**Chiawan**	**1.27**	**262**	*e*P	**Pn**	**01 29 15.7**	**-0.3**
	baz=246						
TWD				*e*S	**Sn**	**01 29 32.4**	**+0.5**
	baz=246						
ENTT	**Nioudou**	**1.33**	**286**	P	**Pn**	**01 29 17.4**	**+0.6**
	baz=291						
ENTT				*e*S	**Sn**	**01 29 34.0**	**+0.6**
	baz=291						
NWF	**Wu-fen Shan**	**1.34**	**306**	*e*P	**Pn**	**01 29 16.8**	**-0.2**
	baz=293						
WFSB	**Wu-fen Shan**	**1.34**	**306**	*e*P	**Pn**	**01 29 16.5**	**-0.4**
	baz=293						
ETLH	**Xiulin Townshi**	**1.36**	**267**	*e*P	**Pn**	**01 29 17.4**	**+0.1**
	baz=265						
ETLH				*e*S	**Sn**	**01 29 34.7**	**+0.5**
	baz=265						
NDT	**Datong Townshi**	**1.37**	**284**	P	**Pn**	**01 29 18.3**	**+1.0**
	baz=289						
NDT				*e*S	**Sn**	**01 29 34.7**	**+0.4**
	baz=289						
NWLT	**Wulai**	**1.43**	**291**	P	**Pn**	**01 29 18.4**	**+0.3**
	baz=299						
NWLT				S	**Sn**	**01 29 34.5**	**-1.3**
	baz=299						

NNSB	**Datong**	**1.46**	**276**	*e*P	**Pn**	**01 29 19.3**	**+0.7**
	baz=274						
NNSB				*e*S	**Sn**	**01 29 37.8**	**+1.2**
	baz=274						
NNSH	**Datong**	**1.46**	**276**	*e*P	**Pn**	**01 29 19.0**	**+0.4**
	baz=274						
NNSH				*e*S	**Sn**	**01 29 36.6**	**0.0**
	baz=274						
NNS	**Nan Shan**	**1.47**	**277**	*e*P	**Pn**	**01 29 19.8**	**+1.0**
	baz=275						
NNS				*e*S	**Sn**	**01 29 37.4**	**+0.5**
	baz=275						
ESL	**Shilin**	**1.48**	**252**	*e*P	**Pn**	**01 29 18.5**	**-0.3**
	baz=250						
ESL				*e*S	**Sn**	**01 29 36.0**	**-0.9**
	baz=250						
YHNB	**Yeheng**	**1.51**	**285**	*e*P	**Pn**	**01 29 19.7**	**+0.5**
	baz=292						
YHNB				*e*S	**Sn**	**01 29 37.7**	**-0.1**
	baz=292						
TATO	**Taipei**	**1.52**	**298**	*e*P	**Pn**	**01 29 19.1**	**-0.3**
	baz=296						
TATO				*e*S	**Sn**	**01 29 37.6**	**-0.4**
	baz=296						
NSK	**Sanguang**	**1.52**	**286**	*e*P	**Pn**	**01 29 20.5**	**+1.0**
	baz=292						
NSK				*e*S	**Sn**	**01 29 38.4**	**+0.2**
	baz=292						
EGFH	**Guangfu**	**1.54**	**247**	*e*P	**Pn**	**01 29 19.2**	**-0.4**
	baz=245						
EGFH				*e*S	**Sn**	**01 29 37.7**	**-0.6**
	baz=245						
YM01	**YM01**	**1.54**	**305**	*e*P	**Pn**	**01 29 19.9**	**+0.2**
	baz=303						
YM01				*e*S	**Sn**	**01 29 36.8**	**-1.8**
	baz=303						
YM08	**YM08**	**1.55**	**306**	*e*P	**Pn**	**01 29 19.3**	**-0.5**
	baz=305						
YM08				*e*S	**Sn**	**01 29 38.7**	**-0.1**
	baz=305						
YM10	**YM10**	**1.56**	**305**	*e*P	**Pn**	**01 29 20.2**	**+0.3**
	baz=303						
YM10				*e*S	**Sn**	**01 29 37.9**	**-1.0**
	baz=303						
WHF	**Hehuan Shan**	**1.56**	**266**	*e*P	**Pn**	**01 29 20.8**	**+0.4**
	baz=251						
WHF				*e*S	**Sn**	**01 29 39.3**	**-0.3**
	baz=251						
YM04	**YM04**	**1.57**	**304**	*e*P	**Pn**	**01 29 19.3**	**-0.8**
	baz=303						
YM04				*e*S	**Sn**	**01 29 39.1**	**-0.2**
	baz=303						
FUSS	**Fushou**	**1.58**	**269**	*e*P	**Pn**	**01 29 21.0**	**+0.6**
	baz=267						
FUSS				*e*S	**Sn**	**01 29 41.1**	**+1.3**
	baz=267						
PCYT	**Pengchaiyu**	**1.58**	**329**	*e*P	**Pn**	**01 29 20.2**	**0.0**
	baz=318						
JTJ	**Tarama**	**1.62**	**77**	S	**Sn**	**01 29 40.5**	**+0.2**
HGSD	**Ruisui**	**1.62**	**242**	*e*P	**Pn**	**01 29 20.2**	**-0.4**
	baz=239						
HGSD				*e*S	**Sn**	**01 29 39.4**	**-0.9**
	baz=239						
TWT	**Tachien**	**1.64**	**270**	*e*P	**Pn**	**01 29 22.8**	**+1.7**
	baz=267						
TWT				*e*S	**Sn**	**01 29 42.5**	**+1.4**
	baz=267						
TDCB	**Techi**	**1.66**	**270**	*e*P	**Pn**	**01 29 22.6**	**+1.2**
	baz=268						
TDCB				*e*S	**Sn**	**01 29 41.0**	**-0.5**
	baz=268						
CHGB	**Renai**	**1.66**	**263**	*e*P	**Pn**	**01 29 22.0**	**+0.6**
	baz=250						
CHGB				*e*S	**Sn**	**01 29 40.5**	**-1.1**
	baz=250						
EHY	**Hungye**	**1.69**	**243**	*e*P	**Pn**	**01 29 21.2**	**-0.5**
	baz=241						
EHY				*e*S	**Sn**	**01 29 41.2**	**-1.0**
	baz=241						
VWDT	**VWDT**	**1.75**	**253**	*e*P	**Pn**	**01 29 22.7**	**+0.2**
	baz=241						
VWDT				*e*S	**Sn**	**01 29 42.9**	**-0.7**
	baz=241						
YULB	**Yu-li**	**1.77**	**241**	*e*P	**Pn**	**01 29 22.4**	**-0.4**
	baz=238						
YULB				*e*S	**Sn**	**01 29 43.1**	**-1.0**
	baz=238						
EYUL	**Yuli**	**1.77**	**239**	*e*P	**Pn**	**01 29 22.3**	**-0.5**
	baz=237						
EYUL				*e*S	**Sn**	**01 29 44.1**	**-0.1**
	baz=237						
LIOB	**Emei**	**1.82**	**282**	*e*P	**Pn**	**01 29 25.1**	**+1.6**
	baz=281						
NSTT	**Nanjuang**	**1.83**	**282**	*e*P	**Pn**	**01 29 25.4**	**+1.8**
	baz=292						
NSTT				*e*S	**Sn**	**01 29 47.4**	**+1.8**
	baz=292						
WHP	**Taichung City**	**1.85**	**271**	*e*P	**Pn**	**01 29 25.4**	**+1.4**
	baz=258						
WHP				*e*S	**Sn**	**01 29 47.4**	**+1.2**
	baz=258						
FULB	**Fuli**	**1

baz=223
WDGT Dungji 3.20 252 *e*P Pn 01 29 42.6 +0.2
baz=252
VWUC VWUC 3.29 283 *e*P Pn 01 29 44.0 +0.5
baz=282

NIED ***22*** *01:28:58.2, 28.06N×128.18E, h8km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr-1.50; Mθθ10.20; Mϕϕ-8.70; Mrθ-1.66; Mθϕ-0.12; Mϕr2.35; Fault plane solution: Mϕ9.93000×10^14 NP1: ϕs134.00000°, δ84.00000°, λ-18.00000°. NP2: ϕs226.00000°, δ72.00000°, λ-174.00000°.*

JMA 22 01:28:58.2±0.2, 28.06N×128.18E, h8km±3km, M3.8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.73**	**112**	P	Pg	01 29 12.3	-0.1
JTK				S	Sg	01 29 22.1	+0.2
JOKE	**Okinoerabujima**	**0.78**	**153**	P	Pg	01 29 12.9	-0.3
JOKE				S	Sg	01 29 23.5	+0.2
JAMN	**Amaminishikomi**	**0.90**	**78**	P	Pg	01 29 15.4	-0.1
JAMN				S	Sg	01 29 27.2	+0.1
JIH	**Iheya**	**1.04**	**191**	P	Pg	01 29 17.8	-0.4
JIH				S	Sg	01 29 31.9	+0.3
JYRO	**Yoronjima**	**1.06**	**167**	P	Pg	01 29 17.9	-0.6
JYRO				eS	Sg	01 29 31.8	-0.5
JOW	**Kunigami**	**1.23**	**176**	P	Pb	01 29 21.1	-0.5
JOW				eS	Sb	01 29 37.3	-0.3
JAM	**Amami Oshima**	**1.30**	**74**	P	Pn	01 29 22.5	-0.2
JAM				eS	Sb	01 29 39.4	-0.5
JTAJ	**Takarajima**	**1.41**	**39**	P	Pn	01 29 23.4	-0.8
JTAJ				eS	Sb	01 29 42.4	-0.6
JNTH	**Nagotoyohara**	**1.54**	**185**	P	Pb	01 29 26.9	-0.1
JZK	**Kikaishima**	**1.60**	**80**	P	Pb	01 29 27.7	-0.3
JAGN	**Aguni-jima**	**1.69**	**210**	P	Pn	01 29 27.5	-0.5
JKE	**Kume jima 2**	**2.13**	**216**	P	Pn	01 29 34.8	+0.8
JKE				eS	Sn	01 30 00.7	+0.1
JNN	**Nakanoshima**	**2.31**	**40**	eS	Sn	01 30 06.2	+0.9
JYAK	**Yakushimahirau**	**2.98**	**43**	P	Pn	01 29 46.7	+1.0
JYAK				eS	Sn	01 30 22.5	+0.9
JMTN	**Minamitane**	**3.33**	**45**	eS	Sn	01 30 32.4	+2.1
JTN	**Tanegashima 3**	**3.56**	**43**	P	Pn	01 29 55.9	+2.2
JTN				eS	Sn	01 30 37.6	+1.6

IDC ***22*** *01:39:28.8±1.2, 23.63S×179.99W, h542km±11km, mb3.9/21, mb1 4.0/23, mb1mx3.8/45, mbtmp4.8/23, Error ellipse: s-maj=13.4km s-min=12.2km az=29.0*

NEIC ***22*** *01:39:29.3±1.5, 23.6S±0.1×180.0E±0.1, h553km±6km, mb4.4/27, Error ellipse: s-maj=16.5km s-min=14.9km az=93.0*

ISC 22 01:39:27.4±0.4, 23.71S±0.06×179.98W±0.08, h532km, n134, σ1§94/139, mb4.5/32, 24C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.82**	**162**	P	**P**	**01 41 07.3**	**+3.9**
	165nm,0.3s,baz=354,slow=11,SNR=5.6						
RAO	**Raoul Island**	**5.82**	**162**	P	**P**	**01 41 06.2**	**+2.9**
MSVF	**Nonsavu**	**6.23**	**342**	P	**P**	**01 41 08.8**	**+1.3**
NIUE	**Niue**	**10.44**	**66**	P	**P**	**01 41 50.1**	**+0.4**
DZM	**Mont Dzumac**	**12.62**	**275**	P	**P**	**01 42 15.6**	**+3.1**
	0.6nm,0.3s,baz=90,slow=12,SNR=2.7						
MXZ	**Matakaoa Point**	**13.88**	**186**	P	S	01 45 03.5	+12
HAZ	**Te Kaha**	**14.13**	**187**	P	**S**	**01 44 57.8**	**+1.1**
WHRZ	**Whale Island**	**14.34**	**190**	P	**S**	**01 45 02.0**	**+1.3**
RUGZ	**Raukumara Rang**	**14.35**	**187**	P	**S**	**01 44 57.7**	**-3.5**
PUZ	**Puketiti**	**14.39**	**186**	P	**S**	**01 45 03.4**	**+1.6**
TWGZ	**Tauwhareparae**	**14.53**	**186**	P	**S**	**01 45 02.1**	**-2.3**
URZ	**Urewera**	**14.71**	**189**	P	**P**	**01 42 37.1**	**+3.2**
	1.0nm,0.3s,baz=338,slow=16,SNR=2.8						
URZ	**Urewera**	**14.71**	**189**	P	**S**	**01 45 02.5**	**-5.3**
URZ	**Urewera**	**14.71**	**189**		**S**	**01 45 06.7**	**-1.1**
MWZ	**Matawai**	**14.73**	**188**	P	**S**	**01 45 01.8**	**-6.5**
TKGZ	**Te Karaka**	**14.80**	**187**	P	**S**	**01 45 05.2**	**-4.3**
MUGZ	**Murupara**	**14.98**	**190**	P	**S**	**01 45 07.0**	**-5.8**
RTZ	**Ruatahuna**	**15.08**	**189**	P	**S**	**01 45 07.1**	**-7.7**
BKZ	**Black Stump Fm**	**15.70**	**190**	P	**S**	**01 45 17.3**	**-8.5**
KAHZ	**Kahuranaki**	**16.25**	**189**	P	S	01 45 23.7	-12
WEL	**Wellington**	**18.07**	**193**	P	**S**	**01 45 55.7**	**-9.3**
CTA	**Charters Tower**	**31.49**	**270**	P	**P**	**01 45 06.9**	**+1.1**
	50nm,0.4s,baz=93,slow=11,SNR=104						
CTAO	**Charters Tower**	**31.49**	**270**	P	**P**	**01 45 06.4**	**+0.6**
TAU	**Tasmania Unive**	**33.08**	**227**	P	**P**	**01 45 20.4**	**+1.4**
PMG	**Port Moresby**	**34.45**	**289**	P	**P**	**01 45 31.4**	**+0.5**
	31nm,0.6s,baz=127,slow=6.7,SNR=7.4						
PMG	**Port Moresby**	**34.45**	**289**	P	**P**	**01 45 31.7**	**+0.8**
STKA	**Stephens Creek**	**34.81**	**248**	P	**P**	**01 45 34.7**	**+1.0**
	6.6nm,0.6s,baz=85,slow=11,SNR=17						
STKA	**Stephens Creek**	**34.81**	**248**	IAmb	IAmb	01 45 35.1	
	comp=Z,1.6nm,0.6s						
AS31	**Alice Springs**	**42.08**	**260**	P	**P**	**01 46 32.5**	**-0.4**
AS31				IAmb	IAmb	01 46 34.3	
	comp=Z,6.3nm,0.5s						
ASAR	**Alice Springs**	**42.08**	**260**	P	**P**	**01 46 33.2**	**+0.3**
	comp=Z,14nm,0.5s,baz=99,slow=7.1,SNR=119						
ASAR				ScP	**ScP**	**01 51 16.1**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=107,slow=4.1,SNR=16						
ASAR	**Alice Springs**	**42.08**	**260**	P	**P**	**01 46 32.7**	**-0.2**
ASAR					**ScP**	**01 51 16.1**	**+0.9**
WR0	**Warramunga Arr**	**42.25**	**266**	P	**P**	**01 46 34.0**	**-0.3**
WB2	**Warramunga Arr**	**42.43**	**266**	P	**P**	**01 46 35.4**	**-0.2**
WB0	**Warramunga Arr**	**42.43**	**266**	P	**P**	**01 46 35.2**	**-0.5**
WRA	**Warramunga Arr**	**42.44**	**266**	P	**P**	**01 46 35.6**	**-0.1**
	comp=Z,26nm,0.5s,baz=90,slow=5.9,SNR=241						
WRA				ScP	**ScP**	**01 51 17.7**	**+1.0**
	comp=Z,2.1nm,0.9s,baz=102,slow=4.3,SNR=6.1						
WRA	**Warramunga Arr**	**42.44**	**266**	P	**P**	**01 46 34.5**	**-1.3**
JAY	**Jayapura**	**43.46**	**293**	P	**P**	**01 46 43.9**	**+0.1**
	comp=Z,14nm,0.4s,baz=144,slow=5.3,SNR=18						
JAY	**Jayapura**	**43.46**	**293**	P	**P**	**01 46 43.8**	**+0.1**
	comp=Z,18nm,0.7s						
SMPI	**Sarmi**	**45.42**	**292**	P	**P**	**01 46 58.3**	**-0.6**
	comp=Z,19nm,1.1s						
FORT	**Forrest**	**46.39**	**249**	P	**P**	**01 47 05.3**	**-0.8**
GUMO	**Guam**	**50.55**	**314**	P	**P**	**01 47 36.5**	**-0.6**
	comp=Z,53nm,0.3s,baz=160,slow=15,SNR=4.0						
GUMO	**Guam**	**50.55**	**314**	P	**P**	**01 47 37.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**50.86**	**265**	P	**P**	**01 47 39.2**	**-0.2**
	comp=Z,10nm,0.6s,baz=105,slow=6.8,SNR=8.5						
SIJI	**Sorong**	**52.39**	**288**	P	**P**	**01 47 50.5**	**0.0**
	comp=Z,75nm,0.9s,baz=125,slow=12,SNR=15						
SOEI	**Soe**	**54.85**	**275**	P	**P**	**01 48 09.6**	**+1.6**
	comp=Z,50nm,0.9s						
NLAI	**Namlea**	**54.96**	**283**	P	**P**	**01 48 08.8**	**+0.1**
	comp=Z,1μmcomp=Z,17nm,0.6s						
BATI	**Baumata**	**55.23**	**274**	P	**P**	**01 48 11.8**	**+1.2**
	comp=Z,22nm,0.5s,baz=313,slow=6.1,SNR=4.1						
EDFI	**Ende, Flores**	**57.58**	**275**	P	**P**	**01 48 26.6**	**-0.3**
	comp=Z,20nm,0.8s						
PLAI	**Plampang**	**61.13**	**273**	P	**P**	**01 48 49.8**	**-0.7**
	comp=Z,59nm,0.8s						
MPSI	**Mapaga**	**62.98**	**283**	P	**P**	**01 49 02.0**	**-0.5**
QSPA	**South Pole Qui**	**66.37**	**180**	P	**P**	**01 49 24.3**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=12,slow=2.6,SNR=10						
QSPA	**South Pole Qui**	**66.37**	**180**	IAmb	IAmb	01 49 24.6	
	comp=Z,11nm,1.6s						
MJAR	**Matsushiro Arr**	**71.75**	**326**	P	**P**	**01 49 55.5**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=169,slow=6.1,SNR=9.3						
MJAR	**Matsushiro Arr**	**71.75**	**326**	IAmb	IAmb	01 49 56.8	
	comp=Z,1.3nm,0.7s						
KSM	**Kuching**	**72.09**	**280**	P	**P**	**01 49 57.3**	**-1.0**
KSM				IAmb	IAmb	01 49 59.1	
	comp=Z,16nm,0.6s						
MAW	**Mawson**	**77.93**	**200**	P	**P**	**01 50 30.4**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=137,slow=6.8,SNR=7.5						
MYKOM	**Kota Tinggi**	**78.08**	**277**	P	**P**	**01 50 30.7**	**-1.1**
KSRS	**Korea Array**	**78.11**	**320**	P	**P**	**01 50 32.3**	**+0.9**
	comp=Z,2.4nm,0.6s,baz=133,slow=5.6,SNR=11						
KSAR	**Wonju Array Be**	**78.13**	**320**	P	**P**	**01 50 30.9**	**-0.5**
PETK	**Petropavlovsk-**	**78.92**	**347**	P	**P**	**01 50 35.5**	**+0.1**
	comp=Z,4.6nm,0.6s,baz=126,slow=6.2,SNR=11						
PMSA	**Palmer Station**	**79.08**	**157**	P	**P**	**01 50 36.7**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=284,slow=6.5,SNR=3.8						
USRK	**Ussuriysk Ar.**	**80.62**	**327**	P	**P**	**01 50 45.5**	**+1.0**
	comp=Z,3.1nm,0.6s,baz=165,slow=3.6,SNR=7.1						
NVAR	**Mina Array Bea**	**84.61**	**44**	P	**P**	**01 51 05.4**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=224,slow=6.2,SNR=5.3						
ENH	**Enshi**	**86.35**	**305**	P	**P**	**01 51 13.2**	**-0.1**
PBKT	**Sadao Pong**	**86.92**	**289**	P	**P**	**01 51 16.2**	**0.0**
PBKT				IAmb	IAmb	01 51 18.0	
	comp=Z,3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.48**	**290**	P	**P**	**01 51 29.4**	**+1.2**
	comp=Z,2.9nm,0.7s,baz=135,slow=3.7,SNR=13						
CMAR	**Chiang Mai Arr**	**89.48**	**290**	P	**P**	**01 51 29.0**	**+0.8**
CHTO	**Chiang Mai**	**89.63**	**291**	P	**P**	**01 51 28.8**	**-0.1**
CHTO				IAmb	IAmb	01 51 31.0	
	comp=Z,6.0nm,1.1s						
KTH	**Kantishna Hill**	**89.93**	**13**	P	**P**	**01 51 30.1**	**+0.8**
KTH				IAmb	IAmb	01 51 41.2	
	comp=Z,5.6nm,1.0s						
TX32	**Lajitas Array**	**90.32**	**58**	P	**P**	**01 51 32.1**	**+0.1**
TX32				IAmb	IAmb	01 51 33.3	
	comp=Z,12nm,2.0s						
TXAR	**Lajitas Array**	**90.32**	**58**	P	**P**	**01 51 32.8**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=211,slow=7.1,SNR=11						
PDAR	**Pinedale Array**	**92.54**	**44**	P	**P**	**01 51 41.9**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=286,slow=5.5,SNR=3.6						
MKAR	**Makanchi Array**	**112.04**	**313**	PKiKP	**PKiKP**	**01 57 00.6**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=220,slow=1.7,SNR=5.7						
KURK	**Kurchatov**	**115.08**	**317**		**PKPdf**	**01 57 06.5**	**-1.3**
KURBB	**Kurchatov Arra**	**115.12**	**316**	PKP	**PKPdf**	**01 57 06.5**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=101,slow=1.6,SNR=6.9						
KKAR	**Karatay Array**	**119.76**	**307**		**PKPdf**	**01 57 15.7**	**-1.4**
BVAR	**Borovoye Array**	**120.31**	**319**	PKP	**PKPdf**	**01 57 16.9**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=139,slow=1.7,SNR=10						
AKTO	**Aktyubinsk**	**128.17**	**316**	PKP	**PKPdf**	**01 57 32.7**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=79,slow=5.2,SNR=5.5						
ARCES	**ARCESS Array B**	**131.71**	**348**	PKP	**PKPdf**	**01 57 39.0**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=88,slow=2.0,SNR=8.6						
ARCES				SKPbc	**SKPbc**	**02 00 13.8**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=9.9,slow=2.8,SNR=4.5						
FINES	**FINESS Array B**	**138.27**	**342**	PKhKP	PKPpre	01 57 40.8	
	comp=Z,1.6nm,0.7s,baz=31,slow=7.8,SNR=5.4						
FINES				PKP	**PKPdf**	**01 57 51.2**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=80,slow=4.5,SNR=10						
FINES				SKPbc	**SKPbc**	**02 00 33.9**	**-2.0**
	comp=Z,2.6nm,0.8s,baz=100,slow=2.1,SNR=7.0						
NB2	**NORSAR Subarra**	**141.90**	**351**	PKP	**PKPdf**	**01 57 53.1**	**-5.0**
	comp=Z,0.6nm,0.6s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**141.90**	**351**	PKhKP	PKPpre	01 57 53.3	
	comp=Z,1.2nm,0.7s,baz=16,slow=4.7,SNR=6.2						
KONO	**Kongsberg**	**143.46**	**352**	PKPdf	PKPab	01 57 58.4	-0.8
AKASG	**Malin Array Be**	**144.82**	**327**	PKP	**PKPdf**	**01 58 02.8**	**-0.7**
	comp=Z,2.3nm,0.4s,baz=41,slow=4.3,SNR=24						
AKASG				SKPbc	**SKPbc**	**02 00 51.2**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=40,slow=2.4,SNR=7.8						
AKASG	**Malin Array Be**	**144.82**	**327**		**PKPdf**	**01 58 02.6**	**-0.8**
SUW	**Suwalki**	**145.10**	**336**	*e*PKP	**PKPbc**	**01 58 04.0**	**-0.7**
ASF	**Jabal al Asfar**	**146.48**	**293**	PKPbc	**PKPbc**	**01 58 09.5**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=60,slow=4.3,SNR=8.2						
ILGA	**Ilgaz**	**146.96**	**310**	PKPbc	**PKPbc**	**01 58 10.2**	**-0.4**
BRTR	**Keskin Array B**	**147.48**	**307**	PKPbc	**PKPbc**	**01 58 11.3**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=145,slow=4.0,SNR=7.6						
BRTR				PKPab	**PKPab**	**01 58 15.8**	**-0.1**
	comp=Z,4.4nm,0.6s,baz=99,slow=3.2,SNR=20						
BRTR	**Keskin Array B**	**147.48**	**307**		**PKPbc**	**01 58 11.1**	**-0.8**
MMAI	**Mount Meron Ar**	**147.64**	**295**	PKPbc	**PKPbc**	**01 58 12.4**	**-0.1**
	comp=Z,6.7nm,0.4s,baz=76,slow=7.0,SNR=38						
GKP	**Gorka Klasztor**	**147.73**	**341**	*e*PKP	**PKPbc**	**01 58 11.5**	**-0.4**
TLCR		**148.29**	**320**	⇑P	**PKPbc**	**01 58 13.2**	**-0.4**
EIL	**Elat**	**148.31**	**288**	PKPbc	**PKPbc**	**01 58 14.3**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=320,slow=8.4,SNR=6.2						
KWP	**Kalwaria Pacla**	**148.61**	**331**	*e*PKP	**PKPbc**	**01 58 14.2**	**-0.1**
KWP	**Kalwaria Pacla**	**148.61**	**331**	PKPbc	**PKPbc**	**01 58 12.4**	**-1.9**
CFR	**Carcaliu**	**148.70**	**320**	⇑P	**PKPbc**	**01 58 12.8**	**-1.8**
TOPG	**Topolog**	**148.72**	**319**	⇑P	**PKPbc**	**01 58 14.3**	**-0.4**
BURAR	**Bucovina Array**	**148.82**	**326**	⇑P	**PKiKP**	**01 58 15.1**	**-0.9**
BURAR	**Bucovina Array**	**148.82**	**326**		**PKPbc**	**01 58 14.5**	**-0.5**
HARR	**Harsova**	**149.09**	**319**	⇑P	**PKPbc**	**01 58 15.2**	**-0.3**
TLBR	**Topalu**	**149.10**	**319**	⇑P	**PKPbc**	**01 58 14.6**	**-1.0**
VRI	**Vrincioaia**	**149.11**	**322**	⇑P	**PKPbc**	**01 58 14.2**	**-1.5**
KOLS	**Kolonicke sedl**	**149.32**	**331**	*e*PKP	**PKPbc**	**01 58 15.5**	**-0.5**
OJC	**Ojcow**	**149.37**	**335**	*e*PKP	**PKPbc**	**01 58 15.8**	**-0.3**
OJC	**Ojcow**	**149.37**	**335**	PKPbc	**PKPbc**	**01 58 15.7**	**-0.4**
MLR	**Muntele Rosu**	**149.78**	**322**	PKPbc	**PKPbc**	**01 58 17.1**	**-0.3**
	baz=165,slow=2.6						
MLR	**Muntele Rosu**	**149.78**	**322**	⇑P	**PKPbc**	**01 58 16.2**	**-1.2**
PDPC	**Dopca**	**149.79**	**324**	⇑P	**PKiKP**	**01 58 17.2**	**-0.8**
NIE	**Niedzica**	**149.80**	**333**	*e*PKP	**PKiKP**	**01 58 17.6**	**-0.3**
KSP	**Ksiaz**	**150.12**	**339**	*e*PKP	**PKiKP**	**01 58 17.8**	**-0.6**
CJR	**Cluj-Napoca**	**150.25**	**326**	⇑P	**PKPbc**	**01 58 18.0**	**-0.3**
VOIR		**150.31**	**323**	⇑P	**PKPbc**	**01 58 17.2**	**-1.3**
OSTC	**Ostas**	**150.39**	**339**	⇓*e*PKP	**PKiKP**	**01 58 18.4**	**-0.6**
CHVC	**Chvalec**	**150.41**	**339**	⇓*e*PKP	**PKiKP**	**01 58 18.4**	**-0.7**
DPC	**Dobruska-Polom**	**150.53**	**339**	⇓*e*PKP	**PKiKP**	**01 58 18.7**	**-0.7**
ARR	**Arges**	**150.58**	**323**	⇑P	**PKiKP**	**01 58 19.6**	**-0.1**
KRLC	**Kraliky**	**150.61**	**338**	⇑*e*PKP	**PKPbc**	**01 58 18.7**	**-0.4**
KRLC				*e*PKPAB	**PKPab**	**01 58 28.4**	**+0.1**
CLL	**Collm**	**150.68**	**343**	*e*PKPdf	**PKPdf**	**01 58 14.0**	**+1.0**
CLL				⇓*i*PKPbc	**PKPbc**	**01 58 18.7**	**-0.4**
	comp=Z,8.0nm,0.9s						
CLL				*i* PKPab	**PKPab**	**01 58 27.7**	**-0.7**
	comp=Z,4.0nm,0.8s						
CLL				LmH		03 46 00.0	
	comp=N,400nm,19.4s						
CLL				LmH		03 46 00.0	
	comp=E,300nm,20.9s						
BRG	**Berggiesshubel**	**150.81**	**342**	*i* PKP	**PKiKP**	**01 58 19.3**	**-0.6**
	comp=E,6.1nm,0.5s						
BRG				*e*		01 58 28.9	
	comp=E,2.4nm,0.7s						
BRG				*e*		02 05 58.0	
	comp=E,4.6nm,1.1s						
HUMR	**Humele**	**150.90**	**322**	⇓P	**PKPbc**	**01 58 18.9**	**-1.0**
LOT	**Lotru**	**151.00**	**324**	⇑P	**PKPbc**	**01 58 18.6**	**-1.6**
VYHS	**Vyhne**	**151.13**	**334**	*e*PKP	**PKiKP**	**01 58 20.0**	**-0.6**
VYHS				*e*		01 58 30.6	
VRAC	**Vranov**	**151.32**	**337**	⇑P	**PKPab**	**01 58 31.2**	**0.0**
PRA	**Prague**	**151.38**	**340**	⇑*e*PKP	**PKPbc**	**01 58 20.2**	**-0.5**
SIRR	**Siria**	**151.53**	**328**	⇑P	**PKiKP**	**01 58 20.8**	**-0.7**
BZS	**Buzias**	**152.00**	**327**	⇑P	**PKPbc**	**01 58 21.3**	**-1.0**
HERR	**Herculane**	**152.09**	**325**	⇑P	**PKPbc**	**01 58 21.5**	**-1.0**
KHC	**Kasperske Hory**	**152.47**	**341**	⇑*e*PKP	**PKPbc**	**01 58 22.1**	**-1.2**
KHC				*e*PKPAB	**PKPab**	**01 58 36.1**	**0.0**
MDVR	**Moldovita**	**152.53**	**325**	⇑P	**PKPab**	**01 58 36.2**	**-0.3**
GERES	**GERESS Array B**	**152.69**	**340**	PKPbc	**PKPbc**	**01 58 22.8**	**-1.0**
	comp=E,0.5nm,0.6s,baz=90,slow=2.7,SNR=5.5						
GERES				PKPab	**PKPab**	**01 58 36.9**	**-0.2**
	comp=E,0.5nm,0.6s,baz=62,slow=3.2,SNR=4.5						
PRED	**Cave del Predi**	**154.83**	**338**		**PKPab**	**01 58 45.4**	**-1.0**
ESDC	**Sonseca Array**	**163.73**	**11**	PKPab	**PKPab**	**01 59 24.7**	**-0.6**
	comp=E,0.2nm,0.7s,baz=349,slow=3.5,SNR=5.0						
ESDC	**Sonseca Array**	**163.73**	**11**	PKPdf	**PKPdf**	**01 58 29.0**	**-0.6**

NEIC ***22*** *01:47:06.6±1.3, 5.83S±0.04×151.3E±0.1, h51km±6km, mb4.4/20, Error ellipse: s-maj=15.0km s-min=6.1km az=99.0*

DJA ***22*** *01:47:06.6±0.4, 6.3S×15.1E±, h48km±6km, M4.7/13, mb4.4/13, mB5.0/3, MLv4.9/2, Mw(mB)4.3/3*

IDC ***22*** *01:47:07.5±1.4, 5.86S×151.22E, h58km±11km, mb3.9/13, mb1 4.1/14, mb1mx3.9/41, mbtmp4.2/14, MS3.6/7, Ms1 3.6/7, ms1mx3.2/33, Error ellipse: s-maj=30.3km s-min=8.1km az=125.0*

ISC 22 01:47:05.6±0.7, 5.90S±0.09×151.4E±0.1, h41km, n60, σ1§48/57, mb4.3/21, MS3.4/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.71**	**23**	P	**Pn**	**01 47 34.3**	**+1.3**
	188nm,0.3s,baz=193,slow=19,SNR=75						
KRVT				S	**Sn**	**01 47 57.2**	**+3.5**
	241nm,0.3s,baz=114,slow=20,SNR=6.4						
KRVT				LR	LR	01 48 03.2	
	comp=Z,669nm,19.0s,baz=223,slow=32						
RABL	**Rabaul**	**1.88**	**25**	Pn	**Pn**	**01 47 35.5**	**+0.3**
PMG	**Port Moresby**	**5.43**	**230**	P	**Pn**	**01 48 25.5**	**+1.5**
	8.1nm,0.3s,baz=47,slow=13,SNR=8.7						
PMG				S	**Sn**	**01 49 25.5**	**+0.2**
	10.0nm,0.3s,baz=140,slow=20,SNR=10						
PMG				LR	LR	01 49 51.2	
	comp=Z,43nm,19.2s,baz=14,slow=31						
PMG	**Port Moresby**	**5.43**	**230**	Pn	**Pn**	**01 48 25.0**	**+1.0**
HNR	**Honiara**	**9.21**	**113**	LR	LR	01 52 23.3	
	comp=Z,198nm,21.5s,baz=131,slow=34						
JAY	**Jayapura**	**11.14**	**287**	P	**Pn**	**01 49 45.0**	**+2.5**
	5.9nm,1.2s						
GUMO	**Guam**	**20.40**	**342**	LR	LR	02 00 12.4	
	comp=Z,51nm,18.3s,baz=172,slow=39						
WB0	**Warramunga Arr**	**21.50**	**229**	P	**P**	**01 51 52.4**	**+1.3**
WR0	**Warramunga Arr**	**21.51**	**228**	P	**P**	**01 51 52.0**	**+0.8**
WR0				IAmb	IAmb	01 51 56.4	
	comp=Z,15nm,1.1s						
WRAB	**Tennant Creek**	**21.63**	**228**	P	**P**	**01 51 54.0**	**+1.5**
WRAB				IAmb	IAmb	01 52 09.4	
	comp=Z,14nm,0.7s						
WB2	**Warramunga Arr**	**21.64**	**228**	P	**P**	**01 51 53.1**	**+0.5**
WB2				IAmb	IAmb	01 51 56.8	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**21.65**	**228**	P	**P**	**01 51 52.0**	**-0.7**
	comp=Z,8.9nm,0.8s,baz=53,slow=11,SNR=14						
DZM	**Mont Dzumac**	**21.71**	**139**	LR	LR	01 58 45.5	
	comp=Z,180nm,19.7s,baz=19,slow=32						
KNRA	**Kununurra**	**24.20**	**245**	P	**P**	**01 52 20.8**	**+2.2**
AS31	**Alice Springs**	**24.38**	**222**	P	**P**	**01 52 20.4**	**+0.3**
ASAR	**Alice Springs**	**24.38**	**222**	P	**P**	**01 52 20.3**	**+0.2**
	comp=Z,8.8nm,0.8s,baz=56,slow=9.4,SNR=24						
ASAR	**Alice Springs**	**24.38**	**222**	P	**P**	**01 52 21.0**	**+0.9**
STKA	**Stephens Creek**	**27.41**	**198**	P	**P**	**01 52 48.0**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=14,slow=12,SNR=4.4						
STKA				LR	LR	02 03 25.9	
	comp=Z,88nm,19.5s,baz=25,slow=36						
FITZ	**Fitzroy Crossi**	**27.88**	**242**	P	**P**	**01 52 51.1**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=51,slow=7.1,SNR=11						
FITZ	**Fitzroy Crossi**	**27.88**	**242**	P	**P**	**01 52 52.2**	**+0.5**
FITZ				IAmb	IAmb	01 53 04.1	
	comp=Z,7.3nm,0.7s						
RAO	**Raoul Island**	**37.16**	**132**	LR	LR	02 07 06.0	
	comp=Z,425nm,20.7s,baz=160,slow=32						
RPZ	**Rata Peaks**	**41.46**	**158**	LR	LR	02 11 07.5	
	comp=Z,153nm,18.4s,baz=12,slow=35						
PETK	**Petropavlovsk-**	**59.03**	**4**	P	**P**	**01 57 00.7**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=157,slow=7.8,SNR=6.3						
PETK				LR	LR	02 23 42.8	
	comp=Z,24nm,18.1s,baz=163,slow=37						
HHC	**Hu-ho-hao-te**	**59.11**	**326**	*e*P	**P**	**01 57 01.8**	**-0.4**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,93nm,5.3s						
LZH	**Lanzhou**	**61.03**	**317**	*e*P	**P**	**01 57 17.9**	**+2.4**
LZH				pP	pP	01 57 29.0	+1.4
LZH				sP	sP	01 57 36.4	+4.0
LZH				PP	**PP**	**01 59 23.3**	**-7.0**
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
LZH				pmax	pmax		
	comp=Z,86nm,4.9s						
WMQ	**Urumqi**	**75.58**	**318**	*e*P	**P**	**01 58 47.5**	**+1.2**
CNPM	**China Poot**	**79.32**	**26**	P	**P**	**01 59 06.5**	**-0.3**
MKAR	**Makanchi Array**	**80.21**	**319**	P	**P**	**01 59 12.2**	**+0.2**
	comp=Z,

moment-rate function
ISC 22 02:07:05.9₀0.4,**12°67N**₄0'04×**88°32W**₀0'04,**h56**$km_3$3km_3
h56km:**pP-P,n772,**σ1**s33/636,mb4.9**/203,**MS3.9**/32,**1C-6D,**
Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.75**	**2**	*eP*	**Pn**	**02 07 21.3**	**+0.5**
LCY	**Lacayo**	**0.75**	**2**	*eP*	**Pn**	**02 07 21.3**	**+0.5**
LCND	**La Caada**	**0.76**	**33**	*eP*	**Pn**	**02 07 21.1**	**+0.4**
LCND				*eS*	**Sn**	**02 07 32.7**	**+1.2**
CNCH	**Conchagua**	**0.77**	**38**	‖*eP*	**Pn**	**02 07 21.2**	**+0.3**
CNCH	**Conchagua**	**0.77**	**38**	‖*eP*	**Pn**	**02 07 21.2**	**+0.3**
TECA	**Tecapa**	**0.84**	**348**	‖*iP*	**Pn**	**02 07 22.4**	**+0.4**
TECA	**Tecapa**	**0.84**	**348**	‖*iP*	**Pn**	**02 07 22.4**	**+0.4**
COEB	**Comit de Eme**	**0.85**	**346**	*eP*	**Pn**	**02 07 22.3**	**+0.3**
COEB				*eS*	**Sn**	**02 07 34.7**	**+0.9**
COEB	**Comit de Eme**	**0.85**	**346**	*eP*	**Pn**	**02 07 22.3**	**+0.3**
COEB				*eS*	**Sn**	**02 07 34.7**	**+0.9**
FAGO	**Alcalda de S**	**1.04**	**11**	*eP*	**Pn**	**02 07 25.4**	**+0.9**
FAGO				*eS*	**Sn**	**02 07 40.4**	**+2.3**
FAGO	**Alcalda de S**	**1.04**	**11**	*eP*	**Pn**	**02 07 25.4**	**+0.9**
FAGO				*eS*	**Sn**	**02 07 40.4**	**+2.3**
UESV	**Universidad de**	**1.07**	**335**	*eP*	**Pn**	**02 07 25.2**	**+0.4**
UESV	**Universidad de**	**1.07**	**335**	*eP*	**Pn**	**02 07 25.2**	**+0.4**
LFRS	**El Faro**	**1.20**	**323**	*i* P	**Pn**	**02 07 26.8**	**+0.2**
LFRS	**El Faro**	**1.20**	**323**	*i* P	**Pn**	**02 07 26.8**	**+0.2**
PAVA	**Las Pavas**	**1.20**	**330**	‖*iP*	**Pn**	**02 07 27.4**	**+0.7**
PAVA	**Las Pavas**	**1.20**	**330**	‖*iP*	**Pn**	**02 07 27.4**	**+0.7**
CRIN	**San Cristobal**	**1.23**	**88**	Pn	**Pn**	**02 07 27.5**	**+0.5**
AEIL	**Aeropuerto Ilo**	**1.29**	**323**	*eP*	**Pn**	**02 07 28.4**	**+0.6**
AEIL				*eS*	**Sn**	**02 07 45.2**	**+1.1**
AEIL	comp=Z,51μm,0.3s			IAML		02 07 49.8	
AEIL	**Aeropuerto Ilo**	**1.29**	**323**	*eP*	**Pn**	**02 07 28.4**	**+0.6**
AEIL				*eS*	**Sn**	**02 07 45.2**	**+1.1**
AEIL	comp=Z,51μm,0.3s			IAML		02 07 49.8	
UDBS	**Universidad Do**	**1.32**	**322**	*eP*	**Pn**	**02 07 28.7**	**+0.5**
UDBS				*eS*	**Sn**	**02 07 44.8**	**-0.1**
UDBS	comp=Z,48μm,0.2s			IAML		02 07 51.0	
UDBS	**Universidad Do**	**1.32**	**322**	*eP*	**Pn**	**02 07 28.7**	**+0.5**
UDBS				*eS*	**Sn**	**02 07 44.8**	**-0.1**
UDBS	comp=Z,48μm,0.2s			IAML		02 07 51.0	
IGN	**Direccin Gen**	**1.33**	**321**	*eP*	**Pn**	**02 07 28.9**	**+0.5**
IGN				*eS*	**Sn**	**02 07 45.7**	**+0.6**
IGN	**Direccin Gen**	**1.33**	**321**	*eP*	**Pn**	**02 07 28.9**	**+0.5**
IGN				*eS*	**Sn**	**02 07 45.7**	**+0.6**
UTEC	**Universidad Te**	**1.34**	**320**	IAML		02 07 47.9	
UTEC	comp=Z,37μm,0.2s **Universidad Te**	**1.34**	**320**	IAML		02 07 47.9	
OPAM	comp=Z,37μm,0.2s **Oficina de Pla**	**1.35**	**321**	*eP*	**Pn**	**02 07 29.1**	**+0.6**
OPAM				*eS*	**Sn**	**02 07 46.5**	**+1.0**
OPAM	**Oficina de Pla**	**1.35**	**321**	*eP*	**Pn**	**02 07 29.1**	**+0.6**
OPAM				*eS*	**Sn**	**02 07 46.5**	**+1.0**
SNET	**Serv Nac Est T**	**1.35**	**319**	*eP*	**Pn**	**02 07 28.8**	**+0.2**
SNET	**Serv Nac Est T**	**1.35**	**319**	*eP*	**Pn**	**02 07 28.8**	**+0.2**
SNET				‖*iP*	**Pn**	**02 07 29.0**	**+0.4**
SNET				*eS*	**Sn**	**02 07 45.8**	**+0.2**
SNET	comp=Z,37μm,0.2s			IAML		02 07 49.1	
SNET	**Serv Nac Est T**	**1.35**	**319**	Pn	**Pn**	**02 07 29.0**	**+0.4**
UESS	**Universidad de**	**1.36**	**321**	*eP*	**Pn**	**02 07 29.3**	**+0.6**
UESS				*eS*	**Sn**	**02 07 47.0**	**+1.2**
UESS	**Universidad de**	**1.36**	**321**	*eP*	**Pn**	**02 07 29.3**	**+0.6**
UESS				*eS*	**Sn**	**02 07 47.0**	**+1.2**
ITCA	**Escuela Especi**	**1.37**	**317**	*eP*	**Pn**	**02 07 29.2**	**+0.3**
ITCA				*eS*	**Sn**	**02 07 46.7**	**+0.6**
ITCA	**Escuela Especi**	**1.37**	**317**	*eP*	**Pn**	**02 07 29.2**	**+0.3**
ITCA				*eS*	**Sn**	**02 07 46.7**	**+0.6**
BOQS	**Boqueron**	**1.42**	**319**	*eP*	**Pn**	**02 07 30.2**	**+0.6**
BOQS	**Boqueron**	**1.42**	**319**	*eP*	**Pn**	**02 07 30.2**	**+0.6**
LLGN	**La Laguna**	**1.61**	**338**	*eP*	**Pn**	**02 07 33.1**	**+0.9**
LLGN	**La Laguna**	**1.61**	**338**	*eP*	**Pn**	**02 07 33.1**	**+0.9**
TGUH	**Tegucigalpa,Un**	**1.71**	**36**	Pn	**Pn**	**02 07 34.9**	**+1.3**
CEVE	**Cerro Verde**	**1.72**	**312**	*eP*	**Pn**	**02 07 34.1**	**+0.3**
CEVE				*eS*	**Sn**	**02 07 55.8**	**+1.0**
CEVE	**Cerro Verde**	**1.72**	**312**	*eP*	**Pn**	**02 07 34.1**	**+0.3**
CEVE				*eS*	**Sn**	**02 07 55.8**	**+1.0**
SBLS	**San Blas**	**1.73**	**313**	*eP*	**Pn**	**02 07 34.4**	**+0.6**
SBLS	**San Blas**	**1.73**	**313**	*eP*	**Pn**	**02 07 34.4**	**+0.6**
SNJE	**San Jose**	**1.73**	**314**	*i* P	**Pn**	**02 07 34.5**	**+0.5**
SNJE	**San Jose**	**1.73**	**314**	*i* P	**Pn**	**02 07 34.5**	**+0.5**
NUBE	**Las Nubes**	**1.88**	**311**	*eP*	**Pn**	**02 07 36.4**	**+0.5**
NUBE	**Las Nubes**	**1.88**	**311**	*eP*	**Pn**	**02 07 36.4**	**+0.5**
ESTN	**Estel**	**1.95**	**77**		**Pn**	**02 07 36.9**	**+0.2**
MTO3	**Montecristo**	**2.00**	**330**	*eP*	**Pn**	**02 07 38.6**	**+1.0**
MTO3	**Montecristo**	**2.00**	**330**	*eP*	**Pn**	**02 07 38.6**	**+1.0**
MTO3	**Montecristo**	**2.00**	**330**		**Pn**	**02 07 38.7**	**+1.0**
ESQI	**Esquipulas**	**2.13**	**332**		**Pn**	**02 07 40.5**	**+1.3**
MATN	**Matagalpa**	**2.35**	**83**		**Pn**	**02 07 41.7**	**-0.4**
IXG	**Ixpaco**	**2.55**	**306**	*eP*	**Pn**	**02 07 45.4**	**+0.3**
IXG	**Ixpaco**	**2.55**	**306**	*eP*	**Pn**	**02 07 45.4**	**+0.3**
IXG	**Ixpaco**	**2.55**	**306**	*eP*	**Pn**	**02 07 46.4**	**+1.3**
BOAB	**BOACO BROADBAN**	**2.59**	**94**		**Pn**	**02 07 44.6**	**-0.9**
MRL	**Marmol**	**2.74**	**331**	*eP*	**Pn**	**02 07 50.4**	**+2.6**
NBG	**Las Nubes**	**2.75**	**314**	*eP*	**Pn**	**02 07 50.3**	**+2.5**
PCG	**Pacaya**	**2.81**	**308**	*eP*	**Pn**	**02 07 51.3**	**+2.6**
FUG	**Fuego 3**	**3.03**	**306**	*eP*	**Pn**	**02 07 53.6**	**+2.0**
ACON	**Acoyapa**	**3.15**	**102**		**Pn**	**02 07 52.4**	**-0.7**
HZTE	**Horizontes, Gu**	**3.30**	**126**	*eP*	**Pn**	**02 07 56.9**	**+1.8**
GB1A	**Borinquen Arri**	**3.40**	**122**	*eP*	**Pn**	**02 07 57.4**	**+0.8**
BUEV	**Buena Vista**	**3.40**	**123**	*eP*	**Pn**	**02 07 59.0**	**+2.4**
ORTG	**Ortega, Santa**	**3.62**	**129**	*eP*	**Pn**	**02 08 01.5**	**+1.9**
CUI	**Cuipilapa**	**3.68**	**123**	*eP*	**Pn**	**02 08 02.0**	**+1.7**
PLVR	**Palo Verde**	**3.71**	**128**	*eP*	**Pn**	**02 08 02.5**	**+1.6**
RTAL	**Retalhuleu**	**3.77**	**300**		**Pn**	**02 08 03.7**	**+2.1**
ESPN	**Las Esperanzas**	**3.95**	**96**		**Pn**	**02 08 03.4**	**-0.7**
JTS	**Las Juntas de**	**4.05**	**125**	P	**Pn**	**02 08 07.0**	**+1.5**
JTS	comp=Z,4.1nm,0.3s,baz=164,slow=20,SNR=26			S	**Sn**	**02 08 51.0**	**-0.7**
JTS	comp=Z,16nm,0.3s,baz=219,slow=22,SNR=5.1 **Las Juntas de**	**4.05**	**125**	*eP*	**Pn**	**02 08 08.2**	**+2.6**
JTS	**Las Juntas de**	**4.05**	**125**	Pn	**Pn**	**02 08 07.2**	**+1.7**
HUEH	**Huehuetenango**	**4.06**	**311**		**Pn**	**02 08 08.9**	**+3.1**
CEDE	**Laguna Cedeo**	**4.15**	**121**	*eP*	**Pn**	**02 08 09.2**	**+2.4**
ARE1	**Arenal 1**	**4.15**	**122**	*eP*	**Pn**	**02 08 09.4**	**+2.6**
THIG		**4.44**	**301**		**Pn**	**02 08 13.9**	**+3.2**
THIG					**Sn**	**02 09 00.9**	**-0.2**
JACO	**JACO, Garabito**	**4.67**	**129**	*eP*	**Pn**	**02 08 18.0**	**+4.1**
LCR2	**La Lucha 2**	**5.13**	**124**	*eP*	**Pn**	**02 08 23.4**	**+2.9**
CCIG	**Comitan**	**5.16**	**315**		**Pn**	**02 08 23.3**	**+2.5**
RIMA	**Rio Macho**	**5.23**	**123**	*eP*	**Pn**	**02 08 25.4**	**+3.5**
CDM	**Cerro de Muert**	**5.43**	**124**	*eP*	**Pn**	**02 08 28.1**	**+3.2**
EDDO	**Dominical**	**5.53**	**127**	*eP*	**Pn**	**02 08 27.9**	**+2.2**
EDLM	**Las Mercedes**	**5.73**	**125**	*eP*	**Pn**	**02 08 31.6**	**+3.1**
DRKO	**Durika**	**6.02**	**124**	*eP*	**Pn**	**02 08 35.4**	**+2.8**
EDPN	**Palmar Norte**	**6.03**	**127**	*eP*	**Pn**	**02 08 35.3**	**+2.7**
EDBA	**Buenos Aires**	**6.05**	**125**	*eP*	**Pn**	**02 08 35.1**	**+2.2**
RIOS	**Rincon, Osa**	**6.15**	**129**	*eP*	**Pn**	**02 08 36.8**	**+2.6**
CMIG	**Matias Romero**	**7.72**	**306**	P	**Pn**	**02 08 57.7**	**+1.9**
CMIG	comp=Z,2.9nm,0.3s,baz=140,slow=13,SNR=30			S	**Sn**	**02 10 21.9**	**-0.1**
FSCY	comp=Z,6.8nm,0.3s,baz=26,slow=9.2,SNR=5.2 **Frank Sound, G**	**9.52**	**45**	Pn	**Pn**	**02 09 21.0**	**+0.6**
TLIG	**Tlapa**	**11.03**	**297**	Pn	**Pn**	**02 09 44.5**	**+3.3**
MOIG	**Morelia**	**14.19**	**301**	Pn	**Pn**	**02 10 26.4**	**+2.1**
ZARC	**Zaragoza, Cauc**	**14.21**	**110**	*eP*	**P**	**02 10 28.3**	**-1.9**
BBAC	**Balboa, Cauca**	**15.23**	**133**	*eP*	**P**	**02 10 44.8**	**+3.0**
POPC	**Popayan, Colom**	**15.30**	**130**	*eP*	**Pn**	**02 10 40.6**	**+1.9**
OTAV	**Otavalo**	**15.75**	**141**	Pn	**Pn**	**02 10 44.1**	**-0.7**
OTAV	**Otavalo**	**15.75**	**141**	*eP*	**Pn**	**02 10 41.3**	**+2.5**
ROSC	**El Rosal**	**15.86**	**118**	P	**Pn**	**02 10 46.6**	**+0.5**
ROSC	comp=Z,0.3nm,0.3s,baz=228,slow=21,SNR=1.2			LR	LR	02 17 13.8	
ROSC	comp=Z,205nm,19.3s,baz=334,slow=39 **El Rosal**	**15.86**	**118**	Pn	**Pn**	**02 10 44.6**	**-1.5**
DWPF	**Disney Wildern**	**16.66**	**22**	Pn	**Pn**	**02 10 54.9**	**-0.8**
FLOC	**Florencia**	**16.69**	**130**	*eP*	**P**	**02 11 00.4**	**+2.5**
ZAIG	**Zacatecas**	**16.88**	**308**	Pn	**Pn**	**02 10 58.8**	**+0.1**
SDV	**Santo Domingo**	**17.77**	**100**	P	**Pn**	**02 11 08.7**	**-1.0**
SDV	comp=Z,2.2nm,0.3s,baz=273,slow=7.6,SNR=4.5 **Santo Domingo**	**17.77**	**100**	P	**Pn**	**02 11 07.6**	**-2.2**
BANI	**BANI**	**18.21**	**70**	P	**Pn**	**02 11 14.2**	**-0.8**
BRAL	**Brewton**	**18.45**	**3**	P	**P**	**02 11 17.6**	**+0.5**
346A	**Big Creek Wild**	**18.66**	**357**	IAmb	IAmb	02 11 24.7	
833A	comp=Z,48nm,0.6s **Chaparral WMA,**	**18.70**	**328**	P	**Pn**	**02 11 21.9**	**+1.2**
833A	baz=144,SNR=12			IAmb	IAmb	02 11 23.2	
352A	comp=Z,54nm,0.6s **Blakely**	**18.98**	**9**	P	**Pn**	**02 11 24.9**	**+0.8**
342A	**Flagon Creek P**	**18.98**	**349**	IAmb	IAmb	02 11 32.7	
TIGA	comp=Z,46nm,0.8s **Tifton**	**19.18**	**12**	P	**Pn**	**02 11 27.7**	**+1.2**
250A	baz=194,SNR=12 **Grady**	**19.31**	**5**	P	**Pn**	**02 11 28.3**	**+0.3**
VBMS	**Vicksburg**	**19.57**	**354**	P	**Pn**	**02 11 32.7**	**+1.8**
NATX	baz=173,SNR=8.3 **Nacogdoches**	**19.88**	**344**	P	**Pn**	**02 11 35.8**	**+1.0**
NATX	baz=161 **Nacogdoches**	**19.88**	**344**	P	**P**	**02 11 34.2**	**+1.6**
NATX				IAmb	IAmb	02 11 47.5	
255A	comp=Z,46nm,0.8s **Hazlehurst**	**19.91**	**15**	P	**P**	**02 11 33.8**	**+0.8**
435B	**Jarrell**	**19.96**	**336**	P	**P**	**02 11 35.2**	**+1.7**
435B	baz=152,SNR=14 **Jarrell**	**19.96**	**336**	P	**P**	**02 11 35.0**	**+1.4**
435B				IAmb	IAmb	02 11 40.8	
LRAL	comp=Z,60nm,0.6s **Lakeview Retre**	**20.31**	**3**	P	Pn	02 11 39.5	-0.3
JCT	baz=183,SNR=18 **Junction City**	**20.67**	**331**	P	**P**	**02 11 42.8**	**+1.5**
JCT	baz=146,SNR=35 **Junction City**	**20.67**	**331**	P	**P**	**02 11 42.5**	**+1.2**
Z51A	**Franklin**	**20.75**	**7**	IAmb	IAmb	02 11 47.8	
Z41A	comp=Z,53nm,0.6s **Richland Creek**	**20.90**	**349**	P	Pn	02 11 46.0	-0.8
WHTX	baz=168,SNR=16 **Lake Whitney,**	**20.99**	**338**	P	**P**	**02 11 46.5**	**+1.8**
WHTX	baz=154,SNR=6.2 **Lake Whitney,**	**20.99**	**338**	IAmb	IAmb	02 12 14.4	
157A	comp=Z,69nm,1.0s **Early Branch**	**21.02**	**17**	P	**P**	**02 11 46.7**	**+1.8**
GOGA	baz=200,SNR=12 **Godfrey**	**21.12**	**11**	P	**P**	**02 11 48.5**	**+2.4**
GOGA	baz=193,SNR=66 **Godfrey**	**21.12**	**11**	P	**P**	**02 11 47.7**	**+1.6**
GOGA				IAmb	IAmb	02 11 51.6	
Y45A	comp=Z,51nm,0.7s **Yeager Farm, C**	**21.13**	**357**	IAmb	IAmb	02 11 53.3	
Z38A	comp=Z,41nm,0.7s **Mt. Pleasant**	**21.39**	**345**	IAmb	IAmb	02 11 54.2	
Z56A	comp=Z,46nm,0.7s **Williston**	**21.52**	**16**	P	**P**	**02 11 53.3**	**+2.9**
NHSC	baz=198,SNR=45 **New Hope**	**21.66**	**19**	P	**P**	**02 11 54.2**	**+2.3**
NHSC	baz=202 **New Hope**	**21.66**	**19**	P	**P**	**02 11 54.4**	**+2.5**
Z57A	**Bowman**	**21.68**	**17**	P	**P**	**02 11 54.2**	**+2.1**
OXF	baz=200,SNR=16 **Oxford**	**21.77**	**358**	P	**P**	**02 11 55.1**	**+2.1**
OXF	baz=177 **Oxford**	**21.77**	**358**	IAmb	IAmb	02 12 00.7	
TX32	comp=Z,50nm,0.7s **Lajitas Array**	**21.88**	**322**	IAmb	IAmb	02 11 57.8	
TXAR	comp=Z,34nm,0.8s **Lajitas Array**	**21.88**	**322**	P	**P**	**02 11 56.7**	**+2.4**
TXAR	comp=Z,31nm,0.6s,baz=138,slow=10,SNR=343			PcP	**PcP**	**02 15 53.9**	**+1.7**
TXAR	comp=Z,3.4nm,0.9s,baz=145,slow=3.1,SNR=8.1			LR	LR	02 22 20.5	
TXAR	comp=Z,105nm,19.0s,baz=0.0,slow=42 **Lajitas Array**	**21.88**	**322**	P	**P**	**02 11 56.3**	**+2.0**
FPAL	**Fort Paine**	**21.91**	**6**	IAmb	IAmb	02 12 12.7	
Y55A	comp=Z,44nm,1.0s **Saluda**	**21.98**	**14**	P	**P**	**02 11 57.1**	**+1.8**
Y56A	baz=197,SNR=50 **Pelion**	**21.98**	**16**	P	**P**	**02 11 57.5**	**+2.2**
X40A	baz=198,SNR=8.0 **Basin Creek Fa**	**22.11**	**350**	P	**P**	**02 11 58.7**	**+2.1**
HODGE	baz=168,SNR=16 **Hodges**	**22.16**	**13**	P	**P**	**02 11 58.8**	**+1.6**
MIAR	**Mount Ida**	**22.30**	**348**	P	**P**	**02 12 00.4**	**+1.7**
MIAR	baz=166,SNR=51 **Mount Ida**	**22.30**	**348**	IAmb	IAmb	02 12 26.4	
UALR	comp=Z,46nm,0.9s **University of**	**22.31**	**351**	P	**P**	**02 12 00.2**	**+1.4**
ABTX	**Abilene, Hawle**	**22.41**	**334**	P	**P**	**02 12 01.1**	**+1.1**
ABTX	baz=150,SNR=16 **Abilene, Hawle**	**22.41**	**334**	IAmb	IAmb	02 12 04.0	
X54A	comp=Z,40nm,0.8s **Belton**	**22.44**	**13**	P	**P**	**02 12 02.0**	**+1.7**
Y57A	baz=195,SNR=28 **Sumter**	**22.45**	**17**	P	**P**	**02 12 02.5**	**+2.2**
JSC	baz=200,SNR=13 **Jenkinsville**	**22.45**	**15**	IAmb	IAmb	02 12 18.4	
X55A	comp=Z,48nm,1.1s **Gracelyn & Ava**	**22.54**	**15**	P	**P**	**02 12 03.0**	**+1.7**
MTP	baz=197,SNR=50 **Monte Pirata**	**22.59**	**73**	P	**P**	**02 12 01.2**	**-0.8**
W50A	**Signal Mountai**	**22.60**	**6**	IAmb	IAmb	02 12 04.6	
W41B	comp=Z,27nm,0.5s **Gary Mavity, V**	**22.69**	**352**	P	**P**	**02 12 04.4**	**+1.5**
W41B	baz=170,SNR=24 **Gary Mavity, V**	**22.69**	**352**	IAmb	IAmb	02 12 05.4	
X56A	comp=Z,30nm,0.7s **White Oak**	**22.71**	**16**	P	**P**	**02 12 04.8**	**+1.7**
X37A	baz=198,SNR=32 **Clayton**	**22.75**	**345**	IAmb	IAmb	02 12 08.6	
BG3	comp=Z,28nm,0.6s **Lake Jocassee**	**22.76**	**11**	IAmb	IAmb	02 12 21.6	
WHAR	comp=Z,41nm,1.2s **Wooly Hollow**	**22.81**	**352**	IAmb	IAmb	02 12 06.9	
PAULI	comp=Z,50nm,0.7s **Pauline**	**22.83**	**14**	IAmb	IAmb	02 12 07.4	
Y59A	comp=Z,46nm,0.7s **Loris**	**22.90**	**21**	P	**P**	**02 12 07.0**	**+1.9**
X57A	baz=204 **Johnson Farm,**	**22.95**	**18**	P	**P**	**02 12 06.9**	**+1.3**
W39A	baz=201,SNR=8.7 **Magazine**	**22.97**	**348**	P	**P**	**02 12 07.4**	**+1.6**
W39A	baz=166,SNR=40 **Magazine**	**22.97**	**348**	IAmb	IAmb	02 12 09.3	
W54A	comp=Z,43nm,0.8s **Cherokee Point**	**23.00**	**13**	P	**P**	**02 12 08.2**	**+2.2**
Y60A	baz=195,SNR=70 **Bolivia**	**23.15**	**22**	P	**P**	**02 12 09.3**	**+1.8**
STVI	baz=206,SNR=7.2 **Saint Thomas**	**23.20**	**73**	P	**P**	**02 12 08.1**	**-0.1**
KMSC	**Kings Mountain**	**23.25**	**15**	P	**P**	**02 12 10.1**	**+1.6**
KMSC	baz=197,SNR=34 **Kings Mountain**	**23.25**	**15**	IAmb	IAmb	02 12 11.9	
TKL	comp=Z,40nm,0.8s **Tuckaleechee C**	**23.26**	**9**	P	**P**	**02 12 09.9**	**+1.3**
TKL	comp=Z,44nm,0.7s,baz=185,slow=10,SNR=106			LR	LR	02 22 44.6	
TKL	comp=Z,97nm,18.7s,baz=193,slow=41 **Tuckaleechee C**	**23.26**	**9**	IAmb	IAmb	02 12 11.1	
X58A	comp=Z,43nm,0.7s **Rowland**	**23.27**	**19**	P	**P**	**02 12 10.0**	**+1.3**
PCRV	baz=202 **Puerto La Cruz**	**23.34**	**94**	P	**P**	**02 12 09.5**	**-0.1**
WVT	comp=Z,15nm,0.7s,baz=293,slow=7.7,SNR=2.7 **Waverly**	**23.37**	**1**	P	**P**	**02 12 09.9**	**+0.3**
WVT	baz=181 **Waverly**	**23.37**	**1**	P	**P**	**02 12 09.9**	**+0.3**
FCAR	**Ozark Folk Cen**	**23.38**	**352**	IAmb	IAmb	02 12 35.7	
PLCV	comp=Z,33nm,0.8s **Puerto La Cruz**	**23.39**	**94**	P	**P**	**02 12 09.5**	**-0.5**
CLTN	**Cedars of Leba**	**23.39**	**4**	IAmb	IAmb	02 12 11.9	
V53A	comp=Z,23nm,0.6s **Saluda**	**23.44**	**11**	IAmb	IAmb	02 12 29.9	
W56A	comp=Z,54nm,0.9s **Indian Trail**	**23.44**	**16**	P	**P**	**02 12 11.5**	**+1.2**
LCAR	baz=199,SNR=11 **Lake Charles**	**23.44**	**354**	IAmb	IAmb	02 12 11.5	
V52A	comp=Z,21nm,0.5s **Sevierville**	**23.46**	**10**	IAmb	IAmb	02 12 29.8	
X59A	comp=Z,35nm,0.9s **McDuffie Farm,**	**23.52**	**20**	P	**P**	**02 12 11.7**	**+0.6**
W57A	baz=204 **Gilead**	**23.62**	**17**	P	**P**	**02 12 13.0**	**+1.0**
W57A	baz=200,SNR=32 **Gilead**	**23.62**	**17**	IAmb	IAmb	02 12 14.0	
V54A	comp=Z,40nm,0.6s **Nebo**	**23.72**	**13**	P	**P**	**02 12 14.4**	**+1.5**
LPIG	baz=195,SNR=65 **La Paz**	**23.73**	**302**	LR	LR	02 22 34.0	
W58A	comp=Z,98nm,19.4s,baz=144,slow=39 **Raeford**	**23.73**	**19**	P	**P**	**02 12 14.3**	**+1.3**
X60A	baz=202,SNR=47 **Albert Glenn T**	**23.75**	**22**	P	**P**	**02 12 14.3**	**+1.1**
U49A	baz=205,SNR=11 **Red Boiling Sp**	**23.85**	**5**	IAmb	IAmb	02 12 15.4	
WMOK	comp=Z,21nm,0.7s **Wichita Mounta**	**23.94**	**338**	P	**P**	**02 12 15.7**	**+0.8**
WMOK	baz=154,SNR=37 **Wichita Mounta**	**23.94**	**338**	P	**P**	**02 12 15.6**	**+0.6**
U40A	**Yellville**	**23.94**	**351**	P	**P**	**02 12 15.9**	**+1.0**
V55A	baz=169,SNR=99 **Taylorsville**	**23.96**	**14**	P	**P**	**02 12 16.5**	**+1.4**
V55A	baz=197,SNR=30 **Taylorsville**	**23.96**	**14**	IAmb	IAmb	02 12 33.1	
HHAR	comp=Z,44nm,0.9s **Hobbs**	**24.05**	**349**	IAmb	IAmb	02 12 19.6	
V56A	comp=Z,47nm,0.6s **Mocksville**	**24.10**	**16**	P	**P**	**02 12 17.6**	**+1.2**
TUL1	baz=199,SNR=18 **Leonard**	**24.11**	**345**	P	**P**	**02 12 16.8**	**+0.3**
TUL1	baz=162,SNR=20 **Leonard**	**24.11**	**345**	IAmb	IAmb	02 12 21.0	
W59A	comp=Z,36nm,0.7s **Clinton**	**24.12**	**20**	P	**P**	**02 12 17.4**	**+0.8**
TZTN	baz=204 **Tazewell**	**24.16**	**9**	P	**P**	**02 12 17.7**	**+0.8**
OK025	baz=191,SNR=13 **Westminster Rd**	**24.23**	**342**	IAmb	IAmb	02 12 21.8	
W60A	comp=Z,44nm,0.6s **Pink Hill**	**24.27**	**22**	P	**P**	**02 12 18.9**	**+1.0**
V57A	baz=206,SNR=10 **Coltrane Farms**	**24.37**	**17**	P	**P**	**02 12 20.0**	**+1.1**
CNNC	baz=200,SNR=26 **Cliffs of the**	**24.38**	**21**	P	**P**	**02 12 20.0**	**+1.2**
CNNC	baz=205 **Cliffs of the**	**24.38**	**21**	P	**P**	**02 12 19.8**	**+1.0**
T42A	**Van Buren**	**24.39**	**355**	P	**P**	**02 12 19.2**	**+0.2**
U54A	**Nelsons Funny**	**24.46**	**13**	P	**P**	**02 12 20.9**	**+1.2**
V58A	baz=195,SNR=42 **Windy Hill, Pi**	**24.48**	**18**	P	**P**	**02 12 20.9**	**+1.1**
MNTX	baz=202,SNR=62 **Cornudas Mount**	**24.60**	**323**	P	**P**	**02 12 21.8**	**+0.8**
U55A	baz=136,SNR=57 **TA2, Sparta**	**24.62**	**14**	P	**P**	**02 12 22.6**	**+1.4**
U56A	baz=197,SNR=42 **King**	**24.64**	**16**	P	**P**	**02 12 22.7**	**+1.4**
W61A	baz=198,SNR=11 **Ground Anchor**	**24.65**	**23**	P	**P**	**02 12 22.6**	**+1.3**
V59A	baz=207 **Middlesex**	**24.73**	**20**	P	**P**	**02 12 23.1**	**+1.0**
T53A	baz=204,SNR=18 **Wise**	**24.76**	**11**	P	**P**	**02 12 23.5**	**+1.0**
S44A	baz=193,SNR=16 **Carbondale**	**24.94**	**358**	IAmb	IAmb	02 12 25.3	
MSTX	comp=Z,39nm,0.6s **Muleshoe**	**24.96**	**331**	P	**P**	**02 12 25.3**	**+0.9**
U57A	baz=145 **Blanch**	**25.00**	**17**	P	**P**	**02 12 25.8**	**+1.2**
T54A	baz=201,SNR=30 **Tazewell**	**25.03**	**13**	P	**P**	**02 12 25.9**	**+1.0**
V60A	baz=195,SNR=15 **Jim Taylor Roa**	**25.07**	**22**	P	**P**	**02 12 26.4**	**+1.2**
U58A	baz=206,SNR=6.5 **Oxford**	**25.21**	**19**	P	**P**	**02 12 27.2**	**+0.7**
AMTX	baz=203,SNR=18 **Amarillo**	**25.22**	**334**	P	**P**	**02 12 27.9**	**+1.2**
T55A	baz=148 **Pulaski**	**25.27**	**14**	P	**P**	**02 12 28.5**	**+1.4**
CROK	baz=197,SNR=21 **Carrier**	**25.28**	**342**	IAmb	IAmb	02 12 30.8	
S39A	comp=Z,45nm,0.7s **Bolivar**	**25.32**	**351**	P	**P**	**02 12 28.3**	**+0.8**
S39A					**PcP**	**02 15 58.8**	**-0.5**
V61A	**Roper**	**25.34**	**23**	P	**P**	**02 12 29.0**	**+1.3**
V61A	baz=207 **Roper**	**25.34**	**23**	P	**P**	**02 12 28.4**	**+0.7**
V61A	comp=Z,75nm,1.1s			IAmb	IAmb	02 12 46.4	
T56A	**Rocky Mt**	**25.37**	**16**	P	**P**	**02 12 29.3**	**+1.4**
U59A	baz=199,SNR=5.5 **Littleton**	**25.42**	**20**	P	**P**	**02 12 29.3**	**+1.0**
CCM	baz=204,SNR=7.6 **Cathedral Cave**	**25.42**	**355**	P	**P**	**02 12 28.6**	**+0.3**
CCM	baz=173 **Cathedral Cave**	**25.42**	**355**	P	**P**	**02 12 28.6**	**+0.3**
CCM	comp=Z,35nm,0.6s			IAmb	IAmb	02 12 29.8	
BLA	**Blacksburg**	**25.45**	**15**	P	**P**	**02 12 29.9**	**+1.2**
BLA	baz=199,SNR=10 **Blacksburg**	**25.45**	**15**	IAmb	IAmb	02 12 31.3	
S53A	comp=Z,25nm,0.7s **Williamson**	**

comp=Z,25nm,0.7s
R58A **Rapidan** 27.13 18 P P 02 12 44.7 +0.9
baz=202,SNR=17
Q55A **Buckhannon** 27.22 14 P P 02 12 45.8 +1.1
baz=198,SNR=14
CBN **Corbin Frederi** 27.24 19 P P 02 12 46.1 +1.3
baz=204
P38A **Dawn** 27.25 351 IAmb IAmb 02 12 46.4
comp=Z,37nm,0.7s
R59A **King George, V** 27.32 19 P P 02 12 46.8 +1.4
baz=204,SNR=11
KSU1 **Kansas State U** 27.34 346 P P 02 12 46.0 +0.3
baz=162
KSU1 **Kansas State U** 27.34 346 IAmb IAmb 02 12 49.3
comp=Z,19nm,0.7s
P53A **Whipple** 27.41 12 P P 02 12 47.3 +1.0
baz=195,SNR=18
P53A **Whipple** 27.41 12 IAmb IAmb 02 12 48.2
comp=Z,34nm,0.6s
P52A **Corning** 27.41 10 P P 02 12 46.8 +0.5
baz=193
R60A **Leonardtown, M** 27.56 20 P P 02 12 49.0 +1.4
baz=205
SFIN **Lafayette** 27.63 2 P P 02 12 47.7 -0.5
baz=182,SNR=6.1
SFIN **Lafayette** 27.63 2 IAmb IAmb 02 12 48.5
comp=Z,15nm,0.6s
O49A **Covington** 27.64 7 IAmb IAmb 02 12 49.1
comp=Z,22nm,0.7s
Q57A **Strasburg** 27.69 17 P P 02 12 50.1 +1.2
baz=201,SNR=8.1
P54A **Burton** 27.71 13 P P 02 12 49.7 +0.7
baz=196,SNR=14
P55A **Reedsville** 27.77 14 P P 02 12 50.5 +0.9
baz=198,SNR=6.8
HDIL **Hopedale** 27.80 358 P P 02 12 49.5 -0.2
baz=178,SNR=6.8
HDIL **Hopedale** 27.80 358 P P 02 12 49.6 -0.1
HDIL IAmb IAmb 02 12 52.9
comp=Z,18nm,0.6s
HDIL PcP PcP 02 16 05.3 +0.4
Q58A **Fox Den Farm,** 27.82 18 P P 02 12 51.0 +1.0
baz=202,SNR=6.8
O51A **Pataskala** 27.83 9 P P 02 12 50.2 +0.2
baz=192,SNR=13
ACSO **Alum Creek Sta** 27.86 9 P P 02 12 50.7 +0.4
baz=191,SNR=14
ACSO **Alum Creek Sta** 27.86 9 IAmb IAmb 02 12 51.9
comp=Z,33nm,0.7s
MCWV **Mont Chateau** 27.91 14 P P 02 12 51.6 +0.9
baz=198,SNR=7.7
O52A **Adamsville** 27.93 11 P P 02 12 51.5 +0.6
baz=193,SNR=7.5
O52A **Adamsville** 27.93 11 P P 02 12 51.7 +0.7
O52A IAmb IAmb 02 12 52.3
comp=Z,29nm,0.6s
CBKS **Cedar Bluff** 27.95 341 P P 02 12 52.1 +1.0
baz=156,SNR=5.5
CBKS **Cedar Bluff** 27.95 341 IAmb IAmb 02 12 53.5
comp=Z,25nm,0.6s
P56A **Dayton Farm, R** 28.02 16 P P 02 12 52.9 +1.2
baz=200,SNR=16
N41A **Harden Midland** 28.02 356 IAmb IAmb 02 12 52.5
comp=Z,32nm,0.7s
Q59A **Harwood** 28.07 20 P P 02 12 52.8 +0.6
baz=204
O53A **New Philadelph** 28.18 12 P P 02 12 53.7 +0.6
baz=195,SNR=9.3
O53A **New Philadelph** 28.18 12 IAmb IAmb 02 12 55.1
comp=Z,21nm,0.7s
N47A **Urbana** 28.20 4 IAmb IAmb 02 12 54.0
comp=Z,12nm,0.5s
P57A **Homestead Farm** 28.22 17 P P 02 12 55.1 +1.6
baz=201,SNR=24
O54A **Avella** 28.29 13 P P 02 12 54.6 +0.5
baz=196,SNR=15
O54A **Avella** 28.29 13 IAmb IAmb 02 12 56.2
comp=Z,26nm,0.7s
T25A **Trinidad** 28.32 332 P P 02 12 56.8 +2.1
baz=145,SNR=54
N49A **Columbus Grove** 28.38 7 IAmb IAmb 02 12 56.1
comp=Z,25nm,0.6s
TUC **Tucson** 28.41 317 P P 02 12 57.0 +1.6
P58A **Pank, Wackersv** 28.44 18 P P 02 12 56.7 +1.2
baz=203,SNR=9.7
Q60A **Greensboro** 28.47 21 P P 02 12 56.9 +1.2
baz=206
N51A **Ashland** 28.62 9 P P 02 12 57.2 +0.1
baz=192
N51A **Ashland** 28.62 9 IAmb IAmb 02 13 00.3
comp=Z,16nm,0.6s
N52A **McGinn's Farm,** 28.64 11 P P 02 12 57.3 +0.1
baz=193,SNR=7.2
N53A **Lisbon** 28.79 12 P P 02 12 58.9 +0.3
baz=195,SNR=7.5
N53A **Lisbon** 28.79 12 IAmb IAmb 02 12 59.9
comp=Z,18nm,0.6s
P59A **Jarrettsville** 28.82 19 P P 02 12 60.0 +1.1
baz=204,SNR=5.4
O57A **Amberson** 29.00 17 P P 02 13 01.5 +1.0
baz=202,SNR=18
M51A **Elyria** 29.06 10 P P 02 13 00.9 -0.1
baz=192
N54A **Moraine State** 29.12 13 P P 02 13 02.1 +0.6
baz=197,SNR=19
O58A **Lewisberry** 29.14 18 P P 02 13 02.8 +1.2
baz=203,SNR=6.6
KSCO **Kaye Shedlock'** 29.15 337 P P 02 13 03.3 +1.4
baz=150,SNR=7.1
KSCO **Kaye Shedlock'** 29.15 337 IAmb IAmb 02 13 04.3
comp=Z,35nm,0.8s
N55A **Marion Center** 29.18 15 P P 02 13 02.5 +0.4
baz=199,SNR=8.2
L42A **Oliver, Polo** 29.25 358 IAmb IAmb 02 13 03.0
comp=Z,19nm,0.6s
P60A **Greenville** 29.26 20 P P 02 13 03.7 +0.9
baz=206,SNR=8.9
P60A **Greenville** 29.26 20 IAmb IAmb 02 13 05.0
comp=Z,21nm,0.7s
L46A **Eue Claire** 29.29 3 IAmb IAmb 02 13 02.6
comp=Z,21nm,0.8s
PAGS **Pennsylvania G** 29.29 18 IAmb IAmb 02 13 19.9
comp=Z,33nm,1.0s
SDCO **Great Sand Dun** 29.31 331 P P 02 13 05.5 +1.9
baz=144,SNR=41
SDCO **Great Sand Dun** 29.31 331 IAmb IAmb 02 13 07.2
comp=Z,15nm,0.7s
SSPA **Standing Stone** 29.33 16 P P 02 13 04.0 +0.7
baz=201
SSPA **Standing Stone** 29.33 16 P P 02 13 04.5 +1.1
SSPA IAmb IAmb 02 13 05.8
comp=Z,13nm,0.7s
L48A **N Adams** 29.36 6 IAmb IAmb 02 13 04.0
comp=Z,20nm,0.7s
L40A **Anamosa** 29.40 356 IAmb IAmb 02 13 04.6
comp=Z,22nm,0.6s
M52A **Chesterland** 29.40 11 P P 02 13 04.1 +0.1
baz=194
L44A **Lake County Fo** 29.41 1 P P 02 13 03.1 -0.9
baz=181
PSUB **Penn St. - Bra** 29.43 20 IAmb IAmb 02 13 06.5
comp=Z,15nm,0.6s
M53A **WI Miller and** 29.43 12 P P 02 13 04.7 +0.4
baz=195,SNR=8.0
M53A **WI Miller and** 29.43 12 IAmb IAmb 02 13 07.5
comp=Z,19nm,0.7s
SCIA **State Center** 29.44 353 P P 02 13 05.3 +0.9
baz=170
SCIA **State Center** 29.44 353 P P 02 13 04.9 +0.6
N56A **West Decatur** 29.48 16 P P 02 13 05.5 +0.7
baz=200,SNR=15
N57A **Milroy** 29.54 17 P P 02 13 06.1 +0.9
baz=201,SNR=8.8
O59A **Robesonia** 29.54 19 P P 02 13 06.5 +1.2
baz=204
M54A **Oil Creek Stat** 29.71 13 P P 02 13 07.2 +0.4
baz=197,SNR=18
O60A **Telford** 29.80 20 P P 02 13 08.3 +0.9
baz=206
AAM **Ann Arbor** 29.80 7 P P 02 13 07.7 +0.2
baz=189,SNR=5.1
N58A **Sunbury** 29.86 18 P P 02 13 08.8 +0.8
baz=203
M55A **Ridgway** 29.88 14 P P 02 13 08.2 -0.1
baz=199,SNR=7.0
M55A **Ridgway** 29.88 14 IAmb IAmb 02 13 09.6
comp=Z,13nm,0.7s
O61A **Allentown** 29.89 21 P P 02 13 09.2 +0.9
baz=208
K43A **Burlington** 29.93 360 IAmb IAmb 02 13 09.6
comp=Z,15nm,0.6s
S22A **4UR Ranch, Cre** 29.95 330 P P 02 13 11.3 +2.0
baz=142,SNR=61
S22A **4UR Ranch, Cre** 29.95 330 IAmb IAmb 02 13 13.2
comp=Z,28nm,0.7s
L53A **Girard** 30.01 12 P P 02 13 09.6 +0.2
baz=196,SNR=8.6
M56A **Emporium** 30.04 15 P P 02 13 10.2 +0.4
baz=200,SNR=9.7
M56A **Emporium** 30.04 15 IAmb IAmb 02 13 11.4
comp=Z,12nm,0.7s
LUPA **Lehigh Univers** 30.06 20 IAmb IAmb 02 13 12.4
comp=Z,19nm,0.6s
Q24A **Divide** 30.15 333 P P 02 13 12.5 +1.5
baz=146
JFWS **Jewell Farm** 30.18 357 P P 02 13 10.7 -0.2
baz=176,SNR=9.9
JFWS **Jewell Farm** 30.18 357 IAmb IAmb 02 13 12.5
comp=Z,13nm,0.5s
M57A **Sunshine Farm,** 30.19 17 P P 02 13 11.9 +0.9
baz=202,SNR=14
M57A **Sunshine Farm,** 30.19 17 IAmb IAmb 02 13 27.3
comp=Z,22nm,0.8s
N59A **State Game Lan** 30.22 19 P P 02 13 12.5 +1.2
baz=205,SNR=10
N59A **State Game Lan** 30.22 19 IAmb IAmb 02 13 13.4
comp=Z,16nm,0.6s
ERPA **Erie** 30.23 12 P P 02 13 11.3 0.0
baz=196
N60A **Cedar Hill Far** 30.39 20 P P 02 13 13.4 +0.6
baz=206
MVCO **Mesa Verde** 30.40 327 P P 02 13 15.0 +1.9
baz=138,SNR=10
K50A **Casco** 30.40 8 IAmb IAmb 02 13 16.0
comp=Z,20nm,0.7s
BRNJ **Basking Ridge** 30.41 21 P P 02 13 13.7 +0.8
M58A **Price's Panora** 30.42 18 P P 02 13 14.0 +0.9
baz=203,SNR=7.6
L54A **Sinclairville** 30.48 13 P P 02 13 13.9 +0.3
baz=197,SNR=6.9
OGNE **Ogallala** 30.63 339 P P 02 13 16.3 +1.3
baz=153
L55A **Hinsdale** 30.64 14 P P 02 13 15.4 +0.4
baz=199,SNR=15
ODNJ **Ogdensburg** 30.75 21 IAmb IAmb 02 13 17.6
comp=Z,12nm,0.7s
KSPA **Keystone Colle** 30.80 19 IAmb IAmb 02 13 34.5
comp=Z,32nm,1.5s
WVNY **West Valley, N** 30.81 14 IAmb IAmb 02 13 18.2
comp=Z,20nm,0.7s
L56A **Greenwood** 30.82 16 P P 02 13 17.0 +0.4
baz=201
WUAZ **Wupatki** 30.84 321 P P 02 13 19.2 +2.1
baz=132,SNR=11
WUAZ **Wupatki** 30.84 321 P P 02 13 18.7 +1.6
WUAZ PcP PcP 02 16 13.8 +0.8
L57A **Andrews Acres** 30.89 17 P P 02 13 17.6 +0.5
baz=202
M59A **Waymart** 30.89 19 P P 02 13 18.1 +0.9
baz=205,SNR=9.0
PAL **Palisades** 30.93 21 P P 02 13 18.3 +0.9
baz=208,SNR=6.2
M60A **Port Jervis** 30.96 20 P P 02 13 18.6 +0.8
baz=206,SNR=9.7
K54A **Basiliko Farm,** 30.98 14 P P 02 13 18.2 +0.2
baz=198,SNR=7.9
ISCO **Idaho Springs** 31.04 334 P P 02 13 20.6 +1.7
baz=146,SNR=25
ISCO **Idaho Springs** 31.04 334 IAmb IAmb 02 13 22.9
comp=Z,17nm,0.8s
I40A **Norwalk** 31.18 357 IAmb IAmb 02 13 20.4
comp=Z,13nm,0.6s
L58A **Harry Jones Me** 31.22 18 P P 02 13 20.8 +0.7
baz=204,SNR=7.6
K55A **Perry** 31.24 15 P P 02 13 20.4 +0.2
baz=199
M61A **Granite Spring** 31.25 21 P P 02 13 20.9 +0.7
baz=208,SNR=9.7
WSPT **Westport, CT** 31.28 22 IAmb IAmb 02 13 36.7
comp=Z,26nm,1.1s
MMNY **Mt. Morris Dam** 31.29 15 IAmb IAmb 02 13 22.3
comp=Z,11nm,0.6s
BINY **Binghamton** 31.32 18 P P 02 13 21.6 +0.7
baz=203
BINY **Binghamton** 31.32 18 IAmb IAmb 02 13 37.1
comp=Z,15nm,0.8s
K56A **Middlesex** 31.41 16 P P 02 13 21.9 +0.2
baz=201,SNR=9.8
PV04 **Paradox Valley** 31.50 328 IAmb IAmb 02 13 26.7
comp=Z,20nm,0.8s
PV14 **Lion Creek, Pa** 31.54 328 P P 02 13 25.5 +2.3
PV14 IAmb IAmb 02 13 26.9
comp=Z,16nm,0.7s
PV14 PcP 02 16 16.3 +1.3
PV22 **Blue Mesa, Par** 31.54 328 IAmb IAmb 02 13 29.1
comp=Z,10nm,0.7s
I37A **Lemond, Waseca** 31.54 353 IAmb IAmb 02 13 38.4
comp=Z,19nm,0.8s
MEDO **Medina** 31.56 14 IAmb IAmb 02 13 24.4
comp=Z,13nm,0.6s
L59A **Walton** 31.60 19 P P 02 13 24.3 +0.8
baz=205,SNR=8.1
L59A **Walton** 31.60 19 IAmb IAmb 02 13 26.2
comp=Z,14nm,0.7s
J54A **Appleton** 31.62 14 P P 02 13 23.7 +0.2
baz=198,SNR=8.0
MACA **Manacapuru-AM** 31.63 118 eP P 02 13 24.9 +0.9
K57A **Scipio Center** 31.66 17 P P 02 13 23.9 0.0
baz=202,SNR=5.7
I51A **Listowel** 31.66 10 P P 02 13 23.5 -0.3
baz=193,SNR=8.0
M62A **Hamden** 31.68 22 P P 02 13 24.6 +0.5
baz=209
L60A **Shokan** 31.69 20 P P 02 13 25.2 +1.0
baz=207,SNR=6.0
H43A **Windswept, Lux** 31.70 1 IAmb IAmb 02 13 24.4
comp=Z,15nm,0.6s
KSCT **Kent School, K** 31.71 21 IAmb IAmb 02 13 42.1
comp=Z,54nm,1.7s
ECSD **EROS Data Cent** 31.77 349 P P 02 13 24.6 -0.3
baz=164,SNR=18
ECSD **EROS Data Cent** 31.77 349 IAmb IAmb 02 13 27.9
comp=Z,11nm,0.6s
J55A **Hilton** 31.81 15 P P 02 13 25.2 0.0
baz=200
PDMCI **Parker Dam,Lak** 31.85 317 P P 02 13 27.7 +2.1
baz=126
K58A **Earlville** 31.94 18 P P 02 13 26.7 +0.4
baz=204
K58A **Earlville** 31.94 18 IAmb IAmb 02 13 42.9
comp=Z,24nm,1.1s
M63A **Gales Ferry** 31.97 23 P P 02 13 26.8 +0.2
baz=211
J56A **Wolcott** 32.07 16 P P 02 13 27.7 +0.2
baz=201,SNR=35
N23A **Red Feather La** 32.09 334 P P 02 13 29.6 +1.6
baz=146,SNR=17
N23A **Red Feather La** 32.09 334 IAmb IAmb 02 13 31.0
comp=Z,15nm,0.7s
K59A **Cooperstown** 32.19 19 P P 02 13 29.3 +0.7
baz=205
GLMI **Grayling** 32.20 5 P P 02 13 27.5 -1.2
baz=187
GLMI **Grayling** 32.20 5 P P 02 13 28.2 -0.5
PHWY **Pilot Hill** 32.23 335 IAmb IAmb 02 13 33.2
comp=Z,14nm,0.8s
BC3 **Big Chuckawall** 32.37 315 P P 02 13 32.9 +2.5
baz=124
J57A **Williamstown** 32.43 17 P P 02 13 30.7 0.0
baz=203,SNR=6.3
J57A **Williamstown** 32.43 17 IAmb IAmb 02 13 47.4
comp=Z,17nm,0.9s
O20A **White River Ci** 32.51 331 P P 02 13 33.8 +2.2
baz=142,SNR=68
L63A **North Scituate** 32.53 24 P P 02 13 32.4 +0.9
baz=211
G40A **Rib Lake** 32.53 358 IAmb IAmb 02 13 32.3
comp=Z,12nm,0.8s
J58A **Remsen** 32.59 18 P P 02 13 32.4 +0.3
baz=204,SNR=6.6
J58A **Remsen** 32.59 18 IAmb IAmb 02 13 34.5
comp=Z,9.1nm,0.6s
QUA2 **Belchertown** 32.61 22 IAmb IAmb 02 13 49.0
comp=Z,17nm,1.0s
K61A **Williamstown** 32.62 21 P P 02 13 33.4 +1.1
baz=208
L61B **Northampton** 32.63 22 P P 02 13 32.9 +0.4
baz=209,SNR=6.0
SPMN **Marine on St.** 32.67 354 P P 02 13 32.4 -0.4
baz=172,SNR=20
I55A **Frankford** 32.74 14 P P 02 13 33.3 -0.1
baz=199,SNR=6.6
H53A **Bobcaygeon** 32.87 13 P P 02 13 34.6 +0.1
baz=198,SNR=15
J59A **Piesco** 32.92 19 P P 02 13 34.9 -0.1
baz=205
J59A **Piesco** 32.92 19 IAmb IAmb 02 13 51.9
comp=Z,19nm,1.3s
SAML **Samuel** 32.93 129 P P 02 13 35.1 -0.3
SAML IAmb IAmb 02 13 36.0
comp=Z,19nm,0.8s
SAML **Samuel** 32.93 129 eP P 02 13 34.9 -0.4
BELC **Belle Mtn. Jos** 32.94 315 P P 02 13 37.5 +2.1
baz=124
SADO **Sadowa** 32.94 12 P P 02 13 34.8 -0.3
comp=Z,18nm,0.5s,baz=216,slow=9.0,SNR=30
SADO LR LR 02 26 45.8
comp=Z,132nm,20.9s,baz=200,slow=36
I58A **Old Forge** 32.98 18 P P 02 13 35.7 +0.1
baz=204
DELO **Deloro Mine** 33.04 14 IAmb IAmb 02 13 37.6
comp=Z,12nm,0.6s
PFO **Pinyon Flats O** 33.05 314 P P 02 13 38.6 +2.2
comp=Z,2.0nm,0.7s,baz=124,slow=7.0,SNR=2.3
PFO PcP PcP 02 16 19.9 +0.8
comp=Z,4.6nm,0.8s,baz=62,slow=2.3,SNR=5.7
PFO **Pinyon Flats O** 33.05 314 IAmb IAmb 02 13 50.6
comp=Z,33nm,2.0s
HRV **Adam Dziewonsk** 33.10 23 P P 02 13 37.1 +0.6
baz=211
GMRC **Granite Mounta** 33.15 316 P P 02 13 39.6 +2.4
baz=125,SNR=5.6
H55A **Tweed** 33.17 15 P P 02 13 37.3 +0.2
baz=200
K63A **Dunstable** 33.27 23 P P 02 13 38.5 +0.5
baz=211
F36A **Milaca** 33.38 353 IAmb IAmb 02 13 40.9
comp=Z,28nm,1.5s
F48A **Evansville** 33.40 7 P P 02 13 38.4 -0.7
baz=190,SNR=32
F49A **Sandfield** 33.41 8 P P 02 13 38.2 -1.0
baz=191,SNR=8.2
H56A **Elgin** 33.45 16 P P 02 13 39.6 +0.1
baz=202,SNR=5.1
H57A **Richville** 33.57 17 P P 02 13 40.9 +0.4
baz=203
E43A **Lone Tree Farm** 33.62 2 IAmb IAmb 02 13 41.0
comp=Z,15nm,0.6s
J62A **Henniker** 33.62 22 P P 02 13 42.0 +0.9
baz=210
PLVO **Plevna** 33.66 14 IAmb IAmb 02 13 57.3
comp=Z,15nm,1.2s
TUQ **Turquoise Moun** 33.70 317 P P 02 13 43.7 +1.7
baz=125
E46A **Sault Ste Mari** 33.76 5 IAmb IAmb 02 13 44.6
comp=Z,7.3nm,0.7s
G54A **Lake Saint Pet** 33.76 13 P P 02 13 42.0 -0.3
baz=198,SNR=10
K22A **Casper** 33.79 336 P P 02 13 44.1 +1.4
baz=147,SNR=17
H58A **Gabriels** 33.88 18 P P 02 13 42.8 -0.6
baz=205,SNR=6.7
E38A **The Farm, Brul** 33.94 356 IAmb IAmb 02 13 44.1
comp=Z,16nm,0.8s
J63A **Strafford** 33.94 23 P P 02 13 44.6 +0.7
baz=211
LONY **Lake Ozonia** 33.95 18 P P 02 13 43.5 -0.4
baz=204,SNR=7.4
LONY **Lake Ozonia** 33.95 18 IAmb IAmb 02 14 00.2
comp=Z,20nm,1.1s
E47A **Iron Bridge** 33.95 6 P P 02 13 43.4 -0.4
baz=189,SNR=19
G55A **Calabogie** 33.95 15 P P 02 13 43.8 -0.1
baz=200,SNR=6.3
E48A **Lockeyer** 34.10 8 P P 02 13 44.8 -0.5
baz=190,SNR=8.9
RSSD **Black Hills** 34.13 340 P P 02 13 47.3 +1.6
baz=152
RSSD **Black Hills** 34.13 340 P P 02 13 46.7 +0.9
RSSD IAmb IAmb 02 13 48.8
comp=Z,12nm,0.7s
GSC **Goldstone, Bar** 34.21 316 P P 02 13 48.4 +1.9
baz=124
BFSC **Mount Baldy Ra** 34.23 314 P P 02 13 48.8 +2.2
baz=122
H59A **Cadyville** 34.24 19 P P 02 13 47.1 +0.6
baz=206
E50A **Wahnapitae** 34.25 9 P P 02 13 45.8 -0.7
baz=193,SNR=11
ALGO **Algonquin Park** 34.30 13 P P 02 13 46.6 -0.3
baz=198,SNR=20
D46A **Sault St. Mari** 34.30 5 P P 02 13 46.0 -1.0
baz=187
I62A **Tamworth** 34.36 22 P P 02 13 48.4 +0.9
baz=210,SNR=8.9
FRNY **Flat Rock** 34.44 19 IAmb IAmb 02 14 04.5
comp=Z,20nm,1.1s
ORIO **Orleans, Innes** 34.45 16 P P 02 13 48.0 -0.2
baz=202
LBNH **Lisbon** 34.47 21 P P 02 13 49.0 +0.7
baz=209
H60A **Morristown** 34.48 20 P P 02 13 49.0 +0.4
baz=207
E52A **Mattawa** 34.49 12 P P 02 13 48.7 +0.1
baz=197
D47A **Chapleau** 34.56 6 P P 02 13 48.2 -1.0
baz=189,SNR=11
E51A **G1948 Merrick** 34.57 11 P P 02 13 49.0 -0.2
baz=195,SNR=7.0
F55A **Otter Lake** 34.58 15 P P 02 13 49.2 -0.2
baz=201
E53A **Dumoine, Ponti** 34.79 13 P P 02 13 50.9 -0.2
baz=198
I63A **Otisfield** 34.79 23 P P 02 13 51.6 +0.4
baz=211
I63A **Otisfield** 34.79 23 IAmb IAmb 02 14 08.9
comp=Z,15nm,0.9s
G59A **Clarenceville** 34.79 19 P P 02 13 51.3 +0.2
baz=206
TPNV **Topopah Spring** 34.80 319 P P 02 13 54.4 +2.9
baz=127,SNR=8.2
TPNV **Topopah Spring** 34.80 319 P P 02 13 53.7 +2.1
TPNV PcP 02 16 25.3 +1.3
D48A **Paudash Townsh** 34.83 8 P P 02 13 50.7 -0.8
baz=191,SNR=27
DUG **Dugway, Tooele** 34.88 326 P P 02 13 54.6 +2.4
baz=135
LRMC **Laurel Mtn Rad** 34.91 316 P P 02 13 54.9 +2.4
baz=123
FURC **Furnace Creek,** 34.91 318 P P 02 13 54.8 +2.5
baz=126
E54A **Lac Daplat, Po** 34.95 13 P P 02 13 52.2 -0.3
baz=199
D49A **Beulah Townshi** 34.99 8 P P 02 13 52.2 -0.7
baz=192,SNR=17
LPAZ **La Paz** 35.02 145 P P 02 13 53.4 -0.7
comp=Z,0.8nm,0.4s,baz=133,slow=6.3,SNR=6.6
LPAZ LR LR 02 28 56.5
comp=Z,106nm,20.2s,baz=303,slow=38
LPAZ **La Paz** 35.02 145 P P 02 13 54.0 -0.1
LPAZ PcP PcP 02 16 23.8 -1.7
MPMC **Manual Prospec** 35.10 317 P P 02 13 55.8 +1.6
baz=124
D50A **G1974 Best Tow** 35.12 10 P P 02 13 53.3 -0.7
baz=194,SNR=7.4
D51A **Lot 18 Range I** 35.13 11 P P 02 13 53.3 -0.7
baz=195,SNR=6.1
BW06 **Boulder Array** 35.19 332 P P 02 13 55.7 +0.8
baz=142,SNR=12
PD31 **Pinedale Array** 35.19 332 IAmb IAmb 02 13 56.8
comp=Z,10nm,0.7s
PDAR **Pinedale Array** 35.19 332 P P 02 13 56.1 +1.2
comp=Z,9.9nm,0.6s,baz=128,slow=11,SNR=146
PDAR PcP PcP 02 16 25.2 +0.1
comp=Z,2.8nm,0.6s,baz=143,slow=4.9,SNR=10.0
PDAR LR LR 02 32 12.6
comp=Z,85nm,21.4s,baz=149,slow=43
PDAR **Pinedale Array** 35.19 332 P P 02 13 55.4 +0.4
PDAR PcP PcP 02 16 25.2 +0.1
D52A **ZEK Kipawa Sen** 35.20 12 P P 02 13 55.4 +0.7
baz=197
E55A **Montcerf-Lytto** 35.23 15 P P 02 13 54.7 -0.3
baz=201
R11A **Troy Canyon, C** 35.24 321 P P 02 13 57.7 +2.2

baz=129
EYMN **Ely** 35.27 356 P P 02 13 54.3 -1.0
baz=174,SNR=5.1
D53A **Lac Vacive, Po** 35.45 13 P P 02 13 56.8 0.0
baz=198,SNR=11
D53A **Lac Vacive, Po** 35.45 13 IAmb IAmb 02 14 13.0
comp=Z,14nm,0.8s
G61A **St-Isidore-de-** 35.52 21 P P 02 13 58.9 +1.5
baz=209
H63A **New Sharon** 35.52 23 P P 02 13 58.3 +0.9
baz=212
ISA **Isabella, Lake** 35.55 315 P P 02 14 00.1 +2.2
baz=122
ISA **Isabella, Lake** 35.55 315 P P 02 13 59.9 +2.0
ISA PcP 02 16 27.0 +0.9
GRAC **Grapevine Rang** 35.55 318 P P 02 14 01.0 +3.1
baz=125
WVL **Waterville** 35.58 23 IAmb IAmb 02 14 15.3
comp=Z,17nm,1.2s
E56A **St. Veronique** 35.58 16 P P 02 13 58.7 +0.7
baz=202
F59A **Saint Guilaume** 35.60 19 P P 02 13 59.6 +1.5
baz=206
E57A **Chemin Saint G** 35.70 17 P P 02 13 58.9 -0.1
baz=204
CWC **Cottonwood Cre** 35.70 317 P P 02 14 01.1 +1.7
baz=124
D54A **Lac Fusel, La** 35.75 14 P P 02 13 59.1 -0.3
baz=200,SNR=7.4
G62A **West of Eustis** 35.81 22 P P 02 14 00.6 +0.7
baz=210,SNR=6.5
H64A **Troy** 35.81 24 P P 02 14 00.9 +1.0
baz=213
D55A **Sainte-Anne-du** 35.91 15 P P 02 14 00.6 -0.1
baz=202,SNR=6.3
E58A **La Victoria** 35.92 18 P P 02 14 00.8 0.0
baz=205,SNR=7.2
F60A **Warwick** 35.98 20 P P 02 14 01.7 +0.3
baz=208
G63A **Kingsbury** 36.06 23 P P 02 14 02.9 +0.9
baz=212
VES **Vestal, Richgr** 36.06 315 P P 02 14 04.7 +2.4
baz=122
AGMN **Agassiz Nation** 36.08 351 P P 02 14 02.0 -0.2
baz=167,SNR=41
D56A **ZEC Mazanza, M** 36.12 16 P P 02 14 03.0 +0.4
baz=203
H65A **Eastbrook** 36.24 24 P P 02 14 04.7 +1.1
baz=214,SNR=6.2
PKME **Peaks-Kenny Pk** 36.31 23 P P 02 14 04.8 +0.7
baz=212,SNR=5.6
PKME **Peaks-Kenny Pk** 36.31 23 IAmb IAmb 02 14 21.1
comp=Z,21nm,1.1s
MDND **Maddock** 36.32 347 P P 02 14 04.7 +0.4
baz=161,SNR=11
D57A **Chemin Vers le** 36.33 17 P P 02 14 04.3 -0.1
baz=204
VLDQ **Val d'Or** 36.48 12 IAmb IAmb 02 14 20.1
comp=Z,16nm,1.4s
E60A **Ste Agathe de** 36.49 20 P P 02 14 06.2 +0.4
baz=208
G64A **Maxfield** 36.50 23 P P 02 14 06.5 +0.7
baz=213
ITTB **Itaituba** 36.53 116 *e*P P 02 14 08.1 +1.6
FXWY **Fox Creek** 36.54 332 P P 02 14 07.1 +0.6
FXWY IAmb IAmb 02 14 09.2
comp=Z,13nm,0.7s
FXWY PcP 02 16 29.6 +0.5
EMMW **East Machias** 36.58 25 IAmb IAmb 02 14 08.2
comp=Z,10nm,0.8s
F62A **Pittston Farm,** 36.59 22 P P 02 14 07.0 +0.4
baz=211
D58A **Chemin du LacG** 36.69 18 P P 02 14 07.8 +0.4
baz=206,SNR=5.9
H66A **Whiting** 36.70 25 P P 02 14 08.3 +0.9
baz=216,SNR=5.1
F63A **Nahmakanta, Br** 36.75 23 P P 02 14 08.2 +0.3
baz=212
MALB **Monte Alegre** 36.75 111 *e*pP pP 02 14 27.4 +4.8
H17A **Grant Village** 36.93 333 P P 02 14 11.5 +1.7
baz=142,SNR=13
H17A **Grant Village** 36.93 333 IAmb IAmb 02 14 14.7
comp=Z,19nm,0.8s
G65A **Princeton** 36.93 25 P P 02 14 10.5 +1.1
baz=215,SNR=8.6
RLMT **Red Lodge** 36.95 335 P P 02 14 11.2 +1.3
baz=144,SNR=51
LATQ **La Tuque** 36.98 18 P P 02 14 10.5 +0.7
baz=206
NVAR **Mina Array Bea** 36.99 319 P P 02 14 13.1 +2.7
comp=Z,6.2nm,0.7s,baz=131,slow=7.5,SNR=26
NVAR PcP PcP 02 16 32.5 +2.0
comp=Z,8.9nm,0.8s,baz=137,slow=3.8,SNR=26
NVAR ScP ScP 02 20 16.0 +3.1
comp=Z,0.6nm,0.7s,baz=138,slow=3.5,SNR=4.9
NVAR LR LR 02 30 50.2
comp=Z,209nm,19.4s,baz=144,slow=38
NVAR **Mina Array Bea** 36.99 319 P P 02 14 12.2 +1.9
NVAR PcP PcP 02 16 32.1 +1.5
LHV **Little Huntoon** 37.01 319 IAmb IAmb 02 14 14.6
comp=Z,12nm,0.7s
LAO **LASA Array** 37.12 339 P P 02 14 12.3 +1.1
baz=150
LAO **LASA Array** 37.12 339 IAmb IAmb 02 14 14.8
comp=Z,17nm,0.7s
F64A **Sherman** 37.17 23 P P 02 14 12.0 +0.5
baz=213,SNR=6.5
F64A **Sherman** 37.17 23 IAmb IAmb 02 14 13.0
comp=Z,11nm,0.7s
E62A **Clayton Lake** 37.37 21 P P 02 14 13.7 +0.5
baz=211
LSQQ **Lebel-sur-Quev** 37.48 12 P P 02 14 14.5 +0.4
baz=198
YHB **Horse Butte** 37.48 333 P P 02 14 14.8 +0.3
E63A **Oxbow** 37.61 23 P P 02 14 16.0 +0.7
baz=213
E63A **Oxbow** 37.61 23 IAmb IAmb 02 14 16.6
comp=Z,9.1nm,0.8s
D61A **St Aubert, Com** 37.64 20 P P 02 14 16.2 +0.7
baz=210
VILB **Vilhena** 37.75 131 *e*P P 02 14 14.8 -2.0
E64A **Bridgewater** 37.83 23 P P 02 14 17.5 +0.5
baz=214,SNR=5.9
PQI **Presque Isle** 37.97 23 IAmb IAmb 02 14 34.2
comp=Z,22nm,1.4s
ULM **Lac du Bonnet** 37.99 352 P P 02 14 17.7 -0.6
comp=Z,35nm,0.5s,baz=168,slow=8.8,SNR=37
ULM LR LR 02 31 50.2
comp=Z,146nm,21.9s,baz=166,slow=39
MATQ **Matagami** 38.02 11 P P 02 14 18.1 -0.5
baz=197,SNR=6.0
DGMT **Dagmar** 38.06 343 P P 02 14 20.3 +1.2
baz=154,SNR=22
HLID **Hailey** 38.12 329 P P 02 14 21.3 +1.5
baz=136,SNR=23
HLID **Hailey** 38.12 329 P P 02 14 20.0 +0.2
HLID IAmb IAmb 02 14 24.6
comp=Z,8.8nm,0.8s
HLID PcP PcP 02 16 35.4 +1.5
NPGB **Novo Progresso** 38.16 119 *e*P P 02 14 20.7 +0.4
PNTR **Pine Nut** 38.19 319 IAmb IAmb 02 14 26.1
comp=Z,12nm,0.7s
MCPB **Macapa, AP** 38.22 107 *e*P P 02 14 23.8 +3.0
MCPB epP pP 02 14 41.0 +6.0
HAL **Halifax** 38.24 29 IAmb IAmb 02 14 22.6
comp=Z,15nm,0.7s
D63A **Stockholm** 38.24 22 P P 02 14 20.7 +0.2
baz=213,SNR=7.5
BOZ **Bozeman (W)** 38.33 333 P P 02 14 23.4 +1.8
baz=142,SNR=79
BATG **Bathurst New B** 39.23 24 IAmb IAmb 02 14 30.3
comp=Z,16nm,0.7s
EGMT **Eagleton** 39.53 337 P P 02 14 32.9 +1.5
baz=146,SNR=33
WVOR **Wild Horse Val** 39.63 324 IAmb IAmb 02 14 35.8
comp=Z,10nm,0.9s
CLDB **Colider** 39.87 125 *e*P P 02 14 33.1 -1.5
CLDB *e*pP pP 02 14 52.5 +3.7
LVC **Limon Verde** 39.88 151 *e*P P 02 14 28.1 -6.8
J08A **Circle Bar Ran** 40.13 325 P P 02 14 36.9 +0.3
J08A IAmb IAmb 02 14 43.8
comp=Z,11nm,0.6s
J08A PcP 02 16 41.5 +1.4
PTLB **Pontes e Lacer** 40.18 133 *e*P P 02 14 35.8 -1.3
O03E **Paynes Creek** 40.28 319 P P 02 14 38.5 +0.7
baz=124
MOD **Modoc Plateau** 40.28 322 P P 02 14 39.0 +1.2

MSO **Missoula** 40.30 333 P P 02 14 38.9 +1.0
baz=139,SNR=27
MSO **Missoula** 40.30 333 IAmb IAmb 02 14 40.0
comp=Z,22nm,0.8s
O02D **Mt. Diablo Mer** 40.85 318 P P 02 14 43.4 +0.9
baz=122
M04C **Macdoel** 41.14 321 P P 02 14 45.9 +1.0
baz=125
F10A **Beach Ranch, E** 41.24 329 IAmb IAmb 02 14 48.0
comp=Z,18nm,0.8s
J05D **Fort Rock, OR** 41.66 323 P P 02 14 50.4 +1.2
baz=127
G08A **Pilot Rock** 41.66 327 P P 02 14 49.4 +0.3
G08A PcP 02 16 46.1 +1.0
L04D **Klamath Falls** 41.67 321 P P 02 14 50.0 +0.7
baz=125
PINE **Pine Mountain** 41.80 324 IAmb IAmb 02 14 52.7
comp=Z,9.7nm,0.7s
WALA **Waterton Lakes** 42.01 335 IAmb IAmb 02 14 54.1
comp=Z,20nm,0.7s
I04A **Tendick Farm,** 42.65 323 P P 02 14 57.4 +0.3
baz=126,SNR=10.0
NEW **Newport** 42.82 332 P P 02 14 58.8 +0.4
baz=136,SNR=10
NEW **Newport** 42.82 332 IAmb IAmb 02 15 00.2
comp=Z,8.9nm,0.6s
D08A **Wollman Farm,** 42.83 329 IAmb IAmb 02 15 00.6
comp=Z,15nm,0.8s
G05D **Wamic, OR** 42.91 326 P P 02 15 01.1 +2.0
baz=129
SALV **Santo Antonio** 42.98 130 *e*P P 02 14 58.8 -1.2
H04A **Detroit Lake** 43.05 324 IAmb IAmb 02 15 02.3
comp=Z,12nm,0.7s
I03D **Drain, OR** 43.15 322 P P 02 15 02.4 +1.4
baz=125
J01E **Myrtle Point** 43.19 321 P P 02 15 02.7 +1.3
baz=124
H04D **Lebanon** 43.27 324 P P 02 15 02.1 +0.1
baz=126
FFC **Flin Flon** 43.31 348 P P 02 15 02.8 +0.6
F05D **White Salmon** 43.39 326 P P 02 15 04.4 +1.4
baz=129
I02D **Swisshome** 43.67 323 P P 02 15 06.6 +1.4
baz=125
LTY **Liberty** 43.85 328 IAmb IAmb 02 16 24.8
comp=Z,9.4nm,0.7s
G03D **McMinnville, O** 43.98 324 P P 02 15 08.8 +1.1
baz=126
C06D **Leavenworth** 44.41 329 P P 02 15 12.2 +1.1
baz=131
E03A **Lebam** 44.95 326 IAmb IAmb 02 15 17.3
comp=Z,13nm,0.8s
B05A **Bryant** 45.24 328 P P 02 15 17.5 -0.2
baz=130,SNR=7.6
D03D **Eldon** 45.30 327 P P 02 15 18.2 0.0
baz=128,SNR=8.9
SCHQ **Schefferville** 45.32 17 P P 02 15 17.2 -1.1
comp=Z,25nm,0.8s,baz=214,slow=6.6,SNR=38
SCHQ pP pP 02 15 31.1 -1.7
comp=Z,25nm,0.9s,baz=178,slow=4.9,SNR=10
SCHQ PcP PcP 02 16 57.2 +0.2
comp=Z,1.6nm,0.4s,baz=225,slow=7.8,SNR=1.4
SCHQ LR LR 02 35 14.4
comp=Z,231nm,19.9s,baz=210,slow=38
SCHQ **Schefferville** 45.32 17 P P 02 15 17.5 -0.8
NLWA **Nelton Lookou** 45.62 326 IAmb IAmb 02 15 23.0
comp=Z,11nm,0.8s
SMTB **Santa Maria do** 45.77 116 *e*P P 02 15 21.0 -1.4
ARAG **Araguaiana, MT** 45.81 127 *e*P P 02 15 22.1 -0.6
A04D **Lummi Island** 45.84 329 P P 02 15 23.3 +0.9
baz=130
FCC **Fort Churchill** 46.21 356 P P 02 15 25.3 +0.1
ROSB **Rosrio** 46.53 106 *e*pP pP 02 15 48.6 +5.6
CO02 **Combarbal** 46.68 159 P P 02 15 28.3 -1.1
PEXB **Peixe** 46.71 120 *e*P P 02 15 29.4 -0.4
BDFB **Brasilia** 48.80 124 P P 02 15 45.5 -0.5
comp=Z,2.3nm,0.5s,baz=293,slow=12,SNR=5.9
BDFB pP pP 02 15 58.1 -2.6
comp=Z,3.1nm,0.6s,baz=256,slow=8.0,SNR=3.7
BDFB PcP PcP 02 17 11.5 +1.3
comp=Z,2.2nm,0.7s,baz=292,slow=4.2,SNR=3.6
BDFB LR LR 02 36 32.1
comp=Z,90nm,20.3s,baz=148,slow=36
CPUP **Villa Florida** 49.10 142 P P 02 15 47.9 -0.1
comp=Z,2.6nm,0.6s,baz=314,slow=7.9,SNR=5.9
CPUP LR LR 02 37 58.5
comp=Z,112nm,18.5s,baz=1.0,slow=38
CPUP **Villa Florida** 49.10 142 P P 02 15 47.3 -0.7
CPUP **Villa Florida** 49.10 142 *e*P P 02 15 43.5 -4.5
ITRB **Iturama** 49.31 130 *e*P P 02 15 48.1 -1.6
TRCB **Terra Rica** 49.64 135 *e*P P 02 15 49.8 -2.5
PCMB **Pacaembu** 49.83 133 *e*P P 02 15 53.4 -0.3
IPMB **Ipameri, GO** 49.94 127 *e*P P 02 15 53.8 -0.9
BBB **Bella Bella** 50.70 329 P P 02 16 01.0 +1.2
comp=Z,6.7nm,0.7s,baz=103,slow=7.0,SNR=4.4
BBB **Bella Bella** 50.70 329 IAmb IAmb 02 17 09.8
comp=Z,26nm,1.4s
PTGB **Pitanga** 51.30 136 *e*P P 02 16 01.0 -3.8
JANB **Januaria** 51.54 121 *e*P P 02 16 06.6 -0.1
MC01 **Monte Claros** 52.68 123 *e*P P 02 16 14.2 -1.0
FRB **Frobisher Bay** 52.87 11 P P 02 16 14.5 -1.3
comp=Z,24nm,0.5s,baz=218,slow=8.5,SNR=31
FRB pP pP 02 16 28.1 -2.6
comp=Z,14nm,0.6s,baz=178,slow=7.2,SNR=4.4
FRB LR LR 02 39 29.0
comp=Z,212nm,20.4s,baz=194,slow=37
YKA **Yellowknife Ar** 53.19 345 P P 02 16 18.0 -0.1
comp=Z,16nm,0.8s,baz=139,slow=7.4,SNR=65
YKA pP pP 02 16 31.6 -1.4
comp=Z,11nm,0.8s,baz=137,slow=7.5,SNR=11
YKA PcP PcP 02 17 25.3 -0.2
comp=Z,3.4nm,0.7s,baz=134,slow=3.9,SNR=6.9
LC01 **Cunco** 53.55 164 P P 02 16 22.3 +1.2
VAO **Valinhos** 53.81 131 *e*P P 02 16 21.9 -1.5
SPB **Sao Paulo** 53.83 132 *e*P P 02 16 21.5 -1.9
BSCB **Bom Sucesso** 54.31 128 *e*P P 02 16 25.7 -1.4
PET01 **Itanhaem-SP** 54.37 133 *e*P P 02 16 26.3 -1.0
PARB **Paraibuna** 55.01 130 *e*P P 02 16 30.0 -2.1
WRAK **Wrangell Islan** 55.18 332 IAmb IAmb 02 16 35.4
comp=Z,10nm,0.7s
DLBC **Dease Lake** 55.35 335 P P 02 16 35.7 +1.6
comp=Z,59nm,0.7s,baz=139,slow=4.7,SNR=192
DLBC pP pP 02 16 49.0 -0.1
comp=Z,16nm,0.8s,baz=159,slow=5.0,SNR=6.5
PLCA **Paso Flores** 55.62 164 P P 02 16 37.7 +1.5
comp=Z,2.5nm,0.8s,baz=318,slow=9.8,SNR=6.2
PLCA LR LR 02 36 34.8
comp=Z,50nm,19.1s,baz=343,slow=32
PLCA **Paso Flores** 55.62 164 *e*P P 02 16 28.6 -7.6
TAOE **Nuku Hiva Isla** 55.76 250 *e*S S 02 24 06.7 -14
comp=Z,99nm,25.5s
TAOE *e*LR LR 02 32 36.8
comp=Z,256nm,25.3s
TAOE **Nuku Hiva Isla** 55.76 250 *e*T T 03 16 04.2
comp=Z,32nm,0.2s
SJMB **Sao Joao De Ma** 55.95 123 *e*P P 02 16 38.4 -0.5
BSFB **Barra de Sao F** 56.29 123 *e*P P 02 16 40.5 -0.8
RIB01 **Linhares ES** 56.90 123 *e*P P 02 16 45.3 -0.4
JIS **Juneau Island** 57.13 333 IAmb IAmb 02 16 48.5
comp=Z,6.1nm,0.8s
CAM01 **Campos-RJ** 57.19 126 *e*P P 02 16 46.7 -0.8
SFJD **Kangerlussuaq** 59.74 16 LR LR 02 42 11.1
comp=Z,74nm,21.8s,baz=210,slow=35
CTGM **Chitina Glacie** 61.54 334 IAmb IAmb 02 17 19.1
comp=Z,11nm,0.7s
BARN **Barnard Glacie** 61.72 334 IAmb IAmb 02 17 20.6
comp=Z,12nm,0.7s
BALM **Baldy** 62.01 334 IAmb IAmb 02 17 22.0
comp=Z,11nm,0.8s
RES **Resolute Bay** 62.12 358 P P 02 17 19.9 -0.7
comp=Z,11nm,0.8s,baz=173,slow=11,SNR=9.2
RES pP pP 02 17 33.4 -2.5
comp=Z,4.8nm,0.7s,baz=296,slow=4.4,SNR=1.9
SUCK **Suckling Hills** 62.23 332 IAmb IAmb 02 17 24.4
comp=Z,11nm,0.7s
DAWY **Dawson** 62.27 337 IAmb IAmb 02 17 22.3
comp=Z,4.9nm,0.7s
HMT **Hamilton** 62.56 332 IAmb IAmb 02 17 25.9
comp=Z,10.0nm,0.8s
VRDI **Verde Repeater** 62.58 333 IAmb IAmb 02 17 25.7
comp=Z,8.0nm,0.8s
BCAR **Beaver Creek A** 62.71 336 P P 02 17 25.2 +0.3
INK **Inuvik** 62.75 343 P P 02 17 25.1 +0.1
comp=Z,12nm,0.7s,baz=118,slow=7.7,SNR=46
INK pP pP 02 17 38.7 -1.5
comp=Z,13nm,0.8s,baz=133,slow=7.3,SNR=14
INK **Inuvik** 62.75 343 IAmb IAmb 02 17 26.0
comp=Z,13nm,0.8s
RAGM **Ragged Mountai** 62.77 332 IAmb IAmb 02 17 30.5
comp=Z,9.7nm,0.9s
GLB **Gilahina Butte** 62.82 334 IAmb IAmb 02 17 27.4
comp=Z,10nm,0.8s
ANGG **Ammassalik, Gr** 62.94 21 P P 02 17 25.0 -1.3
ANGG IAmb IAmb 02 17 26.1
comp=Z,13nm,0.8s
K27K **Chicken** 63.28 337 P P 02 17 29.2 +0.6
baz=118
EGAK **Eagle** 63.29 338 IAmb IAmb 02 17 29.2
comp=Z,7.0nm,0.8s
EYAK **Cordova Ski Ar** 63.32 332 IAmb IAmb 02 17 30.9
comp=Z,14nm,0.7s
MENT **Mentasta** 63.44 335 IAmb IAmb 02 17 31.1
comp=Z,7.8nm,0.6s
FID **Port Fidalgo** 63.73 332 IAmb IAmb 02 17 33.9
comp=Z,8.6nm,0.8s
KLU **Klutina** 63.77 333 IAmb IAmb 02 17 33.4
comp=Z,13nm,0.8s
PAX **Paxson** 64.17 335 IAmb IAmb 02 17 35.5
comp=Z,8.1nm,0.7s
KNK **Knik Glacier** 64.87 333 IAmb IAmb 02 17 40.2
comp=Z,17nm,0.8s
SML **Sawmill** 64.95 333 IAmb IAmb 02 17 40.6
comp=Z,9.0nm,0.8s
PMOR **Pomariorio Ree** 65.07 247 *e*T T 03 27 43.9
comp=Z,2.5nm,0.2s
HDA **Harding Lake** 65.36 336 P P 02 17 42.0 -0.3
baz=114,SNR=21
BRLK **Bradley Lake** 65.45 330 IAmb IAmb 02 17 44.1
comp=Z,12nm,0.8s
IL31 65.48 336 IAmb IAmb 02 17 45.2
comp=Z,8.8nm,0.7s
ILAR **Eielson Array** 65.48 336 P P 02 17 42.9 -0.2
comp=Z,7.3nm,0.7s,baz=165,slow=4.9,SNR=77
ILAR pP pP 02 17 56.9 -1.4
comp=Z,4.7nm,0.7s,baz=166,slow=4.1,SNR=9.3
ILAR PP PP 02 19 60.0 -7.5
comp=Z,0.6nm,0.8s,baz=106,slow=9.5,SNR=3.0
ILAR LR LR 02 48 48.1
comp=Z,106nm,21.9s,baz=115,slow=38
ILAR **Eielson Array** 65.48 336 P P 02 17 42.0 -1.0
KDAK **Kodiak Island** 65.73 328 P P 02 17 45.1 +0.4
BMAR **Burnt Mountain** 65.78 339 P P 02 17 45.5 +0.5
POKR **Poker Plat Res** 65.84 337 P P 02 17 45.2 -0.1
baz=113
WRH **Wood River Hil** 65.84 336 IAmb IAmb 02 17 45.5
comp=Z,7.8nm,0.7s
CAPN **Captain Cook N** 65.89 331 P P 02 17 46.5 +0.8
baz=108
COLA **College** 65.90 336 P P 02 17 45.3 -0.3
COLA IAmb IAmb 02 17 46.2
comp=Z,12nm,0.7s
TCOL **CIGO, UAF Yank** 65.91 336 P P 02 17 45.7 0.0
baz=113
SUA **Susitna One** 65.92 332 IAmb IAmb 02 17 47.1
comp=Z,14nm,0.7s
CUT **Chulitna** 66.02 333 P P 02 17 46.5 +0.1
baz=109
NEA2 **Nenana** 66.28 336 P P 02 17 47.8 -0.4
baz=112
TRF **Thorofare Moun** 66.38 334 IAmb IAmb 02 17 50.6
comp=Z,14nm,0.6s
SKT **Skwentna** 66.44 333 IAmb IAmb 02 17 50.0
comp=Z,13nm,0.7s
SUMG **Summit** 66.59 15 *i* P P 02 17 49.9 -0.6
KTH **Kantishna Hill** 66.68 334 IAmb IAmb 02 17 51.3
comp=Z,11nm,0.8s
BPAW **Bear Paw Mtn.** 66.89 335 IAmb IAmb 02 17 52.7
comp=Z,16nm,0.8s
PPLA **Purkeypile** 67.01 333 IAmb IAmb 02 17 53.5
comp=Z,8.7nm,0.7s
PPT **Papeete** 67.52 245 LR LR 02 39 09.8
comp=Z,194nm,19.4s,baz=83,slow=28
PPT2 **Papeete2** 67.53 245 *e*LR LR 02 38 06.0
comp=Z,281nm,26.2s,baz=57
COLD **Coldfoot** 67.68 338 P P 02 17 57.0 0.0
baz=111,SNR=8.1
COLD **Coldfoot** 67.68 338 IAmb IAmb 02 17 59.0
comp=Z,10nm,0.8s
TOLK **Toolik Lake Re** 68.00 340 P P 02 17 59.1 +0.1
baz=113,SNR=6.9
TOLK **Toolik Lake Re** 68.00 340 IAmb IAmb 02 18 00.1
comp=Z,10nm,0.6s
TTA **Tatalina** 68.70 333 P P 02 18 03.0 -0.6
BORG **Borgarnes** 68.87 25 LR LR 02 48 28.6
comp=Z,25nm,19.9s,baz=262,slow=36
TBI **Tubuai** 69.69 239 *e*LR LR 02 39 08.8
comp=Z,172nm,24.8s
TBI **Tubuai** 69.69 239 *e*T T 03 33 35.9
comp=Z,5.6nm,0.3s
DAG **Danmarks Havn** 73.13 13 *i* P P 02 18 28.7 -1.4
ESDC **Sonseca Array** 77.72 52 P P 02 18 55.0 -2.2
comp=Z,0.5nm,0.6s,baz=283,slow=5.1,SNR=7.3
ESDC pP PcP 02 19 10.0 +2.9
comp=Z,0.6nm,0.8s,baz=282,slow=3.9,SNR=3.9
ESDC LR LR 02 47 21.2
comp=Z,64nm,21.3s,baz=295,slow=31
PMSA **Palmer Station** 79.37 170 LR LR 02 47 09.3
comp=Z,56nm,19.7s,baz=346,slow=30
PMSA **Palmer Station** 79.37 170 P P 02 19 05.1 -0.3
PMSA IAmb IAmb 02 19 28.1
comp=Z,26nm,1.9s
PMSA **Palmer Station** 79.37 170 *e*P P 02 18 58.7 -6.7
DBIC **Dimbokro** 82.21 85 LR LR 02 52 19.5
comp=Z,61nm,21.4s,baz=233,slow=33
NB2 **NORSAR Subarra** 83.59 29 P P 02 19 28.1 0.0
comp=Z,3.3nm,0.9s,baz=285,slow=5.1
NOA **NORSAR Array B** 83.59 29 P P 02 19 27.7 -0.4
comp=Z,1.0nm,0.7s,baz=287,slow=4.9,SNR=5.5
NOA LR LR 02 52 51.5
comp=Z,47nm,21.6s,baz=275,slow=33
ARCES **ARCESS Array B** 86.25 19 P P 02 19 39.8 -1.5
comp=Z,0.7nm,0.5s,baz=297,slow=4.9,SNR=11
ARCES LR LR 02 56 38.0
comp=Z,42nm,21.6s,baz=308,slow=35
TORD **Torodi Ar. Bea** 87.19 77 P P 02 19 43.8 -3.1
comp=Z,0.3nm,0.5s,baz=298,slow=5.5,SNR=8.1
TORD LR LR 02 55 19.2
comp=Z,70nm,21.0s,baz=275,slow=33
GERES **GERESS Array B** 88.32 40 LR LR 02 56 46.4
comp=Z,59nm,18.5s,baz=290,slow=34
FINES **FINESS Array B** 90.15 26 LR LR 02 58 31.7
comp=Z,29nm,21.1s,baz=280,slow=34
NRIK **Noril'sk** 98.15 1 LR LR 03 07 18.1
comp=Z,72nm,20.9s,baz=12,slow=37
BOSA **Boshof** 116.55 116 PKP PKPdf 02 25 44.4 -0.1
comp=Z,3.0nm,0.9s,baz=170,slow=5.9,SNR=3.6
ULN **Ulaanbaatar** 118.20 348 PKPdf 02 25 47.3 0.0
SONM **Songino Array** 118.36 349 PKP PKPdf 02 25 47.3 -0.2
comp=Z,1.5nm,0.6s,baz=30,slow=2.1,SNR=5.3
SONM pPKP **pPKPdf** 02 26 02.8 -1.3
comp=Z,1.4nm,0.7s,baz=64,slow=5.0,SNR=3.6
SONM **Songino Array** 118.36 349 PKPdf PKPdf 02 25 46.7 -0.8
MBAR **Mbarara** 118.44 84 PKPdf PKPdf 02 25 45.3 -3.3
KSRS **Korea Array** 119.64 327 PKP PKiKP 02 25 50.6 +0.5
comp=Z,2.4nm,0.5s,baz=24,slow=1.8,SNR=9.3
KSRS pPKP **pPKPdf** 02 26 05.6 -0.9
comp=Z,3.5nm,0.7s,baz=342,slow=1.8,SNR=7.3
KSAR **Wonju Array Be** 119.67 327 PKPdf **PKiKP** 02 25 50.9 +0.7
MKAR **Makanchi Array** 120.22 7 PKP **PKPdf** 02 25 49.8 -1.2
comp=Z,0.4nm,0.4s,baz=316,slow=2.9,SNR=6.6
MAW **Mawson** 121.93 167 PKP **PKiKP** 02 25 53.9 +0.3
comp=Z,1.0nm,0.6s,baz=82,slow=4.2,SNR=4.1
HHC **Hu-ho-hao-te** 123.66 342 *e*P PKPpre 02 25 50.3
HHC LR LR
comp=N,870nm,19.2s
HHC LR LR
comp=E,990nm,18.1s
HHC LR LR
comp=Z,320nm,18.1s
WMQ **Urumqi** 123.67 3 *e*PKP **PKPdf** 02 25 57.8 +0.1
WMQ LR LR
comp=Z,310nm,29.3s
WMQ LR LR
comp=Z,260nm,29.1s
GTA **Gaotai** 127.64 352 *e*PKP **PKPdf** 02 26 02.5 -3.1
NJ2 **Nanjing** 128.48 330 *e*PKP **PKPdf** 02 26 05.9 -1.3
LZH **Lanzhou** 130.17 347 *e*PKP **PKPdf** 02 26 07.6 -2.9
LZH sPKP 02 26 40.9
LZH LR LR
comp=Z,300nm,16.7s
LZH LR LR
comp=Z,260nm,17.3s
LZH LR LR
comp=Z,360nm,20.1s

STKA	**Stephens Creek**	**130.48**	**239**	PKP		**PKiKP**	**02 26 12.6**	**+0.8**	
	comp=Z,2.7nm,0.6s,baz=89,slow=3.4,SNR=8.1								
XAN	**Xi'an**	**130.74**	**341**	PKP		**PKiKP**	**02 26 13.3**	**+0.9**	
WRA	**Warramunga Arr**	**138.52**	**254**	PKhKP		PKPpre	02 26 18.4		
	comp=Z,0.5nm,0.7s,baz=90,slow=2.1,SNR=2.9								
WRA				PKP		**PKPdf**	**02 26 27.7**	**+1.4**	
	comp=Z,3.2nm,0.6s,baz=91,slow=2.4,SNR=9.9								
WRA				pPKP		pPKPdf	02 26 42.4	-0.4	
	comp=Z,1.7nm,0.5s,baz=90,slow=2.8,SNR=4.6								
AS31	**Alice Springs**	**138.56**	**249**	PKPdf		**PKPdf**	**02 26 23.5**	**-2.8**	
ASAR	**Alice Springs**	**138.56**	**249**	PKhKP		PKPpre	02 26 18.8		
	comp=Z,1.0nm,0.6s,baz=96,slow=2.2,SNR=8.9								
ASAR				PKP		**PKPdf**	**02 26 27.6**	**+1.3**	
	comp=Z,3.5nm,0.6s,baz=98,slow=2.0,SNR=16								
SLVN	**Son La**	**144.14**	**340**			**PKPdf**	**02 26 37.1**	**+0.7**	
FITZ	**Fitzroy Crossi**	**146.85**	**256**	PKPbc		**PKPab**	**02 26 44.4**	**+0.1**	
	comp=Z,4.2nm,0.6s,baz=132,slow=3.8,SNR=15								
FITZ	**Fitzroy Crossi**	**146.85**	**256**	PKPbc		**PKPab**	**02 26 45.2**	**+0.9**	
CHTO	**Chiang Mai**	**147.91**	**347**			**PKPbc**	**02 26 45.6**	**-0.3**	
SOEI	**Soe**	**147.92**	**272**	PKPbc		**PKiKP**	**02 26 48.6**	**+0.5**	
MYLDM	**Lahad Datu**	**147.99**	**302**	PKPbc		**PKPab**	**02 26 49.2**	**+0.3**	
CM31	**Chiang Mai Arr**	**148.26**	**347**	PKPbc		**PKPbc**	**02 26 45.9**	**-0.9**	
CMAR	**Chiang Mai Arr**	**148.26**	**347**	PKPbc		**PKPdf**	**02 26 44.9**	**+1.5**	
	comp=Z,9.6nm,0.7s,baz=330,slow=2.9,SNR=28								
CMAR				pPKPbc		**pPKPdf**	**02 26 59.7**	**-0.3**	
	comp=Z,4.6nm,0.8s,baz=337,slow=2.6,SNR=3.9								
CMAR	**Chiang Mai Arr**	**148.26**	**347**			**PKPdf**	**02 26 44.3**	**+0.9**	

*IDC **22** 02:10:08.2±1.0,5.°24S×150.°50E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/35, mbtmp3.9/6, ML1.7/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/26, Error ellipse: s-maj=56.3km s-min=15.3km az=135.0*

ISC 22 02:10:13.4±0.8, 5.°2S±0.°2×150.°5E±0.°2, h35km, n11, σ0s95/11, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KRVT	**Keravat (AS076**	**1.79**	**59**	Pn		**Pn**		**02 10 41.1**	**-0.7**
	63nm,0.3s,baz=52,slow=20,SNR=18								
KRVT				Sn		**Sn**		**02 11 04.8**	**+1.5**
	94nm,0.3s,baz=186,slow=18,SNR=7.1								
KRVT				LR		LR		02 11 11.3	
	comp=Z,172nm,19.3s,baz=233,slow=35								
PMG	**Port Moresby**	**5.30**	**218**	Pn		**Pn**		**02 11 29.8**	**-0.3**
	1.9nm,0.3s,baz=50,slow=16,SNR=1.5								
PMG				Sn		**Sn**		**02 12 31.0**	**+1.0**
	8.1nm,0.3s,baz=113,slow=16,SNR=7.0								
WRA	**Warramunga Arr**	**21.46**	**226**	P		**P**		**02 14 58.8**	**-0.2**
	1.9nm,0.8s,baz=53,slow=10,SNR=11								
DZM	**Mont Dzumac**	**22.77**	**139**	LR		LR		02 22 29.2	
	comp=Z,138nm,20.6s,baz=210,slow=33								
ASAR	**Alice Springs**	**24.31**	**219**	P		**P**		**02 15 26.9**	**-1.0**
	2.2nm,0.8s,baz=54,slow=8.9,SNR=15								
FITZ	**Fitzroy Crossi**	**27.44**	**240**	P		**P**		**02 15 57.0**	**+0.8**
	2.0nm,0.6s,baz=66,slow=9.9,SNR=3.1								
DAV	**Davao City (W)**	**27.70**	**296**	LR		LR		02 24 43.0	
	comp=Z,35nm,21.3s,baz=162,slow=32								
PETK	**Petropavlovsk-**	**58.45**	**5**	P		**P**		**02 20 06.3**	**+0.7**
	1.7nm,1.0s,baz=171,slow=7.3,SNR=1.7								
ILAR	**Eielson Array**	**83.44**	**23**	P		**P**		**02 22 35.9**	**-1.1**
	0.6nm,0.6s,baz=242,slow=4.2,SNR=6.4								
GERES	**GERESS Array B**	**123.20**	**327**	PKP		**PKiKP**		**02 29 07.2**	**+0.3**
	0.5nm,0.6s,baz=111,slow=2.2,SNR=4.8								
TORD	**Torodi Ar. Bea**	**148.24**	**287**	PKPbc		**PKPbc**		**02 29 56.8**	**-0.1**
	1.5nm,0.7s,baz=88,slow=2.2,SNR=16								

*TEH **22** 02:13:46.6,32.°58N×47.°78E, h7km, ML3.1*
*ISN **22** 02:13:48.3±0.8, 32.°67N×47.°76E, h14km±5km, ML2.8*

ISC 22 02:13:47.7±1.5, 32.°57N±0.°04×47.°79E±0.°04, h5km±13km, n29, σ1s30/34, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
DHL1	**Dehloran**	**0.44**	**285**	*e*Pg		**Pg**		**02 13 55.9**	**-0.3**
IKFM	**Kafar-mosalman**	**0.96**	**3**	*e*				02 14 24.9	
IKFM				*e*Pg		**Pg**		**02 14 05.0**	**-1.0**
IKMR	**Kamar-syah**	**1.07**	**28**	*e*				02 14 27.9	
IKMR				*e*Pg		**Pg**		**02 14 06.7**	**-1.5**
IDOB	**Doab**	**1.26**	**15**	*e*Pg		**Pn**		**02 14 10.9**	**-1.3**
BMDN	**Meydan**	**1.41**	**38**	*e*Pg		**Pb**		**02 14 13.9**	**-0.6**
BMDN				*e*				02 14 40.4	
AHWZ	**Ahwaz**	**1.43**	**149**	*e*Pg		**Pn**		**02 14 14.2**	**-0.1**
IKOM	**Komasi**	**1.62**	**352**	*e*Pg		**Pb**		**02 14 17.7**	**-0.5**
IKOM				*e*				02 14 45.5	
IBDR	**Badra**	**1.65**	**290**	*e*Pg		**Pn**		**02 14 17.0**	**-0.4**
IBDR				*e*Sg		**Sn**		**02 14 39.0**	**0.0**
IBDR					AML	AML		02 14 43.6	
	comp=N,146nm,0.4s								
IBDR					AML	AML		02 14 49.6	
	comp=E,145nm,0.8s								
HSAM	**Samen**	**1.78**	**22**	*e*Pg		**Pb**		**02 14 20.5**	**-0.4**
HSAM				*e*				02 14 24.5	
KCHF	**Cheshme Sefid,**	**1.81**	**340**	*e*Pg		**Pn**		**02 14 20.0**	**+0.2**
KCHF				*e*		**Sg**		**02 14 48.7**	**+2.6**
KER	**Kermanshah**	**1.90**	**343**	*e*Pg		**Pb**		**02 14 21.5**	**-1.4**
IBZA	**Bozab**	**1.90**	**2**	*e*Pg		**Pb**		**02 14 21.6**	**-1.4**
IBZA				*e*				02 14 54.8	
NSR	**Nassriya**	**2.09**	**223**	*e*Pn		**Pb**		**02 14 25.0**	**-1.1**
NSR				*e*Sn		**Sn**		**02 14 51.0**	**+1.2**
IVIS	**Veis**	**2.11**	**338**	*e*Pn		**Pn**		**02 14 23.8**	**+0.1**
IVIS				*e*				02 15 01.3	
IALM	**Almabolaq**	**2.31**	**8**	*e*Pn		**Pb**		**02 14 28.1**	**-1.9**
IDHR	**Dehrash**	**2.43**	**332**	*e*Pn		**Pn**		**02 14 28.7**	**+0.5**
IDHR				*e*				02 15 10.4	
JHBN	**Jahan bin**	**2.46**	**97**	*e*Pn		**Pn**		**02 14 29.6**	**+0.8**
JHBN				*e*				02 15 13.4	
HAGD	**Aghdareh**	**2.52**	**26**	*e*Pn		**Pn**		**02 14 30.5**	**+1.0**
HAGD				*e*				02 15 19.9	
IPIR	**Pirpir**	**2.62**	**87**	*e*Pn		**Pn**		**02 14 32.2**	**+1.2**
IPIR				*e*				02 15 22.9	
HSRG	**Sareghieh**	**2.70**	**9**	*e*Pn		**Pb**		**02 14 34.1**	**-2.6**
HSRG				*e*		**Sg**		**02 15 17.2**	**+2.8**
BHD	**Baghdad**	**2.95**	**285**	*e*Pn		**Pn**		**02 14 36.0**	**+0.8**
BHD				*e*Sn		**Sn**		**02 15 11.0**	**0.0**
IKLH	**Kolahrood**	**3.28**	**76**	*e*Pn		**Pn**		**02 14 41.3**	**+1.3**
IKLH				*e*				02 15 38.5	
QABG	**Abgarm-Qazvin**	**3.47**	**25**	*e*Pn		**Pn**		**02 14 41.8**	**-0.8**
KLNJ	**Kolanjah**	**3.59**	**115**	*e*Pn		**Pn**		**02 14 44.0**	**-0.4**
KLNJ				*e*				02 16 07.6	
IZEF	**Zefreh**	**3.84**	**84**	*e*Pn		**Pn**		**02 14 49.2**	**+1.4**
IRAM	**Ramesheh**	**3.97**	**100**	*e*Pn		**Pn**		**02 14 49.0**	**-0.5**
QSDN	**Sirdan**	**4.09**	**16**	*e*Pn		**Pn**		**02 14 52.5**	**+1.4**
QALM	**Alamut, Qazvin**	**4.52**	**31**	*e*Pn		**Pn**		**02 14 58.5**	**+1.4**
IDMV	**Damavand**	**4.63**	**48**	*e*Pn		**Pn**		**02 14 59.3**	**+0.7**

RSNC 22 02:14:41.7±0.9, 6.°81N×73.°15W, h152km±4km, ML3.4, Mw3.8, 6C-4D, Fault plane solution: NP1:ϕs81.00000°, δ25.00000°, λ-162.00000°., Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BARC	**Barichara**	**0.22**	**188**	*e*P		Pn		02 15 02.1	-0.4
BARC				*i*				02 15 19.0	
	comp=Z,940nm,0.4s								
BRRC	**Barranca, Sant**	**0.63**	**298**	*e*P		Pn		02 15 04.0	+0.1
BRRC				*e*S		Sn		02 15 21.3	+0.5
BRRC				*i*				02 15 27.6	
	comp=Z,206nm,0.2s								
BRRC				*i*				02 15 27.6	
	comp=Z,200nm,0.2s								
PAMC	**Pamplona, Colo**	**0.69**	**40**	*e*P		Pn		02 15 04.9	0.0
PAMC				*e*S		Sn		02 15 22.3	-0.3
PAMC				*i*				02 15 24.2	
	comp=Z,203nm,0.6s								
RUSC	**La Rusia**	**0.91**	**176**	*e*P		Pn		02 15 06.0	-0.5
RUSC				*e*S		Sn		02 15 24.8	-0.6
RUSC				*i*				02 15 25.3	
	comp=Z,297nm,0.3s								
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	*e*P		Pn		02 15 08.6	-1.0
PTBC				*e*S		Sn		02 15 30.2	-0.7
PTBC				*i*				02 15 32.0	
	comp=Z,345nm,0.4s								
PTBC				*i*				02 15 37.3	
	comp=Z,394nm,0.4s								
TAMC	**Tame, Arauca**	**1.40**	**105**	*i*P		Pn		02 15 10.2	-0.2
TAMC				*e*S		Sn		02 15 31.8	-0.5
TAMC				*i*				02 15 32.6	
	comp=Z,100nm,0.5s								
TAMC				*i*				02 15 35.3	
	comp=Z,90nm,0.2s								
OCAC	**Ocana**	**1.43**	**353**	*e*P		Pn		02 15 10.8	-0.1
OCAC				*e*S		Sn		02 15 32.6	-0.6
OCAC				*i*				02 15 42.4	
	comp=Z,195nm,0.8s								
OCAC				*i*				02 15 43.4	
	comp=Z,156nm,0.4s								
SPBC	**San Pablo de B**	**1.47**	**219**	*e*P		Pn		02 15 10.9	-0.3
SPBC				*e*S		Sn		02 15 33.4	-0.3
SPBC				*i*				02 15 37.9	
	comp=Z,357nm,0.3s								
SPBC				*i*				02 15 38.3	
	comp=Z,323nm,0.4s								
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*e*P		Pn		02 15 14.4	-0.5
ZARC				*e*S		Sn		02 15 40.1	-0.3
ZARC				*i*				02 15 46.8	
	comp=Z,378nm,0.4s								
ZARC				*i*				02 15 46.9	
	comp=Z,347nm,0.3s								
NORC	**Norcasia**	**2.11**	**234**	*e*P		Pn		02 15 17.9	-0.4
NORC				*e*S		Sn		02 15 45.4	-1.0
NORC				*i*				02 15 49.9	
	comp=Z,235nm,0.2s								
NORC				*i*				02 15 50.4	
	comp=Z,214nm,0.2s								
SMLC	**San Martn de**	**2.18**	**335**	*e*P		Pn		02 15 18.4	-0.7
SMLC				*e*S		Sn		02 15 46.6	-1.3
SMLC				*i*				02 15 49.0	
	comp=Z,128nm,0.2s								
SMLC				*i*				02 15 55.7	
	comp=Z,116nm,0.3s								
CHIC	**Chingaza**	**2.24**	**195**	*e*P		Pn		02 15 20.0	-0.2
CHIC				*e*S		Sn		02 15 49.1	-0.7
CHIC				*i*				02 15 55.2	
	comp=Z,159nm,0.4s								
CHIC				*i*				02 15 55.2	
	comp=Z,154nm,0.3s								
ROSC	**El Rosal**	**2.27**	**211**	*e*P		Pn		02 15 21.6	+1.0
ROSC				*e*S		Sn		02 15 52.0	+1.5
ROSC				*i*				02 15 55.1	
	comp=Z,294nm,0.5s								
ROSC				*i*				02 15 55.2	
	comp=Z,282nm,0.4s								
HELC	**Santa Helena**	**2.44**	**256**	*e*P		Pn		02 15 23.7	+1.2
HELC				*e*S		Sn		02 15 53.5	-0.4
HELC				*i*				02 16 00.1	
	comp=Z,148nm,0.3s								
HELC				*i*				02 16 00.4	
	comp=Z,177nm,0.3s								
CVER	**Cruz Verde, Cu**	**2.45**	**202**	*e*P		Pn		02 15 24.3	+1.5
UREC	**San Jos de Ur**	**2.54**	**292**	*e*P		Pn		02 15 22.1	-1.3
UREC				*e*S		Sn		02 15 52.7	-2.9
UREC				*i*				02 16 06.8	
	comp=Z,213nm,0.2s								
UREC				*i*				02 16 07.2	
	comp=Z,204nm,0.2s								
GUY2C	**Guyana, Caldas**	**2.71**	**235**	*e*P		Pn		02 15 25.9	0.0
GUY2C				*e*S		Sn		02 16 02.8	+2.8
GUY2C				*i*				02 16 07.5	
	comp=Z,150nm,0.6s								
GUY2C				*i*				02 16 07.6	
	comp=Z,148nm,0.5s								
VILC	**Villavicencio,**	**2.73**	**191**	*e*P		Pn		02 15 25.2	-0.7
VILC				*e*S		Sn		02 15 59.2	-0.9
VILC				*i*				02 16 04.8	
	comp=Z,165nm,0.6s								
CBOC	**Ciudad Bolivar**	**2.99**	**252**	*e*P		Pn		02 15 30.1	+0.9
CBOC				*e*S		Sn		02 16 05.6	-0.3
CBOC				*i*				02 16 12.3	
	comp=Z,50nm,0.4s								
CBOC				*i*				02 16 12.6	
	comp=Z,66nm,0.9s								
DBBC	**Dabeiba**	**3.04**	**274**	*e*P		Pn		02 15 29.0	-0.8
ARGC	**Ariguani, Magd**	**3.22**	**340**	*e*P		Pn		02 15 32.1	+0.2
ARGC				*e*S		Sn		02 16 06.8	-4.0
ARGC				*i*				02 16 16.6	
	comp=Z,47nm,0.3s								
ARGC				*i*				02 16 27.6	
	comp=Z,45nm,0.6s								
PRAC	**Prado**	**3.52**	**209**	*e*P		Pn		02 15 35.3	-0.6
PRAC				*e*S		Sn		02 16 18.0	0.0
PRAC				*i*				02 16 21.3	
	comp=Z,166nm,0.3s								
ORTC	**Ortega, Tolima**	**3.56**	**216**	*e*P		Pn		02 15 36.2	-0.1
ORTC				*e*S		Sn		02 16 19.3	+0.6
ORTC				*i*				02 16 25.4	
	comp=Z,88nm,0.6s								
ORTC				*i*				02 16 25.6	
	comp=Z,74nm,0.5s								
PLMC	**San Jos del P**	**3.64**	**239**	*e*P		Pn		02 15 37.6	+0.2
PLMC				*e*S		Sn		02 16 22.0	+1.3
PLMC				*i*				02 16 23.4	
	comp=Z,132nm,0.2s								
PLMC				*i*				02 16 25.2	
	comp=Z,134nm,0.2s								
SJCC	**San Jacinto, C**	**3.67**	**327**	*e*P		Pn		02 15 35.7	-2.1
SJCC				*e*S		Sn		02 16 16.3	-5.0
SJCC				*i*				02 16 21.2	
	comp=Z,34nm,0.8s								
SJCC				*i*				02 16 21.8	
	comp=Z,34nm,0.4s								
YOTC	**Yotoco, Valle**	**4.24**	**229**	*e*P		Pn		02 15 42.8	-2.5
YOTC				*e*S		Sn		02 16 31.8	-2.9
SMRC	**Santa Marta, M**	**4.46**	**346**	*e*P		Pn		02 15 46.5	-1.4
SMRC				*e*S		Sn		02 16 33.8	-5.8
SMRC				*i*				02 16 37.7	
	comp=Z,43nm,0.3s								
SMRC				*i*				02 16 39.5	
	comp=Z,36nm,0.4s								
MACC	**Macarena, Meta**	**4.68**	**189**	*e*P		Pn		02 15 48.9	-2.2
MACC				*e*S		Sn		02 16 39.7	-5.4
MACC				*i*				02 16 46.2	
	comp=Z,30nm,0.7s								
MACC				*i*				02 16 47.2	
	comp=Z,36nm,0.8s								
GARC	**Garzon, Huila**	**5.15**	**207**	*e*P		Pn		02 15 55.9	-1.6
GARC				*e*S		Sn		02 16 54.4	-2.1
GARC				*i*				02 16 59.8	
	comp=Z,30nm,0.2s								

*TEH **22** 02:31:31.2, 32.°59N×47.°76E, h14km, ML2.9*
*ISN **22** 02:31:32.0±1.4, 32.°67N×47.°72E, h15km±7km, ML2.8*

ISC 22 02:31:31.8±1.4, 32.°57N±0.°04×47.°77E±0.°04, h8km±12km, n23, σ1s30/29, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
DHL1	**Dehloran**	**0.42**	**286**	*e*Pg		**Pg**		**02 31 39.4**	**-0.7**
IKFM	**Kafar-mosalman**	**0.96**	**4**	*e*Pg		**Pg**		**02 31 49.0**	**-1.2**
IKMR	**Kamar-syah**	**1.08**	**28**	*e*Pg		**Pg**		**02 31 50.9**	**-1.6**
IKMR				*e*				02 32 17.5	
IDOB	**Doab**	**1.26**	**16**	*e*Pg		**Pn**		**02 31 55.5**	**-0.5**
BMDN	**Meydan**	**1.41**	**39**	*e*Pg		**Pb**		**02 31 58.4**	**-0.1**
BMDN				*e*				02 32 25.2	
AHWZ	**Ahwaz**	**1.44**	**149**	*e*Pg		**Pb**		**02 31 58.7**	**-0.2**
IKOM	**Komasi**	**1.62**	**352**	*e*				02 32 03.1	
IKOM				*e*Pg		**Pb**		**02 32 01.4**	**-0.6**
IBDR	**Badra**	**1.64**	**290**	*e*Pg		**Pn**		**02 32 00.0**	**-0.9**
IBDR				*e*Sg		**Sn**		**02 32 22.0**	**-0.1**
IBDR					AML	AML		02 32 27.8	
	comp=E,83nm,0.6s								
IBDR					AML	AML		02 32 28.5	
	comp=N,117nm,0.7s								
HSAM	**Samen**	**1.78**	**23**	*e*Pg		**Pb**		**02 32 04.4**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.81**	**341**	*e*		**Sg**		**02 32 32.7**	**+2.8**
KCHF				*e*Pg		**Pb**		**02 32 04.1**	**-1.1**
KER	**Kermanshah**	**1.89**	**344**	*e*Pn		**Pb**		**02 32 05.7**	**-0.9**
IBZA	**Bozab**	**1.90**	**2**	*e*		**Sg**		**02 32 36.2**	**+3.4**
IBZA				*e*Pg		**Pb**		**02 32 06.2**	**-0.6**
NSR	**Nassriya**	**2.08**	**222**	*e*Pn		**Pb**		**02 32 09.0**	**-0.8**
NSR				*e*Sn		**Sn**		**02 32 34.0**	**+1.0**
IVIS	**Veis**	**2.10**	**339**	*e*				02 32 44.7	
IVIS				*e*Pn		**Pb**		**02 32 09.2**	**-1.0**
IDHR	**Dehrash**	**2.42**	**332**	*e*Pn		**Pn**		**02 32 12.4**	**+0.6**
IDHR				*e*				02 32 55.1	
JHBN	**Jahan bin**	**2.48**	**97**	*e*Pn		**Pn**		**02 32 12.8**	**+0.1**
JHBN				*e*				02 33 01.9	
HAGD	**Aghdareh**	**2.52**	**27**	*e*Pn		**Pb**		**02 32 15.0**	**-2.5**
HAGD				*e*				02 32 54.5	
IPIR	**Pirpir**	**2.64**	**87**	*e*Pn		**Pn**		**02 32 15.4**	**+0.5**
HSRG	**Sareghieh**	**2.70**	**9**	*e*Pn		**Pn**		**02 32 17.3**	**+1.5**
HSRG				*e*		**Sg**		**02 32 58.9**	**+0.3**
ROKH	**ROKH**	**2.77**	**94**	*e*Pn		**Pn**		**02 32 16.9**	**+0.2**
BHD	**Baghdad**	**2.93**	**285**	*e*Pn		**Pn**		**02 32 19.0**	**+0.3**
BHD				*e*Sn		**Sn**		**02 32 54.0**	**-0.1**
BHD					AML	AML		02 32 54.3	
	comp=E,124nm,0.4s								
IRAZ	**Razeghan**	**3.35**	**32**	*e*Pn		**Pn**		**02 32 26.3**	**+1.6**
QABG	**Abgarm-Qazvin**	**3.48**	**25**	*e*Pn		**Pn**		**02 32 26.3**	**-0.1**

*IDC **22** 02:59:52.8±4.1, 27.°34N×128.°36E, h0km, mb3.7/4, mb1 3.8/7, mb1mx3.6/41, mbtmp3.8/7, ML4.1/1, MS3.7/23, Ms1 3.7/23, ms1mx3.5/48, Error ellipse: s-maj=73.6km s-min=38.2km az=158.0*
*JMA **22** 02:59:57.5±0.2, 28.°08N×128.°16E, h9km±3km, M4.2*
*NIED **22** 02:59:57.5, 28.°08N×128.°16E, h9km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr0.15; Mθθ4.49; Mϕϕ-4.64; Mrθ-1.03; Mrϕ-0.23; Mθϕ-0.53; Fault plane solution: M0 4.72000×10^15 NP1: ϕs226.00000°, δ86.00000°, λ166.00000°. NP2: ϕs317.00000°, δ76.00000°, λ4.00000°.*
*BJI **22** 03:00:00.2±0.0, 27.°76N×128.°41E, h46km, mB4.5/17, mb4.3/20, Ms4.3/17, Ms7 4.0/15*
*NEIC **22** 03:00:04.3±2.4, 27.°96N±0.°09×128.°25E±0.°03, h42km±9km, mb4.1/15, Error ellipse: s-maj=12.7km s-min=2.6km az=170.0*

ISC 22 02:59:59.9±1.2, 28.°00N±0.°03×128.°26E±0.°04, h15km±8km, n81, σ1s34/72, mb4.0/12, MS3.8/19, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JTK	**Tokunoshima**	**0.65**	**109**	P		**Pg**		**03 00 12.1**	**-0.5**
JTK				S		**Sg**		**03 00 22.1**	**+1.0**
JOKE	**Okinoerabujima**	**0.69**	**157**	P		**Pg**		**03 00 12.7**	**-0.8**
JOKE				S		**Sg**		**03 00 24.0**	**+1.4**
JAMN	**Amaminishikomi**	**0.84**	**73**	P		**Pg**		**03 00 14.9**	**-1.4**
JAMN				S		**Sg**		**03 00 27.2**	**-0.2**
JYRO	**Yoronjima**	**0.99**	**170**	P		**Pg**		**03 00 17.4**	**-1.6**
JYRO				S		**Sg**		**03 00 32.0**	**+0.1**
JIH	**Iheya**	**1.00**	**195**	P		**Pg**		**03 00 17.5**	**-1.7**
JIH				S		**Sb**		**03 00 31.7**	**-0.1**
JOW	**Kunigami**	**1.16**	**179**	P		**Pn**		**03 00 20.5**	**-1.2**
JOW				*e*S		**Sb**		**03 00 36.9**	**+0.2**
JAM	**Amami Oshima**	**1.25**	**71**	P		**Pn**		**03 00 21.7**	**-1.2**
JAM				S		**Sb**		**03 00 39.1**	**-0.2**
JTAJ	**Takarajima**	**1.42**	**36**	P		**Pn**		**03 00 23.2**	**-2.0**
JTAJ				*e*S		**Sb**		**03 00 42.3**	**-1.7**
JNTH	**Nagotoyohara**	**1.49**	**188**	P		**Pn**		**03 00 25.7**	**-0.5**
JNTH				*e*S		**Sn**		**03 00 44.5**	**-0.9**
JZK	**Kikaishima**	**1.54**	**78**	P		**Pb**		**03 00 27.7**	**-0.5**
JZK				*e*S		**Sn**		**03 00 47.5**	**+0.8**
JAGN	**Aguni-jima**	**1.67**	**213**	P		**Pn**		**03 00 27.4**	**-1.3**
JAGN				S		**Sn**		**03 00 49.3**	**-0.6**
JKE	**Kume jima 2**	**2.12**	**219**	P		**Pn**		**03 00 33.6**	**-1.3**
JKE				*e*S		**Sn**		**03 01 00.2**	**-0.8**
JNN	**Nakanoshima**	**2.32**	**37**	P		**Pn**		**03 00 37.0**	**-0.6**
JNN				S		**Sn**		**03 01 05.3**	**-0.5**
JYAK	**Yakushimahirau**	**2.97**	**41**	P		**Pn**		**03 00 46.1**	**-0.5**
JYAK				*e*S		**Sn**		**03 01 22.5**	**+0.5**
JKC	**Kuchinoerabu**	**2.98**	**34**	S		**Sn**		**03 01 21.9**	**-0.3**
JMTN	**Minamitane**	**3.32**	**43**	P		**Pn**		**03 00 51.2**	**-0.2**
JMTN				*e*S		**Sn**		**03 01 30.7**	**+0.1**
JKDJ	**Kitadaitoujima**	**3.39**	**126**	P		**Pn**		**03 00 51.9**	**-0.5**
JKDJ				S		**Sn**		**03 01 29.9**	**-2.5**
JMZ	**Minamidaito 2**	**3.42**	**129**	P		**Pn**		**03 00 53.1**	**+0.4**
JMZ				*e*S		**Sn**		**03 01 31.2**	**-1.9**
JTN	**Tanegashima 3**	**3.55**	**41**	P		**Pn**		**03 00 54.0**	**-0.6**
JTN				*e*S		**Sn**		**03 01 37.5**	**+1.1**
JNU	**Nakatsue**	**5.58**	**23**	Pn		Pn		03 01 26.3	+3.8
	4.3nm,0.3s,baz=200,slow=6.6,SNR=19								
JNU				LR		LR		03 03 40.8	
	comp=Z,689nm,20.4s,baz=202,slow=37								
JNU	**Nakatsue**	**5.58**	**23**	Pn		Pn		03 01 25.6	+3.0
YOJ	**Yoguni jima**	**5.89**	**234**	Pn		**Pn**		**03 01 28.5**	**+1.9**
TATO	**Taipei**	**6.78**	**245**	Pn		Pn		03 01 42.3	+3.5
YHNB	**Yeheng**	**7.01**	**243**			**Pn**		**03 01 44.1**	**+1.9**
NACB	**Ninganchiao**	**7.10**	**239**	Pn		Pn		03 01 46.8	+3.5

	baz=290,slow=74,SNR=10						
H11N3	**WAKE ISLAND Hy**	**36.17**	**95**	T	T	03 44 46.1	
	baz=290,slow=74,SNR=8.8						
PSI	**Prapat**	**37.57**	**233**	LR	LR	03 21 33.3	
	comp=Z,114nm,20.1s,baz=88,slow=35						
MK31	**Makanchi Array**	**40.40**	**310**	P	**P**	**03 07 39.6**	**+2.2**
MKAR	**Makanchi Array**	**40.40**	**310**	P	**P**	**03 07 36.5**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=96,slow=9.9,SNR=6.9						
MKAR	**Makanchi Array**	**40.40**	**310**	P	P	03 07 39.8	+2.4
ZALV	**Zalesovo Beam**	**40.87**	**322**	P	**P**	**03 07 41.2**	**0.0**
	comp=Z,0.7nm,0.3s,baz=119,slow=10,SNR=1.4						
PMG	**Port Moresby**	**41.44**	**151**	LR	LR	03 22 06.9	
	comp=Z,136nm,20.5s,baz=293,slow=33						
TARG	**Taragay, Kyrgy**	**43.02**	**302**	P	**P**	**03 08 00.2**	**+0.8**
TARG				IAmb	IAmb	03 08 06.0	
	comp=Z,3.7nm,0.9s						
KDJ	**Kajisay**	**43.50**	**303**	P	P	03 08 05.4	+2.4
KDJ				IAmb	IAmb	03 08 07.1	
	comp=Z,2.5nm,0.9s						
KURK	**Kurchatov**	**43.57**	**315**	P	**P**	**03 08 04.7**	**+1.5**
KURK				IAmb	IAmb	03 08 14.7	
	comp=Z,2.7nm,0.8s						
NRIK	**Noril'sk**	**47.58**	**342**	LR	LR	03 29 58.4	
	comp=Z,126nm,18.2s,baz=190,slow=37						
BRVK	**Borovoye**	**49.05**	**317**	P	**P**	**03 08 46.5**	**+0.2**
TARA	**Tarawa**	**50.23**	**114**	P	**P**	**03 08 57.2**	**+1.5**
KBL	**Kabul**	**50.42**	**293**	P	**P**	**03 08 57.7**	**+0.4**
ASAR	**Alice Springs**	**51.65**	**173**	LR	LR	03 29 30.7	
	comp=Z,48nm,21.4s,baz=354,slow=35						
ASAR	**Alice Springs**	**51.65**	**173**	P	**P**	**03 09 05.6**	**-0.7**
ABKAR	**Akbulak array**	**55.47**	**312**	P	**P**	**03 09 35.0**	**+1.0**
HRA	**Herat**	**55.96**	**294**	P	**P**	**03 09 37.9**	**-0.2**
HRA				IAmb	IAmb	03 09 57.3	
	comp=Z,2.3nm,0.6s						
STKA	**Stephens Creek**	**60.88**	**167**	LR	LR	03 38 10.2	
	comp=Z,34nm,18.2s,baz=25,slow=38						
MCK	**McKinley**	**62.13**	**30**	P	**P**	**03 10 22.1**	**+2.0**
RND	**Reindeer**	**62.20**	**30**	P	**P**	**03 10 21.6**	**+0.9**
ILAR	**Eielson Array**	**62.87**	**29**	P	**P**	**03 10 23.6**	**-1.5**
	comp=Z,0.2nm,0.8s,baz=291,slow=7.5,SNR=2.7						
KBZ	**Khabaz**	**68.07**	**309**	LR	LR	03 43 13.6	
	comp=Z,33nm,20.7s,baz=340,slow=38						
ARCES	**ARCESS Array B**	**68.38**	**338**	LR	LR	03 45 45.2	
	comp=Z,70nm,18.7s,baz=121,slow=40						
FINES	**FINESS Array B**	**71.34**	**330**	LR	LR	03 46 00.4	
	comp=Z,96nm,18.9s,baz=68,slow=38						
AKASG	**Malin Array Be**	**74.21**	**319**	LR	LR	03 46 10.7	
	comp=Z,140nm,18.1s,baz=75,slow=37						
BRTR	**Keskin Array B**	**75.98**	**308**	LR	LR	03 48 49.8	
	comp=Z,22nm,19.7s,baz=357,slow=38						
YKA	**Yellowknife Ar**	**76.92**	**25**	LR	LR	03 47 55.2	
	comp=Z,29nm,18.4s,baz=0.0,slow=37						
NOA	**NORSAR Array B**	**77.74**	**334**	LR	LR	03 49 25.5	
	comp=Z,49nm,18.3s,baz=15,slow=38						
GERES	**GERESS Array B**	**83.81**	**323**	LR	LR	03 52 21.8	
	comp=Z,74nm,18.6s,baz=73,slow=37						
PPT	**Papeete**	**91.44**	**109**	LR	LR	03 49 38.8	
	comp=Z,34nm,19.4s,baz=292,slow=33						

*IDC **22** 03:02:12.1±13.0, 10.17°N×125.86°E, h75km±129km, mb3.6/9, mb1 3.7/9, mb1mx3.5/36, mbtmp3.9/9, MS3.2/1, Ms1 3.2/1, ms1mx2.5/34, Error ellipse: s-maj=42.7km s-min=21.3km az=55.0*

*MAN **22** 03:02:12.4, 10.43°N×125.87°E, h59km, MS3.6*

*NEIC **22** 03:02:12.5±0.9, 10.2°N±0.1×125.8°E±0.2, h80km±5km, mb4.1/8, Error ellipse: s-maj=28.1km s-min=13.9km az=79.0*

ISC 22 03:02:10.2±0.7, 10.53°N±0.05×126.02°E±0.07, h51km, n36, σ2ˢ32/35, mb4.1/11, 3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.21**	**251**	*e*P		**Pn**		**03 02 31.1**	**+0.4**
MSLP				*e*S		**Sn**		**03 02 46.3**	**+0.3**
OCLP	**Ormoc**	**1.48**	**291**	*e*P		**Pn**		**03 02 36.1**	**+1.7**
OCLP				*e*S		**Sn**		**03 02 54.4**	**+1.7**
LLP	**Lapu-Lapu**	**2.03**	**264**	||*i*P		**Pn**		**03 02 44.1**	**+2.1**
LLP				*i* S		**Sn**		**03 03 11.1**	**+4.9**
TBP	**Tagbilaran**	**2.28**	**249**	||*e*P		**Pn**		**03 02 47.6**	**+2.2**
BUKP	**Musuan**	**2.80**	**200**	*e*P		**Pn**		**03 02 55.1**	**+2.6**
BUKP				*e*S		**Sn**		**03 03 30.1**	**+5.0**
CNOP	**Candoni, Negro**	**3.40**	**258**	*e*P		**Pn**		**03 03 01.4**	**+0.7**
CNOP				*e*S		**Sn**		**03 03 34.1**	**-5.8**
DAV	**Davao City (W)**	**3.46**	**187**	LR		LR		03 04 45.1	
	comp=Z,360nm,20.0s,baz=354,slow=49								
DAV	**Davao City (W)**	**3.46**	**187**	Pn		**Pn**		**03 02 59.2**	**-2.5**
MATI	**Mati**	**3.57**	**176**	*e*P		**Pn**		**03 03 05.0**	**+1.9**
KCP	**Kidapawan**	**3.62**	**195**	||*e*P		Pn		03 03 09.4	+5.6
PAGZ	**Pagadian**	**3.72**	**225**	*e*P		**Pn**		**03 03 06.2**	**+1.0**
PAGZ				*e*S		**Sn**		**03 03 47.5**	**-0.3**
DDMP	**Don Marcelino,**	**4.41**	**184**	*e*P		**Pn**		**03 03 17.5**	**+2.9**
DDMP				*e*S		**Sn**		**03 04 04.2**	**-0.5**
YULB	**Yu-li**	**13.56**	**341**	Pn		**P**		**03 05 24.6**	**-3.0**
TPUB	**Ta-pu**	**13.70**	**339**	Pn		**P**		**03 05 27.0**	**-2.2**
CMAR	**Chiang Mai Arr**	**27.34**	**290**	P		**P**		**03 07 50.0**	**-0.7**
	0.8nm,0.4s,baz=106,slow=7.4,SNR=5.9								
XAN	**Xi'an**	**28.16**	**329**	P		**P**		**03 07 56.8**	**-1.0**
XAN				IAmb		IAmb		03 08 16.6	
	comp=Z,4.6nm,0.8s								
WRA	**Warramunga Arr**	**31.37**	**165**	P		**P**		**03 08 23.3**	**-3.0**
	comp=Z,1.3nm,0.6s,baz=345,slow=8.9,SNR=6.1								
ASAR	**Alice Springs**	**34.85**	**167**	P		**P**		**03 08 53.6**	**-3.1**
	comp=Z,0.2nm,0.5s,baz=346,slow=7.1,SNR=2.6								
H11S3	**WAKE ISLAND Hy**	**40.09**	**74**	T		T		03 52 38.9	
	baz=265,slow=75,SNR=21								
H11S1	**WAKE ISLAND Hy**	**40.10**	**74**	T		T		03 52 34.6	
	baz=265,slow=75,SNR=18								
H11S2	**WAKE ISLAND Hy**	**40.10**	**74**	T		T		03 52 30.1	
	baz=265,slow=75,SNR=30								
H11N1	**WAKE ISLAND Hy**	**40.41**	**72**	T		T		03 52 57.5	
	baz=264,slow=74,SNR=70								
H11N2	**WAKE ISLAND Hy**	**40.42**	**72**	T		T		03 52 58.9	
	baz=264,slow=74,SNR=39								
H11N3	**WAKE ISLAND Hy**	**40.43**	**72**	T		T		03 53 04.4	
	baz=264,slow=74,SNR=68								
PETK	**Petropavlovsk-**	**49.51**	**25**	P		**P**		**03 10 58.3**	**+2.8**
	comp=Z,1.3nm,0.7s,baz=225,slow=3.7,SNR=2.2								
MK31	**Makanchi Array**	**51.67**	**323**	P		**P**		**03 11 12.9**	**+0.8**
MKAR	**Makanchi Array**	**51.67**	**323**	P		**P**		**03 11 13.0**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=120,slow=8.5,SNR=14								
MAKZ	**Makanchi**	**51.87**	**323**	P		**P**		**03 11 13.8**	**+0.3**
ZALV	**Zalesovo Beam**	**54.28**	**331**	P		**P**		**03 11 31.3**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=111,slow=7.9,SNR=1.8								
KURK	**Kurchatov**	**55.72**	**326**	P		**P**		**03 11 41.9**	**+0.4**
KK31	**Karatay Array**	**57.89**	**315**	P		**P**		**03 11 58.0**	**+0.9**
KKAR	**Karatay Array**	**57.89**	**315**	P		**P**		**03 11 56.5**	**-0.6**
IL31		**79.32**	**26**	P		**P**		**03 14 11.2**	**+1.0**
IL31				IAmb		IAmb		03 16 53.3	
	comp=Z,3.9nm,1.4s								
ILAR	**Eielson Array**	**79.32**	**26**	P		**P**		**03 14 11.1**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=232,slow=5.9,SNR=6.7								
ARCES	**ARCESS Array B**	**83.87**	**340**	P		**P**		**03 14 35.2**	**+1.1**
	comp=Z,2.2nm,1.0s,baz=92,slow=6.7,SNR=4.0								
FINES	**FINESS Array B**	**85.55**	**332**	P		**P**		**03 14 43.1**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=67,slow=5.0,SNR=7.6								

*NEIC **22** 03:11:32.4±3.0, 16.71°N±0.03×99.20°W±0.02, h20km±6km, mb4.0/1, Md4.0/42(MEX), Error ellipse: s-maj=4.6km s-min=2.5km az=207.0*

*MEX **22** 03:11:34.3±0.9, 16.62°N×99.17°W, h23km±6km, MD4.0*

ISC 22 03:11:32.3±1.0, 16.64°N±0.04×99.21°W±0.03, h26km±7km, n40, σ1ˢ54/67, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRIG	**Cruz Grande**	**0.12**	**36**	*e*P		**Pb**		**03 11 37.6**	**+0.5**
CRIG				*i* S		**Sb**		**03 11 40.6**	**+0.1**
ACP2	**Acapulco**	**0.69**	**290**	*e*P		**Pb**		**03 11 45.6**	**-0.2**
ACP2				*i* S		**Sb**		**03 11 54.4**	**-0.6**
ACP2	**Acapulco**	**0.69**	**290**			**Pb**		**03 11 45.6**	**-0.2**
ACP2						**Sb**		**03 11 54.4**	**-0.6**
PNIG	**Pinotepa**	**1.06**	**103**	*i* P		**Pb**		**03 11 53.3**	**+1.2**
PNIG				*i* S		**Sn**		**03 12 06.1**	**+0.6**
PNIG	**Pinotepa**	**1.06**	**103**			**Pb**		**03 11 53.3**	**+1.2**
PNIG						**Sn**		**03 12 07.3**	**+1.8**
CAIG	**El Cayaco**	**1.09**	**292**	*i* P		**Pn**		**03 11 51.7**	**-0.2**
CAIG				*e*S		**Sn**		**03 12 05.0**	**-1.3**
CAIG	**El Cayaco**	**1.09**	**292**			**Pn**		**03 11 51.7**	**-0.2**
CAIG						**Sn**		**03 12 05.0**	**-1.3**
TLIG	**Tlapa**	**1.10**	**34**	*i* P		**Pn**		**03 11 51.3**	**-0.9**
TLIG				*i* S		**Sn**		**03 12 04.2**	**-2.5**
TLIG	**Tlapa**	**1.10**	**34**			**Pn**		**03 11 51.3**	**-0.9**
TLIG						**Sn**		**03 12 04.2**	**-2.5**
HMTT	**Tlapaneco**	**1.31**	**28**	*e*P		**Pn**		**03 11 54.1**	**-0.8**
HMTT				*i* S		**Sn**		**03 12 09.9**	**-1.8**
HMTT	**Tlapaneco**	**1.31**	**28**			**Pn**		**03 11 55.0**	**0.0**
HMTT						**Sn**		**03 12 08.8**	**-2.9**
YOIG	**Yosondua**	**1.60**	**82**	*e*P		**Pn**		**03 11 57.8**	**-1.5**
YOIG				*e*S		**Sn**		**03 12 17.2**	**-2.0**
PLIG	**Platanillo**	**1.77**	**351**	*i* P		**Pn**		**03 12 01.6**	**+0.3**
PLIG				*i* S		**Sn**		**03 12 22.3**	**-0.7**
PLIG	**Platanillo**	**1.77**	**351**			**Pn**		**03 12 01.6**	**+0.3**
PLIG						**Sn**		**03 12 22.3**	**-0.7**
ARIG	**Puente Sto Nin**	**1.96**	**326**	*i* P		**Pn**		**03 12 04.7**	**+0.7**
ARIG				*e*S		**Sn**		**03 12 27.9**	**+0.1**
ARIG	**Puente Sto Nin**	**1.96**	**326**			**Pn**		**03 12 04.7**	**+0.7**
ARIG						**Sn**		**03 12 28.7**	**+0.9**
YAIG	**Yautepec**	**2.21**	**3**	*i* P		**Pn**		**03 12 08.5**	**+0.9**
YAIG				*i* S		**Sn**		**03 12 34.7**	**+0.5**
YAIG	**Yautepec**	**2.21**	**3**			**Pn**		**03 12 08.5**	**+0.9**
YAIG						**Sn**		**03 12 34.7**	**+0.5**
MAVM	**Malinalco, Edo**	**2.32**	**353**	*e*P		**Pn**		**03 12 10.2**	**+1.1**
MAVM				*e*S		**Sn**		**03 12 36.9**	**0.0**
MAVM	**Malinalco, Edo**	**2.32**	**353**			**Pn**		**03 12 11.0**	**+1.9**
MAVM						**Sn**		**03 12 38.9**	**+2.0**
ZIIG	**Zihuatanejo**	**2.37**	**294**	*e*P		**Pn**		**03 12 10.2**	**+0.7**
ZIIG				*e*S		**Sn**		**03 12 37.8**	**+0.1**
ZIIG	**Zihuatanejo**	**2.37**	**294**			**Pn**		**03 12 10.9**	**+1.5**
ZIIG						**Sb**		**03 12 44.3**	**+1.3**
PPM	**Popocatepetl**	**2.48**	**13**	*e*P		**Pn**		**03 12 11.7**	**+0.2**
PPM				*i* S		**Sn**		**03 12 41.3**	**+0.2**
AMVM	**AMECAMECA**	**2.51**	**9**	*e*P		**Pn**		**03 12 12.1**	**+0.3**
AMVM	**AMECAMECA**	**2.51**	**9**			**Pn**		**03 12 15.1**	**+3.3**
TOVM	**TOLUCA**	**2.67**	**350**	*e*P		**Pn**		**03 12 13.8**	**-0.2**
TOVM				*i* S		**Sn**		**03 12 45.6**	**0.0**
TOVM	**TOLUCA**	**2.67**	**350**			**Pn**		**03 12 17.0**	**+3.1**
TOVM						**Sn**		**03 12 49.4**	**+3.8**
UNM	**Universidad Na**	**2.68**	**1**	Pn		**Pn**		**03 12 13.9**	**0.0**
AZVM	**Cuida Lopez Ma**	**2.93**	**359**	*e*P		**Pn**		**03 12 18.1**	**+0.6**
AZVM	**Cuida Lopez Ma**	**2.93**	**359**			**Pb**		**03 12 24.1**	**+0.1**
VTVM	**Tizayuca**	**3.14**	**7**	*e*P		**Pn**		**03 12 20.7**	**+0.3**
VTVM	**Tizayuca**	**3.14**	**7**			**Pb**		**03 12 29.7**	**+2.1**
ZUVM	**ZUMPANGO**	**3.17**	**2**	*i* P		**Pn**		**03 12 21.3**	**+0.5**
ZUVM				*e*S		**Sn**		**03 12 57.5**	**-0.5**
ZUVM	**ZUMPANGO**	**3.17**	**2**			**Pn**		**03 12 24.4**	**+3.6**
ZUVM						**Sb**		**03 13 04.5**	**-2.0**
MOIG	**Morelia**	**3.56**	**328**	Pn		**Pn**		**03 12 24.4**	**-1.7**
PETF	**Flores**	**8.95**	**87**	Pn		**Pn**		**03 13 39.9**	**-0.1**
TX32	**Lajitas Array**	**13.28**	**343**	Pn		**Pn**		**03 14 37.6**	**-1.7**
TXAR	**Lajitas Array**	**13.28**	**343**	Pn		**Pn**		**03 14 36.9**	**-2.5**
TX31	**Lajitas Ar. Si**	**13.29**	**343**			**Pn**		**03 14 36.8**	**-2.6**
PBMO	**Poplar Bluff**	**21.52**	**20**	P		**P**		**03 16 22.6**	**+3.3**
PBMO				IAmb		IAmb		03 16 27.6	
	comp=Z,5.5nm,0.8s								

*THR **22** 03:51:57.4±0.8, 32.70°N×47.73°E, h14km±15km, ML3.3*

*TEH **22** 03:51:57.3, 32.70°N×47.57°E, h9km, ML3.2*

*ISN **22** 03:51:58.6±1.0, 32.71°N×47.58°E, h15km±5km, ML3.1*

ISC 22 03:51:57.5±1.3, 32.71°N±0.03×47.57°E±0.03, h2km±11km, n38, σ1ˢ34/46, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.25**	**265**	*e*Pg		**Pg**		**03 52 02.0**	**-0.3**
DHL1				*e*Sg		**Sg**		**03 52 06.8**	**+1.3**
IKFM	**Kafar-mosalman**	**0.85**	**16**	*e*Pg		**Pg**		**03 52 13.5**	**-0.3**
IKFM				*e*		**Sn**		**03 52 29.7**	**+0.3**
IKMR	**Kamar-syah**	**1.06**	**40**	*e*Pg		**Pg**		**03 52 17.6**	**-0.2**
IKMR				*e*		**Sn**		**03 52 37.4**	**+2.9**
IDOB	**Doab**	**1.19**	**25**	*e*Pg		**Pn**		**03 52 21.1**	**-0.3**
BMDN	**Meydan**	**1.43**	**47**	*e*Pg		**Pg**		**03 52 25.0**	**+0.1**
BMDN				*e*				03 52 53.6	
IBDR	**Badra**	**1.44**	**287**	*e*Pg		**Pb**		**03 52 25.0**	**0.0**
IBDR				*e*Sg		**Sg**		**03 52 44.0**	**+0.2**
IBDR				AML		AML		03 52 48.3	
	comp=N,329nm,0.4s								
IBDR				AML		AML		03 52 49.0	
	comp=E,340nm,0.9s								
IKOM	**Komasi**	**1.47**	**358**	*e*Pg		**Pg**		**03 52 25.8**	**+0.1**
IKOM				*e*				03 52 27.1	
KCHF	**Cheshme Sefid,**	**1.63**	**344**	*e*Pg		**Pg**		**03 52 28.6**	**-0.2**
KCHF				*e*				03 52 53.5	
AHWZ	**Ahwaz**	**1.65**	**146**	*e*Pg		**Pg**		**03 52 28.8**	**-0.3**
KER	**Kermanshah**	**1.71**	**348**	*e*Pg		**Pg**		**03 52 30.4**	**0.0**
HSAM	**Samen**	**1.73**	**30**	*e*Pg		**Pb**		**03 52 30.2**	**0.0**
HSAM				*e*				03 52 58.1	
IBZA	**Bozab**	**1.78**	**8**	*e*Pg		**Pb**		**03 52 30.7**	**-0.3**
IBZA				*e*				03 52 59.1	
IGHG	**Ghaleghazi**	**1.82**	**333**	*e*Pg		**Pg**		**03 52 32.5**	**0.0**
IGHG				*e*				03 53 18.2	
IVIS	**Veis**	**1.91**	**342**	*e*Pn		**Pb**		**03 52 32.7**	**-0.5**
IVIS				*e*				03 53 07.5	
NSR	**Nassriya**	**2.08**	**216**	*e*Pn		**Pn**		**03 52 34.0**	**+0.6**
NSR				*e*Sn		**Sn**		**03 53 00.0**	**+0.1**
IALM	**Almabolaq**	**2.21**	**13**	*e*Pn		**Pb**		**03 52 37.2**	**-1.1**
IDHR	**Dehrash**	**2.22**	**334**	*e*Pn		**Pb**		**03 52 36.8**	**-1.7**
IDHR				*e*		**Sg**		**03 53 12.9**	**+4.0**
KHMZ	**Khomeyn**	**2.25**	**62**	*e*Pg		**Pn**		**03 52 36.2**	**+0.2**
KHMZ	**Khomeyn**	**2.25**	**62**	*e*Pn		**Pn**		**03 52 36.2**	**+0.2**
ILIN	**Lien**	**2.27**	**347**	*e*Pn		**Pb**		**03 52 37.5**	**-1.8**
ILIN				*e*				03 53 16.3	
SNGE	**Sanandaj**	**2.39**	**356**	*e*Pn		**Pn**		**03 52 38.5**	**+0.6**
SNGE				*e*Sg		**Sg**		**03 53 13.2**	**-1.1**
SNGE	**Sanandaj**	**2.39**	**356**	*e*Pn		**Pn**		**03 52 38.5**	**+0.6**
HAGD	**Aghdareh**	**2.48**	**31**	*e*Pn		**Pb**		**03 52 40.7**	**-2.3**
HAGD				*e*				03 53 22.6	
HSRG	**Sareghieh**	**2.60**	**13**	*e*Pn		**Pb**		**03 52 43.3**	**-1.7**
HSRG				*e*				03 53 24.6	
JHBN	**Jahan bin**	**2.66**	**99**	*e*Pn		**Pn**		**03 52 42.5**	**+0.9**
JHBN				*e*				03 53 30.2	
BHD	**Baghdad**	**2.74**	**283**	*e*Pn		**Pn**		**03 52 44.0**	**+1.5**
BHD				*e*Sn		**Sb**		**03 53 18.0**	**-3.2**
IPIR	**Pirpir**	**2.80**	**90**	*e*Pn		**Pn**		**03 52 44.8**	**+1.2**
IPIR				*e*				03 53 29.2	
ROKH	**ROKH**	**2.95**	**96**	*e*Pn		**Pn**		**03 52 46.5**	**+0.9**
ROKH				*e*				03 53 39.6	
IRAZ	**Razeghan**	**3.33**	**35**	*e*Pn		**Pn**		**03 52 53.0**	**+2.2**
IKLH	**Kolahrood**	**3.42**	**79**	*e*Pn		**Pn**		**03 52 54.0**	**+1.9**
IKLH				*e*				03 53 54.5	
QABG	**Abgarm-Qazvin**	**3.43**	**29**	*e*Pn		**Pn**		**03 52 53.2**	**+1.0**
KLNJ	**Kolanjah**	**3.82**	**115**	*e*Pn		**Pn**		**03 52 58.0**	**+0.4**
KLNJ				*e*				03 54 24.6	
IZEF	**Zefreh**	**4.01**	**86**	*e*Pn		**Pn**		**03 53 01.4**	**+1.2**
QSDN	**Sirdan**	**4.01**	**19**	*e*Pn		**Pn**		**03 53 01.7**	**+1.5**
CHTH	**Charan**	**4.34**	**42**	*e*Pn		**Pn**		**03 53 04.9**	**+0.2**
CHTH	**Charan**	**4.34**	**42**	*e*Pn		**Pn**		**03 53 04.9**	**+0.2**
DAMV	**Damavand**	**4.67**	**50**	*e*Pn		**Pn**		**03 53 08.3**	**-0.9**
DAMV	**Damavand**	**4.67**	**50**	*e*Pn		**Pn**		**03 53 08.4**	**-0.9**

IDC 22 03:53:02.0±4.0, 23.81°S×66.49°W, h194km±38km, mb3.3/1, mb1 3.4/4, mb1mx3.1/22, mbtmp3.8/4, Error ellipse: s-maj=67.4km s-min=30.0km az=152.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.52**	**298**	P		Pn		03 53 47.5	+1.3
	15nm,0.3s,baz=115,slow=7.4,SNR=123								
LVC				S		Sn		03 54 20.4	-0.1
	14nm,0.3s,baz=254,slow=20,SNR=22								
LPAZ	**La Paz**	**7.64**	**348**	P		Pn		03 54 51.6	+0.4
	1.1nm,0.3s,baz=158,slow=12,SNR=42								
SIV	**San Ignacio**	**9.30**	**34**	P		Pn		03 55 12.5	+0.1
	0.6nm,0.3s,baz=232,slow=12,SNR=22								
TORD	**Torodi Ar. Bea**	**76.07**	**69**	P		P		04 04 28.1	-0.6
	0.4nm,0.5s,baz=260,slow=5.1,SNR=8.7								
MKAR	**Makanchi Array**	**146.08**	**40**	PKPbc		PKPbc		04 12 19.1	0.0
	0.4nm,0.5s,baz=298,slow=2.2,SNR=4.8								

*TEH **22** 04:06:13.6, 32.77°N×47.82°E, h7km, ML3.2*

*ISN **22** 04:06:14.2±0.9, 32.79°N×47.84°E, h14km±6km, ML3.0*

ISC 22 04:06:15.2±1.2, 32.74°N±0.03×47.82°E±0.03, h12km±10km, n36, σ1ˢ74/47, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.46**	**263**	*e*Pg		**Pg**		**04 06 22.6**	**-1.6**
DHL1				*e*Sg		**Sg**		**04 06 30.3**	**-0.1**
IKFM	**Kafar-mosalman**	**0.79**	**2**	*e*Pg		**Pg**		**04 06 28.8**	**-1.6**
IKFM				*e*		**Sn**		**04 06 43.1**	**-0.6**
IKMR	**Kamar-syah**	**0.91**	**31**	*e*Pg		**Pb**		**04 06 30.9**	**-1.9**
IKMR				*e*				04 06 39.8	
IDOB	**Doab**	**1.09**	**16**	*e*Pg		**Pb**		**04 06 35.1**	**-1.0**
BMDN	**Meydan**	**1.25**	**42**	*e*Pg		**Pn**		**04 06 37.4**	**-1.3**
BMDN				*e*				04 07 03.2	
IKOM	**Komasi**	**1.46**	**350**	*e*Pg		**Pn**		**04 06 41.1**	**-0.4**
IKOM				*e*				04 06 42.8	
AHWZ	**Ahwaz**	**1.57**	**153**	*e*Pg		**Pb**		**04 06 44.2**	**+0.1**
HSAM	**Samen**	**1.61**	**24**	*e*Pg		**Pb**		**04 06 44.3**	**-0.7**
IBDR	**Badra**	**1.63**	**284**	*e*Pg		**Pn**		**04 06 44.0**	**+0.3**
IBDR				*e*Sg		**Sb**		**04 07 06.0**	**+0.2**
IBDR				AML		AML		04 07 12.7	
	comp=N,128nm,0.4s								
IBDR				AML		AML		04 07 16.1	
	comp=E,152nm,0.6s								
KCHF	**Cheshme Sefid,**	**1.67**	**337**	*e*Pg		**Pn**		**04 06 44.0**	**-0.4**
KCHF				*e*		**Sg**		**04 07 11.5**	**+2.7**
IBZA	**Bozab**	**1.73**	**1**	*e*Pg		**Pb**		**04 06 45.9**	**-1.1**
IBZA				*e*				04 06 49.7	
KER	**Kermanshah**	**1.74**	**341**	*e*Pn		**Pb**		**04 06 46.4**	**-0.8**
IGHG	**Ghaleghazi**	**1.90**	**327**	*e*Pn		**Pn**		**04 06 48.3**	**+0.7**
IGHG				*e*		**Sg**		**04 07 20.8**	**+4.4**
IVIS	**Veis**	**1.96**	**336**	*e*Pn		**Pb**		**04 06 49.5**	**-1.4**
IVIS				*e*		**Sg**		**04 07 22.0**	**+3.7**
IALM	**Almabolaq**	**2.14**	**8**	*e*Pn		**Pb**		**04 06 52.1**	**-1.9**
NSR	**Nassriya**	**2.24**	**220**	*e*Pn		**Pn**		**04 06 53.0**	**+1.0**
NSR				*e*Sn		**Sn**		**04 07 20.0**	**+0.4**
ILIN	**Lien**	**2.29**	**342**	*e*Pn		**Pb**		**04 06 54.5**	**-2.1**
ILIN				*e*		**Sg**		**04 07 30.9**	**+2.1**
IDHR	**Dehrash**	**2.29**	**329**	*e*Pn		**Pb**		**04 06 54.9**	**-1.7**
IDHR				*e*				04 06 56.8	
HAGD	**Aghdareh**	**2.35**	**27**	*e*Pn		**Pn**		**04 06 54.8**	**+1.0**
HAGD				*e*				04 07 00.9	
JHBN	**Jahan bin**	**2.46**	**101**	*e*Pn		**Pn**		**04 06 56.3**	**+1.0**
JHBN				*e*				04 07 46.4	
HSRG	**Sareghieh**	**2.53**	**9**	*e*Pn		**Pn**		**04 06 58.0**	**+1.7**
HSRG				*e*		**Sg**		**04 07 40.7**	**+4.2**
IPIR	**Pirpir**	**2.59**	**90**	*e*Pn		**Pn**		**04 06 58.3**	**+1.2**
IPIR				*e*				04 07 48.5	
ROKH	**ROKH**	**2.74**	**97**	*e*Pn		**Pn**		**04 07 00.4**	**+1.2**
ROKH				*e*				04 07 53.9	
BHD	**Baghdad**	**2.94**	**281**	*e*Pn		**Pn**		**04 07 02.0**	**+0.3**
BHD				*e*Sn		**Sn**		**04 07 38.0**	**+1.1**
BHD				AML		AML		04 07 43.0	
	comp=E,147nm,0.4s								
IRAZ	**Razeghan**	**3.18**	**33**	*e*Pn		**Pn**		**04 07 07.0**	**+1.8**
IKLH	**Kolahrood**	**3.21**	**79**	*e*Pn		**Pn**		**04 07 07.8**	**+2.2**
IKLH				*e*				04 08 03.2	
QABG	**Abgarm-Qazvin**	**3.30**	**26**	*e*Pn		**Pn**		**04 07 07.1**	**+0.2**
IQOM	**Qom**	**3.42**	**51**	*e*Pn

XOR	Xorichti	0.60	201		P	Pg	04 22 42.5	0.0
XOR					S	Sb	04 22 52.2	+0.5
	comp=E,23µm,0.6s							
XOR	Xorichti	0.60	201		P	Pg	04 22 42.5	0.0
XOR					S	Sb	04 22 51.5	-0.2
XOR					AML	AML	04 22 53.6	
	comp=N,66758µm,0.6s							
XOR					AML	AML	04 22 55.9	
	comp=E,22603µm,0.6s							
NEO	Neokhori	0.65	197		P	Pg	04 22 43.3	-0.1
NEO					S	Sb	04 22 53.5	+0.4
	comp=E,21µm,0.8s							
NEO	Neokhori	0.65	197		P	Pg	04 22 43.6	+0.3
HORT	Hortiatis	0.73	337		P	Pg	04 22 44.4	-0.4
HORT					S	Sb	04 22 55.1	-0.3
	comp=E,11µm,0.4s							
HORT	Hortiatis	0.73	337		P	Pg	04 22 44.4	-0.4
HORT					S	Sg	04 22 54.4	+0.1
HORT					AML	AML	04 22 56.0	
	comp=E,30621µm,0.4s							
HORT					AML	AML	04 22 59.2	
	comp=N,14422µm,0.4s							
HORT	Hortiatis	0.73	337		PG	Pg	04 22 44.5	-0.4
HORT					SG	Sg	04 22 54.8	+0.4
SKIA	Skiathos	0.76	180		P	Pg	04 22 45.6	+0.1
SKIA					S	Sb	04 22 56.2	-0.1
	comp=N,19µm,0.5s							
LIT	Litokhoron	0.77	283		P	Pg	04 22 45.4	-0.3
LIT					S	Sg	04 22 55.7	0.0
	comp=N,5µm,0.4s							
LIT	Litokhoron	0.77	283		P	Pg	04 22 45.7	0.0
LIT					S	Sb	04 22 56.5	-0.1
LIT					AML	AML	04 22 59.1	
	comp=E,8489µm,0.3s							
LIT					AML	AML	04 23 00.2	
	comp=N,9162µm,0.4s							
LIT	Litokhoron	0.77	283	*i*	P	Pg	04 22 45.3	-0.4
LIT					S	Sg	04 22 55.8	0.0
LIT	Litokhoron	0.77	283		Pg	Pg	04 22 45.6	0.0
THE	Thessaloniki	0.80	331		P	Pg	04 22 45.6	-0.7
THE					S	Sb	04 22 57.1	-0.4
THE	Thessaloniki	0.80	331		P	Pg	04 22 45.6	-0.7
THE					S	Sg	04 22 56.6	-0.1
THE					AML	AML	04 22 59.0	
	comp=E,5157µm,0.3s							
THE					AML	AML	04 23 01.4	
	comp=N,8613µm,0.5s							
THE	Thessaloniki	0.80	331		P	Pg	04 22 45.6	-0.7
THE					S	Sg	04 22 56.8	+0.1
AOS	Alonnisos	0.82	157		P	Pb	04 22 46.8	-0.2
AOS					S	Sb	04 22 58.7	+0.7
	comp=N,20µm,0.6s							
AOS	Alonnisos	0.82	157		P	Pb	04 22 46.8	-0.2
AOS					S	Sg	04 22 57.2	-0.2
AOS					AML	AML	04 23 00.3	
	comp=N,54523µm,0.4s							
AOS					AML	AML	04 23 01.2	
	comp=E,25536µm,0.7s							
AOS	Alonnisos	0.82	157		PG	Pb	04 22 46.9	-0.1
AOS					SG	Sb	04 22 58.3	+0.3
LRSO	Larissa Observ	0.87	253		P	Pg	04 22 47.6	+0.1
LRSO	Larissa Observ	0.87	253		P	Pg	04 22 47.5	+0.1
LRSO					S	Sb	04 22 60.0	+0.6
SOH	Sokhos	0.90	354		P	Pg	04 22 47.4	-0.7
SOH					S	Sb	04 23 00.3	0.0
	comp=E,8µm,0.6s							
SOH	Sokhos	0.90	354		P	Pg	04 22 47.5	-0.5
SOH					S	Sg	04 22 59.7	-0.1
SOH					AML	AML	04 23 04.0	
	comp=N,19229µm,0.5s							
SOH					AML	AML	04 23 06.3	
	comp=E,15253µm,0.7s							
THAS	Thassos island	1.17	54		P	Pb	04 22 52.6	-0.3
THAS					S	Sg	04 23 08.1	-0.4
	comp=E,7µm,0.4s							
THAS	Thassos island	1.17	54		P	Pb	04 22 52.7	-0.3
THAS					S	Sb	04 23 07.7	-0.4
THAS					AML	AML	04 23 08.9	
	comp=N,17049µm,0.4s							
THAS					AML	AML	04 23 11.6	
	comp=E,12540µm,0.4s							
THL	Klokotos Trika	1.18	252		P	Pb	04 22 51.7	-1.4
THL	Klokotos Trika	1.18	252		P	Pb	04 22 51.9	-1.2
SRS	Serrai	1.19	4		P	Pb	04 22 52.3	-1.0
SRS					S	Sb	04 23 08.2	-0.5
SRS	Serrai	1.19	4	*e*Pg		Pg	04 22 54.3	+0.6
SRS				*e*Sg		Sg	04 23 09.1	-0.1
SRS	Serrai	1.19	4		P	Pb	04 22 52.6	-0.7
SRS					S	Sb	04 23 08.5	-0.2
SRS					AML	AML	04 23 14.1	
	comp=E,4035µm,0.3s							
SRS					AML	AML	04 23 14.5	
	comp=N,6083µm,0.4s							
AGG	Agios Georgios	1.26	225		P	Pn	04 22 53.2	-1.1
AGG					S	Sb	04 23 10.5	-0.3
	comp=N,7µm,1.1s							
AGG	Agios Georgios	1.26	225		P	Pn	04 22 53.3	-1.0
AGG	Agios Georgios	1.26	225		PN	Pn	04 22 53.3	-1.0
AGG	Agios Georgios	1.26	225		P	Pn	04 22 53.2	-1.0
AGG	Agios Georgios	1.26	225		Pn	Pn	04 22 53.2	-1.0
LIA	Limnos Island	1.32	91		P	Pn	04 22 54.7	-0.3
LIA					S	Sg	04 23 13.0	-0.2
	comp=N,5µm,0.7s							
LIA	Limnos Island	1.32	91		P	Pn	04 22 54.6	-0.4
LIA					S	Sb	04 23 11.5	-0.8
LIA					AML	AML	04 23 15.1	
	comp=N,5842µm,0.6s							
LIA					AML	AML	04 23 16.2	
	comp=E,12665µm,0.7s							
LKR	Lokris	1.33	196		P	Pn	04 22 54.0	-1.1
LKR	Lokris	1.33	196		P	Pn	04 22 54.0	-1.1
KAVA	Kavala	1.33	36		P	Pn	04 22 54.8	-0.4
KAVA					S	Sg	04 23 13.3	-0.4
KAVA	Kavala	1.33	36		P	Pn	04 22 54.7	-0.4
KAVA					S	Sb	04 23 12.0	-0.8
KAVA					AML	AML	04 23 17.1	
	comp=E,5271µm,0.3s							
KAVA					AML	AML	04 23 17.5	
	comp=N,6046µm,0.3s							
SKY	Skiros Island	1.34	141		P	Pn	04 22 55.0	-0.3
SKY					S	Sb	04 23 12.8	-0.2
SKY	Skiros Island	1.34	141		P	Pn	04 22 55.0	-0.3
KZN	Kozani	1.36	287		P	Pn	04 22 55.1	-0.5
KZN	Kozani	1.36	287		P	Pn	04 22 55.3	-0.3
KZN					S	Sb	04 23 13.3	-0.2
MAKR	Makrakomi, Fth	1.38	229		P	Pn	04 22 55.3	-0.6
KYMI	Kymi, Euboea I	1.38	159		P	Pn	04 22 55.2	-0.7
KYMI	Kymi, Euboea I	1.38	159		P	Pn	04 22 55.1	-0.7
NVR	Nevrokopi	1.45	12		P	Pn	04 22 56.9	0.0
NVR	Nevrokopi	1.45	12		P	Pn	04 22 57.2	+0.3
VAY	Valandovo	1.55	334	*e*Pn		Pn	04 22 58.5	+0.3
VAY				*e*Sn		Sn	04 23 18.0	-0.3
VAY	Valandovo	1.55	334	⇓*i*Pn		Pb	04 22 59.0	-0.4
VAY				*i* Sn		Sg	04 23 20.6	0.0
VAY				*e*Lg		Lg	04 23 29.8	
	comp=E,985nm,0.9s							
VAY	Valandovo	1.55	334	*i*	P	Pn	04 22 58.5	+0.3
VAY				*i*	SN	Sg	04 23 20.6	0.0
KPRO	Kipourio	1.62	272		P	Pn	04 22 59.2	0.0
KPRO	Kipourio	1.62	272		P	Pn	04 22 59.4	+0.1
EVR	Evrytania	1.64	232		P	Pn	04 22 59.0	-0.5
EVR	Evrytania	1.64	232		P	Pn	04 22 58.8	-0.7
SMTH	Samothraki Isl	1.67	70		P	Pn	04 22 59.2	-0.6
SMTH	Samothraki Isl	1.67	70		P	Pn	04 22 59.2	-0.6
MMB	Musomiste	1.67	7	*i*	P	Pn	04 22 59.9	0.0
DSF	Desfina	1.68	206		P	Pn	04 22 59.0	-1.1
DSF	Desfina	1.68	206		P	Pn	04 22 58.8	-1.3
VILL	Villia	1.77	184		P	Pn	04 23 00.3	-0.9
ANX	Ano Chora	1.79	223		P	Pn	04 23 01.4	-0.3
ANX	Ano Chora	1.79	223		P	Pn	04 23 01.4	-0.3
PENT	Pentalofos	1.81	279		P	Pn	04 23 01.9	+0.1
PENT	Pentalofos	1.81	279		P	Pn	04 23 02.0	+0.1
DION	Dionisos Attik	1.88	169		P	Pn	04 23 02.6	-0.2
DION	Dionisos Attik	1.88	169		P	Pn	04 23 02.6	-0.2
GADA	Gvkgeada	1.88	81		PN	Pn	04 23 02.8	0.0
GOKA	anakkale-Gk	1.89	81	*i*	P	Pn	04 23 02.7	-0.2
GOKA				*i*	S	Sn	04 23 22.4	-4.2
GOKA					IAML		04 23 40.0	
	comp=E,2µm,0.5s							
GOKA					IAML		04 23 47.0	
	comp=N,1µm,0.5s							
TRIZ	Trizonia	1.90	215		P	Pn	04 23 02.4	-0.6
PTL	Penteli	1.90	171		P	Pn	04 23 02.6	-0.4
PTL	Penteli	1.90	171		P	Pn	04 23 02.7	-0.4
NEST	Nestorio	1.92	285		P	Pn	04 23 03.3	0.0
NEST	Nestorio	1.92	285		P	Pn	04 23 03.9	+0.6
EFP	Efpalio	1.93	220		P	Pn	04 23 03.0	-0.4
EFP	Efpalio	1.93	220		P	Pn	04 23 02.9	-0.6
LTK	Loutraki	1.94	192		P	Pn	04 23 02.8	-0.8
LTK	Loutraki	1.94	192		P	Pn	04 23 02.9	-0.8
ATH	Athens Observa	1.96	174		P	Pn	04 23 03.4	-0.5
ATH	Athens Observa	1.96	174		P	Pn	04 23 03.3	-0.6
ATHU	Athens Univers	1.98	173		P	Pn	04 23 03.6	-0.5
LOUT	Loutraki	1.98	191		P	Pn	04 23 03.3	-0.8
SIGR	SIGRI	1.98	110		P	Pn	04 23 04.3	+0.2
SIGR	SIGRI	1.98	110	PN		Pn	04 23 03.9	-0.2
BOZC	Bozcaada	1.99	92	PN		Pn	04 23 04.4	+0.1
BOZC	Bozcaada	1.99	92	*i*	P	Pn	04 23 04.2	-0.1
BOZC				*i*	S	Sn	04 23 25.7	-3.4
BOZC					IAML		04 23 38.0	
	comp=N,1µm,1.2s							
BOZC					IAML		04 23 38.0	
	comp=E,798nm,0.6s							
RDO	Rodhopi	1.99	52		P	Pn	04 23 04.1	-0.2
RDO	Rodhopi	1.99	52		P	Pn	04 23 04.0	-0.2
RDO	Rodhopi	1.99	52	PN		Pn	04 23 04.2	-0.1
RZN	Rozhen	2.00	28	*i*	P	Pn	04 23 05.1	+0.6
PVO	Paravola	2.00	230		P	Pn	04 23 04.1	-0.3
PVO	Paravola	2.00	230		P	Pn	04 23 04.0	-0.3
JAN	Janina	2.04	263		P	Pn	04 23 04.7	-0.2
KARY	Karystos	2.04	158		P	Pn	04 23 04.7	-0.2
VLY	Voula,Athens	2.09	173		P	Pn	04 23 05.2	-0.4
VLY	Voula,Athens	2.09	173		P	Pn	04 23 05.2	-0.4
GUR	Goura	2.17	204		P	Pn	04 23 06.2	-0.7
ALN	Alexandroupoli	2.19	63		P	Pn	04 23 06.8	-0.2
ALN	Alexandroupoli	2.19	63		P	Pn	04 23 06.8	-0.2
ALN	Alexandroupoli	2.19	63	PN		Pn	04 23 06.9	-0.2
ALN	Alexandroupoli	2.19	63		P	Pn	04 23 06.9	-0.2
ALN	Alexandroupoli	2.19	63			Pn	04 23 06.8	-0.2
EZN	Ezine	2.20	92	PN		Pn	04 23 06.9	-0.2
KDZ	Kurdzhali	2.27	40	*i*	P	Pn	04 23 07.4	-0.7
KDZ	Kurdzhali	2.27	40	PN		Pn	04 23 06.8	-1.3
PRK	Paraskevi	2.27	107		P	Pn	04 23 09.6	+1.5
PRK	Paraskevi	2.27	107		P	Pn	04 23 08.8	+0.7
GELI	Tayfur-Gelibol	2.35	78	PN		Pn	04 23 08.6	-0.6
OHR	Ohrid	2.35	301	⇑*i*Pn		Pb	04 23 11.8	-1.4
OHR				*i* Sn		Sn	04 23 40.4	+2.2
OHR				*e*Lg		Lg	04 23 51.7	
	comp=N,416nm,1.2s							
PLD	Plovdiv	2.37	23	*i*	P	Pn	04 23 10.7	+1.3
PLD	Plovdiv	2.37	23	PN		Pn	04 23 08.9	-0.5
BAYC	CANAKKALE_Bayr	2.38	94	*i*	P	Pn	04 23 10.0	+0.4
BAYC				*i*	S	Sn	04 23 35.2	-3.5
BAYC					IAML		04 23 49.0	
	comp=N,463nm,0.8s							
BAYC					IAML		04 23 53.0	
	comp=E,236nm,0.5s							
DRO	Drossia	2.40	215		P	Pn	04 23 09.9	-0.1
DID	Didima	2.43	184		P	Pn	04 23 09.6	-0.7
DID	Didima	2.43	184		P	Pn	04 23 10.3	0.0
RLS	Tsiolos of Patr	2.43	220		P	Pn	04 23 10.8	+0.4
TSLK	Tsoukalades, L	2.44	244		P	Pn	04 23 11.5	+1.0
IGT	Igoumenitsa	2.45	262		P	Pn	04 23 12.6	+2.0
IGT	Igoumenitsa	2.45	262	*e*Pn		Pn	04 23 12.3	+1.7
IGT				*e*Sn		Sn	04 23 38.6	-1.9
LKD2	Lefkada island	2.46	243		P	Pn	04 23 12.3	+1.6
CHOS	Chios island	2.53	127		P	Pn	04 23 12.4	+0.6
CHOS	Chios island	2.53	127	PN		Pn	04 23 12.0	+0.2
EVGI	Lefkada island	2.54	240		P	Pn	04 23 13.2	+1.3
SKO	Skopje	2.56	324	⇓*i*Pn		Pn	04 23 13.0	+1.0
LPK	Lapseki	2.56	79	PN		Pn	04 23 12.0	-0.1
AYVA	Ayvalik	2.56	103	*i*	P	Pn	04 23 12.9	+0.8
AYVA				*i*	S	Sg	04 23 54.4	+1.3
AYVA					IAML		04 23 57.0	
	comp=N,530nm,0.7s							
AYVA					IAML		04 23 57.0	
	comp=E,392nm,0.9s							
TRIP	Tripoli	2.57	202		P	Pn	04 23 12.3	-0.1
KESN	Edirne-Kesan	2.61	69	*i*	P	Pn	04 23 11.5	-1.7
KESN				*i*	S	Sn	04 23 41.0	-4.0
KESN					IAML		04 23 59.0	
	comp=E,961nm,1.1s							
KESN					IAML		04 24 10.0	
	comp=N,463nm,1.2s							
DIM	Dimitrovgrad	2.63	36	*i*	P	Pn	04 23 13.7	+0.6
DIM	Dimitrovgrad	2.63	36	*e*P		Pn	04 23 13.9	+0.8
PGB	Panagyurishte	2.67	11	*i*	P	Pn	04 23 13.9	+0.2
UKOP	Uzunkopru-Edir	2.69	63	PN		Pn	04 23 14.1	+0.2
VLX	Vlachokerasia	2.69	199		P	Pn	04 23 13.8	-0.4
VLX	Vlachokerasia	2.69	199		P	Pn	04 23 13.6	-0.4
VTS	Vitosha	2.69	356	*i*	P	Pn	04 23 15.1	+1.0
KRBN	Karaburun	2.74	118	PN		Pn	04 23 14.9	+0.3
AMT	Artemida-Makis	2.76	210		P	Pn	04 23 15.5	+0.6
DKL	Dikili	2.79	107	PN		Pn	04 23 15.5	+0.2
SERI	Serifos	2.88	164		P	Pn	04 23 16.1	-0.4
URLA	Izmir	2.89	122	PN		Pn	04 23 17.3	+0.6
URLA	Izmir	2.89	122	*i*	P	Pn	04 23 17.3	+0.6
URLA					IAML		04 24 10.0	
	comp=E,236nm,1.0s							
URLA					IAML		04 24 19.0	
	comp=N,181nm,1.1s							
RKY	Sarkoy-Tekirda	2.94	74	PN		Pn	04 23 17.5	+0.2
SART	Tekirdag	2.94	74	*i*	P	Pn	04 23 17.4	+0.1
SART				*i*	S	Sn	04 23 52.2	-0.4
SART					IAML		04 24 19.0	
	comp=E,156nm,1.1s							
ZEDA	zmir-Bergama	2.95	108	*i*	P	Pn	04 23 18.5	+1.0
ZEDA				*i*	S	Sg	04 24 05.5	-0.1
ZEDA					IAML		04 24 47.0	
	comp=N,484nm,0.4s							
ZEDA					IAML		04 24 47.0	
	comp=E,171nm,0.4s							
ITM	Ithomi	3.00	204		P	Pn	04 23 19.2	+1.1
ITM	Ithomi	3.00	204		P	Pn	04 23 19.7	+1.5
ITM	Ithomi	3.00	204			Pn	04 23 20.1	+1.9
MAR6	Marsite Statio	3.00	74	PN		Pn	04 23 18.3	+0.1
MAR3	Marsite Statio	3.04	73	PN		Pn	04 23 18.9	+0.3
MAR2	Marsite Statio	3.04	74	PN		Pn	04 23 18.7	0.0
MAR4	Marsite Statio	3.05	72	PN		Pn	04 23 19.3	+0.4
TIR	Tirane	3.09	298	⇑P		Pn	04 23 21.1	+1.7
TIR	Tirane	3.09	298	P		Pn	04 23 21.6	+2.3
TIR	Tirane	3.09	298	Pn		Pn	04 23 21.6	+2.3
KNL	Balıkesir	3.13	82	*i*	P	Pn	04 23 21.5	+1.5
KNL				*i*	S	Sn	04 23 57.0	-0.2
KNL					IAML		04 24 17.0	
	comp=E,333nm,0.8s							
KNL					IAML		04 24 26.0	
	comp=N,467nm,1.0s							
EDRB	Edirne	3.14	51	PN		Pn	04 23 20.1	+0.1
BLCB	Balcova	3.18	118	PN		Pn	04 23 21.3	+0.7
BALY	Balya	3.20	92	*i*	P	Pn	04 23 21.9	+1.0
BALY				*i*	S	Sn	04 23 56.0	-3.0
BALY					IAML		04 24 15.0	
	comp=E,216nm,0.6s							
BALY					IAML		04 24 16.0	
	comp=N,460nm,1.3s							
VLI	Veliai	3.23	188		P	Pn	04 23 20.8	-0.5
GONE	Gonen-Balikesi	3.24	87	PN		Pn	04 23 21.7	+0.2
APE	Apeiranthos	3.28	150		P	Pn	04 23 22.1	0.0
APE	Apeiranthos	3.28	150		P	Pn	04 23 22.0	0.0
APE	Apeiranthos	3.28	150	⇓P		Pn	04 23 22.3	+0.3
APE	Apeiranthos	3.28	150	PN		Pn	04 23 22.1	0.0
APE	Apeiranthos	3.28	150	*e*P		Pn	04 23 21.8	-0.3
KIRK	Kırklareli	3.32	55	*i*	P	Pn	04 23 21.8	-0.7
KIRK				*i*	S	Sb	04 24 08.4	-1.4
KIRK					IAML		04 24 21.0	
	comp=N,171nm,0.5s							
PYL	PYLOS	3.32	205		P	Pn	04 23 22.9	+0.4
STEP	BALIKESIR_Sava	3.33	98	*i*	P	Pn	04 23 23.9	+1.2
STEP				*i*	S	Sb	04 24 12.6	+2.4
STEP					IAML		04 24 32.0	
	comp=E,326nm,1.0s							
STEP					IAML		04 24 45.0	
	comp=N,495nm,1.1s							
EDC	Edincik	3.40	82	PN		Pn	04 23 23.6	0.0
ZAPS	Zavoj	3.40	350	*e*Pn		Pn	04 23 25.7	+2.0
BALB	Balikesir	3.41	93	PN		Pn	04 23 23.8	0.0
SMG	Samos	3.44	129	P		Pn	04 23 24.9	+0.7
SMG	Samos	3.44	129	P		Pn	04 23 24.6	+0.4
JMB	Yambol	3.46	42	*i*	P	Pn	04 23 24.0	-0.4
CRLT	Corlu	3.47	68	PN		Pn	04 23 24.8	+0.3
IOSP	Ios island	3.51	155	P		Pn	04 23 25.0	-0.1
IOSP	Ios island	3.51	155	P		Pn	04 23 24.9	-0.2
AMGA	Amorgos Island	3.63	148	P		Pn	04 23 26.6	-0.2
KTHA	Kythira Island	3.68	185	P		Pn	04 23 27.6	+0.1
KTHA	Kythira Island	3.68	185	P		Pn	04 23 27.4	-0.1
GCAM	G?zelcaml?	3.69	126	PN		Pn	04 23 28.4	+0.8
SELS	Selova	3.73	333	*e*Pn		Pn	04 23 28.8	+0.6
PVY	Plav	3.75	316	⇑*i*Pn		Pn	04 23 29.7	+1.1
PVY				*i* Sn		Sn	04 24 14.7	+1.9
KCTX	Karacabey (Bur	3.76	83	PN		Pn	04 23 29.0	+0.3
ULC	Ulcinj	3.79	304	⇑*i*Pn		Pn	04 23 30.0	+1.0
ULC				*i* Sn		Sn	04 24 15.6	+2.0
THT2	Imerovigli	3.81	156	PN		Pn	04 23 30.2	+0.9
SZH	Strazhica	3.81	28	*i* P		Pn	04 23 30.2	+0.9
SCTE	Santa Cesarea	3.84	274	Pn		Pn	04 23 30.1	+0.4
DURS	Dursunbey	3.87	93	*i* P		Pn	04 23 31.2	+1.0
DURS				IAML			04 24 37.0	
	comp=E,147nm,0.5s							
DURS				IAML			04 24 44.0	
	comp=N,154nm,1.2s							
SANT	Santorini	3.88	156	PN		Pn	04 23 31.4	+1.1
SANT	Santorini	3.88	156			Pn	04 23 30.5	+0.2
DRME	Dracevica, Mon	3.95	306	⇑*i*Pn		Pn	04 23 32.3	+1.1
DRME	Dracevica, Mon	3.95	306	*e*Pn		Pn	04 23 33.1	+1.9
CTYL	Yalikoy Yolu	3.98	66	PN		Pn	04 23 32.3	+0.8
DST	Dursunbey	3.98	93	PN		Pn	04 23 32.5	+0.8
IVA	Berane	3.98	319	⇑*i*Pn		Pn	04 23 32.6	+0.8
IVA				*i* Sn		Sn	04 24 20.4	+1.9
ANAF	Anafi Island	4.00	152	P		Pn	04 23 32.4	+0.5
ANAF	Anafi Island	4.00	152	P		Pn	04 23 32.2	+0.3
PDG	Podgorica	4.04	310	⇑P		Pn	04 23 34.4	+1.9
PDG	Podgorica	4.04	310	*e*Pn		Pn	04 23 34.7	+2.2
PDG	Podgorica	4.04	310	Pn		Pn	04 23 33.1	+0.6
TTG	Podgorica	4.04	310	⇑*i*Pn		Pn	04 23 33.7	+1.2
TTG				*i* Sn		Sn	04 24 21.6	+1.8
CTKS	Kestanelik-??a	4.05	70	PN		Pn	04 23 32.7	+0.1
ANKY	Antikythira Is	4.06	182	P		Pn	04 23 32.8	+0.1
ANKY	Antikythira Is	4.06	182	P		Pn	04 23 32.7	0.0
BODT	Bodrum	4.16	132	PN		Pn	04 23 35.2	+1.1
MDNY	Mudanya-Bursa	4.17	82	PN		Pn	04 23 35.3	+1.0
BUM	Brajici-Budva	4.19	306	*e*Pn		Pn	04 23 35.8	+1.2
BUM				*i* Sn		Sn	04 24 25.2	+1.7
MANT	Manisa	4.21	108			Pn	04 23 34.4	-0.6
BGKT	Bogazkoy	4.23	71	PN		Pn	04 23 35.9	+0.9
KULA	Kula-Manisa	4.27	108	PN		Pn	04 23 36.5	+0.8
CEME	Cevo	4.31	309	⇓*i*Pn		Pn	04 23 38.6	+2.3
CEME				*i* Sn		Sn	04 24 28.2	+1.7
SIMA	Simav-Kutahya	4.35	99	PN		Pn	04 23 37.5	+0.7
TSVK	Tesvikiye-Yalo	4.35	79	PN		Pn	04 23 37.7	+1.0
PRD	Provadia	4.40	41	*i* P		Pn	04 23 37.6	+0.2
ISK	Istanbul-Kandi	4.41	73	PN		Pn	04 23 38.8	+1.3
KAVV	Kandilli-Istan	4.41	73	PN		Pn	04 23 38.3	+0.8
TRML	Termal-Yalova	4.42	79	PN		Pn	04 23 38.3	+0.7
NKME	Niksic	4.43	311	*e*Pn		Pn	04 23 39.0	+1.2
NKME				*i* Sn		Sn	04 24 30.2	+0.9
NKY	Niksic	4.43	312	*e*Pn		Pn	04 23 39.0	+1.1
NKY				*i* Sn		Sn	04 24 31.1	+1.6
KLYT	Kilyos	4.45	71	PN		Pn	04 23 39.2	+1.2
GRUS	Gruza	4.46	333	*e*Pn		Pn	04 23 38.5	+0.3
IMMV	Iera Moni Meta	4.48	175	P		Pn	04 23 39.0	+0.5
HCY	Herceg Novi	4.52	305	⇑*i*Pn		Pn	04 23 40.6	+1.6
HCY				*i* Sn		Sn	04 24 33.2	+1.7
HCY	Herceg Novi	4.52	305	*e*Pn		Pn	04 23 41.4	+2.4
DAT	Datca	4.54	133	PN		Pn	04 23 40.5	+1.0
PLE	Pljevlja	4.57	319	⇑*i*Pn		Pn	04 23 41.3	+1.5
PLE				*i* Sn		Sn	04 24 33.3	+0.3
TVSB	Tavsanli	4.65	94	PN		Pn	04 23 41.3	+0.9
KUBS	Kucevo	4.67	344	*e*Pn		Pn	04 23 42.0	+0.8
YER	Yerkesik	4.69	125	PN		Pn	04 23 42.6	+1.1
HUMR	Humele	4.73	13	⇓P		Pn	04 23 43.2	+1.3
SRE	Strehaia	4.74	358	⇑P		Pn	04 23 44.1	+2.1
UPM	Unac-Piva	4.74	315	*e*Pn		Pn	04 23 43.6	+1.4
UPM				*i* Sn		Sn	04 24 38.3	+1.2
UPM	Unac-Piva	4.74	315	*e*Pn		Pn	04 23 43.9	+1.7
BRY	Bratogost	4.75	310	⇓*i*Pn		Pn	04 23 42.8	+0.5
BRY				*i* Sn		Sn	04 24 38.8	+1.4
BRY	Bratogost	4.75	310	*e*Pn		Pn	04 23

MORI					Sn	Sn	04 25 29.9	-2.6
BR231	**Keskin MP Arra**	**7.16**	**88**		Pn	Pn	04 24 15.7	+0.3
ARCR	**ARCALIA**	**7.18**	**5**	⇑P	Pn	Pn	04 24 16.9	+1.3
MORH	**Mrgy, Hungar**	**7.21**	**332**	*e*Pn	Pn	Pn	04 24 16.5	+0.6
DUGI	**Dugi Otok**	**7.47**	**306**	*e*Pn	Pn	Pn	04 24 19.7	+0.2
DUGI					Sn	Sn	04 25 40.0	-4.0
VAE	**Valguarnera**	**7.49**	**254**		Sn	Sn	04 25 47.2	+2.4
	comp=N,1.3nm,0.3s,baz=139,slow=17,SNR=1.4							
MOSL	**Moslavina**	**7.53**	**321**	*e*Pn	Pn	Pn	04 24 21.1	+0.8
INTR	**Introdacqua**	**7.53**	**289**			Pn	04 24 18.7	-1.8
RAFF	**Raffo Rosso**	**7.63**	**252**	Pn	Pn	Pn	04 24 21.7	0.0
BURAR	**Bucovina Array**	**7.79**	**9**	⇑P	Pn	Pn	04 24 26.0	+2.0
BURAR	**Bucovina Array**	**7.79**	**9**	P	Pn	Pn	04 24 25.9	+2.0
BURAR	**Bucovina Array**	**7.79**	**9**		Pn	Pn	04 24 24.9	+0.9
BUR08	**Bucovina Ar. S**	**7.81**	**9**	Pn	Pn	Pn	04 24 24.6	+0.2
BR131	**Keskin Array S**	**7.83**	**88***c*	*i*P	Pn	Pn	04 24 26.0	+1.4
BR131	**Keskin Array S**	**7.83**	**88**	Pn	Pn	Pn	04 24 24.1	-0.5
BRTR	**Keskin Array B**	**7.83**	**88**	Pn	Pn	Pn	04 24 24.5	-0.2
	comp=N,2.0nm,0.3s,baz=260,slow=10,SNR=54							
BRTR					Sn	Sn	04 25 51.1	-2.2
	comp=N,0.1nm,0.3s,baz=277,slow=24,SNR=2.2							
BRTR					Lg	Lg	04 26 38.0	
	baz=271,slow=26,SNR=2.0							
BRTR	**Keskin Array B**	**7.83**	**88**		Pn	Pn	04 24 24.6	0.0
NVLJ	**Novalja**	**7.88**	**309**	*e*Pn	Pn	Pn	04 24 25.2	0.0
ILGA	**Ilgaz**	**7.89**	**79**	Pn	Pn	Pn	04 24 25.2	-0.3
NRCA	**Norcia**	**8.31**	**294**			Pn	04 24 29.6	-1.5
CRES	**Cresnjev**	**8.32**	**318**	*e*Pn	Pn	Pn	04 24 30.0	-1.3
PSZ	**Piszkesteto**	**8.39**	**343**	P	Pn	Pn	04 24 30.6	-1.7
PSZ	**Piszkesteto**	**8.39**	**343**	Pn	Pn	Pn	04 24 30.6	-1.7
CEY	**Cerknica**	**8.82**	**314**	*e*Pn	Pn	Pn	04 24 35.6	-2.5
MURB	**Monte Urbino**	**8.85**	**296**	Pn	Pn	Pn	04 24 37.8	-0.7
SEV	**Sevastopol'**	**8.86**	**55**	*e*P	Pn	Pn	04 24 38.9	+0.4
SEV				*e*S	Sn	Sn	04 26 15.5	-2.8
SEV				pmax	pmax			
	comp=Z,3.0nm,0.3s							
SEV				smax	smax			
	comp=N,4.0nm,0.4s							
SEV				smax	smax			
	comp=E,1.0nm,0.2s							
SORM	**Soroca**	**8.92**	**22**	⇑P	Pn	Pn	04 24 41.0	+1.6
SOKA	**Soboth**	**9.12**	**320**	*i* P	Pn	Pn	04 24 44.5	+2.2
	comp=E,2.3nm,0.5s							
VYHS	**Vyhne**	**9.18**	**340**	*e*P	Pn	Pn	04 24 46.0	+3.0
VYHS	**Vyhne**	**9.18**	**340**	*e*PN	Pn	Pn	04 24 46.0	+3.0
OBKA	**Obir**	**9.25**	**318**	*i* P	Pn	Pn	04 24 48.2	+4.1
	comp=E,3.4nm,0.7s							
ARSA	**Arzberg**	**9.31**	**324**	*i* P	Pn	Pn	04 24 46.4	+1.6
	comp=E,2.8nm,0.4s							
SUDU	**Sudak**	**9.86**	**56**	*e*P	Pn	Pn	04 24 52.1	-0.2
SUDU				*e*S	Sn	Sn	04 26 38.9	-4.0
SUDU				pmax	pmax			
	comp=Z,6.0nm,0.5s							
SUDU				smax	smax			
	comp=N,14nm,0.9s							
TOKA	**Tokat**	**9.97**	**84**	Pn	Pn	Pn	04 24 53.2	-0.7
KBA	**Koelnbreinsper**	**10.25**	**318**	*e*P	Pn	Pn	04 25 01.4	+3.6
	comp=N,2.8nm,0.7s							
ABTA	**Abfaltersbach**	**10.49**	**314**	*i* P	Pn	Pn	04 25 02.0	+1.0
GERES	**GERESS Array B**	**11.32**	**325**	Pn	Pn	Pn	04 25 13.8	+1.5
	comp=N,1nm,0.3s,baz=147,slow=15,SNR=2.9							
GERES	**GERESS Array B**	**11.32**	**325**	Pn	Pn	Pn	04 25 10.6	-1.7
AKASG	**Malin Array Be**	**11.50**	**19**	Pn	Pn	Pn	04 25 13.5	-1.2
	comp=N,0.9nm,0.3s,baz=217,slow=30,SNR=4.4							
AKASG					Lg	Lg	04 28 31.3	
	baz=186,slow=28,SNR=1.6							
DPC	**Dobruska-Polom**	**11.57**	**337**		AMS	AMS	04 30 50.0	
	comp=N,400nm,8.9s							
KHC	**Kasperske Hory**	**11.59**	**326**	*e*P	Pn		04 25 21.5	+5.6
KHC					MLR	MLR		
	comp=Z,300nm,7.8s							
KHC	**Kasperske Hory**	**11.59**	**326**	*e*P	Pn		04 25 21.5	+5.6
KHC					AMS	AMS	04 31 30.0	
	comp=Z,300nm,7.8s							
UPC	**Upice**	**11.80**	**336**		AMS	AMS	04 30 50.0	
	comp=Z,300nm,11.1s							
MMAI	**Mount Meron Ar**	**11.82**	**122**	Pn	Pn	Pn	04 25 19.2	-0.1
	comp=Z,1.0nm,0.3s,baz=296,slow=14,SNR=4.5							
PRU	**Pruhonice**	**11.87**	**331**		AMS	AMS	04 30 50.0	
	comp=Z,300nm,9.8s							
NKC	**Novy Kostel**	**12.90**	**327**		AMS	AMS	04 30 50.0	
	comp=Z,400nm,8.5s							
KOPT	**Kop Dagi**	**13.07**	**84**			Pn	04 25 36.3	-0.1
MARD	**Mardin**	**13.79**	**95**	Pn	Pn	Pn	04 25 45.9	-0.2
KIV	**Kislovodsk**	**14.85**	**68**	*e*P		Pn	04 26 02.5	+1.9
KIV				pmax	pmax			
	comp=Z,20nm,1.1s							
KIV	**Kislovodsk**	**14.85**	**68**	Pn	Pn	Pn	04 26 00.9	+0.2
KBZ	**Khabaz**	**14.97**	**69**	Pn	Pn	Pn	04 26 03.2	+1.1
	comp=Z,0.1nm,0.3s,baz=252,slow=7.5,SNR=2.6							
KBZ	**Khabaz**	**14.97**	**69**‖	*e*P	Pn	Pn	04 26 02.8	+0.7
AKH	**Akhalkalaki**	**15.27**	**78**	P	Pn	Pn	04 26 06.8	+0.5
AKH				pmax	pmax			
	comp=Z,13nm,1.4s							
AKH	**Akhalkalaki**	**15.27**	**78**	Pn	Pn	Pn	04 26 06.8	+0.5
AKH				IAmb	IAmb		04 26 14.6	
	comp=Z,13nm,1.4s							
GOF	**Gofitskoye**	**15.31**	**64**⇑	*e*P		P	04 26 14.0	+2.6
GOF				pmax	pmax			
	comp=Z,22nm,0.6s							
ZEI	**Tsey**	**15.60**	**73**	*e*P		P	04 26 16.5	+1.6
ZEI				pmax	pmax			
	comp=Z,6.0nm,0.4s							
TBLG	**Delisi**	**16.20**	**77**	P	Pn	Pn	04 26 16.8	-1.4
TBLG				pmax	pmax			
	comp=Z,7.0nm,0.8s							
TBLG	**Delisi**	**16.20**	**77**	Pn		Pn	04 26 16.8	-1.4
BTLR	**Botlikh**	**17.31**	**74**⇑	*e*P		Pn	04 26 32.8	+0.6
MOS	**Moscow**	**18.39**	**26**	*e*P		Pn	04 26 43.5	-1.9
VSU	**Vasula**	**18.67**	**5**‖	*e*P		Pn	04 26 49.3	+0.6
ESBB	**Sonseca Array**	**21.05**	**278**	P		P	04 27 11.8	-2.9
ESBB				IAmb	IAmb		04 27 19.5	
	comp=Z,23nm,1.9s							
ESDC	**Sonseca Array**	**21.05**	**278**	P		P	04 27 14.9	+0.3
	comp=Z,0.4nm,0.6s,baz=75,slow=11,SNR=2.5							
ESDC	**Sonseca Array**	**21.05**	**278**	P		P	04 27 12.8	-1.8
FINES	**FINESS Array B**	**21.60**	**3**	Pn		P	04 27 19.5	-0.8
	comp=Z,2.4nm,0.6s,baz=178,slow=9.7,SNR=1.4							
NB2	**NORSAR Subarra**	**22.45**	**344**	P		P	04 27 29.3	-0.2
	comp=Z,15nm,1.4s,baz=158,slow=11							
NOA	**NORSAR Array B**	**22.45**	**344**	P		P	04 27 29.3	-0.2
	comp=Z,0.5nm,0.8s,baz=156,slow=9.7,SNR=4.8							
TAM	**Tamanrasset**	**22.88**	**227**	P		P	04 27 32.5	-1.9
TAM				pmax	pmax			
	comp=Z,8.0nm,1.4s							
TAM	**Tamanrasset**	**22.88**	**227**	P		P	04 27 32.5	-1.9
KLMR	**Klimovskoe**	**23.19**	**20**	*e*P		P	04 27 34.5	-2.5
KLMR				pmax	pmax			
	comp=Z,20nm,1.5s							
KLMR	**Klimovskoe**	**23.19**	**20**	*e*P		P	04 27 34.6	-2.5
KLMR				AMP			04 27 39.7	
	comp=Z,20nm,1.5s							
KIRV	**Kirov**	**24.94**	**33**	*e*P		P	04 27 53.3	-0.3
PRGR	**Permogore**	**25.61**	**25**	*e*P		P	04 27 58.7	-0.9
AKTO	**Aktyubinsk**	**26.30**	**55**	P		P	04 28 06.0	0.0
	comp=Z,2.9nm,0.8s,baz=238,slow=10,SNR=7.1							
GEYT	**Ailbeck**	**26.93**	**83**	P		P	04 28 12.3	+0.4
	comp=Z,7.9nm,1.0s,baz=287,slow=12,SNR=9.2							
ABKAR	**Akbulak array**	**27.36**	**58**	P		P	04 28 16.1	+0.4
ARU	**Arti**	**28.22**	**42**	P		P	04 28 23.6	+0.3
ARU				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ARU	**Arti**	**28.22**	**42**	P		P	04 28 23.6	+0.3
ARU				IAmb	IAmb		04 28 31.0	
	comp=Z,4.2nm,0.9s							
HRA	**Herat**	**31.22**	**88**	P		P	04 28 50.9	+0.6
TORD	**Torodi Ar. Bea**	**32.85**	**222**	P		P	04 29 04.2	-0.3
	comp=Z,0.4nm,0.4s,baz=30,slow=8.8,SNR=14							
WSAR	**Wadi Sarin**	**34.00**	**109**	P		P	04 29 14.9	+0.4
	comp=Z,5.4nm,0.8s,baz=282,slow=5.7,SNR=4.2							
BRVK	**Borovoye**	**34.17**	**52**‖	*e*P		P	04 29 17.5	+1.8
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BRVK	**Borovoye**	**34.17**	**52**	P		P	04 29 15.6	0.0
KK31	**Karatay Array**	**35.01**	**69**	P		P	04 29 23.4	+0.4
KK31				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KK31	**Karatay Array**	**35.01**	**69**	P		P	04 29 23.4	+0.4
KK31				IAmb	IAmb		04 29 26.4	
	comp=Z,3.0nm,0.9s							
KKAR	**Karatay Array**	**35.01**	**69**	P		P	04 29 23.7	+0.6
KKAR	**Karatay Array**	**35.01**	**69**	P		P	04 29 23.7	+0.6
CHGR	**Chuyangaron**	**35.09**	**77**	P		P	04 29 25.1	+1.2
GAR	**Garm**	**35.86**	**76**	P		P	04 29 31.0	+0.5
BTK	**Batken**	**35.94**	**74**	P		P	04 29 31.2	0.0
BTK				pmax	pmax			
	comp=Z,10.0nm,1.3s							
BTK	**Batken**	**35.94**	**74**	P		P	04 29 31.2	0.0
KBL	**Kabul**	**36.38**	**84**	P		P	04 29 34.9	-0.2
KBL				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KBL	**Kabul**	**36.38**	**84**	P		P	04 29 34.9	-0.2
KBL				IAmb	IAmb		04 29 37.5	
	comp=Z,2.8nm,0.8s							
CMLA	**Cha da Macela**	**37.84**	**283**	P		P	04 29 48.7	+1.4
CMLA	**Cha da Macela**	**37.84**	**283**	P		P	04 29 48.7	+1.4
AAK	**Ala-Archa**	**37.97**	**69**	P		P	04 29 50.2	+1.7
AAK				pmax	pmax			
	comp=Z,15nm,1.8s							
AAK	**Ala-Archa**	**37.97**	**69**	P		P	04 29 50.2	+1.7
AAK				IAmb	IAmb		04 29 51.9	
	comp=Z,15nm,1.8s							
KURBB	**Kurchatov Arra**	**39.35**	**55**	P		P	04 29 59.9	+0.1
	comp=Z,0.6nm,0.3s,baz=280,slow=9.2,SNR=12							
KBS	**Kingsbay**	**39.38**	**357**‖	*e*P		P	04 29 57.6	-2.1
KBS				pmax	pmax			
	comp=Z,28nm,1.5s							
KURK	**Kurchatov**	**39.39**	**55**	P		P	04 30 00.9	+0.8
KURK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
KURK	**Kurchatov**	**39.39**	**55**	P		P	04 30 00.9	+0.8
KURK				IAmb	IAmb		04 30 02.3	
	comp=Z,5.5nm,1.2s							
NIL	**Nilore**	**39.94**	**83**	P		P	04 30 06.2	+1.3
NIL				pmax	pmax			
	comp=Z,21nm,1.6s							
NIL	**Nilore**	**39.94**	**83**	P		P	04 30 06.2	+1.3
KDJ	**Kajisay**	**40.02**	**69**	P		P	04 30 06.6	+0.9
KDJ				pmax	pmax			
	comp=Z,4.0nm,1.2s							
KDJ	**Kajisay**	**40.02**	**69**	P		P	04 30 06.6	+0.9
TARG	**Taragay, Kyrgy**	**40.58**	**69**	P		P	04 30 11.5	+0.9
TARG				IAmb	IAmb		04 30 13.6	
	comp=Z,6.7nm,1.3s							
MBAR	**Mbarara**	**40.88**	**169**⇑	*e*P		P	04 30 13.2	+0.2
MBAR				pmax	pmax			
	comp=Z,2.0nm,1.1s							
DBIC	**Dimbokro**	**41.74**	**225**	P		P	04 30 19.5	-0.4
DBIC	**Dimbokro**	**41.74**	**225**	P		P	04 30 19.4	-0.4
MK31	**Makanchi Array**	**42.44**	**61**	P		P	04 30 26.5	+1.2
MK31				pmax	pmax			
	comp=Z,2.0nm,1.0s							
MK31	**Makanchi Array**	**42.44**	**61**	P		P	04 30 26.5	+1.2
MKAR	**Makanchi Array**	**42.44**	**61**	P		P	04 30 25.3	-0.1
	comp=Z,0.9nm,0.5s,baz=280,slow=7.1,SNR=8.4							
MKAR	**Makanchi Array**	**42.44**	**61**	*i* P		P	04 30 26.2	+0.9
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**42.44**	**61**	P		P	04 30 26.4	+1.0
ZALV	**Zalesovo Beam**	**42.81**	**50**	P		P	04 30 29.1	+0.9
	comp=Z,7.7nm,0.9s,baz=285,slow=12,SNR=7.4							
NRIK	**Noril'sk**	**44.20**	**27**	*e*P		P	04 30 38.2	-1.0
NRIK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
DGZ	**Jazzator, Alta**	**45.14**	**55**⇑	*i*P		P	04 30 48.8	+1.6
DGZ				pmax	pmax			
	comp=Z,2.0nm,0.9s							
WMQ	**Urumqi**	**46.91**	**63**	*e*P		P	04 31 02.4	+1.3
TLY	**Talaya**	**54.41**	**49**‖	*e*P		P	04 32 00.2	+2.7
TLY				pmax	pmax			
	comp=Z,6.0nm,1.5s							
GTA	**Gaotai**	**56.98**	**64**	*e*P		P	04 32 17.4	+1.1
GTA				pP	sP		04 32 22.5	+1.0
GTA				sP	pP		04 32 25.6	+5.5
GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
SONM	**Songino Array**	**57.57**	**52**	P		P	04 32 20.5	+0.1
	comp=Z,1.0nm,0.5s,baz=296,slow=4.6,SNR=2.4							
SONM	**Songino Array**	**57.57**	**52**	IAmb	IAmb		04 32 22.4	
	comp=Z,1.4nm,0.8s							
ULN	**Ulaanbaatar**	**57.96**	**52**⇑	*i*P		P	04 32 23.4	+0.3
ULN				pmax	pmax			
	comp=Z,2.0nm,1.1s							
XAN	**Xi'an**	**65.99**	**65**	P		P	04 33 17.9	+0.7
XAN				pP	sP		04 33 32.3	+10
XAN				pmax	pmax			
	comp=Z,8.0nm,1.3s							
XAN	**Xi'an**	**65.99**	**65**	P		P	04 33 18.2	+1.0
XAN				pmax	pmax			
	comp=Z,21nm,1.7s							
XAN	**Xi'an**	**65.99**	**65**	P		P	04 33 18.2	+1.0
CMAR	**Chiang Mai Arr**	**67.40**	**84**	P		P	04 33 26.5	+0.2
	comp=Z,0.7nm,0.3s,baz=308,slow=7.6,SNR=5.9							
KLR	**Kul'dur**	**71.06**	**41**⇑	*i*P		P	04 33 48.2	-0.3
KLR				pmax	pmax			
	comp=Z,2.0nm,1.1s							
YKA	**Yellowknife Ar**	**72.51**	**341**	P		P	04 33 57.6	+0.6
	comp=Z,0.7nm,0.8s,baz=38,slow=6.3,SNR=1.4							
YNE	**Yellowstone No**	**85.68**	**329**	P		P	04 35 10.5	+0.8

IDC 22 04:24:10.2±5.8, 7.90S×157.11E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.7/36, mbtmp4.2/4, ML4.2/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/25, Error ellipse: s-maj=122.1km s-min=27.2km az=9.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.19**	**119**	Pn	Pn	04 25 02.1	+0.4
	26nm,0.3s,baz=342,slow=3.0,SNR=1.8						
HNR				Sn	Sn	04 25 41.1	+0.7
	25nm,0.3s,baz=103,slow=5.5,SNR=1.9						
WRA	**Warramunga Arr**	**25.09**	**239**	P	P	04 29 37.6	+0.7
	4.1nm,0.8s,baz=65,slow=9.5,SNR=16						
ASAR	**Alice Springs**	**27.21**	**232**	P	P	04 29 55.2	-0.9
	1.2nm,0.9s,baz=62,slow=9.5,SNR=8.7						
STKA	**Stephens Creek**	**27.89**	**209**	P	P	04 30 01.9	0.0
	2.8nm,0.7s,baz=23,slow=14,SNR=5.0						
KAPI	**Kappang**	**37.23**	**272**	LR	LR	04 49 28.4	
	comp=Z,41nm,20.0s,baz=108,slow=41						
TGY	**Tagaytay City**	**42.03**	**301**	LR	LR	04 48 24.4	
	comp=Z,56nm,21.4s,baz=12,slow=35						

SNET 22 04:26:29.3±1.5, 12.40N×87.89W, h4km±25km, ML3.4
INET 22 04:26:30.9, 12.48N×87.59W, h73km, ML3.4
UCR 22 04:26:30.2±1.2, 12.38N×87.78W, h33km±9km, ML3.5
ISC 22 04:26:29.8±1.5, 12.38N±0.06×87.80W±0.05, h29km±17km, n23, σ0.963/36, 3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.80**	**66**‖	*i*P	Pn	04 26 45.0	-0.2
CRIN				*e*S	Sb	04 26 56.6	+1.0
CNCH	**Conchagua**	**0.89**	**358**	*e*P	Pn	04 26 46.5	0.0
CNCH				*e*S	Sb	04 26 59.5	+1.2
CNCH				IAML		04 27 02.4	
	comp=Z,3μm,0.2s						
CNCH	**Conchagua**	**0.89**	**358**	*e*P	Pn	04 26 46.5	0.0
CNCH				*e*S	Sb	04 26 59.5	+1.2
CNCH				IAML		04 27 02.4	
	comp=Z,3μm,0.2s						
LCND	**La Caada**	**0.93**	**355**	*e*P	Pn	04 26 46.8	-0.1
LCND				*e*S	Sb	04 27 00.1	+0.8
LCND				IAML		04 27 02.7	
	comp=Z,1μm,0.3s						
LCND	**La Caada**	**0.93**	**355**	*e*P	Pn	04 26 46.8	-0.1
LCND				*e*S	Sb	04 27 00.1	+0.8
LCND				*e*S	Sb	04 27 00.1	+0.8
LCND				IAML		04 27 02.7	
	comp=Z,1μm,0.3s						
CNGN	**Cerro Negro**	**1.08**	**84**	*e*P	Pn	04 26 48.0	-1.1
BLLM	**Bellamira**	**1.14**	**338**	*e*P	Pn	04 26 49.7	-0.1
BLLM	**Bellamira**	**1.14**	**338**	*e*P	Pn	04 26 49.7	-0.1
ALJI	**Alcalda de J**	**1.20**	**321**	*e*P	Pn	04 26 51.0	+0.3
ALJI				*e*S	Sb	04 27 07.4	+0.2
ALJI				IAML		04 27 08.1	
	comp=Z,382nm,0.2s						
ALJI	**Alcalda de J**	**1.20**	**321**	*e*P	Pn	04 26 51.0	+0.3
ALJI				*e*S	Sb	04 27 07.4	+0.2
ALJI				IAML		04 27 08.1	
	comp=Z,382nm,0.2s						
COEB	**Comit de Eme**	**1.32**	**327**	*e*P	Pn	04 26 52.5	+0.1
COEB				*e*S	Sb	04 27 10.0	-0.6
COEB	**Comit de Eme**	**1.32**	**327**	*e*P	Pn	04 26 52.5	+0.1
COEB				*e*S	Sb	04 27 10.0	-0.6
FAGO	**Alcalda de S**	**1.34**	**347**‖	*i*P	Pn	04 26 52.3	-0.3
FAGO				*e*S	Sb	04 27 11.6	+0.6
LFRS	**El Faro**	**1.74**	**315**	*e*P	Pb	04 27 00.1	-1.0
HZTE	**Horizontes, Gu**	**2.72**	**127**	*e*P	Pn	04 27 12.3	+0.7
HZTE				*e*S	Sn	04 27 43.8	+0.2
BUEV	**Buena Vista**	**2.82**	**124**	*e*P	Pn	04 27 12.4	-0.7
BUEV				*e*S	Sn	04 27 46.0	-0.2
CUI	**Cuipilapa**	**3.10**	**123**	*e*S	Sn	04 27 53.5	+0.5
IXG	**Ixpaco**	**3.13**	**305**	*e*P	Pn	04 27 18.0	+0.6
IXG	**Ixpaco**	**3.13**	**305**	*e*P	Pn	04 27 18.0	+0.6
GRZA	**Playa Garza**	**3.24**	**139**	*e*P	Pn	04 27 18.8	+0.1
JTS	**Las Juntas de**	**3.48**	**126**	*e*P	Pn	04 27 22.9	+0.9
LAFE	**Finca La Fe, P**	**3.82**	**132**	*e*P	Pn	04 27 26.4	-0.3

TIR 22 04:27:48.8, 40.07N×23.76E, h16km, Md4.9/7
SKO 22 04:27:50.0, 39.67N×23.89E, h0km
IDC 22 04:27:52.1±0.4, 39.87N×23.44E, h0km, mb4.6/36, mb1 4.7/48, mb1mx4.6/59, mbtmp4.6/48, ML4.4/11, MS4.5/39, Ms1 4.5/39, ms1mx4.4/53, Error ellipse: s-maj=8.1km s-min=7.6km az=104.0
PDG 22 04:27:53.0±0.5, 39.88N×23.46E, h11km, MD6.0/2, ML4.4/11, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0
BJI 22 04:27:53.0±0.0, 39.90N×23.50E, h10km, mB5.2/46, mb5.0/61, Ms5.0/53, Ms7 4.7/47
ATH 22 04:27:53.1, 39.92N×23.46E, h29km, ML5.0/27, Error ellipse: s-maj=0.9km s-min=0.6km az=296.0
MOS 22 04:27:53.2±1.0, 39.94N×23.50E, h13km, mb5.2/51, MS4.5/50, Error ellipse: s-maj=4.2km s-min=2.8km az=81.7
THE 22 04:27:54.0, 39.94N×23.43E, h14km, ML5.0/14, Error ellipse: s-maj=0.4km s-min=0.2km az=274.0
NEIC 22 04:27:54.4±2.2, 39.92N±0.01×23.44E±0.05, h10km±1km, Error ellipse: s-maj=6.5km s-min=2.8km az=281.0
NEIC 22 04:27:54.8, 39.90N×23.45E, h4km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=5.38; Mθθ=5.43; Mϕϕ=0.05; Mrθ=1.16; Mrϕ=-1.53; Mθϕ=4.09; Fault plane solution: M0 7.05000×10^16 NP1:ϕs257.90000°, δ52.78000°, λ-128.79000°. NP2:ϕs130.93000°, δ51.64000°, λ-50.49000°. Principal axes: T 5.8319, Plg1.0000°, Azm14.0000°; N 1.9975, Plg30.0000°, Azm284.0000°; P -7.8295, Plg60.0000°, Azm105.0000°;
DDA 22 04:27:54.1, 40.02N×23.72E, h14km±1km, MW4.9
ISK 22 04:27:54.4, 39.96N×23.41E, h40km, ML5.2/52
BEO 22 04:27:55.3±1.4, 39.96N×23.51E, h13km±7km, ML4.7/2
BGR 22 04:27:55.1±0.8, 39.49N×23.32E, h10km, Error ellipse: s-maj=56.7km s-min=18.9km az=54.0
MED_RC 22 04:27:55.8±0.2, 39.89N×23.43E, h10km, MW5.3/18, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s18,c48; Duration: 0 Moment tensor: Scale 10^17 Nm; Mrr=0.67±.02; Mθθ=0.93±.02; Mϕϕ=0.25±.02; Mrθ=0.26±.06; Mrϕ=-0.42±.02; Mθϕ=0.42±.05; Best double couple: M0 1.04000×10^17 NP1:ϕs259.00000°, δ41.00000°, λ-137.00000°. NP2:ϕs133.00000°, δ63.00000°, λ-57.00000°. Principal axes: T 1.1500, Plg12.0000°, Azm200.0000°; N -0.2100, Plg29.0000°, Azm297.0000°; P -0.9300, Plg58.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.
GII 22 04:27:56.2±0.0, 39.92N×23.46E, h29km
SOF 22 04:27:56.4, 40.10N×23.67E, h17km, MD5.0
PRU 22 04:27:57.8±0.0, 40.16N×23.01E, h0km, Ms5.2
GCMT 22 04:27:57.0±0.1, 39.85N±0.01×23.49E±0.01, h12km, MW5.2/134, Moment Tensor Solution. s67,c99; s134,c253; Duration: 0 Moment tensor: Scale 10^17 Nm; Mrr=0.52±.01; Mθθ=0.75±.01; Mϕϕ=0.23±.01; Mrθ=0.07±.03; Mrϕ=-0.32±.01; Mθϕ=0.13±.03; Best double couple: M0 0.71900×10^17 NP1:ϕs132.00000°, δ50.00000°, λ-52.00000°. NP2:ϕs261.00000°, δ53.00000°, λ-127.00000°. Principal axes: T 0.8410, Plg1.0000°, Azm16.0000°; N -0.2430, Plg28.0000°, Azm285.0000°; P -0.5980, Plg61.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
NEIC 22 04:27:59, 39.81N×23.44E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=4.32; Mθθ=6.76; Mϕϕ=2.44; Mrθ=-1.32; Mrϕ=-2.96; Mθϕ=3.99; Fault plane solution: M0 7.85000×10^16 NP1:ϕs253.00000°, δ46.00000°, λ-146.00000°. NP2:ϕs139.00000°, δ66.00000°, λ-48.00000°. Principal axes: T 8.1325, Plg12.0000°, Azm200.0000°; N -0.6017, Plg37.0000°, Azm299.0000°; P -7.5309, Plg50.0000°, Azm95.0000°;
ISC 22 04:27:54.4±0.5, 39.93N±0.01×23.47E±0.01, h11km±3km, n1586, σ1.964/1448, mb5.1/217, MS4.8/334, 71C-29D, Aegean Sea

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

AOS	**Alonnisos**	**0.82**	**157**	P	**Pg**	**04 28 09.8**	**-0.4**
AOS				S	**Sg**	**04 28 20.1**	**-0.8**
AOS				AML	AML	04 28 24.4	
AOS				AML	AML	04 28 24.8	
AOS	**Alonnisos**	**0.82**	**157**	PG	**Pb**	**04 28 10.8**	**+0.2**
AOS				SG	**Sb**	**04 28 22.3**	**+0.6**
ALNA	**Alonissos**	**0.84**	**158**	P	**Pg**	**04 28 10.0**	**-0.5**
ALNA				S	**Sg**	**04 28 21.1**	**-0.3**
ALNA				AML	AML	04 28 25.7	
ALNA				AML	AML	04 28 26.4	
LRSO	**Larissa Observ**	**0.87**	**253**	P	**Pg**	**04 28 10.6**	**-0.5**
LRSO	**Larissa Observ**	**0.87**	**253**	P	**Pg**	**04 28 10.4**	**-0.7**
LRSO				S	**Sg**	**04 28 22.5**	**0.0**
LRSO				AML	AML	04 28 35.3	
LRSO				AML	AML	04 28 36.6	
SOH	**Sokhos**	**0.90**	**354**	P	**Pg**	**04 28 10.4**	**-1.3**
SOH				S	**Sg**	**04 28 23.4**	**0.0**
	comp=N,63µm,0.7s						
SOH	**Sokhos**	**0.90**	**354**	P	**Pg**	**04 28 10.3**	**-1.3**
SOH				AML	AML	04 28 27.6	
SOH				AML	AML	04 28 30.1	
	comp=N,90594µm,0.4s						
SOH	**Sokhos**	**0.90**	**354**	P	**Pg**	**04 28 10.3**	**-1.4**
THAS	**Thassos island**	**1.17**	**54**	P	**Pb**	**04 28 15.6**	**-1.0**
THAS				S	**Sg**	**04 28 32.2**	**+0.1**
	comp=N,86µm,1.2s						
THAS	**Thassos island**	**1.17**	**54**	P	**Pb**	**04 28 15.4**	**-1.2**
THAS				AML	AML	04 28 36.1	
THAS				AML	AML	04 28 37.3	
THL	**Klokotos Trika**	**1.18**	**253**	P	**Pb**	**04 28 14.8**	**-1.9**
THL	**Klokotos Trika**	**1.18**	**253**	P	**Pb**	**04 28 14.8**	**-1.9**
THL				AML	AML	04 28 45.8	
	comp=E,41488µm,0.7s						
THL				AML	AML	04 28 49.4	
	comp=N,50235µm,1.4s						
SRS	**Serrai**	**1.19**	**4**	P	**Pb**	**04 28 15.2**	**-1.8**
SRS				S	**Sb**	**04 28 31.9**	**-0.5**
SRS	**Serrai**	**1.19**	**4**	*e*Pg	**Pb**	**04 28 15.6**	**-1.4**
SRS				*e*Sg	**Sn**	**04 28 33.2**	**0.0**
SRS	**Serrai**	**1.19**	**4**	P	**Pb**	**04 28 15.3**	**-1.6**
SRS				AML	AML	04 28 42.6	
	comp=E,43587µm,1.6s						
SRS				AML	AML	04 28 43.4	
	comp=N,37082µm,0.6s						
KVLA	**Kavala**	**1.23**	**34**	P	**Pn**	**04 28 16.4**	**-1.0**
KVLA				S	**Sb**	**04 28 32.6**	**-0.8**
KVLA				AML	AML	04 28 37.4	
	comp=N,78799µm,0.4s						
KVLA				AML	AML	04 28 38.8	
	comp=E,94284µm,1.1s						
EFSA	**Agios Efstrati**	**1.23**	**108**	P	**Pn**	**04 28 16.9**	**-0.6**
EFSA				S	**Sg**	**04 28 33.9**	**-0.1**
AGG	**Agios Georgios**	**1.26**	**225**	P	**Pn**	**04 28 16.0**	**-1.9**
AGG				S	**Sb**	**04 28 34.1**	**-0.4**
	comp=E,98µm,1.3s						
AGG	**Agios Georgios**	**1.26**	**225**	P	**Pn**	**04 28 16.0**	**-1.9**
AGG	**Agios Georgios**	**1.26**	**225**	PN	**Pn**	**04 28 16.2**	**-1.8**
AGG	**Agios Georgios**	**1.26**	**225**	P	**Pn**	**04 28 16.1**	**-1.9**
AGG	**Agios Georgios**	**1.26**	**225**	Pn	**Pn**	**04 28 16.1**	**-1.8**
LIA	**Limnos Island**	**1.32**	**91**	P	**Pn**	**04 28 17.6**	**-1.1**
LIA				S	**Sn**	**04 28 36.2**	**0.0**
	comp=E,87µm,0.6s						
LIA	**Limnos Island**	**1.32**	**91**	P	**Pn**	**04 28 17.5**	**-1.1**
LIA				S	**Sb**	**04 28 35.4**	**-0.5**
LIA				AML	AML	04 28 40.3	
LIA				AML	AML	04 28 45.0	
AXAR	**Agios Charalam**	**1.32**	**209**	P	**Pn**	**04 28 16.9**	**-1.8**
AXAR	**Agios Charalam**	**1.32**	**209**	P	**Pn**	**04 28 17.1**	**-1.6**
LKR	**Lokris**	**1.33**	**196**	P	**Pn**	**04 28 16.8**	**-2.0**
LKR	**Lokris**	**1.33**	**196**	P	**Pn**	**04 28 16.6**	**-2.2**
LKR				AML	AML	04 28 51.2	
	comp=N,39358µm,0.6s						
LKR				AML	AML	04 28 56.1	
	comp=E,51265µm,1.1s						
KAVA	**Kavala**	**1.33**	**36**	P	**Pn**	**04 28 17.8**	**-1.1**
KAVA				S	**Sb**	**04 28 35.9**	**-0.5**
	comp=E,36µm,1.2s						
KAVA	**Kavala**	**1.33**	**36**	P	**Pn**	**04 28 17.6**	**-1.3**
KAVA				S	**Sb**	**04 28 35.4**	**-1.0**
KAVA				AML	AML	04 28 40.9	
	comp=E,79058µm,0.9s						
KAVA				AML	AML	04 28 41.6	
	comp=N,51774µm,0.6s						
SKY	**Skiros Island**	**1.34**	**141**	P	**Pn**	**04 28 17.9**	**-1.1**
SKY	**Skiros Island**	**1.34**	**141**	P	**Pn**	**04 28 18.1**	**-0.9**
SKY				S	**Sb**	**04 28 36.1**	**-0.6**
SKY				AML	AML	04 28 42.9	
SKY				AML	AML	04 28 51.0	
KZN	**Kozani**	**1.36**	**287**	P	**Pn**	**04 28 17.8**	**-1.5**
KZN	**Kozani**	**1.36**	**287**	P	**Pn**	**04 28 17.9**	**-1.5**
KZN				AML	AML	04 28 51.5	
	comp=E,33368µm,0.6s						
KZN				AML	AML	04 28 59.4	
	comp=N,27873µm,0.9s						
KZN	**Kozani**	**1.36**	**287**	P	**Pn**	**04 28 17.8**	**-1.5**
KYMI	**Kymi, Euboea I**	**1.38**	**159**	P	**Pn**	**04 28 18.1**	**-1.5**
KYMI	**Kymi, Euboea I**	**1.38**	**159**	P	**Pn**	**04 28 18.4**	**-1.2**
KYMI				S	**Sn**	**04 28 36.9**	**-0.9**
KYMI				AML	AML	04 28 50.1	
KYMI				AML	AML	04 28 57.9	
	comp=E,74605µm,1.6s						
MAKR	**Makrakomi, Fth**	**1.38**	**229**	P	**Pn**	**04 28 18.1**	**-1.5**
MAKR	**Makrakomi, Fth**	**1.38**	**229**	P	**Pn**	**04 28 18.5**	**-1.1**
MAKR				AML	AML	04 28 57.9	
MAKR				AML	AML	04 28 59.8	
NVR	**Nevrokopi**	**1.45**	**12**	P	**Pn**	**04 28 19.6**	**-1.0**
NVR				S	**Sn**	**04 28 38.6**	**-1.0**
	comp=E,19µm,0.8s						
NVR	**Nevrokopi**	**1.45**	**12**	P	**Pn**	**04 28 20.0**	**-0.6**
VAY	**Valandovo**	**1.55**	**334**	*e*Pg	**Pn**	**04 28 22.2**	**+0.3**
VAY				*e*Sg	**Sg**	**04 28 43.7**	**-0.6**
VAY	**Valandovo**	**1.55**	**334**	⇑*i*Pn	**Pn**	**04 28 21.4**	**-0.5**
VAY				*i* Sn	**Sg**	**04 28 45.3**	**+1.0**
VAY				*e*Lg	Lg	04 28 51.1	
	comp=E,11µm,0.8s						
VAY	**Valandovo**	**1.55**	**334**	⇑*i*Pn	**Pn**	**04 28 21.4**	**-0.5**
VAY				*i* Sn	**Sg**	**04 28 45.3**	**+1.0**
VAY				*e*Lg	Lg	04 28 51.1	
	comp=E,11µm,0.8s						
KPRO	**Kipourio**	**1.62**	**272**	P	**Pn**	**04 28 21.7**	**-1.2**
KPRO	**Kipourio**	**1.62**	**272**	P	**Pn**	**04 28 22.2**	**-0.8**
DLFA	**Delphi**	**1.63**	**208**	P	**Pn**	**04 28 21.3**	**-1.8**
EVR	**Evrytania**	**1.64**	**232**	P	**Pn**	**04 28 21.7**	**-1.5**
EVR	**Evrytania**	**1.64**	**232**	P	**Pn**	**04 28 21.7**	**-1.5**
SMTH	**Samothraki Isl**	**1.67**	**70**	P	**Pn**	**04 28 22.1**	**-1.4**
SMTH				S	**Sn**	**04 28 45.3**	**+0.4**
	comp=E,14µm,1.2s						
SMTH	**Samothraki Isl**	**1.67**	**70**	P	**Pn**	**04 28 22.1**	**-1.4**
SMTH				S	**Sn**	**04 28 43.9**	**-1.1**
SMTH				AML	AML	04 28 51.0	
	comp=E,31320µm,0.6s						
SMTH				AML	AML	04 28 56.6	
	comp=N,23092µm,1.0s						
MMB	**Musomiste**	**1.67**	**7**	*i* P	**Pn**	**04 28 23.2**	**-0.4**
DSF	**Desfina**	**1.68**	**206**	P	**Pn**	**04 28 21.7**	**-2.1**
DSF	**Desfina**	**1.68**	**206**	P	**Pn**	**04 28 21.5**	**-2.3**
VIL2	**Platees**	**1.72**	**185**	P	**Pn**	**04 28 23.3**	**-1.0**
VILL	**Villia**	**1.77**	**184**	P	**Pn**	**04 28 23.3**	**-1.6**
ANX	**Ano Chora**	**1.80**	**223**	P	**Pn**	**04 28 24.1**	**-1.3**
ANX	**Ano Chora**	**1.80**	**223**	P	**Pn**	**04 28 24.0**	**-1.3**
PENT	**Pentalofos**	**1.81**	**279**	P	**Pn**	**04 28 24.5**	**-1.1**
PENT	**Pentalofos**	**1.81**	**279**	P	**Pn**	**04 28 24.7**	**-0.8**
SERG	**Sergoula**	**1.87**	**216**	P	**Pn**	**04 28 24.7**	**-1.6**
DION	**Dionisos Attik**	**1.88**	**169**	P	**Pn**	**04 28 25.2**	**-1.3**
DION	**Dionisos Attik**	**1.88**	**169**	P	**Pn**	**04 28 25.8**	**-0.6**
DION				AML	AML	04 29 07.2	
DION				AML	AML	04 29 07.3	
GADA	**Gvkgeada**	**1.88**	**81**	PN	**Pn**	**04 28 25.6**	**-0.8**
GOKA	**anakkale-Gk**	**1.89**	**81**	*i* P	**Pn**	**04 28 25.8**	**-0.7**
GOKA				*i* S	**Sn**	**04 28 49.3**	**-1.0**
GOKA				IAML		04 29 00.0	
	comp=N,32µm,0.5s						
GOKA				IAML		04 29 00.0	
	comp=E,21µm,0.5s						
PTL	**Penteli**	**1.90**	**171**	P	**Pn**	**04 28 25.3**	**-1.5**
PTL	**Penteli**	**1.90**	**171**	P	**Pn**	**04 28 25.5**	**-1.3**
TRIZ	**Trizonia**	**1.90**	**215**	P	**Pn**	**04 28 25.0**	**-1.7**
TRIZ	**Trizonia**	**1.90**	**215**	P	**Pn**	**04 28 25.2**	**-1.5**
NEST	**Nestorio**	**1.92**	**285**	P	**Pn**	**04 28 26.1**	**-1.0**
NEST	**Nestorio**	**1.92**	**285**	P	**Pn**	**04 28 26.7**	**-0.3**
EFP	**Efpalio**	**1.93**	**220**	P	**Pn**	**04 28 25.8**	**-1.3**
EFP	**Efpalio**	**1.93**	**220**	P	**Pn**	**04 28 25.7**	**-1.4**
LTK	**Loutraki**	**1.94**	**192**	P	**Pn**	**04 28 25.4**	**-1.9**
LTK	**Loutraki**	**1.94**	**192**	P	**Pn**	**04 28 25.5**	**-1.9**
ATH	**Athens Observa**	**1.96**	**174**	P	**Pn**	**04 28 26.4**	**-1.1**
ATH	**Athens Observa**	**1.96**	**174**	P	**Pn**	**04 28 26.5**	**-1.1**
ATH				AML	AML	04 29 08.5	
	comp=N,70304µm,1.0s						
ATH				AML	AML	04 29 14.7	
	comp=E,63826µm,0.9s						
ATH	**Athens Observa**	**1.96**	**174**	P	**Pn**	**04 28 26.4**	**-1.1**
ATHU	**Athens Univers**	**1.97**	**173**	P	**Pn**	**04 28 26.2**	**-1.5**
ATHU	**Athens Univers**	**1.97**	**173**	P	**Pn**	**04 28 26.4**	**-1.3**
LOUT	**Loutraki**	**1.98**	**191**	P	**Pn**	**04 28 26.0**	**-1.8**
LOUT	**Loutraki**	**1.98**	**191**	P	**Pn**	**04 28 26.0**	**-1.8**
SIGR	**SIGRI**	**1.98**	**110**	P	**Pn**	**04 28 27.0**	**-0.8**
SIGR				S	**Sn**	**04 28 52.1**	**-0.4**
	comp=E,18µm,0.7s						
SIGR	**SIGRI**	**1.98**	**110**	P	**Pn**	**04 28 26.9**	**-0.8**
SIGR				AML	AML	04 29 03.9	
	comp=E,31630µm,0.7s						
SIGR				AML	AML	04 29 12.7	
	comp=N,29867µm,0.6s						
SIGR	**SIGRI**	**1.98**	**110**	PN	**Pn**	**04 28 27.2**	**-0.5**
BOZC	**Bozcaada**	**1.99**	**92**	PN	**Pn**	**04 28 27.2**	**-0.7**
BOZC	**Bozcaada**	**1.99**	**92**	*i* P	**Pn**	**04 28 27.2**	**-0.7**
BOZC				*i* S	**Sn**	**04 28 51.4**	**-1.4**
BOZC				IAML		04 29 02.0	
	comp=N,17µm,1.1s						
BOZC				IAML		04 29 02.0	
	comp=E,12µm,0.6s						
RDO	**Rodhopi**	**1.99**	**52**	P	**Pn**	**04 28 27.0**	**-0.9**
RDO	**Rodhopi**	**1.99**	**52**	P	**Pn**	**04 28 27.0**	**-0.9**
RDO	**Rodhopi**	**1.99**	**52**	PN	**Pn**	**04 28 27.0**	**-0.9**
RZN	**Rozhen**	**2.00**	**28**	*i* P	**Pn**	**04 28 28.0**	**-0.2**
PVO	**Paravola**	**2.00**	**230**	P	**Pn**	**04 28 27.0**	**-1.0**
PVO	**Paravola**	**2.00**	**230**	P	**Pn**	**04 28 27.5**	**-0.5**
STIP	**Stip**	**2.02**	**331**	⇑*i*Pn	**Pn**	**04 28 27.4**	**-0.9**
JAN	**Janina**	**2.04**	**263**	P	**Pn**	**04 28 28.3**	**-0.4**
JAN	**Janina**	**2.04**	**263**	P	**Pn**	**04 28 28.2**	**-0.4**
KARY	**Karystos**	**2.04**	**158**	P	**Pn**	**04 28 27.6**	**-1.0**
KARY	**Karystos**	**2.04**	**158**	P	**Pn**	**04 28 27.3**	**-1.3**
VLY	**Voula,Athens**	**2.09**	**173**	P	**Pn**	**04 28 28.1**	**-1.2**
VLY	**Voula,Athens**	**2.09**	**173**	P	**Pn**	**04 28 28.1**	**-1.2**
VLY				AML	AML	04 29 11.7	
	comp=E,73844µm,0.8s						
VLY				AML	AML	04 29 12.2	
	comp=N,97036µm,0.9s						
PSRA	**Psara**	**2.13**	**130**	P	**Pn**	**04 28 29.6**	**-0.3**
GUR	**Goura**	**2.17**	**204**	P	**Pn**	**04 28 28.9**	**-1.7**
GUR	**Goura**	**2.17**	**204**	P	**Pn**	**04 28 28.9**	**-1.7**
ALN	**Alexandroupoli**	**2.19**	**63**	P	**Pn**	**04 28 29.7**	**-1.0**
ALN	**Alexandroupoli**	**2.19**	**63**	P	**Pn**	**04 28 29.6**	**-1.0**
ALN				AML	AML	04 29 08.2	
	comp=E,33148µm,1.1s						
ALN				AML	AML	04 29 09.4	
	comp=N,40142µm,0.9s						
ALN	**Alexandroupoli**	**2.19**	**63**	PN	**Pn**	**04 28 29.7**	**-1.0**
ALN	**Alexandroupoli**	**2.19**	**63**	P	**Pn**	**04 28 29.8**	**-1.0**
ALN	**Alexandroupoli**	**2.19**	**63**	Pn	**Pn**	**04 28 29.8**	**-1.0**
EZN	**Ezine**	**2.20**	**92**	PN	**Pn**	**04 28 30.4**	**-0.4**
LSK	**Leskovik**	**2.21**	**277**	*i* PN	**Pn**	**04 28 30.9**	**-0.2**
LSK				*i* SN	**Sg**	**04 29 04.0**	**-1.6**
KDZ	**Kurdzhali**	**2.27**	**40**	*i* P	**Pn**	**04 28 30.3**	**-1.5**
KDZ	**Kurdzhali**	**2.27**	**40**	PN	**Pn**	**04 28 30.5**	**-1.3**
PRK	**Paraskevi**	**2.27**	**107**	P	**Pn**	**04 28 32.0**	**+0.2**
PRK	**Paraskevi**	**2.27**	**107**	P	**Pn**	**04 28 31.5**	**-0.2**
GELI	**Tayfur-Gelibol**	**2.35**	**78**	PN	**Pn**	**04 28 32.0**	**-0.9**
OHR	**Ohrid**	**2.35**	**301**	⇓*i*Pn	**Pn**	**04 28 33.3**	**+0.3**
OHR				*i* Sn	**Sg**	**04 29 18.5**	**+8.4**
OHR				*e*Lg	Lg	04 29 32.2	
	comp=N,23µm,1.6s						
OHR	**Ohrid**	**2.35**	**301**	⇓*i*Pn	**Pn**	**04 28 33.3**	**+0.3**
OHR				*i* Sn	**Sg**	**04 29 18.5**	**+8.4**
OHR				*e*Lg	Lg	04 29 32.2	
	comp=N,23µm,1.6s						
PLD	**Plovdiv**	**2.37**	**23**	*i* P	**Pn**	**04 28 34.2**	**+1.1**
PLD	**Plovdiv**	**2.37**	**23**	PN	**Pn**	**04 28 31.8**	**-1.3**
BAYC	**CANAKKALE_Bayr**	**2.38**	**94**	*i* P	**Pn**	**04 28 32.9**	**-0.3**
BAYC				*i* S	**Sn**	**04 29 01.5**	**-0.9**
BAYC				IAML		04 29 13.0	
	comp=N,5µm,0.7s						
BAYC				IAML		04 29 16.0	
	comp=E,3µm,0.6s						
AXS	**Araxos**	**2.38**	**224**	P	**Pn**	**04 28 33.0**	**-0.3**
DRO	**Drossia**	**2.40**	**215**	P	**Pn**	**04 28 32.5**	**-1.1**
DRO	**Drossia**	**2.40**	**215**	P	**Pn**	**04 28 32.6**	**-1.0**
DID	**Didima**	**2.42**	**184**	P	**Pn**	**04 28 32.4**	**-1.5**
DID	**Didima**	**2.42**	**184**	P	**Pn**	**04 28 32.5**	**-1.5**
RLS	**Riolos of Patr**	**2.44**	**221**	P	**Pn**	**04 28 33.5**	**-0.5**
RLS	**Riolos of Patr**	**2.44**	**221**	P	**Pn**	**04 28 33.2**	**-0.8**
TSLK	**Tsoukalades, L**	**2.44**	**244**	P	**Pn**	**04 28 34.7**	**+0.5**
IGT	**Igoumenitsa**	**2.45**	**262**	*e*Pn	**Pn**	**04 28 36.3**	**+2.0**
LKD2	**Lefkada island**	**2.46**	**243**	P	**Pn**	**04 28 35.1**	**+0.7**
CHOS	**Chios island**	**2.53**	**127**	P	**Pn**	**04 28 35.2**	**-0.2**
CHOS	**Chios island**	**2.53**	**127**	P	**Pn**	**04 28 35.4**	**0.0**
CHOS	**Chios island**	**2.53**	**127**	PN	**Pn**	**04 28 35.3**	**-0.2**
SKO	**Skopje**	**2.56**	**324**	⇓*i*Pn	**Pn**	**04 28 35.9**	**+0.1**
SKO				*i* Sn	**Sg**	**04 29 18.9**	**+2.4**
SKO				*e*Lg	Lg	04 29 19.6	
	comp=E,457nm,1.1s						
SKO	**Skopje**	**2.56**	**324**	⇓*i*Pn	**Pn**	**04 28 35.9**	**+0.1**
SKO				*i* Sn	**Sg**	**04 29 18.9**	**+2.4**
SKO				*e*Lg	Lg	04 29 19.6	
	comp=E,457nm,1.1s						
LPK	**Lapseki**	**2.56**	**79**	PN	**Pn**	**04 28 35.0**	**-0.8**
AYVA	**Ayvalik**	**2.56**	**103**	*i* P	**Pn**	**04 28 35.8**	**0.0**
AYVA				*i* S	**Sg**	**04 29 16.8**	**+0.2**
AYVA				IAML		04 29 21.0	
	comp=N,8µm,0.7s						
AYVA				IAML		04 29 21.0	
	comp=E,6µm,1.0s						
TRIP	**Tripoli**	**2.57**	**202**	P	**Pn**	**04 28 34.8**	**-1.2**
TRIP	**Tripoli**	**2.57**	**202**	P	**Pn**	**04 28 34.8**	**-1.2**
KESN	**Edirne-Kesan**	**2.61**	**69**	*i* P	**Pn**	**04 28 35.6**	**-1.2**
KESN				*i* S	**Sn**	**04 29 06.5**	**-2.2**
KESN				IAML		04 29 20.0	
	comp=N,7µm,0.7s						
KESN				IAML		04 29 23.0	
	comp=E,12µm,0.9s						
DIM	**Dimitrovgrad**	**2.63**	**36**	*i* P	**Pn**	**04 28 37.2**	**+0.4**
SRN	**Sarande**	**2.67**	**270**	*i* PN	**Pn**	**04 28 38.1**	**+0.8**
SRN				*i* SN	**Sb**	**04 29 16.4**	**+1.5**
PGB	**Panagyurishte**	**2.67**	**11**	*i* P	**Pn**	**04 28 37.6**	**+0.2**
BOSS	**Bosilegrad**	**2.67**	**344**	*e*Pn	**Pn**	**04 28 37.7**	**+0.4**
UKOP	**Uzunkopru-Edir**	**2.69**	**63**	PN	**Pn**	**04 28 37.4**	**-0.2**
VLX	**Vlachokerasia**	**2.69**	**199**	P	**Pn**	**04 28 36.7**	**-1.0**
VLX	**Vlachokerasia**	**2.69**	**199**	P	**Pn**	**04 28 36.2**	**-1.5**
VTS	**Vitosha**	**2.69**	**356**	*i* P	**Pn**	**04 28 38.1**	**+0.3**
VTS	**Vitosha**	**2.69**	**356**	P	**Pn**	**04 28 37.9**	**+0.1**
FSK	**Fiskardo**	**2.69**	**238**	P	**Pn**	**04 28 37.5**	**-0.1**
FSK	**Fiskardo**	**2.69**	**238**	P	**Pn**	**04 28 37.8**	**+0.2**
KASA	**Kassiopi**	**2.73**	**267**	P	**Pn**	**04 28 37.1**	**-1.0**
KRBN	**Karaburun**	**2.74**	**118**	PN	**Pn**	**04 28 38.1**	**-0.1**
AMT	**Artemida-Makis**	**2.76**	**210**	P	**Pn**	**04 28 38.2**	**-0.4**
AMT	**Artemida-Makis**	**2.76**	**210**	P	**Pn**	**04 28 37.8**	**-0.8**
DKL	**Dikili**	**2.79**	**107**	PN	**Pn**	**04 28 38.9**	**0.0**
KEK	**Kerkira**	**2.84**	**267**	P	**Pn**	**04 28 38.5**	**-1.1**
VLS	**Valsamata**	**2.84**	**233**	P	**Pn**	**04 28 39.5**	**-0.2**
VLS	**Valsamata**	**2.84**	**233**	P	**Pn**	**04 28 39.6**	**-0.2**
KEF5	**Kardakata, Kep**	**2.86**	**236**	P	**Pn**	**04 28 40.2**	**+0.3**
SERI	**Serifos**	**2.88**	**164**	P	**Pn**	**04 28 38.7**	**-1.4**
SERI	**Serifos**	**2.88**	**164**	P	**Pn**	**04 28 38.4**	**-1.7**
URLA	**Izmir**	**2.89**	**122**	PN	**Pn**	**04 28 40.2**	**-0.2**
URLA	**Izmir**	**2.89**	**122**	*i* P	**Pn**	**04 28 40.2**	**-0.2**
URLA				IAML		04 29 34.0	
	comp=E,4µm,1.1s						
URLA				IAML		04 29 43.0	
	comp=N,3µm,1.0s						
KEF4	**Livadi, Kephal**	**2.90**	**236**	P	**Pn**	**04 28 40.2**	**-0.2**
RKY	**Sarkoy-Tekirda**	**2.93**	**74**	PN	**Pn**	**04 28 40.7**	**-0.3**
ZEDA	**zmir-Bergama**	**2.95**	**108**	*i* P	**Pn**	**04 28 41.6**	**+0.4**
ZEDA				*i* S	**Sg**	**04 29 28.4**	**-0.7**
ZEDA				IAML		04 29 41.0	
	comp=E,2µm,0.7s						
ZEDA				IAML		04 29 42.0	
	comp=N,2µm,0.7s						
KEF3	**Kipouria, Keph**	**2.98**	**236**	P	**Pn**	**04 28 41.0**	**-0.6**
ITM	**Ithomi**	**3.00**	**204**	P	**Pn**	**04 28 41.5**	**-0.3**
ITM	**Ithomi**	**3.00**	**204**	P	**Pn**	**04 28 41.5**	**-0.3**
ITM	**Ithomi**	**3.00**	**204**	PN	**Pn**	**04 28 41.5**	**-0.3**
ITM	**Ithomi**	**3.00**	**204**		**Pn**	**04 28 42.3**	**+0.5**
VLMS	**Volimes, Zakyn**	**3.00**	**228**	P	**Pn**	**04 28 41.5**	**-0.3**
MAR6	**Marsite Statio**	**3.00**	**74**	PN	**Pn**	**04 28 41.7**	**-0.2**
MAR3	**Marsite Statio**	**3.03**	**73**	PN	**Pn**	**04 28 41.9**	**-0.4**
MAR2	**Marsite Statio**	**3.04**	**74**	PN	**Pn**	**04 28 42.5**	**+0.1**
MAR4	**Marsite Statio**	**3.05**	**72**	PN	**Pn**	**04 28 42.1**	**-0.5**
TIR	**Tirane**	**3.09**	**298**	*e*Pn	**Pn**	**04 28 44.5**	**+1.5**
TIR	**Tirane**	**3.09**	**298**	⇓P	**Pn**	**04 28 44.6**	**+1.6**
TIR	**Tirane**	**3.09**	**298**	P	**Pn**	**04 28 44.8**	**+1.8**
TIR	**Tirane**	**3.09**	**298**	Pn	**Pn**	**04 28 44.8**	**+1.8**
KNL	**Balıkesir**	**3.13**	**82**	*i* P	**Pn**	**04 28 43.6**	**0.0**
KNL				*i* S	**Sn**	**04 29 22.8**	**+1.9**
KNL				IAML		04 29 40.0	
	comp=N,7µm,0.7s						
KNL				IAML		04 29 42.0	
	comp=E,5µm,0.7s						
EDRB	**Edirne**	**3.13**	**51**	PN	**Pn**	**04 28 43.7**	**0.0**
BARS	**Barje**	**3.14**	**337**	*e*Pn	**Pn**	**04 28 44.1**	**+0.3**
BLCB	**Balcova**	**3.17**	**118**	PN	**Pn**	**04 28 44.2**	**0.0**
BALY	**Balya**	**3.20**	**92**	*i* P	**Pn**	**04 28 44.8**	**+0.2**
BALY				*i* S	**Sb**	**04 29 32.3**	**+2.1**
BALY				IAML		04 29 39.0	
	comp=E,3µm,0.6s						
BALY				IAML		04 29 40.0	
	comp=N,8µm,0.9s						
VLI	**Veliai**	**3.23**	**188**	P	**Pn**	**04 28 43.7**	**-1.3**
VLI	**Veliai**	**3.23**	**188**	P	**Pn**	**04 28 44.9**	**-0.1**
GONE	**Gonen-Balikesi**	**3.24**	**87**	PN	**Pn**	**04 28 45.2**	**+0.1**
DGB	**zmir**	**3.25**	**124**	*i* P	**Pn**	**04 28 45.6**	**+0.3**
DGB				IAML		04 29 46.0	
	comp=N,2µm,1.7s						
DGB				IAML		04 29 49.0	
	comp=E,1µm,1.2s						
MHLA	**Plaka, Milos I**	**3.27**	**166**	P	**Pn**	**04 28 45.2**	**-0.2**
APE	**Apeiranthos**	**3.28**	**150**	P	**Pn**	**04 28 44.8**	**-0.9**
APE	**Apeiranthos**	**3.28**	**150**	P	**Pn**	**04 28 45.0**	**-0.8**
APE	**Apeiranthos**	**3.28**	**150**	⇓P	**Pn**	**04 28 45.2**	**-0.5**
APE				⇑S	**Sn**	**04 29 23.6**	**-1.2**
APE	**Apeiranthos**	**3.28**	**150**	PN	**Pn**	**04 28 45.3**	**-0.4**
APE	**Apeiranthos**	**3.28**	**150**	P	**Pn**	**04 28 44.9**	**-0.8**
APE				S	**Sn**	**04 29 23.5**	**-1.2**
MAR9	**Marsite Statio**	**3.31**	**77**	PN	**Pn**	**04 28 45.2**	**-0.3**
KIRK	**Kırklareli**	**3.31**	**55**	*i* P	**Pn**	**04 28 45.2**	**-0.9**
KIRK				*i* S	**Sb**	**04 29 33.1**	**-0.4**
KIRK				IAML		04 29 52.0	
	comp=N,3µm,1.0s						
MHLO	**Agia Marina, M**	**3.31**	**167**	P	**Pn**	**04 28 46.0**	**-0.2**
MHLO	**Agia Marina, M**	**3.31**	**167**	P	**Pn**	**04 28 46.5**	**+0.3**
PYL	**PYLOS**	**3.32**	**205**	P	**Pn**	**04 28 46.4**	**+0.2**
STEP	**BALIKESIR_Sava**	**3.33**	**98**	*i* P	**Pn**	**04 28 46.8**	**+0.5**
STEP				*i* S	**Sb**	**04 29 37.2**	**+3.4**
STEP				IAML		04 29 46.0	
	comp=N,4µm,0.9s						
STEP				IAML		04 29 56.0	
	comp=E,6µm,1.0s						
EDC	**Edincik**	**3.39**	**82**	PN	**Pn**	**04 28 47.5**	**+0.3**
ZAPS	**Zavoj**	**3.40**	**350**	*e*Pn	**Pn**	**04 28 48.5**	**+1.1**
BALB	**Balikesir**	**3.41**	**93**	PN	**Pn**	**04 28 47.6**	**+0.2**
SMG	**Samos**	**3.44**	**129**	P	**Pn**	**04 28 47.7**	**-0.2**
JMB	**Yambol**	**3.46**	**42**	*i* P	**Pn**	**04 28 48.1**	**0.0**
JMB	**Yambol**	**3.46**	**42**	PN	**Pn**	**04 28 47.9**	**-0.2**
CRLT	**Corlu**	**3.46**	**68**	PN	**Pn**	**04 28 48.5**	**+0.3

GRUS	Gruza	4.46	333	ePn		Pn	04 29 01.5	-0.4
USAK	Uak-Merkez	4.47	104	i P		Pn	04 29 03.4	+1.3
USAK				IAML			04 29 55.0	
	comp=N,206nm,1.3s							
USAK				IAML			04 29 58.0	
	comp=E,262nm,1.2s							
CFTB	Yalova	4.52	79	PN		Pn	04 29 03.6	+1.0
HCY	Herceg Novi	4.52	305	⇑i Pn		Pn	04 29 03.4	+0.7
HCY				i Sn		Sn	04 29 56.4	+1.1
HCY	Herceg Novi	4.52	305	ePn		Pn	04 29 03.4	+0.7
DAT	Datca	4.54	133	PN		Pn	04 29 03.6	+0.5
DAT	Datca	4.54	133	i P		Pn	04 29 04.4	+1.2
PLE	Pljevlja	4.57	319	ePn		Pn	04 29 04.2	+0.7
PLE				i Sn		Sn	04 29 57.9	+1.2
YLVH	Yalova	4.58	78	PN		Pn	04 29 04.2	+0.8
CGL1	Ceglie Messapi	4.64	281	eP		Pn	04 29 04.2	-0.2
TVSB	Tavsanli	4.65	94	PN		Pn	04 29 05.5	+0.9
GEDZ	Gediz	4.68	99	PN		Pn	04 29 05.6	+0.6
YER	Yerkesik	4.69	125	PN		Pn	04 29 06.4	+1.3
YER	Yerkesik	4.69	125	P		Pn	04 29 06.4	+1.3
GDZ	Gediz	4.72	98	i P		Pn	04 29 06.8	+1.1
UPM	Unac-Piva	4.74	315	ePn		Pn	04 29 06.8	+0.9
UPM				i Sn		Sn	04 30 01.8	+0.9
UPM	Unac-Piva	4.74	315	ePn		Pn	04 29 06.1	+0.2
BRY	Bratogost	4.75	310	⇑i Pn		Pn	04 29 06.5	+0.5
BRY				i Sn		Sn	04 30 02.1	+0.9
BRY	Bratogost	4.75	310	ePn		Pn	04 29 06.9	+0.9
TREB	Trebinje	4.76	308	ePn		Pn	04 29 06.4	+0.4
IDI	Anoyia	4.77	166	Pn		Pn	04 29 05.1	-1.1
	comp=E,51nm,0.3s,baz=341,slow=12,SNR=68							
IDI				Sn		Sn	04 29 58.7	-2.7
	baz=304,slow=20,SNR=1.7							
IDI				Lg	Lg		04 30 24.6	
	baz=328,slow=14,SNR=1.2							
IDI				LR	LR		04 30 56.3	
	comp=E,7μm,21.1s,baz=312,slow=39							
IDI	Anoyia	4.77	166	⇓P		Pn	04 29 06.1	-0.1
IDI	Anoyia	4.77	166	Pn		Pn	04 29 06.1	-0.1
TAR1	Taranto	4.77	279	eP		Pn	04 29 06.8	+0.6
DJES	Djerdap	4.79	352	ePn		Pn	04 29 06.9	+0.5
RUDO	Rudo	4.79	322	ePn		Pn	04 29 06.3	-0.2
BUC1	Bucharest	4.81	22	⇑P		Pn	04 29 07.5	+0.8
HRT	Hereke	4.82	77	PN		Pn	04 29 07.4	+0.6
ADVT	Abdulvahap	4.83	82	PN		Pn	04 29 07.6	+0.7
DBRK	Dubrovnik	4.86	306	ePn		Pn	04 29 07.5	+0.2
DBRK				Sn		Sn	04 30 04.3	+0.8
SILT	Sile	4.86	73	PN		Pn	04 29 08.2	+0.8
TRUS	Trudelj	4.86	333	ePn		Pn	04 29 06.8	-0.6
CAVI	Cavuskoy	4.90	85	PN		Pn	04 29 08.3	+0.4
TURN	Turunc	4.90	128	PN		Pn	04 29 08.8	+0.9
DIVS	Divibare	4.91	329	ePn		Pn	04 29 07.8	-0.3
DIVS	Divibare	4.91	329	ePn		Pn	04 29 07.2	-0.9
DIVS	Divibare	4.91	329	Pn		Pn	04 29 07.2	-0.9
TAVA	DENIZLI_Tavas	4.92	118	i P		Pn	04 29 09.6	+1.3
BBLS	Lazići	4.97	324	ePn		Pn	04 29 09.4	+0.5
BBLS	Lazići	4.97	324	ePn		Pn	04 29 09.3	+0.4
HERR	Herculane	5.01	351	⇑P		Pn	04 29 08.4	-1.0
LAST	Lasithi	5.02	161	P		Pn	04 29 09.5	-0.2
MDVR	Moldovita	5.02	346	⇑P		Pn	04 29 09.3	-0.4
AUBOZ	BOZOYUK	5.04	88	PN		Pn	04 29 10.6	+0.6
AUBOZ	BOZOYUK	5.04	88	i P		Pn	04 29 11.4	+1.4
RASA	Rasa	5.08	31	⇓P		Pn	04 29 11.4	+1.0
GVD	Gavdhos	5.10	174	P		Pn	04 29 11.8	+1.1
DALY	Dalyan (Mula)	5.12	126	PN		Pn	04 29 12.2	+1.2
BAI	Bari	5.16	285	eP		Pn	04 29 11.8	+0.3
ARG	Arkhangelos	5.22	134	PN		Pn	04 29 13.6	+1.3
MATE	Matera	5.22	280	⇑P		Pn	04 29 11.3	-1.0
STON	Ston	5.24	306	ePn		Pn	04 29 12.2	-0.4
STON				Sn		Sn	04 30 10.8	-2.2
TIP	Timpagrande	5.24	264	⇓P		Pn	04 29 12.3	-0.4
TIP	Timpagrande	5.24	264	Pn		Pn	04 29 12.0	-0.7
KAND	Kocaeli-Kandir	5.25	75	i P		Pn	04 29 13.4	+0.6
GEYV	SAKARYA_Geyve	5.25	82	i P		Pn	04 29 12.8	0.0
GPA	Golpazari	5.26	84	PN		Pn	04 29 13.9	+1.0
KARP	Karpathos	5.26	145	PN		Pn	04 29 14.3	+1.4
KARP	Karpathos	5.26	145			Pn	04 29 12.2	-0.8
SG1	Sgolgore (BA)	5.27	282	eP		Pn	04 29 12.2	-0.8
SPNC	Sapanca-Adapaz	5.28	80	PN		Pn	04 29 14.0	+0.8
SAUV	Serdivan-Sakar	5.30	79	PN		Pn	04 29 14.7	+1.3
BORA	Eskisehir	5.37	88	PN		Pn	04 29 14.9	+0.4
BORA	Eskisehir	5.37	88	i P		Pn	04 29 15.0	+0.5
GULT	Gulveren	5.42	82	PN		Pn	04 29 16.0	+0.9
MTUR	Matau	5.42	12	⇑P		Pn	04 29 16.9	+1.7
TSMN	Mangalia Port-	5.44	43	⇑P		Pn	04 29 16.8	+1.5
MANR	Mangalia	5.45	43	⇑P		Pn	04 29 14.8	-0.7
KZIL	AFYON_Kizioren	5.45	106	i P		Pn	04 29 17.3	+1.7
SECR		5.45	20	⇑P		Pn	04 29 17.4	+1.8
TEKS	Tekeris	5.47	329	ePn		Pn	04 29 15.2	-0.5
TEKS	Tekeris	5.47	329	ePn		Pn	04 29 15.3	-0.5
AMRR	Amara	5.49	30	⇓P		Pn	04 29 15.9	-0.1
SRCK	Saricakaya, Es	5.50	87	PN		Pn	04 29 17.3	+1.1
ARR	Arges	5.50	9	⇓P		Pn	04 29 16.3	0.0
FETY	Fethiye	5.50	125	PN		Pn	04 29 17.7	+1.4
FETY	Fethiye	5.50	125	i P		Pn	04 29 19.8	+3.5
BASM	Basmaki-Afyon	5.51	109	PN		Pn	04 29 18.0	+1.6
LOT	Lotru	5.52	2	⇑P		Pn	04 29 16.8	+0.2
MFTR	Murfatlar	5.62	39	⇑P		Pn	04 29 18.0	+0.1
VOIR		5.63	11	⇑P		Pn	04 29 18.6	+0.6
VOIR		5.63	11	P		Pn	04 29 18.7	+0.7
ISR	Istrita	5.66	23	⇓P		Pn	04 29 19.7	+1.2
SHUT	Suhut-Afyon	5.67	102	PN		Pn	04 29 19.9	+1.3
SAHE	Sakarya_HENDEK	5.71	78	i P		Pn	04 29 19.5	+0.3
HARR	Harsova	5.79	33	⇑P		Pn	04 29 20.2	0.0
TIRR	Tirgusor	5.83	37	⇓P		Pn	04 29 20.3	-0.3
TIRR	Tirgusor	5.83	37	⇓P		Pn	04 29 20.3	-0.3
TIRR	Tirgusor	5.83	37	P		Pn	04 29 20.3	-0.3
TIRR	Tirgusor	5.83	37	Pn		Pn	04 29 20.3	-0.3
MLR	Muntele Rosu	5.85	17	Pn		Pn	04 29 22.4	+1.3
	comp=E,14nm,0.3s,baz=75,slow=1.8,SNR=40							
MLR				Sn		Sn	04 30 29.6	+1.4
	baz=271,slow=14,SNR=1.1							
MLR				Lg	Lg		04 31 00.3	
	baz=187,slow=12,SNR=1.5							
MLR				LR	LR		04 31 57.0	
	comp=E,6μm,21.1s,baz=218,slow=41							
MLR	Muntele Rosu	5.85	17	⇓P		Pn	04 29 22.5	+1.3
MLR	Muntele Rosu	5.85	17	P		Pn	04 29 22.0	+0.9
MLR							04 30 29.7	
MLR	Muntele Rosu	5.85	17	Pn		Pn	04 29 22.0	+0.9
NEHR	Nehoiu	5.88	20	⇑P		Pn	04 29 22.3	+0.9
FRGS	Fruska Gora	5.88	334	ePn		Pn	04 29 21.0	-0.5
FRGS	Fruska Gora	5.88	334	ePn		Pn	04 29 20.7	-0.8
CIFT	Cifteler, Eski	5.89	93	PN		Pn	04 29 22.1	+0.5
ISP	Isparta	5.89	109	PN		Pn	04 29 23.5	+1.9
ISP	Isparta	5.89	109	P		Pn	04 29 22.1	+0.4
ISP	Isparta	5.89	109			Pn	04 29 22.1	+0.4
BOLV	Bolvadin	5.92	99	i P		Pn	04 29 23.8	+1.7
RICI	Ricice	5.93	309	ePn		Pn	04 29 22.1	0.0
MDUB	Mudurnu	5.94	82	PN		Pn	04 29 23.6	+1.3
DEV	Deva	5.97	356	⇑P		Pn	04 29 24.3	+1.7
ELL	Elmali	5.97	120	PN		Pn	04 29 24.6	+1.8
BAGO	Egridir - ISPA	6.02	106	i P		Pn	04 29 25.7	+2.3
GRER		6.03	24	⇑P		Pn	04 29 25.3	+1.8
AKAS	Kas	6.08	125			Pn	04 29 26.4	+2.1
BCK	Bucak	6.09	112	PN		Pn	04 29 26.2	+1.9
KORT	Korkueli	6.14	116	PN		Pn	04 29 26.6	+1.5
DOPR	Dopca	6.20	12	⇑P		Pn	04 29 26.4	+0.6
SVRH	Sivrihisar-ESK	6.23	92	PN		Pn	04 29 27.2	+0.9
AUSIV	SIVRIHISAR	6.24	92	PN		Pn	04 29 27.8	+1.3
AUSIV	SIVRIHISAR	6.24	92	i P		Pn	04 29 28.9	+2.4
MDB	Medias	6.25	6	⇓P		Pn	04 29 28.3	+1.8
CFR	Carcaliu	6.28	32	⇑P		Pn	04 29 26.7	0.0
JURR	Jurilovca	6.28	38	⇓P		Pn	04 29 27.6	+0.8
YUVA	Yuva-Kibriscik	6.31	83	PN		Pn	04 29 29.0	+1.6
PLOR	Plostina	6.36	20	⇑P		Pn	04 29 29.6	+1.6
PLOR	Plostina	6.36	20	P		Pn	04 29 29.6	+1.6
OZUR		6.39	15	⇓P		Pn	04 29 29.6	+1.1
ODBI	Odobesti	6.40	23	⇑P		Pn	04 29 30.4	+1.9
VRI	Vrincioaia	6.40	21	⇑P		Pn	04 29 30.0	+1.5
PETR	Petresti	6.42	24	⇑P		Pn	04 29 29.9	+1.2
SIRR	Siria	6.47	349	⇓P		Pn	04 29 30.4	+0.9
MGRS	Mrkonjic Grad	6.53	315	ePn		Pn	04 29 38.3	+8.0
TLCR		6.57	35	⇑P		Pn	04 29 31.3	+0.5
KIJV	Kijevo	6.66	310	ePn		Pn	04 29 32.0	-0.1
KIJV				Sn		Sn	04 30 47.8	-0.1
BLY	Banja Luka	6.70	318	ePn		Pn	04 29 34.2	+1.6
GHRR		6.77	24	⇑P		Pn	04 29 33.7	+0.1
VARL	Varlezi	6.78	27	⇑P		Pn	04 29 34.4	+0.7
CJR	Cluj-Napoca	6.78	1	⇓P		Pn	04 29 35.2	+1.4
ZIRJ	Zirje	6.93	305	ePn		Pn	04 29 34.9	-1.0
ZIRJ				Sn		Sn	04 30 52.6	-2.0
TESR	Tescani	6.98	18	⇑P		Pn	04 29 36.9	+0.5
MORI	Morici	7.00	307	ePn		Pn	04 29 36.0	-0.8
BIR	Birlad	7.03	24	⇑P		Pn	04 29 38.5	+1.4
PRIJ	Prijedor	7.10	317	ePn		Pn	04 29 34.2	-3.9
ARCR	ARCALIA	7.18	5	⇑P		Pn	04 29 40.9	+1.6
MORH	Mrgy, Hungar	7.21	332	ePn		Pn	04 29 39.0	-0.6
GIRR	Girov	7.36	16	⇑P		Pn	04 29 43.3	+1.5
VASR	Vaslui	7.41	24	⇑P		Pn	04 29 43.4	+1.0
DUGI	Dugi Otok	7.47	306	ePn		Pn	04 29 42.6	-0.6
DUGI				Sn		Sn	04 31 06.2	-1.7
VAE	Valguarnera	7.49	254	Pn		Pn	04 29 43.6	0.0
	comp=E,3.0nm,0.3s,baz=33,slow=10,SNR=3.7							
VAE				Sn		Sn	04 31 13.6	+5.0
	comp=E,6.8nm,0.3s,baz=174,slow=18,SNR=1.9							
MOSL	Moslavina	7.53	321	i Pn		Pn	04 29 43.9	-0.2
INTR	Introdacqua	7.53	289	Pn		Pn	04 29 44.1	0.0
PRAR	RASCA	7.69	14	⇑P		Pn	04 29 48.2	+1.9
BMR	Baia Mare	7.74	0	⇑P		Pn	04 29 49.2	+2.2
BURAR	Bucovina Array	7.79	9	⇑P		Pn	04 29 48.7	+1.1
BURAR	Bucovina Array	7.79	9	P		Pn	04 29 47.7	0.0
BURAR	Bucovina Array	7.79	9			Pn	04 29 47.7	0.0
BR131	Keskin Array S	7.83	88	P		Pn	04 29 49.4	+1.1
	SNR=34							
BR131	Keskin Array S	7.83	88	c i P		Pn	04 29 48.8	+0.5
BRTR	Keskin Array B	7.83	88	Pn		Pn	04 29 48.8	+0.5
	comp=E,8.2nm,0.3s,baz=267,slow=12,SNR=106							
BRTR				Sn		Sn	04 31 13.8	-3.1
	baz=272,slow=13,SNR=1.4							
BRTR				Lg	Lg		04 32 00.8	
	baz=265,slow=26,SNR=1.5							
BRTR				LR	LR		04 33 24.6	
	comp=E,3μm,18.8s,baz=258,slow=42							
BRTR	Keskin Array B	7.83	88	Pn		Pn	04 29 48.4	+0.1
NVLJ	Novalja	7.88	309	ePn		Pn	04 29 48.1	-0.7
NVLJ				Sn		Sn	04 31 14.4	-3.6
ILGA	Ilgaz	7.89	79	Pn		Pn	04 29 50.6	+1.4
AQU	L'Aquila	7.98	291	ePn		Pn	04 29 51.2	+1.0
MILM	Milestii Mici	7.99	27	⇓P		Pn	04 29 50.7	+0.3
KALN	Kalnik	8.05	323	ePn		Pn	04 29 51.4	+0.2
KIS	Kishinev	8.06	27	eP		Pn	04 29 54.0	+2.7
KIS				eS		Sn	04 31 26.0	+3.5
KIS				eLi			04 32 12.0	
	comp=E,6μm,12.0s							
KIS				LRM	MLR		04 35 36.0	
	comp=E,2μm,7.0s							
PTJ	Puntijarka	8.12	320	i Pn		Pn	04 29 53.9	+1.7
BEHE	Becsehely	8.16	325	ePn		Pn	04 29 55.4	+2.7
CORL	Corleone	8.18	259			Pn	04 29 52.4	-0.6
BOJS	Bojanci	8.22	315	ePn		Pn	04 29 53.8	+0.3
CRES	Cresnjev	8.33	318	ePn		Pn	04 29 55.0	0.0
KOGS	Kog	8.38	323	ePn		Pn	04 29 57.5	+1.8
PSZ	Piszkesteto	8.39	343	⇑P		Pn	04 29 57.5	+1.5
PSZ	Piszkesteto	8.39	343	P		Pn	04 29 56.7	+0.8
PSZ	Piszkesteto	8.39	343	Pn		Pn	04 29 56.7	+0.8
BRJN	Brijuni	8.74	308	ePn		Pn	04 30 00.2	-0.3
UZH	Uzhgorod	8.74	355	eP		Pn	04 30 02.0	+1.4
UZH				eS		Sn	04 31 40.0	+0.9
UZH				MLR	MLR			
	comp=E,1μm,10.0s							
KECS	Kecovo	8.82	347	eP		Pn	04 30 02.8	+1.1
KECS	Kecovo	8.82	347	ePN		Pn	04 30 02.8	+1.1
CEY	Cerknica	8.82	314	ePn		Pn	04 30 01.3	-0.5
SEV	Sevastopol'	8.86	55	eP		Pn	04 30 01.2	-1.0
SEV				eS		Sn	04 31 37.0	-5.0
SEV				pmax	pmax			
	comp=Z,16nm,0.4s							
SEV				smax	smax			
	comp=N,141nm,1.1s							
SEV				smax	smax			
	comp=E,139nm,1.0s							
SORM	Soroca	8.92	22	⇑P		Pn	04 30 02.4	-0.7
GBAS	Gorenja Brezov	8.94	315	ePn		Pn	04 30 03.2	-0.1
LJU	Ljubljana	8.96	316	ePn		Pn	04 30 03.9	+0.3
KOLS	Kolonicke sedl	9.04	355	eP		Pn	04 30 04.2	-0.6
KOLS	Kolonicke sedl	9.04	355	ePN		Pn	04 30 04.2	-0.6
CRVS	Cervenica-Dubn	9.09	352	eP		Pn	04 30 07.4	+2.0
CRVS	Cervenica-Dubn	9.09	352	ePN		Pn	04 30 07.4	+2.0
SOKA	Soboth	9.13	320	i Pn		Pn	04 30 07.0	+1.0
	comp=E,40nm,0.8s,SNR=19							
YAL	Yalta	9.14	57	eP		Pn	04 30 03.9	-2.2
YAL				eS		Sn	04 31 45.5	-3.4
VYHS	Vyhne	9.19	340	eP		Pn	04 30 08.3	+1.6
VYHS	Vyhne	9.19	340	ePN		Pn	04 30 08.3	+1.6
LATE	Laterza	9.19	291	Pn		Pn	04 30 07.3	+0.6
OBKA	Obir	9.25	318	i Pn		Pn	04 30 10.7	+2.9
	comp=E,29nm,0.8s,SNR=46							
OBKA	Obir	9.25	318	ePn		Pn	04 30 10.6	+2.9
CSS	Mathiatis	9.27	119	Pn		Pn	04 30 10.2	+2.2
ARSA	Arzberg	9.31	324	i Pn		Pn	04 30 09.5	+1.0
	comp=E,23nm,0.3s,SNR=26							
ARSA				i Sn		Sn	04 31 53.9	+0.6
	comp=E,10nm,0.3s							
ARSA	Arzberg	9.31	324	ePn		Pn	04 30 09.5	+1.0
ARSA				eSn		Sn	04 31 53.8	+0.6
SIM	Simferopol'	9.33	54	eP		Pn	04 30 08.8	+0.1
SIM				eS		Sn	04 31 54.5	+0.9
SIM				pmax	pmax			
	comp=Z,50nm,0.4s							
ALU	Alushta	9.39	56	eP		Pn	04 30 07.6	-1.9
ALU				eS		Sn	04 31 50.6	-4.4
ALU				pmax	pmax			
	comp=Z,21nm,0.3s							
ALU				smax	smax			
	comp=N,217nm,1.0s							
ALU				smax	smax			
	comp=E,58nm,0.8s							
MODS	Modra-Piesok	9.54	334	eP		Pn	04 30 12.8	+1.2
MODS	Modra-Piesok	9.54	334	ePN		Pn	04 30 12.8	+1.2
LANS	Liptovska Anna	9.65	344	eP		Pn	04 30 17.1	+3.9
LANS	Liptovska Anna	9.65	344	ePN		Pn	04 30 17.1	+3.9
CONA	Conrad Observa	9.70	328	i Pn		Pn	04 30 17.1	+3.3
	comp=E,13nm,0.7s,SNR=13							
CONA				i Sn		Sn	04 32 06.0	+3.3
	comp=E,12nm,0.4s							
KWP	Kalwaria Pacla	9.72	357	eP		Pn	04 30 16.2	+2.2
KWP				eS		Sn	04 32 17.5	+14
KWP	Kalwaria Pacla	9.72	357	P		Pn	04 30 15.4	+1.4
KWP	Kalwaria Pacla	9.72	357			Pn	04 30 15.4	+1.4
NIE	Niedzica	9.75	348	eP		Pn	04 30 17.3	+2.8
NIE				eS		Sn	04 32 21.5	+17
MYKA	Terra Mystica	9.80	316	i Pn		Pn	04 30 17.2	+1.9
	comp=E,12nm,0.6s							
OSSC	Osservatorio P	9.82	295	Pn		Pn	04 30 16.1	+0.6
JAVC	Velka Javorina	9.84	337	ePN		Pn	04 30 16.1	+0.3
SUDU	Sudak	9.86	56	eP		Pn	04 30 15.0	-1.0
SUDU				eS		Sn	04 32 00.7	-5.9
SUDU				pmax	pmax			
	comp=Z,52nm,0.6s							
SUDU				smax	smax			
	comp=N,79nm,0.8s							
SUDU				smax	smax			
	comp=E,242nm,0.9s							
LVV	L'vov	9.90	2	eP		Pn	04 30 19.7	+3.2
LVV				eS		Sn	04 32 13.9	+6.4
LVV				MLR	MLR			
	comp=E,6μm,9.3s							
FEO	Feodosiya	10.17	56	eP		Pn	04 30 22.1	+2.0
FEO				eS		Sn	04 32 12.4	-1.7
FEO				smax	smax			
	comp=N,153nm,1.0s							
FEO				smax	smax			
	comp=E,135nm,1.0s							
KBA	Koelnbreinsper	10.25	318	i Pn		Pn	04 30 22.6	+1.1
	comp=E,30nm,0.7s,SNR=35							
KBA	Koelnbreinsper	10.25	318	ePn		Pn	04 30 22.6	+1.1
ZCCA	Zocca	10.28	300	Pn		Pn	04 30 22.6	+0.9
MOA	Molln	10.33	323	i Pn		Pn	04 30 25.3	+2.9
	comp=E,12nm,0.4s,SNR=42							
MOA				eSn		Sn	04 32 19.9	+1.8
	comp=E,24nm,0.7s							
MOA	Molln	10.33	323	ePn		Pn	04 30 25.3	+2.9
MOA				eSn		Sn	04 32 20.2	+2.0
KRUC	Moravsky	10.43	333	ePN		Pn	04 30 23.9	+0.1
ABTA	Abfaltersbach	10.49	314	i Pn		Pn	04 30 24.5	-0.2
	comp=E,21nm,0.7s,SNR=5.6							
VRAC	Vranov	10.58	335	Pn		Pn	04 30 24.8	-1.0
	comp=E,1.8nm,0.3s,baz=148,slow=15,SNR=10							
VRAC				Lg	Lg		04 33 26.3	
	comp=E,0.4nm,0.3s,baz=92,slow=11,SNR=3.1							
VRAC	Vranov	10.58	335	ePN		Pn	04 30 26.9	+1.1
VRAC	Vranov	10.58	335	P		Pn	04 30 27.7	+1.9
VLC	Villacollemand	10.61	298	Pn		Pn	04 30 27.5	+1.2
OJC	Ojcow	10.61	347	eP		Pn	04 30 28.4	+2.2
OJC				eS		Sn	04 32 39.5	+14
MORC	Moravsky Berou	10.70	339	⇑P		Pn	04 30 27.9	+0.3
MORC	Moravsky Berou	10.70	339	P		Pn	04 30 28.6	+1.0
MORC	Moravsky Berou	10.70	339			Pn	04 30 28.6	+1.0
VSL	Villasalto	10.87	272			Pn	04 30 29.9	+0.1
TREC	Trest	10.95	331	AMS	AMS		04 35 50.0	
	comp=E,4μm,12.9s							
RJOB	Jochberg	10.96	319	ePn		Pn	04 30 31.8	+0.7
RJOB				eSn		Sn	04 32 34.6	+0.9
SALO	Salr	11.08	305			Pn	04 30 32.2	-0.5
KRLC	Kraliky	11.19	337	eP		Pn	04 30 36.7	+2.5
KRLC				MLR	MLR			
	comp=Z,8μm,9.2s							
KRLC	Kraliky	11.19	337	eP		Pn	04 30 36.7	+2.5
KRLC				AMS	AMS		04 36 20.0	
	comp=Z,8μm,9.2s							
WTTA	Wattenberg	11.28	314	ePn		Pn	04 30 37.7	+2.2
	comp=E,18nm,0.7s,SNR=15							
WTTA				i Sn		Sn	04 32 40.1	-1.5
	comp=E,52nm,0.9s							
WTTA	Wattenberg	11.28	314	ePn		Pn	04 30 37.9	+2.3
WTTA				eSn		Sn	04 32 38.9	-2.8
GEC2	GERESS Array S	11.32	325	ePn		Pn	04 30 38.4	+2.4
GERES	GERESS Array B	11.32	325	Pn		Pn	04 30 36.9	+0.8
	comp=Z,0.5nm,0.3s,baz=143,slow=13,SNR=28							
GERES				Lg	Lg		04 33 47.9	
	baz=154,slow=20,SNR=0.8							
GERES				LR	LR		04 34 39.5	
	comp=Z,1μm,21.9s,baz=142,slow=36							
GERES	GERESS Array B	11.32	325	Pn		Pn	04 30 36.4	+0.4
WATA	Walderalm	11.35	315	i Pn		Pn	04 30 38.2	+1.6
	comp=Z,15nm,0.7s,SNR=17							
WATA				i Sn		Sn	04 32 43.4	-0.1
	comp=Z,20nm,0.8s							
ANN	Anapa	11.41	60	eP		Pn	04 30 34.0	-3.2
ANN				eS		Sn	04 32 38.0	-6.7
ANN				pmax	pmax			
	comp=Z,41nm,1.1s							
ANN				MLR	MLR			
	comp=E,1μm,12.0s							
ANN				MLR	MLR			
	comp=N,1μm,11.0s							
ANN				MLR	MLR			
	comp=Z,1μm,11.0s							
HWQ	Hawqa	11.44	116	eP		Pn	04 30 39.7	+1.9
BHL	Bhannes	11.45	118	eP		Pn	04 30 38.8	+0.9
SQTA	Sankt Quirin	11.49	313	i Pn		Pn	04 30 40.1	+1.7
	comp=Z,37nm,0.7s,SNR=25							
SQTA				i Sn		Sn	04 32 52.8	+6.1
	comp=Z,21nm,0.7s							
AKASG	Malin Array Be	11.50	19	Pn		Pn	04 30 38.4	-0.1
	comp=Z,4.3nm,0.3s,baz=266,slow=30,SNR=21							
AKASG				Sn		Sn	04 32 46.8	0.0
	comp=Z,1.8nm,0.3s,baz=189,slow=28,SNR=1.5							
AKASG				Lg	Lg		04 33 51.4	
	baz=188,slow=31,SNR=1.5							
AKASG				LR	LR		04 34 43.0	
	comp=Z,2μm,21.7s,baz=190,slow=36							
AKBB	Malin Array Si	11.50	19	P		Pn	04 30 38.9	+0.5
AKBB	Malin Array Si	11.50	19	Pn		Pn	04 30 38.9	+0.5
DPC	Dobruska-Polom	11.57	337	eP		Pn	04

comp=Z,59nm,1.3s
CLL e 04 31 34.0
CLL eS Sn 04 33 35.0 -1.0
CLL eSS SnSn 04 33 52.0 +3.7
CLL Lmax 04 37 00.0
CLL Collm 13.52 331 *i* P **Pn 04 31 09.0 +3.1**
CLL eS **Sn 04 33 35.0 -1.0**
CLL pmax pmax
comp=Z,33nm,1.6s
CLL Collm 13.52 331 Pn **Pn 04 31 07.6 +1.7**
MOX Moxa 13.56 326 *e*Pn **P 04 31 12.4 -3.3**
BERGE Lenzkirch (DE) 13.57 311 ePn **Pn 04 31 06.9 +0.2**
HRFI Mount Harif 13.67 133 Pn **Pn 04 31 07.7 -0.5**
BFO Black Forest 13.72 313 P **Pn 04 31 08.0 -0.8**
BFO Black Forest 13.72 313 *e*Pn **Pn 04 31 07.8 -1.0**
BFO Black Forest 13.72 313 **Pn 04 31 08.0 -0.8**
MARD Mardin 13.78 95 **Pn 04 31 12.9 +3.1**
EIL Elat 13.90 134 Pn **Pn 04 31 11.2 -0.2**
comp=Z,0.9nm,0.3s,baz=330,slow=5.8,SNR=18
EIL LR LR 04 38 42.6
comp=Z,915nm,19.7s,baz=307,slow=47
EIL Elat 13.90 134 Pn **Pn 04 31 10.8 -0.5**
GKP Gorka Klasztor 14.01 344 *e*P **P 04 31 16.8 -3.8**
GKP eS **S 04 34 00.9 -8.7**
SUW Suwalki 14.09 359 *e*P **Pn 04 31 14.6 +0.9**
ECH Echery 14.34 311 *e*Pn **Pn 04 31 17.8 +0.6**
SET Setif 14.71 261 P **P 04 31 26.0 -2.6**
MAHO Mahon 14.74 276 *i* P **Pn 04 31 25.5 +2.8**
MAHO eS **S 04 34 18.3 -6.5**
TNS Taunus Mts 14.76 319 *e*Pn **Pn 04 31 25.4 +2.5**
KIV Kislovodsk 14.85 68 P **Pn 04 31 26.3 +2.0**
KIV Kislovodsk 14.85 68 *e*P **Pn 04 31 25.9 +1.6**
KIV eS **Sn 04 34 12.0 +3.2**
KIV pmax pmax
comp=Z,269nm,1.1s
KIV MLR MLR
comp=Z,1μm,12.0s
KVAR Kislovodsk Arr 14.86 68 Pn **Pn 04 31 25.2 +0.8**
baz=270,slow=20,SNR=11
MICGM Minsk 14.88 10⇑ *e*P **Pn 04 31 23.0 -1.5**
MICGM PM 04 31 25.0
comp=Z,0.5nm,1.0s
MICGM *e*LR LR 04 36 30.0
MICGM LRM MLR 04 38 04.0
comp=Z,6.8nm,8.0s
MICGM LRM MLR 04 38 06.0
comp=E,7.2nm,8.0s
MNK Minsk 14.88 10 *e*P **Pn 04 31 23.0 -1.5**
MNK pmax pmax
comp=Z,450nm,1.0s
MNK MLR MLR
comp=Z,7μm,8.0s
KBZ Khabaz 14.97 69 Pn **Pn 04 31 26.6 +0.9**
comp=Z,0.1nm,0.3s,baz=272,slow=11,SNR=19
NACGM Naroch 15.15 7 *e*P **Pn 04 31 29.0 +0.9**
NACGM eS **Sn 04 34 16.0 +0.3**
NACGM eLQ LQ 04 36 19.0
NACGM eLR LR 04 37 38.0
NACGM LRM MLR 04 38 04.0
comp=Z,9.5nm,12.0s
AKH Akhalkalaki 15.27 78 P **Pn 04 31 30.9 +0.9**
AKH pmax pmax
comp=Z,175nm,1.5s
AKH Akhalkalaki 15.27 78 Pn **Pn 04 31 30.9 +0.9**
AKH IAmb IAmb 04 31 39.6
comp=Z,175nm,1.5s
GEVA Gevas 15.29 90 **Pn 04 31 32.6 +2.4**
GEVA IAmb IAmb 04 31 40.9
comp=Z,134nm,1.1s
IDID Didziasalis 15.55 7 *e*P **Pn 04 31 33.1 -0.2**
IDID IAmb IAmb 04 31 36.0
comp=Z,99nm,1.4s
PABE Paberze 15.59 1 *e*P **Pn 04 31 35.0 +1.1**
PABE IAmb IAmb 04 31 43.1
comp=Z,523nm,1.3s
ZEI Tsey 15.60 73 *e*P **Pn 04 31 35.1 +0.7**
ZEI pmax pmax
comp=Z,151nm,1.3s
VORD Divnogorie 15.62 40 *e*P **Pn 04 31 33.2 -1.1**
VORD pmax pmax
comp=Z,90nm,1.2s
VORD MLR MLR
comp=Z,2μm,8.0s
WLF Walferdange 15.65 314 PnPn sP 04 31 43.0 -0.3
WLF Walferdange 15.65 314 P **Pn 04 31 32.7 -2.0**
WLF pmax pmax
comp=Z,75nm,1.2s
WLF Walferdange 15.65 314 Pn **Pn 04 31 32.7 -2.0**
VSR Storozhevoye 15.71 39 *e*P **Pn 04 31 34.4 -1.1**
VSR pmax pmax
comp=Z,130nm,1.1s
VSR MLR MLR
comp=Z,6μm,10.0s
ISAL Salakas 15.75 6 *e*P **Pn 04 31 36.4 +0.4**
IZAR Zarasai 15.94 6 *e*P **Pn 04 31 39.4 +1.0**
VORR Voronezh 16.03 38 *e*P **Pn 04 31 40.0 +0.4**
VORR pmax pmax
comp=Z,300nm,1.6s
BHOU Houvegnez 16.10 316 PnPn sP 04 31 50.7 +2.4
SSF Saint Saulge 16.12 303 *e*P **P 04 31 43.9 -0.2**
TBLG Delisi 16.20 77 P **Pn 04 31 43.3 +1.5**
TBLG pmax pmax
comp=Z,97nm,1.2s
TBLG Delisi 16.20 77 **Pn 04 31 43.3 +1.5**
MEM Membach 16.24 317 PnPn **sP 04 31 50.2 +0.3**
MEM PnPn **PnPn 04 31 50.4 -0.7**
MEM PgPg **PgPg 04 33 04.8 -0.4**
BSTI Sart Tilman 16.46 316 PnPn sP 04 31 53.2 +0.9
BCLA Clavier 16.51 315 PnPn sP 04 31 53.2 +0.4
LPSR Galich'ya Gora 16.53 35 *e*P **Pn 04 31 45.1 -0.9**
LPSR pmax pmax
comp=Z,220nm,1.5s
LPSR MLR MLR
comp=Z,2μm,9.0s
BGES Gesves 16.61 315 PnPn **sP 04 31 55.4 +1.4**
BGES PbPb PbPb 04 32 41.7 -1.0
BGES PgPg **PgPg 04 33 10.0 -2.3**
DOU Dourbes 16.73 314 PnPn sP 04 31 54.7 -0.6
VRH Novokhopyorsk 16.99 42 *e*P **Pn 04 31 51.1 -0.7**
VRH pmax pmax
comp=Z,200nm,1.5s
VRH MLR MLR
comp=Z,1μm,9.0s
NAX Nakhchivan 17.00 85 P **P 04 31 56.2 +2.2**
GROC Groznyy 17.02 72 *e*P **Pn 04 31 52.6 +0.4**
GROC pmax pmax
comp=Z,342nm,1.0s
CLF Chambon-Foret 17.24 305 Pn **Pn 04 31 53.0 -2.0**
OBN Obninsk 17.53 26 P **Pn 04 31 56.1 -2.4**
comp=Z,3.3nm,0.3s,baz=216,slow=8.8,SNR=12
OBN S **Sn 04 35 14.1 +0.6**
comp=Z,4.5nm,0.3s,baz=341,slow=20,SNR=2.9
OBN Lg Lg 04 37 03.5
comp=Z,0.7nm,0.3s,baz=142,slow=21,SNR=0.8
OBN LR LR 04 38 50.7
comp=Z,540nm,20.6s,baz=214,slow=37
OBN Obninsk 17.53 26⇑ *e*P **Pn 04 31 56.7 -1.8**
OBN eS **Sn 04 35 16.6 +3.1**
OBN pmax pmax
comp=Z,73nm,1.1s
OBN MLR MLR
comp=Z,2μm,16.0s
OBN Obninsk 17.53 26 IAmb IAmb 04 32 01.8
comp=Z,515nm,2.0s
MAK Makhachkala 18.26 73 *e*P **Pn 04 32 05.7 -1.9**
MAK eS **Sn 04 35 31.5 +0.2**
MAK pmax pmax
comp=Z,243nm,1.2s
MAK MLR MLR
comp=Z,780nm,12.0s
MOS Moscow 18.39 26 *e*P **P 04 32 05.8 -3.3**
MOS eS **Sn 04 35 32.7 -1.6**
MOS pmax pmax
comp=Z,396nm,1.6s
MOS pmax pmax
comp=Z,700nm,1.8s
MOS MLR MLR
comp=Z,2μm,18.0s
AKT Akhty 18.45 77 *e*P **Pn 04 32 12.6 +2.5**
AKT pmax pmax
comp=Z,23nm,1.1s
VSU Vasula 18.67 5 *e*P **P 04 32 12.0 -0.1**
MUD Monsted U'grnd 19.02 335 *i* P **Pn 04 32 21.7 +5.0**
comp=Z,76nm,1.4s
MUD Monsted U'grnd 19.02 335 *i* P **Pn 04 32 21.7 +5.0**
MUD pmax pmax
comp=Z,76nm,1.4s
CART Cartagena 19.21 271⇓ *i* P **Pn 04 32 20.9 +1.7**
CART eS **Sn 04 35 51.2 -3.3**
CART Cartagena 19.21 271 P **P 04 32 14.6 -3.7**
SESP Santiago Espad 20.27 273 P Pn 04 32 36.5 +4.5
SNR=10.0
PUL Pulkovo 20.33 10 *e*P Pn 04 32 32.8 +0.5
PUL pmax pmax
comp=Z,90nm,1.1s
UCM Universidad Co 20.41 280⇑ *i* P Pn 04 32 33.0 -0.5
UCM eS Sn 04 36 24.8 +1.4
ESBB Sonseca Array 21.05 278 P **P 04 32 38.8 +0.5**
ESDC Sonseca Array 21.05 278 P **P 04 32 37.2 -1.2**
comp=Z,4.2nm,0.9s,baz=74,slow=11,SNR=18
ESDC S **S 04 36 29.5 -3.1**
comp=Z,0.2nm,0.3s,baz=79,slow=20,SNR=0.6
ESDC LR LR 04 41 21.7
comp=Z,1μm,18.3s,baz=60,slow=38
ESDC Sonseca Array 21.05 278 P **P 04 32 40.5 +2.1**
HFS Hagfors 21.14 346 P **P 04 32 39.0 0.0**
comp=Z,7.0nm,0.4s,baz=161,slow=14,SNR=1.3
HFS LR LR 04 41 56.0
comp=Z,1μm,19.1s,baz=162,slow=40
HFS Hagfors 21.14 346 P **P 04 32 39.0 0.0**
PAB San Pablo 21.37 278 P **P 04 32 42.2 +0.4**
PAB pmax pmax
comp=Z,75nm,1.4s
PAB MLR MLR
comp=Z,1μm,18.0s
PAB San Pablo 21.37 278 P **P 04 32 42.2 +0.4**
MELI Melilla 21.39 266⇓ *i* P **P 04 32 44.8 +2.9**
GOG Mont Gurugu 21.46 266 P P 04 32 52.0 +9.1
SNR=5.5
KONO Kongsberg 21.59 341 P **P 04 32 44.8 +0.9**
KONO pmax pmax
comp=Z,120nm,1.6s
KONO MLR MLR
comp=Z,1μm,18.0s
KONO Kongsberg 21.59 341 P **P 04 32 44.8 +0.9**
KONO IAmb IAmb 04 33 16.8
comp=Z,120nm,1.6s
KONO Kongsberg 21.59 341 *e*P **P 04 32 44.2 +0.4**
FINES FINESS Array B 21.60 3 P **P 04 32 42.7 -1.3**
comp=Z,57nm,0.9s,baz=159,slow=12,SNR=35
FINES PcP **PcP 04 36 45.2 -0.1**
comp=Z,5.7nm,1.0s,baz=205,slow=2.9,SNR=2.8
FIA1 FINESS Array S 21.60 3 P **P 04 32 43.9 -0.1**
FIA1 IAmb IAmb 04 32 47.5
comp=Z,98nm,1.0s
EMAL Malaga-Limoner 22.07 271⇓ *i* P **P 04 32 51.0 +1.7**
EMAL eS PcP 04 36 38.5 -8.2
NC602 NORSAR Array S 22.11 344 *e*P **P 04 32 48.6 -0.8**
BLS5 Blasjo 22.28 337 *e*P **P 04 32 53.2 +1.9**
HORN Hornachuelos 22.42 274 P **P 04 32 53.6 +0.6**
SNR=19
NB201 NORSAR Array S 22.45 344 P **P 04 32 53.9 +0.8**
NB2 NORSAR Subarra 22.45 344 P **P 04 32 51.8 -1.4**
comp=Z,194nm,1.4s,baz=153,slow=10
NB2 NORSAR Subarra 22.45 344 P **P 04 32 51.8 -1.4**
baz=153,slow=10
NOA NORSAR Array B 22.45 344 P **P 04 32 52.5 -0.7**
comp=Z,65nm,1.2s,baz=153,slow=10,SNR=28
NOA LR LR 04 42 09.1
comp=Z,1μm,19.8s,baz=155,slow=38
PVLZ Peæn de 22.48 267 *e*S **PcP 04 36 44.2 -3.4**
KMY Karmoy 22.49 335 *e*P **P 04 32 56.5 +3.0**
NC303 NORSAR Array S 22.59 345 P **P 04 32 55.4 +0.8**
PBRG Braganca 22.87 285 *e*P **P 04 33 01.0 +3.2**
comp=Z,53nm,1.5s
TAM Tamanrasset 22.88 227 P **P 04 32 59.0 +0.9**
TAM pmax pmax
comp=Z,56nm,1.1s
TAM Tamanrasset 22.88 227 P **P 04 32 59.0 +0.9**
TAM IAmb IAmb 04 33 12.5
comp=Z,56nm,1.1s
CEU Ceuta 23.06 269 *e*P **P 04 32 58.1 -1.6**
CEU eS **S 04 37 09.9 -0.6**
MVO Moncorvo 23.16 283 *e*P **P 04 33 00.3 -0.5**
comp=Z,61nm,1.2s
MVO eS **S 04 37 17.0 +4.8**
MVO eLR LR 04 42 37.6
comp=Z,1μm,16.0s
KLMR Klimovskoe 23.19 20*c i*P **P 04 32 59.7 -1.1**
KLMR *e* 04 36 45.5
KLMR eS **S 04 37 12.6 +0.4**
KLMR pmax pmax
comp=Z,232nm,1.4s
KLMR MLR MLR
comp=Z,1μm,9.0s
KLMR Klimovskoe 23.19 20⇑ *i*P **P 04 32 59.7 -1.1**
KLMR *i* P **P 04 32 59.7 -1.1**
KLMR *i* P **P 04 32 59.7 -1.1**
KLMR AMP 04 33 04.9
comp=Z,232nm,1.4s
KLMR *e*PcP **PcP 04 36 45.6 -3.0**
KLMR eS **S 04 37 12.6 +0.4**
KLMR eS **S 04 37 12.6 +0.4**
KLMR LQ LQ 04 39 54.2
KLMR LQ LQ 04 39 54.2
KLMR LR LR 04 41 03.3
KLMR AMP 04 43 10.9
comp=Z,1μm,9.1s
BER Bergen 23.39 337 *e*P **P 04 33 05.7 +2.9**
ESK Eskdalemuir 23.46 320 P **P 04 33 04.0 +0.4**
ESK pmax pmax
comp=Z,104nm,1.3s
ESK MLR MLR
comp=Z,800nm,20.0s
ESK Eskdalemuir 23.46 320 P **P 04 33 04.0 +0.4**
ESK IAmb IAmb 04 33 17.9
comp=Z,104nm,1.3s
SFS San Fernando 23.53 271 *e*S **S 04 37 14.3 -3.9**
MDT Midelt 23.63 261 P **P 04 33 04.9 -0.7**
comp=Z,15nm,1.0s,baz=82,slow=10,SNR=19
MDT LR LR 04 43 18.5
comp=Z,634nm,18.9s,baz=78,slow=39
MTE Manteigas 23.65 281 *e*P **P 04 33 08.3 +2.6**
comp=Z,155nm,1.6s
MTE eS **S 04 37 27.1 +6.8**
MTE eLR LR 04 42 23.5
comp=Z,2μm,18.0s
MTE Manteigas 23.65 281 P **P 04 33 06.5 +0.7**
MTE IAmb IAmb 04 33 27.9
comp=Z,90nm,1.2s
PVRL Vila Real 23.66 283 *e*P **P 04 33 07.4 +1.7**
comp=Z,49nm,1.6s
PCBR Castelo Branco 23.69 280 *e*P **P 04 33 07.0 +1.0**
comp=Z,120nm,1.6s
PMRV Marv??o 23.70 279 *e*P **P 04 33 08.7 +2.5**
comp=Z,102nm,1.5s
PMRV eS **S 04 37 24.5 +3.4**
PMRV eLQ LQ 04 41 16.6
PMRV eLR LR 04 42 31.8
comp=Z,1μm,16.0s
IFR Ifrane 23.74 263⇓ *i*P **P 04 33 09.0 +2.3**
IFR eS **S 04 37 25.0 +3.0**
DOMB Dombas 23.82 343 *e*P **P 04 33 07.9 +0.8**
PCAB Cabril 23.84 285 *e*P **P 04 33 09.1 +1.6**
comp=Z,72nm,1.3s
PVIS Viseu 23.87 282 *e*P **P 04 33 09.6 +1.8**
comp=Z,84nm,1.4s
CZD Col de Zad 23.87 262 P **P 04 33 13.0 +4.8**
SNR=17
ARF Arif 23.96 258 P **P 04 33 15.1 +6.3**
SNR=11
PGAV Gavieira, Arco 23.99 285 *e*P **P 04 33 12.5 +3.5**
comp=Z,96nm,1.8s
PGAV eS **S 04 37 30.2 +4.4**
PGAV eLR LR 04 43 23.1
comp=Z,832nm,16.0s
COI Coimbra 24.34 281 P **P 04 33 13.3 +1.2**
COI pmax pmax
comp=Z,121nm,1.3s
COI MLR MLR
comp=Z,1μm,18.0s
COI Coimbra 24.34 281 *e*P **P 04 33 17.1 +5.0**
comp=Z,152nm,1.4s
COI eS **S 04 37 39.6 +8.5**
COI Coimbra 24.34 281 P **P 04 33 13.3 +1.2**
EVO Evora 24.37 277⇓ *i*P **P 04 33 14.9 +2.5**
EVO eS **S 04 37 25.7 -5.9**
EVO Evora 24.37 277 *e*P **P 04 33 15.9 +3.5**
comp=Z,33nm,1.4s
PBEJ Beja 24.38 276 *e*P **P 04 33 15.9 +3.4**
comp=Z,68nm,1.5s
GOLM Goulmima 24.39 259 P **P 04 33 20.0 +7.2**
SNR=7.8
PMTG Montargil 24.41 278 *e*P **P 04 33 13.7 +0.9**
comp=Z,79nm,1.6s
PMTG eS **S 04 37 37.0 +4.7**
PCAS Casmilo, Conde 24.43 281 *e*S **S 04 37 34.2 +1.6**
MOL Molde 24.62 342 *e*P **P 04 33 17.8 +3.4**
PBDV Barranco-do-Ve 24.63 274 *e*P **P 04 33 17.6 +2.8**
comp=Z,130nm,1.4s
PBDV eS **S 04 37 42.4 +6.5**
PSBE So Bento 24.75 280 *e*P **P 04 33 17.8 +1.9**
comp=Z,78nm,1.7s
PNCL Nicolau / Gran 24.86 276 *e*P **P 04 33 18.9 +2.1**
comp=Z,54nm,1.7s
PNCL eS **S 04 37 46.0 +6.4**
KIRV Kirov 24.94 33 P **P 04 33 17.6 +0.4**
comp=Z,17nm,0.5s,baz=224,slow=8.5,SNR=23
PTEO Sao Teotonio 25.16 275 *e*P **P 04 33 24.5 +5.0**
comp=Z,87nm,1.5s
MORF Marmelete 25.16 274 *e*P **P 04 33 20.2 +0.6**
MORF AMb AMB 04 33 27.2
comp=Z,45nm,2.0s
MORF eS **S 04 37 43.9 -0.7**
MORF Marmelete 25.16 274 *e*P **P 04 33 20.3 +0.6**
MORF eS **S 04 37 43.9 -0.7**
MORF Marmelete 25.16 274 *e*P **P 04 33 22.3 +2.6**
comp=Z,45nm,1.5s
MORF eS **S 04 37 49.3 +4.7**
LIS Lisbon 25.19 278 *e*P **P 04 33 20.3 +0.5**
LIS AMb AMB 04 33 28.9
comp=Z,100nm,2.1s
LIS Lisbon 25.19 278 *e*P **P 04 33 20.3 +0.5**
LIS Lisbon 25.19 278 *e*P **P 04 33 24.6 +4.8**
comp=Z,100nm,1.5s
PMAFR Mafra 25.24 278 *e*S S 04 37 57.1 +11
PFVI Vila Bisbo 25.35 274 *e*P **P 04 33 23.5 +2.3**
comp=Z,123nm,1.8s
NSS Namsos 25.54 348 *e*P **P 04 33 25.7 +3.0**
AVE Averroes 25.57 265 *e*P **P 04 33 20.1 -3.3**
AVE eS **S 04 38 01.6 +11**
PRGR Permogore 25.61 25⇑ *i*P **P 04 33 23.0 -0.3**
PRGR pmax pmax
comp=Z,451nm,1.5s
TMCR Tamitsa 25.74 15 *e*P **P 04 33 25.5 +1.0**
TMCR eS **S 04 37 55.9 +2.8**
AKTO Aktyubinsk 26.30 55 P **P 04 33 29.6 -0.1**
comp=Z,22nm,1.0s,baz=256,slow=10,SNR=26
AKTO LR LR 04 45 45.8
comp=Z,924nm,20.7s,baz=269,slow=41
MOR8 Moi Rana 26.79 352 *e*P **P 04 33 35.5 +1.5**
GEYT Alibeck 26.93 83 P **P 04 33 35.6 0.0**
comp=Z,82nm,1.1s,baz=282,slow=8.9,SNR=72
GEYT LR LR 04 46 47.6
comp=Z,809nm,19.4s,baz=280,slow=42
GEYT Alibeck 26.93 83 P **P 04 33 37.1 +1.5**
GYA0B ALIBECK ARRAY 26.93 83 P **P 04 33 37.2 +1.6**
KONS Konsvik 27.25 351 *e*P **P 04 33 41.0 +2.9**
ABKAR Akbulak array 27.36 58 P **P 04 33 39.7 +0.3**
FAUS Fauske 27.88 353 *e*P **P 04 33 44.5 +0.7**
ARU Arti 28.22 42 P **P 04 33 46.4 -0.6**
comp=Z,1.4nm,0.3s,baz=228,slow=8.7,SNR=20
ARU LR LR 04 44 41.1
comp=Z,1μm,20.1s,baz=248,slow=36
ARU Arti 28.22 42*c i*P **P 04 33 46.8 -0.2**
ARU 04 34 33.0
ARU 04 36 57.1
ARU S **S 04 38 33.7 +1.3**
ARU pmax pmax
comp=Z,41nm,1.3s
ARU MLR MLR
comp=Z,893nm,11.0s
ARU Arti 28.22 42 P **P 04 33 46.8 -0.2**
ARU IAmb IAmb 04 33 56.6
comp=Z,72nm,1.3s
STEI Steigen 28.42 353 *e*P **P 04 33 49.2 +0.6**
LVZ Lovozero 28.69 9 *e*P **P 04 33 53.2 +2.1**
LVZ pmax pmax
comp=Z,11nm,1.1s
KTK1 Kautokeino 29.14 360 *e*P **P 04 33 54.8 -0.2**
ARCES ARCESS Array B 29.69 1 P **P 04 33 59.9 0.0**
comp=Z,7.5nm,0.9s,baz=156,slow=6.4,SNR=13
ARCES ARCESS Array B 29.69 1 P **P 04 34 00.7 +0.9**
ARCES ARCESS Array B 29.69 1 P **P 04 34 00.7 +0.9**
ARE0 ARCESS Array S 29.69 1 P **P 04 34 01.5 +1.7**
ARE0 ARCESS Array S 29.69 1 *e*P **P 04 34 00.1 +0.2**
TRO Tromso 29.86 357 *e*P **P 04 34 01.7 +0.3**
KEV Kevo 29.95 2 IAMs_20 IAMs_20 04 46 14.9
comp=Z,2μm,22.0s
UMQ Umm Al-Quwin 30.46 108 *i* P **P 04 34 09.3 +2.1**
SNR=7.5
SHME Shamm 30.51 107 P **P 04 34 08.8 +1.2**
BANOM Banah 30.70 107 *i* P **P 04 34 11.1 +1.8**
SNR=6.2
NAZ Nazwa, Dubai 30.78 109 *i* P **P 04 34 11.8 +1.8**
SNR=11
NAZ Nazwa, Dubai 30.78 109 P **P 04 34 11.6 +1.6**
SNR=13
FAQ Al Faqa, Dubai 30.88 110 P **P 04 34 12.4 +1.6**
MSFE Esma-Masafi 30.93 108 *i* P **P 04 34 12.7 +1.4**
SNR=8.0
MDH Madha 31.06 108 *i* P **P 04 34 13.6 +1.2**
SNR=6.5
UOSS Minazif 31.20 109 *i* P **P 04 34 14.7 +1.0**
SNR=5.1
UOSS Minazif 31.20 109 P **P 04 34 14.4 +0.8**
HATD Hatta, Dubai 31.22 109 *i* P **P 04 34 14.4 +0.5**
SNR=24
HATD Hatta, Dubai 31.22 109 P **P 04 34 15.2 +1.3**
SNR=11
ASHO Ashiyiah 31.25 109 *i* P **P 04 34 14.3 +0.1**
SNR=33
ASHO Ashiyiah 31.25 109 P **P 04 34 15.2 +1.1**
SNR=13
ALNE Al Ain 31.41 110 *i* P **P 04 34 16.2 +0.7**
SNR=23
SOHO SOHO 31.93 110 *i* P **P 04 34 20.6 +0.5**
SNR=78
ARQ Aragi 32.41 111 P **P 04 34 25.7 +1.4**
SNR=16
ARQ P **P 04 34 25.7 +1.4**
SNR=16
HOQ Hoqain 32.83 110 P **P 04 34 29.4 +1.5**
SNR=14
TOA0 Torodi Ar. Sit 32.85 222 P **P 04 34 27.5 -0.7**
TOA0 IAmb IAmb 04 34 34.3
comp=Z,69nm,1.6s
TORD Torodi Ar. Bea 32.85 222 P **P 04 34 27.1 -1.1**
comp=Z,4.5nm,0.4s,baz=30,slow=9.2,SNR=73
TORD LR LR 04 48 35.6
comp=Z,810nm,21.9s,baz=15,slow=38
TORD Torodi Ar. Bea 32.85 222 P **P 04 34 28.0 -0.1**
ATD Arta Tunnel 33.08 143 P **P 04 34 29.7 -0.6**
comp=Z,16nm,0.9s,baz=298,slow=3.0,SNR=6.6
ATD Arta Tunnel 33.08 143 P **P 04 34 31.9 +1.7**
ATD IAmb IAmb 04 34 39.1
comp=Z,35nm,1.2s
BSY Bisya 33.27 111 P **P 04 34 33.4 +1.5**
SNR=7.5
BIDO Bidbid 33.46 109 P **P 04 34 35.5 +2.0**
SNR=11
BIDO P **P 04 34 35.5 +2.0**
SNR=11
SMDO Samad 33.68 110 P **P 04 34 36.4 +0.8**
SNR=14
SMDO P **P 04 34 36.4 +0.8**
SNR=14
WSAR Wadi Sarin 34.00 109 P **P 04 34 37.7 -0.4**
baz=298,slow=10.0
WSAR Wadi Sarin 34.00 109 P **P 04 34 39.8 +1.6**
SNR=5.8
JMDO Jabal Madar 34.15 110 P **P 04 34 40.7 +1.2**
SNR=11
BRVK Borovoye 34.17 52 P **P 04 34 40.7 +1.3**
BRVK pmax pmax
comp=Z,56nm,1.3s
BRVK MLR MLR
comp=Z,600nm,18.0s
BRVK Borovoye 34.17 52 P **P 04 34 40.7 +1.3**
WBK Wadi Bani Khal 34.63 109 P **P 04 34 45.1 +1.4**
SNR=11
IUG Iuzhnay 34.85 71 *e*P **P 04 34 45.8 +0.2**
comp=Z,60nm,2.3s,baz=71
IUG Iuzhnay 34.85 71 *e*P **P 04 34 45.7 +0.2**
IUG pmax pmax

comp=Z,60nm,2.3s
MHTO MHTO 34.93 112 P **P** **04 34 47.4 +1.2**
SNR=13
KK31 Karatay Array 35.01 69 *i* P **P** **04 34 47.5 +0.7**
KK31 Karatay Array 35.01 69 IAmb IAmb 04 34 50.1
comp=Z,47nm,1.4s
KKAR Karatay Array 35.01 69 P **P** **04 34 47.2 +0.4**
KKAR Karatay Array 35.01 69 P **P** **04 34 47.2 +0.4**
KKAR Karatay Array 35.01 69 IAmb IAmb 04 34 50.1
comp=Z,47nm,1.4s
JLN Jalan Bani Buh 35.23 109 P **P** **04 34 50.0 +1.1**
SNR=6.0
SHAO Shalim 35.31 119 P **P** **04 34 50.1 +0.6**
DQM DQM 35.32 114 P **P** **04 34 51.0 +1.3**
SNR=6.0
BRZS Berezniki 35.65 57 *e*P **P** **04 34 52.6 +0.4**
comp=Z,33nm,1.8s,baz=57
BRZS *e*PP **PnPn** **04 36 12.1 +0.6**
baz=57
BRZS Berezniki 35.65 57 *e*P **P** **04 34 52.6 +0.4**
BRZS *e* 04 36 12.1
BRZS pmax pmax
comp=Z,33nm,1.8s
KBL Kabul 36.37 84 P **P** **04 35 00.3 +1.5**
KBL pmax pmax
comp=Z,31nm,1.2s
KBL MLR MLR
comp=Z,600nm,19.0s
KBL Kabul 36.37 84 P **P** **04 35 00.3 +1.5**
KBL IAmb IAmb 04 35 02.3
comp=Z,31nm,1.1s
BTLS Baital 37.15 65 *e*P **P** **04 35 05.4 +0.4**
comp=Z,17nm,1.1s,baz=65
BTLS Baital 37.15 65 *e*P **P** **04 35 05.4 +0.4**
BTLS pmax pmax
comp=Z,17nm,1.1s
EKS2 Erkin-Say 37.45 69 P **P** **04 35 08.9 +1.1**
SNR=54
AML Almayashu 37.51 70 P **P** **04 35 10.5 +1.9**
SNR=8.4
SGDS Sogindy 37.88 67 *e*P **P** **04 35 11.2 -0.1**
comp=Z,20nm,1.4s,baz=67
SGDS *e*PP **PP** **04 36 37.9 +0.2**
baz=67
SGDS Sogindy 37.88 67 *e*P **P** **04 35 11.2 -0.1**
SGDS *e* 04 36 37.9
SGDS pmax pmax
comp=Z,21nm,1.4s
AAK Ala-Archa 37.97 69 P **P** **04 35 13.2 +1.1**
comp=Z,14nm,1.0s,baz=247,slow=8.8,SNR=30
AAK Ala-Archa 37.97 69 P **P** **04 35 14.8 +2.6**
SNR=10
AAK Ala-Archa 37.97 69 *i* P **P** **04 35 13.8 +1.7**
SNR=16
AAK Ala-Archa 37.97 69 P **P** **04 35 13.9 +1.7**
AAK pmax pmax
comp=Z,55nm,1.4s
AAK MLR MLR
comp=Z,700nm,18.0s
AAK Ala-Archa 37.97 69 P **P** **04 35 13.9 +1.7**
AAK IAmb IAmb 04 35 17.2
comp=Z,55nm,1.4s
CHMS Chumysh 38.07 68 P **P** **04 35 15.4 +2.5**
SNR=6.8
UCH Uchtor 38.08 69 P **P** **04 35 15.0 +1.6**
SNR=20
KBK Karagaybulak 38.29 69 P **P** **04 35 17.9 +3.0**
SNR=6.6
SCO Scoresbysund 38.42 337 P **P** **04 35 17.5 +2.1**
SCO pmax pmax
comp=Z,112nm,1.7s
SCO MLR MLR
comp=Z,600nm,19.0s
SCO Scoresbysund 38.42 337 P **P** **04 35 17.5 +2.1**
SCO IAmb IAmb 04 35 33.4
comp=Z,112nm,1.7s
SOCY Socotra 38.57 127 P **P** **04 35 15.9 -1.5**
KZA Kyzart 38.65 69 P **P** **04 35 20.3 +2.0**
SNR=18
TKM2 Tokmak 2 38.69 68 P **P** **04 35 20.2 +1.9**
SNR=11
TKM2 Tokmak 2 38.69 68 P **P** **04 35 19.3 +1.0**
ULHL Ulahol 39.32 69 P **P** **04 35 25.9 +2.3**
SNR=9.2
KURBB Kurchatov Arra 39.34 55 P **P** **04 35 23.1 -0.3**
comp=Z,24nm,1.1s,baz=280,slow=9.1,SNR=68
KURBB Kurchatov Arra 39.34 55 P **P** **04 35 21.8 -1.6**
KBS Kingsbay 39.39 357 P **P** **04 35 24.6 +1.1**
KBS pmax pmax
comp=Z,68nm,1.4s
KBS MLR MLR
comp=Z,1μm,21.0s
KBS Kingsbay 39.39 357 P **P** **04 35 24.6 +1.1**
KBS IAmb IAmb 04 35 29.1
comp=Z,68nm,1.4s
KURK Kurchatov 39.39 55 P **P** **04 35 24.9 +1.1**
KURK pmax pmax
comp=Z,52nm,1.3s
KURK MLR MLR
comp=Z,800nm,21.0s
KURK Kurchatov 39.39 55 P **P** **04 35 24.9 +1.1**
KURK IAmb IAmb 04 35 26.7
comp=Z,52nm,1.3s
AAA Alma-Ata 39.56 67 *e*P **P** **04 35 25.6 +0.2**
baz=67
AAA *e*PP **PP** **04 36 56.8 +0.7**
baz=67
AAA LR LR 04 52 28.6
comp=Z,221nm,13.5s,baz=67
AAA Alma-Ata 39.56 67 *e*P **P** **04 35 25.6 +0.2**
AAA *e* 04 36 56.7
AAA MLR MLR
comp=Z,221nm,13.0s
ROSA Rosais 39.56 285 P **P** **04 35 25.9 +0.5**
MDOK Medeo 39.66 67 *e*P **P** **04 35 26.9 +0.5**
baz=67
MDOK *e*PP **PP** **04 36 58.0 +0.7**
baz=67
MDOK LR LR 04 52 52.1
comp=Z,235nm,14.2s,baz=67
MDOK Medeo 39.66 67 *e*P **P** **04 35 26.8 +0.5**
MDOK *e* 04 36 58.0
MDOK MLR MLR
comp=Z,235nm,14.0s
KSH Kashi 39.89 73 P **P** **04 35 28.3 0.0**
KSH pP sP 04 35 33.8 +0.7
KSH PP **PnPn** **04 37 04.3 +1.2**
KSH S **S** **04 41 29.4 -3.7**
KSH pmax pmax
comp=Z,45nm,1.3s
KSH pmax pmax
comp=Z,230nm,3.3s
KSH LR LR
comp=Z,300nm,12.3s
KSH LR LR
comp=Z,330nm,13.2s
KSH LR LR
comp=Z,650nm,15.5s
NIL Nilore 39.94 83 P **P** **04 35 29.3 +0.7**
NIL pmax pmax
comp=Z,104nm,1.3s
NIL MLR MLR
comp=Z,300nm,21.0s
NIL Nilore 39.94 83 P **P** **04 35 29.2 +0.7**
KDJ Kajisay 40.02 69 IAmb IAmb 04 35 33.2
comp=Z,37nm,1.1s
TDK Taldyqorghan 40.19 64 *e*P **P** **04 35 31.4 +0.8**
baz=64
TDK *e*PP **PP** **04 37 04.2 +1.3**
baz=64
TDK LR LR 04 54 18.9
comp=Z,584nm,19.5s,baz=64
TDK Taldyqorghan 40.19 64 *e*P **P** **04 35 31.3 +0.8**
TDK *e* 04 37 04.1
TDK MLR MLR
comp=Z,584nm,20.0s
TARG Taragay, Kyrgy 40.58 69 P **P** **04 35 34.5 +0.2**
TARG IAmb IAmb 04 35 37.9
comp=Z,45nm,1.3s
SATY Saty 40.65 67 *e*P **P** **04 35 34.8 +0.2**
comp=Z,31nm,1.3s,baz=67
SATY Saty 40.65 67 *e*P **P** **04 35 34.8 +0.2**
SATY pmax pmax
comp=Z,31nm,1.3s
SATY Saty 40.65 67 *e*P **P** **04 35 34.8 +0.2**
SATY pmax pmax
comp=Z,31nm,1.3s
PRZ Przheval'sk 40.80 68 IAmb IAmb 04 35 40.2
comp=Z,39nm,1.1s
MBAR Mbarara 40.88 169 P **P** **04 35 36.4 -0.3**
comp=Z,2.0nm,0.2s,baz=332,slow=7.2,SNR=8.8
MBAR Mbarara 40.88 169 P **P** **04 35 36.8 +0.1**
MBAR pmax pmax
comp=Z,13nm,1.1s
MBAR MLR MLR
comp=Z,200nm,18.0s
MBAR Mbarara 40.88 169 P **P** **04 35 36.8 +0.1**
UZB Uzynbulak 41.06 67 *e*P **P** **04 35 37.4 -0.6**
comp=Z,15nm,1.5s,baz=67
UZB Uzynbulak 41.06 67 *e*P **P** **04 35 37.3 -0.6**
UZB pmax pmax
comp=Z,15nm,1.5s
SHLS Shalkode 41.37 67 *e*P **P** **04 35 43.1 +2.6**
baz=66
SHLS Shalkode 41.37 67 *e*P **P** **04 35 43.1 +2.6**
DBIC Dimbokro 41.74 225 P **P** **04 35 42.5 -1.1**
comp=Z,6.9nm,0.6s,baz=14,slow=10,SNR=13
DBIC LR LR 04 53 45.4
comp=Z,706nm,21.1s,baz=12,slow=37
DBIC Dimbokro 41.74 225 P **P** **04 35 43.5 -0.1**
DBIC pmax pmax
comp=Z,42nm,1.1s
DBIC Dimbokro 41.74 225 P **P** **04 35 43.5 -0.1**
DBIC IAmb IAmb 04 35 59.6
comp=Z,42nm,1.1s
TIC Toumodi 41.85 225 *e*P **P** **04 35 44.8 +0.3**
KIC Kosan Boka 41.94 225 *e*P **P** **04 35 44.2 -1.0**
comp=Z,260nm,1.6s
LIC Lamto 42.21 225 *e*P **P** **04 35 46.4 -1.0**
comp=Z,254nm,1.6s
MAKZ Makanchi 42.22 61 P **P** **04 35 48.1 +0.8**
MAKZ pmax pmax
comp=Z,25nm,1.3s
MAKZ MLR MLR
comp=Z,500nm,20.0s
MAKZ Makanchi 42.22 61 P **P** **04 35 48.1 +0.8**
MK31 Makanchi Array 42.44 61 *i* P **P** **04 35 49.4 +0.4**
MKAR Makanchi Array 42.44 61 P **P** **04 35 49.3 +0.2**
comp=Z,19nm,1.0s,baz=290,slow=3.5,SNR=59
MKAR LR LR 04 57 02.5
comp=Z,340nm,19.2s,baz=274,slow=41
MKAR Makanchi Array 42.44 61 *ce*P **P** **04 35 49.7 +0.7**
MKAR pmax pmax
comp=Z,19nm,1.0s
ANGG Ammassalik, Gr 42.62 328 IAMs_20 IAMs_20 04 53 47.6
comp=Z,1μm,19.0s
KMBO Kilima Mbogo 42.76 159 P **P** **04 35 51.9 -0.2**
comp=Z,1.0nm,0.3s,baz=224,slow=22,SNR=4.2
KMBO LR LR 04 55 25.9
comp=Z,450nm,18.1s,baz=330,slow=39
KMBO Kilima Mbogo 42.76 159 P **P** **04 35 53.2 +1.1**
KMBO pmax pmax
comp=Z,16nm,1.5s
KMBO Kilima Mbogo 42.76 159 P **P** **04 35 53.2 +1.1**
ZAA0 Zalesovo Array 42.81 50 P **P** **04 35 52.0 +0.1**
ZAA0 IAmb IAmb 04 35 58.2
comp=Z,32nm,0.8s
ZALV Zalesovo Beam 42.81 50 P **P** **04 35 52.0 +0.1**
comp=Z,18nm,0.8s,baz=273,slow=8.4,SNR=41
ZALV LR LR 04 54 26.2
comp=Z,599nm,18.9s,baz=274,slow=37
ZALV Zalesovo Beam 42.81 50 P **P** **04 35 52.0 +0.1**
DHRM DHARAMSHALA 42.85 83 *e*P **P** **04 35 53.0 +0.2**
DHRM IAmb IAmb 04 35 57.1
comp=Z,147nm,1.4s
ZSN Zaisan 44.00 59 *e*P **P** **04 36 02.0 +0.4**
comp=Z,34nm,1.9s,baz=59
ZSN Zaisan 44.00 59 *e*P **P** **04 36 02.0 +0.4**
ZSN pmax pmax
comp=Z,34nm,1.9s
SMLA Simla 44.00 84 *e*P **P** **04 36 01.9 +0.1**
SMLA IAmb IAmb 04 36 06.3
comp=Z,98nm,1.4s
SUMG Summit 44.06 338 P **P** **04 36 03.7 +1.4**
SUMG pmax pmax
comp=Z,21nm,1.3s
SUMG MLR MLR
comp=Z,500nm,19.0s
SUMG Summit 44.06 338 P **P** **04 36 03.7 +1.4**
NRIK Noril'sk 44.20 27 P **P** **04 36 03.6 +0.7**
comp=Z,7.7nm,0.7s,baz=252,slow=5.9,SNR=14
NRIK LR LR 04 55 29.0
comp=Z,965nm,21.7s,baz=256,slow=37
DGZ Jazzator, Alta 45.14 55 *c i*P **P** **04 36 12.1 +1.2**
DGZ pmax pmax
comp=Z,20nm,1.1s
NDI New Delhi 45.19 87 *e*P **P** **04 36 13.0 +1.7**
NRS Narsarsuaq 46.10 321 IAMs_20 IAMs_20 04 54 39.6
comp=Z,933nm,19.0s
WMQ Urumqi 46.91 63 *e*P **P** **04 36 27.0 +2.2**
WMQ pP sP 04 36 30.5 +0.9
WMQ PcP **PcP** **04 37 58.0 +0.6**
WMQ PP **PP** **04 38 17.4 +2.5**
WMQ pmax pmax
comp=Z,14nm,1.3s
WMQ pmax pmax
comp=Z,60nm,3.7s
WMQ LR LR
comp=Z,480nm,12.5s
WMQ LR LR
comp=Z,300nm,10.9s
IVI Ivigtut 47.42 321 IAMs_20 IAMs_20 04 55 13.5
comp=Z,815nm,20.0s
ILULI Ilulissat 47.92 332 P **P** **04 36 33.8 +1.6**
ILULI pmax pmax
comp=Z,46nm,1.6s
ILULI Ilulissat 47.92 332 P **P** **04 36 33.8 +1.6**
ILULI IAmb IAmb 04 37 57.0
comp=Z,46nm,1.6s
POO Poona 48.15 101 *e*P **P** **04 36 35.5 +0.8**
POO ⇑*i*P **pP** **04 36 36.0 -2.2**
comp=Z,80nm,1.2s
POO IAmb IAmb 04 36 38.2
comp=Z,89nm,1.2s
PYUN Piuthan 49.90 84 *e*P **P** **04 36 48.5 +0.3**
comp=Z,218nm,1.2s
KOLN Koldanda 50.53 84 *e*P **P** **04 36 53.2 +0.2**
comp=Z,218nm,1.2s
GKN Gorkha 51.21 84 *e*P **P** **04 36 57.9 -0.2**
comp=Z,225nm,1.3s
DMN Daman 51.76 84 *e*P **P** **04 37 02.6 +0.2**
comp=Z,195nm,1.2s
KKN Kakani 51.81 83 *e*P **P** **04 37 02.8 +0.2**
comp=Z,58nm,0.9s
PKI Pulchoki 52.02 84 *e*P **P** **04 37 04.2 -0.1**
comp=Z,135nm,1.4s
GUN Gumba 52.20 83 *e*P **P** **04 37 05.7 0.0**
comp=Z,239nm,1.2s
JIRN Jiri 52.57 83 *e*P **P** **04 37 08.5 0.0**
comp=Z,192nm,1.2s
RAMN Ramite 53.24 84 *e*P **P** **04 37 13.0 -0.3**
comp=Z,100nm,1.0s
TAPN Taplejung 53.88 83 *e*P **P** **04 37 18.2 +0.1**
comp=Z,101nm,1.0s
ODAN Odare 53.89 83 *e*P **P** **04 37 18.4 +0.3**
BOK Bokaro 54.36 87 *e*P **P** **04 37 20.1 -1.1**
BOK IAmb IAmb 04 37 22.4
comp=Z,35nm,0.9s
TLY Talaya 54.41 49 *e*P **P** **04 37 23.8 +2.6**
TLY *e* 04 39 29.4
TLY *e*S **S** **04 44 57.4 -2.0**
TLY pmax pmax
comp=Z,96nm,1.5s
TLY MLR MLR
comp=Z,2μm,17.0s
TLY Talaya 54.41 49 IAMs_20 IAMs_20 05 01 59.7
comp=Z,628nm,20.0s
GTK Tadong 54.58 82 *e*P **P** **04 37 23.4 +0.5**
GTK IAmb IAmb 04 37 25.4
comp=Z,95nm,1.1s
ZAK Zakamensk 54.68 51 *e*P **P** **04 37 24.0 +0.7**
ZAK pmax pmax
comp=Z,14nm,1.4s
LSZ Lusaka 55.09 174 P **P** **04 37 28.1 +1.5**
LSZ pmax pmax
comp=Z,19nm,1.2s
LSZ Lusaka 55.09 174 P **P** **04 37 28.1 +1.5**
LSZ IAmb IAmb 04 37 34.4
comp=Z,20nm,1.2s
DRLN Deer Lake 55.81 309 IAMs_20 IAMs_20 05 00 21.5
comp=Z,822nm,19.0s
GTA Gaotai 56.98 64 ⇑P **P** **04 37 40.8 +0.8**
GTA pP sP 04 37 45.4 +0.5
GTA sP pP 04 37 47.9 +4.4
GTA S **S** **04 45 33.8 -0.5**
GTA sS sS 04 45 45.6 +5.6
GTA SS **SS** **04 49 24.4 +2.1**
GTA pmax pmax
comp=Z,14nm,1.3s
GTA pmax pmax
comp=Z,93nm,7.1s
GTA LR LR
comp=Z,440nm,16.8s
GTA LR LR
comp=Z,520nm,18.4s
GTA LR LR
comp=Z,540nm,20.3s
SONM Songino Array 57.57 52 P **P** **04 37 43.1 -0.9**
comp=Z,11nm,1.1s,baz=286,slow=7.6,SNR=19
SONM LR LR 05 03 09.1
comp=Z,394nm,21.3s,baz=321,slow=37
SONM Songino Array 57.57 52 P **P** **04 37 44.5 +0.4**
SONM Songino Array 57.57 52 P **P** **04 37 44.5 +0.4**
BOD Bodaibo 57.57 39 *e*P **P** **04 37 42.8 -0.9**
BOD pmax pmax
comp=Z,18nm,1.2s
ULN Ulaanbaatar 57.96 52 P **P** **04 37 47.9 +1.1**
ULN pmax pmax
comp=Z,17nm,1.2s
ULN MLR MLR
comp=Z,600nm,21.0s
ULN Ulaanbaatar 57.96 52 P **P** **04 37 47.9 +1.1**
ULN IAmb IAmb 04 37 49.4
comp=Z,17nm,1.1s
SHL Shillong 58.00 82 *e*P **P** **04 37 47.2 -0.2**
SHL IAmb IAmb 04 37 51.2
comp=Z,18nm,0.9s
SHL Shillong 58.00 82 P **P** **04 37 47.2 -0.2**
SHL pmax pmax
comp=Z,100nm,1.4s
SHL MLR MLR
comp=Z,400nm,19.0s
SHL Shillong 58.00 82 P **P** **04 37 47.2 -0.2**
TEZP TEZPUR 58.14 80 *e*P **P** **04 37 47.1 -1.1**
TEZP IAmb IAmb 04 37 52.5
comp=Z,10.0nm,0.9s
SCHQ Schefferville 58.73 317 P **P** **04 37 51.5 -0.4**
comp=Z,7.7nm,0.7s,baz=82,slow=4.7,SNR=9.9
SCHQ LR LR 05 02 02.6
comp=Z,632nm,19.7s,baz=78,slow=35
SCHQ Schefferville 58.73 317 P **P** **04 37 51.7 -0.2**
SCHQ IAMs_20 IAMs_20 05 01 50.6
comp=Z,762nm,20.0s
CIT Chita 59.87 46 *e*P **P** **04 38 00.8 +0.9**
CIT *e* 04 38 10.7
GBN Guysborough 59.93 306 IAMs_20 IAMs_20 05 04 37.6
comp=Z,863nm,18.0s
PALK Pallekele 60.44 106 P **P** **04 38 05.0 +0.7**
PALK pmax pmax
comp=Z,89nm,1.2s
PALK Pallekele 60.44 106 P **P** **04 38 05.0 +0.7**
SAIH SAIHA 60.53 84 *e*P **P** **04 38 05.4 +0.5**
SAIH IAmb IAmb 04 38 08.6
comp=Z,58nm,1.2s
LZH Lanzhou 61.38 65 ⇑P **P** **04 38 11.1 +0.5**
LZH pP sP 04 38 15.8 +0.4
LZH sP pP 04 38 19.0 +4.9
LZH pmax pmax
comp=Z,39nm,1.4s
LZH pmax pmax
comp=Z,130nm,4.9s
LZH LR LR
comp=Z,380nm,17.9s
LZH LR LR
comp=Z,440nm,15.7s
LZH LR LR
comp=Z,450nm,15.7s
HAL Halifax 61.59 306 P **P** **04 38 13.3 +1.7**
HAL pmax pmax
comp=Z,27nm,1.2s
HAL MLR MLR
comp=Z,400nm,18.0s
HAL Halifax 61.59 306 P **P** **04 38 13.3 +1.7**
HAL IAmb IAmb 04 39 02.0
comp=Z,27nm,1.2s
LMN Caledonia Moun 61.75 308 IAMs_20 IAMs_20 05 05 06.7
comp=Z,644nm,18.0s
BATG Bathurst New B 61.80 309 P **P** **04 38 13.4 +0.4**
BATG IAmb IAmb 04 38 21.1
comp=Z,30nm,1.3s
BATG IAMs_20 IAMs_20 05 05 02.2
comp=Z,634nm,18.0s
SHEL Horse Pasture 61.91 212 P **P** **04 38 14.8 +0.8**
SHEL pmax pmax
comp=Z,247nm,1.9s
SHEL Horse Pasture 61.91 212 P **P** **04 38 14.8 +0.8**
D63A Stockholm 63.13 310 P **P** **04 38 21.3 -0.7**
baz=60
PQI Presque Isle 63.27 310 IAMs_20 IAMs_20 05 04 34.9
comp=Z,563nm,18.0s
BTO Baotou 63.27 58 *e*P **P** **04 38 21.8 -1.3**
E64A Bridgewater 63.28 309 P **P** **04 38 21.6 -1.4**
baz=59
GGN Saint George 63.35 308 P **P** **04 38 23.7 +0.3**
GGN IAmb IAmb 04 38 31.2
comp=Z,22nm,1.2s
E63A Oxbow 63.64 309 P **P** **04 38 26.2 +0.9**
baz=59
E63A Oxbow 63.64 309 IAMs_20 IAMs_20 05 04 46.6
comp=Z,526nm,18.0s
D62A Allapoint, All 63.67 310 IAMs_20 IAMs_20 05 04 37.4
comp=Z,586nm,18.0s
G65A Princeton 63.75 308 P **P** **04 38 24.8 -1.2**
baz=59
G65A Princeton 63.75 308 P **P** **04 38 26.7 +0.6**
G65A IAmb IAmb 04 38 33.4
comp=Z,32nm,1.4s
G65A IAMs_20 IAMs_20 05 06 14.7
comp=Z,566nm,18.0s
H66A Whiting 63.81 307 P **P** **04 38 24.0 -2.5**
baz=59
F64A Sherman 63.88 309 P **P** **04 38 25.7 -1.2**
baz=59
F64A Sherman 63.88 309 IAMs_20 IAMs_20 05 07 45.1
comp=Z,688nm,18.0s
EMMW East Machias 63.94 307 P **P** **04 38 28.4 +1.2**
EMMW IAmb IAmb 04 38 35.3
comp=Z,31nm,1.3s
EMMW IAMs_20 IAMs_20 05 06 14.7
comp=Z,679nm,18.0s
CD2 Chengdu 64.01 70 P **P** **04 38 28.8 +0.8**
CD2 sP sP 04 38 33.3 +0.4
CD2 S **S** **04 47 04.8 +0.5**
CD2 pmax pmax
comp=Z,100nm,1.1s
CD2 pmax pmax
comp=Z,90nm,5.7s
CD2 LR LR
comp=Z,360nm,19.7s
CD2 LR LR
comp=Z,360nm,19.8s
CD2 LR LR
comp=Z,450nm,26.9s
HHC Hu-ho-hao-te 64.16 57 *e*P **P** **04 38 30.5 +1.6**
HHC S **S** **04 47 07.5 +1.5**
HHC ScS **ScS** **04 48 24.4 +1.4**
HHC SS **SS** **04 51 21.3 +6.8**
HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,230nm,5.6s
HHC LR LR
comp=Z,500nm,16.5s
HHC LR LR
comp=Z,820nm,16.9s
HHC LR LR
comp=Z,660nm,16.6s
E62A Clayton Lake 64.18 310 P **P** **04 38 29.8 +0.9**
baz=58
E62A Clayton Lake 64.18 310 P **P** **04 38 29.5 +0.6**
E62A IAmb IAmb 04 38 37.2
comp=Z,23nm,1.2s
E62A IAMs_20 IAMs_20 05 06 06.1
comp=Z,629nm,18.0s
F63A Nahmakanta, Br 64.41 309 P **P** **04 38 30.4 0.0**
baz=58
F63A Nahmakanta, Br 64.41 309 IAMs_20 IAMs_20 05 07 15.2
comp=Z,615nm,18.0s

H65A Eastbrook 64.43 308 P P 04 38 30.6 +0.1
baz=58
G64A Maxfield 64.44 309 P P 04 38 30.3 -0.3
baz=58
LBTB Lobatse 64.64 178 P P 04 38 32.2 +0.1
LBTB pmax pmax
comp=Z,74nm,1.3s
LBTB Lobatse 64.64 178 P P 04 38 32.2 +0.1
HIA Hailar 64.66 46⇑ *i*P P 04 38 32.8 +0.8
HIA pmax pmax
comp=Z,23nm,1.2s
PKME Peaks-Kenny Pk 64.76 309 P P 04 38 33.5 +0.9
baz=58
PKME Peaks-Kenny Pk 64.76 309 IAMs_20 IAMs_20 05 06 44.3
comp=Z,801nm,18.0s
F62A Pittston Farm, 64.83 310 P P 04 38 33.1 0.0
baz=58
F62A Pittston Farm, 64.83 310 IAMs_20 IAMs_20 05 05 40.1
comp=Z,696nm,18.0s
H64A Troy 65.05 308 P P 04 38 33.9 -0.6
baz=58
CHGQ Chibougamau 65.17 315 P P 04 38 34.1 -1.2
baz=57
WVL Waterville 65.35 308 IAMs_20 IAMs_20 05 07 04.1
comp=Z,500nm,19.0s
E60A Ste Agathe de 65.44 311 P P 04 38 36.1 -1.0
baz=57
G62A West of Eustis 65.52 309 P P 04 38 38.5 +0.9
baz=57
G62A West of Eustis 65.52 309 IAMs_20 IAMs_20 05 07 08.6
comp=Z,769nm,19.0s
LATQ La Tuque 65.66 312 P P 04 38 37.5 -1.0
baz=57
I64A Boothbay 65.68 308 P P 04 38 38.4 -0.2
baz=57
D58A Chemin du LacG 65.88 312 P P 04 38 38.1 -1.8
baz=57
F60A Warwick 65.95 311 P P 04 38 39.0 -1.4
baz=57
XAN Xi'an 65.99 65⇑ P P 04 38 41.0 +0.1
XAN S S 04 47 21.3 -7.3
XAN pmax pmax
comp=Z,46nm,1.3s
XAN pmax pmax
comp=Z,220nm,4.9s
XAN LR LR
comp=Z,520nm,15.2s
XAN LR LR
comp=Z,480nm,17.4s
XAN Xi'an 65.99 65 P P 04 38 40.3 -0.6
XAN pmax pmax
comp=Z,74nm,1.4s
XAN MLR MLR
comp=Z,400nm,18.0s
XAN Xi'an 65.99 65 P P 04 38 40.3 -0.6
G61A St-Isidore-de- 66.08 310 P P 04 38 40.8 -0.4
baz=57
ZEA Zeya 66.08 39 *e*P P 04 38 42.6 +1.5
ZEA pmax pmax
comp=Z,23nm,1.0s
ZEA MLR MLR
comp=E,400nm,17.0s
ZEA MLR MLR
comp=Z,600nm,17.0s
I63A Otisfield 66.19 308 IAMs_20 IAMs_20 05 08 57.1
comp=Z,505nm,18.0s
A36M Sachs Harbour 66.23 350 P P 04 38 40.9 -0.8
baz=26
H62A Milan 66.25 309 P P 04 38 41.5 -0.8
baz=57
H62A Milan 66.25 309 IAMs_20 IAMs_20 05 07 30.7
comp=Z,672nm,18.0s
KMI Kunming 66.44 76⇑ *i*P P 04 38 44.8 +0.7
KMI pP sP 04 38 49.0 0.0
KMI sP pP 04 38 51.6 +3.9
KMI pmax pmax
comp=Z,23nm,1.1s
KMI pmax pmax
comp=Z,150nm,7.1s
MOQ Mont Orford 66.49 310 P P 04 38 44.9 +1.0
D57A Chemin Vers le 66.50 312 P P 04 38 42.1 -1.8
baz=56
E58A La Victoria 66.50 311 P P 04 38 43.9 0.0
baz=56
F59A Saint Guilaume 66.50 311 P P 04 38 44.4 +0.5
baz=56
G60A Masonville 66.66 310 P P 04 38 46.1 +1.1
baz=56
H61A Lyndonville 66.73 309 P P 04 38 43.3 -2.2
baz=56
I62A Tamworth 66.74 308 P P 04 38 44.2 -1.2
baz=56
I62A Tamworth 66.74 308 IAMs_20 IAMs_20 05 09 21.8
comp=Z,446nm,19.0s
LBNH Lisbon 66.89 309 P P 04 38 44.7 -1.8
baz=56
LBNH Lisbon 66.89 309 IAMs_20 IAMs_20 05 07 50.8
comp=Z,703nm,18.0s
D56A ZEC Mazanza, M 66.97 313 P P 04 38 45.1 -1.8
baz=56
E57A Chemin Saint G 66.98 312 P P 04 38 46.5 -0.5
baz=56,SNR=5.8
MATQ Matagami 67.01 316 P P 04 38 45.7 -1.4
baz=55
LSQQ Lebel-sur-Quev 67.06 315 P P 04 38 47.0 -0.4
baz=55
FFD Franklin Falls 67.15 308 IAMs_20 IAMs_20 05 09 16.8
comp=Z,767nm,18.0s
H60A Morristown 67.17 310 P P 04 38 47.5 -0.7
baz=56
CHTO Chiang Mai 67.19 84 P P 04 38 49.0 +0.3
CHTO pmax pmax
comp=Z,27nm,1.1s
CHTO Chiang Mai 67.19 84 P P 04 38 49.0 +0.3
CHTO IAmb IAmb 04 38 50.2
comp=Z,27nm,1.1s
I61A Oroboro, Fairl 67.23 309 P P 04 38 48.3 -0.3
baz=56
VT1 Waterbury 67.33 309 IAMs_20 IAMs_20 05 08 12.6
comp=Z,546nm,18.0s
J62A Henniker 67.39 308 P P 04 38 50.0 +0.4
baz=56
D55A Sainte-Anne-du 67.39 313 P P 04 38 50.0 +0.4
baz=55
CM31 Chiang Mai Arr 67.40 84 P P 04 38 49.6 -0.4
CM31 IAmb IAmb 04 38 51.5
comp=Z,19nm,0.9s
CMAR Chiang Mai Arr 67.40 84 P P 04 38 49.2 -0.9
comp=Z,7.2nm,0.8s,baz=304,slow=7.2,SNR=40
CMAR LR LR 05 12 42.4
comp=Z,92nm,20.2s,baz=326,slow=40
CMAR Chiang Mai Arr 67.40 84 P P 04 38 49.0 -1.0
HNH Hanover 67.40 309 IAMs_20 IAMs_20 05 08 07.4
comp=Z,586nm,18.0s
E56A St. Veronique 67.41 312 P P 04 38 49.4 -0.3
baz=55
FRNY Flat Rock 67.54 310 IAMs_20 IAMs_20 05 06 57.0
comp=Z,762nm,18.0s
BJI Beijing 67.56 56 P P 04 38 50.6 -0.1
BJI S S 04 47 47.3 +0.1
BJI pmax pmax
comp=Z,10.0nm,1.3s
BJI pmax pmax
comp=Z,150nm,5.5s
BJI LR LR
comp=Z,560nm,13.0s
BJI LR LR
comp=Z,460nm,17.1s
BJT Baijiatuau 67.56 56 IAMs_20 IAMs_20 05 13 26.1
comp=Z,474nm,20.0s
M65A Busby, Falmout 67.60 306 IAMs_20 IAMs_20 05 09 33.6
comp=Z,651nm,18.0s
HRV Adam Dziewonsk 67.63 307 IAMs_20 IAMs_20 05 08 41.5
comp=Z,782nm,19.0s
G58A Ormstown 67.64 311 P P 04 38 51.2 +0.1
baz=56
H59A Cadyville 67.71 310 P P 04 38 51.0 -0.7
baz=56,SNR=5.4
J61A Chester 67.77 308 P P 04 38 51.7 -0.3
baz=56
I60A Shoreham 67.93 309 P P 04 38 52.0 -1.0
baz=55
BRYW Bryant College 67.95 307 IAMs_20 IAMs_20 05 09 28.0
comp=Z,756nm,18.0s
K62A Royalston 67.96 308 P P 04 38 51.1 -2.1
baz=56
K62A Royalston 67.96 308 IAMs_20 IAMs_20 05 08 42.1
comp=Z,468nm,18.0s
D54A Lac Fusel, La 67.98 314 P P 04 38 52.6 -0.7
baz=55
L63A North Scituate 68.03 307 P P 04 38 54.1 +0.5
baz=56
E55A Montcerf-Lytto 68.04 313 P P 04 38 53.7 +0.1
baz=55
H58A Gabriels 68.13 310 P P 04 38 54.3 0.0
baz=55,SNR=5.8
G57A Newington 68.21 311 P P 04 38 54.8 +0.1
baz=55
BOSA Boshof 68.21 178 P P 04 38 53.8 -1.1
comp=Z,17nm,1.0s,baz=356,slow=7.3,SNR=10
BOSA LR LR 05 12 20.5
comp=Z,598nm,18.2s,baz=0.5,slow=39
BOSA Boshof 68.21 178 P P 04 38 55.1 +0.2
BOSA pmax pmax
comp=Z,131nm,1.7s
BOSA Boshof 68.21 178 P P 04 38 55.1 +0.2
QUA2 Belchertown 68.25 307 IAMs_20 IAMs_20 05 08 51.7
comp=Z,748nm,19.0s
LONY Lake Ozonia 68.25 310 P P 04 38 55.4 +0.4
baz=55,SNR=5.9
LONY Lake Ozonia 68.25 310 P P 04 38 55.8 +0.8
LONY IAmb IAmb 04 39 03.6
comp=Z,18nm,1.1s
LONY IAMs_20 IAMs_20 05 07 17.7
comp=Z,731nm,18.0s
I59A Olmsteadville 68.30 309 P P 04 38 55.4 +0.1
baz=55
ORIO Orleans, Innes 68.31 312 P P 04 38 55.8 +0.5
baz=55,SNR=6.1
ORIO Orleans, Innes 68.31 312 P P 04 38 57.6 +2.2
ORIO IAmb IAmb 04 39 03.5
comp=Z,13nm,1.2s
J60A Lant Hill Farm 68.35 309 P P 04 38 56.4 +0.8
baz=55
L61B Northampton 68.35 308 P P 04 38 56.1 +0.4
baz=55
NCB Newcomb 68.41 310 IAMs_20 IAMs_20 05 08 45.9
comp=Z,413nm,19.0s
ACCN Adirondack Com 68.41 309 IAmb IAmb 04 39 05.2
comp=Z,26nm,1.1s
C36M Paulatuk 68.44 348 P P 04 38 54.2 -1.5
baz=26
ENH Enshi 68.48 68 P P 04 38 56.3 -0.4
K61A Williamstown 68.58 308 P P 04 38 56.7 -0.4
baz=55
GYA Guiyang 68.59 73⇑ P P 04 38 57.1 -0.5
GYA pP sP 04 39 02.3 -0.2
GYA S S 04 47 58.3 -1.9
GYA SS SS 04 52 27.5 +3.5
GYA pmax pmax
comp=Z,28nm,1.4s
GYA pmax pmax
comp=Z,150nm,4.2s
GYA LR LR
comp=Z,230nm,21.3s
GYA LR LR
comp=Z,230nm,22.7s
GYA LR LR
comp=Z,400nm,25.9s
D53A Lac Vacive, Po 68.60 314 P P 04 38 57.6 +0.4
baz=54
D53A Lac Vacive, Po 68.60 314 P P 04 38 59.0 +1.8
D53A IAmb IAmb 04 39 05.1
comp=Z,22nm,1.2s
D53A IAMs_20 IAMs_20 05 07 21.8
comp=Z,747nm,18.0s
E54A Lac Daplat, Po 68.69 313 P P 04 38 56.7 -1.0
baz=54
TRY Troy 68.79 308 IAMs_20 IAMs_20 05 09 08.0
comp=Z,664nm,18.0s
H57A Richville 68.81 311 P P 04 38 58.2 -0.3
baz=54,SNR=6.5
J59A Piesco 68.87 309 P P 04 38 58.8 -0.1
baz=55,SNR=5.2
J59A Piesco 68.87 309 IAMs_20 IAMs_20 05 08 59.0
comp=Z,443nm,18.0s
FCC Fort Churchill 68.89 330 IAMs_20 IAMs_20 05 09 21.8
comp=Z,724nm,18.0s
E53A Dumoine, Ponti 68.99 313 P P 04 38 58.9 -0.7
baz=54
I58A Old Forge 69.02 310 P P 04 38 56.9 -2.9
baz=54
L61A Hillsdale 1, H 69.03 308 P P 04 38 57.8 -2.1
baz=55
D52A ZEK Kipawa Sen 69.05 314 P P 04 38 58.9 -1.1
baz=54
M62A Hamden 69.06 307 P P 04 38 56.5 -3.5
baz=55
G55A Calabogie 69.12 312 P P 04 38 58.3 -2.1
baz=54
H56A Elgin 69.24 311 P P 04 39 01.6 +0.5
baz=54
KSCT Kent School, K 69.26 307 IAMs_20 IAMs_20 05 09 31.4
comp=Z,610nm,19.0s
I57A Carthage 69.28 310 P P 04 39 00.9 -0.5
baz=54,SNR=5.1
J58A Remsen 69.39 310 P P 04 39 02.2 0.0
baz=54
J58A Remsen 69.39 310 IAmb IAmb 04 39 10.6
comp=Z,34nm,1.4s
J58A IAMs_20 IAMs_20 05 08 10.9
comp=Z,585nm,18.0s
PLVO Plevna 69.45 312 IAMs_20 IAMs_20 05 07 53.3
comp=Z,669nm,19.0s
ALGO Algonquin Park 69.46 313 P P 04 39 01.5 -1.0
baz=54
K59A Cooperstown 69.47 309 P P 04 39 00.9 -1.8
baz=54
WSPT Westport, CT 69.48 307 IAMs_20 IAMs_20 05 10 03.4
comp=Z,697nm,18.0s
SLVN Son La 69.49 79 P P 04 39 02.1 -1.1
SLVN IAmb IAmb 04 39 05.0
comp=Z,21nm,1.1s
D51A Lot 18 Range I 69.52 315 P P 04 39 02.2 -0.7
baz=53
L60A Shokan 69.55 308 P P 04 39 01.0 -2.1
baz=54
E52A Mattawa 69.60 314 P P 04 39 02.3 -1.0
baz=53
SEY Seymchan 69.66 22⇑ *i*P P 04 39 05.1 +1.6
D50A G1974 Best Tow 69.72 315 P P 04 39 04.1 0.0
baz=53
J57A Williamstown 69.78 310 P P 04 39 02.9 -1.6
baz=54
H55A Tweed 69.80 312 P P 04 39 02.9 -1.7
baz=54,SNR=5.2
G54A Lake Saint Pet 69.81 313 P P 04 39 04.3 -0.4
baz=53
E51A G1948 Merrick 69.92 314 P P 04 39 05.8 +0.4
baz=53
L59A Walton 69.93 309 P P 04 39 05.5 0.0
baz=54
L59A Walton 69.93 309 IAMs_20 IAMs_20 05 11 08.2
comp=Z,587nm,18.0s
PAL Palisades 69.93 307 IAMs_20 IAMs_20 05 10 08.4
comp=Z,628nm,18.0s
K58A Earlville 69.96 309 P P 04 39 03.9 -1.8
baz=54,SNR=5.7
K58A Earlville 69.96 309 IAMs_20 IAMs_20 05 09 34.9
comp=Z,459nm,18.0s
PECO Prince Edward 70.06 311 IAMs_20 IAMs_20 05 08 30.4
comp=Z,510nm,20.0s
DELO Deloro Mine 70.07 312 IAMs_20 IAMs_20 05 08 13.8
comp=Z,660nm,19.0s
I55A Frankford 70.29 311 P P 04 39 06.2 -1.4
baz=53
ODNJ Ogdensburg 70.32 307 IAMs_20 IAMs_20 05 11 19.5
comp=Z,539nm,18.0s
TIA Tai'an 70.34 59 P P 04 39 08.9 +0.8
TIA pmax pmax
comp=Z,9.0nm,0.9s
J56A Wolcott 70.37 310 P P 04 39 09.0 +0.9
baz=53
D49A Beulah Townshi 70.48 316 P P 04 39 08.8 0.0
baz=52
BINY Binghamton 70.49 309 P P 04 39 09.0 0.0
baz=54
BINY Binghamton 70.49 309 IAMs_20 IAMs_20 05 09 51.0
comp=Z,514nm,18.0s
K57A Scipio Center 70.49 310 P P 04 39 09.4 +0.4
baz=53
L58A Harry Jones Me 70.50 309 P P 04 39 08.2 -0.8
baz=54
BRNJ Basking Ridge 70.53 307 IAMs_20 IAMs_20 05 10 36.1
comp=Z,593nm,18.0s
M59A Waymart 70.55 308 P P 04 39 08.3 -1.1
baz=54
H53A Bobcaygeon 70.59 312 P P 04 39 09.5 0.0
baz=53
E50A Wahnapitae 70.67 315 P P 04 39 09.2 -0.7
baz=52
INK Inuvik 70.71 351 P P 04 39 09.9 +0.1
comp=Z,2.8nm,1.2s,baz=2.2,slow=6.2,SNR=3.0
INK Inuvik 70.71 351 P P 04 39 09.9 +0.1
INK pmax pmax
comp=Z,9.0nm,1.3s
INK MLR MLR
comp=Z,300nm,18.0s
INK Inuvik 70.71 351 IAmb IAmb 04 39 16.3
comp=Z,9.1nm,1.3s
INK IAMs_20 IAMs_20 05 14 21.7
comp=Z,263nm,18.0s
KSPA Keystone Colle 70.74 308 IAMs_20 IAMs_20 05 10 18.7
comp=Z,617nm,18.0s
D48A Paudash Townsh 70.78 316 P P 04 39 10.3 -0.3
baz=52
SADO Sadowa 70.79 313 P P 04 39 10.8 +0.1
comp=Z,2.7nm,0.6s,baz=94,slow=3.9,SNR=6.1
SADO Sadowa 70.79 313 IAmb IAmb 04 39 18.7
comp=Z,18nm,1.1s
SADO IAMs_20 IAMs_20 05 09 44.7
comp=Z,515nm,18.0s
J55A Hilton 70.93 311 P P 04 39 11.6 +0.1
baz=53
J55A Hilton 70.93 311 IAMs_20 IAMs_20 05 08 58.7
comp=Z,687nm,19.0s
K56A Middlesex 70.99 310 P P 04 39 11.6 -0.3
baz=53
RCBR Riachuelo 71.02 245 IAMs_20 IAMs_20 05 10 41.7
comp=Z,580nm,19.0s
KLR Kul'dur 71.06 41*c i*P P 04 39 12.4 +0.2
KLR pmax pmax
comp=Z,22nm,1.3s
LUPA Lehigh Univers 71.07 307 IAMs_20 IAMs_20 05 11 42.5
comp=Z,640nm,18.0s
N59A State Game Lan 71.12 308 P P 04 39 10.3 -2.5
baz=53
L57A Andrews Acres 71.12 309 P P 04 39 12.4 -0.4
baz=53
O60A Telford 71.26 307 P P 04 39 13.3 -0.3
baz=53
P61A Hammonton 71.26 306 IAMs_20 IAMs_20 05 11 01.6
comp=Z,581nm,19.0s
M58A Price's Panora 71.27 308 P P 04 39 13.0 -0.7
baz=53
MEDO Medina 71.37 311 IAMs_20 IAMs_20 05 12 44.1
comp=Z,502nm,20.0s
E48A Lockeyer 71.41 315 P P 04 39 14.8 +0.4
baz=51
K55A Perry 71.41 310 P P 04 39 15.3 +0.8
baz=53
J54A Appleton 71.41 311 IAMs_20 IAMs_20 05 09 13.2
comp=Z,504nm,19.0s
L56A Greenwood 71.47 310 P P 04 39 14.2 -0.7
baz=53
L56A Greenwood 71.47 310 IAMs_20 IAMs_20 05 09 15.8
comp=Z,700nm,18.0s
PSUB Penn St. - Bra 71.52 307 IAMs_20 IAMs_20 05 10 38.4
comp=Z,541nm,20.0s
D47A Chapleau 71.55 316 P P 04 39 14.2 -1.1
baz=51
TOLK Toolik Lake Re 71.63 357 P P 04 39 15.1 -0.3
baz=5.7
M57A Sunshine Farm, 71.69 309 P P 04 39 15.6 -0.7
baz=53
M57A Sunshine Farm, 71.69 309 IAMs_20 IAMs_20 05 10 47.8
comp=Z,553nm,18.0s
P60A Greenville 71.70 307 IAMs_20 IAMs_20 05 10 45.2
comp=Z,449nm,19.0s
N58A Sunbury 71.74 308 P P 04 39 14.4 -2.1
baz=53
N58A Sunbury 71.74 308 IAmb IAmb 04 39 24.6
comp=Z,28nm,1.4s
N58A IAMs_20 IAMs_20 05 10 50.2
comp=Z,659nm,18.0s
MA2 Magadan 71.75 25 IAMs_20 IAMs_20 05 13 02.1
comp=Z,434nm,22.0s
WHN Wuhan 71.75 65⇓ P P 04 39 16.6 -0.1
WHN S S 04 48 41.9 +5.0
WHN LR LR
comp=Z,650nm,18.3s
WHN LR LR
comp=Z,880nm,18.2s
F49A Sandfield 71.79 315 P P 04 39 16.3 -0.4
baz=51
K54A Basiliko Farm, 71.84 311 P P 04 39 16.8 -0.3
baz=52
WVNY West Valley, N 71.92 310 IAmb IAmb 04 39 26.2
comp=Z,44nm,1.6s
L55A Hinsdale 71.95 310 P P 04 39 17.1 -0.7
baz=52
E47A Iron Bridge 72.02 316 P P 04 39 16.7 -1.4
baz=51
MVL Millersville 72.03 307 IAmb IAmb 04 39 27.1
comp=Z,18nm,1.1s
MVL IAMs_20 IAMs_20 05 07 27.8
comp=Z,440nm,22.0s
F48A Evansville 72.06 315 P P 04 39 17.7 -0.7
baz=51
D46A Sault St. Mari 72.14 317 P P 04 39 18.9 0.0
baz=50
M56A Emporium 72.23 309 P P 04 39 19.2 -0.3
baz=52
M56A Emporium 72.23 309 IAMs_20 IAMs_20 05 12 58.1
comp=Z,462nm,18.0s
N57A Milroy 72.30 308 P P 04 39 18.5 -1.4
baz=52
O58A Lewisberry 72.30 308 P P 04 39 19.9 0.0
baz=52
Q60A Greensboro 72.32 306 IAMs_20 IAMs_20 05 11 32.5
comp=Z,620nm,19.0s
GRNR Gornyy 72.33 38 *e*P P 04 39 18.8 -1.1
GRNR MLR MLR
comp=E,210nm,14.0s
L54A Sinclairville 72.44 311 P P 04 39 19.6 -1.1
baz=52
I51A Listowel 72.44 313 P P 04 39 20.7 0.0
baz=51
YKA Yellowknife Ar 72.51 341 P P 04 39 19.8 -0.9
comp=E,3.1nm,0.8s,baz=33,slow=5.5,SNR=8.2
YKA LR LR 05 12 11.6
comp=E,370nm,19.1s,baz=0.0,slow=37
SSPA Standing Stone 72.57 309 P P 04 39 20.7 -0.8
baz=52
SSPA Standing Stone 72.57 309 P P 04 39 23.5 +2.0
SSPA IAmb IAmb 04 39 30.3
comp=Z,20nm,1.0s
SSPA Standing Stone 72.57 309 IAMs_20 IAMs_20 05 11 34.2
comp=Z,466nm,20.0s
BMAR Burnt Mountain 72.58 355 P P 04 39 20.3 -0.9
M55A Ridgway 72.59 310 P P 04 39 19.1 -2.5
baz=52
M55A Ridgway 72.59 310 IAmb IAmb 04 39 29.6
comp=Z,41nm,1.4s
M55A IAMs_20 IAMs_20 05 10 00.5
comp=Z,686nm,18.0s
E46A Sault Ste Mari 72.62 316 IAmb IAmb 04 39 29.6
comp=Z,27nm,1.2s
N56A West Decatur 72.65 309 P P 04 39 21.3 -0.7
baz=52
O57A Amberson 72.68 308 P P 04 39 21.9 -0.3
baz=52
MDJ Mudanjiang 72.84 46 IAMs_20 IAMs_20 05 13 28.2
comp=Z,452nm,18.0s
ERPA Erie 72.90 311 P P 04 39 23.5 +0.1
baz=51
ERPA Erie 72.90 311 IAMs_20 IAMs_20 05 11 23.8
comp=Z,473nm,20.0s
P58A Pank, Wackersv 72.92 307 P P 04 39 22.9 -0.6
baz=52
COLD Coldfoot 73.06 357 P P 04 39 24.1 +0.1
baz=5.1
M54A Oil Creek Stat 73.09 310 P P 04 39 23.5 -1.1
baz=51
M54A Oil Creek Stat 73.09 310 IAMs_20 IAMs_20 05 10 05.8
comp=Z,719nm,19.0s
N55A Marion Center 73.14 309 P P 04 39 23.1 -1.8
baz=52
L53A Girard 73.16 311 P P 04 39 23.7 -1.2
baz=51
O56A Blue Knob Stat 73.21 309 P P 04 39 22.4 -2.9
baz=52
O56A Blue Knob Stat 73.21 309 IAmb IAmb 04 39 34.1

O56A comp=Z,19nm,1.1s IAMs_20 IAMs_20 05 11 27.0
ALLY Alegheny Colle 73.29 310 comp=Z,575nm,19.0s IAMs_20 IAMs_20 05 10 12.9
P57A Homestead Farm 73.36 308 baz=52 P **P** **04 39 24.4 -1.7**
I49A Point Hope 73.37 314 comp=Z,726nm,19.0s IAMs_20 IAMs_20 05 10 16.0
R59A King George, V 73.60 306 baz=52 P **P** **04 39 26.6 -1.0**
N54A Moraine State 73.62 310 baz=51 P **P** **04 39 27.8 0.0**
O55A Ligonier 73.69 309 baz=51 P **P** **04 39 28.2 0.0**
M53A Wl Miller and 73.73 311 baz=51 P **P** **04 39 27.9 -0.4**
M53A Wl Miller and 73.73 311 comp=Z,651nm,18.0s IAMs_20 IAMs_20 05 10 27.6
CBN Corbin Frederi 73.75 306 comp=Z,478nm,20.0s IAMs_20 IAMs_20 05 12 05.5
GLMI Grayling 73.79 315 baz=50 P **P** **04 39 28.2 -0.4**
P56A Dayton Farm, R 73.85 308 baz=51 P **P** **04 39 27.7 -1.4**
NJ2 Nanjing 73.96 62 NJ2 comp=Z,12nm,0.8s *e*P pmax **P** pmax **04 39 29.4 -0.4**
K50A Casco 74.00 313 comp=Z,638nm,19.0s IAMs_20 IAMs_20 05 12 18.7
T60A Surry 74.01 305 comp=Z,425nm,18.0s IAMs_20 IAMs_20 05 11 46.4
E43A Lone Tree Farm 74.03 318 comp=Z,22nm,1.2s IAmb IAmb 04 39 37.3
M52A Chesterland 74.06 311 baz=50 P **P** **04 39 29.2 -1.1**
M52A Chesterland 74.06 311 comp=Z,539nm,19.0s IAMs_20 IAMs_20 05 10 46.4
MLSI Meulaboh, Aceh 74.20 98 comp=Z,36nm,0.8s P **P** **04 39 30.7 -0.7**
G45A Suttons Bay 74.20 316 comp=Z,47nm,1.4s IAmb IAmb 04 39 39.4
R58B Mineral 74.22 306 baz=52 P **P** **04 39 30.6 -0.6**
R58B Mineral 74.22 306 comp=Z,475nm,19.0s IAMs_20 IAMs_20 05 12 19.8
N53A Lisbon 74.22 310 baz=51 P **P** **04 39 30.9 -0.3**
N53A Lisbon 74.22 310 comp=Z,626nm,19.0s IAMs_20 IAMs_20 05 10 49.7
O54A Avella 74.34 309 baz=51 P **P** **04 39 30.7 -1.2**
MCWV Mont Chateau 74.36 309 baz=51 P **P** **04 39 31.7 -0.4**
MCWV Mont Chateau 74.36 309 comp=Z,342nm,18.0s IAMs_20 IAMs_20 05 12 21.4
D41A Chassel 74.38 319 comp=Z,429nm,19.0s IAMs_20 IAMs_20 05 13 25.4
IMAR Indian Mountai 74.40 359 P **P** **04 39 30.6 -1.2**
R57A Stanardsville 74.41 307 baz=51 P **P** **04 39 31.3 -1.0**
USA0B Ussuriysk Arra 74.42 45 USA0B comp=Z,43nm,1.6s P pmax **P** pmax **04 39 32.5 +0.2**
USA0B Ussuriysk Arra 74.42 45 USA0B comp=Z,43nm,1.6s MLR MLR
USA0B Ussuriysk Arra 74.42 45 USA0B comp=Z,414nm,19.0s P IAmb **P** IAmb **04 39 32.5 +0.2** 04 39 34.0
USRK Ussuriysk Ar. 74.42 45 USRK comp=Z,371nm,18.2s,baz=314,slow=39 IAMs_20 IAMs_20 05 13 51.0 P LR **P** LR **04 39 32.3 0.0** comp=Z,4.7nm,0.9s,baz=278,slow=6.7,SNR=8.4 05 16 17.0
USRK Ussuriysk Ar. 74.42 45 comp=Z,597nm,18.0s IAMs_20 IAMs_20 05 12 08.8 P pmax **P** pmax **04 39 31.7 -0.6**
P55A Reedsville 74.44 309 baz=51 P **P** **04 39 30.8 -1.8**
S58A Poland Farm, P 74.54 306 comp=Z,470nm,19.0s IAMs_20 IAMs_20 05 12 39.4
T59A Double "B" Far 74.63 305 baz=51 P **P** **04 39 33.8 +0.1**
V61A Roper 74.74 304 comp=Z,394nm,20.0s IAMs_20 IAMs_20 05 10 41.9
P54A Burton 74.77 309 baz=51 P **P** **04 39 33.8 -0.7**
O53A New Philadelph 74.80 310 baz=50 P **P** **04 39 33.3 -1.2**
O53A New Philadelph 74.80 310 comp=Z,506nm,19.0s IAMs_20 IAMs_20 05 12 15.9
FFC Flin Flon 74.81 331 FFC comp=Z,25nm,1.3s P pmax **P** pmax **04 39 36.0 +1.6**
FFC Flin Flon 74.81 331 FFC comp=Z,25nm,1.3s P IAmb **P** IAmb **04 39 36.0 +1.6** 04 39 57.5
FFC Flin Flon 74.81 331 comp=Z,599nm,20.0s IAMs_20 IAMs_20 05 11 38.4
R56A Bull Pasture M 74.88 307 baz=51 P **P** **04 39 33.0 -2.2**
AAM Ann Arbor 74.89 313 comp=Z,606nm,18.0s IAMs_20 IAMs_20 05 13 56.3
Q55A Buckhannon 74.92 308 baz=51 P **P** **04 39 32.4 -2.9**
J47A Sunmer 74.93 314 comp=Z,21nm,1.1s IAmb IAmb 04 39 43.0
J47A comp=Z,632nm,19.0s IAMs_20 IAMs_20 05 11 14.3
S57A Dark Hollow, R 75.01 307 baz=51 P **P** **04 39 34.1 -1.7**
S57A Dark Hollow, R 75.01 307 comp=Z,414nm,18.0s IAMs_20 IAMs_20 05 16 02.7
N51A Ashland 75.05 311 baz=50 P **P** **04 39 33.2 -2.9**
N51A Ashland 75.05 311 comp=Z,619nm,18.0s IAMs_20 IAMs_20 05 11 16.6
M50A Fremont 75.12 312 comp=Z,482nm,19.0s IAMs_20 IAMs_20 05 11 25.4
U59A Littleton 75.17 305 baz=51 P **P** **04 39 35.6 -1.2**
U59A Littleton 75.17 305 comp=Z,438nm,18.0s IAMs_20 IAMs_20 05 12 22.0
EYMN Ely 75.22 321 baz=46 P **P** **04 39 35.2 -1.7**
O52A Adamsville 75.25 310 baz=50 P **P** **04 39 35.8 -1.4**
O52A Adamsville 75.25 310 comp=Z,27nm,1.2s IAmb IAmb 04 39 45.5
O52A comp=Z,549nm,19.0s IAMs_20 IAMs_20 05 12 28.9
T58A Grand View Acr 75.26 306 baz=51 P **P** **04 39 36.7 -0.6**
COWI Conover 75.32 318 comp=Z,22nm,1.1s IAmb IAmb 04 39 44.9
COWI comp=Z,550nm,19.0s IAMs_20 IAMs_20 05 11 35.3
QIZ Qiongzhong 75.33 77 QIZ comp=Z,15nm,0.9s P S pmax **P** **S** pmax **04 39 38.4 +0.4** **04 49 17.3 -0.3**
QIZ comp=Z,170nm,21.6s LR LR
QIZ comp=Z,220nm,19.6s LR LR
QIZ comp=Z,130nm,32.4s LR LR
QIZ Qiongzhong 75.33 77 QIZ comp=Z,27nm,1.1s P IAmb **P** IAmb **04 39 37.2 -0.8** 04 39 39.8
ILAR Eielson Array 75.36 356 ILAR comp=Z,114nm,19.4s,baz=7.0,slow=37 P LR **P** LR **04 39 37.8 +0.4** comp=Z,0.7nm,0.8s,baz=4.8,slow=4.9,SNR=8.4 05 14 21.4
ILAR Eielson Array 75.36 356 comp=Z,669nm,19.0s IAMs_20 IAMs_20 05 12 53.8 P **P** **04 39 40.0 +2.6**
Q54A Coxs Mills 75.38 309 baz=50 P **P** **04 39 36.6 -1.4**
Q54A Coxs Mills 75.38 309 comp=Z,656nm,18.0s IAMs_20 IAMs_20 05 13 51.4
P53A Whipple 75.39 309 baz=50 P **P** **04 39 37.0 -1.0**
R55A Marlinton 75.39 308 baz=50 P **P** **04 39 35.6 -2.6**
R55A Marlinton 75.39 308 comp=Z,30nm,1.4s IAmb IAmb 04 39 46.8
R55A comp=Z,669nm,19.0s IAMs_20 IAMs_20 05 12 53.8
S56A Natural Bridge 75.44 307 baz=51 P **P** **04 39 38.0 -0.3**
DAWY Dawson 75.46 352 P **P** **04 39 37.2 -0.8**
L48A N Adams 75.56 313 comp=Z,591nm,19.0s IAMs_20 IAMs_20 05 11 25.0
U58A Oxford 75.61 305 baz=51 P **P** **04 39 38.0 -1.3**
ULM Lac du Bonnet 75.63 325 ULM comp=Z,588nm,18.1s,baz=44,slow=36 P LR **P** LR **04 39 38.7 -0.4** 05 13 43.6
ULM Lac du Bonnet 75.63 325 comp=Z,619nm,18.0s IAMs_20 IAMs_20 05 13 32.2
NEA2 Nenana 75.65 357 baz=5.9 P **P** **04 39 38.8 -0.3**
T57A Hurt 75.67 306 baz=51 P **P** **04 39 38.7 -1.0**
T57A Hurt 75.67 306 comp=Z,407nm,18.0s IAMs_20 IAMs_20 05 13 11.3
O51A Pataskala 75.68 311 baz=50 P **P** **04 39 38.3 -1.4**
H43A Windswept, Lux 75.71 316 comp=Z,26nm,1.1s IAmb IAmb 04 39 47.4
KCSI Kotacane, Aceh 75.72 97 comp=Z,851nmcomp=Z,21nm,1.1s P **P** **04 39 40.9 +0.7**
HDA Harding Lake 75.73 356 baz=7.6 P **P** **04 39 38.5 -1.0**
P52A Corning 75.73 310 baz=50 P **P** **04 39 40.0 0.0**
P52A Corning 75.73 310 comp=Z,457nm,20.0s IAMs_20 IAMs_20 05 12 53.7
K27K Chicken 75.75 353 baz=11 P **P** **04 39 39.7 +0.1**
V59A Middlesex 75.81 305 baz=51 P **P** **04 39 39.9 -0.6**
ACSO Alum Creek Sta 75.84 311 baz=49 P **P** **04 39 38.1 -2.5**
Q53A Leroy 75.87 309 baz=50 P **P** **04 39 40.1 -0.7**
CNNC Cliffs of the 75.92 304 comp=Z,382nm,21.0s IAMs_20 IAMs_20 05 11 29.1
S55A Lewisburg 75.95 308 baz=50 P **P** **04 39 39.2 -2.1**
R54A Victor 75.98 308 baz=50 P **P** **04 39 40.6 -0.9**
B35A Bob, Littlefor 76.00 322 comp=Z,19nm,1.1s IAmb IAmb 04 39 48.4
B35A comp=Z,670nm,19.0s IAMs_20 IAMs_20 05 13 22.2
U57A Blanch 76.08 306 baz=50 P **P** **04 39 41.3 -0.8**
N49A Columbus Grove 76.09 312 comp=Z,532nm,19.0s IAMs_20 IAMs_20 05 13 35.0
SSE Sheshan 76.11 61 comp=Z,440nm,19.0s IAMs_20 IAMs_20 05 03 50.9
T56A Rocky Mt 76.13 307 baz=50 P **P** **04 39 40.9 -1.4**
E38A The Farm, Brul 76.19 320 comp=Z,503nm,18.0s IAMs_20 IAMs_20 05 12 08.2
Q52A Bidwell 76.25 309 baz=50 P **P** **04 39 41.9 -1.0**
BLA Blacksburg 76.26 307 baz=50 P **P** **04 39 41.3 -1.8**
BLA Blacksburg 76.26 307 comp=Z,578nm,18.0s IAMs_20 IAMs_20 05 13 45.7
DLPL La Plaine 76.33 279 comp=Z,409nm,21.0s IAMs_20 IAMs_20 05 18 07.3
V58A Windy Hill, Pi 76.35 305 baz=50 P **P** **04 39 41.9 -1.6**
P51A Williamsport 76.38 310 baz=49 P **P** **04 39 41.9 -1.7**
P51A Williamsport 76.38 310 comp=Z,387nm,20.0s IAMs_20 IAMs_20 05 15 11.8
KSAR Wonju Array Be 76.43 52 P **P** **04 39 43.0 -0.9**
KSAR Wonju Array Be 76.43 52 P **P** **04 39 43.0 -0.9**
G40A Rib Lake 76.43 318 comp=Z,18nm,1.1s IAmb IAmb 04 39 51.2
G40A comp=Z,597nm,18.0s IAMs_20 IAMs_20 05 12 08.8
KSRS Korea Array 76.44 52 KSRS comp=Z,336nm,18.6s,baz=310,slow=38 P LR **P** LR **04 39 43.2 -0.9** comp=Z,2.9nm,0.7s,baz=311,slow=4.1,SNR=14 05 15 56.0
R53A Hurricane 76.47 309 P **P** **04 39 43.0 -1.2**
R53A Hurricane 76.47 309 comp=Z,565nm,20.0s IAMs_20 IAMs_20 05 14 25.2
T55A Pulaski 76.54 307 baz=50 P **P** **04 39 43.4 -1.3**
L46A Eue Claire 76.56 314 comp=Z,656nm,20.0s IAMs_20 IAMs_20 05 12 13.3
O49A Covington 76.66 311 comp=Z,27nm,1.4s IAmb IAmb 04 39 52.2
O49A comp=Z,544nm,18.0s IAMs_20 IAMs_20 05 14 03.1
V57A Coltrane Farms 76.70 306 baz=50 P **P** **04 39 43.8 -1.7**
I42A Draeger Farm, 76.71 317 comp=Z,609nm,20.0s IAMs_20 IAMs_20 05 10 42.1
U56A King 76.79 306 comp=Z,380nm,21.0s IAMs_20 IAMs_20 05 09 28.8
KULM Kulim 76.79 94 KULM comp=Z,21nm,1.3s P IAmb **P** IAmb **04 39 45.6 -0.8** 04 39 47.2
Q51A Peebles 76.84 310 comp=Z,461nm,18.0s IAMs_20 IAMs_20 05 12 23.1
W58A Raeford 76.91 305 baz=50 P **P** **04 39 45.8 -0.9**
N47A Urbana 76.97 313 comp=Z,616nm,20.0s IAMs_20 IAMs_20 05 12 17.5
AGMN Agassiz Nation 77.04 323 baz=43 P **P** **04 39 46.1 -1.1**
AGMN Agassiz Nation 77.04 323 baz=50 P **P** **04 39 45.6 -1.6**
T54A Tazewell 77.06 308 baz=50 P **P** **04 39 46.9 -0.7**
MCLT Moule a Chique 77.10 277 comp=Z,628nm,22.0s IAMs_20 IAMs_20 05 16 38.4
U55A TA2, Sparta 77.10 307 baz=50 P **P** **04 39 47.4 -0.5**
RPSI Rantau Prapat 77.13 97 comp=Z,18nm,1.1s IAmb IAmb 04 39 48.7
V56A Mocksville 77.20 306 baz=50 P **P** **04 39 47.0 -1.4**
X58A Rowland 77.28 304 comp=Z,438nm,20.0s IAMs_20 IAMs_20 05 12 27.9
W57A Gilead 77.31 305 baz=50 P **P** **04 39 48.2 -0.7**
L44A Lake County Fo 77.33 315 comp=Z,651nm,19.0s IAMs_20 IAMs_20 05 13 38.9
Y59A Loris 77.34 304 comp=Z,374nm,19.0s IAMs_20 IAMs_20 05 14 32.6
TTA Tatalina 77.49 360 TTA comp=Z,11nm,1.4s P pmax **P** pmax **04 39 49.0 -0.6**
TTA Tatalina 77.49 360 P **P** **04 39 49.0 -0.6**
HQIL Hanson Quary C 77.56 314 comp=Z,667nm,19.0s IAMs_20 IAMs_20 05 13 53.8
U54A Nelsons Funny 77.56 307 baz=49 P **P** **04 39 47.9 -2.6**
U54A Nelsons Funny 77.56 307 comp=Z,551nm,18.0s IAMs_20 IAMs_20 05 14 27.2
IPM Ipoh 77.59 95 IPM comp=Z,23nm,1.3s P IAmb **P** IAmb **04 39 49.3 -1.6** 04 39 51.2
SVB Belmont 77.60 277 P **P** **04 39 49.2 -1.6**
V55A Taylorsville 77.62 306 baz=50 P **P** **04 39 49.7 -1.0**
V55A Taylorsville 77.62 306 comp=Z,400nm,22.0s IAMs_20 IAMs_20 05 10 04.9
F36A Milaca 77.68 320 comp=Z,21nm,1.4s IAmb IAmb 04 39 56.9
W56A Indian Trail 77.69 306 baz=50 P **P** **04 39 49.0 -2.1**
P48A Milroy 77.77 311 comp=Z,559nm,18.0s IAMs_20 IAMs_20 05 14 37.5
SPMN Marine on St. 77.78 320 baz=45 P **P** **04 39 50.3 -1.1**
SPMN Marine on St. 77.78 320 comp=Z,529nm,18.0s IAMs_20 IAMs_20 05 14 07.3
S51A Beattyville 77.90 309 comp=Z,608nm,18.0s IAMs_20 IAMs_20 05 15 59.1
R50A Paris 77.91 310 comp=Z,634nm,19.0s IAMs_20 IAMs_20 05 12 57.4
YSS Yuzh-Sakhalins 77.99 38 YSS YSS YSS YSS *e*P *e* *e**SP *e*S pmax **P** **PcP** **S** pmax **04 39 52.7 +0.2** 04 39 58.1 **04 40 07.6 +5.3** **04 49 40.3 -5.6**
YSS Yuzh-Sakhalins 77.99 38 comp=Z,200nm,3.0s P **P** **04 39 51.2 -1.4**
JFWS Jewell Farm 78.08 317 baz=46 P **P** **04 39 52.3 -0.8**
JFWS Jewell Farm 78.08 317 comp=Z,574nm,20.0s IAMs_20 IAMs_20 05 11 13.6
V54A Nebo 78.12 307 baz=49 P **P** **04 39 54.4 +0.9**
KMSC Kings Mountain 78.15 306 baz=49 P **P** **04 39 52.7 -1.0**
Y57A Sumter 78.29 305 comp=Z,386nm,19.0s IAMs_20 IAMs_20 05 15 27.7
Z58A St. Stephen 78.36 304 baz=50 P **P** **04 39 54.1 -0.7**
X56A White Oak 78.39 305 baz=49 P **P** **04 39 54.7 -0.3**
R49A Shelbyville 78.40 310 comp=Z,617nm,18.0s IAMs_20 IAMs_20 05 13 21.3
D32A Dogwood Acres, 78.42 323 comp=Z,547nm,22.0s IAMs_20 IAMs_20 05 13 23.1
BLO Bloomington 78.59 312 comp=Z,585nm,18.0s IAMs_20 IAMs_20 05 15 10.3
TZTN Tazewell 78.59 308 baz=48 P **P** **04 39 54.7 -1.4**
TZTN Tazewell 78.59 308 comp=Z,620nm,19.0s IAMs_20 IAMs_20 05 15 10.6
W54A Cherokee Point 78.72 306 baz=49 P **P** **04 39 56.0 -0.8**
NHSC New Hope 78.74 304 comp=Z,362nm,20.0s IAMs_20 IAMs_20 05 14 43.7
X55A Gracelyn & Ava 78.78 306 baz=49 P **P** **04 39 56.2 -1.0**
MNSI Mandailing Nat 78.85 98 **I37A Lemond, Waseca 78.94 319** comp=Z,455nm,22.0s P IAMs_20 **P** IAMs_20 **04 40 00.4 +2.6** 05 11 11.0
Z57A Bowman 78.95 304 baz=49 P **P** **04 39 57.8 -0.3**
F33A 5 Mile Ranch, 79.03 322 comp=Z,599nm,18.0s IAMs_20 IAMs_20 05 15 30.4
T50A Nancy 79.05 309 comp=Z,25nm,1.4s IAmb IAmb 04 40 06.8
T50A comp=Z,510nm,20.0s IAMs_20 IAMs_20 05 14 58.6
MDND Maddock 79.06 325 baz=41 P **P** **04 39 57.7 -0.7**
MDND Maddock 79.06 325 comp=Z,478nm,18.0s IAMs_20 IAMs_20 05 14 02.9
CRQM Cirque 79.07 353 CRQM comp=Z,12nm,0.6s P IAmb **P** IAmb **04 39 56.2 -2.3** 04 40 42.0
WCI Wyandotte Cave 79.10 311 baz=47 P **P** **04 39 58.0 -0.8**
WCI Wyandotte Cave 79.10 311 WCI comp=Z,12nm,1.1s P pmax **P** pmax **04 39 57.5 -1.3**
WCI comp=Z,600nm,19.0s MLR MLR
WCI Wyandotte Cave 79.10 311 P **P** **04 39 57.5 -1.3**
WCI Wyandotte Cave 79.10 311 comp=Z,624nm,19.0s IAMs_20 IAMs_20 05 13 58.7
X54A Belton 79.19 306 baz=49 P **P** **04 39 58.8 -0.6**
L40A Anamosa 79.19 316 comp=Z,35nm,1.2s IAmb IAmb 04 40 06.2
L40A comp=Z,620nm,19.0s IAMs_20 IAMs_20 05 14 58.0
HDIL Hopedale 79.20 314 baz=46 P **P** **04 39 58.0 -1.4**
HDIL Hopedale 79.20 314 comp=Z,612nm,20.0s IAMs_20 IAMs_20 05 14 36.3
PEA0B Petropavlovsk- 79.24 26 comp=Z,494nm,18.0s IAMs_20 IAMs_20 05 19 48.2
PETK Petropavlovsk- 79.24 26 comp=Z,399nm,19.9s,baz=310,slow=39 LR LR 05 19 14.9
Y55A Saluda 79.27 305 baz=49 P **P** **04 39 59.2 -0.6**
PCA Pinnacle 79.43 352 comp=Z,372nm,22.0s IAMs_20 IAMs_20 05 21 59.3
DLBC Dease Lake 79.53 346 comp=Z,522nm,22.0s IAMs_20 IAMs_20 05 14 07.8
157A Early Branch 79.54 304 baz=49 P **P** **04 40 01.0 -0.3**
V51A Loudon 79.57 308 comp=Z,594nm,18.0s IAMs_20 IAMs_20 05 15 41.4
PET Petropavlovsk 79.63 26 comp=Z,393nm,21.0s IAMs_20 IAMs_20 05 21 05.5
W52A Murphy 79.79 307 comp=Z,621nm,19.0s IAMs_20 IAMs_20 05 15 38.2
OLIL Olney 79.79 312 comp=Z,331nm,19.0s IAMs_20 IAMs_20 05 13 57.0
U49A Red Boiling Sp 79.95 309 comp=Z,584nm,22.0s IAMs_20 IAMs_20 05 12 47.4
USIN University of 80.07 312 comp=Z,468nm,19.0s IAMs_20 IAMs_20 05 15 58.4
Q44A Meyer Farm, Va 80.19 313 comp=Z,516nm,19.0s IAMs_20 IAMs_20 05 14 26.6
YHNB Yeheng 80.26 66 comp=Z,23nm,1.1s IAmb IAmb 04 40 25.5
SCIA State Center 80.35 317 comp=Z,466nm,20.0s IAMs_20 IAMs_20 05 13 06.5
IVS Iliamna South 80.38 358 IVS IVS *e*P *e*S MLR P **S** MLR 04 40 00.2 -5.5 **04 50 03.0 -8.4**
T47A Sharon Grove 80.41 311 comp=Z,19nm,1.1s IAmb IAmb 04 40 13.8
T47A comp=Z,559nm,19.0s IAMs_20 IAMs_20 05 14 42.5
E28A Huff 80.51 325 comp=Z,449nm,19.0s IAMs_20 IAMs_20 05 14 47.3
DGMT Dagmar 80.53 328 baz=38 P **P** **04 40 04.6 -1.9**
DGMT Dagmar 80.53 328 comp=Z,342nm,20.0s IAMs_20 IAMs_20 05 15 18.9
W50A Signal Mountai 80.56 308 comp=Z,23nm,1.1s IAmb IAmb 04 40 14.6
W50A comp=Z,590nm,20.0s IAMs_20 IAMs_20 05 16 52.5
TPUB Ta-pu 80.60 68 TPUB comp=Z,32nm,1.4s P IAmb **P** IAmb **04 40 06.9 -0.3** 04 40 09.5
GOGA Godfrey 80.62 306 baz=48 P **P** **04 40 06.8 -0.3**
GOGA Godfrey 80.62 306 GOGA comp=Z,18nm,1.3s P pmax **P** pmax **04 40 05.8 -1.4**
GOGA Godfrey 80.62 306 P **P** **04 40 05.8 -1.4**
PDSI Padang 80.62 99 comp=Z,9.7nm,1.1s P **P** **04 40 08.2 +0.8**
Y52A Lilburn 80.69 306 comp=Z,426nm,21.0s IAMs_20 IAMs_20 05 14 00.1
ECSD EROS Data Cent 80.74 321 baz=42 P **P** **04 40 06.7 -0.9**
ECSD EROS Data Cent 80.74 321 comp=Z,460nm,18.0s IAMs_20 IAMs_20 05 17 40.6
SLM Saint Louis 81.06 313 comp=Z,522nm,19.0s IAMs_20 IAMs_20 05 15 54.6
S44A Carbondale 81.17 312 comp=Z,440nm,21.0s IAMs_20 IAMs_20 05 14 59.4
T45A Paducah 81.28 311 comp=Z,416nm,20.0s IAMs_20 IAMs_20 05 16 23.6
SDSI Sungai Dareh 81.37 98 comp=Z,2µmcomp=Z,6.5nm,0.6s P **P** **04 40 12.9 +1.5**
WVT Waverly 81.42 310 baz=46 P **P** **04 40 09.3 -2.1**
WVT Waverly 81.42 310 WVT comp=Z,10.0nm,1.2s P pmax **P** pmax **04 40 10.3 -1.1**
WVT comp=Z,700nm,18.0s MLR MLR
WVT Waverly 81.42 310 P **P** **04 40 10.3 -1.1**
MYKOM Kota Tinggi 81.47 95 MYKOM comp=Z,26nm,1.4s P IAmb **P** IAmb **04 40 10.4 -1.6** 04 40 17.2
YUK Yuzh-Kuril'sk 81.62 38 YUK YUK YUK comp=Z,391nm,20.0s P *e* S MLR **P** **S** MLR **04 40 06.7** 04 43 19.0 **04 50 26.5 +2.2** -5.6
KUR Kuril'sk 81.64 36 KUR KUR KUR comp=Z,293nm,15.0s P *e* MLR MLR **P** 04 40 16.1 04 43 17.5 **04 40 11.5 -0.8**
KUR comp=N,648nm,17.0s MLR MLR
KUR comp=E,265nm,13.0s MLR MLR
Z51A Franklin 81.74 307 IAMs_20 IAMs_20 05 14 53.0

comp=Z,374nm,19.0s
ERM Erimo 81.81 41 IAMs_20 IAMs_20 05 17 33.1
comp=Z,617nm,20.0s
L34A Svendsen Farm, 81.92 319 IAmb IAmb 04 40 17.5
comp=Z,15nm,0.6s
L34A IAMs_20 IAMs_20 05 17 47.1
comp=Z,480nm,18.0s
CCM Cathedral Cave 82.03 314 P **P** **04 40 13.3 -1.2**
baz=45
CCM Cathedral Cave 82.03 314 P **P** **04 40 12.8 -1.8**
CCM pmax pmax
comp=Z,33nm,1.7s
CCM MLR MLR
comp=Z,600nm,19.0s
CCM Cathedral Cave 82.03 314 P **P** **04 40 12.8 -1.8**
CCM IAmb IAmb 04 40 23.9
comp=Z,33nm,1.7s
Y49A Blount Mountai 82.13 308 IAMs_20 IAMs_20 05 17 51.3
comp=Z,591nm,19.0s
P38A Dawn 82.16 316 IAMs_20 IAMs_20 05 14 00.5
comp=Z,649nm,21.0s
PVMO Portageville 82.31 312 IAMs_20 IAMs_20 05 16 05.8
comp=Z,424nm,19.0s
R40A Maddies Statio 82.43 314 IAmb IAmb 04 40 24.1
comp=Z,29nm,1.2s
R40A IAMs_20 IAMs_20 05 16 27.8
comp=Z,517nm,20.0s
PBMO Poplar Bluff 82.47 312 IAMs_20 IAMs_20 05 15 49.0
comp=Z,390nm,20.0s
KDAK Kodiak Island 82.60 358 IAMs_20 IAMs_20 05 22 59.9
comp=Z,323nm,19.0s
K31A O'Neill 82.61 321 IAMs_20 IAMs_20 05 16 19.1
comp=Z,514nm,19.0s
T42A Van Buren 82.67 313 IAmb IAmb 04 40 25.3
comp=Z,14nm,1.1s
T42A IAMs_20 IAMs_20 05 15 44.3
comp=Z,522nm,20.0s
656A Willston 82.71 302 IAMs_20 IAMs_20 05 17 15.0
comp=Z,379nm,19.0s
LAO LASA Array 82.78 328 P **P** **04 40 18.0 -0.4**
baz=36,SNR=15
LAO LASA Array 82.78 328 IAMs_20 IAMs_20 05 20 06.5
comp=Z,408nm,19.0s
352A Blakely 82.83 305 IAMs_20 IAMs_20 05 15 31.9
comp=Z,311nm,20.0s
W45A Hickory Valley 82.89 310 IAMs_20 IAMs_20 05 16 08.2
comp=Z,508nm,18.0s
LRAL Lakeview Retre 83.05 308 P **P** **04 40 19.6 -0.3**
baz=46
LRAL Lakeview Retre 83.05 308 IAmb IAmb 04 40 27.3
comp=Z,32nm,1.4s
LRAL IAMs_20 IAMs_20 05 15 40.6
comp=Z,549nm,20.0s
EGMT Eagleton 83.09 330 P **P** **04 40 19.5 -0.6**
baz=34,SNR=17
EGMT Eagleton 83.09 330 IAMs_20 IAMs_20 05 17 15.4
comp=Z,526nm,19.0s
MJB9 Matsu-Tunnel 83.11 47 IAMs_20 IAMs_20 05 17 35.1
comp=Z,337nm,18.0s
MAJO Matsushiro 83.11 47 P **P** **04 40 19.7 -0.6**
MAJO pmax pmax
comp=Z,49nm,1.6s
MAJO MLR MLR
comp=Z,300nm,18.0s
MAJO Matsushiro 83.11 47 P **P** **04 40 19.7 -0.6**
MAJO Matsushiro 83.11 47 IAMs_20 IAMs_20 05 19 23.1
comp=Z,321nm,18.0s
MAT Matsushiro 83.11 47 P **P** **04 40 19.8 -0.5**
MAT S **S** **04 50 44.0 +4.0**
MJAR Matsushiro Arr 83.12 47 P **P** **04 40 19.0 -1.3**
comp=Z,7.4nm,1.1s,baz=287,slow=7.7,SNR=12
MJAR LR LR 05 19 43.7
comp=Z,180nm,18.3s,baz=275,slow=37
MJAR Matsushiro Arr 83.12 47 P **P** **04 40 19.7 -0.6**
MJAR pmax pmax
comp=Z,10.0nm,1.4s
MJAR Matsushiro Arr 83.12 47 P **P** **04 40 19.7 -0.6**
BGNE Belgrade 83.22 320 P **P** **04 40 21.1 +0.3**
baz=41
MGMO Mountain Grove 83.24 314 IAmb IAmb 04 40 29.5
comp=Z,40nm,1.6s
250A Grady 83.33 306 IAMs_20 IAMs_20 05 16 53.0
comp=Z,416nm,18.0s
MET Memphis--Engin 83.35 311 IAMs_20 IAMs_20 05 16 30.4
comp=Z,516nm,19.0s
N33A J Bar K, Exete 83.38 319 IAMs_20 IAMs_20 05 19 16.6
comp=Z,500nm,20.0s
553A Crawfordville 83.39 304 IAMs_20 IAMs_20 05 19 05.7
comp=Z,329nm,18.0s
S39A Bolivar 83.44 315 IAmb IAmb 04 40 29.3
comp=Z,22nm,1.2s
S39A IAMs_20 IAMs_20 05 16 19.5
comp=Z,572nm,19.0s
WALA Waterton Lakes 83.73 333 IAmb IAmb 04 40 28.4
comp=Z,12nm,0.9s
SII Sitkinak Islan 83.86 359 IAMs_20 IAMs_20 05 21 23.3
comp=Z,396nm,19.0s
RSSD Black Hills 83.90 325 P **P** **04 40 23.4 -1.0**
baz=38
RSSD Black Hills 83.90 325 P **P** **04 40 23.8 -0.7**
RSSD pmax pmax
comp=Z,27nm,1.7s
RSSD MLR MLR
comp=Z,600nm,20.0s
RSSD Black Hills 83.90 325 P **P** **04 40 23.8 -0.7**
RSSD IAmb IAmb 04 40 31.9
comp=Z,27nm,1.6s
RSSD Black Hills 83.90 325 IAMs_20 IAMs_20 05 16 56.0
comp=Z,610nm,20.0s
451A Vernon 83.93 305 IAMs_20 IAMs_20 05 20 39.0
comp=Z,340nm,18.0s
061Z Ochoppi 83.95 299 IAMs_20 IAMs_20 05 14 38.0
comp=Z,317nm,20.0s
FCAR Ozark Folk Cen 84.07 313 IAmb IAmb 04 40 32.5
comp=Z,13nm,1.2s
U40A Yellville 84.14 313 P **P** **04 40 25.5 0.0**
baz=44
U40A Yellville 84.14 313 IAmb IAmb 04 40 33.0
comp=Z,12nm,1.2s
U40A IAMs_20 IAMs_20 05 16 49.2
comp=Z,507nm,18.0s
KSU1 Kansas State U 84.17 317 P **P** **04 40 25.2 -0.5**
baz=42
X43A Marvell 84.33 311 IAMs_20 IAMs_20 05 18 08.3
comp=Z,502nm,19.0s
WHAR Wooly Hollow 84.59 312 IAmb IAmb 04 40 57.2
comp=Z,23nm,1.1s
CHIR Chirikof Islan 84.61 359 IAMs_20 IAMs_20 05 23 54.3
comp=Z,410nm,21.0s
W41B Gary Mavity, V 84.65 312 P **P** **04 40 28.1 0.0**
baz=44
W41B Gary Mavity, V 84.65 312 IAmb IAmb 04 40 57.5
comp=Z,20nm,1.2s
W41B IAMs_20 IAMs_20 05 19 29.7
comp=Z,386nm,18.0s
HHAR Hobbs 84.80 314 IAmb IAmb 04 40 36.1
comp=Z,21nm,1.2s
BBB Bella Bella 84.99 343 IAMs_20 IAMs_20 05 20 25.3
comp=Z,360nm,18.0s
UALR University of 84.99 312 IAMs_20 IAMs_20 05 19 49.7
comp=Z,415nm,18.0s
RLMT Red Lodge 85.30 329 P **P** **04 40 31.3 -0.2**
baz=34,SNR=21
RLMT Red Lodge 85.30 329 IAMs_20 IAMs_20 05 19 01.8
comp=Z,384nm,20.0s
OGNE Ogallala 85.47 322 IAMs_20 IAMs_20 05 19 02.7
comp=Z,514nm,19.0s
X40A Basin Creek Fa 85.48 312 P **P** **04 40 30.5 -1.8**
baz=44
X40A Basin Creek Fa 85.48 312 IAMs_20 IAMs_20 05 17 32.6
comp=Z,432nm,20.0s
NEW Newport 85.49 335 P **P** **04 40 30.6 -1.6**
baz=29
NEW Newport 85.49 335 P **P** **04 40 31.0 -1.2**
NEW pmax pmax
comp=Z,19nm,1.3s
NEW MLR MLR
comp=Z,400nm,18.0s
NEW Newport 85.49 335 P **P** **04 40 31.0 -1.2**
NEW IAmb IAmb 04 40 39.7
comp=Z,19nm,1.3s
NEW Newport 85.49 335 IAMs_20 IAMs_20 05 19 23.8
comp=Z,417nm,18.0s
W39A Magazine 85.50 313 P **P** **04 40 32.4 0.0**
baz=43
W39A Magazine 85.50 313 IAmb IAmb 04 41 06.2
comp=Z,12nm,1.1s
MSO Missoula 85.64 332 P **P** **04 40 32.8 -0.2**
baz=31,SNR=13
MSO Missoula 85.64 332 IAmb IAmb 04 40 40.0
comp=Z,32nm,1.4s
MSO IAMs_20 IAMs_20 05 18 08.8
comp=Z,544nm,20.0s
346A Big Creek Wild 85.70 308 IAMs_20 IAMs_20 05 17 48.6
comp=Z,529nm,18.0s
MDSI Maura Dua 85.75 99 P P 04 40 38.7 +4.8
BOZ Bozeman (W) 85.83 330 P **P** **04 40 33.4 -0.6**
baz=33,SNR=20
BOZ Bozeman (W) 85.83 330 IAmb IAmb 04 40 41.0
comp=Z,25nm,1.3s
BOZ IAMs_20 IAMs_20 05 17 19.8
comp=Z,493nm,20.0s
MIAR Mount Ida 85.86 313 P **P** **04 40 34.6 +0.4**
baz=43
MIAR Mount Ida 85.86 313 IAmb IAmb 04 40 57.4
comp=Z,26nm,1.2s
MIAR IAMs_20 IAMs_20 05 17 52.6
comp=Z,511nm,20.0s
CBKS Cedar Bluff 85.98 319 P **P** **04 40 35.1 +0.3**
baz=40
TUL1 Leonard 86.09 315 P **P** **04 40 34.0 -1.3**
baz=42
B08A Colville Reser 86.11 336 IAMs_20 IAMs_20 05 20 06.2
comp=Z,414nm,18.0s
K22A Casper 86.16 325 P **P** **04 40 33.7 -2.1**
baz=36,SNR=5.8
C09A Chrisman Ranch 86.27 335 P **P** **04 40 36.2 +0.2**
C09A IAmb IAmb 04 40 43.5
comp=Z,21nm,0.9s
C09A IAMs_20 IAMs_20 05 19 59.4
comp=Z,377nm,18.0s
BDFB Brasilia 86.33 246 P **P** **04 40 36.7 -0.1**
comp=Z,4.6nm,0.9s,baz=66,slow=9.4,SNR=3.3
BDFB LR LR 05 21 12.6
comp=Z,511nm,18.2s,baz=84,slow=37
BDFB Brasilia 86.33 246 P **P** **04 40 36.2 -0.6**
BDFB pmax pmax
comp=Z,21nm,1.5s
BDFB Brasilia 86.33 246 P **P** **04 40 36.2 -0.6**
BDFB IAmb IAmb 04 40 52.3
comp=Z,21nm,1.5s
Z41A Richland Creek 86.35 311 IAMs_20 IAMs_20 05 19 30.6
comp=Z,347nm,19.0s
H17A Grant Village 86.42 329 P **P** **04 40 37.8 +0.7**
baz=34,SNR=5.8
FLWY Flagg Ranch 86.73 329 IAmb IAmb 04 40 50.6
comp=Z,27nm,1.3s
PHWY Pilot Hill 86.77 324 IAmb IAmb 04 40 45.3
comp=Z,32nm,1.4s
PHWY IAMs_20 IAMs_20 05 18 34.2
comp=Z,503nm,19.0s
X37A Clayton 86.83 314 IAMs_20 IAMs_20 05 19 16.4
comp=Z,388nm,20.0s
IMW Indian Meadow 86.98 329 IAmb IAmb 04 40 47.4
comp=Z,12nm,1.2s
IMW IAMs_20 IAMs_20 05 17 53.4
comp=Z,313nm,22.0s
LOHW Long Hollow 87.08 328 IAMs_20 IAMs_20 05 20 11.1
comp=Z,368nm,18.0s
D08A Wollman Farm, 87.13 335 IAMs_20 IAMs_20 05 20 16.2
comp=Z,398nm,18.0s
FXWY Fox Creek 87.23 329 IAmb IAmb 04 41 13.2
comp=Z,22nm,2.0s
RWWY Rawlins 87.24 325 IAmb IAmb 04 40 47.9
comp=Z,18nm,1.3s
KSCO Kaye Shedlock' 87.26 321 P **P** **04 40 39.9 -1.3**
baz=38
SNOW Snow King Moun 87.27 329 IAMs_20 IAMs_20 05 20 16.1
comp=Z,376nm,19.0s
N23A Red Feather La 87.32 324 P **P** **04 40 40.2 -1.4**
baz=36,SNR=7.7
BW06 Boulder Array 87.36 327 P **P** **04 40 41.0 -0.7**
baz=34
PDAR Pinedale Array 87.36 327 P **P** **04 40 41.5 -0.2**
comp=Z,2.0nm,0.9s,baz=64,slow=3.4,SNR=10
PDAR LR LR 05 20 19.2
comp=Z,351nm,20.4s,baz=38,slow=36
PDAR Pinedale Array 87.36 327 P **P** **04 40 40.7 -1.0**
REDW Red Top Meadow 87.39 329 IAMs_20 IAMs_20 05 20 20.3
comp=Z,355nm,19.0s
SBUM Sibu 87.48 89 P **P** **04 40 42.1 -0.3**
LTY Liberty 87.50 336 IAMs_20 IAMs_20 05 20 32.0
comp=Z,313nm,18.0s
F10A Beach Ranch, E 87.53 334 IAmb IAmb 04 41 05.5
comp=Z,21nm,1.4s
Z38A Mt. Pleasant 87.59 312 IAMs_20 IAMs_20 05 18 57.6
comp=Z,495nm,20.0s
E08A Dider Farm, El 87.68 335 IAMs_20 IAMs_20 05 20 31.6
comp=Z,422nm,19.0s
E07A Sunnyside 87.87 336 IAMs_20 IAMs_20 05 22 55.8
comp=Z,311nm,20.0s
HAWA Hanford 87.92 335 IAmb IAmb 04 40 51.5
comp=Z,21nm,1.4s
HAWA IAMs_20 IAMs_20 05 20 40.0
comp=Z,362nm,20.0s
D05A Enumclaw 87.97 337 IAMs_20 IAMs_20 05 22 31.2
comp=Z,428nm,18.0s
D03D Eldon 87.97 338 P **P** **04 40 42.4 -1.9**
baz=25
AHID Auburn Hatcher 87.99 328 IAMs_20 IAMs_20 05 22 33.1
comp=Z,387nm,18.0s
ISCO Idaho Springs 88.05 323 P **P** **04 40 43.6 -1.5**
baz=37
ISCO Idaho Springs 88.05 323 IAmb IAmb 04 40 52.1
comp=Z,21nm,1.6s
ISCO IAMs_20 IAMs_20 05 18 09.9
comp=Z,430nm,20.0s
LON Longmire 88.31 337 IAMs_20 IAMs_20 05 22 42.2
comp=Z,356nm,18.0s
NLWA Neilton Lookou 88.33 338 IAMs_20 IAMs_20 05 19 04.7
comp=Z,392nm,19.0s
F07A Phinny Hill Vi 88.49 335 IAMs_20 IAMs_20 05 24 28.0
comp=Z,440nm,18.0s
Q24A Divide 88.50 322 P **P** **04 40 46.8 -0.5**
baz=37
Q24A Divide 88.50 322 IAMs_20 IAMs_20 05 20 09.9
comp=Z,446nm,18.0s
NATX Nacogdoches 88.51 311 IAMs_20 IAMs_20 05 19 27.9
comp=Z,385nm,21.0s
BMO Blue Mountains 88.53 333 IAMs_20 IAMs_20 05 22 01.3
comp=Z,447nm,19.0s
WMOK Wichita Mounta 88.59 316 P **P** **04 40 45.9 -1.5**
baz=40
WMOK Wichita Mounta 88.59 316 IAmb IAmb 04 40 54.6
comp=Z,8.4nm,1.1s
WMOK Wichita Mounta 88.59 316 IAMs_20 IAMs_20 05 17 51.6
comp=Z,486nm,21.0s
HLID Hailey 88.60 331 P **P** **04 40 47.2 -0.3**
baz=31
HLID Hailey 88.60 331 IAMs_20 IAMs_20 05 20 34.3
comp=Z,490nm,19.0s
O20A White River Ci 88.96 325 P **P** **04 40 48.5 -0.8**
baz=35
O20A White River Ci 88.96 325 IAMs_20 IAMs_20 05 21 56.9
comp=Z,466nm,19.0s
237A Washetta, Mont 88.99 312 IAMs_20 IAMs_20 05 20 03.6
comp=Z,469nm,20.0s
HWUT Hardware Ranch 89.15 328 P **P** **04 40 49.4 -0.8**
HWUT IAmb IAmb 04 40 56.1
comp=Z,26nm,1.5s
HWUT IAMs_20 IAMs_20 05 21 28.8
comp=Z,380nm,20.0s
MFID Camas Ranch 89.25 332 IAmb IAmb 04 40 57.0
comp=Z,26nm,1.4s
T25A Trinidad 89.60 321 P **P** **04 40 51.3 -1.1**
baz=37
T25A Trinidad 89.60 321 IAmb IAmb 04 40 59.4
comp=Z,23nm,1.5s
SDCO Great Sand Dun 89.64 322 P **P** **04 40 52.6 0.0**
baz=37
SDCO Great Sand Dun 89.64 322 IAmb IAmb 04 40 59.2
comp=Z,21nm,1.4s
I07A Izee 89.96 334 IAmb IAmb 04 41 01.6
comp=Z,16nm,1.6s
AMTX Amarillo 90.00 318 IAMs_20 IAMs_20 05 20 01.0
comp=Z,452nm,19.0s
S22A 4UR Ranch, Cre 90.26 323 P **P** **04 40 54.3 -1.3**
baz=36
S22A 4UR Ranch, Cre 90.26 323 IAmb IAmb 04 41 01.9
comp=Z,20nm,1.4s
S22A IAMs_20 IAMs_20 05 20 16.6
comp=Z,400nm,21.0s
H04A Detroit Lake 90.28 336 IAMs_20 IAMs_20 05 22 01.5
comp=Z,316nm,21.0s
I05D Terrebonne, OR 90.33 336 P **P** **04 40 53.4 -2.0**
baz=26
PV22 Blue Mesa, Par 90.51 325 IAMs_20 IAMs_20 05 21 09.1
comp=Z,490nm,22.0s
HKT Hockley 90.52 311 *e*P **P** **04 40 57.5 +1.1**
HKT pmax pmax
comp=Z,5.0nm,1.2s
HKT Hockley 90.52 311 IAMs_20 IAMs_20 05 21 01.1
comp=Z,457nm,19.0s
PV21 Cone Mtn., Par 90.57 325 IAMs_20 IAMs_20 05 22 09.7
comp=Z,349nm,22.0s
H04D Lebanon 90.59 337 P **P** **04 40 55.0 -1.6**
baz=25
ABTX Abilene, Hawle 90.66 315 P **P** **04 40 56.7 -0.5**
baz=40
PINE Pine Mountain 90.69 335 IAmb IAmb 04 41 05.5
comp=Z,16nm,1.4s
PINE IAMs_20 IAMs_20 05 24 28.2
comp=Z,446nm,18.0s
COR Corvallis 90.71 337 IAMs_20 IAMs_20 05 13 25.8
comp=Z,367nm,19.0s
PV16 Nyswonger Mesa 90.75 324 IAMs_20 IAMs_20 05 11 28.5
comp=Z,329nm,21.0s
DUG Dugway, Tooele 90.84 328 P **P** **04 40 58.2 +0.1**
baz=32
DUG Dugway, Tooele 90.84 328 P **P** **04 40 56.8 -1.2**
DUG pmax pmax
comp=Z,10.0nm,1.2s
DUG MLR MLR
comp=Z,400nm,18.0s
DUG Dugway, Tooele 90.84 328 P **P** **04 40 56.8 -1.2**
DUG IAmb IAmb 04 41 04.3
comp=Z,10nm,1.1s
DUG IAMs_20 IAMs_20 05 22 22.8
comp=Z,371nm,18.0s
435B Jarrell 90.91 312 IAMs_20 IAMs_20 05 19 15.3
comp=Z,543nm,21.0s
WVOR Wild Horse Val 91.12 333 IAmb IAmb 04 41 15.3
comp=Z,12nm,1.5s
I04A Tendick Farm, 91.15 336 P **P** **04 40 58.4 -0.9**
baz=26
J05D Fort Rock, OR 91.24 335 P **P** **04 40 59.5 -0.4**
baz=26
MVCO Mesa Verde 91.47 324 P **P** **04 41 00.7 -0.4**
baz=35
K05A Summer Lake 91.62 335 IAmb IAmb 04 41 09.7
comp=Z,20nm,1.5s
MOD Modoc Plateau 92.16 334 IAmb IAmb 04 41 11.8
comp=Z,20nm,1.5s
ANMO Albuquerque 92.34 321 *ce*P **P** **04 41 04.8 -0.4**
ANMO pmax pmax
comp=Z,5.0nm,1.9s
HUMO Hull Mountain 92.40 336 IAMs_20 IAMs_20 05 20 44.4
comp=Z,300nm,20.0s
M04C Macdoel 92.78 335 P **P** **04 41 05.9 -1.1**
baz=26
ROSC El Rosal 92.88 279 LR LR 05 17 47.7
comp=Z,229nm,19.9s,baz=34,slow=32
Y22D IRIS PASSCAL I 93.27 321 IAMs_20 IAMs_20 05 24 09.4
comp=Z,510nm,20.0s
R11A Troy Canyon, C 93.54 329 P **P** **04 41 08.9 -1.7**
baz=30
R11A Troy Canyon, C 93.54 329 IAMs_20 IAMs_20 05 25 03.0
comp=Z,476nm,20.0s
833A Chaparral WMA, 93.79 312 IAMs_20 IAMs_20 05 19 57.8
comp=Z,403nm,21.0s
U15A North Rim 93.81 326 IAMs_20 IAMs_20 05 25 02.2
comp=Z,376nm,19.0s
WDC Whiskeytown Da 94.09 335 IAMs_20 IAMs_20 05 26 06.4
comp=Z,459nm,20.0s
PRN Pahroc Range 94.13 328 IAMs_20 IAMs_20 05 23 23.8
comp=Z,440nm,20.0s
YERR Yerington 94.37 332 IAMs_20 IAMs_20 05 23 25.9
comp=Z,478nm,21.0s
MNTX Cornudas Mount 94.41 318 P **P** **04 41 12.2 -2.3**
baz=37
PNTR Pine Nut 94.41 332 IAMs_20 IAMs_20 05 24 24.9
comp=Z,436nm,20.0s
RYN Ryan 94.42 331 IAMs_20 IAMs_20 05 24 20.3
comp=Z,365nm,19.0s
NV11 Mina Array Sit 94.46 331 IAMs_20 IAMs_20 05 26 34.2
comp=Z,395nm,19.0s
NVAR Mina Array Bea 94.52 331 P **P** **04 41 15.3 +0.2**
comp=Z,1.3nm,0.9s,baz=41,slow=3.1,SNR=7.0
NVAR LR LR 05 26 46.2
comp=Z,289nm,18.2s,baz=36,slow=37
NVAR Mina Array Bea 94.52 331 P **P** **04 41 15.1 0.0**
LHV Little Huntoon 94.75 331 IAMs_20 IAMs_20 05 23 14.9
comp=Z,390nm,18.0s
WAKR Walker 94.87 332 IAMs_20 IAMs_20 05 23 53.1
comp=Z,448nm,19.0s
TXAR Lajitas Array 95.38 316 P **P** **04 41 18.4 -0.7**
comp=Z,1.1nm,0.9s,baz=65,slow=3.8,SNR=9.0
TXAR LR LR 05 25 17.5
comp=Z,305nm,18.1s,baz=0.0,slow=36
TXAR Lajitas Array 95.38 316 P **P** **04 41 18.0 -1.0**
TX32 Lajitas Array 95.38 316 IAmb IAmb 04 41 27.0
comp=Z,10nm,1.5s
OMMB Old Mammoth Mi 95.49 331 IAMs_20 IAMs_20 05 27 19.7
comp=Z,467nm,19.0s
MDPB Devils Postpil 95.51 331 IAMs_20 IAMs_20 05 26 02.0
comp=Z,363nm,18.0s
CMB Columbia Colle 95.63 332 IAMs_20 IAMs_20 05 24 27.2
comp=Z,382nm,20.0s
CWC Cottonwood Cre 96.17 330 P **P** **04 41 21.1 -1.5**
baz=29
TUC Tucson 96.57 322 P **P** **04 41 24.1 -0.3**
baz=34
ISA Isabella, Lake 97.01 330 IAMs_20 IAMs_20 05 28 00.8
comp=Z,411nm,20.0s
ARVC Arvin 97.62 330 P Pdif 04 41 29.9 +0.9
baz=28
BFSC Mount Baldy Ra 97.93 328 P **P** **04 41 27.1 -3.4**
baz=29
TJX Tijuana 99.18 327 IAMs_20 IAMs_20 05 11 47.5
comp=Z,359nm,18.0s
SFX San Felipe 99.50 325 IAMs_20 IAMs_20 05 13 31.0
comp=Z,308nm,20.0s
CPUP Villa Florida 99.89 244 LR LR 05 29 53.6
comp=Z,594nm,18.3s,baz=58,slow=37
VNA3 Neumayer Olymp 113.37 191 PKiKP **PKiKP** **04 46 29.2 -1.8**
PLCA Paso Flores 117.16 238 PKP **PKPdf** **04 46 39.1 -0.2**
comp=Z,0.2nm,0.4s,baz=266,slow=13,SNR=1.3
WRA Warrarnunga Arr 118.32 93 PKP **PKPdf** **04 46 41.1 -1.0**
comp=Z,1.2nm,0.9s,baz=317,slow=1.6,SNR=3.9
WRA PP **PP** **04 47 59.4 +1.0**
comp=Z,3.8nm,1.1s,baz=310,slow=6.8,SNR=7.3
ASAR Alice Springs 120.09 97 PKP **PKPdf** **04 46 42.9 -2.5**
comp=Z,2.2nm,0.9s,baz=322,slow=1.9,SNR=15
ASAR PP **PP** **04 48 10.3 -0.3**
comp=Z,1.4nm,1.0s,baz=309,slow=7.9,SNR=6.8
ASAR Alice Springs 120.09 97 **PKPdf** **04 46 42.2 -3.2**
QSPA South Pole Qui 129.78 180 **PKPdf** **04 47 02.5 -0.1**

*AEIC **22** 04:30:36.2±2.3,51°.61N±0°.09×175°.29W±0°.05, h29km±6km, ML3.6/28, mb3.8/1(NEIC), Error ellipse: s-maj=13.4km s-min=3.8km az=170.0*
*NEIC **22** 04:30:37.2±2.3,51°.7N±0°.1×175°.30W±0°.06, h41km±14km, Error ellipse: s-maj=16.3km s-min=4.3km az=166.0*
*IDC **22** 04:30:38.4±7.2,52°.00N×174°.05W, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.2/54, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=140.0km s-min=60.3km az=104.0*
ISC 22 04:30:37.5±1.1, 51°.7N±0°.1×175°.28W±0°.04, h47km, n39, σ1§07/35, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**0.57**	**303**		**Pn**	**04 30 49.2**	**-0.3**
GSTR	**Great Sitkin T**	**0.60**	**307**		**Pn**	**04 30 50.0**	**+0.1**
GSTD	**Great Sitkin T**	**0.63**	**301**		**Pn**	**04 30 49.9**	**-0.3**
GSTD					**Sn**	**04 31 00.1**	**+0.7**
ETKA	**Kagalaska Isla**	**0.71**	**281**		**Pn**	**04 30 49.8**	**-1.4**
ATKA	**Atka Island**	**0.82**	**55**		**Pn**	**04 30 51.7**	**-0.9**
ATKA					**Sn**	**04 31 03.5**	**-0.2**
ADAG	**Mount Adagdak**	**0.86**	**287**		**Pn**	**04 30 53.0**	**-0.3**
ADK	**Adak**	**0.89**	**280**	Pn	**Pn**	**04 30 52.1**	**-1.5**
KOFP	**Korovin Flat P**	**0.91**	**53**		**Pn**	**04 30 53.7**	**-0.3**
KOSE	**Korovin Southe**	**0.97**	**51**		**Pn**	**04 30 55.1**	**+0.2**
KOSE					**Sn**	**04 31 09.7**	**+2.1**
KIKV	**Kanaga Island**	**1.18**	**278**		**Pn**	**04 30 56.5**	**-1.2**
KICM	**Kanaga Island**	**1.20**	**280**		**Pn**	**04 30 57.1**	**-0.8**
KIMD	**Kanaga Island**	**1.22**	**272**		**Pn**	**04 30 56.4**	**-1.7**
TAFP	**Tanaga Falls P**	**1.69**	**277**		**Pn**	**04 31 03.8**	**-0.7**
TAFP					**Sn**	**04 31 25.4**	**+0.4**
TASE	**Tanaga Southea**	**1.72**	**274**		**Pn**	**04 31 04.3**	**-0.6**
GAEA	**Gareloi East**	**2.16**	**273**		**Pn**	**04 31 11.6**	**+0.7**
GALAA	**Gareloi Lava P**	**2.17**	**272**		**Pn**	**04 31 11.9**	**+0.8**

CERAA	Semis' Rag'd T	3.13	275		Pn	04 31 24.8	+0.5
CEAP	Semis' Anvil P	3.20	277		Pn	04 31 26.1	+0.9
CESW	Semis' Southwe	3.21	275		Pn	04 31 25.6	+0.3
AMKA	Amchitka	3.40	266		Pn	04 31 27.4	-0.6
LSPA	Little Sitkin	3.82	276		Pn	04 31 34.2	+0.5
LSNW	Little Sitkin	3.85	276		Pn	04 31 34.7	+0.5
NIKH	Nikolski High	4.13	70		Pn	04 31 37.8	-0.2
OHAK	Old Harbor	13.88	58	Pn	Pn	04 33 51.1	-0.3
KDAK	Kodiak Island	14.39	56	Pn	Pn	04 33 55.3	-2.9
	0.2nm,0.3s,baz=246,slow=10.0,SNR=9.2						
KDAK				Sn	Sn	04 36 35.0	-1.2
	0.1nm,0.3s,baz=159,slow=22,SNR=1.7						
CNPM	China Poot	15.59	51	Pn	Pn	04 34 13.7	-0.1
CNPM				IAmb	IAmb	04 35 07.0	
	comp=Z,9.0nm,1.2s						
ILAR	Eielson Array	19.61	37	P	P	04 35 00.5	-1.0
	comp=Z,0.2nm,0.3s,baz=234,slow=9.7,SNR=11						
H11N2	WAKE ISLAND Hy	34.86	210	T	T	05 14 13.3	
	baz=18,slow=76,SNR=37						
H11N3	WAKE ISLAND Hy	34.87	210	T	T	05 14 09.5	
	baz=18,slow=76,SNR=44						
H11N1	WAKE ISLAND Hy	34.88	210	T	T	05 14 13.2	
	baz=18,slow=76,SNR=38						
H11S1	WAKE ISLAND Hy	36.07	210	T	T	05 15 58.9	
	baz=19,slow=76,SNR=33						
H11S2	WAKE ISLAND Hy	36.09	210	T	T	05 16 08.7	
	baz=19,slow=76,SNR=37						
H11S3	WAKE ISLAND Hy	36.09	210	T	T	05 16 06.3	
	baz=19,slow=76,SNR=29						
PDAR	Pinedale Array	44.10	75	P	P	04 38 41.0	-0.1
	comp=Z,0.9nm,0.7s,baz=306,slow=3.1,SNR=8.4						
PDAR	Pinedale Array	44.10	75	P	P	04 38 41.3	+0.2
TXAR	Lajitas Array	56.43	84	P	P	04 40 16.8	+2.4
	comp=Z,0.1nm,0.5s,baz=289,slow=5.6,SNR=3.0						
H03N2	Juan Fernandez	119.14	108	T	T	06 59 50.7	
	baz=317,slow=77,SNR=11						
H03N1	Juan Fernandez	119.16	108	T	T	06 59 52.1	
	baz=317,slow=77,SNR=13						
H03N3	Juan Fernandez	119.16	108	T	T	06 59 48.7	
	baz=317,slow=77,SNR=17						

WEL 22 05:05:03.6,38°S±2°×17°6E±°, h164km±3km, M2.6/38, MLv2.6/38, Error ellipse: s-maj=0.0km s-min=0.0km az=95.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRZ	Galatos Road	0.19	61	P	Pn	05 05 25.8	+0.2
WPRZ	Whakapapatarin	0.22	110	P	Pn	05 05 25.7	+0.1
WATZ	Wairara	0.29	206	P	Pn	05 05 26.0	+0.2
TLZ	Tolley Road	0.30	292	P	Pn	05 05 26.0	+0.1
HSRZ	Hossack Road	0.31	64	P	Pn	05 05 26.0	+0.2
ALRZ	Allen Road	0.37	109	P	Pn	05 05 26.0	0.0
RATZ	Rangitukua	0.43	193	P	Pn	05 05 26.3	0.0
KARZ	Kaharoa	0.51	33	P	Pn	05 05 26.6	0.0
KATZ	Kakaramea	0.55	196	P	Pn	05 05 27.1	+0.1
KRVZ	Karewarewa	0.68	197	P	Pn	05 05 27.7	+0.1
MUGZ	Murupara	0.69	93	P	Pn	05 05 27.1	-0.4
WTVZ	West Tongariro	0.71	200	P	Pn	05 05 27.9	+0.1
TWVZ	Taurewa	0.72	210	P	Pn	05 05 27.9	0.0
OTVZ	Oturere	0.74	194	P	Pn	05 05 28.3	+0.2
OTVZ				S	Sn	05 05 46.4	-0.5
NGZ	Ngauruhoe	0.77	197	P	Pn	05 05 28.4	+0.2
TOZ	Tahuroa Road	0.78	336	P	Pn	05 05 28.2	+0.1
TOZ				S	Sn	05 05 46.8	0.0
TUVZ	Tukino	0.84	193	P	Pn	05 05 28.9	+0.2
MTHZ	Maungataniwha	0.84	119	P	Pn	05 05 28.8	+0.2
MTHZ				S	Sn	05 05 47.0	-0.8
FWVZ	Far West T-bar	0.85	198	P	Pn	05 05 28.9	0.0
BKZ	Black Stump Fm	0.86	147	P	Pn	05 05 28.7	0.0
BKZ				S	Sn	05 05 46.6	-1.5
RTZ	Ruatahuna	0.87	102	P	Pn	05 05 28.8	0.0
RTZ				S	Sn	05 05 47.2	-0.9
TRVZ	Turoa	0.90	198	P	Pn	05 05 29.3	+0.2
WNVZ	Wahianoa	0.91	195	P	Pn	05 05 29.2	0.0
WNVZ				S	Sn	05 05 48.8	-0.2
PKVZ	Pokaka	0.95	207	P	Pn	05 05 29.4	0.0
NMHZ	Naumai	0.96	133	P	Pn	05 05 30.5	+1.0
NMHZ				S	Sn	05 05 50.4	+0.9
MOVZ	Moawhango	0.97	187	P	Pn	05 05 29.3	-0.2
MOVZ				S	Sn	05 05 47.3	-2.3
URZ	Urewera	0.97	79	P	Pn	05 05 29.0	-0.4
URZ				S	Sn	05 05 47.2	-2.1
MTVZ	Mangateitei	0.99	199	P	Pn	05 05 29.8	+0.1
RAHZ	Arahi	1.04	117	P	Pn	05 05 30.7	+0.6
RAHZ				S	Sn	05 05 50.5	0.0
BHHZ	Black Hill Sta	1.05	173	P	Pn	05 05 30.0	-0.2
BHHZ				S	Sn	05 05 48.9	-1.9
KWHZ	Kaweka Forest	1.06	157	P	Pn	05 05 30.5	+0.3
MCHZ	McNeill Hill	1.18	148	P	Pn	05 05 32.1	+1.0
SNGZ	Shannon Statio	1.18	107	P	Pn	05 05 31.7	+0.5
SNGZ				S	Sn	05 05 52.1	-0.4
ARHZ	Aropaoanui	1.19	134	P	Pn	05 05 31.9	+0.7
ARHZ				S	Sn	05 05 52.5	-0.1
KRHZ	Kereru	1.25	163	P	Pn	05 05 32.1	+0.2
KRHZ				S	Sn	05 05 52.5	-1.3
MWZ	Matawai	1.29	86	P	Pn	05 05 32.2	0.0
MWZ				S	Sn	05 05 52.5	-1.7
MKAZ	Moumakai	1.46	336	P	Pn	05 05 33.8	0.0
RUGZ	Raukumara Rang	1.48	72	P	Pn	05 05 33.2	-1.0
RUGZ				S	Sn	05 05 55.1	-2.6
PNHZ	Pukenui	1.49	171	P	Pn	05 05 33.9	-0.2
RIGZ	Rimuhau	1.49	101	P	Pn	05 05 34.5	+0.4
RIGZ				S	Sn	05 05 56.8	-0.8
CKHZ	Cape Kidnapper	1.52	143	P	Pn	05 05 34.9	+0.5
CKHZ				S	Sn	05 05 57.2	-1.1
TKGZ	Te Karaka	1.53	90	P	Pn	05 05 35.0	+0.5
TKGZ				S	Sn	05 05 58.1	-0.3
KAHZ	Kahuranaki	1.55	151	P	Pn	05 05 35.3	+0.5
KAHZ				S	Sn	05 05 57.6	-1.2
TSZ	Takapari Road	1.61	178	P	Pn	05 05 35.2	-0.2
NEZ	North Egmont	1.63	239	P	Pn	05 05 36.1	+0.5
NEZ				S	Sn	05 06 01.3	+1.0
HAZ	Te Kaha	1.64	66	P	Pn	05 05 34.8	-0.9
HAZ				S	Sn	05 05 57.2	-3.1
TWGZ	Tauwhareparae	1.66	81	P	Pn	05 05 36.5	+0.5
TWGZ				S	Sn	05 06 00.3	-0.5
WPHZ	Waipukurau	1.67	165	P	Pn	05 05 35.9	-0.1
PKZ	Pawanui	1.75	155	P	Pn	05 05 36.9	+0.1
WIAZ	Waiheke Island	1.76	340	P	Pn	05 05 36.8	-0.1
DVHZ	Dannevirke	1.86	174	P	Pn	05 05 37.4	-0.6
DVHZ				S	Sn	05 06 01.5	-3.3
PUZ	Puketiti	1.90	79	P	Pn	05 05 38.0	-0.4
PRHZ	Porangahau	1.91	163	P	Pn	05 05 38.4	-0.1
POWZ	Post Office Ro	1.95	183	P	Pn	05 05 38.3	-0.7
ANWZ	Angora Road	2.06	168	P	Pn	05 05 40.0	-0.2
WMGZ	Waiomatatini S	2.08	73	P	Pn	05 05 40.1	-0.4
MXZ	Matakaoa Point	2.10	66	P	Pn	05 05 40.6	-0.1
PRWZ	Pori Road	2.11	178	P	Pn	05 05 40.3	-0.4
MRZ	Mangatainoka R	2.23	186	P	Pn	05 05 41.0	-1.1
BFZ	Birch Farm	2.25	173	P	Pn	05 05 41.5	-0.9
TIWZ	Tintock	2.33	180	P	Pn	05 05 42.4	-0.9
OGWZ	Otaki Gorge	2.43	193	P	Pn	05 05 43.4	-1.2
HOWZ	Holdsworth Sta	2.47	187	P	Pn	05 05 43.6	-1.4
KIW	Kapiti Island	2.53	197	P	Pn	05 05 44.2	-1.6
TMWZ	Te Maipa	2.66	180	P	Pn	05 05 45.9	-1.4
CAW	Cannon Point	2.73	193	P	Pn	05 05 46.6	-1.6
OUWZ	D'Urville Isla	2.80	212	P	Pn	05 05 47.3	-1.8
TRWZ	Traveller	2.95	183	P	Pn	05 05 49.2	-1.7
MSWZ	Moikau Station	3.01	189	P	Pn	05 05 49.5	-2.1
TCW	Tory Channel	3.03	204	P	Pn	05 05 49.9	-2.0
PLWZ	Palliser	3.16	189	P	Pn	05 05 51.2	-2.3
TUWZ	Tuamarina	3.34	206	P	Pn	05 05 53.5	-2.2
NNZ	Nelson	3.38	214	P	Pn	05 05 53.8	-2.4
QRZ	Quartz Range	3.52	226	P	Pn	05 05 55.0	-3.1
BSWZ	Blackbirch Sta	3.62	205	P	Pn	05 05 57.1	-2.1
THZ	Tophouse	4.03	214	P	Pn	05 06 01.7	-2.9
KHZ	Kahutara	4.36	204	P	Pn	05 06 06.2	-2.6
GVZ	Greta Valley S	5.01	205	P	Pn	05 06 14.3	-3.1
LTZ	Lake Taylor	5.13	211	P	Pn	05 06 15.2	-3.8
MQZ	McQueen's Vall	5.80	204	P	Pn	05 06 23.1	-4.6
RPZ	Rata Peaks	6.41	213	P	Pn	05 06 31.7	-4.1
ARCZ	Arundel	6.55	211	P	Pn	05 06 33.7	-3.9

IDC 22 05:11:53.7±2.3, 7°31S×151°50E, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.3/40, mbtmp3.3/3, Error ellipse: s-maj=136.4km s-min=32.1km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.85	231	P	P	05 16 36.5	-0.8
	0.4nm,0.5s,baz=57,slow=11,SNR=2.9						
ASAR	Alice Springs	23.45	224	P	P	05 17 05.2	+0.2
	0.2nm,0.5s,baz=58,slow=8.4,SNR=1.6						
ILAR	Eielson Array	84.95	22	P	P	05 24 30.7	+0.2
	0.5nm,0.8s,baz=258,slow=4.1,SNR=4.4						
TORD	Torodi Ar. Bea	149.75	284	PKPbc	PKPbc	05 31 46.3	-0.4
	0.4nm,0.6s,baz=62,slow=2.9,SNR=2.4						

IDC 22 05:13:38.5±1.0, 67.°77N×162.°25W, h0km, mb3.6/11, mb1 3.9/12, mb1mx3.7/55, mbtmp3.7/12, ML3.6/1, Error ellipse: s-maj=38.3km s-min=15.9km az=25.0
AEIC 22 05:13:39.1±1.6, 67.°66N±0.°04×162.°1W±0.°1, h14km±4km, mb4.1/12(NEIC), Error ellipse: s-maj=6.3km s-min=4.6km az=124.0
NEIC 22 05:13:40.1±1.6, 67.°65N±0.°06×162.°1W±0.°1, h12km±4km, Error ellipse: s-maj=9.2km s-min=6.7km az=140.0

ISC 22 05:13:39.6±0.6, 67.°64N±0.°05×162.°14W±0.°05, h10km, n70, σ0.97/76, mb4.0/16, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	Red Dog Mine	0.51	325	Pg	Pg	05 13 48.7	-0.8
RDOG				Sg	Sg	05 13 55.9	-0.3
ANM	Nome	3.36	205	Pn	Pn	05 14 32.6	+0.6
ANM				Sn	Sn	05 15 12.5	+0.7
IM03		3.71	113		Pn	05 14 37.1	+0.3
IM03					Sn	05 15 20.6	+0.1
IMAR	Indian Mountai	3.71	113	Pn	Pn	05 14 36.6	-0.3
A21K	Barrow	4.18	25		Pn	05 14 43.1	-0.1
A21K					Sn	05 15 32.2	+0.2
COLD	Coldfoot	4.62	90	Pn	Pn	05 14 49.8	+0.4
TOLK	Toolik Lake Re	4.80	72	Pn	Pn	05 14 52.9	+1.0
TOLK				Sn	Sn	05 15 47.0	-0.5
PS04	TAPS Pump Stn4	4.87	75		Pn	05 14 52.3	-0.5
TTA	Tatalina	5.38	149	Pn	Pn	05 15 00.6	+0.7
TT01	Tatalina	5.40	149		Pn	05 15 00.4	+0.4
PS01	TAPS Pump Stn	5.54	55		Sn	05 16 06.7	+1.3
BPAW	Bear Paw Mtn.	5.79	123	Pn	Pn	05 15 05.8	+0.4
NEA2	Nenana	6.12	114		Pn	05 15 10.2	+0.3
KTH	Kantishna Hill	6.19	126	Pn	Pn	05 15 09.7	-1.3
MDM	Murphy Dome	6.21	109		Pn	05 15 11.7	+0.4
PPLA	Purkeypile	6.33	134	Pn	Pn	05 15 14.3	+1.4
COLA	College	6.40	109		Pn	05 15 13.9	+0.2
POKR	Poker Plat Res	6.42	106		Pn	05 15 14.3	+0.2
TRF	Thorofare Moun	6.46	125	Pn	Pn	05 15 13.0	-1.8
WRH	Wood River Hil	6.54	112	Pn	Pn	05 15 15.8	+0.1
CCB	Clear Creek Bu	6.54	111		Pn	05 15 16.1	+0.4
MCK	McKinley	6.71	120	Pn	Pn	05 15 18.6	+0.6
BM03	Burnt Mountain	6.72	84		Pn	05 15 19.1	+0.8
BMAR	Burnt Mountain	6.73	84	Pn	Pn	05 15 19.0	+0.7
IL31		6.80	108		Pn	05 15 19.6	+0.3
ILAR	Eielson Array	6.80	108	Pn	Pn	05 15 20.2	+0.9
	3.9nm,0.3s,baz=300,slow=14,SNR=143						
ILAR				Sn	Sn	05 16 33.5	-3.2
	baz=292,slow=21,SNR=3.2						
ILAR				Lg	Lg	05 17 14.7	
	0.1nm,0.3s,baz=312,slow=31,SNR=2.5						
ILAR	Eielson Array	6.80	108	Pn	Pn	05 15 19.1	-0.2
RND	Reindeer	6.96	121	Pn	Pn	05 15 21.7	+0.2
HDA	Harding Lake	6.98	111		Pn	05 15 21.5	-0.2
SVW2	Sparrevohn	7.15	154	Pn	Pn	05 15 24.9	+0.8
SKT	Skwentna	7.25	136		Pn	05 15 26.4	+0.9
WAT7	Susitna Watana	7.37	125		Pn	05 15 27.6	+0.5
SPNN	North Nagishla	7.49	143		Pn	05 15 28.4	-0.5
DHY	Denali Highway	7.67	120		Pn	05 15 31.3	-0.1
SUA	Susitna One	7.89	136	Pn	Pn	05 15 36.1	+1.8
WAT6	Susitna Watana	7.90	123		Pn	05 15 34.4	-0.1
GHO	Glory Hole Cre	8.15	130	Pn	Pn	05 15 38.0	+0.1
SML	Sawmill	8.30	128	Pn	Pn	05 15 40.6	+0.7
EGAK	Eagle	8.93	99	Pn	Pn	05 15 50.2	+1.8
BC03		9.63	109		Pn	05 15 56.7	-1.3
BCAR	Beaver Creek A	9.63	109	Pn	Pn	05 15 59.0	+0.9
INK	Inuvik	10.72	73	Pn	Pn	05 16 11.3	-1.5
	0.3nm,0.3s,baz=113,slow=1.6,SNR=9.8						
INK				Sn	Sn	05 18 04.3	-8.3
	0.1nm,0.3s,baz=38,slow=9.6,SNR=2.8						
INK	Inuvik	10.72	73	Pn	Pn	05 16 11.6	-1.3
YKA	Yellowknife Ar	20.24	82	P	P	05 18 14.6	+0.1
	1.4nm,0.6s,baz=305,slow=9.6,SNR=12						
EUNU	Eureka	22.14	27	P	P	05 18 34.9	0.0
EUNU				IAmb	IAmb	05 18 36.4	
	comp=Z,14nm,1.4s						
E09A	Wood Farm, Sta	30.87	111	P	P	05 19 55.6	0.0
E09A				IAmb	IAmb	05 20 12.4	
	comp=Z,2.2nm,0.9s						
PDAR	Pinedale Array	37.22	105	P	P	05 20 52.4	+1.3
	comp=Z,0.4nm,0.6s,baz=340,slow=6.7,SNR=5.2						
PDAR	Pinedale Array	37.22	105	P	P	05 20 52.1	+1.0
NVAR	Mina Array Bea	37.94	118	P	P	05 20 58.4	+1.3
	comp=Z,0.4nm,0.6s,baz=304,slow=7.2,SNR=4.8						
NVAR	Mina Array Bea	37.94	118	P	P	05 20 59.0	+1.9
SCO	Scoresbysund	39.52	20	P	P	05 21 08.5	-1.2
EYMN	Ely	39.72	83	P	P	05 21 12.4	+0.7
KSRS	Korea Array	48.40	268	P	P	05 22 21.9	+0.5
	comp=Z,0.8nm,0.5s,baz=17,slow=7.7,SNR=2.3						
ZALV	Zalesovo Beam	48.95	314	P	P	05 22 25.1	-0.3
	comp=Z,0.9nm,0.5s,baz=40,slow=6.5,SNR=3.6						
T42A	Van Buren	49.20	91	P	P	05 22 27.1	-0.4
T42A				IAmb	IAmb	05 22 41.5	
	comp=Z,2.4nm,1.2s						
FINES	FINESS Array B	51.08	355	P	P	05 22 41.1	-0.3
	comp=Z,1.1nm,0.8s,baz=3.8,slow=8.4,SNR=1.4						
FINES	FINESS Array B	51.08	355	P	P	05 22 42.5	+1.1
WVT	Waverly	51.23	88	P	P	05 22 40.1	-2.8
WVT				IAmb	IAmb	05 22 43.6	
	comp=Z,2.3nm,1.2s						
TX31	Lajitas Ar. Si	51.31	108	P	P	05 22 44.5	+0.8
TX31				IAmb	IAmb	05 22 47.0	
	comp=Z,4.9nm,0.9s						
TX32	Lajitas Array	51.31	108	P	P	05 22 44.6	+0.8
TXAR	Lajitas Array	51.32	108	P	P	05 22 44.7	+1.0
	comp=Z,0.7nm,0.7s,baz=338,slow=5.9,SNR=11						
TXAR	Lajitas Array	51.32	108	P	P	05 22 45.1	+1.4
BVAR	Borovoye Array	53.44	323	P	P	05 22 58.9	-0.2
	comp=Z,0.8nm,0.5s,baz=27,slow=10.0,SNR=5.1						
KURK	Kurchatov	53.53	316	P	P	05 22 59.6	-0.1
KURK				IAmb	IAmb	05 23 03.9	
	comp=Z,4.2nm,1.4s						
KURBB	Kurchatov Arra	53.64	316	P	P	05 23 00.4	-0.2
	comp=Z,0.4nm,0.7s,baz=26,slow=8.0,SNR=2.6						
MKAR	Makanchi Array	56.09	312	P	P	05 23 16.8	-1.7
	comp=Z,0.3nm,0.6s,baz=32,slow=7.1,SNR=3.8						
MKAR	Makanchi Array	56.09	312	P	P	05 23 17.9	-0.5
ABKAR	Akbulak array	59.21	329	P	P	05 23 40.6	+0.4
ESDC	Sonseca Array	71.74	18	P	P	05 25 01.5	0.0
	comp=Z,0.6nm,0.8s,baz=352,slow=6.2,SNR=5.0						
ESDC	Sonseca Array	71.74	18	P	P	05 25 02.3	+0.8

TAP 22 05:19:27.3, 21.°61N×121.°91E, h33km, ML2.5, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.54	322	eP	Pn	05 19 38.8	+0.1
	baz=322						
LAY				eS	Sn	05 19 47.2	+0.5
	baz=322						
TSEB	Hengchuen, Pin	0.98	287	eP	Pb	05 19 45.8	0.0
	baz=286						
TSEB				eS	Sb	05 19 59.5	+1.0
	baz=286						
TWKBT	Hengchun	1.07	288	eP	Pn	05 19 46.4	+0.4
	baz=287						
TWKBT				eS	Sb	05 20 00.4	-0.6
	baz=287						
LDUT	Ludao	1.13	339	eP	Pn	05 19 47.4	+0.5
	baz=338						
LDUT				eS	Sb	05 20 02.1	-0.7
	baz=338						
HEN	Hengchun	1.16	290	eP	Pn	05 19 47.5	+0.4
	baz=289						
HEN				eS	Sb	05 20 02.7	-0.7
	baz=289						
SLIU	Shizi	1.19	301	eP	Pn	05 19 48.3	+0.6
	baz=300						
SLIU				eS	Sn	05 20 03.3	+0.5
	baz=300						
TAW	Tawu	1.20	309	eS	Sn	05 20 03.6	+0.8
	baz=308						
EAST	Anshuo	1.25	308	eP	Pn	05 19 48.8	+0.3
	baz=308						
EAST				eS	Sn	05 20 04.8	+0.6
	baz=308						
ECL	Taimali	1.32	318	eP	Pn	05 19 50.1	+0.6
	baz=318						
ECL				eS	Sn	05 20 06.7	+0.8
	baz=318						
TTN	Taitung	1.34	328	eP	Pn	05 19 50.2	+0.5
	baz=328						
TTN				eS	Sn	05 20 07.1	+0.8
	baz=328						
SCZT	Fangliau	1.42	303	eP	Pn	05 19 51.4	+0.7
	baz=302						
SCZT				eS	Sn	05 20 09.1	+0.9
	baz=302						
TWGBT	Beinan	1.43	328	eP	Pn	05 19 51.6	+0.7
	baz=327						
TWGBT				eS	Sn	05 20 09.6	+1.1
	baz=327						
TWG	Pinlang	1.43	327	eP	Pn	05 19 51.6	+0.6
	baz=327						
TWG				eS	Sn	05 20 09.5	+0.9
	baz=327						
EDH	Donghe	1.47	338	eP	Pn	05 19 52.3	+0.9
	baz=337						
EDH				eS	Sn	05 20 10.3	+0.8
	baz=337						
LONT	Longtian	1.48	331	eS	Sn	05 20 10.4	+0.7
	baz=330						
MASBT	Mashibuluo	1.55	310	eP	Pn	05 19 53.4	+0.9
	baz=310						
MASBT				eS	Sn	05 20 12.2	+0.8
	baz=310						
WLCH	Liuqiu	1.60	298	eS	Sn	05 20 13.8	+1.0
	baz=297						
SSD	Sandimen	1.64	314	eS	Sn	05 20 14.2	+0.5
	baz=313						
FULB	Fuli	1.68	340	eS	Sn	05 20 15.5	+0.7
	baz=340						
SLGT	Liugui	1.81	320	eP	Pn	05 19 57.1	+1.0
	baz=319						
SCST	Cishan	1.82	314	eS	Sn	05 20 18.5	+0.2
	baz=314						
YULB	Yu-li	1.86	342	eP	Pn	05 19 57.9	+1.0
	baz=342						
HGSD	Ruisui	1.93	347	eP	Pn	05 19 58.9	+1.2
	baz=346						
CHN1	Nanshi	2.02	321	eP	Pn	05 20 00.1	+1.0
	baz=320						
TWK	Hsinying	2.11	322	eP	Pn	05 20 01.1	+0.8
	baz=321						
ALS	Alishan	2.15	332	eP	Pn	05 20 01.9	+0.8
	baz=331						

JMA 22 05:20:04.7±0.9, 21.°18N×121.°26E, h0km, M4.7
IDC 22 05:20:04.3±0.7, 21.°30N×121.°20E, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.9/48, mbtmp4.0/15, ML3.6/1, MS3.7/13, Ms1 3.8/13, ms1mx3.5/38, Error ellipse: s-maj=26.8km s-min=15.1km az=70.0
BJI 22 05:20:07.4±0.0, 21.°43N×120.°92E, h5km, mB4.5/13, mb4.2/17, Ms4.2/18, Ms7 4.0/17
NEIC 22 05:20:08.6±1.3, 21.°27N±0.°08×121.°22E±0.°10, h24km±6km, mb4.3/33, Error ellipse: s-maj=13.3km s-min=12.0km az=66.0

ISC 22 05:20:06.6±0.5, 21.°23N±0.°06×121.°19E±0.°05, h10km, n98, σ1.920/90, mb4.2/32, MS3.8/14, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinlang	1.58	356		Pn	05 20 34.9	+0.1
TPUB	Ta-pu	2.12	346	Pn	Pn	05 20 42.6	+0.5
YULB	Yu-li	2.15	3		Pn	05 20 42.4	-0.2
SSLB	Suanglung	2.55	355	Pn	Pn	05 20 47.9	-0.2
NACB	Ninganchiao	2.95	7		Pn	05 20 54.1	+0.6
YHNB	Yeheng	3.42	3		Pn	05 21 00.1	0.0
YOJ	Yonaguni jima	3.63	27	P	Pn	05 21 03.1	+0.3
YOJ				eS	Sn	05 21 48.7	+3.0
YOJ	Yonaguni jima	3.63	27	Pn	Pn	05 21 02.2	-0.6
HATJ	Hateruma jima	3.71	40	P	Pn	05 21 06.0	+2.1
HATJ				eS	Sn	05 21 49.4	+1.7
TATO	Taipei	3.73	4	Pn	Pn	05 21 07.8	+3.5
IRIF	Iriomote-Funau	3.88	37	P	Pn	05 21 07.4	+1.2
IRIF				eS	Sn	05 21 54.0	+2.1
JKRS	Kuro-shima	3.96	41	P	Pn	05 21 09.0	+1.5
JKRS				eS	Sn	05 21 56.5	+2.5
KNMB	Chin-men Tao	4.12	322	Pn	Pn	05 21 10.6	+0.9
JIJ	Ishigaki jima	4.14	41	P	Pn	05 21 10.9	+1.0
JIJ				eS	Sn	05 21 59.6	+1.2
JISG	Ishigakijimahi	4.41	40	P	Pn	05 21 14.1	+0.6
JISG				eS	Sn	05 22 06.1	+1.1
JTJ	Tarama	4.69	43	P	Pn	05 21 19.3	+1.9
JTJ				eS	Sn	05 22 14.6	+2.7
TGY	Tagaytay City	7.10	182	LR	LR	05 25 03.2	
	comp=Z,564nm,20.1s,baz=324,slow=42						
QIZ	Qiongzhong	10.88	260	P	Pn	05 22 43.4	+0.9
QIZ				S	Sn	05 24 45.9	+1.5
QIZ				LR	LR		
	comp=N,840nm,11.8s						
QIZ				LR	LR		
	comp=E,510nm,10.3s						
QIZ				LR	LR		
	comp=Z,540nm,9.8s						
NJ2	Nanjing	10.97	350	eP

LZH					sP	sP	05 25 02.9	+7.6		
LZH					pmax	pmax				
	comp=Z,19nm,1.1s									
LZH					pmax	pmax				
	comp=Z,170nm,4.9s									
LZH					LR	LR				
	comp=Z,530nm,12.5s									
LZH					LR	LR				
	comp=Z,430nm,10.8s									
LZH					LR	LR				
	comp=Z,560nm,14.6s									
HHC	**Hu-ho-hao-te**	**21.19**	**339**	*eP*	**P**	**05 24 53.8**	**+1.4**			
HHC					pmax	pmax				
	comp=Z,16nm,0.9s									
HHC					pmax	pmax				
	comp=Z,72nm,3.8s									
HHC					LR	LR				
	comp=Z,770nm,12.4s									
HHC					LR	LR				
	comp=Z,720nm,12.9s									
HHC					LR	LR				
	comp=Z,420nm,11.9s									
MJAR	**Matsushiro Arr**	**21.27**	**41**	P	**P**	**05 24 52.5**	**-0.7**			
	comp=Z,0.9nm,0.3s,baz=243,slow=11,SNR=1.6									
MJAR	**Matsushiro Arr**	**21.27**	**41**	P	**P**	**05 24 51.8**	**-1.4**			
GTA	**Gaotai**	**25.75**	**319**	*eP*	**P**	**05 25 39.6**	**+2.1**			
GTA				pP	pwP	05 25 43.8	+0.5			
GTA				sP	sP	05 25 46.6	+5.9			
GTA				pmax	pmax					
	comp=Z,4.0nm,1.1s									
GTA				pmax	pmax					
	comp=Z,140nm,6.7s									
GTA				LR	LR					
	comp=Z,300nm,12.7s									
GTA				LR	LR					
	comp=Z,250nm,16.5s									
GTA				LR	LR					
	comp=Z,230nm,14.6s									
SONM	**Songino Array**	**29.10**	**339**	P	**P**	**05 26 05.3**	**-2.2**			
	comp=Z,2.7nm,0.8s,baz=153,slow=9.7,SNR=1.8									
SONM				LR	LR	05 39 32.6				
	comp=Z,379nm,18.4s,baz=68,slow=40									
SONM	**Songino Array**	**29.10**	**339**	P	**P**	**05 26 05.6**	**-1.9**			
WMQ	**Urumqi**	**35.75**	**317**	*eP*	**P**	**05 27 08.5**	**+2.8**			
MK31	**Makanchi Array**	**40.49**	**318**	P	**P**	**05 27 45.9**	**+0.2**			
MKAR	**Makanchi Array**	**40.49**	**318**	P	**P**	**05 27 44.5**	**-1.2**			
	comp=Z,0.7nm,0.7s,baz=108,slow=12,SNR=6.1									
MKAR				LR	LR	05 44 23.1				
	comp=Z,63nm,21.7s,baz=121,slow=36									
MKAR	**Makanchi Array**	**40.49**	**318**	P	**P**	**05 27 45.0**	**-0.6**			
YAK	**Yakutsk**	**41.19**	**6**	LR	LR	05 48 55.2				
	comp=Z,116nm,18.2s,baz=22,slow=42									
PETK	**Petropavlovsk-**	**42.33**	**32**	LR	LR	05 46 58.8				
	comp=Z,77nm,20.0s,baz=249,slow=38									
H11N1	**WAKE ISLAND Hy**	**42.73**	**84**	T	T	06 14 00.2				
	baz=280,slow=75,SNR=63									
H11N2	**WAKE ISLAND Hy**	**42.73**	**84**	T	T	06 14 00.2				
	baz=280,slow=75,SNR=66									
ZAA0	**Zalesovo Array**	**42.74**	**329**	P	**P**	**05 28 03.1**	**-0.8**			
ZAA0				IAmb	IAmb	05 28 09.6				
	comp=Z,3.3nm,0.8s									
ZALV	**Zalesovo Beam**	**42.74**	**329**	P	**P**	**05 28 02.7**	**-1.2**			
	comp=Z,1.9nm,0.6s,baz=76,slow=6.3,SNR=6.5									
ZALV				LR	LR	05 45 24.2				
	comp=Z,90nm,22.0s,baz=94,slow=36									
H11N3	**WAKE ISLAND Hy**	**42.75**	**84**	T	T	06 14 01.0				
	baz=280,slow=75,SNR=62									
WB0	**Warramunga Arr**	**42.75**	**162**	P	**P**	**05 28 04.3**	**0.0**			
WB0				IAmb	IAmb	05 28 20.6				
	comp=Z,14nm,1.5s									
H11S3	**WAKE ISLAND Hy**	**42.77**	**85**	T	T	06 14 03.1				
	baz=282,slow=75,SNR=86									
H11S1	**WAKE ISLAND Hy**	**42.78**	**85**	T	T	06 14 01.6				
	baz=282,slow=75,SNR=92									
H11S2	**WAKE ISLAND Hy**	**42.79**	**85**	T	T	06 14 04.1				
	baz=282,slow=75,SNR=75									
WRA	**Warramunga Arr**	**42.90**	**162**	P	**P**	**05 28 05.0**	**-0.5**			
	comp=Z,1.4nm,0.5s,baz=343,slow=9.0,SNR=15									
WRA	**Warramunga Arr**	**42.90**	**162**	P	**P**	**05 28 05.3**	**-0.2**			
WB2	**Warramunga Arr**	**42.90**	**162**	P	**P**	**05 28 05.7**	**+0.1**			
WR0	**Warramunga Arr**	**42.97**	**161**	P	**P**	**05 28 05.8**	**-0.3**			
WR0				IAmb	IAmb	05 28 14.2				
	comp=Z,7.8nm,1.2s									
KURK	**Kurchatov**	**44.38**	**322**	P	**P**	**05 28 16.1**	**-1.1**			
KURBB	**Kurchatov Arra**	**44.39**	**322**	P	**P**	**05 28 15.9**	**-1.3**			
	comp=Z,1.5nm,0.7s,baz=122,slow=7.4,SNR=13									
ASAR	**Alice Springs**	**46.32**	**164**	P	**P**	**05 28 32.8**	**0.0**			
	comp=Z,1.2nm,0.9s,baz=316,slow=6.1,SNR=7.5									
ASAR	**Alice Springs**	**46.32**	**164**	P	**P**	**05 28 33.2**	**+0.4**			
GAR	**Garm**	**46.81**	**304**	P	**P**	**05 28 36.0**	**-0.7**			
KK31	**Karatay Array**	**47.30**	**310**	P	**P**	**05 28 40.7**	**+0.3**			
KKAR	**Karatay Array**	**47.30**	**310**	P	**P**	**05 28 40.0**	**-0.5**			
KKAR	**Karatay Array**	**47.30**	**310**	P	**P**	**05 28 39.9**	**-0.5**			
KKAR				IAmb	IAmb	05 28 47.1				
	comp=Z,2.4nm,1.2s									
KBL	**Kabul**	**47.48**	**298**	P	**P**	**05 28 42.5**	**+0.4**			
KBL				IAmb	IAmb	05 28 43.9				
	comp=Z,3.6nm,0.6s									
BVAR	**Borovoye Array**	**49.97**	**322**	P	**P**	**05 28 59.4**	**-1.4**			
	comp=Z,0.8nm,0.6s,baz=108,slow=9.3,SNR=2.2									
BRVK	**Borovoye**	**50.05**	**322**	P	**P**	**05 29 01.2**	**-0.1**			
BRVK				IAmb	IAmb	05 29 03.4				
	comp=Z,2.6nm,0.8s									
NRIK	**Noril'sk**	**52.24**	**346**	P	**P**	**05 29 16.4**	**-1.1**			
	comp=Z,6.3nm,0.6s,baz=126,slow=8.1,SNR=8.1									
ABKAR	**Akbulak array**	**55.52**	**316**	P	**P**	**05 29 41.5**	**-0.4**			
BBOO	**Buckleboo**	**55.59**	**165**	P	**P**	**05 29 43.3**	**+0.9**			
STKA	**Stephens Creek**	**56.31**	**159**	P	**P**	**05 29 47.1**	**-0.5**			
	comp=Z,1.6nm,0.5s,baz=321,slow=8.1,SNR=4.1									
STKA	**Stephens Creek**	**56.31**	**159**	P	**P**	**05 29 48.1**	**+0.5**			
GEYT	**Alibeck**	**56.32**	**302**	LR	LR	05 58 54.0				
	comp=Z,79nm,18.0s,baz=145,slow=41									
KBZ	**Khabaz**	**67.34**	**310**	LR	LR	06 04 08.1				
	comp=Z,40nm,20.3s,baz=70,slow=39									
TTA	**Tatalina**	**68.06**	**29**	P	**P**	**05 31 05.3**	**-0.9**			
TTA				IAmb	IAmb	05 31 08.7				
	comp=Z,1.4nm,0.6s									
SVW2	**Sparrevohn**	**68.40**	**31**	P	**P**	**05 31 07.2**	**-1.1**			
SVW2				IAmb	IAmb	05 31 18.8				
	comp=Z,2.8nm,1.2s									
IMAR	**Indian Mountai**	**68.81**	**26**	P	**P**	**05 31 10.9**	**+0.1**			
OHAK	**Old Harbor**	**70.02**	**35**	P	**P**	**05 31 17.9**	**-0.4**			
OHAK				IAmb	IAmb	05 31 36.2				
	comp=Z,4.5nm,1.0s									
TOLK	**Toolik Lake Re**	**70.15**	**23**	P	**P**	**05 31 19.2**	**+0.2**			
TOLK				IAmb	IAmb	05 31 20.6				
	comp=Z,2.3nm,0.8s									
BPAW	**Bear Paw Mtn.**	**70.18**	**28**	P	**P**	**05 31 19.6**	**+0.3**			
BPAW				IAmb	IAmb	05 31 24.1				
	comp=Z,6.8nm,1.5s									
KDAK	**Kodiak Island**	**70.31**	**35**	P	**P**	**05 31 19.7**	**-0.5**			
SUA	**Susitna One**	**70.67**	**31**	P	**P**	**05 31 22.4**	**-0.1**			
SUA				IAmb	IAmb	05 31 26.1				
	comp=Z,4.2nm,1.1s									
WRH	**Wood River Hil**	**71.37**	**27**	P	**P**	**05 31 26.3**	**-0.2**			
WRH				IAmb	IAmb	05 31 27.8				
	comp=Z,2.0nm,0.9s									
KEV	**Kevo**	**71.71**	**339**	P	**P**	**05 31 29.0**	**+0.6**			
ILAR	**Eielson Array**	**71.83**	**27**	P	**P**	**05 31 28.3**	**-1.0**			
	comp=Z,0.6nm,0.7s,baz=290,slow=7.1,SNR=7.7									
ILAR	**Eielson Array**	**71.83**	**27**	P	**P**	**05 31 27.1**	**-2.1**			
BMAR	**Burnt Mountain**	**72.21**	**24**	P	**P**	**05 31 32.5**	**+0.9**			
ARCES	**ARCESS Array B**	**72.27**	**338**	P	**P**	**05 31 31.2**	**-0.6**			
	comp=Z,1.9nm,0.8s,baz=77,slow=8.7,SNR=6.8									
ARCES	**ARCESS Array B**	**72.27**	**338**	P	**P**	**05 31 32.3**	**+0.5**			
EGAK	**Eagle**	**74.21**	**26**	P	**P**	**05 31 43.2**	**-0.2**			
EGAK				IAmb	IAmb	05 31 44.5				
	comp=Z,2.0nm,0.8s									
BRTR	**Keskin Array B**	**74.93**	**307**	LR	LR	06 07 31.6				
	comp=Z,28nm,19.8s,baz=348,slow=38									
DAWY	**Dawson**	**75.15**	**27**	P	**P**	**05 31 48.4**	**-0.5**			
DAWY				IAmb	IAmb	05 31 49.5				
	comp=Z,2.5nm,0.9s									
INK	**Inuvik**	**75.95**	**22**	P	**P**	**05 31 52.8**	**-0.5**			
INK				IAmb	IAmb	05 31 53.5				
	comp=Z,2.3nm,0.8s									
NIUE	**Niue**	**78.41**	**116**	P	**P**	**05 32 07.5**	**-0.4**			
NOA	**NORSAR Array B**	**80.83**	**332**	LR	LR	06 09 02.9				
	comp=Z,82nm,19.5s,baz=20,slow=36									
GERES	**GERESS Array B**	**85.12**	**321**	LR	LR	06 14 44.0				
	comp=Z,64nm,18.3s,baz=77,slow=39									
YKA	**Yellowknife Ar**	**85.68**	**23**	P	**P**	**05 32 44.1**	**-1.3**			
	comp=Z,1.0nm,0.7s,baz=313,slow=5.0,SNR=7.8									

*NEIC **22** 05:39:20.3±1.8, 53.18N±0.06×166.05W±0.04, h18km±7km, Error ellipse: s-maj=9.3km s-min=3.6km az=168.0*
*AEIC **22** 05:39:21.3±2.4, 53.19N±0.05×166.07W±0.06, h31km±6km, ML3.5/39, mb3.9/15(NEIC), Error ellipse: s-maj=8.7km s-min=2.7km az=143.0*
*IDC **22** 05:39:22.1±4.2, 53.28N×165.11W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.5/49, mbtmp3.4/7, ML3.1/2, Error ellipse: s-maj=72.5km s-min=30.4km az=92.0*

ISC 22 05:39:19.7±1.8, 53.18N±0.07×165.91W±0.04, h13km±11km, n83, σ1s52/82, mb3.9/11, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.76**	**333**		**Sn**	**05 39 45.8**	**-1.5**
UNV	**Unalaska Valle**	**0.76**	**333**	Pn	**Pb**	**05 39 34.8**	**0.0**
MREP	**Makushin Rep't**	**0.81**	**322**		**Pb**	**05 39 35.7**	**+0.1**
MNAT	**Makushin Natee**	**0.85**	**327**		**Pb**	**05 39 36.2**	**0.0**
MNAT					**Sn**	**05 39 48.1**	**-1.5**
MAPS	**Pakushin South**	**0.88**	**316**		**Pb**	**05 39 36.6**	**-0.3**
MAPS					**Sn**	**05 39 48.9**	**-1.5**
MSOM	**Makushin Julie**	**0.89**	**317**		**Pb**	**05 39 36.2**	**-0.8**
MSOM					**Sg**	**05 39 48.1**	**-0.6**
MSW	**Makushin Switc**	**0.91**	**325**		**Pb**	**05 39 37.0**	**-0.3**
MSW					**Sn**	**05 39 49.7**	**-1.3**
AKMO	**Akutan Morgan**	**0.92**	**356**		**Pg**	**05 39 37.6**	**+0.1**
AKMO					**Sn**	**05 39 50.7**	**-0.7**
AKBBA	**Akutan Broad B**	**0.93**	**359**		**Pb**	**05 39 37.6**	**0.0**
AKBBA					**Sn**	**05 39 51.4**	**-0.1**
AKRB	**Akutan Reef Bi**	**0.96**	**355**		**Pg**	**05 39 38.3**	**0.0**
AKRB					**Sn**	**05 39 52.4**	**0.0**
AKUT	**Akutan**	**0.97**	**5**	Pn	**Pb**	**05 39 38.1**	**-0.2**
AKUT	**Akutan**	**0.97**	**5**		**Sn**	**05 39 51.7**	**-0.7**
AKSA	**Akutan Strait**	**0.97**	**8**		**Pb**	**05 39 37.8**	**-0.6**
AKLV	**Akutan Long Va**	**0.99**	**359**		**Pb**	**05 39 38.3**	**-0.4**
AKLV					**Sn**	**05 39 52.2**	**-0.9**
AKGG	**Akutan Green G**	**1.03**	**357**		**Pb**	**05 39 39.1**	**-0.3**
OKFG	**Magazine Ridge**	**1.22**	**282**		**Pn**	**05 39 40.8**	**-1.6**
OKNC	**Okmok New Cone**	**1.35**	**283**		**Pn**	**05 39 42.4**	**-1.9**
OKCE	**Okmok Cone E**	**1.37**	**282**		**Pn**	**05 39 43.4**	**-1.2**
OKSP	**Okmok Steeple**	**1.43**	**274**		**Pn**	**05 39 43.6**	**-1.8**
WESP	**Westdahl Peak**	**1.50**	**28**		**Pn**	**05 39 47.0**	**+0.7**
WEBT	**Westdahl Beart**	**1.58**	**25**		**Pn**	**05 39 48.1**	**+0.7**
NIKH	**Nikolski High**	**1.79**	**265**	Pn	**Pn**	**05 39 48.8**	**-1.4**
SSBA	**Shishaldin**	**1.92**	**33**		**Pn**	**05 39 53.6**	**+1.5**
SSLW	**Shishaldin Wes**	**1.92**	**33**		**Pb**	**05 39 53.8**	**-0.7**
BRPK	**Brown Peak**	**1.96**	**40**		**Pn**	**05 39 53.5**	**+0.9**
FALS	**False Pass**	**2.24**	**40**	Pn	**Pn**	**05 39 56.9**	**+0.5**
SDPT	**Sand Point**	**3.86**	**53**	Pn	**Pn**	**05 40 19.5**	**+0.8**
CNBA	**Chernabura Isl**	**4.08**	**64**	Pn	**Pn**	**05 40 21.6**	**-0.1**
ATKA	**Atka Island**	**5.13**	**262**	Pn	**Pn**	**05 40 36.2**	**+0.1**
CHIR	**Chirikof Islan**	**6.55**	**62**	Pn	**Pn**	**05 40 55.6**	**0.0**
ADK	**Adak**	**6.73**	**263**	Pn	**Pn**	**05 40 57.9**	**+0.2**
SII	**Sitkinak Islan**	**7.57**	**59**	Pn	**Pn**	**05 41 10.7**	**+1.1**
OHAK	**Old Harbor**	**8.28**	**56**	Pn	**Pn**	**05 41 20.4**	**+1.1**
KDAK	**Kodiak Island**	**8.86**	**53**	Pn	**Pn**	**05 41 26.0**	**-1.3**
	0.3nm,0.3s,baz=252,slow=6.4,SNR=9.4						
KDAK					Sn	**Sn**	**05 43 00.4**	**-6.4**
	baz=158,slow=20,SNR=0.9						
KDAK	**Kodiak Island**	**8.86**	**53**	Pn	**Pn**	**05 41 26.5**	**-0.8**
SVW2	**Sparrevohn**	**9.71**	**31**	Pn	**Pn**	**05 41 41.6**	**+2.6**
CNPM	**China Poot**	**10.32**	**46**	Pn	**Pn**	**05 41 49.3**	**+2.0**
SEW	**Seward**	**11.39**	**46**	Pn	**Pn**	**05 42 01.9**	**0.0**
SUA	**Susitna One**	**11.64**	**39**	Pn	**Pn**	**05 42 06.3**	**+0.9**
SKT	**Skwentna**	**11.70**	**35**	Pn	**Pn**	**05 42 10.2**	**+4.1**
GHO	**Glory Hole Cre**	**12.52**	**40**	Pn	**Pn**	**05 42 17.5**	**0.0**
SML	**Sawmill**	**12.77**	**40**	Pn	**Pn**	**05 42 23.5**	**+2.7**
GLI	**Glacier Island**	**12.79**	**45**	Pn	**Pn**	**05 42 19.9**	**-1.2**
FID	**Port Fidalgo**	**13.00**	**47**	Pn	**Pn**	**05 42 23.9**	**+0.1**
KLU	**Klutina**	**13.59**	**44**	Pn	**Pn**	**05 42 31.2**	**-0.7**
HMT	**Hamilton**	**13.83**	**50**	Pn	**Pn**	**05 42 35.4**	**+0.2**
BWN	**Browne**	**13.90**	**31**	P	**P**	**05 42 42.4**	**-1.9**
GLB	**Gilahina Butte**	**14.47**	**46**	Pn	**Pn**	**05 42 44.4**	**+0.4**
VRDI	**Verde Repeater**	**14.54**	**47**	Pn	**Pn**	**05 42 44.8**	**-0.2**
WRH	**Wood River Hil**	**14.54**	**32**	P	**P**	**05 42 51.5**	**+0.1**
CCB	**Clear Creek Bu**	**14.75**	**32**	P	**P**	**05 42 51.6**	**-2.1**
ISLE	**Juniper Island**	**14.81**	**51**	Pn	**Pn**	**05 42 50.5**	**+1.8**
ILAR	**Eielson Array**	**15.12**	**32**	Pn	**Pn**	**05 42 51.6**	**-1.1**
	0.1nm,0.3s,baz=220,slow=11,SNR=1.9						
MENT	**Mentasta**	**15.20**	**41**	Pn	**Pn**	**05 42 49.9**	**-3.9**
MENT				IAmb	IAmb	05 43 03.6	
	comp=Z,3.5nm,1.1s						
DOT	**Dot Lake**	**15.44**	**39**	P	**Pn**	**05 42 58.9**	**+2.1**
COLD	**Coldfoot**	**16.03**	**22**	P	**P**	**05 43 09.5**	**+1.6**
COLD				IAmb	IAmb	05 43 19.2	
	comp=Z,6.8nm,1.5s						
EGAK	**Eagle**	**17.11**	**38**	P	**P**	**05 43 20.4**	**+0.5**
DAWY	**Dawson**	**17.44**	**41**	P	**Pn**	**05 43 23.6**	**+1.2**
H02S1	**DAWSON INLET T**	**19.94**	**76**	T	T	06 04 29.4	
INK	**Inuvik**	**21.52**	**33**	P	**P**	**05 44 06.9**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=228,slow=11,SNR=7.6						
INK	**Inuvik**	**21.52**	**33**	P	**P**	**05 44 06.9**	**-1.1**
INK				IAmb	IAmb	05 44 16.4	
	comp=Z,1.9nm,0.7s						
C36M	**Paulatuk**	**25.09**	**34**	P	**P**	**05 44 44.3**	**+0.8**
C36M				IAmb	IAmb	05 44 53.3	
	comp=Z,3.3nm,1.3s						
YKA	**Yellowknife Ar**	**28.12**	**50**	P	**P**	**05 45 12.0**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=273,slow=10,SNR=6.3						
H04A	**Detroit Lake**	**29.55**	**89**	P	**P**	**05 45 25.6**	**+1.7**
K05A	**Summer Lake**	**31.42**	**91**	P	**P**	**05 45 43.1**	**+2.5**
K05A				IAmb	IAmb	05 45 47.5	
	comp=Z,6.9nm,1.2s						
WAKR	**Walker**	**34.88**	**96**	P	**P**	**05 46 12.7**	**+2.0**
WAKR				IAmb	IAmb	05 46 26.7	
	comp=Z,4.1nm,1.5s						
NVAR	**Mina Array Bea**	**35.61**	**95**	P	**P**	**05 46 17.9**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=302,slow=8.8,SNR=8.9						
TPNV	**Topopah Spring**	**37.81**	**95**	P	**P**	**05 46 37.7**	**+2.0**
TPNV				IAmb	IAmb	05 46 49.8	
	comp=Z,1.8nm,0.9s						
PDAR	**Pinedale Array**	**38.20**	**82**	P	**P**	**05 46 39.5**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=325,slow=4.6,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**39.43**	**223**	T	T	06 29 08.8	
	baz=25,slow=76,SNR=192						
H11N3	**WAKE ISLAND Hy**	**39.44**	**223**	T	T	06 28 55.8	
	baz=25,slow=76,SNR=162						
H11N1	**WAKE ISLAND Hy**	**39.45**	**223**	T	T	06 29 18.6	
	baz=25,slow=76,SNR=108						
O20A	**White River Ci**	**40.58**	**85**	P	**P**	**05 46 59.8**	**+0.9**
O20A				IAmb	IAmb	05 47 01.2	
	comp=Z,6.8nm,1.4s						
H11S1	**WAKE ISLAND Hy**	**40.61**	**222**	T	T	06 30 26.6	
	baz=24,slow=76,SNR=80						
H11S2	**WAKE ISLAND Hy**	**40.62**	**222**	T	T	06 30 24.7	
	baz=24,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**40.63**	**222**	T	T	06 30 27.2	
	baz=24,slow=76,SNR=42						
ESJX	**Sierra Juarez**	**41.40**	**100**	P	**P**	**05 47 07.5**	**+1.8**
ESJX				IAmb	IAmb	05 47 07.9	
	comp=Z,1.8nm,0.8s						
SPX	**San Pedro Mart**	**42.38**	**101**	P	**P**	**05 47 15.5**	**+1.6**
TX32	**Lajitas Array**	**50.66**	**92**	P	**P**	**05 48 18.9**	**+0.3**
TXAR	**Lajitas Array**	**50.66**	**92**	P	**P**	**05 48 18.9**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=302,slow=5.5,SNR=24						
H03N2	**Juan Fernandez**	**114.30**	**114**	T	T	08 02 39.7	
	baz=322,slow=77,SNR=82						
H03N1	**Juan Fernandez**	**114.31**	**114**	T	T	08 02 54.1	
	baz=322,slow=77,SNR=77						
H03N3	**Juan Fernandez**	**114.31**	**114**	T	T	08 02 46.6	
	baz=322,slow=77,SNR=104						

IDC 22 05:45:16.7±2.9, 49.57S×125.14E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/31, mbtmp3.8/4, Error ellipse: s-maj=115.1km s-min=27.3km az=95.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.75**	**327**	T	T	06 06 19.6	
	baz=153,slow=75,SNR=15						
H01W2	**Cape Leeuwin H**	**16.75**	**327**	T	T	06 06 19.7	
	baz=153,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**16.76**	**327**	T	T	06 06 19.3	
	baz=153,slow=75,SNR=14						
STKA	**Stephens Creek**	**21.55**	**41**	P	P	05 50 07.8	+0.2
	4.1nm,0.8s,baz=195,slow=13,SNR=6.5						
ASAR	**Alice Springs**	**26.76**	**18**	P	P	05 50 58.2	+0.1
	1.8nm,0.8s,baz=188,slow=9.7,SNR=11						
WRA	**Warramunga Arr**	**30.47**	**17**	P	P	05 51 30.8	-0.3
	0.4nm,0.9s,baz=196,slow=8.2,SNR=1.9						
VNDA	**Vanda**	**31.30**	**166**	P	P	05 51 38.0	0.0
	1.7nm,1.0s,baz=316,slow=8.5,SNR=3.8						

IDC 22 05:54:26.5±3.5, 10.33S×154.25E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/28, mbtmp3.8/5, MS3.3/9, Ms1 3.4/9, ms1mx3.1/33, Error ellipse: s-maj=86.1km s-min=34.7km az=103.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**6.38**	**340**	LR	LR	05 58 18.9	
	comp=Z,110nm,21.5s,baz=146,slow=36						
JAY	**Jayapura**	**15.53**	**299**	LR	LR	06 04 38.5	
	comp=Z,140nm,19.6s,baz=358,slow=39						
DZM	**Mont Dzumac**	**16.52**	**136**	LR	LR	06 03 45.5	
	comp=Z,448nm,19.2s,baz=299,slow=34						
WRA	**Warramunga Arr**	**21.44**	**241**	P	P	05 59 17.2	+0.7
	2.2nm,0.9s,baz=66,slow=11,SNR=6.9						
WRA				LR	LR	06 06 60.0	
	comp=Z,58nm,21.2s,baz=150,slow=35						
ASAR	**Alice Springs**	**23.50**	**233**	P	P	05 59 38.3	+0.1
	2.4nm,1.0s,baz=66,slow=9.2,SNR=9.9						
ASAR				LR	LR	06 08 24.4	
	comp=Z,102nm,20.2s,baz=128,slow=36						
STKA	**Stephens Creek**	**24.43**	**207**	P	P	05 59 46.5	-0.5
	3.2nm,0.9s,baz=5.2,slow=11,SNR=4.0						
STKA				LR	LR	06 09 11.0	
	comp=Z,109nm,20.3s,baz=31,slow=36						
MJAR	**Matsushiro Arr**	**49.01**	**343**	LR	LR	06 20 34.0	
	comp=Z,19nm,21.5s,baz=250,slow=32						
CMAR	**Chiang Mai Arr**	**61.60**	**297**	P	P	06 04 44.4	-2.0
	0.9nm,0.3s,baz=108,slow=5.8,SNR=2.1						
CMAR				LR	LR	06 32 44.1	
	comp=Z,15nm,18.9s,baz=115,slow=37						
MKAR	**Makanchi Array**	**85.41**	**319**	P	P	06 07 08.0	+2.0
	0.4nm,0.8s,baz=104,slow=6.1,SNR=3.1						
ILAR	**Eielson Array**	**86.73**	**22**	LR	LR	06 42 10.9	
	comp=Z,28nm,18.8s,baz=188,slow=33						

*IDC **22** 06:21:24.0±0.9, 60.82S×41.93W, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/25, mbtmp3.7/5, MS3.5/2, Ms1 3.5/2, ms1mx3.0/18, Error ellipse: s-maj=44.9km s-min=27.0km az=56.0*
*NEIC **22** 06:21:26.0±1.4, 60.82S±0.10×41.7W±0.2, h15km±4km, mb4.3/7, Error ellipse: s-maj=14.3km s-min=12.9km az=164.0*

ISC 22 06:21:25.0±0.7, 60.8S±0.1×41.7W±0.1, h10km, n27, σ0s85/21, mb3.8/6, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.08**	**26**		**Pn**	**06 23 06.7**	**-1.8**
PMSA	**Palmer Station**	**10.97**	**239**	P	**Pn**	**06 24 00.6**	**-1.2**
GO09	**Cerro Castillo**	**19.41**	**286**	P	**P**	**06 25 51.1**	**+0.1**
GO09				IAmb	IAmb	06 25 53.5	
	comp=Z,24nm,1.0s						
PLCA	**Paso Flores**	**26.75**	**305**	P	**P**	**06 27 04.5**	**-0.1**
	comp=Z,1.2nm,1.1s,baz=166,slow=12,SNR=1.8						
PLCA	**Paso Flores**	**26.75**	**305**	P	**P**	**06 27 05.2**	**+0.6**
PLCA				IAmb	IAmb	06 27 17.8	
	comp=Z,7.1nm,1.4s						
QSPA	**South Pole Qui**	**29.47**	**180**	P	**P**	**06 27 28.9**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=320,slow=3.1,SNR=1.9						
QSPA	**South Pole Qui**	**29.47**	**180**	P	**P**	**06 27 28.8**	**0.0**
QSPA				IAmb	IAmb	06 27 33.3	
	comp=Z,5.6nm,1.5s						
VNDA	**Vanda**	**41.19**	**188**	LR	LR	06 46 04.5	
	comp=Z,53nm,18.4s,baz=140,slow=36						

TORD	**Torodi Ar. Bea**	**148.79**	**286**	PKPbc	**PKPbc**	**06 43 57.5**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=67,slow=2.7,SNR=6.2						

*IDC **22** 06:27:17.7±1.9, 17°.91S×178°.43W, h561km±23km, mb3.2/11, mb1 3.5/13, mb1mx3.3/36, mbtmp4.2/13, Error ellipse: s-maj=30.4km s-min=12.6km az=151.0*
*NEIC **22** 06:27:19.1±2.2, 17°.9S±0°.1×178°.5W±0°.1, h576km±9km, mb4.0/22, Error ellipse: s-maj=20.8km s-min=16.4km az=143.0*

ISC 22 06:27:19.0±0.5, **17°.9S**±0°.1×**178°.42W**±0°.09, **h579km, n42, σ1s16/42, mb3.8/22, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSVF	**Nonsavu**	**3.37**	**272**	P		**P**	**06 28 40.4**	**+1.5**
AFI	**Afiamalu**	**7.52**	**59**	P		**P**	**06 29 10.8**	**-2.4**
	5.7nm,0.3s,baz=348,slow=4.0,SNR=7.0							
AFI	**Afiamalu**	**7.52**	**59**	P		**P**	**06 29 10.6**	**-2.6**
NIUE	**Niue**	**8.14**	**100**	P		**P**	**06 29 17.7**	**-1.4**
DZM	**Mont Dzumac**	**14.82**	**251**	P		**P**	**06 30 25.7**	**-0.5**
	0.3nm,0.3s,baz=146,slow=20,SNR=2.9							
DZM	**Mont Dzumac**	**14.82**	**251**	P		**P**	**06 30 23.8**	**-2.5**
LTZ	**Lake Taylor**	**26.04**	**196**	P		**P**	**06 32 07.0**	**-0.2**
ARMA	**Armidale**	**29.94**	**240**	P		**P**	**06 32 42.2**	**+0.7**
CTA	**Charters Tower**	**33.44**	**261**	P		**P**	**06 33 10.7**	**-0.6**
	2.5nm,0.4s,baz=101,slow=8.8,SNR=1.8							
CTAO	**Charters Tower**	**33.44**	**261**	P		**P**	**06 33 11.9**	**+0.6**
CTAO				IAmb		IAmb	06 33 26.5	
	comp=Z,8.1nm,1.1s							
PATS	**Pohnpei**	**33.65**	**315**	P		**P**	**06 33 13.7**	**+0.7**
CAN	**Canberra**	**33.70**	**233**	P		**P**	**06 33 13.8**	**+0.4**
CAN				IAmb		IAmb	06 33 14.2	
	comp=Z,7.6nm,0.9s							
TOO	**Toolangi**	**37.17**	**231**	P		**P**	**06 33 42.8**	**+0.8**
TOO				IAmb		IAmb	06 33 45.2	
	comp=Z,3.8nm,1.0s							
STKA	**Stephens Creek**	**38.62**	**241**	P		**P**	**06 33 53.5**	**-0.3**
	comp=Z,4.3nm,0.7s,baz=87,slow=8.3,SNR=6.7							
STKA	**Stephens Creek**	**38.62**	**241**	P		**P**	**06 33 54.3**	**+0.5**
BBOO	**Buckleboo**	**43.40**	**241**	P		**P**	**06 34 31.3**	**-0.3**
WB0	**Warramunga Arr**	**44.59**	**260**	P		**P**	**06 34 39.6**	**-1.4**
WB0				IAmb		IAmb	06 34 42.9	
	comp=Z,3.6nm,1.1s							
WB2	**Warramunga Arr**	**44.61**	**260**	P		**P**	**06 34 40.5**	**-0.6**
WB2				IAmb		IAmb	06 34 44.5	
	comp=Z,8.7nm,1.2s							
WRAB	**Tennant Creek**	**44.62**	**260**	P		**P**	**06 34 41.2**	**0.0**
WRAB				IAmb		IAmb	06 34 47.1	
	comp=Z,8.0nm,0.7s							
WRA	**Warramunga Arr**	**44.62**	**260**	P		**P**	**06 34 40.7**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=96,slow=7.0,SNR=18							
AS31	**Alice Springs**	**44.78**	**254**	P		**P**	**06 34 42.2**	**-0.3**
AS31				IAmb		IAmb	06 34 43.2	
	comp=Z,3.4nm,0.5s							
ASAR	**Alice Springs**	**44.78**	**254**	P		**P**	**06 34 42.3**	**-0.1**
	comp=Z,13nm,0.6s,baz=88,slow=8.5,SNR=168							
FITZ	**Fitzroy Crossi**	**53.02**	**261**	P		**P**	**06 35 43.0**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=90,slow=8.1,SNR=2.5							
VNDA	**Vanda**	**60.45**	**185**	P		**P**	**06 36 33.7**	**+0.7**
QSPA	**South Pole Qui**	**72.15**	**180**	P		**P**	**06 37 45.4**	**-0.2**
	comp=Z,1.5nm,1.0s,baz=35,slow=1.2,SNR=7.4							
QSPA	**South Pole Qui**	**72.15**	**180**	P		**P**	**06 37 45.7**	**+0.1**
MDPB	**Devils Postpil**	**78.48**	**44**	P		**P**	**06 38 22.6**	**+1.2**
MDPB				IAmb		IAmb	06 38 23.8	
	comp=Z,4.6nm,1.2s							
NVAR	**Mina Array Bea**	**79.42**	**44**	P		**P**	**06 38 27.3**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=225,slow=8.5,SNR=8.4							
MOD	**Modoc Plateau**	**80.08**	**40**	P		**P**	**06 38 31.5**	**+1.8**
I07A	**Izee**	**81.81**	**39**	P		**P**	**06 38 39.6**	**+1.2**
U15A	**North Rim**	**82.52**	**48**	P		**P**	**06 38 44.6**	**+2.2**
U15A				IAmb		IAmb	06 38 44.9	
	comp=Z,2.5nm,0.8s							
GLB	**Gilahina Butte**	**83.76**	**16**	P		**P**	**06 38 48.2**	**+0.5**
GLB				IAmb		IAmb	06 38 48.6	
	comp=Z,3.9nm,1.3s							
TRF	**Thorofare Moun**	**84.00**	**12**	P		**P**	**06 38 48.1**	**-0.9**
TRF				IAmb		IAmb	06 38 49.5	
	comp=Z,2.5nm,0.7s							
ILAR	**Eielson Array**	**85.88**	**13**	P		**P**	**06 38 57.2**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=219,slow=5.3,SNR=5.1							
TX31	**Lajitas Ar. Si**	**86.00**	**58**	P		**P**	**06 39 01.3**	**+2.0**
TX32	**Lajitas Array**	**86.00**	**58**	P		**P**	**06 39 01.1**	**+1.7**
TX32				IAmb		IAmb	06 39 02.8	
	comp=Z,4.1nm,1.4s							
TXAR	**Lajitas Array**	**86.00**	**58**	P		**P**	**06 39 00.6**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=217,slow=5.9,SNR=17							
PDAR	**Pinedale Array**	**87.35**	**43**	P		**P**	**06 39 05.6**	**0.0**
	comp=Z,0.6nm,0.7s,baz=201,slow=2.4,SNR=7.4							
YKA	**Yellowknife Ar**	**94.33**	**25**	P		**P**	**06 39 36.4**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=237,slow=4.0,SNR=1.3							
MKAR	**Makanchi Array**	**109.12**	**314**	PKIKP		**PKiKP**	**06 44 42.9**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=94,slow=4.3,SNR=1.6							
CLL	**Collm**	**145.45**	**347**	*i* PKPbc		**PKPbc**	**06 45 52.9**	**-0.1**
	comp=Z,5.0nm,0.6s							
GERES	**GERESS Array B**	**147.60**	**345**	PKPbc		**PKPbc**	**06 45 58.8**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=7.6,slow=4.0,SNR=4.0							

*IDC **22** 06:43:46.1±0.8, 51°.94N×96°.06E, h0km, mb3.7/11, mb1 3.9/15, mb1mx3.7/49, mbtmp3.8/15, ML3.3/3, MS2.6/2, Ms1 2.6/2, ms1mx2.3/54, Error ellipse: s-maj=21.6km s-min=10.9km az=0.0*
*MOS **22** 06:43:48.1±2.5, 51°.96N×95°.51E, h7km, mb4.4/5, Error ellipse: s-maj=9.7km s-min=8.6km az=177.8*
*ASRS **22** 06:43:50.4±0.2, 52°.0N±1°.0×9°.6E±°, h10km, MLh5.0/32, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*

ISC 22 06:43:46.4±0.5, **51°.94N**±0°.03×**96°.15E**±0°.02, **h10km, n75, σ3s09/120, mb3.8/13, 4C-7D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TDJR	**Todzha**	**0.46**	**357**	Pg		**Pn**	**06 43 58.6**	**-0.5**
TDJR				Sg		**Sb**	**06 44 07.2**	**+3.5**
KZLR	**Kyzyl**	**1.08**	**258**	Pg		**Pb**	**06 44 05.4**	**-1.6**
KZLR				Sg		**Sg**	**06 44 18.8**	**-2.2**
KZLR	**Kyzyl**	**1.08**	**258**	↓*i* Pg		**Pb**	**06 44 05.5**	**-1.6**
ARDR	**Aradan**	**1.79**	**292**	Pg		**Pb**	**06 44 18.9**	**-0.4**
ARDR				Sg		**Sb**	**06 44 42.4**	**+0.6**
ERNS	**Erzin**	**1.79**	**201**	Pn		**Pn**	**06 44 15.8**	**-1.6**
ERNS				Pg		**Pb**	**06 44 18.2**	**-1.1**
ERNS				Sg		**Sn**	**06 44 37.9**	**-2.4**
ERNS	**Erzin**	**1.79**	**201**	↓*i* PN		**Pn**	**06 44 15.8**	**-1.6**
ERNS				*e*S		**Sn**	**06 44 37.4**	**-2.9**
ORL	**Orlik**	**2.33**	**74**	Pn		**Pb**	**06 44 28.1**	**-0.5**
ORL				Pg		**Pb**	**06 44 30.4**	**-0.7**
ORL				Sg		**Sb**	**06 45 01.2**	**0.0**
ORL	**Orlik**	**2.33**	**74**	↓*i* PN		**Pb**	**06 44 28.1**	**-0.5**
ORL				pmax	pmax			
	comp=Z,559nm,0.4s							
MOY	**Mondy**	**3.02**	**93**	Pg		**Pb**	**06 44 40.9**	**+0.6**
MOY				Sg		**Sg**	**06 45 20.9**	**-2.5**
MOY	**Mondy**	**3.02**	**93**	*e*PN		**Pb**	**06 44 40.6**	**+0.3**
MOY				*e*			06 45 21.1	
MOY				pmax	pmax			
	comp=Z,325nm,0.8s							
MOY				smax	smax			
	comp=N,3μm,1.1s							
DJOS	**Djoyskaya Sosn**	**3.03**	**288**	Pg		**Pn**	**06 44 36.7**	**+2.3**
DJOS				Sg		**Sb**	**06 45 19.3**	**+1.8**
CERR	**Cheremushki**	**3.04**	**289**	Pn		**Pn**	**06 44 35.8**	**+1.3**
CERR				Pg		**Pb**	**06 44 38.4**	**-2.1**
CERR				Sg		**Sb**	**06 45 20.4**	**+2.7**
ORY	**Orie**	**3.13**	**349**	Pg		**Pb**	**06 44 39.8**	**-2.3**
ORY				Sg		**Sg**	**06 45 24.5**	**-2.4**
DJO	**Djoy, Khakassi**	**3.14**	**288**	Pg		**Pn**	**06 44 37.8**	**+2.0**
DJO				Sg		**Sb**	**06 45 21.9**	**+1.4**
ABNR	**Abakan**	**3.37**	**304**	Pg		**Pb**	**06 44 46.7**	**+0.6**
ABNR				Sg		**Sg**	**06 45 30.7**	**-3.8**
TBTR	**Tabat**	**3.46**	**289**	Pn		**Pn**	**06 44 41.6**	**+1.2**
TBTR				Pg		**Pb**	**06 44 48.1**	**+0.3**
TBTR				Sg		**Sb**	**06 45 32.5**	**+2.6**
ARS	**Arshan**	**3.89**	**88**	*e*PN		**Pg**	**06 44 57.7**	**-3.1**
ARS				*e*			06 46 47.7	
ARS				pmax	pmax			
	comp=Z,469nm,0.5s							
ARS				smax	smax			
	comp=E,4μm,0.8s							
SHRR	**Shira**	**4.41**	**308**	Pn		**Pn**	**06 44 56.0**	**+2.6**
SHRR				Pg		**Pg**	**06 45 07.2**	**-3.6**
SHRR				Sg		**Sg**	**06 46 04.1**	**-3.9**
KRAR	**Krasnoyarsk**	**4.51**	**336**	*e*PN		**Pn**	**06 44 55.7**	**+1.0**
SHTK	**Zheleznogorsk-**	**4.65**	**342**	Pn		**Pn**	**06 44 56.9**	**+0.3**
TLY	**Talaya**	**4.66**	**90**	Pg		**Pb**	**06 45 09.6**	**+1.4**
	comp=E,0.2nm,0.3s,baz=284,slow=12,SNR=20							
TLY				Lg		Lg	06 46 09.1	
	comp=E,0.5nm,0.3s,baz=73,slow=15,SNR=14							
TLY				LR		LR	06 46 58.6	
	comp=E,51nm,20.2s,baz=270,slow=41							
GZLN	**Zheleznogorsk**	**4.66**	**344**	Pg		**Pb**	**06 45 10.2**	**+2.0**
GZLN				Sg		**Sg**	**06 46 11.5**	**-4.5**
LUZB	**Luzhba, Kemero**	**4.72**	**294**	Pn		**Pn**	**06 44 59.7**	**+2.1**
LUZB				Pg		**Pb**	**06 45 11.1**	**+1.9**
LUZB				Sg		**Sb**	**06 46 11.5**	**+5.5**
ZAK	**Zakamensk**	**4.75**	**106**	*e*PN		**Pb**	**06 45 10.2**	**+0.4**
ZAK				*e*			06 46 12.7	
ZAK				pmax	pmax			
	comp=Z,120nm,1.0s							
ZAK				smax	smax			
	comp=N,1μm,0.8s							
IRK	**Irkutsk**	**5.02**	**83**	*e*PN		**Pb**	**06 45 16.4**	**+2.1**
IRK				*e*			06 46 20.5	
IRK				pmax	pmax			
	comp=Z,313nm,0.1s							
IRK				smax	smax			
	comp=N,2μm,1.3s							
TASR	**Tashtagol**	**5.13**	**282**	Pg		**Pb**	**06 45 18.7**	**+2.5**
TASR				Sg		**Sb**	**06 46 22.9**	**+5.0**
CUR	**Chagan-Uzun**	**5.25**	**253**	Pn		**Pn**	**06 45 06.1**	**+1.0**
CUR				Pg		**Pb**	**06 45 21.3**	**+2.9**
CUR				Sg		**Sb**	**06 46 24.4**	**+2.9**
ULGR	**Ulagan, Altay**	**5.30**	**259**	Pn		**Pn**	**06 45 07.9**	**+2.2**
ULGR				Pg		**Pb**	**06 45 21.9**	**+2.7**
ULGR				Sg		**Sb**	**06 46 27.4**	**+4.5**
SLNR	**Muhor-Tarhata,**	**5.32**	**249**	Pn		**Pn**	**06 45 06.7**	**+0.7**
SLNR				Pg		**Pb**	**06 45 20.0**	**+0.4**
SLNR				Sg		**Sg**	**06 46 31.3**	**-5.9**
LSTR	**Listvyanka**	**5.38**	**87**	*e*PN		**Pb**	**06 45 20.6**	**+0.2**
LSTR				*e*SG		**Sg**	**06 46 30.8**	**-8.2**
ARTR	**Artybash**	**5.50**	**272**	Pn		**Pn**	**06 45 10.6**	**+2.4**
ARTR				Pg		**Pb**	**06 45 23.2**	**+0.9**
ARTR				Sg		**Sb**	**06 46 34.4**	**+6.1**
AKAR	**Aktash**	**5.61**	**257**	Pn		**Pn**	**06 45 11.7**	**+1.8**
AKAR				Pg		**Pb**	**06 45 28.8**	**+4.4**
AKAR				Sg		**Sb**	**06 46 37.4**	**+5.7**
CHBI	**Chibit, Altay**	**5.68**	**257**	Pn		**Pn**	**06 45 12.5**	**+1.6**
CHBI				Pg		**Pb**	**06 45 29.9**	**+4.3**
CHBI				Sg		**Sb**	**06 46 41.0**	**+7.3**
DGZ	**Jazzator, Alta**	**5.96**	**251**	Pn		**Pn**	**06 45 16.2**	**+1.4**
DGZ				Pg		Pg	06 45 35.4	-5.0
DGZ				Sg		**Sb**	**06 46 49.6**	**+7.7**
DGZ	**Jazzator, Alta**	**5.96**	**251**	*d* PN		**Pn**	**06 45 16.2**	**+1.4**
DGZ				pmax	pmax			
	comp=Z,9.0nm,0.6s							
POMOR	**Pomortsevo, Ku**	**6.29**	**297**	Pn		**Pn**	**06 45 16.0**	**-3.1**
POMOR				Pg		**Pb**	**06 45 40.2**	**+4.4**
POMOR				Sg		**Sg**	**06 47 02.0**	**-6.1**
GALT	**Gorno-Altaysk,**	**6.31**	**274**	Pn		**Pn**	**06 45 18.6**	**-0.8**
GALT				Pn		Pb	06 45 21.0	-15
GALT				Pg		Pg	06 45 39.5	-7.6
GALT				Pg		Pg	06 45 39.7	-7.4
GALT				Sg		**Sb**	**06 46 59.7**	**+8.1**
GALT				Sg		**Sg**	**06 47 00.5**	**-8.2**
SALR	**Pechorkino, Sa**	**6.75**	**296**	Pg		**Pb**	**06 45 45.9**	**+2.2**
SALR				Sg		**Sg**	**06 47 16.7**	**-6.2**
ZALV	**Zalesovo Beam**	**7.13**	**291**	Pn		**Pn**	**06 45 31.4**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=112,slow=10,SNR=13							
ZALV				Sn		**Sn**	**06 46 53.6**	**+1.9**
	comp=Z,3.3nm,0.3s,baz=111,slow=21,SNR=4.2							
ZALV				Lg		Lg	06 47 26.1	
	comp=Z,14nm,0.3s,baz=101,slow=23,SNR=12							
ZALV				LR		LR	06 48 23.5	
	comp=Z,56nm,20.0s,baz=96,slow=39							
OGRR	**Ongureny**	**7.15**	**72**	*e*P		**Pn**	**06 45 33.1**	**+2.1**
UKR	**Ust'-Kan**	**7.18**	**266**	Pn		**Pn**	**06 45 33.2**	**+1.7**
UKR				Pg		Pb	06 45 56.2	+5.1
UKR				Sg		**Sg**	**06 47 29.2**	**-7.6**
SONM	**Songino Array**	**7.79**	**118**	Pg		**Pb**	**06 46 04.1**	**+2.6**
	comp=Z,2.0nm,0.3s,baz=301,slow=17,SNR=9.4							
SONM				Lg		Lg	06 47 45.6	
	comp=Z,5.1nm,0.3s,baz=305,slow=30,SNR=4.1							
KHAR	**Kharino, NSO,**	**7.99**	**295**	Sg		**Sg**	**06 47 58.1**	**-4.4**
ULN	**Ulaanbaatar**	**8.14**	**116**	*e*P		**Pn**	**06 45 42.6**	**-2.0**
NVSII	**Novosibirsk**	**8.24**	**296**	Pg		Pb	06 46 15.2	+6.1
NVSII				Sg		Sg	06 48 01.5	-9.2
NVS	**Novosibirsk**	**8.25**	**296**	Pg		Pg	06 46 18.3	-5.8
NVS				Sg		Sg	06 47 59.5	-11
NHES	**Novosibirsk, N**	**8.39**	**296**	Pn		**Pn**	**06 45 47.0**	**-0.9**
NHES				Pg		Pb	06 46 16.9	+5.3
NHES				Sg		**Sg**	**06 48 10.0**	**-5.3**
BSTK	**Bystrovka, Nov**	**8.51**	**293**	Pg		Pg	06 46 18.6	-10
BSTK				Sg		**Sg**	**06 48 13.2**	**-6.0**
ALXA	**Alekseevka, NS**	**8.63**	**296**	Sg		**Sg**	**06 48 20.6**	**-2.6**
MK31	**Makanchi Array**	**10.40**	**246**	*i* P		**Pn**	**06 46 15.4**	**-0.1**
MKAR	**Makanchi Array**	**10.40**	**246**	Pn		**Pn**	**06 46 15.7**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=71,slow=12,SNR=17							
MKAR				Pg			06 46 56.9	
	comp=Z,0.9nm,0.3s,baz=60,slow=15,SNR=6.4							
MKAR				Lg		Lg	06 49 07.2	
	comp=Z,0.4nm,0.3s,baz=65,slow=32,SNR=1.9							
KURK	**Kurchatov**	**11.04**	**271**	↓*e*P		**Pn**	**06 46 26.2**	**+2.0**
KURBB	**Kurchatov Arra**	**11.11**	**270**	Pn		**Pn**	**06 46 25.7**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=73,slow=16,SNR=8.3							
KURBB				Sn		Sn	06 48 43.5	+14
	comp=Z,0.1nm,0.3s,baz=72,slow=27,SNR=1.9							
KURBB				Lg		Lg	06 49 30.5	
	comp=Z,0.3nm,0.3s,baz=281,slow=25,SNR=4.7							
BVAR	**Borovoye Array**	**15.71**	**284**	Pn		**Pn**	**06 47 25.3**	**-2.2**
	baz=88,slow=12,SNR=2.4							
BVAR				Sn		**Sn**	**06 50 20.3**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=80,slow=25,SNR=4.2							
BVAR				Lg		Lg	06 51 57.5	
	baz=98,slow=30,SNR=1.0							
BRVK	**Borovoye**	**15.77**	**284**	↑*e*P		**Pn**	**06 47 27.7**	**-0.6**
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
AAK	**Ala-Archa**	**17.33**	**246**	Lg		Lg	06 52 40.7	
	comp=Z,0.2nm,0.3s,baz=203,slow=16,SNR=1.4							
AAK	**Ala-Archa**	**17.33**	**246**	↓*e*P		**Pn**	**06 47 48.8**	**+0.4**
NRIK	**Noril'sk**	**17.92**	**350**	*e*P		**P**	**06 47 58.3**	**+2.3**
ARU	**Arti**	**22.25**	**297**	P		**P**	**06 48 43.9**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=269,slow=19,SNR=1.7							
ARU	**Arti**	**22.25**	**297**	*d* *i* P		**P**	**06 48 43.4**	**+0.3**
ARU							06 49 04.7	
ARU				S		**S**	**06 52 49.1**	**+1.4**
ARU				SS		**SnSn**	**06 53 11.2**	**-3.3**
ARU				pmax	pmax			
	comp=Z,3.0nm,0.8s							
AKTO	**Aktyubinsk**	**23.77**	**282**	P		**P**	**06 48 59.7**	**+0.9**
	comp=Z,2.4nm,0.6s,baz=96,slow=8.5,SNR=6.2							
YSS	**Yuzh-Sakhalins**	**30.29**	**81**	*e*P		**P**	**06 49 55.4**	**-2.1**
YSS				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MA2	**Magadan**	**30.86**	**54**	↑*e*P		**P**	**06 50 01.3**	**-1.1**
MA2				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KBZ	**Khabaz**	**35.95**	**278**	P		**P**	**06 50 48.6**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=78,slow=14,SNR=1.2							
ARCES	**ARCESS Array B**	**36.16**	**326**	P		**P**	**06 50 47.9**	**-0.6**
	comp=Z,2.2nm,1.0s,baz=77,slow=8.4,SNR=4.2							
FINES	**FINESS Array B**	**37.80**	**313**	P		**P**	**06 51 03.1**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=75,slow=8.7,SNR=5.9							
FINES	**FINESS Array B**	**37.80**	**313**	*i* P		**P**	**06 51 04.5**	**+2.1**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BRTR	**Keskin Array B**	**43.92**	**279**	P		**P**	**06 51 54.5**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=90,slow=7.2,SNR=3.7							
BRTR	**Keskin Array B**	**43.92**	**279**	*i* P		**P**	**06 51 54.2**	**+0.9**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NB2	**NORSAR Subarra**	**44.55**	**316**	P		**P**	**06 51 58.1**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=79,slow=7.9							
NOA	**NORSAR Array B**	**44.55**	**316**	P		**P**	**06 51 58.1**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=61,slow=7.9,SNR=5.4							
ILAR	**Eielson Array**	**53.90**	**28**	P		**P**	**06 53 11.4**	**+2.1**
	comp=Z,0.3nm,0.8s,baz=330,slow=5.2,SNR=2.0							
WRA	**Warramunga Arr**	**78.96**	**144**	P		**P**	**06 55 51.6**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=335,slow=6.7,SNR=2.5							
ASAR	**Alice Springs**	**82.23**	**145**	P		**P**	**06 56 08.4**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=353,slow=6.8,SNR=2.6							
TORD	**Torodi Ar. Bea**	**82.49**	**282**	P		**P**	**06 56 09.2**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=21,slow=5.0,SNR=2.6							

*IDC **22** 06:53:31.6±1.4, 6°.22S×151°.70E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.7/42, mbtmp3.9/6, ML2.1/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/38, Error ellipse: s-maj=58.1km s-min=17.0km az=123.0*
*NEIC **22** 06:53:37.9±0.4, 6°.0S±0°.2×151°.5E±0°.2, h40km±8km, mb4.0/6, Error ellipse: s-maj=37.0km s-min=8.4km az=135.0*

ISC 22 06:53:37.9±0.9, **6°.2S**±0°.1×**151°.6E**±0°.2, **h41km, n17, σ0s85/19, mb3.9/8, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KRVT	**Keravat (AS076**	**1.91**	**15**	Pn		**Pn**	**06 54 07.6**	**-0.4**
	75nm,0.3s,baz=184,slow=4.3,SNR=34							
KRVT				Sn		**Sn**	**06 54 32.6**	**+1.7**
	78nm,0.3s,baz=267,slow=15,SNR=6.7							
RABL	**Rabaul**	**2.06**	**17**	Pn		**Pn**	**06 54 08.7**	**-1.4**
PMG	**Port Moresby**	**5.41**	**233**	Pn		**Pn**	**06 54 55.9**	**-0.1**
	3.5nm,0.3s,baz=58,slow=19,SNR=2.8							
PMG				Sn		**Sn**	**06 55 56.0**	**-1.1**
	7.5nm,0.3s,baz=36,slow=9.6,SNR=5.1							
PMG				LR		LR	06 57 01.0	
	comp=Z,48nm,21.0s,baz=24,slow=38							
PMG	**Port Moresby**	**5.41**	**233**	Pn		**Pn**	**06 54 56.4**	**+0.4**
WB0	**Warramunga Arr**	**21.46**	**229**	P		**P**	**06 58 23.5**	**+0.5**
WB0				IAmb		IAmb	06 58 28.9	
	comp=Z,4.9nm,0.9s							
WR0	**Warramunga Arr**	**21.47**	**229**	P		**P**	**06 58 23.6**	**+0.5**
WR0				IAmb		IAmb	06 58 37.8	
	comp=Z,6.2nm,1.1s							
WB2	**Warramunga Arr**	**21.60**	**229**	P		**P**	**06 58 24.7**	**+0.2**
WB2				IAmb		IAmb	06 58 40.1	
	comp=Z,14nm,1.5s							
WRA	**Warramunga Arr**	**21.61**	**229**	P		**P**	**06 58 24.5**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=54,slow=11,SNR=14							
AS31	**Alice Springs**	**24.30**	**222**	P		**P**	**06 58 53.0**	**+1.2**
ASAR	**Alice Springs**	**24.30**	**222**	P		**P**	**06 58 52.3**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=56,slow=8.9,SNR=20							
FITZ	**Fitzroy Crossi**	**27.91**	**243**	P		**P**	**06 59 24.1**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=56,slow=10,SNR=7.2							
FITZ	**Fitzroy Crossi**	**27.91**	**243**	P		**P**	**06 59 24.4**	**0.0**
FITZ				IAmb		IAmb	06 59 41.8	
	comp=Z,8.0nm,1.3s							
UWE	**Uwekahuna**	**58.17**	**63**	P		**P**	**07 03 28.4**	**+0.1**
ILAR	**Eielson Array**	**83.89**	**22**	P		**P**	**07 06 01.8**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=243,slow=5.1,SNR=6.7							
ISLE	**Juniper Island**	**83.93**	**27**	P		**P**	**07 06 04.5**	**+0.9**
NVAR	**Mina Array Bea**	**93.91**	**52**	P		**P**	**07 06 51.7**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=252,slow=7.4,SNR=2.5							
TORD	**Torodi Ar. Bea**	**149.50**	**285**	PKPbc		**PKPbc**	**07 13 23.8**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=92,slow=2.8,SNR=5.9							

*IDC **22** 07:05:17.9±1.4, 25°.11N×94°.69E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/45, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=39.4km s-min=26.3km az=63.0*
*NDI **22** 07:05:29.1±1.9, 25°.52N×94°.68E, h17km±18km, ML3.5*

ISC 22 07:05:27.0±1.8, **25°.49N**±0°.06×**94°.7E**±0°.1, **h10km, n10, σ2s16/10, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JORH	**JORHAT**	**1.32**	**341**	*e*S		**

XOR				AML	AML	07 19 22.2		
	comp=E,2858μm,0.4s							
XOR				AML	AML	07 19 22.9		
	comp=N,7987μm,0.4s							
NEO	**Neokhori**	**0.64**	**196**	P	**Pb**	**07 19 13.2**	**-0.3**	
NEO				S	**Sb**	**07 19 22.9**	**+0.4**	
	comp=N,3μm,0.3s							
NEO	**Neokhori**	**0.64**	**196**	P	**Pb**	**07 19 13.2**	**-0.3**	
NEO				S	**Sb**	**07 19 23.4**	**+0.9**	
NEO				AML	AML	07 19 23.8		
	comp=N,5308μm,0.4s							
NEO				AML	AML	07 19 24.2		
	comp=E,7014μm,0.3s							
VOL3	**Nea Ionia, Vol**	**0.68**	**216**	P	**Pn**	**07 19 16.1**	**+0.3**	
VOL3				S	**Sn**	**07 19 28.4**	**+2.0**	
HORT	**Hortiatis**	**0.72**	**338**	P	**Pg**	**07 19 14.2**	**+0.2**	
HORT				S	**Sb**	**07 19 24.3**	**-0.6**	
	comp=E,2μm,0.3s							
HORT	**Hortiatis**	**0.72**	**338**	P	**Pg**	**07 19 14.2**	**+0.2**	
HORT				S	**Sb**	**07 19 24.2**	**-0.6**	
HORT				AML	AML	07 19 25.2		
	comp=E,5328μm,0.4s							
HORT				AML	AML	07 19 25.8		
	comp=N,1713μm,0.3s							
HORT	**Hortiatis**	**0.72**	**338**	PG	**Pg**	**07 19 14.3**	**+0.2**	
LIT	**Litokhoron**	**0.76**	**284**	P	**Pg**	**07 19 15.1**	**+0.4**	
LIT				S	**Sb**	**07 19 25.5**	**-0.3**	
	comp=N,462nm,0.4s							
LIT	**Litokhoron**	**0.76**	**284**	P	**Pb**	**07 19 15.4**	**-0.1**	
LIT				S	**Sb**	**07 19 26.4**	**+0.5**	
LIT				AML	AML	07 19 30.9		
	comp=E,889μm,0.3s							
LIT				AML	AML	07 19 35.5		
	comp=N,1236μm,0.3s							
LIT	**Litokhoron**	**0.76**	**284**	*i* P	**Pb**	**07 19 15.6**	**+0.1**	
LIT				*i* S	**Sn**	**07 19 28.3**	**-0.1**	
LIT				IAML		07 19 35.0		
	comp=E,349nm,0.7s							
LIT				IAML		07 19 35.0		
	comp=N,406nm,0.9s							
SKIA	**Skiathos**	**0.76**	**179**	P	**Pb**	**07 19 15.2**	**-0.2**	
SKIA				S	**Sb**	**07 19 25.7**	**-0.1**	
	comp=N,1μm,0.3s							
SKIA	**Skiathos**	**0.76**	**179**	P	**Pb**	**07 19 15.2**	**-0.2**	
SKIA				S	**Sb**	**07 19 26.1**	**+0.2**	
SKIA				AML	AML	07 19 27.7		
	comp=N,2501μm,0.3s							
SKIA				AML	AML	07 19 29.0		
	comp=E,1797μm,0.4s							
THE	**Thessaloniki**	**0.80**	**332**	P	**Pg**	**07 19 15.2**	**-0.3**	
THE				S	**Sb**	**07 19 26.6**	**-0.3**	
	comp=E,718nm,0.3s							
THE	**Thessaloniki**	**0.80**	**332**	P	**Pg**	**07 19 15.5**	**+0.1**	
THE				S	**Sb**	**07 19 26.9**	**0.0**	
THE				AML	AML	07 19 28.8		
	comp=E,1621μm,0.3s							
THE				AML	AML	07 19 30.5		
	comp=N,1090μm,0.3s							
AOS	**Alonnisos**	**0.82**	**156**	P	**Pg**	**07 19 16.2**	**+0.2**	
AOS				S	**Sb**	**07 19 28.3**	**+0.6**	
	comp=N,1μm,0.5s							
AOS	**Alonnisos**	**0.82**	**156**	P	**Pg**	**07 19 16.2**	**+0.2**	
AOS				S	**Sb**	**07 19 27.8**	**+0.1**	
AOS				AML	AML	07 19 28.8		
	comp=N,2693μm,0.6s							
AOS				AML	AML	07 19 29.8		
	comp=E,2684μm,0.5s							
AOS	**Alonnisos**	**0.82**	**156**	PG	**Pg**	**07 19 16.2**	**+0.2**	
AOS				SG	**Sb**	**07 19 28.3**	**+0.6**	
ALNA	**Alonissos**	**0.84**	**157**	P	**Pg**	**07 19 16.6**	**+0.3**	
ALNA				S	**Sb**	**07 19 28.7**	**+0.5**	
ALNA				AML	AML	07 19 29.7		
	comp=N,3398μm,0.3s							
ALNA				AML	AML	07 19 30.2		
	comp=E,5608μm,0.4s							
SOH	**Sokhos**	**0.90**	**355**	P	**Pg**	**07 19 17.2**	**-0.2**	
SOH				S	**Sb**	**07 19 30.1**	**+0.2**	
	comp=E,1μm,0.5s							
SOH	**Sokhos**	**0.90**	**355**	P	**Pg**	**07 19 17.3**	**-0.2**	
SOH				AML	AML	07 19 32.1		
	comp=N,2299μm,0.4s							
SOH				AML	AML	07 19 32.2		
	comp=E,2422μm,0.5s							
THL	**Klokotos Trika**	**1.17**	**252**	P	**Pb**	**07 19 21.5**	**-0.8**	
THL	**Klokotos Trika**	**1.17**	**252**	P	**Pb**	**07 19 21.5**	**-0.8**	
THAS	**Thassos island**	**1.18**	**55**	P	**Pb**	**07 19 22.2**	**-0.5**	
THAS	**Thassos island**	**1.18**	**55**	P	**Pb**	**07 19 22.1**	**-0.5**	
THAS				S	**Sb**	**07 19 37.8**	**-0.3**	
SRS	**Serrai**	**1.19**	**5**	P	**Pb**	**07 19 22.1**	**-0.8**	
SRS	**Serrai**	**1.19**	**5**	*e*Pn	**Pb**	**07 19 22.4**	**-0.5**	
SRS	**Serrai**	**1.19**	**5**	P	**Pb**	**07 19 22.2**	**-0.6**	
KVLA	**Kavala**	**1.24**	**35**	P	**Pn**	**07 19 23.0**	**-0.4**	
AGG	**Agios Georgios**	**1.25**	**224**	P	**Pn**	**07 19 22.8**	**-0.9**	
AGG	**Agios Georgios**	**1.25**	**224**	P	**Pn**	**07 19 22.9**	**-0.9**	
AGG	**Agios Georgios**	**1.25**	**224**	PN	**Pn**	**07 19 22.9**	**-0.9**	
AGG	**Agios Georgios**	**1.25**	**224**	*i* P	**Pn**	**07 19 22.7**	**-0.9**	
AGG				*i* S	**Sn**	**07 19 41.4**	**+0.7**	
AGG				IAML		07 19 55.0		
	comp=E,297nm,0.5s							
AXAR	**Agios Charalam**	**1.31**	**208**	P	**Pn**	**07 19 23.8**	**-0.7**	
AXAR	**Agios Charalam**	**1.31**	**208**	P	**Pn**	**07 19 23.9**	**-0.7**	
LKR	**Lokris**	**1.32**	**196**	P	**Pn**	**07 19 23.6**	**-1.0**	
LKR	**Lokris**	**1.32**	**196**	P	**Pn**	**07 19 24.2**	**-0.4**	
LIA	**Limnos Island**	**1.33**	**91**	P	**Pn**	**07 19 24.4**	**-0.4**	
LIA	**Limnos Island**	**1.33**	**91**	P	**Pn**	**07 19 24.3**	**-0.5**	
KAVA	**Kavala**	**1.34**	**37**	P	**Pn**	**07 19 24.4**	**-0.5**	
KAVA	**Kavala**	**1.34**	**37**	P	**Pn**	**07 19 24.4**	**-0.5**	
KZN	**Kozani**	**1.34**	**287**	P	**Pn**	**07 19 24.6**	**-0.4**	
KZN	**Kozani**	**1.34**	**287**	P	**Pn**	**07 19 24.8**	**-0.2**	
SKY	**Skiros Island**	**1.35**	**141**	P	**Pn**	**07 19 24.6**	**-0.5**	
SKY				AML	AML	07 19 33.8		
	comp=N,443μm,0.2s							
SKY				AML	AML	07 19 35.8		
	comp=E,565μm,0.2s							
MAKR	**Makrakomi, Fth**	**1.37**	**229**	P	**Pn**	**07 19 24.7**	**-0.6**	
MAKR	**Makrakomi, Fth**	**1.37**	**229**	P	**Pn**	**07 19 25.2**	**-0.1**	
KYMI	**Kymi, Euboea I**	**1.39**	**158**	P	**Pn**	**07 19 24.7**	**-0.8**	
KYMI	**Kymi, Euboea I**	**1.39**	**158**	P	**Pn**	**07 19 24.8**	**-0.8**	
NVR	**Nevrokopi**	**1.46**	**12**	P	**Pn**	**07 19 26.4**	**-0.2**	
NVR	**Nevrokopi**	**1.46**	**12**	P	**Pn**	**07 19 26.4**	**-0.2**	
VAY	**Valandovo**	**1.54**	**335**	*e*Pn	**Pg**	**07 19 30.5**	**+0.7**	
VAY	**Valandovo**	**1.54**	**335**	*i* Pn	**Pb**	**07 19 28.7**	**-0.1**	
VAY				*i* Sn	**Sg**	**07 19 49.4**	**-0.5**	
VAY				*e*Lg	Lg	07 19 50.9		
	comp=N,125nm,0.8s							
KPRO	**Kipourio**	**1.60**	**272**	P	**Pn**	**07 19 28.8**	**+0.2**	
EVR	**Evrytania**	**1.62**	**232**	P	**Pn**	**07 19 28.5**	**-0.4**	
DLFA	**Delphi**	**1.63**	**207**	P	**Pn**	**07 19 27.9**	**-0.9**	
MMB	**Musomiste**	**1.67**	**7**	*e*P	**Pn**	**07 19 29.5**	**0.0**	
DSF	**Desfina**	**1.68**	**206**	P	**Pn**	**07 19 28.5**	**-1.1**	
SMTH	**Samothraki Isl**	**1.68**	**71**	P	**Pn**	**07 19 29.2**	**-0.4**	
SMTH	**Samothraki Isl**	**1.68**	**71**	P	**Pn**	**07 19 28.8**	**-0.8**	
VIL2	**Platees**	**1.72**	**185**	P	**Pn**	**07 19 29.9**	**-0.3**	
ANX	**Ano Chora**	**1.78**	**222**	P	**Pn**	**07 19 30.9**	**-0.2**	
PENT	**Pentalofos**	**1.79**	**279**	P	**Pn**	**07 19 31.1**	**-0.1**	
DION	**Dionisos Attik**	**1.88**	**168**	P	**Pn**	**07 19 32.0**	**-0.4**	
TRIZ	**Trizonia**	**1.89**	**215**	P	**Pn**	**07 19 31.8**	**-0.7**	
GADA	**Gvkgeada**	**1.90**	**81**	PN	**Pn**	**07 19 32.1**	**-0.5**	
PTL	**Penteli**	**1.90**	**170**	P	**Pn**	**07 19 32.1**	**-0.6**	
EFP	**Efpalio**	**1.92**	**219**	P	**Pn**	**07 19 32.5**	**-0.4**	
LTK	**Loutraki**	**1.94**	**191**	P	**Pn**	**07 19 32.4**	**-0.7**	
ATH	**Athens Observa**	**1.96**	**174**	P	**Pn**	**07 19 33.1**	**-0.3**	
LOUT	**Loutraki**	**1.97**	**191**	P	**Pn**	**07 19 32.9**	**-0.7**	
ATHU	**Athens Univers**	**1.98**	**172**	P	**Pn**	**07 19 33.1**	**-0.5**	
PVO	**Paravola**	**1.99**	**229**	P	**Pn**	**07 19 33.3**	**-0.5**	
SIGR	**SIGRI**	**1.99**	**110**	P	**Pn**	**07 19 34.0**	**+0.2**	
RDO	**Rodhopi**	**2.00**	**52**	P	**Pn**	**07 19 33.7**	**-0.3**	
RDO	**Rodhopi**	**2.00**	**52**	P	**Pn**	**07 19 33.6**	**-0.4**	
RDO				AML	AML	07 19 42.0		
	comp=N,154μm,0.3s							
RDO				AML	AML	07 19 43.4		
	comp=E,122μm,0.2s							
RDO	**Rodhopi**	**2.00**	**52**	PN	**Pn**	**07 19 33.7**	**-0.3**	
BOZC	**Bozcaada**	**2.00**	**92**	PN	**Pn**	**07 19 34.1**	**+0.1**	
BOZC	**Bozcaada**	**2.00**	**92**	*i* P	**Pn**	**07 19 33.2**	**-0.8**	
BOZC				IAML		07 20 09.0		
	comp=N,40nm,0.7s							
BOZC				IAML		07 20 25.0		
	comp=E,78nm,0.7s							
RZN	**Rozhen**	**2.00**	**28**	*e*P	**Pn**	**07 19 34.7**	**+0.5**	
KARY	**Karystos**	**2.04**	**158**	P	**Pn**	**07 19 34.0**	**-0.5**	
VLY	**Voula,Athens**	**2.09**	**173**	P	**Pn**	**07 19 34.7**	**-0.5**	
GUR	**Goura**	**2.17**	**204**	P	**Pn**	**07 19 35.6**	**-0.7**	
ALN	**Alexandroupoli**	**2.21**	**63**	P	**Pn**	**07 19 36.4**	**-0.4**	
ALN	**Alexandroupoli**	**2.21**	**63**	P	**Pn**	**07 19 36.3**	**-0.4**	
ALN	**Alexandroupoli**	**2.21**	**63**	PN	**Pn**	**07 19 36.7**	**-0.1**	
ALN	**Alexandroupoli**	**2.21**	**63**	*i* P	**Pn**	**07 19 35.9**	**-0.9**	
KDZ	**Kurdzhali**	**2.28**	**40**	PN	**Pn**	**07 19 37.2**	**-0.6**	
KDZ	**Kurdzhali**	**2.28**	**40**	*e*P	**Pn**	**07 19 37.1**	**-0.7**	
PRK	**Paraskevi**	**2.28**	**106**	P	**Pg**	**07 19 45.0**	**+1.1**	
PLD	**Plovdiv**	**2.37**	**23**	*e*P	**Pg**	**07 19 45.5**	**-0.1**	
BAYC	**CANAKKALE_Bayr**	**2.39**	**93**	*i* P	**Pb**	**07 19 41.4**	**-1.8**	
DRO	**Drossia**	**2.39**	**215**	P	**Pn**	**07 19 39.3**	**-0.1**	
DID	**Didima**	**2.42**	**184**	P	**Pn**	**07 19 39.1**	**-0.7**	
IGT	**Igoumenitsa**	**2.44**	**262**	*e*Pn	Pn	07 19 34.3	-5.7	
IGT				*e*Sn	**Sg**	**07 20 17.5**	**-0.9**	
CHOS	**Chios island**	**2.54**	**126**	PN	**Pn**	**07 19 41.9**	**+0.4**	
TRIP	**Tripoli**	**2.57**	**201**	P	**Pn**	**07 19 41.6**	**-0.2**	
DIM	**Dimitrovgrad**	**2.64**	**36**	*e*P	**Pg**	**07 19 50.0**	**-0.7**	
BOSS	**Bosilegrad**	**2.67**	**344**	*e*Pn	**Pn**	**07 19 44.0**	**+0.8**	
VLX	**Vlachokerasia**	**2.69**	**199**	P	**Pn**	**07 19 43.3**	**-0.2**	
VTS	**Vitosha**	**2.69**	**357**	*e*P	**Pn**	**07 19 44.6**	**+0.9**	
MAR4	**Marsite Statio**	**3.06**	**72**	PN	**Pn**	**07 19 48.5**	**-0.2**	
BARS	**Barje**	**3.14**	**337**	*e*Pn	**Pn**	**07 19 50.7**	**+1.1**	
EDRB	**Edirne**	**3.15**	**51**	PN	**Pn**	**07 19 49.9**	**+0.1**	
APE	**Apeiranthos**	**3.29**	**150**	⇑P	**Pn**	**07 19 51.6**	**-0.1**	
SELS	**Selova**	**3.73**	**333**	*e*Pn	**Pn**	**07 19 58.2**	**+0.5**	
BOVS	**Bovan**	**3.93**	**341**	*e*Pn	**Pn**	**07 20 01.1**	**+0.6**	
PDG	**Podgorica**	**4.03**	**310**	P	**Pb**	**07 20 09.6**	**-1.7**	
GRUS	**Gruza**	**4.45**	**334**	*e*Pn	**Pn**	**07 20 08.3**	**+0.6**	
IDI	**Anoyia**	**4.77**	**166**	Pn	**Pn**	**07 20 11.0**	**-1.1**	
	comp=E,1.4nm,0.3s,baz=349,slow=11,SNR=10							
IDI	**Anoyia**	**4.77**	**166**	P	**Pn**	**07 20 14.0**	**+1.9**	
DIVS	**Divibare**	**4.90**	**329**	*e*Pn	**Pn**	**07 20 14.7**	**+0.8**	
MDVR	**Moldovita**	**5.02**	**346**	P	**Pn**	**07 20 19.9**	**+4.4**	
VOIR		**5.63**	**12**	P	**Pn**	**07 20 26.2**	**+2.3**	
MLR	**Muntele Rosu**	**5.86**	**17**	Pn	**Pn**	**07 20 28.0**	**+0.9**	
	comp=E,0.8nm,0.3s,baz=194,slow=16,SNR=8.2							
MLR	**Muntele Rosu**	**5.86**	**17**	P	**Pn**	**07 20 28.7**	**+1.6**	
PLOR	**Plostina**	**6.37**	**21**	P	**Pn**	**07 20 35.4**	**+1.3**	
OZUR		**6.40**	**15**	P	**Pn**	**07 20 36.2**	**+1.8**	
VRI	**Vrincioaia**	**6.41**	**21**	P	**Pn**	**07 20 36.4**	**+1.8**	
BRTR	**Keskin Array B**	**7.84**	**88**	Pn	**Pn**	**07 20 55.5**	**+1.1**	
	comp=E,0.1nm,0.3s,baz=261,slow=12,SNR=1.7							
HFS	**Hagfors**	**21.13**	**346**	LR	LR	07 32 20.9		
	comp=E,36nm,18.4s,baz=56,slow=38							
TORD	**Tordi Ar. Bea**	**32.84**	**222**	P	**P**	**07 25 33.7**	**-0.3**	
	comp=E,0.2nm,0.4s,baz=32,slow=10,SNR=2.1							
MKAR	**Makanchi Array**	**42.45**	**61**	P	**P**	**07 26 54.9**	**-0.1**	
	comp=E,0.1nm,0.4s,baz=284,slow=7.3,SNR=1.2							

IDC 22 07:19:05.5±3.6, 53.46N×87.22E, *h*0km, **mb1 2.7**/2, **mb1mx2.7**/61, **mbtmp2.7**/2, **ML2.2**/2, **Error ellipse: s-maj=36.4km s-min=18.4km az=60.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.51**	**290**	*i*		07 29 00.0	
	baz=108,slow=306,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.51**	**290**	Pg	Pn	07 19 32.7	-1.1
	0.5nm,0.3s,baz=112,slow=14,SNR=3.0						
ZALV				Lg	Lg	07 19 53.1	
	0.2nm,0.3s,baz=115,slow=30,SNR=2.6						
KURBB	**Kurchatov Arr**	**6.07**	**246**	Pn	Pn	07 20 37.2	+0.8
	0.1nm,0.3s,baz=62,slow=14,SNR=4.0						
MKAR	**Makanchi Array**	**7.38**	**207**	Pn	Pn	07 20 55.6	+1.1
	0.1nm,0.3s,baz=27,slow=16,SNR=2.2						

*IDC **22** 07:19:17.4±1.2, 44.95N×95.33E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.9/47, mbtmp3.9/8, MS3.5/1, Ms1 3.5/1, ms1mx3.2/8, Error ellipse: s-maj=37.5km s-min=22.8km az=108.0*

*GCMT **22** 07:19:23.0±0.2, 44.99S±0.01×95.54E±0.02, h16km±1km, MW4.9/95, Moment Tensor Solution. s31,c35; s95,c121; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.22±.09; Mθθ2.61±.10; Mϕϕ-2.40±.09; Mrθ0.13±.23; Mθϕ-0.63±.07; Mϕr1.03±.29; Best double couple: M0 2.78600×10^16 NP1:ϕs234.00000°, δ75.00000°, λ-165.00000°. NP2: ϕs234.00000°, δ75.00000°, λ-15.00000°. Principal axes: T 2.6880, Plg0.0000°, Azm7.0000°; N 0.1890, Plg69.0000°, Azm277.0000°; P -2.8830, Plg21.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 22 07:19:18.7±1.1, **45.0S**±0.2×**95.3E**±0.2, **h10**km, **n17**, σ0**53**/11, **mb3.9**/8, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**17.54**	**62**	T	T	07 41 15.6	
	baz=228,slow=73,SNR=800						
H01W3	**Cape Leeuwin H**	**17.55**	**61**	T	T	07 41 14.7	
	baz=228,slow=73,SNR=860						
H01W1	**Cape Leeuwin H**	**17.55**	**62**	T	T	07 41 15.5	
	baz=228,slow=73,SNR=852						
NWAO	**Narrogin (SRO)**	**20.77**	**62**	LR	LR	07 30 32.9	
	comp=Z,121nm,19.9s,baz=12,slow=32						
FITZ	**Fitzroy Crossi**	**36.83**	**53**	P	**P**	**07 26 26.8**	**-0.2**
	1.3nm,0.8s,baz=203,slow=7.4,SNR=1.6						
ASAR	**Alice Springs**	**37.81**	**69**	P	**P**	**07 26 36.0**	**+0.6**
	1.0nm,0.8s,baz=228,slow=8.3,SNR=6.5						
STKA	**Stephens Creek**	**38.03**	**86**	P	**P**	**07 26 37.1**	**0.0**
	1.5nm,0.5s,baz=262,slow=7.1,SNR=3.6						
WRA	**Warramunga Arr**	**40.73**	**65**	P	**P**	**07 26 59.7**	**0.0**
	1.0nm,0.8s,baz=227,slow=9.0,SNR=2.1						
VNDA	**Vanda**	**41.50**	**162**	P	**P**	**07 27 04.8**	**-0.7**
	0.4nm,0.8s,baz=283,slow=5.5,SNR=2.4						
H08S2	**Diego Garcia H**	**42.13**	**325**	T	T	08 12 11.0	
	baz=156,slow=76,SNR=14						
H08S1	**Diego Garcia H**	**42.14**	**325**	T	T	08 12 37.2	
	baz=156,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**42.15**	**325**	T	T	08 12 11.4	
	baz=156,slow=76,SNR=18						
QSPA	**South Pole Qui**	**45.18**	**180**	P	**P**	**07 27 36.2**	**+0.7**
	1.8nm,0.7s,baz=289,slow=2.4,SNR=16						
CMAR	**Chiang Mai Arr**	**63.20**	**4**	P	**P**	**07 29 47.0**	**0.0**
	0.9nm,0.3s,baz=206,slow=6.0,SNR=1.4						
MKAR	**Makanchi Array**	**92.09**	**351**	P	**P**	**07 32 27.4**	**-0.2**
	0.7nm,1.1s,baz=155,slow=4.8,SNR=2.1						
INK	**Inuvik**	**145.84**	**30**	PKPbc	**PKPbc**	**07 38 56.8**	**0.0**
	1.1nm,1.0s,baz=307,slow=2.4,SNR=1.4						
NVAR	**Mina Array Bea**	**154.18**	**93**	PKPbc	**PKiKP**	**07 39 19.4**	**+0.5**
	0.2nm,0.7s,baz=230,slow=2.2,SNR=2.0						
NVAR				PKPab	**PKPab**	**07 39 31.9**	**-0.7**
	0.3nm,0.7s,baz=227,slow=4.8,SNR=2.9						

*DDA **22** 07:19:36.1, 39.96N×23.58E, h10km±3km, MW3.8*

*IDC **22** 07:19:37.0±1.0, 39.89N×23.44E, h0km, mb3.5/8, mb1 3.7/13, mb1mx3.6/53, mbtmp3.6/13, ML3.7/5, MS2.8/3, Ms1 2.8/3, ms1mx2.4/41, Error ellipse: s-maj=16.4km s-min=13.8km az=106.0*

*ATH **22** 07:19:38.9, 39.92N×23.46E, h29km, ML3.5/27, Error ellipse: s-maj=0.9km s-min=0.5km az=280.0*

*ISK **22** 07:19:38.8, 39.95N×23.41E, h23km, ML3.6/13*

*TIR **22** 07:19:39.0, 39.93N×23.39E, h28km, Md3.9/6*

*THE **22** 07:19:39.6, 39.93N×23.47E, h12km±1km, ML3.5/11, Error ellipse: s-maj=1.3km s-min=0.5km az=260.0*

*SKO **22** 07:19:40.7, 39.96N×23.49E, h0km*

ISC 22 07:19:39.2±1.0, **39.92N**±0.01×**23.49E**±0.02, **h10**km±8km, **n144**, σ0**94**/183, **mb3.6**/8, **4C-4D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLG	**Polygyros**	**0.45**	**355**	P	**Pg**	**07 19 47.9**	**-0.2**
PLG				S	**Sg**	**07 19 54.9**	**+0.8**
	6μm,0.3s						
PLG	**Polygyros**	**0.45**	**355**	P	**Pg**	**07 19 48.3**	**+0.2**
PLG				S	**Sg**	**07 19 54.5**	**+0.5**
PLG				AML	AML	07 19 57.8	
	comp=E,10813μm,0.2s						
PLG				AML	AML	07 20 00.0	
	comp=N,9947μm,0.3s						
OUR	**Ouranopolis**	**0.56**	**42**	P	**Pb**	**07 19 50.9**	**-0.1**
OUR				S	**Sb**	**07 19 58.7**	**-0.3**
	comp=N,12μm,0.3s						
OUR	**Ouranopolis**	**0.56**	**42**	P	**Pb**	**07 19 51.4**	**+0.4**
OUR				S	**Sb**	**07 19 59.4**	**+0.4**
OUR				AML	AML	07 20 01.0	
	comp=N,33303μm,0.2s						
OUR				AML	AML	07 20 03.7	
	comp=E,16392μm,0.3s						
OUR	**Ouranopolis**	**0.56**	**42**	PG	**Pb**	**07 19 51.2**	**+0.2**
OUR				SG	**Sb**	**07 19 59.5**	**+0.5**
XOR	**Xorichti**	**0.60**	**203**	P	**Pb**	**07 19 51.2**	**-0.6**
XOR	**Xorichti**	**0.60**	**203**	P	**Pb**	**07 19 51.4**	**-0.4**
XOR				AML	AML	07 20 01.4	
	comp=E,7131μm,0.5s						
XOR				AML	AML	07 20 09.2	
	comp=N,11737μm,0.5s						
NEO	**Neokhori**	**0.65**	**199**	P	**Pb**	**07 19 52.2**	**-0.4**
NEO				S	**Sb**	**07 20 02.0**	**+0.3**
	comp=N,6μm,0.3s						
NEO	**Neokhori**	**0.65**	**199**	P	**Pb**	**07 19 52.4**	**-0.2**
NEO				S	**Sb**	**07 20 01.0**	**-0.8**
NEO				AML	AML	07 20 03.9	
	comp=E,13477μm,0.3s						
NEO				AML	AML	07 20 05.9	
	comp=N,9376μm,0.3s						
VOL3	**Nea Ionia, Vol**	**0.70**	**218**	P	**Pn**	**07 19 55.0**	**-0.1**
HORT	**Hortiatis**	**0.74**	**336**	P	**Pg**	**07 19 53.1**	**-0.4**
HORT				S	**Sb**	**07 20 03.9**	**-0.5**
	comp=N,5μm,0.4s						
HORT	**Hortiatis**	**0.74**	**336**	P	**Pg**	**07 19 53.3**	**-0.2**
HORT				S	**Sg**	**07 20 03.4**	**+0.3**
HORT				AML	AML	07 20 04.6	
	comp=N,6755μm,0.2s						
HORT				AML	AML	07 20 05.1	
	comp=E,11732μm,0.3s						
HORT	**Hortiatis**	**0.74**	**336**	PG	**Pg**	**07 19 53.3**	**-0.2**
HORT				SG	**Sg**	**07 20 02.9**	**-0.2**
SKIA	**Skiathos**	**0.76**	**182**	P	**Pg**	**07 19 53.9**	**+0.1**
SKIA	**Skiathos**	**0.76**	**182**	P	**Pb**	**07 19 54.1**	**-0.3**
SKIA				S	**Sb**	**07 20 05.0**	**+0.2**
SKIA				AML	AML	07 20 06.9	
	comp=N,6920μm,0.4s						
SKIA				AML	AML	07 20 09.2	
	comp=E,4950μm,0.4s						
LIT	**Litokhoron**	**0.79**	**283**	P	**Pb**	**07 19 54.9**	**-0.1**
LIT				S	**Sb**	**07 20 05.5**	**-0.3**
	comp=E,2μm,0.5s						
LIT	**Litokhoron**	**0.79**	**283**	P	**Pg**	**07 19 54.3**	**-0.2**
LIT				S	**Sg**	**07 20 04.9**	**+0.1**
LIT				AML	AML	07 20 06.8	
	comp=E,4770μm,0.3s						
LIT				AML	AML	07 20 14.4	
	comp=N,4053μm,0.7s						
LIT	**Litokhoron**	**0.79**	**283**	*i* P	**Pg**	**07 19 53.4**	**-1.1**
LIT				*i* S	**Sg**	**07 20 04.6**	**-0.1**
AOS	**Alonnisos**	**0.81**	**158**	P	**Pg**	**07 19 54.9**	**+0.1**
AOS				S	**Sb**	**07 20 06.8**	**+0.5**
	comp=N,4μm,0.5s						
AOS	**Alonnisos**	**0.81**	**158**	P	**Pb**	**07 19 55.1**	**-0.2**
AOS				S	**Sb**	**07 20 06.6**	**+0.3**
AOS				AML	AML	07 20 08.4	
	comp=N,8954μm,0.4s						
AOS				AML	AML	07 20 10.1	
	comp=E,6532μm,0.6s						
AOS	**Alonnisos**	**0.81**	**158**	PG	**Pb**	**07 19 55.8**	**+0.5**
THE	**Thessaloniki**	**0.81**	**330**	P	**Pg**	**07 19 54.4**	**-0.5**
THE				S	**Sg**	**07 20 05.4**	**-0.2**
	comp=E,2μm,0.6s						
THE	**Thessaloniki**	**0.81**	**330**	*i* PG	**Pg**	**07 19 54.5**	**-0.5**
THE				*i* SG	**Sb**	**07 20 05.9**	**-0.6**
THE	**Thessaloniki**	**0.81**	**330**	P	**Pg**	**07 19 54.7**	**-0.2**
THE				S	**Sb**	**07 20 06.0**	**-0.5**
THE				AML	AML	07 20 07.9	
	comp=E,3782μm,0.4s						
THE				AML	AML	07 20 09.6	
	comp=N,2827μm,0.3s						
ALNA	**Alonissos**	**0.83**	**159**	P	**Pb**	**07 19 55.5**	**-0.1**
ALNA				S	**Sb**	**07 20 06.7**	**0.0**
ALNA				AML	AML	07 20 10.4	
	comp=N,11797μm,0.6s						
ALNA				AML	AML	07 20 10.9	
	comp=E,9021μm,0.5s						
LRSO	**Larissa Observ**	**0.89**	**254**	P	**Pb**	**07 19 56.4**	**-0.2**
SOH	**Sokhos**	**0.90**	**353**	P	**Pb**	**07 19 56.8**	**-0.2**
SOH				S	**Sb**	**07 20 09.1**	**0.0**
	comp=E,5μm,0.4s						
SOH	**Sokhos**	**0.90**	**353**	P	**Pg**	**07

NVR				S	Sn	07 20 24.7	+0.1	
NVR				AML	AML	07 20 30.7		
	comp=E,3044µm,0.8s							
NVR				AML	AML	07 20 32.1		
	comp=N,2470µm,0.5s							
VAY	**Valandovo**	**1.56**	**334**	*i* Pn	**Pg**	**07 20 08.9**	**-0.3**	
VAY				*i* Sn	**Sg**	**07 20 29.4**	**-0.1**	
VAY				*e*Lg	Lg	07 20 32.1		
	comp=E,271nm,0.4s							
VAY	**Valandovo**	**1.56**	**334**	*e*Sn	**Pn**	**07 20 07.3**	**+0.3**	
DLFA	**Delphi**	**1.64**	**209**	P	**Pn**	**07 20 06.9**	**-1.2**	
EVR	**Evrytania**	**1.65**	**233**	P	**Pn**	**07 20 07.7**	**-0.5**	
EVR				AML	AML	07 20 44.9		
	comp=E,1536µm,1.1s							
EVR				AML	AML	07 21 02.3		
	comp=N,1661µm,1.1s							
SMTH	**Samothraki Isl**	**1.65**	**70**	P	**Pn**	**07 20 08.0**	**-0.2**	
DSF	**Desfina**	**1.69**	**207**	P	**Pn**	**07 20 07.4**	**-1.3**	
VIL2	**Platees**	**1.72**	**186**	P	**Pn**	**07 20 08.9**	**-0.3**	
VIL2				AML	AML	07 20 41.7		
	comp=N,1582µm,0.6s							
VIL2				AML	AML	07 20 48.5		
	comp=E,3138µm,0.9s							
ANX	**Ano Chora**	**1.80**	**223**	P	**Pn**	**07 20 10.0**	**-0.4**	
GADA	**Gvkgeada**	**1.87**	**81**	PN	**Pn**	**07 20 11.2**	**+0.1**	
GOKA	**anakkale-Gk**	**1.87**	**81**	*i* P	**Pn**	**07 20 09.2**	**-2.0**	
GOKA				IAML		07 20 48.0		
	comp=Z,231nm,0.4s							
DION	**Dionisos Attik**	**1.87**	**169**	P	**Pn**	**07 20 11.0**	**-0.3**	
PTL	**Penteli**	**1.89**	**171**	P	**Pn**	**07 20 11.0**	**-0.6**	
TRIZ	**Trizonia**	**1.91**	**216**	P	**Pn**	**07 20 10.8**	**-1.0**	
EFP	**Efpalio**	**1.94**	**220**	P	**Pn**	**07 20 11.6**	**-0.5**	
ATH	**Athens Observa**	**1.96**	**175**	P	**Pn**	**07 20 11.7**	**-0.7**	
SIGR	**SIGRI**	**1.96**	**111**	P	**Pn**	**07 20 12.8**	**+0.4**	
SIGI	**SIGRI**	**1.96**	**111**	PN	**Pn**	**07 20 12.0**	**-0.4**	
ATHU	**Athens Univers**	**1.97**	**173**	P	**Pn**	**07 20 12.0**	**-0.5**	
ATHU				AML	AML	07 20 25.0		
	comp=N,416µm,0.7s							
ATHU				AML	AML	07 20 50.1		
	comp=E,231µm,0.6s							
BOZC	**Bozcaada**	**1.97**	**92**	PN	**Pn**	**07 20 12.8**	**+0.2**	
BOZC	**Bozcaada**	**1.97**	**92**	*i* P	**Pb**	**07 20 15.1**	**-0.1**	
BOZC				*i* S	**Sg**	**07 20 44.1**	**+1.5**	
BOZC				IAML		07 20 51.0		
	comp=Z,55nm,1.0s							
RDO	**Rodhopi**	**1.98**	**51**	PN	**Pn**	**07 20 12.4**	**-0.3**	
PVO	**Paravola**	**2.01**	**230**	P	**Pn**	**07 20 12.5**	**-0.6**	
KARY	**Karystos**	**2.03**	**158**	P	**Pn**	**07 20 13.1**	**-0.2**	
KARY				AML	AML	07 20 55.7		
	comp=N,639µm,0.9s							
KARY				AML	AML	07 20 55.7		
	comp=E,939µm,1.2s							
VLY	**Voula,Athens**	**2.08**	**173**	P	**Pn**	**07 20 13.7**	**-0.4**	
GUR	**Goura**	**2.18**	**205**	P	**Pn**	**07 20 15.1**	**-0.4**	
ALN	**Alexandroupoli**	**2.18**	**63**	P	**Pn**	**07 20 15.5**	**+0.1**	
ALN	**Alexandroupoli**	**2.18**	**63**	PN	**Pn**	**07 20 15.0**	**-0.4**	
ALN	**Alexandroupoli**	**2.18**	**63**	*i* P	**Pn**	**07 20 13.9**	**-1.5**	
EZN	**Ezine**	**2.18**	**92**	PN	**Pn**	**07 20 15.6**	**+0.1**	
LSK	**Leskovik**	**2.23**	**277**	*i* PN	**Pn**	**07 20 16.8**	**+0.5**	
LSK				*i* SN	**Sn**	**07 20 44.4**	**+0.4**	
KDZ	**Kurdzhali**	**2.26**	**40**	PN	**Pn**	**07 20 14.7**	**-1.9**	
BAYC	**CANAKKALE_Bayr**	**2.36**	**93**	*i* P	**Pn**	**07 20 18.1**	**+0.2**	
BAYC				IAML		07 21 09.0		
	comp=Z,70nm,1.1s							
PLD	**Plovdiv**	**2.36**	**22**	PN	**Pn**	**07 20 17.9**	**-0.1**	
AXS	**Araxos**	**2.38**	**224**	P	**Pn**	**07 20 19.0**	**+0.7**	
DRO	**Drossia**	**2.41**	**216**	P	**Pn**	**07 20 18.6**	**0.0**	
DID	**Didima**	**2.42**	**185**	P	**Pn**	**07 20 18.2**	**-0.6**	
TSLK	**Tsoukalades, L**	**2.46**	**244**	P	**Pn**	**07 20 18.9**	**-0.4**	
IGT	**Igoumenitsa**	**2.47**	**262**	*i* PN	**Pn**	**07 20 21.1**	**+1.7**	
LKD2	**Lefkada island**	**2.47**	**244**	*i* PN	**Pn**	**07 20 21.3**	**+1.8**	
CHOS	**Chios island**	**2.51**	**127**	P	**Pn**	**07 20 20.8**	**+0.6**	
CHOS	**Chios island**	**2.51**	**127**	PN	**Pn**	**07 20 20.7**	**+0.6**	
EVGI	**Lefkada island**	**2.56**	**240**	P	**Pn**	**07 20 21.2**	**+0.5**	
TRIP	**Tripoli**	**2.58**	**202**	P	**Pn**	**07 20 20.8**	**-0.2**	
KESN	**Edirne-Kesan**	**2.60**	**69**	*i* P	**Pn**	**07 20 19.6**	**-1.9**	
KESN				*i* S	**Sg**	**07 21 02.7**	**+0.1**	
KESN				IAML		07 21 07.0		
	comp=Z,100nm,0.5s							
SRN	**Sarande**	**2.69**	**270**	*i* PN	**Pn**	**07 20 23.7**	**+1.3**	
SRN				*i* SN	**Sn**	**07 20 56.9**	**+1.9**	
VLX	**Vlachokerasia**	**2.69**	**199**	P	**Pn**	**07 20 22.4**	**-0.2**	
FSK	**Fiskardo**	**2.71**	**238**	P	**Pn**	**07 20 23.5**	**+0.8**	
DKL	**Dikili**	**2.77**	**107**	PN	**Pn**	**07 20 23.7**	**+0.1**	
VLS	**Valsamata**	**2.85**	**233**	P	**Pn**	**07 20 25.0**	**+0.3**	
URLA	**Izmir**	**2.87**	**122**	PN	**Pn**	**07 20 26.2**	**+1.2**	
URLA	**Izmir**	**2.87**	**122**	*i* P	**Pn**	**07 20 26.0**	**+1.0**	
URLA				*i* S	**Sg**	**07 21 11.3**	**-0.2**	
URLA				IAML		07 21 29.0		
	comp=Z,34nm,1.1s							
PHP	**Peshkopia**	**2.91**	**308**	*i* PN	**Pn**	**07 20 26.7**	**+1.1**	
ZEDA	**zmir-Bergama**	**2.94**	**108**	*i* P	**Pn**	**07 20 26.4**	**+0.5**	
ZEDA				IAML		07 21 22.0		
	comp=Z,25nm,0.7s							
ITM	**Ithomi**	**3.00**	**205**	P	**Pn**	**07 20 27.9**	**+1.1**	
VLMS	**Volimes, Zakyn**	**3.01**	**228**	P	**Pn**	**07 20 27.5**	**+0.6**	
MAR3	**Marsite Statio**	**3.02**	**73**	PN	**Pn**	**07 20 27.6**	**+0.6**	
EDRB	**Edirne**	**3.12**	**51**	PN	**Pn**	**07 20 28.7**	**+0.2**	
BALY	**Balya**	**3.18**	**92**	*i* P	**Pn**	**07 20 27.6**	**-1.7**	
BALY				IAML		07 21 46.0		
	comp=Z,49nm,0.8s							
MRMT	**Marmara Adasi**	**3.21**	**76**	PN	**Pn**	**07 20 30.3**	**+0.6**	
VLI	**Veliai**	**3.23**	**188**	P	**Pn**	**07 20 31.0**	**+1.1**	
APE	**Apeiranthos**	**3.27**	**150**	P	**Pn**	**07 20 30.5**	**+0.1**	
APE	**Apeiranthos**	**3.27**	**150**	PN	**Pn**	**07 20 30.7**	**+0.2**	
APE	**Apeiranthos**	**3.27**	**150**	*i* P	**Pn**	**07 20 30.6**	**+0.1**	
APE	**Apeiranthos**	**3.27**	**150**	P	**Pn**	**07 20 30.6**	**+0.1**	
KIRK	**Kirklareli**	**3.30**	**55**	*i* P	**Pb**	**07 20 35.0**	**-2.9**	
KIRK				IAML		07 21 32.0		
	comp=Z,40nm,0.6s							
STEP	**BALIKESIR_Sava**	**3.31**	**98**	*i* P	**Pn**	**07 20 27.6**	**-3.4**	
STEP				IAML		07 21 47.0		
	comp=Z,44nm,0.7s							
PYL	**PYLOS**	**3.32**	**205**	P	**Pn**	**07 20 31.8**	**+0.6**	
PUK	**Puka**	**3.45**	**309**	*i* SN	**Pn**	**07 20 35.6**	**+2.6**	
PUK				*i* SN	**Sn**	**07 21 16.9**	**+2.9**	
PDG	**Podgorica**	**4.06**	**309**	⇑P	**Pn**	**07 20 43.7**	**+2.3**	
IDI	**Anoyia**	**4.76**	**166**	Pn	**Pn**	**07 20 50.4**	**-0.6**	
	comp=Z,3.5nm,0.3s,baz=356,slow=13,SNR=14							
HERR	**Herculane**	**5.02**	**351**	⇓P	**Pn**	**07 20 57.3**	**+2.9**	
MDVR	**Moldovita**	**5.03**	**345**	P	**Pn**	**07 20 56.9**	**+2.2**	
ARR	**Arges**	**5.51**	**8**	P	**Pn**	**07 21 03.2**	**+2.0**	
LOT	**Lotru**	**5.53**	**2**	P	**Pn**	**07 21 02.3**	**+0.8**	
VOIR		**5.63**	**11**	⇑P	**Pn**	**07 21 04.3**	**+1.3**	
MLR	**Muntele Rosu**	**5.85**	**17**	Pn	**Pn**	**07 21 06.4**	**+0.4**	
	comp=Z,1.9nm,0.3s,baz=183,slow=2.4,SNR=9.4							
MLR				Sn	**Sn**	**07 22 14.3**	**+1.1**	
	baz=287,slow=12,SNR=1.1							
MLR				Lg	Lg	07 22 44.5		
	comp=Z,0.6nm,0.3s,baz=239,slow=14,SNR=1.6							
MLR	**Muntele Rosu**	**5.85**	**17**	⇓P	**Pn**	**07 21 08.0**	**+2.0**	
DOPR	**Dopca**	**6.20**	**12**	⇓P	**Pn**	**07 21 11.7**	**+1.0**	
PLOR	**Plostina**	**6.36**	**20**	⇑P	**Pn**	**07 21 14.8**	**+1.9**	
OZUR		**6.39**	**14**	⇓P	**Pn**	**07 21 15.8**	**+2.4**	
VRI	**Vrincioaia**	**6.40**	**21**	⇑P	**Pn**	**07 21 14.9**	**+1.5**	
BRTR	**Keskin Array B**	**7.81**	**88**	Pn	**Pn**	**07 21 34.0**	**+1.0**	
	comp=Z,0.6nm,0.3s,baz=260,slow=11,SNR=7.8							
BRTR				LR	LR	07 25 21.1		
	comp=Z,29nm,21.9s,baz=322,slow=44							
GERES	**GERESS Array B**	**11.33**	**325**	Pn	**Pn**	**07 22 20.7**	**-0.4**	
	comp=Z,0.2nm,0.3s,baz=144,slow=12,SNR=1.5							
GERES				LR	LR	07 26 47.0		
	comp=Z,39nm,20.2s,baz=196,slow=38							
KBZ	**Khabaz**	**14.96**	**69**	Pn	**Pn**	**07 23 12.3**	**+1.8**	
	comp=Z,0.1nm,0.3s,baz=212,slow=7.8,SNR=1.5							
ESDC	**Sonseca Array**	**21.07**	**278**	P	**P**	**07 24 22.6**	**-0.9**	
	comp=Z,0.3nm,0.5s,baz=75,slow=11,SNR=2.0							
HFS	**Hagfors**	**21.14**	**346**	P	**P**	**07 24 23.7**	**-0.3**	
	comp=Z,3.2nm,0.9s,baz=163,slow=16,SNR=2.9							
FINES	**FINESS Array B**	**21.61**	**3**	P	**P**	**07 24 27.3**	**-1.6**	
	comp=Z,2.6nm,0.9s,baz=187,slow=10,SNR=2.0							
NOA	**NORSAR Array B**	**22.46**	**344**	P	**P**	**07 24 37.9**	**-0.3**	
	comp=Z,0.5nm,0.8s,baz=163,slow=9.8,SNR=2.5							
GEYT	**Alibeck**	**26.91**	**83**	LR	LR	07 36 15.7		
	comp=Z,68nm,18.7s,baz=0.0,slow=37							
TORD	**Torodi Ar. Bea**	**32.86**	**222**	P	**P**	**07 26 12.2**	**-1.0**	
	comp=Z,0.4nm,0.4s,baz=28,slow=8.9,SNR=5.1							
KURBB	**Kurchatov Arra**	**39.33**	**55**	P	**P**	**07 27 08.4**	**+0.1**	
	comp=Z,0.4nm,0.3s,baz=289,slow=9.4,SNR=2.5							
MKAR	**Makanchi Array**	**42.42**	**61**	P	**P**	**07 27 32.6**	**-1.3**	
	comp=Z,0.2nm,0.5s,baz=282,slow=7.1,SNR=3.6							
ZALV	**Zalesovo Beam**	**42.80**	**50**	P	**P**	**07 27 36.3**	**-0.5**	
	comp=Z,0.6nm,0.3s,baz=269,slow=5.8,SNR=3.9							

IDC ***22*** *07:20:05.1±1.6, 45°.07S×95°.00E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/47, mbtmp4.0/5, Error ellipse: s-maj=52.8km s-min=24.9km az=106.0*

ISC 22 07:20:06.6±1.5, **45.15**S±0.2×**95.0E**±0.4, **h10**km, **n9,** σ1§**48**/6, **mb3.9**/5, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**17.78**	**62**	T	T	07 41 57.6	
	baz=228						
H01W3	**Cape Leeuwin H**	**17.79**	**62**	T	T	07 41 59.4	
	baz=228						
H01W1	**Cape Leeuwin H**	**17.80**	**62**	T	T	07 41 58.8	
	baz=228						
ASAR	**Alice Springs**	**38.05**	**69**	P	**P**	**07 27 26.3**	**+0.9**
	1.8nm,0.9s,baz=224,slow=7.5,SNR=4.5						
WRA	**Warramunga Arr**	**40.97**	**65**	P	**P**	**07 27 48.3**	**-1.4**
	2.3nm,0.9s,baz=227,slow=6.6,SNR=3.3						
VNDA	**Vanda**	**41.45**	**162**	P	**P**	**07 27 52.5**	**-0.4**
	2.4nm,1.1s,baz=292,slow=5.8,SNR=3.8						
QSPA	**South Pole Qui**	**45.06**	**180**	P	**P**	**07 28 22.3**	**-0.2**
	2.7nm,0.6s,baz=300,slow=4.7,SNR=10						
CMAR	**Chiang Mai Arr**	**63.34**	**4**	P	**P**	**07 30 35.5**	**-0.4**
	0.6nm,0.3s,baz=197,slow=5.3,SNR=4.1						
NVAR	**Mina Array Bea**	**154.38**	**93**	PKPbc	**PKiKP**	**07 40 09.1**	**+1.9**
	0.3nm,0.6s,baz=211,slow=5.1,SNR=2.4						

AUST ***22*** *07:25:18.1±0.4, 23°.50S×114°.61E, h10km, Error ellipse: s-maj=5.6km s-min=3.1km az=67.0*

IDC ***22*** *07:25:19.6±3.4, 23°.56S×115°.01E, h0km, mb3.7/1, mb1 3.9/5, mb1mx3.6/47, mbtmp3.8/5, ML3.2/4, Error ellipse: s-maj=62.4km s-min=39.8km az=119.0*

ISC 22 07:25:17.6±0.8, **23°.47S**±0°.06×**114°.91E**±0°.07, **h10**km, **n18,** σ4§**22**/30, **Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GIRL	**Giralia**	**1.03**	**323**	P	**Pg**	**07 25 36.7**	**-0.7**
	baz=0.9,SNR=394						
GIRL				S	**Sg**	**07 25 48.6**	**-2.2**
	baz=0.9						
MEEK	**Meekatharra**	**4.61**	**134**	P	**Pn**	**07 26 32.0**	**+4.5**
	baz=4.8,SNR=25						
MEEK				S	**Sn**	**07 27 26.9**	**+5.7**
	baz=4.8						
MORW	**Morawa**	**5.67**	**170**	P	**Pn**	**07 26 43.0**	**+1.0**
	baz=5.7,SNR=7.9						
MORW				S	**Sn**	**07 27 42.3**	**-4.9**
	baz=5.7						
BLDU	**Ballidu**	**7.30**	**168**	P	**Pn**	**07 27 05.8**	**+1.4**
	baz=7.3,SNR=7.2						
MUN	**Mundaring**	**8.56**	**173**	P	**Pn**	**07 27 22.8**	**+1.1**
	baz=8.6,SNR=6.4						
NWAO	**Narrogin (SRO)**	**9.65**	**168**	Pn	**Pn**	**07 27 37.0**	**+0.4**
	1.7nm,0.3s,baz=352,slow=8.8,SNR=8.3						
NWAO				Sn	Sn	07 29 16.4	-8.6
	1.7nm,0.3s,baz=118,slow=15,SNR=1.7						
NWAO				Lg	Lg	07 30 17.3	
	4.6nm,0.3s,baz=58,slow=24,SNR=6.1						
NWAO	**Narrogin (SRO)**	**9.65**	**168**	P	**Pn**	**07 27 37.0**	**+0.4**
	baz=9.7,SNR=6.0						
NWAO				S	**Sn**	**07 29 18.1**	**-7.0**
	baz=9.7						
KMBL	**Kambalda**	**10.01**	**143**	P	**Pn**	**07 27 43.6**	**+2.0**
	baz=10						
KMBL				S	**Sn**	**07 29 33.4**	**-0.7**
	baz=10						
RKGY	**Rocky Gully**	**11.25**	**171**	P	**Pn**	**07 27 59.4**	**+0.9**
	baz=11,SNR=7.5						
FITZ	**Fitzroy Crossi**	**11.37**	**64**	Pn	**Pn**	**07 28 03.2**	**+3.0**
	0.6nm,0.3s,baz=236,slow=12,SNR=20						
FITZ				Sn	**Sn**	**07 30 01.9**	**-5.6**
	0.6nm,0.3s,baz=296,slow=20,SNR=1.7						
FITZ				Lg	Lg	07 31 17.6	
	0.9nm,0.3s,baz=68,slow=12,SNR=2.4						
FITZ	**Fitzroy Crossi**	**11.37**	**64**	P	**Pn**	**07 28 03.4**	**+3.2**
	baz=12,SNR=4.0						
FITZ				S	**Sn**	**07 30 03.8**	**-3.6**
	baz=12						
WRKA	**Warakurna**	**12.32**	**100**	P	**Pn**	**07 28 15.0**	**+1.8**
	baz=13,SNR=3.8						
WRKA				S	**Sn**	**07 30 29.8**	**-0.8**
	baz=13						
FORT	**Forrest**	**13.79**	**125**	P	**Pn**	**07 28 33.9**	**+0.8**
	baz=14						
FORT				S	**Sn**	**07 30 59.1**	**-7.3**
	baz=14						
ASAR	**Alice Springs**	**17.42**	**94**	P	**P**	**07 29 22.2**	**0.0**
	0.3nm,0.3s,baz=271,slow=11,SNR=21						
ASAR				S	**Sn**	**07 32 28.6**	**-6.5**
	0.2nm,0.3s,baz=266,slow=24,SNR=5.8						
ASAR				Lg	Lg	07 34 31.3	
	baz=262,slow=27,SNR=1.1						
WRA	**Warramunga Arr**	**18.39**	**83**	P	**P**	**07 29 33.8**	**+0.9**
	0.0nm,0.3s,baz=256,slow=13,SNR=2.5						
WRA				S	**Sn**	**07 32 50.5**	**-8.1**
	0.2nm,0.3s,baz=256,slow=23,SNR=4.0						
WRA				Lg	Lg	07 35 06.5	
	baz=243,slow=29,SNR=2.4						
WB2	**Warramunga Arr**	**18.41**	**83**	P	**Pn**	**07 29 38.8**	**+5.7**
	baz=19						
STKA	**Stephens Creek**	**25.03**	**115**	P	**P**	**07 30 45.9**	**+3.9**
	1.6nm,0.7s,baz=304,slow=10.0,SNR=2.1						
STKA				S	**S**	**07 35 14.0**	**+7.8**
	1.0nm,0.6s,baz=296,slow=13,SNR=1.4						
TXAR	**Lajitas Array**	**145.07**	**72**	PKPbc	**PKPdf**	**07 44 57.8**	**+1.9**
	0.4nm,0.8s,baz=242,slow=1.9,SNR=5.3						

IDC ***22*** *07:29:21.3±1.1, 32°.62N×47°.34E, h0km, mb3.9/13, mb1 4.0/17, mb1mx3.8/55, mbtmp3.9/17, ML3.6/4, Error ellipse: s-maj=24.8km s-min=15.3km az=2.0*

NEIC ***22*** *07:29:23.9±3.2, 32°.73N±0°.05×47°.51E±0°.05, h10km±1km, Error ellipse: s-maj=10.2km s-min=6.4km az=148.0*

ISN ***22*** *07:29:23.1±1.0, 32°.77N×47°.53E, h15km±5km, ML3.4*

TEH ***22*** *07:29:24.1, 32°.75N×47°.53E, h10km, ML3.8*

ISC 22 07:29:23.7±0.5, **32.72N**±0°.03×**47.46E**±0°.03, **h10**km, **n91,** σ1§**40**/96, **mb3.8**/18, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.16**	**256**	*e*Pg	**Pg**	**07 29 28.3**	**+1.1**
IKFM	**Kafar-mosalman**	**0.87**	**22**	*e*Pg	**Pg**	**07 29 39.7**	**-0.7**
IKFM				*e*	**Sn**	**07 29 55.9**	**+1.2**
IKFM	**Kafar-mosalman**	**0.87**	**22**	Pg	**Pg**	**07 29 39.5**	**-0.9**
IKMR	**Kamar-syah**	**1.11**	**44**	*e*Pg	**Pb**	**07 29 43.9**	**-1.1**
IKMR				*e*		07 30 05.0	
IKMR	**Kamar-syah**	**1.11**	**44**	Pg	**Pb**	**07 29 43.5**	**-1.5**
IDOB	**Doab**	**1.22**	**29**	*e*Pg	**Pb**	**07 29 47.0**	**-0.2**
IDOB	**Doab**	**1.22**	**29**		**Pb**	**07 29 46.9**	**-0.2**
IBDR	**Badra**	**1.34**	**287**	*e*Pg	**Pn**	**07 29 48.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**07 30 07.0**	**0.0**
IBDR				AML	AML	07 30 14.5	
	comp=N,718nm,0.7s						
IBDR				AML	AML	07 30 14.8	
	comp=E,680nm,0.6s						
IKOM	**Komasi**	**1.45**	**2**	*e*Pg	**Pg**	**07 29 51.5**	**-0.1**
IKOM				*e*		07 30 16.6	
IKOM	**Komasi**	**1.45**	**2**		**Pg**	**07 29 51.6**	**-0.1**
BMDN	**Meydan**	**1.49**	**50**	*e*Pg	**Pb**	**07 29 51.4**	**-0.2**
BMDN				*e*		07 30 20.9	
BMDN	**Meydan**	**1.49**	**50**		**Pb**	**07 29 51.2**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.59**	**347**	*e*Pg	**Pg**	**07 29 54.2**	**-0.1**
KCHF				*e*		07 30 23.0	
KCHF	**Cheshme Sefid,**	**1.59**	**347**		**Pg**	**07 29 53.9**	**-0.4**
KER	**Kermanshah**	**1.68**	**351**	*e*Pg	**Pg**	**07 29 55.8**	**-0.3**
AHWZ	**Ahwaz**	**1.71**	**144**	*e*Pg	**Pg**	**07 29 56.8**	**+0.2**
HSAM	**Samen**	**1.77**	**32**	*e*Pg	**Pb**	**07 29 56.5**	**+0.1**
HSAM				*e*		07 30 24.7	
HSAM	**Samen**	**1.77**	**32**	Pg	**Pb**	**07 29 56.7**	**+0.3**
IGHG	**Ghaleghazi**	**1.77**	**335**	*e*Pn	**Pg**	**07 29 57.5**	**-0.2**
IGHG				*e*		07 30 35.1	
IBZA	**Bozab**	**1.78**	**11**	*e*Pg	**Pb**	**07 29 57.2**	**+0.6**
IBZA				*e*		07 30 00.7	
IBZA	**Bozab**	**1.78**	**11**	Pg	**Pb**	**07 29 56.6**	**0.0**
IVIS	**Veis**	**1.87**	**344**	*e*Pn	**Pb**	**07 29 58.1**	**0.0**
IVIS				*e*		07 30 29.3	
IVIS	**Veis**	**1.87**	**344**	Pg	**Pb**	**07 29 58.8**	**+0.7**
NSR	**Nassriya**	**2.04**	**214**	*e*Pn	**Pn**	**07 29 59.0**	**+0.9**
NSR				*e*Sn	**Sn**	**07 30 25.0**	**+1.3**
NSR				AML	AML	07 30 33.7	
	comp=E,343nm,0.4s						

IDHR	**Dehrash**	**2.17**	**336**	*e*Pn	**Pb**	**07 30 02.6**	**-0.6**	
IDHR				*e*		07 30 39.5		
IDHR	**Dehrash**	**2.17**	**336**	Pn	**Pn**	**07 30 01.3**	**+1.2**	
IALM	**Almabolaq**	**2.21**	**15**	*e*Pn	**Pb**	**07 30 03.6**	**-0.5**	
ILIN	**Lien**	**2.23**	**349**	*e*Pn	**Pb**	**07 30 04.5**	**+0.2**	
ILIN				*e*		07 30 43.7		
ILIN	**Lien**	**2.23**	**349**	Pn	**Pb**	**07 30 03.5**	**-0.8**	
HAGD	**Aghdareh**	**2.52**	**33**	*e*		07 30 14.4		
HAGD				*e*Pn	**Pb**	**07 30 07.5**	**-1.8**	
HSRG	**Sareghieh**	**2.61**	**15**	*e*		07 30 51.3		
HSRG				*e*Pn	**Pb**	**07 30 08.9**	**-1.8**	
BHD	**Baghdad**	**2.65**	**283**	*e*Pn	**Pn**	**07 30 08.0**	**+1.5**	
BHD				*e*Sn	**Sn**	**07 30 41.0**	**+2.4**	
BHD				AML	AML	07 30 43.4		
	comp=E,175nm,0.4s							
JHBN	**Jahan bin**	**2.75**	**99**	*e*Pn	**Pn**	**07 30 09.8**	**+1.5**	
JHBN				*e*		07 31 04.6		
IPIR	**Pirpir**	**2.89**	**90**	*e*Pn	**Pn**	**07 30 12.1**	**+1.9**	
IPIR				*e*		07 30 59.8		
ROKH	**ROKH**	**3.04**	**96**	*e*Pn	**Pn**	**07 30 14.1**	**+1.9**	
ROKH				*e*		07 31 12.5		
IRAZ	**Razeghan**	**3.37**	**37**	*e*Pn	**Pn**	**07 30 19.6**	**+2.9**	
QABG	**Abgarm-Qazvin**	**3.46**	**30**	*e*Pn	**Pn**	**07 30 19.5**	**+1.6**	
IKLH	**Kolahrood**	**3.51**	**79**	*e*Pn	**Pn**	**07 30 20.9**	**+2.3**	
IKLH				*e*		07 31 27.1		
IQOM	**Qom**	**3.68**	**54**	*e*Pn	**Pn**	**07 30 22.9**	**+2.0**	
KLNJ	**Kolanjah**	**3.91**	**115**	*e*Pn	**Pn**	**07 30 25.4**	**+1.2**	
KLNJ				*e*		07 31 39.7		
QSDN	**Sirdan**	**4.03**	**20**	*e*Pn	**Pn**	**07 30 28.4**	**+2.6**	
IZEF	**Zefreh**	**4.10**	**86**	*e*Pn	**Pn**	**07 30 28.5**	**+1.7**	
IVRN	**Varamin**	**4.21**	**56**	*e*Pn	**Pn**	**07 30 30.1**	**+2.0**	
IRAM	**Ramesheh**	**4.27**	**101**	*e*Pn	**Pn**	**07 30 29.4**	**+0.4**	
MAHB	**Mahabad**	**4.29**	**341**	*e*Pn	**Pn**	**07 30 31.5**	**+2.3**	
IGZV	**Ghazvin**	**4.31**	**31**	*e*Pn	**Pn**	**07 30 31.1**	**+1.5**	
QALM	**Alamut, Qazvin**	**4.54**	**34**	*e*Pn	**Pn**	**07 30 34.4**	**+1.6**	
IDMV	**Damavand**	**4.74**	**52**	*e*Pn	**Pn**	**07 30 37.2**	**+1.6**	
ILAS	**Lasjerd**	**5.28**	**58**	*e*Pn	**Pn**	**07 30 45.2**	**+2.3**	
ANAR	**Anarak**	**5.29**	**83**	*e*Pn	**Pn**	**07 30 43.8**	**+0.8**	
IPRN	**Peran**	**5.34**	**48**	*e*Pn	**Pn**	**07 30 46.3**	**+2.6**	
IALA	**Alasht**	**5.55**	**51**	*e*Pn	**Pn**	**07 30 49.0**	**+2.3**	
ISHM	**Shahmirzad**	**5.73**	**56**	*e*Pn	**Pn**	**07 30 51.7**	**+2.6**	
IANJ	**Anjilo**	**6.01**	**61**	*e*Pn	**Pn**	**07 30 53.9**	**+0.9**	
GEVA	**Gevas**	**6.63**	**328**	Pn	**Pn**	**07 31 02.9**	**+1.5**	
MARD	**Mardin**	**7.14**	**312**	Pn	**Pn**	**07 31 08.6**	**+0.1**	
TPRV	**Parvadeh(Tabas**	**7.77**	**85**	*e*Pn	**Pn**	**07 31 18.7**	**+1.7**	
TKDS	**Koohdasht(Taba**	**8.15**	**81**	*e*Pn	**Pn**	**07 31 23.6**	**+1.4**	
ASF	**Jabal al Asfar**	**8.94**	**269**	Pn	**Pn**	**07 31 31.4**	**-1.7**	
	comp=E,0.7nm,0.3s,baz=41,slow=8.2,SNR=8.7							
ASF				Sn	**Sn**	**07 33 10.1**	**-3.8**	
	comp=E,0.2nm,0

KSH					smax	smax			
	comp=N,130nm,0.8s								
SMLA	**Simla**	**6.41**	**122**	*eP*		**Pn**	**07 36 54.0**	**-1.4**
SMLA				*eS*		**Sn**	**07 38 06.6**	**-0.7**
SMLA				IAML			07 38 53.3	
	comp=E,391nm,1.1s								
SMLA				IAML			07 38 54.1		
	comp=N,104nm,0.3s								
IUG	**luzhnay**	**7.44**	**355**	*eP*		**Pn**	**07 37 08.9**	**-0.6**
	baz=356								
IUG				*eS*		**Sn**	**07 38 32.7**	**+0.1**
	baz=356								
IUG	**luzhnay**	**7.44**	**355**	P		**Pn**	**07 37 11.1**	**+1.5**
IUG	**luzhnay**	**7.44**	**355**	*eP*		**Pn**	**07 37 08.9**	**-0.6**
IUG				*eS*		**Sn**	**07 38 32.7**	**+0.1**
AML	**Almayashu**	**7.73**	**16**	P		**Pn**	**07 37 14.6**	**+0.9**
	SNR=105								
UCH	**Uchtor**	**8.03**	**20**	P		**Pn**	**07 37 18.7**	**+0.7**
	SNR=60								
NDI	**New Delhi**	**8.11**	**136**	*ex*		**Pn**	**07 37 18.0**	**-0.7**
NDI				*eS*		Sn	07 38 28.4	-21
KZA	**Kyzart**	**8.12**	**24**	P		**Pn**	**07 37 19.3**	**+0.2**
	SNR=16								
DZA	**Taraz**	**8.17**	**3**	*eP*		**Pn**	**07 37 18.4**	**-1.0**
	baz=3.1								
DZA				LR		LR	07 40 13.9		
	comp=N,36nm,8.5s,baz=3.1								
DZA	**Taraz**	**8.17**	**3**	*eP*		**Pn**	**07 37 18.4**	**-1.0**
DZA				MLR		MLR			
	comp=Z,36nm,9.0s								
MRKS	**Merke**	**8.22**	**12**	Lg		Lg	07 38 55.2		
	comp=Z,28nm,0.7s								
EKS2	**Erkin-Say**	**8.25**	**15**	P		**Pn**	**07 37 21.7**	**+1.0**
	SNR=24								
SONA	**Sohna**	**8.37**	**139**	*eP*		**Pn**	**07 37 21.4**	**-0.8**
SONA				*eS*		Sn	07 38 45.5	-10
KK31	**Karatay Array**	**8.37**	**358**	Pn		**Pn**	**07 37 21.9**	**-0.4**
	comp=Z,7.8nm,0.5s,baz=190,slow=14,SNR=239								
KK31				⇓Sn		**Sn**	**07 38 55.2**	**-0.2**
	comp=Z,36nm,0.7s								
KK31	**Karatay Array**	**8.37**	**358**	P		**Pn**	**07 37 22.4**	**+0.1**
KK31	**Karatay Array**	**8.37**	**358**	Pn		**Pn**	**07 37 22.4**	**+0.1**
KKAR	**Karatay Array**	**8.37**	**358**	P		**Pn**	**07 37 22.5**	**+0.2**
KKAR	**Karatay Array**	**8.37**	**358**	Pn		**Pn**	**07 37 22.5**	**+0.2**
AAK	**Ala-Archa**	**8.40**	**19**	Pn		**Pn**	**07 37 23.5**	**+0.8**
	comp=Z,4.2nm,0.3s,baz=191,slow=9.0,SNR=58								
AAK				Sn		**Sn**	**07 38 60.0**	**+3.7**
	comp=Z,1.1nm,0.3s,baz=317,slow=20,SNR=1.4								
AAK				LR		LR	07 40 30.3		
	comp=Z,101nm,21.3s,baz=196,slow=37								
AAK	**Ala-Archa**	**8.40**	**19**	P		**Pn**	**07 37 23.7**	**+1.0**
	SNR=26								
AAK	**Ala-Archa**	**8.40**	**19**	⇑Pn		**Pn**	**07 37 23.1**	**+0.3**
	comp=Z,31nm,0.7s								
AAK	**Ala-Archa**	**8.40**	**19**	P		**Pn**	**07 37 23.8**	**+1.0**
AAK	**Ala-Archa**	**8.40**	**19**	Pn		**Pn**	**07 37 23.8**	**+1.0**
KBK	**Karagaybulak**	**8.55**	**21**	P		**Pn**	**07 37 27.1**	**+2.4**
	SNR=9.8								
CHMS	**Chumysh**	**8.81**	**19**	P		**Pn**	**07 37 28.9**	**+0.6**
	SNR=20								
TARG	**Taragay, Kyrgy**	**8.88**	**36**			**Pn**	**07 37 29.6**	**0.0**
KDJ	**Kajisay**	**8.91**	**32**	P		**Pn**	**07 37 30.8**	**+1.1**
KDJ	**Kajisay**	**8.91**	**32**			**Pn**	**07 37 30.8**	**+1.1**
TKM2	**Tokmak 2**	**8.98**	**23**	P		**Pn**	**07 37 32.2**	**+1.4**
	SNR=20								
TKM2	**Tokmak 2**	**8.98**	**23**	⇑Pn		**Pn**	**07 37 30.8**	**0.0**
	comp=Z,16nm,0.7s								
TKM2	**Tokmak 2**	**8.98**	**23**	P		**Pn**	**07 37 31.0**	**+0.2**
TKM2				SN		**Sn**	**07 39 10.0**	**-0.7**
USP	**Ospenovka**	**8.99**	**17**	P		**Pn**	**07 37 31.8**	**+1.0**
	SNR=13								
SGDS	**Sogindy**	**9.20**	**18**	*eP*		**Pn**	**07 37 32.5**	**-1.2**
	comp=Z,3.5nm,0.7s,baz=18								
SGDS	**Sogindy**	**9.20**	**18**	P		**Pn**	**07 37 33.0**	**-0.6**
	comp=Z,12nm,0.6s								
SGDS	**Sogindy**	**9.20**	**18**	*eP*		**Pn**	**07 37 32.4**	**-1.2**
SGDS				pmax		pmax			
	comp=Z,4.0nm,0.7s								
MTBS	**Maitube**	**9.45**	**26**	*eP*		**Pn**	**07 37 37.4**	**+0.3**
	baz=26								
MTBS	**Maitube**	**9.45**	**26**	*eP*		**Pn**	**07 37 37.4**	**+0.3**
TNSS	**Tian-Shan**	**9.57**	**28**	*eP*		**Pn**	**07 37 38.6**	**-0.4**
	baz=28								
TNSS	**Tian-Shan**	**9.57**	**28**	*eP*		**Pn**	**07 37 38.5**	**-0.4**
MDOK	**Medeo**	**9.71**	**28**	*eP*		**Pn**	**07 37 40.9**	**+0.2**
	baz=28								
MDOK				LR		LR	07 40 50.7		
	comp=Z,378nm,12.7s,baz=28								
MDOK	**Medeo**	**9.71**	**28**	*eP*		**Pn**	**07 37 40.9**	**+0.2**
MDOK				MLR		MLR			
	comp=Z,378nm,13.0s								
SATY	**Saty**	**10.20**	**33**	*eP*		**Pn**	**07 37 46.3**	**-1.0**
	comp=Z,3.4nm,0.7s,baz=33								
SATY				LR		LR	07 41 12.8		
	comp=Z,31nm,8.6s,baz=33								
SATY	**Saty**	**10.20**	**33**	*eP*		**Pn**	**07 37 46.3**	**-1.0**
SATY				pmax		pmax			
	comp=Z,3.0nm,0.7s								
SATY				MLR		MLR			
	comp=Z,31nm,9.0s								
SATY	**Saty**	**10.20**	**33**	*eP*		**Pn**	**07 37 46.3**	**-1.0**
SATY				pmax		pmax			
	comp=Z,3.0nm,0.7s								
SATY				MLR		MLR			
	comp=Z,31nm,9.0s								
UZB	**Uzynbulak**	**10.55**	**35**	*eP*		**Pn**	**07 37 51.6**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=35								
UZB				LR		LR	07 41 29.9		
	comp=Z,55nm,12.1s,baz=35								
UZB	**Uzynbulak**	**10.55**	**35**	*eP*		**Pn**	**07 37 51.6**	**-0.5**
UZB				pmax		pmax			
	comp=Z,2.0nm,0.8s								
UZB				MLR		MLR			
	comp=Z,55nm,12.0s								
BTLS	**Baital**	**10.59**	**12**	*eP*		**Pn**	**07 37 51.2**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=13								
BTLS				LR		LR	07 41 35.5		
	comp=Z,55nm,9.7s,baz=13								
BTLS	**Baital**	**10.59**	**12**	*eP*		**Pn**	**07 37 51.2**	**-1.4**
BTLS				pmax		pmax			
	comp=Z,1.0nm,0.8s								
BTLS				MLR		MLR			
	comp=Z,55nm,10.0s								
GEYT	**Alibeck**	**10.75**	**291**	Pn		**Pn**	**07 37 53.3**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=119,slow=12,SNR=16								
GEYT				Sn		**Sn**	**07 39 56.8**	**+3.1**
	comp=Z,0.4nm,0.3s,baz=113,slow=11,SNR=1.5								
GYA0	**ALIBECK ARRAY**	**10.75**	**291**	P		**Pn**	**07 37 54.2**	**-0.6**
GYA0B	**ALIBECK ARRAY**	**10.75**	**291**	Pn		**Pn**	**07 37 54.2**	**-0.6**
ARXS	**Arharly**	**10.90**	**28**	P		**Pn**	**07 37 55.8**	**-1.1**
PYUN	**Piuthan**	**12.29**	**119**	*eP*		Pn	07 38 11.5	-4.6
KOLN	**Koldanda**	**12.92**	**119**	*eP*		Pn	07 38 20.1	-4.6
	comp=Z,28nm,0.7s								
GKN	**Gorkha**	**13.55**	**116**	*eP*		Pn	07 38 28.0	-5.3
DMN	**Daman**	**14.12**	**116**	*eP*		Pn	07 38 35.3	-5.7
	comp=Z,81nm,0.7s								
KKN	**Kakani**	**14.14**	**115**	*eP*		Pn	07 38 35.4	-5.9
PKI	**Pulchoki**	**14.36**	**116**	*eP*		Pn	07 38 38.3	-6.0
	comp=Z,67nm,0.7s								
GUN	**Gumba**	**14.53**	**114**	*eP*		Pn	07 38 40.7	-5.9
MAKZ	**Makanchi**	**14.71**	**32**	⇑Pn		**Pn**	**07 38 45.3**	**-3.2**
	comp=Z,20nm,1.4s								
MAKZ	**Makanchi**	**14.71**	**32**	P		**Pn**	**07 38 45.7**	**-2.8**
MAKZ	**Makanchi**	**14.71**	**32**			**Pn**	**07 38 45.7**	**-2.8**
MK31	**Makanchi Array**	**14.83**	**32**	⇑Pn		**Pn**	**07 38 50.3**	**+0.1**
	comp=Z,7.8nm,0.7s,baz=207,slow=9.2,SNR=29								
MK31	**Makanchi Array**	**14.83**	**32**	P		**Pn**	**07 38 49.7**	**-0.4**
MK31	**Makanchi Array**	**14.83**	**32**			**Pn**	**07 38 49.7**	**-0.4**
MKAR	**Makanchi Array**	**14.83**	**32**	Pn		**Pn**	**07 38 46.7**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=234,slow=7.4,SNR=12								
MKAR				Sn		**Sn**	**07 41 32.0**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=141,slow=30,SNR=1.2								
JIRN	**Jiri**	**14.89**	**114**	*eP*		Pn	07 38 45.6	-5.8
	comp=Z,49nm,0.4s								
RAMN	**Ramite**	**15.59**	**116**	*eP*		**Pn**	**07 38 53.7**	**-6.5**
	comp=Z,26nm,0.6s								
WMQ	**Urumqi**	**15.88**	**50**	*eP*		**Pn**	**07 39 05.5**	**+1.8**
WMQ				pP		pP	07 39 16.3	-2.0
WMQ				pmax		pmax			
	comp=Z,22nm,0.6s								
WMQ				pmax		pmax			
	comp=Z,29nm,3.8s								
TAPN	**Taplejung**	**16.21**	**112**	*eP*		**Pn**	**07 39 02.1**	**-6.1**
	comp=Z,38nm,0.8s								
ZSN	**Zaisan**	**16.50**	**35**	*eP*		**Pn**	**07 39 12.1**	**+0.5**
	baz=36								
ZSN				LR		LR	07 45 11.9		
	comp=Z,32nm,8.6s,baz=36								
ZSN	**Zaisan**	**16.50**	**35**	*eP*		**Pn**	**07 39 12.0**	**+0.5**
ZSN				MLR		MLR			
	comp=Z,32nm,9.0s								
KURBB	**Kurchatov Arra**	**16.85**	**17**	Pn		**Pn**	**07 39 10.7**	**-5.0**
	comp=Z,0.1nm,0.3s,baz=204,slow=10,SNR=4.2								
KURBB				Sn		Sn	07 41 58.3	-24
	comp=Z,0.1nm,0.3s,baz=309,slow=29,SNR=4.6								
KURK	**Kurchatov**	**16.96**	**17**	⇓Pn		**Pn**	**07 39 16.7**	**-0.4**
	comp=Z,16nm,1.1s								
KURK	**Kurchatov**	**16.96**	**17**	*d iP*		**Pn**	**07 39 17.7**	**+0.6**
KURK	**Kurchatov**	**16.96**	**17**	P		**Pn**	**07 39 17.6**	**+0.6**
AKTO	**Aktyubinsk**	**18.28**	**333**	P		**Pn**	**07 39 32.4**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=143,slow=12,SNR=23								
AKTO				S		Sn	07 42 45.5	-11
	comp=Z,0.2nm,0.3s,baz=94,slow=1.5,SNR=1.2								
AKTO	**Aktyubinsk**	**18.28**	**333**	⇓Pn		**P**	**07 39 30.6**	**-2.4**
	comp=Z,44nm,1.1s								
BVA0	**Borovoye Array**	**18.30**	**359**	⇑Pn		**P**	**07 39 32.1**	**-1.1**
	comp=Z,9.1nm,0.8s								
BVAR	**Borovoye Array**	**18.30**	**359**	P		**P**	**07 39 31.5**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=150,slow=12,SNR=21								
BRVK	**Borovoye**	**18.33**	**359**	⇑Pn		**P**	**07 39 32.6**	**-1.0**
	comp=Z,22nm,1.5s								
BRVK	**Borovoye**	**18.33**	**359**	P		**P**	**07 39 32.6**	**-1.0**
BRVK				pmax		pmax			
	comp=Z,17nm,1.0s								
BRVK	**Borovoye**	**18.33**	**359**	P		**P**	**07 39 32.6**	**-1.0**
BRVK				IAmb		IAmb	07 39 42.0		
	comp=Z,17nm,1.0s								
DGZ	**Jazzator, Alta**	**19.30**	**34**	*i* P		**P**	**07 39 44.0**	**-0.4**
ZAA0	**Zalesovo Array**	**21.59**	**23**	⇑Pn		**P**	**07 40 05.7**	**-3.2**
	comp=Z,1.9nm,0.7s								
ZAA0	**Zalesovo Array**	**21.59**	**23**	P		**P**	**07 40 08.2**	**-0.7**
ZAA0				IAmb		IAmb	07 40 08.7		
	comp=Z,12nm,0.7s								
ZALV	**Zalesovo Beam**	**21.59**	**23**	P		**P**	**07 40 07.5**	**-1.4**
	comp=Z,13nm,0.6s,baz=219,slow=11,SNR=37								
ZEI	**Tsey**	**22.43**	**299**	*eP*		**P**	**07 40 20.4**	**+2.1**
ZEI				pmax		pmax			
	comp=Z,8.0nm,0.6s								
ARU	**Arti**	**23.28**	**343**	P		**P**	**07 40 25.7**	**-0.8**
	comp=Z,5.2nm,0.6s,baz=163,slow=9.2,SNR=17								
ARU	**Arti**	**23.28**	**343**	*d iP*		**P**	**07 40 26.1**	**-0.5**
ARU							07 40 49.7		
ARU				S		**S**	**07 44 37.0**	**+2.0**
ARU				pmax		pmax			
	comp=Z,16nm,0.7s								
ARU				MLR		MLR			
	comp=Z,270nm,14.0s								
ARU	**Arti**	**23.28**	**343**	P		**P**	**07 40 25.7**	**-0.8**
ARU				IAmb		IAmb	07 40 28.7		
	comp=Z,16nm,0.7s								
KBZ	**Khabaz**	**23.35**	**301**	P		**P**	**07 40 26.7**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=114,slow=9.3,SNR=2.8								
KBZ	**Khabaz**	**23.35**	**301**	⇑*eP*		**P**	**07 40 26.2**	**-1.2**
KBZ				pmax		pmax			
	comp=Z,4.0nm,1.2s								
GTA	**Gaotai**	**23.54**	**70**	*eP*		**P**	**07 40 31.0**	**+1.6**
GTA				pP		pP	07 40 36.8	-5.3
GTA				S		**S**	**07 44 43.6**	**+3.8**
GTA				SS		**SnSn**	**07 45 32.5**	**+13**
GTA				pmax		pmax			
	comp=Z,7.0nm,0.8s								
GTA				pmax		pmax			
	comp=Z,76nm,7.0s								
GTA				LR		LR			
	comp=Z,64nm,16.8s								
GTA				LR		LR			
	comp=Z,240nm,18.1s								
GTA				LR		LR			
	comp=Z,74nm,14.6s								
KIV	**Kislovodsk**	**23.55**	**301**	*eP*		**P**	**07 40 27.5**	**-2.0**
KIV				pmax		pmax			
	comp=Z,13nm,1.0s								
KIV				MLR		MLR			
	comp=Z,128nm,14.0s								
LZH	**Lanzhou**	**26.87**	**77**	*eP*		**P**	**07 41 02.5**	**+2.7**
LZH				pP		pP	07 41 12.3	-0.8
LZH				sP		sP	07 41 14.9	-4.3
LZH				PP		**PnPn**	**07 41 48.9**	**+5.5**
LZH				pmax		pmax			
	comp=Z,20nm,1.1s								
LZH				pmax		pmax			
	comp=Z,110nm,4.9s								
KIRV	**Kirov**	**27.79**	**336**	*eP*		**P**	**07 41 07.4**	**-0.1**
ZAK	**Zakamensk**	**28.28**	**46**	*eP*		**P**	**07 41 12.4**	**+0.2**
ZAK				pmax		pmax			
	comp=Z,3.0nm,0.9s								
SONM	**Songino Array**	**29.48**	**53**	P		**P**	**07 41 21.2**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=243,slow=9.5,SNR=4.1								
CMAR	**Chiang Mai Arr**	**29.76**	**116**	P		**P**	**07 41 23.3**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=302,slow=10,SNR=1.2								
CMAR	**Chiang Mai Arr**	**29.76**	**116**	*i* P		**P**	**07 41 29.2**	**+3.7**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
BR131	**Keskin Array S**	**29.89**	**291**	P		**P**	**07 41 27.5**	**+0.9**
BR131				pmax		pmax			
	comp=Z,4.0nm,1.2s								
BR131	**Keskin Array S**	**29.89**	**291**	P		**P**	**07 41 27.5**	**+0.9**
BRTR	**Keskin Array B**	**29.89**	**291**	P		**P**	**07 41 27.2**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=105,slow=7.8,SNR=7.0								
HHC	**Hu-ho-hao-te**	**32.54**	**67**	*eP*		**P**	**07 41 52.4**	**+2.5**
HHC				pmax		pmax			
	comp=Z,17nm,0.9s								
HHC				pmax		pmax			
	comp=Z,58nm,4.2s								
AKASG	**Malin Array Be**	**33.98**	**311**	P		**P**	**07 42 02.1**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=84,slow=7.3,SNR=7.9								
MLR	**Muntele Rosu**	**35.56**	**301**	P		**P**	**07 42 15.8**	**-0.3**
	comp=Z,5.7nm,0.7s,baz=42,slow=5.4,SNR=7.0								
NRIK	**Noril'sk**	**35.89**	**10**	LR		LR	07 58 15.3		
	comp=Z,78nm,18.9s,baz=190,slow=38								
NRIK	**Noril'sk**	**35.89**	**10**	*eP*		**P**	**07 42 18.6**	**+0.2**
BSI	**Banda Aceh**	**36.84**	**137**	P		**P**	**07 42 25.5**	**-1.5**
QIZ	**Qiongzhong**	**37.88**	**104**	P		**P**	**07 42 34.5**	**-1.4**
QIZ				S		**S**	**07 48 25.9**	**+2.0**
QIZ				LR		LR			
	comp=Z,230nm,24.0s								
QIZ				LR		LR			
	comp=Z,76nm,15.7s								
QIZ				LR		LR			
	comp=Z,290nm,21.1s								
FIA1	**FINESS Array S**	**38.89**	**327**	P		**P**	**07 42 43.3**	**-0.6**
FINES	**FINESS Array B**	**38.90**	**327**	P		**P**	**07 42 43.7**	**-0.2**
	comp=Z,5.6nm,0.8s,baz=114,slow=13,SNR=12								
SUF	**Sumiainen**	**39.37**	**329**	P		**P**	**07 42 48.0**	**+0.2**
SUF				pmax		pmax			
	comp=Z,11nm,1.3s								
MORC	**Moravsky Berou**	**41.33**	**308**	P		**P**	**07 43 04.5**	**+0.2**
MORC				pmax		pmax			
	comp=Z,2.0nm,0.9s								
MORC	**Moravsky Berou**	**41.33**	**308**	P		**P**	**07 43 04.5**	**+0.2**
VRAC	**Vranov**	**41.95**	**307**	P		**P**	**07 43 09.0**	**-0.4**
	comp=Z,4.2nm,0.6s,baz=221,slow=5.6,SNR=4.2								
VRAC	**Vranov**	**41.95**	**307**	P		**P**	**07 43 09.0**	**-0.4**
KEV	**Kevo**	**42.41**	**339**	P		**P**	**07 43 12.0**	**-0.7**
KEV				pmax		pmax			
	comp=Z,14nm,1.3s								
KEV	**Kevo**	**42.41**	**339**	P		**P**	**07 43 12.0**	**-0.7**
KEV				IAmb		IAmb	07 43 27.6		
	comp=Z,14nm,1.3s								
ARCES	**ARCESS Array B**	**42.74**	**338**	P		**P**	**07 43 15.7**	**+0.2**
	comp=Z,7.3nm,0.6s,baz=111,slow=8.8,SNR=51								
ARE0	**ARCESS Array S**	**42.74**	**338**	P		**P**	**07 43 14.9**	**-0.5**
ARE0	**ARCESS Array S**	**42.74**	**338**	*eP*		**P**	**07 43 15.7**	**+0.2**
TIP	**Timpagrande**	**42.92**	**292**	P		**P**	**07 43 19.3**	**+1.9**
TIP				IAmb		IAmb	07 43 37.9		
	comp=Z,7.6nm,1.1s								
KTK1	**Kautokeino**	**43.19**	**337**	*eP*		**P**	**07 43 18.9**	**-0.2**
HAMF	**Hammerfest**	**43.83**	**339**	*eP*		**P**	**07 43 24.7**	**+0.5**
GERES	**GERESS Array B**	**43.87**	**307**	P		**P**	**07 43 24.8**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=93,slow=8.3,SNR=2.3								
KHC	**Kasperske Hory**	**43.93**	**307**	⇑*eP*		**P**	**07 43 22.8**	**-2.6**
KHC				pmax		pmax			
	comp=Z,4.0nm,1.2s								
TRO	**Tromso**	**44.84**	**337**	*eP*		**P**	**07 43 32.5**	**+0.3**
MOR8	**Moi Rana**	**45.31**	**332**	*eP*		**P**	**07 43 35.3**	**-0.8**
FAUS	**Fauske**	**45.32**	**333**	*eP*		**P**	**07 43 36.1**	**0.0**
NC405	**NORSAR Array S**	**45.50**	**324**	P		**P**	**07 43 37.6**	**-0.1**
STEI	**Steigen**	**45.51**	**334**	*eP*		**P**	**07 43 36.8**	**-0.8**
NC602	**NORSAR Array S**	**45.53**	**324**	P		**P**	**07 43 37.4**	**-0.4**
NC602	**NORSAR Array S**	**45.53**	**324**	*eP*		**P**	**07 43 37.5**	**-0.4**
NB201	**NORSAR Array S**	**45.69**	**324**	P		**P**	**07 43 38.9**	**-0.3**
NB2	**NORSAR Subarra**	**45.73**	**324**	P		**P**	**07 43 38.4**	**-1.1**
	comp=Z,2.3nm,0.5s,baz=98,slow=7.9								
NB2	**NORSAR Subarra**	**45.73**	**324**	P		**P**	**07 43 38.4**	**-1.1**
	comp=Z,2.3nm,0.5s,baz=98,slow=7.9								
NOA	**NORSAR Array B**	**45.73**	**324**	P		**P**	**07 43 39.0**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=97,slow=7.8,SNR=16								
NOA	**NORSAR Array B**	**45.73**	**324**	P		**P**	**07 43 39.0**	**-0.5**
KONS	**Konsvik**	**45.91**	**332**	*eP*		**P**	**07 43 39.8**	**-0.9**
KLR	**Kul'dur**	**46.31**	**52**	P		**P**	**07 43 42.8**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=265,slow=9.1,SNR=4.0								
DOMB	**Dombas**	**46.87**	**325**	*eP*		**P**	**07 43 48.2**	**-0.2**
SENIN	**Lac Senin/Sane**	**48.45**	**304**	P		**P**	**07 44 02.8**	**+1.6**
SENIN				IAmb		IAmb	07 44 02.9		
	comp=Z,4.3nm,0.8s								
ESDC	**Sonseca Array**	**58.18**	**299**	P		**P**	**07 45 13.2**	**+0.7**
	comp=Z,2.0nm,0.9s,baz=58,slow=7.1,SNR=9.1								
SUMG	**Summit**	**62.70**	**341**	P		**P**	**07 45 44.3**	**+1.1**
SUMG				pmax		pmax			
	comp=Z,4.0nm,1.1s								
SUMG	**Summit**	**62.70**	**341**	P		**P**	**07 45 44.3**	**+1.1**
SUMG				IAmb		IAmb	07 45 49.2		
	comp=Z,3.5nm,1.1s								
TOA0	**Torodi Ar. Sit**	**65.56**	**269**	P		**P**	**07 46 02.9**	**+0.6**
TOA0				IAmb		IAmb	07 46 08.2		
	comp=Z,6.9nm,1.2s								
TORD	**Torodi Ar. Bea**	**65.56**	**269**	P		**P**	**07 46 01.8**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=45,slow=5.4,SNR=6.7								
C36M	**Paulatuk**	**75.66**	**5**	P		**P**	**07 47 03.8**	**+0.9**
C36M				IAmb		IAmb	07 47 16.7		
	comp=Z,5.2nm,1.1s								
INK	**Inuvik**	**75.67**	**9**	P		**P**	**07 47 02.1**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=345,slow=8.8,SNR=6.1								
INK	**Inuvik**	**75.67**	**9**	P		**P**	**07 47 02.7**	**-0.3**
INK				pmax		pmax			
	comp=Z,2.0nm,0.9s								
INK	**Inuvik**	**75.67**	**9**	P		**P**	**07 47 02.7**	**-0.3**
BOSA	**Boshof**	**76.31**	**220**	P		**P**	**07 47 07.6**	**+0.3**
	comp=Z,4.6nm,1.1s,baz=85,slow=18,SNR=3.2								
BOSA	**Boshof**	**76.31**	**220**	P		**P**	**07 47 08.2**	**+0.9**
BOSA				pmax		pmax			
	comp=Z,21nm,1.4s								
BOSA	**Boshof**	**76.31**	**220**	P		**P**	**07 47 08.2**	**+0.9**
ILAR	**Eielson Array**	**76.52**	**16**	P		**P**	**07 47 06.0**	**-1.9**
	comp=Z,0.4nm,0.9s,baz=315,slow=4.1,SNR=5.6								
DAWY	**Dawson**	**78.68**	**13**	P		**P**	**07 47 19.9**	**-0.1**
DAWY				IAmb		IAmb	07 47 38.3		
	comp=Z,5.2nm,1.5s								
KDAK	**Kodiak Island**	**80.89**	**22**	P		**P**	**07 47 31.2**	**-0.8**
KDAK				pmax		pmax			
	comp=Z,6.0nm,1.1s								
KDAK	**Kodiak Island**	**80.89**	**22**	P		**P**	**07 47 31.2**	**-0.8**
KDAK				IAmb		IAmb	07 47 48.4		
	comp=Z,5.9nm,1.1s								
WRA	**Warramunga Arr**	**81.17**	**122**	P		**P**	**07 47 31.9**	**-2.2**
	comp=Z,0.6nm,0.7s,baz=321,slow=4.9,SNR=6.8								
WRA	**Warramunga Arr**	**81.17**	**122**	*i* P		**P**	**07 47 34.0**	**-0.1**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
WB2	**Warramunga Arr**	**81.18**	**122**	P		**P**	**07 47 32.7**	**-1.4**
WB2				IAmb		IAmb	07 47 36.8		
	comp=Z,5.4nm,1.1s								
YKA	**Yellowknife Ar**	**83.02**	**3**	P		**P**	**07 47 42.5**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=353,slow=5.5,SNR=11								
ASAR	**Alice Springs**	**83.35**	**125**	P		**P**	**07 47 44.8**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=312,slow=4.5,SNR=8.2								

IDC 22 07:36:03.2±6.0, 34.69N×70.95E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.7/51, mbtmp4.0/5, ML3.8/1, 1D, Error ellipse: s-maj=118.0km s-min=44.6km az=165.0, Southeastern Afghanistan

| Code | Station Name | Δ° | AZ° | Phase | ID | ISC | Time | Res |

MRL	**Marmol**	**0.74**	**73**	*eP*	**Pn**	**07 57 33.5**	**0.0**	
ESQI	**Esquipulas**	**1.08**	**106**	*eP*	**Pn**	**07 57 38.1**	**0.0**	
ESQI				*eS*	**Sn**	**07 57 53.2**	**-0.1**	
MTO3	**Montecristo**	**1.12**	**114**	*eP*	**Pb**	**07 57 38.1**	**-0.3**	
MTO3				*eS*	**Sg**	**07 57 53.5**	**+0.6**	
MTO3				IAML		07 57 54.9		
	comp=Z,154nm,0.2s							
HUEH	**Huehuetenango**	**1.14**	**293**	*eP*	**Pn**	**07 57 38.5**	**-0.7**	
HUEH				*eS*	**Sn**	**07 57 56.0**	**+0.9**	

NNC 22 08:05:43.5±5.5, 41°.36N×84°.12E, h0km±22km, mb3.6, mpv3.3, 6C-2D, Error ellipse: s-maj=38.5km s-min=30.7km az=132.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.89**	**299**	Pg	Pn	08 06 48.3	+3.6
	3.7nm,0.1s						
SHLS				Lg	Lg	08 07 40.6	
	29nm,0.5s						
PDGK	**Podgornoye**	**3.95**	**301**	⇑Pn	Pn	08 06 44.6	-0.9
	0.9nm,0.5s						
PDGK				⇓Pg	Pg	08 07 02.6	+3.3
	6.3nm,0.8s						
PDGK				⇑Lg	Lg	08 07 48.9	
	24nm,0.8s						
UZB	**Uzynbulak**	**4.18**	**297**	Pg	Pb	08 07 00.1	+2.1
	2.3nm,0.4s						
UZB				Lg	Lg	08 08 00.9	
	8.4nm,0.4s						
DJR	**Jarkent**	**4.35**	**315**	Pg	Pn	08 06 53.5	+2.6
	4.5nm,0.3s						
DJR				Lg	Lg	08 07 50.1	
	3.7nm,0.4s						
SATY	**Saty**	**4.57**	**294**	Pg	Pg	08 07 09.3	-1.7
	1.2nm,0.1s						
SATY				Lg	Lg	08 08 16.7	
	11nm,0.5s						
KAPS	**Kapalarasan**	**5.24**	**320**	Pg	Pn	08 07 05.4	+2.3
	1.8nm,0.4s						
KAPS				Lg	Lg	08 08 09.5	
	2.4nm,0.4s						
ARXS	**Arharly**	**5.44**	**304**	Pg	Pb	08 07 20.2	+0.9
	3.3nm,0.3s						
ARXS				Lg	Lg	08 08 34.8	
	3.4nm,0.4s						
MK31	**Makanchi Array**	**5.59**	**347**	⇓Pn	Pn	08 07 09.4	+1.5
	0.2nm,0.3s,baz=164,slow=13						
MK31				Pg	Pg	08 07 28.6	-2.0
	0.6nm,0.5s,baz=164,slow=16,SNR=4.7						
MK31				⇑Sn	Sn	08 08 17.3	+4.5
	1.4nm,0.5s						
MK31				⇑Lg	Lg	08 08 39.8	
	4.7nm,0.5s,baz=163,slow=28						
MAKZ	**Makanchi**	**5.66**	**345**	⇑Sn	Sn	08 08 12.5	-2.1
	2.1nm,0.7s						
MAKZ				⇑Lg	Lg	08 08 40.5	
	5.8nm,1.2s						

NNC 22 08:17:51.7±2.9, 53°.69N×87°.80E, h127km±47km, mb2.5, mpv3.3, Error ellipse: s-maj=41.0km s-min=15.6km az=105.0, Suspected Mining explosion.

IDC 22 08:17:51.3±2.6, 53°.50N×87°.75E, h0km, mb1 3.7/2, mb1mx3.2/54, mbtmp3.7/2, ML3.5/3, Error ellipse: s-maj=24.8km s-min=12.9km az=63.0

ISC 22 08:17:51.2±3.2, 53°.5N±0°.1×87°.6E±0°.2, h0km, n9, σ1§65/14, 5C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.69**	**286**	*i*		08 29 15.0	
	baz=99,slow=304,SNR=1.9						
ZAA0	**Zalesovo Array**	**1.69**	**286**	⇓P	**Pb**	**08 18 22.1**	**-1.1**
	2.0nm,0.4s,baz=97,slow=14						
ZAA0				⇑S	**Sg**	**08 18 47.0**	**+1.6**
	16nm,0.7s,baz=98,slow=25						
ZALV	**Zalesovo Beam**	**1.69**	**286**	Pn	**Pn**	**08 18 21.8**	**-0.2**
	16nm,0.3s,baz=104,slow=14,SNR=113						
ZALV				Lg	Lg	08 18 47.0	
	17nm,0.3s,baz=104,slow=24,SNR=15						
KURBB	**Kurchatov Arra**	**6.29**	**246**	Pn	**Pn**	**08 19 26.6**	**+1.5**
	0.5nm,0.3s,baz=62,slow=14,SNR=7.0						
KURBB	**Kurchatov Arra**	**6.29**	**246**	⇑Pn	**Pn**	**08 19 21.9**	**-3.2**
	6.5nm,0.8s						
KURBB				⇑Sn	**Sn**	**08 20 38.0**	**+0.5**
	8.7nm,0.5s						
KURBB				⇓Lg	Lg	08 21 10.4	
	32nm,0.8s						
MK31	**Makanchi Array**	**7.54**	**209**	⇑Pn	**Pn**	**08 19 43.9**	**+1.5**
	0.6nm,0.3s,baz=31,slow=13,SNR=51						
MK31				⇓Sn	**Sn**	**08 21 08.6**	**+0.1**
	2.0nm,0.7s						
MK31				⇓Lg	Lg	08 21 48.3	
	12nm,0.9s						
MKAR	**Makanchi Array**	**7.54**	**209**	Pn	**Pn**	**08 19 44.0**	**+1.6**
	1.2nm,0.3s,baz=29,slow=13,SNR=49						
MKAR				Sn	**Sn**	**08 21 08.9**	**+0.4**
	0.4nm,0.3s,baz=29,slow=28,SNR=12						
MKAR				Lg	Lg	08 21 50.3	
	0.4nm,0.3s,baz=29,slow=30,SNR=9.5						
MAKZ	**Makanchi**	**7.62**	**210**	⇑Pn	**Pn**	**08 19 44.9**	**+1.4**
	1.4nm,0.5s						
MAKZ				⇓Sn	**Sn**	**08 21 09.9**	**-0.6**
	4.6nm,1.1s						
MAKZ				⇓Lg	Lg	08 21 52.0	
	7.1nm,1.1s						
BVAR	**Borovoye Array**	**10.31**	**274**	Pn	**Pn**	**08 20 22.0**	**+1.8**
	0.5nm,0.3s,baz=81,slow=14,SNR=6.1						
BVAR				Sn	**Sn**	**08 22 14.8**	**-1.5**
	0.5nm,0.3s,baz=90,slow=22,SNR=6.6						

ROM 22 08:26:57.0±0.1, 41°.474N±0°.004×16°.121E±0°.006, h5km, ML2.5/1, Error ellipse: s-maj=0.6km s-min=0.3km az=235.0

ISC 22 08:26:58.1±1.1, 41°.46N±0°.02×16°.11E±0°.02, h19km±3km, n51, σ1§27/77, 5C-4D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAG	**Monte S. Angel**	**0.29**	**329**	P	**Pg**	**08 27 03.3**	**-1.4**
MSAG				S	**Sb**	**08 27 08.4**	**-0.7**
MSAG				AML	AML		
	comp=E,1144μm,1.3s						
MSAG				AML	AML		
	comp=N,2740μm,1.3s						
MSAG				AML	AML		
	comp=E,1150μm,1.3s						
MSAG				AML	AML		
	comp=N,2735μm,1.3s						
MSAG				AML	AML		
	comp=E,1146μm,1.3s						
MSAG				AML	AML		
	comp=E,1315μm,0.6s						
MSAG				AML	AML		
	comp=N,2910μm,1.3s						
SGRT	**San Giovanni R**	**0.40**	**317**	P	**Pb**	**08 27 05.5**	**-1.3**
SGRT				S	**Sb**	**08 27 11.7**	**-0.8**
SGRT				AML	AML		
	comp=N,1030μm,0.3s						
SGRT				AML	AML		
	comp=E,922μm,0.6s						
SGRT				AML	AML		
	comp=E,922μm,0.6s						
SGRT				AML	AML		
	comp=N,1031μm,0.3s						
MRVN	**Minervino Murg**	**0.41**	**171**	⇓P	**Pg**	**08 27 05.1**	**-1.5**
MRVN				S	**Sb**	**08 27 12.9**	**+0.3**
MRVN				AML	AML		
	comp=E,285μm,0.5s						
MRVN				AML	AML		
	comp=N,302μm,0.5s						
MRVN				AML	AML		
	comp=N,301μm,0.5s						
MRVN				AML	AML		
	comp=E,286μm,0.5s						
PALZ	**Palazzo San Ge**	**0.53**	**193**	⇑P	**Pb**	**08 27 08.1**	**-0.6**
PALZ				S	**Sb**	**08 27 16.4**	**+0.4**
PALZ				AML	AML		
	comp=N,388μm,0.3s						
PALZ				AML	AML		
	comp=E,701μm,1.2s						
VULT	**Monte Vulture**	**0.63**	**217**	P	**Pb**	**08 27 10.5**	**0.0**
VULT				S	**Sb**	**08 27 19.6**	**+0.7**
VULT				AML	AML		
	comp=E,824μm,0.2s						
VULT				AML	AML		
	comp=N,1180μm,0.3s						
VULT				AML	AML		
	comp=E,832μm,0.4s						
VULT				AML	AML		
	comp=N,1178μm,0.3s						
VULT				AML	AML		
	comp=N,1178μm,0.3s						
VULT				AML	AML		
	comp=E,832μm,0.4s						
SGTA	**Sant Agata di**	**0.65**	**240**	P	**Pb**	**08 27 10.7**	**-0.2**
SGTA				S	**Sb**	**08 27 20.3**	**+0.8**
SGTA				AML	AML		
	comp=N,396μm,0.3s						
SGTA				AML	AML		
	comp=E,498μm,0.4s						
AMUR	**Altamura**	**0.67**	**146**	P	**Pg**	**08 27 10.5**	**-0.8**
AMUR				S	**Sb**	**08 27 20.6**	**+0.7**
AMUR				AML	AML		
	comp=N,873μm,0.5s						
AMUR				AML	AML		
	comp=E,824μm,0.8s						
BAI	**Bari**	**0.68**	**121**	*e*Pg	**Pn**	**08 27 12.8**	**+0.2**
BAI				Sg	**Sb**	**08 27 21.4**	**+1.2**
ACER	**Acerenza**	**0.69**	**191**	P	**Pb**	**08 27 11.1**	**-0.4**
ACER				S	**Sb**	**08 27 21.9**	**+1.4**
ACER				AML	AML		
	comp=E,462μm,0.3s						
ACER				AML	AML		
	comp=N,360μm,0.5s						
ACER				AML	AML		
	comp=E,461μm,0.3s						
MOCO	**Biccari - m.te**	**0.72**	**263**	P	**Pb**	**08 27 11.6**	**-0.5**
MOCO				AML	AML		
	comp=E,260μm,0.6s						
MOCO				AML	AML		
	comp=N,125μm,1.3s						
MOCO				AML	AML		
	comp=E,260μm,0.6s						
MOCO				AML	AML		
	comp=N,126μm,1.3s						
SG1	**Sgolgore (BA)**	**0.76**	**145**	*e*Pg	**Pg**	**08 27 12.0**	**-1.0**
MELA	**Melanico ??? S**	**0.78**	**288**	P	**Pb**	**08 27 12.4**	**-0.6**
MELA				S	**Sn**	**08 27 24.3**	**-0.8**
MELA				AML	AML		
	comp=E,597μm,1.2s						
MELA				AML	AML		
	comp=E,589μm,0.4s						
MELA				AML	AML		
	comp=E,588μm,0.4s						
MELA				AML	AML		
	comp=N,1425μm,0.4s						
MELA				AML	AML		
	comp=N,1365μm,0.4s						
MELA				AML	AML		
	comp=E,598μm,1.2s						
CAFE	**Carife**	**0.79**	**237**	⇑P	**Pb**	**08 27 13.1**	**-0.2**
CAFE				S	**Sn**	**08 27 24.9**	**-0.7**
CAFE				AML	AML		
	comp=N,188μm,0.4s						
CAFE				AML	AML		
	comp=N,189μm,0.4s						
CAFE				AML	AML		
	comp=E,252μm,1.5s						
TREM	**Isole Tremiti**	**0.80**	**326**	P	**Pb**	**08 27 12.9**	**-0.4**
TREM				S	**Sb**	**08 27 24.5**	**+0.7**
TREM				AML	AML		
	comp=E,734μm,0.7s						
TREM				AML	AML		
	comp=N,1038μm,0.3s						
MRLC	**Muro Lucano**	**0.85**	**214**	P	**Pb**	**08 27 14.3**	**+0.1**
MRLC				S	**Sn**	**08 27 26.4**	**-0.5**
MRLC				AML	AML		
	comp=N,314μm,0.7s						
MRLC				AML	AML		
	comp=E,448μm,1.5s						
MRLC				AML	AML		
	comp=N,314μm,0.7s						
SNAL	**S. Angelo Dei**	**0.87**	**232**	P	**Pb**	**08 27 13.7**	**-0.9**
SNAL				S	**Sn**	**08 27 26.8**	**-0.7**
SNAL				AML	AML		
	comp=N,256μm,1.3s						
SNAL				AML	AML		
	comp=E,248μm,0.4s						
MIGL	**Miglionico**	**0.89**	**164**	P	**Pg**	**08 27 14.2**	**-1.4**
MIGL				S	**Sb**	**08 27 27.6**	**+1.1**
MIGL				AML	AML		
	comp=E,810μm,0.7s						
MIGL				AML	AML		
	comp=N,570μm,1.1s						
MATE	**Matera**	**0.93**	**151**	P	**Pg**	**08 27 15.1**	**-1.1**
MATE				S	**Sb**	**08 27 28.6**	**+1.2**
MATE				AML	AML		
	comp=E,404μm,0.2s						
MATE				AML	AML		
	comp=N,316μm,0.2s						
NOCI	**Noci**	**0.98**	**133**	P	**Pg**	**08 27 16.5**	**-0.8**
NOCI				S	**Sb**	**08 27 30.6**	**+1.5**
NOCI				AML	AML		
	comp=E,452μm,1.2s						
NOCI				AML	AML		
	comp=N,458μm,0.3s						
PSB1	**Pescosannita**	**1.01**	**257**	P	**Pb**	**08 27 16.2**	**-0.7**
PSB1				S	**Sn**	**08 27 31.1**	**+0.2**
PSB1				AML	AML		
	comp=E,140μm,0.6s						
PSB1				AML	AML		
	comp=N,122μm,1.1s						
LTRZ	**Laterza**	**1.01**	**148**	P	**Pb**	**08 27 17.2**	**+0.3**
LTRZ				S	**Sb**	**08 27 31.3**	**+1.4**
LTRZ				AML	AML		
	comp=E,365μm,0.4s						
LTRZ				AML	AML		
	comp=N,606μm,1.6s						
BSSO	**Busso**	**1.14**	**275**	P	**Pn**	**08 27 19.1**	**0.0**
BSSO				S	**Sn**	**08 27 35.3**	**+1.0**
BSSO				AML	AML		
	comp=N,40μm,1.1s						
BSSO				AML	AML		
	comp=E,47μm,0.5s						
CDRU	**Civita di Ruta**	**1.15**	**212**	P	**Pg**	**08 27 18.8**	**-1.7**
CDRU				S	**Sn**	**08 27 35.6**	**+1.2**
CDRU				AML	AML		
	comp=N,92μm,0.4s						
CDRU				AML	AML		
	comp=N,92μm,0.4s						
CDRU				AML	AML		
	comp=E,130μm,0.4s						
VITU	**Vitulano (BN)**	**1.15**	**256**	P	**Pn**	**08 27 19.5**	**+0.3**
VITU				AML	AML		
	comp=E,206μm,1.0s						
VITU				AML	AML		
	comp=N,158μm,0.5s						
MCEL	**Monticello**	**1.16**	**192**	P	**Pg**	**08 27 18.7**	**-2.0**
MCEL				AML	AML		
	comp=E,95μm,0.6s						
MCEL				AML	AML		
	comp=N,99μm,0.3s						
MTSN	**Montesano sull**	**1.23**	**193**	⇑P	**Pb**	**08 27 20.4**	**-0.3**
MTSN				AML	AML		
	comp=E,80μm,0.4s						
MTSN				AML	AML		
	comp=N,104μm,1.2s						
MTSN				AML	AML		
	comp=N,104μm,1.2s						
SCHR	**S. Chirico Rap**	**1.26**	**181**	P	**Pb**	**08 27 21.1**	**-0.2**
SCHR				AML	AML		
	comp=E,57μm,1.2s						
SCHR				AML	AML		
	comp=N,44μm,0.8s						
SIRI	**Monte Sirino -**	**1.29**	**188**	P	**Pn**	**08 27 20.7**	**-0.5**
SIRI				AML	AML		
	comp=N,84μm,0.9s						
SIRI				AML	AML		
	comp=E,118μm,0.4s						
SIRI				AML	AML		
	comp=E,119μm,0.4s						
SIRI				AML	AML		
	comp=N,84μm,0.9s						
SIRI				AML	AML		
	comp=E,118μm,0.3s						
SIRI				AML	AML		
	comp=N,87μm,0.2s						
CGL1	**Ceglie Messapi**	**1.31**	**128**	*e*Pg	**Pg**	**08 27 22.6**	**-0.8**
CGL1				Sg	**Sg**	**08 27 41.6**	**+1.1**
MGR	**Morigerati**	**1.39**	**198**	⇓P	**Pn**	**08 27 19.6**	**-2.8**
VAGA	**Valle Agricola**	**1.41**	**269**	⇑P	**Pg**	**08 27 24.9**	**-0.5**
VAGA				AML	AML		
	comp=N,229μm,0.3s						
VAGA				AML	AML		
	comp=E,99μm,0.7s						
PIGN	**Pignataro Magg**	**1.48**	**260**	S	**Sg**	**08 27 52.0**	**+6.0**
INTR	**Introdacqua**	**1.74**	**289**	S	**Sg**	**08 27 54.0**	**-0.3**
TDS	**Terranova Siba**	**1.81**	**175**	S	**Sg**	**08 27 57.0**	**+0.5**
STON	**Ston**	**1.84**	**39**	*i* Pn	**Pg**	**08 27 32.2**	**-1.2**
DBRK	**Dubrovnik**	**1.94**	**51**	*i* Pn	**Pb**	**08 27 32.8**	**0.0**
FAGN	**Fagnano**	**2.05**	**294**	P	**Pn**	**08 27 31.4**	**-0.2**
FAGN				AML	AML		
	comp=N,142μm,0.5s						
FAGN				AML	AML		
	comp=E,110μm,0.6s						
RICI	**Ricice**	**2.17**	**20**	*e*Pn	**Pn**	**08 27 34.0**	**+0.9**
RICI				Sn	**Sn**	**08 27 59.9**	**+0.5**
ZIRJ	**Zirje**	**2.22**	**351**	*i* Pn	**Pn**	**08 27 33.4**	**-0.4**
ZIRJ				Sn	**Sn**	**08 28 00.1**	**-0.5**
KIJV	**Kijevo**	**2.55**	**5**	*i* Pn	**Pn**	**08 27 39.1**	**+0.7**
NRCA	**Norcia**	**2.62**	**303**	⇑P	**Pg**	**08 27 50.6**	**+2.3**
DUGI	**Dugi Otok**	**2.64**	**343**	*e*Pn	**Pn**	**08 27 39.4**	**-0.3**
DUGI				Sn	**Sn**	**08 28 10.2**	**-0.9**
SAMA	**S.Maria delle**	**2.66**	**278**	P	**Pg**	**08 27 50.5**	**+1.4**
COR1	**Corinaldo**	**3.16**	**314**	S	**Sb**	**08 28 33.0**	**+1.3**
MSRU	**Castanea**	**3.23**	**188**	P	**Pn**	**08 27 48.2**	**+0.4**
NVLJ	**Novalja**	**3.23**	**344**	*e*Pn	**Pn**	**08 27 47.6**	**-0.1**
NVLJ				Sn	**Sn**	**08 28 25.2**	**-0.4**
APEC	**Apecchio**	**3.44**	**309**	P	**Pn**	**08 27 49.1**	**-1.5**
PE3	**Peglio**	**3.48**	**311**	S	**Sb**	**08 28 40.0**	**-1.0**
CAFI	**Castiglion Fio**	**3.59**	**303**	S	**Sg**	**08 28 51.0**	**-2.5**
ESLN	**Serra La Nave**	**3.87**	**194**	⇓P	**Pb**	**08 28 03.0**	**-2.8**
ERBM	**Eremo**	**5.12**	**307**	⇓P	**Pn**	**08 28 14.2**	**+0.4**

IDC 22 08:27:22.3±1.0, 12°.11N×143°.04E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.6/53, mbtmp3.7/8, ML4.0/1, MS3.8/1, Ms1 3.7/1, ms1mx2.5/46, Error ellipse: s-maj=40.6km s-min=19.8km az=120.0

NEIC 22 08:27:26.1±1.7, 12°.1N±0°.1×143°.1E±0°.2, h21km±4km, mb4.3/5, Error ellipse: s-maj=31.9km s-min=11.8km az=112.0

ISC 22 08:27:27.7±0.8, 12°.0N±0°.1×143°.1E±0°.1, h31km, n18, σ1§29/15, mb4.0/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.29**	**48**	Pn	**Pn**	**08 28 02.1**	**-1.3**
	42nm,0.3s,baz=196,slow=6.6,SNR=41						
GUMO				Sn	**Sn**	**08 28 32.0**	**+1.4**
	49nm,0.3s,baz=0.5,slow=24,SNR=9.8						
GUMO				LR	LR	08 29 02.5	
	comp=Z,93nm,18.0s,baz=240,slow=43						
GUMO	**Guam**	**2.29**	**48**	Pn	**Pn**	**08 28 02.7**	**-0.7**
H11N1	**WAKE ISLAND Hy**	**24.07**	**69**	T	T	08 57 36.8	
	baz=255,slow=75,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**24.08**	**68**	T	T	08 57 39.2	
	baz=255,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**24.09**	**69**	T	T	08 57 29.3	
	baz=255,slow=75,SNR=5.5						
CTAO	**Charters Tower**	**32.08**	**174**	P	**P**	**08 33 53.5**	**+1.4**
CTAO				IAmb	IAmb	08 34 00.6	
	comp=Z,8.5nm,1.1s						
WR0	**Warramunga Arr**	**32.91**	**195**	P	**P**	**08 33 59.4**	**0.0**
WR0				IAmb	IAmb	08 34 13.4	
	comp=Z,3.7nm,1.1s						
WB2	**Warramunga Arr**	**32.94**	**195**	P	**P**	**08 33 59.4**	**-0.2**
WB2				IAmb	IAmb	08 34 00.9	
	comp=Z,4.3nm,1.1s						
WRA	**Warramunga Arr**	**32.94**	**195**	P	**P**	**08 33 58.8**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=18,slow=9.6,SNR=5.0						
USA0B	**Ussuriysk Arra**	**33.45**	**345**	P	**P**	**08 34 06.5**	**+2.6**
ASAR	**Alice Springs**	**36.62**	**194**	P	**P**	**08 34 31.0**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=21,slow=13,SNR=1.7						
KURBB	**Kurchatov Arra**	**64.72**	**320**	P	**P**	**08 38 02.0**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=110,slow=6.3,SNR=1.9						
IL31		**70.68**	**25**	P	**P**	**08 38 39.0**	**-1.2**
ILAR	**Eielson Array**	**70.68**	**25**	P	**P**	**08 38 38.7**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=248,slow=5.9,SNR=12						
YKA	**Yellowknife Ar**	**85.00**	**27**	P	**P**	**08 39 59.7**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=284,slow=5.0,SNR=2.0						
ARCES	**ARCESS Array B**	**88.02**	**342**	P	**P**	**08 40 13.9**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=68,slow=7.1,SNR=3.6						
NVAR	**Mina Array Bea**	**89.21**	**51**	P	**P**	**08 40 21.8**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=263,slow=5.5,SNR=5.1						
ULM	**Lac du Bonnet**	**99.47**	**34**	LR	LR	09 24 23.4	
	comp=Z,36nm,18.7s,baz=356,slow=34						

IDC 22 08:42:28.4±3.2, 14°.51N×39°.90E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/41, mbtmp3.7/5, MS3.5/2, Ms1 3.5/2, ms1mx2.7/40, Error ellipse: s-maj=68.6km s-min=32.8km az=152.0

NEIC 22 08:42:29.9±3.0, 14°.51N±0°.07×39°.9E±0°.1, h10km±1km, mb4.3/5, Error ellipse: s-maj=24.7km s-min=11.1km az=278.0

AAE 22 08:42:32.7, 15°.37N×40°.54E

ISC 22 08:42:29.1±0.7, 14°.38N±0°.04×40°.04E±0°.06, h10km, n21, σ2§15/28, mb3.8/8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEND	**Ethiopian Broa**	**2.74**	**160**	*eP*	**Pb**	**08 43 17.6**	**-0.7**
TEND				*eS*	**Sg**	**08 43 58.2**	**+0.9**
DESE	**Dese**	**3.27**	**187**	*eP*	**Pg**	**08 43 32.7**	**+0.9**
DESE				*eSn*	**Sg**	**08 44 17.9**	**+3.7**
ATD	**Arta Tunnel**	**3.94**	**136**	*eP*	**Pb**	**08 43 36.4**	**-2.4**
ATD				*eS*	**Sg**	**08 44 37.3**	**+1.4**
ATD	**Arta Tunnel**	**3.94**	**136**	Pn	**Pn**	**08 43 32.2**	**+2.4**
ATD	**Arta Tunnel**	**3.94**	**136**	*eP*	**Pb**	**08 43 36.4**	**-2.4**
ATD				*eSn*	**Sg**	**08 44 37.3**	**+1.4**
ANKE	**Ethiopia-Afar**	**4.77**	**184**	*eP*	**Pn**	**08 43 45.0**	**+3.6**
ANKE				*eSn*	**Sb**	**08 44 45.1**	**-5.7**
ANKE	**Ethiopia-Afar**	**4.77**	**184**	*eP*	**Pn**	**08 43 44.5**	**+3.0**
ANKE				*eS*	**Sg**	**08 45 03.6**	**+1.1**
AAE	**Adis Abeba**	**5.46**	**193**	*eP*	**Pg**	**08 44 12.3**	**-1.6**
AAE				*eS*	**Sg**	**08 45 23.7**	**-1.1**
FURI	**Furi**	**5.61**	**194**	*eP*	**Pg**	**08 44 15.4**	**-1.3**
FURI				*eS*	**Sg**	**08 45 31.6**	**+2.1**
FURI	**Furi**	**5.61**	**194**		**Pg**	**08 44 18.3**	**+1.5**
BR131	**Keskin Array S**	**25.86**	**349**	P	**P**	**08 48 02.0**	**+0.8**
BRTR	**Keskin Array B**	**25.86**	**349**	P	**P**	**08 48 02.4**	**+1.2**
	0.8nm,0.8s,baz=163,slow=4.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**37.23**	**273**	P	**P**	**08 49 40.9**	**-0.3**
	1.7nm,0.9s,baz=94,slow=8.4,SNR=6.6						
TORD				LR	LR	09 05 36.8	
	comp=Z,86nm,18.4s,baz=230,slow=37						
AKASG	**Malin Array Be**	**37.27**	**349**	P	**P**	**08 49 39.5**	**-1.6**
	0.2nm,0.3s,baz=172,slow=7.3,SNR=1.8						
ABKAR	**Akbulak array**	**38.42**	**21**	P	**P**	**08 49 51.9**	**+1.1**
GERES	**GERESS Array B**	**40.62**	**333**	P	**P**	**08 50 07.7**	**-1.7**
	0.6nm,0.5s,baz=134,slow=8.4,SNR=6.5						
MAKZ	**Makanchi**	**47.58**	**38**	P	**P**	**08 51 04.6**	**-0.5**
MAKZ				IAmb	IAmb	08 51 15.9	
	comp=Z,2.4nm,1.1s						
MK31	**Makanchi Array**	**47.77**	**39**	P	**P**	**08 51 07.4**	**+0.8**
MK31				IAmb	IAmb	08 51 08.3	
	comp=Z,2.8nm,1.2s						
MKAR	**Makanchi Array**	**47.77**	**39**	P	**P**	**08 51 07.2**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=227,slow=8.1,SNR=7.0						
KURK	**Kurchatov**	**47.77**	**32**	P	**P**	**08 51 07.7**	**+1.2**
KURK				IAmb	IAmb	08 51 08.4	
	comp=Z,3.5nm,1.1s						
KSRS	**Korea Array**	**79.75**	**54**	LR	LR	09 33 37.6	
	comp=Z,18nm,18.1s,baz=305,slow=38						

IDC 22 08:45:18.1±5.0, 30°.13S×177°.77W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/29, mbtmp3.7/2, Error ellipse: s-maj=293.8km s-min=71.1km az=167.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.33**	**267**	P	P	08 53 21.9	-0.2
	0.2nm,0.4s,baz=107,slow=7.6,SNR=5.3						
WRA	**Warramunga Arr**	**44.29**	**272**	P	P	08 53 29.8	-0.1
	0.7nm,0.3s,baz=110,slow=8.1,SNR=38						
FINES	**FINESS Array B**	**144.96**	**340**	PKP	PKPbc	09 04 56.0	+0.2
	1.3nm,0.8s,baz=35,slow=3.4,SNR=3.6				

IDC ***22*** *08:45:23.2±0.5,56˚.04N×162˚.60E,h0km,mb4.5/29, mb1 4.7/31,mb1mx4.5/47, mbtmp4.5/31,ML5.3/1, MS3.7/22, Ms1 3.7/22, ms1mx3.6/39, Error ellipse: s-maj=15.1km s-min=10.3km az=147.0*

KRSC ***22*** *08:45:24.1±1.1,55˚.93N×163˚.00E,h48km±14km, ML5.0, FELT [III-IV] at Pogodniy; [III] at Ust-Kamchatsk; [II-III] at Krutoberegovo.*

BJI ***22*** *08:45:26.2±0.0,56˚.59N×162˚.25E,h23km, mB4.8/33, mb4.8/37, Ms4.4/23, Ms7 4.3/19*

MOS ***22*** *08:45:27.2±1.0,55˚.97N×162˚.72E,h45km, mb5.0/39, MS3.8/10, Error ellipse: s-maj=5.8km s-min=3.5km az=75.9*

NEIC ***22*** *08:45:29.1±2.2,56˚.00N±0˚.08×162˚.7E±0˚.1,h42km±5km, mb4.7/223, Error ellipse: s-maj=10.9km s-min=9.2km az=179.0*

ISC 22 08:45:27.6±0.7,56˚.01N±0˚.03×162˚.69E±0˚.03,h32km±5km, n687,σ1$41/661,mb4.7/186,MS3.8/32,22C-16D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.21**	**21**	*i* P	**Pb**	**08 45 32.6**	**-1.6**
KBTR	**Krutoberegovo**	**0.21**	**21**	PN	**Pb**	**08 45 32.6**	**-1.6**
KBG	**Krutoberegovo**	**0.24**	**3**	*e*P	**Pb**	**08 45 33.5**	**-1.1**
KBG				*e*S	**Sn**	**08 45 40.3**	**+0.5**
KBG	**Krutoberegovo**	**0.24**	**3**	PN	**Pb**	**08 45 33.5**	**-1.1**
KBG				S	**Sn**	**08 45 40.3**	**+0.5**
SMKR	**Semkarok**	**0.89**	**311**	*e*P	**Pn**	**08 45 43.1**	**-0.9**
SMKR	**Semkarok**	**0.89**	**311**	PN	**Pn**	**08 45 43.1**	**-0.9**
BDR	**Baidarnaya**	**0.99**	**305**	*e*P	**Pn**	**08 45 45.1**	**-0.3**
BDR	**Baidarnaya**	**0.99**	**305**	PN	**Pn**	**08 45 45.1**	**-0.3**
ZLN	**Zelenaya**	**1.06**	**271**	*e*P	**Pn**	**08 45 45.6**	**-0.7**
ZLN	**Zelenaya**	**1.06**	**271**	PN	**Pn**	**08 45 45.6**	**-0.7**
SRKR	**Sorokina**	**1.06**	**308**	*e*P	**Pn**	**08 45 46.1**	**-0.3**
SRKR	**Sorokina**	**1.06**	**308**	PN	**Pn**	**08 45 46.1**	**-0.3**
CIRR	**Tsirk**	**1.09**	**276**	*e*P	**Pn**	**08 45 46.1**	**-0.7**
CIRR	**Tsirk**	**1.09**	**276**	PN	**Pn**	**08 45 46.1**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**1.12**	**267**	*e*P	**Pn**	**08 45 47.3**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**1.12**	**267**	PN	**Pn**	**08 45 47.3**	**+0.1**
LGNR	**Loginova**	**1.12**	**275**	*i* P	**Pn**	**08 45 46.8**	**-0.6**
LGNR	**Loginova**	**1.12**	**275**	PN	**Pn**	**08 45 46.8**	**-0.6**
KLY	**Klyuchi**	**1.18**	**286**	*e*P	**Pn**	**08 45 45.8**	**-2.0**
KLY				*e*S	**Sn**	**08 46 02.8**	**+0.1**
KLY	**Klyuchi**	**1.18**	**286**	PN	**Pn**	**08 45 45.8**	**-2.0**
KLY				S	**Sn**	**08 46 02.8**	**+0.1**
KRSR	**Krestovskiy**	**1.21**	**281**	*e*P	**Pn**	**08 45 47.4**	**-0.9**
KRSR	**Krestovskiy**	**1.21**	**281**	PN	**Pn**	**08 45 47.4**	**-0.9**
BZWR	**Bezymyannyi-We**	**1.23**	**269**	*e*P	**Pn**	**08 45 49.1**	**+0.3**
BZWR	**Bezymyannyi-We**	**1.23**	**269**	PN	**Pn**	**08 45 49.1**	**+0.3**
BZMR	**Bezymyannaya**	**1.24**	**267**	*e*P	**Pn**	**08 45 49.0**	**+0.2**
BZMR	**Bezymyannaya**	**1.24**	**267**	PN	**Pn**	**08 45 49.0**	**+0.2**
KIRR	**Kirishev**	**1.32**	**268**	*e*P	**Pn**	**08 45 50.6**	**+0.7**
KIRR	**Kirishev**	**1.32**	**268**	PN	**Pn**	**08 45 50.6**	**+0.7**
KPT	**Kopyto**	**1.39**	**269**	*e*P	**Pn**	**08 45 51.5**	**+0.7**
KPT	**Kopyto**	**1.39**	**269**	PN	**Pn**	**08 45 51.5**	**+0.7**
KMNR	**Kamenistaya**	**1.40**	**261**	*i* P	**Pn**	**08 45 51.5**	**+0.4**
KMNR	**Kamenistaya**	**1.40**	**261**	PN	**Pn**	**08 45 51.5**	**+0.4**
TUMD	**Tumrok D**	**1.53**	**239**	*e*P	**Pn**	**08 45 52.6**	**-0.1**
TUMD				*e*S	**Sb**	**08 46 13.2**	**-1.1**
KOZ	**Kozyrevsk**	**1.58**	**273**	*e*P	**Pb**	**08 45 55.0**	**-1.2**
KOZ	**Kozyrevsk**	**1.58**	**273**	PN	**Pb**	**08 45 55.0**	**-1.2**
TUMR	**Tumrok**	**1.61**	**244**	*i* P	**Pn**	**08 45 54.8**	**+0.8**
TUMR				*e*S	**Sb**	**08 46 17.3**	**+0.4**
TUMR	**Tumrok**	**1.61**	**244**	PN	**Pn**	**08 45 54.8**	**+0.8**
TUMR				S	**Sb**	**08 46 17.3**	**+0.4**
KZV	**Kizimen**	**1.63**	**237**	*e*P	**Pn**	**08 45 54.2**	**0.0**
KZV	**Kizimen**	**1.63**	**237**	PN	**Pn**	**08 45 54.2**	**0.0**
SRDR	**Sredinnyy**	**1.69**	**282**	*e*P	**Pb**	**08 45 56.5**	**-1.6**
SRDR	**Sredinnyy**	**1.69**	**282**	PN	**Pb**	**08 45 56.5**	**-1.6**
BKI	**Bering**	**2.03**	**112**	*e*P	**Pn**	**08 45 57.2**	**-2.4**
BKI				*e*S	**Sn**	**08 46 19.1**	**-4.7**
BKI	**Bering**	**2.03**	**112**	PN	**Pn**	**08 45 57.2**	**-2.4**
BKI				S	**Sn**	**08 46 19.1**	**-4.7**
ESO	**Esso**	**2.24**	**269**	*e*P	**Pn**	**08 46 04.5**	**+2.0**
ESO	**Esso**	**2.24**	**269**	PN	**Pn**	**08 46 04.5**	**+2.0**
KII	**Karymskiy**	**2.72**	**225**	*e*P	**Pn**	**08 46 09.4**	**+0.3**
KII	**Karymskiy**	**2.72**	**225**	PN	**Pn**	**08 46 09.4**	**+0.3**
OSSR	**Ossora**	**3.25**	**3**	*e*P	**Pn**	**08 46 17.7**	**+1.3**
OSSR				*e*S	**Sn**	**08 46 55.2**	**+1.3**
OSSR	**Ossora**	**3.25**	**3**	PN	**Pn**	**08 46 17.7**	**+1.3**
OSSR				S	**Sn**	**08 46 55.2**	**+1.3**
SPN	**Mys Shipunski**	**3.31**	**209**	*e*P	**Pn**	**08 46 15.9**	**-1.2**
SPN				*e*S	**Sn**	**08 46 54.0**	**-1.2**
SPN	**Mys Shipunski**	**3.31**	**209**	PN	**Pn**	**08 46 15.9**	**-1.2**
SPN				S	**Sn**	**08 46 54.0**	**-1.2**
PALN	**Palana**	**3.42**	**336**	*e*P	**Pb**	**08 46 23.3**	**-4.1**
PALN	**Palana**	**3.42**	**336**	PN	**Pb**	**08 46 23.3**	**-4.1**
NLC	**Nalytchevo**	**3.45**	**216**	*e*P	**Pn**	**08 46 19.0**	**0.0**
NLC				*e*S	**Sn**	**08 46 58.5**	**-0.2**
NLC	**Nalytchevo**	**3.45**	**216**	PN	**Pn**	**08 46 19.0**	**0.0**
NLC				S	**Sn**	**08 46 58.5**	**-0.2**
SDLR	**Sedlovina**	**3.52**	**220**	*e*P	**Pn**	**08 46 20.4**	**+0.3**
SDLR				*e*S	**Sn**	**08 47 03.3**	**+2.6**
SDLR	**Sedlovina**	**3.52**	**220**	PN	**Pn**	**08 46 20.4**	**+0.3**
SDLR				S	**Sn**	**08 47 03.3**	**+2.6**
KRX	**Arik**	**3.54**	**223**	*i* P	**Pn**	**08 46 21.4**	**+0.9**
KRX	**Arik**	**3.54**	**223**	PN	**Pn**	**08 46 21.4**	**+0.9**
KRER	**Koryakskii**	**3.55**	**222**	*i* P	**Pn**	**08 46 21.2**	**+0.6**
KRER				*e*S	**Sn**	**08 47 04.0**	**+2.5**
KRER	**Koryakskii**	**3.55**	**222**	PN	**Pn**	**08 46 21.2**	**+0.6**
KRER				S	**Sn**	**08 47 04.0**	**+2.5**
SMAR	**Somma**	**3.56**	**221**	*i* P	**Pn**	**08 46 21.2**	**+0.4**
SMAR				*e*S	**Sn**	**08 47 04.1**	**+2.3**
SMAR	**Somma**	**3.56**	**221**	PN	**Pn**	**08 46 21.2**	**+0.4**
SMAR				S	**Sn**	**08 47 04.1**	**+2.3**
AVH	**Avacha**	**3.58**	**221**	*i* P	**Pn**	**08 46 21.9**	**+0.9**
AVH	**Avacha**	**3.58**	**221**	PN	**Pn**	**08 46 21.9**	**+0.9**
UGLR	**Uglovaya**	**3.59**	**220**	*e*P	**Pn**	**08 46 22.0**	**+0.8**
UGLR	**Uglovaya**	**3.59**	**220**	PN	**Pn**	**08 46 22.0**	**+0.8**
KOK	**Koryaka**	**3.60**	**222**	*e*P	**Pn**	**08 46 22.2**	**+1.0**
KOK	**Koryaka**	**3.60**	**222**	PN	**Pn**	**08 46 22.2**	**+1.0**
DALK	**Dalny**	**3.76**	**219**	*e*P	**Pn**	**08 46 23.6**	**+0.2**
DALK				*e*S	**Sn**	**08 47 07.3**	**+0.8**
DALK	**Dalny**	**3.76**	**219**	PN	**Pn**	**08 46 23.6**	**+0.2**
DALK				S	**Sn**	**08 47 07.3**	**+0.8**
PET	**Petropavlovsk**	**3.81**	**220**	*e*P	**Pn**	**08 46 24.6**	**+0.7**
PET				*e*S	**Sn**	**08 47 08.5**	**+1.0**
PET	**Petropavlovsk**	**3.81**	**220**	PN	**Pn**	**08 46 24.6**	**+0.7**
PET				S	**Sn**	**08 47 08.5**	**+1.0**
PEA0B	**Petropavlovsk-**	**4.11**	**227**	PN	**Pn**	**08 46 29.4**	**+1.2**
PEA0B	**Petropavlovsk-**	**4.11**	**227**	Pn	**Pn**	**08 46 29.4**	**+1.2**
PETK	**Petropavlovsk-**	**4.11**	**227**	Pn	**Pn**	**08 46 28.9**	**+0.8**
	11nm,0.3s,baz=67,slow=16,SNR=141						
PETK				Sn	**Sb**	**08 47 25.4**	**-3.0**
	4.1nm,0.3s,baz=66,slow=18,SNR=4.1						
PETK				LR	LR	08 48 20.3	
	comp=Z,2μm,18.4s,baz=44,slow=43						
KRMR	**Karymshinskiy**	**4.15**	**222**	*e*P	**Pn**	**08 46 29.0**	**+0.3**
KRMR				*e*S	**Sn**	**08 47 16.1**	**0.0**
KRMR	**Karymshinskiy**	**4.15**	**222**	PN	**Pn**	**08 46 29.0**	**+0.3**
KRMR				S	**Sn**	**08 47 16.1**	**0.0**
RUS	**Russkaya**	**4.34**	**216**	*e*P	**Pn**	**08 46 31.3**	**0.0**
RUS				*e*S	**Sn**	**08 47 20.3**	**-0.4**
RUS	**Russkaya**	**4.34**	**216**	PN	**Pn**	**08 46 31.3**	**0.0**
RUS				S	**Sn**	**08 47 20.3**	**-0.4**
GRL	**Gorelyy**	**4.39**	**220**	*e*P	**Pn**	**08 46 34.0**	**+1.8**
GRL				*e*S	**Sn**	**08 47 24.1**	**+1.8**
GRL	**Gorelyy**	**4.39**	**220**	PN	**Pn**	**08 46 34.0**	**+1.8**
GRL				S	**Sn**	**08 47 24.1**	**+1.8**
MTVR	**Mutnovka**	**4.41**	**219**	*e*P	**Pn**	**08 46 33.4**	**+1.0**
MTVR				*e*S	**Sn**	**08 47 22.1**	**-0.6**
MTVR	**Mutnovka**	**4.41**	**219**	PN	**Pn**	**08 46 33.4**	**+1.0**
MTVR				S	**Sn**	**08 47 22.1**	**-0.6**
ASAK	**Asacha**	**4.59**	**220**	*e*P	**Pn**	**08 46 36.0**	**+1.1**
ASAK				*e*S	**Sn**	**08 47 28.5**	**+1.4**
ASAK	**Asacha**	**4.59**	**220**	PN	**Pn**	**08 46 36.0**	**+1.1**
ASAK				S	**Sn**	**08 47 28.5**	**+1.4**
TILK	**Tilichiki**	**4.81**	**21**	*e*P	**Pn**	**08 46 39.4**	**+1.7**
TILK				*e*S	**Sn**	**08 47 33.3**	**+1.1**
TILK	**Tilichiki**	**4.81**	**21**	PN	**Pn**	**08 46 39.4**	**+1.7**
TILK				S	**Sn**	**08 47 33.3**	**+1.1**
KDTR	**Khodutka, Kamc**	**5.01**	**215**	*e*P	**Pn**	**08 46 40.9**	**+0.4**
KDTR				*e*S	**Sn**	**08 47 38.2**	**+0.9**
KDTR	**Khodutka, Kamc**	**5.01**	**215**	PN	**Pn**	**08 46 40.9**	**+0.4**
KDTR				S	**Sn**	**08 47 38.2**	**+0.9**
MIPR	**Malaya Ipel'ka**	**5.11**	**225**	*e*P	**Pn**	**08 46 43.7**	**+1.8**
MIPR	**Malaya Ipel'ka**	**5.11**	**225**	PN	**Pn**	**08 46 43.7**	**+1.8**
PAU	**Pauzhetka**	**5.73**	**220**	*e*P	**Pn**	**08 46 54.2**	**+3.8**
PAU	**Pauzhetka**	**5.73**	**220**	PN	**Pn**	**08 46 54.2**	**+3.8**
SKR	**Severo-Kuril's**	**6.63**	**219**	*e*PN	**Pn**	**08 47 04.0**	**+1.3**
SKR				*e*S	**Sn**	**08 48 20.8**	**+3.8**
SKR				pmax	pmax		
	comp=Z,61nm,0.7s						
SKR				pmax	pmax		
	comp=Z,200nm,4.9s						
SKR				MLR	MLR		
	comp=N,400nm,18.0s						
SKR				MLR	MLR		
	comp=E,300nm,16.0s						
ALID	**Alaid**	**6.68**	**223**	*e*P	**Pn**	**08 47 05.8**	**+2.2**
ALID	**Alaid**	**6.68**	**223**	PN	**Pn**	**08 47 05.8**	**+2.2**
KMSK	**Kamenskaya**	**6.72**	**14**	*e*P	**Pn**	**08 47 06.3**	**+2.4**
KMSK				*e*S	**Sn**	**08 48 17.4**	**-1.9**
KMSK	**Kamenskaya**	**6.72**	**14**	PN	**Pn**	**08 47 06.3**	**+2.4**
MA2	**Magadan**	**7.30**	**304**	Pn	Pn	08 47 17.8	+5.9
	comp=E,1.4nm,0.3s,baz=109,slow=12,SNR=7.2						
MA2				LR	LR	08 50 26.5	
	comp=E,794nm,18.2s,baz=126,slow=42						
MA2	**Magadan**	**7.30**	**304**	*e*PN	**Pn**	**08 47 14.1**	**+2.2**
MA2	**Magadan**	**7.30**	**304**	Pn	**Pn**	**08 47 12.7**	**+0.8**
SMY	**Shemya**	**7.43**	**112**	PN	**Pn**	**08 47 13.1**	**-0.6**
SMY	**Shemya**	**7.43**	**112**	Pn	**Pn**	**08 47 13.1**	**-0.6**
SEY	**Seymchan**	**8.69**	**327**	Pn	**Pn**	**08 47 32.7**	**+1.8**
	comp=E,0.2nm,0.3s,baz=198,slow=20,SNR=1.5						
SEY				LR	LR	08 51 14.0	
	comp=E,611nm,21.3s,baz=150,slow=41						
AMKA	**Amchitka**	**10.88**	**108**	Pn	**Pn**	**08 48 00.6**	**-0.3**
ADK	**Adak**	**12.82**	**100**	PN	**Pn**	**08 48 26.9**	**-0.5**
ADK	**Adak**	**12.82**	**100**	Pn	**Pn**	**08 48 26.9**	**-0.5**
TYV	**Tymovskoe**	**12.99**	**255**	*e*PN	**P**	**08 48 35.1**	**-4.7**
TYV				*e*S	Sn	08 51 04.0	+11
TYV				pmax	pmax		
	comp=Z,100nm,2.6s						
TYV				pmax	pmax		
	comp=Z,21nm,1.1s						
TYV				smax	smax		
	comp=N,8.0nm,0.9s						
TYV				MLR	MLR		
	comp=N,700nm,18.0s						
GSTR	**Great Sitkin T**	**13.07**	**99**	Pn	**Pn**	**08 48 30.3**	**-0.7**
ATKA	**Atka Island**	**14.06**	**96**	Pn	**Pn**	**08 48 43.3**	**-1.1**
YSS	**Yuzh-Sakhalins**	**15.32**	**242**	*e*P	**Pn**	**08 49 00.1**	**-1.2**
YSS				*e*S	**Sn**	**08 51 42.4**	**-7.4**
YSS				pmax	pmax		
	comp=Z,21nm,0.8s						
YSS				MLR	MLR		
	comp=Z,700nm,13.0s						
GRNR	**Gornyy**	**16.47**	**262**	*i* P	**Pn**	**08 49 11.9**	**-4.1**
GRNR				pmax	pmax		
	comp=E,8.0nm,1.0s						
GRNR				pmax	pmax		
	comp=N,7.0nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GRNR				MLR	MLR		
	comp=E,310nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,330nm,16.0s						
NIKH	**Nikolski High**	**16.76**	**89**	P	**P**	**08 49 27.4**	**+5.8**
NIKH				IAmb	IAmb	08 49 32.3	
	comp=Z,57nm,1.2s						
JKA	**Kamikawa-asahi**	**17.47**	**235**	P	**P**	**08 49 31.7**	**+2.1**
ASAJ	**Asahikawa**	**17.47**	**235**	P	**P**	**08 49 30.7**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=38,slow=7.5,SNR=18						
ASAJ	**Asahikawa**	**17.47**	**235**	P	**P**	**08 49 31.7**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,23nm,0.8s						
YAK	**Yakutsk**	**17.88**	**303**	P	**P**	**08 49 34.2**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=56,slow=1.6,SNR=5.3						
YAK	**Yakutsk**	**17.88**	**303**	*e*P	**P**	**08 49 35.2**	**+1.3**
YAK				*e*S	**Sn**	**08 52 49.3**	**-2.2**
YAK				pmax	pmax		
	comp=E,9.0nm,0.7s						
YAK				pmax	pmax		
	comp=Z,25nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				smax	smax		
	comp=N,70nm,11.6s						
YAK				smax	smax		
	comp=E,18nm,12.4s						
YAK				MLR	MLR		
	comp=Z,294nm,15.0s						
YAK				MLR	MLR		
	comp=E,206nm,15.0s						
YAK				MLR	MLR		
	comp=N,103nm,13.0s						
YAK	**Yakutsk**	**17.88**	**303**	P	**P**	**08 49 34.0**	**+0.1**
YAK				IAmb	IAmb	08 49 43.8	
	comp=Z,39nm,0.6s						
ERM	**Erimo**	**18.88**	**230**	P	**P**	**08 49 43.9**	**-1.2**
ERM				pmax	pmax		
	comp=Z,30nm,0.6s						
ERM	**Erimo**	**18.88**	**230**		**P**	**08 49 43.9**	**-1.2**
ERM				IAmb	IAmb	08 49 59.1	
	comp=Z,30nm,0.6s						
KLR	**Kul'dur**	**19.85**	**263**	P	**P**	**08 49 56.3**	**+0.7**
	baz=59,slow=12						
KLR	**Kul'dur**	**19.85**	**263**	*e*P	**P**	**08 49 55.7**	**+0.1**
KLR				pmax	pmax		
	comp=Z,13nm,1.0s						
KLR				MLR	MLR		
	comp=Z,381nm,16.0s						
ZEA	**Zeya**	**20.38**	**278**	*e*P	Pn	08 50 04.6	+1.0
ZEA				*e*		08 54 18.0	
ZEA				pmax	pmax		
	comp=Z,19nm,0.6s						
ZEA				MLR	MLR		
	comp=Z,400nm,17.0s						
ZEA				MLR	MLR		
	comp=E,200nm,16.0s						
CNBA	**Chernabura Isl**	**21.28**	**77**	P	**P**	**08 50 14.3**	**+3.3**
SVW2	**Sparrevohn**	**22.06**	**59**	P	**P**	**08 50 22.5**	**+3.1**
USRK	**Ussuriysk Ar.**	**22.75**	**252**	P	**P**	**08 50 26.7**	**-0.2**
	comp=E,1.5nm,0.7s,baz=140,slow=42,SNR=2.3						
USRK				LR	LR	09 00 18.3	
	comp=E,208nm,18.5s,baz=52,slow=39						
PPLA	**Purkeypile**	**23.51**	**54**	P	**P**	**08 50 35.9**	**+1.4**
RSO	**Redoubt South**	**23.51**	**61**	P	**P**	**08 50 38.5**	**+3.8**
SKT	**Skwentna**	**23.90**	**57**	P	**P**	**08 50 38.8**	**+0.7**
BPAW	**Bear Paw Mtn.**	**23.98**	**51**	P	**P**	**08 50 39.0**	**+0.1**
KTH	**Kantishna Hill**	**24.04**	**53**	P	**P**	**08 50 40.8**	**+1.4**
KDAK	**Kodiak Island**	**24.16**	**67**	P	**P**	**08 50 40.9**	**+0.4**
	comp=E,4.8nm,0.7s,baz=292,slow=6.6,SNR=8.0						
KDAK				LR	LR	09 00 05.0	
	comp=E,200nm,19.3s,baz=299,slow=36						
KDAK	**Kodiak Island**	**24.16**	**67**	P	**P**	**08 50 40.3**	**-0.2**
KDAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KDAK	**Kodiak Island**	**24.16**	**67**	P	**P**	**08 50 40.3**	**-0.2**
TRF	**Thorofare Moun**	**24.33**	**53**	P	**P**	**08 50 43.1**	**+0.9**
TRF				IAmb	IAmb	08 50 59.2	
	comp=Z,19nm,1.2s						
SUA	**Susitna One**	**24.33**	**58**	P	**P**	**08 50 45.3**	**+3.1**
SUA				IAmb	IAmb	08 51 03.9	
	comp=Z,19nm,1.0s						
COLD	**Coldfoot**	**24.37**	**44**	P	**P**	**08 50 42.0**	**-0.3**
	baz=266,SNR=15						
COLD	**Coldfoot**	**24.37**	**44**	P	**P**	**08 50 42.3**	**-0.1**
CNPM	**China Poot**	**24.44**	**63**	P	**P**	**08 50 43.2**	**+0.1**
CNPM				IAmb	IAmb	08 50 57.2	
	comp=Z,16nm,0.8s						
CUT	**Chulitna**	**24.44**	**55**	P	**P**	**08 50 43.2**	**+0.2**
	baz=276						
TOLK	**Toolik Lake Re**	**24.74**	**40**	P	**P**	**08 50 45.6**	**-0.1**
	baz=263,SNR=21						
TOLK	**Toolik Lake Re**	**24.74**	**40**	P	**P**	**08 50 46.1**	**+0.4**
TOLK				IAmb	IAmb	08 50 48.2	
	comp=Z,22nm,0.8s						
NEA2	**Nenana**	**24.80**	**50**	P	**P**	**08 50 46.4**	**+0.1**
	baz=273,SNR=6.9						
MCK	**McKinley**	**24.91**	**52**	P	**P**	**08 50 47.6**	**+0.3**
MCK	**McKinley**	**24.91**	**52**	P	**P**	**08 50 47.6**	**+0.3**
RND	**Reindeer**	**24.98**	**53**	P	**P**	**08 50 47.8**	**-0.2**
RND				pmax	pmax		
	comp=Z,4.0nm,0.8s						
RND	**Reindeer**	**24.98**	**53**	P	**P**	**08 50 47.8**	**-0.2**
PMR	**Palmer**	**25.08**	**57**	P	**P**	**08 50 50.1**	**+1.3**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PMR	**Palmer**	**25.08**	**57**	P	**P**	**08 50 50.1**	**+1.3**
MDM	**Murphy Dome**	**25.14**	**49**	P	**P**	**08 50 52.5**	**+3.0**
GHO	**Glory Hole Cre**	**25.15**	**57**	P	**P**	**08 50 49.5**	**-0.1**
SEW	**Seward**	**25.20**	**61**	P	**P**	**08 50 51.8**	**+2.0**
WRH	**Wood River Hil**	**25.23**	**50**	P	**P**	**08 50 50.0**	**-0.1**
WRH				IAmb	IAmb	08 51 02.0	
	comp=Z,13nm,1.0s						
COLA	**College**	**25.31**	**49**	*e*P	**P**	**08 50 50.3**	**-0.5**
COLA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CCB	**Clear Creek Bu**	**25.34**	**50**	P	**P**	**08 50 51.6**	**+0.5**
CCB				IAmb	IAmb	08 51 06.9	
	comp=Z,21nm,1.4s						
SML	**Sawmill**	**25.42**	**57**	P	**P**	**08 50 52.0**	**0.0**
SML				IAmb	IAmb	08 51 09.7	
	comp=Z,13nm,0.8s						
POKR	**Poker Plat Res**	**25.47**	**49**	P	**P**	**08 50 48.1**	**-4.3**
	baz=273						
MAJO	**Matsushiro**	**25.56**	**231**	P	**P**	**08 50 52.7**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,18nm,0.8s						
MAJO	**Matsushiro**	**25.56**	**231**	P	**P**	**08 50 52.7**	**-0.7**
MAJO				IAmb	IAmb	08 51 02.5	
	comp=Z,18nm,0.8s						
MAT	**Matsushiro**	**25.56**	**231**	P	**P**	**08 50 51.3**	**-2.1**
MAT				S	**S**	**08 55 24.4**	**+5.5**
MJAR	**Matsushiro Arr**	**25.56**	**231**	P	**P**	**08 50 54.1**	**+0.7**
	comp=Z,8.9nm,0.7s,baz=3.3,slow=7.5,SNR=9.7						
MJAR				LR	LR	09 02 13.3	
	comp=Z,185nm,18.8s,baz=305,slow=40						
DHY	**Denali Highway**	**25.68**	**54**	P	**P**	**08 50 54.5**	**0.0**
IL31		**25.73**	**50**	P	**P**	**08 50 55.0**	**+0.4**
ILAR	**Eielson Array**	**25.73**	**50**	P	**P**	**08 50 54.9**	**+0.2**
	comp=Z,4.4nm,0.9s,baz=269,slow=7.4,SNR=36						
ILAR				LR	LR	09 01 38.0	
	comp=Z,164nm,19.3s,baz=270,slow=38						
HDA	**Harding Lake**	**25.73**	**50**	P	**P**	**08 50 54.1**	**-0.6**
	baz=275						
HDA	**Harding Lake**	**25.73**	**50**	P	**P**	**08 50 54.6**	**-0.1**
BOD	**Bodaibo**	**26.18**	**294**	*e*P	**P**	**08 50 59.9**	**+1.0**
BOD				pmax	pmax		
	comp=Z,16nm,0.9s						
KLU	**Klutina**	**26.61**	**57**	P	**P**	**08 51 05.0**	**+2.2**
DOT	**Dot Lake**	**27.08**	**52**	P	**P**	**08 51 06.0**	**-0.9**
RAGM	**Ragged Mountai**	**27.45**	**59**	P	**P**	**08 51 10.8**	**+0.5**
GLB	**Gilahina Butte**	**27.61**	**56**	P	**P**	**08 51 12.8**	**+1.0**
VRDI	**Verde Repeater**	**27.83**	**57**	P	**P**	**08 51 14.2**	**+0.3**
K27K	**Chicken**	**27.89**	**51**	P	**P**	**08 51 10.3**	**-3.8**
	baz=279						
CRQM	**Cirque**	**28.09**	**58**	P	**P**	**08 51 17.6**	**+1.4**
BARN	**Barnard Glacie**	**28.71**	**57**	P	**P**	**08 51 22.1**	**+0.3**
CTGM	**Chitina Glacie**	**28.89**	**57**	P	**P**	**08 51 25.3**	**+2.0**
CTGM				IAmb	IAmb	08 51 40.0	
	comp=Z,11nm,1.0s						
KSRS	**Korea Array**	**29.75**	**246**	P	**P**	**08 51 32.1**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=35,slow=9.1,SNR=11						
KSRS				LR	LR	09 04 37.9	
	comp=Z,145nm,18.2s,baz=52,slow=39						
BJI	**Beijing**	**34.22**	**262**	P	**P**	**08 52 10.3**	**+0.3**
BJI				S	**S**	**08 57 27.8**	**-6.6**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BJI				LR	LR		
	comp=Z,280nm,14.0s						
BJI				LR	LR		
	comp=Z,210nm,14.6s						
ULN	**Ulaanbaatar**	**34.39**	**280**	*e*P	**P**	**08 52 10.6**	**-1.1**
ULN				pmax	pmax		
	comp=Z,7.0nm,2.5s						
SONM	**Songino Array**	**34.77**	**281**	P	**P**	**08 52 15.1**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=54,slow=7.8,SNR=5.7						
SONM				PcP	**PcP**	**08 54 47.5**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=75,slow=1.6,SNR=4.6						
HHC	**Hu-ho-hao-te**	**36.24**	**267**	*e*P	**P**	**08 52 27.8**	**+0.2**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.0s						
HHC				LR	LR		
	comp=Z,230nm,11.5s						
HHC				LR	LR		
	comp=Z,200nm,13.2s						
HHC				LR	LR		
	comp=Z,330nm,12.6s						
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COR	Corvallis	46.42	71	P		P		08 53 53.1	+2.3
NEW	Newport	47.20	64	P		P		08 53 57.1	+0.2
	baz=311								
WMQ	Urumqi	47.45	288	*e*P		P		08 53 59.1	0.0
WMQ				pP		pP		08 54 08.5	-0.1
WMQ				sP		sP		08 54 14.3	+2.0
WMQ				pmax	pmax				
	comp=Z,14nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,36nm,3.8s								
WMQ				LR	LR				
	comp=Z,87nm,24.1s								
WMQ				LR	LR				
	comp=Z,150nm,23.5s								
DAG	Danmarks Havn	47.48	0⇧	*i*P		P		08 53 59.2	+0.5
	comp=Z,10nm,0.9s								
DAG	Danmarks Havn	47.48	0⇧	*i*P		P		08 53 59.2	+0.5
DAG				pmax	pmax				
	comp=Z,10.0nm,0.9s								
KURK	Kurchatov	47.50	301	*ce*P		P		08 53 58.0	-1.2
KURK				pmax	pmax				
	comp=Z,19nm,1.3s								
KURK	Kurchatov	47.50	301	P		P		08 53 58.3	-0.9
I05D	Terrebonne, OR	47.63	70	P		P		08 54 00.5	+0.1
	baz=313								
E09A	Wood Farm, Sta	47.83	66	P		P		08 54 07.1	+5.2
G08A	Pilot Rock	48.23	68	P		P		08 54 06.3	+1.1
WALA	Waterton Lakes	48.27	61	P		P		08 54 06.3	+0.9
WALA				IAmb	IAmb			08 54 21.7	
	comp=Z,8.6nm,0.9s								
MK31	Makanchi Array	48.27	295	P		P		08 54 03.9	-1.4
MK31				pmax	pmax				
	comp=Z,5.0nm,0.8s								
MK31	Makanchi Array	48.27	295	P		P		08 54 03.9	-1.4
MK31				IAmb	IAmb			08 54 04.5	
	comp=Z,4.9nm,0.8s								
MKAR	Makanchi Array	48.27	295	P		P		08 54 03.8	-1.6
	comp=Z,4.8nm,0.6s,baz=55,slow=7.5,SNR=60								
J05D	Fort Rock, OR	48.40	71	P		P		08 54 04.8	-1.7
	baz=313								
MAKZ	Makanchi	48.42	295	P		P		08 54 04.9	-1.6
MAKZ				pmax	pmax				
	comp=Z,17nm,1.4s								
MAKZ	Makanchi	48.42	295	P		P		08 54 04.9	-1.6
JTMT	Jette	48.96	63	P		P		08 54 11.5	+0.8
BMO	Blue Mountains	49.39	67	P		P		08 54 15.2	+1.2
BMO				pmax	pmax				
	comp=Z,4.0nm,1.1s								
BMO	Blue Mountains	49.39	67	P		P		08 54 15.2	+1.2
BVAR	Borovoye Array	49.77	308	LR		LR		09 18 38.2	
	comp=Z,71nm,19.4s,baz=118,slow=40								
BRVK	Borovoye	49.80	308	*d*P		P		08 54 16.0	-0.9
BRVK				pmax	pmax				
	comp=Z,8.0nm,0.8s								
BRVK	Borovoye	49.80	308	P		P		08 54 16.7	-0.2
BRVK				IAmb	IAmb			08 54 16.8	
	comp=Z,7.4nm,0.7s								
MOD	Modoc Plateau	49.85	72	P		P		08 54 19.2	+1.6
MOD				IAmb	IAmb			08 54 32.7	
	comp=Z,8.7nm,1.2s								
FFC	Flin Flon	49.94	49	P		P		08 54 19.3	+1.4
FFC				pmax	pmax				
	comp=Z,3.0nm,1.0s								
FFC	Flin Flon	49.94	49	P		P		08 54 19.2	+1.4
HAMF	Hammerfest	50.30	343	*e*P		P		08 54 20.0	-0.4
KEV	Kevo	50.52	342	P		P		08 54 22.0	0.0
KEV				pmax	pmax				
	comp=Z,28nm,1.4s								
KEV	Kevo	50.52	342	P		P		08 54 22.0	0.0
LVZ	Lovozero	50.59	337⇑	*e*P		P		08 54 22.8	+0.1
LVZ				pmax	pmax				
	comp=Z,18nm,0.9s								
SUMG	Summit	50.87	8⇑	*i*P		P		08 54 26.0	+0.9
	comp=Z,30nm,0.8s								
SUMG	Summit	50.87	8	P		P		08 54 25.6	+0.5
SUMG				pmax	pmax				
	comp=Z,23nm,1.1s								
SUMG	Summit	50.87	8	P		P		08 54 25.6	+0.5
ARCES	ARCESS Array B	50.98	342	P		P		08 54 25.6	0.0
	comp=Z,10nm,0.6s,baz=29,slow=9.0,SNR=35								
ARE0	ARCESS Array S	50.98	342	*e*P		P		08 54 25.5	0.0
EGMT	Eagleton	51.00	60	P		P		08 54 24.3	-1.8
	baz=314								
MCMT	McKenzie Canyo	51.69	65	P		P		08 54 31.8	+0.2
BOZ	Bozeman (W)	51.77	63	P		P		08 54 30.2	-1.8
	baz=315								
HLID	Hailey	51.78	67	P		P		08 54 31.3	-0.8
	baz=315								
KTK1	Kautokeino	51.82	343⇑	*i*P		P		08 54 32.0	+0.2
TRO	Tromso	51.94	345	*e*P		P		08 54 33.0	+0.3
PNTR	Pine Nut	52.22	74	IAmb	IAmb			08 54 40.8	
	comp=Z,5.4nm,0.8s								
ARU	Arti	52.28	317	LR		LR		09 19 00.4	
	comp=Z,168nm,20.1s,baz=12,slow=39								
ARU	Arti	52.28	317	*d*P		P		08 54 35.1	-0.3
ARU								08 56 32.4	
ARU				S		S		09 01 59.7	+1.7
ARU				SS		SS		09 05 29.1	-5.9
ARU				pmax	pmax				
	comp=Z,6.0nm,0.6s								
WAKR	Walker	52.73	75	IAmb	IAmb			08 54 56.5	
	comp=Z,4.4nm,0.9s								
PRGR	Permogore	52.77	328	*e*P		P		08 54 36.8	-2.2
PRGR				*e**PP		pP		08 54 49.9	+1.3
PRGR				pmax	pmax				
	comp=Z,33nm,0.9s								
YNE	Yellowstone No	52.99	63	P		P		08 54 42.4	+1.2
JMIC	Jan Mayen	53.14	356	LR		LR		09 15 07.8	
	comp=Z,30nm,21.3s,baz=339,slow=34								
H17A	Grant Village	53.15	63	P		P		08 54 41.4	-0.9
	baz=316								
H17A	Grant Village	53.15	63	IAmb	IAmb			08 55 01.5	
	comp=Z,9.2nm,1.2s								
RLMT	Red Lodge	53.28	62	P		P		08 54 43.7	+0.4
	baz=316,SNR=7.7								
RLMT	Red Lodge	53.28	62	IAmb	IAmb			08 54 53.1	
	comp=Z,4.7nm,0.8s								
FLWY	Flagg Ranch	53.31	64	IAmb	IAmb			08 55 02.7	
	comp=Z,5.5nm,0.9s								
IMW	Indian Meadow	53.32	64	IAmb	IAmb			08 55 01.9	
	comp=Z,4.3nm,0.8s								
DGMT	Dagmar	53.33	56	P		P		08 54 43.0	-0.3
	baz=316								
NVAR	Mina Array Bea	53.40	74	P		P		08 54 46.0	+1.7
	comp=Z,1.5nm,0.6s,baz=307,slow=7.2,SNR=19								
NV11	Mina Array Sit	53.48	74	P		P		08 54 46.8	+2.0
TPAW	Teton Pass	53.60	64	IAmb	IAmb			08 55 02.5	
	comp=Z,9.0nm,1.4s								
LAO	LASA Array	53.65	59	P		P		08 54 46.3	+0.6
	baz=316								
LAO	LASA Array	53.65	59	IAmb	IAmb			08 54 51.3	
	comp=Z,8.0nm,1.1s								
N2VI	Vinje	53.82	346⇑	*i*P		P		08 54 47.2	+0.6
STEI	Steigen	54.05	345	*e*P		P		08 54 48.1	-0.1
TARG	Taragay, Kyrgy	54.11	293	P		P		08 54 49.0	-0.7
TARG				IAmb	IAmb			08 54 57.4	
	comp=Z,4.6nm,0.7s								
FRB	Frobisher Bay	54.22	25	P		P		08 54 49.2	-0.3
	comp=Z,6.3nm,0.4s,baz=320,slow=8.3,SNR=14								
N2TV	Tromvik	54.40	345	*e*P		P		08 54 51.2	+0.4
NBB08	Skaug oppvekst	54.64	345	*e*P		P		08 54 53.0	+0.5
USP	Ospenovka	54.69	297	P		P		08 54 52.9	-0.4
	SNR=11								
SMMC	Simmler	54.76	78	P		P		08 54 55.3	+1.3
	baz=318								
SFJD	Kangerlussuaq	54.81	15	P		P		08 54 53.8	0.0
	comp=Z,8.5nm,0.6s,baz=294,slow=10.0,SNR=2.4								
SFJD	Kangerlussuaq	54.81	15	P		P		08 54 53.9	+0.2
SFJD				pmax	pmax				
	comp=Z,8.0nm,0.7s								
SFJD	Kangerlussuaq	54.81	15	P		P		08 54 53.9	+0.2
BW06	Boulder Array	54.83	64	P		P		08 54 54.6	-0.1
	baz=317								
PDAR	Pinedale Array	54.83	64	P		P		08 54 55.7	+1.0
	comp=Z,1.7nm,0.7s,baz=324,slow=2.6,SNR=20								
KBK	Karagaybulak	54.90	296	P		P		08 54 54.7	-0.4
	SNR=6.0								
R11A	Troy Canyon, C	54.92	72	P		P		08 54 54.6	-0.7
	baz=317								
CWC	Cottonwood Cre	54.98	75	P		P		08 54 56.4	+0.7
	baz=318								
DUG	Dugway, Tooele	55.03	69	P		P		08 54 56.5	+0.5
	baz=317								
NBB05	Inndyr	55.05	346	*e*P		P		08 54 55.7	+0.2
AAK	Ala-Archa	55.15	296	P		P		08 54 53.0	-3.8
	SNR=9.0								
AAK	Ala-Archa	55.15	296	*d*P		P		08 54 56.2	-0.6
AAK				pmax	pmax				
	comp=Z,17nm,0.8s								
AAK	Ala-Archa	55.15	296	P		P		08 54 56.3	-0.6
NBB30	Finnes	55.15	346⇑	*i*P		P		08 54 56.3	0.0
KZA	Kyzart	55.17	295	P		P		08 54 56.4	-0.9
	SNR=9.9								
KLMR	Klimovskoe	55.17	330	*e*P		P		08 54 55.6	-0.9
KLMR				pmax	pmax				
	comp=Z,18nm,1.0s								
KLMR	Klimovskoe	55.17	330	*e*P		P		08 54 55.6	-0.9
KLMR				AMP				08 54 58.7	
	comp=Z,18nm,1.0s								
ISA	Isabella, Lake	55.34	76	P		P		08 54 58.3	+0.1
	baz=318								
UCH	Uchtor	55.44	296	P		P		08 54 58.7	-0.5
	SNR=7.0								
EKS2	Erkin-Say	55.49	296	P		P		08 54 58.6	-0.7
	SNR=24								
MPMC	Manual Prospec	55.58	75	P		P		08 55 00.4	+0.3
	baz=318								
TPNV	Topopah Spring	55.59	74	P		P		08 55 00.2	+0.1
	baz=318								
FURC	Furnace Creek,	55.62	74	P		P		08 55 00.9	+0.8
	baz=318,SNR=11								
KONS	Konsvik	55.68	346	*e*P		P		08 55 01.1	+1.1
LSA	Lhasa	55.76	273	P		P		08 55 02.5	+0.8
LSA				pmax	pmax				
	comp=Z,12nm,0.7s								
LSA	Lhasa	55.76	273	P		P		08 55 02.5	+0.8
MOR8	Moi Rana	55.80	345	*e*P		P		08 54 59.9	-1.1
PRN	Pahroc Range	55.90	72	IAmb	IAmb			08 55 12.0	
	comp=Z,5.6nm,0.7s								
AML	Almayashu	55.92	296	P		P		08 55 02.4	-0.3
	SNR=10								
EDW2	Edwards Air Fo	56.18	77	P		P		08 55 04.8	+0.6
	baz=318								
SHOC	Shoshone, Teco	56.36	74	P		P		08 55 06.1	+0.7
	baz=318								
K22A	Casper	56.44	62	P		P		08 55 06.0	-0.1
	baz=318								
GSC	Goldstone, Bar	56.51	75	P		P		08 55 07.3	+0.7
	baz=318,SNR=7.1								
GSC	Goldstone, Bar	56.51	75	IAmb	IAmb			08 55 12.3	
	comp=Z,6.0nm,0.9s								
RSSD	Black Hills	56.57	59	P		P		08 55 06.9	-0.2
	baz=318								
RSSD	Black Hills	56.57	59	P		P		08 55 08.0	+0.9
RSSD				pmax	pmax				
	comp=Z,3.0nm,0.7s								
RSSD	Black Hills	56.57	59	P		P		08 55 08.0	+0.9
RSSD				IAmb	IAmb			08 55 08.5	
	comp=Z,3.2nm,0.7s								
KSH	Kashi	56.68	292	*e*P		P		08 55 09.8	+2.0
KSH				S		S		09 03 01.0	+3.0
KSH				pmax	pmax				
	comp=Z,13nm,1.1s								
KSH				pmax	pmax				
	comp=Z,86nm,5.0s								
BFSC	Mount Baldy Ra	56.84	77	P		P		08 55 09.9	+0.8
	baz=319								
SUF	Sumiainen	56.87	338	P		P		08 55 09.6	+1.0
SUF				pmax	pmax				
	comp=Z,42nm,0.8s								
TUQ	Turquoise Moun	56.89	75	P		P		08 55 10.1	+0.7
	baz=319								
HEC	Hector,Ludlow	57.12	75	P		P		08 55 10.8	-0.2
	baz=319								
AGMN	Agassiz Nation	57.22	51	P		P		08 55 10.8	-0.5
	baz=319								
AGMN	Agassiz Nation	57.22	51	IAmb	IAmb			08 55 12.4	
	comp=Z,5.1nm,0.8s								
O20A	White River Ci	57.44	65	P		P		08 55 13.5	+0.2
	baz=318,SNR=10.0								
O20A	White River Ci	57.44	65	P		P		08 55 14.8	+1.6
GMRC	Granite Mounta	57.52	75	P		P		08 55 14.1	+0.3
	baz=319								
MURC	Murrieta	57.58	77	P		P		08 55 14.1	0.0
	baz=319								
NSS	Namsos	57.71	346	*e*P		P		08 55 14.8	+0.3
BELC	Belle Mtn. Jos	57.93	76	P		P		08 55 16.9	+0.2
	baz=319								
PFO	Pinyon Flats O	57.97	76	P		P		08 55 16.6	-0.4
	baz=319								
FINES	FINESS Array B	58.03	337	P		P		08 55 17.1	+0.4
	comp=Z,16nm,0.7s,baz=40,slow=8.0,SNR=73								
N23A	Red Feather La	58.03	63	P		P		08 55 17.2	-0.3
	baz=319								
B35A	B.J. Littlefor	58.10	50	IAmb	IAmb			08 55 26.7	
	comp=Z,10nm,1.1s								
PV21	Cone Mtn., Par	58.24	67	IAmb	IAmb			08 55 33.8	
	comp=Z,4.1nm,0.8s								
IRM	Iron Mountain	58.27	75	P		P		08 55 19.0	0.0
	baz=319								
PV23	Carpenter Ridg	58.30	67	IAmb	IAmb			08 55 25.2	
	comp=Z,10nm,1.2s								
PV22	Blue Mesa, Par	58.35	67	IAmb	IAmb			08 55 37.7	
	comp=Z,5.4nm,1.0s								
PV04	Paox Valley	58.40	67	IAmb	IAmb			08 55 25.7	
	comp=Z,6.8nm,0.9s								
PV20	West Nyswonger	58.41	67	IAmb	IAmb			08 55 34.6	
	comp=Z,4.4nm,0.8s								
PV16	Nyswonger Mesa	58.46	67	P		P		08 55 21.6	+1.2
PV16				IAmb	IAmb			08 55 29.8	
	comp=Z,5.0nm,0.7s								
BC3	Big Chuckawall	58.48	76	P		P		08 55 20.9	+0.4
	baz=319								
PV07	Paradox Valley	58.50	67	IAmb	IAmb			08 55 25.4	
	comp=Z,3.9nm,0.8s								
PV18	Skein Mesa, Pa	58.51	67	IAmb	IAmb			08 55 30.1	
	comp=Z,14nm,1.5s								
PDMCI	Parker Dam,Lak	58.71	74	P		P		08 55 22.2	+0.3
	baz=319								
PV01	Paradox Valley	58.77	67	IAmb	IAmb			08 55 38.9	
	comp=Z,8.1nm,1.5s								
ISCO	Idaho Springs	59.02	64	P		P		08 55 24.7	+0.3
	baz=319,SNR=6.6								
ISCO	Idaho Springs	59.02	64	IAmb	IAmb			08 55 43.0	
	comp=Z,11nm,1.4s								
WUAZ	Wupatki	59.27	71	P		P		08 55 26.2	+0.1
	baz=319								
WUAZ	Wupatki	59.27	71	IAmb	IAmb			08 55 35.8	
	comp=Z,4.4nm,0.8s								
GLA	Glamis	59.28	76	P		P		08 55 26.4	+0.4
	baz=320								
Y14A	Wickenburg	59.60	74	P		P		08 55 29.5	+1.4
Y14A				IAmb	IAmb			08 55 33.5	
	comp=Z,3.6nm,0.9s								
S22A	4UR Ranch, Cre	59.96	66	P		P		08 55 31.2	+0.3
	baz=320,SNR=7.5								
S22A	4UR Ranch, Cre	59.96	66	IAmb	IAmb			08 55 41.4	
	comp=Z,3.3nm,0.8s								
MOL	Molde	60.17	347	*e*P		P		08 55 32.0	+0.4
CMAR	Chiang Mai Arr	60.25	259	P		P		08 55 33.8	+1.0
	comp=Z,1.2nm,0.3s,baz=22,slow=6.8,SNR=9.7								
CMAR				LR		LR		09 25 08.1	
	comp=Z,83nm,18.2s,baz=45,slow=40								
CMAR	Chiang Mai Arr	60.25	259	*i* P		P		08 55 33.7	+1.0
CMAR				pmax	pmax				
	comp=Z,2.0nm,0.6s								
ECSD	EROS Data Cent	60.37	55	P		P		08 55 33.3	-0.1
	baz=321								
ECSD	EROS Data Cent	60.37	55	P		P		08 55 34.5	+1.2
ECSD				IAmb	IAmb			08 55 48.9	
	comp=Z,4.2nm,1.1s								
SPX	San Pedro Mart	60.47	78	IAmb	IAmb			08 55 40.0	
	comp=Z,5.0nm,0.9s								
DOMB	Dombas	60.49	346	*e*P		P		08 55 34.0	+0.2
VSU	Vasula	60.55	335	*de*P		P		08 55 34.5	+0.3
VSU				pmax	pmax				
	comp=Z,44nm,0.9s								
SDCO	Great Sand Dun	60.64	65	P		P		08 55 35.6	0.0
	baz=320								
CHGR	Chuyangaron	60.81	296	P		P		08 55 35.2	-1.3
OBN	Obninsk	60.85	328⇓	*e*P		P		08 55 35.6	-0.7
OBN				*e*				08 57 49.5	
OBN				pmax	pmax				
	comp=Z,13nm,0.4s								
OBN				MLR	MLR				
	comp=Z,80nm,20.0s								
SPMN	Marine on St.	60.93	52	P		P		08 55 36.9	-0.2
	baz=322								
NC204	NORSAR Array S	60.98	345⇑	*i*P		P		08 55 37.5	+0.2
KSCO	Kaye Shedlock'	61.12	62	P		P		08 55 38.6	0.0
	baz=320								
NB2	NORSAR Subarra	61.14	345	P		P		08 55 38.2	-0.1
	comp=Z,9.0nm,0.5s,baz=18,slow=6.9								
NB2	NORSAR Subarra	61.14	345	P		P		08 55 38.2	-0.1
	comp=Z,9.0nm,0.5s,baz=18,slow=6.9								
NOA	NORSAR Array B	61.14	345	P		P		08 55 38.4	+0.1
	comp=Z,11nm,0.6s,baz=18,slow=6.9,SNR=56								
NOA				LR		LR		09 23 33.8	
	comp=Z,40nm,19.7s,baz=30,slow=38								
NC602	NORSAR Array S	61.38	344	*e*P		P		08 55 39.9	+0.1
T25A	Trinidad	61.66	65	P		P		08 55 42.6	+0.2
	baz=320								
T25A	Trinidad	61.66	65	IAmb	IAmb			08 55 54.8	
	comp=Z,4.8nm,0.9s								
COWI	Conover	61.81	49	IAmb	IAmb			08 55 44.9	
	comp=Z,3.8nm,0.8s								
SKAR	Skarslia	61.90	346	*e*P		P		08 55 44.0	+0.6
SIJI	Sorong	62.18	216	LR		LR		09 21 54.3	
	comp=Z,27nm,18.3s,baz=164,slow=35								
SCHQ	Schefferville	62.36	30	P		P		08 55 46.5	0.0
	comp=Z,5.0nm,0.6s,baz=350,slow=7.3,SNR=11								
SCHQ				LR		LR		09 24 43.0	
	comp=Z,69nm,20.5s,baz=341,slow=38								
SCHQ	Schefferville	62.36	30	IAmb	IAmb			08 55 47.4	
	comp=Z,6.2nm,0.8s								
VRH	Novokhopyorsk	62.52	323	*e*P		P		08 55 46.5	-1.2
VRH				pmax	pmax				
	comp=Z,10.0nm,0.5s								
D46A	Sault St. Mari	63.26	45	P		P		08 55 51.1	-1.5
	baz=325								
VSR	Storozhevoye	63.37	324	*e*P		P		08 55 52.5	-0.8
VSR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
D47A	Chapleau	63.49	44	P		P		08 55 52.7	-1.6
	baz=325								
I42A	Draeger Farm,	63.68	50	IAmb	IAmb			08 55 56.4	
	comp=Z,5.2nm,0.8s								
D48A	Paudash Townsh	63.90	43	P		P		08 55 55.0	-1.9
	baz=326								
E47A	Iron Bridge	63.92	45	P		P		08 55 55.5	-1.5
	baz=325								
D49A	Beulah Townshi	63.99	43	P		P		08 55 55.6	-1.9
	baz=326								
KBL	Kabul	64.05	294	P		P		08 55 56.5	-1.9
KBL				pmax	pmax				
	comp=Z,6.0nm,0.9s								
KBL	Kabul	64.05	294	P		P		08 55 56.5	-1.9
KBL				IAmb	IAmb			08 55 57.4	
	comp=Z,5.9nm,0.8s								
LSQQ	Lebel-sur-Quev	64.11	39	P		P		08 55 57.3	-0.9
	baz=327								
CHGQ	Chibougamau	64.29	37	P		P		08 55 58.3	-1.1
	baz=328								
E48A	Lockeyer	64.33	44	P		P		08 55 58.1	-1.6
	baz=326								
D50A	G1974 Best Tow	64.65	42	P		P		08 56 00.2	-1.6
	baz=327								
F48A	Evansville	64.69	45	P		P		08 56 00.3	-1.8
	baz=326								
VLDQ	Val d'Or	64.74	40	P		P		08 56 00.8	-1.5
D51A	Lot 18 Range I	64.89	42	P		P		08 56 01.8	-1.6
	baz=327								
E50A	Wahnapitae	64.93	43	P		P		08 56 02.1	-1.5
	baz=326								
MSTX	Muleshoe	64.96	66	P		P		08 56 04.1	-0.1
	baz=322								
MSTX	Muleshoe	64.96	66	IAmb	IAmb			08 56 15.9	
	comp=Z,9.8nm,1.1s								
F49A	Sandfield	64.97	44	P		P		08 56 02.6	-1.3
	baz=326								
P38A	Dawn	65.02	56	IAmb	IAmb			08 56 16.2	
	comp=Z,8.3nm,0.9s								
E51A	G1948 Merrick	65.31	42	P		P		08 56 04.3	-1.9
	baz=327								
D52A	ZEK Kipawa Sen	65.35	41	P		P		08 56 05.0	-1.3
	baz=327								
MNTX	Cornudas Mount	65.39	70	P		P		08 56 07.9	+1.0
	baz=322,SNR=6.8								
MNTX	Cornudas Mount	65.39	70	P		P		08 56 08.0	+1.1
MNTX				IAmb	IAmb			08 56 20.1	
	comp=Z,7.3nm,1.1s								
D53A	Lac Vacive, Po	65.52	41	P		P		08 56 06.1	-1.3
	baz=328								
P40A	Paris	65.79	55	IAmb	IAmb			08 56 21.1	
	comp=Z,7.4nm,0.8s								
E52A	Mattawa	65.84	42	P		P		08 56 07.9	-1.6
	baz=327								
D54A	Lac Fusel, La	65.84	40	P		P		08 56 08.3	-1.3
	baz=328								
E53A	Dumoine, Ponti	66.13	41	P		P		08 56 09.7	-1.7
	baz=328								
HDIL	Hopedale	66.20	52	P		P		08 56 11.3	-0.7
	baz=324								
E54A	Lac Daplat, Po	66.26	41	P		P		08 56 10.6	-1.6
	baz=328								
ALGO	Algonquin Park	66.34	42	P		P		08 56 11.2	-1.6
	baz=328								
WMOK	Wichita Mounta	66.38	63	P		P		08 56 13.0	-0.2
	baz=323,SNR=8.3								
WMOK	Wichita Mounta	66.38	63	IAmb	IAmb			08 56 25.0	
	comp=Z,9.4nm,0.9s								
D55A	Sainte-Anne-du	66.38	39	P		P		08 56 12.2	-0.7
	baz=329								
D56A	ZEC Mazanza, M	66.61	39	P		P		08 56 13.4	-1.1
	baz=329								
GEYT	Alibeck	66.75	304	P		P		08 56 15.6	0.0
	comp=Z,2.4nm,0.6s,baz=320,slow=3.9,SNR=4.6								
AKASG	Malin Array Be	66.86	330	P		P		08 56 15.6	-0.3
	comp=Z,2.4nm,0.3s,baz=26,slow=6.1,SNR=12								
AKBB	Malin Array Si	66.86	330	IAmb	IAmb			08 56 16.9	
	comp=Z,7.8nm,0.8s								
TUL1	Leonard	66.92	60	P		P		08 56 16.4	-0.2
	baz=323								
D57A	Chemin Vers le	66.94	38	P		P		08 56 15.6	-0.9
	baz=329,SNR=6.1								
E56A	St. Veronique	66.94	39	P		P		08 56 15.5	-1.0
	baz=329								
LATQ	La Tuque	67.00	37	P		P		08 56 15.9	-1.1
	baz=330								
I51

KBZ Khabaz 68.43 317 P P 08 56 26.6 +0.7
comp=Z,6.4nm,0.8s,baz=25,slow=2.0,SNR=14
KBZ LR LR 09 31 02.0
comp=Z,119nm,18.7s,baz=20,slow=40
ESK Eskdalemuir 68.44 351 P P 08 56 26.4 +0.6
ESK pmax pmax
comp=Z,21nm,0.8s
ESK Eskdalemuir 68.44 351 P P 08 56 26.4 +0.6
W39A Magazine 68.46 59 P P 08 56 25.7 -0.6
baz=324
W39A Magazine 68.46 59 IAmb IAmb 08 56 37.8
comp=Z,11nm,1.4s
F60A Warwick 68.52 38 P P 08 56 25.1 -1.3
baz=331
E61A Lac Etchemin 68.61 36 P P 08 56 26.3 -0.8
baz=331
FCAR Ozark Folk Cen 68.69 57 IAmb IAmb 08 56 39.1
comp=Z,9.0nm,1.0s
J55A Hilton 68.71 43 P P 08 56 26.8 -0.9
baz=328
LONY Lake Ozonia 68.76 40 P P 08 56 27.0 -1.0
baz=330
E62A Clayton Lake 68.76 36 P P 08 56 27.5 -0.5
baz=332,SNR=7.9
E62A Clayton Lake 68.76 36 P P 08 56 27.8 -0.2
P48A Milroy 68.80 50 IAmb IAmb 08 56 28.2
comp=Z,7.5nm,0.7s
ERPA Erie 68.84 45 P P 08 56 28.6 +0.1
baz=328
F61A St Evariste 68.84 37 P P 08 56 27.9 -0.6
baz=331,SNR=5.8
D63A Stockholm 68.85 35 P P 08 56 27.9 -0.7
baz=332
G59A Clarenceville 68.86 39 P P 08 56 27.7 -0.9
baz=330
L53A Girard 68.87 45 P P 08 56 28.4 -0.4
baz=328
N51A Ashland 68.88 47 P P 08 56 28.5 -0.3
baz=327
K54A Basiliko Farm, 68.93 44 P P 08 56 28.5 -0.6
baz=328
MOQ Mont Orford 68.98 38 P P 08 56 29.7 +0.2
L54A Sinclairville 69.00 45 P P 08 56 29.4 -0.2
baz=328
J56A Wolcott 69.07 42 P P 08 56 28.7 -1.2
baz=329
K55A Perry 69.07 43 P P 08 56 29.1 -0.9
baz=328
H58A Gabriels 69.08 40 P P 08 56 28.3 -1.7
baz=330
MIAR Mount Ida 69.09 59 P P 08 56 30.3 +0.1
baz=324
MIAR Mount Ida 69.09 59 IAmb IAmb 08 56 41.9
comp=Z,7.8nm,1.1s
WHAR Wooly Hollow 69.10 58 IAmb IAmb 08 56 41.4
comp=Z,9.8nm,1.1s
M53A WI Miller and 69.13 46 P P 08 56 29.9 -0.5
baz=328
G60A Masonville 69.14 38 P P 08 56 29.6 -0.8
baz=331
ACSO Alum Creek Sta 69.20 48 P P 08 56 30.4 -0.4
baz=327
W41B Gary Mavity, V 69.21 58 P P 08 56 30.9 -0.1
baz=325
W41B Gary Mavity, V 69.21 58 IAmb IAmb 08 56 42.2
comp=Z,14nm,1.2s
F62A Pittston Farm, 69.25 36 P P 08 56 30.6 -0.5
baz=332
JCT Junction City 69.26 66 P P 08 56 31.2 -0.2
baz=324
JCT Junction City 69.26 66 P P 08 56 31.2 -0.2
JCT pmax pmax
comp=Z,7.0nm,0.9s
JCT Junction City 69.26 66 P P 08 56 31.2 -0.2
JCT IAmb IAmb 08 56 49.7
comp=Z,7.3nm,0.8s
G61A St-Isidore-de- 69.26 38 P P 08 56 30.9 -0.3
baz=331
E63A Oxbow 69.30 35 P P 08 56 30.7 -0.6
baz=332
K56A Middlesex 69.38 43 P P 08 56 31.5 -0.5
baz=329
SORM Soroca 69.42 329 ⇑P P 08 56 31.6 -0.4
SORM Soroca 69.42 329 ⇑P P 08 56 31.6 -0.4
O51A Pataskala 69.43 48 P P 08 56 32.2 -0.1
baz=327,SNR=5.4
WCI Wyandotte Cave 69.44 52 P P 08 56 32.4 +0.1
baz=326
M54A Oil Creek Stat 69.48 45 P P 08 56 31.9 -0.6
baz=328
E64A Bridgewater 69.49 35 P P 08 56 31.6 -0.9
baz=332
X40A Basin Creek Fa 69.49 59 P P 08 56 32.4 -0.3
baz=325
X40A Basin Creek Fa 69.49 59 IAmb IAmb 08 56 44.8
comp=Z,7.9nm,1.2s
J58A Remsen 69.58 41 P P 08 56 32.2 -1.0
baz=330
CHVG Ch'k'valeri 69.60 317 P P 08 56 36.9 +3.6
N53A Lisbon 69.60 46 P P 08 56 32.8 -0.5
baz=328
G62A West of Eustis 69.66 37 P P 08 56 33.2 -0.4
baz=331
F63A Nahmakanta, Br 69.71 36 P P 08 56 32.5 -1.4
baz=332
I59A Olmsteadville 69.73 40 P P 08 56 32.9 -1.1
baz=330
OJC Ojcow 69.73 336 eP P 08 56 34.0 0.0
OJC Ojcow 69.73 336 IAmb IAmb 08 56 36.2
comp=Z,9.2nm,1.0s
O52A Adamsville 69.77 48 P P 08 56 33.9 -0.5
baz=327
L56A Greenwood 69.77 43 P P 08 56 33.5 -0.9
baz=329
H61A Lyndonville 69.78 38 P P 08 56 32.8 -1.5
baz=331
J59A Piesco 69.78 41 P P 08 56 33.3 -1.1
baz=330
F64A Sherman 69.81 35 P P 08 56 33.4 -1.1
baz=332
F64A Sherman 69.81 35 P P 08 56 34.1 -0.4
F64A IAmb IAmb 08 56 35.3
comp=Z,10nm,1.1s
N54A Moraine State 69.81 46 P P 08 56 34.1 -0.5
baz=328
M55A Ridgway 69.87 45 P P 08 56 34.1 -0.9
baz=328
KSP Ksiaz 69.92 338 eP P 08 56 35.0 -0.1
H62A Milan 70.01 38 P P 08 56 34.9 -0.8
baz=331
LBNH Lisbon 70.03 39 P P 08 56 35.5 -0.4
baz=331
PKME Peaks-Kenny Pk 70.03 36 P P 08 56 35.1 -0.7
baz=332
M56A Emporium 70.09 44 P P 08 56 35.1 -1.2
baz=329
T47A Sharon Grove 70.10 53 IAmb IAmb 08 56 37.9
comp=Z,14nm,1.4s
CLL Collm 70.14 340 *i* P P 08 56 36.4 0.0
comp=Z,11nm,1.3s
CLL *e* 08 56 46.0
CLL Collm 70.14 340 *i* P P 08 56 36.4 0.0
CLL *e* 08 56 46.0
CLL pmax pmax
comp=Z,11nm,1.3s
L57A Andrews Acres 70.16 43 P P 08 56 35.5 -1.2
baz=329
CHVC Chvalec 70.21 338 eP P 08 56 39.5 +2.6
G64A Maxfield 70.22 36 P P 08 56 35.9 -1.1
baz=332
K59A Cooperstown 70.25 41 P P 08 56 36.4 -0.9
baz=330
J60A Lant Hill Farm 70.37 40 P P 08 56 37.0 -1.0
baz=330
BRG Berggiesshubel 70.37 340 eP P 08 56 38.7 +0.9
comp=Z,4.2nm,0.9s
N55A Marion Center 70.37 45 P P 08 56 37.3 -0.8
baz=328
DPC Dobruska-Polom 70.38 338 eP P 08 56 39.3 +1.3
DPC Dobruska-Polom 70.38 338 eP P 08 56 39.3 +1.3
WVT Waverly 70.48 54 P P 08 56 38.9 +0.1
baz=326
WVT Waverly 70.48 54 P P 08 56 38.9 +0.1
WVT pmax pmax
comp=Z,10.0nm,1.3s
WVT Waverly 70.48 54 P P 08 56 38.9 +0.1
WVT IAmb IAmb 08 56 40.3
comp=Z,10.0nm,1.2s
P53A Whipple 70.49 48 P P 08 56 38.3 -0.4
baz=328
N56A West Decatur 70.53 45 P P 08 56 38.0 -1.0
baz=329
KRLC Kraliky 70.54 337 eP P 08 56 39.6 +0.6
KRLC Kraliky 70.54 337 eP P 08 56 39.6 +0.6
I62A Tamworth 70.56 38 P P 08 56 38.9 -0.2
baz=331
Q52A Bidwell 70.56 49 P P 08 56 38.6 -0.6
baz=327
PVCC Panska Ves 70.57 339 AMS AMS 09 32 20.0
comp=Z,100nm,12.7s
H64A Troy 70.61 37 P P 08 56 38.9 -0.4
baz=332
M57A Sunshine Farm, 70.62 44 P P 08 56 38.1 -1.5
baz=329
G65A Princeton 70.66 35 P P 08 56 39.4 -0.3
baz=333
G65A Princeton 70.66 35 P P 08 56 40.1 +0.4
MORC Moravsky Berou 70.66 337 ⇓P P 08 56 39.5 -0.2
MORC Moravsky Berou 70.66 337 eP P 08 56 40.5 +0.8
MORC Moravsky Berou 70.66 337 P P 08 56 40.9 +1.2
MORC pmax pmax
comp=Z,7.0nm,0.8s
MORC Moravsky Berou 70.66 337 P P 08 56 40.9 +1.2
MORC IAmb IAmb 08 56 42.0
comp=Z,7.4nm,0.8s
L59A Walton 70.68 42 P P 08 56 37.8 -2.2
baz=330
O55A Ligonier 70.73 46 P P 08 56 38.4 -1.9
baz=328
BUR08 Bucovina Ar. S 70.75 331 P P 08 56 40.7 +0.4
BUR08 IAmb IAmb 08 56 42.3
comp=Z,6.5nm,0.8s
P54A Burton 70.77 47 P P 08 56 39.4 -1.1
baz=328
BURAR Bucovina Array 70.78 331 ⇑P P 08 56 40.6 +0.1
BURAR Bucovina Array 70.78 331 ⇑P P 08 56 40.6 +0.1
M58A Price's Panora 70.85 43 P P 08 56 39.8 -1.2
baz=329
H65A Eastbrook 70.88 36 P P 08 56 39.9 -1.1
baz=333
K61A Williamstown 70.92 40 P P 08 56 40.1 -1.3
baz=331
N57A Milroy 70.96 44 P P 08 56 41.0 -0.6
baz=329
Q53A Leroy 70.96 48 P P 08 56 41.5 -0.1
baz=328
O56A Blue Knob Stat 70.97 45 P P 08 56 41.2 -0.6
baz=329
PRU Pruhonice 71.09 339 eP P 08 56 44.0 +1.8
PRU MLR MLR
comp=Z,100nm,13.5s
PRU Pruhonice 71.09 339 eP P 08 56 44.0 +1.8
PRU AMS AMS 09 32 50.0
comp=Z,100nm,13.5s
M59A Waymart 71.10 42 P P 08 56 40.0 -2.5
baz=330
H66A Whiting 71.11 35 P P 08 56 41.6 -0.8
baz=333
Q54A Coxs Mills 71.14 47 P P 08 56 42.3 -0.4
baz=328
L60A Shokan 71.16 41 P P 08 56 40.9 -2.0
baz=330
CLTN Cedars of Leba 71.19 53 IAmb IAmb 08 56 43.9
comp=Z,5.1nm,0.8s
N58A Sunbury 71.21 44 P P 08 56 41.6 -1.5
baz=329
R53A Hurricane 71.23 49 P P 08 56 42.9 -0.4
baz=328
R53A Hurricane 71.23 49 IAmb IAmb 08 56 52.0
comp=Z,8.9nm,0.8s
V48A Smith Brothers 71.27 54 IAmb IAmb 08 56 52.7
comp=Z,3.7nm,0.8s
K62A Royalston 71.30 40 P P 08 56 43.6 -0.1
baz=331
VRAC Vranov 71.31 337 eP P 08 56 45.5 +1.9
PLAL Pickwick Lake 71.32 55 IAmb IAmb 08 56 48.8
comp=Z,6.6nm,0.7s
TESR Tescani 71.39 330 ⇓P P 08 56 44.2 +0.2
Q55A Buckhannon 71.44 47 P P 08 56 44.4 -0.2
baz=328
JAVC Velka Javorina 71.49 336 eP P 08 56 46.6 +1.8
N59A State Game Lan 71.51 43 P P 08 56 43.4 -1.5
baz=330
P56A Dayton Farm, R 71.52 46 P P 08 56 43.9 -1.1
baz=329
K63A Dunstable 71.53 39 P P 08 56 44.3 -0.6
baz=331
VYHS Vyhne 71.57 336 eP P 08 56 46.2 +1.0
VYHS Vyhne 71.57 336 eP P 08 56 46.2 +1.0
KRUC Moravsky 71.58 337 eP P 08 56 47.0 +1.8
M60A Port Jervis 71.59 42 P P 08 56 43.6 -1.8
baz=330
R54A Victor 71.76 48 P P 08 56 45.4 -1.1
baz=328
O59A Robesonia 71.87 44 P P 08 56 45.6 -1.5
baz=330
M61A Granite Spring 71.92 41 P P 08 56 45.8 -1.6
baz=331
VRI Vrincioaia 71.95 329 ⇑P P 08 56 48.2 +0.7
VRI Vrincioaia 71.95 329 ⇑P P 08 56 48.2 +0.7
R55A Marlinton 72.03 47 P P 08 56 47.3 -0.9
baz=328
Q57A Strasburg 72.09 46 P P 08 56 47.5 -0.9
baz=329
KHC Kasperske Hory 72.10 339 deP P 08 56 49.6 +1.2
KHC pmax pmax
comp=Z,13nm,1.0s
KHC Kasperske Hory 72.10 339 eP P 08 56 50.1 +1.7
KHC AMS AMS 09 33 40.0
comp=Z,100nm,17.8s
KHC Kasperske Hory 72.10 339 P P 08 56 50.1 +1.7
SWET Sewanee 72.10 53 IAmb IAmb 08 56 52.8
comp=Z,7.9nm,0.6s
T53A Wise 72.11 50 P P 08 56 48.1 -0.6
baz=328
R56A Bull Pasture M 72.22 47 P P 08 56 48.5 -0.9
baz=329
V51A Loudon 72.31 52 IAmb IAmb 08 56 54.3
comp=Z,4.1nm,0.6s
GERES GERESS Array B 72.35 339 P P 08 56 50.6 +0.6
comp=Z,1.5nm,0.6s,baz=23,slow=4.4,SNR=14
GERES LR LR 09 33 53.9
comp=Z,89nm,18.8s,baz=58,slow=40
T54A Tazewell 72.46 49 P P 08 56 50.0 -0.8
baz=328
Q58A Fox Den Farm, 72.46 45 P P 08 56 50.1 -0.5
baz=329
MLR Muntele Rosu 72.52 330 ⇓P P 08 56 52.5 +1.4
MLR Muntele Rosu 72.52 330 ⇓P P 08 56 52.5 +1.4
MLR Muntele Rosu 72.52 330 IAmb IAmb 08 56 53.6
comp=Z,7.7nm,0.7s
KOPT Kop Dagi 72.53 317 IAmb IAmb 08 56 53.8
comp=Z,6.5nm,0.8s
V52A Sevierville 72.61 51 IAmb IAmb 08 57 00.4
comp=Z,5.7nm,0.9s
R57A Stanardsville 72.67 46 P P 08 56 51.4 -0.5
baz=329
CONA Conrad Observa 72.77 337 *i* P P 08 56 55.0 +2.5
comp=Z,10.0nm,1.5s
FPAL Fort Paine 72.81 53 P P 08 56 52.3 -0.6
FPAL IAmb IAmb 08 57 01.4
comp=Z,5.6nm,0.8s
U54A Nelsons Funny 72.81 50 P P 08 56 52.3 -0.5
baz=328
S57A Dark Hollow, R 72.96 47 P P 08 56 52.9 -0.7
baz=329
S57A Dark Hollow, R 72.96 47 IAmb IAmb 08 56 55.0
comp=Z,13nm,1.3s
ARR Arges 73.00 330 ⇓P P 08 56 55.5 +1.6
Y49A Blount Mountai 73.02 54 IAmb IAmb 08 56 58.4
comp=Z,5.5nm,0.7s
U55A TA2, Sparta 73.16 49 P P 08 56 54.3 -0.7
baz=328
V54A Nebo 73.39 50 P P 08 56 55.7 -0.6
baz=328
LRAL Lakeview Retre 73.43 55 P P 08 56 55.6 -0.9
baz=327,SNR=9.9
LRAL Lakeview Retre 73.43 55 IAmb IAmb 08 57 00.8
comp=Z,6.5nm,0.7s
T57A Hurt 73.48 47 P P 08 56 55.5 -1.3
baz=329
BZS Buzias 73.58 333 ⇓P P 08 56 57.5 +0.4
BZS Buzias 73.58 333 ⇓P P 08 56 57.5 +0.4
BG3 Lake Jocassee 73.62 51 IAmb IAmb 08 56 58.9
comp=Z,7.8nm,1.3s
V55A Taylorsville 73.64 49 P P 08 56 56.8 -0.9
baz=328
T58A Grand View Acr 73.83 47 P P 08 56 57.7 -1.0
baz=329
W54A Cherokee Point 73.87 51 P P 08 56 58.4 -0.6
baz=328
U57A Blanch 73.93 48 P P 08 56 58.7 -0.7
baz=329
V56A Mocksville 73.98 49 P P 08 56 58.7 -1.0
baz=329
HERR Herculane 74.05 332 ⇑P P 08 57 00.2 +0.3
KBA Koelnbreinsper 74.11 339 *i* P P 08 57 01.9 +1.5
comp=Z,13nm,1.0s
SOKA Soboth 74.14 337 *i* P P 08 57 02.7 +2.1
comp=Z,3.4nm,0.9s
ECH Echery 74.14 343 P P 08 56 59.9 -0.6
ECH pmax pmax
comp=Z,7.0nm,1.1s
ECH Echery 74.14 343 P P 08 56 59.9 -0.6
ECH IAmb IAmb 08 57 03.6
comp=Z,6.9nm,1.1s
KMSC Kings Mountain 74.19 50 P P 08 56 60.0 -0.9
baz=328
KMSC Kings Mountain 74.19 50 IAmb IAmb 08 57 01.8
comp=Z,5.1nm,0.9s
X54A Belton 74.24 51 P P 08 57 00.3 -0.9
baz=328
WTTA Wattenberg 74.27 340 eP P 08 57 03.7 +2.3
comp=Z,3.9nm,0.6s
MOTA Moosalm 74.29 340 *i* P P 08 57 02.6 +1.1
comp=Z,5.6nm,0.8s
U58A Oxford 74.29 47 P P 08 57 00.8 -0.7
baz=329
OBKA Obir 74.40 338 eP P 08 57 04.4 +2.3
comp=Z,12nm,0.8s
W56A Indian Trail 74.52 49 P P 08 57 03.1 +0.3
baz=329
HODGE Hodges 74.56 51 IAmb IAmb 08 57 04.1
comp=Z,6.8nm,1.0s
V58A Windy Hill, Pi 74.57 48 P P 08 57 03.4 +0.3
baz=329
V58A Windy Hill, Pi 74.57 48 IAmb IAmb 08 57 04.3
comp=Z,8.9nm,0.9s
ABTA Abfaltersbach 74.59 339 *i* P P 08 57 05.1 +1.9
comp=Z,8.1nm,1.0s
U59A Littleton 74.64 47 P P 08 57 02.5 -1.0
baz=330
FETA Feichten 74.67 341 *i* P P 08 57 05.5 +1.7
comp=Z,8.3nm,1.1s
152A Waverly Hall 74.78 54 IAmb IAmb 08 57 04.7
comp=Z,9.7nm,1.3s
X56A White Oak 74.87 50 P P 08 57 04.6 -0.3
baz=329
V59A Middlesex 74.96 47 P P 08 57 04.4 -1.0
baz=330
Y55A Saluda 74.98 51 P P 08 57 04.9 -0.6
baz=328
W58A Raeford 75.19 49 P P 08 57 06.6 0.0
baz=329
BR131 Keskin Array S 75.30 322 P P 08 57 06.9 -0.5
BR131 pmax pmax
comp=Z,3.0nm,0.8s
BR131 Keskin Array S 75.30 322 P P 08 57 06.8 -0.5
BRTR Keskin Array B 75.30 322 P P 08 57 07.3 -0.1
comp=Z,3.0nm,0.7s,baz=71,slow=2.9,SNR=15
BRTR LR LR 09 35 40.3
comp=Z,32nm,19.2s,baz=348,slow=40
V60A Jim Taylor Roa 75.36 47 P P 08 57 07.3 -0.3
baz=330
W60A Pink Hill 75.79 47 P P 08 57 09.7 -0.4
baz=330
X60A Albert Glenn T 76.09 48 P P 08 57 10.0 -1.9
baz=330
DZM Mont Dzumac 77.83 176 P P 08 57 23.3 +1.6
comp=Z,5.6nm,0.8s,baz=319,slow=7.8,SNR=2.1
DZM Mont Dzumac 77.83 176 P P 08 57 22.1 +0.5
WB0 Warramunga Arr 79.19 207 P P 08 57 28.6 -0.5
WB0 IAmb IAmb 08 57 34.8
comp=Z,8.5nm,1.2s
WR0 Warramunga Arr 79.33 207 P P 08 57 29.9 0.0
WR0 IAmb IAmb 08 57 36.6
comp=Z,7.9nm,1.4s
WRAB Tennant Creek 79.36 207 ⇑*i* P P 08 57 28.9 -1.1
WRAB pmax pmax
comp=Z,5.0nm,1.1s
WB2 Warramunga Arr 79.37 207 P P 08 57 29.8 -0.2
WRA Warramunga Arr 79.37 207 P P 08 57 29.4 -0.7
comp=Z,1.7nm,0.6s,baz=15,slow=5.9,SNR=20
CSS Mathiatis 79.66 320 P P 08 57 32.1 +0.3
CSS IAmb IAmb 08 57 34.8
comp=Z,6.8nm,0.7s
FITZ Fitzroy Crossi 80.16 216 P P 08 57 34.0 -0.4
comp=Z,4.8nm,1.0s,baz=13,slow=6.1,SNR=5.3
FITZ LR LR 09 32 02.5
comp=Z,16nm,21.3s,baz=326,slow=35
FITZ Fitzroy Crossi 80.16 216 P P 08 57 34.4 0.0
FITZ IAmb IAmb 08 57 51.3
comp=Z,14nm,1.4s
PGAV Gavieira, Arco 82.09 353 eP P 08 57 45.6 +0.9
comp=Z,21nm,1.4s
PBRG Braganca 82.14 352 eP P 08 57 45.3 +0.4
comp=Z,2.5nm,0.5s
PVRL Vila Real 82.74 353 eP P 08 57 49.2 +1.2
comp=Z,17nm,0.2s
MVO Moncorvo 82.80 352 eP P 08 57 49.3 +0.9
comp=Z,5.2nm,0.6s
AS31 Alice Springs 83.05 206 P P 08 57 49.6 +0.1
ASAR Alice Springs 83.05 206 P P 08 57 49.5 -0.1
comp=Z,3.2nm,0.8s,baz=16,slow=5.1,SNR=28
PVIS Viseu 83.31 353 eP P 08 57 52.0 +1.0
comp=Z,12nm,1.7s
MTE Manteigas 83.60 353 eP P 08 57 53.6 +1.1
comp=Z,14nm,1.3s
ESDC Sonseca Array 84.01 350 P P 08 57 55.4 +0.8
comp=Z,3.5nm,0.7s,baz=358,slow=5.7,SNR=12
PCBR Castelo Branco 84.15 352 eP P 08 57 56.3 +1.1
comp=Z,19nm,0.8s
PAB San Pablo 84.17 350 P P 08 57 56.5 +1.0
PAB pmax pmax
comp=Z,8.0nm,1.1s
PAB San Pablo 84.17 350 P P 08 57 56.5 +1.0
PAB IAmb IAmb 08 57 57.4
comp=Z,8.3nm,1.1s
PMRV Marv??o 84.55 352 eP P 08 57 58.0 +0.7
comp=Z,14nm,1.7s
PSBE So Bento 84.57 353 eP P 08 57 58.5 +1.1
comp=Z,44nm,1.8s
EVO Evora 85.49 353 eP P 08 58 03.2 +1.2
comp=Z,20nm,1.3s
KEST Kesra 85.83 339 P P 08 58 03.4 -0.4
comp=Z,1.5nm,0.4s,baz=315,slow=2.9,SNR=2.1
KEST Kesra 85.83 339 P P 08 58 04.1 +0.2
PBEJ Beja 85.98 353 eP P 08 58 05.7 +1.3
comp=Z,10nm,1.4s
PCVE Castro Verde 86.39 353 eP P 08 58 08.1 +1.7
comp=Z,20nm,1.4s
TORD Torodi Ar. Bea 109.28 340 PP PP 09 04 19.3 -3.6
comp=Z,1.0nm,0.9s,baz=15,slow=6.8,SNR=4.0
CASY Casey 128.12 204 PKPdf PKiKP 09 04 32.5 +3.2
VNDA Vanda 133.27 180 PKP PKPdf 09 04 37.6 -0.7
comp=Z,0.5nm,0.7s,baz=338,slow=2.8,SNR=4.3
VNDA Vanda 133.27 180 PKPdf PKiKP 09 04 39.4 -0.1
PLCA Paso Flores 142.49 89 PKiKP PKPdf 09 04 51.1 -5.3
comp=Z,1.7nm,0.9s,baz=309,slow=1.6,SNR=3.3
PLCA Paso Flores 142.49 89 PKIKP PKPdf 09 04 52.6 -3.9
PLCA Paso Flores 142.49 89 PKPpre PKPdf 09 04 52.6 -3.9
QSPA South Pole Qui 145.76 180 PKPdf 09 05 00.7 -0.6

NEIC ***22*** *08:50:12.7±3.8, 65.04N±0.04×133.98W±0.08, h2km±5km, Error ellipse: s-maj=5.4km s-min=4.7km az=151.0*
OTT ***22*** *08:50:13.9±3.4, 64.97N±0.04×134.08W±0.08, h1km±2km, ML4.0,mb3.7/2(NEIC), Error ellipse: s-maj=6.5km s-min=5.2km az=331.0*
PGC ***22*** *08:50:13.9±0.0, 64.97N×134.08W, h1km, ML4.0/11, 274km east of Dawson, Yt Southern Yukon Territory, Canada*

ISC 22 08:50:13.9±0.8, **64°93N**±0.04×**133°80W**±0.04, **h11**km, **n95**, α2ş**42**/135, **Southern Yukon Territory**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DAWY	**Dawson**	**2.57**	**253**	P	P		**08 50 54.8**	**-0.7**
DAWY				S	S		**08 51 24.6**	**-2.1**
DAWY	**Dawson**	**2.57**	**253**		P		**08 50 54.9**	**-0.6**

EGAK	**Eagle**	**3.15**	**271**		**Pn**	**08 51 01.4**	**-1.9**
INK	**Inuvik**	**3.40**	**2**	P	**Pn**	**08 51 06.9**	**+0.2**
INK				Sn	**Sn**	08 51 46.5	-0.5
INK	**Inuvik**	**3.40**	**2**		**Pn**	**08 51 07.1**	**+0.3**
BVCY	**Beaver Creek**	**4.03**	**234**	Pn	**Pn**	**08 51 14.1**	**-1.4**
BVCY				Sn	**Sn**	**08 52 00.3**	**-2.4**
BVCY				Sg	**Sb**	**08 52 16.1**	**+2.5**
BVCY	**Beaver Creek**	**4.03**	**234**	Pn	**Pn**	**08 51 14.1**	**-1.4**
BVCY				Sn	**Sn**	**08 52 00.3**	**-2.4**
BVCY				Sg	**Sb**	**08 52 16.1**	**+2.5**
YUK1	**Sand Pete Hill**	**4.10**	**230**	Pn	**Pn**	**08 51 15.1**	**-1.5**
YUK1				Sg	**Sb**	**08 52 18.6**	**+3.0**
YUK1	**Sand Pete Hill**	**4.10**	**230**	Pn	**Pn**	**08 51 15.1**	**-1.5**
YUK1				Sg	**Sb**	**08 52 18.6**	**+3.0**
YUK4	**Talbot Arm**	**4.21**	**214**	Pn	**Pn**	**08 51 16.4**	**-1.8**
YUK4	**Talbot Arm**	**4.21**	**214**	Pn	**Pn**	**08 51 16.4**	**-1.8**
YUK5	**Granite Creek**	**4.23**	**208**	Pn	**Pn**	**08 51 18.1**	**-0.4**
YUK5				Sn	**Sn**	**08 52 06.9**	**-1.0**
YUK5				Sg	**Sb**	**08 52 22.7**	**+3.2**
YUK5	**Granite Creek**	**4.23**	**208**	Pn	**Pn**	**08 51 18.1**	**-0.4**
YUK5				Sn	**Sn**	**08 52 06.9**	**-1.0**
YUK5				Sg	**Sb**	**08 52 22.7**	**+3.2**
YUK3	**Moose Creek**	**4.36**	**227**	Pn	**Pn**	**08 51 19.1**	**-1.1**
YUK3				Sg	**Sb**	**08 52 27.5**	**+4.4**
YUK3	**Moose Creek**	**4.36**	**227**	Pn	**Pn**	**08 51 19.1**	**-1.1**
YUK3				Sg	**Sb**	**08 52 27.5**	**+4.4**
HYT	**Haines Junctio**	**4.45**	**204**	Pn	**Pn**	**08 51 21.2**	**-0.2**
HYT	**Haines Junctio**	**4.45**	**204**		**Pn**	**08 51 20.9**	**-0.5**
YUK2	**White River**	**4.47**	**228**	Pn	**Pn**	**08 51 20.2**	**-1.4**
YUK2				Sg	**Sb**	**08 52 30.1**	**+3.8**
YUK2	**White River**	**4.47**	**228**	Pn	**Pn**	**08 51 20.2**	**-1.4**
YUK2				Sg	**Sb**	**08 52 30.1**	**+3.8**
YUK6	**Outpost Mounta**	**4.51**	**210**	Pn	**Pn**	**08 51 21.9**	**-0.4**
YUK6				Sg	**Sg**	**08 52 33.0**	**-5.5**
YUK6	**Outpost Mounta**	**4.51**	**210**	Pn	**Pn**	**08 51 21.9**	**-0.4**
YUK6				Sg	**Sg**	**08 52 33.0**	**-5.5**
DOT	**Dot Lake**	**4.65**	**259**	Pn	**Pn**	**08 51 23.2**	**-0.8**
DOT				Sg	**Sb**	**08 52 34.9**	**+3.6**
DOT	**Dot Lake**	**4.65**	**259**	Pn	**Pn**	**08 51 23.3**	**-0.8**
YUK7	**Dusty Glacier**	**4.84**	**206**	Pn	**Pn**	**08 51 26.2**	**-0.6**
YUK7				Sn	**Sn**	**08 52 21.1**	**-1.8**
YUK7				Sg	**Sg**	**08 52 44.3**	**-4.9**
YUK7	**Dusty Glacier**	**4.84**	**206**	Pn	**Pn**	**08 51 26.2**	**-0.6**
YUK7				Sn	**Sn**	**08 52 21.1**	**-1.8**
YUK7				Sg	**Sg**	**08 52 44.3**	**-4.9**
CTGM	**Chitina Glacie**	**5.25**	**224**	Pn	**Pn**	**08 51 33.0**	**+0.5**
CTGM				Sn	**Sn**	**08 52 31.1**	**-1.8**
CTGM				Sg	**Sg**	**08 52 56.0**	**-6.4**
CTGM	**Chitina Glacie**	**5.25**	**224**	Pn	**Pn**	**08 51 33.1**	**+0.7**
LOGN	**Logan Glacier**	**5.27**	**222**	Pn	**Pn**	**08 51 33.0**	**+0.3**
LOGN				Sg	**Sb**	**08 52 55.3**	**+6.0**
LOGN	**Logan Glacier**	**5.27**	**222**	Pn	**Pn**	**08 51 33.0**	**+0.3**
LOGN				Sg	**Sb**	**08 52 55.3**	**+6.0**
BARN	**Barnard Glacie**	**5.28**	**226**	Pn	**Pn**	**08 51 33.3**	**+0.5**
PTPK	**Patty Peak**	**5.44**	**230**	Pn	**Pn**	**08 51 33.5**	**-1.5**
PTPK				Sn	**Sn**	**08 52 35.6**	**-2.0**
PTPK				Sg	**Sb**	**08 52 59.6**	**+5.5**
PTPK	**Patty Peak**	**5.44**	**230**	Pn	**Pn**	**08 51 33.5**	**-1.5**
PTPK				Sn	**Sn**	**08 52 35.6**	**-2.0**
PTPK				Sg	**Sb**	**08 52 59.6**	**+5.5**
MCARA	**McCarthy VSAT**	**5.49**	**234**	Pn	**Pn**	**08 51 36.1**	**+0.6**
PAX	**Paxson**	**5.50**	**254**	Pn	**Pn**	**08 51 35.2**	**-0.6**
PAX				Sg	**Sb**	**08 53 00.5**	**+4.5**
PAX	**Paxson**	**5.50**	**254**	Pn	**Pn**	**08 51 34.9**	**-0.9**
BALM	**Baldy**	**5.51**	**229**	Pn	**Pn**	**08 51 36.4**	**+0.5**
BALM	**Baldy**	**5.51**	**229**		**Pn**	**08 51 35.5**	**-0.5**
SKAG	**Skagway**	**5.53**	**188**		**Pn**	**08 51 36.6**	**+0.6**
GRNC	**Granite Creek**	**5.57**	**225**	Pn	**Pn**	**08 51 36.9**	**+0.2**
GRNC	**Granite Creek**	**5.57**	**225**	Pn	**Pn**	**08 51 36.9**	**+0.2**
IL31		**5.58**	**274**	Pn	**Pn**	**08 51 33.9**	**-2.8**
PLBC	**Pleasant Camp**	**5.62**	**193**	Pn	**Pn**	**08 51 38.3**	**+1.0**
PLBC				Sn	**Sn**	**08 52 40.7**	**-1.1**
PLBC				Sg	**Sg**	**08 53 09.2**	**-4.9**
PLBC	**Pleasant Camp**	**5.62**	**193**	Pn	**Pn**	**08 51 38.3**	**+1.0**
PLBC				Sn	**Sn**	**08 52 40.7**	**-1.1**
PLBC				Sg	**Sg**	**08 53 09.2**	**-4.9**
HDA	**Harding Lake**	**5.67**	**271**	Pn	**Pn**	**08 51 35.8**	**-2.1**
BCPM	**Bancas Point**	**5.68**	**211**	Pn	**Pn**	**08 51 38.5**	**+0.4**
PCA	**Pinnacle**	**5.69**	**215**	Pn	**Pn**	**08 51 38.6**	**+0.3**
PCA	**Pinnacle**	**5.69**	**215**	Pn	**Pn**	**08 51 39.2**	**+0.8**
GLB	**Gilahina Butte**	**5.72**	**237**	Pn	**Pn**	**08 51 38.7**	**-0.1**
VRDI	**Verde Repeater**	**5.74**	**234**	Pn	**Pn**	**08 51 39.2**	**0.0**
SAMH	**Samovar Hills**	**5.79**	**217**	Pn	**Pn**	**08 51 40.2**	**+0.4**
SAMH	**Samovar Hills**	**5.79**	**217**	Pn	**Pn**	**08 51 40.2**	**+0.4**
C36M	**Paulatuk**	**5.83**	**36**		**Pn**	**08 51 41.1**	**+1.0**
YAH	**Yahtse**	**5.86**	**222**	Pn	**Pn**	**08 51 42.9**	**+2.1**
TGL	**Tana Glacier**	**5.88**	**229**	Pn	**Pn**	**08 51 44.1**	**+3.1**
PNL	**Peninsula**	**5.88**	**209**	Pn	**Pn**	**08 51 42.1**	**+1.2**
CRQM	**Cirque**	**5.98**	**230**	Pn	**Pn**	**08 51 44.2**	**+1.8**
CCB	**Clear Creek Bu**	**5.99**	**274**	Pn	**Pn**	**08 51 40.5**	**-1.8**
WAX	**Waxell Ridge**	**6.12**	**227**		**Pn**	**08 51 44.8**	**+0.5**
MDM	**Murphy Dome**	**6.13**	**277**	Pn	**Pn**	**08 51 41.9**	**-2.5**
WRH	**Wood River Hil**	**6.14**	**272**	Pn	**Pn**	**08 51 42.4**	**-2.1**
DHRN	**Dharma Camp**	**6.20**	**64**	Pn	**Pn**	**08 51 46.6**	**+1.3**
DHRN	**Dharma Camp**	**6.20**	**64**	Pn	**Pn**	**08 51 46.6**	**+1.3**
DHY	**Denali Highway**	**6.25**	**259**	Pn	**Pn**	**08 51 45.7**	**-0.4**
BESE	**Bessie Mountai**	**6.39**	**185**	Pn	**Pn**	**08 51 48.4**	**+0.4**
BESE	**Bessie Mountai**	**6.39**	**185**		**Pn**	**08 51 48.1**	**+0.2**
KLU	**Klutina**	**6.47**	**243**	Pn	**Pn**	**08 51 51.0**	**+2.0**
HMT	**Hamilton**	**6.66**	**231**	Pn	**Pn**	**08 51 53.2**	**+1.5**
JIS	**Juneau Island**	**6.68**	**183**		**Pn**	**08 51 52.6**	**+0.8**
MCK	**McKinley**	**6.68**	**267**	Pn	**Pn**	**08 51 52.8**	**+0.9**
RND	**Reindeer**	**6.75**	**264**	Pn	**Pn**	**08 51 52.0**	**-0.7**
DLBC	**Dease Lake**	**6.75**	**163**	Pn	**Pn**	**08 51 54.2**	**+1.3**
DLBC				Sg	**Sg**	**08 53 46.8**	**-3.7**
DLBC	**Dease Lake**	**6.75**	**163**	Pn	**Pn**	**08 51 54.0**	**+1.0**
RAGM	**Ragged Mountai**	**6.76**	**233**		**Pn**	**08 51 54.8**	**+1.8**
COLD	**Coldfoot**	**7.05**	**296**	Pn	**Pn**	**08 51 55.7**	**-1.2**
COLD	**Coldfoot**	**7.05**	**296**	Pn	**Pn**	**08 51 55.3**	**-1.6**
FID	**Port Fidalgo**	**7.15**	**240**	Pn	**Pn**	**08 51 59.9**	**+1.6**
TOLK	**Toolik Lake Re**	**7.25**	**308**	Pn	**Pn**	**08 51 59.3**	**-0.4**
TRF	**Thorofare Moun**	**7.35**	**266**	Pn	**Pn**	**08 52 00.5**	**-0.7**
BPAW	**Bear Paw Mtn.**	**7.46**	**271**	Pn	**Pn**	**08 51 59.9**	**-2.7**
GHO	**Glory Hole Cre**	**7.50**	**252**	Pn	**Pn**	**08 52 04.8**	**+1.7**
KTH	**Kantishna Hill**	**7.58**	**267**	Pn	**Pn**	**08 52 03.4**	**-0.9**
SIT	**Sitka**	**7.93**	**186**	Pn	**Pn**	**08 52 09.7**	**+0.7**
KUKN	**Kugluktuk,NWT**	**8.04**	**61**	Pn	**Pn**	**08 52 11.3**	**+0.8**
KUKN				Sn	**Sn**	**08 53 36.4**	**-4.9**
KUKN	**Kugluktuk,NWT**	**8.04**	**61**	Pn	**Pn**	**08 52 11.3**	**+0.8**
KUKN				Sn	**Sn**	**08 53 36.4**	**-4.9**
PPLA	**Purkeypile**	**8.35**	**264**	Pn	**Pn**	**08 52 11.4**	**-3.4**
SKT	**Skwentna**	**8.46**	**258**	Pn	**Pn**	**08 52 17.9**	**+1.5**
WRAK	**Wrangell Islan**	**8.57**	**175**		**Pn**	**08 52 18.1**	**+0.5**
YKW3	**Yellowknife Ar**	**8.82**	**97**	Pn	**Pn**	**08 52 21.6**	**+0.5**
YKW3				Sn	**Sn**	**08 53 57.2**	**-3.2**
NBC5	**NorthernBC 5**	**9.15**	**139**	Pn	**Pn**	**08 52 28.1**	**+2.3**
NBC5	**NorthernBC 5**	**9.15**	**139**	Pn	**Pn**	**08 52 28.1**	**+2.3**
VIB	**Van Inlet**	**11.73**	**176**	Pn	**Pn**	**08 53 03.4**	**+2.3**
DIB	**Dawson Inlet,**	**11.78**	**176**	Pn	**Pn**	**08 53 04.0**	**+2.3**
DIB	**Dawson Inlet,**	**11.78**	**176**	Pn	**Pn**	**08 53 04.2**	**+2.5**
NEW	**Newport**	**18.95**	**144**	P	**Pn**	**08 54 36.8**	**+1.4**
NEW				IAmb	IAmb	08 54 55.1	
	comp=Z,3.4nm,1.2s						
MOD	**Modoc Plateau**	**24.32**	**155**	P	**P**	**08 55 35.8**	**+4.3**
MOD				IAmb	IAmb	08 55 39.6	
	comp=Z,2.5nm,0.9s						

*ISN **22** 09:00:42.9±1.3, 32°.72N×47°.51E, h6km±8km, ML2.2*
*TEH **22** 09:00:43.8, 32°.77N×47°.54E, h10km, ML2.8*
ISC 22 09:00:44.3±1.1, 32.75N±0°.06×47.53E±0°.05, h10km, n11, σ0§88/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.22**	**251**	*e*Pg	**Pg**	**09 00 48.1**	**-0.8**
DHL1				*e*Sg	**Sg**	**09 00 53.0**	**+1.1**
IKFM	**Kafar-mosalman**	**0.81**	**19**	*e*Pg	**Pg**	**09 00 58.9**	**-1.1**
IKMR	**Kamar-syah**	**1.04**	**43**	*e*		09 01 23.4	
IKMR				*e*Pg	**Pg**	**09 01 03.6**	**-0.8**
IDOB	**Doab**	**1.17**	**28**	*e*Pg	**Pb**	**09 01 06.3**	**-0.4**
IBDR	**Badra**	**1.39**	**285**	*e*Pg	**Pn**	**09 01 09.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**09 01 29.0**	**0.0**
IBDR				AML	AML	09 01 34.1	
	comp=E,10nm,0.7s						
IBDR				AML	AML	09 01 38.3	
	comp=N,13nm,0.9s						
IKOM	**Komasi**	**1.42**	**359**	*e*Pg	**Pn**	**09 01 10.8**	**+0.5**
IKOM				*e*		09 01 34.8	
BMDN	**Meydan**	**1.42**	**50**	*e*Pg	**Pn**	**09 01 11.4**	**+1.0**
BMDN				*e*		09 01 35.9	
IBZA	**Bozab**	**1.73**	**9**	*e*Pg	**Pb**	**09 01 16.6**	**+0.2**
IBZA				*e*		09 01 45.3	
IVIS	**Veis**	**1.85**	**342**	*e*Pn	**Pb**	**09 01 18.3**	**-0.1**
IVIS				*e*		09 01 48.7	
NSR	**Nassriya**	**2.10**	**215**	*e*Pn	**Pn**	**09 01 20.0**	**+0.5**
NSR				*e*Sn	**Sn**	**09 01 45.0**	**-0.7**
NSR				AML	AML	09 01 51.2	
	comp=E,171nm,0.5s						
BHD	**Baghdad**	**2.69**	**282**	*e*Pn	**Pn**	**09 01 28.0**	**+0.3**
BHD				*e*Sn	**Sn**	**09 02 02.0**	**+1.7**
BHD				AML	AML	09 02 15.5	
	comp=E,20nm,0.7s						

*OTT **22** 09:18:26.7±0.6, 73°.39N×70°.28W, h18km, ML3.2/3, 263km east from Pond Inlet, Nu Baffin Bay Seismic Zone.*
*DNK **22** 09:18:30.2±1.7, 73°.68N×69°.74W, h4km±33km, ML2.8*
ISC 22 09:18:16.5±0.9, 73°.39N±0°.04×69°.81W±0°.04, h10km, n18, σ1§80/23, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLRN	**Clyde River**	**2.95**	**172**	PN	**Pg**	**09 19 13.8**	**+0.8**
CLRN				SN	**Sb**	**09 19 45.7**	**+0.6**
CLRN				Trac		09 19 48.6	
	comp=Z,28nm,0.2s						
TULEG	**Thule**	**3.18**	**4**	PN	**Pg**	**09 19 17.6**	**+0.3**
TULEG				SN	**Sn**	**09 19 47.7**	**+3.4**
TULEG	**Thule**	**3.18**	**4**	*i* P	**Pg**	**09 19 17.4**	**0.0**
TULEG				*i* S	**Sb**	**09 19 50.8**	**-0.9**
TULEG				IAML		09 19 53.2	
	comp=Z,16nm,0.3s						
KULLO	**Kullorsuaq**	**3.69**	**65**	*i* P	**Pg**	**09 19 26.1**	**-0.9**
KULLO				*i* S	**Sb**	**09 20 07.4**	**+1.1**
KULLO	**Kullorsuaq**	**3.69**	**65**	PN	**Pg**	**09 19 25.9**	**-1.1**
KULLO				SN	**Sb**	**09 20 06.8**	**+0.5**
KULLO				Trac		09 20 09.9	
	comp=Z,10nm,0.1s						
KULLO	**Kullorsuaq**	**3.69**	**65**	*i* P	**Pg**	**09 19 26.1**	**-0.9**
KULLO				*i* S	**Sb**	**09 20 07.4**	**+1.1**
KULLO				IAML		09 20 12.1	
	comp=Z,13nm,0.4s						
UPNV	**Upernavik**	**4.04**	**92**	*i* P	**Pg**	**09 19 31.4**	**-2.4**
UPNV				*i* S	**Sb**	**09 20 15.0**	**-1.4**
UPNV				IAML		09 20 20.0	
	comp=Z,6.3nm,0.3s						
ILON	**Igloolik, Nuna**	**5.56**	**230**	PN	Pb	09 19 47.8	-5.8
ILON				SN	**Sn**	**09 20 44.8**	**+1.8**
ILON				Trac		09 20 47.2	
	comp=Z,8.9nm,0.1s						
RES	**Resolute Bay**	**7.01**	**293**	PN	Pn	09 20 07.8	+8.8
RES				SN	**Sn**	**09 21 18.7**	**+0.1**
EUNU	**Eureka**	**7.66**	**338**	PN	Pb	09 20 21.3	-8.0
SUMG	**Summit**	**9.16**	**80**	*i* P	Pn	09 20 40.4	+12
SUMG				*e*S	**Sn**	**09 22 15.2**	**+3.2**
SUMG	**Summit**	**9.16**	**80**	*i* P	Pn	09 20 40.5	+12
SUMG				*e*S	**Sn**	**09 22 15.3**	**+3.2**
SUMG				IAML		09 22 21.2	
	comp=Z,7.2nm,0.4s						
FRB	**Frobisher Bay**	**9.70**	**177**	SN	**Sn**	**09 22 24.9**	**+0.4**
FRB				Trac		09 22 40.3	
	comp=Z,11nm,0.6s						
ICESG	**Greenland Ices**	**10.52**	**99**	*i* P	Pn	09 21 00.1	+13
ICESG				IAML		09 22 48.1	
	comp=Z,1.5nm,0.3s						
KNGQ	**Kangiqsujuaq**	**11.88**	**185**	SN	**Sn**	**09 23 16.9**	**-1.2**
CB31	**Cambridge Bay**	**11.97**	**267**	SN	**Sn**	**09 23 16.8**	**-3.4**
DAG	**Danmarks Havn**	**13.21**	**52**	*e*P	**P**	**09 21 33.7**	**-0.1**
DBG	**Daneborg**	**13.51**	**63**	*i* P	**P**	**09 21 35.9**	**-1.2**

*IDC **22** 09:52:34.4±1.4, 31°.67N×49°.57E, h0km, mb3.9/9, mb1 4.0/12, mb1mx3.7/60, mbtmp3.9/12, ML3.7/3, MS2.7/3, Ms1 2.7/3, ms1mx2.3/43, Error ellipse: s-maj=30.0km s-min=19.1km az=170.0*
*TEH **22** 09:52:36.6, 31°.73N×49°.83E, h14km, ML4.0*
*NEIC **22** 09:52:39.2±2.3, 31°.65N±0°.07×49°.79E±0°.05, h42km±11km, Error ellipse: s-maj=9.8km s-min=5.7km az=186.0*
*THR **22** 09:52:39.1±0.5, 31°.91N×49°.81E, h14km±9km, ML3.5*
ISC 22 09:52:36.3±0.6, 31°.67N±0°.05×49°.78E±0°.03, h10km, n92, σ1§56/93, mb3.9/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.94**	**298**	*e*Pg	**Pg**	**09 52 55.5**	**+1.1**
SHGR				*e*Sg	**Sg**	**09 53 07.9**	**+1.3**
SHGR				IAML		09 53 24.8	
	comp=E,1μm,0.4s						
SHGR	**Shooshtar-Gavs**	**0.94**	**298**	*e*Pg	**Pg**	**09 52 55.5**	**+1.1**
SHGR	**Shooshtar-Gavs**	**0.94**	**298**	*e*Pg	**Pb**	**09 52 56.0**	**+1.3**
JHBN	**Jahan bin**	**0.94**	**53**	*e*Pg	**Pg**	**09 52 53.3**	**-1.2**
AHWZ	**Ahwaz**	**1.02**	**251**	*e*Pg	**Pg**	**09 52 57.2**	**+1.2**
AHWZ				*e*Sg	**Sn**	**09 53 12.3**	**+1.2**
AHWZ	**Ahwaz**	**1.02**	**251**		**Pg**	**09 52 57.0**	**+1.0**
AHWZ				Sg	**Sn**	**09 53 12.0**	**+0.9**
ROKH	**ROKH**	**1.27**	**57**	*e*Pg	**Pn**	**09 52 59.2**	**-1.1**
ROKH	**ROKH**	**1.27**	**57**		**Pn**	**09 52 59.0**	**-1.3**
IBRJ	**Brojen**	**1.29**	**79**	*e*Pg	**Pn**	**09 53 00.4**	**-0.2**
IBRJ	**Brojen**	**1.29**	**79**		**Pn**	**09 53 00.0**	**-0.6**
IPIR	**Pirpir**	**1.39**	**43**	*e*Pg	**Pn**	**09 53 01.1**	**-1.0**
IPIR	**Pirpir**	**1.39**	**43**		**Pn**	**09 53 01.0**	**-1.0**
KLNJ	**Kolanjah**	**1.69**	**112**	*e*		09 53 37.6	
KLNJ				*e*Pg	**Pb**	**09 53 08.5**	**+0.8**
IGAR	**Gharneh**	**2.06**	**69**	*e*	**Sg**	**09 53 49.5**	**+6.9**
BMDN	**Meydan**	**2.15**	**338**	*e*Pn	**Pn**	**09 53 13.3**	**+0.8**
BMDN				*e*		09 53 50.5	
BMDN	**Meydan**	**2.15**	**338**	Pn	**Pn**	**09 53 13.0**	**+0.5**
IKMR	**Kamar-syah**	**2.19**	**328**	*e*Pn	**Pn**	**09 53 14.0**	**+1.2**
IKMR				*e*		09 53 51.0	
IKMR	**Kamar-syah**	**2.19**	**328**	Pn	**Pn**	**09 53 14.0**	**+1.2**
IRAM	**Ramesheh**	**2.23**	**86**	*e*Pn	**Pn**	**09 53 14.7**	**+1.2**
IRAM	**Ramesheh**	**2.23**	**86**	Pn	**Pn**	**09 53 15.0**	**+1.5**
IKLH	**Kolahrood**	**2.24**	**42**	*e*Pn	**Pn**	**09 53 14.9**	**+1.1**
IKLH				*e*		09 53 57.8	
IKLH	**Kolahrood**	**2.24**	**42**	Pn	**Pn**	**09 53 15.0**	**+1.1**
DHL1	**Dehloran**	**2.34**	**296**	*e*Pn	**Pn**	**09 53 16.0**	**+1.1**
IKFM	**Kafar-mosalman**	**2.46**	**319**	*e*Pn	**Pn**	**09 53 17.5**	**+0.9**
IKFM				*e*		09 54 01.3	
IKFM	**Kafar-mosalman**	**2.46**	**319**	Pn	**Pn**	**09 53 18.0**	**+1.4**
IZEF	**Zefreh**	**2.49**	**60**	*e*Pn	**Pn**	**09 53 18.4**	**+1.3**
IZEF	**Zefreh**	**2.49**	**60**	Pn	**Pn**	**09 53 18.0**	**+0.9**
IDOB	**Doab**	**2.51**	**328**	*e*Pn	**Pn**	**09 53 18.1**	**+0.7**
IDOB	**Doab**	**2.51**	**328**	Pn	**Pn**	**09 53 18.0**	**+0.7**
HSAM	**Samen**	**2.72**	**339**	*e*Pn	**Pn**	**09 53 21.4**	**+1.0**
HSAM	**Samen**	**2.72**	**339**	Pn	**Pn**	**09 53 21.0**	**+0.6**
SHI	**Shiraz**	**3.11**	**130**	*e*Pn	**Pn**	**09 53 26.9**	**+1.3**
IKOM	**Komasi**	**3.14**	**323**	*e*Pn	**Pn**	**09 53 27.4**	**+1.3**
IKOM				*e*		09 54 43.1	
IKOM	**Komasi**	**3.14**	**323**	Pn	**Pn**	**09 53 27.0**	**+0.9**
HAGD	**Aghdareh**	**3.19**	**351**	*e*Pn	**Pn**	**09 53 28.0**	**+1.2**
HAGD	**Aghdareh**	**3.19**	**351**	Pn	**Pn**	**09 53 28.0**	**+1.2**
IBZA	**Bozab**	**3.22**	**331**	*e*Pn	**Pn**	**09 53 28.1**	**+0.8**
IBZA	**Bozab**	**3.22**	**331**	Pn	**Pn**	**09 53 28.0**	**+0.8**
ISAD	**Sadrabad**	**3.34**	**85**	*e*Pn	**Pn**	**09 53 31.3**	**+2.4**
ISAD	**Sadrabad**	**3.34**	**85**	Pn	**Pn**	**09 53 31.0**	**+2.1**
IALM	**Almabolaq**	**3.46**	**338**	*e*Pn	**Pn**	**09 53 31.6**	**+1.1**
KCHF	**Cheshme Sefid,**	**3.47**	**319**	*e*	Sg	09 54 37.8	+10
KER	**Kermanshah**	**3.50**	**321**	*e*Pn	**Pn**	**09 53 33.1**	**+2.1**
ANAR	**Anarak**	**3.67**	**65**	*e*Pn	**Pn**	**09 53 35.5**	**+2.2**
IRAZ	**Razeghan**	**3.73**	**2**	*e*Pn	**Pn**	**09 53 35.2**	**+1.0**
IVIS	**Veis**	**3.76**	**320**	*e*Pn	**Pn**	**09 53 35.4**	**+0.9**
HSRG	**Sareghieh**	**3.78**	**341**	*e*Pn	**Pn**	**09 53 36.2**	**+1.3**
IGHG	**Ghaleghazi**	**3.78**	**315**	*e*Pn	**Pn**	**09 53 36.1**	**+1.2**
IGHG				*e*		09 55 07.4	
IHSB	**Hasanabad**	**3.96**	**18**	*e*Pn	**Pn**	**09 53 38.8**	**+1.5**
ILIN	**Lien**	**4.01**	**325**	*e*Pn	**Pn**	**09 53 38.7**	**+0.7**
QABG	**Abgarm-Qazvin**	**4.03**	**358**	*e*Pn	**Pn**	**09 53 39.2**	**+0.8**
IMHD	**Mahdasht**	**4.08**	**10**	*e*Pn	**Pn**	**09 53 40.4**	**+1.5**
IMEH	**Mehriz**	**4.14**	**93**	*e*Pn	**Pn**	**09 53 42.1**	**+2.2**
IDHR	**Dehrash**	**4.15**	**318**	*e*Pn	**Pn**	**09 53 40.9**	**+1.0**
IDHR				*e*		09 54 31.4	
IDMV	**Damavand**	**4.33**	**25**	*e*Pn	**Pn**	**09 53 44.3**	**+1.8**
DAMV	**Damavand**	**4.36**	**24**	*e*Pn	**Pn**	**09 53 44.3**	**+1.5**
DAMV	**Damavand**	**4.36**	**24**	*e*Pn	**Pn**	**09 53 44.3**	**+1.5**
CHTH	**Charan**	**4.38**	**15**	*e*Pn	**Pn**	**09 53 44.1**	**+1.0**
CHTH				*e*Sg	**Sb**	**09 54 47.6**	**+1.2**
CHTH	**Charan**	**4.38**	**15**	*e*Pn	**Pn**	**09 53 44.1**	**+1.0**
ILAS	**Lasjerd**	**4.56**	**35**	*e*Pn	**Pn**	**09 53 47.5**	**+1.9**
QALM	**Alamut, Qazvin**	**4.81**	**8**	*e*Pn	**Pn**	**09 53 50.0**	**+1.0**
QSDN	**Sirdan**	**4.85**	**354**	*e*Pn	**Pn**	**09 53 50.3**	**+0.7**
IPRN	**Peran**	**5.04**	**24**	*e*Pn	**Pn**	**09 53 54.6**	**+2.5**
IANJ	**Anjilo**	**5.13**	**41**	*e*Pn	**Pn**	**09 53 54.4**	**+1.0**
TPRV	**Parvadeh(Tabas**	**6.00**	**75**	*e*Pn	**Pn**	**09 54 07.1**	**+1.8**
TKDS	**Koohdasht(Taba**	**6.49**	**71**	*e*Pn	**Pn**	**09 54 13.5**	**+1.4**
UOSS	**Minazif**	**8.77**	**138**	Pn	**Pn**	**09 54 42.7**	**-0.5**
GEYT	**Alibeck**	**9.27**	**45**	Pn	**Pn**	**09 54 52.7**	**+2.5**
	comp=E,0.5nm,0.3s,baz=234,slow=14,SNR=5.0						
GEYT				LR	LR	09 59 05.0	
	comp=E,52nm,20.2s,baz=150,slow=42						
GYA0B	**ALIBECK ARRAY**	**9.27**	**45**	Pn	**Pn**	**09 54 48.9**	**-1.3**
ASF	**Jabal al Asfar**	**10.96**	**276**	Pn	**Pn**	**09 55 11.1**	**-2.1**
	comp=E,1.0nm,0.3s,baz=30,slow=7.1,SNR=12						
ASF				Sn	Sn	09 57 06.9	-9.1
	comp=E,0.3nm,0.3s,baz=193,slow=22,SNR=7.0						
WSAR	**Wadi Sarin**	**11.50**	**135**	Pn	**Pn**	**09 55 19.6**	**-1.1**
	comp=E,0.6nm,0.3s,baz=120,slow=3.5,SNR=9.1						
WSAR				LR	LR	10 01 02.0	
	comp=E,43nm,21.6s,baz=90,slow=44						
EIL	**Elat**	**12.92**	**265**	LR	LR	10 01 32.0	
	comp=E,36nm,19.2s,baz=96,slow=42						
BRTR	**Keskin Array B**	**15.36**	**306**	Pn	**P**	**09 56 18.3**	**+0.2**
	comp=E,0.2nm,0.3s,baz=130,slow=11,SNR=6.4						
KBL	**Kabul**	**16.40**	**75**	Pn	**Pn**	**09 56 24.4**	**-2.4**
BOLV	**Bolvadin**	**16.90**	**300**		**Pn**	**09 56 30.9**	**-2.2**
BOLV				IAmb	IAmb	09 56 41.5	
	comp=Z,11nm,1.0s						
ISP	**Isparta**	**16.96**	**296**		**Pn**	**09 56 34.7**	**+0.9**
ISP				IAmb	IAmb	09 56 42.1	
	comp=Z,21nm,1.3s						
GAR	**Garm**	**18.27**	**61**	P	**Pn**	**09 56 49.6**	**-0.5**
GAR				IAmb	IAmb	09 56 52.5	
	comp=Z,6.8nm,0.9s						
IDI	**Anoyia**	**21.05**	**287**	P	**P**	**09 57 19.4**	**-1.2**
	comp=Z,5.4nm,0.9s,baz=86,slow=16,SNR=3.5	

PATS	**Pohnpei**	**14.74**	**15**	Pn		**Pn**	**10 11 24.5**	**+0.7**
DZM	**Mont Dzumac**	**18.42**	**143**	LR		LR	10 18 29.0	
	comp=Z,143nm,19.1s,baz=4.0,slow=34							
WR0	**Warramunga Arr**	**23.04**	**236**	P		**P**	**10 12 57.8**	**-2.5**
WR0				IAmb		IAmb	10 13 06.5	
	comp=Z,16nm,1.3s							
WB0	**Warramunga Arr**	**23.07**	**236**	P		**P**	**10 12 59.0**	**-1.5**
GUMO	**Guam**	**23.10**	**335**	LR		LR	10 20 28.2	
	comp=Z,29nm,21.3s,baz=150,slow=33							
WB2	**Warramunga Arr**	**23.18**	**236**	P		**P**	**10 12 58.7**	**-3.0**
WRA	**Warramunga Arr**	**23.20**	**236**	P		**P**	**10 13 01.4**	**-0.5**
	comp=Z,4.6nm,0.9s,baz=60,slow=9.8,SNR=14							
AS31	**Alice Springs**	**25.53**	**229**	P		**P**	**10 13 23.0**	**-0.6**
ASAR	**Alice Springs**	**25.53**	**229**	P		**P**	**10 13 23.9**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=59,slow=9.5,SNR=14							
ASAR				LR		LR	10 22 42.0	
	comp=Z,186nm,18.8s,baz=58,slow=35							
STKA	**Stephens Creek**	**27.09**	**205**	LR		LR	10 23 47.0	
	comp=Z,156nm,21.3s,baz=28,slow=35							
CMAR	**Chiang Mai Arr**	**60.66**	**296**	P		**P**	**10 18 06.6**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=104,slow=3.8,SNR=4.2							
SONM	**Songino Array**	**69.57**	**328**	P		**P**	**10 19 04.2**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=133,slow=6.3,SNR=8.1							
SII	**Sitkinak Islan**	**76.38**	**26**	P		**P**	**10 19 42.9**	**-0.7**
OHAK	**Old Harbor**	**77.17**	**26**	P		**P**	**10 19 47.4**	**-0.6**
OHAK				IAmb		IAmb	10 19 49.1	
	comp=Z,6.6nm,1.0s							
KDAK	**Kodiak Island**	**77.81**	**26**	P		**P**	**10 19 51.4**	**-0.2**
KDAK				IAmb		IAmb	10 19 52.6	
	comp=Z,8.6nm,1.1s							
SVW2	**Sparrevohn**	**78.64**	**22**			**P**	**10 19 56.0**	**-0.1**
SVW2				IAmb		IAmb	10 19 59.0	
	comp=Z,7.9nm,1.2s							
CNPM	**China Poot**	**79.40**	**25**			**P**	**10 20 00.7**	**+0.3**
TTA	**Tatalina**	**79.66**	**21**			**P**	**10 20 01.9**	**+0.2**
DHY	**Denali Highway**	**82.93**	**23**	P		**P**	**10 20 19.4**	**+0.1**
DHY				IAmb		IAmb	10 20 20.2	
	comp=Z,4.6nm,1.1s							
MKAR	**Makanchi Array**	**83.55**	**319**	P		**P**	**10 20 22.9**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=129,slow=5.7,SNR=8.5							
VRDI	**Verde Repeater**	**83.59**	**25**	P		**P**	**10 20 22.6**	**-0.1**
VRDI				IAmb		IAmb	10 20 24.0	
	comp=Z,10nm,1.2s							
MAKZ	**Makanchi**	**83.75**	**319**	P		**P**	**10 20 23.2**	**-0.5**
MAKZ				IAmb		IAmb	10 20 24.7	
	comp=Z,3.5nm,1.1s							
BALM	**Baldy**	**83.97**	**26**	P		**P**	**10 20 23.2**	**-1.4**
BALM				IAmb		IAmb	10 20 25.9	
	comp=Z,5.6nm,0.9s							
IL31		**84.01**	**22**	P		**P**	**10 20 23.5**	**-1.1**
IL31				IAmb		IAmb	10 20 24.3	
	comp=Z,3.1nm,1.1s							
ILAR	**Eielson Array**	**84.01**	**22**	P		**P**	**10 20 23.4**	**-1.1**
ILAR	comp=Z,1.9nm,1.0s,baz=252,slow=5.0,SNR=14			LR		LR	10 55 08.6	
	comp=Z,42nm,19.0s,baz=240,slow=34							
CTGM	**Chitina Glacie**	**84.38**	**26**	P		**P**	**10 20 26.0**	**-0.8**
DOT	**Dot Lake**	**84.50**	**23**	P		**P**	**10 20 27.6**	**+0.4**
NVAR	**Mina Array Bea**	**92.36**	**52**	P		**P**	**10 21 07.0**	**+1.4**
	comp=Z,1.8nm,1.0s,baz=260,slow=5.4,SNR=10							
TORD	**Torodi Ar. Bea**	**152.78**	**284**	PKPbc		**PKPbc**	**10 27 52.0**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=68,slow=0.7,SNR=5.0							

IDC 22 10:08:00.2±3.6, **25°91S×29°14E, h0**km, **mb1 2.9**/3, **mb1mx2.9**/37, **mbtmp2.9**/3, **ML2.5**/3, **Error ellipse: s-maj=32.0km s-min=18.9km az=111.0, South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LBTB	**Lobatse**	**3.33**	**285**	Pn		Pn	Pn	10 08 55.0	+1.4
	0.2nm,0.3s,baz=80,slow=11,SNR=2.2								
LBTB				Pg		Pb	Pb	10 09 01.5	+1.3
	2.0nm,0.3s,baz=103,slow=16,SNR=13								
LBTB				Lg		Lg	Lg	10 09 46.8	
	3.2nm,0.3s,baz=193,slow=23,SNR=19								
BOSA	**Boshof**	**4.38**	**231**	Pn		Pn	Pn	10 09 09.6	+1.5
	0.2nm,0.3s,baz=55,slow=13,SNR=1.7								
BOSA				Pg		Pb	Pb	10 09 19.4	+1.2
	0.5nm,0.3s,baz=53,slow=16,SNR=5.2								
BOSA				Lg		Lg	Lg	10 10 15.3	
	3.0nm,0.3s,baz=153,slow=20,SNR=13								
I47ZA	**BOSHOF INFRASO**	**4.40**	**231**	*i*				10 38 40.0	
	baz=54,slow=336,SNR=2.1								
MATP	**Matopo**	**5.49**	**354**	Pn		Pn	Pn	10 09 24.3	+0.9
	0.2nm,0.3s,baz=169,slow=15,SNR=2.0								
MATP				Sn		Sn	Sn	10 10 24.2	-3.2
	0.4nm,0.3s,baz=48,slow=11,SNR=2.6								
MATP				Lg		Lg	Lg	10 10 50.3	
	0.5nm,0.3s,baz=94,slow=19,SNR=4.0								
I35NA	**TSUMEB INFRASO**	**12.60**	**300**	*i*				11 30 50.0	
	baz=122,slow=320,SNR=0.8								

ISN **22** *10:39:58.5±0.9, 32°.80N×47°.63E, h14*km*±5*km*, ML4.6*
BJI **22** *10:39:58.8±0.0, 32°.60N×47°.70E, h10*km*, mB5.0/38, mb4.8/49, Ms4.6/34, Ms7 4.4/31*
TEH **22** *10:39:59.9, 32°.72N×47°.63E, h13*km*, ML4.8*
NEIC **22** *10:39:59.5±1.7, 32°.70N±0°.02×47°.63E±0°.06, h10*km*±1*km*, Error ellipse: s-maj=9.0km s-min=2.8km az=247.0*
OMAN **22** *10:40:00.3, 32°.27N×47°.48E, h10*km*, mb5.7/26, ms3.9/6*
MOS **22** *10:40:00.0±1.0, 32°.69N×47°.63E, h26*km*, mb5.0/78, Error ellipse: s-maj=4.6km s-min=3.2km az=105.3*
THR **22** *10:40:00.9±0.3, 32°.61N×47°.58E, h36*km*±2*km*, ML4.8*
GII **22** *10:40:02.4±0.0, 32°.64N×47°.68E, h10*km*
IDC* **22** *10:40:02.3±2.0, 32°.70N×47°.62E, h27*km*±13*km*, mb4.4/42, mb1 4.4/51, mb1mx4.4/59, mbtmp4.5/51, ML3.8/8, MS3.8/8, Ms1 3.8/8, ms1mx3.4/31, Error ellipse: s-maj=9.9km s-min=8.2km az=130.0*
GCMT **22** *10:40:03.0±0.4, 32°.68N±0°.03×47°.54E±0°.05, h29*km*, MW4.9/81, Moment Tensor Solution. s17,c17; s81,c103; Duration: 0 Moment tensor: Scale 10*16*Nm; Mrr 3.01±.16; Mθθ -2.07±.11; Mφφ -0.94±.10; Mrθ 0.20±.17; Mθφ 0.39±.07; Mφr 0.35±.17; Best double couple: M*o*2.62100×10*16* NP1: ϕ*s*293.00000°, δ44.00000°, λ98.00000°. NP2: ϕs101.00000°, δ46.00000°, λ82.00000°. Principal axes: T 3.0520, Plg84.0000°, Azm297.0000°; N -0.8640, Plg6.0000°, Azm107.0000°; P -2.1910, Plg1.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DSN **22** *10:40:25.0±1.8, 31°.03N×49°.05E, h10*km*, ML4.7/7 Error ellipse: s-maj=25.0km s-min=12.8km az=10.0*

ISC 22 10:40:00.2±0.8, **32°.70N**±0°.02×**47°.64E**±0°.03, **h13**km±4km, **n699**, σ1**52**/723, **mb4.9**/205, **MS4.0**/32, **35C-18D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
DHL1	**Dehloran**	**0.30**	**267**	*e*Pg		**Pg**	**Pg**	**10 40 06.1**	**-0.4**
IKFM	**Kafar-mosalman**	**0.84**	**12**	*e*Pg		**Pg**	**Pg**	**10 40 15.9**	**-0.6**
IKFM				*e*				10 40 32.4	
IKFM	**Kafar-mosalman**	**0.84**	**12**	Pg		**Pg**	**Pg**	**10 40 16.0**	**-0.6**
IKMR	**Kamar-syah**	**1.03**	**37**	*e*Pg		**Pg**	**Pb**	**10 40 18.8**	**-1.0**
IKMR				*e*				10 40 45.3	
IKMR	**Kamar-syah**	**1.03**	**37**				**Pb**	**10 40 19.0**	**-0.8**
SHGR	**Shooshtar-Gavs**	**1.14**	**121**	*e*Pg		**Pg**	**Pg**	**10 40 22.2**	**0.0**
SHGR	**Shooshtar-Gavs**	**1.14**	**121**	*e*Pg		**Pg**	**Pg**	**10 40 22.2**	**0.0**
SHGR	**Shooshtar-Gavs**	**1.14**	**121**				**Pn**	**10 40 22.0**	**+0.2**
IDOB	**Doab**	**1.18**	**22**	*e*Pg		**Pg**	**Pb**	**10 40 21.4**	**-1.1**
IDOB	**Doab**	**1.18**	**22**				**Pb**	**10 40 21.0**	**-1.5**
BMDN	**Meydan**	**1.39**	**45**	*e*Pg		**Pg**	**Pn**	**10 40 25.1**	**-0.4**
BMDN				*e*				10 40 58.6	
BMDN	**Meydan**	**1.39**	**45**				**Pn**	**10 40 25.0**	**-0.4**
IKOM	**Komasi**	**1.48**	**356**	*e*Pg		**Pg**	**Pb**	**10 40 27.4**	**-0.2**
IKOM				*e*				10 40 33.6	
IKOM	**Komasi**	**1.48**	**356**	Pg		**Pg**	**Pn**	**10 40 27.0**	**+0.4**
IBDR	**Badra**	**1.50**	**286**	*e*Pg		**Pg**	**Pn**	**10 40 25.0**	**-1.7**
IBDR				*e*Sg		**Sg**	**Sn**	**10 40 45.0**	**-1.1**
IBDR					AML	AML	AML	10 40 52.8	
	comp=E,13μm,0.6s								
IBDR					AML	AML	AML	10 40 53.0	
	comp=N,8μm,0.5s								
AHWZ	**Ahwaz**	**1.61**	**148**	*e*Pg		**Pg**	**Pb**	**10 40 30.3**	**+0.6**
AHWZ	**Ahwaz**	**1.61**	**148**	Pg		**Pg**	**Pb**	**10 40 30.0**	**+0.3**
AHWZ				Sg		**Sg**	**Sg**	**10 40 54.0**	**+2.1**
KCHF	**Cheshme Sefid,**	**1.65**	**342**	*e*Pg		**Pg**	**Pb**	**10 40 30.8**	**+0.2**
KCHF				*e*				10 40 57.4	
KCHF	**Cheshme Sefid,**	**1.65**	**342**	Pg		**Pg**	**Pb**	**10 40 31.0**	**+0.4**
HSAM	**Samen**	**1.71**	**28**	*e*Pg		**Pg**	**Pb**	**10 40 32.3**	**+0.7**
HSAM				*e*				10 41 05.5	
HSAM	**Samen**	**1.71**	**28**	Pg		**Pb**	**Pb**	**10 40 32.0**	**+0.4**
KER	**Kermanshah**	**1.74**	**346**	*e*Pn		**Pb**	**Pb**	**10 40 32.2**	**+0.2**
IBZA	**Bozab**	**1.78**	**6**	*e*Pg		**Pb**	**Pb**	**10 40 32.6**	**-0.2**
IBZA				*e*				10 41 05.6	
IBZA	**Bozab**	**1.78**	**6**	Pg		**Pb**	**Pb**	**10 40 33.0**	**+0.2**
IGHG	**Ghaleghazi**	**1.86**	**331**	*e*Pn		**Pb**	**Pb**	**10 40 34.0**	**-0.1**
IVIS	**Veis**	**1.94**	**340**	*e*Pn		**Pb**	**Pb**	**10 40 34.7**	**-0.8**
IVIS				*e*				10 41 07.7	
NSR	**Nassriya**	**2.11**	**218**	*e*Pn		**Pn**	**Pn**	**10 40 36.0**	**+0.8**
NSR				*e*Sn		**Sn**	**Sn**	**10 41 02.0**	**+0.7**
IALM	**Almabolaq**	**2.20**	**11**	*e*Pn		**Pb**	**Pb**	**10 40 38.8**	**-1.2**
IDHR	**Dehrash**	**2.25**	**333**	*e*Pn		**Pn**	**Pn**	**10 40 38.5**	**+1.1**
IDHR				*e*				10 41 20.5	
ILIN	**Lien**	**2.29**	**346**	*e*Pn		**Pb**	**Pb**	**10 40 39.9**	**-1.6**
ILIN				*e*				10 41 21.0	
SNGE	**Sanandaj**	**2.40**	**354**	*e*Pn		**Pn**	**Pn**	**10 40 40.9**	**+1.5**
SNGE				*e*Sg		**Sg**	**Sg**	**10 41 17.2**	**-0.3**
SNGE					IAML			10 41 24.6	
	comp=N,4μm,0.5s								
SNGE	**Sanandaj**	**2.40**	**354**	*e*Pn		**Pn**	**Pn**	**10 40 40.9**	**+1.5**
HAGD	**Aghdareh**	**2.46**	**30**	*e*Pn		**Pb**	**Pb**	**10 40 42.8**	**-1.6**
HAGD				*e*				10 40 50.9	
HSRG	**Sareghieh**	**2.59**	**12**	*e*Pn		**Pn**	**Pn**	**10 40 44.1**	**+2.0**
HSRG				*e*				10 41 27.5	
JHBN	**Jahan bin**	**2.60**	**100**	*e*Pn		**Pn**	**Pn**	**10 40 43.9**	**+1.7**
JHBN				*e*				10 41 30.0	
IPIR	**Pirpir**	**2.74**	**89**	*e*Pn		**Pn**	**Pn**	**10 40 46.1**	**+2.0**
IPIR				*e*				10 41 33.7	
BHD	**Baghdad**	**2.80**	**283**	*e*Pn		**Pn**	**Pn**	**10 40 44.0**	**-0.6**
BHD				*e*Sn		**Sn**	**Sn**	**10 41 18.0**	**-0.3**
ROKH	**ROKH**	**2.89**	**96**	*e*Pn		**Pn**	**Pn**	**10 40 47.9**	**+1.8**
IBRJ	**Brojen**	**3.16**	**103**	*e*Pn		**Pn**	**Pn**	**10 40 51.5**	**+1.6**
IRAZ	**Razeghan**	**3.30**	**34**	*e*Pn		**Pn**	**Pn**	**10 40 54.9**	**+3.2**
IKLH	**Kolahrood**	**3.37**	**78**	*e*Pn		**Pn**	**Pn**	**10 40 54.5**	**+1.8**
QABG	**Abgarm-Qazvin**	**3.41**	**28**	*e*Pn		**Pn**	**Pn**	**10 40 55.2**	**+2.0**
IGAR	**Gharneh**	**3.73**	**93**	*e*Pn		**Pn**	**Pn**	**10 40 59.2**	**+1.6**
IGAR				*e*				10 41 56.2	
KLNJ	**Kolanjah**	**3.76**	**116**	*e*Pn		**Pn**	**Pn**	**10 40 59.5**	**+1.3**
IMHD	**Mahdasht**	**3.89**	**39**	*e*Pn		**Pn**	**Pn**	**10 41 01.6**	**+1.8**
IZEF	**Zefreh**	**3.95**	**86**	*e*Pn		**Pn**	**Pn**	**10 41 02.2**	**+1.5**
QSDN	**Sirdan**	**4.00**	**18**	*e*Pn		**Pn**	**Pn**	**10 41 04.3**	**+2.9**
IHSB	**Hasanabad**	**4.07**	**47**	*e*Pn		**Pn**	**Pn**	**10 41 04.3**	**+2.1**
IRAM	**Ramesheh**	**4.11**	**101**	*e*Pn		**Pn**	**Pn**	**10 41 03.8**	**+0.9**
IGZV	**Ghazvin**	**4.25**	**29**	*e*Pn		**Pn**	**Pn**	**10 41 06.8**	**+2.0**
CHTH	**Charan**	**4.31**	**41**	*e*Pn		**Pn**	**Pn**	**10 41 07.6**	**+1.9**
CHTH	**Charan**	**4.31**	**41**	*e*Pn		**Pn**	**Pn**	**10 41 07.6**	**+1.9**
TEH	**Tehran**	**4.33**	**45**	*e*Pn		**Pn**	**Pn**	**10 41 08.1**	**+2.2**
MAHB	**Mahabad**	**4.36**	**339**	*e*Pn		**Pn**	**Pn**	**10 41 09.1**	**+1.8**
QALM	**Alamut, Qazvin**	**4.47**	**33**	*e*Pn		**Pn**	**Pn**	**10 41 09.9**	**+2.0**
KAZ1	**Kazerun**	**4.59**	**131**	*e*Pn		**Pn**	**Pn**	**10 41 10.5**	**+1.1**
DAMV	**Damavand**	**4.63**	**50**	*e*Pn		**Pn**	**Pn**	**10 41 12.0**	**+2.0**
DAMV	**Damavand**	**4.63**	**50**	*e*Pn		**Pn**	**Pn**	**10 41 12.0**	**+2.0**
IDMV	**Damavand**	**4.64**	**51**	*e*Pn		**Pn**	**Pn**	**10 41 12.0**	**+1.8**
AHBU	**AHRAM**	**4.95**	**140**	*e*Pn		**Pn**	**Pn**	**10 41 14.4**	**+0.2**
ISRB	**Sarab**	**5.12**	**0**	*e*Pn		**Pn**	**Pn**	**10 41 19.6**	**+2.9**
ANAR	**Anarak**	**5.14**	**83**	*e*Pn		**Pn**	**Pn**	**10 41 18.1**	**+1.1**
IAZR	**Azarshahr**	**5.15**	**345**	*e*Pn		**Pn**	**Pn**	**10 41 19.6**	**+2.4**
IFIR	**Firoozkooh**	**5.16**	**54**	*e*Pn		**Pn**	**Pn**	**10 41 19.4**	**+2.1**
ILAS	**Lasjerd**	**5.16**	**57**	*e*Pn		**Pn**	**Pn**	**10 41 19.5**	**+2.1**
SHI	**Shiraz**	**5.17**	**125**	*e*Pn		**Pn**	**Pn**	**10 41 18.4**	**+1.0**
ISAD	**Sadrabad**	**5.18**	**97**	*e*Pn		**Pn**	**Pn**	**10 41 18.8**	**+1.2**
IPRN	**Peran**	**5.25**	**46**	*e*Pn		**Pn**	**Pn**	**10 41 21.4**	**+3.0**
IALA	**Alasht**	**5.45**	**50**	*e*Pn		**Pn**	**Pn**	**10 41 24.2**	**+2.9**
ISHM	**Shahmirzad**	**5.61**	**55**	*e*Pn		**Pn**	**Pn**	**10 41 25.6**	**+2.0**
IHRS	**Heris**	**5.63**	**355**	*e*Pn		**Pn**	**Pn**	**10 41 26.4**	**+2.6**
ICHK	**Chekchek**	**5.74**	**93**	*e*Pn		**Pn**	**Pn**	**10 41 26.7**	**+1.5**
HAKT	**HAKKARI**	**5.82**	**327**	*e*Pn		**Pn**	**Pn**	**10 41 26.8**	**+0.4**
IANJ	**Anjilo**	**5.89**	**60**	*e*Pn		**Pn**	**Pn**	**10 41 28.6**	**+1.2**
LKRN	**Lenkeran, Azer**	**6.07**	**8**	P		**Pn**	**Pn**	**10 41 32.5**	**+2.9**
IMRD	**Marand**	**6.21**	**346**	*e*Pn		**Pn**	**Pn**	**10 41 34.0**	**+2.4**
IGLO	**Ghaloghah**	**6.36**	**52**	*e*Pn		**Pn**	**Pn**	**10 41 36.2**	**+2.4**
GEVA	**Gevas**	**6.73**	**328**	Pn		**Pn**	**Pn**	**10 41 39.2**	**+0.3**
TPRV	**Parvadeh(Tabas**	**7.62**	**85**	*e*Pn		**Pn**	**Pn**	**10 41 52.9**	**+2.0**
TKDS	**Koohdasht(Taba**	**8.00**	**81**	*e*Pn		**Pn**	**Pn**	**10 41 57.6**	**+1.4**
GANJ	**Ganja**	**8.00**	**353**	P		**Pn**	**Pn**	**10 41 56.8**	**+0.6**
MNGR	**Mingechevir, A**	**8.07**	**357**	P		**Pn**	**Pn**	**10 41 58.4**	**+1.3**
SEKA	**Sheki**	**8.50**	**358**	P		**Pn**	**Pn**	**10 42 04.4**	**+1.4**
AKT	**Akhty**	**8.77**	**0**	*e*P		**Pn**	**Pn**	**10 42 09.5**	**+2.8**
AKT				*e*S		**Sn**	**Sn**	**10 43 49.3**	**+3.9**
AKT					pmax	pmax			
	comp=Z,48nm,0.8s								
ZKTA	**Zakatala**	**8.96**	**355**	P		**Pn**	**Pn**	**10 42 10.4**	**+1.1**
SBZV	**Sabzevar**	**9.01**	**63**	*e*Pn		**Pn**	**Pn**	**10 42 12.1**	**+2.0**
KZRT	**Kazreti**	**9.05**	**344**	P		**Pn**	**Pn**	**10 42 15.7**	**+5.2**
ASF	**Jabal al Asfar**	**9.10**	**270**	Pn		**Pn**	**Pn**	**10 42 09.5**	**-1.7**
	comp=Z,2.7nm,0.3s,baz=59,slow=6.6,SNR=31								
ASF					Lg	Lg		10 44 51.0	
	comp=Z,1.5nm,0.3s,baz=196,slow=23,SNR=2.5								
KOPT	**Kop Dagi**	**9.30**	**324**				**Pn**	**10 42 11.8**	**-2.4**
AKH	**Akhalkalaki**	**9.30**	**340**	P		Pn	Pn	10 42 19.2	+5.0
SLWR	**Sila**	**9.30**	**156**	*e*Pn		**Pn**	**Pn**	**10 42 13.8**	**-0.2**
ITEG	**Tejag**	**9.35**	**86**	*e*Pn		**Pn**	**Pn**	**10 42 16.6**	**+1.8**
MALT	**Malatya**	**9.37**	**309**	P		**Pn**	**Pn**	**10 42 16.5**	**+1.5**
ISFR	**Sfrayin**	**9.55**	**60**	*e*Pn		**Pn**	**Pn**	**10 42 20.1**	**+2.4**
AFFZ	**Afriz**	**9.57**	**83**	*e*Pn		**Pn**	**Pn**	**10 42 19.2**	**+1.4**
KEMA	**Kemaliye**	**9.89**	**314**	*e*Pn		**Pn**	**Pn**	**10 42 22.2**	**+2.1**
SHME	**Shamm**	**9.94**	**130**	P		**Pn**	**Pn**	**10 42 20.7**	**-2.1**
GEYT	**Alibeck**	**10.02**	**56**	Pn		**Pn**	**Pn**	**10 42 26.4**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=243,slow=13,SNR=12								
GYA0B	**ALIBECK ARRAY**	**10.02**	**56**	Pn		**Pn**	**Pn**	**10 42 25.6**	**+1.7**
KELT	**Kelkit**	**10.04**	**320**	*e*Pn		**Pn**	**Pn**	**10 42 27.4**	**+3.1**
BATM	**Batumi**	**10.07**	**334**	P		**Pn**	**Pn**	**10 42 28.4**	**+3.9**
BANOM	**Banah**	**10.13**	**130**	*i* P		**Pn**	**Pn**	**10 42 22.8**	**-2.6**
	SNR=22								
BANOM	**Banah**	**10.13**	**130**	P		**Pn**	**Pn**	**10 42 24.3**	**-1.1**
	SNR=22								
HMDT	**Nahal Hemdat**	**10.24**	**271**	Pn		**Pn**	**Pn**	**10 42 30.3**	**+3.4**
MAK	**Makhachkala**	**10.25**	**359**	*e*P		**Pn**	**Pn**	**10 42 24.7**	**-2.1**
MAK				*e*S		**Sn**	**Sn**	**10 44 18.2**	**-3.3**
MAK					pmax	pmax			
	comp=Z,215nm,1.0s								
MAK					MLR	MLR			
	comp=Z,1μm,16.0s								
MMAI	**Mount Meron Ar**	**10.30**	**275**	Pn		**Pn**	**Pn**	**10 42 27.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=84,slow=16,SNR=2.2								
MMAI					Lg	Lg		10 45 23.9	
	comp=Z,3.6nm,0.3s,baz=87,slow=25,SNR=3.8								
KARJ	**KARJ**	**10.31**	**264**	Pn		**Pn**	**Pn**	**10 42 30.2**	**+2.4**
NAZ	**Nazwa, Dubai**	**10.41**	**136**	*i* P		**Pn**	**Pn**	**10 42 28.5**	**-0.7**
	SNR=13								
NAZ	**Nazwa, Dubai**	**10.41**	**136**	P		**Pn**	**Pn**	**10 42 29.0**	**-0.1**
	SNR=13								
ONI	**Oni**	**10.42**	**343**	P		**Pn**	**Pn**	**10 42 33.9**	**+4.6**
ZEI	**Tsey**	**10.50**	**345**	*e*P		**Pn**	**Pn**	**10 42 34.2**	**+3.7**
ZEI					pmax	pmax			
	comp=Z,43nm,1.6s								
FAQ	**Al Faqa, Dubai**	**10.55**	**137**	P		**Pn**	**Pn**	**10 42 30.3**	**-0.9**
MDH	**Madha**	**10.57**	**132**	P		**Pn**	**Pn**	**10 42 28.5**	**-2.8**
MDH	**Madha**	**10.57**	**132**	P		**Pn**	**Pn**	**10 42 29.7**	**-1.7**
GROC	**Groznyy**	**10.59**	**353**	*e*P		**Pn**	**Pn**	**10 42 33.1**	**+1.6**
YTIR	**Yattir**	**10.72**	**266**	Pn		**Pn**	**Pn**	**10 42 36.9**	**+3.5**
UOSS	**Minazif**	**10.77**	**134**	*i* P		**Pn**	**Pn**	**10 42 31.7**	**-2.4**
	SNR=14								
UOSS	**Minazif**	**10.77**	**134**	P		**Pn**	**Pn**	**10 42 32.7**	**-1.4**
UOSS				P		**Pn**	**Pn**	**10 42 32.7**	**-1.4**
UOSS	**Minazif**	**10.77**	**134**	Pn		**Pn**	**Pn**	**10 42 32.7**	**-1.4**
HATD	**Hatta, Dubai**	**10.81**	**134**	P		**Pn**	**Pn**	**10 42 33.0**	**-1.7**
HATD	**Hatta, Dubai**	**10.81**	**134**	P		**Pn**	**Pn**	**10 42 33.9**	**-0.8**
ZFRI	**Zfri**	**10.84**	**262**	Pn		**Pn**	**Pn**	**10 42 36.5**	**+1.5**
ASHO	**Ashiyiah**	**10.87**	**135**	*i* P		**Pn**	**Pn**	**10 42 33.3**	**-2.3**
	SNR=21								
ASHO	**Ashiyiah**	**10.87**	**135**	P		**Pn**	**Pn**	**10 42 35.0**	**-0.6**
	SNR=21								
IMYA	**Miami**	**10.90**	**67**	*e*Pn		**Pn**	**Pn**	**10 42 38.3**	**+2.3**
PRNI	**Paran**	**11.04**	**261**	Pn		**Pn**	**Pn**	**10 42 40.0**	**+2.3**
HRFI	**Mount Harif**	**11.10**	**260**	Pn		**Pn**	**Pn**	**10 42 40.6**	**+2.0**
ALNE	**Al Ain**	**11.18**	**138**	*i* P		**Pn**	**Pn**	**10 42 38.2**	**-1.5**
	SNR=20								
EIL	**Elat**	**11.28**	**258**	Pn		**Pn**	**Pn**	**10 42 39.8**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=123,slow=6.8,SNR=6.4								
EIL					Lg	Lg		10 46 01.1	
	comp=Z,1.5nm,0.3s,baz=342,slow=21,SNR=2.0								
EIL	**Elat**	**11.28**	**258**	Pn		**Pn**	**Pn**	**10 42 45.2**	**+4.1**
KZIT	**Kziot**	**11.41**	**265**	Pn		**Pn**	**Pn**	**10 42 47.3**	**+4.4**
SOHO	**SOHO**	**11.57**	**135**	*i* P		**Pn**	**Pn**	**10 42 42.7**	**-2.4**
	SNR=8.6								
SOHO	**SOHO**	**11.57**	**135**	P		**Pn**	**Pn**	**10 42 43.6**	**-1.4**
KBZ	**Khabaz**	**11.62**	**343**	Pn		**Pn**	**Pn**	**10 42 49.7**	**+4.0**
	comp=Z,0.2nm,0.3s,baz=158,slow=8.7,SNR=11								
KVAR	**Kislovodsk Arr**	**11.89**	**342**	Pn		**Pn**	**Pn**	**10 42 54.0**	**+4.6**
	baz=73,slow=20,SNR=2.7								
KVAR					LR	LR		10 47 03.7	
	comp=Z,808nm,21.1s,baz=30,slow=36								
KIV	**Kislovodsk**	**11.89**	**342**	*e*P		**Pn**	**Pn**	**10 42 53.5**	**+4.0**
KIV				*e*S		**Sn**	**Sn**	**10 45 08.3**	**+6.3**
KIV					pmax	pmax			
	comp=Z,107nm,1.1s								
KIV					MLR	MLR			
	comp=Z,552nm,11.0s								
KIV	**Kislovodsk**	**11.89**	**342**	Pn		**Pn**	**Pn**	**10 42 51.5**	**+2.0**
CSS	**Mathiatis**	**12.12**	**285**				**Pn**	**10 42 50.7**	**-1.8**
ARQ	**Araqi**	**12.18**	**138**	P		**Pn**	**Pn**	**10 42 52.3**	**-1.2**
	SNR=23								
HRA	**Herat**	**12.30**	**78**	Pn		**Pn**	**Pn**	**10 42 54.5**	**-0.7**
HOQ	**Hoqain**	**12.45**	**134**	P		**Pn**	**Pn**	**10 42 55.4**	**-1.7**
SOC	**Sochi**	**12.52**	**332**	*e*P		**Pn**	**Pn**	**10 42 57.8**

VILL Villia 20.54 292 P **P** **10 44 38.0 -0.3**
KTHA Kythira Island 20.56 287 P **P** **10 44 37.9 -0.6**
SKIA Skiathos 20.58 295 P **P** **10 44 39.1 +0.3**
VLI Veliai 20.68 288 P **P** **10 44 38.6 -1.3**
KK31 Karatay Array 20.76 53 P **P** **10 44 40.6 -0.1**
KK31 pmax pmax
comp=Z,31nm,1.0s
KK31 Karatay Array 20.76 53 P **P** **10 44 40.5 -0.1**
KKAR Karatay Array 20.76 53 P **P** **10 44 40.7 0.0**
KKAR pmax pmax
comp=Z,31nm,1.0s
KKAR Karatay Array 20.76 53 P **P** **10 44 40.7 0.0**
VRI Vrincioaia 20.78 315 ⇑P Pn 10 44 42.4 -0.9
NVR Nevrokopi 20.81 301 P **P** **10 44 41.1 -0.2**
PLOR Plostina 20.82 315 ⇑P Pn 10 44 43.0 -0.7
XOR Xorichti 20.83 296 P **P** **10 44 41.2 -0.3**
LKR Lokris 20.85 293 P **P** **10 44 41.6 -0.1**
PLG Polygyros 20.86 298 P **P** **10 44 41.3 -0.5**
LPSR Galich'ya Gora 20.87 345 *e*P **P** **10 44 40.5 -1.2**
LPSR pmax pmax
comp=Z,390nm,1.1s
SRS Serrai 20.94 301 P **P** **10 44 41.1 -1.5**
MMB Musomiste 20.98 302 *e*P **P** **10 44 43.2 +0.1**
MLR Muntele Rosu 21.06 314 P **P** **10 44 45.6 +1.6**
comp=Z,35nm,0.8s,baz=58,slow=5.1,SNR=10
MLR Muntele Rosu 21.06 314 ⇑P **P** **10 44 46.4 +2.4**
MLR Muntele Rosu 21.06 314 P **P** **10 44 45.1 +1.1**
MLR pmax pmax
comp=Z,58nm,1.0s
MLR Muntele Rosu 21.06 314 P **P** **10 44 45.1 +1.1**
MLR lAmb lAmb 10 44 51.5
comp=Z,58nm,1.0s
AXAR Agios Charalam 21.13 294 P **P** **10 44 39.8 -5.0**
TESR Tescani 21.17 317 ⇑P **P** **10 44 45.9 +0.8**
DSF Desfina 21.18 293 P **P** **10 44 44.7 -0.6**
HUMR Humele 21.21 310 ⇓P **P** **10 44 47.7 +2.2**
DZA Taraz 21.24 55 *e*P **P** **10 44 46.2 +0.3**
baz=55
DZA *e*S **S** **10 48 43.5 +1.8**
baz=55
DZA Taraz 21.24 55 *e*P **P** **10 44 46.2 +0.3**
DZA *e*S **S** **10 48 43.5 +1.8**
GUR Goura 21.27 291 P **P** **10 44 49.3 +3.0**
THE Thessaloniki 21.27 299 P **P** **10 44 47.1 +0.9**
THE pmax pmax
comp=Z,28nm,1.1s
AGG Agios Georgios 21.43 294 P **P** **10 44 47.7 -0.2**
AGG Agios Georgios 21.43 294 P **P** **10 44 48.2 +0.3**
AGG pmax pmax
comp=Z,33nm,1.0s
AGG Agios Georgios 21.43 294 P **P** **10 44 48.2 +0.3**
AGG lAmb lAmb 10 45 05.2
comp=Z,33nm,1.0s
NIL Nilore 21.45 80 P **P** **10 44 46.8 -1.4**
NIL pmax pmax
comp=Z,64nm,1.1s
NIL Nilore 21.45 80 P **P** **10 44 46.8 -1.4**
NIL lAmb lAmb 10 45 04.1
comp=Z,64nm,1.1s
OZUR 21.46 315 ⇑P **P** **10 44 49.0 +0.8**
MTUR Matau 21.47 312 ⇑P **P** **10 44 50.5 +2.0**
KKB Krupnik 21.52 302 *e*P **P** **10 44 49.1 +0.2**
ATD Arta Tunnel 21.52 193 P **P** **10 44 49.5 +0.4**
comp=Z,17nm,0.8s,baz=323,slow=11,SNR=5.7
ATD LR LR 10 53 59.1
comp=Z,424nm,21.6s,baz=345,slow=39
ATD Arta Tunnel 21.52 193 P **P** **10 44 45.3 -3.8**
ITM Ithomi 21.52 289 P **P** **10 44 50.5 +1.5**
ITM Ithomi 21.52 289 P **P** **10 44 47.6 -1.3**
ITM lAmb lAmb 10 45 04.2
comp=Z,68nm,0.9s
MAKR Makrakomi, Fth 21.58 294 P **P** **10 44 50.0 +0.4**
VOIR 21.58 313 ⇑P **P** **10 44 51.1 +1.5**
DOPR Dopca 21.63 314 ⇑P **P** **10 44 52.5 +2.4**
VTS Vitosha 21.65 304 *e*P **P** **10 44 50.0 -0.4**
PYL PYLOS 21.65 288 P **P** **10 44 46.8 -3.5**
VAY Valandovo 21.74 300 *i* P **P** **10 44 54.2 +3.0**
DRO Drossia 21.77 291 P **P** **10 44 51.1 -0.5**
ARR Arges 21.81 312 ⇑P **P** **10 44 53.2 +1.2**
MDB Medias 22.33 314 ⇑P **P** **10 45 01.8 +4.3**
LOT Lotru 22.39 312 ⇓P **P** **10 44 58.7 +0.5**
SRE Strehaia 22.42 309 ⇑P **P** **10 45 00.3 +1.8**
AKASG Malin Array Be 22.54 328 P **P** **10 44 58.0 -1.6**
comp=Z,7.3nm,0.6s,baz=140,slow=9.6,SNR=19
AKBB Malin Array Si 22.54 328 P **P** **10 44 57.4 -2.2**
AKBB pmax pmax
comp=Z,33nm,0.9s
AKBB Malin Array Si 22.54 328 P **P** **10 44 57.4 -2.2**
AKBB lAmb lAmb 10 45 08.0
comp=Z,33nm,0.9s
BURAR Bucovina Array 22.60 318 ⇑P **P** **10 45 01.2 +0.7**
BURAR Bucovina Array 22.60 318 P **P** **10 45 01.2 +0.7**
BUR08 Bucovina Ar. S 22.62 318 P **P** **10 44 58.4 -2.3**
BUR08 lAmb lAmb 10 45 07.5
comp=Z,20nm,0.7s
AML Almayashu 22.66 58 P **P** **10 45 02.1 +0.6**
SNR=14
SKO Skopje 22.73 302 *i* P **P** **10 45 03.7 +1.9**
ARCR ARCALIA 22.82 316 ⇑P **P** **10 45 04.6 +2.0**
EKS2 Erkin-Say 22.87 57 P **P** **10 45 04.3 +0.9**
SNR=6.3
OHR Ohrid 22.98 299 *i* P **P** **10 45 06.1 +1.6**
HERR Herculane 23.02 309 ⇓P **P** **10 45 05.4 +0.6**
CJR Cluj-Napoca 23.08 314 ⇓P **P** **10 45 07.8 +2.3**
UCH Uchtor 23.27 58 P **P** **10 45 10.5 +2.6**
SNR=12
AAK Ala-Archa 23.37 57 P **P** **10 45 10.0 +1.4**
comp=Z,2.2nm,0.5s,baz=224,slow=8.8,SNR=2.7
AAK Ala-Archa 23.37 57 P **P** **10 45 07.0 -1.6**
AAK pmax pmax
comp=Z,11nm,1.0s
AAK Ala-Archa 23.37 57 P **P** **10 45 07.0 -1.6**
MDVR Moldovita 23.44 308 ⇓P **P** **10 45 09.6 +0.5**
USP Ospenovka 23.56 56 P **P** **10 45 12.8 +2.4**
SNR=10
BMR Baia Mare 23.62 316 ⇑P **P** **10 45 12.8 +2.1**
SGDS Sogindy 23.70 55 *e*P **P** **10 45 11.7 -0.1**
baz=55
SGDS Sogindy 23.70 55 *e*P **P** **10 45 11.7 -0.1**
TIR Tirane 23.72 299 P **P** **10 45 10.1 -1.7**
TIR pmax pmax
comp=Z,47nm,1.0s
TIR Tirane 23.72 299 P **P** **10 45 10.1 -1.7**
TIR lAmb lAmb 10 45 23.1
comp=Z,47nm,1.0s
OBN Obninsk 23.73 344 P **P** **10 45 10.6 -1.1**
comp=Z,8.6nm,0.4s,baz=156,slow=8.3,SNR=18
OBN Obninsk 23.73 344 *d i*P **P** **10 45 11.7 0.0**
OBN *i* 10 45 17.5
OBN *e* 10 45 38.1
OBN *e*S **S** **10 49 29.3 +2.9**
OBN *e*SS **SnSn** **10 50 09.9 +5.5**
OBN pmax pmax
comp=Z,145nm,1.7s
OBN MLR MLR
comp=Z,238nm,16.0s
OBN Obninsk 23.73 344 P **P** **10 45 11.7 0.0**
KZA Kyzart 23.77 59 P **P** **10 45 16.5 +3.7**
SNR=20
KSH Kashi 23.82 65 P **P** **10 45 11.1 -1.9**
KSH S S 10 49 14.8 -14
KSH pmax pmax
comp=Z,51nm,1.2s
KSH pmax pmax
comp=Z,230nm,4.3s
KSH LR LR
comp=Z,420nm,11.3s
KSH LR LR
comp=Z,490nm,10.4s
KSH LR LR
comp=Z,2μm,16.9s
BZS Buzias 23.83 310 ⇑P **P** **10 45 13.5 +0.6**
BTLS Baital 23.85 51 *e*P **P** **10 45 13.2 +0.1**
comp=Z,34nm,1.9s,baz=51
BTLS *e*S **S** **10 49 30.4 +1.8**
baz=51
BTLS LR LR 10 55 34.8
comp=Z,123nm,11.7s,baz=51
BTLS Baital 23.85 51 *e*P **P** **10 45 13.2 +0.1**
BTLS *e*S **S** **10 49 30.4 +1.8**
BTLS pmax pmax
comp=Z,34nm,1.9s
BTLS MLR MLR
comp=Z,123nm,12.0s

SIRR Siria 24.07 312 ⇓P **P** **10 45 16.4 +1.3**
MOS Moscow 24.08 346 *e*P **P** **10 45 13.7 -1.4**
MOS *e* 10 45 19.2
MOS *e* 10 45 44.6
MOS *e*S **S** **10 49 35.4 +3.4**
MOS pmax pmax
comp=Z,300nm,2.0s
MOS pmax pmax
comp=Z,125nm,1.8s
TKM2 Tokmak 2 24.23 57 P **P** **10 45 18.0 +1.1**
SNR=17
DIVS Divibare 24.36 306 ⇑*i*P **P** **10 45 18.2 +0.2**
DIVS Divibare 24.36 306 P **P** **10 45 16.8 -1.2**
DRME Dracevica, Mon 24.41 301 *e*P **P** **10 45 17.9 -0.4**
PDG Podgorica 24.41 302 ⇑P **P** **10 45 18.3 0.0**
PDG Podgorica 24.41 302 *e*P **P** **10 45 16.9 -1.4**
PDG Podgorica 24.41 302 P **P** **10 45 18.2 0.0**
PDG lAmb lAmb 10 45 19.9
comp=Z,17nm,0.8s
LVV L'vov 24.49 321 *e*P **P** **10 45 18.0 -0.9**
LVV *e* 10 45 51.0
LVV *e*S **S** **10 49 31.7 -7.1**
LVV pmax pmax
comp=Z,50nm,1.6s
RUDO Rudo 24.65 304 *e*P **P** **10 45 19.1 -1.3**
BBLS Lazići 24.70 305 ⇑*i*P **P** **10 45 20.4 -0.5**
UZH Uzhgorod 24.80 317 *e*P **P** **10 45 20.3 -1.4**
UZH *e* 10 45 28.9
UZH *e* 10 45 55.9
UZH *e*S **S** **10 49 38.3 -5.4**
UZH MLR MLR
comp=Z,30nm,16.0s
FRGS Fruska Gora 24.84 308 ⇑*i*P **P** **10 45 22.6 +0.4**
UPM Unac-Piva 24.86 303 *e*P **P** **10 45 21.9 -0.7**
MTBS Maitube 24.87 57 *e*P **P** **10 45 22.7 +0.1**
baz=57
MTBS Maitube 24.87 57 *e*P **P** **10 45 22.7 +0.1**
ARU Arti 24.91 14 P **P** **10 45 23.1 +0.5**
comp=Z,5.6nm,0.7s,baz=195,slow=10,SNR=16
ARU LR LR 10 57 35.5
comp=Z,206nm,19.8s,baz=94,slow=42
ARU Arti 24.91 14 *c i*P **P** **10 45 22.8 +0.2**
ARU PPP PPP 10 46 01.7
ARU 10 48 53.6
ARU S **S** **10 49 48.4 +3.0**
ARU pmax pmax
comp=Z,34nm,1.0s
ARU Arti 24.91 14 P **P** **10 45 21.0 -1.6**
ARU lAmb lAmb 10 45 27.9
comp=Z,24nm,0.9s
HCY Herceg Novi 24.96 301 *e*P **P** **10 45 22.2 -1.1**
KOLS Kolonicke sedl 24.96 318 *e*P **P** **10 45 23.9 +0.7**
KOLS pmax pmax
comp=Z,54nm,1.0s
KOLS Kolonicke sedl 24.96 318 *e*P **P** **10 45 23.9 +0.7**
KWP Kalwaria Pacla 25.09 320 *e*P **P** **10 45 25.4 +1.0**
KWP Kalwaria Pacla 25.09 320 P **P** **10 45 21.6 -2.8**
KWP pmax pmax
comp=Z,51nm,0.7s
KWP Kalwaria Pacla 25.09 320 P **P** **10 45 21.6 -2.8**
TREB Trebinje 25.13 302 *e*P **P** **10 45 23.8 -1.0**
KDJ Kajisay 25.18 60 P **P** **10 45 22.7 -2.7**
KDJ pmax pmax
comp=Z,24nm,1.1s
KDJ Kajisay 25.18 60 P **P** **10 45 22.7 -2.7**
KDJ lAmb lAmb 10 45 34.7
comp=Z,24nm,1.1s
AAA Alma-Ata 25.24 57 *e*P **P** **10 45 25.3 -0.5**
baz=57
AAA LR LR 10 56 10.5
comp=Z,296nm,11.1s,baz=57
AAA Alma-Ata 25.24 57 *e*P **P** **10 45 25.3 -0.5**
AAA MLR MLR
comp=Z,296nm,11.0s
MDOK Medeo 25.32 57 *e*P **P** **10 45 26.3 -0.5**
baz=57
MDOK LR LR 10 56 19.2
comp=Z,424nm,12.7s,baz=57
MDOK Medeo 25.32 57 *e*P **P** **10 45 26.2 -0.5**
MDOK MLR MLR
comp=Z,424nm,13.0s
BRZS Berezniki 25.34 40 *e*P **P** **10 45 26.5 -0.2**
comp=Z,17nm,1.1s,baz=40
BRZS Berezniki 25.34 40 *e*P **P** **10 45 26.4 -0.2**
BRZS pmax pmax
comp=Z,17nm,1.1s
CRVS Cervenica-Dubn 25.41 317 *e*P **P** **10 45 28.4 +1.1**
CRVS pmax pmax
comp=Z,89nm,1.1s
CRVS Cervenica-Dubn 25.41 317 *e*P **P** **10 45 28.4 +1.1**
TARG Taragay, Kyrgy 25.55 61 P **P** **10 45 28.2 -0.9**
TARG lAmb lAmb 10 45 39.9
comp=Z,38nm,1.0s
STON Ston 25.63 302 *i* P **P** **10 45 28.7 -0.6**
TIP Timpagrande 25.75 293 P **P** **10 45 30.7 +0.2**
TIP lAmb lAmb 10 45 32.7
comp=Z,29nm,0.8s
KECS Kecovo 25.77 316 *e*P **P** **10 45 32.2 +1.6**
KECS pmax pmax
comp=Z,86nm,1.3s
KECS Kecovo 25.77 316 *e*P **P** **10 45 32.2 +1.6**
PSZ Piszkesteto 25.87 314 ⇑P **P** **10 45 33.6 +2.1**
PSZ Piszkesteto 25.87 314 P **P** **10 45 31.8 +0.3**
PSZ pmax pmax
comp=Z,67nm,0.9s
PSZ Piszkesteto 25.87 314 P **P** **10 45 31.8 +0.3**
MICGM Minsk 25.90 333 ⇓*e*P **P** **10 45 31.0 -0.6**
MICGM PM 10 45 31.0
comp=Z,0.3nm,1.0s
MNK Minsk 25.90 333 *e*P **P** **10 45 31.0 -0.6**
KIRV Kirov 25.92 2 P **P** **10 45 31.9 +0.2**
comp=Z,47nm,0.7s,baz=170,slow=5.4,SNR=17
MATE Matera 25.95 297 ⇓P **P** **10 45 33.7 +1.5**
MORH Mrgy, Hungar 25.98 310 ⇑*i*P **P** **10 45 33.1 +0.7**
BRVK Borovoye 26.06 32 *d i*P **P** **10 45 33.7 +0.6**
BRVK pmax pmax
comp=Z,29nm,1.3s
BRVK Borovoye 26.06 32 P **P** **10 45 31.8 -1.3**
BRVK lAmb lAmb 10 45 38.7
comp=Z,18nm,0.9s
BVAR Borovoye Array 26.08 32 P **P** **10 45 33.6 +0.2**
comp=Z,8.8nm,0.5s,baz=224,slow=8.3,SNR=32
BVAR ScP **ScP** **10 52 38.3 -1.7**
comp=Z,2.0nm,0.6s,baz=217,slow=3.6,SNR=6.3
BVAR LR LR 10 57 45.1
comp=Z,375nm,19.8s,baz=299,slow=41
RICI Ricice 26.18 303 *i* P **P** **10 45 33.5 -0.9**
MAKA Makarska 26.21 303 *i* P **P** **10 45 35.0 +0.5**
SATY Saty 26.26 58 *e*P **P** **10 45 35.7 +0.4**
comp=Z,26nm,1.7s,baz=58
SATY Saty 26.26 58 *e*P **P** **10 45 35.6 +0.4**
SATY pmax pmax
comp=Z,27nm,1.7s
SATY Saty 26.26 58 *e*P **P** **10 45 35.6 +0.4**
SATY pmax pmax
comp=Z,27nm,1.7s
NIE Niedzica 26.33 317 *e*P **P** **10 45 36.6 +1.0**
CEL Celeste 26.36 291 P **P** **10 45 36.8 +0.7**
MGRS Mrkonjic Grad 26.45 305 *e*P **P** **10 45 43.8 +7.0**
BLY Banja Luka 26.48 306 ⇑*i*P **P** **10 45 36.9 -0.1**
NACGM Naroch 26.62 333 *e* **P** **10 45 37.0 -1.2**
LANS Liptovska Anna 26.68 316 *e*P **P** **10 45 40.3 +1.5**
LANS pmax pmax
comp=Z,20nm,1.1s
LANS Liptovska Anna 26.68 316 *e*P **P** **10 45 40.3 +1.5**
UZB Uzynbulak 26.72 58 *e*P **P** **10 45 39.1 -0.3**
comp=Z,16nm,1.8s,baz=58
UZB Uzynbulak 26.72 58 *e*P **P** **10 45 39.1 -0.3**
UZB pmax pmax
comp=Z,16nm,1.8s
TDK Taldyqorghan 26.76 54 *e*P **P** **10 45 39.5 -0.1**
baz=54
TDK LR LR 10 56 51.9
comp=Z,341nm,11.0s,baz=54
TDK Taldyqorghan 26.76 54 *e*P **P** **10 45 39.4 -0.1**
TDK MLR MLR
comp=Z,341nm,11.0s
VYHS Vyhne 26.76 315 *e*P **P** **10 45 40.3 +0.7**
VYHS pmax pmax
comp=Z,22nm,1.2s
VYHS Vyhne 26.76 315 *e*P **P** **10 45 40.2 +0.7**
KIJV Kijevo 26.82 304 *i* P **P** **10 45 39.6 -0.5**
OJC Ojcow 27.00 319 *e*P **P** **10 45 42.0 +0.3**
OJC Ojcow 27.00 319 P **P** **10 45 41.5 -0.2**

OJC pmax pmax
comp=Z,29nm,0.7s
OJC Ojcow 27.00 319 P **P** **10 45 41.5 -0.2**
OJC lAmb lAmb 10 45 49.4
comp=Z,29nm,0.7s
MOSL Moslavina 27.02 308 *i* P **P** **10 45 42.2 +0.3**
SHLS Shalkode 27.04 58 *e*P **P** **10 45 44.2 +2.0**
baz=58
SHLS Shalkode 27.04 58 *e*P **P** **10 45 44.2 +2.0**
ZIRJ Zirje 27.27 303 *i* P **P** **10 45 43.4 -0.8**
MORI Morici 27.27 303 *i* P **P** **10 45 43.7 -0.5**
SUW Suwalki 27.50 328 P **P** **10 45 46.2 +0.1**
SUW pmax pmax
comp=Z,65nm,0.8s
SUW Suwalki 27.50 328 P **P** **10 45 46.2 +0.1**
PAOL Paolisi 27.61 297 P **P** **10 45 45.7 -1.6**
PAOL lAmb lAmb 10 45 51.1
comp=Z,24nm,1.1s
JAVC Velka Javorina 27.61 315 *e*P **P** **10 45 48.2 +1.0**
KOGS Kog 27.62 309 *e*P **P** **10 45 48.0 +0.8**
SMOL Smolenice 27.62 314 *e*P **P** **10 45 47.8 +0.6**
SMOL pmax pmax
comp=Z,16nm,1.3s
SMOL Smolenice 27.62 314 *e*P **P** **10 45 47.8 +0.6**
MODS Modra-Piesok 27.66 313 *e*P **P** **10 45 47.2 -0.4**
MODS pmax pmax
comp=Z,33nm,1.3s
MODS Modra-Piesok 27.66 313 *e*P **P** **10 45 47.2 -0.4**
DUGI Dugi Otok 27.76 303 *i* P **P** **10 45 48.5 0.0**
OKC Ostrava-Krasne 27.76 317 *e*P **P** **10 45 48.9 +0.5**
OKC Ostrava-Krasne 27.76 317 *e*P **P** **10 45 48.9 +0.5**
GOLS Golise 27.89 308 *e*P **P** **10 45 50.6 +0.8**
CRES Cresnjev 27.95 307 *e*P **P** **10 45 51.0 +0.8**
CRES Cresnjev 27.95 307 *e*P **P** **10 45 49.3 -1.0**
NVLJ Novalja 28.02 305 *i* P **P** **10 45 50.3 -0.5**
MORC Moravsky Berou 28.08 316 ⇓P **P** **10 45 52.1 +0.7**
MORC Moravsky Berou 28.08 316 *e*P **P** **10 45 51.5 +0.1**
MORC Moravsky Berou 28.08 316 P **P** **10 45 51.8 +0.4**
MORC pmax pmax
comp=Z,24nm,1.4s
MORC Moravsky Berou 28.08 316 P **P** **10 45 51.8 +0.4**
MORC lAmb lAmb 10 45 53.0
comp=Z,24nm,1.4s
ARSA Arzberg 28.35 310 *i* pP **P** **10 45 54.8 +1.0**
comp=Z,9.5nm,1.1s
CONA Conrad Observa 28.37 312 *i* pP **P** **10 45 54.5 +0.5**
comp=Z,16nm,1.3s,SNR=8.7
VRAC Vranov 28.44 315 P **P** **10 45 55.3 +0.7**
comp=Z,9.2nm,0.8s,baz=113,slow=9.0,SNR=14
VRAC LR LR 10 59 35.4
comp=Z,54nm,20.6s,baz=110,slow=41
VRAC Vranov 28.44 315 *e*P **P** **10 45 55.1 +0.5**
KRUC Moravsky 28.46 314 *e*P **P** **10 45 55.0 +0.2**
SOKA Soboth 28.49 309 *i* pP **P** **10 45 55.7 +0.6**
comp=Z,10nm,1.0s
CEY Cerknica 28.62 307 *e*P **P** **10 45 56.7 +0.5**
LJU Ljubljana 28.64 307 *i* P **P** **10 45 57.4 +1.1**
LJU Ljubljana 28.64 307 ⇓*i*P **P** **10 45 56.1 -0.2**
AQU L'Aquila 28.65 300 P **P** **10 45 55.0 -1.5**
AQU pmax pmax
comp=Z,21nm,1.1s
AQU L'Aquila 28.65 300 P **P** **10 45 55.0 -1.5**
AQU lAmb lAmb 10 46 09.2
comp=Z,21nm,1.1s
KRLC Kraliky 28.66 316 *e*P **P** **10 45 56.7 +0.2**
KRLC MLR MLR
comp=Z,200nm,19.2s
KRLC Kraliky 28.66 316 *e*P **P** **10 45 56.7 +0.2**
KRLC AMS AMS 11 00 40.0
comp=Z,200nm,19.2s
KLMR Klimovskoe 28.67 352 *e*P **P** **10 45 54.4 -2.0**
KLMR *e* 10 46 44.8
KLMR pmax pmax
comp=Z,39nm,0.9s
KLMR Klimovskoe 28.67 352 *e*P **P** **10 45 54.4 -2.0**
KLMR AMP 10 45 57.1
comp=Z,39nm,0.9s
KLMR *e*PP **PnPn** **10 46 44.8 -1.8**
KLMR LR LR 10 58 02.0
OBKA Obir 28.75 308 *i* pP **P** **10 45 59.5 +2.0**
comp=Z,14nm,0.9s
KURBB Kutchov Arra 28.91 43 P **P** **10 45 59.5 +0.9**
comp=Z,8.1nm,0.7s,baz=249,slow=9.6,SNR=30
KURBB ScP **ScP** **10 52 45.9 -2.8**
comp=Z,1.1nm,0.8s,baz=246,slow=4.0,SNR=4.2
NRCA Norcia 28.93 300 P **P** **10 45 59.7 +0.7**
NRCA lAmb lAmb 10 46 00.9
comp=Z,16nm,1.0s
PRGR Permogore 28.98 358 *e*P **P** **10 45 57.9 -1.3**
PRGR pmax pmax
comp=Z,51nm,1.2s
KURK Kurchatov 29.00 42 P **P** **10 46 00.0 +0.5**
KURK pmax pmax
comp=Z,25nm,1.1s
KURK Kurchatov 29.00 42 P **P** **10 46 00.0 +0.5**
KURK lAmb lAmb 10 46 01.6
comp=Z,25nm,1.1s
KURK Kurchatov 29.00 42 **ScP** **10 52 45.9 -3.1**
DPC Dobruska-Polom 29.04 317 *e*P **P** **10 46 00.3 +0.4**
DPC MLR MLR
comp=Z,200nm,17.9s
DPC Dobruska-Polom 29.04 317 *e*P **P** **10 46 00.3 +0.4**
DPC AMS AMS 11 02 20.0
comp=Z,200nm,17.9s
TREC Trest 29.10 314 AMS AMS 11 00 50.0
comp=Z,200nm,16.5s
OSTC Ostas 29.19 317 *e*P **P** **10 46 01.7 +0.5**
KSP Ksiaz 29.27 318 *e*P **P** **10 46 02.3 +0.4**
CHVC Chvalec 29.30 317 *e*P **P** **10 46 02.8 +0.6**
MOA Molln 29.35 311 *i* pP **P** **10 46 03.4 +0.8**
comp=Z,27nm,1.4s,SNR=6.3
VSU Vasula 29.38 338 *c i*P **P** **10 46 02.0 -0.7**
VSU pmax pmax
comp=Z,49nm,1.0s
MYKA Terra Mystica 29.39 308 *i* pP **P** **10 46 05.4 +2.3**
comp=Z,13nm,1.0s
PRED Cave del Predi 29.39 308 P **P** **10 46 03.6 +0.5**
PRED lAmb lAmb 10 46 14.0
comp=Z,20nm,1.3s
MURB Monte Urbino 29.43 301 P **P** **10 46 05.3 +1.9**
MAKZ Makanchi 29.66 52 P **P** **10 46 04.8 -0.6**
MAKZ pmax pmax
comp=Z,11nm,1.3s
MAKZ Makanchi 29.66 52 P **P** **10 46 04.8 -0.6**
KBA Koelnbreinsper 29.71 309 *i* pP **P** **10 46 06.7 +0.7**
comp=Z,39nm,1.5s,SNR=13
ZOU Zoufplan 29.81 308 P **P** **10 46 06.8 -0.2**
ZOU lAmb lAmb 10 46 08.6
comp=Z,30nm,1.4s
LATE Laterza 29.86 300 P **P** **10 46 07.3 0.0**
LATE lAmb lAmb 10 46 10.0
comp=Z,20nm,1.2s
MK31 Makanchi Array 29.86 52 P **P** **10 46 07.1 -0.1**
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 29.86 52 P **P** **10 46 07.1 -0.1**
MKAR Makanchi Array 29.86 52 P **P** **10 46 08.0 +0.8**
comp=Z,2.9nm,0.6s,baz=325,slow=24,SNR=16
MKAR ScP **ScP** **10 52 48.7 -3.1**
comp=Z,1.4nm,1.0s,baz=256,slow=5.8,SNR=3.0
MKAR LR LR 10 58 09.3
comp=Z,121nm,19.4s,baz=248,slow=36
STAL STALIGIAL 29.91 307 P **P** **10 46 07.3 -0.4**
STAL lAmb lAmb 10 46 09.3
comp=Z,22nm,1.0s
PRU Pruhonice 29.94 315 *e*P **P** **10 46 07.1 -0.7**
PRU MLR MLR
comp=Z,200nm,17.6s
PRU Pruhonice 29.94 315 *e*P **P** **10 46 07.1 -0.7**
PRU AMS AMS 11 02 20.0
comp=Z,200nm,17.6s
GEC2 GERESS Array S 30.04 313 *e*P **P** **10 46 08.9 +0.1**
comp=Z,13nm,1.4s,baz=110,slow=8.9
GEC2 GERESS Array S 30.04 313 P **P** **10 46 07.7 -1.1**
GERES GERESS Array B 30.04 313 P **P** **10 46 08.6 -0.2**
comp=Z,1.6nm,0.6s,baz=102,slow=12,SNR=16
GERES PcP **PcP** **10 49 10.6 0.0**
comp=Z,1.5nm,0.7s,baz=100,slow=3.0,SNR=5.4
GERES LR LR 10 59 49.3
comp=Z,71nm,18.7s,baz=115,slow=40
CIMO Cimolais 30.11 307 P **P** **10 46 09.3 -0.1**
CIMO lAmb lAmb 10 46 10.6
comp=Z,23nm,1.0s
ABTA Abfaltersbach 30.17 308 *i* pP **P** **10 46 10.5 +0.5**
comp=Z,23nm,1.2s,SNR=6.9

KHC Kasperske Hory 30.21 313 *c iP* **P 10 46 10.1 -0.2**
KHC pmax pmax
comp=Z,26nm,1.3s

KHC Kasperske Hory 30.21 313 *eP* **P 10 46 10.7 +0.4**
KHC AMS AMS 11 02 30.0
comp=Z,200nm,17.1s

KHC Kasperske Hory 30.21 313 P **P 10 46 10.5 +0.2**
RJOB Jochberg 30.26 310 *eP* **P 10 46 10.1 -0.6**
comp=Z,12nm,1.0s,baz=110,slow=8.9

CTI Castel Tesino 30.58 306 P **P 10 46 14.0 +0.4**
CTI pmax pmax
comp=Z,33nm,0.8s

CTI Castel Tesino 30.58 306 P **P 10 46 14.0 +0.4**
BRG Berggiesshubel 30.64 316 *i P* **P 10 46 14.2 +0.2**
comp=Z,13nm,1.1s

BRG Berggiesshubel 30.64 316 *eP* **P 10 46 14.2 +0.2**
comp=Z,13nm,1.1s,baz=110,slow=8.9

WET Wettzell 30.65 313 *eP* **P 10 46 14.2 0.0**
comp=Z,12nm,1.1s,baz=110,slow=8.9

ZCCA Zocca 30.71 303 P **P 10 46 17.1 +2.4**
WTTA Wattenberg 30.88 309 *i* pP **P 10 46 16.5 +0.1**
comp=Z,48nm,1.1s,SNR=13

WATA Walderalm 30.94 309 *i* pP **P 10 46 16.8 -0.1**
comp=Z,45nm,1.1s,SNR=12

FBE Freiberg 31.00 316 *eP* **P 10 46 17.4 +0.3**
comp=Z,8.0nm,1.0s,baz=110,slow=8.9

VLC Villacollemand 31.10 302 P **P 10 46 18.3 +0.1**
SQTA Sankt Quirin 31.15 309 *i P* **P 10 46 18.6 -0.1**
comp=Z,26nm,0.7s,SNR=12

PRMA PARMA 31.25 304 P **P 10 46 19.5 +0.1**
MOTA Moosalm 31.25 309 *i P* **P 10 46 19.3 -0.4**
comp=Z,44nm,1.2s,SNR=15

SALO Salr 31.26 305 P **P 10 46 20.0 +0.5**
ROTZ Rotzenmuhle 31.27 314 *eP* **P 10 46 20.3 +0.8**
comp=Z,36nm,1.4s,baz=110,slow=8.9

NKC Novy Kostel 31.28 315 *eP* **P 10 46 20.3 +0.6**
NKC Novy Kostel 31.28 315 *eP* **P 10 46 20.3 +0.6**
WERN Wernitzgruen 31.34 315 *eP* **P 10 46 20.9 +0.6**
comp=Z,16nm,1.1s,baz=110,slow=8.9

CLL Collm 31.35 317 *i P* **P 10 46 20.3 0.0**
comp=Z,22nm,1.2s

CLL *i* pP **pP 10 46 23.7 -0.8**
CLL *eS* **S 10 51 29.0 +2.0**
CLL Collm 31.35 317 *i P* **P 10 46 20.3 0.0**
CLL *i* 10 46 23.7
CLL *eS* **S 10 51 29.0 +2.0**
CLL pmax pmax
comp=Z,22nm,1.2s

CLL Collm 31.35 317 *eP* **P 10 46 20.6 +0.3**
comp=Z,22nm,1.2s,baz=110,slow=8.9

CLL Collm 31.35 317 P **P 10 46 20.1 -0.1**
CLL IAmb IAmb 10 46 21.4
comp=Z,14nm,1.0s

FUR Furstenfeldbru 31.36 310 *eP* **P 10 46 20.7 +0.3**
comp=Z,78nm,0.8s,baz=110,slow=8.9

FETA Feichten 31.42 308 *i* pP **P 10 46 21.3 +0.1**
comp=Z,33nm,1.1s,SNR=14

VSL Villasalto 31.48 293 P **P 10 46 21.3 -0.2**
VSL IAmb IAmb 10 46 23.2
comp=Z,8.7nm,0.8s

RETA Reutte 31.51 309 *i P* **P 10 46 21.4 -0.5**
comp=Z,9.8nm,0.8s

FUORN Ofenpass-Fuorn 31.64 307 P **P 10 46 23.3 +0.1**
FUORN IAmb IAmb 10 46 27.7
comp=Z,18nm,1.2s

KEST Kesra 31.68 286 P **P 10 46 25.3 +1.8**
comp=Z,5.9nm,0.9s,baz=13,slow=9.1,SNR=5.2

KEST Kesra 31.68 286 P **P 10 46 25.5 +2.0**
ZSN Zaisan 31.73 51 *eP* **P 10 46 23.2 -0.6**
baz=51

ZSN Zaisan 31.73 51 *eP* **P 10 46 23.1 -0.6**
MSSA Maissana 31.74 303 P **P 10 46 23.9 0.0**
GRA1 Grafenberg Arr 31.85 313 P **P 10 46 24.8 +0.1**
GRF Grafenberg Arr 31.85 313 P **P 10 46 24.8 +0.1**
GRF pmax pmax
comp=Z,59nm,1.2s

MOX Moxa 31.93 315 *eP* **P 10 46 25.6 +0.3**
comp=Z,14nm,1.3s,baz=110,slow=8.9

FIA1 FINESS Array S 31.97 341 P **P 10 46 24.6 -1.0**
FINES FINESS Array B 31.97 341 P **P 10 46 25.1 -0.4**
comp=Z,17nm,1.0s,baz=142,slow=9.6,SNR=15

UBR Ueberruh 31.99 309 *eP* **P 10 46 26.0 0.0**
comp=Z,49nm,1.5s,baz=110,slow=8.9

DAVA Damuels 32.05 308 *i P* **P 10 46 26.4 -0.2**
comp=Z,36nm,0.7s,SNR=16

TMCR Tamitsa 32.05 352 *eP* **P 10 46 23.2 -3.0**
TUE Stuetta 32.23 307 P **P 10 46 28.2 -0.1**
TUE IAmb IAmb 10 46 32.4
comp=Z,13nm,0.7s

WMQ Urumqi 33.06 59 *eP* **P 10 46 37.3 +1.9**
WMQ pP sP 10 46 41.0 -0.4
WMQ pmax pmax
comp=Z,4.0nm,0.7s

WMQ LR LR
comp=Z,190nm,23.3s

WMQ LR LR
comp=Z,260nm,12.7s

CLZ Clausthal 33.08 316 *eP* **P 10 46 36.2 +0.8**
comp=Z,21nm,0.8s,baz=110,slow=8.9

BFO Black Forest 33.31 310 P **P 10 46 38.0 +0.5**
BFO pmax pmax
comp=Z,13nm,1.1s

BFO Black Forest 33.31 310 *eP* **P 10 46 38.6 +1.1**
comp=Z,15nm,1.2s,baz=110,slow=8.9

BFO Black Forest 33.31 310 P **P 10 46 38.0 +0.5**
BFO IAmb IAmb 10 46 43.3
comp=Z,13nm,1.1s

NRDL Niedersach Rie 33.46 318 *eP* **P 10 46 40.0 +1.3**
comp=Z,44nm,1.3s,baz=110,slow=8.9

SENIN Lac Senin/Sane 33.60 306 P **P 10 46 39.4 -1.0**
TNS Taunus Mts 33.72 313 *eP* **P 10 46 41.5 +0.5**
comp=Z,26nm,1.6s,baz=110,slow=8.9

ZAA0 Zalesovo Array 33.82 40 P **P 10 46 41.8 0.0**
ZALV Zalesovo Beam 33.82 40 P **P 10 46 41.9 0.0**
comp=Z,11nm,0.6s,baz=251,slow=9.1,SNR=20

BNI Bardonecchia 33.84 303 P **P 10 46 42.4 0.0**
BNI pmax pmax
comp=Z,78nm,0.7s

BNI Bardonecchia 33.84 303 P **P 10 46 42.4 0.0**
BSEG Bad Segeberg 33.90 320 *eP* **P 10 46 43.5 +1.0**
comp=Z,25nm,1.1s,baz=110,slow=8.9

DGZ Jazzator, Alta 33.95 48 *c iP* **P 10 46 43.9 +0.7**
DGZ pmax pmax
comp=Z,9.0nm,1.5s

ECH Echery 34.04 309 P **P 10 46 43.4 -0.5**
ECH pmax pmax
comp=Z,28nm,1.2s

ECH Echery 34.04 309 P **P 10 46 43.4 -0.5**
ECH IAmb IAmb 10 46 45.0
comp=Z,28nm,1.2s

IBBN Ibbenburen 34.75 316 *eP* **P 10 46 51.4 +1.5**
comp=Z,76nm,1.6s,baz=110,slow=8.9

BUG Bochum--Univer 34.78 315 *eP* **P 10 46 51.2 +1.0**
comp=Z,43nm,1.4s,baz=110,slow=8.9

WLF Walferdange 35.01 311 P **P 10 46 49.9 -2.3**
WLF pmax pmax
comp=Z,29nm,1.2s

WLF Walferdange 35.01 311 *eP* **P 10 46 52.2 0.0**
comp=Z,27nm,1.1s,baz=110,slow=8.9

WLF Walferdange 35.01 311 P **P 10 46 49.9 -2.3**
WLF IAmb IAmb 10 46 53.4
comp=Z,29nm,1.2s

KMBO Kilima Mbogo 35.05 198 LR LR 11 01 40.8
comp=Z,270nm,21.4s,baz=58,slow=37

HLG Helgoland 35.32 319 *eP* **P 10 46 54.8 0.0**
baz=110,slow=8.9

HFS Hagfors 35.36 331 P **P 10 46 54.7 -0.4**
comp=Z,7.1nm,0.4s,baz=139,slow=7.5,SNR=22

SSB Saint Sauveur 35.37 304 P **P 10 46 54.6 -0.9**
SSB pmax pmax
comp=Z,13nm,1.0s

SSB Saint Sauveur 35.37 304 P **P 10 46 54.6 -0.9**
SSB IAmb IAmb 10 46 55.7
comp=Z,13nm,1.0s

APA Apatity 35.89 351 ⇑ *iP* **P 10 46 55.8 -3.8**
APA pmax pmax
comp=Z,13nm,1.0s

APA MLR MLR
comp=Z,300nm,14.0s

LVZ Lovozero 36.04 352 ⇑ *eP* **P 10 47 01.4 +0.5**
LVZ pmax pmax
comp=Z,17nm,1.1s

DOU Dourbes 36.09 312 P **P 10 47 01.9 +0.5**
SSF Saint Saulge 36.29 306 *eP* **P 10 47 02.4 -0.8**
SSF pmax pmax
comp=Z,42nm,1.0s

NC405 NORSAR Array S 36.72 332 P **P 10 47 05.5 -1.3**
NC405 IAmb IAmb 10 47 16.4
comp=Z,42nm,1.4s

MBAR Mbarara 36.77 209 P **P 10 47 07.8 +0.1**
comp=Z,3.5nm,0.7s,baz=9.0,slow=8.3,SNR=6.0

MBAR Mbarara 36.77 209 ⇑ *eP* **P 10 47 08.1 +0.3**
MBAR pmax pmax
comp=Z,9.0nm,1.0s

MBAR Mbarara 36.77 209 P **P 10 47 07.5 -0.3**
KONO Kongsberg 36.84 329 *eP* **P 10 47 08.9 +1.2**
NB2 NORSAR Subarra 36.88 331 P **P 10 47 06.9 -1.2**
comp=Z,35nm,2.0s,baz=125,slow=8.6

NB2 NORSAR Subarra 36.88 331 P **P 10 47 06.9 -1.2**
comp=Z,35nm,2.0s,baz=125,slow=8.6

NOA NORSAR Array B 36.88 331 P **P 10 47 07.0 -1.2**
comp=Z,1.8nm,0.7s,baz=124,slow=8.6,SNR=8.9

NOA NORSAR Array B 36.88 331 P **P 10 47 07.0 -1.2**
CAF Calviac 37.09 303 *eP* **P 10 47 09.3 -0.9**
CAF pmax pmax
comp=Z,11nm,1.1s

LSA Lhasa 37.15 83 P **P 10 47 10.9 -0.4**
LSA pmax pmax
comp=Z,18nm,1.2s

LSA Lhasa 37.15 83 P **P 10 47 10.9 -0.4**
LSA IAmb IAmb 10 47 13.0
comp=Z,18nm,1.2s

NC204 NORSAR Array S 37.20 331 *eP* **P 10 47 11.4 +0.6**
SKAR Skarslia 37.91 329 *eP* **P 10 47 18.7 +1.8**
LFF La Frestale 38.03 303 *eP* **P 10 47 17.2 -0.9**
LFF pmax pmax
comp=Z,16nm,0.6s

DOMB Dombas 38.30 332 *eP* **P 10 47 22.1 +2.0**
NSS Namsos 38.65 336 *eP* **P 10 47 22.2 -0.7**
KEV Kevo 38.86 349 P **P 10 47 24.5 -0.2**
KEV pmax pmax
comp=Z,41nm,1.5s

KEV Kevo 38.86 349 P **P 10 47 24.5 -0.2**
KEV IAmb IAmb 10 47 25.9
comp=Z,41nm,1.5s

KTK1 Kautokeino 38.91 346 *eP* **P 10 47 24.4 -0.7**
ARCES ARCESS Array B 38.92 348 P **P 10 47 25.1 -0.2**
comp=Z,12nm,1.0s,baz=146,slow=6.7,SNR=22

ARCES ScP **S 10 53 22.3 -0.7**
comp=Z,1.5nm,0.8s,baz=149,slow=2.1,SNR=2.3

ARE0 ARCESS Array S 38.92 348 P **P 10 47 25.0 -0.2**
ARE0 ARCESS Array S 38.92 348 *eP* **P 10 47 24.8 -0.4**
MOR8 Moi Rana 38.93 339 *eP* **P 10 47 24.0 -1.3**
SHL Shillong 39.07 89 *eP* **P 10 47 27.0 -0.3**
MOL Molde 39.17 332 *eP* **P 10 47 29.8 +2.4**
KONS Konsvik 39.55 339 *eP* **P 10 47 30.1 -0.3**
STEI Steigen 39.93 342 *eP* **P 10 47 32.1 -1.5**
HAMF Hammerfest 40.20 348 *eP* **P 10 47 35.6 -0.2**
TRO Tromso 40.31 345 *eP* **P 10 47 36.0 -0.8**
ESBB Sonseca Array 41.75 295 P **P 10 47 48.6 -0.5**
ESDC Sonseca Array 41.75 295 P **P 10 47 49.2 +0.1**
comp=Z,6.6nm,0.7s,baz=73,slow=8.2,SNR=46

ESK Eskdalemuir 41.80 318 P **P 10 47 48.7 -0.6**
ESK Eskdalemuir 41.80 318 P **P 10 47 48.7 -0.6**
ESK IAmb IAmb 10 47 49.7
comp=Z,32nm,1.1s

PAB San Pablo 42.06 295 P **P 10 47 52.1 +0.4**
PAB pmax pmax
comp=Z,13nm,1.1s

PAB San Pablo 42.06 295 P **P 10 47 52.1 +0.4**
GTA Gaotai 42.22 66 *eP* **P 10 47 53.8 +0.7**
GTA pP sP 10 47 58.6 -0.4
GTA sP pP 10 48 00.8 +3.4
GTA PcP **PcP 10 49 49.8 +2.8**
GTA S **S 10 54 15.0 +1.9**
GTA pmax pmax
comp=Z,9.0nm,1.0s

GTA pmax pmax
comp=Z,86nm,7.0s

GTA LR LR
comp=Z,250nm,15.6s

GTA LR LR
comp=Z,270nm,16.8s

GTA LR LR
comp=Z,340nm,15.2s

NRIK Noril'sk 42.93 20 P **P 10 47 58.5 +0.3**
comp=Z,2.8nm,0.5s,baz=245,slow=5.5,SNR=6.4

DSB Dublin 43.33 315 P **P 10 48 01.7 0.0**
DSB IAmb IAmb 10 48 02.6
comp=Z,24nm,0.7s

MDT Midelt 43.56 285 P **P 10 48 04.5 +0.6**
comp=Z,4.1nm,0.8s,baz=89,slow=6.4,SNR=8.3

PBRG Braganca 43.60 298 *eP* **P 10 48 04.3 +0.2**
comp=Z,30nm,1.4s

MVO Moncorvo 43.89 297 *eP* **P 10 48 07.0 +0.5**
comp=Z,38nm,1.0s

ZAK Zakamensk 44.14 49 *eP* **P 10 48 09.1 +0.7**
ZAK pmax pmax
comp=Z,9.0nm,1.4s

MTE Manteigas 44.38 296 *eP* **P 10 48 11.3 +0.9**
comp=Z,46nm,1.2s

PVRL Vila Real 44.39 298 *eP* **P 10 48 11.2 +0.7**
comp=Z,43nm,1.3s

PMRV Marv??o 44.41 295 *eP* **P 10 48 11.0 +0.4**
comp=Z,19nm,1.7s

PCBR Castelo Branco 44.41 296 *eP* **P 10 48 11.4 +0.8**
comp=Z,47nm,1.9s

PCAB Cabril 44.57 298 *eP* **P 10 48 12.6 +0.7**
comp=Z,47nm,1.4s

PVIS Viseu 44.60 297 *eP* **P 10 48 13.3 +1.1**
comp=Z,42nm,1.4s

PGAV Gavieira, Arco 44.72 299 *eP* **P 10 48 13.8 +0.7**
comp=Z,89nm,1.0s

PBEJ Beja 45.02 293 *eP* **P 10 48 15.9 +0.5**
comp=Z,22nm,1.7s

EVO Evora 45.04 294 *eP* **P 10 48 15.1 -0.5**
comp=Z,15nm,1.6s

COI Coimbra 45.07 296 *eP* **P 10 48 17.0 +1.2**
comp=Z,40nm,2.4s

PCVE Castro Verde 45.23 293 *eP* **P 10 48 17.0 -0.1**
comp=Z,21nm,1.6s

PSBE So Bento 45.47 295 *eP* **P 10 48 19.9 +0.9**
comp=Z,36nm,1.4s

PNCL Nicolau / Gran 45.52 293 *eP* **P 10 48 20.1 +0.7**
comp=Z,21nm,1.7s

PMAFR Mafra 45.94 295 *eP* **P 10 48 23.8 +1.1**
comp=Z,59nm,1.7s

PFVI Vila Bisbo 45.94 292 *eP* **P 10 48 23.1 +0.3**
comp=Z,44nm,1.5s

LZH Lanzhou 45.96 69 *eP* **P 10 48 21.6 -1.5**
LZH pP pP 10 48 26.8 -0.6
LZH sP sP 10 48 29.8 +0.7
LZH PP **PP 10 50 08.6 -2.1**
LZH pmax pmax
comp=Z,22nm,1.2s

LZH pmax pmax
comp=Z,100nm,5.4s

LZH LR LR
comp=Z,350nm,16.8s

LZH LR LR
comp=Z,280nm,15.3s

LZH LR LR
comp=Z,360nm,17.5s

TOA0 Torodi Ar. Sit 46.16 256 P **P 10 48 24.2 -0.5**
TORD Torodi Ar. Bea 46.16 256 P **P 10 48 24.0 -0.7**
comp=Z,4.1nm,0.7s,baz=53,slow=7.6,SNR=24

SONM Songino Array 46.21 53 P **P 10 48 25.8 +0.9**
comp=Z,2.2nm,0.7s,baz=278,slow=10,SNR=12

ULN Ulaanbaatar 46.65 53 P **P 10 48 29.0 +0.6**
ULN pmax pmax
comp=Z,23nm,1.2s

ULN Ulaanbaatar 46.65 53 P **P 10 48 29.0 +0.6**
CD2 Chengdu 47.25 76 *eP* **P 10 48 33.1 -0.1**
CD2 pmax pmax
comp=Z,20nm,0.5s

SPITS Spitsbergen Ar 47.57 352 P **P 10 48 35.8 +0.8**
comp=Z,3.5nm,0.5s,baz=142,slow=18,SNR=7.6

CHTO Chiang Mai 47.80 94 P **P 10 48 36.8 -0.7**
CHTO pmax pmax
comp=Z,16nm,1.1s

CHTO Chiang Mai 47.80 94 P **P 10 48 36.8 -0.7**
CHTO IAmb IAmb 10 48 40.5
comp=Z,16nm,1.1s

CM31 Chiang Mai Arr 47.97 94 P **P 10 48 38.2 -0.6**
CM31 IAmb IAmb 10 48 41.8
comp=Z,5.9nm,0.8s

CMAR Chiang Mai Arr 47.97 94 P **P 10 48 38.1 -0.7**
comp=Z,5.2nm,0.9s,baz=297,slow=8.4,SNR=14

KMI Kunming 48.37 84 P **P 10 48 41.9 -0.3**
KMI pmax pmax
comp=Z,14nm,0.8s

KMI Kunming 48.37 84 P **P 10 48 41.9 -0.3**

KBS Kingsbay 48.71 351 ⇓ *eP* **P 10 48 44.5 +0.7**
KBS pmax pmax
comp=Z,27nm,1.4s

KBS Kingsbay 48.71 351 P **P 10 48 44.4 +0.7**
XAN Xi'an 50.50 71 P **P 10 48 57.8 -0.3**
XAN pmax pmax
comp=Z,15nm,1.4s

XAN LR LR
comp=Z,250nm,20.6s

XAN LR LR
comp=Z,200nm,21.7s

XAN LR LR
comp=Z,370nm,21.7s

XAN Xi'an 50.50 71 P **P 10 48 57.2 -0.9**
XAN pmax pmax
comp=Z,19nm,1.3s

XAN Xi'an 50.50 71 P **P 10 48 57.2 -0.9**
XAN IAmb IAmb 10 48 58.7
comp=Z,19nm,1.3s

PBKT Sadao Pong 50.56 95 P **P 10 48 57.9 -0.7**
PBKT IAmb IAmb 10 49 01.8
comp=Z,9.3nm,0.9s

BOD Bodaibo 50.57 39 *eP* **P 10 48 57.8 -0.4**
BOD pmax pmax
comp=Z,18nm,1.6s

HHC Hu-ho-hao-te 50.84 61 *eP* **P 10 49 01.0 +0.3**
HHC S **S 10 56 12.8 -3.7**
HHC pmax pmax
comp=Z,21nm,1.1s

HHC pmax pmax
comp=Z,110nm,5.2s

HHC LR LR
comp=Z,260nm,15.7s

HHC LR LR
comp=Z,300nm,15.3s

HHC LR LR
comp=Z,330nm,17.2s

SLVN Son La 50.87 88 P **P 10 49 00.9 -0.2**
OPO Ambohidratompo 50.98 181 P **P 10 49 01.7 -0.1**
comp=Z,2.7nm,0.7s,baz=23,slow=11,SNR=4.4

GYA Guiyang 51.15 81 *eP* P 10 49 08.0 +4.8
GYA pmax pmax
comp=Z,12nm,0.9s

LSZ Lusaka 51.20 204 P **P 10 49 04.0 +0.4**
comp=Z,4.0nm,0.6s,baz=9.4,slow=6.9,SNR=8.3

LSZ Lusaka 51.20 204 P **P 10 49 04.3 +0.8**
LSZ pmax pmax
comp=Z,6.0nm,0.9s

LSZ Lusaka 51.20 204 P **P 10 49 04.3 +0.8**
ABPO Ambohimpanom 51.42 181 P **P 10 49 06.0 +0.9**
ABPO pmax pmax
comp=Z,10.0nm,1.0s

ABPO Ambohimpanom 51.42 181 P **P 10 49 06.0 +0.9**
ABPO IAmb IAmb 10 49 09.0
comp=Z,10.0nm,0.9s

BJI Beijing 54.45 61 P **P 10 49 26.4 -0.8**
BJI S **S 10 57 05.0 -0.6**
BJI pmax pmax
comp=Z,5.0nm,0.9s

BJI LR LR
comp=Z,210nm,16.7s

BJI LR LR
comp=Z,120nm,13.1s

HIA Hailar 54.83 50 P **P 10 49 30.1 +0.2**
HIA pmax pmax
comp=Z,19nm,1.1s

HIA Hailar 54.83 50 P **P 10 49 30.1 +0.2**
HIA IAmb IAmb 10 49 33.9
comp=Z,18nm,1.1s

KCSI Kotacane, Aceh 55.09 111 P P 10 49 43.9 +12
DBIC Dimbokro 55.12 254 P **P 10 49 32.2 -0.1**
comp=Z,2.7nm,0.5s,baz=46,slow=7.3,SNR=6.4

DBIC Dimbokro 55.12 254 P **P 10 49 32.9 +0.6**
DBIC pmax pmax
comp=Z,25nm,1.5s

DBIC Dimbokro 55.12 254 P **P 10 49 32.9 +0.6**
DBIC IAmb IAmb 10 49 46.9
comp=Z,25nm,1.4s

KIC Kosan Boka 55.20 253 *eP* **P 10 49 32.2 -0.8**
comp=Z,9.8nm,0.8s

TIC Toumodi 55.26 254 *eP* **P 10 49 33.4 -0.1**
LIC Lamto 55.51 254 *eP* **P 10 49 34.4 -0.8**
comp=Z,38nm,1.0s

MATP Matopo 55.91 202 P **P 10 49 37.9 0.0**
comp=Z,9.4nm,0.8s,baz=24,slow=6.3,SNR=19

TIA Tai'an 56.27 66 P **P 10 49 40.8 +0.3**
TIA pmax pmax
comp=Z,8.0nm,0.5s

TIA pmax pmax
comp=Z,21nm,3.5s

TIA LR LR
comp=Z,170nm,20.6s

TIA LR LR
comp=Z,110nm,12.1s

TIA LR LR
comp=Z,81nm,9.3s

KULM Kulim 56.33 107 P **P 10 49 39.1 -2.0**
PSI Prapat 56.44 111 P **P 10 49 42.6 +0.6**
comp=Z,2.4nm,0.3s,baz=210,slow=0.1,SNR=5.8

PSI Prapat 56.44 111 P **P 10 49 42.6 +0.6**
PSI pmax pmax
comp=Z,14nm,1.2s

RPSI Rantau Prapat 56.50 111 P **P 10 49 42.6 +0.3**
RPSI Rantau Prapat 56.50 111 P **P 10 49 40.5 -1.8**
RPSI IAmb IAmb 10 49 44.5
comp=Z,14nm,1.2s

IPM Ipoh 57.10 108 P **P 10 49 44.5 -2.1**
SUMG Summit 58.00 339 P **P 10 49 52.3 -0.2**
SUMG pmax pmax
comp=Z,42nm,1.3s

SUMG Summit 58.00 339 P **P 10 49 52.3 -0.2**
YAK Yakutsk 58.05 33 *eP* **P 10 49 52.1 -0.4**
YAK pmax pmax
comp=Z,11nm,0.9s

ZEA Zeya 58.48 43 *eP* **P 10 49 56.2 +0.5**
ZEA pmax pmax
comp=Z,12nm,1.0s

ZEA MLR MLR
comp=Z,200nm,16.0s

ANGG Ammassalik, Gr 58.81 331 P **P 10 49 56.5 -1.2**
ANGG IAmb IAmb 10 49 58.0
comp=Z,7.5nm,0.6s

NJ2 Nanjing 59.03 70 *eP* **P 10 49 59.0 -0.9**
NJ2 pmax pmax
comp=Z,11nm,0.8s

NJ2 LR LR
comp=Z,130nm,10.9s

NJ2 LR LR
comp=Z,160nm,14.2s

NJ2 LR LR
comp=Z,480nm,19.9s

SDSI Sungai Dareh 60.70 112 P **P 10 50 10.6 -0.9**
comp=Z,22nm,1.5s

LBTB Lobatse 61.12 203 P **P 10 50 14.5 +0.3**
comp=Z,5.8nm,0.8s,baz=35,slow=8.1,SNR=6.5

LBTB Lobatse 61.12 203 P **P 10 50 15.0 +0.8**
LBTB pmax pmax
comp=Z,14nm,1.2s

LBTB Lobatse 61.12 203 P **P 10 50 15.0 +0.8**
LBTB IAmb IAmb 10 50 28.7
comp=Z,14nm,1.2s

KLR Kul'dur 62.44 47 *d iP* **P 10 50 22.4 -0.4**
KLR pmax pmax
comp=Z,15nm,1.3s

KSRS Korea Array 63.97 61 P **P 10 50 32.1 -1.1**
comp=Z,3.0nm,0.8s,baz=282,slow=6.6,SNR=10.0

USRK Ussuriysk Ar. 64.33 53 P **P 10 50 34.7 -0.7**
comp=Z,5.1nm,0.8s,baz=269,slow=6.3,SNR=7.9

YULB Yu-li 64.52 78 P **P 10 50 35.8 -1.2**
YULB IAmb IAmb 10 50 41.7
comp=Z,9.5nm,0.9s

BOSA Boshof 64.58 202 P **P 10 50 36.8 -0.3**
comp=Z,9.3nm,0.9s,baz=12,slow=5.9,SNR=9.4

BOSA Boshof 64.58 202 P **P 10 50 36.9 -0.3**
BOSA pmax pmax
comp=Z,8.0nm,0.9s

BOSA Boshof 64.58 202 P **P 10 50 36.9 -0.3**
BOSA IAmb IAmb 10 50 38.2
comp=Z,8.3nm,0.8s

EUNU Eureka 64.69 352 P **P 10 50 37.0 -0.3**
EUNU IAmb IAmb 10 50 46.4
comp=Z,9.3nm,1.1s

SEY Seymchan 67.67 29 *d iP* **P 10 50 57.4 +0.8**
YSS Yuzh-Sakhalins 70.11 47 *eP* **P 10 51 11.3 -0.8**
YSS *e* 10 51 14.5
YSS pmax pmax

	comp=Z,20nm,0.9s									
YSS					MLR	MLR				
	comp=Z,200nm,14.0s									
YSS					MLR	MLR				
	comp=N,100nm,15.0s									
YSS					MLR	MLR				
	comp=E,200nm,14.0s									
YSS	**Yuzh-Sakhalins**	**70.11**	**47**		P	**P**		**10 51 11.3**	**-0.8**	
MPSI	**Mapaga**	**74.92**	**99**		P	**P**		**10 51 44.3**	**+3.1**	
PETK	**Petropavlovsk-**	**75.25**	**36**		P	**P**		**10 51 40.8**	**-1.8**	
	comp=E,4.6nm,1.0s,baz=16,slow=6.4,SNR=2.9									
PET	**Petropavlovsk**	**75.77**	**36**		P	**P**		**10 51 49.2**	**+3.7**	
SCHQ	**Schefferville**	**76.33**	**327**		P	**P**		**10 51 48.1**	**-0.6**	
	comp=E,5.3nm,1.0s,baz=190,slow=14,SNR=3.7									
SCHQ	**Schefferville**	**76.33**	**327**		P	**P**		**10 51 48.1**	**-0.6**	
TOLK	**Toolik Lake Re**	**78.16**	**6**		P	**P**		**10 51 59.3**	**+0.5**	
TOLK					IAmb	IAmb		10 52 03.1		
	comp=Z,11nm,1.0s									
GBN	**Guysborough**	**79.24**	**317**		P	**P**		**10 52 05.5**	**+0.5**	
INK	**Inuvik**	**79.30**	**0**		P	**P**		**10 52 05.2**	**+0.2**	
	comp=Z,1.5nm,0.6s,baz=311,slow=2.0,SNR=8.2									
INK	**Inuvik**	**79.30**	**0**		P	**P**		**10 52 05.9**	**+1.0**	
INK					pmax	pmax				
	comp=Z,6.0nm,1.4s									
INK	**Inuvik**	**79.30**	**0**		P	**P**		**10 52 05.9**	**+1.0**	
COLD	**Coldfoot**	**79.47**	**7**		P	**P**		**10 52 06.6**	**+0.7**	
BATG	**Bathurst New B**	**80.62**	**321**		P	**P**		**10 52 12.9**	**+0.4**	
BATG					IAmb	IAmb		10 52 13.9		
	comp=Z,17nm,1.0s									
LMN	**Caledonia Moun**	**80.82**	**319**		P	**P**		**10 52 14.0**	**+0.3**	
LMN					IAmb	IAmb		10 52 14.8		
	comp=Z,18nm,1.1s									
MDM	**Murphy Dome**	**81.88**	**7**		P	**P**		**10 52 18.8**	**-0.1**	
COLA	**College**	**82.00**	**7**		P	**P**		**10 52 19.4**	**0.0**	
COLA					pmax	pmax				
	comp=Z,6.0nm,1.0s									
COLA	**College**	**82.00**	**7**		P	**P**		**10 52 19.4**	**0.0**	
ILAR	**Eielson Array**	**82.19**	**6**		P	**P**		**10 52 20.2**	**-0.3**	
	comp=Z,1.4nm,1.0s,baz=328,slow=4.5,SNR=6.4									
D62A	**Allapoint, All**	**82.32**	**322**		P	**P**		**10 52 21.5**	**0.0**	
BPAW	**Bear Paw Mtn.**	**82.41**	**8**		P	**P**		**10 52 21.4**	**-0.2**	
EGAK	**Eagle**	**82.60**	**4**		P	**P**		**10 52 21.9**	**-0.7**	
EGAK					IAmb	IAmb		10 52 23.4		
	comp=Z,11nm,1.5s									
TTA	**Tatalina**	**82.83**	**11**		P	**P**		**10 52 23.8**	**-0.2**	
TTA					pmax	pmax				
	comp=Z,7.0nm,1.5s									
TTA	**Tatalina**	**82.83**	**11**		P	**P**		**10 52 23.8**	**-0.2**	
E62A	**Clayton Lake**	**82.87**	**322**		P	**P**		**10 52 24.2**	**-0.2**	
E62A					IAmb	IAmb		10 52 24.7		
	comp=Z,9.5nm,1.0s									
MCK	**McKinley**	**83.00**	**7**		P	**P**		**10 52 24.7**	**-0.1**	
MCK					pmax	pmax				
	comp=Z,7.0nm,1.2s									
MCK	**McKinley**	**83.00**	**7**		P	**P**		**10 52 24.6**	**-0.1**	
MCK					IAmb	IAmb		10 52 25.0		
	comp=Z,7.2nm,1.2s									
RND	**Reindeer**	**83.33**	**7**		P	**P**		**10 52 24.8**	**-1.7**	
RND					pmax	pmax				
	comp=Z,6.0nm,1.2s									
RND	**Reindeer**	**83.33**	**7**		P	**P**		**10 52 24.8**	**-1.7**	
DAWY	**Dawson**	**83.40**	**3**		P	**P**		**10 52 26.3**	**-0.5**	
DOT	**Dot Lake**	**83.53**	**5**		P	**P**		**10 52 27.0**	**-0.5**	
YKA	**Yellowknife Ar**	**84.07**	**352**		P	**P**		**10 52 29.5**	**-0.7**	
	comp=Z,4.0nm,1.0s,baz=2.5,slow=5.7,SNR=9.5									
G62A	**West of Eustis**	**84.32**	**321**		P	**P**		**10 52 31.4**	**-0.5**	
GHO	**Glory Hole Cre**	**84.91**	**8**		P	**P**		**10 52 33.7**	**-0.9**	
GHO					IAmb	IAmb		10 52 37.9		
	comp=Z,15nm,1.4s									
PMR	**Palmer**	**85.06**	**8**		P	**P**		**10 52 35.0**	**-0.2**	
PMR					pmax	pmax				
	comp=Z,8.0nm,1.3s									
PMR	**Palmer**	**85.06**	**8**		P	**P**		**10 52 35.0**	**-0.2**	
PMR					IAmb	IAmb		10 52 39.0		
	comp=Z,7.8nm,1.3s									
MOQ	**Mont Orford**	**85.16**	**322**		P	**P**		**10 52 35.7**	**-0.4**	
KLU	**Klutina**	**85.50**	**6**		P	**P**		**10 52 37.5**	**-0.1**	
KLU					IAmb	IAmb		10 52 41.4		
	comp=Z,7.0nm,1.0s									
HYT	**Haines Junctio**	**86.72**	**3**		IAmb	IAmb		10 52 48.2		
	comp=Z,10nm,1.3s									
LONY	**Lake Ozonia**	**86.83**	**323**		IAmb	IAmb		10 52 45.8		
	comp=Z,9.3nm,1.0s									
DELO	**Deloro Mine**	**88.43**	**324**		IAmb	IAmb		10 53 03.3		
	comp=Z,12nm,1.3s									
E43A	**Lone Tree Farm**	**91.27**	**330**		P	**P**		**10 53 04.5**	**-0.8**	
E43A					IAmb	IAmb		10 53 08.4		
	comp=Z,6.3nm,0.9s									
M54A	**Oil Creek Stat**	**91.65**	**323**		P	**P**		**10 53 06.9**	**-0.3**	
G40A	**Rib Lake**	**93.48**	**332**		P	**P**		**10 53 14.8**	**-0.8**	
G40A					IAmb	IAmb		10 53 18.8		
	comp=Z,8.2nm,1.1s									
P52A	**Corning**	**94.30**	**323**		P	**P**		**10 53 18.8**	**-0.6**	
WRA	**Warramunga Arr**	**97.85**	**109**		P	**P**		**10 53 35.2**	**-0.5**	
	comp=Z,0.4nm,0.6s,baz=319,slow=3.9,SNR=5.1									
WRA	**Warramunga Arr**	**97.85**	**109**	*i*	P	Pdif		10 53 37.2	+1.4	
ASAR	**Alice Springs**	**99.45**	**112**		P	**Pdif**		**10 53 41.4**	**-1.5**	
	comp=Z,0.4nm,0.6s,baz=304,slow=4.8,SNR=7.8									
TXAR	**Lajitas Array**	**112.57**	**333**		PKiKP	**PKiKP**		**10 58 38.7**	**+2.0**	
	comp=Z,0.1nm,0.6s,baz=51,slow=1.7,SNR=3.5									
PLCA	**Paso Flores**	**130.71**	**242**		PKP	**PKPdf**		**10 59 10.8**	**-0.1**	
	comp=Z,0.7nm,0.5s,baz=154,slow=14,SNR=2.6									

BJI **22** *10:41:27.0±0.0,32°.70N×47°.60E,h8km,mB5.0/11, mb5.0/19,Ms4.5/8,Ms7 4.4/7*
MOS **22** *10:41:29.8±0.9,32°.71N×47°.66E,h22km,mb5.1/37,Error ellipse: s-maj=6.9km s-min=5.3km az=86.9*
TEH **22** *10:41:30.8,32°.68N×47°.62E,h12km,ML4.8*
NEIC **22** *10:41:33.1±2.6,32°.70N±0°.04×47°.56E±0°.04,h32km±4km, Error ellipse: s-maj=7.0km s-min=3.7km az=213.0*
IDC **22** *10:41:33.2±1.9,32°.76N×47°.64E,h28km±13km,mb4.4/34, mb1 4.4/38,mb1mx4.3/52,mbtmp4.5/38,ML4.6/2,MS3.9/5, Ms1 3.9/5,ms1mx3.5/26,Error ellipse: s-maj=12.6km s-min=9.9km az=120.0*

ISC 22 10:41:29.9±0.3,32°.64N±0°.03×47°.68E±0°.03,h10km,n284,
σ1♀33/259,mb4.9/76,5C-1D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
DHL1	**Dehloran**	**0.34**	**277**	*e*Pg		**Pg**	**10 41 36.6**	**0.0**
DHL1				eSg		Sg	10 41 41.4	+0.3
IKFM	**Kafar-mosalman**	**0.89**	**9**	*e*Pg		**Pb**	**10 41 48.0**	**+0.5**
IKFM				*e*		**Sn**	**10 42 04.3**	**+2.8**
IKFM	**Kafar-mosalman**	**0.89**	**9**	Pg		**Pb**	10 41 48.0	+0.5
IKMR	**Kamar-syah**	**1.05**	**34**	*e*Pg		**Pg**	**10 41 50.0**	**-0.2**
IKMR				*e*		**Sn**	**10 42 08.2**	**+2.7**
IKMR	**Kamar-syah**	**1.05**	**34**	Pg		**Pg**	**10 41 50.0**	**-0.2**
IDOB	**Doab**	**1.22**	**20**	*e*Pg		**Pg**	**10 41 53.6**	**+0.3**
IDOB	**Doab**	**1.22**	**20**			**Pg**	**10 41 54.0**	**+0.7**
BMDN	**Meydan**	**1.41**	**43**	*e*Pg		**Pg**	**10 41 57.5**	**+0.6**
BMDN				*e*			10 42 24.4	
BMDN	**Meydan**	**1.41**	**43**			**Pg**	**10 41 58.0**	**+1.1**
IKOM	**Komasi**	**1.54**	**355**	*e*Pg		**Pg**	**10 41 59.1**	**-0.3**
IKOM				*e*			10 42 29.1	
IKOM	**Komasi**	**1.54**	**355**			**Pg**	**10 41 59.0**	**-0.3**
AHWZ	**Ahwaz**	**1.54**	**148**	*e*Pg		**Pg**	**10 42 00.8**	**+1.3**
AHWZ	**Ahwaz**	**1.54**	**148**	Sg		**Sg**	**10 42 23.0**	**+3.4**
AHWZ	**Ahwaz**	**1.54**	**148**	Pg		**Pg**	**10 42 01.0**	**+1.5**
KCHF	**Cheshme Sefid,**	**1.71**	**342**	*e*Pg		**Pb**	**10 42 01.7**	**+0.1**
KCHF				*e*			10 42 28.4	
KCHF	**Cheshme Sefid,**	**1.71**	**342**	Pg		**Pb**	**10 42 02.0**	**+0.4**
HSAM	**Samen**	**1.75**	**26**	*e*Pg		**Pg**	**10 42 03.8**	**+0.4**
HSAM				*e*			10 42 30.9	
HSAM	**Samen**	**1.75**	**26**	Pg		**Pg**	**10 42 04.0**	**+0.6**
KER	**Kermanshah**	**1.80**	**345**	*e*Pn		**Pg**	**10 42 03.8**	**-0.6**
IBZA	**Bozab**	**1.83**	**5**	*e*			10 42 37.8	
IBZA				*e*Pg		**Pg**	**10 42 04.4**	**-0.6**
IBZA	**Bozab**	**1.83**	**5**	Pg		**Pb**	**10 42 04.0**	**+0.4**
IVIS	**Veis**	**2.00**	**340**	*e*			10 42 39.6	
IVIS				*e*Pn		**Pb**	**10 42 06.2**	**-0.3**
IVIS	**Veis**	**2.00**	**340**	Pn		**Pb**	**10 42 06.0**	**-0.5**
IALM	**Almabolaq**	**2.25**	**10**	*e*Pn		**Pb**	**10 42 10.8**	**0.0**
IDHR	**Dehrash**	**2.32**	**333**	*e*		**Sg**	**10 42 47.9**	**+3.5**
ILIN	**Lien**	**2.35**	**346**	*e*		Sg	10 42 56.0	+11
HAGD	**Aghdareh**	**2.49**	**29**	*e*Pn		**Pb**	**10 42 13.3**	**-1.6**
HAGD				*e*			10 42 54.3	
HAGD	**Aghdareh**	**2.49**	**29**	Pn		**Pb**	**10 42 13.0**	**-1.9**
JHBN	**Jahan bin**	**2.56**	**98**	*e*Pn		**Pb**	**10 42 15.4**	**-0.7**
JHBN				*e*			10 42 59.5	
JHBN	**Jahan bin**	**2.56**	**98**	Pn		**Pb**	**10 42 15.0**	**-1.1**
IPIR	**Pirpir**	**2.71**	**88**	*e*Pn		**Pb**	**10 42 17.2**	**-1.5**
IPIR				*e*			10 43 00.9	
IPIR	**Pirpir**	**2.71**	**88**	Pn		**Pb**	**10 42 17.0**	**-1.7**
ROKH	**ROKH**	**2.85**	**95**	*e*Pn		**Pb**	**10 42 18.8**	**-2.2**
ROKH	**ROKH**	**2.85**	**95**	Pn		**Pb**	**10 42 19.0**	**-2.0**
IGAR	**Gharneh**	**3.69**	**93**	*e*Pn		**Pn**	**10 42 30.2**	**+2.9**
IGAR				*e*			10 43 33.8	
IZEF	**Zefreh**	**3.93**	**85**	*e*Pn		**Pn**	**10 42 33.6**	**+3.1**
IZEF				*e*			10 42 48.7	
ASF	**Jabal al Asfar**	**9.13**	**270**	Pn		**Pn**	**10 43 41.3**	**-0.5**
	baz=16,slow=12,SNR=1.0							
ASF	**Jabal al Asfar**	**9.13**	**270**			**Pn**	**10 43 41.3**	**-0.5**
KOPT	**Kop Dagi**	**9.36**	**324**	Pn		**Pn**	**10 43 43.8**	**-1.3**
GEYT	**Alibeck**	**10.03**	**55**	Pn		**Pn**	**10 43 57.9**	**+3.8**
	0.4nm,0.3s,baz=238,slow=14,SNR=4.2							
GEYT	**Alibeck**	**10.03**	**55**			**Pn**	**10 43 57.9**	**+3.8**
GYA0B	**ALIBECK ARRAY**	**10.03**	**55**	Pn		**Pn**	**10 43 53.7**	**-0.3**
BANOM	**Banah**	**10.07**	**129**	S		**Pn**	**10 43 57.0**	**+2.3**
MAK	**Makhachkala**	**10.30**	**359**	*e*P		**Pn**	**10 43 58.9**	**+1.2**
MAK				*e*S		**Sn**	**10 45 55.7**	**+2.5**
MAK					pmax	pmax		
	comp=Z,238nm,1.2s							
MAK					MLR	MLR		
	comp=Z,2μm,13.0s							
UOSS	**Minazif**	**10.71**	**134**	Pn		**Pn**	**10 44 00.8**	**-2.5**
KBZ	**Khabaz**	**11.69**	**343**	LR		LR	10 49 30.1	
	comp=Z,700nm,18.6s,baz=144,slow=41							
BRTR	**Keskin Array B**	**13.35**	**306**	Pn		**Pn**	**10 44 41.2**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=109,slow=11,SNR=2.3							
BRTR	**Keskin Array B**	**13.35**	**306**			**Pn**	**10 44 41.2**	**+1.6**
WSAR	**Wadi Sarin**	**13.46**	**131**	Pn		**Pn**	**10 44 39.6**	**-1.4**
	comp=Z,2.2nm,0.3s,baz=341,slow=13,SNR=2.1							
WSAR					LR	LR		10 50 37.2
	comp=Z,666nm,19.7s,baz=322,slow=40							
WSAR	**Wadi Sarin**	**13.46**	**131**			**Pn**	**10 44 39.6**	**-1.4**
KBL	**Kabul**	**17.90**	**78**	P		**P**	**10 45 40.1**	**+0.2**
KBL					pmax	pmax		
	comp=Z,101nm,1.1s							
KBL	**Kabul**	**17.90**	**78**	IAmb		IAmb	10 45 42.2	
	comp=Z,101nm,1.1s							
KBL	**Kabul**	**17.90**	**78**	P		**P**	**10 45 40.1**	**+0.2**
CHGR	**Chuyangaron**	**18.44**	**65**	IAmb		IAmb	10 45 51.0	
	comp=Z,88nm,0.9s							
CHGR	**Chuyangaron**	**18.44**	**65**	P		**P**	**10 45 45.1**	**-0.6**
SANT	**Santorini**	**18.68**	**288**	P		**P**	**10 45 46.6**	**-1.6**
VRH	**Novokhopyorsk**	**19.06**	**348**	*e*P		**P**	**10 45 51.4**	**-0.8**
VRH					pmax	pmax		
	comp=Z,100nm,1.2s							
IDI	**Anoyia**	**19.08**	**284**	P		**Pn**	**10 45 54.4**	**+1.0**
	comp=Z,1.9nm,0.3s,baz=76,slow=13,SNR=2.8							
IDI					LR	LR		10 56 48.5
	comp=Z,111nm,18.9s,baz=96,slow=48							
IDI	**Anoyia**	**19.08**	**284**	P		**P**	**10 45 51.6**	**-1.1**
ALN	**Alexandroupoli**	**19.16**	**302**	P		**P**	**10 45 53.3**	**0.0**
ALN					pmax	pmax		
	comp=Z,18nm,1.2s							
ALN	**Alexandroupoli**	**19.16**	**302**	P		**P**	**10 45 53.3**	**0.0**
VORD	**Divnogorie**	**19.32**	**344**	*e*P		**P**	**10 45 53.4**	**-1.7**
VORD					pmax	pmax		
	comp=Z,30nm,0.8s							
AKTO	**Aktyubinsk**	**19.36**	**20**	P		**Pn**	**10 45 56.1**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=202,slow=12,SNR=6.2							
AKTO					LR	LR		10 54 34.5
	comp=Z,434nm,19.6s,baz=198,slow=41							
AKTO	**Aktyubinsk**	**19.36**	**20**	P		**Pn**	**10 45 56.1**	**-0.4**
GAR	**Garm**	**19.40**	**65**	P		**P**	**10 45 54.0**	**-2.2**
VSR	**Storozhevoye**	**19.59**	**344**	*e*P		**P**	**10 45 56.3**	**-1.7**
VSR					pmax	pmax		
	comp=Z,90nm,1.0s							
BTK	**Batken**	**20.02**	**62**	P		**P**	**10 46 02.2**	**-0.7**
BTK					pmax	pmax		
	comp=Z,152nm,1.5s							
BTK	**Batken**	**20.02**	**62**	IAmb		IAmb	10 46 08.0	
	comp=Z,152nm,1.4s							
BTK	**Batken**	**20.02**	**62**	P		**P**	**10 46 02.2**	**-0.7**
KK31	**Karatay Array**	**20.77**	**53**	P		**P**	**10 46 10.8**	**-0.2**
KK31					pmax	pmax		
	comp=Z,43nm,1.0s							
KK31	**Karatay Array**	**20.77**	**53**	IAmb		IAmb	10 46 19.7	
	comp=Z,43nm,1.0s							
KK31	**Karatay Array**	**20.77**	**53**	P		**P**	**10 46 10.8**	**-0.2**
KKAR	**Karatay Array**	**20.77**	**53**	P		**P**	**10 46 10.7**	**-0.3**
KKAR					pmax	pmax		
	comp=Z,43nm,1.0s							
KKAR	**Karatay Array**	**20.77**	**53**	IAmb		IAmb	10 46 19.7	
	comp=Z,43nm,1.0s							
KKAR	**Karatay Array**	**20.77**	**53**	P		**P**	**10 46 10.7**	**-0.3**
LPSR	**Galich'ya Gora**	**20.93**	**345**	*e*P		**P**	**10 46 11.1**	**-1.5**
LPSR					pmax	pmax		
	comp=Z,110nm,0.7s							
MLR	**Muntele Rosu**	**21.12**	**314**	P		**P**	**10 46 20.3**	**+5.5**
	comp=Z,21nm,0.8s,baz=246,slow=13,SNR=5.9							
MLR	**Muntele Rosu**	**21.12**	**314**	P		**P**	**10 46 14.4**	**-0.4**
MLR					pmax	pmax		
	comp=Z,26nm,0.8s							
MLR	**Muntele Rosu**	**21.12**	**314**			**P**	**10 46 14.4**	**-0.4**
NIL	**Nilore**	**21.43**	**80**	P		**P**	**10 46 16.9**	**-1.2**
NIL					pmax	pmax		
	comp=Z,165nm,1.2s							
NIL	**Nilore**	**21.43**	**80**	P		**P**	**10 46 16.9**	**-1.2**
ATD	**Arta Tunnel**	**21.48**	**193**	P		**P**	**10 46 22.2**	**+3.5**
	comp=Z,200nm,1.0s,baz=139,slow=23,SNR=2.3							
ATD	**Arta Tunnel**	**21.48**	**193**	P		**P**	**10 46 19.2**	**+0.4**
ITM	**Ithomi**	**21.57**	**289**	P		**P**	**10 46 17.9**	**-1.8**
AKASG	**Malin Array Be**	**22.60**	**328**	P		**P**	**10 46 28.5**	**-2.0**
	comp=Z,2.8nm,0.6s,baz=140,slow=8.3,SNR=4.6							
AKASG					ScP	**ScP**		**10 53 59.6**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=116,slow=1.8,SNR=4.1							
AKASG	**Malin Array Be**	**22.60**	**328**			**ScP**	**10 53 59.6**	**-1.5**
AKASG	**Malin Array Be**	**22.60**	**328**	P		**P**	**10 46 28.5**	**-2.0**
AAK	**Ala-Archa**	**23.38**	**57**	P		**P**	**10 46 39.9**	**+1.0**
	comp=Z,7.9nm,0.9s,baz=3.9,slow=19,SNR=1.8							
AAK					LR	LR		10 57 17.4
	comp=Z,551nm,18.7s,baz=256,slow=40							
AAK	**Ala-Archa**	**23.38**	**57**	P		**P**	**10 46 38.0**	**-0.8**
AAK					pmax	pmax		
	comp=Z,28nm,1.2s							
AAK	**Ala-Archa**	**23.38**	**57**	P		**P**	**10 46 38.0**	**-0.8**
CHMS	**Chumysh**	**23.66**	**56**	P		**P**	**10 46 43.1**	**+1.6**
	SNR=6.2							
OBN	**Obninsk**	**23.79**	**344**	P		**P**	**10 46 42.0**	**-0.5**
	comp=Z,6.2nm,0.4s,baz=16,slow=22,SNR=4.9							
OBN	**Obninsk**	**23.79**	**344**	*i*P		**P**	**10 46 41.8**	**-0.8**
OBN				*i*			10 46 46.7	
OBN					pmax	pmax		
	comp=Z,43nm,1.2s							
OBN	**Obninsk**	**23.79**	**344**	IAmb		IAmb	10 46 51.1	
	comp=Z,72nm,1.2s							
OBN	**Obninsk**	**23.79**	**344**	P		**P**	**10 46 41.7**	**-0.8**
MOS	**Moscow**	**24.14**	**346**	*e*P		**P**	**10 46 44.1**	**-1.7**
MOS				*e*S		**S**	**10 51 06.6**	**+3.1**
MOS					pmax	pmax		
	comp=Z,200nm,1.9s							
MOS					pmax	pmax		
	comp=Z,102nm,1.5s							
ARU	**Arti**	**24.96**	**14**	P		**P**	**10 46 53.3**	**0.0**
	comp=Z,11nm,0.8s,baz=182,slow=8.2,SNR=6.3							
ARU	**Arti**	**24.96**	**14**	P		**P**	**10 46 53.1**	**-0.2**
KWP	**Kalwaria Pacla**	**25.16**	**320**	P		**P**	**10 46 55.9**	**+0.7**
KWP					pmax	pmax		
	comp=Z,23nm,0.8s							
KWP	**Kalwaria Pacla**	**25.16**	**320**	IAmb		IAmb	10 46 56.6	
	comp=Z,23nm,0.8s							
KWP	**Kalwaria Pacla**	**25.16**	**320**	P		**P**	**10 46 55.9**	**+0.7**
KDJ	**Kajisay**	**25.18**	**59**	P		**P**	**10 46 56.8**	**+1.1**
KDJ					pmax	pmax		
	comp=Z,39nm,1.0s							
KDJ	**Kajisay**	**25.18**	**59**	IAmb		IAmb	10 47 01.9	
	comp=Z,39nm,1.0s							
KDJ	**Kajisay**	**25.18**	**59**	P		**P**	**10 46 56.8**	**+1.1**
TARG	**Taragay, Kyrgy**	**25.55**	**61**	IAmb		IAmb	10 47 03.6	
	comp=Z,36nm,0.9s							
TARG	**Taragay, Kyrgy**	**25.55**	**61**	P		**P**	**10 46 59.6**	**+0.2**
TIP	**Timpagrande**	**25.80**	**293**	P		**P**	**10 47 01.8**	**+0.7**
PSZ	**Piszkesteto**	**25.93**	**314**	P		**P**	**10 47 04.3**	**+2.0**
PSZ					pmax	pmax		
	comp=Z,24nm,0.9s							
PSZ	**Piszkesteto**	**25.93**	**314**	IAmb		IAmb	10 47 05.1	
	comp=Z,24nm,0.9s							
PSZ	**Piszkesteto**	**25.93**	**314**			**P**	**10 47 04.3**	**+2.0**
KIRV	**Kirov**	**25.97**	**2**	P		**P**	**10 47 02.3**	**-0.1**
	comp=Z,46nm,0.6s,baz=220,slow=4.2,SNR=3.4							
KIRV	**Kirov**	**25.97**	**2**	P		**P**	**10 47 02.3**	**-0.1**
BRVK	**Borovoye**	**26.09**	**32**	P		**P**	**10 47 03.5**	**-0.1**
BRVK					pmax	pmax		
	comp=Z,40nm,1.1s							
BRVK	**Borovoye**	**26.09**	**32**	IAmb		IAmb	10 47 07.6	
	comp=Z,40nm,1.1s							
BRVK	**Borovoye**	**26.09**	**32**	P		**P**	**10 47 03.5**	**-0.1**
BVAR	**Borovoye Array**	**26.11**	**32**	P		**P**	**10 47 04.0**	**+0.2**
	comp=Z,14nm,0.7s,baz=216,slow=8.3,SNR=6.6							
BVAR					ScP	**ScP**		**10 54 08.6**	**-2.2**
	comp=Z,3.0nm,0.7s,baz=263,slow=2.4,SNR=9.0							
BVAR	**Borovoye Array**	**26.11**	**32**	P		**P**	**10 47 04.0**	**+0.2**
BVAR	**Borovoye Array**	**26.11**	**32**			**ScP**	**10 54 08.6**	**-2.2**
OJC	**Ojcow**	**27.07**	**319**	*e*P		**P**	**10 47 12.1**	**-0.3**
OJC	**Ojcow**	**27.07**	**319**	P		**P**	**10 47 12.1**	**-0.3**
OJC					pmax	pmax		
	comp=Z,19nm,0.8s							
OJC	**Ojcow**	**27.07**	**319**	IAmb		IAmb	10 47 20.2	
	comp=Z,19nm,0.8s							
OJC	**Ojcow**	**27.07**	**319**	P		**P**	**10 47 12.1**	**-0.3**
MORC	**Moravsky Berou**	**28.14**	**316**	P		**P**	**10 47 22.3**	**+0.1**
MORC					pmax	pmax		
	comp=Z,6.0nm,1.0s							
MORC	**Moravsky Berou**	**28.14**	**316**	P		**P**	**10 47 22.2**	**+0.1**
VRAC	**Vranov**	**28.50**	**315**	P		**P**	**10 47 25.9**	**+0.6**
	comp=Z,3.6nm,0.5s,baz=105,slow=12,SNR=3.5							
VRAC	**Vranov**	**28.50**	**315**	P		**P**	**10 47 25.9**	**+0.6**
KURBB	**Kurchatov Arra**	**28.93**	**42**	P		**P**	**10 47 30.1**	**+1.0**
	comp=Z,17nm,0.8s,baz=249,slow=9.5,SNR=13							
KURBB					PcP	**PcP**		**10 50 37.7**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=245,slow=3.0,SNR=2.8							
KURBB					ScP	**ScP**		**10 54 15.9**	**-3.5**
	comp=Z,1.6nm,0.8s,baz=248,slow=4.1,SNR=6.5							
NRCA	**Norcia**	**28.99**	**301**	P		**P**	**10 47 30.6**	**+0.8**
KURK	**Kurchatov**	**29.03**	**42**	P		**P**	**10 47 30.6**	**+0.7**
KURK					pmax	pmax		
	comp=Z,34nm,1.0s							
KURK	**Kurchatov**	**29.03**	**42**	IAmb		IAmb	10 47 31.7	
	comp=Z,34nm,0.9s							
KURK	**Kurchatov**	**29.03**	**42**	P		**P**	**10 47 30.6**	**+0.7**
KSP	**Ksiaz**	**29.33**	**318**	*e*P		**P**	**10 47 32.9**	**+0.3**
MAKZ	**Makanchi**	**29.67**	**51**	P		**P**	**10 47 35.8**	**+0.1**
MAKZ					pmax	pmax		
	comp=Z,29nm,1.5s							
MAKZ	**Makanchi**	**29.67**	**51**	IAmb		IAmb	10 47 37.6	
	comp=Z,29nm,1.4s							
MAKZ	**Makanchi**	**29.67**	**51**	P		**P**	**10 47 35.8**	**+0.1**
MK31	**Makanchi Array**	**29.87**	**52**	P		**P**	**10 47 38.3**	**+0.8**
MK31					pmax	pmax		
	comp=Z,18nm,0.9s							
MK31	**Makanchi Array**	**29.87**	**52**	IAmb		IAmb	10 47 39.1	
	comp=Z,18nm,0.8s							
MK31	**Makanchi Array**	**29.87**	**52**	P		**P**	**10 47 38.3**	**+0.8**
MKAR	**Makanchi Array**	**29.87**	**52**	P		**P**	**10 47 38.4**	**+0.8**
	comp=Z,14nm,0.7s,baz=249,slow=6.9,SNR=14							
MKAR					ScP	**ScP**		**10 54 19.4**	**-3.2**
	comp=Z,2.3nm,1.0s,baz=258,slow=5.8,SNR=6.1							
MKAR	**Makanchi Array**	**29.87**	**52**	P		**P**	**10 47 38.4**	**+0.8**
MKAR	**Makanchi Array**	**29.87**	**52**			**ScP**	**10 54 19.4

PFVI	**Vila Bisbo**	**45.99**	**292**	*e*PP		**P**	**10 49 56.4**	**+3.0**
TORD	**Torodi Ar. Bea**	**46.18**	**256**	P		**P**	**10 49 54.5**	**-0.6**
	comp=Z,5.3nm,0.8s,baz=54,slow=8.0,SNR=6.2							
TORD	**Torodi Ar. Bea**	**46.18**	**256**	P		**P**	**10 49 54.5**	**-0.6**
SONM	**Songino Array**	**46.22**	**53**	P		**P**	**10 49 55.9**	**+0.6**
	comp=Z,6.7nm,1.0s,baz=282,slow=8.9,SNR=13							
SONM	**Songino Array**	**46.22**	**53**	P		**P**	**10 49 55.9**	**+0.6**
ULN	**Ulaanbaatar**	**46.66**	**53**	P		**P**	**10 49 59.2**	**+0.5**
ULN				pmax	pmax			
	comp=Z,29nm,1.0s							
ULN	**Ulaanbaatar**	**46.66**	**53**	P		**P**	**10 49 59.2**	**+0.5**
SPITS	**Spitsbergen Ar**	**47.63**	**352**	P		**P**	**10 50 05.9**	**+0.2**
	comp=Z,17nm,1.0s,baz=152,slow=16,SNR=2.7							
CHTO	**Chiang Mai**	**47.77**	**94**	P		**P**	**10 50 06.8**	**-0.7**
CHTO				pmax	pmax			
	comp=Z,12nm,0.9s							
CHTO	**Chiang Mai**	**47.77**	**94**	IAmb	IAmb		10 50 08.1	
	comp=Z,12nm,0.9s							
CHTO	**Chiang Mai**	**47.77**	**94**	P		**P**	**10 50 06.8**	**-0.7**
CM31	**Chiang Mai Arr**	**47.93**	**94**	IAmb	IAmb		10 50 09.3	
	comp=Z,14nm,1.2s							
CM31	**Chiang Mai Arr**	**47.93**	**94**	P		**P**	**10 50 08.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**47.93**	**94**	P		**P**	**10 50 08.5**	**-0.3**
	comp=Z,6.2nm,1.0s,baz=295,slow=8.1,SNR=10							
CMAR	**Chiang Mai Arr**	**47.93**	**94**	P		**P**	**10 50 08.5**	**-0.3**
KMI	**Kunming**	**48.34**	**84**⇑	*e*P		**P**	**10 50 12.6**	**+0.4**
KMI				pP	sP		10 50 18.3	+1.6
KMI				pmax	pmax			
	comp=Z,24nm,0.7s							
KMI				pmax	pmax			
	comp=Z,130nm,4.1s							
KMI				LR	LR			
	comp=Z,120nm,17.7s							
KMI				LR	LR			
	comp=Z,140nm,18.6s							
KMI				LR	LR			
	comp=Z,230nm,18.4s							
KMI	**Kunming**	**48.34**	**84**	P		**P**	**10 50 12.2**	**0.0**
KMI				pmax	pmax			
	comp=Z,48nm,1.3s							
KMI	**Kunming**	**48.34**	**84**	P		**P**	**10 50 12.2**	**0.0**
BTO	**Baotou**	**49.74**	**62**	*e*P		**P**	**10 50 20.3**	**-2.3**
XAN	**Xi'an**	**50.49**	**71**	⇑P		**P**	**10 50 27.6**	**-0.7**
XAN				pmax	pmax			
	comp=Z,25nm,1.1s							
XAN				LR	LR			
	comp=Z,240nm,17.4s							
XAN				LR	LR			
	comp=Z,270nm,17.3s							
XAN				LR	LR			
	comp=Z,360nm,23.9s							
XAN	**Xi'an**	**50.49**	**71**	P		**P**	**10 50 27.9**	**-0.4**
XAN				pmax	pmax			
	comp=Z,21nm,1.0s							
XAN	**Xi'an**	**50.49**	**71**	IAmb	IAmb		10 50 28.8	
	comp=Z,21nm,1.0s							
XAN	**Xi'an**	**50.49**	**71**	P		**P**	**10 50 27.9**	**-0.4**
PBKT	**Sadao Pong**	**50.52**	**95**	IAmb	IAmb		10 50 30.1	
	comp=Z,13nm,1.1s							
PBKT	**Sadao Pong**	**50.52**	**95**	P		**P**	**10 50 28.4**	**-0.2**
BOD	**Bodaibo**	**50.60**	**39**	*e*P		**P**	**10 50 28.1**	**-0.5**
BOD				pmax	pmax			
	comp=Z,30nm,1.5s							
SLVN	**Son La**	**50.84**	**88**	IAmb	IAmb		10 50 32.5	
	comp=Z,40nm,1.5s							
SLVN	**Son La**	**50.84**	**88**			**P**	**10 50 31.6**	**+0.5**
OPO	**Ambohidratompo**	**50.92**	**181**	P		**P**	**10 50 33.0**	**+1.4**
	comp=Z,3.4nm,0.7s,baz=27,slow=6.8,SNR=3.2							
OPO	**Ambohidratompo**	**50.92**	**181**	P		**P**	**10 50 33.0**	**+1.4**
GYA	**Guiyang**	**51.13**	**81**	⇑P		**P**	**10 50 32.0**	**-1.2**
GYA				pmax	pmax			
	comp=Z,21nm,0.9s							
LSZ	**Lusaka**	**51.17**	**204**	P		**P**	**10 50 35.9**	**+2.4**
	comp=Z,4.0nm,0.7s,baz=44,slow=5.7,SNR=5.0							
LSZ	**Lusaka**	**51.17**	**204**	P		**P**	**10 50 34.5**	**+1.1**
LSZ				pmax	pmax			
	comp=Z,20nm,1.5s							
LSZ	**Lusaka**	**51.17**	**204**	IAmb	IAmb		10 50 37.5	
	comp=Z,20nm,1.4s							
LSZ	**Lusaka**	**51.17**	**204**	P		**P**	**10 50 34.5**	**+1.1**
ABPO	**Ambohimpanom**	**51.37**	**181**	P		**P**	**10 50 36.9**	**+1.9**
ABPO				pmax	pmax			
	comp=Z,9.0nm,0.9s							
ABPO	**Ambohimpanom**	**51.37**	**181**	P		**P**	**10 50 36.9**	**+1.9**
ENH	**Enshi**	**52.12**	**75**	IAmb	IAmb		10 50 40.9	
	comp=Z,12nm,0.7s							
ENH	**Enshi**	**52.12**	**75**	P		**P**	**10 50 40.1**	**-0.4**
HIA	**Hailar**	**54.84**	**50**	P		**P**	**10 51 00.0**	**-0.3**
HIA				pmax	pmax			
	comp=Z,24nm,1.1s							
HIA	**Hailar**	**54.84**	**50**	P		**P**	**10 50 60.0**	**-0.3**
MATP	**Matopo**	**55.87**	**202**	P		**P**	**10 51 08.7**	**+0.8**
	comp=Z,14nm,1.0s,baz=16,slow=7.3,SNR=7.1							
MATP	**Matopo**	**55.87**	**202**	P		**P**	**10 51 08.8**	**+0.8**
KULM	**Kulim**	**56.28**	**107**	IAmb	IAmb		10 51 13.4	
	comp=Z,19nm,0.9s							
KULM	**Kulim**	**56.28**	**107**	P		**P**	**10 51 09.8**	**-1.2**
PSI	**Prapat**	**56.39**	**111**	P		**P**	**10 51 10.9**	**-1.0**
PSI				pmax	pmax			
	comp=Z,34nm,1.5s							
RPSI	**Rantau Prapat**	**56.45**	**111**	P		**P**	**10 51 10.9**	**-1.3**
IPM	**Ipoh**	**57.06**	**108**	P		**P**	**10 51 14.9**	**-1.6**
SUMG	**Summit**	**58.06**	**339**	P		**P**	**10 51 22.9**	**-0.3**
SUMG				pmax	pmax			
	comp=Z,14nm,1.0s							
SUMG	**Summit**	**58.06**	**339**	IAmb	IAmb		10 51 24.0	
	comp=Z,14nm,1.0s							
SUMG	**Summit**	**58.06**	**339**	P		**P**	**10 51 22.9**	**-0.3**
YAK	**Yakutsk**	**58.08**	**33**	P		**P**	**10 51 22.2**	**-0.8**
YAK				pmax	pmax			
	comp=Z,25nm,0.4s							
YAK	**Yakutsk**	**58.08**	**33**	P		**P**	**10 51 22.2**	**-0.8**
SDSI	**Sungai Dareh**	**60.65**	**112**	P		**P**	**10 51 41.0**	**-0.4**
RGRI	**Rengat**	**61.00**	**111**	P		**P**	**10 51 46.7**	**+2.9**
LBTB	**Lobatse**	**61.08**	**203**	P		**P**	**10 51 45.8**	**+1.6**
	comp=Z,5.6nm,0.9s,baz=22,slow=5.4,SNR=4.1							
LBTB	**Lobatse**	**61.08**	**203**	IAmb	IAmb		10 51 48.1	
	comp=Z,11nm,1.2s							
LBTB	**Lobatse**	**61.08**	**203**	P		**P**	**10 51 43.7**	**-0.5**
KSRS	**Korea Array**	**63.97**	**61**	P		**P**	**10 52 02.3**	**-1.1**
	comp=Z,3.4nm,0.8s,baz=286,slow=7.4,SNR=7.3							
KSRS	**Korea Array**	**63.97**	**61**	P		**P**	**10 52 02.3**	**-1.1**
USRK	**Ussuriysk Ar.**	**64.33**	**53**	P		**P**	**10 52 04.5**	**-1.2**
	comp=Z,4.6nm,0.8s,baz=300,slow=5.9,SNR=5.9							
USRK	**Ussuriysk Ar.**	**64.33**	**53**	P		**P**	**10 52 04.5**	**-1.2**
YULB	**Yu-li**	**64.50**	**78**	IAmb	IAmb		10 52 08.7	
	comp=Z,7.9nm,0.9s							
YULB	**Yu-li**	**64.50**	**78**	P		**P**	**10 52 07.5**	**+0.4**
BOSA	**Boshof**	**64.53**	**202**	P		**P**	**10 52 08.1**	**+0.9**
	comp=Z,8.2nm,0.8s,baz=20,slow=7.1,SNR=5.4							
BOSA	**Boshof**	**64.53**	**202**	P		**P**	**10 52 07.9**	**+0.7**
BOSA				pmax	pmax			
	comp=Z,11nm,0.9s							
BOSA	**Boshof**	**64.53**	**202**	IAmb	IAmb		10 52 11.5	
	comp=Z,11nm,0.9s							
BOSA	**Boshof**	**64.53**	**202**	P		**P**	**10 52 07.9**	**+0.7**
TYV	**Tymovskoe**	**68.36**	**43**	*e*P		**P**	**10 52 31.3**	**0.0**
TYV				pmax	pmax			
	comp=Z,100nm,2.7s							
TYV				pmax	pmax			
	comp=Z,18nm,1.2s							
YSS	**Yuzh-Sakhalins**	**70.13**	**47**⇑	*e*P		**P**	**10 52 41.4**	**-1.0**
YSS				pmax	pmax			
	comp=Z,30nm,1.1s							
YSS	**Yuzh-Sakhalins**	**70.13**	**47**	P		**P**	**10 52 41.2**	**-1.1**
MPSI	**Mapaga**	**74.89**	**99**	P		**P**	**10 53 12.0**	**+0.7**
TOLK	**Toolik Lake Re**	**78.21**	**6**	IAmb	IAmb		10 53 40.0	
	comp=Z,14nm,1.1s							
TOLK	**Toolik Lake Re**	**78.21**	**6**	P		**P**	**10 53 29.7**	**+0.4**
BATG	**Bathurst New B**	**80.68**	**321**	IAmb	IAmb		10 53 44.1	
	comp=Z,13nm,1.0s							
BATG	**Bathurst New B**	**80.68**	**321**	P		**P**	**10 53 43.6**	**+0.5**
ILAR	**Eielson Array**	**82.24**	**6**	P		**P**	**10 53 50.2**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=330,slow=3.4,SNR=2.6							
ILAR	**Eielson Array**	**82.24**	**6**	P		**P**	**10 53 50.2**	**-0.8**
YKA	**Yellowknife Ar**	**84.13**	**352**	P		**P**	**10 53 59.8**	**-1.0**
	comp=Z,2.3nm,1.0s,baz=11,slow=5.3,SNR=4.2							
YKA	**Yellowknife Ar**	**84.13**	**352**	P		**P**	**10 53 59.8**	**-1.0**
WRA	**Warramunga Arr**	**97.80**	**109**	P		Pdif	10 55 07.9	+2.0
	comp=Z,0.4nm,0.6s,baz=317,slow=4.0,SNR=1.9							
WRA	**Warramunga Arr**	**97.80**	**109**	P		Pdif	10 55 07.9	+2.0
ASAR	**Alice Springs**	**99.40**	**112**	P		**Pdif**	**10 55 11.8**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=303,slow=4.5,SNR=5.3							
ASAR	**Alice Springs**	**99.40**	**112**	P		**Pdif**	**10 55 11.8**	**-1.2**

TEH ***22*** *10:48:36.9,32.°69N×47.°59E,h8km,ML3.3*
ISN ***22*** *10:48:36.8±1.4,32.°72N×47.°65E,h16km±9km,ML3.2*
ISC 22 10:48:37.9±1.4,32.°67N±0.°03×47.°58E±0.°03,h5km±12km, n30,σ1s14/36,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.25**	**273**	*e*Pg		**Pg**		**10 48 41.8**	**-1.0**
IKFM	**Kafar-mosalman**	**0.88**	**15**	*e*Pg		**Pg**		**10 48 52.7**	**-2.1**
IKFM				*e*		**Sn**		**10 49 09.4**	**-0.6**
IKMR	**Kamar-syah**	**1.08**	**38**	*e*Pg		**Pg**		**10 48 57.5**	**-1.1**
IKMR				*e*				10 49 00.5	
IDOB	**Doab**	**1.22**	**24**	*e*Pg		**Pb**		**10 49 00.5**	**-1.1**
BMDN	**Meydan**	**1.45**	**46**	*e*				10 49 33.8	
BMDN				*e*Pg		**Pn**		**10 49 04.3**	**-0.5**
IBDR	**Badra**	**1.46**	**288**	*e*Pg		**Pb**		**10 49 05.0**	**-0.4**
IBDR				*e*Sg		**Sb**		**10 49 24.0**	**-0.2**
IBDR				AML	AML			10 49 28.1	
	comp=N,283nm,0.4s								
IBDR				AML	AML			10 49 29.1	
	comp=E,447nm,0.4s								
IKOM	**Komasi**	**1.50**	**358**	*e*				10 49 06.8	
IKOM				*e*Pg		**Pb**		**10 49 05.5**	**-0.8**
AHWZ	**Ahwaz**	**1.61**	**146**	*e*Pg		**Pb**		**10 49 08.5**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.66**	**344**	*e*		**Sg**		**10 49 33.3**	**+2.0**
KCHF				*e*Pg		**Pb**		**10 49 08.4**	**-0.7**
KER	**Kermanshah**	**1.75**	**348**	*e*Pn		**Pb**		**10 49 09.5**	**-1.0**
HSAM	**Samen**	**1.76**	**29**	*e*Pg		**Pb**		**10 49 10.4**	**-0.4**
IBZA	**Bozab**	**1.81**	**7**	*e*Pg		**Pn**		**10 49 10.2**	**+0.3**
IBZA				*e*				10 49 13.9	
IGHG	**Ghaleghazi**	**1.86**	**333**	*e*Pn		**Pb**		**10 49 11.7**	**-0.7**
IGHG				*e*				10 49 49.9	
IVIS	**Veis**	**1.95**	**342**	*e*Pn		**Pb**		**10 49 12.6**	**-1.3**
IVIS				*e*		**Sg**		**10 49 44.4**	**+3.9**
NSR	**Nassriya**	**2.06**	**217**	*e*Pn		**Pn**		**10 49 13.0**	**-0.1**
NSR				*e*Sn		**Sn**		**10 49 39.0**	**-0.1**
IALM	**Almabolaq**	**2.24**	**12**	*e*Pn		**Pn**		**10 49 16.2**	**+0.4**
IDHR	**Dehrash**	**2.25**	**334**	*e*Pn		**Pn**		**10 49 16.7**	**+0.7**
IDHR				*e*				10 49 57.3	
ILIN	**Lien**	**2.30**	**347**	*e*Pn		**Pn**		**10 49 17.0**	**+0.3**
ILIN				*e*				10 49 57.4	
HAGD	**Aghdareh**	**2.51**	**31**	*e*Pn		**Pn**		**10 49 20.1**	**+0.6**
HAGD				*e*				10 50 05.0	
HSRG	**Sareghieh**	**2.63**	**13**	*e*Pn		**Pn**		**10 49 22.6**	**+1.4**
HSRG				*e*				10 50 06.3	
JHBN	**Jahan bin**	**2.65**	**99**	*e*Pn		**Pn**		**10 49 21.9**	**+0.4**
JHBN				*e*				10 50 19.2	
BHD	**Baghdad**	**2.75**	**283**	*e*Pn		**Pn**		**10 49 22.0**	**-0.6**
BHD				*e*Sn		**Sn**		**10 49 57.0**	**+0.7**
IPIR	**Pirpir**	**2.79**	**89**	*e*Pn		**Pn**		**10 49 23.7**	**+0.2**
IPIR				*e*				10 50 18.9	
IRAZ	**Razeghan**	**3.35**	**35**	*e*Pn		**Pn**		**10 49 32.6**	**+1.5**
IKLH	**Kolahrood**	**3.42**	**78**	*e*Pn		**Pn**		**10 49 32.9**	**+0.8**
IKLH				*e*				10 50 37.4	
QABG	**Abgarm-Qazvin**	**3.46**	**28**	*e*Pn		**Pn**		**10 49 33.7**	**+1.2**
IGAR	**Gharneh**	**3.78**	**93**	*e*Pn		**Pn**		**10 49 37.1**	**+0.1**
IGAR				*e*				10 50 54.0	
KLNJ	**Kolanjah**	**3.80**	**115**	*e*Pn		**Pn**		**10 49 37.5**	**+0.2**
KLNJ				*e*				10 50 52.8	
IZEF	**Zefreh**	**4.01**	**86**	*e*Pn		**Pn**		**10 49 40.1**	**0.0**
QSDN	**Sirdan**	**4.04**	**19**	*e*Pn		**Pn**		**10 49 41.4**	**+0.8**

IDC ***22*** *11:01:29.9±1.0,30.°05N×138.°96E,h427km±18km,mb2.8/4, mb1 2.9/8,mb1mx2.7/37,mbtmp3.6/8,Error ellipse: s-maj=51.7km s-min=12.6km az=71.0*
JMA ***22*** *11:01:30.3±0.1,30.°22N×139.°55E,h450km,M3.3*
ISC 22 11:01:29.9±0.9,30.°09N±0.°08×139.°0E±0.°1,h421km,n17, σ2s00/20,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.10**	**13**	P		**P**		**11 02 39.3**	**+4.0**
	3.3nm,0.3s,baz=108,slow=20,SNR=2.1								
JHJ				S		**S**		**11 03 29.1**	**+0.5**
	5.9nm,0.3s,baz=58,slow=22,SNR=2.4								
CBIJ	**Chichi jima**	**4.12**	**136**	P		**P**		**11 02 44.8**	**+0.5**
CBIJ				S		**S**		**11 03 44.3**	**-0.6**
JCJ	**Chichijima**	**4.12**	**136**	P		**P**		**11 02 44.8**	**+0.5**
	6.4nm,0.3s,baz=339,slow=22,SNR=44								
JCJ				S		**S**		**11 03 44.8**	**-0.1**
	32nm,0.3s,baz=272,slow=21,SNR=6.4								
JIE	**Ise**	**4.69**	**337**	P		**P**		**11 02 53.7**	**+4.1**
JOD2	**Odawara 2**	**5.16**	**1**	P		**P**		**11 02 56.3**	**+2.1**
JHU	**Hanno**	**5.75**	**3**	P		**P**		**11 03 01.4**	**+1.1**
JRY	**Ryogami san**	**5.91**	**360**	P		**P**		**11 03 03.9**	**+1.9**
JYT	**Yasato**	**6.21**	**9**	S		**S**		**11 04 20.6**	**-2.6**
JAG	**Ashikaga**	**6.33**	**4**	P		**P**		**11 03 07.0**	**+0.6**
MJAR	**Matsushiro Arr**	**6.46**	**355**	P		**P**		**11 03 08.9**	**+1.1**
	0.1nm,0.3s,baz=122,slow=17,SNR=2.4								
JHO	**Hitachi**	**6.64**	**11**	S		**S**		**11 04 29.2**	**-2.5**
JMK	**Ichinoseki**	**9.03**	**11**	P		**P**		**11 03 38.6**	**+2.3**
KSRS	**Korea Array**	**11.75**	**312**	P		**P**		**11 04 07.3**	**+1.1**
	baz=118,slow=10,SNR=5.6								
MKAR	**Makanchi Array**	**46.40**	**308**	P		**P**		**11 09 14.9**	**-1.6**
	0.1nm,0.3s,baz=91,slow=9.8,SNR=2.4								
WRA	**Warramunga Arr**	**49.94**	**186**	P		**P**		**11 09 42.7**	**-0.7**
	0.4nm,0.7s,baz=0.5,slow=7.7,SNR=6.2								
ARCES	**ARCESS Array B**	**69.78**	**340**	P		**P**		**11 11 55.7**	**-0.1**
	1.2nm,0.9s,baz=57,slow=8.8,SNR=4.6								
FINES	**FINESS Array B**	**74.00**	**333**	P		**P**		**11 12 20.3**	**-0.4**
	2.8nm,1.0s,baz=54,slow=2.4,SNR=4.4								

IDC 22 11:27:04.0±2.8,6.°12S×130.°77E,h223km±44km,mb2.6/1, mb1 2.7/4,mb1mx2.6/26,mbtmp3.2/4,Error ellipse: s-maj=101.1km s-min=18.0km az=80.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.24**	**5**	P		Pn		11 28 22.6	+0.5
	1.0nm,0.3s,baz=217,slow=20,SNR=2.2								
SIJI				S		S		11 29 24.2	+0.3
	0.7nm,0.3s,baz=246,slow=23,SNR=1.8								
WRA	**Warramunga Arr**	**14.17**	**166**	P		Pn		11 30 15.2	-0.1
	0.1nm,0.3s,baz=346,slow=11,SNR=12								
WRA				S		S		11 32 39.3	-13
	0.1nm,0.3s,baz=354,slow=24,SNR=7.2								
ASAR	**Alice Springs**	**17.70**	**171**	P		P		11 30 55.2	0.0
	0.1nm,0.3s,baz=345,slow=10,SNR=7.5								
MKAR	**Makanchi Array**	**67.92**	**326**	P		P		11 37 38.8	0.0
	0.2nm,0.7s,baz=124,slow=7.2,SNR=1.8								

NNC ***22*** *11:27:45.5±1.9,46.°44N×84.°01E,h5km±12km,mb3.3, mpv3.0,Error ellipse: s-maj=14.5km s-min=6.4km az=127.0*
SOME ***22*** *11:27:45.5,46.°45N×84.°00E,h5km*
ASRS ***22*** *11:27:49.2±0.5,47.°N±3.°×84.°4E±.°,h10km,MLh3.2/7, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*
ISC 22 11:27:47.7±0.9,46.°65N±0.°06×83.°93E±0.°05,h10km,n24, σ2s44/38,4C-3D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**1.02**	**38**	*e*P		**Pg**		**11 28 05.3**	**-2.2**
	24nm,0.1s								
ZSN				*e*S		**Sg**		**11 28 19.9**	**-0.9**
	68nm,0.1s								
ZSN	**Zaisan**	**1.02**	**38**	P		**Pg**		**11 28 05.3**	**-2.2**
	24nm,0.1s								
ZSN				S		**Sg**		**11 28 19.9**	**-0.9**
	68nm,0.1s								
MK31	**Makanchi Array**	**1.14**	**278**	⇓Pn		**Pb**		**11 28 08.5**	**-1.0**
	0.5nm,0.1s,baz=103,slow=15,SNR=224								
MK31				⇓Lg		Lg		11 28 25.4	
	31nm,0.5s,baz=109,slow=31								
MKAR	**Makanchi Array**	**1.14**	**278**	Pg		**Pb**		**11 28 08.8**	**-0.7**
MKAR				Sg		**Sn**		**11 28 25.8**	**+0.3**
MAKZ	**Makanchi**	**1.35**	**277**	Pg		**Pb**		**11 28 13.1**	**-0.1**
MAKZ				Sg		**Sg**		**11 28 32.4**	**+1.2**
MAKZ	**Makanchi**	**1.35**	**277**	⇑Pn		**Pb**		**11 28 13.1**	**-0.1**
	1.9nm,0.2s								
MAKZ				⇑Lg		Lg		11 28 32.8	
	13nm,0.3s								
KAPS	**Kapalarasan**	**3.47**	**248**	*e*P		**Pb**		**11 28 48.8**	**-0.5**
	1.1nm,0.2s								
KAPS				*e*S		**Sb**		**11 29 34.3**	**+2.8**
	3.0nm,0.3s								
KAPS	**Kapalarasan**	**3.47**	**248**	Pg		**Pb**		**11 28 48.8**	**-0.5**
	1.1nm,0.2s								
KAPS				Lg		Lg		11 29 34.3	
	3.0nm,0.3s								
DJR	**Jarkent**	**3.72**	**233**	*e*P		**Pb**		**11 28 53.2**	**-0.4**
	2.1nm,0.3s								
DJR				*e*S		**Sb**		**11 29 41.7**	**+2.9**
	2.7nm,0.3s								
DJR	**Jarkent**	**3.72**	**233**	Pg		**Pb**		**11 28 53.2**	**-0.4**
	1.9nm,0.4s								
DGZ	**Jazzator, Alta**	**3.85**	**36**	Pn		**Pn**		**11 28 48.2**	**+1.1**
DGZ				Pg		**Pg**		**11 28 59.7**	**-1.8**
DGZ				Sg		**Sb**		**11 29 43.5**	**+1.0**
UKR	**Ust'-Kan**	**4.33**	**7**	Pg		**Pb**		**11 29 06.2**	**+2.3**
UKR				Sg		**Sg**		**11 30 04.5**	**-2.1**
SLNR	**Muhor-Tarhata,**	**4.36**	**42**	Pg		**Pg**		**11 29 10.3**	**-0.9**
SLNR				Sg		**Sg**		**11 30 06.9**	**-0.7**
CHBI	**Chibit, Altay**	**4.37**	**32**	Pg		**Pb**		**11 29 07.8**	**+3.2**
CHBI				Sg		**Sb**		**11 30 01.6**	**+4.3**
AKAR	**Aktash**	**4.42**	**32**	Pn		**Pn**		**11 28 50.5**	**-4.4**
AKAR				Pg		**Pb**		**11 29 08.4**	**+2.9**
AKAR				Sg		**Sb**		**11 30 03.1**	**+4.3**
CUR	**Chagan-Uzun**	**4.54**	**39**	Pg		**Pb**		**11 29 10.6**	**+3.1**
CUR				Sg		**Sg**		**11 30 09.7**	**-3.7**
PDGK	**Podgornoye**	**4.58**	**225**	⇑Pn		**Pn**		**11 28 56.1**	**-1.0**
	0.4nm,0.4s								
ULGR	**Ulagan, Altay**	**4.79**	**32**	Pg		**Pb**		**11 29 14.0**	**+2.2**
ULGR				Sg		**Sg**		**11 30 16.8**	**-4.7**
ARXS	**Arharly**	**4.94**	**243**	*e*P		**Pb**		**11 29 14.7**	**+0.4**
	2.3nm,0.3s								
ARXS				*e*S		**Sb**		**11 30 18.8**	**+5.0**
	2.9nm,0.4s								
ARXS	**Arharly**	**4.94**	**243**	Pg		**Pb**		**11 29 14.7**	**+0.4**
	2.3nm,0.3s								
ARXS				Lg		Lg		11 30 16.9	
	2.9nm,0.4s								
KURBB	**Kurchatov Arra**	**5.35**	**320**	⇓Lg		Lg		11 30 39.3	
	6.3nm,0.6s								
KURK	**Kurchatov**	**5.38**	**321**	⇑Lg		Lg		11 30 40.1	
	2.9nm,0.4s								
GALT	**Gorno-Altaysk,**	**5.47**	**13**	Sg		**Sg**		**11 30 40.8**	**-2.6**
GALT				Sg		Sb		11 30 41.5	+12
ARTR	**Artybash**	**5.60**	**22**	Sg		**Sg**		**11 30 46.1**	**-1.3**

WEL 22 11:40:14.9±0.9,35.°S±13.°×177.°9E±1.°9,h259km±13km, M3.6/16,ML3.8/7,MLv3.6/16,Error ellipse: s-maj=0.0km s-min=0.0km az=123.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.13**	**186**	P		P	Pn	11 40 58.4	-0.7
MXZ				S		S		11 41 34.1	-0.1
WMGZ	**Waiomatatini S**	**2.37**	**184**	P		P	Pn	11 41 01.6	+0.1
WMGZ				S		S		11 41 40.5	+2.1
HAZ	**Te Kaha**	**2.40**	**196**	P		P	Pn	11 41 01.8	+0.2
HAZ				S		S		11 41 38.7	-0.1
RUGZ	**Raukumara Rang**	**2.62**	**196**	P		P	Pn	11 41 03.4	-0.7
RUGZ				S		S		11 41 42.5	-0.6
PUZ	**Puketiti**	**2.63**	**186**	P		P	Pn	11 41 04.1	0.0
PUZ				S		S		11 41 43.2	+0.1
TWGZ	**Tauwhareparae**	**2.77**	**190**	P		P	Pn	11 41 05.9	+0.5
TWGZ				S		S		11 41 46.7	+1.0
MWZ	**Matawai**	**3.01**	**196**	P		P	Pn	11 41 08.1	+0.1
MWZ				S		S		11 41 51.3	+1.1
TKGZ	**Te Karaka**	**3.05**	**191**	P		P	Pn	11 41 08.4	+0.1
TKGZ				S		S		11 41 50.9	+0.1
URZ	**Urewera**	**3.05**	**203**	P		P	Pn	11 41 08.0	-0.4
URZ				S		S		11 41 49.2	-1.7
MUGZ	**Murupara**	**3.36**	**205**	P		P	Pn	11 41 12.3	+0.5
MTHZ	**Maungataniwha**	**3.68**	**202**	P		P	Pn	11 41 15.4	0.0
MTHZ				S		S		11 42 05.8	+2.2
NMHZ	**

IMEH	**Mehriz**	**3.02**	**220**	*e*Pn		**Pn**	**11 53 01.5**	**+0.7**
IMEH				*e*			11 53 57.4	
ISAD	**Sadrabad**	**3.25**	**237**	*e*Pn		**Pn**	**11 53 05.1**	**+1.1**
ISAD				*e*			11 54 04.6	
KHGB	**Koh Gabri**	**3.36**	**186**	*e*Pn		**Pn**	**11 53 07.0**	**+1.5**
KHGB				*e*			11 54 11.9	
NHDN	**Nehbandan**	**3.54**	**130**	*e*Pn		**Pn**	**11 53 09.0**	**+1.1**
NHDN				*e*			11 54 19.0	
ISHM	**Shahmirzad**	**3.62**	**306**	*e*Pn		**Pn**	**11 53 10.7**	**+1.6**
IMYA	**Miami**	**3.71**	**44**	*e*Pn		**Pn**	**11 53 11.3**	**+1.0**
IMYA				*e*			11 53 36.9	
TVBK	**TV Kerman**	**3.73**	**182**	*e*Pn		**Pn**	**11 53 12.1**	**+1.4**
TVBK				*e*			11 54 18.5	
KRBR	**Kerman**	**3.73**	**182**	*e*Pn		**Pn**	**11 53 12.4**	**+1.7**
KRBR	**Kerman**	**3.73**	**182**	*e*Pn		**Pn**	**11 53 12.4**	**+1.7**
IZEF	**Zefreh**	**3.91**	**259**	*e*Pn		**Pn**	**11 53 14.3**	**+1.2**
IALA	**Alasht**	**4.09**	**306**	*e*Pn		**Pn**	**11 53 16.8**	**+1.1**
IDMV	**Damavand**	**4.41**	**296**	*e*Pn		**Pn**	**11 53 20.4**	**+0.4**

TEH 22 11:52:46.0, 32°.80N×47°.81E, h10km, ML2.8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.46**	**256**	*e*Pg	Pg	11 52 54.8	-0.1
DHL1				*e*		11 52 55.4	
DHL1				*e*Sg	Sb	11 53 02.4	-0.6
IKFM	**Kafar-mosalman**	**0.73**	**3**	*e*Pg	Pg	11 53 00.0	-0.1
IKMR	**Kamar-syah**	**0.87**	**34**	*e*Pg	Pg	11 53 02.8	+0.1
IKMR				*e*		11 53 24.0	
BMDN	**Meydan**	**1.22**	**44**	*e*		11 53 32.3	
BMDN				*e*Pg	Pg	11 53 09.9	+0.4
IKOM	**Komasi**	**1.40**	**350**	*e*Pg	Pg	11 53 13.0	+0.1
IKOM				*e*		11 53 15.1	
IBZA	**Bozab**	**1.67**	**2**	*e*Pg	Pg	11 53 18.1	0.0
IBZA				*e*		11 53 46.7	

YARS 22 11:52:53.8±0.0, 67°.59N×142°.91E, h10km, ML1.7/4
IDC 22 11:52:53.6±1.5, 67°.89N×142°.52E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/58, mbtmp3.5/5, ML2.8/1, Error ellipse: s-maj=43.6km s-min=24.9km az=2.0
ISC 22 11:52:53.9±0.7, 67°.57N±0°.03×142°.90E±0°.07, h10km, n9, σ0§99/19, mb3.4/4, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.11**	**174**	*e*Pg	**Pb**	**11 53 14.1**	**-1.1**
	11nm,0.2s						
MOMR				*e*Sg	**Sb**	**11 53 29.5**	**-0.2**
	189nm,0.2s						
YBGR	**Belaya Gora**	**1.57**	**50**	*e*Pg	**Pn**	**11 53 21.9**	**+0.1**
	9.6nm,0.1s						
YBGR				*e*Sg	**Sb**	**11 53 42.5**	**-0.4**
	107nm,0.3s						
DEPR	**Deputatskiy**	**2.14**	**330**	*e*Pn	**Pn**	**11 53 29.8**	**+0.1**
DEPR				*e*Pg	**Pb**	**11 53 32.2**	**-0.5**
	4.8nm,0.2s						
DEPR				*e*Sn	**Sn**	**11 53 56.7**	**+0.4**
DEPR				*e*Sn	**Sn**	**11 53 56.7**	**+0.4**
DEPR				*e*Sg	**Sb**	**11 54 00.3**	**+0.9**
	102nm,0.8s						
UNR	**Ust'-Nera**	**3.01**	**177**	*e*Pn	**Pn**	**11 53 42.5**	**+0.8**
UNR				*e*Pg	**Pb**	**11 53 48.6**	**+1.0**
	1.4nm,0.1s						
UNR				*e*Sn	**Sn**	**11 54 18.9**	**+1.2**
UNR				*e*Sn	**Sn**	**11 54 18.9**	**+1.2**
UNR				*e*Sg	**Sg**	**11 54 28.8**	**-1.7**
	69nm,0.5s						
UNR				*e*Sg	**Sg**	**11 54 28.8**	**-1.7**
	34nm,0.4s						
SEY	**Seymchan**	**6.12**	**135**	Pn	Pn	11 54 30.1	+6.0
	0.2nm,0.3s,baz=236,slow=22,SNR=2.3						
SEY				Lg	Lg	11 56 10.8	
	0.5nm,0.3s,baz=287,slow=14,SNR=4.5						
ILAR	**Eielson Array**	**27.13**	**62**	P	**P**	**11 58 37.0**	**+0.4**
	0.5nm,0.8s,baz=298,slow=8.2,SNR=8.2						
MKAR	**Makanchi Array**	**36.84**	**267**	P	**P**	**12 00 01.2**	**-0.6**
	0.3nm,0.5s,baz=32,slow=7.1,SNR=4.3						
FINES	**FINESS Array B**	**43.40**	**321**	P	**P**	**12 00 55.3**	**-0.6**
	1.6nm,0.8s,baz=38,slow=9.3,SNR=4.3						
PDAR	**Pinedale Array**	**57.35**	**57**	P	**P**	**12 02 42.9**	**+0.9**
	0.3nm,0.7s,baz=343,slow=2.8,SNR=2.6						

NNC 22 11:55:33.2±8.7, 37°.35N×70°.59E, h0km, mb3.8, mpv3.4, 2C-1D, Error ellipse: s-maj=87.5km s-min=53.9km az=46.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.75**	**359**	P	Pn	11 57 01.5	+1.6
	1.5nm,0.3s,baz=179,slow=13,SNR=63						
KK31				⇑S	Sn	11 58 07.6	+1.0
	5.8nm,0.4s,baz=182,slow=23						
AAK	**Ala-Archa**	**6.08**	**28**	⇑P	Pn	11 57 04.1	-0.4
	1.1nm,0.3s						
TKM2	**Tokmak 2**	**6.76**	**33**	⇓P	Pn	11 57 12.7	-1.2
	1.4nm,0.5s						

ROM 22 11:57:54.0±0.0, 38°.32N×14°.88E, h113km, ML2.2, Sicily

ISK 22 11:57:57.2, 35°.52N×27°.76E, h5km, ML2.5/9
DDA 22 11:57:57.6, 35°.50N×27°.64E, h12km±3km, ML2.2
ATH 22 11:57:58.9, 35°.59N×27°.71E, h23km±2km, ML2.2/4, Error ellipse: s-maj=3.6km s-min=1.2km az=148.0
ISC 22 11:57:59.1±1.3, 35°.53N±0°.06×27°.72E±0°.04, h25km±13km, n22, σ1§60/32, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.46**	**273**	P	**Pb**	**11 58 07.8**	**-0.8**
KARP				S	**Sb**	**11 58 15.4**	**+0.3**
KARP				AML	AML	11 58 17.8	
	comp=E,459μm,0.3s						
KARP				AML	AML	11 58 20.6	
	comp=N,542μm,0.2s						
KARP	**Karpathos**	**0.46**	**273**	PG	**Pb**	**11 58 08.0**	**-0.6**
KARP				SG	**Sb**	**11 58 15.6**	**+0.5**
ARG	**Arkhangelos**	**0.76**	**26**	P	**Pb**	**11 58 12.7**	**-1.0**
ARG				S	**Sb**	**11 58 23.1**	**-0.6**
ARG				AML	AML	11 58 27.3	
	comp=E,290μm,0.2s						
ARG				AML	AML	11 58 31.6	
	comp=N,243μm,0.3s						
ARG	**Arkhangelos**	**0.76**	**26**	PG	**Pb**	**11 58 12.6**	**-1.1**
DAT	**Datca**	**1.20**	**355**	PN	**Pb**	**11 58 21.6**	**+0.3**
DAT	**Datca**	**1.20**	**355**	*i* P	**Pb**	**11 58 21.4**	**+0.1**
DAT				*i* S	**Sn**	**11 58 38.5**	**+2.4**
ZKR	**Zakros**	**1.30**	**252**	P	**Pb**	**11 58 23.9**	**+1.1**
ZKR				S	**Sb**	**11 58 41.8**	**+2.8**
ZKR				AML	AML	11 58 51.0	
	comp=E,240μm,0.6s						
ZKR				AML	AML	11 58 52.4	
	comp=N,98μm,0.7s						
ZKR	**Zakros**	**1.30**	**252**	PN	**Pb**	**11 58 23.4**	**+0.6**
TURN	**Turunc**	**1.31**	**19**	PN	**Pn**	**11 58 23.0**	**-1.7**
TURN	**Turunc**	**1.31**	**19**	*i* P	**Pn**	**11 58 22.9**	**-1.8**
TURN				*i* S	**Sn**	**11 58 41.3**	**-2.3**
TURN				IAML		11 58 47.0	
	comp=E,37nm,0.6s						
TURN				IAML		11 58 48.0	
	comp=N,51nm,0.9s						
DALY	**Dalyan (Mula)**	**1.49**	**30**	PN	**Pb**	**11 58 26.6**	**+0.5**
DALY	**Dalyan (Mula)**	**1.49**	**30**	*i* P	**Pb**	**11 58 25.3**	**-0.8**
DALY				*i* S	**Sb**	**11 58 49.4**	**+4.7**
DALY				IAML		11 58 54.0	
	comp=E,84nm,1.5s						
DALY				IAML		11 58 58.0	
	comp=N,34nm,0.7s						
BODT	**Bodrum**	**1.57**	**348**	PN	**Pb**	**11 58 27.4**	**0.0**
KSL	**Kastellorizon**	**1.64**	**67**	P	**Pb**	**11 58 28.1**	**-0.5**
YER	**Yerkesik**	**1.67**	**16**	PN	**Pb**	**11 58 28.9**	**-0.3**
AKAS	**Kas**	**1.69**	**65**	PN	**Pb**	**11 58 28.6**	**-0.9**
ANAF	**Anafi Island**	**1.78**	**298**	P	**Pb**	**11 58 29.8**	**-1.3**
ANAF				S	**Sb**	**11 58 52.6**	**-0.4**
ANAF				AML	AML	11 59 01.0	
	comp=N,403μm,0.4s						
ANAF				AML	AML	11 59 04.8	
	comp=E,368μm,0.4s						
LAST	**Lasithi**	**1.87**	**259**	P	**Pb**	**11 58 33.0**	**+0.4**
AMGA	**Amorgos Island**	**1.97**	**312**	P	**Pb**	**11 58 32.9**	**-1.3**
AYDN	**Tasoluk**	**2.13**	**3**	*i* P	**Pn**	**11 58 33.4**	**+0.3**
AYDN				*i* S	**Sb**	**11 59 04.1**	**+1.0**
AYDN				IAML		11 59 09.0	
	comp=N,16nm,0.4s						
TAVA	**DENIZLI_Tavas**	**2.16**	**26**	*i* P	**Pb**	**11 58 37.7**	**+0.2**
TAVA				*i* S	**Sb**	**11 59 06.8**	**+2.9**
TAVA				IAML		11 59 12.0	
	comp=E,9.6nm,0.4s						
IDI	**Anoyia**	**2.32**	**265**	PN	**Pb**	**11 58 38.5**	**-1.8**

TEH 22 11:59:59.6, 32°.68N×47°.73E, h8km, ML3.1
ISN 22 11:59:59.3±0.8, 32°.67N×47°.76E, h14km±5km, ML2.8
ISC 22 12:00:00.7±0.9, 32°.64N±0°.04×47°.69E±0°.03, h10km, n28, σ1§08/32, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.35**	**277**	*e*Pg	**Pg**	**12 00 06.7**	**-0.9**
IKFM	**Kafar-mosalman**	**0.89**	**8**	*e*Pg	**Pg**	**12 00 17.4**	**-0.5**
IKFM				*e*	**Sn**	**12 00 32.7**	**+0.5**
IKMR	**Kamar-syah**	**1.05**	**33**	*e*Pg	**Pg**	**12 00 18.5**	**-2.4**
IKMR				*e*		12 00 41.7	
IDOB	**Doab**	**1.22**	**20**	*e*Pg	**Pb**	**12 00 22.9**	**-1.0**
BMDN	**Meydan**	**1.40**	**42**	*e*Pg	**Pn**	**12 00 24.9**	**-1.6**
BMDN				*e*		12 00 53.2	
AHWZ	**Ahwaz**	**1.54**	**148**	*e*Pg	**Pg**	**12 00 29.9**	**-0.3**
IKOM	**Komasi**	**1.54**	**354**	*e*Pg	**Pb**	**12 00 28.8**	**-0.6**
IKOM				*e*		12 00 32.1	
IBDR	**Badra**	**1.55**	**288**	*e*Pg	**Pn**	**12 00 28.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**12 00 50.0**	**-0.7**
IBDR				AML	AML	12 00 54.7	
	comp=E,142nm,0.8s						
IBDR				AML	AML	12 00 56.5	
	comp=N,142nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.72**	**342**	*e*Pg	**Pb**	**12 00 32.2**	**-0.3**
KCHF				*e*		12 00 58.0	
HSAM	**Samen**	**1.74**	**26**	*e*Pg	**Pb**	**12 00 32.6**	**-0.3**
HSAM				*e*		12 00 33.3	
KER	**Kermanshah**	**1.80**	**345**	*e*Pn	**Pn**	**12 00 32.6**	**+0.6**
IBZA	**Bozab**	**1.83**	**4**	*e*Pg	**Pb**	**12 00 34.3**	**-0.1**
IBZA				*e*		12 01 04.1	
IGHG	**Ghaleghazi**	**1.93**	**331**	*e*Pn	**Pb**	**12 00 34.8**	**-1.3**
IGHG				*e*		12 01 13.4	
IVIS	**Veis**	**2.01**	**340**	*e*Pn	**Pn**	**12 00 35.8**	**+1.0**
IVIS				*e*		12 01 13.0	
NSR	**Nassriya**	**2.09**	**219**	*e*Pn	**Pn**	**12 00 36.0**	**+0.2**
NSR				*e*Sn	**Sn**	**12 01 02.0**	**+0.1**
IALM	**Almabolaq**	**2.25**	**10**	*e*Pn	**Pn**	**12 00 39.6**	**+1.4**
IDHR	**Dehrash**	**2.32**	**332**	*e*	**Sg**	**12 01 17.7**	**+2.2**
ILIN	**Lien**	**2.35**	**345**	*e*Pn	**Pn**	**12 00 40.6**	**+1.0**
HAGD	**Aghdareh**	**2.49**	**29**	*e*Pn	**Pn**	**12 00 42.5**	**+1.0**
HAGD				*e*		12 01 28.5	
JHBN	**Jahan bin**	**2.55**	**98**	*e*Pn	**Pn**	**12 00 43.3**	**+0.9**
JHBN				*e*		12 01 32.2	
HSRG	**Sareghieh**	**2.64**	**11**	*e*Pn	**Pn**	**12 00 44.8**	**+1.2**
HSRG				*e*		12 01 33.9	
IPIR	**Pirpir**	**2.70**	**88**	*e*Pn	**Pn**	**12 00 45.7**	**+1.2**
IPIR				*e*		12 01 29.0	
ROKH	**ROKH**	**2.84**	**95**	*e*Pn	**Pn**	**12 00 47.4**	**+1.1**
ROKH				*e*		12 01 37.7	
BHD	**Baghdad**	**2.85**	**284**	*e*Pn	**Pn**	**12 00 47.0**	**+0.7**
BHD				*e*Sn	**Sn**	**12 01 22.0**	**+1.3**
IRAZ	**Razeghan**	**3.33**	**33**	*e*Pn	**Pn**	**12 00 54.3**	**+1.3**
QABG	**Abgarm-Qazvin**	**3.44**	**27**	*e*Pn	**Pn**	**12 00 55.4**	**+0.8**
KLNJ	**Kolanjah**	**3.70**	**115**	*e*Pn	**Pn**	**12 00 58.7**	**+0.5**
KLNJ				*e*		12 02 12.4	
QSDN	**Sirdan**	**4.04**	**17**	*e*Pn	**Pn**	**12 01 03.3**	**+0.4**

NNC 22 12:00:34.4±0.5, 42°.83N×75°.91E, h3km±5km, mb3.6, mpv3.0, Error ellipse: s-maj=7.3km s-min=2.2km az=162.0, Suspected Mining explosion.
SOME 22 12:00:35.0, 42°.87N×75°.88E
ISC 22 12:00:34.7±1.4, 42°.82N±0°.08×75°.90E±0°.03, h0km, n8, σ0§54/13, 2C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KST	**Kastek**	**0.23**	**12**	P	**Pg**	**12 00 39.3**	**+0.2**
	33nm,0.2s						
KST				S	**Sg**	**12 00 42.6**	**+0.6**
	35nm,0.3s						
TKM2	**Tokmak 2**	**0.24**	**294**	⇑P	**Pg**	**12 00 39.6**	**+0.2**
	6.0nm,0.2s						
TKM2				⇑S	**Sg**	**12 00 43.4**	**+0.8**
	20nm,0.2s						
MTBS	**Maitube**	**0.50**	**51**	P	**Pg**	**12 00 44.5**	**+0.3**
	14nm,0.2s						
MTBS				S	**Sg**	**12 00 51.5**	**+0.8**
	13nm,0.2s						
TNSS	**Tian-Shan**	**0.80**	**74**	P	**Pg**	**12 00 50.1**	**+0.1**
	3.1nm,0.2s						
TNSS				S	**Sg**	**12 01 00.5**	**+0.1**
	6.3nm,0.0s						
KTBS	**Karatobe**	**1.06**	**32**	P	**Pg**	**12 00 54.8**	**-0.2**
	6.0nm,0.1s						
KTBS				S	**Sg**	**12 01 08.4**	**-0.4**
	3.3nm,0.3s						
MRKS	**Merke**	**1.97**	**269**	Pg	**Pb**	**12 01 10.8**	**-0.6**
	11nm,0.3s						
MRKS				Lg	Lg	12 01 37.3	
	6.3nm,0.3s						
ARXS	**Arharly**	**1.98**	**45**	Pg	**Pb**	**12 01 10.9**	**-0.7**
	4.3nm,0.2s						
UZB	**Uzynbulak**	**2.31**	**81**	Pg	**Pb**	**12 01 17.5**	**+0.1**
	1.8nm,0.3s						

IDC 22 12:13:51.6±3.5, 36°.17N×70°.34E, h186km±32km, mb3.1/4, mb1 3.2/8, mb1mx2.9/64, mbtmp3.7/8, Error ellipse: s-maj=31.8km s-min=23.0km az=170.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.50**	**23**	P	Pn	12 15 25.5	0.0
	SNR=71						
AAK	**Ala-Archa**	**7.22**	**25**	P	Pn	12 15 34.6	0.0
	2.0nm,0.3s,baz=198,slow=6.5,SNR=8.1						
GEYT	**Ailbeck**	**9.93**	**284**	P	Pn	12 16 10.1	0.0
	0.5nm,0.3s,baz=145,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**13.87**	**36**	P	Pn	12 16 59.9	-0.5
	0.1nm,0.3s,baz=228,slow=18,SNR=4.1						
AKTO	**Aktyubinsk**	**16.82**	**332**	P	Pn	12 17 35.8	-0.4
	0.3nm,0.3s,baz=150,slow=7.6,SNR=5.8						
ZALV	**Zalesovo Beam**	**20.44**	**25**	P	P	12 18 14.7	+0.3
	0.9nm,0.5s,baz=193,slow=12,SNR=2.2						
ARCES	**ARCESS Array B**	**41.25**	**338**	P	P	12 21 17.8	-0.3
	1.2nm,0.5s,baz=107,slow=8.2,SNR=11						
TORD	**Torodi Ar. Bea**	**65.18**	**268**	P	P	12 24 13.1	0.0
	0.2nm,0.3s,baz=46,slow=7.1,SNR=2.8						
ASAR	**Alice Springs**	**84.50**	**124**	P	P	12 26 03.8	+0.1
	0.2nm,0.7s,baz=309,slow=4.9,SNR=4.8						

IDC 22 12:14:50.6±8.9, 36°.53N×71°.00E, h33km±63km, mb3.7/9, mb1 3.9/14, mb1mx3.6/64, mbtmp4.1/14, ML3.8/5, Error ellipse: s-maj=45.5km s-min=19.3km az=26.0
NEIC 22 12:14:56.1±2.4, 36°.73N±0°.08×70°.9E±0°.1, h88km±7km, mb4.1/4, Error ellipse: s-maj=13.9km s-min=12.1km az=74.0.
ISC 22 12:14:58.1±0.6, 36°.84N±0°.05×71°.23E±0°.07, h100km, n60, σ1§75/63, mb3.7/11, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.28**	**342**	Pn	**Pn**	**12 15 33.7**	**-0.7**
CHGR	**Chuyangaron**	**2.45**	**319**	Pn	**Pn**	**12 15 34.2**	**-2.4**
CEP	**Cherat**	**3.06**	**169**	P	**Pn**	**12 15 47.3**	**+2.5**
CEP				S	**Sn**	**12 16 24.0**	**+3.3**
THW	**Thamme Wali**	**4.06**	**174**	P	**Pn**	**12 15 59.5**	**+1.4**
THN	**Thein Dam**	**5.74**	**139**	*e*P	**Pn**	**12 16 22.5**	**+1.6**
THN				*e*S	**Sn**	**12 17 27.0**	**+1.6**
UCH	**Uchtor**	**5.95**	**24**	P	**Pn**	**12 16 25.3**	**+1.3**
	SNR=9.3						
KZA	**Kyzart**	**6.09**	**29**	P	**Pn**	**12 16 27.4**	**+1.5**
	SNR=7.0						
EKS2	**Erkin-Say**	**6.14**	**18**	P	**Pn**	**12 16 27.5**	**+1.2**
	SNR=14						

DHRM	**DHARAMSHALA**	**6.20**	**136**	*e*P		**Pn**	**12 16 28.4**	**+1.1**
DHRM				*e*S		**Sn**	**12 17 35.7**	**-1.2**
DHRM				IAML			12 17 39.1	
	comp=N,553nm,0.5s							
KK31	**Karatay Array**	**6.28**	**355**	Pn		**Pn**	**12 16 27.4**	**-0.8**
KKAR	**Karatay Array**	**6.28**	**355**	Pn		**Pn**	**12 16 27.4**	**-0.7**
AAK	**Ala-Archa**	**6.32**	**22**	Pn		**Pn**	**12 16 30.1**	**+1.4**
	comp=N,8.2nm,0.3s,baz=159,slow=5.4,SNR=15							
AAK				Sn		**Sn**	**12 17 41.1**	**+1.6**
	comp=N,5.7nm,0.3s,baz=339,slow=21,SNR=6.2							
AAK				Lg		Lg	12 18 15.1	
	comp=N,2.3nm,0.3s,baz=186,slow=21,SNR=1.7							
AAK	**Ala-Archa**	**6.32**	**22**	P		**Pn**	**12 16 30.2**	**+1.4**
	SNR=12							
AAK	**Ala-Archa**	**6.32**	**22**	Pn		**Pn**	**12 16 30.1**	**+1.4**
AAK				Sn		**Sn**	**12 17 39.1**	**-0.4**
FRU1	**Bishkek**	**6.51**	**23**	Pn		**Pn**	**12 16 32.5**	**+1.1**
CHMS	**Chumysh**	**6.72**	**23**	P		**Pn**	**12 16 35.1**	**+1.0**
	SNR=13							
USP	**Ospenovka**	**6.89**	**20**	P		**Pn**	**12 16 37.3**	**+0.8**
	SNR=7.0							
TKM2	**Tokmak 2**	**6.94**	**28**	P		**Pn**	**12 16 38.5**	**+1.2**
	SNR=14							
KDJ	**Kajisay**	**7.01**	**39**	Pn		**Pn**	**12 16 38.9**	**+0.7**
TARG	**Taragay, Kyrgy**	**7.06**	**44**	Pn		**Pn**	**12 16 38.9**	**-0.2**
SMLA	**Simla**	**7.53**	**137**	*e*P		**Pn**	**12 16 45.4**	**+0.3**
HRA	**Herat**	**7.71**	**254**	Pn		Pn	12 16 41.3	-6.6
PRZ	**Przheval'sk**	**7.90**	**42**	Pn		**Pn**	**12 16 52.9**	**+2.6**
NDI	**New Delhi**	**9.56**	**147**	*e*P		**Pn**	**12 17 13.0**	**+0.1**
NDI				*e*S		Sn	12 18 40.6	-18
SONA	**Sohna**	**9.88**	**148**	*e*P		**Pn**	**12 17 16.1**	**-1.1**
SONA				*e*S		**Sn**	**12 18 59.3**	**-6.9**
SONA				IAML			12 19 02.5	
	comp=E,40nm,0.3s							
SONA				IAML			12 19 02.7	
	comp=N,18nm,0.3s							
GEYT	**Alibeck**	**10.49**	**280**	Pn		Pn	12 17 19.3	-6.1
	comp=N,3.6nm,0.3s,baz=103,slow=9.0,SNR=17							
GEYT				Sn		Sn	12 19 09.9	-11
	comp=N,8.4nm,0.3s,baz=243,slow=26,SNR=13							
GYA0B	**ALIBECK ARRAY**	**10.49**	**280**	Pn		Pn	12 17 20.2	-5.2
MAKZ	**Makanchi**	**12.77**	**35**	Pn		**Pn**	**12 17 55.8**	**-0.1**
MK31	**Makanchi Array**	**12.91**	**36**	Pn		**Pn**	**12 17 58.4**	**+0.7**
MKAR	**Makanchi Array**	**12.91**	**36**	Pn		**Pn**	**12 17 58.4**	**+0.7**
	comp=N,0.6nm,0.3s,baz=226,slow=14,SNR=42							
PYUN	**Piuthan**	**13.20**	**128**	*e*P		**Pn**	**12 17 59.8**	**-2.0**
	comp=N,52nm,0.3s							
KOLN	**Koldanda**	**13.82**	**127**	*e*P		**Pn**	**12 18 07.6**	**-2.2**
	comp=N,19nm,0.3s							
GKN	**Gorkha**	**14.34**	**124**	*e*P		**Pn**	**12 18 14.7**	**-1.8**
	comp=N,21nm,0.2s							
KURBB	**Kurchatov Arra**	**14.74**	**19**	Pn		**Pn**	**12 18 19.4**	**-1.9**
	comp=N,0.1nm,0.3s,baz=215,slow=12,SNR=2.3							
KURBB				Lg		Lg	12 22 42.2	
	comp=N,0.0nm,0.3s,baz=207,slow=31,SNR=4.3							
KKN	**Kakani**	**14.90**	**123**	*e*P		**Pn**	**12 18 22.3**	**-1.5**
DMN	**Daman**	**14.91**	**124**	*e*P		**Pn**	**12 18 21.9**	**-2.0**
	comp=N,17nm,0.4s							
PKI	**Pulchoki**	**15.13**	**124**	*e*P		**Pn**	**12 18 25.1**	**-1.7**
	comp=N,7.1nm,0.2s							
GUN	**Gumba**	**15.23**	**122**	*e*P		**Pn**	**12 18 25.9**	**-2.2**
	comp=N,13nm,0.3s							
JIRN	**Jiri**	**15.60**	**122**	*e*P		**Pn**	**12 18 31.5**	**-1.3**
	comp=N,42nm,0.3s							
BVAR	**Borovoye Array**	**16.20**	**358**	Pn		Pn	**12 18 37.9**	**-1.6**
	comp=N,0.8nm,0.3s,baz=170,slow=13,SNR=11							
BRVK	**Borovoye**	**16.23**	**358**			**Pn**	**12 18 37.9**	**-2.1**
RAMN	**Ramite**	**16.34**	**123**	*e*P		**Pn**	**12 18 40.3**	**-1.5**
	comp=N,11nm,0.3s							
AKTO	**Aktyubinsk**	**16.58**	**329**	Pn		**Pn**	**12 18 41.0**	**-3.3**
	comp=N,0.3nm,0.3s,baz=142,slow=14,SNR=4.0							
TAPN	**Taplejung**	**16.85**	**119**	*e*P		**Pn**	**12 18 47.0**	**-1.1**
	comp=N,9.7nm,0.3s							
ODAN	**Odare**	**16.93**	**121**	*e*P		**Pn**	**12 18 48.7**	**-0.4**
	comp=N,12nm,0.5s							
ZAA0	**Zalesovo Array**	**19.53**	**25**	P		Pn	**12 19 18.9**	**-0.7**
ZALV	**Zalesovo Beam**	**19.53**	**25**	P		**P**	**12 19 17.3**	**-0.1**
	comp=N,1.9nm,0.3s,baz=217,slow=11,SNR=18							
SHL	**Shillong**	**20.89**	**117**	P		**P**	**12 19 32.0**	**-0.6**
SHL				IAmb		IAmb	12 19 36.1	
	comp=Z,9.1nm,1.0s							
ARU	**Arti**	**21.37**	**340**	P		**P**	**12 19 35.8**	**-1.4**
	comp=Z,1.7nm,0.3s,baz=136,slow=11,SNR=4.9							
ARU	**Arti**	**21.37**	**340**	P		**P**	**12 19 36.0**	**-1.2**
ARU				IAmb		IAmb	12 19 42.3	
	comp=Z,12nm,1.2s							
KBZ	**Khabaz**	**22.61**	**297**	P		**P**	**12 19 51.0**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=152,slow=6.9,SNR=4.4							
SONM	**Songino Array**	**27.99**	**56**	P		**P**	**12 20 41.6**	**+2.2**
	comp=Z,1.0nm,0.5s,baz=260,slow=9.6,SNR=6.1							
BRTR	**Keskin Array B**	**29.51**	**287**	P		**P**	**12 20 54.0**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=81,slow=8.9,SNR=1.8							
AKASG	**Malin Array Be**	**32.88**	**308**	P		**P**	**12 21 20.9**	**-1.4**
	comp=Z,1.6nm,0.5s,baz=83,slow=6.5,SNR=3.4							
FINES	**FINESS Array B**	**37.31**	**326**	P		**P**	**12 22 00.8**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=134,slow=11,SNR=5.2							
ARCES	**ARCESS Array B**	**40.90**	**337**	P		**P**	**12 22 31.2**	**+1.

ZKR					AML	AML	12 18 24.1	
	comp=N,493μm,0.5s							
ZKR	**Zakros**	**1.30**	**251**		PN	**Pg**	**12 17 51.6**	**-0.2**
DALY	**Dalyan (Mula)**	**1.48**	**31**		PN	**Pg**	**12 17 55.0**	**-0.2**
DALY	**Dalyan (Mula)**	**1.48**	**31**	*i*	P	**Pb**	**12 17 54.3**	**+0.3**
DALY					*i* S	**Sg**	**12 18 18.3**	**+3.9**
DALY					IAML		12 18 24.0	
	comp=N,145nm,0.4s							
BODT	**Bodrum**	**1.54**	**348**		PN	**Pb**	**12 17 55.2**	**0.0**
FETY	**Fethiye**	**1.55**	**45**		PN	**Pg**	**12 17 56.1**	**-0.6**
FETY	**Fethiye**	**1.55**	**45**	*i*	P	**Pb**	**12 17 55.6**	**+0.2**
FETY					*i* S	**Sg**	**12 18 19.5**	**+2.7**
FETY					IAML		12 18 29.0	
	comp=E,65nm,0.5s							
FETY					IAML		12 18 30.0	
	comp=N,73nm,0.6s							
KSL	**Kastellorizon**	**1.64**	**68**		P	**Pb**	**12 17 56.0**	**-0.8**
KSL	**Kastellorizon**	**1.64**	**68**		P	**Pb**	**12 17 56.2**	**-0.6**
KSL					S	**Sb**	**12 18 18.1**	**+0.8**
KSL					AML	AML	12 18 36.6	
	comp=E,179μm,1.0s							
KSL					AML	AML	12 18 41.1	
	comp=N,149μm,1.2s							
YER	**Yerkesik**	**1.65**	**16**		PN	**Pg**	**12 17 57.6**	**-0.9**
AKAS	**Kas**	**1.68**	**66**		PN	**Pb**	**12 17 57.2**	**-0.5**
AKAS	**Kas**	**1.68**	**66**	*i*	P	**Pb**	**12 17 56.9**	**-0.7**
AKAS					*i* S	**Sg**	**12 18 21.0**	**0.0**
AKAS					IAML		12 18 40.0	
	comp=N,64nm,0.9s							
ANAF	**Anafi Island**	**1.77**	**298**		P	**Pn**	**12 17 57.4**	**+0.4**
ANAF					S	**Sn**	**12 18 19.3**	**0.0**
	comp=N,715nm,0.4s							
ANAF	**Anafi Island**	**1.77**	**298**		P	**Pb**	**12 17 58.1**	**-0.9**
ANAF					S	**Sb**	**12 18 21.0**	**0.0**
ANAF					AML	AML	12 18 27.5	
	comp=N,1305μm,0.4s							
ANAF					AML	AML	12 18 33.2	
	comp=E,1442μm,0.5s							
LAST	**Lasithi**	**1.86**	**259**		P	**Pn**	**12 17 59.2**	**+0.8**
LAST					S	**Sb**	**12 18 23.1**	**-0.9**
	comp=E,165nm,0.6s							
LAST	**Lasithi**	**1.86**	**259**		P	**Pb**	**12 18 00.2**	**-0.6**
LAST					S	**Sb**	**12 18 23.1**	**-0.9**
LAST					AML	AML	12 18 41.1	
	comp=N,302μm,0.7s							
LAST					AML	AML	12 18 41.6	
	comp=E,354μm,0.6s							
AMGA	**Amorgos Island**	**1.95**	**312**		P	**Pn**	**12 17 59.7**	**+0.2**
AMGA	**Amorgos Island**	**1.95**	**312**		P	**Pn**	**12 17 59.8**	**+0.2**
SANT	**Santorini**	**2.00**	**295**		P	**Pn**	**12 18 00.3**	**0.0**
SANT					S	**Sn**	**12 18 24.6**	**-0.5**
	comp=E,182nm,0.7s							
SANT	**Santorini**	**2.00**	**295**		P	**Pn**	**12 18 01.2**	**+0.9**
SANT					S	**Sb**	**12 18 26.7**	**-1.1**
SANT					AML	AML	12 18 36.2	
	comp=E,480μm,0.4s							
SANT					AML	AML	12 18 37.3	
	comp=N,158μm,0.4s							
SANT	**Santorini**	**2.00**	**295**		PN	**Pb**	**12 18 01.7**	**-1.3**
THR6	**Thira Island,**	**2.04**	**294**		P	**Pn**	**12 18 01.0**	**+0.2**
THT2	**Imerovigli**	**2.06**	**296**		PN	**Pb**	**12 18 02.8**	**-1.1**
THR3	**Thira Island,**	**2.06**	**295**		P	**Pn**	**12 18 01.4**	**+0.3**
CMBO	**Columbo, Santo**	**2.08**	**297**		P	**Pb**	**12 18 03.7**	**-0.7**
AYDN	**Tasoluk**	**2.11**	**4**	*i*	P	**Pb**	**12 18 03.3**	**-1.7**
AYDN					*i* S	**Sg**	**12 18 33.4**	**-1.3**
AYDN					IAML		12 18 35.0	
	comp=N,64nm,0.5s							
ELL	**Elmali**	**2.14**	**55**		PN	**Pb**	**12 18 04.4**	**-1.1**
TAVA	**DENIZLI_Tavas**	**2.14**	**27**	*i*	P	**Pb**	**12 18 04.9**	**-0.6**
TAVA					*i* S	**Sg**	**12 18 36.0**	**+0.2**
TAVA					IAML		12 18 41.0	
	comp=N,81nm,0.6s							
TAVA					IAML		12 18 44.0	
	comp=E,84nm,0.5s							
GOLH	**Golhisar**	**2.25**	**41**	*i*	P	**Pb**	**12 18 06.8**	**-0.6**
GOLH					*i* S	**Sb**	**12 18 35.5**	**+0.4**
GOLH					IAML		12 18 54.0	
	comp=N,61nm,0.8s							
SMG	**Samos**	**2.27**	**342**		P	**Pn**	**12 18 05.3**	**+1.4**
IOSP	**Ios island**	**2.28**	**302**		P	**Pn**	**12 18 03.5**	**-0.6**
IOSP					S	**Sn**	**12 18 30.9**	**-1.1**
	comp=N,138nm,0.4s							
IOSP	**Ios island**	**2.28**	**302**		P	**Pn**	**12 18 05.4**	**+1.3**
IDI	**Anoyia**	**2.32**	**264**		P	**Pb**	**12 18 06.6**	**-1.9**
IDI	**Anoyia**	**2.32**	**264**		PN	**Pb**	**12 18 06.9**	**-1.6**
APE	**Apeiranthos**	**2.32**	**311**		P	**Pn**	**12 18 04.6**	**-0.1**
APE					S	**Sn**	**12 18 32.9**	**-0.2**
	comp=N,68nm,0.5s							
APE	**Apeiranthos**	**2.32**	**311**		P	**Pn**	**12 18 05.6**	**+0.9**
APE					S	**Sn**	**12 18 34.4**	**+1.3**
APE					AML	AML	12 18 40.5	
	comp=E,85μm,0.5s							
APE					AML	AML	12 18 41.6	
	comp=N,91μm,0.3s							
APE	**Apeiranthos**	**2.32**	**311**		PN	**Pb**	**12 18 06.5**	**-2.0**
APE	**Apeiranthos**	**2.32**	**311**		P	**Pn**	**12 18 04.2**	**-0.5**
IMMV	**Iera Moni Meta**	**3.04**	**269**		PN	**Pn**	**12 18 16.8**	**+2.2**
GVDS	**Gavdos**	**3.05**	**258**		PN	**Pb**	**12 18 17.6**	**-3.2**
GVD	**Gavdhos**	**3.05**	**258**		PN	**Pn**	**12 18 17.3**	**+2.6**
OSC1	**CSNet OBS 1**	**3.59**	**124**		P	**Pn**	**12 18 21.9**	**-0.1**
AKMS	**Akamas**	**3.82**	**97**		P	**Pn**	**12 18 25.2**	**-0.1**
AKMS					S	**Sn**	**12 19 10.2**	**+0.2**
AKMS					AML	AML	12 19 13.7	
	comp=N,0.3nm,0.3s							
AKMS					AML	AML	12 19 13.7	
	comp=N,0.3nm,0.3s							
AKMS					AML	AML	12 19 21.8	
	comp=N,0.2nm,0.7s							
AKMS					AML	AML	12 19 21.8	
	comp=N,0.2nm,0.7s							
KTHA	**Kythira Island**	**3.84**	**282**		P	**Pn**	**12 18 27.8**	**+2.3**
ALFC	**Alefka**	**4.01**	**94**		P	**Pn**	**12 18 27.4**	**-0.6**
ALFC					S	**Sn**	**12 19 15.1**	**+0.3**
ALFC					AML	AML	12 19 21.2	
	comp=N,0.2nm,0.5s							
ALFC					AML	AML	12 19 21.2	
	comp=N,0.2nm,0.5s							
ALFC					AML	AML	12 19 21.5	
	comp=N,0.2nm,0.3s							
ALFC					AML	AML	12 19 21.5	
	comp=N,0.2nm,0.3s							
NATA	**Nata**	**4.05**	**100**		P	**Pn**	**12 18 28.2**	**-0.3**
OSC2	**CSNet OBS 4**	**4.51**	**122**		P	**Pn**	**12 18 35.4**	**+0.7**
CSS	**Mathiatis**	**4.64**	**96**		P	**Pn**	**12 18 36.1**	**-0.4**
CSS	**Mathiatis**	**4.64**	**96**		P	**Pn**	**12 18 36.3**	**-0.2**
MVOU	**Mavrovouni**	**4.87**	**95**		P	**Pn**	**12 18 39.5**	**-0.2**

*IDC **22** 12:21:31.1±0.7, 49.°38S×164.°08E, h0km, mb4.2/9, mb1 4.4/11, mb1mx4.3/31, mbtmp4.3/11, ML4.1/2, MS3.6/11, Ms1 3.6/11, ms1mx3.5/18, Error ellipse: s-maj=25.5km s-min=18.7km az=72.0*

*NEIC **22** 12:21:35.8±2.4, 49.°4S±0.°1×163.°9E±0.°2, h27km±4km, mb4.3/7, Error ellipse: s-maj=16.2km s-min=13.4km az=142.0*

ISC 22 12:21:34.0±0.6, **49.°40S**±0.°08×**163.°92E**±0.°07, **h15**km, **n98,** σ1§**39**/104, **mb4.3**/11, **MS3.5**/12, **Auckland Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**3.73**	**31**	P	**Pn**	**12 22 31.3**	**+0.3**
PYZ				S	**Sn**	**12 23 14.1**	**-0.6**
PYZ	**Puysegur Point**	**3.73**	**31**	Pn	**Pn**	**12 22 31.0**	**0.0**
APZ	**The Paps**	**3.74**	**48**	P	**Pn**	**12 22 31.4**	**+0.2**
APZ				S	**Sn**	**12 23 15.9**	**+0.9**
WHZ	**Wether Hill Ro**	**4.44**	**39**	P	**Pn**	**12 22 41.2**	**+0.4**
WHZ				S	**Sn**	**12 23 33.2**	**+1.0**
WHZ	**Wether Hill Ro**	**4.44**	**39**	Pn	**Pn**	**12 22 41.1**	**+0.4**
WHZ				Sn	**Sn**	**12 23 32.8**	**+0.7**
DCZ	**Deep Cove**	**4.50**	**30**	P	**Pn**	**12 22 41.8**	**+0.2**
DCZ	**Deep Cove**	**4.50**	**30**	Pn	**Pn**	**12 22 41.9**	**+0.2**
DCZ				Sn	**Sn**	**12 23 33.1**	**-0.6**
SYZ	**Scrubby Hill**	**4.52**	**53**	P	**Pn**	**12 22 42.1**	**+0.2**
SYZ				S	**Sn**	**12 23 31.7**	**-2.5**
MLZ	**Mavora Lakes**	**4.94**	**37**	P	**Pn**	**12 22 49.7**	**+2.0**
MLZ				S	**Sn**	**12 23 46.7**	**+2.2**
MLZ	**Mavora Lakes**	**4.94**	**37**	Pn	**Pn**	**12 22 49.5**	**+1.9**
MLZ				Sn	**Sn**	**12 23 46.8**	**+2.3**
TUZ	**Tuapeka**	**5.17**	**50**	P	**Pn**	**12 22 51.4**	**+0.6**
TUZ				S	**Sn**	**12 23 50.8**	**+0.7**
MSZ	**Milford Sound**	**5.46**	**32**	P	**Pn**	**12 22 55.7**	**+0.9**
HHSZ	**Highcliff Hill**	**5.72**	**55**	P	**Pn**	**12 22 58.5**	**+0.2**

WKZ	**Wanaka**	**5.74**	**39**		P	**Pn**	**12 23 00.5**	**+1.7**
WKZ	**Wanaka**	**5.74**	**39**		Pn	**Pn**	**12 23 00.2**	**+1.4**
WKZ					Sn	**Sn**	**12 24 06.0**	**+1.7**
JCZ	**Jackson Bay**	**6.29**	**34**		P	**Pn**	**12 23 07.6**	**+1.4**
ODZ	**Otahua Downs**	**6.32**	**49**		P	**Pn**	**12 23 05.9**	**-0.7**
ODZ	**Otahua Downs**	**6.32**	**49**		Pn	**Pn**	**12 23 06.1**	**-0.5**
ODZ					Sn	**Sn**	**12 24 19.0**	**+0.6**
LBZ	**Lake Benmore**	**6.60**	**43**		P	**Pn**	**12 23 08.8**	**-1.6**
LBZ					S	**Sn**	**12 24 25.0**	**-0.4**
LBZ	**Lake Benmore**	**6.60**	**43**			**Pn**	**12 23 09.3**	**-1.2**
FOZ	**Fox Glacier**	**7.14**	**37**		P	**Pn**	**12 23 17.7**	**-0.1**
FOZ					S	**Sn**	**12 24 38.1**	**-0.5**
FOZ	**Fox Glacier**	**7.14**	**37**		Pn	**Pn**	**12 23 19.6**	**+1.8**
RPZ	**Rata Peaks**	**7.51**	**44**		Pn	**Pn**	**12 23 20.6**	**-2.3**
	5.9nm,0.3s,baz=220,slow=6.6,SNR=34							
RPZ					Sn	**Sn**	**12 24 48.0**	**+0.2**
	3.4nm,0.3s,baz=307,slow=20,SNR=2.7							
RPZ					LR	LR	12 26 04.1	
	comp=Z,516nm,19.1s,baz=214,slow=37							
RPZ	**Rata Peaks**	**7.51**	**44**		P	**Pn**	**12 23 20.5**	**-2.5**
RPZ					S	**Sn**	**12 24 47.3**	**-0.5**
RPZ	**Rata Peaks**	**7.51**	**44**		Pn	**Pn**	**12 23 20.8**	**-2.2**
WVZ	**Waitaha Valley**	**7.89**	**39**		P	**Pn**	**12 23 27.1**	**-1.1**
OXZ	**Oxford**	**8.27**	**46**		P	**Pn**	**12 23 31.5**	**-1.8**
OXZ	**Oxford**	**8.27**	**46**			**Pn**	**12 23 32.1**	**-1.2**
MQZ	**McQueen's Vall**	**8.28**	**50**		P	**Pn**	**12 23 33.4**	**-0.1**
MQZ	**McQueen's Vall**	**8.28**	**50**		Pn	**Pn**	**12 23 35.0**	**+1.5**
OKCZ	**Okains Bay**	**8.47**	**51**		P	**Pn**	**12 23 37.6**	**+1.4**
INZ	**Inchbonnie**	**8.48**	**41**		P	**Pn**	**12 23 35.5**	**-0.7**
LTZ	**Lake Taylor**	**8.80**	**44**		P	**Pn**	**12 23 38.3**	**-2.3**
LTZ	**Lake Taylor**	**8.80**	**44**		Pn	**Pn**	**12 23 42.5**	**+1.9**
DSZ	**Dennistoun Nort**	**9.44**	**39**		P	**Pn**	**12 23 47.4**	**-2.0**
KHZ	**Kahutara**	**9.67**	**47**		P	**Pn**	**12 23 52.1**	**-0.4**
KHZ					S	**Sn**	**12 25 40.7**	**-0.2**
THZ	**Tophouse**	**9.89**	**43**		P	**Pn**	**12 23 55.0**	**-0.7**
THZ					S	**Sn**	**12 25 45.8**	**-0.6**
THZ	**Tophouse**	**9.89**	**43**		Pn	**Pn**	**12 23 56.9**	**+1.3**
BSWZ	**Blackbirch Sta**	**10.37**	**46**		P	**Pn**	**12 24 04.6**	**+2.5**
QRZ	**Quartz Range**	**10.50**	**39**		P	**Pn**	**12 24 03.0**	**-1.0**
QRZ	**Quartz Range**	**10.50**	**39**			**Pn**	**12 24 04.1**	**+0.2**
NNZ	**Nelson**	**10.54**	**43**		P	**Pn**	**12 24 05.3**	**+0.8**
DUWZ	**D'Urville Isla**	**11.12**	**43**		P	**Pn**	**12 24 13.4**	**+1.0**
CAW	**Cannon Point**	**11.41**	**48**		P	**Pn**	**12 24 18.8**	**+2.4**
BFZ	**Birch Farm**	**12.31**	**50**		P	**Pn**	**12 24 29.1**	**+0.4**
NBEZ	**Newall Road No**	**12.37**	**39**		P	**Pn**	**12 24 29.4**	**0.0**
KHEZ	**Kahui Hut**	**12.40**	**39**		P	**Pn**	**12 24 30.2**	**+0.2**
NEZ	**North Egmont**	**12.46**	**39**		P	**Pn**	**12 24 31.8**	**+1.0**
PKE	**Pukeiti**	**12.48**	**39**		P	**Pn**	**12 24 30.7**	**-0.3**
DVHZ	**Dannevirke**	**12.56**	**48**		P	**Pn**	**12 24 35.1**	**+3.0**
VRZ	**Vera Road**	**12.86**	**41**		P	**Pn**	**12 24 37.2**	**+1.0**
WNVZ	**Wahianoa**	**13.06**	**44**		P	**Pn**	**12 24 43.1**	**+4.0**
BHHZ	**Black Hill Sta**	**13.15**	**46**		P	**Pn**	**12 24 42.9**	**+2.7**
TAU	**Tasmania Unive**	**13.20**	**293**		Pn	**Pn**	**12 24 40.1**	**-0.7**
HIZ	**Hauiti**	**13.41**	**40**		P	**Pn**	**12 24 42.8**	**-0.9**
URZ	**Urewera**	**14.62**	**45**		Pn	**Pn**	**12 24 57.9**	**-2.3**
	0.5nm,0.3s,baz=257,slow=2.9,SNR=2.3							
URZ					LR	LR	12 31 16.2	
	comp=Z,749nm,18.0s,baz=233,slow=40							
URZ	**Urewera**	**14.62**	**45**		P	**Pn**	**12 24 59.3**	**-0.9**
URZ	**Urewera**	**14.62**	**45**			**Pn**	**12 25 01.0**	**+0.7**
MWZ	**Matawai**	**14.76**	**47**		P	**Pn**	**12 25 02.2**	**0.0**
MBAZ	**Motutapu North**	**14.93**	**36**		P	**P**	**12 25 08.1**	**-1.9**
OUZ	**Omahuta**	**15.85**	**30**		P	**Pn**	**12 25 17.9**	**+1.4**
TOO	**Toolangi**	**17.80**	**305**		P	**P**	**12 25 43.1**	**+1.3**
TOO					IAmb	IAmb	12 25 55.7	
	comp=Z,16nm,1.1s							
STKA	**Stephens Creek**	**24.21**	**308**		P	**P**	**12 26 51.5**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=137,slow=13,SNR=3.4							
STKA					LR	LR	12 34 21.6	
	comp=Z,132nm,20.6s,baz=194,slow=32							
STKA	**Stephens Creek**	**24.21**	**308**		P	**P**	**12 26 48.9**	**-1.1**
DZM	**Mont Dzumac**	**27.34**	**5**		LR	LR	12 36 22.7	
	comp=Z,105nm,19.0s,baz=206,slow=33							
VNDA	**Vanda**	**28.24**	**181**		P	**P**	**12 27 26.9**	**+1.0**
	comp=Z,3.1nm,1.2s,baz=342,slow=8.5,SNR=6.9							
VNDA					LR	LR	12 35 59.9	
	comp=Z,94nm,21.8s,baz=5.5,slow=31							
VNDA	**Vanda**	**28.24**	**181**		P	**P**	**12 27 27.3**	**+1.4**
VNDA					IAmb	IAmb	12 27 30.4	
	comp=Z,6.6nm,1.3s							
CTA	**Charters Tower**	**32.48**	**328**		P	**P**	**12 28 02.1**	**-1.8**
	comp=Z,4.8nm,0.9s,baz=216,slow=8.7,SNR=3.1							
CTA					LR	LR	12 37 44.7	
	comp=Z,146nm,21.4s,baz=183,slow=30							
AS31	**Alice Springs**	**34.83**	**307**		P	**P**	**12 28 24.7**	**+0.4**
AS31					IAmb	IAmb	12 28 25.3	
	comp=Z,1.9nm,0.7s							
ASAR	**Alice Springs**	**34.83**	**307**		P	**P**	**12 28 24.4**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=137,slow=7.8,SNR=53							
ASAR					PcP	**PcP**	**12 30 56.4**	**-1.0**
	comp=Z,1.7nm,0.9s,baz=158,slow=3.9,SNR=5.8							
ASAR					LR	LR	12 41 56.9	
	comp=Z,114nm,18.5s,baz=174,slow=35							
WRA	**Warramunga Arr**	**37.70**	**311**		P	**P**	**12 28 48.4**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=144,slow=8.1,SNR=13							
WRA					PcP	**PcP**	**12 31 05.4**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=152,slow=2.8,SNR=8.9							
H01W1	**Cape Leeuwin H**	**38.92**	**273**		T	T	13 10 12.1	
	baz=129,slow=75,SNR=878							
H01W2	**Cape Leeuwin H**	**38.93**	**273**		T	T	13 10 12.9	
	baz=129,slow=75,SNR=663							
H01W3	**Cape Leeuwin H**	**38.94**	**273**		T	T	13 10 13.4	
	baz=129,slow=75,SNR=784							
QSPA	**South Pole Qui**	**40.72**	**180**		P	**P**	**12 29 12.2**	**-1.6**
	comp=Z,3.5nm,1.0s,baz=17,slow=4.6,SNR=6.7							
QSPA	**South Pole Qui**	**40.72**	**180**		P	**P**	**12 29 14.5**	**+0.6**
QSPA					IAmb	IAmb	12 29 24.8	
	comp=Z,13nm,1.3s							
PMG	**Port Moresby**	**42.25**	**335**		P	**P**	**12 29 29.5**	**+2.8**
	comp=Z,19nm,0.8s,baz=142,slow=10.0,SNR=3.6							
PMG	**Port Moresby**	**42.25**	**335**		P	**P**	**12 29 28.2**	**+1.5**
FITZ	**Fitzroy Crossi**	**43.82**	**302**		P	**P**	**12 29 38.8**	**-0.6**
	comp=Z,4.7nm,0.8s,baz=177,slow=10,SNR=5.8							
FITZ	**Fitzroy Crossi**	**43.82**	**302**		P	**P**	**12 29 38.6**	**-0.7**
FITZ					IAmb	IAmb	12 29 50.1	
	comp=Z,7.9nm,1.1s							
TBI	**Tubuai**	**44.70**	**72**	*e*	LR	LR	12 42 10.0	
	comp=Z,79nm,28.5s							
PPT2	**Papeete2**	**48.98**	**66**	*e*	LR	LR	12 44 13.2	
	comp=Z,106nm,22.5s							
PPT	**Papeete**	**48.99**	**66**		LR	LR	12 46 39.2	
	comp=Z,62nm,21.6s,baz=16,slow=31							
MAW	**Mawson**	**49.36**	**210**		LR	LR	12 49 33.7	
	comp=Z,82nm,18.1s,baz=77,slow=34							
TAOE	**Nuku Hiva Isla**	**61.48**	**69**	*e*	LR	LR	12 49 53.2	
	comp=Z,90nm,22.6s							
H08S2	**Diego Garcia H**	**85.19**	**264**		T	T	14 07 46.7	
	baz=139,slow=76,SNR=1132							
H08S1	**Diego Garcia H**	**85.20**	**264**		T	T	14 07 48.7	
	baz=139,slow=76,SNR=853							
H08S3	**Diego Garcia H**	**85.21**	**264**		T	T	14 07 48.7	
	baz=139,slow=76,SNR=1321							
CMAR	**Chiang Mai Arr**	**88.62**	**301**		P	**P**	**12 34 27.3**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=163,slow=4.3,SNR=5.6							
CMAR					LR	LR	13 14 10.2	
	comp=Z,15nm,21.2s,baz=160,slow=36							
KSRS	**Korea Array**	**92.17**	**332**		P	**P**	**12 34 43.7**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=138,slow=6.4,SNR=5.9							
KSRS					LR	LR	13 10 07.0	
	comp=Z,16nm,21.6s,baz=167,slow=32							
MKAR	**Makanchi Array**	**119.00**	**309**		PKP	**PKPdf**	**12 40 19.6**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=101,slow=3.8,SNR=5.5							
ILAR	**Eielson Array**	**120.07**	**22**		PKP	**PKPdf**	**12 40 21.6**	**-1.0**
	comp=Z,0.7nm,1.0s,baz=264,slow=4.1,SNR=6.0							
TORD	**Torodi Ar. Bea**	**141.00**	**208**		PKhKP	PKPpre	12 40 59.0	
	comp=Z,0.8nm,0.8s,baz=196,slow=2.1,SNR=4.3							
BRTR	**Keskin Array B**	**143.87**	**274**		PKP	PKPab	12 41 06.0	+0.5
	comp=Z,0.5nm,0.3s,baz=146,slow=2.4,SNR=4.3							
SPITS	**Spitsbergen Ar**	**148.71**	**348**		PKPbc	**PKPbc**	**12 41 19.1**	**+0.1**
	comp=Z,17nm,0.8s,baz=139,slow=18,SNR=8.3							
AKASG	**Malin Array Be**	**151.22**	**290**		PKPbc	**PKPbc**	**12 41 24.6**	**-1.2**
	comp=Z,4.2nm,0.6s,baz=87,slow=2.0,SNR=9.1							
ARCES	**ARCESS Array B**	**151.71**	**330**		PKPbc	**PKPbc**	**12 41 26.5**	**+0.1**
	comp=Z,9.3nm,0.8s,baz=64,slow=2.8,SNR=29							
ARCES					PKPab	**sPKPbc**	**12 41 33.4**	**+2.4**
	comp=Z,4.5nm,0.7s,baz=83,slow=3.8,SNR=7.4							
FINES	**FINESS Array B**	**153.73**	**313**		PKPbc	**PKPbc**	**12 41 30.6**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=116,slow=4.4,SNR=6.4							

*TEH **22** 12:27:32.7, 32.°75N×47.°52E, h10km, ML3.4*
*ISN **22** 12:27:32.6±1.3, 32.°75N×47.°54E, h15km±7km, ML3.0*
ISC 22 12:27:33.9±1.1, **32.°73N**±0.°04×**47.°48E**±0.°03, **h9**km±9km, **n33,** σ1§**18**/37, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.17**	**255**	*e*Pg	**Pg**	**12 27 37.1**	**-0.5**
DHL1				*e*Sg	**Sg**	**12 27 41.0**	**+0.9**
IKFM	**Kafar-mosalman**	**0.85**	**21**	*e*Pg	**Pb**	**12 27 48.3**	**-2.6**
IKFM				*e*		12 28 14.7	
IKMR	**Kamar-syah**	**1.09**	**44**	*e*Pg	**Pb**	**12 27 52.8**	**-2.2**
IKMR				*e*		12 28 13.4	
IDOB	**Doab**	**1.21**	**29**	*e*Pg	**Pn**	**12 27 55.4**	**-1.8**
IBDR	**Badra**	**1.36**	**287**	*e*Pg	**Pn**	**12 27 58.0**	**-1.0**
IBDR				*e*Sg	**Sb**	**12 28 17.0**	**0.0**
IBDR				AML	AML	12 28 22.5	
	comp=N,247nm,0.7s						
IBDR				AML	AML	12 28 30.5	
	comp=E,178nm,0.7s						
IKOM	**Komasi**	**1.44**	**1**	*e*Pg	**Pb**	**12 28 00.0**	**-1.1**
IKOM				*e*		12 28 01.8	
BMDN	**Meydan**	**1.47**	**50**	*e*Pg	**Pn**	**12 28 00.0**	**-0.7**
BMDN				*e*		12 28 25.7	
KCHF	**Cheshme Sefid,**	**1.59**	**347**	*e*Pg	**Pb**	**12 28 02.7**	**-0.8**
KCHF				*e*		12 28 29.0	
KER	**Kermanshah**	**1.68**	**350**	*e*Pg	**Pb**	**12 28 04.5**	**-0.6**
AHWZ	**Ahwaz**	**1.71**	**144**	*e*Pg	**Pb**	**12 28 05.3**	**-0.2**
HSAM	**Samen**	**1.75**	**32**	*e*		12 28 07.5	
HSAM				*e*Pg	**Pb**	**12 28 05.4**	**-1.0**
IBZA	**Bozab**	**1.77**	**10**	*e*		12 28 35.6	
IBZA				*e*Pg	**Pb**	**12 28 05.5**	**-1.1**
IGHG	**Ghaleghazi**	**1.77**	**335**	*e*		12 28 46.0	
IGHG				*e*Pn	**Pb**	**12 28 05.8**	**-0.9**
IVIS	**Veis**	**1.87**	**344**	*e*		12 28 11.6	
IVIS				*e*Pn	**Pb**	**12 28 07.2**	**-1.1**
NSR	**Nassriya**	**2.06**	**214**	*e*Pn	**Pn**	**12 28 09.0**	**+0.4**
NSR				*e*Sn	**Sn**	**12 28 34.0**	**-0.4**
NSR				AML	AML	12 28 36.4	
	comp=E,221nm,0.3s						
IDHR	**Dehrash**	**2.17**	**335**	*e*Pn	**Pb**	**12 28 11.9**	**-1.5**
IDHR				*e*		12 28 48.5	
ILIN	**Lien**	**2.23**	**349**	*e*Pn	**Pn**	**12 28 11.5**	**+0.3**
ILIN				*e*		12 28 52.2	
HAGD	**Aghdareh**	**2.50**	**33**	*e*	**Sg**	**12 28 57.6**	**+3.2**
HSRG	**Sareghieh**	**2.59**	**15**	*e*Pn	**Pn**	**12 28 17.6**	**+1.3**
HSRG				*e*		12 28 56.9	
BHD	**Baghdad**	**2.66**	**283**	*e*Pn	**Pn**	**12 28 17.0**	**+0.1**
BHD				*e*Sn	**Sn**	**12 28 51.0**	**+1.7**
BHD				AML	AML	12 28 52.7	
	comp=E,154nm,0.4s						
JHBN	**Jahan bin**	**2.74**	**100**	*e*Pn	**Pn**	**12 28 18.7**	**+0.4**
JHBN				*e*		12 29 10.7	
IPIR	**Pirpir**	**2.88**	**90**	*e*Pn	**Pn**	**12 28 20.9**	**+0.7**
IPIR				*e*		12 29 04.4	
ROKH	**ROKH**	**3.03**	**96**	*e*Pn	**Pn**	**12 28 21.9**	**-0.3**
ROKH				*e*		12 29 10.9	
QABG	**Abgarm-Qazvin**	**3.45**	**30**	*e*Pn	**Pn**	**12 28 28.5**	**+0.5**
IKLH	**Kolahrood**	**3.49**	**79**	*e*Pn	**Pn**	**12 28 29.5**	**+0.8**
IKLH				*e*		12 28 33.4	
**

baz=307,slow=75,SNR=139
H10N2 ASCENSION HYDR 25.04 127 T T 13 33 41.9
baz=307,slow=75,SNR=148
H10N1 ASCENSION HYDR 25.05 127 T T 13 33 45.0
baz=307,slow=75,SNR=139
H10S3 ASCENSION HYDR 25.58 129 T T 13 34 27.6
baz=307,slow=74,SNR=86
H10S2 ASCENSION HYDR 25.60 129 T T 13 34 29.0
baz=273,slow=74,SNR=28
MC01 Montes Claros 25.62 201 *eP* **P 13 08 09.8 +1.0**
BDFB Brasilia 26.43 210 P **P 13 08 11.6 -4.6**
1.9nm,0.4s,baz=82,slow=7.1,SNR=1.9
BDFB LR LR 13 17 55.3
comp=Z,1μm,19.2s,baz=13,slow=35
BDFB Brasilia 26.43 210 IAmb IAmb 13 08 22.0
comp=Z,8.8nm,1.0s
PTGA Pitinga 26.58 254 P **P 13 08 18.3 +0.8**
comp=Z,11nm,1.0s,baz=85,slow=13,SNR=9.8
PTGA LR LR 13 17 53.6
comp=Z,696nm,21.1s,baz=74,slow=34
H05S1 Guadeloupe/Mar 26.74 288 T T 13 36 15.5
SNR=4.4
RIB01 Linhares ES 27.09 192 *eP* **P 13 08 25.0 +3.0**
CLDB Colider 27.82 230 *eP* **P 13 08 31.9 +3.2**
DBIC Dimbokro 29.48 89 LR LR 13 18 01.3
comp=Z,318nm,18.8s,baz=248,slow=32
PMOZ Porto Moniz, M 30.06 30 *e*LQ LQ 13 14 53.5
PMOZ *e*LR LR 13 16 10.1
VAO Valinhos 32.50 202 *eP* **P 13 09 11.6 +1.5**
SAML Samuel 32.79 241 P **P 13 09 10.8 -1.9**
PCMB Pacaembu 33.10 209 *eP* **P 13 09 16.4 +1.2**
SIV San Ignacio 35.02 228 P **P 13 09 29.5 -2.5**
comp=Z,7.5nm,1.1s,baz=80,slow=7.5,SNR=8.0
TIJ01 Guaruva-PR 35.37 203 *eP* **P 13 09 36.5 +1.5**
SDV Santo Domingo 35.74 275 P **P 13 09 41.1 +2.6**
comp=Z,3.5nm,0.3s,baz=30,slow=8.1,SNR=3.0
SDV Santo Domingo 35.74 275 *eP* **P 13 09 41.4 +2.9**
ETMB Extrema 35.84 242 *eP* **P 13 09 39.8 +0.7**
TORD Torodi Ar. Bea 36.11 78 P P 13 09 33.3 -8.1
comp=Z,2.5nm,0.9s,baz=272,slow=8.5,SNR=7.8
TORD LR LR 13 22 09.7
comp=Z,571nm,20.9s,baz=250,slow=33
PTGB Pitanga 36.13 208 *eP* **P 13 09 43.1 +1.5**
PCVE Castro Verde 38.58 35 *eP* P 13 10 07.9 +5.8
ROSC El Rosal 39.61 269 LR LR 13 27 37.2
comp=Z,421nm,18.2s,baz=76,slow=38
CPUP Villa Florida 40.10 213 LR LR 13 26 19.2
comp=Z,642nm,19.8s,baz=49,slow=36
PMRV Marv??o 40.21 33 *eP* **P 13 10 20.3 +4.6**
comp=Z,24nm,1.6s
PMRV *e*LQ LQ 13 19 26.2
PMRV *e*LR LR 13 20 53.2
LPAZ La Paz 40.68 235 P **P 13 10 18.4 -2.2**
comp=Z,3.9nm,0.8s,baz=90,slow=4.8,SNR=13
LPAZ LR LR 13 26 41.6
comp=Z,520nm,19.3s,baz=62,slow=36
LPAZ La Paz 40.68 235 P **P 13 10 19.3 -1.3**
LPAZ IAmb IAmb 13 10 25.4
comp=Z,14nm,1.1s
LPAZ La Paz 40.68 235 *eP* **P 13 10 20.8 +0.2**
MTE Manteigas 40.83 32 *e*LQ LQ 13 19 26.7
MTE *e*LR LR 13 21 16.0
CZSB Cruzeiro do Su 40.88 249 *eP* **P 13 10 22.8 +1.3**
PGAV Gavieira, Arco 41.61 30 *e*S **S 13 16 44.5 +0.8**
PGAV *e*LQ LQ 13 20 22.4
PGAV *e*LR LR 13 21 22.1
MVO Moncorvo 41.65 32 *eP* **P 13 10 30.2 +2.6**
comp=Z,14nm,1.6s
MVO *e*LQ LQ 13 19 52.8
MVO *e*LR LR 13 21 28.6
CPSB Cacapava Do Su 41.66 205 *eP* **P 13 10 29.0 +1.3**
ESDC Sonseca Array 42.30 36 P **P 13 10 32.9 -0.1**
comp=Z,0.9nm,1.0s,baz=238,slow=9.2,SNR=5.0
ESDC LR LR 13 25 01.7
comp=Z,303nm,20.5s,baz=240,slow=32
PB16 IPOC Station P 42.89 233 P P 13 10 33.3 -5.3
PLTB Pedras Altas 42.92 204 *eP* **P 13 10 40.8 +2.8**
OTAV Otavalo 44.33 263 *eP* **P 13 10 52.4 +2.2**
LVC Limon Verde 44.91 228 P **P 13 10 50.3 -4.3**
comp=Z,1.2nm,0.4s,baz=81,slow=5.0,SNR=3.1
LVC Limon Verde 44.91 228 IAmb IAmb 13 10 60.0
comp=Z,5.7nm,1.1s
KEST Kesra 49.07 48 LR LR 13 30 48.3
comp=Z,536nm,21.4s,baz=183,slow=35
VAE Valguarnera 53.50 48 LR LR 13 35 28.4
comp=Z,246nm,20.1s,baz=273,slow=37
SCHQ Schefferville 53.95 338 P **P 13 12 04.1 +1.4**
comp=Z,5.5nm,0.9s,baz=146,slow=9.2,SNR=4.2
SCHQ LR LR 13 32 53.9
comp=Z,251nm,19.0s,baz=124,slow=33
SCHQ Schefferville 53.95 338 IAmb IAmb 13 12 09.6
comp=Z,8.1nm,1.1s
TSUM Tsumeb 57.73 118 LR LR 13 31 55.5
comp=Z,210nm,19.3s,baz=332,slow=31
GERES GERESS Array B 57.80 36 P **P 13 12 29.9 -1.4**
comp=Z,0.7nm,0.7s,baz=253,slow=5.0,SNR=3.4
GERES LR LR 13 34 11.6
comp=Z,293nm,21.5s,baz=265,slow=33
KHC Kasperske Hory 57.97 35 *e*S **S 13 20 27.5 -4.6**
KHC AMS AMS 13 32 40.0
comp=Z,200nm,18.8s
PLCA Paso Flores 58.16 212 LR LR 13 37 59.8
comp=Z,2μm,18.2s,baz=58,slow=37
CLL Collm 58.75 33 *e*S **S 13 20 42.0 0.0**
CLL *e*SS **SS 13 24 30.0 -5.2**
CLL *e*SSS SSS 13 27 08.0
CLL Lm MLR 13 34 00.0
comp=Z,200nm,19.7s
PRA Prague 58.91 35 AMS AMS 13 33 00.0
comp=Z,100nm,17.0s
PRU Pruhonice 58.93 35 *e*S **S 13 20 43.9 -0.6**
PRU AMS AMS 13 32 50.0
comp=Z,200nm,18.9s
TREC Trest 59.15 36 AMS AMS 13 34 30.0
comp=Z,300nm,24.0s
PVCC Panska Ves 59.21 34 AMS AMS 13 33 20.0
comp=Z,200nm,17.2s
VRAC Vranov 59.80 36 LR LR 13 34 59.2
comp=Z,222nm,21.7s,baz=262,slow=32
UPC Upice 60.01 35 *e*S **S 13 20 53.9 -4.6**
DPC Dobruska-Polom 60.12 35 *e*S **S 13 20 57.5 -2.4**
DPC AMS AMS 13 33 20.0
comp=Z,200nm,21.9s
OSTC Ostas 60.15 35 AMS AMS 13 33 50.0
comp=Z,200nm,23.8s
KRLC Kraliky 60.25 35 AMS AMS 13 35 00.0
comp=Z,200nm,18.8s
IDI Anoyia 60.96 54 LR LR 13 39 46.7
comp=Z,160nm,21.0s,baz=274,slow=37
NOA NORSAR Array B 63.42 23 LR LR 13 36 28.6
comp=Z,255nm,21.2s,baz=230,slow=32
HFS Hagfors 63.88 25 LR LR 13 39 32.7
comp=Z,170nm,18.8s,baz=250,slow=35
MBAR Mbarara 65.59 94 LR LR 13 39 34.6
comp=Z,81nm,20.9s,baz=283,slow=34
LSZ Lusaka 66.09 110 LR LR 13 35 39.6
comp=Z,120nm,21.2s,baz=278,slow=30
ULM Lac du Bonnet 66.25 322 LR LR 13 37 49.6
comp=Z,208nm,20.9s,baz=122,slow=32
LBTB Lobatse 66.75 121 LR LR 13 36 52.9
comp=Z,195nm,21.2s,baz=284,slow=31
BOSA Boshof 67.78 125 LR LR 13 37 12.2
comp=Z,156nm,20.4s,slow=31
MATP Matopo 67.81 115 LR LR 13 37 54.4
comp=Z,127nm,19.9s,baz=288,slow=32
AKASG Malin Array Be 67.88 38 P **P 13 13 35.4 -2.2**
comp=Z,1.9nm,0.7s,baz=256,slow=7.6,SNR=2.2
AKASG LR LR 13 42 02.3
comp=Z,54nm,20.3s,baz=245,slow=35
TXAR Lajitas Array 68.25 299 P **P 13 13 39.9 -0.6**
comp=Z,0.5nm,0.6s,baz=105,slow=8.0,SNR=7.1
TXAR LR LR 13 41 00.5
comp=Z,160nm,21.9s,baz=0.0,slow=34
BRTR Keskin Array B 68.60 50 P P 13 13 37.4 -5.2
comp=Z,0.2nm,0.4s,baz=293,slow=5.8,SNR=1.5
BRTR LR LR 13 45 21.0
comp=Z,53nm,19.8s,baz=254,slow=38
EIL Elat 68.61 61 LR LR 13 44 18.7
comp=Z,426nm,20.3s,baz=270,slow=37
FINES FINESS Array B 69.83 26 LR LR 13 40 37.2
comp=Z,223nm,21.2s,baz=247,slow=33
OBN Obninsk 73.26 35 LR LR 13 43 19.0
comp=Z,22nm,22.0s,baz=198,slow=33
PDAR Pinedale Array 74.06 312 P **P 13 14 14.4 -1.1**
comp=Z,1.1nm,1.0s,baz=102,slow=8.4,SNR=4.2
PDAR LR LR 13 42 29.6
comp=Z,185nm,21.5s,baz=124,slow=32
SPITS Spitsbergen Ar 75.35 10 LR LR 13 39 47.4
comp=Z,97nm,21.7s,baz=200,slow=30
RES Resolute Bay 75.37 346 LR LR 13 44 49.0
comp=Z,66nm,19.5s,baz=180,slow=33
KLMR Klimovskoe 75.89 29 *e* **P 13 14 29.5 +4.0**
KLMR AMP 13 14 32.9
comp=Z,10.0nm,1.1s
KBZ Khabaz 75.91 47 P **P 13 14 26.9 +1.0**
comp=Z,1.0nm,0.6s,baz=300,slow=7.0,SNR=3.8
KBZ LR LR 13 50 34.0
comp=Z,48nm,19.5s,baz=290,slow=38
YKA Yellowknife Ar 78.94 332 LR LR 13 44 48.8
comp=Z,202nm,21.2s,baz=0.0,slow=32
NVAR Mina Array Bea 80.61 308 P **P 13 14 52.5 +0.1**
comp=Z,0.5nm,0.7s,baz=101,slow=4.7,SNR=4.0
NVAR LR LR 13 47 06.7
comp=Z,83nm,22.0s,baz=108,slow=33
KIRV Kirov 80.65 32 LR LR 13 48 03.9
comp=Z,142nm,19.8s,baz=269,slow=34
ARU Arti 85.68 34 LR LR 13 52 34.7
comp=Z,138nm,19.2s,baz=294,slow=35
DLBC Dease Lake 86.68 328 P **P 13 15 23.3 +0.4**
comp=Z,2.6nm,1.0s,baz=164,slow=2.4,SNR=5.1
ILAR Eielson Array 92.70 337 P **P 13 15 51.1 +0.1**
comp=Z,0.8nm,0.9s,baz=42,slow=4.1,SNR=5.8
ILAR LR LR 13 56 14.7
comp=Z,170nm,18.4s,baz=77,slow=34
BVAR Borovoye Array 93.07 36 LR LR 13 55 48.7
comp=Z,85nm,22.0s,baz=114,slow=34
NRIK Noril'sk 93.94 18 LR LR 13 58 37.7
comp=Z,70nm,19.3s,baz=356,slow=36
KURBB Kurchatov Arra 98.63 36 P **P 13 16 16.3 -2.0**
comp=Z,0.1nm,0.5s,baz=292,slow=5.7,SNR=2.4
AAK Ala-Archa 98.82 45 LR LR 14 04 33.8
comp=Z,160nm,20.1s,baz=254,slow=38
MAW Mawson 99.56 157 LR LR 13 56 08.0
comp=Z,58nm,18.0s,baz=240,slow=32

*IDC **22** 13:24:45.8±1.3,55.4°S×27.9°W,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.7/26,mbtmp3.7/3,Error ellipse: s-maj=56.9km s-min=36.5km az=84.0*
*NEIC **22** 13:24:51.9±1.0,55.4°S±0.1°×28.3°W±0.2°,h45km±7km, mb4.1/5,Error ellipse: s-maj=19.1km s-min=11.3km az=138.0*
ISC 22 13:24:49.5±1.0,**55.4S**±0.1°×**28.1W**±0.2°,**h26km**,**n11**, **σ0.6s/64/11**,**mb4.0/4**,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.99**	**280**	Pn	**Pn**	**13 26 02.7**	**+0.1**
PMSA	**Palmer Station**	**19.94**	**228**	Pn	**Pn**	**13 29 21.3**	**+0.5**
QSPA	**South Pole Qui**	**34.83**	**180**	P	**P**	**13 31 37.3**	**-0.6**
PB08	**IPOC Station P**	**46.77**	**302**	P	**P**	**13 33 16.0**	**-1.0**
PB08				IAmb	IAmb	13 33 32.3	
	comp=Z,3.3nm,0.9s						
VNDA	**Vanda**	**47.17**	**183**	P	**P**	**13 33 19.4**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=188,slow=7.6,SNR=3.7						
VNDA	**Vanda**	**47.17**	**183**	P	**P**	**13 33 19.3**	**+0.3**
VNDA				IAmb	IAmb	13 33 21.8	
	comp=Z,2.7nm,1.4s						
LPAZ	**La Paz**	**49.61**	**306**	P	**P**	**13 33 39.9**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=134,slow=8.6,SNR=3.7						
LPAZ	**La Paz**	**49.61**	**306**	P	**P**	**13 33 39.3**	**+0.1**
LPAZ				IAmb	IAmb	13 33 40.6	
	comp=Z,2.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**72.77**	**30**	P	**P**	**13 36 15.8**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=183,slow=5.7,SNR=2.4						
INK	**Inuvik**	**145.00**	**321**	PKPbc	**PKPdf**	**13 44 21.9**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=75,slow=4.1,SNR=4.3						
ILAR	**Eielson Array**	**149.32**	**313**	PKPbc	**PKPbc**	**13 44 33.9**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=126,slow=1.6,SNR=8.7						

*BJI **22** 13:29:15.0±0.0,32.6°N×47.7°E,h10km,mB4.7/11, mb4.7/17,Ms4.2/7,Ms7 4.0/6*
*ISN **22** 13:29:16.6±0.8,32.6°N×47.7°E,h17km±5km,ML4.4*
*GII **22** 13:29:16.0±0.0,32.6°N×47.7°E,h10km*
*THR **22** 13:29:16.5±0.7,32.5°N×47.5°E,h15km,ML4.7*
*TEH **22** 13:29:17.4,32.6°N×47.7°E,h12km,ML4.6*
*MOS **22** 13:29:18.3±1.3,32.6°N×47.7°E,h33km,mb5.0/36,Error ellipse: s-maj=6.7km s-min=3.8km az=114.8*
*NEIC **22** 13:29:19.4±1.9,32.5°N±0.05°×47.70°E±0.07°,h35km±4km, Error ellipse: s-maj=9.2km s-min=6.1km az=128.0*
*OMAN **22** 13:29:19.5,32.19°N×47.63°E,h15km,mb5.9/10*
*DSN **22** 13:29:20.1±1.4,32.43°N×48.10°E,h10km,mb4.8/1,Error ellipse: s-maj=24.0km s-min=13.9km az=53.0*
*IDC **22** 13:29:20.1±2.0,32.66°N×47.67°E,h33km±14km,mb4.3/39, mb1 4.4/45,mb1mx4.3/59,mbtmp4.5/45,ML4.4/6,MS3.5/5, Ms1 3.5/5,ms1mx3.0/53,Error ellipse: s-maj=11.0km s-min=8.4km az=136.0*
ISC 22 13:29:17.6±0.3,**32.56N**±0.03×**47.73E**±0.03,**h21**km±3km, **n497**,**σ1s52**/516,**mb4.8**/142,**43C-21D**,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.40**	**288**	*e*Pg	**Pb**	**13 29 25.2**	**-0.6**
IKFM	**Kafar-mosalman**	**0.97**	**6**	*e*Pg	**Pb**	**13 29 34.5**	**-1.1**
IKFM				*e*		13 29 54.1	
IKMR	**Kamar-syah**	**1.10**	**30**	*e*Pg	**Pn**	**13 29 37.1**	**-0.7**
IKMR				*e*		13 29 58.3	
IDOB	**Doab**	**1.28**	**17**	*e*Pg	**Pn**	**13 29 40.1**	**-0.4**
BMDN	**Meydan**	**1.44**	**39**	*e*Pg	**Pb**	**13 29 43.8**	**0.0**
BMDN				*e*		13 30 12.3	
AHWZ	**Ahwaz**	**1.45**	**147**	*e*Pg	**Pb**	**13 29 46.5**	**+2.6**
IBDR	**Badra**	**1.61**	**290**	*e*Pg	**Pn**	**13 29 45.0**	**+0.2**
IBDR				*e*Sg	**Sb**	**13 30 07.0**	**+0.5**
IBDR				AML	AML	13 30 15.1	
	comp=N,6μm,0.6s						
IBDR				AML	AML	13 30 20.9	
	comp=E,5μm,0.6s						
IKOM	**Komasi**	**1.62**	**354**	*e*Pg	**Pb**	**13 29 46.4**	**-0.5**
IKOM				*e*		13 30 15.1	
HSAM	**Samen**	**1.80**	**24**	*e*Pg	**Pb**	**13 29 49.5**	**-0.5**
HSAM				*e*		13 30 17.6	
KCHF	**Cheshme Sefid,**	**1.80**	**342**	*e*Pg	**Pb**	**13 29 49.5**	**-0.5**
KCHF				*e*		13 30 16.9	
KER	**Kermanshah**	**1.89**	**345**	P	**Pb**	**13 29 50.9**	**-0.5**
KER	**Kermanshah**	**1.89**	**345**	*e*Pn	**Pb**	**13 29 50.4**	**-1.0**
IBZA	**Bozab**	**1.91**	**3**	*e*Pg	**Pb**	**13 29 51.1**	**-0.7**
IBZA				*e*		13 30 22.6	
IGHG	**Ghaleghazi**	**2.01**	**332**	*e*Pn	**Pb**	**13 29 52.5**	**-1.1**
NSR	**Nassriya**	**2.06**	**222**	*e*Pn	**Pb**	**13 29 53.0**	**-1.2**
NSR				*e*Sn	**Sb**	**13 30 19.0**	**-0.2**
IVIS	**Veis**	**2.09**	**340**	*e*Pn	**Pn**	**13 29 53.1**	**+1.5**
IVIS				*e*		13 30 29.8	
KHMZ	**Khomeyn**	**2.21**	**57**	*e*Pn	**Pb**	**13 29 56.8**	**-0.1**
KHMZ	**Khomeyn**	**2.21**	**57**	*e*Pn	**Pb**	**13 29 56.8**	**-0.1**
IALM	**Almabolaq**	**2.32**	**9**	*e*Pn	**Pb**	**13 29 57.4**	**-1.5**
IDHR	**Dehrash**	**2.41**	**333**	*e*Pn	**Pn**	**13 29 57.6**	**+1.6**
ILIN	**Lien**	**2.44**	**345**	*e*Pn	**Pn**	**13 29 58.1**	**+1.7**
ILIN				*e*		13 30 42.0	
JHBN	**Jahan bin**	**2.51**	**97**	*e*Pn	**Pb**	**13 30 00.6**	**-1.5**
JHBN				*e*		13 30 47.2	
HAGD	**Aghdareh**	**2.54**	**27**	*e*Pn	**Pn**	**13 29 59.9**	**+2.0**
HAGD				*e*		13 30 40.9	
IPIR	**Pirpir**	**2.67**	**87**	*e*Pn	**Pb**	**13 30 02.9**	**-2.0**
IPIR				*e*		13 30 53.6	
HSRG	**Sareghieh**	**2.71**	**10**	*e*Pn	**Pn**	**13 30 02.9**	**+2.6**
HSRG				*e*		13 30 47.6	
ROKH	**ROKH**	**2.80**	**94**	*e*Pn	**Pb**	**13 30 04.4**	**-2.7**
ROKH				*e*		13 30 56.9	
BHD	**Baghdad**	**2.90**	**285**	*e*Pn	**Pn**	**13 30 04.0**	**+1.4**
BHD				*e*Sn	**Sn**	**13 30 38.0**	**+1.1**
IBRJ	**Brojen**	**3.06**	**101**	*e*		13 30 21.5	
IBRJ				*e*Pn	**Pn**	**13 30 07.8**	**+2.7**
IKLH	**Kolahrood**	**3.33**	**76**	*e*Pn	**Pn**	**13 30 12.1**	**+3.5**
IKLH				*e*		13 31 20.1	
IRAZ	**Razeghan**	**3.37**	**32**	*e*Pn	**Pn**	**13 30 12.5**	**+3.2**
QABG	**Abgarm-Qazvin**	**3.50**	**26**	*e*Pn	**Pn**	**13 30 13.0**	**+2.0**
KLNJ	**Kolanjah**	**3.64**	**114**	*e*Pn	**Pn**	**13 30 15.4**	**+2.4**
KLNJ				*e*		13 31 33.9	
IGAR	**Gharneh**	**3.65**	**91**	*e*Pn	**Pn**	**13 30 15.9**	**+2.8**
IGAR				*e*		13 31 25.5	
IZEF	**Zefreh**	**3.89**	**84**	*e*Pn	**Pn**	**13 30 19.3**	**+2.9**
IMHD	**Mahdasht**	**3.96**	**37**	*e*Pn	**Pn**	**13 30 19.9**	**+2.7**
IRAM	**Rameshеh**	**4.02**	**100**	*e*Pn	**Pn**	**13 30 20.3**	**+2.2**
QSDN	**Sirdan**	**4.11**	**16**	*e*Pn	**Pn**	**13 30 22.2**	**+2.8**
IHSB	**Hasanabad**	**4.11**	**45**	*e*Pn	**Pn**	**13 30 22.0**	**+2.7**
ZNJK	**Zanjan**	**4.17**	**11**	*e*Pn	**Pn**	**13 30 22.4**	**+2.1**
ZNJK	**Zanjan**	**4.17**	**11**	*e*Pn	**Pn**	**13 30 22.4**	**+2.1**
IGZV	**Ghazvin**	**4.33**	**28**	*e*Pn	**Pn**	**13 30 24.8**	**+2.3**
CHTH	**Charan**	**4.37**	**39**	*e*Pn	**Pn**	**13 30 25.3**	**+2.3**
CHTH	**Charan**	**4.37**	**39**	*e*Pn	**Pn**	**13 30 25.3**	**+2.3**
KAZ1	**Kazerun**	**4.45**	**130**	*e*Pn	**Pn**	**13 30 26.6**	**+2.6**
MAHB	**Mahabad**	**4.51**	**339**	*e*Pn	**Pn**	**13 30 26.7**	**+1.8**
QALM	**Alamut, Qazvin**	**4.55**	**31**	*e*Pn	**Pn**	**13 30 28.1**	**+2.6**
DAMV	**Damavand**	**4.67**	**48**	*e*Pn	**Pn**	**13 30 29.7**	**+2.6**
DAMV	**Damavand**	**4.67**	**48**	*e*Pn	**Pn**	**13 30 29.7**	**+2.6**
IDMV	**Damavand**	**4.67**	**49**	*e*Pn	**Pn**	**13 30 29.4**	**+2.2**
AHBU	**AHRAM**	**4.80**	**139**	*e*Pn	**Pn**	**13 30 31.6**	**+3.0**
SHI	**Shiraz**	**5.03**	**124**	*e*Pn	**Pn**	**13 30 34.3**	**+2.3**
ANAR	**Anarak**	**5.09**	**81**	*e*Pn	**Pn**	**13 30 34.7**	**+1.9**
ISAD	**Sadrabad**	**5.09**	**96**	*e*Pn	**Pn**	**13 30 35.3**	**+2.4**
ILAS	**Lasjerd**	**5.18**	**56**	*e*Pn	**Pn**	**13 30 37.2**	**+3.1**
IFIR	**Firoozkooh**	**5.18**	**52**	*e*Pn	**Pn**	**13 30 36.9**	**+2.8**
ISRB	**Sarab**	**5.25**	**359**	*e*Pn	**Pn**	**13 30 37.4**	**+2.3**
IPRN	**Peran**	**5.29**	**45**	*e*Pn	**Pn**	**13 30 38.9**	**+3.3**
IAZR	**Azarshahr**	**5.30**	**345**	*e*Pn	**Pn**	**13 30 38.8**	**+3.0**
IALA	**Alasht**	**5.48**	**49**	*e*Pn	**Pn**	**13 30 42.1**	**+3.8**
ISHM	**Shahmirzad**	**5.63**	**53**	*e*Pn	**Pn**	**13 30 43.5**	**+3.1**
ICHK	**Chekchek**	**5.66**	**91**	*e*Pn	**Pn**	**13 30 41.9**	**+1.2**
CUKT	**Cukurca**	**5.77**	**325**	P	**Pn**	**13 30 42.7**	**+0.6**
IHRS	**Heris**	**5.77**	**355**	*e*Pn	**Pn**	**13 30 45.7**	**+3.5**
IANJ	**Anjilo**	**5.90**	**59**	*e*Pn	**Pn**	**13 30 46.0**	**+2.0**
AHAR	**Ahar**	**5.94**	**355**	*e*Pn	**Pn**	**13 30 46.8**	**+2.3**
IMEH	**Mehriz**	**5.96**	**99**	*e*Pn	**Pn**	**13 30 46.4**	**+1.5**
HAKT	**HAKKARI**	**5.98**	**328**	*e*Pn	**Pn**	**13 30 45.1**	**0.0**
IMRD	**Marand**	**6.36**	**346**	*e*Pn	**Pn**	**13 30 52.8**	**+2.6**
IGLO	**Ghaloghah**	**6.39**	**50**	*e*Pn	**Pn**	**13 30 54.9**	**+4.2**
SIRT	**Sirnak**	**6.56**	**320**	*e*P		**13 30 54.0**	**+1.0**
GEVA	**Geyas**	**6.89**	**328**	Pn	**Pn**	**13 30 58.1**	**+0.6**
AKDM	**Akdamar-Van**	**6.94**	**327**	*e*P	**Pn**	**13 30 59.3**	**+1.1**
VANB	**Van**	**6.98**	**331**	*e*P	**Pn**	**13 30 59.3**	**+0.6**
CLDR	**Caldiran**	**7.26**	**336**	*e*P	**Pn**	**13 31 04.8**	**+2.1**
MARD	**Mardin**	**7.42**	**312**	Pn	**Pn**	**13 31 03.7**	**-1.0**
TPRV	**Parvadeh(Tabas**	**7.56**	**84**	*e*Pn	**Pn**	**13 31 08.8**	**+2.2**
TNSJ	**Nastanj**	**7.57**	**77**	*e*Pn	**Pn**	**13 31 08.9**	**+2.1**
SHRO	**Shahrood**	**7.66**	**61**	*e*Pn	**Pn**	**13 31 11.0**	**+2.9**
SHRO	**Shahrood**	**7.66**	**61**	*e*Pn	**Pn**	**13 31 11.0**	**+2.9**
MAZI	**Mazidag**	**7.72**	**311**	*e*P	**Pn**	**13 31 08.5**	**-0.3**
SVAN	**Silvan-Diyarba**	**7.72**	**318**	*e*P	**Pn**	**13 31 09.2**	**+0.4**
TKDS	**Koohdasht(Taba**	**7.95**	**80**	*e*Pn	**Pn**	**13 31 14.0**	**+1.9**
AGRB	**Hanur-Agry**	**7.98**	**333**	*e*P	**Pn**	**13 31 14.0**	**+1.5**
URFA	**Urfa**	**8.78**	**306**	*i* P	**Pn**	**13 31 22.4**	**-1.0**
GENO	**Geno**	**8.95**	**123**	*e*Pn	**Pn**	**13 31 26.8**	**+1.0**
SVRC	**Sivrice-ELAZID**	**8.99**	**313**	P	**Pn**	**13 31 25.7**	**-0.7**
SBZV	**Sabzevar**	**9.01**	**62**	*e*Pn	**Pn**	**13 31 29.0**	**+2.4**
ASF	**Jabal al Asfar**	**9.17**	**270**	Pn	**Pn**	**13 31 28.0**	**-0.8**
	comp=E,4.2nm,0.3s,baz=44,slow=9.5,SNR=34						
ASF				Lg	Lg	13 34 10.2	
	comp=E,4.1nm,0.3s,baz=209,slow=20,SNR=4.4						
ASF	**Jabal al Asfar**	**9.17**	**270**	P	**Pn**	**13 31 28.0**	**-0.8**
PTK	**Pertek**	**9.26**	**315**	*i* P	**Pn**	**13 31 29.8**	**-0.3**
DRN	**Derbent**	**9.46**	**3**	*e*P	**Pn**	**13 31 31.6**	**-1.0**
MALT	**Malatya**	**9.51**	**310**	P	**Pn**	**13 31 35.7**	**+2.3**
AFRZ	**Afriz**	**9.52**	**82**	*e*Pn	**Pn**	**13 31 35.9**	**+2.3**
GAZ	**Gaziantep**	**9.79**	**301**	Pn	**Pn**	**13 31 40.6**	**+3.4**
SHME	**Shamm**	**9.80**	**129**	*i* P	**Pn**	**13 31 37.5**	**+0.2**
	SNR=10						
GNBR	**Gunib**	**9.83**	**357**⇑	*e*P	**Pn**	**13 31 36.8**	**-0.9**
BANOM	**Banah**	**9.99**	**129**	*i* P	**Pn**	**13 31 39.8**	**-0.1**
	SNR=27						
BANOM				S	**Sn**	**13 33 29.2**	**-2.2**
BANOM	**Banah**	**9.99**	**129**	P	**Pn**	**13 31 40.0**	**+0.1**
	SNR=28						
GEYT	**Alibeck**	**10.04**	**55**	Pn	**Pn**	**13 31 44.8**	**+4.1**
	comp=E,0.5nm,0.3s,baz=244,slow=13,SNR=10						
GEYT				LR	LR	13 36 37.0	
	comp=E,76nm,19.2s,baz=295,slow=44						
GYA0B	**ALIBECK ARRAY**	**10.04**	**55**	Pn	**Pn**	**13 31 44.0**	**+3.4**
KEMA	**Kemaliye**	**10.04**	**314**	*e*Pn	**Pn**	**13 31 41.8**	**+1.1**
NATI	**Neve Ativ**	**10.11**	**277**	Pn	**Pn**	**13 31 41.2**	**-0.3**
KMRS	**Kahramanmaras**	**10.15**	**302**	*i* P	**Pn**	**13 31 40.3**	**-1.9**
KELT	**Kelkit**	**10.19**	**320**	*e*Pn	**Pn**	**13 31 46.8**	**+3.9**
NAZ	**Nazwa, Dubai**	**10.26**	**135**	P	**Pn**	**13 31 44.7**	**+1.1**
MSFE	**Esma-Masafi**	**10.29**	**132**	P	**Pn**	**13 31 44.1**	**0.0**
MMA0B	**Mount Meron ar**	**10.39**	**276**	Pn	**Pn**	**13 31 43.8**	**-1.6**
MMAI	**Mount Meron Ar**	**10.39**	**276**	Pn	**Pn**	**13 31 45.4**	**0.0**
	comp=E,2.6nm,0.3s,baz=91,slow=14,SNR=15						
MMAI				Lg	Lg	13 34 48.1	
	comp=E,3.7nm,0.3s,baz=114,slow=38,SNR=2.3						
MMLI	**Mount Malkishu**	**10.39**	**273**	Pn	**Pn**	**13 31 46.0**	**+0.5**
MDH	**Madha**	**10.42**	**132**	P	**Pn**	**13 31 44.9**	**-0.9**
DSI	**Dead Sea**	**10.53**	**268**	Pn	**Pn**	**13 31 46.3**	**-0.9**
UOSS	**Minazif**	**10.62**	**133**	P	**Pn**	**13 31 47.9**	**-0.7**
UOSS	**Minazif**	**10.62**	**133**		**Pn**	**13 31 48.8**	**+0.2**
HATD	**Hatta, Dubai**	**10.66**	**134**	P	**Pn**	**13 31 47.2**	**-2.0**
ASHO	**Ashiyiah**	**10.73**	**135**	P	**Pn**	**13 31 49.9**	**-0.2**
ASHO	**Ashiyiah**	**10.73**	**135**	P	**Pn**	**13 31 51.2**	**+1.1**
	SNR=7.3						
GROC	**Groznyy**	**10.73**	**352**	*e*P	**Pn**	**13 31 52.5**	**+2.5**
GROC				*e*S	**Sn**	**13 33 55.8**	**+6.3**
GROC				pmax	pmax		
	comp=Z,24nm,0.5s						
SLTI	**Sal'it**	**10.73**	**272**	Pn	**Pn**	**13 31 50.3**	**+0.2**
SARI	**SarD1z-Kayseri**	**10.91**	**305**	*e*P	**Pn**	**13 31 51.0**	**-1.6**
ALNE	**Al Ain**	**11.03**	**138**	*i* P	**Pn**	**13 31 55.6**	**+1.4**
	SNR=17						
PRNI	**Paran**	**11.09**	**262**	Pn	**Pn**	**13 31 54.7

APE Apeiranthos 18.76 290 *de* P P 13 33 34.7 -0.6
APE pmax pmax
comp=Z,25nm,0.9s
IDI Anoyia 19.14 284 P Pn 13 33 40.1 -0.3
comp=Z,9.2nm,0.3s,baz=77,slow=12,SNR=48
IDI Anoyia 19.14 284 ⇑P Pn 13 33 40.5 0.0
IDI Anoyia 19.14 284 P Pn 13 33 40.2 -0.3
IDI IAmb IAmb 13 33 42.3
comp=Z,96nm,0.9s
VRH Novokhopyorsk 19.14 348 *e*P P 13 33 38.7 -0.6
TIRR Tirgusor 19.17 314 ⇑P Pn 13 33 41.0 +0.4
ALN Alexandroupoli 19.23 302 P P 13 33 40.5 +0.1
ALN pmax pmax
comp=Z,67nm,1.6s
ALN Alexandroupoli 19.23 302 P 13 33 40.5 +0.1
TLCR 19.33 316 ⇑P P 13 33 41.9 +0.5
VORD Divnogorie 19.41 344 *e*P P 13 33 41.9 -0.4
VORD *e*S Sn 13 37 17.4 -3.1
VORD pmax pmax
comp=Z,10.0nm,0.5s
VORD smax smax
comp=N,40nm,0.8s
TOPG Topolog 19.41 315 ⇓P Pn 13 33 43.5 0.0
AKTO Aktyubinsk 19.42 20 P P 13 33 42.9 +0.6
comp=N,1.0nm,0.3s,baz=196,slow=14,SNR=19
TLBR Topalu 19.44 314 ⇑P Pn 13 33 43.6 -0.3
HARR Harsova 19.59 314 ⇑P Pn 13 33 45.5 -0.1
VSR Storozhevoye 19.68 344 *e*P P 13 33 44.4 -0.7
VSR *e*S S 13 37 19.5 -6.5
VSR pmax pmax
comp=Z,180nm,1.8s
VSR smax smax
comp=N,60nm,1.0s
CFR Carcaliu 19.72 315 ⇑P Pn 13 33 46.8 -0.4
RAZG Razgrad 19.94 310 ⇓P Pn 13 33 50.0 +0.1
ISR Istrita 20.65 313 ⇑P Pn 13 33 57.5 -0.7
ISR Istrita 20.65 313 P Pn 13 33 58.2 -0.1
ISR pmax pmax
comp=Z,62nm,1.0s
VRI Vrincioaia 20.93 315 ⇓P P 13 34 00.1 +1.3
VRI Vrincioaia 20.93 315 P P 13 34 00.1 +1.3
VRI pmax pmax
comp=Z,27nm,0.7s
NEHR Nehoiu 20.96 314 ⇓P P 13 34 00.4 +1.2
PLOR Plostina 20.96 315 ⇑P P 13 34 00.2 +1.0
PLOR Plostina 20.96 315 P P 13 34 00.2 +1.0
LPSR Galich'ya Gora 21.02 345 *e*P P 13 33 58.6 -1.1
LPSR pmax pmax
comp=Z,150nm,0.8s
SOCY Socotra 21.08 163 P P 13 33 56.0 -4.7
SOCY IAmb IAmb 13 34 06.8
comp=Z,42nm,1.0s
MLR Muntele Rosu 21.20 314 P P 13 34 00.0 -1.9
comp=Z,7.3nm,0.4s,baz=24,slow=10.0,SNR=2.3
MLR Muntele Rosu 21.20 314 ⇑P P 13 34 03.2 +1.3
MLR Muntele Rosu 21.20 314 P P 13 34 00.7 -1.2
MLR pmax pmax
comp=Z,56nm,0.7s
MLR Muntele Rosu 21.20 314 P P 13 34 00.7 -1.2
MLR IAmb IAmb 13 34 09.2
comp=Z,56nm,0.7s
TESR Tescani 21.32 317 ⇑P P 13 34 03.7 +0.6
HUMR Humele 21.35 311 ⇓P P 13 34 05.1 +1.7
SORM Soroca 21.36 322 ⇑P P 13 34 02.6 -0.8
NIL Nilore 21.40 80 P P 13 34 04.5 +0.5
NIL pmax pmax
comp=Z,38nm,1.0s
NIL Nilore 21.40 80 P P 13 34 04.5 +0.5
NIL IAmb IAmb 13 34 09.3
comp=Z,38nm,1.0s
ATD Arta Tunnel 21.41 193 LR LR 13 42 51.6
comp=Z,79nm,18.6s,baz=259,slow=38
AGG Agios Georgios 21.55 295 P P 13 34 06.1 +0.5
AGG pmax pmax
comp=Z,33nm,0.9s
AGG Agios Georgios 21.55 295 P P 13 34 06.1 +0.5
AGG IAmb IAmb 13 34 12.4
comp=Z,33nm,0.9s
OZUR 21.61 315 ⇑P P 13 34 07.2 +1.0
MTUR Matau 21.62 312 ⇓P P 13 34 08.1 +1.7
ITM Ithomi 21.64 289 P P 13 34 06.2 -0.4
VOIR 21.73 313 ⇑P P 13 34 09.1 +1.6
VOIR 21.73 313 P P 13 34 09.2 +1.7
VOIR pmax pmax
comp=Z,72nm,1.0s
DOPR Dopca 21.78 314 ⇓P P 13 34 09.1 +1.1
ARR Arges 21.95 312 ⇓P P 13 34 11.4 +1.5
LOT Lotru 22.53 312 ⇑P P 13 34 16.6 +0.5
SRE Strehaia 22.56 309 ⇑P P 13 34 18.0 +1.7
AKASG Malin Array Be 22.69 328 P P 13 34 16.0 -1.6
comp=Z,6.5nm,0.5s,baz=138,slow=9.1,SNR=5.3
AKASG PcP PcP 13 38 09.1 -0.4
comp=Z,0.9nm,0.3s,baz=99,slow=2.5,SNR=5.2
AKBB Malin Array Si 22.69 328 P P 13 34 14.7 -2.9
AKBB pmax pmax
comp=Z,15nm,0.9s
AKBB Malin Array Si 22.69 328 P P 13 34 14.7 -2.9
BURAR Bucovina Array 22.75 318 ⇑P P 13 34 20.5 +2.1
BURAR Bucovina Array 22.75 318 P P 13 34 20.5 +2.1
BUR08 Bucovina Ar. S 22.77 318 P P 13 34 19.0 +0.4
BUR08 IAmb IAmb 13 34 31.2
comp=Z,20nm,0.8s
ARCR ARCALIA 22.96 316 ⇓P P 13 34 21.8 +1.3
HERR Herculane 23.16 309 ⇓P P 13 34 23.4 +0.8
CJR Cluj-Napoca 23.23 314 ⇑P P 13 34 25.1 +1.8
AAK Ala-Archa 23.38 57 P P 13 34 25.0 -0.1
comp=Z,1.4nm,0.4s,baz=225,slow=7.1,SNR=2.5
AAK Ala-Archa 23.38 57 *ce*P P 13 34 28.5 +3.4
AAK pmax pmax
comp=Z,6.0nm,1.7s
MDVR Moldovita 23.58 309 ⇑P P 13 34 27.2 +0.4
KSH Kashi 23.81 65 P P 13 34 28.6 -0.6
KSH S S 13 38 35.3 -8.6
KSH pmax pmax
comp=Z,16nm,0.7s
KSH pmax pmax
comp=Z,62nm,4.4s
KSH LR LR
comp=Z,220nm,12.8s
KSH LR LR
comp=Z,490nm,16.5s
KSH LR LR
comp=Z,390nm,13.7s
OBN Obninsk 23.88 344 P P 13 34 29.4 -0.1
comp=Z,4.7nm,0.4s,baz=14,slow=22,SNR=1.4
OBN Obninsk 23.88 344 *ce*P P 13 34 29.1 -0.4
OBN *i* 13 34 36.8
OBN *e* 13 34 57.1
OBN *i* S S 13 38 44.8 +0.4
OBN *e*SS SnSn 13 39 23.4 -0.8
OBN pmax pmax
comp=Z,49nm,1.7s
OBN MLR MLR
comp=Z,106nm,17.0s
BZS Buzias 23.97 311 ⇑P P 13 34 30.4 -0.1
SIRR Siria 24.22 312 ⇑P P 13 34 34.2 +1.4
MOS Moscow 24.23 346 *e*P P 13 34 33.0 +0.3
DIVS Divibare 24.50 306 ⇑*i*P P 13 34 35.8 +0.3
DIVS Divibare 24.50 306 P P 13 34 36.0 +0.5
DRME Dracevica, Mon 24.54 301 ⇑*i*P P 13 34 35.6 -0.1
PDG Podgorica 24.55 302 ⇓P P 13 34 35.9 +0.1
PDG Podgorica 24.55 302 *e*P P 13 34 34.8 -1.0
PDG Podgorica 24.55 302 P P 13 34 34.3 -1.5
PDG IAmb IAmb 13 34 37.6
comp=Z,51nm,1.4s
LVV L'vov 24.64 321 *e*P P 13 34 37.9 +1.3
SCTE Santa Cesarea 24.66 296 P P 13 34 35.7 -1.2
SCTE IAmb IAmb 13 35 08.7
comp=Z,57nm,1.0s
BBLS Lazići 24.83 305 ⇑*i*P P 13 34 38.7 +0.2
UZH Uzhgorod 24.95 318 *e*P P 13 34 39.0 -0.3
UZH *e* 13 34 46.9
UZH *e* 13 34 49.7
TEKS Tekeris 24.96 307 ⇑*i*P P 13 34 40.3 +0.7
FRGS Fruska Gora 24.98 308 ⇑*i*P P 13 34 40.5 +0.8
UPM Unac-Piva 24.99 303 *e*P P 13 34 39.9 -0.2
ARU Arti 25.02 14 P P 13 34 40.5 +0.6
comp=Z,2.6nm,0.6s,baz=204,slow=9.5,SNR=11
ARU Arti 25.02 14 *d*/P P 13 34 40.7 +0.8
ARU 13 35 13.7
ARU 13 38 10.1
ARU S S 13 39 05.5 +2.7
ARU pmax pmax
comp=Z,21nm,1.4s

ARU Arti 25.02 14 P P 13 34 38.8 -1.1
HCY Herceg Novi 25.10 302 ⇑*i*P P 13 34 40.4 -0.4
KOLS Kolonicke sedl 25.11 318 *e*P P 13 34 41.7 +0.8
KOLS pmax pmax
comp=Z,28nm,0.8s
KOLS Kolonicke sedl 25.11 318 *e*P P 13 34 41.7 +0.8
BRY Bratogost 25.17 303 ⇑*i*P P 13 34 41.4 -0.3
KWP Kalwaria Pacla 25.24 320 *e*P P 13 34 43.2 +1.2
TREB Trebinje 25.26 302 *e*P P 13 34 41.7 -0.6
DBRK Dubrovnik 25.40 302 *i*P P 13 34 43.3 -0.2
TARG Taragay, Kyrgy 25.56 60 P P 13 34 45.9 +0.5
TARG IAmb IAmb 13 34 51.4
comp=Z,11nm,0.6s
CRVS Cervenica-Dubn 25.56 317 *e*P P 13 34 46.3 +1.4
CRVS pmax pmax
comp=Z,29nm,0.8s
CRVS Cervenica-Dubn 25.56 317 *e*P P 13 34 46.3 +1.4
STON Ston 25.77 302 *i*P P 13 34 47.9 +1.1
TIP Timpagrande 25.87 294 ⇓P P 13 34 48.3 +0.4
TIP Timpagrande 25.87 294 P P 13 34 48.7 +0.8
TIP IAmb IAmb 13 34 52.0
comp=Z,26nm,0.8s
KECS Kecovo 25.92 316 *e*P P 13 34 49.9 +1.7
KECS pmax pmax
comp=Z,42nm,0.6s
KECS Kecovo 25.92 316 *e*P P 13 34 49.9 +1.7
PSZ Piszkesteto 26.02 314 ⇑P P 13 34 49.9 +0.7
KIRV Kirov 26.05 2 P P 13 34 49.7 +0.5
comp=Z,35nm,0.7s,baz=222,slow=1.0,SNR=8.8
MICGM Minsk 26.05 333 *e* P 13 34 50.0 +0.7
MNK Minsk 26.05 333 *e*P P 13 34 50.0 +0.7
MATE Matera 26.08 297 ⇑P P 13 34 49.7 0.0
MORH Mrgy, Hungar 26.12 310 ⇑*i*P P 13 34 50.8 +0.8
BRVK Borovoye 26.13 32 *je*P P 13 34 51.2 +1.1
BRVK pmax pmax
comp=Z,12nm,1.3s
BRVK Borovoye 26.13 32 P P 13 34 48.6 -1.5
BVAR Borovoye Array 26.16 32 P P 13 34 51.3 +1.0
comp=Z,9.7nm,0.6s,baz=222,slow=8.0,SNR=20
BVAR PcP PcP 13 38 17.3 +0.2
comp=Z,2.4nm,0.6s,baz=256,slow=0.6,SNR=5.9
BVAR ScP ScP 13 41 53.9 -1.7
comp=Z,1.7nm,0.6s,baz=230,slow=3.3,SNR=8.3
RICI Ricice 26.32 303 P P 13 34 50.9 -0.9
MAKA Makarska 26.35 303 *i*P P 13 34 53.1 +1.1
NIE Niedzica 26.48 318 *e*P P 13 34 54.4 +1.1
MGRS Mrkonjic Grad 26.59 305 *e*P P 13 35 01.8 +7.5
BLY Banja Luka 26.62 306 ⇑*i*P P 13 34 54.9 +0.4
LANS Liptovska Anna 26.83 316 *e*P P 13 34 58.0 +1.6
LANS pmax pmax
comp=Z,12nm,0.8s
LANS Liptovska Anna 26.83 316 *e*P P 13 34 58.0 +1.6
KIJV Kijevo 26.95 304 *i*P P 13 34 57.6 0.0
SGRT San Giovanni R 26.96 299 P P 13 34 57.5 -0.3
SGRT IAmb IAmb 13 34 58.0
comp=Z,39nm,1.4s
OJC Ojcow 27.16 319 *e*P P 13 34 59.9 +0.6
OJC *ep*P pP 13 35 02.9 -2.8
OJC Ojcow 27.16 319 P P 13 34 59.8 +0.5
OJC pmax pmax
comp=Z,28nm,0.7s
OJC Ojcow 27.16 319 P P 13 34 59.8 +0.5
OJC IAmb IAmb 13 35 03.8
comp=Z,28nm,0.7s
MOSL Moslavina 27.16 308 *i*P P 13 35 00.0 +0.6
ZIRJ Zirje 27.41 303 *i*P P 13 35 01.4 -0.2
MORI Morici 27.41 304 *i*P P 13 35 01.4 -0.3
BEHE Becsehely 27.42 309 ⇑*i*P P 13 35 05.7 +3.9
VAE Valguarnera 27.63 290 P P 13 35 04.1 +0.3
comp=Z,11nm,0.4s,baz=92,slow=8.3,SNR=5.8
VAE PcP PcP 13 38 22.6 +1.7
comp=Z,15nm,0.6s,baz=334,slow=4.7,SNR=4.6
JAVC Velka Javorina 27.76 315 *e*P P 13 35 06.4 +1.6
DUGI Dugi Otok 27.90 304 *i*P P 13 35 06.1 0.0
OKC Ostrava-Krasne 27.91 317 *e*P P 13 35 06.8 +0.7
OKC Ostrava-Krasne 27.91 317 *e*P P 13 35 06.8 +0.7
GCIS Gornji Cirnik 27.99 308 *i*P P 13 35 08.0 +1.1
CRES Cresnjev 28.09 308 *e*P P 13 35 08.3 +0.5
BOJS Bojanci 28.14 307 *i*P P 13 35 09.2 +1.0
NVLJ Novalja 28.16 305 *i*P P 13 35 07.8 -0.5
MORC Moravsky Berou 28.23 316 ⇓P P 13 35 09.8 +0.8
MORC Moravsky Berou 28.23 316 *e*P P 13 35 09.4 +0.4
MORC Moravsky Berou 28.23 316 P P 13 35 08.5 -0.5
MORC pmax pmax
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 28.23 316 P P 13 35 08.5 -0.5
ARSA Arzberg 28.49 310 *i*P P 13 35 12.7 +1.3
comp=Z,11nm,1.2s
CONA Conrad Observa 28.51 312 *i*P P 13 35 12.6 +1.0
comp=Z,8.8nm,1.0s
VRAC Vranov 28.59 315 P P 13 35 12.9 +0.7
comp=Z,4.6nm,0.6s,baz=104,slow=8.4,SNR=6.2
VRAC Vranov 28.59 315 *e*P P 13 35 12.9 +0.7
KRUC Moravsky 28.61 314 *e*P P 13 35 13.0 +0.7
SOKA Soboth 28.63 309 *i*PcP PcP 13 38 24.3 +1.1
comp=Z,2.7nm,0.6s
CEY Cerknica 28.76 307 ⇑*i*P P 13 35 13.6 -0.2
LJU Ljubljana 28.78 308 *i*P P 13 35 15.2 +1.3
LJU Ljubljana 28.78 308 *e*P P 13 35 14.3 +0.4
KLMR Klimovskoe 28.81 352 *e*P P 13 35 11.9 -2.0
KLMR pmax pmax
comp=Z,19nm,0.7s
KLMR Klimovskoe 28.81 352 *e*P P 13 35 11.9 -2.0
KLMR AMP 13 35 13.9
comp=Z,19nm,0.7s
OBKA Obir 28.90 309 *i*PcP PcP 13 38 25.5 +1.6
comp=Z,7.7nm,0.7s
KURBB Kurchatov Arra 28.96 42 P P 13 35 16.3 +0.8
comp=Z,4.6nm,0.7s,baz=246,slow=9.3,SNR=32
KURBB PcP PcP 13 38 23.8 0.0
comp=Z,0.8nm,0.6s,baz=240,slow=2.8,SNR=4.7
KURBB ScP ScP 13 42 01.2 -3.0
comp=Z,0.2nm,0.3s,baz=238,slow=3.7,SNR=4.4
BRJN Brijuni 29.02 305 *i*P P 13 35 16.3 +0.4
KURK Kurchatov 29.06 42 *d*/P P 13 35 18.1 +1.8
KURK pmax pmax
comp=Z,16nm,1.3s
KURK Kurchatov 29.06 42 P P 13 35 17.1 +0.8
NRCA Norcia 29.06 301 P P 13 35 15.8 -0.7
NRCA IAmb IAmb 13 35 18.6
comp=Z,14nm,1.0s
PRGR Permogore 29.12 358 *e*P P 13 35 15.4 -1.3
DPC Dobruska-Polom 29.19 317 *e*P P 13 35 17.9 +0.4
DPC Dobruska-Polom 29.19 317 *e*P P 13 35 17.9 +0.4
VOJS Vojsko 29.21 307 *i*P P 13 35 18.5 +0.7
OSTC Ostas 29.34 317 *e*P P 13 35 20.3 +1.5
KSP Ksiaz 29.42 318 *e*P P 13 35 19.9 +0.4
CHVC Chvalec 29.45 317 *e*P P 13 35 20.5 +0.7
MOA Molln 29.49 311 *i*P P 13 35 21.3 +1.1
comp=Z,13nm,0.8s,SNR=6.3
MYKA Terra Mystica 29.53 308 *i*pP P 13 35 22.7 +2.1
comp=Z,6.8nm,0.5s
VSU Vasula 29.53 338 ⇑*e*P P 13 35 21.4 +1.0
VSU pmax pmax
comp=Z,37nm,1.0s
MURB Monte Urbino 29.56 301 P P 13 35 21.4 +0.5
MURB IAmb IAmb 13 35 23.9
comp=Z,24nm,0.8s
KBA Koelnbreinsper 29.85 309 *i*P P 13 35 24.5 +0.9
comp=Z,18nm,0.8s,SNR=12
MK31 Makanchi Array 29.89 51 P P 13 35 24.4 +0.6
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 29.89 51 P P 13 35 24.4 +0.6
MKAR Makanchi Array 29.89 51 P P 13 35 25.1 +1.3
comp=Z,5.4nm,0.7s,baz=248,slow=7.8,SNR=57
MKAR ScP ScP 13 42 04.9 -2.4
comp=Z,1.2nm,1.1s,baz=259,slow=4.6,SNR=4.1
STAL STALIGIAL 30.05 307 P P 13 35 25.2 0.0
GERES GERESS Array B 30.18 313 P P 13 35 26.6 +0.2
comp=Z,1.7nm,0.6s,baz=106,slow=9.8,SNR=14
GERES PcP PcP 13 38 28.0 +0.8
comp=Z,1.4nm,0.6s,baz=126,slow=2.3,SNR=8.7
CIMO Cimolais 30.25 307 P P 13 35 27.0 +0.1
CIMO IAmb IAmb 13 35 28.2
comp=Z,16nm,0.7s
PBCC Pribram 30.30 314 *e*P P 13 35 28.0 +0.7
ABTA Abfaltersbach 30.31 308 *i*P P 13 35 28.3 +0.7
comp=Z,7.1nm,0.6s,SNR=5.1
KHC Kasperske Hory 30.36 313 *c*/P P 13 35 27.6 -0.3
KHC pmax pmax
comp=Z,16nm,1.7s
KHC Kasperske Hory 30.36 313 *e*P P 13 35 28.9 +1.0
KHC *ep*P sP 13 35 39.2 +2.3

BRG Berggiesshubel 30.79 316 */* P P 13 35 32.0 +0.4
comp=Z,5.3nm,1.1s
BRG *e* 13 35 37.5
comp=Z,6.9nm,1.0s
WTTA Wattenberg 31.02 309 */* P P 13 35 34.1 +0.2
comp=Z,19nm,0.8s
WATA Walderalm 31.08 309 */* P P 13 35 34.6 +0.1
comp=Z,24nm,1.0s,SNR=6.6
WATA Walderalm 31.08 309 */* PcP PcP 13 38 30.2 +0.6
comp=Z,5.5nm,0.8s
VLC Villacollemand 31.23 303 P P 13 35 35.8 +0.2
SQTA Sankt Quirin 31.30 309 */* P P 13 35 36.5 +0.3
comp=Z,32nm,0.5s,SNR=12
SQTA Sankt Quirin 31.30 309 */* PcP PcP 13 38 31.1 +1.0
comp=Z,5.8nm,0.7s
MOTA Moosalm 31.39 309 */* P P 13 35 37.1 -0.1
comp=Z,26nm,0.6s,SNR=11
NKC Novy Kostel 31.43 315 *e*P P 13 35 37.9 +0.6
NKC Novy Kostel 31.43 315 *e*P P 13 35 37.9 +0.6
CLL Collm 31.50 317 */* P P 13 35 37.9 0.0
comp=Z,9.0nm,1.1s
CLL */* pP pP 13 35 42.4 -1.9
CLL Collm 31.50 317 */* P P 13 35 37.9 0.0
CLL pmax pmax
comp=Z,9.0nm,1.1s
FETA Feichten 31.56 308 */* P P 13 35 39.1 +0.4
comp=Z,16nm,0.7s,SNR=12
FETA Feichten 31.56 308 */* PcP PcP 13 38 31.9 +1.0
comp=Z,7.0nm,1.0s
VSL Villasalto 31.60 294 IAmb IAmb 13 35 41.8
comp=Z,46nm,1.8s
RETA Reutte 31.66 309 */* P P 13 35 39.2 -0.2
comp=Z,6.5nm,0.5s,SNR=6.3
FUORN Ofenpass-Fuorn 31.78 307 IAmb IAmb 13 35 49.2
comp=Z,8.2nm,0.7s
KEST Kesra 31.79 286 P P 13 35 41.0 +0.3
comp=Z,4.8nm,1.0s,baz=169,slow=0.9,SNR=4.1
MSSA Maissana 31.87 303 P P 13 35 40.9 -0.4
FIA1 FINESS Array S 32.13 341 P P 13 35 42.4 -0.8
FIA1 IAmb IAmb 13 35 50.7
comp=Z,17nm,1.1s
FINES FINESS Array B 32.13 341 P P 13 35 42.9 -0.3
comp=Z,7.3nm,0.7s,baz=144,slow=9.1,SNR=41
DAVA Damuels 32.19 308 */* P P 13 35 44.2 +0.1
comp=Z,38nm,0.6s,SNR=12
TUE Stuetta 32.37 307 P P 13 35 43.7 -2.1
TUE IAmb IAmb 13 35 55.8
comp=Z,12nm,0.7s
SUF Sumiainen 33.15 342 P P 13 35 53.8 +1.6
SUF pmax pmax
comp=Z,21nm,1.0s
SENIN Lac Senin/Sane 33.74 306 P P 13 35 56.9 -0.9
SENIN IAmb IAmb 13 35 58.6
comp=Z,17nm,0.6s
ZAA0 Zalesovo Array 33.88 40 P P 13 35 58.0 -0.7
ZALV Zalesovo Beam 33.88 40 P P 13 35 59.3 +0.7
comp=Z,5.0nm,0.5s,baz=246,slow=8.0,SNR=18
BNI Bardonecchia 33.98 304 P P 13 35 59.8 0.0
BNI pmax pmax
comp=Z,60nm,0.7s
BNI Bardonecchia 33.98 304 P P 13 35 59.8 0.0
DGZ Jazzator, Alta 33.98 48 *de*P P 13 36 01.4 +1.6
DGZ pmax pmax
comp=Z,3.0nm,0.7s
LPL La Plagne 34.00 304 *e*P P 13 35 59.7 -0.4
LPL pmax pmax
comp=Z,45nm,0.7s
MSF Maaselka 35.24 347 P P 13 36 10.8 +0.5
MSF pmax pmax
comp=Z,27nm,1.0s
SSB Saint Sauveur 35.51 304 P P 13 36 12.1 -0.8
SSB pmax pmax
comp=Z,11nm,1.1s
SSB Saint Sauveur 35.51 304 P P 13 36 12.1 -0.8
HFS Hagfors 35.52 331 P P 13 36 12.5 -0.2
comp=Z,12nm,0.6s,baz=128,slow=9.6,SNR=16
SSF Saint Saulge 36.42 307 *e*P P 13 36 20.0 -0.7
SSF pmax pmax
comp=Z,20nm,0.8s
MBAR Mbarara 36.68 209 P P 13 36 24.1 +0.8
comp=Z,4.2nm,0.2s,baz=0.5,slow=20,SNR=4.4
MBAR Mbarara 36.68 209 ⇓*e*P P 13 36 25.6 +2.3
MBAR pmax pmax
comp=Z,3.0nm,1.0s
HOMB Homborsund 36.83 326 *e*P P 13 36 22.3 -1.6
NC405 NORSAR Array S 36.88 332 P P 13 36 23.7 -0.7
NC405 IAmb IAmb 13 37 22.0
comp=Z,63nm,1.6s
NB2 NORSAR Subarra 37.04 331 P P 13 36 24.6 -1.2
comp=Z,2.5nm,0.7s,baz=124,slow=8.6
NB2 NORSAR Subarra 37.04 331 P P 13 36 24.6 -1.2
comp=Z,2.5nm,0.7s,baz=124,slow=8.6
NOA NORSAR Array B 37.04 331 P P 13 36 25.0 -0.7
comp=Z,2.2nm,0.7s,baz=123,slow=8.4,SNR=9.6
NOA PP PP 13 37 47.7 -2.5
comp=Z,1.0nm,0.7s,baz=128,slow=11,SNR=3.7
NC303 NORSAR Array S 37.08 332 *e*P P 13 36 25.6 -0.4
LFF La Frestale 38.17 303 *e*P P 13 36 34.9 -0.6
LFF pmax pmax
comp=Z,13nm,0.6s
NSS Namsos 38.81 336 *e*P P 13 36 40.8 +0.2
MFF Saint Martin d 38.88 305 *e*P P 13 36 40.2 -1.2
MFF pmax pmax
comp=Z,10.0nm,0.7s
KEV Kevo 39.01 349 P P 13 36 42.0 -0.2
KEV Kevo 39.01 349 P P 13 36 42.0 -0.2
KEV IAmb IAmb 13 38 10.1
comp=Z,52nm,1.8s
KTK1 Kautokeino 39.06 346 *e*P P 13 36 42.3 -0.3
ARCES ARCESS Array B 39.07 348 P P 13 36 43.0 +0.3
comp=Z,2.5nm,0.5s,baz=158,slow=8.9,SNR=23
ARCES PcP PcP 13 38 52.2 -0.1
comp=Z,3.1nm,0.7s,baz=140,slow=4.0,SNR=5.7
ARE0 ARCESS Array S 39.07 348 P P 13 36 42.0 -0.8
ARE0 ARCESS Array S 39.07 348 *e*P P 13 36 42.4 -0.4
MOR8 Moi Rana 39.08 339 *e*P P 13 36 42.6 -0.3
FAUS Fauske 39.68 341 *e*P P 13 36 47.6 -0.3
KONS Konsvik 39.70 339 *e*P P 13 36 48.4 +0.4
NBB05 Inndyr 39.80 340 *e*P P 13 36 48.9 +0.1
NBB30 Finnes 39.84 340 *e*P P 13 36 49.1 0.0
N2TV T¥rnvik 39.86 341 *e*P P 13 36 49.0 -0.2
N2IH Innhavet 39.93 342 *e*P P 13 36 49.5 -0.4
STEI Steigen 40.08 342 *e*P P 13 36 50.8 -0.3
HAMF Hammerfest 40.35 348 *e*P P 13 36 53.6 +0.3
CWF Charnwood Fore 40.37 315 *e*P P 13 36 53.7 -0.1
GDLE Glaisdale, N Y 40.41 318 *e*P P 13 36 54.2 +0.1
GDLE IAmb IAmb 13 36 55.3
comp=Z,82nm,1.0s
TRO Tromso 40.47 345 *e*P P 13 36 53.9 -0.4
LBWR Ladybower, Pea 40.74 316 *e*P P 13 36 57.0 +0.2
LBWR IAmb IAmb 13 36 58.1
comp=Z,47nm,1.1s
HPK Haverah Park 40.78 317 *e*P P 13 36 57.2 0.0
EDMD Edmundbyers 41.16 318 *e*P P 13 37 00.3 0.0
EDMD IAmb IAmb 13 37 00.9
comp=Z,33nm,0.9s
MCH1 Michaelchurch 41.28 313 *e*P P 13 37 00.9 -0.3
MCH1 IAmb IAmb 13 37 01.6
comp=Z,35nm,0.7s
HLM1 Long Mynd 41.28 314 *e*P P 13 37 01.0 -0.4
HLM1 IAmb IAmb 13 37 02.3
comp=Z,29nm,0.9s
ESY Stoneypath 41.75 319 *e*P P 13 37 05.1 0.0
KESW Keswick, Cumbr 41.76 317 *e*P P 13 37 05.5 +0.4
KESW IAmb IAmb 13 37 06.1
comp=Z,61nm,0.6s
LLW Llanuwychllyn 41.80 315 *e*P P 13 37 05.6 +0.1
LLW IAmb IAmb 13 37 06.6
comp=Z,10nm,0.6s
ESBB Sonseca Array 41.87 295 P P 13 37 05.9 -0.5
ESDC Sonseca Array 41.88 295 P P 13 37 06.9 +0.5
comp=Z,6.5nm,0.7s,baz=75,slow=8.2,SNR=45
ESDC PcP PcP 13 39 02.7 +0.7
comp=Z,1.8nm,0.8s,baz=64,slow=3.6,SNR=5.5
ESK Eskdalemuir 41.95 318 *e*P P 13 37 06.5 -0.2
ESK Eskdalemuir 41.95 318 P P 13 37 05.7 -1.0
ESK pmax pmax
comp=Z,19nm,1.0s
ESK Eskdalemuir 41.95 318 P P 13 37 05.7 -1.0
ESK IAmb IAmb 13 37 06.9
comp=Z,19nm,0.9s
EBL Broad Law 41.95 319 *e*P P 13 37 07.0 +0.2
PAB San Pablo 42.19 295 P P 13 37 08.4 -0.6
PAB pmax pmax
comp=Z,8.0nm,1.0s

PAB	San Pablo	42.19	295	P		P		13 37 08.4	-0.6
GTA	Gaotai	42.21	65	*e*P		P		13 37 10.5	+1.3
GTA				pP		pP		13 37 16.4	+0.7
GTA				sP		sP		13 37 19.4	+1.1
GTA				pmax		pmax			
	comp=Z,3.0nm,0.7s								
GTA				pmax		pmax			
	comp=Z,88nm,6.5s								
GTA				LR		LR			
	comp=Z,96nm,16.8s								
GTA				LR		LR			
	comp=Z,69nm,16.5s								
GTA				LR		LR			
	comp=Z,110nm,18.4s								
WME	Myndd Eilian	42.26	315	*e*P		P		13 37 09.5	+0.3
YRC	Rhoscolyn	42.40	315	*e*P		P		13 37 10.6	+0.2
ELO	Logie Almond	42.47	320	*e*P		P		13 37 10.9	-0.1
NEWG	New Galloway	42.49	318	*e*P		P		13 37 11.0	-0.1
WIM	Isle of Man	42.59	316	*e*P		P		13 37 12.2	+0.2
INVG	Invergeldie, C	42.64	320	*e*P		P		13 37 12.2	-0.1
INVG				IAmb		IAmb		13 37 13.1	
	comp=Z,26nm,0.8s								
GAL1	Galloway	42.72	318	*e*P		P		13 37 13.4	+0.4
GAL1				IAmb		IAmb		13 37 13.7	
	comp=Z,17nm,0.5s								
NRIK	Noril'sk	43.04	19	P		P		13 37 16.4	+1.0
	comp=Z,3.8nm,0.5s,baz=218,slow=5.1,SNR=5.2								
NRIK				PcP		PcP		13 39 05.9	+0.7
	comp=Z,1.1nm,0.2s,baz=155,slow=7.2,SNR=4.0								
GMM	Mts of Mourne	43.34	316	*e*P		P		13 37 18.0	0.0
DSB	Dublin	43.48	315	P		P		13 37 19.3	+0.1
KAC	Achnashellach	43.53	321	*e*P		P		13 37 19.0	-0.5
PBRG	Braganca	43.73	298	*e*P		P		13 37 22.2	+0.8
	comp=Z,17nm,1.9s								
MVO	Moncorvo	44.02	297	*e*P		P		13 37 24.6	+0.8
	comp=Z,13nm,0.7s								
ZAK	Zakamensk	44.17	49	*e*P		P		13 37 13.3	-12
ZAK				pmax		pmax			
	comp=Z,9.0nm,1.4s								
MTE	Manteigas	44.51	296	*e*P		P		13 37 28.7	+1.0
	comp=Z,25nm,1.3s								
PVRL	Vila Real	44.52	298	*e*P		P		13 37 28.8	+1.1
	comp=Z,18nm,1.4s								
PMRV	Marv??o	44.53	295	*e*P		P		13 37 28.4	+0.5
	comp=Z,15nm,1.1s								
PCBR	Castelo Branco	44.54	296	*e*P		P		13 37 29.0	+1.2
	comp=Z,34nm,1.2s								
PCAB	Cabril	44.70	298	*e*P		P		13 37 30.2	+1.1
	comp=Z,26nm,1.5s								
PVIS	Viseu	44.73	297	*e*P		P		13 37 30.7	+1.3
	comp=Z,23nm,1.0s								
PGAV	Gavieira, Arco	44.84	299	*e*P		P		13 37 31.7	+1.3
	comp=Z,31nm,1.7s								
PBEJ	Beja	45.14	293	*e*P		P		13 37 33.3	+0.6
	comp=Z,16nm,1.1s								
EVO	Evora	45.16	294	*e*P		P		13 37 33.4	+0.6
	comp=Z,9.4nm,1.7s								
PCVE	Castro Verde	45.35	293	*e*P		P		13 37 34.8	+0.5
	comp=Z,17nm,1.2s								
PSBE	So Bento	45.59	295	*e*P		P		13 37 37.5	+1.2
	comp=Z,19nm,2.2s								
PNCL	Nicolau / Gran	45.63	293	*e*P		P		13 37 37.6	+1.0
	comp=Z,18nm,1.3s								
PFVI	Vila Bisbo	46.06	292	*e*P		P		13 37 40.6	+0.6
	comp=Z,37nm,1.6s								
PMAFR	Mafra	46.06	295	*e*P		P		13 37 40.9	+0.9
	comp=Z,70nm,1.7s								
TOA0	Torodi Ar. Sit	46.20	256	P		P		13 37 40.8	-0.5
TOA0				IAmb		IAmb		13 37 43.3	
	comp=Z,9.0nm,0.9s								
TORD	Torodi Ar. Bea	46.20	256	P		P		13 37 41.2	-0.1
	comp=Z,6.9nm,0.8s,baz=50,slow=8.3,SNR=28								
TORD				PcP		PcP		13 39 17.7	+0.8
	comp=Z,2.1nm,0.9s,baz=45,slow=3.3,SNR=3.7								
TORD				LR		LR		13 59 42.8	
	comp=Z,65nm,19.8s,baz=355,slow=40								
SONM	Songino Array	46.24	53	P		P		13 37 42.0	+0.6
	comp=Z,0.6nm,0.4s,baz=274,slow=6.6,SNR=3.2								
SONM	Songino Array	46.24	53	P		P		13 37 42.0	+0.6
ULN	Ulaanbaatar	46.68	53	*ce*P		P		13 37 46.4	+1.5
ULN				pmax		pmax			
	comp=Z,9.0nm,1.3s								
SPA0	Spitsbergen Ar	47.72	352	P		P		13 37 52.0	-0.3
SPA0	Spitsbergen Ar	47.72	352	*e*P		P		13 37 52.9	+0.5
SPITS	Spitsbergen Ar	47.72	352	P		P		13 37 52.7	+0.4
	comp=Z,3.3nm,0.5s,baz=149,slow=15,SNR=17								
CMAR	Chiang Mai Arr	47.88	94	P		P		13 37 54.9	+0.5
	comp=Z,2.5nm,0.7s,baz=293,slow=8.5,SNR=19								
CMAR				PcP		PcP		13 39 23.9	+1.0
	comp=Z,1.1nm,0.7s,baz=289,slow=4.8,SNR=4.2								
PBKT	Sadao Pong	50.47	95	P		P		13 38 14.6	+0.4
XAN	Xi'an	50.48	71	P		P		13 38 14.5	+0.3
XAN				pmax		pmax			
	comp=Z,13nm,1.2s								
XAN				LR		LR			
	comp=Z,130nm,18.4s								
XAN				LR		LR			
	comp=Z,120nm,19.5s								
BOD	Bodaibo	50.63	39	*e*P		P		13 38 15.2	+0.3
BOD				pmax		pmax			
	comp=Z,13nm,1.6s								
OPO	Ambohidratompo	50.84	181	P		P		13 38 19.2	+2.2
	comp=Z,2.0nm,0.6s,baz=333,slow=9.2,SNR=3.5								
LSZ	Lusaka	51.11	205	P		P		13 38 20.9	+1.8
	comp=Z,3.6nm,0.3s,baz=20,slow=4.1,SNR=7.1								
DAG	Danmarks Havn	53.19	345	*i* P		P		13 38 32.1	-1.6
DAG	Danmarks Havn	53.19	345	*i* P		P		13 38 32.1	-1.6
DBIC	Dimbokro	55.15	254	P		P		13 38 49.1	+0.3
	comp=Z,5.4nm,0.7s,baz=34,slow=7.8,SNR=10								
DBIC	Dimbokro	55.15	254	P		P		13 38 48.7	-0.1
DBIC				pmax		pmax			
	comp=Z,56nm,1.8s								
DBIC	Dimbokro	55.15	254	P		P		13 38 48.7	-0.1
KIC	Kosan Boka	55.23	254	*e*P		P		13 38 49.4	-0.1
	comp=Z,16nm,0.6s								
TIC	Toumodi	55.30	254	*e*P		P		13 38 49.7	-0.2
LIC	Lamto	55.54	254	*e*P		P		13 38 51.7	0.0
	comp=Z,34nm,0.6s								
MATP	Matopo	55.81	202	P		P		13 38 55.2	+1.8
	comp=Z,5.7nm,0.7s,baz=26,slow=5.0,SNR=17								
GSI	Gunungsitoli	56.19	113	P		P		13 38 56.8	+0.5
	comp=Z,18nm,1.3s								
KULM	Kulim	56.22	107	P		P		13 38 55.8	-0.7
KULM				IAmb		IAmb		13 39 01.4	
	comp=Z,12nm,0.7s								
IPM	Ipoh	56.99	108	P		P		13 38 59.4	-2.6
SUMG	Summit	58.15	339	*i* P		P		13 39 10.4	+0.5
	comp=Z,21nm,0.7s								
SUMG	Summit	58.15	339	P		P		13 39 10.2	+0.3
SUMG				pmax		pmax			
	comp=Z,8.0nm,0.7s								
SUMG	Summit	58.15	339	P		P		13 39 10.2	+0.3
SUMG				IAmb		IAmb		13 39 11.2	
	comp=Z,8.0nm,0.7s								
TSUM	Tsumeb	59.00	214	P		P		13 39 15.7	-0.4
SDSI	Sungai Dareh	60.58	112	P		P		13 39 26.8	-0.2
	comp=Z,2µmcomp=Z,23nm,1.1s								
LBTB	Lobatse	61.02	203	P		P		13 39 31.8	+1.9
	comp=Z,3.5nm,0.5s,baz=13,slow=9.3,SNR=6.5								
KLR	Kul'dur	62.47	47	P		P		13 39 38.5	-0.8
	comp=Z,1.9nm,0.5s,baz=280,slow=8.4,SNR=8.2								
KLR	Kul'dur	62.47	47	⇓*e*P		P		13 39 39.4	+0.1
KSRS	Korea Array	63.97	61	P		P		13 39 49.0	-0.4
	comp=Z,2.0nm,0.6s,baz=283,slow=7.1,SNR=12								
BOSA	Boshof	64.48	202	P		P		13 39 53.7	+0.9
	comp=Z,7.5nm,0.9s,baz=37,slow=5.7,SNR=7.8								
BOSA				LR		LR		14 09 18.4	
	comp=Z,82nm,18.4s,slow=37								
BOSA	Boshof	64.48	202	P		P		13 39 53.7	+0.9
BOSA				pmax		pmax			
	comp=Z,25nm,1.4s								
BOSA	Boshof	64.48	202	IAmb		IAmb		13 40 07.9	
	comp=Z,25nm,1.4s								
SEY	Seymchan	67.75	29	P		P		13 40 14.5	+1.1
	comp=Z,7.1nm,0.6s,baz=286,slow=5.8,SNR=28								
SEY	Seymchan	67.75	29	⇑*e*P		P		13 40 14.2	+0.9
KKM	Kota Kinabalu	68.65	97	P		P		13 40 20.4	+0.5
YSS	Yuzh-Sakhalins	70.15	47	*e*P		P		13 40 28.3	-0.2
SCHQ	Schefferville	76.48	327	P		P		13 41 05.5	-0.2
	comp=Z,1.5nm,0.4s,baz=42,slow=4.8,SNR=3.5								
SCHQ	Schefferville	76.48	327	IAmb		IAmb		13 41 07.4	
	comp=Z,45nm,1.9s								
TOLK	Toolik Lake Re	78.28	6	P		P		13 41 16.2	+0.5
TOLK				IAmb		IAmb		13 41 28.6	
	comp=Z,5.4nm,0.7s								
GBN	Guysborough	79.39	317	P		P		13 41 22.4	+0.4
INK	Inuvik	79.44	0	P		P		13 41 20.2	-1.7
	comp=Z,0.6nm,0.7s,baz=346,slow=7.9,SNR=1.6								
LMN	Caledonia Moun	80.97	319	P		P		13 41 30.6	0.0
LMN				IAmb		IAmb		13 41 32.1	
	comp=Z,8.4nm,0.8s								
COLA	College	82.12	7	⇑*e*P		P		13 41 37.0	+0.7
COLA				pmax		pmax			
	comp=Z,2.0nm,1.1s								
ILAR	Eielson Array	82.31	6	P		P		13 41 37.0	-0.3
	comp=Z,0.4nm,0.7s,baz=324,slow=4.1,SNR=5.1								
D62A	Allapoint, All	82.47	322	P		P		13 41 39.0	+0.5
D62A				IAmb		IAmb		13 41 40.0	
	comp=Z,16nm,0.8s								
YKA	Yellowknife Ar	84.21	352	P		P		13 41 46.6	-0.5
	comp=Z,1.0nm,0.5s,baz=0.4,slow=5.8,SNR=9.4								
WRA	Warramunga Arr	97.74	109	P		P		13 42 50.6	-0.9
	comp=Z,0.5nm,0.6s,baz=312,slow=4.0,SNR=4.6								
WRAB	Tennant Creek	97.74	109	P		P		13 42 48.4	-3.1
WRAB				pmax		pmax			
	comp=Z,20nm,1.7s								
WRAB	Tennant Creek	97.74	109	P		P		13 42 48.4	-3.1
WB2	Warramunga Arr	97.75	109	P		P		13 42 49.5	-2.0
ASAR	Alice Springs	99.33	112	P		Pdif		13 42 58.2	-0.4
	comp=Z,0.4nm,0.5s,baz=309,slow=5.0,SNR=11								
LPAZ	La Paz	120.20	269	PKP		PKPdf		13 48 08.0	-0.4
	comp=Z,0.8nm,0.6s,baz=182,slow=4.0,SNR=3.7								
LPAZ	La Paz	120.20	269	PKIKP		PKPdf		13 48 08.0	-0.4
PLCA	Paso Flores	130.71	242	PKP		PKiKP		13 48 28.4	+0.4
	comp=Z,0.8nm,0.4s,baz=12,slow=3.0,SNR=3.1								

*IDC **22** 14:15:22.3±1.9,20°.17S×177°.61W,h471km±20km, mb3.9/18,mb1 4.0/20,mb1mx3.8/34,mbtmp4.7/20,Error ellipse: s-maj=18.2km s-min=10.9km az=146.0*
*NEIC **22** 14:15:25.0±1.6,20°.0S±0°.1×177°.8W±0°.1,h496km±6km, mb4.4/60,Error ellipse: s-maj=19.3km s-min=15.4km az=127.0*

ISC 22 14:15:24.4±0.4,20°.03S±0°.08×177°.56W±0°.08,h500km, n172,σ1$34/163,mb4.4/46,14C-8D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.74	298	P	P	14 16 50.5	+1.3
AFI	Afiamalu	8.22	43	P	P	14 17 22.0	-1.3
AFI	5.6nm,0.3s,baz=327,slow=1.9,SNR=9.7			S		14 18 53.6	-7.2
	2.6nm,0.3s,baz=203,slow=23,SNR=2.8						
AFI	Afiamalu	8.22	43	P	P	14 17 21.9	-1.4
DZM	Mont Dzumac	15.07	259	P	P	14 18 36.4	+0.9
	0.8nm,0.3s,baz=86,slow=23,SNR=8.1						
TGRZ	Tauranga	18.44	196	P	P	14 19 10.1	+1.5
OPRZ	Ohinepanea	18.48	195	P	P	14 19 05.7	-3.2
TOZ	Tahuroa Road	18.64	197	P	P	14 19 11.8	+1.3
MWZ	Matawai	18.73	192	P	P	14 19 11.1	-0.2
URZ	Urewera	18.75	193	P	P	14 19 08.7	-2.6
	2.9nm,0.3s,baz=302,slow=2.3,SNR=19						
URZ	Urewera	18.75	193	P	P	14 19 09.4	-1.9
URZ	Urewera	18.75	193	P	P	14 19 08.5	-2.9
MUGZ	Murupara	19.03	194	P	P	14 19 13.0	-1.0
RAHZ	Arahi	19.38	193	P	P	14 19 16.5	-0.7
BKZ	Black Stump Fm	19.75	194	P	P	14 19 19.3	-1.3
OTVZ	Oturere	19.95	196	P	P	14 19 19.3	-3.2
BHHZ	Black Hill Sta	20.16	194	P	P	14 19 22.8	-1.5
EIDS	Eidsvold	29.37	254	P	P	14 20 46.2	-0.2
ARMA	Armidale	29.64	243	P	P	14 20 49.3	+0.5
CTA	Charters Tower	33.95	264	P	P	14 21 25.3	-0.3
	12nm,0.6s,baz=96,slow=11,SNR=23						
CTAO	Charters Tower	33.95	264	P	P	14 21 25.4	-0.3
CTAO				IAmb	IAmb	14 21 26.0	
	comp=Z,16nm,0.7s						
PMG	Port Moresby	35.64	282	P	P	14 21 38.7	-1.1
	comp=Z,12nm,0.8s,baz=108,slow=7.3,SNR=3.7						
PMG	Port Moresby	35.64	282	P	P	14 21 37.0	-2.8
PMG				IAmb	IAmb	14 21 45.1	
	comp=Z,16nm,0.9s						
PATS	Pohnpei	35.72	316	P	P	14 21 40.7	+0.2
PATS				IAmb	IAmb	14 21 45.2	
	comp=Z,24nm,1.1s						
TOO	Toolangi	36.51	233	P	P	14 21 46.8	0.0
COEN	Coen	37.97	273	P	P	14 21 59.0	-0.1
STKA	Stephens Creek	38.36	244	P	P	14 22 02.1	-0.1
	comp=Z,2.5nm,0.5s,baz=96,slow=10,SNR=9.1						
STKA	Stephens Creek	38.36	244	P	P	14 22 02.0	-0.1
BBOO	Buckleboo	43.13	243	P	P	14 22 39.2	-0.9
BBOO				IAmb	IAmb	14 22 40.1	
	comp=Z,12nm,0.7s						
JAY	Jayapura	44.29	288	P	P	14 22 49.8	+0.3
	comp=Z,26nm,0.5s,baz=120,slow=4.6,SNR=33						
WR0	Warramunga Arr	44.89	261	P	P	14 22 52.7	-1.3
AS31	Alice Springs	45.03	256	P	P	14 22 54.2	-0.9
ASAR	Alice Springs	45.03	256	P	P	14 22 54.3	-0.8
	comp=Z,13nm,0.8s,baz=97,slow=7.8,SNR=166						
ASAR				PcP	PcP	14 24 25.9	+0.3
	comp=Z,3.2nm,0.8s,baz=105,slow=4.0,SNR=13						
WB0	Warramunga Arr	45.05	262	P	P	14 22 54.0	-1.3
WB0				IAmb	IAmb	14 22 54.9	
	comp=Z,11nm,1.0s						
WB2	Warramunga Arr	45.06	261	P	P	14 22 53.8	-1.5
WB2				IAmb	IAmb	14 22 55.1	
	comp=Z,10nm,1.0s						
WRAB	Tennant Creek	45.07	261	P	P	14 22 54.2	-1.2
WRAB				IAmb	IAmb	14 22 55.0	
	comp=Z,7.3nm,0.9s						
WRA	Warramunga Arr	45.08	261	P	P	14 22 54.1	-1.4
	comp=Z,3.6nm,0.4s,baz=97,slow=7.6,SNR=146						
WRA				PcP	pP	14 24 26.7	-0.8
	comp=Z,1.9nm,0.8s,baz=92,slow=3.8,SNR=7.5						
MTN	Manton Dam	49.57	270	P	P	14 23 28.5	-0.8
MTN				IAmb	IAmb	14 23 29.4	
	comp=Z,19nm,0.8s						
FORT	Forrest	49.86	246	P	P	14 23 30.6	-0.7
KNRA	Kununurra	51.10	266	P	P	14 23 39.9	-0.7
KNRA				IAmb	IAmb	14 23 40.6	
	comp=Z,14nm,0.7s						
FITZ	Fitzroy Crossi	53.50	262	P	P	14 23 57.8	0.0
SOEI	Soe	56.90	271	P	P	14 24 21.2	-0.6
PSA00	Pilbara Seismi	58.18	257	P	P	14 24 29.2	-1.1
PSA00				IAmb	IAmb	14 24 30.2	
	comp=Z,12nm,0.7s						
VNDA	Vanda	58.41	185	PcP	PcP	14 25 16.9	+1.9
	comp=Z,0.7nm,0.8s,baz=88,slow=2.8,SNR=4.1						
NWAO	Narrogin (SRO)	58.95	243	P	P	14 24 35.4	+0.1
MORW	Morawa	60.39	247	P	P	14 24 43.7	-1.3
CASY	Casey	64.56	205	P	P	14 25 11.9	+0.6
JHJ2	Mitsune	66.70	322	P	P	14 25 25.8	+0.5
QSPA	South Pole Qui	70.04	180	P	P	14 25 46.9	+1.7
MAJO	Matsushiro	70.08	323	P	P	14 25 46.1	+0.4
MAT	Matsushiro	70.08	323	P	P	14 25 45.5	-0.3
ADK	Adak	71.61	1	P	P	14 25 55.1	+0.7
TPUB	Ta-pu	74.07	303	P	P	14 26 07.7	-1.5
TPUB				IAmb	IAmb	14 26 09.2	
	comp=Z,13nm,0.9s						
PEA0B	Petropavlovsk-	75.92	345	P	P	14 26 18.4	-0.6
PEA0B				IAmb	IAmb	14 26 31.3	
	comp=Z,18nm,1.1s						
PETK	Petropavlovsk-	75.92	345	P	P	14 26 19.8	+0.8
	comp=Z,8.8nm,0.8s,baz=130,slow=8.0,SNR=9.9						
ISA	Isabella, Lake	78.71	45	P	P	14 26 37.5	+2.9
SII	Sitkinak Islan	78.80	13	P	P	14 26 35.8	+1.3
SII				IAmb	IAmb	14 26 36.5	
	comp=Z,18nm,0.7s						
USRK	Ussuriysk Ar.	78.81	326	P	P	14 26 35.8	+0.9
	comp=Z,2.9nm,0.9s,baz=149,slow=4.0,SNR=5.3						
OHAK	Old Harbor	79.60	13	P	P	14 26 40.0	+1.4
OHAK				IAmb	IAmb	14 26 40.7	
	comp=Z,7.0nm,0.8s						
KDAK	Kodiak Island	80.27	13	P	P	14 26 42.7	+0.6
	comp=Z,5.8nm,0.7s,baz=222,slow=4.8,SNR=14						
KDAK	Kodiak Island	80.27	13	P	P	14 26 43.3	+1.1
KDAK				IAmb	IAmb	14 26 45.2	
	comp=Z,6.2nm,0.8s						
NVAR	Mina Array Bea	80.40	43	P	P	14 26 46.2	+2.6
	comp=Z,3.4nm,0.9s,baz=225,slow=8.7,SNR=19						
K05A	Summer Lake	81.34	39	P	P	14 26 51.2	+2.8
K05A				IAmb	IAmb	14 26 52.1	
	comp=Z,14nm,0.9s						
PMSA	Palmer Station	81.55	157	P	P	14 26 47.3	-1.6
	comp=Z,2.3nm,0.8s,baz=307,slow=6.0,SNR=4.0						
PINE	Pine Mountain	81.96	38	IAmb	IAmb	14 26 55.3	
	comp=Z,16nm,0.9s						
CNPM	China Poot	82.15	13	IAmb	IAmb	14 26 53.9	
	comp=Z,9.4nm,0.8s						
BRLK	Bradley Lake	82.44	13	IAmb	IAmb	14 26 55.1	
	comp=Z,9.7nm,0.7s						
I07A	Izee	82.97	38	IAmb	IAmb	14 26 60.0	
	comp=Z,8.9nm,0.9s						
U15A	North Rim	83.34	48	IAmb	IAmb	14 27 02.7	
	comp=Z,11nm,0.8s						
G08A	Pilot Rock	83.99	37	IAmb	IAmb	14 27 04.8	
	comp=Z,6.0nm,0.8s						
KAIM	Kayak Island	84.12	16	IAmb	IAmb	14 27 04.3	
	comp=Z,11nm,0.8s						
TTA	Tatalina	84.41	10	IAmb	IAmb	14 27 05.5	
	comp=Z,5.2nm,0.8s						
GLB	Gilahina Butte	85.58	16	IAmb	IAmb	14 27 10.9	
	comp=Z,6.9nm,0.9s						
KTH	Kantishna Hill	85.88	12	IAmb	IAmb	14 27 11.6	
	comp=Z,5.6nm,0.8s						
TRF	Thorofare Moun	85.91	12	IAmb	IAmb	14 27 11.7	
	comp=Z,12nm,0.8s						
SEY	Seymchan	86.01	347	P	P	14 27 11.7	+0.8
	comp=Z,6.2nm,0.9s,baz=136,slow=7.1,SNR=12						
TXAR	Lajitas Array	86.46	57	P	P	14 27 17.0	+3.0
	comp=Z,2.9nm,0.8s,baz=218,slow=6.2,SNR=34						
HDA	Harding Lake	87.43	13	IAmb	IAmb	14 27 19.0	
	comp=Z,8.0nm,0.6s						
DLBC	Dease Lake	87.46	23	P	P	14 27 20.2	+2.2
	comp=Z,2.1nm,0.7s,baz=237,slow=6.7,SNR=5.7						
COLA	College	87.66	12	P	P	14 27 19.6	+1.0
IL31		87.77	13	IAmb	IAmb	14 27 20.4	
	comp=Z,4.5nm,0.9s						
ILAR	Eielson Array	87.77	13	P	P	14 27 19.4	+0.2
	comp=Z,3.0nm,0.8s,baz=224,slow=5.5,SNR=26						
PDAR	Pinedale Array	88.34	43	P	P	14 27 24.2	+1.5
	comp=Z,2.2nm,0.6s,baz=214,slow=3.5,SNR=24						
DAWY	Dawson	88.90	16	IAmb	IAmb	14 27 26.7	
	comp=Z,7.0nm,0.8s						
EGAK	Eagle	89.05	15	IAmb	IAmb	14 27 27.2	
	comp=Z,8.8nm,0.8s						
CMAR	Chiang Mai Arr	90.35	289	P	P	14 27 33.7	+1.5
	comp=Z,1.9nm,0.8s,baz=127,slow=2.8,SNR=16						
INK	Inuvik	93.71	15	P	P	14 27 46.8	+0.3
	comp=Z,3.8nm,1.0s,baz=158,slow=6.3,SNR=5.6						
ZALV	Zalesovo Beam	110.39	321	PKiKP	PKiKP	14 32 58.6	-0.4
	comp=Z,1.2nm,0.6s,baz=172,slow=1.3,SNR=4.5						
MKAR	Makanchi Array	111.17	314	PKiKP	PKiKP	14 33 00.2	-0.5
	comp=Z,1.1nm,0.6s,baz=225,slow=0.7,SNR=14						
BVAR	Borovoye Array	118.98	320	PKP	PKPdf	14 33 15.2	-0.3
	comp=Z,2.7nm,0.5s,baz=99,slow=2.0,SNR=18						
ARU	Arti	125.05	326	PKP	PKPdf	14 33 27.1	0.0
	comp=Z,1.3nm,0.5s,baz=132,slow=0.8,SNR=5.4						
AKTO	Aktyubinsk	126.99	319	PKP	PKiKP	14 33 31.6	+0.1
	comp=Z,1.5nm,0.7s,baz=132,slow=7.1,SNR=4.1						
ARCES	ARCESS Array B	128.53	350	PKP	PKiKP	14 33 34.2	+0.1
	comp=Z,2.8nm,0.6s,baz=40,slow=1.6,SNR=19						
FINES	FINESS Array B	135.44	344	PKP	PKiKP	14 33 48.0	-0.2
	comp=Z,2.2nm,1.0s,baz=117,slow=0.4,SNR=4.9						
NB2	NORSAR Subarra	138.56	354	PKP	PKPdf	14 33 44.9	-7.5
	comp=Z,1.1nm,0.7s,baz=17,slow=2.6						
NOA	NORSAR Array B	138.56	354	PKP	PKiKP	14 33 54.7	0.0
	comp=Z,2.0nm,0.6s,baz=14,slow=4.0,SNR=4.0						
AKASG	Malin Array Be	142.80	332	PKhKP	PKPpre	14 33 57.2	
	comp=Z,5.8nm,0.8s,baz=41,slow=4.6,SNR=12						
SORM	Soroca	145.02	329	⇓P	PKPbc	14 34 05.0	+0.2
MBAR	Mbarara	145.52	237	PKPbc	PKPbc	14 34 08.1	+0.5
	comp=Z,29nm,0.2s,baz=203,slow=1.8,SNR=11						
KWP	Kalwaria Pacla	146.32	336	*e*PKP	PKPab	14 34 09.6	-1.1
TLCR		146.77	325	⇑P	PKPbc	14 34 10.6	+0.7
BRTR	Keskin Array B	146.82	313	PKPbc	PKPbc	14 34 10.1	-0.4
	comp=Z,4.9nm,0.8s,baz=86,slow=1.6,SNR=24						
BUR08	Bucovina Ar. S	146.84	331		PKiKP	14 34 11.3	-0.9
BURAR	Bucovina Array	146.85	331	⇓P	PKPbc	14 34 11.1	+0.9
OJC	Ojcow	146.87	339	*e*PKP	PKPbc	14 34 10.7	+0.7
ASF	Jabal al Asfar	146.92	298	PKPbc	PKiKP	14 34 11.8	-1.0
	comp=Z,6.1nm,0.8s,baz=39,slow=4.4,SNR=7.2						
TOPG	Topolog	147.20	325	⇓P	PKPdf	14 34 09.1	+1.1
ASSE	Asse, Remlinge	147.32	351	*e*PKPbc	PKiKP	14 34 12.7	-0.1
	baz=16,slow=2.4						
KSP	Ksiaz

comp=Z,2.4nm,0.5s
WTTA Wattenberg 151.82 347 *i* PKPbc **PKiKP 14 34 22.8 +0.2**
comp=Z,2.7nm,0.3s
MOTA Moosalm 151.85 347 *i* PKiKP **PKiKP 14 34 23.3 +0.7**
comp=Z,0.7nm,0.2s
MYKA Terra Mystica 151.93 343 *i* PKPbc **PKPbc 14 34 22.1 -0.4**
comp=Z,3.4nm,0.5s
ABTA Abfaltersbach 152.10 345 *i* PKPdf **PKPdf 14 34 15.5 -0.2**
comp=Z,2.7nm,1.0s
ABTA *i* PKPbc **PKPbc 14 34 22.7 -0.2**
comp=Z,4.8nm,0.5s
FETA Feichten 152.24 348 *i* PKPdf **PKPdf 14 34 16.5 +0.5**
comp=Z,4.7nm,1.0s
FETA *i* PKPbc **PKiKP 14 34 23.9 +0.4**
comp=Z,2.4nm,0.6s
ESDC Sonseca Array 159.66 14 PKPab **PKPab 14 35 08.6 +1.1**
comp=Z,1.5nm,1.1s,baz=355,slow=4.1,SNR=6.3
TORD Torodi Ar. Bea 173.12 174 PKP **PKPdf 14 34 35.9 -0.8**
comp=Z,1.7nm,0.9s,baz=356,slow=0.5,SNR=6.0

TEH ***22*** *14:18:37.9, 32°.68N× 47°.72E, h10km, ML3.2*
ISN ***22*** *14:18:38.2± 1.0, 32°.71N× 47°.71E, h14km± 7km, ML2.9*
ISC 22 14:18:38.9±1.0,**32°.65N**±0°.04×**47°.72E**±0°.04,**h10**km,**n31,**
σ1**s27**/34,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.38**	**275**	*e*Pg		**Pg**	**14 18 45.4**	**-1.0**
IKFM	**Kafar-mosalman**	**0.88**	**7**	*e*Pg		**Pg**	**14 18 54.2**	**-1.7**
IKFM				*e*			14 19 13.6	
IKMR	**Kamar-syah**	**1.03**	**32**	*e*Pg		**Pg**	**14 18 57.1**	**-1.6**
IKMR				*e*			14 19 17.2	
IDOB	**Doab**	**1.20**	**18**	*e*Pg		**Pb**	**14 19 00.3**	**-1.6**
BMDN	**Meydan**	**1.38**	**42**	*e*			14 19 31.0	
BMDN				*e*Pg		**Pn**	**14 19 04.8**	**+0.4**
AHWZ	**Ahwaz**	**1.53**	**149**	*e*Pg		**Pn**	**14 19 07.2**	**+0.9**
IKOM	**Komasi**	**1.54**	**353**	*e*			14 19 33.3	
IKOM				*e*Pg		**Pn**	**14 19 06.6**	**0.0**
IBDR	**Badra**	**1.58**	**288**	*e*Pg		**Pn**	**14 19 06.0**	**-1.0**
IBDR				*e*Sg		**Sn**	**14 19 27.0**	**-0.5**
IBDR					AML	AML	14 19 31.8	
	comp=N,108nm,0.5s							
IBDR					AML	AML	14 19 37.4	
	comp=E,129nm,0.4s							
KCHF	**Cheshme Sefid,**	**1.72**	**341**	*e*			14 19 38.3	
KCHF				*e*Pg		**Pn**	**14 19 09.4**	**+0.2**
HSAM	**Samen**	**1.73**	**25**	*e*			14 19 12.2	
HSAM				*e*Pg		**Pn**	**14 19 09.9**	**+0.6**
KER	**Kermanshah**	**1.80**	**344**	*e*Pg		**Pn**	**14 19 10.7**	**+0.5**
IBZA	**Bozab**	**1.82**	**4**	*e*Pg		**Pn**	**14 19 11.9**	**+1.3**
IBZA				*e*			14 19 43.4	
IGHG	**Ghaleghazi**	**1.94**	**330**	*e*Pn		**Pn**	**14 19 13.5**	**+1.3**
IGHG				*e*			14 19 59.2	
IVIS	**Veis**	**2.01**	**339**	*e*Pn		**Pn**	**14 19 14.4**	**+1.3**
IVIS				*e*			14 19 50.8	
NSR	**Nassriya**	**2.12**	**220**	*e*Pn		**Pn**	**14 19 15.0**	**+0.6**
NSR				*e*Sn		**Sn**	**14 19 41.0**	**+0.3**
IDHR	**Dehrash**	**2.33**	**332**	*e*		**Sg**	**14 19 58.2**	**+4.3**
ILIN	**Lien**	**2.35**	**345**	*e*Pn		**Pn**	**14 19 18.3**	**+0.4**
ILIN				*e*			14 20 01.9	
HAGD	**Aghdareh**	**2.47**	**28**	*e*Pn		**Pn**	**14 19 20.7**	**+1.2**
HAGD				*e*			14 19 26.9	
JHBN	**Jahan bin**	**2.52**	**99**	*e*Pn		**Pn**	**14 19 21.2**	**+0.9**
JHBN				*e*			14 20 11.3	
HSRG	**Sareghieh**	**2.63**	**10**	*e*Pn		**Pn**	**14 19 23.0**	**+1.3**
HSRG				*e*			14 20 05.6	
IPIR	**Pirpir**	**2.67**	**88**	*e*Pn		**Pn**	**14 19 22.9**	**+0.6**
IPIR				*e*			14 20 16.4	
ROKH	**ROKH**	**2.81**	**95**	*e*Pn		**Pn**	**14 19 24.6**	**+0.4**
ROKH				*e*			14 20 22.5	
BHD	**Baghdad**	**2.88**	**283**	*e*Pn		**Pn**	**14 19 25.0**	**+0.1**
BHD				*e*Sn		**Sn**	**14 20 00.0**	**+0.4**
BHD					AML	AML	14 20 03.1	
	comp=E,139nm,0.4s							
IRAZ	**Razeghan**	**3.31**	**33**	*e*Pn		**Pn**	**14 19 32.6**	**+1.7**
IKLH	**Kolahrood**	**3.31**	**77**	*e*Pn		**Pn**	**14 19 32.2**	**+1.2**
IKLH				*e*			14 20 40.1	
QABG	**Abgarm-Qazvin**	**3.42**	**26**	*e*Pn		**Pn**	**14 19 32.7**	**+0.1**
IGAR	**Gharneh**	**3.66**	**93**	*e*Pn		**Pn**	**14 19 35.5**	**-0.3**
IGAR				*e*			14 19 41.0	
KLNJ	**Kolanjah**	**3.67**	**115**	*e*Pn		**Pn**	**14 19 37.8**	**+1.6**
KLNJ				*e*			14 20 53.6	
IZEF	**Zefreh**	**3.89**	**85**	*e*Pn		**Pn**	**14 19 39.7**	**+0.7**
QSDN	**Sirdan**	**4.03**	**17**	*e*Pn		**Pn**	**14 19 41.7**	**+0.8**
QALM	**Alamut, Qazvin**	**4.48**	**32**	*e*Pn		**Pn**	**14 19 48.0**	**+0.9**

BJI ***22*** *14:29:49.0± 0.0, 6°.50S× 146°.80E, h10km, mB5.3/71, mb5.0/69, Ms5.1/85, Ms7 5.0/78*
MOS ***22*** *14:29:49.1± 1.0, 6°.50S× 146°.82E, h13km, mb5.6/33, MS5.0/17, Error ellipse: s-maj=8.6km s-min=5.2km az=105.1*
NEIC ***22*** *14:29:50.3± 2.5, 6°.59S± 0°.06× 146°.82E± 0°.07, h10km± 1km, mb5.5/123, Ms_20 5.4/787, Mwc5.5(GCMT), Error ellipse: s-maj=11.3km s-min=9.3km az=100.0*
NEIC ***22*** *14:29:52, 6°.58S× 146°.94E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 1.55; Mθθ 0.73; Mϕϕ -0.81; Mrθ -0.05; Mrϕ 1.79; Mϕθ 0.55; Fault plane solution: M0 2.30000×10^17 NP1: ϕ 111.00000°, δ 45.00000°, λ 53.00000°. NP2: ϕ 338.00000°, δ 56.00000°, λ 121.00000°. Principal axes: T 1.7587, Plg64.0000°, Azm304.0000°; N 0.8503, Plg25.0000°, Azm139.0000°; P -2.6090, Plg6.0000°, Azm46.0000°;*
GCMT ***22*** *14:29:53.3± 0.1, 6°.59S± 0°.01× 146°.91E± 0°.01, h12km, MW5.5/143, Moment Tensor Solution. s95,c144; s143,c276; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr 1.52±.02; Mθθ -0.75±.02; Mϕϕ -0.76±.02; Mrθ 0.03±.06; Mrϕ 1.71±.02; Mθr 0.06±.06; Best double couple: M0 1.99900×10^17 NP1: ϕ 129.00000°, δ 45.00000°, λ 81.00000°. NP2: ϕ 321.00000°, δ 46.00000°, λ 99.00000°. Principal axes: T 1.5270, Plg84.0000°, Azm313.0000°; N 0.9420, Plg6.0000°, Azm135.0000°; P -2.4710, Plg0.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***22*** *14:29:53.6± 2.3, 6°.56S× 146°.88E, h33km± 17km, mb4.8/30, mb1 4.9/35, mb1mx4.9/41, mbtmp5.0/35, ML4.4/4, MS5.1/25, Ms1 5.1/25, ms1mx5.0/30 Error ellipse: s-maj=13.7km s-min=10.2km az=77.0*
DJA ***22*** *14:29:55.0± 0.3, 6°.S± 2°× 14°.7E± °, h44km± 3km, M5.3/80, mB5.8/61, mb5.3/80, MLv5.9/4, Mw(mB)5.3/61, Mwp5.5/19*
ISC 22 14:29:50.4±0.2,**6.60S**±0.03×**146.79E**±0.03,**h10**km,**n932,**
σ1**s78**/586,**mb5.4**/160,**MS5.4**/452,**19C-13D,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.81**	**172**	Pn		**Pn**	**14 30 36.9**	**+1.4**
	32nm,0.3s,baz=343,slow=10.0,SNR=65							
PMG				Pg		**Pg**	**14 30 44.6**	**+0.2**
	124nm,0.3s,baz=25,slow=11,SNR=29							
PMG				Lg		Lg	14 31 24.3	
	234nm,0.3s,baz=134,slow=22,SNR=7.4							
PMG				LR		LR	14 32 12.0	
	comp=Z,56μm,18.2s,baz=359,slow=49							
PMG	**Port Moresby**	**2.81**	**172**	*de*P		**Pn**	**14 30 37.2**	**+1.7**
PMG					pmax	pmax		
	comp=Z,2μm,1.3s							
PMG	**Port Moresby**	**2.81**	**172**	Pn		**Pn**	**14 30 36.4**	**+0.8**
KRVT	**Keravat (AS076**	**5.69**	**67**	Pn		**Pn**	**14 31 15.2**	**0.0**
	comp=Z,13nm,0.3s,baz=78,slow=2.0,SNR=18							
KRVT				Sn		**Sn**	**14 32 27.3**	**+6.7**
	comp=Z,7.1nm,0.3s,baz=40,slow=23,SNR=0.9							
KRVT				LR		LR	14 33 59.3	
	comp=Z,12μm,20.2s,baz=253,slow=44							
RABL	**Rabaul**	**5.86**	**66**			**Pn**	**14 31 18.0**	**+0.4**
MMPI	**Merauke**	**6.61**	**253**	P		**Pn**	**14 31 23.8**	**-4.0**
JAY	**Jayapura**	**7.29**	**304**	Pn		**Pn**	**14 31 40.5**	**+3.3**
	comp=Z,4.6nm,0.3s,baz=53,slow=2.4,SNR=18							
JAY				Sn		**Sn**	**14 33 08.7**	**+8.6**
	comp=Z,0.2nm,0.3s,baz=312,slow=22,SNR=0.8							
JAY	**Jayapura**	**7.29**	**304**	P		**Pn**	**14 31 38.7**	**+1.5**
	comp=Z,1.2nmcomp=Z,14μmcomp=Z,2μmcomp=Z,104nm,1.2s							
GENI	**Genyem**	**7.70**	**301**	P		**Pn**	**14 31 46.3**	**+3.5**
	comp=Z,6.8nmcomp=Z,8μmcomp=Z,10μmcomp=Z,438nm,0.9s							
COEN	**Coen**	**8.13**	**206**	P		**Pn**	**14 31 50.8**	**+2.1**
	baz=8.3,SNR=40							
COEN	**Coen**	**8.13**	**206**			**Pn**	**14 31 50.4**	**+1.8**
SMPI	**Sarmi**	**9.26**	**299**	P		**Pn**	**14 32 07.7**	**+3.5**
	comp=Z,6μmcomp=Z,3μmcomp=Z,174nm,1.4s							
SRPI	**Serui, Papua**	**11.52**	**294**	P		**Pn**	**14 32 33.2**	**-1.9**
	comp=Z,190nm,1.2s							
MTSU	**Mount Surprise**	**11.72**	**192**	P		**Pn**	**14 32 40.0**	**+2.1**
	baz=12,SNR=9.2							
HNR	**Honiara**	**13.33**	**103**	Pn		**Pn**	**14 33 02.9**	**+3.0**
	comp=Z,18nm,0.3s,baz=176,slow=5.2,SNR=9.9							
HNR				LR		LR	14 37 46.8	
	comp=Z,4μm,19.5s,baz=280,slow=36							
HNR	**Honiara**	**13.33**	**103**	P		**Pn**	**14 33 00.9**	**+1.0**
HNR	**Honiara**	**13.33**	**103**	Pn		**Pn**	**14 33 00.9**	**+1.0**
CTA	**Charters Tower**	**13.42**	**182**	Pn		**Pn**	**14 33 05.0**	**+3.9**
	comp=Z,1.2nm,0.3s,baz=355,slow=14,SNR=20							
CTA				LR		LR	14 38 05.2	
	comp=Z,12μm,18.7s,baz=6.5,slow=36							
CTAO	**Charters Tower**	**13.42**	**182**	P		**Pn**	**14 33 03.1**	**+2.0**
CTAO	**Charters Tower**	**13.42**	**182**	Pn		**Pn**	**14 33 03.1**	**+2.0**
FAKI	**Fak Fak**	**14.94**	**283**			**P**	**14 33 25.7**	**-1.8**
KDU	**Kakadu**	**15.35**	**246**	P		**P**	**14 33 29.9**	**-2.1**
	baz=16,SNR=71							
SAUI	**Saumlaki**	**15.42**	**264**			**Pn**	**14 33 29.1**	**+0.9**
QIS	**Mount Isa**	**15.53**	**206**	P		**Pn**	**14 33 31.2**	**+1.5**
	baz=16,SNR=125							
SIJI	**Sorong**	**16.49**	**290**	Pn		**Pn**	**14 33 43.5**	**+1.3**
	comp=Z,2.2nm,0.3s,baz=96,slow=9.6,SNR=42							
SIJI				Sn		**S**	**14 37 00.7**	**+3.2**
	comp=Z,0.0nm,0.3s,baz=141,slow=22,SNR=1.1							
SIJI				LR		LR	14 42 25.7	
	comp=Z,8μm,19.1s,baz=108,slow=45							
MTN	**Manton Dam**	**16.62**	**247**	P		**P**	**14 33 46.5**	**+0.3**
	baz=17,SNR=10							
MTN	**Manton Dam**	**16.62**	**247**			**P**	**14 33 45.6**	**-0.6**
PATS	**Pohnpei**	**17.62**	**41**	P		**Pn**	**14 33 55.3**	**-0.9**
	baz=18,SNR=9.4							
PATS	**Pohnpei**	**17.62**	**41**	P		**P**	**14 33 58.4**	**+1.1**
PATS					IAmb	IAmb	14 34 21.1	
	comp=Z,715nm,1.3s							
WB0	**Warramunga Arr**	**17.79**	**221**			**P**	**14 33 59.4**	**+0.3**
WR0	**Warramunga Arr**	**17.83**	**221**			**P**	**14 33 59.9**	**+0.4**
WRAB	**Tennant Creek**	**17.93**	**221**	*de*P		**P**	**14 34 01.3**	**+0.6**
WRAB					pmax	pmax		
	comp=Z,280nm,1.3s							
WRAB	**Tennant Creek**	**17.93**	**221**	P		**P**	**14 34 01.1**	**+0.4**
WB2	**Warramunga Arr**	**17.94**	**221**			**P**	**14 34 01.2**	**+0.5**
WRA	**Warramunga Arr**	**17.95**	**221**	P		**Pn**	**14 34 00.5**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=45,slow=12,SNR=100							
WRA				LR		LR	14 41 26.5	
	comp=Z,14μm,20.1s,baz=45,slow=38							
MSAI	**Masohi**	**18.08**	**279**	P		**Pn**	**14 34 01.7**	**-0.3**
	comp=Z,1μmcomp=Z,36nm,0.8s							
EIDS	**Eidsvold**	**19.11**	**168**	P		**Pn**	**14 34 15.7**	**+1.2**
	baz=19,SNR=27							
EIDS	**Eidsvold**	**19.11**	**168**			**Pn**	**14 34 15.2**	**+0.7**
KNRA	**Kununurra**	**19.84**	**241**	P		**P**	**14 34 21.7**	**+0.1**
	baz=20,SNR=16							
KNRA	**Kununurra**	**19.84**	**241**	P		**P**	**14 34 22.0**	**+0.4**
KNRA					IAmb	IAmb	14 34 50.1	
	comp=Z,206nm,1.1s							
RMQ	**Roma**	**19.87**	**175**	P		**Pn**	**14 34 24.3**	**+0.8**
	baz=20,SNR=108							
NLAI	**Namlea**	**19.89**	**279**	P		**P**	**14 34 22.6**	**+0.3**
	comp=Z,4μmcomp=Z,150nm,1.3s							
QLP	**Quilpie**	**20.02**	**187**	P		Pn	14 34 25.1	-0.2
	baz=20,SNR=57							
GUMO	**Guam**	**20.14**	**355**	P		Pn	14 34 26.4	-0.4
	comp=Z,180nm,0.8s,baz=179,slow=7.6,SNR=32							
GUMO				LR		LR	14 40 31.7	
	comp=Z,3μm,20.4s,baz=178,slow=32							
GUMO	**Guam**	**20.14**	**355**	P		**P**	**14 34 25.6**	**+0.6**
GUMO					pmax	pmax		
	comp=Z,2μm,1.9s							
GUMO					MLR	MLR		
	comp=Z,3μm,21.0s							
GUMO	**Guam**	**20.14**	**355**	P		Pn	14 34 25.6	-1.2
TNTI	**Ternate**	**20.72**	**290**	P		Pn	14 34 32.9	-0.7
	comp=Z,2μmcomp=Z,5μmcomp=Z,329nm,1.6s							
TNTI	**Ternate**	**20.72**	**290**			Pn	14 34 33.5	-0.1
AS31	**Alice Springs**	**21.01**	**215**	P		**P**	**14 34 35.4**	**+1.0**
ASAR	**Alice Springs**	**21.01**	**215**	P		**P**	**14 34 35.5**	**+1.1**
	comp=Z,21nm,0.9s,baz=51,slow=8.0,SNR=49							
ASAR				LR		LR	14 43 21.3	
	comp=Z,9μm,21.2s,baz=39,slow=38							
SANI	**Sanana**	**21.22**	**281**	P		**P**	**14 34 36.0**	**-0.7**
	comp=Z,3μmcomp=Z,4μmcomp=Z,188nm,0.9s							
SOEI	**Soe**	**22.51**	**260**	P		**P**	**14 34 50.5**	**-0.1**
	comp=Z,7μmcomp=Z,151nm,1.1s							
SOEI	**Soe**	**22.51**	**260**	P		**P**	**14 34 51.4**	**+0.8**
ANA2	**Anatahan**	**22.82**	**357**	P		**P**	**14 34 53.2**	**-0.5**
ANA2					IAmb	IAmb	14 35 26.2	
	comp=Z,170nm,1.2s							
BATI	**Baumata**	**23.15**	**260**	P		**P**	**14 34 59.8**	**+2.5**
	comp=Z,50nm,0.7s,baz=162,slow=1.6,SNR=5.2							
BATI				LR		LR	14 46 20.5	
	comp=Z,14μm,19.9s,baz=118,slow=42							
BATI	**Baumata**	**23.15**	**260**	P		**P**	**14 34 59.9**	**+2.6**
	comp=Z,3μmcomp=Z,141nm,1.7s							
FITZ	**Fitzroy Crossi**	**23.57**	**239**	P		**P**	**14 35 02.0**	**+0.6**
	comp=Z,46nm,0.9s,baz=52,slow=10,SNR=43							
FITZ				LR		LR	14 46 07.2	
	comp=Z,8μm,18.0s,baz=68,slow=41							
FITZ	**Fitzroy Crossi**	**23.57**	**239**	P		**P**	**14 35 01.1**	**-0.3**
	baz=24,SNR=60							
FITZ	**Fitzroy Crossi**	**23.57**	**239**	P		**P**	**14 35 01.0**	**-0.5**
FITZ					IAMs_20	IAMs_20	14 45 39.4	
	comp=Z,13μm,19.0s							
KMSI	**Cibinong**	**23.85**	**287**	P		**P**	**14 35 05.1**	**+0.9**
	comp=Z,6μmcomp=Z,450nm,0.7s							
ARMA	**Armidale**	**24.13**	**170**	P		**P**	**14 35 07.1**	**+0.3**
	baz=24,SNR=14							
ARMA	**Armidale**	**24.13**	**170**	P		**P**	**14 35 05.8**	**-0.9**
ARMA					IAmb	IAmb	14 35 12.8	
	comp=Z,112nm,1.2s							
MMRI	**Maumere**	**24.41**	**264**	P		**P**	**14 35 09.2**	**-0.3**
	comp=Z,2μmcomp=Z,3μmcomp=Z,154nm,1.3s							
MMRI	**Maumere**	**24.41**	**264**	P		**P**	**14 35 08.3**	**-1.1**
MMRI					IAmb	IAmb	14 35 32.7	
	comp=Z,153nm,1.0s							
DZM	**Mont Dzumac**	**24.43**	**131**	P		**P**	**14 35 08.4**	**-1.2**
	comp=Z,52nm,0.9s,baz=341,slow=6.5,SNR=18							
DZM				LR		LR	14 42 01.0	
	comp=Z,1μm,20.9s,baz=315,slow=30							
DZM	**Mont Dzumac**	**24.43**	**131**	*e*P		**P**	**14 35 09.4**	**-0.2**
	comp=Z,520nm,1.6s							
DZM	**Mont Dzumac**	**24.43**	**131**	P		**P**	**14 35 09.2**	**-0.4**
DZM					IAmb	IAmb	14 35 12.3	
	comp=Z,200nm,1.2s							
LUWI	**Luwuk**	**24.58**	**282**	P		**P**	**14 35 11.3**	**+0.4**
	comp=Z,3μmcomp=Z,9μmcomp=Z,393nm,1.0s							
LUWI	**Luwuk**	**24.58**	**282**	P		**P**	**14 35 13.2**	**+2.2**
GTOI	**Gorontalo**	**24.79**	**286**	P		**P**	**14 35 14.8**	**+1.9**
	comp=Z,3μmcomp=Z,246nm,0.7s							
CMSA	**Cobar Meteorol**	**24.83**	**182**	P		**P**	**14 35 13.6**	**+0.5**
	baz=25,SNR=38							
EDFI	**Ende, Flores**	**24.96**	**263**	P		**P**	**14 35 14.7**	**+0.2**
	comp=Z,2μmcomp=Z,788nmcomp=Z,41nm,0.8s							
DAV	**Davao City (W)**	**25.14**	**302**	*ie*P		**P**	**14 35 16.9**	**+0.9**
WRKA	**Warakurna**	**25.48**	**222**	P		**P**	**14 35 19.5**	**+0.4**
	baz=26,SNR=37							
STKA	**Stephens Creek**	**25.61**	**190**	P		**P**	**14 35 20.1**	**0.0**
	comp=Z,33nm,0.9s,baz=356,slow=8.6,SNR=28							
STKA				LR		LR	14 46 14.3	
	comp=Z,7μm,19.3s,baz=8.2,slow=38							
STKA	**Stephens Creek**	**25.61**	**190**	P		**P**	**14 35 20.5**	**+0.4**
	baz=26,SNR=28							
STKA	**Stephens Creek**	**25.61**	**190**	P		**P**	**14 35 19.9**	**-0.2**
STKA					pmax	pmax		
	comp=Z,25nm,1.5s							
STKA					MLR	MLR		
	comp=Z,3μm,18.0s							
STKA	**Stephens Creek**	**25.61**	**190**	P		**P**	**14 35 19.9**	**-0.2**
KWAJ	**Kwajalein Atol**	**25.79**	**54**	P		**P**	**14 35 20.7**	**-1.2**
KWAJ					pmax	pmax		
	comp=Z,237nm,1.1s							
KWAJ					MLR	MLR		
	comp=Z,6μm,21.0s							
KWAJ	**Kwajalein Atol**	**25.79**	**54**	P		**P**	**14 35 20.7**	**-1.2**
BASI	**Baing, Sumba**	**26.17**	**260**	P		**P**	**14 35 29.3**	**+3.9**
	comp=Z,2μmcomp=Z,3μmcomp=Z,162nm,0.9s							
WSI	**Waingapu**	**26.39**	**262**	P		**P**	**14 35 29.5**	**+2.1**
	comp=Z,9μmcomp=Z,348nm,1.1s							
BNSI	**Bone**	**26.64**	**273**	P		**P**	**14 35 30.0**	**+0.3**
	comp=Z,1μmcomp=Z,58nm,1.0s							
MGCD	**Mangrove Creek**	**26.78**	**172**	P		**P**	**14 35 31.6**	**+0.9**
	baz=27,SNR=7.9							
KAPI	**Kappang**	**26.94**	**272**	P		**P**	**14 35 34.1**	**+1.7**
	comp=Z,10nm,0.8s,baz=63,slow=5.6,SNR=3.0							
KAPI					LR	LR	14 47 30.2	
	comp=Z,2μm,21.9s,baz=86,slow=39							
KAPI	**Kappang**	**26.94**	**272**	P		**P**	**14 35 33.8**	**+1.5**
KAPI					pmax	pmax		
	comp=Z,62nm,1.2s							
KAPI	**Kappang**	**26.94**	**272**	P		**P**	**14 35 33.8**	**+1.5**
SPSI	**Sidrap Palu**	**27.02**	**274**	P		**P**	**14 35 27.4**	**-5.7**
	comp=Z,1μmcomp=Z,37nm,1.4s							
TARA	**Tarawa**	**27.26**	**74**	P		**P**	**14 35 37.1**	**+2.0**
TARA	**Tarawa**	**27.26**	**74**	IAMs_20	IAMs_20		14 45 26.3	
	comp=Z,9μm,21.0s							
YNG	**Young**	**27.61**	**177**	P		**P**	**14 35 37.4**	**-0.7**
	baz=28,SNR=15							
HTT	**Hallett**	**27.68**	**194**	P		**P**	**14 35 37.9**	**-0.9**
	baz=28,SNR=14							
BBOO	**Buckleboo**	**27.93**	**200**	P		**P**	**14 35 41.7**	**+0.7**
	baz=28,SNR=5.2							
BBOO	**Buckleboo**	**27.93**	**200**	P		**P**	**14 35 41.2**	**+0.2**
CAN	**Canberra**	**28.66**	**176**	P		**P**	**14 35 48.3**	**+0.8**
CAN					pmax	pmax		
	comp=Z,109nm,1.5s							
CAN					MLR	MLR		
	comp=Z,7μm,19.0s							
CAN	**Canberra**	**28.66**	**176**	P		**P**	**14 35 48.3**	**+0.8**
CAN					IAmb	IAmb	14 35 53.7	
	comp=Z,109nm,1.5s							
CAN					IAMs_20	IAMs_20	14 47 58.5	
	comp=Z,7μm,19.0s							
FORT	**Forrest**	**29.79**	**214**		IAMs_20	IAMs_20	14 48 25.9	
	comp=Z,8μm,20.0s							
MBWA	**Marble Bar**	**29.91**	**238**		IAMs_20	IAMs_20	14 49 49.8	
	comp=Z,10μm,18.0s							
PSAC2	**Pilbara Seismi**	**29.94**	**237**		IAMs_20	IAMs_20	14 49 50.7	
	comp=Z,11μm,18.0s							
PSAD1	**Pilbara Seismi**	**29.95**	**238**		IAMs_20	IAMs_20	14 49 50.0	
	comp=Z,11μm,19.0s							
PSAB2	**Pilbara Seismi**	**29.97**	**238**		IAMs_20	IAMs_20	14 49 50.4	
	comp=Z,10μm,18.0s							
PSAA2	**Pilbara Seismi**	**29.99**	**238**		IAMs_20	IAMs_20	14 49 50.9	
	comp=Z,10μm,19.0s							
PSAA3	**Pilbara Seismi**	**29.99**	**238**		IAMs_20	IAMs_20	14 49 51.8	
	comp=Z,10μm,18.0s							
PSA00	**Pilbara Seismi**	**29.99**	**238**	P		**P**	**14 36 00.1**	**+0.6**
PSA00					IAMs_20	IAMs_20	14 49 52.0	
	comp=Z,10μm,18.0s							
PSAB3	**Pilbara Seismi**	**29.99**	**237**		IAMs_20	IAMs_20	14 49 51.0	
	comp=Z,11μm,19.0s							
PSAA1	**Pilbara Seismi**	**30.00**	**238**		IAMs_20	IAMs_20	14 50 00.2	
	comp=Z,10μm,18.0s							
PSAC1	**Pilbara Seismi**	**30.01**	**238**		IAMs_20	IAMs_20	14 49 52.3	
	comp=Z,11μm,19.0s							
PSAB1	**Pilbara Seismi**	**30.01**	**238**		IAMs_20	IAMs_20	14 49 52.5	
	comp=Z,12μm,20.0s							
PSAD3	**Pilbara Seismi**	**30.08**	**237**		IAMs_20	IAMs_20	14 49 54.3	
	comp=Z,11μm,19.0s							
ARPS	**Mount Arapiles**	**30.37**	**188**	P		**P**	**14 36 03.8**	**+1.2**
	baz=30,SNR=14							
MYLDM	**Lahad Datu**	**30.56**	**292**	P		**P**	**14 36 06.3**	**+1.7**
MYLDM					IAmb	IAmb	14 36 42.7	
	comp=Z,140nm,1.1s							
TOO	**Toolangi**	**30.85**	**182**	P		**P**	**14 36 08.2**	**+1.3**
	baz=31,SNR=11							
TOO	**Toolangi**	**30.85**	**182**	P		**P**	**14 36 07.8**	**+0.9**
TOO					pmax	pmax		
	comp=Z,61nm,1.2s							
TOO					MLR	MLR		
	comp=Z,5μm,18.0s							
TOO	**Toolangi**	**30.85**	**182**	P		**P**	**14 36 07.8**	**+0.9**
TOO					IAmb	IAmb	14 36 09.4	
	comp=Z,61nm,1.2s							
BBKI	**Banjar Baru**	**31.97**	**274**	P		**P**	**14 36 17.9**	**+0.9**
	comp=Z,25nm,1.4s							
SPMM	**Sapulut**	**32.28**	**290**	P		**P**	**14 36 21.0**	**+1.2**
MTKI	**Muara Teweh, K**	**32.30**	**279**	P		**P**	**14 36 19.2**	**-0.7**
	comp=Z,30nm,0.7s							
JAGI	**Jajag, Banyuwa**	**32.40**	**265**	P		**P**	**14 36 18.6**	**-2.2**
JAGI					IAmb	IAmb	14 36 42.0	
	comp=Z,55nm,1.0s							
MSVF	**Nonsavu**	**32.45**	**113**	P		**P**	**14 36 22.3**	**+1.0**
MSV

SKJI	**Sukabumi**	**39.94**	**267**	P	**P**	**14**	**37**	**26.0**	**+0.6**
	comp=Z,2µmcomp=Z,124nm,0.8s								
HIZ	**Hauiti**	**40.67**	**145**	IAMs_20	IAMs_20	14	55	07.2	
	comp=Z,3µm,18.0s								
PPBI	**Pangkal Pinang**	**40.76**	**274**	P	**P**	**14**	**37**	**32.9**	**+0.8**
	comp=Z,19µmcomp=Z,52nm,1.7s								
XMIS	**Christmas Isla**	**40.84**	**262**		**P**	**14**	**37**	**33.1**	**+0.3**
XMIS				IAmb	IAmb	14	37	54.0	
	comp=Z,138nm,1.0s								
QRZ	**Quartz Range**	**41.11**	**150**	P	**P**	**14**	**37**	**35.8**	**+1.1**
QRZ				IAmb	IAmb	14	38	11.0	
	comp=Z,119nm,1.5s								
AFI	**Afiamalu**	**41.37**	**103**	P	**P**	**14**	**37**	**37.2**	**0.0**
	comp=Z,15nm,0.7s,baz=241,slow=22,SNR=3.6								
AFI	**Afiamalu**	**41.37**	**103**	P	**P**	**14**	**37**	**37.0**	**-0.2**
AFI				pmax	pmax				
	comp=Z,249nm,1.9s								
AFI	**Afiamalu**	**41.37**	**103**	P	**P**	**14**	**37**	**37.0**	**-0.2**
AFI				IAmb	IAmb	14	37	45.6	
	comp=Z,249nm,1.9s								
KNMB	**Chin-men Tao**	**41.46**	**319**	P	**P**	**14**	**37**	**38.0**	**+0.2**
KNMB				IAmb	IAmb	14	38	00.4	
	comp=Z,225nm,1.8s								
KNTN	**Kanton**	**41.52**	**87**	P	**P**	**14**	**37**	**38.5**	**+0.1**
QZH	**Quanzhou**	**41.67**	**320**	⇑*i*P	**P**	**14**	**37**	**39.4**	**0.0**
QZH				S	**S**	**14**	**43**	**58.1**	**+1.8**
QZH				pmax	pmax				
	comp=Z,300nm,8.1s								
QZH				LR	LR				
	comp=Z,730nm,12.8s								
QZH				LR	LR				
	comp=Z,940nm,19.1s								
QZH				LR	LR				
	comp=Z,1µm,17.9s								
URZ	**Urewera**	**41.80**	**143**	IAMs_20	IAMs_20	14	54	05.2	
	comp=Z,4µm,19.0s								
NNZ	**Nelson**	**41.83**	**150**	P	**P**	**14**	**37**	**41.8**	**+1.3**
NNZ				IAmb	IAmb	14	37	45.1	
	comp=Z,254nm,1.8s								
THZ	**Tophouse**	**42.01**	**151**	P	**P**	**14**	**37**	**44.9**	**+2.9**
THZ				IAmb	IAmb	14	37	49.0	
	comp=Z,255nm,1.7s								
BKZ	**Black Stump Fm**	**42.05**	**145**	IAmb	IAmb	14	37	45.1	
	comp=Z,100nm,1.4s								
TUWZ	**Tuamarina**	**42.27**	**149**	P	**P**	**14**	**37**	**43.9**	**-0.3**
JNU	**Nakatsue**	**42.29**	**340**	P	**P**	**14**	**37**	**43.4**	**-1.0**
JNU				IAmb	IAmb	14	37	52.7	
	comp=Z,136nm,1.1s								
DLV	**T Lat**	**42.31**	**296**	P	**P**	**14**	**37**	**41.8**	**-3.3**
MDSI	**Maura Dua**	**42.45**	**271**	P	**P**	**14**	**37**	**44.9**	**-1.1**
	comp=Z,619nmcomp=Z,44nm,1.3s								
LWLI	**Liwa**	**42.53**	**270**	P	**P**	**14**	**37**	**47.0**	**+0.2**
	comp=Z,66nm,0.9s								
DSRI	**Dabo**	**42.54**	**276**	P	**P**	**14**	**37**	**48.8**	**+2.0**
	comp=Z,1µmcomp=Z,31nm,1.1s								
SNZO	**South Karori**	**42.58**	**149**	IAMs_20	IAMs_20	14	55	54.7	
	comp=Z,5µm,19.0s								
RPZ	**Rata Peaks**	**42.67**	**154**	P	**P**	**14**	**37**	**47.4**	**0.0**
RPZ				IAMs_20	IAMs_20	14	54	02.1	
	comp=Z,5µm,19.0s								
BFZ	**Birch Farm**	**42.95**	**147**	IAMs_20	IAMs_20	14	56	52.3	
	comp=Z,5µm,18.0s								
LHSI	**Lahat**	**43.16**	**271**	P	**P**	**14**	**37**	**51.9**	**+0.1**
	comp=Z,2µmcomp=Z,56nm,1.2s								
MAJO	**Matsushiro**	**43.66**	**350**	P	**P**	**14**	**37**	**54.3**	**-1.1**
MAJO				pmax	pmax				
	comp=Z,110nm,1.5s								
MAJO	**Matsushiro**	**43.66**	**350**	P	**P**	**14**	**37**	**54.3**	**-1.1**
MAJO				IAmb	IAmb	14	38	04.8	
	comp=Z,110nm,1.5s								
MAT	**Matsushiro**	**43.66**	**350**	P	**P**	**14**	**37**	**54.5**	**-1.0**
MAT				S	**S**	**14**	**44**	**21.1**	**-4.2**
MYKOM	**Kota Tinggi**	**43.66**	**280**	IAmb	IAmb	14	38	01.0	
	comp=Z,70nm,1.1s								
MYKOM	**Kota Tinggi**	**43.66**	**280**	P	**P**	**14**	**37**	**57.0**	**+1.2**
QIZ	**Qiongzhong**	**44.42**	**306**	P	**P**	**14**	**38**	**03.4**	**+1.5**
QIZ				PP	**PcP**	**14**	**39**	**41.8**	**-3.9**
QIZ				S	**S**	**14**	**44**	**38.8**	**+1.8**
QIZ				pmax	pmax				
	comp=Z,35nm,1.1s								
QIZ				pmax	pmax				
	comp=Z,280nm,6.0s								
QIZ				LR	LR				
	comp=Z,950nm,20.6s								
QIZ				LR	LR				
	comp=Z,670nm,18.1s								
QIZ				LR	LR				
	comp=Z,920nm,21.6s								
QIZ	**Qiongzhong**	**44.42**	**306**	IAmb	IAmb	14	38	06.2	
	comp=Z,43nm,1.0s								
SSE	**Sheshan**	**44.77**	**328**	P	**P**	**14**	**38**	**04.9**	**+0.5**
SSE				S	**S**	**14**	**44**	**41.0**	**-0.6**
SSE				sS	**sS**	**14**	**44**	**51.6**	**+4.8**
SSE				pmax	pmax				
	comp=Z,24nm,0.6s								
SSE				pmax	pmax				
	comp=Z,150nm,4.3s								
SSE				LR	LR				
	comp=Z,510nm,16.0s								
SDSI	**Sungai Dareh**	**45.59**	**275**	P	**P**	**14**	**38**	**11.5**	**+0.3**
	comp=Z,42nm,1.2s								
BKNI	**Bangkinang**	**46.16**	**277**	P	**P**	**14**	**38**	**14.8**	**-1.0**
	comp=Z,5µmcomp=Z,96nm,0.5s								
TJN	**Taejon**	**46.47**	**338**	*c*/P	**P**	**14**	**38**	**17.0**	**-0.8**
PDSI	**Padang**	**46.55**	**275**	P	**P**	**14**	**38**	**18.3**	**-0.5**
	comp=Z,1µmcomp=Z,10nm,0.6s								
NJ2	**Nanjing**	**46.76**	**327**	⇓P	**P**	**14**	**38**	**20.9**	**+0.8**
NJ2				sP	**sP**	**14**	**38**	**29.3**	**+4.6**
NJ2				PP	**PP**	**14**	**40**	**12.8**	**+2.6**
NJ2				S	**S**	**14**	**45**	**13.1**	**+2.9**
NJ2				pmax	pmax				
	comp=Z,20nm,1.2s								
NJ2				pmax	pmax				
	comp=Z,280nm,6.2s								
NJ2				LR	LR				
	comp=Z,1µm,18.0s								
NJ2				LR	LR				
	comp=Z,790nm,17.5s								
NJ2				LR	LR				
	comp=Z,1µm,19.4s								
IPM	**Ipoh**	**46.99**	**282**	P	**P**	**14**	**38**	**23.0**	**+0.7**
KSRS	**Korea Array**	**47.23**	**339**	P	**P**	**14**	**38**	**23.0**	**-0.7**
	comp=Z,39nm,0.9s,baz=157,slow=8.7,SNR=84								
KSRS				LR	LR	14	55	20.5	
	comp=Z,1µm,21.9s,baz=158,slow=32								
KULM	**Kulim**	**47.54**	**283**	IAmb	IAmb	14	38	28.5	
	comp=Z,47nm,0.8s								
KULM	**Kulim**	**47.54**	**283**	P	**P**	**14**	**38**	**28.0**	**+1.4**
MNSI	**Mandailing Nat**	**47.68**	**277**	P	**P**	**14**	**38**	**26.2**	**-1.4**
	comp=Z,34nm,1.0s								
WHN	**Wuhan**	**48.27**	**322**	⇑P	**P**	**14**	**38**	**29.8**	**-2.1**
WHN				PP	**PP**	**14**	**40**	**23.1**	**-1.4**
WHN				S	**S**	**14**	**45**	**32.9**	**+1.2**
WHN				pmax	pmax				
	comp=Z,630nm,8.2s								
WHN				LR	LR				
	comp=Z,960nm,12.0s								
WHN				LR	LR				
	comp=Z,1µm,12.9s								
WHN				LR	LR				
	comp=Z,2µm,24.0s								
ERM	**Erimo**	**48.49**	**356**	⇑*e*P	**P**	**14**	**38**	**33.8**	**+0.4**
ERM				pmax	pmax				
	comp=Z,9.0nm,0.6s								
JOHN	**Johnston Islan**	**49.03**	**61**	IAMs_20	IAMs_20	14	56	45.8	
	comp=Z,5µm,21.0s								
TSI	**Tuntungan**	**49.17**	**280**	P	**P**	**14**	**38**	**39.7**	**+0.5**
GSI	**Gunungsitoli**	**49.74**	**277**	P	**P**	**14**	**38**	**43.4**	**-0.1**
	comp=Z,59nm,0.8s								
GSI	**Gunungsitoli**	**49.74**	**277**	P	**P**	**14**	**38**	**42.9**	**-0.6**
GSI				IAmb	IAmb	14	38	50.1	
	comp=Z,41nm,0.7s								
KCSI	**Kotacane, Aceh**	**49.95**	**280**	P	**P**	**14**	**38**	**44.7**	**-0.5**
	comp=Z,984nmcomp=Z,86nm,1.3s								
YUK	**Yuzh-Kuril'sk**	**50.40**	**359**	*e*P	**P**	**14**	**38**	**44.9**	**-3.0**
YUK				*e*		14	40	37.4	
YUK				*i*S	**S**	**14**	**46**	**00.0**	**-1.3**
YUK				SS	SS	14	49	24.3	-11
YUK				pmax	pmax				
	comp=Z,328nm,1.3s								
TIA	**Tai'an**	**50.87**	**329**	P	**P**	**14**	**38**	**51.3**	**-0.4**
TIA				pmax	pmax				
	comp=Z,91nm,3.5s								
TIA				LR	LR				
	comp=Z,590nm,21.4s								
TIA				LR	LR				
	comp=Z,810nm,17.1s								
TIA				LR	LR				
	comp=Z,1µm,17.8s								
GYA	**Guiyang**	**50.92**	**312**	⇓P	**P**	**14**	**38**	**54.1**	**+1.7**
GYA				pP	sP	14	38	58.0	+1.0
GYA				PP	**PP**	**14**	**40**	**44.1**	**-4.8**
GYA				S	**S**	**14**	**46**	**12.9**	**+3.6**
GYA				SS	**SS**	**14**	**49**	**44.4**	**0.0**
GYA				pmax	pmax				
	comp=Z,9.0nm,1.4s								
GYA				pmax	pmax				
	comp=Z,270nm,7.0s								
GYA				LR	LR				
	comp=Z,450nm,20.5s								
GYA				LR	LR				
	comp=Z,370nm,18.1s								
GYA				LR	LR				
	comp=Z,670nm,19.7s								
DL2	**Dalian**	**50.93**	**335**	P	**P**	**14**	**38**	**53.3**	**+1.2**
DL2				S	**S**	**14**	**46**	**07.3**	**-1.5**
DL2				pmax	pmax				
	comp=Z,29nm,0.8s								
DL2				pmax	pmax				
	comp=Z,170nm,5.6s								
DL2				LR	LR				
	comp=Z,1µm,20.6s								
DL2				LR	LR				
	comp=Z,720nm,17.2s								
DL2				LR	LR				
	comp=Z,1µm,21.1s								
VLA	**Vladivostok**	**51.30**	**346**	⇑*e*P	**P**	**14**	**38**	**55.9**	**+1.2**
VLA				pmax	pmax				
	comp=Z,185nm,2.1s								
KUR	**Kuril'sk**	**51.60**	**1**	*c*/P	**P**	**14**	**38**	**57.7**	**+0.7**
KUR				*e*		14	40	53.6	
KUR				*i*S	**S**	**14**	**46**	**19.3**	**+1.5**
KUR				*e*SS	**SS**	**14**	**49**	**51.9**	**-2.5**
KUR				pmax	pmax				
	comp=Z,504nm,1.4s								
KUR				pmax	pmax				
	comp=N,169nm,1.5s								
KUR				pmax	pmax				
	comp=E,54nm,1.5s								
KUR				pmax	pmax				
	comp=Z,896nm,5.1s								
USA0B	**Ussuriysk Arra**	**52.30**	**347**	P	**P**	**14**	**39**	**02.4**	**+0.2**
USA0B				pmax	pmax				
	comp=Z,129nm,1.6s								
USA0B	**Ussuriysk Arra**	**52.30**	**347**	P	**P**	**14**	**39**	**02.4**	**+0.2**
USA0B				IAmb	IAmb	14	39	04.7	
	comp=Z,129nm,1.6s								
USRK	**Ussuriysk Ar.**	**52.30**	**347**	P	**P**	**14**	**39**	**02.4**	**+0.2**
	comp=Z,15nm,0.6s,baz=168,slow=7.4,SNR=32								
USRK				LR	LR	14	58	52.7	
	comp=Z,642nm,21.4s,baz=143,slow=33								
SNY	**Shenyang**	**52.66**	**338**	⇑P	**P**	**14**	**39**	**03.8**	**-1.1**
SNY				S	**S**	**14**	**46**	**24.8**	**-7.7**
SNY				pmax	pmax				
	comp=Z,22nm,1.6s								
SNY				pmax	pmax				
	comp=Z,240nm,5.7s								
SNY				LR	LR				
	comp=Z,1µm,21.8s								
SNY				LR	LR				
	comp=Z,810nm,20.4s								
SNY				LR	LR				
	comp=Z,2µm,21.3s								
KMI	**Kunming**	**53.19**	**308**	⇑*i*P	**P**	**14**	**39**	**12.4**	**+2.9**
KMI				PP	**PP**	**14**	**41**	**12.4**	**+2.8**
KMI				S	**S**	**14**	**46**	**42.0**	**+1.2**
KMI				pmax	pmax				
	comp=Z,27nm,1.5s								
KMI				pmax	pmax				
	comp=Z,340nm,7.5s								
KMI				LR	LR				
	comp=Z,400nm,17.2s								
KMI				LR	LR				
	comp=Z,600nm,20.2s								
KMI				LR	LR				
	comp=Z,860nm,23.7s								
CMAR	**Chiang Mai Arr**	**53.34**	**299**	P	**P**	**14**	**39**	**11.1**	**+0.7**
	comp=Z,53nm,1.2s,baz=122,slow=5.5,SNR=94								
YSS	**Yuzh-Sakhalins**	**53.44**	**357**	*c*/*e*P	**P**	**14**	**39**	**10.0**	**-0.5**
YSS				*e**SP	**sP**	**14**	**39**	**16.4**	**+1.3**
YSS				*e*S	**S**	**14**	**46**	**41.1**	**-1.8**
YSS				*e*SS	**SS**	**14**	**50**	**16.7**	**-6.6**
YSS				MLR	MLR				
	comp=Z,600nm,14.0s								
YSS				MLR	MLR				
	comp=E,200nm,16.0s								
YSS	**Yuzh-Sakhalins**	**53.44**	**357**	P	**P**	**14**	**39**	**09.8**	**-0.7**
YSS				IAmb	IAmb	14	39	23.2	
	comp=Z,104nm,1.2s								
CN2	**Changchun**	**53.75**	**341**	*e*P	**P**	**14**	**39**	**11.8**	**-1.1**
CN2				pmax	pmax				
	comp=Z,20nm,0.8s								
XAN	**Xi'an**	**54.01**	**321**	P	**P**	**14**	**39**	**14.8**	**-0.3**
XAN				S	**S**	**14**	**46**	**45.8**	**-5.4**
XAN				sS	sS	14	47	05.0	+8.4
XAN				pmax	pmax				
	comp=Z,41nm,1.0s								
XAN				pmax	pmax				
	comp=Z,360nm,6.1s								
XAN				LR	LR				
	comp=Z,980nm,19.5s								
XAN				LR	LR				
	comp=Z,400nm,19.5s								
XAN				LR	LR				
	comp=Z,1µm,19.6s								
BJI	**Beijing**	**54.32**	**331**	P	**P**	**14**	**39**	**16.8**	**-0.3**
BJI				S	**S**	**14**	**46**	**51.9**	**-3.2**
BJI				pmax	pmax				
	comp=Z,31nm,1.5s								
BJI				pmax	pmax				
	comp=Z,190nm,4.4s								
BJI				LR	LR				
	comp=Z,750nm,19.8s								
BJI				LR	LR				
	comp=Z,820nm,17.1s								
CD2	**Chengdu**	**55.54**	**315**	P	**P**	**14**	**39**	**27.4**	**+1.2**
CD2				S	**S**	**14**	**47**	**11.8**	**-0.2**
CD2				SS	**SS**	**14**	**50**	**55.6**	**-1.6**
CD2				pmax	pmax				
	comp=Z,30nm,1.0s								
CD2				pmax	pmax				
	comp=Z,290nm,7.6s								
CD2				LR	LR				
	comp=Z,760nm,19.1s								
CD2				LR	LR				
	comp=Z,1µm,16.7s								
CD2				LR	LR				
	comp=Z,1µm,18.1s								
XMAS	**Kiritimati**	**56.33**	**83**	IAMs_20	IAMs_20	15	00	45.7	
	comp=Z,4µm,21.0s								
KLR	**Kul'dur**	**57.13**	**348**	*c*/P	**P**	**14**	**39**	**35.8**	**-1.3**
KLR				pmax	pmax				
	comp=Z,88nm,1.4s								
HHC	**Hu-ho-hao-te**	**57.23**	**329**	*e*P	**P**	**14**	**39**	**38.0**	**-0.2**
HHC				sP	sP	14	39	45.8	+3.0
HHC				S	**S**	**14**	**47**	**35.4**	**+1.2**
HHC				ScS	**ScS**	**14**	**49**	**23.0**	**-5.0**
HHC				SS	**SS**	**14**	**51**	**21.4**	**-2.2**
HHC				pmax	pmax				
	comp=Z,28nm,1.1s								
HHC				pmax	pmax				
	comp=Z,250nm,5.1s								
HHC				LR	LR				
	comp=Z,870nm,16.7s								
HHC				LR	LR				
	comp=Z,810nm,17.6s								
HHC				LR	LR				
	comp=Z,2µm,18.1s								
TYV	**Tymovskoe**	**57.34**	**357**	*e*P	**P**	**14**	**39**	**38.3**	**-0.3**
TYV				*e*		14	47	36.5	
TYV				pmax	pmax				
	comp=Z,300nm,2.1s								
TYV				pmax	pmax				
	comp=Z,59nm,1.6s								
SKR	**Severo-Kuril's**	**57.62**	**7**	*e*P	P	14	39	32.7	-7.8
SKR				*e*S	**S**	**14**	**47**	**44.6**	**+6.0**
SKR				pmax	pmax				
	comp=Z,300nm,4.7s								
GRNR	**Gornyy**	**57.83**	**352**	⇓*i*P	**P**	**14**	**39**	**42.8**	**+0.7**
GRNR				*e*S	**S**	**14**	**47**	**45.9**	**+4.4**
GRNR				pmax	pmax				
	comp=N,10.0nm,1.4s								
GRNR				pmax	pmax				
	comp=Z,20nm,1.4s								
GRNR				smax	smax				
	comp=E,1.0nm,0.9s								
BTO	**Baotou**	**57.86**	**327**	*e*P	**P**	**14**	**39**	**41.5**	**-1.2**
LZH	**Lanzhou**	**58.52**	**320**	*e*P	**P**	**14**	**39**	**48.0**	**+0.6**
LZH				pP	sP	14	39	53.9	+1.8
LZH				S	**S**	**14**	**47**	**52.0**	**+0.6**
LZH				sS	sS	14	47	57.5	+0.7
LZH				SS	**SS**	**14**	**51**	**41.0**	**-3.3**
LZH				pmax	pmax				
	comp=E,22nm,1.2s								
LZH				pmax	pmax				
	comp=E,320nm,5.5s								
LZH				LR	LR				
	comp=E,520nm,15.3s								
LZH				LR	LR				
	comp=E,560nm,15.7s								
LZH				LR	LR				
	comp=E,690nm,16.8s								
KEKH	**Kekaha**	**59.60**	**60**	IAMs_20	IAMs_20	15	01	54.4	
	comp=Z,3µm,21.0s								
PEA0B	**Petropavlovsk-**	**60.20**	**8**	P	**P**	**14**	**39**	**58.0**	**-0.5**
PEA0B				pmax	pmax				
	comp=Z,227nm,1.4s								
PEA0B	**Petropavlovsk-**	**60.20**	**8**	P	**P**	**14**	**39**	**58.0**	**-0.5**
PEA0B				IAMs_20	IAMs_20	15	01	03.9	
	comp=Z,3µm,22.0s								
PETK	**Petropavlovsk-**	**60.20**	**8**	P	**P**	**14**	**39**	**58.2**	**-0.2**
	comp=Z,24nm,0.6s,baz=161,slow=5.9,SNR=94								
PETK				LR	LR	15	01	36.6	
	comp=Z,2µm,21.8s,baz=193,slow=32								
PET	**Petropavlovsk**	**60.24**	**8**	*e*P	**P**	**14**	**39**	**58.5**	**-0.2**
PET				pmax	pmax				
	comp=Z,289nm,1.3s								
PET	**Petropavlovsk**	**60.24**	**8**	P	**P**	**14**	**39**	**56.7**	**-2.1**
HON	**Honolulu**	**60.84**	**61**	IAMs_20	IAMs_20	15	02	19.0	
	comp=Z,4µm,20.0s								
OPA	**Opana**	**60.97**	**61**	IAMs_20	IAMs_20	15	02	21.2	
	comp=Z,4µm,20.0s								
KHLU	**Kahalu`u**	**62.12**	**64**	IAMs_20	IAMs_20	15	03	48.8	
	comp=Z,3µm,20.0s								
SHL	**Shillong**	**62.16**	**303**	P	**P**	**14**	**40**	**09.9**	**-2.7**
SHL				pmax	pmax				
	comp=Z,90nm,1.3s								
SHL	**Shillong**	**62.16**	**303**	P	**P**	**14**	**40**	**09.9**	**-2.7**
ZEA	**Zeya**	**62.33**	**347**	*e*P	**P**	**14**	**40**	**13.2**	**+0.3**
ZEA				*e*S	**S**	**14**	**48**	**36.0**	**-3.2**
ZEA				pmax	pmax				
	comp=N,150nm,1.6s								
ZEA				pmax	pmax				
	comp=Z,230nm,1.6s								
ZEA				pmax	pmax				
	comp=Z,400nm,7.0s								
ZEA				smax	smax				
	comp=Z,300nm,6.0s								
ZEA				smax	smax				
	comp=E,300nm,8.0s								
HPAH	**Hawaii Prepara**	**62.43**	**63**	IAMs_20	IAMs_20	15	03	25.2	
	comp=Z,3µm,20.0s								
PPT	**Papeete**	**62.93**	**106**	LR	LR	15	02	01.2	
	comp=Z,476nm,21.6s,baz=272,slow=31								
PPT2	**Papeete2**	**62.93**	**106**	*e*P	**P**	**14**	**40**	**18.2**	**+0.5**
	comp=Z,77nm,1.5s								
PPT2				*e*S	**S**	**14**	**48**	**48.4**	**+0.1**
	comp=Z,1µm,24.8s								
PPT2				*e*LQ	LQ	14	56	20.4	
	comp=Z,2µm,29.0s								
PPT2				*e*LR	LR	14	59	03.2	
	comp=Z,2µm,23.0s,baz=264								
GTA	**Gaotai**	**63.06**	**321**	⇑P	**P**	**14**	**40**	**18.5**	**+0.2**
GTA				pP	sP	14	40	22.3	-0.7
GTA				sP	pP	14	40	24.6	+2.9
GTA				S	**S**	**14**	**48**	**49.3**	**0.0**
GTA				sS	sS	14	48	57.9	+3.2
GTA				SS	**SS**	**14**	**52**	**57.6**	**+2.3**
GTA				pmax	pmax				
	comp=Z,5.0nm,0.9s								
GTA				pmax	pmax				
	comp=Z,250nm,7.6s								
GTA				LR	LR				
	comp=Z,430nm,16.5s								
GTA				LR	LR				
	comp=Z,370nm,16.8s								
GTA				LR	LR				
	comp=Z,610nm,19.7s								
TIAR	**Tiarei**	**63.15**	**106**	*e*P	**P**	**14**	**40**	**20.0**	**+0.9**
	comp=Z,30nm,1.2s								
TBI	**Tubuai**	**63.34**	**113**	*e*S	**S**	**14**	**48**	**52.8**	**-0.2**
	comp=Z,830nm,25.5s								
TBI				*e*LQ	LQ	14	56	32.0	
	comp=Z,1µm,34.2s								
TBI				*e*LR	LR	14	59	16.8	
	comp=Z,2µm,30.5s,baz=280								
LSA	**Lhasa**	**64.43**	**307**	P	**P**	**14**	**40**	**30.4**	**+2.5**
PMOR	**Pomariorio Ree**	**64.52**	**103**	*e*P	**P**	**14**	**40**	**28.7**	**+0.6**
	comp=Z,156nm,1.3s								
ULN	**Ulaanbaatar**	**64.53**	**332**	*de*P	**P**	**14**	**40**	**28.2**	**+0.4**
ULN				pmax	pmax				
	comp=Z,32nm,1.7s								
CASY	**Casey**	**64.63**	**195**	P	**P**	**14**	**40**	**27.0**	**-0.9**
CASY	**Casey**	**64.63**	**195**	IAMs_20	IAMs_20	15	08	28.7	
	comp=Z,2µm,19.0s								
VAH	**Vaihoa**	**64.78**	**104**	*e*P	**P**	**14**	**40**	**30.3**	**+0.5**
	comp=Z,62nm,1.2s								
SONM	**Songino Array**	**64.82**	**331**	P	**P**	**14**	**40**	**29.9**	**+0.2**
	comp=Z,11nm,1.1s,baz=152,slow=6.9,SNR=22								
SONM				PP	**PP**	**14**	**42**	**55.6**	**+3.2**
	comp=Z,6.7nm,1.1s,baz=136,slow=7.4,SNR=3.7								
SONM				PKPPKP		15	09	21.1	
	comp=Z,0.9nm,0.7s,baz=336,slow=3.3,SNR=8.7								
SONM				LR	LR	15	09	24.4	
	comp=Z,1µm,19.2s,baz=128,slow=37								
CIT	**Chita**	**64.93**	**338**	*e*P	**P**	**14**	**40**	**30.7**	**+0.5**
CIT				*e*		14	41	05.3	
CIT				*e*		14	42	57.1	
CIT				pmax	pmax				
	comp=Z,219nm,1.4s								
MA2	**Magadan**	**66.04**	**2**	P	**P**	**14**	**40**	**36.3**	**-0.9**
	comp=Z,35nm,1.0s,baz=174,slow=6.2,SNR=10								
MA2	**Magadan**	**66.04**	**2**	⇓*e*P	**P**	**14**	**40**	**37.2**	**+0.1**
MA2				pmax	pmax				
	comp=Z,113nm,1.7s								
MA2	**Magadan**	**66.04**	**2**	P	**P**	**14**	**40**	**36.1**	**-1.1**
ADK	**Adak**	**66.09**	**24**	IAMs_20	IAMs_20	15	03	26.3	
	comp=Z,2µm,22.0s								
TAPN	**Taplejung**	**66.30**	**304**	*e*P	**P**	**14**	**40**	**41.4**	**+1.5**
	comp=Z,162nm,1.3s								
ODAN	**Odare**	**66.39**	**303**	*e*P	**P**	**14**	**40**	**41.4**	**+1.0**
	comp=Z,147nm,1.1s								
CHLP	**Challavanipeta**	**66.67**	**293**	*e*P	**P**	**14**	**40**	**42.3**	**+0.2**
CHLP				IVmBBB		14	40	44.3	
	comp=Z,461nm,1.4s								
CHLP				IVMsBB		15	10	59.9	
	comp=Z,

MYLAV IVMsBB 15 12 50.0
comp=Z,147nm,0.9s
SEY Seymchan 69.46 3*c i*P **P 14 40 58.4 -0.3**
BOD Bodaibo 69.48 342 *e*P **P 14 40 58.1 -0.7**
BOD pmax pmax
comp=Z,128nm,4.7s
comp=Z,60nm,1.4s
SKHT Srikalahasti 69.57 287 *e*P **P 14 41 00.5 +0.3**
SKHT IVmBBB 14 41 08.9
comp=Z,221nm,2.9s
SKHT IVMs_BB IVMs_BB 15 07 16.2
comp=Z,206nm,4.3s
YAK Yakutsk 69.70 351 P **P 14 40 59.1 -1.0**
comp=Z,12nm,0.7s,baz=176,slow=1.8,SNR=22
YAK Yakutsk 69.70 351 *e*P **P 14 40 59.3 -0.8**
YAK *e**PP **PcP 14 41 26.3 +3.4**
YAK *e*S **S 14 50 06.6 -2.0**
YAK *e**SS **SKiKP 14 50 50.3 +1.9**
YAK *e* 14 50 56.1
YAK *e*SS **SS 14 54 41.6 +4.5**
YAK pmax pmax
comp=Z,61nm,1.3s
YAK pmax pmax
comp=N,50nm,1.5s
YAK pmax pmax
comp=E,15nm,1.5s
YAK smax smax
comp=E,112nm,2.6s
YAK smax smax
comp=N,43nm,2.1s
YAK Yakutsk 69.70 351 P **P 14 40 58.7 -1.4**
ADKI Addanki 69.79 289 *e*P **P 14 41 02.4 +0.7**
ADKI IVmB_BB 14 41 02.9
comp=Z,194nm,2.0s
ADKI IVMsBB 15 15 54.0
comp=Z,205nm,5.9s
KOLN Koldanda 69.87 303 *e*P **P 14 41 02.4 +0.2**
comp=Z,132nm,0.9s
PYUN Piuthan 70.48 303 *e*P **P 14 41 06.0 0.0**
comp=Z,111nm,0.8s
NJS Nagarjunasagar 70.57 290 *e*P **P 14 41 07.2 +0.7**
NJS IVmB_BB 14 41 08.1
comp=Z,175nm,1.7s
NJS IVMs_BB IVMs_BB 15 13 40.0
comp=Z,188nm,4.1s
SRLM Srisailam 70.86 289 *e*P **P 14 41 08.1 -0.1**
SRLM IVmBBB 14 41 12.0
comp=Z,361nm,2.2s
SRLM ⇑*i* 14 56 49.9
SRLM IVMsBB 15 12 36.5
comp=Z,205nm,4.0s
RPR Rampur 71.13 292 *e*P **P 14 41 09.8 0.0**
RPR IVmBBB 14 41 10.8
comp=Z,220nm,1.4s
VNDA Vanda 71.33 177 P **P 14 41 09.1 -0.9**
comp=Z,11nm,0.8s,baz=325,slow=6.5,SNR=72
VNDA LR LR 15 10 34.8
comp=Z,2μm,18.1s,baz=348,slow=34
VNDA Vanda 71.33 177 P **P 14 41 08.4 -1.6**
VNDA pmax pmax
comp=Z,49nm,1.3s
VNDA Vanda 71.33 177 P **P 14 41 08.3 -1.6**
VNDA IAmb IAmb 14 41 15.0
comp=Z,49nm,1.2s
HYB Hyderabad 71.47 291 *i*P **P 14 41 13.0 +1.1**
HYBB Hyderabad (bro 71.47 291 *e*P **P 14 41 11.4 -0.5**
HYBB IVmBBB 14 41 12.4
comp=Z,284nm,1.6s
HYBB *e*S **S 14 50 32.5 +1.4**
HYBB IVMs_BB IVMs_BB 15 12 05.8
comp=Z,247nm,4.5s
SRSP Sriramsagar 72.02 292 *e*P **P 14 41 14.5 -0.7**
SRSP IVmB_BB 14 41 15.8
comp=Z,212nm,1.3s
SRSP IVMsBB 15 14 31.4
comp=Z,139nm,4.0s
URV Uravakonda 72.14 288 *e*P **P 14 41 15.8 -0.2**
URV IVmBBB 14 41 16.9
comp=Z,186nm,2.0s
URV IVMs_BB IVMs_BB 15 09 06.5
comp=Z,206nm,3.9s
WMQ Urumqi 73.10 320 *e*P **P 14 41 21.9 +0.7**
WMQ sP sP 14 41 30.4 +4.4
WMQ PcP **PcP 14 41 42.3 +4.4**
WMQ S **S 14 50 50.0 +1.0**
WMQ pmax pmax
comp=Z,16nm,1.3s
WMQ pmax pmax
comp=Z,100nm,5.1s
WMQ LR LR
comp=Z,210nm,23.5s
WMQ LR LR
comp=Z,180nm,15.1s
WMQ LR LR
comp=Z,200nm,22.1s
KLRI Killari 73.43 291 *e*P **P 14 41 23.5 -0.1**
KLRI IVmBBB 14 41 24.8
comp=Z,226nm,1.6s
KLRI IVMs_BB IVMs_BB 15 12 45.4
comp=Z,255nm,4.0s
FALS False Pass 73.88 27 IAMs_20 IAMs_20 15 06 34.4
comp=Z,2μm,22.0s
DGZ Jazzator, Alta 76.00 325⇓*i*P **P 14 41 37.6 -0.4**
DGZ pmax pmax
comp=Z,6.0nm,0.8s
POO Poona 76.08 291 *ex* **P 14 41 39.5 +0.5**
RKT Rikitea 76.65 112 *e*S **S 14 51 28.4 -0.8**
comp=Z,488nm,26.8s
RKT Rikitea 76.65 112 *e*LQ LQ 15 02 10.0
RKT comp=Z,793nm,34.5s *e*LR LR 15 05 23.6
comp=Z,1μm,22.2s
MK31 Makanchi Array 77.82 321 *i*P **P 14 41 47.5 -0.7**
MKAR Makanchi Array 77.82 321 P **P 14 41 47.4 -0.8**
comp=Z,7.2nm,0.9s,baz=99,slow=7.7,SNR=20
MAKZ Makanchi 78.02 321 P **P 14 41 48.1 -1.2**
MAKZ pmax pmax
comp=Z,25nm,1.1s
MAKZ Makanchi 78.02 321 P **P 14 41 48.1 -1.2**
PDGK Podgornoye 78.36 317 P **P 14 41 49.1 -2.3**
UZB Uzynbulak 78.62 316 *e*P **P 14 41 52.4 -0.4**
comp=Z,35nm,3.6s,baz=316
UZB *e*S **S 14 51 49.0 -1.1**
baz=316
UZB Uzynbulak 78.62 316 *e*P **P 14 41 52.4 -0.4**
UZB *e*S **S 14 51 48.9 -1.1**
UZB pmax pmax
comp=Z,35nm,3.6s
SATY Saty 79.01 316 *e*P **P 14 41 54.6 -0.5**
comp=Z,7.0nm,1.4s,baz=316
SATY *e*S **S 14 51 53.1 -1.1**
baz=316
SATY Saty 79.01 316 *e*P **P 14 41 54.5 -0.5**
SATY *e*S **S 14 51 53.1 -1.1**
SATY pmax pmax
comp=Z,7.0nm,1.4s
SATY Saty 79.01 316 *e*P **P 14 41 54.5 -0.5**
SATY *e*S **S 14 51 53.1 -1.1**
SATY pmax pmax
comp=Z,7.0nm,1.4s
ZALV Zalesovo Beam 79.40 328 P **P 14 41 54.6 -2.0**
comp=Z,7.0nm,0.6s,baz=112,slow=5.6,SNR=17
ZALV LR LR 15 16 35.3
comp=Z,954nm,21.8s,baz=112,slow=35
KSH Kashi 79.62 312 P **P 14 42 00.0 +1.6**
KSH S **S 14 52 01.8 +1.0**
KSH pmax pmax
comp=Z,16nm,1.1s
KSH pmax pmax
comp=Z,280nm,6.4s
KSH LR LR
comp=Z,400nm,17.8s
KSH LR LR
comp=Z,530nm,16.5s
KSH LR LR
comp=Z,650nm,16.6s
TDK Taldyqorghan 79.67 318 *e*P **P 14 41 58.3 -0.2**
baz=318
TDK LR LR 15 17 59.2
comp=Z,291nm,17.4s,baz=318
TDK Taldyqorghan 79.67 318 *e*P **P 14 41 58.2 -0.2**
TDK MLR MLR
comp=Z,291nm,17.0s
OHAK Old Harbor 79.92 29 IAmb IAmb 14 42 02.3
comp=Z,61nm,1.6s
MDOK Medeo 79.98 316 *e*P **P 14 41 59.8 -0.6**
baz=316
MDOK *e*S **S 14 52 03.5 -1.2**
baz=316
MDOK Medeo 79.98 316 *e*P **P 14 41 59.7 -0.6**
MDOK *e*S **S 14 52 03.4 -1.2**
TNSS Tian-Shan 80.01 316 *e*P **P 14 42 00.3 -0.5**
baz=316
TNSS Tian-Shan 80.01 316 *e*P **P 14 42 00.3 -0.5**
AAA Alma-Ata 80.09 316 *e*P **P 14 41 60.0 -0.9**
baz=316
AAA Alma-Ata 80.09 316 *e*P **P 14 41 59.9 -0.9**
NIL Nilore 80.10 306 P **P 14 42 00.8 -0.2**
NIL pmax pmax
comp=Z,55nm,0.8s
NIL Nilore 80.10 306 P **P 14 42 00.8 -0.2**
NIL IAmb IAmb 14 42 03.1
comp=Z,55nm,0.8s
KDAK Kodiak Island 80.53 28 P **P 14 42 02.5 -0.2**
KDAK pmax pmax
comp=Z,75nm,1.6s
KDAK Kodiak Island 80.53 28 P **P 14 42 02.5 -0.2**
KDAK IAmb IAmb 14 42 05.6
comp=Z,75nm,1.6s
KDAK Kodiak Island 80.53 28 IAMs_20 IAMs_20 15 10 00.2
comp=Z,1μm,22.0s
KUU Kurty 80.70 316 *e*P **P 14 42 03.2 -0.8**
comp=Z,12nm,1.5s,baz=316
KUU *e*S **S 14 52 10.6 -1.3**
baz=316
KUU Kurty 80.70 316 *e*P **P 14 42 03.2 -0.8**
KUU *e*S **S 14 52 10.5 -1.3**
KUU pmax pmax
comp=Z,12nm,1.5s
SVW2 Sparrevohn 80.87 25 P **P 14 42 04.3 -0.2**
SVW2 IAmb IAmb 14 42 06.6
comp=Z,61nm,1.6s
TKM2 Tokmak 2 80.92 315 P **P 14 42 04.8 -0.6**
KURK Kurchatov 81.56 323 P **P 14 42 06.6 -1.8**
KURK pmax pmax
comp=Z,18nm,1.1s
KURK MLR MLR
comp=Z,700nm,20.0s
KURK Kurchatov 81.56 323 P **P 14 42 06.6 -1.8**
KURBB Kurchatov Arra 81.58 323 P **P 14 42 06.3 -2.2**
AAK Ala-Archa 81.61 315 P **P 14 42 09.5 +0.5**
comp=Z,6.7nm,0.8s,baz=106,slow=7.1,SNR=10
AAK Ala-Archa 81.61 315⇓*e*P **P 14 42 09.4 +0.4**
AAK pmax pmax
comp=Z,16nm,1.3s
MAW Mawson 81.62 203 P **P 14 42 08.9 +0.5**
comp=Z,6.6nm,0.8s,baz=97,slow=5.9,SNR=11
MAW LR LR 15 17 39.7
comp=Z,685nm,19.3s,baz=75,slow=35
MAW Mawson 81.62 203 P **P 14 42 10.1 +1.7**
baz=82,SNR=5.9
TTA Tatalina 81.68 23 IAMs_20 IAMs_20 15 11 52.4
comp=Z,1μm,22.0s
SGDS Sogindy 81.75 316 *e*P **P 14 42 08.9 -0.8**
baz=316
SGDS Sogindy 81.75 316 *e*P **P 14 42 08.8 -0.8**
CNPM China Poot 81.97 27 IAmb IAmb 14 42 13.1
comp=Z,87nm,1.2s
CNPM IAMs_20 IAMs_20 15 11 17.3
comp=Z,1μm,20.0s
RDOG Red Dog Mine 82.37 17 IAmb IAmb 14 42 14.2
comp=Z,87nm,1.3s
BTLS Baital 82.62 317 *e*P **P 14 42 13.5 -0.6**
comp=Z,7.9nm,1.3s,baz=317
BTLS *e*S **SKSac 14 52 30.6 -5.0**
baz=317
BTLS LR LR 15 20 00.6
comp=Z,62nm,13.7s,baz=317
BTLS Baital 82.62 317 *e*P **P 14 42 13.4 -0.6**
BTLS *e*S **SKSac 14 52 30.5 -5.0**
BTLS pmax pmax
comp=Z,8.0nm,1.3s
BTLS MLR MLR
comp=Z,62nm,14.0s
SKT Skwentna 83.00 25 IAMs_20 IAMs_20 15 14 37.3
comp=Z,1μm,21.0s
SEW Seward 83.04 27 IAMs_20 IAMs_20 15 12 00.5
comp=Z,2μm,22.0s
SUA Susitna One 83.08 25 IAMs_20 IAMs_20 15 12 31.7
comp=Z,2μm,22.0s
PPLA Purkeypile 83.17 24 IAMs_20 IAMs_20 15 13 30.8
comp=Z,1μm,22.0s
QSPA South Pole Qui 83.37 180 P **P 14 42 16.5 -1.3**
QSPA IAmb IAmb 14 42 29.6
comp=Z,36nm,0.8s
QSPA South Pole Qui 83.37 180 IAMs_20 IAMs_20 15 17 17.5
comp=Z,2μm,19.0s
KBL Kabul 83.70 306 P **P 14 42 19.4 -0.8**
KBL pmax pmax
comp=Z,12nm,0.8s
KBL Kabul 83.70 306 P **P 14 42 19.4 -0.8**
CUT Chulitna 83.72 25 P **P 14 42 18.1 -1.2**
baz=243
DZA Taraz 83.92 314 *e*P **P 14 42 20.3 -0.7**
baz=314
DZA *e*S **SKSac 14 52 42.1 -2.2**
baz=314
DZA Taraz 83.92 314 *e*P **P 14 42 20.2 -0.7**
DZA *e*S **SKSac 14 52 42.1 -2.2**
KTH Kantishna Hill 83.99 23 IAmb IAmb 14 42 22.5
comp=Z,69nm,1.4s
KTH IAMs_20 IAMs_20 15 14 09.4
comp=Z,2μm,22.0s
GHO Glory Hole Cre 84.00 26 IAmb IAmb 14 42 23.2
comp=Z,83nm,1.5s
KNK Knik Glacier 84.05 26 IAMs_20 IAMs_20 15 13 39.2
comp=Z,1μm,22.0s
BPAW Bear Paw Mtn. 84.22 23 IAmb IAmb 14 42 23.9
comp=Z,55nm,1.5s
BPAW IAMs_20 IAMs_20 15 13 31.5
comp=Z,2μm,22.0s
GLI Glacier Island 84.42 27 IAMs_20 IAMs_20 15 12 33.2
comp=Z,1μm,22.0s
CHGR Chuyangaron 84.51 310 IAmb IAmb 14 42 25.5
comp=Z,34nm,0.8s
KK31 Karatay Array 84.55 314 *i*P **P 14 42 23.2 -0.9**
OTUK Otyu 84.66 320 P **P 14 42 23.1 -1.4**
IUG Iuzhnay 84.67 313 *e*P **P 14 42 23.5 -1.3**
comp=Z,2.2nm,0.7s,baz=313
IUG *e*S **SKSac 14 52 46.6 -2.8**
baz=313
IUG Iuzhnay 84.67 313 *e*P **P 14 42 23.5 -1.3**
IUG *e*S **SKSac 14 52 46.5 -2.8**
IUG pmax pmax
comp=Z,2.0nm,0.7s
SCM Sheep Creek Mo 84.71 26 IAMs_20 IAMs_20 15 13 57.8
comp=Z,1μm,22.0s
RND Reindeer 84.75 24 IAmb IAmb 14 42 26.3
comp=Z,72nm,1.4s
RND IAMs_20 IAMs_20 15 15 56.5
comp=Z,2μm,20.0s
BWN Browne 84.84 23 IAMs_20 IAMs_20 15 14 59.0
comp=Z,1μm,22.0s
MCK McKinley 84.86 24 IAMs_20 IAMs_20 15 14 26.5
comp=Z,1μm,21.0s
BRZS Berezniki 84.92 321 *e*P **P 14 42 24.9 -0.9**
comp=Z,19nm,1.1s,baz=322
BRZS LR LR 15 21 16.9
comp=Z,94nm,13.6s,baz=322
BRZS Berezniki 84.92 321 *e*P **P 14 42 24.9 -0.9**
BRZS pmax pmax
comp=Z,19nm,1.1s
BRZS MLR MLR
comp=Z,94nm,14.0s
NEA2 Nenana 85.19 23 P **P 14 42 25.3 -1.5**
baz=244
KLU Klutina 85.19 26 IAmb IAmb 14 42 29.8
comp=Z,67nm,1.4s
KLU IAMs_20 IAMs_20 15 13 33.4
comp=Z,1μm,22.0s
DHY Denali Highway 85.21 25 IAmb IAmb 14 42 29.5
comp=Z,76nm,1.4s
DHY IAMs_20 IAMs_20 15 14 01.9
comp=Z,1μm,21.0s
RAGM Ragged Mountai 85.33 28 IAMs_20 IAMs_20 15 14 57.1
comp=Z,1μm,22.0s
HMT Hamilton 85.50 28 IAMs_20 IAMs_20 15 15 11.7
comp=Z,1μm,20.0s
WRH Wood River Hil 85.51 23 IAMs_20 IAMs_20 15 15 18.8
comp=Z,2μm,22.0s
MDM Murphy Dome 85.67 23 IAmb IAmb 14 42 30.8
comp=Z,46nm,1.4s
MDM IAMs_20 IAMs_20 15 14 58.9
comp=Z,1μm,22.0s
CCB Clear Creek Bu 85.70 23 IAMs_20 IAMs_20 15 15 34.7
comp=Z,1μm,22.0s
NRIK Noril'sk 85.78 342 P **P 14 42 28.9 -0.7**
comp=Z,7.0nm,0.5s,baz=135,slow=4.9,SNR=15
NRIK LR LR 15 19 40.9
comp=Z,771nm,22.0s,baz=149,slow=35
NRIK Noril'sk 85.78 342 *i*P **P 14 42 28.7 -0.9**
NRIK pmax pmax
comp=Z,36nm,1.2s
TCOL CIGO, UAF Yank 85.78 23 P **P 14 42 28.0 -1.7**
baz=245
COLA College 85.78 23*c i*P **P 14 42 27.6 -2.1**
COLA pmax pmax
comp=Z,42nm,1.2s
HDA Harding Lake 85.94 23 P **P 14 42 28.5 -2.0**
baz=246
HDA Harding Lake 85.94 23 IAMs_20 IAMs_20 15 15 19.0
comp=Z,2μm,22.0s
PAX Paxson 85.96 25 IAmb IAmb 14 42 33.3
comp=Z,37nm,1.4s
COLD Coldfoot 85.97 20 P **P 14 42 30.0 -0.6**
baz=243
COLD Coldfoot 85.97 20 IAmb IAmb 14 42 31.7
comp=Z,31nm,1.2s
COLD IAMs_20 IAMs_20 15 15 34.5
comp=Z,2μm,22.0s
POKR Poker Plat Res 86.04 23 P **P 14 42 29.7 -1.3**
baz=245
A21K Barrow 86.09 16 P **P 14 42 31.1 0.0**
baz=236
GLB Gilahina Butte 86.11 27 IAmb IAmb 14 42 34.9
comp=Z,77nm,1.4s
IL31 86.11 23 IAmb IAmb 14 42 32.4
comp=Z,53nm,1.4s
ILAR Eielson Array 86.11 23 P **P 14 42 28.6 -2.8**
comp=Z,9.2nm,0.7s,baz=252,slow=5.1,SNR=85
ILAR LR LR 15 17 15.6
comp=Z,930nm,21.6s,baz=256,slow=33
CRQM Cirque 86.17 28 IAmb IAmb 14 42 35.5
comp=Z,78nm,1.2s
VRDI Verde Repeater 86.19 27 IAmb IAmb 14 42 34.8
comp=Z,81nm,1.5s
MENT Mentasta 86.69 25 IAmb IAmb 14 42 37.2
comp=Z,40nm,1.4s
TOLK Toolik Lake Re 86.83 19 P **P 14 42 34.2 -0.7**
baz=243
TOLK Toolik Lake Re 86.83 19 IAmb IAmb 14 42 38.3
comp=Z,78nm,1.6s
TOLK IAMs_20 IAMs_20 15 14 24.2
comp=Z,1μm,22.0s
BVAR Borovoye Array 87.12 324 P **P 14 42 34.7 -1.9**
comp=Z,2.2nm,0.5s,baz=113,slow=6.1,SNR=9.4
BRVK Borovoye 87.19 324⇑*e*P **P 14 42 36.1 -0.8**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
BRVK Borovoye 87.19 324 P **P 14 42 34.9 -2.0**
K27K Chicken 87.77 25 P **P 14 42 39.7 +0.3**
baz=250
EGAK Eagle 88.39 24 IAMs_20 IAMs_20 15 16 55.0
comp=Z,1μm,21.0s
SIT Sitka 88.95 32 IAMs_20 IAMs_20 15 14 55.3
comp=Z,1μm,21.0s
BESE Bessie Mountai 89.55 31 IAMs_20 IAMs_20 15 15 18.1
comp=Z,1μm,21.0s
JIS Juneau Island 89.73 31 IAMs_20 IAMs_20 15 15 21.0
comp=Z,1μm,21.0s
SYO Syowa Base 89.96 200⇑*e*P **P 14 42 48.2 -1.5**
SYO Syowa Base 89.96 200⇑*e*PcP **PcP 14 42 51.0 0.0**
SYO Syowa Base 89.96 200⇓*es*P sP 14 42 55.4 +1.1
WSAR Wadi Sarin 90.88 293 P **P 14 42 55.6 +0.6**
comp=Z,13nm,0.9s,baz=139,slow=3.4,SNR=4.6
DLBC Dease Lake 92.01 32 IAMs_20 IAMs_20 15 16 31.1
comp=Z,1μm,20.0s
BBB Bella Bella 92.16 38 IAMs_20 IAMs_20 15 15 13.6
comp=Z,2μm,22.0s
INK Inuvik 92.28 21 IAmb IAmb 14 43 00.8
comp=Z,25nm,1.2s
INK IAMs_20 IAMs_20 15 18 45.7
comp=Z,1μm,22.0s
GEYT Alibeck 92.96 308 P **P 14 43 02.7 -1.7**
comp=Z,3.0nm,0.7s,baz=150,slow=3.3,SNR=6.5
KEBM Edson Butte 93.62 47 IAMs_20 IAMs_20 15 18 23.9
comp=Z,2μm,20.0s
KBO Bosley Butte 93.63 48 IAMs_20 IAMs_20 15 19 04.4
comp=Z,2μm,20.0s
JCC Jacoby Creek, 93.65 50 IAMs_20 IAMs_20 15 17 46.9
comp=Z,2μm,20.0s
J01E Myrtle Point 93.94 47 P **P 14 43 09.1 +0.4**
baz=265
AKTO Aktyubinsk 94.25 320 P **P 14 43 08.8 -1.2**
comp=Z,2.6nm,0.8s,baz=50,slow=7.8,SNR=6.5
MCCM Marconi Confer 94.29 52 IAMs_20 IAMs_20 15 18 38.1
comp=Z,2μm,20.0s
NLWA Neilton Lookou 94.36 43 IAMs_20 IAMs_20 15 19 19.2
comp=Z,1μm,20.0s
I03D Drain, OR 94.41 47 P **P 14 43 12.9 +2.0**
baz=265
F03A Seaside 94.45 44 IAMs_20 IAMs_20 15 20 44.7
comp=Z,1μm,20.0s
ARU Arti 94.46 326 P **P 14 43 08.6 -2.1**
comp=Z,0.7nm,0.3s,baz=295,slow=23,SNR=1.6
ARU PP **PP 14 47 02.8 +4.5**
comp=Z,0.4nm,0.2s,baz=44,slow=10,SNR=4.3
ARU Arti 94.46 326 P **P 14 43 08.3 -2.5**
ARU 14 46 55.0
ARU S **SKSac 14 53 43.1 -2.9**
ARU SP SP 14 55 36.0 -1.9
ARU MLR MLR
comp=Z,525nm,20.0s
E03A Lebam 94.50 44 IAMs_20 IAMs_20 15 19 39.9
comp=Z,2μm,21.0s
O02D Mt. Diablo Mer 94.53 50 P **P 14 43 12.2 +0.6**
baz=265
M02C Callahan 94.58 49 P **P 14 43 12.2 +0.4**
baz=265
N02D Trinity Center 94.66 49 P **P 14 43 12.3 +0.2**
baz=265
PGC Sidney 94.74 42 IAMs_20 IAMs_20 15 17 49.2
comp=Z,1μm,21.0s
D03D Eldon 94.90 43 P **P 14 43 12.6 -0.3**
baz=266
L04D Klamath Falls 95.06 48 P **P 14 43 14.2 +0.2**
baz=266
A04D Lummi Island 95.24 42 P **P 14 43 15.1 +0.6**
baz=266
F04A Amboy 95.24 44 IAMs_20 IAMs_20 15 18 00.7
comp=Z,1μm,21.0s
J04D Umpqua Nationa 95.27 47 P **P 14 43 15.6 +0.5**
baz=266
O03E Paynes Creek 95.29 50 P **P 14 43 14.9 -0.2**
baz=266
SAO San Andreas Ge 95.31 54 IAMs_20 IAMs_20 15 24 01.4
comp=Z,2μm,19.0s
M04C Macdoel 95.37 49 P **P 14 43 15.2 -0.2**
baz=266
ORV Oroville 95.47 51 IAMs_20 IAMs_20 15 18 39.3
comp=Z,1μm,22.0s
B05A Bryant 95.62 42 P **P 14 43 17.0 +0.8**
baz=266
D05A Enumclaw 95.62 43 IAMs_20 IAMs_20 15 20 28.6
comp=Z,1μm,21.0s
LON Longmire 95.72 44 IAMs_20 IAMs_20 15 21 28.6
comp=Z,1μm,20.0s
PMPB Monarch Peak 95.80 54 IAMs_20 IAMs_20 15 23 56.2
comp=Z,1μm,19.0s
AFDM Forest Hills D 95.84 52 IAMs_20 IAMs_20 15 18 59.2
comp=Z,1μm,21.0s
J05D Fort Rock, OR 95.91 47 P **P 14 43 18.1 +0.2**
baz=267
B06A Marblemount 96.04 42 IAMs_20 IAMs_20 15 18 51.5
comp=Z,941nm,21.0s
K05A Summer Lake 96.13 48 IAMs_20 IAMs_20 15 20 26.5
comp=Z,2μm,21.0s
PAGB Antelope Grade 96.21 55 IAMs_20 IAMs_20 15 23 59.2
comp=Z,1μm,18.0s
CMB Columbia Colle 96.24 53 IAMs_20 IAMs_20 15 19 27.9
comp=Z,1μm,20.0s
SMMC Simmler 96.39 55 P **P 14 43 21.7 +1.6**
baz=266
RUBR Rubicon Trail 96.48 51 IAMs_20 IAMs_20 15 19 28.1
comp=Z,1μm,20.0s
PKM Mcpherson Peak 96.51 56 P **P 14 43 22.3 +1.4**
baz=267
LTY Liberty 96.52 43 IAMs_20 IAMs_20 15 20 56.5
comp=Z,1μm,21.0s
ABPO Ambohimpanom 96.84 250 IAMs_20 IAMs_20 15 25 28.4
comp=Z,1μm,19.0s

VCNR Virginia City 96.89 51 IAMs_20 IAMs_20 15 19 42.8
comp=Z,2µm,21.0s
PNTR Pine Nut 96.92 51 IAMs_20 IAMs_20 15 19 32.6
comp=Z,2µm,21.0s
OPO Ambohidratompo 96.95 250 P **P** **14 43 23.2 0.0**
comp=Z,8.6nm,1.0s,baz=148,slow=3.3,SNR=4.4
F07A Phinny Hill Vi 96.98 45 IAMs_20 IAMs_20 15 18 32.6
comp=Z,1µm,22.0s
WAKR Walker 97.01 52 IAMs_20 IAMs_20 15 20 03.2
comp=Z,2µm,21.0s
E07A Sunnyside 97.05 44 IAMs_20 IAMs_20 15 19 21.5
comp=Z,1µm,22.0s
PAHR Pah Rah Range 97.11 51 IAMs_20 IAMs_20 15 19 51.7
comp=Z,2µm,21.0s
NVL N'lazarevskaya 97.18 194 *e*P Pdif 14 43 25.0 +2.0
NVL *e*S **SKSac** **14 53 58.7 -1.3**
NVL pmax pmax
comp=Z,6.0nm,0.6s
YERR Yerington 97.19 52 IAMs_20 IAMs_20 15 19 40.9
comp=Z,1µm,21.0s
MDPB Devils Postpil 97.25 53 IAMs_20 IAMs_20 15 25 06.7
comp=Z,1µm,18.0s
HAWA Hanford 97.27 44 IAMs_20 IAMs_20 15 19 29.3
comp=Z,1µm,21.0s
OMMB Old Mammoth Mi 97.32 53 IAMs_20 IAMs_20 15 25 18.3
comp=Z,1µm,19.0s
OSI Osito Audit: C 97.39 56 IAMs_20 IAMs_20 15 22 43.7
comp=Z,1µm,20.0s
B08A Colville Reser 97.46 42 IAMs_20 IAMs_20 15 21 20.2
comp=Z,1µm,20.0s
E08A Dider Farm, El 97.60 44 IAMs_20 IAMs_20 15 19 27.0
comp=Z,1µm,21.0s
G08A Pilot Rock 97.64 45 P **P** **14 43 24.0 -1.6**
G08A IAmb IAmb 14 43 28.2
comp=Z,12nm,1.4s
ISA Isabella, Lake 97.65 55 P Pdif 14 43 25.8 -0.1
baz=267
ISA Isabella, Lake 97.65 55 IAMs_20 IAMs_20 15 21 59.3
comp=Z,1µm,21.0s
D08A Wollman Farm, 97.71 43 IAMs_20 IAMs_20 15 19 54.8
comp=Z,1µm,21.0s
LHV Little Huntoon 97.74 52 IAMs_20 IAMs_20 15 21 07.4
comp=Z,1µm,20.0s
RYN Ryan 97.74 52 IAMs_20 IAMs_20 15 20 38.4
comp=Z,1µm,21.0s
PASC Pasadena Art C 97.82 56 IAMs_20 IAMs_20 15 18 43.9
comp=Z,1µm,22.0s
NVAR Mina Array Bea 97.90 52 P **P** **14 43 26.6 -0.6**
comp=Z,3.0nm,0.9s,baz=256,slow=5.1,SNR=11
NVAR PP **PP** **14 47 28.4 +2.6**
comp=Z,1.2nm,1.0s,baz=250,slow=10,SNR=2.3
NVAR LR LR 15 21 17.9
comp=Z,1µm,20.7s,baz=267,slow=32
MWC Mount Wilson 97.93 56 IAMs_20 IAMs_20 15 19 09.8
comp=Z,1µm,21.0s
CWC Cottonwood Cre 98.00 54 P Pdif 14 43 28.1 +0.5
baz=268
EDW2 Edwards Air Fo 98.01 56 P Pdif 14 43 27.8 +0.3
baz=268
NV11 Mina Array Sit 98.02 52 IAMs_20 IAMs_20 15 21 16.8
comp=Z,1µm,21.0s
KVN Kaiserville 98.08 52 IAMs_20 IAMs_20 15 20 30.4
comp=Z,1µm,20.0s
C09A Chrisman Ranch 98.16 43 IAMs_20 IAMs_20 15 21 27.8
comp=Z,1µm,20.0s
E09A Wood Farm, Sta 98.23 44 IAMs_20 IAMs_20 15 19 34.7
comp=Z,1µm,22.0s
BFSC Mount Baldy Ra 98.26 56 P Pdif 14 43 29.4 +0.6
baz=268
LRMC Laurel Mtn Rad 98.29 55 P Pdif 14 43 29.4 +0.5
baz=268
MPMC Manual Prospec 98.47 55 P Pdif 14 43 30.2 +0.5
baz=268
BMO Blue Mountains 98.80 46 IAMs_20 IAMs_20 15 19 25.9
comp=Z,2µm,22.0s
F10A Beach Ranch, E 98.86 45 IAMs_20 IAMs_20 15 19 53.5
comp=Z,1µm,22.0s
NEW Newport 98.94 42 P Pdif 14 43 31.1 -0.2
baz=270
NEW Newport 98.94 42 IAMs_20 IAMs_20 15 22 24.2
comp=Z,1µm,20.0s
GSC Goldstone, Bar 99.00 55 IAMs_20 IAMs_20 15 24 33.0
comp=Z,875nm,19.0s
CCX Cicese 99.00 59 IAMs_20 IAMs_20 15 19 49.4
comp=Z,2µm,21.0s
PFO Pinyon Flats O 99.23 57⇑ *e*P **Pdif** **14 43 33.2 +0.1**
PFO pmax pmax
comp=Z,4.0nm,0.9s
TPNV Topopah Spring 99.49 54 IAMs_20 IAMs_20 15 26 05.9
comp=Z,1µm,19.0s
YKA Yellowknife Ar 99.80 28 P **Pdif** **14 43 33.2 -1.5**
comp=Z,6.7nm,1.1s,baz=280,slow=4.1,SNR=4.8
YKA LR LR 15 23 54.6
comp=Z,545nm,21.9s,baz=0.0,slow=32
MFID Camas Ranch 99.86 47 IAMs_20 IAMs_20 15 22 46.1
comp=Z,2µm,20.0s
SPX San Pedro Mart 99.99 60 IAMs_20 IAMs_20 15 21 44.8
comp=Z,2µm,20.0s
R11A Troy Canyon, C 100.03 52 IAMs_20 IAMs_20 15 27 00.2
comp=Z,1µm,18.0s
SHPR Sheep Range 100.36 54 IAMs_20 IAMs_20 15 23 05.0
comp=Z,1µm,20.0s
PRN Pahroc Range 100.45 53 IAMs_20 IAMs_20 15 26 50.3
comp=Z,1µm,18.0s
VNA2 Neumayer--Watz 100.73 188 P **Pdif** **14 43 37.8 -1.1**
VNA3 Neumayer Olymp 100.76 188 P **Pdif** **14 43 38.1 -0.9**
JTMT Jette 100.86 43 IAMs_20 IAMs_20 15 21 31.0
comp=Z,2µm,22.0s
WALA Waterton Lakes 101.05 41 IAMs_20 IAMs_20 15 23 23.9
comp=Z,1µm,21.0s
MSO Missoula 101.12 44 IAMs_20 IAMs_20 15 21 37.2
comp=Z,1µm,21.0s
MAK Makhachkala 101.25 312 *e*P **Pdif** **14 43 34.2 -7.4**
MAK *e* 14 54 17.7
MAK pmax pmax
comp=Z,89nm,1.0s
W13A Hualapai Mount 101.38 56 IAMs_20 IAMs_20 15 21 44.3
comp=Z,950nm,22.0s
PIX Pinacate 101.72 59 IAMs_20 IAMs_20 15 19 47.5
comp=Z,1µm,22.0s
DUG Dugway, Tooele 102.17 50 IAMs_20 IAMs_20 15 22 53.5
comp=Z,1µm,21.0s
214A Organ Pipe Nat 102.28 59 IAMs_20 IAMs_20 15 20 49.2
comp=Z,2µm,21.0s
BOZ Bozeman (W) 102.79 45 IAMs_20 IAMs_20 15 22 06.4
comp=Z,1µm,22.0s
HWUT Hardware Ranch 103.06 49 IAMs_20 IAMs_20 15 24 41.9
comp=Z,1µm,20.0s
IMW Indian Meadow 103.39 47 IAMs_20 IAMs_20 15 24 41.4
comp=Z,1µm,20.0s
X16A Lo Mia Camp, P 103.40 56 IAMs_20 IAMs_20 15 22 10.0
comp=Z,2µm,22.0s
TPAW Teton Pass 103.41 47 IAMs_20 IAMs_20 15 25 10.9
comp=Z,1µm,20.0s
WUAZ Wupatki 103.43 55 IAMs_20 IAMs_20 15 27 16.5
comp=Z,911nm,20.0s
REDW Red Top Meadow 103.49 47 IAMs_20 IAMs_20 15 24 52.1
comp=Z,1µm,21.0s
FLWY Flagg Ranch 103.55 46 IAMs_20 IAMs_20 15 24 27.6
comp=Z,2µm,21.0s
SNOW Snow King Moun 103.55 47 IAMs_20 IAMs_20 15 25 16.7
comp=Z,1µm,20.0s
LOHW Long Hollow 103.65 47 IAMs_20 IAMs_20 15 24 38.4
comp=Z,2µm,21.0s
EGMT Eagleton 103.88 42 IAMs_20 IAMs_20 15 25 27.9
comp=Z,1µm,20.0s
KLMR Klimovskoe 104.12 331 P **Pdif** **14 43 50.8 -3.2**
KLMR 14 48 06.7
KLMR pmax pmax
comp=Z,8.0nm,1.3s
KLMR Klimovskoe 104.12 331 Pdif **Pdif** **14 43 50.9 -3.1**
KLMR AMP 14 43 52.5
comp=Z,8.0nm,1.3s
KLMR PP **PKiKP** **14 48 06.7 -4.3**
KLMR LQ LQ 15 21 14.8
KLMR LQ LQ 15 21 14.8
KLMR LR LR 15 30 56.1
PDAR Pinedale Array 104.47 48 Pdiff **Pdif** **14 43 56.0 -0.3**
comp=Z,1.5nm,1.0s,baz=220,slow=1.2,SNR=6.9
PDAR PKiKP **PKiKP** **14 48 12.4 -0.1**
comp=Z,0.4nm,0.7s,baz=224,slow=4.1,SNR=2.8
RLMT Red Lodge 104.49 45 IAMs_20 IAMs_20 15 23 23.3
comp=Z,946nm,22.0s
W18A Petrified Fore 104.78 56 IAMs_20 IAMs_20 15 23 19.3
comp=Z,1µm,22.0s
APA Apatity 104.87 339⇑ *i*P **Pdif** **14 44 06.6 +9.4**
APA pmax pmax
comp=Z,8.0nm,1.0s

PV14 Lion Creek, Pa 105.19 52 IAMs_20 IAMs_20 15 34 03.6
comp=Z,1µm,21.0s
PV20 West Nyswonger 105.23 52 IAMs_20 IAMs_20 15 30 28.9
comp=Z,2µm,21.0s
PV16 Nyswonger Mesa 105.28 52 IAMs_20 IAMs_20 15 30 31.0
comp=Z,1µm,20.0s
PV18 Skein Mesa, Pa 105.29 52 IAMs_20 IAMs_20 15 30 31.2
comp=Z,1µm,20.0s
PV03 Paradox Valley 105.33 52 IAMs_20 IAMs_20 15 30 56.5
comp=Z,1µm,21.0s
PV12 Saucer Basin, 105.37 52 IAMs_20 IAMs_20 15 29 56.3
comp=Z,2µm,20.0s
PV15 Paradox Valley 105.62 52 IAMs_20 IAMs_20 15 30 48.0
comp=Z,1µm,19.0s
O20A White River Ci 105.67 50 IAMs_20 IAMs_20 15 25 30.1
comp=Z,1µm,21.0s
RWWY Rawlins 106.31 49 IAMs_20 IAMs_20 15 27 19.9
comp=Z,1µm,20.0s
LAO LASA Array 106.42 43 IAMs_20 IAMs_20 15 24 36.2
comp=Z,1µm,22.0s
K22A Casper 106.71 48 IAMs_20 IAMs_20 15 23 45.5
comp=Z,2µm,22.0s
ARCES ARCESS Array B 106.75 342 Pdiff **Pdif** **14 44 04.8 -0.8**
comp=Z,1.4nm,0.6s,baz=60,slow=7.2,SNR=7.5
ARCES PKKPbc **PKKPbc** **14 59 35.0 -2.1**
comp=Z,1.6nm,0.9s,baz=293,slow=0.9,SNR=4.9
S22A 4UR Ranch, Cre 106.96 53 IAMs_20 IAMs_20 15 23 56.6
comp=Z,1µm,22.0s
ANMO Albuquerque 107.48 56 IAMs_20 IAMs_20 15 24 45.7
comp=Z,1µm,22.0s
DGMT Dagmar 107.50 41 IAMs_20 IAMs_20 15 27 44.5
comp=Z,821nm,21.0s
FFC Flin Flon 107.56 35 IAMs_20 IAMs_20 15 29 45.5
comp=Z,1µm,20.0s
PHWY Pilot Hill 107.66 49 IAMs_20 IAMs_20 15 28 15.6
comp=Z,1µm,20.0s
ISCO Idaho Springs 107.71 50 IAMs_20 IAMs_20 15 26 27.2
comp=Z,1µm,21.0s
Q24A Divide 108.16 51 IAMs_20 IAMs_20 15 27 33.2
comp=Z,1µm,21.0s
FURI Furi 108.82 277 IAMs_20 IAMs_20 15 33 19.3
comp=Z,784nm,20.0s
T25A Trinidad 108.94 53 IAMs_20 IAMs_20 15 31 39.9
comp=Z,716nm,19.0s
KSCO Kaye Shedlock' 110.10 51 IAMs_20 IAMs_20 15 28 35.6
comp=Z,1µm,21.0s
FINES FINESS Array B 110.11 334 Pdiff **Pdif** **14 44 20.8 +0.1**
comp=Z,0.7nm,0.6s,baz=168,slow=9.8,SNR=3.5
TXAR Lajitas Array 110.23 61 Pdiff **Pdif** **14 44 30.1 +8.0**
comp=Z,0.2nm,0.7s,baz=214,slow=7.5,SNR=2.0
TXAR PKiKP **PKiKP** **14 48 22.8 -0.8**
comp=Z,0.7nm,0.8s,baz=292,slow=2.6,SNR=8.1
TXAR PKKPbc **PKKPab** **14 59 35.5 +0.1**
comp=Z,1.4nm,0.9s,baz=121,slow=6.3,SNR=7.8
FCC Fort Churchill 110.45 29 IAMs_20 IAMs_20 15 28 17.5
comp=Z,1µm,21.0s
MDND Maddock 110.63 41 IAMs_20 IAMs_20 15 29 42.5
comp=Z,843nm,20.0s
AMTX Amarillo 111.39 55 IAMs_20 IAMs_20 15 27 21.2
comp=Z,1µm,21.0s
ZAIG Zacatecas 111.55 68 IAMs_20 IAMs_20 15 26 16.6
comp=Z,1µm,21.0s
BRTR Keskin Array B 111.95 310 PKiKP **PKiKP** **14 48 25.9 -0.6**
comp=Z,1.2nm,1.0s,baz=252,slow=0.4,SNR=4.9
AKASG Malin Array Be 112.36 322 PP **PP** **14 49 14.8 +2.8**
comp=Z,0.7nm,0.5s,baz=59,slow=6.0,SNR=4.2
CBKS Cedar Bluff 112.36 51 IAMs_20 IAMs_20 15 30 20.4
comp=Z,1µm,20.0s
K31A O'Neill 112.37 47 IAMs_20 IAMs_20 15 35 34.2
comp=Z,1µm,19.0s
D32A Dogwood Acres, 112.51 42 IAMs_20 IAMs_20 15 28 08.2
comp=Z,1µm,22.0s
F33A 5 Bar Ranch, 113.33 43 IAMs_20 IAMs_20 15 29 01.1
comp=Z,1µm,22.0s
ABTX Abilene, Hawle 113.36 57 IAMs_20 IAMs_20 15 27 51.5
comp=Z,1µm,22.0s
N33A J Bar K, Exete 113.72 48 IAMs_20 IAMs_20 15 31 15.1
comp=Z,1µm,22.0s
WMOK Wichita Mounta 113.78 55 IAMs_20 IAMs_20 15 29 08.3
comp=Z,1µm,21.0s
L34A Svendsen Farm, 114.24 47 IAMs_20 IAMs_20 15 36 14.6
comp=Z,1µm,19.0s
B35A Bob, Littlefor 114.28 40 IAMs_20 IAMs_20 15 32 26.8
comp=Z,869nm,22.0s
OK029 Liberty Lake 114.67 54 IAMs_20 IAMs_20 15 29 46.9
comp=Z,1µm,22.0s
TIRR Tirgusor 114.69 316 IAMs_20 IAMs_20 15 38 55.6
comp=Z,867nm,21.0s
OKCFA Oklahoma City 114.74 54 IAMs_20 IAMs_20 15 29 41.8
comp=Z,1µm,22.0s
OK025 Weminster Rd 114.81 54 IAMs_20 IAMs_20 15 30 09.4
comp=Z,1µm,22.0s
F36A Milaca 115.18 42 IAMs_20 IAMs_20 15 32 22.0
comp=Z,1µm,21.0s
T35A Sooner Cattle 115.22 52 IAMs_20 IAMs_20 15 29 47.4
comp=Z,1µm,22.0s
Z35A Perchaven, San 115.25 56 IAMs_20 IAMs_20 15 29 26.4
comp=Z,1µm,22.0s
WHTX Lake Whitney, 115.28 58 IAMs_20 IAMs_20 15 29 22.4
comp=Z,1µm,22.0s
LSZ Lusaka 115.41 250 PKP **PKPdf** **14 48 32.0 -1.8**
comp=Z,3.5nm,0.3s,baz=83,slow=1.1,SNR=4.7
LSZ Lusaka 115.41 250 IAMs_20 IAMs_20 15 32 27.4
comp=Z,1µm,20.0s
EYMN Ely 115.83 39 IAMs_20 IAMs_20 15 29 44.7
comp=Z,888nm,22.0s
TUL1 Leonard 115.98 53 IAMs_20 IAMs_20 15 30 59.5
comp=Z,1µm,22.0s
E38A The Farm, Brul 116.24 41 IAMs_20 IAMs_20 15 31 15.9
comp=Z,891nm,22.0s
ILULI Ilulissat 116.37 7 IAMs_20 IAMs_20 15 34 44.3
comp=Z,716nm,22.0s
SCIA State Center 116.53 46 IAMs_20 IAMs_20 15 38 41.3
comp=Z,946nm,20.0s
X37A Clayton 116.57 55 IAMs_20 IAMs_20 15 30 38.2
comp=Z,1µm,21.0s
K38A Parkersburg 116.64 45 IAMs_20 IAMs_20 15 32 19.0
comp=Z,1µm,21.0s
237A Washetta, Mont 116.66 58 IAMs_20 IAMs_20 15 29 56.0
comp=Z,985nm,22.0s
U38A Gravette 116.99 52 IAMs_20 IAMs_20 15 31 45.0
comp=Z,1µm,21.0s
KOLS Kolonicke sedl 117.19 322 *e*PKiKP **PKiKP** **14 48 37.1 +1.0**
KOLS Kolonicke sedl 117.19 322 *e*PKP **PKiKP** **14 48 37.1 +1.0**
NATX Nacogdoches 117.66 58 IAMs_20 IAMs_20 15 34 13.5
comp=Z,832nm,20.0s
W39A Magazine 117.73 54 IAMs_20 IAMs_20 15 31 59.8
comp=Z,1µm,22.0s
I40A Nowalk 117.76 43 IAMs_20 IAMs_20 15 31 51.4
comp=Z,1µm,22.0s
L40A Anamosa 117.91 46 IAMs_20 IAMs_20 15 32 58.7
comp=Z,1µm,21.0s
KONO Kongsberg 117.93 337 IAMs_20 IAMs_20 15 43 07.1
comp=Z,681nm,20.0s
COWI Conover 117.99 41 IAMs_20 IAMs_20 15 33 22.1
comp=Z,853nm,21.0s
D41A Chassel 118.00 40 IAMs_20 IAMs_20 15 31 13.2
comp=Z,911nm,22.0s
R40A Maddies Statio 118.19 50 IAMs_20 IAMs_20 15 35 06.6
comp=Z,1µm,20.0s
U40A Yellville 118.21 52 IAMs_20 IAMs_20 15 31 38.4
comp=Z,1µm,22.0s
JFWS Jewell Farm 118.33 44 IAMs_20 IAMs_20 15 33 22.6
comp=Z,1µm,21.0s
N41A Harden Midland 118.58 47 IAMs_20 IAMs_20 15 33 08.5
comp=Z,1µm,20.0s
WLAR White Oak Lake 118.58 55 IAMs_20 IAMs_20 15 31 55.6
comp=Z,1µm,22.0s
F42A Maple Grove Fa 118.77 41 IAMs_20 IAMs_20 15 34 06.6
comp=Z,1µm,20.0s
WHAR Wooly Hollow 118.90 53 IAMs_20 IAMs_20 15 33 22.8
comp=Z,890nm,20.0s
I42A Draeger Farm, 118.92 43 IAMs_20 IAMs_20 15 32 40.1
comp=Z,999nm,21.0s
Z41A Richland Creek 118.93 56 IAMs_20 IAMs_20 15 31 22.7
comp=Z,958nm,22.0s
W41B Gary Mavity, V 118.96 53 IAMs_20 IAMs_20 15 32 51.4
comp=Z,1µm,21.0s
L42A Oliver, Polo 119.03 45 IAMs_20 IAMs_20 15 37 22.2
comp=Z,911nm,20.0s
CCM Cathedral Cave 119.03 50 PKiKP **PKPdf** **14 48 39.1 -0.9**
CCM Cathedral Cave 119.03 50 PKPdf **PKPdf** **14 48 39.1 -0.9**
CCM Cathedral Cave 119.03 50 IAMs_20 IAMs_20 15 35 50.9
comp=Z,1µm,20.0s
441A DeRidder 119.08 59 IAMs_20 IAMs_20 15 32 15.1
comp=Z,1µm,21.0s
E43A Lone Tree Farm 119.26 40 IAMs_20 IAMs_20 15 32 11.6
comp=Z,766nm,21.0s

RGN Rugen 119.40 331 IAMs_20 IAMs_20 15 42 38.5
comp=Z,764nm,19.0s
T42A Van Buren 119.42 51 IAMs_20 IAMs_20 15 34 13.2
comp=Z,904nm,20.0s
VYHS Vyhne 119.45 323 *e*PKIKP **PKPdf** **14 48 40.1 -0.4**
VYHS Vyhne 119.45 323 *e*PKP **PKPdf** **14 48 40.1 -0.4**
MORC Moravsky Berou 119.63 325 *e*PKP **PKPdf** **14 48 40.3 -0.5**
CCAR Cane Creek 119.63 55 IAMs_20 IAMs_20 15 34 59.2
comp=Z,955nm,20.0s
IDI Anoyia 119.67 307 PKP **PKPdf** **14 48 39.9 -1.4**
comp=Z,7.1nm,0.9s,baz=2.1,slow=3.5,SNR=3.3
342A Flagon Creek P 119.69 58 IAMs_20 IAMs_20 15 35 28.3
comp=Z,774nm,20.0s
K43A Burlington 119.73 44 IAMs_20 IAMs_20 15 33 11.6
comp=Z,1µm,22.0s
HDIL Hopedale 119.76 47 IAMs_20 IAMs_20 15 34 44.6
comp=Z,817nm,20.0s
P43A Skaggs, Pawnee 119.87 48 IAMs_20 IAMs_20 15 32 53.8
comp=Z,1µm,22.0s
KRLC Kraliky 119.92 325 AMS AMS 15 45 20.0
comp=Z,400nm,18.5s
JAVC Velka Javorina 119.97 324 *e*PKP **PKiKP** **14 48 42.9 +1.3**
OSTC Ostas 120.00 326 AMS AMS 15 43 30.0
comp=Z,500nm,19.5s
DPC Dobruska-Polom 120.04 326 AMS AMS 15 43 20.0
comp=Z,600nm,19.1s
CHVC Chvalec 120.08 326 AMS AMS 15 43 30.0
comp=Z,500nm,18.5s
UPC Upice 120.14 326 AMS AMS 15 43 30.0
comp=Z,600nm,22.0s
L44A Lake County Fo 120.20 45 IAMs_20 IAMs_20 15 33 48.2
comp=Z,1µm,21.0s
X43A Marvell 120.21 54 IAMs_20 IAMs_20 15 33 14.4
comp=Z,1µm,21.0s
HQIL Hanson Quary C 120.38 45 IAMs_20 IAMs_20 15 38 42.8
comp=Z,1µm,20.0s
O44A Mansfield 120.48 47 IAMs_20 IAMs_20 15 35 16.9
comp=Z,1µm,20.0s
GNAR Gosnell 120.53 52 IAMs_20 IAMs_20 15 32 23.8
comp=Z,1µm,22.0s
PARMO Parma 120.55 51 IAMs_20 IAMs_20 15 34 56.2
comp=Z,1µm,20.0s
PEBM Pemiscott Bayo 120.61 52 IAMs_20 IAMs_20 15 32 49.9
comp=Z,1µm,22.0s
KRUC Moravsky 120.62 324 *e*PKP **PKiKP** **14 48 42.6 -0.2**
S44A Carbondale 120.65 50 IAMs_20 IAMs_20 15 36 29.5
comp=Z,1µm,20.0s
PENMO Penman 120.71 51 IAMs_20 IAMs_20 15 37 28.3
comp=Z,978nm,20.0s
HENM Henderson Moun 120.75 51 IAMs_20 IAMs_20 15 35 01.6
comp=Z,1µm,20.0s
LNXT Lenox 120.91 52 IAMs_20 IAMs_20 15 36 07.7
comp=Z,839nm,21.0s
PVCC Panska Ves 120.92 327 AMS AMS 15 44 50.0
comp=Z,500nm,18.9s
HICK Hickman 120.99 51 IAMs_20 IAMs_20 15 41 15.8
comp=Z,738nm,19.0s
344A Westbrook Farm 121.01 57 IAMs_20 IAMs_20 15 41 45.2
comp=Z,750nm,19.0s
VBMS Vicksburg 121.03 56 IAMs_20 IAMs_20 15 36 05.4
comp=Z,794nm,20.0s
HALT Halls 121.08 52 IAMs_20 IAMs_20 15 39 33.2
comp=Z,612nm,20.0s
BRG Berggiesshubel 121.09 327 *i* P **PKiKP** **14 48 43.7 +0.1**
comp=Z,12nm,1.3s
BRG *e* 14 48 51.1
BRG comp=Z,15nm,1.4s *e* 15 00 02.0
comp=Z,570nm,19.2s
comp=N,400nm,17.5s
comp=E,370nm,17.5s
BRG Berggiesshubel 121.09 327 *e*PKPdf **PKiKP** **14 48 44.6 +1.0**
baz=56,slow=1.9
OLIL Olney 121.20 48 IAMs_20 IAMs_20 15 33 15.1
comp=Z,1µm,22.0s
PRU Pruhonice 121.22 326 *e*PP PP 14 50 08.7 -5.1
PRU *e*SP SP 15 00 13.3 +9.0
PRU AMS AMS 15 46 00.0
comp=Z,400nm,17.2s
PRA Prague 121.23 326 AMS AMS 15 46 00.0
comp=Z,200nm,20.6s
CLL Collm 121.35 328 *i* PKiKP **PKPdf** **14 48 43.5 -0.5**
comp=Z,5.0nm,0.9s
CLL *i* pPKiKP **pPKPdf** **14 48 46.0 -1.5**
comp=Z,8.0nm,1.0s
CLL *e* 14 48 51.0
CLL *e*PS **PS** **15 00 06.0 -1.7**
CLL *e*(SS) 15 06 24.0
CLL *e*SSSS 15 14 36.0
CLL Lm MLR 15 43 00.0
comp=N,600nm,21.1s
CLL Lm MLR 15 43 00.0
comp=E,500nm,20.3s
CLL Lm MLR 15 43 00.0
comp=Z,1µm,20.8s
CLL Collm 121.35 328 *i* PKiKP **PKPdf** **14 48 43.5 -0.5**
CLL *i* 14 48 46.0
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL MLR MLR
comp=Z,1µm,20.8s
CLL Collm 121.35 328 IAMs_20 IAMs_20 15 43 16.5
comp=Z,967nm,21.0s
FBE Freiberg 121.38 327 *e*PKPdf **PKiKP** **14 48 45.4 +1.2**
baz=56,slow=1.9
OXF Oxford 121.39 53 IAMs_20 IAMs_20 15 33 29.6
comp=Z,1µm,21.0s
SFIN Lafayette 121.40 46 IAMs_20 IAMs_20 15 38 07.0
comp=Z,725nm,21.0s
Y45A Yeager Farm, C 121.44 54 IAMs_20 IAMs_20 15 33 37.1
comp=Z,877nm,22.0s
CONA Conrad Observa 121.48 323 *i* PKiKP **PKiKP** **14 48 44.4 -0.2**
comp=Z,4.8nm,0.8s
P46A Rosedale 121.58 47 IAMs_20 IAMs_20 15 36 09.8
comp=Z,1µm,20.0s
CCIG Comitan 121.62 75 IAMs_20 IAMs_20 15 32 18.1
comp=Z,1µm,19.0s
PLCA Paso Flores 121.74 147 PKP **PKiKP** **14 48 45.6 +0.2**
comp=Z,1.9nm,0.7s,baz=252,slow=5.0,SNR=4.6
J47A Sunmer 121.92 42 IAMs_20 IAMs_20 15 37 45.5
comp=Z,1µm,20.0s
346A Big Creek Wild 122.08 57 IAMs_20 IAMs_20 15 37 34.5
comp=Z,737nm,21.0s
146A Union 122.13 56 IAMs_20 IAMs_20 15 34 15.6
comp=Z,1µm,22.0s
WVT Waverly 122.19 51 IAMs_20 IAMs_20 15 37 04.6
comp=Z,937nm,20.0s
WERD Werda 122.19 327 *e*PKPdf **PKiKP** **14 48 46.6 +0.7**
baz=56,slow=1.9
KHC Kasperske Hory 122.20 326 *e*PKIKP **PKPdf** **14 48 45.5 -0.3**
KHC *e* 14 50 22.5
KHC MLR MLR
comp=Z,600nm,17.8s
KHC Kasperske Hory 122.20 326 *e*PKP **PKPdf** **14 48 45.5 -0.3**
KHC *e*PP **PP** **14 50 22.5 +2.0**
KHC AMS AMS 15 44 40.0
comp=Z,600nm,17.8s
N47A Urbana 122.22 45 IAMs_20 IAMs_20 15 35 09.7
comp=Z,1µm,21.0s
GUNZ Gunzen 122.23 327 *e*PKPdf **PKiKP** **14 48 47.1 +1.2**
baz=56,slow=1.9
NKC Novy Kostel 122.23 327 AMS AMS 15 45 20.0
comp=Z,600nm,19.4s
PLN Plauen 122.25 327 *e*PKPdf **PKiKP** **14 48 46.9 +0.9**
baz=56,slow=1.9
GEC2 GERESS Array S 122.27 325 *e*PKPdf **PKiKP** **14 48 47.0 +0.8**
baz=56,slow=1.9
GERES GERESS Array B 122.27 325 PKP **PKPdf** **14 48 45.6 -0.4**
comp=Z,2.4nm,0.8s,baz=17,slow=1.4,SNR=14
CLZ Clausthal 122.41 330 *e*PKPdf **PKiKP** **14 48 47.6 +1.4**
baz=56,slow=1.9
MOX Moxa 122.45 328 *e*PKPdf **PKiKP** **14 48 47.5 +1.2**
baz=56,slow=1.9
MANZ Manzenberg 122.55 327 *e*PKPdf **PKiKP** **14 48 47.9 +1.3**
baz=56,slow=1.9
SOKA Soboth 122.57 322 *i* PKiKP **PKPdf** **14 48 46.2 -0.5**
comp=Z,12nm,1.4s
WET Wettzell 122.58 326 *e*PKPdf **PKiKP** **14 48 47.8 +1.1**
baz=56,slow=1.9
ROTZ Rotzenmuhle 122.62 327 *e*PKPdf **PKiKP** **14 48 47.6 +0.9**
baz=56,slow=1.9
L48A N Adams 122.70 44 IAMs_20 IAMs_20 15 39 50.1
comp=Z,1µm,20.0s
P48A Milroy 122.92 47 IAMs_20 IAMs_20 15 41 27.4
comp=Z,932nm,19.0s
OBKA Obir 122.94 322 *i* PKiKP **PKPdf** **14 48 46.9 -0.4**
comp=Z,4.5nm,0.7s
V48A Smith Brothers 123.09 51 IAMs_20 IAMs_20 15 37 51.3

comp=Z,840nm,20.0s
AAM Ann Arbor 123.09 43 IAms_20 IAms_20 15 35 28.3
comp=Z,1µm,21.0s
GRA1 Grafenberg Arr 123.19 327 IAms_20 IAms_20 15 44 34.3
comp=Z,654nm,20.0s
UBBA Unterbreizbach 123.19 329 *e*PKPdf **PKiKP 14 48 48.7 +1.0**
baz=56,slow=1.9
CLTN Cedars of Leba 123.36 51 IAms_20 IAms_20 15 36 23.5
comp=Z,823nm,21.0s
KBA Koelnbreinsper 123.38 324 *i* PKiKP **PKPdf 14 48 48.2 -0.1**
comp=Z,6.3nm,1.3s
P49A Miami Univ. Ec 123.41 46 IAms_20 IAms_20 15 42 01.2
comp=Z,784nm,19.0s
IBBN Ibbenburen 123.41 331 *e*PKPdf **PKiKP 14 48 49.3 +1.2**
baz=56,slow=1.9
O49A Covington 123.44 46 IAms_20 IAms_20 15 39 31.0
comp=Z,830nm,20.0s
K50A Casco 123.59 42 IAms_20 IAms_20 15 35 08.4
comp=Z,847nm,22.0s
LRAL Lakeview Retre 123.71 55 IAms_20 IAms_20 15 35 08.3
comp=Z,1µm,22.0s
M50A Fremont 123.87 44 IAms_20 IAms_20 15 39 53.1
comp=Z,963nm,21.0s
ABTA Abfaltersbach 124.04 324 *i* PKiKP **PKPdf 14 48 49.0 -0.4**
comp=Z,11nm,1.2s
BI02 San Fabin de 124.13 143 IAms_20 IAms_20 15 31 56.3
comp=Z,598nm,20.0s
BRAL Brewton 124.15 57 IAms_20 IAms_20 15 35 03.5
comp=Z,827nm,22.0s
VLDQ Val d'Or 124.17 34 PKPdf **PKPdf 14 48 48.5 -1.0**
VLDQ IAms_20 IAms_20 15 39 58.3
comp=Z,976nm,20.0s
WATA Walderalm 124.28 325 *i* PKiKP **PKPdf 14 48 49.6 -0.4**
comp=Z,18nm,1.5s
WTTA Wattenberg 124.28 324 *i* PKiKP **PKPdf 14 48 50.0 0.0**
comp=Z,21nm,1.0s
IVI Ivigtut 124.37 9 IAms_20 IAms_20 15 38 13.0
comp=Z,718nm,21.0s
ACSO Alum Creek Sta 124.38 45 IAms_20 IAms_20 15 39 30.8
comp=Z,1µm,21.0s
N51A Ashland 124.53 44 IAms_20 IAms_20 15 36 10.5
comp=Z,1µm,21.0s
MOTA Moosalm 124.55 325 *i* PKiKP **PKPdf 14 48 50.1 -0.4**
comp=Z,17nm,1.1s
SQTA Sankt Quirin 124.55 325 *i* PKiKP **PKPdf 14 48 50.2 -0.2**
comp=Z,16nm,1.1s
Q51A Peebles 124.58 47 IAms_20 IAms_20 15 42 55.4
comp=Z,1µm,19.0s
250A Grady 124.59 56 IAms_20 IAms_20 15 36 22.6
comp=Z,902nm,22.0s
D53A Lac Vacive, Po 124.59 36 PKPdf **PKPdf 14 48 50.0 -0.4**
D53A IAms_20 IAms_20 15 35 05.1
comp=Z,1µm,22.0s
P51A Williamsport 124.62 46 IAms_20 IAms_20 15 50 03.1
comp=Z,780nm,19.0s
NRS Narsarsuaq 124.79 7 IAms_20 IAms_20 15 37 46.0
comp=Z,818nm,22.0s
AHRW Bad Neuenahr-A 124.85 330 *e*PKPdf **PKiKP 14 48 52.2 +1.1**
baz=56,slow=1.9
SCHQ Schefferville 124.87 23 IAms_20 IAms_20 15 40 42.1
comp=Z,783nm,20.0s
UBR Ueberruh 124.93 326 *e*PKPdf **PKiKP 14 48 52.0 +0.5**
baz=56,slow=1.9
FETA Feichten 124.94 325 *i* PKiKP **PKPdf 14 48 51.2 0.0**
comp=Z,11nm,1.2s
M52A Chesterland 124.96 43 IAms_20 IAms_20 15 35 27.9
comp=Z,1µm,22.0s
TEIG Tepich 125.00 70 IAms_20 IAms_20 15 37 33.0
comp=Z,818nm,21.0s
Z51A Franklin 125.10 54 IAms_20 IAms_20 15 35 54.9
comp=Z,1µm,22.0s
P52A Corning 125.22 45 IAms_20 IAms_20 15 41 01.9
comp=Z,768nm,21.0s
O52A Adamsville 125.23 45 IAms_20 IAms_20 15 37 33.2
comp=Z,1µm,20.0s
DAVA Damuels 125.27 325 *e*PKiKP **PKPdf 14 48 51.8 -0.1**
comp=Z,9.2nm,0.8s
MEM Membach 125.33 330 pPKP pPKPdf 14 48 53.8 -1.3
451A Vernon 125.37 57 IAms_20 IAms_20 15 36 29.5
comp=Z,896nm,22.0s
FUORN Ofenpass-Fuorn 125.42 324 IAms_20 IAms_20 15 47 13.5
comp=Z,566nm,20.0s
M53A WI Miller and 125.47 43 IAms_20 IAms_20 15 41 29.3
comp=Z,952nm,21.0s
W52A Murphy 125.53 51 IAms_20 IAms_20 15 40 16.1
comp=Z,1µm,21.0s
BFO Black Forest 125.53 327 *e*PKPdf **PKiKP 14 48 53.0 +0.4**
baz=56,slow=1.9
O53A New Philadelph 125.61 44 IAms_20 IAms_20 15 38 06.2
comp=Z,1µm,21.0s
ERPA Erie 125.62 42 IAms_20 IAms_20 15 41 49.3
comp=Z,883nm,20.0s
152A Waverly Hall 125.65 54 IAms_20 IAms_20 15 39 45.7
comp=Z,1µm,20.0s
ALLY Alegheny Colle 125.73 42 IAms_20 IAms_20 15 37 31.2
comp=Z,1µm,21.0s
P53A Whipple 125.80 45 IAms_20 IAms_20 15 48 05.4
comp=Z,707nm,19.0s
352A Blakely 125.82 56 IAms_20 IAms_20 15 40 14.3
comp=Z,815nm,20.0s
WLF Walferdange 125.86 329 IAms_20 IAms_20 15 45 13.6
comp=Z,835nm,20.0s
DELO Deloro Mine 125.98 38 IAms_20 IAms_20 15 35 41.2
comp=Z,1µm,22.0s
UCC Uccle 126.01 331 IAms_20 IAms_20 15 45 58.2
comp=Z,1µm,20.0s
TUE Stuetta 126.03 325 IAms_20 IAms_20 15 47 18.6
comp=Z,757nm,19.0s
PLVO Plevna 126.04 37 IAms_20 IAms_20 15 40 07.7
comp=Z,999nm,22.0s
M54A Oil Creek Stat 126.12 42 IAms_20 IAms_20 15 37 21.4
comp=Z,1µm,21.0s
BMRD Maredsous 126.14 331 pPKP pPKPdf 14 48 55.2 -1.5
ECH Echery 126.23 328 IAms_20 IAms_20 15 47 31.6
comp=Z,606nm,20.0s
BG3 Lake Jocassee 126.34 51 IAms_20 IAms_20 15 41 28.4
comp=Z,591nm,21.0s
DOU Dourbes 126.36 331 pPKP **PKiKP 14 48 55.3 +1.2**
Q54A Coxs Mills 126.40 46 IAms_20 IAms_20 15 40 35.3
comp=Z,1µm,20.0s
GOGA Godfrey 126.43 53 IAms_20 IAms_20 15 37 11.2
comp=Z,1µm,22.0s
MT02 Curacav 126.47 140 IAms_20 IAms_20 15 33 51.4
comp=Z,634nm,19.0s
553A Crawfordville 126.58 57 IAms_20 IAms_20 15 39 16.5
comp=Z,769nm,22.0s
VLC Villacollemand 126.66 322 IAms_20 IAms_20 15 48 48.6
comp=Z,708nm,21.0s
MMNY Mt. Morris Dam 126.69 40 IAms_20 IAms_20 15 39 28.4
comp=Z,925nm,20.0s
M55A Ridgway 126.74 42 IAms_20 IAms_20 15 42 31.7
comp=Z,1µm,19.0s
MCWV Mont Chateau 126.81 45 IAms_20 IAms_20 15 39 03.1
comp=Z,619nm,21.0s
TIGA Tifton 126.93 55 IAms_20 IAms_20 15 37 57.6
comp=Z,765nm,22.0s
154A Montrose 126.97 54 IAms_20 IAms_20 15 39 36.5
comp=Z,1µm,21.0s
M56A Emporium 127.12 42 IAms_20 IAms_20 15 42 53.7
comp=Z,1µm,20.0s
VA03 San Esteban 127.16 140 IAms_20 IAms_20 15 36 27.8
comp=Z,578nm,21.0s
R55A Marlinton 127.20 46 IAms_20 IAms_20 15 44 55.5
comp=Z,954nm,19.0s
SENIN Lac Senin/Sane 127.26 326 IAms_20 IAms_20 15 48 59.9
comp=Z,581nm,20.0s
PAULI Pauline 127.26 51 IAms_20 IAms_20 15 41 30.7
comp=Z,699nm,22.0s
Q56A Snyder Ridge, 127.54 45 IAms_20 IAms_20 15 42 37.8
comp=Z,916nm,20.0s
255A Hazlehurst 127.69 55 IAms_20 IAms_20 15 39 59.6
comp=Z,1µm,20.0s
LONY Lake Ozonia 127.76 37 IAms_20 IAms_20 15 47 27.1
comp=Z,779nm,19.0s
JSC Jenkinsville 127.88 51 IAms_20 IAms_20 15 38 17.1
comp=Z,652nm,21.0s
P57A Homestead Farm 128.16 44 IAms_20 IAms_20 15 37 51.6
comp=Z,1µm,22.0s
S57A Dark Hollow, R 128.25 46 IAms_20 IAms_20 15 48 02.4
comp=Z,878nm,19.0s
NCB Newcomb 128.33 37 IAms_20 IAms_20 15 47 45.3
comp=Z,585nm,19.0s
BIRD Birdtown, Kers 128.36 51 IAms_20 IAms_20 15 43 29.9
comp=Z,797nm,20.0s
BNI Bardonecchia 128.38 325 IAms_20 IAms_20 15 49 45.7
comp=Z,747nm,19.0s
656A Williston 128.38 58 IAms_20 IAms_20 15 38 55.4
comp=Z,708nm,22.0s

J59A Piesco 128.44 38 IAms_20 IAms_20 15 35 57.4
comp=Z,912nm,22.0s
KSPA Keystone Colle 128.66 41 IAms_20 IAms_20 15 42 22.4
comp=Z,1µm,20.0s
JTS Las Juntas de 128.73 82 ⇓ *i*PKiKP **PKiKP 14 49 00.4 +0.5**
JTS Las Juntas de 128.73 82 IAms_20 IAms_20 15 34 14.7
comp=Z,1µm,21.0s
257A Skidaway Islan 128.84 54 IAms_20 IAms_20 15 41 32.1
comp=Z,816nm,20.0s
CLF Chambon-Foret 128.88 330 IAms_20 IAms_20 15 47 20.4
comp=Z,1µm,21.0s
R58B Mineral 128.93 46 IAms_20 IAms_20 15 42 50.3
comp=Z,1µm,20.0s
S58A Poland Farm, P 128.96 46 IAms_20 IAms_20 15 42 20.2
comp=Z,968nm,21.0s
N59A State Game Lan 128.98 41 IAms_20 IAms_20 15 44 11.0
comp=Z,1µm,20.0s
SDMD Soldier's Deli 129.00 43 IAms_20 IAms_20 15 39 00.8
comp=Z,736nm,22.0s
CBN Corbin Frederi 129.18 45 IAms_20 IAms_20 15 47 28.9
comp=Z,747nm,18.0s
X58A Rowland 129.25 50 IAms_20 IAms_20 15 37 09.5
comp=Z,1µm,22.0s
TRY Troy 129.36 38 IAms_20 IAms_20 15 37 34.6
comp=Z,1µm,22.0s
LUPA Lehigh Univers 129.40 41 IAms_20 IAms_20 15 44 23.2
comp=Z,1µm,20.0s
LCO Las Campanas 129.45 136 IAms_20 IAms_20 15 33 44.9
comp=Z,685nm,22.0s
HDC Heredia 129.56 83 IAms_20 IAms_20 15 34 21.7
comp=Z,1µm,21.0s
F62A Pittston Farm, 129.61 33 IAms_20 IAms_20 15 42 25.6
comp=Z,854nm,20.0s
DWPF Disney Wildern 129.66 59 IAms_20 IAms_20 15 41 59.3
comp=Z,582nm,20.0s
PSUB Penn St. - Bra 129.69 42 IAms_20 IAms_20 15 41 27.8
comp=Z,1µm,20.0s
G62A West of Eustis 129.73 34 IAms_20 IAms_20 15 47 25.9
comp=Z,889nm,20.0s
Y59A Loris 129.82 51 IAms_20 IAms_20 15 42 58.6
comp=Z,951nm,20.0s
AC05 El Transito 129.85 136 IAms_20 IAms_20 15 32 11.5
comp=Z,655nm,18.0s
F63A Nahmakanta, Br 130.20 33 IAms_20 IAms_20 15 37 39.1
comp=Z,944nm,22.0s
K62A Royalston 130.27 37 IAms_20 IAms_20 15 41 28.6
comp=Z,886nm,22.0s
Y60A Bolivia 130.32 50 IAms_20 IAms_20 15 43 31.8
comp=Z,1µm,20.0s
PKME Peaks-Kenny Pk 130.38 33 IAms_20 IAms_20 15 42 31.0
comp=Z,734nm,20.0s
QUA2 Belchertown 130.42 38 IAms_20 IAms_20 15 44 11.6
comp=Z,1µm,20.0s
F64A Sherman 130.49 32 IAms_20 IAms_20 15 40 29.9
comp=Z,1µm,21.0s
WVL Waterville 130.62 34 IAms_20 IAms_20 15 47 54.5
comp=Z,789nm,20.0s
061Z Ochoppi 130.69 61 IAms_20 IAms_20 15 40 40.0
comp=Z,676nm,22.0s
HRV Adam Dziewonsk 130.77 37 IAms_20 IAms_20 15 48 00.8
comp=Z,691nm,20.0s
060A Indiantown 130.87 60 IAms_20 IAms_20 15 46 04.4
comp=Z,626nm,19.0s
WES Weston 130.98 37 IAms_20 IAms_20 15 38 53.4
comp=Z,698nm,22.0s
BCX Boston College 131.10 37 IAms_20 IAms_20 15 37 55.6
comp=Z,773nm,20.0s
BRYW Bryant College 131.12 38 IAms_20 IAms_20 15 39 00.5
comp=Z,1µm,22.0s
G65A Princeton 131.35 32 IAms_20 IAms_20 15 38 37.5
comp=Z,1µm,22.0s
KEST Kesra 131.43 313 PKP **PKiKP 14 49 05.1 +0.2**
comp=Z,3.6nm,0.9s,baz=294,slow=4.7,SNR=3.5
EMMW East Machias 131.73 33 IAms_20 IAms_20 15 38 47.7
comp=Z,987nm,22.0s
GGN Saint George 131.78 32 IAms_20 IAms_20 15 40 58.2
comp=Z,1µm,21.0s
M65A Busby, Falmout 131.87 38 IAms_20 IAms_20 15 46 01.0
comp=Z,955nm,20.0s
NNA Nana 132.85 113 ⇓ *i*PKiKP **PKPdf 14 49 05.8 -1.3**
BCIP Isla Barro Col 133.77 84 IAms_20 IAms_20 15 40 33.3
comp=Z,725nm,20.0s
OTAV Otavalo 134.43 96 IAms_20 IAms_20 15 39 04.0
comp=Z,634nm,20.0s
MTDJ Mount Denham 135.32 71 IAms_20 IAms_20 15 40 39.7
comp=Z,776nm,21.0s
POPC Popayan, Colom 136.50 93 *e*P **PKPdf 14 49 14.8 +0.6**
YOTC Yotoco, Valle 136.99 91 *e*P **PKPdf 14 49 15.5 +0.5**
PLTB Pedras Altas 137.18 154 *e*P **PKiKP 14 49 16.8 +0.2**
MARP Paez Belalcaza 137.25 93 *e*P **PKiKP 14 49 17.1 -0.4**
GTBY Guantanamo Bay 137.26 68 IAms_20 IAms_20 15 40 38.0
comp=Z,732nm,22.0s
DBBC Dabelba 137.32 87 *e*P **PKiKP 14 49 16.9 -0.5**
BETC Betania 137.75 93 *e*P **PKPdf 14 49 13.5 -2.8**
ES08 SONSECA Array 137.83 326 IAms_20 IAms_20 15 54 24.7
comp=Z,510nm,21.0s
ESDC Sonseca Array 137.86 326 PKP **PKPdf 14 49 15.6 -0.2**
comp=Z,0.3nm,0.4s,baz=12,slow=2.5,SNR=5.7
ESDC PP PP 14 52 14.0 +12
comp=Z,1.8nm,1.1s,baz=22,slow=4.6,SNR=5.7
ES05 SONSECA Array 137.87 326 IAms_20 IAms_20 15 55 50.8
comp=Z,524nm,21.0s
ES15 SONSECA Array 137.89 326 IAms_20 IAms_20 15 55 51.4
comp=Z,547nm,21.0s
MOTC Monteria, Cord 137.89 84 *e*P **PKPdf 14 49 16.3 -0.2**
HELC Santa Helena 137.96 88 *e*P **PKiKP 14 49 18.7 -0.4**
ANIL Santa Ana 137.97 91 *e*P **PKPdf 14 49 15.9 -1.1**
TOLC Tolima 138.06 90 *e*P **PKPdf 14 49 17.1 -0.1**
GUY2C Guyana, Caldas 138.06 90 *e*P **PKPdf 14 49 18.1 +0.7**
ORTC Ortega, Tolima 138.07 91 *e*P **PKPdf 14 49 15.0 -1.9**
CZSB Cruzeiro do Su 138.12 109 *e*P **PKPdf 14 49 17.5 +0.6**
SJCC San Jacinto, C 138.36 83 *e*P **PKiKP 14 49 18.2 -1.2**
PGAV Gavieira, Arco 138.40 332 *e*LR LR 15 42 27.4
comp=Z,393nm,20.0s
PRAC Prado 138.41 92 *e*P **PKPdf 14 49 18.2 +0.7**
MVO Moncorvo 138.41 330 *e*PKPdf **PKPdf 14 49 15.1 -1.7**
MVO Moncorvo 138.41 330 *e*LR LR 15 41 46.2
comp=Z,564nm,20.0s
LPAZ La Paz 138.64 124 PKhKP **PKPdf 14 49 15.2 -3.3**
comp=Z,2.8nm,0.9s,baz=182,slow=3.6,SNR=7.0
LPAZ SKPbc **SKiKP 14 52 56.2 -0.9**
comp=Z,1.8nm,0.8s,baz=144,slow=14,SNR=3.1
LPAZ La Paz 138.64 124 *e*P **PKiKP 14 49 20.0 -0.7**
ROSC El Rosal 139.07 90 SKPbc **SKiKP 14 52 57.7 -0.1**
comp=Z,5.8nm,0.4s,baz=68,slow=19,SNR=1.2
MTE Manteigas 139.24 330 *e*PKPdf **PKiKP 14 49 20.6 0.0**
MTE Manteigas 139.24 330 *e*LR LR 15 42 11.0
comp=Z,462nm,20.0s
MTE Manteigas 139.24 330 IAms_20 IAms_20 15 52 45.7
comp=Z,546nm,22.0s
SPBC San Pablo de B 139.37 89 *e*P **PKPdf 14 49 19.6 +0.3**
PCBR Castelo Branco 139.63 329 *e*PKPdf **PKiKP 14 49 20.7 -0.6**
CHIC Chingaza 139.64 91 *e*P PKPdf 14 49 09.4 -11
CPUP Villa Florida 139.76 145 PKhKP **PKPdf 14 49 15.6 -4.0**
comp=Z,1.7nm,0.8s,baz=213,slow=9.6,SNR=3.0
CPUP Villa Florida 139.76 145 *e*P **PKiKP 14 49 22.2 +0.3**
COI Coimbra 139.82 330 IAms_20 IAms_20 15 54 11.9
comp=Z,817nm,21.0s
PMRV Marv??? 139.89 328 *e*LR LR 15 42 10.0
comp=Z,309nm,20.0s
BARC Barichara 140.30 88 *e*P PKPdf 14 49 13.3 -7.9
RUSC La Rusia 140.37 89 *e*P PKPdf 14 49 12.3 -9.3
CNLB Canela 140.47 155 *e*P **PKiKP 14 49 22.5 -0.9**
GRTK Grand Turk 140.48 64 IAms_20 IAms_20 15 54 20.6
comp=Z,789nm,19.0s
PAMC Pamplona, Colo 140.81 86 *e*P **PKPdf 14 49 16.2 -6.2**
SDDR Presa de Saban 140.99 68 IAms_20 IAms_20 15 45 25.4
comp=Z,771nm,20.0s
BBSR BB Station 141.06 45 IAms_20 IAms_20 15 47 05.2
comp=Z,842nm,20.0s
SC01 Santiago de lo 141.39 67 IAms_20 IAms_20 15 43 08.2
comp=Z,782nm,22.0s
PNCL Nicolau / Gran 141.46 328 *e*PKPdf PKiKP 14 49 41.3 +16
TAMC Tame, Arauca 141.68 88 *e*P **PKPdf 14 49 18.9 -4.5**
ITAB Concordia 141.71 152 *e*P **PKiKP 14 49 25.9 0.0**
PFVI Vila Bisbo 142.35 327 IAms_20 IAms_20 16 04 20.1
comp=Z,532nm,20.0s
MDT Midelt 142.75 318 PKP **PKPdf 14 49 23.0 -1.9**
comp=Z,1.9nm,0.7s,baz=355,slow=3.4,SNR=4.2
SDV Santo Domingo 142.86 84 IAms_20 IAms_20 15 44 19.5
comp=Z,760nm,21.0s
PTGB Pitanga 143.86 150 *e*P **PKiKP 14 49 29.4 -1.1**
TIJ01 Guaruva-PR 144.75 155 *e*P **PKPdf 14 49 29.5 +0.8**
TOC2 Torodi Ar. Sit 145.00 283 IAms_20 IAms_20 15 55 27.8
comp=Z,579nm,22.0s
TOC3 Torodi Ar. Sit 145.00 283 IAms_20 IAms_20 15 55 25.8
comp=Z,573nm,22.0s

TOC1 Torodi Ar. Sit 145.02 283 IAms_20 IAms_20 15 55 38.2
comp=Z,675nm,22.0s
TOB3 Torodi Ar. Sit 145.02 283 IAms_20 IAms_20 15 55 27.3
comp=Z,517nm,21.0s
TOA2 Torodi Ar. Sit 145.02 283 IAms_20 IAms_20 15 54 06.3
comp=Z,521nm,20.0s
TOC4 Torodi Ar. Sit 145.03 283 IAms_20 IAms_20 15 55 27.4
comp=Z,547nm,22.0s
TOA0 Torodi Ar. Sit 145.03 283 **PKPdf 14 49 29.3 +0.1**
TOA0 IAms_20 IAms_20 15 55 27.5
comp=Z,550nm,22.0s
TOB1 Torodi Ar. Sit 145.03 283 IAms_20 IAms_20 15 55 27.5
comp=Z,521nm,21.0s
TORD Torodi Ar. Bea 145.03 283 PKPbc **PKPbc 14 49 27.5 -1.0**
comp=Z,65nm,0.8s,baz=67,slow=2.8,SNR=213
TOA3 Torodi Ar. Sit 145.03 283 IAms_20 IAms_20 15 55 27.5
comp=Z,544nm,22.0s
TOB4 Torodi Ar. Sit 145.04 283 IAms_20 IAms_20 15 55 27.8
comp=Z,541nm,21.0s
TOB5 Torodi Ar. Sit 145.04 283 IAms_20 IAms_20 16 03 11.8
comp=Z,494nm,20.0s
TOC7 Torodi Ar. Sit 145.04 283 IAms_20 IAms_20 15 55 27.8
comp=Z,582nm,22.0s
TOC5 Torodi Ar. Sit 145.05 283 IAms_20 IAms_20 15 55 28.0
comp=Z,624nm,21.0s
CRPR Cabo Rojo, PR 145.07 68 **PKPbc 14 49 27.7 -0.8**
MLPR Magueyes Islan 145.14 68 **PKPbc 14 49 26.8 -2.0**
TRCB Terra Rica 145.15 148 *e*P **PKPdf 14 49 30.5 +1.2**
AQDB Aquidauana 145.18 141 *e*P **PKPdf 14 49 29.7 +0.4**
AOPR Arecibo Observ 145.31 67 **PKPbc 14 49 28.7 -0.6**
OBIP Obispado Ponce 145.52 68 **PKPdf 14 49 28.9 -1.0**
HUMP Col San Antoni 146.19 67 **PKPbc 14 49 31.8 -0.3**
FRTB Fartura 146.22 152 *e*P **PKPab 14 49 33.0 +0.3**
PTLB Pontes e Lacer 146.25 131 *e*P **PKPbc 14 49 32.2 0.0**
SAML Samuel 146.37 117 PKP2 **PKPbc 14 49 32.2 -0.5**
SAML Samuel 146.37 117 **PKPbc 14 49 32.2 -0.5**
SAML Samuel 146.37 117 *e*P **PKPbc 14 49 32.4 -0.4**
PET01 Itanhaem-SP 146.38 156 *e*P **PKPbc 14 49 32.1 -0.4**
MTP Monte Pirata 146.47 67 PKPdf **PKPab 14 49 33.5 -0.4**
CUPR Culebra, Puert 146.66 67 **PKPbc 14 49 32.9 -0.6**
PCMB Pacaembu 146.85 148 *e*P **PKPbc 14 49 34.0 +0.1**
VILB Vilhena 146.89 126 *e*P **PKPbc 14 49 33.5 -0.7**
SPB Sao Paulo 146.94 156 *e*P **PKPab 14 49 35.0 -0.4**
STVI Saint Thomas 146.95 66 **PKPbc 14 49 34.0 -0.3**
VAO Valinhos 147.65 156 *e*P **PKPbc 14 49 35.1 -1.1**
PARB Paraibuna 147.87 158 *e*P **PKPbc 14 49 36.6 -0.2**
SALV Santo Antonio 148.45 135 *e*P **PKPbc 14 49 37.4 -1.1**
BB19B Bebedouro 148.66 152 *e*P **PKPdf 14 49 36.9 +1.6**
SMRT St. Maarten 148.74 66 IAms_20 IAms_20 15 54 33.0
comp=Z,751nm,19.0s
ITRB Iturama 148.89 147 *e*P **PKPbc 14 49 38.1 -1.4**
PMPST Porto Santo, M 149.34 331 *e*PKPdf **PKPab 14 49 44.4 -0.4**
PMPS Porto Santo 149.35 331 *e*PKPdf **PKPdf 14 49 30.8 -5.1**
VAS01 Vassouras-RJ 149.60 161 *e*P **PKPdf 14 49 37.7 +1.0**
PMAR Madeira 149.90 332 *e*PKPdf **PKPab 14 49 46.8 -0.5**
PMOZ Porto Moniz, M 149.95 332 *e*PKPdf **PKiKP 14 49 42.6 -0.2**
BSCB Bom Sucesso 150.32 158 *e*P **PKPdf 14 49 39.4 +1.5**
MACA Manacapuru-AM 150.91 109 *e*P **PKPdf 14 49 40.4 +1.5**
ARAG Araguaiana, MT 151.18 140 *e*P **PKPdf 14 49 41.1 +1.8**
FDF Fort de France 151.41 71 IAms_20 IAms_20 15 43 41.2
comp=Z,467nm,18.0s
IPMB Ipameri, GO 151.44 149 *e*P **PKPdf 14 49 41.4 +1.7**
CLDB Colider 151.60 128 *e*P **PKPdf 14 49 40.7 +0.7**
KIC Kosan Boka 151.71 271 *e*PKiKP **PKiKP 14 49 46.7 -0.2**
comp=Z,85nm,1.1s
DBIC Dimbokro 151.83 272 PKPbc **PKiKP 14 49 46.8 -0.3**
comp=Z,266nm,1.0s,baz=68,slow=3.1,SNR=17
LIC Lamto 151.99 271 *e*PKiKP **PKiKP 14 49 47.3 -0.1**
comp=Z,116nm,1.0s
TIC Toumodi 152.00 272 *e*PKiKP **PKiKP 14 49 47.2 -0.3**
RIB01 Linhares ES 153.30 165 *e*P **PKPdf 14 49 44.6 +2.3**
BDFB Brasilia 153.48 147 PKP **PKPdf 14 49 42.8 0.0**
comp=Z,1.8nm,0.4s,baz=114,slow=5.3,SNR=2.4
BDFB PKPbc **PKiKP 14 49 50.7 +0.1**
comp=Z,4.5nm,0.4s,baz=136,slow=2.4,SNR=6.0
SJMB Sao Joao De Ma 153.66 163 *e*P **PKPdf 14 49 45.7 +2.9**
NPGB Novo Progresso 154.08 121 *e*P **PKPdf 14 49 45.4 +1.8**
MC01 Montes Claros 154.53 155 *e*P **PKPdf 14 49 45.6 +1.4**
ITTB Itaituba 155.02 115 *e*P **PKPdf 14 49 44.9 -0.1**
PEXB Peixe 156.12 141 *e*P **PKPdf 14 49 48.1 +1.8**
MALB Monte Alegre 157.37 111 *e*P **PKPdf 14 49 51.2 +3.2**
SDBA SAO DESIDERIO 157.83 148 *e*P **PKPdf 14 49 50.5 +1.9**
GDU01 Guandu, BA 158.85 163 *e*P **PKPdf 14 49 52.5 +2.8**
SMTB Santa Maria do 159.00 137 *e*P **PKPdf 14 49 51.6 +1.6**
PRPB Parauapebas 159.13 127 *e*P **PKPdf 14 49 51.8 +1.6**
MCPB Macapa, AP 159.97 109 *e*P **PKPdf 14 49 53.8 +2.7**
MDP Montagnes des 160.62 93 PKP **PKPdf 14 49 52.6 +0.8**
comp=Z,4.3nm,1.0s,baz=228,slow=4.4,SNR=4.4
MDP PKPab **PKPab 14 50 33.6 +0.1**
comp=Z,16nm,0.9s,baz=288,slow=4.2,SNR=7.5
TMAB Tom-Au,PA,Br 162.68 120 *e*P **PKPdf 14 49 55.8 +1.8**
ROSB Rosrio 165.59 131 *e*P **PKPdf 14 49 58.5 +1.9**
RCBR Riachuelo 167.37 168 *e*P **PKPdf 14 50 00.2 +2.2**

ISN **22** *14:31:07.8±0.4, 32.°80N×47.°67E, h14km±3km, ML3.9*
IDC **22** *14:31:08.8±1.4, 32.°71N×47.°44E, h0km, mb3.9/9,*
mb1 4.0/12, mb1mx3.7/50, mbtmp4.0/12, ML3.8/3, MS3.1/6,
Ms1 3.1/6, ms1mx2.7/54, Error ellipse: s-maj=29.7km
s-min=20.8km az=169.0
TEH **22** *14:31:10.0, 32.°70N×47.°55E, h9km, ML4.0*
THR **22** *14:31:10.8±0.5, 32.°76N×47.°53E, h14km±8km, ML3.8*
OMAN **22** *14:31:13.7, 31.°86N×47.°18E, h10km, mb5.3/2, ms2.7/1*
ISC 22 14:31:10.1±1.0, **32.°68N**±0.°03×**47.°54E**±0.°03, **h12**km±7km,
n77, σ1°**61**/83, **mb3.9**/9, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.22**	**271**	*e*Pg	**Pg**	**14 31 14.9**	**+0.1**
DHL1				*e*Sg	**Sg**	**14 31 18.4**	**+0.4**
IKFM	**Kafar-mosalman**	**0.88**	**17**	*e*Pg	**Pg**	**14 31 26.4**	**-0.7**
IKFM				*e*		14 31 47.6	
IKMR	**Kamar-syah**	**1.09**	**40**	*e*Pg	**Pg**	**14 31 30.5**	**-0.7**
IKMR				*e*		14 31 34.4	
IKMR				*e*Sg	**Sn**	**14 31 46.8**	**+0.6**
SHGR	**Shooshtar-Gavs**	**1.21**	**118**	*e*Pg	**Pg**	**14 31 34.0**	**+0.7**
SHGR				*e*Sg	**Sn**	**14 31 50.9**	**+1.8**
SHGR				IAML		14 31 59.5	
	comp=N,2µm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.21**	**118**	*e*Pg	**Pg**	**14 31 34.0**	**+0.7**
IDOB	**Doab**	**1.23**	**26**	*e*Pg	**Pb**	**14 31 32.6**	**-0.8**
IBDR	**Badra**	**1.42**	**288**	*e*Pg	**Pn**	**14 31 35.0**	**-0.7**
IBDR				*e*Sg	**Sn**	**14 31 55.0**	**+0.7**
IBDR				AML	AML	14 32 01.5	
	comp=E,1µm,0.5s						
IBDR				AML	AML	14 32 01.6	
	comp=N,3µm,0.4s						
BMDN	**Meydan**	**1.46**	**47**	*e*Pg	**Pb**	**14 31 37.0**	**-0.3**
BMDN				*e*		14 32 07.1	
IKOM	**Komasi**	**1.49**	**359**	*e*Pg	**Pg**	**14 31 38.9**	**+0.1**
IKOM				*e*		14 31 40.3	
KCHF	**Cheshme Sefid,**	**1.65**	**345**	*e*Pg	**Pg**	**14 31 41.6**	**-0.1**
KCHF				*e*		14 32 06.6	
KER	**Kermanshah**	**1.74**	**349**	*e*Pg	**Pg**	**14 31 42.7**	**-0.7**
HSAM	**Samen**	**1.77**	**30**	*e*Pg	**Pg**	**14 31 43.1**	**-1.0**
HSAM				*e*		14 31 45.3	
IBZA	**Bozab**	**1.81**	**8**	*e*Pg	**Pb**	**14 31 43.6**	**+0.4**
IBZA				*e*		14 31 45.9	
IGHG	**Ghaleghazi**	**1.84**	**334**	*e*Pg	**Pg**	**14 31 45.1**	**-0.2**
IGHG				*e*		14 32 31.2	
IVIS	**Veis**	**1.93**	**343**	*e*Pn	**Pb**	**14 31 45.1**	**-0.2**
IVIS				*e*		14 32 17.5	
NSR	**Nassriya**	**2.04**	**216**	*e*Pn	**Pn**	**14 31 45.0**	**+0.8**
NSR				*e*Sn	**Sn**	**14 32 12.0**	**+2.3**
IDHR	**Dehrash**	**2.23**	**335**	*e*Pn	**Pb**	**14 31 49.2**	**-1.3**
IDHR				*e*		14 32 28.9	
IALM	**Almabolaq**	**2.24**	**13**	*e*Pn	**Pb**	**14 31 49.8**	**-0.8**
ILIN	**Lien**	**2.29**	**348**	*e*Pn	**Pb**	**14 31 50.0**	**-1.4**
ILIN				*e*		14 32 30.4	
KHMZ	**Khomeyn**	**2.29**	**62**	*e*Pn	**Pb**	**14 31 50.2**	**-1.2**
KHMZ				*e*Sg	**Sg**	**14 32 22.0**	**-1.6**
KHMZ	**Khomeyn**	**2.29**	**62**	*e*Pn	**Pb**	**14 31 50.2**	**-1.2**
HAGD	**Aghdareh**	**2.52**	**32**	*e*Pn	**Pb**	**14 31 53.4**	**-2.0**
HAGD				*e*		14 32 40.1	
HSRG	**Sareghieh**	**2.63**	**13**	*e*Pn	**Pb**	**14 31 55.8**	**-1.5**
HSRG				*e*		14 32 40.7	
JHBN	**Jahan bin**	**2.68**	**99**	*e*Pn	**Pn**	**14 31 55.4**	**+2.1**
JHBN				*e*		14 32 42.5	
BHD	**Baghdad**	**2.72**	**283**	*e*Pn	**Pn**	**14 31 54.0**	**+0.5**
BHD				*e*Sn	**Sn**	**14 32 28.0**	**+1.7**
IPIR	**Pirpir**	**

IPIR				*e*			14 32 49.5		
ROKH	**ROKH**	**2.97**	**95**	*e*Pn		**Pn**	**14 31 59.1**	**+1.9**	
ROKH				*e*			14 32 50.2		
IRAZ	**Razeghan**	**3.37**	**35**	*e*Pn		**Pn**	**14 32 05.6**	**+3.0**	
IKLH	**Kolahrood**	**3.45**	**78**	*e*Pn		**Pn**	**14 32 06.1**	**+2.2**	
IKLH				*e*			14 33 07.2		
QABG	**Abgarm-Qazvin**	**3.46**	**29**	*e*Pn		**Pn**	**14 32 05.7**	**+1.7**	
IGAR	**Gharneh**	**3.81**	**93**	*e*Pn		**Pn**	**14 32 10.5**	**+1.7**	
IGAR				*e*			14 33 20.0		
KLNJ	**Kolanjah**	**3.83**	**115**	*e*Pn		**Pn**	**14 32 11.1**	**+2.0**	
KLNJ				*e*			14 33 33.6		
IMHD	**Mahdasht**	**3.96**	**40**	*e*Pn		**Pn**	**14 32 12.7**	**+1.9**	
IZEF	**Zefreh**	**4.04**	**86**	*e*Pn		**Pn**	**14 32 13.9**	**+1.9**	
QSDN	**Sirdan**	**4.05**	**19**	*e*Pn		**Pn**	**14 32 14.8**	**+2.8**	
IHSB	**Hasanabad**	**4.15**	**47**	*e*Pn		**Pn**	**14 32 15.4**	**+2.1**	
IRAM	**Ramesheh**	**4.19**	**101**	*e*Pn		**Pn**	**14 32 15.0**	**+1.0**	
IGZV	**Ghazvin**	**4.31**	**30**	*e*Pn		**Pn**	**14 32 17.9**	**+2.3**	
MAHB	**Mahabad**	**4.35**	**340**	*e*Pn		**Pn**	**14 32 19.1**	**+3.0**	
CHTH	**Charan**	**4.38**	**42**	*e*Pn		**Pn**	**14 32 18.3**	**+1.7**	
CHTH	**Charan**	**4.38**	**42**	*e*Pn		**Pn**	**14 32 18.3**	**+1.7**	
QALM	**Alamut, Qazvin**	**4.54**	**34**	*e*Pn		**Pn**	**14 32 20.9**	**+2.1**	
DAMV	**Damavand**	**4.71**	**50**	*e*Pn		**Pn**	**14 32 23.0**	**+1.9**	
DAMV	**Damavand**	**4.71**	**50**	*e*Pn		**Pn**	**14 32 23.0**	**+1.9**	
IDMV	**Damavand**	**4.72**	**51**	*e*Pn		**Pn**	**14 32 23.3**	**+2.0**	
ISRB	**Sarab**	**5.14**	**1**	*e*Pn		**Pn**	**14 32 29.3**	**+2.3**	
IAZR	**Azarshahr**	**5.15**	**346**	*e*Pn		**Pn**	**14 32 30.1**	**+2.9**	
ANAR	**Anarak**	**5.23**	**83**	*e*Pn		**Pn**	**14 32 29.2**	**+1.0**	
ILAS	**Lasjerd**	**5.25**	**58**	*e*Pn		**Pn**	**14 32 30.4**	**+1.9**	
IPRN	**Peran**	**5.32**	**47**	*e*Pn		**Pn**	**14 32 31.8**	**+2.3**	
ISHM	**Shahmirzad**	**5.70**	**55**	*e*Pn		**Pn**	**14 32 36.7**	**+2.0**	
TNSJ	**Nastanj**	**7.70**	**78**	*e*Pn		**Pn**	**14 33 02.8**	**+0.7**	
ASF	**Jabal al Asfar**	**9.01**	**270**	Pn		**Pn**	**14 33 19.6**	**-0.4**	
	comp=N,0.6nm,0.3s,baz=42,slow=6.7,SNR=3.8								
ASF				Sn		**Sn**	**14 34 58.3**	**-3.2**	
	comp=N,0.3nm,0.3s,baz=294,slow=23,SNR=1.5								
ASF				Lg		Lg	14 36 07.3		
	comp=N,0.7nm,0.3s,baz=249,slow=20,SNR=3.8								
SBZV	**Sabzevar**	**9.10**	**63**	*e*Pn		**Pn**	**14 33 22.6**	**+1.3**	
GEYT	**Alibeck**	**10.11**	**56**	LR		LR	14 37 52.4		
	comp=N,106nm,18.1s,baz=270,slow=40								
BANOM	**Banah**	**10.18**	**129**	P		**Pn**	**14 33 36.1**	**0.0**	
	SNR=9.3								
NAZ	**Nazwa, Dubai**	**10.46**	**135**	P		**Pn**	**14 33 40.0**	**+0.2**	
MDH	**Madha**	**10.62**	**132**	P		**Pn**	**14 33 42.7**	**+0.6**	
UOSS	**Minazif**	**10.82**	**133**	P		**Pn**	**14 33 44.9**	**+0.1**	
ASHO	**Ashiyiah**	**10.92**	**135**	S		**Sn**	**14 35 45.8**	**-2.6**	
	SNR=8.4								
EIL	**Elat**	**11.19**	**258**	Lg		Lg	14 37 13.1		
	comp=N,0.6nm,0.3s,baz=90,slow=20,SNR=1.8								
KBZ	**Khabaz**	**11.62**	**343**	LR		LR	14 38 48.0		
	comp=N,58nm,19.4s,baz=150,slow=40								
BSY	**Bisya**	**13.07**	**137**	S		**Sn**	**14 36 37.5**	**-3.5**	
	SNR=6.2								
WSAR	**Wadi Sarin**	**13.57**	**131**	Pn		**Pn**	**14 34 22.7**	**+0.2**	
	comp=N,0.9nm,0.3s,baz=327,slow=9.0,SNR=11								
WSAR				Sn		Sn	14 36 44.7	-8.5	
	comp=N,0.8nm,0.3s,baz=338,slow=23,SNR=7.4								
WSAR				LR		LR	14 40 39.5		
	comp=N,94nm,18.2s,baz=298,slow=42								
WSAR	**Wadi Sarin**	**13.57**	**131**	P		**Pn**	**14 34 22.8**	**+0.4**	
	SNR=5.9								
MHTO	**MHTO**	**14.89**	**139**	P		**Pn**	**14 34 39.4**	**-1.1**	
DMTO	**DMTO**	**16.33**	**154**	P		**Pn**	**14 34 56.2**	**-3.0**	
AKTO	**Aktyubinsk**	**19.36**	**21**	P		**Pn**	**14 35 36.2**	**-0.2**	
	comp=N,0.3nm,0.3s,baz=195,slow=11,SNR=7.2								
AKTO				LR		LR	14 45 27.0		
	comp=N,42nm,20.9s,baz=197,slow=44								
AKASG	**Malin Array Be**	**22.51**	**329**	P		**P**	**14 36 08.0**	**-1.3**	
	comp=N,0.5nm,0.3s,baz=138,slow=8.7,SNR=3.1								
KIRV	**Kirov**	**25.94**	**2**	P		**P**	**14 36 42.1**	**+0.1**	
	comp=N,9.9nm,0.5s,baz=196,slow=6.3,SNR=3.9								
KIRV				LR		LR	14 48 57.1		
	comp=N,50nm,20.1s,baz=180,slow=41								
BVAR	**Borovoye Array**	**26.14**	**32**	P		**P**	**14 36 44.9**	**+1.0**	
	comp=N,1.1nm,0.7s,baz=216,slow=20,SNR=5.6								
BVAR				LR		LR	14 49 48.6		
	comp=N,42nm,18.7s,baz=60,slow=43								
MKAR	**Makanchi Array**	**29.94**	**52**	P		**P**	**14 37 19.0**	**+1.0**	
	comp=N,1.9nm,0.8s,baz=246,slow=7.8,SNR=16								
FINES	**FINESS Array B**	**31.96**	**341**	P		**P**	**14 37 35.4**	**-0.1**	
	comp=N,1.5nm,0.7s,baz=148,slow=8.9,SNR=8.7								
ZALV	**Zalesovo Beam**	**33.89**	**40**	P		**P**	**14 37 53.2**	**+0.8**	
	comp=N,0.6nm,0.2s,baz=238,slow=8.5,SNR=6.7								
ARCES	**ARCESS Array B**	**38.92**	**348**	P		**P**	**14 38 35.7**	**+0.4**	
	comp=N,0.9nm,0.5s,baz=161,slow=9.2,SNR=16								
ARCES				PcP		**PcP**	**14 40 46.2**	**+0.6**	
	comp=N,1.1nm,0.8s,baz=151,slow=2.8,SNR=4.3								
TORD	**Torodi Ar. Bea**	**46.07**	**256**	P		**P**	**14 39 34.2**	**+0.2**	
	comp=N,0.5nm,0.6s,baz=76,slow=6.4,SNR=2.7								
SONM	**Songino Array**	**46.29**	**53**	P		**P**	**14 39 36.7**	**+1.1**	
	comp=N,0.4nm,0.3s,baz=289,slow=9.2,SNR=4.1								

TEH ***22*** *14:40:11.0,32.71N×47.65E,h10km,ML3.2*
ISN ***22*** *14:40:11.2±0.7,32.75N×47.63E,h14km±4km,ML2.7*
ISC 22 14:40:11.7±1.6**,32.65N**±0.04×**47.50E**±0.04**,h8**km±13km**,**
n31,σ1s18/37,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.27**	**277**	*e*Pg	**Pg**	**14 40 18.0**	**+0.9**
IKFM	**Kafar-mosalman**	**0.90**	**13**	*e*Pg	**Pb**	**14 40 26.7**	**-2.8**
IKFM				*e*	**Sb**	**14 40 41.7**	**0.0**
IKMR	**Kamar-syah**	**1.09**	**37**	*e*Pg	**Pn**	**14 40 30.1**	**-2.7**
IKMR				*e*	**Sn**	**14 40 49.2**	**+0.7**
IDOB	**Doab**	**1.24**	**23**	*e*Pg	**Pn**	**14 40 33.5**	**-2.0**
BMDN	**Meydan**	**1.45**	**45**	*e*Pg	**Pn**	**14 40 37.8**	**-0.6**
BMDN				*e*		14 41 03.6	
IBDR	**Badra**	**1.48**	**289**	*e*Pg	**Pn**	**14 40 38.0**	**-0.6**
IBDR				*e*Sg	**Sb**	**14 40 58.0**	**-0.4**
IBDR				AML	AML	14 41 04.3	
	comp=N,82nm,0.9s						
IBDR				AML	AML	14 41 14.2	
	comp=E,66nm,0.8s						
IKOM	**Komasi**	**1.52**	**357**	*e*Pg	**Pn**	**14 40 39.6**	**+0.2**
IKOM				*e*		14 41 04.3	
AHWZ	**Ahwaz**	**1.58**	**146**	*e*Pn	**Pn**	**14 40 39.7**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.69**	**344**	*e*Pg	**Pn**	**14 40 42.2**	**+0.5**
KCHF				*e*		14 41 07.2	
HSAM	**Samen**	**1.77**	**28**	*e*Pg	**Pn**	**14 40 43.5**	**+0.6**
HSAM				*e*	**Sb**	**14 41 09.9**	**+2.8**
KER	**Kermanshah**	**1.78**	**347**	*e*Pn	**Pn**	**14 40 43.4**	**+0.5**
IBZA	**Bozab**	**1.83**	**7**	*e*Pg	**Pn**	**14 40 44.6**	**+0.9**
IBZA				*e*		14 40 47.6	
IGHG	**Ghaleghazi**	**1.89**	**333**	*e*Pg	**Pb**	**14 40 45.7**	**-0.8**
IGHG				*e*		14 41 21.3	
IVIS	**Veis**	**1.98**	**342**	*e*Pn	**Pb**	**14 40 47.4**	**-0.6**
IVIS				*e*		14 41 20.6	
NSR	**Nassriya**	**2.05**	**218**	*e*Pn	**Pb**	**14 40 48.0**	**-1.2**
NSR				*e*Sn	**Sb**	**14 41 14.0**	**-0.9**
IALM	**Almabolaq**	**2.26**	**12**	*e*Pn	**Pn**	**14 40 49.1**	**-0.5**
ILIN	**Lien**	**2.33**	**347**	*e*Pn	**Pn**	**14 40 50.8**	**+0.3**
ILIN				*e*		14 41 29.8	
JHBN	**Jahan bin**	**2.62**	**98**	*e*Pn	**Pn**	**14 40 54.3**	**-0.4**
JHBN				*e*		14 41 45.4	
HSRG	**Sareghieh**	**2.65**	**12**	*e*Pn	**Pn**	**14 40 55.4**	**+0.4**
HSRG				*e*		14 41 38.9	
IPIR	**Pirpir**	**2.78**	**88**	*e*Pn	**Pn**	**14 40 57.8**	**+1.0**
IPIR				*e*		14 41 41.4	
BHD	**Baghdad**	**2.78**	**284**	*e*Pn	**Pn**	**14 40 57.0**	**+0.5**
BHD				*e*Sn	**Sn**	**14 41 31.0**	**+0.8**
BHD				AML	AML	14 41 37.2	
	comp=E,174nm,0.4s						
ROKH	**ROKH**	**2.92**	**95**	*e*Pn	**Pn**	**14 40 59.1**	**+0.4**
ROKH				*e*		14 41 52.0	
IRAZ	**Razeghan**	**3.36**	**34**	*e*Pn	**Pn**	**14 41 05.7**	**+1.0**
IKLH	**Kolahrood**	**3.41**	**78**	*e*Pn	**Pn**	**14 41 06.9**	**+1.5**
IKLH				*e*		14 42 08.4	
QABG	**Abgarm-Qazvin**	**3.47**	**28**	*e*Pn	**Pn**	**14 41 06.3**	**+0.1**
IGAR	**Gharneh**	**3.76**	**93**	*e*Pn	**Pn**	**14 41 10.4**	**+0.2**
IGAR				*e*		14 41 57.0	
KLNJ	**Kolanjah**	**3.77**	**115**	*e*Pn	**Pn**	**14 41 12.3**	**+1.8**
KLNJ				*e*		14 42 21.1	
IZEF	**Zefreh**	**3.99**	**85**	*e*Pn	**Pn**	**14 41 14.4**	**+1.0**
QSDN	**Sirdan**	**4.06**	**18**	*e*Pn	**Pn**	**14 41 14.8**	**+0.4**
QALM	**Alamut, Qazvin**	**4.54**	**33**	*e*Pn	**Pn**	**14 41 21.7**	**+0.8**
IDMV	**Damavand**	**4.70**	**50**	*e*Pn	**Pn**	**14 41 22.4**	**-0.8**

JMA ***22*** *15:10:41.5±0.2,24.83N×122.87E,h141km±3km,M2.9*
TAP ***22*** *15:10:41.4,24.89N×122.90E,h140km,ML3.5,C*
ISC 22 15:10:41.2±1.4**,24.86N**±0.04×**122.89E**±0.03**,h142**km±8km**,**
n99,σ0s77/143,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.41**	**173**	P	**Pn**	**15 11 01.6**	**+0.3**
JYNG				S	**Sn**	**15 11 16.4**	**-0.1**
YOJ	**Yonaguni jima**	**0.41**	**164**	*i* P	**Pn**	**15 11 01.6**	**+0.2**
	baz=164						
YOJ				S	**Sn**	**15 11 16.3**	**-0.2**
	baz=164						
YOJ	**Yonaguni jima**	**0.41**	**164**	P	**Pn**	**15 11 01.5**	**+0.2**
YOJ				*e*S	**Sn**	**15 11 16.7**	**+0.2**
IRIF	**Iriomote-Funau**	**0.93**	**124**	P	**Pn**	**15 11 04.9**	**+0.2**
IRIF				S	**Sn**	**15 11 22.2**	**-0.3**
TIPB	**Shuangxi**	**0.97**	**277**	*e*P	**Pn**	**15 11 05.6**	**+0.5**
	baz=269						
TWC	**Suao**	**0.98**	**255**	*e*P	**Pn**	**15 11 04.8**	**-0.2**
	baz=248						
TWC				S	**Sn**	**15 11 21.9**	**-1.2**
	baz=248						
ILA	**Ilan**	**1.04**	**265**	*e*S	**Sn**	**15 11 24.0**	**-0.2**
	baz=262						
PCYT	**Pengchaiyu**	**1.06**	**316**	P	**Pn**	**15 11 06.5**	**+0.7**
	baz=316						
ENAH	**Nanao**	**1.06**	**247**	*e*P	**Pn**	**15 11 06.0**	**+0.1**
	baz=243						
TWE	**Neicheng**	**1.12**	**263**	*e*P	**Pn**	**15 11 06.8**	**+0.5**
	baz=257						
ENA	**Nanau**	**1.13**	**248**	P	**Pn**	**15 11 06.8**	**+0.4**
	baz=243						
ENA				*e*S	**Sn**	**15 11 25.6**	**0.0**
	baz=243						
HATJ	**Hateruma jima**	**1.16**	**134**	P	**Pn**	**15 11 07.5**	**+0.7**
HATJ				S	**Sn**	**15 11 26.1**	**-0.1**
JKRS	**Kuro-shima**	**1.20**	**121**	P	**Pn**	**15 11 07.9**	**+0.8**
JKRS				S	**Sn**	**15 11 26.6**	**-0.2**
YM08	**YM08**	**1.22**	**286**	*e*S	**Sn**	**15 11 26.7**	**-0.5**
	baz=283						
ENTT	**Nioudou**	**1.22**	**260**	P	**Pn**	**15 11 08.1**	**+0.7**
	baz=255						
ENTT				*e*S	**Sn**	**15 11 27.9**	**+0.7**
	baz=255						
YM01	**YM01**	**1.23**	**284**	*e*P	**Pn**	**15 11 07.9**	**+0.5**
	baz=282						
YM01				*e*S	**Sn**	**15 11 27.1**	**-0.4**
	baz=282						
YM05	**YM05**	**1.24**	**284**	*e*S	**Sn**	**15 11 27.5**	**-0.1**
	baz=282						
TWY	**Chenhua**	**1.24**	**290**	*e*S	**Sn**	**15 11 27.6**	**+0.2**
	baz=287						
YM10	**YM10**	**1.24**	**284**	*e*S	**Sn**	**15 11 27.2**	**-0.4**
	baz=282						
JIJ	**Ishigaki jima**	**1.25**	**113**	P	**Pn**	**15 11 07.7**	**+0.1**
JIJ				S	**Sn**	**15 11 26.3**	**-1.4**
YM04	**YM04**	**1.26**	**284**	*e*S	**Sn**	**15 11 27.7**	**-0.3**
	baz=282						
NWLT	**Wulai**	**1.26**	**266**	*e*P	**Pn**	**15 11 07.4**	**-0.3**
	baz=262						
NDT	**Datong Townshi**	**1.28**	**259**	P	**Pn**	**15 11 08.8**	**+0.9**
	baz=254						
NDT				*e*S	**Sn**	**15 11 28.7**	**+0.5**
	baz=254						
JISG	**Ishigakijimahi**	**1.32**	**102**	P	**Pn**	**15 11 08.4**	**0.0**
JISG				S	**Sn**	**15 11 28.1**	**-0.9**
TWS1	**Kuangyinshan**	**1.35**	**280**	*e*S	**Sn**	**15 11 29.6**	**0.0**
	baz=272						
NACB	**Ninganchiao**	**1.36**	**240**	*e*P	**Pn**	**15 11 08.3**	**-0.5**
	baz=240						
NACB				*e*S	**Sn**	**15 11 29.0**	**-0.8**
	baz=240						
YHNB	**Yeheng**	**1.39**	**262**	*e*P	**Pn**	**15 11 09.6**	**+0.5**
	baz=262						
YHNB				*e*S	**Sn**	**15 11 30.2**	**-0.2**
	baz=262						
TWD	**Chiawan**	**1.41**	**237**	*e*P	**Pn**	**15 11 09.0**	**-0.2**
	baz=233						
TWD				*e*S	**Sn**	**15 11 29.9**	**-0.7**
	baz=233						
NNSB	**Datong**	**1.44**	**253**	*e*P	**Pn**	**15 11 10.1**	**+0.4**
	baz=248						
NNSB				*e*S	**Sn**	**15 11 30.7**	**-0.6**
	baz=248						
NNSH	**Datong**	**1.44**	**253**	*e*P	**Pn**	**15 11 10.0**	**+0.4**
	baz=248						
ETLH	**Xiulin Townshi**	**1.44**	**243**	*e*P	**Pn**	**15 11 09.6**	**0.0**
	baz=239						
ETLH				*e*S	**Sn**	**15 11 30.2**	**-1.2**
	baz=239						
FUSS	**Fushou**	**1.62**	**248**	*e*P	**Pn**	**15 11 12.4**	**+0.6**
	baz=244						
FUSS				*e*S	**Sn**	**15 11 34.5**	**-0.6**
	baz=244						
WHF	**Hehuan Shan**	**1.64**	**245**	*i* P	**Pn**	**15 11 12.4**	**+0.2**
	baz=244						
WHF				*e*S	**Sn**	**15 11 35.0**	**-0.8**
	baz=244						
JTJ	**Tarama**	**1.67**	**97**	P	**Pn**	**15 11 12.5**	**+0.5**
JTJ				*e*S	**Sn**	**15 11 35.1**	**-0.5**
TDCB	**Techi**	**1.69**	**249**	*e*P	**Pn**	**15 11 13.3**	**+0.8**
	baz=244						
TDCB				*e*S	**Sn**	**15 11 36.0**	**-0.3**
	baz=244						
ESL	**Shilin**	**1.69**	**232**	P	**Pn**	**15 11 12.0**	**-0.4**
	baz=229						
LIOB	**Emei**	**1.71**	**263**	*e*P	**Pn**	**15 11 13.0**	**+0.4**
	baz=263						
LIOB				*e*S	**Sn**	**15 11 35.7**	**-0.9**
	baz=263						
SBCB	**Hsinchu**	**1.73**	**268**	*e*S	**Sn**	**15 11 36.7**	**-0.2**
	baz=260						
NSTT	**Nanjuang**	**1.73**	**263**	*e*P	**Pn**	**15 11 13.1**	**+0.3**
	baz=262						
NSTT				*e*S	**Sn**	**15 11 36.1**	**-0.8**
	baz=262						
CHGB	**Renai**	**1.75**	**243**	*e*P	**Pn**	**15 11 13.8**	**+0.6**
	baz=243						
CHGB				*e*S	**Sn**	**15 11 37.6**	**-0.2**
	baz=243						
EGFH	**Guangfu**	**1.79**	**229**	*e*P	**Pn**	**15 11 13.5**	**+0.1**
	baz=229						
WHP	**Taichung City**	**1.86**	**252**	*e*P	**Pn**	**15 11 15.5**	**+1.1**
	baz=260						
WHP				*e*S	**Sn**	**15 11 39.8**	**+0.1**
	baz=260						
HGSD	**Ruisui**	**1.91**	**225**	*e*P	**Pn**	**15 11 14.8**	**0.0**
	baz=230						
HGSD				*e*S	**Sn**	**15 11 39.8**	**-0.8**
	baz=230						
NMLH	**Miaoli**	**1.93**	**261**	*e*S	**Sn**	**15 11 41.2**	**+0.1**
	baz=261						
VWDT	**VWDT**	**1.94**	**236**	*e*P	**Pn**	**15 11 15.6**	**+0.5**
	baz=236						
VWDT				*e*S	**Sn**	**15 11 40.7**	**-0.5**
	baz=236						
EHY	**Hungye**	**1.97**	**227**	P	**Pn**	**15 11 15.1**	**-0.4**
	baz=235						
TWQ1	**Liyutan**	**1.99**	**256**	*e*S	**Sn**	**15 11 42.0**	**-0.3**
	baz=255						
PTSB	**Yuanli**	**2.03**	**259**	*e*S	**Sn**	**15 11 43.8**	**+0.7**
	baz=259						
SMLT	**Sun Moon Lake**	**2.06**	**242**	*e*P	**Pn**	**15 11 18.1**	**+1.3**
	baz=239						
SMLT				*e*S	**Sn**	**15 11 45.4**	**+1.5**
	baz=239						
YULB	**Yu-li**	**2.06**	**225**	*e*P	**Pn**	**15 11 16.1**	**-0.5**
	baz=234						
SSLB	**Suanglung**	**2.06**	**239**	*e*P	**Pn**	**15 11 17.6**	**+0.9**
	baz=237						
SSLB				*e*S	**Sn**	**15 11 43.6**	**-0.2**
	baz=237						
JIRB	**Irabujima**	**2.08**	**90**	P	**Pn**	**15 11 17.1**	**+0.3**
JIRB				*e*S	**Sn**	**15 11 43.5**	**-0.6**
EYUL	**Yuli**	**2.08**	**224**	*e*P	**Pn**	**15 11 17.0**	**+0.1**
	baz=234						
TYC	**Yuchr**	**2.08**	**243**	*e*P	**Pn**	**15 11 18.2**	**+1.4**
	baz=240						
TWF1	**Yuli**	**2.09**	**224**	*e*P	**Pn**	**15 11 16.9**	**-0.2**
	baz=234						
JIKM	**Ikemajima**	**2.15**	**88**	P	**Pn**	**15 11 18.5**	**+0.9**
JIKM				S	**Sn**	**15 11 45.1**	**-0.4**
JMJ	**Miyako jima 2**	**2.19**	**91**	*e*P	**Pn**	**15 11 19.4**	**+1.3**
	baz=94						
JMJ				*e*S	**Sn**	**15 11 45.6**	**-0.8**
	baz=94						
WHYT	**Xinyi Township**	**2.19**	**238**	*e*P	**Pn**	**15 11 19.9**	**+1.7**
	baz=235						
WHYT				*e*S	**Sn**	**15 11 47.7**	**+1.1**
	baz=235						
FULB	**Fuli**	**2.21**	**222**	*e*P	**Pn**	**15 11 18.6**	**+0.2**
	baz=218						
FULB				*e*S	**Sn**	**15 11 46.7**	**-0.3**
	baz=218						
JMJ2	**Miyako jima3**	**2.22**	**93**	P	**Pn**	**15 11 19.4**	**+0.8**
JMJ2				*e*S	**Sn**	**15 11 47.5**	**+0.3**
WJS	**Zhushan**	**2.23**	**243**	*e*P	**Pn**	**15 11 20.5**	**+1.9**
	baz=252						
YUS	**Yu-Shan**	**2.23**	**233**	*e*P	**Pn**	**15 11 19.9**	**+0.6**
	baz=233						
WNT	**Mingjian**	**2.23**	**244**	*e*P	**Pn**	**15 11 20.2**	**+1.4**
	baz=245						
WNT				*e*S	**Sn**	**15 11 48.2**	**+0.6**
	baz=245						
CHKT	**Chengkung**	**2.24**	**219**	*e*P	**Pn**	**15 11 18.4**	**-0.5**
	baz=213						
JOGS	**Gusukube**	**2.29**	**92**	P	**Pn**	**15 11 20.3**	**+0.9**
JOGS				S	**Sn**	**15 11 48.2**	**-0.5**
ALS	**Alishan**	**2.33**	**235**	*e*P	**Pn**	**15 11 21.4**	**+1.2**
	baz=236						
ALS				*e*S	**Sn**	**15 11 51.2**	**+1.1**
	baz=236						
EDH	**Donghe**	**2.38**	**218**	*e*P	**Pn**	**15 11 20.3**	**-0.2**
	baz=213						
CHN5	**Tsauling**	**2.38**	**238**	*e*P	**Pn**	**15 11 21.8**	**+1.2**
	baz=248						
CHN5				*e*S	**Sn**	**15 11 52.2**	**+1.4**
	baz=248						
ELDTW	**Lidau**	**2.39**	**226**	P	**Pn**	**15 11 20.7**	**0.0**
	baz=224						
WDLH	**Douliu**	**2.44**	**242**	*e*P	**Pn**	**15 11 22.1**	**+0.8**
	baz=251						
RLNB	**Erlin**	**2.50**	**248**	*e*P	**Pn**	**15 11 22.6**	**+0.7**
	baz=248						
RLNB				*e*S	**Sn**	**15 11 53.3**	**0.0**
	baz=248						
LONT	**Longtian**	**2.53**	**220**	*e*P	**Pn**	**15 11 22.0**	**-0.3**
	baz=220						
LDUT	**Ludao**	**2.54**	**211**	*e*P	**Pn**	**15 11 22.4**	**-0.1**
	baz=215						
LDUT				*e*S	**Sn**	**15 11 53.7**	**-0.5**
	baz=215						
WTK	**Tuku**	**2.56**	**243**	*e*S	**Sn**	**15 11 55.1**	**+0.3**
	baz=244						
STYT	**Tauyuan**	**2.58**	**229**	*e*P	**Pn**	**15 11 24.5**	**+1.4**
	baz=236						
TPUB	**Ta-pu**	**2.58**	**233**	*e*P	**Pn**	**15 11 24.0**	**+0.9**
	baz=234						
TWGBT	**Beinan**	**2.62**	**219**	*e*P	**Pn**	**15 11 23.1**	**-0.5**
	baz=220						
TWG	**Pinlang**	**2.63**	**220**	*e*P	**Pn**	**15 11 23.1**	**-0.5**
	baz=220						
WTP	**Ta-pu**	**2.63**	**233**	*e*P	**Pn**	**15 11 24.6**	**+1.0**
	baz=233						
TTN	**Taitung**	**2.64**	**218**	*e*S	**Sn**	**15 11 56.9**	**+0.5**
	baz=215						
TWK	**Hsinying**	**2.71**	**235**	*e*P	**Pn**	**15 11 25.6**	**+0.9**
	baz=235						
TWK				*e*S	**Sn**	**15 11 58.4**	**+0.2**
	baz=235						
WSF	**Szhu**	**2.72**	**244**	*e*S	**Sn**	**15 11 58.4**	**+0.2**
	baz=244						
CHN1	**Nanshi**	**2.73**	**233**	*e*P	**Pn**	**15 11 25.9**	**+1.0**
	baz=241						
SGST	**Jiashian**	**2.75**	**230**	*e*P	**Pn**	**15 11 25.7**	**+0.4**
	baz=239						
SLGT	**Liugui**	**2.77**	**228**	*e*P	**Pn**	**15 11 26.9**	**+1.5**
	baz=237						
PTTC	**Pingtan**	**2.89**	**283**	*e*P	**Pn**	**15 11 26.6**	**-0.4**
	baz=276						
SSD	**Sandimen**	**2.95**	**225**	*e*P	**Pn**	**15 11 29.3**	**+1.6**
	baz=226						
MATB	**Ma-tsu**	**2.95**	**296**	*e*P	**Pn**	**15 11 27.4**	**-0.2**
	baz=294						
TSMG	**Majia**	**2.97**	**224**	*e*P	**Pn**	**15 11 29.3**	**+1.4**
	baz=233						
MASBT	**Mashibuluo**	**3.05**	**223**	*e*P	**Pn**	**15 11 30.3**	**+1.4**
	baz=224						
LAY	**Lan-yu**	**3.07**	**204**	*e*P	**Pn**	**15 11 29.2**	**0.0**
	baz=200						
LAY				*e*S	**Sn**	**15 12 04.5**	**-1.8**
	baz=200						
EAST	**Anshuo**	**3.10**	**218**	*e*P	**Pn**	**15 11 29.5**	**-0.1**
	baz=218						
VWUC	**VWUC**	**3.12**	**273**	*e*P	**Pn**	**15 11 29.6**	**-0.3**
	baz=273						
XPSS	**Dashiqiu**	**3.18**	**311**	*e*P	**Pn**	**15 11 30.2**	**-0.4**
	baz=308						
LYJJ	**Jianjiangzhen**	**3.28**	**301**	*e*P	**Pn**	**15 11 31.8**	**-0.1**
	baz=299						
PNG	**Penghu**	**3.30**	**248**	*e*S	**Sn**	**15 12 09.7**	**-2.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin** baz=326	**0.29**	**331**	*eP*	**Pb**	**15 24 06.8**	**-0.1**
TSEB	baz=326			*eS*	**Sn**	**15 24 14.5**	**+0.5**
TWKBT	**Hengchun** baz=325	**0.37**	**323**	P	**Pb**	**15 24 07.5**	**-0.6**
TWKBT	baz=325			*eS*	**Sn**	**15 24 15.2**	**-0.8**
SNW	**Nanwan** baz=328	**0.42**	**318**	*eS*	**Sn**	**15 24 17.5**	**+0.2**
HEN	**Hengchun** baz=330	**0.47**	**321**	*eP*	**Pb**	**15 24 09.5**	**-0.1**
HEN	baz=330			*eS*	**Sn**	**15 24 18.1**	**-0.2**
LAY	**Lan-yu** baz=39	**0.61**	**49**	P	**Pb**	**15 24 10.9**	**-1.1**
LAY	baz=39			*eS*	**Sb**	**15 24 21.1**	**+0.9**
TAW	**Tawu** baz=2.0	**0.73**	**348**	P	**Pb**	**15 24 12.6**	**-1.4**
TAW	baz=2.0			*eS*	**Sn**	**15 24 26.2**	**+1.5**
EAST	**Anshuo** baz=358	**0.76**	**345**	*eP*	**Pb**	**15 24 13.1**	**-1.4**
EAST	baz=358			*eS*	**Sn**	**15 24 27.6**	**+1.9**
SCZT	**Fangliau** baz=336	**0.83**	**331**	P	**Pn**	**15 24 15.9**	**0.0**
SCZT	baz=336			*eS*	**Sn**	**15 24 29.8**	**+2.5**
WLCH	**Liuqiu** baz=324	**0.94**	**318**	*eP*	**Pn**	**15 24 17.0**	**-0.4**
SSPT	**Xinbi** baz=335	**0.95**	**332**	*eP*	**Pb**	**15 24 17.8**	**+0.1**
TWP	**Hsiaoliuchiu** baz=323	**0.95**	**318**	*eS*	**Sn**	**15 24 33.0**	**+2.7**
ECL	**Taimali** baz=7.0	**0.95**	**354**	*eP*	**Pn**	**15 24 15.2**	**-2.4**
MASBT	**Mashibuluo** baz=341	**1.04**	**338**	*eP*	**Pn**	**15 24 18.2**	**-0.6**
MASBT	baz=341			*eS*	**Sb**	**15 24 34.6**	**+2.1**
LDUT	**Ludao** baz=17	**1.09**	**20**	*eS*	**Sb**	**15 24 34.3**	**+0.2**
TSMG	**Majia** baz=357	**1.12**	**340**	*eP*	**Pn**	**15 24 20.1**	**+0.1**
SSD	**Sandimen** baz=357	**1.17**	**340**	*eP*	**Pb**	**15 24 20.9**	**-0.5**
TWGBT	**Beinan**	**1.17**	**1**	*eP*	**Pn**	**15 24 17.9**	**-2.7**
TWG	**Pinlang** baz=1.0	**1.17**	**1**	*eP*	**Pn**	**15 24 20.3**	**-0.3**
TWM1	**Shoushan** baz=337	**1.31**	**334**	*eP*	**Pb**	**15 24 25.4**	**+1.5**
SCST	**Cishan** baz=340	**1.34**	**337**	*eP*	**Pb**	**15 24 25.0**	**+0.6**
SLGT	**Liugui** baz=346	**1.40**	**344**	*eP*	**Pb**	**15 24 24.8**	**-0.5**
CHKT	**Chengkung** baz=359	**1.48**	**11**	*eP*	**Pn**	**15 24 25.2**	**+0.4**
SGST	**Jiashian** baz=330	**1.50**	**343**	*eP*	**Pb**	**15 24 26.0**	**-1.0**
STYT	**Tauyuan** baz=351	**1.54**	**350**	*eP*	**Pn**	**15 24 26.2**	**+0.5**
ELDTW	**Lidau** baz=10.0	**1.54**	**359**	*eP*	**Pn**	**15 24 24.8**	**-0.9**
FULB	**Fuli** baz=7.0	**1.56**	**8**	*eP*	**Pn**	**15 24 24.9**	**-1.1**
CHN1	**Nanshi** baz=328	**1.61**	**342**	*eP*	**Pn**	**15 24 27.3**	**+0.7**
WTP	**Ta-pu** baz=347	**1.65**	**346**	*eP*	**Pn**	**15 24 27.9**	**+0.7**
TPUB	**Ta-pu** baz=348	**1.70**	**347**	*eP*	**Pn**	**15 24 28.1**	**+0.3**
TWK	**Hsinying** baz=328	**1.70**	**342**	*eP*	**Pn**	**15 24 28.9**	**+1.0**
EYUL	**Yuli** baz=7.0	**1.71**	**8**	*eP*	**Pn**	**15 24 27.7**	**-0.3**
TWF1	**Yuli** baz=7.0	**1.72**	**7**	*eP*	**Pn**	**15 24 28.3**	**+0.2**
YULB	**Yu-li** baz=6.0	**1.76**	**7**	*eP*	**Pn**	**15 24 27.6**	**-1.0**
YULB	baz=6.0			*eS*	**Sn**	**15 24 51.5**	**+1.3**
EHY	**Hungye** baz=7.0	**1.87**	**8**	*eP*	**Pn**	**15 24 29.8**	**-0.5**
HGSD	**Ruisui**	**1.87**	**10**	*eP*	**Pn**	**15 24 30.1**	**-0.1**
ALS	**Alishan** baz=354	**1.87**	**353**	*eP*	**Pn**	**15 24 31.2**	**+0.7**
CHN5	**Tsauling** baz=351	**1.98**	**350**	*eP*	**Pn**	**15 24 32.0**	**+0.3**
VWDT	**VWDT** baz=9.0	**2.10**	**2**	*eP*	**Pn**	**15 24 33.3**	**-0.1**
SSLB	**Suanglung** baz=343	**2.14**	**358**	*eS*	**Sb**	**15 25 02.4**	**-1.7**
VCHM	**Qimei** baz=319	**2.17**	**316**	*eP*	**Pn**	**15 24 32.3**	**-1.9**
VCHM	baz=319			*eS*	**Sn**	**15 24 58.8**	**-1.5**
ESL	**Shilin** baz=9.0	**2.19**	**9**	*eP*	**Pn**	**15 24 34.2**	**-0.4**
SMLT	**Sun Moon Lake** baz=344	**2.23**	**356**	*eP*	**Pn**	**15 24 36.7**	**+1.4**
TYC	**Yuchr** baz=343	**2.26**	**355**	*eP*	**Pn**	**15 24 36.4**	**+0.8**
PHUB	**P'eng-hu** baz=326	**2.31**	**324**	*eP*	**Pn**	**15 24 34.4**	**-1.8**
PHUB	baz=326			*eS*	**Sn**	**15 25 02.4**	**-1.5**
CHGB	**Renai** baz=3.0	**2.41**	**3**	*eP*	**Pb**	**15 24 40.7**	**-2.0**
CHGB	baz=3.0			*eS*	**Sn**	**15 25 08.5**	**+1.9**
WHF	**Hehuan Shan** baz=11	**2.50**	**4**	*eP*	**Pn**	**15 24 39.3**	**+0.1**
ETLH	**Xiulin Townshi** baz=8.0	**2.58**	**9**	*eS*	**Sn**	**15 25 11.9**	**+1.3**
FUSS	**Fushou** baz=4.0	**2.60**	**4**	*eP*	**Pn**	**15 24 40.5**	**0.0**
TDCB	**Techi** baz=2.0	**2.60**	**2**	*eP*	**Pn**	**15 24 40.6**	**+0.2**
WHP	**Taichung City** baz=358	**2.62**	**358**	*eP*	**Pn**	**15 24 41.0**	**+0.3**
NNSH	**Datong** baz=14	**2.79**	**6**	*eS*	**Sn**	**15 25 13.9**	**-1.9**
YHNB	**Yeheng** baz=352	**3.03**	**6**	*eP*	**Pn**	**15 24 47.3**	**+1.1**
JYNG	**Yonagunijimaku**	**3.29**	**32**	P	**Pn**	**15 24 49.8**	**0.0**
HATJ	**Hateruma jima**	**3.49**	**46**	P	**Pn**	**15 24 53.6**	**+1.1**
HATJ				*eS*	**Sn**	**15 25 32.7**	**-0.3**
IRIF	**Iriomote-Funau**	**3.64**	**42**	P	**Pn**	**15 24 55.3**	**+0.8**
JKRS	**Kuro-shima**	**3.75**	**46**	P	**Pn**	**15 24 57.0**	**+0.9**
JKRS				*eS*	**Sn**	**15 25 39.1**	**-0.3**
JIJ	**Ishigaki jima**	**3.93**	**46**	P	**Pn**	**15 24 58.8**	**+0.3**
JIJ				S	**Sn**	**15 25 42.8**	**-0.9**
JISG	**Ishigakijimahi**	**4.19**	**45**	P	**Pn**	**15 25 02.1**	**0.0**
JISG				S	**Sn**	**15 25 49.2**	**-1.0**
JTJ	**Tarama**	**4.49**	**48**	P	**Pn**	**15 25 08.3**	**+2.1**
JTJ				*eS*	**Sn**	**15 25 58.0**	**+0.4**
JIRB	**Irabujima**	**4.94**	**49**	P	**Pn**	**15 25 12.6**	**+0.2**
JIRB				*eS*	**Sn**	**15 26 08.9**	**+0.2**
JMJ2	**Miyako jima3**	**5.00**	**51**	P	**Pn**	**15 25 14.6**	**+1.4**
JMJ2				*eS*	**Sn**	**15 26 10.8**	**+0.7**

TAP 22 15:25:02.0, 24°.39N×121°.79E, h7km, ML1.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau** baz=315	**0.06**	**312**	P	Pg	15 25 03.6	-0.1
ENA	baz=315			*eS*	Sg	15 25 04.8	-0.2
ENAH	**Nanao** baz=16	**0.06**	**17**	*eP*	Pg	15 25 03.7	0.0
ENAH	baz=16			*eS*	Sg	15 25 05.1	0.0
TWC	**Suao** baz=16	**0.23**	**14**	*eP*	Pg	15 25 06.3	-0.2
TWC	baz=16			*eS*	Sg	15 25 09.4	-0.2
NACB	**Ninganchiao** baz=10.0	**0.28**	**220**	*eS*	Sg	15 25 11.5	+0.3
NACB	**Ninganchiao** baz=219	**0.28**	**220**	*eP*	Pg	15 25 07.4	-0.1
NACB	baz=219			*eS*	Sg	15 25 11.5	+0.4
ENTT	**Nioudou** baz=321	**0.32**	**321**	P	Pg	15 25 08.3	0.0
ENTT	baz=321			*eS*	Sg	15 25 12.8	+0.1
NDT	**Datong Townshi** baz=310	**0.33**	**310**	*eP*	Pg	15 25 08.6	+0.1
NDT	baz=310			*eS*	Sg	15 25 13.1	+0.2
ETLH	**Xiulin Townshi** baz=237	**0.33**	**237**	*eP*	Pg	15 25 08.4	-0.1
TWE	**Neicheng** baz=343	**0.35**	**341**	*eP*	Pg	15 25 08.9	+0.1
NNSB	**Datong** baz=15	**0.37**	**276**	*eS*	Sg	15 25 13.9	-0.4
NNSB	**Datong** baz=276	**0.37**	**276**	*eS*	Sg	15 25 13.9	-0.4
YHNB	**Yeheng** baz=306	**0.47**	**307**	*eP*	Pg	15 25 11.4	+0.2

IDC 22 15:25:15.4±3.1, 6°.66S×146°.78E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/35, mbtmp3.5/4, ML2.8/1, Error ellipse: s-maj=76.2km s-min=20.1km az=75.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.9nm,0.3s,baz=323,slow=5.1,SNR=2.3	**2.75**	**172**	Pn	Pn	15 26 01.0	+0.2
PMG	3.3nm,0.3s,baz=276,slow=18,SNR=2.9			Lg	Lg	15 26 44.0	
WRA	**Warramunga Arr** 0.0nm,0.3s,baz=49,slow=12,SNR=5.7	**17.89**	**221**	P	Pn	15 29 25.3	-0.6
ASAR	**Alice Springs** 0.7nm,0.6s,baz=31,slow=13,SNR=2.9	**20.95**	**215**	P	P	15 29 59.3	-0.8
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=118,slow=4.7,SNR=2.7	**53.37**	**299**	P	P	15 34 38.7	+1.5
TORD	**Torodi Ar. Bea** 0.7nm,0.8s,baz=78,slow=3.9,SNR=3.9	**145.04**	**283**	PKPbc	PKPbc	15 44 52.9	-2.3

*IDC **22** 15:25:36.8±1.2, 6°.66S×154°.40E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/35, mbtmp3.9/9, ML4.0/1, Error ellipse: s-maj=38.0km s-min=22.7km az=109.0*
*NEIC **22** 15:25:44.1±1.2, 6°.7S±0°.1×154°.3E±0°.2, h55km±7km, mb4.1/8, Error ellipse: s-maj=27.1km s-min=15.8km az=105.0*

ISC 22 15:25:44.0±1.0, 6°.67S±0°.09×154°.2E±0°.1, h48km, n21, σ0s90/24, mb4.0/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.20**	**320**	Pn	**Pn**	**15 26 33.1**	**+1.3**
KRVT	**Keravat (AS076** 15nm,0.3s,baz=198,slow=2.6,SNR=16	**3.20**	**317**	Pn	**Pn**	**15 26 31.0**	**-0.8**
KRVT	18nm,0.3s,baz=119,slow=19,SNR=7.2			Sn	**Sn**	**15 27 07.6**	**-1.1**
PMG	**Port Moresby**	**7.49**	**248**	Pn	**Pn**	**15 27 30.9**	**+0.2**
COEN	**Coen**	**13.04**	**235**	Pn	**Pn**	**15 28 48.0**	**+1.3**
WR0	**Warramunga Arr**	**23.21**	**233**	P	**P**	**15 30 47.0**	**0.0**
WB0	**Warramunga Arr**	**23.23**	**234**	P	**P**	**15 30 47.1**	**-0.1**
WB0	comp=Z,9.8nm,1.4s			IAmb	IAmb	15 31 01.3	
WRAB	**Tennant Creek**	**23.35**	**234**	P	**P**	**15 30 46.6**	**-1.8**
WB2	**Warramunga Arr**	**23.36**	**234**	P	**P**	**15 30 48.8**	**+0.4**
WB2	comp=Z,6.3nm,1.1s			IAmb	IAmb	15 30 54.4	
WRA	**Warramunga Arr** comp=Z,1.7nm,0.7s,baz=60,slow=8.3,SNR=9.4	**23.37**	**234**	P	**P**	**15 30 48.4**	**-0.1**
WRA	comp=Z,0.3nm,0.6s,baz=59,slow=1.9,SNR=2.0			PcP	**PcP**	**15 34 34.9**	**+0.6**
ASAR	**Alice Springs** comp=Z,0.6nm,0.6s,baz=55,slow=9.1,SNR=5.9	**25.81**	**227**	P	**P**	**15 31 11.6**	**+0.6**
ASAR	comp=Z,0.6nm,1.0s,baz=42,slow=2.9,SNR=2.2			PcP	**PcP**	**15 34 40.9**	**+1.2**
KNRA	**Kununurra**	**26.49**	**248**	P	**P**	**15 31 15.8**	**-1.3**
STKA	**Stephens Creek** comp=Z,0.8nm,0.4s,baz=30,slow=15,SNR=1.9	**27.70**	**204**	P	**P**	**15 31 27.3**	**-0.5**
FITZ	**Fitzroy Crossi** comp=Z,3.0nm,0.9s,baz=50,slow=7.1,SNR=2.9	**30.07**	**245**	P	**P**	**15 31 49.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**30.07**	**245**	P	**P**	**15 31 48.7**	**-0.3**
FITZ	comp=Z,5.1nm,1.1s			IAmb	IAmb	15 32 00.8	
BBOO	**Buckleboo**	**31.00**	**211**	P	**P**	**15 31 55.6**	**-1.5**
SONM	**Songino Array** comp=Z,0.5nm,0.5s,baz=138,slow=7.1,SNR=2.2	**68.65**	**328**	P	**P**	**15 36 42.9**	**+0.5**
MK31	**Makanchi Array**	**82.65**	**319**	P	**P**	**15 38 01.9**	**-0.5**
MK31	comp=Z,2.2nm,1.3s			IAmb	IAmb	15 38 20.8	
MKAR	**Makanchi Array** comp=Z,1.1nm,0.6s,baz=94,slow=8.0,SNR=14	**82.65**	**319**	P	**P**	**15 38 02.6**	**+0.2**
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.5s,baz=123,slow=5.3,SNR=2.7	**83.48**	**326**	P	**P**	**15 38 06.1**	**-0.4**
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.8s,baz=251,slow=5.6,SNR=3.9	**92.14**	**52**	P	**P**	**15 38 48.3**	**-0.6**
TORD	**Torodi Ar. Bea** comp=Z,1.8nm,0.7s,baz=90,slow=2.2,SNR=7.6	**152.19**	**286**	PKPbc	**PKPbc**	**15 45 34.9**	**-0.5**

*IDC **22** 15:37:06.5±5.2, 21°.77N×121°.71E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/53, mbtmp3.3/3, Error ellipse: s-maj=392.3km s-min=30.3km az=60.0*
*TAP **22** 15:37:09.3, 21°.44N×120°.99E, h17km, ML3.5, D*
*JMA **22** 15:37:14.0±0.5, 21°.89N×121°.28E, h0km, M3.3*

ISC 22 15:37:10.4±1.4, 21°.51N±0°.06×121°.06E±0°.04, h20km±4km, n36, σ0s87/68, mb3.4/3, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin** baz=344	**0.42**	**339**	*i* P	**Pb**	**15 37 19.5**	**+0.4**
TSEB	baz=344			*eS*	**Sn**	**15 37 27.4**	**-1.1**
TWKBT	**Hengchun** baz=341	**0.49**	**332**	⇓*i* P	**Pg**	**15 37 20.2**	**-0.1**
TWKBT	baz=341			S	**Sg**	**15 37 28.0**	**+1.0**
SNW	**Nanwan** baz=336	**0.53**	**327**	*eP*	**Pg**	**15 37 21.0**	**-0.1**
SNW	baz=336			*eS*	**Sn**	**15 37 30.5**	**-0.8**
HEN	**Hengchun** baz=338	**0.58**	**329**	P	**Pg**	**15 37 22.0**	**0.0**
HEN	baz=338			*eS*	**Sg**	**15 37 30.6**	**+0.8**
LAY	**Lan-yu** baz=41	**0.69**	**41**	*eP*	**Pb**	**15 37 23.8**	**-0.1**
LAY	baz=41			*eS*	**Sn**	**15 37 36.8**	**+1.4**
EAST	**Anshuo** baz=352	**0.89**	**347**	*eP*	**Pb**	**15 37 25.8**	**-1.5**
EAST	baz=352			*eS*	**Sn**	**15 37 42.0**	**+1.8**
SCZT	**Fangliau** baz=340	**0.95**	**335**	*i* P	**Pg**	**15 37 28.6**	**-0.3**
SCZT	baz=340			*eS*	**Sg**	**15 37 42.4**	**+0.9**
TWP	**Hsiaoliuchiu** baz=327	**1.05**	**322**	*eP*	**Pb**	**15 37 29.2**	**-0.8**
TWP	baz=327			*eS*	**Sg**	**15 37 44.5**	**-0.3**
ECL	**Taimali** baz=358	**1.09**	**355**	*eP*	**Pn**	**15 37 30.3**	**-0.2**
ECL	baz=358			*eS*	**Sn**	**15 37 45.7**	**+0.8**
MASBT	**Mashibuluo** baz=344	**1.17**	**340**	P	**Pb**	**15 37 31.5**	**-0.4**
MASBT	baz=344			*eS*	**Sn**	**15 37 47.7**	**+0.8**
LDUT	**Ludao** baz=20	**1.22**	**18**	*eP*	**Pn**	**15 37 32.3**	**0.0**
LDUT	baz=20			*eS*	**Sg**	**15 37 49.9**	**-0.1**
TTN	**Taitung** baz=6.0	**1.24**	**4**	*eP*	**Pn**	**15 37 32.6**	**0.0**
TTN	baz=6.0			*eS*	**Sg**	**15 37 50.5**	**-0.2**
TSMG	**Majia** baz=345	**1.25**	**342**	*eP*	**Pb**	**15 37 32.9**	**-0.4**
TSMG	baz=345			*eS*	**Sb**	**15 37 50.2**	**+1.2**
SSD	**Sandimen** baz=346	**1.29**	**342**	*eP*	**Pb**	**15 37 33.6**	**-0.5**
SSD	baz=346			*eS*	**Sg**	**15 37 52.4**	**0.0**
TWGBT	**Beinan** baz=3.0	**1.30**	**1**	*eP*	**Pg**	**15 37 35.9**	**+0.3**
TWGBT	baz=3.0			*eS*	**Sg**	**15 37 52.4**	**-0.3**
TWG	**Pinlang** baz=3.0	**1.30**	**0**	*eP*	**Pg**	**15 37 35.3**	**-0.3**
TWG	baz=3.0			*eS*	**Sg**	**15 37 52.2**	**-0.5**
LONT	**Longtian** baz=5.0	**1.39**	**3**	*eP*	**Pn**	**15 37 34.8**	**+0.1**
LONT	baz=5.0			*eS*	**Sb**	**15 37 54.3**	**+1.2**
SNJT	**Kaohsiung City** baz=335	**1.41**	**332**	*eP*	**Pn**	**15 37 34.5**	**-0.4**
SNJT	baz=335			*eS*	**Sb**	**15 37 54.0**	**+0.4**
TWM1	**Shoushan** baz=339	**1.44**	**336**	*eP*	**Pn**	**15 37 34.9**	**-0.5**
TWM1	baz=339			*eS*	**Sb**	**15 37 55.1**	**+0.7**
SCST	**Cishan** baz=342	**1.47**	**339**	*eP*	**Pn**	**15 37 35.5**	**-0.2**
SCST	baz=342			*eS*	**Sb**	**15 37 55.5**	**+0.3**
EDH	**Donghe** baz=10.0	**1.47**	**9**	*eP*	**Pn**	**15 37 36.0**	**+0.1**
EDH	baz=10.0			*eS*	**Sb**	**15 37 56.4**	**+1.0**
SLGT	**Liugui** baz=348	**1.52**	**345**	*eP*	**Pg**	**15 37 38.9**	**-1.0**
SLGT	baz=348			*eS*	**Sb**	**15 37 56.8**	**-0.2**
SGST	**Jiashian** baz=347	**1.63**	**344**	*eP*	**Pn**	**15 37 38.4**	**+0.4**
SGST	baz=347			*eS*	**Sb**	**15 37 59.6**	**-0.2**
ELDTW	**Lidau** baz=1.0	**1.67**	**359**	*eP*	**Pb**	**15 37 40.0**	**-0.5**
ELDTW	baz=1.0			*eS*	**Sb**	**15 38 01.1**	**-0.2**
FULB	**Fuli** baz=9.0	**1.69**	**7**	*eP*	**Pn**	**15 37 39.0**	**+0.1**
FULB	baz=9.0			*eS*	**Sb**	**15 38 01.7**	**-0.1**
CHN1	**Nanshi** baz=346	**1.74**	**344**	*eP*	**Pn**	**15 37 40.3**	**+0.8**
CHN1	baz=346			*eS*	**Sb**	**15 38 02.5**	**-0.6**
YOJ	**Yonaguni jima**	**3.44**	**31**	P	**Pn**	**15 38 04.1**	**+1.2**
YOJ				*eS*	**Sn**	**15 38 42.0**	**-1.2**
HATJ	**Hateruma jima**	**3.58**	**44**	P	**Pn**	**15 38 07.1**	**+2.3**
HATJ				*eS*	**Sn**	**15 38 45.8**	**-0.8**
IRIF	**Iriomote-Funau**	**3.73**	**41**	P	**Pn**	**15 38 07.5**	**+0.6**
IRIF				*eS*	**Sn**	**15 38 48.0**	**-2.4**
JKRS	**Kuro-shima**	**3.84**	**44**	P	**Pn**	**15 38 08.9**	**+0.5**
JKRS				*eS*	**Sn**	**15 38 52.2**	**-0.8**
JIJ	**Ishigaki jima**	**4.02**	**44**	P	**Pn**	**15 38 12.0**	**+1.2**
JIJ				S	**Sn**	**15 38 55.8**	**-1.5**
JISG	**Ishigakijimahi**	**4.28**	**44**	P	**Pn**	**15 38 13.5**	**-0.9**
JISG				*eS*	**Sn**	**15 39 02.0**	**-1.8**
JTJ	**Tarama**	**4.58**	**46**	*eS*	**Sn**	**15 39 11.9**	**+0.8**
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=108,slow=7.8,SNR=2.4	**40.21**	**318**	P	**P**	**15 44 46.3**	**+0.7**
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=344,slow=8.9,SNR=6.0	**43.20**	**162**	P	**P**	**15 45 09.2**	**-1.0**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=332,slow=7.3,SNR=2.0	**46.61**	**164**	P	**P**	**15 45 37.9**	**+0.4**

*REY **22** 15:41:06.2, 64°.62N×17°.46W, h3km*
*MOS **22** 15:41:07.4±1.2, 64°.47N×17°.81W, h10km, mb4.4/25, Error ellipse: s-maj=13.0km s-min=8.5km az=107.6*
*IDC **22** 15:41:07.1±0.7, 64°.43N×17°.90W, h0km, mb3.7/10, mb1 4.0/14, mb1mx3.8/39, mbtmp3.8/14, ML2.7/3, Error ellipse: s-maj=25.2km s-min=12.5km az=19.0*
*NEIC **22** 15:41:08.8±2.3, 64°.51N±0°.09×17°.8W±0°.1, h7km±4km, mb4.3/35, Error ellipse: s-maj=13.5km s-min=8.1km az=192.0*

ISC 22 15:41:09.4±0.4, 64°.60N±0°.02×17°.51W±0°.02, h10km, n133, σ2s15/139, mb4.2/48, 14C-3D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard** baz=292	**0.13**	**305**	P	**Pg**	**15 41 09.3**	**-3.2**
IVON	baz=292			S	**Sg**	**15 41 12.1**	**-2.5**
IDJK	**Dyngjujokull** baz=140	**0.15**	**129**	P	**Pg**	**15 41 09.6**	**-3.3**
IDJK	baz=140			S	**Sg**	**15 41 12.8**	**-2.5**
IDYN	**Dyngjuhals** baz=14	**0.20**	**18**	P	**Pg**	**15 41 10.0**	**-3.6**
IDYN	baz=14			S	**Sg**	**15 41 13.4**	**-3.1**
IGRF	**Grimsfjall** baz=158	**0.22**	**151**	P	**Pg**	**15 41 10.8**	**-3.2**
IHUS	**Husbondi** baz=194	**0.31**	**192**	P	**Pg**	**15 41 12.9**	**-2.8**
IHUS	baz=194			S	**Sg**	**15 41 17.2**	**-2.6**
IVOT	**Vottur** baz=161	**0.36**	**157**	P	**Pg**	**15 41 13.4**	**-3.1**
IVOT	baz=161			S	**Sg**	**15 41 18.8**	**-2.5**
IKVE	**Kverkfjoll** baz=79	**0.37**	**77**	P	**Pg**	**15 41 12.2**	**-4.5**
ISKR	**Skrokkalda** baz=262	**0.38**	**264**	P	**Pg**	**15 41 13.8**	**-3.0**
ISKR	baz=262			S	**Sg**	**15 41 20.2**	**-1.6**
IJOK	**Jokulheimar** baz=227	**0.42**	**228**	P	**Pg**	**15 41 14.5**	**-3.1**
IJOK	baz=227			S	**Sg**	**15 41 21.3**	**-1.9**
IKRE	**Kreppuhraun** baz=70	**0.52**	**69**	P	**Pg**	**15 41 15.1**	**-4.3**
IIEY	**Innrieyrar** baz=209	**0.57**	**208**	P	**Pg**	**15 41 17.1**	**-3.4**
IIEY	baz=209			S	**Sg**	**15 41 25.4**	**-2.6**
IASK	**Askja** baz=38	**0.58**	**39**	P	**Pg**	**15 41 16.3**	**-4.4**
IMKO	**Mokollar** baz=53	**0.63**	**52**	P	**Pg**	**15 41 17.2**	**-4.3**
IMKO	baz=53			S	**Sg**	**15 41 26.5**	**-3.3**
IKSK	**Karasker** baz=137	**0.63**	**134**	P	**Pg**	**15 41 17.1**	**-4.4**
IKSK	baz=137			S	**Sg**	**15 41 26.0**	**-3.8**
IKAL	**Kalfafell** baz=188	**0.66**	**187**	P	**Pg**	**15 41 18.5**	**-3.5**
IKAL	baz=188			S	**Sg**	**15 41 28.3**	**-2.4**
IVAT	**Vatnsfell** baz=236	**0.74**	**236**	P	**Pg**	**15 41 20.0**	**-3.6**
ISVA	**Svartarkot** baz=6.9	**0.75**	**8**	P	**Pg**	**15 41 19.2**	**-4.6**
IVSH	**V-Sauoahnukur** baz=75	**0.79**	**74**	P	Pg	15 41 19.8	-4.9
IVSH	baz=75			S	**Sg**	**15 41 30.8**	**-4.2**
IFAG	**Fagurholsmyri** baz=154	**0.82**	**152**	P	**Pg**	**15 41 20.9**	**-4.2**
IFAG	baz=154			S	**Sg**	**15 41 32.2**	**-3.6**
IHVE	**Hveravellir** baz=286	**0.92**	**288**	P	**Pg**	**15 41 22.5**	**-4.6**
IADA	**Aoalbol** baz=63	**0.93**	**62**	P	Pg	15 41 22.0	-5.2
IMEL	**Melhnausar** baz=19	**1.04**	**20**	P	Pg	15 41 24.0	-5.3
IREN	**Reynihlio** baz=13	**1.08**	**13**	P	Pg	15 41 24.9	-5.2
IKVO	**Krokottuvotn** baz=12	**1.15**	**13**	P	Pb	15 41 25.9	-5.4
IGRS	**Grimsstaoir** baz=28	**1.20**	**29**	P	Pb	15 41 26.5	-5.6
ISKI	**Skildingahlsh** baz=8.1	**1.29**	**9**	P	Pn	15 41 28.1	-5.4
IGHA	**Grjothals** baz=15	**1.30**	**16**	P	Pn	15 41 27.8	-5.7
BORG	**Borgarnes** 34nm,0.3s,baz=105,slow=11,SNR=95	**1.65**	**277**	Pn	**Pn**	**15 41 34.7**	**-3.6**
BORG				Sn	**Sn**	**15 41 57.1**	**-2.3**

15nm,0.3s,baz=20,slow=21,SNR=8.2
BORG Borgarnes 1.65 277 Pn 15 41 34.4 -3.9
SCO Scoresbysund 6.15 346 *i* P **Pn 15 42 39.0 -1.0**
SCO Scoresbysund 6.15 346 *i* P **Pn 15 42 39.0 -1.0**
SCO Scoresbysund 6.15 346 Pn **Pn 15 42 38.5 -1.5**
SCO Scoresbysund 6.15 346 *i* P **Pn 15 42 39.0 -1.0**
ANGG Ammassalik, Gr 8.54 286 Pn **Pn 15 43 08.9 -3.9**
SUMG Summit 10.99 326 P **Pn 15 43 47.4 +0.6**
SUMG Summit 10.99 326 Pn **Pn 15 43 47.4 +0.6**
EKA Eskdalemuir Ar 11.71 136 Pn **Pn 15 43 54.6 -1.7**
baz=326,slow=14,SNR=10
ESK Eskdalemuir 11.71 136 P **Pn 15 43 55.8 -0.5**
ESK Eskdalemuir 11.71 136 Pn **Pn 15 43 55.8 -0.5**
NC204 NORSAR Array S 13.23 92 Pn **Pn 15 44 16.7 -0.4**
NOA NORSAR Array B 13.54 92 Pn **Pn 15 44 20.4 -0.8**
0.0nm,0.3s,baz=298,slow=13,SNR=2.2
KONO Kongsberg 13.55 99⇑ *e*P **Pn 15 44 23.5 +2.2**
ARCES ARCESS Array B 17.16 54 Pn **P 15 45 10.7 +0.2**
0.1nm,0.3s,baz=267,slow=14,SNR=1.8
FINES FINESS Array B 19.72 79 P **Pn 15 45 40.0 -0.1**
0.1nm,0.3s,baz=279,slow=11,SNR=4.7
FINES FINESS Array B 19.72 79 P **Pn 15 45 40.0 -0.1**
CLL Collm 20.68 116 *e*P Pn 15 45 51.0 -0.4
comp=Z,22nm,1.8s
CLL Collm 20.68 116 *e*P Pn 15 45 51.0 -0.4
CLL pmax pmax
comp=Z,22nm,1.8s
CLL Collm 20.68 116 P **P 15 45 48.2 -0.9**
LVZ Lovozero 20.73 58⇑ *e*P Pn 15 45 53.1 +1.1
LVZ pmax pmax
comp=Z,40nm,1.8s
ECH Echery 21.12 129 P **P 15 45 53.3 -0.6**
ECH pmax pmax
comp=Z,6.0nm,1.2s
ECH Echery 21.12 129 P **P 15 45 53.3 -0.6**
BRG Berggiesshubel 21.39 115 *e*P **P 15 45 57.6 +0.9**
comp=Z,6.3nm,1.0s
BRG *e* 15 46 04.1
comp=Z,27nm,2.0s
BFO Black Forest 21.41 127 P **P 15 45 56.9 -0.2**
BFO pmax pmax
comp=Z,12nm,1.3s
BFO Black Forest 21.41 127 P **P 15 45 56.9 -0.2**
VSU Vasula 21.58 86⇑ *e*P **P 15 45 58.7 0.0**
VSU pmax pmax
comp=Z,50nm,1.2s
KSP Ksiaz 22.34 112 *e*P **P 15 46 09.4 +2.4**
KHC Kasperske Hory 22.65 118 *ce*P **P 15 46 09.5 -0.8**
KHC pmax pmax
comp=Z,14nm,1.5s
KHC Kasperske Hory 22.65 118 *e*P **P 15 46 09.0 -1.3**
KHC Kasperske Hory 22.65 118 **P 15 46 09.2 -1.2**
GEC2 GERESS Array S 22.93 119 P **P 15 46 12.6 -0.7**
GERES GERESS Array B 22.93 119 P **P 15 46 13.4 +0.1**
comp=Z,0.8nm,0.9s,baz=327,slow=7.0,SNR=7.4
TMCR Tamitsa 23.38 66 *e*P **P 15 46 19.3 +1.7**
MORC Moravsky Berou 23.68 112 P **P 15 46 21.4 +0.6**
MORC pmax pmax
comp=Z,21nm,2.0s
MORC Moravsky Berou 23.68 112 P **P 15 46 21.4 +0.6**
MORC IAmb IAmb 15 46 25.1
comp=Z,21nm,2.0s
CTI Castel Tesino 24.53 125 P **P 15 46 30.2 +1.3**
CTI pmax pmax
comp=Z,5.0nm,1.0s
CTI Castel Tesino 24.53 125 P **P 15 46 30.2 +1.3**
ZOU Zoufplan 24.57 123 P **P 15 46 31.2 +1.9**
ZOU IAmb IAmb 15 47 04.9
comp=Z,12nm,1.5s
VYHS Vyhne 25.21 112 *e*P **P 15 46 35.3 +0.4**
VYHS Vyhne 25.21 112 *e*P **P 15 46 35.3 +0.4**
KLMR Klimovskoe 25.63 72 *e*P **P 15 46 36.3 -2.2**
KLMR pmax pmax
comp=Z,10.0nm,1.2s
KLMR Klimovskoe 25.63 72 *e*P **P 15 46 36.4 -2.1**
KLMR AMP 15 46 40.5
comp=Z,10.0nm,1.2s
KWP Kalwaria Pacla 25.90 106 *e*P **P 15 46 42.5 +1.4**
KWP Kalwaria Pacla 25.90 106 P **P 15 46 42.1 +1.0**
KWP pmax pmax
comp=Z,15nm,1.0s
KWP Kalwaria Pacla 25.90 106 P **P 15 46 42.1 +1.0**
PSZ Piszkesteto 26.10 112 P **P 15 46 44.1 +1.1**
PSZ pmax pmax
comp=Z,5.0nm,1.0s
PSZ Piszkesteto 26.10 112 P **P 15 46 44.1 +1.1**
PSZ IAmb IAmb 15 46 45.7
comp=Z,5.0nm,1.0s
ESDC Sonseca Array 26.20 156 P **P 15 46 43.0 -0.9**
comp=Z,0.7nm,0.7s,baz=349,slow=8.6,SNR=3.2
RES Resolute Bay 26.52 324 P **P 15 46 44.7 -1.7**
RES pmax pmax
comp=Z,14nm,1.1s
RES Resolute Bay 26.52 324 P **P 15 46 44.7 -1.7**
RES IAmb IAmb 15 47 27.8
comp=Z,14nm,1.1s
OSSC Osservatorio P 26.60 129 P **P 15 46 48.5 +1.0**
AKASG Malin Array Be 27.84 97 P **P 15 46 58.5 0.0**
comp=Z,0.2nm,0.4s,baz=320,slow=9.1,SNR=1.3
OBN Obninsk 27.89 84⇑ *e*P **P 15 47 00.9 +2.0**
OBN pmax pmax
comp=Z,5.0nm,0.7s
ARU Arti 36.11 66 *d i*P **P 15 48 12.5 +1.6**
ARU 15 49 28.9
ARU S **S 15 53 53.6 +3.6**
ARU SS **SnSn 15 56 17.5 +2.8**
ARU pmax pmax
comp=Z,3.0nm,1.0s
BR131 Keskin Array S 38.47 105 *de*P **P 15 48 33.0 +1.7**
BRTR Keskin Array B 38.47 105 P **P 15 48 32.2 +0.9**
comp=Z,1.4nm,0.8s,baz=326,slow=6.4,SNR=7.2
BRTR Keskin Array B 38.47 105 *ce*P **P 15 48 33.2 +1.9**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
KIV Kislovodsk 38.84 92 *e*P **P 15 48 35.9 +1.6**
KIV pmax pmax
comp=Z,14nm,1.0s
KBZ Khabaz 39.12 92 *ce*P **P 15 48 38.6 +2.2**
E46A Sault Ste Mari 39.77 276 P **P 15 48 43.4 +1.5**
N54A Moraine State 42.26 267 P **P 15 49 04.2 +1.7**
TOLK Toolik Lake Re 42.81 336 P **P 15 49 07.2 +0.6**
TOLK IAmb IAmb 15 49 10.2
comp=Z,5.1nm,1.1s
BRVK Borovoye 43.17 62⇑ *e*P **P 15 49 09.3 -0.4**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
EGAK Eagle 44.54 329 P **P 15 49 21.4 +0.9**
EGAK IAmb IAmb 15 50 12.2
comp=Z,9.3nm,1.8s
ILAR Eielson Array 45.74 332 P **P 15 49 29.9 -0.2**
comp=Z,1.2nm,1.1s,baz=23,slow=6.2,SNR=7.7
ILAR PcP **PcP 15 51 07.2 -0.4**
comp=Z,0.6nm,0.9s,baz=4.3,slow=3.2,SNR=5.8
MDM Murphy Dome 45.84 333 P **P 15 49 32.7 +1.8**
MDM IAmb IAmb 15 49 35.0
comp=Z,3.4nm,1.1s
COLA College 45.84 333⇑ *e*P **P 15 49 33.3 +2.5**
COLA pmax pmax
comp=Z,2.0nm,0.9s
BPAW Bear Paw Mtn. 47.14 334 P **P 15 49 42.1 +1.0**
BPAW IAmb IAmb 15 49 44.1
comp=Z,3.1nm,1.1s
KURK Kurchatov 48.15 58 *c i*P **P 15 49 50.1 +1.0**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 48.15 58 P **P 15 49 49.2 +0.1**
KURK IAmb IAmb 15 49 50.8
comp=Z,3.5nm,0.9s
EGMT Eagleton 48.90 297 P **P 15 49 56.0 +1.0**
SKT Skwentna 49.17 333 P **P 15 49 57.8 +0.9**
SKT IAmb IAmb 15 50 01.1
comp=Z,4.5nm,1.2s
CCM Cathedral Cave 49.52 275 P **P 15 49 59.6 -0.1**
CCM pmax pmax
comp=Z,4.0nm,0.9s
CCM Cathedral Cave 49.52 275 P **P 15 49 59.6 -0.1**
CCM IAmb IAmb 15 50 04.6
comp=Z,4.3nm,0.8s
T42A Van Buren 50.31 274 P **P 15 50 06.7 +0.9**
T42A IAmb IAmb 15 50 09.5
comp=Z,7.6nm,1.4s
KK31 Karatay Array 51.30 70 P **P 15 50 14.1 +0.9**
KK31 pmax pmax
comp=Z,2.0nm,1.1s
KK31 Karatay Array 51.30 70 P **P 15 50 14.1 +0.9**
KKAR Karatay Array 51.30 70 P **P 15 50 14.1 +0.9**
KKAR pmax pmax
comp=Z,2.0nm,1.1s
KKAR Karatay Array 51.30 70 P **P 15 50 14.1 +0.9**
YNE Yellowstone No 51.49 295 P **P 15 50 15.4 +0.5**
BOZ Bozeman (W) 51.63 297 P **P 15 50 16.9 +1.1**
BOZ pmax pmax
comp=Z,5.0nm,1.1s
BOZ Bozeman (W) 51.63 297 P **P 15 50 16.9 +1.1**
BOZ IAmb IAmb 15 50 18.7
comp=Z,5.2nm,1.1s
U40A Yellville 51.64 275 P **P 15 50 14.5 -1.3**
U40A IAmb IAmb 15 50 53.2
comp=Z,3.7nm,0.8s
DGZ Jazzator, Alta 52.12 53⇑ *i*P **P 15 50 21.6 +2.2**
DGZ pmax pmax
comp=Z,2.0nm,1.1s
H17A Grant Village 52.23 295 P **P 15 50 22.4 +2.0**
H17A IAmb IAmb 15 50 25.1
comp=Z,2.6nm,0.8s
MKAR Makanchi Array 52.76 58 P **P 15 50 24.2 +0.2**
comp=Z,1.0nm,0.9s,baz=314,slow=5.7,SNR=6.8
MKAR Makanchi Array 52.76 58 *ce*P **P 15 50 25.1 +1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
TORD Torodi Ar. Bea 53.08 156 P **P 15 50 24.8 -1.9**
comp=Z,1.5nm,0.9s,baz=336,slow=7.9,SNR=5.4
PDAR Pinedale Array 53.20 293 P **P 15 50 26.1 -1.5**
comp=Z,2.4nm,0.9s,baz=59,slow=5.7,SNR=12
AAK Ala-Archa 53.29 67⇓ *e*P **P 15 50 30.2 +2.1**
AAK pmax pmax
comp=Z,9.0nm,2.5s
AAK Ala-Archa 53.29 67 P **P 15 50 29.5 +1.4**
AAK IAmb IAmb 15 50 31.3
comp=Z,3.1nm,1.1s
BTK Batken 53.98 72 P **P 15 50 34.7 +1.5**
BTK pmax pmax
comp=Z,5.0nm,1.0s
BTK Batken 53.98 72 P **P 15 50 34.7 +1.5**
BTK IAmb IAmb 15 50 36.3
comp=Z,5.1nm,1.0s
CHGR Chuyangaron 54.49 74 P **P 15 50 38.1 +1.3**
GAR Garm 54.67 73 P **P 15 50 39.9 +1.7**
TLY Talaya 55.45 40⇑ *e*P **P 15 50 46.0 +2.4**
TLY pmax pmax
comp=Z,6.0nm,0.6s
PV13 Radium Mtn., P 56.81 290 P **P 15 50 54.1 +0.3**
WMQ Urumqi 57.27 56 *e*P **P 15 51 00.4 +3.7**
ULN Ulaanbaatar 59.85 40⇑ *e*P **P 15 51 16.5 +1.8**
ULN pmax pmax
comp=Z,7.0nm,2.5s
TXAR Lajitas Array 62.29 280 P **P 15 51 30.3 -1.2**
comp=Z,0.9nm,1.1s,baz=20,slow=4.0,SNR=5.4
GTA Gaotai 65.35 49 *e*P **P 15 51 53.1 +1.6**
GTA pP sP 15 51 57.8 +1.1
GTA sP pP 15 52 00.3 +5.0
GTA pmax pmax
comp=Z,2.0nm,1.0s
HHC Hu-ho-hao-te 67.57 40 *e*P **P 15 52 07.3 +1.7**
HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,93nm,5.7s
LZH Lanzhou 69.68 48 *e*P **P 15 52 16.9 -2.1**
LZH pP pP 15 52 21.8 -1.0
LZH sP sP 15 52 25.8 +1.6
LZH PP PP 15 55 04.5 +12
LZH pmax pmax
comp=Z,18nm,1.1s
LZH pmax pmax
comp=Z,100nm,4.9s
CMAR Chiang Mai Arr 84.17 59 P **P 15 53 41.7 +1.1**
comp=Z,0.4nm,0.4s,baz=317,slow=7.8,SNR=1.8

IDC 22 15:54:47.5±8.5, 19°.47S×179°.31W, h650km±97km, mb2.8/3, mb1 3.2/3, mb1mx2.7/37, mbtmp3.8/3, Error ellipse: s-maj=192.1km s-min=46.9km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.53**	**261**	P	P	16 01 57.1	+0.3
	0.7nm,0.3s,baz=97,slow=7.7,SNR=65						
ASAR	**Alice Springs**	**43.57**	**256**	P	P	16 01 56.9	-0.2
	1.3nm,0.6s,baz=92,slow=7.4,SNR=34						
ASAR				PcP	PcP	16 03 29.5	0.0
	0.2nm,0.6s,baz=101,slow=4.8,SNR=2.1						
TXAR	**Lajitas Array**	**87.54**	**58**	P	P	16 06 28.9	+0.1
	0.3nm,0.8s,baz=215,slow=4.1,SNR=2.8						
BVAR	**Borovoye Array**	**117.51**	**320**	PKP	PKPdf	16 12 20.7	-0.3
	0.4nm,0.4s,baz=97,slow=3.6,SNR=2.0						
AKASG	**Malin Array Be**	**141.52**	**331**	PKP	PKPdf	16 13 04.8	-1.5
	0.9nm,0.4s,baz=39,slow=4.3,SNR=4.1						

*JMA **22** 15:55:24.9±0.1, 24°.35N×121°.84E, h64km±1km, M2.6*
*TAP **22** 15:55:24.8, 24°.38N×121°.82E, h67km, ML3.4, B*
ISC 22 15:55:25.3±1.2, 24°.40N±0°.02×121°.84E±0°.02, h66km±5km, n112, σ1§09/223, 4C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENAH	**Nanao**	**0.05**	**334**⇑	*i*P	**Pn**	**15 55 34.8**	**-0.2**
	baz=352						
ENAH				S	**Sn**	**15 55 43.3**	**+1.2**
	baz=352						
ENA	**Nanau**	**0.09**	**287**⇑	*i*P	**Pn**	**15 55 34.7**	**-0.4**
	baz=305						
ENA				S	**Sn**	**15 55 42.9**	**+0.7**
	baz=305						
TWC	**Suao**	**0.21**	**3**⇑	*i*P	**Pn**	**15 55 35.4**	**-0.1**
	baz=8.0						
TWC				S	**Sn**	**15 55 43.4**	**+0.5**
	baz=8.0						
NACB	**Ninganchiao**	**0.32**	**224**	*i*P	**Pn**	**15 55 35.6**	**-0.6**
	baz=225						
NACB				*e*S	**Sn**	**15 55 43.3**	**-0.9**
	baz=225						
ENTT	**Nioudou**	**0.34**	**314**	*i*P	**Pn**	**15 55 36.2**	**-0.2**
	baz=318						
ENTT				*e*S	**Sn**	**15 55 44.6**	**+0.1**
	baz=318						
TWE	**Neicheng**	**0.35**	**334**	P	**Pn**	**15 55 36.4**	**0.0**
	baz=339						
TWE				*e*S	**Sn**	**15 55 45.0**	**+0.4**
	baz=339						
NDT	**Datong Townshi**	**0.36**	**304**	*i*P	**Pn**	**15 55 36.5**	**0.0**
	baz=308						
NDT				*e*S	**Sn**	**15 55 44.8**	**+0.1**
	baz=308						
ILA	**Ilan**	**0.37**	**348**	*e*P	**Pn**	**15 55 37.1**	**+0.5**
	baz=351						
ILA				*e*S	**Sn**	**15 55 46.6**	**+1.8**
	baz=351						
ETLH	**Xiulin Townshi**	**0.38**	**239**	*e*P	**Pn**	**15 55 36.3**	**-0.4**
	baz=240						
ETLH				*e*S	**Sn**	**15 55 44.1**	**-1.1**
	baz=240						
TWD	**Chiawan**	**0.39**	**214**	*e*P	**Pn**	**15 55 36.2**	**-0.6**
	baz=213						
TWD				*e*S	**Sn**	**15 55 44.3**	**-0.8**
	baz=213						
NNSB	**Datong**	**0.41**	**274**	P	**Pn**	**15 55 36.8**	**-0.3**
	baz=276						
NNSB				*e*S	**Sn**	**15 55 45.2**	**-0.5**
	baz=276						
NNSH	**Datong**	**0.41**	**274**	*e*P	**Pn**	**15 55 36.8**	**-0.3**
	baz=276						
NNSH				*e*S	**Sn**	**15 55 45.3**	**-0.5**
	baz=276						
NNS	**Nan Shan**	**0.42**	**275**⇑	*i*P	**Pn**	**15 55 36.9**	**-0.3**
	baz=278						
NNS				*e*S	**Sn**	**15 55 45.5**	**-0.4**
	baz=278						
NTC	**Toucheng**	**0.45**	**359**	P	**Pn**	**15 55 37.6**	**+0.3**
	baz=1.0						
NTC				*e*S	**Sn**	**15 55 46.9**	**+0.8**
	baz=1.0						
HWA	**Hwalien**	**0.47**	**207**	*e*P	**Pn**	**15 55 37.4**	**-0.1**
	baz=205						
HWA				*e*S	**Sn**	**15 55 47.0**	**+0.6**
	baz=205						
NWLT	**Wulai**	**0.48**	**321**	*e*P	**Pn**	**15 55 37.3**	**-0.3**
	baz=323						
NWLT				*e*S	**Sn**	**15 55 46.4**	**-0.3**
	baz=323						
YHNB	**Yeheng**	**0.50**	**303**	*i*P	**Pn**	**15 55 37.8**	**-0.1**
	baz=305						
YHNB				*e*S	**Sn**	**15 55 46.4**	**-0.6**
	baz=305						
NSK	**Sanguang**	**0.51**	**302**	P	**Pn**	**15 55 37.9**	**-0.1**
	baz=305						
NSK				*e*S	**Sn**	**15 55 46.8**	**-0.5**
	baz=305						
FUSS	**Fushou**	**0.56**	**254**	P	**Pn**	**15 55 38.7**	**+0.1**
	baz=255						
FUSS				*e*S	**Sn**	**15 55 48.4**	**-0.1**
	baz=255						
TIPB	**Shuangxi**	**0.57**	**359**	*e*P	**Pn**	**15 55 39.0**	**+0.4**
TIPB				*e*S	**Sn**	**15 55 49.0**	**+0.7**
WHF	**Hehuan Shan**	**0.58**	**244**⇓	*e*P	**Pn**	**15 55 38.7**	**-0.4**
	baz=244						
WHF				*e*S	**Sn**	**15 55 48.5**	**-0.7**
	baz=244						
TWA	**Mucha**	**0.62**	**338**	*e*P	**Pn**	**15 55 39.2**	**+0.1**
	baz=340						
TWA				*e*S	**Sn**	**15 55 49.9**	**+0.7**
	baz=340						
TWB1	**Santiao Chiao**	**0.62**	**13**	*e*P	**Pn**	**15 55 39.5**	**+0.4**
	baz=14						
TWB1				*e*S	**Sn**	**15 55 50.3**	**+1.2**
	baz=14						
TWT	**Tachien**	**0.62**	**256**	*e*P	**Pn**	**15 55 39.5**	**+0.3**
	baz=257						
TWT				*e*S	**Sn**	**15 55 49.8**	**+0.4**
	baz=257						
TDCB	**Techi**	**0.64**	**257**	⇓P	**Pn**	**15 55 39.5**	**+0.1**
	baz=258						
TDCB				*e*S	**Sn**	**15 55 49.4**	**-0.3**
	baz=258						
TATO	**Taipei**	**0.65**	**331**	*e*P	**Pn**	**15 55 39.6**	**+0.2**
	baz=333						
TATO				*e*S	**Sn**	**15 55 49.8**	**+0.1**
	baz=333						
NWF	**Wu-fen Shan**	**0.67**	**356**	*e*P	**Pn**	**15 55 40.0**	**+0.3**
	baz=357						
NWF				*e*S	**Sn**	**15 55 51.1**	**+0.8**
	baz=357						
WFSB	**Wu-fen Shan**	**0.67**	**356**	*e*P	**Pn**	**15 55 40.0**	**+0.4**
	baz=357						
WFSB				*e*S	**Sn**	**15 55 51.0**	**+0.9**
	baz=357						
ESL	**Shilin**	**0.69**	**212**	*e*P	**Pn**	**15 55 38.6**	**-1.3**
	baz=211						
ESL				*e*S	**Sn**	**15 55 49.0**	**-1.6**
	baz=211						
CHGB	**Renai**	**0.69**	**241**	*e*P	**Pn**	**15 55 40.0**	**-0.1**
	baz=241						
CHGB				*e*S	**Sn**	**15 55 50.4**	**-0.6**
	baz=241						
OWD	**Renai**	**0.75**	**234**	*e*P	**Pn**	**15 55 40.1**	**-0.6**
	baz=234						
OWD				*e*S	**Sn**	**15 55 51.6**	**-0.4**
	baz=234						
YM01	**YM01**	**0.78**	**342**	*e*P	**Pn**	**15 55 41.0**	**0.0**
	baz=343						
YM01				*e*S	**Sn**	**15 55 52.5**	**0.0**
	baz=343						
LIOB	**Emei**	**0.79**	**288**	*e*P	**Pn**	**15 55 41.0**	**0.0**
	baz=289						
LIOB				*e*S	**Sn**	**15 55 52.6**	**+0.1**
	baz=289						
YM10	**YM10**	**0.79**	**342**	*e*P	**Pn**	**15 55 41.0**	**-0.1**
	baz=343						
YM10				*e*S	**Sn**	**15 55 52.7**	**0.0**
	baz=343						
TWS1	**Kuangyinshan**	**0.79**	**331**	*e*P	**Pn**	**15 55 41.1**	**+0.1**
	baz=333						
TWS1				*e*S	**Sn**	**15 55 52.8**	**+0.1**
	baz=333						
NSTT	**Nanjuang**	**0.79**	**287**	*e*P	**Pn**	**15 55 41.2**	**+0.1**
	baz=288						
NSTT				*e*S	**Sn**	**15 55 52.9**	**+0.2**
	baz=288						
YM04	**YM04**	**0.80**	**340**	*e*P	**Pn**	**15 55 41.1**	**-0.1**
	baz=341						
YM04				*e*S	**Sn**	**15 55 53.9**	**+1.1**
	baz=341						
YM11	**YM11**	**0.80**	**343**	*e*P	**Pn**	**15 55 41.1**	**-0.1**
	baz=344						
YM11				*e*S	**Sn**	**15 55 53.9**	**+1.0**
	baz=344						
YM05	**YM05**	**0.80**	**342**	*e*P	**Pn**	**15 55 40.9**	**-0.3**
	baz=343						
YM05				*e*S	**Sn**	**15 55 53.0**	**+0.1**
	baz=343						
YM08	**YM08**	**0.81**	**344**	*e*P	**Pn**	**15 55 41.7**	**+0.3**
	baz=345						
YM08				*e*S	**Sn**	**15 55 52.6**	**-0.5**
	baz=345						
NCU	**National Centr**	**0.82**	**314**	*e*P	**Pn**	**15 55 41.4**	**0.0**
	baz=315						
NCU				*e*S	**Sn**	**15 55 53.4**	**+0.2**
	baz=315						
EGFH	**Guangfu**	**0.82**	**207**	*e*P	**Pn**	**15 55 40.3**	**-1.1**
	baz=206						
EGFH				*e*S	**Sn**	**15 55 51.5**	**-1.8**
	baz=206						
YM03	**YM03**	**0.82**	**341**	*e*P	**Pn**	**15 55 41.1**	**-0.3**
	baz=342						
YM03				*e*S	**Sn**	**15 55 53.3**	**-0.1**
	baz=342						
WHP	**Taichung City**	**0.82**	**262**	*e*P	**Pn**	**15 55 42.2**	**+0.7**
	baz=262						
WHP				*e*S	**Sn**	**15 55 54.3**	**+0.9**
	baz=262						
ANP	**Anpu**	**0.83**	**340**	*e*P	**Pn**	**15 55 41.8**	**+0.2**
	baz=341						
ANP				*e*S	**Sn**	**15 55 54.2**	**+0.6**
	baz=341						
SBCB	**Hsinchu**	**0.87**	**297**	*e*P	**Pn**	**15 55 42.0**	**+0.1**
	baz=298						
SBCB				*e*S	**Sn**	**15 55 54.6**	**+0.3**
	baz=298						
HSN	**Hsinchu**	**0.88**	**297**	*e*P	**Pn**	**15 55 41.9**	**-0.3**
	baz=301						
HSN				*e*S	**Sn**	**15 55 54.3**	**-0.3**
	baz=301						
VWDT	**VWDT**	**0.91**	**225**	*e*P	**Pn**	**15 55 42.4**	**0.0**
	baz=224						
VWDT				*e*S	**Sn**	**15 55 54.8**	**-0.3**
	baz=224						
NHW	**Xinwu Township**	**0.94**	**310**	*e*P	**Pn**	**15 55 42.6**	**-0.2**
	baz=311						
NHW				*e*S	**Sn**	**15 55 55.8**	**0.0**
	baz=311						
NMLH	**Miaoli**	**0.96**	**278**	*e*P	**Pn**	**15 55 43.2**	**+0.1**
	baz=279						
NMLH				*e*S	**Sn**	**15 55 57.0**	**+0.6**
	baz=279						
NSY	**Sanyi**	**0.98**	**271**	*e*P	**Pn**	**15 55 43.5**	**+0.1**
	baz=272						
NSY				*e*S	**Sn**	**15 55 57.3**	**+0.5**
	baz=272						
HGSD	**Ruisui**	**0.98**	**203**	*e*P	**Pn**	**15 55 42.9**	**-0.4**
	baz=202						
HGSD				*e*S	**Sn**	**15 55 56.7**	**-0.1**
	baz=202						
SMLT	**Sun Moon Lake**	**1.00**	**239**	*e*P	**Pn**	**15 55 44.8**	**+1.1**
	baz=239						
SMLT				*e*S	**Sn**	**15 56 00.1**	**+2.8**
	baz=239						
EHY	**Hungye**	**1.01**	**208**	*e*P	**Pn**	**15 55 42.1**	**-1.6**
	baz=207						
EHY				*e*S	**Sn**	**15 55 56.1**	**-1.3**
	baz=207						
JYNG	**Yonagunijimaku**	**1.01**	**87**	P	**Pn**	**15 55 43.6**	**-0.1**
JYNG				S	**Sn**	**15 55 57.0**	**-0.5**
SSLB	**Suanglung**	**1.01**	**233**	*e*P	**Pn**	**15 55 44.0**	**+0.2**
	baz=233						
SSLB				*e*S	**Sn**	**15 55 58.1**	**+0.6**
	baz=233						
TYC	**Yuchr**	**1.02**	**241**	*e*P	**Pn**	**15 55 44.9**	**+1.0**
	baz=241						
TYC				*e*S	**Sn**	**15 55 59.6**	**+1.9**
	baz=241						
PTSB	**Yuanli**	**1.03**	**273**	*e*P	**Pn**	**15 55 44.0**	**0.0**
	baz=273						
PTSB				*e*S	**Sn**	**15 55 58.1**	**+0.1**
	baz=273						
YOJ	**Yonaguni jima**	**1.07**	**87**	*e*P	**Pn**	**15 55 44.2**	**-0.2**
	baz=85						

YOJ				*e*S		**Sn**	**15 55 59.0**	**+0.2**
	baz=85								
YOJ	**Yonaguni jima**	**1.07**	**87**	P		**Pn**	**15 55 44.3**	**-0.2**
YOJ				S		**Sn**	**15 55 58.4**	**-0.4**
WDJ	**Dajia District**	**1.09**	**267**	*e*P		**Pn**	**15 55 45.2**	**+0.4**
	baz=268								
WDJ				*e*S		**Sn**	**15 55 59.1**	**-0.2**
	baz=268								
YULB	**Yu-li**	**1.12**	**206**	*e*P		**Pn**	**15 55 43.5**	**-1.7**
	baz=205								
YULB				*e*S		**Sn**	**15 55 57.9**	**-2.1**
	baz=205								
WHYT	**Xinyi Township**	**1.14**	**232**	*e*P		**Pn**	**15 55 46.7**	**+1.2**
	baz=232								
WHYT				*e*S		**Sn**	**15 56 03.5**	**+3.0**
	baz=232								
EYUL	**Yuli**	**1.15**	**204**	*e*P		**Pn**	**15 55 45.1**	**-0.4**
	baz=204								
EYUL				*e*S		**Sn**	**15 56 00.1**	**-0.6**
	baz=204								
TWF1	**Yuli**	**1.16**	**205**	*e*P		**Pn**	**15 55 45.0**	**-0.7**
	baz=204								
TWF1				*e*S		**Sn**	**15 56 00.1**	**-0.7**
	baz=204								
WJS	**Zhushan**	**1.17**	**241**	*e*P		**Pn**	**15 55 46.4**	**+0.6**
	baz=240								
WJS				*e*S		**Sn**	**15 56 02.9**	**+1.9**
	baz=240								
WCHH	**Zhanghua**	**1.21**	**255**	*e*P		**Pn**	**15 55 46.3**	**0.0**
	baz=255								
WCHH				*e*S		**Sn**	**15 56 01.6**	**-0.4**
	baz=255								
ALS	**Alishan**	**1.29**	**227**	*e*P		**Pn**	**15 55 48.5**	**+0.8**
	baz=226								
ALS				*e*S		**Sn**	**15 56 06.3**	**+1.9**
	baz=226								
FULB	**Fuli**	**1.30**	**203**	*e*P		**Pn**	**15 55 46.8**	**-0.7**
	baz=202								
FULB				*e*S		**Sn**	**15 56 04.4**	**+0.3**
	baz=202								
CHN5	**Tsauling**	**1.33**	**233**	*e*P		**Pn**	**15 55 48.7**	**+0.7**
	baz=233								
CHN5				*e*S		**Sn**	**15 56 06.7**	**+1.7**
	baz=233								
CHKT	**Chengkung**	**1.37**	**198**	*e*P		**Pn**	**15 55 47.5**	**-0.9**
	baz=197								
CHKT				*e*S		**Sn**	**15 56 03.4**	**-2.3**
	baz=197								
WDLH	**Douliu**	**1.38**	**239**	*e*P		**Pn**	**15 55 49.0**	**+0.5**
	baz=239								
WDLH				*e*S		**Sn**	**15 56 07.8**	**+1.8**
	baz=239								
ELDTW	**Lidau**	**1.42**	**212**	*e*P		**Pn**	**15 55 48.8**	**-0.5**
	baz=211								
ELDTW				*e*S		**Sn**	**15 56 06.2**	**-1.0**
	baz=211								
RLNB	**Erlin**	**1.44**	**250**	*e*P		**Pn**	**15 55 49.0**	**-0.3**
	baz=249								
RLNB				*e*S		**Sn**	**15 56 06.9**	**-0.5**
	baz=249								
WTK	**Tuku**	**1.50**	**242**	*e*P		**Pn**	**15 55 50.6**	**+0.4**
	baz=242								
WTK				*e*S		**Sn**	**15 56 09.9**	**+1.0**
	baz=242								
EDH	**Donghe**	**1.50**	**199**	*e*P		**Pn**	**15 55 49.3**	**-0.9**
	baz=198								
EDH				*e*S		**Sn**	**15 56 07.1**	**-1.8**
	baz=198								
TPUB	**Ta-pu**	**1.56**	**225**	*e*P		**Pn**	**15 55 52.0**	**+1.1**
	baz=225								
TPUB				*e*S		**Sn**	**15 56 11.3**	**+1.0**
	baz=225								
CHY	**Chiayi**	**1.57**	**235**	*e*P		**Pn**	**15 55 51.5**	**+0.4**
	baz=235								
CHY				*e*S		**Sn**	**15 56 11.6**	**+1.0**
	baz=235								
WTP	**Ta-pu**	**1.60**	**224**	*e*P		**Pn**	**15 55 52.5**	**+0.8**
	baz=224								
WTP				*e*S		**Sn**	**15 56 13.0**	**+1.5**
	baz=224								
WSF	**Szhu**	**1.66**	**243**	*e*P		**Pn**	**15 55 52.3**	**0.0**
	baz=243								
WSF				*e*S		**Sn**	**15 56 14.0**	**+1.4**
	baz=243								
TWK	**Hsinying**	**1.67**	**228**	*e*P		**Pn**	**15 55 53.1**	**+0.6**
	baz=227								
TWK				*e*S		**Sn**	**15 56 16.0**	**+2.9**
	baz=227								
WLGB	**Puzi**	**1.68**	**237**	*e*P		**Pn**	**15 55 53.0**	**+0.5**
	baz=237								
WLGB				*e*S		**Sn**	**15 56 17.1**	**+4.0**
	baz=237								
SNST	**Tainan City**	**1.70**	**226**	*e*P		**Pn**	**15 55 53.0**	**+0.2**
	baz=226								
SNST				*e*S		**Sn**	**15 56 13.9**	**+0.2**
	baz=226								
CHN1	**Nanshi**	**1.70**	**225**	*e*P		**Pn**	**15 55 53.7**	**+0.8**
	baz=224								
CHN1				*e*S		**Sn**	**15 56 15.6**	**+1.8**
	baz=224								
TWG	**Pinlang**	**1.72**	**204**	*e*P		**Pn**	**15 55 53.0**	**-0.1**
	baz=203								
TWG				*e*S		**Sn**	**15 56 13.4**	**-0.8**
	baz=203								
TWGBT	**Beinan**	**1.72**	**204**	*e*P		**Pn**	**15 55 52.3**	**-0.9**
	baz=203								
TWGBT				*e*S		**Sn**	**15 56 12.3**	**-1.9**
	baz=203								
IRIF	**Iriomote-Funau**	**1.73**	**92**	P		**Pn**	**15 55 52.7**	**-0.5**
IRIF				S		**Sn**	**15 56 13.4**	**-0.9**
SGST	**Jiashian**	**1.75**	**221**	*e*P		**Pn**	**15 55 53.7**	**+0.2**
	baz=221								
SGST				*e*S		**Sn**	**15 56 15.5**	**+0.7**
	baz=221								
LDUT	**Ludao**	**1.75**	**191**	*e*P		**Pn**	**15 55 53.5**	**-0.1**
	baz=190								
LDUT				*e*S		**Sn**	**15 56 12.2**	**-2.7**
	baz=190								
ICHU	**Yijhu**	**1.76**	**234**	*e*P		**Pn**	**15 55 53.9**	**+0.2**
	baz=234								
ICHU				*e*S		**Sn**	**15 56 14.5**	**-0.6**
	baz=234								
SLGT	**Liugui**	**1.78**	**218**	*e*P		**Pn**	**15 55 55.4**	**+1.5**
	baz=217								
SLGT				*e*S		**Sn**	**15 56 18.4**	**+2.9**
	baz=217								
CHN8	**Yiju**	**1.82**	**235**	*e*P		**Pn**	**15 55 54.9**	**+0.4**
	baz=234								
CHN8				*e*S		**Sn**	**15 56 19.5**	**+2.9**
	baz=234								
HATJ	**Hateruma jima**	**1.83**	**100**	P		**Pn**	**15 55 55.2**	**+0.6**
HATJ				*e*S		**Sn**	**15 56 17.4**	**+0.6**
ECL	**Taimali**	**1.97**	**204**	*e*P		**Pn**	**15 55 56.2**	**-0.3**
	baz=203								
ECL				*e*S		**Sn**	**15 56 19.3**	**-0.9**
	baz=203								
SSD	**Sandimen**	**1.98**	**214**	*e*P		**Pn**	**15 55 58.4**	**+1.7**
	baz=213								
SSD				*e*S		**Sn**	**15 56 23.2**	**+2.7**
	baz=213								
JKRS	**Kuro-shima**	**1.99**	**94**	P		**Pn**	**15 55 57.0**	**+0.3**
JKRS				S		**Sn**	**15 56 20.7**	**+0.1**
MASBT	**Mashibuluo**	**2.10**	**212**	*e*P		**Pn**	**15 55 60.0**	**+1.8**
	baz=211								
MASBT				*e*S		**Sn**	**15 56 25.3**	**+2.0**
	baz=211								
JIJ	**Ishigaki jima**	**2.10**	**91**	P		**Pn**	**15 55 57.7**	**-0.6**
JIJ				S		**Sn**	**15 56 22.1**	**-1.3**
PTTC	**Pingtan**	**2.17**	**301**	*e*P		**Pn**	**15 55 57.9**	**-1.2**
	baz=300								
PTTC				*e*S		**Sn**	**15 56 22.1**	**-3.0**
	baz=300								
EAST	**Anshuo**	**2.21**	**205**	*e*P		**Pn**	**15 56 01.8**	**+2.1**
	baz=204								
EAST				*e*S		**Sn**	**15 56 28.5**	**+2.5**
	baz=204								
PNG	**Penghu**	**2.25**	**249**	*e*P		**Pn**	**15 55 59.4**	**-0.8**
	baz=248								
PNG				*e*S		**Sn**	**15 56 25.2**	**-1.6**
	baz=248								
VWUC	**VWUC**	**2.25**	**286**	*e*P		**Pn**	**15 55 59.0**	**-1.2**
	baz=285								
VWUC				*e*S		**Sn**	**15 56 25.1**	**-1.8**
	baz=285								
PHUB	**P'eng-hu**	**2.25**	**247**	*e*P		**Pn**	**15 55 59.2**	**-1.1**
	baz=247								
PHUB				*e*S		**Sn**	**15 56 25.4**	**-1.6**
	baz=247								
JISG	**Ishigakijimahi**	**2.26**	**85**	P		**Pn**	**15 55 59.8**	**-0.6**
JISG				S		**Sn**	**15 56 27.0**	**-0.2**
WDGT	**Dungji**	**2.29**	**241**	*e*P		**Pn**	**15 56 00.7**	**-0.2**
	baz=240								
WDGT				*e*S		**Sn**	**15 56 26.4**	**-1.6**
	baz=240								
SCZT	**Fangliau**	**2.31**	**209**	*e*P		**Pn**	**15 56 02.7**	**+1.6**
	baz=208								
SCZT				*e*S		**Sn**	**15 56 31.4**	**+3.0**
	baz=208								
MATB	**Ma-tsu**	**2.44**	**316**	*e*P		**Pn**	**15 56 03.1**	**+0.2**
	baz=315								
MATB				*e*S		**Sn**	**15 56 29.7**	**-1.9**
	baz=315								
PTMZ	**Houxiangcun**	**2.55**	**285**	*e*P		**Pn**	**15 56 03.2**	**-1.1**
	baz=284								
PTMZ				*e*S		**Sn**	**15 56 30.8**	**-3.5**
	baz=284								
JTJ	**Tarama**	**2.62**	**84**	P		**Pn**	**15 56 05.6**	**+0.3**
JTJ				*e*S		**Sn**	**15 56 35.8**	**-0.2**
JIRB	**Irabujima**	**3.07**	**81**	P		**Pn**	**15 56 11.9**	**+0.5**
JIRB				*e*S		**Sn**	**15 56 47.0**	**+0.1**
JMJ2	**Miyako jima3**	**3.20**	**83**	P		**Pn**	**15 56 13.8**	**+0.7**
JMJ2				*e*S		**Sn**	**15 56 50.7**	**+0.6**
JOGS	**Gusukube**	**3.27**	**83**	P		**Pn**	**15 56 14.9**	**+0.8**

*IDC **22** 15:59:28.8±1.2,28°.00N×87°.80E,h0km,mb3.7/9, mb1 3.8/10,mb1mx3.6/47,mbtmp3.7/10,ML3.8/1, Error ellipse: s-maj=56.9km s-min=17.5km az=60.0*
*NEIC **22** 15:59:36.4±1.5,28°.04N±0°.07×87°.8E±0°.1,h60km±9km, mb4.4/13,Error ellipse: s-maj=15.2km s-min=10.1km az=70.0*
*DMN **22** 15:59:37.8±0.0,28°.21N×88°.12E,h60km,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NDI **22** 15:59:37.1±2.2,28°.21N×88°.03E,h93km±18km,ML3.9, mb4.4(NEIC)*

ISC 22 15:59:38.4±0.7,**27°.97N**±0°.06×**88°.09E**±0°.03,**h99**km±8km, **n49**,σ2s**09**/67,**mb3.8**/12,**Sikkim**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**0.70**	**209**	*e*Pg			**Pn**	**15 59 56.6**	**+0.5**
TAPN	**Taplejung**	**0.70**	**209**	*e*Pg			**Pn**	**15 59 56.6**	**+0.5**
TAPN				*e*Sg			**Sn**	**16 00 10.3**	**+1.0**
	2μm,0.3s								
GTK	**Tadong**	**0.79**	**145**	*e*P			**Pn**	**15 59 57.9**	**+1.1**
GTK				*e*P			**Pn**	**15 59 57.9**	**+1.1**
GTK				*e*S			**Sn**	**16 00 12.2**	**+1.7**
GTK				IAML				16 00 14.3	
	comp=N,949nm,0.4s								
GTK				IAML				16 00 14.9	
	comp=E,2μm,0.2s								
ODAN	**Odare**	**1.27**	**209**	*e*Pn			**Pn**	**16 00 03.4**	**+1.4**
ODAN	**Odare**	**1.27**	**209**	*e*Pg			**Pn**	**16 00 03.5**	**+1.4**
ODAN				*e*Sn			**Sn**	**16 00 22.0**	**+2.2**
	comp=E,478nm,0.2s								
ODAN				*e*Sg			**Sn**	**16 00 22.0**	**+2.2**
	comp=E,2μm,0.3s								
RAMN	**Ramite**	**1.67**	**233**	*e*Pn			**Pn**	**16 00 07.6**	**+0.7**
RAMN				*e*Sn			**Sn**	**16 00 29.5**	**+1.0**
	comp=E,770nm,0.4s								
JIRN	**Jiri**	**1.71**	**260**	*e*Pn			**Pn**	**16 00 07.7**	**+0.1**
PKI	**Pulchoki**	**2.41**	**261**	*e*Pn			**Pn**	**16 00 16.5**	**0.0**
KKN	**Kakani**	**2.49**	**267**	*e*Pn			**Pn**	**16 00 17.3**	**-0.3**
KKN				*e*Sn			**Sn**	**16 00 46.3**	**-1.3**
	comp=E,347nm,0.2s								
DMN	**Daman**	**2.67**	**263**	*e*Pn			**Pn**	**16 00 19.7**	**-0.2**
DMN				*e*Sn			**Sn**	**16 00 51.1**	**-0.7**
	comp=E,340nm,0.3s								
GKN	**Gorkha**	**3.05**	**271**	*e*Pg			**Pn**	**16 00 23.8**	**-1.1**
LSA	**Lhasa**	**3.19**	**57**	Pn			**Pn**	**16 00 27.2**	**+0.1**
GUWA	**GUWAHATI**	**3.67**	**118**	*e*P			**Pn**	**16 00 34.0**	**+0.9**
SHL	**Shillong**	**4.15**	**124**	*e*P			**Pn**	**16 00 40.6**	**+0.8**
SHL				*e*P			**Pn**	**16 00 40.8**	**+1.0**
SHL				*e*PN			**Pn**	**16 00 41.0**	**+1.2**
SHL				*e*S			**Sn**	**16 01 25.6**	**-1.8**
SHL				*i* SN			**Sn**	**16 01 26.0**	**-1.4**
SHL				IAML				16 01 32.3	
	comp=E,176nm,0.1s								
SHL				IAML				16 01 33.0	
	comp=N,152nm,0.5s								
SHL	**Shillong**	**4.15**	**124**	Pn			**Pn**	**16 00 40.5**	**+0.8**
TEZP	**TEZPUR**	**4.40**	**107**	*e*P			**Pn**	**16 00 42.8**	**-0.2**
TEZP				*e*P			**Pn**	**16 00 43.1**	**+0.1**
TEZP				*e*S			**Sn**	**16 01 31.8**	**-1.4**
TEZP				IAML				16 01 33.3	
	comp=E,294nm,0.2s								
TEZP				IAML				16 01 34.1	
	comp=N,307nm,0.3s								
BOK	**Bokaro**	**4.60**	**206**	*e*P			**Pn**	**16 00 47.0**	**+1.3**
BOK				*e*P			**Pn**	**16 00 47.2**	**+1.5**
BOK				*e*S			**Sn**	**16 01 37.5**	**-0.7**
ZIRO	**ZIRO**	**5.13**	**94**	*e*P			**Pn**	**16 00 52.6**	**-0.3**
ZIRO				*e*P			**Pn**	**16 00 53.2**	**+0.2**
ZIRO				*e*S			**Sn**	**16 01 47.8**	**-3.3**
ZIRO				IAML				16 01 51.7	
	comp=E,629nm,0.1s								
ZIRO				IAML				16 01 51.8	
	comp=N,465nm,0.3s								
ZIRO				IAML				16 01 52.7	
	comp=N,646nm,0.5s								
BWNR	**Bhubaneshwar**	**7.92**	**196**	*e*P			**Pn**	**16 01 29.6**	**-1.2**
BWNR				*e*S			**Sn**	**16 02 56.4**	**-2.4**
CHLP	**Challavanipeta**	**10.12**	**202**	*e*P			**Pn**	**16 02 01.5**	**+0.8**
CHLP				*e*S			**Sn**	**16 03 50.3**	**-2.1**
NGP	**Nagpur**	**10.66**	**232**	*e*S			**Sn**	**16 03 58.0**	**-7.5**
BHPL	**Bhopal**	**10.71**	**246**	*e*P			**Pn**	**16 02 05.8**	**-3.0**
BHPL				*e*S			Sn	16 03 57.1	-10
RPR	**Rampur**	**12.13**	**224**	*e*P			**Pn**	**16 02 24.5**	**-3.5**
PVM	**Polavaram**	**12.22**	**211**	*e*P			**Pn**	**16 02 25.9**	**-3.1**
SRSP	**Sriramsagar**	**12.68**	**227**	*e*P			**Pn**	**16 02 32.6**	**-2.6**
MYLAV	**Mylavaram**	**13.12**	**213**	*e*P			**Pn**	**16 02 40.1**	**-0.8**
HYBB	**Hyderabad (bro**	**13.69**	**222**	*e*S			Sn	16 05 09.1	-10
NIL	**Nilore**	**13.95**	**298**	Pn			Pn	16 02 45.8	-5.9
KLRI	**Killari**	**14.44**	**229**	*e*P			**Pn**	**16 02 55.5**	**-2.6**
KDJ	**Kajisay**	**16.69**	**331**	P			**P**	**16 03 27.6**	**+0.6**
KDJ				IAmb			IAmb	16 03 47.3	
	comp=Z,21nm,0.9s								
FRU1	**Bishkek**	**18.39**	**327**	P			**P**	**16 03 43.5**	**-2.2**
ENH	**Enshi**	**18.84**	**78**	P			**Pn**	**16 03 51.5**	**-0.6**
ENH				IAmb			IAmb	16 03 55.4	
	comp=Z,12nm,0.9s								
MKAR	**Makanchi Array**	**19.34**	**348**	P			**P**	**16 03 55.5**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=166,slow=12,SNR=15								
MAKZ	**Makanchi**	**19.41**	**347**	P			**P**	**16 03 55.6**	**-1.0**
KURK	**Kurchatov**	**23.83**	**345**	P			**P**	**16 04 42.6**	**+0.4**
SONM	**Songino Array**	**24.42**	**31**	P			**P**	**16 04 49.9**	**+2.2**
	comp=Z,0.5nm,0.4s,baz=224,slow=12,SNR=2.2								
ZALV	**Zalesovo Beam**	**26.07**	**356**	P			**P**	**16 05 02.8**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=175,slow=8.5,SNR=2.7								
BVAR	**Borovoye Array**	**28.26**	**337**	P			**P**	**16 05 23.1**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=145,slow=9.4,SNR=2.4								
FINES	**FINESS Array B**	**52.51**	**328**	P			**P**	**16 08 42.1**	**+1.1**
	comp=Z,2.1nm,1.0s,baz=90,slow=8.3,SNR=1.3								
ARCES	**ARCESS Array B**	**54.55**	**337**	P			**P**	**16 08 57.2**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=97,slow=7.4,SNR=1.8								
NOA	**NORSAR Array B**	**59.65**	**327**	P			**P**	**16 09 32.7**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=86,slow=6.6,SNR=1.5								
WB0	**Warramunga Arr**	**65.25**	**131**	P			**P**	**16 10 14.0**	**+4.3**
WB0				IAmb			IAmb	16 10 32.9	
	comp=Z,6.5nm,1.4s								
WRA	**Warramunga Arr**	**65.34**	**132**	P			**P**	**16 10 14.4**	**+4.1**
	comp=Z,0.4nm,0.4s,baz=325,slow=6.5,SNR=8.6								
WRAB	**Tennant Creek**	**65.34**	**132**	P			**P**	**16 10 13.5**	**+3.2**
WRAB				IAmb			IAmb	16 10 18.4	
	comp=Z,2.9nm,0.7s								
WB2	**Warramunga Arr**	**65.35**	**132**	P			**P**	**16 10 14.2**	**+3.9**
WB2				IAmb			IAmb	16 10 23.4	
	comp=Z,3.6nm,1.1s								
WR0	**Warramunga Arr**	**65.49**	**131**	P			**P**	**16 10 15.1**	**+3.8**
WR0				IAmb			IAmb	16 10 29.1	
	comp=Z,7.3nm,1.4s								
AS31	**Alice Springs**	**67.73**	**135**	P			**P**	**16 10 26.6**	**+1.1**
ASAR	**Alice Springs**	**67.73**	**135**	P			**P**	**16 10 29.8**	**+4.3**
	comp=Z,0.6nm,0.6s,baz=318,slow=6.1,SNR=10								
ESK	**Eskdalemuir**	**68.20**	**322**	P			**P**	**16 10 27.5**	**-0.5**

*IDC **22** 16:01:30.7±3.0,21°.87N×121°.99E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.5/41,mbtmp3.6/6,Error ellipse: s-maj=239.4km s-min=19.7km az=60.0*

*TAP **22** 16:01:33.5,21°.47N×121°.06E,h26km±1km,ML3.4,C*
*JMA **22** 16:01:36.7±0.8,21°.84N×121°.08E,h19km,M3.6*

ISC 22 16:01:36.1±1.3,**21°.60N**±0°.05×**121°.09E**±0°.03,**h26**km±9km, **n71**,σ1s**26**/117,**mb3.6**/6,**1D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.35**	**329**	*i* P			**Pb**	**16 01 43.7**	**-0.3**
	baz=328								
TSEB				S			**Sn**	**16 01 51.4**	**-0.3**
	baz=328								
TWKBT	**Hengchun**	**0.43**	**323**	↓*i* P			**Pb**	**16 01 44.2**	**-1.0**
	baz=326								
TWKBT				S			**Sb**	**16 01 52.0**	**+0.5**
	baz=326								
SNW	**Nanwan**	**0.48**	**319**	*e*P			**Pb**	**16 01 44.7**	**-1.4**
	baz=329								
SNW				*e*S			**Sb**	**16 01 53.7**	**+0.8**
	baz=329								
HEN	**Hengchun**	**0.53**	**321**	*i* P			**Pb**	**16 01 46.4**	**-0.4**
	baz=331								
HEN				*e*S			**Sb**	**16 01 53.9**	**-0.2**
	baz=331								
LAY	**Lan-yu**	**0.61**	**44**	*i* P			**Pb**	**16 01 47.9**	**-0.4**
	baz=39								
LAY				S			**Sn**	**16 01 58.2**	**+0.1**
	baz=39								
TAW	**Tawu**	**0.78**	**346**	*e*P			**Pb**	**16 01 49.6**	**-1.5**
	baz=3.0								
TAW				*e*S			**Sn**	**16 02 02.4**	**+0.2**
	baz=3.0								
EAST	**Anshuo**	**0.82**	**344**	*e*P			**Pb**	**16 01 50.0**	**-1.7**
	baz=359								
EAST				*e*S			**Sn**	**16 02 04.5**	**+1.4**
	baz=359								
SCZT	**Fangliau**	**0.89**	**330**	*e*P			**Pn**	**16 01 52.4**	**-0.5**
	baz=336								
SCZT				*e*S			**Sn**	**16 02 06.7**	**+1.7**
	baz=336								
WLCH	**Liuqiu**	**1.00**	**319**	*e*P			**Pb**	**16 01 56.2**	**+1.4**
	baz=325								
WLCH				*e*S			**Sb**	**16 02 11.8**	**+4.2**
	baz=325								
ECL	**Taimali**	**1.01**	**353**	*e*P			**Pn**	**16 01 54.5**	**0.0**
	baz=7.0								
SSPT	**Xinbi**	**1.01**	**331**	*e*P			**Pb**	**16 01 55.6**	**+0.7**
	baz=336								
SSPT				*e*S			**Sb**	**16 02 08.7**	**+0.9**
	baz=336								
TWP	**Hsiaoliuchiu**	**1.01**	**318**	*e*P			**Pn**	**16 01 54.1**	**-0.4**
	baz=324								
TWP				*e*S			**Sb**	**16 02 09.5**	**+1.7**
	baz=324								
MASBT	**Mashibuluo**	**1.10**	**337**	*e*P			**Pn**	**16 01 55.4**	**-0.4**
	baz=341								
MASBT				*e*S			**Sb**	**16 02 11.8**	**+1.4**
	baz=341								
LDUT	**Ludao**	**1.13**	**18**	*e*P			**Pn**	**16 01 55.0**	**-1.2**
	baz=18								
LDUT				*e*S			**Sn**	**16 02 10.5**	**-0.3**
	baz=18								
TSMG	**Majia**	**1.18**	**339**	*e*P			**Pn**	**16 01 56.6**	**-0.3**
	baz=343								
TSMG				*e*S			**Sb**	**16 02 14.2**	**+1.4**
	baz=343								
TWGBT	**Beinan**	**1.22**	**359**	*e*P			**Pn**	**16 01 56.2**	**-1.2**
	baz=1.0								
TWGBT				*e*S			**Sb**	**16 02 14.7**	**+0.9**
	baz=1.0								
TWG	**Pinlang**	**1.22**	**359**	*e*P			**Pn**	**16 01 56.3**	**-1.1**
	baz=1.0								
TWG				*e*S			**Sn**	**16 02 12.5**	**-0.6**
	baz=1.0								
SSD	**Sandimen**	**1.22**	**340**	*e*P			**Pn**	**16 01 57.4**	**-0.1**
	baz=343								
SSD				*e*S			**Sb**	**16 02 15.8**	**+1.8**
	baz=343								
LONT	**Longtian**	**1.30**	**1**	*e*P			**Pn**	**16 01 57.4**	**-1.2**
	baz=3.0								
LONT				*e*S			**Sn**	**16 02 14.7**	**-0.5**
	baz=3.0								
TWM1	**Shoushan**	**1.37**	**333**	*e*P			**Pn**	**16 02 00.2**	**+0.6**
	baz=337								
EDH	**Donghe**	**1.39**	**8**	*e*P			**Pn**	**16 01 58.7**	**-1.0**
	baz=9.0								
EDH				*e*S			**Sn**	**16 02 16.8**	**-0.4**
	baz=9.0								
SCST	**Cishan**	**1.40**	**337**	*e*S			**Sb**	**16 02 20.9**	**+1.9**
	baz=323								
SLGT	**Liugui**	**1.45**	**343**	*e*P			**Pn**	**16 02 00.6**	**0.0**
	baz=346								
SLGT				*e*S			**Sb**	**16 02 20.5**	**0.0**
	baz=346								
CHKT	**Chengkung**	**1.52**	**9**	*e*P			**Pn**	**16 02 00.5**	**-1.0**
	baz=10.0								
CHKT				*e*S			**Sn**	**16 02 20.1**	**-0.4**
	baz=10.0								
SGST	**Jiashian**	**1.55**	**342**	*e*P			**Pb**	**16 02 03.1**	**-1.1**
	baz=330								
ELDTW	**Lidau**	**1.59**	**357**	*e*P			**Pn**	**16 02 02.0**	**-0.6**
	baz=6.0								
ELDTW				*e*S			**Sn**	**16 02 21.4**	**-1.0**
	baz=6.0								
STYT	**Tauyuan**	**1.59**	**349**	*e*P			**Pn**	**16 02 03.0**	**+0.4**
	baz=351								
FULB	**Fuli**	**1.61**	**7**	*e*P			**Pn**	**16 02 01.7**	**-1.1**
	baz=7.0								
FULB				*e*S			**Sn**	**16 02 23.2**	**+0.5**
	baz=7.0								
CHN1	**Nanshi**	**1.67**	**342**	*e*P			**Pn**	**16 02 03.5**	**-0.1**
	baz=328								
WTP	**Ta-pu**	**1.70**	**345**	*e*P			**Pn**	**16 02 03.8**	**-0.3**
	baz=348								
TPUB	**Ta-pu**	**1.75**	**346**	*e*P			**Pb**	**16 02 06.5**	**-1.0**
	baz=348								
TPUB				*e*S			**Sb**	**16 02 27.8

CHGB	**Renai**	**2.46**	**2**	*e*P		**Pn**	**16 02 14.5**	**-0.1**
	baz=3.0								
CHGB				*e*S		**Sn**	**16 02 46.3**	**+2.4**
	baz=3.0								
WHF	**Hehuan Shan**	**2.54**	**4**	*e*P		**Pn**	**16 02 17.6**	**+1.6**
	baz=15								
WHF				*e*S		**Sn**	**16 02 47.3**	**+0.9**
	baz=15								
NACB	**Ninganchiao**	**2.61**	**10**	*e*P		**Pn**	**16 02 16.5**	**0.0**
	baz=11								
NACB				*e*S		**Sn**	**16 02 49.2**	**+1.9**
	baz=11								
ETLH	**Xiulin Townshi**	**2.62**	**8**	*e*P		**Pn**	**16 02 16.9**	**0.0**
	baz=8.0								
ETLH				*e*S		**Sn**	**16 02 47.7**	**-0.1**
	baz=8.0								
FUSS	**Fushou**	**2.64**	**3**	*e*P		**Pn**	**16 02 19.5**	**+2.2**
	baz=14								
FUSS				*e*S		**Sn**	**16 02 51.1**	**+2.5**
	baz=14								
TDCB	**Techi**	**2.65**	**1**	*e*P		**Pn**	**16 02 19.8**	**+2.6**
	baz=3.0								
WHP	**Taichung City**	**2.67**	**357**	*e*P		**Pn**	**16 02 18.6**	**+1.0**
	baz=359								
WHP				*e*S		**Sb**	**16 02 52.8**	**-2.9**
	baz=359								
NNSB	**Datong**	**2.83**	**5**	*e*P		**Pn**	**16 02 19.2**	**-0.5**
	baz=15								
NNSB				*e*S		**Sn**	**16 02 52.5**	**-0.5**
	baz=15								
JYNG	**Yonagunijimaku**	**3.31**	**31**	P		**Pn**	**16 02 26.9**	**+0.7**
YOJ	**Yonaguni jima**	**3.35**	**31**	P		**Pn**	**16 02 26.5**	**-0.3**
HATJ	**Hateruma jima**	**3.50**	**45**	P		**Pn**	**16 02 30.6**	**+1.8**
HATJ				*e*S		**Sn**	**16 03 09.5**	**+0.1**
IRIF	**Iriomote-Funau**	**3.65**	**41**	P		**Pn**	**16 02 31.9**	**+1.0**
IRIF				*e*S		**Sn**	**16 03 13.3**	**+0.2**
JKRS	**Kuro-shima**	**3.76**	**45**	P		**Pn**	**16 02 33.6**	**+1.2**
JKRS				*e*S		**Sn**	**16 03 15.2**	**-0.6**
JJ	**Ishigaki jima**	**3.94**	**45**	P		**Pn**	**16 02 35.6**	**+0.8**
JJ				*e*S		**Sn**	**16 03 20.4**	**+0.3**
JISG	**Ishigakijimahi**	**4.20**	**44**	P		**Pn**	**16 02 39.1**	**+0.7**
JISG				S		**Sn**	**16 03 26.7**	**+0.1**
JTJ	**Tarama**	**4.50**	**47**	P		**Pn**	**16 02 43.4**	**+0.9**
JTJ				*e*S		**Sn**	**16 03 34.8**	**+0.9**
JIRB	**Irabujima**	**4.94**	**49**	*e*S		**Sn**	**16 03 45.4**	**+0.4**
MKAR	**Makanchi Array**	**40.17**	**318**	P		**P**	**16 09 10.9**	**+0.8**
	0.4nm,0.5s,baz=104,slow=9.0,SNR=3.7								
H11N1	**WAKE ISLAND Hy**	**42.78**	**84**	T		T	16 55 32.0		
	baz=282								
H11N2	**WAKE ISLAND Hy**	**42.78**	**84**	T		T	16 55 28.4		
	baz=282								
H11N3	**WAKE ISLAND Hy**	**42.80**	**84**	T		T	16 55 30.8		
	baz=282								
WRA	**Warramunga Arr**	**43.27**	**162**	P		**P**	**16 09 33.4**	**-2.2**
	0.7nm,0.7s,baz=344,slow=8.9,SNR=11								
KURBB	**Kurchatov Arra**	**44.05**	**322**	P		**P**	**16 09 42.5**	**+0.9**
	0.5nm,0.5s,baz=118,slow=7.3,SNR=4.2								
ASAR	**Alice Springs**	**46.69**	**164**	P		**P**	**16 10 01.9**	**-0.9**
	0.2nm,0.3s,baz=345,slow=7.2,SNR=14								
STKA	**Stephens Creek**	**56.68**	**159**	P		**P**	**16 11 16.1**	**-1.2**
	0.9nm,0.7s,baz=327,slow=12,SNR=4.0								
BRTR	**Keskin Array B**	**74.64**	**307**	P		**P**	**16 13 16.0**	**+2.5**
	0.4nm,0.6s,baz=79,slow=7.5,SNR=2.2								

*NNC **22** 16:02:59.8±0.3,43˚.49N×77˚.85E,h0km,mb3.7,mpv3.9, Error ellipse: s-maj=3.2km s-min=1.7km az=163.0*
*KRNET **22** 16:03:00.6±0.1,43˚.54N×77˚.75E,h19km,mb3.4*
*SOME **22** 16:03:00.7,43˚.50N×77˚.80E,h15km*

ISC 22 16:02:59.6±1.1,43˚.48N±0˚.02×77˚.81E±0˚.01,h1km±10km, n81,σ1§10/131,48C-32D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KOTS	**Kotyrbulak**	**0.57**	**244**	⇑*i*P		**Pb**	**16 03 12.2**	**-0.4**
	222nm,0.2s							
KOTS				⇓*i*S		**Sb**	**16 03 20.6**	**-0.5**
	1µm,0.3s							
KOTS	**Kotyrbulak**	**0.57**	**244**	P		**Pb**	**16 03 12.1**	**-0.4**
	222nm,0.2s							
KOTS				S		**Sb**	**16 03 20.5**	**-0.7**
	1µm,0.3s							
SATY	**Saty**	**0.61**	**134**	⇓*i*P		**Pg**	**16 03 11.9**	**+0.7**
	112nm,0.2s							
SATY				⇑*i*S		**Sg**	**16 03 20.0**	**+0.9**
	1µm,0.1s							
SATY	**Saty**	**0.61**	**134**	P		**Pg**	**16 03 11.9**	**+0.7**
	112nm,0.2s							
SATY				S		**Sg**	**16 03 20.0**	**+0.9**
	1µm,0.1s							
MDOK	**Medeo**	**0.64**	**240**	⇓*i*P		**Pb**	**16 03 13.2**	**-0.6**
	65nm,0.2s							
MDOK				⇑*i*S		**Sb**	**16 03 22.2**	**-1.1**
	260nm,0.4s							
MDOK	**Medeo**	**0.64**	**240**	⇓P		**Pb**	**16 03 13.1**	**-0.6**
	14nm,0.2s							
MDOK				⇓S		**Sg**	**16 03 21.9**	**+1.6**
	177nm,0.6s							
MDOK	**Medeo**	**0.64**	**240**	Pg		**Pb**	**16 03 13.1**	**-0.6**
	65nm,0.2s							
MDOK				Lg		Lg	16 03 22.2	
	260nm,0.4s							
KNDC	**Almaty**	**0.67**	**247**	⇑P		**Pb**	**16 03 14.0**	**-0.2**
	85nm,0.7s							
KNDC				⇓S		**Sb**	**16 03 23.6**	**-0.5**
	161nm,0.3s							
CHKK	**Chushkaly**	**0.70**	**302**	⇓*i*P		**Pg**	**16 03 14.0**	**+0.8**
	27nm,0.1s							
CHKK				⇑*i*S		**Sg**	**16 03 23.5**	**+1.2**
	450nm,0.4s							
CHKK	**Chushkaly**	**0.70**	**302**	P		**Pg**	**16 03 14.0**	**+0.8**
	27nm,0.1s							
CHKK				S		**Sg**	**16 03 23.5**	**+1.2**
	450nm,0.4s							
ANVS	**Anan'yevo**	**0.71**	**189**	⇑*i*P		**Pb**	**16 03 15.0**	**+0.1**
	baz=85								
ANVS				⇑*i*S		**Sb**	**16 03 25.8**	**+0.6**
	baz=85								
AAA	**Alma-Ata**	**0.71**	**248**	⇑*i*P		**Pb**	**16 03 14.9**	**0.0**
	74nm,0.1s							
AAA				⇓*i*S		**Sb**	**16 03 25.1**	**0.0**
	360nm,0.1s							
AAA	**Alma-Ata**	**0.71**	**248**	P		**Pb**	**16 03 14.9**	**0.0**
	74nm,0.1s							
AAA				S		**Sb**	**16 03 25.1**	**0.0**
	360nm,0.1s							
ARXS	**Arharly**	**0.73**	**1**	⇑*i*P		**Pg**	**16 03 14.3**	**+0.6**
	272nm,0.3s							
ARXS				⇑*i*S		**Sg**	**16 03 24.1**	**+1.0**
	454nm,0.3s							
ARXS	**Arharly**	**0.73**	**1**	P		**Pg**	**16 03 14.3**	**+0.6**
	272nm,0.3s							
ARXS				S		**Sg**	**16 03 24.1**	**+1.0**
	454nm,0.3s							
TNSS	**Tian-Shan**	**0.77**	**235**	⇑*i*P		**Pg**	**16 03 15.5**	**+1.0**
	38nm,0.2s							
TNSS				⇓*i*S		**Sb**	**16 03 26.3**	**-0.9**
	125nm,0.2s							
TNSS	**Tian-Shan**	**0.77**	**235**	P		**Pg**	**16 03 15.5**	**+1.0**
	38nm,0.2s							
TNSS				S		**Sb**	**16 03 26.4**	**-0.9**
	125nm,0.2s							
KTBS	**Karatobe**	**0.85**	**286**	⇑*i*P		**Pb**	**16 03 16.9**	**-0.4**
	72nm,0.1s							
KTBS				⇓*i*S		**Sb**	**16 03 28.4**	**-0.9**
	437nm,0.2s							
KTBS	**Karatobe**	**0.85**	**286**	P		**Pb**	**16 03 16.9**	**-0.4**
	72nm,0.1s							
KTBS				S		**Sb**	**16 03 28.4**	**-0.9**
	437nm,0.2s							
UZB	**Uzynbulak**	**0.94**	**110**	⇓*i*P		**Pg**	**16 03 17.8**	**0.0**
	30nm,0.2s							
UZB				⇓*i*S		**Sg**	**16 03 29.8**	**-0.2**
	343nm,0.2s							
IZV	**Izvestkoviy**	**0.98**	**243**	⇑*i*P		**Pb**	**16 03 19.4**	**-0.2**
	72nm,0.2s							
IZV				⇓*i*S		**Sb**	**16 03 33.0**	**-0.1**
	186nm,0.2s							
IZV	**Izvestkoviy**	**0.98**	**243**	P		**Pb**	**16 03 19.3**	**-0.2**
	72nm,0.2s							
IZV				S		**Sb**	**16 03 33.0**	**-0.1**
	186nm,0.2s							
MTBS	**Maitube**	**1.07**	**251**	⇑*i*P		**Pb**	**16 03 20.8**	**-0.2**
	97nm,0.2s							
MTBS				⇑*i*S		**Sb**	**16 03 35.5**	**0.0**
	167nm,0.3s							
MTBS	**Maitube**	**1.07**	**251**	P		**Pb**	**16 03 20.8**	**-0.2**
	97nm,0.2s							
MTBS				S		**Sb**	**16 03 35.5**	**0.0**
	167nm,0.3s							
PRZ	**Przheval'sk**	**1.09**	**156**	⇓*i*P		**Pn**	**16 03 21.9**	**-0.3**
	baz=55							
PRZ				⇓*i*S		**Sn**	**16 03 37.9**	**-0.1**
	baz=55							
PRZ	**Przheval'sk**	**1.09**	**156**			**Pn**	**16 03 22.1**	**-0.2**
KUU	**Kurty**	**1.15**	**292**	⇓*i*P		**Pg**	**16 03 21.7**	**+0.1**
	23nm,0.1s							
KUU				⇓*i*S		**Sg**	**16 03 36.8**	**+0.4**
	327nm,0.3s							
KUU	**Kurty**	**1.15**	**292**	P		**Pg**	**16 03 21.7**	**+0.1**
	23nm,0.1s							
KUU				S		**Sg**	**16 03 36.8**	**+0.4**
	378nm,0.5s							
PDGK	**Podgornoye**	**1.23**	**97**	⇑P		**Pg**	**16 03 22.8**	**-0.5**
	18nm,0.2s							
PDGK				⇑S		**Sg**	**16 03 38.1**	**-1.2**
	70nm,0.3s							
KST	**Kastek**	**1.42**	**253**	⇑*i*P		**Pb**	**16 03 26.8**	**-0.2**
	118nm,0.2s							
KST				⇓*i*S		**Sn**	**16 03 45.5**	**-0.6**
	60nm,0.5s							
KST	**Kastek**	**1.42**	**253**	P		**Pb**	**16 03 26.8**	**-0.2**
	118nm,0.2s							
KST				S		**Sn**	**16 03 45.6**	**-0.6**
	60nm,0.5s							
KDJ	**Kajisay**	**1.43**	**199**	⇓*i*P		**Pg**	**16 03 28.2**	**+1.2**
	baz=96							
KDJ				⇓*i*S		**Sg**	**16 03 48.2**	**+2.7**
	baz=96							
KRBS	**Karabastau**	**1.57**	**279**	⇑*i*P		**Pb**	**16 03 29.1**	**-0.4**
	49nm,0.2s							
KRBS				⇓*e*S		**Sg**	**16 03 50.0**	**0.0**
	87nm,0.2s							
KRBS	**Karabastau**	**1.57**	**279**	P		**Pb**	**16 03 29.0**	**-0.4**
	49nm,0.2s							
KRBS				S		**Sb**	**16 03 49.5**	**-0.3**
	100nm,0.2s							
TDK	**Taldyqorghan**	**1.58**	**15**	*e*P		**Pb**	**16 03 29.9**	**+0.2**
	146nm,0.2s							
TDK				*e*S		**Sg**	**16 03 51.0**	**+0.6**
	774nm,0.4s							
TDK	**Taldyqorghan**	**1.58**	**15**	P		**Pb**	**16 03 29.8**	**+0.2**
	146nm,0.2s							
TDK				S		**Sg**	**16 03 51.0**	**+0.6**
	774nm,0.4s							
DJR	**Jarkent**	**1.66**	**59**	⇑*i*P		**Pn**	**16 03 30.3**	**+0.3**
	27nm,0.3s							
DJR				⇓*i*S		**Sb**	**16 03 52.1**	**-0.5**
	214nm,0.2s							
DJR	**Jarkent**	**1.66**	**59**	P		**Pn**	**16 03 30.4**	**+0.3**
	27nm,0.3s							
DJR				S		**Sb**	**16 03 52.1**	**-0.5**
	214nm,0.2s							
ULHL	**Ulahol**	**1.69**	**224**	⇓*i*P		**Pb**	**16 03 31.6**	**-0.1**
	baz=21							
ULHL				⇓*i*S		**Sg**	**16 03 54.4**	**+0.4**
	baz=21							
ULHL	**Ulahol**	**1.69**	**224**	P		**Pb**	**16 03 32.0**	**+0.3**
	SNR=110							
TKM2	**Tokmak 2**	**1.71**	**252**	⇑*i*P		**Pb**	**16 03 31.5**	**-0.6**
	baz=49							
TKM2				⇑*i*S		**Sb**	**16 03 53.9**	**-0.3**
	baz=49							
TKM2	**Tokmak 2**	**1.71**	**252**	P		**Pb**	**16 03 32.0**	**-0.1**
	SNR=55							
TKM2	**Tokmak 2**	**1.71**	**252**	⇑P		**Pb**	**16 03 31.8**	**-0.3**
	24nm,0.3s							
TKM2				⇑S		**Sg**	**16 03 54.8**	**+0.1**
	20nm,0.2s							
KTMS	**Ketmen**	**1.85**	**90**	*e*P		**Pb**	**16 03 33.5**	**-0.8**
	4.6nm,0.1s							
KTMS				*e*S		**Sb**	**16 03 57.1**	**-0.9**
	101nm,0.3s							
KTMS	**Ketmen**	**1.85**	**90**	P		**Pb**	**16 03 33.5**	**-0.8**
	4.6nm,0.1s							
KTMS				S		**Sb**	**16 03 57.1**	**-0.9**
	101nm,0.3s							
KAPS	**Kapalarasan**	**2.12**	**31**	*e*P		**Pb**	**16 03 38.3**	**-0.6**
	34nm,0.4s							
KAPS				*e*S		**Sb**	**16 04 05.5**	**-0.1**
	114nm,0.2s							
KAPS	**Kapalarasan**	**2.12**	**31**	Pg		**Pb**	**16 03 38.3**	**-0.6**
	34nm,0.4s							
KAPS				Lg		Lg	16 04 05.5	
	114nm,0.2s							
KBK	**Karagaybulak**	**2.25**	**250**	⇑*i*P		**Pn**	**16 03 39.5**	**+1.2**
	baz=48							
KBK				⇑*i*S		**Sb**	**16 04 08.0**	**-1.7**
	baz=48							
KBK	**Karagaybulak**	**2.25**	**250**	P		**Pb**	**16 03 40.4**	**-0.9**
	SNR=47							
CHMS	**Chumysh**	**2.29**	**259**	⇓*i*P		**Pn**	**16 03 39.6**	**+1.0**
	baz=57							
CHMS				⇓*i*S		**Sb**	**16 04 08.8**	**-1.7**
	baz=57							
CHMS	**Chumysh**	**2.29**	**259**	P		**Pb**	**16 03 41.4**	**-0.4**
	SNR=12							
SGDS	**Sogindy**	**2.32**	**270**	Pg		**Pb**	**16 03 42.0**	**-0.3**
	18nm,0.1s							
SGDS				Lg		Lg	16 04 11.9	
	77nm,0.3s							
KZA	**Kyzart**	**2.35**	**234**	⇑*i*P		**Pb**	**16 03 41.5**	**-1.6**
	baz=32							
KZA				⇑*i*S		**Sb**	**16 04 11.0**	**-1.7**
	baz=32							
KZA	**Kyzart**	**2.35**	**234**	P		**Pb**	**16 03 43.5**	**+0.5**
	SNR=38							
FRU1	**Bishkek**	**2.42**	**255**	⇑*i*P		**Pb**	**16 03 42.2**	**-1.9**
	baz=53							
FRU1				⇑*i*S		**Sb**	**16 04 12.3**	**-2.2**
	baz=53							
USP	**Ospenovka**	**2.42**	**266**	P		**Pb**	**16 03 43.5**	**-0.6**
	SNR=24							
AAK	**Ala-Archa**	**2.57**	**252**	⇑*i*P		**Pn**	**16 03 44.3**	**+1.7**
	baz=50							
AAK				⇑*i*S		**Sn**	**16 04 15.8**	**+1.2**
	baz=50							
AAK	**Ala-Archa**	**2.57**	**252**	P		**Pb**	**16 03 46.5**	**-0.2**
	SNR=21							
AAK	**Ala-Archa**	**2.57**	**252**	⇑Pn		**Pb**	**16 03 46.0**	**-0.7**
	7.7nm,0.3s							
AAK				⇓Sn		**Sb**	**16 04 20.0**	**+1.1**
	22nm,0.5s							
AAK	**Ala-Archa**	**2.57**	**252**	Pn		**Pb**	**16 03 46.0**	**-0.7**
AAK	**Ala-Archa**	**2.57**	**252**	IAmb		IAmb	16 03 47.5	
	comp=Z,27nm,0.3s							
UCH	**Uchtor**	**2.73**	**244**	⇑*i*P		**Pn**	**16 03 46.9**	**+1.9**
	baz=42							
UCH				⇑*i*S		**Sn**	**16 04 20.0**	**+1.1**
	baz=42							
UCH	**Uchtor**	**2.73**	**244**	P		**Pb**	**16 03 49.6**	**0.0**
	SNR=21							
ARLS	**Aral**	**3.04**	**239**	⇓*i*P		**Pn**	**16 03 50.7**	**+1.7**
	baz=38							
ARLS				⇓*i*S		**Sn**	**16 04 26.9**	**+0.7**
	baz=38							
EKS2	**Erkin-Say**	**3.07**	**256**	⇓*e*P		**Pn**	**16 03 51.3**	**+1.9**
	baz=55							
EKS2				⇓*i*S		**Sn**	**16 04 27.7**	**+0.9**
	baz=55							
EKS2	**Erkin-Say**	**3.07**	**256**	P		**Pn**	**16 03 51.0**	**+1.7**
	SNR=5.7							
BTLS	**Baital**	**3.12**	**301**	*e*P		**Pb**	**16 03 56.2**	**+0.3**
	comp=Z,4.6nm,0.3s							
BTLS				*e*S		**Sb**	**16 04 35.8**	**+1.3**
	comp=Z,15nm,0.3s							
BTLS	**Baital**	**3.12**	**301**	Lg		Lg	16 04 35.8	
	comp=Z,15nm,0.3s							
AML	**Almayashu**	**3.32**	**247**	⇑*i*P		**Pn**	**16 03 54.8**	**+1.7**
	baz=46							
AML				⇑*i*S		**Sn**	**16 04 34.4**	**+1.1**
	baz=46							
AML	**Almayashu**	**3.32**	**247**	P		**Pb**	**16 03 59.5**	**0.0**
	SNR=8.9							
MRKS	**Merke**	**3.44**	**259**	*e*P		**Pb**	**16 04 02.7**	**+1.3**
	comp=Z,26nm,0.4s							
MRKS				*e*S		**Sg**	**16 04 47.0**	**-3.0**
	comp=Z,13nm,0.3s							
MRKS	**Merke**	**3.44**	**259**	Lg		Lg	16 04 47.0	
	comp=Z,13nm,0.3s							
MAKZ	**Makanchi**	**4.44**	**40**	⇑Pg		**Pb**	**16 04 19.4**	**+1.0**
	comp=Z,2.1nm,0.8s							
MAKZ				⇑Lg		Lg	16 05 15.2	
	comp=Z,4.7nm,0.5s							
MK31	**Makanchi Array**	**4.58**	**42**	⇑Pn		Pn	16 03 55.8	-14
	comp=Z,4.1nm,1.1s,baz=160,slow=13,SNR=16							
MK31				Pg		Pb	16 04 14.1	-6.7
	comp=Z,0.6nm,0.2s,baz=212,slow=15,SNR=21							
MK31				⇑Lg		Lg	16 05 20.4	
	comp=Z,4.4nm,0.4s							
KK31	**Karatay Array**	**5.34**	**268**	⇑Pg		**Pg**	**16 04 38.9**	**-3.1**
	comp=Z,2.6nm,0.6s,baz=80,slow=15,SNR=12							
KK31				Lg		Lg	16 05 46.4	
	comp=Z,7.1nm,0.6s,baz=82,slow=27,SNR=9.6							
IUG	**Iuzhnay**	**5.88**	**260**	*e*P		**Pg**	**16 04 48.8**	**-3.4**
	comp=Z,9.5nm,0.6s							
IUG				*e*S		**Sg**	**16 06 06.3**	**-2.1**
	comp=Z,15nm,0.6s							
IUG	**Iuzhnay**	**5.88**	**260**	Lg		Lg	16 06 06.3	
	comp=Z,15nm,0.6s							
OTUK	**Ortayu**	**6.11**	**323**	⇑Pn		**Pn**	**16 04 31.0**	**0.0**
	comp=Z,1.5nm,1.0s							
OTUK				⇑Lg		Lg	16 06 08.8	
	comp=Z,8.8nm,0.6s							
KURBB	**Kurchatov Arra**	**7.16**	**4**	P		**Pn**	**16 04 42.1**	**-3.3**
	comp=Z,1.5nm,0.6s,baz=165,slow=9.0,SNR=16							
KURBB	**Kurchatov Arra**	**7.16**	**4**	⇑Pn		**Pn**	**16 04 42.1**	**-3.3**
	comp=Z,2.3nm,0.6s							
KURBB				⇓Lg		Lg	16 06 47.1	
	comp=Z,17nm,0.6s							
KURK	**Kurchatov**	**7.26**	**4**	⇑Pn		Pn	16 04 39.7	-7.1
	comp=Z,6.6nm,1.3s							
KURK				⇑Sn		**Sn**	**16 06 11.6**	**+1.9**
	comp=Z,2.1nm,0.7s							
KURK				⇑Lg		Lg	16 06 46.5	
	comp=Z,10nm,0.8s							

*IDC **22** 16:16:49.4±7.4,36˚.08N×70˚.84E,h97km±52km,mb3.2/4, mb1 3.3/5,mb1mx3.0/42,mbtmp3.6/5, Error ellipse: s-maj=68.6km s-min=28.8km az=146.0*
*NNC **22** 16:16:55.5±6.4,36˚.78N×70˚.88E,h124km±144km,mb3.3, mpv4.2, Error ellipse: s-maj=55.6km s-min=46.9km az=43.0*

ISC 22 16:16:52.2±1.6,36˚.6N±0˚.1×70˚.79E±0˚.10,h100km,n11, σ1§39/15,mb3.4/3,3C,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IUG	**luzhnay**	**5.62**	**354**	Pg		**Pn**	**16 18 15.0**	**+1.7**
	13nm,0.2s							
IUG				Lg		Lg	16 19 17.4	
	27nm,0.4s							
MRKS	**Merke**	**6.47**	**16**	Pg		**Pn**	**16 18 25.0**	**+0.2**
	6.2nm,0.3s							
MRKS				Lg		Lg	16 19 34.8	
	20nm,0.4s							
BRLS	**Borolday**	**6.51**	**354**	Pg		**Pn**	**16 18 23.6**	**-1.8**
	3.7nm,0.1s							
BRLS				Lg		Lg	16 19 32.0	
	7.4nm,0.2s							
KK31	**Karatay Array**	**6.55**	**358**	P		**Pn**	**16 18 27.0**	**+1.1**
	3.8nm,0.3s,baz=176,slow=11,SNR=83							
KK31				⇑S		**Sn**	**16 19 37.6**	**-1.4**
	4.6nm,0.3s							
AAK	**Ala-Archa**	**6.72**	**24**	⇑P		**Pn**	**16 18 28.0**	**-0.3**
	1.9nm,0.5s							
AAK				⇑S		**Sn**	**16 19 41.8**	**-1.6**
	4.8nm,0.5s							
GEYT	**Alibeck**	**10.20**	**282**	P		**Pn**	**16 19 15.6**	**+0.1**
	0.6nm,0.3s,baz=84,slow=13,SNR=3.6							
GEYT				S		**Sn**	**16 21 08.0**	**+0.1**
	0.6nm,0.3s,baz=105,slow=24,SNR=2.0							
AB31	**Akbulak array**	**14.96**	**331**	P		**Pn**	**16 20 18.4**	**+0.2**
	1.1nm,0.3s,baz=151,slow=12,SNR=29							
AB31				S		**Sn**	**16 23 02.6**	**-0.4**
	0.3nm,0.3s,baz=159,slow=24,SNR=4.7							
ZALV	**Zalesovo Beam**	**19.94**	**25**	P		**P**	**16 21 17.2**	**+1.2**
	0.7nm,0.4s,baz=218,slow=10,SNR=4.0							
ARCES	**ARCESS Array B**	**41.03**	**338**	P		**P**	**16 24 27.0**	**+1.8**
	0.7nm,0.8s,baz=126,slow=9.1,SNR=1.2							
NOA	**NORSAR Array B**	**44.24**	**323**	P		**P**	**16 24 51.8**	**+0.5**
	0.3nm,0.6s,baz=112,slow=8.1,SNR=1.7							
TORD	**Torodi Ar. Bea**	**65.55**	**268**	P		**P**	**16 27 22.9**	**-2.4**
	0.2nm,0.4s,baz=50,slow=5.4,SNR=4.2							

*IDC **22** 16:28:02.1±1.0,21˚.51N×121˚.22E,h0km,mb3.8/11, mb1 3.9/11,mb1mx3.7/46,mbtmp3.8/11, Error ellipse: s-maj=52.4km s-min=15.3km az=63.0*
*TAP **22** 16:28:03.7,21˚.47N×121˚.09E,h20km,ML3.9,D*
*NEIC **22** 16:28:06.7±0.9,21˚.43N±0˚.06×121˚.2E±0˚.1,h32km±2km, mb4.2/10, Error ellipse: s-maj=14.1km s-min=9.3km az=88.0*

ISC 22 16:28:03.9±1.3,21˚.44N±0˚.05×121˚.07E±0˚.04,h16km±8km, n92,σ1§43/154,mb3.8/16,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TSEB	**Hengchuen, Pin**	**0.48**	**341**	*i* P		**Pg**	**16 28 14.1**	**+0.6**
	baz=333							
TSEB				S		**Sb**	**16 28 21.8**	**+1.0**
	baz=333							
TWKBT	**Hengchun**	**0.55**	**335**	*i* P		**Pg**	**16 28 14.8**	**-0.1**
	baz=331							
TWKBT				S		**Sg**	**16 28 22.5**	**+0.3**
	baz=331							
SNW	**Nanwan**	**0.59**	**330**	*e*P		**Pg**	**16 28 15.6**	**0.0**
	baz=326							
SNW				*e*S		**Sb**	**16 28 25.2**	**+1.1**
	baz=326							
HEN	**Hengchun**	**0.64**	**332**	P		**Pg**	**16 28 16.6**	**+0.2**
	baz=328							
HEN				*e*S		**Sg**	**16 28 25.4**	**+0.4**
	baz=328							
LAY	**Lan-yu**	**0.75**	**37**	*e*P		**Pg**	**16 28 18.2**	**-0.3**
	baz=37							
LAY				*e*S		**Sg**	**16 28 28.5**	**+0.1**
	baz=37							
TAW	**Tawu**	**0.93**	**350**	*e*P		**Pb**	**16 28 19.8**	**-1.8**
	baz=348							
TAW				*e*S		**Sb**	**16 28 33.6**	**0.0**
	baz=348							
EAST	**Anshuo**	**0.96**	**348**	*i* P		**Pb**	**16 28 20.4**	**-1.8**
	baz=346

EDH	**Donghe**	**1.54**	**8**	*eP*	**Pn**	**16 28 29.8**	**-0.9**
	baz=7.0							
EDH				*eS*	**Sn**	**16 28 49.3**	**-1.1**
	baz=7.0							
SLGT	**Liugui**	**1.59**	**346**	*eP*	**Pn**	**16 28 31.0**	**-0.5**
	baz=344							
SLGT				*eS*	**Sn**	**16 28 50.5**	**-1.2**
	baz=344							
CHKT	**Chengkung**	**1.67**	**10**	*eP*	**Pn**	**16 28 31.6**	**-0.9**
	baz=9.0							
CHKT				*eS*	**Sn**	**16 28 50.1**	**-3.5**
	baz=9.0							
SGST	**Jiashian**	**1.69**	**345**	*eP*	**Pn**	**16 28 32.5**	**-0.3**
	baz=343							
SGST				*eS*	**Sn**	**16 28 53.1**	**-1.1**
	baz=343							
STYT	**Tauyuan**	**1.74**	**351**	*eP*	**Pn**	**16 28 32.7**	**-0.8**
	baz=349							
STYT				*eS*	**Sn**	**16 28 54.6**	**-0.7**
	baz=349							
ELDTW	**Lidau**	**1.74**	**359**	*eP*	**Pn**	**16 28 32.7**	**-0.9**
	baz=358							
ELDTW				*eS*	**Sn**	**16 28 54.0**	**-1.5**
	baz=358							
FULB	**Fuli**	**1.76**	**7**	*eP*	**Pn**	**16 28 33.1**	**-0.7**
	baz=6.0							
FULB				*eS*	**Sn**	**16 28 54.4**	**-1.5**
	baz=6.0							
CHN1	**Nanshi**	**1.81**	**344**	*eP*	**Pn**	**16 28 34.0**	**-0.4**
	baz=343							
CHN1				*eS*	**Sn**	**16 28 55.7**	**-1.3**
	baz=343							
WTP	**Ta-pu**	**1.84**	**347**	*eP*	**Pn**	**16 28 34.0**	**-1.0**
	baz=346							
WTP				*eS*	**Sn**	**16 28 56.8**	**-1.2**
	baz=346							
TPUB	**Ta-pu**	**1.89**	**348**	*eP*	**Pn**	**16 28 35.0**	**-0.5**
	baz=346							
TPUB				*eS*	**Sn**	**16 28 57.8**	**-1.3**
	baz=346							
TPUB	**Ta-pu**	**1.89**	**348**		**Pn**	**16 28 37.3**	**+1.7**
TWK	**Hsinying**	**1.89**	**344**	*eP*	**Pn**	**16 28 34.8**	**-0.8**
	baz=343							
TWK				*eS*	**Sn**	**16 28 57.8**	**-1.3**
	baz=343							
EYUL	**Yuli**	**1.91**	**7**	*eP*	**Pn**	**16 28 35.3**	**-0.5**
	baz=6.0							
EYUL				*eS*	**Sn**	**16 28 58.5**	**-1.1**
	baz=6.0							
TWF1	**Yuli**	**1.92**	**6**	*eP*	**Pn**	**16 28 34.8**	**-1.0**
	baz=6.0							
TWF1				*eS*	**Sn**	**16 28 58.5**	**-1.1**
	baz=6.0							
YULB	**Yu-li**	**1.95**	**6**	*eP*	**Pn**	**16 28 35.5**	**-0.9**
	baz=5.0							
YULB				*eS*	**Sn**	**16 28 59.1**	**-1.5**
	baz=5.0							
YULB	**Yu-li**	**1.95**	**6**		**Pn**	**16 28 37.8**	**+1.4**
EHY	**Hungye**	**2.07**	**7**	*eP*	**Pn**	**16 28 37.4**	**-0.6**
	baz=6.0							
EHY				*eS*	**Sn**	**16 29 02.1**	**-1.3**
	baz=6.0							
HGSD	**Ruisui**	**2.07**	**9**	*eP*	**Pn**	**16 28 37.4**	**-0.5**
	baz=8.0							
HGSD				*eS*	**Sn**	**16 29 02.4**	**-1.0**
	baz=8.0							
ALS	**Alishan**	**2.07**	**353**	*eP*	**Pn**	**16 28 37.6**	**-0.7**
	baz=352							
ALS				*eS*	**Sn**	**16 29 02.6**	**-1.4**
	baz=352							
CHN5	**Tsauling**	**2.18**	**351**	*eP*	**Pn**	**16 28 38.7**	**-0.8**
	baz=349							
CHN5				*eS*	**Sn**	**16 29 04.5**	**-1.7**
	baz=349							
WDGT	**Dungji**	**2.23**	**325**	*eP*	**Pn**	**16 28 38.9**	**-1.2**
	baz=323							
WDGT				*eS*	**Sn**	**16 29 03.9**	**-3.5**
	baz=323							
EGFH	**Guangfu**	**2.24**	**9**	*eP*	**Pn**	**16 28 39.8**	**-0.6**
	baz=8.0							
EGFH				*eS*	**Sn**	**16 29 05.6**	**-2.1**
	baz=8.0							
VWDT	**VWDT**	**2.30**	**2**	*eP*	**Pn**	**16 28 41.5**	**+0.3**
	baz=1.0							
VWDT				*eS*	**Sn**	**16 29 08.4**	**-0.8**
	baz=1.0							
VCHM	**Qimei**	**2.32**	**320**	*eP*	**Pn**	**16 28 40.4**	**-1.0**
	baz=318							
VCHM				*eS*	**Sn**	**16 29 07.5**	**-2.1**
	baz=318							
WSF	**Szhu**	**2.32**	**341**	*eP*	**Pn**	**16 28 40.2**	**-1.2**
	baz=339							
WSF				*eS*	**Sn**	**16 29 08.0**	**-1.7**
	baz=339							
SSLB	**Suanglung**	**2.34**	**358**	*eP*	**Pn**	**16 28 41.5**	**-0.2**
	baz=356							
SSLB				*eS*	**Sn**	**16 29 08.8**	**-1.3**
	baz=356							
SSLB	**Suanglung**	**2.34**	**358**		**Pn**	**16 28 43.5**	**+1.8**
ESL	**Shilin**	**2.39**	**8**	*eP*	**Pn**	**16 28 42.1**	**-0.2**
	baz=7.0							
ESL				*eS*	**Sn**	**16 29 09.9**	**-1.4**
	baz=7.0							
WNT	**Mingjian**	**2.45**	**352**	*eP*	**Pn**	**16 28 43.2**	**0.0**
	baz=351							
WNT				*eS*	**Sn**	**16 29 11.8**	**-1.0**
	baz=351							
TYC	**Yuchr**	**2.46**	**356**	*eP*	**Pn**	**16 28 43.2**	**-0.1**
	baz=355							
TYC				*eS*	**Sn**	**16 29 11.8**	**-1.2**
	baz=355							
PHUB	**P'eng-hu**	**2.48**	**326**	*eP*	**Pn**	**16 28 42.6**	**-1.0**
	baz=325							
PHUB				*eS*	**Sn**	**16 29 10.3**	**-3.3**
	baz=325							
PNG	**Penghu**	**2.54**	**327**	*eP*	**Pn**	**16 28 44.5**	**+0.1**
	baz=325							
PNG				*eS*	**Sn**	**16 29 13.3**	**-1.6**
	baz=325							
CHGB	**Renai**	**2.61**	**2**	*eP*	**Pn**	**16 28 46.2**	**+0.6**
	baz=1.0							
CHGB				*eS*	**Sn**	**16 29 15.9**	**-1.2**
	baz=1.0							
WHF	**Hehuan Shan**	**2.70**	**4**	*eP*	**Pn**	**16 28 46.7**	**-0.3**
	baz=3.0							
WHF				*eS*	**Sn**	**16 29 17.2**	**-2.3**
	baz=3.0							
NACB	**Ninganchiao**	**2.76**	**10**	*eP*	**Pn**	**16 28 50.1**	**+2.6**
	baz=9.0							
NACB				*eS*	**Sn**	**16 29 19.7**	**-0.9**
	baz=9.0							
NACB	**Ninganchiao**	**2.76**	**10**		**Pn**	**16 28 49.1**	**+1.6**
ETLH	**Xiulin Townshi**	**2.78**	**8**	*eP*	**Pn**	**16 28 50.5**	**+2.7**
	baz=7.0							
ETLH				*eS*	**Sn**	**16 29 19.1**	**-2.0**
	baz=7.0							
FUSS	**Fushou**	**2.80**	**3**	*eP*	**Pn**	**16 28 49.9**	**+1.7**
	baz=2.0							
TDCB	**Techi**	**2.80**	**2**	*eP*	**Pn**	**16 28 48.4**	**+0.2**
	baz=1.0							
TDCB				*eS*	**Sn**	**16 29 20.2**	**-1.5**
	baz=1.0							
WHP	**Taichung City**	**2.83**	**358**	*eP*	**Pn**	**16 28 49.0**	**+0.6**
	baz=357							
WHP				*eS*	**Sn**	**16 29 23.9**	**+1.6**
	baz=357							
TWQ1	**Liyutan**	**2.91**	**355**	*eP*	**Pn**	**16 28 49.7**	**+0.2**
	baz=354							
TWQ1				*eS*	**Sn**	**16 29 23.4**	**-0.7**
	baz=354							
NNSB	**Datong**	**2.99**	**6**	*eP*	**Pn**	**16 28 51.2**	**+0.5**
	baz=5.0							
NNSB				*eS*	**Sn**	**16 29 25.8**	**-0.5**
	baz=5.0							
NNSH	**Datong**	**2.99**	**6**	*eP*	**Pn**	**16 28 53.3**	**+2.6**
	baz=5.0							
NNSH				*eS*	**Sn**	**16 29 24.7**	**-1.6**
	baz=5.0							
NNS	**Nan Shan**	**3.00**	**5**	*eP*	**Pn**	**16 28 52.9**	**+2.0**
	baz=5.0							
NNS				*eS*	**Sn**	**16 29 25.5**	**-1.0**
	baz=5.0							
NSTT	**Nanjuang**	**3.18**	**359**	*eP*	**Pn**	**16 28 54.6**	**+1.4**
	baz=358							
NSTT				*eS*	**Sn**	**16 29 29.9**	**-0.9**
	baz=358							
ENTT	**Nioudou**	**3.22**	**8**	*eP*	**Pn**	**16 28 55.5**	**+1.7**
	baz=8.0							
ENTT				*eS*	**Sn**	**16 29 28.8**	**-3.0**
	baz=8.0							
YHNB	**Yeheng**	**3.23**	**5**	*eP*	**Pn**	**16 28 56.3**	**+2.4**
	baz=4.0							
YHNB				*eS*	**Sn**	**16 29 30.1**	**-2.0**
	baz=4.0							
YHNB	**Yeheng**	**3.23**	**5**		**Pn**	**16 28 55.4**	**+1.4**
NSK	**Sanguang**	**3.23**	**5**	*eP*	**Pn**	**16 28 56.8**	**+2.8**
	baz=4.0							
NSK				*eS*	**Sn**	**16 29 28.6**	**-3.6**
	baz=4.0							
TWC	**Suao**	**3.24**	**13**	*eP*	**Pn**	**16 28 54.6**	**+0.6**
	baz=12							
TWC				*eS*	**Sn**	**16 29 29.2**	**-2.9**
	baz=12							
YOJ	**Yonaguni jima**	**3.50**	**30**	*eP*	**Pn**	**16 28 59.1**	**+1.5**
	baz=30							
YOJ				*eS*	**Sn**	**16 29 38.1**	**-0.7**
	baz=30							
YOJ	**Yonaguni jima**	**3.50**	**30**		**Pn**	**16 28 57.7**	**+0.1**
MYLDM	**Lahad Datu**	**16.36**	**189**	Pn	**Pn**	**16 31 47.8**	**-5.1**
CM31	**Chiang Mai Arr**	**21.00**	**266**	P	**P**	**16 32 47.0**	**+0.2**
CM31				IAmb	IAmb	16 32 50.8		
	comp=Z,3.1nm,0.5s							
CMAR	**Chiang Mai Arr**	**21.00**	**266**	P	**P**	**16 32 48.9**	**+2.0**
	comp=Z,0.5nm,0.4s,baz=66,slow=9.0,SNR=5.4							
KAPI	**Kappang**	**26.32**	**183**	P	**P**	**16 33 39.2**	**+0.2**
SONM	**Songino Array**	**28.86**	**339**	P	**P**	**16 34 02.6**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=147,slow=8.6,SNR=1.6							
MKAR	**Makanchi Array**	**40.26**	**318**	P	**P**	**16 35 41.4**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=112,slow=9.2,SNR=7.7							
ZALV	**Zalesovo Beam**	**42.50**	**329**	P	**P**	**16 35 58.5**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=120,slow=8.8,SNR=5.1							
WAKE	**Wake Island**	**42.68**	**84**	P	**P**	**16 35 59.6**	**-0.6**
WB0	**Warramunga Arr**	**42.98**	**161**	P	**P**	**16 36 02.3**	**-0.2**
WB0				IAmb	IAmb	16 36 06.2		
	comp=Z,3.8nm,1.1s							
WRAB	**Tennant Creek**	**43.12**	**162**	P	**P**	**16 36 04.5**	**+0.8**
WRAB				IAmb	IAmb	16 36 19.2		
	comp=Z,9.2nm,1.5s							
WRA	**Warramunga Arr**	**43.13**	**162**	P	**P**	**16 36 04.0**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=342,slow=9.0,SNR=16							
WB2	**Warramunga Arr**	**43.13**	**162**	P	**P**	**16 36 04.2**	**+0.4**
WB2				IAmb	IAmb	16 36 19.3		
	comp=Z,5.7nm,1.2s							
WR0	**Warramunga Arr**	**43.20**	**161**	P	**P**	**16 36 05.0**	**+0.6**
WR0				IAmb	IAmb	16 36 07.4		
	comp=Z,7.5nm,1.2s							
KURK	**Kurchatov**	**44.15**	**322**	P	**P**	**16 36 12.8**	**+1.2**
KURBB	**Kurchatov Arra**	**44.16**	**322**	P	**P**	**16 36 12.8**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=116,slow=7.5,SNR=9.5							
ASAR	**Alice Springs**	**46.55**	**164**	P	**P**	**16 36 32.3**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=342,slow=6.9,SNR=21							
BVAR	**Borovoye Array**	**49.74**	**322**	P	**P**	**16 36 56.5**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=108,slow=4.7,SNR=3.1							
STKA	**Stephens Creek**	**56.55**	**159**	P	**P**	**16 37 46.7**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=333,slow=11,SNR=4.2							
ARU	**Arti**	**57.24**	**324**	P	**P**	**16 37 51.0**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=135,slow=13,SNR=3.7							
ARU	**Arti**	**57.24**	**324**	IAmb	IAmb	16 37 51.6		
	comp=Z,2.9nm,0.5s							
GERES	**GERESS Array B**	**84.89**	**321**	P	**P**	**16 40 38.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=38,slow=5.4,SNR=3.6							

*IDC **22** 16:28:33.0±0.6,21.46N×121.03E,h0km,mb4.2/21, mb1 4.2/22,mb1mx4.1/49,mbtmp4.1/22,ML3.3/1,MS3.2/3, Ms1 3.2/3,ms1mx2.9/32,Error ellipse: s-maj=28.8km s-min=12.2km az=63.0*
*TAP **22** 16:28:35.0,21.44N×121.06E,h25km±1km,ML4.2,D*
*JMA **22** 16:28:37.3±0.7,21.71N×121.32E,h0km,M4.1*
*NIED **22** 16:28:37.3,21.71N×121.32E,h0km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.38; Mθθ2.71; Mθφ-3.09; Mrθ-2.60; Mφφ0.32; Mφr-2.64; Fault plane solution: M0 4.73000×10¹⁵ NP1: φs221.00000°,δ87.00000°,λ128.00000°. NP2: φs314.00000°,δ38.00000°,λ5.00000°.*

ISC 22 16:28:35.9±1.0,21.45N±0.04×121.13E±0.03,h19km±3km, n111,σ1§01/180,mb4.2/21,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSEB	**Hengchuen, Pin**	**0.49**	**335**	*i* P	**Pg**	**16 28 45.1**	**-0.9**
	baz=330						
TSEB				*eS*	**Sb**	**16 28 52.5**	**-0.3**
	baz=330						
TWKBT	**Hengchun**	**0.57**	**329**	*i* P	**Pb**	**16 28 46.3**	**-0.8**
	baz=336						
TWKBT				*eS*	**Sb**	**16 28 53.5**	**-1.3**
	baz=336						
SNW	**Nanwan**	**0.61**	**325**	*i* P	**Pb**	**16 28 47.7**	**-0.2**
	baz=331						
SNW				*eS*	**Sg**	**16 28 57.2**	**+0.8**
	baz=331						
HEN	**Hengchun**	**0.66**	**327**	*i* P	**Pb**	**16 28 48.0**	**-0.7**
	baz=333						
HEN				*eS*	**Sb**	**16 28 56.8**	**-0.6**
	baz=333						
LAY	**Lan-yu**	**0.71**	**34**	P	**Pg**	**16 28 49.8**	**0.0**
	baz=38						
LAY				*eS*	**Sn**	**16 29 00.3**	**-0.9**
	baz=38						
TAW	**Tawu**	**0.93**	**347**	*eP*	**Pn**	**16 28 53.7**	**-0.2**
	baz=5.0						
TAW				*eS*	**Sn**	**16 29 06.2**	**-0.3**
	baz=5.0						
EAST	**Anshuo**	**0.96**	**345**	P	**Pn**	**16 28 54.0**	**-0.3**
	baz=359						
EAST				*eS*	**Sn**	**16 29 07.2**	**-0.3**
	baz=359						
SCZT	**Fangliau**	**1.03**	**333**	*eP*	**Pb**	**16 28 54.0**	**-1.0**
	baz=337						
SCZT				*eS*	**Sb**	**16 29 08.0**	**-0.1**
	baz=337						
WLCH	**Liuqiu**	**1.13**	**322**	*eP*	**Pb**	**16 28 56.6**	**-0.2**
	baz=326						
WLCH				*eS*	**Sg**	**16 29 12.6**	**-0.1**
	baz=326						
TWP	**Hsiaoliuchiu**	**1.14**	**322**	*eP*	**Pb**	**16 28 56.7**	**-0.2**
	baz=325						
TWP				*eS*	**Sg**	**16 29 12.3**	**-0.6**
	baz=325						
SSPT	**Xinbi**	**1.15**	**333**	*eP*	**Pb**	**16 28 56.9**	**-0.2**
	baz=337						
SSPT				*eS*	**Sg**	**16 29 12.5**	**-0.8**
	baz=337						
ECL	**Taimali**	**1.15**	**352**	*eP*	**Pb**	**16 28 57.4**	**+0.3**
	baz=7.0						
ECL				*eS*	**Sg**	**16 29 12.8**	**-0.5**
	baz=7.0						
MASBT	**Mashibuluo**	**1.24**	**338**	*eP*	**Pb**	**16 28 58.4**	**-0.3**
	baz=342						
MASBT				*eS*	**Sb**	**16 29 13.1**	**-1.2**
	baz=342						
LDUT	**Ludao**	**1.26**	**15**	*eP*	**Pb**	**16 28 59.2**	**+0.3**
	baz=17						
LDUT				*eS*	**Sg**	**16 29 16.2**	**-0.5**
	baz=17						
TTN	**Taitung**	**1.30**	**1**	*eP*	**Pb**	**16 28 59.6**	**0.0**
	baz=4.0						
TTN				*eS*	**Sg**	**16 29 17.1**	**-0.8**
	baz=4.0						
TSMG	**Majia**	**1.32**	**340**	*eP*	**Pb**	**16 28 59.8**	**-0.3**
	baz=344						
TSMG				*eS*	**Sb**	**16 29 17.1**	**+0.4**
	baz=344						
TWG	**Pinlang**	**1.36**	**358**	*eP*	**Pb**	**16 29 00.6**	**-0.2**
	baz=1.0						
SSD	**Sandimen**	**1.37**	**341**	*eP*	**Pb**	**16 29 00.5**	**-0.3**
	baz=344						
SSD				*eS*	**Sb**	**16 29 18.2**	**+0.3**
	baz=344						
SGLT	**Jiouru**	**1.40**	**335**	*eP*	**Pb**	**16 29 01.2**	**-0.2**
	baz=339						
SGLT				*eS*	**Sg**	**16 29 19.6**	**-1.6**
	baz=339						
SCST	**Cishan**	**1.54**	**338**	*eP*	**Pn**	**16 29 02.1**	**-0.2**
	baz=323						
SCST				*eS*	**Sn**	**16 29 21.5**	**-0.3**
	baz=323						
SLGT	**Liugui**	**1.60**	**344**	*eP*	**Pn**	**16 29 03.3**	**+0.2**
	baz=347						
SLGT				*eS*	**Sn**	**16 29 22.9**	**-0.3**
	baz=347						
CHKT	**Chengkung**	**1.66**	**8**	*eP*	**Pb**	**16 29 04.7**	**-1.0**
	baz=10.0						
CHKT				*eS*	**Sb**	**16 29 26.0**	**-0.1**
	baz=10.0						
SGST	**Jiashian**	**1.70**	**343**	*eP*	**Pn**	**16 29 04.4**	**-0.1**
	baz=331						
SGST				*eS*	**Sn**	**16 29 25.6**	**-0.1**
	baz=331						
ELDTW	**Lidau**	**1.73**	**357**	*eP*	**Pn**	**16 29 05.6**	**+0.6**
	baz=10.0						
ELDTW				*eS*	**Sb**	**16 29 27.7**	**-0.8**
	baz=10.0						
STYT	**Tauyuan**	**1.74**	**349**	*eP*	**Pn**	**16 29 04.9**	**-0.1**
	baz=352						
STYT				*eS*	**Sn**	**16 29 26.6**	**-0.2**
	baz=352						
FULB	**Fuli**	**1.75**	**5**	*eP*	**Pn**	**16 29 05.4**	**+0.2**
	baz=7.0						
FULB				*eS*	**Sn**	**16 29 27.2**	**+0.3**
	baz=7.0						
CHN3	**Shinhua**	**1.76**	**337**	*eP*	**Pn**	**16 29 06.0**	**+0.7**
	baz=325						
CHN3				*eS*	**Sb**	**16 29 28.2**	**-1.1**
	baz=325						
CHN1	**Nanshi**	**1.81**	**342**	*eP*	**Pn**	**16 29 06.6**	**+0.6**
	baz=329						
CHN1				*eS*	**Sb**	**16 29 29.6**	**-1.2**
	baz=329						
WTP	**Ta-pu**	**1.85**	**345**	*eP*	**Pn**	**16 29 06.8**	**+0.2**
	baz=348						
WTP				*eS*	**Sn**	**16 29 29.5**	**0.0**
	baz=348						
SNST	**Tainan City**	**1.85**	**342**	*eP*	**Pn**	**16 29 07.3**	**+0.7**
	baz=328						
SNST				*eS*	**Sb**	**16 29 30.5**	**-1.4**
	baz=328						
EYUL	**Yuli**	**1.90**	**5**	*eP*	**Pn**	**16 29 08.1**	**+0.9**
	baz=7.0						
EYUL				*eS*	**Sb**	**16 29 31.8**	**-1.4**
	baz=7.0						
TPUB	**Ta-pu**	**1.90**	**346**	*eP*	**Pn**	**16 29 08.2**	**+1.0**
	baz=349						
TPUB				*eS*	**Sn**	**16 29 30.9**	**+0.3**
	baz=349						
TWF1	**Yuli**	**1.90**	**5**	*eP*	**Pn**	**16 29 07.5**	**+0.3**
	baz=7.0						
TWF1				*eS*	**Sn**	**16 29 31.0**	**+0.4**
	baz=7.0						
TWK	**Hsinying**	**1.90**	**342**	*eP*	**Pn**	**16 29 07.8**	**+0.5**
	baz=330						
TWK				*eS*	**Sn**	**16 29 31.5**	**+0.8**
	baz=330						
YULB	**Yu-li**	**1.94**	**5**	*eP*	**Pn**	**16 29 08.2**	**+0.4**
	baz=7.0						
YULB				*eS*	**Sn**	**16 29 31.9**	**+0.3**
	baz=7.0						
HGSD	**Ruisui**	**2.05**	**8**	*eP*	**Pn**	**16 29 09.7**	**+0.4**
	baz=9.0						
HGSD				*eS*	**Sn**	**16 29 34.8**	**+0.5**
	baz=9.0						
EHY	**Hungye**	**2.05**	**5**	*eP*	**Pn**	**16 29 09.7**	**+0.4**
	baz=7.0						
EHY				*eS*	**Sn**	**16 29 34.9**	**+0.5**
	baz=7.0						
CHN8	**Yiju**	**2.07**	**336**	*eP*	**Pn**	**16 29 09.8**	**+0.3**
	baz=324						
CHN8				*eS*	**Sn**	**16 29 34.8**	**0.0**
	baz=324						
ALS	**Alishan**	**2.07**	**352**	*eP*	**Pn**	**16 29 10.0**	**+0.2**
	baz=340						
ALS				*eS*	**Sn**	**16 29 35.0**	**-0.3**
	baz=340						
CHY	**Chiayi**	**2.14**	**342**	*eP*	**Pn**	**16 29 10.8**	**+0.3**
	baz=331						
CHY				*eS*	**Sn**	**16 29 37.1**	**+0.7**
	baz=331						
CHN2	**Minshiung**	**2.16**	**344**	*eP*	**Pn**	**16 29 11.1**	**+0.4**
	baz=332						
CHN2				*eS*	**Sn**	**16 29 37.1**	**+0.2**
	baz=332						
EGFH	**Guangfu**	**2.22**	**7**	*eP*	**Pn**	**16 29 12.9**	**+1.2**
	baz=9.0						
EGFH				*eS*	**Sn**	**16 29 39.4**	**+0.8**
	baz=9.0						
WGK	**Gukeng**	**2.28**	**347**	*eP*	**Pn**	**16 29 12.9**	**+0.4**
	baz=350						
WGK				*eS*	**Sn**	**16 29 40.1**	**0.0**
	baz=350						
VWDT	**VWDT**	**2.29**	**0**	*eP*	**Pn**	**16 29 13.1**	**+0.5**
	baz=9.0						
VWDT				*eS*	**Sn**	**16 29 40.6**	**+0.4**
	baz=9.0						
SSLB	**Suanglung**	**2.33**	**356**	*eP*	**Pn**	**16 29 13.5**	**+0.4**
	baz=11						
SSLB				*eS*	**Sn**	**16 29 42.5**	**+1.2**
	baz=11						
SMLT	**Sun Moon Lake**	**2.43**	**355**	*eP*	**Pn**	**16 29 15.6**	**+1.0**
	baz=358						
SMLT				*eS*	**Sn**	**16 29 45.2**	**+1.3**
	baz=358						
TYC	**Yuchr**	**2.45**	**354**	*eP*	**Pn**	**16 29 16.1**	**+1.2**
	baz=356						
TYC				*eS*	**Sn**	**16 29 45.6**	**+1.3**
	baz=356						
CHGB	**Renai**	**2.60**	**1**	*eP*	**Pn**	**16 29 18.3**	**+1.3**
	baz=3.0						
CHGB				*eS*	**Sn**	**16 29 49.5**	**+1.4**
	baz=3.0						
WHF	**Hehuan Shan**	**2.68**	**3**	*eP*	**Pn**	**16 29 19.5**	**+1.1**
	baz=15						
WHF				*eS*	**Sn**	**16 29 51.3**	**+0.7**
	baz=15						
NACB	**Ninganchiao**	**2.74**	**9**	*eP*	**Pn**	**16 29 20.2**	**+1.4**
	baz=10.0						
ETLH	**Xiulin Townshi**	**2.76**	**7**	*eP*	**Pn**	**16 29 20.3**	**+1.1**
	baz=8.0						
ETLH				*eS*	**Sn**	**16 29 53.2**	**+1.2**
	baz=8.0						
FUSS	**Fushou**	**2.79**	**2**	*eP*	**Pn**	**16 29 21.2**	**+1.6**
	baz=4.0						
FUSS				*eS*	**Sn**	**16 29 53.9**	**+1.1**
	baz=4.0						
FUSS	**Fushou**	**2.79**	**2**	*eS*	**Pn**	**16 29 21.4**	**+1.7**
	baz=2.0						
TDCB	**Techi**	**2.79**	**1**	*eP*	**Pn**	**16 29 20.9**	**+1.3**
	baz=2.0						
TDCB				*eS*	**Sn**	**16 29 53.8**	**+1.0**
	baz=2.0						
WHP	**Taichung City**	**2.82**	**357**	*eP*	**Pn**	**16 29 21.5**	**+1.6**
	baz=359						
WHP				*eS*	**Sn**	**16 29 54.9**	**+1.4**
	baz=359						
TWQ1	**Liyutan**	**2.90**	**354**	*eP*	**Pn**	**16 29 22.5**	**+1.5**
	baz=356						
TWQ1				*eS*	**Sn**	**16 29 56.6**	**+1.2**
	baz=356						
NNSB	**Datong**	**2.97**	**5**	*eP*	**Pn**	**16 29 23.8**	**+1.7**
	baz=15						
NNSB				*eS*	**Sn**	**16 29 58.4**	**+1.1**
	baz=15						
NNS	**Nan Shan**	**2.98**	**4**	*eP*	**Pn**	**16 29 23.9**	**+1.7**
	baz=15						
NNS				*eS*	**Sn**	**16 29 58.7**	**+1.2**
	baz=15						
NDT	**Datong Townshi**	**3.16**	**6**	*eP*	**Pn**	**16 29 27.7**	**+3.2**
	baz=15						
NDT				*eS*	**Sn**	**16 30 02.8**	**+1.1**
	baz=15						
NSTT	**Nanjuang**	**3.17**	**358**	*eP*	**Pn**	**16 29 26.0**	**+1.4**
NSTT				*eS*	**Sn**	**16 30 03.0**	**+1.1**
LIOB	**Emei**	**3.18**	**358**	*eP*	**Pn**	**16 29 26.5**	**+1.6**
LIOB				*eS*	**Sn**	**16 30 03.5**	**+1.2**
ENTT	**Nioudou**	**3.20**	**7**	*eP*	**Pn**	**16 29 27.7**	**

TWE					*e*S		**Sn**	**16 30 06.2**	**+1.3**
	baz=10.0								
JYNG	**Yonagunijimaku**	**3.42**	**29**	*e*S			**Sn**	**16 30 06.9**	**-1.3**
YOJ	**Yonaguni jima**	**3.46**	**30**	*e*P			**Pn**	**16 29 30.1**	**+1.4**
	baz=42								
YOJ					*e*S		**Sn**	**16 30 10.2**	**+1.0**
	baz=42								
YOJ	**Yonaguni jima**	**3.46**	**30**	P			**Pn**	**16 29 29.8**	**+1.1**
YOJ					*e*S		**Sn**	**16 30 08.7**	**-0.5**
YOJ	**Yonaguni jima**	**3.46**	**30**	S		Sn	**Pn**	**16 29 30.5**	**+1.8**
TATO	**Taipei**	**3.52**	**5**	Sn			**Pn**	**16 29 32.5**	**+3.0**
TIPB	**Shuangxi**	**3.56**	**10**	*e*P			**Pn**	**16 29 33.5**	**+3.4**
	baz=12								
TIPB					*e*S		**Sn**	**16 30 12.7**	**+1.0**
	baz=12								
HATJ	**Hateruma jima**	**3.58**	**43**	P			**Pn**	**16 29 31.8**	**+1.4**
HATJ					*e*S		**Sn**	**16 30 11.3**	**-0.9**
IRIF	**Iriomote-Funau**	**3.74**	**39**	P			**Pn**	**16 29 33.6**	**+1.1**
IRIF					*e*S		**Sn**	**16 30 16.0**	**-0.1**
JKRS	**Kuro-shima**	**3.84**	**43**	P			**Pn**	**16 29 34.8**	**+0.9**
JKRS					*e*S		**Sn**	**16 30 17.0**	**-1.6**
JIJ	**Ishigaki jima**	**4.02**	**43**	P			**Pn**	**16 29 36.4**	**+0.1**
JIJ					*e*S		**Sn**	**16 30 21.3**	**-1.6**
JISG	**Ishigakijimahi**	**4.28**	**43**	P			**Pn**	**16 29 40.9**	**+0.9**
JISG				S			**Sn**	**16 30 27.4**	**-2.0**
JTJ	**Tarama**	**4.58**	**45**	P			**Pn**	**16 29 44.6**	**+0.6**
JTJ				S			**Sn**	**16 30 36.5**	**-0.1**
JIRB	**Irabujima**	**5.02**	**47**	P			**Pn**	**16 29 51.0**	**+0.9**
JIRB					*e*S		**Sn**	**16 30 46.7**	**-0.8**
JMJ2	**Miyako jima3**	**5.07**	**49**	P			**Pn**	**16 29 51.6**	**+0.8**
JMJ2					*e*S		**Sn**	**16 30 48.2**	**-0.6**
JIKM	**Ikemajima**	**5.13**	**47**	P			**Pn**	**16 29 52.0**	**+0.4**
JIKM					*e*S		**Sn**	**16 30 49.0**	**-1.3**
TGY	**Tagaytay City**	**7.31**	**181**	LR			LR	16 34 15.2	
	comp=Z,214nm,18.5s,baz=358,slow=47								
KSRS	**Korea Array**	**17.00**	**19**	Pn			**P**	**16 32 34.1**	**-0.2**
	0.1nm,0.3s,baz=199,slow=11,SNR=2.8								
KSRS				LR			LR	16 39 46.8	
	comp=Z,101nm,19.2s,baz=213,slow=40								
CMAR	**Chiang Mai Arr**	**21.06**	**266**	P			**P**	**16 33 19.2**	**+0.2**
	1.4nm,0.4s,baz=73,slow=9.5,SNR=14								
GUMO	**Guam**	**23.93**	**105**	LR			LR	16 42 10.2	
	comp=Z,46nm,20.0s,baz=274,slow=34								
SIJI	**Sorong**	**24.30**	**155**	P			**P**	**16 33 53.0**	**+0.7**
	7.1nm,0.9s,baz=310,slow=16,SNR=2.8								
ASAJ	**Asahikawa**	**28.76**	**33**	P			**P**	**16 34 33.6**	**+1.3**
	2.1nm,0.7s,baz=230,slow=5.2,SNR=1.6								
SONM	**Songino Array**	**28.87**	**339**	P			**P**	**16 34 33.2**	**-0.2**
	0.9nm,0.6s,baz=160,slow=9.5,SNR=5.5								
MKAR	**Makanchi Array**	**40.29**	**318**	P			**P**	**16 36 11.8**	**0.0**
	1.3nm,0.6s,baz=114,slow=9.5,SNR=15								
ZALV	**Zalesovo Beam**	**42.52**	**329**	P			**P**	**16 36 29.5**	**-0.4**
	4.5nm,0.8s,baz=114,slow=6.6,SNR=12								
H11N1	**WAKE ISLAND Hy**	**42.77**	**84**	T			T	17 22 30.9	
	baz=282								
H11N2	**WAKE ISLAND Hy**	**42.77**	**84**	T			T	17 22 28.0	
	baz=282								
H11N3	**WAKE ISLAND Hy**	**42.78**	**84**	T			T	17 22 32.3	
	baz=282								
H11S3	**WAKE ISLAND Hy**	**42.81**	**86**	T			T	17 22 31.3	
	baz=283,slow=74,SNR=13								
H11S1	**WAKE ISLAND Hy**	**42.82**	**86**	T			T	17 22 31.6	
	baz=283,slow=74,SNR=3.9								
H11S2	**WAKE ISLAND Hy**	**42.83**	**86**	T			T	17 22 32.4	
	baz=283,slow=74,SNR=2.9								
WRA	**Warramunga Arr**	**43.12**	**162**	P			**P**	**16 36 34.8**	**-0.3**
	3.2nm,0.6s,baz=343,slow=9.0,SNR=19								
WRA						PcP	**PcP**	**16 38 25.1**	**+0.3**
	0.6nm,0.6s,baz=346,slow=3.5,SNR=2.9								
KURBB	**Kurchatov Arra**	**44.18**	**322**	P			**P**	**16 36 43.2**	**-0.2**
	3.2nm,0.7s,baz=116,slow=7.5,SNR=18								
ASAR	**Alice Springs**	**46.54**	**164**	P			**P**	**16 37 03.0**	**+0.7**
	0.8nm,0.3s,baz=344,slow=6.7,SNR=15								
ASAR						PcP	**PcP**	**16 38 36.9**	**+0.4**
	0.5nm,0.6s,baz=337,slow=3.5,SNR=4.4								
BVAR	**Borovoye Array**	**49.77**	**322**	P			**P**	**16 37 27.1**	**+0.1**
	1.2nm,0.5s,baz=109,slow=8.1,SNR=7.5								
GEYT	**Alibeck**	**56.16**	**302**	P			**P**	**16 38 14.9**	**+0.5**
	2.5nm,0.8s,baz=72,slow=4.8,SNR=4.1								
STKA	**Stephens Creek**	**56.54**	**159**	P			**P**	**16 38 17.5**	**+0.5**
	2.5nm,0.7s,baz=355,slow=8.0,SNR=6.6								
AKTO	**Aktyubinsk**	**56.70**	**317**	P			**P**	**16 38 17.1**	**-1.0**
	1.6nm,0.6s,baz=109,slow=4.9,SNR=5.8								
ARU	**Arti**	**57.26**	**324**	P			**P**	**16 38 21.3**	**-0.7**
	2.8nm,0.4s,baz=96,slow=5.6,SNR=14								
KIRV	**Kirov**	**62.43**	**326**	P			**P**	**16 38 56.9**	**-0.5**
	6.0nm,0.6s,baz=45,slow=10.0,SNR=5.8								
KBZ	**Khabaz**	**67.16**	**310**	P			**P**	**16 39 28.2**	**-0.2**
	2.0nm,0.7s,baz=123,slow=4.4,SNR=4.7								
ARCES	**ARCESS Array B**	**72.05**	**338**	P			**P**	**16 39 58.5**	**+0.2**
	2.7nm,1.0s,baz=64,slow=6.1,SNR=4.2								
FINES	**FINESS Array B**	**73.77**	**330**	P			**P**	**16 40 08.6**	**0.0**
	3.0nm,0.8s,baz=72,slow=4.5,SNR=7.5								
BRTR	**Keskin Array B**	**74.75**	**307**	P			**P**	**16 40 14.6**	**-0.4**
	0.7nm,0.8s,baz=114,slow=3.5,SNR=4.9								
NOA	**NORSAR Array B**	**80.61**	**332**	P			**P**	**16 40 46.3**	**-0.7**
	1.4nm,1.0s,baz=63,slow=5.2,SNR=3.6								
GERES	**GERESS Array B**	**84.91**	**321**	P			**P**	**16 41 09.5**	**-0.2**
	1.0nm,0.8s,baz=68,slow=4.7,SNR=8.5								

*ISN **22** 16:30:29.9±0.7, 32.°74N×47.°84E, h14km±4km, ML2.5*
*TEH **22** 16:30:30.1, 32.°70N×47.°82E, h8km, ML2.8*
ISC 22 16:30:30.7±1.2**, 32.°69N**±0.°06×**47.°83E**±0.°05**, h10**km**, n12,**
σ0s81/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.46**	**269**		*e*Pg		**Pg**	**16 30 39.0**	**-0.7**
DHL1					*e*			16 30 48.4	
IKFM	**Kafar-mosalman**	**0.83**	**1**		*e*Pg		**Pg**	**16 30 46.6**	**-0.2**
IKMR	**Kamar-syah**	**0.95**	**29**		*e*Pg		**Pg**	**16 30 48.3**	**-0.7**
IKMR					*e*			16 31 09.3	
IDOB	**Doab**	**1.14**	**15**		*e*Pg		**Pg**	**16 30 51.8**	**-0.8**
BMDN	**Meydan**	**1.29**	**40**		*e*Pg		**Pn**	**16 30 55.0**	**0.0**
BMDN					*e*			16 31 17.7	
IKOM	**Komasi**	**1.51**	**350**		*e*Pg		**Pg**	**16 30 59.5**	**-0.2**
IKOM					*e*Sg		**Sg**	**16 31 20.8**	**+1.6**
IKOM					*e*			16 31 25.6	
IBDR	**Badra**	**1.65**	**285**		*e*Pg		**Pn**	**16 31 00.0**	**+0.3**
IBDR					*e*Sg		**Sb**	**16 31 22.0**	**-0.1**
IBDR					AML		AML	16 31 26.4	
	comp=N,92nm,0.6s								
IBDR					AML		AML	16 31 26.9	
	comp=E,57nm,0.4s								
HSAM	**Samen**	**1.65**	**23**		*e*			16 31 04.8	
HSAM					*e*Pg		**Pb**	**16 31 01.4**	**0.0**
IBZA	**Bozab**	**1.78**	**1**		*e*Pg		**Pb**	**16 31 03.3**	**-0.3**
IBZA					*e*			16 31 34.7	
NSR	**Nassriya**	**2.20**	**221**		*e*Pn		**Pn**	**16 31 08.0**	**+0.7**
NSR					*e*Sn		**Sn**	**16 31 35.0**	**+0.4**
IDHR	**Dehrash**	**2.34**	**330**		*e*Pn		**Pb**	**16 31 11.4**	**-1.7**
IDHR					*e*			16 31 15.3	
BHD	**Baghdad**	**2.95**	**282**		*e*Pn		**Pn**	**16 31 18.0**	**+0.3**
BHD					*e*Sn		**Sn**	**16 31 54.0**	**+0.8**

*TEH **22** 16:40:31.5, 32.°60N×47.°71E, h8km, ML3.1*
*ISN **22** 16:40:31.8±1.0, 32.°67N×47.°65E, h15km±7km, ML2.7*
ISC 22 16:40:32.8±1.0**, 32.°59N**±0.°04×**47.°66E**±0.°04**, h10**km**, n26,**
σ1s12/30, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.33**	**285**		*e*Pg		**Pg**	**16 40 39.1**	**-0.3**
DHL1					*e*Sg		**Sg**	**16 40 44.9**	**+1.1**
IKFM	**Kafar-mosalman**	**0.94**	**10**		*e*Pg		**Pg**	**16 40 49.0**	**-1.9**
IKFM					*e*			16 41 04.6	
IKMR	**Kamar-syah**	**1.10**	**33**		*e*Pg		**Pb**	**16 40 53.2**	**-0.8**
IKMR					*e*			16 41 13.1	
IDOB	**Doab**	**1.27**	**20**		*e*Pg		**Pn**	**16 40 56.0**	**-0.8**
BMDN	**Meydan**	**1.45**	**42**		*e*Pg		**Pn**	**16 40 59.2**	**-0.1**
BMDN					*e*			16 41 30.6	
AHWZ	**Ahwaz**	**1.51**	**146**		*e*Pg		**Pn**	**16 41 00.0**	**0.0**
IBDR	**Badra**	**1.54**	**290**		*e*Pg		**Pn**	**16 40 59.0**	**-1.4**
IBDR					*e*Sg		**Sn**	**16 41 20.0**	**-0.4**
IBDR					AML		AML	16 41 26.3	
	comp=E,89nm,0.7s								
IBDR					AML		AML	16 41 32.5	
	comp=N,36nm,0.8s								
IKOM	**Komasi**	**1.58**	**356**		*e*Pg		**Pn**	**16 41 01.8**	**+0.7**
IKOM					*e*			16 41 26.7	
KCHF	**Cheshme Sefid,**	**1.75**	**343**		*e*			16 41 30.3	
KCHF					*e*Pg		**Pn**	**16 41 04.2**	**+0.7**
HSAM	**Samen**	**1.80**	**26**		*e*			16 41 33.7	
HSAM					*e*Pg		**Pn**	**16 41 05.5**	**+1.4**
KER	**Kermanshah**	**1.84**	**346**		*e*Pn		**Pn**	**16 41 05.6**	**+1.0**
IBZA	**Bozab**	**1.88**	**5**		*e*			16 41 38.2	
IBZA					*e*Pg		**Pb**	**16 41 07.7**	**+0.3**
IGHG	**Ghaleghazi**	**1.96**	**333**		*e*Pn		**Pn**	**16 41 08.1**	**+1.8**
IGHG					*e*			16 42 03.4	
NSR	**Nassriya**	**2.04**	**220**		*e*Pn		**Pn**	**16 41 08.0**	**+0.8**
NSR					*e*Sn		**Sn**	**16 41 33.0**	**+0.3**
IVIS	**Veis**	**2.04**	**341**		*e*			16 41 38.0	
IVIS					*e*Pn		**Pn**	**16 41 08.4**	**+1.0**
IALM	**Almabolaq**	**2.30**	**11**		*e*Pn		**Pn**	**16 41 12.3**	**+1.2**
IDHR	**Dehrash**	**2.35**	**334**		*e*Pn		**Pn**	**16 41 13.3**	**+1.6**
IDHR					*e*			16 41 53.4	
ILIN	**Lien**	**2.39**	**346**		*e*Pn		**Pn**	**16 41 13.4**	**+1.1**
ILIN					*e*			16 41 56.4	
HSRG	**Sareghieh**	**2.69**	**11**		*e*Pn		**Pn**	**16 41 17.5**	**+1.0**
HSRG					*e*			16 42 07.5	
IPIR	**Pirpir**	**2.73**	**87**		*e*Pn		**Pn**	**16 41 17.5**	**+0.5**
IPIR					*e*			16 42 13.1	
BHD	**Baghdad**	**2.84**	**285**		*e*Pn		**Pn**	**16 41 18.0**	**-0.2**
BHD					*e*Sn		**Sn**	**16 41 52.0**	**-0.4**
BHD					AML		AML	16 41 53.4	
	comp=E,188nm,0.5s								
ROKH	**ROKH**	**2.87**	**94**		*e*Pn		**Pn**	**16 41 20.7**	**+1.9**
ROKH					*e*			16 42 20.8	
IRAZ	**Razeghan**	**3.38**	**33**		*e*Pn		**Pn**	**16 41 27.7**	**+1.9**
QABG	**Abgarm-Qazvin**	**3.49**	**27**		*e*Pn		**Pn**	**16 41 28.2**	**+0.8**
KLNJ	**Kolanjah**	**3.70**	**114**		*e*Pn		**Pn**	**16 41 30.6**	**+0.2**
KLNJ					*e*			16 42 58.1	
IGAR	**Gharneh**	**3.71**	**92**		*e*Pn		**Pn**	**16 41 31.7**	**+1.3**
IGAR					*e*			16 42 20.5	

*IDC **22** 16:59:00.8±18.0, 25.°03S×177.°14W, h170km±163km, mb3.3/4, mb1 3.5/5, mb1mx3.2/34, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=108.5km s-min=55.3km az=19.0*
ISC 22 16:58:57.2±2.6**, 25.°1S**±0.°1×**177.°2W**±0.°4**, h126**km**, n6,**
σ0s92/7, mb3.5/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.03**	**199**		P		**P**	**17 02 14.1**	**-0.1**
	0.2nm,0.3s,baz=14,slow=12,SNR=1.4								
URZ					S		**Sn**	**17 04 45.1**	**0.0**
	0.2nm,0.3s,baz=178,slow=16,SNR=2.1								
CTA	**Charters Tower**	**34.06**	**271**		P		**P**	**17 05 29.6**	**0.0**
	3.6nm,1.0s,baz=93,slow=9.5,SNR=6.3								
ASAR	**Alice Springs**	**44.39**	**261**		P		**P**	**17 06 54.9**	**-0.6**
	0.2nm,0.3s,baz=94,slow=7.8,SNR=26								
WRA	**Warramunga Arr**	**44.90**	**266**		P		**P**	**17 06 58.1**	**-1.4**
	0.4nm,0.6s,baz=104,slow=7.7,SNR=12								
FITZ	**Fitzroy Crossi**	**53.30**	**266**		P		**P**	**17 08 04.5**	**+1.0**
	0.7nm,0.5s,baz=108,slow=6.4,SNR=1.0								
AKASG	**Malin Array Be**	**147.32**	**328**		PKPbc		**PKPdf**	**17 18 22.9**	**-0.3**
	0.2nm,0.3s,baz=46,slow=4.2,SNR=2.2								

ISC 22 17:15:49.7±1.9**, 12.°38N×144.°84E, h148**km±25km**, mb2.9/3, mb1 3.2/3, mb1mx2.7/37, mbtmp3.3/3, Error ellipse: s-maj=147.5km s-min=24.8km az=109.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.20**	**1**		P		Pn	17 16 15.6	-0.5
	42nm,0.3s,baz=184,slow=15,SNR=93								
GUMO					S		Sn	17 16 36.6	+0.2
	29nm,0.3s,baz=90,slow=20,SNR=17								
WRA	**Warramunga Arr**	**33.74**	**198**		P		P	17 22 17.1	-0.2
	0.5nm,0.8s,baz=20,slow=9.6,SNR=6.3								
ASAR	**Alice Springs**	**37.39**	**197**		P		P	17 22 48.7	+0.3
	0.2nm,0.8s,baz=22,slow=12,SNR=1.4								
ILAR	**Eielson Array**	**69.67**	**25**		P		P	17 26 42.9	0.0
	0.3nm,0.5s,baz=274,slow=4.1,SNR=2.8								

*IDC **22** 17:16:40.5±1.4, 24.°94S×179.°83E, h483km±12km, mb3.8/15, mb1 3.9/16, mb1mx3.7/39, mbtmp4.6/16, Error ellipse: s-maj=15.6km s-min=12.4km az=62.0*
*NEIC **22** 17:16:41.4±2.1, 25.°0S±0.°1×179.°8E±0.°1, h494km±6km, mb4.6/48, Error ellipse: s-maj=16.4km s-min=14.6km az=139.0*
ISC 22 17:16:41.7±0.4**, 25.°03S**±0.°07×**179.°86E**±0.°07**, h501**km**, n85,**
σ1s28/95, mb4.6/38, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.46**	**347**		P		**P**	**17 18 31.6**	**-1.2**
NIUE	**Niue**	**11.17**	**60**		P		**P**	**17 19 10.0**	**-1.6**
OUZ	**Omahuta**	**11.51**	**207**		P		**P**	**17 19 17.5**	**+2.6**
MXZ	**Matakaoa Point**	**12.56**	**186**		P		**P**	**17 19 26.4**	**+0.3**
DZM	**Mont Dzumac**	**12.65**	**281**		P		**P**	**17 19 29.1**	**+1.7**
	1.5nm,0.3s,baz=196,slow=23,SNR=12								
DZM	**Mont Dzumac**	**12.65**	**281**		P		**P**	**17 19 27.2**	**-0.2**
URZ	**Urewera**	**13.39**	**189**		P		**P**	**17 19 32.8**	**-2.1**
	1.3nm,0.3s,baz=289,slow=4.6,SNR=10								
URZ					S		**S**	**17 21 54.1**	**-3.5**
	0.6nm,0.3s,baz=350,slow=19,SNR=1.3								
URZ	**Urewera**	**13.39**	**189**		P		**P**	**17 19 33.0**	**-1.8**
URZ					S		**S**	**17 21 55.2**	**-2.4**
HIZ	**Hauiti**	**14.10**	**196**		P		**P**	**17 19 42.3**	**0.0**
BKZ	**Black Stump Fm**	**14.38**	**191**		P		**P**	**17 19 43.2**	**-2.1**
BFZ	**Birch Farm**	**15.90**	**190**		P		**P**	**17 19 58.8**	**-2.3**
MSWZ	**Moikau Station**	**16.79**	**192**		P		**P**	**17 20 09.5**	**-0.8**
QRZ	**Quartz Range**	**16.90**	**199**		P		**P**	**17 20 10.7**	**-0.8**
NNZ	**Nelson**	**17.02**	**197**		P		**P**	**17 20 11.1**	**-1.6**
LTZ	**Lake Taylor**	**18.78**	**198**		P		**P**	**17 20 27.3**	**-1.7**
LHI	**Lord Howe Isla**	**19.41**	**246**		P		**P**	**17 20 37.4**	**+2.5**
RPZ	**Rata Peaks**	**19.98**	**199**		P		**P**	**17 20 39.3**	**-0.7**
	8.6nm,0.6s,baz=49,slow=0.6,SNR=7.0								
RPZ	**Rata Peaks**	**19.98**	**199**		P		**P**	**17 20 38.5**	**-1.4**
RPZ					IAmb	IAmb	IAmb	17 21 14.9	
	comp=Z,46nm,1.3s								
HNR	**Honiara**	**24.49**	**306**		P		**P**	**17 21 19.5**	**-1.4**
	comp=Z,95nm,0.9s,baz=162,slow=6.4,SNR=4.4								
HNR	**Honiara**	**24.49**	**306**		P		**P**	**17 21 19.2**	**-1.6**
ARMA	**Armidale**	**25.52**	**251**		P		**P**	**17 21 31.8**	**+1.8**
ARMA					IAmb	IAmb	IAmb	17 21 32.8	
	comp=Z,22nm,0.8s								
EIDS	**Eidsvold**	**26.02**	**263**		P		**P**	**17 21 35.3**	**+1.0**
EIDS					IAmb	IAmb	IAmb	17 21 36.0	
	comp=Z,23nm,0.8s								
CAN	**Canberra**	**28.48**	**242**		P		**P**	**17 21 57.2**	**+1.4**
CAN					IAmb	IAmb	IAmb	17 22 30.8	
	comp=Z,38nm,1.4s								
CTAO	**Charters Tower**	**31.37**	**272**		P		**P**	**17 22 21.8**	**+0.8**
TOO	**Toolangi**	**31.74**	**239**		P		**P**	**17 22 24.9**	**+0.9**
TOO					IAmb	IAmb	IAmb	17 22 26.3	
	comp=Z,5.8nm,0.7s								
KRVT	**Keravat (AS076**	**33.76**	**303**		P		**P**	**17 22 40.2**	**-1.2**
	comp=Z,20nm,0.4s,baz=183,slow=2.4,SNR=11								
STKA	**Stephens Creek**	**34.20**	**250**		P		**P**	**17 22 45.3**	**+0.4**
	comp=Z,3.7nm,0.4s,baz=91,slow=11,SNR=34								
STKA	**Stephens Creek**	**34.20**	**250**		P		**P**	**17 22 45.5**	**+0.6**
PMG	**Port Moresby**	**34.76**	**291**		P		**P**	**17 22 49.6**	**-0.1**
	comp=Z,13nm,0.7s,baz=144,slow=14,SNR=2.6								
PMG	**Port Moresby**	**34.76**	**291**		P		**P**	**17 22 49.8**	**0.0**
PMG					IAmb	IAmb	IAmb	17 23 10.6	
	comp=Z,29nm,1.1s								
COEN	**Coen**	**36.18**	**281**		P		**P**	**17 23 02.4**	**+0.7**
COEN					IAmb	IAmb	IAmb	17 23 02.8	
	comp=Z,20nm,1.1s								
BBOO	**Buckleboo**	**38.90**	**248**		P		**P**	**17 23 23.4**	**-0.4**
BBOO					IAmb	IAmb	IAmb	17 23 24.1	
	comp=Z,74nm,1.8s								
AS31	**Alice Springs**	**41.74**	**262**		P		**P**	**17 23 46.7**	**0.0**
ASAR	**Alice Springs**	**41.74**	**262**		P		**P**	**17 23 46.7**	**0.0**
	comp=Z,9.5nm,0.6s,baz=88,slow=9.5,SNR=216								
ASAR					ScP		**ScP**	**17 28 36.0**	**+2.1**
	comp=Z,0.9nm,0.8s,baz=107,slow=4.5,SNR=5.4								
ASAR					S		**S**	**17 29 26.2**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=98,slow=15,SNR=6.5								
WR0	**Warramunga Arr**	**42.03**	**267**		P		**P**	**17 23 48.4**	**-0.6**
WR0					IAmb	IAmb	IAmb	17 23 48.8	
	comp=Z,9.4nm,0.6s								
WB2	**Warramunga Arr**	**42.21**	**267**		P		**P**	**17 23 49.8**	**-0.5**
WRAB	**Tennant Creek**	**42.21**	**267**		P		**P**	**17 23 49.8**	**-0.6**
WRAB					IAmb	IAmb	IAmb	17 23 50.2	
	comp=Z,16nm,0.4s								
WB0	**Warramunga Arr**	**42.22**	**268**		P		**P**	**17 23 50.0**	**-0.5**
WB0					IAmb	IAmb	IAmb	17 23 51.5	
	comp=Z,19nm,0.6s								
WRA	**Warramunga Arr**	**42.22**	**267**		P		**P**	**17 23 50.0**	**-0.5**
	comp=Z,13nm,0.5s,baz=99,slow=6.8,SNR=375								
WRA					ScP		**ScP**	**17 28 38.8**	**+2.9**
	comp=Z,2.3nm,0.7s,baz=103,slow=3.6,SNR=12								
WRA					S		**S**	**17 29 30.8**	**-3.4**
	comp=Z,1.2nm,0.9s,baz=99,slow=14,SNR=5.1								
JAY	**Jayapura**	**43.85**	**294**		P		**P**	**17 24 02.5**	**-0.8**
	comp=Z,6.0nm,0.5s,baz=94,slow=23,SNR=8.0								
FORT	**Forest**	**45.81**	**251**		P		**P**	**17 24 17.4**	**-0.8**
FORT					IAmb		IAmb	17 24 53.7	
	comp=Z,32nm,1.1s								
MTN	**Manton Dam**	**47.42**	**275**		P		**P**	**17 24 29.4**	**-1.3**
MTN					IAmb		IAmb	17 24 33.3	
	comp=Z,29nm,1.6s								
KNRA	**Kununurra**	**48.57**	**271**		P		**P**	**17 24 39.3**	**+0.2**
KNRA					IAmb		IAmb	17 24 39.9	
	comp=Z,30nm,1.1s								
FITZ	**Fitzroy Crossi**	**50.62**	**267**		P		**P**	**17 24 54.5**	**+0.1**
FITZ					IAmb		IAmb	17 24 55.8	
	comp=Z,8.4nm,0.7s								
FAKI	**Fak Fak**	**50.80**	**288**		P		**P**	**17 24 55.5**	**-0.2**
SIJI	**Sorong**	**52.68**	**289**		P		**P**	**17 25 08.9**	**-0.4**
	comp=Z,17nm,0.5s,baz=147,slow=4.3,SNR=17								
VNDA	**Vanda**	**53.25**	**185**		P		**P**	**17 25 13.8**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=6.1,slow=7.5,SNR=1.8								
VNDA	**Vanda**	**53.25**	**185**		P		**P**	**17 25 13.9**	**+1.6**
SOEI	**Soe**	**54.82**	**276**		P		**P**	**17 25 25.7**	**+1.1**
SOEI					IAmb		IAmb	17 25 29.7	
	comp=Z,30nm,1.2s								
PSA00	**Pilbara Seismi**	**54.84**	**260**		P		**P**	**17 25 23.8**	**-0.7**
MORW	**Morawa**	**56.38**	**251**		P		**P**	**17 25 34.8**	**-0.3**
MORW					IAmb		IAmb	17 26 13.2	
	comp=Z,60nm,1.8s								
MMRI	**Maumere**	**57.10**	**276**		P		**P**	**17 25 40.2**	**-0.2**
MMRI					IAmb		IAmb	17 25 57.9	
	comp=Z,31nm,1.1s								
EDFI	**Ende, Flores**	**57.55**	**276**		P		**P**	**17 25 43.5**	**0.0**
	comp=Z,12nm,0.8s								
JAGI	**Jajag, Banyuwa**	**64.49**	**272**		P		**P**	**17 26 28.2**	**-0.9**
QSPA	**South Pole Qui**	**65.06**	**180**		P		**P**	**17 26 33.1**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=31,slow=1.8,SNR=19								
QSPA	**South Pole Qui**	**65.06**	**180**		P		**P**	**17 26 32.9**	**+0.9**
QSPA					IAmb		IAmb	17 26 34.6	
	comp=Z,12nm,1.4s								
UGM	**Wanagama**	**68.00**	**271**		P		**P**	**17 26 50.8**	**-0.2**
PMSA	**Palmer Station**	**77.92**	**157**		P		**P**	**17 27 47.7**	**+0.7**
NIKH	**Nikolski High**	**78.29**	**7**		P		**P**	**17 27 48.6**	**-0.5**
NIKH					IAmb		IAmb	17 28 06.1	
	comp=Z,60nm,1.3s								
PETK	**Petropavlovsk-**	**80.17**	**347**		P		**P**	**17 27 58.9**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=115,slow=8.6,SNR=8.2								
CBX	**Cerro Bola**	**83.15**	**50**		P		**P**	**17 28 15.5**	**+0.5**
CHIR	**Chirikof Islan**	**83.20**	**14**		P		**P**	**17 28 14.5**	**0.0**
CHIR					IAmb		IAmb

17nm,0.3s,baz=66,slow=8.3,SNR=35
PMG Sn **Sn** **17 42 40.2 +4.2**
20nm,0.3s,baz=54,slow=16,SNR=6.9
PMG LR LR 17 44 07.7
comp=Z,3µm,19.0s,baz=60,slow=38
PMG Port Moresby 7.53 254 Pn **Pn** **17 41 13.1 +1.4**
COEN Coen 12.88 239 P **Pn** **17 42 27.6 +2.5**
baz=13,SNR=5.3
COEN Coen 12.88 239 Pn **Pn** **17 42 25.5 +0.4**
MTSU Mount Surprise 14.56 222 P **Pn** **17 42 49.9 +2.0**
baz=15,SNR=9.7
JAY Jayapura 14.57 289 LR LR 17 48 48.2
comp=Z,2µm,18.4s,baz=88,slow=39
PATS Pohnpei 14.65 15 P **Pn** **17 42 47.0 -2.2**
baz=15,SNR=3.5
PATS Pohnpei 14.65 15 Pn **Pn** **17 42 47.3 -1.9**
CTA Charters Tower 14.92 212 Pn **Pn** **17 42 52.4 -0.5**
0.5nm,0.3s,baz=26,slow=15,SNR=7.9
CTA LR LR 17 48 18.0
comp=Z,3µm,18.4s,baz=33,slow=36
CTAO Charters Tower 14.92 212 P **Pn** **17 42 52.5 -0.3**
CTAO Charters Tower 14.92 212 P **Pn** **17 42 52.5 -0.3**
SMPI Sarmi 16.62 288 P **Pn** **17 43 15.6 +0.8**
18nm,1.2s
EIDS Eidsvold 18.16 190 P **P** **17 43 35.4 +1.5**
baz=18
EIDS Eidsvold 18.16 190 P **P** **17 43 35.2 +1.3**
DZM Mont Dzumac 18.58 143 P **Pn** **17 43 39.5 +0.5**
1.3nm,0.3s,baz=338,slow=18,SNR=12
DZM LR LR 17 49 57.3
comp=Z,2µm,18.8s,baz=332,slow=34
DZM Mont Dzumac 18.58 143 *eP* **P** **17 43 38.9 +0.2**
129nm,1.8s
DZM *e*LQ LQ 17 47 16.0
4µm,31.1s
DZM *e*LR LR 17 48 02.1
comp=Z,2µm,24.1s
DZM Mont Dzumac 18.58 143 P **Pn** **17 43 40.2 +1.1**
QIS Mount Isa 19.46 226 P **P** **17 43 48.8 +0.5**
baz=20,SNR=31
RMQ Roma 19.74 195 P **Pn** **17 43 52.7 -0.2**
baz=20,SNR=25
QLP Quilpie 21.42 206 P **P** **17 44 09.7 +0.2**
baz=22,SNR=11
KDU Kakadu 22.30 255 P **P** **17 44 20.0 +0.9**
baz=22,SNR=12
FAKI Fak Fak 22.60 280 P **P** **17 44 21.4 -0.9**
2µm65nm,1.4s
FAKI Fak Fak 22.60 280 P **P** **17 44 20.8 -1.5**
FAKI IAmb IAmb 17 44 31.8
comp=Z,50nm,0.9s
GUMO Guam 22.95 335 P **P** **17 44 26.8 +0.9**
comp=Z,33nm,0.7s,baz=160,slow=8.5,SNR=5.6
GUMO LR LR 17 53 04.6
comp=Z,238nm,20.1s,baz=148,slow=36
GUMO Guam 22.95 335 P **P** **17 44 24.5 -1.4**
GUMO pmax pmax
comp=Z,35nm,0.9s
GUMO Guam 22.95 335 P **P** **17 44 24.5 -1.4**
WR0 Warramunga Arr 23.02 235 P **P** **17 44 25.7 -0.9**
WR0 IAmb IAmb 17 44 28.2
comp=Z,60nm,1.1s
WB0 Warramunga Arr 23.05 236 P **P** **17 44 25.8 -1.1**
ARMA Armidale 23.05 186 P **P** **17 44 28.0 +1.1**
ARMA IAmb IAmb 17 44 46.4
comp=Z,108nm,1.6s
WRAB Tennant Creek 23.16 235*c iP* **P** **17 44 26.9 -1.2**
WRAB pmax pmax
comp=Z,65nm,1.7s
WRAB Tennant Creek 23.16 235 P **P** **17 44 26.5 -1.6**
WRAB IAmb IAmb 17 44 29.5
comp=Z,69nm,1.4s
WB2 Warramunga Arr 23.17 235 P **P** **17 44 26.7 -1.4**
WRA Warramunga Arr 23.18 235 P **P** **17 44 26.9 -1.4**
comp=Z,34nm,1.1s,baz=60,slow=9.6,SNR=85
WRA PcP **PcP** **17 48 16.9 +0.6**
comp=Z,1.1nm,0.4s,baz=58,slow=2.6,SNR=7.8
WRA S **S** **17 48 38.1 -0.4**
comp=Z,1.7nm,1.0s,baz=59,slow=17,SNR=3.7
WRA LR LR 17 52 47.5
comp=Z,2µm,20.4s,baz=50,slow=35
MTN Manton Dam 23.62 255 P **P** **17 44 33.0 +0.4**
baz=24,SNR=8.7
MTN Manton Dam 23.62 255 P **P** **17 44 31.6 -1.0**
SIJI Sorong 24.05 285 P **P** **17 44 37.3 +0.5**
comp=Z,7.6nm,0.7s,baz=69,slow=10,SNR=6.8
LHI Lord Howe Isla 24.36 171 P **P** **17 44 41.3 +1.9**
MSVF Nonsavu 25.14 116‖ *eP* **P** **17 44 48.0 +1.3**
MSVF pmax pmax
comp=Z,8.0nm,1.0s
CMSA Cobar Meteorol 25.37 198 P **P** **17 44 48.8 +0.2**
baz=26,SNR=11
AS31 Alice Springs 25.53 228 P **P** **17 44 49.1 -1.0**
ASAR Alice Springs 25.53 228 P **P** **17 44 49.1 -1.0**
comp=Z,10nm,1.0s,baz=58,slow=9.8,SNR=107
ASAR LR LR 17 54 09.7
comp=Z,2µm,20.3s,baz=64,slow=35
MGCD Mangrove Creek 25.86 187 P **P** **17 44 55.8 +2.8**
baz=26,SNR=5.1
KNRA Kununurra 26.49 250 P **P** **17 44 59.9 +1.0**
baz=27,SNR=17
KNRA Kununurra 26.49 250 P **P** **17 44 56.7 -2.2**
KNRA IAmb IAmb 17 45 00.8
comp=Z,65nm,1.2s
STKA Stephens Creek 27.15 205 P **P** **17 45 06.0 +1.3**
comp=Z,14nm,1.0s,baz=33,slow=14,SNR=9.0
STKA LR LR 17 55 55.0
comp=Z,2µm,18.6s,baz=26,slow=37
STKA Stephens Creek 27.15 205 P **P** **17 45 06.4 +1.7**
baz=27,SNR=5.7
STKA Stephens Creek 27.15 205 P **P** **17 45 03.8 -0.9**
STKA pmax pmax
comp=Z,3.0nm,1.0s
STKA Stephens Creek 27.15 205 P **P** **17 45 03.8 -0.9**
SOEI Soe 29.98 263 P **P** **17 45 29.0 -1.2**
FITZ Fitzroy Crossi 30.04 247 P **P** **17 45 29.4 -1.1**
comp=Z,5.7nm,0.6s,baz=94,slow=8.2,SNR=23
FITZ Fitzroy Crossi 30.04 247 P **P** **17 45 30.0 -0.5**
baz=30,SNR=18
FITZ Fitzroy Crossi 30.04 247 P **P** **17 45 29.4 -1.1**
WRKA Warakurna 30.56 232 P **P** **17 45 33.8 -1.3**
baz=31,SNR=15
BATI Baumata 30.59 263 LR LR 17 59 50.3
comp=Z,1µm,18.7s,baz=110,slow=40
DAV Davao City (W) 32.23 296 LR LR 17 59 12.4
comp=Z,258nm,18.1s,baz=146,slow=37
EDFI Ende, Flores 32.50 265 P **P** **17 45 51.4 -1.0**
comp=Z,335nmcomp=Z,25nm,1.0s
FORT Forrest 33.95 223 P **P** **17 46 03.3 -1.4**
FORT IAmb IAmb 17 46 15.4
comp=Z,32nm,0.9s
MPSI Mapaga 35.35 281 P **P** **17 46 18.2 +1.1**
comp=Z,344nmcomp=Z,11nm,0.7s
TAU Tasmania Unive 35.92 189 P **P** **17 46 21.1 -0.4**
TAU pmax pmax
comp=Z,106nm,1.8s
TAU Tasmania Unive 35.92 189 P **P** **17 46 21.1 -0.4**
PSA00 Pilbara Seismi 36.27 243 P **P** **17 46 23.4 -1.5**
PSA00 IAmb IAmb 17 46 25.3
comp=Z,20nm,1.1s
URZ Urewera 36.90 150 P **P** **17 46 30.1 +0.1**
comp=Z,16nm,1.1s,baz=349,slow=5.2,SNR=2.0
TUWZ Tuamarina 38.03 156 P **P** **17 46 39.8 +0.2**
MYLDM Lahad Datu 38.03 288 P **P** **17 46 40.7 +0.8**
LTZ Lake Taylor 38.55 159 P **P** **17 46 44.2 +0.2**
RPZ Rata Peaks 38.96 161 P **P** **17 46 47.1 -0.2**
comp=Z,10nm,0.9s,baz=9.9,slow=8.0,SNR=1.9
RPZ Rata Peaks 38.96 161 P **P** **17 46 47.5 +0.1**
RPZ IAmb IAmb 17 47 34.6
comp=Z,41nm,1.1s
TGY Tagaytay City 39.57 303 LR LR 18 03 34.5
comp=Z,261nm,19.1s,baz=130,slow=37
BBKI Banjar Baru 39.66 274 P **P** **17 46 51.4 -2.2**
JAGI Jajag, Banyuwa 39.96 266 P **P** **17 46 54.0 -2.1**
WHZ Wether Hill Ro 40.06 165 P **P** **17 47 00.1 +3.6**
KKM Kota Kinabalu 40.46 288 P **P** **17 47 00.2 -0.2**
JHJ Hachijo jima 2 42.67 342 LR LR 18 04 14.4
comp=Z,240nm,19.5s,baz=122,slow=35
NWAO Narrogin (SRO) 42.85 228 P **P** **17 47 18.5 -1.1**
NWAO Narrogin (SRO) 42.85 228 P **P** **17 47 18.5 -1.1**
YOJ Yonaguni jima 44.12 317 P **P** **17 47 31.0 +1.2**
YOJ pmax pmax
comp=Z,36nm,1.0s
YOJ Yonaguni jima 44.12 317 P **P** **17 47 31.0 +1.2**
YOJ IAmb IAmb 17 47 36.1
comp=Z,36nm,1.0s

YULB Yu-li 44.61 314 P **P** **17 47 33.9 0.0**
MIDW Midway 44.64 36 P **P** **17 47 34.6 +0.7**
NACB Ninganchiao 44.90 315 P **P** **17 47 37.1 +1.0**
NACB IAmb IAmb 17 48 00.8
comp=Z,32nm,1.0s
KSM Kuching 44.96 280 P **P** **17 47 36.9 +0.1**
TPUB Ta-pu 45.03 314 P **P** **17 47 35.2 -2.0**
SSLB Suanglung 45.10 314 P **P** **17 47 39.3 +1.5**
YHNB Yeheng 45.37 316 P **P** **17 47 39.7 -0.3**
YHNB IAmb IAmb 17 48 01.2
comp=Z,24nm,0.9s
JNU Nakatsue 46.14 332 P **P** **17 47 45.6 -0.3**
comp=Z,22nm,0.8s,baz=108,slow=4.5,SNR=21
JNU LR LR 18 04 52.7
comp=Z,171nm,21.6s,baz=152,slow=33
JNU Nakatsue 46.14 332 P **P** **17 47 45.4 -0.4**
JNU IAmb IAmb 17 47 46.9
comp=Z,26nm,0.8s
CISI Cisompet, Garu 46.27 267 P **P** **17 47 45.0 -2.2**
CISI IAmb IAmb 17 48 14.8
comp=Z,42nm,1.0s
MAJO Matsushiro 46.32 342 P **P** **17 47 45.9 -1.2**
MAJO pmax pmax
comp=Z,30nm,1.8s
MAJO Matsushiro 46.32 342 P **P** **17 47 45.9 -1.2**
MAJO IAmb IAmb 17 48 58.8
comp=Z,30nm,1.8s
MAT Matsushiro 46.32 342 P **P** **17 47 45.9 -1.2**
MAT S **S** **17 54 31.6 -1.1**
QZH Quanzhou 47.51 314‖ *iP* **P** **17 47 56.6 0.0**
QZH S **S** **17 54 55.6 +5.6**
QZH pmax pmax
comp=Z,140nm,5.4s
QZH LR LR
comp=Z,180nm,17.3s
QZH LR LR
comp=Z,230nm,19.4s
QZH LR LR
comp=Z,240nm,19.2s
DLV T Lat 49.63 292 P **P** **17 48 13.7 +0.3**
DLV IAmb IAmb 17 49 03.5
comp=Z,20nm,1.3s
SSE Sheshan 49.82 322 P **P** **17 48 15.4 +1.1**
SSE S **S** **17 55 24.3 +1.8**
SSE pmax pmax
comp=Z,25nm,0.7s
SSE pmax pmax
comp=Z,100nm,3.2s
SSE LR LR
comp=Z,98nm,15.3s
SSE LR LR
comp=Z,100nm,15.9s
TJN Taejon 50.46 331*de***P** **P** **17 48 19.3 +0.3**
KSRS Korea Array 51.08 333 P **P** **17 48 23.9 +0.2**
comp=Z,7.6nm,0.7s,baz=148,slow=7.5,SNR=44
KSRS LR LR 18 08 07.8
comp=Z,120nm,21.6s,baz=143,slow=34
KS19 Wonju Array Si 51.14 333 P **P** **17 48 24.1 -0.1**
KS19 IAmb IAmb 17 48 24.6
comp=Z,24nm,1.2s
QIZ Qiongzhong 51.25 302 P **P** **17 48 23.8 -1.6**
QIZ pP **sP** **17 48 34.4 -0.6**
QIZ S **S** **17 55 41.4 -1.4**
QIZ ScS **ScS** **17 58 13.8 -0.8**
QIZ pmax pmax
comp=Z,8.0nm,1.8s
QIZ LR LR
comp=Z,110nm,18.6s
QIZ LR LR
comp=Z,200nm,18.1s
QIZ LR LR
comp=Z,230nm,18.6s
MYKOM Kota Tinggi 51.35 278 P **P** **17 48 26.5 +0.3**
MYKOM IAmb IAmb 17 48 31.4
comp=Z,44nm,1.7s
INCN Inchon 51.70 332 P **P** **17 48 27.5 -0.9**
INCN pmax pmax
comp=Z,24nm,0.6s
INCN Inchon 51.70 332 P **P** **17 48 27.5 -0.9**
YUK Yuzh-Kuril'sk 51.80 352 *eP* **P** **17 48 25.1 -3.8**
YUK S S 17 55 38.0 -11
YUK MLR MLR
comp=Z,305nm,19.0s
NJ2 Nanjing 51.92 321 *eP* **P** **17 48 30.8 +0.7**
NJ2 pP **pwP** **17 48 43.3 -0.5**
NJ2 S **S** **17 55 53.8 +2.2**
NJ2 pmax pmax
comp=Z,11nm,1.0s
NJ2 pmax pmax
comp=Z,360nm,3.5s
NJ2 LR LR
comp=Z,370nm,19.9s
NJ2 LR LR
comp=Z,200nm,14.7s
NJ2 LR LR
comp=Z,420nm,20.6s
JKA Kamikawa-asahi 52.40 349 P **P** **17 48 33.9 +0.4**
JKA IAmb IAmb 17 48 34.7
comp=Z,9.6nm,0.7s
ASAJ Asahikawa 52.40 349 P **P** **17 48 34.0 +0.4**
comp=Z,8.1nm,0.6s,baz=205,slow=7.0,SNR=15
ASAJ Asahikawa 52.40 349 P **P** **17 48 33.9 +0.4**
ASAJ pmax pmax
comp=Z,10.0nm,0.7s
KUR Kuril'sk 52.74 354 P P 17 48 41.7 +5.8
KUR S **S** **17 56 09.9 +7.6**
IPM Ipoh 54.65 281 P **P** **17 48 50.1 -0.4**
IPM IAmb IAmb 17 49 00.4
comp=Z,19nm,0.8s
YSS Yuzh-Sakhalins 55.12 350 *eP* **P** **17 48 53.0 -0.3**
YSS *e**SP **pwP** **17 49 10.0 +3.2**
YSS *e* 17 49 49.2
YSS *e*S **S** **17 56 32.2 -2.3**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,200nm,14.0s
YSS MLR MLR
comp=N,100nm,13.0s
YSS Yuzh-Sakhalins 55.12 350 P **P** **17 48 52.5 -0.8**
YSS IAmb IAmb 17 48 54.0
comp=Z,13nm,0.7s
KULM Kulim 55.19 282 P **P** **17 48 53.6 -0.8**
KULM IAmb IAmb 17 50 53.3
comp=Z,26nm,1.3s
USA0B Ussuriysk Arra 55.25 340 P **P** **17 48 54.1 -0.2**
USA0B pmax pmax
comp=Z,44nm,1.3s
USA0B Ussuriysk Arra 55.25 340 P **P** **17 48 54.1 -0.2**
USA0B IAmb IAmb 17 48 58.2
comp=Z,44nm,1.3s
USRK Ussuriysk Ar. 55.25 340 P **P** **17 48 54.7 +0.4**
comp=Z,11nm,0.8s,baz=177,slow=6.5,SNR=13
USRK LR LR 18 08 52.5
comp=Z,134nm,21.9s,baz=151,slow=32
DL2 Dalian 55.27 329 P **P** **17 48 55.3 +0.8**
DL2 S **S** **17 56 38.8 +2.1**
DL2 pmax pmax
comp=Z,26nm,0.8s
DL2 pmax pmax
comp=Z,140nm,6.6s
DL2 LR LR
comp=Z,230nm,19.8s
DL2 LR LR
comp=Z,170nm,20.6s
DL2 LR LR
comp=Z,190nm,25.5s
PPT Papeete 55.35 106 LR LR 18 07 31.2
comp=Z,123nm,21.9s,baz=243,slow=31
PPT2 Papeete2 55.36 106 *eS* **S** **17 56 36.1 -2.7**
comp=Z,119nm,27.0s
PPT2 *e*LQ LQ 18 02 47.2
comp=Z,664nm,26.0s
PPT2 *e*LR LR 18 05 01.9
comp=Z,605nm,30.2s
MNSI Mandailing Nat 55.38 276 P **P** **17 48 55.3 -0.5**
TIA Tai'an 55.80 324 P **P** **17 48 58.8 +0.3**
TIA S **S** **17 56 43.6 -0.4**
TIA pmax pmax
comp=Z,14nm,0.7s
TIA pmax pmax
comp=Z,120nm,3.9s
TIA LR LR
comp=Z,100nm,11.4s
TIA LR LR
comp=Z,83nm,15.7s

TIA LR LR
comp=Z,250nm,19.2s
TBI Tubuai 55.97 113 *eS* **S** **17 56 45.0 -1.7**
comp=Z,105nm,30.8s
TBI *e*LQ LQ 18 03 03.2
comp=Z,923nm,31.0s
TBI *e*LR LR 18 05 19.3
comp=Z,418nm,30.0s
PMOR Pomariorio Ree 56.88 103 *eP* **P** **17 49 06.8 +0.3**
comp=Z,155nm,1.3s
VAH Vaihoa 57.14 103 *eP* **P** **17 49 08.4 0.0**
comp=Z,55nm,1.1s
ENH Enshi 57.16 313 IAmb IAmb 17 49 33.9
comp=Z,13nm,0.9s
GYA Guiyang 57.31 308 *eP* P 17 49 14.8 +5.2
GYA PP **PP** **17 51 18.9 +1.8**
GYA S **S** **17 57 10.8 +6.2**
GYA SS **SS** **18 00 57.6 +3.1**
GYA pmax pmax
comp=Z,6.0nm,0.9s
GYA LR LR
comp=Z,120nm,20.2s
GYA LR LR
comp=Z,160nm,14.3s
GYA LR LR
comp=Z,240nm,13.2s
GSI Gunungsitoli 57.44 276 P **P** **17 49 09.3 -1.2**
GSI IAmb IAmb 17 49 14.3
comp=Z,26nm,1.1s
PBKT Sadao Pong 58.06 295 P **P** **17 49 12.7 -2.0**
TYV Tymovskoe 58.94 351 *eP* **P** **17 49 20.6 +0.4**
TYV pmax pmax
comp=Z,15nm,0.6s
BJI Beijing 58.99 326 P **P** **17 49 20.9 +0.1**
BJI S **S** **17 57 26.0 +0.3**
BJI pmax pmax
comp=Z,9.0nm,0.7s
BJI pmax pmax
comp=Z,140nm,3.8s
BJI LR LR
comp=Z,87nm,23.0s
BJI LR LR
comp=Z,140nm,26.3s
XAN Xi'an 59.66 317 P **P** **17 49 25.5 -0.2**
XAN pP pwP 17 49 42.4 +4.0
XAN S **S** **17 57 34.5 -0.3**
XAN ScS **ScS** **17 59 04.5 -10**
XAN pmax pmax
comp=Z,12nm,0.8s
XAN pmax pmax
comp=Z,190nm,4.4s
XAN LR LR
comp=Z,240nm,17.4s
XAN LR LR
comp=Z,270nm,20.6s
XAN LR LR
comp=Z,460nm,21.7s
KLR Kul'dur 59.81 343 LR LR 18 13 08.2
comp=Z,86nm,21.4s,baz=158,slow=34
KLR Kul'dur 59.81 343*deP* **P** **17 49 26.5 +0.1**
KMI Kunming 59.84 305‖ *eP* **P** **17 49 32.1 +4.8**
KMI pP sP 17 49 37.3 +0.3
KMI sP pwP 17 49 46.8 +6.7
KMI pmax pmax
comp=Z,8.0nm,0.8s
KMI pmax pmax
comp=Z,200nm,5.4s
PET Petropavlovsk 60.30 3 P **P** **17 49 29.1 -0.5**
PET pmax pmax
comp=Z,16nm,0.6s
PET Petropavlovsk 60.30 3 P **P** **17 49 29.1 -0.5**
PET IAmb IAmb 17 49 30.0
comp=Z,16nm,0.6s
PEA0B Petropavlovsk- 60.35 2 P **P** **17 49 29.8 -0.1**
PEA0B pmax pmax
comp=Z,90nm,1.8s
PEA0B Petropavlovsk- 60.35 2 P **P** **17 49 29.8 -0.1**
PETK Petropavlovsk- 60.35 2 P **P** **17 49 29.8 -0.2**
comp=Z,9.5nm,0.6s,baz=143,slow=6.4,SNR=39
PETK LR LR 18 12 00.1
comp=Z,246nm,21.5s,baz=195,slow=32
CM31 Chiang Mai Arr 60.52 296 P **P** **17 49 31.2 -0.6**
CMAR Chiang Mai Arr 60.52 296 P **P** **17 49 33.4 +1.6**
comp=Z,2.8nm,0.8s,baz=133,slow=5.1,SNR=16
CMAR LR LR 18 16 55.1
comp=Z,110nm,18.4s,baz=175,slow=37
CMAR Chiang Mai Arr 60.52 296*ceP* **P** **17 49 33.5 +1.6**
CMAR pmax pmax
comp=Z,4.0nm,1.0s
CHTO Chiang Mai 60.64 296 P **P** **17 49 31.4 -1.2**
CHTO pmax pmax
comp=Z,29nm,1.8s
CHTO Chiang Mai 60.64 296 P **P** **17 49 31.4 -1.2**
CHTO IAmb IAmb 17 49 43.1
comp=Z,29nm,1.8s
CD2 Chengdu 61.71 311 P **P** **17 49 40.6 +0.9**
CD2 S **S** **17 58 03.3 +2.2**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,210nm,3.9s
CD2 LR LR
comp=Z,250nm,20.7s
CD2 LR LR
comp=Z,370nm,22.4s
CD2 LR LR
comp=Z,390nm,21.5s
LZH Lanzhou 64.27 316 *eP* **P** **17 49 58.4 +1.6**
LZH pP pwP 17 50 11.8 +2.3
LZH sP sP 17 50 14.4 +7.9
LZH PP **PP** **17 52 18.3 -0.2**
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,190nm,4.3s
LZH LR LR
comp=Z,150nm,17.3s
LZH LR LR
comp=Z,220nm,17.9s
LZH LR LR
comp=Z,280nm,18.6s
ZEA Zeya 65.12 343 *eP* **P** **17 50 02.4 +0.7**
ZEA *e*S **S** **17 58 46.0 +3.3**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA smax smax
comp=N,100nm,9.0s
ZEA MLR MLR
comp=Z,200nm,18.0s
ZEA MLR MLR
comp=E,100nm,17.0s
CASY Casey 66.05 198 P **P** **17 50 06.6 -1.0**
GTA Gaotai 68.71 317‖ *iP* **P** **17 50 26.1 +1.0**
GTA pP pwP 17 50 37.8 -0.1
GTA sP PcP 17 50 42.8 -7.0
GTA S **S** **17 59 24.8 -2.1**
GTA sS sS 17 59 47.8 +10
GTA SS **SS** **18 03 51.5 -0.6**
GTA pmax pmax
comp=E,7.0nm,1.1s
GTA pmax pmax
comp=E,160nm,8.3s
GTA LR LR
comp=E,130nm,20.3s
GTA LR LR
comp=E,140nm,19.7s
GTA LR LR
comp=E,220nm,20.3s
SHL Shillong 69.08 301 P **P** **17 50 27.2 -0.5**
SHL pmax pmax
comp=Z,21nm,0.8s
SHL Shillong 69.08 301 P **P** **17 50 27.2 -0.5**
SHL IAmb IAmb 17 50 47.6
comp=Z,22nm,0.8s
ULN Ulaanbaatar 69.09 328*d iP* **P** **17 50 28.6 +1.3**
ULN pmax pmax
comp=Z,12nm,0.7s
ULN Ulaanbaatar 69.09 328 P **P** **17 50 28.0 +0.7**
ULN IAmb IAmb 17 50 34.6
comp=Z,77nm,1.9s
UNV Unalaska Valle 69.30 23 P **P** **17 50 26.8 -1.5**
UNV IAmb IAmb 17 50 56.7
comp=Z,50nm,1.5s
SONM Songino Array 69.42 328 P **P** **17 50 30.4 +1.1**

comp=Z,12nm,0.7s,baz=134,slow=6.7,SNR=53
SONM LR LR 18 20 39.3
comp=Z,174nm,20.4s,baz=122,slow=36
SEY Seymchan 70.16 359⇑ eP P 17 50 33.1 -0.2
VNDA Vanda 70.18 178 P P 17 50 33.4 0.0
comp=Z,3.0nm,1.1s,baz=332,slow=7.6,SNR=11
VNDA LR LR 18 18 13.8
comp=Z,133nm,18.1s,baz=3.0,slow=33
VNDA Vanda 70.18 178 P P 17 50 33.1 -0.3
VNDA pmax pmax
comp=Z,6.0nm,1.2s
VNDA Vanda 70.18 178 P P 17 50 33.1 -0.3
YAK Yakutsk 71.86 348 eP P 17 50 43.4 -0.2
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK Yakutsk 71.86 348 P P 17 50 43.5 -0.2
YAK lAmb lAmb 17 50 44.8
comp=Z,29nm,0.9s
ZAK Zakamensk 72.59 328 eP P 17 50 49.2 +0.7
ZAK pmax pmax
comp=Z,9.0nm,0.9s
ZAK pmax pmax
comp=Z,3.0nm,1.3s
BOD Bodaibo 72.82 339 eP P 17 50 49.4 -0.1
BOD pmax pmax
comp=Z,9.0nm,1.4s
SDPT Sand Point 72.83 25 P P 17 50 48.3 -1.3
SDPT lAmb lAmb 17 52 33.9
comp=Z,41nm,1.0s
TLY Talaya 73.17 330 P P 17 50 52.4 +0.7
comp=Z,1.7nm,0.5s,baz=193,slow=11,SNR=3.2
TLY Talaya 73.17 330 eP P 17 50 52.7 +0.9
TLY eSS SS 18 05 05.9 +6.0
TLY pmax pmax
comp=Z,22nm,1.4s
TLY MLR MLR
comp=Z,29nm,5.0s
TLY Talaya 73.17 330 P P 17 50 50.2 -1.6
TAPN Taplejung 73.19 301 eP P 17 50 53.4 +0.6
comp=Z,74nm,1.0s
ODAN Odare 73.32 301 eP P 17 50 55.0 +1.5
comp=Z,41nm,0.5s
PTCN Pitcairn Islan 73.70 114 P P 17 50 53.4 -2.1
RAMN Ramite 74.02 301 eP P 17 50 57.9 +0.3
comp=Z,20nm,0.6s
MOY Mondy 74.51 329 eP P 17 51 00.0 +0.3
MOY pmax pmax
comp=Z,33nm,2.3s
JIRN Jiri 74.58 301 eP P 17 51 01.6 +0.6
comp=Z,32nm,0.5s
PKI Pulchoki 75.21 301 eP P 17 51 04.7 +0.1
comp=Z,20nm,0.5s
DMN Daman 75.48 301 eP P 17 51 06.6 +0.5
comp=Z,46nm,0.6s
GKN Gorkha 75.99 301 eP P 17 51 09.2 +0.3
comp=Z,47nm,0.9s
KOLN Koldanda 76.81 301 eP P 17 51 13.7 +0.1
comp=Z,54nm,0.8s
OHAK Old Harbor 77.11 26 P P 17 51 13.6 -0.7
PYUN Piuthan 77.42 301 eP P 17 51 16.6 -0.4
comp=Z,42nm,0.9s
KDAK Kodiak Island 77.75 26 P P 17 51 17.8 0.0
comp=Z,23nm,0.8s,baz=230,slow=3.4,SNR=47
KDAK Kodiak Island 77.75 26 P P 17 51 17.3 -0.6
KDAK pmax pmax
comp=Z,27nm,0.8s
KDAK Kodiak Island 77.75 26 P P 17 51 17.3 -0.6
SVW2 Sparrevohn 78.57 22 P P 17 51 22.4 0.0
WMQ Urumqi 78.79 317 eP P 17 51 26.1 +2.0
WMQ S S 18 01 24.6 +4.2
WMQ pmax pmax
comp=Z,14nm,0.8s
WMQ pmax pmax
comp=Z,120nm,5.1s
WMQ LR LR
comp=Z,92nm,11.7s
WMQ LR LR
comp=Z,140nm,21.7s
WMQ LR LR
comp=Z,59nm,26.1s
RSO Redoubt South 79.27 24 P P 17 51 25.3 -1.2
TTA Tatalina 79.58 21 P P 17 51 27.5 -0.5
TTA pmax pmax
comp=Z,12nm,0.8s
TTA Tatalina 79.58 21 P P 17 51 27.5 -0.5
O22K Cooper Landing 80.51 25 P P 17 51 33.1 +0.2
baz=236
PPLA Purkeypile 80.94 22 P P 17 51 34.4 -1.0
PPLA lAmb lAmb 17 52 06.7
comp=Z,36nm,1.8s
RDOG Red Dog Mine 81.04 15 lAmb lAmb 17 51 37.7
comp=Z,16nm,0.6s
DGZ Jazzator, Alta 81.17 323 deP P 17 51 37.2 +0.3
DGZ pmax pmax
comp=Z,5.0nm,0.9s
PMR Palmer 81.36 24 P P 17 51 37.2 -0.2
PMR pmax pmax
comp=Z,22nm,0.7s
PMR Palmer 81.36 24 P P 17 51 37.2 -0.2
PMR lAmb lAmb 17 51 38.1
comp=Z,22nm,0.7s
CUT Chulitna 81.38 23 P P 17 51 37.3 -0.2
baz=236
EYAK Cordova Ski Ar 82.21 26 lAmb lAmb 17 51 42.7
comp=Z,17nm,0.9s
QSPA South Pole Qui 82.57 180 P P 17 51 44.1 +0.1
QSPA lAmb lAmb 17 51 45.4
comp=Z,38nm,1.2s
NEA2 Nenana 83.05 21 P P 17 51 45.4 -0.8
baz=236
MK31 Makanchi Array 83.39 319 P P 17 51 48.1 -0.4
MK31 pmax pmax
comp=Z,40nm,1.9s
MK31 Makanchi Array 83.39 319 P P 17 51 48.1 -0.4
MK31 lAmb lAmb 17 51 50.5
comp=Z,40nm,1.9s
MKAR Makanchi Array 83.39 319 P P 17 51 48.9 +0.4
comp=Z,6.0nm,0.7s,baz=104,slow=5.6,SNR=54
PAX Paxson 83.55 23 P P 17 51 48.2 -0.8
PAX pmax pmax
comp=Z,8.0nm,0.9s
PAX Paxson 83.55 23 P P 17 51 48.2 -0.8
MAKZ Makanchi 83.60 319 P P 17 51 49.2 -0.3
MAKZ pmax pmax
comp=Z,65nm,1.9s
MAKZ Makanchi 83.60 319 P P 17 51 49.1 -0.3
TCOL CIGO, UAF Yank 83.64 21 P P 17 51 48.6 -0.7
baz=237
COLA College 83.64 21 P P 17 51 48.5 -0.8
COLA pmax pmax
comp=Z,26nm,0.7s
COLA College 83.64 21 P P 17 51 48.5 -0.8
ISLE Juniper Island 83.72 26 lAmb lAmb 17 51 51.2
comp=Z,26nm,0.8s
HDA Harding Lake 83.72 22 P P 17 51 49.1 -0.7
baz=238
MAW Mawson 83.83 203 LR LR 18 25 20.8
comp=Z,166nm,21.2s,baz=65,slow=33
MAW Mawson 83.83 203 P P 17 51 49.5 -0.8
MAW pmax pmax
comp=Z,2.0nm,1.3s
MAW Mawson 83.83 203 P P 17 51 49.5 -0.8
POKR Poker Plat Res 83.92 21 P P 17 51 50.3 -0.5
baz=238
IL31 83.94 22 P P 17 51 49.1 -1.7
ILAR Eielson Array 83.94 22 P P 17 51 49.4 -1.4
comp=Z,6.5nm,0.7s,baz=250,slow=5.4,SNR=73
ILAR LR LR 18 24 41.3
comp=Z,518nm,21.6s,baz=250,slow=32
COLD Coldfoot 84.16 19 P P 17 51 52.0 +0.1
baz=235
COLD Coldfoot 84.16 19 P P 17 51 51.4 -0.5
COLD lAmb lAmb 17 51 53.9
comp=Z,39nm,1.8s
MENT Mentasta 84.23 24 P P 17 51 52.3 -0.1
MENT lAmb lAmb 17 51 53.7
comp=Z,13nm,0.6s
ZAA0 Zalesovo Array 84.25 326 P P 17 51 51.4 -1.2
ZAA0 lAmb lAmb 17 51 52.9
comp=Z,13nm,0.6s
ZALV Zalesovo Beam 84.25 326 P P 17 51 52.0 -0.6
comp=Z,12nm,0.5s,baz=113,slow=5.6,SNR=59
ZALV LR LR 18 28 08.2
comp=Z,69nm,21.5s,baz=82,slow=35
ZALV Zalesovo Beam 84.25 326 P P 17 51 52.0 -0.6
SCRK Sand Creek 84.63 23 P P 17 51 54.4 -0.1
baz=241
PRZ Przheval'sk 84.83 314 P P 17 51 57.2 +1.1
PRZ pmax pmax
comp=Z,23nm,1.2s
PRZ Przheval'sk 84.83 314 P P 17 51 57.2 +1.1
PRZ lAmb lAmb 17 52 23.6
comp=Z,23nm,1.1s
A21K Barrow 84.90 14 P P 17 51 55.8 +0.2
baz=229
SATY Saty 84.98 314⇑ iP P 17 51 56.9 +0.1
baz=314
SATY Saty 84.98 314⇑ iP P 17 51 56.9 +0.1
SATY Saty 84.98 314⇑ iP P 17 51 56.9 +0.1
TARG Taragay, Kyrgy 85.07 313 P P 17 51 57.3 -0.3
TARG lAmb lAmb 17 52 08.2
comp=Z,30nm,1.8s
TOLK Toolik Lake Re 85.16 18 P P 17 51 57.6 +0.6
baz=236
TOLK Toolik Lake Re 85.16 18 P P 17 51 56.8 -0.2
TOLK lAmb lAmb 17 51 58.4
comp=Z,12nm,0.7s
K27K Chicken 85.39 23 P P 17 51 59.4 +1.3
baz=243
TDK Taldyqorghan 85.48 316 eP P 17 51 59.4 +0.3
comp=Z,5.1nm,1.0s,baz=316
TDK Taldyqorghan 85.48 316 eP P 17 51 59.3 +0.3
TDK pmax pmax
comp=Z,5.0nm,1.0s
KDJ Kajisay 85.62 313 lAmb lAmb 17 52 26.7
comp=Z,11nm,0.9s
KSH Kashi 85.90 311 P P 17 52 03.0 +1.5
KSH S S 18 02 33.8 +0.2
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,250nm,4.3s
KSH LR LR
comp=Z,67nm,9.6s
KSH LR LR
comp=Z,97nm,10.9s
MDOK Medeo 85.97 314 eP P 17 52 01.6 -0.1
baz=314
MDOK eS SKSac 18 02 23.9 -2.2
baz=314
MDOK Medeo 85.97 314 eP P 17 52 01.6 -0.1
MDOK eS SKSac 18 02 23.8 -2.2
TNSS Tian-Shan 86.01 314 eP P 17 52 01.8 -0.5
baz=314
TNSS Tian-Shan 86.01 314 eP P 17 52 01.7 -0.5
AAA Alma-Ata 86.07 314 eP P 17 52 02.4 +0.2
baz=314
AAA Alma-Ata 86.07 314 eP P 17 52 02.3 +0.2
EGAK Eagle 86.09 23 P P 17 52 01.8 +0.2
EGAK lAmb lAmb 17 52 03.2
comp=Z,19nm,0.9s
SKAG Skagway 86.47 29 P P 17 52 03.4 -0.1
DAWY Dawson 86.47 24 P P 17 52 04.1 +0.5
KUU Kurty 86.64 315 eP P 17 52 04.2 -0.6
baz=315
KUU Kurty 86.64 315 eP P 17 52 04.2 -0.6
NIL Nilore 86.83 304 P P 17 52 05.4 -0.6
NIL pmax pmax
comp=Z,10.0nm,1.0s
NIL Nilore 86.83 304 P P 17 52 05.4 -0.6
NIL lAmb lAmb 17 53 44.2
comp=Z,10nm,0.9s
KURK Kurchatov 86.85 322 P P 17 52 05.2 -0.5
KURK pmax pmax
comp=Z,26nm,1.8s
KURK Kurchatov 86.85 322 P P 17 52 05.2 -0.5
KURK lAmb lAmb 17 52 10.6
comp=Z,26nm,1.8s
AAK Ala-Archa 87.67 313 P P 17 52 09.7 -0.4
AAK pmax pmax
comp=Z,23nm,2.0s
AAK Ala-Archa 87.67 313 P P 17 52 09.7 -0.4
AAK lAmb lAmb 17 52 22.3
comp=Z,23nm,1.9s
BTLS Baital 88.49 316 eP P 17 52 13.2 -0.5
comp=Z,3.0nm,1.8s,baz=316
BTLS Baital 88.49 316 eP P 17 52 13.2 -0.5
BTLS pmax pmax
comp=Z,3.0nm,1.8s
KRMB Red Mountain 88.61 48 P P 17 52 12.7 -1.8
KRMB lAmb lAmb 17 52 13.6
comp=Z,26nm,1.6s
KHMM Horse Mountain 88.62 49 P P 17 52 14.5 0.0
KHMM lAmb lAmb 17 52 16.1
comp=Z,28nm,1.6s
DLBC Dease Lake 88.75 31 P P 17 52 15.3 +0.7
comp=Z,6.5nm,1.0s,baz=253,slow=7.0,SNR=12
DLBC Dease Lake 88.75 31 P P 17 52 15.2 +0.5
DLBC lAmb lAmb 17 52 16.8
comp=Z,20nm,1.3s
NRIK Noril'sk 88.97 341 LR LR 18 34 30.8
comp=Z,70nm,18.0s,baz=186,slow=37
NRIK Noril'sk 88.97 341 eP P 17 52 15.4 +0.1
NRIK pmax pmax
comp=Z,1.0nm,2.0s
O02D Mt. Diablo Mer 89.20 49 P P 17 52 18.1 +0.9
baz=260
M02C Callahan 89.36 48 P P 17 52 19.6 +1.6
baz=260
DZA Taraz 90.01 313 eP P 17 52 20.6 -0.4
baz=313
DZA Taraz 90.01 313 eP P 17 52 20.5 -0.4
INK Inuvik 90.28 21 P P 17 52 21.1 -0.4
comp=Z,2.3nm,0.7s,baz=261,slow=5.9,SNR=8.8
INK Inuvik 90.28 21 P P 17 52 21.3 -0.2
INK pmax pmax
comp=Z,11nm,1.4s
INK Inuvik 90.28 21 P P 17 52 21.3 -0.2
INK lAmb lAmb 17 52 21.7
comp=Z,11nm,1.4s
IUG luzhnay 90.83 312 eP P 17 52 24.5 -0.3
comp=Z,3.1nm,1.4s,baz=312
IUG luzhnay 90.83 312 eP P 17 52 24.5 -0.3
IUG pmax pmax
comp=Z,3.0nm,1.4s
WAKR Walker 91.49 52 P P 17 52 28.4 +0.2
WAKR lAmb lAmb 17 52 29.6
comp=Z,5.8nm,0.9s
PAHR Pah Rah Range 91.70 50 P P 17 52 29.7 +0.7
PAHR lAmb lAmb 17 52 30.8
comp=Z,15nm,1.4s
ISA Isabella, Lake 91.86 54 P P 17 52 30.6 +0.8
baz=262
ISA Isabella, Lake 91.86 54 P P 17 52 30.4 +0.6
ISA pmax pmax
comp=Z,18nm,1.5s
ISA Isabella, Lake 91.86 54 P P 17 52 30.4 +0.6
ISA lAmb lAmb 17 52 31.5
comp=Z,18nm,1.5s
EDW2 Edwards Air Fo 92.15 55 P P 17 52 32.2 +1.1
baz=262
LHV Little Huntoon 92.18 52 P P 17 52 32.4 +1.4
RYN Ryan 92.22 52 lAmb lAmb 17 52 33.4
comp=Z,11nm,1.1s
I07A Izee 92.23 46 P P 17 52 30.1 -1.2
I07A lAmb lAmb 17 55 08.4
comp=Z,18nm,2.0s
CWC Cottonwood Cre 92.28 54 P P 17 52 32.4 +0.6
baz=262
NVAR Mina Array Bea 92.36 52 P P 17 52 33.1 +0.9
comp=Z,6.3nm,0.8s,baz=254,slow=6.1,SNR=41
NVAR LR LR 18 28 24.9
comp=Z,228nm,20.1s,baz=273,slow=32
BRVK Borovoye 92.40 323 P P 17 52 30.7 -1.0
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 92.40 323 P P 17 52 30.7 -1.0
NV11 Mina Array Sit 92.48 52 lAmb lAmb 17 52 34.6
comp=Z,12nm,1.1s
KVN Kaiserville 92.60 51 P P 17 52 33.5 +0.3
KVN pmax pmax
comp=Z,23nm,1.5s
KVN Kaiserville 92.60 51 P P 17 52 33.5 +0.3
WVOR Wild Horse Val 92.64 48 lAmb lAmb 17 56 12.1
comp=Z,3.7nm,0.7s
MPMC Manual Prospec 92.71 54 P P 17 52 34.5 +0.7
baz=263
GSC Goldstone, Bar 93.17 55 P P 17 52 36.5 +0.7
GSC pmax pmax
comp=Z,5.0nm,0.9s
GSC Goldstone, Bar 93.17 55 P P 17 52 36.5 +0.7
PFO Pinyon Flats O 93.25 57⇑ eP P 17 52 37.4 +1.1
PFO pmax pmax
comp=Z,4.0nm,1.0s
FURC Furnace Creek, 93.26 54 P P 17 52 37.0 +1.0
baz=263
HEC Hector,Ludlow 93.50 55 P P 17 52 38.4 +1.0
baz=264
BELC Belle Mtn. Jos 93.68 56 P P 17 52 39.2 +0.9
baz=264
TPNV Topopah Spring 93.80 53 P P 17 52 39.5 +0.7
baz=264
TPNV Topopah Spring 93.80 53 P P 17 52 39.3 +0.5
TPNV pmax pmax
comp=Z,9.0nm,1.2s
TPNV Topopah Spring 93.80 53 P P 17 52 39.3 +0.5
TPNV lAmb lAmb 17 52 40.1
comp=Z,8.8nm,1.1s
GMRC Granite Mounta 94.04 56 P P 17 52 40.3 +0.4
baz=264
IRM Iron Mountain 94.40 56 P P 17 52 42.1 +0.6
baz=264
R11A Troy Canyon, C 94.48 52 P P 17 52 42.6 +0.7
baz=264
SHPR Sheep Range 94.63 54 P P 17 52 43.6 +1.1
SHPR lAmb lAmb 17 52 44.3
comp=Z,6.9nm,1.0s
PRN Pahroc Range 94.80 53 P P 17 52 44.3 +1.0
PRN lAmb lAmb 17 52 45.6
comp=Z,16nm,1.4s
LCMT Little Creek M 96.20 54 P P 17 52 51.0 +1.2
KNB Kanab 96.54 54 P P 17 52 52.9 +1.6
KNB pmax pmax
comp=Z,14nm,1.5s
KNB Kanab 96.54 54 P P 17 52 52.9 +1.6
YKA Yellowknife Ar 96.93 28 P P 17 52 53.0 +0.8
comp=Z,1.9nm,0.8s,baz=269,slow=4.2,SNR=4.1
YKA Yellowknife Ar 96.93 28 P P 17 52 53.0 +0.8
MTPU Mount Pierson 97.12 53 P Pdif 17 52 54.5 +0.2
NVL N'lazarevskaya 98.07 192 eP P 17 52 49.3 -8.0
NVL eS SKSac 18 03 24.6 -8.4
NVL pmax pmax
comp=Z,7.0nm,0.8s
PDAR Pinedale Array 99.34 48 P Pdif 17 53 03.1 -0.8
comp=Z,0.5nm,0.6s,baz=228,slow=1.8,SNR=5.0
PDAR LR LR 18 32 55.3
comp=Z,158nm,20.0s,baz=296,slow=32
GEYT Alibeck 99.53 307 LR LR 18 37 14.6
comp=Z,30nm,21.1s,baz=25,slow=35
TXAR Lajitas Array 103.89 62 Pdiff Pdif 17 53 26.9 +2.7
comp=Z,0.4nm,0.9s,baz=261,slow=4.5,SNR=1.6
ARCES ARCESS Array B 109.84 343 PKiKP PKiKP 17 57 51.6 -0.2
comp=Z,1.1nm,0.8s,baz=90,slow=1.8,SNR=2.2
KIV Kislovodsk 110.78 314 i PKiKP PKiKP 17 57 53.6 -0.8
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,165nm,21.0s
FINES FINESS Array B 114.11 336 PKP PKiKP 17 58 00.2 +0.1
comp=Z,2.0nm,0.8s,baz=64,slow=3.2,SNR=3.7
AKASG Malin Array Be 117.59 324 PKP PKPdf 17 58 07.0 -0.1
comp=Z,1.3nm,0.5s,baz=52,slow=2.5,SNR=8.0
AKASG Malin Array Be 117.59 324 PKiKP PKPdf 17 58 07.0 -0.1
BR131 Keskin Array S 118.29 311⇑ iPKiKP PKiKP 17 58 09.4 +0.4
BRTR Keskin Array B 118.29 311 PKP PKPdf 17 58 08.5 -0.5
comp=Z,0.4nm,0.6s,baz=120,slow=3.0,SNR=2.4
NOA NORSAR Array B 119.92 340 PKP PKPdf 17 58 11.1 -0.2
comp=Z,0.4nm,0.6s,baz=40,slow=1.8,SNR=2.2
Q54A Coxs Mills 121.33 49 PKPdf 17 58 13.6 -1.1
KOLS Kolonicke sedl 122.40 325 ePKiKP PKPdf 17 58 16.4 0.0
KOLS Kolonicke sedl 122.40 325 ePKP PKPdf 17 58 16.4 0.0
O56A Blue Knob Stat 122.58 47 PKPdf 17 58 15.7 -1.4
VYHS Vyhne 124.58 326 ePKiKP PKPdf 17 58 20.4 -0.2
VYHS Vyhne 124.58 326 ePKP PKPdf 17 58 20.4 -0.2
BRG Berggiesshubel 125.76 330 i P PKiKP 17 58 23.8 +0.6
comp=Z,3.6nm,1.0s
CLL Collm 125.94 331 ePKPdf PKPdf 17 58 23.0 -0.1
CLL e 17 58 31.0
CLL ePP PP 18 00 17.0 +1.2
CLL Collm 125.94 331 ePKiKP PKPdf 17 58 23.0 -0.1
CLL e 17 58 31.0
KHC Kasperske Hory 127.03 329⇓ iPKiKP PKiKP 17 58 25.7 -0.1
KHC pmax pmax
comp=Z,5.0nm,0.8s
KHC Kasperske Hory 127.03 329 ePKPDF PKPdf 17 58 25.5 +0.2
KHC Kasperske Hory 127.03 329 PKPdf PKPdf 17 58 25.2 -0.1
GEC2 GERESS Array S 127.15 328 PKPdf 17 58 24.2 -1.4
GERES GERESS Array B 127.15 328 PKP PKiKP 17 58 26.2 +0.1
comp=Z,1.2nm,0.5s,baz=75,slow=1.5,SNR=15
EKA Eskdalemuir Ar 129.00 344 PKP PKiKP 17 58 29.8 +0.3
comp=Z,0.9nm,0.5s,baz=19,slow=2.7,SNR=6.4
MNMC Minye Minye 129.18 122 PKPdf 17 58 29.7 -0.9
CIMO Cimolais 129.38 327 PKPdf PKPdf 17 58 29.0 -0.9
DAVOX Davos/Dischmat 130.45 328 PKP PKPdf 17 58 32.5 +0.4
baz=38,slow=12
LPAZ La Paz 131.69 119 PKP PKiKP 17 58 36.4 -0.4
comp=Z,1.4nm,0.5s,baz=341,slow=3.0,SNR=7.1
LPAZ La Paz 131.69 119 PKiKP PKPdf 17 58 35.4 -0.4
LPAZ La Paz 131.69 119 PKPdf PKPdf 17 58 35.4 -0.4
ESDC Sonseca Array 142.51 332 PKhKP PKPdf 17 58 51.5 -3.0
comp=Z,0.4nm,0.7s,baz=9.4,slow=3.6,SNR=2.7
PVIS Viseu 143.30 337 ePKP PKPbc 17 58 52.8 0.0
PCBR Castelo Branco 143.89 336 ePKP PKPab 17 58 54.2 +0.3
PMRV Marv??o 144.21 336 ePKP PKPbc 17 58 56.2 +0.7
PSBE So Bento 144.69 337 ePKP PKPdf 17 58 57.8 -0.5
EVO Evora 145.22 336 ePKP PKPdf 17 58 59.4 +0.2
PMAFR Mafra 145.36 337 ePKP PKPdf 17 58 59.5 +0.1
PBEJ Beja 145.59 335 ePKP PKPab 17 59 00.8 +0.6
PNCL Nicolau / Gran 145.79 336 ePKP PKPab 17 59 01.5 +0.5
PCVE Castro Verde 146.00 335 ePKP PKPab 17 59 02.2 +0.4
PBDV Barranco-do-Ve 146.28 334 ePKP PKPab 17 59 03.5 +0.6
PTEO Sao Teotonio 146.35 336 ePKP PKPab 17 59 03.5 +0.4
MORF Marmelete 146.53 335 ePKP PKPdf 17 59 01.9 +0.4
PFVI Vila Bisbo 146.75 335 ePKP PKPab 17 59 04.4 -0.3
BDFB Brasilia 148.03 136 PKPbc PKPbc 17 59 07.6 -0.2
comp=Z,7.8nm,0.6s,baz=144,slow=1.8,SNR=9.5
BDFB Brasilia 148.03 136 PKiKP PKPdf 17 59 05.1 +0.4
BDFB Brasilia 148.03 136 PKPdf PKPdf 17 59 05.1 +0.4
MDT Midelt 148.14 325 PKPbc PKPbc 17 59 07.7 +0.1
comp=Z,4.4nm,0.8s,baz=66,slow=2.9,SNR=7.3
TOA0 Torodi Ar. Sit 152.65 284 PKPbc 17 59 17.7 -1.1
TORD Torodi Ar. Bea 152.65 284 PKPbc PKPbc 17 59 18.6 -0.2
comp=Z,5.5nm,0.8s,baz=62,slow=2.6,SNR=18
TORD PKPab PKPab 17 59 29.6 +0.1
comp=Z,2.8nm,0.9s,baz=68,slow=2.4,SNR=4.1
DBIC Dimbokro 159.50 269 PKPab PKPab 17 59 58.5 -0.3
comp=Z,3.4nm,0.8s,baz=86,slow=3.1,SNR=5.3
DBIC Dimbokro 159.50 269 PKP2 PKPab 17 59 59.0 +0.1
DBIC Dimbokro 159.50 269 PKPab 17 59 59.0 +0.1

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*DDA **22** 17:46:24.2, 35°.25N ± 27°.51E, h18km, MW4.3*
*IDC **22** 17:46:27.9 ± 0.7, 35°.49N ± 27°.77E, h0km, mb4.2/22, mb1 4.2/32, mb1mx4.1/61, mbtmp4.2/32, ML4.0/10, MS3.5/13, Ms1 3.5/13, ms1mx3.3/47, Error ellipse: s-maj=14.3km s-min=12.0km az=13.0*
*NIC **22** 17:46:27.9 ± 0.0, 35°.49N ± 27°.77E, h6km ± 2km, Ml4.5/3*
*NEIC **22** 17:46:28.9, 35°.42N ± 27°.75E, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.61; $M_{\theta\theta}$-2.32; $M_{\phi\phi}$2.93; $M_{r\theta}$1.80; $M_{\theta\phi}$0.07; $M_{\phi r}$1.70; Fault plane solution: $M_0$3.65000×10^{15} NP1:ϕ_s318.40000°, δ46.13000°, λ-170.89000°. NP2:ϕ_s222.06000°, δ83.45000°, λ-44.23000°. Principal axes: T 3.7113, Plg24.0000°, Azm278.0000°; N -0.1347, Plg45.0000°, Azm35.0000°; P -3.5766, Plg35.0000°, Azm170.0000°;*
*NEIC **22** 17:46:28.3 ± 2.5, 35°.42N ± 0.07, 27°.77E ± 0.06, h5km ± 4km, mb4.3/42, Mwr4.3/14, ML4.0(THE) Error ellipse: s-maj=10.5km s-min=7.4km az=174.0*
*ATH **22** 17:46:29.4, 35.59N ± 27.70E, h23km ± 1km, ML4.0/15, Error ellipse: s-maj=1.5km s-min=0.8km az=328.0*
*MOS **22** 17:46:29.1 ± 1.2, 35.47N ± 27.73E, h17km, mb4.4/14, Error ellipse: s-maj=5.8km s-min=3.6km az=88.0*
*ISK **22** 17:46:29.1, 35.56N ± 27.71E, h8km, ML4.2/22*
*THE **22** 17:46:29.9, 35.61N ± 27.68E, h2km, ML4.0/13, Error ellipse: s-maj=1.2km s-min=0.3km az=136.0*
*GII **22** 17:46:30.9 ± 0.0, 35°.33N ± 27°.83E, h20km, mb4.2/4,*

MD4.0/4
HLW 22 17:46:33.8,35°.09N×28°.02E,h11km≙16km,Md4.1,Ml4.3
ISC 22 17:46:29.5±0.6,**35°.48N**±0°.03×**27°.76E**±0°.02,**h11**km±3km,
n448,σ1§54/511,mb4.3/47,MS3.5/11,24C-13D,
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.49**	**278**	P	**Pg**	**17 46 38.3**	**-0.8**
KARP				S	**Sg**	**17 46 45.7**	**+0.1**
	15μm,0.9s						
KARP	**Karpathos**	**0.49**	**278**	P	**Pg**	**17 46 38.2**	**-0.9**
KARP				S	**Sg**	**17 46 45.3**	**-0.3**
KARP				AML	AML	17 46 53.0	
	comp=N,33440μm,0.8s						
KARP				AML	AML	17 46 53.4	
	comp=E,24210μm,0.4s						
KARP	**Karpathos**	**0.49**	**278**	PG	**Pg**	**17 46 38.3**	**-0.8**
KARP				SG	**Sg**	**17 46 45.1**	**-0.5**
KARP	**Karpathos**	**0.49**	**278**	⇑P	**Pg**	**17 46 38.1**	**-0.9**
KARP				S	**Sg**	**17 46 46.1**	**+0.5**
KARP	**Karpathos**	**0.49**	**278**	Pg	**Pg**	**17 46 37.8**	**-1.3**
ARG	**Arkhangelos**	**0.79**	**22**	P	**Pg**	**17 46 43.6**	**-1.2**
ARG				S	**Sg**	**17 46 54.5**	**-0.6**
	comp=E,10μm,0.8s						
ARG	**Arkhangelos**	**0.79**	**22**	P	**Pg**	**17 46 43.2**	**-1.6**
ARG				S	**Sg**	**17 46 53.4**	**-1.8**
ARG				AML	AML	17 47 04.8	
	comp=E,19063μm,0.6s						
ARG				AML	AML	17 47 06.8	
	comp=N,18757μm,1.0s						
ARG	**Arkhangelos**	**0.79**	**22**	PG	**Pg**	**17 46 43.4**	**-1.4**
ARG	**Arkhangelos**	**0.79**	**22**	P	**Pb**	**17 46 44.7**	**-0.5**
ARG				S	**Sb**	**17 46 55.2**	**-0.8**
ARG	**Arkhangelos**	**0.79**	**22**	⇑P	**Pg**	**17 46 43.3**	**-1.5**
ARG				S	**Sg**	**17 46 54.8**	**-0.3**
NISR	**Nisiros**	**1.23**	**336**	P	**Pn**	**17 46 50.4**	**-2.3**
NISR				S	**Sb**	**17 47 06.1**	**-2.6**
	comp=N,7μm,1.2s						
NISR	**Nisiros**	**1.23**	**336**	P	**Pn**	**17 46 51.4**	**-1.2**
NISR				S	**Sb**	**17 47 06.4**	**-2.3**
NISR				AML	AML	17 47 21.8	
	comp=E,17022μm,1.4s						
NISR				AML	AML	17 47 22.7	
	comp=N,9119μm,1.1s						
DAT	**Datca**	**1.25**	**353**	PN	**Pn**	**17 46 51.7**	**-1.3**
DAT	**Datca**	**1.25**	**353**	*i* P	**Pn**	**17 46 51.5**	**-1.5**
DAT				*i* S	**Sn**	**17 47 12.2**	**+2.3**
DAT				IAML		17 47 17.0	
	comp=N,2μm,0.8s						
DAT				IAML		17 47 17.0	
	comp=E,2μm,0.6s						
ZKR	**Zakros**	**1.31**	**254**	P	**Pn**	**17 46 53.0**	**-0.7**
ZKR				S	**Sg**	**17 47 11.6**	**-0.1**
	comp=E,8μm,0.8s						
ZKR	**Zakros**	**1.31**	**254**	P	**Pn**	**17 46 53.7**	**0.0**
ZKR				S	**Sg**	**17 47 12.3**	**+0.6**
ZKR				AML	AML	17 47 21.2	
	comp=E,21307μm,0.9s						
ZKR				AML	AML	17 47 21.8	
	comp=N,8988μm,0.8s						
ZKR	**Zakros**	**1.31**	**254**	PN	**Pn**	**17 46 53.6**	**-0.1**
TURN	**Turunc**	**1.35**	**17**	PN	**Pn**	**17 46 53.6**	**-3.3**
TURN	**Turunc**	**1.35**	**17**	*i* P	**Pn**	**17 46 53.0**	**-4.0**
TURN				*i* S	**Sn**	**17 47 13.1**	**-3.9**
KOSK	**Kos Island**	**1.41**	**334**	PN	**Pn**	**17 46 54.7**	**-0.4**
DALY	**Dalyan (Mula)**	**1.52**	**28**	PN	**Pb**	**17 46 56.6**	**-1.0**
DALY	**Dalyan (Mula)**	**1.52**	**28**	*i* P	**Pn**	**17 46 56.3**	**-0.2**
DALY				*i* S	**Sg**	**17 47 23.1**	**+4.8**
FETY	**Fethiye**	**1.57**	**43**	PN	**Pb**	**17 46 57.8**	**-0.8**
FETY	**Fethiye**	**1.57**	**43**	*i* P	**Pn**	**17 46 57.4**	**0.0**
FETY				IAML		17 47 30.0	
	comp=E,499nm,0.9s						
FETY				IAML		17 47 32.0	
	comp=N,1μm,0.8s						
BDRM	**Kayabasi**	**1.60**	**351**	*i* P	**Pn**	**17 46 57.0**	**-0.7**
BDRM				*i* S	**Sn**	**17 47 18.4**	**0.0**
BDRM				IAML		17 47 22.0	
	comp=E,2μm,0.4s						
BODT	**Bodrum**	**1.61**	**347**	PN	**Pn**	**17 46 57.1**	**-0.8**
KSL	**Kastellorizon**	**1.63**	**65**	P	**Pb**	**17 46 58.4**	**-1.1**
KSL	**Kastellorizon**	**1.63**	**65**	P	**Pb**	**17 46 58.5**	**-1.1**
KSL				S	**Sg**	**17 47 20.4**	**-1.4**
KSL				AML	AML	17 47 44.2	
	comp=E,6574μm,1.4s						
KSL				AML	AML	17 47 47.8	
	comp=N,3723μm,1.8s						
KSL	**Kastellorizon**	**1.63**	**65**	⇓P	**Pn**	**17 46 57.7**	**-0.4**
KSL				S	**Sg**	**17 47 20.5**	**-1.3**
KSL				AML	AML	17 47 43.5	
	comp=N,6.7nm,1.5s						
KSL				AML	AML	17 47 43.5	
	comp=N,6.7nm,1.5s						
KSL				AML	AML	17 47 48.8	
	comp=N,4.3nm,1.9s						
KSL				AML	AML	17 47 48.8	
	comp=N,4.3nm,1.9s						
AKAS	**Kas**	**1.68**	**63**	PN	**Pb**	**17 46 59.3**	**-1.2**
AKAS	**Kas**	**1.68**	**63**	*i* P	**Pb**	**17 46 59.4**	**-1.2**
AKAS				IAML		17 47 46.0	
	comp=E,845nm,1.3s						
AKAS				IAML		17 47 50.0	
	comp=N,2μm,0.8s						
AKAS	**Kas**	**1.68**	**63**	Pn	**Pb**	**17 46 59.2**	**-1.2**
YER	**Yerkesik**	**1.70**	**14**	PN	**Pn**	**17 46 58.9**	**-0.3**
YER	**Yerkesik**	**1.70**	**14**	P	**Pn**	**17 46 58.9**	**-0.3**
NPS	**Neapolis**	**1.77**	**263**	P	**Pn**	**17 46 59.8**	**-0.2**
NPS				S	**Sn**	**17 47 22.0**	**-0.4**
	comp=N,4μm,0.9s						
NPS	**Neapolis**	**1.77**	**263**	P	**Pb**	**17 47 00.9**	**-1.0**
NPS				S	**Sn**	**17 47 22.2**	**-0.2**
NPS				AML	AML	17 47 42.2	
	comp=E,7685μm,0.9s						
NPS				AML	AML	17 47 42.5	
	comp=N,7399μm,0.9s						
NPS	**Neapolis**	**1.77**	**263**	P	**Pn**	**17 47 00.5**	**+0.5**
NPS				S	**Sb**	**17 47 23.5**	**-0.5**
ANAF	**Anafi Island**	**1.83**	**299**	P	**Pn**	**17 46 59.0**	**-1.9**
ANAF				S	**Sn**	**17 47 22.3**	**-1.7**
	comp=N,10μm,0.4s						
ANAF	**Anafi Island**	**1.83**	**299**	P	**Pn**	**17 47 00.6**	**-0.2**
ANAF				S	**Sn**	**17 47 22.6**	**-1.5**
ANAF				AML	AML	17 47 31.8	
	comp=N,18311μm,0.4s						
ANAF				AML	AML	17 47 33.1	
	comp=E,19149μm,0.4s						
LAST	**Lasithi**	**1.89**	**261**	P	**Pn**	**17 47 01.7**	**-0.1**
LAST				S	**Sn**	**17 47 25.4**	**-0.2**
	comp=E,4μm,1.1s						
LAST	**Lasithi**	**1.89**	**261**	P	**Pb**	**17 47 02.8**	**-1.3**
LAST				S	**Sn**	**17 47 26.1**	**+0.5**
LAST				AML	AML	17 47 46.1	
	comp=N,5422μm,1.4s						
LAST				AML	AML	17 47 48.6	
	comp=E,8021μm,1.3s						
DEMR	**Demre-Antalya**	**1.90**	**66**	PN	**Pb**	**17 47 03.2**	**-1.0**
AMGA	**Amorgos Island**	**2.02**	**312**	P	**Pn**	**17 47 02.0**	**-1.5**
AMGA				S	**Sn**	**17 47 26.7**	**-2.0**
	comp=E,3μm,1.8s						
AMGA	**Amorgos Island**	**2.02**	**312**	P	**Pn**	**17 47 02.6**	**-0.9**
AMGA				S	**Sn**	**17 47 27.2**	**-1.5**
AMGA				AML	AML	17 47 40.9	
	comp=E,5018μm,0.9s						
AMGA				AML	AML	17 47 40.9	
	comp=N,5607μm,1.0s						
SANT	**Santorini**	**2.06**	**296**	P	**Pn**	**17 47 03.7**	**-0.5**
SANT				S	**Sn**	**17 47 28.8**	**-1.0**
SANT				AML	AML	17 47 39.3	
	comp=N,3351μm,0.9s						
SANT				AML	AML	17 47 45.4	
	comp=E,6532μm,0.8s						
SANT	**Santorini**	**2.06**	**296**	P	**Pn**	**17 47 03.2**	**-0.9**
SANT	**Santorini**	**2.06**	**296**	PN	**Pn**	**17 47 03.9**	**-0.2**
SANT	**Santorini**	**2.06**	**296**	Pn	**Pn**	**17 47 03.6**	**-0.5**
THR8	**Santorini-Mono**	**2.06**	**297**	P	**Pn**	**17 47 02.2**	**-1.8**
SNT3	**Karterados, Sa**	**2.09**	**297**	P	**Pn**	**17 47 05.0**	**+0.5**
THR6	**Thira Island,**	**2.10**	**295**	P	**Pn**	**17 47 03.4**	**-1.2**
SAP1	**Santorini-Akro**	**2.10**	**295**	P	**Pn**	**17 47 05.3**	**+0.6**
THR2	**Thira island,**	**2.11**	**298**	P	**Pn**	**17 47 03.5**	**-1.3**
THT2	**Imerovigli**	**2.12**	**297**	PN	**Pn**	**17 47 05.1**	**+0.3**
THR3	**Thira Island,**	**2.12**	**296**	P	**Pn**	**17 47 02.7**	**-2.2**
THR9	**Santorini-Faro**	**2.13**	**295**	P	**Pn**	**17 47 03.8**	**-1.2**
CMBO	**Columbo, Santo**	**2.15**	**298**	P	**Pn**	**17 47 04.9**	**-0.3**
ELL	**Elmali**	**2.15**	**53**	PN	**Pn**	**17 47 06.1**	**+0.6**
ELL	**Elmali**	**2.15**	**53**	P	**Pn**	**17 47 06.0**	**+0.6**
THR5	**Thira Island,**	**2.16**	**296**	P	**Pn**	**17 47 05.1**	**-0.3**
SAP3	**Santorini-Thir**	**2.17**	**297**	P	**Pn**	**17 47 06.2**	**+0.6**
AYDN	**Tasoluk**	**2.17**	**3**	*i* P	**Pn**	**17 47 05.7**	**0.0**
AYDN				*i* S	**Sb**	**17 47 36.9**	**+1.0**
AYDN				IAML		17 47 39.0	
	comp=N,1μm,0.5s						
AYDN				IAML		17 47 52.0	
	comp=E,732nm,0.5s						
TAVA	**DENIZLI_Tavas**	**2.19**	**25**	*i* P	**Pb**	**17 47 07.0**	**-2.1**
TAVA				*i* S	**Sg**	**17 47 38.0**	**-1.7**
TAVA				IAML		17 47 43.0	
	comp=N,2μm,1.2s						
TAVA				IAML		17 47 45.0	
	comp=E,803nm,0.5s						
GCAM	**G?zelcaml?**	**2.25**	**349**	PN	**Pn**	**17 47 06.9**	**+0.3**
GCAM	**G?zelcaml?**	**2.25**	**349**	*i* P	**Pb**	**17 47 08.2**	**-2.0**
AKUM	**Antalya-Kumluc**	**2.26**	**68**	*i* P	**Pn**	**17 47 07.2**	**+0.4**
AKUM				IAML		17 48 12.0	
	comp=N,547nm,1.9s						
AKUM				IAML		17 48 15.0	
	comp=E,475nm,1.3s						
GOLH	**Golhisar**	**2.28**	**39**	*i* P	**Pb**	**17 47 08.8**	**-1.9**
GOLH				IAML		17 47 59.0	
	comp=N,2μm,0.7s						
SMG	**Samos**	**2.34**	**342**	P	**Pn**	**17 47 06.4**	**-1.5**
SMG				S	**Sn**	**17 47 33.8**	**-2.8**
SMG	**Samos**	**2.34**	**342**	P	**Pn**	**17 47 07.0**	**-0.9**
SMG				S	**Sn**	**17 47 34.8**	**-1.8**
IDI	**Anoyia**	**2.35**	**266**	Pn	**Pn**	**17 47 08.6**	**+0.5**
	comp=N,41nm,0.3s,baz=77,slow=14,SNR=135						
IDI				Sn	**Sn**	**17 47 38.8**	**+1.9**
	comp=N,68nm,0.3s,baz=324,slow=17,SNR=5.0						
IDI				LR	LR	17 48 13.3	
	comp=N,685nm,20.7s,baz=97,slow=45						
IDI	**Anoyia**	**2.35**	**266**	P	**Pn**	**17 47 07.8**	**-0.3**
IDI	**Anoyia**	**2.35**	**266**	P	**Pn**	**17 47 08.4**	**+0.3**
IDI	**Anoyia**	**2.35**	**266**	P	**Pn**	**17 47 08.2**	**+0.1**
IDI	**Anoyia**	**2.35**	**266**	PN	**Pn**	**17 47 08.5**	**+0.5**
IDI	**Anoyia**	**2.35**	**266**	Pn	**Pn**	**17 47 08.3**	**+0.3**
IOSP	**Ios island**	**2.35**	**302**	P	**Pn**	**17 47 06.8**	**-1.2**
IOSP	**Ios island**	**2.35**	**302**	P	**Pn**	**17 47 07.2**	**-0.8**
IOSP				S	**Sn**	**17 47 35.4**	**-1.4**
IOSP				AML	AML	17 47 40.3	
	comp=E,2418μm,0.4s						
IOSP				AML	AML	17 47 41.1	
	comp=N,2188μm,0.7s						
APE	**Apeiranthos**	**2.39**	**312**	P	**Pn**	**17 47 07.3**	**-1.4**
APE				S	**Sn**	**17 47 35.9**	**-2.1**
	comp=N,898nm,0.8s						
APE	**Apeiranthos**	**2.39**	**312**	P	**Pn**	**17 47 07.9**	**-0.7**
APE				S	**Sn**	**17 47 36.0**	**-2.1**
APE				AML	AML	17 47 42.5	
	comp=E,1834μm,0.6s						
APE				AML	AML	17 47 48.4	
	comp=N,1786μm,1.1s						
APE	**Apeiranthos**	**2.39**	**312**	P	**Pn**	**17 47 07.8**	**-0.9**
APE	**Apeiranthos**	**2.39**	**312**	PN	**Pn**	**17 47 08.0**	**-0.7**
APE	**Apeiranthos**	**2.39**	**312**	P	**Pn**	**17 47 09.2**	**+0.5**
APE				S	**Sn**	**17 47 37.5**	**-0.5**
APE	**Apeiranthos**	**2.39**	**312**	⇑P	**Pn**	**17 47 07.8**	**-0.9**
APE				S	**Sn**	**17 47 39.0**	**+1.0**
KEMT	**Kemer-ANTALYA**	**2.53**	**63**	PN	**Pn**	**17 47 11.7**	**+1.2**
KORT	**Korkueli**	**2.59**	**53**	PN	**Pn**	**17 47 12.2**	**+0.8**
DGB	**zmir**	**2.66**	**345**	*i* P	**Pn**	**17 47 11.5**	**-0.7**
DGB				*i* S	**Sb**	**17 47 47.3**	**-2.4**
DGB				IAML		17 48 02.0	
	comp=N,198nm,1.1s						
DGB				IAML		17 48 05.0	
	comp=E,177nm,0.8s						
ANTB	**Antalya**	**2.74**	**58**	PN	**Pn**	**17 47 14.7**	**+1.4**
VAM	**Vamos**	**2.90**	**270**	P	**Pn**	**17 47 15.3**	**-0.3**
VAM				S	**Sn**	**17 47 50.1**	**-0.4**
	comp=E,878nm,1.4s						
VAM	**Vamos**	**2.90**	**270**	P	**Pn**	**17 47 16.4**	**+0.8**
VAM				S	**Sn**	**17 47 50.4**	**-0.2**
VAM				AML	AML	17 48 21.3	
	comp=N,2145μm,1.0s						
VAM				AML	AML	17 48 25.1	
	comp=E,1267μm,0.8s						
BLCB	**Balcova**	**2.95**	**349**	PN	**Pn**	**17 47 16.4**	**+0.1**
URLA	**Izmir**	**3.02**	**342**	PN	**Pn**	**17 47 17.1**	**-0.1**
URLA	**Izmir**	**3.02**	**342**	*i* P	**Pn**	**17 47 16.9**	**-0.3**
URLA				IAML		17 48 24.0	
	comp=N,193nm,0.8s						
URLA				IAML		17 48 25.0	
	comp=E,208nm,1.0s						
BCK	**Bucak**	**3.02**	**48**	PN	**Pn**	**17 47 18.2**	**+0.9**
BASM	**Basmaki-Afyon**	**3.05**	**37**	PN	**Pn**	**17 47 18.5**	**+0.8**
MANT	**Manisa**	**3.07**	**12**	*i* P	**Pn**	**17 47 18.6**	**+0.4**
MANT				IAML		17 48 19.0	
	comp=N,216nm,0.8s						
MANT				IAML		17 48 32.0	
	comp=E,221nm,1.3s						
MANT	**Manisa**	**3.07**	**12**	Pn	**Pn**	**17 47 18.5**	**+0.4**
GVD	**Gavdhos**	**3.07**	**259**	P	**Pn**	**17 47 20.1**	**+2.2**
IMMV	**Iera Moni Meta**	**3.08**	**271**	P	**Pn**	**17 47 17.9**	**-0.2**
IMMV	**Iera Moni Meta**	**3.08**	**271**	P	**Pn**	**17 47 19.0**	**+0.9**
IMMV				S	**Sn**	**17 47 54.7**	**-0.2**
IMMV				AML	AML	17 48 25.3	
	comp=N,1802μm,0.8s						
IMMV				AML	AML	17 48 26.6	
	comp=E,2176μm,1.0s						
KULA	**Kula-Manisa**	**3.11**	**13**	PN	**Pn**	**17 47 19.1**	**+0.6**
SERI	**Serifos**	**3.13**	**303**	P	**Pn**	**17 47 17.3**	**-1.4**
SERI	**Serifos**	**3.13**	**303**	P	**Pn**	**17 47 18.4**	**-0.3**
CHOS	**Chios island**	**3.20**	**335**	P	**Pn**	**17 47 18.0**	**-1.8**
CHOS				S	**Sn**	**17 47 56.0**	**-2.0**
CHOS	**Chios island**	**3.20**	**335**	P	**Pn**	**17 47 19.8**	**0.0**
CHOS	**Chios island**	**3.20**	**335**	PN	**Pn**	**17 47 20.1**	**+0.3**
GOMA	**Golmarmara-Man**	**3.22**	**2**	PN	**Pn**	**17 47 20.2**	**+0.2**
ISP	**Isparta**	**3.22**	**43**	P	**Pn**	**17 47 21.3**	**+1.2**
ISP	**Isparta**	**3.22**	**43**	P	**Pn**	**17 47 20.9**	**+0.8**
ISP	**Isparta**	**3.22**	**43**	Pn	**Pn**	**17 47 20.9**	**+0.8**
KRBN	**Karaburun**	**3.25**	**343**	PN	**Pn**	**17 47 20.7**	**+0.3**
AKHS	**Akhisar**	**3.39**	**1**	*i* P	**Pn**	**17 47 22.4**	**+0.1**
AKHS				IAML		17 48 26.0	
	comp=E,159nm,0.9s						
AKS	**Akhisar**	**3.39**	**1**	PN	**Pn**	**17 47 22.9**	**+0.6**
KEPZ	**Antalya-Kepez**	**3.42**	**64**	*i* P	**Pn**	**17 47 24.0**	**+1.3**
KEPZ				IAML		17 48 11.0	
	comp=E,312nm,0.7s						
KEPZ				IAML		17 48 16.0	
	comp=N,248nm,1.0s						
OSC1	**CSNet OBS 1**	**3.52**	**123**	P	**Pn**	**17 47 23.3**	**-0.7**
ZEDA	**zmir-Bergama**	**3.52**	**351**	*i* P	**Pn**	**17 47 24.0**	**0.0**
ZEDA				IAML		17 48 31.0	
	comp=N,185nm,0.9s						
ZEDA				IAML		17 48 42.0	
	comp=E,155nm,1.4s						
DKL	**Dikili**	**3.64**	**350**	PN	**Pn**	**17 47 26.3**	**+0.5**
ANKY	**Antikythira Is**	**3.65**	**277**	P	**Pn**	**17 47 25.7**	**-0.1**
ANKY				S	**Sn**	**17 48 08.9**	**+0.1**
	comp=E,535nm,0.8s						
ANKY	**Antikythira Is**	**3.65**	**277**	P	**Pn**	**17 47 26.3**	**+0.5**
KARY	**Karystos**	**3.68**	**315**	P	**Pn**	**17 47 24.8**	**-1.5**
AKMS	**Akamas**	**3.78**	**96**	P	**Pn**	**17 47 27.2**	**-0.5**
AKMS				AML	AML	17 48 14.6	
	comp=E,2.2nm,0.7s						
GAZI	**Gazipasa**	**3.78**	**77**	*i* P	**Pn**	**17 47 27.1**	**-0.6**
STEP	**BALIKESIR_Sava**	**3.89**	**360**	*i* P	**Pn**	**17 47 29.5**	**+0.3**
STEP				IAML		17 48 21.0	
	comp=N,334nm,0.8s						
STEP				IAML		17 48 58.0	
	comp=E,351nm,1.2s						
KTHA	**Kythira Island**	**3.89**	**283**	P	**Pn**	**17 47 29.9**	**+0.7**
KTHA				S	**Sn**	**17 48 13.7**	**-1.1**
	comp=E,548nm,1.0s						
KTHA	**Kythira Island**	**3.89**	**283**	P	**Pn**	**17 47 29.9**	**+0.7**
PRK	**Paraskevi**	**3.94**	**343**	P	**Pn**	**17 47 32.5**	**+2.7**
ALFC	**Alefka**	**3.97**	**93**	P	**Pn**	**17 47 29.4**	**-0.9**
ALFC				AML	AML	17 48 19.2	
	comp=E,2.2nm,0.8s						
ALFC				AML	AML	17 48 20.7	
	comp=E,1.8nm,0.5s						
NATA	**Nata**	**4.01**	**99**	P	**Pn**	**17 47 30.5**	**-0.3**
DION	**Dionisos Attik**	**4.01**	**311**	P	**Pn**	**17 47 31.4**	**+0.5**
DION	**Dionisos Attik**	**4.01**	**311**	P	**Pn**	**17 47 31.1**	**+0.2**
SIGR	**SIGRI**	**4.02**	**338**	P	**Pn**	**17 47 30.7**	**-0.2**
PTL	**Penteli**	**4.04**	**310**	P	**Pn**	**17 47 31.3**	**+0.1**
ATH	**Athens Observa**	**4.08**	**309**	P	**Pn**	**17 47 32.5**	**+0.6**
ATH	**Athens Observa**	**4.08**	**309**	P	**Pn**	**17 47 32.6**	**+0.8**
ATH				S	**Sn**	**17 48 17.0**	**-2.6**
ATH				AML	AML	17 48 46.2	
	comp=N,831μm,1.4s						
ATH				AML	AML	17 48 47.1	
	comp=E,870μm,0.8s						
ATH	**Athens Observa**	**4.08**	**309**	P	**Pn**	**17 47 32.5**	**+0.6**
ATH				S	**Sn**	**17 48 18.6**	**-1.0**
VLI	**Veliai**	**4.09**	**289**	P	**Pn**	**17 47 32.9**	**+0.9**
VLI				S	**Sn**	**17 48 16.9**	**-2.9**
	comp=E,460nm,1.1s						
VLI	**Veliai**	**4.09**	**289**	P	**Pn**	**17 47 32.9**	**+0.9**
BOLV	**Bolvadin**	**4.12**	**37**		**Pn**	**17 47 32.2**	**-0.2**
DID	**Didima**	**4.16**	**300**	P	**Pn**	**17 47 33.0**	**0.0**
DID	**Didima**	**4.16**	**300**	P	**Pn**	**17 47 33.4**	**+0.4**
BALY	**Balya**	**4.25**	**359**	*i* P	**Pn**	**17 47 34.6**	**+0.4**
BALY				IAML		17 48 32.0	
	comp=N,238nm,0.5s						
BALY				IAML		17 48 32.0	
	comp=E,129nm,0.4s						
SZAC	**Souni**	**4.26**	**98**	⇑P	**Pn**	**17 47 33.5**	**-0.8**
ERMK	**Ermenek**	**4.33**	**73**	*i* P	**Pn**	**17 47 37.0**	**+1.6**
BAYC	**CANAKKALE_Bayr**	**4.36**	**348**	*i* P	**Pn**	**17 47 35.2**	**-0.4**
BAYC				IAML		17 48 30.0	
	comp=E,107nm,0.6s						
OSC2	**CSNet OBS 4**	**4.44**	**121**	P	**Pn**	**17 47 36.8**	**0.0**
SLUM	**Salum**	**4.51**	**209**	P	**Pn**	**17 47 38.2**	**+0.4**
	baz=214						
SLUM				AMP		17 48 00.0	
	baz=214						
SLUM				S	**Sn**	**17 48 25.9**	**-4.3**
	baz=214						
ASGA	**Asgata**	**4.55**	**97**	P	**Pn**	**17 47 37.8**	**-0.6**
CSS	**Mathiatis**	**4.59**	**95**	P	**Pn**	**17 47 38.4**	**-0.5**
CSS	**Mathiatis**	**4.59**	**95**	Pn	**Pn**	**17 47 38.2**	**-0.7**
CSS	**Mathiatis**	**4.59**	**95**	⇑P	**Pn**	**17 47 38.2**	**-0.7**
CSS	**Mathiatis**	**4.59**	**95**	Pn	**Pn**	**17 47 37.9**	**-1.0**
MVOU	**Mavrovouni**	**4.83**	**94**	⇑P	**Pn**	**17 47 41.4**	**-0.7**
ITM	**Ithomi**	**5.00**	**291**		**Pn**	**17 47 47.0**	**+2.6**
ALN	**Alexandroupoli**	**5.57**	**347**	P	**Pn**	**17 47 52.7**	**+0.4**
ALN	**Alexandroupoli**	**5.57**	**347**		**Pn**	**17 47 52.7**	**+0.4**
AGG	**Agios Georgios**	**5.58**	**311**	P	**Pn**	**17 47 53.9**	**+1.4**
AGG	**Agios Georgios**	**5.58**	**311**		**Pn**	**17 47 53.9**	**+1.4**
BR231	**Keskin MP Arra**	**5.90**	**41**		**Pn**	**17 47 57.8**	**+0.9**
LIT	**Litokhoron**	**6.21**	**319**	P	**Pn**	**17 48 02.1**	**+1.0**
LIT	**Litokhoron**	**6.21**	**319**		**Pn**	**17 48 02.1**	**+1.0**
HMYD	**Mayadein**	**6.23**	**155**	P	**Pn**	**17 47 59.0**	**-2.3**
	baz=155						
BR131	**Keskin Array S**	**6.30**	**46**	*c i* P	**Pn**	**17 48 03.7**	**+1.2**
BR131	**Keskin Array S**	**6.30**	**46**		**Pn**	**17 48 03.9**	**+1.4**
BRTR	**Keskin Array B**	**6.30**	**46**	Pn	**Pn**	**17 48 03.6**	**+1.1**
	comp=E,0.6nm,0.3s,baz=220,slow=14,SNR=37						
BRTR				Sn	**Sn**	**17 49 16.1**	**+1.6**
	comp=E,0.7nm,0.3s,baz=211,slow=24,SNR=7.9						
BRTR	**Keskin Array B**	**6.30**	**46**	*i* P	**Pn**	**17 48 03.7**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KDZ	**Kurdzhali**	**6.42**	**344**	*i* P	**Pn**	**17 48 06.0**	**+2.0**
SWA2		**6.52**	**198**	P	**Pn**	**17 48 06.1**	**+0.8**
	baz=202						
SWA2				AMP		17 49 00.0	
	baz=202						
HNTI	**Hanita**	**6.59**	**109**	Pn	**Pn**	**17 48 05.8**	**-0.5**
RZN	**Rozhen**	**6.63**	**340**	*i* P	**Pn**	**17 48 09.7**	**+2.6**
OFRI	**`Ofer**	**6.64**	**113**	Pn	**Pn**	**17 48 06.5**	**-0.6**
HSAF	**As Saff**	**6.67**	**150**	P	**Pn**	**17 48 05.7**	**-1.7**
	baz=150						
DQRL	**Deir Qamar**	**6.68**	**103**	*e*P	**Pn**	**17 48 04.8**	**-2.9**
GLL	**Jalalah**	**6.77**	**149**	P	**Pn**	**17 48 07.0**	**-1.8**
	baz=149						
MMA0B	**Mount Meron ar**	**6.79**	**109**	Pn	**Pn**	**17 48 08.3**	**-0.9**
MMAI	**Mount Meron Ar**	**6.79**	**109**	Pn	**Pn**	**17 48 07.2**	**-1.9**
	comp=Z,6.5nm,0.3s,baz=310,slow=12,SNR=44						
MMAI				Sn	**Sn**	**17 49 26.2**	**-0.4**
	comp=Z,9.6nm,0.3s,baz=303,slow=29,SNR=7.1						
MMAI				LR	LR	17 52 15.7	
	comp=Z,312nm,19.2s,baz=285,slow=51						
HWQ	**Hawqa**	**6.84**	**98**	*e*P	**Pn**	**17 48 08.9**	**-0.9**
MMB	**Musomiste**	**6.86**	**334**	*i* P	**Pn**	**17 48 13.7**	**+3.6**
SHBL	**Chebaa**	**6.94**	**106**	*e*P	**Pn**	**17 48 09.5**	**-1.7**
RCY	**Rachaya**	**6.96**	**104**	*e*P	**Pn**	**17 48 10.0**	**-1.5**
NATI	**Neve Ativ**	**6.96**	**106**	Pn	**Pn**	**17 48 09.7**	**-1.7**
NATI				Sn	**Sn**	**17 49 28.7**	**-1.8**
MMLI	**Mount Malkishu**	**7.06**	**113**	Pn	**Pn**	**17 48 12.2**	**-0.5**
AMAZ	**Amatzia**	**7.16**	**121**	Pn	**Pn**	**17 48 13.3**	**-0.9**
AMAZ				Sn	**Sn**	**17 49 32.7**	**-2.8**
KZIT	**Kziot**	**7.20**	**127**	Pn	**Pn**	**17 48 13.5**	**-1

KIS MLR MLR
comp=Z,150nm,8.0s
KIJV Kijevo 12.19 318 *i* Pn **Pn 17 49 24.6 +1.7**
KIJV Sn **Sn 17 51 38.6 -0.1**
BURAR Bucovina Array 12.27 352 ⇑P **Pn 17 49 26.4 +2.3**
BURAR Bucovina Array 12.27 352 P **Pn 17 49 26.4 +2.3**
BUR08 Bucovina Ar. S 12.30 352 **Pn 17 49 25.8 +1.2**
ZIRJ Zirje 12.39 315 *e*Pn **Pn 17 49 23.4 -2.4**
MORI Morici 12.49 316 *e*Pn **Pn 17 49 27.1 +0.1**
MORI Sn **Sn 17 51 41.0 -5.1**
INTR Introdacqua 12.62 305 **Pn 17 49 27.5 -1.4**
DUGI Dugi Otok 12.94 315 *e*Pn **Pn 17 49 33.3 +0.1**
CHVG Ch'k'valeri 13.26 53 ⇑P Pn 17 49 42.1 +4.5
AKH Akhalkalaki 13.67 60 P **Pn 17 49 42.4 -1.0**
AKH Akhalkalaki 13.67 60 **Pn 17 49 42.4 -1.0**
PSZ Piszkesteto 13.73 337 P **Pn 17 49 45.8 +1.7**
PSZ Piszkesteto 13.73 337 **Pn 17 49 45.8 +1.7**
MURB Monte Urbino 14.10 308 Pn **Pn 17 49 51.9 +2.7**
KIV Kislovodsk 14.25 49 *e*P **Pn 17 49 52.2 +0.9**
KIV pmax pmax
comp=Z,30nm,1.0s
KIV MLR MLR
comp=Z,157nm,13.0s
KIV Kislovodsk 14.25 49 **Pn 17 49 52.0 +0.7**
KBZ Khabaz 14.27 50 Pn **P 17 49 59.0 +0.4**
comp=Z,0.3nm,0.3s,baz=203,slow=2.2,SNR=16
KBZ LR LR 17 56 11.0
comp=Z,110nm,21.9s,baz=238,slow=41
KBZ Khabaz 14.27 50⇑ *e*P **Pn 17 49 53.7 +2.3**
KBZ pmax pmax
comp=Z,17nm,1.0s
LATE Laterza 14.28 305 **P 17 49 55.1 -3.8**
ZEI Tsey 14.48 55 *e*P **P 17 49 57.9 -3.4**
ZEI pmax pmax
comp=Z,24nm,1.0s
VYHS Vyhne 14.58 336 *e*P **P 17 50 03.5 +1.4**
VYHS Vyhne 14.58 336 *e*PN **P 17 50 03.5 +1.4**
KWP Kalwaria Pacla 14.61 347 P **Pn 17 49 58.7 +2.6**
KWP Kalwaria Pacla 14.61 347 Pn **Pn 17 49 58.7 +2.6**
TBLG Delisi 14.66 60 P **Pn 17 49 57.2 +0.4**
TBLG Delisi 14.66 60 Pn **Pn 17 49 57.2 +0.4**
SOKA Soboth 14.71 323 *i* Pn **Pn 17 49 58.4 +0.9**
comp=Z,6.3nm,1.2s
OBKA Obir 14.83 322 *i* Pn **Pn 17 50 01.4 +2.2**
comp=Z,7.8nm,1.0s
LANS Liptovska Anna 14.96 338 *e*P P 17 50 11.2 +4.9
LANS Liptovska Anna 14.96 338 *e*PN P 17 50 11.2 +4.9
NIE Niedzica 14.96 341 *e*P **P 17 50 04.8 -1.6**
KEST Kesra 14.98 276 Pn **Pn 17 50 01.7 +0.5**
comp=Z,0.2nm,0.3s,baz=58,slow=4.5,SNR=3.5
KEST Kesra 14.98 276 **Pn 17 50 01.4 +0.2**
OSSC Osservatorio P 15.04 307 Pn **Pn 17 50 00.1 -1.9**
OSSC IAmb IAmb 17 50 23.8
comp=Z,7.6nm,0.9s
AKASG Malin Array Be 15.25 4 Pn **Pn 17 50 05.6 +1.0**
comp=Z,1.0nm,0.3s,baz=196,slow=11,SNR=9.3
AKASG LR LR 17 56 22.7
comp=Z,111nm,19.1s,baz=185,slow=39
AKASG Malin Array Be 15.25 4 *i* P **P 17 50 06.9 -2.6**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 15.25 4 P **Pn 17 50 04.9 +0.3**
AKBB pmax pmax
comp=Z,26nm,1.7s
AKBB Malin Array Si 15.25 4 **Pn 17 50 04.9 +0.3**
AKBB IAmb IAmb 17 50 11.3
comp=Z,26nm,1.6s
CONA Conrad Observa 15.26 328 Pn **P 17 50 08.3 -1.5**
comp=Z,5.3nm,1.4s
JAVC Velka Javorina 15.29 334 *e*PN **P 17 50 11.4 +1.3**
PRED Cave del Predi 15.29 320 **Pn 17 50 05.4 +0.1**
ZCCA Zocca 15.60 310 Pn **Pn 17 50 10.3 +1.0**
ZCCA IAmb IAmb 17 50 15.8
comp=Z,82nm,1.9s
STAL STALIGIAL 15.64 318 **Pn 17 50 08.8 -1.0**
ZOU Zoufplan 15.68 319 P **Pn 17 50 10.3 -0.2**
ZOU IAmb IAmb 17 50 23.0
comp=Z,16nm,0.9s
CIMO Cimolais 15.81 318 P **Pn 17 50 10.9 -1.2**
OJC Ojcow 15.82 341 *e*P **P 17 50 16.3 +0.3**
OJC Ojcow 15.82 341 P **Pn 17 50 11.9 -0.2**
OJC pmax pmax
comp=Z,16nm,0.9s
OJC Ojcow 15.82 341 P **Pn 17 50 11.9 -0.2**
OJC IAmb IAmb 17 50 20.5
comp=Z,16nm,0.9s
KBA Koelnbreinsper 15.83 321 *i* P **P 17 50 15.9 -0.3**
comp=Z,3.6nm,0.5s
KRUC Moravsky 15.94 332 *e*PN **P 17 50 15.8 -1.4**
OKC Ostrava-Krasne 15.97 337 *e*P **P 17 50 17.9 +0.4**
OKC Ostrava-Krasne 15.97 337 *e*P **P 17 50 17.9 +0.4**
ABTA Abfaltersbach 16.05 319 *i* Pn **Pn 17 50 15.1 0.0**
comp=Z,8.1nm,0.7s
VRAC Vranov 16.06 333 Pn **Pn 17 50 16.1 +0.9**
comp=Z,0.7nm,0.3s,baz=127,slow=10,SNR=1.9
VRAC Vranov 16.06 333 *e*PN **Pn 17 50 15.9 +0.7**
CTI Castel Tesino 16.10 316 P **Pn 17 50 15.8 0.0**
CTI pmax pmax
comp=Z,19nm,0.8s
CTI Castel Tesino 16.10 316 P **Pn 17 50 15.8 0.0**
CTI IAmb IAmb 17 50 26.3
comp=Z,19nm,0.8s
MORC Moravsky Berou 16.12 336 *e*PN **P 17 50 19.0 -0.2**
MORC Moravsky Berou 16.12 336 P **Pn 17 50 17.1 +1.2**
MORC pmax pmax
comp=Z,8.0nm,0.8s
MORC Moravsky Berou 16.12 336 P **Pn 17 50 17.1 +1.2**
TREC Trest 16.48 331 AMS AMS 17 57 10.0
comp=Z,300nm,10.3s
MSSA Maissana 16.52 308 P **P 17 50 22.9 -0.8**
MSSA IAmb IAmb 17 50 35.1
comp=Z,24nm,1.1s
SALO Salr 16.52 313 P **Pn 17 50 21.2 +0.1**
SALO IAmb IAmb 17 50 33.4
comp=Z,14nm,0.8s
KRLC Kraliky 16.63 335 *e*P **P 17 50 26.1 +1.2**
KRLC MLR MLR
comp=Z,300nm,10.5s
KRLC Kraliky 16.63 335 *e*P **P 17 50 26.1 +1.2**
KRLC *ex* x 17 50 30.5
KRLC AMS AMS 17 57 50.0
comp=Z,300nm,10.5s
WTTA Wattenberg 16.84 319 *i* sP sP 17 50 29.2 -2.4
comp=Z,12nm,0.9s
GEC2 GERESS Array S 16.90 326 P **Pn 17 50 26.4 +0.5**
GERES GERESS Array B 16.90 326 Pn **P 17 50 26.9 -1.0**
comp=Z,0.2nm,0.3s,baz=143,slow=12,SNR=24
WATA Walderalm 16.91 319 *i* Pn **P 17 50 28.9 +0.7**
comp=Z,14nm,0.9s
MAK Makhachkala 17.00 58 *e*P **P 17 50 30.1 +1.1**
DPC Dobruska-Polom 17.02 334 *e*P **P 17 50 30.2 +0.9**
DPC MLR MLR
comp=Z,200nm,14.8s
DPC Dobruska-Polom 17.02 334 *e*P **P 17 50 30.2 +0.9**
DPC *ex* x 17 50 34.3
DPC AMS AMS 17 57 10.0
comp=Z,200nm,14.8s
SQTA Sankt Quirin 17.04 319 *i* Pn **P 17 50 28.8 -0.8**
comp=Z,7.1nm,0.6s
KHC Kasperske Hory 17.16 327 *e*P **P 17 50 31.0 +0.2**
KHC *e*S **S 17 53 44.4 -4.9**
KHC MLR MLR
comp=Z,300nm,9.1s
KHC Kasperske Hory 17.16 327 *e*P **P 17 50 31.0 +0.2**
KHC *ep*P **sP 17 50 33.9 -1.0**
KHC *e*S **S 17 53 44.4 -4.9**
KHC AMS AMS 17 57 40.0
comp=Z,300nm,9.1s
KHC Kasperske Hory 17.16 327 P **P 17 50 30.0 -0.8**
MOTA Moosalm 17.17 319 *i* Pn **P 17 50 31.0 -0.1**
comp=Z,8.9nm,1.1s
FETA Feichten 17.18 317 *i* Pn **P 17 50 31.8 +0.6**
comp=Z,16nm,1.0s
FUORN Ofenpass-Fuorn 17.22 316 P **P 17 50 31.0 -0.6**
OSTC Ostas 17.23 334 *e*P **P 17 50 32.4 +0.8**
OSTC AMS AMS 17 57 10.0
comp=Z,300nm,14.2s
UPC Upice 17.26 334 AMS AMS 17 57 10.0
comp=Z,300nm,12.8s
CHVC Chvalec 17.32 334 AMS AMS 17 57 10.0
comp=Z,200nm,12.6s
PRU Pruhonice 17.40 330 *e*P **P 17 50 33.5 +0.1**
PRU MLR MLR
comp=Z,300nm,13.7s
PRU Pruhonice 17.40 330 *e*P **P 17 50 33.5 +0.1**
PRU *ep*P **sP 17 50 37.7 +0.1**
PRU AMS AMS 17 57 40.0
comp=Z,300nm,13.7s
KSP Ksiaz 17.45 335 *e*P **P 17 50 36.7 +2.8**
PRA Prague 17.51 330 AMS AMS 17 57 50.0
comp=Z,100nm,14.6s
VORD Divnogorie 17.58 25 *e*P **P 17 50 37.6 +2.3**
VORD pmax pmax
comp=Z,10.0nm,1.6s
TUE Stuetta 17.67 314 P **Pn 17 50 35.4 -0.2**
TUE IAmb IAmb 17 50 54.7
comp=Z,17nm,1.2s
VSR Storozhevoye 17.75 24 *e*P **P 17 50 39.0 +1.8**
VSR pmax pmax
comp=Z,7.0nm,0.6s
DAVA Damuels 17.81 317 P **P 17 50 37.9 -0.3**
comp=Z,7.9nm,0.7s
PVCC Panska Ves 17.82 332 AMS AMS 17 57 30.0
comp=Z,200nm,13.3s
BRG Berggiesshubel 18.34 331 *i* P **P 17 50 50.1 +6.4**
comp=Z,5.5nm,0.8s
NKC Novy Kostel 18.47 328 AMS AMS 17 58 30.0
comp=Z,400nm,9.8s
GRA1 Grafenberg Arr 18.64 325 P **P 17 50 46.0 -1.1**
GRA1 IAmb IAmb 17 50 57.7
comp=Z,16nm,1.1s
GRF Grafenberg Arr 18.64 325 P **P 17 50 46.0 -1.1**
GRF pmax pmax
comp=Z,16nm,1.1s
VRH Novokhopyorsk 18.66 28 *e*P **Pn 17 50 47.2 -0.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
BNI Bardonecchia 18.66 307 P **Pn 17 50 47.8 0.0**
BNI pmax pmax
comp=Z,6.0nm,0.9s
BNI Bardonecchia 18.66 307 P **Pn 17 50 47.8 0.0**
SENIN Lac Senin/Sane 18.84 311 P **P 17 50 48.9 -0.7**
SENIN IAmb IAmb 17 50 56.4
comp=Z,8.2nm,0.7s
CLL Collm 19.05 331 *e*P **P 17 50 51.0 -0.5**
CLL *i* 17 50 52.7
CLL *i* 17 50 55.0
CLL *e*S **S 17 54 28.0 +0.6**
CLL Collm 19.05 331 *e*P **P 17 50 51.0 -0.5**
CLL *e*S **S 17 54 28.0 +0.6**
CLL Collm 19.05 331 P **P 17 50 50.3 -1.2**
MOX Moxa 19.14 327 P **Pn 17 50 54.4 +1.1**
BFO Black Forest 19.27 318 P **P 17 50 52.2 -1.7**
BFO pmax pmax
comp=Z,19nm,1.5s
BFO Black Forest 19.27 318 P **P 17 50 52.2 -1.7**
BFO IAmb IAmb 17 51 01.3
comp=Z,19nm,1.5s
GKP Gorka Klasztor 19.27 341 *e*P **Pn 17 50 55.7 +0.8**
ECH Echery 19.85 316 P **P 17 50 58.3 -2.1**
ECH pmax pmax
comp=Z,5.0nm,0.9s
ECH Echery 19.85 316 P **P 17 50 58.3 -2.1**
SSB Saint Sauveur 20.15 306 P **P 17 51 03.5 -0.1**
SSB pmax pmax
comp=Z,12nm,1.4s
SSB Saint Sauveur 20.15 306 P **P 17 51 03.5 -0.1**
SSB IAmb IAmb 17 51 20.6
comp=Z,12nm,1.4s
OBN Obninsk 20.55 15 P Pn 17 51 09.5 -0.6
comp=Z,4.0nm,0.5s,baz=239,slow=5.9,SNR=5.4
OBN Obninsk 20.55 15⇑ *e*P Pn 17 51 10.9 +0.8
OBN *i* 17 51 15.9
OBN *i* 17 51 24.8
OBN *e*S Sn 17 55 01.4 -0.2
OBN *e*SS **SnSn 17 55 26.3 +10**
OBN pmax pmax
comp=Z,11nm,0.9s
OBN MLR MLR
comp=Z,121nm,21.0s
OBN Obninsk 20.55 15 P **P 17 51 08.5 +0.7**
MOS Moscow 21.36 15 *e*P **P 17 51 17.8 +1.3**
MOS *e* 17 51 56.2
BHOU Houvegnez 21.67 320 sP **sP 17 51 25.9 +1.7**
BHOU PnPn **PnPn 17 51 42.4 +1.7**
MEM Membach 21.82 321 P **P 17 51 21.3 -0.2**
MEM PnPn **PnPn 17 51 40.9 -1.8**
BCLA Clavier 22.08 319 P **P 17 51 23.7 -0.7**
BCLA sP **sP 17 51 29.0 +0.5**
BGES Gesves 22.17 319 sP **sP 17 51 30.8 +1.3**
BGES PnPn **PnPn 17 51 49.6 +2.1**
DOU Dourbes 22.28 318 P **P 17 51 25.1 -1.4**
DOU sP **sP 17 51 31.8 +1.1**
DOU PnPn **PnPn 17 51 53.8 +4.7**
TAM Tamanrasset 23.11 243 P **P 17 51 35.4 -0.3**
TAM pmax pmax
comp=Z,6.0nm,1.0s
TAM Tamanrasset 23.11 243 P **P 17 51 35.4 -0.3**
TAM IAmb IAmb 17 51 46.6
comp=Z,5.5nm,1.0s
PUL Pulkovo 24.36 3‖ *e*P **P 17 51 47.2 0.0**
GEYT Alibeck 24.41 75 P **P 17 51 48.2 +0.1**
comp=Z,3.0nm,0.7s,baz=284,slow=6.0,SNR=4.8
GYA0 ALIBECK ARRAY 24.41 75 P **P 17 51 48.6 +0.6**
GYA0B ALIBECK ARRAY 24.41 75 P **P 17 51 48.6 +0.6**
GYA0B IAmb IAmb 17 51 57.8
comp=Z,5.2nm,0.8s
ESBB Sonseca Array 25.41 289 P **P 17 51 56.8 -0.2**
ESBB IAmb IAmb 17 52 01.6
comp=Z,7.4nm,0.8s
ESDC Sonseca Array 25.41 289 P **P 17 51 56.3 -0.8**
comp=Z,7.2nm,0.7s,baz=81,slow=9.0,SNR=25
ESDC ScP **ScP 17 59 07.2 -1.0**
comp=Z,0.6nm,0.7s,baz=40,slow=4.8,SNR=4.5
ESDC LR LR 18 02 29.3
comp=Z,71nm,19.2s,baz=320,slow=38
PAB San Pablo 25.71 289 P **P 17 51 59.8 0.0**
PAB pmax pmax
comp=Z,7.0nm,1.1s
PAB San Pablo 25.71 289 P **P 17 51 59.8 0.0**
PAB IAmb IAmb 17 52 17.4
comp=Z,6.7nm,1.1s
FINES FINESS Array B 26.00 358 P **P 17 52 00.3 -1.7**
comp=Z,4.5nm,0.9s,baz=166,slow=12,SNR=9.0
FINES FINESS Array B 26.00 358 *i* P **P 17 52 01.0 -1.1**
FINES pmax pmax
comp=Z,5.0nm,0.9s
FIA1 FINESS Array S 26.00 358 P **P 17 52 02.8 +0.7**
FIA1 IAmb IAmb 17 52 28.3
comp=Z,16nm,1.1s
HFS Hagfors 26.30 344 P **P 17 52 03.4 -1.3**
comp=Z,4.5nm,0.6s,baz=163,slow=11,SNR=9.6
HFS LR LR 18 03 03.4
comp=Z,182nm,18.2s,baz=164,slow=38
AKTO Aktyubinsk 26.48 46 P **P 17 52 05.8 -0.8**
comp=Z,3.1nm,0.6s,baz=256,slow=13,SNR=10.0
KLMR Klimovskoe 26.49 13 *e*P **P 17 52 04.5 -2.0**
KLMR pmax pmax
comp=Z,13nm,0.8s
KLMR Klimovskoe 26.49 13 *e*P **P 17 52 04.5 -2.0**
KLMR AMP 17 52 12.9
comp=Z,13nm,0.8s
MDT Midelt 26.85 274 LR LR 18 05 03.9
comp=Z,57nm,19.3s,baz=344,slow=42
KONO Kongsberg 26.92 340 P **P 17 52 10.0 -0.4**
KONO pmax pmax
comp=Z,79nm,1.8s
KONO Kongsberg 26.92 340 P **P 17 52 10.0 -0.4**
KIRV Kirov 27.18 25 *e*P **P 17 52 12.9 +0.2**
NC602 NORSAR Array S 27.33 343 P **P 17 52 13.2 -0.9**
PBRG Braganca 27.55 294 *e*P **P 17 52 15.9 -0.4**
comp=Z,10nm,1.2s
NAO01 NORSAR Array S 27.59 342 P **P 17 52 15.3 -1.1**
NC405 NORSAR Array S 27.62 343 P **P 17 52 16.4 -0.3**
NB2 NORSAR Subarra 27.68 343 P **P 17 52 17.1 -0.1**
comp=Z,4.1nm,1.1s,baz=150,slow=9.3
NOA NORSAR Array B 27.68 343 P **P 17 52 17.1 -0.1**
comp=Z,1.8nm,0.8s,baz=164,slow=6.1,SNR=7.8
NOA LR LR 18 04 14.6
comp=Z,140nm,18.6s,baz=155,slow=38
MVO Moncorvo 27.75 292 *e*P **P 17 52 20.5 +2.4**
comp=Z,15nm,1.6s
NBO00 NORSAR Array S 27.77 342 P **P 17 52 16.7 -1.4**
NC303 NORSAR Array S 27.80 343 P **P 17 52 16.8 -1.5**
NC204 NORSAR Array S 27.99 342 P **P 17 52 18.6 -1.4**
PMRV Marv??o 28.07 289 *e*P **P 17 52 24.2 +3.3**
comp=Z,6.7nm,2.6s
PCBR Castelo Branco 28.11 290 *e*P **P 17 52 19.9 -1.4**
comp=Z,13nm,1.5s
PVIS Viseu 28.41 291 *e*P **P 17 52 26.9 +2.9**
comp=Z,14nm,1.3s
EKA Eskdalemuir Ar 29.03 323 P **P 17 52 29.7 +0.3**
comp=Z,1.6nm,0.8s,baz=122,slow=9.0,SNR=3.4
WSAR Wadi Sarin 29.42 106 LR LR 18 06 32.2
comp=Z,318nm,20.0s,baz=322,slow=41
ARU Arti 29.55 35 P **P 17 52 35.4 +1.5**
comp=Z,0.3nm,0.3s,baz=230,slow=7.9,SNR=2.2
ARU LR LR 18 06 21.7
comp=Z,112nm,20.6s,baz=225,slow=40
ARU Arti 29.55 35*c* *i*P **P 17 52 36.1 +2.2**
ARU 17 53 24.7
ARU S **S 17 57 33.4 +5.0**
ARU SS **SnSn 17 58 59.4 +3.3**
ARU pmax pmax
comp=Z,10.0nm,1.8s
ARU Arti 29.55 35 P **P 17 52 35.1 +1.2**
ARU IAmb IAmb 17 52 37.4
comp=Z,16nm,1.7s
TOA0 Torodi Ar. Sit 32.35 233 P **P 17 52 58.9 -0.1**
TOA0 IAmb IAmb 17 53 08.6
comp=Z,21nm,1.6s
TORD Torodi Ar. Bea 32.35 233 P **P 17 52 58.8 -0.2**
comp=Z,2.2nm,0.5s,baz=32,slow=8.5,SNR=18
ARCES ARCESS Array B 34.13 359 P **P 17 53 12.6 -1.4**
comp=Z,3.2nm,0.9s,baz=179,slow=7.6,SNR=8.0
BRVK Borovoye 34.54 46⇑ *e*P **P 17 53 18.5 +0.8**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 34.59 46 LR LR 18 09 35.4
comp=Z,76nm,20.4s,baz=119,slow=40
AAK Ala-Archa 36.61 64 LR LR 18 09 27.3
comp=Z,61nm,19.0s,baz=258,slow=38
AAK Ala-Archa 36.61 64⇑ *e*P **P 17 53 36.6 +0.8**
AAK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 39.33 51⇑ *e*P **P 17 53 59.2 +0.8**
KURK pmax pmax
comp=Z,2.0nm,0.9s
MK31 Makanchi Array 41.82 57 P **P 17 54 19.1 -0.1**
MK31 pmax pmax
comp=Z,2.0nm,1.0s
MK31 Makanchi Array 41.82 57 P **P 17 54 19.1 -0.1**
MKAR Makanchi Array 41.82 57 P **P 17 54 19.2 0.0**
comp=Z,2.3nm,0.9s,baz=272,slow=7.3,SNR=8.1
MKAR Makanchi Array 41.82 57 *i* P **P 17 54 19.5 +0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
ZAA0 Zalesovo Array 43.25 46 P **P 17 54 30.4 -0.1**
ZAA0 IAmb IAmb 17 54 33.6
comp=Z,2.6nm,0.7s
ZALV Zalesovo Beam 43.25 46 P **P 17 54 29.8 -0.8**
comp=Z,2.4nm,0.6s,baz=269,slow=8.3,SNR=7.3
ZALV Zalesovo Beam 43.25 46 *i* P **P 17 54 31.7 +1.1**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
DGZ Jazzator, Alta 45.01 52‖ *e*P **P 17 54 46.3 +1.3**
DGZ pmax pmax
comp=Z,2.0nm,1.1s
WMQ Urumqi 46.00 61 *e*P **P 17 54 54.3 +1.4**
NRIK Noril'sk 46.69 25 P **P 17 54 59.0 +1.2**
comp=Z,2.8nm,0.7s,baz=243,slow=3.0,SNR=4.3
NRIK Noril'sk 46.69 25 P **P 17 54 59.0 +1.2**
PYUN Piuthan 47.01 83 *e*P **P 17 55 01.8 +0.7**
comp=Z,40nm,0.8s
KOLN Koldanda 47.63 83 *e*P **P 17 55 06.5 +0.5**
GKN Gorkha 48.38 82 *e*P **P 17 55 11.4 -0.3**
DMN Daman 48.92 82 *e*P **P 17 55 16.1 +0.1**
comp=Z,36nm,0.9s
PKI Pulchoki 49.18 82 *e*P **P 17 55 18.0 -0.1**
comp=Z,63nm,1.4s
JIRN Jiri 49.77 82 *e*P **P 17 55 22.7 0.0**
RAMN Ramite 50.40 82 *e*P **P 17 55 27.1 -0.2**
comp=Z,24nm,1.1s
ODAN Odare 51.08 82 *e*P **P 17 55 32.8 +0.4**
TLY Talaya 54.82 48⇑ *e*P **P 17 55 59.8 +0.4**
TLY pmax pmax
comp=Z,2.0nm,1.2s
GTA Gaotai 55.93 63 *e*P **P 17 56 08.6 +0.9**
GTA pP sP 17 56 12.9 +0.9
GTA sP pP 17 56 15.6 +4.6
GTA S **S 18 03 52.8 -2.8**
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,42nm,7.1s
GTA LR LR
comp=N,130nm,17.5s
GTA LR LR
comp=E,140nm,18.4s
GTA LR LR
comp=Z,220nm,17.8s
SONM Songino Array 57.63 51 P **P 17 56 20.3 +0.6**
comp=Z,2.1nm,0.8s,baz=281,slow=8.5,SNR=8.4
ULN Ulaanbaatar 58.04 51‖ *e*P **P 17 56 23.8 +1.2**
ULN pmax pmax
comp=Z,4.0nm,1.1s
LZH Lanzhou 60.14 65 *e*P **P 17 56 35.3 -2.0**
LZH pP sP 17 56 41.0 -0.7
LZH sP pP 17 56 45.3 +4.8
LZH PP **PP 17 58 49.3 -0.5**
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,98nm,4.8s
BOSA Boshof 63.80 182 P **P 17 57 02.9 +1.2**
comp=Z,4.5nm,1.0s,baz=346,slow=8.3,SNR=2.7
BOSA Boshof 63.80 182 P **P 17 57 02.7 +1.0**
BOSA Boshof 63.80 182 P **P 17 57 02.7 +1.0**
SCHQ Schefferville 64.31 320 P **P 17 57 04.6 -0.1**
comp=Z,4.6nm,0.6s,baz=61,slow=7.5,SNR=5.6
SCHQ Schefferville 64.31 320 P **P 17 57 04.0 -0.7**
CMAR Chiang Mai Arr 64.43 85 P **P 17 57 05.5 -0.6**
comp=Z,3.1nm,1.1s,baz=304,slow=7.3,SNR=14
CMAR Chiang Mai Arr 64.43 85 *i* P **P 17 57 07.0 +0.9**
CMAR pmax pmax
comp=Z,3.0nm,1.0s
XAN Xi'an 64.78 65 P **P 17 57 11.1 +2.8**
XAN sP PcP 17 57 32.0 -10
XAN pmax pmax
comp=Z,7.0nm,0.8s
PBKT Sadao Pong 67.06 86 P **P 17 57 23.5 +0.4**
PBKT IAmb IAmb 17 57 27.4
comp=Z,4.4nm,1.2s
USRK Ussuriysk Ar. 75.10 46 P **P 17 58 11.5 +0.1**
comp=Z,1.8nm,0.6s,baz=268,slow=7.2,SNR=3.6
KSRS Korea Array 76.39 54 P **P 17 58 19.1 +0.2**
comp=Z,1.1nm,0.8s,baz=308,slow=6.2,SNR=4.5
YKA Yellowknife Ar 77.77 343 P **P 17 58 27.0 +0.8**
comp=Z,0.8nm,0.8s,baz=35,slow=6.3,SNR=1.5
YKA Yellowknife Ar 77.77 343 P **P 17 58 27.0 +0.8**
YSS Yuzh-Sakhalins 79.35 39 *e*P **P 17 58 36.3 +1.1**
YSS pmax pmax
comp=Z,7.0nm,1.1s
ILAR Eielson Array 79.99 358 P **P 17 58 40.2 +1.9**
comp=Z,0.9nm,0.8s,baz=355,slow=4.1,SNR=7.0
ULM Lac du Bonnet 81.20 327 LR LR 18 36 38.3
comp=Z,702nm,21.0s,baz=286,slow=37
ASAR Alice Springs 116.03 101 PKP **PKiKP 18 05 14.4 +1.6**
comp=Z,0.5nm,0.7s,baz=311,slow=2.1,SNR=1.3

ISN **22** *17:50:09.6*±*1.3,32.24N*×*47.59E,h14km*±*8km, ML2.6*
TEH **22** *17:50:10.7, 32.29N*×*47.59E,h10km, ML2.9*
ISC 22 17:50:10.6±1.4**,32.25N**±0.06×**47.59E**±0.07**,h10**km**,n9,**
σ1**s08/13,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DHL1	**Delhoran**	**0.50**	**329**	*e*Pg		**Pg**	**17 50 20.1**	**-0.3**
DHL1				*e*Sg		**Sg**	**17 50 27.4**	**+0.3**
IKFM	**Kafar-mosalman**	**1.29**	**10**	*e*Pg		**Pn**	**17 50 32.1**	**-2.6**
IKMR	**Kamar-syah**	**1.43**	**28**	*e*Pg		**Pb**	**17 50 37.7**	**+0.4**
IKMR				*e*			17 50 59.0	
IDOB	**Doab**	**1.61**	**18**	*e*Pg		**Pn**	**17 50 40.4**	**+1.1**
IBDR	**Badra**	**1.64**	**302**	*e*Pg		**Pn**	**17 50 39.0**	**-0.5**
IBDR				*e*Sg		**Sb**	**17 51 02.0**	**+0.3**
IBDR				AML		AML	17 51 08.6	
	comp=N,49nm,0.4s							
IBDR				AML		AML	17 51 10.3	
	comp=E,56nm,0.4s							
NSR	**Nassriya**	**1.75**	**225**	*e*Pn		**Pn**	**17 50 41.0**	**+0.1**
NSR				*e*Sn		**Sn**	**17 51 02.0**	**-1.3**
BMDN	**Meydan**	**1.76**	**36**	*e*Pg		**Pb**	**17 50 44.1**	**+1.1**
BMDN				*e*			17 51 11.2	

IKOM	**Komasi**	**1.92**	**358**	*e*Pg	**Pb**	17 50 45.9	**+0.1**				
IKOM				*e*		17 51 12.8					
BHD	**Baghdad**	**2.89**	**291**	*e*Pn	**Pn**	17 50 57.0	**+0.4**				
BHD				*e*Sn	**Sn**	17 51 32.0	**+0.5**				
BHD				AML	AML	17 51 35.1					
	comp=E,109nm,0.5s										

IDC ***22*** *17:55:58.1±0.5,33.67N×45.71E,h0km,mb4.3/34, mb1 4.4/44,mb1mx4.3/68,mbtmp4.3/44,ML3.7/9,MS3.5/11, Ms1 3.5/11,ms1mx3.2/47,Error ellipse: s-maj=12.4km s-min=9.6km az=171.0*

MOS ***22*** *17:55:58.3±1.1,33.58N×45.65E,h16km,mb4.7/21,Error ellipse: s-maj=5.7km s-min=3.7km az=111.3*

NEIC ***22*** *17:55:59.4±1.6,33.58N±0.06×45.68E±0.07,h10km±1km, mb4.7/111,mb_Lg4.8(TEH),Error ellipse: s-maj=10.7km s-min=9.0km az=231.0*

TEH ***22*** *17:55:59.7,33.71N×45.69E,h12km,ML4.7*

ISN ***22*** *17:55:59.9±1.0,33.71N×45.70E,h11km±6km,ML4.5*

GII ***22*** *17:56:02.3±0.0,33.62N×45.70E,h10km*

OMAN ***22*** *17:56:04.5,33.12N×45.50E,h45km,mb5.4/10,ms3.8/1*

DSN ***22*** *17:56:06.5±1.8,33.60N×46.65E,h10km,mb4.6/2,Error ellipse: s-maj=26.3km s-min=13.2km az=74.0*

ISC 22 17:55:59.7±1.2,33.67N±0.03×45.73E±0.03,h10km±7km, n467,σ1§43/464,mb4.6/137,MS3.6/20,15C-15D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.58**	**163**	*e*Pg	**Pb**	**17 56 13.0**	**+1.1**	
IBDR				*e*Sg	**Sb**	**17 56 21.0**	**+0.8**	
IBDR				AML	AML	17 56 37.9		
	comp=E,8μm,0.6s							
IBDR				AML	AML	17 56 40.0		
	comp=N,8μm,0.4s							
IGHG	**Ghaleghazi**	**0.96**	**46**	*e*Pg	**Pb**	**17 56 18.3**	**-0.3**	
IDHR	**Dehrash**	**1.17**	**28**	*e*Pg	**Pb**	**17 56 21.3**	**-0.8**	
IDHR				*e*		17 56 42.6		
BHD	**Baghdad**	**1.19**	**251**	*e*Pn	**Pg**	**17 56 24.0**	**+1.4**	
BHD				*e*Sn	**Sn**	**17 56 42.0**	**+3.4**	
BHD				AML	AML	17 56 45.3		
	comp=E,58μm,0.4s							
KCHF	**Cheshme Sefid,**	**1.25**	**61**	*e*Pg	**Pb**	**17 56 23.4**	**-0.1**	
KCHF				*e*		17 56 46.3		
IVIS	**Veis**	**1.27**	**47**	*e*Pg	**Pg**	**17 56 24.0**	**0.0**	
IVIS				*e*		17 56 45.9		
KER	**Kermanshah**	**1.37**	**58**	P	**Pg**	**17 56 26.5**	**+0.5**	
KER	**Kermanshah**	**1.37**	**58**	*e*Pg	**Pg**	**17 56 25.9**	**-0.1**	
IKOM	**Komasi**	**1.57**	**71**	*e*Pg	**Pb**	**17 56 29.4**	**+0.5**	
IKOM				*e*		17 56 56.0		
ILIN	**Lien**	**1.61**	**39**	*e*Pg	**Pg**	**17 56 30.1**	**-0.6**	
ILIN				*e*		17 56 55.1		
DHL1	**Dehloran**	**1.63**	**127**	*e*Pg	**Pg**	**17 56 31.5**	**+0.5**	
IKFM	**Kafar-mosalman**	**1.78**	**94**	*e*Pg	**Pb**	**17 56 33.2**	**+0.9**	
IKFM				*e*		17 57 07.8		
IBZA	**Bozab**	**1.94**	**65**	*e*Pn	**Pb**	**17 56 35.3**	**-0.1**	
IBZA				*e*		17 56 39.3		
IDOB	**Doab**	**2.05**	**86**	*e*Pn	**Pb**	**17 56 36.5**	**-0.6**	
IKMR	**Kamar-syah**	**2.22**	**93**	*e*Pn	**Pb**	**17 56 38.6**	**-1.3**	
IKMR				*e*		17 57 18.6		
IALM	**Almabolaq**	**2.35**	**59**	*e*Pn	**Pb**	**17 56 41.0**	**-1.2**	
HSAM	**Samen**	**2.45**	**76**	*e*Pn	**Pn**	**17 56 41.9**	**+1.9**	
BMDN	**Meydan**	**2.58**	**89**	*e*Pn	**Pn**	**17 56 44.0**	**+2.3**	
BMDN				*e*		17 57 28.6		
HSRG	**Sareghieh**	**2.63**	**53**	*e*Pn	**Pb**	**17 56 44.7**	**-2.4**	
HSRG				*e*		17 57 29.1		
NSR	**Nassriya**	**2.67**	**172**	*e*Pn	**Pn**	**17 56 45.0**	**+2.3**	
NSR				*e*Sn	**Sb**	**17 57 19.0**	**-1.4**	
HAGD	**Aghdareh**	**3.05**	**67**	*e*Pn	**Pn**	**17 56 50.4**	**+2.2**	
HAGD				*e*		17 57 30.5		
MAHB	**Mahabad**	**3.09**	**360**	*e*Pn	**Pn**	**17 56 50.4**	**+1.7**	
MAHB				*e*		17 57 42.0		
QABG	**Abgarm-Qazvin**	**3.77**	**56**	*e*Pn	**Pn**	**17 56 59.5**	**+1.4**	
IRAZ	**Razeghan**	**3.88**	**62**	*e*Pn	**Pn**	**17 57 01.9**	**+2.4**	
CUKT	**Cukurca**	**3.97**	**335**	P	**Pn**	**17 57 01.4**	**+0.7**	
QSDN	**Sirdan**	**4.00**	**44**	*e*Pn	**Pn**	**17 57 03.3**	**+2.1**	
HAKT	**HAKKARI**	**4.22**	**338**	*e*Pn	**Pn**	**17 57 04.8**	**+0.6**	
JHBN	**Jahan bin**	**4.39**	**108**	*e*Pn	**Pn**	**17 57 09.0**	**+2.3**	
IPIR	**Pirpir**	**4.44**	**101**	*e*Pn	**Pn**	**17 57 09.0**	**+1.6**	
IMHD	**Mahdasht**	**4.54**	**62**	*e*Pn	**Pn**	**17 57 09.6**	**+1.0**	
IGZV	**Ghazvin**	**4.58**	**52**	*e*Pn	**Pn**	**17 57 10.8**	**+1.6**	
ROKH	**ROKH**	**4.65**	**105**	*e*Pn	**Pn**	**17 57 12.3**	**+2.1**	
SIRT	**Sirnak**	**4.67**	**326**	P	**Pn**	**17 57 10.3**	**0.0**	
QALM	**Alamut, Qazvin**	**4.89**	**54**	*e*Pn	**Pn**	**17 57 14.9**	**+1.4**	
IKLH	**Kolahrood**	**4.90**	**92**	*e*Pn	**Pn**	**17 57 16.4**	**+2.7**	
IHSB	**Hasanabad**	**4.91**	**67**	*e*Pn	**Pn**	**17 57 15.2**	**+1.6**	
AHAR	**Ahar**	**4.93**	**12**	*e*Pn	**Pn**	**17 57 16.5**	**+2.6**	
IBRJ	**Brojen**	**4.98**	**109**	*e*Pn	**Pn**	**17 57 16.1**	**+1.4**	
GEVA	**Gevas**	**5.12**	**336**		**Pn**	**17 57 18.2**	**+1.7**	
AKDM	**Akdamar-Van**	**5.16**	**335**	*e*P	**Pn**	**17 57 18.8**	**+1.7**	
VANB	**Van**	**5.27**	**340**	*e*P	**Pn**	**17 57 19.6**	**+1.0**	
MARD	**Mardin**	**5.43**	**313**		**Pn**	**17 57 21.0**	**+0.1**	
IGAR	**Gharneh**	**5.45**	**102**	*e*Pn	**Pn**	**17 57 23.3**	**+2.1**	
IDMV	**Damavand**	**5.54**	**68**	*e*Pn	**Pn**	**17 57 23.5**	**+1.1**	
IZEF	**Zefreh**	**5.58**	**96**	*e*Pn	**Pn**	**17 57 25.2**	**+2.2**	
KLNJ	**Kolanjah**	**5.63**	**116**	*e*Pn	**Pn**	**17 57 25.7**	**+2.0**	
KLNJ				*e*		17 58 42.6		
GURO	**Guroymak-BITLI**	**5.72**	**330**	*e*P	**Pn**	**17 57 25.4**	**+0.7**	
MAZI	**Mazidag**	**5.73**	**313**	*e*P	**Pn**	**17 57 23.9**	**-1.0**	
SVAN	**Silvan-Diyarba**	**5.79**	**322**	*e*P	**Pn**	**17 57 25.9**	**+0.3**	
IRAM	**Ramesheh**	**5.91**	**106**	*e*Pn	**Pn**	**17 57 29.6**	**+2.2**	
IPRN	**Peran**	**6.01**	**63**	*e*Pn	**Pn**	**17 57 31.1**	**+2.4**	
IFIR	**Firoozkooh**	**6.12**	**69**	*e*Pn	**Pn**	**17 57 32.7**	**+2.3**	
ILAS	**Lasjerd**	**6.21**	**72**	*e*Pn	**Pn**	**17 57 33.1**	**+1.5**	
DYBB	**Diyarbakir**	**6.24**	**315**	*e*P	**Pn**	**17 57 31.5**	**-0.3**	
AGRB	**Hanur-Agry**	**6.29**	**340**	*e*P	**Pn**	**17 57 35.8**	**+3.1**	
IALA	**Alasht**	**6.30**	**66**	*e*Pn	**Pn**	**17 57 35.9**	**+3.0**	
TASB	**TASBURUN-IGDIR**	**6.42**	**350**	*e*P	Pn	17 57 39.3	+5.0	
VRTB	**Varto-Mus**	**6.47**	**329**	*e*P	**Pn**	**17 57 36.3**	**+1.2**	
ISHM	**Shahmirzad**	**6.58**	**69**	*e*Pn	**Pn**	**17 57 38.7**	**+1.9**	
BNGB	**Bingl**	**6.70**	**324**	*e*P	**Pn**	**17 57 39.0**	**+0.9**	
BINT	**Bingol**	**6.70**	**322**	P	**Pn**	**17 57 39.0**	**+0.8**	
ANAR	**Anarak**	**6.71**	**92**	*e*Pn	**Pn**	**17 57 39.6**	**+1.2**	
URFA	**Urfa**	**6.77**	**306**	*e*P	**Pn**	**17 57 38.3**	**-0.9**	
ISAD	**Sadrabad**	**6.93**	**102**	*e*Pn	**Pn**	**17 57 42.0**	**+0.5**	
SVRC	**Sivrice-ELAZID**	**7.01**	**314**	*e*P	**Pn**	**17 57 42.3**	**-0.2**	
KOPR	**Koprukoy-ERZUR**	**7.04**	**335**	*e*P	**Pn**	**17 57 45.4**	**+2.5**	
SHI	**Shiraz**	**7.04**	**123**	*e*Pn	**Pn**	**17 57 45.1**	**+2.1**	
YEDI	**Yedisu-Bingol**	**7.11**	**326**	*e*P	**Pn**	**17 57 44.6**	**+0.7**	
IGLO	**Ghaloghah**	**7.22**	**65**	*e*Pn	**Pn**	**17 57 48.4**	**+2.9**	
PTK	**Pertek**	**7.30**	**317**	*e*P	**Pn**	**17 57 46.9**	**+0.3**	
SENK	**Senkaya-Erzuru**	**7.39**	**340**	*e*P	**Pn**	**17 57 50.9**	**+3.1**	
MALT	**Malatya**	**7.51**	**310**	*e*P	**Pn**	**17 57 48.9**	**-0.5**	
MALT	**Malatya**	**7.51**	**310**	P	**Pn**	**17 57 48.8**	**-0.6**	
ASF	**Jabal al Asfar**	**7.57**	**261**	Pn	**Pn**	**17 57 50.2**	**0.0**	
	comp=E,1.7nm,0.3s,baz=25,slow=8.8,SNR=15							
ASF				Sn	**Sn**	**17 59 13.5**	**-2.6**	
	comp=E,3.0nm,0.3s,baz=357,slow=19,SNR=1.4							
ASF				Lg		17 59 59.8		
	comp=E,8.6nm,0.3s,baz=45,slow=21,SNR=6.1							
KOPT	**Kop Dagi**	**7.60**	**328**	Pn	**Pn**	**17 57 53.3**	**+2.6**	
GAZ	**Gaziantep**	**7.78**	**299**	*e*P	**Pn**	**17 57 52.4**	**-0.6**	
IMEH	**Mehriz**	**7.84**	**104**	*e*Pn	**Pn**	**17 57 55.8**	**+1.8**	
AKH	**Akhalkalaki**	**7.93**	**348**	⇑P	Pn	17 58 00.5	+5.4	
AKH	**Akhalkalaki**	**7.93**	**348**	P	**Pn**	**17 57 58.2**	**+3.0**	
AKH	**Akhalkalaki**	**7.93**	**348**	Pn	**Pn**	**17 57 58.2**	**+3.0**	
TBLG	**Delisi**	**8.09**	**355**	P	Pn	17 58 01.8	+4.6	
TBLG	**Delisi**	**8.09**	**355**	Pn	Pn	17 58 01.8	+4.6	
KMRS	**Kahramanmaras**	**8.14**	**301**	*e*P	**Pn**	**17 57 57.5**	**-0.5**	
MMA0B	**Mount Meron ar**	**8.66**	**269**	Pn	**Pn**	**17 58 08.1**	**+3.0**	
MMAI	**Mount Meron Ar**	**8.66**	**269**	Pn	**Pn**	**17 58 04.5**	**-0.7**	
	comp=E,1.7nm,0.3s,baz=76,slow=16,SNR=6.7							
MMAI				Lg		18 00 32.8		
	comp=E,12nm,0.3s,baz=84,slow=39,SNR=6.6							
MMAI				LR	LR	18 02 10.1		
	comp=E,306nm,18.6s,baz=60,slow=43							
HMDT	**Nahal Hemdat**	**8.69**	**263**	Pn	**Pn**	**17 58 07.2**	**+1.8**	
MMLI	**Mount Malkishu**	**8.74**	**265**	Pn	**Pn**	**17 58 09.5**	**+3.4**	
CEYT	**Ceyhan**	**8.81**	**295**	*e*P	**Pn**	**17 58 05.8**	**-1.2**	
BLGI	**Bet Lehem HaGe**	**8.88**	**267**	Pn	**Pn**	**17 58 10.3**	**+2.3**	
SARI	**SarD1z-Kayseri**	**8.90**	**305**	*e*P	**Pn**	**17 58 07.3**	**-1.1**	
KOZT	**Kozan**	**8.92**	**298**	*e*P	**Pn**	**17 58 07.6**	**-0.9**	
DSI	**Dead Sea**	**8.97**	**259**	Pn	**Pn**	**17 58 12.3**	**+3.0**	
OFRI	**`Ofer**	**9.07**	**266**	Pn	**Pn**	**17 58 11.2**	**+0.6**	
SLTI	**Sal'it**	**9.09**	**264**	Pn	**Pn**	**17 58 12.8**	**+1.9**	
TPRV	**Parvadeh(Tabas**	**9.19**	**91**	*e*Pn	**Pn**	**17 58 13.7**	**+1.3**	
ZEI	**Tsey**	**9.22**	**352**	*e*P	Pn	17 58 18.4	+5.6	
ZEI				pmax	pmax			
	comp=Z,14nm,0.6s							
YTIR	**Yattir**	**9.25**	**259**	Pn	**Pn**	**17 58 16.5**	**+3.3**	
ZFRI	**Zfri**	**9.47**	**254**	Pn	**Pn**	**17 58 18.6**	**+2.5**	
TKDS	**Koohdasht(Taba**	**9.50**	**87**	*e*Pn	**Pn**	**17 58 17.7**	**+1.0**	
HRFI	**Mount Harif**	**9.78**	**251**	*e*Pn	**Pn**	**17 58 22.3**	**+1.8**	
HRFI	**Mount Harif**	**9.78**	**251**	Pn	**Pn**	**17 58 23.7**	**+3.2**	
EIL	**Elat**	**10.01**	**249**	Pn	**Pn**	**17 58 23.9**	**+0.4**	
	comp=Z,0.9nm,0.3s,baz=88,slow=5.2,SNR=24							
EIL				Lg	Lg	18 01 19.9		
	comp=Z,3.3nm,0.3s,baz=0.0,slow=20,SNR=2.7							
EIL				LR	LR	18 03 13.3		
	comp=Z,479nm,18.2s,baz=50,slow=44							
EIL	**Elat**	**10.01**	**249**	Pn	**Pn**	**17 58 24.9**	**+1.4**	
SBZV	**Sabzevar**	**10.12**	**71**	*e*Pn	**Pn**	**17 58 27.6**	**+2.4**	
NGRK	**Negar Kerman**	**10.20**	**110**	*e*Pn	**Pn**	**17 58 27.5**	**+1.0**	
KBZ	**Khabaz**	**10.29**	**348**	Pn	Pn	17 58 32.1	+4.9	
	comp=Z,0.1nm,0.3s,baz=164,slow=9.9,SNR=9.6							
KBZ	**Khabaz**	**10.29**	**348**	⇓*e*P	Pn	17 58 32.0	+4.8	
KVAR	**Kislovodsk Arr**	**10.54**	**348**	Pn	Pn	17 58 35.0	+4.2	
	baz=225,slow=8.6,SNR=2.1							
KVAR				LR	LR	18 02 32.4		
	comp=Z,246nm,21.5s,baz=336,slow=37							
KIV	**Kislovodsk**	**10.54**	**348**	*e*P	**Pn**	**17 58 33.7**	**+2.8**	
KIV				pmax	pmax			
	comp=Z,31nm,1.0s							
KIV				MLR	MLR			
	comp=Z,124nm,10.0s							
KIV	**Kislovodsk**	**10.54**	**348**	Pn	**Pn**	**17 58 33.1**	**+2.2**	
SLWR	**Sila**	**10.89**	**150**	*e*Pn	**Pn**	**17 58 35.9**	**+0.3**	
GEYT	**Alibeck**	**10.92**	**64**	Pn	**Pn**	**17 58 37.1**	**+1.1**	
	comp=Z,0.4nm,0.3s,baz=243,slow=9.3,SNR=3.0							
GEYT				LR	LR	18 03 40.5		
	comp=Z,356nm,21.6s,baz=210,slow=42							
GYA0	**ALIBECK ARRAY**	**10.92**	**64**	P	**Pn**	**17 58 35.0**	**-1.1**	
GYA0B	**ALIBECK ARRAY**	**10.92**	**64**	Pn	**Pn**	**17 58 36.0**	**-0.1**	
AFRZ	**Afriz**	**11.09**	**88**	*e*Pn	**Pn**	**17 58 39.7**	**+1.2**	
BRTR	**Keskin Array B**	**11.43**	**305**	Pn	**Pn**	**17 58 46.5**	**+3.4**	
	comp=Z,0.1nm,0.3s,baz=129,slow=13,SNR=15							
BR131	**Keskin Array S**	**11.43**	**305**	⇑*e*P	**Pn**	**17 58 43.2**	**+0.2**	
BR131	**Keskin Array S**	**11.43**	**305**		**Pn**	**17 58 43.3**	**+0.3**	
GOF	**Gofitskoye**	**11.56**	**350**	⇑*e*P	**Pn**	**17 58 48.0**	**+3.3**	
GOF				pmax	pmax			
	comp=Z,30nm,0.9s							
SHME	**Shamm**	**11.80**	**127**	P	**Pn**	**17 58 47.5**	**-0.6**	
BANOM	**Banah**	**11.99**	**127**	*i* P	**Pn**	**17 58 49.8**	**-0.8**	
	SNR=51							
BANOM				S	Sn	18 00 55.4	-9.1	
BANOM	**Banah**	**11.99**	**127**	P	**Pn**	**17 58 50.3**	**-0.4**	
	SNR=51							
ILGA	**Ilgaz**	**12.06**	**311**	Pn	**Pn**	**17 58 54.2**	**+2.4**	
BR231	**Keskin MP Arra**	**12.07**	**304**	Pn	**Pn**	**17 58 53.1**	**+1.3**	
NAZ	**Nazwa, Dubai**	**12.24**	**132**	P	**Pn**	**17 58 54.0**	**0.0**	
MSFE	**Esma-Masafi**	**12.28**	**130**	P	**Pn**	**17 58 54.1**	**-0.6**	
FAQ	**Al Faqa, Dubai**	**12.37**	**133**	S	**Sn**	**18 01 10.0**	**-3.9**	
	SNR=7.8							
MDH	**Madha**	**12.42**	**129**	*i* P	**Pn**	**17 58 56.0**	**-0.5**	
	SNR=11							
MDH	**Madha**	**12.42**	**129**	P	**Pn**	**17 58 56.6**	**+0.1**	
	SNR=11							
UOSS	**Minazif**	**12.61**	**131**	*i* P	**Pn**	**17 58 58.6**	**-0.5**	
	SNR=18							
UOSS	**Minazif**	**12.61**	**131**	Pn	**Pn**	**17 58 59.1**	**0.0**	
UOSS					**Sn**	**18 01 11.6**	**-7.9**	
HATD	**Hatta, Dubai**	**12.65**	**131**	P	**Pn**	**17 58 58.8**	**-0.8**	
ASHO	**Ashiyiah**	**12.70**	**132**	*i* P	**Pn**	**17 58 59.3**	**-1.2**	
	SNR=17							
ASHO	**Ashiyiah**	**12.70**	**132**	P	**Pn**	**17 59 01.2**	**+0.8**	
	SNR=17							
ANN	**Anapa**	**12.83**	**332**	*e*P	**Pn**	**17 59 05.5**	**+3.4**	
ANN				MLR	MLR			
	comp=Z,205nm,10.0s							
BOLV	**Bolvadin**	**12.95**	**297**	Pn	**Pn**	**17 59 07.5**	**+3.6**	
ISP	**Isparta**	**13.03**	**293**	P	**Pn**	**17 59 08.3**	**+3.4**	
ISP	**Isparta**	**13.03**	**293**	Pn	**Pn**	**17 59 08.3**	**+3.4**	
SOHO	**SOHO**	**13.40**	**132**	*i* P	**Pn**	**17 59 08.4**	**-1.5**	
	SNR=8.7							
AKAS	**Kas**	**13.47**	**285**	Pn	**Pn**	**17 59 10.1**	**-0.8**	
ARQ	**Araqi**	**13.99**	**135**	P	**Pn**	**17 59 18.1**	**+0.1**	
	SNR=21							
MANT	**Manisa**	**14.69**	**294**		**P**	**17 59 31.1**	**-2.8**	
BSY	**Bisya**	**14.84**	**134**	P	**Pn**	**17 59 28.7**	**-1.0**	
	SNR=8.0							
BSY				P	**Pn**	**17 59 28.7**	**-1.0**	
	SNR=8.0							
WSAR	**Wadi Sarin**	**15.37**	**129**	Pn	**Pn**	**17 59 34.2**	**-2.5**	
	comp=Z,1.9nm,0.3s,baz=316,slow=9.7,SNR=23							
WSAR				Sn	Sn	18 02 15.2	-12	
	comp=Z,1.6nm,0.3s,baz=323,slow=20,SNR=3.7							
WBK	**Wadi Bani Khal**	**16.04**	**130**	P	**Pn**	**17 59 45.0**	**-0.4**	
	SNR=20							
TIRR	**Tirgusor**	**17.20**	**314**	⇑P	**P**	**18 00 01.7**	**+0.2**	
TIRR	**Tirgusor**	**17.20**	**314**	P	**P**	**18 00 01.3**	**-0.2**	
TIRR				pmax	pmax			
	comp=Z,89nm,1.3s							
TIRR	**Tirgusor**	**17.20**	**314**	P	**P**	**18 00 01.3**	**-0.2**	
TIRR				IAmb	IAmb	18 00 02.6		
	comp=Z,88nm,1.3s							
ALN	**Alexandroupoli**	**17.23**	**300**	P	**P**	**18 00 01.6**	**-0.2**	
ALN				pmax	pmax			
	comp=Z,19nm,1.2s							
ALN	**Alexandroupoli**	**17.23**	**300**	P	**P**	**18 00 01.6**	**-0.2**	
IDI	**Anoyia**	**17.26**	**281**	Pn	**P**	**18 00 02.1**	**-0.3**	
	comp=Z,1.5nm,0.3s,baz=73,slow=15,SNR=14							
IDI	**Anoyia**	**17.26**	**281**	P	**P**	**18 00 02.0**	**-0.3**	
IDI				IAmb	IAmb	18 00 08.0		
	comp=Z,79nm,1.7s							
WHFO	**Wadi Hawf**	**17.26**	**153**	P	**Pn**	**17 59 58.0**	**-3.0**	
	SNR=21							
HARR	**Harsova**	**17.61**	**314**	⇓P	**P**	**18 00 06.5**	**+0.4**	
CFR	**Carcaliu**	**17.76**	**316**	⇑P	**P**	**18 00 08.1**	**+0.4**	
VRH	**Novokhopyorsk**	**17.77**	**352**	*e*P	**Pn**	**18 00 05.6**	**-1.3**	
VRH				pmax	pmax			
	comp=Z,30nm,1.4s							
DMTO	**DMTO**	**17.91**	**150**	P	**Pn**	**18 00 06.0**	**-2.9**	
	SNR=26							
VORD	**Divnogorie**	**17.92**	**347**	*e*P	**P**	**18 00 08.9**	**-0.5**	
VORD				pmax	pmax			
	comp=Z,9.0nm,0.8s							
VSR	**Storozhevoye**	**18.18**	**347**	*e*P	**P**	**18 00 12.3**	**0.0**	
VSR				pmax	pmax			
	comp=Z,30nm,1.1s							
ABKAR	**Akbulak array**	**18.82**	**30**	P	**Pn**	**18 00 20.5**	**+0.6**	
AKTO	**Aktyubinsk**	**19.04**	**25**	P	**Pn**	**18 00 22.1**	**-0.4**	
	comp=Z,0.8nm,0.3s,baz=205,slow=8.4,SNR=8.7							
AKTO				LR	LR	18 09 48.9		
	comp=Z,67nm,18.2s,baz=219,slow=44							
MLR	**Muntele Rosu**	**19.23**	**314**	P	**Pn**	**18 00 25.8**	**+0.9**	
	comp=Z,1.3nm,0.3s,baz=30,slow=9.6,SNR=7.1							
MLR				LR	LR	18 09 08.4		
	comp=Z,204nm,19.5s,baz=126,slow=41							
MLR	**Muntele Rosu**	**19.23**	**314**	P	**Pn**	**18 00 25.3**	**+0.3**	
MLR				pmax	pmax			
	comp=Z,7.0nm,0.6s							
MLR	**Muntele Rosu**	**19.23**	**314**	Pn	**Pn**	**18 00 25.3**	**+0.3**	
KBL	**Kabul**	**19.32**	**81**	P	**Pn**	**18 00 26.3**	**0.0**	
KBL				pmax	pmax			
	comp=Z,24nm,1.3s							
KBL	**Kabul**	**19.32**	**81**		**Pn**	**18 00 26.3**	**0.0**	
TESR	**Tescani**	**19.37**	**317**	⇑P	**Pn**	**18 00 25.2**	**-1.3**	
SORM	**Soroca**	**19.46**	**323**	⇓P	**P**	**18 00 25.4**	**-1.0**	
CHGR	**Chuyangaron**	**19.55**	**69**	P	**Pn**	**18 00 28.6**	**-0.2**	
CHGR				IAmb	IAmb	18 00 38.9		
	comp=Z,15nm,0.5s							
LPSR	**Galich'ya Gora**	**19.55**	**348**	*e*P	**P**	**18 00 26.1**	**-1.2**	
LPSR				pmax	pmax			
	comp=Z,60nm,0.7s							
AGG	**Agios Georgios**	**19.57**	**293**	P	**Pn**	**18 00 27.9**	**-1.1**	
AGG				pmax	pmax			
	comp=Z,94nm,1.6s							
AGG	**Agios Georgios**	**19.57**	**293**		**Pn**	**18 00 27.9**	**-1.1**	
AGG				IAmb	IAmb	18 00 29.9		
	comp=Z,94nm,1.6s							
OZUR			**19.64**	**315**	⇓P	**Pn**	**18 00 29.4**	**-0.4**
ITM	**Ithomi**	**19.70**	**287**	P	**P**	**18 00 28.7**	**-0.4**	
VOIR		**19.75**	**313**	⇓P	**Pn**	**18 00 30.5**	**-0.6**	
DOPR	**Dopca**	**19.81**	**314**	⇓P	**Pn**	**18 00 31.2**	**-0.6**	
GAR	**Garm**	**20.49**	**68**	P	**P**	**18 00 38.6**	**+0.8**	
GAR				IAmb	IAmb	18 00 49.4		
	comp=Z,35nm,1.3s							
BURAR	**Bucovina Array**	**20.80**	**318**	⇑P	Pn	18 00 42.0	-1.6	
BUR08	**Bucovina Ar. S**	**20.83**	**318**	P	**P**	**18 00 41.1**	**-0.3**	
AKASG	**Malin Array Be**	**20.88**	**330**	P	**P**	**18 00 40.6**	**-1.1**	
	comp=Z,4.6nm,0.4s,baz=141,slow=10.0,SNR=16							
AKBB	**Malin Array Si**	**20.88**	**330**	P	**P**	**18 00 40.5**	**-1.3**	
AKBB				pmax	pmax			
	comp=Z,35nm,1.2s							
AKBB	**Malin Array Si**	**20.88**	**330**	P	**P**	**18 00 40.5**	**-1.3**	
AKBB				IAmb	IAmb	18 00 41.7		
	comp=Z,35nm,1.1s							
ARCR	**ARCALIA**	**21.00**	**316**	⇓P	**P**	**18 00 44.3**	**+1.1**	
BTK	**Batken**	**21.03**	**65**	P	**P**	**18 00 45.3**	**+1.6**	
BTK				pmax	pmax			
	comp=Z,13nm,0.6s							
BTK	**Batken**	**21.03**	**65**	P	**P**	**18 00 45.2**	**+1.6**	
HERR	**Herculane**	**21.16**	**309**	⇑P	**P**	**18 00 45.3**	**+0.4**	
KK31	**Karatay Array**	**21.53**	**57**	P	**P**	**18 00 49.6**	**+0.7**	
KK31				pmax	pmax			
	comp=Z,15nm,0.7s							
KK31	**Karatay Array**	**21.53**	**57**	P	**P**	**18 00 49.6**	**+0.7**	
KK31				IAmb	IAmb	18 00 58.4		
	comp=Z,15nm,0.7s							
KKAR	**Karatay Array**	**21.53**	**57**	P	**P**	**18 00 49.4**	**+0.5**	
KKAR				pmax	pmax			
	comp=Z,15nm,0.7s							
KKAR	**Karatay Array**	**21.53**	**57**	P	**P**	**18 00 49.4**	**+0.5**	
KKAR				IAmb	IAmb	18 00 58.4		
	comp=Z,15nm,0.7s							
MDVR	**Moldovita**	**21.58**	**308**	⇓P	**P**	**18 00 49.9**	**+0.4**	
BZS	**Buzias**	**21.98**	**310**	⇓P	**P**	**18 00 53.2**	**-0.5**	
OBN	**Obninsk**	**22.38**	**346**	P	**P**	**18 00 56.4**	**-1.4**	
	comp=Z,2.7nm,0.4s,baz=107,slow=14,SNR=5.4							
OBN				S	**S**	**18 04 58.1**	**-5.5**	
	comp=Z,2.7nm,0.4s,baz=137,slow=21,SNR=13							
OBN				LR	LR	18 10 50.5		
	comp=Z,25nm,20.1s,baz=170,slow=40							
OBN	**Obninsk**	**22.38**	**346**	*d* P	**P**	**18 00 56.1**	**-1.8**	
OBN				*i*		18 01 02.6		
OBN				*e*		18 01 22.6		
OBN				*e*S	**S**	**18 05 07.5**	**+3.9**	
OBN				pmax	pmax			
	comp=Z,36nm,1.7s							
OBN				MLR	MLR			
	comp=Z,96nm,20.0s							
OBN	**Obninsk**	**22.38**	**346**	P	**P**	**18 00 56.3**	**-1.6**	
OBN				IAmb	IAmb	18 00 59.5		
	comp=Z,30nm,1.2s							
DIVS	**Divibare**	**22.49**	**305**	P	**P**	**18 00 59.4**	**+0.1**	
LVV	**L'vov**

CONA Conrad Observa 26.52 311 *i* P P **18 01 38.1 +0.7**
comp=Z,2.2nm,0.5s
PABE Paberze 26.56 332 *e*P P **18 01 38.5 +0.9**
VRAC Vranov 26.62 315 P P **18 01 38.4 +0.1**
comp=Z,2.6nm,0.6s,baz=93,slow=9.0,SNR=10.0
VRAC LR LR 18 13 44.5
comp=Z,115nm,19.4s,baz=112,slow=40
VRAC Vranov 26.62 315 ⇑P P **18 01 38.7 +0.4**
VRAC Vranov 26.62 315 *e*P P **18 01 38.6 +0.4**
KRUC Moravsky 26.64 314 *e*P P **18 01 37.9 -0.4**
AQU L'Aquila 26.78 298 P P **18 01 39.8 +0.1**
AQU pmax pmax
comp=Z,11nm,0.9s
AQU L'Aquila 26.78 298 P P **18 01 39.8 +0.1**
AQU IAmb IAmb 18 02 00.1
comp=Z,11nm,0.9s
KRLC Kraliky 26.85 316 AMS AMS 18 15 40.0
comp=Z,100nm,11.8s
OBKA Obir 26.89 308 *i* pP pP 18 01 43.5 -0.4
comp=Z,3.5nm,0.6s
NRCA Norcia 27.06 299 P P **18 01 42.3 0.0**
NRCA IAmb IAmb 18 01 44.7
comp=Z,21nm,1.2s
VOJS Vojsko 27.20 306 *e*P P **18 01 43.4 -0.2**
DPC Dobruska-Polom 27.23 317 *e*P P **18 01 44.1 +0.3**
DPC MLR MLR
comp=Z,100nm,14.6s
DPC Dobruska-Polom 27.23 317 *e*P P **18 01 44.1 +0.3**
DPC AMS AMS 18 15 40.0
comp=Z,100nm,14.6s
TREC Trest 27.28 314 AMS AMS 18 15 40.0
comp=Z,200nm,13.7s
OSTC Ostas 27.39 317 AMS AMS 18 16 30.0
comp=Z,100nm,11.9s
KSP Ksiaz 27.48 318 *e*P P **18 01 46.1 +0.2**
UPC Upice 27.48 317 AMS AMS 18 16 00.0
comp=Z,100nm,11.9s
CHVC Chvalec 27.49 317 *e*P P **18 01 44.8 -1.3**
KLMR Klimovskoe 27.50 353 *e*P P **18 01 42.2 -3.7**
KLMR pmax pmax
comp=Z,24nm,0.9s
KLMR Klimovskoe 27.50 353 *e*P P **18 01 42.3 -3.7**
KLMR AMP 18 01 49.1
comp=Z,24nm,0.9s
MOA Molln 27.50 310 *i* P P **18 01 46.4 +0.3**
comp=Z,2.3nm,0.4s
PRED Cave del Predi 27.53 307 P P **18 01 46.7 +0.2**
PRED IAmb IAmb 18 01 55.5
comp=Z,20nm,1.5s
MURB Monte Urbino 27.55 300 P P **18 01 47.0 +0.3**
KBA Koelnbreinsper 27.85 308 *e*P P **18 01 49.9 +0.4**
comp=Z,3.9nm,0.6s
ZOU Zoufplan 27.95 307 P P **18 01 50.5 +0.1**
LATE Laterza 27.98 299 P P **18 01 50.3 -0.2**
LATE IAmb IAmb 18 01 54.4
comp=Z,11nm,1.0s
PRGR Permogore 27.99 360 *e*P P **18 01 47.8 -2.5**
STAL STALIGIAL 28.05 306 P P **18 01 50.5 -0.6**
PRU Pruhonice 28.12 315 AMS AMS 18 16 00.0
comp=Z,100nm,13.6s
GEC2 GERESS Array S 28.20 312 P P **18 01 52.2 -0.2**
GERES GERESS Array B 28.20 312 P P **18 01 51.9 -0.5**
comp=Z,0.5nm,0.4s,baz=116,slow=8.5,SNR=6.6
GERES PcP **PcP** **18 05 06.0 +0.1**
comp=Z,0.7nm,0.4s,baz=149,slow=2.3,SNR=8.7
CIMO Cimolais 28.24 306 P P **18 01 52.5 -0.3**
CIMO IAmb IAmb 18 01 54.3
comp=Z,10nm,1.1s
ABTA Abfaltersbach 28.31 307 *i* P P **18 01 53.8 +0.3**
comp=Z,0.9nm,0.5s
PVCC Panska Ves 28.32 316 AMS AMS 18 16 20.0
comp=Z,200nm,13.5s
KHC Kasperske Hory 28.37 313⇑ *e*P P **18 01 54.5 +0.5**
KHC pmax pmax
comp=Z,14nm,1.7s
KHC Kasperske Hory 28.37 313 *e*P P **18 01 54.1 +0.1**
KHC AMS AMS 18 16 20.0
comp=Z,100nm,15.4s
KHC Kasperske Hory 28.37 313 P P **18 01 53.4 -0.6**
CTI Castel Tesino 28.71 306 P P **18 01 56.7 -0.4**
CTI pmax pmax
comp=Z,4.0nm,0.7s
CTI Castel Tesino 28.71 306 P P **18 01 56.6 -0.4**
ZCCA Zocca 28.84 302 P P **18 01 58.5 +0.4**
WTTA Wattenberg 29.02 308 *i* P P **18 01 59.5 -0.4**
comp=Z,3.4nm,0.4s
WATA Walderalm 29.08 308 *i* P P **18 02 00.1 -0.3**
comp=Z,3.4nm,0.4s
VLC Villacollemand 29.22 301 P P **18 02 01.3 -0.2**
VLC IAmb IAmb 18 02 17.7
comp=Z,17nm,1.1s
SQTA Sankt Quirin 29.29 308 *i* P P **18 02 01.6 -0.7**
comp=Z,7.1nm,0.4s
KURBB Kurchatov Arra 29.32 45 P P **18 02 03.4 +1.1**
comp=Z,3.4nm,0.8s,baz=251,slow=8.9,SNR=27
KURBB PcP **PcP** **18 05 08.6 0.0**
comp=Z,0.7nm,0.6s,baz=244,slow=3.1,SNR=5.7
MOTA Moosalm 29.39 308 *i* P P **18 02 02.6 -0.5**
comp=Z,2.3nm,0.2s
KURK Kurchatov 29.41 45 *de*P P **18 02 04.6 +1.5**
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 29.41 45 P P **18 02 02.7 -0.4**
KURK Kurchatov 29.41 45 PcP **18 05 08.6 -0.2**
NKC Novy Kostel 29.46 314 AMS AMS 18 17 20.0
comp=Z,100nm,11.8s
CLL Collm 29.55 317 *e*P P **18 02 03.0 -1.3**
comp=Z,6.0nm,1.1s
CLL LmV 18 15 00.0
comp=Z,100nm,20.0s
CLL Collm 29.55 317 *e*P P **18 02 03.0 -1.3**
CLL pmax pmax
comp=Z,6.0nm,1.1s
FETA Feichten 29.56 307 *i* P P **18 02 04.5 -0.1**
comp=Z,1.5nm,0.4s
VSL Villasalto 29.62 292 P P **18 02 05.9 +0.8**
VSL IAmb IAmb 18 02 06.2
comp=Z,24nm,1.3s
FUORN Ofenpass-Fuorn 29.78 306 P P **18 02 07.1 +0.4**
MSSA Maissana 29.86 302 P P **18 02 07.4 +0.1**
KEST Kesra 29.88 284 P P **18 02 07.2 -0.3**
comp=Z,2.5nm,0.8s,baz=68,slow=5.4,SNR=2.9
KEST Kesra 29.88 284 P P **18 02 05.9 -1.5**
KEST IAmb IAmb 18 02 15.2
comp=Z,16nm,1.4s
GRA1 Grafenberg Arr 30.01 313 P P **18 02 07.8 -0.7**
GRA1 IAmb IAmb 18 02 09.7
comp=Z,29nm,1.5s
GRF Grafenberg Arr 30.01 313 P P **18 02 07.8 -0.7**
GRF pmax pmax
comp=Z,29nm,1.5s
MAKZ Makanchi 30.35 54 P P **18 02 11.7 +0.2**
MAKZ pmax pmax
comp=Z,8.0nm,0.5s
MAKZ Makanchi 30.35 54 P P **18 02 11.7 +0.2**
MAKZ IAmb IAmb 18 02 18.0
comp=Z,7.5nm,0.5s
FIA1 FINESS Array S 30.54 341 P P **18 02 13.8 +0.9**
FINES FINESS Array B 30.54 341 P P **18 02 11.9 -1.0**
comp=Z,1.3nm,0.4s,baz=151,slow=9.9,SNR=10.0
FINES PcP **PcP** **18 05 11.4 -0.1**
comp=Z,4.2nm,1.0s,baz=122,slow=4.4,SNR=3.5
FINES FINESS Array B 30.54 341 *ce*P P **18 02 12.8 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.4s
MK31 Makanchi Array 30.55 54 P P **18 02 14.0 +0.7**
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MK31 Makanchi Array 30.55 54 P P **18 02 14.0 +0.7**
MK31 IAmb IAmb 18 02 19.4
comp=Z,9.1nm,0.6s
MKAR Makanchi Array 30.55 54 P P **18 02 14.2 +0.9**
comp=Z,11nm,0.5s,baz=250,slow=7.5,SNR=62
MKAR Makanchi Array 30.55 54 *ce*P P **18 02 14.1 +0.8**
MKAR pmax pmax
comp=Z,12nm,0.5s
BFO Black Forest 31.45 309 P P **18 02 21.3 +0.1**
BFO pmax pmax
comp=Z,11nm,1.5s
BFO Black Forest 31.45 309 P P **18 02 21.3 +0.1**
BFO IAmb IAmb 18 02 23.0
comp=Z,11nm,1.5s
SENIN Lac Senin/Sane 31.73 305 P P **18 02 23.8 -0.2**
SENIN IAmb IAmb 18 02 28.9
comp=Z,19nm,1.7s
BNI Bardonecchia 31.97 303 P P **18 02 25.3 -0.6**
BNI pmax pmax
comp=Z,30nm,0.9s
BNI Bardonecchia 31.97 303 P P **18 02 25.3 -0.6**
LPL La Plagne 31.99 303 *e*P P **18 02 25.4 -0.8**
LPL pmax pmax
comp=Z,16nm,0.8s
ECH Echery 32.19 308 P P **18 02 26.8 -0.8**
ECH pmax pmax
comp=Z,14nm,1.4s
ECH Echery 32.19 308 P P **18 02 26.8 -0.8**
ECH IAmb IAmb 18 02 29.1
comp=Z,14nm,1.4s
PYUN Piuthan 32.34 90 *e*P P **18 02 30.7 +1.3**
comp=Z,11nm,0.5s
SSB Saint Sauveur 33.50 303 P P **18 02 39.0 -0.2**
SSB pmax pmax
comp=Z,15nm,1.7s
SSB Saint Sauveur 33.50 303 P P **18 02 39.0 -0.2**
SSB IAmb IAmb 18 03 18.5
comp=Z,16nm,1.7s
HFS Hagfors 33.74 331 P P **18 02 40.3 -0.7**
comp=Z,10nm,0.4s,baz=133,slow=10,SNR=83
GKN Gorkha 33.74 89 *e*P P **18 02 42.5 +0.9**
comp=Z,26nm,0.6s
WMQ Urumqi 33.95 60 *e*P P **18 02 45.0 +1.8**
WMQ pmax pmax
comp=Z,11nm,0.8s
WMQ pmax pmax
comp=Z,12nm,4.7s
WMQ LR LR
comp=N,150nm,28.9s
WMQ LR LR
comp=E,290nm,28.9s
WMQ LR LR
comp=Z,64nm,25.7s
ZAA0 Zalesovo Array 34.14 42 P P **18 02 44.5 -0.1**
ZALV Zalesovo Beam 34.14 42 P P **18 02 44.1 -0.5**
comp=Z,3.5nm,0.3s,baz=250,slow=9.6,SNR=19
DMN Daman 34.27 89 *e*P P **18 02 47.8 +1.5**
comp=Z,17nm,0.6s
SSF Saint Saulge 34.42 306 *e*P P **18 02 46.0 -1.1**
SSF pmax pmax
comp=Z,11nm,0.8s
DGZ Jazzator, Alta 34.52 50‖ *e*P P **18 02 49.4 +1.3**
DGZ pmax pmax
comp=Z,6.0nm,0.7s
PKI Pulchoki 34.53 89 *e*P P **18 02 49.3 +0.6**
LVZ Lovozero 34.87 353 P P **18 02 50.3 -0.5**
LVZ pmax pmax
comp=Z,58nm,1.7s
LVZ Lovozero 34.87 353 P P **18 02 50.3 -0.5**
NC602 NORSAR Array S 34.96 331 P P **18 02 50.3 -1.3**
JIRN Jiri 35.15 89 *e*P P **18 02 55.1 +1.0**
comp=Z,33nm,0.4s
CAF Calviac 35.22 302 *e*P P **18 02 53.1 -1.0**
CAF pmax pmax
comp=Z,11nm,1.3s
NB2 NORSAR Subarra 35.27 331 P P **18 02 52.5 -1.8**
comp=Z,0.5nm,0.5s,baz=124,slow=8.6
NOA NORSAR Array B 35.27 331 P P **18 02 52.8 -1.5**
comp=Z,0.8nm,0.5s,baz=125,slow=8.6,SNR=6.5
NOA PcP **PcP** **18 05 24.9 +0.1**
comp=Z,0.5nm,0.7s,baz=128,slow=1.6,SNR=5.8
NOA LR LR 18 19 41.1
comp=Z,60nm,18.1s,baz=135,slow=40
CLF Chambon-Foret 35.38 307 P P **18 02 53.6 -1.8**
CLF IAmb IAmb 18 03 00.4
comp=Z,18nm,1.1s
RAMN Ramite 35.74 90 *e*P P **18 02 59.5 +0.5**
comp=Z,19nm,0.6s
ODAN Odzre 36.43 89 *e*P P **18 03 05.7 +0.8**
TAPN Taplejung 36.53 88 *e*P P **18 03 07.0 +1.2**
TAM Tamanrasset 36.84 264 P P **18 03 08.5 +0.2**
TAM pmax pmax
comp=Z,13nm,1.5s
TAM Tamanrasset 36.84 264 P P **18 03 08.5 +0.2**
TAM IAmb IAmb 18 03 11.3
comp=Z,13nm,1.5s
KEV Kevo 37.61 349 P P **18 03 13.6 -0.5**
KEV pmax pmax
comp=Z,17nm,1.3s
KEV Kevo 37.61 349 P P **18 03 13.6 -0.5**
KEV IAmb IAmb 18 04 25.5
comp=Z,17nm,1.3s
ARCES ARCESS Array B 37.65 349 P P **18 03 13.5 -1.0**
comp=Z,3.3nm,0.8s,baz=140,slow=7.8,SNR=14
ARCES PcP **PcP** **18 05 32.1 +0.4**
comp=Z,1.7nm,0.7s,baz=160,slow=2.9,SNR=5.0
ARE0 ARCESS Array S 37.65 349 P P **18 03 14.6 +0.1**
ESBB Sonseca Array 39.89 293 P P **18 03 33.8 +0.1**
ESDC Sonseca Array 39.89 293 P P **18 03 33.4 -0.3**
comp=Z,2.4nm,0.5s,baz=79,slow=8.4,SNR=45
ESDC PcP **PcP** **18 05 39.6 +0.3**
comp=Z,0.8nm,0.5s,baz=44,slow=3.3,SNR=6.1
EKA Eskdalemuir Ar 39.99 318 P P **18 03 33.5 -0.7**
comp=Z,3.4nm,0.5s,baz=101,slow=9.7,SNR=20
EKA PcP **PcP** **18 05 39.3 +0.1**
comp=Z,0.5nm,0.5s,baz=123,slow=5.2,SNR=4.7
EKB Eskdalemuir 40.01 318 P P **18 03 33.7 -0.7**
ESK Eskdalemuir 40.01 318 P P **18 03 33.7 -0.7**
ESK pmax pmax
comp=Z,28nm,1.3s
ESK Eskdalemuir 40.01 318 P P **18 03 33.7 -0.7**
ESK IAmb IAmb 18 03 47.3
comp=Z,28nm,1.3s
PAB San Pablo 40.20 293 P P **18 03 36.4 0.0**
PAB pmax pmax
comp=Z,12nm,1.2s
PAB San Pablo 40.20 293 P P **18 03 36.4 0.0**
SHL Shillong 40.66 89 P P **18 03 39.8 -0.6**
SHL pmax pmax
comp=Z,24nm,1.4s
SHL Shillong 40.66 89 P P **18 03 39.8 -0.6**
SHL IAmb IAmb 18 03 47.4
comp=Z,24nm,1.4s
PBRG Braganca 41.73 297 *e*P P **18 03 49.0 +0.1**
comp=Z,15nm,1.5s
MDT Midelt 41.77 283 P P **18 03 49.7 +0.3**
comp=Z,1.1nm,0.4s,baz=54,slow=14,SNR=3.8
MVO Moncorvo 42.02 296 *e*P P **18 03 51.5 +0.2**
comp=Z,28nm,1.1s
MTE Manteigas 42.51 295 *e*P P **18 03 55.7 +0.4**
comp=Z,18nm,1.3s
MTE Manteigas 42.51 295 P P **18 03 55.8 +0.5**
MTE IAmb IAmb 18 03 57.4
comp=Z,19nm,1.3s
PVRL Vila Real 42.52 296 *e*P P **18 03 55.7 +0.4**
comp=Z,30nm,1.3s
PCBR Castelo Branco 42.55 294 *e*P P **18 03 55.9 +0.4**
comp=Z,20nm,1.3s
PMRV Marv??o 42.55 294 *e*P P **18 03 55.4 -0.2**
comp=Z,13nm,1.7s
NRIK Noril'sk 42.57 20 P P **18 03 56.6 +1.3**
comp=Z,5.8nm,0.7s,baz=214,slow=4.9,SNR=6.7
PCAB Cabril 42.70 297 *e*P P **18 03 56.9 +0.2**
comp=Z,20nm,1.7s
PVIS Viseu 42.73 296 *e*P P **18 03 57.7 +0.6**
comp=Z,26nm,2.0s
PGAV Gavieira, Arco 42.84 297 *e*P P **18 03 58.6 +0.6**
comp=Z,42nm,1.1s
PBEJ Beja 43.16 292 *e*P P **18 04 00.8 +0.3**
comp=Z,11nm,1.2s
GTA Gaotai 43.29 66 *e*P P **18 04 02.3 +0.6**
GTA pP sP 18 04 07.1 +0.8
GTA sP pP 18 04 09.5 +4.5
GTA S **S** **18 10 29.5 +0.3**
GTA SS **SS** **18 13 49.0 +6.7**
GTA pmax pmax
comp=Z,3.0nm,1.3s
GTA pmax pmax
comp=Z,85nm,7.6s
GTA LR LR
comp=N,130nm,18.7s
GTA LR LR
comp=E,140nm,19.0s
GTA LR LR
comp=Z,220nm,17.1s
PCVE Castro Verde 43.38 291 *e*P P **18 04 02.4 +0.2**
comp=Z,17nm,1.4s
ZAK Zakamensk 44.74 50 *e*P P **18 04 14.5 +1.4**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
TOA0 Torodi Ar. Sit 44.86 254 P P **18 04 13.4 -1.0**
TOA0 IAmb IAmb 18 04 16.2
comp=Z,8.2nm,1.2s
TORD Torodi Ar. Bea 44.86 254 P P **18 04 14.1 -0.3**
comp=Z,2.8nm,0.5s,baz=60,slow=6.0,SNR=38
TLY Talaya 44.96 48 *e*P P **18 04 15.9 +1.1**
TLY pmax pmax
comp=Z,17nm,1.0s
TLY MLR MLR
comp=Z,210nm,15.0s
SPA0 Spitsbergen Ar 46.39 352 P P **18 04 26.3 +0.6**
SPITS Spitsbergen Ar 46.39 352 P P **18 04 25.9 +0.2**
comp=Z,5.3nm,0.4s,baz=149,slow=15,SNR=14
SONM Songino Array 46.92 54 P P **18 04 30.6 +0.1**
comp=Z,1.7nm,0.5s,baz=281,slow=9.3,SNR=8.7
LZH Lanzhou 47.13 70 *e*P P **18 04 30.0 -2.3**
LZH pP pP 18 04 35.5 -0.1
LZH sP sP 18 04 38.9 +2.0
LZH PP **PP** **18 06 25.4 +2.5**
LZH pmax pmax
comp=Z,18nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.9s
LZH LR LR
comp=N,260nm,13.1s
LZH LR LR
comp=E,270nm,13.3s
LZH LR LR
comp=Z,460nm,16.5s
ULN Ulaanbaatar 47.36 53 *de*P P **18 04 34.9 +1.0**
ULN pmax pmax
comp=Z,17nm,1.7s
ULN Ulaanbaatar 47.36 53 P P **18 04 34.6 +0.7**
PBA Port Blair 48.10 106 P P 18 04 39.9 +0.1
SNR=12
CHTO Chiang Mai 49.47 93 P P **18 04 49.3 -1.0**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 49.47 93 P P **18 04 49.3 -1.0**
CHTO IAmb IAmb 18 04 50.8
comp=Z,4.5nm,0.7s
CM31 Chiang Mai Ar 49.63 94 P P **18 04 50.5 -1.1**
CM31 IAmb IAmb 18 04 56.0
comp=Z,6.0nm,0.5s
CMAR Chiang Mai Arr 49.63 94 P P **18 04 51.0 -0.6**
comp=Z,3.7nm,0.6s,baz=291,slow=8.4,SNR=20
CMAR PcP **PcP** **18 06 13.8 +0.8**
comp=Z,0.8nm,0.5s,baz=298,slow=5.8,SNR=2.4
KMI Kunming 49.87 84 P P 18 05 00.1 +6.5
KMI pP sP 18 05 04.3 +6.1
KMI sP pP 18 05 07.1 +10
KMI pmax pmax
comp=Z,9.0nm,1.1s
KMI LR LR
comp=N,180nm,20.0s
KMI LR LR
comp=E,190nm,14.2s
KMI LR LR
comp=Z,230nm,20.5s
BORG Borgarnes 50.36 329 P P **18 04 58.1 +1.6**
BORG pmax pmax
comp=Z,17nm,1.0s
BORG Borgarnes 50.36 329 P P **18 04 58.1 +1.6**
XAN Xi'an 51.70 71 P P **18 05 07.3 +0.2**
XAN sP sP 18 05 17.5 +5.8
XAN pmax pmax
comp=Z,10.0nm,0.6s
XAN pmax pmax
comp=Z,150nm,5.7s
XAN LR LR
comp=E,130nm,16.3s
XAN LR LR
comp=Z,120nm,18.4s
XAN Xi'an 51.70 71 P P **18 05 07.1 0.0**
XAN pmax pmax
comp=Z,7.0nm,0.6s
XAN Xi'an 51.70 71 P P **18 05 07.1 0.0**
XAN IAmb IAmb 18 05 12.1
comp=Z,7.4nm,0.6s
PBKT Sadao Pong 52.24 95 P P **18 05 10.4 -0.8**
PBKT IAmb IAmb 18 05 15.6
comp=Z,5.5nm,0.6s
ABPO Ambohimpanom 52.41 178 P P **18 05 11.1 -1.4**
ABPO pmax pmax
comp=Z,22nm,1.6s
ABPO Ambohimpanom 52.41 178 P P **18 05 11.1 -1.4**
ABPO IAmb IAmb 18 05 57.0
comp=Z,22nm,1.6s
SLVN Son La 52.44 88 P P **18 05 12.6 -0.2**
DBIC Dimbokro 53.87 252 P P **18 05 22.7 -0.5**
comp=Z,1.9nm,0.5s,baz=24,slow=7.7,SNR=5.0
DBIC LR LR 18 31 13.8
comp=Z,56nm,19.7s,slow=39
DBIC Dimbokro 53.87 252 P P **18 05 21.8 -1.4**
DBIC pmax pmax
comp=Z,45nm,1.8s
DBIC Dimbokro 53.87 252 P P **18 05 21.8 -1.4**
SUMG Summit 56.52 339 P P **18 05 42.3 +0.2**
SUMG pmax pmax
comp=Z,16nm,1.3s
SUMG Summit 56.52 339 P P **18 05 42.3 +0.2**
SUMG IAmb IAmb 18 05 45.2
comp=Z,16nm,1.3s
KULM Kulim 58.14 106 P P **18 05 52.9 -1.0**
NJ2 Nanjing 60.20 69 *e*P P **18 06 06.3 -1.6**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
LBTB Lobatse 61.42 201 P P **18 06 16.1 -0.1**
LBTB pmax pmax
comp=Z,51nm,1.8s
LBTB Lobatse 61.42 201 P P **18 06 16.1 -0.1**
IVI Ivigtut 62.91 327 P P **18 06 25.2 -0.5**
KLR Kul'dur 62.96 47 P P **18 06 28.2 +1.9**
comp=Z,1.1nm,0.6s,baz=292,slow=11,SNR=4.5
KSRS Korea Array 64.90 61 P P **18 06 38.0 -1.2**
comp=Z,1.0nm,0.6s,baz=287,slow=6.9,SNR=4.3
KSRS LR LR 18 35 30.4
comp=Z,32nm,20.1s,baz=265,slow=37
KSRS Korea Array 64.90 61 P P **18 06 38.0 -1.2**
BOSA Boshof 64.91 200 P P **18 06 40.3 +0.9**
comp=Z,5.2nm,0.5s,baz=22,slow=6.4,SNR=26
BOSA Boshof 64.91 200 P P **18 06 40.3 +0.9**
BOSA pmax pmax
comp=Z,44nm,1.6s
TJN Taejon 64.93 62‖ *e*P P **18 06 42.7 +3.2**
USRK Ussuriysk Ar. 65.01 52 P P **18 06 38.2 -1.7**
comp=Z,1.8nm,0.8s,baz=283,slow=6.5,SNR=2.6
SCHQ Schefferville 74.64 326 P P **18 07 38.6 -0.3**
comp=Z,5.2nm,0.6s,baz=76,slow=4.1,SNR=6.8
SCHQ Schefferville 74.64 326 IAmb IAmb 18 07 40.2
comp=Z,12nm,1.1s
TOLK Toolik Lake Re 77.37 6 P P **18 07 55.3 +0.9**
COLD Coldfoot 78.69 6 P P **18 08 03.0 +1.3**
COLD IAmb IAmb 18 08 03.8
comp=Z,5.1nm,1.0s
MDM Murphy Dome 81.09 6 IAmb IAmb 18 08 17.3
comp=Z,12nm,1.1s
COLA College 81.21 6‖ *e*P P **18 08 15.3 0.0**
COLA pmax pmax
comp=Z,6.0nm,0.9s
ILAR Eielson Array 81.39 5 P P **18 08 16.6 +0.3**
comp=Z,2.1nm,1.0s,baz=330,slow=4.0,SNR=13
CCB Clear Creek Bu 81.44 6 P P **18 08 16.5 0.0**
CCB IAmb IAmb 18 08 17.8
comp=Z,8.5nm,1.4s
WRH Wood River Hil 81.58 6 IAmb IAmb 18 08 18.4
comp=Z,6.9nm,1.4s
BPAW Bear Paw Mtn. 81.67 7 P P **18 08 18.7 +0.9**
BPAW IAmb IAmb 18 08 24.6
comp=Z,4.9nm,0.8s
EGAK Eagle 81.73 3 IAmb IAmb 18 08 19.7
comp=Z,7.9nm,1.2s
HDA Harding Lake 81.74 6 IAmb IAmb 18 08 24.0
comp=Z,3.2nm,0.7s
TTA Tatalina 82.17 10 P P **18 08 21.2 +0.7**
TTA pmax pmax
comp=Z,5.0nm,1.1s
TTA Tatalina 82.17 10 P P **18 08 21.2 +0.7**
TTA IAmb IAmb 18 08 22.6
comp=Z,4.6nm,1.1s
KTH Kantishna Hill 82.21 7 IAmb IAmb 18 08 22.7
comp=Z,10.0nm,1.3s
RND Reindeer 82.56 7 P P **18 08 22.4 -0.1**
RND pmax pmax
comp=Z,8.0nm,1.3s
RND Reindeer 82.56 7 P P **18 08 22.4 -0.1**
RND IAmb IAmb 18 08 23.9
comp=Z,8.4nm,1.3s
DOT Dot Lake 82.70 4 P P **18 08 23.4 +0.2**
DOT IAmb IAmb 18 08 25.3

comp=Z,10nm,1.3s
YKA Yellowknife Ar 82.87 351 P P 18 08 23.9 -0.1
comp=Z,0.7nm,0.5s,baz=8.8,slow=5.2,SNR=8.9
SKT Skwentna 83.67 8 IAmb IAmb 18 08 30.3
comp=Z,5.2nm,0.7s
GHO Glory Hole Cre 84.16 7 P P 18 08 31.2 +0.4
SML Sawmill 84.18 7 P P 18 08 31.0 +0.1
VRDI Verde Repeater 85.15 4 P P 18 08 35.6 -0.3
VRDI IAmb IAmb 18 09 04.6
comp=Z,12nm,1.7s
BALM Baldy 85.41 4 IAmb IAmb 18 11 51.3
comp=Z,5.4nm,0.7s
RAGM Ragged Mountai 85.90 5 P P 18 08 40.6 +1.0
KDAK Kodiak Island 87.61 10 P P 18 08 49.0 +1.2
KDAK pmax pmax
comp=Z,6.0nm,0.8s
KDAK Kodiak Island 87.61 10 P P 18 08 49.0 +1.2
OHAK Old Harbor 88.05 10 P P 18 08 51.4 +1.5
FITZ Fitzroy Crossi 91.80 110 P P 18 09 08.3 +0.3
comp=Z,1.8nm,0.7s,baz=324,slow=8.7,SNR=5.5
G40A Rib Lake 91.86 331 P P 18 09 07.8 -0.3
WRA Warramunga Arr 99.68 107 P Pdif 18 09 42.5 -1.4
comp=Z,0.6nm,0.6s,baz=318,slow=4.0,SNR=9.9
ASAR Alice Springs 101.30 111 P Pdif 18 09 49.6 -1.5
comp=Z,0.4nm,0.6s,baz=308,slow=5.1,SNR=4.1
ASAR PKiKP **PKiKP 18 14 15.3 -0.4**
comp=Z,0.2nm,0.6s,baz=302,slow=0.9,SNR=4.7
ASAR PKKPbc **PKKPbc 18 26 01.1 +1.2**
comp=Z,0.3nm,0.4s,baz=115,slow=3.6,SNR=10

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*IDC **22** 17:59:15.4±1.0, 2.°80S × 129.°30E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.6/41, mbtmp3.8/8, ML3.8/3, Error ellipse: s-maj=39.9km s-min=19.7km az=78.0*
*NEIC **22** 17:59:21.1±2.9, 2.°78S±0.°04 × 129.°49E±0.°08, h46km±11km, mb4.0/8, Error ellipse: s-maj=12.0km s-min=2.6km az=65.0*
ISC 22 17:59:19.9±0.7, 2.°89S±0.°07 × 129.°46E±0.°07, h28km, n22, σ1§85/25, mb3.8/5, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.70**	**42**	Pn	**Pn**	**18 00 00.7**	**-0.8**
	29nm,0.3s,baz=258,slow=20,SNR=172						
SIJI				Sn	**Sn**	**18 00 32.5**	**-0.8**
	6.6nm,0.3s,baz=197,slow=19,SNR=3.7						
FAKI	**Fak Fak**	**2.79**	**91**	Pn	**Pn**	**18 00 04.4**	**+1.6**
TNTI	**Ternate**	**4.19**	**330**	Pn	**Pn**	**18 00 19.8**	**-2.3**
LUWI	**Luwuk**	**6.93**	**285**	Pn	**Pn**	**18 01 01.5**	**+1.8**
MTN	**Manton Dam**	**10.03**	**171**	Pn	**Pn**	**18 01 45.0**	**+2.7**
KNRA	**Kununurra**	**12.73**	**183**	Pn	**Pn**	**18 02 20.3**	**+1.1**
MYLDM	**Lahad Datu**	**13.57**	**306**	Pn	**Pn**	**18 02 30.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**15.57**	**194**	Pn	**Pn**	**18 02 58.8**	**+1.1**
	0.2nm,0.3s,baz=73,slow=16,SNR=2.4						
FITZ	**Fitzroy Crossi**	**15.57**	**194**	P	**P**	**18 03 01.2**	**-0.5**
FITZ				IAmb	IAmb	18 03 59.6	
	comp=Z,28nm,1.9s						
COEN	**Coen**	**17.45**	**130**		**P**	**18 03 23.7**	**+1.2**
WB0	**Warramunga Arr**	**17.46**	**164**	Pn	**Pn**	**18 03 21.6**	**0.0**
WB0				IAmb	IAmb	18 04 00.1	
	comp=Z,31nm,2.0s						
WRA	**Warramunga Arr**	**17.61**	**165**	P	**Pn**	**18 03 23.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=344,slow=12,SNR=30						
WRA				S	**Sn**	**18 06 32.5**	**-6.5**
	comp=Z,0.1nm,0.3s,baz=348,slow=24,SNR=1.9						
WB2	**Warramunga Arr**	**17.61**	**165**		**Pn**	**18 03 23.4**	**-0.1**
WR0	**Warramunga Arr**	**17.68**	**164**		**P**	**18 03 25.2**	**+0.2**
WR0				IAmb	IAmb	18 04 05.0	
	comp=Z,26nm,2.0s						
AS31	**Alice Springs**	**21.10**	**169**	P	**P**	**18 04 03.0**	**+0.6**
ASAR	**Alice Springs**	**21.10**	**169**	P	**P**	**18 04 03.0**	**+0.6**
	comp=Z,2.7nm,0.6s,baz=349,slow=11,SNR=47						
ASAR				PcP	**PcP**	**18 08 08.7**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=5.4,slow=2.0,SNR=7.7						
CISI	**Cisompet, Garu**	**22.04**	**257**	P	**P**	**18 04 14.7**	**+2.0**
STKA	**Stephens Creek**	**31.02**	**160**	P	**P**	**18 05 35.7**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=346,slow=12,SNR=1.2						
STKA	**Stephens Creek**	**31.02**	**160**	P	**P**	**18 05 35.4**	**+0.1**
STKA				IAmb	IAmb	18 06 00.4	
	comp=Z,3.3nm,1.5s						
MKAR	**Makanchi Array**	**64.52**	**326**	P	**P**	**18 09 52.7**	**-1.7**
	comp=Z,0.9nm,1.1s,baz=113,slow=8.4,SNR=2.6						
KURBB	**Kurchatov Arra**	**68.75**	**328**	P	**P**	**18 10 20.3**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=121,slow=5.6,SNR=3.0						
BVAR	**Borovoye Array**	**74.32**	**327**	P	**P**	**18 10 53.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=116,slow=7.4,SNR=2.2						

IDC 22 18:03:48.0±2.6, 18.°54N × 144.°38E, h176km±32km, mb2.9/4, mb1 3.1/6, mb1mx2.9/44, mbtmp3.6/6, Error ellipse: s-maj=149.8km s-min=16.7km az=82.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.95**	**174**	P	Pn	18 05 00.8	-0.5
	2.1nm,0.3s,baz=288,slow=3.7,SNR=7.4						
GUMO				S	Sn	18 05 59.0	+0.2
	2.7nm,0.3s,baz=54,slow=20,SNR=2.0						
JCJ	**Chichijima**	**8.75**	**347**	P	Pn	18 05 52.3	+1.1
	1.2nm,0.3s,baz=96,slow=23,SNR=1.4						
WRA	**Warramunga Arr**	**39.49**	**195**	P	P	18 11 00.7	-0.9
	0.2nm,0.4s,baz=11,slow=8.1,SNR=12						
FITZ	**Fitzroy Crossi**	**40.81**	**208**	P	P	18 11 13.2	+0.9
	1.0nm,0.8s,baz=21,slow=9.5,SNR=13						
ASAR	**Alice Springs**	**43.18**	**194**	P	P	18 11 31.7	+0.1
	0.2nm,0.6s,baz=9.3,slow=5.7,SNR=4.9						
MKAR	**Makanchi Array**	**57.67**	**314**	P	P	18 13 19.1	-0.9
	0.2nm,0.7s,baz=83,slow=6.2,SNR=1.7						

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*ISN **22** 18:08:15.1±0.9, 33.°62N × 45.°74E, h1km±4km, ML2.7*
*TEH **22** 18:08:18.0, 33.°78N × 45.°71E, h19km, ML3.0*
ISC 22 18:08:17.3±0.9, 33.°65N±0.°04 × 45.°67E±0.°04, h10km, n20, σ1§64/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.58**	**158**	*e*Pg	**Pg**	**18 08 26.0**	**-2.6**
IBDR				*e*Sg	**Sg**	**18 08 34.0**	**-2.3**
IBDR				AML	AML	18 08 50.5	
	comp=E,128nm,0.3s						
IBDR				AML	AML	18 08 59.4	
	comp=N,198nm,0.6s						
IGHG	**Ghaleghazi**	**1.01**	**48**	*e*Pg	**Pg**	**18 08 35.5**	**-1.2**
IGHG				*e*		18 08 38.5	
BHD	**Baghdad**	**1.14**	**251**	*e*Pg	**Pg**	**18 08 40.0**	**+0.8**
BHD				*e*Sg	**Sn**	**18 08 57.0**	**+2.0**
BHD				AML	AML	18 09 01.3	
	comp=E,1μm,0.5s						
IDHR	**Dehrash**	**1.20**	**29**	*e*Pg	**Pb**	**18 08 38.5**	**-1.8**
IDHR				*e*Sg	**Sb**	**18 08 54.2**	**-1.8**
IDHR				*e*		18 08 58.4	
KCHF	**Cheshme Sefid,**	**1.30**	**61**	*e*Pg	**Pn**	**18 08 41.4**	**-0.3**
KCHF				*e*		18 09 02.7	
IVIS	**Veis**	**1.31**	**48**	*e*Pg	**Pn**	**18 08 40.9**	**-0.9**
IVIS				*e*		18 09 02.7	
KER	**Kermanshah**	**1.42**	**59**	*e*Pg	**Pn**	**18 08 43.4**	**+0.1**
IKOM	**Komasi**	**1.62**	**71**	*e*Pg	**Pb**	**18 08 47.1**	**-0.2**
IKOM				*e*		18 08 48.5	
ILIN	**Lien**	**1.66**	**40**	*e*Pg	**Pn**	**18 08 47.1**	**+0.5**
ILIN				*e*		18 09 10.9	
DHL1	**Dehloran**	**1.66**	**125**	*e*Pg	**Pg**	**18 08 50.5**	**+1.3**
IKFM	**Kafar-mosalman**	**1.82**	**93**	*e*Pg	**Pg**	**18 08 51.3**	**-0.9**
IKFM				*e*		18 08 53.1	
IBZA	**Bozab**	**1.99**	**65**	*e*Pn	**Pn**	**18 08 51.5**	**+0.2**
IBZA				*e*		18 08 55.4	
IDOB	**Doab**	**2.10**	**86**	*e*Pn	**Pn**	**18 08 53.4**	**+0.8**
IKMR	**Kamar-syah**	**2.27**	**93**	*e*Pn	**Pn**	**18 08 56.2**	**+1.4**
IKMR				*e*		18 09 02.7	
IALM	**Almabolaq**	**2.39**	**59**	*e*Pn	**Pn**	**18 08 57.9**	**+1.1**
HSAM	**Samen**	**2.50**	**76**	*e*Pn	**Pn**	**18 08 58.6**	**+0.3**
HSAM				*e*		18 09 05.5	
BMDN	**Meydan**	**2.63**	**89**	*e*	**Sg**	**18 09 46.6**	**+4.7**
NSR	**Nassriya**	**2.67**	**171**	*e*Pn	**Pn**	**18 09 00.0**	**-0.3**
NSR				*e*Sn	**Sn**	**18 09 34.0**	**+1.4**
HSRG	**Sareghieh**	**2.68**	**53**	*e*Pn	**Pn**	**18 09 01.6**	**+0.9**
HSRG				*e*		18 09 45.0	
IRAZ	**Razeghan**	**3.93**	**62**	*e*Pn	**Pn**	**18 09 18.2**	**+0.4**

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*UPA **22** 18:19:23.2±1.4, 9.°62N × 82.°67W, h0km±6km, MW4.0*
*UCR **22** 18:19:25.3±1.8, 9.°65N × 82.°75W, h8km±6km, MD4.4*
ISC 22 18:19:22.8±1.4, 9.°68N±0.°04 × 82.°67W±0.°03, h2km±11km, n51, σ0§87/83, 3C-12D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK0	**Durika**	**0.70**	**234**	*e*P	**Pb**	**18 19 37.5**	**-0.3**
DRK0				*i* S	**Sb**	**18 19 47.0**	**-1.0**
DRK0	**Durika**	**0.70**	**234**	*e*P	**Pb**	**18 19 37.6**	**-0.3**
DRK0				*e*S	**Sb**	**18 19 47.0**	**-1.0**
EDBA	**Buenos Aires**	**0.79**	**230**	⇓*e*P	**Pb**	**18 19 39.6**	**+0.4**
EDBA				*e*S	**Sb**	**18 19 50.6**	**+0.3**
BC3P	**Paso Ancho**	**0.86**	**176**	⇓*i*P	**Pg**	**18 19 39.7**	**+0.5**
BC3P				*i* S	**Sb**	**18 19 53.8**	**+1.3**
BRU2	**Volcan**	**0.88**	**181**	⇓*i*P	**Pg**	**18 19 40.1**	**+0.5**
BRU2				*i* S	**Sb**	**18 19 52.1**	**-0.9**
BRU2	**Volcan**	**0.88**	**181**	⇓*e*P	**Pg**	**18 19 40.1**	**+0.5**
CHGR2	**Aguacate**	**0.90**	**145**	⇓*e*P	**Pg**	**18 19 40.8**	**+0.8**
CHGR2				*e*S	**Sb**	**18 19 54.4**	**+0.9**
EDSV	**San Vito**	**0.90**	**199**	*e*P	**Pb**	**18 19 41.5**	**+0.3**
EDSV				*e*S	**Sb**	**18 19 54.5**	**+0.8**
BCO2	**Palmira**	**0.96**	**172**	⇑*i*P	**Pg**	**18 19 41.6**	**+0.4**
BCO2				*i* S	**Sb**	**18 19 56.7**	**+1.3**
EDLM	**Las Mercedes**	**0.99**	**247**	*e*P	**Pg**	**18 19 42.2**	**+0.4**
EDLM				*e*S	**Sg**	**18 19 55.0**	**+0.3**
PTAR3	**Potrerillos Ar**	**0.99**	**170**	*e*P	**Pg**	**18 19 42.3**	**+0.4**
PTAR3				*e*S	**Sn**	**18 19 58.1**	**-0.3**
PEZE	**Perez Zeledon,**	**1.04**	**254**	*e*P	**Pg**	**18 19 42.7**	**0.0**
PEZE				*e*S	**Sg**	**18 19 56.2**	**0.0**
EDPN	**Palmar Norte**	**1.05**	**228**	⇓*e*P	**Pb**	**18 19 44.5**	**+0.7**
RIMA	**Rio Macho**	**1.18**	**275**	⇓*e*P	**Pg**	**18 19 45.1**	**-0.4**
GUAL3	**Gualaca, Chiri**	**1.19**	**162**	*e*P	**Pg**	**18 19 45.6**	**0.0**
GUAL3				*e*S	**Sb**	**18 20 02.2**	**+0.2**
BAGA3	**Bagala, Chiriq**	**1.21**	**173**	*e*P	**Pg**	**18 19 45.5**	**-0.5**
BAGA3				*e*S	**Sn**	**18 20 03.5**	**-0.1**
DVD	**David**	**1.25**	**170**	⇑*i*P	**Pg**	**18 19 47.2**	**+0.4**
DVD				*e*S	**Sb**	**18 20 03.7**	**0.0**
EDDO	**Dominical**	**1.25**	**251**	*e*P	**Pg**	**18 19 47.2**	**+0.3**
RIOS	**Rincon, Osa**	**1.28**	**221**	⇓*e*P	**Pg**	**18 19 46.6**	**-0.7**
RIOS				*e*S	**Sg**	**18 20 02.9**	**-1.0**
LOCO3	**Loma Colorada,**	**1.28**	**169**	*e*P	**Pg**	**18 19 44.0**	**-3.3**
LOCO3				*e*S	**Sb**	**18 20 05.0**	**+0.5**
CHIR3	**Chiriqui UPA,**	**1.31**	**165**	*e*P	**Pg**	**18 19 47.2**	**-0.8**
CHIR3				*e*S	**Sb**	**18 20 06.2**	**+0.7**
LCR2	**La Lucha 2**	**1.32**	**273**	⇓*e*P	**Pg**	**18 19 47.5**	**-0.6**
LCR2				*e*S	**Sg**	**18 20 05.1**	**-0.1**
SJS	**Escuela Geolog**	**1.39**	**281**	*e*P	**Pn**	**18 19 48.6**	**-0.7**
SJS				*e*S	**Sg**	**18 20 07.3**	**-0.3**
PIRO	**Carate, Puerto**	**1.43**	**208**	*i* P	**Pn**	**18 19 49.6**	**-0.1**
PIRO				*e*S	**Sn**	**18 20 08.9**	**-0.1**
PIRO	**Carate, Puerto**	**1.43**	**208**	*e*P	**Pn**	**18 19 49.4**	**-0.3**
HDC3	**Heredia 3**	**1.46**	**283**	⇓*e*P	**Pn**	**18 19 49.8**	**-0.5**
HDC3				*e*S	**Sb**	**18 20 09.4**	**-0.4**
HDC	**Heredia**	**1.46**	**283**	*i* P	**Pn**	**18 19 50.0**	**-0.3**
HDC				*i* S	**Sn**	**18 20 10.7**	**+0.7**
HDC	**Heredia**	**1.46**	**283**	⇓*e*P	**Pn**	**18 19 49.8**	**-0.5**
HDC				*e*S	**Sb**	**18 20 09.3**	**-0.6**
SRA1	**San Ramn**	**1.83**	**283**	*e*P	**Pn**	**18 19 55.1**	**-0.3**
SRA1				*e*S	**Sn**	**18 20 19.7**	**+0.5**
JACO	**JACO, Garabito**	**1.96**	**270**	⇓*e*P	**Pn**	**18 19 57.3**	**+0.2**
JACO				*e*S	**Sb**	**18 20 23.5**	**-0.7**
COVE	**Coope Vega, Sa**	**2.00**	**301**	*e*P	**Pn**	**18 19 58.1**	**+0.6**
FORC	**Fortuna**	**2.12**	**292**	*i* P	**Pn**	**18 20 00.8**	**+1.5**
CEDE	**Laguna Cedeo**	**2.16**	**292**	*e*P	**Pn**	**18 20 01.1**	**+1.3**
ARE1	**Arenal 1**	**2.17**	**291**	*e*P	**Pn**	**18 20 01.9**	**+2.0**
LAFE	**Finca La Fe, P**	**2.21**	**274**	⇓*e*P	**Pn**	**18 20 02.2**	**+1.6**
RSUS3	**Rio de Jesus,**	**2.25**	**138**	*e*P	**Pn**	**18 20 00.9**	**-0.1**
RSUS3				*e*S	**Sn**	**18 20 29.5**	**+0.2**
JTS	**Las Juntas de**	**2.33**	**285**	*e*P	**Pn**	**18 20 02.7**	**+0.5**
JTS				*i* S	**Sb**	**18 20 34.6**	**-0.3**
JTS	**Las Juntas de**	**2.33**	**285**	*e*P	**Pn**	**18 20 02.7**	**+0.5**
GMAL	**Guarumal, Vera**	**2.37**	**143**	*e*P	**Pn**	**18 20 03.6**	**+0.9**
GMAL				*i* S	**Sn**	**18 20 35.5**	**-1.4**
MARI3	**Mariato, Verag**	**2.61**	**140**	*e*P	**Pg**	**18 20 13.0**	**+0.1**
MARI3				*e*S	**Sb**	**18 20 42.3**	**-0.5**
HORNC	**Hornillas**	**2.68**	**293**	*i* P	**Pn**	**18 20 08.8**	**+1.7**
PLVR	**Palo Verde**	**2.73**	**284**	*e*P	**Pn**	**18 20 09.0**	**+1.3**
ORTG	**Ortega, Santa**	**2.83**	**284**	*e*P	**Pn**	**18 20 10.2**	**+1.0**
ZANG	**Zanguenga, Cho**	**2.86**	**104**	*e*P	**Pn**	**18 20 08.9**	**-0.5**
ZANG				*e*S	**Sn**	**18 20 43.3**	**-1.0**
GUAI	**GUAI**	**2.86**	**282**	*i* P	**Pn**	**18 20 10.8**	**+1.3**
GB1A	**Borinquen Arri**	**2.92**	**293**	*i* P	**Pn**	**18 20 11.1**	**+0.8**
CACAO	**El Cacao, Vera**	**2.92**	**142**	*e*P	**Pn**	**18 20 11.6**	**+1.3**
CACAO				*e*S	**Sn**	**18 20 44.5**	**-1.5**
GRZA	**Playa Garza**	**2.94**	**275**	*e*P	**Pn**	**18 20 10.3**	**-0.2**
GBS3	**Finca Las Img**	**2.96**	**292**	*i* P	**Pn**	**18 20 12.3**	**+1.6**
AZU	**Azuero**	**3.02**	**128**	*e*P	**Pn**	**18 20 11.0**	**-0.6**
AZU				*e*S	**Sn**	**18 20 48.1**	**-0.2**
ACON	**Acoyapa**	**3.35**	**313**	*e*P	**Pn**	**18 20 16.1**	**-0.1**

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*JMA **22** 18:24:59.6±0.1, 24.°37N × 121.°74E, h23km±3km, M2.1*
*TAP **22** 18:24:59.5, 24.°41N × 121.°78E, h21km, ML2.9, C*
ISC 22 18:24:59.8±0.9, 24.°40N±0.°01 × 121.°79E±0.°02, h18km±2km, n97, σ0§61/185, 4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENAH	**Nanao**	**0.06**	**17**	⇓P	**Pg**	**18 25 03.3**	**+0.2**
	baz=25						
ENAH				S	**Sg**	**18 25 05.9**	**+0.5**
	baz=25						
ENA	**Nanau**	**0.06**	**305**	⇓*i*P	**Pg**	**18 25 03.3**	**+0.2**
	baz=305						
ENA				*i* S	**Sg**	**18 25 05.8**	**+0.4**
	baz=305						
TWC	**Suao**	**0.22**	**14**	⇓*i*P	**Pb**	**18 25 05.1**	**0.0**
	baz=20						
TWC				S	**Sb**	**18 25 08.6**	**+0.1**
	baz=20						
NACB	**Ninganchiao**	**0.28**	**219**	P	**Pg**	**18 25 05.7**	**-0.4**
	baz=222						
NACB				S	**Sg**	**18 25 10.4**	**0.0**
	baz=222						
ENTT	**Nioudou**	**0.32**	**320**	P	**Pg**	**18 25 06.5**	**-0.2**
	baz=317						
ENTT				*i* S	**Sg**	**18 25 11.3**	**-0.1**
	baz=317						
NDT	**Datong Townshi**	**0.33**	**309**	*i* P	**Pg**	**18 25 06.8**	**-0.1**
	baz=309						
NDT				*i* S	**Sg**	**18 25 11.2**	**-0.4**
	baz=309						
ETLH	**Xiulin Townshi**	**0.34**	**237**	P	**Pg**	**18 25 06.7**	**-0.3**
	baz=235						
ETLH				S	**Sg**	**18 25 12.0**	**0.0**
	baz=235						
TWE	**Neicheng**	**0.34**	**341**	⇓*i*P	**Pg**	**18 25 07.0**	**-0.1**
	baz=344						
TWE				S	**Sg**	**18 25 11.9**	**-0.2**
	baz=344						
TWD	**Chiawan**	**0.36**	**210**	P	**Pg**	**18 25 07.3**	**-0.1**
	baz=211						
TWD				S	**Sb**	**18 25 12.9**	**-0.2**
	baz=211						
ILA	**Ilan**	**0.37**	**354**	*i* P	**Pb**	**18 25 07.6**	**-0.3**
	baz=356						
ILA				S	**Sb**	**18 25 13.4**	**0.0**
	baz=356						
NNSB	**Datong**	**0.38**	**275**	P	**Pg**	**18 25 07.4**	**-0.3**
	baz=278						
NNSB				S	**Sg**	**18 25 12.8**	**-0.3**
	baz=278						
NNSH	**Datong**	**0.38**	**275**	*i* P	**Pg**	**18 25 07.4**	**-0.3**
	baz=278						
NNSH				*i* S	**Sg**	**18 25 12.8**	**-0.2**
	baz=278						
NNS	**Nan Shan**	**0.39**	**277**	*i* P	**Pg**	**18 25 07.6**	**-0.2**
	baz=276						
NNS				*i* S	**Sg**	**18 25 12.9**	**-0.4**
	baz=276						
HWA	**Hwalien**	**0.45**	**202**	P	**Pb**	**18 25 09.9**	**+0.7**
	baz=207						
HWA				*e*S	**Sb**	**18 25 16.5**	**+0.9**
	baz=207						
NTC	**Toucheng**	**0.46**	**4**	P	**Pb**	**18 25 09.1**	**-0.3**
	baz=6.0						
NTC				S	**Sg**	**18 25 15.0**	**-0.4**
	baz=6.0						
NWLT	**Wulai**	**0.46**	**325**	P	**Pg**	**18 25 08.9**	**-0.3**
	baz=323						
NWLT				S	**Sg**	**18 25 14.8**	**-0.8**
	baz=323						
YHNB	**Yeheng**	**0.47**	**306**	P	**Pg**	**18 25 09.0**	**-0.3**
	baz=306						
YHNB				S	**Sg**	**18 25 15.4**	**-0.3**
	baz=306						
FUSS	**Fushou**	**0.52**	**254**	P	**Pg**	**18 25 10.1**	**-0.3**
	baz=254						
FUSS				S	**Sb**	**18 25 18.3**	**+0.5**
	baz=254						
WHF	**Hehuan Shan**	**0.54**	**243**	*i* P	**Pg**	**18 25 10.4**	**-0.4**
	baz=250						
WHF				*i* S	**Sg**	**18 25 17.9**	**-0.3**
	baz=250						
TIPB	**Shuangxi**	**0.57**	**3**	P	**Pg**	**18 25 10.9**	**-0.4**
	baz=4.0						
TIPB				S	**Sg**	**18 25 18.3**	**-0.8**
	baz=4.0						
TWT	**Tachien**	**0.58**	**256**	*i* P	**Pb**	**18 25 11.5**	**0.0**
	baz=250						
TWT				*i* S	**Sb**	**18 25 20.2**	**+0.9**
	baz=250						
TDCB	**Techi**	**0.59**	**256**	P	**Pb**	**18 25 11.6**	**-0.1**
	baz=251						
TDCB				S	**Sb**	**18 25 20.0**	**+0.2**
	baz=251						
TWA	**Mucha**	**0.61**	**342**	P	**Pn**	**18 25 12.6**	**-1.0**
	baz=343						
TWA				S	**Sb**	**18 25 20.2**	**0.0**
	baz=343						
TWB1	**Santiao Chiao**	**0.64**	**16**	*i* P	**Pb**	**18 25 12.2**	**-0.1**
	baz=25						
TWB1				*i* S	**Sb**	**18 25 21.1**	**+0.3**
	baz=25						
TATO	**Taipei**	**0.64**	**334**	P	**Pn**	**18 25 13.9**	**-0.1**
	baz=335						
TATO				S	**Sg**	**18 25 20.7**	**-0.4**
	baz=335						
CHGB	**Renai**	**0.66**	**240**	*e*P	**Pg**	**18 25 12.6**	**-0.3**
	baz=246						
CHGB				*e*S	**Sb**	**18 25 22.8**	**+1.2**
	baz=246						
ESL	**Shilin**	**0.67**	**210**	P	**Pg**	**18 25 12.6**	**-0.4**
	baz=213						
ESL				*e*S	**Sb**	**18 25 22.8**	**+1.1**
	baz=213						
NWF	**Wu-fen Shan**	**0.67**	**359**	*e*P	**Pb**	**18 25 13.2**	**+0.2**
	baz=360						
NWF				*e*S	**Sb**	**18 25 22.6**	**+0.6**
	baz=360						
WFSB	**Wu-fen Shan**	**0.67**	**359**	*e*P	**Pb**	**18 25 12.9**	**0.0**
	baz=360						
WFSB				*e*S	**Sb**	**18 25 22.5**	**+0.6**
	baz=360						
TAP1	**Taipei**	**0.69**	**339**	*e*P	**Pn**	**18 25 13.9**	**-0.6**
	baz=339						
TAP1				S	**Sb**	**18 25 23.1**	**+0.7**
	baz=339						
TAP	**Taipei**	**0.69**	**338**	P	**Pb**	**18 25 13.0**	**-0.3**
	baz=339						
TAP				S	**Sb**	**18 25 23.2**	**+0.7**
	baz=339						
LIOB	**Emei**	**0.75**	**290**	*e*P	**Pn**	**18 25 15.0**	**-0.5**
	baz=282						
LIOB				*e*S	**Sg**	**18 25 25.3**	**+0.8**
	baz=282						
NSTT	**Nanjuang**	**0.76**	**288**	P	**Pg**	**18 25 14.6**	**0.0**
	baz=281						
NSTT				S	**Sg**	**18 25 24.5**	**-0.3**
	baz=281						
YM01	**YM01**	**0.78**	**345**	*e*P	**Pg**	**18 25 14.9**	**-0.1**
	baz=346						
YM01				*e*S	**Sg**	**18 25 25.6**	**+0.3**
	baz=346						
TWS1	**Kuangyinshan**	**0.78**	**334**	P	**Pn**	**18 25 15.4**	**-0.5**
	baz=335						
TWS1				S	**Sn**	**18 25 26.7**	**-0.5**
	baz=335						
WHP	**Taichung City**	**0.78**	**262**	*e*P	**Pg**	**18 25 15.2**	**+0.1**
	baz=262						
WHP				S	**Sg**	**18 25 25.6**	**+0.1**
	baz=262						
YM10	**YM10**	**0.79**	**345**	*e*P	**Pg**	**18 25 15.2**	**0.0**
	baz=345						
YM10				S	**Sg**	**18 25 25.8**	**+0.2**
	baz=345						
YM04	**YM04**	**0.79**	**343**	*e*P	**Pg**	**18 25 15.3**	**0.0**
	baz=344						
YM04				*e*S	**Sg**	**18 25 25.5**	**-0.3**
	baz=344						
YM11	**YM11**	**0.79**	**346**	P	**Pn**	**18 25 15.7**	**-0.4**
	baz=346						
YM11				*e*S	**Sn**	**18 25 27.4**	**-0.2**
	baz=346						
YM05	**YM05**	**0.79**	**345**	P	**Pg**	**18 25 15.3**	**0.0**
	baz=346						
YM05				*e*S	**Sg**	**18 25 26.3**	**+0.4**
	baz=346						
NCU	**National Centr**	**0.79**	**316**	*e*P	**Pn**	**18 25 16.6**	**+0.5**
	baz=315						
NCU				S	**Sn**	**18 25 28.2**	**+0.7**
	baz=315						
NCUH	**Zhongli**	**0.79**	**316**	*e*P	**Pn**	**18 25 15.8**	**-0.3**
	baz=322						
NCUH				*e*S	**Sn**	**18 25 27.0**	**-0.5**
	baz=322						
EGFH	**Guangfu**	**0.80**	**205**	*e*P	**Pb**	**18 25 14.5**	**-0.6**
	baz=217						
EGFH				*e*S	**Sg**	**18 25 26.0**	**0.0**
	baz=217						
YM08	**YM08**	**0.81**	**347**	*e*P	**Pg**	**18 25 15.5**	**-0.2**
	baz=342						
YM08				*e*S	**Sg**	**18 25 26.0**	**-0.4**
	baz=342						
YM03	**YM03**	**0.81**	**344**	*e*P	**Pg**	**18 25 15

PTSB	**Yuanli**	**0.99 273**	*e*S		**Sn**	**18 25 33.0**	**+0.6**
	baz=274						
WDJ	**Dajia District**	**1.05 268**	*e*S		**Sg**	**18 25 34.1**	**+0.1**
	baz=269						
JYNG	**Yonagunijimaku**	**1.05 87**	P		**Pn**	**18 25 19.5**	**-0.1**
JYNG			*e*S		**Sg**	**18 25 34.0**	**-0.1**
YULB	**Yu-li**	**1.10 205**	*e*P		**Pb**	**18 25 18.6**	**-1.7**
	baz=214						
YULB			*e*S		**Sb**	**18 25 33.8**	**-0.4**
	baz=214						
WHYT	**Xinyi Township**	**1.10 231**	*e*P		**Pn**	**18 25 20.7**	**+0.3**
	baz=232						
WHYT			*e*S		**Sn**	**18 25 35.2**	**0.0**
	baz=232						
YOJ	**Yonaguni jima**	**1.11 86**	*e*P		**Pn**	**18 25 20.5**	**+0.1**
	baz=76						
YOJ			*e*S		**Sg**	**18 25 36.2**	**+0.2**
	baz=76						
YOJ	**Yonaguni jima**	**1.11 86**	P		**Pn**	**18 25 20.3**	**-0.2**
YOJ			S		**Sg**	**18 25 36.3**	**+0.3**
WJS	**Zhushan**	**1.13 240**	*e*P		**Pg**	**18 25 23.1**	**+1.4**
	baz=241						
WJS			*e*S		**Sg**	**18 25 37.2**	**+0.7**
	baz=241						
EYUL	**Yuli**	**1.13 203**	*e*P		**Pn**	**18 25 19.8**	**-0.9**
	baz=217						
EYUL			*e*S		**Sb**	**18 25 35.1**	**-0.1**
	baz=217						
TWF1	**Yuli**	**1.13 204**	*e*P		**Pn**	**18 25 20.0**	**-0.8**
	baz=216						
TWF1			*e*S		**Sb**	**18 25 35.5**	**+0.2**
	baz=216						
WNT	**Mingjian**	**1.14 243**	P		**Pg**	**18 25 23.1**	**+1.2**
	baz=243						
WNT			*e*S		**Sg**	**18 25 38.6**	**+1.9**
	baz=243						
PCYT	**Pengchaiyu**	**1.25 12**	*e*S		**Sg**	**18 25 39.5**	**-1.0**
	baz=12						
ALS	**Alishan**	**1.26 226**	*e*P		**Pg**	**18 25 23.6**	**-0.6**
	baz=220						
ALS			*e*S		**Sg**	**18 25 40.4**	**-0.4**
	baz=220						
FULB	**Fuli**	**1.28 201**	*e*P		**Pn**	**18 25 21.5**	**-1.2**
	baz=215						
FULB			*e*S		**Sn**	**18 25 40.1**	**+0.7**
	baz=215						
CHN5	**Tsauling**	**1.29 232**	*e*P		**Pg**	**18 25 24.6**	**-0.2**
	baz=234						
CHN5			*e*S		**Sg**	**18 25 42.8**	**+1.1**
	baz=234						
WGK	**Gukeng**	**1.33 238**	*e*P		**Pg**	**18 25 26.1**	**+0.7**
	baz=239						
WGK			S		**Sg**	**18 25 45.1**	**+2.3**
	baz=239						
WDLH	**Douliu**	**1.34 239**	*e*P		**Pg**	**18 25 26.0**	**+0.2**
	baz=251						
WDLH			*e*S		**Sg**	**18 25 46.1**	**+2.8**
	baz=251						
CHKT	**Chengkung**	**1.35 197**	*e*S		**Sg**	**18 25 42.5**	**-1.0**
	baz=212						
ELDTW	**Lidau**	**1.40 211**	P		**Pn**	**18 25 24.6**	**+0.1**
	baz=212						
ELDTW			*e*S		**Sn**	**18 25 41.6**	**-0.8**
	baz=212						
RLNB	**Erlin**	**1.40 249**	*e*S		**Sg**	**18 25 44.3**	**-0.8**
	baz=263						
WTK	**Tuku**	**1.46 242**	*e*P		**Pb**	**18 25 26.8**	**+0.3**
	baz=243						
WTK			*e*S		**Sg**	**18 25 47.4**	**+0.2**
	baz=243						
EDH	**Donghe**	**1.48 198**	*e*P		**Pn**	**18 25 25.4**	**-0.2**
	baz=185						
EDH			*e*S		**Sb**	**18 25 45.4**	**0.0**
	baz=185						
TPUB	**Ta-pu**	**1.52 225**	*e*P		**Pb**	**18 25 27.8**	**+0.3**
	baz=213						
TPUB			*e*S		**Sg**	**18 25 48.5**	**-0.5**
	baz=213						
STYT	**Tauyuan**	**1.55 218**	*e*P		**Pb**	**18 25 27.4**	**-0.6**
	baz=210						
STYT			*e*S		**Sg**	**18 25 48.9**	**-1.0**
	baz=210						
WTP	**Ta-pu**	**1.57 224**	*e*P		**Pb**	**18 25 28.1**	**-0.3**
	baz=211						
WTP			*e*S		**Sg**	**18 25 49.5**	**-1.1**
	baz=211						
WSF	**Szhu**	**1.62 243**	*e*S		**Sg**	**18 25 51.9**	**-0.3**
	baz=245						
WLGB	**Puzi**	**1.64 237**	*e*S		**Sg**	**18 25 53.1**	**+0.3**
	baz=238						
SNST	**Tainan City**	**1.67 226**	*e*P		**Pb**	**18 25 29.8**	**-0.2**
	baz=214						
SNST			*e*S		**Sg**	**18 25 52.4**	**-1.2**
	baz=214						
CHN1	**Nanshi**	**1.67 224**	P		**Pb**	**18 25 29.9**	**-0.2**
	baz=214						
CHN1			S		**Sg**	**18 25 53.8**	**+0.1**
	baz=214						
TWG	**Pinlang**	**1.70 203**	*e*P		**Pn**	**18 25 28.2**	**-0.4**
	baz=188						
SGST	**Jiashian**	**1.71 221**	P		**Pb**	**18 25 31.2**	**+0.4**
	baz=209						
SGST			S		**Sg**	**18 25 54.2**	**-0.9**
	baz=209						
ICHU	**Yijhu**	**1.73 234**	*e*P		**Pb**	**18 25 30.3**	**-0.6**
	baz=220						
ICHU			*e*S		**Sg**	**18 25 54.5**	**-1.0**
	baz=220						
LDUT	**Ludao**	**1.74 190**	*e*P		**Pn**	**18 25 28.5**	**-0.6**
	baz=181						
LDUT			*e*S		**Sn**	**18 25 50.3**	**-0.5**
	baz=181						
SLGT	**Liugui**	**1.75 217**	*e*P		**Pb**	**18 25 30.5**	**-0.9**
	baz=219						
SLGT			*e*S		**Sb**	**18 25 54.1**	**+1.2**
	baz=219						
IRIF	**Iriomote-Funau**	**1.77 92**	P		**Pn**	**18 25 30.0**	**+0.5**
IRIF			*e*S		**Sn**	**18 25 52.2**	**+0.7**
JKRS	**Kuro-shima**	**2.03 94**	P		**Pn**	**18 25 33.6**	**+0.5**
JIJ	**Ishigaki jima**	**2.14 90**	P		**Pn**	**18 25 34.6**	**0.0**
JIJ			S		**Sn**	**18 26 01.4**	**+0.6**
JISG	**Ishigakijimahi**	**2.30 85**	P		**Pn**	**18 25 36.8**	**0.0**
JISG			*e*S		**Sn**	**18 26 05.6**	**+0.9**

*NEIC **22** 18:25:29.0±1.3, 16.°9S±0.°2×175.°08W±0.°08, h10km±1km, mb4.7/9, Error ellipse: s-maj=30.5km s-min=5.9km az=22.0*
*IDC **22** 18:25:28.4±4.6, 16.°66S×175.°31W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/40, mbtmp3.9/5, Error ellipse: s-maj=196.2km s-min=34.6km az=138.0*
ISC 22 18:25:28.9±0.8, **17.°0S**±0.°2×**175.°1W**±0.°1, **h10**km, **n19, σ0s85/19, mb4.5/8, 2C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
NIUE	**Niue**	**5.32**	**114**		Pn		**Pn**	**18 26 48.9**	**+0.5**
MSVF	**Nonsavu**	**6.60**	**263**		Pn		**Pn**	**18 27 06.1**	**-0.1**
STKA	**Stephens Creek**	**41.85**	**241**	P			**P**	**18 33 19.1**	**-0.2**
	1.1nm,0.7s,baz=79,slow=10,SNR=1.5								
STKA	**Stephens Creek**	**41.85**	**241**	P			**P**	**18 33 18.9**	**-0.4**
BBOO	**Buckleboo**	**46.63**	**241**	P			**P**	**18 34 00.0**	**+2.5**
WR0	**Warramunga Arr**	**47.74**	**258**	P			**P**	**18 34 06.0**	**-0.4**
WR0				IAmb			IAmb	18 34 30.8	
	comp=Z,21nm,1.8s								
WB0	**Warramunga Arr**	**47.89**	**259**	P			**P**	**18 34 07.4**	**-0.2**
WB0				IAmb			IAmb	18 34 20.9	
	comp=Z,8.1nm,1.4s								
WB2	**Warramunga Arr**	**47.92**	**258**	P			**P**	**18 34 07.7**	**-0.1**
WB2				IAmb			IAmb	18 34 32.0	
	comp=Z,8.6nm,1.4s								
WRA	**Warramunga Arr**	**47.93**	**258**	P			**P**	**18 34 07.6**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=92,slow=7.4,SNR=18								
AS31	**Alice Springs**	**48.10**	**253**	P			**P**	**18 34 10.0**	**+0.8**
ASAR	**Alice Springs**	**48.10**	**253**	P			**P**	**18 34 09.9**	**+0.7**
	comp=Z,3.0nm,0.4s,baz=90,slow=7.8,SNR=136								
FITZ	**Fitzroy Crossi**	**56.32**	**259**	P			**P**	**18 35 10.4**	**+0.1**
	comp=Z,1.5nm,1.1s,baz=97,slow=8.1,SNR=1.1								
FITZ	**Fitzroy Crossi**	**56.32**	**259**	P			**P**	**18 35 10.6**	**+0.2**
FITZ				IAmb			IAmb	18 35 20.6	
	comp=Z,15nm,1.6s								
SZCU	**Shurtz Canyon**	**79.60**	**45**	P			**P**	**18 37 36.8**	**0.0**
HMT	**Hamilton**	**80.98**	**15**	P			**P**	**18 37 43.2**	**-0.2**
ILAR	**Eielson Array**	**84.32**	**12**	P			**P**	**18 38 00.5**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=220,slow=5.8,SNR=5.1								
SYO	**Syowa Base**	**90.72**	**192**	*e*P			**P**	**18 38 29.8**	**-1.9**
SYO	**Syowa Base**	**90.72**	**192**	*e*PcP			**PcP**	**18 38 33.0**	**+0.3**
CLL	**Collm**	**145.16**	**351**	*e*PKPdf			**PKPdf**	**18 45 07.0**	**+0.4**

*JMA **22** 18:29:09.1±0.3, 24.°73N×121.°87E, h73km±4km, M1.6*
*TAP **22** 18:29:09.9, 24.°71N×121.°82E, h67km, ML2.6, A*
ISC 22 18:29:09.9±1.3, **24.°71N**±0.°03×**121.°88E**±0.°03, **h68**km±6km, **n64, σ0s58/123, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
TWC	**Suao**	**0.10**	**197**	*i* P			**Pn**	**18 29 19.9**	**0.0**
	baz=162								
TWC				*i* S			**Sn**	**18 29 27.5**	**+0.3**
	baz=162								
ILA	**Ilan**	**0.14**	**295**	*i* P			**Pn**	**18 29 20.7**	**+0.7**
	baz=311								
ILA				S			**Sn**	**18 29 29.5**	**+2.1**
	baz=311								
NTC	**Toucheng**	**0.15**	**342**	*i* P			**Pn**	**18 29 20.2**	**+0.1**
	baz=2.0								
NTC				S			**Sn**	**18 29 27.7**	**+0.2**
	baz=2.0								
TWE	**Neicheng**	**0.20**	**274**	*i* P			**Pn**	**18 29 20.3**	**+0.1**
	baz=274								
TWE				*i* S			**Sn**	**18 29 27.8**	**0.0**
	baz=274								
ENAH	**Nanao**	**0.27**	**194**	*i* P			**Pn**	**18 29 20.7**	**+0.1**
	baz=182								
ENAH				S			**Sn**	**18 29 28.8**	**+0.3**
	baz=182								
TIPB	**Shuangxi**	**0.27**	**349**	*i* P			**Pn**	**18 29 20.8**	**+0.1**
TIPB				S			**Sn**	**18 29 28.9**	**+0.3**
ENTT	**Nioudou**	**0.30**	**257**	*i* P			**Pn**	**18 29 20.9**	**0.0**
	baz=252								
ENTT				S			**Sn**	**18 29 28.9**	**0.0**
	baz=252								
ENA	**Nanau**	**0.31**	**205**	*i* P			**Pn**	**18 29 21.0**	**0.0**
	baz=193								
ENA				*e*S			**Sn**	**18 29 29.2**	**+0.2**
	baz=193								
TWB1	**Santiao Chiao**	**0.31**	**18**	P			**Pn**	**18 29 21.1**	**+0.1**
	baz=27								
TWB1				*e*S			**Sn**	**18 29 29.1**	**0.0**
	baz=27								
NDT	**Datong Townshi**	**0.35**	**253**	P			**Pn**	**18 29 21.1**	**-0.1**
	baz=249								
NDT				*e*S			**Sn**	**18 29 29.4**	**-0.2**
	baz=249								
NWLT	**Wulai**	**0.35**	**281**	P			**Pn**	**18 29 20.8**	**-0.5**
	baz=283								
NWLT				*e*S			**Sn**	**18 29 28.7**	**-0.9**
	baz=283								
NWF	**Wu-fen Shan**	**0.37**	**346**	*e*P			**Pn**	**18 29 21.6**	**0.0**
	baz=353								
NWF				*e*S			**Sn**	**18 29 30.0**	**-0.1**
	baz=353								
WFSB	**Wu-fen Shan**	**0.37**	**346**	*e*P			**Pn**	**18 29 21.6**	**+0.2**
	baz=353								
WFSB				*e*S			**Sn**	**18 29 30.0**	**+0.1**
	baz=353								
TWA	**Mucha**	**0.38**	**315**	P			**Pn**	**18 29 21.6**	**0.0**
	baz=321								
TWA				*e*S			**Sn**	**18 29 30.0**	**0.0**
	baz=321								
TATO	**Taipei**	**0.45**	**307**	*e*P			**Pn**	**18 29 21.8**	**-0.3**
	baz=311								
TATO				*e*S			**Sn**	**18 29 30.4**	**-0.5**
	baz=311								
YHNB	**Yeheng**	**0.46**	**265**	*i* P			**Pn**	**18 29 21.9**	**-0.4**
	baz=264								
YHNB				*e*S			**Sn**	**18 29 30.5**	**-0.8**
	baz=264								
TAP1	**Taipei**	**0.46**	**315**	P			**Pn**	**18 29 22.4**	**+0.2**
	baz=319								
TAP1				*e*S			**Sn**	**18 29 31.5**	**+0.3**
	baz=319								
YM01	**YM01**	**0.52**	**327**	P			**Pn**	**18 29 22.6**	**-0.2**
	baz=332								
YM01				*e*S			**Sn**	**18 29 32.2**	**0.0**
	baz=332								
YM10	**YM10**	**0.53**	**327**	P			**Pn**	**18 29 22.9**	**-0.1**
	baz=331								
YM10				*e*S			**Sn**	**18 29 32.7**	**+0.2**
	baz=331								
NNSB	**Datong**	**0.53**	**239**	P			**Pn**	**18 29 22.7**	**-0.3**
	baz=235								
NNSB				*e*S			**Sn**	**18 29 31.9**	**-0.7**
	baz=235								
NNSH	**Datong**	**0.53**	**239**	P			**Pn**	**18 29 22.8**	**-0.3**
	baz=235								
NNSH				*e*S			**Sn**	**18 29 31.8**	**-0.8**
	baz=235								
YM11	**YM11**	**0.53**	**328**	*e*P			**Pn**	**18 29 23.2**	**+0.2**
	baz=333								
YM11				*e*S			**Sn**	**18 29 32.7**	**+0.1**
	baz=333								
NNS	**Nan Shan**	**0.54**	**240**	P			**Pn**	**18 29 22.8**	**-0.2**
	baz=236								
NNS				*e*S			**Sn**	**18 29 32.2**	**-0.5**
	baz=236								
YM05	**YM05**	**0.54**	**328**	P			**Pn**	**18 29 22.9**	**-0.1**
	baz=332								
YM05				*e*S			**Sn**	**18 29 32.7**	**+0.1**
	baz=332								
YM04	**YM04**	**0.54**	**325**	P			**Pn**	**18 29 23.0**	**0.0**
	baz=329								
YM04				*e*S			**Sn**	**18 29 32.6**	**-0.1**
	baz=329								
YM08	**YM08**	**0.55**	**331**	*e*P			**Pn**	**18 29 22.8**	**-0.3**
	baz=335								
YM08				*e*S			**Sn**	**18 29 32.4**	**-0.3**
	baz=335								
YM03	**YM03**	**0.56**	**327**	*e*P			**Pn**	**18 29 23.1**	**-0.2**
	baz=331								
YM03				*e*S			**Sn**	**18 29 33.0**	**0.0**
	baz=331								
TWS1	**Kuangyinshan**	**0.57**	**313**	P			**Pn**	**18 29 23.4**	**+0.1**
	baz=317								
TWS1				*e*S			**Sn**	**18 29 33.9**	**+0.7**
	baz=317								
NACB	**Ninganchiao**	**0.59**	**206**	P			**Pn**	**18 29 23.8**	**+0.3**
	baz=201								
NACB				*e*S			**Sn**	**18 29 33.5**	**+0.1**
	baz=201								
NTST	**Danshui**	**0.60**	**319**	P			**Pn**	**18 29 23.8**	**+0.2**
	baz=323								
NTST				*e*S			**Sn**	**18 29 33.8**	**+0.2**
	baz=323								
ETLH	**Xiulin Townshi**	**0.62**	**216**	*e*P			**Pn**	**18 29 23.1**	**-0.8**
	baz=211								
ETLH				*e*S			**Sn**	**18 29 33.6**	**-0.5**
	baz=211								
FUSS	**Fushou**	**0.74**	**232**	P			**Pn**	**18 29 25.3**	**-0.1**
	baz=229								
FUSS				*e*S			**Sn**	**18 29 36.3**	**-0.5**
	baz=229								
TWT	**Tachien**	**0.79**	**235**	*e*P			**Pn**	**18 29 26.8**	**+0.9**
	baz=232								
TWT				*e*S			**Sn**	**18 29 37.3**	**-0.3**
	baz=232								
LIOB	**Emei**	**0.79**	**266**	*e*P			**Pn**	**18 29 25.3**	**-0.5**
	baz=265								
LIOB				*e*S			**Sn**	**18 29 36.7**	**-0.8**
	baz=265								
WHF	**Hehuan Shan**	**0.80**	**225**	P			**Pn**	**18 29 26.4**	**+0.2**
	baz=221								
WHF				*e*S			**Sn**	**18 29 37.4**	**-0.8**
	baz=221								
TDCB	**Techi**	**0.80**	**236**	P			**Pn**	**18 29 26.1**	**+0.1**
	baz=233								
TDCB				*e*S			**Sn**	**18 29 37.1**	**-0.8**
	baz=233								
NSTT	**Nanjuang**	**0.81**	**265**	P			**Pn**	**18 29 25.4**	**-0.6**
	baz=263								
NSTT				*e*S			**Sn**	**18 29 37.3**	**-0.5**
	baz=263								
NHW	**Xinwu Township**	**0.81**	**292**	*e*P			**Pn**	**18 29 25.8**	**-0.2**
	baz=292								
NHW				*e*S			**Sn**	**18 29 38.1**	**+0.2**
	baz=292								
CHGB	**Renai**	**0.91**	**225**	P			**Pn**	**18 29 27.4**	**-0.1**
	baz=222								
CHGB				*e*S			**Sn**	**18 29 39.8**	**-0.6**
	baz=222								
PCYT	**Pengchaiyu**	**0.93**	**11**	*e*P			**Pn**	**18 29 27.3**	**-0.2**
	baz=14								
WHP	**Taichung City**	**0.95**	**243**	P			**Pn**	**18 29 27.9**	**+0.1**
	baz=241								
WHP				*e*S			**Sn**	**18 29 40.8**	**-0.4**
	baz=241								
ESL	**Shilin**	**0.98**	**205**	*e*P			**Pn**	**18 29 26.6**	**-1.5**
	baz=201								
JYNG	**Yonagunijimaku**	**1.00**	**105**	P			**Pn**	**18 29 28.1**	**-0.2**
JYNG				S			**Sn**	**18 29 42.4**	**+0.4**
NMLH	**Miaoli**	**1.01**	**260**	P			**Pn**	**18 29 28.1**	**-0.3**
	baz=259								
NMLH				*e*S			**Sn**	**18 29 41.9**	**-0.3**
	baz=259								
YOJ	**Yonaguni jima**	**1.06**	**103**	*e*P			**Pn**	**18 29 28.8**	**-0.2**
	baz=102								
YOJ				*e*S			**Sn**	**18 29 42.2**	**-1.1**
	baz=102								
YOJ	**Yonaguni jima**	**1.06**	**103**	P			**Pn**	**18 29 28.5**	**-0.5**
YOJ				*e*S			**Sn**	**18 29 42.9**	**-0.3**
NSY	**Sanyi**	**1.06**	**254**	P			**Pn**	**18 29 29.1**	**0.0**
	baz=253								
NSY				*e*S			**Sn**	**18 29 42.9**	**-0.5**
	baz=253								
TWQ1	**Liyutan**	**1.07**	**251**	*e*P			**Pn**	**18 29 28.9**	**-0.4**
	baz=249								
TWQ1				*e*S			**Sn**	**18 29 42.4**	**-1.2**
	baz=249								
EGFH	**Guangfu**	**1.11**	**202**	*e*P			**Pn**	**18 29 29.6**	**-0.2**
	baz=199								
VWDT	**VWDT**	**1.17**	**216**	*e*P			**Pn**	**18 29 30.3**	**-0.2**
	baz=213								
VWDT				*e*S			**Sn**	**18 29 44.9**	**-0.8**
	baz=213								
SMLT	**Sun Moon Lake**	**1.22**	**228**	*e*P			**Pn**	**18 29 32.1**	**+0.9**
	baz=225								
SMLT				*e*S			**Sn**	**18 29 47.9**	**+0.8**
	baz=225								
TYC	**Yuchr**	**1.23**	**230**	*e*P			**Pn**	**18 29 32.3**	**+1.0**
	baz=227								
TYC				*e*S			**Sn**	**18 29 47.9**	**+0.7**
	baz=227								
SSLB	**Suanglung**	**1.25**	**223**	*e*P			**Pn**	**18 29 31.9**	**+0.3**
	baz=220								
SSLB				*e*S			**Sn**	**18 29 48.3**	**+0.6**
	baz=220								
HGSD	**Ruisui**	**1.28**	**199**	*e*P			**Pn**	**18 29 30.8**	**-1.2**
	baz=196								
HGSD				*e*S			**Sn**	**18 29 49.1**	**+0.7**
	baz=196								
YULB	**Yu-li**	**1.42**	**202**	*e*P			**Pn**	**18 29 32.3**	**-1.5**
	baz=200								
ALS	**Alishan**	**1.55**	**220**	*e*P			**Pn**	**18 29 36.4**	**+0.7**
	baz=217								
ALS				*e*S			**Sn**	**18 29 56.8**	**+1.6**
	baz=217								
CHN5	**Tsauling**	**1.56**	**225**	*e*P			**Pn**	**18 29 35.8**	**+0.1**
	baz=223								
CHN5				*e*S			**Sn**	**18 29 55.4**	**+0.3**
	baz=223								
FULB	**Fuli**	**1.60**	**200**	*e*P			**Pn**	**18 29 36.2**	**+0.1**
	baz=197								
FULB				*e*S			**Sn**	**18 29 56.7**	**+0.7**
	baz=197								
ELDTW	**Lidau**	**1.71**	**208**	*e*P			**Pn**	**18 29 39.0**	**+1.3**
	baz=205								
ELDTW				*e*S			**Sn**	**18 29 58.6**	**-0.1**
	baz=205								
IRIF	**Iriomote-Funau**	**1.72**	**102**	P			**Pn**	**18 29 37.5**	**-0.3**
IRIF				S			**Sn**	**18 29 58.4**	**-0.5**
TPUB	**Ta-pu**	**1.81**	**220**	*e*P			**Pn**	**18 29 39.8**	**+0.8**
	baz=217								
TPUB				*e*S			**Sn**	**18 30 02.5**	**+1.4**
	baz=217								
JKRS	**Kuro-shima**	**1.99**	**103**	P			**Pn**	**18 29 41.4**	**0.0**
JKRS				S			**Sn**	**18 30 05.6**	**+0.2**
JIJ	**Ishigaki jima**	**2.09**	**99**	*e*S			**Sn**	**18 30 07.1**	**-0.6**
JISG	**Ishigakijimahi**	**2.21**	**93**	P			**Pn**	**18 29 44.5**	**+0.1**
JISG				*e*S			**Sn**	**18 30 11.3**	**+0.6**

*IDC **22** 18:35:59.0±1.5, 7.°19S×129.°50E, h118km±15km, mb3.6/11, mb1 3.9/17, mb1mx3.7/48, mbtmp4.2/17, Error ellipse: s-maj=17.2km s-min=10.9km az=101.0*
*NEIC **22** 18:36:00.4±2.4, 7.°24S±0.°04×129.°53E±0.°05, h141km±8km, mb4.6/28, Error ellipse: s-maj=9.6km s-min=2.4km az=127.0*
*DJA **22** 18:36:01.4±0.2, 7.°3S±2.°×13.°0E±°, h164km±6km, M4.6/15, mb4.7/15, mB5.0/9, MLv4.8/13, Mw(mB)4.3/9*
ISC 22 18:36:01.2±0.4, **7.°30S**±0.°05×**129.°52E**±0.°05, **h150**km, **n83, σ1s80/88, mb4.1/19, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SAUI	**Saumlaki**	**1.89**	**111**	P			**Pn**	**18 36 37.3**	**+2.3**
SAUI				S			**Sn**	**18 37 02.5**	**+1.4**
SAUI	**Saumlaki**	**1.89**	**111**	Pn			**Pn**	**18 36 37.4**	**+2.3**
MSAI	**Masohi**	**3.97**	**352**	P			**Pn**	**18 37 03.5**	**+2.4**
NLAI	**Namlea**	**4.70**	**329**	P			**Pn**	**18 37 12.3**	**+1.7**
FAKI	**Fak Fak**	**5.13**	**32**	P			**Pn**	**18 37 15.8**	**-0.6**
	0.7nm2μm91nm,0.6s								
FAKI	**Fak Fak**	**5.13**	**32**	Pn			**Pn**	**18 37 15.3**	**-1.2**
KMPI	**Kaimana, Papua**	**5.52**	**49**	P			**Pn**	**18 37 22.2**	**+0.7**
	2.8nm5μm288nm,0.6s								
MTN	**Manton Dam**	**5.73**	**164**	Pn			**Pn**	**18 37 25.3**	**+0.9**
SOEI	**Soe**	**5.73**	**244**	P			**Pn**	**18 37 24.9**	**+0.4**
	2.7nm2μm211nm,0.9s								
SOEI	**Soe**	**5.73**	**244**	Pn			**Pn**	**18 37 24.3**	**-0.1**
BATI	**Baumata**	**6.46**	**243**	P			**Pn**	**18 37 33.2**	**-1.0**
	53nm,0.3s,baz=103,slow=3.4,SNR=104								
BATI				S			**Sn**	**18 38 45.1**	**-1.9**
	69nm,0.3s,baz=99,slow=23,SNR=33								
BATI	**Baumata**	**6.46**	**243**	P			**Pn**	**18 37 34.1**	**0.0**
	1.0nm1μm86nm,0.5s								
SIJI	**Sorong**	**6.62**	**15**	P			**Pn**	**18 37 34.1**	**-2.2**
	3.9nm,0.3s,baz=198,slow=23,SNR=24								
SIJI				S			**Sn**	**18 38 46.4**	**-4.4**
	12nm,0.3s,baz=333,slow=22,SNR=13								
MMRI	**Maumere**	**7.33**	**259**	P			**Pn**	**18 37 46.8**	**+1.1**
	0.2nm36nm,1.0s								
MMRI	**Maumere**	**7.33**	**259**	Pn			**Pn**	**18 37 46.1**	**+0.4**
RKPI	**Ransiki, Papua**	**7.39**	**39**	P			**Pn**	**18 37 45.6**	**-1.0**
	1.3nm2μm98nm,0.8s								
EDFI	**Ende, Flores**	**7.88**	**259**	P			**Pn**	**18 37 52.5**	**-0.6**
	0.1nm262nm6.3nm,1.1s								
TNTI	**Ternate**	**8.30**	**345**	Pn			**Pn**	**18 37 56.9**	**-1.8**
KNRA	**Kununurra**	**8.36**	**185**	Pn			**Pn**	**18 37 58.6**	**-0.7**
SRPI	**Serui, Papua**	**8.60**	**51**	P			**Pn**	**18 38 01.5**	**-1.2**
	3μm56nm,0.6s								
LUWI	**Luwuk**	**9.16**	**312**	P			**Pn**	**18 38 10.7**	**+0.6**
BKSI	**Bulukumba**	**9.54**	**281**	P			**

	comp=Z,43nm,0.6s						
PMG	**Port Moresby**	**17.58**	**98**		**Pn**	**18 39 56.5**	**-0.6**
PMG				IAmb	IAmb	18 40 35.1	
	comp=Z,40nm,1.3s						
KKM	**Kota Kinabalu**	**18.76**	**315**	P	**P**	**18 40 08.0**	**-1.0**
KKM				IAmb	IAmb	18 40 19.4	
	comp=Z,23nm,1.0s						
SBUM	**Sibu**	**19.79**	**299**	P	**Pn**	**18 40 21.6**	**-1.6**
SBUM				IAmb	IAmb	18 40 35.7	
	comp=Z,18nm,0.7s						
CTAO	**Charters Tower**	**20.61**	**130**	P	**P**	**18 40 27.6**	**-1.2**
CTAO				IAmb	IAmb	18 40 52.7	
	comp=Z,28nm,1.4s						
GIRL	**Giralia**	**21.19**	**222**	P	**P**	**18 40 35.1**	**+0.1**
CISI	**Cisompet, Garu**	**21.52**	**268**	P	**P**	**18 40 38.6**	**0.0**
CISI				IAmb	IAmb	18 41 22.3	
	comp=Z,60nm,1.3s						
FORT	**Forrest**	**23.40**	**183**	P	**P**	**18 40 57.8**	**+1.2**
FORT				IAmb	IAmb	18 41 00.8	
	comp=Z,30nm,0.8s						
MORW	**Morawa**	**25.10**	**209**	P	**P**	**18 41 13.6**	**+1.4**
MORW				IAmb	IAmb	18 41 16.8	
	comp=Z,29nm,1.3s						
BBOO	**Buckleboo**	**26.10**	**167**	P	**P**	**18 41 22.0**	**+1.0**
BBOO				IAmb	IAmb	18 41 45.9	
	comp=Z,29nm,1.4s						
STKA	**Stephens Creek**	**26.92**	**157**	P	**P**	**18 41 30.8**	**+2.4**
	comp=Z,3.0nm,0.6s,baz=328,slow=9.7,SNR=6.6						
STKA	**Stephens Creek**	**26.92**	**157**	P	**P**	**18 41 29.6**	**+1.2**
NWAO	**Narrogin (SRO)**	**27.93**	**202**	P	**P**	**18 41 36.3**	**-1.1**
NWAO	**Narrogin (SRO)**	**27.93**	**202**	P	**P**	**18 41 36.4**	**-1.1**
NWAO				IAmb	IAmb	18 41 52.3	
	comp=Z,66nm,1.6s						
YOJ	**Yonaguni jima**	**32.20**	**349**	P	**P**	**18 42 14.3**	**-0.8**
TOO	**Toolangi**	**33.44**	**157**	P	**P**	**18 42 28.8**	**+2.9**
TOO				IAmb	IAmb	18 42 48.1	
	comp=Z,20nm,1.6s						
CMAR	**Chiang Mai Arr**	**39.56**	**311**	P	**P**	**18 43 18.5**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=140,slow=7.4,SNR=9.2						
CHTO	**Chiang Mai**	**39.78**	**311**	P	**P**	**18 43 19.7**	**0.0**
CHTO				IAmb	IAmb	18 43 20.9	
	comp=Z,4.6nm,1.0s						
NJ2	**Nanjing**	**40.44**	**346**	*e*P	**P**	**18 43 26.0**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KSRS	**Korea Array**	**44.55**	**358**	P	**P**	**18 43 58.2**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=175,slow=9.0,SNR=2.5						
WAKE	**Wake Island**	**45.13**	**54**	P	**P**	**18 44 01.9**	**-1.0**
LZH	**Lanzhou**	**49.45**	**332**	*e*P	**P**	**18 44 38.1**	**+1.8**
LZH				pP	pwP	18 45 14.3	+1.0
LZH				sP	sP	18 45 30.3	+4.5
LZH				PP	**PP**	**18 46 33.9**	**+1.9**
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
LZH				pmax	pmax		
	comp=Z,76nm,5.4s						
WHZ	**Wether Hill Ro**	**50.72**	**146**	P	**P**	**18 44 46.3**	**+0.7**
USRK	**Ussuriysk Ar.**	**51.31**	**2**	P	**P**	**18 44 49.9**	**0.0**
	comp=Z,0.6nm,0.5s,baz=185,slow=6.3,SNR=1.6						
URZ	**Urewera**	**52.81**	**133**	P	**P**	**18 44 58.9**	**-2.3**
ODAN	**Odare**	**53.09**	**311**	*e*P	**P**	**18 45 03.3**	**-0.4**
	comp=Z,6.6nm,0.5s						
TAPN	**Taplejung**	**53.13**	**312**	*e*P	**P**	**18 45 03.5**	**-0.6**
	comp=Z,12nm,0.4s						
RAMN	**Ramite**	**53.73**	**311**	*e*P	**P**	**18 45 08.5**	**+0.1**
	comp=Z,9.2nm,0.4s						
GKN	**Gorkha**	**55.77**	**311**	*e*P	**P**	**18 45 22.7**	**-0.2**
	comp=Z,6.1nm,0.3s						
KOLN	**Koldanda**	**56.42**	**310**	*e*P	**P**	**18 45 27.5**	**-0.2**
PYUN	**Piuthan**	**57.06**	**310**	*e*P	**P**	**18 45 32.3**	**+0.2**
	comp=Z,15nm,0.8s						
SONM	**Songino Array**	**58.58**	**342**	P	**P**	**18 45 43.0**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=150,slow=9.7,SNR=2.2						
WMQ	**Urumqi**	**63.39**	**327**	*e*P	**P**	**18 46 15.6**	**+0.9**
MK31	**Makanchi Array**	**68.22**	**327**	P	**P**	**18 46 45.3**	**-0.2**
MKAR	**Makanchi Array**	**68.22**	**327**	P	**P**	**18 46 46.1**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=114,slow=8.1,SNR=21						
MAKZ	**Makanchi**	**68.39**	**327**	P	**P**	**18 46 46.3**	**-0.3**
ZALV	**Zalesovo Beam**	**71.64**	**334**	P	**P**	**18 47 06.2**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=156,slow=7.4,SNR=4.2						
VNDA	**Vanda**	**72.21**	**173**	P	**P**	**18 47 11.8**	**+2.5**
	comp=Z,0.5nm,0.7s,baz=319,slow=11,SNR=2.6						
VNDA	**Vanda**	**72.21**	**173**	P	**P**	**18 47 10.8**	**+1.5**
KURK	**Kurchatov**	**72.53**	**329**	P	**P**	**18 47 11.3**	**-0.2**
MAW	**Mawson**	**74.50**	**201**	P	**P**	**18 47 25.5**	**+2.7**
	comp=Z,1.0nm,0.6s,baz=93,slow=9.2,SNR=4.6						
MAW	**Mawson**	**74.50**	**201**	P	**P**	**18 47 24.9**	**+2.1**
NRIK	**Noril'sk**	**81.73**	**346**	P	**P**	**18 48 02.7**	**+0.2**
	comp=Z,2.1nm,0.4s,baz=104,slow=5.8,SNR=2.3						
ARU	**Arti**	**85.71**	**328**	P	**P**	**18 48 22.7**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=359,slow=16,SNR=3.2						
ULM	**Lac du Bonnet**	**122.96**	**33**	PKP	**PKiKP**	**18 54 41.4**	**+1.5**
	comp=Z,2.6nm,0.5s,baz=298,slow=4.7,SNR=3.0						

*IDC **22** 18:54:45.2±3.5, 31.88S×176.20W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/34, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=90.5km s-min=47.7km az=128.0*
*NEIC **22** 18:54:46.0±1.3, 32.1S±0.2×176.0W±0.3, h15km±7km, mb4.6/7, Error ellipse: s-maj=38.2km s-min=17.3km az=131.0*

ISC 22 18:54:46.7±2.3, 32.2S±0.2×175.7W±0.3, h35km, n21, σ1§16/22, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**7.28**	**221**	Pn		**Pn**	**18 56 30.7**	**+0.2**
URZ	**Urewera**	**8.44**	**222**	Pn		**Pn**	**18 56 47.6**	**+1.2**
	0.5nm,0.3s,baz=265,slow=5.7,SNR=6.5							
URZ				Sn		**Sn**	**18 58 19.8**	**-0.6**
	2.8nm,0.3s,baz=156,slow=22,SNR=14							
URZ	**Urewera**	**8.44**	**222**			**Pn**	**18 56 47.4**	**+1.0**
BKZ	**Black Stump Fm**	**9.42**	**220**	Pn		**Pn**	**18 57 00.1**	**+0.2**
HIZ	**Hauiti**	**9.96**	**228**	Pn		**Pn**	**18 57 07.3**	**0.0**
BFZ	**Birch Farm**	**10.66**	**215**	Pn		**Pn**	**18 57 19.6**	**+2.7**
NNZ	**Nelson**	**12.56**	**221**	Pn		**Pn**	**18 57 43.3**	**+0.5**
THZ	**Tophouse**	**13.19**	**221**	Pn		**Pn**	**18 57 51.6**	**+0.1**
KHZ	**Kahutara**	**13.31**	**217**	Pn		**Pn**	**18 57 53.9**	**+0.9**
MQZ	**McQueen's Vall**	**14.69**	**215**	Pn		**Pn**	**18 58 09.4**	**-2.5**
OXZ	**Oxford**	**14.73**	**218**	Pn		**Pn**	**18 58 09.7**	**-2.7**
RPZ	**Rata Peaks**	**15.51**	**219**	Pn		**Pn**	**18 58 23.0**	**+0.2**
RPZ				IAmb		IAmb	18 58 44.2	
	comp=Z,37nm,1.1s							
FOZ	**Fox Glacier**	**16.07**	**221**	Pn		**Pn**	**18 58 30.0**	**+0.2**
WKZ	**Wanaka**	**17.34**	**219**	Pn		**Pn**	**18 58 45.9**	**-0.1**
WKZ				IAmb		IAmb	18 59 14.5	
	comp=Z,69nm,1.4s							
WHZ	**Wether Hill Ro**	**18.61**	**218**	P		**Pn**	**18 59 01.6**	**0.0**
WHZ				IAmb		IAmb	18 59 30.9	
	comp=Z,62nm,1.6s							
ASAR	**Alice Springs**	**45.03**	**268**	P		**P**	**19 02 59.8**	**+0.5**
	comp=Z,0.8nm,1.1s,baz=109,slow=7.2,SNR=2.8							
WR0	**Warramunga Arr**	**46.00**	**273**	P		**P**	**19 03 07.0**	**+0.2**
WR0				IAmb		IAmb	19 03 07.1	
	comp=Z,9.1nm,1.4s							
WB2	**Warramunga Arr**	**46.17**	**273**	P		**P**	**19 03 08.1**	**-0.1**
WB2				IAmb		IAmb	19 03 09.4	
	comp=Z,14nm,1.6s							
WRA	**Warramunga Arr**	**46.18**	**273**	P		**P**	**19 03 07.9**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=114,slow=7.9,SNR=7.1							
WB0	**Warramunga Arr**	**46.21**	**273**	P		**P**	**19 03 08.4**	**-0.2**
FINES	**FINESS Array B**	**147.53**	**341**	PKPbc		**PKiKP**	**19 14 28.4**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=123,slow=5.1,SNR=4.1							

*IDC **22** 19:35:55.7±1.9, 32.48N×47.46E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/40, mbtmp3.7/8, ML3.7/2, Error ellipse: s-maj=40.4km s-min=22.5km az=2.0*
*NEIC **22** 19:35:56.4±1.1, 32.2N±0.2×47.55E±0.1, h11km±6km, mb4.0/13, Error ellipse: s-maj=23.7km s-min=10.0km az=197.0*

ISC 22 19:35:56.1±0.7, 32.2N±0.1×47.53E±0.07, h10km, n25, σ1§26/27, mb4.0/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ASF	**Jabal al Asfar**	**9.01**	**272**	Pn		**Pn**	**19 38 07.0**	**+0.6**
	0.4nm,0.3s,baz=198,slow=1.5,SNR=4.0							
ASF				Sn		**Sn**	**19 39 46.6**	**-1.4**
	0.3nm,0.3s,baz=120,slow=18,SNR=1.5							
UOSS	**Minazif**	**10.53**	**131**	Pn		**Pn**	**19 38 27.2**	**+0.1**
WSAR	**Wadi Sarin**	**13.29**	**130**	Pn		**Pn**	**19 39 06.9**	**+1.9**
	0.8nm,0.3s,baz=336,slow=9.8,SNR=8.6							
WSAR				Sn		**Sn**	**19 41 30.1**	**-2.8**
	0.2nm,0.3s,baz=158,slow=18,SNR=1.9							
KBL	**Kabul**	**18.11**	**77**	P		**Pn**	**19 40 08.7**	**+0.7**
IDI	**Anoyia**	**19.06**	**285**	P		**P**	**19 40 20.8**	**+2.1**
IDI				IAmb		IAmb	19 40 47.3	
	comp=Z,11nm,1.1s							
KKAR	**Karatay Array**	**21.11**	**53**	P		**P**	**19 40 41.2**	**+0.3**
MLR	**Muntele Rosu**	**21.31**	**315**	P		**P**	**19 40 45.2**	**+2.1**
MLR				IAmb		IAmb	19 40 51.9	
	comp=Z,6.6nm,1.1s							
AGG	**Agios Georgios**	**21.53**	**295**	P		**P**	**19 40 46.1**	**+0.7**
AGG				IAmb		IAmb	19 41 13.2	
	comp=Z,15nm,1.5s							
ITM	**Ithomi**	**21.59**	**290**	P		**P**	**19 40 46.1**	**0.0**
ITM				IAmb		IAmb	19 40 55.1	
	comp=Z,16nm,1.3s							
NIL	**Nilore**	**21.62**	**79**	P		**P**	**19 40 46.6**	**+0.2**
NIL				IAmb		IAmb	19 40 51.0	
	comp=Z,11nm,1.2s							
AKASG	**Malin Array Be**	**22.88**	**329**	P		**P**	**19 40 58.2**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=134,slow=8.0,SNR=4.8							
BUR08	**Bucovina Ar. S**	**22.90**	**319**	P		**P**	**19 41 00.3**	**+0.2**
BUR08				IAmb		IAmb	19 41 07.8	
	comp=Z,3.8nm,1.1s							
PSZ	**Piszkesteto**	**26.13**	**315**	P		**P**	**19 41 30.9**	**+0.6**
MK31	**Makanchi Array**	**30.22**	**51**	P		**P**	**19 42 06.9**	**+0.1**
MKAR	**Makanchi Array**	**30.22**	**51**	P		**P**	**19 42 06.6**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=249,slow=6.4,SNR=5.3							
CIMO	**Cimolais**	**30.31**	**308**	P		**P**	**19 42 07.8**	**+0.2**
CIMO				IAmb		IAmb	19 42 10.3	
	comp=Z,1.3nm,0.7s							
SQTA	**Sankt Quirin**	**31.37**	**309**	*i* P		**P**	**19 42 17.0**	**0.0**
	comp=Z,1.9nm,0.4s							
MOTA	**Moosalm**	**31.47**	**309**	*i* P		**P**	**19 42 17.6**	**-0.3**
	comp=Z,2.3nm,0.5s							
DAVA	**Damuels**	**32.26**	**309**	*i* P		**P**	**19 42 24.4**	**-0.5**
	comp=Z,2.3nm,0.3s							
FINES	**FINESS Array B**	**32.38**	**341**	P		**P**	**19 42 23.6**	**-2.0**
	comp=Z,3.7nm,0.9s,baz=146,slow=9.6,SNR=2.6							
SENIN	**Lac Senin/Sane**	**33.80**	**306**	P		**P**	**19 42 38.6**	**+0.2**
BNI	**Bardonecchia**	**34.02**	**304**	P		**P**	**19 42 39.5**	**-0.8**
ZALV	**Zalesovo Beam**	**34.23**	**40**	P		**P**	**19 42 43.5**	**+1.6**
	comp=Z,1.2nm,0.6s,baz=238,slow=8.3,SNR=3.6							
ARCES	**ARCESS Array B**	**39.35**	**348**	P		**P**	**19 43 23.3**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=164,slow=9.4,SNR=9.4							
ESDC	**Sonseca Array**	**41.86**	**295**	P		**P**	**19 43 47.1**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=81,slow=8.0,SNR=4.3							

*BJI **22** 20:06:01.0±0.0, 33.60N×45.70E, h10km, mB5.0/48, mb5.1/75, Ms4.6/59, Ms7 4.4/49*
*IDC **22** 20:06:02.1±0.3, 33.78N×45.79E, h0km, mb5.0/45, mb1 5.1/54, mb1mx5.0/61, mbtmp5.0/54, ML4.0/8, MS4.0/31, Ms1 4.0/31, ms1mx3.9/49, Error ellipse: s-maj=9.6km s-min=8.5km az=0.0*
*TEH **22** 20:06:04.4, 33.74N×45.77E, h19km, ML5.3*
*NEIC **22** 20:06:04.7, 33.70N×45.78E, h10km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=5.12; Mθθ=2.87; Mϕϕ=2.25; Mrθ=0.89; Mrϕ=-2.77; Mθϕ=1.28; Fault plane solution: M0=5.47000×10^16 NP1:ϕ=32.58000°, δ=48.28000°, λ=68.11000°. NP2:ϕ=243.70000°, δ=46.16000°, λ=112.69000°. Principal axes: T 5.5762, Plg74.0000°, Azm232.0000°; N -0.2238, Plg16.0000°, Azm48.0000°; P -5.3524, Plg1.0000°, Azm138.0000°;*
*NEIC **22** 20:06:04.2±2.0, 33.70N±0.07×45.77E±0.07, h17km±3km, mb5.4/331, Mwb5.1/10, mb_Lg5.4(TEH) Error ellipse: s-maj=9.9km s-min=9.0km az=178.0*
*MOS **22** 20:06:04.9±1.2, 33.71N×45.70E, h33km, mb5.3/46, Error ellipse: s-maj=4.2km s-min=2.9km az=100.2*
*THR **22** 20:06:05.4±0.3, 33.78N×45.93E, h15km, ML5.1*
*ISN **22** 20:06:05.3±0.6, 33.74N×45.78E, h30km±3km, ML5.2*
*GCMT **22** 20:06:06.2±0.2, 33.67N±0.02×45.51E±0.02, h20km, MW5.0/108, Moment Tensor Solution. s56,c71; s108,c183; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.03±.12; Mθθ=-1.33±.07; Mϕϕ=-1.70±.07; Mrθ=1.14±.14; Mθϕ=1.50±.05; Mϕr=0.82±.13; Best double couple: M0=3.33800×10^16 NP1:ϕ=324.00000°, δ=33.00000°, λ=99.00000°. NP2:ϕ=133.00000°, δ=57.00000°, λ=84.00000°. Principal axes: T 3.3530, Plg77.0000°, Azm25.0000°; N -0.0300, Plg5.0000°, Azm136.0000°; P -3.3230, Plg12.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DSN **22** 20:06:07.0±1.1, 33.53N×46.32E, h10km, mb6.1/3 Error ellipse: s-maj=22.2km s-min=8.1km az=61.0*
*OMAN **22** 20:06:07.6, 33.37N×45.84E, h37km, mb5.5/25, ms4.2/5, Mwp6.0/3*
*GII **22** 20:06:09.1±0.0, 33.63N×45.72E, h20km*
*BGR **22** 20:06:35.3±0.0, 35.25N×42.21E, h33km, mb5.0, mB_BB5.2, Ms3.6*

ISC 22 20:06:04.7±0.6, 33.70N±0.03×45.81E±0.02, h20km±2km, h20km:pP-P, n1277, σ1§51/1300, mb5.3/353, MS4.2/60, 129C-35D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IBDR	**Badra**	**0.60**	**170**	*e*Pg		**Pn**	**20 06 17.6**	**-0.5**
IBDR				*e*Sg		**Sn**	**20 06 27.0**	**-0.2**
IBDR				AML		AML	20 06 30.7	
	comp=E,62μm,0.6s							
IBDR				AML		AML	20 06 32.2	
	comp=N,64μm,1.0s							
IGHG	**Ghaleghazi**	**0.89**	**45**	*e*Pg		**Pb**	**20 06 21.6**	**0.0**
IGHG				*e*			20 06 41.6	
IDHR	**Dehrash**	**1.10**	**25**	*e*Pg		**Pn**	**20 06 25.1**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.17**	**60**	*e*Pg		**Pb**	**20 06 26.9**	**+0.5**
IVIS	**Veis**	**1.19**	**46**	*e*Pg		**Pb**	**20 06 26.6**	**-0.1**
BHD	**Baghdad**	**1.27**	**251**	*e*Pg		**Pb**	**20 06 28.0**	**0.0**
BHD				*e*Sg		**Sg**	**20 06 45.0**	**-0.9**
BHD				AML		AML	20 06 48.8	
	comp=E,122μm,0.6s							
KER	**Kermanshah**	**1.29**	**58**	*e*Pg		**Pg**	**20 06 29.4**	**-0.3**
IKOM	**Komasi**	**1.49**	**71**	*e*Pg		**Pg**	**20 06 33.1**	**-0.3**
IKOM				*e*			20 07 00.1	
ILIN	**Lien**	**1.54**	**38**	*e*Pg		**Pb**	**20 06 32.9**	**+0.1**
ILIN				*e*Sg		**Sg**	**20 06 54.8**	**+0.1**
ILIN				*e*			20 06 59.9	
DHL1	**Dehloran**	**1.60**	**129**	*e*Pg		**Pg**	**20 06 35.2**	**-0.3**
IBZA	**Bozab**	**1.86**	**65**	*e*Pn		**Pb**	**20 06 38.8**	**+0.5**
IBZA				*e*			20 06 43.2	
IDOB	**Doab**	**1.97**	**87**	*e*Pn		**Pb**	**20 06 40.1**	**0.0**
IKMR	**Kamar-syah**	**2.15**	**94**	*e*Pn		**Pb**	**20 06 42.2**	**-0.8**
IKMR				*e*			20 07 24.8	
IALM	**Almabolaq**	**2.27**	**59**	*e*Pn		**Pb**	**20 06 43.9**	**-1.2**
HSAM	**Samen**	**2.37**	**77**	*e*Pn		**Pb**	**20 06 45.1**	**-1.9**
BMDN	**Meydan**	**2.51**	**90**	*e*Pn		**Pb**	**20 06 47.1**	**-2.2**
BMDN				*e*			20 07 38.2	
HSRG	**Sareghieh**	**2.55**	**52**	*e*Pn		**Pb**	**20 06 47.8**	**-2.2**
HSRG				*e*			20 07 32.4	
NSR	**Nassriya**	**2.70**	**174**	*e*Pn		**Pn**	**20 06 49.5**	**+2.5**
NSR				*e*Sn		**Sn**	**20 07 21.0**	**+1.9**
HAGD	**Aghdareh**	**2.97**	**67**	*e*Pn		**Pn**	**20 06 53.7**	**+2.7**
HAGD				*e*			20 07 48.0	
SHGR	**Shooshtar-Gavs**	**2.97**	**121**	*e*Pn		**Pn**	**20 06 53.5**	**+2.7**
SHGR				IAML			20 07 58.5	
	comp=N,5μm,0.7s							
SHGR				IAML			20 07 59.1	
	comp=E,4μm,0.5s							
SHGR	**Shooshtar-Gavs**	**2.97**	**121**	*e*Pn		**Pn**	**20 06 53.5**	**+2.7**
MAHB	**Mahabad**	**3.06**	**358**	*e*Pn		**Pn**	**20 06 53.9**	**+1.8**
MAHB				*e*			20 07 33.3	
KHMZ	**Khomeyn**	**3.46**	**88**	*e*Pn		**Pn**	**20 06 59.6**	**+2.0**
KHMZ	**Khomeyn**	**3.46**	**88**	*e*Pn		**Pn**	**20 06 59.6**	**+2.0**
QABG	**Abgarm-Qazvin**	**3.69**	**56**	*e*Pn		**Pn**	**20 07 03.1**	**+2.2**
ZNJK	**Zanjan**	**3.78**	**38**	*e*Pn		**Pn**	**20 07 03.9**	**+1.7**
ZNJK	**Zanjan**	**3.78**	**38**	*e*Pn		**Pn**	**20 07 03.9**	**+1.7**
IRAZ	**Razeghan**	**3.80**	**62**	*e*Pn		**Pn**	**20 07 05.6**	**+3.3**
QSDN	**Sirdan**	**3.93**	**44**	*e*Pn		**Pn**	**20 07 06.6**	**+2.5**
CUKT	**Cukurca**	**3.97**	**334**	P		**Pn**	**20 07 04.9**	**+0.3**
HAKT	**HAKKARI**	**4.21**	**337**	*e*Pn		**Pn**	**20 07 08.3**	**+0.3**
IMHD	**Mahdasht**	**4.46**	**62**	*e*Pn		**Pn**	**20 07 13.8**	**+2.4**
IGZV	**Ghazvin**	**4.50**	**52**	*e*Pn		**Pn**	**20 07 14.1**	**+2.1**
ROKH	**ROKH**	**4.59**	**106**	*e*Pn		**Pn**	**20 07 15.1**	**+1.9**
SIRT	**Sirnak**	**4.68**	**325**	P		**Pn**	**20 07 14.4**	**0.0**
QALM	**Alamut, Qazvin**	**4.81**	**54**	*e*Pn		**Pn**	**20 07 18.4**	**+2.1**
IHSB	**Hasanabad**	**4.83**	**67**	*e*Pn		**Pn**	**20 07 18.4**	**+2.0**
AHAR	**Ahar**	**4.88**	**12**	*e*Pn		**Pn**	**20 07 20.2**	**+3.0**
CHTH	**Charan**	**4.89**	**62**	*e*Pn		**Pn**	**20 07 19.3**	**+1.8**
CHTH	**Charan**	**4.89**	**62**	*e*Pn		**Pn**	**20 07 19.3**	**+1.8**
TEH	**Tehran**	**5.02**	**65**	*e*Pn		**Pn**	**20 07 21.1**	**+2.1**
GEVA	**Gevas**	**5.11**	**335**	Pn		**Pn**	**20 07 21.5**	**+1.1**
AKDM	**Akdamar-Van**	**5.16**	**334**	P		**Pn**	**20 07 21.9**	**+1.0**
VANB	**Van**	**5.26**	**339**	P		**Pn**	**20 07 22.9**	**+0.6**
DAMV	**Damavand**	**5.43**	**68**	*e*Pn		**Pn**	**20 07 26.7**	**+1.9**
DAMV	**Damavand**	**5.43**	**68**	*e*Pn		**Pn**	**20 07 26.7**	**+1.9**
IDMV	**Damavand**	**5.46**	**68**	*e*Pn		**Pn**	**20 07 27.0**	**+1.8**
MARD	**Mardin**	**5.46**	**313**				**20 07 24.2**	**-0.9**
KLNJ	**Kolanjah**	**5.58**	**117**	*e*Pn		**Pn**	**20 07 28.5**	**+1.6**
CLDR	**Caldiran**	**5.64**	**345**	P		**Pn**	**20 07 30.1**	**+2.4**
GURO	**Guroymak-BITLI**	**5.72**	**329**	P		**Pn**	**20 07 29.0**	**+0.3**
MAZI	**Mazidag**	**5.76**	**312**	P		**Pn**	**20 07 28.2**	**-1.0**
SVAN	**Silvan-Diyarba**	**5.81**	**321**	P		**Pn**	**20 07 30.1**	**+0.3**
IPRN	**Peran**	**5.93**	**63**	*e*Pn		**Pn**	**20 07 35.0**	**+3.5**
MLAZ	**Malazgirt-MUS**	**6.03**	**335**	P		**Pn**	**20 07 34.6**	**+1.6**
IFIR	**Firoozkooh**	**6.04**	**69**	*e*Pn		**Pn**	**20 07 35.6**	**+2.4**
IALA	**Alasht**	**6.22**	**66**	*e*Pn		**Pn**	**20 07 39.1**	**+3.4**
DYBB	**Diyarbakir**	**6.26**	**314**	P		**Pn**	**20 07 36.1**	**+0.1**
AGRB	**Hanur-Agry**	**6.29**	**340**	P		**Pn**	**20 07 38.7**	**+2.2**
TASB	**TASBURUN-IGDIR**	**6.40**	**349**	P		**Pn**	**20 07 40.9**	**+3.0**
KAZ1	**Kazerun**	**6.42**	**128**	*e*Pn		**Pn**	**20 07 39.8**	**+1.6**
VRTB	**Varto-Mus**	**6.48**	**328**	P		**Pn**	**20 07 39.9**	**+0.8**
ANAR	**Anarak**	**6.64**	**92**	*e*Pn		**Pn**	**20 07 42.4**	**+1.1**
BNGB	**Bingl**	**6.71**	**323**	P		**Pn**	**20 07 42.5**	**+0.3**
BINT	**Bingol**	**6.72**	**322**	P		**Pn**	**20 07 42.4**	**+0.1**
KARO	**Karliova-Bingo**	**6.78**	**327**	P		**Pn**	**20 07 43.9**	**+0.6**
URFA	**Urfa**	**6.81**	**305**	P		**Pn**	**20 07 43.3**	**-0.3**
SHI	**Shiraz**	**7.00**	**124**	*e*Pn		**Pn**	**20 07 48.0**	**+1.7**
KOPR	**Koprukoy-ERZUR**	**7.03**	**334**	P		**Pn**	**20 07 48.3**	**+1.6**
SVRC	**Sivrice-ELAZID**	**7.04**	**313**	P		**Pn**	**20 07 46.5**	**-0.3**
YEDI	**Yedisu-Bingol**	**7.12**	**325**	P		**Pn**	**20 07 48.8**	**+0.9**
IGLO	**Ghaloghah**	**7.14**	**65**	*e*Pn		**Pn**	**20 07 51.9**	**+3.7**
KARS	**Kars**	**7.25**	**343**	P		**Pn**	**20 07 53.3**	**+3.6**
PTK	**Pertek**	**7.33**	**317**	P		**Pn**	**20 07 50.4**	**-0.4**
SENK	**Senkaya-Erzuru**	**7.38**	**339**	P		**Pn**	**20 07 53.4**	**+1.8**
MALT	**Malatya**	**7.55**	**310**	P		**Pn**	**20 07 53.1**	**-0.6**
MALT	**Malatya**	**7.55**	**310**	P		**Pn**	**20 07 53.1**	**-0.6**
KOPT	**Kop Dagi**	**7.61**	**327**				**20 07 55.4**	**+0.7**
ERZN	**Erzincan**	**7.64**	**322**	P		**Pn**	**20 07 55.4**	**+0.3**
ASF	**Jabal al Asfar**	**7.65**	**261**	Pn		**Pn**	**20 07 53.6**	**-1.5**
	comp=E,2.2nm,0.3s,baz=32,slow=8.2,SNR=40							
ASF				Lg		Lg	20 10 02.6	
	comp=E,9.0nm,0.3s,baz=188,slow=21,SNR=3.1							
KZRT	**Kazreti**	**7.75**	**352**	P		**Pn**	**20 08 00.8**	**+4.3**
GAZ	**Gaziantep**	**7.83**	**299**	P		**Pn**	**20 07 56.5**	**-1.0**
AKH	**Akhalkalaki**	**7.91**	**347**	P		**Pn**	**20 08 00.8**	**+2.0**
AKH	**Akhalkalaki**	**7.91**	**347**				**20 08 00.8**	**+2.0**
AKT	**Akhty**	**7.91**	**11**	*e*P		**Pn**	**20 08 01.2**	**+2.5**
AKT				*e*S		Sn	20 09 37.3	+10
AKT				pmax		pmax		
	comp=Z,25nm,0.6s							
TBLG	**Delisi**	**8.06**	**354**	P		**Pn**	**20 08 04.3**	**+3.6**
TBLG	**Delisi**	**8.06**	**354**	P		**Pn**	**20 08 04.2**	**+3.6

NAZ	**Nazwa, Dubai**	**12.21**	**133**	*i*	P		**Pn**	**20 08 57.0**	**-0.5**
	SNR=21									
NAZ					S		**Sn**	**20 11 07.2**	**-5.8**
NAZ	**Nazwa, Dubai**	**12.21**	**133**		P		**Pn**	**20 08 58.1**	**+0.6**
	SNR=21									
NHDN	**Nehbandan**	**12.23**	**97**	*e*	Pn		**Pn**	**20 09 00.6**	**+2.6**
MSFE	**Esma-Masafi**	**12.25**	**130**	*i*	P		**Pn**	**20 08 57.1**	**-1.0**
	SNR=60									
MDH	**Madha**	**12.38**	**130**	*i*	P		**Pn**	**20 08 58.7**	**-1.2**
	SNR=24									
MDH	**Madha**	**12.38**	**130**		P		**Pn**	**20 08 59.2**	**-0.7**
	SNR=21									
MDH					P		**Pn**	**20 08 59.2**	**-0.7**
	SNR=21									
MDH					S		**Sn**	**20 11 13.0**	**-4.4**
	SNR=6.6									
MDH					S		**Sn**	**20 11 13.0**	**-4.4**
	SNR=6.6									
UOSS	**Minazif**	**12.57**	**131**	*i*	P		**Pn**	**20 09 00.8**	**-1.7**
	SNR=8.8									
UOSS	**Minazif**	**12.57**	**131**		Pn		**Pn**	**20 09 02.9**	**+0.3**
HATD	**Hatta, Dubai**	**12.62**	**132**	*i*	P		**Pn**	**20 09 01.6**	**-1.6**
	SNR=14									
HATD	**Hatta, Dubai**	**12.62**	**132**		P		**Pn**	**20 09 02.2**	**-0.9**
	SNR=14									
ASHO	**Ashiyiah**	**12.67**	**132**	*i*	P		**Pn**	**20 09 02.2**	**-1.8**
	SNR=30									
ASHO	**Ashiyiah**	**12.67**	**132**		P		**Pn**	**20 09 03.4**	**-0.5**
	SNR=11									
ASHO					P		**Pn**	**20 09 03.4**	**-0.5**
	SNR=11									
ANN	**Anapa**	**12.84**	**332**	*e*	P		**Pn**	**20 09 07.9**	**+1.9**
ANN				*e*	S		**Sn**	**20 11 33.9**	**+5.7**
ANN					pmax	pmax				
	comp=Z,39nm,1.2s									
ANN					MLR	MLR				
	comp=N,2μm,14.0s									
ANN					MLR	MLR				
	comp=Z,1μm,13.0s									
ALNE	**Al Ain**	**12.96**	**135**	*i*	P		**Pn**	**20 09 06.4**	**-1.4**
	SNR=22									
BOLV	**Bolvadin**	**13.00**	**297**				**Pn**	**20 09 11.7**	**+3.2**
ISP	**Isparta**	**13.08**	**293**		P		**Pn**	**20 09 13.0**	**+3.5**
ISP	**Isparta**	**13.08**	**293**		Pn		**Pn**	**20 09 13.0**	**+3.5**
SOHO	**SOHO**	**13.37**	**133**	*i*	P		**Pn**	**20 09 11.4**	**-2.0**
	SNR=18									
AKAS	**Kas**	**13.53**	**285**				**Pn**	**20 09 19.6**	**+4.0**
HRA	**Herat**	**13.65**	**83**		Pn		**Pn**	**20 09 18.4**	**+1.0**
ARQ	**Araqi**	**13.96**	**135**		P		**Pn**	**20 09 20.4**	**-1.2**
	SNR=30									
HOQ	**Hoqain**	**14.26**	**132**		P		**Pn**	**20 09 23.9**	**-1.7**
	SNR=9.8									
SIM	**Simferopol'**	**14.41**	**325**	*e*	P		**P**	**20 09 33.1**	**-1.1**
SIM					pmax	pmax				
	comp=Z,21nm,0.5s									
YER	**Yerkesik**	**14.70**	**288**		P		**P**	**20 09 37.9**	**+0.3**
MANT	**Manisa**	**14.74**	**294**				**Pn**	**20 09 33.7**	**+1.4**
BIDO	**Bidbid**	**14.81**	**130**		P		**Pn**	**20 09 30.5**	**-2.6**
	SNR=7.7									
BIDO					S		**Sn**	**20 12 11.7**	**-5.0**
	SNR=6.3									
SMDO	**Samad**	**15.10**	**131**		P		**Pn**	**20 09 34.8**	**-2.3**
	SNR=28									
SMDO					P		**Pn**	**20 09 34.8**	**-2.3**
	SNR=28									
WSAR	**Wadi Sarin**	**15.34**	**130**		Pn		**Pn**	**20 09 37.8**	**-2.3**
	comp=Z,7.7nm,0.3s,baz=325,slow=9.8,SNR=47									
WSAR					LR		LR	20 18 02.9		
	comp=Z,462nm,18.8s,baz=324,slow=47									
WSAR	**Wadi Sarin**	**15.34**	**130**		P		**Pn**	**20 09 37.4**	**-2.7**
	SNR=22									
KARP	**Karpathos**	**15.47**	**282**		P		**P**	**20 09 45.2**	**-1.0**
KARP					lAmb		lAmb	20 09 56.4		
	comp=Z,128nm,0.8s									
JMDO	**Jabal Madar**	**15.64**	**133**		P		**Pn**	**20 09 42.9**	**-1.1**
	SNR=14									
JMDO					P		**Pn**	**20 09 42.9**	**-1.1**
	SNR=14									
WBK	**Wadi Bani Khal**	**16.01**	**130**		P		**Pn**	**20 09 47.2**	**-1.6**
	SNR=10									
JLN	**Jalan Bani Buh**	**16.62**	**130**		P		**Pn**	**20 09 55.7**	**-0.9**
	SNR=26									
JLN					P		**Pn**	**20 09 55.7**	**-0.9**
	SNR=26									
MHTO	**MHTO**	**16.62**	**137**		P		**Pn**	**20 09 54.0**	**-2.7**
	SNR=34									
APE	**Apeiranthos**	**16.88**	**287**	⇓	P		**Pn**	**20 10 00.4**	**+0.6**
APE	**Apeiranthos**	**16.88**	**287**	*c*	*i* P		**Pn**	**20 09 59.2**	**-0.6**
SANT	**Santorini**	**16.88**	**285**		Pn		**Pn**	**20 09 58.6**	**-1.3**
PSN	**Preselentsi**	**16.96**	**311**		*i* P		**P**	**20 10 02.0**	**-0.6**
MFTR	**Murfatlar**	**17.07**	**313**	⇑	P		**P**	**20 10 03.1**	**-0.6**
JURR	**Jurilovca**	**17.12**	**315**	⇑	P		**P**	**20 10 03.5**	**-0.7**
TIRR	**Tirgusor**	**17.22**	**314**	⇑	P		**Pn**	**20 10 04.4**	**+0.4**
TIRR	**Tirgusor**	**17.22**	**314**	⇑	P		**Pn**	**20 10 04.4**	**+0.4**
TIRR	**Tirgusor**	**17.22**	**314**		P		**P**	**20 10 04.9**	**-0.6**
TIRR					pmax	pmax				
	comp=Z,562nm,1.4s									
TIRR	**Tirgusor**	**17.22**	**314**				**P**	**20 10 04.9**	**-0.6**
TIRR					lAmb		lAmb	20 10 06.9		
	comp=Z,562nm,1.4s									
ALN	**Alexandroupoli**	**17.27**	**300**		P		**Pn**	**20 10 04.8**	**+0.1**
ALN					pmax	pmax				
	comp=Z,68nm,1.0s									
ALN	**Alexandroupoli**	**17.27**	**300**				**Pn**	**20 10 04.8**	**+0.1**
IDI	**Anoyia**	**17.32**	**281**		P		**Pn**	**20 10 06.0**	**+0.6**
	comp=Z,2.2nm,0.3s,baz=83,slow=12,SNR=27									
IDI	**Anoyia**	**17.32**	**281**	⇓	P		**P**	**20 10 06.2**	**-0.5**
IDI	**Anoyia**	**17.32**	**281**				**Pn**	**20 10 05.5**	**+0.1**
TLCR		**17.39**	**316**	⇓	P		**Pn**	**20 10 06.6**	**+0.5**
TOPG	**Topolog**	**17.47**	**315**	⇑	P		**P**	**20 10 07.7**	**-0.5**
TLBR	**Topalu**	**17.49**	**313**	⇑	P		**P**	**20 10 08.6**	**+0.2**
ABTO	**Aybut**	**17.61**	**156**		P		**Pn**	**20 10 05.2**	**-3.9**
	SNR=13									
HARR	**Harsova**	**17.64**	**314**	⇓	P		**Pn**	**20 10 08.6**	**-0.5**
VRH	**Novokhopyorsk**	**17.74**	**352**	*e*	P		**Pn**	**20 10 08.5**	**-1.9**
VRH				*e*	S		**Sn**	**20 13 25.8**	**-1.7**
VRH					pmax	pmax				
	comp=Z,130nm,0.6s									
VRH					smax	smax				
	comp=E,100nm,9.8s									
VRH					MLR	MLR				
	comp=Z,530nm,10.0s									
CFR	**Carcaliu**	**17.78**	**315**	⇓	P		**Pn**	**20 10 10.3**	**-0.7**
RBK	**Rabkut**	**17.80**	**153**		P		**Pn**	**20 10 08.5**	**-2.9**
	SNR=22									
VORD	**Divnogorie**	**17.90**	**346**	*e*	P		**Pn**	**20 10 11.1**	**-1.2**
VORD					pmax	pmax				
	comp=Z,80nm,0.8s									
DMTO	**DMTO**	**17.90**	**151**		P		**Pn**	**20 10 09.4**	**-3.3**
	SNR=152									
SHAO	**Shalim**	**17.92**	**148**	*i*	P		**Pn**	**20 10 09.4**	**-3.5**
	SNR=23									
SHAO	**Shalim**	**17.92**	**148**		P		**Pn**	**20 10 09.9**	**-2.9**
	SNR=23									
AMRR	**Amara**	**17.96**	**313**	⇑	P		**P**	**20 10 14.1**	**+0.5**
KDZ	**Kurdzhali**	**17.96**	**302**	*i*	P		**P**	**20 10 14.1**	**+0.4**
RAZG	**Razgrad**	**17.98**	**309**	⇑	P		**P**	**20 10 13.9**	**+0.1**
VSR	**Storozhevoye**	**18.16**	**346**	*e*	P		**Pn**	**20 10 13.2**	**-2.4**
VSR				*e*	S		**Sn**	**20 13 37.2**	**-0.5**
VSR					pmax	pmax				
	comp=Z,280nm,1.2s									
VSR					smax	smax				
	comp=E,350nm,11.1s									
VSR					MLR	MLR				
	comp=Z,990nm,17.0s									
LEHL	**Lehliu**	**18.21**	**312**	⇑	P		**P**	**20 10 16.6**	**+0.3**
VARL	**Varlezi**	**18.36**	**317**	⇑	P		**P**	**20 10 17.4**	**-0.6**
RZN	**Rozhen**	**18.47**	**302**		P		**Pn**	**20 10 19.7**	**+0.1**
KIS	**Kishinev**	**18.50**	**321**	⇑	*i* P		**P**	**20 10 17.2**	**-2.3**
	comp=Z,220nm,2.6s									
KIS	**Kishinev**	**18.50**	**321**	*c*	*i* P		**P**	**20 10 17.0**	**-2.5**
KIS					*e*	S	**Sn**	**20 13 43.0**	**-2.8**
KIS					pmax	pmax				
	comp=Z,220nm,2.6s									
VORR	**Voronezh**	**18.59**	**347**	*e*	P		**Pn**	**20 10 22.0**	**+1.2**
VORR					pmax	pmax				
	comp=Z,500nm,1.4s									
ISR	**Istrita**	**18.70**	**313**	⇓	P		**P**	**20 10 21.8**	**-0.1**
ABKAR	**Akbulak array**	**18.75**	**30**		P		**Pn**	**20 10 22.9**	**+0.1**
VASR	**Vaslui**	**18.83**	**319**	⇑	P		**P**	**20 10 23.1**	**0.0**
SECR		**18.95**	**312**	⇑	P		**Pn**	**20 10 25.1**	**-0.2**
AKTO	**Aktyubinsk**	**18.97**	**25**		P		**Pn**	**20 10 25.2**	**-0.2**
	comp=Z,3.4nm,0.3s,baz=210,slow=11,SNR=78									
AKTO					LR		LR	20 20 25.2		
	comp=Z,291nm,18.6s,baz=209,slow=46									

VRI	**Vrincioaia**	**18.99**	**315**	⇓	P		**P**	**20 10 24.9**	**0.0**
VRI	**Vrincioaia**	**18.99**	**315**		P		**P**	**20 10 24.8**	**-0.1**
NEHR	**Nehoiu**	**19.01**	**314**	⇓	P		**Pn**	**20 10 26.0**	**0.0**
COPA	**Copaceanca**	**19.06**	**309**	⇓	P		**Pn**	**20 10 26.5**	**-0.1**
MMB	**Musomiste**	**19.14**	**301**	*i*	P		**P**	**20 10 26.6**	**-0.1**
KBL	**Kabul**	**19.25**	**81**		P		**Pn**	**20 10 30.9**	**+1.7**
	SNR=74									
KBL	**Kabul**	**19.25**	**81**		P		**Pn**			
KBL					pmax	pmax				
	comp=Z,208nm,1.1s									
KBL	**Kabul**	**19.25**	**81**				**Pn**	**20 10 29.6**	**+0.5**
KBL					lAmb		lAmb	20 10 32.4		
	comp=Z,208nm,1.1s									
MLR	**Muntele Rosu**	**19.25**	**314**		P		**Pn**	**20 10 29.1**	**0.0**
	comp=Z,2.8nm,0.3s,baz=88,slow=5.6,SNR=17									
MLR	**Muntele Rosu**	**19.25**	**314**	⇓	P		**Pn**	**20 10 29.0**	**-0.1**
MLR	**Muntele Rosu**	**19.25**	**314**		P		**P**	**20 10 28.0**	**0.0**
HUMR	**Humele**	**19.39**	**310**	⇑	P		**Pn**	**20 10 30.2**	**-0.3**
TESR	**Tescani**	**19.39**	**317**	⇓	P		**P**	**20 10 29.0**	**-0.3**
THE	**Thessaloniki**	**19.45**	**297**		P		**P**	**20 10 30.0**	**0.0**
CHGR	**Chuyangaron**	**19.47**	**69**		P		**Pn**	**20 10 31.4**	**-0.2**
LPSR	**Galich'ya Gora**	**19.53**	**347**	*e*	P		**P**	**20 10 29.1**	**-1.7**
LPSR				*e*	S		**S**	**20 14 07.7**	**-2.7**
LPSR					pmax	pmax				
	comp=Z,650nm,0.8s									
LPSR					smax	smax				
	comp=E,490nm,9.6s									
LPSR					MLR	MLR				
	comp=Z,640nm,17.0s									
VLAD	**Vladila**	**19.54**	**308**	⇑	P		**P**	**20 10 30.7**	**-0.2**
AGG	**Agios Georgios**	**19.62**	**292**		P		**P**	**20 10 32.4**	**+0.4**
AGG					pmax	pmax				
	comp=Z,136nm,1.0s									
AGG	**Agios Georgios**	**19.62**	**292**		P		**P**	**20 10 32.4**	**+0.4**
MTUR	**Matau**	**19.66**	**312**	⇑	P		**P**	**20 10 32.3**	**-0.1**
OZUR		**19.66**	**315**	⇓	P		**P**	**20 10 33.0**	**+0.6**
LIT	**Litokhoron**	**19.69**	**296**		P		**P**	**20 10 32.7**	**0.0**
LIT					pmax	pmax				
	comp=Z,117nm,1.0s									
LIT	**Litokhoron**	**19.69**	**296**		P		**P**	**20 10 32.7**	**0.0**
MPEP	**Malo Peshtene**	**19.73**	**306**	*i*	P		**Pn**	**20 10 34.7**	**+0.1**
ITM	**Ithomi**	**19.76**	**287**		P		**P**	**20 10 32.0**	**-1.4**
VTS	**Vitosha**	**19.81**	**303**	*i*	P		**P**	**20 10 34.3**	**+0.1**
DOPR	**Dopca**	**19.83**	**314**	⇑	P		**P**	**20 10 34.7**	**+0.5**
VAY	**Valandovo**	**19.91**	**299**	*i*	P		**P**	**20 10 34.4**	**-0.6**
ARR	**Arges**	**20.00**	**312**	⇓	P		**Pn**	**20 10 37.1**	**-0.8**
TAS	**Tashkent**	**20.08**	**61**		P		Pn	20 10 39.0	+0.2
TAS					pmax	pmax				
	comp=Z,437nm,1.0s									
TAS	**Tashkent**	**20.08**	**61**		P		Pn	20 10 39.0	+0.2
PRAR	**RASCA**	**20.12**	**319**	⇑	P		**P**	**20 10 37.2**	**-0.1**
STIP	**Stip**	**20.28**	**300**	*i*	P		**P**	**20 10 37.0**	**-2.1**
GAR	**Garm**	**20.41**	**68**		P		Pn	20 10 42.2	-0.5
GAR					lAmb		lAmb	20 10 45.8		
	comp=Z,226nm,1.1s									
MDB	**Medias**	**20.53**	**314**	⇓	P		**P**	**20 10 42.3**	**+0.6**
LOT	**Lotru**	**20.57**	**311**	⇑	P		**P**	**20 10 42.5**	**+0.2**
SRE	**Strehaia**	**20.59**	**309**	⇓	P		**P**	**20 10 42.9**	**+0.5**
PUNG	**Punghina**	**20.62**	**308**	⇑	P		**P**	**20 10 42.8**	**+0.1**
BURAR	**Bucovina Array**	**20.82**	**318**	⇑	P		**P**	**20 10 44.8**	**-0.3**
IUG	**Iuzhnay**	**20.83**	**59**	⇑	*i* P		Pn	20 10 46.5	-1.2
	comp=Z,85nm,1.0s,baz=60									
IUG					*e*	S	Sn	20 14 40.1	-2.3	
	baz=60									
IUG					LR		LR	20 19 54.3		
	comp=Z,183nm,10.7s,baz=60									
IUG	**Iuzhnay**	**20.83**	**59**	*c*	*i* P		**P**	**20 10 46.4**	**+1.2**
IUG					*e*	S	Sn	20 14 40.1	-2.3	
IUG					pmax	pmax				
	comp=Z,85nm,1.0s									
IUG					MLR	MLR				
	comp=Z,183nm,11.0s									
BUR08	**Bucovina Ar. S**	**20.85**	**318**		P		**P**	**20 10 44.4**	**-0.9**
AKASG	**Malin Array Be**	**20.88**	**329**		P		**P**	**20 10 44.0**	**-1.5**
	comp=Z,118nm,0.8s,baz=142,slow=9.8,SNR=81									
AKASG					PcP		**PcP**	**20 14 53.4**	**+0.3**	
	comp=Z,2.4nm,0.6s,baz=82,slow=2.2,SNR=4.4									
AKASG					LR		LR	20 21 41.6		
	comp=Z,470nm,19.1s,baz=135,slow=45									
AKBB	**Malin Array Si**	**20.88**	**329**		P		**P**	**20 10 43.6**	**-1.9**
AKBB					pmax	pmax				
	comp=Z,151nm,0.9s									
AKBB	**Malin Array Si**	**20.88**	**329**		P		**P**	**20 10 43.6**	**-1.9**
AKBB					lAmb		lAmb	20 10 45.4		
	comp=Z,151nm,0.9s									
BTK	**Batken**	**20.95**	**65**		P		Pn	20 10 47.8	-1.2	
BTK					pmax	pmax				
	comp=Z,123nm,1.0s									
BTK	**Batken**	**20.95**	**65**		P		Pn	20 10 47.8	-1.3	
BTK					lAmb		lAmb	20 10 59.0		
	comp=Z,123nm,1.0s									
ARCR	**ARCALIA**	**21.03**	**316**	⇓	P		**P**	**20 10 47.3**	**+0.2**
HERR	**Herculane**	**21.20**	**309**	⇓	P		**P**	**20 10 49.3**	**+0.3**
CJR	**Cluj-Napoca**	**21.28**	**314**	⇓	P		**P**	**20 10 50.0**	**+0.1**
DEV	**Deva**	**21.31**	**312**	⇑	P		**P**	**20 10 49.3**	**-0.9**
KK31	**Karatay Array**	**21.45**	**57**		P		**P**	**20 10 52.5**	**+0.8**
KK31					pmax	pmax				
	comp=Z,104nm,0.8s									
KK31	**Karatay Array**	**21.45**	**57**		P		**P**	**20 10 52.5**	**+0.8**
KK31					lAmb		lAmb	20 10 58.2		
	comp=Z,104nm,0.8s									
KKAR	**Karatay Array**	**21.45**	**57**		P		**P**	**20 10 52.5**	**+0.8**
KKAR					pmax	pmax				
	comp=Z,104nm,0.8s									
KKAR	**Karatay Array**	**21.45**	**57**		P		**P**	**20 10 52.5**	**+0.8**
KKAR					lAmb		lAmb	20 10 58.2		
	comp=Z,104nm,0.8s									
MDVR	**Moldovita**	**21.62**	**308**	⇑	P		**P**	**20 10 53.2**	**-0.4**
BMR	**Baia Mare**	**21.83**	**316**	⇓	P		**P**	**20 10 56.2**	**+0.4**
TIR	**Tirane**	**21.89**	**298**	⇓	P		**P**	**20 10 56.3**	**-0.2**
TIR	**Tirane**	**21.89**	**298**		P		**P**	**20 10 54.7**	**-1.8**
TIR					pmax	pmax				
	comp=Z,116nm,0.9s									
TIR	**Tirane**	**21.89**	**298**		P		**P**	**20 10 54.7**	**-1.8**
TIR					lAmb		lAmb	20 11 01.4		
	comp=Z,116nm,0.9s									
DZA	**Taraz**	**21.96**	**58**	⇑	*i* P		**P**	**20 10 58.2**	**+0.9**
	comp=Z,44nm,1.2s,baz=58									
DZA					*e*	S	**S**	**20 15 02.0**	**+3.1**	
	baz=58									
DZA	**Taraz**	**21.96**	**58**	⇑	*i* P		**P**	**20 10 58.1**	**+0.9**
DZA					*e*	S	**S**	**20 15 01.9**	**+3.1**
DZA					pmax	pmax				
	comp=Z,44nm,1.2s									
BZS	**Buzias**	**22.01**	**310**	⇑	P		**P**	**20 10 56.2**	**-1.5**
BANR	**Banloc**	**22.23**	**309**	⇓	P		**P**	**20 11 00.4**	**+0.4**
ATD	**Arta Tunnel**	**22.23**	**188**		P		**P**	**20 11 02.5**	**+2.1**
	comp=Z,22nm,1.0s,baz=14,slow=6.8,SNR=12									
ATD					LR		LR	20 20 16.8		
	comp=Z,388nm,20.0s,baz=5.5,slow=38									
ATD	**Arta Tunnel**	**22.23**	**188**		P		**P**	**20 11 03.3**	**+3.0**
TEND	**Ethiopian Broa**	**22.25**	**193**	*e*	P		**P**	**20 11 01.6**	**+1.1**
SIRR	**Siria**	**22.26**	**311**	⇑	P		**P**	**20 11 00.9**	**+0.5**
OBN	**Obninsk**	**22.36**	**346**		P		**P**	**20 10 59.7**	**-1.6**
	comp=Z,20nm,0.7s,baz=160,slow=2.1,SNR=35									
OBN					LR		LR	20 20 56.5		
	comp=Z,216nm,20.3s,baz=159,slow=40									
OBN	**Obninsk**	**22.36**	**346**	*c*	*i* P		**P**	**20 10 59.5**	**-1.8**
OBN					*e*			20 11 28.0		
OBN					*e*SS		Sn	20 15 54.8	+36	
OBN					pmax	pmax				
	comp=Z,109nm,1.0s									
OBN					MLR	MLR				
	comp=Z,755nm,18.0s									
OBN	**Obninsk**	**22.36**	**346**		P		**P**	**20 10 59.0**	**-2.3**
DIVS	**Divibare**	**22.53**	**305**	⇑	*i* P		**P**	**20 11 01.3**	**-2.1**
DIVS	**Divibare**	**22.53**	**305**		P		**P**	**20 11 02.2**	**-1.2**
DRME	**Dracevica, Mon**	**22.57**	**300**	⇑	*i* P		**P**	**20 11 03.6**	**-0.2**
PDG	**Podgorica**	**22.58**	**300**	⇑	P		**P**	**20 11 02.5**	**-1.3**
PDG	**Podgorica**	**22.58**	**300**	*e*	P		**P**	**20 11 01.3**	**-2.5**
PDG	**Podgorica**	**22.58**	**300**		P		**P**	**20 11 01.6**	**-2.2**
SCTE	**Santa Cesarea**	**22.73**	**294**		P		**P**	**20 11 03.7**	**-1.6**
SCTE					lAmb		lAmb	20 11 09.1		
	comp=Z,74nm,0.8s									
LVV	**L'vov**	**22.75**	**322**	*e*	P		**P**	**20 11 03.6**	**-1.9**
LVV				*e*				20 11 31.8		
LVV				*e*	S		**S**	**20 15 08.1**	**-5.1**	
LVV					pmax	pmax				
	comp=Z,160nm,1.5s									
MOS	**Moscow**	**22.76**	**348**	*e*	P		**P**	**20 11 00.5**	**-5.0**
MOS				*e*				20 11 09.7		
MOS				*e*				20 11 41.6		
MOS				*e*	S		**S**	**20 15 09.1**	**-4.1**	
MOS					pmax	pmax				

	comp=Z,364nm,1.2s									
MOS					pmax	pmax				
	comp=Z,600nm,1.6s									
MOS					MLR	MLR				
	comp=Z,700nm,18.0s									
BBLS	**Lazići**	**22.86**	**304**	⇑	*i* P		**P**	**20 11 04.7**	**-2.2**
TEKS	**Tekeris**	**22.99**	**306**	⇑	*i* P		**P**	**20 11 08.1**	**-0.1**
FRGS	**Fruska Gora**	**23.01**	**307**	⇑	*i* P		**P**	**20 11 06.8**	**-1.5**
UZH	**Uzhgorod**	**23.02**	**317**	*e*	P		**P**	**20 11 06.9**	**-1.4**
UZH				*e*				20 11 15.3		
UZH				*e*				20 11 43.9		
UZH				*e*	S		**S**	**20 15 09.9**	**-8.0**
UPM	**Unac-Piva**	**23.02**	**302**	*e*	P		**P**	**20 11 08.1**	**-0.6**
HCY	**Herceg Novi**	**23.13**	**300**	*e*	P		**P**	**20 11 08.4**	**-1.2**
KOLS	**Kolonicke sedl**	**23.19**	**318**	*e*	P		**P**	**20 11 09.2**	**-0.9**
KOLS					pmax	pmax				
	comp=Z,50nm,1.0s									
KOLS	**Kolonicke sedl**	**23.19**	**318**	*e*	P		**P**	**20 11 09.2**	**-0.9**
BRY	**Bratogost**	**23.21**	**301**	⇑	*i* P		**P**	**20 11 09.5**	**-1.0**
TREB	**Trebinje**	**23.30**	**301**	⇑	*i* P		**P**	**20 11 10.7**	**-0.6**
KWP	**Kalwaria Pacla**	**23.34**	**320**	*e*	P		**P**	**20 11 10.8**	**-0.8**
KWP	**Kalwaria Pacla**	**23.34**	**320**		P		**P**	**20 11 10.0**	**-1.6**
KWP					pmax	pmax				
	comp=Z,89nm,0.9s									
KWP	**Kalwaria Pacla**	**23.34**	**320**		P		**P**	**20 11 10.0**	**-1.6**
KWP					lAmb		lAmb	20 11 29.2		
	comp=Z,89nm,0.9s									
DBRK	**Dubrovnik**	**23.43**	**301**	*i*	P		**P**	**20 11 08.8**	**-3.7**
AML	**Almayashu**	**23.47**	**61**		P		**P**	**20 11 15.2**	**+1.7**
	SNR=19									
EKS2	**Erkin-Say**	**23.65**	**60**		P		**P**	**20 11 18.9**	**+4.1**
	SNR=38									
STON	**Ston**	**23.80**	**301**	*i*	P		**P**	**20 11 13.7**	**-2.4**
TIP	**Timpagrande**	**23.95**	**292**	⇑	P		**P**	**20 11 16.7**	**-1.0**
TIP	**Timpagrande**	**23.95**	**292**		P		**P**	**20 11 15.9**	**-1.8**
KECS	**Kecovo**	**23.98**	**316**	*e*	P		**P**	**20 11 18.8**	**+1.0**
KECS					pmax	pmax				
	comp=Z,48nm,1.1s									
KECS	**Kecovo**	**23.98**	**316**	*e*	P		**P**	**20 11 18.8**	**+1.0**
PSZ	**Piszkesteto**	**24.07**	**314**	⇑	P		**P**	**20 11 18.5**	**-0.3**
PSZ	**Piszkesteto**	**24.07**	**314**		P		**P**	**20 11 17.6**	**-1.2**
PSZ					pmax	pmax				
	comp=Z,49nm,0.9s									
PSZ	**Piszkesteto**	**24.07**	**314**		P		**P**	**20 11 17.6**	**-1.2**
UCH	**Uchtor**	**24.09**	**61**		P		**P**	**20 11 21.3**	**+1.8**
	SNR=24									
MATE	**Matera**	**24.14**	**295**	⇑	P		**P**	**20 11 17.9**	**-1.3**
MORH	**Mrgy, Hungar**	**24.16**	**309**	⇑	*i* P		**P**	**20 11 18.8**	**-0.6**
AAK	**Ala-Archa**	**24.16**	**60**		P		**P**	**20 11 21.4**	**+1.7**
	comp=Z,13nm,0.8s,baz=213,slow=7.9,SNR=22									
AAK					PcP		**PcP**	**20 15 00.9**	**+0.6**	
	comp=Z,6.0nm,0.6s,baz=318,slow=4.7,SNR=3.9									
AAK	**Ala-Archa**	**24.16**	**60**		P		**P**	**20 11 22.1**	**+2.4**
	SNR=11									
AAK	**Ala-Archa**	**24.16**	**60**		P		**P**	**20 11 20.9**	**+1.2**
AAK	**Ala-Archa**	**24.16**	**60**	*de*	P		**P**	**20 11 21.9**	**+2.2**
AAK					pmax	pmax				
	comp=Z,14nm,0.8s									
AAK	**Ala-Archa**	**24.16**	**

NACGM PM 20 11 29.0
comp=Z,0.5nm,1.0s
MOSL Moslavina 25.19 307 *i* P **P** **20 11 27.9 -1.0**
OJC Ojcow 25.24 319 *e*P **P** **20 11 29.0 -0.3**
OJC Ojcow 25.24 319 P **P** **20 11 28.2 -1.1**
OJC pmax pmax
comp=Z,84nm,1.0s
OJC Ojcow 25.24 319 P **P** **20 11 28.1 -1.1**
OJC IAmb IAmb 20 11 31.4
comp=Z,84nm,1.0s
ULHL Ulahol 25.36 61 P **P** **20 11 32.9 +2.2**
SNR=43
IDID Didziasalis 25.37 334 *e*P **P** **20 11 30.5 +0.1**
ZIRJ Zirje 25.44 302 *i* P **P** **20 11 29.6 -1.5**
MORI Morici 25.44 302 *i* P **P** **20 11 29.4 -1.7**
BEHE Becsehely 25.46 309⇑ *i*P **P** **20 11 33.9 +2.7**
KALN Kalnik 25.55 308 *i* P **P** **20 11 31.8 -0.4**
BRZS Berezniki 25.59 42⇑ *i*P **P** **20 11 33.5 +1.0**
comp=Z,44nm,1.1s,baz=43
BRZS Berezniki 25.59 42*c i*P **P** **20 11 33.5 +1.0**
BRZS pmax pmax
comp=Z,44nm,1.1s
BEL Belsk 25.60 323 *e*P **P** **20 11 32.8 +0.3**
MTBS Maitube 25.65 59⇑ *i*P **P** **20 11 34.7 +1.5**
baz=60
MTBS Maitube 25.65 59⇑ *i*P **P** **20 11 34.7 +1.5**
KUU Kurty 25.75 58⇑ *i*P **P** **20 11 34.9 +1.0**
comp=Z,85nm,1.4s,baz=58
KUU LR LR 20 23 01.8
comp=Z,349nm,11.0s,baz=58
KUU Kurty 25.75 58*c i*P **P** **20 11 34.9 +1.0**
KUU pmax pmax
comp=Z,85nm,1.4s
KUU MLR MLR
comp=Z,349nm,11.0s
VAE Valguarnera 25.75 287 P **P** **20 11 36.3 +2.2**
comp=Z,46nm,0.9s,baz=64,slow=3.9,SNR=14
PAOL Paolisi 25.79 296 P **P** **20 11 33.8 -0.7**
PAOL IAmb IAmb 20 11 40.0
comp=Z,95nm,1.3s
KOGS Kog 25.79 308 *e*P **P** **20 11 34.4 +0.1**
ISAL Salakas 25.79 334 *e*P **P** **20 11 33.8 -0.3**
RAFF Raffo Rosso 25.79 287 P **P** **20 11 33.8 -0.6**
PTJ Puntijarka 25.81 307 P **P** **20 11 34.0 -0.6**
JAVC Velka Javorina 25.82 314⇑ *i*P **P** **20 11 35.3 +0.7**
SMOL Smolenice 25.82 313 *e*P **P** **20 11 34.8 +0.3**
SMOL pmax pmax
comp=Z,43nm,1.0s
SMOL Smolenice 25.82 313 *e*P **P** **20 11 34.8 +0.3**
SUW Suwalki 25.85 329 *e*P **P** **20 11 33.9 -0.8**
SUW Suwalki 25.85 329 P **P** **20 11 33.8 -0.8**
SUW pmax pmax
comp=Z,212nm,0.9s
SUW Suwalki 25.85 329 P **P** **20 11 33.8 -0.8**
MODS Modra-Piesok 25.85 313 *e*P **P** **20 11 34.1 -0.7**
MODS pmax pmax
comp=Z,107nm,1.2s
MODS Modra-Piesok 25.85 313 *e*P **P** **20 11 34.1 -0.7**
IZAR Zarasai 25.89 334 *e*P **P** **20 11 34.8 -0.2**
DUGI Dugi Otok 25.93 302 *i* P **P** **20 11 33.8 -1.7**
OKC Ostrava-Krasne 25.98 317 *e*P **P** **20 11 35.7 -0.2**
OKC Ostrava-Krasne 25.98 317 *e*P **P** **20 11 35.7 -0.2**
TNSS Tian-Shan 26.01 60⇑ *i*P **P** **20 11 38.1 +1.3**
baz=60
TNSS Tian-Shan 26.01 60⇑ *i*P **P** **20 11 38.0 +1.3**
AAA Alma-Ata 26.02 59 *e*P **P** **20 11 37.9 +1.4**
comp=Z,11nm,0.6s,baz=60
AAA *e*S **S** **20 16 10.0 +3.7**
baz=60
AAA LR LR 20 22 49.3
comp=Z,390nm,11.2s,baz=60
AAA Alma-Ata 26.02 59 *i* P **P** **20 11 38.2 +1.7**
AAA *e*S **S** **20 16 03.1 -3.2**
AAA pmax pmax
comp=Z,100nm,1.9s
AAA smax smax
comp=N,100nm,6.3s
AAA MLR MLR
comp=Z,500nm,12.0s
GCIS Gornji Cirnik 26.02 307 *e*P **P** **20 11 36.3 -0.1**
KDJ Kajisay 26.03 62 P **P** **20 11 38.6 +1.9**
KDJ pmax pmax
comp=Z,28nm,0.9s
KDJ Kajisay 26.03 62 P **P** **20 11 38.6 +1.9**
OZLJ Ozalj 26.06 306 *i* P **P** **20 11 36.6 -0.1**
BRVK Borovoye 26.06 35*c i*P **P** **20 11 37.1 +0.4**
BRVK pmax pmax
comp=Z,43nm,1.1s
BRVK Borovoye 26.06 35 P **P** **20 11 36.9 +0.3**
BRVK IAmb IAmb 20 11 46.2
comp=Z,73nm,0.9s
BVAR Borovoye Array 26.09 35 P **P** **20 11 37.6 +0.6**
comp=Z,16nm,0.5s,baz=224,slow=8.3,SNR=73
BVAR PcP **PcP** **20 15 04.8 +0.7**
comp=Z,13nm,0.9s,baz=220,slow=3.9,SNR=5.2
BVAR ScP **ScP** **20 18 43.1 +0.3**
comp=Z,1.1nm,0.7s,baz=188,slow=4.2,SNR=3.0
BVAR LR LR 20 23 38.7
comp=Z,176nm,20.6s,baz=117,slow=41
MDOK Medeo 26.10 60 *i* P **P** **20 11 38.7 +1.4**
baz=60
MDOK *e*S **S** **20 16 11.5 +3.7**
baz=60
MDOK LR LR 20 22 46.7
comp=Z,545nm,10.2s,baz=60
MDOK Medeo 26.10 60 *i* P **P** **20 11 38.7 +1.4**
MDOK *e*S **S** **20 16 11.5 +3.7**
MDOK MLR MLR
comp=Z,545nm,10.0s
CRES Cresnjev 26.12 307⇑ *i*P **P** **20 11 37.1 -0.2**
BOJS Bojanci 26.17 306 *e*P **P** **20 11 37.6 -0.1**
NVLJ Novalja 26.19 304 *i* P **P** **20 11 36.6 -1.3**
CHKK Chushkaly 26.20 58 *e*P **P** **20 11 39.0 +1.0**
baz=58
CHKK Chushkaly 26.20 58 *e*P **P** **20 11 39.0 +1.0**
MORC Moravsky Berou 26.30 316⇓ P **P** **20 11 38.4 -0.5**
MORC Moravsky Berou 26.30 316⇑ *i*P **P** **20 11 38.6 -0.3**
MORC Moravsky Berou 26.30 316 P **P** **20 11 37.5 -1.4**
MORC pmax pmax
comp=Z,77nm,1.3s
MORC Moravsky Berou 26.30 316 P **P** **20 11 37.5 -1.4**
INTR Introdacqua 26.41 298 P **P** **20 11 38.7 -1.3**
INTR IAmb IAmb 20 12 04.6
comp=Z,78nm,1.2s
TARG Taragay, Kyrgy 26.43 63 P **P** **20 11 41.0 +0.3**
ARSA Arzberg 26.53 310 *i* P **P** **20 11 41.3 +0.3**
comp=Z,5.8nm,0.6s,SNR=19
ARSA Arzberg 26.53 310 *i* PcP **PcP** **20 15 06.4 +1.2**
comp=Z,7.7nm,1.1s
CONA Conrad Observa 26.55 311 *i* P **P** **20 11 41.1 -0.2**
comp=Z,17nm,0.8s,SNR=26
PABE Paberze 26.57 332 *e*P **P** **20 11 39.9 -1.2**
CORL Corleone 26.62 288 P **P** **20 11 41.9 0.0**
CORL IAmb IAmb 20 11 48.7
comp=Z,204nm,1.6s
VRAC Vranov 26.65 315 P **P** **20 11 42.2 +0.2**
comp=Z,26nm,1.0s,baz=115,slow=8.5,SNR=46
VRAC Vranov 26.65 315⇓ P **P** **20 11 41.4 -0.6**
VRAC Vranov 26.65 315⇑ *i*P **P** **20 11 42.0 0.0**
SOKA Soboth 26.66 308 *i* P **P** **20 11 42.7 +0.4**
comp=Z,9.6nm,0.9s,SNR=17
SOKA Soboth 26.66 308 PcP **PcP** **20 15 07.0 +1.3**
comp=Z,16nm,1.0s,SNR=5.8
KRUC Moravsky 26.66 314⇑ *i*P **P** **20 11 42.0 -0.2**
CLTB Caltabellotta 26.70 288 P **P** **20 11 44.0 +1.3**
CEY Cerknica 26.79 306⇑ *i*P **P** **20 11 42.2 -1.2**
LJU Ljubljana 26.81 307 *i* P **P** **20 11 43.7 +0.2**
LJU Ljubljana 26.81 307⇑ *i*P **P** **20 11 43.5 0.0**
AQU L'Aquila 26.82 298 P **P** **20 11 43.0 -0.7**
AQU pmax pmax
comp=Z,85nm,1.0s
AQU L'Aquila 26.82 298⇑ *i*P **P** **20 11 43.7 0.0**
AQU L'Aquila 26.82 298 P **P** **20 11 43.0 -0.7**
AQU IAmb IAmb 20 12 03.8
comp=Z,85nm,1.0s
KRLC Kraliky 26.87 316 *e*P **P** **20 11 43.3 -0.8**
KRLC MLR MLR
comp=Z,400nm,12.4s
KRLC Kraliky 26.87 316 *e*P **P** **20 11 43.3 -0.8**
KRLC AMS AMS 20 25 30.0
comp=Z,400nm,12.4s
OBKA Obir 26.93 308 *i* P **P** **20 11 44.9 +0.2**
comp=Z,30nm,1.1s,SNR=44
PRZ Przheval'sk 26.97 61 P **P** **20 11 46.6 +1.4**
PRZ pmax pmax
comp=Z,34nm,1.0s
PRZ Przheval'sk 26.97 61 P **P** **20 11 46.6 +1.4**
BRJN Brijuni 27.05 304 *i* P **P** **20 11 44.5 -1.1**
SATY Saty 27.06 60⇑ *i*P **P** **20 11 47.8 +1.7**
comp=Z,54nm,1.7s,baz=61
SATY Saty 27.06 60*c i*P **P** **20 11 47.7 +1.7**
SATY pmax pmax
comp=Z,54nm,1.7s
SATY Saty 27.06 60*c i*P **P** **20 11 47.7 +1.7**
SATY pmax pmax
comp=Z,54nm,1.7s
NRCA Norcia 27.10 299 P **P** **20 11 45.9 -0.4**
NRCA IAmb IAmb 20 11 48.4
comp=Z,67nm,1.0s
VOJS Vojsko 27.24 306 *e*P **P** **20 11 47.1 -0.4**
DPC Dobruska-Polom 27.26 316 *e*P **P** **20 11 47.2 -0.4**
DPC MLR MLR
comp=Z,300nm,12.0s
DPC Dobruska-Polom 27.26 316 *e*P **P** **20 11 47.2 -0.4**
DPC AMS AMS 20 25 40.0
comp=Z,300nm,12.0s
TREC Trest 27.30 314 AMS AMS 20 25 30.0
comp=Z,800nm,13.6s
OSTC Ostas 27.41 317 *e*P **P** **20 11 48.2 -0.7**
OSTC *e*S **S** **20 16 32.1 +4.0**
OSTC AMS AMS 20 25 40.0
comp=Z,400nm,12.1s
TDK Taldyqorghan 27.44 56 *i* P **P** **20 11 50.0 +0.7**
baz=56
TDK *i* LR LR 20 24 04.5
comp=Z,481nm,11.4s,baz=56
TDK Taldyqorghan 27.44 56 *i* P **P** **20 11 49.9 +0.7**
TDK MLR MLR
comp=Z,481nm,11.0s
KLMR Klimovskoe 27.47 353 *e*P **P** **20 11 47.0 -2.3**
KLMR *e* 20 12 32.4
KLMR *e* 20 15 07.0
KLMR pmax pmax
comp=Z,169nm,0.9s
KLMR Klimovskoe 27.47 353 *e*P **P** **20 11 47.0 -2.3**
KLMR AMP 20 11 52.6
comp=Z,169nm,0.9s
KLMR *e*PP **PnPn** **20 12 32.4 -1.6**
KLMR *e*PcP **PcP** **20 15 07.0 -0.2**
KLMR LQ LQ 20 20 46.0
KLMR LQ LQ 20 20 46.0
KLMR LR LR 20 23 21.4
KSP Ksiaz 27.50 317 *e*P **P** **20 11 49.4 -0.3**
UPC Upice 27.51 317 AMS AMS 20 26 00.0
comp=Z,300nm,13.5s
CHVC Chvalec 27.52 317 *e*P **P** **20 11 49.7 -0.2**
UZB Uzynbulak 27.52 60⇑ *i*P **P** **20 11 51.3 +1.2**
comp=Z,19nm,1.4s,baz=60
UZB *e*S **S** **20 16 33.4 +3.1**
baz=60
UZB *i* LR LR 20 24 03.2
comp=Z,148nm,11.5s,baz=60
UZB Uzynbulak 27.52 60*c i*P **P** **20 11 51.3 +1.2**
UZB *e*S **S** **20 16 33.3 +3.1**
UZB pmax pmax
comp=Z,19nm,1.4s
UZB MLR MLR
comp=Z,148nm,11.0s
MOA Molln 27.53 310 *i* P **P** **20 11 49.9 -0.1**
comp=Z,6.5nm,0.5s,SNR=20
PRED Cave del Predi 27.56 307 P **P** **20 11 49.5 -0.8**
PRED **PcP** **20 15 08.3 +0.5**
MURB Monte Urbino 27.60 300 P **P** **20 11 50.7 +0.1**
PBUR Paburge 27.75 331 *e*P **P** **20 11 51.8 0.0**
VSU Vasula 27.88 338 *e*P **P** **20 11 51.8 -1.1**
VSU Vasula 27.88 338⇑ *e*P **P** **20 11 52.6 -0.3**
VSU pmax pmax
comp=Z,134nm,1.2s
KBA Koelnbreinsper 27.89 308 *e*P **P** **20 11 53.2 -0.2**
comp=Z,17nm,0.8s,SNR=16
PDGK Podgornoye 27.89 60 *i* P **P** **20 11 52.8 -0.6**
PDGK pmax pmax
comp=Z,16nm,0.9s
PRGR Permogore 27.95 360⇑ *i*P **P** **20 11 52.4 -1.1**
PRGR *e*S **S** **20 16 34.5 -1.7**
PRGR pmax pmax
comp=Z,231nm,1.3s
ZOU Zoufplan 27.99 307 P **P** **20 11 53.8 -0.5**
ZOU IAmb IAmb 20 11 58.3
comp=Z,50nm,1.0s
LATE Laterza 28.03 299 P **P** **20 11 53.8 -0.7**
LATE IAmb IAmb 20 11 58.1
comp=Z,65nm,1.1s
STAL STALIGIAL 28.08 306 P **P** **20 11 53.9 -1.1**
PRU Pruhonice 28.14 315 *e*P **P** **20 11 55.1 -0.3**
PRU *e*S **S** **20 16 35.9 -3.7**
PRU MLR MLR
comp=Z,500nm,12.7s
PRU Pruhonice 28.14 315 *e*P **P** **20 11 55.1 -0.3**
PRU *e*S **S** **20 16 35.9 -3.7**
PRU AMS AMS 20 26 10.0
comp=Z,500nm,12.7s
GKP Gorka Klasztor 28.20 323 *e*P **P** **20 11 55.9 0.0**
GEC2 GERESS Array S 28.23 312 *e*P **P** **20 11 55.7 -0.5**
comp=Z,19nm,1.5s,baz=111,slow=9.0
GEC2 GERESS Array S 28.23 312 P **P** **20 11 55.4 -0.9**
GERES GERESS Array B 28.23 312 P **P** **20 11 55.4 -0.9**
comp=Z,4.5nm,0.8s,baz=115,slow=9.6,SNR=21
GERES PcP **PcP** **20 15 10.1 +0.6**
comp=Z,4.0nm,0.8s,baz=116,slow=3.1,SNR=10
GERES ScP **ScP** **20 18 49.6 +0.2**
comp=Z,1.5nm,1.0s,baz=134,slow=3.9,SNR=5.0
GERES LR LR 20 27 02.1
comp=Z,315nm,18.9s,baz=112,slow=45
PRA Prague 28.24 315 AMS AMS 20 26 10.0
comp=Z,200nm,14.3s
CIMO Cimolais 28.28 306 P **P** **20 11 55.9 -0.8**
CIMO PcP **PcP** **20 15 09.9 +0.4**
ABTA Abfaltersbach 28.34 307 *i* P **P** **20 11 57.6 +0.2**
comp=Z,12nm,0.8s,SNR=15
ABTA Abfaltersbach 28.34 307 *i* PcP **PcP** **20 15 10.6 +0.8**
comp=Z,11nm,0.9s,SNR=5.7
PVCC Panska Ves 28.35 316 *e*P **P** **20 11 57.0 -0.2**
PVCC MLR MLR
comp=Z,600nm,13.8s
PVCC Panska Ves 28.35 316 *e*P **P** **20 11 57.0 -0.2**
PVCC AMS AMS 20 26 20.0
comp=Z,600nm,13.8s
PBCC Pribram 28.35 314 *e*P **P** **20 11 56.5 -0.8**
KHC Kasperske Hory 28.40 313 *e*P **P** **20 11 57.4 -0.4**
KHC *e* 20 12 11.0
KHC *e*S **S** **20 16 38.7 -5.1**
KHC MLR MLR
comp=Z,400nm,13.2s
KHC Kasperske Hory 28.40 313 *e*P **P** **20 11 57.4 -0.4**
KHC *ex* x 20 12 11.0
KHC *e*S **S** **20 16 38.7 -5.1**
KHC AMS AMS 20 26 40.0
comp=Z,400nm,13.2s
KHC Kasperske Hory 28.40 313 P **P** **20 11 56.6 -1.1**
RJOB Jochberg 28.44 309 *e*P **P** **20 11 56.8 -1.3**
comp=Z,34nm,1.6s,baz=111,slow=9.0
OSSC Osservatorio P 28.56 300 P **P** **20 11 58.8 -0.4**
CASP Castiglione de 28.74 299 P **P** **20 11 59.6 -1.2**
CTI Castel Tesino 28.75 306 P **P** **20 12 00.4 -0.6**
CTI pmax pmax
comp=Z,48nm,1.2s
CTI Castel Tesino 28.75 306 P **P** **20 12 00.4 -0.6**
WET Wettzell 28.84 312 *e*P **P** **20 12 00.9 -0.7**
comp=Z,23nm,1.4s,baz=111,slow=9.0
BRG Berggiesshubel 28.85 316 *i* P **P** **20 12 01.4 -0.3**
BRG comp=Z,22nm,1.2s *e* 20 12 11.5
BRG comp=Z,12nm,1.4s PCP **PcP** **20 15 11.9 +1.1**
BRG comp=Z,12nm,1.2s S **S** **20 16 49.0 -1.7**
comp=Z,630nm,12.3s
comp=N,480nm,12.2s
comp=E,420nm,12.2s
BRG Berggiesshubel 28.85 316 *e*P **P** **20 12 01.4 -0.3**
comp=E,22nm,1.2s,baz=111,slow=9.0
ZCCA Zocca 28.88 302 P **P** **20 12 02.2 +0.2**
WTTA Wattenberg 29.06 308 *i* P **P** **20 12 03.1 -0.7**
comp=E,7.6nm,0.4s,SNR=23
WTTA Wattenberg 29.06 308 *i* PcP **PcP** **20 15 12.5 +0.8**
comp=E,26nm,1.2s,SNR=6.8
WATA Walderalm 29.12 308 *i* P **P** **20 12 03.1 -1.1**
comp=E,8.2nm,0.5s,SNR=24
WATA Walderalm 29.12 308 *i* PcP **PcP** **20 15 12.5 +0.8**
comp=E,22nm,1.0s,SNR=8.4
FBE Freiberg 29.21 316 *e*P **P** **20 12 04.8 -0.1**
comp=E,22nm,1.6s,baz=111,slow=9.0
KURBB Kurchatov Arra 29.25 45 P **P** **20 12 06.7 +1.5**
comp=E,36nm,0.8s,baz=252,slow=9.0,SNR=191
KURBB PcP **PcP** **20 15 12.2 +0.4**
comp=E,6.2nm,0.8s,baz=253,slow=3.2,SNR=6.1
KURBB ScP **ScP** **20 18 52.4 0.0**
comp=E,4.0nm,1.0s,baz=258,slow=4.2,SNR=9.2
VLC Villacollemand 29.27 301 P **P** **20 12 04.5 -1.0**
VLC IAmb IAmb 20 12 24.7
comp=Z,63nm,1.2s
SQTA Sankt Quirin 29.33 308 *i* P **P** **20 12 05.2 -0.9**
comp=Z,14nm,0.4s,SNR=26
SQTA Sankt Quirin 29.33 308 *i* PcP **PcP** **20 15 13.2 +1.0**
comp=Z,16nm,0.8s,SNR=7.1
KURK Kurchatov 29.34 45*c i*P **P** **20 12 07.3 +1.3**
KURK pmax pmax
comp=Z,44nm,0.7s
KURK Kurchatov 29.34 45 P **P** **20 12 06.4 +0.4**
KURK IAmb IAmb 20 12 08.6
comp=Z,53nm,0.9s
KURK **PcP** **20 15 12.4 +0.4**
KURK **ScP** **20 18 51.9 -0.8**
PRMA PARMA 29.41 303 P **P** **20 12 06.9 +0.1**
PRMA IAmb IAmb 20 12 15.3
comp=Z,98nm,1.1s
SALO Salr 29.43 304 P **P** **20 12 06.4 -0.5**
SALO IAmb IAmb 20 12 14.1
comp=Z,68nm,1.1s
MOTA Moosalm 29.43 308 *i* P **P** **20 12 05.8 -1.3**
comp=Z,17nm,0.6s,SNR=18
MOTA Moosalm 29.43 308 *i* PcP **PcP** **20 15 12.1 -0.5**
comp=Z,12nm,1.2s,SNR=5.6
ROTZ Rotzenmuhle 29.46 313 *e*P **P** **20 12 07.3 +0.2**
comp=Z,102nm,1.5s,baz=111,slow=9.0
NKC Novy Kostel 29.48 314 *e*P **P** **20 12 07.5 +0.1**
NKC *e* 20 12 19.1
NKC MLR MLR
comp=Z,400nm,13.2s
NKC Novy Kostel 29.48 314 *e*P **P** **20 12 07.5 +0.1**
NKC *ex* x 20 12 19.1
NKC AMS AMS 20 26 40.0
comp=Z,400nm,13.2s
FUR Furstenfeldbru 29.54 310 *e*P **P** **20 12 07.6 -0.3**
comp=Z,133nm,1.4s,baz=111,slow=9.0
WERN Wernitzgruen 29.55 314 *e*P **P** **20 12 08.1 +0.1**
comp=Z,26nm,1.3s,baz=111,slow=9.0
CLL Collm 29.57 316⇑ *i*P **P** **20 12 06.9 -1.2**
comp=Z,28nm,1.2s
CLL *e* 20 12 19.0
CLL *e*PcP **PcP** **20 15 13.0 +0.4**
CLL *e*S **S** **20 17 05.0 +3.0**
CLL *e* 20 17 34.0
CLL Collm 29.57 316⇑ *i*P **P** **20 12 06.9 -1.2**
CLL *e* 20 15 13.0
CLL *e*S **S** **20 17 05.0 +3.0**
CLL pmax pmax
comp=Z,28nm,1.2s
CLL Collm 29.57 316 *e*P **P** **20 12 07.8 -0.2**
comp=Z,28nm,1.2s,baz=111,slow=9.0
CLL Collm 29.57 316 P **P** **20 12 07.2 -0.8**
FETA Feichten 29.59 307 *i* P **P** **20 12 07.8 -0.8**
SNR=19
FETA Feichten 29.59 307 *i* PcP **PcP** **20 15 14.1 +1.1**
comp=Z,18nm,0.9s,SNR=11
MANZ Manzenberg 29.60 314 *e*P **P** **20 12 08.5 +0.1**
comp=Z,96nm,2.2s,baz=111,slow=9.0
GUNZ Gunzen 29.60 314 *e*P **P** **20 12 08.2 -0.2**
comp=Z,16nm,1.5s,baz=111,slow=9.0
RUE Ruedersdorf 29.64 319 *e*P **P** **20 12 08.3 -0.3**
VSL Villasalto 29.68 292 P **P** **20 12 08.8 -0.4**
RETA Reutte 29.69 308 *i* P **P** **20 12 08.5 -0.8**
comp=Z,6.6nm,0.5s,SNR=7.4
RETA Reutte 29.69 308 *i* PcP **PcP** **20 15 14.0 +0.9**
comp=Z,7.7nm,0.7s
PLN Plauen 29.75 314 *e*P **P** **20 12 09.2 -0.5**
comp=Z,7.5nm,1.3s,baz=111,slow=9.0
FUORN Ofenpass-Fuorn 29.81 306 P **P** **20 12 10.1 -0.5**
FUORN PcP **PcP** **20 15 14.2 +0.6**
MSSA Maissana 29.91 302 P **P** **20 12 09.9 -1.4**
MSSA IAmb IAmb 20 12 11.3
comp=Z,57nm,1.1s
KEST Kesra 29.94 284 P **P** **20 12 13.2 +1.6**
comp=Z,21nm,1.1s,baz=4.3,slow=5.3,SNR=10
KEST PcP **PcP** **20 15 15.2 +1.2**
comp=Z,9.1nm,0.9s,baz=240,slow=2.8,SNR=3.8
KEST Kesra 29.94 284 P **P** **20 12 12.5 +0.9**
GRA1 Grafenberg Arr 30.04 313 P **P** **20 12 11.4 -0.9**
GRA1 IAmb IAmb 20 12 13.2
comp=Z,70nm,1.2s
GRF Grafenberg Arr 30.04 313 P **P** **20 12 11.4 -0.9**
GRF pmax pmax
comp=Z,71nm,1.2s
GRF Grafenberg Arr 30.04 313 *e*P **P** **20 12 12.4 +0.1**
comp=Z,94nm,1.3s,baz=111,slow=9.0
GRF *e*L L 20 27 57.3
comp=Z,164nm,20.1s
MOX Moxa 30.13 315 *e*P **P** **20 12 12.7 -0.4**
comp=Z,8.8nm,1.3s,baz=111,slow=9.0
MOX *e*L L 20 25 40.9
comp=Z,189nm,21.2s
UBR Ueberruh 30.17 308 *e*P **P** **20 12 12.8 -0.7**
comp=Z,52nm,1.4s,baz=111,slow=9.0
DAVA Damuels 30.22 307 *i* P **P** **20 12 13.0 -1.1**
comp=Z,18nm,0.4s,SNR=22
DAVA Damuels 30.22 307 *i* PcP **PcP** **20 15 15.7 +1.1**
comp=Z,14nm,0.9s,SNR=5.2
NEUB Neuenburg 30.24 316 *e*P **P** **20 12 13.7 -0.3**
comp=Z,24nm,0.9s,baz=111,slow=9.0
MAKZ Makanchi 30.27 54 P **P** **20 12 15.1 +0.7**
MAKZ pmax pmax
comp=Z,65nm,1.3s
MAKZ Makanchi 30.27 54 P **P** **20 12 15.1 +0.7**
MAKZ IAmb IAmb 20 12 17.8
comp=Z,65nm,1.3s
TUE Stuetta 30.40 306 P **P** **20 12 14.7 -1.0**
MK31 Makanchi Array 30.48 54 P **P** **20 12 17.0 +0.8**
MK31 pmax pmax
comp=Z,42nm,1.0s
MK31 Makanchi Array 30.48 54 P **P** **20 12 17.0 +0.8**
MK31 IAmb IAmb 20 12 19.4
comp=Z,42nm,1.0s
MKAR Makanchi Array 30.48 54 P **P** **20 12 17.4 +1.3**
comp=Z,39nm,0.8s,baz=249,slow=7.1,SNR=287
MKAR LR LR 20 27 38.6
comp=Z,109nm,18.9s,baz=258,slow=43
FIA1 FINESS Array S 30.53 341 P **P** **20 12 15.2 -1.1**
FINES FINESS Array B 30.53 341 P **P** **20 12 15.7 -0.6**
comp=Z,24nm,1.0s,baz=140,slow=10.0,SNR=24
FINES PcP **PcP** **20 15 15.0 +0.1**
comp=Z,8.1nm,0.7s,baz=111,slow=10,SNR=4.2
TMCR Tamitsa 30.87 353 *e*P **P** **20 12 18.9 -0.4**
TMCR pmax pmax
comp=Z,2.0nm,0.6s
STU Stuttgart 31.04 310 *e*P **P** **20 12 19.9 -1.2**
comp=Z,38nm,1.5s,baz=111,slow=9.0
UBBA Unterbreizbach 31.15 314 *e*P **P** **20 12 22.0 +0.1**
comp=Z,31nm,1.8s,baz=111,slow=9.0
ASSE Asse, Remlinge 31.23 317 *e*P **P** **20 12 22.4 -0.2**
comp=Z,46nm,1.9s,baz=111,slow=9.0
CLZ Clausthal 31.29 316 *e*P **P** **20 12 23.5 +0.1**
comp=Z,34nm,0.9s,baz=111,slow=9.0
CMAH Djebel Manchou 31.38 286 P **P** **20 12 25.6 +1.2**
GTTG Gottingen 31.42 315 *e*P **P** **20 12 24.6 +0.2**
comp=Z,31nm,1.3s,baz=111,slow=9.0
BFO Black Forest 31.48 309 P **P** **20 12 24.3 -0.7**
BFO pmax pmax
comp=Z,18nm,1.1s
BFO Black Forest 31.48 309 *e*P **P** **20 12 25.8 +0.7**
comp=Z,20nm,1.1s,baz=111,slow=9.0
BFO Black Forest 31.48 309 P **P** **20 12 24.3 -0.7**
SUF Sumiainen 31.58 343 P **P** **20 12 25.6 -0.1**
SUF pmax pmax
comp=Z,61nm,1.1s
NRDL Niedersach Rie 31.69 317 *e*P **P** **20 12 27.3 +0.6**
comp=Z,28nm,1.1s,baz=111,slow=9.0
SENIN Lac Senin/Sane 31.77 305 P **P** **20 12 26.5 -1.3**
SENIN IAmb IAmb 20 12 28.4
comp=Z,106nm,1.9s
SENIN **PcP** **20 15 18.7 -0.1**
TNS Taunus Mts 31.91 312 *e*P **P** **20 12 28.5 -0.3**
comp=Z,61nm,1.6s,baz=111,slow=9.0
BNI Bardonecchia 32.01 302 P **P** **20 12 29.2 -0.6**
BNI **S** **20 17 38.8 -1.8**
BSEG Bad Segeberg 32.14 320 *e*P **P** **20 12 31.3 +0.6**

comp=Z,40nm,1.0s,baz=111,slow=9.0
ECH Echery 32.22 308 P **P** **20 12 29.8 -1.7**
ECH pmax pmax
comp=Z,44nm,1.2s
ECH Echery 32.22 308 P **P** **20 12 29.8 -1.7**
ECH lAmb lAmb 20 12 32.2
comp=Z,44nm,1.2s
PYUN Piuthan 32.27 90 *e*P **P** **20 12 33.2 +0.8**
comp=Z,47nm,0.6s
DFRA Djebel Bou Aff 32.63 287 P P 20 12 28.0 -7.3
AHRW Bad Neuenahr-A 32.84 313 *e*P **P** **20 12 37.1 +0.2**
comp=Z,43nm,1.3s,baz=111,slow=9.0
KOLN Koldanda 32.88 90 *e*P **P** **20 12 38.2 +0.4**
comp=Z,54nm,0.8s
IBBN Ibbenburen 32.97 316 *e*P **P** **20 12 39.0 +1.0**
comp=Z,84nm,1.4s,baz=111,slow=9.0
BUG Bochum--Univer 32.98 314 *e*P **P** **20 12 38.5 +0.4**
comp=Z,49nm,1.2s,baz=111,slow=9.0
SET Setif 33.05 286 P **P** **20 12 40.5 +1.5**
WLF Walferdange 33.19 311 P **P** **20 12 38.8 -1.2**
comp=Z,33nm,1.2s
WLF Walferdange 33.19 311 P **P** **20 12 38.3 -1.7**
WLF pmax pmax
comp=Z,60nm,1.2s
WLF Walferdange 33.19 311 *e*P **P** **20 12 39.3 -0.6**
comp=Z,50nm,1.1s,baz=111,slow=9.0
WLF Walferdange 33.19 311 P **P** **20 12 38.3 -1.7**
WLF lAmb lAmb 20 12 40.7
comp=Z,60nm,1.2s
BHOU Houvegnez 33.45 312 P **P** **20 12 42.1 -0.2**
BHOU pP **pP** **20 12 46.8 -1.5**
HYB Hyderabad 33.51 111 *i* P **P** **20 12 44.0 +0.9**
MEM Membach 33.52 312 P **P** **20 12 40.0 -2.8**
MEM pP **pP** **20 12 47.2 -1.7**
SSB Saint Sauveur 33.54 303 P **P** **20 12 41.4 -1.7**
SSB pmax pmax
comp=Z,32nm,0.9s
SSB Saint Sauveur 33.54 303 P **P** **20 12 41.4 -1.7**
SSB lAmb lAmb 20 12 42.9
comp=Z,32nm,0.9s
GKN Gorkha 33.67 89 *e*P **P** **20 12 44.9 +0.3**
comp=Z,124nm,0.7s
HFS Hagfors 33.74 331 P **P** **20 12 44.2 -0.5**
baz=133,slow=10.0
BSTI Sart Tilman 33.78 312 P **P** **20 12 44.6 -0.5**
BSTI pP **pP** **20 12 49.8 -1.4**
MUD Monsted U'grnd 33.83 323 *i* P **P** **20 12 46.2 +0.8**
comp=Z,88nm,1.0s
MUD Monsted U'grnd 33.83 323 *i* P **P** **20 12 46.2 +0.8**
MUD pmax pmax
comp=Z,88nm,1.0s
WMQ Urumqi 33.87 60 *e*P **P** **20 12 47.5 +1.5**
WMQ pP sP 20 12 54.8 +0.1
WMQ SS SS 20 20 15.9 -20
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ pmax pmax
comp=Z,130nm,3.7s
WMQ LR LR
comp=Z,210nm,15.3s
WMQ LR LR
comp=Z,79nm,15.3s
BCLA Clavier 33.91 312 ⇑P **P** **20 12 45.5 -0.7**
BCLA pP **pP** **20 12 50.8 -1.4**
BCLA PnPn **PnPn** **20 13 54.9 -4.1**
BGES Gesves 34.03 312 ⇑P **P** **20 12 44.0 -3.2**
BGES pP **pP** **20 12 51.2 -2.1**
BGES PnPn **PnPn** **20 13 56.4 -4.3**
ZAA0 Zalesovo Array 34.07 42 P **P** **20 12 47.4 -0.1**
ZAA0 lAmb lAmb 20 12 49.0
comp=Z,49nm,0.8s
ZALV Zalesovo Beam 34.07 42 P **P** **20 12 48.0 +0.5**
comp=Z,22nm,0.3s,baz=262,slow=9.0,SNR=139
ZALV LR LR 20 29 31.2
comp=Z,429nm,19.6s,baz=248,slow=41
DMN Daman 34.20 89 *e*P **P** **20 12 49.9 +0.6**
comp=Z,112nm,0.9s
BMRD Maredsous 34.21 312 P **P** **20 12 48.4 -0.4**
comp=Z,24nm,1.4s
DOU Dourbes 34.27 311 ⇑P **P** **20 12 48.9 -0.4**
DOU PnPn **PnPn** **20 14 02.6 -1.1**
KKN Kakani 34.28 89 *e*P **P** **20 12 50.6 +0.7**
DGZ Jazzator, Alta 34.44 50*c i*P **P** **20 12 52.5 +1.5**
DGZ pmax pmax
comp=Z,60nm,0.9s
PKI Pulchoki 34.46 89 *e*P **P** **20 12 52.0 +0.4**
SNF Seneffe 34.56 312 P **P** **20 12 52.1 +0.3**
CFF Clermont-Ferra 34.59 303 P **P** **20 12 51.6 -0.5**
CFF pmax pmax
comp=Z,57nm,0.8s
APA Apatity 34.67 352 ⇓*i*P **P** **20 12 50.0 -2.5**
APA *i* 20 14 05.5
APA *i* S **S** **20 18 13.0 -8.0**
APA pmax pmax
comp=Z,58nm,1.0s
APA MLR MLR
comp=Z,400nm,18.0s
LVZ Lovozero 34.84 353 ⇓*e*P **P** **20 12 54.2 +0.1**
LVZ pmax pmax
comp=Z,55nm,1.3s
LVZ Lovozero 34.84 353 P **P** **20 12 53.0 -1.2**
LVZ lAmb lAmb 20 12 58.5
comp=Z,31nm,0.8s
OSL Oslo 34.85 330 *e*P **P** **20 12 53.5 -0.7**
NC602 NORSAR Array S 34.96 331 P **P** **20 12 53.5 -1.7**
NC602 NORSAR Array S 34.96 331 *e*P **P** **20 12 54.6 -0.6**
JIRN Jiri 35.08 89 *e*P **P** **20 12 58.0 +1.0**
comp=Z,237nm,0.7s
NC405 NORSAR Array S 35.11 332 P **P** **20 12 55.1 -1.4**
NC405 lAmb lAmb 20 12 56.5
comp=Z,39nm,0.8s
KONO Kongsberg 35.18 329 ⇓*e*P **P** **20 12 56.4 -0.7**
KONO pmax pmax
comp=Z,36nm,1.3s
KONO Kongsberg 35.18 329 P **P** **20 12 56.0 -1.1**
KONO Kongsberg 35.18 329 *e*P **P** **20 12 54.6 -2.5**
NB201 NORSAR Array S 35.24 331 P **P** **20 12 56.3 -1.3**
NB2 NORSAR Subarra 35.27 331 P **P** **20 12 56.3 -1.6**
comp=Z,15nm,0.8s,baz=124,slow=8.6
NB2 NORSAR Subarra 35.27 331 P **P** **20 12 56.3 -1.6**
comp=Z,15nm,0.8s,baz=124,slow=8.6
NOA NORSAR Array B 35.27 331 P **P** **20 12 56.5 -1.4**
comp=Z,9.4nm,0.7s,baz=125,slow=8.6,SNR=41
NOA PcP **PcP** **20 15 28.1 -0.1**
comp=Z,4.4nm,0.8s,baz=106,slow=3.6,SNR=4.1
NOA LR LR 20 29 13.4
comp=Z,256nm,21.4s,baz=130,slow=40
NAO01 NORSAR Array S 35.29 331 P **P** **20 12 56.9 -1.1**
NAO01 lAmb lAmb 20 12 58.0
comp=Z,49nm,0.9s
NC303 NORSAR Array S 35.31 332 P **P** **20 12 56.8 -1.4**
NC303 lAmb lAmb 20 14 01.6
comp=Z,98nm,1.6s
CLF Chambon-Foret 35.42 307 P **P** **20 12 57.9 -1.3**
CLF lAmb lAmb 20 12 59.6
comp=Z,69nm,1.3s
NBO00 NORSAR Array S 35.44 331 P **P** **20 12 58.2 -1.2**
KMBO Kilima Mbogo 35.57 195 P **P** **20 13 03.8 +2.7**
comp=Z,2.2nm,0.6s,baz=31,slow=12,SNR=6.5
KMBO Kilima Mbogo 35.57 195 P **P** **20 13 03.2 +2.1**
NC204 NORSAR Array S 35.58 332 P **P** **20 12 59.4 -1.2**
NC204 lAmb lAmb 20 13 29.6
comp=Z,104nm,1.9s
RAMN Ramite 35.67 90 *e*P **P** **20 13 02.2 +0.2**
comp=Z,96nm,0.7s
LFF La Frestale 36.20 302 *e*P **P** **20 13 04.9 -1.1**
LFF pmax pmax
comp=Z,28nm,0.6s
SKAR Skarslia 36.27 330 *e*P **P** **20 13 06.5 0.0**
ODAN Odare 36.36 89 *e*P **P** **20 13 07.9 0.0**
comp=Z,72nm,0.9s
TAPN Taplejung 36.45 89 *e*P **P** **20 13 09.9 +1.1**
comp=Z,425nm,1.1s
BLS5 Blasjo 36.47 327 *e*P **P** **20 13 08.4 +0.2**
ODD1 Odda 36.62 328 *e*P **P** **20 13 13.5 +4.0**
DOMB Dombas 36.69 332 *e*P **P** **20 13 09.9 -0.1**
TAM Tamanrasset 36.91 264 P **P** **20 13 13.6 +1.1**
TAM pmax pmax
comp=Z,46nm,1.2s
TAM Tamanrasset 36.91 264 P **P** **20 13 13.6 +1.1**
KMY Karmoy 36.93 326 *e*P **P** **20 13 12.7 +0.7**
MBAR Mbarara 36.95 206 P **P** **20 13 13.8 +1.0**
comp=Z,4.8nm,0.8s,baz=344,slow=12,SNR=4.8
MBAR Mbarara 36.95 206 P **P** **20 13 13.5 +0.7**
MBAR pmax pmax
comp=Z,30nm,1.6s
MBAR Mbarara 36.95 206 P **P** **20 13 13.5 +0.7**
NSS Namsos 37.12 336 *e*P **P** **20 13 12.8 -0.7**
WACR West Acre 37.27 315 *e*P **P** **20 13 14.7 -0.3**
HYA Hoyanger 37.41 329 *e*P **P** **20 13 16.1 +0.1**
BER Bergen 37.41 328 *e*P **P** **20 13 15.4 -0.6**
MOR8 Moi Rana 37.45 340 *e*P **P** **20 13 15.7 -0.7**
ASK Askoy 37.52 328 *e*P **P** **20 13 12.5 -4.5**
KTK1 Kautokeino 37.58 347 *e*P **P** **20 13 17.2 -0.2**
KEV Kevo 37.59 349 P **P** **20 13 17.1 -0.3**
KEV pmax pmax
comp=Z,129nm,1.7s
KEV Kevo 37.59 349 P **P** **20 13 17.1 -0.3**
KEV lAmb lAmb 20 13 18.5
comp=Z,129nm,1.7s
ARCES ARCESS Array B 37.63 348 P **P** **20 13 17.4 -0.5**
comp=Z,37nm,0.9s,baz=157,slow=6.5,SNR=74
ARCES PP **PP** **20 14 39.7 -4.0**
comp=Z,23nm,1.0s,baz=144,slow=10,SNR=5.1
ARCES PcP **PcP** **20 15 36.2 +1.2**
comp=Z,9.8nm,0.8s,baz=180,slow=3.6,SNR=2.6
ARCES LR LR 20 30 09.0
comp=Z,585nm,19.3s,baz=170,slow=38
ARE0 ARCESS Array S 37.63 348 P **P** **20 13 17.1 -0.8**
ARE0 ARCESS Array S 37.63 348 *e*P **P** **20 13 17.5 -0.4**
N2ST Straumen 37.98 342 *e*P **P** **20 13 20.6 -0.2**
KONS Konsvik 38.07 339 *e*P **P** **20 13 20.9 -0.7**
FAUS Fauske 38.09 341 *e*P **P** **20 13 21.1 -0.7**
FOO Floro 38.10 330 *e*P **P** **20 13 21.5 -0.3**
WOL Wolverton 38.13 312 *e*P **P** **20 13 22.1 -0.3**
NBB05 Inndyr 38.18 340 *e*P **P** **20 13 22.2 -0.3**
NBB30 Finnes 38.22 340 *e*P **P** **20 13 22.8 0.0**
N2TV T¥rnvik 38.27 342 *e*P **P** **20 13 22.9 -0.3**
N2IH Innhavet 38.35 342 *e*P **P** **20 13 23.6 -0.3**
CWF Charnwood Fore 38.43 314 *e*P **P** **20 13 23.8 -1.0**
CWF lAmb lAmb 20 13 24.7
comp=Z,53nm,0.8s
JSA Saint Aubin 38.47 308 *e*P **P** **20 13 24.0 -1.2**
JSA lAmb lAmb 20 13 24.8
comp=Z,100nm,1.0s
GDLE Glaisdale, N Y 38.49 317⇑*e*P **P** **20 13 24.9 -0.3**
GDLE lAmb lAmb 20 13 25.7
comp=Z,109nm,0.8s
STEI Steigen 38.50 342 *e*P **P** **20 13 24.9 -0.3**
SWN1 Swindon 38.52 312 *e*P **P** **20 13 25.6 +0.1**
SWN1 lAmb lAmb 20 13 26.2
comp=Z,108nm,0.7s
LSA Lhasa 38.55 83 P **P** **20 13 27.4 +0.7**
LSA pmax pmax
comp=Z,240nm,1.1s
LSA Lhasa 38.55 83 P **P** **20 13 27.0 +0.4**
LSA Lhasa 38.55 83 P **P** **20 13 26.8 +0.2**
LSA pmax pmax
comp=Z,68nm,1.1s
LSA Lhasa 38.55 83 P **P** **20 13 26.8 +0.2**
LSA lAmb lAmb 20 13 28.8
comp=Z,68nm,1.1s
LBWR Ladybower, Pea 38.80 315⇑*e*P **P** **20 13 27.0 -0.9**
LBWR lAmb lAmb 20 13 28.9
comp=Z,73nm,0.9s
HPK Haverah Park 38.85 316 *e*P **P** **20 13 27.9 -0.5**
HAMF Hammerfest 38.91 348 *e*P **P** **20 13 28.2 -0.3**
TRO Tromso 38.95 345 *e*P **P** **20 13 28.4 -0.6**
OLDB Oldbury-Upon-S 39.01 312 *e*P **P** **20 13 29.1 -0.5**
OLDB lAmb lAmb 20 13 29.7
comp=Z,116nm,0.9s
SESP Santiago Espad 39.06 291 P **P** **20 13 30.7 +0.2**
SNR=15
EDMD Edmundbyers 39.23 317 *e*P **P** **20 13 31.0 -0.5**
EDMD lAmb lAmb 20 13 31.9
comp=Z,73nm,0.9s
MCH1 Michaelchurch 39.33 313⇑*e*P **P** **20 13 31.5 -0.9**
MCH1 lAmb lAmb 20 13 32.2
comp=Z,108nm,0.8s
HLM1 Long Mynd 39.34 314⇑*e*P **P** **20 13 31.2 -1.2**
HLM1 lAmb lAmb 20 13 32.6
comp=Z,79nm,0.9s
TAF Taforalt 39.57 286 P **P** **20 13 36.2 +1.5**
SNR=10
FOEL Foel Wylfa 39.59 314 *e*P **P** **20 13 34.4 -0.1**
FOEL lAmb lAmb 20 13 35.1
comp=Z,113nm,0.9s
JBK JBK 39.80 285 P **P** **20 13 38.0 +1.2**
SNR=21
KESW Keswick, Cumbr 39.83 317 *e*P **P** **20 13 36.2 -0.3**
KESW lAmb lAmb 20 13 37.1
comp=Z,122nm,0.8s
ESY Stoneypath 39.84 319⇑*e*P **P** **20 13 36.2 -0.3**
LLW Llanuwychllyn 39.86 314⇑*e*P **P** **20 13 36.3 -0.5**
LLW lAmb lAmb 20 13 37.1
comp=Z,26nm,0.8s
ESBB Sonseca Array 39.94 293 P **P** **20 13 36.9 -0.8**
ESDC Sonseca Array 39.94 293 P **P** **20 13 37.4 -0.4**
comp=Z,11nm,0.7s,baz=77,slow=8.4,SNR=88
ESDC PcP **PcP** **20 15 43.6 +0.7**
comp=Z,6.6nm,0.8s,baz=48,slow=3.2,SNR=10
ESDC LR LR 20 32 36.8
comp=Z,120nm,18.1s,baz=100,slow=40
EKA Eskdalemuir Ar 40.01 318 P **P** **20 13 37.5 -0.5**
comp=Z,28nm,0.7s,baz=105,slow=8.8,SNR=78
EKA PcP **PcP** **20 15 43.6 +0.9**
comp=Z,7.3nm,0.8s,baz=99,slow=4.5,SNR=6.1
ESK Eskdalemuir 40.03 318⇑*e*P **P** **20 13 37.2 -1.0**
ESK lAmb lAmb 20 13 38.3
comp=Z,49nm,0.8s
ESK Eskdalemuir 40.03 318 P **P** **20 13 37.2 -1.0**
ESK pmax pmax
comp=Z,49nm,0.9s
ESK Eskdalemuir 40.03 318 P **P** **20 13 37.2 -1.0**
ESK lAmb lAmb 20 13 38.5
comp=Z,49nm,0.8s
EBL Broad Law 40.04 319⇑*e*P **P** **20 13 38.1 -0.1**
EDI Edinburgh 40.15 319⇑*e*P **P** **20 13 38.8 -0.3**
EDI lAmb lAmb 20 13 40.6
comp=Z,74nm,0.7s
PAB San Pablo 40.25 293 P **P** **20 13 39.8 -0.5**
PAB pmax pmax
comp=Z,44nm,1.3s
PAB San Pablo 40.25 293 P **P** **20 13 39.8 -0.5**
WPS Cemaes, Angles 40.44 315 *e*P **P** **20 13 40.7 -0.8**
WPS lAmb lAmb 20 13 42.0
comp=Z,66nm,1.1s
YRC Rhoscolyn 40.46 314 *e*P **P** **20 13 41.2 -0.5**
ELO Logie Almond 40.56 320⇑*e*P **P** **20 13 41.9 -0.7**
MCD Coleburn Disti 40.58 321⇑*e*P **P** **20 13 42.4 -0.3**
SHL Shillong 40.59 89 P **P** **20 13 42.6 -0.8**
SHL pmax pmax
comp=Z,83nm,0.8s
SHL Shillong 40.59 89 P **P** **20 13 42.6 -0.8**
SHL lAmb lAmb 20 13 44.0
comp=Z,83nm,0.8s
IOMK Kirk Michael 40.61 316 *e*P **P** **20 13 42.2 -0.8**
IOMK lAmb lAmb 20 13 43.4
comp=Z,126nm,0.8s
WIM Isle of Man 40.65 316⇑*e*P **P** **20 13 42.9 -0.4**
INVG Invergeldie, C 40.73 319⇑*e*P **P** **20 13 43.2 -0.7**
INVG lAmb lAmb 20 13 44.6
comp=Z,128nm,0.9s
GAL1 Galloway 40.80 317⇑*e*P **P** **20 13 44.4 0.0**
GAL1 lAmb lAmb 20 13 45.1
comp=Z,59nm,0.9s
AKLM AKL 40.80 286 P **P** **20 13 46.1 +1.2**
SNR=7.9
EAB Aberfoyle 40.84 319⇑*e*P **P** **20 13 44.0 -0.9**
PGBU Glenifferbraes 40.84 318 *e*P **P** **20 13 44.7 -0.2**
PGBU lAmb lAmb 20 13 45.5
comp=Z,90nm,0.9s
HORN Hornachuelos 41.22 291 P **P** **20 13 47.6 -0.7**
SNR=35
GMM Mts of Mourne 41.41 316⇑*e*P **P** **20 13 48.8 -0.7**
LAWE Loch Awe, Argy 41.43 319 *e*P **P** **20 13 48.6 -1.1**
LAWE lAmb lAmb 20 13 50.0
comp=Z,83nm,1.2s
DSB Dublin 41.53 314 P **P** **20 13 49.8 -0.8**
DSB lAmb lAmb 20 13 51.2
comp=Z,53nm,0.8s
PALK Pallekele 41.60 121 P **P** **20 13 52.6 +1.1**
comp=Z,23nm,0.8s,baz=67,slow=13,SNR=7.5
PALK Pallekele 41.60 121 P **P** **20 13 52.4 +0.8**
PALK pmax pmax
comp=Z,31nm,0.9s
PALK Pallekele 41.60 121 P **P** **20 13 52.4 +0.8**
CLGH Cloghs, Cushen 41.63 317 *e*P **P** **20 13 50.5 -0.8**
CLGH lAmb lAmb 20 13 51.8
comp=Z,115nm,0.9s
KAC Achnashellach 41.63 321⇑*e*P **P** **20 13 50.6 -0.7**
PBRG Braganca 41.78 297⇑*i*P **P** **20 13 52.1 -0.7**
comp=Z,59nm,1.5s
LCRM LCR 41.80 285 P **P** **20 13 55.0 +1.7**
SNR=19
MDT Midelt 41.83 283 P **P** **20 13 54.0 +0.6**
SNR=18
SICH Sidi Chahed 42.07 285 P **P** **20 13 57.0 +1.7**
SNR=17
MVO Moncorvo 42.07 296⇑*i*P **P** **20 13 54.6 -0.6**
comp=Z,125nm,1.1s
MVO *e*S **S** **20 20 19.6 +6.0**
MVO Moncorvo 42.07 296 *e*LR LR 20 31 19.3
comp=Z,89nm,18.0s
RSA Sarsar 42.28 287 P **P** **20 13 57.0 0.0**
SNR=14
GOLM Goulmima 42.41 282 P **P** **20 14 00.0 +1.8**
SNR=11
IDGL Inch Island, C 42.42 317 *e*P **P** **20 13 57.3 -0.5**
IDGL lAmb lAmb 20 13 58.5
comp=Z,52nm,0.8s
NRIK Noril'sk 42.52 20 P **P** **20 13 59.8 +1.4**
comp=Z,82nm,0.9s,baz=228,slow=5.4,SNR=61
MTE Manteigas 42.56 295⇑*e*P **P** **20 13 59.2 -0.1**
comp=Z,109nm,1.3s
MTE *e*S **S** **20 20 24.4 +3.5**
MTE Manteigas 42.56 295 *e*LR LR 20 33 15.6
comp=Z,119nm,16.0s
MTE Manteigas 42.56 295 P **P** **20 13 58.7 -0.6**
MTE lAmb lAmb 20 14 04.9
comp=Z,79nm,1.2s
PVRL Vila Real 42.57 296⇑*e*P **P** **20 13 59.0 -0.3**
comp=Z,119nm,1.1s
LEWI Lewis, Hebride 42.59 321 *e*P **P** **20 13 58.7 -0.4**
LEWI lAmb lAmb 20 13 59.6
comp=Z,76nm,1.1s
PCBR Castelo Branco 42.60 294⇑*e*P **P** **20 13 59.3 -0.2**
comp=Z,106nm,1.1s
PMRV Marv??o 42.60 294⇑*i*P **P** **20 13 58.5 -1.0**
comp=Z,49nm,1.1s
PMRV *e*S **S** **20 20 15.5 -5.9**
PCAB Cabril 42.74 297 *e*P **P** **20 14 00.7 0.0**
comp=Z,109nm,1.0s
PVIS Viseu 42.78 296 *e*P **P** **20 14 01.3 +0.3**
comp=Z,93nm,1.3s
PGAV Gavieira, Arco 42.89 297⇑*i*P **P** **20 14 02.0 +0.1**
comp=Z,202nm,1.1s
PGAV *e*S **S** **20 20 26.8 +1.1**
PGAV Gavieira, Arco 42.89 297 *e*LR LR 20 32 57.7
comp=Z,140nm,16.0s
BJO1 Bjornoya 42.95 350 *e*P **P** **20 14 01.6 -0.2**
GTA Gaotai 43.21 66 ⇑P **P** **20 14 05.8 +1.2**
GTA pP pP 20 14 10.8 -0.1
GTA sP sP 20 14 14.6 +1.2
GTA PcP **PcP** **20 15 53.1 -0.7**
GTA ScP **ScP** **20 19 42.8 -1.2**
GTA PcS **PcS** **20 19 44.3 -2.1**
GTA S **S** **20 20 34.3 +3.7**
GTA sS sS 20 20 41.8 +1.1
GTA SS **SS** **20 23 41.4 -2.2**
GTA pmax pmax
comp=Z,23nm,1.0s
GTA pmax pmax
comp=Z,99nm,7.6s
GTA LR LR
comp=Z,230nm,18.1s
GTA LR LR
comp=Z,240nm,16.2s
GTA LR LR
comp=Z,190nm,15.9s
PBEJ Beja 43.22 292⇑*e*P **P** **20 14 03.9 -0.6**
comp=Z,72nm,1.4s
EVO Evora 43.23 292⇑*e*P **P** **20 14 03.8 -0.8**
comp=Z,23nm,1.3s
MOY Mondy 43.23 48 *e*P **P** **20 14 06.3 +1.7**
MOY pmax pmax
comp=Z,69nm,1.7s
PTO Porto 43.25 296 *e*P **P** **20 14 05.4 +0.7**
comp=Z,130nm,1.2s
ZHG ZHG 43.30 285 P **P** **20 14 06.0 +0.7**
SNR=16
PBDV Barranco-do-Ve 43.42 291 *e*P **P** **20 14 05.5 -0.7**
PCVE Castro Verde 43.43 291⇑*i*P **P** **20 14 05.3 -0.9**
comp=Z,48nm,1.4s
PSBE So Bento 43.66 294⇑*i*P **P** **20 14 07.9 -0.2**
comp=Z,53nm,1.7s
PNCL Nicolau / Gran 43.71 292 *e*P **P** **20 14 08.4 -0.1**
comp=Z,38nm,1.3s
HOPEN Hopen 43.96 353 *e*P **P** **20 14 10.9 +0.9**
PTEO Sao Teotonio 43.98 291 *e*P **P** **20 14 10.6 0.0**
comp=Z,68nm,1.5s
OUZM OUZ 44.13 281 P **P** **20 14 13.0 +0.9**
SNR=12
PMAFR Mafra 44.13 293⇑*i*P **P** **20 14 11.6 -0.3**
comp=Z,97nm,1.4s
PFVI Vila Bisbo 44.15 291 *e*P **P** **20 14 12.0 0.0**
PFVI Vila Bisbo 44.15 291 P **P** **20 14 11.0 -1.0**
PFVI lAmb lAmb 20 14 12.6
comp=Z,38nm,0.9s
ZAK Zakamensk 44.66 50 *e*P **P** **20 14 17.5 +1.4**
ZAK pmax pmax
comp=Z,31nm,1.2s
TLY Talaya 44.88 48 P **P** **20 14 19.4 +1.6**
comp=Z,15nm,0.9s,baz=254,slow=9.0,SNR=16
TLY Talaya 44.88 48 *e*P **P** **20 14 19.5 +1.8**
TLY pmax pmax
comp=Z,53nm,0.8s
TLY MLR MLR
comp=Z,609nm,12.0s
TLY Talaya 44.88 48 P **P** **20 14 18.6 +0.8**
TOA0 Torodi Ar. Sit 44.94 254 P **P** **20 14 18.5 -0.1**
SNR=7.0
TOA0 P **P** **20 14 18.5 -0.1**
SNR=7.0
TOA0 Torodi Ar. Sit 44.94 254 P **P** **20 14 18.1 -0.4**
TOA0 lAmb lAmb 20 14 23.8
comp=Z,70nm,1.4s
TORD Torodi Ar. Bea 44.94 254 P **P** **20 14 18.0 -0.5**
comp=Z,21nm,0.8s,baz=60,slow=5.7,SNR=70
TORD LR LR 20 35 25.9
comp=Z,125nm,19.3s,baz=45,slow=39
IRK Irkutsk 45.28 48 *e*P **P** **20 14 20.5 -0.3**
IRK pmax pmax
comp=N,135nm,1.0s
HSPB Hornsund (broa 45.50 351 *e*P **P** **20 14 22.5 +0.3**
HSPB Hornsund (broa 45.50 351 *e*P **P** **20 14 22.2 0.0**
SPA0 Spitsbergen Ar 46.36 352 P **P** **20 14 29.3 +0.3**
SONM Songino Array 46.84 54 P **P** **20 14 34.1 +0.8**
comp=N,11nm,0.9s,baz=279,slow=12,SNR=62
SONM ScP **ScP** **20 19 57.8 -1.0**
comp=N,1.6nm,1.0s,baz=298,slow=3.2,SNR=4.0
SONM LR LR 20 35 45.6
comp=N,197nm,19.7s,baz=260,slow=38
LZH Lanzhou 47.05 70 ⇓P **P** **20 14 36.8 +1.6**
LZH pP sP 20 14 43.3 -0.6
LZH sP pP 20 14 45.5 +4.0
LZH PP **PP** **20 16 27.8 +2.0**
LZH pmax pmax
comp=N,68nm,1.2s
LZH pmax pmax
comp=N,120nm,4.9s
LZH LR LR
comp=N,230nm,15.2s
LZH LR LR
comp=N,350nm,17.9s
LZH LR LR
comp=N,380nm,16.3s
ULN Ulaanbaatar 47.28 53*c i*P **P** **20 14 37.6 +0.7**
ULN pmax pmax
comp=Z,76nm,1.0s
ULN Ulaanbaatar 47.28 53 P **P** **20 14 37.5 +0.7**
KBS Kingsbay 47.49 352*ce*P **P** **20 14 37.8 0.0**
KBS pmax pmax
comp=Z,51nm,1.3s
KBS Kingsbay 47.49 352 P **P** **20 14 37.7 0.0**
KBS lAmb lAmb 20 14 39.1
comp=Z,38nm,1.0s
KBS Kingsbay 47.49 352 *e*P **P** **20 14 37.9 0.0**
CD2 Chengdu 48.50 77 P **P** **20 14 46.9 +0.5**
CD2 pmax pmax
comp=Z,50nm,0.7s
CD2 LR LR
comp=Z,370nm,13.7s
CD2 LR LR
comp=Z,280nm,16.2s
CD2 LR LR

comp=Z,300nm,17.1s
CHTO Chiang Mai 49.40 94 P **P** **20 14 52.9 -0.4**
CHTO pmax pmax
comp=Z,48nm,0.8s
CHTO Chiang Mai 49.40 94 P **P** **20 14 52.9 -0.4**
CM31 Chiang Mai Arr 49.57 94 P **P** **20 14 54.0 -0.7**
SNR=20
CM31 Chiang Mai Arr 49.57 94 P **P** **20 14 54.3 -0.3**
CM31 IAmb IAmb 20 14 55.3
comp=Z,33nm,0.8s
CM31 PcP **PcP** **20 16 16.9 +0.7**
CMAR Chiang Mai Arr 49.57 94 P **P** **20 14 54.2 -0.4**
comp=Z,29nm,0.8s,baz=295,slow=8.4,SNR=160
CMAR PcP **PcP** **20 16 17.1 +0.8**
comp=Z,6.1nm,0.8s,baz=284,slow=4.9,SNR=6.1
CMAR PP **PP** **20 16 50.6 +1.7**
comp=Z,7.6nm,0.9s,baz=297,slow=9.3,SNR=4.8
CMAR ScP **ScP** **20 20 09.1 -1.5**
comp=Z,0.6nm,0.4s,baz=305,slow=5.0,SNR=4.4
CMAR LR LR 20 40 18.7
comp=Z,133nm,19.4s,baz=324,slow=42
KMI Kunming 49.79 84⇑*i*P **P** **20 14 56.1 -0.4**
KMI PP **PP** **20 16 52.9 +1.7**
KMI S **S** **20 22 00.4 -4.9**
KMI sS pS 20 22 12.8 -0.3
KMI pmax pmax
comp=Z,20nm,1.0s
KMI pmax pmax
comp=Z,140nm,3.5s
KMI LR LR
comp=Z,190nm,17.5s
KMI LR LR
comp=Z,160nm,16.4s
KMI LR LR
comp=Z,190nm,20.8s
KMI Kunming 49.79 84 P **P** **20 14 56.2 -0.3**
KMI pmax pmax
comp=Z,22nm,0.8s
KMI Kunming 49.79 84 P **P** **20 14 56.2 -0.3**
KMI IAmb IAmb 20 14 58.3
comp=Z,22nm,0.8s
BTO Baotou 50.64 62 *e*P **P** **20 15 01.3 -1.3**
BOD Bodaibo 50.78 40 *e*P **P** **20 15 02.9 -0.4**
BOD pmax pmax
comp=Z,40nm,1.5s
CIT Chita 51.00 47 *e*P **P** **20 15 05.2 +0.1**
CIT *e* 20 15 18.8
CIT *e* 20 17 03.9
CIT pmax pmax
comp=Z,84nm,1.3s
PMPST Porto Santo, M 51.17 288 *e*P **P** **20 15 06.5 -0.1**
comp=Z,131nm,1.5s
PMPS Porto Santo 51.17 288 *e*P **P** **20 15 07.1 +0.5**
comp=Z,114nm,1.4s
LSZ Lusaka 51.52 202 P **P** **20 15 11.1 +1.7**
LSZ pmax pmax
comp=Z,79nm,2.0s
LSZ Lusaka 51.52 202 P **P** **20 15 11.1 +1.7**
LSZ IAmb IAmb 20 15 16.7
comp=Z,79nm,1.9s
XAN Xi'an 51.62 71 ⇑P **P** **20 15 09.9 -0.1**
XAN pmax pmax
comp=Z,98nm,0.9s
XAN pmax pmax
comp=Z,150nm,3.7s
XAN LR LR
comp=Z,290nm,15.2s
XAN LR LR
comp=Z,360nm,19.5s
XAN LR LR
comp=Z,300nm,15.2s
DAG Danmarks Havn 51.67 345⇑*i*P **P** **20 15 09.4 -0.2**
comp=Z,14nm,0.8s
DAG Danmarks Havn 51.67 345 *i*P **P** **20 15 09.5 -0.2**
DAG Danmarks Havn 51.67 345 *i*P **P** **20 15 09.5 -0.2**
PMAR Madeira 51.74 287 *e*P **P** **20 15 11.6 +0.5**
comp=Z,181nm,1.3s
PMOZ Porto Moniz, M 51.94 288 *e*P **P** **20 15 13.5 +1.0**
PBKT Sadao Pong 52.17 95 IAmb IAmb 20 15 15.3
comp=Z,99nm,1.4s
SLVN Son La 52.37 88 IAmb IAmb 20 15 17.3
comp=Z,64nm,1.4s
ABPO Ambohimpanom 52.44 178 P **P** **20 15 17.6 +1.4**
ABPO pmax pmax
comp=Z,22nm,1.0s
ABPO Ambohimpanom 52.44 178 P **P** **20 15 17.6 +1.4**
GYA Guiyang 52.50 81 ⇑P **P** **20 15 16.0 -0.8**
GYA sP sP 20 15 27.9 +2.4
GYA PcP **PcP** **20 16 23.6 -3.6**
GYA S **S** **20 22 46.0 +3.4**
GYA pmax pmax
comp=Z,22nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.5s
GYA LR LR
comp=Z,91nm,13.9s
GYA LR LR
comp=Z,170nm,18.3s
GYA LR LR
comp=Z,210nm,17.5s
NOR Nord 52.92 351⇑*i*P **P** **20 15 18.7 -0.2**
comp=Z,23nm,1.0s
NOR Nord 52.92 351⇑*i*P **P** **20 15 18.7 -0.2**
NOR pmax pmax
comp=Z,23nm,1.0s
DBIC Dimbokro 53.94 252 P **P** **20 15 26.5 -0.8**
DBIC pmax pmax
comp=Z,23nm,0.9s
DBIC Dimbokro 53.94 252 P **P** **20 15 26.5 -0.8**
DBIC IAmb IAmb 20 15 31.9
comp=Z,23nm,0.8s
KIC Kosan Boka 54.04 251 *e*P **P** **20 15 27.3 -0.7**
comp=Z,170nm,1.2s
TIC Toumodi 54.09 252 *e*P **P** **20 15 27.8 -0.6**
LIC Lamto 54.35 252 *e*P **P** **20 15 29.4 -0.9**
comp=Z,243nm,1.4s
BJI Beijing 55.32 62 P **P** **20 15 37.1 +0.1**
BJI S **S** **20 23 18.0 -2.1**
BJI pmax pmax
comp=Z,13nm,0.6s
BJI pmax pmax
comp=Z,50nm,3.5s
BJI LR LR
comp=Z,210nm,20.4s
BJI LR LR
comp=Z,110nm,12.0s
BJT Baijiatuau 55.32 62 PcP **PcP** **20 16 37.0 -0.5**
HIA Hailar 55.36 50 P **P** **20 15 37.2 0.0**
HIA pmax pmax
comp=Z,49nm,1.2s
HIA Hailar 55.36 50 P **P** **20 15 37.2 0.0**
HIA IAmb IAmb 20 15 45.6
comp=Z,49nm,1.2s
BLWY Bulawayo 56.00 200 *i*P **P** **20 15 43.3 +1.2**
BLWY Bulawayo 56.00 200 *i*P **P** **20 15 43.3 +1.2**
SUMG Summit 56.52 339⇑*i*P **P** **20 15 46.0 +0.4**
comp=Z,141nm,1.1s
SUMG Summit 56.52 339⇑*i*P **P** **20 15 46.0 +0.4**
SUMG pmax pmax
comp=Z,140nm,1.1s
SUMG Summit 56.52 339 IAmb IAmb 20 15 47.2
comp=Z,57nm,1.1s
WHN Wuhan 57.15 73 ⇑P **P** **20 15 50.6 +0.4**
WHN S **S** **20 23 36.3 -8.3**
WHN pmax pmax
comp=Z,52nm,1.0s
WHN LR LR
comp=Z,310nm,12.9s
WHN LR LR
comp=Z,410nm,12.5s
WHN LR LR
comp=Z,720nm,16.3s
TIA Tai'an 57.26 66 P **P** **20 15 50.8 -0.1**
TIA pmax pmax
comp=Z,23nm,1.0s
TIA pmax pmax
comp=Z,77nm,3.5s
TIA LR LR
comp=Z,180nm,17.1s
TIA LR LR
comp=Z,140nm,14.2s
TIA LR LR
comp=Z,210nm,16.4s
YAK Yakutsk 58.06 34 *e*P **P** **20 15 55.5 -0.6**
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK Yakutsk 58.06 34 P **P** **20 15 55.6 -0.5**
KULM Kulim 58.09 106 IAmb IAmb 20 15 56.7
comp=Z,32nm,1.0s
KULM PcP **PcP** **20 16 48.5 -0.1**
KULM Kulim 58.09 106 P **P** **20 15 56.0 -1.0**
PSI Prapat 58.22 110 P **P** **20 15 57.9 -0.2**
comp=Z,8.3nm,0.8s,baz=360,slow=2.6,SNR=8.8
PSI Prapat 58.22 110 P **P** **20 15 56.6 -1.5**
PSI pmax pmax
comp=Z,26nm,1.2s
RPSI Rantau Prapat 58.29 110 P **P** **20 15 56.6 -1.7**
QIZ Qiongzhong 58.38 87 P **P** **20 15 58.3 -0.7**
QIZ S **S** **20 24 02.9 +1.9**
QIZ pmax pmax
comp=Z,23nm,0.8s
QIZ LR LR
comp=Z,170nm,18.6s
QIZ LR LR
comp=Z,130nm,16.7s
QIZ LR LR
comp=Z,180nm,21.1s
QIZ Qiongzhong 58.38 87 IAmb IAmb 20 15 59.5
comp=Z,20nm,0.8s
ZEA Zeya 58.80 43 *e*P **P** **20 16 02.2 +0.8**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=Z,400nm,18.0s
IPM Ipoh 58.87 107 P **P** **20 16 01.0 -1.5**
TSUM Tsumeb 59.10 211 P **P** **20 16 05.0 +1.1**
DL2 Dalian 59.68 61 P **P** **20 16 07.8 +0.1**
DL2 pmax pmax
comp=Z,63nm,0.9s
NJ2 Nanjing 60.12 70⇑*i*P **P** **20 16 10.4 -0.5**
NJ2 S **S** **20 24 24.1 +0.8**
NJ2 pmax pmax
comp=Z,32nm,0.9s
NJ2 LR LR
comp=Z,220nm,15.6s
NJ2 LR LR
comp=Z,230nm,14.2s
NJ2 LR LR
comp=Z,140nm,14.7s
HKPS Hong Kong Po S 60.44 82 IAmb IAmb 20 16 14.1
comp=Z,22nm,0.9s
CN2 Changchun 60.69 55 *e*P **P** **20 16 13.4 -1.2**
CN2 pmax pmax
comp=Z,20nm,1.1s
DLV T Lat 60.79 95 IAmb IAmb 20 16 16.5
comp=Z,18nm,0.8s
LBTB Lobatse 61.48 201 *i*P **P** **20 16 20.1 0.0**
LBTB Lobatse 61.48 201 P **P** **20 16 21.3 +1.2**
LBTB pmax pmax
comp=Z,36nm,1.0s
LBTB Lobatse 61.48 201 P **P** **20 16 21.3 +1.2**
LBTB IAmb IAmb 20 16 27.3
comp=Z,36nm,1.0s
LBTB Lobatse 61.48 201 *i*P **P** **20 16 20.1 0.0**
NRS Narsarsuaq 61.68 327 *i*P **P** **20 16 20.7 -0.3**
comp=Z,80nm,0.9s
NRS Narsarsuaq 61.68 327 *i*P **P** **20 16 20.7 -0.3**
NRS pmax pmax
comp=Z,80nm,0.9s
SFJD Kangerlussuaq 61.89 334 P **P** **20 16 21.1 -1.2**
comp=Z,9.4nm,0.6s,baz=73,slow=6.2,SNR=5.0
SFJD Kangerlussuaq 61.89 334 *i*P **P** **20 16 21.8 -0.5**
SFJD Kangerlussuaq 61.89 334 *i*P **P** **20 16 21.8 -0.5**
SFJD Kangerlussuaq 61.89 334 P **P** **20 16 21.8 -0.5**
SFJD IAmb IAmb 20 16 22.9
comp=Z,28nm,1.1s
MYKOM Kota Tinggi 62.73 107 IAmb IAmb 20 16 28.5
MYKOM Kota Tinggi 62.73 107 P **P** **20 16 28.0 -0.7**
comp=Z,25nm,0.9s
KLR Kul'dur 62.88 47 LR LR 20 46 33.8
comp=Z,151nm,18.1s,baz=353,slow=39
KLR Kul'dur 62.88 47*ce*P **P** **20 16 28.6 -0.7**
KLR pmax pmax
comp=Z,16nm,1.3s
IVI Ivigtut 62.92 327 P **P** **20 16 28.8 -0.5**
KS19 Wonju Array Si 64.76 61 P **P** **20 16 41.4 -0.4**
KS19 IAmb IAmb 20 16 42.6
comp=Z,51nm,1.5s
KSRS Korea Array 64.82 61 P **P** **20 16 41.4 -0.8**
comp=Z,4.3nm,0.4s,baz=281,slow=6.8,SNR=30
KSRS LR LR 20 49 19.7
comp=Z,87nm,20.0s,baz=290,slow=40
TJN Taejon 64.85 62*de*P **P** **20 16 41.3 -1.1**
USA0B Ussuriysk Arra 64.93 52 IAmb IAmb 20 16 42.8
comp=Z,30nm,1.1s
USRK Ussuriysk Ar. 64.93 52 P **P** **20 16 41.8 -1.1**
comp=Z,14nm,0.9s,baz=274,slow=5.3,SNR=13
USRK LR LR 20 50 29.9
comp=Z,122nm,19.4s,baz=292,slow=41
BOSA Boshof 64.97 200 P **P** **20 16 44.2 +1.0**
comp=Z,27nm,0.8s,baz=19,slow=6.7,SNR=35
BOSA LR LR 20 46 05.1
comp=Z,159nm,18.1s,baz=23,slow=37
BOSA Boshof 64.97 200 P **P** **20 16 43.9 +0.7**
BOSA pmax pmax
comp=Z,37nm,0.9s
BOSA Boshof 64.97 200 P **P** **20 16 43.9 +0.7**
BOSA IAmb IAmb 20 16 44.9
comp=Z,37nm,0.9s
GRNR Gornyy 65.10 44⇑*i*P **P** **20 16 43.6 -0.3**
GRNR pmax pmax
comp=Z,4.0nm,1.1s
GRNR MLR MLR
comp=E,210nm,13.0s
GRNR MLR MLR
comp=N,120nm,17.0s
TATO Taipei 65.22 76 P **P** **20 16 45.6 +0.6**
TPUB Ta-pu 65.30 78 P **P** **20 16 45.9 +0.3**
SSLB Suanglung 65.33 77 P **P** **20 16 46.3 +0.5**
SSLB IAmb IAmb 20 16 49.0
comp=Z,19nm,0.9s
YULB Yu-li 65.80 77 IAmb IAmb 20 16 51.3
comp=Z,24nm,0.8s
TWG Pinlang 65.88 78 P **P** **20 16 49.5 +0.1**
SEY Seymchan 67.52 28*d*iP **P** **20 17 00.5 +1.4**
KSM Kuching 68.10 103 IAmb IAmb 20 17 04.2
comp=Z,28nm,1.0s
KSM Kuching 68.10 103 P **P** **20 17 03.0 -0.5**
TYV Tymovskoe 68.64 43 *e*P **P** **20 17 06.9 +0.6**
TYV pmax pmax
comp=Z,100nm,2.3s
TYV pmax pmax
comp=Z,16nm,1.2s
JNU Nakatsue 68.87 64 P **P** **20 17 08.9 +0.7**
comp=Z,9.2nm,0.9s,baz=43,slow=2.6,SNR=2.9
JNU Nakatsue 68.87 64 P **P** **20 17 08.1 0.0**
SBUM Sibu 69.10 101 P **P** **20 17 10.0 +0.3**
FRB Frobisher Bay 70.02 334 P **P** **20 17 14.8 +0.2**
comp=Z,81nm,0.9s,baz=54,slow=5.8,SNR=25
KKM Kota Kinabalu 70.38 96 IAmb IAmb 20 17 18.9
comp=Z,36nm,0.9s
YSS Yuzh-Sakhalins 70.53 46 *e*P **P** **20 17 17.6 -0.5**
YSS *e**SP **pP** **20 17 22.8 -1.8**
YSS *e* 20 19 54.4
YSS *e*S **S** **20 26 28.6 -1.8**
YSS *e*SS **SS** **20 30 56.0 -5.0**
YSS *e*SSS SSS 20 34 11.0
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,300nm,13.0s
YSS Yuzh-Sakhalins 70.53 46 P **P** **20 17 17.6 -0.5**
YSS IAmb IAmb 20 17 18.7
comp=Z,35nm,1.3s
ASAJ Asahikawa 71.81 49 P **P** **20 17 24.9 -1.0**
comp=Z,4.1nm,0.8s,baz=333,slow=6.8
ASAJ Asahikawa 71.81 49 P **P** **20 17 24.5 -1.4**
ASAJ pmax pmax
comp=Z,11nm,0.8s
JKA Kamikawa-asahi 71.81 49 P **P** **20 17 24.4 -1.5**
MAJO Matsushiro 72.58 57⇑*e*P **P** **20 17 29.7 -1.0**
MAJO pmax pmax
comp=Z,19nm,1.8s
MAT Matsushiro 72.58 57 P **P** **20 17 29.1 -1.6**
A21K Barrow 74.06 7 P **P** **20 17 39.9 +1.2**
baz=341
A36M Sachs Harbour 74.42 357 P **P** **20 17 41.4 +0.6**
baz=7.8
SCHQ Schefferville 74.65 326 P **P** **20 17 42.2 -0.2**
comp=Z,31nm,0.7s,baz=48,slow=5.5,SNR=30
SCHQ LR LR 20 51 29.6
comp=Z,101nm,19.8s,baz=74,slow=37
SCHQ Schefferville 74.65 326 P **P** **20 17 41.9 -0.6**
SCHQ IAmb IAmb 20 17 43.3
comp=Z,40nm,0.8s
PETK Petropavlovsk- 75.33 35 LR LR 20 55 18.6
comp=Z,110nm,18.4s,baz=276,slow=39
C36M Paulatuk 76.98 356 P **P** **20 17 55.4 -0.1**
baz=8.7,SNR=7.2
C36M Paulatuk 76.98 356 P **P** **20 17 55.5 0.0**
C36M IAmb IAmb 20 17 56.4
comp=Z,37nm,0.8s
TOLK Toolik Lake Re 77.32 6 P **P** **20 17 58.8 +1.3**
baz=347,SNR=48
GBN Guysborough 77.46 316 P **P** **20 17 59.0 +0.4**
GBN IAmb IAmb 20 18 00.0
comp=Z,34nm,0.9s
INK Inuvik 78.30 360 P **P** **20 18 02.5 -0.4**
comp=Z,18nm,1.1s,baz=5.2,slow=9.6,SNR=19
COLD Coldfoot 78.65 6 P **P** **20 18 05.9 +1.0**
baz=346,SNR=44
COLD Coldfoot 78.65 6 IAmb IAmb 20 18 07.3
comp=Z,44nm,1.0s
BATG Bathurst New B 78.87 320 P **P** **20 18 07.1 +0.6**
BATG IAmb IAmb 20 18 08.1
comp=Z,36nm,1.1s
LMN Caledonia Moun 79.06 318 IAmb IAmb 20 18 08.9
comp=Z,33nm,0.9s
HAL Halifax 79.11 317 P **P** **20 18 08.0 +0.2**
HAL pmax pmax
comp=Z,46nm,0.8s
HAL Halifax 79.11 317 P **P** **20 18 08.0 +0.2**
HAL IAmb IAmb 20 18 09.5
comp=Z,46nm,0.8s
D63A Stockholm 80.11 321 P **P** **20 18 13.6 +0.4**
baz=50,SNR=6.0
PQI Presque Isle 80.30 320 IAmb IAmb 20 18 15.7
comp=Z,38nm,1.0s
E64A Bridgewater 80.36 320 P **P** **20 18 14.7 +0.1**
baz=51,SNR=6.6
D62A Allapoint, All 80.58 321 P **P** **20 18 15.9 +0.2**
D62A IAmb IAmb 20 18 17.3
comp=Z,40nm,0.9s
E63A Oxbow 80.67 320 P **P** **20 18 16.6 +0.4**
baz=50
POKR Poker Plat Res 80.96 6 P **P** **20 18 18.8 +1.3**
baz=349,SNR=14
G65A Princeton 80.98 319 P **P** **20 18 18.1 +0.2**
baz=51
G65A Princeton 80.98 319 P **P** **20 18 18.0 +0.1**
G65A IAmb IAmb 20 18 21.6
comp=Z,71nm,1.9s
F64A Sherman 80.99 320 P **P** **20 18 18.3 +0.4**
baz=50,SNR=6.4
F64A Sherman 80.99 320 IAmb IAmb 20 18 19.5
comp=Z,22nm,0.8s
MDM Murphy Dome 81.05 6 P **P** **20 18 18.8 +0.8**
D61A St Aubert, Com 81.09 322 P **P** **20 18 18.9 +0.5**
baz=49
H66A Whiting 81.11 318 P **P** **20 18 18.8 +0.2**
baz=51
E62A Clayton Lake 81.13 321 P **P** **20 18 18.8 +0.1**
baz=50,SNR=5.4
E62A Clayton Lake 81.13 321 P **P** **20 18 18.3 -0.3**
TCOL CIGO, UAF Yank 81.17 6 P **P** **20 18 19.4 +0.9**
baz=349,SNR=10
COLA College 81.17 6*c*iP **P** **20 18 19.3 +0.8**
COLA pmax pmax
comp=Z,68nm,1.0s
COLA College 81.17 6 P **P** **20 18 19.4 +0.9**
NEA2 Nenana 81.33 6 P **P** **20 18 19.6 +0.2**
baz=348,SNR=13
ILAR Eielson Array 81.35 5 P **P** **20 18 19.8 +0.3**
comp=Z,18nm,0.9s,baz=332,slow=4.2,SNR=98
ILAR PKKP **PKKPdf** **20 36 46.1 +3.8**
comp=Z,0.6nm,0.6s,baz=216,slow=2.1,SNR=5.2
ILAR LR LR 20 57 13.7
comp=Z,38nm,20.6s,baz=352,slow=38
CHGQ Chibougamau 81.35 326 P **P** **20 18 20.0 +0.2**
baz=47
CCB Clear Creek Bu 81.39 6 P **P** **20 18 19.7 0.0**
F63A Nahmakanta, Br 81.50 320 P **P** **20 18 21.1 +0.4**
baz=50
F63A Nahmakanta, Br 81.50 320 IAmb IAmb 20 18 26.9
comp=Z,75nm,1.9s
WRH Wood River Hil 81.54 6 P **P** **20 18 20.5 -0.1**
G64A Maxfield 81.60 320 P **P** **20 18 21.8 +0.6**
baz=50
BPAW Bear Paw Mtn. 81.62 7 P **P** **20 18 21.3 +0.3**
D60A Saint Jean D'O 81.66 322 P **P** **20 18 21.3 -0.1**
baz=49
H65A Eastbrook 81.68 319 P **P** **20 18 21.6 0.0**
baz=50
EGAK Eagle 81.69 3 IAmb IAmb 20 18 23.3
comp=Z,46nm,1.1s
HDA Harding Lake 81.70 6 P **P** **20 18 21.3 -0.1**
baz=349,SNR=23
HDA Harding Lake 81.70 6 P **P** **20 18 21.0 -0.4**
E61A Lac Etchemin 81.76 321 P **P** **20 18 22.3 +0.3**
baz=49
F62A Pittston Farm, 81.83 321 P **P** **20 18 22.7 +0.3**
baz=49
PKME Peaks-Kenny Pk 81.88 320 P **P** **20 18 23.2 +0.5**
baz=50
TTA Tatalina 82.12 10 IAmb IAmb 20 18 26.1
comp=Z,44nm,1.3s
G63A Kingsbury 82.15 320 P **P** **20 18 24.6 +0.4**
baz=49
KTH Kantishna Hill 82.16 7 P **P** **20 18 24.3 +0.4**
KTH IAmb IAmb 20 18 26.2
comp=Z,43nm,1.0s
MCK McKinley 82.19 7 IAmb IAmb 20 18 25.5
comp=Z,50nm,1.2s
E60A Ste Agathe de 82.30 322 P **P** **20 18 24.9 +0.1**
baz=48,SNR=5.3
F61A St Evariste 82.32 321 P **P** **20 18 25.5 +0.6**
baz=48
TRF Thorofare Moun 82.33 7 P **P** **20 18 24.8 -0.2**
TRF IAmb IAmb 20 18 39.5
comp=Z,34nm,1.3s
DAWY Dawson 82.47 2 IAmb IAmb 20 18 27.5
comp=Z,40nm,1.2s
RND Reindeer 82.52 7 IAmb IAmb 20 18 26.8
comp=Z,28nm,1.0s
D58A Chemin du LacG 82.54 323 P **P** **20 18 25.9 -0.2**
baz=47
G62A West of Eustis 82.57 320 P **P** **20 18 26.9 +0.6**
baz=49
G62A West of Eustis 82.57 320 P **P** **20 18 26.9 +0.6**
G62A IAmb IAmb 20 18 28.2
comp=Z,28nm,1.1s
PPLA Purkeypile 82.66 8 IAmb IAmb 20 18 29.3
comp=Z,28nm,1.0s
DOT Dot Lake 82.66 4 P **P** **20 18 27.1 +0.7**
DOT IAmb IAmb 20 18 28.8
comp=Z,45nm,1.0s
H63A New Sharon 82.67 320 P **P** **20 18 27.1 +0.3**
baz=49
F60A Warwick 82.82 322 P **P** **20 18 27.6 +0.1**
baz=48
YKA Yellowknife Ar 82.85 351 P **P** **20 18 27.3 -0.1**
comp=Z,14nm,0.9s,baz=19,slow=5.8,SNR=22
YKA LR LR 20 57 08.6
comp=Z,134nm,19.4s,baz=0.0,slow=37
I64A Boothbay 82.94 319 P **P** **20 18 28.6 +0.4**
baz=49
MATQ Matagami 82.97 327 P **P** **20 18 28.6 +0.3**
baz=44
DHY Denali Highway 82.98 6 IAmb IAmb 20 18 29.7
comp=Z,21nm,1.0s
G61A St-Isidore-de- 83.06 321 P **P** **20 18 29.5 +0.7**
baz=48
D57A Chemin Vers le 83.10 323 P **P** **20 18 29.1 +0.1**
baz=47,SNR=11
LSQQ Lebel-sur-Quev 83.17 326 P **P** **20 18 29.6 +0.3**
baz=45
E58A La Victoria 83.23 322 P **P** **20 18 29.7 +0.1**
baz=47,SNR=5.6
F59A Saint Guilaume 83.33 322 P **P** **20 18 30.4 +0.2**
baz=47
H62A Milan 83.33 320 P **P** **20 18 30.5 +0.2**
baz=48
CUT Chulitna 83.35 7 P **P** **20 18 29.7 -0.3**
baz=347
I63A Otisfield 83.37 319 P **P** **20 18 30.8 +0.4**

baz=49
MENT **Mentasta** 83.39 4 P P 20 18 31.1 +0.8
D56A **ZEC Mazanza, M** 83.51 324 P P 20 18 31.2 +0.1
baz=46,SNR=9.6
G60A **Masonville** 83.61 321 P P 20 18 31.8 +0.2
baz=48
SKT **Skwentna** 83.62 8 P P 20 18 31.6 +0.1
E57A **Chemin Saint G** 83.64 323 P P 20 18 31.9 0.0
baz=46,SNR=8.9
H61A **Lyndonville** 83.77 320 P P 20 18 33.1 +0.6
baz=48,SNR=6.7
D55A **Sainte-Anne-du** 83.88 324 P P 20 18 33.3 +0.3
baz=46,SNR=15
I62A **Tamworth** 83.89 320 P P 20 18 33.6 +0.4
baz=48
SVW2 **Sparrevohn** 83.94 10 IAmb IAmb 20 18 35.5
comp=Z,23nm,1.2s
LBNH **Lisbon** 83.97 320 P P 20 18 34.1 +0.6
baz=48
LBNH **Lisbon** 83.97 320 P P 20 18 34.5 +1.0
LBNH pmax pmax
comp=Z,19nm,1.0s
LBNH **Lisbon** 83.97 320 P P 20 18 34.5 +1.0
LBNH IAmb IAmb 20 18 35.6
comp=Z,19nm,1.0s
E56A **St. Veronique** 84.00 323 P P 20 18 33.6 0.0
baz=46,SNR=10.0
G59A **Clarenceville** 84.06 321 P P 20 18 33.9 0.0
baz=47
GHO **Glory Hole Cre** 84.11 7 P P 20 18 34.4 +0.3
J63A **Strafford** 84.15 319 P P 20 18 35.2 +0.8
baz=48
H60A **Morristown** 84.16 321 P P 20 18 35.0 +0.5
baz=47,SNR=10.0
SCM **Sheep Creek Mo** 84.21 6 IAmb IAmb 20 18 38.2
comp=Z,24nm,0.8s
PMR **Palmer** 84.27 7 P P 20 18 35.4 +0.7
PMR pmax pmax
comp=Z,54nm,1.1s
PMR **Palmer** 84.27 7 P P 20 18 35.4 +0.7
I61A **Oroboro, Fairl** 84.33 320 P P 20 18 36.1 +0.8
baz=48,SNR=5.6
F57A **Harrington** 84.33 323 P P 20 18 35.7 +0.3
baz=46
D54A **Lac Fusel, La** 84.36 325 P P 20 18 35.2 -0.3
baz=45,SNR=9.1
FRNY **Flat Rock** 84.44 321 IAmb IAmb 20 18 37.1
comp=Z,24nm,1.0s
G58A **Ormstown** 84.46 322 P P 20 18 35.9 -0.1
baz=46,SNR=8.1
E55A **Montcerf-Lytto** 84.56 324 P P 20 18 36.7 +0.2
baz=45,SNR=6.2
J62A **Henniker** 84.59 319 P P 20 18 37.3 +0.6
baz=48
H59A **Cadyville** 84.62 321 P P 20 18 37.2 +0.3
baz=47,SNR=7.3
L64A **Middleborough** 84.91 318 P P 20 18 38.7 +0.4
baz=48
D53A **Lac Vacive, Po** 84.92 325 P P 20 18 38.6 +0.3
baz=44,SNR=10
D53A **Lac Vacive, Po** 84.92 325 P P 20 18 38.4 +0.1
D53A IAmb IAmb 20 18 39.7
comp=Z,35nm,1.1s
HRV **Adam Dziewonsk** 84.93 319 P P 20 18 38.8 +0.4
baz=48
I60A **Shoreham** 84.96 321 P P 20 18 39.2 +0.7
baz=47
M66A **Nantucket** 84.96 317 P P 20 18 38.5 0.0
baz=49
G57A **Newington** 84.97 322 P P 20 18 38.8 +0.3
baz=46
MCARA **McCarthy VSAT** 84.98 4 P P 20 18 39.3 +1.0
MCARA IAmb IAmb 20 18 53.1
comp=Z,22nm,1.0s
ORIO **Orleans, Innes** 85.00 323 P P 20 18 38.9 +0.2
baz=46
H58A **Gabriels** 85.03 321 P P 20 18 39.0 0.0
baz=46,SNR=11
LONY **Lake Ozonia** 85.10 322 P P 20 18 39.6 +0.3
baz=46,SNR=19
VRDI **Verde Repeater** 85.11 4 P P 20 18 39.5 +0.3
VRDI IAmb IAmb 20 18 41.2
comp=Z,29nm,1.2s
E54A **Lac Daplat, Po** 85.13 324 P P 20 18 39.1 -0.2
baz=44,SNR=8.8
F55A **Otter Lake** 85.15 324 P P 20 18 39.6 +0.1
baz=45,SNR=5.6
GLI **Glacier Island** 85.17 6 IAmb IAmb 20 18 41.3
comp=Z,32nm,1.1s
K62A **Royalston** 85.19 319 P P 20 18 40.4 +0.7
baz=48
K62A **Royalston** 85.19 319 P P 20 18 39.5 -0.3
K62A IAmb IAmb 20 18 41.7
comp=Z,20nm,0.9s
O22K **Cooper Landing** 85.29 8 P P 20 18 40.5 +0.6
baz=347
I59A **Olmsteadville** 85.30 321 P P 20 18 40.8 +0.5
baz=46,SNR=9.9
D52A **ZEK Kipawa Sen** 85.33 325 P P 20 18 40.5 +0.2
baz=44,SNR=14
FID **Port Fidalgo** 85.35 6 IAmb IAmb 20 18 42.7
comp=Z,42nm,1.2s
BALM **Baldy** 85.37 4 P P 20 18 41.4 +0.9
M64A **Tiverton** 85.37 318 P P 20 18 41.3 +0.7
baz=48
BARN **Barnard Glacie** 85.38 4 IAmb IAmb 20 18 43.1
comp=Z,46nm,1.5s
L63A **North Scituate** 85.39 318 P P 20 18 41.1 +0.4
baz=48
J60A **Lant Hill Farm** 85.44 320 P P 20 18 41.6 +0.7
baz=47,SNR=6.2
ACCN **Adirondack Com** 85.47 320 P P 20 18 41.7 +0.5
ACCN IAmb IAmb 20 18 42.9
comp=Z,50nm,1.4s
CTGM **Chitina Glacie** 85.49 3 P P 20 18 42.1 +1.0
CTGM IAmb IAmb 20 18 43.6
comp=Z,36nm,1.2s
EYAK **Cordova Ski Ar** 85.61 6 P P 20 18 42.4 +1.0
TGL **Tana Glacier** 85.62 4 IAmb IAmb 20 18 43.8
comp=Z,32nm,1.1s
H57A **Richville** 85.63 322 P P 20 18 42.2 +0.4
baz=46,SNR=9.3
D51A **Lot 18 Range I** 85.70 326 P P 20 18 42.1 0.0
baz=43,SNR=6.3
HIN **Hinchinbrook I** 85.70 6 P P 20 18 43.0 +1.1
G55A **Calabogie** 85.74 323 P P 20 18 42.7 +0.3
baz=45,SNR=13
K61A **Williamstown** 85.75 320 P P 20 18 43.2 +0.6
baz=47
HYT **Haines Junctio** 85.78 2 P P 20 18 43.5 +1.1
HYT IAmb IAmb 20 18 45.0
comp=Z,32nm,1.0s
L62A **Suffield** 85.85 319 P P 20 18 43.6 +0.6
baz=47
RAGM **Ragged Mountai** 85.86 5 P P 20 18 43.8 +1.0
J59A **Piesco** 85.86 321 P P 20 18 43.7 +0.6
baz=46,SNR=12
J59A **Piesco** 85.86 321 IAmb IAmb 20 18 44.8
comp=Z,31nm,1.1s
ALGO **Algonquin Park** 85.89 324 P P 20 18 43.2 +0.1
baz=44,SNR=5.4
WAX **Waxell Ridge** 85.92 4 P P 20 18 44.4 +1.3
HMT **Hamilton** 85.94 5 P P 20 18 44.2 +1.1
M63A **Gales Ferry** 85.94 318 P P 20 18 43.9 +0.4
baz=48
E52A **Mattawa** 85.94 325 P P 20 18 43.4 0.0
baz=43,SNR=12
I58A **Old Forge** 85.95 321 P P 20 18 44.1 +0.5
baz=46,SNR=11
H56A **Elgin** 85.98 323 P P 20 18 43.9 +0.3
baz=45,SNR=5.8
PLVO **Plevna** 86.07 323 IAmb IAmb 20 18 45.4
comp=Z,32nm,0.9s
I57A **Carthage** 86.13 322 P P 20 18 44.6 +0.2
baz=45,SNR=10
E51A **G1948 Merrick** 86.16 326 P P 20 18 44.4 0.0
baz=43,SNR=7.2
SUCK **Suckling Hills** 86.23 5 P P 20 18 46.2 +1.6
G54A **Lake Saint Pet** 86.31 324 P P 20 18 45.2 -0.1
baz=44,SNR=18
J58A **Remsen** 86.34 321 P P 20 18 45.7 +0.2
baz=46,SNR=6.6
J58A **Remsen** 86.34 321 P P 20 18 45.7 +0.2
J58A IAmb IAmb 20 18 47.1
comp=Z,24nm,1.1s
M62A **Hamden** 86.38 319 P P 20 18 45.5 -0.1
baz=47
H55A **Tweed** 86.47 323 P P 20 18 46.2 +0.1
baz=44,SNR=10.0
K59A **Cooperstown** 86.52 321 P P 20 18 46.4 0.0
baz=46,SNR=7.1
Q23K **Middleton Isla** 86.67 6 P P 20 18 48.1 +1.4
baz=350
J57A **Williamstown** 86.68 322 P P 20 18 47.3 +0.2
baz=45,SNR=6.1
J57A **Williamstown** 86.68 322 IAmb IAmb 20 18 48.4
comp=Z,22nm,0.8s
SIJI **Sorong** 86.69 93 P P 20 18 47.6 0.0
comp=Z,11nm,0.8s,baz=342,slow=11,SNR=4.5
DELO **Deloro Mine** 86.71 323 IAmb IAmb 20 18 48.5
comp=Z,46nm,1.3s
L60A **Shokan** 86.73 320 P P 20 18 47.7 +0.3
baz=46
D48A **Paudash Townsh** 86.75 327 P P 20 18 47.1 -0.3
baz=41
PECO **Prince Edward** 86.82 323 P P 20 18 47.9 +0.2
PECO IAmb IAmb 20 18 49.8
comp=Z,28nm,1.1s
E50A **Wahnapitae** 86.82 326 P P 20 18 47.8 +0.1
baz=42,SNR=5.1
K58A **Earlville** 86.95 321 P P 20 18 48.6 +0.1
baz=45,SNR=5.1
K58A **Earlville** 86.95 321 IAmb IAmb 20 18 49.9
comp=Z,40nm,1.4s
I55A **Frankford** 86.96 323 P P 20 18 48.3 -0.1
baz=44
L59A **Walton** 87.03 320 P P 20 18 48.9 0.0
baz=46
L59A **Walton** 87.03 320 IAmb IAmb 20 18 51.2
comp=Z,19nm,1.0s
H53A **Bobcaygeon** 87.15 324 P P 20 18 49.2 -0.2
baz=43,SNR=6.2
SKAG **Skagway** 87.18 1 P P 20 18 50.3 +1.1
SKAG IAmb IAmb 20 18 51.7
comp=Z,39nm,1.4s
J56A **Wolcott** 87.22 322 P P 20 18 49.5 -0.1
baz=44
PAL **Palisades** 87.24 319 P P 20 18 49.7 -0.2
baz=46
SADO **Sadowa** 87.28 324 P P 20 18 49.8 -0.2
comp=Z,9.6nm,0.7s,baz=61,slow=2.9,SNR=12
SADO **Sadowa** 87.28 324 IAmb IAmb 20 18 50.8
comp=Z,15nm,0.8s
M60A **Port Jervis** 87.41 319 P P 20 18 50.4 -0.3
baz=46
D47A **Chapleau** 87.42 328 P P 20 18 50.7 0.0
baz=40,SNR=10
K57A **Scipio Center** 87.42 321 P P 20 18 50.6 -0.2
baz=45
E48A **Lockeyer** 87.44 327 P P 20 18 50.6 -0.1
baz=41,SNR=10
BINY **Binghamton** 87.52 321 P P 20 18 51.2 0.0
baz=45
KDAK **Kodiak Island** 87.56 10 P P 20 18 51.6 +0.6
KDAK pmax pmax
comp=Z,63nm,0.9s
KDAK **Kodiak Island** 87.56 10 P P 20 18 51.6 +0.6
L58A **Harry Jones Me** 87.56 321 P P 20 18 51.4 0.0
baz=45
FFC **Flin Flon** 87.67 342 P P 20 18 51.8 +0.1
FFC pmax pmax
comp=Z,21nm,1.1s
FFC **Flin Flon** 87.67 342 P P 20 18 51.8 +0.1
FFC IAmb IAmb 20 18 53.0
comp=Z,21nm,1.1s
J55A **Hilton** 87.71 323 P P 20 18 51.9 -0.2
baz=44
K56A **Middlesex** 87.87 322 P P 20 18 52.7 -0.2
baz=44
F49A **Sandfield** 87.92 326 P P 20 18 53.1 0.0
baz=41,SNR=8.1
E47A **Iron Bridge** 87.96 328 P P 20 18 53.2 0.0
baz=40,SNR=9.8
D46A **Sault St. Mari** 87.96 328 P P 20 18 53.3 +0.1
baz=40,SNR=6.3
N60A **Cedar Hill Far** 87.98 319 P P 20 18 53.1 -0.3
baz=46
BESE **Bessie Mountai** 88.07 0 P P 20 18 53.6 0.0
L57A **Andrews Acres** 88.12 321 P P 20 18 54.1 0.0
baz=44,SNR=5.5
J54A **Appleton** 88.12 323 P P 20 18 53.5 -0.6
baz=43
F48A **Evansville** 88.14 327 P P 20 18 53.8 -0.3
baz=41,SNR=7.5
MMNY **Mt. Morris Dam** 88.14 322 IAmb IAmb 20 18 55.0
comp=Z,37nm,1.4s
DLBC **Dease Lake** 88.14 358 P P 20 18 55.6 +1.6
comp=Z,12nm,0.9s,baz=354,slow=5.9,SNR=18
DLBC **Dease Lake** 88.14 358 P P 20 18 54.9 +0.9
DLBC IAmb IAmb 20 18 56.8
comp=Z,25nm,1.1s
K55A **Perry** 88.23 322 P P 20 18 54.4 -0.2
baz=44
N59A **State Game Lan** 88.31 320 P P 20 18 55.0 0.0
baz=45
M58A **Price's Panora** 88.36 320 P P 20 18 55.1 -0.1
baz=45
JIS **Juneau Island** 88.37 0 P P 20 18 56.5 +1.6
L56A **Greenwood** 88.39 322 P P 20 18 55.1 -0.3
baz=44,SNR=7.6
L56A **Greenwood** 88.39 322 IAmb IAmb 20 18 58.6
comp=Z,16nm,0.9s
O60A **Telford** 88.53 319 P P 20 18 55.9 -0.2
baz=45
K54A **Basiliko Farm,** 88.63 323 P P 20 18 56.2 -0.2
baz=43
P61A **Hammonton** 88.65 318 P P 20 18 56.4 -0.1
baz=46
WVNY **West Valley, N** 88.73 322 P P 20 18 56.9 0.0
WVNY IAmb IAmb 20 18 58.0
comp=Z,29nm,1.2s
M57A **Sunshine Farm,** 88.74 321 P P 20 18 56.7 -0.3
baz=44
L55A **Hinsdale** 88.81 322 P P 20 18 57.2 -0.1
baz=43,SNR=9.4
N58A **Sunbury** 88.87 320 P P 20 18 57.4 -0.2
baz=44
I51A **Listowel** 88.91 325 P P 20 18 57.7 0.0
baz=42,SNR=5.4
M56A **Emporium** 89.18 321 P P 20 18 59.0 -0.2
baz=44,SNR=5.2
M56A **Emporium** 89.18 321 IAmb IAmb 20 19 00.2
comp=Z,47nm,1.6s
L54A **Sinclairville** 89.22 323 P P 20 18 58.9 -0.4
baz=43
PSA00 **Pilbara Seismi** 89.34 116 P P 20 18 59.5 -0.5
N57A **Milroy** 89.38 321 P P 20 18 59.7 -0.4
baz=44
M55A **Ridgway** 89.50 322 P P 20 19 00.4 -0.2
baz=43,SNR=5.6
M55A **Ridgway** 89.50 322 IAmb IAmb 20 19 01.7
comp=Z,21nm,1.1s
Q61A **Milford** 89.50 318 P P 20 19 00.2 -0.3
baz=45
E43A **Lone Tree Farm** 89.64 329 IAmb IAmb 20 19 02.0
comp=Z,24nm,1.1s
SSPA **Standing Stone** 89.64 321 P P 20 19 00.9 -0.3
baz=44
SSPA **Standing Stone** 89.64 321 P P 20 19 00.8 -0.5
SSPA IAmb IAmb 20 19 03.2
comp=Z,26nm,1.4s
ERPA **Erie** 89.64 323 P P 20 19 01.0 -0.3
baz=42
N56A **West Decatur** 89.65 321 P P 20 19 01.1 -0.3
baz=44
ULM **Lac du Bonnet** 89.80 337 P P 20 19 01.4 -0.3
comp=Z,4.1nm,0.6s,baz=43,slow=5.1,SNR=3.4
ULM LR LR 21 00 48.7
comp=Z,84nm,18.5s,baz=39,slow=37
O57A **Amberson** 89.81 320 P P 20 19 01.7 -0.4
baz=44
L53A **Girard** 89.90 323 P P 20 19 02.0 -0.4
baz=42
GUMO **Guam** 89.92 74 LR LR 21 04 34.4
comp=Z,32nm,18.4s,baz=296,slow=39
M54A **Oil Creek Stat** 89.93 322 P P 20 19 02.5 -0.1
baz=43,SNR=8.6
M54A **Oil Creek Stat** 89.93 322 IAmb IAmb 20 19 03.6
comp=Z,26nm,0.9s
N55A **Marion Center** 90.11 321 P P 20 19 03.3 -0.2
baz=43
P58A **Pank, Wackersv** 90.15 320 P P 20 19 03.0 -0.6
baz=44
EYMN **Ely** 90.18 333 P P 20 19 03.4 -0.2
baz=34
EYMN **Ely** 90.18 333 IAmb IAmb 20 19 04.9
comp=Z,21nm,1.1s
O56A **Blue Knob Stat** 90.26 321 P P 20 19 03.8 -0.4
baz=43
M53A **WI Miller and** 90.49 323 P P 20 19 04.6 -0.6
baz=42
M53A **WI Miller and** 90.49 323 IAmb IAmb 20 19 05.8
comp=Z,14nm,0.9s
N54A **Moraine State** 90.50 322 P P 20 19 04.9 -0.4
baz=42
N54A **Moraine State** 90.50 322 IAmb IAmb 20 19 07.1
comp=Z,24nm,1.4s
P57A **Homestead Farm** 90.54 320 P P 20 19 05.0 -0.5
baz=44
O55A **Ligonier** 90.69 321 P P 20 19 05.9 -0.3
baz=43
Q58A **Fox Den Farm,** 90.75 319 P P 20 19 05.9 -0.5
baz=44
COWI **Conover** 90.75 330 IAmb IAmb 20 19 07.3
comp=Z,28nm,1.0s
M52A **Chesterland** 90.76 323 P P 20 19 06.2 -0.2
baz=42
P56A **Dayton Farm, R** 90.96 320 P P 20 19 07.0 -0.4
baz=43
N53A **Lisbon** 91.04 322 P P 20 19 07.4 -0.4
baz=42
N53A **Lisbon** 91.04 322 IAmb IAmb 20 19 08.8
comp=Z,23nm,0.9s
Q57A **Strasburg** 91.07 320 P P 20 19 07.6 -0.3
baz=43
O54A **Avella** 91.27 322 P P 20 19 08.5 -0.4
baz=42
O54A **Avella** 91.27 322 IAmb IAmb 20 19 10.0
comp=Z,19nm,1.1s
E38A **The Farm, Brul** 91.31 332 P P 20 19 07.9 -1.0
M51A **Elyria** 91.33 324 P P 20 19 08.6 -0.4
baz=41
MCWV **Mont Chateau** 91.38 321 P P 20 19 09.2 -0.2
baz=42
S59A **Mechanicsville** 91.38 318 P P 20 19 08.7 -0.7
baz=44
R58A **Rapidan** 91.39 319 P P 20 19 08.7 -0.7
baz=44
AGMN **Agassiz Nation** 91.47 336 P P 20 19 09.2 -0.4
baz=31,SNR=6.3
N52A **McGinn's Farm,** 91.47 323 P P 20 19 09.4 -0.4
baz=41
P55A **Reedsville** 91.48 321 P P 20 19 09.4 -0.4
baz=42
R58B **Mineral** 91.56 319 P P 20 19 09.7 -0.5
baz=44
O53A **New Philadelph** 91.65 322 P P 20 19 10.6 0.0
baz=42,SNR=5.5
R57A **Stanardsville** 91.67 319 P P 20 19 10.5 -0.2
baz=43
N51A **Ashland** 91.73 323 P P 20 19 10.5 -0.5
baz=41
FITZ **Fitzroy Crossi** 91.75 111 P P 20 19 10.8 -0.4
FITZ IAmb IAmb 20 19 12.1
comp=Z,19nm,0.9s
P54A **Burton** 91.75 321 P P 20 19 10.8 -0.3
baz=42
S58A **Poland Farm, P** 91.91 319 P P 20 19 11.3 -0.5
baz=44
S58A **Poland Farm, P** 91.91 319 IAmb IAmb 20 19 12.6
comp=Z,16nm,0.9s
U61A **Possum Corner** 91.92 317 P P 20 19 11.7 -0.2
baz=45
Q55A **Buckhannon** 91.99 321 P P 20 19 11.9 -0.4
baz=42
R56A **Bull Pasture M** 92.06 320 P P 20 19 12.3 -0.4
baz=43
O52A **Adamsville** 92.06 323 P P 20 19 12.3 -0.2
baz=41,SNR=8.3
T59A **Double "B" Far** 92.09 318 P P 20 19 12.3 -0.4
baz=44
U60A **Pendleton** 92.22 317 P P 20 19 13.0 -0.3
baz=44
S57A **Dark Hollow, R** 92.29 319 P P 20 19 13.5 -0.1
baz=43
P53A **Whipple** 92.31 322 P P 20 19 13.8 +0.1
baz=42,SNR=6.5
Q54A **Coxs Mills** 92.39 321 P P 20 19 13.6 -0.5
baz=42
Q54A **Coxs Mills** 92.39 321 IAmb IAmb 20 20 22.1
comp=Z,11nm,0.8s
O51A **Pataskala** 92.43 323 P P 20 19 14.1 -0.1
baz=41,SNR=15
I42A **Draeger Farm,** 92.44 329 IAmb IAmb 20 19 15.0
comp=Z,14nm,0.8s
R55A **Marlinton** 92.54 320 P P 20 19 14.6 -0.3
baz=42
ACSO **Alum Creek Sta** 92.55 323 P P 20 19 14.2 -0.5
baz=40,SNR=6.1
P52A **Corning** 92.58 322 P P 20 19 14.5 -0.4
baz=41,SNR=8.5
T58A **Grand View Acr** 92.65 319 P P 20 19 14.8 -0.5
baz=43
F36A **Milaca** 92.68 333 IAmb IAmb 20 19 16.1
comp=Z,21nm,0.9s
S56A **Natural Bridge** 92.68 320 P P 20 19 15.4 -0.1
baz=43
V60A **Jim Taylor Roa** 92.79 317 P P 20 19 15.7 -0.2
baz=44
Q53A **Leroy** 92.85 322 P P 20 19 16.0 -0.1
baz=41
SPMN **Marine on St.** 92.94 332 P P 20 19 16.1 -0.4
baz=33,SNR=6.2
SPMN **Marine on St.** 92.94 332 P P 20 19 16.5 +0.1
T57A **Hurt** 93.01 319 P P 20 19 16.6 -0.3
baz=43
T57A **Hurt** 93.01 319 IAmb IAmb 20 20 32.4
comp=Z,14nm,1.1s
U58A **Oxford** 93.06 318 P P 20 19 16.8 -0.4
baz=43
MDND **Maddock** 93.10 337 P P 20 19 17.0 -0.2
baz=28
S55A **Lewisburg** 93.11 320 P P 20 19 17.2 -0.3
baz=42
Q52A **Bidwell** 93.15 322 P P 20 19 17.2 -0.4
baz=41,SNR=7.6
I40A **Norwalk** 93.16 330 IAmb IAmb 20 19 18.4
comp=Z,12nm,0.8s
P51A **Williamsport** 93.16 323 P P 20 19 17.1 -0.5
baz=40
P51A **Williamsport** 93.16 323 P P 20 19 17.0 -0.6
V59A **Middlesex** 93.34 318 P P 20 19 18.0 -0.5
baz=44
T56A **Rocky Mt** 93.41 319 P P 20 19 18.7 -0.1
baz=42
R53A **Hurricane** 93.46 321 P P 20 19 18.9 -0.1
baz=41
R53A **Hurricane** 93.46 321 IAmb IAmb 20 19 20.3
comp=Z,22nm,1.1s
U57A **Blanch** 93.47 319 P P 20 19 18.7 -0.4
baz=43
S54A **Dingess, Beckl** 93.53 321 P P 20 19 19.1 -0.3
baz=42
F33A **5 Mile Ranch,** 93.73 335 IAmb IAmb 20 19 21.0
comp=Z,13nm,0.9s
T55A **Pulaski** 93.75 320 P P 20 19 20.1 -0.3
baz=42
JFWS **Jewell Farm** 93.80 329 P P 20 19 19.8 -0.7
baz=35
JFWS **Jewell Farm** 93.80 329 IAmb IAmb 20 19 20.8
comp=Z,13nm,0.8s
V58A **Windy Hill, Pi** 93.81 318 P P 20 19 20.5 -0.1
baz=43
V58A **Windy Hill, Pi** 93.81 318 P P 20 19 20.5 -0.1
W59A **Clinton** 93.89 317 P P 20 19 20.8 -0.2
baz=44
P49A **Miami Univ. Ec** 93.94 324 P P 20 19 20.2 -1.0
baz=39,SNR=5.1
X60A **Albert Glenn T** 94.05 317 P P 20 19 21.4 -0.4
baz=44
V57A **Coltrane Farms** 94.11 319 P P 20 19 21.4 -0.7
baz=43
U55A **TA2, Sparta** 94.35 320 P P 20 19 23.2 0.0
baz=42
P48A **Milroy** 94.35 324 P P 20 19 22.4 -0.6
P48A IAmb IAmb 20 19 23.3
comp=Z,17nm,0.8s
SFIN **Lafayette** 94.43 326 P P 20 19 22.7 -0.7
baz=38
SFIN **Lafayette** 94.43 326 IAmb IAmb 20 19 23.6
comp=Z,11nm,0.8s
W58A **Raeford** 94.44 318 P P 20 19 23.1 -0.4
baz=43

E28A Huff 94.57 338 IAmb IAmb 20 19 25.2
comp=Z,22nm,1.1s
R50A Paris 94.72 323 IAmb IAmb 20 19 25.6
comp=Z,20nm,1.1s
W57A Gilead 94.77 318 P P **20 19 24.8 -0.2**
baz=43
S51A Beattyville 94.83 322 IAmb IAmb 20 20 06.4
comp=Z,20nm,0.9s
P46A Rosedale 95.08 325 IAmb IAmb 20 19 26.2
comp=Z,12nm,0.8s
R49A Shelbyville 95.13 323 IAmb IAmb 20 19 27.3
comp=Z,17nm,0.9s
HDIL Hopedale 95.29 327 P P **20 19 27.0 -0.4**
baz=36
V54A Nebo 95.37 320 P P **20 19 27.7 -0.1**
baz=41
TZTN Tazewell 95.64 321 P P **20 19 29.1 0.0**
baz=40
TZTN Tazewell 95.64 321 P P **20 19 28.6 -0.4**
ECSD EROS Data Cent 95.65 334 P P **20 19 28.7 -0.3**
baz=31
WCI Wyandotte Cave 95.73 324 P P **20 19 28.4 -1.0**
baz=38
EGMT Eagleton 95.75 344 P P **20 19 29.3 -0.1**
baz=20
EGMT Eagleton 95.75 344 P P **20 19 29.6 +0.2**
EGMT IAmb IAmb 20 19 30.6
comp=Z,16nm,1.5s
X56A White Oak 95.83 318 P P **20 19 29.7 -0.2**
baz=42
SUSD Miller 95.88 335 P P **20 19 29.4 -0.6**
baz=29
V53A Saluda 95.92 320 IAmb IAmb 20 19 53.9
comp=Z,13nm,0.7s
T50A Nancy 95.94 322 IAmb IAmb 20 19 31.1
comp=Z,7.9nm,0.8s
PAULI Pauline 96.02 319 IAmb IAmb 20 19 32.0
comp=Z,10.0nm,0.9s
LAO LASA Array 96.10 341 P P **20 19 30.4 -0.6**
baz=23
LAO LASA Array 96.10 341 IAmb IAmb 20 19 33.6
comp=Z,23nm,1.1s
V52A Sevierville 96.20 321 IAmb IAmb 20 19 56.2
comp=Z,10nm,0.8s
TKL Tuckaleechee C 96.44 321 P P **20 19 33.1 +0.4**
comp=Z,8.7nm,0.7s,baz=89,slow=5.1,SNR=20
TKL Tuckaleechee C 96.44 321 IAmb IAmb 20 19 33.7
comp=Z,12nm,0.8s
BG3 Lake Jocassee 96.49 320 IAmb IAmb 20 20 10.2
comp=Z,8.0nm,0.7s
X54A Belton 96.53 319 P P **20 19 32.8 -0.3**
baz=41
V51A Loudon 96.63 321 IAmb IAmb 20 20 11.6
comp=Z,12nm,0.9s
Y55A Saluda 96.70 319 P P **20 19 33.5 -0.4**
baz=42
U49A Red Boiling Sp 96.81 323 IAmb IAmb 20 20 25.5
comp=Z,9.7nm,0.6s
CPCT Cooper Cave 96.99 321 IAmb IAmb 20 19 36.2
comp=Z,10nm,1.1s
W50A Signal Mountai 97.59 322 IAmb IAmb 20 19 38.6
comp=Z,6.1nm,0.8s
RSSD Black Hills 97.82 339 P Pdif 20 19 39.2 +0.2
baz=25
CCM Cathedral Cave 98.20 327 P P **20 19 39.6 -1.0**
baz=35
BGNE Belgrade 98.23 333 P P **20 19 40.5 -0.2**
baz=30
BOZ Bozeman (W) 98.47 344 P P **20 19 41.4 -0.4**
baz=19
D03D Eldon 98.52 352 P Pdif 20 19 42.0 +0.2
baz=9.3
Y49A Blount Mountai 99.20 321 P **Pdif** **20 19 44.6 -0.6**
E04D Cinebar 99.43 352 P **Pdif** **20 19 45.3 -0.5**
baz=9.8
WRA Warramunga Arr 99.62 107 P **Pdif** **20 19 46.2 -0.9**
comp=Z,2.7nm,0.7s,baz=316,slow=4.1,SNR=26
WRA PKKPbc **PKKPbc** **20 36 08.8 +0.8**
comp=Z,0.2nm,0.7s,baz=116,slow=2.7,SNR=1.6
WRAB Tennant Creek 99.62 107 *eP* **Pdif** **20 19 46.2 -0.9**
WRAB pmax pmax
comp=Z,3.0nm,0.8s
K22A Casper 99.90 340 P **Pdif** **20 19 47.6 -0.7**
baz=23
LRAL Lakeview Retre 100.15 321 P **Pdif** **20 19 48.7 -0.7**
baz=38
PDAR Pinedale Array 100.63 342 P **Pdif** **20 19 51.2 -0.4**
comp=Z,0.3nm,0.8s,baz=81,slow=5.6,SNR=1.8
ASAR Alice Springs 101.25 111 P **Pdif** **20 19 53.5 -0.8**
comp=Z,1.8nm,0.8s,baz=305,slow=4.6,SNR=16
ASAR PKiKP **PKiKP** **20 24 21.2 +2.2**
comp=Z,0.4nm,0.6s,baz=326,slow=1.4,SNR=5.7
ASAR PKKPbc **PKKPbc** **20 36 03.8 +0.3**
comp=Z,1.0nm,0.9s,baz=122,slow=3.9,SNR=7.6
MAW Mawson 101.81 173 P **Pdif** **20 19 58.1 +2.4**
comp=Z,1.6nm,0.8s,baz=305,slow=9.2,SNR=5.1
NVAR Mina Array Bea 106.73 347 PKiKP **PKiKP** **20 24 30.4 +1.3**
comp=Z,0.8nm,0.7s,baz=225,slow=1.9,SNR=3.9
TXAR Lajitas Array 110.97 332 PKiKP **PKiKP** **20 24 38.0 +0.9**
comp=Z,0.6nm,0.8s,baz=1.8,slow=3.9,SNR=4.9
TXAR PKKPbc **PKKPbc** **20 35 33.8 0.0**
comp=Z,0.5nm,0.9s,baz=145,slow=3.3,SNR=4.1
STKA Stephens Creek 111.21 115 PKiKP **PKiKP** **20 24 36.8 -0.4**
comp=Z,2.7nm,0.8s,baz=69,slow=3.9,SNR=3.4
QSPA South Pole Qui 123.54 180 PKPdf **PKPdf** **20 24 59.2 -0.6**
CO01 Juntas del Tor 126.20 255 **PKPdf** **20 25 05.9 -0.4**
PMSA Palmer Station 128.34 211 PKPdf **PKiKP** **20 25 09.3 -0.2**
PLCA Paso Flores 129.81 242 PKP **PKiKP** **20 25 13.8 +0.4**
comp=Z,4.8nm,0.9s,baz=122,slow=2.1,SNR=6.5
PLCA Paso Flores 129.81 242 PKIKP **PKiKP** **20 25 13.1 -0.3**
PLCA Paso Flores 129.81 242 PKPdf **PKiKP** **20 25 13.1 -0.3**

*IDC **22** 20:14:57.1±1.5,33.°60N×45.°62E,h0km,mb3.6/7,*
mb1 3.7/8,mb1mx3.5/44,mbtmp3.7/8,ML3.7/1,Error
ellipse: s-maj=40.8km s-min=21.6km az=163.0
*ISN **22** 20:14:59.1±1.0,33.°72N×45.°72E,h11km±5km,ML3.3*
*TEH **22** 20:15:00.3,33.°73N×45.°71E,h17km,ML3.6*
ISC 22 20:14:59.3±0.7,**33.°71N**±0.°04×**45.°65E**±0.°04,**h10km,n30,**
σ1§24/34,mb3.5/6,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.65**	**158**	*e*Pg		**Pg**	**20 15 12.0**	**+0.2**
IBDR				*e*Sg		**Sg**	**20 15 20.0**	**-0.3**
IBDR					AML	AML	20 15 25.7	
	comp=E,1μm,0.4s							
IBDR					AML	AML	20 15 28.8	
	comp=N,1μm,0.5s							
IGHG	**Ghaleghazi**	**0.98**	**51**	*e*Pg		**Pg**	**20 15 18.1**	**-0.2**
IGHG				*e*Sg		**Sb**	**20 15 32.1**	**+0.3**
IGHG				*e*			20 15 35.6	
BHD	**Baghdad**	**1.15**	**248**	*e*Pg		**Pn**	**20 15 22.0**	**+0.6**
BHD				*e*Sg		**Sn**	**20 15 39.0**	**+1.8**
BHD					AML	AML	20 15 43.7	
	comp=E,806nm,0.5s							
IDHR	**Dehrash**	**1.16**	**32**	*e*Pg		**Pb**	**20 15 21.4**	**-0.3**
IDHR				*e*			20 15 41.5	
IVIS	**Veis**	**1.29**	**51**	*e*Pg		**Pb**	**20 15 23.9**	**+0.1**
IVIS				*e*			20 15 46.9	
KCHF	**Cheshme Sefid,**	**1.29**	**64**	*e*Pg		**Pn**	**20 15 23.8**	**+0.2**
KCHF				*e*			20 15 45.6	
KER	**Kermanshah**	**1.41**	**61**	*e*Pg		**Pg**	**20 15 26.5**	**+0.2**
IKOM	**Komasi**	**1.62**	**73**	*e*Pg		**Pb**	**20 15 29.6**	**+0.2**
IKOM				*e*			20 16 00.7	
ILIN	**Lien**	**1.62**	**42**	*e*Pg		**Pb**	**20 15 29.7**	**+0.1**
ILIN				*e*			20 15 54.0	
DHL1	**Dehloran**	**1.71**	**126**	*e*Pg		**Pb**	**20 15 31.8**	**+0.9**
IBZA	**Bozab**	**1.99**	**67**	*e*Pn		**Pn**	**20 15 34.6**	**+1.3**
IBZA				*e*			20 16 05.1	
IDOB	**Doab**	**2.11**	**87**	*e*Pn		**Pn**	**20 15 35.7**	**+0.8**
IKMR	**Kamar-syah**	**2.29**	**94**	*e*Pn		**Pn**	**20 15 38.5**	**+1.3**
IKMR				*e*			20 16 15.2	
IALM	**Almabolaq**	**2.38**	**61**	*e*Pn		**Pn**	**20 15 40.3**	**+1.6**
HSAM	**Samen**	**2.51**	**78**	*e*Pn		**Pn**	**20 15 41.2**	**+0.8**
HSAM				*e*			20 16 24.4	
BMDN	**Meydan**	**2.65**	**90**	*e*Pn		**Pn**	**20 15 43.3**	**+1.0**
BMDN				*e*			20 16 29.0	
HSRG	**Sareghieh**	**2.66**	**54**	*e*Pn		**Pn**	**20 15 44.4**	**+1.9**
HSRG				*e*			20 16 28.2	
NSR	**Nassriya**	**2.73**	**171**	*e*Pn		**Pn**	**20 15 44.0**	**+0.8**
NSR				*e*Sn		**Sn**	**20 15 18.0**	**+1.8**
MAHB	**Mahabad**	**3.05**	**1**	*e*Pn		**Pn**	**20 15 49.8**	**+2.0**
MAHB				*e*			20 16 28.5	
HAGD	**Aghdareh**	**3.10**	**68**	*e*Pn		**Pn**	**20 15 49.0**	**+0.5**
HAGD				*e*			20 16 40.3	
IRAZ	**Razeghan**	**3.92**	**63**	*e*Pn		**Pn**	**20 16 00.3**	**+0.5**
IFIR	**Firoozkooh**	**6.17**	**70**	*e*Pn		**Pn**	**20 16 31.6**	**+0.9**
WSAR	**Wadi Sarin**	**15.45**	**129**	Pn		**Pn**	**20 18 33.9**	**-3.6**
	comp=E,0.3nm,0.3s,baz=342,slow=16,SNR=1.1							
WSAR					Sn	Sn	20 21 15.2	-14
	comp=E,0.1nm,0.3s,baz=277,slow=16,SNR=1.9							
AKASG	**Malin Array Be**	**20.80**	**330**	P		**P**	**20 19 39.0**	**-1.7**
	comp=E,0.2nm,0.3s,baz=138,slow=10,SNR=1.2							
BVAR	**Borovoye Array**	**26.16**	**35**	P		**P**	**20 20 35.8**	**+2.1**
	comp=E,0.5nm,0.5s,baz=225,slow=8.0,SNR=2.1							
KURBB	**Kurchatov Arra**	**29.34**	**45**	P		**P**	**20 21 02.3**	**+0.2**
	comp=E,0.5nm,0.7s,baz=250,slow=8.7,SNR=3.4							
MKAR	**Makanchi Array**	**30.58**	**54**	P		**P**	**20 21 13.3**	**+0.1**
	comp=E,1.1nm,0.6s,baz=248,slow=9.8,SNR=6.9							
ZALV	**Zalesovo Beam**	**34.15**	**42**	P		**P**	**20 21 43.6**	**-0.7**
	comp=E,0.6nm,0.3s,baz=246,slow=9.2,SNR=4.3							
ESDC	**Sonseca Array**	**39.81**	**293**	P		**P**	**20 22 32.5**	**-0.2**
	comp=E,0.3nm,0.6s,baz=78,slow=8.3,SNR=4.2							
TORD	**Torodi Ar. Bea**	**44.81**	**254**	P		**P**	**20 23 12.8**	**-0.8**
	comp=E,0.3nm,0.5s,baz=59,slow=7.3,SNR=4.1							

*ISN **22** 20:19:11.6±1.3,33.°76N×45.°73E,h9km±999km,ML2.5*
*TEH **22** 20:19:12.5,33.°78N×45.°74E,h10km,ML2.9*
ISC 22 20:19:12.4±1.0,**33.°71N**±0.°05×**45.°76E**±0.°06,**h10km,n7,**
σ0§62/10,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.61**	**166**	*e*Pg		**Pg**	**20 19 24.0**	**-0.2**
	baz=345							
IBDR				*e*Sg		**Sb**	**20 19 34.0**	**+0.2**
IBDR					AML	AML	20 19 37.4	
	comp=E,115nm,0.4s							
IBDR					AML	AML	20 19 38.1	
	comp=N,106nm,0.4s							
IGHG	**Ghaleghazi**	**0.92**	**47**	*e*Pg		**Pg**	**20 19 30.2**	**+0.2**
IGHG				*e*			20 19 33.0	
IDHR	**Dehrash**	**1.12**	**28**	*e*Pg		**Pb**	**20 19 33.0**	**-0.9**
IDHR				*e*Sg		**Sg**	**20 19 48.7**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.21**	**62**	*e*Pg		**Pb**	**20 19 34.9**	**-0.5**
KCHF				*e*			20 19 56.8	
IVIS	**Veis**	**1.22**	**48**	*e*Pg		**Pn**	**20 19 35.4**	**-0.2**
IVIS				*e*			20 19 59.3	
BHD	**Baghdad**	**1.23**	**250**	*e*Pg		**Pn**	**20 19 36.0**	**+0.4**
BHD				*e*Sg		**Sb**	**20 19 52.0**	**+0.3**
BHD					AML	AML	20 19 55.9	
	comp=E,414nm,0.4s							
KER	**Kermanshah**	**1.32**	**59**	*e*Pg		**Pn**	**20 19 38.1**	**+1.0**
KER				*e*			20 19 59.7	

*ISN **22** 20:22:13.7±0.8,33.°70N×45.°75E,h7km±4km,ML2.7*
*TEH **22** 20:22:14.7,33.°72N×45.°72E,h20km,ML3.0*
ISC 22 20:22:13.5±1.0,**33.°72N**±0.°04×**45.°75E**±0.°05,**h10km,n15,**
σ1§19/18,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.62**	**166**	*e*Pg		**Pg**	**20 22 26.0**	**+0.4**
IBDR				*e*Sg		**Sg**	**20 22 34.0**	**+0.2**
IBDR					AML	AML	20 22 42.2	
	comp=N,250nm,0.5s							
IBDR					AML	AML	20 22 47.5	
	comp=E,202nm,0.2s							
IGHG	**Ghaleghazi**	**0.92**	**48**	*e*Pg		**Pn**	**20 22 33.1**	**+0.4**
IGHG				*e*			20 22 49.4	
IDHR	**Dehrash**	**1.11**	**28**	*e*Pg		**Pn**	**20 22 35.9**	**+0.5**
IDHR				*e*			20 22 55.3	
KCHF	**Cheshme Sefid,**	**1.21**	**62**	*e*Pg		**Pg**	**20 22 38.3**	**+1.5**
KCHF				*e*			20 22 59.4	
IVIS	**Veis**	**1.22**	**48**	*e*Pg		**Pg**	**20 22 37.7**	**+0.7**
BHD	**Baghdad**	**1.23**	**249**	*e*Pg		**Pn**	**20 22 37.0**	**+0.3**
BHD				*e*Sg		**Sg**	**20 22 54.0**	**+0.9**
BHD					AML	AML	20 23 05.4	
	comp=E,210nm,0.4s							
KER	**Kermanshah**	**1.33**	**59**	*e*Pg		**Pg**	**20 22 40.1**	**+1.0**
IKOM	**Komasi**	**1.53**	**72**	*e*Pg		**Pg**	**20 22 43.8**	**+0.8**
IKOM				*e*			20 23 09.6	
ILIN	**Lien**	**1.56**	**40**	*e*Pg		**Pg**	**20 22 43.8**	**+0.2**
ILIN				*e*			20 22 45.2	
DHL1	**Dehloran**	**1.65**	**128**	*e*Pg		**Pg**	**20 22 45.9**	**+0.8**
IBZA	**Bozab**	**1.91**	**66**	*e*Pn		**Pb**	**20 22 48.4**	**-0.2**
IBZA				*e*			20 23 19.0	
IKMR	**Kamar-syah**	**2.21**	**94**	*e*Pn		**Pb**	**20 22 52.6**	**-0.9**
IKMR				*e*			20 23 29.1	
IALM	**Almabolaq**	**2.31**	**60**	*e*Pn		**Pb**	**20 22 54.2**	**-1.2**
HSRG	**Sareghieh**	**2.59**	**53**	*e*Pn		**Pb**	**20 22 58.6**	**-1.6**
NSR	**Nassriya**	**2.72**	**173**	*e*Pn		**Pn**	**20 22 59.0**	**+1.8**
NSR				*e*Sn		**Sb**	**20 23 33.0**	**-2.6**
NSR					AML	AML	20 23 43.9	
	comp=E,156nm,0.1s							

*KRSC **22** 20:39:14.8±0.8,53.°67N×159.°66E,h128km±8km,ML4.0*
*NEIC **22** 20:39:17.0±1.7,53.°95N±0.°10×159.°1E±0.°1,h127km±6km,*
mb4.1/62,Error ellipse: s-maj=15.3km s-min=10.3km
az=146.0
*IDC **22** 20:39:16.9±0.9,53.°94N×159.°16E,h125km±10km,*
mb3.4/14,mb1 3.7/14,mb1mx3.4/35,mbtmp3.8/14,Error
ellipse: s-maj=22.7km s-min=12.8km az=157.0
ISC 22 20:39:16.5±0.6,**53.°71N**±0.°03×**159.°46E**±0.°05,**h126**km±5km,
n133,σ1§22/161,mb4.0/40,Near east coast of
Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.32**	**358**	*e*P		**Pn**	**20 39 33.7**	**-0.6**
NLC	**Nalytchevo**	**0.55**	**187**	*e*P		**Pn**	**20 39 35.2**	**-0.2**
NLC				*e*S		**Sn**	**20 39 49.7**	**+0.1**
SDLR	**Sedlovina**	**0.56**	**219**	*e*P		**Pn**	**20 39 35.5**	**-0.1**
SDLR				*e*S		**Sn**	**20 39 49.9**	**-0.1**
KRER	**Koryakskii**	**0.59**	**226**	*e*P		**Pn**	**20 39 35.9**	**0.0**
KRER				*e*S		**Sn**	**20 39 51.0**	**+0.4**
SMAR	**Somma**	**0.60**	**221**	*i*P		**Pn**	**20 39 35.9**	**-0.1**
SMAR				*e*S		**Sn**	**20 39 50.5**	**-0.2**
KRX	**Arik**	**0.60**	**234**	*i*P		**Pn**	**20 39 35.9**	**0.0**
KRX				*e*S		**Sn**	**20 39 51.0**	**+0.4**
AVH	**Avacha**	**0.62**	**224**	*e*P		**Pn**	**20 39 36.2**	**+0.2**
AVH				*e*S		**Sn**	**20 39 51.6**	**+0.9**
UGLR	**Uglovaya**	**0.63**	**217**	*e*P		**Pn**	**20 39 36.2**	**+0.1**
UGLR				*e*S		**Sn**	**20 39 51.0**	**+0.1**
KOK	**Koryaka**	**0.65**	**230**	*e*P		**Pn**	**20 39 36.4**	**+0.2**
KOK				*e*S		**Sn**	**20 39 52.1**	**+1.1**
SPN	**Mys Shipunski**	**0.70**	**151**	*e*P		**Pn**	**20 39 36.0**	**-0.5**
SPN				*e*S		**Sn**	**20 39 50.6**	**-0.9**
DALK	**Dalny**	**0.81**	**212**	*e*P		**Pn**	**20 39 37.2**	**-0.1**
DALK				*e*S		**Sn**	**20 39 52.6**	**-0.3**
PET	**Petropavlovsk**	**0.84**	**215**	*i*P		**Pn**	**20 39 37.4**	**-0.2**
PET				*e*S		**Sn**	**20 39 53.3**	**-0.2**
PET	**Petropavlovsk**	**0.84**	**215**			**Pn**	**20 39 37.5**	**-0.2**
KRMR	**Karymshinskiy**	**1.19**	**223**	*e*P		**Pn**	**20 39 40.4**	**-0.5**
KRMR				*e*S		**Sn**	**20 40 00.0**	**+0.5**
I44RU	**PETROPAVLOVSK-**	**1.21**	**241**	P		**Pn**	**20 39 40.8**	**-0.3**
	baz=55,slow=16,SNR=2.7							
PEA0B	**Petropavlovsk-**	**1.22**	**241**			**Pn**	**20 39 41.2**	**0.0**
PETK	**Petropavlovsk-**	**1.22**	**241**	P		**Pn**	**20 39 41.1**	**-0.1**
	156nm,0.3s,baz=71,slow=15,SNR=3977							
PETK					S	**Sn**	**20 40 00.1**	**+0.1**
	14nm,0.3s,baz=24,slow=15,SNR=2.2							
RUS	**Russkaya**	**1.41**	**204**	*e*P		**Pn**	**20 39 43.1**	**-0.1**
RUS				*e*S		**Sn**	**20 40 03.0**	**-0.5**
GRL	**Gorelyy**	**1.43**	**216**	*e*P		**Pn**	**20 39 44.5**	**+0.8**
GRL				*e*S		**Sn**	**20 40 05.3**	**+1.0**
MTVR	**Mutnovka**	**1.46**	**213**	*e*P		**Pn**	**20 39 44.7**	**+0.8**
MTVR				*e*S		**Sn**	**20 40 06.0**	**+1.2**
KZV	**Kizimen**	**1.48**	**19**	*i*P		**Pn**	**20 39 44.5**	**+0.3**
KZV				*e*S		**Sn**	**20 40 05.9**	**+0.5**
TUMD	**Tumrok D**	**1.59**	**20**	*e*P		**Pn**	**20 39 45.4**	**+0.1**
TUMD				*e*S		**Sn**	**20 40 07.9**	**+0.6**
TUMR	**Tumrok**	**1.62**	**14**	*i*P		**Pn**	**20 39 46.3**	**+0.5**
TUMR				*e*S		**Sn**	**20 40 08.5**	**+0.3**
ASAK	**Asacha**	**1.63**	**216**	*e*P		**Pn**	**20 39 46.7**	**+0.8**
ASAK				*e*S		**Sn**	**20 40 10.1**	**+1.8**
KDTR	**Khodutka, Kamc**	**2.09**	**204**	*e*P		**Pn**	**20 39 51.1**	**-0.2**
KDTR				*e*S		**Sn**	**20 40 17.0**	**-0.9**
KMNR	**Kamenistaya**	**2.10**	**12**	*i*P		**Pn**	**20 39 52.1**	**+0.6**
KMNR				*e*S		**Sn**	**20 40 18.7**	**+0.4**
MIPR	**Malaya Ipel'ka**	**2.18**	**230**	*e*P		**Pn**	**20 39 53.2**	**+0.7**
MIPR				*e*S		**Sn**	**20 40 19.7**	**-0.3**
KPT	**Kopyto**	**2.30**	**11**	*e*P		**Pn**	**20 39 54.1**	**+0.1**
KIRR	**Kirishev**	**2.30**	**12**	*e*P		**Pn**	**20 39 54.4**	**+0.3**
KIRR				*e*S		**Sn**	**20 40 22.9**	**0.0**
BZMR	**Bezymyannaya**	**2.30**	**15**	*e*S		**Sn**	**20 40 24.5**	**+1.5**
BZWR	**Bezymyannyi-We**	**2.33**	**14**	*e*P		**Pn**	**20 39 55.0**	**+0.5**
BZWR				*e*S		**Sn**	**20 40 25.2**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**2.34**	**17**	*e*P		**Pn**	**20 39 54.9**	**+0.3**
KOZ	**Kozyrevsk**	**2.36**	**6**	*e*P		**Pn**	**20 39 54.6**	**-0.1**
KOZ				*e*S		**Sn**	**20 40 25.1**	**+1.0**
ZLN	**Zelenaya**	**2.43**	**18**	*e*P		**Pn**	**20 39 56.7**	**+1.0**
CIRR	**Tsirk**	**2.52**	**17**	*e*P		**Pn**	**20 39 57.6**	**+0.8**
KRSR	**Krestovskiy**	**2.59**	**14**	*e*P		**Pn**	**20 39 57.5**	**-0.2**
SRDR	**Sredinnyy**	**2.61**	**3**	*e*P		**Pn**	**20 39 57.6**	**-0.4**
KLY	**Klyuchi**	**2.69**	**14**	*e*P		**Pn**	**20 39 59.9**	**+1.0**
KLY				*e*S		**Sn**	**20 40 32.7**	**+1.1**
PAU	**Pauzhetka**	**2.77**	**217**	*e*P		**Pn**	**20 40 01.4**	**+1.4**
BDR	**Baidarnaya**	**3.03**	**19**	*e*P		**Pn**	**20 40 04.6**	**+1.2**
BDR				*e*S		**Sn**	**20 40 41.3**	**+1.7**
SMKR	**Semkarok**	**3.10**	**21**	*e*P		**Pn**	**20 40 04.7**	**+0.5**
SMKR				*e*S		**Sn**	**20 40 42.0**	**+0.9**
SRKR	**Sorokina**	**3.10**	**18**	*e*P		**Pn**	**20 40 05.3**	**+1.0**
SRKR				*e*S		**Sn**	**20 40 43.4**	**+2.1**
KBG	**Krutoberegovo**	**3.16**	**35**	*e*P		**Pn**	**20 40 05.2**	**+0.3**
KBG				*e*S		**Sn**	**20 40 40.4**	**-1.9**
KBTR	**Krutoberegovo**	**3.16**	**36**	*e*P		**Pn**	**20 40 05.4**	**+0.4**
KBTR				*e*S		**Sn**	**20 40 40.6**	**-1.8**
SKR	**Severo-Kuril's**	**3.67**	**215**	*e*P		**Pn**	**20 40 12.6**	**+0.9**
SKR				*e*S		**Sn**	**20 40 53.9**	**-0.5**
BKI	**Bering**	**4.08**	**66**	*e*P		**Pn**	**20 40 16.4**	**-0.7**
BKI				*e*S		**Sn**	**20 40 59.8**	**-4.4**
PALN	**Palana**	**5.40**	**3**	*e*P		**Pn**	**20 40 35.3**	**+0.6**
SMY	**Shemya**	**8.84**	**91**	Pn		**Pn**	**20 41 24.9**	**+3.8**
AMKA	**Amchitka**	**12.30**	**93**	Pn		**P**	**20 42 12.4**	**-1.8**
ERM	**Erimo**	**15.97**	**229**	Pn		**Pn**	**20 42 53.3**	**-0.6**
TTA	**Tatalina**	**24.64**	**50**	P		**P**	**20 44 25.5**	**+0.5**
SVW2	**Sparrevohn**	**24.87**	**55**	P		**P**	**20 44 27.9**	**+0.8**
SVW2					IAmb	IAmb	20 44 41.0	
	comp=Z,7.1nm,1.7s							
CHIR	**Chirikof Islan**	**25.65**	**67**	P		**P**	**20 44 34.9**	**+0.8**
SII	**Sitkinak Islan**	**26.26**	**65**	P		**P**	**20 44 41.8**	**+2.1**
RSO	**Redoubt South**	**26.31**	**56**	P		**P**	**20 44 42.9**	**+2.7**
PPLA	**Purkeypile**	**26.39**	**50**	P		**P**	**20 44 42.9**	**+2.0**
PPLA					IAmb	IAmb	20 44 51.1	
	comp=Z,9.6nm,1.7s							
OHAK	**Old Harbor**	**26.59**	**63**	P		**P**	**20 44 45.2**	**+2.7**
OHAK					IAmb	IAmb	20 44 45.3	
	comp=Z,5.9nm,1.2s							
SKT	**Skwentna**	**26.75**	**52**	P		**P**	**20 44 44.5**	**+0.5**
KDAK	**Kodiak Island**	**26.84**	**62**	P		**P**	**20 44 45.2**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=277,slow=8.5,SNR=6.4							
KDAK	**Kodiak Island**	**26.84**	**62**	P		**P**	**20 44 45.0**	**+0.3**
KDAK					IAmb	IAmb	20 44 49.5	
	comp=Z,5.9nm,1.2s							
SUA	**Susitna One**	**27.17**	**53**	P		**P**	**20 44 48.0**	**+0.2**
CNPM	**China Poot**	**27.20**	**58**	P		**P**	**20 44 47.8**	**-0.2**
CNPM					IAmb	IAmb	20 44 55.6	
	comp=Z,4.1nm,1.0s							
TRF	**Thorofare Moun**	**27.23**	**49**	P		**P**	**20 44 49.1**	**+0.7**
TRF					IAmb	IAmb	20 44 55.3	
	comp=Z,5.0nm,1.4s							
COLD	**Coldfoot**	**27.32**	**41**	P		**P**	**20 44 48.8**	**-0.2**
GHO	**Glory Hole Cre**	**28.00**	**53**	P		**P**	**20 44 55.9**	**+0.8**
GHO					IAmb	IAmb	20 44 56.4	
	comp=Z,2.4nm,0.9s							
WRH	**Wood River Hil**	**28.15**	**47**	P		**P**	**20 44 57.7**	**+1.3**
WRH					IAmb	IAmb	20 45 01.4	
	comp=Z,6.2nm,1.6s							
KNK	**Knik Glacier**	**28.27**	**53**	P		**P**	**20 44 57.9**	**+0.4**
KNK					IAmb	IAmb	20 44 58.8	
	comp=Z,4.7nm,0.8s							
SML	**Sawmill**	**28.27**	**52**	P		**P**	**20 44 58.0**	**+0.4**
SML					IAmb	IAmb	20 44 59.0	
	comp=Z,3.1nm,0.8s							
DHY	**Denali Highway**	**28.57**	**50**	P		**P**	**20 44 59.7**	**-0.6**
HDA	**Harding Lake**	**28.64**	**47**	P		**P**	**20 45 01.2**	**+0.4**
HDA					IAmb	IAmb	20 45 04.8	
	comp=Z,4.0nm,1.4s							
IL31		**28.65**	**46**	P		**P**	**20 45 00.6**	**-0.2**
ILAR	**Eielson Array**	**28.65**	**46**	P		**P**	**20 45 01.2**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=266,slow=8.3,SNR=6.3							
SCM	**Sheep Creek Mo**	**28.74**	**52**	P		**P**	**20 45 02.4**	**+0.7**
JNU	**Nakatsue**	**28.91**	**236**	P		**P**	**20 45 04.2**	**+0.6**
GLI	**Glacier Island**	**29.00**	**54**	P		**P**	**20 45 04.7**	**+0.7**
GLI					IAmb	IAmb	20 45 24.1	
	comp=Z,4.3nm,1.1s							
HIN	**Hinchinbrook I**	**29.38**	**55**	P		**P**	**20 45 06.5**	**-0.9**
HIN					IAmb	IAmb	20 45 08.8	
	comp=Z,5.7nm,0.9s							
DOT	**Dot Lake**	**29.98**	**48**	P		**P**	**20 45 11.8**	**-0.9**
RAGM	**Ragged Mountai**	**30.27**	**55**	P		**P**	**20 45 16.2**	**+0.9**
RAGM					IAmb	IAmb	20 45 18.1	
	comp=Z,6.8nm,1.0s							
GLB	**Gilahina Butte**	**30.46**	**52**	P		**P**	**20 45 18.2**	**+

	comp=Z,2.2nm,0.7s								
PDAR	**Pinedale Array**	**57.55**	**61**	P		**P**	**20 48 54.4**	**+1.6**
	comp=Z,1.9nm,0.6s,baz=320,slow=2.4,SNR=23								
CHTO	**Chiang Mai**	**57.66**	**257**	P		**P**	**20 48 50.8**	**-2.9**
CHTO				IAmb		IAmb	20 49 00.7		
	comp=Z,2.4nm,1.3s								
CMAR	**Chiang Mai Arr**	**57.95**	**257**	P		**P**	**20 48 57.2**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=26,slow=6.2,SNR=2.8								
TMUT	**Trail Mountain**	**59.16**	**65**	P		**P**	**20 49 05.8**	**+1.7**
RSSD	**Black Hills**	**59.37**	**56**	P		**P**	**20 49 06.9**	**+1.4**
FINES	**FINESS Array B**	**59.40**	**336**	P		**P**	**20 49 03.1**	**-2.0**
	comp=Z,3.9nm,1.1s,baz=62,slow=8.9,SNR=6.2								
SRU	**San Rafael Swe**	**59.66**	**64**	P		**P**	**20 49 09.4**	**+2.0**
CHGR	**Chuyangaron**	**60.15**	**295**	P		**P**	**20 49 07.8**	**-2.9**
PV22	**Blue Mesa, Par**	**61.01**	**64**	P		**P**	**20 49 18.3**	**+1.6**
PV22				IAmb		IAmb	20 49 18.4		
	comp=Z,2.5nm,0.8s								
TX31	**Lajitas Ar. Si**	**70.74**	**67**	P		**P**	**20 50 20.4**	**+1.4**
TX32	**Lajitas Array**	**70.74**	**67**	P		**P**	**20 50 20.4**	**+1.5**
TX32				IAmb		IAmb	20 50 20.9		
	comp=Z,1.4nm,0.6s								
TXAR	**Lajitas Array**	**70.74**	**67**	P		**P**	**20 50 20.5**	**+1.5**
	comp=Z,1.3nm,0.4s,baz=296,slow=5.2,SNR=30								
GERES	**GERESS Array B**	**73.79**	**337**	P		**P**	**20 50 35.3**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=159,slow=24,SNR=1.1								
WRA	**Warramunga Arr**	**76.49**	**204**	P		**P**	**20 50 52.3**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=18,slow=6.2,SNR=1.9								
ASAR	**Alice Springs**	**80.17**	**204**	P		**P**	**20 51 13.3**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=15,slow=5.2,SNR=7.9								

*IDC **22** 20:55:47.6±0.9,2°.12N×84°.63W, h0km, mb3.9/9, mb1 4.2/12,mb1mx4.0/34,mbtmp4.0/12,ML3.8/3,MS3.6/12, Ms1 3.6/12,ms1mx3.5/21, Error ellipse: s-maj=34.7km s-min=16.1km az=55.0*

*NEIC **22** 20:55:52.5±2.0,2°.15N±0°.09×84°.5W±0°.1, h32km±5km, mb4.4/18, Error ellipse: s-maj=19.1km s-min=9.7km az=61.0*

ISC 22 20:55:52.6±0.6,2°.16N±0°.06×84°.57W±0°.09,h35km,n76, σ1s62/68,mb4.3/17,MS3.7/10,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**6.41**	**107**		**Pn**	**20 57 23.9**	**-1.1**
OTAV	**Otavalo**	**6.41**	**107**	*e*P	**Pn**	**20 57 24.0**	**-1.0**
GR1C	**Gorgona, Isla**	**6.45**	**82**	*e*P	**Pn**	**20 57 24.6**	**-0.6**
GCUF	**Volcan Galeras**	**7.28**	**97**	*e*P	**Pn**	**20 57 35.1**	**-1.9**
BBAC	**Balboa, Cauca**	**7.32**	**91**	*e*P	**Pn**	**20 57 37.0**	**-0.4**
CRUC	**La Cruz**	**7.64**	**94**	*e*P	**Pn**	**20 57 42.1**	**+0.2**
HDC	**Heredia**	**7.81**	**3**	Pn	**Pn**	**20 57 42.9**	**-1.1**
POPC	**Popayan, Colom**	**7.90**	**87**	*e*P	**Pn**	**20 57 45.4**	**+0.1**
JTS	**Las Juntas de**	**8.09**	**357**	Pn	**Pn**	**20 57 47.3**	**-0.5**
	7.4nm,0.3s,baz=245,slow=2.6,SNR=17						
JTS				Sn	**Sn**	**20 59 13.0**	**-5.1**
	1.5nm,0.3s,baz=9.4,slow=20,SNR=1.9						
JTS	**Las Juntas de**	**8.09**	**357**		**Pn**	**20 57 47.2**	**-0.6**
PCON	**Cinco Dias**	**8.17**	**89**	*e*P	**Pn**	**20 57 51.5**	**+2.2**
YOTC	**Yotoco, Valle**	**8.41**	**77**	*e*P	**Pn**	**20 57 55.0**	**+2.8**
MARP	**Paez Belalcaza**	**8.63**	**85**	*e*P	**Pn**	**20 57 58.3**	**+2.9**
FLOC	**Florencia**	**8.93**	**93**	*e*P	**Pn**	**20 57 59.6**	**+0.3**
ORTC	**Ortega, Tolima**	**9.47**	**79**	*e*P	**Pn**	**20 58 09.6**	**+2.9**
TOLC	**Tolima**	**9.54**	**75**	*e*P	**Pn**	**20 58 11.3**	**+3.3**
DBBC	**Dabeiba**	**9.63**	**60**	*e*P	**Pn**	**20 58 11.9**	**+3.0**
GUY2C	**Guyana, Caldas**	**9.68**	**71**	*e*P	**Pn**	**20 58 12.5**	**+2.6**
PRAC	**Prado**	**9.79**	**81**	*e*P	**Pn**	**20 58 14.2**	**+3.0**
PTLC	**Puerto Leguiza**	**9.97**	**101**	*e*P	**Pn**	**20 58 14.5**	**+1.0**
ESPN	**Las Esperanzas**	**9.98**	**2**	Pn	**Pn**	**20 58 11.2**	**-2.4**
ROSC	**El Rosal**	**10.57**	**75**	LR	LR	21 02 15.9	
	comp=Z,296nm,18.4s,baz=333,slow=36						
PTBC	**PUERTO BERRIO,**	**10.98**	**66**	*e*P	**Pn**	**20 58 30.6**	**+3.2**
CHIC	**Chingaza**	**11.09**	**77**	*e*P	**Pn**	**20 58 33.1**	**+3.8**
ATAH	**Atahualpa**	**11.10**	**146**	Pn	**Pn**	**20 58 28.8**	**-0.5**
	0.7nm,0.3s,baz=313,slow=8.6,SNR=5.8						
ATAH				Sn	**Sn**	**21 00 31.8**	**-0.7**
	0.3nm,0.3s,baz=172,slow=17,SNR=1.6						
ATAH				LR	LR	21 02 20.9	
	comp=Z,483nm,18.6s,baz=325,slow=35						
MTO3	**Montecristo**	**13.05**	**339**	Pn	**Pn**	**20 58 56.7**	**+0.7**
ESQI	**Esquipulas**	**13.20**	**339**	Pn	**Pn**	**20 58 59.4**	**+1.7**
CZSB	**Cruzeiro do Su**	**15.38**	**130**	*e*P	**Pn**	**20 59 25.8**	**-1.4**
SDV	**Santo Domingo**	**15.39**	**64**	Pn	**Pn**	**20 59 29.0**	**+1.5**
	0.8nm,0.3s,baz=334,slow=20,SNR=1.4						
SDV	**Santo Domingo**	**15.39**	**64**		**P**	**20 59 31.5**	**-0.3**
SDV				IAmb	IAmb	20 59 34.9	
	comp=Z,9.6nm,0.7s						
ETMB	**Extrema**	**21.81**	**123**	*e*P	**P**	**21 00 42.0**	**0.0**
SAML	**Samuel**	**24.00**	**118**	P	**P**	**21 01 04.1**	**-0.2**
SAML				IAmb	IAmb	21 01 16.6	
	comp=Z,22nm,1.4s						
SAML	**Samuel**	**24.00**	**118**	*e*P	**P**	**21 01 04.8**	**+0.4**
LPAZ	**La Paz**	**24.49**	**139**	P	**P**	**21 01 10.5**	**+1.0**
	comp=Z,17nm,1.0s,baz=337,slow=12,SNR=32						
LPAZ				LR	LR	21 11 41.8	
	comp=Z,273nm,19.2s,baz=348,slow=39						
LPAZ	**La Paz**	**24.49**	**139**	P	**P**	**21 01 10.3**	**+0.8**
LPAZ	**La Paz**	**24.49**	**139**	*e*P	**P**	**21 01 10.4**	**+1.0**
PTGA	**Pitinga**	**24.77**	**96**	P	**P**	**21 01 12.0**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=318,slow=6.6,SNR=5.9						
PTGA	**Pitinga**	**24.77**	**96**	P	**P**	**21 01 11.5**	**+0.2**
PB16	**IPOC Station P**	**25.19**	**145**	P	**P**	**21 01 17.3**	**+1.6**
MNMC	**Minye Minye**	**25.77**	**146**	P	**P**	**21 01 22.6**	**+1.8**
MNMC				IAmb	IAmb	21 01 24.6	
	comp=Z,10nm,0.8s						
PSGCX	**Pisagua**	**25.86**	**147**	P	**P**	**21 01 23.6**	**+2.3**
PSGCX				IAmb	IAmb	21 01 25.1	
	comp=Z,11nm,0.9s						
PB11	**IPOC Station P**	**26.24**	**147**	P	**P**	**21 01 24.4**	**-0.4**
GO01	**Chusmiza**	**26.43**	**146**	P	**P**	**21 01 28.5**	**+1.7**
GO01				IAmb	IAmb	21 01 32.9	
	comp=Z,13nm,1.2s						
SIV	**San Ignacio**	**29.40**	**129**	P	**P**	**21 01 53.0**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=320,slow=12,SNR=7.4						
NPGB	**Novo Progresso**	**30.55**	**108**	*e*P	**P**	**21 02 02.6**	**-0.7**
GO02	**Mina Guanaco**	**30.80**	**153**	P	**P**	**21 02 05.7**	**+0.2**
GO02				IAmb	IAmb	21 02 25.0	
	comp=Z,5.9nm,0.9s						
LRAL	**Lakeview Retre**	**30.80**	**356**	P	**P**	**21 02 05.2**	**+0.1**
LRAL				IAmb	IAmb	21 02 06.8	
	comp=Z,9.3nm,1.5s						
CLDB	**Colider**	**31.42**	**115**	*e*P	**P**	**21 02 10.5**	**-0.3**
TXAR	**Lajitas Array**	**32.57**	**328**	P	**P**	**21 02 21.1**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=147,slow=10,SNR=4.7						
KMSC	**Kings Mountain**	**32.96**	**5**	P	**P**	**21 02 24.4**	**+0.3**
KMSC				IAmb	IAmb	21 02 33.2	
	comp=Z,4.5nm,0.9s						
H03N2	**Juan Fernandez**	**35.80**	**172**	T	T	21 40 35.1	
	baz=351,slow=76,SNR=75						
H03N1	**Juan Fernandez**	**35.80**	**172**	T	T	21 40 37.4	
	baz=351,slow=76,SNR=121						
H03N3	**Juan Fernandez**	**35.82**	**172**	T	T	21 40 36.2	
	baz=351,slow=76,SNR=88						
AMTX	**Amarillo**	**36.25**	**336**	P	**P**	**21 02 51.3**	**-1.4**
ZON	**Zonda**	**36.76**	**157**	P	**P**	**21 02 57.6**	**+0.6**
ZON				IAmb	IAmb	21 03 01.2	
	comp=Z,11nm,1.2s						
LENM	**Lemitar**	**38.10**	**329**	P	**P**	**21 03 10.4**	**+1.9**
BDFB	**Brasilia**	**40.24**	**117**	LR	LR	21 19 54.3	
	comp=Z,148nm,20.3s,baz=305,slow=36						
SDCO	**Great Sand Dun**	**40.30**	**334**	P	**P**	**21 03 27.1**	**+0.1**
IPMB	**Ipameri, GO**	**41.02**	**121**	*e*P	**P**	**21 03 32.8**	**-0.1**
SDBA	**SAO DESIDERIO**	**41.97**	**111**	*e*P	**P**	**21 03 40.2**	**-0.5**
U15A	**North Rim**	**42.65**	**326**	P	**P**	**21 03 46.8**	**+0.5**
CCUT	**Cedar City**	**44.05**	**327**		**P**	**21 03 59.1**	**+1.6**
PLCA	**Paso Flores**	**44.56**	**165**	P	**P**	**21 04 00.8**	**-0.5**
	comp=Z,4.2nm,1.0s,baz=335,slow=9.8,SNR=5.1						
PLCA	**Paso Flores**	**44.56**	**165**	P	**P**	**21 04 00.4**	**-0.9**
PLCA				IAmb	IAmb	21 04 02.3	
	comp=Z,5.4nm,1.0s						
PDAR	**Pinedale Array**	**46.19**	**334**	LR	LR	21 24 01.3	
	comp=Z,86nm,20.4s,baz=146,slow=37						
NVAR	**Mina Array Bea**	**47.48**	**324**	P	**P**	**21 04 25.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=134,slow=8.5,SNR=4.8						
NVAR				LR	LR	21 22 46.7	
	comp=Z,84nm,21.3s,baz=91,slow=34						
SCHQ	**Schefferville**	**54.47**	**13**	LR	LR	21 28 34.9	
	comp=Z,39nm,19.6s,baz=170,slow=36						
YKA	**Yellowknife Ar**	**64.23**	**345**	LR	LR	21 35 28.6	
	comp=Z,45nm,19.1s,baz=0.0,slow=37						
ILAR	**Eielson Array**	**76.54**	**337**	P	**P**	**21 07 39.4**	**+0.3**
	comp=Z,1.6nm,1.2s,baz=126,slow=3.9,SNR=6.2						
ILAR				LR	LR	21 42 16.4	
	comp=Z,49nm,21.4s,baz=152,slow=36						
ESDC	**Sonseca Array**	**81.39**	**50**	P	**P**	**21 08 07.3**	**+1.1**
	comp=Z,0.5nm,0.9s,baz=248,slow=6.8,SNR=2.8						
ESDC				LR	LR	21 37 29.2	
	comp=Z,11nm,22.0s,baz=155,slow=31						
TORD	**Torodi Ar. Bea**	**85.88**	**77**	P	**P**	**21 08 29.1**	**-0.6**
	comp=Z,0.6nm,1.1s,baz=258,slow=5.7,SNR=1.7						
NOA	**NORSAR Array B**	**90.94**	**29**	LR	LR	21 45 02.3	
	comp=Z,8.0nm,20.9s,baz=235,slow=32						
GERES	**GERESS Array B**	**93.84**	**41**	LR	LR	21 44 38.2	
	comp=Z,14nm,21.8s,baz=283,slow=31						
MKAR	**Makanchi Array**	**129.90**	**12**	PKP	**PKPdf**	**21 14 58.2**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=1.7,slow=4.1,SNR=3.6						
ASAR	**Alice Springs**	**137.07**	**237**	PKP	**PKiKP**	**21 15 14.5**	**-0.3**
	comp=Z,1.1nm,1.2s,baz=80,slow=1.8,SNR=4.0						
WRA	**Warramunga Arr**	**138.09**	**242**	PKP	**PKPdf**	**21 15 14.5**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=101,slow=2.4,SNR=2.7						

ASRS 22 21:06:31.2±0.2,52°N±2°×9°8E±°,h10km,MLh3.3/7, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.08**	**67**	Pg	Pn	21 06 53.3	+0.8
ORL				Sg	Sn	21 07 07.0	-0.6
TDJR	**Todzha**	**1.30**	**282**	Pg	Pg	21 06 59.0	+2.8
TDJR				Sg	Sg	21 07 16.7	+3.5
ERNS	**Erzin**	**2.67**	**227**	Pg	Pg	21 07 21.2	-1.2
ERNS				Sg	Sg	21 07 55.6	-1.4
ORY	**Orie**	**3.41**	**329**	Pg	Pg	21 07 35.2	-1.2
ORY				Sg	Sg	21 08 20.5	+0.1
TLY	**Talaya**	**3.41**	**96**	Pg	Pb	21 07 33.9	+2.2
TLY				Sg	Sb	21 08 16.8	+3.5
ZAK	**Zakamensk**	**3.65**	**117**	Pg	Pg	21 07 38.5	-2.6
ZAK				Sg	Sb	21 08 24.2	+3.9
IRK	**Irkutsk**	**3.75**	**86**	Sg	Sb	21 08 26.4	+3.5
CERR	**Cheremushki**	**4.20**	**283**	Sg	Sg	21 08 43.6	-2.3
DJOS	**Djoyskaya Sosn**	**4.20**	**282**	Sg	Sg	21 08 41.6	-4.3
DJO	**Djoy, Khakassi**	**4.31**	**281**	Pg	Pg	21 07 53.9	+0.2
DJO				Sg	Sg	21 08 45.1	-4.3
TBTR	**Tabat**	**4.62**	**283**	Sg	Sg	21 08 57.0	-2.6
SHTK	**Zheleznogorsk-**	**4.99**	**329**	Pg	Pb	21 08 01.2	+2.8
SHTK				Sg	Sg	21 09 06.4	-4.7
SHRR	**Shira**	**5.36**	**299**	Sg	Sg	21 09 19.4	-3.6
LUZB	**Luzhba, Kemero**	**5.82**	**289**	Sg	Sg	21 09 32.6	-5.3
TASR	**Tashtagol**	**6.33**	**280**	Sg	Sg	21 09 49.8	-4.4

*TEH **22** 21:08:22.4,32°.67N×47°.30E, h14km, ML3.0*

*ISN **22** 21:08:27.7±1.0,32°.68N×47°.38E, h15km±5km, ML2.7*

ISC 22 21:08:23.6±1.0,32°.70N±0°.04×47°.32E±0°.04,h11km±9km, n20,σ1s92/22,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.04**	**242**	*e*Pg	**Pg**	**21 08 24.8**	**-0.9**
IKMR	**Kamar-syah**	**1.21**	**47**	*e*Pg	**Pn**	**21 08 44.8**	**-1.6**
IKMR				*e*		21 09 05.0	
IBDR	**Badra**	**1.24**	**290**	*e*Pg	Pg	21 08 51.0	+3.5
IBDR				*e*Sg	**Sg**	**21 09 09.0**	**+5.4**
IBDR				AML	AML	21 09 10.2	
	comp=N,116nm,0.5s						
IBDR				AML	AML	21 09 14.5	
	comp=E,139nm,0.7s						
IDOB	**Doab**	**1.30**	**33**	*e*Pg	**Pg**	**21 08 47.9**	**-0.8**
IKOM	**Komasi**	**1.48**	**6**	*e*Pg	**Pg**	**21 08 51.0**	**-1.1**
IKOM				*e*		21 09 19.7	
KCHF	**Cheshme Sefid,**	**1.59**	**352**	*e*Pg	**Pg**	**21 08 53.2**	**-1.0**
KCHF				*e*		21 09 21.8	
BMDN	**Meydan**	**1.59**	**52**	*e*Pg	**Pg**	**21 08 53.0**	**-1.2**
BMDN				*e*		21 09 21.1	
IGHG	**Ghaleghazi**	**1.74**	**339**	*e*Pg	**Pb**	**21 08 55.5**	**-0.3**
IGHG				*e*		21 09 27.3	
IBZA	**Bozab**	**1.82**	**14**	*e*Pg	**Pg**	**21 08 57.3**	**-1.3**
IBZA				*e*		21 09 05.6	
HSAM	**Samen**	**1.85**	**35**	*e*Pg	**Pb**	**21 08 56.9**	**-0.7**
IVIS	**Veis**	**1.86**	**348**	*e*Pn	**Pb**	**21 08 56.6**	**-1.2**
NSR	**Nassriya**	**1.96**	**211**	*e*Pn	**Pg**	**21 09 02.0**	**+0.8**
NSR				*e*Sn	**Sg**	**21 09 26.0**	**-0.7**
IDHR	**Dehrash**	**2.14**	**339**	*e*Pn	**Pn**	**21 08 59.3**	**-0.2**
IDHR				*e*		21 09 40.2	
ILIN	**Lien**	**2.23**	**352**	*e*Pn	**Pn**	**21 09 00.6**	**-0.2**
ILIN				*e*		21 09 42.1	
BHD	**Baghdad**	**2.54**	**284**	*e*Pn	**Pg**	**21 09 11.0**	**-1.2**
BHD				*e*Sn	**Sg**	**21 09 43.0**	**-2.1**
BHD				AML	AML	21 09 49.6	
	comp=E,79nm,0.4s						
HSRG	**Sareghieh**	**2.66**	**17**	*e*	**Sg**	**21 09 52.9**	**+3.8**
JHBN	**Jahan bin**	**2.87**	**98**	*e*Pn	**Pn**	**21 09 10.4**	**+0.9**
JHBN				*e*		21 10 01.1	
IRAZ	**Razeghan**	**3.46**	**38**	*e*Pn	**Pn**	**21 09 18.5**	**+0.9**
QABG	**Abgarm-Qazvin**	**3.54**	**31**	*e*Pn	**Pn**	**21 09 19.3**	**+0.6**
QSDN	**Sirdan**	**4.09**	**21**	*e*Pn	**Pn**	**21 09 27.7**	**+1.4**

*NNC **22** 21:22:11.6±2.3,42°.26N×81°.10E, h0km, mb2.6, mpv2.4, Error ellipse: s-maj=22.0km s-min=14.8km az=38.0*

*KRNET **22** 21:22:17.8±0.1,39°.25N×77°.93E, mb2.2*

SOME 22 21:22:13.1,42°.32N×81°.02E,h15km,9C-3D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.51**	**313**	⇑P	Pn	21 22 40.2	+0.4
	1.9nm,1.1s						
PDGK				⇓S	Sg	21 23 02.9	+1.0
	2.0nm,0.7s						
UZB	**Uzynbulak**	**1.69**	**300**	*e*P	Pb	21 22 44.7	+0.7
	1.2nm,0.2s						
UZB				*e*S	Sg	21 23 07.4	-0.1
	1.7nm,0.3s						
UZB	**Uzynbulak**	**1.69**	**300**	P	Pb	21 22 44.4	+0.4
	1.2nm,0.2s						
UZB				S	Sg	21 23 07.3	-0.2
	1.7nm,0.3s						
SATY	**Saty**	**2.06**	**292**	*e*P	Pb	21 22 50.8	+0.5
	0.9nm,0.1s						
SATY				*e*S	Sg	21 23 18.4	-1.1
	3.6nm,0.1s						
SATY	**Saty**	**2.06**	**292**	Pg	Pb	21 22 50.8	+0.5
	0.8nm,0.2s						
SATY				Lg	Lg	21 23 18.4	
	3.6nm,0.1s						
DJR	**Jarkent**	**2.20**	**336**	*e*P	Pb	21 22 53.6	+0.9
	1.0nm,0.3s						
DJR				*e*S	Sg	21 23 23.2	-0.8
	1.2nm,0.2s						
DJR	**Jarkent**	**2.20**	**336**	Pg	Pb	21 22 53.6	+0.9
	1.0nm,0.3s						
DJR				Lg	Lg	21 23 23.2	
	1.5nm,0.4s						
TARG	**Taragay, Kyrgy**	**2.46**	**257**	⇑*i*P	Pb	21 22 58.4	+1.1
	baz=58						
TARG				⇑*i*S	Sb	21 23 28.0	+0.3
	baz=58						
ANVS	**Anan'yevo**	**2.52**	**282**	⇓*i*P	Pg	21 23 13.6	+12
	baz=57						
ANVS				⇓*i*S	Sg	21 23 53.8	+20
	baz=57						
KDJ	**Kajisay**	**2.86**	**268**	⇑*i*P	Pb	21 23 04.4	+0.5
	baz=49						
KDJ				⇑*i*S	Sb	21 23 38.7	0.0
	baz=49						
KAPS	**Kapalarasan**	**3.20**	**339**	*e*P	Pb	21 23 11.4	+1.8
	0.4nm,0.2s						
KAPS				*e*S	Sg	21 23 53.2	-2.7
	0.8nm,0.2s						
ULHL	**Ulahol**	**3.54**	**270**	⇑*i*P	Pn	21 23 09.0	+1.2
	baz=37						
ULHL				⇑*i*S	Sn	21 23 46.6	-2.9
	baz=37						
KZA	**Kyzart**	**4.29**	**269**	⇑*i*P	Pn	21 23 12.6	-5.6
	baz=25						
KZA				⇑*i*S	Sn	21 23 52.4	-16
	baz=25						

*ISN **22** 21:36:30.9±1.2,33°.78N×45°.77E, h8km±6km, ML2.8*

*TEH **22** 21:36:32.3,33°.81N×45°.86E, h19km, ML3.1*

ISC 22 21:36:31.7±1.0,33°.81N±0°.04×45°.75E±0°.06,h10km,n20, σ0s90/23,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.71**	**168**	*e*Pg	**Pg**	**21 36 45.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**21 36 53.5**	**-1.2**
IBDR				AML	AML	21 37 05.1	
	comp=E,144nm,0.5s						
IBDR				AML	AML	21 37 12.3	
	comp=N,197nm,0.7s						
IGHG	**Ghaleghazi**	**0.86**	**52**	*e*Pg	**Pg**	**21 36 48.3**	**0.0**
IGHG				*e*		21 36 49.5	
IDHR	**Dehrash**	**1.04**	**30**	*e*Pg	**Pg**	**21 36 51.1**	**-0.6**
IDHR				*e*		21 37 12.2	
IVIS	**Veis**	**1.16**	**51**	*e*Pg	**Pb**	**21 36 53.5**	**-0.5**
IVIS				*e*		21 37 15.6	
KCHF	**Cheshme Sefid,**	**1.17**	**66**	*e*Pg	**Pb**	**21 36 52.7**	**-1.4**
KCHF				*e*		21 37 15.5	
BHD	**Baghdad**	**1.26**	**245**	*e*Pg	**Pn**	**21 36 55.0**	**-0.4**
BHD				*e*Sg	**Sb**	**21 37 13.0**	**+1.2**
BHD				AML	AML	21 37 14.2	
	comp=E,2μm,0.6s						
KER	**Kermanshah**	**1.28**	**63**	*e*Pg	**Pn**	**21 36 55.7**	**-0.2**
ILIN	**Lien**	**1.50**	**42**	*e*Pg	**Pn**	**21 36 59.8**	**+0.9**
ILIN				*e*		21 37 23.8	
IKOM	**Komasi**	**1.51**	**75**	*e*Pg	**Pn**	**21 36 58.7**	**-0.3**
IKOM				*e*		21 37 25.3	
DHL1	**Dehloran**	**1.70**	**131**	*e*Pg	**Pn**	**21 37 02.9**	**+1.4**
IBZA	**Bozab**	**1.87**	**69**	*e*		21 37 08.3	
IBZA				*e*Pg	**Pn**	**21 37 05.0**	**+0.9**
IDOB	**Doab**	**2.02**	**90**	*e*Pn	**Pn**	**21 37 06.2**	**+0.1**
IKMR	**Kamar-syah**	**2.21**	**97**	*e*		21 37 45.2	
IKMR				*e*Pn	**Pn**	**21 37 08.7**	**+0.2**
HSAM	**Samen**	**2.41**	**79**	*e*Pn	**Pn**	**21 37 11.7**	**+0.3**
HSAM				*e*		21 37 56.1	
HSRG	**Sareghieh**	**2.53**	**55**	*e*Pn	**Pn**	**21 37 14.5**	**+1.3**
HSRG				*e*		21 37 57.6	
BMDN	**Meydan**	**2.57**	**92**	*e*Pn	**Pn**	**21 37 13.6**	**+0.1**
BMDN				*e*		21 38 00.2	
NSR	**Nassriya**	**2.81**	**173**	*e*Pn	**Pn**	**21 37 17.0**	**+0.4**
NSR				*e*Sn	**Sn**	**21 37 52.0**	**+1.5**
HAGD	**Aghdareh**	**2.98**	**69**	*e*Pn	**Pn**	**21 37 20.0**	**+0.7**
HAGD				*e*		21 38 02.2	
QABG	**Abgarm-Qazvin**	**3.68**	**58**	*e*Pn	**Pn**	**21 37 29.2**	**+0.3**
IRAZ	**Razeghan**	**3.80**	**64**	*e*Pn	**Pn**	**21 37 31.8**	**+1.3**

*IDC **22** 21:44:24.8±2.1,0°.92N×125°.17E, h69km±18km, mb4.1/26, mb1 4.1/29,mb1mx4.1/44,mbtmp4.4/29,MS3.4/5, Ms1 3.4/5,ms1mx3.0/27, Error ellipse: s-maj=16.5km s-min=10.4km az=71.0*

*NEIC **22** 21:44:25.8±2.4,0°.93N±0°.08×125°.36E±0°.06, h80km±6km, mb4.4/38, Error ellipse: s-maj=11.4km s-min=9.0km az=182.0*

*DJA **22** 21:44:26.8±1.0,1°.N±3°×12°.5E±°, h27km±11km, M4.6/16, mb4.7/13,mB5.1/9,MLv4.7/16,Mw(mB)4.5/9*

ISC 22 21:44:25.9±0.3,0°.86N±0°.04×125°.33E±0°.05,h79km,n107, σ1s79/116,mb4.5/43,1D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.38**	**258**	P	**Pn**	**21 44 51.0**	**+1.4**
TNTI	**Ternate**	**2.04**	**93**	P	**Pn**	**21 44 58.8**	**+0.4**
TNTI	**Ternate**	**2.04**	**93**	Pn	**Pn**	**21 44 58.2**	**-0.1**
GTOI	**Gorontalo**	**2.33**	**264**	P	**Pn**	**21 45 05.0**	**+2.8**
SANI	**Sanana**	**2.97**	**167**	P	**Pn**	**21 45 09.6**	**-1.3**
LUWI	**Luwuk**	**3.18**	**233**	P	**Pn**	**21 45 15.9**	**+2.2**
LUWI	**Luwuk**	**3.18**	**233**	Pn	**Pn**	**21 45 15.7**	**+2.0**
NLAI	**Namlea**	**4.44**	**157**	P	**Pn**	**21 45 30.6**	**-0.3**
DDMP	**Don Marcelino,**	**5.22**	**4**	*e*P	**Pn**	**21 45 43.6**	**+2.0**
DDMP				*e*S	**Sn**	**21 46 42.9**	**+2.5**
MPSI	**Mapaga**	**5.45**	**265**	P	**Pn**	**21 45 48.1**	**+3.4**
	0.4nm934nm62nm,1.1s						
MSAI	**Masohi**	**5.52**	**139**	P	**Pn**	**21 45 46.9**	**+1.3**
	0.3nm1μm62nm,0.6s						
SKMP	**Bagumbayan, Su**	**5.67**	**352**	*e*P	**Pn**	**21 45 48.3**	**+0.5**
SKMP				*e*S	**Sn**	**21 46 50.7**	**-0.9**
KCP	**Kidapawan**	**6.11**	**358**	⇓*i*P	**Pn**	**21 45 57.3**	**+3.5**
MATI

AS31	Alice Springs	25.77	162	P		P		21 49 50.9	+1.3
ASAR	Alice Springs	25.77	162	P		P		21 49 50.5	+1.0
	comp=Z,5.6nm,0.6s,baz=348,slow=13,SNR=40								
ASAR				PcP		PcP		21 53 18.6	+0.8
	comp=Z,1.5nm,0.8s,baz=1.9,slow=2.9,SNR=5.2								
ASAR				S		S		21 54 11.5	-1.7
	comp=Z,1.5nm,1.1s,baz=347,slow=20,SNR=3.3								
ASAR				ScP		ScP		21 56 50.5	+0.1
	comp=Z,0.9nm,1.0s,baz=12,slow=5.0,SNR=4.0								
KRVT	Keravat (AS076	27.17	101	P		P		21 50 04.4	+2.1
	comp=Z,25nm,0.7s,baz=61,slow=10.0,SNR=4.0								
CMAR	Chiang Mai Arr	31.25	306	P		P		21 50 38.2	-0.2
	comp=Z,0.3nm,0.3s,baz=128,slow=8.1,SNR=10								
CMAR				ScP		ScP		21 57 07.8	+0.2
	comp=Z,0.7nm,0.4s,baz=174,slow=2.0,SNR=4.7								
CMAR				LR		LR		22 05 19.4	
	comp=Z,56nm,18.2s,baz=182,slow=40								
CHTO	Chiang Mai	31.43	306	P		P		21 50 39.8	-0.2
FORT	Forrest	31.57	176	P		P		21 50 40.9	-0.2
JNU	Nakatsue	32.51	9	P		P		21 50 49.6	+0.2
JNU				IAmb		IAmb		21 51 08.4	
	comp=Z,13nm,1.0s								
STKA	Stephens Creek	36.03	156	P		P		21 51 20.4	+0.7
	comp=Z,8.0nm,1.0s,baz=348,slow=5.6,SNR=8.1								
STKA				LR		LR		22 07 05.7	
	comp=Z,65nm,19.8s,baz=7.7,slow=38								
STKA	Stephens Creek	36.03	156	P		P		21 51 19.9	+0.3
KSRS	Korea Array	36.49	3	P		P		21 51 21.4	-2.2
	comp=Z,3.3nm,0.8s,baz=181,slow=9.7,SNR=6.6								
KS19	Wonju Array Si	36.53	3	P		P		21 51 21.8	-2.2
MAT	Matsushiro	37.45	17	P		P		21 51 30.5	-1.3
LZH	Lanzhou	40.32	333	*e*P		P		21 51 56.4	+0.4
LZH				pP		pP		21 52 15.0	+0.1
LZH				sP		sP		21 52 25.6	+1.7
LZH				PP		PnPn		21 53 44.0	+9.4
LZH				pmax		pmax			
	comp=Z,14nm,1.0s								
LZH				pmax		pmax			
	comp=Z,120nm,5.0s								
TOO	Toolangi	42.55	156	P		P		21 52 14.5	+0.5
TOO				IAmb		IAmb		21 52 17.5	
	comp=Z,4.0nm,0.8s								
USA0B	Ussuriysk Arra	43.56	7	P		P		21 52 21.5	-0.4
USRK	Ussuriysk Ar.	43.56	7	P		P		21 52 22.4	+0.4
	comp=Z,4.1nm,0.5s,baz=181,slow=7.5,SNR=17								
H11S3	WAKE ISLAND Hy	44.20	64	T		T		22 39 54.4	
	baz=252,slow=75,SNR=35								
H11S2	WAKE ISLAND Hy	44.21	64	T		T		22 39 57.3	
	baz=252,slow=75,SNR=27								
H11S1	WAKE ISLAND Hy	44.22	64	T		T		22 39 55.7	
	baz=252,slow=75,SNR=19								
GTA	Gaotai	44.88	332	*e*P		P		21 52 33.6	+0.8
GTA				pP		pP		21 52 52.9	+0.9
GTA				sP		sP		21 53 00.3	-0.7
GTA				S		S		21 59 07.6	+2.6
GTA				sS		sS		21 59 38.8	+1.9
GTA				SS		ScS		22 02 21.3	-1.5
GTA				pmax		pmax			
	comp=Z,4.0nm,1.0s								
GTA				pmax		pmax			
	comp=Z,93nm,7.6s								
GTA				LR		LR			
	comp=N,45nm,16.8s								
GTA				LR		LR			
	comp=E,85nm,18.1s								
GTA				LR		LR			
	comp=Z,72nm,19.7s								
ASAJ	Asahikawa	45.73	17	P		P		21 52 39.6	+0.4
	comp=Z,6.2nm,0.7s,baz=202,slow=10,SNR=3.6								
JKA	Kamikawa-asahi	45.73	17	P		P		21 52 39.6	+0.4
SONM	Songino Array	49.59	343	P		P		21 53 08.2	-1.0
	comp=Z,1.2nm,0.9s,baz=155,slow=7.9,SNR=5.0								
SONM				PcP		PcP		21 54 29.9	+0.1
	comp=Z,0.9nm,0.9s,baz=181,slow=5.8,SNR=2.0								
SONM				LR		LR		22 16 27.4	
	comp=Z,31nm,20.0s,baz=175,slow=39								
WMQ	Urumqi	54.30	327	*e*P		P		21 53 46.3	+2.0
PETK	Petropavlovsk-	58.60	22	P		P		21 54 15.7	+1.2
	comp=Z,3.4nm,0.7s,baz=202,slow=7.5,SNR=4.1								
TARG	Taragay, Kyrgy	58.98	320	P		P		21 54 17.2	-0.8
TARG				IAmb		IAmb		21 54 21.2	
	comp=Z,2.3nm,0.6s								
MK31	Makanchi Array	59.14	327	P		P		21 54 17.3	-1.2
MK31				IAmb		IAmb		21 54 20.0	
	comp=Z,2.2nm,0.7s								
MKAR	Makanchi Array	59.14	327	P		P		21 54 17.1	-1.4
	comp=Z,2.9nm,0.6s,baz=122,slow=8.9,SNR=31								
MKAR				PcP		PcP		21 55 05.2	-1.1
	comp=Z,2.9nm,0.8s,baz=135,slow=5.2,SNR=8.4								
MAKZ	Makanchi	59.32	327	P		P		21 54 18.5	-1.2
MAKZ				IAmb		IAmb		21 54 21.1	
	comp=Z,2.9nm,0.7s								
KDJ	Kajisay	59.59	320	P		P		21 54 21.5	-0.3
KDJ				IAmb		IAmb		21 54 23.4	
	comp=Z,3.9nm,0.9s								
YAK	Yakutsk	61.10	2	P		P		21 54 31.8	+0.3
MA2	Magadan	61.81	14	P		P		21 54 37.4	+1.1
	comp=Z,9.6nm,0.6s,baz=191,slow=16,SNR=2.6								
MA2	Magadan	61.81	14	IAmb		IAmb		21 54 37.9	
	comp=Z,13nm,0.8s								
ZALV	Zalesovo Beam	62.52	334	P		P		21 54 39.0	-2.1
	comp=Z,1.4nm,0.7s,baz=145,slow=5.3,SNR=4.8								
KURK	Kurchatov	63.42	329	P		P		21 54 45.8	-1.4
SEY	Seymchan	65.12	13	P		P		21 54 56.8	-1.3
	comp=Z,1.9nm,0.5s,baz=220,slow=13,SNR=3.7								
WSAR	Wadi Sarin	68.30	295	P		P		21 55 17.2	-1.9
	comp=Z,3.9nm,0.8s,baz=148,slow=9.3,SNR=1.9								
GEYT	Alibeck	71.61	310	P		P		21 55 37.9	-1.3
	comp=Z,0.5nm,0.3s,baz=101,slow=2.9,SNR=3.9								
NRIK	Noril'sk	72.87	347	P		P		21 55 45.9	-0.1
	comp=Z,6.4nm,0.6s,baz=127,slow=5.3,SNR=12								
NRIK				LR		LR		22 33 11.6	
	comp=Z,22nm,18.7s,baz=50,slow=40								
OPO	Ambohidratompo	79.03	251	P		P		21 56 22.4	+0.1
	comp=Z,4.0nm,0.8s,baz=130,slow=12,SNR=3.7								
MAW	Mawson	80.60	200	P		P		21 56 30.2	+0.7
	comp=Z,2.0nm,0.9s,baz=22,slow=7.3,SNR=4.3								
MAW	Mawson	80.60	200	IAmb		IAmb		21 56 31.7	
	comp=Z,0.7nm,1.1s								
VNDA	Vanda	80.78	172	P		P		21 56 31.0	+0.7
	comp=Z,0.6nm,0.6s,baz=280,slow=5.6,SNR=5.8								
VNDA	Vanda	80.78	172	P		P		21 56 31.6	+1.2
KLMR	Klimovskoe	87.20	331	*e*P		P		21 56 58.4	-4.9
KLMR				AMP				21 57 02.8	
	comp=Z,8.0nm,1.0s								
KMBO	Kilima Mbogo	88.09	269	P		P		21 57 11.1	+2.2
	comp=Z,2.0nm,0.7s,baz=47,slow=6.9,SNR=12								
KMBO	Kilima Mbogo	88.09	269	P		P		21 57 10.0	+1.1
KMBO				IAmb		IAmb		21 57 10.2	
	comp=Z,6.3nm,1.0s								
ILAR	Eielson Array	88.28	25	P		P		21 57 07.2	-1.2
	comp=Z,0.2nm,0.5s,baz=297,slow=2.8,SNR=1.8								
BRTR	Keskin Array B	90.76	310	P		P		21 57 20.6	-0.1
	comp=Z,0.6nm,0.7s,baz=76,slow=6.1,SNR=5.0								
ARCES	ARCESS Array B	92.64	340	P		P		21 57 27.2	-1.4
	comp=Z,2.8nm,0.8s,baz=82,slow=6.5,SNR=2.6								
AKASG	Malin Array Be	93.21	321	P		P		21 57 30.1	-1.5
	comp=Z,1.4nm,0.6s,baz=70,slow=4.4,SNR=6.2								
FINES	FINESS Array B	93.68	332	P		P		21 57 31.2	-2.3
	comp=Z,2.2nm,0.9s,baz=86,slow=4.5,SNR=4.5								
BUR08	Bucovina Ar. S	96.19	318	P		P		21 57 45.1	-0.4
TORD	Torodi Ar. Bea	122.42	286	PKP		PKPdf		22 03 11.7	-1.5
	comp=Z,0.9nm,0.7s,baz=49,slow=1.7,SNR=6.0								
TXAR	Lajitas Array	124.44	53	PKP		PKiKP		22 03 17.6	+0.4
	comp=Z,0.3nm,0.7s,baz=258,slow=2.3,SNR=4.4								

IDC ***22*** *21:49:12.8±1.0, 2°.66N×93°.11E, h0km, mb4.0/11, mb1 4.2/13, mb1mx3.9/42, mbtmp4.1/13, ML4.0/2, MS3.6/4, Ms1 3.6/4, ms1mx3.0/38, Error ellipse: s-maj=39.3km s-min=15.1km az=49.0*

DJA ***22*** *21:49:15.7±0.5, 3°.N×3°.9E×°, h18km±4km, M4.9/22, mb5.1/22, mB5.3/12, MLv5.2/9, Mw(mB)4.7/12, Mwp5.7/1*

NEIC ***22*** *21:49:19.8±2.6, 2°.53N±0°.08×93°.42E±0°.09, h30km±5km, mb4.5/29, Error ellipse: s-maj=14.6km s-min=10.8km az=53.0*

ISC 22 21:49:20.0±0.6, 2°.60N±0°.06×93°.37E±0°.07, h35km, n93, σ1§85/85, mb4.5/28, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	Meulaboh, Aceh	3.45	61	P	Pn	21 50 11.4	+0.1
MLSI				S	Sn	21 50 49.2	-1.7
GSI	Gunungsitoli	4.39	107	P	Pn	21 50 26.2	+1.9
GSI				S	Sn	21 51 13.8	-0.5
GSI	Gunungsitoli	4.39	107	Pn	Pn	21 50 24.2	-0.1
GSI				Sn	Sn	21 51 14.7	+0.4
LHMI	Lhok Sumawe	4.42	54	P	Pn	21 50 22.9	-1.7
LHMI	Lhok Sumawe	4.42	54	Pn	Pn	21 50 24.7	+0.1
KCSI	Kotacane, Aceh	4.49	78	P	Pn	21 50 26.3	+0.8
TSI	Tuntungan	5.26	80	P	Pn	21 50 36.1	-0.1
	2.6nm3µm199nm,1.0s						
RPSI	Rantau Prapat	5.55	89		Pn	21 50 40.8	+0.7
RPSI	Rantau Prapat	5.55	89		Pn	21 50 42.3	+2.2
RPSI					Sn	21 51 43.3	+0.6
PSI	Prapat	5.55	88	Pn	Pn	21 50 42.3	+2.0
	4.8nm,0.3s,baz=360,slow=4.0,SNR=14						
PSI				Sn	Sn	21 51 43.3	+0.4
	11nm,0.3s,baz=360,slow=13,SNR=4.7						
PSI				LR	LR	21 52 29.8	
	comp=Z,138nm,22.0s,baz=270,slow=34						
MNSI	Mandailing Nat	6.46	106	P	Pn	21 50 54.9	+2.3
	6.5nm11µm238nm,0.4s						
SISI	Saibi	6.92	124	P	Pn	21 51 00.8	+1.8
	0.4nm1µm117nm,0.8s						
KULM	Kulim	7.74	70		Pn	21 51 10.3	+0.1
IPM	Ipoh	7.86	76		Pn	21 51 11.5	-0.5
PDSI	Padang	7.90	116	P	Pn	21 51 14.3	+1.8
	1µm66nm,0.6s						
BKNI	Bangkinang	7.99	106	P	Pn	21 51 15.6	+1.9
	2µm85nm,0.5s						
BKNI	Bangkinang	7.99	106	Pn	Pn	21 51 11.6	-2.0
PPSI	Pulau Pagai	8.51	129	P	Pn	21 51 22.1	+1.3
	24µm278nm,0.6s						
SDSI	Sungai Dareh	8.79	113	P	Pn	21 51 25.9	+1.3
	830nm23nm,0.7s						
KRJI	Kerinci	9.33	120	P	Pn	21 51 34.2	+2.0
	13µm537nm,0.5s						
KSI	Kapahiang	11.11	124	P	Pn	21 51 58.4	+1.8
	132nm,1.0s						
LHSI	Lahat	11.99	122	P	Pn	21 52 10.5	+2.0
	2µm115nm,0.6s						
MDSI	Maura Dua	12.89	123	P	Pn	21 52 21.3	+0.5
	40nm,0.5s						
LWLI	Liwa	13.09	125	P	Pn	21 52 25.0	+1.4
	108nm,0.7s						
KLSI		13.46	123	P	Pn	21 52 31.1	+2.4
	18nm,0.7s						
KASI	Kota Agung	13.73	126	P	Pn	21 52 34.2	+1.9
	1µm51nm,0.6s						
PBKT	Sadao Pong	15.77	28	Pn	Pn	21 52 56.9	-2.6
PBKT				IAmb	IAmb	21 53 01.7	
	comp=Z,17nm,0.7s						
CM31	Chiang Mai Arr	16.68	19		Pn	21 53 10.9	-0.3
CMAR	Chiang Mai Arr	16.68	19	Pn	Pn	21 53 06.8	-4.3
	comp=Z,0.2nm,0.3s,baz=215,slow=13,SNR=35						
CHTO	Chiang Mai	17.01	18		Pn	21 53 14.3	-1.1
DLV	T Lat	17.62	57	P	P	21 53 24.0	+0.1
STKI	Sintang	18.27	98	P	Pn	21 53 31.4	+0.4
UGM	Wanagama	20.04	122	P	P	21 53 50.5	+0.2
UGM				IAmb	IAmb	21 53 58.0	
	comp=Z,20nm,0.7s						
SLVN	Son La	21.26	28	P	P	21 54 04.3	+0.9
SHL	Shillong	22.88	357		S	21 58 31.7	+3.4
H08S2	Diego Garcia H	23.18	244	T	T	22 19 48.0	
	baz=62,slow=76,SNR=214						
H08S3	Diego Garcia H	23.18	244	T	T	22 19 50.3	
	baz=62,slow=76,SNR=46						
H08S1	Diego Carcia H	23.20	244	T	T	22 19 54.5	
	baz=62,slow=76,SNR=81						
LSA	Lhasa	27.03	356	P	P	21 55 03.8	+4.2
LSA	Lhasa	27.03	356	P	P	21 55 01.6	+2.0
KAPI	Kappang	27.42	106	LR	LR	22 06 19.8	
	comp=Z,52nm,21.1s,baz=269,slow=37						
XAN	Xi'an	34.48	23	P	P	21 56 12.6	+7.8
XAN				sP	pwP	21 56 30.4	+11
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LZH	Lanzhou	34.70	15	*e*P	P	21 56 10.6	+3.8
LZH				pP	pwP	21 56 21.8	+0.3
LZH				sP	sP	21 56 25.3	+6.1
LZH				PP	PnPn	21 57 21.1	-2.2
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,63nm,4.9s						
PSA00	Pilbara Seismi	35.33	134	P	P	21 56 11.9	-0.2
NIL	Nilore	36.17	331	P	P	21 56 22.7	+3.4
GTA	Gaotai	37.11	8	*e*P	P	21 56 30.4	+3.1
GTA				pP	pwP	21 56 42.0	+0.1
GTA				sP	sP	21 56 46.8	+7.0
GTA				S	S	22 02 16.5	+5.2
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,53nm,7.0s						
GTA				LR	LR		
	comp=N,51nm,17.5s						
GTA				LR	LR		
	comp=E,84nm,18.1s						
GTA				LR	LR		
	comp=Z,68nm,19.4s						
FITZ	Fitzroy Crossi	37.86	124	P	P	21 56 33.4	-0.4
	comp=Z,4.5nm,0.8s,baz=252,slow=4.9,SNR=6.3						
FITZ	Fitzroy Crossi	37.86	124	P	P	21 56 33.4	-0.4
	baz=38,SNR=3.8						
FITZ	Fitzroy Crossi	37.86	124	P	P	21 56 32.9	-0.9
FITZ				IAmb	IAmb	21 56 34.1	
	comp=Z,5.9nm,0.9s						
FAKI	Fak Fak	39.25	98	P	P	21 56 43.8	-1.7
KNRA	Kununurra	39.43	119	P	P	21 56 45.3	-1.7
KNRA				IAmb	IAmb	21 56 60.0	
	comp=Z,8.4nm,1.0s						
MTN	Manton Dam	40.51	113	P	P	21 56 55.6	-0.4
	baz=41,SNR=4.9						
WMQ	Urumqi	41.35	354	*e*P	P	21 57 07.0	+4.4
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,51nm,3.7s						
WMQ				LR	LR		
	comp=N,270nm,28.9s						
WMQ				LR	LR		
	comp=E,330nm,29.3s						
WMQ				LR	LR		
	comp=Z,69nm,29.2s						
KDJ	Kajisay	41.95	342	P	P	21 57 09.0	+1.3
KDJ				IAmb	IAmb	21 57 18.4	
	comp=Z,4.4nm,0.8s						
H01W3	Cape Leeuwin H	42.07	154	T	T	22 42 50.5	
	baz=331,slow=76,SNR=20						
H01W2	Cape Leeuwin H	42.09	154	T	T	22 42 49.7	
	baz=331,slow=76,SNR=26						
H01W1	Cape Leeuwin H	42.09	154	T	T	22 42 43.7	
	baz=331,slow=76,SNR=43						
WRKA	Warakurna	43.61	131	P	P	21 57 21.1	-0.1
	baz=44,SNR=3.8						
MK31	Makanchi Array	45.06	349	P	P	21 57 36.1	+3.6
MK31				IAmb	IAmb	21 57 43.2	
	comp=Z,4.5nm,0.7s						
MKAR	Makanchi Array	45.06	349	P	P	21 57 29.2	-3.3
	comp=Z,0.9nm,0.6s,baz=171,slow=8.3,SNR=3.7						
MAKZ	Makanchi	45.14	349	P	P	21 57 36.0	+2.9
MAKZ				IAmb	IAmb	21 57 43.7	
	comp=Z,4.0nm,0.7s						
WB0	Warramunga Arr	46.00	121	P	P	21 57 39.9	-0.4
WRA	Warramunga Arr	46.02	121	P	P	21 57 40.4	-0.2
	comp=Z,12nm,0.8s,baz=300,slow=8.6,SNR=97						
WRAB	Tennant Creek	46.03	121	P	P	21 57 40.1	-0.5
WB2	Warramunga Arr	46.03	121	P	P	21 57 40.0	-0.6
	baz=46						
WB2	Warramunga Arr	46.03	121	P	P	21 57 40.5	-0.2
WB2				IAmb	IAmb	21 57 41.2	
	comp=Z,13nm,0.8s						
WC3	Warramunga Arr	46.06	121	P	P	21 57 40.2	-0.6
	baz=46						
WR0	Warramunga Arr	46.20	121	P	P	21 57 41.8	-0.1
WR0				IAmb	IAmb	21 57 42.7	
	comp=Z,14nm,0.9s						
SONM	Songino Array	46.45	12	P	P	21 57 41.1	-2.5
	comp=Z,1.2nm,0.7s,baz=191,slow=9.4,SNR=8.2						
FORT	Forrest	46.84	138	P	P	21 57 46.8	+0.1
AS31	Alice Springs	47.30	126	P	P	21 57 49.9	-0.6
AS31				IAmb	IAmb	21 57 50.5	
	comp=Z,1.8nm,0.3s						
ASAR	Alice Springs	47.30	126	P	P	21 57 50.2	-0.3
	comp=Z,1.9nm,0.4s,baz=297,slow=7.5,SNR=29						
GEYT	Alibeck	47.73	322	P	P	21 57 49.7	-3.9
	comp=Z,1.0nm,0.5s,baz=145,slow=5.3,SNR=2.4						
GYA0B	ALIBECK ARRAY	47.73	322	P	P	21 57 55.6	+2.0
KURK	Kurchatov	49.54	348	P	P	21 58 10.2	+3.0
KURK				IAmb	IAmb	21 58 17.7	
	comp=Z,3.0nm,0.7s						
ZAA0	Zalesovo Array	51.66	354	P	P	21 58 25.4	+2.2
ZAA0				IAmb	IAmb	21 58 34.4	
	comp=Z,4.4nm,0.7s						
ZALV	Zalesovo Beam	51.66	354	P	P	21 58 21.2	-2.0
	comp=Z,0.6nm,0.4s,baz=178,slow=6.4,SNR=3.0						
BBOO	Buckleboo	53.55	135	P	P	21 58 36.6	-1.0
BBOO				IAmb	IAmb	21 58 54.0	
	comp=Z,5.6nm,1.1s						
USA0B	Ussuriysk Arra	53.65	34	P	P	21 58 38.5	+0.4
USA0B				IAmb	IAmb	21 58 41.5	
	comp=Z,5.8nm,0.9s						
STKA	Stephens Creek	57.14	131	P	P	21 59 03.4	-0.1
	comp=Z,3.3nm,0.6s,baz=305,slow=6.3,SNR=9.7						
STKA	Stephens Creek	57.14	131	P	P	21 59 03.5	0.0
	baz=58,SNR=5.2						
STKA	Stephens Creek	57.14	131	P	P	21 59 03.1	-0.3
CMSA	Cobar Meteorol	60.14	129	P	P	21 59 24.8	+0.4
	baz=60,SNR=6.9						
BRTR	Keskin Array B	65.35	313	P	P	21 59 55.5	-3.7
	comp=Z,2.0nm,0.6s,baz=92,slow=7.2,SNR=1.4						
IDI	Anoyia	70.99	306	P	P	22 00 38.0	+3.4
IDI				IAmb	IAmb	22 00 39.9	
	comp=Z,5.7nm,0.7s						
AKASG	Malin Array Be	71.83	323	P	P	22 00 38.8	-0.4
	comp=Z,0.2nm,0.3s,baz=91,slow=5.2,SNR=1.5						
MAW	Mawson	73.25	192	P	P	22 00 48.2	+1.0
FINES	FINESS Array B	77.01	333	P	P	22 01 08.0	-1.0
	comp=Z,2.2nm,0.9s,baz=177,slow=13,SNR=1.6						
GERES	GERESS Array B	81.25	319	P	P	22 01 30.3	-2.4
	comp=Z,0.1nm,0.4s,baz=101,slow=5.1,SNR=1.5						
CLL	Collm	81.95	321	*e*(pP)	pP	22 01 44.0	-1.8
RAO	Raoul Island	90.13	119	LR	LR	22 41 19.9	
	comp=Z,251nm,21.6s,baz=150,slow=35						
ILAR	Eielson Array	99.89	22	LR	LR	22 50 53.8	
	comp=Z,32nm,18.1s,baz=244,slow=37						
TXAR	Lajitas Array	144.30	26	PKP	PKPab	22 08 49.1	-2.0
	comp=Z,0.2nm,0.7s,baz=260,slow=0.5,SNR=4.7						

IDC ***22*** *21:53:35.4±4.8, 55°.21N×157°.09W, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.3/49, mbtmp3.5/6, ML2.8/2, Error ellipse: s-maj=117.5km s-min=21.1km az=144.0*

AEIC ***22*** *21:53:40.4±2.3, 55°.47N±0°.07×156°.94W±0°.09, h1km±5km, ML3.1/36, Error ellipse: s-maj=12.0km s-min=4.4km az=149.0*

NEIC ***22*** *21:53:42.4±2.0, 55°.59N±0°.06×157°.02W±0°.07, h27km±8km, Error ellipse: s-maj=8.3km s-min=5.2km az=171.0*

ISC 22 21:53:40.0±1.0, 55°.46N±0°.10×156°.99W±0°.05, h20km, n55, σ1§29/58, mb3.6/4, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHIR	Chirikof Islan	0.86	64	Pg	Pb	21 53 57.5	+1.3
CHIR					Sn	21 54 08.8	-0.2
VNSG	Veniaminof 6	1.36	300		Pn	21 54 04.5	+0.6
VNHG	Veniaminof 1	1.45	303		Pn	21 54 05.8	+0.7
VNNF	Veniaminof 3	1.55	303		Pn	21 54 08.0	+1.4
VNWF	Veniaminof 8	1.61	297		Pn	21 54 08.4	+1.0
VNWF					Sn	21 54 28.9	+1.3
CNBA	Chernabura Isl	1.62	248		Pn	21 54 08.8	+1.3
VNFG	Fog Glacier, M	1.67	301		Pn	21 54 09.4	+1.2
SII	Sitkinak Islan	1.93	54		Pn	21 54 11.8	+0.2
SDPT	Sand Point	1.99	268		Pn	21 54 13.9	+1.4
SDPT	Sand Point	1.99	268		Sn	21 54 36.6	-0.2
PLK3	Peulik 3	2.27	10		Sn	21 54 47.3	+3.5
PLK1	Peulik 1	2.36	5		Pn	21 54 17.9	+0.3
OHAK	Old Harbor	2.72	48		Pn	21 54 22.2	-0.3
PS4A	Pavlof South-4	2.78	270		Pn	21 54 24.7	+1.3
KAKN	Katmai Knife C	3.04	20		Pn	21 54 27.4	+0.4
DT1	Dutton Round H	3.04	266		Pn	21 54 28.1	+1.1
KDAK	Kodiak Island	3.37	44	Pn	Pn	21 54 30.9	-0.5
	0.7nm,0.3s,baz=216,slow=6.7,SNR=13						
KDAK				Sn	Sn	21 55 08.4	-2.5
	1.5nm,0.3s,baz=226,slow=8.4,SNR=4.0						
KDAK				Lg	Lg	21 55 27.6	
	1.8nm,0.3s,baz=40,slow=22,SNR=5.9						
KDAK	Kodiak Island	3.37	44		Pn	21 54 34.0	+2.5
KDAK	Kodiak Island	3.37	44		Pn	21 54 34.1	+2.6
KAHC	Katmai Hardscr	3.38	18		Pn	21 54 31.8	+0.1
FALS	False Pass	3.73	263		Pn	21 54 37.5	+1.0
CNPM	China Poot	5.12	35		Pn	21 54 55.4	-0.2
AKSA	Akutan Strait	5.21	259		Pn	21 54 57.8	+1.1
AKUT	Akutan	5.25	259	Pn	Pn	21 54 57.7	+0.5
BRLK	Bradley Lake	5.42	35	Pn	Pn	21 55 00.8	+1.1
BRSE	Bradley Lake S	5.45	35		Pn	21 54 59.4	-0.7
SVW2	Sparrevohn	5.71	7		Pn	21 55 03.1	-0.5
MSW	Makushin Switc	5.89	259		Pn	21 55 06.6	+0.6
MREP	Makushin Rep't	5.90	258		Pn	21 55 07.2	+0.9
MAPS	Pakushin South	6.01	258		Pn	21 55 08.6	+0.9
SLKM	Skilak Lake	6.21	33

VRAC	**Vranov**	**2.16**	**173**	*e*PN	**Pn**	**22**	**07**	**43.8 -0.5**
VRAC				*e*SG	**Sb**	**22**	**08**	**13.6 -0.7**
KRUC	**Moravsky**	**2.40**	**177**	*e*PN	**Pn**	**22**	**07**	**47.8 +0.3**
KRUC				*e*SG	**Sb**	**22**	**08**	**21.9 +0.8**
OJC	**Ojcow**	**2.59**	**117**	*e*Pg	**Pb**	**22**	**07**	**55.1 +0.9**
OJC				*e*Sg	**Sg**	**22**	**08**	**30.0 0.0**
NKC	**Novy Kostel**	**2.68**	**244**	*e*PN	**Pn**	**22**	**07**	**51.3 -0.1**
NKC				*e*PG	**Pb**	**22**	**07**	**56.9 +1.1**
NKC				*e*SG	**Sg**	**22**	**08**	**32.8 -0.3**
	comp=Z,12nm,0.3s							
KHC	**Kasperske Hory**	**2.87**	**217**	*e*PN	**Pn**	**22**	**07**	**54.2 +0.1**
KHC				*e*PG	**Pb**	**22**	**07**	**59.7 +0.6**
KHC				*e*SN	**Sn**	**22**	**08**	**27.5 -1.9**
KHC				*e*SG	**Sg**	**22**	**08**	**37.4 -1.9**
	comp=Z,6.3nm,0.5s							
LANS	**Liptovska Anna**	**3.11**	**137**	*e*PG	**Pg**	**22**	**08**	**05.6 -1.0**
MODS	**Modra-Piesok**	**3.16**	**167**	*e*SG	**Sg**	**22**	**08**	**48.8 +0.4**
CONA	**Conrad Observa**	**3.54**	**184**	*i* Pn	**Pn**	**22**	**08**	**04.6 +1.4**
	comp=Z,0.3nm,0.2s							
CONA				*e*Pg	**Pg**	**22**	**08**	**15.2 +0.5**
	comp=Z,1.5nm,0.4s							
CONA				*e*Sg	**Sg**	**22**	**08**	**59.7 -0.9**
	comp=Z,5.8nm,0.3s							
ARSA	**Arzberg**	**4.23**	**186**	*e*Sg	**Sg**	**22**	**09**	**24.7 +1.9**
	comp=Z,4.4nm,0.5s							

*IDC **22** 22:08:45.2±2.9,4°.41S×139°.20E,h43km±28km, mb3.6/5, mb1 3.8/8,mb1mx3.6/20,mbtmp3.9/8,ML4.0/3,MS2.7/1, Ms1 2.7/1,ms1mx2.3/32, Error ellipse: s-maj=31.0km s-min=20.4km az=102.0*

ISC 22 22:08:41.6±0.7,**4.79S**±0.09×**139.3E**±0.2,**h38**km,**n12,** σ1§**73**/15,**mb3.9**/5,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.66**	**32**	P	**Pn**	**22**	**09**	**22.6 +0.7**
	11nm,0.3s,baz=217,slow=12,SNR=32							
JAY				S	**Sn**	**22**	**09**	**48.1 -4.8**
	14nm,0.3s,baz=230,slow=14,SNR=4.5							
WRA	**Warramunga Arr**	**15.82**	**197**	P	**P**	**22**	**12**	**24.5 -0.5**
	0.4nm,0.3s,baz=17,slow=13,SNR=23							
WRA				S	**Sn**	**22**	**15**	**12.8 -3.2**
	0.6nm,0.3s,baz=18,slow=24,SNR=4.7							
FITZ	**Fitzroy Crossi**	**18.80**	**224**	P	**Pn**	**22**	**13**	**01.4 +2.7**
	0.5nm,0.3s,baz=41,slow=11,SNR=22							
FITZ				S	**Sn**	**22**	**16**	**19.9 -8.4**
	0.3nm,0.3s,baz=38,slow=19,SNR=2.7							
GUMO	**Guam**	**19.07**	**17**	LR	LR	22	19	58.1
	comp=Z,24nm,20.4s,baz=242,slow=36							
ASAR	**Alice Springs**	**19.48**	**195**	P	**Pn**	**22**	**13**	**13.0 +6.1**
	0.8nm,0.3s,baz=26,slow=8.7,SNR=27							
ASAR				S	**S**	**22**	**16**	**40.4 -3.3**
	0.1nm,0.3s,baz=13,slow=29,SNR=5.6							
KSRS	**Korea Array**	**43.34**	**347**	P	**P**	**22**	**16**	**38.9 -1.2**
	0.7nm,0.4s,baz=155,slow=8.8,SNR=2.6							
CMAR	**Chiang Mai Arr**	**46.00**	**301**	P	**P**	**22**	**17**	**03.2 +1.6**
	0.5nm,0.3s,baz=129,slow=6.4,SNR=7.5							
MKAR	**Makanchi Array**	**71.79**	**323**	P	**P**	**22**	**20**	**01.8 +1.5**
	1.1nm,0.5s,baz=115,slow=7.7,SNR=15							
ZALV	**Zalesovo Beam**	**74.02**	**330**	P	**P**	**22**	**20**	**13.8 +0.5**
	0.2nm,0.3s,baz=126,slow=7.3,SNR=1.7							
ILAR	**Eielson Array**	**87.47**	**24**	P	**P**	**22**	**21**	**25.1 +0.1**
	0.8nm,0.8s,baz=268,slow=5.4,SNR=5.2							
CPUP	**Villa Florida**	**145.12**	**153**	PKPbc	**PKiKP**	**22**	**28**	**19.0 -0.7**
	0.4nm,0.3s,baz=262,slow=7.1,SNR=3.9							
LPAZ	**La Paz**	**145.72**	**128**	PKPbc	**PKiKP**	**22**	**28**	**22.3 +0.3**
	0.4nm,0.6s,baz=1.3,slow=11,SNR=3.7							

*IDC **22** 22:45:59.3±1.3,22°.28S×67°.19W,h157km±20km,mb3.5/1, mb1 3.4/4,mb1mx3.1/24,mbtmp3.9/4, Error ellipse: s-maj=33.2km s-min=16.4km az=117.0*
*GUC **22** 22:46:00.6±0.6,22°.24S×67°.85W,h206km±7km, ML3.8*
*SCB **22** 22:46:05.0±2.3,22°.25S×67°.47W,h126km±26km,ML3.5/2, Error ellipse: s-maj=9.4km s-min=6.6km az=0.0*

ISC 22 22:45:59.6±0.9,**22°.27S**±0.05×**67°.42W**±0.05,**h176**km±9km, **n36,** σ1§**53**/55,**15C,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.42**	**256**	P	**Pn**	**22**	**46**	**31.8 +0.9**
	17nm,0.3s,baz=114,slow=2.3,SNR=382							
LVC				S	**Sn**	**22**	**46**	**55.3 +0.3**
	16nm,0.3s,baz=299,slow=22,SNR=40							
LVC	**Limon Verde**	**1.42**	**256**	*i* P	**Pn**	**22**	**46**	**31.8 +0.9**
PB09	**IPOC Station P**	**1.76**	**285**	⇑*i* P	**Pn**	**22**	**46**	**35.4 +1.4**
PB09				*i* S	**Sn**	**22**	**47**	**01.1 +0.5**
PB09				IAML		22	47	02.9
	comp=N,154nm,0.3s							
YJA	**Yavi**	**1.77**	**87**	Pg	**Pn**	**22**	**46**	**35.2 +0.8**
YJA				S	**Sn**	**22**	**46**	**58.8 -2.5**
YJA				IAML		22	47	01.6
	comp=N,109nm,0.3s							
PB06	**IPOC Station P**	**2.04**	**257**	⇑*i* P	**Pn**	**22**	**46**	**37.5 +0.6**
PB06				*i* S	**Sn**	**22**	**47**	**05.9 0.0**
PB06				IAML		22	47	08.5
	comp=E,317nm,0.2s							
PB06	**IPOC Station P**	**2.04**	**257**	P	**Pn**	**22**	**46**	**37.8 +0.8**
PB15	**IPOC Station P**	**2.11**	**243**	⇑*i* P	**Pn**	**22**	**46**	**38.4 +0.6**
PB15				*i* S	**Sn**	**22**	**47**	**08.1 +0.6**
PB03	**IPOC Station P**	**2.17**	**275**	⇑*i* P	**Pn**	**22**	**46**	**38.9 +0.4**
PB03				*i* S	**Sn**	**22**	**47**	**08.2 -0.5**
PB03				IAML		22	47	09.0
	comp=N,589nm,0.3s							
PB01	**IPOC Station P**	**2.28**	**302**	⇑*i* P	**Pn**	**22**	**46**	**40.3 +0.6**
PB01				*i* S	**Sn**	**22**	**47**	**10.5 -0.2**
PB01				IAML		22	47	13.3
	comp=N,388nm,0.2s							
PB01	**IPOC Station P**	**2.28**	**302**	P	**Pn**	**22**	**46**	**40.4 +0.7**
PB07	**IPOC Station P**	**2.35**	**283**	⇑*i* P	**Pn**	**22**	**46**	**41.1 +0.6**
PB07				*i* S	**Sn**	**22**	**47**	**11.2 -1.1**
PB07				IAML		22	47	12.2
	comp=N,851nm,0.4s							
PB02	**IPOC Station P**	**2.49**	**292**	⇑*i* P	**Pn**	**22**	**46**	**42.5 +0.4**
PB02				*i* S	**Sn**	**22**	**47**	**13.6 -1.4**
PB02				IAML		22	47	19.6
	comp=E,581nm,0.2s							
PB02	**IPOC Station P**	**2.49**	**292**	P	**Pn**	**22**	**46**	**42.5 +0.4**
PB02				S	**Sn**	**22**	**47**	**11.4 -3.6**
PB02				IAML		22	47	19.5
	comp=E,526nm,0.2s							
PB04	**IPOC Station P**	**2.53**	**268**	*i* S	**Sn**	**22**	**47**	**14.7 -1.3**
PB04				IAML		22	47	16.9
	comp=N,489nm,0.2s							
PB04	**IPOC Station P**	**2.53**	**268**	P	**Pn**	**22**	**46**	**42.9 +0.3**
PB05	**IPOC Station P**	**2.64**	**257**	⇑*i* P	**Pn**	**22**	**46**	**44.0 +0.2**
PB05				*i* S	**Sn**	**22**	**47**	**16.7 -1.5**
PB05				IAML		22	47	17.7
	comp=N,177nm,0.2s							
PB08	**IPOC Station P**	**2.67**	**322**	⇑*i* P	**Pn**	**22**	**46**	**46.2 +1.7**
PB08				*i* S	**Sn**	**22**	**47**	**20.6 +1.2**
PB08				IAML		22	47	23.8
	comp=N,186nm,0.3s							
PB08	**IPOC Station P**	**2.67**	**322**	P	**Pn**	**22**	**46**	**46.3 +1.7**
SLA	**San Lorenzo**	**3.00**	**145**	P	**Pn**	**22**	**46**	**48.8 +0.5**
GO01	**Chusmiza**	**3.08**	**327**	⇑*i* P	**Pn**	**22**	**46**	**50.8 +1.3**
GO01				*i* S	**Sn**	**22**	**47**	**30.3 +1.9**
TA01	**Diego Aracena**	**3.08**	**303**	⇑*i* P	**Pn**	**22**	**46**	**48.9 -0.2**
TA01				*i* S	**Sn**	**22**	**47**	**25.7 -1.9**
TA01				IAML		22	47	29.0
	comp=E,367nm,0.3s							
PB10	**IPOC Station P**	**3.14**	**246**	⇑*i* P	**Pn**	**22**	**46**	**49.7 -0.1**
PB10				*i* S	**Sn**	**22**	**47**	**26.4 -2.5**
PB10				IAML		22	47	31.5
	comp=E,84nm,0.4s							
PB10	**IPOC Station P**	**3.14**	**246**	P	**Pn**	**22**	**46**	**49.8 0.0**
PB11	**IPOC Station P**	**3.26**	**320**	⇑*i* P	**Pn**	**22**	**46**	**51.4 -0.1**
PB11				*i* S	**Sn**	**22**	**47**	**30.5 -1.3**
PB11				IAML		22	47	32.3
	comp=E,327nm,0.2s							
GO02	**Mina Guanaco**	**3.50**	**214**	*i* P	**Pn**	**22**	**46**	**54.8 +0.2**
PSGC	**Pisagua**	**3.67**	**316**	⇑*i* P	**Pn**	**22**	**46**	**55.6 -1.0**
PSGC				*i* S	**Sn**	**22**	**47**	**38.3 -2.7**
MNMC	**Minye Minye**	**3.73**	**327**	⇑*i* P	**Pn**	**22**	**46**	**57.9 +0.4**
MNMC	**Minye Minye**	**3.73**	**327**	P	**Pn**	**22**	**46**	**58.2 +0.7**
MNMC				S	**Sn**	**22**	**47**	**37.8 -4.9**
BBOE	**La Paz, Chanca**	**5.46**	**354**	P	**Pn**	**22**	**47**	**22.4 +2.3**
BBOD	**La Paz, Gloria**	**5.72**	**349**	P	**Pn**	**22**	**47**	**25.8 +2.4**
LPAZ	**La Paz**	**5.99**	**353**	P	**Pn**	**22**	**47**	**28.9 +1.8**
	comp=E,0.9nm,0.3s,baz=120,slow=4.4,SNR=24							
LPAZ				S	**Sn**	**22**	**48**	**35.0 -0.8**
	comp=E,0.3nm,0.3s,baz=344,slow=14,SNR=4.9							
LPAZ	**La Paz**	**5.99**	**353**	P	**Pn**	**22**	**47**	**28.6 +1.5**
SIV	**San Ignacio**	**8.66**	**45**	P	**Pn**	**22**	**47**	**58.9 -2.8**
	comp=E,5.8nm,0.3s,baz=237,slow=11,SNR=61							
SIV				S	Sn	22	49	23.1 -15
	comp=E,0.9nm,0.3s,baz=232,slow=12,SNR=3.8							
BDFB	**Brasilia**	**19.49**	**74**	P	**P**	**22**	**50**	**13.1 -0.3**
	comp=E,0.4nm,0.3s,baz=211,slow=9.3,SNR=4.5							
TORD	**Torodi Ar. Bea**	**76.32**	**170**	P	**P**	**22**	**57**	**29.8 +0.2**
	comp=E,0.4nm,0.3s,baz=259,slow=5.6,SNR=19							
MKAR	**Makanchi Array**	**145.42**	**38**	PKPbc	**PKPab**	**23**	**05**	**18.4 +1.2**
	comp=E,0.1nm,0.4s,baz=343,slow=4.1,SNR=1.8							

*NEIC **22** 22:47:05.8±2.2,25°.5S±0°.1×179°.9E±0°.1,h465km±8km, mb4.3/27, Error ellipse: s-maj=18.1km s-min=15.4km az=119.0*
*IDC **22** 22:47:05.4±3.5,25°.41S×179°.95E,h459km±37km, mb3.5/9, mb1 3.7/11,mb1mx3.5/22,mbtmp4.3/11, Error ellipse: s-maj=30.0km s-min=18.4km az=142.0*

ISC 22 22:47:04.8±0.6,**25.46S**±0.09×**179.99E**±0.09,**h450**km,**n43,** σ0§**96**/42,**mb4.1**/21,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.89**	**346**	P	**P**	**22**	**49**	**00.3 +1.0**
DZM	**Mont Dzumac**	**12.85**	**282**	P	**P**	**22**	**49**	**52.6 -0.5**
	0.1nm,0.3s,baz=162,slow=19,SNR=1.9							
URZ	**Urewera**	**13.00**	**190**	P	**P**	**22**	**49**	**55.5 +1.2**
AFI	**Afiamalu**	**13.85**	**36**	P	**P**	**22**	**50**	**02.8 -1.1**
	3.6nm,0.3s,baz=12,slow=23,SNR=4.4							
QRZ	**Quartz Range**	**16.54**	**200**	P	**P**	**22**	**50**	**33.4 +1.3**
TUWZ	**Tuamarina**	**16.70**	**196**	P	**P**	**22**	**50**	**34.4 +0.6**
BSWZ	**Blackbirch Sta**	**16.99**	**196**	P	**P**	**22**	**50**	**35.6 -1.2**
THZ	**Tophouse**	**17.29**	**198**	P	**P**	**22**	**50**	**40.0 -0.1**
THZ				IAmb	IAmb	22	50	45.5
	comp=Z,7.9nm,1.0s							
KHZ	**Kahutara**	**17.73**	**196**	P	**P**	**22**	**50**	**43.3 -1.3**
LTZ	**Lake Taylor**	**18.41**	**198**	P	**P**	**22**	**50**	**50.9 -0.5**
LTZ				IAmb	IAmb	22	51	08.6
	comp=Z,13nm,1.2s							
RAR	**Rarotonga**	**19.06**	**81**	P	**P**	**22**	**50**	**57.2 -0.5**
LHI	**Lord Howe Isla**	**19.34**	**247**	P	**P**	**22**	**51**	**00.7 +0.5**
RPZ	**Rata Peaks**	**19.62**	**200**	P	**P**	**22**	**51**	**01.8 -0.8**
RPZ				IAmb	IAmb	22	51	03.7
	comp=Z,12nm,0.9s							
FOZ	**Fox Glacier**	**19.86**	**202**	P	**P**	**22**	**51**	**05.1 +0.4**
WHZ	**Wether Hill Ro**	**22.57**	**202**	P	**P**	**22**	**51**	**30.0 +0.7**
WHZ				IAmb	IAmb	22	51	44.2
	comp=Z,5.6nm,1.0s							
ARMA	**Armidale**	**25.50**	**252**	P	**P**	**22**	**51**	**57.1 +1.3**
ARMA				IAmb	IAmb	22	52	16.4
	comp=Z,7.4nm,1.0s							
EIDS	**Eidsvold**	**26.09**	**264**	P	**P**	**22**	**52**	**01.6 +0.6**
EIDS				IAmb	IAmb	22	52	02.9
	comp=Z,16nm,0.9s							
CAN	**Canberra**	**28.38**	**242**	P	**P**	**22**	**52**	**22.3 +1.1**
CAN				IAmb	IAmb	22	52	23.3
	comp=Z,8.7nm,1.0s							
CTAO	**Charters Tower**	**31.50**	**273**	P	**P**	**22**	**52**	**49.5 +1.1**
CTAO				IAmb	IAmb	22	52	49.7
	comp=Z,15nm,0.8s							
TOO	**Toolangi**	**31.62**	**239**	P	**P**	**22**	**52**	**50.3 +1.1**
TOO				IAmb	IAmb	22	53	04.3
	comp=Z,4.8nm,0.9s							
STKA	**Stephens Creek**	**34.16**	**250**	P	**P**	**22**	**53**	**11.7 +0.7**
	comp=Z,3.1nm,0.4s,baz=99,slow=11,SNR=15							
STKA	**Stephens Creek**	**34.16**	**250**	IAmb	IAmb	22	53	14.3
	comp=Z,0.5nm,0.6s							
BBOO	**Buckleboo**	**38.84**	**249**	P	**P**	**22**	**53**	**49.3 -0.5**
BBOO				IAmb	IAmb	22	53	51.5
	comp=Z,9.0nm,0.9s							
AS31	**Alice Springs**	**41.79**	**262**	P	**P**	**22**	**54**	**13.4 -0.4**
AS31				IAmb	IAmb	22	54	15.0
	comp=Z,3.7nm,0.5s							
ASAR	**Alice Springs**	**41.79**	**262**	P	**P**	**22**	**54**	**13.3 -0.4**
	comp=Z,3.7nm,0.4s,baz=87,slow=6.9,SNR=73							
WR0	**Warramunga Arr**	**42.12**	**268**	P	**P**	**22**	**54**	**15.3 -1.1**
WR0				IAmb	IAmb	22	54	16.3
	comp=Z,5.1nm,0.6s							
WB2	**Warramunga Arr**	**42.30**	**268**	P	**P**	**22**	**54**	**16.7 -1.1**
WB2				IAmb	IAmb	22	54	17.8
	comp=Z,7.9nm,0.5s							
WRA	**Warramunga Arr**	**42.31**	**268**	P	**P**	**22**	**54**	**16.8 -1.1**
	comp=Z,5.1nm,0.4s,baz=103,slow=7.7,SNR=81							
WB0	**Warramunga Arr**	**42.31**	**268**	P	**P**	**22**	**54**	**17.0 -0.9**
WB0				IAmb	IAmb	22	54	18.2
	comp=Z,7.0nm,0.7s							
FORT	**Forrest**	**45.78**	**251**	P	**P**	**22**	**54**	**42.9 -1.8**
KNRA	**Kununurra**	**48.69**	**271**	P	**P**	**22**	**55**	**06.4 -0.5**
KNRA				IAmb	IAmb	22	55	06.9
	comp=Z,15nm,1.0s							
FITZ	**Fitzroy Crossi**	**50.71**	**267**	P	**P**	**22**	**55**	**21.1 -0.8**
VNDA	**Vanda**	**52.84**	**185**	P	**P**	**22**	**55**	**37.0 +0.6**
MORW	**Morawa**	**56.34**	**251**	P	**P**	**22**	**56**	**00.6 -1.5**
QSPA	**South Pole Qui**	**64.63**	**180**	P	**P**	**22**	**56**	**57.2 +0.5**
MAW	**Mawson**	**76.29**	**201**	P	**P**	**22**	**58**	**05.6 -0.2**
	comp=Z,0.8nm,0.6s,baz=142,slow=6.5,SNR=6.3							
KSRS	**Korea Array**	**79.43**	**320**	P	**P**	**22**	**58**	**22.8 -0.4**
	comp=Z,0.4nm,0.3s,baz=146,slow=5.4,SNR=2.3							
PETK	**Petropavlovsk-**	**80.60**	**347**	P	**P**	**22**	**58**	**28.6 -0.4**
	comp=Z,2.7nm,0.8s,baz=184,slow=5.8,SNR=2.0							
NVAR	**Mina Array Bea**	**85.88**	**44**	P	**P**	**22**	**58**	**56.8 +0.6**
	comp=Z,0.5nm,0.3s,baz=190,slow=4.6,SNR=2.0							
CMAR	**Chiang Mai Arr**	**90.05**	**290**	P	**P**	**22**	**59**	**16.9 +0.9**
	comp=Z,0.6nm,0.4s,baz=133,slow=3.9,SNR=4.5							
TXAR	**Lajitas Array**	**91.26**	**58**	P	**P**	**22**	**59**	**22.0 +0.5**
	comp=Z,0.5nm,0.8s,baz=216,slow=6.2,SNR=7.0							
BRTR	**Keskin Array B**	**148.48**	**305**	PKPbc	**PKPdf**	**23**	**05**	**57.7 +1.7**
	comp=Z,0.4nm,0.5s,baz=143,slow=2.3,SNR=5.3							
TORD	**Torodi Ar. Bea**	**167.65**	**188**	PKPab	**PKPab**	**23**	**07**	**27.0 -1.2**
	comp=Z,0.4nm,0.8s,baz=156,slow=4.6,SNR=1.8							

*TEH **22** 22:49:49.1,33°.75N×45°.64E,h19km, ML3.1*
*ISN **22** 22:49:50.2±0.8,33°.67N×45°.71E,h7km±4km,ML2.6*

ISC 22 22:49:50.2±0.9,**33.73N**±0.04×**45.70E**±0.05,**h10**km,**n21,** σ0§**90**/25,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.65**	**162**	*e*Pg	**Pg**	**22**	**50**	**02.0 -0.8**
IBDR				*e*Sg	**Sg**	**22**	**50**	**10.0 -1.3**
IBDR				AML	AML	22	50	17.9
	comp=N,104nm,0.8s							
IBDR				AML	AML	22	50	20.3
	comp=E,102nm,0.4s							
IGHG	**Ghaleghazi**	**0.94**	**50**	*e*		22	50	09.2
IGHG				*e*Pg	**Pg**	**22**	**50**	**08.0 -0.4**
IGHG				*e*Sg	**Sb**	**22**	**50**	**21.9 +0.5**
IDHR	**Dehrash**	**1.12**	**30**	*e*Pg	**Pb**	**22**	**50**	**10.7 -1.2**
IDHR				*e*		22	50	31.9
BHD	**Baghdad**	**1.19**	**248**	*e*Pg	**Pg**	**22**	**50**	**13.0 -0.1**
BHD				*e*Sg	**Sn**	**22**	**50**	**29.0 -0.2**
BHD				AML	AML	22	50	33.9
	comp=E,1μm,0.4s							
KCHF	**Cheshme Sefid,**	**1.24**	**64**	*e*Pg	**Pn**	**22**	**50**	**13.4 -0.5**
KCHF				*e*		22	50	35.3
IVIS	**Veis**	**1.24**	**50**	*e*Pg	**Pn**	**22**	**50**	**13.6 -0.2**
IVIS				*e*		22	50	35.3
KER	**Kermanshah**	**1.36**	**61**	*e*Pg	**Pb**	**22**	**50**	**15.9 0.0**
IKOM	**Komasi**	**1.57**	**73**	*e*Pg	**Pb**	**22**	**50**	**19.5 0.0**
IKOM				*e*		22	50	45.1
ILIN	**Lien**	**1.58**	**41**	*e*Pg	**Pb**	**22**	**50**	**19.5 -0.2**
ILIN				*e*		22	50	43.6
DHL1	**Dehloran**	**1.69**	**128**	*e*Pg	**Pg**	**22**	**50**	**21.7 -1.0**
IKFM	**Kafar-mosalman**	**1.81**	**96**	*e*Pg	**Pb**	**22**	**50**	**23.6 +0.2**
IKFM				*e*		22	50	53.3
IBZA	**Bozab**	**1.94**	**67**	*e*Pn	**Pn**	**22**	**50**	**24.5 +0.9**
IBZA				*e*		22	50	28.1
IDOB	**Doab**	**2.07**	**88**	*e*Pn	**Pn**	**22**	**50**	**25.1 -0.1**
IKMR	**Kamar-syah**	**2.25**	**95**	*e*Pn	**Pn**	**22**	**50**	**28.1 +0.6**
IKMR				*e*		22	51	06.4
IALM	**Almabolaq**	**2.34**	**60**	*e*Pn	**Pn**	**22**	**50**	**30.2 +1.2**
IALM				*e*		22	51	07.8
HSAM	**Samen**	**2.46**	**78**	*e*Pn	**Pn**	**22**	**50**	**31.1 +0.4**
HSAM				*e*		22	50	39.1
HSRG	**Sareghieh**	**2.61**	**54**	*e*Pn	**Pn**	**22**	**50**	**34.6 +1.8**
HSRG				*e*		22	51	17.6
NSR	**Nassriya**	**2.74**	**172**	*e*Pn	**Pn**	**22**	**50**	**35.0 +0.7**
NSR				*e*Sn	**Sn**	**22**	**51**	**09.0 +1.6**
QABG	**Abgarm-Qazvin**	**3.76**	**57**	*e*Pn	**Pn**	**22**	**50**	**48.7 +0.2**
IRAZ	**Razeghan**	**3.87**	**63**	*e*Pn	**Pn**	**22**	**50**	**51.0 +1.0**
IKLH	**Kolahrood**	**4.93**	**93**	*e*Pn	**Pn**	**22**	**51**	**06.0 +1.3**

*ISN **22** 23:00:21.8±0.8,33°.68N×45°.68E,h6km±4km,ML2.6*
*TEH **22** 23:00:27.7,33°.80N×45°.89E,h10km,ML2.9*

ISC 22 23:00:23.4±0.9,**33.65N**±0.04×**45.64E**±0.05,**h10**km,**n19,** σ1§**21**/23,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.59**	**156**	*e*Pg	**Pg**	**23**	**00**	**34.0 -0.9**
IBDR				*e*Sg	**Sg**	**23**	**00**	**42.0 -0.7**
IBDR				AML	AML	23	00	51.9
	comp=N,76nm,0.3s							
IBDR				AML	AML	23	01	03.1
	comp=E,70nm,0.4s							
IGHG	**Ghaleghazi**	**1.02**	**48**	*e*Pg	**Pb**	**23**	**00**	**43.5 +0.1**
IGHG				*e*		23	00	45.1
BHD	**Baghdad**	**1.12**	**251**	*e*Pg	**Pb**	**23**	**00**	**44.0 -0.9**
BHD				*e*Sg	**Sb**	**23**	**01**	**00.0 +0.4**
BHD				AML	AML	23	01	09.8
	comp=E,996nm,0.4s							
IDHR	**Dehrash**	**1.21**	**30**	*e*Pg	**Pn**	**23**	**00**	**46.6 -0.1**
IDHR				*e*Sg	**Sb**	**23**	**01**	**00.9 -1.6**
IDHR				*e*		23	01	07.8
KCHF	**Cheshme Sefid,**	**1.32**	**61**	*e*Pg	**Pg**	**23**	**00**	**48.8 0.0**
KCHF				*e*		23	01	12.8
IVIS	**Veis**	**1.33**	**49**	*e*Pg	**Pg**	**23**	**00**	**48.8 -0.2**
IVIS				*e*		23	01	11.2
KER	**Kermanshah**	**1.44**	**59**	*e*Pg	**Pg**	**23**	**00**	**50.9 -0.2**
IKOM	**Komasi**	**1.64**	**71**	*e*Pg	**Pg**	**23**	**00**	**54.8 -0.1**
IKOM				*e*		23	01	21.0
ILIN	**Lien**	**1.67**	**40**	*e*Pg	**Pg**	**23**	**00**	**55.6 +0.1**
ILIN				*e*		23	01	19.4
IKFM	**Kafar-mosalman**	**1.84**	**93**	*e*Pg	**Pg**	**23**	**00**	**58.5 -0.3**
IKFM				*e*		23	01	29.2
IBZA	**Bozab**	**2.01**	**65**	*e*Pn	**Pb**	**23**	**01**	**00.6 +0.3**
IBZA				*e*		23	01	04.0
IDOB	**Doab**	**2.12**	**86**	*e*Pg	**Pb**	**23**	**01**	**02.1 0.0**
IKMR	**Kamar-syah**	**2.29**	**93**	*e*Pn	**Pb**	**23**	**01**	**04.2 -0.6**
IKMR				*e*		23	01	42.4
IALM	**Almabolaq**	**2.41**	**59**	*e*Pn	**Pb**	**23**	**01**	**06.1 -1.1**
HSAM	**Samen**	**2.52**	**76**	*e*Pn	**Pb**	**23**	**01**	**07.1 -1.9**
BMDN	**Meydan**	**2.65**	**89**	*e*Pn	**Pb**	**23**	**01**	**09.3 -1.9**
NSR	**Nassriya**	**2.67**	**171**	*e*Pn	**Pn**	**23**	**01**	**07.0 +0.6**
NSR				*e*Sn	**Sn**	**23**	**01**	**41.0 +2.2**
NSR				AML	AML	23	01	55.2
	comp=E,83nm,0.3s							
HSRG	**Sareghieh**	**2.69**	**53**	*e*Pn	**Pb**	**23**	**01**	**10.3 -1.7**
HSRG				*e*		23	01	53.5
HAGD	**Aghdareh**	**3.12**	**67**	*e*Pn	**Pn**	**23**	**01**	**15.7 +2.7**

*IDC **22** 23:00:27.4±1.2,23°.52N×126°.83E,h0km,mb3.8/8, mb1 3.9/9,mb1mx3.7/39,mbtmp3.8/9,ML4.0/1,MS3.0/10, Ms1 3.1/10,ms1mx2.8/49, Error ellipse: s-maj=58.4km s-min=17.2km az=72.0*
*NEIC **22** 23:00:30.7±1.7,23°.54N±0°.06×126°.74E±0°.09,h29km±7km, mb4.1/8, Error ellipse: s-maj=13.8km s-min=7.0km az=119.0*
*JMA **22** 23:00:32.4±0.2,23°.93N×126°.55E,h121km,M3.3*

ISC 22 23:00:31.6±0.7,**23°.61N**±0.06

IDC 22 23:18:30.4±4.3, 17°50S×172°72W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/37, mbtmp3.7/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/26, Error ellipse: s-maj=281.8km s-min=34.3km az=151.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.13**	**254**	LR	LR	23 29 30.9	
	comp=Z,132nm,18.1s,baz=14,slow=33						
WRA	**Warramunga Arr**	**50.03**	**258**	P	P	23 27 26.4	-0.8
	0.4nm,0.7s,baz=96,slow=7.5,SNR=5.8						
ASAR	**Alice Springs**	**50.12**	**254**	P	P	23 27 28.1	+0.4
	2.2nm,0.9s,baz=91,slow=8.1,SNR=14						
PDAR	**Pinedale Array**	**83.39**	**41**	P	P	23 30 59.7	-0.2
	0.6nm,0.9s,baz=186,slow=2.7,SNR=3.6						
BRTR	**Keskin Array B**	**148.18**	**320**	PKPbc	PKPbc	23 38 18.3	-0.4
	0.9nm,0.8s,baz=91,slow=1.3,SNR=6.4						

*MOS **22** 23:24:25.1±1.0, 51°.85N×178°.21E, h66km, mb4.5/10, Error ellipse: s-maj=10.1km s-min=8.8km az=72.2*
*AEIC **22** 23:24:27.0±2.3, 51°.6N±0°.1×178°.20E±0°.07, h61km±5km, ML3.8/28, mb4.2/101(NEIC), Error ellipse: s-maj=18.2km s-min=6.2km az=181.0*
*IDC **22** 23:24:26.9±0.8, 51°.83N×178°.28E, h73km±6km, mb3.8/21, mb1 3.9/23, mb1mx3.7/60, mbtmp4.1/23, MS3.0/8, Ms1 3.0/8, ms1mx2.8/36, Error ellipse: s-maj=25.7km s-min=10.4km az=1.0*
*NEIC **22** 23:24:26.5±1.4, 51°.7N±0°.1×178°.28E±0°.05, h72km±6km, Error ellipse: s-maj=21.0km s-min=4.2km az=182.0*
ISC 22 23:24:26.5±0.6, 51°.6N±0°.1×178°.28E±0°.04, h72km±4km, h72km:pP-P, n198, σ1§07/189, mb4.2/76, 4C-3D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.36**	**24**		**Pn**	**23 24 38.0**	**-0.3**
LSNW	**Little Sitkin**	**0.38**	**23**		**Pn**	**23 24 38.0**	**-0.4**
LSPA	**Little Sitkin**	**0.38**	**29**		**Pn**	**23 24 38.0**	**-0.5**
AMKA	**Amchitka**	**0.69**	**111**	Pn	**Pn**	**23 24 40.9**	**-0.5**
AMKA				Sn	**Sn**	**23 24 51.6**	**-0.7**
CETU	**Semis' Tuman**	**0.83**	**65**		**Pn**	**23 24 43.2**	**+0.2**
CESW	**Semis' Southwe**	**0.85**	**70**		**Pn**	**23 24 43.0**	**-0.2**
CEAP	**Semis' Anvil P**	**0.89**	**64**		**Pn**	**23 24 43.7**	**0.0**
CERB	**Semis' Cerberu**	**0.90**	**69**		**Sn**	**23 24 57.2**	**+0.6**
CERAA	**Semis' Rag'd T**	**0.92**	**72**		**Pn**	**23 24 43.9**	**-0.2**
GALAA	**Gareloi Lava P**	**1.84**	**85**		**Pn**	**23 24 56.5**	**+0.5**
GAEA	**Gareloi East**	**1.86**	**84**		**Pn**	**23 24 56.7**	**+0.4**
TASE	**Tanaga Southea**	**2.30**	**83**		**Pn**	**23 25 02.5**	**+0.3**
TAFP	**Tanaga Falls P**	**2.34**	**82**		**Pn**	**23 25 02.8**	**+0.1**
TAFP					**Sn**	**23 25 31.0**	**+0.5**
KIMD	**Kanaga Island**	**2.80**	**85**		**Pn**	**23 25 09.0**	**+0.2**
SMY	**Shemya**	**2.80**	**295**	P	**Pn**	**23 25 08.3**	**-0.6**
SMY						23 25 40.6	
SMY	**Shemya**	**2.80**	**295**		**Pn**	**23 25 08.3**	**-0.6**
SMY				Sn	**Sn**	**23 25 40.6**	**-0.9**
KICM	**Kanaga Island**	**2.83**	**82**		**Pn**	**23 25 09.9**	**+0.6**
KIKV	**Kanaga Island**	**2.84**	**83**		**Pn**	**23 25 09.8**	**+0.3**
ADK	**Adak**	**3.14**	**83**	P	**Pn**	**23 25 13.3**	**-0.3**
ADK						23 25 49.2	
ADK	**Adak**	**3.14**	**83**		**Pn**	**23 25 13.3**	**-0.3**
ADK	**Adak**	**3.14**	**83**	Sn	**Sn**	**23 25 49.2**	**-0.7**
GSTD	**Great Sitkin T**	**3.49**	**81**		**Pn**	**23 25 18.4**	**+0.1**
GSMY	**Great Sitkin M**	**3.54**	**81**		**Pn**	**23 25 19.3**	**+0.3**
GSTR	**Great Sitkin T**	**3.54**	**80**	Pn	**Pn**	**23 25 18.8**	**-0.3**
ATKA	**Atka Island**	**4.70**	**80**		**Pn**	**23 25 35.1**	**+0.3**
KOFP	**Korovin Flat P**	**4.76**	**79**		**Pn**	**23 25 35.1**	**-0.6**
NIKH	**Nikolski High**	**8.01**	**75**	Pn	**Pn**	**23 26 19.8**	**-0.2**
UNV	**Unalaska Valle**	**9.50**	**71**	Pn	**Pn**	**23 26 40.3**	**+0.1**
AKUT	**Akutan**	**9.97**	**69**	Pn	**Pn**	**23 26 47.4**	**+0.8**
PEA0B	**Petropavlovsk-**	**12.66**	**285**	P	**Pn**	**23 27 23.2**	**-0.1**
PEA0B	**Petropavlovsk-**	**12.66**	**285**	Pn	**Pn**	**23 27 23.2**	**-0.1**
PETK	**Petropavlovsk-**	**12.66**	**285**	P	**Pn**	**23 27 23.7**	**+0.4**
	0.2nm,0.3s,baz=84,slow=19,SNR=4.5						
PETK				S	Sn	23 29 32.3	-10
	0.2nm,0.3s,baz=104,slow=18,SNR=1.2						
PETK				LR	LR	23 31 53.2	
	comp=Z,42nm,21.5s,baz=61,slow=35						
SDPT	**Sand Point**	**13.18**	**65**		**Pn**	**23 27 30.1**	**-0.1**
CNBA	**Chernabura Isl**	**13.63**	**68**	Pn	**Pn**	**23 27 34.3**	**-1.9**
CHIR	**Chirikof Islan**	**15.96**	**65**	Pn	**Pn**	**23 28 03.5**	**-2.8**
CHIR				IAmb	IAmb	23 28 20.9	
	comp=Z,40nm,1.2s						
SII	**Sitkinak Islan**	**16.83**	**62**	P	**Pn**	**23 28 16.5**	**-0.7**
SII				IAmb	IAmb	23 28 20.6	
	comp=Z,8.6nm,0.6s						
MA2	**Magadan**	**17.36**	**308**	LR	LR	23 35 06.7	
	comp=Z,20nm,19.1s,baz=136,slow=37						
OHAK	**Old Harbor**	**17.39**	**60**	Pn	**Pn**	**23 28 21.2**	**-2.8**
TTA	**Tatalina**	**17.78**	**41**	P	**Pn**	**23 28 29.4**	**+0.6**
TTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TTA	**Tatalina**	**17.78**	**41**	P	**Pn**	**23 28 29.4**	**+0.6**
KDAK	**Kodiak Island**	**17.84**	**58**	P	**P**	**23 28 26.8**	**-2.5**
	comp=Z,1.6nm,0.3s,baz=216,slow=0.6,SNR=22						
KDAK				LR	LR	23 35 55.0	
	comp=Z,52nm,18.3s,baz=298,slow=39						
KDAK	**Kodiak Island**	**17.84**	**58**	P	**P**	**23 28 27.8**	**-1.5**
KDAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KDAK	**Kodiak Island**	**17.84**	**58**		**P**	**23 28 27.8**	**-1.5**
SEY	**Seymchan**	**17.85**	**319**	LR	LR	23 34 20.0	
	comp=Z,38nm,19.1s,baz=355,slow=34						
RSO	**Redoubt South**	**18.30**	**50**	P	**Pn**	**23 28 35.7**	**+0.4**
CNPM	**China Poot**	**18.82**	**53**	P	**P**	**23 28 40.1**	**0.0**
BRLK	**Bradley Lake**	**19.04**	**53**	P	**P**	**23 28 42.0**	**-0.5**
BRLK				IAmb	IAmb	23 28 42.4	
	comp=Z,7.7nm,0.6s						
SKT	**Skwentna**	**19.32**	**46**	IAmb	IAmb	23 28 50.8	
	comp=Z,18nm,0.8s						
PPLA	**Purkeypile**	**19.35**	**43**	P	**Pn**	**23 28 47.4**	**-0.4**
SUA	**Susitna One**	**19.52**	**48**	P	**P**	**23 28 48.4**	**+0.6**
SUA				IAmb	IAmb	23 28 51.4	
	comp=Z,6.0nm,0.5s						
SEW	**Seward**	**19.82**	**52**	P	**P**	**23 28 50.1**	**-0.8**
SEW				IAmb	IAmb	23 28 53.6	
	comp=Z,12nm,0.8s						
KTH	**Kantishna Hill**	**20.13**	**42**	IAmb	IAmb	23 28 58.9	
	comp=Z,9.3nm,0.8s						
GHO	**Glory Hole Cre**	**20.44**	**48**	P	**P**	**23 28 57.5**	**-0.3**
GHO				IAmb	IAmb	23 28 58.9	
	comp=Z,6.1nm,0.6s						
KNK	**Knik Glacier**	**20.57**	**49**	P	**P**	**23 28 59.1**	**0.0**
KNK				IAmb	IAmb	23 28 59.7	
	comp=Z,10nm,1.1s						
SML	**Sawmill**	**20.72**	**48**	P	**P**	**23 29 01.5**	**+0.8**
RND	**Reindeer**	**20.95**	**43**	P	**P**	**23 29 02.9**	**-0.2**
RND				pmax	pmax		
	comp=Z,3.0nm,0.8s						
RND	**Reindeer**	**20.95**	**43**	P	**P**	**23 29 02.9**	**-0.2**
BWN	**Browne**	**20.96**	**41**	P	Pn	23 29 05.3	-1.1
MCK	**McKinley**	**21.02**	**42**	P	**P**	**23 29 05.0**	**+1.1**
MCK				pmax	pmax		
	comp=Z,7.0nm,0.4s						
MCK	**McKinley**	**21.02**	**42**	P	**P**	**23 29 05.0**	**+1.1**
MCK				IAmb	IAmb	23 29 10.7	
	comp=Z,6.9nm,0.4s						
GLI	**Glacier Island**	**21.11**	**51**	IAmb	IAmb	23 29 04.4	
	comp=Z,12nm,0.7s						
SCM	**Sheep Creek Mo**	**21.19**	**48**	P	**P**	**23 29 05.0**	**-0.8**
SCM				pmax	pmax		
	comp=Z,15nm,1.2s						
SCM	**Sheep Creek Mo**	**21.19**	**48**	P	**P**	**23 29 05.0**	**-0.8**
SCM				IAmb	IAmb	23 29 09.8	
	comp=Z,15nm,1.2s						
MID	**Middleton Isla**	**21.28**	**55**	P	**P**	**23 29 06.1**	**-0.5**
MID				pmax	pmax		
	comp=Z,22nm,0.9s						
MID	**Middleton Isla**	**21.28**	**55**	P	**P**	**23 29 06.1**	**-0.5**
HIN	**Hinchinbrook I**	**21.32**	**52**	P	**P**	**23 29 06.2**	**-0.8**
HIN				IAmb	IAmb	23 29 13.0	
	comp=Z,5.8nm,0.6s						
FID	**Port Fidalgo**	**21.38**	**51**	IAmb	IAmb	23 29 08.3	
	comp=Z,14nm,0.7s						
DHY	**Denali Highway**	**21.49**	**45**	P	**P**	**23 29 08.1**	**-0.9**
DHY				IAmb	IAmb	23 29 11.2	
	comp=Z,5.3nm,0.5s						
EYAK	**Cordova Ski Ar**	**21.71**	**52**	P	**P**	**23 29 10.7**	**-0.4**
EYAK				IAmb	IAmb	23 29 15.2	
	comp=Z,7.9nm,0.6s						
MDM	**Murphy Dome**	**21.75**	**39**	P	**P**	**23 29 12.3**	**+0.7**
MDM				IAmb	IAmb	23 29 13.7	
	comp=Z,4.6nm,0.4s						
KLU	**Klutina**	**21.78**	**49**	P	**P**	**23 29 12.7**	**+0.6**
CCB	**Clear Creek Bu**	**21.80**	**40**	P	**P**	**23 29 11.8**	**-0.3**
COLA	**College**	**21.87**	**40**	*e*P	**P**	**23 29 15.0**	**+2.2**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HDA	**Harding Lake**	**22.07**	**41**	P	**P**	**23 29 15.3**	**+0.2**
RAGM	**Ragged Mountai**	**22.21**	**52**	P	**P**	**23 29 16.6**	**-0.1**
IL31		**22.22**	**40**	P	**P**	**23 29 17.1**	**+0.5**
ILAR	**Eielson Array**	**22.22**	**40**	P	**P**	**23 29 15.1**	**-1.6**
	comp=Z,1.3nm,0.5s,baz=234,slow=8.2,SNR=18						
ILAR				ScP	**ScP**	**23 36 40.4**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=268,slow=4.3,SNR=4.1						
KAIM	**Kayak Island**	**22.30**	**54**	P	**P**	**23 29 18.1**	**+0.6**
PAX	**Paxson**	**22.30**	**45**	P	**P**	**23 29 17.8**	**+0.2**
PAX				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PAX	**Paxson**	**22.30**	**45**	P	**P**	**23 29 17.8**	**+0.2**
PAX				IAmb	IAmb	23 29 18.4	
	comp=Z,6.0nm,0.8s						
HMT	**Hamilton**	**22.41**	**53**	P	**P**	**23 29 18.1**	**-0.7**
SUCK	**Suckling Hills**	**22.63**	**53**	P	**P**	**23 29 20.6**	**-0.5**
SUCK				IAmb	IAmb	23 29 21.4	
	comp=Z,12nm,1.0s						
VRDI	**Verde Repeater**	**22.91**	**50**	P	**P**	**23 29 23.6**	**-0.6**
VRDI				IAmb	IAmb	23 29 25.3	
	comp=Z,8.7nm,0.9s						
TOLK	**Toolik Lake Re**	**22.94**	**30**	P	**P**	**23 29 24.8**	**+0.5**
CRQM	**Cirque**	**23.01**	**52**	P	**P**	**23 29 25.1**	**-0.1**
DOT	**Dot Lake**	**23.08**	**44**	IAmb	IAmb	23 29 25.9	
	comp=Z,7.9nm,0.8s						
WAX	**Waxell Ridge**	**23.12**	**52**	P	**P**	**23 29 25.2**	**-0.9**
WAX				IAmb	IAmb	23 29 26.8	
	comp=Z,9.9nm,0.8s						
MCARA	**McCarthy VSAT**	**23.14**	**50**	P	**P**	**23 29 26.1**	**-0.2**
MCARA				IAmb	IAmb	23 29 27.6	
	comp=Z,15nm,0.8s						
TGL	**Tana Glacier**	**23.16**	**52**	P	**P**	**23 29 26.1**	**-0.4**
TGL				IAmb	IAmb	23 29 27.1	
	comp=Z,11nm,0.7s						
ISLE	**Juniper Island**	**23.39**	**52**	P	**P**	**23 29 28.1**	**-0.6**
ISLE				IAmb	IAmb	23 29 35.1	
	comp=Z,4.8nm,0.6s						
BALM	**Baldy**	**23.42**	**51**	P	**P**	**23 29 28.4**	**-0.6**
BALM				IAmb	IAmb	23 29 29.4	
	comp=Z,6.4nm,0.8s						
MESA	**MESA**	**23.55**	**53**	P	**P**	**23 29 29.8**	**-0.4**
PCA	**Pinnacle**	**24.39**	**53**	IAmb	IAmb	23 29 38.4	
	comp=Z,11nm,0.8s						
EGAK	**Eagle**	**24.57**	**42**	IAmb	IAmb	23 29 39.8	
	comp=Z,8.0nm,0.8s						
INK	**Inuvik**	**28.31**	**36**	P	**P**	**23 30 13.1**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=249,slow=8.6,SNR=1.7						
KLR	**Kul'dur**	**29.35**	**284**	P	**P**	**23 30 22.0**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=68,slow=8.3,SNR=13						
KLR				pP	**pP**	**23 30 40.2**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=74,slow=6.3,SNR=2.5						
KLR				LR	LR	23 41 40.4	
	comp=Z,26nm,19.6s,baz=80,slow=35						
H11N2	**WAKE ISLAND Hy**	**33.06**	**200**	T	T	00 06 14.5	
	baz=11,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**33.07**	**200**	T	T	00 06 12.9	
	baz=11,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**33.08**	**200**	T	T	00 06 10.5	
	baz=11,slow=76,SNR=36						
H11S1	**WAKE ISLAND Hy**	**34.29**	**200**	T	T	00 07 46.7	
	baz=11,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**34.30**	**200**	T	T	00 07 45.0	
	baz=11,slow=76,SNR=9.2						
H11S2	**WAKE ISLAND Hy**	**34.30**	**200**	T	T	00 07 56.8	
	baz=11,slow=76,SNR=7.3						
YKA	**Yellowknife Ar**	**36.38**	**46**	P	**P**	**23 31 22.6**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=274,slow=10,SNR=8.5						
YBH	**Yreka Blue Hor**	**40.65**	**80**	P	**P**	**23 31 60.0**	**+0.6**
	comp=Z,2.8nm,0.7s,baz=310,slow=2.9,SNR=4.6						
YBH	**Yreka Blue Hor**	**40.65**	**80**	P	**P**	**23 32 01.3**	**+2.0**
YBH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YBH	**Yreka Blue Hor**	**40.65**	**80**	P	**P**	**23 32 01.3**	**+2.0**
YBH				IAmb	IAmb	23 32 01.4	
	comp=Z,4.1nm,0.8s						
I07A	**Izee**	**41.28**	**75**	P	**P**	**23 32 05.0**	**+0.4**
WALA	**Waterton Lakes**	**41.94**	**66**	P	**P**	**23 32 11.5**	**+1.5**
WALA				IAmb	IAmb	23 32 27.4	
	comp=Z,2.9nm,0.8s						
MOD	**Modoc Plateau**	**42.02**	**78**	P	**P**	**23 32 10.8**	**+0.1**
MOD				IAmb	IAmb	23 32 11.9	
	comp=Z,3.8nm,0.7s						
BMO	**Blue Mountains**	**42.18**	**73**	P	**P**	**23 32 11.7**	**-0.2**
BMO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BMO	**Blue Mountains**	**42.18**	**73**	P	**P**	**23 32 11.7**	**-0.2**
JTMT	**Jette**	**42.41**	**68**	P	**P**	**23 32 15.2**	**+1.5**
PNTR	**Pine Nut**	**44.12**	**81**	P	**P**	**23 32 28.1**	**+0.3**
LRM	**Limekiln Ridge**	**44.50**	**69**	P	**P**	**23 32 30.1**	**-0.7**
ULN	**Ulaanbaatar**	**44.50**	**295**	P	**P**	**23 32 30.7**	**+0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ULN	**Ulaanbaatar**	**44.50**	**295**	P	**P**	**23 32 30.7**	**+0.1**
ULN				IAmb	IAmb	23 32 31.2	
	comp=Z,3.2nm,0.8s						
WAKR	**Walker**	**44.58**	**82**	P	**P**	**23 32 32.5**	**+1.1**
WAKR				IAmb	IAmb	23 32 32.7	
	comp=Z,3.5nm,0.8s						
BCYI	**Bear Canyon**	**44.79**	**71**	P	**P**	**23 32 32.0**	**-1.1**
EGMT	**Eagleton**	**44.84**	**65**	P	**P**	**23 32 36.2**	**+3.0**
EGMT				IAmb	IAmb	23 32 39.8	
	comp=Z,4.2nm,1.0s						
SONM	**Songino Array**	**44.89**	**295**	P	**P**	**23 32 33.9**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=62,slow=7.7,SNR=18						
SONM				pP	**pP**	**23 32 50.7**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=57,slow=8.9,SNR=5.6						
KVN	**Kaiserville**	**45.07**	**80**	P	**P**	**23 32 35.8**	**+0.5**
KVN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KVN	**Kaiserville**	**45.07**	**80**	P	**P**	**23 32 35.8**	**+0.5**
BOZ	**Bozeman (W)**	**45.10**	**69**	P	**P**	**23 32 34.1**	**-1.3**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BOZ	**Bozeman (W)**	**45.10**	**69**	P	**P**	**23 32 34.1**	**-1.3**
BOZ				IAmb	IAmb	23 32 34.6	
	comp=Z,4.0nm,0.6s						
NVAR	**Mina Array Bea**	**45.33**	**81**	P	**P**	**23 32 38.0**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=297,slow=7.3,SNR=8.5						
NVAR				pP	**pP**	**23 32 56.0**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=304,slow=8.1,SNR=1.1						
YHL	**Hebgen Lake**	**45.79**	**69**	P	**P**	**23 32 39.3**	**-1.7**
YHH	**Holmes Hill**	**46.02**	**69**	P	**P**	**23 32 42.0**	**-0.8**
R11A	**Troy Canyon, C**	**47.05**	**79**	P	**P**	**23 32 51.0**	**+0.2**
R11A				IAmb	IAmb	23 32 51.8	
	comp=Z,2.1nm,0.8s						
TPNV	**Topopah Spring**	**47.52**	**81**	P	**P**	**23 32 55.0**	**+0.5**
TPNV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TPNV	**Topopah Spring**	**47.52**	**81**	P	**P**	**23 32 55.0**	**+0.5**
DUG	**Dugway, Tooele**	**47.59**	**75**	P	**P**	**23 32 54.9**	**0.0**
DUG				pmax	pmax		
	comp=Z,4.0nm,1.2s						
DUG	**Dugway, Tooele**	**47.59**	**75**	P	**P**	**23 32 54.9**	**0.0**
DUG				IAmb	IAmb	23 32 56.7	
	comp=Z,3.8nm,1.1s						
BW06	**Boulder Array**	**47.96**	**71**	IAmb	IAmb	23 32 57.3	
	comp=Z,2.2nm,0.7s						
PD31	**Pinedale Array**	**47.96**	**71**	IAmb	IAmb	23 32 57.3	
	comp=Z,2.0nm,0.7s						
PDAR	**Pinedale Array**	**47.96**	**71**	P	**P**	**23 32 56.8**	**-1.2**
	comp=Z,2.1nm,0.6s,baz=304,slow=3.4,SNR=23						
PDAR				ScP	**ScP**	**23 38 10.7**	**-2.2**
	comp=Z,0.5nm,0.9s,baz=286,slow=3.7,SNR=3.5						
PSUT	**Pine Spring**	**47.99**	**70**	P	**P**	**23 32 58.4**	**+0.3**
MSU	**Marysvale**	**49.02**	**77**	P	**P**	**23 33 07.3**	**+1.2**
MSU	**Marysvale**	**49.02**	**77**	P	**P**	**23 33 07.3**	**+1.2**
TMUT	**Trail Mountain**	**49.11**	**75**	P	**P**	**23 33 06.5**	**-0.4**
KNB	**Kanab**	**49.58**	**79**	P	**P**	**23 33 10.6**	**+0.3**
KNB				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KNB	**Kanab**	**49.58**	**79**	P	**P**	**23 33 10.6**	**+0.3**
U15A	**North Rim**	**50.29**	**79**	P	**P**	**23 33 16.6**	**+0.9**
U15A				IAmb	IAmb	23 33 16.8	
	comp=Z,2.4nm,0.6s						
PV03	**Paradox Valley**	**51.20**	**75**	P	**P**	**23 33 21.9**	**-0.6**
PV03				IAmb	IAmb	23 33 22.7	
	comp=Z,2.2nm,0.7s						
SPX	**San Pedro Mart**	**51.93**	**86**	P	**P**	**23 33 28.7**	**+0.5**
SPX				IAmb	IAmb	23 33 31.0	
	comp=Z,2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**52.52**	**312**	P	**P**	**23 33 31.0**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=45,slow=4.3,SNR=2.6						
ZALV				LR	LR	23 58 13.2	
	comp=Z,26nm,18.1s,baz=327,slow=39						
LZH	**Lanzhou**	**53.55**	**284**	*e*P	**P**	**23 33 40.8**	**+0.9**
LZH				pP	pP	23 33 59.1	+1.1
LZH				sP	sP	23 34 06.6	+0.6
LZH				PP	**PP**	**23 35 47.8**	**+6.9**
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
LZH				pmax	pmax		
	comp=Z,71nm,5.4s						
GTA	**Gaotai**	**53.77**	**290**	*e*P	**P**	**23 33 39.3**	**-2.1**
GTA				pP	pP	23 33 57.6	-1.8
GTA				sP	sP	23 34 06.5	-0.9
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
DGZ	**Jazzator, Alta**	**53.93**	**307**	⇑ *i*P	**P**	**23 33 42.1**	**-0.4**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
EYMN	**Ely**	**54.75**	**55**	P	**P**	**23 33 46.9**	**-1.4**
F36A	**Milaca**	**55.04**	**58**	P	**P**	**23 33 49.3**	**-1.1**
F36A				IAmb	IAmb	23 34 09.0	
	comp=Z,2.5nm,0.9s						
KURK	**Kurchatov**	**57.51**	**312**	*de*P	**P**	**23 34 07.0**	**-0.8**
KURK				*i* *PP	**pP**	**23 34 27.8**	**+1.5**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ARCES	**ARCESS Array B**	**57.52**	**349**	P	**P**	**23 34 06.1**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=26,slow=8.4,SNR=2.5						
WMQ	**Urumqi**	**57.66**	**301**	*e*P	**P**	**23 34 11.3**	**+2.2**
LVZ	**Lovozero**	**57.73**	**345**	P	**P**	**23 34 08.5**	**-0.7**
E43A	**Lone Tree Farm**	**58.09**	**54**	P	**P**	**23 34 10.9**	**-1.0**
MKAR	**Makanchi Array**	**58.43**	**307**	P	**P**	**23 34 12.9**	**-1.4**
	comp=Z,1.2nm,0.5s,baz=54,slow=6.2,SNR=18						
MKAR	**Makanchi Array**	**58.43**	**307**	P	**P**	**23 34 13.0**	**-1.4**
MAKZ	**Makanchi**	**58.58**	**307**	P	**P**	**23 34 14.7**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAKZ	**Makanchi**	**58.58**	**307**	P	**P**	**23 34 14.7**	**-0.7**
MAKZ				IAmb	IAmb	23 34 15.5	
	comp=Z,2.3nm,0.8s						
P38A	**Dawn**	**59.21**	**64**	P	**P**	**23 34 19.3**	**-0.5**
E46A	**Sault Ste Mari**	**59.44**	**53**	P	**P**	**23 34 20.6**	**-0.7**
BRVK	**Borovoye**	**59.52**	**318**	P	**P**	**23 34 20.8**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	**Borovoye**	**59.52**	**318**	P	**P**	**23 34 20.8**	**-1.0**
WMOK	**Wichita Mounta**	**59.56**	**71**	P	**P**	**23 34 22.7**	**+0.3**
WMOK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WMOK	**Wichita Mounta**	**59.56**	**71**	P	**P**	**23 34 22.7**	**+0.3**
WMOK				IAmb	IAmb	23 34 24.1	
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array**	**60.41**	**79**	P	**P**	**23 34 28.2**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=301,slow=5.0,SNR=10						
TXAR				pP	**pP**	**23 34 46.0**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=292,slow=4.9,SNR=3.5						
ARU	**Arti**	**61.41**	**327**	*c i*P	P	**23 34 34.6**	**0.0**
ARU						23 35 15.2	
ARU						23 36 50.5	
ARU				S	**S**	**23 42 51.7**	**+2.1**
ARU				SS	**SS**	**23 46 53.1**	**+2.7**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARU	**Arti**	**61.41**	**327**	P	**P**	**23 34 34.6**	**0.0**
FCAR	**Ozark Folk Cen**	**62.62**	**66**	P	**P**	**23 34 41.2**	**-1.8**
FINES	**FINESS Array B**	**65.11**	**346**	P	**P**	**23 34 57.8**	**-1.1**
	comp=Z,2.5nm,1.1s,baz=35,slow=7.0,SNR=5.1						
FINES	**FINESS Array B**	**65.11**	**346**	*i* P	**P**	**23 34 58.9**	**-0.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AAK	**Ala-Archa**	**65.28**	**308**	*de*P	**P**	**23 35 00.3**	**-0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKTO	**Aktyubinsk**	**66.41**	**323**	P	**P**	**23 35 07.2**	**-0.2**
	comp=Z,5.4nm,0.7s,baz=40,slow=6.3,SNR=23						
KK31	**Karatay Array**	**66.85**	**311**	P	**P**	**23 35 10.3**	**-0.2**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KK31	**Karatay Array**	**66.85**	**311**	P	**P**	**23 35 10.2**	**-0.2**
KK31				IAmb	IAmb	23 35 10.7	
	comp=Z,2.7nm,0.7s			

GVD	**Gavdhos**	**0.23**	**50**	P	**Pg**	**23 32 14.8**	**+0.4**
GVD				S	**Sg**	**23 32 16.7**	**-1.2**
	9μm,0.2s						
GVD	**Gavdhos**	**0.23**	**50**	P	**Pg**	**23 32 14.9**	**+0.4**
GVD				S	**Sg**	**23 32 18.3**	**+0.3**
GVD				AML	AML	23 32 23.2	
	comp=N,17150μm,0.2s						
GVD				AML	AML	23 32 23.8	
	comp=E,18721μm,0.2s						
VAM	**Vamos**	**0.77**	**21**	P	**Pg**	**23 32 23.5**	**-0.8**
VAM				S	**Sg**	**23 32 31.8**	**-2.5**
	comp=E,3μm,0.3s						
VAM	**Vamos**	**0.77**	**21**	P	**Pg**	**23 32 23.6**	**-0.6**
VAM				S	**Sg**	**23 32 33.4**	**-1.0**
VAM				AML	AML	23 32 37.2	
	comp=E,6189μm,0.4s						
VAM				AML	AML	23 32 40.7	
	comp=N,3733μm,0.3s						
IMMV	**Iera Moni Meta**	**0.78**	**7**	P	**Pg**	**23 32 24.0**	**-0.4**
IMMV				S	**Sg**	**23 32 33.1**	**-1.5**
	comp=N,2μm,0.2s						
IMMV	**Iera Moni Meta**	**0.78**	**7**	P	**Pg**	**23 32 23.6**	**-0.8**
IMMV				S	**Sb**	**23 32 34.8**	**-0.2**
IMMV				AML	AML	23 32 37.0	
	comp=E,3821μm,0.2s						
IMMV				AML	AML	23 32 38.1	
	comp=N,4128μm,0.2s						
IMMV	**Iera Moni Meta**	**0.78**	**7**	PG	**Pg**	**23 32 23.7**	**-0.8**
IMMV				SG	**Sb**	**23 32 36.3**	**+1.3**
TMBK	**Timbaki Herakl**	**0.83**	**62**	P	**Pg**	**23 32 25.4**	**-0.1**
SIVA	**Sivas**	**0.84**	**67**	P	**Pg**	**23 32 25.4**	**-0.2**
SIVA				S	**Sg**	**23 32 35.8**	**-0.9**
	comp=N,2μm,0.5s						
SIVA	**Sivas**	**0.84**	**67**	P	**Pg**	**23 32 25.6**	**-0.1**
SIVA				S	**Sg**	**23 32 36.8**	**+0.1**
SIVA				AML	AML	23 32 49.6	
	comp=E,4521μm,0.5s						
SIVA				AML	AML	23 32 52.0	
	comp=N,3407μm,0.6s						
CHAN	**Chania**	**0.84**	**10**	P	**Pg**	**23 32 25.3**	**-0.4**
PRNS	**Prines Rethymn**	**0.85**	**37**	P	**Pg**	**23 32 23.9**	**-2.0**
RODP	**Rodopos**	**0.87**	**354**	P	**Pg**	**23 32 25.7**	**-0.6**
IDI	**Anoyia**	**1.03**	**54**	Pg	**Pg**	**23 32 27.9**	**-1.3**
	comp=N,7.6nm,0.3s,baz=242,slow=13,SNR=47						
IDI				Lg	Lg	23 32 44.4	
	comp=N,27nm,0.3s,baz=334,slow=20,SNR=8.5						
IDI	**Anoyia**	**1.03**	**54**	P	**Pg**	**23 32 27.9**	**-1.3**
IDI				S	**Sg**	**23 32 41.0**	**-1.7**
	comp=N,372nm,0.7s						
IDI	**Anoyia**	**1.03**	**54**	P	**Pg**	**23 32 28.0**	**-1.2**
IDI				S	**Sb**	**23 32 43.7**	**+1.3**
IDI				AML	AML	23 32 52.7	
	comp=E,729μm,0.5s						
IDI				AML	AML	23 32 54.1	
	comp=N,692μm,0.6s						
IDI	**Anoyia**	**1.03**	**54**	PG	**Pg**	**23 32 28.1**	**-1.2**
IDI				SG	**Sn**	**23 32 44.2**	**+0.5**
KSTL	**Kastelli Herak**	**1.16**	**58**	P	**Pn**	**23 32 33.7**	**+2.5**
IACM	**Heraklion**	**1.16**	**58**	P	**Pg**	**23 32 30.7**	**-1.1**
ANKY	**Antikythira Is**	**1.26**	**339**	P	**Pg**	**23 32 33.1**	**-0.6**
ANKY				S	**Sn**	**23 32 50.3**	**+0.9**
	comp=N,390nm,1.4s						
ANKY	**Antikythira Is**	**1.26**	**339**	P	**Pg**	**23 32 32.6**	**-1.1**
ANKY				S	**Sn**	**23 32 50.9**	**+1.5**
ANKY				AML	AML	23 33 02.0	
	comp=N,568μm,0.5s						
ANKY				AML	AML	23 33 02.9	
	comp=E,810μm,1.3s						
LAST	**Lasithi**	**1.40**	**70**	P	**Pn**	**23 32 35.3**	**+0.7**
LAST				S	**Sb**	**23 32 52.9**	**-0.3**
	comp=E,165nm,0.7s						
LAST	**Lasithi**	**1.40**	**70**	P	**Pn**	**23 32 35.2**	**+0.6**
LAST				S	**Sn**	**23 32 56.7**	**+3.8**
NPS	**Neapolis**	**1.54**	**68**	P	**Pg**	**23 32 38.8**	**-0.2**
KTHA	**Kythira Island**	**1.70**	**337**	P	**Pn**	**23 32 39.9**	**+1.3**
KTHA	**Kythira Island**	**1.70**	**337**	P	**Pn**	**23 32 40.0**	**+1.4**
ZKR	**Zakros**	**1.98**	**77**	PN	**Pb**	**23 32 44.7**	**-0.4**
MHLO	**Agia Marina, M**	**2.04**	**12**	P	**Pn**	**23 32 44.8**	**+1.5**
MHLO				S	**Sn**	**23 33 07.9**	**-0.7**
	comp=E,602nm,0.6s						
SANT	**Santorini**	**2.12**	**37**	PN	**Pn**	**23 32 45.5**	**+1.1**
THT2	**Imerovigli**	**2.15**	**36**	PN	**Pn**	**23 32 45.8**	**+0.9**
VLI	**Veliai**	**2.16**	**340**	P	**Pb**	**23 32 48.5**	**+0.2**
VLI	**Veliai**	**2.16**	**340**	P	**Pb**	**23 32 48.0**	**-0.3**
APE	**Apeiranthos**	**2.73**	**29**	P	**Pn**	**23 32 54.0**	**+1.1**
APE	**Apeiranthos**	**2.73**	**29**	PN	**Pn**	**23 32 53.9**	**+1.1**
KARP	**Karpathos**	**2.83**	**71**	PN	**Pn**	**23 32 56.8**	**+2.6**
DAT	**Datca**	**3.64**	**55**	PN	**Pn**	**23 33 08.2**	**+2.8**
ARG	**Arkhangelos**	**3.79**	**65**	PN	**Pn**	**23 33 10.3**	**+2.9**
CHOS	**Chios island**	**4.09**	**25**	PN	**Pn**	**23 33 13.7**	**+2.2**
TURN	**Turunc**	**4.12**	**58**	PN	**Pn**	**23 33 14.7**	**-1.3**
URLA	**Izmir**	**4.27**	**30**	PN	**Pn**	**23 33 17.1**	**+3.1**
YER	**Yerkesik**	**4.33**	**54**	PN	**Pn**	**23 33 18.1**	**+3.2**
DALY	**Dalyan (Mula)**	**4.43**	**60**	PN	**Pn**	**23 33 19.4**	**+3.3**
AKAS	**Kas**	**4.93**	**70**	PN	**Pn**	**23 33 26.3**	**+3.2**
ELL	**Elmali**	**5.33**	**66**	PN	**Pn**	**23 33 32.2**	**+3.6**
KORT	**Korkueli**	**5.75**	**64**	PN	**Pn**	**23 33 37.6**	**+3.2**
BRTR	**Keskin Array B**	**9.27**	**54**	Pn	**Pn**	**23 34 25.2**	**+2.5**
	comp=E,0.0nm,0.3s,baz=230,slow=13,SNR=2.3						
MMAI	**Mount Meron Ar**	**9.74**	**97**	Pn	**Pn**	**23 34 29.4**	**+0.3**
	comp=E,0.7nm,0.3s,baz=297,slow=11,SNR=8.7						
MMAI				Sn	**Sn**	**23 36 13.6**	**-4.7**
	comp=E,0.3nm,0.3s,baz=278,slow=23,SNR=1.8						
EIL	**Elat**	**10.64**	**115**	Pn	**Pn**	**23 34 39.6**	**-1.8**
	comp=E,0.4nm,0.3s,baz=164,slow=24,SNR=5.0						
EIL				Sn	Sn	23 36 30.4	-10
	comp=E,0.2nm,0.3s,baz=8.5,slow=7.0,SNR=2.2						
VRAC	**Vranov**	**15.56**	**342**	Pn	**Pn**	**23 35 50.4**	**+2.1**
	comp=E,0.3nm,0.3s,baz=76,slow=19,SNR=1.6						
GERES	**GERESS Array B**	**16.03**	**335**	Pn	**P**	**23 35 57.7**	**-0.1**
	comp=E,0.1nm,0.3s,baz=146,slow=13,SNR=2.4						
ESDC	**Sonseca Array**	**22.68**	**291**	P	**P**	**23 37 10.9**	**+0.5**
	comp=E,0.5nm,0.7s,baz=82,slow=9.5,SNR=5.0						
HFS	**Hagfors**	**26.31**	**348**	P	**P**	**23 37 44.8**	**+0.5**
	comp=E,1.2nm,0.5s,baz=160,slow=21,SNR=2.0						
NOA	**NORSAR Array B**	**27.60**	**347**	P	**P**	**23 37 55.9**	**-0.1**
	comp=E,0.7nm,0.9s,baz=166,slow=7.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**29.38**	**229**	P	**P**	**23 38 11.0**	**-1.2**
	comp=E,0.3nm,0.6s,baz=34,slow=8.7,SNR=8.7						
MKAR	**Makanchi Array**	**44.92**	**56**	P	**P**	**23 40 23.4**	**-0.2**
	comp=E,0.6nm,0.5s,baz=268,slow=8.1,SNR=10.0						
ZALV	**Zalesovo Beam**	**46.09**	**46**	P	**P**	**23 40 32.5**	**-0.3**
	comp=E,0.6nm,0.4s,baz=268,slow=11,SNR=2.0						

*IDC **22** 23:32:49.7±1.8, 45°.81S×120°.78E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, ML2.1/1, Error ellipse: s-maj=57.9km s-min=40.3km az=116.0*

ISC 22 23:32:51.1±1.6, **45°.8S**±0°.2×**120°.6E**±0°.2, **h10**km, **n15, σ0**s**94/8, mb3.6/4, South of Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**11.96**	**334**	T	T	23 47 58.3	
	baz=157,slow=75,SNR=36						
H01W2	**Cape Leeuwin H**	**11.96**	**334**	T	T	23 47 56.9	
	baz=157,slow=75,SNR=34						
H01W3	**Cape Leeuwin H**	**11.97**	**334**	T	T	23 47 59.9	
	baz=157,slow=75,SNR=34						
NWAO	**Narrogin (SRO)**	**13.14**	**348**	Pn	**Pn**	**23 35 57.8**	**+0.1**
	0.5nm,0.3s,baz=184,slow=15,SNR=1.6						
STKA	**Stephens Creek**	**21.43**	**57**	P	**P**	**23 37 40.4**	**+1.3**
	2.7nm,0.7s,baz=206,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**24.62**	**31**	P	**P**	**23 38 11.2**	**-0.4**
	0.7nm,0.6s,baz=203,slow=9.3,SNR=8.2						
WRA	**Warramunga Arr**	**28.21**	**28**	P	**P**	**23 38 42.6**	**-1.4**
	0.5nm,0.7s,baz=200,slow=8.0,SNR=2.2						
H08S2	**Diego Garcia H**	**56.10**	**297**	T	T	00 42 40.1	
	baz=144,slow=76,SNR=24						
H08S1	**Diego Carcia H**	**56.11**	**297**	T	T	00 42 41.6	
	baz=144,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**56.12**	**297**	T	T	00 42 42.2	
	baz=144,slow=76,SNR=24						
CMAR	**Chiang Mai Arr**	**66.92**	**338**	P	**P**	**23 43 44.1**	**+0.6**
	1.0nm,0.5s,baz=174,slow=5.6,SNR=7.5						
TORD	**Torodi Ar. Bea**	**119.36**	**258**	PKP	**PKiKP**	**23 51 41.1**	**+0.2**
	0.4nm,0.9s,baz=96,slow=1.8,SNR=4.8						
TXAR	**Lajitas Array**	**141.82**	**100**	PKhKP	PKPpre	23 52 17.2	
	0.1nm,0.4s,baz=202,slow=4.6,SNR=3.5						
PDAR	**Pinedale Array**	**144.48**	**77**	PKP	**PKPdf**	**23 52 26.8**	**-0.6**
	1.0nm,0.5s,baz=165,slow=2.7,SNR=14						
YKA	**Yellowknife Ar**	**144.96**	**42**	PKP	**PKPdf**	**23 52 27.1**	**-0.1**
	1.7nm,0.8s,baz=278,slow=3.6,SNR=6.3						

*TIR **22** 23:36:20.8, 40°.60N×19°.66E, h20km, Md3.0/6*
*ATH **22** 23:36:21.5, 40°.60N×19°.67E, h8km±3km, ML1.8/4, Error ellipse: s-maj=3.9km s-min=1.1km az=80.0*

ISC 22 23:36:21.3±0.9, **40°.60N**±0°.02×**19°.70E**±0°.04, **h14**km±9km, **n15, σ0**s**57/25, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.20**	**230**	*i* PG	**Pg**	**23 36 25.5**	**-0.4**
VLO				*i* SG	**Sg**	**23 36 29.6**	**+0.5**
SRN	**Sarande**	**0.75**	**162**	*i* PG	**Pg**	**23 36 36.0**	**0.0**
SRN				*i* SG	**Sg**	**23 36 45.7**	**-0.2**
TIR	**Tirane**	**0.76**	**9**	*i* PG	**Pg**	**23 36 35.7**	**-0.4**
TIR				*i* SG	**Sb**	**23 36 47.1**	**+0.6**
TIR	**Tirane**	**0.76**	**9**	P	**Pg**	**23 36 36.1**	**0.0**
TIR				S	**Sb**	**23 36 46.6**	**+0.1**
TIR				AML	AML	23 36 55.4	
	comp=N,249μm,0.3s						
TIR				AML	AML	23 37 01.9	
	comp=E,189μm,0.7s						
LSK	**Leskovik**	**0.82**	**123**	*i* PG	**Pb**	**23 36 37.5**	**+0.1**
LSK				*i* SG	**Sn**	**23 36 50.1**	**-0.4**
KEK	**Kerkira**	**0.89**	**175**	P	**Pg**	**23 36 38.7**	**+0.2**
KEK				S	**Sb**	**23 36 50.5**	**+0.3**
KEK				AML	AML	23 36 54.0	
	comp=E,260μm,0.4s						
KEK				AML	AML	23 36 55.0	
	comp=N,185μm,0.3s						
NEST	**Nestorio**	**1.04**	**100**	P	**Pb**	**23 36 40.8**	**-0.4**
NEST				S	**Sn**	**23 36 56.6**	**+0.6**
NEST				AML	AML	23 37 02.9	
	comp=E,62μm,0.4s						
NEST				AML	AML	23 37 03.7	
	comp=N,60μm,0.5s						
SCTE	**Santa Cesarea**	**1.08**	**241**	P	**Pb**	**23 36 41.4**	**-0.4**
SCTE				S	**Sg**	**23 36 56.3**	**+0.1**
SCTE				AML	AML	23 36 58.8	
	comp=N,81μm,0.3s						
SCTE				AML	AML	23 37 01.1	
	comp=E,52μm,0.3s						
IGT	**Igoumenitsa**	**1.17**	**155**	P	**Pb**	**23 36 43.5**	**+0.2**
PHP	**Peshkopia**	**1.22**	**27**	*i* PN	**Pn**	**23 36 43.6**	**-0.4**
PHP				*i* SN	**Sg**	**23 37 01.0**	**+0.2**
KPRO	**Kipourio**	**1.43**	**116**	P	**Pb**	**23 36 48.2**	**+0.5**
PUK	**Puka**	**1.45**	**6**	*i* PN	**Pb**	**23 36 48.1**	**0.0**
PUK				*i* SN	**Sg**	**23 37 09.2**	**+1.0**
LKD2	**Lefkada island**	**1.95**	**157**	P	**Pb**	**23 36 57.5**	**+0.9**
NOCI	**Noci**	**2.01**	**276**	P	**Pb**	**23 36 57.7**	**0.0**
AGG	**Agios Georgios**	**2.56**	**127**	P	**Pb**	**23 37 05.5**	**-1.6**

ROM 22 23:38:11.8±0.1, **42°.76N**±0°.004×**13°.41E**±0°.007, **h22**km±1km, **ML1.1/4, 1D, Error ellipse: s-maj=0.5km s-min=0.5km az=86.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TERO	**Teramo**	**0.21**	**145**	P	**Pb**	23 38 17.4	-0.3
TERO				S	Sb	23 38 21.5	-0.3
TERO				AML	AML		
	comp=E,17μm,0.6s						
TERO				AML	AML		
	comp=N,15μm,0.2s						
NRCA	**Norcia**	**0.24**	**279**	⇓P	Pb	23 38 17.8	-0.2
NRCA				S	Sb	23 38 22.1	-0.1
NRCA				AML	AML		
	comp=E,188μm,0.1s						
NRCA				AML	AML		
	comp=N,303μm,0.1s						
CSP1	**Cessapalombo**	**0.34**	**330**	P	Pb	23 38 19.4	+0.1
CSP1				S	Sb	23 38 25.2	+0.8
LNSS	**Leonessa**	**0.35**	**237**	P	Pb	23 38 19.5	+0.1
LNSS				S	Sb	23 38 25.5	+0.9
LNSS				AML	AML		
	comp=E,39μm,0.4s						
LNSS				AML	AML		
	comp=N,26μm,0.9s						
FDMO	**Fiordimonte**	**0.35**	**313**	P	Pb	23 38 19.4	0.0
FDMO				S	Sb	23 38 25.2	+0.6
FDMO				AML	AML		
	comp=E,38μm,0.2s						
FDMO				AML	AML		
	comp=N,45μm,0.3s						

*ISN **23** 00:50:38.4±0.7, 33°.76N×45°.66E, h14km±4km, ML2.9*
*TEH **23** 00:50:41.8, 33°.69N×45°.71E, h10km, ML3.4*

ISC 23 00:50:39.3±1.6, **33°.70N**±0°.04×**45°.57E**±0°.06, **h6**km±13km, **n14, σ1**s**27/19, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.66**	**152**	*e*Pg	**Pg**	**00 50 52.0**	**0.0**
IBDR				*e*Sg	**Sg**	**00 51 01.0**	**+0.4**
IBDR				AML	AML	00 51 12.5	
	comp=E,176nm,0.6s						
IBDR				AML	AML	00 51 12.9	
	comp=N,165nm,0.5s						
IGHG	**Ghaleghazi**	**1.04**	**53**	*e*Pg	**Pn**	**00 51 00.7**	**0.0**
IGHG				*e*Sg	**Sn**	**00 51 14.1**	**-1.6**
BHD	**Baghdad**	**1.08**	**247**	*e*Pg	**Pn**	**00 51 00.0**	**-0.9**
BHD				*e*Sg	**Sb**	**00 51 16.0**	**+1.3**
BHD				AML	AML	00 51 26.2	
	comp=E,3μm,0.5s						
IDHR	**Dehrash**	**1.21**	**34**	*e*Sg	**Sn**	**00 51 21.6**	**+1.9**
IDHR				*e*Pg	**Pn**	**00 51 03.4**	**+0.5**
IDHR				*e*		00 51 24.2	
IVIS	**Veis**	**1.35**	**52**	*e*		00 51 27.9	
IVIS				*e*Pg	**Pg**	**00 51 06.2**	**+1.0**
KCHF	**Cheshme Sefid,**	**1.35**	**64**	*e*		00 51 29.3	
KCHF				*e*Pg	**Pg**	**00 51 06.9**	**+1.6**
KER	**Kermanshah**	**1.47**	**62**	*e*Pg	**Pg**	**00 51 08.4**	**+0.9**
ILIN	**Lien**	**1.68**	**43**	*e*Pg	**Pg**	**00 51 11.8**	**+0.3**
ILIN				*e*		00 51 35.6	
IKOM	**Komasi**	**1.69**	**73**	*e*Pg	**Pg**	**00 51 12.3**	**+0.7**
IKOM				*e*		00 51 37.4	
IKFM	**Kafar-mosalman**	**1.91**	**95**	*e*Pg	**Pg**	**00 51 16.0**	**+0.1**
IKFM				*e*		00 51 45.5	
IKMR	**Kamar-syah**	**2.35**	**94**	*e*Pn	**Pb**	**00 51 20.9**	**-1.2**
IKMR				*e*		00 51 58.8	
IALM	**Almabolaq**	**2.45**	**61**	*e*Pn	**Pb**	**00 51 22.0**	**-1.9**
HSRG	**Sareghieh**	**2.72**	**55**	*e*Pn	**Pb**	**00 51 26.6**	**-1.9**
HSRG				*e*		00 52 09.9	
NSR	**Nassriya**	**2.72**	**170**	*e*Pn	**Pn**	**00 51 24.0**	**+0.5**
NSR				*e*Sn	**Sn**	**00 51 58.0**	**+1.3**

*IDC **23** 01:10:21.5±1.4, 3°.48S×127°.41E, h0km, mb4.0/2, mb1 4.2/7, mb1mx3.8/33, mbtmp4.1/7, ML3.7/5, MS2.8/2, Ms1 2.8/2, ms1mx2.4/33, Error ellipse: s-maj=24.5km s-min=22.7km az=153.0*
*DJA **23** 01:10:23.9±0.4, 3°.5S×127°.7E±°, h10km, M4.2/11, mB5.2/1, mb4.6/3, MLv4.0/11, Mw(mB)4.6/1*

ISC 23 01:10:23.2±0.7, **3°.44S**±0°.06×**127°.37E**±0°.04, **h10**km, **n15, σ1**s**41/18, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.34**	**306**	P	**Pg**	**01 10 29.7**	**-0.2**
NLAI				S	**Sg**	**01 10 33.3**	**-1.1**
AAI	**Ambon**	**0.86**	**107**	P	**Pb**	**01 10 40.6**	**+0.4**
MSAI	**Masohi**	**1.56**	**87**	P	**Pg**	**01 10 53.1**	**0.0**
SANI	**Sanana**	**1.95**	**315**	P	**Pn**	**01 10 55.5**	**-0.9**
LBMI	**Labuha**	**2.79**	**3**	P	**Pn**	**01 11 07.5**	**-0.4**
LBMI				S	**Sn**	**01 11 42.3**	**+0.7**
SIJI	**Sorong**	**4.65**	**57**	Pn	**Pn**	**01 11 34.5**	**+0.9**
	21nm,0.3s,baz=235,slow=16,SNR=30						
SIJI				Sn	**Sn**	**01 12 27.3**	**-0.4**
	baz=231,slow=23,SNR=1.1						
FAKI	**Fak Fak**	**4.90**	**84**	P	**Pn**	**01 11 39.8**	**+2.8**
LUWI	**Luwuk**	**5.18**	**297**	P	**Pn**	**01 11 42.1**	**+1.3**
	0.4nm2μm91nm,0.6s						
KAPI	**Kappang**	**7.76**	**258**	Pn	**Pn**	**01 12 16.9**	**+0.6**
	0.5nm,0.3s,baz=231,slow=22,SNR=1.7						
KAPI				Sn	**Sn**	**01 13 46.8**	**+2.5**
	0.6nm,0.3s,baz=230,slow=17,SNR=1.4						
KAPI				LR	LR	01 15 52.4	
	comp=Z,70nm,18.3s,baz=68,slow=42						
JAY	**Jayapura**	**13.35**	**86**	Pn	**Pn**	**01 13 32.1**	**-0.8**
	0.7nm,0.3s,baz=182,slow=5.8,SNR=5.0						
FITZ	**Fitzroy Crossi**	**14.67**	**187**	Pn	**Pn**	**01 13 49.0**	**-1.9**
	0.1nm,0.3s,baz=14,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**17.76**	**158**	P	**Pn**	**01 14 28.5**	**-2.2**
	0.3nm,0.3s,baz=337,slow=13,SNR=14						
ASAR	**Alice Springs**	**21.08**	**163**	P	**P**	**01 15 08.2**	**+0.3**
	15nm,0.7s,baz=346,slow=12,SNR=154						
GUMO	**Guam**	**24.24**	**45**	LR	LR	01 23 53.2	
	comp=Z,19nm,20.3s,baz=250,slow=34						
MKAR	**Makanchi Array**	**63.83**	**327**	P	**P**	**01 20 55.4**	**-0.5**
	0.4nm,0.6s,baz=131,slow=8.3,SNR=5.1						

MEX 23 01:34:03.1±0.6, **30°.81N**×**115°.25W**, **h5**km, **MD4.2, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**0.29**	**321**	*i* P	Pg	01 34 08.2	-0.7
SPX				*e*S	Sg	01 34 13.0	+0.2
SPIG	**San Pedro Mart**	**0.30**	**322**	*i* P	Pg	01 34 08.8	-0.2
SPIG				*i* S	Sg	01 34 12.8	-0.2
CBX	**Cerro Bola**	**1.92**	**322**	*e*P	Pn	01 34 34.5	-2.1
CBX				*i* S	Sn	01 34 48.9	-12

*SOME **23** 02:03:23.4, 42°.17N×82°.05E, h10km*
*NNC **23** 02:03:29.0±1.7, 42°.32N×81°.93E, h1km±7km, mb2.9, mpv2.5, Error ellipse: s-maj=11.9km s-min=6.6km az=144.0*

ISC 23 02:03:30.2±2.7, **42°.2N**±0°.1×**81°.72E**±0°.08, **h16**km, **n7, σ0**s**99/15, 6C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.58**	**321**	*e*P	**Pn**	**02 03 58.0**	**+0.4**
	3.3nm,0.1s						
KTMS				*e*S	**Sg**	**02 04 22.9**	**+1.8**
	36nm,0.3s						
PDGK	**Podgornoye**	**1.97**	**305**	⇑Pn	**Pb**	**02 04 04.5**	**-1.3**
	1.6nm,0.5s						
PDGK				⇓Lg	Lg	02 04 35.1	
	13nm,0.7s						
UZB	**Uzynbulak**	**2.19**	**296**	*e*P	**Pb**	**02 04 09.0**	**-0.5**
	2.2nm,0.3s						
UZB				*e*S	**Sg**	**02 04 42.0**	**+1.4**
	10.0nm,0.3s						
DJR	**Jarkent**	**2.53**	**327**	*e*P	**Pb**	**02 04 14.8**	**-0.5**
	2.7nm,0.3s						
DJR				*e*S	**Sg**	**02 04 51.4**	**0.0**
	4.3nm,0.3s						
KAPS	**Kapalarasan**	**3.50**	**332**	*e*P	**Pb**	**02 04 31.3**	**-0.5**
	2.1nm,0.4s						
KAPS				*e*S	**Sg**	**02 05 20.6**	**-1.9**
	3.3nm,0.3s						
MAKZ	**Makanchi**	**4.58**	**2**	⇓Pn	**Pn**	**02 04 38.5**	**-0.2**
	1.0nm,0.7s						
MAKZ				⇓Pg	**Pb**	**02 04 50.5**	**+0.4**
	1.7nm,1.1s						
MAKZ				⇑Sn	**Sn**	**02 05 31.8**	**+0.2**
	1.7nm,0.9s						
MAKZ				⇑Lg	Lg	02 05 51.3	
	2.3nm,1.1s						
MK31	**Makanchi Array**	**4.58**	**5**	Pn	**Pn**	**02 04 38.9**	**+0.2**
	0.1nm,0.3s,baz=185,slow=13,SNR=5.5						
MK31				⇑Pg	**Pb**	**02 04 49.9**	**-0.3**
	0.2nm,0.3s,baz=175,slow=15,SNR=4.2						
MK31				⇑Sn	**Sn**	**02 05 31.8**	**+0.2**
	0.2nm,0.3s,baz=45,slow=40,SNR=3.9						
MK31				⇑Lg	Lg	02 05 50.8	
	0.4nm,0.3s,baz=187,slow=28,SNR=2.6						

*IDC **23** 02:09:07.7±0.7, 6°.72N×72°.94W, h164km±7km, mb2.9/5, mb1 3.3/8, mb1mx3.1/44, mbtmp3.6/8, Error ellipse: s-maj=18.8km s-min=7.2km az=133.0*
*RSNC **23** 02:09:08.8±1.4, 6°.80N×73°.17W, h148km±5km, ML3.7, Mw3.8, Fault plane solution: NP1:φs126.00000°, δ82.00000°, λ-42.00000°.*

ISC 23 02:09:07.0±0.8, **6°.83N**±0°.03×**73°.11W**±0°.04, **h157**km±6km, **n45, σ1**s**36/80, mb3.2/5, 7C-9D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**196**	⇑*i*P	**Pn**	**02 09 29.0**	**+0.4**
BARC				*e*S	**Sn**	**02 09 44.0**	**-1.0**
BARC				*i*		02 09 45.2	
	comp=Z,883nm,0.3s						
PAMC	**Pamplona, Colo**	**0.65**	**39**	⇑*i*P	**Pn**	**02 09 31.9**	**+1.4**
PAMC				*e*S	**Sn**	**02 09 48.8**	**+0.2**
PAMC				*i*		02 09 51.7	
	comp=Z,1μm,0.6s						
BRRC	**Barranca, Sant**	**0.65**	**295**	⇑*i*P	**Pn**	**02 09 31.0**	**+1.0**
BRRC				*e*S	**Sn**	**02 09 47.0**	**-0.6**
BRRC				*i*		02 09 50.0	
	comp=Z,1μm,0.2s						
RUSC	**La Rusia**	**0.93**	**178**	⇓*i*P	**Pn**	**02 09 32.8**	**+0.3**
RUSC				*e*S	**Sn**	**02 09 51.0**	**-1.0**
RUSC				*i*		02 09 54.0	
	comp=Z,587nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	*e*P	**Pn**	**02 09 35.8**	**0.0**
PTBC				*e*S	**Sn**	**02 09 56.8**	**-0.9**
PTBC				*i*		02 10 02.6	
	comp=Z,815nm,0.3s						
TAMC	**Tame, Arauca**	**1.37**	**107**	⇓*i*P	**Pn**	**02 09 37.1**	**+1.3**
TAMC				*i*		02 09 37.4	
	comp=Z,859nm,0.3s						
TAMC				*e*S	**Sn**	**02 09 58.1**	**+0.2**
OCAC	**Ocana**	**1.41**	**352**	⇑*i*P	**Pn**	**02 09 37.2**	**+0.8**
OCAC				*e*S	**Sn**	**02 09 60.0**

ARGC				*e*S	**Sn**	**02 10 37.0**	**+0.5**	
ARGC				*i*		02 10 50.7		
	comp=Z,125nm,0.2s							
ANIL	**Santa Ana**	**3.25**	**225**	*e*P	**Pn**	**02 09 58.9**	**+0.7**	
ANIL				*e*S	**Sn**	**02 10 37.1**	**-0.7**	
ANIL				*i*		02 10 46.3		
	comp=Z,51nm,0.3s							
PRAC	**Prado**	**3.56**	**210**	*e*P	**Pn**	**02 10 01.6**	**-0.3**	
PRAC				*e*S	**Sn**	**02 10 43.1**	**-1.4**	
PRAC				*i*		02 10 48.1		
	comp=Z,181nm,0.3s							
ORTC	**Ortega, Tolima**	**3.59**	**216**⇓	*e*P	**Pn**	**02 10 02.9**	**+0.6**	
ORTC				*e*S	**Sn**	**02 10 45.5**	**+0.3**	
ORTC				*i*		02 10 51.6		
	comp=Z,131nm,0.3s							
SJCC	**San Jacinto, C**	**3.67**	**326**	*e*P	**Pn**	**02 10 03.1**	**-0.1**	
SJCC				*e*S	**Sn**	**02 10 44.3**	**-2.6**	
SJCC				*i*		02 10 49.3		
	comp=Z,140nm,0.7s							
PLMC	**San Jos del P**	**3.69**	**239**	*e*P	**Pn**	**02 10 04.5**	**+1.0**	
PLMC				*i*		02 10 06.6		
	comp=Z,359nm,0.1s							
PLMC				*e*S	**Sn**	**02 10 47.8**	**+0.4**	
LCBC	**Los crdobas,**	**3.80**	**302**	*e*P	**Pn**	**02 10 05.7**	**+0.8**	
LCBC				*e*S	**Sn**	**02 10 50.0**	**+0.1**	
LCBC				*i*		02 11 06.5		
	comp=Z,109nm,0.4s							
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P	**Pn**	**02 10 11.3**	**0.0**	
YOTC				*e*S	**Sn**	**02 11 01.7**	**+0.3**	
GUVC	**San Jose del G**	**4.29**	**173**	*e*P	**Pn**	**02 10 11.2**	**0.0**	
GUVC				*e*S	**Sn**	**02 10 58.5**	**-2.7**	
GUVC				*i*		02 11 03.2		
	comp=Z,107nm,0.2s							
SMRC	**Santa Marta, M**	**4.44**	**346**	*e*P	**Pn**	**02 10 14.0**	**+0.7**	
SMRC				*e*S	**Sn**	**02 11 01.9**	**-3.0**	
SMRC				*i*		02 11 07.8		
	comp=Z,56nm,0.4s							
CAPC	**Capurgana**	**4.57**	**293**	*e*P	**Pn**	**02 10 13.3**	**-1.5**	
CAPC				*e*S	Sn	02 11 00.2	-7.6	
CAPC				*i*		02 11 07.1		
	comp=Z,65nm,0.5s							
URIC	**Uribia, Colomb**	**4.97**	**13**⇑	*e*P	**Pn**	**02 10 19.4**	**-0.7**	
URIC				*i*		02 10 19.9		
	comp=Z,21nm,0.4s							
URIC				*e*S	**Sn**	**02 11 11.1**	**-6.2**	
MALC	**Bahia Malaga**	**5.05**	**237**	*e*P	**Pn**	**02 10 22.7**	**+1.5**	
GARC	**Garzon, Huila**	**5.19**	**207**	*e*P	**Pn**	**02 10 22.3**	**-1.0**	
GARC				*i*		02 11 24.4		
	comp=Z,48nm,0.3s							
FLOC	**Florencia**	**5.79**	**206**	*e*P	**Pn**	**02 10 31.1**	**-0.1**	
FLOC				*i*		02 12 11.8		
	comp=Z,11nm,0.5s							
BBAC	**Balboa, Cauca**	**6.31**	**221**	*e*P	**Pn**	**02 10 38.9**	**+0.8**	
BBAC				*e*S	**Sn**	**02 11 47.4**	**-2.1**	
PCRV	**Puerto La Cruz**	**9.02**	**68**	P	**Pn**	**02 11 15.2**	**+1.2**	
	comp=Z,0.6nm,0.3s,baz=165,slow=18,SNR=1.6							
PCRV				S	**Sn**	**02 12 53.3**	**-1.1**	
	comp=Z,0.4nm,0.3s,baz=147,slow=9.6,SNR=1.2							
LPAZ	**La Paz**	**23.49**	**168**	P	**P**	**02 14 02.5**	**-1.0**	
	comp=Z,0.4nm,0.4s,baz=320,slow=5.4,SNR=2.8							
SIV	**San Ignacio**	**25.62**	**152**	P	**P**	**02 14 20.4**	**-1.7**	
	comp=Z,0.2nm,0.3s,baz=240,slow=5.7,SNR=3.5							
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**02 15 58.8**	**+1.7**	
	comp=Z,0.3nm,0.4s,baz=131,slow=9.0,SNR=7.3							
PDAR	**Pinedale Array**	**48.07**	**324**	P	**P**	**02 17 32.3**	**+1.3**	
	comp=Z,0.2nm,0.5s,baz=128,slow=12,SNR=3.1							
TORD	**Torodi Ar. Bea**	**73.73**	**78**	P	**P**	**02 20 23.1**	**-1.4**	
	comp=Z,0.5nm,1.0s,baz=285,slow=7.1,SNR=1.6							
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**02 28 40.5**	**-0.2**	
	comp=Z,0.2nm,0.4s,baz=107,slow=3.0,SNR=5.3							

WEL 23 02:09:53.9, 38°S ± 3° × 17°7E ± °, h189 km ± 5km, M2.5/23, MLv2.5/23, Error ellipse: s-maj=0.0km s-min=0.0km az=29.1, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.21**	**169**	P	Pn	02 10 18.7	-0.1
TGRZ	**Tauranga**	**0.21**	**246**	P	Pn	02 10 19.0	+0.1
KMRZ	**Kaimai**	**0.49**	**245**	P	Pn	02 10 20.1	+0.4
URZ	**Urewera**	**0.78**	**142**	P	Pn	02 10 20.7	-0.3
URZ				S	Sn	02 10 40.7	-1.5
TOZ	**Tahuroa Road**	**0.80**	**263**	P	Pn	02 10 21.6	+0.5
MUGZ	**Murupara**	**0.86**	**166**	P	Pn	02 10 21.6	0.0
ALRZ	**Allen Road**	**0.93**	**188**	P	Pn	02 10 22.4	+0.4
HAZ	**Te Kaha**	**1.02**	**97**	P	Pn	02 10 22.1	-0.5
HAZ				S	Sn	02 10 43.1	-1.7
RTZ	**Ruatahuna**	**1.04**	**159**	P	Pn	02 10 22.9	0.0
RTZ				S	Sn	02 10 44.8	-0.6
MWZ	**Matawai**	**1.06**	**131**	P	Pn	02 10 22.7	-0.3
MWZ				S	Sn	02 10 45.2	-0.4
KUZ	**Kuaotunu**	**1.09**	**325**	P	Pn	02 10 22.9	-0.2
MKAZ	**Moumakai**	**1.20**	**296**	P	Pn	02 10 24.2	+0.3
MTHZ	**Maungataniwha**	**1.24**	**168**	P	Pn	02 10 24.5	+0.2
MTHZ				S	Sn	02 10 46.8	-1.3
TWGZ	**Tauwhareparae**	**1.28**	**115**	P	Pn	02 10 25.0	+0.3
RAHZ	**Arahi**	**1.35**	**160**	P	Pn	02 10 25.9	+0.7
WIAZ	**Waiheke Island**	**1.38**	**307**	P	Pn	02 10 25.7	+0.1
MXZ	**Matakaoa Point**	**1.43**	**87**	P	Pn	02 10 25.8	-0.1
ETAZ	**East Tamaki Re**	**1.43**	**298**	P	Pn	02 10 26.3	+0.4
RIGZ	**Rimuhau**	**1.45**	**137**	P	Pn	02 10 26.7	+0.6
RIGZ				S	Sn	02 10 50.5	-0.8
NMHZ	**Naumai**	**1.47**	**171**	P	Pn	02 10 27.2	+0.8
BKZ	**Black Stump Fm**	**1.52**	**180**	P	Pn	02 10 26.6	-0.2
BKZ				S	Sn	02 10 50.7	-1.9
WMGZ	**Waiomatatini S**	**1.52**	**97**	P	Pn	02 10 26.8	0.0
WMGZ				S	Sn	02 10 51.0	-1.2
AWAZ	**Awhitu Peninsu**	**1.59**	**291**	P	Pn	02 10 27.5	0.0
TWVZ	**Taurewa**	**1.66**	**210**	P	Pn	02 10 28.7	+0.6
OTVZ	**Oturere**	**1.66**	**203**	P	Pn	02 10 28.6	+0.4
OTVZ				S	Sn	02 10 54.2	-0.9
KWHZ	**Kaweka Forest**	**1.78**	**182**	P	Pn	02 10 29.6	+0.3
KWHZ				S	Sn	02 10 56.2	-0.9
WNVZ	**Wahianoa**	**1.83**	**203**	P	Pn	02 10 30.1	+0.2
WNVZ				S	Sn	02 10 57.1	-1.0
MOVZ	**Moawhango**	**1.86**	**198**	P	Pn	02 10 30.1	0.0
MOVZ				S	Sn	02 10 56.3	-2.2
BHHZ	**Black Hill Sta**	**1.88**	**191**	P	Pn	02 10 30.0	-0.3
BHHZ				S	Sn	02 10 56.3	-2.5
KRHZ	**Kereru**	**2.00**	**183**	P	Pn	02 10 31.5	0.0
KRHZ				S	Sn	02 10 59.2	-1.9
CKHZ	**Cape Kidnapper**	**2.06**	**168**	P	Pn	02 10 32.6	+0.4
CKHZ				S	Sn	02 11 00.7	-1.5
KAHZ	**Kahuranaki**	**2.17**	**172**	P	Pn	02 10 33.6	+0.2
KAHZ				S	Sn	02 11 03.4	-1.0
PNHZ	**Pukenui**	**2.28**	**186**	P	Pn	02 10 34.2	-0.4
PNHZ				S	Sn	02 11 03.8	-2.8
PXZ	**Pawanui**	**2.40**	**173**	P	Pn	02 10 35.6	-0.3
PXZ				S	Sn	02 11 06.9	-1.9
WPHZ	**Waipukurau**	**2.42**	**181**	P	Pn	02 10 35.8	-0.3
WCZ	**Waipu Caves**	**2.43**	**314**	P	Pn	02 10 36.4	+0.1
TSZ	**Takapari Road**	**2.45**	**190**	P	Pn	02 10 33.1	-3.4
DVHZ	**Dannevirke**	**2.67**	**186**	P	Pn	02 10 38.4	-0.6
PRWZ	**Pori Road**	**2.94**	**188**	P	Pn	02 10 41.7	-0.4
BFZ	**Birch Farm**	**3.04**	**184**	P	Pn	02 10 42.3	-1.1
MRZ	**Mangatainoka R**	**3.10**	**193**	P	Pn	02 10 42.6	-1.5
OGWZ	**Otaki Gorge**	**3.34**	**198**	P	Pn	02 10 45.4	-1.6
HOWZ	**Holdsworth Sta**	**3.34**	**193**	P	Pn	02 10 45.1	-1.9
KIW	**Kapiti Island**	**3.45**	**201**	P	Pn	02 10 46.4	-1.9
CAW	**Cannon Point**	**3.64**	**197**	P	Pn	02 10 48.6	-2.1
DUWZ	**D'Urville Isla**	**3.74**	**212**	P	Pn	02 10 49.8	-2.1
MSWZ	**Moikau Station**	**3.89**	**194**	P	Pn	02 10 51.2	-2.7
TCW	**Tory Channel**	**3.96**	**205**	P	Pn	02 10 52.5	-2.2
PLWZ	**Palliser**	**4.04**	**193**	P	Pn	02 10 53.0	-2.8
TUWZ	**Tuamarina**	**4.27**	**207**	P	Pn	02 10 56.5	-2.1
NNZ	**Nelson**	**4.31**	**213**	P	Pn	02 10 56.3	-2.9
QRZ	**Quartz Range**	**4.43**	**223**	P	Pn	02 10 57.7	-2.9
THZ	**Tophouse**	**4.96**	**213**	P	Pn	02 11 04.9	-2.6
KHZ	**Kahutara**	**5.29**	**205**	P	Pn	02 11 08.7	-2.8
DSZ	**Denniston Nort**	**5.47**	**220**	P	Pn	02 11 10.9	-3.1
GVZ	**Greta Valley S**	**5.95**	**205**	P	Pn	02 11 16.7	-3.5
LTZ	**Lake Taylor**	**6.07**	**211**	P	Pn	02 11 18.4	-3.5
INZ	**Inchbonnie**	**6.39**	**216**	P	Pn	02 11 22.9	-3.0
RPZ	**Rata Peaks**	**7.34**	**213**	P	Pn	02 11 34.5	-4.0
ARCZ	**Arundel**	**7.48**	**211**	P	Pn	02 11 36.4	-3.9
ODZ	**Otahua Downs**	**8.61**	**209**	P	Pn	02 11 51.3	-3.6

*IDC **23** 02:29:12.4± 1.1, 26°.83N × 102°.95E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.5/67, mbtmp3.7/7, Error ellipse:*
s-maj=74.4km s-min=19.6km az=61.0
*NEIC **23** 02:29:13.6± 1.7, 27°.10N ± 0°.07 × 103°.56E ± 0°.07, h10km ± 1km, mb4.6/8, Error ellipse: s-maj=12.6km s-min=9.9km az=140.0*

ISC 23 02:29:16.9 ± 0.7, 27°.05N ± 0°.07 × 103°.63E ± 0°.10, h35 km, n17, σ 1 s 28/17, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.08**	**203**		**Pn**	**02 29 49.0**	**-0.5**
KMI				Sn	**Sn**	**02 30 13.6**	**-0.8**
SLVN	**Son La**	**5.70**	**177**		**Pn**	**02 30 38.0**	**-1.1**
ENH	**Enshi**	**6.06**	**57**		**Pn**	**02 30 43.9**	**-0.2**
BJT	**Baijiatuan**	**16.60**	**36**	Pn	**Pn**	**02 33 04.7**	**-2.2**
SONM	**Songino Array**	**20.86**	**5**	P	Pn	02 33 59.2	+0.8
	0.8nm,0.6s,baz=176,slow=10,SNR=3.6						
WMQ	**Urumqi**	**21.11**	**327**	P	**P**	**02 33 57.7**	**-0.8**
WMQ				IAmb	IAmb	02 34 16.0	
	comp=Z,18nm,0.4s						
MKAR	**Makanchi Array**	**25.91**	**325**	P	**P**	**02 34 43.7**	**-2.0**
	comp=Z,1.1nm,0.9s,baz=150,slow=9.8,SNR=3.8						
ZALV	**Zalesovo Beam**	**30.24**	**338**	P	**P**	**02 35 25.1**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=139,slow=8.0,SNR=2.2						
WRA	**Warramunga Arr**	**55.39**	**144**	P	**P**	**02 38 49.4**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=333,slow=8.3,SNR=13						
WB2	**Warramunga Arr**	**55.40**	**144**	P	**P**	**02 38 49.3**	**+1.5**
PMG	**Port Moresby**	**55.63**	**125**	P	**P**	**02 38 49.2**	**-0.4**
ASAR	**Alice Springs**	**58.29**	**147**	P	**P**	**02 39 10.6**	**+2.2**
	comp=Z,0.4nm,0.5s,baz=331,slow=6.5,SNR=4.1						
ARCES	**ARCESS Array B**	**60.79**	**337**	P	**P**	**02 39 25.2**	**+0.3**
	comp=Z,3.2nm,1.1s,baz=89,slow=7.5,SNR=1.8						
TIRR	**Tirgusor**	**61.40**	**308**	P	**P**	**02 39 29.4**	**-0.1**
GERES	**GERESS Array B**	**70.10**	**315**	P	**P**	**02 40 25.8**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=78,slow=5.4,SNR=3.0						
PAX	**Paxson**	**75.10**	**26**	P	**P**	**02 40 55.5**	**+0.4**
PAX				IAmb	IAmb	02 40 57.0	
	comp=Z,4.2nm,1.1s						
EYAK	**Cordova Ski Ar**	**76.23**	**28**	P	**P**	**02 41 02.1**	**+0.6**
EYAK				IAmb	IAmb	02 41 20.6	
	comp=Z,3.4nm,0.4s						

*NNC **23** 02:30:54.6± 1.1, 36°.79N × 59°.71E, h0km, mb4.2, Error ellipse: s-maj=12.1km s-min=4.1km az=12.0*
*IDC **23** 02:30:54.4± 0.7, 36°.55N × 59°.28E, h0km, mb4.0/20, mb1 4.1/27, mb1mx4.0/61, mbtmp4.0/27, ML3.4/7, MS3.3/23, Ms1 3.3/23, ms1mx3.1/44, Error ellipse: s-maj=13.6km s-min=9.2km az=17.0*
*TEH **23** 02:30:55.1, 36°.67N × 59°.28E, h12km, ML4.1*
*THR **23** 02:30:55.4± 0.3, 36°.73N × 59°.40E, h18km ± 10km, ML4.0*
*NEIC **23** 02:30:55.0± 1.4, 36°.73N ± 0°.06 × 59°.27E ± 0°.07, h10km ± 1km, Error ellipse: s-maj=11.1km s-min=7.0km az=222.0*
*MOS **23** 02:30:56.4± 1.6, 36°.87N × 59°.55E, h17km, mb4.5/13, Error ellipse: s-maj=5.8km s-min=5.5km az=66.0*

ISC 23 02:30:56.0 ± 0.4, 36°.77N ± 0°.03 × 59°.38E ± 0°.03, h10 km, n216, σ 1 s 90/230, mb4.2/32, MS3.1/17, 18C-12D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPAY	**Payeh**	**0.44**	**224**	*e*Pg	**Pg**	**02 31 02.1**	**-2.6**
IPAY	**Payeh**	**0.44**	**224**	Pg	**Pg**	**02 31 02.5**	**-2.2**
IAKL	**Akhelmad**	**0.52**	**252**	*e*Pg	**Pg**	**02 31 03.6**	**-2.7**
IAKL	**Akhelmad**	**0.52**	**252**	Pg	**Pg**	**02 31 03.5**	**-2.7**
IMOG	**Moghan**	**0.66**	**183**	*e*		02 31 18.2	
IMOG				*e*Pg	**Pg**	**02 31 07.1**	**-1.7**
IKRD	**Kardeh**	**0.69**	**271**	*e*Pg	Pg	02 31 00.2	-9.2
IKRD				*e*Sg	Sg	02 31 04.1	-14
IKRD				*e*		02 31 06.8	
IMYA	**Miami**	**0.72**	**126**	*e*		02 31 31.7	
IMYA				*e*Pg	**Pg**	**02 31 08.9**	**-1.1**
IMYA	**Miami**	**0.72**	**126**	Pg	**Pg**	**02 31 09.2**	**-0.8**
IEMG	**Emamgholi**	**0.87**	**318**	*e*Pg	**Pg**	**02 31 12.1**	**-0.7**
IEMG	**Emamgholi**	**0.87**	**318**	Pg	**Pg**	**02 31 12.6**	**-0.2**
ISFR	**Sfrayin**	**1.14**	**285**	*e*Pg	**Pg**	**02 31 15.9**	**-2.0**
ISFR				*e*		02 31 42.8	
ISFR	**Sfrayin**	**1.14**	**285**	Pn	**Pg**	**02 31 15.8**	**-2.1**
JRKH	**Jarkhoshk**	**1.16**	**137**	*e*Pg	**Pb**	**02 31 16.6**	**-1.7**
JRKH	**Jarkhoshk**	**1.16**	**137**		**Pb**	**02 31 18.5**	**+0.2**
SBZV	**Sabzevar**	**1.47**	**256**	*e*Pg	**Pn**	**02 31 20.5**	**-2.3**
GEYT	**Alibeck**	**1.53**	**320**	Pg	**Pb**	**02 31 24.4**	**-0.2**
	75nm,0.3s,baz=151,slow=19,SNR=188						
GEYT				Lg	Lg	02 31 48.2	
	103nm,0.3s,baz=130,slow=16,SNR=9.5						
GEYT				LR	LR	02 32 18.7	
	comp=Z,501nm,19.5s,baz=140,slow=51						
GYA0	**ALIBECK ARRAY**	**1.53**	**320**	P	**Pb**	**02 31 24.2**	**-0.4**
GYA0				S	**Sg**	**02 31 49.0**	**+3.7**
GYA0	**ALIBECK ARRAY**	**1.53**	**320**	*e*Pn	**Pb**	**02 31 24.1**	**+0.5**
GYA0B	**ALIBECK ARRAY**	**1.53**	**320**	⇓P	**Pb**	**02 31 24.2**	**-0.3**
GYA0B				⇓S	**Sg**	**02 31 49.0**	**+3.7**
GYA0B	**ALIBECK ARRAY**	**1.53**	**320**	Pn	**Pn**	**02 31 22.2**	**-1.3**
GYA0B				Sn	**Sn**	**02 31 42.5**	**-1.0**
SHRO	**Shahrood**	**2.82**	**255**	*e*Pn	**Pn**	**02 31 41.9**	**+0.6**
SHRO				IAML		02 32 23.9	
	comp=E,238nm,0.5s						
SHRO	**Shahrood**	**2.82**	**255**	*e*Pn	**Pn**	**02 31 41.9**	**+0.6**
SHRT	**Shahrakht**	**3.20**	**166**	*e*Pn	**Pn**	**02 31 46.4**	**-0.1**
SHRT				*e*Sg	**Sb**	**02 32 33.9**	**+1.7**
SHRT				IAML		02 32 37.0	
	comp=E,440nm,0.4s						
SHRT				IAML		02 32 39.2	
	comp=N,480nm,0.4s						
SHRT	**Shahrakht**	**3.20**	**166**	*e*Pn	**Pn**	**02 31 46.4**	**-0.1**
IMND	**Minoodasht**	**3.21**	**280**	*e*Pn	**Pn**	**02 31 47.1**	**+0.6**
HRA	**Herat**	**3.33**	**135**	Pn	**Pn**	**02 31 47.6**	**-0.8**
AFRZ	**Afriz**	**3.35**	**185**	*e*Pn	**Pn**	**02 31 49.0**	**+0.5**
IMON	**Monand**	**3.58**	**176**	*e*Pn	**Pn**	**02 31 53.0**	**+1.2**
TNSJ	**Nastanj**	**3.60**	**220**	*e*Pn	**Pn**	**02 31 50.7**	**-1.2**
TABS	**Tabas**	**3.62**	**211**	*e*Pn	**Pn**	**02 31 52.3**	**+0.1**
TABS				IAML		02 32 59.0	
	comp=N,290nm,0.6s						
TABS				IAML		02 33 03.3	
	comp=E,115nm,0.6s						
TABS	**Tabas**	**3.62**	**211**	*e*Pn	**Pn**	**02 31 52.3**	**+0.1**
ITEG	**Tejag**	**3.90**	**188**	*e*Pn	**Pn**	**02 31 57.2**	**+1.1**
IDAH	**Dahanechah**	**4.04**	**174**	*e*Pn	**Pn**	**02 31 59.4**	**+1.2**
TPRV	**Parvadeh(Tabas**	**4.34**	**211**	*e*Pn	**Pn**	**02 32 02.3**	**+0.2**
TPRV				*e*		02 33 21.3	
IKOO	**Kooshah**	**4.34**	**184**	*e*Pn	**Pn**	**02 32 03.0**	**+0.7**
ISHM	**Shahmirzad**	**5.01**	**261**	*e*Pn	**Pn**	**02 32 12.5**	**+1.0**
NHDN	**Nehbandan**	**5.39**	**174**	*e*Pn	**Pn**	**02 32 17.9**	**+1.3**
IPRN	**Peran**	**5.69**	**267**	*e*Pn	**Pn**	**02 32 21.8**	**+1.0**
ANAR	**Anarak**	**5.85**	**234**	*e*Pn	**Pn**	**02 32 22.7**	**-0.2**
YZKH	**Yazd**	**5.88**	**223**	*e*Pn	**Pn**	**02 32 24.0**	**+0.6**
YZKH				IAML		02 34 08.4	
	comp=N,38nm,0.7s						
YZKH	**Yazd**	**5.88**	**223**	*e*Pn	**Pn**	**02 32 24.0**	**+0.6**
IBAF	**Bafgh**	**6.05**	**213**	*e*Pn	**Pn**	**02 32 26.7**	**+1.0**
IDMV	**Damavand**	**6.06**	**261**	*e*Pn	**Pn**	**02 32 26.0**	**+0.1**
ICHK	**Chekchek**	**6.10**	**224**	*e*Pn	**Pn**	**02 32 27.7**	**+1.3**
IMEH	**Mehriz**	**6.66**	**218**	*e*Pn	**Pn**	**02 32 34.4**	**+0.2**
ISAD	**Sadrabad**	**6.75**	**226**	*e*Pn	**Pn**	**02 32 36.0**	**+0.6**
QALM	**Alamut, Qazvin**	**7.03**	**270**	*e*Pn	**Pn**	**02 32 40.4**	**+1.2**
KRBR	**Kerman**	**7.11**	**199**	*e*Pn	**Pn**	**02 32 40.7**	**+0.3**
KRBR	**Kerman**	**7.11**	**199**	*e*Pn	**Pn**	**02 32 40.7**	**+0.3**
IKLH	**Kolahrood**	**7.26**	**244**	*e*Pn	**Pn**	**02 32 43.0**	**+0.6**
NGRK	**Negar Kerman**	**7.44**	**198**	*e*Pn	**Pn**	**02 32 46.2**	**+1.2**
IRAM	**Ramesheh**	**7.61**	**232**	*e*Pn	**Pn**	**02 32 48.0**	**+0.8**
CHGR	**Chuyangaron**	**7.98**	**73**	Pn	**Pn**	**02 32 52.1**	**0.0**
QABG	**Abgarm-Qazvin**	**7.98**	**265**	*e*Pn	**Pn**	**02 32 53.5**	**+1.2**
IPIR	**Pirpir**	**8.08**	**242**	*e*Pn	**Pn**	**02 32 55.0**	**+1.3**
KBL	**Kabul**	**8.18**	**103**	P	**Pn**	**02 32 54.6**	**-0.3**
KBL	**Kabul**	**8.18**	**103**	Pn	**Pn**	**02 32 54.6**	**-0.3**
QSDN	**Sirdan**	**8.21**	**271**	*e*Pn	**Pn**	**02 32 56.7**	**+1.3**
QAR	**Garm**	**8.93**	**72**	Pn	**Pn**	**02 33 05.3**	**+0.1**
TAS	**Tashkent**	**8.96**	**56**	P	**Pn**	**02 33 05.7**	**+0.3**
TAS	**Tashkent**	**8.96**	**56**	Pn	**Pn**	**02 33 05.7**	**+0.3**
ISRB	**Sarab**	**9.39**	**280**	*e*Pn	**Pn**	**02 33 13.1**	**+1.5**
BTK	**Batken**	**9.56**	**66**	P	**Pn**	**02 33 13.9**	**+0.1**
BTK	**Batken**	**9.56**	**66**		**Pn**	**02 33 13.9**	**+0.1**
IHRS	**Heris**	**9.92**	**283**	*e*Pn	**Pn**	**02 33 19.7**	**+0.9**
AKT	**Akhty**	**10.20**	**301**	*e*P	**Pn**	**02 33 21.9**	**-0.6**
AKT				*e*S	**Sn**	**02 35 18.4**	**+1.5**
AKT				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKT				smax	smax		
	comp=E,12nm,0.6s						
AKT				smax	smax		
	comp=N,7.0nm,0.7s						
KK31	**Karatay Array**	**10.63**	**50**	⇓Pn	**Pn**	**02 33 24.2**	**-4.2**
	comp=N,1.9nm,0.5s,baz=84,slow=39,SNR=17						
KK31				⇓Sn	**Sn**	**02 35 25.0**	**-2.4**
	comp=N,9.0nm,0.7s,baz=228,slow=23,SNR=4.7						
KK31	**Karatay Array**	**10.63**	**50**	P	**Pn**	**02 33 24.2**	**-4.2**
KK31				SN	**Sn**	**02 35 25.3**	**-2.2**
KK31	**Karatay Array**	**10.63**	**50**	Pn	**Pn**	**02 33 28.5**	**+0.1**
KKAR	**Karatay Array**	**10.63**	**50**	P	**Pn**	**02 33 28.3**	**-0.1**
KKAR	**Karatay Array**	**10.63**	**50**	Pn	**Pn**	**02 33 28.3**	**-0.1**
DDFL	**Dedoflistskaro**	**11.31**	**298**	P	**Pn**	**02 33 42.2**	**+4.5**
LGD	**Lagodekhi**	**11.36**	**300**	P	**Pn**	**02 33 42.0**	**+3.7**
NIL	**Nilore**	**11.77**	**101**	P	**Pn**	**02 33 44.1**	**+0.1**
NIL	**Nilore**	**11.77**	**101**	Pn	**Pn**	**02 33 44.1**	**+0.1**
AB01	**Akbulak array**	**12.49**	**2**	⇑Pn	**Pn**	**02 33 53.2**	**-0.5**
	comp=N,4.2nm,0.6s						
AB31	**Akbulak array**	**12.49**	**2**	⇑Sn	**Sn**	**02 36 12.1**	**-0.7**
	comp=N,17nm,0.8s						
AAK	**Ala-Archa**	**13.03**	**59**	Pn	**Pn**	**02 34 01.3**	**0.0**
	comp=N,1.4nm,0.3s,baz=235,slow=7.7,SNR=7.4						
AAK				Sn	**Sn**	**02 36 23.6**	**-2.7**
	comp=N,0.4nm,0.3s,baz=10.0,slow=19,SNR=2.5						
AAK				Lg	Lg	02 37 57.8	
	comp=N,0.6nm,0.3s,baz=350,slow=20,SNR=1.4						
AAK				LR	LR	02 40 02.9	
	comp=N,176nm,18.6s,baz=256,slow=42						
AAK	**Ala-Archa**	**13.03**	**59**	⇑Pn	**Pn**	**02 33 58.5**	**-2.8**
	comp=N,6.7nm,0.6s						
AAK				⇑Sn	**Sn**	**02 36 21.6**	**-4.7**
	comp=N,19nm,1.1s						
AAK	**Ala-Archa**	**13.03**	**59**	P	**Pn**	**02 33 58.5**	**-2.8**
AAK				SN	**Sn**	**02 36 21.6**	**-4.7**
FRU1	**Bishkek**	**13.19**	**58**	P	**Pn**	**02 34 03.5**	**+0.2**
FRU1	**Bishkek**	**13.19**	**58**	Pn	**Pn**	**02 34 03.5**	**+0.2**
WSAR	**Wadi Sarin**	**13.50**	**183**	LR	LR	02 40 29.2	
	comp=N,79nm,19.0s,baz=355,slow=43						
AKTO	**Aktyubinsk**	**13.70**	**356**	Pn	**Pn**	**02 34 09.7**	**-0.5**
	comp=N,0.8nm,0.3s,baz=175,slow=14,SNR=9.3						
AKTO				Sn	**Sn**	**02 36 39.0**	**-3.3**
	comp=N,0.8nm,0.3s,baz=30,slow=16,SNR=7.9						
AKTO				LR	LR	02 40 28.8	
	comp=N,156nm,18.2s,baz=166,slow=41						
AKTO	**Aktyubinsk**	**13.70**	**356**	⇓Pn	**Pn**	**02 34 09.2**	**-1.0**
	comp=N,10nm,0.7s						
AKTO				⇓Sn	**Sn**	**02 36 42.6**	**+0.2**
	comp=N,21nm,0.8s						
AKTO	**Aktyubinsk**	**13.70**	**356**	P	**Pn**	**02 34 09.2**	**-1.0**
AKTO				SN	**Sn**	**02 36 42.6**	**+0.2**
TKM2	**Tokmak 2**	**13.89**	**59**	⇑Pn	**Pn**	**02 34 09.9**	**-3.2**
	comp=N,4.8nm,0.7s						
TKM2				⇑Sn	**Sn**	**02 36 41.1**	**-6.2**
	comp=N,6.4nm,0.8s						
**TK

VSR	**Storozhevoye**	**20.40**	**321**	*e*P		**P**		**02 35 33.2**	**+0.3**
VSR				pmax		pmax				
	comp=Z,20nm,0.6s									
BR131	**Keskin Array S**	**20.41**	**286**	*de*P		Pn		02 35 37.5	+2.1
BR131	**Keskin Array S**	**20.41**	**286**			**P**		**02 35 31.3**	**-2.0**
BR131				IAmb		IAmb		02 35 39.3		
	comp=Z,7.1nm,0.8s									
BRTR	**Keskin Array B**	**20.41**	**286**	P		**P**		**02 35 32.8**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=106,slow=9.8,SNR=4.5									
BRTR				LR		LR		02 43 39.1		
	comp=Z,37nm,20.1s,baz=214,slow=38									
BRTR	**Keskin Array B**	**20.41**	**286**	*ce*P		Pn		02 35 37.5	+2.1	
BRTR				pmax		pmax				
	comp=Z,6.0nm,0.8s									
LPSR	**Galich'ya Gora**	**21.38**	**324**	*e*P		**P**		**02 35 44.0**	**+0.6**	
LPSR				pmax		pmax				
	comp=Z,30nm,0.7s									
EIL	**Elat**	**21.59**	**258**	LR		LR		02 45 26.7		
	comp=Z,94nm,20.0s,baz=78,slow=41									
PYUN	**Piuthan**	**21.68**	**107**	*e*P		**P**		**02 35 50.4**	**+3.2**	
	comp=Z,28nm,0.5s									
KOLN	**Koldanda**	**22.32**	**107**	*e*P		**P**		**02 35 56.3**	**+2.3**	
	comp=Z,27nm,0.8s									
BOLV	**Bolvadin**	**22.53**	**284**	P		**P**		**02 35 54.3**	**-1.8**	
BOLV				IAmb		IAmb		02 35 59.4		
	comp=Z,9.4nm,1.0s									
WMQ	**Urumqi**	**22.65**	**63**	*e*P		**P**		**02 35 58.0**	**+0.7**	
KIRV	**Kirov**	**22.79**	**346**	P		**P**		**02 35 59.4**	**+0.9**	
	comp=Z,4.9nm,0.5s,baz=96,slow=9.5,SNR=4.4									
KIRV				LR		LR		02 47 31.8		
	comp=Z,26nm,18.4s,baz=162,slow=43									
GKN	**Gorkha**	**23.00**	**105**	*e*P		**P**		**02 36 03.4**	**+2.2**	
	comp=Z,42nm,0.5s									
DMN	**Daman**	**23.56**	**105**	*e*P		**P**		**02 36 08.2**	**+1.3**	
	comp=Z,52nm,0.7s									
ELL	**Elmali**	**23.57**	**279**	P		**P**		**02 36 08.9**	**+2.0**	
KKN	**Kakani**	**23.60**	**105**	*e*P		**P**		**02 36 08.5**	**+1.2**	
	comp=Z,26nm,0.6s									
PKI	**Pulchoki**	**23.81**	**105**	*e*P		**P**		**02 36 10.5**	**+1.0**	
GUN	**Gumba**	**24.01**	**104**	*e*P		**P**		**02 36 12.3**	**+0.9**	
	comp=Z,50nm,0.8s									
DGZ	**Jazzator, Alta**	**24.02**	**49**⇓	*e*P		**P**		**02 36 14.5**	**+3.4**	
DGZ				pmax		pmax				
	comp=Z,2.0nm,0.7s									
JIRN	**Jiri**	**24.37**	**104**	*e*P		**P**		**02 36 15.9**	**+1.1**	
	comp=Z,52nm,0.7s									
MANT	**Manisa**	**24.41**	**283**	P		**P**		**02 36 13.1**	**-1.8**	
ZAA0	**Zalesovo Array**	**24.59**	**38**	⇓P		**P**		**02 36 14.5**	**-1.5**	
	comp=Z,0.5nm,0.6s									
ZAA0	**Zalesovo Array**	**24.59**	**38**	P		**P**		**02 36 15.9**	**-0.1**	
ZAA0				IAmb		IAmb		02 36 29.8		
	comp=Z,3.6nm,0.7s									
ZALV	**Zalesovo Beam**	**24.59**	**38**	P		**P**		**02 36 17.3**	**+1.3**	
	comp=Z,0.9nm,0.4s,baz=245,slow=9.4,SNR=3.9									
ZALV				S		S		02 40 53.8	+17	
	comp=Z,0.4nm,0.3s,baz=122,slow=21,SNR=2.3									
ZALV				LR		LR		02 47 15.1		
	comp=Z,144nm,18.3s,baz=236,slow=40									
RAMN	**Ramite**	**25.04**	**105**	*e*P		**P**		**02 36 21.6**	**+0.9**	
	comp=Z,28nm,0.7s									
AKASG	**Malin Array Be**	**25.64**	**312**	P		**P**		**02 36 25.6**	**0.0**	
	comp=Z,5.0nm,0.7s,baz=112,slow=7.9,SNR=7.3									
AKBB	**Malin Array Si**	**25.64**	**312**	P		**P**		**02 36 25.1**	**-0.5**	
AKBB				pmax		pmax				
	comp=Z,7.0nm,0.7s									
AKBB	**Malin Array Si**	**25.64**	**312**	P		**P**		**02 36 25.1**	**-0.5**	
ODAN	**Odare**	**25.69**	**105**	*e*P		**P**		**02 36 28.1**	**+1.5**	
	comp=Z,45nm,0.7s									
TAPN	**Taplejung**	**25.71**	**103**	*e*P		**P**		**02 36 28.8**	**+2.0**	
	comp=Z,35nm,0.8s									
VRI	**Vrincioaia**	**26.00**	**301**	P		**P**		**02 36 33.4**	**+4.4**	
VRI				pmax		pmax				
	comp=Z,5.0nm,1.6s									
MLR	**Muntele Rosu**	**26.49**	**300**	P		**P**		**02 36 35.5**	**+2.0**	
	comp=Z,3.6nm,0.8s,baz=328,slow=1.5,SNR=7.4									
MLR	**Muntele Rosu**	**26.49**	**300**	P		**P**		**02 36 31.2**	**-2.3**	
MLR				IAmb		IAmb		02 36 39.7		
	comp=Z,5.5nm,1.0s									
SANT	**Santorini**	**27.16**	**279**	P		**P**		**02 36 39.3**	**-0.3**	
KLMR	**Klimovskoe**	**27.20**	**339**	*e*P		**P**		**02 36 39.6**	**0.0**	
KLMR				pmax		pmax				
	comp=Z,6.0nm,1.2s									
KLMR	**Klimovskoe**	**27.20**	**339**	*e*P		**P**		**02 36 39.7**	**+0.1**	
KLMR				AMP				02 36 43.5		
	comp=Z,6.0nm,1.2s									
ATD	**Arta Tunnel**	**29.21**	**215**	LR		LR		02 50 28.9		
	comp=Z,120nm,18.2s,baz=4.0,slow=40									
VYHS	**Vyhne**	**31.69**	**305**	*e*P		**P**		**02 37 21.0**	**+1.4**	
VYHS	**Vyhne**	**31.69**	**305**	*e*P		**P**		**02 37 21.0**	**+1.4**	
FINES	**FINESS Array B**	**32.31**	**330**	P		**P**		**02 37 25.9**	**+1.0**	
	comp=Z,1.5nm,0.6s,baz=131,slow=8.2,SNR=10									
FINES				LR		LR		02 51 45.3		
	comp=Z,33nm,20.1s,baz=95,slow=38									
FINES	**FINESS Array B**	**32.31**	**330**	*i* P		**P**		**02 37 26.2**	**+1.4**	
FINES				pmax		pmax				
	comp=Z,2.0nm,0.6s									
VRAC	**Vranov**	**33.24**	**306**	LR		LR		02 52 46.2		
	comp=Z,19nm,18.8s,baz=51,slow=39									
GERES	**GERESS Array B**	**35.11**	**305**	P		**P**		**02 37 49.6**	**+0.2**	
	comp=Z,0.7nm,0.8s,baz=90,slow=9.3,SNR=6.5									
GERES				PcP		**PcP**		**02 40 21.7**	**+0.8**	
	comp=Z,0.5nm,0.9s,baz=70,slow=3.2,SNR=3.7									
LZH	**Lanzhou**	**35.54**	**77**	*e*P		**P**		**02 37 52.3**	**-1.2**	
LZH				pP		pP		02 37 56.5	-0.7	
LZH				sP		sP		02 37 59.1	+0.5	
LZH				PP		**PP**		**02 39 17.3**	**+3.2**	
LZH				pmax		pmax				
	comp=Z,20nm,1.0s									
LZH				pmax		pmax				
	comp=Z,120nm,4.9s									
SONM	**Songino Array**	**35.98**	**57**	P		**P**		**02 37 59.9**	**+2.9**	
	comp=Z,0.6nm,0.5s,baz=269,slow=12,SNR=4.4									
SONM				LR		LR		02 55 39.8		
	comp=Z,34nm,20.3s,baz=109,slow=41									
NRIK	**Noril'sk**	**36.06**	**17**	LR		LR		02 55 39.2		
	comp=Z,96nm,18.8s,baz=191,slow=41									
ULN	**Ulaanbaatar**	**36.42**	**57**	*c i* P		**P**		**02 38 03.8**	**+3.0**	
ULN				pmax		pmax				
	comp=Z,4.0nm,0.8s									
HFS	**Hagfors**	**37.18**	**324**	LR		LR		02 54 24.9		
	comp=Z,27nm,19.4s,baz=124,slow=38									
ARCES	**ARCESS Array B**	**37.59**	**341**	P		**P**		**02 38 11.6**	**+1.3**	
	comp=Z,3.1nm,0.9s,baz=133,slow=8.7,SNR=12									
ARCES				LR		LR		02 55 19.1		
	comp=Z,78nm,19.6s,baz=152,slow=39									
NC405	**NORSAR Array S**	**38.41**	**325**	P		**P**		**02 38 17.4**	**+0.1**	
NB2	**NORSAR Subarra**	**38.62**	**324**	P		**P**		**02 38 19.5**	**+0.4**	
	comp=Z,1.4nm,0.7s,baz=107,slow=8.6									
NOA	**NORSAR Array B**	**38.62**	**324**	P		**P**		**02 38 19.8**	**+0.7**	
	comp=Z,2.3nm,0.8s,baz=108,slow=8.1,SNR=12									
NOA				LR		LR		02 55 59.8		
	comp=Z,22nm,18.2s,baz=105,slow=39									
CMAR	**Chiang Mai Arr**	**39.19**	**107**	P		**P**		**02 38 25.8**	**+1.5**	
	comp=Z,4.6nm,0.7s,baz=299,slow=8.7,SNR=24									
CMAR				LR		LR		02 57 32.3		
	comp=Z,24nm,22.0s,baz=232,slow=41									
HHC	**Hu-ho-hao-te**	**40.38**	**68**	*e*P		**P**		**02 38 34.8**	**+0.6**	
HHC				pmax		pmax				
	comp=Z,25nm,0.7s									
HHC				pmax		pmax				
	comp=Z,93nm,5.5s									
HIA	**Hailar**	**44.73**	**54**⇑	*e*P		**P**		**02 39 12.1**	**+2.8**	
HIA				pmax		pmax				
	comp=Z,6.0nm,0.6s									
WHN	**Wuhan**	**45.66**	**81**	P		P		02 39 28.5	+12	
WHN				pmax		pmax				
	comp=Z,30nm,0.4s									
ESDC	**Sonseca Array**	**48.92**	**294**	P		**P**		**02 39 41.5**	**-0.8**	
	comp=Z,0.6nm,1.0s,baz=66,slow=6.8,SNR=3.0									
PSI	**Prapat**	**49.66**	**123**	P		**P**		**02 39 46.7**	**-1.5**	
	comp=Z,6.6nm,0.7s,baz=344,slow=0.2,SNR=5.2									
RPSI	**Rantau Prapat**	**49.73**	**124**	P		**P**		**02 39 46.7**	**-2.0**	
KLR	**Kul'dur**	**52.45**	**52**	P		**P**		**02 40 10.5**	**+1.8**	
	comp=Z,0.9nm,0.8s,baz=242,slow=12,SNR=1.8									
KSRS	**Korea Array**	**53.52**	**67**	P		**P**		**02 40 18.8**	**+2.0**	
	comp=Z,2.3nm,0.7s,baz=282,slow=6.9,SNR=11									
KSRS				LR		LR		03 06 05.4		
	comp=Z,38nm,19.7s,baz=278,slow=39									
TORD	**Torodi Ar. Bea**	**56.43**	**261**	P		**P**		**02 40 36.3**	**-1.8**	
	comp=Z,1.1nm,1.0s,baz=51,slow=6.5,SNR=5.0									
PETK	**Petropavlovsk-**	**65.08**	**41**	LR		LR		03 12 47.9		
	comp=Z,37nm,18.6s,baz=248,slow=38									
TOLK	**Toolik Lake Re**	**72.71**	**11**	P		**P**		**02 42 22.8**	**-1.0**	
COLD	**Coldfoot**	**73.91**	**12**	P		**P**		**02 42 29.2**	**-1.6**	
BPAW	**Bear Paw Mtn.**	**76.64**	**13**	P		**P**		**02 42 45.9**	**-0.7**	
IL31		**76.71**	**11**	P		**P**		**02 42 46.8**	**-0.1**	
ILAR	**Eielson Array**	**76.71**	**11**	P		**P**		**02 42 48.5**	**+1.5**	
	comp=Z,1.1nm,0.9s,baz=328,slow=4.3,SNR=7.9									
KTH	**Kantishna Hill**	**77.15**	**13**	P		**P**		**02 42 49.8**	**+0.3**	
MCK	**McKinley**	**77.34**	**12**	P		**P**		**02 42 50.4**	**-0.2**	
MCK				pmax		pmax				
	comp=Z,4.0nm,0.6s									
MCK	**McKinley**	**77.34**	**12**	P		**P**		**02 42 50.4**	**-0.2**	
DAWY	**Dawson**	**78.41**	**8**	P		**P**		**02 42 56.3**	**-0.2**	
SKT	**Skwentna**	**78.46**	**14**	P		**P**		**02 42 56.4**	**-0.5**	
SUA	**Susitna One**	**79.09**	**14**	P		**P**		**02 43 00.6**	**+0.2**	
GHO	**Glory Hole Cre**	**79.15**	**13**	P		**P**		**02 43 00.7**	**0.0**	
PMR	**Palmer**	**79.28**	**13**	P		**P**		**02 43 01.4**	**+0.1**	
PMR	**Palmer**	**79.28**	**13**	P		**P**		**02 43 01.4**	**+0.1**	
BALM	**Baldy**	**80.94**	**11**	P		**P**		**02 43 10.3**	**-0.1**	
BALM				IAmb		IAmb		02 43 23.3		
	comp=Z,2.3nm,0.8s									
YKA	**Yellowknife Ar**	**80.96**	**357**	P		**P**		**02 43 11.3**	**+1.0**	
	comp=Z,1.3nm,0.9s,baz=3.5,slow=7.1,SNR=3.8									
YKA				LR		LR		03 23 01.6		
	comp=Z,14nm,18.3s,baz=0.0,slow=38									
WRA	**Warramunga Arr**	**90.35**	**115**	P		**P**		**02 43 57.2**	**-0.4**	
	comp=Z,1.1nm,0.7s,baz=320,slow=4.3,SNR=8.1									
WRA	**Warramunga Arr**	**90.35**	**115**	*i* P		**P**		**02 43 57.7**	**+0.1**	
WRA				pmax		pmax				
	comp=Z,1.0nm,0.7s									
ASAR	**Alice Springs**	**92.38**	**118**	P		**P**		**02 44 06.3**	**-0.6**	
	comp=Z,0.4nm,0.8s,baz=308,slow=4.9,SNR=3.0									

NIC ***23*** *02:40:02.0±0.0, 35.72N×31.55E, h14km±1km, MI3.5/4*
ISK ***23*** *02:40:02.3, 35.49N×31.55E, h5km, ML3.5/32*
DDA ***23*** *02:40:05.3, 35.72N×31.53E, h19km±2km, MW3.4*
GII ***23*** *02:40:05.7±0.0, 35.24N×31.72E, h3km*
IDC ***23*** *02:40:05.4±1.8, 35.39N×31.43E, h49km±24km, mb3.3/4, mb1 3.4/9, mb1mx3.1/42, mbtmpb3.4/9, ML3.2/5, Error ellipse: s-maj=23.8km s-min=21.5km az=158.0*

ISC 23 02:40:03.7±1.1, 35.53N±0.03×31.54E±0.03, h31km±10km, n92, σ1.177/109, mb3.5/4, 4D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.83**	**128**	P		**Pb**	**02 40 19.1**	**-0.6**
AKMS				AML		AML	02 40 33.3	
	4.5nm,0.4s							
AKMS				AML		AML	02 40 33.3	
	4.5nm,0.4s							
AKMS				AML		AML	02 40 33.4	
	5.5nm,0.4s							
AKMS				AML		AML	02 40 33.4	
	5.5nm,0.4s							
AKMS				S		**Sn**	**02 40 33.8**	**+3.4**
ALFC	**Alefka**	**0.94**	**113**	P		**Pb**	**02 40 20.8**	**-0.8**
ALFC				S		**Sn**	**02 40 36.7**	**+3.4**
ALFC				AML		AML	02 40 39.7	
	3.6nm,0.3s							
ALFC				AML		AML	02 40 39.7	
	3.6nm,0.3s							
ALFC				AML		AML	02 40 44.2	
	4.2nm,0.5s							
ALFC				AML		AML	02 40 44.2	
	4.2nm,0.5s							
GAZI	**Gazipasa**	**0.95**	**42**	PG		**Pn**	**02 40 21.4**	**+0.4**
GAZI	**Gazipasa**	**0.95**	**42**	*i* P		**Pn**	**02 40 21.3**	**+0.4**
GAZI				*i* S		**Sb**	**02 40 31.2**	**-2.7**
GAZI				IAML			02 40 38.0	
	comp=E,535nm,0.4s							
GAZI				IAML			02 40 40.0	
	comp=N,407nm,0.6s							
ALAN	**Alanya-ANTALYA**	**1.10**	**21**	PN		**Pn**	**02 40 24.9**	**+1.9**
NATA	**Nata**	**1.13**	**131**	⇓P		**Pb**	**02 40 24.9**	**+0.2**
NATA				S		**Sn**	**02 40 43.0**	**+5.1**
LEF	**Lefka**	**1.18**	**110**	PN		**Pb**	**02 40 24.9**	**-0.6**
LEF				SN		**Sn**	**02 40 41.4**	**+2.5**
LEF	**Lefka**	**1.18**	**110**	*i* P		**Pn**	**02 40 23.7**	**-0.4**
AKDN	**Akdeniz- Kıbrı**	**1.19**	**101**	PN		**Pb**	**02 40 25.7**	**0.0**
AKDN				SN		**Sn**	**02 40 43.0**	**+3.7**
AKUM	**Antalya-Kumluc**	**1.25**	**310**	*i* P		**Pb**	**02 40 27.1**	**+0.3**
AKUM				IAML			02 40 49.0	
	comp=E,204nm,0.5s							
AKUM				IAML			02 40 52.0	
	comp=N,247nm,0.5s							
BOZY	**Bozyazi-Mersin**	**1.31**	**63**	PN		**Pb**	**02 40 28.5**	**+0.8**
KEMT	**Kemer-ANTALYA**	**1.34**	**324**	PN		**Pb**	**02 40 29.5**	**+1.3**
SZAC	**Souni**	**1.34**	**125**	⇓P		**Pb**	**02 40 28.0**	**-0.4**
SZAC				S		**Sb**	**02 40 47.8**	**+2.6**
SZAC				AML		AML	02 40 57.8	
	comp=N,2.2nm,0.6s							
SZAC				AML		AML	02 40 57.8	
	comp=N,2.2nm,0.6s							
SZAC				AML		AML	02 40 59.2	
	comp=N,2.0nm,0.8s							
SZAC				AML		AML	02 40 59.2	
	comp=N,2.0nm,0.8s							
KEPZ	**Antalya-Kepez**	**1.37**	**2**	*i* P		**Pb**	**02 40 27.2**	**-1.6**
KEPZ				*i* S		**Sb**	**02 40 44.7**	**-1.4**
KEPZ				IAML			02 40 50.0	
	comp=E,185nm,0.8s							
KEPZ				IAML			02 40 51.0	
	comp=N,243nm,0.7s							
TEKE	**Tekeli-Mersin**	**1.42**	**64**	PN		**Pb**	**02 40 29.9**	**+0.3**
ANTB	**Antalya**	**1.54**	**333**	PN		**Pb**	**02 40 32.4**	**+0.7**
ATHAL	**Athalassa**	**1.57**	**104**	S		**Sb**	**02 40 51.4**	**-0.2**
CSS	**Mathiatis**	**1.57**	**110**	PN		**Pb**	**02 40 31.9**	**-0.3**
CSS	**Mathiatis**	**1.57**	**110**	Pn		**Pb**	**02 40 31.3**	**-0.9**
CSS	**Mathiatis**	**1.57**	**110**	P		**Pb**	**02 40 30.9**	**-1.3**
ERMK	**Ermenek**	**1.57**	**45**	*i* P		**Pb**	**02 40 31.9**	**-0.5**
ERMK				*i* S		**Sb**	**02 40 56.0**	**+4.0**
ERMK				IAML			02 40 57.0	
	comp=N,425nm,1.1s							
ERMK				IAML			02 41 02.0	
	comp=E,297nm,0.5s							
ASGA	**Asgata**	**1.59**	**117**	⇓P		**Pb**	**02 40 31.2**	**-1.2**
ASGA				AML		AML	02 41 04.3	
	comp=E,2.0nm,0.6s							
ASGA				AML		AML	02 41 05.9	
	comp=E,1.7nm,0.6s							
YORU	**Yoruktepe-Mers**	**1.64**	**67**	PN		**Pb**	**02 40 33.6**	**+0.2**
LFK	**Lefkose**	**1.65**	**98**	PN		**Pb**	**02 40 33.2**	**-0.3**
AKIN	**Akıncılar- Kıb**	**1.66**	**107**	PN		**Pb**	**02 40 33.2**	**-0.5**
OREN	**Orenkoy-Mersin**	**1.70**	**66**	PN		**Pb**	**02 40 34.6**	**+0.2**
AKAS	**Kas**	**1.72**	**295**	PN		**Pb**	**02 40 34.6**	**0.0**
AKK1	**Akkuyu-Mersin**	**1.74**	**69**	PN		**Pb**	**02 40 34.9**	**-0.1**
AKK2	**Akkuyu-Mersin**	**1.75**	**69**	PN		**Pb**	**02 40 34.8**	**-0.3**
AKKU	**Akkuyu-Mersin**	**1.75**	**68**	PN		**Pb**	**02 40 35.2**	**-0.1**
KORT	**Korkueli**	**1.75**	**327**	PN		**Pb**	**02 40 35.6**	**+0.2**
GULN	**MERSIN_Gulnar**	**1.76**	**68**	*i* P		**Pb**	**02 40 34.8**	**-0.5**
GULN				*i* S		**Sb**	**02 40 58.2**	**+1.2**
TEPK	**Tepekoy-MERSIN**	**1.77**	**66**	PN		**Pb**	**02 40 35.6**	**0.0**
MVOU	**Mavrovouni**	**1.79**	**106**	⇓P		**Pn**	**02 40 33.4**	**+1.0**
MVOU				S		**Sb**	**02 40 56.9**	**-1.0**
TEVE	**Tevekalti-Mers**	**1.79**	**59**	PN		**Pb**	**02 40 35.4**	**-0.6**
ELL	**Elmali**	**1.79**	**313**	PN		**Pb**	**02 40 36.2**	**+0.2**
YESI	**Yesilovacik-Me**	**1.84**	**68**	PN		**Pb**	**02 40 35.9**	**-0.8**
TISA	**Tisan-Mersin**	**1.85**	**69**	PN		**Pb**	**02 40 36.6**	**-0.3**
IKL	**Isikli**	**1.88**	**67**	PN		**Pb**	**02 40 36.6**	**-0.9**
KARG	**Kargicak-Mersi**	**1.89**	**68**	PN		**Pb**	**02 40 37.2**	**-0.4**
SEYD	**Seydisehir-KON**	**1.89**	**7**	PN		**Pb**	**02 40 37.8**	**+0.1**
BCK	**Bucak**	**2.08**	**339**	PN		**Pb**	**02 40 40.2**	**-0.6**
SILI	**Silifke-Mersin**	**2.11**	**66**	PN		**Pb**	**02 40 40.2**	**-1.1**
EREN	**Erenkoy**	**2.15**	**89**	PN		**Pb**	**02 40 40.6**	**-1.4**
KRMN	**Karaman**	**2.15**	**40**	PN		**Pb**	**02 40 41.0**	**-1.2**
FETY	**Fethiye**	**2.27**	**300**	PN		**Pb**	**02 40 42.7**	**-1.4**
KIZK	**Mersin**	**2.32**	**65**	PN		**Pb**	**02 40 43.3**	**-1.6**
KIZK	**Mersin**	**2.32**	**65**	*i* P		**Pb**	**02 40 43.9**	**-1.0**
KIZK				*i* S		**Sb**	**02 41 14.1**	**+1.0**
KIZK				IAML			02 41 18.0	
	comp=E,111nm,0.6s							
KIZK				IAML			02 41 18.0	
	comp=N,65nm,0.6s							
KMER	**Konya-Meram**	**2.33**	**16**	*i* P		**Pb**	**02 40 44.1**	**-1.1**
KMER				*i* S		**Sb**	**02 41 16.0**	**+2.3**
KMER				IAML			02 41 19.0	
	comp=E,151nm,0.6s							
KMER				IAML			02 41 20.0	
	comp=N,116nm,0.6s							
ISP	**Isparta**	**2.43**	**341**	PN		**Pb**	**02 40 45.3**	**-1.6**
KONT	**Konya--Tatoy**	**2.50**	**15**	PN		**Pb**	**02 40 46.7**	**-1.3**
LADK	**Ladik-KONYA**	**2.75**	**14**	PN		**Pb**	**02 40 49.7**	**-2.6**
MERS	**Mersin**	**2.76**	**60**	PN		**Pb**	**02 40 49.7**	**-2.7**
KERG	**Konya-Eregli**	**2.81**	**47**	*i* P		**Pb**	**02 40 50.7**	**-2.6**
KERG				IAML			02 41 30.0	
	comp=N,90nm,0.4s							
KERG				IAML			02 41 34.0	
	comp=E,107nm,0.4s							
YESY	**Yesilyurt**	**2.87**	**38**	PN		**Pb**	**02 40 51.3**	**-3.0**
SULT	**Sultanhani-AKS**	**3.10**	**30**	PN		**Pb**	**02 40 54.8**	**-3.5**
CHBY	**Cihanbeyli**	**3.24**	**19**	PN		**Pb**	**02 40 56.6**	**-4.0**
KRTS	**Karatas**	**3.28**	**70**	PN		**Pb**	**02 40 56.8**	**-4.4**
KARA	**Karaisali**	**3.32**	**58**	PN		**Pb**	**02 40 57.5**	**-4.5**
CMRD	**Camardi-Nigde**	**3.50**	**52**	PN		Pb	02 41 00.3	-4.8
GULA	**Gulagac**	**3.55**	**37**	PN		Pb	02 41 00.6	-5.3
YURE	**YUREĞIR**	**3.56**	**67**	PN		Pb	02 41 00.4	-5.6
KARP	**Karpathos**	**3.57**	**272**	P		**Pn**	**02 40 57.1**	**+0.1**
HWQ	**Hawqa**	**3.83**	**108**	*e*P		**Pn**	**02 41 02.6**	**+1.9**
HNTI	**Hanita**	**3.87**	**128**	Pn		**Pn**	**02 41 01.3**	**+0.2**
HNTI				Sn		**Sn**	**02 41 45.4**	**-0.2**
KOZT	**Kozan**	**3.97**	**59**	PN		Pb	02 41 07.1	-5.9
MMA0B	**Mount Meron ar**	**4.07**	**127**	Pn		**Pn**	**02 41 04.7**	**+0.9**
MMAI	**Mount Meron Ar**	**4.07**	**127**	P		**Pn**	**02 41 04.5**	**+0.6**
	comp=E,8.2nm,0.3s,baz=305,slow=13,SNR=60							
MMAI				S		**Sn**	**02 41 49.9**	**-0.5**
	comp=E,9.5nm,0.3s,baz=311,slow=26,SNR=6.4							
OFRI	**`Ofer**	**4.07**	**134**	Pn		**Pn**	**02 41 04.6**	**+0.7**
OFRI				Sn		**Sn**	**02 41 48.8**	**-1.7**
SHBL	**Chebaa**	**4.10**	**121**	*e*P		**Pn**	**02 41 05.8**	**+1.4**
BLGI	**Bet Lehem HaGe**	**4.12**	**132**	Pn		**Pn**	**02 41 05.6**	**+1.1**
NATI	**Neve Ativ**	**4.14**	**122**	Pn		**Pn**	**02 41 05.8**	**+1.0**
SLTI	**Sal'it**	**4.39**	**137**	Pn		**Pn**	**02 41 09.2**	**+1.0**
MMLI	**Mount Malkishu**	**4.46**	**133**	PN		**Pn**	**02 41 10.3**	**+1.0**
MMLI	**Mount Malkishu**	**4.46**	**133**	Pn		**Pn**	**02 41 09.9**	**+0.6**
BRTR	**Keskin Array B**	**4.51**	**21**	P		**Pn**	**02 41 13.4**	**+3.4**
	comp=E,0.6nm,0.3s,baz=198,slow=15,SNR=16							
BRTR				S		**Sn**	**02 42 03.9**	**+2.4**
	comp=E,0.2nm,0.3s,baz=184,slow=15,SNR=3.8							
QRNJ	**Al-Qirein**	**4.63**	**132**	Pn		**Pn**	**02 41 12.8**	**+1.4**
HMDT	**Nahal Hemdat**	**4.66**	**133**	Pn		**Pn**	**02 41 13.0**	**+1.1**
HMDT				Sn		**Sn**	**02 42 05.9**	**+1.1**
DSI	**Dead Sea**	**5.09**	**140**	Pn		**Pn**	**02 41 19.2**	**+1.4**
YTIR	**Yattir**	**5.12**	**143**	Pn		**Pn**	**02 41 19.3**	**+1.0**
YTIR				Sn		**Sn**	**02 42 15.1**	**-1.3**
KZIT	**Kziot**	**5.19**	**152**	Pn		**Pn**	**02 41 20.6**	**+1.3**
IDI	**Anoyia**	**5.43**	**269**	P		**Pn**	**02 41 22.0**	**-0.6**
	comp=E,0.4nm,0.3s,baz=144,slow=5.5,SNR=2.3							
IDI				S		**Sn**	**02 42 20.0**	**-4.1**
	comp=E,1.2nm,0.3s,baz=25,slow=17,SNR=5.6							
ASF	**Jabal al Asfar**	**5.58**	**125**	P		**Pn**	**02 41 26.6**	**+2.0**
	comp=E,0.4nm,0.3s,baz=295,slow=19,SNR=6.4							
ASF				S		**Sn**	**02 42 26.1**	**-1.6**
	comp=E,0.1nm,0.3s,baz=223,slow=13,SNR=1.0							
KARJ	**KARJ**	**5.58**	**141**	Pn		Pn	02 41 16.5	-8.1
PRNI	**Paran**	**5.93**	**150**	Pn	

comp=E,158nm,0.8s
IBDR AML AML 03 18 20.4
comp=N,254nm,0.6s
IKOM Komasi 1.53 356 *e*Pg **Pg 03 17 53.3 +0.5**
AHWZ Ahwaz 1.57 146 *e*Pg **Pg 03 17 53.5 0.0**
KCHF Cheshme Sefid, 1.70 343 *e*Pg **Pb 03 17 55.3 -0.2**
KCHF e 03 18 26.1
HSAM Samen 1.76 27 *e*Pg **Pb 03 17 56.6 0.0**
HSAM e 03 18 25.8
KER Kermanshah 1.79 347 *e*Pn **Pg 03 17 57.8 +0.1**
IBZA Bozab 1.83 6 *e*Pg **Pb 03 17 57.6 -0.1**
IBZA 03 18 30.2
IGHG Ghaleghazi 1.90 332 *e*Pn **Pb 03 17 58.8 -0.1**
IGHG e 03 18 39.6
IVIS Veis 1.99 341 *e*Pn **Pb 03 17 59.7 -0.6**
IVIS e 03 18 32.5
NSR Nassriya 2.06 218 *e*Pn **Pb 03 18 01.0 -0.5**
NSR *e*Sn **Sb 03 18 27.0 -0.5**
KHMZ Khomeyn 2.24 60 *e*Pn **Pb 03 18 03.3 -1.4**
KHMZ Khomeyn 2.24 60 *e*Pn **Pb 03 18 03.3 -1.4**
IALM Almabolaq 2.26 11 *e*Pn **Pb 03 18 04.0 -1.0**
IDHR Dehrash 2.30 334 *e* Sg 03 18 49.0 +12
SNGE Sanandaj 2.46 355 *e*Pn **Pn 03 18 03.8 -0.8**
SNGE *e*Sg **Sb 03 18 39.2 +0.1**
SNGE IAML 03 18 46.1
comp=N,63nm,0.6s
SNGE Sanandaj 2.46 355 *e*Pn **Pn 03 18 03.8 -0.8**
HAGD Aghdareh 2.51 30 *e*
HAGD *e*Pn **Pn 03 18 06.9 +1.5**
JHBN Jahan bin 2.60 98 *e*
JHBN *e*Pn **Pn 03 18 07.2 +0.6**
HSRG Sareghieh 2.65 12 *e*
HSRG *e*Pn **Pb 03 18 09.6 -2.1**
IPIR Pirpir 2.75 88 *e*
IPIR *e*Pn **Pn 03 18 09.7 +1.0**
BHD Baghdad 2.80 284 *e*Pn **Pn 03 18 10.0 +0.9**
BHD *e*Sn **Sn 03 18 44.0 +0.6**
ROKH ROKH 2.89 95 *e*Pn **Pn 03 18 11.2 +0.6**
ROKH *e* 03 18 58.2
IRAZ Razeghan 3.35 34 *e*Pn **Pn 03 18 19.2 +2.3**
IKLH Kolahrood 3.39 77 *e*Pn **Pn 03 18 18.5 +1.1**
IKLH *e* 03 19 29.0
QABG Abgarm-Qazvin 3.46 27 *e*Pn **Pn 03 18 19.0 +0.6**
KLNJ Kolanjah 3.75 115 *e*Pn **Pn 03 18 22.7 +0.3**
KLNJ *e* 03 19 43.2
IZEF Zefreh 3.97 85 *e*Pn **Pn 03 18 26.5 +1.1**
QSDN Sirdan 4.06 18 *e*Pn **Pn 03 18 28.3 +1.7**
IRAM Ramesheh 4.11 100 *e*Pn **Pn 03 18 26.8 -0.6**
CHTH Charan 4.36 41 *e*Pn **Pn 03 18 32.3 +1.6**
CHTH Charan 4.36 41 *e*Pn **Pn 03 18 32.3 +1.6**
ANAR Anarak 5.16 82 *e*Pn **Pn 03 18 41.4 -0.3**

*ISN **23** 03:19:44.9±1.4, 32.°65N×47.°77E, h15km±7km, ML3.1*
*THR **23** 03:19:44.9±0.3, 32.°59N×47.°42E, h16km±3km, ML3.4*
*TEH **23** 03:19:46.8, 32.°67N×47.°69E, h8km, ML3.5*
ISC 23 03:19:46.8±1.4, **32.°63N**±0.°03×**47.°61E**±0.°03, **h3**km±12km, **n40**, σ0°97/45, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.28**	**281**	*e*Pg	**Pb**	**03 19 54.1**	**-0.5**
IKFM	**Kafar-mosalman**	**0.92**	**12**	*e*		03 20 20.4	
IKFM				*e*Pg	**Pg**	**03 20 03.5**	**-0.9**
IKMR	**Kamar-syah**	**1.10**	**36**	*e*		03 20 13.1	
IKMR				*e*Pg	**Pg**	**03 20 06.2**	**-1.7**
SHGR	**Shooshtar-Gavs**	**1.13**	**117**	*e*Pg	**Pg**	**03 20 08.3**	**-0.2**
SHGR				*e*Sg	**Sn**	**03 20 25.5**	**-0.1**
SHGR				IAML		03 20 35.4	
	comp=E,529nm,0.4s						
SHGR				IAML		03 20 35.9	
	comp=N,738nm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.13**	**117**	*e*Pg	**Pg**	**03 20 08.3**	**-0.2**
IDOB	**Doab**	**1.25**	**22**	*e*Pg	**Pg**	**03 20 09.4**	**-1.5**
BMDN	**Meydan**	**1.46**	**44**	*e*Pg	**Pn**	**03 20 13.5**	**-0.8**
BMDN				*e*		03 20 40.3	
IBDR	**Badra**	**1.50**	**289**	*e*Pg	**Pn**	**03 20 14.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**03 20 36.0**	**+1.2**
IBDR				AML	AML	03 20 42.4	
	comp=E,345nm,0.6s						
IBDR				AML	AML	03 20 43.0	
	comp=N,224nm,0.4s						
IKOM	**Komasi**	**1.55**	**357**	*e*Pg	**Pb**	**03 20 16.0**	**-0.2**
IKOM				*e*		03 20 42.1	
AHWZ	**Ahwaz**	**1.56**	**146**	*e*Pg	**Pb**	**03 20 16.4**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.71**	**344**	*e*Pg	**Pb**	**03 20 19.3**	**+0.2**
KCHF				*e*		03 20 45.8	
HSAM	**Samen**	**1.79**	**27**	*e*Pg	**Pb**	**03 20 19.4**	**-1.0**
HSAM				*e*		03 20 21.5	
KER	**Kermanshah**	**1.80**	**347**	*e*Pn	**Pb**	**03 20 19.9**	**-0.6**
IBZA	**Bozab**	**1.85**	**6**	*e*Pg	**Pb**	**03 20 20.6**	**-0.9**
IBZA				*e*		03 20 51.7	
IGHG	**Ghaleghazi**	**1.91**	**333**	*e*Pg	**Pb**	**03 20 22.6**	**+0.1**
IGHG				*e*		03 21 01.5	
IVIS	**Veis**	**2.00**	**342**	*e*Pn	**Pb**	**03 20 23.4**	**-0.5**
IVIS				*e*		03 21 00.0	
NSR	**Nassriya**	**2.04**	**218**	*e*Pn	**Pn**	**03 20 22.0**	**0.0**
NSR				*e*Sn	**Sn**	**03 20 47.0**	**-1.0**
KHMZ	**Khomeyn**	**2.26**	**60**	*e*Pn	**Pn**	**03 20 26.1**	**+0.8**
KHMZ	**Khomeyn**	**2.26**	**60**	*e*Pn	**Pn**	**03 20 26.1**	**+0.8**
IALM	**Almabolaq**	**2.28**	**12**	*e*Pn	**Pb**	**03 20 27.1**	**-1.6**
IDHR	**Dehrash**	**2.31**	**334**	*e*Pn	**Pn**	**03 20 26.7**	**+0.8**
IDHR				*e*		03 21 07.1	
ILIN	**Lien**	**2.35**	**347**	*e*Pn	**Pn**	**03 20 27.4**	**+0.8**
ILIN				*e*		03 21 10.7	
SNGE	**Sanandaj**	**2.47**	**355**	*e*Pn	**Pn**	**03 20 27.1**	**-1.0**
SNGE				*e*Sg	**Sb**	**03 21 03.2**	**+0.3**
SNGE	**Sanandaj**	**2.47**	**355**	*e*Pn	**Pn**	**03 20 27.2**	**-1.0**
HAGD	**Aghdareh**	**2.54**	**30**	*e*Pn	**Pn**	**03 20 29.8**	**+0.7**
HAGD				*e*		03 20 34.4	
JHBN	**Jahan bin**	**2.61**	**98**	*e*Pn	**Pn**	**03 20 30.2**	**0.0**
JHBN				*e*		03 21 18.7	
HSRG	**Sareghieh**	**2.67**	**12**	*e*	**Sg**	**03 21 15.8**	**+3.3**
IPIR	**Pirpir**	**2.77**	**88**	*e*Pn	**Pn**	**03 20 32.7**	**+0.3**
IPIR				*e*		03 21 21.3	
BHD	**Baghdad**	**2.79**	**284**	*e*Pn	**Pn**	**03 20 32.0**	**-0.4**
BHD				*e*Sn	**Sn**	**03 21 08.0**	**+1.4**
ROKH	**ROKH**	**2.91**	**95**	*e*Pn	**Pn**	**03 20 34.1**	**-0.1**
ROKH				*e*		03 21 29.1	
IRAZ	**Razeghan**	**3.38**	**34**	*e*Pn	**Pn**	**03 20 42.1**	**+1.5**
IKLH	**Kolahrood**	**3.41**	**77**	*e*Pn	**Pn**	**03 20 42.1**	**+1.0**
IKLH				*e*		03 21 40.8	
QABG	**Abgarm-Qazvin**	**3.48**	**27**	*e*Pn	**Pn**	**03 20 42.7**	**+0.6**
IGAR	**Gharneh**	**3.75**	**92**	*e*Pn	**Pn**	**03 20 45.2**	**-0.6**
KLNJ	**Kolanjah**	**3.75**	**114**	*e*Pn	**Pn**	**03 20 46.3**	**+0.3**
KLNJ				*e*		03 22 07.6	
IZEF	**Zefreh**	**3.98**	**85**	*e*Pn	**Pn**	**03 20 49.4**	**+0.3**
QSDN	**Sirdan**	**4.08**	**18**	*e*Pn	**Pn**	**03 20 51.4**	**+1.1**
IRAM	**Ramesheh**	**4.12**	**100**	*e*Pn	**Pn**	**03 20 50.3**	**-0.7**
IDMV	**Damavand**	**4.70**	**50**	*e*Pn	**Pn**	**03 20 58.7**	**-0.3**
ANAR	**Anarak**	**5.18**	**82**	*e*Pn	**Pn**	**03 21 04.8**	**-0.5**

*TEH **23** 03:25:58.6, 32.°70N×47.°56E, h10km, ML2.9*
*ISN **23** 03:25:58.1±1.1, 32.°66N×47.°54E, h15km±6km, ML2.7*
ISC 23 03:25:59.0±1.0, **32.°67N**±0.°05×**47.°51E**±0.°04, **h10**km, **n25**, σ1§13/27, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.19**	**274**	*e*Pg	**Pg**	**03 26 03.5**	**+0.5**
IKFM	**Kafar-mosalman**	**0.90**	**18**	*e*Pg	**Pg**	**03 26 14.6**	**-1.7**
IKMR	**Kamar-syah**	**1.12**	**41**	*e*Pg	**Pb**	**03 26 19.3**	**-1.1**
IKMR				*e*		03 26 38.6	
IDOB	**Doab**	**1.25**	**27**	*e*Pg	**Pg**	**03 26 22.4**	**-0.6**
IBDR	**Badra**	**1.40**	**289**	*e*Pg	**Pn**	**03 26 24.0**	**-0.5**
IBDR				*e*Sg	**Sn**	**03 26 43.0**	**0.0**
IBDR				AML	AML	03 26 49.8	
	comp=N,149nm,0.4s						
IBDR				AML	AML	03 26 50.0	
	comp=E,97nm,0.6s						
BMDN	**Meydan**	**1.49**	**48**	*e*Pg	**Pb**	**03 26 26.2**	**-0.7**
BMDN				*e*		03 26 53.2	
IKOM	**Komasi**	**1.50**	**0**	*e*Pg	**Pg**	**03 26 27.2**	**-0.6**
IKOM				*e*		03 26 28.6	
KCHF	**Cheshme Sefid,**	**1.65**	**347**	*e*Pg	**Pg**	**03 26 29.7**	**-0.9**
KER	**Kermanshah**	**1.74**	**350**	*e*Pn	**Pg**	**03 26 32.0**	**-0.4**
HSAM	**Samen**	**1.79**	**31**	*e*Pg	**Pb**	**03 26 31.4**	**-0.6**
IBZA	**Bozab**	**1.82**	**9**	*e*Pg	**Pb**	**03 26 32.4**	**-0.1**
IBZA				*e*		03 27 00.4	
IGHG	**Ghaleghazi**	**1.83**	**335**	*e*Pn	**Pb**	**03 26 32.6**	**-0.1**
IGHG				*e*		03 27 02.3	
IVIS	**Veis**	**1.93**	**344**	*e*Pn	**Pb**	**03 26 34.2**	**-0.1**
IVIS				*e*		03 27 07.7	
NSR	**Nassriya**	**2.02**	**215**	*e*Pn	**Pn**	**03 26 33.0**	**-0.1**
NSR				*e*Sn	**Sn**	**03 26 58.0**	**-0.4**
IDHR	**Dehrash**	**2.23**	**336**	*e*Pn	**Pb**	**03 26 38.0**	**-1.5**
IDHR				*e*		03 27 15.2	
IALM	**Almabolaq**	**2.25**	**14**	*e*Pn	**Pb**	**03 26 38.7**	**-1.2**
HAGD	**Aghdareh**	**2.54**	**32**	*e*Pn	**Pn**	**03 26 41.8**	**+1.3**
HAGD				*e*		03 27 26.7	
HSRG	**Sareghieh**	**2.65**	**14**	*e*	Sb	03 27 29.4	+10
BHD	**Baghdad**	**2.69**	**284**	*e*Pn	**Pn**	**03 26 43.0**	**+0.7**
BHD				*e*Sn	**Sn**	**03 27 17.0**	**+2.0**
JHBN	**Jahan bin**	**2.71**	**98**	*e*Pn	**Pn**	**03 26 42.8**	**0.0**
IPIR	**Pirpir**	**2.86**	**89**	*e*Pn	**Pn**	**03 26 46.0**	**+1.1**
IRAZ	**Razeghan**	**3.39**	**36**	*e*Pn	**Pn**	**03 26 53.6**	**+1.5**
IKLH	**Kolahrood**	**3.48**	**78**	*e*Pn	**Pn**	**03 26 55.9**	**+2.4**
QABG	**Abgarm-Qazvin**	**3.49**	**29**	*e*Pn	**Pn**	**03 26 55.2**	**+1.7**
IZEF	**Zefreh**	**4.07**	**86**	*e*Pn	**Pn**	**03 27 02.6**	**+1.1**

*KRNET **23** 03:25:55.0±0.1, 41.°06N×78.°40E, h15km, mb2.7*
*SOME **23** 03:25:54.7, 40.°97N×78.°35E, h15km*
*NNC **23** 03:25:55.6±0.9, 41.°05N×78.°40E, h14km±5km, mb3.5, mpv3.1, Error ellipse: s-maj=6.5km s-min=4.0km az=166.0*
ISC 23 03:25:58.1±1.7, **41.°17N**±0.°08×**78.°39E**±0.°04, **h10**km, **n39**, σ1§21/63, **30C-8D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.71**	**322**	⇓*i*P	**Pg**	**03 26 10.4**	**-1.5**
	baz=26						
TARG				⇓*i*S	**Sg**	**03 26 21.7**	**+0.5**
	baz=26						
PRZ	**Przheval'sk**	**1.31**	**0**	⇑*i*P	**Pn**	**03 26 21.7**	**-1.0**
	baz=1.0						
PRZ				⇑*i*S	**Sn**	**03 26 41.3**	**+1.0**
	baz=1.0						
KDJ	**Kajisay**	**1.32**	**317**	⇑*i*P	**Pn**	**03 26 21.3**	**-1.4**
	baz=20						
KDJ				⇑*i*S	**Sn**	**03 26 40.5**	**0.0**
	baz=20						
ANVS	**Anan'yevo**	**1.70**	**342**	⇑*i*P	**Pn**	**03 26 28.6**	**+0.6**
	baz=43						
ANVS				⇑*i*S	**Sg**	**03 26 53.0**	**+0.3**
	baz=43						
SATY	**Saty**	**1.89**	**0**	⇓*i*P	**Pb**	**03 26 33.0**	**+0.3**
	11nm,0.4s						
SATY				*e*S	**Sg**	**03 27 00.0**	**+1.3**
	18nm,0.1s						
SATY	**Saty**	**1.89**	**0**	Pg	**Pb**	**03 26 33.0**	**+0.3**
	11nm,0.4s						
SATY				Lg	Lg	03 27 00.0	
	18nm,0.1s						
ULHL	**Ulahol**	**1.93**	**304**	⇑*i*P	**Pn**	**03 26 32.0**	**+0.8**
	baz=7.0						
ULHL				⇑*i*S	**Sg**	**03 26 59.1**	**-1.1**
	baz=7.0						
UZB	**Uzynbulak**	**2.03**	**13**	*e*P	**Pb**	**03 26 35.5**	**+0.4**
	5.0nm,0.3s						
UZB				*e*S	**Sg**	**03 27 04.2**	**+0.9**
	19nm,0.3s						
UZB	**Uzynbulak**	**2.03**	**13**	Pg	**Pb**	**03 26 35.5**	**+0.4**
	5.0nm,0.3s						
UZB				Lg	Lg	03 27 04.2	
	19nm,0.3s						
TNSS	**Tian-Shan**	**2.15**	**331**	⇑*i*P	**Pb**	**03 26 37.8**	**+0.4**
	16nm,0.5s						
TNSS				⇑*i*S	**Sg**	**03 27 08.4**	**+1.2**
	18nm,0.4s						
TNSS	**Tian-Shan**	**2.15**	**331**	Pg	**Pb**	**03 26 37.8**	**+0.4**
	16nm,0.5s						
TNSS				Lg	Lg	03 27 08.4	
	18nm,0.4s						
MDOK	**Medeo**	**2.23**	**334**	*e*P	**Pb**	**03 26 38.9**	**+0.4**
	19nm,0.5s						
MDOK				*e*S	**Sg**	**03 27 10.4**	**+0.8**
	22nm,0.9s						
MDOK	**Medeo**	**2.23**	**334**	⇓Pg	**Pb**	**03 26 38.3**	**-0.2**
	12nm,0.5s						
MDOK				Lg	Lg	03 27 10.6	
	23nm,0.6s						
MDOK	**Medeo**	**2.23**	**334**	Pg	**Pb**	**03 26 38.9**	**+0.4**
	19nm,0.5s						
MDOK				Lg	Lg	03 27 10.4	
	22nm,0.9s						
PDGK	**Podgornoye**	**2.31**	**20**	Pg	**Pb**	**03 26 39.9**	**0.0**
	5.8nm,0.3s						
PDGK				Lg	Lg	03 27 12.1	
	11nm,0.5s						
PDGK	**Podgornoye**	**2.31**	**20**	⇑Pn	**Pn**	**03 26 33.9**	**-2.4**
	1.5nm,0.8s						
PDGK				⇑Pg	**Pb**	**03 26 39.0**	**-0.9**
	5.7nm,0.4s						
PDGK				⇑Lg	Lg	03 27 12.0	
	22nm,0.6s						
KURS	**Kuram**	**2.32**	**356**	*e*P	**Pb**	**03 26 40.2**	**+0.2**
	8.4nm,0.3s						
KURS				*e*S	**Sg**	**03 27 12.6**	**-0.1**
	14nm,0.4s						
KURS	**Kuram**	**2.32**	**356**	Pg	**Pb**	**03 26 40.2**	**+0.2**
	8.4nm,0.3s						
KURS				Lg	Lg	03 27 12.6	
	14nm,0.4s						
MTBS	**Maitube**	**2.44**	**324**	⇑*i*P	**Pb**	**03 26 41.1**	**-1.0**
	6.8nm,0.3s						
MTBS				⇑*i*S	**Sg**	**03 27 14.2**	**-2.3**
	14nm,0.5s						
MTBS	**Maitube**	**2.44**	**324**	Pg	**Pb**	**03 26 41.1**	**-1.0**
	6.8nm,0.3s						
MTBS				Lg	Lg	03 27 14.2	
	14nm,0.5s						
KZA	**Kyzart**	**2.52**	**292**	⇓*i*P	**Pn**	**03 26 40.1**	**+0.6**
	baz=94						
KZA				⇓*i*S	**Sn**	**03 27 12.6**	**+2.1**
	baz=94						
KST	**Kastek**	**2.60**	**317**	⇑*i*P	**Pb**	**03 26 45.1**	**+0.3**
	6.3nm,0.7s						
KST				⇑*i*S	**Sg**	**03 27 21.3**	**-0.3**
	18nm,0.7s						
KST	**Kastek**	**2.60**	**317**	Pg	**Pb**	**03 26 45.1**	**+0.3**
	6.3nm,0.7s						
KST				Lg	Lg	03 27 21.3	
	18nm,0.7s						
KTMS	**Ketmen**	**2.70**	**32**	*e*P	**Pb**	**03 26 47.1**	**+0.6**
	1.0nm,0.1s						
KTMS				*e*S	**Sg**	**03 27 24.8**	**0.0**
	19nm,0.3s						
KTMS	**Ketmen**	**2.70**	**32**	Pg	**Pb**	**03 26 47.1**	**+0.6**
	1.0nm,0.1s						
KTMS				Lg	Lg	03 27 24.8	
	19nm,0.3s						
TKM2	**Tokmak 2**	**2.72**	**311**	⇑Pg	**Pb**	**03 26 46.7**	**-0.2**
	1.2nm,0.2s						
TKM2				⇑Lg	Lg	03 27 24.1	
	11nm,0.6s						
CHKK	**Chushkaly**	**2.87**	**339**	⇑*e*P	**Pb**	**03 26 50.0**	**+0.6**
	5.8nm,0.4s						
CHKK				⇓*e*S	**Sg**	**03 27 30.2**	**-0.2**
	31nm,0.2s						
CHKK	**Chushkaly**	**2.87**	**339**	Pg	**Pb**	**03 26 50.0**	**+0.6**
	5.8nm,0.4s						
CHKK				Lg	Lg	03 27 30.2	
	31nm,0.2s						
UCH	**Uchtor**	**3.09**	**291**	⇑*i*P	**Pn**	**03 26 47.9**	**+0.6**
	baz=93						
UCH				⇑*i*S	**Sn**	**03 27 26.6**	**+2.1**
	baz=93						
KUU	**Kurty**	**3.11**	**332**	*e*P	**Pb**	**03 26 54.1**	**+0.5**
	3.4nm,0.4s						
KUU				⇓*i*S	**Sg**	**03 27 36.4**	**-1.6**
	7.2nm,0.5s						
KUU	**Kurty**	**3.11**	**332**	Pg	**Pb**	**03 26 54.1**	**+0.5**
	3.4nm,0.4s						
KUU				Lg	Lg	03 27 36.4	
	7.2nm,0.5s						
AAK	**Ala-Archa**	**3.25**	**298**	⇑Pg	**Pb**	**03 26 56.1**	**+0.1**
	2.8nm,0.7s						
AAK				⇑Lg	Lg	03 27 42.5	
	6.1nm,0.7s						
DJR	**Jarkent**	**3.32**	**18**	*e*P	**Pb**	**03 26 57.8**	**+0.7**
	2.1nm,0.2s						
DJR				*e*S	**Sg**	**03 27 43.1**	**-1.7**
	15nm,0.3s						
DJR	**Jarkent**	**3.32**	**18**	Pg	**Pb**	**03 26 57.8**	**+0.7**
	2.1nm,0.2s						
DJR				Lg	Lg	03 27 43.1	
	15nm,0.3s						
AML	**Almayashu**	**3.65**	**287**	⇑*e*P	**Pn**	**03 26 55.5**	**+0.6**
	baz=88						
AML				⇑*i*S	**Sn**	**03 27 40.0**	**+1.8**
	baz=88						
EKS2	**Erkin-Say**	**3.75**	**295**	⇑*i*P	**Pn**	**03 26 57.0**	**+0.9**
	baz=96						
EKS2				⇑*i*S	**Sn**	**03 27 42.4**	**+2.0**
	baz=96						
MRKS	**Merke**	**4.16**	**294**	*e*P	**Pb**	**03 27 11.9**	**+0.5**
	1.7nm,0.2s						
MRKS				*e*S	**Sg**	**03 28 07.0**	**-4.5**
	2.9nm,0.2s						
KAPS	**Kapalarasan**	**4.17**	**9**	*e*P	**Pb**	**03 27 14.2**	**+2.6**
	0.8nm,0.2s						
KAPS				*e*S	**Sg**	**03 28 11.0**	**-1.0**
	4.6nm,0.4s						
MK31	**Makanchi Array**	**6.29**	**25**	⇑Pn	**Pn**	**03 27 29.9**	**-0.9**
	0.1nm,0.3s						
MK31				⇑Sn	**Sn**	**03 28 44.5**	**+1.8**
	0.3nm,0.5s						

*MEX **23** 03:44:01.8±0.9, 14.°81N×93.°29W, h43km±36km, MD3.8*
*GCG **23** 03:44:02.8±0.4, 14.°51N×93.°19W, h86km±61km, MD4.3*
ISC 23 03:43:58.6±2.4, **14.°86N**±0.°09×**93.°39W**±0.°08, **h13**km±12km, **n10**, σ1§81/16, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.86**	**11**	*i* P	**Pg**	**03 44 15.9**	**+0.6**
PCIG				*i* S	**Sg**	**03 44 27.4**	**+1.0**
THIG		**1.09**	**87**	*e*P	Pg	03 44 18.0	-1.6
THIG				*e*S	**Sg**	**03 44 30.5**	**-3.4**
CCIG	**Comitan**	**1.86**	**40**	*e*P	**Pn**	**03 44 31.3**	**+0.9**
CCIG				*e*S	**Sn**	**03 44 52.4**	**-1.4**
TGIG		**1.93**	**8**	*e*P	**Pn**	**03 44 31.6**	**+0.4**
TGIG				*e*S	**Sn**	**03 44 53.9**	**-1.5**
FUG	**Fuego 3**	**2.50**	**99**	*e*P	**Pn**	**03 44 39.4**	**+0.3**
FUG				*e*S	Sn	03 45 05.2	-4.5
CMIG	**Matias Romero**	**2.64**	**327**	*e*P	**Pn**	**03 44 41.4**	**+0.4**
CMIG				*i* S	**Sn**	**03 45 11.3**	**-1.7**
PCG	**Pacaya**	**2.73**	**99**	*e*P	**Pn**	**03 44 42.6**	**+0.1**
PCG				*e*S	**Sn**	**03 45 13.9**	**-1.6**
IXG	**Ixpaco**	**2.94**	**103**	*e*P	**Pn**	**03 44 45.0**	**-0.2**
NBG	**Las Nubes**	**2.96**	**95**	*e*P	**Pn**	**03 44 47.4**	**+1.8**
NBG				*e*S	**Sn**	**03 45 24.4**	**+3.3**
MRL	**Marmol**	**3.59**	**86**	*e*P	**Pn**	**03 44 55.4**	**+1.2**

*NEIC **23** 03:44:57.4, 21.°79S×70.°29W, h75km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-3.74; Mθθ 1.49; Mϕϕ 2.25; Mrθ 0.54; Mrϕ -1.81; Mθϕ -0.90; Fault plane solution: M₀ 3.87000×10¹⁵ NP1:ϕ₁ 138.72000°, δ 37.23000°, λ -93.51000°. NP2:ϕ₂ 323.12000°, δ 52.85000°, λ -87.34000°. Principal axes: T 3.8628, Plg 8.0000°, Azm 51.0000°; N 0.0233, Plg 2.0000°, Azm 142.0000°; P -3.8861, Plg 82.0000°, Azm 247.0000°;*
*NEIC **23** 03:44:58.0±2.0, 21.°80S±0.°04×70.°21W±0.°07, h73km±2km Error ellipse: s-maj=10.0km s-min=6.0km az=86.0*
*SJA **23** 03:44:58.2±0.8, 21.°78S×70.°16W, h66km±3km, ML4.5, MW4.3*
*GUC **23** 03:44:59.2±0.6, 21.°79S×70.°15W, h64km±3km, ML4.5*
*IDC **23** 03:44:59.2±0.6, 21.°68S×70.°04W, h75km±5km, mb3.9/12, mb1 4.0/15, mb1mx3.9/25, mbtmp4.2/15, MS3.2/5, Ms1 3.2/5, ms1mx3.0/21, Error ellipse: s-maj=16.7km s-min=7.3km az=50.0*
*VAO **23** 03:45:00.2±0.6, 21.°48S×69.°88W, h48km±5km, mb4.5*
ISC 23 03:44:57.9±0.5, **21.°79S**±0.°03×**70.°26W**±0.°04, **h73**km±4km, **n160**, σ1§48/185, **mb4.3**/19, **9C-4D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	**IPOC Station P**	**0.35**	**80**	⇓*i*P	**Pn**	**03 45 10.2**	**+0.3**
PB07				*i* S	**Sn**	**03 45 18.3**	**-0.4**
PB07				IAML		03 45 19.2	
	comp=N,30μm,0.4s						
PB07	**IPOC Station P**	**0.35**	**80**		**Pn**	**03 45 09.9**	**0.0**
PB07	**IPOC Station P**	**0.35**	**80**	*e*P	**Pn**	**03 45 10.2**	**+0.3**
PB07				*e*S	**Sn**	**03 45 17.9**	**-0.8**
PB07				IAML		03 45 24.7	
	comp=Z,15μm,0.4s						
PB03	**IPOC Station P**	**0.53**	**119**	⇓*i*P	**Pn**	**03 45 11.5**	**0.0**
PB03				*i* S	**Sn**	**03 45 20.3**	**-1.2**
PB03				*i* S		03 45 20.5	
PB03				IAML		03 45 21.1	
	comp=N,52μm,0.3s						
PB03	**IPOC Station P**	**0.53**	**119**	*e*P	**Pn**	**03 45 11.5**	**0.0**
PB03				*e*S	**Sn**	**03 45 20.8**	**-0.7**
PB03				IAML		03 45 23.0	
	comp=Z,22μm,0.3s						
PB04	**IPOC Station P**	**0.55**	**170**	⇓*i*P	**Pn**	**03 45 12.3**	**+0.6**
PB04				*i* S	**Sn**	**03 45 22.2**	**+0.4**
PB04	**IPOC Station P**	**0.55**	**170**		**Pn**	**03 45 12.2**	**+0.6**
PB04	**IPOC Station P**	**0.55**	**170**	*e*P	**Pn**	**03 45 12.1**	**+0.4**
PB04				*e*S	**Pn**	**03 45 12.1**	**+0.4**
PB04				*e*P		03 45 12.3	
PB04				*e*S	**Sn**	**03 45 22.3**	**+0.5**
PB02	**IPOC Station P**	**0.57**	**36**	⇓*i*P	**Pn**	**03 45 12.2**	**+0.4**
PB02				*i* S	**Sn**	**03 45 21.9**	**-0.2**
PB02				IAML		03 45 22.4	
	comp=N,48μm,0.5s						
PB02	**IPOC Station P**	**0.57**	**36**	*e*P	**Pn**	**03 45 12.3**	**+0.4**
PB02				*e*S	**Sn**	**03 45 21.3**	**-0.7**
PB02				IAML		03 45 22.3	
	comp=Z,44μm,0.5s						
PB09	**IPOC Station P**	**0.94**	**91**	⇑*i*P	**Pn**	**03 45 16.3**	**+0.3**
PB09				*i* S	**Sn**	**03 45 28.9**	**-0.6**
PB09				IAML		03 45 30.3	
	comp=E,18μm,0.5s						
PB09	**IPOC Station P**	**0.94**	**91**		**Pn**	**03 45 16.1**	**+0.1**
PB09	**IPOC Station P**	**0.94**	**91**	*e*P	**Pn**	**

PB15					IAML			03 45 51.6	
	comp=Z,14µm,0.3s								
PB10	**IPOC Station P**	**1.74**	**189**	⇑*i*	P	**Pn**		**03 45 26.0**	**-0.1**
PB10					IAML			03 45 48.3	
	comp=N,6µm,0.6s								
PB10	**IPOC Station P**	**1.74**	**189**			**Pn**		**03 45 26.0**	**-0.1**
PB10	**IPOC Station P**	**1.74**	**189**	*eP*		**Pn**		**03 45 26.0**	**-0.1**
PB10				*eS*		**Sn**		**03 45 47.3**	**-0.3**
PB10					IAML			03 45 47.9	
	comp=Z,2µm,0.2s								
PB08	**IPOC Station P**	**1.94**	**32**	*i*	P	**Pn**		**03 45 29.9**	**+0.8**
PB08				*i*	S	**Sn**		**03 45 53.0**	**+0.2**
PB08					IAML			03 45 55.6	
	comp=N,3µm,0.7s								
PB08	**IPOC Station P**	**1.94**	**32**			**Pn**		**03 45 29.8**	**+0.7**
PB08	**IPOC Station P**	**1.94**	**32**	*eP*		**Pn**		**03 45 30.0**	**+0.8**
PB08				*eS*		**Sn**		**03 45 53.7**	**+0.9**
PB11	**IPOC Station P**	**2.09**	**16**	*eP*		**Pn**		**03 45 31.1**	**+0.1**
PB11	**IPOC Station P**	**2.09**	**16**	Pn		**Pn**		**03 45 30.6**	**-0.5**
PSGC	**Pisagua**	**2.18**	**3**	*eP*		**Pn**		**03 45 32.2**	**0.0**
PSGCX	**Pisagua**	**2.18**	**3**	Pn		**Pn**		**03 45 31.5**	**-0.7**
PSGCX	**Pisagua**	**2.18**	**3**	*eP*		**Pn**		**03 45 32.3**	**0.0**
GO01	**Chusmiza**	**2.33**	**25**	*eP*		**Pn**		**03 45 35.0**	**+0.5**
GO01	**Chusmiza**	**2.33**	**25**	Pn		**Pn**		**03 45 34.3**	**-0.3**
PB14	**IPOC Station P**	**2.83**	**183**	*i*	P	**Pn**		**03 45 40.1**	**-1.0**
PB14	**IPOC Station P**	**2.83**	**183**		Pn	**Pn**		**03 45 40.1**	**-1.0**
PB14	**IPOC Station P**	**2.83**	**183**	*eP*		**Pn**		**03 45 40.7**	**-0.5**
PB14				*eS*		Sn		03 45 59.7	-15
PB14					IAML			03 46 13.4	
	comp=Z,1µm,0.3s								
GO02	**Mina Guanaco**	**3.41**	**170**	*i*	P	**Pn**		**03 45 48.8**	**-0.3**
GO02	**Mina Guanaco**	**3.41**	**170**			**Pn**		**03 45 49.0**	**-0.1**
PB16	**IPOC Station P**	**3.51**	**12**	*eP*		**Pn**		**03 45 53.9**	**+3.3**
AC01	**Pan de Azucar**	**4.35**	**184**	*i*	P	**Pn**		**03 45 59.5**	**-2.1**
AC01	**Pan de Azucar**	**4.35**	**184**			**Pn**		**03 45 59.8**	**-1.9**
YJA	**Yavi**	**4.42**	**96**	*eP*		**Pn**		**03 46 05.4**	**+2.5**
HJA	**Humahuaca**	**4.70**	**108**	*eP*		**Pn**		**03 46 09.7**	**+3.0**
AC02	**Maricunga**	**5.13**	**169**			**Pn**		**03 46 12.5**	**-0.1**
SLA	**San Lorenzo**	**5.25**	**125**	*eP*		**Pn**		**03 46 17.6**	**+3.5**
AZAP	**Zapla**	**5.36**	**118**	*eP*		**Pn**		**03 46 17.0**	**+1.4**
ASTB	**Santa Barbara**	**5.77**	**113**	*eP*		**Pn**		**03 46 22.0**	**+0.9**
GO03	**Copiap**	**5.78**	**180**			**Pn**		**03 46 18.7**	**-2.5**
LPAZ	**La Paz**	**5.83**	**21**	P		**Pn**		**03 46 25.1**	**+2.8**
	comp=Z,2.9nm,0.3s,baz=190,slow=8.1,SNR=19								
LPAZ					LR	LR		03 48 34.8	
	comp=Z,81nm,18.7s,baz=224,slow=38								
LPAZ	**La Paz**	**5.83**	**21**	Pn		**Pn**		**03 46 23.9**	**+1.5**
AHML	**Horco Molle**	**6.70**	**139**	*eP*		**Pn**		**03 46 34.9**	**+1.2**
AC05	**El Transito**	**7.02**	**180**	Pn		**Pn**		**03 46 35.9**	**-2.2**
VCA	**Vinchina**	**7.16**	**165**	*eP*		**Pn**		**03 46 40.4**	**+0.3**
VCA					IAML			03 48 48.0	
	comp=Z,45nm,2.7s								
CO01	**Juntas del Tor**	**8.16**	**179**			**Pn**		**03 46 51.2**	**-2.6**
GO04	**Tololo Observa**	**8.36**	**183**	Pn		**Pn**		**03 46 53.4**	**-3.2**
CO02	**Combarbal**	**9.40**	**184**	Pn		**Pn**		**03 47 06.8**	**-3.9**
SIV	**San Ignacio**	**10.43**	**58**	P		**Pn**		**03 47 21.8**	**-2.9**
	comp=Z,2.2nm,0.3s,baz=251,slow=14,SNR=72								
VA03	**San Esteban**	**10.94**	**181**	Pn		**Pn**		**03 47 27.6**	**-4.0**
ROC1	**El Roble**	**11.16**	**183**	Pn		**Pn**		**03 47 30.4**	**-4.5**
MT02	**Curacav**	**11.45**	**184**	Pn		Pn		03 47 33.5	-5.0
NNA	**Nana**	**11.60**	**326**	LR		LR		03 51 50.9	
	comp=Z,57nm,20.0s,baz=160,slow=35								
PTLB	**Pontes e Lacer**	**12.28**	**61**	*eP*		Pn		03 47 45.8	-4.1
ETMB	**Extrema**	**12.52**	**19**	*eP*		**Pn**		**03 47 50.6**	**-2.7**
CPUP	**Villa Florida**	**12.64**	**113**	P		**Pn**		**03 47 55.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=289,slow=13,SNR=1.2								
CPUP	**Villa Florida**	**12.64**	**113**	*eP*		**Pn**		**03 47 56.5**	**+1.6**
BO02	**Sierra Bellavi**	**12.96**	**182**	Pn		**Pn**		**03 47 55.3**	**-3.9**
VILB	**Vilhena**	**13.01**	**49**	*eP*		**Pn**		**03 47 56.8**	**-3.0**
VA04	**Juan Fernndez**	**14.03**	**211**	Pn		**Pn**		**03 48 12.5**	**-0.7**
CZSB	**Cruzeiro do Su**	**14.18**	**350**	*eP*		**Pn**		**03 48 13.9**	**-1.3**
SAML	**Samuel**	**14.47**	**29**	Pn		**Pn**		**03 48 15.2**	**-3.8**
SAML	**Samuel**	**14.47**	**29**	*eP*		**Pn**		**03 48 15.1**	**-4.0**
BI02	**San Fabin de**	**14.85**	**183**	Pn		**Pn**		**03 48 23.1**	**-0.9**
SALV	**Santo Antonio**	**14.97**	**69**	*eP*		**Pn**		**03 48 24.4**	**-1.2**
TRCB	**Terra Rica**	**16.34**	**97**	*eP*		**Pn**		**03 48 42.8**	**-0.2**
PTGB	**Pitanga**	**16.97**	**103**	*eP*		**Pn**		**03 48 49.9**	**-0.9**
ITAB	**Concordia**	**17.36**	**112**	*eP*		**P**		**03 48 56.4**	**+0.6**
CLDB	**Colider**	**17.60**	**54**	*eP*		**Pn**		**03 48 56.2**	**-2.3**
PCMB	**Pacaembu**	**17.65**	**93**	*eP*		**P**		**03 48 59.4**	**+0.3**
ARAG	**Araguaiana, MT**	**18.48**	**74**	*eP*		**P**		**03 49 08.3**	**+0.1**
ITRB	**Iturama**	**18.72**	**87**	*eP*		**P**		**03 49 11.5**	**+0.6**
PLCA	**Paso Flores**	**18.89**	**181**	P		**Pn**		**03 49 15.6**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=0.9,slow=11,SNR=7.2								
PLCA					LR	LR		03 55 35.9	
	comp=Z,70nm,19.7s,baz=326,slow=34								
PLCA	**Paso Flores**	**18.89**	**181**	*eP*		**Pn**		**03 49 20.3**	**+6.4**
CNLB	**Canela**	**19.03**	**117**	*eP*		**Pn**		**03 49 16.6**	**+1.0**
FRTB	**Fartura**	**19.17**	**99**	*eP*		**P**		**03 49 15.1**	**-0.7**
BB19B	**Bebedouro**	**20.24**	**92**	*eP*		**P**		**03 49 27.6**	**+0.2**
NPGB	**Novo Progresso**	**20.54**	**47**	*eP*		**P**		**03 49 30.0**	**-0.6**
LL01	**San Ignacio de**	**20.61**	**185**	P		**P**		**03 49 29.7**	**-1.4**
MACA	**Manacapuru-AM**	**20.72**	**28**	*eP*		**P**		**03 49 32.4**	**-0.1**
IPMB	**Ipameri, GO**	**21.07**	**84**	*eP*		**P**		**03 49 36.4**	**0.0**
SPB	**Sao Paulo**	**21.13**	**99**	P		**P**		**03 49 36.1**	**-0.9**
SPB					IAmb	IAmb		03 49 40.3	
	comp=Z,15nm,1.0s								
SPB	**Sao Paulo**	**21.13**	**99**	*eP*		**P**		**03 49 38.0**	**+1.0**
PET01	**Itanhaem-SP**	**21.29**	**101**	*eP*		**P**		**03 49 38.3**	**-0.3**
VAO	**Valinhos**	**21.57**	**98**	*eP*		**P**		**03 49 41.6**	**0.0**
BDFB	**Brasilia**	**21.92**	**78**	P		**P**		**03 49 44.9**	**-0.8**
	comp=Z,5.9nm,0.5s,baz=253,slow=9.7,SNR=12								
BDFB					LR	LR		03 59 03.7	
	comp=Z,73nm,18.0s,baz=194,slow=39								
BDFB	**Brasilia**	**21.92**	**78**	P		**P**		**03 49 44.8**	**-0.8**
BDFB					IAmb	IAmb		03 49 49.9	
	comp=Z,7.7nm,0.7s								
PEXB	**Peixe**	**23.08**	**69**	*eP*		**P**		**03 49 56.9**	**-0.7**
PTGA	**Pitinga**	**23.21**	**27**	P		**P**		**03 49 58.3**	**-0.6**
	comp=Z,4.5nm,0.3s,baz=207,slow=14,SNR=19								
PTGA	**Pitinga**	**23.21**	**27**	P		**P**		**03 49 58.8**	**-0.1**
PTGA					IAmb	IAmb		03 50 07.4	
	comp=Z,11nm,0.8s								
OTAV	**Otavalo**	**23.31**	**339**	P		**P**		**03 49 57.7**	**-2.6**
OTAV	**Otavalo**	**23.31**	**339**	*eP*		**P**		**03 50 03.3**	**+3.1**
BSCB	**Bom Sucesso**	**23.73**	**93**	*eP*		**P**		**03 50 02.2**	**-1.6**
PRPB	**Parauapebas**	**25.13**	**55**	*eP*		**P**		**03 50 16.6**	**+0.2**
MALB	**Monte Alegre**	**25.20**	**40**	*eP*		**P**		**03 50 16.9**	**0.0**
SMTB	**Santa Maria do**	**25.31**	**63**	*eP*		**P**		**03 50 18.2**	**+0.2**
MC01	**Montes Claros**	**25.34**	**83**	*eP*		**P**		**03 50 19.4**	**-1.9**
SDBA	**SAO DESIDERIO**	**25.93**	**73**	*eP*		**P**		**03 50 22.5**	**-1.2**
MCPB	**Macapa, AP**	**27.72**	**42**	*eP*		**P**		**03 50 40.4**	**+0.8**
NAN01	**Guarapari, ES**	**28.59**	**87**	*eP*		**P**		**03 50 49.5**	**+2.1**
TMAB	**Tom-Au,PA,Br**	**28.93**	**51**	*eP*		**P**		**03 50 51.6**	**+1.2**
GDU01	**Guandu, BA**	**30.26**	**80**	*eP*		**P**		**03 51 04.9**	**+2.7**
WLAR	**White Oak Lake**	**59.31**	**338**	P		**P**		**03 54 52.0**	**-0.3**
WVT	**Waverly**	**59.96**	**344**	P		**P**		**03 54 55.7**	**-0.9**
WVT					IAmb	IAmb		03 54 57.0	
	comp=Z,3.3nm,0.8s								
TXAR	**Lajitas Array**	**60.16**	**326**	P		**P**		**03 55 00.0**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=143,slow=8.8,SNR=7.1								
VNA3	**Neumayer Olymp**	**60.21**	**161**	P		**P**		**03 54 59.1**	**+1.1**
MIAR	**Mount Ida**	**60.25**	**338**	P		**P**		**03 54 58.0**	**-0.7**
T47A	**Sharon Grove**	**60.58**	**345**	P		**P**		**03 55 00.3**	**-0.6**
LCAR	**Lake Charles**	**60.85**	**341**	P		**P**		**03 55 00.8**	**-1.9**
LCAR					IAmb	IAmb		03 55 03.6	
	comp=Z,3.2nm,0.8s								
U40A	**Yellville**	**61.65**	**339**	P		**P**		**03 55 06.5**	**-1.6**
FVM	**French Village**	**62.41**	**342**	P		**P**		**03 55 13.1**	**-0.1**
CCM	**Cathedral Cave**	**62.71**	**341**	P		**P**		**03 55 14.3**	**-0.9**
CCM					IAmb	IAmb		03 55 16.3	
	comp=Z,4.1nm,1.0s								
MNTX	**Cornudas Mount**	**62.94**	**327**			**P**		**03 55 16.4**	**-0.5**
MNTX					IAmb	IAmb		03 55 18.4	
	comp=Z,2.4nm,0.8s								
N49A	**Columbus Grove**	**63.72**	**348**	P		**P**		**03 55 20.4**	**-1.3**
QSPA	**South Pole Qui**	**68.40**	**180**	P		**P**		**03 55 53.4**	**+1.6**
	comp=Z,4.7nm,0.6s,baz=153,slow=1.0,SNR=49								
QSPA	**South Pole Qui**	**68.40**	**180**		IAmb	IAmb		03 55 54.2	
	comp=Z,6.2nm,0.7s								
DBIC	**Dimbokro**	**70.02**	**74**	P		**P**		**03 56 01.9**	**-0.5**
	comp=Z,4.1nm,0.9s,baz=218,slow=6.3,SNR=3.9								
DBIC					pP	**pP**		**03 56 21.8**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=218,slow=14,SNR=2.2								
SRU	**San Rafael Swe**	**71.34**	**328**	P		**P**		**03 56 10.4**	**+0.3**
PDAR	**Pinedale Array**	**73.74**	**331**	P		**P**		**03 56 25.5**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=141,slow=9.6,SNR=4.8								
PDAR					pP	**pP**		**03 56 45.2**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=150,slow=6.5,SNR=3.7								
NVAR	**Mina Array Bea**	**74.96**	**323**	P		**P**		**03 56 33.5**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=140,slow=7.0,SNR=4.4								
NVAR					pP	**pwP**		**03 56 52.6**	**+2.0**
	comp=Z,0.9nm,0.7s,baz=147,slow=8.5,SNR=3.4								
VNDA	**Vanda**	**76.35**	**190**	P		**P**		**03 56 40.4**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=102,slow=2.4,SNR=3.6								
SYO	**Syowa Base**	**76.67**	**160**	⇑*eP*		**P**		**03 56 40.3**	**-0.3**
SYO	**Syowa Base**	**76.67**	**160**	⇑*eP*		**P**		**03 56 42.3**	**+1.7**
TOA0	**Torodi Ar. Sit**	**78.63**	**71**	P		**P**		**03 56 51.2**	**-1.3**
TORD	**Torodi Ar. Bea**	**78.63**	**71**	P		**P**		**03 56 51.7**	**-0.8**
	comp=Z,2.9nm,0.5s,baz=254,slow=5.1,SNR=74								
TSUM	**Tsumeb**	**81.16**	**107**	P		**P**		**03 57 04.8**	**-1.5**
RAR	**Rarotonga**	**81.95**	**250**	LR		LR		04 24 23.0	
	comp=Z,59nm,20.6s,baz=320,slow=29								
MAW	**Mawson**	**84.41**	**164**	P		**P**		**03 57 23.1**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=232,slow=4.7,SNR=16								
MAW	**Mawson**	**84.41**	**164**	P		**P**		**03 57 22.3**	**+0.2**
BOSA	**Boshof**	**84.41**	**118**	P		**P**		**03 57 23.2**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=27,slow=5.5,SNR=3.9								
TAM	**Tamanrasset**	**86.07**	**64**	P		**P**		**03 57 30.4**	**-0.9**
TAM					IAmb	IAmb		03 57 53.3	
	comp=Z,3.2nm,1.0s								
ESDC	**Sonseca Array**	**86.92**	**45**	pP		pP		03 57 56.1	+1.3
	comp=Z,1.7nm,1.0s,baz=252,slow=5.5,SNR=8.1								
YKA	**Yellowknife Ar**	**91.05**	**341**	P		**P**		**03 57 54.3**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=132,slow=6.0,SNR=4.4								
ASAR	**Alice Springs**	**129.07**	**209**	PKP		**PKiKP**		**04 03 59.2**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=136,slow=2.4,SNR=13								
WRA	**Warramunga Arr**	**132.06**	**212**	PKP		**PKPdf**		**04 04 04.8**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=153,slow=1.7,SNR=17								
WRA					pPKP	**pPKPdf**		**04 04 25.1**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=155,slow=1.8,SNR=2.2								
MKAR	**Makanchi Array**	**146.59**	**35**	PKPbc		**PKPdf**		**04 04 30.3**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=318,slow=0.6,SNR=5.7								
MKAR					pPKPbc	pPKPab		04 04 52.0	-0.8
	comp=Z,1.8nm,0.8s,baz=346,slow=1.9,SNR=4.5								
TLY	**Talaya**	**149.79**	**8**	PKPab		**PKPab**		**04 04 46.6**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=270,slow=3.0,SNR=3.6								
USRK	**Ussuriysk Ar.**	**151.06**	**326**	PKPbc		**PKPbc**		**04 04 43.1**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=42,slow=3.0,SNR=4.5								
SONM	**Songino Array**	**153.87**	**5**	PKPab		**PKPab**		**04 05 02.7**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=270,slow=3.0,SNR=3.7								
LZH	**Lanzhou**	**164.85**	**19**	*e*PKP		**PKPdf**		**04 04 50.8**	**-3.3**
LZH					pPKP	pPKPdf		04 05 16.1	+1.2
LZH					sPKP			04 05 27.5	

*NEIC **23** 03:48:58.1±3.1, 14°.32N±0°.10×91°.93W±0°.06, h97km±9km, Error ellipse: s-maj=15.0km s-min=7.0km az=199.0*
*MEX **23** 03:49:00.1±1.1, 14°.52N×91°.82W, h92km±27km, MD4.0*
*GCG **23** 03:49:00.3±0.3, 15°.16N×91°.65W, h77km±27km, MD3.8*

ISC 23 03:49:00.8±1.4, 14°.53N±0°.08×91°.90W±0°.05, h83km±8km, n18, σ1s08/33, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.20**	**90**			**Pn**	**Pn**	**03 49 11.9**	**-1.0**
RTAL						Sn	**Sn**	**03 49 23.1**	**+1.2**
THIG		**0.52**	**317**	*eP*		**Pn**	**Pn**	**03 49 14.7**	**-0.2**
THIG				*eS*		**Sn**	**Sn**	**03 49 25.6**	**+0.2**
THIG		**0.52**	**317**			**Pn**	**Pn**	**03 49 14.7**	**-0.2**
THIG						**Sn**	**Sn**	**03 49 25.6**	**+0.2**
HUEH	**Huehuetenango**	**0.88**	**26**	Pn		**Pn**	**Pn**	**03 49 18.6**	**-0.3**
HUEH				Sn		**Sn**	**Sn**	**03 49 32.8**	**+0.5**
FUG	**Fuego 3**	**1.03**	**94**	*eP*		**Pn**	**Pn**	**03 49 20.4**	**-0.1**
FUG				*eS*		**Sn**	**Sn**	**03 49 36.1**	**+0.8**
PCG	**Pacaya**	**1.26**	**96**	*eP*		**Pn**	**Pn**	**03 49 24.9**	**+1.4**
PCG				*eS*		**Sn**	**Sn**	**03 49 41.4**	**+0.9**
IXG	**Ixpaco**	**1.46**	**104**	*eP*		**Pn**	**Pn**	**03 49 26.6**	**+0.7**
IXG				*eS*		**Sn**	**Sn**	**03 49 45.3**	**+0.5**
PCIG		**1.73**	**313**	*eP*		**Pn**	**Pn**	**03 49 29.6**	**+0.4**
PCIG				*eS*		**Sn**	**Sn**	**03 49 50.4**	**-0.3**
PCIG		**1.73**	**313**			**Pn**	**Pn**	**03 49 29.7**	**+0.6**
PCIG						**Sn**	**Sn**	**03 49 52.2**	**+1.5**
CCIG	**Comitan**	**1.76**	**353**	*eP*		**Pn**	**Pn**	**03 49 29.6**	**-0.2**
CCIG				*i*	S	**Sn**	**Sn**	**03 49 50.7**	**-1.1**
CCIG	**Comitan**	**1.76**	**353**			**Pn**	**Pn**	**03 49 31.4**	**+1.6**
CCIG					Sn	**Sn**	**Sn**	**03 49 51.9**	**+0.2**
MTO3	**Montecristo**	**2.47**	**93**	Pn		**Pn**	**Pn**	**03 49 38.2**	**-1.0**
TGIG		**2.53**	**333**	*eP*		**Pn**	**Pn**	**03 49 39.3**	**-0.6**
TGIG				*eS*		**Sn**	**Sn**	**03 50 09.3**	**-0.6**
TGIG		**2.53**	**333**			**Pn**	**Pn**	**03 49 41.4**	**+1.5**
TGIG						**Sn**	**Sn**	**03 50 13.4**	**+3.6**
CMIG	**Matias Romero**	**3.84**	**312**	*eP*		**Pn**	**Pn**	**03 49 58.0**	**+0.4**
CMIG				*i*	S	**Sn**	**Sn**	**03 50 41.5**	**-0.1**
CMIG	**Matias Romero**	**3.84**	**312**			**Pn**	**Pn**	**03 49 58.0**	**+0.4**
CMIG						**Sn**	**Sn**	**03 50 40.4**	**-1.2**
TEIG	**Tepich**	**6.64**	**31**	Pn		**Pn**	**Pn**	**03 50 35.8**	**0.0**
656A	**Williston**	**17.12**	**29**	P		**P**	**P**	**03 52 53.9**	**-1.4**
656A						IAmb	IAmb	03 53 06.0	
	comp=Z,9.1nm,0.9s								

*IDC **23** 03:58:48.8±0.9, 32°.51N×104°.91E, h0km, mb3.9/9, mb1 3.9/12, mb1mx3.7/46, mbtmp3.8/12, ML3.9/3, MS3.0/6, Ms1 3.0/6, ms1mx2.7/49, Error ellipse: s-maj=27.7km s-min=16.9km az=52.0*

ISC 23 03:58:50.9±0.9, 32°.6N±0°.1×105°.0E±0°.2, h15km, n14, σ0s91/12, mb3.9/9, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.04**	**203**	Pn		**Pn**	**Pn**	**04 02 22.4**	**-0.6**
CMAR	0.3nm,0.3s,baz=4.2,slow=14,SNR=1.1					LR	LR	04 08 58.1	
	comp=Z,37nm,18.1s,baz=210,slow=41								
SONM	**Songino Array**	**15.31**	**4**	Pn		**Pn**	**Pn**	**04 02 25.1**	**-1.5**
SONM	0.2nm,0.3s,baz=191,slow=15,SNR=3.2					LR	LR	04 08 44.6	
	comp=Z,92nm,18.4s,baz=89,slow=39								
TLY	**Talaya**	**19.14**	**358**	LR		LR	LR	04 11 11.6	
	comp=Z,64nm,19.0s,baz=170,slow=39								
KSRS	**Korea Array**	**19.43**	**69**	P		**P**	**P**	**04 03 15.9**	**-0.8**
KSRS	0.3nm,0.3s,baz=246,slow=9.4,SNR=5.1					LR	LR	04 11 39.8	
	comp=Z,18nm,18.7s,baz=214,slow=40								
MKAR	**Makanchi Array**	**22.40**	**316**	P		**P**	**P**	**04 03 49.1**	**+0.3**
	2.3nm,0.9s,baz=112,slow=12,SNR=13								
ZALV	**Zalesovo Beam**	**25.76**	**332**	P		**P**	**P**	**04 04 20.8**	**-0.1**
	1.8nm,0.7s,baz=134,slow=8.6,SNR=5.3								
AAK	**Ala-Archa**	**26.03**	**302**	P		**P**	**P**	**04 04 23.7**	**+0.1**
	1.4nm,0.3s,baz=89,slow=14,SNR=3.6								
KLR	**Kul'dur**	**26.03**	**42**	P		**P**	**P**	**04 04 25.2**	**+1.8**
	3.9nm,1.0s,baz=246,slow=11,SNR=7.3								
KLR						LR	LR	04 14 18.7	
	comp=Z,24nm,19.0s,baz=213,slow=36								
KURBB	**Kurchatov Arra**	**26.55**	**321**	P		**P**	**P**	**04 04 28.3**	**+0.3**
	1.7nm,0.8s,baz=126,slow=10,SNR=10.0								
ARCES	**ARCESS Array B**	**56.24**	**335**	P		**P**	**P**	**04 08 30.0**	**-0.2**
	0.7nm,0.6s,baz=85,slow=10.0,SNR=4.9								
FINES	**FINESS Array B**	**56.78**	**326**	P		**P**	**P**	**04 08 34.9**	**+0.8**
	2.9nm,0.9s,baz=110,slow=10,SNR=5.0								
WRA	**Warramunga Arr**	**59.29**	**148**	P		**P**	**P**	**04 08 51.8**	**-0.3**
	0.9nm,0.8s,baz=339,slow=7.8,SNR=6.1								
ASAR	**Alice Springs**	**62.36**	**150**	P		**P**	**P**	**04 09 13.6**	**+0.5**
	0.5nm,0.6s,baz=327,slow=6.6,SNR=5.6								
NOA	**NORSAR Array B**	**63.83**	**327**	LR		LR	LR	04 40 35.9	
	comp=Z,9.9nm,18.7s,baz=250,slow=39								

INET 23 04:04:01.1, 12°.92N×87°.36W, h6km, ML3.7, Near coast of Nicaragua

*DJA **23** 04:28:20.2±0.6, 3°.N±5°×12°.8E±°, h78km±13km, M4.4/10, mB5.0/4, mb4.5/5, MLv4.4/10, Mw(mB)4.3/4*
*IDC **23** 04:28:22.2±3.0, 3°.22N×128°.31E, h113km±32km, mb3.4/7, mb1 3.6/8, mb1mx3.3/33, mbtmp3.8/8, MS3.4/2, Ms1 3.4/2, ms1mx2.5/33, Error ellipse: s-maj=45.9km s-min=16.3km az=70.0*

ISC 23 04:28:19.5±0.8, 3°.30N±0°.05×128°.18E±0°.09, h84km, n23, σ1s71/22, mb3.9/7, 1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.63**	**198**	P		**Pn**	**Pn**	**04 29 00.1**	**+0.1**
TNTI				S		**Sn**	**Sn**	**04 29 34.0**	**+2.9**
DDMP	**Don Marcelino,**	**3.72**	**319**	*eP*		**Pn**	**Pn**	**04 29 12.9**	**-1.7**
MATI	**Mati**	**4.10**	**332**	*eP*		**Pn**	**Pn**	**04 29 23.6**	**+3.8**
KCP	**Kidapawan**	**4.80**	**320**	⇓*i*	P	**Pn**	**Pn**	**04 29 30.3**	**+0.9**
KCP				*i*	S	**Sn**	**Sn**	**04 30 25.5**	**+1.6**
SKMP	**Bagumbayan, Su**	**4.83**	**312**	*eP*		**Pn**	**Pn**	**04 29 28.5**	**-1.3**
KMSI	**Cibinong**	**4.99**	**237**	P		**Pn**	**Pn**	**04 29 30.7**	**-1.2**
SIJI	**Sorong**	**5.16**	**143**	P		**Pn**	**Pn**	**04 29 36.0**	**+1.7**
	15nm,0.3s,baz=216,slow=22,SNR=29								
SIJI						S	**Sn**	**04 30 32.4**	**-0.3**
	8.7nm,0.3s,baz=41,slow=20,SNR=16								
SANI	**Sanana**	**5.74**	**202**	P		**Pn**	**Pn**	**04 29 40.7**	**-1.5**
	0.2nm2µ18nm,0.6s								
GTOI	**Gorontalo**	**5.80**	**243**	P		**Pn**	**Pn**	**04 29 42.1**	**-0.9**
	0.2nm764nm57nm,0.6s								
PAGZ	**Pagadian**	**6.57**	**314**	*eP*		**Pn**	**Pn**	**04 29 51.0**	**-2.5**
MPSI	**Mapaga**	**8.78**	**251**	P		**Pn**	**Pn**	**04 30 23.1**	**-0.6**
TGY	**Tagaytay City**	**12.90**	**327**	LR		LR	LR	04 36 51.5	
	comp=Z,56nm,21.1s,baz=302,slow=39								
FITZ	**Fitzroy Crossi**	**21.41**	**187**	P		**P**	**P**	**04 33 00.3**	**-0.3**
	0.6nm,0.4s,baz=88,slow=16,SNR=1.6								
WRA	**Warramunga Arr**	**23.87**	**166**	P		**P**	**P**	**04 33 24.6**	**-0.9**
	0.5nm,0.3s,baz=345,slow=11,SNR=20								
ASAR	**Alice Springs**	**27.37**	**169**	P		**P**	**P**	**04 33 57.0**	**-0.1**
	0.3nm,0.3s,baz=351,slow=7.8,SNR=4.5								
ASAR					PcP	**PcP**	**PcP**	**04 37 11.9**	**-2.5**
	0.2nm,0.5s,baz=4.4,slow=2.8,SNR=2.1								
CMAR	**Chiang Mai Arr**	**32.34**	**300**	P		**P**	**P**	**04 34 42.3**	**+1.3**
	0.8nm,0.3s,baz=102,slow=8.6,SNR=1.6								
KSRS	**Korea Array**	**34.00**	**360**	P		**P**	**P**	**04 34 56.1**	**+1.0**
	0.9nm

PB02 IAML 04 46 20.0
comp=Z,123µm,1.1s
PB09 IPOC Station P 1.69 190⇓ *i*P **Pn 04 46 02.7 +0.9**
PB09 *e*S **Sn 04 46 22.7 -1.1**
PB09 IPOC Station P 1.69 190 **Pn 04 46 00.9 -0.9**
PB09 IPOC Station P 1.69 190 *e*P **Pn 04 46 02.9 +1.0**
PB09 *e*S **Sn 04 46 24.1 +0.4**
PB09 IAML 04 46 27.4
comp=Z,48µm,0.7s
PB07 IPOC Station P 1.83 209⇓ *i*P **Pn 04 46 03.2 -0.4**
PB07 *i* S **Sn 04 46 26.3 -0.5**
PB07 IAML 04 46 34.9
comp=E,100µm,0.8s
PB07 IPOC Station P 1.83 209 **Pn 04 46 03.1 -0.4**
PB07 IPOC Station P 1.83 209 *e*P **Pn 04 46 03.4 -0.1**
PB07 *e*S **Sn 04 46 26.3 -0.5**
PB07 IAML 04 46 29.8
comp=Z,120µm,1.2s
PB16 IPOC Station P 1.86 343⇓ *i*P **Pn 04 46 06.8 +2.4**
PB16 *i* S **Sn 04 46 31.7 +3.6**
PB16 IAML 04 46 34.6
comp=N,67µm,0.4s
PB16 IPOC Station P 1.86 343 **Pn 04 46 04.1 -0.3**
PB16 IPOC Station P 1.86 343 *e*P **Pn 04 46 07.0 +2.7**
PB16 *e*S **Sn 04 46 30.9 +2.8**
PB16 IAML 04 46 41.9
comp=Z,37µm,0.5s
PB12 IPOC Station P 2.00 319⇑ *i*P **Pn 04 46 05.9 +0.3**
PB12 *i* S **Sn 04 46 30.5 0.0**
PB12 IPOC Station P 2.00 319 Pn **Pn 04 46 05.0 -0.6**
PB12 IPOC Station P 2.00 319 *e*P **Pn 04 46 06.5 +0.9**
PB12 *e*S **Sn 04 46 30.3 -0.3**
PB12 IAML 04 46 35.6
comp=Z,121µm,0.6s
PB03 IPOC Station P 2.06 202 *e*P **Pn 04 46 06.2 -0.3**
PB03 *i* S **Sn 04 46 30.2 -1.9**
PB03 IPOC Station P 2.06 202 *e*P **Pn 04 46 06.3 -0.2**
PB03 *e*S **Sn 04 46 31.8 -0.4**
PB03 IAML 04 46 38.8
comp=Z,35µm,0.9s
AP01 Chacalluta 2.19 322⇓ *i*P **Pn 04 46 08.7 +0.6**
AP01 *i* S **Sn 04 46 36.3 +1.4**
AP01 Chacalluta 2.19 322 **Pn 04 46 07.5 -0.5**
LVC Limon Verde 2.48 179 P **Pn 04 46 13.6 +1.5**
comp=Z,805nm,0.3s,baz=357,slow=8.8,SNR=419
LVC S **Sn 04 46 45.2 +3.1**
comp=Z,1µm,0.3s,baz=265,slow=23,SNR=12
LVC Limon Verde 2.48 179 *e*P **Pn 04 46 13.3 +1.1**
LVC *e*S **Sn 04 46 42.4 +0.3**
LVC Limon Verde 2.48 179 **Pn 04 46 13.3 +1.1**
LVC **Sn 04 46 40.2 -1.9**
LVC Limon Verde 2.48 179 *e*P **Pn 04 46 13.5 +1.4**
LVC *e*S **Sn 04 46 44.2 +2.1**
LVC Limon Verde 2.48 179 *e*P **Pn 04 46 13.2 +1.1**
LVC *e*S **Sn 04 46 42.4 +0.3**
LVC IAML 04 46 49.8
comp=Z,11µm,1.9s
PB04 IPOC Station P 2.48 207⇑ *i*P **Pn 04 46 11.8 -0.1**
PB04 IPOC Station P 2.48 207 **Pn 04 46 10.2 -1.7**
PB04 IPOC Station P 2.48 207 *e*P **Pn 04 46 11.4 -0.5**
PB04 *e*S **Sn 04 46 37.2 -4.6**
PB04 *e*S 04 46 40.5
PB04 IAML 04 46 54.4
comp=Z,49µm,0.7s
PB06 IPOC Station P 2.64 193⇓ *i*P **Pn 04 46 13.7 -0.4**
PB06 IPOC Station P 2.64 193 **Pn 04 46 12.9 -1.2**
PB06 IPOC Station P 2.64 193 *e*P **Pn 04 46 14.0 -0.1**
PB06 *e*S **Sn 04 46 44.8 -0.8**
PB06 IAML 04 46 55.9
comp=Z,31µm,0.9s
PB05 IPOC Station P 2.96 203⇓ *i*P **Pn 04 46 16.8 -1.6**
PB05 *e*S Sn 04 46 42.2 -11
PB05 IAML 04 47 02.1
comp=E,23µm,0.6s
PB05 IPOC Station P 2.96 203 *e*P **Pn 04 46 17.6 -0.8**
PB05 *e*S **Sn 04 46 54.2 +0.9**
PB05 IAML 04 47 03.2
comp=Z,30µm,1.0s
PB15 IPOC Station P 3.11 189⇓ *i*P **Pn 04 46 19.9 -0.5**
PB15 IPOC Station P 3.11 189 **Pn 04 46 19.9 -0.5**
PB15 IPOC Station P 3.11 189 *e*P **Pn 04 46 20.4 -0.1**
PB15 IAML 04 47 27.9
comp=Z,26µm,0.4s
PB10 IPOC Station P 3.69 204⇓ *i*P **Pn 04 46 25.5 -2.5**
PB10 *e*S **Sn 04 47 06.3 -4.3**
PB10 IPOC Station P 3.69 204 Pn **Pn 04 46 25.9 -2.1**
PB10 IPOC Station P 3.69 204 *e*P **Pn 04 46 26.2 -1.9**
PB10 *e*S **Sn 04 47 09.2 -1.5**
PB10 IAML 04 47 23.3
comp=Z,18µm,1.2s
LPAZ La Paz 3.89 11 P **Pn 04 46 35.2 +4.0**
comp=Z,214nm,0.3s,baz=207,slow=5.6,SNR=2066
LPAZ La Paz 3.89 11 P **Pn 04 46 31.9 +0.6**
LPAZ La Paz 3.89 11 Pn **Pn 04 46 31.9 +0.6**
I08BO LAS PENAS INFR 3.91 7 P Pn 04 46 37.0 +5.5
baz=195,slow=18,SNR=1.9
I08BO *i* 05 00 40.0
baz=202,slow=329,SNR=2.3
HJA Humahuaca 4.49 134 *e*P **Pn 04 46 42.8 +3.6**
HJA IAML 04 47 50.4
comp=Z,1µm,2.1s
PB14 IPOC Station P 4.68 197 *e*P **Pn 04 46 37.7 -4.0**
GO02 Mina Guanaco 5.05 187⇓ *i*P **Pn 04 46 44.5 -2.2**
GO02 Mina Guanaco 5.05 187 Pn **Pn 04 46 45.4 -1.3**
AZAP Zapla 5.43 139 *e*P **Pn 04 46 53.6 +1.8**
AZAP IAML 04 48 06.8
comp=Z,1µm,1.1s
SLA San Lorenzo 5.57 146 *e*P **Pn 04 46 56.2 +2.7**
SLA IAML 04 48 12.0
comp=Z,541nm,2.3s
ASTB Santa Barbara 5.64 133 *e*P **Pn 04 46 56.2 +1.7**
ASTB *e*S **Sn 04 47 58.9 +0.9**
ASTB IAML 04 48 06.0
comp=Z,2µm,1.4s
FSA Cafayete 6.55 156 *e*P Pn 04 47 12.9 +6.0
AC02 Maricunga 6.69 181 Pn **Pn 04 47 07.7 -1.3**
GO03 Copiap 7.53 189 *e*P **Pn 04 47 18.8 -1.3**
SIV San Ignacio 8.53 62 P **Pn 04 47 33.5 -0.3**
comp=Z,112nm,0.3s,baz=258,slow=12,SNR=1654
SIV S **Sn 04 49 05.9 -2.5**
baz=335,slow=18,SNR=1.8
VCA Vinchina 8.60 176 *e*P **Pn 04 47 33.4 -1.4**
CYA Choya 8.76 162 *e*P **Pn 04 47 37.2 +0.4**
LCO Las Campanas 8.99 190 P **Pn 04 47 38.8 -1.4**
LCO Las Campanas 8.99 190 Pn **Pn 04 47 39.6 -1.4**
AGUA GUANDACOL 9.33 178 *e*P **Pn 04 47 42.0 -2.7**
AROD Rodeo 10.01 183 *e*P **Pn 04 47 51.8 -2.3**
PTLB Pontes e Lacer 10.43 65 *e*P **Pn 04 47 58.3 -1.2**
PTLB *e*S **Sn 04 49 52.0 -2.4**
ETMB Extrema 10.58 15 *e*P **Pn 04 48 00.2 -1.4**
VILB Vilhena 10.99 51 *e*P **Pn 04 48 06.3 -1.0**
VILB *e*S **Sn 04 50 05.9 -2.5**
NNA Nana 11.10 316 P **Pn 04 48 05.6 -3.0**
comp=Z,7.0nm,0.3s,baz=148,slow=15,SNR=14
NNA S **Sn 04 50 12.3 +1.5**
comp=Z,22nm,0.3s,baz=229,slow=21,SNR=2.9
NNA Nana 11.10 316 P **Pn 04 48 06.9 -1.7**
NNA Nana 11.10 316 Pn **Pn 04 48 06.9 -1.7**
CPUP Villa Florida 12.33 122 P **Pn 04 48 23.9 -1.1**
comp=Z,9.3nm,0.3s,baz=303,slow=12,SNR=522
CPUP LR LR 04 53 56.0
comp=Z,2µm,20.7s,baz=318,slow=41
CPUP Villa Florida 12.33 122 *e*P **Pn 04 48 24.9 0.0**
SAML Samuel 12.42 27 *e*P **Pn 04 48 24.6 -1.7**
AQDB Aquidauana 12.43 94 *e*P **Pn 04 48 24.3 -2.0**
CZSB Cruzeiro do Su 12.85 343 *e*P **Pn 04 48 28.1 -3.9**
SALV Santo Antonio 13.28 74 *e*P **Pn 04 48 35.4 -2.1**
MT05 Renca 13.31 187 Pn **Pn 04 48 36.8 -1.2**
TRCB Terra Rica 15.41 103 *e*P **Pn 04 49 04.6 -0.3**
CLDB Colider 15.64 56 *e*P **Pn 04 49 05.1 -2.6**
ATAH Atahualpa 15.84 323 P **Pn 04 49 09.1 -1.6**
comp=Z,0.2nm,0.3s,baz=138,slow=16,SNR=4.5
ATAH S **Sn 04 52 07.5 +1.2**
comp=Z,0.4nm,0.3s,baz=234,slow=22,SNR=1.3
H03N1 Juan Fernandez 15.96 212 P **Pn 04 49 11.9 +0.5**
baz=110,slow=14,SNR=51
H03N1 T T 05 04 43.9
baz=35,slow=72,SNR=152
H03N2 Juan Fernandez 15.97 212 P **Pn 04 49 11.8 +0.3**
baz=110,slow=14,SNR=39
H03N2 T T 05 04 44.3
baz=35,slow=72,SNR=164
H03N3 Juan Fernandez 15.98 212 P **P 04 49 15.0 +1.8**
baz=110,slow=14,SNR=41
H03N3 T T 05 04 42.6
baz=35,slow=72,SNR=111
VA04 Juan Fernndez 16.09 211 **Pn 04 49 11.5 -1.7**
PTGB Pitanga 16.25 109 *e*P **Pn 04 49 15.8 +0.3**
H03S3 Juan Fernandez 16.27 211 P **Pn 04 49 15.2 -0.1**
baz=17,slow=20,SNR=26
H03S1 Juan Fernandez 16.29 211 P **Pn 04 49 14.9 -0.5**
baz=17,slow=20,SNR=14
H03S2 Juan Fernandez 16.29 211 P **Pn 04 49 15.5 0.0**
baz=17,slow=20,SNR=16
PCMB Pacaembu 16.59 98 *e*P **Pn 04 49 17.7 -1.8**
BI02 San Fabin de 16.61 187 **Pn 04 49 18.7 -1.0**
BI02 IAmb IAmb 04 49 21.4
comp=Z,351nm,0.8s
ARAG Araguaiana, MT 16.87 78 *e*P **Pn 04 49 22.0 -1.1**
ITAB Concordia 16.93 118 *e*P **Pn 04 49 22.6 -1.1**
BI03 Tigo 17.04 191 IAmb IAmb 04 49 28.4
comp=Z,356nm,1.1s
CPSB Cacapava Do Su 17.34 129 *e*P **P 04 49 26.8 -1.7**
CPSB *e*S **Sn 04 52 41.1 -0.5**
ITRB Iturama 17.48 92 *e*P **Pn 04 49 30.5 +0.1**
LPA La Plata 17.65 149 *e*P P 04 49 23.0 -8.8
LPA pP pP 04 49 50.9 -1.0
LPA sP sP 04 50 02.0 -3.3
LPA S **S 04 52 50.9 +1.0**
LPA PCP **PcP 04 54 05.4 -0.3**
LPA SKIKS 05 08 51.4
PLTB Pedras Altas 17.99 133 *e*P **P 04 49 34.4 -1.3**
PLTB *e*S **S 04 52 56.4 -0.5**
FRTB Fartura 18.28 104 *e*P **Pn 04 49 40.0 0.0**
NPGB Novo Progresso 18.50 47 *e*P **P 04 49 40.5 -0.9**
MACA Manacapuru-AM 18.68 27 *e*P **P 04 49 42.5 -0.8**
CNLB Canela 18.78 123 *e*P **P 04 49 43.8 -0.6**
LC01 Cunco 18.88 187 **P 04 49 43.6 -1.8**
LC01 IAmb IAmb 04 49 48.0
comp=Z,158nm,1.1s
TIJ01 Guaruva-PR 19.09 109 *e*P **P 04 49 48.6 +0.6**
BB19B Bebedouro 19.13 96 *e*P **P 04 49 48.2 -0.1**
IPMB Ipameri, GO 19.70 87 *e*P **P 04 49 54.2 -0.4**
SPB Sao Paulo 20.25 104 P **P 04 50 00.1 -0.2**
SPB IAmb IAmb 04 50 05.0
comp=Z,214nm,0.9s
SPB Sao Paulo 20.25 104 *e*P **P 04 49 59.8 -0.5**
ITTB Itaituba 20.26 41 *e*P **P 04 49 59.8 -0.7**
ITTB *e*S **S 04 53 38.6 -3.8**
BDFB Brasilia 20.40 81 P **P 04 50 01.6 -0.5**
comp=Z,194nm,0.8s,baz=256,slow=11,SNR=181
BDFB S **S 04 53 43.8 -1.5**
comp=Z,30nm,0.9s,baz=178,slow=21,SNR=1.4
BDFB LR LR 04 58 57.1
comp=Z,3µm,18.6s,baz=255,slow=40
BDFB Brasilia 20.40 81 **P 04 50 02.6 +0.5**
BDFB IAmb IAmb 04 50 06.8
comp=Z,327nm,1.1s
PET01 Itanhaem-SP 20.47 106 *e*P **P 04 50 01.9 -0.9**
PET01 *e*S **S 04 53 44.9 -1.6**
PLCA Paso Flores 20.59 183 P **P 04 50 04.6 +0.6**
comp=Z,98nm,0.7s,baz=10,slow=12,SNR=132
PLCA S **S 04 53 50.0 +1.4**
comp=Z,21nm,1.3s,baz=0.5,slow=18,SNR=1.5
PLCA Paso Flores 20.59 183 P **P 04 50 03.2 -0.8**
PLCA pmax pmax
comp=Z,291nm,1.1s
PLCA Paso Flores 20.59 183 P **P 04 50 03.2 -0.8**
PLCA IAmb IAmb 04 50 05.8
comp=Z,291nm,1.1s
PLCA Paso Flores 20.59 183 *e*P **P 04 50 04.5 +0.6**
PLCA *e*S **S 04 53 50.8 +2.2**
VAO Valinhos 20.63 102 *e*P **P 04 50 03.0 -1.6**
PTLC Puerto Leguiza 20.97 343 *e*P **P 04 50 04.9 -3.2**
PTGA Pitinga 21.18 26 P **P 04 50 08.7 -1.6**
comp=Z,85nm,0.5s,baz=201,slow=15,SNR=128
PTGA S **S 04 53 55.8 -4.5**
comp=Z,41nm,0.9s,baz=342,slow=22,SNR=2.6
PTGA LR LR 04 59 17.6
comp=Z,2µm,18.6s,baz=214,slow=39
PTGA Pitinga 21.18 26 P **P 04 50 08.9 -1.4**
PTGA IAmb IAmb 04 50 12.8
comp=Z,223nm,1.1s
PEXB Peixe 21.35 71 *e*P **P 04 50 11.4 -0.8**
PUAC Puerto Asis, P 21.86 339⇑ *e*P **P 04 50 18.4 +0.7**
PARB Paraibuna 21.89 103 *e*P **P 04 50 15.9 -2.0**
OTAV Otavalo 22.28 334 P **P 04 50 21.8 -0.7**
OTAV pmax pmax
comp=Z,107nm,1.0s
OTAV Otavalo 22.28 334 P **P 04 50 21.8 -0.7**
LL01 San Ignacio de 22.38 187 P **P 04 50 22.2 -0.6**
LL01 IAmb IAmb 04 50 25.1
comp=Z,241nm,0.9s
FLOC Florencia 22.55 342 *e*P **P 04 50 22.8 -2.1**
BSCB Bom Sucesso 22.64 96 *e*P **P 04 50 24.8 -1.0**
MACC Macarena, Meta 22.65 347 *e*P **P 04 50 25.6 -0.3**
CMBC Cumbal 22.67 336 *e*P **P 04 50 29.2 +2.6**
GCUF Volcan Galeras 22.76 338⇓ *e*P **P 04 50 29.8 +2.3**
GUVC San Jose del G 22.82 350 *e*P **P 04 50 25.6 -1.9**
CRUC La Cruz 22.94 339 *e*P **P 04 50 30.8 +1.6**
GARC Garzon, Huila 23.09 343 *e*P **P 04 50 28.8 -1.6**
MALB Monte Alegre 23.14 40 *e*P **P 04 50 28.9 -1.7**
PRPB Parauapebas 23.17 56 *e*P **P 04 50 29.3 -1.7**
SOTA Rioblanco 23.36 340 *e*P **P 04 50 34.7 +1.4**
MAN01 Angra dos Reis 23.39 101 *e*P **P 04 50 32.0 -1.0**
BBAC Balboa, Cauca 23.47 339⇓ *e*P **P 04 50 35.7 +1.8**
SMTB Santa Maria do 23.47 65 *e*P **P 04 50 33.0 -0.7**
PCON Cinco Dias 23.48 341⇓ *e*P **P 04 50 36.8 +2.4**
BETC Betania 23.55 344 *e*P **P 04 50 34.8 +0.3**
POPC Popayan, Colom 23.77 340⇑ *e*P **P 04 50 37.1 +0.4**
MARP Paez Belalcaza 23.84 342 *e*P **P 04 50 35.4 -1.9**
VAS01 Vassouras-RJ 23.86 100 *e*P **P 04 50 37.5 +0.3**
MC01 Montes Claros 23.95 86 *e*P **P 04 50 37.5 -0.6**
JANB Januaria 24.00 82 *e*P **P 04 50 37.8 -0.7**
SDBA SAO DESIDERIO 24.29 75 *e*P **P 04 50 40.2 -1.0**
PRAC Prado 24.40 345 *e*P **P 04 50 43.3 +1.2**
VILC Vilavicencio, 24.53 349 *e*P **P 04 50 44.3 +0.9**
ORTC Ortega, Tolima 24.67 345⇑ *e*P **P 04 50 44.7 +0.1**
GR1C Gorgona, Isla 24.70 337 *e*P **P 04 50 47.5 +2.7**
CVER Cruz Verde, Cu 25.00 348 *e*P **P 04 50 49.6 +1.5**
YOTC Yotoco, Valle 25.04 342 *e*P **P 04 50 48.8 +0.8**
CHIC Chingaza 25.05 349 *e*P **P 04 50 49.2 +0.8**
ANIL Santa Ana 25.27 345 *e*P **P 04 50 51.1 +0.8**
TOLC Tolima 25.34 345 *e*P **P 04 50 51.7 +0.7**
MALC Bahia Malaga 25.36 340 *e*P **P 04 50 53.8 +3.0**
ROSC El Rosal 25.36 347 P **P 04 50 52.6 +1.4**
comp=Z,36nm,0.6s,baz=161,slow=7.0,SNR=16
ROSC El Rosal 25.36 347 *e*P **P 04 50 52.8 +1.5**
ROSC El Rosal 25.36 347 P **P 04 50 51.0 -0.2**
CTAB Cerro Tablazo, 25.51 348 *e*P **P 04 50 55.4 +2.8**
MCPB Macapa, AP 25.66 42 *e*P **P 04 50 52.7 -0.9**
PLMC San Jos del P 25.90 343⇓ *e*P **P 04 50 57.6 +1.8**
GUY2C Guyana, Caldas 25.97 345⇓ *e*P **P 04 50 57.8 +1.0**
SPBC San Pablo de B 26.11 348⇑ *e*P **P 04 50 57.4 -0.2**
RUSC La Rusia 26.17 351⇑ *e*P **P 04 50 59.5 +0.9**
NORC Norcasia 26.18 347⇓ *e*P **P 04 50 58.7 +0.4**
SJMB Sao Joao De Ma 26.20 92 *e*P **P 04 50 57.3 -1.1**
PIZC Pizarro, Choco 26.27 341 *e*P **P 04 50 57.4 -1.6**
BSFB Barra de Sao F 26.50 92 *e*P **P 04 50 59.5 -1.6**
TAMC Tame, Arauca 26.54 354 *e*P **P 04 51 01.4 -0.1**
CBOC Ciudad Bolivar 26.75 344 *e*P **P 04 51 04.0 +0.5**
RIB01 Linhares ES 26.87 93 *e*P **P 04 51 03.8 -0.6**
BARC Barichara 26.87 351 *e*P **P 04 51 04.3 -0.4**
TMAB Tom-Au,PA,Br 26.93 52 *e*P **P 04 51 05.7 +0.7**
HELC Santa Helena 26.94 345⇑ *e*P **P 04 51 05.1 -0.3**
PTBC PUERTO BERRIO, 27.05 348⇑ *e*P **P 04 51 04.3 -1.7**
NAN01 Guarapari, ES 27.32 90 *e*P **P 04 51 07.3 -1.2**
BRRC Barranca, Sant 27.46 350 *e*P **P 04 51 08.5 -1.2**
SOLC Bahia Solano 27.48 341 *e*P **P 04 51 13.6 +3.8**
PAMC Pamplona, Colo 27.54 352 *e*P **P 04 51 10.2 -0.7**
DBBC Dabeiba 27.90 344 *e*P **P 04 51 14.1 +0.4**
ZARC Zaragoza, Cauc 28.05 347⇑ *e*P **P 04 51 14.0 -1.0**
UREC San Jos de Ur 28.45 346 *e*P **P 04 51 17.4 -1.1**
PAYG Puerto Ayora 28.46 310 P **P 04 51 17.8 -0.9**
PAYG IAmb IAmb 04 51 22.0
comp=Z,90nm,0.9s
OCAC Ocana 28.51 351⇑ *e*P **P 04 51 16.4 -2.8**
GDU01 Guandu, BA 28.77 82 *e*P **P 04 51 19.8 -1.6**
SDV Santo Domingo 28.87 357 P **P 04 51 21.6 -0.8**
comp=Z,19nm,0.4s,baz=200,slow=6.4,SNR=6.6
SDV S **S 04 56 06.2 +0.5**
comp=Z,18nm,0.3s,baz=155,slow=23,SNR=1.9
SDV Santo Domingo 28.87 357 P **P 04 51 22.6 +0.2**
SDV Santo Domingo 28.87 357 *e*P **P 04 51 21.9 -0.6**
BAUV El Baul 28.90 2 *e*P **P 04 51 21.6 -0.8**
SMLC San Martn de 29.18 350⇑ *e*P **P 04 51 22.6 -2.4**
ORIV Oritupano 29.51 11 *e*P **P 04 51 28.3 +0.4**
ROSB Rosrio 29.65 58 *e*P **P 04 51 28.9 -0.3**
CACAO El Cacao, Vera 29.71 336 *e*P **P 04 51 29.9 +0.3**
MDP Montagnes des 29.75 34 P **P 04 51 29.0 -1.0**
comp=Z,32nm,0.8s,baz=208,slow=10,SNR=27
MDP LR LR 05 03 44.5
comp=Z,961nm,21.9s,baz=216,slow=37
CAPC Capurgana 29.75 343 *e*P **P 04 51 30.7 +0.7**
AZU Azuero 29.90 337 *e*P P 04 51 17.7 -14
GMAL Guarumal, Vera 30.24 335 *e*P **P** 04 51 24.8 -10
ARGC Ariguani, Magd 30.25 350⇑ *e*P **P 04 51 33.4 -1.0**
PCRV Puerto La Cruz 30.40 8 P **P 04 51 35.8 0.0**
comp=Z,22nm,0.5s,baz=192,slow=4.9,SNR=39
PCRV LR LR 05 05 08.0
comp=Z,2µm,19.5s,slow=39
STIA3 Santiago, Vera 30.44 336 *e*P P 04 51 24.2 -12
SJCC San Jacinto, C 30.46 348 *e*P **P 04 51 35.4 -0.9**
PNME Penonome 30.56 337 *e*P P 04 51 22.3 -15
PNME *e*S pP 04 52 02.9 +2.1
VTON El Valle, Cocl 30.60 338 *e*P P 04 51 19.0 -19
UPA Univ. de Panam 30.74 339 *e*P P 04 51 25.0 -14
ZANG Zanguenga, Cho 30.83 339 *e*P P 04 51 20.3 -19
TRN Trinidad (W) 31.46 14 *e*P **P 04 51 44.6 -0.4**
SMRC Santa Marta, M 31.52 350⇑ *e*P **P 04 51 43.4 -2.2**
BCO2 Palmira 31.63 334 *e*P P 04 51 31.4 -15
CHGR2 Aguacate 31.67 335 *e*P P 04 51 32.8 -14
BRU2 Volcan 31.77 333 *e*P P 04 51 35.8 -12
URIC Uribia, Colomb 31.77 354 *e*P **P 04 51 44.5 -3.3**
TOSP Speyside 32.30 16 *e*P **P 04 51 52.3 -0.1**
EFI East Falkland 32.62 167⇑ *e*P **P 04 51 55.5 +0.6**
EFI pmax pmax
comp=Z,119nm,0.8s
EFI East Falkland 32.62 167 P **P 04 51 54.9 0.0**
EFI IAmb IAmb 04 51 58.6
comp=Z,108nm,0.8s
GRGR Grenville 32.84 13 *e*P **P 04 51 56.6 -0.6**
GRGR Grenville 32.84 13 *e*P **P 04 51 56.9 -0.3**
GRGR Grenville 32.84 13 P **P 04 51 57.4 +0.2**
GRHS Sauteurs 32.94 13 *e*P **P 04 51 58.6 +0.6**
GRSS Sisters 33.01 13 *e*P **P 04 51 59.4 +0.7**
GCMP Grenada, Carri 33.23 13 *e*P **P 04 51 59.6 -1.0**
GCMP Grenada, Carri 33.23 13 *e*P **P 04 51 59.7 -0.8**
SVB Belmont 34.03 13 *e*P **P 04 52 08.1 +0.6**
SVB Belmont 34.03 13 P **P 04 52 07.1 -0.5**
SVCV St. Vincent, C 34.06 14 *e*P **P 04 52 08.6 +0.8**
SVV Soufriere Volc 34.09 13 *e*P **P 04 52 08.0 0.0**
JTS Las Juntas de 34.09 331 P **P 04 52 10.3 +2.3**
comp=Z,28nm,0.9s,baz=219,slow=4.2,SNR=20
JTS pP **pP 04 52 34.1 +2.5**
comp=Z,25nm,0.7s,baz=165,slow=8.6,SNR=5.2
JTS Las Juntas de 34.09 331⇓ *i*P **P 04 52 09.8 +1.8**
JTS pmax pmax
comp=Z,25nm,0.9s
JTS Las Juntas de 34.09 331 P **P 04 52 07.7 -0.3**
JTS IAmb IAmb 04 52 11.4
comp=Z,49nm,1.1s
MCLT Moule a Chique 34.53 14 *e*P **P 04 52 11.6 -0.2**
MCLT Moule a Chique 34.53 14 P **P 04 52 12.5 +0.7**
SLDE Delcer 34.59 14 *e*P **P 04 52 13.2 +0.9**
SLB Belfond 34.62 14 *e*P **P 04 52 12.8 +0.2**
SLPA Patience 34.67 14 *e*P **P 04 52 16.0 +3.0**
SLAC Saint Lucia, A 34.72 14 *e*P **P 04 52 14.6 +1.1**
MG01 Puerto William 34.77 179 P **P 04 52 12.0 -1.4**
MG01 IAmb IAmb 04 52 19.2
comp=Z,50nm,0.8s
SLBI Saint Lucia, B 34.82 14 *e*P **P 04 52 13.2 -1.1**
SLBI Saint Lucia, B 34.82 14 *e*P **P 04 52 13.3 -1.0**
SLW Petit Monier 34.83 14 *e*P **P 04 52 15.6 +1.2**
RCBR Riachuelo 35.09 71 P **P 04 52 16.9 +0.1**
comp=Z,195nm,0.9s,baz=235,slow=9.3,SNR=30
RCBR Riachuelo 35.09 71 P **P 04 52 17.1 +0.3**
RCBR pmax pmax
comp=Z,270nm,1.1s
RCBR Riachuelo 35.09 71 P **P 04 52 17.1 +0.3**
RCBR Riachuelo 35.09 71 *e*P **P 04 52 15.2 -1.6**
MPOM Morne Pois Mar 35.26 14 *e*P **P 04 52 16.2 -1.8**
MPOM Morne Pois Mar 35.26 14 *e*P **P 04 52 16.4 -1.7**
BIM Bigot 35.28 13 *e*P **P 04 52 16.7 -1.6**
BIM Bigot 35.28 13 *e*P **P 04 52 16.8 -1.6**
TRMF Trois Ilets 35.30 13 *e*P **P 04 52 16.7 -1.7**
ZAM Aeronautique 35.34 13 *e*P **P 04 52 17.6 -1.2**
MVM Montagne Vaucl 35.35 14 *e*P **P 04 52 17.8 -1.1**
LPMF Morne Lapointe 35.36 13 *e*P **P 04 52 17.7 -1.2**
FDF Fort de France 35.47 13 *e*P **P 04 52 18.0 -1.9**
FDF Fort de France 35.47 13 *e*P **P 04 52 19.4 -0.6**
PML Morne Lenard 35.51 13 *e*P **P 04 52 19.9 -0.4**
GBMF Grand Be 35.53 13 *e*P **P 04 52 20.0 -0.5**
PCM Pelee Case Pet 35.54 13 *e*P **P 04 52 20.0 -0.5**
BAMF Morne Balai 35.55 13 *e*P **P 04 52 20.3 -0.3**
ILAM Ilet Lapin Mar 35.57 13 *e*P **P 04 52 18.7 -2.0**
ILAM Ilet Lapin Mar 35.57 13 *e*P **P 04 52 18.7 -2.0**
SVN Savane Anatole 35.58 13 *e*P **P 04 52 19.2 -1.6**
DSLB Salisbury 36.10 12 *e*P **P 04 52 25.6 +0.3**
BOAB BOACO,BROADBAN 36.31 332 IAmb IAmb 04 52 38.3
comp=Z,35nm,0.9s
TDBA Terre de Bas, 36.46 12 *e*P **P 04 52 27.1 -1.2**
MAGL Barre de l'ile 36.63 12 *e*P **P 04 52 28.7 -1.0**
CBE Ff, Capester 36.68 12 *e*P **P 04 52 28.1 -2.1**
ABD La Joyeuse, An 37.10 12 *e*P **P 04 52 29.1 -4.5**
RPN Rapa Nui 37.54 251 P **P 04 52 39.5 +2.0**
comp=Z,55nm,0.8s,baz=345,slow=2.2,SNR=5.3
RPN pP **pP 04 53 02.8 +1.9**
comp=Z,93nm,1.0s,baz=82,slow=4.5,SNR=3.9
RPN Rapa Nui 37.54 251 P **P 04 52 36.1 -1.4**
RPN pmax pmax
comp=Z,46nm,1.0s
RPN Rapa Nui 37.54 251 P **P 04 52 36.1 -1.4**
RPN IAmb IAmb 04 52 50.3
comp=Z,46nm,0.9s
SKI Saint Kitts 37.72 10 P **P 04 52 37.9 -1.1**
SKI pmax pmax
comp=Z,69nm,0.8s
SKI Saint Kitts 37.72 10 P **P 04 52 37.9 -1.1**
SKI IAmb IAmb 04 52 52.7
comp=Z,69nm,0.8s
MTP Monte Pirata 38.13 5 P **P 04 52 40.3 -2.1**
MTP IAmb IAmb 04 52 41.6
comp=Z,90nm,0.9s
ANWB Willy Bob 38.21 11 *e*P **P 04 52 38.5 -4.5**
ANWB Willy Bob 38.21 11 P **P 04 52 40.1 -3.0**
AOPR Arecibo Observ 38.29 3 *e*P **P 04 52 43.4 -0.4**
AOPR Arecibo Observ 38.29 3 P **P 04 52 42.6 -1.2**
GCPR Guaynabo City 38.30 4 P **P 04 52 42.3 -1.5**
SDD Santo Domingo 38.35 359 IAmb IAmb 04 52 46.1
comp=Z,99nm,1.1s
PCDR Punta Cana, DR 38.40 1 P **P 04 52 44.8 +0.2**
STVI Saint Thomas 38.43 6 IAmb IAmb 04 52 47.5
comp=Z,56nm,1.0s
TGUH Tegucigalpa,Un 38.46 331 P **P 04 52 44.8 -0.6**
MTDJ Mount Denham 39.03 347 IAmb IAmb 04 52 52.0
comp=Z,70nm,0.8s
SNET Serv Nac Est T 39.08 328 P **P 04 52 50.0 -0.5**
SNET IAmb IAmb 04 52 57.4
comp=Z,126nm,1.1s
CBCY The Bluff, Cay 41.01 344 P **P 04 53 06.4 +0.1**
HOPE Hope Point 42.10 152 P **P 04 53 15.2 +0.4**
HOPE pmax pmax
comp=Z,132nm,1.0s
HOPE Hope Point 42.10 152 P **P 04 53 15.2 +0.4**
PETF Flores 42.16 329 P **P 04 53 15.5 -0.2**
CCIG Comitan 42.76 326 P **P 04 53 20.2 -0.6**
TEIG Tepich 44.35 334 P **P 04 53 34.2 +0.9**
comp=Z,72nm,0.6s,baz=148,slow=6.0,SNR=50
TEIG pP **pP 04 53 57.5 -0.5**
comp=Z,116nm,0.8s,baz=154,slow=8.9,SNR=9.8
TEIG Tepich 44.35 334 P **P 04 53 33.1 -0.2**
PMSA Palmer Station 44.75 177 P **P 04 53 38.2 +2.3**
comp=Z,14nm,0.8s,baz=13,slow=7.4,SNR=15
PMSA pP **pP 04 54 02.6 +1.8**
comp=Z,37nm,1.0s,baz=315,slow=5.3,SNR=12
PMSA Palmer Station 44.75 177 P **P 04 53 35.0 -0.9**
PMSA Palmer Station 44.75 177 *e*P **P 04 53 38.4 +2.5**
CMIG Matias Romero 44.91 324 P **P 04 53 38.7 +0.9**
comp=Z,69nm,1.1s,baz=122,slow=5.3,SNR=31
CMIG pP **pP 04 54 03.6 +1.2**
comp=Z,73nm,1.1s,baz=136,slow=6.1,SNR=6.4
TLIG Tlapa 47.42 320 P **P 04 53 57.0 -0.7**
TLIG IAmb IAmb 04 54 00.9
comp=Z,74nm,0.7s
DWPF Disney Wildern 49.45 345 P **P 04 54 13.7 +0.8**
baz=165
DWPF Disney Wildern 49.45 345 P **P 04 54 13.1 +0.2**

MOIG	**Morelia**	**50.63**	**319**	P	**P**	**04 54 21.4**	**-0.8**
TRIS	**Tristan da Cun**	**51.77**	**122**	P	**P**	**04 54 31.1**	**+0.7**
BBSR	**BB Station**	**52.35**	**5**	P	**P**	**04 54 35.2**	**+0.7**
TIGA	**Tifton**	**53.16**	**344**	P	**P**	**04 54 41.5**	**+1.0**
	baz=163,SNR=11						
TIGA				S	**S**	**05 02 00.7**	**-2.8**
	baz=163						
255A	**Hazlehurst**	**53.35**	**346**	IAmb	IAmb	04 54 52.7	
	comp=Z,62nm,1.0s						
158A	**Hollywood**	**53.65**	**348**	P	**P**	**04 54 45.1**	**+1.0**
	baz=167						
157A	**Early Branch**	**53.76**	**347**	P	**P**	**04 54 46.1**	**+1.2**
	baz=166,SNR=10						
157A				S	**S**	**05 02 10.2**	**-1.4**
	baz=166						
BRAL	**Brewton**	**53.88**	**341**	P	**P**	**04 54 46.4**	**+0.6**
	baz=159,SNR=26						
BRAL				S	**S**	**05 02 11.4**	**-2.0**
	baz=159						
Z59A	**Georgetown, SC**	**53.98**	**349**	P	**P**	**04 54 47.6**	**+1.2**
	baz=168						
NHSC	**New Hope**	**54.01**	**348**	P	**P**	**04 54 47.8**	**+1.1**
	baz=167,SNR=21						
Z58A	**St. Stephen**	**54.16**	**349**	P	**P**	**04 54 48.8**	**+1.0**
	baz=168,SNR=9.1						
Z57A	**Bowman**	**54.30**	**348**	P	**P**	**04 54 49.5**	**+0.7**
	baz=167,SNR=45						
Z57A				S	**S**	**05 02 17.5**	**-1.4**
	baz=167						
Z56A	**Williston**	**54.46**	**347**	P	**P**	**04 54 50.9**	**+0.9**
	baz=166,SNR=12						
Y60A	**Bolivia**	**54.55**	**351**	P	**P**	**04 54 51.7**	**+1.2**
	baz=170						
346A	**Big Creek Wild**	**54.88**	**338**	IAmb	IAmb	04 54 55.3	
	comp=Z,67nm,0.9s						
Y56A	**Pelion**	**54.90**	**347**	P	**P**	**04 54 54.4**	**+1.3**
	baz=166						
Y56A				S	**S**	**05 02 24.4**	**-2.5**
	baz=166						
Y57A	**Sumter**	**54.93**	**348**	S	**S**	**05 02 25.1**	**-2.3**
	baz=167						
GOGA	**Godfrey**	**55.01**	**345**	P	**P**	**04 54 54.4**	**+0.4**
	baz=164,SNR=14						
GOGA				S	**S**	**05 02 24.9**	**-3.6**
	baz=164						
X60A	**Albert Glenn T**	**55.07**	**351**	P	**P**	**04 54 55.0**	**+0.6**
	baz=170						
Y55A	**Saluda**	**55.15**	**347**	P	**P**	**04 54 55.5**	**+0.6**
	baz=165,SNR=25						
Y55A				S	**S**	**05 02 27.9**	**-2.5**
	baz=165						
X59A	**McDuffie Farm,**	**55.16**	**350**	P	**P**	**04 54 55.1**	**+0.1**
	baz=169,SNR=8.7						
X57A	**Johnson Farm,**	**55.31**	**349**	P	**P**	**04 54 56.5**	**+0.4**
	baz=168,SNR=9.3						
X57A				S	**S**	**05 02 29.5**	**-2.9**
	baz=168						
JSC	**Jenkinsville**	**55.36**	**348**	IAmb	IAmb	04 54 58.7	
	comp=Z,25nm,0.7s						
344A	**Westbrook Farm**	**55.38**	**337**	IAmb	IAmb	04 54 58.3	
	comp=Z,48nm,0.8s						
W60A	**Pink Hill**	**55.50**	**351**	P	**P**	**04 54 58.3**	**+0.9**
	baz=170						
W61A	**Ground Anchor**	**55.52**	**352**	P	**P**	**04 54 58.2**	**+0.6**
	baz=171,SNR=5.2						
LRAL	**Lakeview Retre**	**55.60**	**342**	P	**P**	**04 54 58.0**	**-0.3**
	baz=160,SNR=22						
LRAL				S	**S**	**05 02 32.1**	**-4.3**
	baz=160						
LRAL	**Lakeview Retre**	**55.60**	**342**	P	**P**	**04 54 58.4**	**+0.1**
LRAL				IAmb	IAmb	04 55 00.0	
	comp=Z,25nm,0.9s						
X55A	**Gracelyn & Ava**	**55.62**	**347**	P	**P**	**04 54 59.1**	**+0.8**
	baz=166						
X55A				S	**S**	**05 02 34.4**	**-2.1**
	baz=166						
W58A	**Raeford**	**55.70**	**350**	P	**P**	**04 54 59.4**	**+0.5**
	baz=168,SNR=46						
W58A				S	**S**	**05 02 34.3**	**-3.4**
	baz=168						
CNNC	**Cliffs of the**	**55.71**	**351**	P	**P**	**04 54 58.9**	**0.0**
	baz=170						
W59A	**Clinton**	**55.72**	**351**	P	**P**	**04 54 59.3**	**+0.3**
	baz=169,SNR=6.3						
V62A	**Hyde County Ai**	**55.78**	**353**	P	**P**	**04 55 00.1**	**+0.7**
	baz=172						
X54A	**Belton**	**55.85**	**347**	P	**P**	**04 55 00.7**	**+0.7**
	baz=165,SNR=24						
X54A				S	**S**	**05 02 36.8**	**-2.8**
	baz=165						
146A	**Union**	**55.88**	**339**	IAmb	IAmb	04 55 05.8	
	comp=Z,49nm,1.0s						
W57A	**Gilead**	**55.97**	**349**	P	**P**	**04 55 01.0**	**+0.3**
	baz=168,SNR=42						
PAULI	**Pauline**	**55.99**	**347**	IAmb	IAmb	04 55 03.3	
	comp=Z,33nm,0.7s						
VBMS	**Vicksburg**	**56.00**	**338**	P	**P**	**04 55 01.3**	**+0.3**
	baz=156						
VBMS				S	**S**	**05 02 37.9**	**-3.7**
	baz=156						
W56A	**Indian Trail**	**56.05**	**348**	P	**P**	**04 55 01.7**	**+0.3**
	baz=167,SNR=35						
W56A				S	**S**	**05 02 39.5**	**-2.8**
	baz=167						
V61A	**Roper**	**56.08**	**353**	P	**P**	**04 55 02.1**	**+0.6**
	baz=172						
Z47A	**Carrollton**	**56.08**	**341**	IAmb	IAmb	04 55 04.0	
	comp=Z,34nm,0.8s						
HKT	**Hockley**	**56.12**	**332**	P	**P**	**04 55 01.9**	**0.0**
HKT				pmax	pmax		
	comp=Z,30nm,1.1s						
HKT	**Hockley**	**56.12**	**332**	P	**P**	**04 55 01.9**	**0.0**
HKT				IAmb	IAmb	04 55 03.7	
	comp=Z,30nm,1.1s						
V60A	**Jim Taylor Roa**	**56.14**	**352**	P	**P**	**04 55 02.1**	**+0.1**
	baz=171,SNR=7.5						
V60A	**Jim Taylor Roa**	**56.14**	**352**	IAmb	IAmb	04 55 03.7	
	comp=Z,27nm,0.7s						
Y49A	**Blount Mountai**	**56.20**	**342**	IAmb	IAmb	04 55 04.6	
	comp=Z,25nm,0.9s						
KMSC	**Kings Mountain**	**56.21**	**348**	P	**P**	**04 55 03.2**	**+0.7**
	baz=166,SNR=32						
KMSC				S	**S**	**05 02 42.5**	**-1.8**
	baz=166						
KMSC	**Kings Mountain**	**56.21**	**348**	IAmb	IAmb	04 55 05.2	
	comp=Z,46nm,0.7s						
V59A	**Middlesex**	**56.28**	**351**	P	**P**	**04 55 03.2**	**+0.2**
	baz=170,SNR=23						
V59A				S	**S**	**05 02 41.3**	**-3.8**
	baz=170						
W54A	**Cherokee Point**	**56.33**	**347**	P	**P**	**04 55 04.3**	**+0.9**
	baz=165,SNR=34						
W54A				S	**S**	**05 02 43.7**	**-2.3**
	baz=165						
V58A	**Windy Hill, Pi**	**56.44**	**350**	P	**P**	**04 55 04.2**	**+0.1**
	baz=169,SNR=22						
833A	**Chaparral WMA,**	**56.45**	**328**	P	**P**	**04 55 04.9**	**+0.6**
	baz=146,SNR=18						
SACV	**Santiago Islan**	**56.58**	**55**	P	**P**	**04 55 05.2**	**-0.3**
SACV				IAmb	IAmb	04 55 07.2	
	comp=Z,46nm,0.8s						
U61A	**Possum Corner**	**56.59**	**353**	P	**P**	**04 55 05.3**	**+0.1**
	baz=172,SNR=7.7						
V57A	**Coltrane Farms**	**56.64**	**349**	P	**P**	**04 55 05.7**	**+0.1**
	baz=168,SNR=21						
V57A				S	**S**	**05 02 47.5**	**-2.6**
	baz=168						
V56A	**Mocksville**	**56.70**	**349**	P	**P**	**04 55 06.8**	**+0.8**
	baz=167,SNR=66						
V56A				S	**S**	**05 02 48.6**	**-2.1**
	baz=167						
143A	**Socs Landing,**	**56.75**	**337**	IAmb	IAmb	04 55 09.2	
	comp=Z,24nm,0.7s						
U59A	**Littleton**	**56.79**	**351**	P	**P**	**04 55 06.8**	**+0.2**
	baz=170,SNR=9.9						
U60A	**Pendleton**	**56.82**	**352**	P	**P**	**04 55 06.6**	**-0.2**
	baz=171,SNR=12						
V55A	**Taylorsville**	**56.87**	**348**	P	**P**	**04 55 08.1**	**+0.9**
	baz=166,SNR=67						
V55A				S	**S**	**05 02 51.5**	**-1.6**
	baz=166						
U58A	**Oxford**	**56.94**	**351**	P	**P**	**04 55 07.8**	**+0.2**
	baz=169,SNR=16						
U58A				S	**S**	**05 02 51.2**	**-2.8**
	baz=169						
X48A	**Hartselle**	**56.94**	**342**	IAmb	IAmb	04 55 10.1	
	comp=Z,60nm,0.9s						
V54A	**Nebo**	**56.95**	**347**	P	**P**	**04 55 08.3**	**+0.6**
	baz=166,SNR=30						
V54A				S	**S**	**05 02 51.9**	**-2.1**
	baz=166						
V53A	**Saluda**	**57.02**	**347**	IAmb	IAmb	04 55 10.6	
	comp=Z,26nm,0.7s						
U57A	**Blanch**	**57.10**	**350**	P	**P**	**04 55 09.1**	**+0.3**
	baz=169,SNR=25						
U57A				S	**S**	**05 02 53.1**	**-3.0**
	baz=169						
W50A	**Signal Mountai**	**57.17**	**344**	IAmb	IAmb	04 55 11.4	
	comp=Z,37nm,0.8s						
NATX	**Nacogdoches**	**57.18**	**334**	P	**P**	**04 55 10.8**	**+1.3**
	baz=151,SNR=7.4						
NATX				S	**S**	**05 02 57.4**	**+0.1**
	baz=151						
U56A	**King**	**57.20**	**349**	P	**P**	**04 55 10.3**	**+0.8**
	baz=167,SNR=21						
U56A				S	**S**	**05 02 56.1**	**-1.3**
	baz=167						
U56A	**King**	**57.20**	**349**	IAmb	IAmb	04 55 11.8	
	comp=Z,45nm,0.8s						
TKL	**Tuckaleechee C**	**57.23**	**346**	IAmb	IAmb	04 55 11.7	
	comp=Z,25nm,0.7s						
SWET	**Sewanee**	**57.35**	**343**	IAmb	IAmb	04 55 12.4	
	comp=Z,53nm,0.7s						
T59A	**Double "B" Far**	**57.37**	**352**	P	**P**	**04 55 10.8**	**+0.2**
	baz=171,SNR=17						
T59A				S	**S**	**05 02 55.2**	**-4.3**
	baz=171						
T59A	**Double "B" Far**	**57.37**	**352**	IAmb	IAmb	04 55 12.5	
	comp=Z,57nm,0.8s						
V52A	**Sevierville**	**57.37**	**346**	IAmb	IAmb	04 55 12.8	
	comp=Z,43nm,0.8s						
U55A	**TA2, Sparta**	**57.47**	**348**	P	**P**	**04 55 12.2**	**+0.7**
	baz=167,SNR=41						
U55A				S	**S**	**05 02 59.9**	**-1.2**
	baz=167						
T58A	**Grand View Acr**	**57.48**	**351**	P	**P**	**04 55 11.7**	**+0.3**
	baz=170,SNR=27						
T58A				S	**S**	**05 02 57.6**	**-3.3**
	baz=170						
V51A	**Loudon**	**57.51**	**345**	IAmb	IAmb	04 55 13.6	
	comp=Z,25nm,0.8s						
435B	**Jarrell**	**57.62**	**331**	P	**P**	**04 55 13.1**	**+0.5**
	baz=148,SNR=6.0						
435B	**Jarrell**	**57.62**	**331**	IAmb	IAmb	04 55 15.2	
	comp=Z,27nm,0.9s						
U54A	**Nelsons Funny**	**57.64**	**348**	P	**P**	**04 55 13.1**	**+0.4**
	baz=166,SNR=37						
U54A				S	**S**	**05 03 01.5**	**-1.7**
	baz=166						
T57A	**Hurt**	**57.64**	**350**	P	**P**	**04 55 13.0**	**+0.4**
	baz=169,SNR=23						
T57A				S	**S**	**05 03 00.9**	**-2.2**
	baz=169						
T57A	**Hurt**	**57.64**	**350**	IAmb	IAmb	04 55 14.8	
	comp=Z,41nm,0.8s						
OXF	**Oxford**	**57.72**	**340**	P	**P**	**04 55 12.6**	**-0.6**
	baz=157,SNR=28						
Z41A	**Richland Creek**	**57.77**	**336**	P	**P**	**04 55 14.1**	**+0.6**
	baz=154,SNR=9.0						
Z41A	**Richland Creek**	**57.77**	**336**	IAmb	IAmb	04 55 15.6	
	comp=Z,77nm,1.1s						
T56A	**Rocky Mt**	**57.80**	**350**	P	**P**	**04 55 14.7**	**+1.0**
	baz=168,SNR=27						
T56A				S	**S**	**05 03 03.8**	**-1.4**
	baz=168						
CCAR	**Cane Creek**	**57.98**	**338**	IAmb	IAmb	04 55 17.8	
	comp=Z,65nm,0.8s						
T55A	**Pulaski**	**58.02**	**349**	P	**P**	**04 55 16.3**	**+1.0**
	baz=167,SNR=59						
T55A				S	**S**	**05 03 07.3**	**-0.8**
	baz=167						
TZTN	**Tazewell**	**58.03**	**346**	P	**P**	**04 55 16.2**	**+0.9**
	baz=164,SNR=6.8						
TZTN				S	**S**	**05 03 04.9**	**-3.3**
	baz=164						
BLA	**Blacksburg**	**58.05**	**349**	P	**P**	**04 55 16.2**	**+0.8**
	baz=168,SNR=19						
BLA				S	**S**	**05 03 07.6**	**-0.8**
	baz=168						
BLA	**Blacksburg**	**58.05**	**349**	IAmb	IAmb	04 55 20.8	
	comp=Z,39nm,0.9s						
S58A	**Poland Farm, P**	**58.06**	**351**	P	**P**	**04 55 16.2**	**+0.7**
	baz=170						
S59A	**Mechanicsville**	**58.11**	**352**	P	**P**	**04 55 16.9**	**+1.1**
	baz=171						
T54A	**Tazewell**	**58.11**	**348**	P	**P**	**04 55 16.4**	**+0.4**
	baz=166,SNR=22						
T54A				S	**S**	**05 03 07.8**	**-1.7**
	baz=166						
X43A	**Marvell**	**58.21**	**339**	P	**P**	**04 55 16.8**	**+0.2**
	baz=156,SNR=12						
T53A	**Wise**	**58.23**	**347**	P	**P**	**04 55 17.0**	**+0.2**
	baz=165,SNR=30						
T53A				S	**S**	**05 03 08.2**	**-2.8**
	baz=165						
CLTN	**Cedars of Leba**	**58.28**	**343**	IAmb	IAmb	04 55 19.4	
	comp=Z,56nm,0.8s						
S57A	**Dark Hollow, R**	**58.34**	**351**	P	**P**	**04 55 18.0**	**+0.5**
	baz=169,SNR=17						
S57A				S	**S**	**05 03 10.7**	**-1.5**
	baz=169						
S57A	**Dark Hollow, R**	**58.34**	**351**	IAmb	IAmb	04 55 19.3	
	comp=Z,44nm,1.0s						
S56A	**Natural Bridge**	**58.35**	**350**	P	**P**	**04 55 18.2**	**+0.6**
	baz=168,SNR=8.4						
S56A				S	**S**	**05 03 11.3**	**-1.2**
	baz=168						
R58B	**Mineral**	**58.38**	**352**	P	**P**	**04 55 18.2**	**+0.4**
	baz=170,SNR=16						
R58B				S	**S**	**05 03 10.8**	**-2.0**
	baz=170						
R58B	**Mineral**	**58.38**	**352**	IAmb	IAmb	04 55 19.5	
	comp=Z,34nm,1.0s						
JCT	**Junction City**	**58.42**	**329**	P	**P**	**04 55 18.4**	**+0.2**
	baz=146,SNR=13						
JCT	**Junction City**	**58.42**	**329**	IAmb	IAmb	04 55 19.8	
	comp=Z,46nm,1.1s						
R59A	**King George, V**	**58.52**	**352**	P	**P**	**04 55 19.0**	**+0.3**
	baz=171,SNR=5.7						
U49A	**Red Boiling Sp**	**58.54**	**344**	IAmb	IAmb	04 55 20.5	
	comp=Z,28nm,0.7s						
CBN	**Corbin Frederi**	**58.56**	**352**	P	**P**	**04 55 19.2**	**+0.3**
	baz=171						
WHTX	**Lake Whitney,**	**58.58**	**332**	P	**P**	**04 55 19.8**	**+0.5**
	baz=149						
WHTX				S	**S**	**05 03 14.1**	**-1.5**
	baz=149						
S55A	**Lewisburg**	**58.60**	**349**	P	**P**	**04 55 20.3**	**+1.0**
	baz=168,SNR=75						
S55A				S	**S**	**05 03 14.7**	**-1.0**
	baz=168						
R58A	**Rapidan**	**58.73**	**352**	P	**P**	**04 55 20.5**	**+0.4**
	baz=170,SNR=13						
WVT	**Waverly**	**58.73**	**342**	P	**P**	**04 55 19.7**	**-0.6**
	baz=159						
WVT				S	**S**	**05 03 11.7**	**-5.7**
	baz=159						
WVT	**Waverly**	**58.73**	**342**	P	**P**	**04 55 19.9**	**-0.3**
WVT				pmax	pmax		
	comp=Z,65nm,0.7s						
WVT	**Waverly**	**58.73**	**342**	P	**P**	**04 55 19.9**	**-0.3**
S54A	**Dingess, Beckl**	**58.78**	**349**	P	**P**	**04 55 21.1**	**+0.5**
	baz=167,SNR=19						
S54A				S	**S**	**05 03 15.6**	**-2.4**
	baz=167						
T50A	**Nancy**	**58.78**	**345**	IAmb	IAmb	04 55 22.3	
	comp=Z,25nm,0.7s						
R57A	**Stanardsville**	**58.80**	**351**	P	**P**	**04 55 21.4**	**+0.7**
	baz=170,SNR=22						
R57A				S	**S**	**05 03 16.2**	**-2.0**
	baz=170						
S53A	**Williamson**	**58.82**	**348**	P	**P**	**04 55 21.0**	**+0.2**
	baz=166						
S53A				S	**S**	**05 03 15.5**	**-3.0**
	baz=166						
X40A	**Basin Creek Fa**	**58.88**	**337**	P	**P**	**04 55 21.0**	**-0.2**
	baz=154,SNR=6.2						
X40A				S	**S**	**05 03 15.3**	**-4.0**
	baz=154						
UALR	**University of**	**58.95**	**338**	IAmb	IAmb	04 55 23.8	
	comp=Z,34nm,0.8s						
R55A	**Marlinton**	**59.04**	**350**	P	**P**	**04 55 23.6**	**+1.2**
	baz=168,SNR=17						
R55A				S	**S**	**05 03 20.0**	**-1.4**
	baz=168						
R55A	**Marlinton**	**59.04**	**350**	IAmb	IAmb	04 55 32.0	
	comp=Z,43nm,0.8s						
R56A	**Bull Pasture M**	**59.04**	**350**	P	**P**	**04 55 24.5**	**+2.1**
	baz=169,SNR=14						
R56A				S	**S**	**05 03 20.7**	**-0.8**
	baz=169						
R54A	**Victor**	**59.09**	**349**	P	**P**	**04 55 23.4**	**+0.7**
	baz=167,SNR=47						
R54A				S	**S**	**05 03 19.5**	**-2.5**
	baz=167						
SLBS	**Sierra La Lagu**	**59.11**	**315**	P	**P**	**04 55 22.4**	**-0.7**
Q60A	**Greensboro**	**59.17**	**354**	P	**P**	**04 55 23.6**	**+0.5**
	baz=173						
MIAR	**Mount Ida**	**59.20**	**336**	P	**P**	**04 55 23.5**	**0.0**
	baz=153,SNR=71						
W41B	**Gary Mavity, V**	**59.28**	**338**	P	**P**	**04 55 23.9**	**-0.1**
	baz=155						
W41B				S	**S**	**05 03 20.3**	**-4.1**
	baz=155						
W41B	**Gary Mavity, V**	**59.28**	**338**	IAmb	IAmb	04 55 25.9	
	comp=Z,22nm,0.8s						
Q58A	**Fox Den Farm,**	**59.32**	**352**	P	**P**	**04 55 24.6**	**+0.4**
	baz=171,SNR=13						
Q58A				S	**S**	**05 03 23.8**	**-1.1**
	baz=171						
WHAR	**Wooly Hollow**	**59.40**	**338**	IAmb	IAmb	04 55 25.9	
	comp=Z,26nm,0.9s						
R53A	**Hurricane**	**59.41**	**348**	P	**P**	**04 55 25.4**	**+0.5**
	baz=166,SNR=8.1						
R53A				S	**S**	**05 03 23.4**	**-2.7**
	baz=166						
R53A	**Hurricane**	**59.41**	**348**	IAmb	IAmb	04 55 30.2	
	comp=Z,38nm,0.8s						
TXAR	**Lajitas Array**	**59.49**	**325**	P	**P**	**04 55 26.1**	**+0.4**
	comp=Z,6.6nm,0.8s,baz=150,slow=8.4,SNR=68						
TXAR				pP	**pP**	**04 55 51.5**	**-0.2**
	comp=Z,22nm,0.9s,baz=149,slow=7.3,SNR=16						
TXAR				PKP2bc		05 25 09.5	
	comp=Z,0.5nm,0.8s,baz=253,slow=1.3,SNR=3.8						
TX31	**Lajitas Ar. Si**	**59.49**	**325**	IAmb	IAmb	04 55 26.9	
	comp=Z,60nm,1.1s						
Q57A	**Strasburg**	**59.51**	**351**	P	**P**	**04 55 26.5**	**+1.0**
	baz=170,SNR=34						
Q57A				S	**S**	**05 03 26.1**	**-1.2**
	baz=170						
Q56A	**Snyder Ridge,**	**59.63**	**351**	P	**P**	**04 55 27.5**	**+1.1**
	baz=169,SNR=38						
Q56A				S	**S**	**05 03 28.7**	**-0.2**
	baz=169						
LPIG	**La Paz**	**59.63**	**316**	P	**P**	**04 55 28.1**	**+1.5**
	comp=Z,60nm,0.9s,baz=180,slow=1.8,SNR=9.3						
LPIG				pP	**pP**	**04 55 52.6**	**+0.3**
	comp=Z,47nm,0.9s,baz=320,slow=5.3,SNR=3.5						
LCAR	**Lake Charles**	**59.71**	**339**	IAmb	IAmb	04 55 28.6	
	comp=Z,29nm,0.7s						
Q55A	**Buckhannon**	**59.73**	**350**	P	**P**	**04 55 28.2**	**+1.2**
	baz=168,SNR=43						
P61A	**Hammonton**	**59.73**	**355**	P	**P**	**04 55 27.5**	**+0.5**
	baz=174						
P58A	**Pank, Wackersv**	**59.81**	**353**	P	**P**	**04 55 28.0**	**+0.4**
	baz=171,SNR=9.0						
P58A				S	**S**	**05 03 29.1**	**-2.0**
	baz=171						
P59A	**Jarrettsville**	**59.83**	**353**	P	**P**	**04 55 28.2**	**+0.5**
	baz=172,SNR=13						
Q54A	**Coxs Mills**	**59.84**	**349**	P	**P**	**04 55 28.2**	**+0.4**
	baz=167						
Q54A				S	**S**	**05 03 29.2**	**-2.3**
	baz=167						
Q53A	**Leroy**	**59.84**	**349**	P	**P**	**04 55 28.3**	**+0.5**
	baz=167,SNR=50						
Q53A				S	**S**	**05 03 28.8**	**-2.8**
	baz=167						
W39A	**Magazine**	**59.86**	**337**	P	**P**	**04 55 28.7**	**+0.7**
	baz=153,SNR=86						
W39A				S	**S**	**05 03 29.9**	**-2.0**
	baz=153						
R50A	**Paris**	**59.87**	**346**	IAmb	IAmb	04 55 36.1	
	comp=Z,46nm,1.1s						
FCAR	**Ozark Folk Cen**	**59.88**	**338**	IAmb	IAmb	04 55 30.2	
	comp=Z,30nm,0.7s						
P57A	**Homestead Farm**	**59.90**	**352**	P	**P**	**04 55 29.1**	**+1.0**
	baz=170,SNR=21						
P57A				S	**S**	**05 03 31.8**	**-0.5**
	baz=170						
P57A	**Homestead Farm**	**59.90**	**352**	IAmb	IAmb	04 55 31.0	
	comp=Z,34nm,0.8s						
SHEL	**Horse Pasture**	**59.92**	**97**	P	**P**	**04 55 29.5**	**+0.6**
SHEL				pmax	pmax		
	comp=Z,166nm,1.1s						
SHEL	**Horse Pasture**	**59.92**	**97**	P	**P**	**04 55 29.5**	**+0.6**
P60A	**Greenville**	**59.95**	**354**	P	**P**	**04 55 28.4**	**0.0**
	baz=173,SNR=7.1						
P60A	**Greenville**	**59.95**	**354**	IAmb	IAmb	04 55 30.3	
	comp=Z,22nm,0.8s						
P56A	**Dayton Farm, R**	**60.03**	**351**	P	**P**	**04 55 30.1**	**+1.0**
	baz=170,SNR=16						
P56A				S	**S**	**05 03 33.3**	**-0.7**
	baz=170						
Q52A	**Bidwell**	**60.09**	**348**	P	**P**	**04 55 30.3**	**+0.8**
	baz=166,SNR=17						
Q52A				S	**S**	**05 03 32.1**	**-2.6**
	baz=166						
ABTX	**Abilene, Hawle**	**60.11**	**330**	P	**P**	**04 55 30.1**	**+0.2**
	baz=147,SNR=19						
ABTX	**Abilene, Hawle**	**60.11**	**330**	IAmb	IAmb	04 55 31.4	
	comp=Z,60nm,1.0s						
O61A	**Allentown**	**60.13**	**355**	P	**P**	**04 55 30.6**	**+0.9**
	baz=174,SNR=5.6						
P55A	**Reedsville**	**60.19**	**350**	P	**P**	**04 55 31.2**	**+1.0**
	baz=168,SNR=33						
P55A				S	**S**	**05 03 35.2**	**-0.9**
	baz=168						
MVL	**Millersville**	**60.21**	**353**	IAmb	IAmb	04 55 32.5	
	comp=Z,27nm,0.8s						
WCI	**Wyandotte Cave**	**60.29**	**344**	P	**P**	**04 55 30.5**	**-0.4**
	baz=161						
WCI				S	**S**	**05 03 32.6**	**-4.7**
	baz=161						
WCI	**Wyandotte Cave**	**60.29**	**344**	P	**P**	**04 55 30.7**	**-0.2**
WCI				pmax	pmax		
	comp=Z,48nm,1.1s						
WCI	**Wyandotte Cave**	**60.29**	**344**	P	**P**	**04 55 30.7**	**-0.2**
WCI				IAmb	IAmb	04 55 39.2	
	comp=Z,48nm,1.1s						
MCWV	**Mont Chateau**	**60.34**	**350**	P	**P**	**04 55 32.1**	**+0.9**
	baz=168,SNR=21						
MCWV				S	**S**	**05 03 37.0**	**-0.8**
	baz=168						
Q51A	**Peebles**	**60.37**	**347**	IAmb	IAmb	04 55 39.3	
	comp=Z,37nm,1.0s						
P54A	**Burton**	**60.38**	**350**	P	**P**	**04 55 32.3**	**+0.7**
	baz=168,SNR=46						
P54A				S	**S**	**05 03 36.9**	**-1.6**
	baz=168						
O58A	**Lewisberry**	**60.39**	**353**	P	**P**	**04 55 32.0**	**+0.4**
	baz=172,SNR=7.3						
O58A				S	**S**	**05 03 36.6**	**-2.0**
	baz=172						
USIN	**University of**	**60.40**	**343**	IAmb	IAmb	04 55 33.0	
	comp=Z,41nm,0.8s						
O60A	**Telford**	**60.43**	**354**	P	**P**	**04 55 32.0**	**+0.3**
	baz=173,SNR=5.5						
O60A				S	**S**	**05 03 36.5**	**-2.4**
	baz=173						
P53A	**Whipple**	**60.43**	**349**	P	**P**	**04 55 32.5**	**+0.6**
	baz=167,SNR=73						
P53A				S	**S**	**05 03 35.6**	**-3.4**
	baz=167						
O59A	**Robesonia**	**60.50**	**354**	P	**P**	**04 55 32.7**	**+0.5**
	baz=172						
U40A	**Yellville**	**60.56**	**338**	P	**P**	**04 55 32.6**	**-0.2**
	baz=154,SNR=54						
U40A				S	**S**	**05 03 37.1**	**-3.7**
	baz=154						
U40A	**Yellville**	**60.56**	**338**	IAmb	IAmb	04 55 33.8	
	comp=Z,39nm,0.8s						
O57A	**Amberson**	**60.56**	**352**	P	**P**	**04 55 33

BRNJ Basking Ridge 60.72 355 IAmb IAmb 04 55 39.0
comp=Z,23nm,0.8s
O56A Blue Knob Stat 60.74 352 P **P** **04 55 35.0 +1.0**
baz=170,SNR=28
O56A S **S** **05 03 40.7 -2.4**
baz=170
O56A Blue Knob Stat 60.74 352 IAmb IAmb 04 55 37.1
comp=Z,42nm,0.8s
P51A Williamsport 60.75 347 P **P** **04 55 33.8 -0.1**
baz=165,SNR=9.8
P51A S **S** **05 03 39.6 -3.5**
baz=165
P51A Williamsport 60.75 347 IAmb IAmb 04 55 35.8
comp=Z,31nm,0.7s
N61A South Mountain 60.77 355 P **P** **04 55 34.6 +0.6**
baz=174,SNR=5.3
O55A Ligonier 60.79 351 P **P** **04 55 35.0 +0.7**
baz=169,SNR=40
O55A S **S** **05 03 42.5 -1.1**
baz=169
HHAR Hobbs 60.88 337 IAmb IAmb 04 55 36.9
comp=Z,47nm,1.0s
O54A Avella 60.93 350 P **P** **04 55 35.6 +0.4**
baz=168,SNR=28
O54A S **S** **05 03 44.4 -1.1**
baz=168
O54A Avella 60.93 350 IAmb IAmb 04 55 38.1
comp=Z,52nm,0.8s
N60A Cedar Hill Far 60.95 355 P **P** **04 55 35.5 +0.2**
baz=174
X34A Smith Ranch, M 60.97 333 IAmb IAmb 04 55 38.1
comp=Z,53nm,0.7s
PAL Palisades 60.99 356 P **P** **04 55 35.6 +0.1**
baz=175
RKT Rikitea 61.00 254 *e*S S 05 03 36.3 -11
comp=Z,612nm,24.8s
RKT *e*LQ LQ 05 10 52.9
comp=Z,504nm,28.0s
RKT *e*LR LR 05 13 24.6
comp=Z,2µm,35.5s
SSPA Standing Stone 61.02 352 P **P** **04 55 36.4 +0.6**
baz=171
SSPA S **S** **05 03 45.2 -1.3**
baz=171
SSPA Standing Stone 61.02 352 P **P** **04 55 36.2 +0.5**
SSPA IAmb IAmb 04 55 37.7
comp=Z,32nm,1.0s
N59A State Game Lan 61.06 354 P **P** **04 55 36.3 +0.2**
baz=173,SNR=5.5
MGMO Mountain Grove 61.07 339 IAmb IAmb 04 55 38.2
comp=Z,56nm,0.8s
N58A Sunbury 61.08 353 P **P** **04 55 36.7 +0.5**
baz=172,SNR=16
N58A S **S** **05 03 45.2 -2.0**
baz=172
N58A Sunbury 61.08 353 IAmb IAmb 04 55 38.0
comp=Z,49nm,1.1s
N57A Milroy 61.09 353 P **P** **04 55 36.7 +0.4**
baz=171,SNR=20
N57A S **S** **05 03 45.3 -2.2**
baz=171
WSPT Westport, CT 61.11 356 IAmb IAmb 04 55 37.9
comp=Z,39nm,0.9s
O52A Adamsville 61.12 349 P **P** **04 55 36.6 +0.1**
baz=166,SNR=22
O52A S **S** **05 03 44.6 -3.3**
baz=166
O53A New Philadelph 61.14 349 P **P** **04 55 37.0 +0.4**
baz=167,SNR=30
O53A S **S** **05 03 45.4 -2.7**
baz=167
P49A Miami Univ. Ec 61.15 346 P **P** **04 55 36.3 -0.4**
baz=163,SNR=19
P49A S **S** **05 03 43.4 -4.8**
baz=163
P49A Miami Univ. Ec 61.15 346 IAmb IAmb 04 55 41.0
comp=Z,34nm,0.6s
YLE Yale 61.23 357 IAmb IAmb 04 55 39.6
comp=Z,56nm,0.8s
OLIL Olney 61.24 343 IAmb IAmb 04 55 38.6
comp=Z,36nm,0.7s
P48A Milroy 61.24 345 IAmb IAmb 04 55 47.8
comp=Z,24nm,0.7s
TUL1 Leonard 61.26 335 P **P** **04 55 37.7 +0.2**
baz=151,SNR=28
TUL1 S **S** **05 03 47.5 -2.3**
baz=151
TUL1 Leonard 61.26 335 IAmb IAmb 04 55 39.0
comp=Z,69nm,1.1s
M63A Gales Ferry 61.28 357 P **P** **04 55 37.7 +0.2**
baz=177
M63A S **S** **05 03 46.9 -2.9**
baz=177
M61A Granite Spring 61.28 356 P **P** **04 55 38.5 +1.0**
baz=175
O51A Pataskala 61.30 348 P **P** **04 55 37.7 +0.1**
baz=166,SNR=34
O51A S **S** **05 03 46.1 -4.0**
baz=166
N55A Marion Center 61.31 351 P **P** **04 55 38.6 +0.8**
baz=170,SNR=73
N55A S **S** **05 03 48.6 -1.7**
baz=170
N56A West Decatur 61.35 352 P **P** **04 55 38.7 +0.6**
baz=170,SNR=24
N56A S **S** **05 03 49.2 -1.5**
baz=170
M62A Hamden 61.36 357 P **P** **04 55 38.1 +0.1**
baz=176,SNR=6.0
M60A Port Jervis 61.36 355 P **P** **04 55 38.3 +0.2**
baz=174
VNA3 Neumayer Olymp 61.38 162 P **P** **04 55 39.0 +1.0**
M64A Tiverton 61.40 358 P **P** **04 55 37.9 -0.3**
baz=178
ACSO Alum Creek Sta 61.45 348 P **P** **04 55 39.0 +0.3**
baz=165,SNR=33
WMOK Wichita Mounta 61.49 332 P **P** **04 55 38.8 -0.4**
baz=148,SNR=18
OKCFA Oklahoma City 61.50 334 IAmb IAmb 04 55 40.1
comp=Z,31nm,0.6s
CCM Cathedral Cave 61.55 340 P **P** **04 55 39.2 -0.3**
baz=156
CCM S **S** **05 03 48.9 -4.5**
baz=156
CCM Cathedral Cave 61.55 340 P **P** **04 55 39.4 0.0**
CCM pmax pmax
comp=Z,56nm,0.8s
CCM Cathedral Cave 61.55 340 P **P** **04 55 39.4 0.0**
CCM IAmb IAmb 04 55 41.9
comp=Z,56nm,0.8s
M58A Price's Panora 61.58 354 P **P** **04 55 40.3 +0.7**
baz=172,SNR=23
M58A S **S** **05 03 51.6 -2.1**
baz=172
VNA1 Neumayer--Stat 61.59 161 P **P** **04 55 40.7 +1.5**
OK025 Westminster Rd 61.60 334 IAmb IAmb 04 55 40.7
comp=Z,53nm,0.7s
M57A Sunshine Farm, 61.62 353 P **P** **04 55 40.6 +0.8**
baz=172,SNR=14
M57A S **S** **05 03 52.5 -1.6**
baz=172
M57A Sunshine Farm, 61.62 353 IAmb IAmb 04 55 41.9
comp=Z,46nm,1.1s
N53A Lisbon 61.62 350 P **P** **04 55 40.4 +0.6**
baz=168,SNR=44
N53A S **S** **05 03 50.9 -3.2**
baz=168
N54A Moraine State 61.63 351 P **P** **04 55 40.8 +0.9**
baz=168,SNR=28
N54A S **S** **05 03 52.9 -1.4**
baz=168
M59A Waymart 61.64 354 P **P** **04 55 40.5 +0.5**
baz=173,SNR=13
O49A Covington 61.69 347 IAmb IAmb 04 55 42.6
comp=Z,52nm,0.9s
L63A North Scituate 61.72 358 P **P** **04 55 40.8 +0.4**
baz=177,SNR=20
L64A Middleborough 61.77 358 P **P** **04 55 41.0 +0.2**
baz=178
SLM Saint Louis 61.77 341 IAmb IAmb 04 55 51.1
comp=Z,34nm,0.7s
N52A McGinn's Farm, 61.77 349 P **P** **04 55 41.9 +1.1**
baz=167
P46A Rosedale 61.83 344 IAmb IAmb 04 55 43.1
comp=Z,49nm,0.8s
M56A Emporium 61.89 352 P **P** **04 55 42.1 +0.5**
baz=170,SNR=27
M56A S **S** **05 03 55.3 -2.3**
baz=170
M56A Emporium 61.89 352 IAmb IAmb 04 55 43.9
comp=Z,55nm,0.8s
M55A Ridgway 61.95 352 P **P** **04 55 42.6 +0.5**
baz=170,SNR=37
M55A S **S** **05 03 56.2 -2.2**
baz=170
M55A Ridgway 61.95 352 IAmb IAmb 04 55 44.4
comp=Z,54nm,0.8s
VNA2 Neumayer--Watz 61.95 161 P **P** **04 55 43.2 +1.4**
L60A Shokan 61.99 356 P **P** **04 55 42.9 +0.6**
baz=175,SNR=7.3
N51A Ashland 62.00 348 P **P** **04 55 42.8 +0.5**
baz=166,SNR=18
N51A S **S** **05 03 55.0 -3.9**
baz=166
R40A Maddies Statio 62.10 339 IAmb IAmb 04 55 44.9
comp=Z,57nm,0.7s
M54A Oil Creek Stat 62.12 351 P **P** **04 55 43.7 +0.5**
baz=169,SNR=49
M54A S **S** **05 03 58.6 -1.9**
baz=169
L61A Hillsdale 1, H 62.15 356 P **P** **04 55 43.6 +0.2**
baz=175
QUA2 Belchertown 62.17 357 IAmb IAmb 04 55 44.9
comp=Z,38nm,1.0s
L58A Harry Jones Me 62.18 354 P **P** **04 55 44.5 +0.9**
baz=173,SNR=22
L58A S **S** **05 03 59.5 -1.7**
baz=173
M53A WI Miller and 62.21 350 P **P** **04 55 44.2 +0.5**
baz=168,SNR=43
M53A S **S** **05 03 59.0 -2.6**
baz=168
L57A Andrews Acres 62.24 353 P **P** **04 55 44.5 +0.5**
baz=172,SNR=14
L57A S **S** **05 03 59.7 -2.3**
baz=172
L59A Walton 62.25 355 P **P** **04 55 44.9 +0.8**
baz=174,SNR=13
L59A S **S** **05 03 59.6 -2.6**
baz=174
MNTX Cornudas Mount 62.26 325 P **P** **04 55 44.1 -0.2**
baz=141,SNR=48
MNTX Cornudas Mount 62.26 325 P **P** **04 55 44.0 -0.3**
MNTX IAmb IAmb 04 55 45.4
comp=Z,33nm,1.1s
BINY Binghamton 62.35 354 P **P** **04 55 45.5 +0.8**
baz=173,SNR=25
BINY Binghamton 62.35 354 IAmb IAmb 04 55 47.2
comp=Z,66nm,0.8s
L61B Northampton 62.35 357 P **P** **04 55 44.8 +0.1**
baz=176
HRV Adam Dziewonsk 62.36 358 P **P** **04 55 45.2 +0.5**
baz=177
HRV Adam Dziewonsk 62.36 358 P **P** **04 55 45.3 +0.5**
HRV pmax pmax
comp=Z,73nm,0.9s
HRV Adam Dziewonsk 62.36 358 P **P** **04 55 45.3 +0.5**
HRV IAmb IAmb 04 55 47.0
comp=Z,73nm,0.9s
M51A Elyria 62.37 349 P **P** **04 55 44.9 +0.1**
baz=166,SNR=16
M51A S **S** **05 03 59.7 -3.8**
baz=166
T35A Sooner Cattle 62.42 335 IAmb IAmb 04 55 48.8
comp=Z,45nm,0.8s
M52A Chesterland 62.42 350 P **P** **04 55 45.5 +0.3**
baz=167,SNR=18
M52A S **S** **05 04 01.3 -2.9**
baz=167
L56A Greenwood 62.45 353 P **P** **04 55 45.9 +0.4**
baz=171,SNR=24
L56A S **S** **05 04 01.4 -3.3**
baz=171
L56A Greenwood 62.45 353 IAmb IAmb 04 55 47.7
comp=Z,47nm,0.8s
SFIN Lafayette 62.52 344 P **P** **04 55 45.2 -0.7**
baz=161,SNR=44
SFIN S **S** **05 03 58.8 -6.7**
baz=161
K63A Dunstable 62.54 358 P **P** **04 55 45.3 -0.6**
baz=177
K63A S **S** **05 04 03.6 -2.0**
baz=177
K62A Royalston 62.55 357 P **P** **04 55 46.2 +0.2**
baz=177
M50A Fremont 62.60 348 IAmb IAmb 04 55 48.4
comp=Z,57nm,0.8s
K61A Williamstown 62.60 356 P **P** **04 55 47.4 +1.0**
baz=176
L55A Hinsdale 62.61 352 P **P** **04 55 47.1 +0.6**
baz=170,SNR=29
L55A S **S** **05 04 04.6 -2.0**
baz=170
L53A Girard 62.65 351 P **P** **04 55 47.0 +0.3**
baz=168,SNR=45
L53A S **S** **05 04 04.7 -2.3**
baz=168
N47A Urbana 62.66 346 IAmb IAmb 04 55 56.9
comp=Z,76nm,1.0s
O44A Mansfield 62.67 343 IAmb IAmb 04 55 47.8
comp=Z,51nm,0.7s
MSTX Muleshoe 62.71 329 P **P** **04 55 47.3 -0.1**
baz=144,SNR=46
MSTX Muleshoe 62.71 329 IAmb IAmb 04 55 48.7
comp=Z,102nm,1.1s
ERPA Erie 62.76 351 P **P** **04 55 48.0 +0.6**
baz=168,SNR=40
ERPA S **S** **05 04 06.8 -1.7**
baz=168
L54A Sinclairville 62.78 351 P **P** **04 55 48.2 +0.7**
baz=169,SNR=40
L54A S **S** **05 04 07.0 -1.7**
baz=169
K59A Cooperstown 62.82 355 P **P** **04 55 48.6 +0.8**
baz=174
K59A S **S** **05 04 07.2 -2.0**
baz=174
K58A Earlville 62.88 354 P **P** **04 55 48.8 +0.6**
baz=173,SNR=16
K58A S **S** **05 04 08.0 -1.9**
baz=173
K57A Scipio Center 62.93 354 P **P** **04 55 48.8 +0.2**
baz=172,SNR=19
K57A S **S** **05 04 07.7 -2.8**
baz=172
AMTX Amarillo 62.93 330 P **P** **04 55 48.6 -0.2**
baz=146
U32A Winter Ranch, 62.98 333 IAmb IAmb 04 55 50.5
comp=Z,46nm,1.0s
K56A Middlesex 62.98 353 P **P** **04 55 49.1 +0.2**
baz=171,SNR=16
K56A S **S** **05 04 07.0 -4.3**
baz=171
K54A Basiliko Farm, 63.06 352 P **P** **04 55 50.1 +0.7**
baz=170,SNR=23
K54A S **S** **05 04 09.0 -3.2**
baz=170
MMNY Mt. Morris Dam 63.08 353 IAmb IAmb 04 55 51.7
comp=Z,55nm,0.7s
J62A Henniker 63.09 358 P **P** **04 55 50.2 +0.6**
baz=177
K55A Perry 63.10 352 P **P** **04 55 50.0 +0.3**
baz=171,SNR=22
K55A S **S** **05 04 09.9 -2.8**
baz=171
SRIG Santa Rosalia 63.11 317 P **P** **04 55 49.6 -0.5**
SRIG IAmb IAmb 04 55 53.0
comp=Z,55nm,0.9s
J63A Strafford 63.12 358 P **P** **04 55 50.0 +0.3**
baz=178
P40A Paris 63.15 340 IAmb IAmb 04 55 51.9
comp=Z,62nm,0.7s
J60A Lant Hill Farm 63.19 356 P **P** **04 55 50.9 +0.7**
baz=176
J61A Chester 63.24 357 P **P** **04 55 52.2 +1.6**
baz=176
HDIL Hopedale 63.27 343 P **P** **04 55 50.3 -0.5**
baz=159,SNR=26
HDIL S **S** **05 04 09.2 -5.7**
baz=159
J58A Remsen 63.44 355 P **P** **04 55 53.3 +1.4**
baz=174
J58A S **S** **05 04 14.9 -1.9**
baz=174
J59A Piesco 63.48 355 P **P** **04 55 53.0 +0.8**
baz=174,SNR=10
J59A S **S** **05 04 16.3 -1.1**
baz=174
HSIG 63.48 319 P **P** **04 55 52.1 -0.4**
HSIG IAmb IAmb 04 55 55.8
comp=Z,43nm,1.0s
J56A Wolcott 63.50 354 P **P** **04 55 52.4 +0.1**
baz=172,SNR=16
J56A S **S** **05 04 14.7 -2.9**
baz=172
J57A Williamstown 63.55 354 P **P** **04 55 53.1 +0.5**
baz=173,SNR=12
J57A S **S** **05 04 15.2 -2.9**
baz=173
J57A Williamstown 63.55 354 IAmb IAmb 04 55 54.7
comp=Z,50nm,0.8s
AAM Ann Arbor 63.58 348 P **P** **04 55 53.9 +1.1**
baz=165
AAM S **S** **05 04 14.0 -4.6**
baz=165
J55A Hilton 63.60 353 P **P** **04 55 53.0 +0.1**
baz=171,SNR=8.8
J55A S **S** **05 04 16.3 -2.5**
baz=171
J55A Hilton 63.60 353 IAmb IAmb 04 55 54.9
comp=Z,44nm,0.8s
J54A Appleton 63.71 352 P **P** **04 55 53.9 +0.3**
baz=170,SNR=7.4
J54A S **S** **05 04 18.0 -2.1**
baz=170
J54A Appleton 63.71 352 IAmb IAmb 04 55 55.7
comp=Z,32nm,0.8s
I62A Tamworth 63.72 358 P **P** **04 55 54.4 +0.7**
baz=178
P38A Dawn 63.73 339 IAmb IAmb 04 55 55.8
comp=Z,63nm,0.8s
I64A Boothbay 63.73 359 P **P** **04 55 54.4 +0.7**
baz=179,SNR=5.3
I64A S **S** **05 04 19.9 -0.5**
baz=179
I58A Old Forge 63.74 355 P **P** **04 55 54.4 +0.5**
baz=174,SNR=13
I59A Olmsteadville 63.76 356 P **P** **04 55 55.1 +1.1**
baz=175
I59A S **S** **05 04 19.3 -1.6**
baz=175
I60A Shoreham 63.78 356 P **P** **04 55 54.9 +0.9**
baz=176,SNR=16
I60A S **S** **05 04 20.8 -0.1**
baz=176
I61A Oroboro, Fairl 63.81 357 P **P** **04 55 55.3 +1.0**
baz=177,SNR=17
I61A S **S** **05 04 20.5 -0.9**
baz=177
N41A Harden Midland 63.86 342 IAmb IAmb 04 55 56.1
comp=Z,55nm,0.8s
I63A Otisfield 63.87 359 P **P** **04 55 55.6 +0.9**
baz=178
I63A Otisfield 63.87 359 IAmb IAmb 04 55 56.9
comp=Z,38nm,1.1s
L46A Eue Claire 63.87 346 IAmb IAmb 04 56 04.3
comp=Z,58nm,1.1s
I57A Carthage 64.04 355 P **P** **04 55 56.3 +0.5**
baz=173,SNR=14
I57A S **S** **05 04 22.4 -1.9**
baz=173
HQIL Hanson Quary C 64.05 344 IAmb IAmb 04 55 57.6
comp=Z,33nm,0.7s
LBNH Lisbon 64.11 358 P **P** **04 55 57.1 +0.9**
baz=177,SNR=16
LBNH S **S** **05 04 25.4 +0.4**
baz=177
LBNH Lisbon 64.11 358 IAmb IAmb 04 55 58.4
comp=Z,54nm,1.1s
PECO Prince Edward 64.17 354 IAmb IAmb 04 55 58.7
comp=Z,60nm,0.9s
121A Cookes Peak, D 64.20 324 P **P** **04 55 59.0 +1.6**
baz=139,SNR=20
KSU1 Kansas State U 64.36 336 P **P** **04 55 57.9 -0.1**
baz=151,SNR=16
KSU1 S **S** **05 04 26.7 -1.7**
baz=151
KSU1 Kansas State U 64.36 336 IAmb IAmb 04 55 59.1
comp=Z,50nm,0.9s
WVL Waterville 64.37 359 IAmb IAmb 04 55 59.9
comp=Z,42nm,1.1s
H61A Lyndonville 64.40 358 P **P** **04 55 59.1 +0.9**
baz=177,SNR=15
H61A S **S** **05 04 29.1 +0.5**
baz=177
H58A Gabriels 64.40 356 P **P** **04 55 58.7 +0.5**
baz=175,SNR=24
H58A S **S** **05 04 27.3 -1.5**
baz=175
H62A Milan 64.41 358 P **P** **04 55 59.2 +1.0**
baz=178,SNR=5.8
L44A Lake County Fo 64.42 344 P **P** **04 55 58.3 -0.1**
baz=160,SNR=6.5
L44A Lake County Fo 64.42 344 IAmb IAmb 04 56 00.3
comp=Z,49nm,1.0s
H64A Troy 64.45 360 P **P** **04 55 59.0 +0.6**
baz=180,SNR=7.4
H64A S **S** **05 04 28.6 -0.6**
baz=180
H60A Morristown 64.46 357 P **P** **04 55 59.3 +0.8**
baz=176,SNR=6.9
H63A New Sharon 64.47 359 P **P** **04 56 00.3 +1.7**
baz=179
H65A Eastbrook 64.50 1 P **P** **04 55 59.3 +0.5**
baz=181,SNR=8.9
H65A S **S** **05 04 28.8 -1.1**
baz=181
I55A Frankford 64.52 353 P **P** **04 55 59.2 +0.3**
baz=171,SNR=33
I55A S **S** **05 04 27.6 -2.5**
baz=171
EMMW East Machias 64.53 1 P **P** **04 55 59.7 +0.8**
EMMW IAmb IAmb 04 56 00.7
comp=Z,33nm,1.0s
H57A Richville 64.54 355 P **P** **04 55 59.4 +0.4**
baz=174,SNR=32
I51A Listowel 64.57 350 P **P** **04 55 59.4 +0.1**
baz=168,SNR=34
I51A S **S** **05 04 27.0 -3.8**
baz=168
R32A Long Quarter, 64.59 334 IAmb IAmb 04 56 01.3
comp=Z,60nm,0.8s
H59A Cadyville 64.60 356 P **P** **04 56 00.1 +0.6**
baz=175,SNR=16
H59A S **S** **05 04 30.5 -0.6**
baz=175
H66A Whiting 64.61 1 P **P** **04 55 60.0 +0.5**
baz=182,SNR=18
H66A S **S** **05 04 29.6 -1.6**
baz=182
HAL Halifax 64.63 4 IAmb IAmb 04 56 01.1
comp=Z,51nm,1.0s
LONY Lake Ozonia 64.63 356 P **P** **04 56 00.3 +0.6**
baz=174,SNR=25
LONY S **S** **05 04 30.0 -1.6**
baz=174
LONY Lake Ozonia 64.63 356 IAmb IAmb 04 56 01.6
comp=Z,74nm,1.1s
J47A Sunmer 64.72 347 IAmb IAmb 04 56 02.5
comp=Z,73nm,0.8s
L42A Oliver, Polo 64.72 343 IAmb IAmb 04 56 01.8
comp=Z,25nm,0.7s
H56A Elgin 64.75 354 P **P** **04 56 00.8 +0.4**
baz=173,SNR=24
H56A S **S** **05 04 30.4 -2.4**
baz=173
FRNY Flat Rock 64.78 356 IAmb IAmb 04 56 02.6
comp=Z,45nm,1.1s
H55A Tweed 64.80 353 P **P** **04 56 01.1 +0.4**
baz=172,SNR=14
H55A S **S** **05 04 30.8 -2.8**
baz=172
DELO Deloro Mine 64.81 353 IAmb IAmb 04 56 02.8
comp=Z,30nm,0.7s
G63A Kingsbury 64.92 359 P **P** **04 56 02.1 +0.6**
baz=180,SNR=10
G63A S **S** **05 04 33.8 -1.3**
baz=180
GGN Saint George 64.95 2 IAmb IAmb 04 56 03.5
comp=Z,42nm,1.1s
G60A Masonville 64.98 357 P **P** **04 56 02.7 +0.8**
baz=177,SNR=10
G60A S **S** **05 04 34.8 -0.9**
baz=177

H53A Bobcaygeon 64.98 352 P **P** **04 56 02.1 +0.2**
baz=170,SNR=27
H53A S **S** **05 04 32.8 -3.0**
baz=170
G59A Clarenceville 65.00 357 P **P** **04 56 02.3 +0.3**
baz=176
G65A Princeton 65.02 1 P **P** **04 56 02.6 +0.5**
baz=182,SNR=18
G65A S **S** **05 04 34.5 -1.7**
baz=182
G65A Princeton 65.02 1 IAmb IAmb 04 56 04.4
comp=Z,36nm,0.8s
G62A West of Eustis 65.04 359 P **P** **04 56 03.4 +1.0**
baz=178,SNR=26
G62A S **S** **05 04 35.2 -1.3**
baz=178
G62A West of Eustis 65.04 359 IAmb IAmb 04 56 05.1
comp=Z,79nm,0.9s
G64A Maxfield 65.06 0 P **P** **04 56 02.7 +0.3**
baz=180,SNR=12
G64A S **S** **05 04 35.2 -1.5**
baz=180
PKME Peaks-Kenny Pk 65.07 360 P **P** **04 56 02.8 +0.3**
baz=180,SNR=13
PKME S **S** **05 04 35.4 -1.4**
baz=180
PKME Peaks-Kenny Pk 65.07 360 IAmb IAmb 04 56 04.2
comp=Z,45nm,1.0s
G58A Ormstown 65.12 356 P **P** **04 56 03.3 +0.5**
baz=175,SNR=12
G61A St-Isidore-de- 65.13 358 P **P** **04 56 03.9 +1.0**
baz=178,SNR=17
G61A S **S** **05 04 37.6 -0.1**
baz=178
G57A Newington 65.14 355 P **P** **04 56 03.5 +0.6**
baz=174,SNR=28
G57A S **S** **05 04 36.1 -1.6**
baz=174
L40A Anamosa 65.22 342 IAmb IAmb 04 56 06.3
comp=Z,35nm,0.8s
SADO Sadowa 65.25 352 P **P** **04 56 03.6 0.0**
comp=Z,30nm,0.7s,baz=187,slow=5.3,SNR=38
SADO pP **pP** **04 56 30.1 0.0**
comp=Z,56nm,0.7s,baz=203,slow=5.0,SNR=10
SADO S **S** **05 04 37.0 -2.0**
comp=Z,1.6nm,0.6s,baz=324,slow=21,SNR=1.3
SADO Sadowa 65.25 352 IAmb IAmb 04 56 05.4
comp=Z,30nm,0.8s
PLVO Plevna 65.27 354 IAmb IAmb 04 56 05.5
comp=Z,43nm,1.0s
ANMO Albuquerque 65.34 327*d* iP **P** **04 56 05.6 +0.9**
ANMO *i* *PP **pP** **04 56 31.2 +0.2**
ANMO pmax pmax
comp=Z,60nm,2.0s
CBKS Cedar Bluff 65.35 334 P **P** **04 56 05.1 +0.6**
baz=148,SNR=12
CBKS Cedar Bluff 65.35 334 IAmb IAmb 04 56 06.5
comp=Z,88nm,0.9s
G55A Calabogie 65.44 354 P **P** **04 56 05.3 +0.4**
baz=172,SNR=13
G55A S **S** **05 04 39.3 -2.1**
baz=172
F63A Nahmakanta, Br 65.51 360 P **P** **04 56 05.5 +0.2**
baz=180
F63A S **S** **05 04 40.9 -1.3**
baz=180
ORIO Orleans, Innes 65.53 355 P **P** **04 56 05.7 +0.3**
baz=173,SNR=23
GBN Guysborough 65.56 6 IAmb IAmb 04 56 09.8
comp=Z,40nm,1.1s
F64A Sherman 65.67 0 P **P** **04 56 06.8 +0.4**
baz=181,SNR=18
F64A S **S** **05 04 43.0 -1.2**
baz=181
F64A Sherman 65.67 0 IAmb IAmb 04 56 08.1
comp=Z,48nm,1.0s
SCIA State Center 65.68 340 P **P** **04 56 06.7 +0.2**
baz=155,SNR=7.9
SCIA State Center 65.68 340 IAmb IAmb 04 56 09.5
comp=Z,79nm,0.9s
F62A Pittston Farm, 65.71 359 P **P** **04 56 06.7 +0.1**
baz=179,SNR=10
JFWS Jewell Farm 65.72 343 P **P** **04 56 07.0 +0.2**
baz=158,SNR=29
JFWS S **S** **05 04 40.9 -4.1**
baz=158
JFWS Jewell Farm 65.72 343 IAmb IAmb 04 56 09.3
comp=Z,40nm,0.8s
G54A Lake Saint Pet 65.73 353 P **P** **04 56 06.9 +0.1**
baz=171,SNR=22
G54A S **S** **05 04 42.0 -3.0**
baz=171
TUC Tucson 65.74 322 P **P** **04 56 08.5 +1.3**
baz=137
TUC Tucson 65.74 322 P **P** **04 56 06.9 -0.3**
TUC pmax pmax
comp=Z,9.0nm,1.2s
TUC Tucson 65.74 322 P **P** **04 56 06.9 -0.3**
LMN Caledonia Moun 65.77 3 IAmb IAmb 04 56 08.2
comp=Z,49nm,1.0s
F61A St Evariste 65.81 358 P **P** **04 56 07.2 0.0**
baz=178,SNR=8.7
F61A S **S** **05 04 45.4 -0.4**
baz=178
F58A St-Lin Laurent 65.82 356 P **P** **04 56 08.0 +0.7**
baz=175
F57A Harrington 65.83 356 P **P** **04 56 07.4 +0.1**
baz=174
F60A Warwick 65.83 358 P **P** **04 56 07.5 +0.1**
baz=177,SNR=12
F55A Otter Lake 65.98 354 P **P** **04 56 08.6 +0.2**
baz=173
F55A S **S** **05 04 46.4 -1.6**
baz=173
T25A Trinidad 66.05 330 P **P** **04 56 10.3 +1.0**
baz=144,SNR=31
GLMI Grayling 66.20 348 P **P** **04 56 10.6 +0.8**
baz=164,SNR=12
GLMI S **S** **05 04 46.3 -4.4**
baz=164
E60A Ste Agathe de 66.21 358 P **P** **04 56 09.9 +0.1**
baz=176,SNR=6.1
K38A Parkersburg 66.21 341 IAmb IAmb 04 56 11.7
comp=Z,38nm,0.7s
E63A Oxbow 66.23 0 P **P** **04 56 10.3 +0.4**
baz=181,SNR=12
E63A S **S** **05 04 48.6 -2.3**
baz=181
E63A Oxbow 66.23 0 P **P** **04 56 10.6 +0.7**
E63A IAmb IAmb 04 56 11.7
comp=Z,42nm,1.1s
E64A Bridgewater 66.23 1 P **P** **04 56 10.4 +0.5**
baz=181,SNR=13
E64A S **S** **05 04 48.7 -2.2**
baz=181
E61A Lac Etchemin 66.25 359 P **P** **04 56 11.0 +0.9**
baz=179,SNR=9.5
E61A S **S** **05 04 51.1 -0.2**
baz=179
ALGO Algonquin Park 66.28 353 P **P** **04 56 10.3 +0.1**
baz=171,SNR=34
I42A Draeger Farm, 66.28 344 IAmb IAmb 04 56 12.3
comp=Z,46nm,0.7s
E58A La Victoria 66.30 357 P **P** **04 56 10.6 +0.3**
baz=176,SNR=16
E58A S **S** **05 04 49.7 -2.0**
baz=176
E57A Chemin Saint G 66.39 356 P **P** **04 56 11.2 +0.2**
baz=175,SNR=18
E57A S **S** **05 04 50.3 -2.6**
baz=175
E62A Clayton Lake 66.43 360 P **P** **04 56 11.9 +0.7**
baz=180,SNR=27
E62A S **S** **05 04 52.5 -0.8**
baz=180
E62A Clayton Lake 66.43 360 IAmb IAmb 04 56 13.7
comp=Z,40nm,0.8s
PQI Presque Isle 66.48 1 P **P** **04 56 12.2 +0.6**
PQI IAmb IAmb 04 56 13.2
comp=Z,42nm,1.1s
H43A Windswept, Lux 66.55 345 IAmb IAmb 04 56 13.8
comp=Z,43nm,0.7s
E55A Montcerf-Lytto 66.57 355 P **P** **04 56 12.5 +0.4**
baz=173,SNR=8.7
E55A S **S** **05 04 53.7 -1.4**
baz=173
E56A St. Veronique 66.58 355 P **P** **04 56 12.4 +0.2**
baz=174,SNR=25
E56A S **S** **05 04 53.3 -1.8**
baz=174
G45A Suttons Bay 66.62 347 P **P** **04 56 12.8 +0.4**
G45A IAmb IAmb 04 56 16.9
comp=Z,40nm,0.7s
F49A Sandfield 66.64 350 P **P** **04 56 12.2 -0.3**
baz=167,SNR=33
F49A S **S** **05 04 51.2 -4.8**
baz=167
E53A Dumoine, Ponti 66.66 353 P **P** **04 56 12.9 +0.2**
baz=171
E53A S **S** **05 04 52.2 -3.9**
baz=171
E54A Lac Daplat, Po 66.66 354 P **P** **04 56 12.8 +0.2**
baz=172,SNR=38
E54A S **S** **05 04 52.9 -3.3**
baz=172
E52A Mattawa 66.68 353 P **P** **04 56 12.5 -0.3**
baz=170,SNR=14
E52A S **S** **05 04 53.7 -2.6**
baz=170
214A Organ Pipe Nat 66.69 320 P **P** **04 56 15.1 +1.8**
baz=135,SNR=67
I40A Norwalk 66.73 343 IAmb IAmb 04 56 15.0
comp=Z,41nm,0.9s
D60A Saint Jean D'O 66.74 359 P **P** **04 56 13.4 +0.3**
baz=178
KSCO Kaye Shedlock' 66.75 332 P **P** **04 56 14.4 +0.8**
baz=146,SNR=25
KSCO Kaye Shedlock' 66.75 332 IAmb IAmb 04 56 15.9
comp=Z,92nm,1.1s
F48A Evansville 66.80 350 P **P** **04 56 13.2 -0.3**
baz=166,SNR=32
F48A S **S** **05 04 53.0 -4.8**
baz=166
D63A Stockholm 66.85 1 P **P** **04 56 14.4 +0.6**
baz=181,SNR=15
D63A S **S** **05 04 56.9 -1.4**
baz=181
D59A Saint-Raymond 66.86 358 P **P** **04 56 14.3 +0.4**
baz=177
D62A Allapoint, All 66.89 360 P **P** **04 56 14.6 +0.5**
baz=180
D62A S **S** **05 04 57.5 -1.4**
baz=180
D62A Allapoint, All 66.89 360 IAmb IAmb 04 56 16.4
comp=Z,61nm,0.8s
BGNE Belgrade 66.95 336 P **P** **04 56 15.5 +0.8**
baz=150
D57A Chemin Vers le 66.97 356 P **P** **04 56 15.2 +0.5**
baz=175,SNR=31
D57A S **S** **05 04 58.7 -1.2**
baz=175
D58A Chemin du LacG 67.00 357 P **P** **04 56 15.4 +0.6**
baz=176,SNR=26
D58A S **S** **05 04 58.3 -1.9**
baz=176
D61A St Aubert, Com 67.02 359 P **P** **04 56 15.6 +0.8**
baz=179,SNR=5.8
D61A S **S** **05 04 59.5 -0.9**
baz=179
E51A G1948 Merrick 67.03 352 P **P** **04 56 15.2 +0.2**
baz=169,SNR=21
E51A S **S** **05 04 57.4 -3.1**
baz=169
SDCO Great Sand Dun 67.06 329 P **P** **04 56 17.0 +1.3**
baz=143,SNR=101
SDCO Great Sand Dun 67.06 329 IAmb IAmb 04 56 19.1
comp=Z,52nm,1.1s
D56A ZEC Mazanza, M 67.06 356 P **P** **04 56 15.5 +0.3**
baz=174,SNR=16
D56A S **S** **05 04 58.7 -2.3**
baz=174
D55A Sainte-Anne-du 67.09 355 P **P** **04 56 15.5 +0.2**
baz=174,SNR=38
D55A S **S** **05 04 59.3 -2.0**
baz=174
E50A Wahnapitae 67.09 351 P **P** **04 56 15.9 +0.5**
baz=168,SNR=16
E50A S **S** **05 04 57.7 -3.6**
baz=168
BATG Bathurst New B 67.13 2 IAmb IAmb 04 56 17.3
comp=Z,45nm,1.0s
W18A Petrified Fore 67.21 324 P **P** **04 56 18.1 +1.5**
baz=138,SNR=12
W18A Petrified Fore 67.21 324 P **P** **04 56 16.3 -0.4**
W18A IAmb IAmb 04 56 20.2
comp=Z,55nm,1.1s
LATQ La Tuque 67.28 357 P **P** **04 56 17.3 +0.8**
baz=176
D54A Lac Fusel, La 67.32 354 P **P** **04 56 16.6 -0.2**
baz=172,SNR=16
D54A S **S** **05 05 01.9 -2.2**
baz=172
D52A ZEK Kipawa Sen 67.33 353 P **P** **04 56 17.3 +0.4**
baz=171,SNR=24
D52A S **S** **05 05 02.2 -2.0**
baz=171
D53A Lac Vacive, Po 67.35 354 P **P** **04 56 17.3 +0.3**
baz=171,SNR=41
D53A S **S** **05 05 02.1 -2.4**
baz=171
D53A Lac Vacive, Po 67.35 354 IAmb IAmb 04 56 19.8
comp=Z,43nm,0.8s
E48A Lockeyer 67.36 350 P **P** **04 56 17.2 +0.1**
baz=167,SNR=31
E48A S **S** **05 05 00.9 -3.6**
baz=167
E47A Iron Bridge 67.52 349 P **P** **04 56 18.7 +0.6**
baz=166,SNR=18
E47A S **S** **05 05 02.2 -4.3**
baz=166
D51A Lot 18 Range I 67.56 352 P **P** **04 56 18.4 +0.1**
baz=170,SNR=16
D51A S **S** **05 05 03.6 -3.3**
baz=170
E46A Sault Ste Mari 67.62 349 IAmb IAmb 04 56 20.5
comp=Z,30nm,0.7s
D50A G1974 Best Tow 67.69 352 P **P** **04 56 19.3 +0.1**
baz=169,SNR=17
D50A S **S** **05 05 04.9 -3.6**
baz=169
S22A 4UR Ranch, Cre 67.70 328 P **P** **04 56 20.7 +0.8**
baz=142,SNR=22
Q24A Divide 67.86 330 P **P** **04 56 22.0 +1.2**
baz=144
D48A Paudash Townsh 67.98 351 P **P** **04 56 21.3 +0.3**
baz=167,SNR=22
D48A S **S** **05 05 07.6 -4.4**
baz=167
D49A Beulah Townshi 68.01 351 P **P** **04 56 21.8 +0.6**
baz=168,SNR=32
D49A S **S** **05 05 08.8 -3.5**
baz=168
LIC Lamto 68.03 74 *e*P **P** **04 56 20.4 -1.7**
comp=Z,1μm,1.4s
D47A Chapleau 68.08 350 P **P** **04 56 21.3 -0.3**
baz=166,SNR=18
D47A S **S** **05 05 08.4 -4.8**
baz=166
D46A Sault St. Mari 68.08 349 P **P** **04 56 21.3 -0.3**
baz=165
D46A S **S** **05 05 08.2 -5.0**
baz=165
OGNE Ogallala 68.09 334 P **P** **04 56 22.8 +0.8**
baz=147,SNR=15
OGNE Ogallala 68.09 334 IAmb IAmb 04 56 24.9
comp=Z,64nm,0.7s
NVL N'lazarevskaya 68.12 159 *e*P **P** **04 56 22.6 +1.0**
NVL *e*S **S** **05 05 14.2 +1.0**
NVL pmax pmax
comp=Z,69nm,0.9s
MVCO Mesa Verde 68.13 327 P **P** **04 56 23.7 +1.2**
baz=140,SNR=35
MVCO S **S** **05 05 15.7 +1.0**
baz=140
MVCO Mesa Verde 68.13 327 IAmb IAmb 04 56 25.9
comp=Z,38nm,0.9s
TIC Toumodi 68.21 74 *e*P **P** **04 56 21.4 -1.8**
VLDQ Val d'Or 68.35 354 IAmb IAmb 04 56 25.6
comp=Z,37nm,0.8s
KIC Kosan Boka 68.35 74 *e*P **P** **04 56 22.3 -1.7**
comp=Z,2μm,1.4s
DBIC Dimbokro 68.37 74 P **P** **04 56 23.9 -0.2**
comp=Z,390nm,0.9s,baz=221,slow=6.2,SNR=247
DBIC pP **pP** **04 56 51.5 +0.6**
comp=Z,163nm,0.8s,baz=213,slow=7.0,SNR=6.5
DBIC S **S** **05 05 14.8 -3.1**
comp=Z,6.7nm,1.0s,baz=62,slow=21,SNR=8.7
DBIC LR LR 05 24 37.5
comp=Z,432nm,21.8s,baz=228,slow=34
DBIC Dimbokro 68.37 74 P **P** **04 56 24.2 0.0**
DBIC pmax pmax
comp=Z,598nm,1.0s
DBIC Dimbokro 68.37 74 P **P** **04 56 24.2 0.0**
WUAZ Wupatki 68.41 324 P **P** **04 56 26.0 +1.9**
baz=137,SNR=49
ECSD EROS Data Cent 68.43 339 P **P** **04 56 24.0 +0.1**
baz=152,SNR=53
ECSD S **S** **05 05 15.3 -2.2**
baz=152
ECSD EROS Data Cent 68.43 339 IAmb IAmb 04 56 26.8
comp=Z,26nm,0.7s
SPMN Marine on St. 68.57 342 P **P** **04 56 24.6 -0.1**
baz=156,SNR=25
SPMN S **S** **05 05 15.8 -3.3**
baz=156
SPMN Marine on St. 68.57 342 IAmb IAmb 04 56 27.5
comp=Z,30nm,0.7s
GLA Glamis 68.67 320 P **P** **04 56 27.6 +1.9**
baz=134,SNR=8.5
ISCO Idaho Springs 68.74 330 P **P** **04 56 27.4 +1.1**
baz=143,SNR=43
D41A Chassel 69.17 346 IAmb IAmb 04 56 30.8
comp=Z,48nm,0.9s
IKP In-Ko-Pah, Jac 69.19 319 P **P** **04 56 31.0 +2.1**
baz=133,SNR=17
SWSC Sam W. Stewart 69.20 319 P **P** **04 56 30.9 +2.0**
baz=133,SNR=8.1
LSQQ Lebel-sur-Quev 69.24 354 P **P** **04 56 28.9 +0.2**
baz=172
TAOE Nuku Hiva Isla 69.43 268 *e*LR LR 05 17 25.0
comp=Z,747nm,40.4s
TAOE Nuku Hiva Isla 69.43 268 *e*T T 06 10 55.5
comp=Z,36nm,0.2s
BC3 Big Chuckawall 69.47 320 P **P** **04 56 32.6 +1.9**
baz=134,SNR=26
MONP2 Monument Peak 69.55 319 P **P** **04 56 33.4 +2.1**
baz=133,SNR=21
IRM Iron Mountain 69.63 320 P **P** **04 56 33.5 +2.0**
baz=134,SNR=48
N23A Red Feather La 69.77 331 P **P** **04 56 33.7 +1.2**
baz=143,SNR=32
DRLN Deer Lake 69.81 8 IAmb IAmb 04 56 33.8
comp=Z,66nm,0.8s
SUSD Miller 69.87 338 S **S** **05 05 33.6 -0.9**
baz=150
CHGQ Chibougamau 69.89 356 P **P** **04 56 32.9 +0.1**
baz=175,SNR=17
109C Camp Elliot, M 69.97 318 P **P** **04 56 35.4 +1.8**
baz=132,SNR=5.8
MATQ Matagami 70.00 354 P **P** **04 56 33.1 -0.3**
baz=172,SNR=18
BELC Belle Mtn. Jos 70.04 320 P **P** **04 56 36.2 +2.0**
baz=133,SNR=28
PFO Pinyon Flats O 70.06 319 P **P** **04 56 36.1 +1.8**
comp=Z,47nm,1.1s,baz=129,slow=5.1,SNR=29
PFO pP **pP** **04 57 02.3 +1.5**
comp=Z,45nm,0.8s,baz=122,slow=5.2,SNR=12
PFO Pinyon Flats O 70.06 319 P **P** **04 56 36.3 +2.0**
baz=133,SNR=24
PFO Pinyon Flats O 70.06 319*d* iP **P** **04 56 36.1 +1.8**
PFO pmax pmax
comp=Z,91nm,1.1s
PFO Pinyon Flats O 70.06 319 P **P** **04 56 33.8 -0.5**
PFO IAmb IAmb 04 56 37.6
comp=Z,45nm,1.0s
QSPA South Pole Qui 70.06 180 P **P** **04 56 35.3 +1.4**
comp=Z,22nm,0.7s,baz=180,slow=0.2,SNR=113
QSPA S **S** **05 05 38.8 +2.3**
comp=Z,0.7nm,0.9s,baz=2.7,slow=21,SNR=6.1
QSPA LR LR 05 30 19.6
comp=Z,115nm,18.4s,baz=246,slow=38
QSPA South Pole Qui 70.06 180 P **P** **04 56 33.8 -0.1**
F33A 5 Mile Ranch, 70.19 340 IAmb IAmb 04 56 36.5
comp=Z,35nm,0.7s
O20A White River Ci 70.25 329 P **P** **04 56 36.8 +1.3**
baz=141,SNR=31
O20A White River Ci 70.25 329 IAmb IAmb 04 56 38.2
comp=Z,45nm,1.1s
GMRC Granite Mounta 70.37 320 P **P** **04 56 38.3 +2.1**
baz=134,SNR=55
MURC Murrieta 70.50 319 P **P** **04 56 38.9 +2.0**
baz=132,SNR=12
EYMN Ely 70.72 344 P **P** **04 56 37.8 -0.1**
baz=158,SNR=20
EYMN S **S** **05 05 39.5 -4.6**
baz=158
EYMN Ely 70.72 344 IAmb IAmb 04 56 39.6
comp=Z,30nm,0.7s
BBRC Big Bear Solar 70.78 319 P **P** **04 56 41.1 +2.3**
baz=133
HEC Hector,Ludlow 70.80 320 P **P** **04 56 41.0 +2.2**
baz=133,SNR=12
SCI2 San Clemente I 70.94 317 P **P** **04 56 41.5 +1.9**
baz=131,SNR=6.4
CIS Catalina Islan 71.14 318 P **P** **04 56 42.6 +1.8**
baz=131
BFSC Mount Baldy Ra 71.21 319 P **P** **04 56 43.2 +1.8**
baz=132,SNR=20
RRX Edison Barstow 71.23 320 P **P** **04 56 43.6 +2.3**
baz=133
GSC Goldstone, Bar 71.41 320 P **P** **04 56 44.5 +2.0**
baz=133,SNR=22
K22A Casper 71.43 332 P **P** **04 56 43.7 +1.2**
baz=143,SNR=17
SHOC Shoshone, Teco 71.50 321 P **P** **04 56 45.2 +2.4**
baz=134
RSSD Black Hills 71.55 334 P **P** **04 56 44.3 +1.1**
baz=146
RSSD Black Hills 71.55 334 P **P** **04 56 43.1 -0.2**
RSSD pmax pmax
comp=Z,29nm,0.9s
RSSD Black Hills 71.55 334 P **P** **04 56 43.1 -0.2**
DECC Green Verdugo 71.64 318 P **P** **04 56 45.8 +2.1**
baz=132,SNR=6.9
B35A Bob, Littlefor 71.69 343 IAmb IAmb 04 56 46.1
comp=Z,65nm,1.1s
SNCC San Nicolas Is 71.74 317 P **P** **04 56 45.8 +1.5**
baz=130
EDW2 Edwards Air Fo 71.85 319 P **P** **04 56 46.6 +1.5**
baz=132,SNR=34
OSI Osito Audit: C 72.12 319 P **P** **04 56 48.3 +1.6**
baz=131
TPNV Topopah Spring 72.20 322 P **P** **04 56 49.6 +2.3**
baz=134,SNR=27
PMOZ Porto Moniz, M 72.21 44 *e*P **P** **04 56 48.5 +1.2**
comp=Z,112nm,1.5s
PMOZ *e*S **S** **05 06 07.4 +5.2**
PMOZ Porto Moniz, M 72.21 44 P **P** **04 56 48.1 +0.8**
FURC Furnace Creek, 72.23 321 P **P** **04 56 49.5 +2.3**
baz=133,SNR=24
AGMN Agassiz Nation 72.25 341 P **P** **04 56 47.5 +0.4**
baz=154,SNR=51
AGMN S **S** **05 05 58.0 -3.7**
baz=154
AGMN Agassiz Nation 72.25 341 IAmb IAmb 04 56 49.2
comp=Z,50nm,0.7s
SCZ2 Santa Cruz Isl 72.29 318 P **P** **04 56 49.5 +1.8**
baz=130,SNR=5.6
FUL Funchal 72.30 44 *e*pP pP 04 57 16.2 +1.4
MPMC Manual Prospec 72.33 320 P **P** **04 56 49.6 +1.5**
baz=133,SNR=30
PMAR Madeira 72.34 44 *e*P **P** **04 56 48.8 +0.7**
comp=Z,158nm,1.3s
PMAR *e*pP **pP** **04 57 17.3 +2.0**
ARVC Arvin 72.52 319 P **P** **04 56 51.0 +2.0**
baz=131
DUG Dugway, Tooele 72.60 326 P **P** **04 56 51.3 +1.8**
baz=137,SNR=41
ISA Isabella, Lake 72.66 320 P **P** **04 56 52.0 +2.1**
baz=132,SNR=52
R11A Troy Canyon, C 72.79 323 P **P** **04 56 52.9 +2.2**
baz=135,SNR=54
R11A S **SKiKP** **05 06 12.0 -2.6**
baz=135
GRAC Grapevine Rang 72.89 321 P **P** **04 56 53.4 +2.2**
baz=133
BW06 Boulder Array 72.91 330 P **P** **04 56 52.1 +0.7**
baz=140,SNR=26
PDAR Pinedale Array 72.91 330 P **P** **04 56 52.5 +1.0**
comp=Z,4.9nm,0.7s,baz=127,slow=8.1,SNR=41
PDAR pP **pP** **04 57 18.8 +0.5**
comp=Z,7.0nm,0.6s,baz=169,slow=3.0,SNR=7.3
PDAR LR LR 05 33 01.4
comp=Z,67nm,18.0s,baz=144,slow=39

PMPS Porto Santo 72.92 44 *e*P **P 04 56 52.6 +1.2**
comp=Z,205nm,1.7s
CWC Cottonwood Cre 72.94 320 P **P 04 56 53.6 +1.9**
baz=132
PMPST Porto Santo, M 72.94 44 *e*P **P 04 56 52.6 +1.1**
comp=Z,235nm,1.5s
PMPST *e*pP **pP 04 57 20.9 +2.4**
PKM Mcpherson Peak 72.98 318 P **P 04 56 53.9 +2.0**
baz=131,SNR=40
MDND Maddock 73.04 339 P **P 04 56 52.7 +0.9**
baz=150,SNR=51
MDND S **S 05 06 09.0 -1.8**
baz=150
VES Vestal, Richgr 73.15 319 P **P 04 56 54.6 +2.0**
baz=131,SNR=36
SMMC Simmler 73.37 318 P **P 04 56 55.5 +1.4**
baz=131,SNR=19
TIN Tinemaha, Big 73.44 321 P **P 04 56 56.7 +2.2**
baz=132
VOG Valley Oaks Go 73.64 320 P **P 04 56 56.5 +1.0**
baz=131
TBI Tubuai 73.92 251 *e*S **SKiKP 05 06 12.7 -3.9**
comp=Z,244nm,29.2s
TBI Tubuai 73.92 251 *e*LR LR 05 19 22.4
comp=Z,1µm,34.8s
ULM Lac du Bonnet 74.00 342 P **P 04 56 57.6 +0.3**
comp=Z,45nm,0.6s,baz=151,slow=5.5,SNR=36
ULM pP **pP 04 57 24.6 +0.2**
comp=Z,27nm,0.6s,baz=158,slow=7.0,SNR=4.8
ULM LR LR 05 33 58.6
comp=Z,152nm,18.0s,baz=153,slow=39
ULM Lac du Bonnet 74.00 342 IAmb IAmb 04 56 59.3
comp=Z,55nm,0.7s
MEH Mehetia 74.15 256 *e*P **P 04 57 01.1 +2.1**
comp=Z,47nm,1.3s
MEH *e*pP **sP 04 57 33.7 -2.7**
comp=Z,19nm,1.0s
MLAC Mammoth, Mammo 74.18 321 P **P 04 57 01.0 +2.0**
baz=132,SNR=7.0
NVAR Mina Array Bea 74.40 322 P **P 04 57 02.3 +2.1**
comp=Z,14nm,0.9s,baz=146,slow=6.4,SNR=61
NVAR pP **pP 04 57 28.3 +1.3**
comp=Z,32nm,0.9s,baz=149,slow=6.7,SNR=15
NVAR sP **sP 04 57 39.3 +1.1**
comp=Z,33nm,0.8s,baz=145,slow=6.0,SNR=9.4
NVAR PP **PP 04 59 49.5 +1.5**
comp=Z,4.8nm,1.1s,baz=128,slow=6.9,SNR=2.2
NVAR LR LR 05 30 03.7
comp=Z,88nm,18.7s,baz=126,slow=36
LAO LASA Array 74.54 334 P **P 04 57 01.8 +1.2**
baz=144,SNR=6.8
LAO S **S 05 06 28.1 +0.3**
baz=144
RLMT Red Lodge 74.60 332 P **P 04 57 02.5 +1.4**
baz=141,SNR=43
RLMT S **S 05 06 28.7 -0.1**
baz=141
RLMT Red Lodge 74.60 332 IAmb IAmb 04 57 04.8
comp=Z,42nm,0.9s
H17A Grant Village 74.63 330 P **P 04 57 04.6 +3.1**
baz=140,SNR=19
SCHQ Schefferville 74.67 1 P **P 04 57 01.4 +0.2**
comp=Z,60nm,0.8s,baz=170,slow=4.6,SNR=49
SCHQ pP **pP 04 57 29.1 +0.8**
comp=Z,26nm,0.8s,baz=118,slow=4.8,SNR=3.2
SCHQ Schefferville 74.67 1 P **P 04 57 01.5 +0.4**
SCHQ IAmb IAmb 04 57 03.5
comp=Z,55nm,0.8s
KVN Kaiserville 74.70 322 IAmb IAmb 04 57 04.6
comp=Z,43nm,1.0s
PMOR Pomariorio Ree 74.82 259 *e*P **P 04 57 05.0 +2.1**
comp=Z,214nm,1.2s
DGMT Dagmar 75.20 337 P **P 04 57 05.8 +1.4**
baz=146,SNR=21
DGMT S **S 05 06 35.1 0.0**
baz=146
TVO Taravao 75.26 256 *e*P **P 04 57 07.7 +2.2**
comp=Z,58nm,1.4s
TVO *e*pP **sP 04 57 38.4 -4.8**
comp=Z,34nm,1.2s
TIAR Tiarei 75.41 256 *e*P **P 04 57 08.2 +1.9**
comp=Z,15nm,1.0s
TIAR *e*pP **sP 04 57 39.3 -4.8**
comp=Z,17nm,1.1s
TIAR Tiarei 75.41 256 *e*T T 06 18 17.3
comp=Z,2.2nm,0.3s
PAE Paea 75.59 256 *e*P **P 04 57 09.6 +2.3**
comp=Z,29nm,1.2s
PAE *e*pP **sP 04 57 40.3 -4.8**
comp=Z,31nm,1.1s
PPTF Pamatai, Papee 75.60 256 P **P 04 57 06.0 -1.5**
PPTF IAmb IAmb 04 57 18.9
comp=Z,71nm,1.1s
PPT2 Papeete2 75.61 256 *e*P **P 04 57 09.8 +2.3**
comp=Z,150nm,1.3s
PPT2 *e*S **S 05 06 34.0 -7.0**
comp=Z,340nm,28.5s
PPT2 Papeete2 75.61 256 *e*LR LR 05 20 08.6
comp=Z,1µm,35.0s
PPT Papeete 75.62 256 P **P 04 57 09.9 +2.5**
comp=Z,99nm,1.1s,baz=160,slow=5.1,SNR=5.5
PPT sP **sP 04 57 47.8 +2.5**
comp=Z,81nm,1.1s,baz=302,slow=17,SNR=2.9
HLID Hailey 75.87 328 P **P 04 57 10.5 +2.0**
baz=137,SNR=76
HLID S **S 05 06 46.0 +3.1**
baz=137
BOZ Bozeman (W) 76.03 331 P **P 04 57 10.7 +1.4**
baz=139,SNR=28
TOA0 Torodi Ar. Sit 76.92 71 P **P 04 57 14.5 -0.3**
TOA0 IAmb IAmb 04 57 19.4
comp=Z,80nm,0.7s
TORD Torodi Ar. Bea 76.92 71 P **P 04 57 14.2 -0.6**
comp=Z,45nm,0.4s,baz=253,slow=5.2,SNR=609
TORD pP **pP 04 57 42.8 +0.7**
comp=Z,93nm,0.8s,baz=255,slow=5.9,SNR=6.0
TORD sP **sP 04 57 54.4 +1.0**
comp=Z,116nm,0.8s,baz=257,slow=5.5,SNR=5.3
TORD S **S 05 06 51.4 -3.7**
comp=Z,3.8nm,0.9s,baz=261,slow=9.7,SNR=8.5
TORD LR LR 05 32 07.5
comp=Z,236nm,19.2s,baz=250,slow=36
EGMT Eagleton 77.06 333 P **P 04 57 15.9 +0.9**
baz=141,SNR=17
EGMT S **S 05 06 55.4 -0.1**
baz=141
WVOR Wild Horse Val 77.29 325 P **P 04 57 16.2 -0.2**
WVOR pmax pmax
comp=Z,10.0nm,1.1s
WVOR Wild Horse Val 77.29 325 P **P 04 57 16.2 -0.2**
O03E Paynes Creek 77.67 321 P **P 04 57 19.1 +0.5**
baz=130,SNR=20
SYO Syowa Base 77.79 160‖ *e*P **P 04 57 18.4 -0.3**
SYO Syowa Base 77.79 160‖ *i*PcP **PcP 04 57 25.0 -3.3**
SYO Syowa Base 77.79 160‖ *e*P **P 04 57 18.4 -0.3**
SYO Syowa Base 77.79 160‖ *i*PcP **PcP 04 57 25.0 -3.3**
SYO Syowa Base 77.79 160‖ *i*pP pP 04 57 41.8 -4.2
SYO Syowa Base 77.79 160‖ *i*sP sP 04 57 52.4 -5.0
J08A Circle Bar Ran 77.83 325 P **P 04 57 19.2 -0.2**
MSO Missoula 78.02 330 P **P 04 57 22.1 +1.7**
baz=138,SNR=29
MSO S **S 05 07 08.6 +2.6**
baz=138
O02D Mt. Diablo Mer 78.17 321 P **P 04 57 22.2 +0.8**
baz=129,SNR=6.6
VNDA Vanda 78.20 190 P **P 04 57 23.0 +2.2**
comp=Z,5.4nm,0.7s,baz=124,slow=6.4,SNR=37
VNDA pP **pP 04 57 50.4 +2.5**
comp=Z,14nm,0.8s,baz=113,slow=6.1,SNR=8.8
VNDA LR LR 05 31 32.4
comp=Z,92nm,18.3s,baz=135,slow=35
VNDA Vanda 78.20 190 P **P 04 57 21.0 +0.1**
VNDA pmax pmax
comp=Z,10.0nm,0.9s
VNDA Vanda 78.20 190 P **P 04 57 20.9 +0.1**
N02D Trinity Center 78.63 321 P **P 04 57 24.3 +0.4**
baz=130,SNR=7.9
M04C Macdoel 78.65 323 P **P 04 57 25.4 +1.4**
baz=130,SNR=14
M02C Callahan 78.98 322 P **P 04 57 26.5 +0.8**
baz=130,SNR=6.7
YBH Yreka Blue Hor 79.11 322 P **P 04 57 27.2 +0.7**
comp=Z,7.5nm,0.8s,baz=130,slow=6.2,SNR=6.7
AVE Averroes 79.14 49 *i*P **P 04 57 27.9 +1.2**
AVE *e*S **sS 05 07 57.8 -7.2**
K04D Chiloquin, OR 79.14 323 P **P 04 57 28.3 +1.7**
baz=131
L04D Klamath Falls 79.19 323 P **P 04 57 27.7 +0.8**
baz=130,SNR=6.5
J05D Fort Rock, OR 79.28 324 P **P 04 57 29.0 +1.6**
baz=131,SNR=26
SUR Sutherland 79.29 121 P **P 04 57 29.7 +1.8**
comp=Z,69nm,0.9s,baz=260,slow=3.1,SNR=11
SUR Sutherland 79.29 121 P **P 04 57 28.0 0.0**
FFC Flin Flon 79.72 341 P **P 04 57 29.8 +0.4**
FFC pmax pmax
comp=Z,21nm,0.9s
FFC Flin Flon 79.72 341 P **P 04 57 29.8 +0.4**
J04D Umpqua Nationa 79.74 324 P **P 04 57 31.3 +1.3**
baz=130,SNR=8.6
L02E Cave Junction 79.90 322 P **P 04 57 32.3 +1.7**
baz=129
I05D Terrebonne, OR 80.03 325 P **P 04 57 33.4 +2.1**
baz=131,SNR=21
I04A Tendick Farm, 80.26 324 P **P 04 57 33.4 +0.8**
baz=130,SNR=8.6
K02D Willamette Mer 80.27 322 P **P 04 57 34.5 +1.8**
baz=129,SNR=8.3
PFVI Vila Bisbo 80.29 45‖ *e*P **P 04 57 33.9 +1.1**
comp=Z,93nm,1.4s
PFVI *e*pP **pP 04 58 04.0 +3.6**
PFVI *i*S **S 05 07 29.6 -0.6**
PFVI Vila Bisbo 80.29 45 P **P 04 57 33.7 +0.9**
PFVI IAmb IAmb 04 57 34.5
comp=Z,47nm,1.1s
HAWA Hanford 80.44 327 IAmb IAmb 04 57 37.3
comp=Z,38nm,0.8s
TSUM Tsumeb 80.46 107 P **P 04 57 35.4 +1.0**
comp=Z,107nm,1.0s,baz=242,slow=5.5,SNR=78
TSUM Tsumeb 80.46 107 *i*P **P 04 57 35.6 +1.2**
TSUM Tsumeb 80.46 107 P **P 04 57 34.4 0.0**
TSUM IAmb IAmb 04 57 36.7
comp=Z,98nm,0.8s
TSUM Tsumeb 80.46 107 *i*P **P 04 57 35.6 +1.2**
MORF Marmelete 80.50 45 *e*P **P 04 57 34.9 +0.9**
MORF AMb AMB 04 57 37.3
comp=Z,86nm,1.8s
MORF *e*S **S 05 07 34.9 +2.4**
MORF Marmelete 80.50 45 *e*P **P 04 57 34.9 +0.9**
MORF *e*S **S 05 07 34.9 +2.4**
MORF Marmelete 80.50 45 *e*P **P 04 57 35.1 +1.1**
comp=Z,118nm,1.2s
MORF *e*pP **pP 04 58 04.4 +2.8**
NEW Newport 80.55 330 P **P 04 57 34.8 +0.8**
baz=135,SNR=9.7
NEW S **S 05 07 33.5 +0.9**
baz=135
PTEO Sao Teotonio 80.59 44‖ *e*P **P 04 57 35.5 +1.1**
comp=Z,213nm,1.5s
PTEO *e*pP **pP 04 58 05.9 +3.9**
G05D Wamic, OR 80.61 325 P **P 04 57 36.6 +2.3**
baz=131,SNR=17
G05D S **S 05 07 37.3 +4.0**
baz=131
J01E Myrtle Point 80.72 323 P **P 04 57 36.8 +1.8**
baz=129
I03D Drain, OR 80.72 323 P **P 04 57 36.5 +1.5**
baz=130
IFR Ifrane 80.88 49 *i*P **P 04 57 36.6 +0.3**
IFR *e*S **sS 05 08 18.2 -5.5**
MDT Midelt 80.89 50 P **P 04 57 37.3 +1.0**
comp=Z,25nm,1.0s,baz=214,slow=4.3,SNR=31
MDT pP **pP 04 58 05.5 +1.7**
comp=Z,51nm,1.1s,baz=234,slow=4.2,SNR=8.6
H04D Lebanon 80.91 324 P **P 04 57 36.9 +1.0**
baz=130
PBDV Barranco-do-Ve 80.94 45‖ *e*P **P 04 57 37.4 +1.1**
comp=Z,92nm,1.5s
PBDV *e*pP **pP 04 58 07.6 +3.6**
PBDV *e*S **S 05 07 42.3 +5.2**
PMAFR Mafra 81.02 43‖ *e*P **P 04 57 37.5 +0.8**
PMAFR *e*pP **pP 04 58 07.2 +2.9**
PMAFR *i*S **S 05 07 42.4 +4.6**
PNCL Nicolau / Gran 81.03 44 *e*P **P 04 57 37.5 +0.8**
comp=Z,53nm,2.0s
PNCL *e*pP **pP 04 58 07.3 +2.9**
PNCL *e*S **S 05 07 42.9 +5.0**
F05D White Salmon 81.11 326 P **P 04 57 38.5 +1.5**
baz=131
COR Corvallis 81.26 324 P **P 04 57 37.8 0.0**
COR pmax pmax
comp=Z,82nm,1.1s
COR Corvallis 81.26 324 P **P 04 57 37.8 0.0**
COR IAmb IAmb 04 57 42.0
comp=Z,82nm,1.1s
I02D Swisshome 81.26 323 P **P 04 57 40.0 +2.2**
baz=129
FCC Fort Churchill 81.29 347 IAmb IAmb 04 57 40.3
comp=Z,53nm,0.7s
PBEJ Beja 81.42 44‖ *e*P **P 04 57 39.6 +0.8**
comp=Z,48nm,1.2s
PBEJ *e*pP **pP 04 58 09.2 +2.8**
EVO Evora 81.60 44 *i*P **P 04 57 39.8 0.0**
EVO *i*S **sS 05 08 27.8 -3.0**
EVO Evora 81.60 44‖ *e*P **P 04 57 40.3 +0.5**
comp=Z,48nm,1.6s
EVO *e*pP **pP 04 58 10.4 +3.0**
G03D McMinnville, O 81.64 325 P **P 04 57 42.1 +2.3**
baz=130,SNR=5.9
F04A Amboy 81.64 325 IAmb IAmb 04 57 43.1
comp=Z,60nm,1.0s
PSBE So Bento 81.65 43 *e*P **P 04 57 41.2 +1.2**
PSBE *e*LQ LQ 04 58 10.9
SFS San Fernando 81.68 46 *e*P **P 04 57 42.1 +1.9**
CEU Ceuta 81.95 47 *i*P **P 04 57 41.5 -0.1**
CEU *e*S sS 05 08 24.9 -9.5
E04D Cinebar 82.13 326 P **P 04 57 43.2 +0.9**
baz=130,SNR=7.4
E04D S **S 05 07 51.1 +2.3**
baz=130
PCAS Casmilo, Conde 82.14 42 *i*S **S 05 07 51.9 +2.6**
D05A Enumclaw 82.23 327 IAmb IAmb 04 57 45.2
comp=Z,46nm,0.8s
PVLZ Peæn de 82.32 48 *e*P **P 04 57 41.5 -2.0**
PVLZ *e*S **sS 05 08 31.2 -7.0**
PMRV Marv??o 82.50 43‖ *e*P **P 04 57 44.6 +0.1**
comp=Z,33nm,2.0s
PMRV *e*pP **pP 04 58 13.7 +1.5**
D04E Lakebay 82.63 326 P **P 04 57 46.7 +1.8**
baz=130
PCBR Castelo Branco 82.68 43‖ *e*P **P 04 57 45.4 +0.1**
comp=Z,38nm,1.6s
PCBR *e*pP **pP 04 58 15.7 +2.7**
IVI Ivigtut 82.75 10 IAmb IAmb 04 57 47.1
comp=Z,53nm,1.0s
B06A Marblemount 82.85 328 IAmb IAmb 04 57 47.8
comp=Z,47nm,0.7s
PVIS Viseu 82.90 42 *e*P **P 04 57 46.6 +0.1**
comp=Z,70nm,1.5s
PVIS *e*pP **pP 04 58 16.9 +2.7**
MTE Manteigas 82.94 42‖ *e*P **P 04 57 46.9 +0.1**
comp=Z,64nm,1.2s
MTE *e*pP **pP 04 58 16.8 +2.3**
MTE *e*S **S 05 08 04.9 +7.3**
MTE Manteigas 82.94 42 P **P 04 57 47.6 +0.8**
B05A Bryant 82.99 327 P **P 04 57 47.3 +0.5**
baz=131,SNR=31
B05A S **S 05 07 57.6 +0.1**
baz=131
D03D Eldon 83.03 326 P **P 04 57 48.3 +1.3**
baz=130,SNR=16
EMAL Malaga-Limoner 83.05 47 *e*P P 04 57 34.1 -13
EMAL *i*S **S 05 08 00.0 +1.4**
NRS Narsarsuaq 83.18 11 *i*P **P 04 57 46.1 -1.3**
comp=Z,26nm,0.8s
NRS Narsarsuaq 83.18 11 *i*P **P 04 57 46.1 -1.3**
NRS pmax pmax
comp=Z,27nm,0.8s
PVRL Vila Real 83.32 42 *e*P **P 04 57 49.2 +0.5**
comp=Z,73nm,1.5s
PVRL *e*pP **pP 04 58 19.0 +2.6**
MELI Melilla 83.34 49 *i*P **P 04 57 48.8 -0.1**
PGAV Gavieira, Arco 83.37 41‖ *e*P **P 04 57 48.7 -0.3**
comp=Z,63nm,1.7s
PGAV *e*pP **pP 04 58 18.9 +2.2**
PGAV *e*S **S 05 08 07.8 +5.9**
PCAB Cabril 83.37 41 *e*P **P 04 57 48.9 0.0**
comp=Z,72nm,1.3s
PCAB *e*pP **pP 04 58 17.5 +0.8**
FRB Frobisher Bay 83.59 0 P **P 04 57 49.5 +0.1**
comp=Z,22nm,0.8s,baz=186,slow=6.2,SNR=11
A04D Lummi Island 83.60 327 P **P 04 57 51.1 +1.3**
baz=130
MVO Moncorvo 83.69 42‖ *e*P **P 04 57 51.2 +0.6**
comp=Z,98nm,1.3s
MVO *e*pP **pP 04 58 20.8 +2.4**
MVO *e*S **S 05 08 12.1 +7.0**
PGC Sidney 83.93 327 IAmb IAmb 04 57 55.0
comp=Z,39nm,0.8s
BOSA Boshof 84.11 118 P **P 04 57 53.7 +0.4**
comp=Z,91nm,0.8s,baz=260,slow=4.2,SNR=94
BOSA LR LR 05 33 07.5
comp=Z,131nm,19.5s,baz=260,slow=34
TAM Tamanrasset 84.22 63 P **P 04 57 54.2 +0.3**
TAM pmax pmax
comp=Z,50nm,1.1s
TAM Tamanrasset 84.22 63 P **P 04 57 54.2 +0.3**
TAM IAmb IAmb 04 57 56.7
comp=Z,50nm,1.1s
PBRG Braganca 84.23 42‖ *e*P **P 04 57 53.6 +0.3**
comp=Z,87nm,1.7s
PBRG *e*pP **pP 04 58 23.4 +2.3**
PAB San Pablo 84.55 45 P **P 04 57 55.8 +0.8**
PAB pmax pmax
comp=Z,65nm,1.1s
PAB San Pablo 84.55 45 P **P 04 57 55.8 +0.8**
PAB IAmb IAmb 04 57 56.9
comp=Z,65nm,1.1s
ESDC Sonseca Array 84.87 45 P **P 04 57 57.2 +0.5**
comp=Z,29nm,1.0s,baz=243,slow=5.6,SNR=94
ESDC pP **pP 04 58 24.7 +0.2**
comp=Z,23nm,0.9s,baz=244,slow=4.4,SNR=3.4
ESDC LR LR 05 32 20.1
comp=Z,403nm,21.9s,baz=270,slow=33
LBTB Lobatse 85.62 115 P **P 04 58 01.5 +0.6**
comp=Z,112nm,1.1s,baz=248,slow=5.8,SNR=57
LBTB Lobatse 85.62 115 *i*P **P 04 58 01.7 +0.9**
LBTB Lobatse 85.62 115 P **P 04 58 01.2 +0.3**
LBTB pmax pmax
comp=Z,105nm,0.9s
LBTB Lobatse 85.62 115 P **P 04 58 01.1 +0.3**
LBTB Lobatse 85.62 115 *i*P **P 04 58 01.7 +0.9**
MAW Mawson 85.65 163 P **P 04 58 01.5 +1.5**
comp=Z,14nm,0.6s,baz=222,slow=6.1,SNR=80
MAW PKKPbc **PKKPbc 05 16 03.1 -0.8**
comp=Z,1.9nm,0.9s,baz=55,slow=0.2,SNR=6.4
MAW LR LR 05 34 40.0
comp=Z,171nm,21.5s,baz=239,slow=34
MAW Mawson 85.65 163 P **P 04 58 00.4 +0.4**
MAW pmax pmax
comp=Z,3.0nm,0.7s
MAW Mawson 85.65 163 P **P 04 58 00.4 +0.4**
UCM Universidad Co 85.67 44 *i*P **P 04 57 60.0 -0.6**
UCM *e*S **S 05 08 20.9 -3.8**
SFJD Kangerlussuaq 87.93 7 P **P 04 58 11.3 +0.6**
comp=Z,11nm,0.8s,baz=248,slow=5.0,SNR=2.7
SFJD pP **pP 04 58 39.3 +0.5**
comp=Z,28nm,0.9s,baz=181,slow=5.0,SNR=4.6
SFJD Kangerlussuaq 87.93 7 *i*P **P 04 58 11.1 +0.3**
SFJD Kangerlussuaq 87.93 7 P **P 04 58 11.7 +0.9**
SFJD pmax pmax
comp=Z,26nm,1.1s
SFJD Kangerlussuaq 87.93 7 P **P 04 58 11.7 +0.9**
ANGG Ammassalik, Gr 88.73 12 IAmb IAmb 04 58 16.2
comp=Z,37nm,1.0s
MATP Matopo 89.74 112 P **P 04 58 21.9 +1.2**
comp=Z,20nm,0.6s,baz=253,slow=3.7,SNR=51
SET Setif 89.76 51 P **P 04 58 23.0 +2.7**
YKA Yellowknife Ar 89.89 341 P **P 04 58 21.1 +1.0**
comp=Z,67nm,0.9s,baz=129,slow=4.6,SNR=116
YKA pP **pP 04 58 48.5 +0.5**
comp=Z,71nm,0.8s,baz=134,slow=4.7,SNR=10
YKA LR LR 05 43 29.9
comp=Z,108nm,19.0s,baz=0.0,slow=39
BLWY Bulawayo 89.94 111 *i*P **P 04 58 19.8 -1.8**
BLWY Bulawayo 89.94 111 *i*P **P 04 58 19.8 -1.8**
ILULI Ilulissat 90.01 6 P **P 04 58 21.2 +0.7**
ILULI pmax pmax
comp=Z,18nm,1.0s
ILULI Ilulissat 90.01 6 P **P 04 58 21.2 +0.7**
DFRA Djebel Bou Aff 90.26 51 P **P 04 58 23.4 +0.7**
LFF La Frestale 90.51 42 *e*P **P 04 58 23.6 +0.1**
LFF pmax pmax
comp=Z,29nm,0.8s
MAHO Mahon 90.55 47 *i*P **P 04 58 24.9 +1.2**
MAHO *i*S **SKSac 05 08 50.7 +4.7**
MFF Saint Martin d 90.76 40 *e*P **P 04 58 23.9 -0.7**
MFF pmax pmax
comp=Z,30nm,1.1s
CKFL Kef-Lekhel 90.81 51 P **P 04 58 24.8 -0.5**
LSZ Lusaka 91.31 107 P **P 04 58 29.9 +1.8**
comp=Z,12nm,1.0s,baz=254,slow=3.4,SNR=14
LSZ Lusaka 91.31 107 *i*P P 04 58 21.6 -6.4
LSZ Lusaka 91.31 107 P **P 04 58 28.0 -0.1**
LSZ pmax pmax
comp=Z,30nm,1.2s
LSZ Lusaka 91.31 107 P **P 04 58 28.0 -0.1**
LSZ IAmb IAmb 04 58 33.2
comp=Z,30nm,1.1s
LSZ Lusaka 91.31 107 *i*P P 04 58 21.6 -6.4
CAF Calviac 91.34 42 *e*P **P 04 58 26.7 -0.7**
CAF pmax pmax
comp=Z,24nm,1.1s
CMAH Djebel Manchou 91.42 51 P **P 04 58 28.3 +0.3**
BORG Borgarnes 92.13 18 P **P 04 58 32.1 +1.7**
comp=Z,22nm,1.0s,baz=195,slow=4.1,SNR=6.0
BORG Borgarnes 92.13 18 P **P 04 58 31.6 +1.2**
BORG pmax pmax
comp=Z,36nm,1.1s
BORG Borgarnes 92.13 18 P **P 04 58 31.6 +1.2**
BORG IAmb IAmb 04 58 33.4
comp=Z,36nm,1.1s
KEST Kesra 92.50 53 P **P 04 58 33.5 +0.5**
comp=Z,8.9nm,0.8s,baz=266,slow=4.8,SNR=9.9
KEST LR LR 05 40 56.2
comp=Z,508nm,20.4s,baz=208,slow=36
KEST Kesra 92.50 53 IAmb IAmb 04 58 40.5
comp=Z,12nm,0.8s
CLF Chambon-Foret 92.88 40 P **P 04 58 34.0 -0.3**
DLBC Dease Lake 92.98 333 PP **PP 05 02 21.9 +2.8**
comp=Z,5.5nm,1.0s,baz=69,slow=4.7,SNR=3.9
EKA Eskdalemuir Ar 93.46 31 P **P 04 58 36.3 -0.6**
comp=Z,7.9nm,0.8s,baz=239,slow=4.7,SNR=12
EKA pP **pP 04 59 04.1 -0.8**
comp=Z,6.4nm,0.9s,baz=240,slow=6.7,SNR=3.7
EKA PP **PP 05 02 22.7 -0.1**
comp=Z,0.9nm,0.7s,baz=224,slow=4.0,SNR=2.5
CASY Casey 93.86 180 P **P 04 58 38.9 +0.2**
CASY IAmb IAmb 04 58 42.5
comp=Z,16nm,0.9s
VSL Villasalto 93.98 49 P **P 04 58 39.9 +0.3**
VSL IAmb IAmb 04 58 51.1
comp=Z,9.7nm,0.9s
LPL La Plagne 94.57 43 *e*P **P 04 58 42.4 -0.1**
LPL pmax pmax
comp=Z,16nm,1.4s
SUMG Summit 94.71 9 *i*P **P 04 58 43.9 +1.2**
SUMG *i* 04 59 11.7
SUMG Summit 94.71 9 P **P 04 58 43.4 +0.7**
SUMG pmax pmax
comp=Z,16nm,0.9s
SUMG Summit 94.71 9 P **P 04 58 43.4 +0.7**
SUMG IAmb IAmb 04 58 53.6
comp=Z,16nm,0.9s
SNF Seneffe 95.16 38 P **P 04 58 44.3 -0.5**
DOU Dourbes 95.17 38 P **P 04 58 44.5 -0.3**
comp=Z,10nm,2.1s
BMRD Maredsous 95.35 38 P **P 04 58 44.9 -0.7**
BGES Gesves 95.57 38 P **P 04 58 46.6 0.0**
comp=Z,191nm,4.1s
BGES pP **pP 04 59 12.3 -2.4**
BGES sP **sP 04 59 22.6 -3.3**
WLF Walferdange 95.90 39 P **P 04 58 48.0 -0.1**
WLF Walferdange 95.90 39 P **P 04 58 48.5 +0.3**
WLF pmax pmax
comp=Z,28nm,1.1s
WLF Walferdange 95.90 39 P **P 04 58 48.5 +0.3**
ECH Echery 95.92 41 IAmb IAmb 04 58 59.5
comp=Z,9.8nm,1.1s
BSTI Sart Tilman 95.94 38 P **P 04 58 48.5 +0.2**
BHOU Houvegnez 96.10 38 P **P 04 58 49.0 -0.1**
BHOU pP **pP 04 59 16.8 -0.3**
BHOU sP **sP 04 59 26.9 -1.4**
MEM Membach 96.20 38 P **P 04 58 47.8 -1.7**
MEM Membach 96.20 38 P **P 04 58 48.5 -1.0**
comp=Z,11nm,1.7s
KIP Kipapa 96.32 290‖ *e*P **P 04 58 49.4 -1.3**

KIP pmax pmax
comp=Z,52nm,1.3s
BFO Black Forest 96.69 41 P **P 04 58 51.4 -0.4**
BFO pmax pmax
comp=Z,4.0nm,1.0s
BFO Black Forest 96.69 41 P **P 04 58 51.4 -0.4**
OSSC Osservatorio P 96.78 46 IAmb IAmb 04 58 54.0
comp=Z,12nm,1.0s
SALO Salr 97.06 44 P **P 04 58 53.5 -0.1**
SALO IAmb IAmb 04 58 55.4
comp=Z,22nm,0.9s
FUORN Ofenpass-Fuorn 97.26 43 IAmb IAmb 04 58 57.1
comp=Z,10.0nm,1.1s
C36M Paulatuk 97.42 343 P Pdif 04 58 57.9 +3.3
baz=129
FETA Feichten 97.70 43 *i* P **P 04 58 56.2 -0.4**
comp=Z,8.2nm,1.4s
AQU L'Aquila 97.86 48 P Pdif 04 58 58.0 +0.7
AQU pmax pmax
comp=Z,17nm,1.1s
AQU L'Aquila 97.86 48 P Pdif 04 58 58.0 +0.7
AQU IAmb IAmb 04 59 07.4
comp=Z,16nm,1.1s
RETA Reutte 97.89 42 *i* Pdiff **P 04 58 57.0 -0.4**
comp=Z,10.0nm,1.4s
CTI Castel Tesino 97.95 44 IAmb IAmb 04 59 06.0
comp=Z,7.4nm,0.9s
MOTA Moosalm 98.06 43 *i* Pdiff **P 04 58 58.1 -0.1**
comp=Z,14nm,1.6s,SNR=6.7
SQTA Sankt Quirin 98.08 43 *i* Pdiff **P 04 58 58.0 -0.2**
comp=Z,14nm,0.9s,SNR=5.6
WATA Walderalm 98.36 43 *i* Pdiff **P 04 58 59.3 -0.2**
comp=Z,10nm,1.2s
WTTA Wattenberg 98.37 43 *i* Pdiff **P 04 58 59.4 -0.2**
comp=Z,15nm,1.1s,SNR=6.4
ABTA Abfaltersbach 98.75 43 *i* Pdiff **P 04 59 01.2 -0.1**
comp=Z,11nm,1.1s,SNR=5.1
MBAR Mbarara 98.88 94⇈ *e*P Pdif 04 59 04.5 +1.8
MBAR pmax pmax
comp=Z,6.0nm,1.3s
GRF Grafenberg Arr 98.96 40 *e*Pdiff **P 04 59 01.8 -0.2**
baz=250,slow=5.3
GRF *e*PP **PP 05 03 02.1 -3.3**
A36M Sachs Harbour 99.37 345 Pdiff **Pdif 04 59 04.3 +1.0**
baz=128,SNR=5.7
CADS Cadrg 99.38 44 *i* PP **PP 05 03 04.4 -4.3**
MYKA Terra Mystica 99.45 44 *i* Pdiff **Pdif 04 59 04.9 +0.6**
comp=Z,9.8nm,1.0s
INK Inuvik 99.65 340 P **Pdif 04 59 06.4 +1.8**
comp=Z,4.0nm,0.8s,baz=87,slow=6.0,SNR=8.1
INK pP **pP 04 59 32.5 0.0**
comp=Z,6.7nm,1.0s,baz=271,slow=1.3,SNR=5.4
INK PKKPbc **PKKPbc 05 15 27.9 -0.7**
comp=Z,2.6nm,0.9s,baz=6.5,slow=2.1,SNR=4.9
INK Inuvik 99.65 340 P **Pdif 04 59 05.3 +0.8**
INK pmax pmax
comp=Z,6.0nm,0.9s
INK Inuvik 99.65 340 Pdif **Pdif 04 59 05.3 +0.8**
DAWY Dawson 99.72 335 Pdif **Pdif 04 59 05.5 +0.4**
LJU Ljubljana 99.84 45 *e*PP **PP 05 03 08.4 -3.7**
NKC Novy Kostel 99.89 40 AMS AMS 05 40 20.0
comp=Z,200nm,22.1s
MCARA McCarthy VSAT 100.12 332 Pdif **Pdif 04 59 07.2 +0.3**
BOJS Bojanci 100.15 45 *e*PP **PP 05 03 10.0 -4.5**
GERES GERESS Array B 100.21 42 P **Pdif 04 59 07.2 -0.4**
comp=Z,1.2nm,0.9s,baz=241,slow=2.7,SNR=9.3
GERES PP **PP 05 03 15.2 +0.2**
comp=Z,3.9nm,1.1s,baz=219,slow=6.2,SNR=6.4
KHC Kasperske Hory 100.22 41⇈ *e*P **Pdif 04 59 07.1 -0.5**
KHC Kasperske Hory 100.22 41 *e*SKS 05 09 36.8
KHC AMS AMS 05 41 30.0
comp=Z,200nm,19.6s
GLB Gilahina Butte 100.49 332 Pdif **Pdif 04 59 08.8 +0.2**
CLL Collm 100.57 39 *i* Pdif **Pdif 04 59 09.4 +0.3**
comp=Z,9.0nm,1.1s
CLL *e* 04 59 20.0
CLL *es*Pdif sPdif 04 59 45.0 -3.3
CLL *e* 05 02 49.0
CLL *e*PP **PP 05 03 11.0 -6.5**
CLL *es*PP 05 03 52.0
CLL *e*SKSac **SKSac 05 09 42.0 +3.4**
CLL *e*SKKSac **SKKSac 05 10 18.0 +4.4**
CLL *e*Sdif **Sdif 05 10 36.0 -1.2**
CLL *e*SP **SP 05 12 13.0 +5.6**
CLL *es*PS 05 12 52.0
CLL *e*PPS PPS 05 13 12.0
CLL *es*SS **SS 05 17 42.0 +5.7**
CLL *es*PSPS 05 18 36.0
CLL Lm MLR 05 41 00.0
comp=Z,200nm,21.3s
CLL Collm 100.57 39 *i* P **Pdif 04 59 09.4 +0.3**
CLL *e* 05 09 42.0
CLL *e*S **Sdif 05 10 36.0 -1.2**
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 100.57 39 Pdif **Pdif 04 59 09.7 +0.6**
K27K Chicken 100.78 335 Pdiff **Pdif 04 59 11.2 +1.5**
baz=114
BRG Berggiesshubel 101.00 40 *e*P **Pdif 04 59 11.5 +0.5**
comp=Z,9.1nm,1.6s
BRG *e* 04 59 50.4
comp=Z,5.8nm,1.2s
BRG PP **PP 05 03 15.9 -4.9**
comp=Z,20nm,1.6s
BRG *e* 05 09 43.0
BRG *e* 05 12 15.0
PRU Pruhonice 101.09 41 *e*SKS 05 09 39.7
PRU AMS AMS 05 42 40.0
comp=Z,200nm,17.5s
GOPC GO Pecny, Ondr 101.22 41 *e*PP **PP 05 03 20.0 -2.5**
GOPC *e*SKS 05 09 43.9
GOPC AMS AMS 05 42 50.0
comp=Z,200nm,21.4s
PVCC Panska Ves 101.27 40 AMS AMS 05 41 50.0
comp=Z,200nm,19.7s
KLU Klutina 101.45 332 Pdif **Pdif 04 59 13.3 +0.4**
TREC Trest 101.46 42 AMS AMS 05 42 20.0
comp=Z,200nm,22.7s
KRUC Moravsky 101.96 42 *e*PDIFF **Pdif 04 59 15.3 0.0**
KRUC *e*PP **PP 05 03 25.5 -2.6**
UPC Upice 102.14 41 *e*SKS 05 09 47.5
UPC AMS AMS 05 43 20.0
comp=Z,200nm,21.3s
VRAC Vranov 102.16 42 PP **PP 05 03 27.1 -2.5**
comp=Z,6.8nm,1.0s,baz=240,slow=8.4,SNR=5.9
VRAC Vranov 102.16 42 *e*PDIFF **Pdif 04 59 17.2 +1.0**
VRAC *e*PP **PP 05 03 27.3 -2.3**
OSTC Ostas 102.28 41 AMS AMS 05 43 30.0
comp=Z,200nm,15.6s
DPC Dobruska-Polom 102.29 41 AMS AMS 05 43 20.0
comp=Z,100nm,21.0s
KRLC Kraliky 102.49 41 *e*PP **PP 05 03 29.0 -3.1**
KRLC AMS AMS 05 43 00.0
comp=Z,100nm,21.9s
SML Sawmill 102.64 331 Pdif **Pdif 04 59 18.4 +0.2**
NOA NORSAR Array B 102.74 29 P **Pdif 04 59 19.1 +0.5**
comp=Z,0.7nm,0.8s,baz=307,slow=16,SNR=5.4
NOA PP **PP 05 03 33.6 0.0**
comp=Z,3.2nm,1.1s,baz=252,slow=7.4,SNR=3.4
MORC Moravsky Berou 102.88 42 *e*PDIFF **Pdif 04 59 20.0 +0.5**
MORC *e*PP **PP 05 03 34.5 -0.5**
ILAR Eielson Array 103.00 335 P **Pdif 04 59 20.9 +1.3**
comp=Z,0.4nm,0.7s,baz=140,slow=3.4,SNR=3.7
ILAR pP **pPdif 04 59 46.8 -0.9**
comp=Z,1.0nm,0.9s,baz=155,slow=4.1,SNR=4.5
ILAR PP **PP 05 03 37.1 +1.7**
comp=Z,4.0nm,1.1s,baz=107,slow=6.7,SNR=6.6
ILAR PKKPbc **PKKPbc 05 15 17.0 -1.8**
comp=Z,0.4nm,0.6s,baz=290,slow=3.6,SNR=5.1
VYHS Vyhne 103.36 43 *e*P **Pdif 04 59 21.3 -0.3**
VYHS Vyhne 103.36 43 *e*PDIFF **Pdif 04 59 21.3 -0.3**
RND Reindeer 103.38 333 P **Pdif 04 59 20.9 -0.5**
RND Reindeer 103.38 333 Pdif **Pdif 04 59 20.9 -0.5**
MDM Murphy Dome 103.60 335 Pdif **Pdif 04 59 22.7 +0.4**
HFS Hagfors 103.64 31 PP **PP 05 03 39.3 -1.0**
comp=Z,12nm,1.0s,baz=266,slow=8.9,SNR=9.7
OPO Ambohidratompo106.51 117 PP **PP 05 04 03.1 +0.8**
comp=Z,3.8nm,1.0s,baz=189,slow=9.1,SNR=3.8
MLR Muntele Rosu 107.42 47 PP **PP 05 04 08.8 0.0**
comp=Z,19nm,1.1s,baz=218,slow=5.3,SNR=8.4
FINES FINESS Array B 109.84 31 PKKPbc PKKPbc 05 14 56.7 -0.6
comp=Z,1.7nm,0.7s,baz=134,slow=5.5,SNR=5.6
AKASG Malin Array Be 110.41 42 PP **PP 05 04 32.8 +2.6**
comp=Z,8.5nm,1.0s,baz=252,slow=8.3,SNR=11
DZM Mont Dzumac 111.56 235 *e*SP SP 05 13 58.0 -2.5
comp=Z,268nm,27.1s
DZM Mont Dzumac 111.56 235 *e*LR LR 05 36 48.5
comp=Z,589nm,33.8s
BRTR Keskin Array B 112.05 54 PKiKP **PKiKP 05 03 57.1 +0.3**
comp=Z,1.8nm,0.8s,baz=180,slow=2.1,SNR=8.2
BRTR PP **PP 05 04 39.8 -2.7**
comp=Z,12nm,1.1s,baz=257,slow=4.8,SNR=12
BRTR PKKPab **PKKPab 05 14 58.2 +1.5**
comp=Z,0.7nm,0.8s,baz=129,slow=3.9,SNR=3.8
OBN Obninsk 115.10 38 PP **PP 05 05 00.2 -3.1**
comp=Z,4.0nm,0.4s,baz=256,slow=3.9,SNR=7.9
OBN Obninsk 115.10 38⇓ *i*PKIKP **PKPdf 05 04 03.1 +1.2**
OBN *i* 05 04 31.7
OBN *e* 05 05 00.5
OBN *i* PPP PPP 05 07 37.8
OBN *e* 05 10 42.7
OBN *i* SS SS 05 20 56.4 +4.3
OBN pmax pmax
comp=Z,5.0nm,0.8s
KLMR Klimovskoe 116.35 31 *e*PKIKP **PKPdf 05 04 03.6 -0.6**
KLMR *e* 05 04 32.5
KLMR *e*PS **PS 05 14 56.6 +1.4**
KLMR pmax pmax
comp=Z,21nm,1.1s
KLMR Klimovskoe 116.35 31 *e*PKPdf **PKPdf 05 04 03.7 -0.5**
KLMR AMP 05 04 06.3
comp=Z,21nm,1.1s
KLMR *e*pPKPdf pPKPdf 05 04 32.5 -0.8
KLMR *e*PP **PP 05 05 08.0 -3.9**
KLMR *e*PS **PS 05 14 56.7 +1.5**
KLMR *e*PS **PS 05 14 56.7 +1.5**
VORR Voronezh 116.73 41 *e*PKIKP **PKPdf 05 04 04.0 -1.2**
VORR pmax pmax
comp=Z,250nm,1.4s
KOPT Kop Dagi 117.33 55 **PKPdf 05 04 07.0 -0.1**
KIV Kislovodsk 119.12 50 *i* PKIKP **PKiKP 05 04 11.6 +1.3**
KIV *e* 05 05 33.4
KIV *e*PS **PS 05 15 22.8 +1.7**
KIV pmax pmax
comp=Z,35nm,1.0s
KIV MLR MLR
comp=Z,180nm,22.0s
KIV Kislovodsk 119.12 50 PKPdf **PKiKP 05 04 10.5 +0.2**
PRGR Permogore 119.14 30 *e*PKIKP **PKPdf 05 04 08.5 -1.0**
PRGR *e* 05 04 37.5
PRGR *e* 05 05 31.1
KBZ Khabaz 119.27 50 PKP **PKiKP 05 04 10.7 +0.3**
comp=Z,13nm,0.9s,baz=268,slow=2.6,SNR=20
KBZ pPKP **pPKPdf 05 04 40.3 +0.8**
comp=Z,33nm,0.9s,baz=238,slow=3.4,SNR=11
KBZ PP **PP 05 05 36.2 +3.5**
comp=Z,8.9nm,0.9s,baz=272,slow=7.3,SNR=4.0
ZEI Tsey 120.00 52 *i* PKIKP **PKPdf 05 04 10.9 -1.2**
ZEI pmax pmax
comp=Z,12nm,1.0s
STKA Stephens Creek 120.59 210 PKP **PKiKP 05 04 13.8 +0.3**
comp=Z,1.9nm,0.6s,baz=107,slow=4.9,SNR=6.3
MAK Makhachkala 122.64 51 *e*P **Pdif 05 00 44.7 -2.7**
MAK *i* 05 04 16.8
MAK *e*PPP PPP 05 08 32.0
MAK *e* 05 11 07.4
MAK *e*PS **PS 05 15 51.5 -0.8**
MAK pmax pmax
comp=Z,31nm,0.5s
AKT Akhty 122.86 53 *e*PKIKP **PKiKP 05 04 19.3 +1.6**
AKT *e* 05 04 48.1
AKT *e* 05 05 54.1
AKT pmax pmax
comp=Z,11nm,1.0s
NWAO Narrogin (SRO) 126.92 186 PKP **PKPdf 05 04 25.6 +0.1**
comp=Z,8.0nm,0.8s,baz=21,slow=21,SNR=1.7
NWAO pPKP **pPKPdf 05 04 54.6 -0.2**
comp=Z,23nm,1.1s,baz=346,slow=19,SNR=2.7
ARU Arti 127.02 34 PKP **PKiKP 05 04 25.8 +0.5**
comp=Z,4.7nm,0.5s,baz=326,slow=2.3,SNR=13
ARU pPKP **pPKPdf 05 04 54.5 +0.5**
comp=Z,9.6nm,0.7s,baz=297,slow=2.6,SNR=7.5
ARU Arti 127.02 34 *i* PKIKP **PKiKP 05 04 25.3 -0.1**
ARU 05 06 25.0
ARU 05 11 23.1
ARU SP SP 05 16 14.9 -2.5
ARU SS **SS 05 23 18.0 -6.1**
ARU Arti 127.02 34 PKPdf **PKiKP 05 04 25.6 +0.3**
AKTO Aktyubinsk 128.62 41 PKP **PKiKP 05 04 28.9 +0.2**
comp=Z,6.5nm,0.8s,baz=301,slow=2.5,SNR=8.8
AKTO pPKP **pPKPdf 05 04 58.4 +1.1**
comp=Z,19nm,0.9s,baz=302,slow=1.9,SNR=9.0
AKTO PP **PP 05 06 34.9 -0.2**
comp=Z,6.4nm,1.0s,baz=290,slow=7.5,SNR=3.6
NRIK Noril'sk 128.72 10 PKP **PKPdf 05 04 27.7 0.0**
comp=Z,2.6nm,0.6s,baz=356,slow=2.1,SNR=3.7
NRIK pPKP **pPKPdf 05 04 57.8 +0.9**
comp=Z,11nm,0.8s,baz=182,slow=1.4,SNR=5.8
SEY Seymchan 128.83 337 PKP **PKiKP 05 04 28.5 -0.3**
comp=Z,20nm,0.9s
SEY pPKP **pPKPdf 05 04 58.2 +0.9**
comp=Z,34nm,0.8s,baz=81,slow=2.5,SNR=4.6
GEYT Alibeck 131.08 57 PKP **PKiKP 05 04 33.9 -0.2**
comp=Z,2.8nm,0.6s,baz=220,slow=11,SNR=3.5
GEYT pPKP **pPKPdf 05 05 03.1 +0.6**
comp=Z,14nm,1.0s,baz=257,slow=5.9,SNR=7.5
GEYT PP **PP 05 06 50.5 -1.2**
comp=Z,8.2nm,0.9s,baz=270,slow=7.4,SNR=5.9
AS31 Alice Springs 131.11 208 PKPdf **PKPdf 05 04 32.7 -1.1**
ASAR Alice Springs 131.11 208 PKhKP PKPpre 05 04 16.6
comp=Z,0.3nm,0.5s,baz=135,slow=2.3,SNR=6.6
ASAR PKP **PKPdf 05 04 34.0 +0.2**
comp=Z,5.8nm,0.7s,baz=129,slow=1.6,SNR=28
ASAR pPKP pPKPdf 05 05 02.4 -0.6
comp=Z,7.9nm,0.9s,baz=143,slow=2.3,SNR=5.4
ASAR SKPbc **SKPab 05 07 49.6 -0.1**
comp=Z,4.9nm,1.0s,baz=143,slow=4.3,SNR=7.0
WSAR Wadi Sarin 131.39 76 pPKP **pPKPdf 05 05 04.3 +1.0**
comp=Z,34nm,0.9s,baz=281,slow=3.8,SNR=5.6
WSAR PP **PP 05 06 51.8 -2.4**
comp=Z,24nm,1.2s,baz=316,slow=8.8,SNR=4.2
PETK Petropavlovsk- 131.44 324 PKP **PKiKP 05 04 34.2 -0.1**
comp=Z,7.8nm,0.9s,baz=101,slow=7.7,SNR=6.4
PETK pPKP **pPKPdf 05 05 03.2 +0.8**
comp=Z,23nm,1.0s,baz=101,slow=6.2,SNR=9.5
PMG Port Moresby 133.93 234*c* *i*PKIKP **PKPdf 05 04 39.4 +0.2**
WR0 Warramunga Arr 134.01 211 PKPdf **PKPdf 05 04 37.8 -1.5**
WRA Warramunga Arr 134.12 211 PKhKP PKPpre 05 04 28.2
comp=Z,0.8nm,0.5s,baz=119,slow=2.8,SNR=14
WRA PKP **PKPdf 05 04 39.8 +0.3**
comp=Z,7.7nm,0.6s,baz=157,slow=1.7,SNR=67
WRA pPKP pPKPdf 05 05 08.5 -0.2
comp=Z,8.0nm,0.7s,baz=153,slow=1.7,SNR=6.3
WRA PP **PP 05 07 10.0 0.0**
comp=Z,2.2nm,1.0s,baz=139,slow=3.9,SNR=4.9
WRA SKPbc **SKPbc 05 07 59.9 0.0**
comp=Z,14nm,1.3s,baz=147,slow=3.0,SNR=9.5
WRAB Tennant Creek 134.12 211*c* *i*PKIKP **PKiKP 05 04 40.6 -0.3**
WRAB Tennant Creek 134.12 211 PKPdf **PKPdf 05 04 38.4 -1.1**
BRVK Borovoye 134.60 34⇈ *i*PKIKP **PKiKP 05 04 41.7 +1.0**
BRVK Borovoye 134.60 34 **PKPdf 05 04 39.9 +0.6**
BVAR Borovoye Array 134.67 34 PKP **PKPdf 05 04 38.2 -1.2**
comp=Z,7.2nm,0.7s,baz=247,slow=3.1,SNR=13
BVAR pPKP **pPKPdf 05 05 09.7 +1.1**
comp=Z,13nm,0.8s,baz=264,slow=2.8,SNR=9.8
HRA Herat 134.74 61 PKPdf **PKPdf 05 04 40.2 -0.3**
YAK Yakutsk 136.17 347 pPKP pPKPdf 05 05 11.5 +0.3
comp=Z,8.3nm,0.4s,baz=52,slow=0.3,SNR=1.8
YAK Yakutsk 136.17 347 *e*PKIKP **PKiKP 05 04 44.0 +0.4**
YAK *e* 05 07 25.1
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,10.0nm,1.2s
YAK pmax pmax
comp=N,18nm,1.3s
YAK pmax pmax
comp=E,11nm,1.3s
BRZS Berezniki 137.45 36 *e*PKiKP **PKiKP 05 04 46.6 -0.1**
baz=36
BRZS Berezniki 137.45 36 *i* PKIKP **PKiKP 05 04 46.6 -0.1**
PSA00 Pilbara Seismi 137.68 192 PKPdf **PKPdf 05 04 45.2 -0.9**
IUG Iuzhnay 139.09 48 *e*PKiKP **PKiKP 05 04 49.7 -0.8**
baz=48
IUG Iuzhnay 139.09 48 *i* PKIKP **PKiKP 05 04 49.6 -0.8**
KK31 Karatay Array 139.09 47 PKIKP **PKPdf 05 04 47.8 -0.2**
KK31 Karatay Array 139.09 47 PKPdf **PKPdf 05 04 47.8 -0.2**
FITZ Fitzroy Crossi 139.41 202 PKPdf **PKPdf 05 04 48.4 -0.9**
CHGR Chuyangaron 139.49 54 **PKPdf 05 04 49.0 0.0**
KURK Kurchatov 140.19 32 PKIKP **PKPdf 05 04 50.8 +1.1**
KURK 05 05 20.3
KURK Kurchatov 140.19 32 PKPdf **PKPdf 05 04 50.2 +0.6**
KURBB Kurchatov Arra 140.20 32 PKhKP PKPpre 05 04 42.0
comp=E,2.3nm,0.7s,baz=317,slow=2.9,SNR=9.9
KURBB PKP **PKPdf 05 04 50.8 +1.0**
comp=E,7.7nm,0.8s,baz=314,slow=2.6,SNR=16
KURBB pPKP pPKPdf 05 05 20.3 +1.4
comp=E,27nm,0.9s,baz=302,slow=2.6,SNR=12
KURBB PP **PP 05 07 48.2 +0.1**
comp=E,3.5nm,1.1s,baz=307,slow=7.0,SNR=4.1
KBL Kabul 140.29 60 PKIKP **PKPdf 05 04 50.4 -0.3**
KBL Kabul 140.29 60 PKPdf **PKPdf 05 04 50.4 -0.3**
BTLS Baital 140.63 42 *e*PKiKP **PKiKP 05 04 53.7 +0.3**
baz=42
BTLS Baital 140.63 42 *i* PKIKP **PKiKP 05 04 53.6 +0.3**
KUR Kuril'sk 140.68 318⇈ *i*PKIKP **PKiKP 05 04 55.3 +1.9**
ZALV Zalesovo Beam 140.72 24 PKP **PKPdf 05 04 49.4 -1.2**
comp=E,32nm,0.8s,baz=312,slow=2.3,SNR=19
ZALV pPKP **pPKPdf 05 05 21.0 +1.3**
comp=E,62nm,0.8s,baz=288,slow=2.9,SNR=9.0
SGDS Sogindy 141.72 44 *e*PKP **PKPdf 05 04 52.5 -0.3**
baz=44
SGDS *e*PKiKP **PKiKP 05 04 55.9 +0.2**
baz=44
SGDS Sogindy 141.72 44 *e*PKIKP **PKPdf 05 04 52.5 -0.3**
AAK Ala-Archa 141.97 46 PKhKP PKPpre 05 04 49.7
comp=E,6.2nm,0.8s,baz=234,slow=4.2,SNR=6.9
AAK pPKP pPKPdf 05 05 23.3 +0.7
comp=E,20nm,0.9s,baz=162,slow=4.6,SNR=5.6
AAK Ala-Archa 141.97 46⇈ *e*PKIKP **PKPdf 05 04 51.7 -1.7**
AAK Ala-Archa 141.97 46 PKPdf **PKPdf 05 04 52.2 -1.2**
BOD Bodaibo 142.29 357 *e*PKHKP PKPpre 05 04 48.5
BOD pmax pmax
comp=Z,23nm,0.8s
YSS Yuzh-Sakhalins 142.84 323 *e*PKIKP **PKPdf 05 04 55.7 +1.2**
YSS *e* 05 05 20.0
YSS *e* 05 26 41.7
YSS Yuzh-Sakhalins 142.84 323 PKPdf **PKPdf 05 04 54.0 -0.6**
MTBS Maitube 143.03 44 *e*PKP **PKPdf 05 04 54.4 -0.8**
baz=44
MTBS *e*PKiKP **PKiKP 05 04 57.9 -0.5**
baz=44
MTBS Maitube 143.03 44 *e*PKIKP **PKPdf 05 04 54.4 -0.8**
JAY Jayapura 143.23 236 PKP PKPbc 05 04 54.5 +0.9
JAY PKP **PKPdf 05 04 55.4 -0.9**
AAA Alma-Ata 143.31 43 *e*PKP **PKPdf 05 04 55.3 -0.3**
baz=43
AAA Alma-Ata 143.31 43 *e*PKIKP **PKPdf 05 04 55.3 -0.3**
TDK Taldyqorghan 143.35 40 *i* PKP **PKPdf 05 04 54.3 -1.3**
baz=40
TDK Taldyqorghan 143.35 40 *i* PKIKP PKPbc 05 04 54.2 +1.2
TNSS Tian-Shan 143.41 44 *e*PKP **PKPdf 05 04 55.2 -1.1**
baz=44
TNSS Tian-Shan 143.41 44 *e*PKIKP **PKPdf 05 04 55.1 -1.1**
MDOK Medeo 143.42 43 *i* PKP PKPbc 05 04 54.5 +1.1
comp=Z,297nm,1.9s,baz=43
MDOK Medeo 143.42 43 *i* PKIKP PKPbc 05 04 54.5 +1.1
MDOK pmax pmax
comp=Z,297nm,1.9s
GENI Genyem 143.60 235 PKP PKPbc 05 04 55.4 +0.9
GENI PKP **PKPdf 05 04 55.8 -1.1**
NIL Nilore 143.89 60 PKIKP PKPbc 05 04 55.4 +0.5
NIL Nilore 143.89 60 PKPdf PKPbc 05 04 55.4 +0.4
KDJ Kajisay 143.98 45 PKIKP **PKPdf 05 04 57.0 0.0**
KDJ Kajisay 143.98 45 PKPdf **PKPdf 05 04 57.0 0.0**
ZEA Zeya 144.22 344 *e*PKIKP **PKPdf 05 04 57.2 +0.4**
ZEA *e* 05 05 25.0
ZEA pmax pmax
comp=Z,50nm,1.2s
KSH Kashi 144.24 50 PKP PKPbc 05 04 56.6 +0.7
KSH pPKP pPKPdf 05 05 25.5 -1.2
KSH PP **PP 05 08 11.9 -1.5**
GOA Goa 144.30 91 *e*P PKPbc 05 04 56.6 +0.1
GOA *i* sP pPKPdf 05 05 26.8 -0.4
SATY Saty 144.34 43 *i* PKP **PKPdf 05 04 57.0 -0.5**
comp=Z,36nm,1.2s,baz=43
SATY *e*PKiKP **PKiKP 05 05 00.7 -0.5**
baz=43
SATY Saty 144.34 43 *i* PKIKP **PKPdf 05 04 57.0 -0.5**
SATY pmax pmax
comp=Z,36nm,1.2s
SATY Saty 144.34 43 *i* PKIKP **PKPdf 05 04 57.0 -0.5**
SATY pmax pmax
comp=Z,36nm,1.2s
MAKZ Makanchi 144.35 35 PKIKP **PKPdf 05 04 56.7 -0.6**
MAKZ Makanchi 144.35 35 PKPdf **PKPdf 05 04 56.7 -0.6**
MK31 Makanchi Array 144.53 35 PKIKP PKPbc 05 04 56.9 +0.5
MK31 Makanchi Array 144.53 35 PKPdf PKPbc 05 04 56.9 +0.5
MKAR Makanchi Array 144.53 35 PKP PKPbc 05 04 57.0 +0.5
comp=Z,15nm,0.6s,baz=310,slow=2.7,SNR=81
MKAR PKP PKPdf 05 05 26.6 -0.2
comp=Z,26nm,0.8s,baz=300,slow=3.2,SNR=6.9
TARG Taragay, Kyrgy 144.58 45 PKPdf **PKPdf 05 04 57.9 -0.4**
PRZ Przheval'sk 144.62 44 PKIKP **PKPdf 05 04 59.0 +0.9**
PRZ Przheval'sk 144.62 44 **PKPdf 05 04 59.0 +0.9**
UZB Uzynbulak 144.69 42 *i* PKP **PKPdf 05 04 58.1 0.0**
comp=Z,66nm,1.3s,baz=42
UZB Uzynbulak 144.69 42 *i* PKIKP **PKPdf 05 04 58.1 0.0**
UZB pmax pmax
comp=Z,66nm,1.3s
POO Poona 144.89 86 *e*P **PKPdf 05 04 59.0 0.0**
POO *i* sP **pPKPdf 05 05 30.0 +1.7**
POO Poona 144.89 86 *ex* **PKPdf 05 04 58.0 -1.0**
DGZ Jazzator, Alta 144.99 27*c* *i*PKIKP **PKPdf 05 04 58.9 +0.4**
KAD Karad 145.00 88⇈ *ix* **PKPbc 05 04 58.6 -0.2**
TRD Trivandrum 145.07 104 *e*P **PKPdf 05 05 00.3 +0.9**
TRD *i* sP **pPKPdf 05 05 30.3 +1.6**
SMPI Sarmi 145.10 234 PKP **PKPdf 05 04 59.8 +0.3**
SMPI PKP **PKPab 05 05 00.3 +1.0**
ERM Erimo 145.22 316*d* *i*PKIKP **PKPab 05 04 59.5 +0.6**
ERM Erimo 145.22 316 **PKPab 05 04 60.0 +1.1**
KLR Kul'dur 146.57 335 PKPbc **PKPab 05 05 03.4 -0.4**
comp=Z,19nm,0.7s,baz=56,slow=3.2,SNR=29
KLR pPKPbc pPKPbc 05 05 31.6 +0.2
comp=Z,22nm,0.6s,baz=63,slow=2.1,SNR=7.0
KLR Kul'dur 146.57 335*c* *i*PKP2 **PKPbc 05 05 02.0 -0.6**
DHRM DHARAMSHALA 146.69 62 *e*P **PKPbc 05 05 04.4 +0.6**
DHRM *i* sP pPKPab 05 05 34.5 +0.9
ANA2 Anatahan 146.91 269 PKPbc **PKPbc 05 05 04.8 +0.2**
SRPI Serui, Papua 147.03 231 PKP **PKPab 05 05 05.8 -0.8**
GUMO Guam 147.05 264 PKP2 **PKPbc 05 05 04.7 -0.2**
GUMO Guam 147.05 264 **PKPbc 05 05 04.7 -0.2**
TEY Ternei 147.39 325 *e*PKP2 **PKPbc 05 05 04.5 -0.5**
URV Uravakonda 147.40 94 *e*PKPbc **PKPbc 05 05 04.7 -1.2**
KLRI Killari 147.40 88 *e*PKPbc **PKPbc 05 05 05.3 -0.6**
IRK Irkutsk 147.51 8 *e*PKP2 **PKPbc 05 05 05.4 +0.3**
IRK pmax pmax
comp=Z,256nm,1.5s
KUDL Kundal 147.54 69 *ex* **PKPbc 05 05 04.4 -1.5**
KUDL *ex* x 05 05 34.9
MOY Mondy 147.54 12 *e*PKP2 **PKiKP 05 05 07.0 -0.5**
SOEI Soe 147.59 205 PKP **PKPbc 05 05 05.7 -0.9**
SOEI PKP **PKiKP 05 05 06.7 -2.0**
SOEI Soe 147.59 205 **PKPbc 05 05 07.4 +0.8**
SMLA Simla 147.65 63 *e*P **PKPdf 05 05 02.9 -0.4**
PALK Pallekele 147.93 109 PKPbc **PKiKP 05 05 08.8 -0.5**
comp=Z,21nm,1.0s,baz=27,slow=8.6,SNR=5.0
PALK pPKPbc **pPKPbc 05 05 37.2 +0.9**
comp=Z,38nm,0.8s,baz=340,slow=4.5,SNR=6.7
PALK Pallekele 147.93 109 PKIKP **PKPdf 05 05 03.7 -0.7**
PALK Pallekele 147.93 109 PKPdf **PKPdf 05 05 03.7 -0.7**
TLY Talaya 147.97 9 PKPbc **PKiKP 05 05 07.6 -0.6**
comp=Z,63nm,0.9s,baz=343,slow=4.2,SNR=10
TLY pPKPbc **pPKPbc 05 05 35.9 +0.6**
comp=Z,49nm,0.8s,baz=340,slow=6.0,SNR=6.9
TLY Talaya 147.97 9*c* *i*PKP2 **PKiKP 05 05 07.7 -0.6**
TLY pmax pmax
comp=Z,135nm,0.9s
TLY Talaya 147.97 9 PKPbc **PKPbc 05 05 06.9 +0.5**
SONA Sohna 148.04 69 *ex* **PKPbc 05 05 08.6 +1.3**
SONA *ex* **pPKPbc 05 05 36.8 +0.5**
NDI New Delhi 148.10 68 *ex* **PKPbc 05 05 08.5 +1.0**
DDI Dehra Dun 148.56 65 *eP* **PKPdf 05 05 02.2 -2.7**
DDI *i* pP **pPKPdf 05 05 32.1 -2.0**
BHPL Bhopal 148.62 78 *eP* **PKPdf 05 05 04.4 -0.8**
BHPL *i* x **pPKPbc 05 05 34.0 -3.9**
RKPI Ransiki, Papua 148.76 229 PKP **PKPbc 05 05 09.0 -0.6**
FAKI Fak Fak 149.07 225 PKP **PKiKP 05 05 12.4 +0.8**
HYBB Hyderabad (bro 149.12 90 *e*PKiKP **PKPbc 05 05 10.6 +0.2**

HYB	**Hyderabad**	**149.13**	**90**	*i* PKP	**PKPdf**	**05 05 08.0**	**+1.9**
HYB				*ep*PKP	**pPKPbc**	**05 05 40.0**	**+0.7**
HYB	**Hyderabad**	**149.13**	**90**	*eP*	**PKPdf**	**05 05 07.0**	**+0.8**
HYB				*i* x	**pPKPdf**	**05 05 34.4**	**-1.1**
SRSP	**Sriramsagar**	**149.16**	**87**	*e*PKPbc	**PKPdf**	**05 05 07.5**	**+1.4**
ZAK	**Zakamensk**	**149.18**	**10**	*e*PKHKP	PKPpre	05 05 07.2	
ZAK				pmax	pmax		
	comp=Z,23nm,1.1s						
SRLM	**Srisailam**	**149.19**	**92**	*e*PKiKP	**PKPbc**	**05 05 10.6**	**0.0**
WBSI	**Waikabubak, Su**	**149.31**	**196**	PKP	**PKiKP**	**05 05 11.5**	**-0.6**
WMQ	**Urumqi**	**149.36**	**34**	PKPbc	**PKPdf**	**05 05 08.0**	**+2.2**
WMQ				PKPab	**PKPab**	**05 05 16.6**	**+1.4**
WMQ				sPKP		05 05 40.8	
WMQ				PP	**PP**	**05 08 42.5**	**-0.3**
WMQ				LR	LR		
	comp=Z,380nm,28.9s						
WMQ				LR	LR		
	comp=Z,340nm,28.9s						
WMQ				LR	LR		
	comp=Z,56nm,27.5s						
SKHT	**Srikalahasti**	**149.37**	**97**	*e*PKiKP	**PKiKP**	**05 05 12.3**	**+0.2**
MMRI	**Maumere**	**149.38**	**202**		**PKPbc**	**05 05 10.1**	**-1.0**
EDFI	**Ende, Flores**	**149.46**	**201**	PKP	**PKPdf**	**05 05 07.6**	**+0.7**
NJS	**Nagarjunasagar**	**149.67**	**91**	*e*PKPbc	**PKPdf**	**05 05 08.9**	**+1.9**
RPR	**Rampur**	**150.04**	**87**	*e*PKiKP	**PKPbc**	**05 05 12.7**	**+0.1**
NGP	**Nagpur**	**150.05**	**82**	*eP*	**PKPdf**	**05 05 06.3**	**-1.2**
NGP				*i* x	**pPKPdf**	**05 05 36.3**	**-0.5**
NGP	**Nagpur**	**150.05**	**82**	*ex*	**PKiKP**	**05 05 13.1**	**-0.3**
NGP				*ex*	x	05 05 38.5	
HIA	**Hailar**	**150.10**	**349**	PKIKP	**PKPbc**	**05 05 12.0**	**+0.2**
HIA	**Hailar**	**150.10**	**349**		**PKPbc**	**05 05 12.0**	**+0.2**
ADKI	**Addanki**	**150.14**	**93**	*e*PKPbc	**PKPbc**	**05 05 10.3**	**-2.5**
USA0B	**Ussuriysk Arra**	**150.33**	**329**	PKIKP	**PKPbc**	**05 05 12.5**	**0.0**
USA0B	**Ussuriysk Arra**	**150.33**	**329**		**PKPbc**	**05 05 12.5**	**0.0**
USRK	**Ussuriysk Ar.**	**150.33**	**329**	PKPbc	**PKiKP**	**05 05 13.4**	**+0.2**
	comp=Z,34nm,0.8s,baz=338,slow=0.5,SNR=42						
USRK				pPKPbc	**pPKPbc**	**05 05 42.1**	**+0.7**
	comp=Z,103nm,1.0s,baz=12,slow=1.4,SNR=13						
MYLAV	**Mylavaram**	**150.96**	**92**	*e*PKPbc	**PKPbc**	**05 05 12.8**	**-2.0**
MDJ	**Mudanjiang**	**151.13**	**332**		**PKPbc**	**05 05 14.2**	**-0.1**
MAJO	**Matsushiro**	**151.18**	**310**	PKIKP	**PKPbc**	**05 05 14.4**	**-0.4**
MAJO	**Matsushiro**	**151.18**	**310**		**PKPbc**	**05 05 14.4**	**-0.4**
MAT	**Matsushiro**	**151.18**	**310**	PKP	**PKiKP**	**05 05 15.8**	**+0.5**
JAGI	**Jajag, Banyuwa**	**151.43**	**186**		**PKPbc**	**05 05 14.9**	**-1.1**
PVM	**Polavaram**	**151.98**	**91**	*e*PKiKP	**PKiKP**	**05 05 17.6**	**+0.1**
SONM	**Songino Array**	**152.10**	**7**	PKP	**PKPdf**	**05 05 10.0**	**0.0**
	comp=Z,8.3nm,0.9s,baz=289,slow=0.7,SNR=30						
SONM				PKPbc	**PKiKP**	**05 05 18.8**	**+1.8**
	comp=Z,27nm,0.7s,baz=322,slow=1.4,SNR=42						
SONM				pPKPbc	**pPKPbc**	**05 05 46.9**	**+1.1**
	comp=Z,85nm,0.8s,baz=311,slow=1.5,SNR=19						
ULN	**Ulaanbaatar**	**152.13**	**6**	PKIKP	**PKPdf**	**05 05 10.2**	**+0.1**
ULN	**Ulaanbaatar**	**152.13**	**6**	PKPdf	**PKPdf**	**05 05 10.2**	**+0.1**
CISI	**Cisompet, Garu**	**152.31**	**173**		**PKPbc**	**05 05 17.0**	**-1.1**
LEM	**Lembang**	**153.01**	**172**	PKPbc	**PKiKP**	**05 05 21.6**	**+1.7**
	comp=Z,106nm,0.7s,baz=360,slow=6.1,SNR=6.7						
LEM				pPKPbc	**pPKPbc**	**05 05 50.0**	**+1.3**
	comp=Z,102nm,0.7s,baz=318,slow=7.3,SNR=5.2						
BKSI	**Bulukumba**	**153.19**	**200**	PKP	**PKiKP**	**05 05 21.0**	**+0.9**
BKSI				PKP	**PKPbc**	**05 05 22.3**	**+2.4**
CN2	**Changchun**	**153.50**	**336**	*eP*	**PKPab**	**05 05 32.0**	**-0.4**
KAPI	**Kappang**	**153.60**	**200**	PKP2	**PKPab**	**05 05 32.5**	**-1.0**
KAPI	**Kappang**	**153.60**	**200**	PKPbc	**PKPbc**	**05 05 19.7**	**-1.1**
KAPI				PKPab	**PKPab**	**05 05 32.5**	**-1.0**
CHLP	**Challavanipeta**	**154.47**	**89**	*e*PKPbc	**PKPbc**	**05 05 21.8**	**-0.8**
BWNR	**Bhubaneshwar**	**156.30**	**85**	*ex*	**PKPdf**	**05 05 12.5**	**-3.9**
BWNR				*i* x	**pPKPdf**	**05 05 43.3**	**-2.5**
GSI	**Gunungsitoli**	**157.11**	**143**	PKPab	**PKPab**	**05 05 48.1**	**-0.5**
KS19	**Wonju Array Si**	**157.33**	**323**	PKPdf	**PKPdf**	**05 05 17.1**	**-0.3**
KS19					**PKPab**	**05 05 48.2**	**-0.8**
KSRS	**Korea Array**	**157.34**	**323**	PKP	**PKPdf**	**05 05 19.1**	**+1.8**
	comp=Z,5.5nm,0.8s,baz=59,slow=1.4,SNR=22						
KSRS				pPKP	**pPKPdf**	**05 05 47.2**	**+0.6**
	comp=Z,28nm,1.1s,baz=48,slow=0.7,SNR=12						
KSRS				pPKPab	**pPKPab**	**05 06 17.4**	**+0.6**
	comp=Z,13nm,0.9s,baz=59,slow=4.0,SNR=4.1						
JNU	**Nakatsue**	**158.11**	**310**	PKPdf	**PKPdf**	**05 05 18.0**	**-0.5**
JNU				PKPab	**PKPab**	**05 05 51.7**	**-0.9**
GTA	**Gaotai**	**158.47**	**24**	*e*PKP	**PKPdf**	**05 05 20.1**	**+1.2**
GTA				sPKP		05 05 59.8	
GTA				PP	**PP**	**05 09 36.9**	**+3.2**
GTA				SKKS		05 16 13.6	
GTA				SS	**SS**	**05 29 27.6**	**+1.1**
GTA				AMB	AMB		
	comp=Z,100nm,7.9s						
GTA				LR	LR		
	comp=Z,77nm,20.3s						
GTA				LR	LR		
	comp=Z,180nm,23.5s						
GTA				LR	LR		
	comp=Z,140nm,20.9s						
PSI	**Prapat**	**159.10**	**144**	pPKP	**pPKPdf**	**05 05 49.9**	**+0.3**
	comp=Z,7.9nm,0.8s,baz=189,slow=0.3,SNR=2.6						
PSI				PKPab	**PKPab**	**05 05 58.0**	**+0.6**
	comp=Z,31nm,0.9s,baz=180,slow=9.6,SNR=12						
PSI				pPKPab	pPKPab	05 06 26.6	+1.2
	comp=Z,20nm,0.9s,baz=180,slow=1.9,SNR=3.3						
PSI	**Prapat**	**159.10**	**144**	PKP2	**PKPab**	**05 05 58.0**	**+0.6**
HHC	**Hu-ho-hao-te**	**159.34**	**359**	*ePKP*	**PKPdf**	**05 05 20.0**	**+0.2**
HHC				pPKP	pPKPdf	05 05 47.4	-1.8
HHC				LR	LR		
	comp=Z,120nm,16.2s						
HHC				LR	LR		
	comp=Z,100nm,16.2s						
HHC				LR	LR		
	comp=Z,180nm,17.9s						
BTO	**Baotou**	**159.56**	**2**	*eP*	PKPab	05 05 49.0	-10
BJI	**Beijing**	**159.67**	**349**	PKP	**PKPdf**	**05 05 23.0**	**+3.0**
BJI				pPKP	**pPKPdf**	**05 05 49.6**	**+0.2**
BJI				sPKP		05 05 57.5	
BJI				PP	PP	05 09 48.6	+8.9
BJI				AMB	AMB		
	comp=Z,110nm,4.3s						
BJI				LR	LR		
	comp=Z,92nm,23.2s						
GUWA	**GUWAHATI**	**161.20**	**68**	*ex*	**pPKPdf**	**05 05 51.5**	**0.0**
GUWA				*i* x	**PKPab**	**05 06 06.3**	**+0.1**
GUWA				*ex*	pPKPab	05 06 35.5	+1.1
LZH	**Lanzhou**	**162.88**	**20**	*e*PKP	**PKPdf**	**05 05 24.8**	**+1.0**
LZH				pPKP	pPKPdf	05 05 55.0	+1.9
LZH				sPKP		05 06 02.5	
LZH				PKPab	**PKPab**	**05 06 14.5**	**+1.2**
LZH				LR	LR		
	comp=Z,330nm,18.0s						
LZH				LR	LR		
	comp=Z,340nm,18.1s						
LZH				LR	LR		
	comp=Z,400nm,20.2s						
XAN	**Xi'an**	**166.01**	**7**	PKP	**PKPdf**	**05 05 29.1**	**+2.6**
XAN				pPKP	pPKPdf	05 05 56.8	+0.9
XAN				sPKP		05 06 07.8	
XAN				PKPab	**PKPab**	**05 06 26.3**	**-0.6**
XAN				PP	**PP**	**05 10 16.9**	**+3.6**
XAN				SS	SS	05 30 47.6	+3.7
XAN				AMB	AMB		
	comp=Z,210nm,7.4s						
XAN				LR	LR		
	comp=Z,150nm,24.9s						
XAN				LR	LR		
	comp=Z,280nm,22.8s						
NJ2	**Nanjing**	**166.22**	**331**	*e*PKP	**PKPdf**	**05 05 27.4**	**+0.8**
CD2	**Chengdu**	**167.40**	**30**	PKP	**PKPdf**	**05 05 30.0**	**+2.4**
CD2				pPKP	pPKPdf	05 05 57.9	+1.0
CD2				SS	SS	05 31 01.4	+2.5
CD2				LR	LR		
	comp=Z,170nm,22.4s						
CD2				LR	LR		
	comp=Z,90nm,18.9s						
CD2				LR	LR		
	comp=Z,200nm,18.0s						
CMAR	**Chiang Mai Arr**	**168.43**	**96**	PKP	**PKPdf**	**05 05 29.6**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=268,slow=2.0,SNR=14						
CMAR				pPKP	**pPKPdf**	**05 05 58.5**	**+0.6**
	comp=Z,7.5nm,1.1s,baz=283,slow=1.7,SNR=5.6						
CMAR				PKPab	**PKPab**	**05 06 38.8**	**+0.5**
	comp=Z,6.1nm,0.9s,baz=256,slow=5.3,SNR=10						
CMAR				pPKPab	**pPKPab**	**05 07 07.6**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=258,slow=6.0,SNR=2.8						
CMAR				PP	**PP**	**05 10 29.4**	**+1.4**
	comp=Z,9.0nm,1.1s,baz=262,slow=5.3,SNR=10						
TGY	**Tagaytay City**	**168.83**	**239**	PKPab	**PKPab**	**05 06 41.8**	**+1.7**
	comp=Z,132nm,0.4s,baz=316,slow=6.0,SNR=3.6						
ENH	**Enshi**	**169.79**	**8**		**PKPdf**	**05 05 28.7**	**-0.5**
KMI	**Kunming**	**170.84**	**56**	PKP	**PKPdf**	**05 05 30.5**	**+0.3**
GYA	**Guiyang**	**172.51**	**32**	⇑PKP	**PKPdf**	**05 05 32.3**	**+1.5**
GYA				pPKP	pPKPdf	05 06 00.0	-0.3
GYA				sPKP		05 06 08.8	
GYA				PKPab	**PKPab**	**05 06 55.6**	**-0.5**
GYA				PP	**PP**	**05 10 52.5**	**+5.8**
GYA				SKKS		05 17 23.6	
GYA				SS	**SS**	**05 31 46.3**	**-3.5**
QIZ	**Qiongzhong**	**178.42**	**133**	PKP	**PKPdf**	**05 05 32.0**	**-0.4**
QIZ				sPKP		05 06 04.5	
QIZ				PP	**PP**	**05 11 16.0**	**+0.5**
QIZ				SS	SS	05 32 43.6	-3.4
QIZ				AMB	AMB		
	comp=Z,200nm,14.2s						
QIZ				LR	LR		
	comp=Z,91nm,16.8s						
QIZ				LR	LR		
	comp=Z,110nm,16.4s						
QIZ				LR	LR		
	comp=Z,180nm,48.0s						

ANF ***23*** *04:55:12.6±0.2, 42.95N×74.41W, h5km, ML1.9/30, Error ellipse: s-maj=1.4km s-min=1.2km az=177.0*

LDO 23 04:55:14.0, 42.94N×74.43W, h5km, New York

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K59A	**Cooperstown**	**0.37**	**242**	P	Pg	04 55 20.5	+0.8
	baz=62,SNR=140						
K59A				S	Sg	04 55 25.5	+0.8
	baz=62						
K60A	**Five Rivers En**	**0.51**	**131**	S	Sg	04 55 29.9	+0.9
	baz=309						
J59A	**Piesco**	**0.52**	**352**	P	Pb	04 55 23.6	-0.6
	baz=174,SNR=32						
J59A				S	Sg	04 55 30.5	+1.3
	baz=174						
J58A	**Remsen**	**0.76**	**303**	P	Pb	04 55 28.0	-0.3
	baz=124						
J58A				S	Sb	04 55 38.0	-0.9
	baz=124						
J60A	**Lant Hill Farm**	**0.78**	**68**	P	Pb	04 55 28.3	-0.3
	baz=248,SNR=12						
J60A				S	Sg	04 55 38.4	+0.8
	baz=248						
I58A	**Old Forge**	**0.84**	**331**	P	Pb	04 55 29.4	-0.3
	baz=152,SNR=8.5						
I58A				S	Sg	04 55 40.5	+0.8
	baz=152						
K61A	**Williamstown**	**0.89**	**108**	P	Pb	04 55 30.7	+0.3
	baz=288,SNR=5.1						
L59A	**Walton**	**0.90**	**212**	P	Pg	04 55 29.8	+0.1
	baz=31,SNR=16						
L59A				S	Sg	04 55 41.1	-0.2
	baz=31						
I59A	**Olmsteadville**	**0.93**	**25**	P	Pb	04 55 30.9	-0.3
	baz=206,SNR=6.2						
I59A				S	Sb	04 55 43.3	-0.5
	baz=206						
K58A	**Earlville**	**0.93**	**259**	P	Pg	04 55 30.6	+0.2
	baz=78,SNR=9.1						
K58A				S	Sb	04 55 43.9	0.0
	baz=78						
L60A	**Shokan**	**0.97**	**172**	P	Pg	04 55 31.4	+0.2
	baz=351,SNR=9.5						
L60A				S	Sg	04 55 43.8	0.0
	baz=351						
L61A	**Hillsdale 1, H**	**0.99**	**140**	P	Pb	04 55 32.1	0.0
	baz=319						
L61A				S	Sb	04 55 44.9	-0.5
	baz=319						
I60A	**Shoreham**	**1.21**	**42**	P	Pg	04 55 35.7	0.0
	baz=223						
I60A				S	Sb	04 55 51.8	0.0
	baz=223						
J57A	**Williamstown**	**1.25**	**292**	P	Pg	04 55 36.4	-0.1
	baz=112,SNR=8.7						
I57A	**Carthage**	**1.34**	**318**	P	Pb	04 55 38.2	0.0
	baz=138						
I57A				S	Sb	04 55 55.8	+0.2
	baz=138						
L61B	**Northampton**	**1.37**	**111**	P	Pg	04 55 38.9	+0.1
	baz=291						
L61B				S	Sn	04 55 57.0	+0.2
	baz=291						
BINY	**Binghamton**	**1.39**	**238**	P	Pn	04 55 38.3	-0.3
	baz=57						
BINY				S	Sb	04 55 56.8	-0.2
	baz=57						
J61A	**Chester**	**1.41**	**73**	P	Pb	04 55 39.4	0.0
	baz=254,SNR=14						
J61A				S	Sb	04 55 57.5	-0.3
	baz=254						
H58A	**Gabriels**	**1.47**	**6**	P	Pn	04 55 39.8	0.0
	baz=187						
H58A				S	Sb	04 55 59.5	0.0
	baz=187						
K57A	**Scipio Center**	**1.57**	**263**	P	Pb	04 55 41.6	-0.4
	baz=82						
K57A				S	Sg	04 56 02.5	-0.3
	baz=82						
K62A	**Royalston**	**1.63**	**99**	S	Sb	04 56 04.2	+0.4
	baz=280						
M60A	**Port Jervis**	**1.63**	**186**	S	Sn	04 56 03.5	+0.1
	baz=5.0						
M61A	**Granite Spring**	**1.71**	**164**	S	Sb	04 56 05.8	-0.4
	baz=343						
H59A	**Cadyville**	**1.77**	**17**	Pb	Pb	04 55 44.7	-0.8
	baz=198,SNR=8.2						
H59A				Sb	Sg	04 56 09.2	-0.3
	baz=198						
J56A	**Wolcott**	**1.82**	**281**	Sb	Sg	04 56 10.5	-0.6
	baz=100						
I61A	**Oroboro, Fairl**	**1.88**	**58**	Pb	Pb	04 55 47.2	-0.1
	baz=239,SNR=9.9						
J62A	**Henniker**	**1.92**	**81**	Pb	Pb	04 55 48.6	+0.5
	baz=262,SNR=6.2						
J62A				Sb	Sb	04 56 12.9	+0.5
	baz=262						
N60A	**Cedar Hill Far**	**2.14**	**194**	S	Sb	04 56 17.5	-1.3
	baz=13						
G59A	**Clarenceville**	**2.30**	**22**	Sb	Sg	04 56 25.0	-1.5
	baz=203						
I62A	**Tamworth**	**2.42**	**67**	Sb	Sb	04 56 28.0	+1.3
	baz=248						
J55A	**Hilton**	**2.52**	**278**	Sb	Sb	04 56 29.7	+0.3
	baz=96						

NEIC ***23*** *04:57:57.9±2.2, 32.68N±0.05×47.47E±0.02, h10km±1km, Error ellipse: s-maj=8.3km s-min=3.2km az=194.0*
IDC ***23*** *04:57:57.6±1.6, 32.84N×47.33E, h0km, mb4.2/16, mb1 4.1/19, mb1mx3.9/71, mbtmp4.1/19, ML3.8/2, MS3.4/7, Ms1 3.4/7, ms1mx3.1/40, Error ellipse: s-maj=34.4km s-min=16.3km az=175.0*
TEH ***23*** *04:57:58.4, 32.74N×47.48E, h11km, ML4.3*
ISN ***23*** *04:57:58.2±1.6, 32.72N×47.46E, h15km±8km, ML3.8*
THR ***23*** *04:57:58.3±0.3, 32.68N×47.33E, h14km±3km, ML4.5*

ISC 23 04:57:59.0±0.8, 32.67N±0.04×47.44E±0.03, h16km±5km, n149, σ1.9 56/152, mb4.3/29, MS3.7/6, 4C-2D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.14**	**273**	*eP*g	**Pg**	**04 58 02.3**	**-0.5**
DHL1				*eS*g	**Sg**	**04 58 05.7**	**+0.4**
IKFM	**Kafar-mosalman**	**0.92**	**22**	*eP*g	**Pb**	**04 58 14.6**	**-1.9**
IKFM	**Kafar-mosalman**	**0.92**	**22**	Pg	**Pb**	**04 58 14.5**	**-1.9**
IKMR	**Kamar-syah**	**1.15**	**43**	*eP*g	**Pb**	**04 58 18.9**	**-1.7**
IKMR				*e*		04 58 41.2	
IKMR	**Kamar-syah**	**1.15**	**43**	Pg	**Pb**	**04 58 20.0**	**-0.6**
IDOB	**Doab**	**1.27**	**29**	*eP*g	**Pn**	**04 58 22.1**	**-0.2**
IDOB	**Doab**	**1.27**	**29**		**Pb**	**04 58 22.5**	**-0.2**
SHGR	**Shooshtar-Gavs**	**1.28**	**116**	*eP*g	**Pg**	**04 58 23.6**	**-0.1**
SHGR				*eS*g	**Sg**	**04 58 42.0**	**+1.6**
SHGR				IAML		04 58 49.3	
	comp=E,9μm,0.3s						
SHGR				IAML		04 58 53.8	
	comp=N,7μm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.28**	**116**	*eP*g	**Pg**	**04 58 23.6**	**-0.1**
IBDR	**Badra**	**1.34**	**289**	*eP*g	**Pn**	**04 58 22.0**	**-1.1**
IBDR				*eS*g	**Sb**	**04 58 41.0**	**+0.2**
IBDR				AML	AML	04 58 48.4	
	comp=N,2μm,0.3s						
IBDR				AML	AML	04 58 51.8	

	comp=E,2μm,0.7s						
IKOM	**Komasi**	**1.50**	**2**	*e*Pg	**Pb**	**04 58 25.9**	**-0.7**
IKOM				*e*		04 58 53.4	
IKOM	**Komasi**	**1.50**	**2**		**Pb**	**04 58 26.7**	**+0.1**
BMDN	**Meydan**	**1.53**	**49**	*e*Pg	**Pb**	**04 58 26.5**	**-0.6**
BMDN				*e*		04 59 00.1	
KCHF	**Cheshme Sefid,**	**1.63**	**348**	*e*Pg	**Pb**	**04 58 28.4**	**-0.5**
KCHF				*e*		04 58 56.1	
KCHF	**Cheshme Sefid,**	**1.63**	**348**		**Pb**	**04 58 29.0**	**+0.1**
AHWZ	**Ahwaz**	**1.69**	**142**	*e*Pg	**Pg**	**04 58 31.1**	**-0.3**
AHWZ	**Ahwaz**	**1.69**	**142**	Pg	**Pg**	**04 58 31.1**	**-0.3**
KER	**Kermanshah**	**1.73**	**351**	*e*Pn	**Pb**	**04 58 29.6**	**-0.8**
IGHG	**Ghaleghazi**	**1.81**	**336**	*e*Pn	**Pb**	**04 58 31.5**	**-0.3**
IGHG				*e*		04 59 10.5	
IGHG	**Ghaleghazi**	**1.81**	**336**	Pn	**Pb**	**04 58 31.2**	**-0.6**
HSAM	**Samen**	**1.82**	**32**	*e*Pg	**Pb**	**04 58 31.5**	**-0.5**
HSAM				*e*		04 59 03.6	
IBZA	**Bozab**	**1.83**	**11**	*e*Pg	**Pb**	**04 58 32.0**	**-0.2**
IBZA				*e*		04 59 02.1	
IBZA	**Bozab**	**1.83**	**11**	Pg	**Pb**	**04 58 32.3**	**+0.1**
IVIS	**Veis**	**1.91**	**345**	*e*Pn	**Pb**	**04 58 33.0**	**-0.6**
IVIS				*e*		04 59 07.3	
IVIS	**Veis**	**1.91**	**345**	Pg	**Pb**	**04 58 33.5**	**-0.1**
NSR	**Nassriya**	**1.99**	**214**	*e*Pn	**Pn**	**04 58 34.0**	**+2.0**
NSR				*e*Sn	**Sn**	**04 58 58.0**	**+1.3**
IDHR	**Dehrash**	**2.20**	**337**	*e*Pn	**Pb**	**04 58 36.7**	**-1.9**
IDHR				*e*		04 59 22.5	
IDHR	**Dehrash**	**2.20**	**337**	Pn	**Pb**	**04 58 37.0**	**-1.6**
IALM	**Almabolaq**	**2.26**	**15**	*e*Pn	**Pn**	**04 58 37.3**	**+1.3**
ILIN	**Lien**	**2.27**	**350**	*e*Pn	**Pn**	**04 58 37.9**	**-2.0**
ILIN	**Lien**	**2.27**	**350**	Pn	**Pb**	**04 58 38.1**	**-1.8**
SNGE	**Sanandaj**	**2.41**	**358**	*e*Pn	**Pn**	**04 58 39.4**	**+1.4**
SNGE				*e*Sg	**Sg**	**04 59 14.0**	**-2.7**
SNGE	**Sanandaj**	**2.41**	**358**	*e*Pn	**Pn**	**04 58 39.4**	**+1.4**
HAGD	**Aghdareh**	**2.57**	**33**	*e*Pn	**Pn**	**04 58 41.9**	**+1.7**
HAGD				*e*		04 59 32.0	
BHD	**Baghdad**	**2.64**	**284**	*e*Pn	**Pn**	**04 58 42.0**	**+1.1**
BHD				*e*Sn	**Sn**	**04 59 15.0**	**+2.4**
BHD				AML	AML	04 59 28.7	
	comp=E,527nm,0.4s						
HSRG	**Sareghieh**	**2.66**	**15**	*e*Pn	**Pn**	**04 58 43.0**	**+1.6**
JHBN	**Jahan bin**	**2.76**	**98**	*e*Pn	**Pn**	**04 58 44.4**	**+1.5**
JHBN				*e*		04 59 49.2	
IPIR	**Pirpir**	**2.91**	**89**	*e*Pn	**Pn**	**04 58 46.4**	**+1.4**
IPIR				*e*		04 59 28.6	
ROKH	**ROKH**	**3.05**	**95**	*e*Pn	**Pn**	**04 58 48.4**	**+1.5**
ROKH				*e*		04 59 44.3	
IBRJ	**Brojen**	**3.32**	**102**	*e*Pn	**Pn**	**04 58 51.9**	**+1.3**
IRAZ	**Razeghan**	**3.42**	**36**	*e*Pn	**Pn**	**04 58 54.3**	**+2.4**
QABG	**Abgarm-Qazvin**	**3.51**	**30**	*e*Pn	**Pn**	**04 58 54.4**	**+1.3**
IKLH	**Kolahrood**	**3.54**	**78**	*e*Pn	**Pn**	**04 58 55.2**	**+1.7**
IKLH				*e*		05 00 07.7	
IGAR	**Gharneh**	**3.90**	**93**	*e*Pn	**Pn**	**04 58 59.8**	**+1.4**
IGAR				*e*		05 00 07.2	
KLNJ	**Kolanjah**	**3.90**	**114**	*e*Pn	**Pn**	**04 58 59.6**	**+0.9**
KLNJ				*e*		05 00 16.4	
IMHD	**Mahdasht**	**4.02**	**41**	*e*Pn	**Pn**	**04 59 02.7**	**+2.6**
QSDN	**Sirdan**	**4.08**	**20**	*e*Pn	**Pn**	**04 59 03.1**	**+2.1**
ZNJK	**Zanjan**	**4.12**	**14**	*e*Pn	**Pn**	**04 59 03.4**	**+1.9**
ZNJK	**Zanjan**	**4.12**	**14**	*e*Pn	**Pn**	**04 59 03.4**	**+1.9**
IZEF	**Zefreh**	**4.12**	**86**	*e*Pn	**Pn**	**04 59 03.1**	**+1.5**
IVRN	**Varamin**	**4.25**	**56**	*e*Pn	**Pn**	**04 59 04.5**	**+1.3**
IRAM	**Ramesheh**	**4.27**	**100**	*e*Pn	**Pn**	**04 59 04.1**	**+0.5**
MAHB	**Mahabad**	**4.33**	**341**	*e*Pn	**Pn**	**04 59 05.8**	**+1.5**
IGZV	**Ghazvin**	**4.36**	**31**	*e*Pn	**Pn**	**04 59 06.5**	**+1.7**
CHTH	**Charan**	**4.44**	**42**	*e*Pn	**Pn**	**04 59 08.4**	**+2.5**
CHTH	**Charan**	**4.44**	**42**	*e*Pn	**Pn**	**04 59 08.4**	**+2.5**
QALM	**Alamut, Qazvin**	**4.59**	**34**	*e*Pn	**Pn**	**04 59 10.6**	**+2.6**
IDMV	**Damavand**	**4.78**	**51**	*e*Pn	**Pn**	**04 59 11.6**	**+0.9**
IAZR	**Azarshahr**	**5.13**	**347**	*e*Pn	**Pn**	**04 59 16.2**	**+0.7**
IFIR	**Firoozkooh**	**5.31**	**55**	*e*Pn	**Pn**	**04 59 18.8**	**+0.9**
ANAR	**Anarak**	**5.31**	**83**	*e*Pn	**Pn**	**04 59 18.3**	**+0.5**
ILAS	**Lasjerd**	**5.32**	**58**	*e*Pn	**Pn**	**04 59 19.1**	**+1.1**
ISAD	**Sadrabad**	**5.34**	**96**	*e*Pn	**Pn**	**04 59 19.0**	**+0.6**
IPRN	**Peran**	**5.39**	**47**	*e*Pn	**Pn**	**04 59 20.8**	**+1.9**
IALA	**Alasht**	**5.59**	**51**	*e*Pn	**Pn**	**04 59 23.8**	**+2.0**
IHRS	**Heris**	**5.64**	**357**	*e*Pn	**Pn**	**04 59 24.7**	**+2.3**
HAKT	**HAKKARI**	**5.75**	**329**	*e*Pn	**Pn**	**04 59 25.5**	**+1.5**
ISHM	**Shahmirzad**	**5.77**	**56**	*e*Pn	**Pn**	**04 59 25.1**	**+0.9**
IMEH	**Mehriz**	**6.22**	**100**	*e*Pn	**Pn**	**04 59 30.7**	**+0.3**
IGLO	**Ghaloghah**	**6.51**	**52**	*e*Pn	**Pn**	**04 59 32.6**	**+1.9**
GEVA	**Gevas**	**6.67**	**329**		**Pn**	**04 59 35.8**	**-0.6**
MARD	**Mardin**	**7.16**	**312**	Pn	**Pn**	**04 59 42.8**	**-0.4**
TNSJ	**Nastanj**	**7.78**	**78**	*e*Pn

comp=Z,0.9nm,0.2s,baz=352,slow=20,SNR=1.5
AAK Ala-Archa 23.53 57 P P 05 03 07.8 -0.8
DIVS Divibare 24.24 306 P P 05 03 14.1 -1.2
DIVS IAmb IAmb 05 03 33.2
comp=Z,6.2nm,1.0s
ARU Arti 24.98 15 P P 05 03 21.6 -0.1
comp=Z,0.7nm,0.4s,baz=155,slow=6.7,SNR=3.2
ARU Arti 24.98 15 P P 05 03 21.1 -0.5
ARU IAmb IAmb 05 03 28.9
comp=Z,5.7nm,1.0s
KWP Kalwaria Pacla 25.00 320 P P 05 03 21.4 -0.5
TARG Taragay, Kyrgy 25.71 61 P P 05 03 28.2 -0.8
TARG IAmb IAmb 05 03 32.8
comp=Z,5.5nm,0.7s
PSZ Piszkesteto 25.77 314 ⇑P P 05 03 31.1 +2.1
PSZ Piszkesteto 25.77 314 P P 05 03 27.9 -1.1
BRVK Borovoye 26.17 32 P P 05 03 32.2 -0.3
BRVK IAmb IAmb 05 03 39.0
comp=Z,4.1nm,0.6s
BVAR Borovoye Array 26.19 32 P P 05 03 32.7 -0.1
comp=Z,1.7nm,0.6s,baz=218,slow=8.9,SNR=8.3
VYHS Vyhne 26.66 315 eP P 05 03 35.9 -1.1
OJC Ojcow 26.91 319 P P 05 03 38.7 -0.6
KURBB Kurchatov Arra 29.05 43 P P 05 03 58.7 +0.4
comp=Z,3.5nm,0.7s,baz=247,slow=9.2,SNR=15
KURK Kurchatov 29.14 43 P P 05 03 58.9 -0.2
KURK IAmb IAmb 05 04 03.8
comp=Z,6.5nm,0.9s
MK31 Makanchi Array 30.01 52 P P 05 04 07.1 +0.1
MKAR Makanchi Array 30.01 52 P P 05 04 07.6 +0.7
comp=Z,3.9nm,0.7s,baz=247,slow=7.5,SNR=23
CLL Collm 31.25 317 i (P) P 05 04 21.4 +3.6
comp=Z,10.0nm,1.2s
FINES FINESS Array B 31.94 341 P P 05 04 23.3 -0.4
comp=Z,3.5nm,0.8s,baz=142,slow=9.5,SNR=7.0
WMQ Urumqi 33.22 59 eP P 05 04 37.3 +2.1
WMQ pmax pmax
comp=Z,9.0nm,0.6s
WMQ pmax pmax
comp=Z,38nm,3.7s
WMQ LR LR
comp=N,340nm,29.3s
WMQ LR LR
comp=E,460nm,29.0s
WMQ LR LR
comp=Z,19nm,28.9s
BNI Bardonecchia 33.72 304 P P 05 04 40.2 +0.5
ZALV Zalesovo Beam 33.95 40 P P 05 04 41.5 +0.1
comp=Z,9.1nm,0.7s,baz=261,slow=8.2,SNR=12
HFS Hagfors 35.30 331 P P 05 04 52.9 0.0
comp=Z,4.0nm,0.5s,baz=133,slow=8.7,SNR=11
NB2 NORSAR Subarra 36.82 331 P P 05 05 04.9 -1.2
comp=Z,1.7nm,0.9s,baz=124,slow=8.6
NOA NORSAR Array B 36.82 331 P P 05 05 04.7 -1.4
comp=Z,0.8nm,0.7s,baz=124,slow=8.7,SNR=5.2
ARCES ARCESS Array B 38.91 348 P P 05 05 22.9 -0.6
comp=Z,1.4nm,0.5s,baz=160,slow=9.4,SNR=12
PALK Pallekele 39.90 122 P P 05 05 31.5 -0.9
EKA Eskdalemuir Ar 41.68 318 P P 05 05 45.5 -1.2
comp=Z,2.0nm,0.6s,baz=108,slow=8.2,SNR=5.6
GTA Gaotai 42.38 66 ⇑P P 05 05 49.6 -3.2
GTA pP pP 05 05 53.8 -4.1
GTA sP sP 05 05 56.5 -3.4
GTA pmax pmax
comp=Z,39nm,1.1s
GTA pmax pmax
comp=Z,160nm,6.2s
GTA LR LR
comp=N,100nm,15.9s
GTA LR LR
comp=E,51nm,14.6s
GTA LR LR
comp=Z,68nm,18.1s
NRIK Noril'sk 43.01 20 LR LR 05 28 00.3
comp=Z,83nm,18.1s,baz=215,slow=42
TORD Torodi Ar. Bea 45.99 256 P P 05 06 22.2 +0.4
comp=Z,0.6nm,0.8s,baz=56,slow=7.8,SNR=2.2
LZH Lanzhou 46.12 69 eP P 05 06 23.4 +0.6
LZH pP pP 05 06 27.8 -0.2
LZH sP sP 05 06 32.3 +2.3
LZH PP PP 05 08 16.0 +5.0
LZH pmax pmax
comp=Z,28nm,1.2s
LZH pmax pmax
comp=Z,130nm,5.4s
SPITS Spitsbergen Ar 47.57 352 P P 05 06 33.5 +0.1
comp=Z,5.1nm,0.7s,baz=142,slow=16,SNR=5.9
CHTO Chiang Mai 47.97 94 PKP2 P 05 06 36.9 -0.3
CHTO Chiang Mai 47.97 94 P P 05 06 36.9 -0.3
CHTO Chiang Mai 47.97 94 pmax pmax
comp=Z,8.0nm,1.1s
CM31 Chiang Mai Arr 48.13 94 P P 05 06 38.0 -0.6
HHC Hu-ho-hao-te 51.00 61 eP P 05 07 01.6 +1.3
HHC S S 05 14 07.3 -10
HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,68nm,4.7s
HHC LR LR
comp=N,170nm,14.5s
HHC LR LR
comp=E,250nm,15.3s
HHC LR LR
comp=Z,94nm,15.3s
ENH Enshi 52.30 75 P P 05 07 09.2 -0.9
KSRS Korea Array 64.13 61 P P 05 08 34.8 +2.1
comp=Z,1.2nm,0.6s,baz=275,slow=6.3,SNR=2.3
SEY Seymchan 67.77 29 P P 05 08 56.1 +0.4
comp=Z,4.5nm,0.6s,baz=264,slow=5.5,SNR=4.2
ILAR Eielson Array 82.23 6 LR LR 05 50 46.2
comp=Z,57nm,19.7s,baz=118,slow=39

*IDC **23** 05:04:39.5±2.3, 61°.60N×150°.58W, h54km±22km, mb3.5/8, mb1 3.7/11, mb1mx3.4/56, mbtmp3.7/11, ML3.0/3, MS3.4/3, Ms1 3.4/3, ms1mx2.7/37, Error ellipse: s-maj=29.3km s-min=16.0km az=109.0*
*AEIC **23** 05:04:40±1.3, 61°.53N±0°.03×150°.43W±0°.05, h54km±5km, ML3.4/116, mb3.7/2(NEIC), Error ellipse: s-maj=4.2km s-min=3.5km az=179.0*
*NEIC **23** 05:04:40.2±1.6, 61°.56N±0°.03×150°.47W±0°.01, h53km±6km, Error ellipse: s-maj=4.2km s-min=0.6km az=173.0*
ISC 23 05:04:40.2±0.8, **61°.55N**±0°.03×**150°.46W**±0°.03, **h59**km±6km, **n127**,σ0**s91**/138, **mb4.0**/10, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUA	**Susitna One**	0.16	239		Pn	05 04 48.7	-0.8
SUA					Sn	05 04 55.5	-0.7
FIS	**Fire Island**	0.42	164		Pn	05 04 51.9	+0.7
PMR	**Palmer**	0.64	85	Pn	Pn	05 04 52.8	-0.8
PMR					Sn	05 05 02.6	-0.8
SKT	**Skwentna**	0.67	311	Pn	Pn	05 04 53.2	-0.8
SKT				Sn	Sn	05 05 03.3	-0.8
GHO	**Glory Hole Cre**	0.77	72	Pn	Pn	05 04 55.0	-0.3
GHO				Sn	Sn	05 05 06.3	0.0
CGLM	**Capps Glacier**	0.78	253		Pn	05 04 55.2	-0.2
SPCG	**Spurr Capps Gl**	0.79	252		Pn	05 04 55.5	-0.1
SPCG					Sn	05 05 06.8	-0.1
CAPN	**Captain Cook N**	0.85	203		Pn	05 04 57.8	+1.6
CUT	**Chulitna**	0.87	6		Pn	05 04 55.8	-0.6
KNK	**Knik Glacier**	0.97	97	Pn	Pn	05 04 58.1	+0.3
KNK				Sn	Sn	05 05 11.7	+0.9
SLKM	**Skilak Lake**	1.05	173		Pn	05 04 58.5	-0.4
SML	**Sawmill**	1.05	75	Pn	Pn	05 04 58.5	-0.3
SML				Sn	Sn	05 05 12.9	+0.2
SPNN	**North Nagishla**	1.09	261		Pn	05 04 59.6	+0.1
SPNN					Sn	05 05 14.7	+0.9
O22K	**Cooper Landing**	1.13	161		Pn	05 04 59.6	-0.2
O22K					Sn	05 05 16.5	+2.1
PWL	**Port Wells**	1.24	123		Pn	05 05 01.1	-0.2
PWL					Sn	05 05 18.0	+0.9
HUR	**Hurricane**	1.49	15		Pn	05 05 05.1	+0.4
RDJH	**Redoubt Jeurge**	1.49	231		Pn	05 05 04.8	0.0
WAT7	**Susitna Watana**	1.50	30		Pn	05 05 05.0	+0.1
WAT7					Sn	05 05 24.9	+1.5
SCM	**Sheep Creek Mo**	1.52	78	Pn	Pn	05 05 05.2	0.0
RDN	**Redoubt North**	1.52	228		Pn	05 05 05.5	+0.2
SEW	**Seward**	1.53	161	Pn	Pn	05 05 05.0	-0.2
RSO	**Redoubt South**	1.56	227	Pn	Pn	05 05 06.0	+0.2
RDSO	**Redoubt South**	1.56	226		Pn	05 05 05.9	+0.1
WAT1	**Susitna Watana**	1.57	34		Pn	05 05 06.0	+0.2
RDWB	**Redoubt West**	1.57	228		Pn	05 05 06.0	+0.1
PPLA	**Purkeypile**	1.58	330	Pn	Pn	05 05 05.7	-0.3
RED	**Redoubt Volcan**	1.60	226		Pn	05 05 06.4	+0.2
WAT6	**Susitna Watana**	1.65	50		Pn	05 05 07.1	+0.1
WAT2	**Susitna Watana**	1.67	31		Pn	05 05 07.5	+0.2
GLI	**Glacier Island**	1.76	111	Pn	Pn	05 05 07.3	-1.1
BRLK	**Bradley Lake**	1.80	187	Pn	Pn	05 05 08.5	-0.5
BRSE	**Bradley Lake S**	1.82	184		Pn	05 05 08.5	-0.6
TRF	**Thorofare Moun**	1.91	2	Pn	Pn	05 05 10.4	-0.2
IVE	**Iliamna Volcan**	1.98	220		Pn	05 05 11.9	+0.5
HOM	**Homer**	1.98	198		Pn	05 05 10.6	-0.7
RND	**Reindeer**	2.01	21	Pn	Pn	05 05 11.7	-0.1
CAST	**Castle Rocks**	2.02	339		Pn	05 05 12.5	+0.5
KTH	**Kantishna Hill**	2.02	354	Pn	Pn	05 05 12.8	+0.8
VMT	**TAPS Tl Valdez**	2.03	101		Pn	05 05 11.6	-0.4
CNPM	**China Poot**	2.06	191	Pn	Pn	05 05 12.0	-0.5
FID	**Port Fidalgo**	2.09	111	Pn	Pn	05 05 11.4	-1.5
DHY	**Denali Highway**	2.11	42	Pn	Pn	05 05 13.2	0.0
KLU	**Klutina**	2.18	89	Pn	Pn	05 05 13.6	-0.5
HIN	**Hinchinbrook I**	2.25	119	Pn	Pn	05 05 14.0	-1.0
MCK	**McKinley**	2.31	17	Pn	Pn	05 05 16.6	+0.9
PS11	**TAPS Pump St11**	2.43	75		Pn	05 05 18.6	+1.1
CHUM	**Lake Minchumin**	2.50	341		Pn	05 05 18.4	+0.1
EYAK	**Cordova Ski Ar**	2.50	112	Pn	Pn	05 05 17.9	-0.5
SVW2	**Sparrevohn**	2.51	262	Pn	Pn	05 05 18.1	-0.4
BPAW	**Bear Paw Mtn.**	2.57	355	Pn	Pn	05 05 19.5	+0.1
AUL	**Augustine Lava**	2.62	215		Pn	05 05 21.3	+1.2
BWN	**Browne**	2.67	9	Pn	Pn	05 05 21.7	+0.9
PAX	**Paxson**	2.74	56	Pn	Pn	05 05 22.5	+0.8
TT01	**Tatalina**	2.94	300		Pn	05 05 24.4	0.0
TTA	**Tatalina**	2.94	301	Pn	Pn	05 05 24.1	-0.4
MID	**Middleton Isla**	2.95	134	Pn	Pn	05 05 25.0	+0.5
GOAT	**Goat Mountain**	2.95	107		Pn	05 05 23.5	-1.1
RAGM	**Ragged Mountai**	3.05	110	Pn	Pn	05 05 24.3	-1.7
NEA2	**Nenana**	3.12	11		Pn	05 05 26.5	-0.4
WRH	**Wood River Hil**	3.13	19	Pn	Pn	05 05 27.1	+0.1
GLB	**Gilahina Butte**	3.19	89	Pn	Pn	05 05 27.7	-0.2
HMT	**Hamilton**	3.26	109	Pn	Pn	05 05 26.8	-2.0
HDA	**Harding Lake**	3.29	28	Pn	Pn	05 05 29.7	+0.5
CCB	**Clear Creek Bu**	3.34	20	Pn	Pn	05 05 29.7	-0.1
KAIM	**Kayak Island**	3.38	116	Pn	Pn	05 05 29.2	-1.3
VRDI	**Verde Repeater**	3.39	92	Pn	Pn	05 05 31.3	+0.6
RIDG	**Independent Ri**	3.40	47	Pn	Pn	05 05 31.9	+1.2
PS08	**TAPS Pump Stn8**	3.44	27		Pn	05 05 31.6	+0.5
BERG	**Berg Lake**	3.49	106		Pn	05 05 30.2	-1.8
MLY	**Manley**	3.50	358	Pn	Pn	05 05 32.6	+0.5
TCOL	**CIGO, UAF Yank**	3.54	18		Pn	05 05 32.6	0.0
COLA	**College**	3.54	18	Pn	Pn	05 05 32.4	-0.2
MDM	**Murphy Dome**	3.57	15	Pn	Pn	05 05 32.7	-0.3
MCARA	**McCarthy VSAT**	3.57	89	Pn	Pn	05 05 35.2	+2.1
SUCK	**Suckling Hills**	3.59	111	Pn	Pn	05 05 34.8	+1.4
IL31		3.62	25	Pn	Pn	05 05 33.2	-0.5
ILAR	**Eielson Array**	3.62	25	P	Pn	05 05 33.5	-0.2
	2.5nm,0.3s,baz=211,slow=14,SNR=58						
ILAR				S	Sn	05 06 13.9	-1.3
	3.5nm,0.3s,baz=219,slow=17,SNR=2.5						
DOT	**Dot Lake**	3.63	52	Pn	Pn	05 05 34.5	+0.6
CRQM	**Cirque**	3.64	99	Pn	Pn	05 05 33.6	-0.5
TGL	**Tana Glacier**	3.78	99	Pn	Pn	05 05 35.0	-1.0
SCRK	**Sand Creek**	3.85	48		Pn	05 05 37.5	+0.6
PTPK	**Patty Peak**	3.87	92		Pn	05 05 37.0	-0.3
WAX	**Waxell Ridge**	3.87	103	Pn	Pn	05 05 35.3	-1.8
PS07	**TAPS Pump Stn7**	3.90	14		Pn	05 05 38.5	+0.9
KDAK	**Kodiak Island**	3.93	197	P	Pn	05 05 36.4	-1.5
	1.2nm,0.3s,baz=56,slow=7.9,SNR=23						
KDAK				S	Sn	05 06 19.4	-3.2
	4.9nm,0.3s,baz=189,slow=18,SNR=6.7						
KDAK	**Kodiak Island**	3.93	197	Pn	Pn	05 05 37.9	0.0
BALM	**Baldy**	3.95	94	Pn	Pn	05 05 38.2	-0.1
KIAG	**Kiagna River**	3.97	95		Pn	05 05 38.0	-0.6
BARK	**Barkley Ridge**	4.05	103		Pn	05 05 38.8	-0.9
ISLE	**Juniper Island**	4.06	100	Pn	Pn	05 05 39.4	-0.5
GRNC	**Granite Creek**	4.30	97		Pn	05 05 42.7	-0.5
BC03		4.33	66		Pn	05 05 43.1	-0.2
MESA	**MESA**	4.38	104	Pn	Pn	05 05 43.5	-0.8
YAH	**Yahtse**	4.41	102	Pn	Pn	05 05 44.4	-0.4
CTGM	**Chitina Glacie**	4.45	94	Pn	Pn	05 05 45.5	+0.3
OHAK	**Old Harbor**	4.57	200	Pn	Pn	05 05 45.6	-1.1
YUK2	**White River**	4.59	83		Pn	05 05 46.9	-0.2
LOGN	**Logan Glacier**	4.64	95		Pn	05 05 47.1	-0.6
IM03		4.69	343		Pn	05 05 48.2	0.0
YUK3	**Moose Creek**	4.78	83		Pn	05 05 49.1	-0.6
SAMH	**Samovar Hills**	4.95	102		Pn	05 05 51.2	-0.7
PCA	**Pinnacle**	5.20	102	Pn	Pn	05 05 54.9	-0.5
EGAK	**Eagle**	5.32	48	Pn	Pn	05 05 57.1	+0.3
SII	**Sitkinak Islan**	5.36	203	Pn	Pn	05 05 58.8	+1.3
DAWY	**Dawson**	5.67	59	Pn	Pn	05 06 02.1	+0.3
COLD	**Coldfoot**	5.71	1	Pn	Pn	05 06 02.4	+0.2
HYT	**Haines Junctio**	6.31	91	Pn	Pn	05 06 10.5	-0.1
BM03	**Burnt Mountain**	6.41	21		Pn	05 06 11.9	0.0
TOLK	**Toolik Lake Re**	7.13	3	Pn	Pn	05 06 24.4	+2.6
ANM	**Nome**	7.41	301	Pn	Pn	05 06 26.3	+0.7
JIS	**Juneau Island**	8.71	105	Pn	Pn	05 06 41.4	-1.9
INK	**Inuvik**	9.85	39	P	Pn	05 06 59.9	+1.1
	0.1nm,0.3s,baz=241,slow=19,SNR=1.2						
INK				S	Sn	05 08 49.2	+1.6
	0.1nm,0.3s,baz=155,slow=24,SNR=1.3						
WRAK	**Wrangell Islan**	10.65	111	Pn	Pn	05 07 11.1	+1.3
DLBC	**Dease Lake**	10.69	98	LR	LR	05 11 56.0	
	comp=Z,94nm,20.1s,baz=356,slow=41						
AMKA	**Amchitka**	19.37	252	P	Pn	05 09 02.8	+0.4
WDC	**Whiskeytown Da**	26.98	128	P	P	05 10 15.5	-0.6
WDC				IAmb	IAmb	05 10 30.8	
	comp=Z,3.4nm,1.0s						
HLID	**Hailey**	27.83	114	P	P	05 10 26.6	+2.7
HLID				IAmb	IAmb	05 10 41.5	
	comp=Z,2.0nm,1.4s						
MA2	**Magadan**	28.11	293	LR	LR	05 22 02.0	
	comp=Z,26nm,20.6s,baz=230,slow=37						
NVAR	**Mina Array Bea**	30.48	124	P	P	05 10 48.4	+0.9
	comp=Z,0.3nm,0.5s,baz=319,slow=9.5,SNR=2.7						
ARCES	**ARCESS Array B**	49.17	2	P	P	05 13 20.4	-1.2
	comp=Z,3.2nm,1.1s,baz=13,slow=11,SNR=4.4						
SONM	**Songino Array**	54.88	307	P	P	05 14 04.4	+0.1
	comp=Z,1.5nm,0.7s,baz=50,slow=6.9,SNR=5.4						
ZALV	**Zalesovo Beam**	56.85	325	P	P	05 14 18.4	+0.2
	comp=Z,0.7nm,0.4s,baz=26,slow=6.0,SNR=1.5						
FINES	**FINESS Array B**	57.30	2	P	P	05 14 19.4	-1.8
	comp=Z,1.5nm,0.9s,baz=339,slow=4.9,SNR=6.6						
AKASG	**Malin Array Be**	68.10	0	P	P	05 15 32.3	-0.8
	comp=Z,0.7nm,0.4s,baz=4.0,slow=6.8,SNR=3.5						
GERES	**GERESS Array B**	69.23	11	P	P	05 15 40.2	-0.2
	comp=Z,0.2nm,0.5s,baz=2.0,slow=8.2,SNR=2.8						
ESDC	**Sonseca Array**	75.52	26	P	P	05 16 18.1	+0.1
	comp=Z,0.2nm,0.5s,baz=336,slow=4.4,SNR=2.0						
BRTR	**Keskin Array B**	79.02	357	LR	LR	05 54 20.0	
	comp=Z,168nm,21.2s,baz=218,slow=38						

*ISN **23** 05:14:36.1±1.7, 32°.71N×47°.50E, h15km±8km, ML3.1*
*TEH **23** 05:14:36.6, 32°.74N×47°.47E, h11km, ML3.4*
*THR **23** 05:14:37.1±0.4, 32°.86N×47°.40E, h14km±3km, ML4.3*
ISC 23 05:14:37.1±1.0, **32°.76N**±0°.03×**47°.45E**±0°.03, **h9**km±9km, **n39**,σ1**s14**/45, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	0.16	240	ePg	Pg	05 14 40.1	-0.4
DHL1				eSg	Sg	05 14 43.6	+0.7
IKFM	**Kafar-mosalman**	0.83	24	ePg	Pb	05 14 52.8	-0.9
IKFM				e		05 15 07.1	
IKMR	**Kamar-syah**	1.09	46	ePg	Pg	05 14 57.1	-0.9
IKMR				e		05 15 20.1	
IDOB	**Doab**	1.19	31	ePg	Pn	05 15 00.1	-0.1
SHGR	**Shooshtar-Gavs**	1.32	119	ePg	Pg	05 15 02.7	+0.3
SHGR				eSg	Sg	05 15 21.6	+2.1
SHGR				AMP		05 15 28.4	
	comp=N,4μm,0.4s						
SHGR	**Shooshtar-Gavs**	1.32	119	ePg	Pg	05 15 02.7	+0.3
IBDR	**Badra**	1.32	286	ePg	Pn	05 15 01.0	-0.8
IBDR				eSg	Sb	05 15 20.0	+0.8
IBDR				AML	AML	05 15 26.4	
	comp=N,302nm,0.4s						
IBDR				AML	AML	05 15 26.6	
	comp=E,388nm,0.7s						
IKOM	**Komasi**	1.41	2	e		05 15 29.5	
IKOM				ePg	Pg	05 15 04.3	+0.1
BMDN	**Meydan**	1.47	52	e		05 15 30.9	
BMDN				ePg	Pg	05 15 04.8	-0.5
KCHF	**Cheshme Sefid,**	1.54	347	e		05 15 34.4	
KCHF				ePg	Pg	05 15 06.7	-0.1
KER	**Kermanshah**	1.64	351	ePg	Pg	05 15 09.2	+0.6
IGHG	**Ghaleghazi**	1.73	335	e		05 15 48.4	
IGHG				ePn	Pg	05 15 09.8	-0.4
IBZA	**Bozab**	1.74	11	ePg	Pg	05 15 10.0	-0.4
IBZA				e		05 15 39.8	
HSAM	**Samen**	1.74	33	ePg	Pg	05 15 10.0	-0.5
HSAM				e		05 15 37.8	
AHWZ	**Ahwaz**	1.75	144	ePg	Pb	05 15 09.3	-0.2
IVIS	**Veis**	1.83	344	ePn	Pb	05 15 11.0	+0.2
IVIS				e		05 15 44.7	
NSR	**Nassriya**	2.07	213	ePn	Pn	05 15 12.0	-0.1
NSR				eSn	Sn	05 15 36.0	-2.0
IDHR	**Dehrash**	2.12	336	ePn	Pb	05 15 11.7	-1.2
IDHR				e		05 15 52.1	
IALM	**Almabolaq**	2.18	16	ePn	Pb	05 15 16.6	-0.3
ILIN	**Lien**	2.19	350	ePn	Pb	05 15 16.6	-0.4
ILIN				e		05 15 55.7	
KHMZ	**Khomeyn**	2.32	65	ePn	Pb	05 15 17.1	-2.2
KHMZ	**Khomeyn**	2.32	65	ePn	Pb	05 15 17.1	-2.2
SNGE	**Sanandaj**	2.33	358	ePn	Pn	05 15 15.8	0.0
SNGE				eSg	Sb	05 15 47.2	-1.1
SNGE	**Sanandaj**	2.33	358	ePn	Pn	05 15 15.8	0.0
HAGD	**Aghdareh**	2.49	34	ePn	Pb	05 15 20.2	-2.0
HAGD				e		05 16 01.2	
HSRG	**Sareghieh**	2.57	15	ePn	Pb	05 15 22.3	-1.2
HSRG				e		05 16 08.2	
BHD	**Baghdad**	2.63	282	ePn	Pn	05 15 20.0	+0.3
BHD				eSn	Sn	05 15 54.0	+2.3
JHBN	**Jahan bin**	2.77	100	ePn	Pn	05 15 22.5	+0.5
JHBN				e		05 16 12.5	
IPIR	**Pirpir**	2.91	91	ePn	Pn	05 15 24.7	+0.8
IPIR				e		05 16 08.6	
ROKH	**ROKH**	3.06	97	ePn	Pn	05 15 27.1	+1.2
ROKH				e		05 16 28.2	
IRAZ	**Razeghan**	3.34	37	ePn	Pn	05 15 32.2	+2.4
QABG	**Abgarm-Qazvin**	3.43	30	ePn	Pn	05 15 31.6	+0.6
IKLH	**Kolahrood**	3.51	80	ePn	Pn	05 15 33.8	+1.6
IKLH				e		05 15 35.4	
IGAR	**Gharneh**	3.90	94	ePn	Pn	05 15 37.8	+0.4
KLNJ	**Kolanjah**	3.94	115	ePn	Pn	05 15 38.0	-0.1
KLNJ				e		05 17 07.9	
QSDN	**Sirdan**	3.99	20	ePn	Pn	05 15 40.9	+2.1
IZEF	**Zefreh**	4.11	87	ePn	Pn	05 15 40.6	+0.2
IVRN	**Varamin**	4.20	57	ePn	Pn	05 15 42.2	+0.8
IRAM	**Rameshe**	4.29	102	ePn	Pn	05 15 42.5	-0.3

*DNK **23** 05:28:00.3±2.0, 51°.23N×16°.14E, h15km±95km*
*IDC **23** 05:28:02.9±0.8, 51°.51N×16°.09E, h0km, mb1 3.3/5, mb1mx3.2/28, mbtmp3.2/5, ML2.9/5, Error ellipse: s-maj=13.3km s-min=7.4km az=126.0*
*IPEC **23** 05:28:03.7±0.3, 51°.36N×16°.42E, h0km, ML2.4/4, Error ellipse: s-maj=3.0km s-min=1.7km az=63.0*
*PRU **23** 05:28:03.4±0.0, 51°.39N×16°.25E, h0km*
*BGR **23** 05:28:03.6±0.4, 51°.38N×16°.24E, h1km, ML3.0/12, Error ellipse: s-maj=4.4km s-min=2.2km az=20.0*
*VIE **23** 05:28:07.7±1.7, 51°.10N×16°.17E, h0km, mb2.3/10, ml2.7/10, Error ellipse: s-maj=11.1km s-min=8.4km az=13.0 58 km W of Wroclaw Suspected Mining induced.*
ISC 23 05:28:00.6±0.7, **51°.46N**±0°.03×**16°.28E**±0°.02, **h0**km, **n56**, σ1**s36**/117, **Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	0.62	179	ePg	Pb	05 28 14.0	-0.2
KSP				eSg	Sg	05 28 21.3	+1.0
KSP	**Ksiaz**	0.62	179	ePg	Pb	05 28 13.9	-0.3
KSP				i Sg	Sg	05 28 21.3	+1.0
CHVC	**Chvalec**	0.88	189	ePG	Pb	05 28 19.1	+0.3
CHVC				eSG	Sg	05 28 30.2	+1.3
	comp=Z,70nm,0.7s						
OSTC	**Ostas**	0.90	182	ePG	Pb	05 28 19.5	+0.4
OSTC				eSG	Sg	05 28 30.9	+1.3
	comp=Z,62nm,0.4s						
UPC	**Upice**	0.97	190	ePG	Pb	05 28 20.5	+0.3
UPC				eSG	Sg	05 28 32.4	+0.8
DPC	**Dobruska-Polom**	1.11	178	ePg	Pn	05 28 23.5	+0.1
DPC				eSg	Sg	05 28 36.8	+0.6
DPC	**Dobruska-Polom**	1.11	178	ePG	Pb	05 28 23.4	+0.7
DPC				eSG	Sg	05 28 36.7	+0.5
	comp=Z,87nm,0.6s						
KRLC	**Kraliky**	1.42	167	ePG	Pb	05 28 28.6	+0.6
KRLC				eSG	Sg	05 28 46.7	+0.5
	comp=Z,62nm,0.4s						
PVCC	**Panska Ves**	1.43	230	ePG	Pb	05 28 29.4	+1.4
PVCC				eSG	Sn	05 28 47.8	+0.7
	comp=Z,431nm,0.4s						
BRG	**Berggiesshubel**	1.58	249	ePn	Pn	05 28 30.6	+0.8
BRG				ePg	Pg	05 28 32.3	+1.4
BRG				eSg	Sg	05 28 52.1	+1.0
BRG	**Berggiesshubel**	1.58	249	PN	Pn	05 28 30.2	+0.4
BRG				PG	Pg	05 28 32.1	+1.2
BRG				SG	Sg	05 28 53.0	+1.6
	118nm,0.3s						
GOPC	**GO Pecny, Ondr**	1.81	212	ePG	Pg	05 28 36.0	+0.7
GOPC				eSG	Sb	05 28 58.9	+1.0
	comp=Z,103nm,0.8s						
PRA	**Prague**	1.82	221	eSG	Sg	05 28 59.2	+0.3
PRU	**Pruhonice**	1.84	218	ePN	Pn	05 28 34.5	+1.1
PRU				ePG	Pg	05 28 36.2	+0.4
PRU				eSG	Sb	05 28 59.6	+1.0
	comp=Z,60nm,0.4s						
MORC	**Moravsky Berou**	1.87	154	ePn	Pb	05 28 35.2	-0.4
MORC				ePg	Sg	05 28 37.4	+1.1
MORC				eSg	Sg	05 29 01.3	+0.9
MORC	**Moravsky Berou**	1.87	154	ePN	Pb	05 28 35.2	-0.4
MORC				eSG	Sn	05 28 58.1	0.0
MORC	**Moravsky Berou** baz=336	1.87	154	ePn	Pb	05 28 35.2	-0.4
MORC				eSg	Sn	05 28 58.1	0.0
	31nm,0.3s,ba

KHC					*e*SN	**Sn**	**05 29 23.7**	**+0.1**
KHC					*e*SG	**Sg**	**05 29 33.3**	**-0.4**
	comp=Z,27nm,0.3s							
SMOL	**Smolenice**	**3.04**	**165**	*e*PG	**Pg**	**05 29 00.0**	**+1.2**
SMOL				*e*SG	**Sg**	**05 29 39.3**	**+1.1**
MOX	**Moxa**	**3.05**	**256**	*e*Pn	**Pn**	**05 28 51.7**	**+1.6**
MOX				*e*Pg	**Pg**	**05 29 00.1**	**+1.0**
MOX				*e*Sg	**Sg**	**05 29 40.1**	**+1.6**
LANS	**Liptovska Anna**	**3.09**	**137**	*e*SG	**Sg**	**05 29 39.4**	**-0.2**
GEC2	**GERESS Array S**	**3.10**	**213**	*e*Pg	**Pg**	**05 28 59.9**	**0.0**
GEC2				*e*Sg	**Sg**	**05 29 38.5**	**-1.5**
GERES	**GERESS Array B**	**3.10**	**213**	Pn	**Pn**	**05 28 51.9**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=8.6							
GERES				Pg	**Pg**	**05 28 59.7**	**-0.2**
	comp=Z,4.3nm,0.3s,baz=32,slow=15,SNR=37							
GERES				Sn	**Sn**	**05 29 29.8**	**+1.3**
	comp=Z,3.0nm,0.3s,baz=31,slow=26,SNR=5.8							
GERES				Lg	Lg	05 29 40.2		
	comp=Z,9.7nm,0.3s,baz=33,slow=28,SNR=20							
MODS	**Modra-Piesok**	**3.15**	**168**	*e*PG	**Pg**	**05 29 01.7**	**+0.7**
MODS				*e*SG	**Sg**	**05 29 42.6**	**+0.7**
NIE	**Niedzica**	**3.28**	**127**	*e*P	**Pg**	**05 29 04.9**	**+1.4**
NIE				*e*S	**Sg**	**05 29 48.5**	**+2.5**
VYHS	**Vyhne**	**3.40**	**150**	*e*PG	**Pg**	**05 29 06.2**	**+0.6**
CONA	**Conrad Observa**	**3.54**	**185**	*i* Pn	**Pn**	**05 28 59.9**	**+3.0**
	comp=Z,0.8nm,0.4s							
CONA				*i* Pg	**Pg**	**05 29 09.2**	**+0.7**
	comp=Z,3.0nm,0.2s							
CONA				*e*Sg	**Sg**	**05 29 53.3**	**-1.0**
	comp=Z,25nm,0.4s							
MOA	**Molln**	**3.84**	**201**	*i* Pn	**Pn**	**05 29 02.5**	**+1.6**
	comp=Z,2.6nm,0.3s							
MOA				*e*Pg	**Pg**	**05 29 15.6**	**+1.5**
	comp=Z,3.5nm,0.2s							
MOA				*e*Sg	**Sg**	**05 30 02.9**	**-1.0**
	comp=Z,30nm,0.7s							
ARSA	**Arzberg**	**4.24**	**187**	*i* Pn	**Pb**	**05 29 11.8**	**-4.2**
	comp=Z,1.1nm,0.3s							
ARSA				*e*Pg	**Pg**	**05 29 22.8**	**+1.0**
	comp=Z,1.9nm,0.3s							
ARSA				*e*Sg	**Sg**	**05 30 14.4**	**-2.3**
	comp=Z,20nm,0.8s							
KBA	**Koelnbreinsper**	**4.79**	**205**	*i* Pn	**Pn**	**05 29 16.3**	**+2.3**
	comp=Z,0.9nm,0.3s							
KBA				*e*Sg	**Sg**	**05 30 33.7**	**-0.5**
	comp=Z,13nm,0.5s							
SOKA	**Soboth**	**4.85**	**190**	*e*Sg	**Sg**	**05 30 35.7**	**-0.7**
	comp=Z,2.4nm,0.4s							
OBKA	**Obir**	**5.08**	**194**	Sg	**Sg**	**05 30 43.0**	**-0.7**
	comp=Z,9.6nm,0.7s							
MYKA	**Terra Mystica**	**5.13**	**201**	*e*Sg	**Sg**	**05 30 45.1**	**-0.3**
	comp=Z,12nm,0.8s							
ABTA	**Abfaltersbach**	**5.32**	**209**	Sg	**Sg**	**05 30 49.4**	**-2.1**
	comp=Z,3.2nm,0.5s							
SQTA	**Sankt Quirin**	**5.38**	**220**	*e*Pn	**Pn**	**05 29 25.1**	**+2.9**
	comp=Z,1.5nm,0.3s							
AKASG	**Malin Array Be**	**8.19**	**90**	Pn	**Pn**	**05 30 01.3**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=281,slow=13,SNR=5.8							
AKASG				Sn	**Sn**	**05 31 30.1**	**-3.7**
	comp=Z,1.0nm,0.3s,baz=301,slow=18,SNR=2.5							
AKASG				Lg	Lg	05 32 27.9		
	comp=Z,0.3nm,0.3s,baz=274,slow=26,SNR=1.3							
NOA	**NORSAR Array B**	**10.01**	**346**	Pn	**Pn**	**05 30 22.6**	**-2.9**
	comp=Z,0.0nm,0.3s,baz=167,slow=13,SNR=5.6							
FINES	**FINESS Array B**	**11.37**	**25**	Pn	**Pn**	**05 30 43.1**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=222,slow=9.3,SNR=8.5							
ARCES	**ARCESS Array B**	**18.66**	**10**	Pn	**P**	**05 32 17.1**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=198,slow=11,SNR=12							

IDC ***23*** *06:13:18.6±0.8, 41.°05N×67.°87E, h0km, mb3.8/14, mb1 4.0/24, mb1mx3.9/49, mbtmp3.9/24, ML3.4/10, MS4.0/1, Ms1 4.0/1, ms1mx2.6/41, Error ellipse: s-maj=13.2km s-min=8.7km az=178.0*

BJI ***23*** *06:13:19.1±0.0, 40.°98N×67.°82E, h9km, mB4.7/7, mb4.6/7, Ms4.2/1*

ISU ***23*** *06:13:20.3, 40.°93N×67.°87E, h25km*

SOME ***23*** *06:13:21.9, 41.°13N×67.°95E, h5km, MS3.2*

NEIC ***23*** *06:13:22.1±1.7, 41.°20N±0.°06×67.°76E±0.°07, h16km±4km, mb4.4/25, Error ellipse: s-maj=8.6km s-min=7.3km az=141.0*

NNC ***23*** *06:13:22.7±0.7, 41.°27N×67.°85E, h12km±3km, mb4.5, mpv4.2, Error ellipse: s-maj=5.7km s-min=3.8km az=172.0*

ISC 23 06:13:20.3±1.0, **41.°20N**±0.°04×**67.°84E**±0.°03, **h7**km±6km, **n124,** σ1°**85**/130, **mb4.3**/27, **16C-14D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNGY	**Yangiyul**	**0.91**	**95**	*e*P	**Pg**	**06 13 37.4**	**-0.4**
YNGY				*e*S	**Sn**	**06 13 53.9**	**+1.0**
TAS	**Tashkent**	**1.10**	**83**	Pn	**Pb**	**06 13 41.5**	**-0.2**
TAS	**Tashkent**	**1.10**	**83**	*e*P	**Pb**	**06 13 41.4**	**-0.2**
TAS				*e*S	**Sb**	**06 13 57.0**	**+0.7**
CHRV	**Charvak**	**1.65**	**74**	*e*P	**Pb**	**06 13 51.4**	**+0.4**
CHRV				*e*S	**Sn**	**06 14 11.7**	**+0.5**
CHM	**Chimkent**	**1.73**	**49**	*e*P	**Pg**	**06 13 55.5**	**+2.1**
	340nm,0.3s						
CHM				*e*S	**Sg**	**06 14 17.8**	**+1.9**
	4μm,0.2s						
IUG	**Iuzhnay**	**1.90**	**59**	*e*P	Pg	06 14 10.2	+14
	326nm,0.2s						
BRLS	**Boroldav**	**2.36**	**38**	*e*P	**Pn**	**06 14 00.5**	**+1.0**
	90nm,0.2s						
BRLS				*e*S	**Sn**	**06 14 27.9**	**-0.7**
	502nm,0.3s						
BRLS	**Boroldav**	**2.36**	**38**	Pg	**Pn**	**06 14 00.5**	**+1.0**
	90nm,0.2s						
BRLS				Lg	Lg	06 14 27.9	
	502nm,0.3s						
BTK	**Batken**	**2.54**	**116**	Pn	**Pn**	**06 14 02.8**	**+0.8**
CHGR	**Chuyangaron**	**2.73**	**158**		**Pn**	**06 14 05.7**	**+1.1**
KK31	**Karatay Array**	**2.75**	**45**	Pn	**Pn**	**06 14 06.0**	**+1.1**
	3.0nm,0.3s,baz=228,slow=15,SNR=254						
KK31				⇑Pg	**Pg**	**06 14 12.5**	**-0.5**
	16nm,0.3s,baz=230,slow=17,SNR=13						
KK31				⇑Sn	**Sn**	**06 14 39.5**	**+1.2**
	16nm,0.2s						
KK31				⇓Lg	Lg	06 14 48.3	
	208nm,0.4s,baz=227,slow=29,SNR=13						
KK31	**Karatay Array**	**2.75**	**45**		**Pn**	**06 14 05.9**	**+1.1**
KKAR	**Karatay Array**	**2.75**	**45**		**Pn**	**06 14 06.5**	**+1.7**
GAR	**Garm**	**2.90**	**138**		**Pn**	**06 14 07.8**	**+0.8**
DZA	**Taraz**	**3.10**	**56**	*e*P	**Pg**	**06 14 18.8**	**-0.9**
	214nm,0.2s						
DZA				*e*S	**Sg**	**06 14 59.1**	**-0.8**
	820nm,0.2s						
MRKS	**Merke**	**4.30**	**67**	*e*P	**Pb**	**06 14 39.9**	**+3.6**
	69nm,0.5s						
MRKS				*e*S	**Sg**	**06 15 35.0**	**-3.5**
	162nm,0.4s						
MRKS	**Merke**	**4.30**	**67**	Pg	**Pb**	**06 14 39.9**	**+3.6**
	69nm,0.5s						
MRKS				Lg	Lg	06 15 35.0	
	162nm,0.4s						
AML	**Almayashu**	**4.48**	**76**	P	**Pn**	**06 14 29.7**	**+0.8**
	SNR=24						
EKS2	**Erkin-Say**	**4.67**	**70**	P	**Pn**	**06 14 33.5**	**+2.3**
	SNR=16						
UCH	**Uchtor**	**5.10**	**76**	P	**Pn**	**06 14 38.4**	**+0.9**
	SNR=9.6						
AAK	**Ala-Archa**	**5.17**	**72**	Pn	**Pn**	**06 14 38.7**	**+0.5**
	2.9nm,0.3s,baz=228,slow=8.1,SNR=14						
AAK				Sn	**Sn**	**06 15 38.7**	**+0.6**
	7.8nm,0.3s,baz=253,slow=2.9,SNR=2.2						
AAK				Lg	Lg	06 16 03.1	
	7.3nm,0.3s,baz=322,slow=19,SNR=4.9						
AAK	**Ala-Archa**	**5.17**	**72**	P	**Pn**	**06 14 40.4**	**+2.2**
	SNR=7.7						
AAK	**Ala-Archa**	**5.17**	**72**	⇑Pn	**Pn**	**06 14 40.4**	**+2.2**
	20nm,0.6s						
AAK				⇓Pg	**Pg**	**06 14 56.0**	**-3.3**
	17nm,0.5s						
AAK				⇑Sn	**Sn**	**06 15 39.0**	**+0.9**
	58nm,0.9s						
AAK				⇓Lg	Lg	06 16 06.3	
	189nm,1.6s						
AAK	**Ala-Archa**	**5.17**	**72**	Pn	**Pn**	**06 14 40.1**	**+2.0**
KBK	**Karagaybulak**	**5.50**	**72**	P	**Pn**	**06 14 44.9**	**+2.2**
	SNR=12						
KZA	**Kyzart**	**5.62**	**79**	P	**Pn**	**06 14 46.1**	**+1.5**
	SNR=12						
BTLS	**Baital**	**5.95**	**48**	*e*P	**Pg**	**06 15 12.2**	**-1.9**
	12nm,0.4s						
BTLS				*e*S	**Sg**	**06 16 31.4**	**+0.2**
	25nm,0.5s						
TKM2	**Tokmak 2**	**6.03**	**71**	P	**Pn**	**06 14 51.0**	**+1.0**
	SNR=9.9						
TKM2	**Tokmak 2**	**6.03**	**71**	⇑Pn	**Pn**	**06 14 50.7**	**+0.8**
	3.2nm,0.3s						
TKM2				⇑Pg	**Pg**	**06 15 12.3**	**-3.4**
	8.9nm,0.5s						
TKM2				⇓Sn	**Sn**	**06 16 02.5**	**+3.2**
	18nm,0.5s						
TKM2				⇑Lg	Lg	06 16 34.7	
	102nm,0.8s						
KST	**Kastek**	**6.32**	**70**	*e*P	**Pg**	**06 15 17.8**	**-3.4**
	25nm,0.7s						
KST				*e*S	**Sg**	**06 16 40.4**	**-2.6**
	80nm,0.5s						
KST	**Kastek**	**6.32**	**70**	Pg	**Pg**	**06 15 17.8**	**-3.4**
	25nm,0.7s						
KST				Lg	Lg	06 16 40.4	
	80nm,0.5s						
KSH	**Kashi**	**6.44**	**102**	Pn	**Pn**	**06 14 52.6**	**-2.9**
KSH				Sn	Sn	06 15 56.5	-13
MTBS	**Maitube**	**6.67**	**70**	Pg	Pg	06 15 23.5	-4.5
	8.8nm,0.2s						
MTBS				Lg	Lg	06 16 50.1	
	56nm,0.6s						
KBL	**Kabul**	**6.71**	**171**	Pn	**Pn**	**06 15 00.7**	**+1.2**
KUU	**Kurty**	**6.83**	**64**	Pg	Pb	06 15 25.8	+6.5
	16nm,0.6s						
KUU				Lg	Lg	06 16 54.2	
	106nm,0.6s						
TNSS	**Tian-Shan**	**7.02**	**72**	Pg	Pg	06 15 29.8	-4.8
	12nm,0.6s						
TNSS				Lg	Lg	06 17 01.3	
	86nm,0.5s						
KDJ	**Kajisay**	**7.06**	**79**	Pn	**Pn**	**06 15 07.3**	**+3.2**
KNDC	**Almaty**	**7.07**	**70**	⇑Lg	Lg	06 17 06.0	
	258nm,0.8s						
MDOK	**Medeo**	**7.12**	**71**	⇓Pn	**Pn**	**06 15 06.6**	**+1.7**
	6.6nm,0.8s						
MDOK				⇑Pg	Pg	06 15 31.5	-5.0
	24nm,0.6s						
MDOK				⇓Lg	Lg	06 17 08.3	
	122nm,1.3s						
MDOK	**Medeo**	**7.12**	**71**	Pg	Pg	06 15 31.8	-4.7
	24nm,0.6s						
MDOK				Lg	Lg	06 17 04.3	
	47nm,0.7s						
CHKK	**Chushkaly**	**7.26**	**66**	Pg	Pg	06 15 34.9	-4.3
	9.1nm,0.6s						
CHKK				Lg	Lg	06 17 08.9	
	49nm,0.4s						
TARG	**Taragay, Kyrgy**	**7.50**	**83**	Pn	**Pn**	**06 15 14.5**	**+4.0**
OTUK	**Ortayu**	**7.74**	**23**	Pg	**Pg**	**06 15 45.8**	**-2.6**
	4.1nm,0.4s						
OTUK				Lg	Lg	06 17 28.6	
	14nm,0.6s						
OTUK	**Ortayu**	**7.74**	**23**	⇑Pn	**Pn**	**06 15 14.4**	**+1.1**
	6.0nm,0.6s						
OTUK				⇓Lg	Lg	06 17 27.7	
	37nm,0.8s						
KURS	**Kuram**	**7.99**	**70**	Pg	Pg	06 15 48.4	-4.7
	6.4nm,0.8s						
KURS				Lg	Lg	06 17 32.2	
	22nm,1.2s						
CEP	**Cherat**	**8.04**	**155**	P	**Pn**	**06 15 19.9**	**+2.3**
CEP				S	**Sn**	**06 16 45.0**	**-3.8**
SATY	**Saty**	**8.07**	**73**	Pg	Pg	06 15 49.4	-5.3
	10nm,0.6s						
SATY				Lg	Lg	06 17 34.6	
	26nm,0.4s						
HRA	**Herat**	**8.11**	**215**		**Pn**	**06 15 18.9**	**+0.2**
GEYT	**Alibeck**	**8.19**	**250**	Pn	**Pn**	**06 15 18.1**	**-1.4**
	2.8nm,0.3s,baz=70,slow=8.7,SNR=12						
GEYT				Sn	**Sn**	**06 16 47.0**	**-5.3**
	6.3nm,0.3s,baz=88,slow=14,SNR=5.4						
GYA0B	**ALIBECK ARRAY**	**8.19**	**250**	⇑Pn	**Pn**	**06 15 21.0**	**+1.5**
GYA0B				⇓Sn	**Sn**	**06 16 56.8**	**+4.5**
GYA0B	**ALIBECK ARRAY**	**8.19**	**250**	Pn	**Pn**	**06 15 18.3**	**-1.2**
UZB	**Uzynbulak**	**8.53**	**73**	Pg	Pg	06 15 57.5	-6.0
	5.4nm,0.6s						
UZB				Lg	Lg	06 17 47.8	
	17nm,0.9s						
NIL	**Nilore**	**8.68**	**149**		**Pn**	**06 15 28.4**	**+2.2**
PDGK	**Podgornoye**	**8.90**	**72**	Pg	Pg	06 16 04.4	-6.2
	3.4nm,0.6s						
PDGK				Lg	Lg	06 18 00.6	
	15nm,0.8s						
PDGK	**Podgornoye**	**8.90**	**72**	⇑Pn	**Pn**	**06 15 32.1**	**+2.8**
	2.1nm,0.7s						
PDGK				⇓Pg	Pg	06 16 04.5	-6.1
	11nm,0.9s						
PDGK				⇑Lg	Lg	06 18 04.5	
	43nm,0.9s						
THW	**Thamme Wali**	**8.95**	**158**	P	**Pn**	**06 15 30.1**	**+0.2**
DJR	**Jarkent**	**9.33**	**66**	Pg	Pn	06 16 12.4	+37
	7.4nm,0.6s						
DJR				Lg	Lg	06 18 13.3	
	19nm,1.2s						
KAPS	**Kapalarasan**	**9.34**	**60**	Pg	Pn	06 16 12.4	+37
	2.4nm,0.3s						
KAPS				Lg	Lg	06 18 14.3	
	24nm,0.4s						
BRZS	**Berezniki**	**9.41**	**19**	Pg	Pn	06 16 17.1	+41
	10nm,0.5s						
BRZS				Lg	Lg	06 18 21.4	
	18nm,0.6s						
AB01	**Akbulak array**	**9.79**	**328**	⇑Pn	**Pn**	**06 15 41.2**	**-0.2**
	3.5nm,0.4s						
AB31	**Akbulak array**	**9.79**	**328**	⇑Sn	**Sn**	**06 17 29.2**	**-2.2**
	6.8nm,0.5s						
AKTO	**Aktyubinsk**	**11.49**	**327**	Pn	**Pn**	**06 16 04.0**	**-0.7**
	0.8nm,0.3s,baz=143,slow=17,SNR=6.1						
AKTO				Sn	**Sn**	**06 18 08.6**	**-4.6**
	0.9nm,0.3s,baz=104,slow=18,SNR=1.9						
AKTO				Lg	Lg	06 19 29.8	
	0.4nm,0.3s,baz=157,slow=13,SNR=2.1						
AKTO	**Aktyubinsk**	**11.49**	**327**	⇓Pn	**Pn**	**06 16 05.1**	**+0.5**
	6.3nm,1.1s						
AKTO				⇓Sn	**Sn**	**06 18 12.5**	**-0.7**
	10nm,0.8s						
MK31	**Makanchi Array**	**11.81**	**57**	⇑Pn	**Pn**	**06 16 10.3**	**+1.2**
	1.0nm,0.6s,baz=243,slow=15,SNR=8.3						
MK31				⇓Lg	Lg	06 19 38.0	
	17nm,1.1s,baz=247,slow=25,SNR=6.4						
MK31	**Makanchi Array**	**11.81**	**57**		**Pn**	**06 16 10.1**	**+1.1**
MKAR	**Makanchi Array**	**11.81**	**57**	Pn	**Pn**	**06 16 08.0**	**-1.1**
	0.2nm,0.3s,baz=243,slow=12,SNR=7.1						
MKAR				Lg	Lg	06 19 36.8	
	0.5nm,0.3s,baz=244,slow=28,SNR=5.6						
BVAR	**Borovoye Array**	**11.96**	**7**	Pn	**Pn**	**06 16 09.7**	**-1.3**
	1.3nm,0.3s,baz=188,slow=9.4,SNR=15						
BVAR				Sn	**Sn**	**06 18 18.1**	**-6.5**
	1.7nm,0.3s,baz=203,slow=14,SNR=4.2						
BRVK	**Borovoye**	**11.98**	**7**	⇓Pn	**Pn**	**06 16 11.7**	**+0.4**
	1.6nm,0.4s						
BRVK	**Borovoye**	**11.98**	**7**	Pn	**Pn**	**06 16 11.1**	**-0.2**
KURBB	**Kurchatov Arra**	**12.00**	**35**	Pn	**Pn**	**06 16 09.8**	**-1.7**
	0.0nm,0.3s,baz=222,slow=13,SNR=3.7						
KURBB				Lg	Lg	06 19 44.2	
	0.2nm,0.3s,baz=289,slow=18,SNR=4.5						
KURK	**Kurchatov**	**12.11**	**35**	⇓Lg	Lg	06 19 45.7	
	41nm,1.0s						
KURK	**Kurchatov**	**12.11**	**35**	Pn	**Pn**	**06 16 14.6**	**+1.5**
ZSN	**Zaisan**	**13.69**	**57**	Pg	P	06 17 28.1	+45
ZSN				Lg	Lg	06 20 23.4	
	6.8nm,0.2s						
WMQ	**Urumqi**	**14.88**	**73**	*e*P	**P**	**06 16 54.8**	**-2.0**
ARU	**Arti**	**16.40**	**342**	Pn	**Pn**	**06 17 08.5**	**-2.2**
	0.0nm,0.3s,baz=305,slow=22,SNR=1.6						
ARU	**Arti**	**16.40**	**342**	Pn	**Pn**	**06 17 11.7**	**+1.1**
ZALV	**Zalesovo Beam**	**17.09**	**36**	P	**Pn**	**06 17 19.3**	**0.0**
	0.3nm,0.3s,baz=207,slow=8.1,SNR=1.5						
KBZ	**Khabaz**	**18.56**	**286**	P	**P**	**06 17 36.9**	**-0.6**
	0.2nm,0.3s,baz=107,slow=9.0,SNR=4.5						
KVAR	**Kislovodsk Arr**	**18.70**	**287**	P	**P**	**06 17 39.0**	**-0.2**
	baz=90,slow=20,SNR=1.5						
KIV	**Kislovodsk**	**18.71**	**287**	P	**P**	**06 17 38.4**	**-0.9**
BR131	**Keskin Array S**	**25.97**	**278**	P	**P**	**06 18 54.7**	**+1.1**
BRTR	**Keskin Array B**	**25.97**	**278**	P	**P**	**06 18 54.7**	**+1.1**
	1.0nm,0.6s,baz=69,slow=6.8,SNR=4.0						
SONM	**Songino Array**	**28.06**	**63**	P	**P**	**06 19 13.0**	**+0.7**
	0.4nm,0.6s,baz=270,slow=10,SNR=1.9						
AKASG	**Malin Array Be**	**28.19**	**303**	P	**P**	**06 19 14.3**	**+1.1**
	0.2nm,0.3s,baz=80,slow=7.1,SNR=2.1						
LZH	**Lanzhou**	**28.45**	**88**	*e*P	**P**	**06 19 18.4**	**+2.5**
LZH				pP	sP	06 19 20.9	+1.9
LZH				sP	pP	06 19 25.4	+7.3
LZH				PP	**PnPn**	**06 20 04.3**	**-0.4**
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
LZH				pmax	pmax		
	comp=Z,65nm,4.9s						
FIA1	**FINESS Array S**	**32.23**	**323**	P	P	06 19 53.9	+5.1
FINES	**FINESS Array B**	**32.23**	**323**	P	**P**	**06 19 49.6**	**+0.9**
	4.1nm,0.5s,baz=118,slow=8.5,SNR=17						
HHC	**Hu-ho-hao-te**	**32.73**	**76**	*e*P	**P**	**06 19 56.1**	**+2.5**
HHC				pmax	pmax		
	comp=Z,99nm,4.5s						
ARCES	**ARCESS Array B**	**35.86**	**336**	P	**P**	**06 20 20.9**	**+0.7**
	0.5nm,0.6s,baz=115,slow=8.2,SNR=5.9						
GERES	**GERESS Array B**	**38.31**	**300**	P	**P**	**06 20 41.5**	**0.0**
	0.3nm,0.5s,baz=65,slow=10,SNR=4.0						
CLL	**Collm**	**38.41**	**304**	*i* P	**P**	**06 20 42.4**	**+0.3**
CLL				*i* pP	**pP**	**06 20 45.2**	**+0.8**
NB2	**NORSAR Subarra**	**39.17**	**320**	P	**P**	**06 20 49.1**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=95,slow=8.6						
NOA	**NORSAR Array B**	**39.17**	**320**	P	**P**	**06 20 48.8**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=105,slow=7.8,SNR=2.3						
NC204	**NORSAR Array S**	**39.41**	**320**	P	**P**	**06 20 51.7**	**+1.3**
USRK	**Ussuriysk Ar.**	**46.17**	**64**	P	**P**	**06 21 46.2**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=300,slow=9.8,SNR=2.2						
MJAR	**Matsushiro Arr**	**53.62**	**70**	LR	LR	06 45 24.7	
	comp=Z,164nm,21.4s,baz=50,slow=36						
ERM	**Erimo**	**54.54**	**62**	P	**P**	**06 22 49.0**	**+0.2**
SUMG	**Summit**	**55.81**	**340**	P	**P**	**06 22 58.5**	**+0.5**
SUMG				lAmb	lAmb	06 23 04.4	
	comp=Z,3.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**63.54**	**264**	P	**P**	**06 23 50.2**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=43,slow=4.2,SNR=2.3						
TOLK	**Toolik Lake Re**	**66.99**	**14**	P	**P**	**06 24 14.1**	**+0.8**
COLD	**Coldfoot**	**68.10**	**15**	P	**P**	**06 24 20.8**	**+0.6**
COLD				lAmb	lAmb	06 24 22.5	
	comp=Z,3.2nm,1.2s						
C36M	**Paulatuk**	**69.42**	**4**	P	**P**	**06 24 28.7**	**+0.4**
INK	**Inuvik**	**69.64**	**8**	P	**P**	**06 24 28.7**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=293,slow=9.2,SNR=1.7						
INK	**Inuvik**	**69.64**	**8**	P	**P**	**06 24 31.0**	**+1.2**
INK				lAmb	lAmb	06 24 45.0	
	comp=Z,5.7nm,1.4s						
TTA	**Tatalina**	**70.46**	**20**	P	**P**	**06 24 36.3**	**+1.4**
MDM	**Murphy Dome**	**70.48**	**15**	P	**P**	**06 24 36.0**	**+1.0**
MDM				lAmb	lAmb	06 24 37.4	
	comp=Z,4.6nm,1.4s						
BPAW	**Bear Paw Mtn.**	**70.65**	**17**	P	**P**	**06 24 36.8**	**+0.7**
CCB	**Clear Creek Bu**	**70.84**	**15**	P	**P**	**06 24 38.3**	**+1.2**
CCB				lAmb	lAmb	06 24 40.0	
	comp=Z,2.4nm,1.2s						
ILAR	**Eielson Array**	**70.91**	**15**	P	**P**	**06 24 37.7**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=337,slow=5.4,SNR=7.9						
WRH	**Wood River Hil**	**70.94**	**16**	P	**P**	**06 24 38.2**	**+0.4**
WRH				lAmb	lAmb	06 24 45.5	
	comp=Z,3.6nm,1.5s						
KTH	**Kantishna Hill**	**71.14**	**17**	P	**P**	**06 24 39.7**	**+0.6**
KTH				lAmb	lAmb	06 24 40.8	
	comp=Z,3.0nm,1.0s						
TRF	**Thorofare Moun**	**71.37**	**17**	P	**P**	**06 24 42.4**	**+1.7**
TRF				lAmb	lAmb	06 24 42.4	
	comp=Z,4.5nm,1.4s						
PPLA	**Purkeypile**	**71.42**	**18**	P	**P**	**06 24 41.5**	**+0.6**
PPLA				lAmb	lAmb	06 24 59.1	
	comp=Z,4.2nm,1.1s						
RND	**Reindeer**	**71.72**	**16**	P	**P**	**06 24 42.7**	**0.0**
RIDG	**Independent Ri**	**72.23**	**15**	P	**P**	**06 24 46.2**	**+0.5**
RIDG				lAmb	lAmb	06 25 03.7	
	comp=Z,3.5nm,1.2s						
SKT	**Skwentna**	**72.37**	**18**	P	**P**	**06 24 46.9**	**+0.4**
SKT				lAmb	lAmb	06 24 47.3	
	comp=Z,4.2nm,0.9s						
PAX	**Paxson**	**72.81**	**15**	P	**P**	**06 24 49.6**	**+0.4**
PAX				lAmb	lAmb	06 24 49.6	
	comp=Z,3.6nm,1.5s						
SUA	**Susitna One**	**73.00**	**18**	P	**P**	**06 24 50.9**	**+0.5**
SUA				lAmb	lAmb	06 25 03.1	
	comp=Z,6.5nm,1.2s						
YKA	**Yellowknife Ar**	**76.64**	**1**	P	**P**	**06 25 11.0**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=354,slow=7.4,SNR=2.1						
YKA	**Yellowknife Ar**	**76.64**	**1**	P	**P**	**06 25 11.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**79.64**	**125**	P	**P**	**06 25 28.8**	**+0.4**
WRA	**Warramunga Arr**	**86.53**	**120**	P	**P**	**06 26 02.8**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=323,slow=4.8,SNR=12						
ASAR	**Alice Springs**	**88.92**	**123**	P	**P**	**06 26 14.5**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=310,slow=3.4,SNR=5.9						

ISN ***23*** *06:16:29.1±0.9, 33.°04N×44.°88E, h0km±19km, ML3.3*

TEH ***23*** *06:16:32.6, 33.°34N×45.°17E, h10km, ML3.1*

**ISC 23 06:16:30.

σ0$53/13, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.39**	**295**	*e*Pg	**Pg**	**06 28 16.0**	**-0.3**
IKFM	**Kafar-mosalman**	**1.01**	**7**	*e*Pg	**Pg**	**06 28 27.9**	**-0.2**
IKFM				*e*		06 28 44.5	
IKMR	**Kamar-syah**	**1.15**	**30**	*e*Pg	**Pg**	**06 28 31.0**	**+0.3**
IKMR				*e*		06 28 35.3	
IDOB	**Doab**	**1.33**	**18**	*e*Pg	**Pg**	**06 28 33.9**	**-0.3**
IDOB				*e*		06 29 07.1	
BMDN	**Meydan**	**1.49**	**39**	*e*Pg	**Pb**	**06 28 36.4**	**-0.1**
BMDN				*e*		06 29 08.1	
IBDR	**Badra**	**1.60**	**292**	*e*Pg	**Pn**	**06 28 36.0**	**-1.0**
IBDR				*e*Sg	**Sn**	**06 28 58.0**	**+0.3**
IBDR				AML	AML	06 29 05.0	
	comp=E,179nm,0.9s						
IBDR				AML	AML	06 29 06.1	
	comp=N,119nm,0.6s						
IKOM	**Komasi**	**1.66**	**355**	*e*Pg	**Pb**	**06 28 39.4**	**0.0**
IKOM				*e*		06 29 10.8	
NSR	**Nassriya**	**2.00**	**222**	*e*Pn	**Pn**	**06 28 43.0**	**+0.5**
NSR				*e*Sn	**Sn**	**06 29 07.0**	**-0.7**
IVIS	**Veis**	**2.12**	**341**	*e*Pg	**Pb**	**06 28 48.0**	**+0.7**
IVIS				*e*		06 29 23.8	
BHD	**Baghdad**	**2.89**	**286**	*e*Pn	**Pn**	**06 28 55.0**	**+0.3**
BHD				*e*Sn	**Sn**	**06 29 30.0**	**+0.5**

INET ***23*** *06:45:48.5, 12.°09N×88.°13W, h15km, ML3.6*
SNET ***23*** *06:45:49.0±1.3, 12.°12N×88.°17W, h29km±50km, ML3.3*
ISC 23 06:45:48.2±4.9, 12.°1N±0.°2×88.°15W±0.°09, h22km±24km, n18, σ0$54/24, 1C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarın**	**1.16**	**355**	*e*P	**Pn**	**06 46 08.7**	**-0.5**
JUCU				*e*S	**Sn**	**06 46 24.8**	**+0.4**
JUCU				IAML		06 46 34.8	
	comp=Z,436nm,0.4s						
CNCH	**Conchagua**	**1.22**	**15**	*e*P	**Pn**	**06 46 09.7**	**-0.3**
CNCH				*e*S	**Sn**	**06 46 26.9**	**+1.0**
LCND	**La Caada**	**1.24**	**12**	*e*P	**Pn**	**06 46 09.6**	**-0.6**
ALJI	**Alcalda de J**	**1.30**	**342**	*e*P	**Pn**	**06 46 10.8**	**-0.2**
ALJI				*e*S	**Sb**	**06 46 28.2**	**+0.1**
RANC	**El Ranchito**	**1.34**	**354**	*e*P	**Pn**	**06 46 11.9**	**+0.1**
BLLM	**Bellamira**	**1.35**	**356**	*e*P	**Pn**	**06 46 11.8**	**0.0**
TECA	**Tecapa**	**1.44**	**346**	*e*P	**Pn**	**06 46 12.9**	**-0.2**
TECA				*e*S	**Sb**	**06 46 32.4**	**0.0**
COEB	**Comit de Eme**	**1.45**	**345**	*e*P	**Pn**	**06 46 12.9**	**-0.3**
COEB				*e*S	**Sn**	**06 46 31.4**	**-0.1**
COEB				IAML		06 46 41.8	
	comp=Z,349nm,0.3s						
FAGO	**Alcalda de S**	**1.60**	**1**	*e*P	**Pn**	**06 46 14.1**	**-1.0**
UESV	**Universidad de**	**1.66**	**338**	*e*P	**Pn**	**06 46 16.2**	**+0.2**
LFRS	**El Faro**	**1.77**	**330**	*e*P	**Pn**	**06 46 17.3**	**-0.2**
LFRS				*e*S	**Sn**	**06 46 39.7**	**+0.3**
PAVA	**Las Pavas**	**1.79**	**335**	*e*P	**Pn**	**06 46 17.6**	**-0.2**
LBRS	**Las Brisas**	**1.86**	**332**	*e*P	**Pn**	**06 46 19.3**	**+0.5**
TGUH	**Tegucigalpa,Un**	**2.13**	**23**	*e*P	**Pn**	**06 46 22.8**	**+0.2**
TACO	**Tacachico**	**2.21**	**328**	*e*P	**Pn**	**06 46 24.2**	**+0.7**
CEVE	**Cerro Verde**	**2.25**	**320**	IAML		06 46 58.7	
	comp=Z,462nm,0.4s						
NUBE	**Las Nubes**	**2.40**	**319**	*e*P	**Pn**	**06 46 26.6**	**+0.3**
NUBE				*e*S	**Sn**	**06 46 54.0**	**-1.2**
NUBE				IAML		06 47 02.3	
	comp=Z,116nm,0.4s						
MTO3	**Montecristo**	**2.58**	**333**	*e*P	**Pn**	**06 46 28.8**	**0.0**

IDC ***23*** *07:07:24.5±2.0, 33.°74N×45.°63E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/40, mbtmp3.6/6, MS2.9/1, Ms1 2.9/1, ms1mx2.1/38, Error ellipse: s-maj=46.0km s-min=20.6km az=161.0*
ISN ***23*** *07:07:24.4±1.0, 33.°62N×45.°52E, h7km±5km, ML3.2*
TEH ***23*** *07:07:28.2, 33.°78N×45.°84E, h13km, ML3.5*
ISC 23 07:07:25.5±0.7, 33.°67N±0.°04×45.°54E±0.°04, h13km, n33, σ1$07/35, mb3.6/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.65**	**150**	*e*Pg	**Pg**	**07 07 37.0**	**-1.2**
IBDR				*e*Sg	**Sg**	**07 07 45.0**	**-1.8**
IBDR				AML	AML	07 07 53.2	
	comp=N,656nm,0.7s						
IBDR				AML	AML	07 08 03.3	
	comp=E,385nm,0.3s						
BHD	**Baghdad**	**1.05**	**248**	*e*Pg	**Pb**	**07 07 44.0**	**-1.5**
BHD				*e*Sg	**Sb**	**07 07 58.0**	**-1.2**
BHD				AML	AML	07 08 10.4	
	comp=E,3μm,0.6s						
IGHG	**Ghaleghazi**	**1.08**	**52**	*e*Pg	**Pb**	**07 07 44.5**	**-1.7**
IGHG				*e*		07 08 07.2	
IDHR	**Dehrash**	**1.24**	**34**	*e*Pg	**Pn**	**07 07 47.4**	**-1.4**
IDHR				*e*		07 08 08.9	
IVIS	**Veis**	**1.38**	**52**	*e*Pg	**Pn**	**07 07 49.7**	**-0.9**
IVIS				*e*		07 08 12.0	
KCHF	**Cheshme Sefid,**	**1.39**	**64**	*e*Pg	**Pn**	**07 07 50.2**	**-0.6**
KCHF				*e*		07 08 13.1	
KER	**Kermanshah**	**1.50**	**61**	*e*Pg	**Pn**	**07 07 51.9**	**-0.4**
ILIN	**Lien**	**1.71**	**43**	*e*Pg	**Pn**	**07 07 56.3**	**+1.0**
ILIN				*e*		07 08 20.2	
IKOM	**Komasi**	**1.71**	**72**	*e*Pg	**Pn**	**07 07 55.5**	**+0.2**
IKOM				*e*		07 08 25.8	
DHL1	**Dehloran**	**1.76**	**124**	*e*Pg	**Pg**	**07 07 58.7**	**-0.7**
IKFM	**Kafar-mosalman**	**1.93**	**94**	*e*Pg	**Pb**	**07 07 59.4**	**-1.2**
IKFM				*e*		07 08 30.3	
IBZA	**Bozab**	**2.08**	**67**	*e*		07 08 03.7	
IBZA				*e*Pg	**Pn**	**07 08 01.0**	**+0.5**
IDOB	**Doab**	**2.20**	**86**	*e*Pn	**Pn**	**07 08 02.3**	**+0.3**
IKMR	**Kamar-syah**	**2.38**	**93**	*e*Pn	**Pn**	**07 08 04.7**	**+0.5**
IKMR				*e*		07 08 47.0	
IALM	**Almabolaq**	**2.48**	**61**	*e*Pn	**Pn**	**07 08 07.1**	**+1.2**
HSAM	**Samen**	**2.60**	**77**	*e*		07 08 50.3	
HSAM				*e*Pn	**Pn**	**07 08 07.5**	**-0.1**
NSR	**Nassriya**	**2.70**	**169**	*e*Pn	**Pn**	**07 08 09.0**	**+0.3**
NSR				*e*Sn	**Sn**	**07 08 43.0**	**+1.7**
BMDN	**Meydan**	**2.74**	**89**	*e*		07 08 53.5	
BMDN				*e*Pn	**Pn**	**07 08 09.4**	**0.0**
HSRG	**Sareghieh**	**2.75**	**55**	*e*Pn	**Pn**	**07 08 11.1**	**+1.4**
HSRG				*e*		07 08 54.4	
HAGD	**Aghdareh**	**3.19**	**68**	*e*Pn	**Pn**	**07 08 16.4**	**+0.7**
QABG	**Abgarm-Qazvin**	**3.90**	**58**	*e*Pn	**Pn**	**07 08 25.4**	**0.0**
IRAZ	**Razeghan**	**4.01**	**63**	*e*Pn	**Pn**	**07 08 27.9**	**+1.0**
QSDN	**Sirdan**	**4.11**	**46**	*e*Pn	**Pn**	**07 08 28.9**	**+0.7**
IPIR	**Pirpir**	**4.60**	**101**	*e*Pn	**Pn**	**07 08 36.9**	**+1.9**
IPIR				*e*		07 09 30.3	
IKLH	**Kolahrood**	**5.06**	**92**	*e*Pn	**Pn**	**07 08 43.0**	**+1.7**
IVRN	**Varamin**	**5.29**	**74**	*e*Pn	**Pn**	**07 08 44.5**	**+0.2**
ASF	**Jabal al Asfar**	**7.42**	**261**	Pg	Pb	07 09 41.0	+6.8
	comp=E,0.3nm,0.3s,baz=42,slow=16,SNR=2.1						
ASF				Lg	Lg	07 11 24.0	
	comp=E,0.4nm,0.3s,baz=221,slow=24,SNR=2.2						
AKASG	**Malin Array Be**	**20.79**	**330**	P		**07 12 06.2**	**-0.1**
	comp=E,1.1nm,0.6s,baz=133,slow=10,SNR=4.8						
KURBB	**Kurchatov Arra**	**29.43**	**45**	P	**P**	**07 13 28.9**	**+0.2**
	comp=E,0.2nm,0.3s,baz=250,slow=8.9,SNR=1.7						
MKAR	**Makanchi Array**	**30.68**	**54**	P	**P**	**07 13 39.9**	**+0.1**
	comp=E,0.4nm,0.5s,baz=253,slow=7.8,SNR=5.8						
MKAR				LR	LR	07 28 07.2	
	comp=E,21nm,19.1s,baz=182,slow=41						
HFS	**Hagfors**	**33.66**	**332**	P	**P**	**07 14 06.3**	**+0.5**
	comp=E,1.1nm,0.5s,baz=137,slow=9.3,SNR=5.8						
ARCES	**ARCESS Array B**	**37.61**	**349**	P	**P**	**07 14 40.8**	**+1.2**
	comp=E,1.3nm,0.8s,baz=153,slow=9.0,SNR=1.9						
TORD	**Torodi Ar. Bea**	**44.71**	**254**	P	**P**	**07 15 40.1**	**+1.4**
	comp=E,0.2nm,0.8s,baz=61,slow=5.5,SNR=1.7						

JMA 23 07:34:21.6, 37.°00N×140.°56E, h10km±1km, M2.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFFD	**Fukushimafurud**	**0.09**	**1**	P	Pg	07 34 24.1	0.0
JFFD				S	Sg	07 34 25.7	-0.2
ONAJ	**Iwakimizuishiy**	**0.22**	**62**	P	Pg	07 34 26.2	+0.1
ONAJ				S	Sg	07 34 29.5	+0.3
JHO	**Hitachi**	**0.39**	**179**	P	Pg	07 34 29.0	-0.3
JHO				S	Sg	07 34 34.5	+0.1
JFK	**Kawauchi**	**0.44**	**34**	P	Pg	07 34 30.2	-0.1
JFK				S	Sg	07 34 36.2	0.0
JFT	**Otama**	**0.55**	**341**	P	Pg	07 34 32.4	+0.1
JFT				S	Sg	07 34 40.1	+0.6
JFY	**Yanaizu**	**0.79**	**301**	P	Pg	07 34 36.9	0.0
JFY				S	Sg	07 34 47.2	-0.1
MAT	**Matsushiro**	**1.94**	**257**	P	Pb	07 34 56.7	-0.4
MAT				S	Sb	07 35 21.3	-0.1

IDC 23 08:13:03.9±1.6, 6.°42S×147.°00E, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.6/25, mbtmp3.8/4, ML3.4/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/29, Error ellipse: s-maj=58.5km s-min=25.3km az=104.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.97**	**177**	Pn	Pn	08 13 52.8	+0.5
	8.4nm,0.3s,baz=354,slow=8.9,SNR=5.3						
PMG				Sn	Sn	08 14 29.2	+0.5
	6.0nm,0.3s,baz=34,slow=15,SNR=1.8						
WRA	**Warramunga Arr**	**18.22**	**221**	P	Pn	08 17 17.2	-1.2
	0.1nm,0.3s,baz=48,slow=12,SNR=17						
GUMO	**Guam**	**19.99**	**354**	LR	LR	08 25 23.7	
	comp=Z,20nm,18.2s,baz=110,slow=37						
ASAR	**Alice Springs**	**21.27**	**215**	P	P	08 17 52.4	+0.3
	2.6nm,0.7s,baz=31,slow=12,SNR=39						
ILAR	**Eielson Array**	**85.87**	**23**	P	P	08 25 44.8	-0.5
	0.4nm,0.8s,baz=254,slow=5.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**145.19**	**284**	PKPbc	PKPbc	08 32 44.1	-0.2
	1.2nm,0.6s,baz=67,slow=3.8,SNR=6.7						

ISK ***23*** *08:24:54.9, 35.°54N×27.°73E, h5km, ML2.7/10*
ATH ***23*** *08:24:55.9, 35.°58N×27.°71E, h19km±2km, ML2.3/5, Error ellipse: s-maj=3.7km s-min=1.2km az=326.0*
DDA ***23*** *08:24:55.4, 35.°47N×27.°65E, h6km±4km, ML2.5*
ISC 23 08:24:56.0±1.2, 35.°56N±0.°04×27.°74E±0.°03, h12km±10km, n43, σ1$02/53, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.47**	**268**	P	**Pg**	**08 25 04.9**	**-0.5**
KARP	**Karpathos**	**0.47**	**268**	P	**Pg**	**08 25 04.9**	**-0.5**
KARP				S	**Sg**	**08 25 11.4**	**-0.2**
KARP				AML	AML	08 25 15.5	
	comp=E,814μm,0.2s						
KARP				AML	AML	08 25 18.1	
	comp=N,544μm,0.2s						
KARP	**Karpathos**	**0.47**	**268**	PG	**Pg**	**08 25 05.1**	**-0.3**
KARP				SG	**Sg**	**08 25 12.1**	**+0.4**
ARG	**Arkhangelos**	**0.72**	**25**	P	**Pg**	**08 25 10.0**	**0.0**
ARG	**Arkhangelos**	**0.72**	**25**	P	**Pg**	**08 25 10.0**	**0.0**
ARG				S	**Sg**	**08 25 19.5**	**0.0**
ARG				AML	AML	08 25 24.4	
	comp=N,328μm,0.2s						
ARG				AML	AML	08 25 28.1	
	comp=E,572μm,0.3s						
ARG	**Arkhangelos**	**0.72**	**25**	PG	**Pg**	**08 25 10.1**	**0.0**
DAT	**Datca**	**1.17**	**354**	PN	**Pg**	**08 25 19.1**	**+0.5**
DAT	**Datca**	**1.17**	**354**	*i* P	**Pn**	**08 25 18.0**	**-0.3**
DAT				*i* S	**Sn**	**08 25 34.5**	**+0.2**
TURN	**Turunc**	**1.28**	**18**	PN	**Pg**	**08 25 20.6**	**0.0**
TURN	**Turunc**	**1.28**	**18**	*i* P	**Pn**	**08 25 16.9**	**-2.8**
TURN				*i* S	**Sb**	**08 25 36.4**	**+0.1**
TURN				IAML		08 25 44.0	
	comp=E,66nm,0.5s						
TURN				IAML		08 25 44.0	
	comp=N,74nm,0.7s						
ZKR	**Zakros**	**1.32**	**251**	P	**Pb**	**08 25 20.4**	**-0.4**
ZKR	**Zakros**	**1.32**	**251**	P	**Pb**	**08 25 20.4**	**-0.4**
ZKR				AML	AML	08 25 48.0	
	comp=E,457μm,0.6s						
ZKR				AML	AML	08 25 48.4	
	comp=N,171μm,0.8s						
ZKR	**Zakros**	**1.32**	**251**	PN	**Pg**	**08 25 20.8**	**-0.7**
ZKR				SN	**Sg**	**08 25 40.6**	**+1.9**
DALY	**Dalyan (Mula)**	**1.45**	**30**	PN	**Pg**	**08 25 23.5**	**-0.4**
DALY	**Dalyan (Mula)**	**1.45**	**30**	*i* P	**Pb**	**08 25 22.5**	**-0.4**
DALY				*i* S	**Sg**	**08 25 44.4**	**+1.6**
DALY				IAML		08 25 50.0	
	comp=E,60nm,0.5s						
DALY				IAML		08 25 51.0	
	comp=N,46nm,0.6s						
BDRM	**Kayabasi**	**1.52**	**351**	*i* P	**Pb**	**08 25 23.6**	**-0.5**
FETY	**Fethiye**	**1.52**	**45**	*i* P	**Pn**	**08 25 21.7**	**-1.4**
BODT	**Bodrum**	**1.54**	**347**	PN	**Pg**	**08 25 25.3**	**-0.2**
BODT				SN	**Sg**	**08 25 46.7**	**+1.2**
KSL	**Kastellorizon**	**1.61**	**68**	P	**Pb**	**08 25 25.4**	**-0.2**
KSL	**Kastellorizon**	**1.61**	**68**	P	**Pb**	**08 25 25.4**	**-0.2**
YER	**Yerkesik**	**1.63**	**15**	PN	**Pg**	**08 25 26.9**	**-0.4**
AKAS	**Kas**	**1.65**	**66**	*i* P	**Pn**	**08 25 25.3**	**+0.3**
NPS	**Neapolis**	**1.77**	**261**	P	**Pb**	**08 25 27.7**	**-0.6**
NPS	**Neapolis**	**1.77**	**261**	P	**Pb**	**08 25 27.6**	**-0.6**
NPS				AML	AML	08 25 59.4	
	comp=N,157μm,0.4s						
NPS				AML	AML	08 26 05.8	
	comp=E,199μm,0.4s						
ANAF	**Anafi Island**	**1.78**	**297**	P	**Pb**	**08 25 28.5**	**-0.1**
ANAF	**Anafi Island**	**1.78**	**297**	P	**Pn**	**08 25 27.4**	**+0.8**
LAST	**Lasithi**	**1.89**	**258**	P	**Pb**	**08 25 30.9**	**+0.4**
LAST	**Lasithi**	**1.89**	**258**	P	**Pb**	**08 25 29.8**	**-0.7**
AMGA	**Amorgos Island**	**1.96**	**311**	P	**Pn**	**08 25 29.2**	**+0.2**
AMGA	**Amorgos Island**	**1.96**	**311**	P	**Pn**	**08 25 29.2**	**+0.2**
AMGA				AML	AML	08 26 03.7	
	comp=E,129μm,0.5s						
AMGA				AML	AML	08 26 04.9	
	comp=N,185μm,0.3s						
SANT	**Santorini**	**2.02**	**294**	PN	**Pb**	**08 25 31.8**	**-0.9**
AYDN	**Tasoluk**	**2.10**	**3**	*i* P	**Pn**	**08 25 31.8**	**+0.8**
AYDN				*i* S	**Sb**	**08 25 59.3**	**-0.7**
AYDN				IAML		08 26 05.0	
	comp=N,26nm,0.6s						
TAVA	**DENIZLI_Tavas**	**2.12**	**26**	*i* P	**Pn**	**08 25 32.4**	**+1.0**
TAVA				*i* S	**Sb**	**08 26 01.4**	**+0.7**
TAVA				IAML		08 26 13.0	
	comp=N,32nm,0.6s						
GOLH	**Golhisar**	**2.22**	**41**	*i* P	**Pb**	**08 25 35.2**	**-0.9**
SMG	**Samos**	**2.26**	**342**	P	**Pn**	**08 25 34.9**	**+1.7**
IOSP	**Ios island**	**2.30**	**301**	P	**Pb**	**08 25 35.6**	**-1.8**
IOSP	**Ios island**	**2.30**	**301**	P	**Pb**	**08 25 35.6**	**-1.8**
APE	**Apeiranthos**	**2.33**	**311**	P	**Pn**	**08 25 35.5**	**+1.3**
APE	**Apeiranthos**	**2.33**	**311**	P	**Pn**	**08 25 35.6**	**+1.3**
APE	**Apeiranthos**	**2.33**	**311**	PN	**Pb**	**08 25 36.2**	**-1.8**
IDI	**Anoyia**	**2.34**	**264**	P	**Pb**	**08 25 36.6**	**-1.6**
IDI	**Anoyia**	**2.34**	**264**	P	**Pn**	**08 25 35.4**	**+1.0**
IDI	**Anoyia**	**2.34**	**264**	PN	**Pb**	**08 25 36.1**	**-2.1**

BJI ***23*** *08:26:34.0±0.0, 38.°36N×133.°90E, h477km, mB4.6/3, mb4.7/6*
JMA ***23*** *08:26:35.5±0.3, 38.°40N×134.°02E, h464km±4km, M3.6*
NIED ***23*** *08:26:35.5, 38.°40N×134.°02E, h464km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^15 Nm; Mrr0.10; Mθθ-0.24; Mϕϕ0.13; Mrθ-0.02; Mθϕ-1.11; Mϕr-0.27; Fault plane solution: M0 1.15000×10^15 NP1: ϕs185.00000°, δ88.00000°, λ14.00000°. NP2: ϕs95.00000°, δ76.00000°, λ178.00000°.*
IDC ***23*** *08:26:36.4±0.8, 38.°45N×133.°88E, h450km±10km, mb3.4/15, mb1 3.5/22, mb1mx3.3/49, mbtmp4.3/22 Error ellipse: s-maj=15.3km s-min=9.3km az=67.0*
ISC 23 08:26:35.7±0.6, 38.°49N±0.°06×134.°06E±0.°07, h447km, n45, σ1$37/59, mb3.8/16, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOI	**OKI**	**2.28**	**197**	P	**P**	**08 27 38.5**	**+0.8**
JHG	**Hegura jima**	**2.34**	**105**	P	**P**	**08 27 39.7**	**+1.8**
JSZ	**Suzu**	**2.81**	**111**	P	**P**	**08 27 43.0**	**+1.9**
JKG	**Kaga**	**2.85**	**140**	P	**P**	**08 27 42.9**	**+1.4**
JWT	**Wachi**	**3.37**	**161**	P	**P**	**08 27 46.8**	**+1.3**
JWT				S	**S**	**08 28 42.4**	**+0.3**
JHS	**Saijyo**	**3.56**	**193**	P	**P**	**08 27 47.5**	**+0.4**
JHS				*e*S	**S**	**08 28 44.0**	**-1.0**
MAT	**Matsushiro**	**3.83**	**119**	P	**P**	**08 27 50.3**	**+1.1**
MAT				*e*S	**S**	**08 28 48.6**	**-0.4**
MJAR	**Matsushiro Arr**	**3.83**	**119**	P	**P**	**08 27 50.8**	**+1.5**
	0.8nm,0.3s,baz=296,slow=11,SNR=65						
JRY	**Ryogami san**	**4.58**	**121**	P	**P**	**08 27 57.1**	**+1.1**
JIE	**Ise**	**4.61**	**152**	P	**P**	**08 27 57.4**	**+1.1**
JIE				*e*S	**S**	**08 29 01.6**	**-0.2**
KSRS	**Korea Array**	**4.96**	**260**	P	**P**	**08 28 00.3**	**+0.9**
	1.0nm,0.3s,baz=79,slow=9.2,SNR=37						
JOD2	**Odawara 2**	**5.16**	**127**	P	**P**	**08 28 01.8**	**+0.3**
TTO1	**TONANKAI O.B.S**	**5.33**	**155**	P	**P**	**08 28 04.4**	**+1.5**
JTU	**Tsushima**	**5.45**	**225**	P	**P**	**08 28 05.1**	**+0.7**
JOSM	**Okushiri--Mats**	**5.48**	**47**	P	**P**	**08 28 06.9**	**+2.4**
JTO	**Tosashimizu**	**5.71**	**191**	P	**P**	**08 28 07.6**	**+0.6**
JTO				*e*S	**S**	**08 29 20.4**	**-1.1**
USRK	**Ussuriysk Ar.**	**5.92**	**345**	P	**P**	**08 28 10.7**	**+1.8**
	baz=161,slow=9.6,SNR=68						
USRK				S	**S**	**08 29 26.9**	**+1.8**
	baz=146,slow=34,SNR=2.8						
JNU	**Nakatsue**	**5.94**	**207**	P	**P**	**08 28 09.6**	**+0.1**
	2.7nm,0.3s,baz=336,slow=0.5,SNR=23						
JOT	**Ohata**	**6.10**	**60**	P	**P**	**08 28 13.7**	**+2.9**
JKB	**Kayabe**	**6.33**	**55**	P	**P**	**08 28 15.8**	**+2.7**
BSO1	**Boso 1**	**6.75**	**122**	P	**P**	**08 28 17.2**	**0.0**
JHJ	**Hachijo jima 2**	**7.09**	**137**	P	**P**	**08 28 22.6**	**+1.1**
	4.1nm,0.3s,baz=37,slow=16,SNR=2.2						
JSJ	**Shimokoshiki**	**7.67**	**209**	P	**P**	**08 28 27.9**	**+0.3**
JCH	**Churui**	**8.20**	**57**	P	**P**	**08 28 34.6**	**+1.6**
JCH				*e*S	**S**	**08 30 06.6**	**-2.8**
ASAJ	**Asahikawa**	**8.54**	**46**	P	**P**	**08 28 37.5**	**+0.8**
	7.9nm,0.3s,baz=236,slow=10,SNR=49						
ASAJ				S	**S**	**08 30 15.8**	**-0.4**
	0.5nm,0.3s,baz=229,slow=20,SNR=1.3						
JTKR	**Abashiri--Toko**	**9.22**	**50**	P	**P**	**08 28 44.7**	**+0.6**
JTKR				*e*S	**S**	**08 30 27.5**	**-2.3**
NEM2	**Nemuro 2**	**10.09**	**57**	P	**P**	**08 28 54.3**	**+0.6**
NEM2				*e*S	**S**	**08 30 43.1**	**-4.2**
KLR	**Kul'dur**	**10.87**	**352**	P	**P**	**08 29 02.5**	**+0.5**
	0.9nm,0.3s,baz=174,slow=12,SNR=13						
KLR				S	**S**	**08 31 02.2**	**-0.5**
	baz=180,slow=20,SNR=1.7						
SONM	**Songino Array**	**22.14**	**304**	P	**P**	**08 30 56.4**	**-0.2**
	3.7nm,0.5s,baz=110,slow=9.9,SNR=15						
ZALV	**Zalesovo Beam**	**36.60**	**311**	P	**P**	**08 33 01.4**	**-0.7**
	2.3nm,0.3s,baz=102,slow=6.9,SNR=10.0						
MKAR	**Makanchi Array**	**38.37**	**300**	P	**P**	**08 33 16.3**	**-0.6**
	2.0nm,0.5s,baz=87,slow=10,SNR=32						
KURBB	**Kurchatov Arra**	**40.47**	**306**	P	**P**	**08 33 33.0**	**-0.7**
	3.0nm,0.4s,baz=85,slow=8.6,SNR=42						
BVAR	**Borovoye Array**	**45.24**	**310**	P	**P**	**08 34 10.9**	**-0.3**
	1.6nm,0.4s,baz=96,slow=7.2,SNR=9.2						
ARU	**Arti**	**51.35**	**316**	P	**P**	**08 34 56.5**	**-0.5**
	1.9nm,0.3s,baz=151,slow=4.5,SNR=8.1						
ILAR	**Eielson Array**	**51.41**	**33**	P	**P**	**08 34 59.1**	**+1.8**
	0.6nm,0.7s,baz=283,slow=8.4,SNR=8.1						
AKTO	**Aktyubinsk**	**53.31**	**309**	P	**P**	**08 35 10.2**	**-1.1**
	1.7nm,0.5s,baz=89,slow=14,SNR=5.9						
GEYT	**Alibeck**	**57.99**	**295**	P	**P**	**08 35 44.6**	**+0.3**
	2.5nm,0.7s,baz=69,slow=14,SNR=2.3						
WRA	**Warramunga Arr**	**58.12**	**180**	P	**P**	**08 35 45.1**	**0.0**
	2.4nm,0.5s,baz=354,slow=7.5,SNR=74						
ARCES	**ARCESS Array B**	**60.51**	**337**	P	**P**	**08 36 01.4**	**+0.8**
	0.9nm,0.4s,baz=64,slow=9.0,SNR=15						
ASAR	**Alice Springs**	**61.82**	**180**	P	**P**	**08 36 10.6**	**+0.6**
	0.9nm,0.6s,baz=12,slow=13,SNR=16						
FINES	**FINESS Array B**	**64.72**	**330**	P	**P**	**08 36 28.3**	**+0.3**
	4.5nm,0.5s,baz=85,slow=5.3,SNR=36						
AKASG	**Malin Array Be**	**69.48**	**319**	P	**P**	**08 36 57.5**	**-0.3**
	0.9nm,0.3s,baz=46,slow=6.2,SNR=6.8						
NB2	**NORSAR Subarra**	**70.47**	**334**	P	**P**	**08 37 03.6**	**0.0**
	comp=Z,1.0nm,0.5s,baz=42,slow=5.6						
NOA	**NORSAR Array B**	**70.47**	**334**	P	**P**	**08 37 04.0**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=62,slow=8.8,SNR=11						
CLL	**Collm**	**76.80**	**326**	*e*P	**P**	**08 37 40.0**	**+0.1**
	comp=Z,3.0nm,0.8s						
CLL				*e*PcP	**PcP**	**08 37 47.0**	**-2.0**
CLL				*e*pP	**pP**	**08 39 18.0**	**+1.5**
CLL				*e*PP	**PP**	**08 40 38.0**	**-1.5**

SOME ***23*** *08:36:36.3, 44.°68N×82.°32E, h10km*
NNC ***23*** *08:36:38.3±1.0, 44.°70N×82.°18E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=10.2km s-min=3.1km az=122.0*
ISC 23 08:36:39.2±1.4, 44.°65N±0.°05×82.°11E±0.°07, h10km, n32, σ1$43/50, 4C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.69**	**260**	*e*P	**Pg**	**08 37 11.2**	**-0.4**
	8.4nm,0.3s						
DJR				*e*S	**Sg**	**08 37 36.2**	**+2.8**
	11nm,0.2s						

KOTS				*e*S	**Sg**	**08 38 42.6**	**-1.0**
	15nm,0.3s						
KOTS	**Kotyrbulak**	**3.88**	**250**	Pg	**Pb**	**08 37 49.6**	**+1.9**
	10nm,0.3s						
KOTS				Lg	Lg	08 38 42.6	
	15nm,0.3s						
MDOK	**Medeo**	**3.95**	**250**	Pg	**Pb**	**08 37 50.7**	**+1.8**
	3.6nm,0.2s						
MDOK				Lg	Lg	08 38 44.5	
	3.0nm,0.2s						
KTBS	**Karatobe**	**4.01**	**258**	*e*P	**Pb**	**08 37 52.3**	**+2.3**
	2.0nm,0.4s						
KTBS				*e*S	**Sg**	**08 38 46.8**	**-1.2**
	8.3nm,0.5s						
KTBS	**Karatobe**	**4.01**	**258**	Pg	**Pb**	**08 37 52.3**	**+2.3**
	2.0nm,0.4s						
KTBS				Lg	Lg	08 38 46.8	
	8.3nm,0.5s						
TNSS	**Tian-Shan**	**4.07**	**248**	*e*P	**Pb**	**08 37 53.4**	**+2.3**
	2.6nm,0.4s						
TNSS				*e*S	**Sg**	**08 38 49.1**	**-0.7**
	3.8nm,0.5s						
TNSS	**Tian-Shan**	**4.07**	**248**	Pg	**Pb**	**08 37 53.4**	**+2.3**
	2.6nm,0.4s						
TNSS				Lg	Lg	08 38 49.1	
	3.8nm,0.5s						
KUU	**Kurty**	**4.21**	**262**	*e*P	**Pb**	**08 37 55.7**	**+2.4**
	2.0nm,0.4s						
KUU				*e*S	**Sg**	**08 38 52.7**	**-1.7**
	4.3nm,0.3s						
KUU	**Kurty**	**4.21**	**262**	Pg	**Pb**	**08 37 55.7**	**+2.4**
	2.0nm,0.4s						
KUU				Lg	Lg	08 38 52.7	
	4.3nm,0.3s						
KURBB	**Kurchatov Arra**	**6.45**	**339**	⇑Pn	**Pn**	**08 38 13.0**	**-1.1**
	1.9nm,0.9s						
KURBB				⇑Sn	**Sn**	**08 39 25.6**	**-2.1**
	2.2nm,0.7s						
KURBB				⇑Lg	Lg	08 40 00.7	
	4.1nm,0.6s						

TEH ***23*** *08:42:24.3, 32˚.71N × 47˚.46E, h10km, ML2.8*
ISN ***23*** *08:42:24.0±0.7, 32˚.70N × 47˚.47E, h14km±5km, ML2.6*
ISC 23 08:42:24.3±1.4**, 32˚.72N**±0˚.06**×47˚.49E**±0˚.05**, h9**km±11km**,**
n12, σ0**s56**/15**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.18**	**258**	*e*Pg	**Pg**	**08 42 28.0**	**-0.1**
IKFM	**Kafar-mosalman**	**0.86**	**20**	*e*Pg	**Pn**	**08 42 42.3**	**-0.2**
IKFM				*e*		08 42 59.5	
IKMR	**Kamar-syah**	**1.09**	**43**	*e*Pg	**Pn**	**08 42 45.5**	**-0.3**
IKMR				*e*		08 43 07.2	
IDOB	**Doab**	**1.21**	**28**	*e*Pg	**Pg**	**08 42 47.9**	**+0.3**
IDOB				*e*		08 43 07.5	
IBDR	**Badra**	**1.37**	**287**	*e*Pg	**Pn**	**08 42 49.0**	**-0.5**
IBDR				*e*Sg	**Sn**	**08 43 07.0**	**-0.8**
IBDR				AML	AML	08 43 14.1	
	comp=E,160nm,0.5s						
IBDR				AML	AML	08 43 15.3	
	comp=N,99nm,0.8s						
IKOM	**Komasi**	**1.45**	**1**	*e*Pg	**Pg**	**08 42 52.1**	**-0.1**
IKOM				*e*		08 42 54.6	
BMDN	**Meydan**	**1.47**	**49**	*e*Pg	**Pb**	**08 42 52.3**	**+0.4**
BMDN				*e*		08 43 21.4	
HSAM	**Samen**	**1.76**	**32**	*e*Pn	**Pg**	**08 42 57.9**	**-0.1**
HSAM				*e*		08 43 27.8	
IBZA	**Bozab**	**1.77**	**10**	*e*Pg	**Pg**	**08 42 58.0**	**-0.4**
IBZA				*e*		08 43 25.8	
IVIS	**Veis**	**1.88**	**344**	*e*Pg	**Pg**	**08 43 00.1**	**-0.3**
IVIS				*e*		08 43 30.3	
NSR	**Nassriya**	**2.05**	**214**	*e*Pn	**Pn**	**08 42 59.0**	**+0.1**
NSR				*e*Sn	**Sn**	**08 43 24.0**	**-0.6**
BHD	**Baghdad**	**2.67**	**283**	*e*Pn	**Pn**	**08 43 08.0**	**+0.6**
BHD				*e*Sn	**Sn**	**08 43 41.0**	**+1.1**

PGC 23 08:56:22.0±0.8**, 50˚.72N**×**130˚.53W, h10**km**, MLSn3.0**/35**,**
Mw3.6/35**, 219km west of Pt. Hardy, Bc Vancouver**
Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.53**	**92**	Pn	Pn	08 56 47.3	-2.1
HOLB				Sn	Sn	08 57 05.4	-4.0
BPBC	**Brooks Peninsu**	**1.85**	**107**	Pn	Pn	08 56 51.5	-2.3
HG3B	**Hotspring**	**1.94**	**343**	Pn	Pn	08 56 52.9	-2.1
HG3B				Sn	Sn	08 57 15.4	-4.1
PACB	**Port Alice, BC**	**1.96**	**97**	Pn	Pn	08 56 53.2	-2.0
PACB				Sn	Sn	08 57 16.1	-3.8
PHC	**Port Hardy**	**1.97**	**89**	Pn	Pn	08 56 53.6	-1.7
PHC				Sn	Sn	08 57 15.7	-4.5
BNB	**Barry Inlet**	**2.01**	**338**	Pn	Pn	08 56 53.9	-2.0
BBB	**Bella Bella**	**2.11**	**45**	Pn	Pn	08 56 55.6	-1.7
BBB				Sn	Sn	08 57 18.7	-4.8
MAYB	**Maynard**	**2.17**	**97**	Pn	Pn	08 56 56.5	-1.7
FHRB	**Fair Harbour**	**2.29**	**106**	Pn	Pn	08 56 58.1	-1.6
EDB	**Eliza Dome**	**2.35**	**110**	Pn	Pn	08 56 58.4	-2.1
TLCB	**Telegraph Cove**	**2.36**	**93**	Pn	Pn	08 56 59.4	-1.3
HG1B	**Mitchell Dam**	**2.43**	**337**	Pn	Pn	08 57 00.8	-0.9
HG1B				Sn	Sn	08 57 29.4	-2.0
WOSB	**Woss**	**2.59**	**101**	Pn	Pn	08 57 02.7	-1.3
NTKA	**Nootka**	**2.76**	**113**	Pn	Pn	08 57 04.3	-1.9
DIB	**Dawson Inlet,**	**2.76**	**335**	Pn	Pn	08 57 04.3	-1.9
DIB				Sn	Sn	08 57 36.9	-2.7
BNAB	**Bonilla**	**2.78**	**359**	Pn	Pn	08 57 04.7	-1.8
BNAB				Sn	Sn	08 57 36.9	-3.2
VIB	**Van Inlet**	**2.82**	**335**	Pn	Pn	08 57 05.3	-1.9
VIB				Sn	Sn	08 57 37.5	-3.8
NCRB	**Newcastle Ridg**	**2.87**	**95**	Pn	Pn	08 57 06.3	-1.6
ETB	**Estevan Point**	**2.91**	**116**	Pn	Pn	08 57 06.8	-1.4
GDR	**Gold River**	**3.04**	**106**	Pn	Pn	08 57 08.5	-1.6
SPLB	**Strathcona Par**	**3.24**	**103**	Pn	Pn	08 57 12.1	-0.7
TOFB	**Tofino**	**3.37**	**116**	Pn	Pn	08 57 13.5	-1.2
CBB	**Campbell River**	**3.38**	**100**	Pn	Pn	08 57 13.5	-1.2
BTB	**Buttle Lake**	**3.46**	**109**	Pn	Pn	08 57 14.8	-1.2
MWAB	**Mount Washingt**	**3.50**	**104**	Pn	Pn	08 57 15.9	-0.6
KITB	**Kitimat**	**3.56**	**18**	Pn	Pn	08 57 16.1	-1.1
KITB				Sn	Sn	08 57 55.6	-3.6
RUBB	**Prince Rupert**	**3.62**	**3**	Pn	Pn	08 57 17.3	-0.7
B012	**Ucluelet**	**3.70**	**117**	Sn	Sn	08 57 59.1	-3.6
OZB	**Mount Ozzard**	**3.71**	**116**	Pn	Pn	08 57 18.3	-1.0
B928	**Bamfield**	**3.98**	**116**	Pn	Pn	08 57 23.0	+0.1
TXB	**Texada**	**4.05**	**102**	Pn	Pn	08 57 23.1	-0.8
MGB	**Mount Grey**	**4.15**	**112**	Pn	Pn	08 57 24.1	-1.4
SHB	**Sechelt**	**4.43**	**102**	Pn	Pn	08 57 28.7	-0.5
YOUB	**Youbou, Lake C**	**4.45**	**112**	Pn	Pn	08 57 29.2	-0.4
NLLB	**Nanaimo Lost L**	**4.48**	**107**	Pn	Pn	08 57 29.8	0.0
PFB	**Port Renfrew**	**4.50**	**116**	Pn	Pn	08 57 29.5	-0.8
OCP	**Olym-Cheeka Pk**	**4.55**	**120**	Pn	Pn	08 57 30.5	-0.3
WPB	**Watts Point**	**4.83**	**100**	Pn	Pn	08 57 34.5	-0.1
BIB	**Bowen Island**	**4.84**	**103**	Pn	Pn	08 57 33.8	-1.0
GOBB	**Galiano Island**	**4.88**	**109**	Pn	Pn	08 57 34.6	-0.7
OBC	**Olympics--Boni**	**5.00**	**120**	Pn	Pn	08 57 37.5	+0.5
B009	**North Saanich**	**5.04**	**112**	Sn	Sn	08 58 33.9	-1.9
B010	**North Saanich**	**5.04**	**112**	Pn	Pn	08 57 38.2	+0.6
B010				Sn	Sn	08 58 33.7	-2.1
PGC	**Sidney**	**5.04**	**112**	Pn	Pn	08 57 37.7	+0.2
PGC				Sn	Sn	08 58 32.9	-2.9
FSB	**Fort Saint Jam**	**5.33**	**43**	Pn	Pn	08 57 41.5	-0.1
BMBC	**Bull Mountain**	**7.33**	**40**	Pn	Pn	08 58 08.9	-0.1
BMBC				Sn	Sn	08 59 29.7	-2.5
DLBC	**Dease Lake**	**7.74**	**2**	Pn	Pn	08 58 15.8	+1.1
NBC5	**NorthernBC 5**	**8.23**	**31**	Pn	Pn	08 58 22.0	+0.7
NBC5				Sn	Sn	08 59 53.5	-0.9
NBC6	**NorthernBC 6**	**9.51**	**30**	Sn	Sn	09 00 23.7	-1.9

NEIC ***23*** *09:02:35.8±2.0, 3˚.70N±0˚.05×126˚.78E±0˚.07, h35km±2km, mb4.6/39, Error ellipse: s-maj=13.1km s-min=7.5km az=245.0*
IDC ***23*** *09:02:35.7±2.9, 3˚.64N×126˚.58E, h33km±21km, mb3.9/18, mb1 4.0/18, mb1mx3.9/42, mbtmp4.1/18, MS3.3/9, Ms1 3.3/9, ms1mx3.0/47, Error ellipse: s-maj=30.6km s-min=10.4km az=78.0*
DJA ***23*** *09:02:36.8±0.4, 4˚N±4˚×12˚.7E±˚, h10km, M4.4/12, mB5.0/3, mb4.5/7, MLv4.4/12, Mw(mB)4.3/3*
MAN ***23*** *09:02:40.8, 3˚.77N×126˚.32E, h120km, MS4.3*
ISC 23 09:02:38.2±0.4**, 3˚.63N**±0˚.03×**126˚.69E**±0˚.07**, h53**km**, n97,**
σ1s**76**/101**, mb4.5**/43**, MS3.3**/10**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**2.65**	**338**	*e*P	**Pn**	**09 03 15.6**	**-2.8**
DDMP				*e*S	**Sn**	**09 03 50.4**	**+1.1**
TNTI	**Ternate**	**2.92**	**167**	P	**Pn**	**09 03 23.3**	**+1.2**
TNTI	**Ternate**	**2.92**	**167**		**Pn**	**09 03 22.8**	**+0.7**
TNTI				Sn	**Sn**	**09 03 55.6**	**-0.4**
MATI	**Mati**	**3.32**	**353**	*e*P	**Pn**	**09 03 29.8**	**+2.0**
MATI				*e*S	**Sn**	**09 04 12.4**	**+6.4**
SKMP	**Bagumbayan, Su**	**3.58**	**323**	*e*P	**Pn**	**09 03 30.3**	**-0.9**
SKMP				*e*S	**Sn**	**09 04 09.9**	**-2.5**
DAV	**Davao City (W)**	**3.59**	**342**	Sn	**Sn**	**09 04 19.7**	**+7.1**
	105nm,0.3s,baz=90,slow=8.7,SNR=2.0						
DAV	**Davao City (W)**	**3.59**	**342**	Pn	**Pn**	**09 03 27.8**	**-3.6**
DAV				Sn	**Sn**	**09 04 14.4**	**+1.7**
KCP	**Kidapawan**	**3.72**	**335**	⇑*i*P	**Pn**	**09 03 35.5**	**+2.4**
LBMI	**Labuha**	**4.31**	**169**	P	**Pn**	**09 03 42.8**	**+1.5**
BUKP	**Musuan**	**4.52**	**339**	*e*P	**Pn**	**09 03 44.8**	**+0.6**
BUKP				*e*S	**Sn**	**09 04 34.5**	**-1.1**
GTOI	**Gorontalo**	**4.73**	**231**	P	**Pn**	**09 03 49.1**	**+2.1**
PAGZ	**Pagadian**	**5.33**	**322**	*e*P	**Pn**	**09 03 55.5**	**+0.2**
PAGZ				*e*S	Sn	09 04 40.5	-15
SANI	**Sanana**	**5.68**	**187**	P	**Pn**	**09 04 01.1**	**+1.0**
	0.2nm20nm,0.8s						
LUWI	**Luwuk**	**6.07**	**220**	P	**Pn**	**09 04 06.7**	**+1.3**
	0.6nm6µm188nm,0.9s						
LUWI	**Luwuk**	**6.07**	**220**	Pn	**Pn**	**09 04 06.3**	**+0.9**
LUWI				Sn	**Sn**	**09 05 16.5**	**+2.9**
NLAI	**Namlea**	**6.83**	**177**	P	**Pn**	**09 04 18.2**	**+2.3**
	0.2nm26nm,0.5s						
MPSI	**Mapaga**	**7.54**	**244**	P	**Pn**	**09 04 26.7**	**+1.2**
	0.1nm18nm,0.8s						
MYLDM	**Lahad Datu**	**8.31**	**281**	Pn	**Pn**	**09 04 33.6**	**-2.5**
FAKI	**Fak Fak**	**8.55**	**139**	Pn	**Pn**	**09 04 39.8**	**+0.3**
KKM	**Kota Kinabalu**	**10.71**	**283**	Pn	**Pn**	**09 05 12.3**	**+3.2**
KAPI	**Kappang**	**11.04**	**219**	LR	LR	09 10 02.9	
	comp=Z,173nm,19.1s,baz=50,slow=41						
KSM	**Kuching**	**16.51**	**263**	Pn	**Pn**	**09 06 25.1**	**-1.2**
MTN	**Manton Dam**	**16.95**	**165**	P	**Pn**	**09 06 29.9**	**-1.9**
JAGI	**Jajag, Banyuwa**	**17.34**	**226**		**P**	**09 06 37.8**	**+0.4**
JAGI				IAmb	IAmb	09 06 51.7	
	comp=Z,60nm,1.2s						
KNRA	**Kununurra**	**19.29**	**174**		**P**	**09 06 59.1**	**+0.3**
KNRA				IAmb	IAmb	09 07 02.2	
	comp=Z,12nm,0.5s						
YULB	**Yu-li**	**20.33**	**346**	P	**P**	**09 07 08.3**	**-1.8**
GUMO	**Guam**	**20.50**	**60**	LR	LR	09 13 34.2	
	comp=Z,61nm,21.8s,baz=265,slow=32						
SSLB	**Suanglung**	**20.79**	**345**	P	**P**	**09 07 14.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	**P**	**09 07 22.8**	**-1.1**
	comp=Z,24nm,0.5s,baz=25,slow=9.4,SNR=5.7						
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	**P**	**09 07 24.0**	**+0.1**
LEM	**Lembang**	**21.69**	**241**	LR	LR	09 15 47.7	
	comp=Z,107nm,21.8s,baz=98,slow=37						
WB0	**Warramunga Arr**	**24.45**	**162**	P	**P**	**09 07 52.1**	**-0.1**
WB0				IAmb	IAmb	09 07 52.9	
	comp=Z,21nm,1.1s						
WRAB	**Tennant Creek**	**24.59**	**162**	P	**P**	**09 07 53.1**	**-0.5**
WRAB				IAmb	IAmb	09 07 54.5	
	comp=Z,20nm,1.1s						
WRA	**Warramunga Arr**	**24.60**	**162**	P	**P**	**09 07 53.0**	**-0.5**
	comp=Z,5.3nm,0.3s,baz=344,slow=10.0,SNR=58						
WRA				S	**S**	**09 12 15.2**	**+4.0**
	comp=Z,1.2nm,0.9s,baz=337,slow=16,SNR=5.2						
WRA				ScP	**ScP**	**09 15 06.5**	**+1.4**
	comp=Z,0.5nm,0.9s,baz=346,slow=3.0,SNR=2.4						
WB2	**Warramunga Arr**	**24.60**	**162**	P	**P**	**09 07 53.4**	**-0.2**
WB2				IAmb	IAmb	09 07 57.6	
	comp=Z,13nm,0.8s						
WR0	**Warramunga Arr**	**24.68**	**162**	P	**P**	**09 07 54.2**	**-0.1**
WR0				IAmb	IAmb	09 07 55.8	
	comp=Z,13nm,1.0s						
PSAC2	**Pilbara Seismi**	**25.90**	**195**	P	**P**	**09 08 06.5**	**+1.1**
PSAC2				IAmb	IAmb	09 08 07.0	
	comp=Z,16nm,1.2s						
PSAB2	**Pilbara Seismi**	**25.91**	**195**	P	**P**	**09 08 06.2**	**+0.8**
PSAB2				IAmb	IAmb	09 08 08.9	
	comp=Z,8.3nm,0.7s						
PSAA2	**Pilbara Seismi**	**25.92**	**195**	P	**P**	**09 08 06.2**	**+0.7**
PSAA2				IAmb	IAmb	09 08 10.8	
	comp=Z,13nm,1.0s						
PSA00	**Pilbara Seismi**	**25.93**	**195**	P	**P**	**09 08 06.9**	**+1.3**
PSA00				IAmb	IAmb	09 08 11.5	
	comp=Z,9.1nm,0.8s						
PSAB1	**Pilbara Seismi**	**25.93**	**195**	P	**P**	**09 08 07.0**	**+1.4**
PSAB1				IAmb	IAmb	09 08 21.1	
	comp=Z,20nm,1.2s						
KRVT	**Keravat (AS076**	**26.51**	**107**	LR	LR	09 16 39.9	
	comp=Z,112nm,21.0s,baz=290,slow=32						
JCJ	**Chichijima**	**27.64**	**31**	LR	LR	09 17 24.6	
	comp=Z,44nm,20.5s,baz=136,slow=32						
AS31	**Alice Springs**	**28.02**	**166**	P	**P**	**09 08 23.5**	**-1.0**
ASAR	**Alice Springs**	**28.03**	**166**	P	**P**	**09 08 24.4**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=346,slow=13,SNR=34						
ASAR				PcP	**PcP**	**09 11 39.2**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=355,slow=2.2,SNR=4.6						
ASAR				S	**S**	**09 13 06.2**	**+0.8**
	comp=Z,0.7nm,1.0s,baz=345,slow=14,SNR=3.4						
GIRL	**Giralia**	**28.81**	**204**	P	**P**	**09 08 30.9**	**-0.5**
NJ2	**Nanjing**	**29.22**	**346**	*e*P	**P**	**09 08 35.4**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
JNU	**Nakatsue**	**29.60**	**7**	P	**P**	**09 08 36.9**	**-1.5**
JNU				IAmb	IAmb	09 08 50.5	
	comp=Z,11nm,1.3s						
CMAR	**Chiang Mai Arr**	**30.89**	**301**	P	**P**	**09 08 50.0**	**0.0**
	comp=Z,0.7nm,0.5s,baz=106,slow=7.0,SNR=5.0						
JHJ	**Hachijo jima 2**	**31.79**	**21**	LR	LR	09 20 58.5	
	comp=Z,39nm,19.9s,baz=276,slow=35						
KSRS	**Korea Array**	**33.68**	**2**	P	**P**	**09 09 14.2**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=180,slow=9.1,SNR=7.5						
KSRS				LR	LR	09 22 57.1	
	comp=Z,33nm,21.8s,baz=202,slow=36						
MORW	**Morawa**	**34.08**	**197**	P	**P**	**09 09 17.4**	**-0.3**
MORW				IAmb	IAmb	09 09 22.7	
	comp=Z,12nm,1.1s						
FORT	**Forrest**	**34.24**	**178**	P	**P**	**09 09 18.1**	**-0.9**
BBOO	**Buckleboo**	**37.31**	**167**	P	**P**	**09 09 45.8**	**+0.4**
NWAO	**Narrogin (SRO)**	**37.45**	**193**	P	**P**	**09 09 45.0**	**-1.4**
NWAO	**Narrogin (SRO)**	**37.45**	**193**	P	**P**	**09 09 45.0**	**-1.4**
BJT	**Baijiatuan**	**37.46**	**347**	P	**P**	**09 09 45.5**	**-1.0**
BJI	**Beijing**	**37.48**	**347**	P	**P**	**09 09 48.4**	**+1.8**
BJI				pmax	pmax		
	comp=Z,13nm,0.5s						
STKA	**Stephens Creek**	**38.05**	**159**	P	**P**	**09 09 51.3**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=337,slow=7.4,SNR=9.4						
STKA	**Stephens Creek**	**38.05**	**159**	P	**P**	**09 09 51.7**	**+0.1**
LZH	**Lanzhou**	**38.57**	**330**	*e*P	**P**	**09 09 56.4**	**+0.2**
LZH				pP	pP	09 10 05.8	-3.3
LZH				sP	sP	09 10 11.3	-3.7
LZH				PP	**PnPn**	**09 11 30.6**	**+2.9**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				pmax	pmax		
	comp=Z,89nm,4.3s						
LZH				LR	LR		
	comp=N,260nm,15.1s						
LZH				LR	LR		
	comp=E,270nm,14.3s						
LZH				LR	LR		
	comp=Z,460nm,16.5s						
HHC	**Hu-ho-hao-te**	**39.48**	**342**	*e*P	**P**	**09 10 03.5**	**-0.1**
HHC				pmax	pmax		
	comp=Z,23nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,5.4s						
CN2	**Changchun**	**40.02**	**359**	*e*P	**P**	**09 10 08.1**	**+0.2**
USRK	**Ussuriysk Ar.**	**40.67**	**6**	P	**P**	**09 10 11.6**	**-1.7**
	comp=Z,1.0nm,0.5s,baz=193,slow=8.3,SNR=11						
ARMA	**Armidale**	**41.40**	**147**	P	**P**	**09 10 18.1**	**-1.5**
ARMA				IAmb	IAmb	09 10 28.4	
	comp=Z,24nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**41.81**	**66**	T	T	09 54 51.7	
	SNR=12						
H11S1	**WAKE ISLAND Hy**	**41.82**	**66**	T	T	09 54 55.2	
	SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**41.82**	**66**	T	T	09 54 53.2	
	SNR=6.1						
GTA	**Gaotai**	**43.16**	**329**	*e*P	**P**	**09 10 38.6**	**+4.7**
GTA				pP	pP	09 10 45.9	-1.1
GTA				sP	sP	09 10 49.3	-3.6
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KLR	**Kul'dur**	**45.64**	**5**	P	**P**	**09 10 52.8**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=167,slow=19,SNR=3.2						

SONM	**Songino Array**	**47.38**	**341**	P	**P**	**09 11 06.7**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=158,slow=8.5,SNR=5.1						
SONM				PcP	**PcP**	**09 12 35.3**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=151,slow=3.3,SNR=2.1						
WMQ	**Urumqi**	**52.78**	**325**	*e*P	**P**	**09 11 49.0**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,44nm,4.7s						
WMQ				LR	LR		
	comp=N,220nm,25.3s						
WMQ				LR	LR		
	comp=E,270nm,27.9s						
WMQ				LR	LR		
	comp=Z,62nm,27.9s						
PETK	**Petropavlovsk-**	**55.54**	**22**	P	**P**	**09 12 07.8**	**-0.1**
	comp=Z,6.7nm,1.0s,baz=198,slow=5.5,SNR=5.2						
MK31	**Makanchi Array**	**57.62**	**325**	P	**P**	**09 12 21.5**	**-1.4**
MKAR	**Makanchi Array**	**57.62**	**325**	P	**P**	**09 12 21.6**	**-1.3**
	comp=Z,1.8nm,0.4s,baz=120,slow=7.3,SNR=26						
MKAR				PcP	**PcP**	**09 13 17.2**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=135,slow=3.9,SNR=1.1						
TARG	**Taragay, Kyrgy**	**57.80**	**318**	P	**P**	**09 12 22.9**	**-1.8**
MAKZ	**Makanchi**	**57.80**	**325**	P	**P**	**09 12 22.5**	**-1.7**
MAKZ				IAmb	IAmb	09 12 24.9	
	comp=Z,5.2nm,1.2s						
NIL	**Nilore**	**57.96**	**308**	P	**P**	**09 12 24.8**	**-0.7**
KDJ	**Kajisay**	**58.40**	**318**	P	**P**	**09 12 27.3**	**-1.3**
KDJ				IAmb	IAmb	09 12 30.5	
	comp=Z,3.3nm,0.5s						
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	**P**	**09 12 41.5**	**-2.2**
	comp=Z,0.7nm,0.4s,baz=143,slow=5.0,SNR=2.7						
ZALV				LR	LR	09 39 21.2	
	comp=Z,33nm,19.3s,baz=72,slow=36						
KURK	**Kurchatov**	**61.80**	**328**	P	**P**	**09 12 51.0**	**-0.5**
BTK	**Batken**	**61.96**	**314**	P	**P**	**09 12 52.8**	**-0.1**
BTK				IAmb	IAmb	09 12 54.3	
	comp=Z,6.6nm,1.1s						
SEY	**Seymchan**	**62.14**	**13**	P	**P**	**09 12 55.0**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=140,slow=7.9,SNR=1.3						
KK31	**Karatay Array**	**63.28**	**317**	P	**P**	**09 13 00.9**	**-0.7**
KK31				IAmb	IAmb	09 13 03.4	
	comp=Z,6.3nm,1.3s						
KKAR	**Karatay Array**	**63.28**	**317**	P	**P**	**09 13 00.9**	**-0.7**
KKAR				IAmb	IAmb	09 13 03.4	
	comp=Z,6.3nm,1.3s						
BRVK	**Borovoye**	**67.46**	**327**	P	**P**	**09 13 27.8**	**-0.6**
BRVK				IAmb	IAmb	09 13 29.8	
	comp=Z,7.6nm,1.2s						
NRIK	**Noril'sk**	**70.52**	**346**	P	**P**	**09 13 46.1**	**-0.9**
	comp=Z,3.5nm,0.6s,baz=155,slow=4.3,SNR=4.5						
CASY	**Casey**	**70.71**	**187**	P	**P**	**09 13 48.3**	**+0.1**
CASY				IAmb	IAmb	09 14 06.0	
	comp=Z,8.4nm,1.4s						
ARU	**Arti**	**75.00**	**328**	P	**P**	**09 14 13.1**	**-0.7**
MAW	**Mawson**	**83.65**	**200**	P	**P**	**09 15 01.8**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=49,slow=9.7,SNR=2.0						
ILAR	**Eielson Array**	**85.21**	**25**	P	**P**	**09 15 10.1**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=254,slow=6.3,SNR=4.7						
KLMR	**Klimovskoe**	**85.47**	**331**	*e*P	**P**	**09 15 08.0**	**-2.1**
KLMR				AMP		09 15 11.9	
	comp=Z,6.0nm,0.7s						
ARCES	**ARCESS Array B**	**90.53**	**340**	P	**P**	**09 15 32.3**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=82,slow=6.3,SNR=12						
FINES	**FINESS Array B**	**91.90**	**332**	P	**P**	**09 15 39.9**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=80,slow=4.5,SNR=5.6						
NOA	**NORSAR Array B**	**98.86**	**334**	LR	LR	10 06 21.1	
	comp=Z,19nm,18.5s,baz=60,slow=39						
TXAR	**Lajitas Array**	**121.69**	**52**	PKP	**PKiKP**	**09 21 26.9**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=165,slow=3.7,SNR=1.8						
TORD	**Torodi Ar. Bea**	**122.92**	**288**	PKP	**PKPdf**	**09 21 29.1**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=8.1,slow=2.1,SNR=2.5						

NNC ***23*** *10:02:38.7±2.7, 40˚.85N×70˚.35E, h0km, mb3.0, mpv3.1, Error ellipse: s-maj=21.1km s-min=14.1km az=46.0*
SOME ***23*** *10:02:38.9, 40˚.97N×70˚.20E, h5km*
KRNET ***23*** *10:02:41.0±0.1, 40˚.89N×70˚.31E, h14km, mb2.2*
**ISC 23

MUGZ	**Murupara**	**3.89**	**214**	P	Pn	10 12 54.2	-0.3
MUGZ				S	S	10 13 43.7	+0.3
SNGZ	**Shannon Statio**	**3.92**	**206**	P	Pn	10 12 55.2	+0.4
SNGZ				S	S	10 13 44.3	+0.3
RAHZ	**Arahi**	**4.13**	**208**	P	Pn	10 12 57.4	+0.1
RAHZ				S	S	10 13 49.4	+0.8
MTHZ	**Maungataniwha**	**4.17**	**210**	P	Pn	10 12 58.3	+0.5
MTHZ				S	S	10 13 49.4	-0.2
BKZ	**Black Stump Fm**	**4.58**	**211**	P	Pn	10 13 02.2	-0.6
BKZ				S	S	10 13 59.0	+0.5
KWHZ	**Kaweka Forest**	**4.83**	**210**	P	Pn	10 13 05.5	-0.4
BHHZ	**Black Hill Sta**	**5.03**	**212**	P	Pn	10 13 07.5	-0.9
BHHZ				S	S	10 14 09.2	+0.5

IDC ***23*** *10:29:59.4±3.6, 67°.91N×25°.62E, h0km, Error ellipse: s-maj=32.1km s-min=14.5km az=113.0*
HEL ***23*** *10:30:00.1±0.1, 67°.93N×25°.83E, h0km, ML1.5, Explosion*
ISC 23 10:29:58.7±0.9, 67°.95N±0°.04×25°.82E±0°.04, h0km, n11, σ0s46/14, Finland

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SGF	**Sodankyl**	**0.58**	**152**	*e*P	**Pg**	**Pg**	**10 30 10.0**	**+0.3**
SGF				*e*S	**Sg**	**Sg**	**10 30 17.3**	**+0.1**
LANU	**Lannavaara**	**1.45**	**276**	*e*P	**Pn**	**Pn**	**10 30 25.7**	**-0.4**
LANU				*e*S	**Sg**	**Sg**	**10 30 44.6**	**-0.6**
VRF	**Varrio**	**1.45**	**96**	*e*P	**Pn**	**Pn**	**10 30 26.2**	**0.0**
VRF				*e*S	**Sg**	**Sg**	**10 30 44.2**	**-1.0**
VRF				MSG			10 30 45.6	
	comp=Z,3.8nm,0.2s							
ARCES	**ARCESS Array B**	**1.60**	**356**	Pg		**Pb**	**10 30 29.2**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=174,slow=16,SNR=13							
ARCES				Lg		Lg	10 30 50.5	
	comp=Z,1.3nm,0.3s,baz=176,slow=22,SNR=16							
ARE0	**ARCESS Array S**	**1.60**	**356**	*e*P		**Pb**	**10 30 29.1**	**0.0**
ARE0				*e*S		**Sn**	**10 30 49.6**	**+0.1**
KEV	**Kevo**	**1.86**	**13**	*e*PG		**Pb**	**10 30 33.7**	**+0.2**
KEV				*e*SG		**Sg**	**10 30 58.1**	**-0.3**
TOF	**Tornio**	**1.97**	**198**	*e*SG		**Sb**	**10 31 00.4**	**0.0**
TOF				MSG			10 31 02.4	
	comp=Z,2.0nm,0.2s							
KIF	**Kilpisjarvi**	**2.13**	**302**	*e*SB		**Sb**	**10 31 05.8**	**+0.7**
KIF				MSG			10 31 08.1	
	comp=Z,2.3nm,0.2s							
KU6	**Riekki**	**2.51**	**139**	*e*SG		**Sb**	**10 31 16.0**	**+0.1**
I37NO	**I37NO**	**2.89**	**296**	*i*			10 47 40.0	
	baz=112,slow=309,SNR=31							
I18DK	**QAANAAQ INFRAS**	**26.32**	**331**	*i*			13 05 20.0	
	baz=57,slow=327,SNR=2.0							

IDC 23 10:33:34.8±2.2, 23°.57S×66°.15W, h214km±23km, mb3.0/1, mb1 3.0/4, mb1mx2.9/22, mbtmp3.4/4, Error ellipse: s-maj=37.6km s-min=20.2km az=75.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.48**	**345**	P		Pn	10 35 22.0	+0.1
LPAZ				S		S	10 36 47.8	+0.6
	0.2nm,0.3s,baz=168,slow=9.3,SNR=7.3							
CPUP	**Villa Florida**	**8.46**	**111**	P		Pn	10 35 34.0	0.0
	0.1nm,0.3s,baz=224,slow=4.4,SNR=2.6							
	0.2nm,0.3s,baz=292,slow=14,SNR=3.3							
PLCA	**Paso Flores**	**17.52**	**191**	P		P	10 37 24.4	0.0
	0.1nm,0.3s,baz=355,slow=11,SNR=3.2							
TORD	**Torodi Ar. Bea**	**75.68**	**69**	P		P	10 44 57.1	+0.1
	0.2nm,0.4s,baz=257,slow=7.0,SNR=1.9							
MKAR	**Makanchi Array**	**145.69**	**40**	PKPbc		PKPdf	10 52 47.5	-0.1
	0.3nm,0.5s,baz=288,slow=4.5,SNR=4.1							

IDC ***23*** *10:43:53.7±1.0, 7°.25S×155°.14E, h0km, mb4.1/8, mb1 4.3/10, mb1mx4.0/31, mbtmp4.2/10, ML3.9/2, Error ellipse: s-maj=26.2km s-min=22.0km az=93.0*
NEIC ***23*** *10:43:58.2±1.3, 7°.4S±0°.1×155°.36E±0°.07, h35km±2km, mb4.4/9, Error ellipse: s-maj=19.6km s-min=7.0km az=31.0*
ISC 23 10:43:58.9±0.6, 7°.17S±0°.08×155°.26E±0°.06, h35km, n25, σ1s42/30, mb4.3/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.28**	**314**	Pn		Pn	10 45 07.2	+5.7
RABL				Sn		Sn	10 46 02.5	+12
KRVT	**Keravat (AS076**	**4.30**	**311**	Pn		**Pn**	**10 44 59.6**	**-2.2**
	6.2nm,0.3s,baz=242,slow=3.3,SNR=4.4							
KRVT				Sn		**Sn**	**10 45 51.0**	**+0.2**
	11nm,0.3s,baz=52,slow=23,SNR=4.2							
HNR	**Honiara**	**5.15**	**116**	Pn		**Pn**	**10 45 12.3**	**-1.3**
	4.2nm,0.3s,baz=22,slow=18,SNR=1.6							
HNR	**Honiara**	**5.15**	**116**			**Pn**	**10 45 14.7**	**+1.1**
HNR				Sn		**Sn**	**10 46 11.2**	**-0.6**
PMG	**Port Moresby**	**8.32**	**254**	Pn		**Pn**	**10 45 58.6**	**+1.5**
	1.6nm,0.3s,baz=210,slow=15,SNR=2.6							
PMG				Sn		**Sn**	**10 47 27.6**	**-2.3**
	baz=32,slow=23,SNR=2.0							
PMG	**Port Moresby**	**8.32**	**254**			Pn	10 46 00.7	+3.6
PMG				Sn		**Sn**	**10 47 33.5**	**+3.5**
PATS	**Pohnpei**	**14.24**	**12**	Pn		**Pn**	**10 47 20.0**	**+1.7**
WR0	**Warramunga Arr**	**23.78**	**236**	P		**P**	**10 49 07.2**	**-1.3**
WR0				IAmb		IAmb	10 49 08.7	
	comp=Z,13nm,0.8s							
WB0	**Warramunga Arr**	**23.81**	**236**	P		**P**	**10 49 08.1**	**-0.7**
WB0				IAmb		IAmb	10 49 11.6	
	comp=Z,17nm,1.3s							
WRAB	**Tennant Creek**	**23.92**	**236**	P		**P**	**10 49 08.6**	**-1.2**
WRAB				IAmb		IAmb	10 49 10.0	
	comp=Z,15nm,1.0s							
WB2	**Warramunga Arr**	**23.93**	**236**	P		**P**	**10 49 08.6**	**-1.3**
WB2				IAmb		IAmb	10 49 10.1	
	comp=Z,16nm,1.1s							
WRA	**Warramunga Arr**	**23.93**	**236**	P		**P**	**10 49 08.2**	**-1.7**
	comp=Z,8.6nm,0.8s,baz=62,slow=9.9,SNR=24							
WRA				PcP		**PcP**	**10 52 52.7**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=63,slow=2.5,SNR=3.9							
MTN	**Manton Dam**	**24.41**	**255**	P		**P**	**10 49 13.5**	**-0.9**
AS31	**Alice Springs**	**26.25**	**229**	P		**P**	**10 49 30.1**	**-1.0**
ASAR	**Alice Springs**	**26.25**	**229**	P		**P**	**10 49 29.9**	**-1.2**
	comp=Z,3.6nm,0.8s,baz=64,slow=9.0,SNR=40							
ASAR				PcP		**PcP**	**10 52 57.9**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=72,slow=1.7,SNR=1.9							
KNRA	**Kununurra**	**27.29**	**250**	P		**P**	**10 49 38.5**	**-1.9**
KNRA				IAmb		IAmb	10 49 58.1	
	comp=Z,12nm,1.2s							
FITZ	**Fitzroy Crossi**	**30.82**	**247**	P		**P**	**10 50 10.3**	**-1.5**
	comp=Z,3.8nm,0.6s,baz=99,slow=7.7,SNR=16							
FITZ	**Fitzroy Crossi**	**30.82**	**247**	P		**P**	**10 50 10.6**	**-1.2**
ENH	**Enshi**	**57.55**	**313**	P		**P**	**10 53 45.6**	**+0.3**
PETK	**Petropavlovsk-**	**60.08**	**2**	P		**P**	**10 54 03.1**	**+0.7**
	comp=Z,3.2nm,0.9s,baz=165,slow=7.4,SNR=2.4							
CMAR	**Chiang Mai Arr**	**61.10**	**296**	P		**P**	**10 54 09.0**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=128,slow=5.5,SNR=5.6							
SONM	**Songino Array**	**69.63**	**327**	P		**P**	**10 55 05.5**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=134,slow=6.2,SNR=2.6							
MKAR	**Makanchi Array**	**83.71**	**319**	P		**P**	**10 56 24.9**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=103,slow=5.5,SNR=5.7							
MAW	**Mawson**	**84.33**	**203**	P		**P**	**10 56 26.4**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=170,slow=2.3,SNR=5.5							
TORD	**Torodi Ar. Bea**	**153.33**	**285**	PKP		**PKPdf**	**11 03 47.1**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=42,slow=2.1,SNR=2.1							
TORD				PKPbc		**PKPbc**	**11 03 54.0**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=51,slow=2.0,SNR=6.1							

NEIC ***23*** *11:25:16.5±1.4, 15°.9S±0°.1×177°.6W±0°.1, h412km±8km, mb4.2/50, Error ellipse: s-maj=19.9km s-min=14.6km az=155.0*
IDC ***23*** *11:25:16.1±1.5, 15°.69S×177°.72W, h399km±18km, mb3.5/9, mb1 3.8/11, mb1mx3.5/25, mbtmp4.3/11, Error ellipse: s-maj=30.4km s-min=11.4km az=148.0*
ISC 23 11:25:15.7±0.5, 15°.87S±0°.09×177°.66W±0°.07, h400km, n77, σ0s90/77, mb4.2/32, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.51**	**245**	P		Pn	11 26 39.4	+6.6
AFI	**Afiamalu**	**6.01**	**72**	P		**Pn**	**11 26 48.7**	**+0.2**
	12nm,0.3s,baz=318,slow=12,SNR=18							
AFI				S		**S**	**11 28 04.7**	**+0.6**
	1.2nm,0.3s,baz=267,slow=17,SNR=2.0							
AFI	**Afiamalu**	**6.01**	**72**			**Pn**	**11 26 49.5**	**+1.0**
AFI						**S**	**11 28 05.9**	**+1.8**
NIUE	**Niue**	**8.04**	**115**	P		**P**	**11 27 12.0**	**+0.5**
NIUE				S		**S**	**11 28 46.5**	**+0.9**
DZM	**Mont Dzumac**	**16.25**	**245**	P		**P**	**11 28 44.5**	**+2.7**
	0.2nm,0.3s,baz=98,slow=14,SNR=2.5							
OUZ	**Omahuta**	**20.81**	**201**	P		**P**	**11 29 29.5**	**+2.2**
URZ	**Urewera**	**22.78**	**191**	P		**P**	**11 29 44.2**	**-1.0**
BKZ	**Black Stump Fm**	**23.77**	**191**	P		**P**	**11 29 53.2**	**-1.1**
QRZ	**Quartz Range**	**26.29**	**197**	P		**P**	**11 30 15.7**	**-1.0**
PLWZ	**Palliser**	**26.34**	**192**	P		**P**	**11 30 16.4**	**-0.6**
TUWZ	**Tuamarina**	**26.49**	**194**	P		**P**	**11 30 17.7**	**-0.7**
THZ	**Tophouse**	**27.06**	**196**	P		**P**	**11 30 22.9**	**-0.6**
LTZ	**Lake Taylor**	**28.18**	**196**	P		**P**	**11 30 32.6**	**-0.8**
LTZ				IAmb		IAmb	11 30 53.5	
	comp=Z,21nm,1.4s							
OXZ	**Oxford**	**28.75**	**196**	P		**P**	**11 30 37.3**	**-1.0**
OXZ				IAmb		IAmb	11 30 39.2	
	comp=Z,18nm,1.2s							
RPZ	**Rata Peaks**	**29.38**	**197**	P		**P**	**11 30 43.7**	**-0.2**
RPZ				IAmb		IAmb	11 31 10.7	
	comp=Z,12nm,1.0s							
FOZ	**Fox Glacier**	**29.57**	**199**	P		**P**	**11 30 44.7**	**-0.8**
FOZ				IAmb		IAmb	11 31 07.4	
	comp=Z,24nm,1.1s							
WKZ	**Wanaka**	**30.99**	**199**	P		**P**	**11 30 57.1**	**-0.7**
MLZ	**Mavora Lakes**	**31.75**	**199**	P		**P**	**11 31 04.6**	**+0.1**
MLZ				IAmb		IAmb	11 31 20.8	
	comp=Z,27nm,1.3s							
WHZ	**Wether Hill Ro**	**32.28**	**199**	P		**P**	**11 31 08.5**	**-0.4**
TOO	**Toolangi**	**39.03**	**229**	P		**P**	**11 32 05.4**	**-0.4**
TOO				IAmb		IAmb	11 32 26.3	
	comp=Z,18nm,1.4s							
STKA	**Stephens Creek**	**40.27**	**239**	P		**P**	**11 32 15.7**	**-0.2**
	comp=Z,1.8nm,0.4s,baz=80,slow=9.2,SNR=6.7							
STKA	**Stephens Creek**	**40.27**	**239**	P		**P**	**11 32 16.8**	**+0.9**
BBOO	**Buckleboo**	**45.04**	**239**	P		**P**	**11 32 54.0**	**+0.2**
BBOO				IAmb		IAmb	11 33 03.5	
	comp=Z,16nm,1.2s							
PTCN	**Pitcairn Islan**	**45.30**	**110**	P		**P**	**11 32 52.3**	**-3.6**
WR0	**Warramunga Arr**	**45.55**	**257**	P		**P**	**11 32 57.6**	**-0.4**
WB0	**Warramunga Arr**	**45.70**	**258**	P		**P**	**11 32 58.6**	**-0.5**
WB2	**Warramunga Arr**	**45.73**	**257**	P		**P**	**11 32 59.1**	**-0.2**
WRAB	**Tennant Creek**	**45.73**	**257**	P		**P**	**11 32 59.1**	**-0.2**
WRA	**Warramunga Arr**	**45.74**	**257**	P		**P**	**11 32 59.7**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=99,slow=6.1,SNR=24							
AS31	**Alice Springs**	**46.07**	**252**	P		**P**	**11 33 02.3**	**+0.4**
ASAR	**Alice Springs**	**46.07**	**252**	P		**P**	**11 33 02.9**	**+1.0**
	comp=Z,6.5nm,0.4s,baz=86,slow=8.3,SNR=130							
MTN	**Manton Dam**	**49.61**	**266**	P		**P**	**11 33 28.2**	**-0.6**
MTN				IAmb		IAmb	11 33 43.5	
	comp=Z,15nm,1.4s							
FORT	**Forrest**	**51.55**	**243**	P		**P**	**11 33 42.2**	**-0.7**
FORT				IAmb		IAmb	11 33 46.0	
	comp=Z,12nm,1.1s							
VNDA	**Vanda**	**62.53**	**185**	P		**P**	**11 34 59.5**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=6.7,slow=8.0,SNR=2.3							
PETK	**Petropavlovsk-**	**71.91**	**345**	P		**P**	**11 35 55.9**	**-0.5**
	comp=Z,4.6nm,0.9s,baz=131,slow=8.7,SNR=9.3							
KMRM	**Mail Ridge**	**74.99**	**40**	P		**P**	**11 36 16.0**	**+1.4**
CMB	**Columbia Colle**	**75.86**	**43**	P		**P**	**11 36 20.2**	**+0.7**
KDAK	**Kodiak Island**	**76.26**	**14**	P		**P**	**11 36 21.4**	**+0.3**
KDAK				IAmb		IAmb	11 36 21.9	
	comp=Z,5.2nm,0.9s							
PNTR	**Pine Nut**	**76.96**	**43**	P		**P**	**11 36 25.6**	**-0.2**
PNTR				IAmb		IAmb	11 36 27.3	
	comp=Z,4.1nm,0.8s							
NVAR	**Mina Array Bea**	**77.46**	**44**	P		**P**	**11 36 29.1**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=228,slow=9.0,SNR=13							
KVN	**Kaiserville**	**77.92**	**43**	P		**P**	**11 36 30.9**	**-0.2**
KVN				IAmb		IAmb	11 36 32.3	
	comp=Z,4.0nm,1.1s							
TPNV	**Topopah Spring**	**78.09**	**46**	P		**P**	**11 36 32.2**	**+0.2**
TPNV				IAmb		IAmb	11 36 33.0	
	comp=Z,3.1nm,0.8s							
K05A	**Summer Lake**	**78.17**	**39**	P		**P**	**11 36 32.9**	**+0.7**
RSO	**Redoubt South**	**78.66**	**12**	P		**P**	**11 36 35.3**	**+0.7**
GLB	**Gilahina Butte**	**81.61**	**16**	P		**P**	**11 36 49.8**	**-0.1**
BALM	**Baldy**	**81.67**	**17**	P		**P**	**11 36 49.9**	**-0.4**
BALM				IAmb		IAmb	11 36 50.6	
	comp=Z,3.8nm,0.9s							
RND	**Reindeer**	**82.13**	**13**	P		**P**	**11 36 52.3**	**-0.2**
RND				IAmb		IAmb	11 36 52.8	
	comp=Z,2.8nm,0.6s							
HLID	**Hailey**	**82.62**	**41**	P		**P**	**11 36 56.0**	**+0.4**
TMUT	**Trail Mountain**	**82.70**	**46**	P		**P**	**11 36 56.8**	**+0.5**
WRH	**Wood River Hil**	**83.23**	**12**	P		**P**	**11 36 57.2**	**-0.8**
WRH				IAmb		IAmb	11 36 58.7	
	comp=Z,9.8nm,1.2s							
RIDG	**Independent Ri**	**83.31**	**14**	P		**P**	**11 36 58.2**	**-0.4**
RIDG				IAmb		IAmb	11 36 58.8	
	comp=Z,4.0nm,1.0s							
DOT	**Dot Lake**	**83.42**	**14**	P		**P**	**11 36 58.8**	**-0.2**
DOT				IAmb		IAmb	11 36 58.9	
	comp=Z,4.3nm,0.7s							
HDA	**Harding Lake**	**83.42**	**13**	P		**P**	**11 36 57.7**	**-1.2**
NEW	**Newport**	**83.44**	**36**	P		**P**	**11 36 59.2**	**-0.4**
CCB	**Clear Creek Bu**	**83.44**	**12**	P		**P**	**11 36 58.3**	**-0.8**
CCB				IAmb		IAmb	11 36 58.9	
	comp=Z,5.0nm,0.7s							
MDM	**Murphy Dome**	**83.63**	**12**	P		**P**	**11 36 58.8**	**-1.2**
MDM				IAmb		IAmb	11 36 59.9	
	comp=Z,5.7nm,1.0s							
IL31		**83.75**	**13**	P		**P**	**11 36 59.5**	**-1.0**
IL31				IAmb		IAmb	11 37 00.6	
	comp=Z,3.9nm,0.8s							
ILAR	**Eielson Array**	**83.75**	**13**	P		**P**	**11 36 59.6**	**-1.0**
	comp=Z,2.6nm,0.7s,baz=220,slow=5.3,SNR=29							
MCMT	**McKenzie Canyo**	**84.22**	**40**	P		**P**	**11 37 04.5**	**+0.8**
TX31	**Lajitas Ar. Si**	**84.30**	**58**	P		**P**	**11 37 03.7**	**-0.6**
TXAR	**Lajitas Array**	**84.30**	**58**	P		**P**	**11 37 05.8**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=221,slow=7.1,SNR=17							
DAWY	**Dawson**	**84.94**	**16**	P		**P**	**11 37 06.4**	**-0.2**
IMW	**Indian Meadow**	**84.99**	**42**	P		**P**	**11 37 07.3**	**-0.4**
IMW				IAmb		IAmb	11 37 08.8	
	comp=Z,2.1nm,0.6s							
EGAK	**Eagle**	**85.06**	**15**	P		**P**	**11 37 07.2**	**0.0**
EGAK				IAmb		IAmb	11 37 08.2	
	comp=Z,5.8nm,1.4s							
YHL	**Hebgen Lake**	**85.28**	**41**	P		**P**	**11 37 09.4**	**+0.3**
PD31	**Pinedale Array**	**85.38**	**43**	P		**P**	**11 37 09.0**	**-0.5**
PDAR	**Pinedale Array**	**85.38**	**43**	P		**P**	**11 37 09.3**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=216,slow=4.3,SNR=12							
ARCES	**ARCESS Array B**	**124.44**	**350**	PKP		**PKPdf**	**11 43 26.9**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=18,slow=1.6,SNR=11							
CLL	**Collm**	**143.62**	**349**	*e*PKPdf		PKPbc	11 44 02.0	+0.2
BRTR	**Keskin Array B**	**143.82**	**317**	PKP		PKPbc	11 44 03.3	+0.3
	comp=Z,3.8nm,0.8s,baz=79,slow=2.6,SNR=16							
GERES	**GERESS Array B**	**145.82**	**347**	PKPbc		**PKPbc**	**11 44 08.4**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=9.5,slow=3.2,SNR=9.0							
PRED	**Cave del Predi**	**148.11**	**345**	PKPab		**PKPab**	**11 44 18.6**	**-0.7**
STAL	**STALIGIAL**	**148.48**	**346**	PKPbc		**PKPbc**	**11 44 15.6**	**-0.5**
CIMO	**Cimolais**	**148.50**	**347**	PKPbc		**PKPbc**	**11 44 15.6**	**-0.5**
FUORN	**Ofenpass-Fuorn**	**148.63**	**349**			**PKPbc**	**11 44 16.9**	**+0.2**
BNI	**Bardonecchia**	**150.68**	**354**	PKPbc		**PKiKP**	**11 44 22.1**	**0.0**
ZCCA	**Zocca**	**150.68**	**347**	PKPbc		**PKiKP**	**11 44 22.3**	**+0.4**

TEH ***23*** *11:35:53.4, 32°.66N×47°.57E, h10km, ML2.8*
ISN ***23*** *11:35:53.6±1.1, 32°.69N×47°.55E, h15km±5km, ML2.6*
ISC 23 11:35:55.5±1.1, 32°.69N±0°.06×47°.53E±0°.05, h23km, n9, σ1s45/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.21**	**267**	*e*Pg		**Pb**	**11 35 58.6**	**-2.4**
DHL1				*e*			11 36 04.6	
IDOB	**Doab**	**1.22**	**26**	*e*Pg		**Pn**	**11 36 16.7**	**-0.7**
IDOB				*e*			11 36 20.0	
IBDR	**Badra**	**1.41**	**288**	*e*Pg		**Pn**	**11 36 19.0**	**-0.7**
IBDR				*e*Sg		**Sb**	**11 36 39.0**	**+0.4**
IBDR				AML		AML	11 36 45.3	
	comp=N,126nm,0.8s							
IBDR				AML		AML	11 36 47.7	
	comp=E,80nm,0.4s							
BMDN	**Meydan**	**1.46**	**48**	*e*Pg		**Pb**	**11 36 20.8**	**-1.3**
BMDN				*e*			11 36 48.6	
IKOM	**Komasi**	**1.48**	**359**	*e*Pn		**Pb**	**11 36 21.4**	**-1.0**
IKOM				*e*			11 36 22.9	
HSAM	**Samen**	**1.76**	**30**	*e*Pn		**Pb**	**11 36 26.9**	**-0.4**
HSAM				*e*			11 36 54.6	
NSR	**Nassriya**	**2.05**	**216**	*e*Pn		**Pn**	**11 36 29.0**	**+0.5**
NSR				*e*Sn		**Sn**	**11 36 54.0**	**+0.6**
BHD	**Baghdad**	**2.71**	**283**	*e*Pn		**Pn**	**11 36 39.0**	**+1.4**
BHD				*e*Sn		**Sn**	**11 37 12.0**	**+2.4**
IPIR	**Pirpir**	**2.84**	**89**	*e*Pn		**Pn**	**11 36 40.5**	**+0.8**
IPIR				*e*			11 37 25.0	

UPA ***23*** *11:48:39.9±1.9, 8°.85N×77°.56W, h66km±29km, MW3.1*
RSNC ***23*** *11:48:43.1±1.1, 8°.89N×77°.45W, h50km±12km, ML2.3*
ISC 23 11:48:40.2±1.3, 8°.9N±0°.1×77°.58W±0°.03, h62km±12km, n11, σ1s06/20, 1C, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CAP2	**Capurgana**	**0.32**	**138**	*i* PC		**Pn**	**11 48 50.7**	**0.0**
CAP2				*e*S		**Sn**	**11 48 58.5**	**+0.2**
CAPC	**Capurgana**	**0.34**	**139**	*i*P		**Pn**	**11 48 50.7**	**-0.1**
CAPC				*e*S		**Sn**	**11 48 58.5**	**0.0**
CAPC				*i*			11 48 59.5	
	comp=Z,342nm,0.4s							
UPD2	**Meteti**	**0.55**	**232**	*e*P		**Pn**	**11 48 52.9**	**0.0**
UPD2				*e*S		**Sn**	**11 49 02.1**	**0.0**
LCBC	**Los crdobas,**	**1.19**	**92**	*e*P		**Pn**	**11 49 01.6**	**+0.8**
LCBC				*i*			11 49 22.6	
	comp=Z,46nm,0.5s							
CHPO	**Chepo, Panama**	**1.54**	**280**	*e*P		**Pn**	**11 49 05.8**	**+0.3**
CHPO				*e*S		**Sn**	**11 49 26.4**	**+1.8**
UPA	**Univ. de Panam**	**1.94**	**273**	*e*S		**Sn**	**11 49 33.0**	**-1.1**
BCIP	**Isla Barro Col**	**2.25**	**277**	*e*P		**Pn**	**11 49 15.1**	**0.0**
BCIP				*e*S		**Sn**	**11 49 40.4**	**-1.4**
SJCC	**San Jacinto, C**	**2.57**	**67**	*e*P		**Pn**	**11 49 20.7**	**+1.2**
SJCC				*e*S		**Sn**	**11 49 48.6**	**-1.0**
SJCC				*i*			11 49 51.7	
	comp=Z,9.0nm,0.5s							
SJCC	**San Jacinto, C**	**2.57**	**67**	*e*P		**Pn**	**11 49 20.7**	**+1.2**
SJCC				*e*S		**Sn**	**11 49 47.8**	**-1.8**
ZARC	**Zaragoza, Cauc**	**3.03**	**117**	*e*P		**Pn**	**11 49 27.0**	**+1.3**
ZARC				*e*S		**Sn**	**11 50 00.0**	**-0.8**
ZARC				*i*			11 50 03.8	
	comp=Z,10nm,0.2s							
SMLC	**San Martn de**	**3.46**	**91**	*e*P		**Pn**	**11 49 31.8**	**+0.1**
SMLC				*e*S		**Sn**	**11 50 10.3**	**-1.2**
SMLC				*i*			11 50 21.1	
	comp=Z,11nm,0.3s							

IDC ***23*** *12:22:11.3±1.3, 0°.55N×146°.47E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.7/43, mbtmp3.9/7, ML2.9/1, MS3.2/6, Ms1 3.2/6, ms1mx2.8/34, Error ellipse: s-maj=43.9km s-min=20.6km az=112.0*
NEIC ***23*** *12:22:13.5±0.5, 0°.6N±0°.1×146°.34E±0°.09, h14km±8km, mb4.1/6, Error ellipse: s-maj=20.6km s-min=13.7km az=179.0*
ISC 23 12:22:12.9±0.8, 0°.5N±0°.1×146°.4E±0°.1, h10km, n21, σ0s57/15, mb4.0/10, MS3.1/4, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.42**	**242**	Pn		**Pn**	**12 23 46.9**	**-0.7**
	0.3nm,0.3s,baz=84,slow=18,SNR=1.2							
JAY				Sn		Sn	12 24 50.3	-11
	0.5nm,0.3s,baz=331,slow=24,SNR=1.7							
JAY				LR		LR	12 25 52.7	
	comp=Z,135nm,20.1s,baz=354,slow=34							
PMG	**Port Moresby**	**9.89**	**175**	Pn		**Pn**	**12 24 35.2**	**-0.1**
PATS	**Pohnpei**	**13.46**	**62**	Pn		**Pn**	**12 25 24.3**	**+0.1**
HNR	**Honiara**	**16.75**	**127**	LR		LR	12 31 37.9	
	comp=Z,126nm,21.0s,baz=292,slow=34							
DAV	**Davao City (W)**	**21.73**	**288**	LR		LR	12 34 50.4	
	comp=Z,42nm,18.6s,baz=163,slow=35							
WB0	**Warramunga Arr**	**23.34**	**210**	P		**P**	**12 27 22.0**	**+0.5**
WB0				IAmb		IAmb	12 27 40.1	
	comp=Z,6.8nm,1.2s							
WR0	**Warramunga Arr**	**23.43**	**209**	P		**P**	**12 27 22.7**	**+0.3**
WR0				IAmb		IAmb

KNRA					IAmb	IAmb	13 46 52.9	
	comp=Z,6.8nm,1.1s							
AS31	**Alice Springs**	**22.14**	**214**	P	**P**		**13 46 49.0**	**+0.1**
ASAR	**Alice Springs**	**22.14**	**214**	P	**P**		**13 46 49.9**	**+1.0**
	comp=Z,3.8nm,0.7s,baz=49,slow=8.5,SNR=49							
ASAR				S	**S**		**13 50 37.2**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=35,slow=23,SNR=2.0							
FITZ	**Fitzroy Crossi**	**24.50**	**237**	P	**P**		**13 47 10.8**	**+0.5**
	comp=Z,5.9nm,0.5s,baz=50,slow=10,SNR=47							
FITZ	**Fitzroy Crossi**	**24.50**	**237**	P	**P**		**13 47 10.8**	**+0.5**
ARMA	**Armidale**	**25.14**	**171**	P	**P**		**13 47 17.9**	**+1.8**
ARMA				IAmb	IAmb		13 47 37.7	
	comp=Z,6.3nm,1.0s							
STKA	**Stephens Creek**	**26.76**	**191**	P	**P**		**13 47 30.7**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=31,slow=11,SNR=1.9							
STKA	**Stephens Creek**	**26.76**	**191**	P	**P**		**13 47 29.1**	**-1.4**
BBOO	**Buckleboo**	**29.09**	**200**	P	**P**		**13 47 50.6**	**-0.6**
CAN	**Canberra**	**29.73**	**177**	P	**P**		**13 47 56.7**	**-0.1**
CAN				IAmb	IAmb		13 48 03.8	
	comp=Z,8.4nm,1.1s							
FORT	**Forrest**	**30.93**	**213**	P	**P**		**13 48 06.7**	**-0.6**
VNDA	**Vanda**	**72.40**	**177**	P	**P**		**13 53 13.8**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=353,slow=5.0,SNR=2.6							
MAW	**Mawson**	**82.78**	**203**	P	**P**		**13 54 10.5**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=55,slow=16,SNR=1.5							
ILAR	**Eielson Array**	**84.94**	**23**	P	**P**		**13 54 21.3**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=265,slow=5.3,SNR=3.0							

IDC 23 13:42:54.1±2.1, 1°81N×127°37E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/38, mbtmp3.7/3, Error ellipse: s-maj=164.9km s-min=24.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.67**	**163**	P	P	13 47 56.4	-0.9
	1.8nm,0.5s,baz=342,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**26.11**	**166**	P	P	13 48 30.6	+0.7
	0.3nm,0.4s,baz=344,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**59.49**	**326**	P	P	13 52 59.1	0.0
	0.6nm,0.5s,baz=120,slow=8.3,SNR=9.7						

IDC 23 13:46:08.2±2.2, 1°47N×125°97E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/35, mbtmp3.2/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/20, Error ellipse: s-maj=193.0km s-min=28.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.81**	**159**	P	P	13 51 12.3	-0.5
	0.5nm,0.5s,baz=338,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**26.15**	**163**	P	P	13 51 44.9	+0.6
	0.2nm,0.4s,baz=341,slow=9.7,SNR=1.5						
KSRS	**Korea Array**	**35.85**	**3**	LR	LR	14 08 26.9	
	comp=Z,14nm,20.1s,baz=225,slow=37						
MKAR	**Makanchi Array**	**58.99**	**326**	P	P	13 56 09.6	-0.1
	0.1nm,0.4s,baz=126,slow=7.3,SNR=2.2						

WEL 23 13:52:43.2, 44°S±2°×17°1E±°, h5km±1km, M2.5/13, ML2.5/12, MLv2.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=154.3, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**0.24**	**102**	P	Pg	13 52 49.7	+1.7
ARCZ	**Arundel**	**0.43**	**131**	P	Pb	13 52 53.0	-0.3
GCSZ	**Gaunt Creek Bo**	**0.45**	**320**	P	Pb	13 52 53.8	+0.1
WVZ	**Waitaha Valley**	**0.59**	**1**	P	Pb	13 52 55.9	-0.1
FOZ	**Fox Glacier**	**0.68**	**281**	P	Pb	13 52 58.2	+0.7
LBZ	**Lake Benmore**	**0.82**	**208**	P	Pb	13 53 00.0	0.0
WACZ	**Wakanui South**	**0.85**	**110**	P	Pn	13 53 01.2	-0.6
OXZ	**Oxford**	**1.01**	**71**	P	Pn	13 53 03.9	-0.2
INZ	**Inchbonnie**	**1.07**	**29**	P	Pb	13 53 04.1	-0.2
ODZ	**Otahua Downs**	**1.38**	**182**	P	Pn	13 53 09.2	0.0
MQZ	**McQueen's Vall**	**1.40**	**92**	P	Pn	13 53 08.8	-0.6
LTZ	**Lake Taylor**	**1.43**	**52**	P	Pg	13 53 10.5	-0.1
JCZ	**Jackson Bay**	**1.46**	**253**	P	Pg	13 53 12.4	+1.1
AKCZ	**Akaroa Harbour**	**1.59**	**98**	P	Pg	13 53 14.3	+0.6
OKCZ	**Okains Bay**	**1.69**	**93**	P	Pg	13 53 16.8	+1.2
WKZ	**Wanaka**	**1.69**	**226**	P	Pg	13 53 15.9	+0.2
DSZ	**Denniston Nort**	**2.08**	**23**	P	Pn	13 53 19.9	+1.2
MSZ	**Milford Sound**	**2.26**	**242**	P	Pg	13 53 27.3	+0.8
THZ	**Tophouse**	**2.49**	**41**	P	Pn	13 53 26.1	+1.7
MLZ	**Mavora Lakes**	**2.53**	**227**	P	Pg	13 53 31.1	-0.6
QRZ	**Quartz Range**	**3.13**	**26**	P	Pn	13 53 35.0	+1.8

*NEIC **23** 14:04:24.4±3.3, 64°69N×0°06×18°0W±0°1, h10km±1km, Error ellipse: s-maj=13.2km s-min=3.0km az=221.0*
*REY **23** 14:04:24.7, 64°67N×17°51W, h8km*
*IDC **23** 14:04:25.1±0.6, 64°64N×17°70W, h0km, mb3.7/14, mb1 3.9/17, mb1mx3.8/38, mbtmp3.7/17, ML3.5/3, MS3.0/7, Ms1 3.0/7, ms1mx2.7/45, Error ellipse: s-maj=21.0km s-min=9.7km az=12.0*
ISC 23 14:04:24.9±0.7, 64°68N±0°02×17°57W±0°02, h7km±4km, n81, σ1°77/84, mb3.9/24, MS3.2/3, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.08**	**264**	P	**Pg**	**14 04 27.2**	**+0.2**
	baz=275						
IVON				S	**Sg**	**14 04 29.4**	**+0.9**
	baz=275						
IDYN	**Dyngjuhals**	**0.14**	**38**	P	**Pg**	**14 04 27.9**	**0.0**
	baz=25						
IDYN				S	**Sg**	**14 04 30.5**	**+0.5**
	baz=25						
IGRF	**Grimsfjall**	**0.30**	**155**	P	**Pg**	**14 04 30.4**	**-0.5**
	baz=158						
ISKR	**Skrokkalda**	**0.37**	**251**	P	**Pg**	**14 04 32.1**	**-0.1**
	baz=255						
IHUS	**Husbondi**	**0.39**	**186**	P	**Pg**	**14 04 31.8**	**-0.8**
	baz=190						
IBJK	**Bruarjokull**	**0.41**	**121**	P	**Pg**	**14 04 31.9**	**-1.1**
	baz=121						
IVOT	**Vottur**	**0.45**	**158**	P	**Pg**	**14 04 32.6**	**-1.0**
	baz=160						
IKRE	**Kreppuhraun**	**0.52**	**78**	P	**Pg**	**14 04 33.6**	**-1.3**
	baz=76						
IKRE				S	**Sg**	**14 04 41.1**	**-0.6**
	baz=76						
IASK	**Askja**	**0.54**	**46**	P	**Pg**	**14 04 34.4**	**-1.0**
	baz=43						
IMKO	**Mokollar**	**0.60**	**60**	P	**Pg**	**14 04 35.4**	**-1.2**
	baz=57						
IMKO				S	**Sg**	**14 04 44.3**	**-0.1**
	baz=57						
IIEY	**Innrieyrar**	**0.64**	**203**	P	**Pg**	**14 04 36.0**	**-1.2**
	baz=205						
ISVA	**Svartarkot**	**0.67**	**11**	P	**Pg**	**14 04 37.0**	**-0.9**
	baz=8.9						
ISVA				S	**Sg**	**14 04 46.5**	**-0.1**
	baz=8.9						
IKSK	**Karasker**	**0.71**	**137**	P	**Pg**	**14 04 36.4**	**-2.1**
	baz=138						
IKAL	**Kalfafell**	**0.74**	**184**	P	**Pg**	**14 04 37.5**	**-1.6**
	baz=186						
IVAT	**Vatnsfell**	**0.77**	**230**	P	**Pg**	**14 04 38.6**	**-1.1**
	baz=233						
IVSH	**V-Sauoahnukur**	**0.80**	**80**	P	**Pg**	**14 04 38.2**	**-2.1**
	baz=78						
IHVE	**Hveravellir**	**0.88**	**283**	P	**Pg**	**14 04 40.5**	**-1.3**
	baz=284						
IFAG	**Fagurholsmyri**	**0.90**	**153**	P	**Pg**	**14 04 40.1**	**-2.1**
	baz=154						
IADA	**Aoalbol**	**0.92**	**67**	P	**Pg**	**14 04 40.2**	**-2.3**
	baz=66						
IMEL	**Melhnausar**	**0.97**	**23**	P	**Pg**	**14 04 41.8**	**-1.8**
	baz=21						
IREN	**Reynihlio**	**1.01**	**16**	P	**Pg**	**14 04 42.5**	**-1.8**
	baz=14						
ISNB	**Snabyli**	**1.06**	**207**	P	**Pg**	**14 04 43.0**	**-2.2**
	baz=208						
IKVO	**Krokottuvotn**	**1.08**	**15**	P	**Pg**	**14 04 43.6**	**-2.0**
	baz=14						
IFED	**Fedgar**	**1.14**	**235**	P	**Pg**	**14 04 45.2**	**-1.5**
	baz=237						
IGRS	**Grimsstaoir**	**1.14**	**32**	P	**Pg**	**14 04 44.5**	**-2.2**
	baz=30						
IRJU	**Rjupnafell**	**1.17**	**205**	P	**Pg**	**14 04 45.2**	**-2.2**
	baz=206						
IMJO	**Mjoaskard**	**1.19**	**232**	P	**Pg**	**14 04 45.6**	**-2.1**
	baz=233						
ISKI	**Skildingahlsh**	**1.22**	**11**	P	**Pg**	**14 04 45.9**	**-2.4**
	baz=9.2						
BORG	**Borgarnes**	**1.62**	**274**	Pg	**Pn**	**14 04 52.3**	**-1.4**
	57nm,0.3s,baz=92,slow=6.6,SNR=96						
BORG				Lg	Lg	14 05 14.9	
	23nm,0.3s,baz=256,slow=18,SNR=11						
BORG				LR	LR	14 05 40.2	
	comp=Z,257nm,20.6s,baz=158,slow=48						
BORG	**Borgarnes**	**1.62**	**274**		**Pn**	**14 04 52.4**	**-1.3**
ISOL	**Solvholt**	**1.65**	**244**	P	**Pn**	**14 04 53.2**	**-1.1**
	baz=245						
SCO	**Scoresbysund**	**6.06**	**346**	*i* P	**Pn**	**14 05 55.6**	**+0.8**
SCO				*e*S	Pn	14 06 01.2	+6.4
SCO	**Scoresbysund**	**6.06**	**346**		**Pn**	**14 05 56.1**	**+1.3**
SUMG	**Summit**	**10.91**	**325**	Pn	**Pn**	**14 06 59.3**	**-2.2**
EKA	**Eskdalemuir Ar**	**11.79**	**136**	Pn	**Pn**	**14 07 13.5**	**+0.3**
	baz=321,slow=13,SNR=20						
ESK	**Eskdalemuir**	**11.79**	**136**	Pn	**Pn**	**14 07 14.1**	**+0.9**
DSB	**Dublin**	**12.81**	**148**	Pn	**Pn**	**14 07 28.2**	**+1.0**
NOA	**NORSAR Array B**	**13.56**	**92**	LR	LR	14 12 54.8	
	comp=Z,22nm,18.1s,baz=300,slow=37						
NB201	**NORSAR Array S**	**13.59**	**92**	Pn	**Pn**	**14 07 37.8**	**-0.1**
SFJD	**Kangerlussuaq**	**13.63**	**295**	LR	LR	14 12 34.8	
	comp=Z,88nm,18.5s,baz=90,slow=36						
ILULI	**Ilulissat**	**13.76**	**304**	Pn	**Pn**	**14 07 35.5**	**-4.6**
HFS	**Hagfors**	**15.08**	**93**	Pn	**Pn**	**14 07 58.0**	**0.0**
	0.1nm,0.3s,baz=254,slow=8.9,SNR=3.6						
HFS				LR	LR	14 13 31.5	
	comp=Z,38nm,20.1s,baz=285,slow=36						
ARCES	**ARCESS Array B**	**17.13**	**55**	P	**P**	**14 08 26.6**	**+0.4**
	0.1nm,0.3s,baz=48,slow=16,SNR=1.6						
KEV	**Kevo**	**17.64**	**54**	Pn	**Pn**	**14 08 27.6**	**-3.1**
FINES	**FINESS Array B**	**19.73**	**79**	LR	LR	14 17 17.3	
	comp=Z,26nm,18.6s,baz=277,slow=39						
CLL	**Collm**	**20.74**	**116**	*i* sP	**sP**	**14 09 09.1**	**-0.1**
	comp=Z,12nm,1.4s						
CLL				*i*		14 09 13.2	
CLL				*e*		14 09 25.0	
ECH	**Echery**	**21.18**	**129**	P	**P**	**14 09 12.0**	**+1.4**
BRG	**Berggiesshubel**	**21.45**	**115**	*e*P	**P**	**14 09 14.8**	**+1.5**
	comp=Z,9.3nm,1.4s						
BFO	**Black Forest**	**21.48**	**127**	P	**P**	**14 09 11.4**	**-2.4**
BFO				IAmb	IAmb	14 09 17.9	
	comp=Z,5.8nm,1.0s						
KSP	**Ksiaz**	**22.40**	**112**	*e*P	**P**	**14 09 27.8**	**+4.2**
KHC	**Kasperske Hory**	**22.71**	**118**	*e*P	**P**	**14 09 28.3**	**+1.4**
KHC	**Kasperske Hory**	**22.71**	**118**	P	**P**	**14 09 27.3**	**+0.4**
DPC	**Dobruska-Polom**	**22.79**	**113**	*e*P	**P**	**14 09 30.4**	**+2.6**
GERES	**GERESS Array B**	**22.99**	**119**	P	**P**	**14 09 31.6**	**+1.7**
	comp=Z,0.9nm,0.9s,baz=323,slow=8.4,SNR=5.2						
DAVOX	**Davos/Dischmat**	**23.35**	**127**	P	**P**	**14 09 36.3**	**+2.5**
	comp=Z,1.2nm,0.4s,baz=273,slow=4.6,SNR=3.5						
VRAC	**Vranov**	**23.73**	**114**	P	**P**	**14 09 39.9**	**+2.7**
	comp=Z,1.9nm,0.8s,baz=356,slow=9.5,SNR=2.2						
VRAC				LR	LR	14 19 13.4	
	comp=Z,31nm,18.9s,baz=288,slow=37						
MORC	**Moravsky Berou**	**23.73**	**112**	P	**P**	**14 09 37.6**	**+0.3**
MORC				IAmb	IAmb	14 09 52.2	
	comp=Z,7.5nm,1.4s						
KWP	**Kalwaria Pacla**	**25.94**	**106**	P	**P**	**14 09 56.1**	**-1.4**
KWP				IAmb	IAmb	14 10 13.8	
	comp=Z,9.5nm,1.2s						
SCHQ	**Schefferville**	**26.01**	**271**	P	**P**	**14 09 59.9**	**+1.8**
	comp=Z,6.1nm,1.0s,baz=70,slow=8.0,SNR=3.8						
SCHQ	**Schefferville**	**26.01**	**271**	IAmb	IAmb	14 10 01.7	
	comp=Z,11nm,1.1s						
PSZ	**Piszkesteto**	**26.15**	**112**	P	**P**	**14 09 60.0**	**+0.5**
PSZ				IAmb	IAmb	14 10 05.7	
	comp=Z,9.7nm,1.4s						
ESDC	**Sonseca Array**	**26.28**	**156**	P	**P**	**14 10 01.7**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=348,slow=8.9,SNR=12						
PAB	**San Pablo**	**26.34**	**157**	P	**P**	**14 09 57.8**	**-3.5**
PAB				IAmb	IAmb	14 10 16.2	
	comp=Z,9.0nm,1.5s						
OSSC	**Osservatorio P**	**26.67**	**129**	P	**P**	**14 10 03.3**	**-0.8**
OSSC				IAmb	IAmb	14 10 06.2	
	comp=Z,11nm,1.1s						
CASP	**Castiglione de**	**27.20**	**130**	P	**P**	**14 10 09.0**	**+0.2**
AKASG	**Malin Array Be**	**27.87**	**98**	P	**P**	**14 10 17.2**	**+2.4**
	comp=Z,1.2nm,0.7s,baz=316,slow=9.8,SNR=1.9						
LMN	**Caledonia Moun**	**31.82**	**257**	P	**P**	**14 10 47.2**	**-2.5**
BRTR	**Keskin Array B**	**38.51**	**105**	P	**P**	**14 11 49.2**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=326,slow=7.0,SNR=2.4						
ILAR	**Eielson Array**	**45.66**	**332**	P	**P**	**14 12 46.2**	**+0.7**
	comp=Z,1.0nm,1.1s,baz=24,slow=4.9,SNR=3.0						
ILAR				PcP	**PcP**	**14 14 25.1**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=343,slow=2.7,SNR=4.8						
MDM	**Murphy Dome**	**45.76**	**333**	P	**P**	**14 12 45.9**	**-0.4**
MDM				IAmb	IAmb	14 12 50.4	
	comp=Z,6.6nm,1.5s						
ZALV	**Zalesovo Beam**	**47.65**	**51**	P	**P**	**14 13 02.6**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=322,slow=9.1,SNR=1.8						
RSO	**Redoubt South**	**50.73**	**333**	P	**P**	**14 13 23.9**	**-0.9**
MKAR	**Makanchi Array**	**52.74**	**58**	P	**P**	**14 13 40.4**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=316,slow=8,SNR=5.3						
PDAR	**Pinedale Array**	**53.14**	**293**	P	**P**	**14 13 44.5**	**+1.4**
	comp=Z,1.3nm,0.9s,baz=48,slow=6.6,SNR=10						
PDAR				LR	LR	14 36 01.7	
	comp=Z,25nm,21.4s,baz=92,slow=36						
TORD	**Torodi Ar. Bea**	**53.17**	**156**	P	**P**	**14 13 43.4**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=341,slow=9.1,SNR=5.2						
GAR	**Garm**	**54.67**	**73**	P	**P**	**14 13 55.7**	**+1.4**
WMQ	**Urumqi**	**57.25**	**56**	*e*P	**P**	**14 14 14.0**	**+1.4**
SONM	**Songino Array**	**59.65**	**40**	P	**P**	**14 14 31.6**	**+2.3**
	comp=Z,0.2nm,0.4s,baz=321,slow=2.0,SNR=1.5						
TXAR	**Lajitas Array**	**62.25**	**280**	P	**P**	**14 14 48.5**	**+1.3**
	comp=Z,0.2nm,0.8s,baz=34,slow=9.1,SNR=4.2						
TXAR				LR	LR	14 41 09.9	
	comp=Z,35nm,18.4s,baz=0.0,slow=35						
HHC	**Hu-ho-hao-te**	**67.52**	**40**	*e*P	**P**	**14 15 24.6**	**+3.2**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,7.0s						
LZH	**Lanzhou**	**69.64**	**48**	*e*P	**P**	**14 15 35.1**	**+0.3**
LZH				pP	sP	14 15 39.4	+0.8
LZH				sP	pP	14 15 42.6	+5.1
LZH				PP	**PP**	**14 18 03.9**	**-4.2**
LZH				pmax	pmax		
	comp=Z,26nm,1.2s						
LZH				pmax	pmax		
	comp=Z,110nm,5.4s						

*TAP **23** 14:05:58.6, 22°51N×121°32E, h84km, ML3.6, B*
*JMA **23** 14:06:01.0±0.2, 22°62N×121°52E, h40km, M2.5*
ISC 23 14:05:58.8±1.4, 22°51N±0°03×121°29E±0°03, h87km±6km, n121, σ0°69/203, 26C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LDUT	**Ludao**	**0.23**	**46**	⇑P	**Pn**	**14 06 11.3**	**-0.3**
	baz=41						
LDUT				*e*S	**Sn**	**14 06 21.3**	**+0.3**
	baz=41						
TTN	**Taitung**	**0.27**	**332**	*e*P	**Pn**	**14 06 12.1**	**+0.3**
	baz=327						
TTN				*e*S	**Sn**	**14 06 22.4**	**+1.1**
	baz=327						
ECL	**Taimali**	**0.32**	**285**	⇑P	**Pn**	**14 06 11.5**	**-0.5**
	baz=284						
ECL				*e*S	**Sn**	**14 06 20.8**	**-1.0**
	baz=284						
TWGBT	**Beinan**	**0.36**	**328**	⇑P	**Pn**	**14 06 11.8**	**-0.5**
	baz=324						
TWGBT				*e*S	**Sn**	**14 06 21.2**	**-1.0**
	baz=324						
TWG	**Pinlang**	**0.36**	**327**	⇑P	**Pn**	**14 06 11.8**	**-0.5**
	baz=324						
TWG				*e*S	**Sn**	**14 06 21.2**	**-1.1**
	baz=324						
TAW	**Tawu**	**0.39**	**247**	P	**Pn**	**14 06 12.3**	**-0.1**
	baz=247						
TAW				*e*S	**Sn**	**14 06 22.2**	**-0.3**
	baz=247						
LONT	**Longtian**	**0.42**	**340**	⇑P	**Pn**	**14 06 12.3**	**-0.4**
	baz=336						
LONT				*e*S	**Sn**	**14 06 23.0**	**+0.1**
	baz=336						
EAST	**Anshuo**	**0.43**	**252**	⇑P	**Pn**	**14 06 12.8**	**+0.1**
	baz=252						
EAST				*e*S	**Sn**	**14 06 23.6**	**+0.5**
	baz=252						
EDH	**Donghe**	**0.46**	**2**	⇑P	**Pn**	**14 06 12.7**	**-0.2**
	baz=358						
EDH				*e*S	**Sn**	**14 06 23.4**	**0.0**
	baz=358						
LAY	**Lan-yu**	**0.53**	**153**	⇓ *i* P	**Pn**	**14 06 12.9**	**-0.7**
	baz=154						
LAY				S	**Sn**	**14 06 23.7**	**-0.8**
	baz=154						
SLIU	**Shizi**	**0.54**	**237**	*e*P	**Pn**	**14 06 13.7**	**+0.1**
	baz=238						
SLIU				*e*S	**Sn**	**14 06 24.6**	**0.0**
	baz=238						
CHKT	**Chengkung**	**0.59**	**7**	*e*P	**Pn**	**14 06 14.0**	**0.0**
	baz=5.0						
CHKT				*e*S	**Sn**	**14 06 25.5**	**+0.2**
	baz=5.0						
MASBT	**Mashibuluo**	**0.61**	**279**	⇑P	**Pn**	**14 06 14.5**	**+0.3**
	baz=278						
MASBT				*e*S	**Sn**	**14 06 25.2**	**-0.5**
	baz=278						
TSMG	**Majia**	**0.62**	**288**	⇑P	**Pn**	**14 06 14.7**	**+0.4**
	baz=287						
TSMG				*e*S	**Sn**	**14 06 25.6**	**-0.3**
	baz=287						
SCZT	**Fangliau**	**0.63**	**257**	⇑P	**Pn**	**14 06 14.5**	**+0.1**
	baz=257						
SCZT				*e*S	**Sn**	**14 06 25.4**	**-0.6**
	baz=257						
SSD	**Sandimen**	**0.65**	**291**	⇑P	**Pn**	**14 06 14.9**	**+0.4**
	baz=290						
SSD				*e*S	**Sn**	**14 06 26.1**	**-0.2**
	baz=290						
SSPT	**Xinbi**	**0.67**	**268**	⇑P	**Pn**	**14 06 15.4**	**+0.7**
	baz=267						
SSPT				*e*S	**Sn**	**14 06 27.5**	**+1.0**
	baz=267						
FULB	**Fuli**	**0.68**	**1**	⇑P	**Pn**	**14 06 15.0**	**+0.1**
	baz=358						
FULB				*e*S	**Sn**	**14 06 27.7**	**+0.8**
	baz=358						
TSEB	**Hengchuen, Pin**	**0.71**	**211**	*e*P	**Pn**	**14 06 15.8**	**+0.7**
	baz=215						
TSEB				*e*S	**Sn**	**14 06 28.4**	**+1.1**
	baz=215						
HEN	**Hengchun**	**0.72**	**225**	*e*P	**Pn**	**14 06 15.6**	**+0.4**
	baz=226						
HEN				S	**Sn**	**14 06 27.7**	**+0.3**
	baz=226						
ELDTW	**Lidau**	**0.72**	**340**	⇑P	**Pn**	**14 06 15.4**	**+0.1**
	baz=338						
ELDTW				*e*S	**Sn**	**14 06 28.9**	**+1.2**
	baz=338						
TWKBT	**Hengchun**	**0.72**	**218**	⇓ *e*P	**Pn**	**14 06 15.5**	**+0.2**
	baz=219						
TWKBT				S	**Sn**	**14 06 27.7**	**+0.2**
	baz=219						
SNW	**Nanwan**	**0.74**	**222**	*e*S	**Sn**	**14 06 29.1**	**+1.2**
	baz=223						
SLGT	**Liugui**	**0.76**	**309**	⇑P	**Pn**	**14 06 16.1**	**+0.4**
	baz=307						
SLGT				S	**Sn**	**14 06 28.7**	**+0.5**
	baz=307						
SGLT	**Jiouru**	**0.77**	**286**	*e*P	**Pn**	**14 06 17.2**	**+1.5**
	baz=285						
STYT	**Tauyuan**	**0.81**	**323**	⇑P	**Pn**	**14 06 16.5**	**+0.2**
	baz=321						
STYT				*e*S	**Sn**	**14 06 29.4**	**+0.1**
	baz=321						
SCST	**Cishan**	**0.82**	**297**	P	**Pn**	**14 06 16.7**	**+0.4**
	baz=296						
SCST				*e*S	**Sn**	**14 06 30.0**	**+0.7**
	baz=296						
EYUL	**Yuli**	**0.83**	**2**	*e*P	**Pn**	**14 06 16.3**	**-0.1**
EYUL				S	**Sn**	**14 06 29.6**	**0.0**
TWF1	**Yuli**	**0.84**	**1**	*e*P	**Pn**	**14 06 16.0**	**-0.5**
	baz=359						
TWF1				S	**Sn**	**14 06 29.4**	**-0.2**
	baz=359						
TWM1	**Shoushan**	**0.86**	**291**	⇑P	**Pn**	**14 06 17.8**	**+1.1**
	baz=290						
WLCH	**Liuqiu**	**0.86**	**259**	*e*P	**Pn**	**14 06 18.2**	**+1.6**
	baz=259						
SGST	**Jiashian**	**0.86**	**311**	⇑P	**Pn**	**14 06 16.2**	**-0.6**
	baz=310						
SGST				*e*S	**Sn**	**14 06 30.0**	**-0.2**
	baz=310						
YULB	**Yu-li**	**0.88**	**1**	*e*P	**Pn**	**14 06 16.4**	**-0.5**
	baz=358						
YULB				*e*S	**Sn**	**14 06 29.7**	**-0.8**
	baz=358						
KAU	**Kaohsiung**	**0.91**	**274**	*e*P	**Pn**	**14 06 18.4**	**+1.2**
	baz=273						
KAU				*e*S	**Sn**	**14 06 33.0**	**+2.0**
	baz=273						
SNJT	**Kaohsiung City**	**0.91**	**285**	*e*P	**Pn**	**14 06 18.1**	**+0.8**
	baz=284						
WTP	**Ta-pu**	**0.96**	**320**	⇑P	**Pn**	**14 06 18.1**	**+0.2**
	baz=318						
WTP				*e*S	**Sn**	**14 06 32.4**	**+0.3**
	baz=318						
CHN1	**Nanshi**	**0.97**	**314**	⇑P	**Pn**	**14 06 18.1**	**+0.2**
	baz=312						
CHN1				*e*S	**Sn**	**14 06 32.4**	**+0.1**
	baz=312						
HGSD	**Ruisui**	**0.98**	**7**	*e*P	**Pn**	**14 06 18.7**	**+0.6**
	baz=5.0						
HGSD				*e*S	**Sn**	**14 06 33.4**	**+0.9**
	baz=5.0						
EHY	**Hungye**	**0.99**	**2**	P	**Pn**	**14 06 17.8**	**-0.4**
EHY				*e*S	**Sn**	**14 06 31.7**	**-1.0**
TPUB	**Ta-pu**	**0.99**	**322**	⇑P	**Pn**	**14 06 18.4**	**+0.2**
	baz=321						
TPUB				*e*S	**Sn**	**14 06 32.6**	**-0.1**
	baz=321						
SNST	**Tainan City**	**1.01**	**314**	⇑P	**Pn**	**14 06 18.5**	**+0.1**
	baz=312						
SNST				*e*S	**Sn**	**14 06 32.9**	**-0.2**
	baz=312						
CHN3	**Shinhua**	**1

WGK	**Gukeng**	**1.34**	**330**	*e*P		**Pn**	**14 06 22.6**	**+0.1**
	baz=329							
WGK				*e*S		**Sn**	**14 06 40.6**	**+0.3**
	baz=329							
WDLH	**Douliu**	**1.36**	**330**	*e*P		**Pn**	**14 06 22.6**	**-0.1**
	baz=328							
WDLH				*e*S		**Sn**	**14 06 40.5**	**-0.1**
	baz=328							
WJS	**Zhushan**	**1.40**	**339**	P		**Pn**	**14 06 23.4**	**+0.2**
	baz=337							
WJS				*e*S		**Sn**	**14 06 42.1**	**+0.6**
	baz=337							
SMLT	**Sun Moon Lake**	**1.41**	**345**	P		**Pn**	**14 06 23.6**	**+0.2**
	baz=344							
SMLT				*e*S		**Sn**	**14 06 42.2**	**+0.2**
	baz=344							
WTK	**Tuku**	**1.43**	**325**⇑	*e*P		**Pn**	**14 06 23.1**	**-0.4**
	baz=323							
WTK				*e*S		**Sn**	**14 06 41.4**	**-0.8**
	baz=323							
WNT	**Mingjian**	**1.47**	**338**	⇓P		**Pn**	**14 06 24.4**	**+0.4**
	baz=337							
WNT				*e*S		**Sn**	**14 06 43.5**	**+0.5**
	baz=337							
HWA	**Hwalien**	**1.49**	**11**	*e*S		**Sn**	**14 06 43.5**	**+0.1**
	baz=10.0							
WSF	**Szhu**	**1.49**	**319**	*e*P		**Pn**	**14 06 23.8**	**-0.5**
	baz=318							
WSF				*e*S		**Sn**	**14 06 42.9**	**-0.6**
	baz=318							
CHGB	**Renai**	**1.54**	**356**	*e*P		**Pn**	**14 06 25.9**	**+0.7**
	baz=355							
CHGB				*e*S		**Sn**	**14 06 45.9**	**+0.7**
	baz=355							
TWD	**Chiawan**	**1.59**	**10**	*e*P		**Pn**	**14 06 26.0**	**+0.5**
	baz=9.0							
RLNB	**Erlin**	**1.62**	**328**	*e*P		**Pn**	**14 06 25.6**	**-0.2**
	baz=327							
RLNB				*e*S		**Sn**	**14 06 46.5**	**+0.1**
	baz=327							
WHF	**Hehuan Shan**	**1.62**	**359**	*e*P		**Pn**	**14 06 27.2**	**+0.8**
	baz=358							
WHF				*e*S		**Sn**	**14 06 47.7**	**+0.4**
	baz=358							
WTCT	**Ta-ch'eng**	**1.63**	**326**	*e*P		**Pn**	**14 06 25.1**	**-1.0**
	baz=324							
WTCT				*e*S		**Sn**	**14 06 46.4**	**-0.4**
	baz=324							
WDGT	**Dungji**	**1.68**	**297**⇑	*e*P		**Pn**	**14 06 26.0**	**-0.7**
	baz=295							
WDGT				*e*S		**Sn**	**14 06 45.7**	**-2.0**
	baz=295							
NACB	**Ninganchiao**	**1.68**	**10**	*e*P		**Pn**	**14 06 26.5**	**-0.2**
	baz=8.0							
ETLH	**Xiulin Townshi**	**1.70**	**6**	P		**Pn**	**14 06 27.1**	**0.0**
	baz=5.0							
ETLH				*e*S		**Sn**	**14 06 48.0**	**-0.4**
	baz=5.0							
WCHH	**Zhanghua**	**1.70**	**337**	*e*P		**Pn**	**14 06 26.9**	**0.0**
	baz=335							
WCHH				S		**Sn**	**14 06 48.5**	**+0.2**
	baz=335							
TCU	**Taichung**	**1.72**	**341**	*e*P		**Pn**	**14 06 27.4**	**+0.1**
	baz=340							
TCU				*e*S		**Sn**	**14 06 49.5**	**+0.7**
	baz=340							
FUSS	**Fushou**	**1.73**	**359**	*e*P		**Pn**	**14 06 28.7**	**+1.1**
	baz=357							
FUSS				*e*S		**Sn**	**14 06 49.9**	**+0.5**
	baz=357							
TDCB	**Techi**	**1.74**	**356**	*e*P		**Pn**	**14 06 28.9**	**+1.3**
	baz=355							
TDCB				*e*S		**Sn**	**14 06 50.6**	**+1.2**
	baz=355							
WHP	**Taichung City**	**1.79**	**350**	*e*P		**Pn**	**14 06 28.8**	**+0.6**
	baz=349							
WHP				*e*S		**Sn**	**14 06 51.2**	**+0.7**
	baz=349							
VCHM	**Qimei**	**1.85**	**292**	*e*P		**Pn**	**14 06 28.1**	**-0.8**
	baz=291							
TWQ1	**Liyutan**	**1.89**	**346**	*e*P		**Pn**	**14 06 30.4**	**+0.9**
	baz=344							
TWQ1				*e*S		**Sn**	**14 06 53.0**	**+0.3**
	baz=344							
NNSB	**Datong**	**1.91**	**3**	*e*P		**Pn**	**14 06 30.7**	**+0.9**
	baz=1.0							
NNSB				*e*S		**Sn**	**14 06 54.1**	**+0.6**
	baz=1.0							
NNSH	**Datong**	**1.91**	**3**	*e*P		**Pn**	**14 06 30.7**	**+0.9**
	baz=1.0							
NNSH				*e*S		**Sn**	**14 06 54.1**	**+0.7**
	baz=1.0							
PNG	**Penghu**	**1.91**	**304**	*e*P		**Pn**	**14 06 28.9**	**-0.7**
	baz=302							
PNG				*e*S		**Sn**	**14 06 51.1**	**-2.2**
	baz=302							
NNS	**Nan Shan**	**1.92**	**2**	*e*S		**Sn**	**14 06 54.4**	**+0.7**
	baz=1.0							
WDJ	**Dajia District**	**1.92**	**342**	*e*S		**Sn**	**14 06 53.5**	**0.0**
	baz=341							
NSY	**Sanyi**	**1.96**	**346**	*e*P		**Pn**	**14 06 31.3**	**+1.0**
	baz=345							
NSY				*e*S		**Sn**	**14 06 55.2**	**+0.8**
	baz=345							
ENAH	**Nanao**	**1.99**	**14**	*e*P		**Pn**	**14 06 31.7**	**+1.0**
	baz=13							
ENAH				*e*S		**Sn**	**14 06 55.6**	**+0.5**
	baz=13							
PTSB	**Yuanli**	**2.00**	**345**	*e*P		**Pn**	**14 06 31.6**	**+0.7**
	baz=343							
NDT	**Datong Townshi**	**2.09**	**6**	*e*P		**Pn**	**14 06 32.9**	**+0.8**
	baz=4.0							
NDT				*e*S		**Sn**	**14 06 58.4**	**+0.9**
	baz=4.0							
NSTT	**Nanjuang**	**2.12**	**353**	*e*P		**Pn**	**14 06 33.5**	**+0.9**
	baz=352							
NSTT				*e*S		**Sn**	**14 06 58.1**	**-0.3**
	baz=352							
ENTT	**Nioudou**	**2.13**	**7**	*e*P		**Pn**	**14 06 33.5**	**+0.8**
	baz=6.0							
ENTT				*e*S		**Sn**	**14 06 58.6**	**+0.1**
	baz=6.0							
LIOB	**Emei**	**2.14**	**353**	*e*P		**Pn**	**14 06 33.0**	**+0.2**
	baz=352							
YHNB	**Yeheng**	**2.15**	**2**	*e*P		**Pn**	**14 06 34.2**	**+1.2**
	baz=1.0							
TWC	**Suao**	**2.15**	**14**	*e*P		**Pn**	**14 06 33.7**	**+0.9**
	baz=13							
NSK	**Sanguang**	**2.15**	**2**	*e*P		**Pn**	**14 06 34.5**	**+1.4**
	baz=1.0							
NSK				*e*S		**Sn**	**14 06 59.5**	**+0.3**
	baz=1.0							
TWE	**Neicheng**	**2.23**	**9**	*e*P		**Pn**	**14 06 35.0**	**+1.1**
	baz=8.0							
NWLT	**Wulai**	**2.26**	**5**	*e*P		**Pn**	**14 06 35.7**	**+1.3**
	baz=4.0							
NTC	**Toucheng**	**2.38**	**12**	*e*P		**Pn**	**14 06 37.2**	**+1.2**
	baz=11							
JYNG	**Yonagunijimaku**	**2.46**	**38**	P		**Pn**	**14 06 37.6**	**+0.6**
JYNG				*e*S		**Sn**	**14 07 06.4**	**+0.2**
TIPB	**Shuangxi**	**2.50**	**11**	*e*P		**Pn**	**14 06 38.7**	**+1.2**
	baz=10.0							
YOJ	**Yonaguni jima**	**2.50**	**39**	*e*P		**Pn**	**14 06 38.2**	**+0.6**
	baz=38							
YOJ				*e*S		**Sn**	**14 07 07.4**	**+0.1**
	baz=38							
YOJ	**Yonaguni jima**	**2.50**	**39**	P		**Pn**	**14 06 38.1**	**+0.6**
YOJ				*e*S		**Sn**	**14 07 07.6**	**+0.3**
TWB1	**Santiao Chiao**	**2.57**	**14**	*e*P		**Pn**	**14 06 39.0**	**+0.6**
	baz=14							
YM01	**YM01**	**2.63**	**6**	*e*P		**Pn**	**14 06 40.3**	**+0.9**
	baz=5.0							
YM04	**YM04**	**2.64**	**5**	*e*P		**Pn**	**14 06 40.5**	**+1.0**
	baz=4.0							
YM10	**YM10**	**2.64**	**5**	*e*P		**Pn**	**14 06 40.1**	**+0.5**
	baz=4.0							
YM05	**YM05**	**2.65**	**5**	*e*P		**Pn**	**14 06 40.5**	**+0.9**
	baz=4.0							
HATJ	**Hateruma jima**	**2.78**	**56**	*e*S		**Sn**	**14 07 13.8**	**-0.1**
IRIF	**Iriomote-Funau**	**2.88**	**51**	P		**Pn**	**14 06 43.1**	**+0.4**
VWUC	**VWUC**	**2.99**	**326**	*e*P		**Pn**	**14 06 43.1**	**-1.0**
	baz=325							
JKRS	**Kuro-shima**	**3.03**	**55**	P		**Pn**	**14 06 44.7**	**0.0**
JIJ	**Ishigaki jima**	**3.21**	**54**	P		**Pn**	**14 06 46.9**	**-0.1**
JIJ				*e*S		**Sn**	**14 07 23.3**	**-0.9**
PTMZ	**Houxiangcun**	**3.21**	**322**	*e*P		**Pn**	**14 06 46.1**	**-0.9**
	baz=321							
KNM	**Kinmen**	**3.23**	**306**	*e*P		**Pn**	**14 06 48.2**	**+0.8**
	baz=304							
PTTC	**Pingtan**	**3.28**	**335**	*e*P		**Pn**	**14 06 47.3**	**-0.8**
	baz=334							
KNMB	**Chin-men Tao**	**3.29**	**307**	*e*P		**Pn**	**14 06 47.9**	**-0.3**
	baz=305							
JISG	**Ishigakijimahi**	**3.46**	**53**	P		**Pn**	**14 06 49.8**	**-0.6**
JISG				S		**Sn**	**14 07 29.5**	**-0.9**
ZPLA	**Ao Xicun**	**3.55**	**294**	*e*P		**Pn**	**14 06 51.2**	**-0.4**
	baz=293							
MATB	**Ma-tsu**	**3.82**	**342**	*e*P		**Pn**	**14 06 54.4**	**-1.0**
	baz=340							
AXDP	**Jialang**	**3.86**	**309**	*e*P		**Pn**	**14 06 55.2**	**-0.7**
	baz=307							
MHZQ	**Yeshan**	**4.12**	**330**	*e*P		**Pn**	**14 06 59.3**	**-0.1**
	baz=329							
LYJJ	**Jianjiangzhen**	**4.25**	**341**	*e*P		**Pn**	**14 07 00.3**	**-0.9**
	baz=340							
XPSS	**Dashiqiu**	**4.51**	**347**	*e*P		**Pn**	**14 07 04.5**	**-0.2**
	baz=346							

MAN ***23*** *14:22:59.6,5.°52N×126.°64E,h76km,MS3.7*
NEIC ***23*** *14:23:02.9±0.8,5.°84N±0.°07×126.°8E±0.°1,h97km±5km, mb4.2/17,Error ellipse: s-maj=17.1km s-min=8.5km az=68.0*
IDC ***23*** *14:23:03.2±1.6,5.°82N×126.°79E,h97km±13km,mb3.8/8, mb1 3.9/10,mb1mx3.6/39,mbtmp4.2/10,Error ellipse: s-maj=43.4km s-min=9.9km az=62.0*

ISC 23 14:23:02.6±0.8, 5.75N±0.°06×126.°57E±0.°07, h90km±9km, n42,σ1§70/48, mb4.1/15, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.93**	**292**	*e*P	**Pn**	**14 23 20.9**	**-0.6**
DDMP				*e*S	**Sn**	**14 23 31.9**	**-3.7**
MATI	**Mati**	**1.23**	**345**	*e*P	**Pn**	**14 23 24.4**	**-0.6**
MATI				*e*S	**Sn**	**14 23 44.1**	**+2.3**
DAV	**Davao City (W)**	**1.64**	**323**	P	**Pn**	**14 23 32.1**	**+1.9**
	91nm,0.3s,baz=247,slow=13,SNR=2.5						
DAV				S	**Sn**	**14 23 54.3**	**+3.3**
	174nm,0.3s,baz=294,slow=23,SNR=16						
DAV	**Davao City (W)**	**1.64**	**323**		**Pn**	**14 23 31.6**	**+1.4**
KCP	**Kidapawan**	**1.93**	**310**⇓	*i*P	**Pn**	**14 23 34.8**	**+0.8**
KCP				*i* S	**Sn**	**14 23 58.2**	**+0.3**
SKMP	**Bagumbayan, Su**	**2.16**	**291**	*e*P	**Pn**	**14 23 35.7**	**-1.2**
SKMP				*e*S	**Sn**	**14 23 57.5**	**-5.6**
BUKP	**Musuan**	**2.59**	**325**	*e*P	**Pn**	**14 23 44.5**	**+1.7**
BUKP				*e*S	**Sn**	**14 24 16.8**	**+3.3**
PAGZ	**Pagadian**	**3.79**	**304**	*e*P	**Pn**	**14 23 58.8**	**-0.1**
TBP	**Tagbilaran**	**4.75**	**326**	*e*P	**Pn**	**14 24 10.6**	**-1.2**
TNTI	**Ternate**	**5.01**	**171**		**Pn**	**14 24 15.9**	**+0.4**
LUWI	**Luwuk**	**7.74**	**209**	Pn	**Pn**	**14 24 56.3**	**+3.6**
MYLDM	**Lahad Datu**	**8.05**	**266**	Pn	**Pn**	**14 24 59.4**	**+2.5**
SIJI	**Sorong**	**8.08**	**144**	P	**Pn**	**14 24 57.2**	**0.0**
	1.1nm,0.3s,baz=338,slow=19,SNR=2.3						
SIJI				S	**Sn**	**14 26 26.1**	**-0.9**
	0.4nm,0.3s,baz=342,slow=20,SNR=0.9						
SBUM	**Sibu**	**14.68**	**258**	P	**P**	**14 26 30.6**	**+0.8**
SOEI	**Soe**	**15.57**	**188**	P	**P**	**14 26 41.4**	**+1.7**
SOEI				IAmb	IAmb	14 26 57.5	
	comp=Z,24nm,1.0s						
BATI	**Baumata**	**16.11**	**190**	P	**P**	**14 26 46.5**	**+0.9**
	comp=Z,5.5nm,0.3s,baz=31,slow=1.3,SNR=4.5						
KNRA	**Kununurra**	**21.40**	**174**	P	**P**	**14 27 43.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**23.71**	**182**	P	**P**	**14 28 07.0**	**+0.4**
	comp=Z,2.1nm,0.5s,baz=356,slow=6.7,SNR=20						
FITZ	**Fitzroy Crossi**	**23.71**	**182**	IAmb	IAmb	14 28 08.4	
	comp=Z,3.1nm,0.7s						
WB0	**Warramunga Arr**	**26.50**	**163**	P	**P**	**14 28 31.4**	**-0.4**
WB0				IAmb	IAmb	14 28 39.1	
	comp=Z,5.1nm,0.8s						
WRA	**Warramunga Arr**	**26.65**	**164**	P	**P**	**14 28 33.1**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=343,slow=10,SNR=19						
WB2	**Warramunga Arr**	**26.65**	**164**	P	**P**	**14 28 33.0**	**-0.2**
WR0	**Warramunga Arr**	**26.72**	**163**	P	**P**	**14 28 33.9**	**0.0**
CHTO	**Chiang Mai**	**29.89**	**298**	P	**P**	**14 29 02.8**	**+0.7**
CHTO				IAmb	IAmb	14 29 08.1	
	comp=Z,2.3nm,1.1s						
AS31	**Alice Springs**	**30.10**	**167**	P	**P**	**14 29 03.8**	**0.0**
ASAR	**Alice Springs**	**30.10**	**167**	P	**P**	**14 29 03.9**	**0.0**
	comp=Z,1.1nm,0.6s,baz=341,slow=7.2,SNR=32						
FORT	**Forrest**	**36.35**	**178**	P	**P**	**14 29 58.2**	**+0.2**
USA0B	**Ussuriysk Arra**	**38.59**	**6**	P	**P**	**14 30 13.9**	**-3.0**
USA0B				IAmb	IAmb	14 30 14.7	
	comp=Z,1.0nm,0.7s						
BBOO	**Buckleboo**	**39.39**	**167**	P	**P**	**14 30 24.5**	**+0.8**
BBOO				IAmb	IAmb	14 30 29.2	
	comp=Z,12nm,1.1s						
NWAO	**Narrogin (SRO)**	**39.47**	**192**	P	**P**	**14 30 24.7**	**+0.3**
	comp=Z,4.8nm,0.5s,baz=58,slow=9.0,SNR=6.1						
NWAO	**Narrogin (SRO)**	**39.47**	**192**	P	**P**	**14 30 24.3**	**0.0**
NWAO	**Narrogin (SRO)**	**39.47**	**192**	P	**P**	**14 30 24.4**	**0.0**
NWAO				IAmb	IAmb	14 30 35.5	
	comp=Z,24nm,1.1s						
STKA	**Stephens Creek**	**40.07**	**160**	P	**P**	**14 30 29.9**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=344,slow=8.3,SNR=4.8						
STKA	**Stephens Creek**	**40.07**	**160**	P	**P**	**14 30 29.2**	**-0.1**
TOO	**Toolangi**	**46.57**	**159**	P	**P**	**14 31 20.5**	**-1.1**
TOO				IAmb	IAmb	14 31 23.3	
	comp=Z,7.3nm,1.1s						
DZM	**Mont Dzumac**	**47.84**	**127**	P	**P**	**14 31 30.4**	**-1.4**
DZM				IAmb	IAmb	14 31 31.5	
	comp=Z,6.9nm,1.0s						
MK31	**Makanchi Array**	**55.82**	**325**	P	**P**	**14 32 30.7**	**0.0**
MKAR	**Makanchi Array**	**55.82**	**325**	P	**P**	**14 32 31.2**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=121,slow=7.0,SNR=13						
KURK	**Kurchatov**	**59.97**	**327**	P	**P**	**14 33 00.3**	**+0.7**
KURK				IAmb	IAmb	14 33 04.0	
	comp=Z,1.4nm,0.7s						
ARCES	**ARCESS Array B**	**88.51**	**340**	P	**P**	**14 35 43.5**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=77,slow=6.6,SNR=9.1						
FINES	**FINESS Array B**	**89.99**	**332**	P	**P**	**14 35 52.6**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=63,slow=9.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**122.12**	**289**	PKP	**PKiKP**	**14 41 48.4**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=51,slow=2.4,SNR=2.2						

NEIC ***23*** *14:26:18.2±1.0,6.°78S±0.°08×128.°4E±0.°1,h308km±9km, mb4.2/10,Error ellipse: s-maj=14.8km s-min=11.5km az=89.0*
IDC ***23*** *14:26:19.2±1.4,6.°79S×128.°38E,h320km±15km,mb3.3/9, mb1 3.5/13,mb1mx3.3/34,mbtmp4.1/13,Error ellipse: s-maj=22.3km s-min=9.9km az=74.0*

ISC 23 14:26:17.2±0.6, 6.79S±0.°06×128.°41E±0.°07, h300km, n32, σ1§65/38, mb3.9/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**5.05**	**234**		**Pn**	**14 27 36.8**	**+1.3**
FAKI	**Fak Fak**	**5.42**	**45**	Pn	**Pn**	**14 27 41.1**	**+1.3**
BATI	**Baumata**	**5.79**	**234**	P	**Pn**	**14 27 46.4**	**+2.2**
	17nm,0.3s,baz=100,slow=3.7,SNR=12						
BATI				S	**S**	**14 28 51.9**	**-2.2**
	29nm,0.3s,baz=136,slow=2.6,SNR=14						
SIJI	**Sorong**	**6.54**	**26**	P	**Pn**	**14 27 53.9**	**+0.7**
	4.7nm,0.3s,baz=217,slow=33,SNR=44						
SIJI				S	**S**	**14 29 06.8**	**-3.7**
	10nm,0.3s,baz=227,slow=22,SNR=24						
MTN	**Manton Dam**	**6.58**	**156**		**Pn**	**14 27 54.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**11.56**	**193**	P	**P**	**14 28 57.2**	**+0.9**
	1.9nm,0.3s,baz=24,slow=9.5,SNR=27						
FITZ				S	**S**	**14 31 01.7**	**-1.7**
	0.2nm,0.3s,baz=36,slow=17,SNR=1.6						
FITZ	**Fitzroy Crossi**	**11.56**	**193**	P	**P**	**14 28 56.9**	**+0.6**
WB0	**Warramunga Arr**	**14.15**	**156**	P	**P**	**14 29 25.8**	**+0.8**
WRAB	**Tennant Creek**	**14.28**	**157**	P	**P**	**14 29 27.3**	**+0.8**
WRA	**Warramunga Arr**	**14.28**	**157**	P	**P**	**14 29 27.0**	**+0.5**
	3.0nm,0.3s,baz=335,slow=12,SNR=43						
WRA				S	**S**	**14 31 58.4**	**-5.4**
	0.2nm,0.3s,baz=338,slow=21,SNR=5.7						
WB2	**Warramunga Arr**	**14.29**	**157**	P	**P**	**14 29 27.4**	**+0.8**
WR0	**Warramunga Arr**	**14.38**	**156**	P	**P**	**14 29 28.3**	**+0.7**
COEN	**Coen**	**16.17**	**117**	P	**P**	**14 29 49.1**	**+1.8**
AS31	**Alice Springs**	**17.59**	**163**	P	**P**	**14 30 03.8**	**+1.2**
ASAR	**Alice Springs**	**17.59**	**163**	P	**P**	**14 30 04.1**	**+1.5**
	12nm,0.3s,baz=345,slow=12,SNR=478						
ASAR				S	**S**	**14 33 08.9**	**-0.8**
	0.0nm,0.3s,baz=339,slow=19,SNR=13						
ASAR				ScP	**ScP**	**14 37 29.2**	**-3.5**
	0.1nm,0.3s,baz=353,slow=2.0,SNR=7.7						
CTA	**Charters Tower**	**21.78**	**129**	P	**P**	**14 30 47.3**	**+1.9**
	2.4nm,0.6s,baz=298,slow=12,SNR=2.1						
CTAO	**Charters Tower**	**21.78**	**129**	P	**P**	**14 30 46.6**	**+1.1**
CTAO				IAmb	IAmb	14 30 52.4	
	comp=Z,5.6nm,1.1s						
FORT	**Forrest**	**23.87**	**181**	P	**P**	**14 31 04.4**	**+0.2**
FORT				IAmb	IAmb	14 31 15.4	
	comp=Z,19nm,1.0s						
MORW	**Morawa**	**25.05**	**206**	P	**P**	**14 31 13.6**	**-1.3**
BBOO	**Buckleboo**	**26.85**	**166**	P	**P**	**14 31 30.7**	**-0.2**
BBOO				IAmb	IAmb	14 31 31.6	
	comp=Z,7.0nm,0.8s						
STKA	**Stephens Creek**	**27.83**	**155**	P	**P**	**14 31 40.2**	**+0.6**
	comp=Z,4.3nm,0.5s,baz=330,slow=8.7,SNR=14						
STKA	**Stephens Creek**	**27.83**	**155**	P	**P**	**14 31 40.0**	**+0.4**
NWAO	**Narrogin (SRO)**	**28.00**	**200**	P	**P**	**14 31 40.9**	**-0.2**
	comp=Z,4.8nm,0.9s,baz=90,slow=18,SNR=1.4						
NWAO	**Narrogin (SRO)**	**28.00**	**200**	P	**P**	**14 31 40.5**	**-0.6**
NWAO				IAmb	IAmb	14 31 57.5	
	comp=Z,12nm,1.1s						
CAN	**Canberra**	**34.12**	**149**	P	**P**	**14 32 35.9**	**+1.4**
CAN				IAmb	IAmb	14 32 36.6	
	comp=Z,13nm,1.1s						
TOO	**Toolangi**	**34.35**	**156**	P	**P**	**14 32 37.0**	**+0.6**
TOO				IAmb	IAmb	14 32 37.9	
	comp=Z,7.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**38.40**	**311**	P	**P**	**14 33 10.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=142,slow=7.6,SNR=5.2						
KSRS	**Korea Array**	**44.02**	**359**	P	**P**	**14 33 56.5**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=177,slow=9.1,SNR=6.4						
SONM	**Songino Array**	**57.76**	**343**	P	**P**	**14 35 37.9**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=172,slow=9.5,SNR=2.8						
MKAR	**Makanchi Array**	**67.19**	**328**	P	**P**	**14 36 39.6**	**0.0**
	comp=Z,1.1nm,0.5s,baz=123,slow=8.4,SNR=13						
ZALV	**Zalesovo Beam**	**70.71**	**334**	P	**P**	**14 36 59.6**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=134,slow=11,SNR=3.8						
VNDA	**Vanda**	**72.85**	**173**	P	**P**	**14 37 12.7**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=307,slow=5.6,SNR=1.6						

ISN ***23*** *14:54:02.5±1.0,32.°58N×47.°56E,h14km±6km,ML2.7*
TEH ***23*** *14:54:02.0,32.°59N×47.°54E,h9km,ML3.1*
THR ***23*** *14:54:03.6±0.6,32.°72N×47.°58E,h33km±5km,ML3.0*

ISC 23 14:54:02.2±1.7, 32.59N±0.°04×47.54E±0.°03, h2km±13km, n30,σ1§11/36, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.24**	**292**	*e*Pg	**Pg**	**14 54 07.9**	**+1.1**
IKFM	**Kafar-mosalman**	**0.96**	**15**	*e*Pg	**Pg**	**14 54 20.7**	**0.0**
IKFM				*e*		14 54 41.2	
IKMR	**Kamar-syah**	**1.16**	**37**	*e*Pg	**Pb**	**14 54 24.7**	**-0.3**
IKMR				*e*		14 54 45.0	
SHGR	**Shooshtar-Gavs**	**1.17**	**114**	*e*Pg	**Pn**	**14 54 26.0**	**+0.4**
SHGR				*e*Sg	**Sn**	**14 54 41.5**	**-0.7**
SHGR				IAML		14 54 55.6	
	comp=E,267nm,0.4s						
IDOB	**Doab**	**1.31**	**24**	*e*Pg	**Pg**	**14 54 27.2**	**-0.1**
IBDR	**Badra**	**1.45**	**291**	*e*Pg	**Pn**	**14 54 29.0**	**-0.5**
IBDR				*e*Sg	**Sb**	**14 54 49.0**	**+0.1**
IBDR				AML	AML	14 54 56.3	
	comp=E,109nm,0.9s						
IBDR				AML	AML	14 54 58.1	
	comp=N,166nm,0.5s						
BMDN	**Meydan**	**1.52**	**45**	*e*Pg	**Pb**	**14 54 31.0**	**-0.3**
BMDN				*e*		14 55 00.2	
AHWZ	**Ahwaz**	**1.57**	**143**	*e*Pg	**Pn**	**14 54 31.0**	**-0.1**
IKOM	**Komasi**	**1.58**	**359**	*e*Pg	**Pb**	**14 54 32.3**	**+0.1**
IKOM				*e*		14 54 35.6	
KCHF	**Cheshme Sefid,**	**1.73**	**346**	*e*Pg	**Pb**	**14 54 35.0**	**+0.2**
KER	**Kermanshah**	**1.82**	**349**	*e*Pn	**Pg**	**14 54 37.3**	**+0.2**
HSAM	**Samen**	**1.84**	**29**	*e*Pg	**Pg**	**14 54 37.0**	**-0.6**
HSAM				*e*		14 55 05.5	
IBZA	**Bozab**	**1.89**	**8**	*e*Pg	**Pg**	**14 54 38.0**	**-0.5**
IGHG	**Ghaleghazi**	**1.91**	**335**	*e*Pn	**Pn**	**14 54 36.1**	**0.0**
IGHG				*e*		14 55 17.4	
NSR	**Nassriya**	**1.98**	**217**	*e*Pn	**Pn**	**14 54 37.0**	**+0.3**
NSR				*e*Sn	**Sn**	**14 55 01.0**	**-1.1**
IVIS	**Veis**	**2.01**	**344**	*e*Pn	**Pb**	**14 54 39.0**	**-0.6**
IVIS				*e*		14 55 14.4	
IDHR	**Dehrash**	**2.31**	**336**	*e*Pn	**Pb**	**14 54 43.3**	**-1.5**
IDHR				*e*		14 55 22.8	
IALM	**Almabolaq**	**2.32**	**13**	*e*Pn	**Pn**	**14 54 42.2**	**+0.5**
KHMZ	**Khomeyn**	**2.33**	**60**	*e*Pn	**Pn**	**14 54 40.5**	**-1.2**
KHMZ				*e*Sg	**Sb**	**14 55 12.9**	**-1.5**
ILIN	**Lien**	**2.37**	**348**	*e*Pn	**Pb**	**14 54 44.3**	**-1.5**
ILIN				*e*		14 55 24.2	
SNGE	**Sanandaj**	**2.50**	**356**	*e*Pn	**Pn**	**14 54 42.5**	**-1.6**
SNGE				*e*Sg	**Sn**	**14 55 16.4**	**+1.1**
JHBN	**Jahan bin**	**2.67**	**97**	*e*Pn	**Pn**	**14 54 47.5**	**+1.0**
JHBN				*e*		14 55 44.

WR0				IAmb	IAmb	15 03 54.1	
	comp=Z,10nm,1.5s						
WB0	**Warramunga Arr**	**32.28**	**262**	P	**P**	**15 03 38.0**	**-0.7**
WB0				IAmb	IAmb	15 03 46.6	
	comp=E,4.2nm,0.5s						
WB2	**Warramunga Arr**	**32.31**	**262**	P	**P**	**15 03 37.7**	**-1.2**
WB2				IAmb	IAmb	15 03 41.3	
	comp=Z,9.6nm,1.4s						
WRAB	**Tennant Creek**	**32.31**	**262**	P	**P**	**15 03 37.6**	**-1.3**
WRAB				IAmb	IAmb	15 03 54.2	
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**32.32**	**262**	P	**P**	**15 03 37.9**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=81,slow=6.1,SNR=20						
WRA				PcP	**PcP**	**15 06 26.1**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=95,slow=2.6,SNR=6.5						
BBOO	**Buckleboo**	**32.45**	**237**	P	**P**	**15 03 40.3**	**+0.3**
BBOO				IAmb	IAmb	15 03 55.7	
	comp=Z,16nm,1.0s						
AS31	**Alice Springs**	**32.70**	**255**	P	**P**	**15 03 42.1**	**-0.2**
ASAR	**Alice Springs**	**32.70**	**255**	P	**P**	**15 03 42.1**	**-0.2**
	comp=Z,6.8nm,0.7s,baz=84,slow=8.4,SNR=177						
ASAR				PcP	**PcP**	**15 06 27.7**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=101,slow=2.9,SNR=4.9						
ASAR				LR	LR	15 16 32.6	
	comp=Z,142nm,20.1s,baz=114,slow=36						
MTN	**Manton Dam**	**36.42**	**273**	P	**P**	**15 04 15.5**	**+1.0**
KNRA	**Kununurra**	**38.09**	**268**	P	**P**	**15 04 28.5**	**-0.2**
KNRA				IAmb	IAmb	15 04 29.2	
	comp=Z,14nm,1.0s						
FORT	**Forrest**	**38.61**	**244**	P	**P**	**15 04 32.2**	**-0.7**
FORT				IAmb	IAmb	15 04 51.5	
	comp=Z,13nm,0.8s						
GUMO	**Guam**	**39.49**	**322**	LR	LR	15 19 15.9	
	comp=Z,39nm,22.0s,baz=144,slow=34						
PPT2	**Papeete2**	**39.76**	**96**	*e*LR	LR	15 16 09.2	
	comp=Z,179nm,28.5s						
FITZ	**Fitzroy Crossi**	**40.68**	**263**	P	**P**	**15 04 50.9**	**+0.5**
FITZ				IAmb	IAmb	15 05 05.0	
	comp=Z,18nm,0.8s						
NWAO	**Narrogin (SRO)**	**48.00**	**242**	P	**P**	**15 05 47.0**	**-1.7**
JCJ	**Chichijima**	**52.00**	**330**	P	**P**	**15 06 17.9**	**-1.1**
	comp=Z,15nm,0.6s,baz=270,slow=18,SNR=1.8						
JCJ	**Chichijima**	**52.00**	**330**	P	**P**	**15 06 17.3**	**-1.6**
TGY	**Tagaytay City**	**57.00**	**301**	P	**P**	**15 06 54.9**	**-0.8**
	comp=Z,169nm,0.4s,baz=217,slow=3.9,SNR=5.5						
VNDA	**Vanda**	**59.19**	**182**	P	**P**	**15 07 10.6**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=4.1,slow=5.8,SNR=5.9						
VNDA				LR	LR	15 30 46.4	
	comp=Z,35nm,18.1s,baz=347,slow=34						
LEM	**Lembang**	**60.33**	**273**	P	**P**	**15 07 18.9**	**-0.1**
	comp=Z,14nm,0.5s,baz=340,slow=6.8,SNR=3.6						
MJAR	**Matsushiro Arr**	**61.76**	**332**	P	**P**	**15 07 28.0**	**0.0**
	comp=Z,1.0nm,0.5s,baz=298,slow=7.4,SNR=7.7						
ASAJ	**Asahikawa**	**66.64**	**340**	P	**P**	**15 08 00.9**	**+1.0**
	baz=230,slow=6.5,SNR=2.1						
KSRS	**Korea Array**	**67.50**	**326**	P	**P**	**15 08 05.0**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=140,slow=7.7,SNR=7.8						
USRK	**Ussuriysk Ar.**	**70.75**	**333**	P	**P**	**15 08 26.2**	**+0.8**
	comp=Z,3.7nm,0.9s,baz=128,slow=5.0,SNR=11						
QSPA	**South Pole Qui**	**71.60**	**180**	P	**P**	**15 08 31.2**	**+0.6**
PETK	**Petropavlovsk-**	**71.88**	**353**	P	**P**	**15 08 32.5**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=155,slow=4.8,SNR=4.4						
PETK				LR	LR	15 35 21.3	
	comp=Z,27nm,19.5s,baz=55,slow=32						
XAN	**Xi'an**	**77.11**	**313**	P	**P**	**15 09 03.3**	**+0.3**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**77.59**	**294**	P	**P**	**15 09 07.7**	**+1.7**
	comp=Z,4.0nm,0.8s,baz=129,slow=4.2,SNR=26						
CHTO	**Chiang Mai**	**77.74**	**295**	P	**P**	**15 09 07.9**	**+1.1**
CHTO				IAmb	IAmb	15 09 08.9	
	comp=Z,6.5nm,0.9s						
MAW	**Mawson**	**78.92**	**202**	P	**P**	**15 09 13.9**	**+1.5**
	comp=Z,4.9nm,0.8s,baz=121,slow=6.4,SNR=13						
MAW	**Mawson**	**78.92**	**202**	P	**P**	**15 09 13.4**	**+1.0**
SEY	**Seymchan**	**82.11**	**353**	P	**P**	**15 09 29.3**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=184,slow=13						
SYO	**Syowa Base**	**85.50**	**196**	*e*pP	pP	15 10 00.0	+1.7
SYO	**Syowa Base**	**85.50**	**196**	*e*sP	sP	15 10 04.0	+1.8
YAK	**Yakutsk**	**85.93**	**143**	LR	LR	15 42 14.8	
	comp=Z,28nm,21.1s,baz=179,slow=32						
GTA	**Gaotai**	**86.12**	**314**	*e*P	**P**	**15 09 50.8**	**+0.2**
GTA				pP	pP	15 10 00.6	-1.4
GTA				sP	sP	15 10 04.8	-0.7
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**86.21**	**323**	P	**P**	**15 09 51.2**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=151,slow=5.6,SNR=18						
FID	**Port Fidalgo**	**86.80**	**20**	P	**P**	**15 09 53.0**	**-0.2**
NVAR	**Mina Array Bea**	**88.77**	**49**	P	**P**	**15 10 02.8**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=227,slow=9.3,SNR=5.4						
ILAR	**Eielson Array**	**89.68**	**17**	P	**P**	**15 10 05.2**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=236,slow=5.3,SNR=4.0						
I07A	**Izee**	**90.34**	**43**	P	**P**	**15 10 09.5**	**-1.1**
I07A				IAmb	IAmb	15 10 14.7	
	comp=Z,4.4nm,0.8s						
VNA3	**Neumayer Olymp**	**90.53**	**181**	P	**P**	**15 10 10.1**	**-0.8**
VNA2	**Neumayer--Watz**	**90.81**	**181**	P	**P**	**15 10 11.9**	**-0.3**
PDAR	**Pinedale Array**	**96.56**	**47**	P	**P**	**15 10 39.7**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=230,slow=7.0,SNR=1.6						
TXAR	**Lajitas Array**	**96.96**	**62**	P	**P**	**15 10 42.1**	**+0.8**
	comp=Z,0.4nm,0.9s,baz=224,slow=6.3,SNR=3.8						
MKAR	**Makanchi Array**	**100.73**	**316**	P	**Pdif**	**15 10 56.8**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=92,slow=6.4,SNR=11						
ARCES	**ARCESS Array B**	**124.14**	**345**	PKP	**PKiKP**	**15 16 06.3**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=70,slow=2.0,SNR=26						
FINES	**FINESS Array B**	**129.62**	**338**	PKhKP	PKPpre	15 16 10.2	
	comp=Z,1.3nm,0.7s,baz=48,slow=2.1,SNR=2.1						
FINES				PKP	**PKiKP**	**15 16 17.4**	**-1.0**
	comp=Z,4.2nm,1.1s,baz=48,slow=2.8,SNR=5.5						
AKASG	**Malin Array Be**	**134.49**	**324**	PKP	**PKiKP**	**15 16 27.1**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=56,slow=2.2,SNR=2.0						
NOA	**NORSAR Array B**	**134.52**	**345**	PKP	**PKiKP**	**15 16 26.8**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=30,slow=2.0,SNR=1.8						
BRTR	**Keskin Array B**	**135.82**	**308**	PKP	**PKPdf**	**15 16 29.4**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=318,slow=1.7,SNR=3.8						
KHC	**Kasperske Hory**	**143.34**	**332**	*e*PKP	**PKiKP**	**15 16 46.4**	**-0.5**
GERES	**GERESS Array B**	**143.50**	**332**	PKP	PKPbc	15 16 41.5	+0.3
	comp=Z,0.8nm,0.5s,baz=48,slow=1.2,SNR=8.8						
ARSA	**Arzberg**	**143.77**	**328**	*i* PKPdf	**PKPdf**	**15 16 43.2**	**-1.2**
	comp=Z,4.2nm,0.9s						
MOA	**Molin**	**143.96**	**330**	*i* PKPdf	**PKPdf**	**15 16 42.9**	**-1.8**
	comp=Z,2.9nm,0.5s						
SOKA	**Soboth**	**144.41**	**328**	*i* PKPdf	**PKPdf**	**15 16 43.8**	**-1.8**
	comp=Z,4.9nm,0.5s						
KBA	**Koelnbreinsper**	**144.95**	**330**	*i* PKPdf	PKPbc	15 16 45.1	-0.8
	comp=Z,9.3nm,0.6s						
MYKA	**Terra Mystica**	**145.13**	**329**	*i* PKPdf	**PKPdf**	**15 16 45.6**	**-1.2**
	comp=Z,10.0nm,0.5s						
WATA	**Walderalm**	**145.57**	**332**	*i* PKPab	**PKPab**	**15 16 47.6**	**-0.5**
	comp=Z,4.8nm,0.5s						
ABTA	**Abfaltersbach**	**145.58**	**330**	*i* PKPab	**PKPab**	**15 16 47.0**	**-1.1**
	comp=Z,19nm,0.7s,SNR=8.9						
WTTA	**Wattenberg**	**145.60**	**332**	*i* PKPab	**PKPab**	**15 16 47.9**	**-0.4**
	comp=Z,8.5nm,0.6s						
MOTA	**Moosalm**	**145.77**	**332**	*i* PKPab	**PKPab**	**15 16 48.3**	**-0.6**
	comp=Z,18nm,0.9s,SNR=6.0						
RETA	**Reutte**	**145.81**	**333**	*i* PKPab	**PKPab**	**15 16 48.3**	**-0.6**
	comp=Z,3.8nm,0.5s						
SQTA	**Sankt Quirin**	**145.82**	**332**	*i* PKPab	**PKPab**	**15 16 48.5**	**-0.5**
	comp=Z,17nm,0.7s,SNR=8.0						
FETA	**Feichten**	**146.19**	**332**	*i* PKPab	**PKPab**	**15 16 49.8**	**-0.7**
	comp=Z,9.2nm,0.7s						
DAVA	**Damuels**	**146.35**	**333**	*i* PKPab	**PKPab**	**15 16 50.1**	**-1.0**
	comp=Z,7.4nm,0.6s						
KEST	**Kesra**	**154.81**	**317**	PKPbc	**PKiKP**	**15 17 10.4**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=45,slow=4.3,SNR=2.2						
ESDC	**Sonseca Array**	**157.88**	**345**	PKPab	**PKPab**	**15 17 38.1**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=36,slow=3.4,SNR=2.3						
TORD	**Torodi Ar. Bea**	**166.31**	**249**	PKP	**PKPdf**	**15 17 14.5**	**-0.9**
	comp=Z,2.7nm,0.9s,baz=7.0,slow=1.4,SNR=13						
TORD				PKPab	**PKPab**	**15 18 16.6**	**0.0**
	comp=Z,1.2nm,0.8s,baz=87,slow=3.6,SNR=4.6						

*TEH **23** 15:00:04.7,32.68N×47.54E,h12km, ML2.9*
*ISN **23** 15:00:04.2±1.5,32.67N×47.56E,h15km±7km, ML2.7*
ISC 23 15:00:06.3±1.1,32.69N±0.06×47.53E±0.05,h23km,n14,
σ1s27/17,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.21**	**268**	*e*		15 00 17.4	
DHL1				*e*Pg	**Pb**	**15 00 09.4**	**-2.5**
IKFM	**Kafar-mosalman**	**0.88**	**18**	*e*Pg	**Pn**	**15 00 22.3**	**-0.9**
IKMR	**Kamar-syah**	**1.09**	**41**	*e*Pg	**Pn**	**15 00 24.8**	**-1.4**
IDOB	**Doab**	**1.22**	**26**	*e*Pg	**Pb**	**15 00 28.0**	**-0.9**
IBDR	**Badra**	**1.41**	**288**	*e*Pg	**Pn**	**15 00 30.0**	**-0.5**
IBDR				*e*Sg	**Sb**	**15 00 50.0**	**+0.6**
IBDR				AML	AML	15 00 55.9	
	comp=E,71nm,0.5s						
IBDR				AML	AML	15 00 58.6	
	comp=N,67nm,0.5s						
BMDN	**Meydan**	**1.47**	**48**	*e*Pg	**Pb**	**15 00 32.3**	**-0.7**
BMDN				*e*		15 00 58.4	
IKOM	**Komasi**	**1.48**	**359**	*e*Pg	**Pb**	**15 00 32.9**	**-0.4**
IKOM				*e*		15 00 57.6	
KCHF	**Cheshme Sefid,**	**1.63**	**346**	*e*Pg	**Pb**	**15 00 35.5**	**-0.3**
KCHF				*e*		15 01 00.0	
HSAM	**Samen**	**1.77**	**30**	*e*Pg	**Pb**	**15 00 37.5**	**-0.7**
HSAM				*e*		15 00 40.6	
IBZA	**Bozab**	**1.80**	**9**	*e*Pn	**Pb**	**15 00 37.9**	**-0.9**
IBZA				*e*		15 00 42.2	
NSR	**Nassriya**	**2.05**	**216**	*e*Pn	**Pn**	**15 00 40.0**	**+0.7**
NSR				*e*Sn	**Sn**	**15 01 04.0**	**-0.2**
ILIN	**Lien**	**2.27**	**348**	*e*Pn	**Pn**	**15 00 43.3**	**+0.6**
ILIN				*e*		15 01 22.4	
BHD	**Baghdad**	**2.71**	**283**	*e*Pn	**Pn**	**15 00 49.0**	**+0.6**
BHD				*e*Sn	**Sn**	**15 01 23.0**	**+2.5**
BHD				AML	AML	15 01 31.2	
	comp=E,137nm,0.3s						
IPIR	**Pirpir**	**2.84**	**89**	*e*Pn	**Pn**	**15 00 52.0**	**+1.5**
IPIR				*e*		15 01 49.3	

WEL 23 15:36:25.3±0.4,45°S±5°×16°9E±°,h7km±4km,M3.3/16,
ML3.4/16,MLv3.3/16,Error ellipse: s-maj=0.0km
s-min=0.0km az=143.7,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WKZ	**Wanaka**	**0.12**	**276**	P		15 36 28.9	+0.9
WKZ				S		15 36 30.9	+1.1
JCZ	**Jackson Bay**	**0.82**	**339**	P		15 36 41.5	+0.4
LBZ	**Lake Benmore**	**0.84**	**58**	P		15 36 42.2	-0.1
LBZ				S		15 36 53.1	+0.7
MSZ	**Milford Sound**	**0.92**	**280**	P		15 36 42.8	-0.1
MSZ				S		15 36 54.1	-0.7
MLZ	**Mavora Lakes**	**0.93**	**235**	P		15 36 42.7	-0.4
ODZ	**Otahua Downs**	**1.05**	**102**	P		15 36 45.3	-0.2
TUZ	**Tuapeka**	**1.16**	**165**	P		15 36 47.0	-0.5
WHZ	**Wether Hill Ro**	**1.37**	**219**	P		15 36 50.4	-0.5
FOZ	**Fox Glacier**	**1.38**	**19**	P		15 36 51.1	+0.1
HHSZ	**Highcliff Hill**	**1.44**	**137**	P		15 36 52.2	+0.3
DCZ	**Deep Cove**	**1.57**	**246**	P		15 36 54.5	-0.3
ARCZ	**Arundel**	**1.68**	**59**	P		15 36 54.6	-0.6
SYZ	**Scrubby Hill**	**1.70**	**181**	P		15 36 55.1	-0.3
GCSZ	**Gaunt Creek Bo**	**1.73**	**29**	P		15 36 57.1	-0.3
RPZ	**Rata Peaks**	**1.75**	**51**	P		15 36 55.6	-0.5
WVZ	**Waitaha Valley**	**2.09**	**33**	P		15 37 02.1	+1.4
WAKZ	**Wakanui South**	**2.10**	**66**	P		15 37 00.1	-0.4
APZ	**The Paps**	**2.16**	**202**	P		15 37 01.5	-0.3
PYZ	**Puysegur Point**	**2.21**	**232**	P		15 37 03.1	+0.7
OXZ	**Oxford**	**2.55**	**55**	P		15 37 06.1	-1.0
INZ	**Inchbonnie**	**2.67**	**38**	P		15 37 08.7	-0.1
MQZ	**McQueen's Vall**	**2.73**	**67**	P		15 37 09.4	-0.2
OKCZ	**Okains Bay**	**2.99**	**69**	P		15 37 12.0	-1.2
LTZ	**Lake Taylor**	**3.03**	**48**	P		15 37 12.9	-0.9
GVZ	**Greta Valley S**	**3.35**	**57**	P		15 37 18.1	0.0
DSZ	**Denniston Nort**	**3.63**	**33**	P		15 37 21.4	-0.7
THZ	**Tophouse**	**4.10**	**43**	P		15 37 28.2	-0.3
QRZ	**Quartz Range**	**4.70**	**33**	P		15 37 35.5	-1.3

*IDC **23** 15:42:10.9±1.8,56.2°N×165.1°E,h0km,mb3.7/4,*
mb1 3.9/5,mb1mx3.2/48,mbtmp3.6/5,ML2.4/1,Error
ellipse: s-maj=72.7km s-min=24.0km az=162.0
*KRSC **23** 15:42:25.2±1.1,56.20N×163.05E,h52km±11km,ML3.6*
ISC 23 15:42:27.4±1.1,56°27N±0°04×162°99E±0°04,h42km±7km,
n49,σ1s61/67,mb3.7/4,Near east coast of Kamchatka
Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.12**	**235**	*i* P	**Pn**	**15 42 34.3**	**0.0**
KBTR				*e*S	**Sn**	**15 42 39.9**	**+0.8**
KBG	**Krutoberegovo**	**0.16**	**263**	*e*P	**Pn**	**15 42 34.3**	**-0.2**
KBG				*e*S	**Sn**	**15 42 39.9**	**+0.4**
SMKR	**Semkarok**	**0.90**	**291**	*e*P	**Pn**	**15 42 43.8**	**+0.2**
SMKR				*e*S	**Sn**	**15 42 56.0**	**+0.5**
BDR	**Baidarnaya**	**1.03**	**287**	*e*P	**Pn**	**15 42 45.8**	**+0.3**
BDR				*e*S	**Sn**	**15 42 59.9**	**+1.2**
SRKR	**Sorokina**	**1.08**	**291**	*e*P	**Pn**	**15 42 46.4**	**+0.3**
SRKR				*e*S	**Sn**	**15 43 00.2**	**+0.3**
ZLN	**Zelenaya**	**1.25**	**259**	*e*P	**Pn**	**15 42 49.1**	**+0.7**
ZLN				*e*S	**Sn**	**15 43 05.4**	**+1.3**
CIRR	**Tsirk**	**1.26**	**264**	*e*P	**Pn**	**15 42 49.3**	**+0.6**
CIRR				*e*S	**Sn**	**15 43 05.2**	**-0.7**
LGNR	**Loginova**	**1.30**	**262**	*e*P	**Pn**	**15 42 49.8**	**+0.5**
LGNR				*e*S	**Sn**	**15 43 05.4**	**-0.2**
KLY	**Klyuchi**	**1.30**	**273**	*e*P	**Pn**	**15 42 47.6**	**-1.5**
KLY				*e*S	**Sn**	**15 43 03.2**	**-2.0**
BZGR	**Bezymyannyi-Gr**	**1.33**	**256**	*e*P	**Pn**	**15 42 50.1**	**+0.6**
BZGR				*e*S	**Sn**	**15 43 05.9**	**-0.1**
KRSR	**Krestovskiy**	**1.35**	**269**	*e*P	**Pn**	**15 42 49.7**	**-0.2**
KRSR				*e*S	**Sn**	**15 43 06.0**	**-0.7**
BZWR	**Bezymyannyi-We**	**1.43**	**258**	*e*P	**Pn**	**15 42 51.8**	**+0.8**
BZWR				*e*S	**Sn**	**15 43 09.7**	**+1.1**
BZMR	**Bezymyannaya**	**1.44**	**257**	*e*P	**Pn**	**15 42 52.4**	**+1.3**
BZMR				*e*S	**Sn**	**15 43 09.7**	**+0.8**
KIRR	**Kirishev**	**1.52**	**259**	*e*S	**Sn**	**15 43 11.8**	**+1.1**
KPT	**Kopyto**	**1.58**	**260**	*e*P	**Pn**	**15 42 53.8**	**+0.8**
KPT				*e*S	**Sn**	**15 43 12.6**	**+0.4**
KMNR	**Kamenistaya**	**1.63**	**253**	*i* P	**Pn**	**15 42 55.0**	**+1.3**
KMNR				*e*S	**Sn**	**15 43 14.0**	**+0.5**
KOZ	**Kozyrevsk**	**1.76**	**264**	*e*P	**Pn**	**15 42 56.8**	**+1.5**
KOZ				*e*S	**Sn**	**15 43 19.3**	**+2.9**
TUMD	**Tumrok D**	**1.82**	**235**	*e*P	**Pn**	**15 42 56.4**	**+0.3**
SRDR	**Sredinnyy**	**1.82**	**273**	*e*P	**Pn**	**15 42 56.7**	**+0.4**
SRDR				*e*S	**Sn**	**15 43 20.0**	**+1.8**
TUMR	**Tumrok**	**1.89**	**239**	*i* P	**Pn**	**15 42 58.1**	**+0.9**
KZV	**Kizimen**	**1.92**	**234**	*e*P	**Pn**	**15 42 58.2**	**+0.5**
BKI	**Bering**	**2.00**	**121**	*e*P	**Pn**	**15 42 59.8**	**+1.2**
BKI				*e*S	**Sn**	**15 43 23.1**	**+0.8**
ESO	**Esso**	**2.43**	**263**	*e*P	**Pn**	**15 43 05.3**	**+0.8**
OSSR	**Ossora**	**2.98**	**1**	*e*P	**Pn**	**15 43 13.8**	**+1.7**
OSSR				*e*S	**Sn**	**15 43 47.1**	**+0.5**
KII	**Karymskiy**	**3.03**	**224**	*e*P	**Pn**	**15 43 13.4**	**+0.6**
SPN	**Mys Shipunski**	**3.62**	**210**	*e*P	**Pn**	**15 43 19.5**	**-1.4**
SPN				*e*S	**Sn**	**15 43 58.1**	**-4.2**
NLC	**Nalytchevo**	**3.76**	**216**	*e*P	**Pn**	**15 43 24.6**	**+1.8**
NLC				*e*S	**Sn**	**15 44 04.8**	**-0.9**
SDLR	**Sedlovina**	**3.83**	**220**	*i* P	**Pn**	**15 43 24.9**	**+1.0**
KRX	**Arik**	**3.85**	**222**	*i* P	**Pn**	**15 43 26.4**	**+2.2**
KRER	**Koryakskii**	**3.86**	**221**	*e*P	**Pn**	**15 43 25.6**	**+1.3**
SMAR	**Somma**	**3.87**	**221**	*e*P	**Pn**	**15 43 25.1**	**+0.6**
AVH	**Avacha**	**3.89**	**221**	*e*P	**Pn**	**15 43 26.2**	**+1.5**
UGLR	**Uglovaya**	**3.91**	**220**	*e*P	**Pn**	**15 43 26.0**	**+1.1**
KOK	**Koryaka**	**3.91**	**222**	*e*P	**Pn**	**15 43 26.2**	**+1.3**
DALK	**Dalny**	**4.08**	**219**	*e*P	**Pn**	**15 43 27.5**	**+0.4**
DALK				*e*S	**Sn**	**15 44 12.9**	**-0.6**
PET	**Petropavlovsk**	**4.12**	**220**	*e*P	**Pn**	**15 43 28.6**	**+0.9**
PET				*e*S	**Sn**	**15 44 14.1**	**-0.4**
PETK	**Petropavlovsk-**	**4.41**	**226**	Pn	**Pn**	**15 43 32.7**	**+0.9**
	0.6nm,0.3s,baz=66,slow=16,SNR=32						
PETK				Sn	**Sn**	**15 44 29.9**	**+8.0**
	0.1nm,0.3s,baz=87,slow=18,SNR=1.1						
KRMR	**Karymshinskiy**	**4.46**	**221**	P	**Pn**	**15 43 33.2**	**+0.8**
GRL	**Gorelyy**	**4.71**	**220**	*e*P	**Pn**	**15 43 37.8**	**+1.9**
MTVR	**Mutnovka**	**4.72**	**218**	*e*P	**Pn**	**15 43 37.6**	**+1.4**
ASAK	**Asacha**	**4.91**	**219**	*e*P	**Pn**	**15 43 40.9**	**+2.3**
KDTR	**Khodutka, Kamc**	**5.33**	**215**	*e*P	**Pn**	**15 43 44.3**	**0.0**
DLBC	**Dease Lake**	**34.85**	**58**	P	P	15 48 53.1	-21
	2.1nm,0.7s,baz=22,slow=6.3,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**36.60**	**174**	T	T	16 28 22.3	
	baz=357,slow=76,SNR=98						
H11N3	**WAKE ISLAND Hy**	**36.62**	**174**	T	T	16 28 21.4	
	baz=357,slow=76,SNR=102						
H11N1	**WAKE ISLAND Hy**	**36.62**	**174**	T	T	16 28 22.7	
	baz=357,slow=76,SNR=94						
YKA	**Yellowknife Ar**	**39.71**	**46**	P	P	15 49 37.6	-17
	1.9nm,0.8s,baz=288,slow=9.0,SNR=2.8						
MKAR	**Makanchi Array**	**48.32**	**295**	P	**P**	**15 51 01.8**	**-2.6**
	0.2nm,0.4s,baz=54,slow=7.0,SNR=6.5						
PDAR	**Pinedale Array**	**54.56**	**65**	P	P	15 51 33.2	-18
	0.1nm,0.4s,baz=334,slow=10.0,SNR=2.0						

TAP 23 15:48:04.0,24.01N×121.49E,h17km±1km,ML1.6,A,
Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.11**	**108**	*e*P	**Pb**	**15 48 08.6**	**+0.9**
	baz=107						
HWA				*e*S	Sb	15 48 12.0	+1.9
	baz=107						
TWD	**Chiawan**	**0.12**	**55**	*i* P	Pb	15 48 08.5	+0.8
	baz=56						
TWD				*i* S	Sb	15 48 11.4	+1.1
	baz=56						
NACB	**Ninganchiao**	**0.19**	**31**	*i* P	Pb	15 48 09.2	+0.2
	baz=30						
NACB				*i* S	Sb	15 48 12.5	+0.2
	baz=30						
ETLH	**Xiulin Townshi**	**0.19**	**358**	*i* P	Pb	15 48 09.5	+0.4
	baz=357						
ETLH				*i* S	Sb	15 48 12.8	+0.2
	baz=357						
ESL	**Shilin**	**0.20**	**195**	*e*P	Pg	15 48 09.0	+0.2
	baz=192						
ESL				*e*S	Sg	15 48 12.4	+0.3
	baz=192						
WHF	**Hehuan Shan**	**0.24**	**303**	P	Pb	15 48 10.5	+0.3
	baz=303						
WHF				*e*S	Sb	15 48 14.9	+0.6
	baz=303						
CHGB	**Renai**	**0.29**	**280**	*e*P	Pb	15 48 11.3	+0.4
	baz=279						
CHGB				*e*S	Sb	15 48 15.9	+0.4
	baz=279						
FUSS	**Fushou**	**0.32**	**316**	*e*P	Pb	15 48 11.9	+0.5
	baz=316						
FUSS				*e*S	Sb	15 48 17.2	+0.7
	baz=316						
EGFH	**Guangfu**	**0.35**	**189**	*e*P	Pg	15 48 11.1	-0.1
	baz=189						
TWT	**Tachien**	**0.37**	**310**	*e*P	Pb	15 48 12.9	+0.6
	baz=308						
TDCB	**Techi**	**0.39**	**309**	*e*P	Pb	15 48 13.0	+0.5
	baz=308						
VWDT	**VWDT**	**0.41**	**231**	*e*P	Pb	15 48 12.8	+0.1
	baz=231						
VWDT				*e*S	Sb	15 48 19.1	+0.4
	baz=231						
NNSB	**Datong**	**0.43**	**347**	*e*P	Pb	15 48 13.5	+0.4
	baz=346						
NNSB				*e*S	Sb	15 48 19.6	+0.3
	baz=346						
NNSH	**Datong**	**0.43**	**347**	*e*P	Pb	15 48 13.5	+0.4
	baz=346						
NNSH				*e*S	Sb	15 48 19.5	+0.2
	baz=346						
NNS	**Nan Shan**	**0.44**	**346**	*e*P	Pb	15 48 13.5	+0.2
	baz=262						
NNS				*e*S	Sb	15 48 19.9	+0.2
	baz=262						
NNS	**Nan Shan**	**0.44**	**346**	*e*P	Pb	15 48 13.8	+0.5
	baz=346						
NNS				*e*S	Sb	15 48 20.0	+0.3
	baz=346						
ENA	**Nanau**	**0.47**	**29**	*e*P	Pb	15 48 14.1	+0.3
	baz=29						
HGSD	**Ruisui**	**0.52**	**187**	*e*P	Pb	15 48 15.2	+0.5
	baz=186						
EHY	**H

IPIR	**Pirpir**	**2.55**	**86**	*e*Pn	**Pb**	**15 50 00.4**	**-1.7**
IPIR				*e*		15 50 42.8	
BHD	**Baghdad**	**3.03**	**285**	*e*Pn	**Pn**	**15 50 05.0**	**+1.1**
BHD				*e*Sn	**Sn**	**15 50 42.0**	**+2.1**
BHD				AML	AML	15 50 45.3	
	comp=E,147nm,0.2s						

*IDC **23** 15:58:35.6±1.9, 9°.51S×114°.14E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.6/46, mbtmp3.9/6, ML3.8/2, MS3.5/1, Ms1 3.4/1, ms1mx2.5/45, Error ellipse: s-maj=53.2km s-min=21.0km az=52.0*
*NEIC **23** 15:58:43.3±2.9, 9°.41S±0°.07×114°.56E±0°.07, h50km±10km, mb4.1/11, Error ellipse: s-maj=11.1km s-min=9.0km az=218.0*
*DJA **23** 15:58:44.9±0.6, 9°.S±7°.×11°.5E±°, h56km±9km, M4.4/8, MLv4.4/8*
ISC 23 15:58:41.8±1.5, **9°.46S**±0°.06×**114°.54E**±0°.04, **h32**km±12km, **n37**, σ**2**.8/43, **mb4.0**/9, **South of Bali**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNP	**Denpasar**	**1.02**	**41**	P	**Pb**	**15 59 02.0**	**+1.1**
DNP				S	**Sb**	**15 59 15.5**	**+1.5**
JAGI	**Jajag, Banyuwa**	**1.05**	**339**	P	**Pn**	**15 59 01.4**	**+1.1**
JAGI				S	**Sn**	**15 59 14.7**	**+0.9**
JAGI	**Jajag, Banyuwa**	**1.05**	**339**		**Pn**	**15 59 01.0**	**+0.7**
JAGI					**Sn**	**15 59 14.6**	**+0.8**
GMJI	**Gumukmas**	**1.60**	**317**	P	**Pn**	**15 59 09.6**	**+1.8**
GMJI				S	**Sn**	**15 59 27.8**	**+0.5**
TWSI	**Taliwang, Sumb**	**2.42**	**73**	P	**Pn**	**15 59 21.1**	**+2.0**
TWSI				S	**Sn**	**15 59 48.2**	**+0.5**
KMMI	**Kalianget**	**2.46**	**347**	P	**Pb**	**15 59 23.5**	**-1.8**
GRJI	**Gresik**	**3.25**	**321**	P	**Pn**	**15 59 34.5**	**+4.1**
GRJI				S	**Sn**	**16 00 10.2**	**+2.2**
PLAI	**Plampang**	**3.26**	**79**	P	**Pn**	**15 59 33.3**	**+2.7**
PLAI				S	**Sn**	**16 00 09.3**	**+0.9**
WOJI	**Wonogiri, Jawa**	**3.92**	**294**	S	**Sn**	**16 00 24.5**	**-0.1**
UGM	**Wanagama**	**4.25**	**291**	P	**Pn**	**15 59 46.9**	**+2.5**
UGM	**Wanagama**	**4.25**	**291**		**Pn**	**15 59 47.3**	**+2.9**
KAPI	**Kappang**	**6.80**	**50**	Pn	**Pn**	**16 00 20.9**	**+1.6**
	2.8nm,0.3s,baz=271,slow=4.1,SNR=8.2						
KAPI				Sn	**Sn**	**16 01 32.1**	**-3.6**
	2.0nm,0.3s,baz=106,slow=20,SNR=3.6						
KAPI	**Kappang**	**6.80**	**50**	Pn	**Pn**	**16 00 20.7**	**+1.3**
CISI	**Cisompet, Garu**	**6.91**	**285**	Pn	**Pn**	**16 00 23.0**	**+2.0**
BATI	**Baumata**	**9.02**	**96**	Sn	**Sn**	**16 02 26.9**	**-3.7**
	1.6nm,0.3s,baz=235,slow=24,SNR=1.9						
PSA00	**Pilbara Seismi**	**13.08**	**158**	Pn	**Pn**	**16 01 42.8**	**-2.6**
GIRL	**Giralia**	**13.12**	**181**	Pn	**Pn**	**16 01 45.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**13.78**	**130**	Pn	**Pn**	**16 01 54.0**	**-0.9**
	0.2nm,0.3s,baz=319,slow=10,SNR=11						
FITZ				Sn	Sn	16 04 17.4	-10
	0.3nm,0.3s,baz=180,slow=20,SNR=2.7						
FITZ	**Fitzroy Crossi**	**13.78**	**130**	Pn	**Pn**	**16 01 54.2**	**-0.7**
KNRA	**Kununurra**	**15.19**	**115**	Pn	**Pn**	**16 02 13.5**	**-0.7**
KNRA				IAmb	IAmb	16 02 29.0	
	comp=Z,5.7nm,0.9s						
FAKI	**Fak Fak**	**18.76**	**71**	P	**P**	**16 02 56.1**	**-2.2**
FAKI				IAmb	IAmb	16 03 09.4	
	comp=Z,114nm,1.4s						
WB0	**Warramunga Arr**	**21.75**	**120**	P	**P**	**16 03 31.1**	**+0.4**
WB0				IAmb	IAmb	16 03 50.4	
	comp=Z,7.5nm,1.2s						
WRA	**Warramunga Arr**	**21.78**	**121**	P	**P**	**16 03 32.1**	**+1.0**
	comp=Z,1.2nm,0.4s,baz=292,slow=12,SNR=28						
WRA				S	**S**	**16 07 31.5**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=290,slow=25,SNR=3.0						
WRAB	**Tennant Creek**	**21.79**	**121**	P	**P**	**16 03 28.3**	**-2.9**
WRAB				IAmb	IAmb	16 03 42.6	
	comp=Z,8.6nm,1.4s						
WB2	**Warramunga Arr**	**21.79**	**121**	P	**P**	**16 03 32.2**	**+1.0**
WB2				IAmb	IAmb	16 03 40.5	
	comp=Z,4.5nm,1.1s						
WR0	**Warramunga Arr**	**21.96**	**121**	P	**P**	**16 03 33.0**	**0.0**
WR0				IAmb	IAmb	16 03 40.8	
	comp=Z,7.3nm,1.2s						
AS31	**Alice Springs**	**23.28**	**130**	P	**P**	**16 03 48.1**	**+1.2**
ASAR	**Alice Springs**	**23.28**	**130**	P	**P**	**16 03 48.1**	**+1.2**
	comp=Z,1.6nm,0.5s,baz=303,slow=8.8,SNR=132						
ASAR				S	**S**	**16 08 03.8**	**+6.4**
	comp=Z,0.7nm,0.7s,baz=298,slow=22,SNR=4.4						
BBOO	**Buckleboo**	**30.58**	**143**	P	**P**	**16 04 51.6**	**-1.1**
BBOO				IAmb	IAmb	16 04 52.4	
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**33.56**	**136**	P	**P**	**16 05 20.7**	**+1.8**
	comp=Z,2.6nm,0.6s,baz=313,slow=9.9,SNR=10						
STKA				LR	LR	16 21 37.5	
	comp=Z,82nm,19.8s,baz=215,slow=41						
STKA	**Stephens Creek**	**33.56**	**136**	IAmb	IAmb	16 05 21.8	
	comp=Z,1.6nm,1.3s						
YHNB	**Yeheng**	**34.57**	**11**	P	**P**	**16 05 27.8**	**+0.1**
PALK	**Pallekele**	**37.58**	**295**	P	**P**	**16 05 52.4**	**-1.3**
H08S2	**Diego Garcia H**	**41.60**	**269**	T	T	16 51 04.1	
	baz=95,slow=76,SNR=6.9						
H08S3	**Diego Garcia H**	**41.61**	**269**	T	T	16 50 38.2	
	baz=95,slow=76,SNR=9.6						
H08S1	**Diego Carcia H**	**41.62**	**269**	T	T	16 51 09.0	
	baz=95,slow=76,SNR=6.5						
MKAR	**Makanchi Array**	**62.95**	**336**	P	**P**	**16 09 03.5**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=149,slow=8.3,SNR=2.4						

*TEH **23** 16:03:50.9, 32°.69N×47°.50E, h9km, ML3.0*
*ISN **23** 16:03:51.5±1.2, 32°.72N×47°.49E, h15km±6km, ML3.0*
*THR **23** 16:03:53.4±0.3, 32°.78N×47°.43E, h38km±2km, ML3.0*
ISC 23 16:03:51.8±1.5, **32°.73N**±0°.04×**47°.46E**±0°.03, **h4**km±13km, **n27**, σ0°**83**/31, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.16**	**251**	*e*Pg	**Pg**	**16 03 55.2**	**+0.2**
IKFM	**Kafar-mosalman**	**0.85**	**22**	*e*		16 04 26.4	
IKFM				*e*Pg	**Pg**	**16 04 08.2**	**0.0**
IKMR	**Kamar-syah**	**1.10**	**44**	*e*Pg	**Pg**	**16 04 12.4**	**-0.5**
IKMR				*e*		16 04 33.3	
IDOB	**Doab**	**1.21**	**29**	*e*Pg	**Pg**	**16 04 14.7**	**-0.4**
SHGR	**Shooshtar-Gavs**	**1.29**	**119**	*e*Pg	**Pg**	**16 04 18.0**	**+1.4**
IBDR	**Badra**	**1.34**	**287**	*e*Pg	**Pn**	**16 04 16.0**	**-1.4**
IBDR				*e*Sg	**Sb**	**16 04 35.0**	**-0.1**
IBDR				AML	AML	16 04 40.6	
	comp=N,357nm,0.5s						
IBDR				AML	AML	16 04 41.0	
	comp=E,193nm,0.4s						
IKOM	**Komasi**	**1.44**	**2**	*e*Pg	**Pb**	**16 04 19.4**	**+0.1**
IKOM				*e*		16 04 20.7	
BMDN	**Meydan**	**1.48**	**50**	*e*Pg	**Pn**	**16 04 19.2**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.58**	**347**	*e*Pg	**Pb**	**16 04 21.4**	**-0.3**
KCHF				*e*		16 04 48.4	
KER	**Kermanshah**	**1.67**	**351**	*e*Pg	**Pn**	**16 04 22.6**	**+0.6**
AHWZ	**Ahwaz**	**1.72**	**144**	*e*Pg	**Pn**	**16 04 22.5**	**0.0**
HSAM	**Samen**	**1.75**	**33**	*e*Pg	**Pn**	**16 04 23.7**	**+0.4**
HSAM				*e*		16 04 26.4	
IGHG	**Ghaleghazi**	**1.76**	**335**	*e*Pg	**Pb**	**16 04 25.5**	**+0.7**
IBZA	**Bozab**	**1.76**	**11**	*e*Pg	**Pb**	**16 04 24.1**	**-0.8**
IBZA				*e*		16 04 56.4	
IVIS	**Veis**	**1.86**	**344**	*e*Pn	**Pn**	**16 04 25.0**	**+0.4**
IVIS				*e*		16 04 57.1	
NSR	**Nassriya**	**2.05**	**214**	*e*Pn	**Pn**	**16 04 27.0**	**-0.1**
NSR				*e*Sn	**Sn**	**16 04 52.0**	**-1.2**
IDHR	**Dehrash**	**2.16**	**336**	*e*Pn	**Pn**	**16 04 29.7**	**+0.9**
IDHR				*e*		16 05 11.7	
IALM	**Almabolaq**	**2.20**	**15**	*e*Pn	**Pn**	**16 04 30.2**	**+0.8**
KHMZ	**Khomeyn**	**2.32**	**64**	*e*Pn	**Pn**	**16 04 31.2**	**+0.2**
SNGE	**Sanandaj**	**2.35**	**358**	*e*Pn	**Pn**	**16 04 30.9**	**-0.6**
SNGE				*e*Sg	**Sb**	**16 05 04.5**	**+0.1**
SNGE				IAML		16 05 10.1	
	comp=N,73nm,0.9s						
HSRG	**Sareghieh**	**2.59**	**15**	*e*Pn	**Pb**	**16 04 37.0**	**-2.1**
HSRG				*e*		16 05 20.2	
BHD	**Baghdad**	**2.65**	**282**	*e*Pn	**Pn**	**16 04 36.0**	**+0.7**
BHD				*e*Sn	**Sn**	**16 05 09.0**	**+1.2**
JHBN	**Jahan bin**	**2.75**	**100**	*e*Pn	**Pn**	**16 04 36.9**	**-0.1**
IPIR	**Pirpir**	**2.89**	**90**	*e*Pn	**Pn**	**16 04 39.2**	**+0.3**
IRAZ	**Razeghan**	**3.36**	**37**	*e*Pn	**Pn**	**16 04 46.6**	**+1.3**
QABG	**Abgarm-Qazvin**	**3.45**	**30**	*e*Pn	**Pn**	**16 04 46.8**	**+0.3**
QSDN	**Sirdan**	**4.02**	**20**	*e*Pn	**Pn**	**16 04 55.5**	**+1.1**

*KRNET **23** 16:28:19.7±0.1, 40°.93N×72°.30E, h13km, mb2.4*
*SOME **23** 16:28:19.3, 40°.87N×72°.43E, h10km*

*NNC **23** 16:28:21.0±1.5, 40°.92N×72°.36E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=12.5km s-min=4.5km az=178.0*
ISC 23 16:28:20.0±1.3, **40°.93N**±0°.03×**72°.30E**±0°.03, **h2**km±14km, **n20**, σ1**°14**/33, **14C-10D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.55**	**138**	⇑*i*P	**Pg**	**16 28 30.5**	**0.0**
	baz=37						
OHH				⇑*i*S	**Sg**	**16 28 37.9**	**+0.3**
	baz=37						
ARK	**Arkit**	**0.90**	**344**	⇓*i*P	**Pg**	**16 28 36.7**	**-0.7**
	baz=44						
ARK				⇓*i*S	**Sg**	**16 28 48.9**	**-0.2**
	baz=44						
BTK	**Batken**	**1.43**	**233**	⇓*i*P	**Pn**	**16 28 46.1**	**-1.0**
	baz=33						
BTK				⇓*i*S	**Sg**	**16 29 06.1**	**+0.1**
	baz=33						
AML	**Almayashu**	**1.59**	**41**	⇑*i*P	**Pn**	**16 28 49.4**	**-0.2**
	baz=41						
AML				⇑*i*S	**Sb**	**16 29 11.2**	**+0.1**
	baz=41						
ARLS	**Aral**	**1.78**	**58**	⇑*i*P	**Pb**	**16 28 53.3**	**-0.2**
	baz=58						
ARLS				⇑*i*S	**Sg**	**16 29 17.3**	**+0.1**
	baz=58						
MRKS	**Merke**	**1.94**	**21**	*e*P	**Pg**	**16 28 57.1**	**-0.1**
	2.7nm,0.4s						
MRKS				*e*S	**Sg**	**16 29 23.4**	**+1.1**
	5.1nm,0.3s						
MRKS	**Merke**	**1.94**	**21**	Pg	**Pg**	**16 28 57.1**	**-0.1**
	2.7nm,0.4s						
MRKS				Lg	Lg	16 29 23.4	
	5.1nm,0.3s						
EKS2	**Erkin-Say**	**2.05**	**32**	⇑*i*P	**Pb**	**16 28 56.8**	**-1.3**
	baz=32						
EKS2				⇑*i*S	**Sb**	**16 29 24.4**	**+0.3**
	baz=32						
IUG	**Iuzhnay**	**2.09**	**306**	*e*P	**Pg**	**16 29 00.3**	**+0.1**
	3.9nm,0.3s						
IUG				*e*S	**Sg**	**16 29 28.4**	**+1.1**
	8.1nm,0.3s						
IUG	**Iuzhnay**	**2.09**	**306**	Pg	**Pg**	**16 29 00.3**	**+0.1**
	3.9nm,0.3s						
IUG				Lg	Lg	16 29 28.4	
	8.1nm,0.3s						
UCH	**Uchtor**	**2.10**	**51**	⇑*i*P	**Pb**	**16 28 57.7**	**-1.5**
	baz=51						
UCH				⇑*i*S	**Sb**	**16 29 26.2**	**+0.3**
	baz=51						
AAK	**Ala-Archa**	**2.36**	**43**	⇑Pg	**Pb**	**16 29 03.7**	**+0.2**
	1.1nm,0.5s						
AAK				⇓Lg	Lg	16 29 35.4	
	1.1nm,0.3s						
KZA	**Kyzart**	**2.49**	**62**	⇓*i*P	**Pn**	**16 29 03.3**	**+1.3**
	baz=62						
KZA				⇓*i*S	**Sb**	**16 29 35.1**	**-1.9**
	baz=62						
KK31	**Karatay Array**	**2.55**	**329**	⇓Pg	**Pb**	**16 29 07.1**	**+0.6**
	0.2nm,0.3s,baz=322,slow=43,SNR=3.7						
KK31				⇑Lg	Lg	16 29 41.8	
	0.4nm,0.3s,baz=133,slow=29,SNR=5.2						
KBK	**Karagaybulak**	**2.62**	**48**	⇓*i*P	**Pn**	**16 29 04.9**	**+1.3**
	baz=48						
KBK				⇓*i*S	**Sb**	**16 29 38.4**	**-2.2**
	baz=48						
BRLS	**Borolday**	**2.79**	**320**	*e*P	**Pb**	**16 29 11.5**	**+0.9**
	12nm,0.3s						
BRLS				*e*S	**Sg**	**16 29 47.6**	**-2.0**
	2.3nm,0.3s						
BRLS	**Borolday**	**2.79**	**320**	Pg	**Pb**	**16 29 11.5**	**+0.9**
	12nm,0.3s						
BRLS				Lg	Lg	16 29 47.7	
	2.3nm,0.3s						
TKM2	**Tokmak 2**	**3.16**	**50**	⇑Pg	**Pb**	**16 29 17.2**	**+0.2**
	1.5nm,0.9s						
TKM2				⇑Lg	Lg	16 29 59.3	
	1.1nm,0.5s						
KST	**Kastek**	**3.45**	**51**	*e*P	**Pb**	**16 29 24.1**	**+2.2**
	1.6nm,0.4s						
KST				*e*S	**Sg**	**16 30 09.5**	**-1.3**
	1.8nm,0.6s						
KST	**Kastek**	**3.45**	**51**	Pg	**Pb**	**16 29 24.1**	**+2.2**
	1.6nm,0.4s						
KST				Lg	Lg	16 30 09.5	
	1.8nm,0.6s						

*ISN **23** 16:34:33.5±0.8, 33°.72N×45°.79E, h7km±4km, ML2.6*
*TEH **23** 16:34:33.5, 33°.73N×45°.91E, h18km, ML2.9*
ISC 23 16:34:33.3±1.0, **33°.74N**±0°.04×**45°.91E**±0°.04, **h10**km, **n17**, σ1°**02**/20, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.63**	**178**	*e*Pg	**Pb**	**16 34 46.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**16 34 54.0**	**+0.3**
IBDR				AML	AML	16 34 56.4	
	comp=E,136nm,0.5s						
IBDR				AML	AML	16 34 56.5	
	comp=N,117nm,0.5s						
IGHG	**Ghaleghazi**	**0.81**	**43**	*e*Pg	**Pg**	**16 34 48.5**	**-0.4**
IGHG				*e*		16 34 49.4	
IDHR	**Dehrash**	**1.04**	**22**	*e*Pg	**Pb**	**16 34 53.9**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.08**	**60**	*e*Pg	**Pb**	**16 34 54.7**	**+0.4**
KCHF				*e*		16 35 16.3	
IVIS	**Veis**	**1.11**	**45**	*e*Pg	**Pg**	**16 34 53.3**	**-1.4**
IVIS				*e*		16 35 14.4	
KER	**Kermanshah**	**1.20**	**57**	*e*Pg	**Pg**	**16 34 56.7**	**+0.2**
KER				*e*		16 35 17.6	
BHD	**Baghdad**	**1.36**	**250**	*e*Pn	**Pb**	**16 34 59.0**	**+0.1**
BHD				AML	AML	16 35 14.2	
	comp=E,749nm,0.3s						
BHD				*e*Sn	**Sg**	**16 35 18.0**	**+0.9**
IKOM	**Komasi**	**1.40**	**72**	*e*Pg	**Pb**	**16 35 00.0**	**+0.3**
IKOM				*e*		16 35 01.9	
ILIN	**Lien**	**1.47**	**36**	*e*Pg	**Pn**	**16 34 59.8**	**-0.3**
ILIN				*e*		16 35 00.7	
DHL1	**Dehloran**	**1.56**	**132**	*e*Sg	**Sg**	**16 35 24.4**	**+0.8**
IKFM	**Kafar-mosalman**	**1.63**	**97**	*e*Pg	**Pb**	**16 35 03.8**	**+0.3**
IKFM				*e*		16 35 30.9	
IBZA	**Bozab**	**1.78**	**65**	*e*		16 35 07.5	
IBZA				*e*Pn	**Pn**	**16 35 04.9**	**+0.5**
IDOB	**Doab**	**1.89**	**88**	*e*Pn	**Pn**	**16 35 05.9**	**0.0**
HSAM	**Samen**	**2.29**	**77**	*e*Pn	**Pn**	**16 35 12.1**	**+0.7**
BMDN	**Meydan**	**2.43**	**91**	*e*Pn	**Pn**	**16 35 14.5**	**+1.2**
BMDN				*e*		16 35 58.6	
HSRG	**Sareghieh**	**2.47**	**52**	*e*Pn	**Pn**	**16 35 14.5**	**+0.6**
HSRG				*e*		16 35 49.2	
NSR	**Nassriya**	**2.73**	**176**	*e*Pn	**Pn**	**16 35 19.0**	**+1.8**
NSR				*e*Sn	**Sb**	**16 35 53.0**	**-2.7**

*IDC **23** 17:25:44.8±1.1, 3°.40S×152°.42E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.9/29, mbtmp3.8/11, MS3.0/3, Ms1 3.0/3, ms1mx2.7/35, Error ellipse: s-maj=40.4km s-min=9.4km az=109.0*
*NEIC **23** 17:25:47.1±1.1, 3°.43S±0°.06×152°.4E±0°.1, h16km±4km, mb4.5/22, Error ellipse: s-maj=22.7km s-min=4.8km az=108.0*
ISC 23 17:25:46.0±0.6, **3°.45S**±0°.08×**152°.5E**±0°.1, **h10**km, **n45**, σ0°**75**/39, **mb4.3**/23, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.80**	**202**		**Pb**	**17 26 02.2**	**+0.3**
KRVT	**Keravat (AS076**	**0.96**	**207**	Pg	**Pb**	**17 26 04.4**	**-0.3**
	191nm,0.3s,baz=204,slow=2.6,SNR=407						
KRVT				Lg	Lg	17 26 17.0	
	463nm,0.3s,baz=119,slow=19,SNR=15						
KRVT				LR	LR	17 26 30.1	
	comp=Z,625nm,18.4s,baz=155,slow=46						
HNR	**Honiara**	**9.52**	**129**	LR	LR	17 32 01.2	
	comp=Z,173nm,20.1s,baz=344,slow=39						
PATS	**Pohnpei**	**11.77**	**30**	Pn	**Pn**	**17 28 32.6**	**-1.5**
JAY	**Jayapura**	**11.78**	**274**	LR	LR	17 32 31.5	
	comp=Z,135nm,18.1s,baz=62,slow=35						
GUMO	**Guam**	**18.53**	**336**	LR	LR	17 36 47.2	
	comp=Z,11nm,20.2s,baz=162,slow=36						
WB0	**Warramunga Arr**	**23.96**	**226**	P	**P**	**17 30 59.9**	**-0.9**
WR0	**Warramunga Arr**	**23.98**	**225**	P	**P**	**17 30 59.8**	**-1.1**
WRAB	**Tennant Creek**	**24.10**	**226**	P	**P**	**17 31 01.2**	**-0.8**
WB2	**Warramunga Arr**	**24.11**	**226**	P	**P**	**17 31 01.7**	**-0.4**
WRA	**Warramunga Arr**	**24.11**	**226**	P	**P**	**17 31 02.1**	**0.0**
	1.5nm,0.6s,baz=51,slow=9.6,SNR=14						
KNRA	**Kununurra**	**26.30**	**241**	P	**P**	**17 31 22.0**	**-0.1**
ARMA	**Armidale**	**26.84**	**182**	P	**P**	**17 31 26.1**	**-0.7**
ARMA				IAmb	IAmb	17 31 42.5	
	comp=Z,33nm,1.4s						
ASAR	**Alice Springs**	**26.94**	**220**	P	**P**	**17 31 28.1**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=54,slow=9.0,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**27.03**	**31**	T	T	18 00 38.6	
	baz=216						
H11N3	**WAKE ISLAND Hy**	**27.05**	**31**	T	T	18 00 48.7	
	baz=216						
H11N2	**WAKE ISLAND Hy**	**27.05**	**31**	T	T	18 00 48.9	
	baz=216						
LTZ	**Lake Taylor**	**42.96**	**159**	P	**P**	**17 33 45.1**	**-0.2**
MLZ	**Mavora Lakes**	**43.95**	**164**	P	**P**	**17 33 53.9**	**+0.7**
MLZ				IAmb	IAmb	17 34 10.1	
	comp=Z,20nm,1.4s						
KSRS	**Korea Array**	**46.65**	**333**	P	**P**	**17 34 14.4**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=148,slow=8.3,SNR=4.3						
PEA0B	**Petropavlovsk-**	**56.52**	**4**	P	**P**	**17 35 29.6**	**+1.2**
PETK	**Petropavlovsk-**	**56.52**	**4**	P	**P**	**17 35 29.5**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=162,slow=7.6,SNR=10						
CMAR	**Chiang Mai Arr**	**57.01**	**295**	P	**P**	**17 35 33.0**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=111,slow=5.1,SNR=1.3						
CMAR	**Chiang Mai Arr**	**57.01**	**295**	P	**P**	**17 35 33.0**	**+0.5**
SONM	**Songino Array**	**65.01**	**328**	P	**P**	**17 36 25.2**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=148,slow=8.5,SNR=3.7						
OHAK	**Old Harbor**	**74.51**	**27**	P	**P**	**17 37 24.5**	**-0.1**
SVW2	**Sparrevohn**	**75.72**	**23**	P	**P**	**17 37 31.7**	**+0.1**
SVW2				IAmb	IAmb	17 37 40.6	
	comp=Z,6.7nm,1.2s						
MKAR	**Makanchi Array**	**79.10**	**319**	P	**P**	**17 37 51.9**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=115,slow=6.5,SNR=4.8						
RND	**Reindeer**	**79.62**	**23**	P	**P**	**17 37 53.3**	**-0.1**
RND				IAmb	IAmb	17 37 54.5	
	comp=Z,4.9nm,0.9s						
MCK	**McKinley**	**79.75**	**23**	P	**P**	**17 37 54.4**	**+0.3**
MCK				IAmb	IAmb	17 38 01.9	
	comp=Z,6.0nm,0.8s						
ZALV	**Zalesovo Beam**	**79.85**	**326**	P	**P**	**17 37 55.0**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=40,slow=9.4,SNR=2.2						
ZALV	**Zalesovo Beam**	**79.85**	**326**	P	**P**	**17 37 55.0**	**+0.3**
KLU	**Klutina**	**79.91**	**25**	P	**P**	**17 37 54.7**	**-0.3**
SUCK	**Suckling Hills**	**80.23**	**27**	P	**P**	**17 37 57.2**	**+0.5**
WRH	**Wood River Hil**	**80.44**	**22**	P	**P**	**17 37 58.1**	**+0.4**
WRH				IAmb	IAmb	17 37 58.2	
	comp=Z,3.9nm,1.0s						
CCB	**Clear Creek Bu**	**80.64**	**22**	P	**P**	**17 37 58.6**	**-0.1**
CCB				IAmb	IAmb	17 37 59.4	
	comp=Z,3.0nm,0.8s						
VRDI	**Verde Repeater**	**80.86**	**26**	P	**P**	**17 38 00.6**	**+0.4**
VRDI				IAmb	IAmb	17 38 02.1	
	comp=Z,3.2nm,0.9s						
IL31		**81.04**	**22**	P	**P**	**17 38 01.1**	**+0.2**
IL31				IAmb	IAmb	17 38 07.6	
	comp=Z,3.0nm,0.8s						
ILAR	**Eielson Array**	**81.04**	**22**	P	**P**	**17 38 00.7**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=249,slow=5.4,SNR=17						
DOT	**Dot Lake**	**81.64**	**24**	P	**P**	**17 38 04.7**	**+0.5**
DOT				IAmb	IAmb	17 38 05.8	
	comp=Z,3.7nm,0.8s						
EGAK	**Eagle**	**83.26**	**23**	P	**P**	**17 38 12.8**	**+0.3**
EGAK				IAmb	IAmb	17 38 14.7	
	comp=Z,3.4nm,1.0s						
HYT	**Haines Junctio**	**83.40**	**28**	P	**P**	**17 38 15.1**	**+1.6**
HYT				IAmb	IAmb	17 38 16.0	
	comp=Z,5.4nm,0.8s						
NRIK	**Noril'sk**	**84.59**	**341**	P	**P**	**17 38 19.7**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=68,slow=5.6,SNR=2.7						
NVAR	**Mina Array Bea**	**91.52**	**52**	P	**P**	**17 38 54.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=228,slow=1.1,SNR=1.6						
TORD	**Torodi Ar. Bea**	**149.55**	**290**	PKPbc	**PKPbc**	**17 45 35.1**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=66,slow=2.0,SNR=2.4						

*ISN **23** 17:29:07.4±0.9, 32°.58N×47°.72E, h14km±6km, ML3.1*
*TEH **23** 17:29:08.0, 32°.64N×47°.72E, h10km, ML3.2*
*THR **23** 17:29:08.2±0.3, 32°.64N×47°.65E, h14km±3km, ML3.2*
ISC 23 17:29:09.1±1.3, **32°.59N**±0°.03×**47°.68E**±0°.03, **h11**km±11km, **n41**, σ1°**28**/46, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.35**	**286**	*e*Pg	**Pg**	**17 29 15.7**	**-0.4**
IKFM	**Kafar-mosalman**	**0.95**	**9**	*e*Pg	**Pg**	**17 29 24.9**	**-2.5**
IKFM				*e*		17 29 45.0	
SHGR	**Shooshtar-Gavs**	**1.06**	**116**	*e*Pg	**Pg**	**17 29 28.8**	**-0.7**
SHGR				*e*Sg	**Sb**	**17 29 43.8**	**+0.5**
SHGR				IAML		17 29 55.8	
	comp=N,501nm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.06**	**116**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.77**	**15**	**P**	**Pn**	**17 38 37.2**	**-0.8**
LUWI				S	Sn	17 39 03.3	+4.1
BNSI	**Bone**	**2.75**	**234**	P	Pn	17 38 51.0	-0.5
BNSI				S	Sn	17 39 24.4	+0.8
SPSI	**Sidrap Palu**	**2.82**	**245**	P	Pn	17 38 52.7	+0.2
SPSI				S	Sn	17 39 26.9	+1.6
BKSI	**Bulukumba**	**3.36**	**221**	P	Pn	17 38 57.4	-2.5
KAPI	**Kappang**	**3.41**	**229**	Pn	Pn	17 39 02.0	+1.4
	7.6nm,0.3s,baz=331,slow=13,SNR=22						
KAPI				Sn	Sn	17 39 40.8	+1.0
	5.9nm,0.3s,baz=359,slow=22,SNR=2.9						
GTOI	**Gorontalo**	**3.44**	**11**	P	Pn	17 39 01.3	+0.2
KMSI	**Cibinong**	**3.70**	**26**	P	Pn	17 39 03.8	-0.8
MPSI	**Mapaga**	**3.92**	**322**	P	Pn	17 39 06.9	-0.8
FITZ	**Fitzroy Crossi**	**15.58**	**168**	Pn	P	17 41 52.1	+1.2
	0.4nm,0.3s,baz=8.7,slow=6.8,SNR=17						
WRA	**Warramunga Arr**	**20.71**	**146**	P	P	17 42 46.7	-0.7
	0.4nm,0.9s,baz=322,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**23.61**	**153**	P	P	17 43 18.3	+0.5
	0.4nm,0.6s,baz=344,slow=14,SNR=13						
CMAR	**Chiang Mai Arr**	**31.22**	**313**	P	P	17 44 27.1	+0.8
	0.8nm,0.6s,baz=139,slow=6.9,SNR=7.7						
STKA	**Stephens Creek**	**34.17**	**150**	P	P	17 44 53.6	+1.7
	1.0nm,0.7s,baz=327,slow=8.2,SNR=3.0						
MJAR	**Matsushiro Arr**	**41.81**	**19**	P	P	17 45 54.0	-2.3
	0.7nm,0.7s,baz=191,slow=8.7,SNR=4.7						
SONM	**Songino Array**	**52.28**	**346**	P	P	17 47 16.2	-1.8
	0.5nm,0.6s,baz=146,slow=10,SNR=2.3						
MKAR	**Makanchi Array**	**60.62**	**330**	P	P	17 48 16.7	-0.6
	0.5nm,0.6s,baz=133,slow=8.3,SNR=6.1						

*ANF **23** 17:42:21.2±0.1,34˚.24N×116˚.76W,h9km±1km,ML2.8/30, Error ellipse: s-maj=1.2km s-min=1.2km az=33.0*
*NEIC **23** 17:42:21.7±1.3,34˚.24N±0˚.02×116˚.76W±0˚.01,h13km±2km, Error ellipse: s-maj=2.5km s-min=1.2km az=149.0*
*SCEDC **23** 17:42:22.2,34˚.25N×116˚.76W,h6km,M3.0,ML2.9,ML2.9, ML3.0,ML3.0*
*PAS **23** 17:42:22.1±1.5,34˚.25N±0˚.01×116˚.76W±0˚.01,h3km±5km, ML2.9/170,Error ellipse: s-maj=1.6km s-min=1.5km az=153.0*

ISC 23 17:42:21.7±0.8,34˚25N±0˚.01×116˚76W±0˚.01,h12km±5km, n114,σ0°76/169,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIL	**Silver Peak**	**0.11**	**331**		**Pg**	**17 42 24.4**	**-0.4**
BBRC	**Big Bear Solar**	**0.13**	**276**	P	**Pg**	**17 42 24.8**	**-0.4**
	baz=94,SNR=72						
BBRC				S	**Sg**	**17 42 27.1**	**-0.5**
	baz=94						
BBRC	**Big Bear Solar**	**0.13**	**276**		**Pg**	**17 42 24.9**	**-0.3**
BBRC					**Sg**	**17 42 27.2**	**-0.5**
BTL	**Butler Peak**	**0.20**	**272**		**Pg**	**17 42 26.2**	**0.0**
SVD	**Seven Oaks Dam**	**0.31**	**243**		**Pg**	**17 42 28.0**	**0.0**
SVD					**Sg**	**17 42 33.2**	**+0.9**
GTM	**Goat Mountain**	**0.34**	**82**		**Pg**	**17 42 28.2**	**-0.3**
GTM					**Sg**	**17 42 32.9**	**-0.2**
DEVC	**Devers**	**0.35**	**154**		**Pg**	**17 42 29.2**	**+0.6**
DEVC					**Sb**	**17 42 34.3**	**-1.0**
BLAC	**Blackrock camp**	**0.36**	**120**		**Sg**	**17 42 34.2**	**+0.6**
CFT	**Crafton Hills**	**0.36**	**234**		**Pg**	**17 42 29.1**	**+0.2**
CFT					**Sg**	**17 42 34.5**	**+0.7**
BBSC	**Beaumont Base**	**0.37**	**209**		**Pg**	**17 42 29.3**	**+0.2**
HLNC	**Highland**	**0.40**	**252**		**Pg**	**17 42 29.7**	**+0.1**
CFSC	**Central Fire S**	**0.46**	**252**		**Pg**	**17 42 31.1**	**+0.4**
PEC	**Perris**	**0.49**	**223**		**Pg**	**17 42 31.3**	**0.0**
PEC					**Sg**	**17 42 38.0**	**+0.3**
CSP	**Cedar Springs**	**0.50**	**276**		**Pg**	**17 42 31.3**	**-0.1**
RSBC	**Riverside Bore**	**0.55**	**240**		**Sg**	**17 42 39.8**	**+0.3**
VTV	**Victorville**	**0.56**	**304**		**Pg**	**17 42 32.4**	**-0.3**
RVR	**Riverside**	**0.57**	**244**		**Sg**	**17 42 40.5**	**+0.2**
HMTC	**Hemet**	**0.57**	**201**		**Sg**	**17 42 40.8**	**+0.2**
POB	**Polly Butte**	**0.58**	**194**		**Pg**	**17 42 33.0**	**+0.1**
POB					**Sg**	**17 42 40.9**	**+0.3**
GVDA	**Garner Valley**	**0.58**	**173**		**Pg**	**17 42 33.1**	**0.0**
GVDA					**Sg**	**17 42 40.8**	**0.0**
ADO	**Adelanto Recei**	**0.63**	**299**		**Pg**	**17 42 34.1**	**+0.1**
ADO					**Sg**	**17 42 42.7**	**+0.4**
RRX	**Edison Barstow**	**0.66**	**343**	P	**Pg**	**17 42 34.4**	**0.0**
	baz=163						
RRX				S	**Sg**	**17 42 43.7**	**+0.6**
	baz=163						
RRX	**Edison Barstow**	**0.66**	**343**		**Pg**	**17 42 34.4**	**0.0**
BACC	**Bachelor Mtn.**	**0.68**	**200**		**Sg**	**17 42 43.7**	**0.0**
HEC	**Hector,Ludlow**	**0.68**	**31**	P	**Pg**	**17 42 34.8**	**0.0**
	baz=212,SNR=61						
HEC				S	**Sg**	**17 42 44.2**	**+0.4**
	baz=212						
BELC	**Belle Mtn. Jos**	**0.68**	**111**	P	**Pg**	**17 42 35.0**	**+0.1**
	baz=292,SNR=60						
BELC				S	**Sg**	**17 42 44.0**	**+0.2**
	baz=292						
PFO	**Pinyon Flats O**	**0.68**	**158**	P	**Pg**	**17 42 34.7**	**-0.2**
	baz=339,SNR=24						
PFO				S	**Sg**	**17 42 43.9**	**0.0**
	baz=339						
PFO	**Pinyon Flats O**	**0.68**	**158**	Pg	**Pg**	**17 42 34.7**	**-0.2**
PFO				Sg	**Sg**	**17 42 43.9**	**0.0**
MURC	**Murrieta**	**0.74**	**209**	P	**Pg**	**17 42 35.7**	**-0.3**
	baz=29,SNR=21						
MURC				S	**Sg**	**17 42 45.5**	**-0.2**
	baz=29						
BFSC	**Mount Baldy Ra**	**0.74**	**269**	P	**Pg**	**17 42 35.8**	**-0.3**
	baz=89,SNR=69						
BFSC				S	**Sg**	**17 42 45.8**	**0.0**
	baz=89						
ELS	**Elsinore Mount**	**0.82**	**223**		**Pg**	**17 42 37.0**	**-0.5**
ELS					**Sg**	**17 42 47.8**	**-0.4**
HYS	**Haystack Butte**	**0.91**	**313**		**Pg**	**17 42 38.8**	**-0.4**
HYS					**Sg**	**17 42 50.7**	**-0.3**
HOLC	**Holcomb Ridge**	**0.92**	**283**		**Pg**	**17 42 39.0**	**-0.4**
HOLC					**Sg**	**17 42 50.9**	**-0.6**
CTW	**Cottonwood Mou**	**0.93**	**127**		**Pb**	**17 42 40.0**	**+0.1**
JNH	**Juniper Hills**	**1.01**	**282**		**Pg**	**17 42 40.7**	**-0.4**
DSCC	**Desert Studies**	**1.04**	**31**		**Pg**	**17 42 41.4**	**-0.4**
DSCC					**Sg**	**17 42 55.2**	**-0.1**
HAY	**Hayfield**	**1.04**	**121**		**Pg**	**17 42 42.4**	**+0.2**
GSC	**Goldstone, Bar**	**1.05**	**358**	P	**Pg**	**17 42 41.5**	**-0.4**
	baz=178,SNR=162						
GSC				S	**Sg**	**17 42 55.7**	**0.0**
	baz=178						
GSC	**Goldstone, Bar**	**1.05**	**358**	Pg	**Pg**	**17 42 41.5**	**-0.4**
GSC				Sg	**Sg**	**17 42 55.7**	**0.0**
MATG	**Mataguay Scout**	**1.05**	**175**		**Pg**	**17 42 41.7**	**-0.2**
MATG					**Sg**	**17 42 55.4**	**-0.3**
GMRC	**Granite Mounta**	**1.05**	**59**	P	**Pg**	**17 42 41.2**	**-0.7**
	baz=240,SNR=141						
GMRC				S	**Sg**	**17 42 55.4**	**-0.4**
	baz=240						
MWC	**Mount Wilson**	**1.07**	**269**		**Pg**	**17 42 41.8**	**-0.6**
LRRC	**Littlerock Res**	**1.08**	**285**		**Pb**	**17 42 41.9**	**-0.4**
LRRC					**Sg**	**17 42 55.9**	**-0.7**
SLH	**Sleepy Hollow**	**1.14**	**158**		**Pb**	**17 42 43.2**	**0.0**
GVRC	**Garvey Reservo**	**1.15**	**260**		**Pb**	**17 42 43.4**	**0.0**
GORC	**Green Oak Ranc**	**1.16**	**200**		**Pb**	**17 42 42.6**	**-1.1**
GORC					**Sb**	**17 42 57.7**	**-1.0**
SALN	**Salton City**	**1.16**	**146**		**Pb**	**17 42 42.9**	**-0.8**
SALN					**Sn**	**17 42 59.9**	**+0.3**
CJV	**Casa Juvan**	**1.18**	**284**		**Pb**	**17 42 43.5**	**-0.5**
CJV					**Sb**	**17 42 58.9**	**-0.4**
PASC	**Pasadena Art C**	**1.18**	**267**		**Pb**	**17 42 43.5**	**-0.5**
PASC				Sg	**Sb**	**17 42 59.2**	**-0.1**
EDW2	**Edwards Air Fo**	**1.20**	**302**	P	**Pb**	**17 42 44.0**	**-0.4**
	baz=121,SNR=16						
EDW2				S	**Sb**	**17 42 59.4**	**-0.4**
	baz=121						
EDW2	**Edwards Air Fo**	**1.20**	**302**		**Pb**	**17 42 44.0**	**-0.4**
EDW2					**Sb**	**17 42 59.5**	**-0.4**
DANC	**Danby, Needles**	**1.20**	**71**		**Pb**	**17 42 44.5**	**+0.1**
HWB	**Hans Werner Br**	**1.23**	**188**		**Pn**	**17 42 43.8**	**-1.0**
BC3	**Big Chuckawall**	**1.24**	**118**	P	**Pn**	**17 42 44.8**	**-0.1**
	baz=299,SNR=35						
BC3				S	**Sn**	**17 43 01.7**	**+0.1**
	baz=299						
DPP	**Dos Picos Cty**	**1.26**	**187**		**Sb**	**17 43 00.8**	**-0.7**
DECC	**Green Verdugo**	**1.30**	**271**	P	**Pn**	**17 42 46.0**	**+0.2**
	baz=90,SNR=7.2						
DECC				S	**Sn**	**17 43 03.6**	**+0.5**
	baz=90						
DECC	**Green Verdugo**	**1.30**	**271**		**Pn**	**17 42 46.0**	**+0.2**
IRM	**Iron Mountain**	**1.34**	**93**	P	**Pb**	**17 42 46.9**	**+0.1**
	baz=275,SNR=52						
IRM				S	**Sn**	**17 43 04.5**	**+0.4**
	baz=275						
IRM	**Iron Mountain**	**1.34**	**93**		**Pn**	**17 42 45.7**	**-0.6**
DTP	**Desert Tortois**	**1.35**	**319**		**Pn**	**17 42 46.0**	**-0.5**
IR2C	**Iron Canyon**	**1.36**	**276**		**Pn**	**17 42 46.8**	**+0.2**
TPO	**Tropico Hills**	**1.36**	**298**		**Pn**	**17 42 46.5**	**-0.1**
CCCA	**Chr Cany lake**	**1.37**	**339**		**Pn**	**17 42 47.0**	**+0.3**
TUQ	**Turquoise Moun**	**1.37**	**30**	P	**Pb**	**17 42 47.7**	**+0.4**
	baz=210,SNR=21						
TUQ				S	**Sg**	**17 43 05.9**	**+0.1**
	baz=210						
TUQ	**Turquoise Moun**	**1.37**	**30**		**Pg**	**17 42 48.1**	**+0.1**
MONP2	**Monument Peak**	**1.38**	**168**	P	**Pn**	**17 42 47.4**	**+0.4**
	baz=348,SNR=20						
MONP2				S	**Sg**	**17 43 06.0**	**-0.3**
	baz=348						
MONP2	**Monument Peak**	**1.38**	**168**		**Pn**	**17 42 47.4**	**+0.4**
109C	**Camp Elliot, M**	**1.39**	**192**	P	**Pn**	**17 42 46.6**	**-0.2**
	baz=12						
109C				S	**Sb**	**17 43 04.6**	**-0.6**
	baz=12						
109C	**Camp Elliot, M**	**1.39**	**192**		**Pn**	**17 42 46.6**	**-0.2**
109C				Sn	**Sb**	**17 43 04.2**	**-1.0**
CPE	**Camp Elliot**	**1.39**	**192**		**Pn**	**17 42 46.7**	**-0.2**
CPE					**Sb**	**17 43 04.6**	**-0.6**
CBKC	**Canebrake**	**1.41**	**162**		**Pn**	**17 42 47.3**	**+0.1**
LRMC	**Laurel Mtn Rad**	**1.44**	**329**	P	**Pn**	**17 42 47.9**	**+0.1**
	baz=148,SNR=40						
LRMC				S	**Sb**	**17 43 07.9**	**+0.9**
	baz=148						
SWSC	**Sam W. Stewart**	**1.53**	**148**	P	**Pn**	**17 42 48.1**	**-0.7**
	baz=329,SNR=16						
SWSC				S	**Sg**	**17 43 10.2**	**-0.7**
	baz=329						
BAR	**Barrett**	**1.57**	**177**		**Pn**	**17 42 49.8**	**+0.4**
CIS	**Catalina Islan**	**1.62**	**239**	P	**Pn**	**17 42 50.3**	**+0.3**
	baz=58,SNR=10						
CIS				S	**Sb**	**17 43 12.2**	**+0.4**
	baz=58						
OSI	**Osito Audit: C**	**1.66**	**283**	Pb	**Pb**	**17 42 52.5**	**+0.2**
	baz=102,SNR=6.7						
OSI				Sb	**Sg**	**17 43 15.1**	**-0.1**
	baz=102						
OSI	**Osito Audit: C**	**1.66**	**283**		**Pn**	**17 42 49.8**	**-0.9**
TKX	**Tecate**	**1.68**	**176**	Pn	**Pn**	**17 42 51.6**	**+0.7**
IKP	**In-Ko-Pah, Jac**	**1.69**	**161**	Pb	**Pb**	**17 42 53.0**	**+0.3**
	baz=341,SNR=5.6						
IKP				Sb	**Sg**	**17 43 14.9**	**-1.0**
	baz=341						
SHOC	**Shoshone, Teco**	**1.69**	**13**	Pb	**Pb**	**17 42 53.4**	**+0.6**
	baz=194,SNR=20						
SHOC				Sb	**Sg**	**17 43 16.1**	**-0.1**
	baz=194						
RMX	**La Rumorosa**	**1.74**	**161**		**Pg**	**17 42 55.1**	**+0.1**
NEE2	**Needles Airpor**	**1.84**	**73**	Pn	**Pn**	**17 42 53.4**	**+0.3**
	baz=254						
NEE2				Pb	**Pb**	**17 42 55.7**	**+0.4**
	baz=254,SNR=12						
NEE2				Sb	**Sg**	**17 43 19.9**	**-1.0**
	baz=254						
MPMC	**Manual Prospec**	**1.90**	**342**	Pn	**Pn**	**17 42 54.2**	**+0.1**
	baz=162,SNR=26						
MPMC				Pb	**Pb**	**17 42 56.8**	**+0.3**
	baz=162						
MPMC				Sb	**Sg**	**17 43 22.5**	**-0.4**
	baz=162						
ARVC	**Arvin**	**1.92**	**298**	Sb	**Sg**	**17 43 22.5**	**-0.8**
	baz=117						
CBX	**Cerro Bola**	**1.93**	**178**		**Pn**	**17 42 55.6**	**+1.1**
ISA	**Isabella, Lake**	**1.99**	**316**	Pb	**Pb**	**17 42 58.3**	**+0.3**
	baz=135,SNR=21						
ISA				Sb	**Sb**	**17 43 24.6**	**+1.8**
	baz=135						
ISA	**Isabella, Lake**	**1.99**	**316**		**Pb**	**17 42 58.5**	**+0.6**
GLA	**Glamis**	**2.01**	**126**	P	**Pn**	**17 42 55.7**	**+0.2**
	baz=307						
GLA				Sg	**Sg**	**17 43 27.2**	**+1.0**
	baz=307						
GLA	**Glamis**	**2.01**	**126**		**Pn**	**17 42 55.9**	**+0.4**
ESJX	**Sierra Juarez**	**2.34**	**163**		**Pn**	**17 43 00.9**	**+0.8**
CCX	**Cicese**	**2.38**	**178**	Pn	**Pn**	**17 42 59.9**	**-0.5**
CWC	**Cottonwood Cre**	**2.44**	**334**	Pg	**Pg**	**17 43 07.6**	**-0.8**
	baz=154						
W13A	**Hualapai Mount**	**2.52**	**69**	Pn	**Pn**	**17 43 02.1**	**-0.6**
SHPR	**Sheep Range**	**2.60**	**30**		**Pn**	**17 43 04.5**	**+0.7**
TPNV	**Topopah Spring**	**2.73**	**9**	Pn	**Pn**	**17 43 07.5**	**+2.0**
	baz=189,SNR=11						
TPNV				Pg	**Pg**	**17 43 13.0**	**-0.9**
	baz=189						
TPNV				Sb	**Sg**	**17 43 48.1**	**-1.2**
	baz=189						
TPNV	**Topopah Spring**	**2.73**	**9**	Pn	**Pn**	**17 43 06.6**	**+1.2**
GRAC	**Grapevine Rang**	**2.79**	**350**	Pg	**Pg**	**17 43 14.3**	**-0.8**
	baz=170,SNR=9.8						
113A	**Mohawk Valley,**	**2.90**	**120**	Pn	**Pn**	**17 43 07.9**	**+0.2**
Y14A	**Wickenburg**	**3.13**	**95**		**Pn**	**17 43 11.3**	**+0.4**
SPX	**San Pedro Mart**	**3.38**	**161**		**Pb**	**17 43 23.3**	**+1.5**
PRN	**Pahroc Range**	**3.44**	**23**	Pn	**Pn**	**17 43 16.7**	**+1.4**
OMMB	**Old Mammoth Mi**	**3.82**	**332**	Pn	**Pn**	**17 43 23.5**	**+2.9**
PMPB	**Monarch Peak**	**3.85**	**302**	Pn	**Pn**	**17 43 21.8**	**+1.1**
MDPB	**Devils Postpil**	**3.87**	**332**		**Pn**	**17 43 22.4**	**+1.2**
LCMT	**Little Creek M**	**3.98**	**45**	Pn	**Pn**	**17 43 22.9**	**+0.2**
R11A	**Troy Canyon, C**	**4.20**	**13**	Pg	**Pg**	**17 43 40.1**	**-2.0**
	baz=193						
R11A				Sb	**Sg**	**17 44 32.2**	**-4.4**
	baz=193						
R11A	**Troy Canyon, C**	**4.20**	**13**	Pn	**Pn**	**17 43 28.0**	**+2.2**
KNB	**Kanab**	**4.23**	**48**	Pn	**Pn**	**17 43 26.9**	**+0.7**
LHV	**Little Huntoon**	**4.24**	**341**	Pn	**Pn**	**17 43 28.2**	**+2.2**
U15A	**North Rim**	**4.25**	**58**		**Pn**	**17 43 26.4**	**-0.1**
CCUT	**Cedar City**	**4.30**	**39**	Pn	**Pn**	**17 43 28.1**	**+1.0**
X16A	**Lo Mia Camp, P**	**4.41**	**86**	Pn	**Pn**	**17 43 29.6**	**+1.1**
CMB	**Columbia Colle**	**4.78**	**323**	Pn	**Pn**	**17 43 34.1**	**+0.5**
PSUT	**Pine Spring**	**4.88**	**28**	Pn	**Pn**	**17 43 35.6**	**+0.6**

*NEIC **23** 18:01:55.9±1.1,27˚.46N±0˚.07×142˚.94E±0˚.08,h26km±6km, mb4.5/16,Error ellipse: s-maj=13.6km s-min=3.8km az=137.0*
*NIED **23** 18:01:55.9,27˚.51N×142˚.73E,h76km,MW4.0,Moment Tensor Solution. s1 Moment tensor: Scale 10¹⁵Nm; Mrr0.16; Mθθ0.22; Mφφ -0.38; Mrθ0.16; Mθφ0.53; Mφr0.81; Fault plane solution: M₀1.03000×10¹⁵ NP1:φs10.00000°, δ85.00000°,λ125.00000°. NP2:φs107.00000°,δ36.00000°, λ9.00000°.*
*JMA **23** 18:01:55.9,27˚.51N×142˚.73E,h76km±4km,M3.7*
*IDC **23** 18:01:57.0±4.7,27˚.44N×142˚.84E,h30km±33km,mb3.9/18, mb1 3.9/22,mb1mx3.7/69,mbtmp4.0/22,ML3.0/4,MS3.3/9, Ms1 3.3/9,ms1mx3.0/34,Error ellipse: s-maj=21.0km s-min=11.4km az=96.0*

ISC 23 18:01:56.5±0.7,27˚51N±0˚.05×142˚81E±0˚.09,h27km,n59, σ1°35/64,mb4.3/26,MS3.4/9,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.69**	**233**	P	**Pn**	**18 02 10.7**	**+0.2**
CBIJ				S	**Sn**	**18 02 21.8**	**+1.4**
JCJ	**Chichijima**	**0.69**	**233**	Pn	**Pn**	**18 02 10.8**	**+0.3**
	130nm,0.3s,baz=40,slow=7.7,SNR=644						
JCJ				Sn	**Sn**	**18 02 21.4**	**+1.1**
	321nm,0.3s,baz=288,slow=19,SNR=11						
JHH2	**Haha-jima-NKT2**	**1.04**	**213**	P	**Pb**	**18 02 14.9**	**-1.0**
JHJ2	**Mitsune**	**6.15**	**336**	Pn	**Pn**	**18 03 26.8**	**+1.2**
JHJ	**Hachijo jima 2**	**6.17**	**336**	Pn	**Pn**	**18 03 25.6**	**-0.2**
	1.3nm,0.3s,baz=75,slow=20,SNR=1.0						
JHJ				Sn	**Sn**	**18 04 35.8**	**+0.3**
	4.2nm,0.3s,baz=68,slow=19,SNR=2.1						
JHJ				LR	LR	18 05 49.3	
	comp=Z,186nm,18.6s,baz=124,slow=37						
BSO1	**Boso 1**	**7.29**	**348**	P	**Pn**	**18 03 40.6**	**-0.1**
BSO3	**Boso 3**	**7.53**	**345**	P	**Pn**	**18 03 44.9**	**+0.7**
BSO4	**Boso 4**	**7.75**	**345**	*eS*	**Sn**	**18 05 15.0**	**+0.8**
JHU	**Hanno**	**8.84**	**341**	P	**Pn**	**18 04 02.4**	**-0.1**
JHU				S	**Sn**	**18 05 37.6**	**-3.6**
JRY	**Ryogami san**	**9.11**	**340**	P	**Pn**	**18 04 07.0**	**+0.9**
JHO	**Hitachi**	**9.27**	**349**	P	**Pn**	**18 04 07.1**	**-1.2**
JAG	**Ashikaga**	**9.33**	**343**	P	**Pn**	**18 04 08.2**	**-1.0**
JAG				S	**Sn**	**18 05 50.2**	**-3.1**
MJAR	**Matsushiro Arr**	**9.81**	**338**	Pn	**Pn**	**18 04 15.4**	**-0.4**
	0.1nm,0.3s,baz=170,slow=12,SNR=8.0						
MAJO	**Matsushiro**	**9.81**	**338**	Pn	**Pn**	**18 04 16.2**	**+0.4**
MJB9	**Matsu-Tunnel**	**9.82**	**338**	Pn	**Pn**	**18 04 16.6**	**+0.7**
JNU	**Nakatsue**	**11.72**	**301**	Pn	**Pn**	**18 04 40.0**	**-2.0**
GUMO	**Guam**	**13.99**	**172**	LR	LR	18 10 00.5	
	comp=Z,88nm,19.4s,baz=348,slow=35						
ERM	**Erimo**	**14.47**	**1**	Pn	**Pn**	**18 05 16.1**	**-3.3**
KSRS	**Korea Array**	**15.98**	**312**	Pn	**P**	**18 05 42.8**	**+0.1**
	0.1nm,0.3s,baz=120,slow=12,SNR=11						
KSRS				LR	LR	18 11 44.8	
	comp=Z,68nm,18.1s,baz=128,slow=37						
USRK	**Ussuriysk Ar.**	**18.79**	**335**	P	**Pn**	**18 06 14.3**	**+0.1**
	baz=155,slow=11,SNR=3.9						
YHNB	**Yeheng**	**19.46**	**266**		**Pn**	**18 06 21.9**	**-0.6**
YULB	**Yu-li**	**19.85**	**263**		**Pn**	**18 06 26.6**	**-0.6**
SSLB	**Suanglung**	**20.05**	**264**	P	Pn	18 06 29.1	-0.4
CN2	**Changchun**	**21.45**	**324**	*eP*	**P**	**18 06 44.9**	**+2.3**
CN2				*ep*	pwP	18 06 55.0	+1.8
CN2				*eS*	**S**	**18 10 37.3**	**-1.9**
CN2				LR	LR		
	comp=Z,270nm,20.0s						
KLR	**Kul'dur**	**23.30**	**341**	P	**P**	**18 07 03.8**	**+1.7**
	comp=Z,2.2nm,0.6s,baz=165,slow=6.6,SNR=7.1						
KLR				LR	LR	18 17 17.9	
	comp=Z,56nm,18.2s,baz=171,slow=39						
LZH	**Lanzhou**	**34.02**	**294**	*eP*	**P**	**18 08 40.8**	**+2.4**
LZH				pP	pwP	18 08 48.8	-0.8
LZH				sP	sP	18 08 52.9	+4.4
LZH				PP	**PnPn**	**18 09 47.5**	**-4.5**
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
LZH				pmax	pmax		
	comp=Z,77nm,4.8s						
LZH				LR	LR		
	comp=N,260nm,13.1s						
LZH				LR	LR		
	comp=E,270nm,13.3s						
LZH				LR	LR		
	comp=Z,460nm,16.5s						
SONM	**Songino Array**	**34.80**	**316**	P	**P**	**18 08 44.6**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=133,slow=8.1,SNR=10						
SONM				LR	LR	18 21 50.6	
	comp=Z,44nm,18.3s,baz=243,slow=34						
GTA	**Gaotai**	**37.46**	**300**	*eP*	**P**	**18 09 07.3**	**-0.5**
GTA				pP	sP	18 09 16.8	-1.1
GTA				sP	pwP	18 09 20.8	+1.8
GTA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,70nm,8.6s						
GTA				LR	LR		
	comp=N,75nm,18.4s						
GTA				LR	LR		
	comp=E,60nm,17.8s						
GTA				LR	LR		
	comp=Z,62nm,17.8s						
CMAR	**Chiang Mai Arr**	**41.20**	**267**	P	**P**	**18 09 39.6**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=64,slow=6.2,SNR=1.6						
CMAR				LR	LR	18 25 49.5	
	comp=Z,53nm,19.1s,baz=206,slow=35						
WMQ	**Urumqi**	**46.79**	**305**	*eP*	**P**	**18 10 25.9**	**+2.2**
WB2	**Warramunga Arr**	**47.88**	**191**	P	**P**	**18 10 31.5**	**-0.8**
WB2				IAmb	IAmb	18 10 52.7	
	comp=Z,7.0nm,0.9s						
WRA	**Warramunga Arr**	**47.88**	**191**	P	**P**	**18 10 31.5**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=11,slow=8.6,SNR=30						
WRA				LR	LR	18 30 43.7	
	comp=Z,54nm,18.4s,baz=185,slow=36						
FITZ	**Fitzroy Crossi**	**48.30**	**202**	P	**P**	**18 10 34.8**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=26,slow=12,SNR=6.8						
ZAA0	**Zalesovo Array**	**49.54**	**319**	P	**P**	**18 10 45.3**	**+0.6**
ZAA0				IAmb	IAmb	18 10 46.4	
	comp=Z,3.2nm,0.8s						
ZALV	**Zalesovo Beam**	**49.54**	**319**	P	**P**	**18 10 45.5**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=99,slow=7.8,SNR=11						
ZALV				PcP	**PcP**	**18 12 06.9**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=128,slow=4.9,SNR=2.6						
ZALV				LR	LR	18 32 20.7	
	comp=Z,32nm,18.9s,baz=98,slow=37						
MK31	**Makanchi Array**	**50.64**	**309**	P	**P**	**18 10 53.8**	**+0.6**
MKAR	**Makanchi Array**	**50.64**	**309**	P	**P**	**18 10 52.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=89,slow=9.3,SNR=10						
MKAR				PcP	**PcP**	**18 12 10.6**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=135,slow=4.5,SNR=3.6						
ASAR	**Alice Springs**	**51.60**	**190**	P	**P**	**18 10 59.5**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=5.9,slow=7.1,SNR=12						
KURK	**Kurchatov**	**53.09**	**314**	P	**P**	**18 11 11.3**	**-0.1**
KURK				IAmb	IAmb	18 11 14.3	
	comp=Z,3.2nm,0.8s						
KURBB	**Kurchatov Arra**	**53.15**

CBX			*e*S	**Sn**	**18 09 11.9**	**-0.2**
CBX			⇓*e*		18 09 20.9	
CBX			IAML		18 09 20.9	
	comp=E,28nm,0.5s					

NIED ***23*** *18:15:08.0,27.˚48N×142.˚90E,h65km,MW3.8,Moment Tensor Solution. s1 Moment tensor: Scale 10¹⁴Nm; Mrr3.91; Mθθ-0.23; Mϕϕ-3.67; Mrθ0.36; Mθϕ1.13; Mϕr3.61; Fault plane solution: M₀5.37000×10¹⁴ NP1: ϕs358.00000°,δ67.00000°,λ102.00000°. NP2: ϕs150.00000°,δ26.00000°,λ64.00000°.*

JMA ***23*** *18:15:07.9,27.˚48N×142.˚90E,h65km,M3.8*

IDC ***23*** *18:15:07.8±0.8,27.˚15N×141.˚55E,h0km,mb3.7/8, mb1 3.8/10,mb1mx3.6/35,mbtmp3.7/10,ML2.8/2,MS3.1/2, Ms1 3.1/2,ms1mx2.6/33,Error ellipse: s-maj=19.4km s-min=12.3km az=25.0*

NEIC ***23*** *18:15:09.8±2.3,27.˚21N±0.˚06×141.˚40E±0.˚05,h11km±4km, mb4.6/9,Error ellipse: s-maj=9.3km s-min=5.9km az=194.0*

ISC 23 18:15:10.1±1.0,**27.˚53N**±0.˚06×**142.˚9E**±0.˚1,**h35**km,**n32,**
σ1¶**11**/**32**,**mb4.1**/13,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.75**	**235**	P	**Pn**	**18 15 23.1**	**-1.1**
CBIJ				S	**Sn**	**18 15 34.3**	**-0.1**
JCJ	**Chichijima**	**0.75**	**235**	Pn	**Pn**	**18 15 22.9**	**-1.3**
	55nm,0.3s,baz=58,slow=24,SNR=686						
JCJ				Sn	**Sn**	**18 15 35.2**	**+0.9**
	164nm,0.3s,baz=311,slow=19,SNR=10						
JCJ	**Chichijima**	**0.75**	**235**		**Pn**	**18 15 23.2**	**-1.0**
JHH2	**Haha-jima-NKT2**	**1.09**	**215**	P	**Pn**	**18 15 27.2**	**-1.7**
JHJ2	**Mitsune**	**6.16**	**335**	Pn	**Pn**	**18 16 38.9**	**+0.4**
JHJ	**Hachijo jima 2**	**6.18**	**335**	Pn	**Pn**	**18 16 38.7**	**-0.1**
	1.3nm,0.3s,baz=93,slow=17,SNR=2.2						
JHJ				Sn	**Sn**	**18 17 46.3**	**-1.8**
	1.8nm,0.3s,baz=60,slow=20,SNR=1.8						
JRY	**Ryogami san**	**9.11**	**339**	P	**Pn**	**18 17 18.0**	**-1.1**
JRY				S	**Sn**	**18 19 00.5**	**+0.1**
JAG	**Ashikaga**	**9.33**	**343**	P	**Pn**	**18 17 21.6**	**-0.4**
MJAR	**Matsushiro Arr**	**9.81**	**337**	Pn	**Pn**	**18 17 27.9**	**-0.8**
	0.1nm,0.3s,baz=178,slow=13,SNR=5.8						
MAJO	**Matsushiro**	**9.82**	**337**	Pn	**Pn**	**18 17 29.0**	**+0.2**
MJB9	**Matsu-Tunnel**	**9.82**	**337**	Pn	**Pn**	**18 17 30.2**	**+1.4**
JNU	**Nakatsue**	**11.76**	**301**	Pn	Pn	18 17 45.4	-10
KSRS	**Korea Array**	**16.01**	**312**	Pn	**P**	**18 18 55.5**	**-0.1**
	0.1nm,0.3s,baz=121,slow=12,SNR=7.0						
KSRS				LR	LR	18 24 55.0	
	comp=Z,31nm,18.1s,baz=135,slow=38						
KLR	**Kul'dur**	**23.30**	**341**	P	**P**	**18 20 16.1**	**+1.3**
	2.1nm,0.9s,baz=130,slow=6.9,SNR=4.1						
SONM	**Songino Array**	**34.83**	**315**	P	**P**	**18 21 57.5**	**-0.3**
	0.6nm,0.6s,baz=132,slow=7.9,SNR=5.0						
CTAO	**Charters Tower**	**47.45**	**176**	P	**P**	**18 23 42.6**	**+1.1**
WB0	**Warramunga Arr**	**47.73**	**191**	P	**P**	**18 23 42.6**	**-1.1**
WB0				IAmb	IAmb	18 23 52.8	
	comp=Z,7.3nm,1.4s						
WR0	**Warramunga Arr**	**47.90**	**191**		**P**	**18 23 43.9**	**-1.0**
WR0				IAmb	IAmb	18 23 52.4	
	comp=Z,6.7nm,1.3s						
WRAB	**Tennant Creek**	**47.90**	**191**	P	**P**	**18 23 43.8**	**-1.2**
WRAB				IAmb	IAmb	18 24 16.0	
	comp=Z,7.1nm,1.2s						
WB2	**Warramunga Arr**	**47.91**	**191**	P	**P**	**18 23 44.1**	**-1.0**
WB2				IAmb	IAmb	18 24 09.2	
	comp=Z,14nm,1.6s						
WRA	**Warramunga Arr**	**47.91**	**191**	P	**P**	**18 23 43.7**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=11,slow=8.5,SNR=13						
FITZ	**Fitzroy Crossi**	**48.34**	**202**	P	**P**	**18 23 47.5**	**-0.9**
CISI	**Cisompet, Garu**	**48.65**	**229**	P	P	18 23 44.0	-7.0
ZALV	**Zalesovo Beam**	**49.56**	**319**	P	**P**	**18 23 57.9**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=80,slow=7.6,SNR=4.5						
MKAR	**Makanchi Array**	**50.67**	**309**	P	**P**	**18 24 05.0**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=115,slow=6.5,SNR=4.4						
AS31	**Alice Springs**	**51.63**	**191**	P	**P**	**18 24 12.3**	**-1.0**
ASAR	**Alice Springs**	**51.63**	**191**	P	**P**	**18 24 11.1**	**-2.2**
	comp=Z,0.2nm,0.6s,baz=4.6,slow=7.4,SNR=9.1						
KURK	**Kurchatov**	**53.12**	**314**	P	**P**	**18 24 24.8**	**+0.7**
ILAR	**Eielson Array**	**57.04**	**29**	P	P	18 25 02.6	+10
	comp=Z,0.5nm,0.6s,baz=262,slow=3.5,SNR=3.1						
BRVK	**Borovoye**	**58.20**	**317**	P	**P**	**18 25 01.9**	**+1.3**
BRVK				IAmb	IAmb	18 25 02.5	
	comp=Z,3.2nm,0.8s						
INK	**Inuvik**	**62.38**	**25**	LR	LR	18 51 25.0	
	comp=Z,39nm,22.0s,baz=338,slow=34						
FINES	**FINESS Array B**	**77.83**	**334**	P	**P**	**18 27 04.3**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=69,slow=7.6,SNR=8.4						

IDC ***23*** *18:15:39.6±0.8,5.˚69S×76.˚49W,h0km,mb3.9/6, mb1 4.1/11,mb1mx3.9/32,mbtmp4.0/11,ML3.8/5,MS3.4/4, Ms1 3.5/4,ms1mx3.0/25,Error ellipse: s-maj=22.2km s-min=20.4km az=4.0*

NEIC ***23*** *18:15:47.4±2.3,5.˚93S±0.˚07×76.˚51W±0.˚09,h60km±7km, mb4.6/14,Error ellipse: s-maj=12.9km s-min=9.7km az=66.0*

ISC 23 18:15:45.1±0.6,**5.˚87S**±0.˚06×**76.˚41W**±0.˚08,**h35**km,**n35,**
σ1¶**52**/**35**,**mb4.5**/13,**Northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.33**	**237**	Pn	**Pn**	**18 16 20.6**	**-0.8**
	33nm,0.3s,baz=35,slow=7.3,SNR=155						
ATAH				Sn	**Sn**	**18 16 50.0**	**+0.9**
	210nm,0.3s,baz=204,slow=18,SNR=19						
NNA	**Nana**	**6.09**	**184**	Pn	**Pn**	**18 17 14.4**	**+1.7**
	6.0nm,0.3s,baz=344,slow=4.8,SNR=6.2						
NNA				Sn	**Sn**	**18 18 19.3**	**-2.0**
	3.2nm,0.3s,baz=319,slow=11,SNR=5.9						
NNA				LR	LR	18 20 01.3	
	comp=Z,168nm,20.9s,baz=352,slow=42						
NNA	**Nana**	**6.09**	**184**		**Pn**	**18 17 13.6**	**+0.8**
NNA					**Sn**	**18 18 20.7**	**-0.6**
OTAV	**Otavalo**	**6.40**	**341**		**Pn**	**18 17 22.1**	**+4.7**
ROSC	**El Rosal**	**10.85**	**11**	LR	LR	18 23 41.0	
	comp=Z,384nm,18.9s,baz=212,slow=45						
LPAZ	**La Paz**	**13.15**	**143**	Pn	**Pn**	**18 18 51.5**	**+1.4**
	0.1nm,0.3s,baz=303,slow=4.3,SNR=2.4						
LPAZ				LR	LR	18 25 00.9	
	comp=Z,225nm,18.6s,baz=320,slow=42						
LPAZ	**La Paz**	**13.15**	**143**		**Pn**	**18 18 50.9**	**+0.8**
SAML	**Samuel**	**13.47**	**104**		**Pn**	**18 18 56.3**	**+2.4**
PB16	**IPOC Station P**	**14.10**	**152**	P	**P**	**18 19 11.1**	**+0.8**
MNMC	**Minye Minye**	**14.76**	**154**		**P**	**18 19 18.2**	**+0.9**
PB11	**IPOC Station P**	**15.29**	**155**	Pn	**Pn**	**18 19 20.7**	**+2.1**
BCIP	**Isla Barro Col**	**15.33**	**347**	Pn	**Pn**	**18 19 19.1**	**+0.2**
GO01	**Chusmiza**	**15.41**	**154**		**Pn**	**18 19 23.6**	**+3.2**
PTGA	**Pitinga**	**17.19**	**73**	P	**Pn**	**18 19 42.7**	**0.0**
	0.4nm,0.3s,baz=264,slow=9.7,SNR=5.2						
SIV	**San Ignacio**	**18.09**	**125**	P	**Pn**	**18 19 54.5**	**+0.5**
	0.3nm,0.3s,baz=342,slow=16,SNR=3.4						
CPUP	**Villa Florida**	**27.31**	**140**	LR	LR	18 34 46.6	
	comp=Z,64nm,18.4s,slow=42						
PLCA	**Paso Flores**	**35.10**	**172**	P	**P**	**18 22 33.5**	**-1.7**
PLCA				IAmb	IAmb	18 22 48.3	
	comp=Z,19nm,1.6s						
TXAR	**Lajitas Array**	**43.72**	**325**	P	**P**	**18 23 45.5**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=146,slow=8.8,SNR=2.7						
SDCO	**Great Sand Dun**	**51.16**	**330**	P	**P**	**18 24 44.9**	**-0.3**
SDCO				IAmb	IAmb	18 24 47.2	
	comp=Z,8.9nm,1.5s						
NVAR	**Mina Array Bea**	**58.75**	**322**	P	**P**	**18 25 39.6**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=156,slow=4.6,SNR=4.9						
DBIC	**Dimbokro**	**72.49**	**81**	P	**P**	**18 27 08.9**	**0.0**
	comp=Z,4.1nm,0.9s,baz=190,slow=6.0,SNR=5.1						
DBIC	**Dimbokro**	**72.49**	**81**	P	**P**	**18 27 08.2**	**-0.8**
TOA0	**Torodi Ar. Sit**	**79.82**	**76**	P	**P**	**18 27 50.4**	**-0.3**
TOA0				IAmb	IAmb	18 28 15.3	
	comp=Z,10.0nm,1.6s						
TORD	**Torodi Ar. Bea**	**79.82**	**76**	P	**P**	**18 27 50.9**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=299,slow=6.5,SNR=8.1						
INK	**Inuvik**	**83.89**	**342**	P	**P**	**18 28 10.3**	**-0.6**
	comp=Z,2.9nm,1.0s,baz=141,slow=1.4,SNR=4.8						
INK	**Inuvik**	**83.89**	**342**	IAmb	IAmb	18 28 11.8	
	comp=Z,4.3nm,1.1s						
QSPA	**South Pole Qui**	**84.22**	**180**	P	**P**	**18 28 12.8**	**-0.1**
VRDI	**Verde Repeater**	**84.33**	**333**	P	**P**	**18 28 13.8**	**+0.2**
VRDI				IAmb	IAmb	18 28 14.6	
	comp=Z,4.1nm,1.0s						
ILAR	**Eielson Array**	**87.10**	**336**	P	**P**	**18 28 24.6**	**-2.4**
	comp=Z,0.9nm,0.9s,baz=107,slow=5.8,SNR=5.8						
MDM	**Murphy Dome**	**87.70**	**336**	P	**P**	**18 28 29.7**	**-0.2**
MDM				IAmb	IAmb	18 28 30.6	
	comp=Z,6.1nm,1.0s						
SKT	**Skwentna**	**88.22**	**333**	P	**P**	**18 28 31.2**	**-1.3**
SKT				IAmb	IAmb	18 28 33.1	
	comp=Z,4.6nm,0.8s						
BPAW	**Bear Paw Mtn.**	**88.57**	**335**	P	**P**	**18 28 33.4**	**-0.7**
BPAW				IAmb	IAmb	18 28 35.1	
	comp=Z,5.4nm,1.0s						
ASAR	**Alice Springs**	**138.31**	**224**	PKhKP	PKPpre	18 35 00.0	
	comp=Z,0.3nm,0.8s,baz=157,slow=2.6,SNR=2.6						
ASAR				PKP	**PKPdf**	**18 35 06.2**	**-1.5**
	comp=Z,1.0nm,1.0s,baz=102,slow=2.2,SNR=5.5						
WRA	**Warramunga Arr**	**140.34**	**229**	PKhKP	PKPpre	18 35 06.3	
	comp=Z,0.8nm,0.8s,baz=120,slow=1.6,SNR=3.0						
WRA				PKP	**PKPdf**	**18 35 10.4**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=120,slow=2.0,SNR=12						
MTN	**Manton Dam**	**146.91**	**236**		**PKPdf**	**18 35 22.8**	**-0.3**

ISN ***23*** *18:19:47.4±1.5,33.˚73N×45.˚57E,h0km±8km,ML1.8*

TEH ***23*** *18:19:49.0,33.˚80N×45.˚85E,h10km,ML2.6*

ISC 23 18:19:48.6±1.0,**33.˚83N**±0.˚04×**45.˚72E**±0.˚05,**h10**km,**n13,**
σ1¶**04**/**16**,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.74**	**166**	*e*Pg	**Pg**	**18 20 02.0**	**-0.8**
IBDR				*e*Sg	**Sg**	**18 20 11.0**	**-1.4**
IBDR				AML	AML	18 20 27.0	
	comp=E,33nm,0.4s						
IBDR				AML	AML	18 20 28.7	
	comp=N,49nm,0.5s						
IGHG	**Ghaleghazi**	**0.87**	**54**	*e*		18 20 06.0	
IGHG				*e*Pg	**Pg**	**18 20 04.9**	**-0.4**
IDHR	**Dehrash**	**1.03**	**32**	*e*		18 20 28.0	
IDHR				*e*Pg	**Pg**	**18 20 08.3**	**-0.2**
IVIS	**Veis**	**1.17**	**53**	*e*Pg	**Pn**	**18 20 11.1**	**0.0**
IVIS				*e*		18 20 30.9	
KCHF	**Cheshme Sefid,**	**1.19**	**67**	*e*Pg	**Pb**	**18 20 10.0**	**-1.3**
KCHF				*e*		18 20 32.9	
BHD	**Baghdad**	**1.25**	**244**	*e*Pn	**Pn**	**18 20 11.0**	**-1.1**
BHD				*e*Sn	**Sg**	**18 20 30.0**	**+1.3**
ILIN	**Lien**	**1.50**	**43**	*e*Pg	**Pb**	**18 20 16.3**	**-0.4**
ILIN				*e*		18 20 40.1	
IKOM	**Komasi**	**1.53**	**76**	*e*Pg	**Pn**	**18 20 16.3**	**+0.2**
IKOM				*e*		18 20 17.7	
IKFM	**Kafar-mosalman**	**1.80**	**99**	*e*Pn	**Pn**	**18 20 19.9**	**+0.2**
IKFM				*e*		18 20 23.1	
IBZA	**Bozab**	**1.89**	**70**	*e*Pn	**Pb**	**18 20 22.9**	**-0.4**
IBZA				*e*		18 20 25.2	
IDOB	**Doab**	**2.05**	**90**	*e*Pn	**Pb**	**18 20 26.1**	**+0.1**
IDOB				*e*		18 20 27.7	
HSRG	**Sareghieh**	**2.54**	**56**	*e*Pn	**Pn**	**18 20 31.2**	**+1.0**
HSRG				*e*		18 21 05.6	
NSR	**Nassriya**	**2.83**	**173**	*e*Pn	**Pn**	**18 20 35.0**	**+1.2**
NSR				*e*Sn	**Sn**	**18 21 10.0**	**+2.0**

REY ***23*** *18:33:05.0,64.˚68N×17.˚46W,h1km*

IDC ***23*** *18:33:05.7±0.5,64.˚66N×17.˚56W,h0km,mb4.1/24, mb1 4.2/30,mb1mx4.1/54,mbtmp4.1/30,ML3.0/4,MS3.5/25, Ms1 3.4/25,ms1mx3.3/46,Error ellipse: s-maj=13.8km s-min=8.3km az=13.0*

MOS ***23*** *18:33:05.6±1.0,64.˚76N×17.˚45W,h10km,mb4.6/25,Error ellipse: s-maj=9.5km s-min=6.0km az=110.5*

NEIC ***23*** *18:33:07.1±1.6,64.˚75N±0.˚07×17.˚38W±0.˚09,h8km±3km, mb4.7/101,Error ellipse: s-maj=11.0km s-min=4.1km az=202.0*

NAO ***23*** *18:33:09.2±4.8,64.˚68N×16.˚73W,ML5.0*

IEPN ***23*** *18:33:09.0,64.˚67N×16.˚54W,h10km*

ISC 23 18:33:07.3±0.3,**64.70N**±0.˚02×**17.˚48W**±0.˚02,**h10**km,**n380,**
σ1¶**70**/**384**,**mb4.6**/134,**MS3.5**/35,**4C-1D**,**Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.10**	**28**	P	**Pg**	**18 33 08.2**	**-1.8**
	baz=18						
IDYN				S	**Sg**	**18 33 10.7**	**-1.3**
	baz=18						
IVON	**Vonarskard**	**0.12**	**258**	P	**Pg**	**18 33 08.1**	**-2.2**
	baz=269						
IVON				S	**Sg**	**18 33 10.5**	**-1.8**
	baz=269						
IGRF	**Grimsfjall**	**0.31**	**163**	P	**Pg**	**18 33 11.5**	**-2.0**
	baz=163						
IGRF				S	**Sg**	**18 33 16.0**	**-1.6**
	baz=163						
IKVE	**Kverkfjoll**	**0.34**	**93**	P	**Pg**	**18 33 12.1**	**-2.1**
	baz=89						
IBJK	**Bruarjokull**	**0.39**	**126**	P	**Pg**	**18 33 12.1**	**-2.9**
	baz=124						
IBJK				S	**Sg**	**18 33 18.4**	**-1.8**
	baz=124						
ISKR	**Skrokkalda**	**0.41**	**251**	P	**Pg**	**18 33 13.2**	**-2.2**
	baz=254						
IVOT	**Vottur**	**0.45**	**163**	P	**Pg**	**18 33 13.4**	**-2.7**
	baz=164						
IVOT				S	**Sg**	**18 33 20.0**	**-2.0**
	baz=164						
IKRE	**Kreppuhraun**	**0.48**	**79**	P	**Pg**	**18 33 13.9**	**-2.7**
	baz=76						
IKRE				S	**Sg**	**18 33 20.9**	**-2.0**
	baz=76						
IASK	**Askja**	**0.50**	**45**	P	**Pg**	**18 33 14.7**	**-2.4**
	baz=42						
IASK				S	**Sg**	**18 33 22.3**	**-1.4**
	baz=42						
IJOK	**Jokulheimar**	**0.50**	**220**	P	**Pg**	**18 33 14.6**	**-2.4**
	baz=223						
IJOK				S	**Sg**	**18 33 22.8**	**-0.9**
	baz=223						
IMKO	**Mokollar**	**0.56**	**60**	P	**Pg**	**18 33 15.7**	**-2.5**
	baz=57						
IMKO				S	**Sg**	**18 33 24.1**	**-1.4**
	baz=57						
ISVA	**Svartarkot**	**0.65**	**8**	P	**Pg**	**18 33 17.5**	**-2.3**
	baz=7.2						
ISVA				S	**Sg**	**18 33 27.1**	**-1.2**
	baz=7.2						
IIEY	**Innrieyrar**	**0.67**	**205**	P	**Pg**	**18 33 17.1**	**-3.1**
	baz=207						
IIEY				S	**Sg**	**18 33 26.7**	**-2.2**
	baz=207						
IKSK	**Karasker**	**0.69**	**141**	P	**Pg**	**18 33 16.9**	**-3.8**
	baz=140						
IKSK				S	**Sg**	**18 33 26.9**	**-2.8**
	baz=140						
IVSH	**V-Sauoahnukur**	**0.76**	**81**	P	**Pg**	**18 33 18.6**	**-3.3**
	baz=79						
IVSH				S	**Sg**	**18 33 29.2**	**-2.6**
	baz=79						
IKAL	**Kalfafell**	**0.76**	**187**	P	**Pg**	**18 33 18.7**	**-3.2**
	baz=188						
IKAL				S	**Sg**	**18 33 29.6**	**-2.2**
	baz=188						
IVAT	**Vatnsfell**	**0.81**	**231**	P	**Pg**	**18 33 20.2**	**-2.6**
	baz=233						
IADA	**Aoalbol**	**0.87**	**68**	P	**Pg**	**18 33 20.5**	**-3.6**
	baz=66						
IADA				S	**Sg**	**18 33 33.1**	**-2.4**
	baz=66						
IFAG	**Fagurholsmyri**	**0.90**	**156**	P	**Pg**	**18 33 20.8**	**-3.8**
	baz=156						
IHVE	**Hveravellir**	**0.91**	**282**	P	**Pg**	**18 33 21.1**	**-3.6**
	baz=283						
IMEL	**Melhnausar**	**0.94**	**21**	P	**Pg**	**18 33 22.3**	**-3.1**
	baz=20						
IMEL				S	**Sg**	**18 33 35.0**	**-2.6**
	baz=20						
IREN	**Reynihlio**	**0.98**	**14**	P	**Pg**	**18 33 23.2**	**-3.0**
	baz=13						
IKVO	**Krokottuvotn**	**1.05**	**14**	P	**Pg**	**18 33 23.9**	**-3.5**
	baz=13						
IGRS	**Grimsstaoir**	**1.10**	**31**	P	**Pb**	**18 33 24.9**	**-3.5**
	baz=30						
IGRS				S	**Sg**	**18 33 41.3**	**-1.5**
	baz=30						
ISKI	**Skildingahlsh**	**1.19**	**9**	P	**Pb**	**18 33 26.4**	**-3.5**
	baz=8.3						
IGHA	**Grjothals**	**1.20**	**16**	P	**Pb**	**18 33 26.2**	**-3.8**
	baz=16						
IRJU	**Rjupnafell**	**1.21**	**206**	P	**Pn**	**18 33 26.5**	**-3.7**
	baz=207						
IGRA	**Granastaoir**	**1.22**	**358**	P	**Pn**	**18 33 27.1**	**-3.3**
	baz=358						
BORG	**Borgarnes**	**1.65**	**273**	Pg	**Pn**	**18 33 33.9**	**-2.4**
	37nm,0.3s,baz=100,slow=8.8,SNR=16						
BORG				Lg	Lg	18 33 57.1	
	42nm,0.3s,baz=30,slow=23,SNR=7.2						
BORG	**Borgarnes**	**1.65**	**273**	Pn	**Pn**	**18 33 33.3**	**-2.9**
SCO	**Scoresbysund**	**6.05**	**346**	*i* P	**Pn**	**18 34 35.6**	**-1.1**
SCO	**Scoresbysund**	**6.05**	**346**	*i* P	**Pn**	**18 34 35.6**	**-1.1**
SCO	**Scoresbysund**	**6.05**	**346**		**Pn**	**18 34 35.1**	**-1.6**
SCO	**Scoresbysund**	**6.05**	**346**	*i* P	**Pn**	**18 34 35.6**	**-1.0**
JMIC	**Jan Mayen**	**7.16**	**24**	Pn	**Pn**	**18 34 53.7**	**+1.9**
JMIC	**Jan Mayen**	**7.16**	**24**	Pn	**Pn**	**18 34 51.9**	**0.0**
	baz=194,slow=4.2,SNR=2.4						
JMIC	**Jan Mayen**	**7.16**	**24**	Pn	**Pn**	**18 34 53.7**	**+1.9**
ANGG	**Ammassalik, Gr**	**8.53**	**285**	Pn	**Pn**	**18 35 10.1**	**-0.5**
SUMG	**Summit**	**10.92**	**325**	P	**Pn**	**18 35 43.0**	**-0.7**
SUMG	**Summit**	**10.92**	**325**	Pn	**Pn**	**18 35 43.0**	**-0.7**
AKN	**Aaknes**	**11.21**	**92**	Pn	**Pn**	**18 35 45.4**	**-2.0**
AKN	**Aaknes**	**11.21**	**92**	Pn	**Pn**	**18 35 45.4**	**-2.0**
EKA	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**	**18 35 54.5**	**-0.6**
EKA	**Eskdalemuir Ar**	**11.78**	**136**	Pn	**Pn**	**18 35 54.1**	**-1.0**
	baz=322,slow=13,SNR=22						
ESK	**Eskdalemuir**	**11.78**	**136**	P	**Pn**	**18 35 54.3**	**-0.8**
ESK	**Eskdalemuir**	**11.78**	**136**	Pn	**Pn**	**18 35 54.3**	**-0.8**
SKAR	**Skarslia**	**12.46**	**97**	*e*P	**Pn**	**18 36 03.5**	**-0.8**
KONS	**Konsvik**	**12.71**	**68**	*e*P	**Pn**	**18 36 07.9**	**+0.2**
LOF	**Lofoten**	**12.80**	**61**	*e*P	**Pn**	**18 36 09.5**	**+0.5**
DSB	**Dublin**	**12.81**	**149**	Pn	**Pn**	**18 36 09.4**	**+0.2**
NC204	**NORSAR Array S**	**13.22**	**92**		**Pn**	**18 36 12.2**	**-2.7**
MOR8	**Moi Rana**	**13.28**	**69**	*e*P	**Pn**	**18 36 18.8**	**+3.2**
NBO00	**NORSAR Array S**	**13.34**	**93**	Pn	**Pn**	**18 36 12.6**	**-3.9**
STEI	**Steigen**	**13.44**	**62**	*e*P	**Pn**	**18 36 15.7**	**-2.0**
NAO01	**NORSAR Array S**	**13.48**	**94**	Pn	**Pn**	**18 36 15.6**	**-2.7**
NC303	**NORSAR Array S**	**13.51**	**92**	Pn	**Pn**	**18 36 16.1**	**-2.6**
NB2	**NORSAR Subarra**	**13.53**	**92**	Pn	**Pn**	**18 36 16.0**	**-3.0**
	baz=302,slow=14						
NB2	**NORSAR Subarra**	**13.53**	**92**	Pn	**Pn**	**18 36 16.0**	**-3.0**
	baz=302,slow=14						
NOA	**NORAR Array B**	**13.53**	**92**	Pn	**Pn**	**18 36 16.5**	**-2.5**
	0.0nm,0.3s,baz=300,slow=13,SNR=4.4						
NB201	**NORSAR Array S**	**13.56**	**92**	Pn	**Pn**	**18 36 15.8**	**-3.5**
SFJD	**Kangerlussuaq**	**13.66**	**295**	LR	LR	18 41 10.6	
	comp=Z,201nm,20.9s,baz=86,slow=36						
NC405	**NORSAR Array S**	**13.71**	**92**	Pn	**Pn**	**18 36 18.3**	**-3.1**
ILULI	**Ilulissat**	**13.78**	**304**	P	**Pn**	**18 36 20.5**	**-1.9**
ILULI	**Ilulissat**	**13.78**	**304**	Pn	**Pn**	**18 36 20.4**	**-1.9**
TRO	**Tromso**	**14.78**	**55**	*e*P	**Pn**	**18 36 34.1**	**-1.9**
HFS	**Hagfors**	**15.04**	**93**	P	**Pn**	**18 36 39.1**	**-0.5**
	baz=302,slow=16						
HFS	**Hagfors**	**15.04**	**93**	Pn	**Pn**	**18 36 38.3**	**-1.2**
	0.2nm,0.3s,baz=284,slow=18,SNR=1.2						
HFS				LR	LR	18 42 50.2	
	comp=Z,61nm,21.0s,baz=300,slow=39						
KTK1	**Kautokeino**	**16.33**	**57**	*e*P	**Pn**	**18 36 56.7**	**+0.4**
KBS	**Kingsbay**	**16.61**	**19**	P	**P**	**18 37 03.3**	**+1.1**
KBS	**Kingsbay**	**16.61**	**19**	P	**Pn**	**18 37 00.7**	**+1.0**
KBS				pmax	pmax		
	comp=Z,47nm,1.6s						
KBS	**Kingsbay**	**16.61**	**19**		**Pn**	**18 37 00.7**	**+1.0**
SPA0	**Spitsbergen Ar**	**16.83**	**23**	P	**P**	**18 37 04.4**	**-0.3**
SPA0	**Spitsbergen Ar**	**16.83**	**23**	P	**P**	**18 37 04.4**	**-0.3**
SPITS	**Spitsbergen Ar**	**16.83**	**23**	LR	LR	18 41 56.3	
	comp=Z,175nm,19.4s,baz=195,slow=31						
NOR	**Nord**	**17.00**	**0**	P	**P**	**18 37 07.2**	**+0.7**
ARA0	**ARCESS Array S**	**17.09**	**55**	P	**Pn**	**18 37 05.0**	**-0.9**
	baz=271,slow=12						
ARA0	**ARCESS Array S**	**17.09**	**55**	P	**Pn**	**18 37 05.0**	**-0.9**
	baz=271,slow=12						
ARCES	**ARCESS Array B**	**17.09**	**55**	P	**Pn**	**18 37 04.5**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=271,slow=13,SNR=11						
ARCES				LR	LR	18 42 27.7	
	comp=Z,230nm,20.9s,baz=298,slow=33						
ARE0	**ARCESS Array S**	**17.09**	**55**		**Pn**	**18 37 06.0**	**+0.1**
ARE0	**ARCESS Array S**	**17.09**	**55**	*e*P	**P**	**18 37 08.0**	**+0.4**
KEV	**Kevo**	**17.60**	**54**	P	**Pn**	**18 37 10.9**	**-1.2**
KEV				pmax	pmax		
	comp=Z,32nm,1.3s						
KEV	**Kevo**	**17.60**	**54**		**Pn**	**18 37 10.9**	**-1.2**
BMRD	**Maredsous**	**18.57**	**130**	P	Pn	18 37 32.3	+8.1
BSTI	**Sart Tilman**	**18.60**	**129**	P	Pn	18 37 32.4	+7.8
BGES	**Gesves**	**18.61**	**130**	pPn	**Pn**	**18 37 25.2**

VSU Vasula 21.56 86 *e*P **P 18 37 56.6 +0.2**
VSU Vasula 21.56 86 *i* P **P 18 37 55.2 -1.2**
VSU pmax pmax
comp=Z,89nm,1.1s
FRB Frobisher Bay 21.74 291 LR LR 18 46 02.1
comp=Z,98nm,18.6s,baz=78,slow=36
PVCC Panska Ves 21.94 115 AMS AMS 18 49 40.0
comp=Z,200nm,10.6s
SLVR Solovky 22.05 65 *e*P **P 18 38 01.1 -0.4**
comp=Z,35nm,1.1s
PABE Paberze 22.20 95 *e*P **P 18 38 03.5 +0.2**
LFF La Frestale 22.25 144 *e*P **P 18 38 04.4 +0.5**
LFF pmax pmax
comp=Z,32nm,2.4s
PRU Pruhonice 22.36 116 *e*P **P 18 38 06.6 +1.5**
PRU *e*S **S 18 42 15.6 +5.1**
PRU MLR MLR
comp=Z,200nm,11.0s
PRU Pruhonice 22.36 116 *e*P **P 18 38 06.6 +1.5**
PRU *e*S **S 18 42 15.6 +5.1**
PRU AMS AMS 18 49 30.0
comp=Z,200nm,11.0s
KSP Ksiaz 22.37 112 *e*P **P 18 38 04.7 -0.5**
KSP *e*S **S 18 42 15.6 +4.9**
PBCC Pribram 22.39 117 *e*P **P 18 38 08.6 +3.2**
CHVC Chvalec 22.47 113 *e*P **P 18 38 08.2 +1.9**
CHVC *ex* x 18 38 16.7
CHVC AMS AMS 18 49 30.0
comp=Z,200nm,12.7s
UPC Upice 22.52 113 *e*S **S 18 42 17.1 +3.6**
UPC AMS AMS 18 49 20.0
comp=Z,200nm,13.2s
OSTC Ostas 22.56 113 *e*P **P 18 38 08.0 +0.7**
OSTC *e*S Sn 18 42 21.5 -6.0
OSTC AMS AMS 18 49 30.0
comp=Z,100nm,14.5s
KHC Kasperske Hory 22.68 119 *e*P **P 18 38 08.8 +0.2**
KHC *e* 18 38 15.5
KHC MLR MLR
comp=Z,200nm,12.3s
KHC Kasperske Hory 22.68 119 *e*P **P 18 38 08.8 +0.2**
KHC *ex* x 18 38 15.5
KHC *e*S **S 18 42 21.8 +5.2**
KHC AMS AMS 18 50 10.0
comp=Z,200nm,12.3s
KHC Kasperske Hory 22.68 119 P **P 18 38 08.5 -0.1**
DPC Dobruska-Polom 22.77 113 *e*P **P 18 38 10.3 +0.8**
DPC MLR MLR
comp=Z,100nm,14.2s
DPC Dobruska-Polom 22.77 113 *e*P **P 18 38 10.3 +0.8**
DPC *ex* x 18 38 20.2
DPC *e*S Sn 18 42 26.0 -6.5
DPC AMS AMS 18 49 40.0
comp=Z,100nm,14.2s
SENIN Lac Senin/Sane 22.84 132 **P 18 38 11.1 +0.6**
SENIN IAmb IAmb 18 38 20.8
comp=Z,44nm,1.6s
SUW Suwalki 22.88 98 *e*P **P 18 38 11.0 +0.4**
SUW Suwalki 22.88 98 P **P 18 38 09.7 -0.9**
SUW pmax pmax
comp=Z,32nm,0.9s
SUW Suwalki 22.88 98 P **P 18 38 09.7 -0.9**
SUW IAmb IAmb 18 38 14.5
comp=Z,32nm,0.9s
DAVA Damuels 22.89 126 *i* pP pP 18 38 14.2 -0.2
comp=Z,12nm,1.2s
GEC2 GERESS Array S 22.96 119 P **P 18 38 11.8 +0.2**
GEC2 IAmb IAmb 18 38 16.8
comp=Z,27nm,1.4s
GERES GERESS Array B 22.96 119 P **P 18 38 12.0 +0.4**
comp=Z,2.8nm,1.0s,baz=327,slow=9.5,SNR=11
GERES LR LR 18 47 41.2
comp=Z,118nm,21.3s,baz=310,slow=38
SSB Saint Sauveur 22.97 137 P **P 18 38 13.1 +1.5**
SSB pmax pmax
comp=Z,26nm,1.7s
SSB Saint Sauveur 22.97 137 P **P 18 38 13.1 +1.5**
IZAR Zarasai 23.02 92 *e*P **P 18 38 12.0 0.0**
RETA Reutte 23.03 125 *i* pP pP 18 38 14.5 -1.1
comp=Z,4.3nm,0.8s
ISAL Salakas 23.09 93 *e*P **P 18 38 12.8 +0.2**
KRLC Kraliky 23.16 113 *e*P **P 18 38 14.6 +1.0**
KRLC MLR MLR
comp=Z,200nm,10.3s
KRLC Kraliky 23.16 113 *e*P **P 18 38 14.6 +1.0**
KRLC *ex* x 18 38 23.8
KRLC *e*S **S 18 42 31.3 +6.3**
KRLC AMS AMS 18 50 40.0
comp=Z,200nm,10.3s
MOTA Moosalm 23.27 125 *i* pP pP 18 38 16.9 -1.2
comp=Z,17nm,1.4s
TREC Trest 23.28 116 AMS AMS 18 50 30.0
comp=Z,200nm,11.8s
TMCR Tamitsa 23.32 66 *e*P **P 18 38 14.9 -0.2**
TMCR Tamitsa 23.32 66 *e*P **P 18 38 14.8 -0.2**
DAVOX Davos/Dischmat 23.33 127 P **P 18 38 15.8 +0.3**
comp=Z,2.6nm,0.8s,baz=330,slow=9.7,SNR=5.4
DAVOX LR LR 18 48 01.1
comp=Z,72nm,18.4s,baz=84,slow=38
PGAV Gavieira, Arco 23.38 162 *e*LR LR 18 43 39.8
comp=Z,140nm,20.0s
LPL La Plagne 23.41 133 *e*P **P 18 38 17.2 +0.8**
LPL pmax pmax
comp=Z,19nm,1.6s
SQTA Sankt Quirin 23.42 125 *i* pP **P 18 38 19.5 +3.2**
comp=Z,10nm,1.0s
SQTA *i* P P 18 38 38.5 +22
FETA Feichten 23.42 126 *e*pP **P 18 38 20.4 +4.1**
comp=Z,14nm,1.5s
TUE Stuetta 23.42 128 P **P 18 38 18.0 +1.6**
TUE IAmb IAmb 18 38 39.5
comp=Z,49nm,1.6s
BEL Belsk 23.44 105 *e*P **P 18 38 17.5 +1.2**
WATA Walderalm 23.45 124 *i* pP **P 18 38 19.4 +2.8**
comp=Z,15nm,1.4s
WATA *i* P P 18 38 35.9 +19
comp=Z,24nm,1.6s
IDID Didziasalis 23.52 92 *e*P **P 18 38 16.9 -0.1**
WTTA Wattenberg 23.53 124 *i* P **P 18 38 17.9 +0.5**
comp=Z,16nm,1.3s
WTTA *i* P P 18 38 39.1 +22
comp=Z,40nm,1.4s
FUORN Ofenpass-Fuorn 23.60 127 P **P 18 38 16.8 -1.4**
EUNU Eureka 23.64 336 P **P 18 38 18.6 +0.4**
EUNU IAmb IAmb 18 38 21.1
comp=Z,17nm,1.0s
VRAC Vranov 23.70 114 P **P 18 38 19.2 +0.3**
comp=Z,4.4nm,1.0s,baz=327,slow=12,SNR=11
VRAC LR LR 18 47 36.6
comp=Z,86nm,21.8s,baz=328,slow=37
VRAC Vranov 23.70 114 *e*P **P 18 38 19.7 +0.8**
MORC Moravsky Berou 23.70 112 *e*P **P 18 38 19.6 +0.6**
MORC Moravsky Berou 23.70 112 P **P 18 38 18.4 -0.5**
MORC pmax pmax
comp=Z,52nm,1.8s
MORC Moravsky Berou 23.70 112 P **P 18 38 18.4 -0.5**
MORC IAmb IAmb 18 38 22.7
comp=Z,52nm,1.8s
PBRG Braganca 23.75 160 *e*P **P 18 38 22.6 +3.1**
comp=Z,26nm,1.5s
BNI Bardonecchia 23.82 134 P **P 18 38 20.4 +0.2**
BNI pmax pmax
comp=Z,39nm,1.6s
BNI Bardonecchia 23.82 134 P **P 18 38 20.4 +0.2**
BNI IAmb IAmb 18 38 57.9
comp=Z,39nm,1.6s
KRUC Moravsky 23.82 115 *e*P **P 18 38 20.5 +0.5**
MOA Molln 24.00 119 *i* pP pP 18 38 24.9 -0.4
comp=Z,12nm,1.3s
PVRL Vila Real 24.13 162 *e*P **P 18 38 23.9 +0.8**
comp=Z,29nm,1.6s
OJC Ojcow 24.26 109 *e*P **P 18 38 23.9 -0.2**
OJC *e*S **S 18 42 52.1 +10**
OJC Ojcow 24.26 109 P **P 18 38 24.0 -0.2**
OJC pmax pmax
comp=Z,52nm,1.9s
OJC Ojcow 24.26 109 P **P 18 38 24.0 -0.2**
OJC IAmb IAmb 18 38 40.8
comp=Z,52nm,1.9s
ABTA Abfaltersbach 24.28 123 *i* pP **P 18 38 27.7 +3.2**
comp=Z,14nm,1.6s
MVO Moncorvo 24.34 161 *e*P **P 18 38 25.9 +0.9**
comp=Z,31nm,1.7s
MVO *e*LQ LQ 18 42 54.2
MVO *e*LR LR 18 45 15.2
comp=Z,72nm,16.0s
JAVC Velka Javorina 24.48 113 *e*P **P 18 38 27.9 +1.6**
CONA Conrad Observa 24.54 117 *i* P **P 18 38 27.1 +0.3**
comp=Z,8.9nm,1.2s
MICGM Minsk 24.55 93 *e* **P 18 38 26.0 -0.8**
MNK Minsk 24.55 93 *e*P **P 18 38 26.0 -0.8**
CTI Castel Tesino 24.58 125 P **P 18 38 27.3 +0.1**
CTI pmax pmax
comp=Z,17nm,1.2s
CTI Castel Tesino 24.58 125 P **P 18 38 27.3 +0.1**
CTI IAmb IAmb 18 38 46.2
comp=Z,17nm,1.2s
ZOU Zoufplan 24.61 123 P **P 18 38 28.6 +1.0**
ZOU IAmb IAmb 18 39 09.2
comp=Z,43nm,1.5s
CIMO Cimolais 24.63 124 P **P 18 38 27.2 -0.4**
CIMO IAmb IAmb 18 38 55.1
comp=Z,21nm,1.5s
PVIS Viseu 24.66 162 *e*P **P 18 38 27.7 -0.2**
comp=Z,21nm,1.3s
SMOL Smolenice 24.67 114 *e*P **P 18 38 28.1 +0.2**
SMOL pmax pmax
comp=Z,5.0nm,1.0s
SMOL Smolenice 24.67 114 *e*P **P 18 38 28.1 +0.2**
MODS Modra-Piesok 24.72 115 *e*P **P 18 38 29.3 +0.9**
MODS pmax pmax
comp=Z,21nm,1.3s
MODS Modra-Piesok 24.72 115 *e*P **P 18 38 29.3 +0.9**
STAL STALIGIAL 24.77 124 P **P 18 38 29.7 +0.8**
STAL IAmb IAmb 18 38 39.3
comp=Z,30nm,1.4s
MYKA Terra Mystica 24.79 122 *i* pP pP 18 38 32.0 -0.5
comp=Z,16nm,1.3s
PRED Cave del Predi 24.92 122 P **P 18 38 31.3 +1.0**
PRED IAmb IAmb 18 38 49.5
comp=Z,24nm,1.4s
LANS Liptovska Anna 24.97 111 *e*P **P 18 38 31.3 +0.7**
LANS pmax pmax
comp=Z,4.0nm,1.0s
LANS Liptovska Anna 24.97 111 *e*P **P 18 38 31.3 +0.7**
ARSA Arzberg 24.97 118 *i* P **P 18 38 31.3 +0.7**
comp=Z,5.7nm,1.1s
MTE Manteigas 25.02 162 *e*P **P 18 38 33.4 +2.3**
comp=Z,38nm,1.5s
MTE *e*LR LR 18 45 15.1
comp=Z,131nm,20.0s
MTE Manteigas 25.02 162 P **P 18 38 32.0 +0.9**
NIE Niedzica 25.09 109 *e*P **P 18 38 32.6 +0.9**
OBKA Obir 25.23 121 *i* P **P 18 38 32.0 -1.1**
comp=Z,19nm,1.9s
VYHS Vyhne 25.24 112 *e*P **P 18 38 33.0 0.0**
VYHS pmax pmax
comp=Z,21nm,1.4s
VYHS Vyhne 25.24 112 *e*P **P 18 38 33.0 0.0**
PRMA PARMA 25.24 129 P **P 18 38 31.6 -1.4**
SOKA Soboth 25.27 120 *i* P **P 18 38 33.3 -0.1**
comp=Z,15nm,1.4s
MSSA Maissana 25.38 131 P **P 18 38 33.4 -0.9**
PCBR Castelo Branco 25.57 162 *e*P **P 18 38 39.8 +3.7**
comp=Z,24nm,1.5s
KLMR Klimovskoe 25.59 72 *e*P **P 18 38 35.0 -1.1**
comp=Z,27nm,1.4s
KLMR *i* S **S 18 43 01.8 -1.7**
KLMR Klimovskoe 25.59 72 *e*P **P 18 38 34.9 -1.1**
KLMR pmax pmax
comp=Z,27nm,1.4s
KLMR Klimovskoe 25.59 72 *e*P **P 18 38 34.9 -1.1**
KLMR AMP 18 38 51.3
comp=Z,27nm,1.4s
SRO2 Moca 25.66 114 *e*P **P 18 38 36.6 -0.2**
SRO2 pmax pmax
comp=Z,10.0nm,1.0s
SRO2 Moca 25.66 114 *e*P **P 18 38 36.6 -0.2**
KWP Kalwaria Pacla 25.91 106 *e*P **P 18 38 39.8 +0.7**
KWP Kalwaria Pacla 25.91 106 P **P 18 38 39.4 +0.3**
KWP pmax pmax
comp=Z,68nm,1.3s
KWP Kalwaria Pacla 25.91 106 P **P 18 38 39.4 +0.3**
LSH Leshukonskoye 25.94 61 *e*P **P 18 38 37.9 -1.3**
comp=Z,39nm,1.2s
PMRV Marv??o 25.99 162 *e*P **P 18 38 45.6 +5.7**
comp=Z,26nm,1.2s
PMRV *e*LR LR 18 45 32.2
comp=Z,101nm,18.0s
SCHQ Schefferville 26.05 271 P **P 18 38 39.6 -0.7**
comp=Z,4.4nm,0.6s,baz=55,slow=8.8,SNR=4.8
SCHQ LR LR 18 47 45.9
comp=Z,63nm,21.2s,baz=114,slow=34
SCHQ Schefferville 26.05 271 P **P 18 38 40.6 +0.2**
SCHQ IAmb IAmb 18 38 46.5
comp=Z,37nm,1.9s
PSZ Piszkesteto 26.12 112 P **P 18 38 41.0 -0.1**
PSZ pmax pmax
comp=Z,31nm,1.3s
PSZ Piszkesteto 26.12 112 P **P 18 38 41.0 -0.1**
PSZ IAmb IAmb 18 38 47.7
comp=Z,31nm,1.3s
DRLN Deer Lake 26.14 253 P **P 18 38 43.0 +1.8**
KOLS Kolonicke sedl 26.28 108 *e*P **P 18 38 43.3 +0.9**
KOLS pmax pmax
comp=Z,18nm,1.3s
KOLS Kolonicke sedl 26.28 108 *e*P **P 18 38 43.3 +0.9**
ESBB Sonseca Array 26.28 156 P **P 18 38 43.9 +1.3**
ESDC Sonseca Array 26.28 156 P **P 18 38 42.2 -0.4**
comp=Z,2.3nm,0.9s,baz=348,slow=9.4,SNR=11
ESDC LR LR 18 48 40.4
comp=Z,87nm,18.8s,baz=325,slow=36
LVV L'vov 26.32 104 *e*P **P 18 38 44.4 +1.6**
PAB San Pablo 26.34 157 P **P 18 38 44.8 +1.7**
PAB pmax pmax
comp=Z,31nm,1.7s
PAB San Pablo 26.34 157 P **P 18 38 44.8 +1.7**
PAB IAmb IAmb 18 38 55.0
comp=Z,31nm,1.6s
RES Resolute Bay 26.44 324 LR LR 18 49 02.8
comp=Z,64nm,18.7s,baz=30,slow=36
UZH Uzhgorod 26.52 108 *e*P **P 18 38 42.5 -2.1**
UZH *i* 18 38 45.9
OSSC Osservatorio P 26.65 129 P **P 18 38 47.4 +1.5**
PRGR Permogore 27.60 67 P **P 18 38 54.3 +0.1**
AKASG Malin Array Be 27.84 98 P **P 18 38 55.7 -0.7**
comp=Z,4.2nm,0.9s,baz=321,slow=10,SNR=9.8
AKASG Malin Array Be 27.84 98 *i* P **P 18 38 58.2 +1.8**
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 27.84 98 P **P 18 38 55.8 -0.6**
AKBB pmax pmax
comp=Z,8.0nm,1.1s
AKBB Malin Array Si 27.84 98 P **P 18 38 55.8 -0.6**
OBN Obninsk 27.87 84 P **P 18 38 56.6 -0.1**
comp=Z,2.1nm,0.4s,baz=279,slow=11,SNR=6.6
OBN Obninsk 27.87 84⇑ *e*P **P 18 38 56.7 +0.1**
OBN S **S 18 43 42.0 +2.4**
OBN pmax pmax
comp=Z,27nm,1.3s
OBN MLR MLR
comp=Z,61nm,16.0s
OBN Obninsk 27.87 84 P **P 18 38 56.4 -0.3**
MOS Moscow 27.91 82 *e*P **P 18 38 56.0 -1.0**
BUR08 Bucovina Ar. S 28.50 106 P **P 18 39 02.4 -0.1**
BUR08 IAmb IAmb 18 39 43.1
comp=Z,19nm,1.9s
LPSR Galich'ya Gora 30.62 86 *e*P **P 18 39 20.7 -0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
GBN Guysborough 30.85 253 P **P 18 39 26.6 +3.5**
VSR Storozhevoye 31.72 88 *e*P **P 18 39 29.1 -1.7**
VSR pmax pmax
comp=Z,6.0nm,1.0s
VORD Divnogorie 31.96 88 *e*P **P 18 39 30.6 -2.3**
VORD pmax pmax
comp=Z,5.0nm,1.0s
CORL Corleone 32.40 131 P **P 18 39 38.7 +1.8**
TIP Timpagrande 32.41 125 P **P 18 39 38.0 +1.0**
TIP IAmb IAmb 18 39 48.7
comp=Z,9.4nm,1.2s
CLTB Caltabellotta 32.66 131 P **P 18 39 39.2 0.0**
VRH Novokhopyorsk 32.83 85 *e*P **P 18 39 39.5 -1.0**
VRH pmax pmax
comp=Z,10.0nm,0.8s
MDT Midelt 32.88 160 P **P 18 39 41.8 +0.5**
comp=Z,4.8nm,1.0s,baz=11,slow=4.9,SNR=8.0
KEST Kesra 33.18 138 LR LR 18 53 30.8
comp=Z,104nm,18.7s,baz=266,slow=37
KEST Kesra 33.18 138 P **P 18 39 44.4 +0.6**
KEST IAmb IAmb 18 39 48.3
comp=Z,17nm,1.4s
AGG Agios Georgios 34.58 119 P **P 18 39 55.7 -0.2**
AGG pmax pmax
comp=Z,23nm,1.2s
AGG Agios Georgios 34.58 119 P **P 18 39 55.7 -0.2**
NRIK Noril'sk 36.43 35 P **P 18 40 12.2 +0.8**
comp=Z,4.6nm,0.8s,baz=297,slow=11,SNR=5.0
NRIK LR LR 18 56 46.1
comp=Z,66nm,18.2s,baz=218,slow=39
GOF Gofitskoye 38.11 91⇑ *e*P **P 18 40 26.6 +0.7**
GOF pmax pmax
comp=Z,63nm,1.3s
BR131 Keskin Array S 38.48 105 P **P 18 40 29.9 +0.6**
BR131 pmax pmax
comp=Z,16nm,1.6s
BR131 Keskin Array S 38.48 105 P **P 18 40 29.9 +0.6**
BRTR Keskin Array B 38.48 105 P **P 18 40 30.2 +0.9**
comp=Z,2.5nm,1.0s,baz=310,slow=4.4,SNR=9.6
KIV Kislovodsk 38.84 92 *e*P **P 18 40 30.8 -1.4**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,89nm,16.0s
KBZ Khabaz 39.11 93 P **P 18 40 35.5 +1.2**
comp=Z,7.3nm,1.1s,baz=298,slow=9.7,SNR=9.6
KBZ LR LR 18 56 51.0
comp=Z,73nm,21.1s,baz=328,slow=36
YKA Yellowknife Ar 39.20 313 LR LR 18 56 21.2
comp=Z,74nm,19.4s,baz=0.0,slow=36
INK Inuvik 39.82 329 P **P 18 40 39.5 -0.4**
comp=Z,1.8nm,0.9s,baz=43,slow=9.1,SNR=4.7
INK Inuvik 39.82 329 P **P 18 40 39.2 -0.7**
INK pmax pmax
comp=Z,25nm,1.9s
INK Inuvik 39.82 329 P **P 18 40 39.1 -0.7**
INK IAmb IAmb 18 40 41.7
comp=Z,25nm,1.9s
GROC Groznyy 40.78 90 *e*P **P 18 40 47.4 -0.8**
GROC *e* 18 42 21.7
GROC *e* 18 42 48.6
GROC pmax pmax
comp=Z,30nm,1.1s
AKH Akhalkalaki 41.25 94 P **P 18 40 52.3 0.0**
AKH pmax pmax
comp=Z,22nm,1.2s
AKH Akhalkalaki 41.25 94 P **P 18 40 52.3 0.0**
AKH IAmb IAmb 18 40 57.2
comp=Z,22nm,1.2s
TBLG Delisi 41.52 93 P **P 18 40 53.7 -0.7**
TBLG pmax pmax
comp=Z,24nm,1.3s
TBLG Delisi 41.52 93 P **P 18 40 53.7 -0.7**
TBLG IAmb IAmb 18 40 59.3
comp=Z,24nm,1.3s
ULM Lac du Bonnet 41.60 289 LR LR 18 56 58.1
comp=Z,60nm,18.5s,baz=30,slow=34
MALT Malatya 41.67 102 P P 18 41 00.6 +4.9
TOLK Toolik Lake Re 42.72 336 P **P 18 41 03.8 -0.1**
BRVK Borovoye 43.11 62*ce*P **P 18 41 06.9 -0.2**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 43.11 62 P **P 18 41 07.6 +0.5**
DAWY Dawson 44.68 328 P **P 18 41 20.2 +0.6**
DAWY IAmb IAmb 18 41 22.2
comp=Z,33nm,1.9s
ILAR Eielson Array 45.66 332 P **P 18 41 27.8 +0.4**
comp=Z,2.3nm,1.1s,baz=17,slow=9.4,SNR=13
ILAR PcP **PcP 18 43 05.5 +0.3**
comp=Z,0.9nm,0.8s,baz=12,slow=2.9,SNR=4.4
ILAR LR LR 19 03 04.6
comp=Z,46nm,18.5s,baz=21,slow=39
MDM Murphy Dome 45.76 333 P **P 18 41 29.5 +1.3**
MDM IAmb IAmb 18 41 31.2
comp=Z,18nm,1.4s
CCB Clear Creek Bu 45.95 333 P **P 18 41 31.1 +1.4**
CCB IAmb IAmb 18 41 32.4
comp=Z,8.7nm,1.4s
DOT Dot Lake 46.07 330 P **P 18 41 31.8 +1.1**
DOT IAmb IAmb 18 41 33.9
comp=Z,21nm,1.9s
HYT Haines Junctio 47.02 325 P **P 18 41 39.6 +1.4**
BPAW Bear Paw Mtn. 47.05 334 P **P 18 41 39.0 +0.7**
WCI Wyandotte Cave 47.25 271 P **P 18 41 40.4 +0.2**
WCI pmax pmax
comp=Z,9.0nm,0.7s
WCI Wyandotte Cave 47.25 271 P **P 18 41 40.4 +0.2**
ZAA0 Zalesovo Array 47.61 51 P **P 18 41 41.9 -0.8**
ZALV Zalesovo Beam 47.61 51 P **P 18 41 43.0 +0.3**
comp=Z,1.4nm,0.6s,baz=332,slow=9.1,SNR=8.4
ZALV LR LR 19 03 25.5
comp=Z,35nm,18.9s,baz=247,slow=38
ZALV Zalesovo Beam 47.61 51 *i* P **P 18 41 43.5 +0.8**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
T47A Sharon Grove 48.65 270 P **P 18 41 51.6 +0.7**
T47A IAmb IAmb 18 41 54.9
comp=Z,9.4nm,0.9s
EGMT Eagleton 48.87 297 P **P 18 41 53.2 +0.6**
W50A Signal Mountai 49.39 268 P **P 18 41 57.0 +0.3**
W50A IAmb IAmb 18 42 05.1
comp=Z,15nm,1.3s
GEYT Alibeck 50.41 84 P **P 18 42 05.0 +0.5**
comp=Z,1.1nm,0.5s,baz=289,slow=9.0,SNR=5.3
YAK Yakutsk 51.24 19 *i* P **P 18 42 09.9 -0.4**
YAK pmax pmax
comp=Z,4.0nm,0.9s
KK31 Karatay Array 51.26 70 P **P 18 42 10.3 -0.5**
KK31 pmax pmax
comp=Z,11nm,1.3s
KK31 Karatay Array 51.26 70 P **P 18 42 10.3 -0.5**
KK31 IAmb IAmb 18 42 15.5
comp=Z,11nm,1.3s
KKAR Karatay Array 51.26 70 P **P 18 42 10.8 0.0**
KKAR pmax pmax
comp=Z,11nm,1.3s
KKAR Karatay Array 51.26 70 P **P 18 42 10.8 0.0**
KKAR IAmb IAmb 18 42 15.5
comp=Z,11nm,1.3s
YNE Yellowstone No 51.47 295 P **P 18 42 11.8 -0.9**
BOZ Bozeman (W) 51.60 297 P **P 18 42 13.6 +0.1**
BOZ pmax pmax
comp=Z,17nm,1.6s
BOZ Bozeman (W) 51.60 297 P **P 18 42 13.6 +0.1**
BOZ IAmb IAmb 18 42 21.3
comp=Z,17nm,1.6s
DGZ Jazzator, Alta 52.05 53 *i* P **P 18 42 17.2 +0.4**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
SEY Seymchan 52.45 6 P **P 18 42 19.8 +0.4**
comp=Z,4.3nm,1.1s,baz=285,slow=12,SNR=3.4
MAKZ Makanchi 52.57 59 P **P 18 42 20.1 -0.5**
MAKZ pmax pmax
comp=Z,13nm,1.6s
MAKZ Makanchi 52.57 59 P **P 18 42 20.1 -0.5**
MAKZ IAmb IAmb 18 42 24.4
comp=Z,13nm,1.6s
MK31 Makanchi Array 52.70 58 P **P 18 42 20.7 -0.8**
MK31 pmax pmax
comp=Z,5.0nm,1.3s
MK31 Makanchi Array 52.70 58 P **P 18 42 20.7 -0.8**
MKAR Makanchi Array 52.70 58 P **P 18 42 21.4 -0.1**
comp=Z,4.7nm,1.1s,baz=337,slow=5.9,SNR=15
MKAR LR LR 19 05 24.2
comp=Z,55nm,20.3s,baz=300,slow=37
MKAR Makanchi Array 52.70 58 *i* P **P 18 42 21.8 +0.3**
MKAR pmax pmax
comp=Z,5.0nm,1.1s
FXWY Fox Creek 53.01 295 P **P 18 42 25.2 +1.1**
TORD Torodi Ar. Bea 53.17 156 P **P 18 42 23.9 -1.2**
comp=Z,2.7nm,1.0s,baz=340,slow=8.1,SNR=8.0
TORD LR LR 19 06 27.4
comp=Z,32nm,20.2s,baz=180,slow=38
BW06 Boulder Array 53.17 293 P **P 18 42 24.9 -0.4**
PD31 Pinedale Array 53.17 293 P **P 18 42 25.3 0.0**
PDAR Pinedale Array 53.17 293 P **P 18 42 25.1 -0.2**
comp=Z,2.6nm,0.8s,baz=58,slow=7.0,SNR=15
PDAR LR LR 19 04 38.7
comp=Z,49nm,21.2s,baz=21,slow=36
AAK Ala-Archa 53.24 67*ce*P **P 18 42 26.7 +1.0**
AAK pmax pmax
comp=Z,11nm,1.3s
AAK Ala-Archa 53.24 67 P **P 18 42 26.2 +0.5**
AAK IAmb IAmb 18 42 30.6
comp=Z,15nm,1.4s

N23A	**Red Feather La**	**53.30**	**289**	P	**P**	**18 42 26.9**	**+0.6**
N23A				IAmb	IAmb	18 42 42.8	
	comp=Z,9.4nm,1.4s						
BCYI	**Bear Canyon**	**53.36**	**297**	P	**P**	**18 42 27.0**	**+0.4**
BTK	**Batken**	**53.94**	**72**	P	**P**	**18 42 31.5**	**+0.7**
BTK				pmax	pmax		
	comp=Z,34nm,1.3s						
BTK	**Batken**	**53.94**	**72**	P	**P**	**18 42 31.5**	**+0.7**
CHGR	**Chuyangaron**	**54.45**	**74**	P	**P**	**18 42 35.2**	**+0.7**
GAR	**Garm**	**54.63**	**73**	P	**P**	**18 42 36.3**	**+0.4**
KDJ	**Kajisay**	**54.72**	**65**	P	**P**	**18 42 37.2**	**+0.6**
KDJ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KDJ	**Kajisay**	**54.72**	**65**	P	**P**	**18 42 37.2**	**+0.6**
KDJ				IAmb	IAmb	18 42 41.1	
	comp=Z,9.2nm,1.2s						
O20A	**White River Ci**	**54.87**	**290**	P	**P**	**18 42 38.0**	**+0.3**
HWUT	**Hardware Ranch**	**54.95**	**294**	P	**P**	**18 42 37.7**	**-0.5**
ZAK	**Zakamensk**	**56.43**	**41**	*eP*	**P**	**18 42 49.6**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
PV22	**Blue Mesa, Par**	**56.46**	**290**	P	**P**	**18 42 49.1**	**0.0**
KSH	**Kashi**	**56.48**	**68**	P	**P**	**18 42 52.3**	**+3.2**
KSH				pmax	pmax		
	comp=Z,18nm,1.2s						
PV23	**Carpenter Ridg**	**56.62**	**290**	P	**P**	**18 42 50.5**	**+0.2**
PV23				IAmb	IAmb	18 42 53.5	
	comp=Z,6.2nm,0.8s						
DUG	**Dugway, Tooele**	**56.64**	**294**	P	**P**	**18 42 52.0**	**+1.7**
DUG				pmax	pmax		
	comp=Z,9.0nm,1.4s						
DUG	**Dugway, Tooele**	**56.64**	**294**	P	**P**	**18 42 52.0**	**+1.7**
DUG				IAmb	IAmb	18 42 56.6	
	comp=Z,8.9nm,1.4s						
SRU	**San Rafael Swe**	**56.66**	**292**	P	**P**	**18 42 50.8**	**+0.3**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SRU	**San Rafael Swe**	**56.66**	**292**	P	**P**	**18 42 50.8**	**+0.3**
PV01	**Paradox Valley**	**56.71**	**289**	P	**P**	**18 42 50.7**	**-0.3**
PV02	**Paradox Valley**	**56.72**	**290**	IAmb	IAmb	18 42 55.0	
	comp=Z,7.6nm,1.1s						
PV03	**Paradox Valley**	**56.72**	**290**	P	**P**	**18 42 51.2**	**+0.2**
PV18	**Skein Mesa, Pa**	**56.76**	**290**	P	**P**	**18 42 51.5**	**+0.3**
PV13	**Radium Mtn., P**	**56.79**	**290**	P	**P**	**18 42 52.1**	**+0.5**
PV13				IAmb	IAmb	18 42 54.2	
	comp=Z,8.2nm,0.9s						
PV05	**Paradox Valley**	**56.98**	**290**	IAmb	IAmb	18 42 54.7	
	comp=Z,9.1nm,0.8s						
WMQ	**Urumqi**	**57.21**	**56**	*eP*	**P**	**18 42 56.1**	**+1.9**
WMQ				sP	sP	18 43 02.1	+2.9
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,42nm,3.8s						
WMQ				LR	LR		
	comp=N,200nm,28.9s						
WMQ				LR	LR		
	comp=E,340nm,29.2s						
WMQ				LR	LR		
	comp=Z,42nm,29.0s						
MSU	**Marysvale**	**57.84**	**293**	P	**P**	**18 43 00.1**	**+1.2**
MSU	**Marysvale**	**57.84**	**293**	P	**P**	**18 43 00.1**	**+1.2**
DBIC	**Dimbokro**	**58.62**	**165**	P	**P**	**18 43 04.1**	**-0.1**
	comp=Z,5.6nm,0.9s,baz=347,slow=9.4,SNR=5.8						
DBIC	**Dimbokro**	**58.62**	**165**	P	**P**	**18 43 04.2**	**0.0**
DBIC				pmax	pmax		
	comp=Z,12nm,1.1s						
DBIC	**Dimbokro**	**58.62**	**165**	P	**P**	**18 43 04.2**	**0.0**
DBIC				IAmb	IAmb	18 43 07.9	
	comp=Z,12nm,1.1s						
TIC	**Toumodi**	**58.63**	**165**	*eP*	**P**	**18 43 04.4**	**+0.1**
KIC	**Kosan Boka**	**58.94**	**165**	*eP*	**P**	**18 43 05.5**	**-1.0**
	comp=Z,26nm,1.2s						
LIC	**Lamto**	**59.04**	**166**	*eP*	**P**	**18 43 06.2**	**-1.0**
	comp=Z,54nm,1.3s						
R11A	**Troy Canyon, C**	**59.32**	**295**	P	**P**	**18 43 08.9**	**-0.3**
R11A				IAmb	IAmb	18 43 16.4	
	comp=Z,15nm,1.9s						
SONM	**Songino Array**	**59.61**	**40**	P	**P**	**18 43 11.3**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=316,slow=6.2,SNR=11						
SONM				LR	LR	19 11 37.9	
	comp=Z,65nm,18.7s,baz=291,slow=39						
U15A	**North Rim**	**59.68**	**291**	P	**P**	**18 43 12.0**	**+0.2**
U15A				IAmb	IAmb	18 43 19.6	
	comp=Z,5.5nm,1.1s						
ULN	**Ulaanbaatar**	**59.76**	**40**	*i* P	**P**	**18 43 11.8**	**-0.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WUAZ	**Wupatki**	**60.10**	**290**	P	**P**	**18 43 15.0**	**+0.5**
WUAZ				IAmb	IAmb	18 43 23.2	
	comp=Z,8.1nm,1.2s						
NVAR	**Mina Array Bea**	**60.29**	**297**	P	**P**	**18 43 17.1**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=36,slow=4.8,SNR=1.6						
NIL	**Nilore**	**60.43**	**74**	P	**P**	**18 43 16.2**	**-0.5**
NIL				pmax	pmax		
	comp=Z,18nm,1.1s						
NIL	**Nilore**	**60.43**	**74**	P	**P**	**18 43 16.1**	**-0.5**
SHPR	**Sheep Range**	**60.75**	**294**	P	**P**	**18 43 19.8**	**+0.8**
TPNV	**Topopah Spring**	**60.79**	**295**	P	**P**	**18 43 19.3**	**0.0**
TPNV				pmax	pmax		
	comp=Z,19nm,2.0s						
TPNV	**Topopah Spring**	**60.79**	**295**	P	**P**	**18 43 19.3**	**0.0**
TPNV				IAmb	IAmb	18 43 21.3	
	comp=Z,19nm,2.0s						
TXAR	**Lajitas Array**	**62.29**	**280**	P	**P**	**18 43 29.4**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=34,slow=4.7,SNR=7.1						
PETK	**Petropavlovsk-**	**62.47**	**3**	LR	LR	19 09 46.6	
	comp=Z,38nm,19.0s,baz=48,slow=35						
GTA	**Gaotai**	**65.27**	**49**	⇓P	**P**	**18 43 49.1**	**+0.2**
GTA				pP	pP	18 43 52.9	+0.2
GTA				sP	sP	18 43 55.3	+1.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,83nm,7.6s						
GTA				LR	LR		
	comp=N,61nm,16.5s						
GTA				LR	LR		
	comp=E,76nm,16.5s						
GTA				LR	LR		
	comp=E,80nm,18.1s						
HHC	**Hu-ho-hao-te**	**67.48**	**40**	*eP*	**P**	**18 44 04.5**	**+1.5**
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,6.2s						
HHC				LR	LR		
	comp=N,93nm,14.5s						
HHC				LR	LR		
	comp=E,89nm,14.5s						
HHC				LR	LR		
	comp=Z,72nm,16.2s						
LZH	**Lanzhou**	**69.60**	**48**	*eP*	**P**	**18 44 13.6**	**-2.8**
LZH				pP	pP	18 44 19.8	-0.4
LZH				sP	sP	18 44 23.4	+1.9
LZH				PP	PP	18 46 31.4	-18
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
LZH				pmax	pmax		
	comp=Z,120nm,4.9s						
XAN	**Xi'an**	**73.06**	**44**	P	**P**	**18 44 37.3**	**+0.1**
XAN				pP	sP	18 44 48.1	+5.7
XAN				pmax	pmax		
	comp=Z,8.0nm,1.4s						
XAN				pmax	pmax		
	comp=Z,110nm,4.5s						
KSRS	**Korea Array**	**74.62**	**28**	LR	LR	19 20 56.1	
	comp=Z,31nm,18.0s,baz=335,slow=38						
ENH	**Enshi**	**76.74**	**45**	P	**P**	**18 44 57.9**	**-0.6**
NJ2	**Nanjing**	**77.71**	**37**	*eP*	**P**	**18 45 02.6**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**84.11**	**59**	P	**P**	**18 45 38.0**	**-0.2**
	comp=Z,1.7nm,1.1s,baz=312,slow=5.5,SNR=8.1						
ASAR	**Alice Springs**	**134.93**	**38**	PKP	**PKPdf**	**18 52 25.4**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=352,slow=1.9,SNR=2.2						
STKA	**Stephens Creek**	**144.69**	**32**	PKP	**PKPdf**	**18 52 43.5**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=162,slow=1.1,SNR=4.4						
QSPA	**South Pole Qui**	**154.62**	**180**	PKPbc	**PKiKP**	**18 53 06.8**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=182,slow=3.0,SNR=6.0						

*IDC **23** 18:33:12.9±0.8,36°.75N×141°.11E,h0km,mb3.9/12, mb1 4.0/17,mb1mx3.8/49,mbtmp4.0/17,ML3.0/4,MS2.5/1, Ms1 2.5/1,ms1mx2.1/37,Error ellipse: s-maj=23.2km s-min=14.0km az=98.0*

*NEIC **23** 18:33:13.2±1.6,36°.71N±0°.06×141°.24E±0°.08,h6km±5km, mb4.6/14,Error ellipse: s-maj=9.7km s-min=8.5km az=76.0*

*JMA **23** 18:33:15.3,36°.74N×141°.11E,h23km±1km,M3.9*

JMA Felt II J1.

*NIED **23** 18:33:15.3,36°.74N×141°.11E,h23km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.67; Mθθ-1.93; Mφφ3.60; Mrθ-1.68; Mθφ0.16; Mφr-0.66; Fault plane solution: M₀3.60000×10¹⁴ NP1:φ₁38.00000°, δ68.00000°,λ-39.00000°. NP2:φ₂145.00000°,δ54.00000°, λ-152.00000°.*

ISC 23 18:33:13.2±1.6,36°.69N±0°.03×141°.25E±0°.06,h6km±9km, n55,σ1§51/62,mb4.2/18,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.55**	**319**	P		P	**Pg**	**18 33 24.3**	**+0.5**
ONAJ				S		S	**Sg**	**18 33 30.8**	**-0.1**
JHO	**Hitachi**	**0.55**	**262**	P		P	**Pg**	**18 33 24.3**	**+0.4**
JHO				S		S	**Sg**	**18 33 30.8**	**-0.3**
JHYU	**Hitachinakayam**	**0.64**	**237**	P		P	**Pb**	**18 33 26.7**	**0.0**
JHYU				S		S	**Sb**	**18 33 35.4**	**-0.4**
JFFD	**Fukushimafurud**	**0.68**	**306**	P		P	**Pg**	**18 33 26.2**	**-0.1**
JFFD				S		S	**Sg**	**18 33 34.0**	**-1.2**
JFK	**Kawauchi**	**0.74**	**336**	P		P	**Pg**	**18 33 27.7**	**+0.3**
JFK				S		S	**Sg**	**18 33 36.9**	**-0.1**
JYT	**Yasato**	**0.97**	**242**	P		P	**Pb**	**18 33 31.5**	**-0.8**
JYT				S		S	**Sb**	**18 33 43.7**	**-1.7**
JFT	**Otama**	**1.10**	**319**	P		P	**Pb**	**18 33 33.8**	**-0.9**
JFT				S		S	**Sb**	**18 33 47.3**	**-2.0**
JSB	**Shiboa**	**1.10**	**285**	P		P	**Pb**	**18 33 34.2**	**-0.5**
JSB				S		S	**Sg**	**18 33 48.2**	**-0.5**
JMM	**Marumori**	**1.23**	**343**	P		P	**Pn**	**18 33 35.5**	**-1.4**
JMM				S		S	**Sb**	**18 33 50.4**	**-2.5**
MJAR	**Matsushiro Arr**	**2.45**	**267**	Pn		Pn	**Pn**	**18 33 53.7**	**0.0**
	2.7nm,0.3s,baz=86,slow=19,SNR=94								
MJAR				Sn			**Sb**	**18 34 26.1**	**-1.9**
	14nm,0.3s,baz=144,slow=20,SNR=16								
MAJO	**Matsushiro**	**2.45**	**267**				**Pn**	**18 33 54.1**	**+0.3**
MAT	**Matsushiro**	**2.45**	**267**	P			**Pn**	**18 33 54.1**	**+0.4**
MAT				S			**Sn**	**18 34 24.2**	**+0.2**
JHJ2	**Mitsune**	**3.76**	**199**	Pn			**Pn**	**18 34 13.0**	**+1.4**
JHJ	**Hachijo jima 2**	**3.76**	**199**	Pn			**Pn**	**18 34 13.8**	**+2.1**
	7.8nm,0.3s,baz=326,slow=22,SNR=8.8								
JHJ				Sn			**Sn**	**18 34 58.8**	**+2.5**
	25nm,0.3s,baz=277,slow=22,SNR=5.1								
ERM	**Erimo**	**5.52**	**15**	Pn			**Pn**	**18 34 35.7**	**-0.1**
ASAJ	**Asahikawa**	**7.49**	**7**	Pn			**Pn**	**18 35 01.9**	**-1.0**
	1.7nm,0.3s,baz=203,slow=16,SNR=25								
ASAJ				Sn			**Sn**	**18 36 28.9**	**+0.8**
	0.2nm,0.3s,baz=198,slow=19,SNR=1.9								
JKA	**Kamikawa-asahi**	**7.49**	**7**				**Pn**	**18 35 02.3**	**-0.5**
JNU	**Nakatsue**	**9.23**	**250**	Pn			**Pn**	**18 35 25.5**	**-1.4**
	0.0nm,0.3s,baz=18,slow=3.2,SNR=1.5								
JNU	**Nakatsue**	**9.23**	**250**				**Pn**	**18 35 26.3**	**-0.5**
JCJ	**Chichijima**	**9.60**	**175**	Pn			**Pn**	**18 35 31.9**	**0.0**
	5.5nm,0.3s,baz=263,slow=22,SNR=12								
JCJ				Sn			**Sn**	**18 37 13.2**	**-6.9**
	1.7nm,0.3s,baz=304,slow=19,SNR=1.5								
JCJ	**Chichijima**	**9.60**	**175**				**Pn**	**18 35 31.8**	**-0.1**
USRK	**Usuriysk Ar.**	**10.29**	**320**	Pn			**Pn**	**18 35 44.1**	**+2.8**
	baz=140,slow=14,SNR=5.1								
KSRS	**Korea Array**	**10.68**	**278**	Pn			**Pn**	**18 35 50.2**	**+3.6**
	0.1nm,0.3s,baz=91,slow=14,SNR=3.4								
KSRS				LR		LR		18 39 07.1	
	comp=Z,28nm,21.7s,baz=95,slow=34								
YAK	**Yakutsk**	**26.38**	**348**	P		P	**P**	**18 38 49.4**	**-0.5**
	1.5nm,0.4s,baz=338,slow=2.6,SNR=2.3								
YAK	**Yakutsk**	**26.38**	**348**			IAmb	IAmb	18 38 55.4	
	comp=Z,5.0nm,0.5s								
SEY	**Seymchan**	**27.15**	**11**	P		P	**P**	**18 38 57.3**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=139,slow=19,SNR=2.1								
SONM	**Songino Array**	**27.87**	**305**	P		P	**P**	**18 39 02.9**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=94,slow=10.0,SNR=5.1								
H11N2	**WAKE ISLAND Hy**	**28.09**	**120**	T		T		19 08 42.9	
	baz=313,slow=75,SNR=1339								
H11N1	**WAKE ISLAND Hy**	**28.09**	**120**	T		T		19 08 43.5	
	baz=313,slow=75,SNR=1211								
H11N3	**WAKE ISLAND Hy**	**28.11**	**120**	T		T		19 08 44.2	
	baz=313,slow=75,SNR=1028								
ZALV	**Zalesovo Beam**	**42.05**	**313**			P	**P**	**18 41 05.0**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=91,slow=7.5,SNR=6.4								
MK31	**Makanchi Array**	**44.19**	**302**	P		P	**P**	**18 41 21.8**	**-1.0**
MKAR	**Makanchi Array**	**44.19**	**302**	P		P	**P**	**18 41 22.3**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=87,slow=10,SNR=15								
MAKZ	**Makanchi**	**44.40**	**302**	P		P	**P**	**18 41 22.7**	**-1.7**
KURK	**Kurchatov**	**46.04**	**308**	P		P	**P**	**18 41 36.5**	**-0.9**
TRF	**Thorofare Moun**	**48.39**	**34**	P		P	**P**	**18 41 57.5**	**+1.7**
TRF				IAmb		IAmb	IAmb	18 41 59.0	
	comp=Z,9.9nm,1.3s								
KDJ	**Kajisay**	**48.77**	**297**	P		P	**P**	**18 41 58.8**	**-0.2**
ILAR	**Eielson Array**	**49.85**	**32**	P		P	**P**	**18 42 07.7**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=269,slow=7.8,SNR=2.7								
GSI	**Gunungsitoli**	**53.51**	**239**	P		P	**P**	**18 42 34.5**	**-0.1**
INK	**Inuvik**	**54.75**	**27**	P		P	**P**	**18 42 44.8**	**+1.8**
	comp=Z,1.3nm,1.0s,baz=326,slow=5.5,SNR=4.0								
INK	**Inuvik**	**54.75**	**27**	P		P	**P**	**18 42 44.6**	**+1.6**
INK				IAmb		IAmb	IAmb	18 42 51.2	
	comp=Z,9.1nm,1.6s								
WB0	**Warramunga Arr**	**56.52**	**188**	P		P	**P**	**18 42 56.3**	**0.0**
WB0				IAmb		IAmb	IAmb	18 43 03.6	
	comp=Z,15nm,1.8s								
WRAB	**Tennant Creek**	**56.69**	**188**	P		P	**P**	**18 42 57.3**	**-0.2**
WRAB				IAmb		IAmb	IAmb	18 43 20.4	
	comp=Z,12nm,1.6s								
WR0	**Warramunga Arr**	**56.70**	**188**	P		P	**P**	**18 42 58.0**	**+0.5**
WR0				IAmb		IAmb	IAmb	18 42 58.6	
	comp=Z,7.3nm,1.4s								
WB2	**Warramunga Arr**	**56.70**	**188**	P		P	**P**	**18 42 57.2**	**-0.3**
WB2				IAmb		IAmb	IAmb	18 43 02.8	
	comp=Z,12nm,1.6s								
WRA	**Warramunga Arr**	**56.70**	**188**	P		P	**P**	**18 42 58.3**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=3.8,slow=7.2,SNR=13								
ASAR	**Alice Springs**	**60.43**	**188**	P		P	**P**	**18 43 24.5**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=9.3,slow=8.9,SNR=2.5								
STKA	**Stephens Creek**	**68.21**	**180**	P		P	**P**	**18 44 13.9**	**-0.4**
STKA				IAmb		IAmb	IAmb	18 44 34.4	
	comp=Z,3.5nm,1.6s								
FORT	**Forrest**	**68.25**	**192**	P		P	**P**	**18 44 17.1**	**+2.6**
FINES	**FINESS Array B**	**69.06**	**332**	P		P	**P**	**18 44 18.9**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=69,slow=7.6,SNR=5.7								
AKASG	**Malin Array Be**	**74.49**	**322**	P		P	**P**	**18 44 52.0**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=52,slow=5.2,SNR=5.0								
GERES	**GERESS Array B**	**82.93**	**328**	P		P	**P**	**18 45 39.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=52,slow=6.4,SNR=2.8								
H03N2	**Juan Fernandez**	**147.12**	**96**	T		T		21 37 30.2	
	baz=290,slow=76								
H03N3	**Juan Fernandez**	**147.13**	**96**	T		T		21 37 34.9	
	baz=290,slow=76								
H03N1	**Juan Fernandez**	**147.13**	**96**	T		T		21 37 28.3	
	baz=290,slow=76								

*TEH **23** 18:33:17.7,32°.83N×47°.51E,h9km,ML3.2*

*ISN **23** 18:33:17.9±1.6,32°.79N×47°.54E,h15km±8km,ML3.1*

*THR **23** 18:33:18.1±0.4,32°.80N×47°.47E,h14km±5km,ML3.3*

ISC 23 18:33:18.5±0.8,32°.84N±0°.03×47°.53E±0°.03,h15km,n39, σ1§66/44,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.73**	**21**	*e*Pg			**Pg**	**18 33 32.6**	**-0.2**
IKFM				*e*				18 33 46.1	
IKMR	**Kamar-syah**	**0.98**	**46**	*e*Pg			**Pb**	**18 33 36.2**	**-1.0**
IKMR				*e*				18 33 57.9	
IDOB	**Doab**	**1.09**	**30**	*e*Pg			**Pn**	**18 33 39.1**	**-0.4**
SHGR	**Shooshtar-Gavs**	**1.30**	**124**	*e*Pg			**Pb**	**18 33 42.4**	**-0.3**
SHGR				*e*Sg			**Sg**	**18 34 00.5**	**0.0**
SHGR	**Shooshtar-Gavs**	**1.30**	**124**	*e*Pg			**Pb**	**18 33 42.4**	**-0.3**
IKOM	**Komasi**	**1.33**	**359**	*e*Pg			**Pg**	**18 33 44.1**	**-0.1**
IKOM				*e*				18 33 46.2	
BMDN	**Meydan**	**1.37**	**52**	*e*Pg			**Pg**	**18 33 44.8**	**0.0**
BMDN				*e*				18 33 49.6	
IBDR	**Badra**	**1.37**	**282**	*e*Pg			**Pn**	**18 33 43.0**	**-0.1**
IBDR				*e*Sg			**Sb**	**18 34 02.0**	**+0.8**
IBDR				AML		AML	AML	18 34 07.4	
	comp=N,244nm,0.6s								
IBDR				AML		AML		18 34 11.1	
	comp=E,197nm,0.6s								
KCHF	**Cheshme Sefid,**	**1.49**	**344**	*e*Pg			**Pg**	**18 33 46.7**	**-0.5**
KCHF				*e*				18 34 10.7	
KER	**Kermanshah**	**1.58**	**348**	*e*Pg			**Pg**	**18 33 48.9**	**+0.1**
HSAM	**Samen**	**1.64**	**33**	*e*Pg			**Pg**	**18 33 50.0**	**0.0**
HSAM				*e*				18 33 53.1	
IBZA	**Bozab**	**1.65**	**10**	*e*Pg			**Pg**	**18 33 49.9**	**-0.3**
IBZA				*e*				18 33 56.6	
IGHG	**Ghaleghazi**	**1.69**	**332**	*e*Pn			**Pn**	**18 33 48.5**	**+0.8**
IGHG				*e*				18 34 24.5	
IVIS	**Veis**	**1.77**	**342**	*e*Pg			**Pg**	**18 33 51.9**	**-0.7**
IVIS				*e*				18 34 21.6	
AHWZ	**Ahwaz**	**1.78**	**148**	*e*Pg			**Pg**	**18 33 51.9**	**-0.8**
IALM	**Almabolaq**	**2.08**	**15**	*e*Pn			**Pb**	**18 33 56.6**	**+0.4**
IDHR	**Dehrash**	**2.08**	**333**	*e*Pn			**Pn**	**18 33 54.6**	**+1.5**
IDHR				*e*				18 34 33.0	
ILIN	**Lien**	**2.13**	**347**	*e*Pn			**Pb**	**18 33 56.0**	**-0.9**
ILIN				*e*				18 34 39.0	
NSR	**Nassriya**	**2.17**	**213**	*e*Pn			**Pn**	**18 33 55.0**	**+0.9**
NSR				*e*Sn			**Sn**	**18 34 20.0**	**-0.8**
KHMZ	**Khomeyn**	**2.22**	**66**	*e*Pn			**Pb**	**18 33 57.6**	**-0.9**
KHMZ	**Khomeyn**	**2.22**	**66**	*e*Pn			**Pb**	**18 33 57.6**	**-0.9**
SNGE	**Sanandaj**	**2.25**	**356**	*e*Pn			**Pb**	**18 33 57.6**	**-1.4**
SNGE	**Sanandaj**	**2.25**	**356**	*e*Pn			**Pb**	**18 33 57.6**	**-1.4**
HAGD	**Aghdareh**	**2.39**	**34**	*e*Pn			**Pb**	**18 34 00.4**	**-1.0**
HAGD				*e*				18 34 05.8	
BHD	**Baghdad**	**2.68**	**280**	*e*Pn			**Pn**	**18 34 02.0**	**+0.9**
BHD				*e*Sn			**Sn**	**18 34 36.0**	**+2.7**
BHD				AML		AML	AML	18 34 38.0	
	comp=E,250nm,0.4s								
JHBN	**Jahan bin**	**2.72**	**102**	*e*Pn			**Pn**	**18 34 03.8**	**+1.9**
JHBN				*e*				18 34 57.7	
IPIR	**Pirpir**	**2.84**	**92**	*e*				18 34 43.8	
IPIR				*e*Pn			**Pb**	**18 34 06.0**	**-3.1**
ROKH	**ROKH**	**3.00**	**99**	*e*Pn			**Pn**	**18 34 07.5**	**+1.8**
IRAZ	**Razeghan**	**3.24**	**37**	*e*Pn			**Pb**	**18 34 12.1**	**-3.8**
QABG	**Abgarm-Qazvin**	**3.33**	**30**	*e*Pn			**Pn**	**18 34 12.4**	**+2.1**
IKLH	**Kolahrood**	**3.43**	**81**	*e*Pn			**Pn**	**18 34 14.1**	**+2.4**
IKLH				*e*				18 34 18.6	
IGAR	**Gharneh**	**3.83**	**95**	*e*Pn			**Pn**	**18 34 19.1**	**+1.9**
IGAR				*e*				18 34 21.2	
QSDN	**Sirdan**	**3.90**	**20**	*e*Pn			**Pn**	**18 34 21.2**	**+3.1**
KLNJ	**Kolanjah**	**3.91**	**117**	*e*Pn			**Pn**	**18 34 20.0**	**+1.7**
IZEF	**Zefreh**	**4.04**	**88**	*e*Pn			**Pn**	**18 34 22.2**	**+2.1**
IRAM	**Ramesheh**	**4.24**	**103**	*e*Pn			**Pn**	**18 34 23.4**	**+0.7**
CHTH	**Charan**	**4.27**	**43**	*e*Pn			**Pn**	**18 34 25.6**	**+2.4**
CHTH				*e*Sg			**Sg**	**18 35 32.5**	**-3.1**
CHTH	**Charan**	**4.27**	**43**	*e*Pn			**Pn**	**18 34 25.6**	**+2.4**
QALM	**Alamut, Qazvin**	**4.41**	**35**	*e*Pn			**Pn**	**18 34 27.7**	**+2.6**

*MOS **23** 18:55:17.5±0.0,41°.96N×46°.33E,h18km,MPVA3.2*

*DRS **23** 18:55:19.8±0.0,41°.92N×46°.26E,h16km*

ISC 23 18:55:18.3±1.0,41°.93N±0°.04×46°.28E±0°.03,h9km±8km, n10,σ0§51/19,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.10**	**196**	P		P	**Pg**	**18 55 21.0**	**+0.1**
LGD				S		S	**Sg**	**18 55 22.8**	**+0.1**
DDFL	**Dedoflistskaro**	**0.50**	**194**	P		P	**Pn**	**18 55 32.0**	**+0.3**
KMKR	**Kumukh**	**0.64**	**72**	*i* Pg			**Pg**	**18 55 31.0**	**+0.2**
KMKR				*i* Sg			**Sb**	**18 55 40.0**	**-1.0**
GNBR	**Gunib**	**0.68**	**48**	*i* Pg			**Pb**	**18 55 32.1**	**-0.4**
GNBR				*e*Sg			**Sb**	**18 55 42.5**	**+0.5**
XNZR	**Khunzakh**	**0.69**	**27**	*e*Pg			**Pb**	**18 55 32.4**	**-0.2**
XNZR				*e*Sg			**Sb**	**18 55 41.6**	**-0.6**
BTLR	**Botlikh**	**0.73**	**357**	*e*Pg			**Pg**	**18 55 32.7**	**+0.2**
BTLR				*e*Sg			**Sb**	**18 55 43.4**	**0.0**
DBC	**Dubki**	**1.16**	**20**	*i* Pg			**Pg**	**18 55 40.7**	**+0.1**
DBC				*e*Sg			**Sn**	**18 55 57.4**	**+0.6**
AKT	**Akhty**	**1.18**	**112**	*e*Pg			**Pb**	**18 55 40.6**	**-0.2**
AKT				*e*Sg			**Sn**	**18 55 57.3**	**+0.1**
TRLG	**Trialeti**	**1.68**	**257**	P		P	**Pb**	**18 55 49.1**	**-0.3**
TRLG

Fault plane solution: $M_0 1.07000\times10^{14}$ NP1: $\phi_s 243.00000°, \delta 62.00000°, \lambda -37.00000°$. NP2: $\phi_s 353.00000°, \delta 58.00000°, \lambda -147.00000°$.
*JMA **23** 19:18:20.7±0.1,36.74N×141.09E,h24km±1km,M3.5*
JMA Felt I J1.

ISC 23 19:18:19.1±1.5,**36.71N**±0.03×**141.20E**±0.06,**h11**km±9km, **n23**,σ1§**67**/33,**mb3.9**/3,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.51**	**321**	P	**Pg**	**19 18 29.4**	**+0.4**
ONAJ				S	**Sg**	**19 18 36.0**	**+0.3**
JHO	**Hitachi**	**0.51**	**259**	P	**Pg**	**19 18 29.5**	**+0.4**
JHO				S	**Sg**	**19 18 36.0**	**+0.1**
JHYU	**Hitachinakayam**	**0.61**	**233**	P	**Pb**	**19 18 31.9**	**+0.1**
JHYU				S	**Sb**	**19 18 40.4**	**-0.1**
JFFD	**Fukushimafurud**	**0.64**	**307**	P	**Pg**	**19 18 31.4**	**-0.1**
JFFD				S	**Sg**	**19 18 39.2**	**-0.6**
JFK	**Kawauchi**	**0.70**	**339**	P	**Pg**	**19 18 32.8**	**0.0**
JFK				S	**Sg**	**19 18 42.0**	**0.0**
JYT	**Yasato**	**0.94**	**240**	P	**Pb**	**19 18 36.7**	**-0.7**
JYT				S	**Sb**	**19 18 48.7**	**-1.2**
JSB	**Shiboa**	**1.06**	**285**	P	**Pg**	**19 18 39.6**	**+0.2**
JSB				S	**Sg**	**19 18 53.2**	**0.0**
JFT	**Otama**	**1.06**	**320**	P	**Pb**	**19 18 39.0**	**-0.5**
JFT				S	**Sb**	**19 18 52.1**	**-1.3**
JMM	**Marumori**	**1.20**	**345**	P	**Pn**	**19 18 40.7**	**-1.1**
JMM				S	**Sb**	**19 18 55.6**	**-1.8**
JFY	**Yanaizu**	**1.38**	**301**	P	**Pn**	**19 18 44.2**	**-0.2**
JFY				S	**Sn**	**19 19 01.4**	**-1.3**
JAG	**Ashikaga**	**1.43**	**259**	P	**Pn**	**19 18 44.1**	**-1.0**
MJAR	**Matsushiro Arr**	**2.41**	**267**	Pn	**Pb**	**19 19 00.6**	**-1.9**
	0.8nm,0.3s,baz=79,slow=20,SNR=28						
MJAR				Sn	**Sb**	**19 19 31.2**	**-1.0**
	3.2nm,0.3s,baz=259,slow=1.3,SNR=18						
MAT	**Matsushiro**	**2.41**	**267**	P	**Pn**	**19 18 59.2**	**+0.7**
MAT				S	**Sn**	**19 19 29.7**	**+1.6**
JHJ	**Hachijo jima 2**	**3.77**	**198**	Pn	**Pn**	**19 19 17.8**	**+0.6**
	1.5nm,0.3s,baz=42,slow=14,SNR=1.2						
JHJ				Sn	**Sn**	**19 20 03.2**	**+1.7**
	7.8nm,0.3s,baz=264,slow=22,SNR=6.3						
ASAJ	**Asahikawa**	**7.48**	**8**	Pn	**Pn**	**19 20 10.2**	**+2.1**
	0.3nm,0.3s,baz=198,slow=13,SNR=1.8						
JCJ	**Chichijima**	**9.62**	**175**	Pn	**Pn**	**19 20 36.8**	**-0.8**
	1.0nm,0.3s,baz=61,slow=19,SNR=2.0						
JCJ				Sn	**Sn**	**19 22 19.5**	**-6.2**
	0.2nm,0.3s,baz=307,slow=20,SNR=1.5						
SEY	**Seymchan**	**27.14**	**11**	LR	LR	19 36 00.4	
	comp=Z,40nm,18.9s,baz=262,slow=39						
H11N2	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	19 53 42.6	
	baz=313,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	19 53 43.3	
	baz=313,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.15**	**120**	T	T	19 53 44.8	
	baz=313,slow=75						
KURBB	**Kurchatov Arra**	**46.06**	**308**	P	**P**	**19 26 46.5**	**+3.7**
	0.9nm,0.5s,baz=84,slow=7.9,SNR=5.9						
WRA	**Warramunga Arr**	**56.72**	**188**	P	**P**	**19 28 03.1**	**+0.2**
	0.6nm,0.5s,baz=3.9,slow=7.2,SNR=9.5						
ASAR	**Alice Springs**	**60.44**	**188**	P	**P**	**19 28 29.4**	**+0.6**
	0.3nm,0.9s,baz=25,slow=12,SNR=1.5						
ASAR				LR	LR	19 54 46.8	
	comp=Z,140nm,18.3s,baz=319,slow=36						

*BJI **23** 19:21:33.3±0.0,36.01N×82.49E,h9km,ML3.9/5*
*NNC **23** 19:21:35.7±5.9,36.10N×81.99E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=57.4km s-min=49.6km az=61.0*
*IDC **23** 19:21:36.1±1.1,36.35N×82.71E,h0km,mb3.6/7, mb1 3.9/12,mb1mx3.6/66,mbtmp3.7/12,ML3.6/4,MS3.1/3, Ms1 3.1/3,ms1mx2.6/58,Error ellipse: s-maj=27.9km s-min=18.0km az=58.0*

ISC 23 19:21:37.6±0.9,**36.33N**±0.09×**82.7E**±0.1,**h10**km,**n23**, σ1§**57**/22,**mb3.6**/6,**MS2.9**/3,**8C-6D**,**Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**7.42**	**342**	⇑Pn	**Pn**	**19 23 25.9**	**-0.1**
	4.9nm,0.5s						
PDGK				⇓Pg	Pg	19 23 52.7	-6.9
	12nm,0.8s						
PDGK				⇑Sn	**Sn**	**19 24 50.9**	**+0.6**
	42nm,0.8s						
PDGK				⇑Lg	Lg	19 25 32.1	
	65nm,0.8s						
MDOK	**Medeo**	**8.10**	**329**	⇑Pn	**Pn**	**19 23 35.1**	**-0.2**
	3.7nm,0.8s						
MDOK				Pg	Pb	19 24 02.6	+4.6
	7.4nm,0.7s						
MDOK				⇓Lg	Lg	19 25 50.1	
	31nm,0.8s						
WMQ	**Urumqi**	**8.41**	**26**	*eP*	**Pn**	**19 23 42.3**	**+2.8**
WMQ				smax	smax		
	comp=N,10.0nm,0.7s						
WMQ				smax	smax		
	comp=E,8.0nm,1.3s						
TKM2	**Tokmak 2**	**8.56**	**322**	⇓Pn	**Pn**	**19 23 40.8**	**-1.0**
	2.8nm,0.7s						
TKM2				⇓Pg	Pg	19 24 10.8	-11
	2.3nm,0.5s						
TKM2				⇓Lg	Lg	19 26 03.1	
	21nm,1.0s						
AAK	**Ala-Archa**	**8.94**	**317**	Pn	**Pn**	**19 23 47.1**	**+0.2**
	0.4nm,0.3s,baz=180,slow=11,SNR=1.7						
AAK				Sn	**Sn**	**19 25 30.6**	**+2.8**
	0.8nm,0.3s,baz=186,slow=18,SNR=1.8						
AAK				Lg	Lg	19 26 13.0	
	0.7nm,0.3s,baz=332,slow=19,SNR=3.1						
AAK	**Ala-Archa**	**8.94**	**317**	⇓Pn	**Pn**	**19 23 43.8**	**-3.1**
	2.2nm,0.7s						
AAK				Pg	Pg	19 24 17.0	-12
	5.5nm,0.8s						
AAK				⇑Lg	Lg	19 26 13.1	
	34nm,1.1s						
MK31	**Makanchi Array**	**10.46**	**358**	Pn	**Pn**	**19 24 07.8**	**+0.2**
	1.7nm,0.5s,baz=191,slow=13,SNR=37						
MKAR	**Makanchi Array**	**10.46**	**358**	Pn	**Pn**	**19 24 06.8**	**-0.8**
	1.1nm,0.3s,baz=180,slow=14,SNR=20						
MKAR				Sn	**Sn**	**19 26 03.1**	**-1.8**
	0.3nm,0.3s,baz=188,slow=24,SNR=2.5						
MAKZ	**Makanchi**	**10.49**	**357**	⇑Pn	**Pn**	**19 24 07.9**	**0.0**
	10nm,0.5s						
KK31	**Karatay Array**	**11.56**	**310**	⇑Pg	Pn	19 25 03.3	+41
	1.2nm,0.8s						
KK31				⇑Lg	Lg	19 27 36.4	
	3.5nm,0.8s,baz=132,slow=26,SNR=5.8						
KURBB	**Kurchatov Arra**	**14.60**	**349**	Pn	**Pn**	**19 25 01.9**	**-2.3**
	baz=173,slow=12,SNR=7.1						
ZALV	**Zalesovo Beam**	**17.68**	**4**	P	**Pn**	**19 25 41.5**	**-2.3**
	0.3nm,0.3s,baz=192,slow=12,SNR=18						
BVAR	**Borovoye Array**	**18.80**	**336**	P	**P**	**19 25 56.3**	**-0.8**
	0.6nm,0.3s,baz=134,slow=11,SNR=23						
SONM	**Songino Array**	**20.92**	**49**	P	**P**	**19 26 21.7**	**+1.3**
	2.4nm,0.8s,baz=241,slow=12,SNR=15						
TLY	**Talaya**	**21.39**	**38**	LR	LR	19 35 38.5	
	comp=Z,44nm,19.2s,baz=220,slow=39						
CMAR	**Chiang Mai Arr**	**22.85**	**137**	P	**P**	**19 26 40.9**	**-0.3**
	1.0nm,0.8s,baz=308,slow=11,SNR=5.7						
WSAR	**Wadi Sarin**	**24.55**	**245**	LR	LR	19 37 58.6	
	comp=Z,61nm,18.8s,baz=102,slow=40						
KVAR	**Kislovodsk Arr**	**31.27**	**297**	LR	LR	19 43 17.0	
	comp=Z,28nm,21.0s,baz=235,slow=42						
FINES	**FINESS Array B**	**43.05**	**324**	P	**P**	**19 29 38.0**	**+0.8**
	1.8nm,0.8s,baz=82,slow=10,SNR=5.2						
GERES	**GERESS Array B**	**50.66**	**307**	P	**P**	**19 30 38.2**	**+1.1**
	0.6nm,0.7s,baz=74,slow=8.3,SNR=6.6						
ILAR	**Eielson Array**	**72.03**	**20**	P	**P**	**19 33 01.0**	**-0.3**
	0.4nm,0.8s,baz=316,slow=3.9,SNR=4.3						
WRA	**Warramunga Arr**	**74.25**	**130**	P	**P**	**19 33 14.7**	**-0.3**
	0.5nm,0.7s,baz=328,slow=5.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**75.15**	**276**	P	**P**	**19 33 19.9**	**-0.6**
	0.3nm,0.7s,baz=31,slow=4.1,SNR=1.8						

*IDC **23** 19:22:51.3±0.7,0.97N×97.27E,h0km,mb4.2/21, mb1 4.3/23,mb1mx4.0/67,mbtmp4.2/23,ML4.0/2,MS3.9/7, Ms1 3.9/7,ms1mx3.5/46,Error ellipse: s-maj=20.4km s-min=14.4km az=55.0*
*NEIC **23** 19:22:52.6±2.3,0.97N±0.06×97.05E±0.05,h10km±1km, mb4.6/38,Error ellipse: s-maj=11.9km s-min=5.9km az=147.0*
*DJA **23** 19:22:57.2±0.6,1°N±3'×9°7E±',h21km±4km,M4.6/18, mB5.0/6,mb4.7/12,MLv4.7/18,Mw(mB)4.3/6*

*KLM **23** 19:22:58.0,1°21N×97°40E,h40km,mb4.6*
ISC 23 19:22:56.1±0.5,1°**08N**±0°04×**97°20E**±0°05,**h25**km,**n108**, σ1§**74**/112,**mb4.5**/46,**MS4.0**/13,**3D**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.43**	**60**	P	**Pb**	**19 23 05.4**	**+0.2**
GSI				S	**Sn**	**19 23 12.9**	**-0.9**
GSI	**Gunungsitoli**	**0.43**	**60**	Pg	**Pb**	**19 23 05.5**	**+0.2**
GSI					**Sn**	**19 23 13.0**	**-0.8**
PBSI	**Pulau Batu**	**1.56**	**136**	P	**Pb**	**19 23 27.1**	**+2.8**
RPSI	**Rantau Prapat**	**2.35**	**47**	Pn	**Pn**	**19 23 33.0**	**-0.1**
RPSI	**Rantau Prapat**	**2.35**	**47**		**Sb**	**19 24 08.0**	**+1.6**
MNSI	**Mandailing Nat**	**2.40**	**97**	P	**Pn**	**19 23 33.1**	**-0.6**
MNSI				S	**Sn**	**19 24 00.7**	**-1.6**
PSI	**Prapat**	**2.42**	**45**	Pn	**Pn**	**19 23 33.4**	**-0.8**
	16nm,0.3s,baz=182,slow=1.7,SNR=47						
PSI				LR	LR	19 24 00.3	
	comp=Z,704nm,20.6s,baz=270,slow=29						
PSI				Sn	**Sb**	**19 24 08.0**	**-0.6**
	11nm,0.3s,baz=180,slow=5.2,SNR=7.7						
KCSI	**Kotacane, Aceh**	**2.49**	**13**	P	**Pn**	**19 23 35.2**	**+0.2**
TSI	**Tuntungan**	**2.76**	**30**	P	**Pn**	**19 23 39.6**	**+0.8**
SISI	**Saibi**	**3.05**	**142**	P	**Pn**	**19 23 43.6**	**+0.9**
MLSI	**Meulaboh, Aceh**	**3.26**	**346**	P	**Pn**	**19 23 46.0**	**+0.3**
MLSI				S	**Sn**	**19 24 24.5**	**+0.8**
PDSI	**Padang**	**3.81**	**121**	P	**Pn**	**19 23 52.5**	**-0.8**
BKNI	**Bangkinang**	**3.91**	**101**	P	**Pn**	**19 23 54.2**	**-0.4**
BKNI	**Bangkinang**	**3.91**	**101**	Pn	**Pn**	**19 23 54.7**	**+0.1**
LHMI	**Lhok Sumawe**	**4.12**	**356**	P	**Pn**	**19 23 56.5**	**-1.0**
LHMI	**Lhok Sumawe**	**4.12**	**356**		**Pn**	**19 23 57.2**	**-0.3**
SDSI	**Sungai Dareh**	**4.68**	**115**	P	**Pn**	**19 24 05.8**	**+0.7**
IPM	**Ipoh**	**5.09**	**48**	Pn	**Pn**	**19 24 11.2**	**+0.3**
IPM	**Ipoh**	**5.09**	**48**	P	**Pn**	**19 24 12.0**	**+1.1**
KRJI	**Kerinci**	**5.30**	**127**	P	**Pn**	**19 24 17.8**	**+4.0**
	4.0nm4µm274nm,0.8s						
KULM	**Kulim**	**5.41**	**39**	Pn	**Pn**	**19 24 14.6**	**-0.6**
KULM	**Kulim**	**5.41**	**39**	P	**Pn**	**19 24 15.0**	**-0.3**
MYKOM	**Kota Tinggi**	**6.68**	**84**	Pn	**Pn**	**19 24 32.5**	**-0.3**
MYKOM	**Kota Tinggi**	**6.68**	**84**	P	**Pn**	**19 24 33.0**	**+0.3**
KSI	**Kapahiang**	**7.15**	**131**	P	Pb	19 24 53.4	-6.3
LHSI	**Lahat**	**7.98**	**128**	P	Pb	19 25 02.0	-12
SBUM	**Sibu**	**15.07**	**85**	Pn	**Pn**	**19 26 26.7**	**-0.9**
SBUM	**Sibu**	**15.07**	**85**	P	**Pn**	**19 26 29.0**	**+1.4**
DLV	**T Lat**	**15.55**	**46**	Pn	**Pn**	**19 26 33.4**	**-0.6**
DLV				IAmb	IAmb	19 26 38.1	
	comp=Z,37nm,0.9s						
CM31	**Chiang Mai Arr**	**17.35**	**6**		**Pn**	**19 26 55.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**17.35**	**6**	P	**Pn**	**19 26 56.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=197,slow=12,SNR=20						
CMAR				LR	LR	19 33 36.8	
	comp=Z,300nm,20.6s,baz=238,slow=37						
PALK	**Pallekele**	**17.56**	**291**	LR	LR	19 33 26.5	
	comp=Z,381nm,18.1s,baz=218,slow=36						
CHTO	**Chiang Mai**	**17.70**	**5**		**Pn**	**19 26 59.6**	**-1.4**
SPMM	**Sapulut**	**19.57**	**79**	P	**P**	**19 27 22.0**	**-0.4**
KKM	**Kota Kinabalu**	**19.60**	**75**		**P**	**19 27 21.1**	**-1.7**
KKM				IAmb	IAmb	19 27 25.7	
	comp=Z,32nm,1.0s						
SLVN	**Son La**	**21.16**	**18**		**P**	**19 27 38.2**	**-1.5**
SLVN				IAmb	IAmb	19 27 43.2	
	comp=Z,31nm,1.0s						
MYLDM	**Lahad Datu**	**21.65**	**79**	P	**P**	**19 27 44.3**	**-0.6**
MYLDM				IAmb	IAmb	19 27 51.9	
	comp=Z,42nm,1.3s						
MPSI	**Mapaga**	**22.71**	**92**	P	**P**	**19 27 56.8**	**+0.6**
	comp=Z,15nm,1.1s						
KAPI	**Kappang**	**23.33**	**105**	LR	LR	19 36 57.0	
	comp=Z,392nm,18.4s,baz=277,slow=36						
KMI	**Kunming**	**24.49**	**12**	⇓*iP*	**P**	**19 28 15.0**	**+1.3**
KMI				pP	pP	19 28 21.0	-0.1
KMI				sP	sP	19 28 34.1	+10
KMI				PP	**PnPn**	**19 28 52.8**	**+7.7**
KMI				S	**S**	**19 32 32.4**	**-0.5**
KMI				sS	sS	19 32 49.8	+4.7
KMI				pmax	pmax		
	comp=Z,36nm,1.3s						
KMI				pmax	pmax		
	comp=Z,150nm,4.2s						
KMI				LR	LR		
	comp=N,670nm,13.8s						
KMI				LR	LR		
	comp=E,420nm,12.7s						
KMI				LR	LR		
	comp=Z,870nm,17.0s						
KMI	**Kunming**	**24.49**	**12**	P	**P**	**19 28 14.4**	**+0.7**
H08S2	**Diego Garcia H**	**26.12**	**250**	T	T	19 55 36.7	
	baz=71,slow=76,SNR=2648						
H08S3	**Diego Garcia H**	**26.13**	**250**	T	T	19 55 29.9	
	baz=71,slow=76,SNR=2320						
H08S1	**Diego Garcia H**	**26.14**	**250**	T	T	19 55 31.0	
	baz=71,slow=76,SNR=2267						
GYA	**Guiyang**	**26.82**	**19**	⇓P	**P**	**19 28 34.3**	**-0.4**
GYA				sP	pP	19 28 43.0	+0.9
GYA				PP	**PP**	**19 29 37.6**	**+1.9**
GYA				S	**S**	**19 33 13.4**	**+3.7**
GYA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GYA				LR	LR		
	comp=N,270nm,17.4s						
GYA				LR	LR		
	comp=E,310nm,16.0s						
GYA				LR	LR		
	comp=Z,190nm,20.1s						
BATI	**Baumata**	**28.62**	**114**	LR	LR	19 42 23.0	
	comp=Z,478nm,18.3s,baz=280,slow=41						
LSA	**Lhasa**	**29.04**	**349**	P	**P**	**19 28 55.0**	**+0.2**
CD2	**Chengdu**	**30.31**	**11**	*eP*	**P**	**19 29 04.8**	**-0.8**
ENH	**Enshi**	**31.29**	**21**	P	**P**	**19 29 12.6**	**-1.7**
FITZ	**Fitzroy Crossi**	**33.86**	**126**	P	**P**	**19 29 34.1**	**-2.8**
	comp=Z,2.1nm,0.9s,baz=306,slow=14,SNR=2.9						
FITZ	**Fitzroy Crossi**	**33.86**	**126**	P	**P**	**19 29 35.2**	**-1.7**
FITZ				IAmb	IAmb	19 29 50.5	
	comp=Z,11nm,1.5s						
XAN	**Xi'an**	**34.57**	**17**	P	**P**	**19 29 41.4**	**-1.6**
XAN				pP	sP	19 29 54.0	+0.5
XAN				sP	pP	19 29 59.8	+9.4
XAN				pmax	pmax		
	comp=Z,22nm,1.0s						
XAN				LR	LR		
	comp=N,370nm,13.0s						
XAN				LR	LR		
	comp=E,340nm,13.0s						
XAN				LR	LR		
	comp=Z,630nm,14.1s						
XAN	**Xi'an**	**34.57**	**17**	P	**P**	**19 29 41.7**	**-1.3**
LZH	**Lanzhou**	**35.37**	**9**	*eP*	**P**	**19 29 51.3**	**+1.4**
LZH				pP	pP	19 29 55.6	-1.8
LZH				sP	sP	19 29 59.0	-1.5
LZH				PP	**PP**	**19 31 18.8**	**+8.3**
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH				pmax	pmax		
	comp=Z,79nm,4.9s						
LZH				LR	LR		
	comp=N,370nm,16.4s						
LZH				LR	LR		
	comp=E,510nm,15.2s						
LZH				LR	LR		
	comp=Z,350nm,17.9s						
SSE	**Sheshan**	**37.51**	**35**	P	**P**	**19 30 07.3**	**-0.8**
SSE				S	**S**	**19 35 56.4**	**+0.8**
SSE				pmax	pmax		
	comp=Z,16nm,0.8s						
SSE				pmax	pmax		
	comp=Z,21nm,3.9s						
SSE				LR	LR		
	comp=N,100nm,14.5s						
SSE				LR	LR		
	comp=E,130nm,12.1s						
GTA	**Gaotai**	**38.22**	**3**	⇓P	**P**	**19 30 14.4**	**+0.3**
GTA				pP	pP	19 30 20.8	-0.9
GTA				sP	sP	19 30 23.8	-0.9
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,97nm,7.8s						
GTA				LR	LR		
	comp=N,180nm,16.8s						
GTA				LR	LR		
	comp=E,160nm,18.1s						
GTA				LR	LR		
	comp=Z,200nm,17.5s						
H01W3	**Cape Leeuwin H**	**39.14**	**158**	T	T	20 11 40.0	
	baz=333,slow=76,SNR=125						
H01W2	**Cape Leeuwin H**	**39.15**	**158**	T	T	20 11 40.9	
	baz=333,slow=76,SNR=112						
H01W1	**Cape Leeuwin H**	**39.15**	**158**	T	T	20 11 41.2	
	baz=333,slow=76,SNR=118						
NIL	**Nilore**	**39.42**	**328**	P	**P**	**19 30 22.8**	**-1.4**
NIL				IAmb	IAmb	19 30 25.6	
	comp=E,15nm,1.2s						
HHC	**Hu-ho-hao-te**	**41.67**	**16**	*eP*	**P**	**19 30 43.4**	**+0.6**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,78nm,5.4s						
HHC				LR	LR		
	comp=N,380nm,14.5s						
HHC				LR	LR		
	comp=E,370nm,16.2s						
HHC				LR	LR		
	comp=Z,370nm,16.2s						
WRA	**Warramunga Arr**	**41.97**	**122**	P	**P**	**19 30 42.6**	**-2.8**
	comp=Z,2.2nm,0.9s,baz=319,slow=10,SNR=14						
WB2	**Warramunga Arr**	**41.98**	**122**	P	**P**	**19 30 44.1**	**-1.5**
WR0	**Warramunga Arr**	**42.15**	**122**	P	**P**	**19 30 45.3**	**-1.6**
WR0				IAmb	IAmb	19 31 01.1	
	comp=Z,7.6nm,0.9s						
BJT	**Baijiatuan**	**42.42**	**22**	P	**P**	**19 30 48.8**	**0.0**
BJT				IAmb	IAmb	19 30 50.4	
	comp=Z,11nm,0.7s						
BJI	**Beijing**	**42.45**	**22**	P	**P**	**19 30 49.4**	**+0.5**
BJI				S	**S**	**19 37 16.4**	**+7.1**
BJI				pmax	pmax		
	comp=Z,15nm,0.8s						
BJI				LR	LR		
	comp=N,81nm,18.4s						
BJI				LR	LR		
	comp=E,140nm,18.0s						
ASAR	**Alice Springs**	**43.32**	**127**	P	**P**	**19 30 55.1**	**-1.4**
	comp=E,2.1nm,0.9s,baz=295,slow=7.1,SNR=12						
WMQ	**Urumqi**	**43.39**	**350**	*eP*	**P**	**19 30 58.3**	**+1.7**
WMQ				sP	sP	19 31 12.0	+4.7
WMQ				PP	**PP**	**19 32 34.1**	**-3.7**
WMQ				PcP	**PcP**	**19 32 43.6**	**-1.3**
WMQ				pmax	pmax		
	comp=Z,13nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,25nm,3.7s						
WMQ				LR	LR		
	comp=N,120nm,28.9s						
WMQ				LR	LR		
	comp=E,130nm,28.8s						
WMQ				LR	LR		
	comp=Z,86nm,24.9s						
WMQ	**Urumqi**	**43.39**	**350**	P	**P**	**19 30 56.4**	**-0.2**
TARG	**Taragay, Kyrgy**	**44.08**	**339**	P	**P**	**19 31 01.8**	**-0.9**
KDJ	**Kajisay**	**44.66**	**339**	P	**P**	**19 31 07.4**	**+0.4**
KDJ				IAmb	IAmb	19 31 09.5	
	comp=Z,8.0nm,0.9s						
JNU	**Nakatsue**	**44.89**	**41**	P	**P**	**19 31 07.9**	**-0.9**
	comp=Z,7.0nm,0.9s,baz=50,slow=12,SNR=3.9						
JNU	**Nakatsue**	**44.89**	**41**	P	**P**	**19 31 08.4**	**-0.4**
JNU				IAmb	IAmb	19 31 23.0	
	comp=Z,13nm,1.1s						
GAR	**Garm**	**45.04**	**330**	P	**P**	**19 31 09.4**	**-0.6**
GAR				IAmb	IAmb	19 31 27.4	
	comp=Z,10nm,0.9s						
CHGR	**Chuyangaron**	**45.37**	**329**	P	**P**	**19 31 11.6**	**-1.0**
BTK	**Batken**	**45.61**	**331**	P	**P**	**19 31 14.2**	**-0.3**
BTK				IAmb	IAmb	19 31 23.6	
	comp=Z,7.0nm,1.1s						
KSRS	**Korea Array**	**45.94**	**34**	P	**P**	**19 31 15.8**	**-1.2**
	comp=Z,6.5nm,0.8s,baz=222,slow=8.9,SNR=36						
KS19	**Wonju Array Si**	**45.94**	**34**	P	**P**	**19 31 16.3**	**-0.7**
AAK	**Ala-Archa**	**46.11**	**337**	P	**P**	**19 31 17.8**	**-0.7**
AAK				IAmb	IAmb	19 31 27.8	
	comp=Z,8.7nm,1.5s						
SONM	**Songino Array**	**47.24**	**8**	P	**P**	**19 31 27.4**	**+0.1**
	comp=Z,4.8nm,0.9s,baz=191,slow=9.0,SNR=17						
SONM				PcP	**PcP**	**19 32 58.4**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=214,slow=5.3,SNR=5.4						
SONM				PP	**PP**	**19 33 21.9**	**+3.4**
	comp=Z,1.3nm,0.9s,baz=189,slow=7.3,SNR=3.8						
MK31	**Makanchi Array**	**47.35**	**346**	P	**P**	**19 31 28.2**	**+0.2**
MK31				IAmb	IAmb	19 31 29.6	
	comp=Z,4.3nm,0.9s						
MKAR	**Makanchi Array**	**47.35**	**346**	P	**P**	**19 31 28.5**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=162,slow=8.6,SNR=47						
MKAR				LR	LR	19 55 22.5	
	comp=Z,93nm,20.3s,baz=149,slow=41						
ULN	**Ulaanbaatar**	**47.37**	**9**	P	**P**	**19 31 27.9**	**-0.4**
ULN				IAmb	IAmb	19 31 31.2	
	comp=Z,5.3nm,1.0s						
MAKZ	**Makanchi**	**47.44**	**346**	P	**P**	**19 31 29.0**	**+0.4**
MAKZ				IAmb	IAmb	19 31 30.2	
	comp=Z,4.2nm,0.8s						
KK31	**Karatay Array**	**48.16**	**334**	P	**P**	**19 31 34.6**	**+0.2**
KK31				IAmb	IAmb	19 31 36.2	
	comp=Z,4.9nm,1.3s						
BBOO	**Buckleboo**	**49.80**	**136**	P	**P**	**19 31 46.5**	**-0.6**
TLY	**Talaya**	**50.71**	**5**	P	**P**	**19 31 53.5**	**-0.1**
HIA	**Hailar**	**51.75**	**19**	P	**P**	**19 32 00.9**	**-0.5**
HIA				IAmb	IAmb	19 32 01.8	
	comp=Z,9.5nm,0.8s						
MJAR	**Matsushiro Arr**	**51.77**	**42**	P	**P**	**19 32 00.6**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=214,slow=5.3,SNR=4.4						
KURBB	**Kurchatov Arra**	**51.84**	**345**	P	**P**	**19 32 02.0**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=168,slow=7.1,SNR=15						
KURK	**Kurchatov**	**51.90**	**345**	P	**P**	**19 32 02.8**	**+0.2**
KURK				IAmb	IAmb	19 32 04.2	
	comp=Z,6.4nm,0.9s						
USRK	**Ussuriysk Ar.**	**52.87**	**31**	P	**P**	**19 32 09.4**	**-0.4**
	comp=Z,7.8nm,0.9s,baz=235,slow=6.7,SNR=9.4						
OPO	**Ambohidratompo**	**52.88**	**246**	P	**P**	**19 32 10.2**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=108,slow=20,SNR=1.8						
STKA	**Stephens Creek**	**53

comp=Z,79nm,18.7s,baz=338,slow=38
JHJ Hachijo jima 2 20.79 352 LR LR 19 34 51.1
comp=Z,105nm,18.6s,baz=110,slow=33
YULB Yu-li 23.32 301 P **P** **19 28 28.5 +0.9**
JNU Nakatsue 23.38 334 P **P** **19 28 28.4 +0.3**
9.5nm,0.8s,baz=100,slow=7.2,SNR=6.9
JNU LR LR 19 36 07.1
comp=Z,52nm,19.1s,baz=162,slow=33
JNU Nakatsue 23.38 334 P **P** **19 28 27.6 -0.5**
JNU IAmb IAmb 19 28 35.8
comp=Z,18nm,1.1s
SSLB Suanglung 23.77 301 P **P** **19 28 33.0 +1.1**
SSLB IAmb IAmb 19 28 39.2
comp=Z,30nm,1.5s
LUWI Luwuk 24.16 238 P **P** **19 28 35.4 -0.3**
MJAR Matsushiro Arr 24.38 351 P **P** **19 28 37.1 -0.3**
comp=Z,3.0nm,1.0s,baz=171,slow=8.7,SNR=6.4
MJAR LR LR 19 37 21.7
comp=Z,72nm,19.8s,baz=245,slow=35
MAJO Matsushiro 24.38 351 P **P** **19 28 37.3 -0.1**
HNR Honiara 27.49 142 LR LR 19 39 59.5
comp=Z,50nm,18.4s,baz=282,slow=36
KSRS Korea Array 28.33 334 P **P** **19 29 12.8 -0.3**
comp=Z,1.4nm,0.9s,baz=143,slow=8.2,SNR=7.1
WB0 Warramunga Arr 33.12 195 P **P** **19 29 55.7 +0.2**
WB0 IAmb IAmb 19 30 01.1
comp=Z,4.8nm,0.9s
WRA Warramunga Arr 33.30 195 P **P** **19 29 56.9 -0.3**
comp=Z,3.4nm,0.8s,baz=15,slow=9.2,SNR=14
ENH Enshi 35.72 305 P **P** **19 30 18.1 +0.1**
ENH IAmb IAmb 19 30 21.1
comp=Z,7.0nm,0.8s
BJT Baijiatuau 36.25 324 P **P** **19 30 21.8 -0.6**
BJT IAmb IAmb 19 30 29.6
comp=Z,12nm,1.3s
ASAR Alice Springs 36.99 194 P **P** **19 30 29.0 +0.2**
comp=Z,1.6nm,0.7s,baz=15,slow=12,SNR=15
KLR Kul'dur 37.84 348 P **P** **19 30 35.4 -0.3**
comp=Z,1.5nm,0.6s,baz=153,slow=11,SNR=6.2
YAK Yakutsk 50.43 352 P **P** **19 32 16.5 +0.2**
KURK Kurchatov 64.30 320 P **P** **19 33 54.5 +0.1**
KURK IAmb IAmb 19 33 56.6
comp=Z,4.3nm,0.9s
KURBB Kurchatov Arra 64.33 320 P **P** **19 33 54.3 -0.4**
comp=Z,1.9nm,0.8s,baz=102,slow=6.5,SNR=10
BVAR Borovoye Array 69.70 322 P **P** **19 34 28.8 0.0**
comp=Z,2.0nm,0.8s,baz=110,slow=8.1,SNR=5.6
NVAR Mina Array Bea 89.04 51 P **P** **19 36 15.4 +0.8**
comp=Z,0.4nm,0.8s,baz=280,slow=5.4,SNR=2.5
TORD Torodi Ar. Bea 133.98 302 PKP **PKiKP** **19 42 38.5 -0.1**
comp=Z,0.9nm,1.1s,baz=27,slow=3.3,SNR=3.4
LPAZ La Paz 149.60 101 PKPbc **PKiKP** **19 43 10.5 -0.8**
comp=Z,4.2nm,1.0s,baz=5.9,slow=2.6,SNR=12

*IDC **23** 19:28:01.7±0.6, 12.°52N×142.°85E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.0/56, mbtmp4.1/17, ML3.1/1, Error ellipse: s-maj=26.1km s-min=12.3km az=78.0*
*NEIC **23** 19:28:03.6±1.1, 12.°51N±0.°01×142.°93E±0.°09, h12km±5km, mb4.5/17, Error ellipse: s-maj=12.9km s-min=1.4km az=84.0*
ISC 23 19:28:05.7±0.5, 12.°50N±0.°07×142.°96E±0.°07, h28km, n36, σ0.°77/38, mb4.3/24, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.15**	**60**	Pn	**Pn**	**19 28 39.2**	**-0.4**
	4.9nm,0.3s,baz=172,slow=17,SNR=1.8						
GUMO				Sn	**Sb**	**19 29 08.4**	**-1.8**
	2.9nm,0.3s,baz=41,slow=21,SNR=1.8						
GUMO	**Guam**	**2.15**	**60**		**Pn**	**19 28 39.3**	**-0.4**
GUMO				Sn	**Sn**	**19 29 06.8**	**+1.4**
JNU	**Nakatsue**	**23.31**	**334**	P	**P**	**19 33 11.1**	**-0.5**
	9.7nm,0.8s,baz=153,slow=4.6,SNR=8.0						
JNU	**Nakatsue**	**23.31**	**334**	P	**P**	**19 33 11.5**	**-0.1**
JNU				IAmb	IAmb	19 33 15.6	
	comp=Z,14nm,0.9s						
SSLB	**Suanglung**	**23.70**	**301**	P	**P**	**19 33 15.6**	**+0.2**
LUWI	**Luwuk**	**24.14**	**238**	P	**P**	**19 33 18.0**	**-1.5**
MJAR	**Matsushiro Arr**	**24.32**	**351**	P	**P**	**19 33 21.0**	**0.0**
	comp=Z,3.7nm,0.8s,baz=184,slow=8.7,SNR=6.4						
MAJO	**Matsushiro**	**24.32**	**351**	P	**P**	**19 33 20.1**	**-0.9**
MAJO				IAmb	IAmb	19 33 24.0	
	comp=Z,8.6nm,0.8s						
KSRS	**Korea Array**	**28.26**	**334**	P	**P**	**19 33 55.9**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=146,slow=7.9,SNR=4.9						
CTA	**Charters Tower**	**32.55**	**174**	P	**P**	**19 34 35.0**	**+0.4**
	comp=Z,5.3nm,1.0s,baz=347,slow=16,SNR=2.7						
USRK	**Ussuriysk Ar.**	**32.97**	**345**	P	**P**	**19 34 37.6**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=140,slow=9.9,SNR=5.9						
WR0	**Warramunga Arr**	**33.31**	**195**		**P**	**19 34 41.4**	**+0.2**
WR0				IAmb	IAmb	19 34 43.7	
	comp=Z,5.8nm,1.1s						
WB2	**Warramunga Arr**	**33.34**	**195**	P	**P**	**19 34 41.8**	**+0.3**
WB2				IAmb	IAmb	19 34 42.6	
	comp=Z,5.5nm,0.7s						
WRA	**Warramunga Arr**	**33.34**	**195**	P	**P**	**19 34 41.6**	**0.0**
	comp=Z,3.7nm,0.7s,baz=18,slow=9.5,SNR=28						
FITZ	**Fitzroy Crossi**	**34.88**	**210**	P	**P**	**19 34 54.7**	**-0.2**
FITZ				IAmb	IAmb	19 35 06.2	
	comp=Z,7.0nm,1.4s						
ENH	**Enshi**	**35.65**	**305**	P	**P**	**19 35 02.4**	**+0.9**
ENH				IAmb	IAmb	19 35 05.3	
	comp=Z,9.7nm,1.1s						
AS31	**Alice Springs**	**37.02**	**194**	P	**P**	**19 35 14.0**	**+0.7**
ASAR	**Alice Springs**	**37.02**	**194**	P	**P**	**19 35 13.6**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=17,slow=12,SNR=40						
KLR	**Kul'dur**	**37.78**	**348**	P	**P**	**19 35 20.5**	**+1.2**
	comp=Z,3.8nm,0.8s,baz=149,slow=7.9,SNR=9.4						
MYKOM	**Kota Tinggi**	**40.18**	**258**	P	**P**	**19 35 38.9**	**-1.0**
DZM	**Mont Dzumac**	**41.37**	**146**	P	**P**	**19 35 50.8**	**+1.1**
	comp=Z,6.7nm,0.7s,baz=242,slow=5.8,SNR=5.7						
DZM	**Mont Dzumac**	**41.37**	**146**	P	**P**	**19 35 50.5**	**+0.8**
STKA	**Stephens Creek**	**44.15**	**182**	P	**P**	**19 36 11.4**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=348,slow=14,SNR=2.0						
STKA	**Stephens Creek**	**44.15**	**182**	P	**P**	**19 36 11.3**	**-0.6**
ULN	**Ulaanbaatar**	**46.24**	**327**	P	**P**	**19 36 29.1**	**+0.5**
ULN				IAmb	IAmb	19 36 38.7	
	comp=Z,4.5nm,1.1s						
SONM	**Songino Array**	**46.58**	**326**	P	**P**	**19 36 31.6**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=146,slow=8.1,SNR=8.0						
YAK	**Yakutsk**	**50.37**	**352**	P	**P**	**19 37 00.5**	**+0.4**
MKAR	**Makanchi Array**	**60.99**	**317**	P	**P**	**19 38 16.2**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=93,slow=8.9,SNR=6.5						
ZAA0	**Zalesovo Array**	**61.43**	**325**	P	**P**	**19 38 20.4**	**+1.0**
ZALV	**Zalesovo Beam**	**61.43**	**325**	P	**P**	**19 38 18.4**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=86,slow=7.5,SNR=4.7						
KURK	**Kurchatov**	**64.22**	**320**	P	**P**	**19 38 38.4**	**+0.3**
KURK				IAmb	IAmb	19 38 39.7	
	comp=Z,3.2nm,0.8s						
KURBB	**Kurchatov Arra**	**64.26**	**320**	P	**P**	**19 38 37.1**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=104,slow=6.6,SNR=11						
BVAR	**Borovoye Array**	**69.63**	**322**	P	**P**	**19 39 12.7**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=111,slow=7.1,SNR=12						
BRVK	**Borovoye**	**69.70**	**322**	P	**P**	**19 39 12.8**	**0.0**
BRVK				IAmb	IAmb	19 39 14.4	
	comp=Z,2.3nm,0.8s						
ILAR	**Eielson Array**	**70.34**	**25**	P	**P**	**19 39 16.5**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=241,slow=7.4,SNR=4.6						
LPAZ	**La Paz**	**149.67**	**101**	PKPbc	**PKiKP**	**19 47 55.4**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=290,slow=2.1,SNR=9.3						

JMA 23 19:31:33.0±0.1, 38.°72N×142.°24E, h38km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.57**	**309**	P	Pn	19 31 44.8	0.0
OFUJ				S	Sn	19 31 52.9	-0.1
JKMT	**Kesennumamotoy**	**0.61**	**279**	P	Pn	19 31 45.1	-0.1
JKMT				S	Sn	19 31 53.4	-0.3
JIKH	**Ishinomakikobu**	**0.73**	**236**	P	Pn	19 31 46.7	-0.1
JIKH				S	Sn	19 31 56.3	-0.4
JIO	**Ouri**	**0.75**	**249**	P	Pn	19 31 46.9	-0.1
JIO				S	Sn	19 31 56.5	-0.6
JMK	**Ichinoseki**	**0.83**	**287**	P	Pn	19 31 48.5	+0.4
JMK				S	Sn	19 31 59.3	+0.1
JOM	**Ohasama**	**1.05**	**316**	P	Pn	19 31 51.8	+0.6
JOM				S	Sn	19 32 05.4	+0.7
JTH	**Tanohata**	**1.25**	**347**	P	Pn	19 31 54.1	+0.2
JOU	**Okura**	**1.29**	**255**	P	Pn	19 31 55.2	+0.8
JOU				S	Sn	19 32 11.3	+0.9
MAT	**Matsushiro**	**3.87**	**237**	P	Pn	19 32 31.6	+1.7
MAT				*e*S	Sn	19 33 16.3	+2.2

*IDC **23** 19:31:55.2±0.7, 0.°93N×97.°25E, h0km, mb4.3/23, mb1 4.4/26, mb1mx4.2/57, mbtmp4.3/26, ML3.9/3, MS3.6/3, Ms1 3.7/3, ms1mx3.1/55, Error ellipse: s-maj=21.1km s-min=13.1km az=46.0*
*NEIC **23** 19:31:56.7±2.0, 0.°92N±0.°06×97.°09E±0.°05, h10km±1km, mb4.6/46, Error ellipse: s-maj=12.1km s-min=2.9km az=140.0*
*BJI **23** 19:31:57.0±0.0, 1.°08N×97.°43E, h18km, mB4.8/29, mb4.8/41, Ms4.3/15, Ms7 4.1/15*
*DJA **23** 19:31:59.8±0.8, 1.°N±3.°×97.°7E±.°, h20km±4km, M4.6/16, mB5.0/3, mb4.7/11, MLv4.5/16, Mw(mB)4.4/3*
*KLM **23** 19:32:00.0, 1.°11N×97.°16E, h22km, mb4.5*
ISC 23 19:31:59.7±0.5, 1.°04N±0.°04×97.°23E±0.°05, h25km, n115, σ1.°91/116, mb4.6/52, MS4.1/7, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.44**	**52**	P	**Pn**	**19 32 09.7**	**-0.7**
GSI				S	**Sn**	**19 32 16.7**	**-0.9**
GSI	**Gunungsitoli**	**0.44**	**52**		**Pb**	**19 32 09.4**	**+0.5**
GSI				Sg	**Sn**	**19 32 16.9**	**-0.7**
PBSI	**Pulau Batu**	**1.51**	**136**	P	**Pb**	**19 32 26.6**	**-0.4**
MNSI	**Mandailing Nat**	**2.36**	**96**	P	**Pn**	**19 32 37.4**	**+0.5**
RPSI	**Rantau Prapat**	**2.36**	**46**	Pn	**Pn**	**19 32 37.5**	**+0.5**
PSI	**Prapat**	**2.44**	**44**	Pn	**Pn**	**19 32 37.8**	**-0.3**
	7.3nm,0.3s,baz=180,slow=5.6,SNR=41						
PSI				Sn	**Sn**	**19 33 02.4**	**-4.8**
	13nm,0.3s,baz=181,slow=6.2,SNR=6.0						
PSI				Lg	Lg	19 33 15.6	
	21nm,0.3s,baz=180,slow=15,SNR=7.2						
PSI				LR	LR	19 33 15.6	
	comp=Z,778nm,21.4s,baz=270,slow=33						
KCSI	**Kotacane, Aceh**	**2.53**	**12**	P	**Pn**	**19 32 39.3**	**+0.1**
TSI	**Tuntungan**	**2.79**	**29**	P	**Pn**	**19 32 43.7**	**+0.9**
SISI	**Saibi**	**2.99**	**142**	P	**Pn**	**19 32 46.9**	**+1.3**
MLSI	**Meulaboh, Aceh**	**3.31**	**346**	P	**Pn**	**19 32 49.8**	**-0.2**
MLSI				S	**Sn**	**19 33 27.6**	**-1.0**
PDSI	**Padang**	**3.77**	**121**	P	**Pn**	**19 32 57.4**	**+1.1**
BKNI	**Bangkinang**	**3.88**	**100**	P	**Pn**	**19 33 00.1**	**+2.4**
BKNI	**Bangkinang**	**3.88**	**100**	Pn	**Pn**	**19 32 57.5**	**-0.2**
LHMI	**Lhok Sumawe**	**4.17**	**356**	P	**Pn**	**19 33 01.8**	**0.0**
LHMI	**Lhok Sumawe**	**4.17**	**356**		**Pn**	**19 33 01.9**	**0.0**
SDSI	**Sungai Dareh**	**4.63**	**115**	P	**Pn**	**19 33 08.7**	**+0.6**
IPM	**Ipoh**	**5.11**	**48**	Pn	**Pn**	**19 33 15.8**	**+1.1**
IPM	**Ipoh**	**5.11**	**48**	P	**Pn**	**19 33 16.0**	**+1.3**
KULM	**Kulim**	**5.43**	**39**	Pn	**Pn**	**19 33 19.4**	**+0.3**
KULM	**Kulim**	**5.43**	**39**	P	**Pn**	**19 33 20.0**	**+0.8**
MYKOM	**Kota Tinggi**	**6.66**	**83**	Pn	**Pn**	**19 33 36.4**	**+0.4**
MYKOM	**Kota Tinggi**	**6.66**	**83**	P	**Pn**	**19 33 37.0**	**+1.0**
SBUM	**Sibu**	**15.05**	**84**	Pn	**Pn**	**19 35 31.2**	**+0.4**
SBUM	**Sibu**	**15.05**	**84**	P	**Pn**	**19 35 33.0**	**+2.1**
DLV	**T Lat**	**15.56**	**45**		**Pn**	**19 35 37.6**	**-0.2**
DLV				IAmb	IAmb	19 35 42.4	
	comp=Z,35nm,0.9s						
CM31	**Chiang Mai Arr**	**17.39**	**5**		**Pn**	**19 36 00.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**17.39**	**5**	P	**Pn**	**19 36 00.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=195,slow=12,SNR=40						
CMAR				LR	LR	19 43 57.4	
	comp=Z,504nm,18.2s,baz=255,slow=41						
PALK	**Pallekele**	**17.60**	**291**	P	**P**	**19 36 04.8**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=184,slow=14,SNR=1.0						
PALK				LR	LR	19 42 12.3	
	comp=Z,162nm,21.3s,baz=214,slow=35						
CHTO	**Chiang Mai**	**17.75**	**5**	Pn	**Pn**	**19 36 03.5**	**-1.7**
KKM	**Kota Kinabalu**	**19.59**	**75**		**P**	**19 36 26.3**	**0.0**
KKM				IAmb	IAmb	19 36 30.0	
	comp=Z,23nm,0.9s						
SLVN	**Son La**	**21.20**	**17**		**P**	**19 36 43.2**	**-0.5**
SLVN				IAmb	IAmb	19 36 47.5	
	comp=Z,30nm,0.8s						
MYLDM	**Lahad Datu**	**21.63**	**79**	P	**P**	**19 36 48.7**	**+0.4**
MYLDM				IAmb	IAmb	19 36 57.4	
	comp=Z,34nm,1.4s						
MPSI	**Mapaga**	**22.68**	**92**	P	**P**	**19 36 59.6**	**0.0**
	comp=Z,16nm,0.9s						
KMI	**Kunming**	**24.53**	**12**	*i*P	**P**	**19 37 19.3**	**+1.6**
KMI				pP	pP	19 37 25.3	+0.2
KMI				sP	sP	19 37 29.4	+1.2
KMI				pmax	pmax		
	comp=Z,38nm,1.3s						
KMI				pmax	pmax		
	comp=Z,100nm,3.5s						
KMI				LR	LR		
	comp=Z,380nm,14.8s						
KMI				LR	LR		
	comp=Z,240nm,12.9s						
KMI				LR	LR		
	comp=Z,590nm,16.9s						
KMI	**Kunming**	**24.53**	**12**	P	**P**	**19 37 18.2**	**+0.5**
H08S2	**Diego Garcia H**	**26.13**	**250**	T	T	20 04 33.9	
	baz=71,slow=75						
H08S3	**Diego Garcia H**	**26.14**	**250**	T	T	20 04 32.2	
	baz=71,slow=75						
H08S1	**Diego Garcia H**	**26.15**	**250**	T	T	20 04 36.4	
	baz=71,slow=75						
GYA	**Guiyang**	**26.86**	**19**	||P	**P**	**19 37 38.5**	**-0.1**
GYA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ENH	**Enshi**	**31.32**	**21**	P	**P**	**19 38 16.6**	**-1.6**
YULB	**Yu-li**	**32.24**	**45**	P	**P**	**19 38 26.4**	**+0.1**
YULB				IAmb	IAmb	19 38 29.3	
	comp=Z,5.8nm,0.7s						
WHN	**Wuhan**	**33.55**	**27**	P	**P**	**19 38 37.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**33.81**	**126**	P	**P**	**19 38 38.9**	**-1.2**
	comp=Z,2.1nm,0.8s,baz=335,slow=7.6,SNR=6.0						
FITZ	**Fitzroy Crossi**	**33.81**	**126**	P	**P**	**19 38 38.4**	**-1.7**
FITZ				IAmb	IAmb	19 38 39.1	
	comp=Z,7.3nm,1.3s						
XAN	**Xi'an**	**34.61**	**17**	P	**P**	**19 38 45.8**	**-1.1**
XAN				pP	sP	19 38 58.3	+0.8
XAN				pmax	pmax		
	comp=Z,20nm,0.9s						
XAN				LR	LR		
	comp=Z,220nm,14.1s						
XAN				LR	LR		
	comp=Z,250nm,14.1s						
XAN				LR	LR		
	comp=Z,290nm,14.1s						
XAN	**Xi'an**	**34.61**	**17**	P	**P**	**19 38 45.7**	**-1.1**
NJ2	**Nanjing**	**36.99**	**31**	*e*P	**P**	**19 39 07.8**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,210nm,17.5s						
NJ2				LR	LR		
	comp=Z,250nm,15.6s						
NJ2				LR	LR		
	comp=Z,290nm,18.9s						
GTA	**Gaotai**	**38.27**	**3**	⇑P	**P**	**19 39 18.4**	**+0.3**
GTA				pP	pP	19 39 23.0	-2.6
GTA				sP	sP	19 39 25.6	-3.0
GTA				PcP	**PcP**	**19 41 34.0**	**+1.9**
GTA				pmax	pmax		
	comp=Z,13nm,1.0s						
GTA				pmax	pmax		
	comp=Z,88nm,8.3s						
GTA				LR	LR		
	comp=Z,120nm,18.7s						
GTA				LR	LR		
	comp=Z,120nm,17.8s						
GTA				LR	LR		
	comp=Z,130nm,18.4s						
H01W3	**Cape Leeuwin H**	**39.08**	**158**	T	T	20 20 42.8	
	baz=333,slow=76						
H01W2	**Cape Leeuwin H**	**39.09**	**158**	T	T	20 20 47.1	
	baz=333,slow=76						
H01W1	**Cape Leeuwin H**	**39.10**	**158**	T	T	20 20 44.5	
	baz=333,slow=76						
NIL	**Nilore**	**39.47**	**328**	P	**P**	**19 39 28.0**	**-0.2**
NIL				IAmb	IAmb	19 39 29.7	
	comp=Z,12nm,0.8s						
HHC	**Hu-ho-hao-te**	**41.71**	**16**	*e*P	**P**	**19 39 47.3**	**+0.6**
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,77nm,7.2s						
HHC				LR	LR		
	comp=Z,380nm,14.0s						
HHC				LR	LR		
	comp=Z,370nm,13.2s						
HHC				LR	LR		
	comp=Z,360nm,14.9s						
WRA	**Warramunga Arr**	**41.92**	**122**	P	**P**	**19 39 46.6**	**-2.0**
	comp=Z,2.4nm,0.9s,baz=300,slow=9.1,SNR=11						
WB2	**Warramunga Arr**	**41.93**	**122**	P	**P**	**19 39 48.1**	**-0.7**
WR0	**Warramunga Arr**	**42.10**	**122**	P	**P**	**19 39 48.9**	**-1.3**
BJT	**Baijiatuau**	**42.46**	**22**	P	**P**	**19 39 53.4**	**+0.8**
BJI	**Beijing**	**42.48**	**22**	P	**P**	**19 39 53.6**	**+0.8**
BJI				S	**S**	**19 46 19.3**	**+5.9**
BJI				pmax	pmax		
	comp=Z,22nm,0.8s						
BJI				pmax	pmax		
	comp=Z,66nm,6.2s						
BJI				LR	LR		
	comp=Z,160nm,20.8s						
BJI				LR	LR		
	comp=Z,140nm,21.8s						
ASAR	**Alice Springs**	**43.27**	**127**	P	**P**	**19 39 58.6**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=294,slow=7.9,SNR=14						
ASAR				PcP	**PcP**	**19 41 47.9**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=322,slow=5.2,SNR=4.1						
AS31	**Alice Springs**	**43.27**	**127**	P	**P**	**19 39 58.1**	**-1.5**
WMQ	**Urumqi**	**43.44**	**350**	*e*P	**P**	**19 40 01.9**	**+1.2**
WMQ				pP	pP	19 40 07.9	-0.3
WMQ				S	**S**	**19 46 26.1**	**-1.5**
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,33nm,3.7s						
WMQ				LR	LR		
	comp=Z,190nm,29.0s						
WMQ				LR	LR		
	comp=Z,500nm,29.1s						
WMQ				LR	LR		
	comp=Z,62nm,29.9s						
WMQ	**Urumqi**	**43.44**	**350**	P	**P**	**19 40 01.6**	**+0.9**
TARG	**Taragay, Kyrgy**	**44.13**	**339**	P	**P**	**19 40 07.4**	**+0.7**
TARG				IAmb	IAmb	19 40 17.0	
	comp=Z,5.1nm,0.7s						
PRZ	**Przheval'sk**	**44.59**	**340**	P	**P**	**19 40 11.3**	**+1.2**
PRZ				IAmb	IAmb	19 40 13.6	
	comp=Z,6.0nm,1.1s						
KDJ	**Kajisay**	**44.71**	**339**	P	**P**	**19 40 11.9**	**+0.8**
KDJ				IAmb	IAmb	19 40 13.9	
	comp=Z,12nm,0.9s						
JNU	**Nakatsue**	**44.91**	**41**	P	**P**	**19 40 13.3**	**+0.7**
JNU				IAmb	IAmb	19 40 13.8	
	comp=Z,12nm,1.1s						
GAR	**Garm**	**45.09**	**330**	P	**P**	**19 40 14.1**	**0.0**
CHGR	**Chuyangaron**	**45.42**	**329**	P	**P**	**19 40 16.4**	**-0.3**
BTK	**Batken**	**45.67**	**331**	P	**P**	**19 40 19.4**	**+0.8**
BTK				IAmb	IAmb	19 40 27.5	
	comp=Z,7.9nm,0.8s						
KSRS	**Korea Array**	**45.97**	**34**	P	**P**	**19 40 20.6**	**-0.2**
	comp=Z,10.0nm,0.8s,baz=221,slow=9.0,SNR=57						
KS19	**Wonju Array Si**	**45.97**	**34**	P	**P**	**19 40 21.1**	**+0.2**
AAK	**Ala-Archa**	**46.16**	**337**	P	**P**	**19 40 22.2**	**-0.4**
SONM	**Songino Array**	**47.29**	**8**	P	**P**	**19 40 31.9**	**+0.7**
	comp=Z,7.5nm,0.8s,baz=192,slow=9.4,SNR=26						
SONM				PcP	**PcP**	**19 42 02.5**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=190,slow=3.2,SNR=8.6						
MK31	**Makanchi Array**	**47.41**	**346**	P	**P**	**19 40 32.6**	**+0.6**
MK31				IAmb	IAmb	19 40 33.9	
	comp=Z,5.9nm,0.8s						
MKAR	**Makanchi Array**	**47.41**	**346**	P	**P**	**19 40 33.0**	**+0.9**
	comp=Z,9.2nm,0.8s,baz=158,slow=7.7,SNR=59						
ULN	**Ulaanbaatar**	**47.42**	**9**	P	**P**	**19 40 32.8**	**+0.6**
ULN				IAmb	IAmb	19 40 35.5	
	comp=Z,4.3nm,0.7s						
MAKZ	**Makanchi**	**47.50**	**346**	P	**P**	**19 40 33.0**	**+0.3**
MAKZ				IAmb	IAmb	19 40 35.3	
	comp=Z,5.9nm,0.8s						
KK31	**Karatay Array**	**48.22**	**334**	P	**P**	**19 40 38.5**	**+0.2**
KK31				IAmb	IAmb	19 40 40.5	
	comp=Z,6.7nm,1.2s						
KKAR	**Karatay Array**	**48.22**	**334**	P	**P**	**19 40 38.7**	**+0.4**
KKAR				IAmb	IAmb	19 40 40.5	
	comp=Z,6.7nm,1.2s						
GEYT	**Alibeck**	**51.36**	**320**	P	**P**	**19 41 02.5**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=134,slow=8.5,SNR=5.4						
GYA0B	**ALIBECK ARRAY**	**51.36**	**320**	P	**P**	**19 41 02.8**	**+0.4**
HIA	**Hailar**	**51.79**	**19**	P	**P**	**19 41 05.7**	**+0.3**
HIA				IAmb	IAmb	19 41 06.5	
	comp=Z,7.7nm,0.9s						
MJAR	**Matsushiro Arr**	**51.79**	**42**	P	**P**	**19 41 04.3**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=119,slow=15,SNR=7.6						
KURK	**Kurchatov**	**51.96**	**345**	P	**P**	**19 41 07.1**	**+0.6**
KURK				IAmb	IAmb	19 41 08.5	
	comp=Z,8.5nm,0.9s						
USRK	**Ussuriysk Ar.**	**52.90**	**31**	P	**P**	**19 41 14.0**	**+0.3**
	comp=Z,8.4nm,0.8s,baz=227,slow=5.2,SNR=18						
STKA	**Stephens Creek**	**53.23**	**132**	P	**P**	**19 41 15.4**	**-0.9**
	comp=Z,3.8nm,0.8s,baz=321,slow=14,SNR=5.9						
STKA	**Stephens Creek**	**53.23**	**132**	P	**P**	**19 41 15.8**	**-0.5**
ZAA0	**Zalesovo Array**	**53.72**	**351**	P	**P**	**19 41 19.9**	**+0.4**
ZALV	**Zalesovo Beam**	**53.72**	**351**	P	**P**	**19 41 19.8**	**+0.2**
	comp=Z,14nm,0.7s,baz=180,slow=6.3,SNR=61						
KLR	**Kul'dur**	**56.39**	**26**	P	**P**	**19 41 39.1**	**+0.2**
	comp=Z,8.2nm,0.8s,baz=246,slow=6.0,SNR=19						
BRVK	**Borovoye**	**56.48**	**341**	P	**P**	**19 41 39.4**	**-0.1**
BRVK				IAmb	IAmb	19 41 40.5	
	comp=Z,5.3nm,0.9s						
AKTO	**Aktyubinsk**	**59.39**	**332**	P	**P**	**19 41 59.9**	**0.0**
	comp=Z,2.4nm,0.8s,baz=137,slow=4.9,SNR=7.4						
ARU	**Arti**	**63.34**	**337**	P	**P**	**19 42 26.4**	**-0.1**
ARU				IAmb	IAmb	19 42 27.6	
	comp=Z,3.5nm,0.9s						
KBZ	**Khabaz**	**64.22**	**319**	P	**P**	**19 42 33.1**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=124,slow=10.0,SNR=4.4						
YAK	**Yakutsk**	**65.57**	**16**	P	**P**	**19 42 40.

comp=Z,89nm,21.0s,baz=354,slow=33
RABL Rabaul 18.89 151 P **Pn** **19 43 56.2 -0.1**
KRVT Keravat (AS076 18.93 151 LR LR 19 49 47.6
comp=Z,151nm,21.3s,baz=317,slow=32
YULB Yu-li 23.28 301 P **P** **19 44 43.1 +0.4**
JNU Nakatsue 23.36 334 P **P** **19 44 43.1 -0.2**
20nm,0.9s,baz=150,slow=5.2,SNR=12
JNU Nakatsue 23.36 334 P **P** **19 44 43.6 +0.2**
JNU IAmb IAmb 19 44 46.6
comp=Z,35nm,1.0s
NACB Ninganchiao 23.36 303 P **P** **19 44 44.3 +0.9**
NACB IAmb IAmb 19 44 54.2
comp=Z,19nm,1.0s
SSLB Suanglung 23.73 301 **P** **19 44 46.4 -0.7**
H11N1 WAKE ISLAND Hy 24.08 69 T T 20 09 45.8
baz=255
H11N2 WAKE ISLAND Hy 24.09 69 T T 20 09 50.6
baz=255
H11N3 WAKE ISLAND Hy 24.10 69 T T 20 09 47.2
baz=255
LUWI Luwuk 24.12 238 P **P** **19 44 49.4 -1.3**
MJAR Matsushiro Arr 24.37 351 P **P** **19 44 52.0 -0.8**
comp=Z,5.9nm,0.9s,baz=184,slow=9.5,SNR=17
MAJO Matsushiro 24.37 351 P **P** **19 44 51.7 -1.2**
MAJO IAmb IAmb 19 44 57.9
comp=Z,19nm,1.1s
MAT Matsushiro 24.37 351 P **P** **19 44 51.3 -1.6**
MAT S **S** **19 49 13.6 +2.9**
HNR Honiara 27.52 141 LR LR 19 55 19.2
comp=Z,87nm,19.8s,baz=320,slow=34
KSRS Korea Array 28.31 334 P **P** **19 45 27.6 -0.7**
comp=Z,3.0nm,1.0s,baz=150,slow=9.1,SNR=9.4
KSRS LR LR 19 56 02.6
comp=Z,68nm,19.8s,baz=145,slow=35
KNRA Kununurra 31.28 207 P **P** **19 45 55.5 +0.7**
KNRA IAmb IAmb 19 45 56.1
comp=Z,14nm,1.1s
CTA Charters Tower 32.50 174 P **P** **19 46 06.5 +1.0**
comp=Z,6.9nm,0.9s,baz=351,slow=13,SNR=5.6
CTAO Charters Tower 32.50 174 P **P** **19 46 06.6 +1.1**
CTAO IAmb IAmb 19 46 07.6
comp=Z,13nm,1.1s
USRK Ussuriysk Ar. 33.02 345 P **P** **19 46 10.2 +0.4**
comp=Z,4.6nm,0.8s,baz=179,slow=8.5,SNR=12
WB0 Warramunga Arr 33.11 195 P **P** **19 46 11.1 +0.2**
WB2 Warramunga Arr 33.29 195 P **P** **19 46 11.9 -0.5**
WB2 IAmb IAmb 19 46 18.8
comp=Z,17nm,1.2s
WRA Warramunga Arr 33.29 195 P **P** **19 46 12.3 -0.2**
comp=Z,6.3nm,0.9s,baz=16,slow=9.4,SNR=22
ENH Enshi 35.68 305 P **P** **19 46 33.4 +0.3**
BJT Baijiatuau 36.22 324 P **P** **19 46 37.4 -0.2**
BJT IAmb IAmb 19 46 40.7
comp=Z,6.4nm,0.8s
AS31 Alice Springs 36.97 194 P **P** **19 46 44.5 +0.3**
ASAR Alice Springs 36.97 194 P **P** **19 46 44.7 +0.5**
comp=Z,2.9nm,0.8s,baz=18,slow=11,SNR=36
ASAR PcP **PcP** **19 49 06.1 +1.0**
comp=Z,0.9nm,0.9s,baz=0.0,slow=3.7,SNR=4.1
XAN Xi'an 37.68 310 P **P** **19 46 50.9 +0.7**
XAN IAmb IAmb 19 46 55.5
comp=Z,8.6nm,1.1s
KLR Kul'dur 37.83 348 LR LR 19 59 57.3
comp=Z,103nm,20.9s,baz=203,slow=32
DZM Mont Dzumac 41.32 146 P **P** **19 47 21.3 +0.6**
comp=Z,8.9nm,0.8s,baz=279,slow=17,SNR=3.9
DZM Mont Dzumac 41.32 146 P **P** **19 47 21.1 +0.4**
DZM IAmb IAmb 19 47 27.6
comp=Z,22nm,1.1s
HIA Hailar 41.42 337 P **P** **19 47 22.3 +1.2**
HIA IAmb IAmb 19 47 29.7
comp=Z,11nm,1.2s
CMAR Chiang Mai Arr 42.77 284 P **P** **19 47 32.5 0.0**
comp=Z,0.6nm,0.5s,baz=86,slow=6.1,SNR=7.1
STKA Stephens Creek 44.09 182 P **P** **19 47 42.6 -0.3**
comp=Z,2.0nm,0.9s,baz=328,slow=13,SNR=3.0
STKA Stephens Creek 44.09 182 P **P** **19 47 42.0 -0.9**
ULN Ulaanbaatar 46.28 327 P **P** **19 48 00.6 +0.2**
ULN IAmb IAmb 19 48 02.7
comp=Z,4.4nm,0.9s
SONM Songino Array 46.62 326 P **P** **19 48 02.5 -0.4**
comp=Z,1.1nm,0.7s,baz=153,slow=8.4,SNR=9.8
YAK Yakutsk 50.42 352 P **P** **19 48 31.2 -0.6**
comp=Z,11nm,0.8s,baz=43,slow=1.0,SNR=10.0
YAK Yakutsk 50.42 352 P **P** **19 48 31.3 -0.5**
WMQ Urumqi 56.59 315 P **P** **19 49 17.8 +0.2**
MK31 Makanchi Array 61.03 317 **P** **19 49 48.0 -0.3**
MKAR Makanchi Array 61.03 317 P **P** **19 49 48.0 -0.3**
comp=Z,1.4nm,0.9s,baz=91,slow=8.5,SNR=11
MAKZ Makanchi 61.24 317 **P** **19 49 49.5 -0.2**
ZAA0 Zalesovo Array 61.48 325 P **P** **19 49 50.7 -0.4**
ZAA0 IAmb IAmb 19 49 54.4
comp=Z,3.6nm,1.2s
ZALV Zalesovo Beam 61.48 325 P **P** **19 49 50.1 -1.0**
comp=Z,1.0nm,0.7s,baz=101,slow=7.9,SNR=4.3
KDJ Kajisay 63.82 311 P **P** **19 50 06.0 -1.3**
KURK Kurchatov 64.27 320 **P** **19 50 09.3 -0.4**
KURK IAmb IAmb 19 50 10.4
comp=Z,4.1nm,0.8s
NIL Nilore 66.38 301 P **P** **19 50 23.2 -0.6**
NIL IAmb IAmb 19 50 29.2
comp=Z,6.5nm,0.9s
KK31 Karatay Array 68.81 311 P **P** **19 50 38.5 -0.4**
KK31 IAmb IAmb 19 50 41.0
comp=Z,5.9nm,1.4s
CHGR Chuyangaron 69.72 307 P **P** **19 50 44.3 -0.5**
CHGR IAmb IAmb 19 50 46.2
comp=Z,13nm,1.4s
BRVK Borovoye 69.74 322 **P** **19 50 44.1 -0.4**
BRVK IAmb IAmb 19 50 52.0
comp=Z,12nm,1.5s
ILAR Eielson Array 70.38 25 P **P** **19 50 49.1 +0.9**
comp=Z,0.4nm,0.6s,baz=241,slow=5.8,SNR=3.3
GYA0B ALIBECK ARRAY 78.44 306 P **P** **19 51 35.4 -0.3**
LPAZ La Paz 149.65 101 PKPbc **PKiKP** **19 59 26.5 -0.4**
comp=Z,5.6nm,1.0s,baz=341,slow=3.5,SNR=18
LPAZ La Paz 149.65 101 **PKiKP** **19 59 26.0 -0.9**

*IDC **23** 19:54:00.6±0.7,0.°93N×97.°16E, h0km, mb4.3/24, mb1 4.3/26, mb1mx4.1/65, mbtmp4.3/26, ML4.0/2, MS4.7/2, Ms1 4.7/2, ms1mx3.2/57, Error ellipse: s-maj=16.4km s-min=14.0km az=55.0*
*KLM **23** 19:54:00.0, 0.°93N×96.°88E, h0km, mb4.6*
*NEIC **23** 19:54:02.5±2.2, 1.°00N±0.°06×97.°04E±0.°04, h10km±1km, mb4.6/45, Error ellipse: s-maj=11.1km s-min=6.0km az=149.0*
*DJA **23** 19:54:04.8±1.0, 1.°N±4.°×9.°7E±.°, h22km±6km, M4.5/13, MLv4.5/13*

ISC 23 19:54:05.2±0.5,1.°05N±0.°05×97.°18E±0.°06, h25km, n108, σ0ş77/103, mb4.5/45, MS4.3/5, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.47**	**57**	P	**Pb**	**19 54 15.4**	**+0.4**
GSI	**Gunungsitoli**	**0.47**	**57**		**Pb**	**19 54 15.0**	**0.0**
GSI				Sg	**Sn**	**19 54 22.7**	**-1.3**
PBSI	**Pulau Batu**	**1.55**	**135**	P	**Pn**	**19 54 30.9**	**-0.4**
RPSI	**Rantau Prapat**	**2.39**	**47**	Pn	**Pn**	**19 54 42.6**	**-0.3**
MNSI	**Mandailing Nat**	**2.41**	**96**	P	**Pn**	**19 54 42.8**	**-0.3**
PSI	**Prapat**	**2.46**	**45**	Pn	**Pn**	**19 54 43.0**	**-1.0**
	9.2nm,0.3s,baz=180,slow=6.1,SNR=30						
PSI				Lg	Lg	19 55 20.3	
	28nm,0.3s,baz=180,slow=15,SNR=7.1						
KCSI	**Kotacane, Aceh**	**2.53**	**13**	P	**Pn**	**19 54 45.0**	**+0.2**
TSI	**Tuntungan**	**2.80**	**30**	P	**Pn**	**19 54 48.8**	**+0.3**
SISI	**Saibi**	**3.03**	**141**	P	**Pn**	**19 54 52.0**	**+0.3**
MLSI	**Meulaboh, Aceh**	**3.29**	**346**	P	**Pn**	**19 54 55.3**	**0.0**
PDSI	**Padang**	**3.81**	**121**	P	**Pn**	**19 55 02.2**	**-0.3**
BKNI	**Bangkinang**	**3.92**	**100**	P	**Pn**	**19 55 04.2**	**+0.2**
BKNI	**Bangkinang**	**3.92**	**100**	Pn	**Pn**	**19 55 04.4**	**+0.4**
LHMI	**Lhok Sumawe**	**4.16**	**357**	Pn	**Pn**	**19 55 06.6**	**-0.6**
SDSI	**Sungai Dareh**	**4.68**	**115**	P	**Pn**	**19 55 14.3**	**0.0**
IPM	**Ipoh**	**5.14**	**48**	Pn	**Pn**	**19 55 21.1**	**+0.5**
IPM	**Ipoh**	**5.14**	**48**	P	**Pn**	**19 55 22.0**	**+1.3**
KULM	**Kulim**	**5.46**	**39**	Pn	**Pn**	**19 55 24.7**	**-0.3**
KULM	**Kulim**	**5.46**	**39**	P	**Pn**	**19 55 25.0**	**0.0**
MYKOM	**Kota Tinggi**	**6.71**	**84**	Pn	**Pn**	**19 55 42.1**	**-0.1**
MYKOM	**Kota Tinggi**	**6.71**	**84**	P	**Pn**	**19 55 43.0**	**+0.8**
SBUM	**Sibu**	**15.10**	**84**		**Pn**	**19 57 36.4**	**-0.7**
SBUM	**Sibu**	**15.10**	**84**	P	**Pn**	**19 57 38.0**	**+0.9**
DLV	**T Lat**	**15.59**	**46**		**Pn**	**19 57 45.4**	**+1.6**
DLV				IAmb	IAmb	19 57 47.8	
	comp=Z,31nm,0.9s						
CM31	**Chiang Mai Arr**	**17.39**	**6**		**Pn**	**19 58 05.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**17.39**	**6**	P	**Pn**	**19 58 05.5**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=195,slow=12,SNR=35						
CHTO	**Chiang Mai**	**17.74**	**5**	Pn	**Pn**	**19 58 09.8**	**-0.9**
SPMM	**Sapulut**	**19.60**	**79**	P	**Pn**	**19 58 34.0**	**+0.7**
KKM	**Kota Kinabalu**	**19.63**	**75**		**P**	**19 58 32.4**	**+0.1**
KKM				IAmb	IAmb	19 58 35.4	
	comp=Z,14nm,0.7s						
SLVN	**Son La**	**21.21**	**18**	P	**P**	**19 58 48.6**	**-0.7**
SLVN				IAmb	IAmb	19 58 52.9	
	comp=Z,20nm,0.8s						
MYLDM	**Lahad Datu**	**21.68**	**79**	P	**P**	**19 58 55.0**	**+0.6**
MYLDM				IAmb	IAmb	19 59 04.7	
	comp=Z,17nm,1.0s						
KMI	**Kunming**	**24.53**	**12**	⇓*e*P	**P**	**19 59 24.8**	**+1.5**
KMI				pP	sP	19 59 37.6	+3.8
KMI				sP	pP	19 59 45.1	+14
KMI				pmax	pmax		
	comp=Z,27nm,1.3s						
KMI				pmax	pmax		
	comp=Z,130nm,4.7s						
KMI				LR	LR		
	comp=N,200nm,13.6s						
KMI				LR	LR		
	comp=E,200nm,13.1s						
KMI				LR	LR		
	comp=Z,310nm,15.3s						
KMI	**Kunming**	**24.53**	**12**	P	**P**	**19 59 23.4**	**+0.2**
SHL	**Shillong**	**24.91**	**349**	P	**P**	**19 59 26.9**	**+0.3**
LUWI	**Luwuk**	**25.67**	**95**	P	**P**	**19 59 33.5**	**0.0**
H08S2	**Diego Garcia H**	**26.09**	**250**	T	T	20 26 39.7	
	baz=70,slow=74,SNR=1339						
H08S3	**Diego Garcia H**	**26.09**	**250**	T	T	20 26 50.6	
	baz=70,slow=74,SNR=1377						
H08S1	**Diego Garcia H**	**26.11**	**250**	T	T	20 26 51.6	
	baz=70,slow=74,SNR=1252						
GYA	**Guiyang**	**26.86**	**19**	⇓P	**P**	**19 59 43.9**	**-0.4**
GYA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
LSA	**Lhasa**	**29.07**	**349**	P	**P**	**20 00 04.6**	**+0.3**
LSA				IAmb	IAmb	20 00 09.5	
	comp=Z,4.7nm,0.7s						
ENH	**Enshi**	**31.33**	**21**	P	**P**	**20 00 22.4**	**-1.4**
ENH				IAmb	IAmb	20 00 23.6	
	comp=Z,14nm,1.0s						
YULB	**Yu-li**	**32.26**	**45**	P	**P**	**20 00 32.1**	**0.0**
YULB				IAmb	IAmb	20 00 33.3	
	comp=Z,5.8nm,0.9s						
WHN	**Wuhan**	**33.56**	**27**	P	**P**	**20 00 43.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**33.85**	**126**	P	**P**	**20 00 44.6**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=318,slow=6.8,SNR=10						
FITZ	**Fitzroy Crossi**	**33.85**	**126**	P	**P**	**20 00 44.8**	**-1.2**
XAN	**Xi'an**	**34.62**	**17**	P	**P**	**20 00 51.4**	**-1.1**
XAN				pP	sP	20 01 03.1	+0.1
XAN				pmax	pmax		
	comp=Z,18nm,0.8s						
XAN				pmax	pmax		
	comp=Z,95nm,4.9s						
XAN				LR	LR		
	comp=N,200nm,15.2s						
XAN				LR	LR		
	comp=E,190nm,15.2s						
XAN				LR	LR		
	comp=Z,230nm,15.2s						
XAN	**Xi'an**	**34.62**	**17**	P	**P**	**20 00 51.4**	**-1.1**
XAN				IAmb	IAmb	20 00 53.0	
	comp=Z,14nm,0.9s						
GTA	**Gaotai**	**38.26**	**3**	⇑P	**P**	**20 01 23.8**	**+0.2**
GTA				pP	pP	20 01 28.4	-2.7
GTA				sP	sP	20 01 31.0	-3.2
GTA				PcP	**PcP**	**20 03 39.5**	**+1.9**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
H01W3	**Cape Leeuwin H**	**39.11**	**158**	T	T	20 42 43.8	
	baz=333,slow=76,SNR=69						
H01W2	**Cape Leeuwin H**	**39.12**	**158**	T	T	20 42 49.5	
	baz=333,slow=76,SNR=69						
H01W1	**Cape Leeuwin H**	**39.13**	**158**	T	T	20 42 49.0	
	baz=333,slow=76,SNR=61						
NIL	**Nilore**	**39.44**	**328**	P	**P**	**20 01 32.6**	**-0.9**
NIL				IAmb	IAmb	20 01 35.0	
	comp=Z,5.9nm,0.7s						
WB0	**Warramunga Arr**	**41.94**	**122**	P	**P**	**20 01 53.5**	**-0.9**
WRA	**Warramunga Arr**	**41.97**	**122**	P	**P**	**20 01 52.4**	**-2.3**
	comp=Z,1.8nm,0.7s,baz=300,slow=9.1,SNR=16						
WB2	**Warramunga Arr**	**41.98**	**122**	P	**P**	**20 01 53.6**	**-1.1**
BJT	**Baijiatuau**	**42.47**	**22**	P	**P**	**20 01 58.5**	**+0.2**
BJT				IAmb	IAmb	20 02 00.0	
	comp=Z,12nm,0.7s						
ASAR	**Alice Springs**	**43.32**	**127**	P	**P**	**20 02 05.0**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=297,slow=8.0,SNR=13						
WMQ	**Urumqi**	**43.42**	**350**	*e*P	**P**	**20 02 07.8**	**+1.7**
WMQ				sP	pP	20 02 14.5	+1.0
WMQ				PP	**PcP**	**20 03 52.0**	**-2.2**
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,14nm,3.6s						
WMQ				LR	LR		
	comp=N,450nm,13.3s						
WMQ				LR	LR		
	comp=E,470nm,12.1s						
WMQ				LR	LR		
	comp=Z,500nm,21.9s						
WMQ	**Urumqi**	**43.42**	**350**	P	**P**	**20 02 07.0**	**+0.9**
WMQ				IAmb	IAmb	20 02 08.8	
	comp=Z,16nm,1.0s						
TARG	**Taragay, Kyrgy**	**44.11**	**339**	P	**P**	**20 02 12.5**	**+0.5**
KDJ	**Kajisay**	**44.68**	**339**	P	**P**	**20 02 17.4**	**+1.0**
KDJ				IAmb	IAmb	20 02 19.7	
	comp=Z,7.0nm,0.9s						
JNU	**Nakatsue**	**44.93**	**41**	P	**P**	**20 02 17.8**	**-0.6**
	comp=Z,5.8nm,0.8s,baz=167,slow=7.5,SNR=3.6						
JNU	**Nakatsue**	**44.93**	**41**	P	**P**	**20 02 18.1**	**-0.3**
JNU				IAmb	IAmb	20 02 19.0	
	comp=Z,14nm,1.2s						
GAR	**Garm**	**45.06**	**330**	P	**P**	**20 02 19.2**	**-0.2**
GAR				IAmb	IAmb	20 02 21.0	
	comp=Z,12nm,1.2s						
CHGR	**Chuyangaron**	**45.39**	**329**	P	**P**	**20 02 21.7**	**-0.3**
CHGR				IAmb	IAmb	20 02 23.2	
	comp=Z,7.8nm,0.8s						
BTK	**Batken**	**45.64**	**332**	P	**P**	**20 02 23.9**	**0.0**
BTK				IAmb	IAmb	20 02 33.3	
	comp=Z,4.9nm,0.9s						
KSRS	**Korea Array**	**45.99**	**34**	P	**P**	**20 02 25.9**	**-0.6**
	comp=Z,7.7nm,0.8s,baz=221,slow=9.1,SNR=47						
KS19	**Wonju Array Si**	**45.99**	**34**	P	**P**	**20 02 26.0**	**-0.6**
SONM	**Songino Array**	**47.29**	**8**	P	**P**	**20 02 37.3**	**+0.6**
	comp=Z,5.1nm,0.6s,baz=192,slow=9.3,SNR=31						
SONM				PcP	**PcP**	**20 04 07.7**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=192,slow=3.6,SNR=8.2						
MK31	**Makanchi Array**	**47.39**	**346**	P	**P**	**20 02 38.0**	**+0.6**
MK31				IAmb	IAmb	20 02 39.3	
	comp=Z,3.8nm,0.8s						
MKAR	**Makanchi Array**	**47.39**	**346**	P	**P**	**20 02 38.1**	**+0.7**
	comp=Z,3.0nm,0.5s,baz=160,slow=8.0,SNR=55						
ULN	**Ulaanbaatar**	**47.42**	**9**	P	**P**	**20 02 37.4**	**-0.3**
ULN				IAmb	IAmb	20 02 40.9	
	comp=Z,4.1nm,0.6s						
MAKZ	**Makanchi**	**47.48**	**346**	P	**P**	**20 02 38.3**	**+0.2**
MAKZ				IAmb	IAmb	20 02 39.9	
	comp=Z,3.7nm,0.8s						
KK31	**Karatay Array**	**48.19**	**334**	P	**P**	**20 02 44.4**	**+0.7**
BBOO	**Buckleboo**	**49.78**	**136**	P	**P**	**20 02 56.7**	**+0.6**
JCJ	**Chichijima**	**50.33**	**55**	P	**P**	**20 02 59.5**	**-0.7**
	comp=Z,7.1nm,0.4s,baz=291,slow=23,SNR=5.4						
TLY	**Talaya**	**50.75**	**5**	P	**P**	**20 03 03.1**	**+0.1**
GEYT	**Ailbeck**	**51.32**	**320**	P	**P**	**20 03 07.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=164,slow=7.5,SNR=2.1						
MJAR	**Matsushiro Arr**	**51.82**	**42**	P	**P**	**20 03 10.4**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=213,slow=8.8,SNR=4.8						
KURK	**Kurchatov**	**51.94**	**345**	P	**P**	**20 03 12.4**	**+0.5**
KURK				IAmb	IAmb	20 03 13.8	
	comp=Z,5.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**52.91**	**31**	P	**P**	**20 03 19.4**	**+0.1**
	comp=Z,6.0nm,0.8s,baz=223,slow=6.4,SNR=11						
STKA	**Stephens Creek**	**53.27**	**132**	P	**P**	**20 03 22.1**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=312,slow=8.3,SNR=5.7						
STKA	**Stephens Creek**	**53.27**	**132**	P	**P**	**20 03 22.3**	**+0.1**
ZAA0	**Zalesovo Array**	**53.71**	**351**	P	**P**	**20 03 25.3**	**+0.3**
ZALV	**Zalesovo Beam**	**53.71**	**351**	P	**P**	**20 03 25.7**	**+0.7**
	comp=Z,9.3nm,0.6s,baz=181,slow=6.3,SNR=38						
KLR	**Kul'dur**	**56.40**	**27**	P	**P**	**20 03 44.9**	**+0.4**
	comp=Z,8.0nm,1.0s,baz=257,slow=6.6,SNR=12						
EIDS	**Eidsvold**	**58.32**	**121**	P	**P**	**20 03 58.8**	**+0.3**
ASAJ	**Asahikawa**	**58.80**	**37**	P	**P**	**20 04 02.6**	**+1.1**
	comp=Z,6.6nm,1.0s,baz=255,slow=12,SNR=5.2						
KMBO	**Kilima Mbogo**	**59.96**	**268**	LR	LR	20 25 12.0	
	comp=Z,1μm,21.1s,baz=310,slow=31						
CAN	**Canberra**	**60.33**	**132**	P	**P**	**20 04 12.6**	**+0.3**
ARMA	**Armidale**	**60.46**	**126**	P	**P**	**20 04 14.1**	**+0.7**
YAK	**Yakutsk**	**65.57**	**16**	P	**P**	**20 04 46.3**	**-0.3**
NRIK	**Noril'sk**	**68.48**	**356**	P	**P**	**20 05 05.1**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=142,slow=6.1,SNR=4.2						
BRTR	**Keskin Array B**	**69.20**	**312**	P	**P**	**20 05 10.4**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=72,slow=4.0,SNR=4.3						
MA2	**Magadan**	**71.48**	**26**	P	**P**	**20 05 23.0**	**-0.6**
	comp=Z,4.2nm,0.5s,baz=150,slow=20,SNR=2.1						
MA2	**Magadan**	**71.48**	**26**	P	**P**	**20 05 23.5**	**0.0**
MA2				IAmb	IAmb	20 05 31.0	
	comp=Z,7.7nm,0.9s						
PETK	**Petropavlovsk-**	**71.87**	**34**	P	**P**	**20 05 25.5**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=193,slow=12,SNR=2.5						
SEY	**Seymchan**	**73.91**	**23**	P	**P**	**20 05 37.8**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=284,slow=3.2,SNR=4.9						
BUR08	**Bucovina Ar. S**	**77.14**	**319**	P	**P**	**20 05 57.5**	**+0.5**
LVZ	**Lovozero**	**78.97**	**340**	P	**P**	**20 06 06.8**	**+0.2**
SUR	**Sutherland**	**79.06**	**237**	LR	LR	20 36 21.2	
	comp=Z,153nm,20.0s,baz=242,slow=32						
FINES	**FINESS Array B**	**80.13**	**333**	P	**P**	**20 06 12.4**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=141,slow=9.3,SNR=5.9						
ARCES	**ARCESS Array B**	**82.67**	**340**	P	**P**	**20 06 24.7**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=102,slow=5.1,SNR=10						
GERES	**GERESS Array B**	**84.92**	**319**	P	**P**	**20 06 38.2**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=49,slow=4.5,SNR=7.3						
NB2	**NORSAR Subarra**	**87.13**	**331**	P	**P**	**20 06 49.1**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=94,slow=5.1						
NOA	**NORSAR Array B**	**87.13**	**331**	P	**P**	**20 06 48.9**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=95,slow=5.0,SNR=4.4						
QSPA	**South Pole Qui**	**90.99**	**180**	P	**P**	**20 07 07.4**	**+0.3**
QSPA				IAmb	IAmb	20 07 16.9	
	comp=Z,3.5nm,1.1s						
TXAR	**Lajitas Array**	**143.81**	**32**	PKP	PKPbc	20 13 36.7	-0.1
	comp=Z,0.2nm,0.6s,baz=2.9,slow=1.8,SNR=3.7						

*NDI **23** 19:58:39.3±2.7, 8.°23N×93.°80E, h110km±230km, mb4.7, mb4.7(NEIC)*
*IDC **23** 19:58:43.6±1.7, 8.°40N×93.°56E, h88km±14km, mb4.1/37, mb1 4.2/40, mb1mx4.1/69, mbtmp4.4/40, Error ellipse: s-maj=14.1km s-min=8.4km az=48.0*
*NEIC **23** 19:58:43.8±1.6, 8.°42N±0.°07×93.°49E±0.°08, h88km±5km, mb4.7/63, Error ellipse: s-maj=13.3km s-min=7.9km az=59.0*

ISC 23 19:58:45.1±0.3, 8.°45N±0.°05×93.°54E±0.°05, h100km, n180, σ1ş32/190, mb4.6/69, 1C-2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**3.28**	**346**	*e*P	Pn	19 59 32.9	-1.7
PBA				*e*S	Sn	20 00 11.2	-1.5
PBA	**Port Blair**	**3.28**	**346**	Pn	Pn	19 59 32.7	-1.9
PBA				Sn	Sn	20 00 11.2	-1.5
LHMI	**Lhok Sumawe**	**4.66**	**133**	Pn	**Pn**	**19 59 53.2**	**0.0**
KULM	**Kulim**	**7.73**	**114**	Pn	**Pn**	**20 00 34.4**	**-0.5**
PSI	**Prapat**	**7.76**	**136**	P	**Pn**	**20 00 34.8**	**-0.7**
	1.3nm,0.3s,baz=360,slow=15,SNR=2.5						
PSI				S	**Sn**	**20 02 01.7**	**-0.1**
	2.8nm,0.3s,baz=0.4,slow=13,SNR=4.7						
RPSI	**Rantau Prapat**	**7.84**	**137**	Pn	**Pn**	**20 00 34.4**	**-2.0**
RPSI	**Rantau Prapat**	**7.84**	**137**		**Sn**	**20 02 01.7**	**-1.8**
GSI	**Gunungsitoli**	**8.16**	**150**	Pn	**Pn**	**20 00 37.6**	**-3.2**
IPM	**Ipoh**	**8.42**	**117**		**Pn**	**20 00 43.4**	**-0.9**
CM31	**Chiang Mai Arr**	**11.24**	**27**	Pn	**Pn**	**20 01 23.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**11.24**	**27**	P	**Pn**	**20 01 22.5**	**-0.2**
	0.5nm,0.3s,baz=226,slow=14,SNR=6.7						
CHTO	**Chiang Mai**	**11.56**	**26**	Pn	**Pn**	**20 01 28.6**	**+1.6**
MYKOM	**Kota Tinggi**	**12.21**	**122**	Pn	**Pn**	**20 01 37.8**	**+2.1**
PALK	**Pallekele**	**12.77**	**266**	P	**Pn**	**20 01 41.4**	**-1.7**
	1.9nm,0.3s,baz=193,slow=13,SNR=30						
PALK				S	Sn	20 03 50.2	-14
	7.3nm,0.3s,baz=278,slow=19,SNR=11						
PALK	**Pallekele**	**12.77**	**266**	Pn	**Pn**	**20 01 41.1**	**-2.0**
VIS	**Vishakhapatnam**	**13.55**	**314**	*e*P	**Pn**	**20 01 52.5**	**-0.7**
VIS				*e*S	Sn	20 04 09.2	-13
VIS				IAML		20 04 16.9	
	comp=E,1.3nm,0.1s						
CHLP	**Challavanipeta**	**13.59**	**318**	*e*P	**Pn**	**20 01 51.1**	**-2.7**
CHLP				*e*		20 04 08.8	
PVM	**Polavaram**	**14.53**	**308**	*e*P	**Pn**	**20 02 06.9**	**+1.0**
PVM				*e*		20 04 32.5	
SKHT	**Srikalahasti**	**14.55**	**292**	*e*P	**Pn**	**20 02 05.3**	**-0.9**
SKHT				*e*		20 04 33.3	
MYLAV	**Mylavaram**	**15.04**	**304**	*e*P	**P**	**20 02 14.2**	**-1.2**
MYLAV				*e*		20 04 42.8	
DLV	**T Lat**	**15.11**	**75**		**Pn**	**20 02 15.0**	**+1.4**
ADKI	**Addanki**	**15.16**	**300**	*e*P	**P**	**20 02 15.4**	**-1.3**
ADKI				*e*		20 04 43.6	
NJS	**Nagarjunasagar**	**16.05**	**301**	*e*		20 05 05.2	
SRLM	**Srisailam**	**16.20**	**299**	*e*P	**P**	**20 02 29.0**	**+0.7**
SRLM				*e*		20 05 10.3	
SLVN	**Son La**	**16.25**	**37**		**P**	**20 02 29.6**	**+0.8**
BOK	**Bokaro**	**16.92**	**335**	*e*P	**Pn**	**20 02 36.0**	**+0.2**
BOK				IAmb	IAmb	20 02 42.3	
	comp=Z,59nm,0.4s						
BOK				*e*S	Sn	20 05 30.9	-13
SHL	**Shillong**	**17.09**	**355**	*e*P	**Pn**	**20 02 36.3**	**-1.8**
SHL				*e*P	**P**	**20 02 38.0**	**-0.2**
SHL				*ex*	**Sn**	**20 05 40.6**	**-7.6**

MYLDM	**Lahad Datu**	**24.99**	**96**	P		**P**	**20 04 00.9**	**+1.1**
ENH	**Enshi**	**26.34**	**32**	P		**P**	**20 04 12.2**	**+0.3**
ENH				IAmb		IAmb	20 04 12.4	
	comp=Z,11nm,0.5s							
H08S3	**Diego Garcia H**	**26.38**	**233**	T		T	20 30 54.1	
	baz=52,slow=75							
H08S2	**Diego Garcia H**	**26.38**	**233**	T		T	20 31 06.8	
	baz=52,slow=75							
H08S1	**Diego Carcia H**	**26.39**	**233**	T		T	20 30 58.7	
	baz=52,slow=75							
XAN	**Xi'an**	**29.14**	**27**	P		**P**	**20 04 36.4**	**-0.4**
XAN				pP		pP	20 04 54.6	-3.6
XAN				sP		pwP	20 05 03.3	+0.9
XAN				pmax		pmax		
	comp=Z,15nm,0.8s							
XAN	**Xi'an**	**29.14**	**27**	P		**P**	**20 04 36.1**	**-0.7**
XAN				IAmb		IAmb	20 04 37.1	
	comp=Z,11nm,0.9s							
LUWI	**Luwuk**	**30.63**	**107**	P		**P**	**20 04 51.5**	**+1.4**
NIL	**Nilore**	**31.29**	**326**	P		**P**	**20 04 55.4**	**-0.3**
NIL				IAmb		IAmb	20 04 56.9	
	comp=Z,18nm,0.7s							
GTA	**Gaotai**	**31.33**	**9**	⇑P		**P**	**20 04 56.5**	**+0.3**
GTA				pP		pP	20 05 14.4	-3.6
GTA				sP		pwP	20 05 23.0	+2.2
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KBL	**Kabul**	**34.35**	**323**	P		**P**	**20 05 22.6**	**0.0**
KBL				IAmb		IAmb	20 05 23.8	
	comp=Z,6.0nm,1.1s							
BATI	**Baumata**	**35.26**	**121**	P		**P**	**20 05 30.2**	**-0.2**
	comp=Z,19nm,1.0s,baz=125,slow=4.4,SNR=4.4							
WMQ	**Urumqi**	**35.60**	**353**	*eP*		**P**	**20 05 34.3**	**+1.2**
WMQ				pmax		pmax		
	comp=Z,10.0nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,25nm,3.7s							
WMQ				LR		LR		
	comp=N,1μm,14.5s							
WMQ				LR		LR		
	comp=E,920nm,14.5s							
WMQ				LR		LR		
	comp=Z,450nm,17.9s							
TARG	**Taragay, Kyrgy**	**35.95**	**340**	P		**P**	**20 05 36.2**	**-0.3**
KDJ	**Kajisay**	**36.52**	**339**	P		**P**	**20 05 41.6**	**+0.5**
GAR	**Garm**	**36.88**	**329**	P		**P**	**20 05 44.1**	**0.0**
CHGR	**Chuyangaron**	**37.22**	**328**	P		**P**	**20 05 46.8**	**-0.2**
BJT	**Baijiatuau**	**37.37**	**29**	P		**P**	**20 05 49.5**	**+1.4**
BJT				IAmb		IAmb	20 05 51.6	
	comp=Z,6.4nm,0.5s							
BTK	**Batken**	**37.44**	**331**	P		**P**	**20 05 49.6**	**+0.8**
BTK				IAmb		IAmb	20 05 52.0	
	comp=Z,8.5nm,0.9s							
AAK	**Ala-Archa**	**37.94**	**337**	P		**P**	**20 05 53.8**	**+0.7**
	comp=Z,2.6nm,0.4s,baz=137,slow=2.2,SNR=6.0							
AAK				PcP		**PcP**	**20 08 07.5**	**+0.4**
	comp=Z,3.0nm,0.4s,baz=165,slow=6.3,SNR=3.9							
AAK	**Ala-Archa**	**37.94**	**337**	P		**P**	**20 05 53.3**	**+0.2**
AAK				IAmb		IAmb	20 05 55.1	
	comp=Z,4.4nm,0.6s							
SIJI	**Sorong**	**38.72**	**102**	P		**P**	**20 05 59.7**	**-0.1**
	comp=Z,8.7nm,0.8s,baz=130,slow=21,SNR=4.9							
MK31	**Makanchi Array**	**39.40**	**348**	P		**P**	**20 06 04.8**	**-0.3**
MKAR	**Makanchi Array**	**39.40**	**348**	P		**P**	**20 06 04.7**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=165,slow=7.7,SNR=12							
MKAR				PcP		**PcP**	**20 08 11.9**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=186,slow=4.2,SNR=2.5							
PSA00	**Pilbara Seismi**	**39.46**	**140**	P		**P**	**20 06 04.5**	**-1.4**
PSA00				IAmb		IAmb	20 06 05.9	
	comp=Z,8.5nm,1.0s							
MAKZ	**Makanchi**	**39.48**	**347**	P		**P**	**20 06 05.2**	**-0.5**
KK31	**Karatay Array**	**39.98**	**334**	P		**P**	**20 06 10.4**	**+0.5**
KK31				IAmb		IAmb	20 06 11.5	
	comp=Z,6.9nm,1.1s							
KKAR	**Karatay Array**	**39.98**	**334**	P		**P**	**20 06 10.6**	**+0.6**
KKAR				IAmb		IAmb	20 06 11.5	
	comp=Z,6.9nm,1.1s							
FAKI	**Fak Fak**	**40.22**	**105**	P		**P**	**20 06 12.5**	**+0.2**
SONM	**Songino Array**	**40.73**	**13**	P		**P**	**20 06 15.3**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=194,slow=8.6,SNR=13							
SONM				PcP		**PcP**	**20 08 16.3**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=191,slow=3.5,SNR=4.7							
SONM				ScP		**ScP**	**20 11 58.2**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=218,slow=8.2,SNR=3.3							
ULN	**Ulaanbaatar**	**40.92**	**14**	P		**P**	**20 06 17.7**	**0.0**
FITZ	**Fitzroy Crossi**	**41.24**	**130**	P		**P**	**20 06 18.4**	**-2.1**
JNU	**Nakatsue**	**42.31**	**49**	P		**P**	**20 06 30.0**	**+0.8**
	comp=Z,8.5nm,0.7s,baz=247,slow=5.1,SNR=10.0							
JNU	**Nakatsue**	**42.31**	**49**	P		**P**	**20 06 30.5**	**+1.3**
JNU				IAmb		IAmb	20 06 31.8	
	comp=Z,9.7nm,0.8s							
KS19	**Wonju Array Si**	**42.41**	**42**	P		**P**	**20 06 30.4**	**+0.4**
KS19				IAmb		IAmb	20 06 43.3	
	comp=Z,20nm,1.4s							
KSRS	**Korea Array**	**42.42**	**42**	P		**P**	**20 06 30.4**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=249,slow=8.4,SNR=24							
KSRS				PcP		**PcP**	**20 08 21.6**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=199,slow=2.6,SNR=2.2							
MORW	**Morawa**	**43.15**	**151**	P		**P**	**20 06 36.9**	**+0.9**
MORW				IAmb		IAmb	20 06 37.5	
	comp=Z,9.4nm,0.8s							
GEYT	**Alibeck**	**43.37**	**318**	P		**P**	**20 06 39.2**	**+1.5**
	comp=Z,8.3nm,0.5s,baz=139,slow=7.9,SNR=21							
GYA0B	**ALIBECK ARRAY**	**43.37**	**318**	P		**P**	**20 06 39.2**	**+1.5**
GYA0B				IAmb		IAmb	20 06 39.9	
	comp=Z,12nm,0.7s							
KURBB	**Kurchatov Arra**	**43.84**	**346**	P		**P**	**20 06 41.4**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=167,slow=7.2,SNR=20							
KURBB				PcP		**PcP**	**20 08 26.2**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=168,slow=2.8,SNR=6.9							
KURK	**Kurchatov**	**43.91**	**346**	P		**P**	**20 06 41.8**	**+0.1**
ZAA0	**Zalesovo Array**	**45.91**	**353**	P		**P**	**20 06 57.9**	**+0.4**
ZAA0				IAmb		IAmb	20 06 58.7	
	comp=Z,10nm,0.6s							
ZALV	**Zalesovo Beam**	**45.91**	**353**	P		**P**	**20 06 57.8**	**+0.3**
	comp=Z,8.8nm,0.4s,baz=173,slow=8.4,SNR=31							
NWAO	**Narrogin (SRO)**	**46.93**	**152**	P		**P**	**20 07 06.2**	**+0.4**
NWAO				IAmb		IAmb	20 07 10.6	
	comp=Z,20nm,1.4s							
BVAR	**Borovoye Array**	**48.25**	**341**	P		**P**	**20 07 15.4**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=142,slow=10,SNR=14							
BVAR				PcP		**PcP**	**20 08 42.0**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=128,slow=4.3,SNR=8.1							
JAY	**Jayapura**	**48.27**	**101**	P		**P**	**20 07 15.6**	**-1.0**
	comp=Z,6.9nm,0.9s,baz=0.8,slow=20,SNR=4.3							
USRK	**Ussuriysk Ar.**	**48.80**	**36**	P		**P**	**20 07 19.4**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=253,slow=6.9,SNR=4.2							
WRA	**Warramunga Arr**	**49.08**	**126**	P		**P**	**20 07 21.1**	**-1.6**
	comp=Z,5.1nm,0.4s,baz=306,slow=8.4,SNR=121							
WRA				PcP		**PcP**	**20 08 45.0**	**0.0**
	comp=Z,0.8nm,0.4s,baz=314,slow=2.7,SNR=5.1							
WRA				ScP		**ScP**	**20 12 29.6**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=318,slow=3.5,SNR=5.6							
WB2	**Warramunga Arr**	**49.09**	**126**	P		**P**	**20 07 21.4**	**-1.3**
WB2				IAmb		IAmb	20 07 22.7	
	comp=Z,6.5nm,0.6s							
MAJO	**Matsushiro**	**49.22**	**48**	P		**P**	**20 07 24.3**	**+0.8**
MAJO				IAmb		IAmb	20 07 38.8	
	comp=Z,15nm,1.5s							
MAT	**Matsushiro**	**49.22**	**48**	P		**P**	**20 07 24.3**	**+0.8**
MJAR	**Matsushiro Arr**	**49.22**	**48**	P		**P**	**20 07 24.0**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=119,slow=3.5,SNR=18							
MJAR				PcP		**PcP**	**20 08 45.7**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=248,slow=5.8,SNR=11							
JCJ	**Chichijima**	**49.54**	**62**	P		**P**	**20 07 25.1**	**-1.0**
	comp=Z,18nm,0.3s,baz=281,slow=22,SNR=29							
JCJ	**Chichijima**	**49.54**	**62**	P		**P**	**20 07 25.1**	**-1.0**
AS31	**Alice Springs**	**50.74**	**130**	P		**P**	**20 07 34.1**	**-1.0**
ASAR	**Alice Springs**	**50.74**	**130**	P		**P**	**20 07 33.6**	**-1.6**
	comp=Z,2.8nm,0.5s,baz=304,slow=6.9,SNR=40							
ASAR				PcP		**PcP**	**20 08 51.3**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=310,slow=4.0,SNR=9.9							
ASAR				ScP		**ScP**	**20 12 37.7**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=320,slow=4.8,SNR=3.2							
AKTO	**Aktyubinsk**	**51.16**	**332**	P		**P**	**20 07 37.4**	**-0.5**
	comp=Z,2.5nm,0.4s,baz=132,slow=8.2,SNR=7.3							
AKTO				PcP		**PcP**	**20 08 52.7**	**+0.7**
	comp=Z,3.6nm,0.6s,baz=138,slow=4.1,SNR=7.6							
KLR	**Kul'dur**	**51.70**	**31**	P		**P**	**20 07 42.0**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=232,slow=6.4,SNR=9.2							
ERM	**Erimo**	**54.90**	**44**	P		**P**	**20 08 06.5**	**+1.0**
ARU	**Arti**	**55.13**	**337**	P		**P**	**20 08 06.0**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=170,slow=6.0,SNR=6.1							
ARU				PcP		**PcP**	**20 09 07.3**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=180,slow=4.2,SNR=3.9							
ARU	**Arti**	**55.13**	**337**	P		**P**	**20 08 06.6**	**-0.2**
ARU				IAmb		IAmb	20 08 07.6	
	comp=Z,3.7nm,0.8s							
ASAJ	**Asahikawa**	**55.37**	**41**	P		**P**	**20 08 09.6**	**+0.8**
	comp=Z,5.1nm,0.6s,baz=236,slow=8.2,SNR=12							
BBOO	**Buckleboo**	**57.64**	**138**	P		**P**	**20 08 24.3**	**-0.7**
YAK	**Yakutsk**	**59.64**	**19**	P		**P**	**20 08 38.1**	**-0.3**
KIRV	**Kirov**	**60.24**	**335**	P		**P**	**20 08 42.8**	**+0.2**
	comp=Z,5.5nm,0.4s,baz=109,slow=5.5,SNR=4.4							
STKA	**Stephens Creek**	**60.93**	**134**	P		**P**	**20 08 46.5**	**-1.2**
	comp=Z,0.9nm,0.2s,baz=315,slow=7.0,SNR=7.0							
STKA	**Stephens Creek**	**60.93**	**134**	P		**P**	**20 08 46.8**	**-1.0**
NRIK	**Noril'sk**	**60.94**	**358**	P		**P**	**20 08 46.8**	**-0.4**
	comp=Z,2.6nm,0.5s,baz=163,slow=4.7,SNR=3.6							
EIDS	**Eidsvold**	**65.29**	**123**	P		**P**	**20 09 16.5**	**-0.2**
KARP	**Karpathos**	**65.93**	**305**	P		**P**	**20 09 20.6**	**-0.2**
MA2	**Magadan**	**66.53**	**28**	P		**P**	**20 09 23.8**	**-0.2**
	comp=Z,6.3nm,0.8s,baz=63,slow=1.4,SNR=4.2							
MA2	**Magadan**	**66.53**	**28**	P		**P**	**20 09 24.2**	**+0.1**
MA2				IAmb		IAmb	20 09 32.8	
	comp=Z,12nm,1.0s							
TOO	**Toolangi**	**66.69**	**137**	P		**P**	**20 09 26.1**	**+0.6**
TOO				IAmb		IAmb	20 09 38.6	
	comp=Z,18nm,1.4s							
CAN	**Canberra**	**68.00**	**133**	P		**P**	**20 09 34.1**	**+0.3**
CAN				IAmb		IAmb	20 09 47.3	
	comp=Z,15nm,1.3s							
MLR	**Muntele Rosu**	**68.34**	**316**	P		**P**	**20 09 35.2**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=161,slow=9.1,SNR=3.9							
SEY	**Seymchan**	**68.65**	**25**	P		**P**	**20 09 36.4**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=236,slow=5.9,SNR=6.7							
LIT	**Litokhoron**	**70.11**	**310**	P		**P**	**20 09 45.5**	**-1.4**
AGG	**Agios Georgios**	**70.14**	**308**	P		**P**	**20 09 44.4**	**-2.6**
AGG				IAmb		IAmb	20 09 47.6	
	comp=Z,14nm,1.5s							
LVZ	**Lovozero**	**70.81**	**340**	P		**P**	**20 09 50.3**	**-0.3**
LVZ				IAmb		IAmb	20 09 51.1	
	comp=Z,12nm,0.8s							
FIA1	**FINESS Array S**	**71.92**	**332**	P		**P**	**20 09 56.8**	**-0.5**
FIA1				IAmb		IAmb	20 09 57.8	
	comp=Z,7.4nm,0.8s							
FINES	**FINESS Array B**	**71.92**	**332**	P		**P**	**20 09 57.0**	**-0.3**
	comp=Z,3.4nm,0.5s,baz=104,slow=6.9,SNR=29							
KEV	**Kevo**	**74.09**	**341**	P		**P**	**20 10 10.0**	**+0.1**
KEV				IAmb		IAmb	20 10 13.7	
	comp=Z,20nm,1.5s							
ARCES	**ARCESS Array B**	**74.52**	**340**	P		**P**	**20 10 12.5**	**0.0**
	comp=Z,3.8nm,0.7s,baz=105,slow=5.8,SNR=36							
ARE0	**ARCESS Array S**	**74.52**	**340**	P		**P**	**20 10 12.9**	**+0.4**
ARE0	**ARCESS Array S**	**74.52**	**340**	*eP*		**P**	**20 10 12.9**	**+0.4**
BOSA	**Boshof**	**75.39**	**238**	P		**P**	**20 10 19.1**	**+0.7**
BOSA				IAmb		IAmb	20 10 34.9	
	comp=Z,12nm,1.4s							
HAMF	**Hammerfest**	**75.45**	**341**	*eP*		**P**	**20 10 18.1**	**+0.3**
TRO	**Tromso**	**76.78**	**340**	*eP*		**P**	**20 10 25.4**	**+0.1**
GERES	**GERESS Array B**	**77.00**	**318**	P		**P**	**20 10 26.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=84,slow=5.5,SNR=9.4							
N2IH	**Innhavet**	**77.56**	**338**	*eP*		**P**	**20 10 29.9**	**+0.2**
FAUS	**Fauske**	**77.73**	**337**	*eP*		**P**	**20 10 30.8**	**+0.1**
N2TV	**TYrnvik**	**77.81**	**337**	*eP*		**P**	**20 10 31.4**	**+0.3**
STEI	**Steigen**	**77.82**	**338**	*eP*		**P**	**20 10 31.0**	**-0.2**
MOR8	**Moi Rana**	**77.91**	**336**	*eP*		**P**	**20 10 31.2**	**-0.6**
NBB30	**Finnes**	**78.28**	**337**	*eP*		**P**	**20 10 33.6**	**0.0**
KONS	**Konsvik**	**78.47**	**336**	*eP*		**P**	**20 10 35.3**	**+0.5**
LOF	**Lofoten**	**78.48**	**338**	*eP*		**P**	**20 10 34.4**	**-0.4**
NC602	**NORSAR Array S**	**78.76**	**330**	P		**P**	**20 10 35.8**	**-0.7**
NC602				IAmb		IAmb	20 10 52.0	
	comp=Z,10nm,1.0s							
NC602	**NORSAR Array S**	**78.76**	**330**	*eP*		**P**	**20 10 35.4**	**-1.1**
NSS	**Namsos**	**78.79**	**334**	*eP*		**P**	**20 10 36.5**	**-0.1**
NB2	**NORSAR Subarra**	**78.94**	**331**	P		**P**	**20 10 36.8**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=94,slow=5.6							
NB2	**NORSAR Subarra**	**78.94**	**331**	P		**P**	**20 10 36.8**	**-0.7**
	baz=94,slow=5.6							
NOA	**NORSAR Array B**	**78.94**	**331**	P		**P**	**20 10 37.0**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=94,slow=5.6,SNR=6.0							
MAW	**Mawson**	**78.98**	**191**	P		**P**	**20 10 38.7**	**+1.3**
SPA0	**Spitsbergen Ar**	**79.15**	**348**	P		**P**	**20 10 38.6**	**+0.2**
SPA0	**Spitsbergen Ar**	**79.15**	**348**	*eP*		**P**	**20 10 38.8**	**+0.4**
KONO	**Kongsberg**	**79.70**	**329**	*eP*		**P**	**20 10 41.8**	**+0.2**
DOMB	**Dombas**	**80.00**	**332**	*eP*		**P**	**20 10 43.4**	**+0.1**
BLS5	**Blasjo**	**81.30**	**329**	*eP*		**P**	**20 10 50.5**	**+0.3**
BER	**Bergen**	**81.83**	**330**	*eP*		**P**	**20 10 53.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**89.89**	**283**	P		**P**	**20 11 34.2**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=83,slow=4.7,SNR=4.3							
ESDC	**Sonseca Array**	**90.39**	**310**	P		**P**	**20 11 35.8**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=64,slow=3.9,SNR=6.8							
BPAW	**Bear Paw Mtn.**	**93.19**	**23**	P		**P**	**20 11 49.1**	**+1.1**
PPLA	**Purkeypile**	**93.23**	**25**	P		**P**	**20 11 49.1**	**+0.8**
PPLA				IAmb		IAmb	20 11 58.8	
	comp=Z,5.8nm,1.4s							
VNDA	**Vanda**	**93.61**	**168**	P		**P**	**20 11 49.5**	**0.0**
	comp=Z,0.4nm,0.7s,baz=317,slow=7.9,SNR=2.1							
SKT	**Skwentna**	**93.91**	**25**	P		**P**	**20 11 51.9**	**+0.5**
IL31		**94.43**	**22**	P		**P**	**20 11 53.1**	**-0.5**
IL31				IAmb		IAmb	20 11 54.6	
	comp=Z,2.0nm,0.6s							
ILAR	**Eielson Array**	**94.43**	**22**	P		**P**	**20 11 53.6**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=301,slow=4.3,SNR=13							
SUA	**Susitna One**	**94.47**	**26**	P		**P**	**20 11 54.9**	**+0.9**
KDAK	**Kodiak Island**	**95.23**	**29**	P		**P**	**20 11 57.4**	**0.0**
	comp=Z,2.4nm,0.5s,baz=338,slow=5.4,SNR=1.7							
KDAK	**Kodiak Island**	**95.23**	**29**	P		**P**	**20 11 57.8**	**+0.4**
INK	**Inuvik**	**96.60**	**16**	P		**P**	**20 12 03.9**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=312,slow=16,SNR=3.5							
INK	**Inuvik**	**96.60**	**16**	P		**P**	**20 12 03.9**	**+0.5**
INK				IAmb		IAmb	20 12 05.1	
	comp=Z,4.4nm,1.3s							
NVAR	**Mina Array Bea**	**124.72**	**30**	PKP		**PKiKP**	**20 17 34.4**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=301,slow=3.5,SNR=6.5							
PDAR	**Pinedale Array**	**124.84**	**21**	PKP		**PKiKP**	**20 17 34.2**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=90,slow=0.3,SNR=7.5							
TXAR	**Lajitas Array**	**138.94**	**23**	PKhKP		PKPpre	20 17 52.5	
	comp=Z,0.3nm,0.6s,baz=19,slow=2.0,SNR=4.8							
TXAR				PKP		**PKiKP**	**20 18 03.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=252,slow=0.8,SNR=8.1							
PLCA	**Paso Flores**	**144.88**	**201**	PKP		**PKPdf**	**20 18 11.3**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=176,slow=8.2,SNR=5.8							
PLCA	**Paso Flores**	**144.88**	**201**			**PKPdf**	**20 18 10.9**	**0.0**
CPUP	**Villa Florida**	**147.13**	**234**	PKPbc		**PKPbc**	**20 18 17.5**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=92,slow=0.6,SNR=4.6							
LPAZ	**La Paz**	**160.49**	**245**	PKP		**PKPdf**	**20 18 35.0**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=318,slow=2.9,SNR=5.4							
LPAZ	**La Paz**	**160.49**	**245**			**PKPdf**	**20 18 34.9**	**0.0**

BJI **23** *20:05:14.0±0.0,32.6°60N×47.8°80E,h5km,mB5.2/68, mb5.2/78,Ms5.4/82,Ms7 5.2/73*

MOS **23** *20:05:16.6±1.1,32.6°65N×47.7°78E,h15km,mb5.5/47, MS4.7/83,Error ellipse: s-maj=3.9km s-min=2.9km az=107.4*

NEIC **23** *20:05:17.9,32.6°69N×47.7°80E,h14km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr6.11; Mθθ-4.27; Mφφ-1.84; Mrθ-1.08; Mθφ3.65; Mφr0.02; Fault plane solution: Mo6.63000×10¹⁶ NP1:φ₁132.33000°, δ41.46000°,λ99.70000°. NP2:φ₂299.47000°,δ49.26000°, λ81.53000°. Principal axes: T 6.2379, Plg82.0000°, Azm157.0000°; N 0.7263, Plg6.0000°, Azm305.0000°; P -6.9642, Plg4.0000°, Azm35.0000°;*

NEIC **23** *20:05:18.4±1.1,32.6°67N±0.06×47.7°77E±0.07,h14km±1km Error ellipse: s-maj=10.4km s-min=8.1km az=137.0*

ISN **23** *20:05:18.6±1.0,32.7°73N×47.8°82E,h16km±6km,ML5.5*

GII **23** *20:05:18.3±0.0,32.6°65N×47.7°78E,h10km*

TEH **23** *20:05:18.8,32.7°72N×47.7°78E,h19km,ML5.5*

IDC **23** *20:05:19.9±1.2,32.7°70N×47.8°84E,h22km±6km,mb5.0/45, mb1 5.0/53,mb1mx5.0/59,mbtmp5.1/53,ML5.0/5,MS4.7/34, Ms1 4.7/34,ms1mx4.6/48,Error ellipse: s-maj=10.2km s-min=8.0km az=175.0*

DSN **23** *20:05:19.8±0.6,32.5°50N×48.0°05E,h10km,mb5.7/5,Error ellipse: s-maj=10.7km s-min=5.5km az=62.0*

GCMT **23** *20:05:19.7±0.1,32.5°7N±0.0°1×47.6°64E±0.0°1,h19km, MW5.4/131,Moment Tensor Solution. s103,c166; s131,c245; Duration: 1ś2 Moment tensor: Scale 10¹⁷ Nm; Mrr0.73±.02; Mθθ-0.48±.02; Mφφ-0.25±.02; Mrθ0.63±.04; Mθφ1.05±.01; Mφr0.24±.04; Best double couple: Mo1.40100×10¹⁷ NP1:φ₁347.00000°,δ52.00000°, λ149.00000°. NP2:φ₂98.00000°,δ66.00000°,λ43.00000°. Principal axes: T 1.3300, Plg47.0000°, Azm319.0000°; N 0.1400, Plg42.0000°, Azm122.0000°; P -1.4710, Plg9.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

THR **23** *20:05:20.5±0.5,32.6°64N×47.7°73E,h40km±2km,ML5.5*

OMAN **23** *20:05:21.0,32.7°37N×47.9°99E,h10km,mb6.8/17,ms5.0/2*

PDG **23** *20:05:23.0,32.7°40N×46.5°50E,h33km,mb5.4/8*

KLM **23** *20:05:33.0,32.7°74N×47.7°74E,h142km,mb5.3*

BGR **23** *20:05:51.2±0.0,34.6°7N×44.4°48E,h33km,mb5.3, mB_BB5.5,Ms4.5*

ISC 23 20:05:19.0±0.4,32°67N±0°02×47°78E±0°02,h16km±1km, h17km:pP-P,n1715,σ1ś69/1674,mb5.4/383,MS4.9/376, 137C-34D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.42**	**271**	*e*Pg	**Pg**	**20 05 27.3**	**-0.2**
IKFM	**Kafar-mosalman**	**0.85**	**4**	*e*Pg	**Pb**	**20 05 34.5**	**-0.8**
IKFM				*e*		20 05 54.5	
IKFM	**Kafar-mosalman**	**0.85**	**4**	Pg	**Pb**	**20 05 34.5**	**-0.8**
IKMR	**Kamar-syah**	**0.98**	**31**	*e*Pg	**Pb**	**20 05 36.4**	**-1.1**
IKMR				*e*		20 06 00.6	
IKMR	**Kamar-syah**	**0.98**	**31**		**Pb**	**20 05 36.4**	**-1.1**
SHGR	**Shooshtar-Gavs**	**1.03**	**123**	*e*Pg	**Pg**	**20 05 40.2**	**+1.2**
SHGR				*e*Sg	**Sg**	**20 05 54.8**	**+2.4**
SHGR	**Shooshtar-Gavs**	**1.03**	**123**	*e*Pg	**Pg**	**20 05 40.2**	**+1.2**
SHGR	**Shooshtar-Gavs**	**1.03**	**123**		**Pg**	**20 05 40.1**	**+1.2**
IDOB	**Doab**	**1.16**	**17**	*e*Pg	**Pn**	**20 05 40.0**	**-0.7**
IDOB	**Doab**	**1.16**	**17**		**Pn**	**20 05 39.9**	**-0.7**
BMDN	**Meydan**	**1.33**	**41**	*e*Pg	**Pn**	**20 05 42.9**	**0.0**
BMDN				*e*		20 06 09.7	
BMDN	**Meydan**	**1.33**	**41**		**Pn**	**20 05 42.8**	**-0.1**
IKOM	**Komasi**	**1.51**	**351**	*e*Pg	**Pn**	**20 05 46.6**	**+1.1**
IKOM				*e*		20 06 15.0	
IKOM	**Komasi**	**1.51**	**351**	Pg	**Pn**	**20 05 46.6**	**+1.1**
AHWZ	**Ahwaz**	**1.53**	**151**	*e*Pg	**Pb**	**20 05 47.8**	**+1.0**
IBDR	**Badra**	**1.62**	**286**	*e*Pg	**Pb**	**20 05 49.0**	**+0.6**
IBDR				*e*Sg	**Sb**	**20 06 10.0**	**+1.5**
IBDR				AML	AML	20 06 16.0	
	comp=E,64μm,0.6s						
IBDR				AML	AML	20 06 16.2	
	comp=N,60μm,0.7s						
HSAM	**Samen**	**1.68**	**24**	*e*Pg	**Pn**	**20 05 49.3**	**+1.4**
HSAM				*e*		20 06 18.7	
KCHF	**Cheshme Sefid,**	**1.71**	**339**	*e*Pg	**Pn**	**20 05 49.7**	**+1.4**
KCHF				*e*		20 06 20.5	
KER	**Kermanshah**	**1.79**	**343**	P	**Pb**	**20 05 51.3**	**-0.2**
KER	**Kermanshah**	**1.79**	**343**	*e*Pn	**Pn**	**20 05 51.1**	**+1.8**
IBZA	**Bozab**	**1.79**	**2**	*e*Pg	**Pb**	**20 05 51.6**	**0.0**
IBZA				*e*		20 06 19.5	
IGHG	**Ghaleghazi**	**1.94**	**329**	*e*Pn	**Pn**	**20 05 52.9**	**+1.5**
IGHG				*e*		20 06 38.9	
IVIS	**Veis**	**2.00**	**337**	*e*Pn	**Pn**	**20 05 53.6**	**+1.4**
IVIS				*e*		20 06

ASF	Jabal al Asfar	9.21 270	Pn	Pn	20 07 30.1	-1.2		
	comp=N,15nm,0.3s,baz=42,slow=9.6,SNR=98							
ASF			Sn	Sn	20 09 09.1	-5.5		
	comp=N,9.6nm,0.3s,baz=268,slow=6.6,SNR=3.4							
ASF			Lg	Lg	20 10 22.3			
	comp=N,18nm,0.3s,baz=191,slow=13,SNR=4.8							
SLWR	Sila	9.24 157	*e*Pn	Pn	20 07 30.8	-0.7		
ITEG	Tejag	9.24 86	*e*Pn	Pn	20 07 33.1	+1.5		
DRN	Derbent	9.35 3	*i* P	Pn	20 07 38.1	+5.2		
TBLG	Delisi	9.36 346	P	Pn	20 07 36.2	+3.0		
TBLG	Delisi	9.36 346	Pn	Pn	20 07 36.1	+3.0		
AKH	Akhalkalaki	9.37 340	P	Pn	20 07 36.3	+2.9		
AKH	Akhalkalaki	9.37 340	Pn	Pn	20 07 36.3	+2.9		
KOPT	Kop Dagi	9.39 323	Pn	Pn	20 07 34.6	+0.8		
AFRZ	Afriz	9.46 82	*e*Pn	Pn	20 07 36.6	+1.9		
ISFR	Sfrayin	9.46 60	*e*Pn	Pn	20 07 36.8	+2.0		
IKOO	Kooshah	9.48 88	*e*Pn	Pn	20 07 35.0	0.0		
GNBR	Gunib	9.72 356	*i* P	Pn	20 07 41.3	+3.2		
IKRD	Kardeh	9.73 62	*e*Pn	Pn	20 07 50.8	+12		
GHWR	Ruwais	9.77 151	*e*Pn	Pn	20 07 38.5	-0.2		
GAZ	Gaziantep	9.77 300	Pn	Pn	20 07 37.6	-1.2		
KHNJ	Kahnooj	9.78 116	*e*Pn	Pn	20 07 38.9	-0.1		
SHME	Shamm	9.83 130	*i* P	Pn	20 07 37.5	-2.2		
	SNR=15							
SHME			S	Sn	20 09 25.8	-4.0		
IAKL	Akhelmad	9.85 64	*e*Pn	Pn	20 07 42.1	+1.9		
GEYT	Alibeck	9.94 55	Pn	Pn	20 07 43.7	+2.6		
	comp=N,1.5nm,0.3s,baz=237,slow=10,SNR=40							
GEYT			LR	LR	20 11 52.7			
	comp=N,11μm,18.9s,baz=245,slow=40							
GYA0	ALIBECK ARRAY	9.94 55	P	Pn	20 07 42.0	+0.9		
GYA0B	ALIBECK ARRAY	9.94 55	Pn	Pn	20 07 43.0	+1.9		
IPAY	Payeh	9.98 65	*e*Pn	Pn	20 07 44.6	+2.7		
KEMA	Kemaliye	9.99 314	*e*Pn	Pn	20 07 42.2	+0.3		
IMON	Monand	10.00 84	*e*Pn	Pn	20 07 44.9	+2.7		
HWQ	Hawqa	10.01 282	*e*P	Pn	20 07 47.9	+5.7		
BANOM	Banah	10.02 130	*i* P	Pn	20 07 40.6	-1.7		
	SNR=77							
BANOM			S	Sn	20 09 29.4	-5.0		
BANOM	Banah	10.02 130	P	Pn	20 07 41.4	-0.8		
	SNR=77							
BTLR	Botlikh	10.05 353	*i* P	Pn	20 07 47.4	+4.8		
RCY	Rachaya	10.06 278	*e*P	Pn	20 07 42.5	-0.3		
IEMG	Emamgholi	10.09 59	*e*Pn	Pn	20 07 45.8	+2.4		
SHBL	Chebaa	10.13 277	*e*P	Pn	20 07 43.4	-0.5		
KELT	Kelkit	10.14 320	*e*Pn	Pn	20 07 46.5	+2.5		
NATI	Neve Ativ	10.14 277	Pn	Pn	20 07 43.6	-0.2		
IDAH	Dahanechah	10.19 86	*e*Pn	Pn	20 07 46.7	+2.0		
QRWL	Qaraoun	10.19 278	*e*P	Pn	20 07 44.5	-0.1		
BHL	Bhannes	10.22 280	*e*P	Pn	20 07 45.1	0.0		
AJN	Ajban	10.26 140	*i* P	Pn	20 07 44.9	-0.6		
	SNR=25							
AJN	Ajban	10.26 140	P	Pn	20 07 45.7	+0.1		
	SNR=25							
MAK	Makhachkala	10.27 359	*e*P	Pn	20 07 48.0	+2.4		
MAK			*e*S	Sn	20 09 46.6	+6.3		
MAK			pmax	pmax				
	comp=Z,569nm,1.4s							
MAK			MLR	MLR				
	comp=Z,8μm,15.0s							
DQRL	Deir Qamar	10.29 279	*e*P	Pn	20 07 46.4	+0.5		
NAZ	Nazwa, Dubai	10.31 136	*i* P	Pn	20 07 45.4	-0.8		
	SNR=33							
NAZ	Nazwa, Dubai	10.31 136	P	Pn	20 07 46.0	-0.2		
	SNR=33							
MSFE	Esma-Masafi	10.33 133	*i* P	Pn	20 07 45.0	-1.6		
	SNR=18							
DBC	Dubki	10.36 356	*i* P	Pn	20 07 51.2	+4.4		
HMDT	Nahal Hemdat	10.36 271	Pn	Pn	20 07 47.8	+0.9		
MMAI	Mount Meron Ar	10.42 275	Pn	Pn	20 07 47.6	-0.1		
	comp=Z,4.3nm,0.3s,baz=84,slow=17,SNR=29							
MMAI			Lg	Lg	20 10 57.6			
	comp=Z,19nm,0.3s,baz=95,slow=36,SNR=3.0							
MMAI			LR	LR	20 12 48.7			
	comp=Z,4μm,21.6s,baz=90,slow=43							
KARJ	KARJ	10.43 265	Pn	Pn	20 07 47.3	-0.4		
MMLI	Mount Malkishu	10.43 272	Pn	Pn	20 07 48.5	+0.6		
FAQ	Al Faqa, Dubai	10.46 137	*i* P	Pn	20 07 46.8	-1.4		
	SNR=8.9							
GHAJ	Ghor Haditha	10.46 266	Pn	Pn	20 07 49.0	+0.8		
MDH	Madha	10.46 132	*i* P	Pn	20 07 46.4	-1.9		
	SNR=13							
MDH	Madha	10.46 132	P	Pn	20 07 47.2	-1.1		
	SNR=18							
NHDN	Nehbandan	10.49 94	*e*Pn	Pn	20 07 50.9	+2.1		
ZEI	Tsey	10.55 344	*e*P	Pn	20 07 55.2	+5.6		
ZEI			pmax	pmax				
	comp=Z,72nm,1.5s							
DSI	Dead Sea	10.57 267	Pn	Pn	20 07 50.2	+0.4		
BLGI	Bet Lehem HaGe	10.61 274	Pn	Pn	20 07 50.9	+0.6		
HNTI	Hanita	10.61 276	Pn	Pn	20 07 50.7	+0.4		
GROC	Groznyy	10.63 352	*e*P	Pn	20 07 50.8	+0.3		
GROC			*e*S	Sn	20 09 52.6	+3.5		
GROC			pmax	pmax				
	comp=Z,59nm,0.8s							
GROC			MLR	MLR				
	comp=Z,4μm,9.0s							
UOSS	Minazif	10.67 134	*i* P	Pn	20 07 48.5	-2.6		
	SNR=25							
UOSS	Minazif	10.67 134	Pn	Pn	20 07 49.5	-1.6		
HATD	Hatta, Dubai	10.71 135	*i* P	Pn	20 07 50.0	-1.7		
	SNR=44							
HATD	Hatta, Dubai	10.71 135	P	Pn	20 07 51.2	-0.5		
	SNR=44							
SLTI	Sal'it	10.77 271	Pn	Pn	20 07 52.9	+0.4		
ASHO	Ashiyiah	10.77 136	*i* P	Pn	20 07 50.9	-1.7		
	SNR=34							
OFRI	`Ofer	10.79 273	Pn	Pn	20 07 53.2	+0.4		
IMYA	Miami	10.80 67	*e*Pn	Pn	20 07 55.9	+2.8		
YTIR	Yattir	10.83 266	Pn	Pn	20 07 53.9	+0.5		
JRKH	Jarkhoshk	10.88 69	*e*Pn	Pn	20 07 56.2	+2.1		
ZFRI	Zfri	10.95 262	Pn	Pn	20 07 55.3	+0.4		
ALNE	Al Ain	11.08 139	*i* P	Pn	20 07 55.9	-0.9		
	SNR=98							
PRNI	Paran	11.15 261	Pn	Pn	20 07 57.8	+0.1		
HRFI	Mount Harif	11.21 260	Pn	Pn	20 07 58.3	-0.2		
AQBJ	Aqaba	11.29 258	Pn	Pn	20 07 59.5	-0.1		
EIL	Elat	11.39 258	Pn	Pn	20 08 00.2	-0.8		
	comp=Z,9.3nm,0.3s,baz=92,slow=4.7,SNR=47							
EIL			Lg	Lg	20 11 27.6			
	comp=Z,22nm,0.3s,baz=73,slow=13,SNR=5.1							
EIL			LR	LR	20 13 26.3			
	comp=Z,6μm,19.2s,baz=83,slow=42							
EIL	Elat	11.39 258	Pn	Pn	20 08 00.5	-0.5		
KRMI	Paran Flat	11.44 261	Pn	Pn	20 08 01.8	+0.1		
SOHO	SOHO	11.47 136	*i* P	Pn	20 08 00.1	-2.0		
	SNR=29							
KZIT	Kziot	11.53 265	Pn	Pn	20 08 02.8	0.0		
KBZ	Khabaz	11.68 342	Pn	Pn	20 08 09.2	+4.4		
	comp=Z,0.2nm,0.3s,baz=185,slow=8.7,SNR=16							
KBZ			LR	LR	20 12 41.6			
	comp=Z,3μm,19.1s,baz=150,slow=38							
KBZ			ScP	ScP	20 17 25.7	-0.6		
	comp=Z,0.1nm,0.3s,baz=134,slow=3.4,SNR=4.6							
TOKA	Tokat	11.87 313	Pn	Pn	20 08 08.6	+1.1		
KVAR	Kislovodsk Arr	11.95 342	Pn	Pn	20 08 14.0	+5.4		
	baz=68,slow=23,SNR=11							
KVAR			LR	LR	20 12 34.0			
	comp=Z,11μm,18.8s,baz=78,slow=36							
KIV	Kislovodsk	11.95 342	⇑P	Pn	20 08 10.9	+2.3		
KIV	Kislovodsk	11.95 342	*i* P	Pn	20 08 12.2	+3.5		
	SNR=17							
KIV	Kislovodsk	11.95 342	*e*P	Pn	20 08 10.9	+2.3		
KIV			*e*S	Sn	20 10 27.6	+6.0		
KIV			pmax	pmax				
	comp=Z,143nm,1.1s							
KIV			MLR	MLR				
	comp=Z,5μm,11.0s							
KIV	Kislovodsk	11.95 342	Pn	Pn	20 08 09.4	+0.7		
ARXR	Arkhyz	12.01 337	*i* P	Pn	20 08 12.3	+2.8		
ARQ	Araqi	12.08 138	P	Pn	20 08 09.9	-0.6		
	SNR=52							
ARQ			P	Pn	20 08 09.9	-0.6		
	SNR=52							
HRA	Herat	12.19 78	Pn	Pn	20 08 13.0	+0.9		
CSS	Mathiatis	12.23 285	Pn	Pn	20 08 13.4	+0.9		
CSS	Mathiatis	12.23 285	Pn	Pn	20 08 13.2	+0.7		
HOQ	Hoqain	12.35 135	P	Pn	20 08 13.4	-0.7		
	SNR=17							
HOQ			P	Pn	20 08 13.4	-0.7		
	SNR=17							
SOC	Sochi	12.60 332	*c* i P	Pn	20 08 18.6	+1.2		
SOC			*e*		20 10 38.4			
LEF	Lefka	12.61 285	⇑P	Pn	20 08 20.6	+3.0		
BIDO	Bidbid	12.90 132	P	Pn	20 08 20.1	-1.5		
	SNR=7.1							
GOF	Gofitskoye	12.90 345	*i* P	Pn	20 08 25.0	+3.4		
GOF			pmax	pmax				
	comp=Z,230nm,1.0s							
SMDO	Samad	13.19 134	P	Pn	20 08 23.7	-2.0		
	SNR=35							
BR131	Keskin Array S	13.41 306	P	Pn	20 08 30.0	+1.4		
BR131	Keskin Array S	13.41 306	Pn	Pn	20 08 29.9	+1.4		
BRTR	Keskin Array B	13.41 306	Pn	Pn	20 08 30.8	+2.2		
	comp=Z,0.2nm,0.3s,baz=128,slow=12,SNR=66							
BRTR			LR	LR	20 14 02.4			
	comp=Z,2μm,21.1s,baz=92,slow=39							
BRTR			ScP	ScP	20 17 28.8	-0.4		
	comp=Z,0.1nm,0.3s,baz=156,slow=5.6,SNR=3.6							
WSAR	Wadi Sarin	13.42 132	Pn	Pn	20 08 26.0	-2.7		
	comp=Z,6.6nm,0.3s,baz=320,slow=7.9,SNR=26							
WSAR			Sn	Sn	20 10 46.8	-11		
	comp=Z,2.7nm,0.3s,baz=142,slow=21,SNR=1.5							
WSAR			LR	LR	20 15 35.4			
	comp=Z,8μm,18.2s,baz=330,slow=46							
WSAR	Wadi Sarin	13.42 132	P	Pn	20 08 26.3	-2.4		
	SNR=8.3							
JMDO	Jabal Madar	13.74 136	P	Pn	20 08 31.6	-1.6		
	SNR=25							
ILGA	Ilgaz	14.01 311		Pn	20 08 38.8	+1.9		
BR231	Keskin MP Arra	14.05 305		Pn	20 08 37.5	+0.1		
WBK	Wadi Bani Khal	14.09 133	P	Pn	20 08 36.9	-1.0		
	SNR=32							
ANN	Anapa	14.54 329	*e*P	Pn	20 08 44.8	+0.9		
ANN			*e*S	Sn	20 11 31.9	+7.3		
ANN			pmax	pmax				
	comp=Z,124nm,1.4s							
ANN			MLR	MLR				
	comp=N,5μm,15.0s							
ANN			MLR	MLR				
	comp=Z,5μm,14.0s							
ANN			MLR	MLR				
	comp=E,3μm,13.0s							
MHTO	MHTO	14.76 140	P	Pn	20 08 44.6	-2.4		
	SNR=64							
BOLV	Bolvadin	14.94 299		Pn	20 08 49.9	+0.3		
ISP	Isparta	15.00 295	P	Pn	20 08 51.8	+1.4		
ISP	Isparta	15.00 295	Pn	Pn	20 08 51.8	+1.4		
ELL	Elmali	15.25 290	P	Pn	20 08 55.5	+1.8		
ELL			pmax	pmax				
	comp=Z,586nm,1.0s							
ELL	Elmali	15.25 290	P	Pn	20 08 55.5	+1.8		
DQM	DQM	15.40 143	P	Pn	20 08 53.3	-2.4		
	SNR=68							
AKAS	Kas	15.41 288		Pn	20 08 58.0	+2.3		
MDUB	Mudurnu	15.41 305		Pn	20 08 54.7	-1.1		
FETY	Fethiye	15.88 290	P	Pn	20 08 59.0	-2.8		
SHAO	Shalim	16.21 152	*i* P	Pn	20 09 02.6	-3.5		
	SNR=28							
SIM	Simferopol'	16.21 323	*e*P	Pn	20 09 04.0	-1.9		
SIM			pmax	pmax				
	comp=Z,8.0nm,0.4s							
ARG	Arkhangelos	16.59 288	P	P	20 09 13.7	+0.4		
KULA	Kula-Manisa	16.60 296	P	Pn	20 09 10.7	-0.3		
YER	Yerkesik	16.60 291	P	Pn	20 09 10.4	-0.6		
YER	Yerkesik	16.60 291	P	Pn	20 09 11.7	+0.7		
MANT	Manisa	16.67 296		Pn	20 09 12.2	+0.2		
KARP	Karpathos	17.31 285	P	P	20 09 21.5	+0.2		
KARP			IAmb	IAmb	20 09 25.8			
	comp=Z,280nm,0.8s							
BLCB	Balcova	17.80 294	P	Pn	20 09 24.3	-1.7		
KBL	Kabul	17.81 78	P	P	20 09 27.4	+0.4		
	SNR=89							
KBL	Kabul	17.81 78	P	Pn	20 09 27.1	+0.8		
KBL			pmax	pmax				
	comp=Z,169nm,1.1s							
KBL	Kabul	17.81 78	P	Pn	20 09 27.1	+0.8		
STIA	Sitia Lasithi	18.17 284	P	P	20 09 32.9	+2.2		
CHGR	Chuyangaron	18.35 65	P	P	20 09 32.2	-0.6		
CHGR			IAmb	IAmb	20 09 48.3			
	comp=Z,169nm,0.7s							
AMGA	Amorgos Island	18.45 289	P	P	20 09 33.4	-0.4		
CHOS	Chios island	18.56 294	P	P	20 09 34.9	-0.2		
NPS	Neapolis	18.57 284	P	P	20 09 35.1	0.0		
PRK	Paraskevi	18.59 297	P	Pn	20 09 36.3	+0.8		
LAST	Lasithi	18.67 284	P	P	20 09 36.3	0.0		
SANT	Santorini	18.75 288	⇑P	P	20 09 36.8	-0.3		
SANT	Santorini	18.75 288	P	P	20 09 36.5	-0.7		
APE	Apeiranthos	18.77 290	P	P	20 09 36.3	-1.0		
APE	Apeiranthos	18.77 290	⇑P	P	20 09 37.8	+0.5		
APE	Apeiranthos	18.77 290	*i* P	P	20 09 35.1	-2.2		
THR6	Thira Island,	18.80 287	P	P	20 09 35.1	-2.5		
THR3	Thira Island,	18.80 288	P	P	20 09 34.9	-2.7		
THR5	Thira Island,	18.84 288	P	P	20 09 36.3	-1.8		
PSN	Preselentsi	18.88 311	P	P	20 09 36.0	-2.4		
SIGR	SIGRI	18.89 296	P	P	20 09 38.0	-0.6		
ABKAR	Akbulak array	18.90 25	P	P	20 09 38.9	+0.2		
IOSP	Ios island	18.92 289	P	P	20 09 38.3	-0.7		
MFTR	Murfatlar	18.98 313	⇑P	Pn	20 09 40.5	+0.3		
JURR	Jurilovca	19.01 315	⇑P	P	20 09 39.6	-0.2		
VRH	Novokhopyorsk	19.04 348	*e*P	P	20 09 39.3	-0.9		
VRH			*e*S	Sn	20 13 09.6	-4.2		
VRH			pmax	pmax				
	comp=Z,150nm,0.6s							
VRH			smax	smax				
	comp=E,500nm,8.7s							
VRH			MLR	MLR				
	comp=Z,3μm,14.0s							
EDRB	Edirne	19.05 305	P	P	20 09 39.7	-0.6		
TIRR	Tirgusor	19.12 314	⇓P	P	20 09 40.5	-0.6		
TIRR	Tirgusor	19.12 314	⇓P	P	20 09 40.5	-0.6		
TIRR	Tirgusor	19.12 314	P	P	20 09 41.4	+0.3		
TIRR			pmax	pmax				
	comp=Z,181nm,0.9s							
TIRR	Tirgusor	19.12 314	P	P	20 09 41.4	+0.3		
TIRR			IAmb	IAmb	20 09 49.2			
	comp=Z,181nm,0.9s							
IDI	Anoyia	19.16 284	P	P	20 09 42.5	+0.8		
	comp=Z,6.4nm,0.3s,baz=87,slow=11,SNR=78							
IDI			ScP	ScP	20 17 40.0	-0.4		
	comp=Z,0.9nm,0.3s,baz=173,slow=3.6,SNR=5.6							
IDI	Anoyia	19.16 284	P	Pn	20 09 42.8	+0.2		
IDI	Anoyia	19.16 284	⇑P	P	20 09 42.3	+0.7		
IDI	Anoyia	19.16 284	P	P	20 09 42.4	+0.7		
IDI			IAmb	IAmb	20 09 50.3			
	comp=Z,194nm,0.7s							
PRD	Provadia	19.16 309	P	P	20 09 41.0	-0.5		
TAS	Tashkent	19.20 57	P	P	20 09 41.9	-0.1		
TAS			pmax	pmax				
	comp=Z,194nm,1.0s							
TAS	Tashkent	19.20 57	P	P	20 09 41.9	-0.1		
TAS			IAmb	IAmb	20 09 46.8			
	comp=Z,194nm,1.0s							
ALN	Alexandroupoli	19.21 301	P	P	20 09 43.1	+1.0		
ALN	Alexandroupoli	19.21 301	P	P	20 09 42.0	-0.1		
ALN			pmax	pmax				
	comp=Z,88nm,0.8s							
ALN	Alexandroupoli	19.21 301	P	P	20 09 42.0	-0.1		
TLCR		19.28 316	⇑P	P	20 09 42.5	-0.3		
AKTO	Aktyubinsk	19.30 20	P	P	20 09 42.9	-0.1		
	comp=Z,6.6nm,0.3s,baz=208,slow=11,SNR=94							
AKTO			LR	LR	20 19 16.0			
	comp=Z,2μm,18.6s,baz=201,slow=43							
GAR	Garm	19.31 65	P	P	20 09 43.4	0.0		
GAR			IAmb	IAmb	20 09 52.4			
	comp=Z,182nm,0.7s							
VORD	Divnogorie	19.32 344	*e*P	P	20 09 42.4	-0.8		
VORD			*e*S	Sn	20 13 17.3	-3.1		
VORD			pmax	pmax				
	comp=Z,200nm,0.9s							
VORD			smax	smax				
	comp=E,280nm,6.2s							
VORD			MLR	MLR				
	comp=Z,3μm,14.0s							
ICOR	Ion Corvin	19.33 312	⇑P	P	20 09 44.0	+0.6		
TOPG	Topolog	19.37 315	⇑P	P	20 09 43.4	-0.4		
TLBR	Topalu	19.39 313	⇓P	P	20 09 45.0	+0.9		
HARR	Harsova	19.54 314	⇑P	P	20 09 46.3	+0.7		
LIA	Limnos Island	19.56 298	P	P	20 09 45.4	-0.5		
VSR	Storozhevoye	19.58 344	*e*P	P	20 09 44.7	-1.3		
VSR			*e*S	S	20 13 16.3	-10		
VSR			pmax	pmax				
	comp=Z,470nm,1.2s							
VSR			smax	smax				
	comp=E,420nm,7.1s							
VSR			MLR	MLR				
	comp=Z,3μm,13.0s							
SERI	Serifos	19.61 290	P	P	20 09 45.6	-0.9		
MHLO	Agia Marina, M	19.63 288	P	P	20 09 46.8	+0.1		
RDO	Rodhopi	19.66 302	P	P	20 09 47.9	+0.9		
CFR	Carcaliu	19.67 315	⇑P	P	20 09 46.8	-0.3		
VAM	Vamos	19.72 284	P	P	20 09 47.6	-0.2		
RASA	Rasa	19.79 312	⇓P	P	20 09 49.5	+1.1		
AMRR	Amara	19.87 313	⇑P	P	20 09 50.4	+1.2		
IMMV	Iera Moni Meta	19.90 285	P	P	20 09 49.9	+0.2		
RAZG	Razgrad	19.90 309	⇑P	P	20 09 50.8	+1.1		
KDZ	Kurdzhali	19.91 303	P	P	20 09 50.5	+0.8		
BTK	Batken	19.93 62	P	P	20 09 50.7	+0.6		
BTK			pmax	pmax				
	comp=Z,105nm,1.0s							
BTK	Batken	19.93 62		P	20 09 50.7	+0.6		
IUG	Iuzhnay	20.00 55	*i* P	P	20 09 51.4	+0.5		
	comp=Z,106nm,1.7s,baz=56							
IUG			*e*S	Sn	20 13 37.5	+0.3		
	baz=56							
IUG			LR	LR	20 18 29.9			
	comp=Z,716nm,9.4s,baz=56							
IUG	Iuzhnay	20.00 55	*i* P	P	20 09 51.3	+0.5		
IUG			*e*S	Sn	20 13 37.4	+0.2		
IUG			pmax	pmax				
	comp=Z,106nm,1.7s							
IUG			MLR	MLR				
	comp=Z,716nm,9.0s							
SCHL	Schela	20.03 316	⇑P	P	20 09 51.7	+0.7		
THAS	Thassos island	20.09 300	P	P	20 09 50.8	-0.9		
KYMI	Kymi, Euboea I	20.12 294	P	P	20 09 52.2	+0.2		
LEHL	Lehliu	20.12 312	⇑P	P	20 09 53.1	+1.1		
KNDR	Palaiochora Ch	20.14 284	P	P	20 09 51.9	-0.4		
SZH	Strazhica	20.16 308	P	P	20 09 52.5	+0.1		
DION	Dionisos Attik	20.16 292	P	P	20 09 53.3	+0.8		
TUDR		20.18 316	⇑P	P	20 09 53.8	+1.3		
PTL	Penteli	20.21 292	P	P	20 09 53.3	+0.2		
PGOR	Pogoanele	20.23 313	⇓P	Pn	20 09 55.0	-0.2		
VARL	Varlezi	20.24 317	⇓P	P	20 09 54.8	+1.5		
ATHU	Athens Univers	20.26 292	P	P	20 09 53.9	+0.3		
MILM	Milestii Mici	20.29 320	⇑P	P	20 09 53.0	-0.9		
ATH	Athens Observa	20.31 292	P	P	20 09 55.0	+0.9		
KIS	Kishinev	20.34 320	⇑*i* P	P	20 09 53.0	-1.4		
	comp=Z,460nm,5.0s							
KIS	Kishinev	20.34 320	⇑P	P	20 09 53.4	-1.0		
KIS	Kishinev	20.34 320	*c i* P	P	20 09 53.0	-1.4		
KIS			*e*		20 10 13.0			
KIS			*e*S	S	20 13 38.0	-3.6		
KIS			*e*		20 13 42.0			
KIS			pmax	pmax				
	comp=Z,460nm,5.0s							
KIS			MLR	MLR				
	comp=E,510nm,15.0s							
AOS	Alonnisos	20.38 295	P	P	20 09 55.0	+0.1		
RZN	Rozhen	20.41 303	P	P	20 09 55.0	-0.4		
GRER		20.48 314	⇑P	P	20 09 56.4	+0.5		
PETR	Petresti	20.50 315	⇓P	P	20 09 57.0	+0.8		
SGRR	Singureni	20.54 310	⇓P	P	20 09 57.9	+1.3		
PLD	Plovdiv	20.56 304	P	P	20 09 57.5	+0.7		
OUR	Ouranopolis	20.56 299	P	P	20 09 56.2	-0.6		
BIR	Birlad	20.57 317	⇓P	P	20 09 58.2	+1.3		
SULR		20.57 312	⇓P	P	20 09 58.4	+1.5		
GHRR		20.58 316	⇑P	P	20 09 57.4	+0.4		
ISR	Istrita	20.61 313	⇓P	P	20 09 59.0	+1.6		
DID	Didima	20.63 290	P	P	20 09 55.9	-1.8		
VILL	Villia	20.66 292	P	P	20 09 57.9	0.0		
KTHA	Kythira Island	20.68 287	P	P	20 09 58.4	+0.3		
KK31	Karatay Array	20.68 53	P	P	20 09 58.0	-0.2		
KK31			pmax	pmax				
	comp=Z,115nm,1.0s							
KK31	Karatay Array	20.68 53	P	P	20 09 58.0	-0.2		
KKAR	Karatay Array	20.68 53	P	P	20 09 57.7	-0.5		
KKAR			pmax	pmax				
	comp=Z,115nm,1.0s							
KKAR	Karatay Array	20.68 53	P	P	20 09 57.7	-0.5		
PAIG	Paliouri	20.69 297	P	P	20 09 57.9	-0.4		
VASR	Vaslui	20.69 318	⇑P	Pn	20 10 00.2	-0.4		
ZIMR		20.69 308	⇑P	P	20 09 59.9	+1.6		
SKIA	Skiathos	20.70 295	P	P	20 09 57.9	-0.5		
VLI	Veliai	20.80 288	P	P	20 09 57.9	-1.6		
SECR		20.86 313	⇑P	P	20 10 01.6	+1.6		
VRI	Vrincioaia	20.88 315	⇑P	P	20 10 00.5	+0.2		
VRI	Vrincioaia	20.88 315	P	P	20 10 01.5	+1.2		
VRI			pmax	pmax				
	comp=Z,357nm,1.1s							
LTK	Loutraki	20.91 292	P	Pn	20 10 04.1	+0.9		
NEHR	Nehoiu	20.91 314	⇑P	P	20 10 02.2	+1.5		
PLOR	Plostina	20.92 315	⇑P	P	20 10 01.1	+0.4		
NVR	Nevrokopi	20.92 301	P	P	20 10 00.1	-0.7		
LPSR	Galich'ya Gora	20.92 345	*e*P	P	20 09 59.5	-1.1		
LPSR			*e*S	S	20 13 46.7	-6.4		
LPSR			pmax	pmax				
	comp=Z,600nm,0.7s							
LPSR			smax	smax				
	comp=E,760nm,9.6s							
LPSR			MLR	MLR				
	comp=Z,2μm,17.0s							
XOR	Xorichti	20.95 296	P	P	20 09 59.6	-1.4		
LKR	Lokris	20.97 293	P	P	20 10 01.9	+0.6		
PLG	Polygyros	20.97 298	P	P	20 10 01.3	0.

AGG	**Agios Georgios**	**21.54**	**294**		P		**P**	**20 10 07.7**	**+0.2**
AGG					IAmb		IAmb	20 10 39.0	
	comp=Z,176nm,1.1s								
OZUR		**21.56**	**315**	⇑	P		**P**	**20 10 08.4**	**+0.8**
MTUR	**Matau**	**21.58**	**312**	⇓	P		**P**	**20 10 09.5**	**+1.7**
LIT	**Litokhoron**	**21.62**	**297**		P		**P**	**20 10 07.5**	**-0.7**
LIT	**Litokhoron**	**21.62**	**297**		P		**P**	**20 10 07.6**	**-0.7**
LIT					pmax		pmax		
	comp=Z,81nm,1.0s								
LIT	**Litokhoron**	**21.62**	**297**		P		**P**	**20 10 07.6**	**-0.7**
ITM	**Ithomi**	**21.64**	**289**		P		**P**	**20 10 08.1**	**-0.5**
ITM	**Ithomi**	**21.64**	**289**		P		**P**	**20 10 08.0**	**-0.6**
SERG	**Sergoula**	**21.67**	**293**		P		**P**	**20 10 10.7**	**+1.9**
VOIR		**21.68**	**313**	⇑	P		**P**	**20 10 10.3**	**+1.4**
VOIR		**21.68**	**313**		P		**P**	**20 10 10.4**	**+1.4**
VOIR					pmax		pmax		
	comp=Z,312nm,0.9s								
MAKR	**Makrakomi, Fth**	**21.70**	**294**		P		**P**	**20 10 12.1**	**+3.0**
TEND	**Ethiopian Broa**	**21.70**	**198**		*e*P		P	20 09 20.6	-49
TEND					*e*S		Sn	20 14 14.2	-4.0
TEND	**Ethiopian Broa**	**21.70**	**198**		*i* P		**P**	**20 10 10.6**	**+1.3**
TEND					*i* S		Sn	20 14 17.8	-0.3
DOPR	**Dopca**	**21.73**	**314**	⇑	P		**P**	**20 10 10.1**	**+0.6**
VTS	**Vitosha**	**21.76**	**304**		P		**P**	**20 10 10.0**	**+0.1**
PYL	**PYLOS**	**21.77**	**288**		P		**P**	**20 10 08.1**	**-1.8**
EFP	**Efpalio**	**21.79**	**293**		P		**P**	**20 10 12.1**	**+2.1**
ANX	**Ano Chora**	**21.80**	**293**		P		**P**	**20 10 11.8**	**+1.5**
AMT	**Artemida-Makis**	**21.84**	**290**		P		**P**	**20 10 10.1**	**-0.6**
THL	**Klokotos Trika**	**21.88**	**296**		P		**P**	**20 10 10.1**	**-0.9**
DRO	**Drossia**	**21.88**	**291**		P		**P**	**20 10 10.7**	**-0.4**
ARR	**Arges**	**21.91**	**312**	⇑	P		**P**	**20 10 12.4**	**+1.0**
EVR	**Evrytania**	**21.93**	**294**		P		**P**	**20 10 12.1**	**+0.4**
PRAR	**RASCA**	**21.98**	**318**	⇑	P		**P**	**20 10 12.0**	**-0.1**
RLS	**Riolos of Patr**	**22.09**	**291**		P		**P**	**20 10 12.7**	**-0.6**
PVO	**Paravola**	**22.11**	**293**		P		**P**	**20 10 13.5**	**0.0**
KZN	**Kozani**	**22.20**	**297**		P		**P**	**20 10 13.8**	**-0.8**
STIP	**Stip**	**22.23**	**301**		*i* P		**P**	**20 10 12.4**	**-2.3**
MDB	**Medias**	**22.43**	**314**	⇑	P		**P**	**20 10 18.4**	**+1.5**
KPRO	**Kipourio**	**22.44**	**296**		P		**P**	**20 10 15.8**	**-1.4**
LOT	**Lotru**	**22.49**	**312**	⇓	P		**P**	**20 10 17.9**	**+0.2**
SRE	**Strehaia**	**22.52**	**309**	⇑	P		**P**	**20 10 19.2**	**+1.3**
PUNG	**Punghina**	**22.55**	**308**	⇓	P		**P**	**20 10 18.4**	**+0.2**
AML	**Almayashu**	**22.57**	**58**		P		**P**	**20 10 19.8**	**+0.9**
	SNR=8.7								
AKASG	**Malin Array Be**	**22.62**	**328**		P		**P**	**20 10 17.1**	**-1.7**
	comp=Z,68nm,0.8s,baz=134,slow=9.6,SNR=128								
AKASG					PcP		**PcP**	**20 14 11.3**	**-0.1**
	comp=Z,9.3nm,0.8s,baz=94,slow=1.9,SNR=3.1								
AKASG					ScP		**ScP**	**20 17 47.0**	**-1.4**
	comp=Z,2.5nm,0.6s,baz=106,slow=2.3,SNR=4.0								
AKBB	**Malin Array Si**	**22.62**	**328**		P		**P**	**20 10 17.3**	**-1.5**
AKBB					pmax		pmax		
	comp=Z,104nm,0.8s								
AKBB					MLR		MLR		
	comp=Z,2μm,20.0s								
AKBB	**Malin Array Si**	**22.62**	**328**		P		**P**	**20 10 17.3**	**-1.5**
AKBB					IAmb		IAmb	20 10 21.2	
	comp=Z,104nm,0.8s								
BURAR	**Bucovina Array**	**22.69**	**318**	⇑	P		**P**	**20 10 19.7**	**-0.1**
BUR08	**Bucovina Ar. S**	**22.72**	**318**		P		**P**	**20 10 19.7**	**-0.4**
BUR08					IAmb		IAmb	20 10 33.6	
	comp=Z,113nm,0.9s								
DESE	**Dese**	**22.73**	**201**		*e*P		**P**	**20 10 21.4**	**+0.8**
DESE					*i* S		**S**	**20 14 34.9**	**+6.1**
NEST	**Nestorio**	**22.77**	**297**		P		**P**	**20 10 18.9**	**-1.7**
JAN	**Janina**	**22.78**	**295**		P		**P**	**20 10 20.1**	**-0.6**
EVGI	**Lefkada island**	**22.78**	**293**		P		**P**	**20 10 19.5**	**-1.2**
EKS2	**Erkin-Say**	**22.79**	**57**		P		**P**	**20 10 22.0**	**+1.1**
	SNR=31								
VLS	**Valsamata**	**22.79**	**292**		P		**P**	**20 10 20.1**	**-0.7**
LKD2	**Lefkada island**	**22.80**	**293**		P		**P**	**20 10 16.6**	**-4.4**
TSLK	**Tsoukalades, L**	**22.81**	**293**		P		**P**	**20 10 19.2**	**-1.8**
FSK	**Fiskardo**	**22.84**	**292**		P		**P**	**20 10 18.9**	**-2.4**
SKO	**Skopje**	**22.84**	**302**		*i* P		**P**	**20 10 22.9**	**+1.7**
ARCR	**ARCALIA**	**22.91**	**316**	⇑	P		**P**	**20 10 22.5**	**+0.4**
HERR	**Herculane**	**23.12**	**309**	⇑	P		**P**	**20 10 24.2**	**+0.1**
IGT	**Igoumenitsa**	**23.16**	**295**		P		**P**	**20 10 21.5**	**-3.1**
CJR	**Cluj-Napoca**	**23.18**	**314**	⇑	P		**P**	**20 10 25.3**	**+0.5**
UCH	**Uchtor**	**23.19**	**58**		P		**P**	**20 10 26.0**	**+0.6**
	SNR=25								
DEV	**Deva**	**23.23**	**312**	⇓	P		**P**	**20 10 25.5**	**+0.2**
AAK	**Ala-Archa**	**23.29**	**57**		P		**P**	**20 10 26.8**	**+0.8**
	comp=Z,18nm,0.8s,baz=232,slow=5.8,SNR=26								
AAK					PcP		**PcP**	**20 14 13.3**	**+0.1**
	comp=Z,6.8nm,0.7s,baz=306,slow=11,SNR=2.4								
AAK					ScP		**ScP**	**20 17 50.0**	**-0.5**
	comp=Z,8.4nm,0.7s,baz=171,slow=2.9,SNR=7.4								
AAK	**Ala-Archa**	**23.29**	**57**		P		**P**	**20 10 28.4**	**+2.4**
	SNR=11								
AAK	**Ala-Archa**	**23.29**	**57**		P		**P**	**20 10 26.7**	**+0.6**
AAK	**Ala-Archa**	**23.29**	**57**		P		**P**	**20 10 26.4**	**+0.3**
AAK					pmax		pmax		
	comp=Z,42nm,0.9s								
AAK					MLR		MLR		
	comp=Z,5μm,18.0s								
AAK	**Ala-Archa**	**23.29**	**57**		P		**P**	**20 10 26.4**	**+0.3**
AAK					IAMs_20		IAMs_20	20 20 48.1	
	comp=Z,5μm,18.0s								
FRU1	**Bishkek**	**23.43**	**57**		P		**P**	**20 10 27.7**	**+0.3**
FRU1					pmax		pmax		
	comp=Z,39nm,0.8s								
FRU1	**Bishkek**	**23.43**	**57**		P		**P**	**20 10 27.7**	**+0.3**
SRN	**Sarande**	**23.46**	**296**		P		**P**	**20 10 24.9**	**-2.7**
USP	**Ospenovka**	**23.48**	**56**		P		**P**	**20 10 28.6**	**+0.8**
	SNR=62								
PHP	**Peshkopia**	**23.49**	**300**		P		**P**	**20 10 26.9**	**-1.1**
THN	**Thein Dam**	**23.52**	**83**		*ex*		x	20 10 32.0	
THN					*ex*		x	20 13 07.0	
CHMS	**Chumysh**	**23.57**	**56**		P		**P**	**20 10 29.8**	**+1.1**
	SNR=43								
KEK	**Kerkira**	**23.59**	**295**		P		**P**	**20 10 26.0**	**-2.9**
KBK	**Karagaybulak**	**23.61**	**57**		P		**P**	**20 10 30.7**	**+1.4**
	SNR=40								
SGDS	**Sogindy**	**23.62**	**55**		*i* P		**P**	**20 10 30.0**	**+0.7**
	comp=Z,47nm,1.0s,baz=56								
SGDS					*e*S		**S**	**20 14 45.8**	**+2.7**
	baz=56								
SGDS					LR		LR	20 20 44.5	
	comp=Z,1μm,10.3s,baz=56								
SGDS	**Sogindy**	**23.62**	**55**		*i* P		**P**	**20 10 29.9**	**+0.7**
SGDS					*e*S		**S**	**20 14 45.8**	**+2.7**
SGDS					pmax		pmax		
	comp=Z,47nm,1.0s								
SGDS					MLR		MLR		
	comp=Z,1μm,10.0s								
KZA	**Kyzart**	**23.68**	**59**		P		**P**	**20 10 31.2**	**+1.0**
	SNR=34								
BMR	**Baia Mare**	**23.71**	**316**	⇑	P		**P**	**20 10 30.5**	**+0.5**
KSH	**Kashi**	**23.72**	**65**		P		**P**	**20 10 27.9**	**-2.4**
KSH					PP		**PnPn**	**20 10 58.8**	**+1.0**
KSH					S		**S**	**20 14 39.0**	**-5.9**
KSH					pmax		pmax		
	comp=Z,99nm,0.9s								
KSH					pmax		pmax		
	comp=Z,1μm,3.6s								
KSH					LR		LR		
	comp=Z,2μm,11.2s								
KSH					LR		LR		
	comp=Z,3μm,13.0s								
KSH					LR		LR		
	comp=Z,8μm,15.0s								
BTLS	**Baital**	**23.78**	**51**		*i* P		**P**	**20 10 30.4**	**-0.2**
	comp=Z,31nm,0.9s,baz=52								
BTLS					*e*S		**S**	**20 14 47.8**	**+2.4**
	comp=Z,45nm,5.0s,baz=52								
BTLS					LR		LR	20 20 38.6	
	comp=Z,791nm,11.3s,baz=52								
BTLS	**Baital**	**23.78**	**51**		*i* P		**P**	**20 10 30.3**	**-0.3**
BTLS					*e*S		**S**	**20 14 47.8**	**+2.4**
BTLS					pmax		pmax		
	comp=Z,31nm,0.9s								
BTLS					MLR		MLR		
	comp=Z,791nm,11.0s								
OBN	**Obninsk**	**23.78**	**344**		P		**P**	**20 10 30.4**	**-0.2**
	comp=Z,12nm,0.4s,baz=163,slow=1.9,SNR=9.3								
OBN					LR		LR	20 20 39.8	
	comp=Z,658nm,20.4s,baz=152,slow=39								
OBN	**Obninsk**	**23.78**	**344**	⇑	P		**P**	**20 10 30.0**	**-0.5**
OBN	**Obninsk**	**23.78**	**344**	*ce*	P		**P**	**20 10 29.0**	**-1.6**
OBN					*e**PP		**pP**	**20 10 32.6**	**-3.3**
OBN					*e**SP		**sP**	**20 10 35.1**	**-2.6**
OBN					*e*PPP		PPP	20 11 12.7	
OBN					*i* S		**S**	**20 14 43.9**	**-1.3**
OBN					*e*			20 14 48.7	
OBN					*e*SS		**SnSn**	**20 15 26.1**	**+2.1**
OBN					pmax		pmax		
	comp=Z,235nm,1.3s								
OBN					MLR		MLR		
	comp=Z,2μm,17.0s								
OBN	**Obninsk**	**23.78**	**344**		P		**P**	**20 10 29.2**	**-1.3**
TIR	**Tirane**	**23.84**	**299**	⇑	P		**P**	**20 10 31.6**	**+0.3**
TIR	**Tirane**	**23.84**	**299**		P		**P**	**20 10 31.3**	**+0.1**
TIR					pmax		pmax		
	comp=Z,427nm,1.3s								
TIR					MLR		MLR		
	comp=Z,1μm,20.0s								
TIR	**Tirane**	**23.84**	**299**		P		**P**	**20 10 31.3**	**+0.1**
BZS	**Buzias**	**23.93**	**310**	⇓	P		**P**	**20 10 32.2**	**0.0**
DHRM	**DHARAMSHALA**	**24.04**	**83**		*ex*		x	20 10 33.8	
DHRM					IAmb		IAmb	20 10 35.8	
	comp=Z,195nm,0.6s								
DHRM					*e*S		**S**	**20 14 54.0**	**+3.7**
PVY	**Plav**	**24.06**	**302**		*i* P		**P**	**20 10 32.2**	**-1.3**
MOS	**Moscow**	**24.13**	**346**		*e*P		**P**	**20 10 29.8**	**-4.0**
MOS					*e*			20 11 14.0	
MOS					*e*S		**S**	**20 14 48.1**	**-2.7**
MOS					pmax		pmax		
	comp=Z,2μm,3.8s								
MOS					pmax		pmax		
	comp=Z,196nm,0.7s								
MOS					MLR		MLR		
	comp=Z,2μm,20.0s								
ANKE	**Ethiopia-Afar**	**24.14**	**200**		*e*P		**P**	**20 10 31.1**	**-3.6**
ANKE					*e*S		**S**	**20 15 00.1**	**+7.8**
ANKE	**Ethiopia-Afar**	**24.14**	**200**		*e*P		**P**	**20 10 32.1**	**-2.6**
ANKE					*e*S		**S**	**20 15 02.1**	**+10**
TKM2	**Tokmak 2**	**24.14**	**57**		P		**P**	**20 10 35.1**	**+0.7**
	SNR=92								
SIRR	**Siria**	**24.18**	**312**	⇓	P		**P**	**20 10 35.6**	**+1.2**
IVA	**Berane**	**24.18**	**303**	⇓	*i* P		**P**	**20 10 33.7**	**-0.9**
TIM	**Timisoara**	**24.24**	**310**	⇓	P		**P**	**20 10 35.8**	**+0.9**
ULC	**Ulcinj**	**24.42**	**300**	⇑	*i* P		**P**	**20 10 35.5**	**-1.2**
ULHL	**Ulahol**	**24.43**	**59**		P		**P**	**20 10 38.7**	**+1.7**
	SNR=64								
KOME	**Kolasin**	**24.45**	**303**	⇑	*i* P		**P**	**20 10 36.4**	**-0.6**
DIVS	**Divibare**	**24.47**	**306**	⇑	*i* P		**P**	**20 10 37.4**	**+0.2**
DIVS	**Divibare**	**24.47**	**306**		P		**P**	**20 10 37.0**	**-0.2**
DRME	**Dracevica, Mon**	**24.52**	**301**	⇑	*i* P		**P**	**20 10 37.1**	**-0.5**
DRME	**Dracevica, Mon**	**24.52**	**301**	⇑	*i* P		**P**	**20 10 36.8**	**-0.8**
PDG	**Podgorica**	**24.52**	**302**	⇑	P		**P**	**20 10 36.9**	**-0.7**
PDG	**Podgorica**	**24.52**	**302**	⇑	*i* P		**P**	**20 10 36.6**	**-1.0**
PDG	**Podgorica**	**24.52**	**302**		P		**P**	**20 10 36.8**	**-0.8**
PDG					IAmb		IAmb	20 10 54.9	
	comp=Z,96nm,0.9s								
TTG	**Podgorica**	**24.52**	**302**	⇑	*i* P		**P**	**20 10 36.9**	**-0.7**
LVV	**L'vov**	**24.58**	**321**		*e*P		**P**	**20 10 37.8**	**-0.2**
LVV					*e*			20 11 19.7	
LVV					*e*S		**S**	**20 14 56.9**	**-1.3**
LVV					pmax		pmax		
	comp=Z,50nm,1.2s								
SCTE	**Santa Cesarea**	**24.66**	**296**		P		**P**	**20 10 37.9**	**-0.9**
SCTE					IAmb		IAmb	20 10 40.8	
	comp=Z,60nm,0.7s								
PLE	**Pljevlja**	**24.66**	**304**	⇑	*i* P		**P**	**20 10 39.3**	**+0.3**
BUM	**Brajici-Budva**	**24.75**	**301**	⇑	*i* P		**P**	**20 10 39.3**	**-0.5**
RUDO	**Rudo**	**24.76**	**304**	*e*	P		**P**	**20 10 40.6**	**+0.9**
MTBS	**Maitube**	**24.79**	**57**	⇑	*i* P		**P**	**20 10 41.6**	**+1.5**
	baz=57								
MTBS	**Maitube**	**24.79**	**57**	⇑	*i* P		**P**	**20 10 41.6**	**+1.5**
CEME	**Cevo**	**24.80**	**302**	⇑	*i* P		**P**	**20 10 39.5**	**-0.6**
BBLS	**Lazići**	**24.80**	**305**	⇑	*i* P		**P**	**20 10 40.4**	**+0.2**
NKY	**Niksic**	**24.81**	**302**	⇑	*i* P		**P**	**20 10 40.3**	**0.0**
NKME	**Niksic**	**24.82**	**302**	⇑	*i* P		**P**	**20 10 39.9**	**-0.5**
UZH	**Uzhgorod**	**24.89**	**317**		*e*P		**P**	**20 10 40.3**	**-0.6**
UZH					*i*			20 10 41.8	
UZH					*i*			20 10 47.2	
UZH					*e*			20 11 15.9	
UZH					*e*			20 14 21.3	
UZH					*i* S		**S**	**20 14 59.4**	**-3.8**
ARU	**Arti**	**24.90**	**14**		P		**P**	**20 10 41.2**	**+0.3**
	comp=Z,34nm,0.8s,baz=193,slow=7.5,SNR=77								
ARU					ScP		**ScP**	**20 17 52.9**	**-1.6**
	comp=Z,5.4nm,0.7s,baz=228,slow=3.3,SNR=6.1								
ARU	**Arti**	**24.90**	**14**	*ci*	P		**P**	**20 10 40.7**	**-0.2**
ARU								20 11 11.6	
ARU								20 14 15.2	
ARU					S		**S**	**20 15 06.3**	**+3.1**
ARU					SS		**SnSn**	**20 15 51.7**	**+0.4**
ARU					pmax		pmax		
	comp=Z,138nm,0.9s								
ARU					MLR		MLR		
	comp=Z,2μm,17.0s								
ARU	**Arti**	**24.90**	**14**		P		**P**	**20 10 40.9**	**+0.1**
TEKS	**Tekeris**	**24.93**	**307**	⇑	*i* P		**P**	**20 10 41.7**	**+0.4**
KUU	**Kurty**	**24.94**	**55**	⇑	*i* P		**P**	**20 10 41.7**	**+0.3**
	comp=Z,58nm,0.9s,baz=56								
KUU					*e*S		**S**	**20 15 06.3**	**+2.2**
	baz=56								
KUU					LR		LR	20 21 12.6	
	comp=Z,1μm,11.0s,baz=56								
KUU	**Kurty**	**24.94**	**55**	*ci*	P		**P**	**20 10 41.7**	**+0.3**
KUU					*e*S		**S**	**20 15 06.3**	**+2.2**
KUU					pmax		pmax		
	comp=Z,58nm,0.9s								
KUU					MLR		MLR		
	comp=Z,1μm,11.0s								
FRGS	**Fruska Gora**	**24.95**	**308**	⇑	*i* P		**P**	**20 10 42.0**	**+0.6**
SMLA	**Simla**	**24.96**	**86**		*ex*		x	20 10 42.2	
SMLA					IAmb		IAmb	20 10 43.9	
	comp=Z,78nm,0.6s								
SMLA					*ex*		x	20 15 04.7	
AAE	**Adis Abeba**	**24.96**	**202**	⇓	*e*P		**P**	**20 10 45.2**	**+3.1**
AAE					*e*S		**S**	**20 15 13.8**	**+8.3**
AAE	**Adis Abeba**	**24.96**	**202**	⇓	*e*P		**P**	**20 10 45.2**	**+3.1**
AAE					*e*S		**S**	**20 15 13.8**	**+8.3**
UPM	**Unac-Piva**	**24.97**	**303**	⇑	*i* P		**P**	**20 10 41.5**	**-0.3**
UPM	**Unac-Piva**	**24.97**	**303**		*e*P		**P**	**20 10 41.5**	**-0.3**
KOLS	**Kolonicke sedl**	**25.06**	**318**		*e*P		**P**	**20 10 42.9**	**+0.5**
KOLS					pmax		pmax		
	comp=Z,191nm,0.9s								
KOLS	**Kolonicke sedl**	**25.06**	**318**		*e*P		**P**	**20 10 42.9**	**+0.5**
HCY	**Herceg Novi**	**25.08**	**301**	⇑	*i* P		**P**	**20 10 42.2**	**-0.3**
HCY	**Herceg Novi**	**25.08**	**301**		*e*P		**P**	**20 10 42.3**	**-0.3**
KDJ	**Kajisay**	**25.09**	**59**		P		**P**	**20 10 43.9**	**+1.0**
KDJ					pmax		pmax		
	comp=Z,75nm,0.8s								
KDJ					MLR		MLR		
	comp=Z,4μm,19.0s								
KDJ	**Kajisay**	**25.09**	**59**		P		**P**	**20 10 43.9**	**+1.0**
KDJ					IAmb		IAmb	20 10 53.4	
	comp=Z,75nm,0.8s								
KDJ					IAMs_20		IAMs_20	20 22 15.7	
	comp=Z,4μm,19.0s								
FURI	**Furi**	**25.12**	**202**	⇑	*e*P		**P**	**20 10 46.8**	**+3.3**
FURI					*e*S		**S**	**20 15 18.2**	**+10**
FURI	**Furi**	**25.12**	**202**		P		**P**	**20 10 45.4**	**+1.9**
FURI					IAmb		IAmb	20 10 49.7	
	comp=Z,131nm,0.9s								
FURI	**Furi**	**25.12**	**202**	⇑	*e*P		**P**	**20 10 46.8**	**+3.3**
FURI					*e*S		**S**	**20 15 18.2**	**+10**
BRY	**Bratogost**	**25.15**	**302**	⇑	*i* P		**P**	**20 10 43.1**	**-0.3**
BRY	**Bratogost**	**25.15**	**302**	⇑	*i* P		**P**	**20 10 42.9**	**-0.5**
AAA	**Alma-Ata**	**25.15**	**57**		*e*P		**P**	**20 10 43.1**	**-0.3**
	baz=57								
AAA					*e*S		**S**	**20 15 10.2**	**+2.5**
	baz=57								
AAA					LR		LR	20 20 49.2	
	comp=Z,1μm,10.4s,baz=57								
AAA	**Alma-Ata**	**25.15**	**57**		*e*P		**P**	**20 10 45.5**	**+2.1**
AAA					*e*S		**S**	**20 15 06.7**	**-1.0**
AAA					pmax		pmax		
	comp=Z,600nm,8.5s								
AAA					smax		smax		
	comp=N,300nm,6.9s								
AAA					MLR		MLR		
	comp=Z,3μm,14.0s								
KWP	**Kalwaria Pacla**	**25.19**	**320**		*e*P		**P**	**20 10 44.3**	**+0.8**
KWP					*e*S		**S**	**20 15 11.0**	**+3.0**
KWP	**Kalwaria Pacla**	**25.19**	**320**		P		**P**	**20 10 44.0**	**+0.5**
KWP					pmax		pmax		
	comp=Z,119nm,0.8s								
KWP	**Kalwaria Pacla**	**25.19**	**320**		P		**P**	**20 10 44.0**	**+0.5**
KWP					IAmb		IAmb	20 10 59.4	
	comp=Z,119nm,0.8s								
MDOK	**Medeo**	**25.23**	**57**		*i* P		**P**	**20 10 44.9**	**+0.7**
	comp=Z,354nm,2.6s,baz=58								
MDOK					*e*S		**S**	**20 15 12.0**	**+2.8**
	baz=58								
MDOK					LR		LR	20 21 25.8	
	comp=Z,3μm,9.8s,baz=58								
MDOK	**Medeo**	**25.23**	**57**		*i* P		**P**	**20 10 44.9**	**+0.7**
MDOK					*e*S		**S**	**20 15 11.9**	**+2.8**
MDOK					pmax		pmax		
	comp=Z,354nm,2.6s								
MDOK					MLR		MLR		
	comp=Z,3μm,10.0s								
TREB	**Trebinje**	**25.24**	**302**		*e*P		**P**	**20 10 43.3**	**-0.8**
BRZS	**Berezniki**	**25.29**	**40**		*e*P		**P**	**20 10 44.6**	**+0.1**
	baz=40								
BRZS					LR		LR	20 22 00.2	
	comp=Z,344nm,10.0s,baz=40								
BRZS	**Berezniki**	**25.29**	**40**		*e*P		**P**	**20 10 44.5**	**+0.1**
BRZS					MLR		MLR		
	comp=Z,344nm,10.0s								
CHKK	**Chushkaly**	**25.38**	**55**	⇑	*i* P		**P**	**20 10 45.6**	**+0.3**
	baz=56								
CHKK	**Chushkaly**	**25.38**	**55**	⇑	*i* P		**P**	**20 10 45.6**	**+0.3**
DBRK	**Dubrovnik**	**25.38**	**302**		*i* P		**P**	**20 10 44.7**	**-0.6**
TARG	**Taragay, Kyrgy**	**25.46**	**61**		P		**P**	**20 10 46.5**	**-0.1**
TARG					IAmb		IAmb	20 11 00.5	
	comp=Z,89nm,0.8s								
TARG					IAMs_20		IAMs_20	20 22 16.7	
	comp=Z,4μm,19.0s								
CRVS	**Cervenica-Dubn**	**25.51**	**317**		*e*P		**P**	**20 10 47.5**	**+1.1**
CRVS					pmax		pmax		
	comp=Z,280nm,1.0s								
CRVS	**Cervenica-Dubn**	**25.51**	**317**		*e*P		**P**	**20 10 47.5**	**+1.1**
NDI	**New Delhi**	**25.59**	**91**		*ex*		x	20 10 47.0	
STON	**Ston**	**25.74**	**302**		*i* P		**P**	**20 10 48.2**	**-0.4**
TIP	**Timpagrande**	**25.86**	**293**	⇑	P		**P**	**20 10 50.1**	**+0.2**
TIP	**Timpagrande**	**25.86**	**293**		P		**P**	**20 10 49.9**	**0.0**
TIP					IAmb		IAmb	20 10 52.4	
	comp=Z,85nm,0.9s								
KECS	**Kecovo**	**25.87**	**316**		*e*P		**P**	**20 10 51.0**	**+1.2**
KECS					pmax		pmax		
	comp=Z,126nm,0.9s								
KECS	**Kecovo**	**25.87**	**316**		*e*P		**P**	**20 10 51.0**	**+1.2**
DDI	**Dehra Dun**	**25.88**	**87**		*ex*		x	20 10 47.7	
DDI					*e*P		**P**	**20 10 50.9**	**+0.8**
DDI					IAmb		IAmb	20 10 53.6	
	comp=Z,77nm,0.7s								
DDI					*ex*		x	20 15 19.5	
KIRV	**Kirov**	**25.94**	**2**		P		**P**	**20 10 50.1**	**-0.1**
	comp=Z,217nm,0.7s,baz=223,slow=0.6,SNR=48								
KIRV					LR		LR	20 23 23.3	
	comp=Z,3μm,18.7s,baz=185,slow=42								
PSZ	**Piszkesteto**	**25.97**	**314**	⇑	P		**P**	**20 10 51.4**	**+0.6**
PSZ	**Piszkesteto**	**25.97**	**314**		P		**P**	**20 10 50.9**	**+0.1**
PSZ					pmax		pmax		
	comp=Z,206nm,0.8s								
PSZ	**Piszkesteto**	**25.97**	**314**		P		**P**	**20 10 50.9**	**+0.1**
MICGM	**Minsk**	**25.98**	**333**	⇓	*e*P		**P**	**20 10 50.0**	**-0.6**
MICGM					PM			20 10 51.0	
	comp=Z,1.2nm,1.0s								
MICGM					PM			20 10 51.0	
	comp=E,1.6nm,0.5s								
MICGM					PM			20 10 52.0	
	comp=N,1.4nm,0.5s								
MICGM					*e*S		**S**	**20 15 18.0**	**-2.3**
MICGM					*e*SS		SnSn	20 17 02.0	+44
MICGM					*e*LQ		LQ	20 19 20.0	
MICGM					*e*LR		LR	20 20 50.0	
MNK	**Minsk**	**25.98**	**333**		*e*P		**P**	**20 10 50.0**	**-0.6**
MNK					*e*S		**S**	**20 15 18.0**	**-2.3**
BRVK	**Borovoye**	**26.02**	**32**	*ce*	P		**P**	**20 10 50.4**	**-0.6**
BRVK					pmax		pmax		
	comp=Z,50nm,0.7s								
BRVK					MLR		MLR		
	comp=Z,2μm,18.0s								
BRVK	**Borovoye**	**26.02**	**32**		P		**P**	**20 10 50.9**	**-0.1**
BRVK					IAmb		IAmb	20 11 01.8	
	comp=Z,61nm,0.8s

KIJV **Kijevo** 26.93 304 *i* P P 20 10 59.1 -0.2
SHLS **Shalkode** 26.95 58 *e*P P 20 11 02.9 +3.1
comp=Z,17nm,1.0s,baz=59
SHLS LR LR 20 22 54.3
comp=Z,1μm,16.7s,baz=59
SHLS **Shalkode** 26.95 58 *e*P P 20 11 02.8 +3.1
SHLS pmax pmax
comp=Z,17nm,1.0s
SHLS MLR MLR
comp=Z,1μm,17.0s
IDID **Didziasalis** 27.02 333 *e*P P 20 11 00.4 +0.4
OJC **Ojcow** 27.10 319 *e*P P 20 11 00.9 +0.1
OJC *e*S S 20 15 41.3 +3.1
OJC **Ojcow** 27.10 319 P P 20 11 00.8 0.0
OJC pmax pmax
comp=Z,152nm,0.8s
OJC **Ojcow** 27.10 319 P P 20 11 00.8 0.0
MOSL **Moslavina** 27.13 307 *i* P P 20 11 01.4 +0.2
ZIRJ **Zirje** 27.38 303 *i* P P 20 11 02.9 -0.5
BEHE **Becsehely** 27.39 309⇑*i*P P 20 11 06.4 +3.0
MORI **Morici** 27.39 303 *i* P P 20 11 03.2 -0.3
BEL **Belsk** 27.42 322 *e*P P 20 11 04.0 +0.3
ISAL **Salakas** 27.45 333 *e*P P 20 11 04.3 +0.4
IZAR **Zarasai** 27.54 333 *e*P P 20 11 05.2 +0.6
SUW **Suwalki** 27.59 328 *e*P P 20 11 04.6 -0.5
SUW **Suwalki** 27.59 328 P P 20 11 04.4 -0.7
SUW pmax pmax
comp=Z,218nm,1.1s
SUW MLR MLR
comp=Z,1μm,21.0s
SUW **Suwalki** 27.59 328 P P 20 11 04.4 -0.7
VAE **Valguarnera** 27.64 289 P P 20 11 08.4 +2.6
comp=Z,14nm,0.8s,baz=48,slow=4.2,SNR=9.4
VAE LR LR 20 24 27.2
comp=Z,540nm,18.1s,baz=50,slow=41
JAVC **Velka Javorina** 27.71 315 *e*P P 20 11 07.8 +1.4
JAVC *e*S S 20 15 37.7 -10
KOGS **Kog** 27.72 309 *e*P P 20 11 07.1 +0.7
PAOL **Paolisi** 27.73 297 P P 20 11 07.0 +0.4
PAOL IAmb IAmb 20 11 22.3
comp=Z,132nm,1.3s
BHPL **Bhopal** 27.74 102 *ex* x 20 11 07.6
BHPL IAmb IAmb 20 11 13.4
comp=Z,21nm,0.8s
MODS **Modra-Piesok** 27.76 313 *e*P P 20 11 06.0 -0.8
MODS pmax pmax
comp=Z,94nm,1.4s
MODS **Modra-Piesok** 27.76 313 *e*P P 20 11 06.0 -0.8
OKC **Ostrava-Krasne** 27.86 317 *e*P P 20 11 08.2 +0.6
OKC **Ostrava-Krasne** 27.86 317 *e*P P 20 11 08.2 +0.6
DUGI **Dugi Otok** 27.87 303 *i* P P 20 11 07.7 -0.2
OZLJ **Ozalj** 28.00 307 *i* P P 20 11 09.4 +0.5
CRES **Cresnjev** 28.06 307 *e*P P 20 11 10.3 +0.8
CRES **Cresnjev** 28.06 307⇑*i*P P 20 11 09.6 +0.1
NVLJ **Novalja** 28.13 305 *i* P P 20 11 09.8 -0.3
MORC **Moravsky Berou** 28.18 316 ⇑P P 20 11 10.8 +0.2
MORC **Moravsky Berou** 28.18 316 *e*P P 20 11 10.5 0.0
MORC *e*S S 20 15 44.4 -11
MORC **Moravsky Berou** 28.18 316 P P 20 11 10.6 0.0
MORC pmax pmax
comp=Z,23nm,0.9s
MORC MLR MLR
comp=Z,400nm,20.0s
MORC **Moravsky Berou** 28.18 316 P P 20 11 10.6 +0.1
PABE **Paberze** 28.26 331 *e*P P 20 11 10.3 -0.8
INTR **Introdacqua** 28.35 299 P P 20 11 13.2 +1.0
INTR IAmb IAmb 20 11 47.8
comp=Z,58nm,0.9s
ARSA **Arzberg** 28.45 310 *i* P P 20 11 13.8 +0.8
comp=Z,18nm,1.1s,SNR=10.0
CONA **Conrad Observa** 28.47 312 *i* P P 20 11 13.6 +0.4
comp=Z,44nm,1.0s,SNR=13
VISS **Visnje** 28.47 307 *e*P P 20 11 13.9 +0.7
CORL **Corleone** 28.52 290 P P 20 11 14.3 +0.6
CORL IAmb IAmb 20 11 22.9
comp=Z,187nm,1.7s
VRAC **Vranov** 28.54 315 P P 20 11 14.4 +0.7
comp=Z,23nm,0.9s,baz=108,slow=8.3,SNR=34
VRAC **Vranov** 28.54 315 ⇑P P 20 11 14.4 +0.7
VRAC **Vranov** 28.54 315 *e*P P 20 11 14.2 +0.4
VRAC *e*S S 20 15 53.7 -7.3
KRUC **Moravsky** 28.57 314 *e*P P 20 11 14.4 +0.5
KRUC *e*PCP PcP 20 14 29.5 +4.6
KRUC *e*S S 20 15 53.7 -7.6
SOKA **Soboth** 28.59 309 *i* P P 20 11 14.8 +0.5
comp=Z,22nm,1.0s
SOKA **Soboth** 28.59 309 *i* PcP PcP 20 14 26.2 +1.1
comp=Z,25nm,1.0s
SOKA *i* ScP ScP 20 18 06.1 +0.3
comp=Z,4.4nm,0.7s
KLMR **Klimovskoe** 28.71 352*c i*P P 20 11 13.7 -1.2
KLMR *e*S S 20 16 04.5 +1.3
KLMR pmax pmax
comp=Z,159nm,0.9s
KLMR MLR MLR
comp=Z,1μm,14.0s
KLMR **Klimovskoe** 28.71 352⇑*i*P P 20 11 13.8 -1.2
KLMR *i* P P 20 11 13.8 -1.2
KLMR *i* P P 20 11 13.8 -1.2
KLMR AMP 20 11 21.6
comp=Z,159nm,0.9s
KLMR *e*S S 20 16 04.5 +1.3
KLMR *e*S S 20 16 04.5 +1.3
KLMR LQ LQ 20 20 34.5
KLMR LQ LQ 20 20 34.5
KLMR LR LR 20 22 58.4
KLMR AMP 20 24 05.5
comp=Z,1μm,14.2s
CEY **Cerknica** 28.73 307⇑*i*P P 20 11 15.6 +0.1
LJU **Ljubljana** 28.74 307 *e*P P 20 11 16.7 +1.1
LJU **Ljubljana** 28.74 307⇑*i*P P 20 11 14.4 -1.2
KRLC **Kraliky** 28.75 316 *e*PCP PcP 20 14 27.1 +1.6
KRLC AMS AMS 20 26 50.0
comp=Z,1μm,14.6s
AQU **L'Aquila** 28.76 300 P P 20 11 16.2 +0.3
AQU pmax pmax
comp=Z,88nm,1.1s
AQU MLR MLR
comp=Z,1μm,19.0s
AQU **L'Aquila** 28.76 300⇑*i*P P 20 11 16.7 +0.9
AQU **L'Aquila** 28.76 300 P P 20 11 16.2 +0.3
AQU IAmb IAmb 20 11 26.1
comp=Z,88nm,1.1s
KURBB **Kurchatov Arra** 28.85 42 P P 20 11 17.6 +1.1
comp=Z,19nm,0.8s,baz=247,slow=9.4,SNR=60
KURBB ScP ScP 20 18 04.7 -1.7
comp=Z,6.2nm,0.7s,baz=245,slow=3.8,SNR=9.8
KURBB P3KPbc 20 43 30.0
comp=Z,0.7nm,0.4s,baz=78,slow=3.4,SNR=4.3
OBKA **Obir** 28.86 308 *i* pP P 20 11 18.8 +2.0
comp=Z,31nm,1.1s
KURK **Kurchatov** 28.94 42*ce*P P 20 11 17.9 +0.7
KURK pmax pmax
comp=Z,22nm,0.7s
KURK MLR MLR
comp=Z,2μm,14.0s
KURK **Kurchatov** 28.94 42 P P 20 11 17.1 -0.1
PRGR **Permogore** 29.01 358⇑*i*P P 20 11 15.8 -1.9
PRGR pmax pmax
comp=Z,243nm,0.9s
NRCA **Norcia** 29.05 300 P P 20 11 18.3 0.0
NRCA IAmb IAmb 20 11 20.7
comp=Z,55nm,0.8s
DPC **Dobruska-Polom** 29.14 317 *e*P P 20 11 19.4 +0.3
DPC *e* 20 14 32.5
DPC MLR MLR
comp=Z,2μm,13.8s
DPC **Dobruska-Polom** 29.14 317 *e*P P 20 11 19.4 +0.3
DPC *e*PCP PcP 20 14 32.5 +6.1
DPC AMS AMS 20 26 50.0
comp=Z,2μm,13.8s
TREC **Trest** 29.20 314 *e*P P 20 11 20.5 +0.9
TREC *e*S S 20 16 19.7 +8.3
TREC MLR MLR
comp=Z,2μm,14.0s
TREC **Trest** 29.20 314 *e*P P 20 11 20.5 +0.9
TREC *e*S S 20 16 19.7 +8.3
TREC AMS AMS 20 26 20.0
comp=Z,2μm,14.0s
OSTC **Ostas** 29.29 317 *e*P P 20 11 20.6 +0.2
OSTC AMS AMS 20 26 50.0
comp=Z,1μm,15.0s
KSP **Ksiaz** 29.37 318 *e*P P 20 11 21.2 +0.1
UPC **Upice** 29.39 317 *e*P P 20 11 21.6 +0.4
UPC MLR MLR
comp=Z,2μm,13.1s
UPC **Upice** 29.39 317 *e*P P 20 11 21.6 +0.4
UPC AMS AMS 20 27 00.0
comp=Z,2μm,13.1s
CHVC **Chvalec** 29.39 317 *e*PCP PcP 20 14 33.0 +6.0
CHVC AMS AMS 20 27 00.0
comp=Z,1μm,14.6s
VSU **Vasula** 29.45 337 *e*P P 20 11 21.7 +0.1
VSU **Vasula** 29.45 337*c i*P P 20 11 20.6 -1.0
VSU pmax pmax
comp=Z,194nm,0.8s
MOA **Molln** 29.45 311 *i* P P 20 11 22.6 +0.7
comp=Z,47nm,0.8s,SNR=22
MOA **Molln** 29.45 311 *i* PcP PcP 20 14 27.6 +0.3
comp=Z,13nm,1.2s
PBUR **Paburge** 29.45 330 *e*P P 20 11 21.7 0.0
PUL **Pulkovo** 29.48 342 *e*P P 20 11 21.6 -0.3
PUL **Pulkovo** 29.48 342*ce*P P 20 11 22.7 +0.8
PUL pmax pmax
comp=Z,116nm,0.6s
MYKA **Terra Mystica** 29.50 308 *i* pP P 20 11 24.8 +2.5
comp=Z,14nm,0.7s,SNR=9.1
PRED **Cave del Predi** 29.50 308 P P 20 11 22.9 +0.5
MURB **Monte Urbino** 29.54 301 P P 20 11 24.0 +1.3
MAKZ **Makanchi** 29.58 51 P P 20 11 23.2 +0.2
MAKZ pmax pmax
comp=Z,14nm,0.8s
MAKZ MLR MLR
comp=Z,3μm,21.0s
MAKZ **Makanchi** 29.58 51 P P 20 11 23.2 +0.2
MAKZ IAMs_20 IAMs_20 20 25 12.7
comp=Z,3μm,21.0s
KLRI **Killari** 29.70 112 *e*P P 20 11 24.2 -0.1
KLRI IVmBBB 20 11 26.6
comp=Z,215nm,1.4s
KLRI IVMs_BB IVMs_BB 20 25 16.9
comp=Z,626nm,10.8s
MK31 **Makanchi Array** 29.79 52 P P 20 11 25.2 +0.4
MK31 pmax pmax
comp=Z,37nm,0.8s
MK31 **Makanchi Array** 29.79 52 P P 20 11 25.2 +0.4
MKAR **Makanchi Array** 29.79 52 P P 20 11 25.3 +0.5
comp=Z,43nm,0.8s,baz=247,slow=7.1,SNR=315
MKAR ScP ScP 20 18 08.8 -0.6
comp=Z,3.9nm,0.9s,baz=292,slow=1.7,SNR=4.4
MKAR P3KPbc 20 43 25.5
comp=Z,0.3nm,0.7s,baz=64,slow=6.2,SNR=4.4
KBA **Koelnbreinsper** 29.82 309 *i* P P 20 11 26.1 +0.8
comp=Z,59nm,0.8s,SNR=12
ZOU **Zoufplan** 29.92 308 P P 20 11 26.6 +0.4
ZOU IAmb IAmb 20 11 32.9
comp=Z,63nm,1.3s
LATE **Laterza** 29.97 300 P P 20 11 26.5 0.0
GKP **Gorka Klasztor** 30.02 322 *e*P P 20 11 26.7 0.0
PRU **Pruhonice** 30.04 315 *e*P P 20 11 27.2 +0.2
PRU *e*S S 20 16 29.3 +4.9
PRU MLR MLR
comp=Z,2μm,14.0s
PRU **Pruhonice** 30.04 315 *e*P P 20 11 27.2 +0.2
PRU *e*S S 20 16 29.3 +4.9
PRU AMS AMS 20 27 30.0
comp=Z,2μm,14.0s
NGP **Nagpur** 30.04 105 *ex* x 20 11 25.7
PRA **Prague** 30.13 315 *e*P P 20 11 27.3 -0.5
PRA *e*S S 20 16 33.6 +7.7
PRA MLR MLR
comp=Z,900nm,14.1s
PRA **Prague** 30.13 315 *e*P P 20 11 27.3 -0.5
PRA *e*S S 20 16 33.6 +7.7
PRA AMS AMS 20 27 30.0
comp=Z,900nm,14.1s
GEC2 **GERESS Array S** 30.14 313 *e*P P 20 11 28.3 +0.3
comp=Z,17nm,0.8s,baz=110,slow=8.9
GEC2 **GERESS Array S** 30.14 313 P P 20 11 27.7 -0.3
GERES **GERESS Array B** 30.14 313 P P 20 11 27.8 -0.3
comp=Z,8.6nm,0.7s,baz=108,slow=8.7,SNR=48
GERES PcP PcP 20 14 29.5 +0.4
comp=Z,5.2nm,0.9s,baz=123,slow=2.7,SNR=4.8
GERES ScP ScP 20 18 09.8 -0.8
comp=Z,1.0nm,0.7s,baz=132,slow=4.1,SNR=4.0
GERES LR LR 20 26 21.5
comp=Z,1μm,18.5s,baz=117,slow=42
CIMO **Cimolais** 30.21 307 P P 20 11 28.7 +0.1
CIMO IAmb IAmb 20 11 34.9
comp=Z,55nm,1.1s
PVCC **Panska Ves** 30.23 316 *e*P P 20 11 29.2 +0.5
PVCC *e* 20 14 34.8
PVCC MLR MLR
comp=Z,1μm,14.0s
PVCC **Panska Ves** 30.23 316 *e*P P 20 11 29.2 +0.5
PVCC *e*PCP PcP 20 14 34.8 +5.6
PVCC AMS AMS 20 27 20.0
comp=Z,1μm,14.0s
PBCC **Pribram** 30.25 314 *e*P P 20 11 29.1 +0.2
ABTA **Abfaltersbach** 30.28 308 *i* P P 20 11 29.7 +0.4
comp=Z,36nm,0.9s,SNR=18
ABTA **Abfaltersbach** 30.28 308 *i* ScP ScP 20 18 11.6 +0.4
comp=Z,2.6nm,0.7s
KHC **Kasperske Hory** 30.31 313 *e*P P 20 11 29.5 0.0
KHC *e*S S 20 16 24.7 -4.1
KHC MLR MLR
comp=Z,1μm,12.1s
KHC **Kasperske Hory** 30.31 313 *e*P P 20 11 29.5 0.0
KHC *ex* x 20 11 51.0
KHC *e*PCP PcP 20 14 34.5 +5.0
KHC *e*S S 20 16 24.7 -4.1
KHC AMS AMS 20 27 40.0
comp=Z,1μm,12.1s
KHC **Kasperske Hory** 30.31 313 P P 20 11 29.2 -0.2
RJOB **Jochberg** 30.36 310 *e*P P 20 11 29.4 -0.6
comp=Z,49nm,0.8s,baz=110,slow=8.9
OSSC **Osservatorio P** 30.50 301 P P 20 11 31.3 +0.1
OSSC IAmb IAmb 20 12 04.2
comp=Z,41nm,0.9s
SRSP **Sriramsagar** 30.61 109 *e*P P 20 11 32.3 0.0
SRSP IVmBBB 20 11 33.5
comp=Z,100nm,0.5s
SRSP IVMs_BB IVMs_BB 20 25 46.4
comp=Z,587nm,13.3s
PYUN **Piuthan** 30.62 89 *e*P P 20 11 32.7 0.0
CASP **Castiglione de** 30.68 300 P P 20 11 32.6 -0.2
CTI **Castel Tesino** 30.69 306 P P 20 11 33.0 +0.1
CTI pmax pmax
comp=Z,87nm,0.8s
CTI **Castel Tesino** 30.69 306 P P 20 11 33.0 +0.1
CTI IAmb IAmb 20 11 39.2
comp=Z,87nm,0.8s
BRG **Berggiesshubel** 30.74 316 *i* P P 20 11 32.9 -0.2
comp=Z,26nm,1.1s
BRG *e* 20 11 38.5
comp=Z,19nm,1.0s
BRG PCP PcP 20 14 31.4 +0.9
comp=Z,15nm,1.1s
BRG S S 20 16 42.0 +6.7
comp=Z,1μm,15.1s
comp=N,2μm,16.2s
comp=E,1μm,16.2s
BRG **Berggiesshubel** 30.74 316 *e*P P 20 11 33.4 +0.2
comp=E,27nm,1.1s,baz=110,slow=8.9
WET **Wettzell** 30.75 313 *e*P P 20 11 33.4 +0.1
comp=E,27nm,0.9s,baz=110,slow=8.9
ZCCA **Zocca** 30.82 303 IAMs_20 IAMs_20 20 25 45.2
comp=Z,3μm,18.0s
WTTA **Wattenberg** 30.99 309 *i* P P 20 11 35.6 0.0
comp=Z,74nm,0.9s,SNR=32
WTTA **Wattenberg** 30.99 309 *i* S S 20 16 39.6 -0.2
comp=Z,40nm,1.1s
WATA **Walderalm** 31.05 309 *i* P P 20 11 35.9 -0.2
comp=Z,70nm,0.9s,SNR=18
WATA **Walderalm** 31.05 309 *i* PcP PcP 20 14 32.3 +0.8
comp=Z,52nm,1.3s
WATA *i* S S 20 16 40.2 -0.3
comp=Z,22nm,1.2s
FBE **Freiberg** 31.10 316 *e*P P 20 11 36.8 +0.5
comp=E,17nm,1.0s,baz=110,slow=8.9
VLC **Villacollemand** 31.21 302 P P 20 11 37.6 +0.2
SQTA **Sankt Quirin** 31.26 308 *i* P P 20 11 37.9 -0.1
comp=Z,72nm,0.8s,SNR=36
SQTA **Sankt Quirin** 31.26 308 *i* PcP PcP 20 14 34.4 +2.3
comp=Z,35nm,1.4s
SQTA *i* S S 20 16 42.3 -1.5
comp=Z,21nm,1.0s
SQTA *i* ScP ScP 20 18 14.1 -0.3
comp=Z,9.7nm,0.7s
MOTA **Moosalm** 31.36 309 *i* P P 20 11 38.4 -0.4
comp=Z,110nm,1.0s,SNR=42
MOTA **Moosalm** 31.36 309 *i* PcP PcP 20 14 33.1 +0.7
comp=Z,27nm,1.1s
MOTA *i* ScP ScP 20 18 14.0 -0.8
comp=Z,8.1nm,0.8s
SALO **Salr** 31.37 305 P P 20 11 39.3 +0.5
ROTZ **Rotzenmuhle** 31.37 314 *e*P P 20 11 39.5 +0.8
comp=Z,254nm,2.0s,baz=110,slow=8.9
NKC **Novy Kostel** 31.38 315 *e*P P 20 11 39.3 +0.4
NKC *e*S S 20 16 50.6 +5.1
NKC MLR MLR
comp=Z,1μm,12.6s
NKC **Novy Kostel** 31.38 315 *e*P P 20 11 39.3 +0.4
NKC *e*S S 20 16 50.6 +5.1
NKC AMS AMS 20 28 00.0
comp=Z,1μm,12.6s
RPR **Rampur** 31.40 108 *e*P P 20 11 39.4 +0.1
RPR IVmBBB 20 11 40.8
comp=Z,162nm,0.6s
RPR IVMs_BB IVMs_BB 20 26 09.4
comp=Z,724nm,15.7s
TANN **Tannenbergstha** 31.44 315 *e*P P 20 11 39.6 +0.2
comp=Z,337nm,3.0s,baz=110,slow=8.9
WERN **Wernitzgruen** 31.44 315 *e*P P 20 11 40.2 +0.7
comp=Z,27nm,1.1s,baz=110,slow=8.9
CLL **Collm** 31.45 317⇑*i*P P 20 11 39.2 -0.2
comp=Z,34nm,0.9s
CLL *e*Pmax 20 11 41.0
CLL *i* pP pP 20 11 42.2 -2.4
CLL *e*PP PP 20 12 48.0 -2.4
CLL *e*PPPP 20 12 58.0
CLL *e*PcP PcP 20 14 33.0 +0.6
CLL *e*pPcP 20 14 37.0
CLL *e* 20 15 54.0
CLL *e* 20 16 24.0
CLL *e*S S 20 16 45.0 -1.5
CLL *e* 20 17 30.0
CLL *e*ScP ScP 20 18 14.0 -0.8
CLL *e*pScP 20 18 22.0
CLL *e* 20 18 28.0
CLL *e*SSS SSS 20 18 48.0
CLL *e* 20 19 54.0
CLL *e*ScS ScS 20 22 14.0 +1.8
CLL Lmax 20 27 00.0
CLL LmH 20 28 00.0
comp=N,2μm,19.0s
CLL LmH 20 28 00.0
comp=E,1μm,20.1s
CLL **Collm** 31.45 317⇑*i*P P 20 11 39.2 -0.2
CLL *i* 20 11 42.2
CLL pmax pmax
comp=Z,34nm,0.9s
CLL **Collm** 31.45 317 *e*P P 20 11 39.8 +0.3
comp=Z,34nm,0.9s,baz=110,slow=8.9
CLL **Collm** 31.45 317 P P 20 11 39.1 -0.3
FUR **Furstenfeldbru** 31.46 310 *e*P P 20 11 39.9 +0.2
comp=Z,196nm,0.8s,baz=110,slow=8.9
RUE **Ruedersdorf** 31.49 319 *e*P P 20 11 40.1 +0.3
RUE **Ruedersdorf** 31.49 319 *e*P P 20 11 40.1 +0.3
comp=Z,64nm,1.0s,baz=110,slow=8.9
GUNZ **Gunzen** 31.50 315 *e*P P 20 11 40.3 +0.3
comp=Z,190nm,2.7s,baz=110,slow=8.9
MANZ **Manzenberg** 31.50 314 *e*P P 20 11 40.5 +0.6
comp=Z,388nm,3.2s,baz=110,slow=8.9
FETA **Feichten** 31.53 308 *i* P P 20 11 40.6 +0.2
comp=Z,70nm,1.0s,SNR=29
FETA **Feichten** 31.53 308 *i* PcP PcP 20 14 34.9 +2.0
comp=Z,33nm,0.9s
FETA *i* S S 20 16 48.1 -0.1
comp=Z,21nm,1.1s
FETA *i* ScP ScP 20 18 15.4 0.0
comp=Z,3.8nm,0.6s
WERD **Werda** 31.54 315 *e*P P 20 11 40.8 +0.5
comp=Z,5.7nm,0.9s,baz=110,slow=8.9
HYBB **Hyderabad (bro** 31.60 111 *e*P P 20 11 41.5 +0.3
HYBB IVmB_BB 20 11 42.8
comp=Z,328nm,0.6s
HYBB IVMsBB 20 27 27.0
comp=Z,348nm,4.9s
HYB **Hyderabad** 31.60 111 *i* P P 20 11 41.0 -0.1
HYB **Hyderabad** 31.60 111 *ex* x 20 11 41.8
HYB IAmb IAmb 20 11 43.4
comp=Z,47nm,0.8s
RETA **Reutte** 31.62 309 *i* P P 20 11 40.5 -0.6
comp=Z,35nm,0.9s,SNR=14
RETA **Reutte** 31.62 309 *i* PcP PcP 20 14 34.9 +1.9
comp=Z,20nm,1.1s
RETA *i* S S 20 16 47.4 -2.0
comp=Z,19nm,1.1s
RETA *i* ScP ScP 20 18 15.3 -0.2
comp=Z,3.3nm,0.6s
PLN **Plauen** 31.64 315 *e*P P 20 11 41.3 +0.1
comp=Z,32nm,1.9s,baz=110,slow=8.9
ZSN **Zaisan** 31.65 51 *i* P P 20 11 42.0 +0.6
comp=Z,6.4nm,0.8s,baz=52
ZSN *e*S S 20 16 52.5 +2.7
baz=52
ZSN **Zaisan** 31.65 51 *i* P P 20 11 41.9 +0.6
ZSN *e*S S 20 16 52.5 +2.7
ZSN pmax pmax
comp=Z,6.0nm,0.8s
FUORN **Ofenpass-Fuorn** 31.75 307 P P 20 11 42.3 -0.1
KEST **Kesra** 31.80 286 P P 20 11 44.6 +1.9
comp=Z,17nm,0.9s,baz=349,slow=3.2,SNR=16
KEST **Kesra** 31.80 286 P P 20 11 44.0 +1.2
MSSA **Maissana** 31.85 303 P P 20 11 42.7 -0.5
GRA1 **Grafenberg Arr** 31.95 313 P P 20 11 43.7 -0.2
GRA1 IAmb IAmb 20 11 45.2
comp=Z,57nm,0.8s
GRF **Grafenberg Arr** 31.95 313 P P 20 11 43.7 -0.2
GRF pmax pmax
comp=Z,57nm,0.8s
GRF **Grafenberg Arr** 31.95 313 *e*P P 20 11 44.6 +0.7
comp=Z,62nm,0.8s,baz=110,slow=8.9
GRF *e*L L 20 28 07.1
comp=Z,884nm,18.2s
MOX **Moxa** 32.02 315 *e*P P 20 11 44.8 +0.3
comp=Z,15nm,1.1s,baz=110,slow=8.9
MOX *e*L L 20 28 58.9
comp=Z,1μm,18.0s
FINES **FINESS Array B** 32.03 340 P P 20 11 44.0 -0.4
comp=Z,57nm,0.8s,baz=134,slow=1.1,SNR=92
FINES PcP PcP 20 14 35.4 +1.7
comp=Z,9.7nm,0.6s,baz=108,slow=6.2,SNR=4.2
FINES LR LR 20 26 06.3
comp=Z,2μm,20.6s,baz=140,slow=39
FINES P3KPbc 20 43 13.5
comp=Z,1.9nm,1.0s,baz=255,slow=5.3,SNR=3.4
FINES **FINESS Array B** 32.03 340 P P 20 11 44.0 -0.4
FIA1 **FINESS Array S** 32.04 340 P P 20 11 44.0 -0.4
GKN **Gorkha** 32.04 89 *e*P P 20 11 44.9 -0.2
comp=Z,128nm,0.7s
URV **Uravakonda** 32.07 116 *e*P P 20 11 44.4 -0.9
URV IVmB_BB 20 11 47.1
comp=Z,117nm,1.2s
URV IVMsBB 20 24 56.9
comp=Z,184nm,5.2s
TMCR **Tamitsa** 32.09 352 *e*P P 20 11 44.2 -0.7
TMCR pmax pmax
comp=Z,4.0nm,0.6s
UBR **Ueberruh** 32.10 309 *e*P P 20 11 45.3 0.0
comp=Z,73nm,1.1s,baz=110,slow=8.9
NEUB **Neuenburg** 32.13 316 *e*P P 20 11 45.5 +0.1
comp=Z,44nm,0.8s,baz=110,slow=8.9
DAVA **Damuels** 32.15 308 *i* P P 20 11 45.6 -0.2
comp=Z,69nm,0.6s,SNR=39
DAVA **Damuels** 32.15 308 *i* PcP PcP 20 14 35.6 +1.0
comp=Z,36nm,1.1s
DAVA *i* S S 20 16 55.4 -2.5
comp=Z,19nm,1.1s
DAVA *i* ScP ScP 20 18 17.6 +0.1
comp=Z,5.9nm,0.6s
TUE **Stuetta** 32.34 307 P P 20 11 47.0 -0.5
DMN **Daman** 32.56 89 *e*P P 20 11 49.7 0.0
comp=Z,72nm,0.7s
SRLM **Srisailam** 32.63 113 *e*P P 20 11 49.5 -0.7
SRLM IVMsBB 20 27 17.8
comp=Z,358nm,13.3s
KKN **Kakani** 32.65 89 *e*P P 20 11 50.2 -0.3
comp=Z,55nm,0.6s
NJS **Nagarjunasagar** 32.69 112 *e*P P 20 11 50.6 0.0
NJS IVmBBB 20 11 52.6
comp=Z,218nm,0.7s
NJS IVMsBB 20 25 44.7
comp=Z,300nm,17.4s
PKI **Pulchoki** 32.83 89 *e*P P 20 11 51.9 -0.3

comp=Z,192nm,1.0s
STU Stuttgart 32.96 311 P **P** **20 11 52.0 -0.7**
STU pmax pmax
comp=Z,23nm,1.1s
STU MLR MLR
comp=Z,700nm,21.0s
STU Stuttgart 32.96 311 P **P** **20 11 52.0 -0.7**
WMQ Urumqi 32.97 59 *eP* **P** **20 11 54.3 +1.3**
WMQ pP pP 20 11 56.5 -1.6
WMQ sP sP 20 12 02.3 +2.0
WMQ PP **PnPn** **20 13 00.3 -1.8**
WMQ S **S** **20 17 11.4 +0.9**
WMQ sS sS 20 17 21.1 +2.1
WMQ ScP **ScP** **20 18 19.3 -0.9**
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ pmax pmax
comp=Z,130nm,3.7s
WMQ LR LR
comp=Z,1μm,14.7s
WMQ LR LR
comp=Z,930nm,13.3s
WMQ LR LR
comp=Z,440nm,15.5s
WMQ Urumqi 32.97 59 P **P** **20 11 53.4 +0.4**
WMQ pmax pmax
comp=Z,46nm,0.9s
WMQ Urumqi 32.97 59 P **P** **20 11 53.4 +0.4**
WMQ IAmb IAmb 20 12 03.0
comp=Z,46nm,0.9s
UBBA Unterbreizbach 33.05 315 *eP* **P** **20 11 53.9 +0.6**
comp=Z,76nm,2.0s,baz=110,slow=8.9
ASSE Asse, Remlinge 33.10 317 *eP* **P** **20 11 54.5 +0.6**
comp=Z,17nm,0.9s,baz=110,slow=8.9
CLZ Clausthal 33.17 316 *eP* **P** **20 11 55.3 +0.7**
comp=Z,64nm,0.8s,baz=110,slow=8.9
GTTG Gottingen 33.31 316 *eP* **P** **20 11 56.7 +0.9**
comp=Z,30nm,1.0s,baz=110,slow=8.9
BFO Black Forest 33.41 310 P **P** **20 11 56.5 -0.2**
BFO pmax pmax
comp=Z,26nm,1.0s
BFO MLR MLR
comp=Z,500nm,21.0s
BFO Black Forest 33.41 310 *eP* **P** **20 11 56.7 0.0**
comp=Z,31nm,1.0s,baz=110,slow=8.9
BFO Black Forest 33.41 310 P **P** **20 11 56.5 -0.2**
JIRN Jiri 33.46 88 *eP* **P** **20 11 57.9 +0.2**
comp=Z,242nm,0.9s
NRDL Niedersach Rie 33.56 317 *eP* **P** **20 11 59.3 +1.5**
comp=Z,58nm,0.9s,baz=110,slow=8.9
ADKI Addanki 33.61 112 *eP* **P** **20 11 58.8 +0.1**
ADKI IVmB_BB 20 12 04.0
comp=Z,218nm,2.4s
ADKI IVMsBB 20 26 54.2
comp=Z,299nm,15.4s
MYLAV Mylavaram 33.62 110 *eP* **P** **20 11 59.1 +0.4**
MYLAV IVmB_BB 20 12 00.6
comp=Z,257nm,0.7s
MYLAV IVMs_BB IVMs_BB 20 27 58.0
comp=Z,408nm,23.1s
SENIN Lac Senin/Sane 33.71 306 P **P** **20 11 58.8 -0.8**
SENIN IAmb IAmb 20 12 11.8
comp=Z,33nm,0.7s
ZAA0 Zalesovo Array 33.77 40 P **P** **20 11 59.2 -0.4**
ZAA0 IAmb IAmb 20 12 10.1
comp=Z,56nm,0.9s
ZALV Zalesovo Beam 33.77 40 P **P** **20 11 59.7 +0.1**
comp=Z,33nm,0.7s,baz=255,slow=8.9,SNR=107
ZALV ScP **ScP** **20 18 19.9 -2.8**
comp=Z,5.5nm,0.7s,baz=241,slow=4.0,SNR=6.3
DGZ Jazzator, Alta 33.87 48*c iP* **P** **20 12 01.1 +0.2**
DGZ pmax pmax
comp=Z,21nm,0.7s
BNI Bardonecchia 33.95 303 P **P** **20 12 01.5 -0.1**
BNI pmax pmax
comp=Z,179nm,0.8s
BNI MLR MLR
comp=Z,500nm,18.0s
BNI Bardonecchia 33.95 303 P **P** **20 12 01.5 -0.1**
LPL La Plagne 33.98 304 *eP* **P** **20 12 00.9 -1.0**
LPL pmax pmax
comp=Z,197nm,0.8s
BSEG Bad Segeberg 33.99 320 *eP* **P** **20 12 02.6 +1.0**
comp=Z,46nm,1.2s,baz=110,slow=8.9
RAMN Ramite 34.03 89 *eP* **P** **20 12 02.1 -0.5**
comp=Z,64nm,0.7s
PVM Polavaram 34.13 108 *eP* **P** **20 12 03.7 +0.5**
PVM IVmBBB 20 12 11.8
comp=Z,130nm,0.7s
PVM IVMs_BB IVMs_BB 20 27 50.6
comp=Z,461nm,18.3s
ECH Echery 34.15 309 P **P** **20 12 02.1 -1.0**
ECH pmax pmax
comp=Z,48nm,1.2s
ECH MLR MLR
comp=Z,600nm,19.0s
ECH Echery 34.15 309 P **P** **20 12 02.1 -1.0**
ECH IAmb IAmb 20 12 09.2
comp=Z,48nm,1.2s
SKHT Srikalahasti 34.67 115 *eP* **P** **20 12 07.8 -0.1**
SKHT IVmB_BB 20 12 09.3
comp=Z,148nm,1.1s
SKHT IVMsBB 20 29 20.4
comp=Z,339nm,12.8s
ODAN Odare 34.72 89 *eP* **P** **20 12 08.8 +0.2**
comp=Z,29nm,0.6s
AHRW Bad Neuenahr-A 34.75 313 *eP* **P** **20 12 09.0 +0.8**
comp=Z,28nm,0.9s,baz=110,slow=8.9
TAPN Taplejung 34.84 88 *eP* **P** **20 12 10.0 +0.4**
comp=Z,90nm,0.7s
IBBN Ibbenburen 34.85 316 *eP* **P** **20 12 10.7 +1.6**
comp=Z,360nm,2.2s,baz=110,slow=8.9
BUG Bochum--Univer 34.88 315 *eP* **P** **20 12 10.4 +1.1**
comp=Z,43nm,1.2s,baz=110,slow=8.9
KMBO Kilima Mbogo 35.06 199 P **P** **20 12 15.1 +3.6**
comp=Z,8.2nm,0.9s,baz=4.7,slow=9.8,SNR=22
KMBO Kilima Mbogo 35.06 199 *i* P **P** **20 12 13.4 +1.9**
SNR=5.5
KMBO Kilima Mbogo 35.06 199 P **P** **20 12 12.7 +1.2**
KMBO pmax pmax
comp=Z,78nm,1.9s
KMBO MLR MLR
comp=Z,2μm,18.0s
KMBO Kilima Mbogo 35.06 199 P **P** **20 12 12.7 +1.2**
KMBO IAmb IAmb 20 12 15.6
comp=Z,78nm,1.9s
KMBO Kilima Mbogo 35.06 199 IAMs_20 IAMs_20 20 27 49.7
comp=Z,2μm,18.0s
WLF Walferdange 35.11 311 P **P** **20 12 11.2 -0.2**
comp=Z,27nm,1.2s
WLF Walferdange 35.11 311 P **P** **20 12 10.7 -0.7**
WLF pmax pmax
comp=Z,32nm,0.8s
WLF MLR MLR
comp=Z,1μm,20.0s
WLF Walferdange 35.11 311 *eP* **P** **20 12 11.2 -0.2**
comp=Z,36nm,0.9s,baz=110,slow=8.9
WLF Walferdange 35.11 311 P **P** **20 12 10.7 -0.7**
WLF IAmb IAmb 20 12 12.4
comp=Z,32nm,0.8s
MEM Membach 35.43 313 P **P** **20 12 14.5 +0.4**
MEM pP **pP** **20 12 16.5 -2.7**
CHLP Challavanipeta 35.44 104 *eP* **P** **20 12 14.3 -0.2**
CHLP IVmB_BB 20 12 22.1
comp=Z,274nm,1.0s
CHLP IVMs_BB IVMs_BB 20 28 29.9
comp=Z,826nm,18.0s
SSB Saint Sauveur 35.48 304 P **P** **20 12 13.9 -0.8**
SSB pmax pmax
comp=Z,20nm,0.8s
SSB MLR MLR
comp=Z,700nm,20.0s
SSB Saint Sauveur 35.48 304 P **P** **20 12 13.9 -0.8**
MAHO Mahon 35.53 294 *i* P **P** **20 12 15.5 +0.4**
MAHO *i* S **S** **20 17 48.9 -1.0**
GTK Tadong 35.60 88 *ex* x 20 12 16.8
GTK IAmb IAmb 20 12 20.1
comp=Z,40nm,0.3s
MUD Monsted U'grnd 35.63 324 *i* P **P** **20 12 16.5 +0.8**
MUD Monsted U'grnd 35.63 324 *i* P **P** **20 12 16.5 +0.8**
BEBN Eben Emael 35.67 313 P **P** **20 12 16.1 0.0**
BEBN sP **pP** **20 12 19.4 -2.0**
BSTI Sart Tilman 35.69 313 P **P** **20 12 17.0 +0.7**
BCLA Clavier 35.82 312 P **P** **20 12 16.6 -0.8**
BCLA pP **pP** **20 12 19.4 -3.3**
BCLA sP **sP** **20 12 20.6 -4.2**

APA Apatity 35.94 351⇑ *iP* **P** **20 12 17.1 -1.1**
APA *i* 20 13 46.0
APA *i* S **S** **20 17 54.0 -1.5**
APA pmax pmax
comp=Z,43nm,0.8s
APA MLR MLR
comp=Z,1μm,18.0s
BGES Gesves 35.94 312 P **P** **20 12 18.4 -0.2**
comp=Z,22nm,1.2s
LVZ Lovozero 36.08 352*ce*P **P** **20 12 19.0 -0.5**
LVZ pmax pmax
comp=Z,29nm,0.7s
LVZ Lovozero 36.08 352 P **P** **20 12 19.2 -0.3**
LVZ IAmb IAmb 20 12 23.5
comp=Z,29nm,0.7s
LVZ IAMs_20 IAMs_20 20 28 14.2
comp=Z,2μm,22.0s
BMRD Maredsous 36.12 312 P **P** **20 12 18.8 -1.3**
DOU Dourbes 36.19 312 P **P** **20 12 20.5 -0.1**
SSF Saint Saulge 36.39 306 *eP* **P** **20 12 21.2 -1.2**
SSF pmax pmax
comp=Z,87nm,1.0s
SNF Seneffe 36.47 312 P **P** **20 12 22.8 -0.2**
UCC Uccle 36.49 313 P **P** **20 12 23.4 +0.2**
UCC pmax pmax
comp=Z,30nm,0.9s
UCC MLR MLR
comp=Z,800nm,21.0s
UCC Uccle 36.49 313 P **P** **20 12 23.4 +0.2**
OSL Oslo 36.58 329 *eP* **P** **20 12 23.3 -0.5**
NC602 NORSAR Array S 36.66 331 P **P** **20 12 23.8 -0.7**
NC405 NORSAR Array S 36.80 331 P **P** **20 12 25.0 -0.7**
NC405 IAmb IAmb 20 12 55.2
comp=Z,56nm,0.8s
KONO Kongsberg 36.92 328 P **P** **20 12 26.1 -0.6**
KONO pmax pmax
comp=Z,38nm,1.0s
KONO MLR MLR
comp=Z,1μm,20.0s
KONO Kongsberg 36.92 328 P **P** **20 12 26.1 -0.6**
KONO Kongsberg 36.92 328 *eP* **P** **20 12 26.1 -0.6**
NB201 NORSAR Array S 36.94 331 P **P** **20 12 26.2 -0.7**
NB201 IAmb IAmb 20 13 49.0
comp=Z,64nm,1.2s
NB2 NORSAR Subarra 36.96 331 P **P** **20 12 26.0 -1.1**
comp=Z,12nm,0.6s,baz=124,slow=8.6
NB2 NORSAR Subarra 36.96 331 P **P** **20 12 26.0 -1.1**
baz=124,slow=8.6
NOA NORSAR Array B 36.96 331 P **P** **20 12 25.9 -1.2**
comp=Z,13nm,0.7s,baz=123,slow=8.4,SNR=57
NOA ScP **ScP** **20 18 33.1 -1.1**
comp=Z,2.8nm,0.7s,baz=109,slow=4.2,SNR=4.7
NOA LR LR 20 29 02.3
comp=Z,1μm,18.4s,baz=130,slow=38
LSA Lhasa 37.03 83 P **P** **20 12 30.3 +1.7**
LSA pmax pmax
comp=Z,75nm,0.6s
LSA Lhasa 37.03 83 P **P** **20 12 29.0 +0.4**
LSA Lhasa 37.03 83 P **P** **20 12 28.6 0.0**
LSA pmax pmax
comp=Z,31nm,0.8s
LSA MLR MLR
comp=Z,2μm,20.0s
LSA Lhasa 37.03 83 P **P** **20 12 28.6 0.0**
LSA IAMs_20 IAMs_20 20 29 14.6
comp=Z,2μm,20.0s
CAF Calviac 37.21 303 *eP* **P** **20 12 28.2 -1.2**
CAF pmax pmax
comp=Z,21nm,1.0s
NC204 NORSAR Array S 37.27 331 *eP* **P** **20 12 28.6 -1.1**
CLF Chambon-Foret 37.35 308 P **P** **20 12 30.2 -0.3**
CLF IAmb IAmb 20 12 36.4
comp=Z,64nm,1.3s
SKAR Skarslia 37.99 329 *eP* **P** **20 12 38.2 +2.4**
BLS5 Blasjo 38.23 327 *eP* **P** **20 12 38.4 +0.5**
ODD1 Odda 38.37 328 *eP* **P** **20 12 43.2 +4.2**
DOMB Dombas 38.37 332 *eP* **P** **20 12 39.9 +0.9**
TAM Tamanrasset 38.46 266 P **P** **20 12 41.3 +0.9**
TAM pmax pmax
comp=Z,46nm,1.3s
TAM MLR MLR
comp=Z,2μm,18.0s
TAM Tamanrasset 38.46 266 P **P** **20 12 41.3 +0.9**
TBLU Trondheim 38.57 334 *eP* **P** **20 12 40.4 -0.2**
NSS Namsos 38.72 336 *eP* **P** **20 12 41.4 -0.4**
KEV Kevo 38.91 349 P **P** **20 12 43.0 -0.3**
KEV pmax pmax
comp=Z,25nm,0.6s
KEV MLR MLR
comp=Z,1μm,19.0s
KEV Kevo 38.91 349 P **P** **20 12 43.0 -0.3**
SHL Shillong 38.96 89 P **P** **20 12 43.9 -0.7**
SHL pmax pmax
comp=Z,44nm,0.7s
SHL MLR MLR
comp=Z,4μm,18.0s
SHL Shillong 38.96 89 P **P** **20 12 43.9 -0.7**
SHL IAmb IAmb 20 12 55.0
comp=Z,44nm,0.7s
KTK1 Kautokeino 38.96 346 *eP* **P** **20 12 43.3 -0.5**
ARCES ARCESS Array B 38.97 348 P **P** **20 12 43.8 -0.1**
comp=Z,29nm,0.8s,baz=151,slow=8.4,SNR=89
ARCES PP **PP** **20 14 13.1 -0.1**
comp=Z,10nm,0.7s,baz=151,slow=8.2,SNR=4.4
ARCES PcP **PcP** **20 14 54.6 +0.6**
comp=Z,24nm,0.7s,baz=151,slow=2.1,SNR=2.1
ARCES ScP **ScP** **20 18 40.2 -1.5**
comp=Z,5.6nm,0.7s,baz=158,slow=3.9,SNR=6.8
ARE0 ARCESS Array S 38.97 348 P **P** **20 12 43.9 0.0**
ARE0 ARCESS Array S 38.97 348 *eP* **P** **20 12 44.8 +0.8**
BER Bergen 39.16 328 *eP* **P** **20 12 45.6 0.0**
WACR West Acre 39.17 315⇑ *eP* **P** **20 12 45.3 -0.4**
WACR IAmb IAmb 20 12 48.0
comp=Z,151nm,0.9s
AKN Aaknes 39.28 331 *eP* **P** **20 12 47.2 +0.7**
TEZP TEZPUR 39.36 87 *ex* x 20 12 47.9
N2ST Straumen 39.48 341 *eP* **P** **20 12 48.0 -0.1**
STOK Stokkvaagen 39.53 339 *eP* **P** **20 12 48.4 -0.2**
FAUS Fauske 39.59 341 *eP* **P** **20 12 48.4 -0.7**
KONS Konsvik 39.61 339 *eP* **P** **20 12 49.0 -0.3**
NBB40 Tonnes 39.65 339 *eP* **P** **20 12 49.2 -0.4**
PALK Pallekele 39.65 122 P **P** **20 12 48.8 -1.4**
comp=Z,13nm,0.7s,baz=98,slow=2.6,SNR=5.2
NBB05 Inndyr 39.70 340 *eP* **P** **20 12 50.3 +0.3**
NBB30 Finnes 39.75 340 *eP* **P** **20 12 50.4 0.0**
N2TV TVrnvik 39.77 341 *eP* **P** **20 12 50.0 -0.6**
NBB08 Skaug oppvekst 39.77 341 *eP* **P** **20 12 50.6 0.0**
FOO Floro 39.82 330 *eP* **P** **20 12 49.5 -1.6**
N2IH Innhavet 39.83 342 *eP* **P** **20 12 50.5 -0.6**
CART Cartagena 39.84 291 *eP* **P** **20 12 52.1 +0.5**
CART *eS* **S** **20 18 53.6 -1.8**
ZIRO ZIRO 39.95 85 *ex* x 20 12 52.6
ITAN ITANAGAR 39.96 86 *ex* x 20 12 54.5
ITAN IAmb IAmb 20 12 55.9
comp=Z,79nm,1.0s
STEI Steigen 39.99 342 *eP* **P** **20 12 51.7 -0.7**
WOL Wolverton 40.05 313⇑ *eP* **P** **20 12 53.2 +0.1**
WOL IAmb IAmb 20 12 54.4
comp=Z,256nm,0.8s
HAMF Hammerfest 40.25 348 *eP* **P** **20 12 55.6 +1.1**
CWF Charnwood Fore 40.32 315⇑ *eP* **P** **20 12 54.9 -0.5**
CWF IAmb IAmb 20 12 56.1
comp=Z,89nm,0.7s
GDLE Glaisdale, N Y 40.36 317 *eP* **P** **20 12 55.5 -0.2**
TRO Tromso 40.37 345 *eP* **P** **20 12 55.1 -0.3**
JSA Saint Aubin 40.40 309 *eP* **P** **20 12 55.1 -0.9**
SWN1 Swindon 40.43 313⇑ *eP* **P** **20 12 56.5 +0.3**
SWN1 IAmb IAmb 20 12 59.6
comp=Z,196nm,0.7s
N2VA Vr¥ 40.51 340 *eP* **P** **20 12 55.8 -0.9**
N2VI Vinje 40.55 342 *eP* **P** **20 12 56.6 -0.4**
N2SV S¸rv¥gen 40.58 341 *eP* **P** **20 12 55.9 -1.3**
N2RO R¸st 40.58 340 *eP* **P** **20 12 55.8 -1.5**
LOF Lofoten 40.59 341 *eP* **P** **20 12 57.3 0.0**
LBWR Ladybower, Pea 40.69 316⇑ *eP* **P** **20 12 57.8 -0.6**
LBWR IAmb IAmb 20 12 59.7
comp=Z,114nm,0.8s
STRD Stroud 40.69 313⇑ *eP* **P** **20 12 58.2 -0.2**
STRD IAmb IAmb 20 12 59.7
comp=Z,196nm,0.7s
HPK Haverah Park 40.73 317 *eP* **P** **20 12 58.5 -0.3**
HPK IAmb IAmb 20 12 59.4
comp=Z,101nm,0.9s
EDMD Edmundbyers 41.10 318⇑ *eP* **P** **20 13 01.5 -0.3**

EDMD IAmb IAmb 20 13 02.8
comp=Z,82nm,0.8s
HLM1 Long Mynd 41.24 314⇑ *eP* **P** **20 13 02.6 -0.4**
HLM1 IAmb IAmb 20 13 03.8
comp=Z,72nm,0.7s
MCH1 Michaelchurch 41.24 313⇑ *eP* **P** **20 13 02.4 -0.5**
MCH1 IAmb IAmb 20 13 03.5
comp=Z,129nm,0.7s
UCM Universidad Co 41.25 296 *i* P **P** **20 13 03.1 -0.1**
UCM *i* S **S** **20 19 16.1 -0.4**
FOEL Foel Wylfa 41.48 315⇑ *eP* **P** **20 13 05.0 +0.1**
FOEL IAmb IAmb 20 13 06.3
comp=Z,105nm,0.8s
LKP Lekhapani 41.69 84 *ex* x 20 13 07.5
ESY Stoneypath 41.69 319⇑ *eP* **P** **20 13 06.9 +0.3**
KESW Keswick, Cumbr 41.70 317 *eP* **P** **20 13 06.8 +0.1**
KESW IAmb IAmb 20 13 08.0
comp=Z,157nm,0.8s
LLW Llanuwchllyn 41.76 315⇑ *eP* **P** **20 13 07.0 -0.2**
LLW IAmb IAmb 20 13 08.2
comp=Z,33nm,0.7s
MELI Melilla 41.77 288 *i* P **P** **20 13 07.7 +0.2**
ESBB Sonseca Array 41.87 295 P **P** **20 13 07.9 -0.4**
ESDC Sonseca Array 41.87 295 P **P** **20 13 08.5 +0.1**
comp=Z,31nm,0.9s,baz=73,slow=8.0,SNR=107
ESDC PcP **PcP** **20 15 04.1 +0.1**
comp=Z,5.2nm,0.9s,baz=45,slow=2.9,SNR=3.5
ESDC ScP **ScP** **20 18 53.0 -0.7**
comp=Z,1.5nm,0.6s,baz=52,slow=4.1,SNR=10
EBL Broad Law 41.90 319⇑ *eP* **P** **20 13 08.2 -0.1**
ESK Eskdalemuir 41.90 318⇑ *eP* **P** **20 13 07.6 -0.7**
ESK IAmb IAmb 20 13 09.0
comp=Z,43nm,0.8s
ESK Eskdalemuir 41.90 318 P **P** **20 13 08.0 -0.3**
ESK pmax pmax
comp=Z,43nm,0.9s
ESK MLR MLR
comp=Z,700nm,18.0s
ESK Eskdalemuir 41.90 318 P **P** **20 13 08.0 -0.3**
EDI Edinburgh 42.01 319 *eP* **P** **20 13 09.1 -0.1**
HTL Hartland 42.05 312 *eP* **P** **20 13 09.4 -0.2**
HTL IAmb IAmb 20 13 11.0
comp=Z,50nm,0.8s
YLL Llanberis 42.10 315 *eP* **P** **20 13 10.0 0.0**
GTA Gaotai 42.12 66⇑ P **P** **20 13 10.5 0.0**
GTA pP pP 20 13 14.0 -1.8
GTA sP sP 20 13 16.8 -1.1
GTA PP **PP** **20 14 47.8 -0.2**
GTA PcP **PcP** **20 15 03.5 -1.4**
GTA ScP **ScP** **20 18 52.1 -2.7**
GTA S **S** **20 19 31.3 +1.7**
GTA sS sS 20 19 38.6 +0.3
GTA ScS **ScS** **20 23 10.3 -2.2**
GTA pmax pmax
comp=Z,9.0nm,1.3s
GTA pmax pmax
comp=Z,280nm,7.9s
GTA LR LR
comp=Z,2μm,16.2s
GTA LR LR
comp=Z,2μm,16.8s
GTA LR LR
comp=Z,2μm,16.5s
PAB San Pablo 42.18 295 P **P** **20 13 10.2 -0.7**
PAB pmax pmax
comp=Z,44nm,1.1s
PAB MLR MLR
comp=Z,400nm,19.0s
PAB San Pablo 42.18 295 P **P** **20 13 10.2 -0.7**
WME Myndd Eilian 42.21 315 *eP* **P** **20 13 10.6 -0.3**
WLF1 Llynfaes 42.25 315 *eP* **P** **20 13 10.9 -0.3**
WPS Cemaes, Angles 42.33 315 *eP* **P** **20 13 11.7 -0.2**
WPS IAmb IAmb 20 13 13.0
comp=Z,57nm,0.8s
YRC Rhoscolyn 42.35 315 *eP* **P** **20 13 11.6 -0.4**
ELO Logie Almond 42.41 320 *eP* **P** **20 13 11.8 -0.7**
NEWG New Galloway 42.44 318 *eP* **P** **20 13 11.7 -1.0**
IOMK Kirk Michael 42.49 317 *eP* **P** **20 13 12.7 -0.5**
IOMK IAmb IAmb 20 13 14.3
comp=Z,144nm,0.8s
WIM Isle of Man 42.54 316⇑ *eP* **P** **20 13 13.4 -0.1**
INVG Invergeldie, C 42.58 320 *eP* **P** **20 13 13.3 -0.5**
INVG IAmb IAmb 20 13 14.6
comp=Z,83nm,0.8s
GAL1 Galloway 42.67 317⇑ *eP* **P** **20 13 14.6 0.0**
GAL1 IAmb IAmb 20 13 15.4
comp=Z,57nm,0.8s
EMAL Malaga-Limoner 42.68 291 *i* P **P** **20 13 13.8 -1.1**
EMAL *eS* **S** **20 19 35.3 -2.2**
EAB Aberfoyle 42.70 319⇑ *eP* **P** **20 13 14.2 -0.6**
MOY Mondy 42.70 47 *eP* **P** **20 13 16.1 +1.1**
MOY pmax pmax
comp=Z,68nm,1.8s
PGBU Glenifferbraes 42.70 319 *eP* **P** **20 13 13.6 -1.2**
PGBU IAmb IAmb 20 13 16.4
comp=Z,95nm,1.0s
PVLZ Peæn de 42.88 288 *i* P **P** **20 13 15.9 -0.7**
PVLZ *eS* **S** **20 19 40.2 -0.4**
NRIK Noril'sk 42.91 19 P **P** **20 13 16.9 +0.5**
comp=Z,23nm,0.6s,baz=214,slow=5.1,SNR=28
NRIK LR LR 20 35 12.8
comp=Z,1μm,18.1s,baz=229,slow=42
LAWE Loch Awe, Argy 43.29 319 *eP* **P** **20 13 18.7 -0.9**
GMM Mts of Mourne 43.29 316⇑ *eP* **P** **20 13 19.3 -0.3**
DSB Dublin 43.43 315 P **P** **20 13 20.3 -0.5**
DSB IAmb IAmb 20 13 22.1
comp=Z,85nm,0.7s
ILTH Belurgan, Co L 43.49 316 *eP* **P** **20 13 21.5 +0.3**
CLGH Cloghs, Cushen 43.50 318 *eP* **P** **20 13 21.0 -0.3**
CLGH IAmb IAmb 20 13 22.9
comp=Z,102nm,0.8s
CEU Ceuta 43.59 290 *eP* **P** **20 13 24.4 +2.1**
MDT Midelt 43.68 285 P **P** **20 13 23.9 +0.7**
comp=Z,18nm,0.8s,baz=84,slow=0.2,SNR=32
PBRG Braganca 43.72 298 *eP* **P** **20 13 23.5 +0.2**
comp=Z,56nm,2.8s
IFR Ifrane 43.93 286 *eP* **P** **20 13 24.6 -0.7**
IFR *i* S **S** **20 19 52.5 -3.8**
MVO Moncorvo 44.01 297 *eP* **P** **20 13 26.1 +0.4**
comp=Z,66nm,1.1s
MVO *eS* **S** **20 19 59.5 +2.4**
MVO *eLQ* LQ 20 26 35.4
MVO *eLR* LR 20 31 43.8
comp=Z,405nm,20.0s
ZAK Zakamensk 44.06 49 *eP* **P** **20 13 26.7 +0.7**
ZAK *e* 20 15 09.2
ZAK pmax pmax
comp=Z,16nm,1.5s
ZAK pmax pmax
comp=Z,10.0nm,1.1s
SFS San Fernando 44.14 291 P **P** **20 13 26.6 0.0**
SFS pmax pmax
comp=Z,90nm,0.7s
SFS San Fernando 44.14 291 P **P** **20 13 26.6 0.0**
IDGL Inch Island, C 44.30 317 *eP* **P** **20 13 27.2 -0.5**
TLY Talaya 44.35 47*c iP* **P** **20 13 29.0 +0.8**
TLY *e* 20 15 12.8
TLY *e*PPP PPP 20 15 53.1
TLY *eS* **S** **20 20 05.6 +3.9**
TLY *eSS* **ScS** **20 23 29.6 +3.9**
TLY pmax pmax
comp=Z,15nm,0.6s
TLY MLR MLR
comp=Z,4μm,17.0s
TLY Talaya 44.35 47 P **P** **20 13 29.1 +0.9**
MTE Manteigas 44.50 296 *eP* **P** **20 13 29.9 +0.3**
comp=Z,113nm,1.2s
MTE *eS* **S** **20 20 01.2 -3.0**
MTE *eLQ* LQ 20 26 26.5
MTE *eLR* LR 20 29 54.7
comp=Z,368nm,18.0s
PVRL Vila Real 44.51 298 *eP* **P** **20 13 30.1 +0.5**
comp=Z,96nm,1.3s
PMRV Marv??o 44.53 295 *eP* **P** **20 13 29.8 0.0**
comp=Z,56nm,1.2s
PMRV *eS* S 20 19 50.3 -14
PMRV *eLQ* LQ 20 26 26.8
PMRV *eLR* LR 20 31 03.7
comp=Z,406nm,18.0s
PCBR Castelo Branco 44.53 296 *eP* **P** **20 13 30.1 +0.3**
comp=Z,130nm,1.1s
PCAB Cabril 44.68 298 *eP* **P** **20 13 31.5 +0.5**
comp=Z,72nm,1.0s
PVIS Viseu 44.72 297 *eP* **P** **20 13 32.1 +0.8**

	comp=Z,96nm,1.4s									
IRK	**Irkutsk**	**44.76**	**47**	*e*P		**P**	**20 13 31.4**	**-0.1**		
IRK				pmax		pmax				
	comp=Z,115nm,2.2s									
PGAV	**Gavieira, Arco**	**44.83**	**299**	*e*P		**P**	**20 13 32.6**	**+0.3**		
	comp=Z,130nm,1.4s									
PGAV	**Gavieira, Arco**	**44.83**	**299**	*e*LR		LR	20 30 43.3			
PBEJ	**Beja**	**45.13**	**293**	*e*P		**P**	**20 13 34.6**	**0.0**		
	comp=Z,71nm,0.8s									
EVO	**Evora**	**45.16**	**294**	*i* P		**P**	**20 13 34.0**	**-0.8**		
EVO	**Evora**	**45.16**	**294**	*e*P		**P**	**20 13 32.5**	**-2.3**		
	comp=Z,44nm,1.4s									
IGLA	**Glengowla, Co**	**45.23**	**315**	*e*P		**P**	**20 13 34.7**	**-0.5**		
PCAS	**Casmilo, Conde**	**45.27**	**296**	*e*S		**S**	**20 20 14.5**	**-0.9**		
PBDV	**Barranco-do-Ve**	**45.34**	**292**	*e*P		**P**	**20 13 36.7**	**+0.4**		
	comp=Z,44nm,1.8s									
PBDV				*e*S		**S**	**20 20 24.5**	**+8.1**		
PCVE	**Castro Verde**	**45.34**	**293**	*e*P		**P**	**20 13 36.2**	**-0.1**		
	comp=Z,50nm,2.0s									
PSBE	**So Bento**	**45.58**	**295**	*e*P		**P**	**20 13 38.9**	**+0.7**		
	comp=Z,77nm,1.7s									
PSBE				*e*S		**S**	**20 20 22.0**	**+2.0**		
PNCL	**Nicolau / Gran**	**45.63**	**293**	*e*P		**P**	**20 13 39.1**	**+0.5**		
	comp=Z,53nm,1.2s									
PNCL				*e*S		S	20 20 34.8	+14		
AVE	**Averroes**	**45.83**	**287**	*i* P		**P**	**20 13 39.1**	**-1.1**		
AVE				*e*S		**S**	**20 20 26.1**	**+2.5**		
LZH	**Lanzhou**	**45.86**	**69**	⇓P		**P**	**20 13 41.4**	**+0.8**		
LZH				pP		pP	20 13 46.8	+0.9		
LZH				PP		**PP**	**20 15 32.0**	**+4.0**		
LZH				S		**S**	**20 20 16.1**	**-8.1**		
LZH				SS		**ScS**	**20 23 40.5**	**+4.3**		
LZH				pmax		pmax				
	comp=Z,59nm,1.3s									
LZH				pmax		pmax				
	comp=Z,390nm,5.4s									
LZH				LR		LR				
	comp=Z,2µm,16.8s									
LZH				LR		LR				
	comp=Z,2µm,15.2s									
LZH				LR		LR				
	comp=Z,2µm,15.7s									
MORF	**Marmelete**	**45.89**	**292**	*e*P		**P**	**20 13 40.6**	**-0.1**		
MORF				AMb		AMB	20 13 52.5			
	comp=Z,40nm,2.6s									
MORF				AMb		AMB	20 13 52.8			
	comp=Z,40nm,1.9s									
MORF	**Marmelete**	**45.89**	**292**	*e*P		**P**	**20 13 40.6**	**-0.1**		
PTEO	**Sao Teotonio**	**45.89**	**293**	*e*P		**P**	**20 13 40.2**	**-0.4**		
	comp=Z,84nm,1.4s									
LIS	**Lisbon**	**46.00**	**294**	*e*P		**P**	**20 13 41.6**	**+0.2**		
LIS	**Lisbon**	**46.00**	**294**	*e*P		**P**	**20 13 41.6**	**+0.2**		
PMAFR	**Mafra**	**46.05**	**295**	*e*P		**P**	**20 13 42.4**	**+0.5**		
	comp=Z,126nm,2.2s									
PMAFR				*e*S		**S**	**20 20 20.1**	**-6.6**		
PFVI	**Vila Bisbo**	**46.06**	**292**	*e*P		**P**	**20 13 42.9**	**+0.9**		
	comp=Z,80nm,1.5s									
PFVI	**Vila Bisbo**	**46.06**	**292**	P		**P**	**20 13 41.9**	**-0.1**		
PFVI				IAmb		IAmb	20 13 43.4			
	comp=Z,45nm,0.8s									
SONM	**Songino Array**	**46.13**	**53**	P		**P**	**20 13 43.1**	**+0.5**		
	comp=Z,4.9nm,0.6s,baz=283,slow=10.0,SNR=39									
SONM				PcP		**PcP**	**20 15 17.8**	**-0.6**		
	comp=Z,4.0nm,0.7s,baz=271,slow=5.1,SNR=3.9									
SONM				ScP		**ScP**	**20 19 08.6**	**-2.4**		
	comp=Z,1.9nm,0.7s,baz=238,slow=6.5,SNR=4.0									
SONM				LR		LR	20 34 49.0			
	comp=Z,2µm,18.3s,baz=269,slow=38									
PBA	**Port Blair**	**46.17**	**106**	P		P	20 13 43.2	+0.1		
PBA				IAMs_20		IAMs_20	20 34 22.6			
	comp=Z,2µm,22.0s									
TOC2	**Torodi Ar. Sit**	**46.24**	**256**	IAMs_20		IAMs_20	20 35 45.0			
	comp=Z,1µm,19.0s									
TOC1	**Torodi Ar. Sit**	**46.25**	**256**	IAMs_20		IAMs_20	20 35 44.2			
	comp=Z,1µm,19.0s									
TOC3	**Torodi Ar. Sit**	**46.26**	**256**	IAMs_20		IAMs_20	20 35 44.3			
	comp=Z,1µm,18.0s									
TOB1	**Torodi Ar. Sit**	**46.26**	**256**	IAMs_20		IAMs_20	20 35 45.5			
	comp=Z,1µm,20.0s									
TOA2	**Torodi Ar. Sit**	**46.27**	**256**	IAMs_20		IAMs_20	20 35 45.6			
	comp=Z,1µm,19.0s									
TOB3	**Torodi Ar. Sit**	**46.27**	**256**	IAMs_20		IAMs_20	20 34 31.7			
	comp=Z,1µm,20.0s									
TOA0	**Torodi Ar. Sit**	**46.27**	**256**	P		**P**	**20 13 43.6**	**-0.3**		
TOA0				IAMs_20		IAMs_20	20 34 31.7			
	comp=Z,1µm,20.0s									
TORD	**Torodi Ar. Bea**	**46.27**	**256**	P		**P**	**20 13 43.2**	**-0.7**		
	comp=Z,24nm,0.8s,baz=67,slow=7.4,SNR=92									
TORD				ScP		**ScP**	**20 19 11.7**	**-0.2**		
	comp=Z,1.5nm,0.8s,baz=54,slow=4.4,SNR=2.4									
TORD				LR		LR	20 34 42.8			
	comp=Z,1µm,19.5s,baz=40,slow=38									
TOA3	**Torodi Ar. Sit**	**46.27**	**256**	IAMs_20		IAMs_20	20 35 45.8			
	comp=Z,1µm,19.0s									
TOC7	**Torodi Ar. Sit**	**46.27**	**256**	IAMs_20		IAMs_20	20 34 31.8			
	comp=Z,1µm,21.0s									
TOB5	**Torodi Ar. Sit**	**46.28**	**256**	IAMs_20		IAMs_20	20 34 31.9			
	comp=Z,1µm,20.0s									
TOC4	**Torodi Ar. Sit**	**46.28**	**256**	IAMs_20		IAMs_20	20 34 32.0			
	comp=Z,1µm,20.0s									
TOB4	**Torodi Ar. Sit**	**46.28**	**256**	IAMs_20		IAMs_20	20 34 32.1			
	comp=Z,1µm,20.0s									
TOC5	**Torodi Ar. Sit**	**46.30**	**256**	IAMs_20		IAMs_20	20 34 32.4			
	comp=Z,1µm,20.0s									
ULN	**Ulaanbaatar**	**46.58**	**53**	*ce*P		**P**	**20 13 46.2**	**+0.1**		
ULN				pmax		pmax				
	comp=Z,32nm,1.0s									
ULN	**Ulaanbaatar**	**46.58**	**53**	P		**P**	**20 13 46.4**	**+0.3**		
ULN	**Ulaanbaatar**	**46.58**	**53**	IAMs_20		IAMs_20	20 35 18.3			
	comp=Z,2µm,22.0s									
CD2	**Chengdu**	**47.14**	**76**	P		**P**	**20 13 51.1**	**+0.5**		
CD2				S		**S**	**20 20 42.6**	**+0.1**		
CD2				SS		**SS**	**20 24 01.6**	**-7.9**		
CD2				pmax		pmax				
	comp=Z,80nm,0.7s									
CD2				pmax		pmax				
	comp=Z,340nm,11.3s									
CD2				LR		LR				
	comp=Z,2µm,18.9s									
CD2				LR		LR				
	comp=Z,2µm,18.0s									
CD2				LR		LR				
	comp=Z,2µm,22.4s									
SPA0	**Spitsbergen Ar**	**47.61**	**352**	P		**P**	**20 13 53.9**	**+0.3**		
CHTO	**Chiang Mai**	**47.68**	**94**	P		**P**	**20 13 54.2**	**-0.7**		
CHTO	**Chiang Mai**	**47.68**	**94**	P		**P**	**20 13 54.2**	**-0.7**		
CM31	**Chiang Mai Arr**	**47.85**	**94**	P		**P**	**20 13 56.1**	**-0.1**		
CMAR	**Chiang Mai Arr**	**47.85**	**94**	P		**P**	**20 13 55.6**	**-0.6**		
	comp=Z,10nm,0.9s,baz=295,slow=8.0,SNR=60									
CMAR				ScP		**ScP**	**20 19 17.0**	**-1.5**		
	comp=Z,2.8nm,0.9s,baz=292,slow=5.5,SNR=5.0									
CMAR				LR		LR	20 38 20.2			
	comp=Z,685nm,19.6s,baz=319,slow=41									
KMI	**Kunming**	**48.25**	**84**	⇓*e*P		**P**	**20 13 59.1**	**-0.4**		
KMI				S		**S**	**20 20 54.8**	**-4.0**		
KMI				sS		pS	20 21 06.0	+0.8		
KMI				SS		**SS**	**20 24 19.8**	**-8.3**		
KMI				pmax		pmax				
	comp=Z,33nm,1.1s									
KMI				pmax		pmax				
	comp=Z,280nm,4.9s									
KMI				LR		LR				
	comp=Z,2µm,22.5s									
KMI				LR		LR				
	comp=Z,720nm,19.8s									
KMI				LR		LR				
	comp=Z,980nm,19.1s									
KMI	**Kunming**	**48.25**	**84**	P		**P**	**20 13 58.9**	**-0.6**		
KMI				pmax		pmax				
	comp=Z,209nm,1.8s									
KMI				MLR		MLR				
	comp=Z,1µm,20.0s									
KMI	**Kunming**	**48.25**	**84**	P		**P**	**20 13 58.9**	**-0.6**		
KMI	**Kunming**	**48.25**	**84**	IAMs_20		IAMs_20	20 36 46.4			
	comp=Z,1µm,20.0s									
KBS	**Kingsbay**	**48.75**	**351**	P		**P**	**20 14 02.7**	**+0.4**		
KBS				pmax		pmax				
	comp=Z,67nm,1.5s									
KBS				MLR		MLR				
	comp=Z,900nm,20.0s									
KBS	**Kingsbay**	**48.75**	**351**	P		**P**	**20 14 02.7**	**+0.4**		
KBS				IAmb		IAmb	20 14 10.1			
	comp=Z,67nm,1.4s									
BTO	**Baotou**	**49.65**	**62**	*e*P		**P**	**20 14 06.5**	**-3.4**		
XAN	**Xi'an**	**50.40**	**71**	P		**P**	**20 14 13.4**	**-2.2**		
XAN				PcP		**PcP**	**20 15 32.8**	**-1.1**		
XAN				S		S	20 21 18.0	-10		
XAN				sS		pS	20 21 35.5	+0.8		
XAN				ScS		**ScS**	**20 24 05.0**	**-1.3**		
XAN				pmax		pmax				
	comp=Z,74nm,1.1s									
XAN				pmax		pmax				
	comp=Z,280nm,4.1s									
XAN				LR		LR				
	comp=Z,1µm,15.2s									
XAN				LR		LR				
	comp=Z,2µm,19.5s									
XAN				LR		LR				
	comp=Z,3µm,19.5s									
XAN	**Xi'an**	**50.40**	**71**	P		**P**	**20 14 15.2**	**-0.4**		
XAN				pmax		pmax				
	comp=Z,53nm,0.9s									
XAN				MLR		MLR				
	comp=Z,2µm,21.0s									
XAN	**Xi'an**	**50.40**	**71**	P		**P**	**20 14 15.2**	**-0.4**		
XAN				IAmb		IAmb	20 14 22.0			
	comp=Z,53nm,0.9s									
CIT	**Chita**	**50.48**	**47**	*e*P		**P**	**20 14 15.7**	**-0.3**		
CIT				*e*			20 15 39.7			
CIT				*e*			20 21 28.5			
CIT				pmax		pmax				
	comp=Z,145nm,1.5s									
BOD	**Bodaibo**	**50.52**	**39**	*e*P		**P**	**20 14 15.0**	**-1.1**		
BOD				pmax		pmax				
	comp=Z,92nm,1.5s									
HHC	**Hu-ho-hao-te**	**50.75**	**62**	*e*P		**P**	**20 14 18.6**	**+0.4**		
HHC				sP		pP	20 14 25.8	+2.2		
HHC				PP		**PP**	**20 16 14.8**	**+0.6**		
HHC				S		**S**	**20 21 31.1**	**-2.1**		
HHC				SS		**SS**	**20 25 02.9**	**-4.5**		
HHC				pmax		pmax				
	comp=Z,11nm,0.7s									
HHC				pmax		pmax				
	comp=Z,290nm,6.2s									
HHC				LR		LR				
	comp=Z,2µm,16.2s									
HHC				LR		LR				
	comp=Z,1µm,16.4s									
HHC				LR		LR				
	comp=Z,2µm,16.3s									
SLVN	**Son La**	**50.76**	**88**	P		**P**	**20 14 18.5**	**0.0**		
SLVN				IAmb		IAmb	20 14 25.1			
	comp=Z,92nm,1.7s									
GYA	**Guiyang**	**51.04**	**81**	⇑P		**P**	**20 14 19.8**	**-0.8**		
GYA				PP		**PP**	**20 16 18.6**	**+1.5**		
GYA				ScP		**ScP**	**20 19 27.3**	**-4.9**		
GYA				S		**S**	**20 21 36.8**	**-0.7**		
GYA				pmax		pmax				
	comp=Z,54nm,0.6s									
GYA				pmax		pmax				
	comp=Z,140nm,3.5s									
GYA				LR		LR				
	comp=Z,670nm,15.3s									
GYA				LR		LR				
	comp=Z,710nm,18.3s									
GYA				LR		LR				
	comp=Z,1µm,19.4s									
LSZ	**Lusaka**	**51.23**	**205**	*i* P		**P**	**20 14 17.8**	**-4.2**		
LSZ	**Lusaka**	**51.23**	**205**	P		**P**	**20 14 23.1**	**+1.1**		
LSZ				pmax		pmax				
	comp=Z,30nm,1.1s									
LSZ				MLR		MLR				
	comp=Z,2µm,19.0s									
LSZ	**Lusaka**	**51.23**	**205**	P		**P**	**20 14 23.1**	**+1.1**		
LSZ	**Lusaka**	**51.23**	**205**	*i* P		**P**	**20 14 17.8**	**-4.2**		
ABPO	**Ambohimpanom**	**51.40**	**181**	P		**P**	**20 14 23.9**	**+0.6**		
ABPO				pmax		pmax				
	comp=Z,33nm,1.1s									
ABPO				MLR		MLR				
	comp=Z,1µm,20.0s									
ABPO	**Ambohimpanom**	**51.40**	**181**	P		**P**	**20 14 23.9**	**+0.6**		
ABPO	**Ambohimpanom**	**51.40**	**181**	IAMs_20		IAMs_20	20 35 49.8			
	comp=Z,1µm,20.0s									
BSI	**Banda Aceh**	**51.82**	**111**	P		**P**	**20 14 28.6**	**+2.2**		
	comp=Z,115nm,0.8s									
ENH	**Enshi**	**52.02**	**75**	P		**P**	**20 14 26.8**	**-1.0**		
ENH				IAmb		IAmb	20 14 34.7			
	comp=Z,80nm,1.0s									
ENH				IAMs_20		IAMs_20	20 40 18.2			
	comp=Z,1µm,18.0s									
TIY	**Taiyuan**	**52.15**	**65**	*e*P		P	20 14 34.8	+6.1		
TIY				S		**S**	**20 21 53.4**	**+0.9**		
TIY				pmax		pmax				
	comp=Z,39nm,1.1s									
TIY				pmax		pmax				
	comp=Z,200nm,3.6s									
TIY				LR		LR				
	comp=N,1µm,14.5s									
TIY				LR		LR				
	comp=E,320nm,12.4s									
TIY				LR		LR				
	comp=Z,860nm,16.7s									
SCO	**Scoresbysund**	**52.83**	**337**	IAMs_20		IAMs_20	20 37 03.7			
	comp=Z,1µm,21.0s									
PMPST	**Porto Santo, M**	**53.06**	**289**	*e*P		**P**	**20 14 36.8**	**+1.4**		
	comp=Z,132nm,1.2s									
PMPS	**Porto Santo**	**53.06**	**289**	*e*P		**P**	**20 14 36.8**	**+1.4**		
	comp=Z,127nm,1.5s									
DAG	**Danmarks Havn**	**53.09**	**345**	*i* P		**P**	**20 14 34.6**	**-0.4**		
	comp=Z,13nm,0.7s									
DAG	**Danmarks Havn**	**53.09**	**345**	*i* P		**P**	**20 14 34.6**	**-0.4**		
DAG				pmax		pmax				
	comp=Z,13nm,0.7s									
MLSI	**Meulaboh, Aceh**	**53.44**	**111**	P		**P**	**20 14 36.7**	**-1.7**		
	comp=Z,114nm,1.0s									
PMAR	**Madeira**	**53.63**	**289**	*e*P		**P**	**20 14 41.2**	**+1.3**		
	comp=Z,160nm,1.1s									
PMOZ	**Porto Moniz, M**	**53.83**	**289**	*e*LQ		LQ	20 38 54.3			
PMOZ				*e*LR		LR	20 41 22.8			
	comp=Z,203nm,20.0s									
PMOZ	**Porto Moniz, M**	**53.83**	**289**	P		**P**	**20 14 41.8**	**+0.6**		
RER	**Riviere de l'E**	**54.07**	**171**	P		**P**	**20 14 43.6**	**+0.8**		
RER				IAmb		IAmb	20 14 52.6			
	comp=Z,53nm,0.8s									
NOR	**Nord**	**54.20**	**351**	*i* P		**P**	**20 14 42.7**	**-0.4**		
	comp=Z,30nm,1.1s									
NOR	**Nord**	**54.20**	**351**	*i* P		**P**	**20 14 42.7**	**-0.4**		
NOR				pmax		pmax				
	comp=Z,30nm,1.1s									
BJI	**Beijing**	**54.36**	**61**	P		**P**	**20 14 43.8**	**-1.0**		
BJI				PP		**PP**	**20 16 45.4**	**-1.3**		
BJI				S		**S**	**20 22 21.0**	**-1.3**		
BJI				pmax		pmax				
	comp=Z,9.0nm,0.6s									
BJI				LR		LR				
	comp=Z,1µm,15.3s									
BJT	**Baijiatuau**	**54.36**	**61**	P		**P**	**20 14 44.9**	**+0.1**		
BJT				pmax		pmax				
	comp=Z,15nm,0.6s									
BJT				MLR		MLR				
	comp=Z,2µm,19.0s									
BJT	**Baijiatuau**	**54.36**	**61**	P		**P**	**20 14 44.9**	**+0.1**		
HIA	**Hailar**	**54.76**	**50**	P		**P**	**20 14 48.1**	**+0.5**		
HIA				pmax		pmax				
	comp=Z,67nm,1.2s									
HIA				MLR		MLR				
	comp=Z,2µm,21.0s									
HIA	**Hailar**	**54.76**	**50**	P		**P**	**20 14 48.1**	**+0.5**		
HIA				IAmb		IAmb	20 14 55.0			
	comp=Z,67nm,1.2s									
KCSI	**Kotacane, Aceh**	**54.97**	**111**	P		**P**	**20 14 47.2**	**-2.4**		
	comp=Z,815nmcomp=Z,66nm,0.8s									
DBIC	**Dimbokro**	**55.22**	**254**	P		**P**	**20 14 50.7**	**-0.7**		
	comp=Z,27nm,0.9s,baz=48,slow=10,SNR=21									
DBIC				LR		LR	20 40 07.8			
	comp=Z,1µm,18.9s,baz=28,slow=38									
DBIC	**Dimbokro**	**55.22**	**254**	P		**P**	**20 14 50.9**	**-0.5**		
DBIC				pmax		pmax				
	comp=Z,34nm,1.0s									
DBIC	**Dimbokro**	**55.22**	**254**	P		**P**	**20 14 50.9**	**-0.5**		
DBIC				IAmb		IAmb	20 14 58.8			
	comp=Z,34nm,0.9s									
KIC	**Kosan Boka**	**55.31**	**254**	*e*P		**P**	**20 14 51.0**	**-1.0**		
	comp=Z,177nm,1.3s									
TIC	**Toumodi**	**55.37**	**254**	*e*P		**P**	**20 14 51.5**	**-1.0**		
TSI	**Tuntungan**	**55.61**	**110**	P		**P**	**20 14 52.2**	**-2.0**		
	comp=Z,105nm,0.9s									
LIC	**Lamto**	**55.62**	**254**	*e*P		**P**	**20 14 53.3**	**-0.9**		
	comp=Z,201nm,1.2s									
BLWY	**Bulawayo**	**55.62**	**202**	*i* P		**P**	**20 14 54.8**	**+0.6**		
BLWY	**Bulawayo**	**55.62**	**202**	*i* P		**P**	**20 14 54.8**	**+0.6**		
WHN	**Wuhan**	**55.87**	**73**	⇑*i*P		**P**	**20 14 55.0**	**-0.9**		
WHN				S		**S**	**20 22 39.8**	**-3.0**		
WHN				pmax		pmax				
	comp=Z,370nm,4.2s									
WHN				LR		LR				
	comp=Z,1µm,12.4s									
WHN				LR		LR				
	comp=Z,570nm,13.0s									
WHN				LR		LR				
	comp=Z,3µm,14.3s									
TIA	**Tai'an**	**56.18**	**66**	P		**P**	**20 14 58.0**	**0.0**		
TIA				PP		**PP**	**20 17 06.8**	**+3.7**		
TIA				S		**S**	**20 22 54.8**	**+8.0**		
TIA				pmax		pmax				
	comp=Z,27nm,1.1s									
TIA				pmax		pmax				
	comp=Z,260nm,7.8s									
TIA				LR		LR				
	comp=Z,2µm,21.6s									
TIA				LR		LR				
	comp=Z,500nm,17.7s									
TIA				LR		LR				
	comp=Z,2µm,18.6s									
GSI	**Gunungsitoli**	**56.19**	**113**	P		**P**	**20 14 59.2**	**+0.9**		
	comp=Z,189nm,0.9s									
GSI	**Gunungsitoli**	**56.19**	**113**	P		**P**	**20 14 58.4**	**0.0**		
KULM	**Kulim**	**56.21**	**107**	P		**P**	**20 14 57.3**	**-1.2**		
KULM	**Kulim**	**56.21**	**107**	P		**P**	**20 14 57.0**	**-1.5**		
PSI	**Prapat**	**56.32**	**111**	P		**P**	**20 14 57.8**	**-1.6**		
PSI				pmax		pmax				
	comp=Z,34nm,0.8s									
RPSI	**Rantau Prapat**	**56.38**	**111**	P		**P**	**20 14 57.8**	**-1.9**		
RPSI				IAmb		IAmb	20 15 09.5			
	comp=Z,34nm,0.8s									
QIZ	**Qiongzhong**	**56.77**	**88**	P		**P**	**20 15 00.9**	**-1.6**		
QIZ				S		**S**	**20 22 53.8**	**-1.3**		
QIZ				pmax		pmax				
	comp=Z,33nm,0.9s									
QIZ				pmax		pmax				
	comp=Z,240nm,4.3s									
QIZ				LR		LR				
	comp=Z,650nm,15.6s									
QIZ				LR		LR				
	comp=Z,470nm,17.5s									
QIZ				LR		LR				
	comp=Z,910nm,17.3s									
QIZ	**Qiongzhong**	**56.77**	**88**	P		**P**	**20 15 02.3**	**-0.2**		
QIZ				IAmb		IAmb	20 15 08.7			
	comp=Z,47nm,1.0s									
QIZ	**Qiongzhong**	**56.77**	**88**	IAMs_20		IAMs_20	20 44 07.2			
	comp=Z,804nm,21.0s									
IPM	**Ipoh**	**56.98**	**108**	P		**P**	**20 15 02.5**	**-1.5**		
IPM				IAMs_20		IAMs_20	20 39 31.1			
	comp=Z,927nm,22.0s									
YAK	**Yakutsk**	**58.01**	**33**	*e*P		**P**	**20 15 08.8**	**-1.7**		
YAK				*e**PP		**pP**	**20 15 16.6**	**+0.7**		
YAK				*e*			20 16 02.4			
YAK				*e*			20 17 15.1			
YAK				*e*S		**S**	**20 23 07.9**	**-2.1**		
YAK				*e**SS		**sS**	**20 23 24.4**	**+5.1**		
YAK				*e*			20 24 54.1			
YAK				*e*SS		**SS**	**20 27 01.9**	**+1.3**		
YAK				pmax		pmax				
	comp=N,3.0nm,0.9s									
YAK				pmax		pmax				
	comp=Z,41nm,0.9s									
YAK				pmax		pmax				
	comp=E,16nm,1.4s									
YAK				pmax		pmax				
	comp=Z,23nm,1.4s									
YAK				pmax		pmax				
	comp=N,28nm,1.6s									
YAK				pmax		pmax				
	comp=E,19nm,1.6s									
YAK				smax		smax				
	comp=N,66nm,2.2s									
YAK				smax		smax				
	comp=E,105nm,2.5s									
YAK	**Yakutsk**	**58.01**	**33**	P		**P**	**20 15 09.2**	**-1.2**		
SUMG	**Summit**	**58.06**	**339**	*i* P		**P**	**20 15 11.3**	**0.0**		
	comp=E,136nm,0.9s									
SUMG	**Summit**	**58.06**	**339**	P		**P**	**20 15 11.2**	**0.0**		
SUMG				pmax		pmax				
	comp=Z,99nm,1.2s									
SUMG				MLR		MLR				
	comp=Z,1µm,21.0s									
SUMG	**Summit**	**58.06**	**339**	P		**P**	**20 15 11.2**	**0.0**		
SUMG				IAMs_20		IAMs_20	20 40 27.1			
	comp=Z,1µm,21.0s									
MNSI	**Mandailing Nat**	**58.07**	**112**	P		**P**	**20 15 12.2**	**+0.6**		
	comp=Z,35nm,0.8s									
ZEA	**Zeya**	**58.41**	**43**	*e*P		**P**	**20 15 14.0**	**+0.5**		
ZEA				*e*S		**S**	**20 23 18.0**	**+2.3**		
ZEA				pmax		pmax				
	comp=Z,400nm,8.0s									
ZEA				pmax		pmax				
	comp=N,31nm,0.8s									
ZEA				pmax		pmax				
	comp=E,31nm,0.8s									
ZEA				pmax		pmax				
	comp=Z,58nm,1.0s									
ZEA				smax		smax				
	comp=E,300nm,9.0s									
ZEA				MLR		MLR				
	comp=Z,1µm,18.0s									
ZEA				MLR		MLR				
	comp=E,1µm,17.0s									
ZEA				MLR		MLR				
	comp=N,900nm,16.0s									
DL2	**Dalian**	**58.73**	**61**	P		**P**	**20 15 15.8**	**-0.1**		
DL2				S		**S**	**20 23 16.8**	**-3.3**		
DL2				pmax		pmax				
	comp=N,52nm,0.8s									
DL2				pmax		pmax				
	comp=N,200nm,4.8s									
DL2				LR		LR				
	comp=N,800nm,17.7s									
DL2				LR		LR				
	comp=N,700nm,16.3s									
DL2				LR		LR				
	comp=N,1µm,18.1s									
NJ2	**Nanjing**

MYKOM **Kota Tinggi** 60.84 108 P P 20 15 30.0 -0.8
comp=Z,57nm,1.3s
SSE **Sheshan** 61.13 70 P P 20 15 31.5 -1.1
SSE sP pP 20 15 39.0 +0.9
SSE S S 20 23 50.5 -0.9
SSE sS pS 20 23 59.8 +1.8
SSE pmax pmax
comp=Z,16nm,0.6s
SSE pmax pmax
comp=Z,140nm,4.1s
SSE LR LR
comp=Z,470nm,15.6s
LBTB Lobatse 61.14 203 *i* P P 20 15 25.1 -7.6
LBTB Lobatse 61.14 203 P P 20 15 33.2 +0.5
LBTB pmax pmax
comp=Z,34nm,0.9s
LBTB Lobatse 61.14 203 P P 20 15 33.1 +0.5
LBTB IAmb IAmb 20 15 36.1
comp=Z,34nm,0.9s
LBTB Lobatse 61.14 203 *i* P P 20 15 25.1 -7.6
KRJI Kerinci 61.33 113 P P 20 15 34.9 +0.7
comp=Z,6µmcomp=Z,860nm,1.0s
KNMB Chin-men Tao 61.55 78 IAMs_20 IAMs_20 20 46 58.3
comp=Z,933nm,19.0s
KLR Kulʲdur 62.37 47 P P 20 15 40.1 -0.5
comp=Z,15nm,0.7s,baz=294,slow=7.8,SNR=31
KLR Kulʲdur 62.37 47 *ce* P P 20 15 39.4 -1.2
KLR pmax pmax
comp=Z,19nm,1.0s
KULLO Kullorsuaq 62.66 343 *i* P P 20 15 41.9 -0.2
comp=Z,30nm,0.8s
KULLO Kullorsuaq 62.66 343 *i* P P 20 15 41.9 -0.2
KULLO pmax pmax
comp=Z,30nm,0.8s
DSRI Dabo 62.78 110 P P 20 15 44.2 +0.3
comp=Z,36nm,0.9s
ILULI Ilulissat 62.91 337 P P 20 15 44.3 +0.4
ILULI pmax pmax
comp=Z,247nm,2.0s
ILULI MLR MLR
comp=Z,1µm,21.0s
ILULI Ilulissat 62.91 337 P P 20 15 44.2 +0.4
KSI Kapahiang 63.19 114 P P 20 15 47.0 +0.4
comp=Z,135nm,0.8s
SFJD Kangerlussuaq 63.54 334 IAMs_20 IAMs_20 20 43 22.8
comp=Z,1µm,22.0s
KS19 Wonju Array Si 63.82 61 P P 20 15 49.9 -0.6
KS19 IAmb IAmb 20 15 58.3
comp=Z,20nm,0.7s
TATO Taipei 63.87 76 P P 20 15 51.8 +0.8
TATO Taipei 63.87 76 IAMs_20 IAMs_20 20 47 48.1
comp=Z,903nm,18.0s
TJN Taejon 63.87 62 *ce* P P 20 15 48.6 -2.2
KSRS Korea Array 63.88 61 P P 20 15 49.9 -0.9
comp=Z,11nm,0.6s,baz=283,slow=6.8,SNR=74
KSRS LR LR 20 48 21.3
comp=Z,679nm,18.9s,baz=288,slow=40
TPUB Ta-pu 63.90 78 P P 20 15 51.3 +0.1
TPUB IAMs_20 IAMs_20 20 47 33.6
comp=Z,690nm,18.0s
YHNB Yeheng 63.91 76 P P 20 15 51.9 +0.5
SSLB Suanglung 63.95 77 P P 20 15 51.6 0.0
SSLB IAmb IAmb 20 15 59.1
comp=Z,38nm,1.1s
SSLB IAMs_20 IAMs_20 20 48 08.0
comp=Z,603nm,19.0s
LHSI Lahat 64.02 113 P P 20 16 07.8 +16
USA0B Ussuriysk Arra 64.25 53 P P 20 15 52.2 -0.9
USA0B pmax pmax
comp=Z,79nm,1.5s
USA0B MLR MLR
comp=Z,1µm,21.0s
USA0B Ussuriysk Arra 64.25 53 P P 20 15 52.2 -0.9
USA0B IAmb IAmb 20 15 57.9
comp=Z,79nm,1.4s
USA0B IAMs_20 IAMs_20 20 45 59.8
comp=Z,1µm,21.0s
USRK Ussuriysk Ar. 64.25 53 P P 20 15 52.1 -1.0
comp=Z,15nm,0.6s,baz=278,slow=6.2,SNR=27
USRK LR LR 20 45 48.2
comp=Z,836nm,18.9s,baz=284,slow=38
YULB Yu-li 64.41 78 P P 20 15 54.8 +0.2
YULB IAMs_20 IAMs_20 20 47 06.1
comp=Z,799nm,19.0s
PMBI Palembang 64.43 112 P P 20 15 53.4 -1.3
TWG Pinlang 64.47 78 P P 20 15 55.7 +0.7
VLA Vladivostok 64.57 54 *i* P P 20 15 53.2 -2.1
VLA pmax pmax
comp=Z,29nm,1.1s
BOSA Boshof 64.60 202 P P 20 15 56.4 +0.8
baz=26,slow=6.6,SNR=35
BOSA Boshof 64.60 202 P P 20 15 55.8 +0.2
BOSA pmax pmax
comp=Z,49nm,1.0s
BOSA Boshof 64.60 202 P P 20 15 55.8 +0.2
BOSA IAmb IAmb 20 15 57.8
comp=Z,48nm,0.9s
IVI Ivigtut 64.67 328 P P 20 15 55.5 -0.1
IVI IAmb IAmb 20 16 01.5
comp=Z,31nm,0.9s
IVI IAMs_20 IAMs_20 20 46 40.0
comp=Z,570nm,19.0s
GRNR Gornyy 64.67 45⇑ *i* P P 20 15 55.4 -0.5
GRNR pmax pmax
comp=Z,8.0nm,1.2s
GRNR MLR MLR
comp=E,620nm,12.0s
GRNR MLR MLR
comp=N,320nm,17.0s
GRNR MLR MLR
comp=Z,970nm,16.0s
EUNU Eureka 64.73 352 P P 20 15 56.1 +0.3
EUNU IAmb IAmb 20 16 09.3
comp=Z,32nm,0.9s
PPBI Pangkal Pinang 65.04 110 P P 20 16 04.5 +5.8
LWLI Liwa 65.18 114 P P 20 16 04.2 +4.4
comp=Z,95nm,0.8s
YOJ Yonaguni jima 65.34 76 IAMs_20 IAMs_20 20 49 41.8
comp=Z,783nm,18.0s
KLSI 65.49 113 P P 20 16 05.7 +4.1
comp=Z,10.0nm,1.5s
KSM Kuching 66.25 104 P P 20 16 05.6 -1.0
KSM IAmb IAmb 20 16 07.4
comp=Z,21nm,0.7s
TEY Ternei 66.97 50⇓ *e* P P 20 16 08.7 -2.0
TEY pmax pmax
comp=Z,30nm,1.0s
SBUM Sibu 67.27 102 P P 20 16 12.6 -0.5
SBUM IAmb IAmb 20 16 50.4
comp=Z,20nm,0.7s
SEY Seymchan 67.64 29 *c i* P P 20 16 15.0 +0.4
JNU Nakatsue 67.84 64 P P 20 16 16.1 -0.4
comp=Z,15nm,1.0s,baz=49,slow=2.4,SNR=7.4
JNU LR LR 20 49 31.3
comp=Z,900nm,19.8s,baz=296,slow=39
JNU Nakatsue 67.84 64 P P 20 16 16.1 -0.4
JNU IAMs_20 IAMs_20 20 48 34.3
comp=Z,959nm,22.0s
STKI Sintang 68.02 105 P P 20 16 19.0 +1.2
comp=Z,15µmcomp=Z,14nm,0.7s
TYV Tymovskoe 68.27 43 *e* P P 20 16 19.0 +0.2
TYV pmax pmax
comp=Z,30nm,1.0s
TYV pmax pmax
comp=Z,300nm,3.2s
TGY Tagaytay City 68.46 87 LR LR 20 50 35.5
comp=Z,262nm,21.4s,baz=344,slow=40
MA2 Magadan 68.53 32 *ce* P P 20 16 19.2 -1.1
MA2 pmax pmax
comp=Z,40nm,0.8s
MA2 Magadan 68.53 32 P P 20 16 20.3 0.0
MA2 IAMs_20 IAMs_20 20 50 49.2
comp=Z,625nm,19.0s
KKM Kota Kinabalu 68.62 97 P P 20 16 21.4 -0.3
KKM IAMs_20 IAMs_20 20 49 04.4
comp=Z,782nm,22.0s
CISI Cisompet, Garu 69.67 114 P P 20 16 32.0 +3.9
comp=Z,119nm,1.2s
PBKI Pangkalan Bun 69.78 107 P P 20 16 34.5 +5.7
comp=Z,143nm,1.1s
YSS Yuzh-Sakhalins 70.04 47 ⇓ *i* P P 20 16 29.3 -0.6
YSS *e* 20 19 05.9
YSS *e* S S 20 25 36.8 -3.0
YSS pmax pmax
comp=Z,60nm,0.7s
YSS pmax pmax
comp=E,20nm,0.8s
YSS pmax pmax
comp=Z,300nm,4.1s
YSS MLR MLR
comp=E,800nm,17.0s
YSS MLR MLR
comp=Z,1µm,17.0s
YSS Yuzh-Sakhalins 70.04 47 P P 20 16 29.4 -0.6
RES Resolute Bay 70.14 350 IAMs_20 IAMs_20 20 49 17.9
comp=Z,711nm,20.0s
MYLDM Lahad Datu 71.00 96 P P 20 16 37.1 +0.9
MYLDM IAmb IAmb 20 16 44.7
comp=Z,71nm,1.4s
ASAJ Asahikawa 71.23 49 P P 20 16 37.1 -0.1
ASAJ pmax pmax
comp=Z,94nm,1.6s
ASAJ MLR MLR
comp=Z,900nm,19.0s
JKA Kamikawa-asahi 71.24 49 P P 20 16 37.1 -0.2
JKA IAmb IAmb 20 16 56.4
comp=Z,94nm,1.6s
MTKI Muara Teweh, K 71.39 104 P P 20 16 39.1 +0.5
comp=Z,20nm,1.0s
FRB Frobisher Bay 71.65 335 P P 20 16 39.4 0.0
comp=Z,34nm,0.7s,baz=56,slow=5.3,SNR=13
MAJO Matsushiro 71.73 58 P P 20 16 39.0 -1.4
MAJO pmax pmax
comp=Z,9.0nm,1.0s
MAJO MLR MLR
comp=Z,400nm,20.0s
MAJO Matsushiro 71.73 58 P P 20 16 39.0 -1.4
MAT Matsushiro 71.73 58 P P 20 16 37.9 -2.5
MAT S S 20 25 59.4 -0.5
MJAR Matsushiro Arr 71.73 58 P P 20 16 39.0 -1.4
comp=Z,6.6nm,0.9s,baz=33,slow=4.0,SNR=12
MJAR LR LR 20 50 29.9
comp=Z,364nm,18.4s,baz=290,slow=38
ERM Erimo 72.58 51 P P 20 16 44.4 -0.9
ERM pmax pmax
comp=Z,72nm,1.4s
ERM MLR MLR
comp=Z,900nm,18.0s
ERM Erimo 72.58 51 P P 20 16 44.4 -0.9
ERM IAmb IAmb 20 16 54.2
comp=Z,72nm,1.4s
YUK Yuzh-Kuril'sk 73.34 48 *e* P P 20 16 48.3 -1.5
YUK *e* 20 17 04.9
YUK *e* 20 19 33.4
YUK *e* PPP PPP 20 21 20.3
YUK *e* S **SKiKP** 20 26 19.9 -0.5
YUK *e* SS **SS** 20 31 01.4 +2.1
YUK pmax pmax
comp=Z,296nm,1.2s
YUK pmax pmax
comp=Z,247nm,1.1s
YUK pmax pmax
comp=N,143nm,0.9s
YUK MLR MLR
comp=Z,1µm,17.0s
MPSI Mapaga 74.80 100 P P 20 16 59.0 +0.2
comp=Z,104nm,0.9s
DRLN Deer Lake 74.92 319 P P 20 16 58.7 -0.2
DRLN IAmb IAmb 20 17 04.2
comp=Z,25nm,0.7s
DRLN IAMs_20 IAMs_20 20 49 45.3
comp=Z,560nm,20.0s
PETK Petropavlovsk- 75.20 36 P P 20 16 58.7 -1.8
comp=Z,11nm,0.9s,baz=234,slow=1.3,SNR=17
PETK LR LR 20 55 46.7
comp=Z,769nm,18.1s,baz=288,slow=40
A36M Sachs Harbour 75.51 358 P P 20 17 01.1 -0.8
baz=6.1,SNR=8.2
SCHQ Schefferville 76.41 327 P P 20 17 07.0 -0.4
comp=Z,21nm,0.7s,baz=60,slow=5.4,SNR=15
SCHQ LR LR 20 53 04.4
comp=Z,203nm,18.6s,baz=67,slow=38
SCHQ Schefferville 76.41 327 P P 20 17 07.0 -0.4
SCHQ IAmb IAmb 20 17 12.6
comp=Z,22nm,0.7s
RDOG Red Dog Mine 76.98 11 P P 20 17 10.3 0.0
RDOG IAmb IAmb 20 17 19.9
comp=Z,36nm,1.0s
GTOI Gorontalo 77.24 98 P P 20 17 20.1 +7.4
KMSI Cibinong 78.08 97 P P 20 17 22.0 +4.6
comp=Z,70nm,1.0s
C36M Paulatuk 78.10 357 P P 20 17 15.2 -1.4
baz=7.0,SNR=8.7
C36M Paulatuk 78.10 357 P P 20 17 15.4 -1.2
C36M IAmb IAmb 20 17 21.6
comp=Z,28nm,0.9s
BKSI Bukumba 78.16 104 P P 20 17 18.4 +0.6
comp=Z,36nm,0.8s
TOLK Toolik Lake Re 78.17 6 P P 20 17 17.1 0.0
baz=345,SNR=14
TOLK Toolik Lake Re 78.17 6 P P 20 17 17.3 +0.2
TOLK IAMs_20 IAMs_20 20 54 15.1
comp=Z,525nm,22.0s
JCJ Chichijima 79.30 65 P P 20 17 19.4 -4.5
comp=Z,40nm,0.9s,baz=292,slow=23,SNR=6.6
INK Inuvik 79.32 0 P P 20 17 22.6 -0.7
comp=Z,4.8nm,0.6s,baz=21,slow=7.4,SNR=20
INK Inuvik 79.32 0 P P 20 17 22.6 -0.7
INK pmax pmax
comp=Z,37nm,1.6s
INK MLR MLR
comp=Z,700nm,21.0s
INK Inuvik 79.32 0 P P 20 17 22.6 -0.7
INK IAMs_20 IAMs_20 20 57 20.6
comp=Z,671nm,21.0s
GBN Guysborough 79.34 317 P P 20 17 23.8 0.0
COLD Coldfoot 79.48 7 P P 20 17 24.0 -0.2
baz=345,SNR=9.5
COLD Coldfoot 79.48 7 P P 20 17 24.5 +0.3
COLD IAmb IAmb 20 17 31.6
comp=Z,123nm,2.0s
COLD IAMs_20 IAMs_20 20 59 14.8
comp=Z,418nm,18.0s
ANM Nome 79.65 14 IAMs_20 IAMs_20 20 57 02.4
comp=Z,511nm,20.0s
WBSI Waikabubak, Su 80.04 108 P P 20 17 31.7 +3.6
comp=Z,92nm,1.1s
BATG Bathurst New B 80.71 321 P P 20 17 31.0 -0.3
BATG IAmb IAmb 20 17 37.9
comp=Z,41nm,0.9s
TNTI Ternate 80.81 95 P P 20 17 35.3 +3.0
comp=Z,52nm,1.2s
TNTI Ternate 80.81 95 P P 20 17 32.7 +0.4
TNTI IAmb IAmb 20 17 42.3
comp=Z,40nm,0.9s
LMN Caledonia Moun 80.92 319 P P 20 17 32.5 +0.1
LMN IAmb IAmb 20 17 38.8
comp=Z,50nm,1.0s
HAL Halifax 80.98 318 P P 20 17 33.2 +0.5
HAL pmax pmax
comp=Z,76nm,0.8s
HAL MLR MLR
comp=Z,200nm,19.0s
HAL Halifax 80.98 318 P P 20 17 33.2 +0.5
POKR Poker Flat Res 81.81 6 P P 20 17 36.6 -0.2
baz=347
MDM Murphy Dome 81.89 7 P P 20 17 37.0 -0.2
MDM IAmb IAmb 20 17 44.8
comp=Z,45nm,1.2s
D63A Stockholm 81.95 322 P P 20 17 37.8 0.0
baz=50,SNR=6.9
TCOL CIGO, UAF Yank 82.00 7 P P 20 17 38.6 +0.8
baz=347
COLA College 82.01 7 *c i* P P 20 17 37.4 -0.3
COLA pmax pmax
comp=Z,17nm,0.9s
COLA College 82.01 7 P P 20 17 37.6 -0.1
COLA IAmb IAmb 20 17 47.1
comp=Z,32nm,0.8s
PQI Presque Isle 82.14 321 P P 20 17 38.8 0.0
PQI IAMs_20 IAMs_20 20 55 24.1
comp=Z,463nm,20.0s
NEA2 Nenana 82.16 7 P P 20 17 38.8 +0.2
baz=346
E64A Bridgewater 82.20 321 P P 20 17 39.0 -0.1
baz=50
IL31 82.20 6 P P 20 17 38.5 -0.2
ILAR Eielson Array 82.20 6 P P 20 17 38.0 -0.8
comp=Z,4.9nm,0.8s,baz=335,slow=4.4,SNR=31
ILAR PP PP 20 20 46.7 +0.4
comp=Z,2.2nm,0.8s,baz=349,slow=6.0,SNR=4.5
ILAR PKKPbc PKKPbc 20 36 06.2 -1.2
comp=Z,1.2nm,0.8s,baz=188,slow=1.8,SNR=8.0
CCB Clear Creek Bu 82.23 7 P P 20 17 38.2 -0.7
WRH Wood River Hil 82.38 7 P P 20 17 39.0 -0.7
D62A Allapoint, All 82.41 322 P P 20 17 40.2 0.0
baz=49,SNR=33
D62A Allapoint, All 82.41 322 P P 20 17 40.3 0.0
BPAW Bear Paw Mtn. 82.42 8 P P 20 17 39.4 -0.6
BPAW IAmb IAmb 20 17 47.3
comp=Z,33nm,0.9s
BPAW IAMs_20 IAMs_20 21 00 54.4
comp=Z,458nm,19.0s
GGN Saint George 82.49 320 P P 20 17 40.6 0.0
E63A Oxbow 82.51 321 P P 20 17 40.7 0.0
baz=50
E63A Oxbow 82.51 321 P P 20 17 40.6 -0.1
E63A IAMs_20 IAMs_20 20 55 35.0
comp=Z,399nm,20.0s
HDA Harding Lake 82.55 6 P P 20 17 39.9 -0.7
baz=348,SNR=15
EGAK Eagle 82.62 4 P P 20 17 40.5 -0.4
EGAK IAmb IAmb 20 17 53.2
comp=Z,26nm,0.9s
F64A Sherman 82.83 321 P P 20 17 43.0 +0.6
baz=50,SNR=8.1
F64A Sherman 82.83 321 P P 20 17 42.4 0.0
F64A IAmb IAmb 20 17 49.0
comp=Z,24nm,0.9s
F64A IAMs_20 IAMs_20 20 57 56.6
comp=Z,370nm,18.0s
G65A Princeton 82.83 320 P P 20 17 42.4 -0.1
baz=50
TTA Tatalina 82.84 11 P P 20 17 42.4 +0.2
TTA pmax pmax
comp=Z,17nm,1.2s
TTA MLR MLR
comp=Z,400nm,20.0s
TTA Tatalina 82.84 11 P P 20 17 42.4 +0.2
D61A St Aubert, Com 82.92 323 P P 20 17 42.8 0.0
baz=48,SNR=6.9
KTH Kantishna Hill 82.95 8 P P 20 17 42.6 -0.2
KTH IAmb IAmb 20 19 29.7
comp=Z,57nm,1.2s
KTH IAMs_20 IAMs_20 21 01 12.6
comp=Z,531nm,20.0s
E62A Clayton Lake 82.96 322 P P 20 17 42.4 -0.7
baz=49,SNR=14
E62A Clayton Lake 82.96 322 P P 20 17 42.8 -0.3
E62A IAmb IAmb 20 17 49.2
comp=Z,24nm,0.8s
H66A Whiting 82.96 319 P P 20 17 43.4 +0.3
baz=50
MCK McKinley 83.01 7 P P 20 17 42.5 -0.5
MCK pmax pmax
comp=Z,18nm,0.9s
MCK McKinley 83.01 7 P P 20 17 42.5 -0.5
CHGQ Chibougamau 83.13 327 P P 20 17 43.5 -0.4
baz=46
TRF Thorofare Moun 83.13 8 P P 20 17 43.6 -0.3
TRF IAMs_20 IAMs_20 21 01 22.2
comp=Z,543nm,19.0s
SCRK Sand Creek 83.23 5 P P 20 17 44.1 -0.2
baz=350,SNR=51
K27K Chicken 83.31 4 P P 20 17 44.5 -0.1
baz=352
RND Reindeer 83.33 7 P P 20 17 43.7 -1.1
RND pmax pmax
comp=Z,78nm,1.9s
RND MLR MLR
comp=Z,300nm,19.0s
RND Reindeer 83.33 7 P P 20 17 43.7 -1.1
RND IAmb IAmb 20 17 50.6
comp=Z,78nm,1.9s
F63A Nahmakanta, Br 83.34 321 P P 20 17 44.9 -0.2
baz=49
F63A Nahmakanta, Br 83.34 321 P P 20 17 45.1 +0.1
F63A IAmb IAmb 20 17 51.6
comp=Z,24nm,1.1s
DAWY Dawson 83.42 3 P P 20 17 44.6 -0.6
DAWY IAmb IAmb 20 17 52.0
comp=Z,48nm,1.5s
DAWY IAMs_20 IAMs_20 20 58 48.9
comp=Z,454nm,20.0s
PPLA Purkeypile 83.42 9 IAMs_20 IAMs_20 21 01 32.1
comp=Z,419nm,18.0s
G64A Maxfield 83.44 320 P P 20 17 45.7 +0.1
baz=49
D60A Saint Jean D'O 83.48 323 P P 20 17 45.3 -0.5
baz=48
FCC Fort Churchill 83.52 341 P P 20 17 45.2 -0.5
FCC pmax pmax
comp=Z,27nm,0.7s
FCC MLR MLR
comp=Z,800nm,21.0s
FCC Fort Churchill 83.52 341 P P 20 17 45.2 -0.5
FCC IAmb IAmb 20 17 51.6
comp=Z,27nm,0.7s
H65A Eastbrook 83.53 320 P P 20 17 46.2 +0.1
baz=50
DOT Dot Lake 83.54 5 P P 20 17 45.6 -0.2
DOT IAmb IAmb 20 17 47.7
comp=Z,19nm,0.9s
E61A Lac Etchemin 83.58 322 P P 20 17 46.4 +0.1
baz=48,SNR=5.3
F62A Pittston Farm, 83.67 322 P P 20 17 47.0 +0.2
baz=49,SNR=6.9
F62A Pittston Farm, 83.67 322 P P 20 17 46.3 -0.5
F62A IAmb IAmb 20 17 53.1
comp=Z,71nm,1.6s
F62A IAMs_20 IAMs_20 20 56 18.6
comp=Z,439nm,20.0s
PKME Peaks-Kenny Pk 83.72 321 P P 20 17 48.5 +1.5
baz=49
PKME Peaks-Kenny Pk 83.72 321 IAMs_20 IAMs_20 20 58 05.2
comp=Z,390nm,20.0s
BATI Baumata 83.81 106 P P 20 17 47.6 -0.3
comp=Z,62nm,0.5s,baz=317,slow=1.5,SNR=26
BATI LR LR 20 58 29.3
comp=Z,727nm,20.6s,baz=318,slow=38
BATI Baumata 83.81 106 P P 20 17 48.4 +0.5
comp=Z,111nm,0.9s
DHY Denali Highway 83.81 7 P P 20 17 46.8 -0.5
GIRL Giralia 83.94 122 P P 20 17 48.3 0.0
G63A Kingsbury 84.00 321 P P 20 17 49.3 +0.8
baz=49
SOEI Soe 84.04 105 P P 20 17 54.3 +5.1
comp=Z,2µmcomp=Z,96nm,0.9s
SOEI Soe 84.04 105 P P 20 17 48.6 -0.6
H64A Troy 84.09 320 P P 20 17 49.1 +0.2
baz=49
YKA Yellowknife Ar 84.11 352 P P 20 17 48.4 -0.3
comp=Z,6.3nm,0.6s,baz=339,slow=5.3,SNR=9.7
YKA LR LR 20 57 27.6
comp=Z,281nm,21.2s,baz=0.0,slow=37
E60A Ste Agathe de 84.12 323 P P 20 17 48.0 -1.0
baz=48
F61A St Evariste 84.15 322 P P 20 17 49.5 +0.3
baz=48
MENT Mentasta 84.27 5 P P 20 17 49.7 +0.1
MENT IAmb IAmb 20 17 57.0
comp=Z,22nm,0.9s
D58A Chemin du LacG 84.35 324 P P 20 17 49.9 -0.3
baz=47,SNR=5.0
WVL Waterville 84.38 320 IAMs_20 IAMs_20 20 58 32.6
comp=Z,402nm,20.0s
G62A West of Eustis 84.41 321 P P 20 17 50.9 +0.3
baz=48,SNR=9.5
SVW2 Sparrevohn 84.64 11 P P 20 17 51.7 +0.3
F60A Warwick 84.65 323 P P 20 17 51.6 -0.1
baz=47
MATQ Matagami 84.72 328 P P 20 17 51.9 -0.1
baz=44
G61A St-Isidore-de- 84.89 322 P P 20 17 53.1 +0.1
baz=48,SNR=7.6
D57A Chemin Vers le 84.90 324 P P 20 17 52.4 -0.6
baz=46,SNR=7.8
GHO Glory Hole Cre 84.92 8 P P 20 17 52.8 -0.1
GHO IAmb IAmb 20 18 01.5
comp=Z,30nm,0.9s
GHO IAMs_20 IAMs_20 21 02 37.5
comp=Z,360nm,18.0s
LSQQ Lebel-sur-Quev 84.93 327 P P 20 17 53.2 +0.1
baz=44
SIJI Sorong 84.97 94 P P 20 17 53.0 -0.9
comp=Z,56nm,0.8s,baz=324,slow=3.5,SNR=7.6
SUA Susitna One 84.99 9 P P 20 17 53.0 -0.3
SUA IAmb IAmb 20 17 59.1
comp=Z,30nm,0.7s

E58A **La Victoria** **85.04** **323** P **P** **20 17 53.5 -0.2**
baz=46,SNR=6.4
PMR **Palmer** **85.07** **8** P **P** **20 17 53.4 -0.1**
PMR pmax pmax
comp=Z,75nm,1.6s
PMR MLR MLR
comp=Z,400nm,22.0s
PMR **Palmer** **85.07** **8** P **P** **20 17 53.4 -0.1**
F59A **Saint Guilaume** **85.15** **323** P **P** **20 17 54.1 -0.1**
baz=47
H62A **Milan** **85.17** **321** P **P** **20 17 54.6 +0.1**
baz=48
H62A **Milan** **85.17** **321** IAMs_20 IAMs_20 20 59 16.5
comp=Z,375nm,18.0s
I63A **Otisfield** **85.22** **320** P **P** **20 17 54.9 +0.2**
baz=48
I63A **Otisfield** **85.22** **320** IAMs_20 IAMs_20 20 58 59.7
comp=Z,395nm,18.0s
MOQ **Mont Orford** **85.25** **322** P **P** **20 17 54.9 0.0**
D56A **ZEC Mazanza, M** **85.31** **325** P **P** **20 17 54.7 -0.3**
baz=45,SNR=7.0
KNK **Knik Glacier** **85.32** **8** IAMs_20 IAMs_20 21 02 49.2
comp=Z,464nm,21.0s
G60A **Masonville** **85.44** **322** P **P** **20 17 55.3 -0.4**
baz=47
E57A **Chemin Saint G** **85.45** **324** P **P** **20 17 55.5 -0.4**
baz=46,SNR=12
KLU **Klutina** **85.51** **7** P **P** **20 17 55.7 -0.2**
H61A **Lyndonville** **85.61** **321** P **P** **20 17 56.2 -0.4**
baz=47,SNR=8.2
D55A **Sainte-Anne-du** **85.68** **325** P **P** **20 17 56.6 -0.3**
baz=45,SNR=14
RSO **Redoubt South** **85.68** **10** P **P** **20 17 56.3 -0.6**
I62A **Tamworth** **85.74** **321** P **P** **20 17 57.0 -0.3**
baz=48
E56A **St. Veronique** **85.80** **324** P **P** **20 17 57.0 -0.5**
baz=45,SNR=6.5
LBNH **Lisbon** **85.81** **321** P **P** **20 17 57.7 +0.1**
baz=47,SNR=9.6
LBNH **Lisbon** **85.81** **321** IAMs_20 IAMs_20 20 59 28.2
comp=Z,344nm,18.0s
G59A **Clarenceville** **85.89** **322** P **P** **20 17 57.8 -0.1**
baz=46
VRDI **Verde Repeater** **85.99** **5** P **P** **20 17 57.9 -0.4**
H60A **Morristown** **85.99** **322** P **P** **20 17 58.5 0.0**
baz=47,SNR=7.4
J63A **Strafford** **86.00** **320** P **P** **20 17 58.9 +0.3**
baz=48
AMKA **Amchitka** **86.08** **28** P **P** **20 17 58.3 -0.4**
F57A **Harrington** **86.14** **324** P **P** **20 17 59.5 +0.3**
baz=45
D54A **Lac Fusel, La** **86.15** **326** P **P** **20 17 58.5 -0.7**
baz=44
I61A **Oroboro, Fairl** **86.17** **321** P **P** **20 17 59.3 -0.1**
baz=47
VT1 **Waterbury** **86.18** **322** P **P** **20 17 59.4 -0.1**
FFD **Franklin Falls** **86.18** **321** IAMs_20 IAMs_20 20 59 39.2
comp=Z,368nm,20.0s
BALM **Baldy** **86.26** **5** P **P** **20 17 59.6 -0.1**
BALM IAmb IAmb 20 18 05.6
comp=Z,23nm,0.8s
FRNY **Flat Rock** **86.26** **322** P **P** **20 17 59.4 -0.4**
FRNY IAmb IAmb 20 18 01.2
comp=Z,28nm,1.1s
FRNY IAMs_20 IAMs_20 20 58 27.3
comp=Z,487nm,22.0s
G58A **Ormstown** **86.28** **323** P **P** **20 17 59.1 -0.8**
baz=46,SNR=5.8
BARN **Barnard Glacie** **86.29** **5** P **P** **20 17 59.9 0.0**
BARN IAmb IAmb 20 18 07.9
comp=Z,46nm,1.5s
HNH **Hanover** **86.36** **321** IAMs_20 IAMs_20 21 00 01.9
comp=Z,350nm,18.0s
CTGM **Chitina Glacie** **86.40** **4** P **P** **20 18 00.0 -0.3**
CTGM IAmb IAmb 20 18 07.9
comp=Z,23nm,0.8s
J62A **Henniker** **86.43** **320** P **P** **20 18 00.2 -0.5**
baz=47
H59A **Cadyville** **86.45** **322** P **P** **20 18 00.4 -0.4**
baz=46,SNR=7.7
EYAK **Cordova Ski Ar** **86.45** **7** P **P** **20 18 00.6 +0.2**
SEW **Seward** **86.47** **9** P **P** **20 18 00.2 -0.3**
SEW IAmb IAmb 20 18 08.7
comp=Z,26nm,0.8s
SEW IAMs_20 IAMs_20 21 03 24.7
comp=Z,389nm,19.0s
CRQM **Cirque** **86.48** **5** P **P** **20 18 00.5 -0.4**
BRLK **Bradley Lake** **86.62** **9** P **P** **20 18 00.7 -0.6**
BRLK IAmb IAmb 20 18 10.1
comp=Z,18nm,0.7s
K63A **Dunstable** **86.64** **320** P **P** **20 18 01.7 0.0**
baz=47
ISLE **Juniper Island** **86.69** **5** P **P** **20 18 01.6 -0.2**
D53A **Lac Vacive, Po** **86.69** **326** P **P** **20 18 01.3 -0.6**
baz=43
WES **Weston** **86.74** **320** IAMs_20 IAMs_20 20 59 48.9
comp=Z,421nm,20.0s
HYT **Haines Junctio** **86.74** **3** P **P** **20 18 01.8 -0.2**
HYT IAmb IAmb 20 18 09.5
comp=Z,70nm,1.5s
HYT IAMs_20 IAMs_20 21 01 06.6
comp=Z,368nm,19.0s
J61A **Chester** **86.75** **321** P **P** **20 18 02.8 +0.6**
baz=47
G57A **Newington** **86.79** **323** P **P** **20 18 02.1 -0.2**
baz=45
I60A **Shoreham** **86.80** **322** P **P** **20 18 01.8 -0.7**
baz=46
CNPM **China Poot** **86.80** **10** P **P** **20 18 01.4 -0.7**
CNPM IAmb IAmb 20 18 09.0
comp=Z,31nm,0.9s
CNPM IAMs_20 IAMs_20 21 01 59.3
comp=Z,537nm,21.0s
ORIO **Orleans, Innes** **86.80** **324** P **P** **20 18 02.0 -0.5**
baz=45
ORIO **Orleans, Innes** **86.80** **324** P **P** **20 18 01.9 -0.5**
ORIO IAmb IAmb 20 18 08.4
comp=Z,39nm,1.9s
H58A **Gabriels** **86.86** **322** P **P** **20 18 02.4 -0.4**
baz=46
E54A **Lac Daplat, Po** **86.92** **325** P **P** **20 18 01.6 -1.4**
baz=44
LONY **Lake Ozonia** **86.92** **323** P **P** **20 18 02.6 -0.5**
baz=45,SNR=12
LONY **Lake Ozonia** **86.92** **323** P **P** **20 18 02.6 -0.5**
LONY IAmb IAmb 20 18 09.2
comp=Z,37nm,1.1s
YAH **Yahtse** **86.97** **5** P **P** **20 18 03.5 +0.2**
YAH IAmb IAmb 20 18 11.3
comp=Z,20nm,0.7s
K62A **Royalston** **87.04** **320** IAMs_20 IAMs_20 21 00 49.0
comp=Z,347nm,19.0s
D52A **ZEK Kipawa Sen** **87.10** **326** P **P** **20 18 03.1 -0.8**
baz=43
SUCK **Suckling Hills** **87.10** **6** P **P** **20 18 04.1 +0.4**
SUCK IAmb IAmb 20 18 10.0
comp=Z,25nm,1.1s
I59A **Olmsteadville** **87.13** **322** P **P** **20 18 04.0 -0.1**
baz=46
E53A **Dumoine, Ponti** **87.19** **326** P **P** **20 18 03.8 -0.5**
baz=43,SNR=5.9
NCB **Newcomb** **87.19** **322** P **P** **20 18 04.5 +0.1**
NCB IAmb IAmb 20 18 06.4
comp=Z,65nm,2.0s
M64A **Tiverton** **87.24** **319** P **P** **20 18 05.3 +0.7**
baz=48
J60A **Lant Hill Farm** **87.28** **321** P **P** **20 18 04.1 -0.7**
baz=46
ACCN **Adirondack Com** **87.31** **321** P **P** **20 18 05.0 0.0**
PCA **Pinnacle** **87.33** **4** P **P** **20 18 05.0 +0.1**
PCA IAmb IAmb 20 18 18.1
comp=Z,27nm,0.8s
QUA2 **Belchertown** **87.37** **320** IAMs_20 IAMs_20 20 58 12.7
comp=Z,343nm,18.0s
PSA00 **Pilbara Seismi** **87.40** **118** P **P** **20 18 04.9 -0.7**
H57A **Richville** **87.44** **323** P **P** **20 18 05.6 +0.1**
baz=45
D51A **Lot 18 Range I** **87.47** **327** P **P** **20 18 05.1 -0.6**
baz=42
G55A **Calabogie** **87.54** **324** P **P** **20 18 05.9 -0.2**
baz=44,SNR=8.3
D50A **G1974 Best Tow** **87.62** **327** P **P** **20 18 05.7 -0.7**
baz=42
ALGO **Algonquin Park** **87.68** **326** P **P** **20 18 05.4 -1.3**
baz=43
J59A **Piesco** **87.69** **322** P **P** **20 18 07.0 +0.1**
baz=45,SNR=6.3

J59A **Piesco** **87.69** **322** P **P** **20 18 06.8 -0.1**
J59A IAMs_20 IAMs_20 20 56 55.1
comp=Z,381nm,21.0s
TRY **Troy** **87.76** **321** IAMs_20 IAMs_20 21 00 29.0
comp=Z,571nm,19.0s
I58A **Old Forge** **87.78** **322** P **P** **20 18 07.4 +0.1**
baz=45
H56A **Elgin** **87.79** **324** P **P** **20 18 06.8 -0.4**
baz=44
PLVO **Plevna** **87.87** **324** P **P** **20 18 07.4 -0.3**
PLVO IAmb IAmb 20 18 13.6
comp=Z,21nm,0.8s
E51A **G1948 Merrick** **87.93** **327** P **P** **20 18 07.2 -0.7**
baz=42
I57A **Carthage** **87.95** **323** P **P** **20 18 07.4 -0.6**
baz=45,SNR=9.8
G54A **Lake Saint Pet** **88.10** **325** P **P** **20 18 08.3 -0.5**
baz=43,SNR=8.6
J58A **Remsen** **88.17** **322** P **P** **20 18 08.5 -0.6**
baz=45
J58A **Remsen** **88.17** **322** P **P** **20 18 08.9 -0.2**
J58A IAmb IAmb 20 18 15.3
comp=Z,15nm,0.9s
J58A IAMs_20 IAMs_20 20 59 43.7
comp=Z,432nm,21.0s
SKAG **Skagway** **88.17** **2** P **P** **20 18 09.1 +0.4**
SKAG IAMs_20 IAMs_20 21 01 36.5
comp=Z,367nm,20.0s
D49A **Beulah Townshi** **88.23** **328** P **P** **20 18 08.8 -0.4**
baz=41
KDAK **Kodiak Island** **88.27** **11** LR LR 21 03 07.5
comp=Z,233nm,21.5s,baz=325,slow=39
KDAK **Kodiak Island** **88.27** **11** P **P** **20 18 09.3 +0.1**
KDAK pmax pmax
comp=Z,82nm,1.5s
KDAK MLR MLR
comp=Z,400nm,22.0s
KDAK **Kodiak Island** **88.27** **11** P **P** **20 18 09.3 +0.1**
KDAK **Kodiak Island** **88.27** **11** IAMs_20 IAMs_20 21 02 12.3
comp=Z,396nm,22.0s
H55A **Tweed** **88.28** **324** P **P** **20 18 08.6 -0.9**
baz=44,SNR=7.9
YLE **Yale** **88.35** **320** IAMs_20 IAMs_20 21 00 06.6
comp=Z,443nm,21.0s
K59A **Cooperstown** **88.36** **322** P **P** **20 18 06.6 -3.4**
baz=45
J57A **Williamstown** **88.50** **323** P **P** **20 18 10.2 -0.4**
baz=44,SNR=7.3
J57A **Williamstown** **88.50** **323** P **P** **20 18 09.9 -0.7**
J57A IAmb IAmb 20 18 16.6
comp=Z,28nm,0.9s
D48A **Paudash Townsh** **88.50** **328** P **P** **20 18 09.3 -1.3**
baz=40
DELO **Deloro Mine** **88.52** **324** P **P** **20 18 10.3 -0.4**
DELO IAmb IAmb 20 18 16.5
comp=Z,23nm,0.9s
PECO **Prince Edward** **88.63** **324** IAMs_20 IAMs_20 20 59 52.8
comp=Z,380nm,18.0s
I55A **Frankford** **88.77** **324** P **P** **20 18 11.4 -0.5**
baz=43
K58A **Earlville** **88.78** **322** P **P** **20 18 11.8 -0.2**
baz=45
K58A **Earlville** **88.78** **322** P **P** **20 18 11.7 -0.3**
K58A IAmb IAmb 20 18 18.0
comp=Z,17nm,1.1s
K58A IAMs_20 IAMs_20 21 01 42.9
comp=Z,374nm,19.0s
L59A **Walton** **88.87** **321** IAMs_20 IAMs_20 21 01 11.3
comp=Z,485nm,19.0s
H53A **Bobcaygeon** **88.95** **325** P **P** **20 18 12.1 -0.6**
baz=43
J56A **Wolcott** **89.03** **323** P **P** **20 18 12.7 -0.4**
baz=44
J56A **Wolcott** **89.03** **323** P **P** **20 18 12.7 -0.4**
J56A IAmb IAmb 20 18 19.0
comp=Z,16nm,0.9s
BESE **Bessie Mountai** **89.07** **1** P **P** **20 18 13.4 +0.3**
BESE IAmb IAmb 20 18 21.7
comp=Z,47nm,1.4s
SADO **Sadowa** **89.07** **325** P **P** **20 18 12.5 -0.8**
comp=Z,14nm,1.0s,baz=68,slow=5.2,SNR=6.9
SADO **Sadowa** **89.07** **325** P **P** **20 18 12.6 -0.7**
SADO IAmb IAmb 20 18 14.4
comp=Z,19nm,1.1s
SADO IAMs_20 IAMs_20 20 59 39.4
comp=Z,398nm,20.0s
FFC **Flin Flon** **89.14** **343** P **P** **20 18 13.1 -0.3**
FFC pmax pmax
comp=Z,13nm,0.6s
FFC MLR MLR
comp=Z,500nm,20.0s
FFC **Flin Flon** **89.14** **343** P **P** **20 18 13.1 -0.3**
FFC IAmb IAmb 20 18 18.7
comp=Z,13nm,0.6s
FFC **Flin Flon** **89.14** **343** IAMs_20 IAMs_20 21 00 36.4
comp=Z,538nm,20.0s
D47A **Chapleau** **89.16** **329** P **P** **20 18 12.3 -1.4**
baz=40
E48A **Lockeyer** **89.19** **328** P **P** **20 18 12.8 -1.0**
baz=40
MORW **Morawa** **89.21** **126** P **P** **20 18 13.5 -0.5**
MORW IAmb IAmb 20 18 19.7
comp=Z,38nm,1.0s
DLBC **Dease Lake** **89.22** **359** P **P** **20 18 14.7 +0.9**
comp=Z,11nm,0.8s,baz=355,slow=5.1,SNR=14
DLBC **Dease Lake** **89.22** **359** P **P** **20 18 14.1 +0.3**
DLBC IAmb IAmb 20 18 21.7
comp=Z,60nm,1.6s
DLBC IAMs_20 IAMs_20 21 03 38.1
comp=Z,531nm,20.0s
K57A **Scipio Center** **89.25** **323** P **P** **20 18 12.7 -1.5**
baz=44
BINY **Binghamton** **89.36** **322** IAMs_20 IAMs_20 20 57 45.1
comp=Z,412nm,21.0s
JIS **Juneau Island** **89.38** **1** P **P** **20 18 14.8 +0.4**
JIS IAmb IAmb 20 18 21.6
comp=Z,59nm,1.6s
J55A **Hilton** **89.52** **324** P **P** **20 18 14.3 -1.1**
J55A IAmb IAmb 20 18 16.6
comp=Z,35nm,1.2s
F49A **Sandfield** **89.68** **327** P **P** **20 18 15.8 -0.3**
baz=40
K56A **Middlesex** **89.69** **323** P **P** **20 18 15.9 -0.3**
baz=44,SNR=7.2
D46A **Sault St. Mari** **89.69** **329** P **P** **20 18 15.9 -0.3**
baz=39
KSPA **Keystone Colle** **89.70** **321** IAMs_20 IAMs_20 21 01 53.2
comp=Z,453nm,19.0s
E47A **Iron Bridge** **89.70** **329** P **P** **20 18 15.4 -0.9**
baz=39
FITZ **Fitzroy Crossi** **89.84** **112** P **P** **20 18 16.7 -0.4**
F48A **Evansville** **89.89** **328** P **P** **20 18 16.6 -0.5**
baz=40
L57A **Andrews Acres** **89.95** **322** P **P** **20 18 16.7 -0.8**
baz=44
MMNY **Mt. Morris Dam** **89.96** **323** P **P** **20 18 17.0 -0.5**
MMNY IAmb IAmb 20 18 23.9
comp=Z,34nm,1.0s
MMNY IAMs_20 IAMs_20 21 00 30.0
comp=Z,441nm,21.0s
K55A **Perry** **90.04** **323** P **P** **20 18 17.2 -0.7**
baz=43
N59A **State Game Lan** **90.16** **321** IAMs_20 IAMs_20 21 01 51.4
comp=Z,466nm,18.0s
M58A **Price's Panora** **90.19** **322** P **P** **20 18 18.2 -0.5**
baz=44
L56A **Greenwood** **90.21** **323** P **P** **20 18 18.0 -0.8**
baz=43,SNR=6.2
L56A **Greenwood** **90.21** **323** P **P** **20 18 18.5 -0.3**
L56A IAmb IAmb 20 18 19.4
comp=Z,21nm,0.9s
O60A **Telford** **90.38** **320** P **P** **20 18 18.7 -0.8**
baz=45
K54A **Basiliko Farm,** **90.44** **324** P **P** **20 18 19.1 -0.6**
baz=43
WVNY **West Valley, N** **90.55** **323** P **P** **20 18 19.9 -0.4**
WVNY IAMs_20 IAMs_20 21 00 48.6
comp=Z,422nm,22.0s
M57A **Sunshine Farm,** **90.57** **322** P **P** **20 18 19.6 -0.7**
baz=44
M57A **Sunshine Farm,** **90.57** **322** P **P** **20 18 19.8 -0.6**
M57A IAMs_20 IAMs_20 20 58 44.2
comp=Z,497nm,22.0s
SIT **Sitka** **90.58** **2** IAMs_20 IAMs_20 21 07 14.2
comp=Z,324nm,19.0s
L55A **Hinsdale** **90.63** **323** P **P** **20 18 20.3 -0.4**
baz=43,SNR=15

PSUB **Penn St. - Bra** **90.69** **320** IAMs_20 IAMs_20 21 01 34.4
comp=Z,369nm,19.0s
N58A **Sunbury** **90.71** **321** P **P** **20 18 20.3 -0.7**
baz=44
N58A **Sunbury** **90.71** **321** P **P** **20 18 20.7 -0.3**
N58A IAmb IAmb 20 18 26.9
comp=Z,56nm,1.9s
N58A IAMs_20 IAMs_20 21 03 02.0
comp=Z,406nm,21.0s
P60A **Greenville** **90.87** **320** P **P** **20 18 21.2 -0.5**
baz=45
P60A **Greenville** **90.87** **320** IAMs_20 IAMs_20 21 01 39.3
comp=Z,372nm,19.0s
KNRA **Kununurra** **90.97** **108** P **P** **20 18 22.1 -0.4**
M56A **Emporium** **91.01** **323** P **P** **20 18 22.1 -0.3**
baz=43,SNR=8.5
M56A **Emporium** **91.01** **323** P **P** **20 18 22.2 -0.3**
L54A **Sinclairville** **91.03** **324** P **P** **20 18 21.8 -0.7**
baz=42
MVL **Millersville** **91.12** **321** IAMs_20 IAMs_20 21 00 26.9
comp=Z,526nm,22.0s
PAGS **Pennsylvania G** **91.15** **321** IAMs_20 IAMs_20 20 59 15.8
comp=Z,443nm,20.0s
N57A **Milroy** **91.21** **322** P **P** **20 18 22.6 -0.7**
baz=43,SNR=7.6
WRAK **Wrangell Islan** **91.26** **0** IAMs_20 IAMs_20 21 02 34.1
comp=Z,367nm,20.0s
M55A **Ridgway** **91.32** **323** P **P** **20 18 23.4 -0.5**
baz=42,SNR=10.0
M55A **Ridgway** **91.32** **323** P **P** **20 18 23.5 -0.4**
M55A IAMs_20 IAMs_20 21 03 20.0
comp=Z,360nm,21.0s
MTN **Manton Dam** **91.34** **104** P **P** **20 18 23.9 -0.3**
MTN IAmb IAmb 20 18 29.3
comp=Z,21nm,1.1s
E43A **Lone Tree Farm** **91.35** **331** P **P** **20 18 23.6 -0.3**
E43A IAMs_20 IAMs_20 21 00 23.4
comp=Z,416nm,21.0s
ULM **Lac du Bonnet** **91.39** **338** P **P** **20 18 22.2 -1.8**
comp=Z,11nm,0.8s,baz=40,slow=5.3,SNR=8.0
ULM LR LR 21 02 21.0
comp=Z,367nm,18.7s,baz=28,slow=37
ULM **Lac du Bonnet** **91.39** **338** P **P** **20 18 22.8 -1.2**
ULM pmax pmax
comp=Z,18nm,1.0s
ULM MLR MLR
comp=Z,600nm,20.0s
ULM **Lac du Bonnet** **91.39** **338** P **P** **20 18 22.8 -1.2**
ULM IAmb IAmb 20 18 24.2
comp=Z,18nm,1.0s
I49A **Point Hope** **91.43** **327** IAMs_20 IAMs_20 21 00 47.8
comp=Z,419nm,21.0s
D41A **Chassel** **91.44** **332** IAMs_20 IAMs_20 21 01 39.6
comp=Z,460nm,19.0s
ERPA **Erie** **91.45** **324** P **P** **20 18 24.2 -0.3**
baz=42
ERPA **Erie** **91.45** **324** IAMs_20 IAMs_20 21 01 17.5
comp=Z,437nm,22.0s
SSPA **Standing Stone** **91.47** **322** P **P** **20 18 23.5 -1.0**
baz=43
SSPA **Standing Stone** **91.47** **322** P **P** **20 18 23.6 -1.0**
SSPA IAmb IAmb 20 18 31.2
comp=Z,20nm,1.1s
SSPA **Standing Stone** **91.47** **322** IAMs_20 IAMs_20 20 59 10.2
comp=Z,398nm,22.0s
N56A **West Decatur** **91.48** **322** P **P** **20 18 24.1 -0.6**
baz=43
GLMI **Grayling** **91.56** **328** IAMs_20 IAMs_20 21 01 14.1
comp=Z,444nm,20.0s
O57A **Amberson** **91.65** **321** P **P** **20 18 24.5 -0.9**
baz=43,SNR=5.9
L53A **Girard** **91.71** **324** P **P** **20 18 24.2 -1.5**
baz=42
M54A **Oil Creek Stat** **91.74** **323** P **P** **20 18 25.5 -0.4**
baz=42,SNR=11
M54A **Oil Creek Stat** **91.74** **323** P **P** **20 18 25.3 -0.6**
EYMN **Ely** **91.83** **334** P **P** **20 18 24.5 -1.6**
baz=33
EYMN **Ely** **91.83** **334** P **P** **20 18 25.8 -0.4**
EYMN IAmb IAmb 20 18 33.1
comp=Z,18nm,0.8s
G45A **Suttons Bay** **91.85** **329** IAMs_20 IAMs_20 21 00 34.6
comp=Z,477nm,20.0s
ALLY **Alegheny Colle** **91.88** **324** IAMs_20 IAMs_20 21 01 29.8
comp=Z,486nm,22.0s
N55A **Marion Center** **91.94** **323** P **P** **20 18 25.7 -1.0**
baz=42
O56A **Blue Knob Stat** **92.09** **322** P **P** **20 18 26.7 -0.8**
baz=43
O56A **Blue Knob Stat** **92.09** **322** IAMs_20 IAMs_20 21 03 27.6
comp=Z,409nm,18.0s
K50A **Casco** **92.23** **326** IAMs_20 IAMs_20 21 03 48.0
comp=Z,344nm,21.0s
M53A **WI Miller and** **92.30** **324** IAMs_20 IAMs_20 21 01 29.9
comp=Z,426nm,21.0s
N54A **Moraine State** **92.31** **323** P **P** **20 18 27.9 -0.6**
baz=42
N54A **Moraine State** **92.31** **323** IAMs_20 IAMs_20 21 03 42.3
comp=Z,412nm,19.0s
P57A **Homestead Farm** **92.38** **321** P **P** **20 18 28.0 -0.8**
baz=43
P57A **Homestead Farm** **92.38** **321** P **P** **20 18 28.1 -0.8**
P57A IAMs_20 IAMs_20 20 59 51.2
comp=Z,489nm,22.0s
NWAO **Narrogin (SRO)** **92.39** **128** P **P** **20 18 28.5 -0.2**
NWAO pmax pmax
comp=Z,39nm,1.4s
NWAO **Narrogin (SRO)** **92.39** **128** P **P** **20 18 28.5 -0.2**
NWAO IAmb IAmb 20 18 34.4
comp=Z,39nm,1.4s
COWI **Conover** **92.45** **332** P **P** **20 18 28.2 -0.8**
COWI IAMs_20 IAMs_20 21 02 20.4
comp=Z,463nm,20.0s
O55A **Ligonier** **92.52** **322** P **P** **20 18 29.0 -0.5**
baz=42
M52A **Chesterland** **92.56** **324** IAMs_20 IAMs_20 21 02 57.8
comp=Z,340nm,18.0s
Q58A **Fox Den Farm,** **92.59** **321** P **P** **20 18 29.0 -0.8**
baz=43
P56A **Dayton Farm, R** **92.80** **322** P **P** **20 18 30.1 -0.7**
baz=42
N53A **Lisbon** **92.86** **324** P **P** **20 18 29.2 -1.8**
baz=41
J47A **Sunmer** **92.89** **327** IAMs_20 IAMs_20 21 00 24.4
comp=Z,478nm,22.0s
I45A **Fountain** **92.89** **329** IAMs_20 IAMs_20 21 00 56.3
comp=Z,427nm,21.0s
Q57A **Strasburg** **92.92** **321** P **P** **20 18 30.5 -0.8**
baz=43
E38A **The Farm, Brul** **92.97** **333** P **P** **20 18 30.6 -0.8**
E38A IAMs_20 IAMs_20 21 00 23.2
comp=Z,381nm,21.0s
AGMN **Agassiz Nation** **93.07** **337** P **P** **20 18 30.7 -1.1**
baz=30,SNR=7.1
AAM **Ann Arbor** **93.08** **326** IAMs_20 IAMs_20 21 03 54.5
comp=Z,373nm,18.0s
O54A **Avella** **93.09** **323** P **P** **20 18 31.5 -0.6**
baz=42
O54A **Avella** **93.09** **323** P **P** **20 18 31.3 -0.8**
O54A IAmb IAmb 20 18 39.1
comp=Z,20nm,0.8s
O54A IAMs_20 IAMs_20 21 05 07.9
comp=Z,327nm,20.0s
MCWV **Mont Chateau** **93.21** **322** P **P** **20 18 32.2 -0.4**
baz=42
H43A **Windswept, Lux** **93.21** **330** IAMs_20 IAMs_20 21 01 28.6
comp=Z,525nm,22.0s
S59A **Mechanicsville** **93.24** **319** P **P** **20 18 32.5 -0.3**
baz=44
N52A **McGinn's Farm,** **93.27** **324** P **P** **20 18 32.1 -0.8**
baz=41
P55A **Reedsville** **93.31** **322** P **P** **20 18 31.8 -1.3**
baz=42
Q56A **Snyder Ridge,** **93.32** **321** P **P** **20 18 32.8 -0.4**
baz=42
Q56A **Snyder Ridge,** **93.32** **321** IAMs_20 IAMs_20 21 04 16.1
comp=Z,385nm,18.0s
GENI **Genyem** **93.40** **91** P P 20 18 38.9 +5.0
comp=Z,58nm,1.2s
R58B **Mineral** **93.41** **320** P **P** **20 18 33.1 -0.5**
baz=43
R58B **Mineral** **93.41** **320** IAMs_20 IAMs_20 21 04 11.6
comp=Z,356nm,20.0s
O53A **New Philadelph** **93.46** **323** P **P** **20 18 33.5 -0.3**
baz=41,SNR=6.2
O53A **New Philadelph** **93.46** **323** P **P** **20 18 33.5 -0.3**
O53A IAmb IAmb 20 18 39.6

	comp=Z,21nm,0.9s						
R57A	**Stanardsville**	**93.52**	**321**	P	**P**	**20 18 33.2**	**-0.9**
	baz=43						
N51A	**Ashland**	**93.53**	**325**	IAms_20	IAms_20	21 03 35.5	
	comp=Z,384nm,19.0s						
G40A	**Rib Lake**	**93.56**	**332**	P	**P**	**20 18 33.5**	**-0.7**
G40A				IAms_20	IAms_20	21 03 13.7	
	comp=Z,456nm,19.0s						
P54A	**Burton**	**93.58**	**323**	P	**P**	**20 18 34.1**	**-0.3**
	baz=41,SNR=7.0						
L48A	**N Adams**	**93.73**	**326**	IAms_20	IAms_20	21 02 07.5	
	comp=Z,443nm,21.0s						
S58A	**Poland Farm, P**	**93.76**	**320**	P	**P**	**20 18 34.3**	**-0.9**
	baz=43						
S58A	**Poland Farm, P**	**93.76**	**320**	IAms_20	IAms_20	21 04 31.8	
	comp=Z,308nm,18.0s						
JAY	**Jayapura**	**93.81**	**91**	P	**P**	**20 18 36.0**	**+0.2**
	comp=Z,8.5nm,1.1s,baz=294,slow=13,SNR=2.0						
JAY	**Jayapura**	**93.81**	**91**	P	P	20 18 44.3	+8.5
Q55A	**Buckhannon**	**93.82**	**322**	P	**P**	**20 18 32.9**	**-2.6**
	baz=42						
O52A	**Adamsville**	**93.88**	**324**	P	**P**	**20 18 35.0**	**-0.7**
	baz=40						
O52A	**Adamsville**	**93.88**	**324**	IAms_20	IAms_20	21 02 28.6	
	comp=Z,350nm,21.0s						
R56A	**Bull Pasture M**	**93.90**	**321**	P	**P**	**20 18 35.3**	**-0.7**
	baz=42						
P53A	**Whipple**	**94.13**	**323**	P	**P**	**20 18 36.6**	**-0.2**
	baz=41,SNR=9.8						
P53A	**Whipple**	**94.13**	**323**	P	**P**	**20 18 36.5**	**-0.3**
P53A				IAms_20	IAms_20	21 03 01.3	
	comp=Z,356nm,20.0s						
S57A	**Dark Hollow, R**	**94.14**	**320**	P	**P**	**20 18 36.1**	**-0.8**
	baz=42						
S57A	**Dark Hollow, R**	**94.14**	**320**	IAms_20	IAms_20	21 02 20.8	
	comp=Z,338nm,20.0s						
I42A	**Draeger Farm,**	**94.16**	**330**	IAms_20	IAms_20	21 01 56.7	
	comp=Z,551nm,22.0s						
Q54A	**Coxs Mills**	**94.22**	**322**	P	**P**	**20 18 36.7**	**-0.6**
	baz=41						
Q54A	**Coxs Mills**	**94.22**	**322**	IAms_20	IAms_20	21 05 02.9	
	comp=Z,335nm,19.0s						
O51A	**Pataskala**	**94.23**	**324**	P	**P**	**20 18 36.5**	**-0.8**
	baz=40						
V61A	**Roper**	**94.25**	**318**	IAms_20	IAms_20	21 05 25.0	
	comp=Z,357nm,18.0s						
ACSO	**Alum Creek Sta**	**94.36**	**324**	P	**P**	**20 18 36.5**	**-1.4**
	baz=40						
ACSO	**Alum Creek Sta**	**94.36**	**324**	IAms_20	IAms_20	21 03 53.3	
	comp=Z,310nm,18.0s						
R55A	**Marlinton**	**94.37**	**321**	P	**P**	**20 18 37.3**	**-0.8**
	baz=42						
R55A	**Marlinton**	**94.37**	**321**	IAms_20	IAms_20	21 04 57.9	
	comp=Z,331nm,19.0s						
P52A	**Corning**	**94.39**	**324**	P	**P**	**20 18 37.0**	**-1.1**
	baz=40,SNR=8.8						
P52A	**Corning**	**94.39**	**324**	P	**P**	**20 18 37.3**	**-0.8**
P52A				IAms_20	IAms_20	21 02 56.3	
	comp=Z,321nm,19.0s						
N49A	**Columbus Grove**	**94.40**	**326**	P	**P**	**20 18 37.5**	**-0.6**
N49A				IAmb	IAmb	20 18 42.9	
	comp=Z,12nm,0.8s						
T58A	**Grand View Acr**	**94.51**	**320**	P	**P**	**20 18 37.5**	**-1.1**
	baz=43						
L46A	**Eue Claire**	**94.53**	**328**	IAms_20	IAms_20	21 01 59.6	
	comp=Z,352nm,21.0s						
U59A	**Littleton**	**94.53**	**319**	P	**P**	**20 18 38.2**	**-0.5**
	baz=43						
U59A	**Littleton**	**94.53**	**319**	P	**P**	**20 18 38.3**	**-0.5**
SPMN	**Marine on St.**	**94.61**	**333**	P	**P**	**20 18 37.8**	**-1.1**
	baz=32						
SPMN	**Marine on St.**	**94.61**	**333**	P	**P**	**20 18 38.4**	**-0.6**
SPMN				IAms_20	IAms_20	21 06 02.5	
	comp=Z,433nm,19.0s						
V60A	**Jim Taylor Roa**	**94.66**	**318**	P	**P**	**20 18 38.6**	**-0.7**
	baz=44						
V60A	**Jim Taylor Roa**	**94.66**	**318**	IAms_20	IAms_20	21 03 37.8	
	comp=Z,505nm,20.0s						
Q53A	**Leroy**	**94.67**	**323**	P	**P**	**20 18 38.9**	**-0.5**
	baz=41						
T57A	**Hurt**	**94.86**	**320**	P	**P**	**20 18 39.9**	**-0.3**
	baz=42						
T57A	**Hurt**	**94.86**	**320**	IAms_20	IAms_20	21 04 55.0	
	comp=Z,352nm,19.0s						
I40A	**Norwalk**	**94.86**	**331**	IAms_20	IAms_20	21 02 22.3	
	comp=Z,501nm,21.0s						
K43A	**Burlington**	**94.88**	**329**	IAms_20	IAms_20	21 02 06.7	
	comp=Z,426nm,20.0s						
U58A	**Oxford**	**94.92**	**319**	P	**P**	**20 18 39.9**	**-0.7**
	baz=43						
S55A	**Lewisburg**	**94.95**	**321**	P	**P**	**20 18 40.4**	**-0.4**
	baz=42						
Q52A	**Bidwell**	**94.97**	**323**	P	**P**	**20 18 40.2**	**-0.5**
	baz=40,SNR=6.8						
O49A	**Covington**	**95.05**	**325**	P	**P**	**20 18 40.2**	**-0.9**
O49A				IAmb	IAmb	20 18 46.2	
	comp=Z,27nm,1.1s						
O49A				IAms_20	IAms_20	21 03 21.5	
	comp=Z,430nm,22.0s						
L44A	**Lake County Fo**	**95.12**	**329**	IAms_20	IAms_20	21 03 12.2	
	comp=Z,408nm,21.0s						
N47A	**Urbana**	**95.15**	**326**	IAms_20	IAms_20	21 03 11.1	
	comp=Z,501nm,21.0s						
T56A	**Rocky Mt**	**95.26**	**321**	P	**P**	**20 18 41.8**	**-0.3**
	baz=42						
R53A	**Hurricane**	**95.29**	**323**	P	**P**	**20 18 41.8**	**-0.4**
	baz=40						
R53A	**Hurricane**	**95.29**	**323**	IAms_20	IAms_20	21 09 27.1	
	comp=Z,384nm,18.0s						
U57A	**Blanch**	**95.32**	**320**	P	**P**	**20 18 41.8**	**-0.6**
	baz=42						
BLA	**Blacksburg**	**95.33**	**321**	IAms_20	IAms_20	21 01 42.3	
	comp=Z,420nm,22.0s						
S54A	**Dingess, Beckl**	**95.36**	**322**	IAms_20	IAms_20	21 03 22.0	
	comp=Z,314nm,20.0s						
HQIL	**Hanson Quary C**	**95.40**	**328**	IAms_20	IAms_20	21 02 12.6	
	comp=Z,517nm,22.0s						
JFWS	**Jewell Farm**	**95.52**	**330**	P	**P**	**20 18 42.4**	**-0.8**
JFWS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
JFWS				MLR	MLR		
	comp=Z,500nm,22.0s						
JFWS	**Jewell Farm**	**95.52**	**330**	P	**P**	**20 18 42.4**	**-0.8**
JFWS	**Jewell Farm**	**95.52**	**330**	IAms_20	IAms_20	21 02 59.7	
	comp=Z,459nm,22.0s						
T55A	**Pulaski**	**95.59**	**321**	P	**P**	**20 18 43.1**	**-0.6**
	baz=41						
V58A	**Windy Hill, Pi**	**95.67**	**319**	P	**P**	**20 18 43.0**	**-1.0**
	baz=42						
P49A	**Miami Univ. Ec**	**95.74**	**325**	IAms_20	IAms_20	21 03 18.8	
	comp=Z,400nm,21.0s						
U56A	**King**	**95.95**	**320**	P	**P**	**20 18 44.1**	**-1.1**
	baz=42						
U56A	**King**	**95.95**	**320**	IAms_20	IAms_20	21 03 13.8	
	comp=Z,336nm,21.0s						
V57A	**Coltrane Farms**	**95.96**	**320**	P	**P**	**20 18 44.3**	**-1.0**
	baz=42						
L42A	**Oliver, Polo**	**96.02**	**330**	IAms_20	IAms_20	21 03 14.0	
	comp=Z,422nm,20.0s						
T54A	**Tazewell**	**96.05**	**322**	P	**P**	**20 18 44.6**	**-1.2**
	baz=41						
P48A	**Milroy**	**96.14**	**325**	IAms_20	IAms_20	21 04 18.4	
	comp=Z,374nm,21.0s						
U55A	**TA2, Sparta**	**96.19**	**321**	P	**P**	**20 18 46.0**	**-0.5**
	baz=41						
W58A	**Raeford**	**96.30**	**319**	P	**P**	**20 18 46.8**	**-0.1**
	baz=42						
Y60A	**Bolivia**	**96.47**	**317**	IAms_20	IAms_20	21 03 16.8	
	comp=Z,355nm,22.0s						
U54A	**Nelsons Funny**	**96.59**	**321**	P	**P**	**20 18 47.9**	**-0.4**
U54A				IAmb	IAmb	20 18 49.4	
	comp=Z,16nm,1.1s						
U54A				IAms_20	IAms_20	21 02 09.6	
	comp=Z,343nm,21.0s						
T53A	**Wise**	**96.61**	**322**	P	**P**	**20 18 47.4**	**-0.9**
	baz=40						
L40A	**Anamosa**	**96.63**	**331**	IAms_20	IAms_20	21 04 53.0	
	comp=Z,400nm,18.0s						
W57A	**Gilead**	**96.63**	**319**	P	**P**	**20 18 47.9**	**-0.4**
	baz=42						
S51A	**Beattyville**	**96.65**	**323**	IAms_20	IAms_20	21 10 11.1	
	comp=Z,281nm,18.0s						
V55A	**Taylorsville**	**96.77**	**321**	P	**P**	**20 18 48.2**	**-0.8**
	baz=41						
V55A	**Taylorsville**	**96.77**	**321**	IAms_20	IAms_20	21 03 16.4	
	comp=Z,411nm,22.0s						
BLO	**Bloomington**	**96.89**	**326**	IAms_20	IAms_20	21 10 10.2	
	comp=Z,403nm,20.0s						
R49A	**Shelbyville**	**96.93**	**325**	IAms_20	IAms_20	21 05 30.4	
	comp=Z,367nm,19.0s						
W56A	**Indian Trail**	**96.96**	**320**	P	**P**	**20 18 49.5**	**-0.3**
	baz=42						
O44A	**Mansfield**	**97.00**	**328**	IAms_20	IAms_20	21 03 35.0	
	comp=Z,451nm,21.0s						
WALA	**Waterton Lakes**	**97.01**	**348**	IAms_20	IAms_20	21 10 42.3	
	comp=Z,387nm,20.0s						
HDIL	**Hopedale**	**97.04**	**328**	IAms_20	IAms_20	21 03 00.1	
	comp=Z,473nm,22.0s						
V54A	**Nebo**	**97.22**	**321**	P	**P**	**20 18 50.9**	**-0.1**
	baz=41						
ECSD	**EROS Data Cent**	**97.29**	**335**	P	**P**	**20 18 50.5**	**-0.7**
	baz=30						
KMSC	**Kings Mountain**	**97.36**	**320**	P	**P**	**20 18 50.8**	**-0.9**
	baz=41						
KMSC	**Kings Mountain**	**97.36**	**320**	P	**P**	**20 18 50.5**	**-1.1**
KMSC				IAmb	IAmb	20 18 57.4	
	comp=Z,10nm,0.8s						
TZTN	**Tazewell**	**97.47**	**322**	P	**P**	**20 18 51.5**	**-0.7**
	baz=40						
TZTN	**Tazewell**	**97.47**	**322**	IAms_20	IAms_20	21 06 28.9	
	comp=Z,414nm,18.0s						
WCI	**Wyandotte Cave**	**97.52**	**325**	IAms_20	IAms_20	21 05 08.1	
	comp=Z,358nm,22.0s						
N41A	**Harden Midland**	**97.59**	**330**	P	**P**	**20 18 51.2**	**-1.4**
N41A				IAmb	IAmb	20 18 57.2	
	comp=Z,10.0nm,0.8s						
N41A				IAms_20	IAms_20	21 04 01.7	
	comp=Z,483nm,21.0s						
X56A	**White Oak**	**97.69**	**320**	P	**P**	**20 18 53.1**	**-0.1**
	baz=41						
Y57A	**Sumter**	**97.69**	**319**	IAms_20	IAms_20	21 05 48.9	
	comp=Z,466nm,20.0s						
WRA	**Warramunga Arr**	**97.73**	**109**	P	**P**	**20 18 52.0**	**-1.5**
	comp=Z,1.5nm,0.7s,baz=317,slow=4.0,SNR=14						
WRA				PP	**PP**	**20 22 51.6**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=300,slow=8.5,SNR=4.9						
WRA				PKKPbc	**PKKPbc**	**20 35 29.6**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=120,slow=3.0,SNR=7.2						
WRA	**Warramunga Arr**	**97.73**	**109**	P	**P**	**20 18 52.0**	**-1.5**
WB2	**Warramunga Arr**	**97.74**	**109**	P	**P**	**20 18 52.0**	**-1.6**
WB2				IAmb	IAmb	20 18 58.7	
	comp=Z,12nm,1.2s						
V53A	**Saluda**	**97.76**	**321**	IAms_20	IAms_20	21 02 45.5	
	comp=Z,397nm,22.0s						
T50A	**Nancy**	**97.76**	**324**	IAms_20	IAms_20	21 04 46.4	
	comp=Z,316nm,20.0s						
WR3	**Warramunga Arr**	**97.77**	**109**	IAms_20	IAms_20	20 49 18.1	
	comp=Z,503nm,22.0s						
W54A	**Cherokee Point**	**97.87**	**321**	P	**P**	**20 18 53.6**	**-0.4**
	baz=41						
P43A	**Skaggs, Pawnee**	**97.89**	**328**	IAms_20	IAms_20	21 03 27.5	
	comp=Z,383nm,22.0s						
OLIL	**Olney**	**97.97**	**327**	IAms_20	IAms_20	21 04 44.9	
	comp=Z,418nm,21.0s						
X55A	**Gracelyn & Ava**	**98.03**	**320**	P	**P**	**20 18 54.3**	**-0.4**
	baz=41						
V52A	**Sevierville**	**98.03**	**322**	IAms_20	IAms_20	21 06 39.8	
	comp=Z,270nm,18.0s						
NHSC	**New Hope**	**98.24**	**318**	IAms_20	IAms_20	21 07 45.6	
	comp=Z,382nm,19.0s						
Q44A	**Meyer Farm, Va**	**98.26**	**327**	IAms_20	IAms_20	21 04 44.4	
	comp=Z,434nm,19.0s						
TKL	**Tuckaleechee C**	**98.27**	**322**	P	**P**	**20 18 55.4**	**-0.3**
	comp=Z,8.0nm,0.8s,baz=106,slow=5.1,SNR=9.8						
TKL				LR	LR	21 06 32.3	
	comp=Z,207nm,18.8s,baz=50,slow=37						
TKL	**Tuckaleechee C**	**98.27**	**322**	IAms_20	IAms_20	21 06 47.0	
	comp=Z,293nm,18.0s						
NEW	**Newport**	**98.30**	**350**	P	**P**	**20 18 55.8**	**+0.1**
	baz=13						
JTMT	**Jette**	**98.34**	**348**	IAms_20	IAms_20	21 05 28.6	
	comp=Z,372nm,21.0s						
X54A	**Belton**	**98.37**	**320**	P	**P**	**20 18 55.7**	**-0.6**
	baz=40						
HODGE	**Hodges**	**98.55**	**320**	IAms_20	IAms_20	21 05 05.7	
	comp=Z,310nm,21.0s						
Y55A	**Saluda**	**98.56**	**320**	P	**P**	**20 18 56.8**	**-0.2**
	baz=41						
B06A	**Marblemount**	**98.61**	**353**	IAms_20	IAms_20	21 07 47.4	
	comp=Z,344nm,19.0s						
U49A	**Red Boiling Sp**	**98.62**	**324**	IAms_20	IAms_20	21 06 27.3	
	comp=Z,309nm,19.0s						
Z56A	**Williston**	**98.74**	**319**	IAms_20	IAms_20	21 06 11.9	
	comp=Z,317nm,20.0s						
W52A	**Murphy**	**98.78**	**322**	IAms_20	IAms_20	21 05 09.6	
	comp=Z,325nm,22.0s						
CPCT	**Cooper Cave**	**98.81**	**322**	IAms_20	IAms_20	21 03 34.5	
	comp=Z,415nm,22.0s						
T47A	**Sharon Grove**	**98.90**	**325**	IAms_20	IAms_20	21 06 04.5	
	comp=Z,333nm,22.0s						
SLM	**Saint Louis**	**99.03**	**328**	IAms_20	IAms_20	21 08 09.7	
	comp=Z,538nm,22.0s						
P40A	**Paris**	**99.08**	**330**	IAms_20	IAms_20	21 05 55.0	
	comp=Z,392nm,21.0s						
MSO	**Missoula**	**99.16**	**347**	IAms_20	IAms_20	21 05 02.3	
	comp=Z,448nm,22.0s						
CLTN	**Cedars of Leba**	**99.23**	**324**	IAms_20	IAms_20	21 06 53.3	
	comp=Z,374nm,20.0s						
AS31	**Alice Springs**	**99.33**	**112**		**Pdif**	**20 18 59.0**	**-1.6**
ASAR	**Alice Springs**	**99.33**	**112**	P	**Pdif**	**20 18 59.1**	**-1.5**
	comp=Z,1.9nm,0.5s,baz=305,slow=4.7,SNR=48						
ASAR				PP	**PP**	**20 23 05.7**	**+1.6**
	comp=Z,3.5nm,0.9s,baz=312,slow=7.2,SNR=5.2						
ASAR				PKKPbc	**PKKPbc**	**20 35 23.3**	**-0.6**
	comp=Z,1.8nm,1.1s,baz=115,slow=3.7,SNR=9.0						
ASAR				LR	LR	21 10 11.0	
	comp=Z,215nm,18.2s,baz=298,slow=39						
RSSD	**Black Hills**	**99.36**	**340**	IAms_20	IAms_20	21 04 19.9	
	comp=Z,488nm,21.0s						
W50A	**Signal Mountai**	**99.41**	**323**	IAms_20	IAms_20	21 11 55.3	
	comp=Z,364nm,19.0s						
257A	**Skidaway Islan**	**99.56**	**318**	IAms_20	IAms_20	21 08 47.5	
	comp=Z,301nm,18.0s						
T45A	**Paducah**	**99.61**	**326**	IAms_20	IAms_20	21 06 55.4	
	comp=Z,367nm,19.0s						
P38A	**Dawn**	**99.62**	**331**	IAms_20	IAms_20	21 05 38.3	
	comp=Z,380nm,20.0s						
SWET	**Sewanee**	**99.72**	**323**	IAms_20	IAms_20	21 08 26.3	
	comp=Z,354nm,19.0s						
V48A	**Smith Brothers**	**99.75**	**324**	IAms_20	IAms_20	21 07 09.1	
	comp=Z,388nm,19.0s						
Y52A	**Lilburn**	**99.80**	**321**	IAms_20	IAms_20	21 04 36.6	
	comp=Z,343nm,22.0s						
GOGA	**Godfrey**	**99.83**	**320**	IAms_20	IAms_20	21 07 48.4	
	comp=Z,339nm,19.0s						
BOZ	**Bozeman (W)**	**99.89**	**345**	IAms_20	IAms_20	21 06 42.6	
	comp=Z,437nm,19.0s						
WVT	**Waverly**	**99.94**	**325**	IAms_20	IAms_20	21 06 10.1	
	comp=Z,455nm,22.0s						
CCM	**Cathedral Cave**	**99.95**	**328**	IAms_20	IAms_20	21 04 40.2	
	comp=Z,432nm,22.0s						
FPAL	**Fort Paine**	**100.08**	**322**	IAms_20	IAms_20	21 04 12.0	
	comp=Z,459nm,22.0s						
R40A	**Maddies Statio**	**100.21**	**329**	IAms_20	IAms_20	21 06 29.9	
	comp=Z,379nm,20.0s						
HENM	**Henderson Moun**	**100.24**	**326**	IAms_20	IAms_20	21 06 55.0	
	comp=Z,381nm,20.0s						
HICK	**Hickman**	**100.27**	**326**	IAms_20	IAms_20	21 07 22.8	
	comp=Z,335nm,20.0s						
LON	**Longmire**	**100.39**	**353**	IAms_20	IAms_20	21 07 58.6	
	comp=Z,383nm,21.0s						
255A	**Hazlehurst**	**100.41**	**319**	IAms_20	IAms_20	21 07 49.0	
	comp=Z,384nm,20.0s						
PARMO	**Parma**	**100.42**	**326**	IAms_20	IAms_20	21 06 40.6	
	comp=Z,394nm,19.0s						
HAWA	**Hanford**	**100.47**	**351**	IAms_20	IAms_20	21 09 35.8	
	comp=Z,449nm,19.0s						
F10A	**Beach Ranch, E**	**100.55**	**349**	IAms_20	IAms_20	21 09 29.0	
	comp=Z,477nm,21.0s						
MAW	**Mawson**	**100.62**	**174**	P	**Pdif**	**20 19 05.9**	**+0.8**
	comp=Z,1.6nm,1.0s,baz=352,slow=8.4,SNR=3.3						
MAW				PKKPbc	**PKKPbc**	**20 35 25.0**	**+3.3**
	comp=Z,1.7nm,0.6s,baz=158,slow=5.3,SNR=10						
T42A	**Van Buren**	**100.73**	**328**	IAms_20	IAms_20	21 09 04.9	
	comp=Z,353nm,20.0s						
LNXT	**Lenox**	**100.75**	**326**	IAms_20	IAms_20	21 13 05.5	
	comp=Z,350nm,20.0s						
Z51A	**Franklin**	**100.81**	**321**	IAms_20	IAms_20	21 06 07.3	
	comp=Z,360nm,22.0s						
X48A	**Hartselle**	**100.88**	**323**	IAms_20	IAms_20	21 08 35.1	
	comp=Z,291nm,18.0s						
PEBM	**Pemiscott Bayo**	**100.92**	**326**	IAms_20	IAms_20	21 07 43.8	
	comp=Z,380nm,19.0s						
PLAL	**Pickwick Lake**	**100.97**	**324**	IAms_20	IAms_20	21 07 45.4	
	comp=Z,314nm,19.0s						
Y49A	**Blount Mountai**	**101.03**	**323**	IAms_20	IAms_20	21 06 42.0	
	comp=Z,401nm,20.0s						
GNAR	**Gosnell**	**101.11**	**326**	IAms_20	IAms_20	21 07 49.0	
	comp=Z,334nm,18.0s						
S39A	**Bolivar**	**101.16**	**329**	IAms_20	IAms_20	21 07 11.2	
	comp=Z,432nm,21.0s						
F04A	**Amboy**	**101.26**	**353**	IAms_20	IAms_20	21 07 20.6	
	comp=Z,360nm,21.0s						
IMW	**Indian Meadow**	**101.36**	**344**	IAms_20	IAms_20	21 08 18.4	
	comp=Z,437nm,19.0s						
W45A	**Hickory Valley**	**101.37**	**325**	IAms_20	IAms_20	21 05 57.9	
	comp=Z,324nm,22.0s						
G08A	**Pilot Rock**	**101.47**	**350**	IAms_20	IAms_20	21 12 49.4	
	comp=Z,425nm,20.0s						
LOHW	**Long Hollow**	**101.55**	**344**	IAms_20	IAms_20	21 08 23.6	
	comp=Z,394nm,20.0s						
SNOW	**Snow King Moun**	**101.73**	**344**	IAms_20	IAms_20	21 06 08.3	
	comp=Z,501nm,22.0s						
TPAW	**Teton Pass**	**101.75**	**344**	IAms_20	IAms_20	21 08 30.7	
	comp=Z,455nm,20.0s						
REDW	**Red Top Meadow**	**101.84**	**344**	IAms_20	IAms_20	21 08 43.4	
	comp=Z,454nm,19.0s						
LRAL	**Lakeview Retre**	**101.98**	**322**	IAms_20	IAms_20	21 07 10.2	
	comp=Z,444nm,21.0s						
U40A	**Yellville**	**102.08**	**328**	IAms_20	IAms_20	21 08 20.4	
	comp=Z,302nm,20.0s						
352A	**Blakely**	**102.10**	**320**	IAms_20	IAms_20	21 08 09.5	
	comp=Z,368nm,20.0s						
PDAR	**Pinedale Array**	**102.10**	**343**	P	**Pdif**	**20 19 12.5**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=7.4,slow=9.1,SNR=2.4						
PDAR				PKiKP	**PKiKP**	**20 23 40.5**	**+5.2**
	comp=Z,0.6nm,0.9s,baz=72,slow=2.9,SNR=1.7						
PDAR				PKKPbc	**PKKPbc**	**20 35 14.8**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=172,slow=3.2,SNR=7.1						
656A	**Willston**	**102.37**	**317**	IAms_20	IAms_20	21 09 07.9	
	comp=Z,303nm,20.0s						
Z47A	**Carrollton**	**102.39**	**323**	IAms_20	IAms_20	21 12 15.1	
	comp=Z,316nm,20.0s						
HLID	**Hailey**	**102.40**	**347**	IAms_20	IAms_20	21 14 37.0	
	comp=Z,343nm,21.0s						
250A	**Grady**	**102.43**	**321**	IAms_20	IAms_20	21 09 21.2	
	comp=Z,363nm,18.0s						
AHID	**Auburn Hatcher**	**102.47**	**344**	IAms_20	IAms_20	21 06 44.9	
	comp=Z,486nm,21.0s						
Y45A	**Yeager Farm, C**	**102.59**	**325**	IAms_20	IAms_20	21 06 24.2	
	comp=Z,373nm,21.0s						
U38A	**Gravette**	**102.67**	**330**	IAms_20	IAms_20	21 13 53.1	
	comp=Z,414nm,20.0s						
R32A	**Long Quarter,**	**102.70**	**334**	IAms_20	IAms_20	21 07 48.6	
	comp=Z,460nm,20.0s						
WHAR	**Wooly Hollow**	**102.71**	**327**	IAms_20	IAms_20	21 07 22.3	
	comp=Z,345nm,20.0s						
W41B	**Gary Mavity, V**	**102.79**	**327**	IAms_20	IAms_20	21 07 42.4	
	comp=Z,378nm,20.0s						
MFID	**Camas Ranch**	**102.81**	**348**	IAms_20	IAms_20	21 12 19.7	
	comp=Z,369nm,20.0s						
N23A	**Red Feather La**	**102.88**	**340**	IAms_20	IAms_20	21 08 58.0	
	comp=Z,452nm,20.0s						
UALR	**University of**	**103.17**	**327**	IAms_20	IAms_20	21 08 04.3	
	comp=Z,390nm,20.0s						
146A	**Union**	**103.34**	**324**	IAms_20	IAms_20	21 08 30.1	
	comp=Z,406nm,20.0s						
X40A	**Basin Creek Fa**	**103.63**	**327**	IAms_20	IAms_20	21 07 50.5	
	comp=Z,322nm,20.0s						
TUL1	**Leonard**	**103.72**	**330**	IAms_20	IAms_20	21 09 28.7	
	comp=Z,406nm,20.0s						
VBMS	**Vicksburg**	**104.40**	**324**	IAms_20	IAms_20	21 08 45.2	
	comp=Z,298nm,21.0s						
143A	**Socs Landing,**	**104.43**	**325**	IAms_20	IAms_20	21 10 05.0	
	comp=Z,345nm,20.0s						
346A	**Big Creek Wild**	**104.55**	**323**	IAms_20	IAms_20	21 04 58.2	
	comp=Z,369nm,22.0s						
T25A	**Trinidad**	**105.85**	**337**	IAms_20	IAms_20	21 08 55.8	
	comp=Z,444nm,20.0s						
342A	**Flagon Creek P**	**105.97**	**325**	IAms_20	IAms_20	21 08 38.7	
	comp=Z,469nm,22.0s						
PV03	**Paradox Valley**	**106.16**	**341**	IAms_20	IAms_20	20 56 22.6	
	comp=Z,294nm,19.0s						
Z35A	**Perchaven, San**	**106.55**	**330**	IAms_20	IAms_20	21 10 21.6	
	comp=Z,447nm,22.0s						
KVN	**Kaiserville**	**107.44**	**349**	IAms_20	IAms_20	21 10 22.5	
	comp=Z,429nm,21.0s						
YERR	**Yerington**	**107.69**	**349**	IAms_20	IAms_20	21 13 55.0	
	comp=Z,360nm,19.0s						
RYN	**Ryan**	**107.93**	**349**	IAms_20	IAms_20	21 10 22.2	
	comp=Z,361nm,21.0s						
NV11	**Mina Array Sit**	**108.06**	**348**	IAms_20	IAms_20	21 17 38.6	
	comp=Z,401nm,20.0s						
NVAR	**Mina Array Bea**	**108.08**	**349**	PKiKP	**PKiKP**	**20 23 45.7**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=354,slow=0.9,SNR=3.3						
NVAR				PKKPbc	**PKKPbc**	**20 34 58.1**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=200,slow=4.3,SNR=5.2						
LHV	**Little Huntoon**	**108.29**	**349**	IAms_20	IAms_20	21 18 34.8	
	comp=Z,362nm,18.0s						
PRN	**Pahroc Range**	**108.46**	**346**	IAms_20	IAms_20	21 10 22.5	
	comp=Z,402nm,20.0s						
OMMB	**Old Mammoth Mi**	**109.00**	**349**	IAms_20	IAms_20	21 13 10.5	
	comp=Z,370nm,20.0s						
JCT	**Junction City**	**110.09**	**330**	IAms_20	IAms_20	21 08 38.4	
	comp=Z,393nm,21.0s						
TXAR	**Lajitas Array**	**112.64**	**333**	PKiKP	**PKiKP**	**20 23 55.7**	**+0.6**
	comp=Z,1.0nm,1.0s,baz=90,slow=2.0,SNR=2.3						
TXAR				PKKPbc	**PKKPbc**	**20 34 43.8**

*TEH **23** 20:18:06.7, 32°.68N×47°.82E, h14km, ML3.7*
ISC 23 20:18:06.7±1.3, **32°.66N**±0°.03×**47°.77E**±0°.03, **h17**km±9km, **n100**, σ1§63/106, **mb3.8**/17, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DHL1	**Dehlorani**	**0.41**	**274**	*e*Pg		**Pg**	**20 18 15.6**	**+0.4**
DHL1				*e*Sg		**Sb**	**20 18 22.9**	**+1.4**
IKFM	**Kafar-mosalman**	**0.87**	**4**	*e*Pg		**Pg**	**20 18 22.9**	**-0.8**
IKFM				*e*			20 18 41.8	
IKFM	**Kafar-mosalman**	**0.87**	**4**	Pg		**Pg**	**20 18 22.9**	**-0.8**
IKMR	**Kamar-syah**	**1.00**	**31**	*e*Pg		**Pg**	**20 18 24.5**	**-1.7**
IKMR				*e*			20 18 27.6	
IKMR	**Kamar-syah**	**1.00**	**31**	Pg		**Pg**	**20 18 24.7**	**-1.5**
SHGR	**Shooshtar-Gavs**	**1.03**	**122**	*e*Pg		**Pg**	**20 18 26.1**	**-0.5**
SHGR				*e*Sg		**Sn**	**20 18 41.9**	**+1.5**
SHGR	**Shooshtar-Gavs**	**1.03**	**122**	*e*Pg		**Pg**	**20 18 26.2**	**-0.5**
IDOB	**Doab**	**1.18**	**17**	*e*Pg		**Pb**	**20 18 28.2**	**-0.6**
IDOB	**Doab**	**1.18**	**17**	Pn		**Pn**	**20 18 28.9**	**+0.3**
BMDN	**Meydan**	**1.34**	**41**	*e*Pg		**Pb**	**20 18 31.4**	**-0.2**
BMDN				*e*			20 18 56.6	
BMDN	**Meydan**	**1.34**	**41**	Pn		**Pn**	**20 18 31.0**	**+0.1**
AHWZ	**Ahwaz**	**1.52**	**150**	*e*Pg		**Pb**	**20 18 35.3**	**+0.9**
IKOM	**Komasi**	**1.53**	**352**	*e*Pg		**Pg**	**20 18 35.6**	**-0.7**
IKOM				*e*			20 19 01.6	
IKOM	**Komasi**	**1.53**	**352**	Pn		**Pg**	**20 18 35.5**	**-0.7**
IBDR	**Badra**	**1.61**	**287**	*e*Pg		**Pn**	**20 18 35.0**	**+0.6**
IBDR				*e*Sg		**Sb**	**20 18 58.0**	**+1.9**
IBDR				AML		AML	20 19 03.4	
	comp=N,215nm,0.7s							
IBDR				AML		AML	20 19 03.9	
	comp=E,182nm,0.6s							
HSAM	**Samen**	**1.70**	**24**	*e*Pg		**Pb**	**20 18 38.1**	**+0.4**
HSAM				*e*			20 19 06.7	
HSAM	**Samen**	**1.70**	**24**	Pn		**Pg**	**20 18 38.2**	**-1.3**
KCHF	**Cheshme Sefid,**	**1.73**	**340**	*e*Pg		**Pb**	**20 18 38.0**	**-0.1**
KCHF				*e*			20 19 05.0	
KER	**Kermanshah**	**1.81**	**343**	*e*Pn		**Pb**	**20 18 39.2**	**-0.2**
IBZA	**Bozab**	**1.81**	**2**	*e*Pg		**Pb**	**20 18 39.8**	**+0.2**
IBZA				*e*			20 18 44.0	
IBZA	**Bozab**	**1.81**	**2**	Pn		**Pb**	**20 18 39.9**	**+0.3**
IGHG	**Ghaleghazi**	**1.95**	**329**	*e*Pn		**Pb**	**20 18 41.7**	**-0.2**
IGHG				*e*			20 19 16.6	
IGHG	**Ghaleghazi**	**1.95**	**329**	Pn		**Pb**	**20 18 41.3**	**-0.6**
IVIS	**Veis**	**2.02**	**338**	*e*Pn		**Pn**	**20 18 41.7**	**+1.6**
IVIS				*e*			20 19 15.1	
IVIS	**Veis**	**2.02**	**338**	Pn		**Pn**	**20 18 41.7**	**+1.6**
KHMZ	**Khomeyn**	**2.13**	**59**	*e*Pn		**Pb**	**20 18 43.7**	**-1.3**
KHMZ	**Khomeyn**	**2.13**	**59**	*e*Pn		**Pb**	**20 18 43.7**	**-1.3**
NSR	**Nassriya**	**2.15**	**221**	*e*Pn		**Pn**	**20 18 42.0**	**+0.3**
NSR				*e*Sn		**Sn**	**20 19 07.0**	**-0.9**
IALM	**Almabolaq**	**2.22**	**8**	*e*Pn		**Pb**	**20 18 45.7**	**-0.9**
IDHR	**Dehrash**	**2.34**	**331**	*e*Pn		**Pn**	**20 18 46.6**	**+2.0**
IDHR				*e*			20 18 51.0	
ILIN	**Lien**	**2.35**	**344**	*e*Pn		**Pn**	**20 18 46.9**	**+2.1**
ILIN				*e*			20 19 33.7	
HAGD	**Aghdareh**	**2.44**	**27**	*e*Pn		**Pb**	**20 18 48.6**	**-1.7**
HAGD				*e*			20 19 28.9	
SNGE	**Sanandaj**	**2.46**	**352**	*e*Pn		**Pn**	**20 18 46.8**	**+0.6**
SNGE				*e*Sg		**Sb**	**20 19 20.4**	**-0.2**
SNGE	**Sanandaj**	**2.46**	**352**	*e*Pn		**Pn**	**20 18 46.8**	**+0.6**
JHBN	**Jahan bin**	**2.48**	**99**	*e*Pn		**Pn**	**20 18 47.1**	**+0.4**
JHBN				*e*			20 19 31.3	
HSRG	**Sareghieh**	**2.61**	**9**	*e*Pn		**Pb**	**20 18 52.2**	**-1.1**
HSRG				*e*			20 19 40.4	
IPIR	**Pirpir**	**2.63**	**89**	*e*Pn		**Pn**	**20 18 50.6**	**+1.9**
IPIR				*e*			20 19 36.3	
ROKH	**ROKH**	**2.78**	**96**	*e*Pn		**Pn**	**20 18 52.4**	**+1.8**
ROKH				*e*			20 19 52.5	
BHD	**Baghdad**	**2.92**	**283**	*e*Pn		**Pn**	**20 18 53.0**	**+0.8**
BHD				*e*Sn		**Sn**	**20 19 30.0**	**+3.1**
BHD				AML		AML	20 19 43.4	
	comp=E,355nm,0.5s							
IKLH	**Kolahrood**	**3.27**	**77**	*e*Pn		**Pn**	**20 18 59.9**	**+2.5**
IKLH				*e*			20 19 58.0	
IRAZ	**Razeghan**	**3.28**	**33**	*e*Pn		**Pn**	**20 19 00.6**	**+3.1**
QABG	**Abgarm-Qazvin**	**3.40**	**26**	*e*Pn		**Pn**	**20 19 01.5**	**+2.4**
IGAR	**Gharneh**	**3.62**	**93**	*e*			**20 19 03.9**	**+1.7**
IGAR				*e*Pn		**Pn**	**20 19 03.8**	**+1.2**
KLNJ	**Kolanjah**	**3.64**	**116**	*e*Pn		**Pn**	20 19 12.1	
KLNJ				*e*			20 20 12.1	
IZEF	**Zefreh**	**3.85**	**85**	*e*Pn		**Pn**	**20 19 07.5**	**+2.1**
IMHD	**Mahdasht**	**3.86**	**38**	*e*Pn		**Pn**	**20 19 08.7**	**+3.3**
IRAM	**Ramesheh**	**4.00**	**101**	*e*Pn		**Pn**	**20 19 08.2**	**+0.8**
QSDN	**Sirdan**	**4.01**	**16**	*e*Pn		**Pn**	**20 19 10.3**	**+2.7**
IHSB	**Hasanabad**	**4.02**	**45**	*e*Pn		**Pn**	**20 19 10.5**	**+2.9**
IGZV	**Ghazvin**	**4.24**	**28**	*e*Pn		**Pn**	**20 19 14.0**	**+3.4**
MAHB	**Mahabad**	**4.44**	**338**	*e*Pn		**Pn**	**20 19 15.3**	**+1.9**
QALM	**Alamut, Qazvin**	**4.45**	**31**	*e*Pn		**Pn**	**20 19 15.7**	**+2.0**
DAMV	**Damavand**	**4.58**	**48**	*e*Pn		**Pn**	**20 19 17.0**	**+1.6**
DAMV	**Damavand**	**4.58**	**48**	*e*Pn		**Pn**	**20 19 17.0**	**+1.6**
IDMV	**Damavand**	**4.58**	**49**	*e*Pn		**Pn**	**20 19 17.0**	**+1.5**
ANAR	**Anarak**	**5.04**	**82**	*e*Pn		**Pn**	**20 19 23.3**	**+1.7**
ISAD	**Sadrabad**	**5.06**	**97**	*e*Pn		**Pn**	**20 19 23.2**	**+1.1**
IFIR	**Firoozkooh**	**5.09**	**53**	*e*Pn		**Pn**	**20 19 24.2**	**+1.7**
ILAS	**Lasjerd**	**5.09**	**56**	*e*Pn		**Pn**	**20 19 24.6**	**+2.1**
IPRN	**Peran**	**5.20**	**45**	*e*Pn		**Pn**	**20 19 26.5**	**+2.7**
IALA	**Alasht**	**5.39**	**49**	*e*Pn		**Pn**	**20 19 29.5**	**+2.9**
ISHM	**Shahmirzad**	**5.55**	**54**	*e*Pn		**Pn**	**20 19 31.6**	**+2.8**
ICHK	**Chekchek**	**5.63**	**92**	*e*Pn		**Pn**	**20 19 31.9**	**+2.1**
IHRS	**Heris**	**5.68**	**354**	*e*Pn		**Pn**	**20 19 34.1**	**+3.6**
IGLO	**Ghaloghah**	**6.30**	**51**	*e*Pn		**Pn**	**20 19 41.5**	**+2.5**
GEVA	**Gevas**	**6.83**	**327**	Pn		**Pn**	**20 19 48.0**	**+1.8**
MARD	**Mardin**	**7.38**	**311**	Pn		**Pn**	**20 19 54.0**	**+0.3**
ASF	**Jabal al Asfar**	**9.21**	**270**	Pn		**Pn**	**20 20 17.6**	**-1.2**
	comp=E,0.3nm,0.3s,baz=304,slow=18,SNR=2.0							
ASF				Sn		**Sn**	**20 21 56.3**	**-5.7**
	comp=E,0.3nm,0.3s,baz=71,slow=23,SNR=1.0							
ASF				Lg		Lg	20 23 00.9	
	comp=E,0.4nm,0.3s,baz=171,slow=22,SNR=1.2							
AKH	**Akhalkalaki**	**9.38**	**340**	Pn		**Pn**	**20 20 21.5**	**+0.3**
UOSS	**Minazif**	**10.66**	**134**	Pn		**Pn**	**20 20 37.0**	**-1.6**
IDI	**Anoyia**	**19.15**	**284**	P		**P**	**20 22 30.3**	**+1.0**
	comp=E,0.9nm,0.3s,baz=39,slow=7.7,SNR=7.8							
IDI	**Anoyia**	**19.15**	**284**	P		**P**	**20 22 29.9**	**+0.6**
IDI				IAmb		IAmb	20 22 47.8	
	comp=Z,12nm,1.2s							
ALN	**Alexandroupoli**	**19.21**	**302**			**P**	**20 22 30.4**	**+0.6**
ALN				IAmb		IAmb	20 22 42.1	
	comp=Z,14nm,1.2s							
KK31	**Karatay Array**	**20.70**	**53**	P		**P**	**20 22 46.6**	**+0.7**
KKAR	**Karatay Array**	**20.70**	**53**	P		**P**	**20 22 46.7**	**+0.7**
MLR	**Muntele Rosu**	**21.16**	**314**	P		**P**	**20 22 52.8**	**+1.7**
MLR				IAmb		IAmb	20 22 58.2	
	comp=Z,7.4nm,0.8s							
AKASG	**Malin Array Be**	**22.63**	**328**	P		**P**	**20 23 05.2**	**-1.4**
	comp=Z,1.3nm,0.4s,baz=134,slow=8.7,SNR=8.0							
BUR08	**Bucovina Ar. S**	**22.73**	**318**	P		**P**	**20 23 07.6**	**-0.1**
BUR08				IAmb		IAmb	20 23 14.0	
	comp=Z,6.0nm,1.5s							
DIVS	**Divibare**	**24.47**	**306**	P		**P**	**20 23 24.1**	**-0.8**
PDG	**Podgorica**	**24.53**	**302**	P		**P**	**20 23 24.6**	**-0.6**
ARU	**Arti**	**24.92**	**14**	P		**P**	**20 23 30.0**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=211,slow=20,SNR=2.8							
ARU	**Arti**	**24.92**	**14**	P		**P**	**20 23 29.2**	**+0.5**
ARU				IAmb		IAmb	20 23 37.7	
	comp=Z,3.9nm,0.8s							
KOLS	**Kolonicke sedl**	**25.07**	**318**	*e*P		**P**	**20 23 31.1**	**+1.0**
KWP	**Kalwaria Pacla**	**25.20**	**320**	P		**P**	**20 23 33.1**	**+1.9**
TIP	**Timpagrande**	**25.86**	**293**	P		**P**	**20 23 37.0**	**-0.5**
TIP				IAmb		IAmb	20 23 44.6	
	comp=Z,12nm,1.5s							
PSZ	**Piszkesteto**	**25.98**	**314**	P		**P**	**20 23 39.3**	**+0.8**
PSZ				IAmb		IAmb	20 23 41.7	
	comp=Z,5.9nm,0.8s							
BVAR	**Borovoye Array**	**26.06**	**32**	P		**P**	**20 23 39.1**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=226,slow=12,SNR=4.1							
MK31	**Makanchi Array**	**29.80**	**52**	P		**P**	**20 24 13.1**	**+0.5**
MKAR	**Makanchi Array**	**29.80**	**52**	P		**P**	**20 24 12.9**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=236,slow=8.5,SNR=3.0							
GERES	**GERESS Array B**	**30.14**	**313**	P		**P**	**20 24 16.5**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=91,slow=7.9,SNR=2.6							
CLL	**Collm**	**31.46**	**317**	*e*P		**P**	**20 24 27.0**	**-0.1**
FINES	**FINESS Array B**	**32.05**	**340**	P		**P**	**20 24 31.5**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=144,slow=8.1,SNR=8.3							
ZALV	**Zalesovo Beam**	**33.78**	**40**	P		**P**	**20 24 46.7**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=286,slow=10,SNR=2.6							
NOA	**NORSAR Array B**	**36.97**	**331**	P		**P**	**20 25 13.0**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=124,slow=8.5,SNR=1.7							
ARCES	**ARCESS Array B**	**38.99**	**348**	P		**P**	**20 25 31.9**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=161,slow=8.6,SNR=6.5							
PALK	**Pallekele**	**39.65**	**122**	LR		LR	20 43 04.0	

	comp=Z,347nm,18.8s,baz=120,slow=38							
ESBB	**Sonseca Array**	**41.87**	**295**	P		**P**	**20 25 55.7**	**-0.3**
ESBB				IAmb		IAmb	20 25 58.1	
	comp=Z,3.3nm,1.2s							
ESDC	**Sonseca Array**	**41.87**	**295**	P		**P**	**20 25 55.9**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=77,slow=8.0,SNR=7.8							
TOA0	**Torodi Ar. Sit**	**46.26**	**256**	P		**P**	**20 26 29.9**	**-1.5**
TOA0				IAmb		IAmb	20 26 32.8	
	comp=Z,3.6nm,1.1s							
TORD	**Torodi Ar. Bea**	**46.26**	**256**	P		**P**	**20 26 30.1**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=82,slow=6.2,SNR=6.2							

*OMAN **23** 20:34:49.6, 32°.45N×47°.29E, h10km, mb5.2/3*
*IDC **23** 20:34:50.4±0.9, 32°.55N×47°.73E, h0km, mb3.9/18, mb1 4.0/22, mb1mx3.8/45, mbtmp3.8/22, ML3.5/4, Error ellipse: s-maj=21.2km s-min=14.3km az=5.0*
*TEH **23** 20:34:53.0, 32°.70N×47°.77E, h8km, ML3.9*
*ISN **23** 20:34:53.3±0.8, 32°.67N×47°.76E, h14km±5km, ML3.5*
*THR **23** 20:34:55.0±0.8, 32°.74N×47°.85E, h14km±6km, ML4.1*
*NEIC **23** 20:34:55.7±1.4, 32°.57N±0°.06×47°.76E±0°.06, h36km±6km, Error ellipse: s-maj=9.6km s-min=6.2km az=214.0*
ISC 23 20:34:52.5±1.2, **32°.66N**±0°.03×**47°.77E**±0°.03, **h10**km±8km, **n151**, σ1§62/156, **mb4.1**/31, **11C-1D**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DHL1	**Dehloran**	**0.41**	**273**	*e*Pg		**Pg**	**20 35 01.1**	**+0.4**
IKFM	**Kafar-mosalman**	**0.86**	**4**	*e*Pg		**Pg**	**20 35 08.9**	**-0.3**
IKFM	**Kafar-mosalman**	**0.86**	**4**	Pg		**Pg**	**20 35 08.8**	**-0.4**
IKMR	**Kamar-syah**	**1.00**	**31**	*e*Pg		**Pg**	**20 35 10.9**	**-0.8**
IKMR	**Kamar-syah**	**1.00**	**31**	Pg		**Pg**	**20 35 10.8**	**-0.9**
SHGR	**Shooshtar-Gavs**	**1.03**	**122**	*e*Pg		**Pg**	**20 35 13.6**	**+0.6**
SHGR				*e*Sg		**Sn**	**20 35 28.5**	**+1.0**
SHGR	**Shooshtar-Gavs**	**1.03**	**122**	*e*Pg		**Pn**	**20 35 13.6**	**+0.6**
SHGR	**Shooshtar-Gavs**	**1.03**	**122**	Pg		**Pn**	**20 35 13.6**	**+0.6**
IDOB	**Doab**	**1.17**	**17**	*e*Pg		**Pb**	**20 35 14.9**	**-0.1**
IDOB	**Doab**	**1.17**	**17**	Pg		**Pg**	**20 35 14.5**	**-0.6**
BMDN	**Meydan**	**1.34**	**41**	*e*Pg		**Pg**	**20 35 18.7**	**+0.4**
BMDN				*e*			20 35 41.9	
BMDN	**Meydan**	**1.34**	**41**			**Pg**	**20 35 18.7**	**+0.4**
AHWZ	**Ahwaz**	**1.52**	**151**	*e*Pg		**Pg**	**20 35 22.7**	**+1.0**
IKOM	**Komasi**	**1.52**	**352**	*e*Pg		**Pg**	**20 35 21.9**	**+0.1**
IKOM				*e*			20 35 47.9	
IKOM	**Komasi**	**1.52**	**352**			**Pg**	**20 35 21.8**	**0.0**
IBDR	**Badra**	**1.61**	**287**	*e*Pg		**Pn**	**20 35 22.0**	**+1.0**
IBDR				*e*Sg		**Sg**	**20 35 44.0**	**-0.4**
IBDR				AML		AML	20 35 49.6	
	comp=N,659nm,0.8s							
IBDR				AML		AML	20 35 50.2	
	comp=E,853nm,0.6s							
HSAM	**Samen**	**1.70**	**24**	*e*Pg		**Pg**	**20 35 24.9**	**-0.2**
HSAM				*e*			20 35 53.1	
HSAM	**Samen**	**1.70**	**24**	Pg		**Pg**	**20 35 25.4**	**+0.3**
KCHF	**Cheshme Sefid,**	**1.72**	**339**	*e*Pg		**Pg**	**20 35 25.3**	**-0.3**
KCHF				*e*			20 35 54.7	
KCHF	**Cheshme Sefid,**	**1.72**	**339**	Pg		**Pg**	**20 35 25.3**	**-0.3**
KER	**Kermanshah**	**1.80**	**343**	*e*Pn		**Pb**	**20 35 25.8**	**+0.1**
IBZA	**Bozab**	**1.81**	**2**	*e*Pg		**Pg**	**20 35 26.9**	**-0.3**
IBZA				*e*			20 35 55.0	
IGHG	**Ghaleghazi**	**1.94**	**329**	*e*Pn		**Pb**	**20 35 28.4**	**+0.2**
IGHG				*e*			20 36 26.2	
IGHG	**Ghaleghazi**	**1.94**	**329**	Pn		**Pb**	**20 35 28.8**	**+0.1**
IVIS	**Veis**	**2.01**	**338**	*e*Pn		**Pb**	**20 35 29.1**	**-0.2**
IVIS	**Veis**	**2.01**	**338**	Pn		**Pb**	**20 35 29.0**	**-0.2**
KHMZ	**Khomeyn**	**2.13**	**59**	*e*Pn		**Pb**	**20 35 31.0**	**-0.3**
KHMZ	**Khomeyn**	**2.13**	**59**	*e*Pn		**Pb**	**20 35 31.0**	**-0.3**
NSR	**Nassriya**	**2.15**	**221**	*e*Pn		**Pn**	**20 35 30.0**	**+1.6**
NSR				*e*Sn		**Sn**	**20 35 56.0**	**+0.9**
IDHR	**Dehrash**	**2.34**	**331**	*e*Pn		**Pb**	**20 35 33.4**	**-1.5**
IDHR				*e*			20 36 41.3	
ILIN	**Lien**	**2.35**	**344**	*e*Pn		**Pb**	**20 35 34.0**	**-1.1**
HAGD	**Aghdareh**	**2.44**	**28**	*e*Pn		**Pb**	**20 35 35.4**	**-1.2**
HAGD				*e*			20 36 17.2	
SNGE	**Sanandaj**	**2.45**	**352**	*e*Pn		**Pb**	**20 35 36.1**	**-0.7**
SNGE				*e*Sg		**Sg**	**20 36 10.0**	**-1.3**
SNGE	**Sanandaj**	**2.45**	**352**	*e*Pn		**Pb**	**20 35 36.1**	**-0.7**
JHBN	**Jahan bin**	**2.48**	**99**	*e*Pn		**Pn**	**20 35 35.7**	**+2.4**
JHBN				*e*			20 36 24.8	
HSRG	**Sareghieh**	**2.61**	**9**	*e*Pn		**Pb**	**20 35 37.6**	**-1.9**
HSRG				*e*			20 36 27.5	
IPIR	**Pirpir**	**2.63**	**89**	*e*Pn		**Pn**	**20 35 37.8**	**+2.5**
IPIR				*e*			20 36 23.9	
ROKH	**ROKH**	**2.78**	**96**	*e*Pn		**Pn**	**20 35 39.2**	**+2.0**
BHD	**Baghdad**	**2.91**	**283**	*e*Pn		**Pn**	**20 35 41.0**	**+2.1**
BHD				*e*Sn		**Sn**	**20 36 16.0**	**+2.1**
BHD				AML		AML	20 36 21.7	
	comp=E,160nm,0.5s							
IBRJ	**Brojen**	**3.05**	**103**	*e*Pn		**Pn**	**20 35 42.6**	**+1.6**
IKLH	**Kolahrood**	**3.27**	**77**	*e*Pn		**Pn**	**20 35 46.7**	**+2.7**
IKLH				*e*			20 36 00.9	
IRAZ	**Razeghan**	**3.27**	**33**	*e*Pn		**Pn**	**20 35 46.7**	**+2.7**
QABG	**Abgarm-Qazvin**	**3.39**	**26**	*e*Pn		**Pn**	**20 35 47.8**	**+2.1**
IGAR	**Gharneh**	**3.62**	**93**	*e*Pn		**Pn**	**20 35 50.9**	**+2.1**
IGAR				*e*			20 36 36.5	
KLNJ	**Kolanjah**	**3.65**	**116**	*e*Pn		**Pn**	**20 35 50.8**	**+1.3**
KLNJ				*e*			20 37 12.9	
IZEF	**Zefreh**	**3.85**	**85**	*e*Pn		**Pn**	**20 35 54.7**	**+2.7**
IMHD	**Mahdasht**	**3.86**	**38**	*e*Pn		**Pn**	**20 35 53.3**	**+1.3**
IRAM	**Ramesheh**	**4.00**	**101**	*e*Pn		**Pn**	**20 35 55.0**	**+0.9**
QSDN	**Sirdan**	**4.00**	**16**	*e*Pn		**Pn**	**20 35 57.4**	**+3.3**
IHSB	**Hasanabad**	**4.02**	**45**	*e*Pn		**Pn**	**20 35 56.8**	**+2.6**
IGZV	**Ghazvin**	**4.23**	**28**	*e*Pn		**Pn**	**20 36 00.7**	**+3.5**
CHTH	**Charan**	**4.27**	**40**	*e*Pn		**Pn**	**20 36 00.3**	**+2.6**
CHTH	**Charan**	**4.27**	**40**	*e*Pn		**Pn**	**20 36 00.3**	**+2.6**
MAHB	**Mahabad**	**4.43**	**338**	*e*Pn		**Pn**	**20 36 02.4**	**+2.4**
QALM	**Alamut, Qazvin**	**4.45**	**31**	*e*Pn		**Pn**	**20 36 02.7**	**+2.5**
DAMV	**Damavand**	**4.57**	**48**	*e*Pn		**Pn**	**20 36 04.3**	**+2.4**
DAMV	**Damavand**	**4.57**	**48**	*e*Pn		**Pn**	**20 36 04.3**	**+2.4**
IDMV	**Damavand**	**4.58**	**49**	*e*Pn		**Pn**	**20 36 04.4**	**+2.3**
ANAR	**Anarak**	**5.04**	**82**	*e*Pn		**Pn**	**20 36 10.8**	**+2.5**
ISAD	**Sadrabad**	**5.07**	**97**	*e*Pn		**Pn**	**20 36 10.4**	**+1.6**
IFIR	**Firoozkooh**	**5.09**	**53**	*e*Pn		**Pn**	**20 36 11.1**	**+2.0**
ILAS	**Lasjerd**	**5.09**	**56**	*e*Pn		**Pn**	**20 36 12.1**	**+3.0**
ISRB	**Sarab**	**5.15**	**359**	*e*Pn		**Pn**	**20 36 12.0**	**+2.1**
IPRN	**Peran**	**5.20**	**45**	*e*Pn		**Pn**	**20 36 13.9**	**+3.5**
IALA	**Alasht**	**5.39**	**49**	*e*Pn		**Pn**	**20 36 16.3**	**+3.1**
ISHM	**Shahmirzad**	**5.55**	**54**	*e*Pn		**Pn**	**20 36 17.4**	**+2.0**
IHRS	**Heris**	**5.68**	**354**	*e*Pn		**Pn**	**20 36 19.1**	**+2.0**
IANJ	**Anjilo**	**5.82**	**60**	*e*Pn		**Pn**	**20 36 20.4**	**+1.4**
IGLO	**Ghaloghah**	**6.30**	**51**	*e*Pn		**Pn**	**20 36 28.9**	**+3.3**
IBAF	**Bafgh**	**6.70**	**97**	*e*Pn		**Pn**	**20 36 32.5**	**+1.4**
MARD	**Mardin**	**7.38**	**311**	Pn		**Pn**	**20 36 40.0**	**-0.4**
TPRV	**Parvadeh(Tabas**	**7.51**	**85**	*e*Pn		**Pn**	**20 36 43.6**	**+1.4**
TKDS	**Koohdasht(Taba**	**7.90**	**81**	*e*Pn		**Pn**	**20 36 48.7**	**+1.1**
ASF	**Jabal al Asfar**	**9.21**	**270**	Pn		**Pn**	**20 37 04.0**	**-1.4**
	comp=E,0.3nm,0.3s,baz=151,slow=6.9,SNR=2.3							
ASF				Sn		**Sn**	**20 38 45.0**	**-4.1**
	comp=E,0.2nm,0.3s,baz=201,slow=18,SNR=1.7							
ASF				Lg		Lg	20 39 52.4	
	comp=E,0.6nm,0.3s,baz=246,slow=21,SNR=3.1							
AFRZ	**Afriz**	**9.47**	**82**	*e*Pn		**Pn**	**20 37 11.4**	**+2.3**
GAZ	**Gaziantep**	**9.77**	**300**	Pn		**Pn**	**20 37 14.4**	**+1.4**
GEYT	**Alibeck**	**9.95**	**55**	Pn		**Pn**	**20 37 18.7**	**+3.0**
	comp=E,0.2nm,0.3s,baz=235,slow=18,SNR=5.4							
GYA0B	**ALIBECK ARRAY**	**9.95**	**55**	Pn		**Pn**	**20 37 16.5**	**+0.9**
BANOM	**Banah**	**10.02**	**130**	P		**Pn**	**20 37 15.9**	**-0.7**
	SNR=24							
MMAI	**Mount Meron Ar**	**10.41**	**275**	Pn		**Pn**	**20 37 26.0**	**+4.1**
	comp=E,0.2nm,0.3s,baz=113,slow=14,SNR=1.9							
MDH	**Madha**	**10.46**	**132**	P		**Pn**	**20 37 22.2**	**-0.4**
UOSS	**Minazif**	**10.66**	**134**	Pn		**Pn**	**20 37 24.1**	**-1.3**
ASHO	**Ashiyiah**	**10.77**	**135**	P		**Pn**	**20 37 27.3**	**+0.5**
	SNR=6.4							
EIL	**Elat**	**11.38**	**258**	Lg		Lg	20 41 03.5	
	comp=E,0.4nm,0.3s,baz=300,slow=12,SNR=5.3							
BSY	**Bisya**	**12.93**	**137**	P		**Pn**	**20 37 55.4**	**-1.0**
BRTR	**Keskin Array B**	**13.40**	**306**	Pn		**Pn**	**20 38 04.0**	**+1.1**
	comp=E,0.1nm,0.3s,baz=123,slow=17,SNR=2.6							
WSAR	**Wadi Sarin**	**13.41**	**132**	Pn		**Pn**	**20 37 60.0**	**-3.0**
	comp=E,0.9nm,0.3s,baz=18,slow=18,SNR=13							
WSAR				Sn		Sn	20 40 19.9	-12
	comp=E,0.4nm,0.3s,baz=144,slow=8.0,SNR=2.2							
WBK	**Wadi Bani Khal**	**14.09**	**132**	P		**Pn**	**20 38 11.5**	**-0.7**
	SNR=5.1							
MHTO	**MHTO**	**14.76**	**139**	P		**Pn**	**20 38 19.6**	**-1.7**
MANT	**Manisa**	**16.67**	**296**			**Pn**	**20 38 47.7**	**+1.3**
KBL	**Kabul**	**17.82**	**78**			**Pn**	**20 39 01.1**	**+0.3**
CHGR	**Chuyangaron**	**18.36**	**65**	P		**P**	**20 39 07.8**	**+0.4**
CHGR				IAmb		IAmb	20 39 19.4	
	comp=Z,11nm,0.8s							
IDI	**Anoyia**	**19.15**	**284**	P		**Pn**	**20 39 17.9**	**+1.1**
IDI				IAmb		IAmb	20 39 25.3	
	comp=Z,8.7nm,0.9s							
AKTO	**Aktyubinsk**	**19.31**	**20**	P		**Pn**	**20 39 18.8**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=203,slow=12,SNR=11							
GAR	**Garm**	**19.32**	**65**	P		**P**	**20 39 18.6**	**+0.6**
GAR				IAmb		IAmb	20 39 24.9	
	comp=Z,13nm,0.7s							
RAZG	**Razgrad**	**19.90**	**309**	⇑P		**Pn**	**20 39 26.1**	**+0.3**
BTK	**Batken**	**19.94**	**62**	P		**P**	**20 39 25.5**	**+0.9**
KK31	**Karatay Array**	**20.70**	**53**	P		**P**	**20 39 33.8**	**+1.0**
KKAR	**Karatay Array**	**20.70**	**53**	P		**P**	**20 39 34.1**	**+1.3**
VRI	**Vrincioaia**	**20.88**	**315**	⇑P		Pn	20 39 36.5	-0.7
MLR	**Muntele Rosu**	**21.16**	**314**	P		**P**	**20 39 39.6**	**+1.7**
	comp=Z,4.1nm,0.7s,baz=198,slow=13,SNR=2.3

comp=E,7μm,0.4s
YUK smax smax
comp=N,10μm,0.5s
YUK smax smax
comp=E,11μm,1.0s
GRPR Tuman 1.03 308 *i* P **Pb 20 50 50.7 -0.2**
GRPR AMB AMB 20 50 51.0
comp=E,200nm,0.2s
GRPR *i* S **Sn 20 51 03.0 -0.3**
GRPR A A 20 51 05.0
comp=E,620nm,0.3s
GRPR A A 20 51 05.0
comp=E,3μm,0.3s
GRPR Tuman 1.03 308 *d i* PN **Pb 20 50 50.7 -0.2**
GRPR *i* S **Sn 20 51 03.0 -0.3**
GRPR pmax pmax
comp=N,300nm,0.2s
GRPR pmax pmax
comp=E,785nm,0.2s
GRPR pmax pmax
comp=Z,4μm,0.2s
GRPR smax smax
comp=N,6μm,0.3s
GRPR smax smax
comp=E,3μm,0.3s
JKHN Kushirohamanak 1.29 258 P **Pb 20 50 54.9 -0.4**
JKHN *e*S **Sb 20 51 11.0 -0.6**
JRA Rausu 1.41 295 P **Pb 20 50 56.4 -0.8**
JRA *e*S **Sb 20 51 14.6 -0.2**
JNSB Nemuroshibetsu 1.43 288 P **Pb 20 50 56.8 -0.9**
JNK Nakash 1.60 279 P **Pn 20 50 58.7 +1.0**
JNK *e*S **Sn 20 51 18.4 +1.2**
JAK Akkeshi 1.65 258 P **Pn 20 50 59.3 +1.0**
KUR Kuril'sk 2.00 20 *i* P **Pn 20 51 04.1 +0.9**
KUR AMB AMB 20 51 05.0
comp=E,50nm,0.3s
KUR AMB AMB 20 51 05.0
comp=E,50nm,0.3s
KUR AMB AMB 20 51 05.0
comp=E,230nm,0.3s
KUR *i* S **Sn 20 51 27.9 +0.7**
KUR A A 20 51 30.0
comp=E,1μm,0.4s
KUR A A 20 51 30.0
comp=E,200nm,0.4s
KUR Kuril'sk 2.00 20 *c i* PN **Pn 20 51 04.6 +1.4**
KUR *e*S **Sn 20 51 27.9 +0.7**
KUR pmax pmax
comp=N,49nm,0.3s
KUR pmax pmax
comp=Z,231nm,0.3s
KUR pmax pmax
comp=E,49nm,0.2s
KUR smax smax
comp=E,2μm,0.4s
KUR smax smax
comp=N,1μm,0.3s
JTKR Abashiri--Toko 2.25 287 P **Pb 20 51 09.1 -2.4**
JAR Ashorobuto 2.28 270 P **Pn 20 51 08.8 +1.8**
JOB Onbets 2.28 260 P **Pn 20 51 08.8 +1.7**
JMP Maruseppu 2.64 285 P **Pn 20 51 14.7 +2.6**
JCH Churui 2.69 255 P **Pn 20 51 14.9 +2.2**
JKK2 Kamakawa 2 3.05 281 P **Pn 20 51 20.8 +3.1**
JEM Erimo 3.06 245 P **Pn 20 51 21.4 +3.6**
ERM Erimo 3.06 245 PN **Pn 20 51 21.4 +3.6**
ERM 20 51 58.8
ERM Erimo 3.06 245 **Pn 20 51 21.4 +3.6**
ERM Sn **Sb 20 51 58.8 -3.4**
JKA Kamikawa-asahi 3.20 285 *e*P **Pn 20 51 23.3 +3.6**
JKA Kamikawa-asahi 3.20 285 **Pn 20 51 23.3 +3.6**
ASAJ Asahikawa 3.20 285 P **Pn 20 51 23.0 +3.3**
comp=N,7.0nm,0.3s,baz=110,slow=5.8,SNR=61
ASAJ S **Sb 20 52 07.0 +0.6**
comp=N,5.2nm,0.3s,baz=357,slow=32,SNR=1.5
ASAJ Asahikawa 3.20 285 PN **Pn 20 51 23.3 +3.6**
YSS Yuzh-Sakhalins 4.64 322 *e*P **Pn 20 51 42.1 +2.7**
YSS AMB AMB 20 51 42.9
comp=N,20nm,0.3s
YSS *e*S **Sn 20 52 32.4 +0.3**
YSS A A 20 52 36.6
comp=N,20nm,1.0s
YSS A A 20 52 36.6
comp=N,30nm,1.0s
YSS Yuzh-Sakhalins 4.64 322 ǁ *e*PN **Pn 20 51 42.1 +2.7**
YSS *e*S **Sn 20 52 32.2 +0.1**
YSS Yuzh-Sakhalins 4.64 322 Pn **Pn 20 51 42.0 +2.7**
MJA0 Matsu Arr-Jizo 9.50 227 *e*PN **Pn 20 52 47.5 +1.2**
MJAR Matsushiro Arr 9.52 227 P **Pn 20 52 47.6 +1.0**
comp=N,0.1nm,0.3s,baz=27,slow=15,SNR=10.0
MAJO Matsushiro 9.52 227 PN **Pn 20 52 47.3 +0.7**
MAJO Matsushiro 9.52 227 **Pn 20 52 47.2 +0.7**
JHJ Hachijo jima 2 11.64 211 P **Pn 20 53 17.5 +2.0**
comp=N,1.1nm,0.3s,baz=225,slow=22,SNR=1.7
JHJ S Sn 20 55 13.7 -11
comp=N,9.6nm,0.3s,baz=249,slow=21,SNR=5.6
KLR Kul'dur 12.00 305 P **Pn 20 53 23.0 +2.7**
comp=N,0.1nm,0.3s,baz=133,slow=5.4,SNR=1.9
KLR LR LR 20 57 33.1
comp=N,413nm,19.4s,baz=6.5,slow=35
KLR Kul'dur 12.00 305 *i* P **Pn 20 53 22.3 +2.0**
KLR Kul'dur 12.00 305 *i* PN **Pn 20 53 22.3 +2.0**
KLR pmax pmax
comp=Z,2.0nm,1.4s
PEA0B Petropavlovsk- 12.11 33 PN **Pn 20 53 21.5 -0.4**
PEA0B Petropavlovsk- 12.11 33 Pn **Pn 20 53 21.4 -0.4**
PETK Petropavlovsk- 12.11 33 P **Pn 20 53 22.0 +0.1**
comp=Z,0.5nm,0.3s,baz=200,slow=12,SNR=23
PETK Petropavlovsk- 12.11 33 PN **Pn 20 53 22.0 +0.1**
EKMR Ekimchan 13.42 321 *e*P **Pn 20 53 39.8 0.0**
KSRS Korea Array 15.60 254 P **P 20 54 13.3 +0.4**
comp=Z,0.2nm,0.3s,baz=122,slow=38,SNR=3.4
KS19 Wonju Array Si 15.61 254 P **P 20 54 13.5 +0.3**
BMKR Bomnak 16.35 320 *e*P **Pn 20 54 16.0 -2.6**
MA2 Magadan 16.41 7 P **Pn 20 54 19.2 -0.2**
comp=Z,0.2nm,0.3s,baz=197,slow=14,SNR=1.8
MA2 Magadan 16.41 7 **Pn 20 54 19.6 +0.3**
JCJ Chichijima 16.67 195 P **Pn 20 54 23.0 +0.1**
comp=Z,0.5nm,0.3s,baz=116,slow=22,SNR=1.1
SEY Seymchan 19.87 7 P **P 20 54 58.2 -1.6**
comp=Z,0.3nm,0.3s,baz=177,slow=9.3,SNR=8.8
SEY Seymchan 19.87 7 *i* P **P 20 54 59.8 -0.1**
ULN Ulaanbaatar 28.01 293 *i* P **P 20 56 19.3 -0.4**
ULN Ulaanbaatar 28.01 293 *i* P **P 20 56 19.3 -0.4**
ULN pmax pmax
comp=Z,2.0nm,0.9s
ULN Ulaanbaatar 28.01 293 P **P 20 56 19.5 -0.2**
SONM Songino Array 28.45 293 P **P 20 56 24.2 +0.5**
comp=Z,1.9nm,0.7s,baz=87,slow=8.3,SNR=16
H11N2 WAKE ISLAND Hy 28.93 138 T T 21 27 12.0
baz=330,slow=76,SNR=751
H11N1 WAKE ISLAND Hy 28.94 138 T T 21 27 13.9
baz=330,slow=76,SNR=525
H11N3 WAKE ISLAND Hy 28.95 138 T T 21 27 13.4
baz=330,slow=76,SNR=722
H11S1 WAKE ISLAND Hy 29.89 140 T T 21 28 19.5
baz=331,slow=76,SNR=1804
H11S3 WAKE ISLAND Hy 29.89 140 T T 21 28 26.5
baz=331,slow=76,SNR=832
H11S2 WAKE ISLAND Hy 29.90 140 T T 21 28 20.8
baz=331,slow=76,SNR=656
TTA Tatalina 37.85 39 P **P 20 57 46.7 +1.5**
TTA pmax pmax
comp=Z,6.0nm,1.2s
TTA Tatalina 37.85 39 P **P 20 57 46.7 +1.5**
TTA IAmb IAmb 20 58 03.0
comp=Z,5.5nm,1.2s
PPLA Purkeypile 39.60 39 P **P 20 57 59.6 -0.3**
BPAW Bear Paw Mtn. 40.15 37 P **P 20 58 04.7 +0.4**
KTH Kantishna Hill 40.17 38 P **P 20 58 05.2 +0.6**
KTH IAmb IAmb 20 58 08.0
comp=Z,8.5nm,1.2s
ZALV Zalesovo Beam 41.09 307 P **P 20 58 11.9 -0.2**
comp=Z,0.3nm,0.3s,baz=80,slow=7.3,SNR=2.1
MDM Murphy Dome 41.34 36 P **P 20 58 14.7 +0.6**
MDM IAmb IAmb 20 58 16.0
comp=Z,8.0nm,1.4s
COLA College 41.50 36 *i* P **P 20 58 15.3 0.0**
COLA pmax pmax
comp=Z,4.0nm,0.9s
DHY Denali Highway 41.79 39 P **P 20 58 18.4 +0.4**
DHY IAmb IAmb 20 58 19.0
comp=Z,6.7nm,1.4s
IL31 41.91 36 P **P 20 58 19.1 +0.4**
IL31 IAmb IAmb 20 58 23.8
comp=Z,2.1nm,0.6s
ILAR Eielson Array 41.91 36 P **P 20 58 19.1 +0.3**
comp=Z,1.8nm,0.8s,baz=252,slow=5.3,SNR=21
ILAR Eielson Array 41.91 36 *e*P **P 20 58 20.9 +2.1**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
EGAK Eagle 44.36 36 P **P 20 58 38.5 0.0**
EGAK IAmb IAmb 20 58 43.3
comp=Z,7.9nm,1.4s
MK31 Makanchi Array 44.60 298 P **P 20 58 40.2 -0.5**
MK31 pmax pmax
comp=Z,2.0nm,1.0s
MK31 Makanchi Array 44.60 298 P **P 20 58 40.2 -0.5**
MKAR Makanchi Array 44.60 298 P **P 20 58 40.6 -0.1**
comp=Z,1.4nm,0.5s,baz=81,slow=8.9,SNR=27
MAKZ Makanchi 44.80 298 P **P 20 58 41.6 -0.7**
MAKZ pmax pmax
comp=Z,2.0nm,0.5s
MAKZ Makanchi 44.80 298 P **P 20 58 41.6 -0.7**
MAKZ IAmb IAmb 20 58 43.0
comp=Z,1.8nm,0.5s
KURK Kurchatov 45.59 304 *e*P **P 20 58 47.9 -0.6**
KURK Kurchatov 45.59 304 P **P 20 58 47.9 -0.6**
KURK pmax pmax
comp=Z,1.0nm,0.9s
KURK Kurchatov 45.59 304 P **P 20 58 47.9 -0.6**
SIJI Sorong 46.21 202 P **P 20 58 52.0 -1.7**
comp=Z,9.2nm,0.7s,baz=146,slow=22,SNR=1.7
HYT Haines Junctio 46.75 41 P **P 20 58 59.0 +1.4**
HYT IAmb IAmb 20 59 00.8
comp=Z,5.0nm,0.9s
INK Inuvik 46.84 30 P **P 20 58 58.6 +0.6**
comp=Z,4.6nm,0.5s,baz=287,slow=7.3,SNR=37
INK Inuvik 46.84 30 P **P 20 58 58.6 +0.6**
INK pmax pmax
comp=Z,8.0nm,1.1s
INK Inuvik 46.84 30 P **P 20 58 58.6 +0.6**
KDJ Kajisay 49.81 294 P **P 20 59 21.6 0.0**
KDJ pmax pmax
comp=Z,3.0nm,1.0s
KDJ Kajisay 49.81 294 P **P 20 59 21.6 0.0**
KDJ IAmb IAmb 20 59 22.6
comp=Z,2.5nm,0.9s
C36M Paulatuk 49.91 28 P **P 20 59 21.9 +0.2**
C36M IAmb IAmb 20 59 23.3
comp=Z,3.4nm,0.7s
AAK Ala-Archa 51.36 296 *i* P **P 20 59 32.4 -0.8**
AAK Ala-Archa 51.36 296 *i* P **P 20 59 32.4 -0.8**
AAK pmax pmax
comp=Z,2.0nm,1.2s
KK31 Karatay Array 53.73 298 P **P 20 59 50.2 -0.4**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KK31 Karatay Array 53.73 298 P **P 20 59 50.2 -0.4**
KK31 IAmb IAmb 20 59 51.2
comp=Z,2.6nm,0.8s
KKAR Karatay Array 53.73 298 P **P 20 59 50.4 -0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 53.73 298 P **P 20 59 50.4 -0.2**
KKAR IAmb IAmb 20 59 51.2
comp=Z,2.6nm,0.8s
GAR Garm 55.89 294 P **P 21 00 05.8 -0.6**
GAR IAmb IAmb 21 00 18.3
comp=Z,5.1nm,1.0s
CHGR Chuyangaron 56.84 294 P **P 21 00 13.1 -0.1**
KEV Kevo 59.01 339 P **P 21 00 27.1 -0.7**
KEV pmax pmax
comp=Z,14nm,1.3s
KEV Kevo 59.01 339 P **P 21 00 27.1 -0.7**
ARCES ARCESS Array B 59.55 340 P **P 21 00 31.0 -0.5**
comp=Z,0.7nm,0.4s,baz=49,slow=7.1,SNR=14
ARCES ARCESS Array B 59.55 340 *e*P **P 21 00 31.4 -0.1**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
WRA Warramunga Arr 64.03 193 P **P 21 01 02.7 +0.5**
comp=Z,0.4nm,0.7s,baz=16,slow=8.9,SNR=2.5
SUMG Summit 64.31 2 P **P 21 01 03.3 -0.6**
SUMG pmax pmax
comp=Z,10.0nm,1.2s
SUMG Summit 64.31 2 P **P 21 01 03.3 -0.6**
FIA1 FINESS Array S 65.14 333 P **P 21 01 08.6 -0.3**
FINES FINESS Array B 65.14 333 P **P 21 01 08.3 -0.6**
comp=Z,4.4nm,0.7s,baz=43,slow=7.9,SNR=29
BOZ Bozeman (W) 67.34 48 P **P 21 01 24.2 +0.6**
BOZ pmax pmax
comp=Z,2.0nm,0.7s
BOZ Bozeman (W) 67.34 48 P **P 21 01 24.2 +0.6**
BOZ IAmb IAmb 21 01 37.6
comp=Z,1.9nm,0.7s
ASAR Alice Springs 67.75 193 P **P 21 01 27.2 +1.1**
comp=Z,0.5nm,0.8s,baz=8.1,slow=5.9,SNR=3.4
NVAR Mina Array Bea 67.95 58 P **P 21 01 28.6 +1.0**
comp=Z,0.6nm,0.7s,baz=296,slow=8.6,SNR=5.1
NC405 NORSAR Array S 69.71 339 P **P 21 01 37.5 -0.4**
NB2 NORSAR Subarra 69.90 339 P **P 21 01 38.4 -0.7**
comp=Z,2.3nm,0.5s,baz=34,slow=6.5
NOA NORSAR Array B 69.90 339 P **P 21 01 38.5 -0.7**
comp=Z,3.8nm,0.7s,baz=34,slow=6.0,SNR=20
NOA NORSAR Array B 69.90 339 *e*P **P 21 01 38.5 -0.7**
NOA pmax pmax
comp=Z,3.0nm,0.7s
KBZ Khabaz 69.92 312 P **P 21 01 38.4 -1.1**
comp=Z,2.2nm,0.8s,baz=3.7,slow=2.1,SNR=3.5
KBZ Khabaz 69.92 312 *e*P **P 21 01 40.3 +0.9**
KBZ Khabaz 69.92 312 *e*P **P 21 01 40.3 +0.9**
KBZ pmax pmax
comp=Z,2.0nm,0.8s
PDAR Pinedale Array 70.31 49 P **P 21 01 42.2 0.0**
comp=Z,0.3nm,0.6s,baz=280,slow=5.0,SNR=3.7
AKASG Malin Array Be 71.78 324 P **P 21 01 50.3 -0.4**
comp=Z,1.0nm,0.4s,baz=41,slow=6.4,SNR=9.9
KWP Kalwaria Pacla 75.33 326 P **P 21 02 12.2 +0.6**
KWP pmax pmax
comp=Z,11nm,1.1s
KWP Kalwaria Pacla 75.33 326 P **P 21 02 12.2 +0.6**
BUR08 Bucovina Ar. S 75.83 324 P **P 21 02 15.2 +0.6**
BUR08 IAmb IAmb 21 02 15.6
comp=Z,2.2nm,0.7s
KRLC Kraliky 77.27 330 *e*P **P 21 02 22.6 0.0**
KRLC Kraliky 77.27 330 *e*P **P 21 02 22.6 0.0**
CLL Collm 77.58 332 *i* P **P 21 02 24.3 +0.1**
comp=Z,6.0nm,0.8s
CLL Collm 77.58 332 *i* P **P 21 02 24.3 +0.1**
CLL pmax pmax
comp=Z,6.0nm,0.8s
PRU Pruhonice 78.15 331 *e*P **P 21 02 27.5 +0.1**
PRU Pruhonice 78.15 331 *e*P **P 21 02 27.5 +0.1**
KHC Kasperske Hory 79.21 331 P **P 21 02 33.4 0.0**
KHC pmax pmax
comp=Z,3.0nm,1.5s
KHC Kasperske Hory 79.21 331 *e*P **P 21 02 33.6 +0.2**
KHC Kasperske Hory 79.21 331 P **P 21 02 33.4 0.0**
GERES GERESS Array B 79.41 331 P **P 21 02 34.2 -0.3**
comp=Z,0.4nm,0.5s,baz=46,slow=5.8,SNR=5.6
GERES GERESS Array B 79.41 331 *e*P **P 21 02 34.4 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
FUORN Ofenpass-Fuorn 82.52 331 P **P 21 02 51.1 -0.2**
FUORN IAmb IAmb 21 03 03.2
comp=Z,5.5nm,1.2s
TX31 Lajitas Ar. Si 83.02 56 P **P 21 02 54.4 +0.3**
TXAR Lajitas Array 83.02 56 P **P 21 02 54.7 +0.7**
comp=Z,0.5nm,0.5s,baz=297,slow=3.6,SNR=9.4
ESDC Sonseca Array 93.25 338 P **P 21 03 41.4 -1.7**
comp=Z,0.2nm,0.8s,baz=14,slow=3.2,SNR=4.1

IDC 23 20:59:50.4±2.2, 9.08S×117.73E, h0km, mb3.0/2, mb1 3.4/5, mb1mx3.2/47, mbtmp3.3/5, ML3.3/3, Error ellipse: s-maj=90.3km s-min=26.3km az=46.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**4.51**	**27**	Sn	Sn	21 01 46.6	-6.5
	7.5nm,0.3s,baz=180,slow=13,SNR=6.2						
BATI	**Baumata**	**5.96**	**101**	Pn	Pn	21 01 20.3	+0.3
	4.6nm,0.3s,baz=288,slow=6.4,SNR=13						
BATI				Sn	Sn	21 02 21.6	-7.3
	0.8nm,0.3s,baz=193,slow=22,SNR=1.2						
FITZ	**Fitzroy Crossi**	**11.81**	**140**	Pn	Pn	21 02 39.0	-1.2
	0.1nm,0.3s,baz=326,slow=15,SNR=1.8						
FITZ				Sn	Sn	21 04 36.1	-17
	0.4nm,0.3s,baz=194,slow=21,SNR=13						
WRA	**Warramunga Arr**	**19.35**	**126**	P	P	21 04 16.8	-0.8
	0.1nm,0.3s,baz=304,slow=10,SNR=2.0						
WRA				S	Sn	21 07 34.6	-22
	0.1nm,0.3s,baz=313,slow=25,SNR=2.4						
ASAR	**Alice Springs**	**21.21**	**135**	P	P	21 04 38.8	+0.9
	0.3nm,0.6s,baz=312,slow=9.0,SNR=7.8						
ASAR				S	S	21 08 17.3	-17
	0.1nm,0.6s,baz=306,slow=22,SNR=1.5						
MKAR	**Makanchi Array**	**63.96**	**334**	P	P	21 10 25.5	0.0
	0.1nm,0.3s,baz=156,slow=8.0,SNR=2.0						

ISN 23 21:06:50.9±1.5, 32.44N×47.68E, h15km±8km, ML2.5
TEH 23 21:06:51.0, 32.48N×47.67E, h8km, ML2.8
ISC 23 21:06:51.1±1.3, 32.47N±0.07×47.75E±0.06, h15km, n9, σ1§21/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.45**	**298**	*e*Pg	**Pg**	**21 06 58.9**	**-1.2**
IKMR	**Kamar-syah**	**1.17**	**27**	*e*Pg	**Pn**	**21 07 11.7**	**-1.2**
IKMR				*e*	**Pg**	**21 07 15.9**	**+2.3**
IDOB	**Doab**	**1.36**	**15**	*e*Pn	**Pg**	**21 07 16.8**	**-0.5**
IDOB				*e*		21 07 18.6	
BMDN	**Meydan**	**1.50**	**37**	*e*Pn	**Pg**	**21 07 19.7**	**-0.3**
BMDN				*e*		21 07 22.0	
IBDR	**Badra**	**1.66**	**293**	*e*Pg	**Pn**	**21 07 20.0**	**+0.3**
IBDR				*e*Sg	**Sb**	**21 07 42.0**	**-0.1**
IBDR				AML	AML	21 07 48.5	
	comp=N,45nm,0.7s						
IBDR				AML	AML	21 07 51.2	
	comp=E,38nm,0.5s						
IKOM	**Komasi**	**1.71**	**353**	*e*Pn	**Pb**	**21 07 22.6**	**+0.2**
IKOM				*e*		21 07 26.9	
HSAM	**Samen**	**1.88**	**22**	*e*Pn	**Pg**	**21 07 25.9**	**-1.3**
HSAM				*e*		21 07 29.4	
NSR	**Nassriya**	**2.00**	**224**	*e*Pn	**Pn**	**21 07 25.0**	**+0.6**
NSR				*e*Sn	**Sn**	**21 07 48.0**	**-1.2**
BHD	**Baghdad**	**2.94**	**287**	*e*Pn	**Pn**	**21 07 38.0**	**+0.6**
BHD				*e*Sn	**Sn**	**21 08 14.0**	**+1.5**

TEH 23 21:07:27.7, 32.69N×47.78E, h10km, ML2.9
ISN 23 21:07:27.5±1.0, 32.72N×47.76E, h14km±6km, ML2.7
ISC 23 21:07:28.5±1.0, 32.65N±0.05×47.79E±0.05, h15km, n11, σ1§52/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.43**	**275**	*e*Pg	**Pg**	**21 07 36.2**	**-0.9**
IKFM	**Kafar-mosalman**	**0.88**	**3**	*e*Pg	**Pb**	**21 07 44.1**	**-1.4**
IKFM				*e*		21 07 52.5	
IKMR	**Kamar-syah**	**1.00**	**30**	*e*Pg	**Pb**	**21 07 46.6**	**-1.0**
BMDN	**Meydan**	**1.34**	**40**	*e*Pg	**Pn**	**21 07 52.3**	**-0.6**
BMDN				*e*		21 07 55.5	
IKOM	**Komasi**	**1.54**	**351**	*e*	**Sg**	**21 08 22.0**	**+3.7**
IBDR	**Badra**	**1.63**	**287**	*e*Pg	**Pn**	**21 07 56.0**	**-0.7**
IBDR				*e*Sg	**Sb**	**21 08 18.0**	**-0.7**
IBDR				AML	AML	21 08 22.8	
	comp=N,85nm,0.4s						
IBDR				AML	AML	21 08 23.6	
	comp=E,122nm,0.6s						
HSAM	**Samen**	**1.70**	**23**	*e*Pn	**Pb**	**21 07 58.9**	**-0.8**
HSAM				*e*		21 08 26.8	
NSR	**Nassriya**	**2.15**	**221**	*e*Pn	**Pn**	**21 08 05.0**	**+1.2**
NSR				*e*Sn	**Sn**	**21 08 31.0**	**+0.8**
JHBN	**Jahan bin**	**2.47**	**99**	*e*Pn	**Pb**	**21 08 11.3**	**-1.5**
JHBN				*e*		21 08 16.6	
IPIR	**Pirpir**	**2.62**	**88**	*e*Pn	**Pn**	**21 08 11.7**	**+1.1**
IPIR				*e*		21 08 51.5	
BHD	**Baghdad**	**2.93**	**283**	*e*Pn	**Pn**	**21 08 15.0**	**+0.4**
BHD				*e*Sn	**Sn**	**21 08 50.0**	**+0.5**

THR 23 21:13:44.2±0.5, 32.65N×47.57E, h18km±5km, ML3.5
TEH 23 21:13:45.6, 32.71N×47.82E, h11km, ML3.4
ISN 23 21:13:45.1±0.8, 32.65N×47.81E, h14km±5km, ML3.3
IDC 23 21:13:48.3±7.4, 32.77N×46.87E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.3/51, mbtmp3.7/5, Error ellipse: s-maj=159.7km s-min=34.8km az=119.0
ISC 23 21:13:45.6±1.3, 32.67N±0.03×47.79E±0.03, h8km±10km, n54, σ1§15/60, mb3.6/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.43**	**272**	*e*Pg	**Pg**	**21 13 54.4**	**+0.4**
DHL1				*e*Sg	**Sb**	**21 14 02.2**	**+0.1**
IKFM	**Kafar-mosalman**	**0.86**	**3**	*e*Pg	**Pg**	**21 14 01.4**	**-0.7**
IKFM				*e*		21 14 17.2	
IKMR	**Kamar-syah**	**0.98**	**30**	*e*		21 14 07.7	
IKMR				*e*Pg	**Pg**	**21 14 03.6**	**-0.9**
SHGR	**Shooshtar-Gavs**	**1.02**	**123**	*e*Pg	**Pb**	**21 14 05.8**	**+0.4**
SHGR				*e*Sg	**Sn**	**21 14 22.1**	**+1.4**
SHGR	**Shooshtar-Gavs**	**1.02**	**123**	*e*Pg	**Pb**	**21 14 05.8**	**+0.4**
IDOB	**Doab**	**1.17**	**16**	*e*Pg	**Pb**	**21 14 08.2**	**+0.1**
BMDN	**Meydan**	**1.32**	**41**	*e*Pg	**Pn**	**21 14 10.0**	**-0.6**
BMDN				*e*		21 14 13.0	
AHWZ	**Ahwaz**	**1.52**	**151**	*e*Pg	**Pg**	**21 14 14.8**	**+0.2**
IKOM	**Komasi**	**1.52**	**351**	*e*Pg	**Pb**	**21 14 14.2**	**0.0**
IKOM				*e*		21 14 40.3	
IBDR	**Badra**	**1.63**	**286**	*e*Pg	**Pn**	**21 14 15.0**	**+0.5**
IBDR				*e*Sg	**Sb**	**21 14 37.0**	**+0.5**
IBDR				AML	AML	21 14 41.9	
	comp=N,359nm,0.4s						
IBDR				AML	AML	21 14 42.3	
	comp=E,522nm,0.6s						
HSAM	**Samen**	**1.68**	**24**	*e*Pg	**Pb**	**21 14 17.0**	**0.0**
HSAM				*e*		21 14 18.3	
KCHF	**Cheshme Sefid,**	**1.72**	**339**	*e*Pg	**Pb**	**21 14 18.2**	**+0.6**
KCHF				*e*		21 14 48.3	
IBZA	**Bozab**	**1.80**	**2**	*e*Pg	**Pb**	**21 14 18.4**	**-0.6**
IBZA				*e*		21 14 48.1	
KER	**Kermanshah**	**1.80**	**342**	*e*Pg	**Pb**	**21 14 18.6**	**-0.3**
IGHG	**Ghaleghazi**	**1.95**	**329**	*e*Pn	**Pn**	**21 14 20.1**	**+0.9**
IGHG				*e*		21 15 04.0	
IVIS	**Veis**	**2.02**	**337**	*e*Pn	**Pb**	**21 14 21.4**	**-1.1**
IVIS				*e*		21 15 00.1	
KHMZ	**Khomeyn**	**2.11**	**59**	*e*Pn	**Pb**	**21 14 23.1**	**-1.1**
KHMZ	**Khomeyn**	**2.11**	**59**	*e*Pn	**Pb**	**21 14 23.1**	**-1.1**
NSR	**Nassriya**	**2.17**	**221**	*e*Pn	**Pn**	**21 14 22.0**	**+0.1**
NSR				*e*Sn	**Sn**	**21 14 48.0**	**-1.0**
IALM	**Almabolaq**	**2.21**	**8**	*e*Pn	**Pb**	**21 14 24.7**	**-1.3**
IDHR	**Dehrash**	**2.34**	**330**	*e*Pn	**Pn**	**21 14 25.3**	**+0.7**
IDHR				*e*		21 15 04.8	
ILIN	**Lien**	**2.35**	**343**	*e*Pn	**Pn**	**21 14 25.7**	**+1.0**
ILIN				*e*		21 15 06.6	
HAGD	**Aghdareh**	**2.43**	**27**	*e*Pn	**Pn**	**21 14 27.2**	**+1.4**
HAGD				*e*		21 14 32.8	
SNGE	**Sanandaj**	**2.45**	**351**	*e*Pn	**Pn**	**21 14 25.5**	**-0.6**
SNGE				*e*Sg	**Sb**	**21 15 01.3**	**+0.9**
SNGE	**Sanandaj**	**2.45**	**351**	*e*Pn	**Pn**	**21 14 25.5**	**-0.6**
JHBN	**Jahan bin**	**2.47**	**99**	*e*Pn	**Pn**	**21 14 27.3**	**+0.9**
JHBN				*e*		21 15 12.0	
HSRG	**Sareghieh**	**2.60**	**9**	*e*	**Sg**	**21 15 11.7**	**+2.5**
IPIR	**Pirpir**	**2.61**	**89**	*e*Pn	**Pn**	**21 14 29.6**	**+1.2**
IPIR				*e*		21 14 39.0	
ROKH	**ROKH**	**2.76**	**96**	*e*Pn	**Pn**	**21 14 31.2**	**+0.9**
ROKH				*e*		21 14 40.1	
BHD	**Baghdad**	**2.93**	**283**	*e*Pn	**Pn**	**21 14 33.0**	**+0.6**
BHD				*e*Sn	**Sn**	**21 15 09.0**	**+1.2**
IKLH	**Kolahrood**	**3.25**	**77**	*e*Pn	**Pn**	**21 14 38.8**	**+1.7**
IKLH				*e*		21 14 56.9	
IRAZ	**Razeghan**	**3.26**	**32**	*e*Pn	**Pn**	**21 14 39.6**	**+2.4**
QABG	**Abgarm-Qazvin**	**3.38**	**26**	*e*Pn	**Pn**	**21 14 39.0**	**+0.2**
IGAR	**Gharneh**	**3.60**	**93**	*e*Pn	**Pn**	**21 14 42.6**	**+0.7**
IGAR				*e*		21 14 51.4	
KLNJ	**Kolanjah**	**3.63**	**116**	*e*Pn	**Pn**	**21 14 42.3**	**-0.1**
KLNJ				*e*		21 15 48.7	
IZEF	**Zefreh**	**3.83**	**85**	*e*Pn	**Pn**	**21 14 46.3**	**+1.2**
IRAM	**Ramesheh**	**3.98**	**101**	*e*Pn	**Pn**	**21 14 47.0**	**-0.1**
QSDN	**Sirdan**	**4.00**	**16**	*e*Pn	**Pn**	**21 14 48.9**	**+1.6**
IGZV	**Ghazvin**	**4.22**	**28**	*e*Pn	**Pn**	**21 14 51.7**	**+1.3**
CHTH	**Charan**	**4.25**	**40**	*e*Sg	**Sg**	**21 16 00.1**	**-2.0**
QALM	**Alamut, Qazvin**	**4.43**	**31**	*e*Pn	**Pn**	**21 14 54.8**	**+1.4**
IDMV	**Damavand**	**4.56**	**49**	*e*Pn	**Pn**	**21 14 56.2**	**+1.1**
ANAR	**Anarak**	**5.02**	**82**	*e*Pn	**Pn**	**21 15 01.4**	**+0.1**
ISAD	**Sadrabad**	**5.05**	**97**	*e*Pn	**Pn**	**21 15 02.2**	**+0.4**
IFIR	**Firoozkooh**	**5.07**	**53**	*e*Pn	**Pn**	**21 15 03.2**	**+1.0**
ILAS	**Lasjerd**	**5.07**	**56**	*e*Pn	**Pn**	**21 15 02.9**	**+0.7**
IPRN	**Peran**	**5.18**	**45**	*e*Pn	**Pn**	**21 15 02.6**	**-0.9**
ISHM	**Shahmirzad**	**5.53**	**54**	*e*Pn	**Pn**	**21 15 09.0**	**+0.6**
IMEH	**Mehriz**	**5.93**	**101**	*e*Pn	**Pn**	**21 15 14.2**	**+0.3**

FINES	**FINES Array B**	**32.05**	**340**	P		**P**	**21 20 11.3**	**-1.1**
	comp=E,1.1nm,0.7s,baz=134,slow=12,SNR=3.4							
HFS	**Hagfors**	**35.45**	**331**	P		**P**	**21 20 41.1**	**-0.9**
	comp=E,2.3nm,0.8s,baz=144,slow=5.2,SNR=1.6							
ARCES	**ARCESS Array B**	**38.98**	**348**	P		**P**	**21 21 15.3**	**+3.4**
	comp=E,1.1nm,0.9s,baz=159,slow=8.7,SNR=4.2							
ESDC	**Sonseca Array**	**41.88**	**295**	P		**P**	**21 21 35.0**	**-1.4**
	comp=E,0.2nm,0.4s,baz=78,slow=7.5,SNR=5.7							
TORD	**Torodi Ar. Bea**	**46.28**	**256**	P		**P**	**21 22 09.7**	**-2.2**
	comp=E,0.3nm,0.5s,baz=67,slow=7.5,SNR=9.4							

IDC ***23*** *21:15:10.3±1.4, 28.2°26S×71.2°20W, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.5/26, mbtmp3.6/4, ML3.2/2, Error ellipse: s-maj=49.2km s-min=27.1km az=109.0*
SJA ***23*** *21:15:10.9±0.6, 28.1°3S×71.1°62W, h19km±4km, ML4.0, MW3.9*
GUC ***23*** *21:15:13.7±0.8, 28.1°42S×71.2°29W, h29km±3km, ML3.9*

ISC 23 21:15:12.6±0.8, 28.1°38S±0.1°03×71.1°49W±0.1°06, h22km±4km, n47, σ2↑10/54, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.41**	**65**	↑*iP*		**Pn**	**21 15 21.7**	**-1.5**
AC04				*eS*		**Sb**	**21 15 26.5**	**-0.3**
AC04				IAML			21 15 26.6	
	comp=N,34μm,0.2s							
AC05	**El Transito**	**1.16**	**114**	↓*eP*		**Pb**	**21 15 33.3**	**-0.8**
AC05				*eS*		**Sb**	**21 15 47.1**	**-1.7**
GO03	**Copiap**	**1.36**	**55**	↑*iP*		**Pb**	**21 15 36.6**	**-0.7**
GO03				*eS*		**Sb**	**21 15 54.7**	**+0.4**
GO03				IAML			21 15 56.0	
	comp=E,3μm,0.5s							
GO03	**Copiap**	**1.36**	**55**	*eP*		**Pb**	**21 15 36.5**	**-0.8**
GO03				*eS*		**Sb**	**21 15 55.0**	**+0.8**
GO04	**Tololo Observa**	**1.89**	**162**	↑*iP*		**Pb**	**21 15 45.7**	**-0.9**
GO04				*eS*		**Sb**	**21 16 10.3**	**+0.5**
CO01	**Juntas del Tor**	**2.01**	**143**	↑*iP*		**Pb**	**21 15 47.9**	**-0.7**
CO01				*eS*		**Sb**	**21 16 12.4**	**-0.9**
CO01				IAML			21 16 13.4	
	comp=E,1μm,0.3s							
AC01	**Pan de Azucar**	**2.36**	**20**	↑*iP*		**Pn**	**21 15 49.9**	**-0.2**
AROD	**Rodeo**	**2.51**	**136**	*eP*		**Pb**	**21 15 55.9**	**-1.2**
AROD				*eS*		**Sb**	**21 16 27.6**	**-0.1**
CO03	**El Pedregal**	**2.55**	**164**	*eP*		**Pn**	**21 15 54.3**	**+1.5**
CO03				IAML			21 16 37.1	
	comp=E,633nm,0.4s							
AC02	**Maricunga**	**2.60**	**54**	↑*iP*		**Pb**	**21 15 56.2**	**-2.6**
AC02				*eS*		**Sb**	**21 16 29.1**	**-1.3**
AC02				IAML			21 16 35.0	
	comp=E,690nm,0.2s							
AC02				IAML			21 16 35.9	
	comp=N,632nm,0.6s							
ACDV	**Cuesta del Vie**	**2.74**	**131**	*eP*		**Pn**	**21 15 51.4**	**-4.0**
ACDV				IAML			21 16 45.2	
	comp=Z,255nm,0.6s							
CO02	**Combarbal**	**2.85**	**172**	*eP*		**Pn**	**21 15 57.5**	**+0.5**
VCA	**Vinchina**	**2.91**	**98**	*eP*		**Pb**	**21 16 02.2**	**-1.7**
VCA				*eS*		**Sb**	**21 16 43.5**	**+4.3**
VCA				IAML			21 16 48.7	
	comp=Z,372nm,0.2s							
ACCO	**Cerro Coronel**	**3.05**	**137**	*eP*		**Pb**	**21 16 04.2**	**-2.3**
ACCO				*eS*		**Sb**	**21 16 46.0**	**+2.6**
ACCO				IAML			21 16 53.2	
	comp=Z,305nm,0.8s							
GO02	**Mina Guanaco**	**3.62**	**28**	*eP*		**Pn**	**21 16 08.1**	**+0.4**
PB14	**IPOC Station P**	**3.86**	**15**	*eP*		**Pn**	**21 16 09.6**	**-1.4**
PB14	**IPOC Station P**	**3.86**	**15**	*eP*		**Pn**	**21 16 10.2**	**-0.8**
PB14				*eS*		**Sb**	**21 17 13.6**	**+7.0**
RTLS	**Leoncito**	**3.91**	**151**	*eP*		**Pb**	**21 16 16.9**	**-4.1**
RTLS				IAML			21 17 13.8	
	comp=Z,151nm,0.4s							
RTLL	**Cerro Villicun**	**3.94**	**139**	*eP*		Pb	21 16 16.4	-5.0
RTLL				*eS*		**Sb**	**21 17 07.4**	**-1.3**
RTLL				*eS*		Sn	21 17 11.8	+14
RTLL				IAML			21 17 17.8	
	comp=Z,113nm,0.6s							
ACLC	**CERRO LA CRUZ**	**4.11**	**106**	*eP*		**Pn**	**21 16 16.8**	**+2.4**
ACLC				*eS*		**Sb**	**21 17 11.8**	**-2.0**
ACLC				IAML			21 17 14.8	
	comp=Z,220nm,0.4s							
AUSP	**Uspallata**	**4.24**	**155**	*eP*		Pb	21 16 21.0	-5.8
RTCV	**Cerro Valdivia**	**4.31**	**144**	*eP*		Pb	21 16 21.2	-6.6
VA03	**San Esteban**	**4.45**	**170**	*eP*		**Pn**	**21 16 21.1**	**+2.2**
ROCH	**El Roble**	**4.60**	**175**	*eP*		Pb	21 16 28.0	-4.8
ROC1	**El Roble**	**4.60**	**175**	*eP*		**Pb**	**21 16 29.3**	**-3.6**
APLL	**PUNTA DE LOS L**	**4.78**	**116**	*eP*		**Pn**	**21 16 25.3**	**+2.0**
PEL	**Peldehue**	**4.80**	**172**	*eP*		Pn	21 16 28.6	+4.9
MT02	**Curacav**	**4.88**	**177**	*eP*		**Pn**	**21 16 25.2**	**+0.5**
PB10	**IPOC Station P**	**4.92**	**10**	*eP*		**Pn**	**21 16 24.3**	**-0.9**
ARCO	**CERRO ARCO**	**4.97**	**154**	*eP*		Pn	21 16 30.8	+4.8
ARCO				*eS*		**Sb**	**21 17 42.4**	**+4.1**
ARCO				IAML			21 17 43.0	
	comp=Z,92nm,0.5s							
CYA	**Choya**	**5.01**	**92**	*eP*		Pn	21 16 29.6	+3.0
CYA				*eS*		Sb	21 17 29.4	-10
CYA				IAML			21 17 32.0	
	comp=Z,62nm,1.1s							
AAGR	**Agrelo**	**5.22**	**155**	*eP*		Pb	21 16 35.5	-7.8
AAGR				IAML			21 18 07.9	
	comp=Z,107nm,1.8s							
PB15	**IPOC Station P**	**5.46**	**20**	*eP*		**Pn**	**21 16 33.0**	**+0.2**
PB15				IAML			21 18 07.3	
	comp=Z,166nm,0.4s							
PB05	**IPOC Station P**	**5.62**	**12**	*eP*		**Pn**	**21 16 35.1**	**0.0**
PB05				IAML			21 18 14.4	
	comp=Z,41nm,0.6s							
AHML	**Horco Molle**	**5.69**	**75**	*eP*		Pb	21 16 42.9	-8.3
PB06	**IPOC Station P**	**5.91**	**17**	*eP*		**Pn**	**21 16 37.9**	**-1.1**
PB06				IAML			21 18 21.7	
	comp=Z,140nm,0.7s							
LVC	**Limon Verde**	**6.20**	**23**	Pn		**Pn**	**21 16 42.2**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=186,slow=9.2,SNR=8.1							
LVC				Sn		**Sn**	**21 17 50.3**	**-3.2**
	comp=Z,1.2nm,0.3s,baz=181,slow=9.4,SNR=1.8							
LVC				Lg		Lg	21 18 18.1	
	comp=Z,5.4nm,0.3s,baz=219,slow=22,SNR=11							
TCA	**Tanti**	**6.67**	**118**	*eP*		**Pn**	**21 16 50.4**	**+0.9**
TCA				*eS*		**Sn**	**21 18 07.9**	**+3.0**
TCA				IAML			21 18 11.1	
	comp=Z,42nm,0.7s							
PB09	**IPOC Station P**	**6.86**	**18**	*eP*		**Pn**	**21 16 51.5**	**-0.6**
PB09				IAML			21 18 57.8	
	comp=Z,62nm,0.9s							
H03N1	**Juan Fernandez**	**8.13**	**230**	Pn		**Pn**	**21 17 09.9**	**+0.8**
	baz=31,slow=76,SNR=6.9							
H03N1				T		T	21 25 44.6	
	baz=56,slow=72,SNR=1500							
H03N2	**Juan Fernandez**	**8.14**	**230**	Pn		**Pn**	**21 17 09.9**	**+0.7**
	baz=31,slow=76,SNR=4.8							
H03N2				T		T	21 25 45.0	
	baz=56,slow=72,SNR=793							
H03N3	**Juan Fernandez**	**8.15**	**230**	Pn		**Pn**	**21 17 09.6**	**+0.2**
	baz=31,slow=76,SNR=6.4							
H03N3				T		T	21 25 44.6	
	baz=56,slow=72,SNR=874							
SIV	**San Ignacio**	**15.64**	**40**	Pn		**Pn**	**21 18 50.7**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=255,slow=10,SNR=1.7							
TXAR	**Lajitas Array**	**65.11**	**329**	P		**P**	**21 25 53.9**	**+2.0**
	comp=Z,0.2nm,0.7s,baz=149,slow=7.2,SNR=2.9							
TORD	**Torodi Ar. Bea**	**81.87**	**70**	P		**P**	**21 27 31.0**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=258,slow=4.5,SNR=22							
ZALV	**Zalesovo Beam**	**149.13**	**28**	PKPbc		**PKPbc**	**21 34 58.7**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=296,slow=3.0,SNR=5.8							
MKAR	**Makanchi Array**	**152.46**	**41**	PKPbc		**PKPbc**	**21 35 06.3**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=292,slow=0.5,SNR=6.5							

MAN ***23*** *21:16:55.8, 11.1°41N×121.1°80E, h24km, MS3.5*
IDC ***23*** *21:16:58.0±1.9, 11.0°07N×121.1°73E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.3/39, mbtmp3.7/4, ML4.4/1, Error ellipse: s-maj=69.5km s-min=23.9km az=56.0*

ISC 23 21:16:54.9±1.6, 11.1°41N±0.0°03×121.1°82E±0.0°04, h1km±12km, n16, σ2↓8↑08/25, mb3.5/3, 1C-1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
JAP	**San Jose, Anti**	**0.67**	**169**	↓*iP*		**Pg**	**21 17 07.9**	**+0.2**
CUYO	**Cuyo Island**	**0.96**	**235**	*eP*		**Pb**	**21 17 13.0**	**-1.3**
CUYO				*eS*		**Sb**	**21 17 27.5**	**-0.1**
OTRP	**Odiongan**	**0.97**	**12**	*eP*		**Pb**	**21 17 13.9**	**-0.6**
OTRP				*eS*		**Sn**	**21 17 30.4**	**+0.4**
GUIM	**Jordan**	**1.08**	**136**	*eP*		**Pb**	**21 17 14.0**	**-2.4**
GUIM				*eS*		**Sb**	**21 17 30.3**	**-0.8**
CNOP	**Candoni, Negro**	**1.77**	**153**	*eP*		**Pn**	**21 17 24.1**	**-2.4**
CNOP				*eS*		**Sn**	**21 17 47.9**	**-1.8**
BOAC	**Boac**	**2.04**	**1**	*eP*		**Pn**	**21 17 27.5**	**-2.9**
BOAC				*eS*		**Sn**	**21 17 51.5**	**-4.9**
ENPP	**El Nido**	**2.36**	**265**	*eP*		**Pn**	**21 17 32.9**	**-1.8**
ENPP				*eS*		**Sg**	**21 18 11.3**	**+0.6**
LLP	**Lapu-Lapu**	**2.37**	**117**	↑*eP*		**Pn**	**21 17 35.9**	**+1.0**
LLP				*i* S		**Sn**	**21 18 06.0**	**+1.3**
LQP	**Lukban**	**2.70**	**354**	*eP*		**Pn**	**21 17 38.2**	**-1.5**
OCLP	**Ormoc**	**2.76**	**97**	*eP*		**Pn**	**21 17 40.9**	**+0.6**
TGY	**Tagaytay City**	**2.81**	**342**	Pn		**Pb**	**21 17 48.4**	**+2.4**
	42nm,0.3s,baz=359,slow=15,SNR=3.2							
MSLP	**Maasin**	**3.25**	**113**	*eP*		**Pn**	**21 17 47.9**	**+1.0**
MSLP				*eS*		**Sb**	**21 18 30.5**	**-2.8**
PAGZ	**Pagadian**	**3.86**	**156**	*eP*		**Pn**	**21 17 55.6**	**+0.2**
PAGZ				*eS*		**Sn**	**21 18 42.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**23.17**	**290**	P		**P**	**21 22 06.8**	**+3.7**
	0.9nm,0.3s,baz=108,slow=8.6,SNR=8.0							
WRA	**Warramunga Arr**	**33.50**	**158**	P		**P**	**21 23 37.2**	**+1.1**
	0.5nm,0.8s,baz=335,slow=9.7,SNR=2.3							
ASAR	**Alice Springs**	**36.81**	**161**	P		**P**	**21 24 05.3**	**+0.7**
	0.3nm,0.6s,baz=350,slow=8.4,SNR=5.1							

IDC 23 21:43:56.2±6.3, 30.°52S×178.°20W, h88km±41km, mb3.6/2, mb1 3.8/2, mb1mx3.2/39, mbtmp3.9/2, Error ellipse: s-maj=94.8km s-min=37.9km az=145.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.28**	**11**	P		Pn	21 44 18.1	-1.1
	48nm,0.3s,baz=291,slow=22,SNR=1.3							
RAO				S		Sn	21 44 36.6	+0.1
	321nm,0.3s,baz=92,slow=21,SNR=7.0							
ASAR	**Alice Springs**	**42.93**	**267**	P		P	21 51 46.1	-0.4
	0.3nm,0.4s,baz=104,slow=7.3,SNR=6.0							
ASAR				PcP		PcP	21 53 37.3	+1.5
	0.2nm,0.6s,baz=104,slow=3.9,SNR=2.2							
WRA	**Warramunga Arr**	**43.93**	**272**	P		P	21 51 54.3	-0.2
	1.2nm,0.3s,baz=111,slow=8.1,SNR=12							
FINES	**FINESS Array B**	**145.19**	**340**	PKPbc		PKPbc	22 03 20.9	-1.6
	0.9nm,0.4s,baz=19,slow=2.1,SNR=12							

JMA ***23*** *21:57:47.0±0.7, 45.°81N×150.°65E, h30km, M4.4*
SKHL ***23*** *21:57:49.0±0.4, 45.°30N×150.°74E, h33km±4km, mb4.4/3*

ISC 23 21:57:49.9±4.1, 45.°0N±0.°1×150.°8E±0.°2, h35km, n23, σ1↑94/34, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.05**	**276**	*i* P		**Pn**	**21 58 20.8**	**-1.1**
KUR				AMB		AMB	21 58 21.0	
	30nm,0.2s							
KUR				*i* S		**Sn**	**21 58 44.3**	**-2.0**
KUR				A		A	21 58 48.0	
	160nm,0.4s							
KUR				A		A	21 58 48.0	
	480nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**3.64**	**256**	*eP*		**Pn**	**21 58 44.7**	**+1.0**
YUK				AMB		AMB	21 58 53.0	
	60nm,0.2s							
YUK				AMB		AMB	21 58 53.0	
	20nm,0.2s							
YUK				AMB		AMB	21 58 53.0	
	30nm,0.2s							
YUK				*eS*		**Sn**	**21 59 26.6**	**+1.2**
YUK				A		A	21 59 38.0	
	280nm,0.6s							
YUK				A		A	21 59 38.0	
	440nm,0.6s							
GRPR	**Tuman**	**3.71**	**255**	*eP*		**Pn**	**21 58 45.7**	**+0.9**
GRPR				AMB		AMB	21 58 53.0	
	50nm,0.4s							
GRPR				*eS*		**Sn**	**21 59 28.5**	**+1.2**
GRPR				A		A	21 59 41.0	
	270nm,0.5s							
GRPR				A		A	21 59 41.0	
	200nm,0.5s							
NEM2	**Nemuro 2**	**3.97**	**247**	P		**Pn**	**21 58 49.3**	**+1.0**
NEM2				*eS*		**Sn**	**21 59 35.0**	**+1.3**
NMR	**Nemuro--Hokkai**	**3.98**	**247**	*eP*		**Pn**	**21 58 49.2**	**+0.8**
NMR				*eS*		**Sn**	**21 59 37.4**	**+3.6**
JNK	**Nakash**	**4.57**	**254**	P		**Pn**	**21 58 58.0**	**+1.5**
JNK				*eS*		**Sn**	**21 59 49.6**	**+1.2**
JAK	**Akkeshi**	**4.82**	**247**	P		**Pn**	**21 59 03.7**	**+0.7**
JAK				*eS*		**Sn**	**21 59 55.1**	**+0.5**
JTKR	**Abashiri--Toko**	**5.01**	**260**	P		**Pn**	**21 59 03.2**	**+0.6**
JAR	**Ashorobuto**	**5.32**	**253**	P		**Pn**	**21 59 08.7**	**+1.9**
JAR				*eS*		**Sn**	**22 00 07.9**	**+1.1**
JOB	**Onbets**	**5.43**	**249**	P		**Pn**	**21 59 09.4**	**+1.1**
JOB				*eS*		**Sn**	**22 00 10.4**	**+0.8**
JKK2	**Kamakawa 2**	**5.85**	**261**	P		**Pn**	**21 59 15.1**	**+1.0**
JCH	**Churui**	**5.87**	**248**	P		**Pn**	**21 59 14.7**	**+0.3**
ASAJ	**Asahikawa**	**5.90**	**264**	P		**Pn**	**21 59 16.4**	**+1.6**
JEM	**Erimo**	**6.30**	**244**	*eS*		**Sn**	**22 00 32.2**	**+1.3**
JNBK	**Urakawa-nobuka**	**6.43**	**247**	*eS*		**Sn**	**22 00 34.7**	**+0.6**
JBT2	**Biratori 2**	**6.47**	**252**	P		**Pn**	**21 59 22.9**	**+0.3**
JNB	**Noboribetsu**	**7.49**	**253**	P		**Pn**	**21 59 38.2**	**+1.6**
JKB	**Kayabe**	**7.74**	**249**	P		**Pn**	**21 59 39.0**	**-1.1**
JKB				*eS*		**Sn**	**22 01 01.7**	**-4.7**
JYM2	**Yakumo 2**	**8.09**	**252**	P		**Pn**	**21 59 44.4**	**-0.4**
JANG	**Nango**	**8.25**	**239**	P		**Pn**	**21 59 46.0**	**-1.0**
JANG				*eS*		**Sn**	**22 01 14.8**	**-4.1**
JTM	**Tenmabayashi**	**8.28**	**242**	*eS*		**Sn**	**22 01 14.4**	**-5.3**
JRG	**Rokugo**	**9.39**	**237**	P		**Pn**	**22 00 02.8**	**+0.2**
JIO	**Ouri**	**9.62**	**230**	P		**Pn**	**22 00 06.8**	**+0.9**

RSPR ***23*** *22:02:24.1, 19.°46N×67.°87W, h16km±12km, MD3.4/8*
OSPL ***23*** *22:02:25.4±1.4, 19.°22N×67.°80W, h0km±999km, ML2.6*
NEIC ***23*** *22:02:26.2±2.7, 19.°26N±0.°04×67.°81W±0.°02, h35km±11km, Error ellipse: s-maj=5.6km s-min=2.3km az=178.0*

ISC 23 22:02:19.8±1.6, 19.°51N±0.°09×67.°80W±0.°04, h21km, n39, σ1↑12/49, 7C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**1.13**	**209**	↑*eP*		**Pn**	**22 02 41.2**	**+0.7**
PCDR	**Punta Cana, DR**	**1.13**	**209**	*eS*		**Sn**	**22 02 54.5**	**-0.9**
PCDR	**Punta Cana, DR**	**1.13**	**209**	*i* P		**Pn**	**22 02 41.1**	**+0.7**
PCDR				*eS*		**Sn**	**22 02 53.2**	**-2.2**
PCDR				IAML			22 03 07.0	
	comp=Z,166nm,0.6s							
PCDR	**Punta Cana, DR**	**1.13**	**209**			**Pn**	**22 02 41.2**	**+0.7**
PCDR						**Sn**	**22 02 54.5**	**-0.9**
AGPR	**Aguadilla, PR**	**1.22**	**148**	↓*eP*		**Pn**	**22 02 42.6**	**+0.9**
AGPR	**Aguadilla, PR**	**1.22**	**148**	*eS*		**Sn**	**22 02 58.3**	**+0.7**
AGPR	**Aguadilla, PR**	**1.22**	**148**	*i* P		**Pn**	**22 02 42.6**	**+0.9**
AGPR				*eS*		**Sn**	**22 02 56.2**	**-1.4**
AGPR				IAML			22 02 59.4	
	comp=Z,170nm,0.6s							
AGPR	**Aguadilla, PR**	**1.22**	**148**			**Pn**	**22 02 42.6**	**+0.9**
AGPR						**Sn**	**22 02 58.3**	**+0.7**
MPR	**Mayaguez**	**1.44**	**154**	*i* P		**Pb**	**22 02 47.6**	**+1.7**
LSP	**Las Mesas**	**1.49**	**153**	↑*eP*		**Pb**	**22 02 46.8**	**-0.1**
LSP	**Las Mesas**	**1.49**	**153**			**Pb**	**22 02 46.8**	**-0.1**
AOPR	**Arecibo Observ**	**1.52**	**139**	↑*eP*		**Pb**	**22 02 47.7**	**+0.3**
AOPR	**Arecibo Observ**	**1.52**	**139**	*eS*		**Sb**	**22 03 06.1**	**-0.1**
AOPR	**Arecibo Observ**	**1.52**	**139**			**Pb**	**22 02 47.7**	**+0.3**
AOPR	**Arecibo Observ**	**1.52**	**139**			**Sb**	**22 03 07.7**	**+1.5**
EMPR	**Esperanza - Ma**	**1.58**	**130**	↑*eP*		**Pb**	**22 02 49.8**	**+1.5**
EMPR	**Esperanza - Ma**	**1.58**	**130**	*eS*		**Sb**	**22 03 08.9**	**+1.0**
EMPR	**Esperanza - Ma**	**1.58**	**130**			**Pb**	**22 02 49.8**	**+1.5**
EMPR						**Sb**	**22 03 08.9**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.63**	**156**	↑*eP*		**Pb**	**22 02 49.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.63**	**156**	*eS*		**Sb**	**22 03 09.6**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.63**	**156**			**Pb**	**22 02 49.9**	**+0.7**
CRPR						**Sb**	**22 03 09.9**	**+0.5**
DR12	**Loma Pena Alta**	**1.66**	**245**			**Pb**	**22 02 51.3**	**+1.6**
MLPR	**Magueyes Islan**	**1.69**	**155**	↑*eP*		**Pb**	**22 02 49.8**	**-0.5**
MLPR	**Magueyes Islan**	**1.69**	**155**	*eS*		**Sb**	**22 03 10.1**	**-1.0**
MLPR	**Magueyes Islan**	**1.69**	**155**			**Pb**	**22 02 49.8**	**-0.5**
MLPR						**Sb**	**22 03 10.1**	**-1.0**
CELP	**Cerrillos**	**1.84**	**141**	↑*eP*		**Pb**	**22 02 52.9**	**+0.1**
CELP	**Cerrillos**	**1.84**	**141**	*eS*		**Sb**	**22 03 14.5**	**-0.8**
CELP	**Cerrillos**	**1.84**	**141**			**Pb**	**22 02 52.9**	**+0.1**
CELP						**Sb**	**22 03 14.5**	**-0.8**
OBIP	**Obispado Ponce**	**1.85**	**142**	Pn		**Pb**	**22 02 52.3**	**-0.6**
OBIP						**Sb**	**22 03 14.0**	**-1.6**
GCPR	**Guaynabo City**	**2.02**	**126**	Pn		**Pb**	**22 02 56.5**	**+0.7**
CBYP	**Canovanas**	**2.21**	**124**	Pn		**Pb**	**22 03 00.6**	**+1.4**
SDD	**Santo Domingo**	**2.26**	**243**	Pn		**Pn**	**22 02 57.8**	**+1.8**
HUMP	**Col San Antoni**	**2.29**	**126**	↓*eP*		**Pb**	**22 02 59.1**	**-1.5**
HUMP	**Col San Antoni**	**2.29**	**126**	*eS*		**Sb**	**22 03 26.1**	**-2.3**
HUMP	**Col San Antoni**	**2.29**	**126**			**Pb**	**22 02 59.1**	**-1.5**
HUMP						**Sb**	**22 03 26.1**	**-2.3**
MTP	**Monte Pirata**	**2.55**	**123**	Pn		**Pb**	**22 03 03.9**	**-1.0**
BANI	**BANI**	**2.67**	**246**	Pn		**Pb**	**22 03 06.5**	**-0.4**
STVI	**Saint Thomas**	**2.93**	**113**	Pn		**Pb**	**22 03 10.9**	**-0.5**
SDDR	**Presa de Saban**	**3.34**	**262**			**Pb**	**22 03 17.2**	**-1.2**

MOS ***23*** *22:31:46.8±1.1, 32.°55N×47.°59E, h15km, mb4.8/25, Error ellipse: s-maj=5.9km s-min=3.9km az=115.4*
IDC ***23*** *22:31:46.9±0.7, 32.°65N×47.°61E, h0km, mb4.2/26, mb1 4.3/34, mb1mx4.2/63, mbtmp4.2/34, ML3.7/9, MS3.3/2, Ms1 3.3/2, ms1mx3.1/49, Error ellipse: s-maj=16.0km s-min=10.3km az=177.0*
NEIC ***23*** *22:31:48.3±2.2, 32.°58N±0.°07×47.°56E±0.°04, h10km±1km, mb4.6/73, mb_Lg4.5(TEH), Error ellipse: s-maj=12.0km s-min=4.9km az=193.0*
THR ***23*** *22:31:48.4±0.8, 32.°84N×47.°55E, h18km±10km, ML4.5*
TEH ***23*** *22:31:49.1, 32.°75N×47.°59E, h17km, ML4.5*
ISN ***23*** *22:31:49.6±1.2, 32.°73N×47.°60E, h15km±8km, ML4.2*
GII ***23*** *22:31:50.0±0.0, 32.°77N×47.°66E, h10km*
OMAN ***23*** *22:31:52.3, 32.°33N×47.°56E, h31km, mb5.3/13, ms3.6/4*

ISC 23 22:31:48.0±0.7, 32.°62N±0.°03×47.°64E±0.°02, h10km±4km, n382, σ1↑88/406, mb4.6/106, 17C-15D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.31**	**281**	*ePg*		**Pb**	**22 31 55.1**	**-0.6**
DHL1				*eSg*		**Sb**	**22 31 59.8**	**-1.0**
IKFM	**Kafar-mosalman**	**0.92**	**11**	*e*			22 32 22.8	
IKFM				*ePg*		**Pg**	**22 32 04.6**	**-1.1**
IKMR	**Kamar-syah**	**1.09**	**34**	*e*			22 32 34.2	
IKMR				*ePn*		**Pg**	**22 32 07.8**	**-1.1**
SHGR	**Shooshtar-Gavs**	**1.10**	**117**	*ePg*		**Pn**	**22 32 12.4**	**+2.9**
SHGR				*eSg*		**Sn**	**22 32 29.3**	**+4.4**
SHGR	**Shooshtar-Gavs**	**1.10**	**117**	*ePg*		**Pn**	**22 32 12.5**	**+2.9**
IDOB	**Doab**	**1.25**	**21**	*ePg*		**Pb**	**22 32 10.6**	**-1.2**
BMDN	**Meydan**	**1.44**	**43**	*ePg*		**Pb**	**22 32 15.4**	**+0.3**
IBDR	**Badra**	**1.52**	**289**	*ePg*		**Pb**	**22 32 16.0**	**-0.3**
IBDR				*eSg*		**Sg**	**22 32 36.0**	**-1.0**
IBDR				AML		AML	22 32 40.5	
	comp=Z,4μm,0.7s							
IBDR				AML		AML	22 32 45.5	
	comp=N,5μm,0.6s							
AHWZ	**Ahwaz**	**1.54**	**146**	*ePg*		**Pg**	**22 32 20.3**	**+2.7**
IKOM	**Komasi**	**1.55**	**356**	*ePg*		**Pb**	**22 32 16.4**	**-0.6**
IKOM				*e*			22 32 44.0	
KCHF	**Cheshme Sefid,**	**1.73**	**343**	*ePg*		**Pb**	**22 32 19.5**	**-0.4**
KCHF				*e*			22 32 45.7	
KER	**Kermanshah**	**1.81**	**347**	P		**Pg**	**22 32 21.6**	**-1.2**
KER	**Kermanshah**	**1.81**	**347**	*ePn*		**Pb**	**22 32 21.2**	**-0.1**
IBZA	**Bozab**	**1.85**	**6**	*ePg*		**Pb**	**22 32 21.7**	**-0.4**
IBZA				*e*			22 32 54.1	
IGHG	**Ghaleghazi**	**1.93**	**333**	*ePg*		**Pb**	**22 32 22.8**	**-0.6**
IVIS	**Veis**	**2.01**	**341**	*ePn*		**Pb**	**22 32 23.5**	**-1.3**
IVIS				*e*			22 32 54.1	
NSR	**Nassriya**	**2.05**	**219**	*ePn*		**Pb**	**22 32 25.0**	**-0.4**
NSR				*eSn*		**Sb**

MMA0B **Mount Meron ar** 10.31 275 Pn **Pn** 22 34 18.5 +2.5
MMAI **Mount Meron Ar** 10.31 275 Pn **Pn** 22 34 16.9 +0.9
comp=N,0.4nm,0.3s,baz=5.4,slow=36,SNR=2.2
MMAI Pg 22 35 10.1
comp=N,0.9nm,0.3s,baz=74,slow=12,SNR=3.6
MMAI Sn **Sn** 22 36 14.5 +2.8
comp=N,1.6nm,0.3s,baz=106,slow=20,SNR=2.4
MMAI Lg Lg 22 37 26.5
comp=N,4.1nm,0.3s,baz=120,slow=33,SNR=5.1
MMLI Mount Malkishu 10.32 272 Pn **Pn** 22 34 18.9 +2.8
MAK Makhachkala 10.32 359⇑ *i*P Pn 22 34 21.0 +4.9
MAK *e*S **Sn** 22 36 19.3 +7.5
MAK pmax pmax
comp=Z,101nm,1.2s
MAK MLR MLR
comp=Z,480nm,13.0s
NAZ Nazwa, Dubai 10.35 135 P **Pn** 22 34 17.4 +0.8
NAZ S **Sn** 22 36 12.7 0.0
SNR=7.0
DSI Dead Sea 10.46 268 Pn **Pn** 22 34 20.2 +2.2
MDH Madha 10.52 132 P **Pn** 22 34 19.8 +1.0
MDH S **Sn** 22 36 10.4 -6.3
SLTI Sal'it 10.66 271 Pn **Pn** 22 34 23.5 +2.7
GROC Groznyy 10.66 353 *e*P **Pn** 22 34 19.8 -1.0
GROC pmax pmax
comp=Z,14nm,1.0s
GROC MLR MLR
comp=Z,541nm,12.0s
YTIR Yattir 10.71 267 Pn **Pn** 22 34 24.4 +2.8
UOSS Minazif 10.71 133 Pn Pn 22 34 26.7 +5.2
UOSS **Sn** 22 36 19.8 -1.8
ASHO Ashiyiah 10.82 135 P **Pn** 22 34 24.1 +1.1
ASHO S **Sn** 22 36 19.0 -5.2
ZFRI Zfri 10.83 262 Pn **Pn** 22 34 25.1 +2.0
PRNI Paran 11.02 262 Pn **Pn** 22 34 28.7 +2.9
HRFI Mount Harif 11.08 260 Pn **Pn** 22 34 29.4 +2.8
MBRI Mt Berech 11.26 259 Pn **Pn** 22 34 31.6 +2.6
EIL Elat 11.26 258 Pn **Pn** 22 34 29.7 +0.7
comp=Z,0.4nm,0.3s,baz=161,slow=3.3,SNR=7.2
EIL Pg 22 35 22.1
comp=Z,0.7nm,0.3s,baz=68,slow=12,SNR=2.2
EIL Lg Lg 22 37 51.2
comp=Z,0.8nm,0.3s,baz=240,slow=22,SNR=2.4
EIL Elat 11.26 258 Pn **Pn** 22 34 31.1 +2.0
KZiT Kziot 11.40 265 Pn **Pn** 22 34 33.6 +2.6
SOHO SOHO 11.52 135 P **Pn** 22 34 33.9 +1.4
SOHO P **Pn** 22 34 33.9 +1.4
SOHO S **Sn** 22 36 37.2 -4.1
SOHO S **Sn** 22 36 37.2 -4.1
KBZ Khabaz 11.70 343 Pn **Pn** 22 34 37.2 +2.3
comp=Z,0.1nm,0.3s,baz=179,slow=10,SNR=3.5
TOKA Tokat 11.82 314 Pn **Pn** 22 34 39.4 +2.8
KVAR Kislovodsk Arr 11.96 343 LR LR 22 38 53.0
comp=Z,287nm,20.4s,baz=82,slow=36
KIV Kislovodsk 11.96 342 *e*P **Pn** 22 34 41.3 +2.6
KIV pmax pmax
comp=Z,40nm,1.0s
KIV MLR MLR
comp=Z,218nm,11.0s
KIV Kislovodsk 11.96 342 Pn **Pn** 22 34 40.6 +2.0
ARQ Araqi 12.12 137 P **Pn** 22 34 43.1 +2.3
SNR=7.8
ARQ S **Sn** 22 36 52.1 -4.0
CSS Mathiatis 12.13 285 Pn **Pn** 22 34 43.2 +2.3
HRA Herat 12.31 78 Pn **Pn** 22 34 46.3 +2.7
SMDO Samad 13.24 133 P **Pn** 22 34 56.5 +0.4
SMDO P **Pn** 22 34 56.5 +0.4
BR131 Keskin Array S 13.34 306 P **Pn** 22 34 59.3 +1.7
BR131 Keskin Array S 13.34 306 Pn **Pn** 22 34 59.2 +1.7
BRTR Keskin Array B 13.34 306 Pn **Pn** 22 35 00.3 +2.8
comp=Z,0.1nm,0.3s,baz=125,slow=13,SNR=16
BRTR LR LR 22 41 44.0
comp=Z,69nm,21.1s,baz=107,slow=45
WSAR Wadi Sarin 13.47 131 Pn **Pn** 22 34 58.9 -0.3
comp=Z,1.1nm,0.3s,baz=330,slow=11,SNR=7.5
BR231 Keskin MP Arra 13.99 305 Pn **Pn** 22 35 09.1 +2.8
ANN Anapa 14.52 330 *e*P **Pn** 22 35 13.9 +0.4
ANN pmax pmax
comp=Z,28nm,0.9s
MHTO MHTO 14.79 139 P **Pn** 22 35 16.6 -0.7
SNR=8.0
MHTO S **Sn** 22 37 54.7 -6.6
BOLV Bolvadin 14.86 299 Pn **Pn** 22 35 16.9 -1.4
ISP Isparta 14.92 295 P **Pn** 22 35 20.4 +1.3
ISP Isparta 14.92 295 Pn **Pn** 22 35 20.4 +1.3
ELL Elmali 15.16 291 P **Pn** 22 35 23.0 +0.7
ELL pmax pmax
comp=Z,43nm,0.7s
ELL Elmali 15.16 291 P **Pn** 22 35 23.0 +0.7
AKAS Kas 15.31 289 Pn **Pn** 22 35 25.3 +1.0
MDUB Mudurnu 15.35 305 P 22 35 27.2 -2.3
DMTO DMTO 16.24 154 P **Pn** 22 35 35.1 -1.1
SNR=13
MANT Manisa 16.59 296 **Pn** 22 35 41.8 +1.0
MANT IAmb IAmb 22 35 59.8
comp=Z,62nm,0.9s
KBL Kabul 17.93 78 P **P** 22 36 00.4 +2.1
SNR=16
KBL P **P** 22 36 00.4 +2.1
SNR=16
KBL Kabul 17.93 78 P **P** 22 35 59.2 +0.9
KBL pmax pmax
comp=Z,37nm,1.2s
KBL Kabul 17.93 78 **P** 22 35 59.2 +0.9
KBL IAmb IAmb 22 36 05.6
comp=Z,37nm,1.1s
CHGR Chuyangaron 18.48 65 P **Pn** 22 36 04.7 +0.5
CHGR IAmb IAmb 22 36 11.9
comp=Z,47nm,1.1s
SANT Santorini 18.66 288 P **Pn** 22 36 06.8 +0.4
SANT IAmb IAmb 22 36 17.8
comp=Z,49nm,1.3s
JURR Jurilovca 18.96 315 ⇑P **Pn** 22 36 09.5 -0.4
IDI Anoyia 19.06 284 P **Pn** 22 36 11.1 -0.1
comp=Z,2.0nm,0.3s,baz=61,slow=6.6,SNR=16
IDI Anoyia 19.06 284 ⇑P **Pn** 22 36 13.6 +2.3
IDI Anoyia 19.06 284 P **Pn** 22 36 11.3 0.0
IDI IAmb IAmb 22 36 26.4
comp=Z,20nm,0.8s
VRH Novokhopyorsk 19.07 349 *e*P **P** 22 36 09.9 -0.5
VRH pmax pmax
comp=Z,30nm,0.7s
ALN Alexandroupoli 19.14 302 P **Pn** 22 36 12.6 +0.4
ALN pmax pmax
comp=Z,7.0nm,0.7s
ALN Alexandroupoli 19.14 302 P **Pn** 22 36 12.6 +0.4
TLCR 19.23 316 ⇑P **Pn** 22 36 13.1 -0.1
TAS Tashkent 19.32 57 P **Pn** 22 36 15.8 +1.4
TAS pmax pmax
comp=Z,42nm,0.9s
TAS Tashkent 19.32 57 P **Pn** 22 36 15.8 +1.4
TAS IAmb IAmb 22 36 21.5
comp=Z,42nm,0.9s
VORD Divnogorie 19.34 344 *e*P **P** 22 36 12.7 -0.6
VORD pmax pmax
comp=Z,20nm,1.0s
AKTO Aktyubinsk 19.39 20 P **Pn** 22 36 14.6 -0.4
comp=Z,1.0nm,0.3s,baz=206,slow=11,SNR=32
GAR Garm 19.44 65 P **Pn** 22 36 16.8 +0.9
GAR IAmb IAmb 22 36 22.7
comp=Z,55nm,1.2s
HARR Harsova 19.49 314 ⇓P **Pn** 22 36 16.0 -0.3
VSR Storozhevoye 19.60 344 *e*P **P** 22 36 15.2 -1.0
VSR *e*S **Sn** 22 39 48.9 -8.5
VSR pmax pmax
comp=Z,30nm,0.5s
VSR smax smax
comp=E,70nm,7.5s
CFR Carcaliu 19.63 315 ⇓P **Pn** 22 36 17.1 -0.8
RAZG Razgrad 19.85 309 ⇓P **Pn** 22 36 21.1 +0.5
BTK Batken 20.06 62 P Pn 22 36 23.4 +0.2
BTK pmax pmax
comp=Z,24nm,1.2s
BTK Batken 20.06 62 P Pn 22 36 23.4 +0.2
BTK IAmb IAmb 22 36 26.3
comp=Z,24nm,1.2s
ISR Istrita 20.56 313 P Pn 22 36 31.1 +2.1
ISR pmax pmax
comp=Z,49nm,1.2s
KK31 Karatay Array 20.81 53 P **P** 22 36 30.6 +1.1
KK31 pmax pmax
comp=Z,22nm,1.4s
KK31 Karatay Array 20.81 53 P **P** 22 36 30.6 +1.1
KKAR Karatay Array 20.81 53 P **P** 22 36 30.6 +1.1
KKAR pmax pmax
comp=Z,22nm,1.4s
KKAR Karatay Array 20.81 53 P **P** 22 36 30.6 +1.1
VRI Vrincioaia 20.83 315 ⇑P **P** 22 36 30.3 +0.6
VRI Vrincioaia 20.83 315 P Pn 22 36 31.6 -0.6
VRI pmax pmax
comp=Z,13nm,0.8s
PLOR Plostina 20.87 315 ⇓P Pn 22 36 31.7 -0.9
LPSR Galich'ya Gora 20.94 345 *e*P **P** 22 36 29.5 -1.3
LPSR *e*S **S** 22 40 17.4 -6.6
LPSR pmax pmax
comp=Z,130nm,0.8s
LPSR smax smax
comp=E,90nm,8.6s
MLR Muntele Rosu 21.11 314 P **P** 22 36 34.7 +1.9
comp=E,17nm,0.8s,baz=164,slow=1.5,SNR=27
MLR Muntele Rosu 21.11 314 ⇑P **P** 22 36 34.2 +1.3
MLR Muntele Rosu 21.11 314 P **P** 22 36 34.9 +2.0
MLR pmax pmax
comp=Z,25nm,0.9s
MLR Muntele Rosu 21.11 314 **P** 22 36 34.9 +2.0
MLR IAmb IAmb 22 36 40.6
comp=Z,25nm,0.9s
TESR Tescani 21.23 317 ⇑P **P** 22 36 35.1 +1.1
HUMR Humele 21.26 311 ⇓P **P** 22 36 36.2 +1.9
SORM Soroca 21.27 322 ⇑P **P** 22 36 34.7 +0.4
THE Thessaloniki 21.31 299 P **P** 22 36 38.1 +3.2
THE pmax pmax
comp=Z,9.0nm,1.1s
ATD Arta Tunnel 21.45 193 P **P** 22 36 38.5 +2.0
comp=Z,2.6nm,0.8s,baz=147,slow=18,SNR=2.0
ATD Arta Tunnel 21.45 193 P **P** 22 36 36.8 +0.2
NIL Nilore 21.46 80 P **P** 22 36 38.3 +1.7
NIL pmax pmax
comp=Z,59nm,1.2s
NIL Nilore 21.46 80 P **P** 22 36 38.3 +1.7
AGG Agios Georgios 21.46 294 P **P** 22 36 36.9 +0.3
AGG pmax pmax
comp=Z,18nm,1.0s
AGG Agios Georgios 21.46 294 P **P** 22 36 36.9 +0.3
AGG IAmb IAmb 22 36 48.8
comp=Z,18nm,1.0s
OZUR 21.51 315 ⇑P **P** 22 36 38.0 +0.9
LIT Litokhoron 21.54 297 P **P** 22 36 35.6 -1.8
LIT pmax pmax
comp=Z,7.0nm,0.8s
LIT Litokhoron 21.54 297 P **P** 22 36 35.6 -1.8
ITM Ithomi 21.55 289 P **P** 22 36 38.0 +0.4
ITM IAmb IAmb 22 36 43.3
comp=Z,19nm,0.7s
VOIR 21.64 313 ⇓P **P** 22 36 40.3 +1.9
DOPR Dopca 21.69 314 ⇑P **P** 22 36 40.4 +1.5
ARR Arges 21.86 312 ⇓P **P** 22 36 42.5 +1.6
PRAR RASCA 21.94 318 ⇓P **P** 22 36 41.8 +0.2
AKASG Malin Array Be 22.60 328 P **P** 22 36 47.3 -1.3
comp=Z,6.0nm,0.7s,baz=137,slow=8.3,SNR=18
AKBB Malin Array Si 22.60 328 P **P** 22 36 47.4 -1.2
AKBB pmax pmax
comp=Z,16nm,0.8s
AKBB Malin Array Si 22.60 328 P **P** 22 36 47.4 -1.2
AKBB IAmb IAmb 22 36 54.9
comp=Z,16nm,0.8s
BURAR Bucovina Array 22.65 318 ⇓P **P** 22 36 50.0 +0.6
AML Almayashu 22.70 58 P **P** 22 36 51.8 +1.6
SNR=10
ARCR ARCALIA 22.87 316 ⇓P **P** 22 36 52.0 +0.5
EKS2 Erkin-Say 22.91 57 P **P** 22 36 53.8 +1.7
SNR=8.3
CJR Cluj-Napoca 23.13 314 ⇓P **P** 22 36 55.1 +0.8
AAK Ala-Archa 23.41 57 P **P** 22 37 00.4 +3.1
comp=Z,1.5nm,0.3s,baz=271,slow=8.0,SNR=6.0
AAK Ala-Archa 23.41 57 *i*P **P** 22 36 58.4 +1.1
AAK pmax pmax
comp=Z,5.0nm,1.1s
AAK Ala-Archa 23.41 57 P **P** 22 36 59.2 +1.9
MDVR Moldovita 23.49 309 ⇓P **P** 22 36 58.6 +0.7
FRU1 Bishkek 23.56 57 P **P** 22 36 59.8 +1.2
FRU1 pmax pmax
comp=Z,12nm,1.2s
FRU1 Bishkek 23.56 57 P **P** 22 36 59.8 +1.2
USP Ospenovka 23.60 56 P **P** 22 37 01.9 +2.9
SNR=19
CHMS Chumysh 23.70 56 P **P** 22 37 02.1 +2.1
SNR=6.6
OBN Obninsk 23.80 344 P **P** 22 37 01.1 +0.3
comp=Z,3.4nm,0.5s,baz=155,slow=8.7,SNR=11
OBN Obninsk 23.80 344 *ce*P **P** 22 37 00.7 0.0
OBN *e**PP **pP** 22 37 02.9 -1.0
OBN *e**SP **sP** 22 37 05.4 +0.1
OBN *e* 22 37 30.4
OBN *i*S **S** 22 41 15.0 -1.2
OBN *i* 22 41 22.0
OBN *e*SS **SnSn** 22 41 55.4 +0.8
OBN pmax pmax
comp=Z,66nm,1.7s
OBN MLR MLR
comp=Z,118nm,19.0s
OBN Obninsk 23.80 344 P **P** 22 37 00.0 -0.7
KSH Kashi 23.85 65 P **P** 22 37 00.1 -1.5
KSH sP sP 22 37 08.1 +2.1
KSH S **S** 22 41 09.5 -8.1
KSH pmax pmax
comp=Z,22nm,1.0s
KSH pmax pmax
comp=Z,90nm,3.6s
KSH LR LR
comp=N,190nm,11.4s
KSH LR LR
comp=E,220nm,13.2s
KSH LR LR
comp=Z,830nm,16.6s
BZS Buzias 23.88 310 ⇓P **P** 22 37 01.7 +0.1
SIRR Siria 24.12 312 ⇓P **P** 22 37 05.1 +1.2
MOS Moscow 24.15 346 *e*P **P** 22 37 02.5 -1.5
MOS *e*S **S** 22 41 21.1 -0.7
MOS pmax pmax
comp=Z,100nm,1.9s
MOS pmax pmax
comp=Z,51nm,1.4s
TKM2 Tokmak 2 24.27 57 P **P** 22 37 07.6 +2.0
SNR=12
LVV L'vov 24.55 321 *e*P **P** 22 37 06.8 -1.0
ULHL Ulahol 24.56 59 P **P** 22 37 10.7 +2.5
SNR=11
UZH Uzhgorod 24.85 317 *e*P **P** 22 37 09.2 -1.3
UZH *e* 22 37 40.2
ARU Arti 24.98 14 P **P** 22 37 11.2 -0.4
comp=Z,2.3nm,0.6s,baz=192,slow=9.1,SNR=12
ARU Arti 24.98 14 *di*P **P** 22 37 11.3 -0.3
ARU PPP PPP 22 37 54.3
ARU S **S** 22 41 38.9 +3.7
ARU SS **SnSn** 22 42 28.5 +5.0
ARU pmax pmax
comp=Z,17nm,1.3s
ARU Arti 24.98 14 P **P** 22 37 12.2 +0.6
ARU IAmb IAmb 22 37 18.4
comp=Z,11nm,1.0s
KOLS Kolonicke sedl 25.02 318 *e*P **P** 22 37 12.9 +0.8
KOLS pmax pmax
comp=Z,22nm,1.1s
KOLS Kolonicke sedl 25.02 318 *e*P **P** 22 37 12.9 +0.8
KWP Kalwaria Pacla 25.15 320 P **P** 22 37 14.1 +0.8
KWP pmax pmax
comp=Z,20nm,0.8s
KWP Kalwaria Pacla 25.15 320 P **P** 22 37 14.1 +0.8
KDJ Kajisay 25.21 59 P **P** 22 37 16.3 +2.2
KDJ pmax pmax
comp=Z,13nm,1.2s
KDJ Kajisay 25.21 59 P **P** 22 37 16.3 +2.2
KDJ IAmb IAmb 22 37 25.4
comp=Z,13nm,1.1s
CRVS Cervenica-Dubn 25.47 317 *e*P **P** 22 37 17.3 +1.2
CRVS pmax pmax
comp=Z,26nm,0.9s
CRVS Cervenica-Dubn 25.47 317 *e*P **P** 22 37 17.3 +1.2
TARG Taragay, Kyrgy 25.59 61 IAmb IAmb 22 37 28.6
comp=Z,11nm,0.9s
STON Ston 25.67 302 *i*P **P** 22 37 19.1 +1.1
TIP Timpagrande 25.78 293 ⇑P **P** 22 37 20.6 +1.5
TIP Timpagrande 25.78 293 P **P** 22 37 19.0 -0.1
TIP IAmb IAmb 22 37 22.9
comp=Z,7.4nm,0.8s
KECS Kecovo 25.83 316 *e*P **P** 22 37 20.9 +1.5
KECS pmax pmax
comp=Z,17nm,0.9s
KECS Kecovo 25.83 316 *e*P **P** 22 37 20.9 +1.5
PSZ Piszkesteto 25.93 314 ⇑P **P** 22 37 21.0 +0.6
MICGM **Minsk** 25.97 333 *e* **P** 22 37 20.0 -0.6
MNK Minsk 25.97 333 *e*P **P** 22 37 20.0 -0.6
KIRV Kirov 26.00 2 P **P** 22 37 20.6 -0.1
comp=Z,13nm,0.6s,baz=175,slow=6.4,SNR=13
BRVK Borovoye 26.12 32 *ce*P **P** 22 37 22.3 +0.3
BRVK pmax pmax
comp=Z,17nm,1.3s
BRVK Borovoye 26.12 32 P **P** 22 37 23.4 +1.4
BRVK IAmb IAmb 22 37 28.5
comp=Z,29nm,1.4s
BVAR Borovoye Array 26.15 32 P **P** 22 37 23.4 +1.2
comp=Z,11nm,0.9s,baz=223,slow=8.1,SNR=18
BVAR PcP **PcP** 22 40 50.4 +1.2
comp=Z,0.7nm,0.5s,baz=188,slow=1.6,SNR=4.2
PRZ Przheval'sk 26.17 59 P **P** 22 37 24.1 +1.3
PRZ pmax pmax
comp=Z,13nm,1.0s
PRZ Przheval'sk 26.17 59 P **P** 22 37 24.1 +1.3
PRZ IAmb IAmb 22 37 32.8
comp=Z,13nm,0.9s
RICI Ricice 26.23 303 P **P** 22 37 24.9 +1.9
CEL Celeste 26.39 291 P **P** 22 37 25.6 +1.0
CEL IAmb IAmb 22 37 33.6
comp=Z,16nm,0.8s
NACGM **Naroch** 26.69 333 *e* **P** 22 37 29.0 +1.9
LANS Liptovska Anna 26.73 316 *e*P **P** 22 37 29.5 +1.9
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 26.73 316 *e*P **P** 22 37 29.5 +1.9
SRO2 Moca 26.78 313 *e*P **P** 22 37 28.4 +0.5
SRO2 pmax pmax
comp=Z,11nm,1.0s
SRO2 Moca 26.78 313 *e*P **P** 22 37 28.4 +0.5
VYHS Vyhne 26.81 315 *e*P **P** 22 37 29.4 +1.1
VYHS pmax pmax
comp=Z,8.0nm,1.2s
VYHS Vyhne 26.81 315 *e*P **P** 22 37 29.4 +1.1
KIJV Kijevo 26.86 304 *i*P **P** 22 37 28.7 0.0
OJC Ojcow 27.06 319 P **P** 22 37 30.9 +0.4
OJC pmax pmax
comp=Z,15nm,0.8s
OJC Ojcow 27.06 319 P **P** 22 37 30.9 +0.4
OJC IAmb IAmb 22 37 39.5
comp=Z,15nm,0.8s
ZIRJ Zirje 27.31 303 *i*P **P** 22 37 34.4 +1.6
MORI Morici 27.32 304 *i*P **P** 22 37 32.8 0.0
SUW Suwalki 27.57 328 P **P** 22 37 34.8 -0.2
SUW pmax pmax
comp=Z,19nm,0.9s
SUW Suwalki 27.57 328 P **P** 22 37 34.8 -0.2
JAVC Velka Javorina 27.67 315 *e*P **P** 22 37 37.6 +1.6
SMOL Smolenice 27.67 314 *e*P **P** 22 37 37.3 +1.3
SMOL Smolenice 27.67 314 *e*P **P** 22 37 37.3 +1.3
DUGI Dugi Otok 27.80 304 *i*P **P** 22 37 37.8 +0.6
NVLJ Novalja 28.07 305 *i*P **P** 22 37 39.6 +0.1
MORC Moravsky Berou 28.14 316 *e*P **P** 22 37 40.9 +0.7
MORC Moravsky Berou 28.14 316 P **P** 22 37 40.6 +0.4
MORC pmax pmax
comp=Z,3.0nm,1.0s
MORC Moravsky Berou 28.14 316 P **P** 22 37 40.6 +0.4
ARSA Arzberg 28.40 310 *i*pP **P** 22 37 44.4 +1.9
comp=Z,5.4nm,1.2s
CONA Conrad Observa 28.42 312 *i*pP pP 22 37 44.4 -1.5
comp=Z,10nm,1.2s
VRAC Vranov 28.50 315 P **P** 22 37 43.6 +0.2
comp=Z,2.4nm,0.7s,baz=133,slow=8.6,SNR=4.2
VRAC Vranov 28.50 315 *e*P **P** 22 37 44.4 +1.0
KRUC Moravsky 28.52 314 *e*P **P** 22 37 44.6 +1.1
KRLC Kraliky 28.71 317 *e*P **P** 22 37 45.6 +0.3
KRLC Kraliky 28.71 317 *e*P **P** 22 37 45.6 +0.3
KLMR Klimovskoe 28.74 352 *e*P **P** 22 37 43.3 -2.0
KLMR pmax pmax
comp=Z,19nm,0.9s
KLMR Klimovskoe 28.74 352 *e*P **P** 22 37 43.3 -2.0
KLMR AMP 22 37 45.4
comp=Z,19nm,0.9s
KURBB **Kurchatov Arra** 28.97 42 P **P** 22 37 48.5 +1.0
comp=Z,5.8nm,0.9s,baz=248,slow=9.2,SNR=29
PRGR Permogore 29.06 358 *e*P **P** 22 37 45.2 -2.9
PRGR pmax pmax
comp=Z,31nm,1.5s
KURK Kurchatov 29.06 42 P **P** 22 37 50.2 +1.9
KURK P **P** 22 37 50.2 +1.9
KURK Kurchatov 29.06 42 *ce*P **P** 22 37 49.3 +1.0
KURK pmax pmax
comp=Z,17nm,1.3s
KURK Kurchatov 29.06 42 P **P** 22 37 49.2 +0.8
KURK IAmb IAmb 22 37 54.9
comp=Z,13nm,1.0s
DPC Dobruska-Polom 29.10 317 *e*P **P** 22 37 49.8 +1.1
DPC Dobruska-Polom 29.10 317 *e*P **P** 22 37 49.8 +1.1
OSTC Ostas 29.25 317 *e*P **P** 22 37 50.7 +0.7
OSTC *ex* x 22 37 55.1
UPC Upice 29.34 317 *e*P **P** 22 37 51.8 +0.9
UPC Upice 29.34 317 *e*P **P** 22 37 51.8 +0.9
CHVC Chvalec 29.35 317 *e*P **P** 22 37 51.8 +0.8
MOA Molln 29.40 311 *e*pP pP 22 37 53.1 -1.5
comp=Z,3.6nm,0.7s
MAKZ Makanchi 29.71 51 P **P** 22 37 55.0 +0.8
MAKZ pmax pmax
comp=Z,2.0nm,0.9s
MAKZ Makanchi 29.71 51 P **P** 22 37 55.0 +0.8
KBA Koelnbreinsper 29.76 309 *i*pP pP 22 37 56.6 -1.4
comp=Z,4.6nm,0.6s
MKAR Makanchi Array 29.91 52 P **P** 22 37 57.3 +1.3
comp=Z,2.3nm,0.6s,baz=247,slow=9.4,SNR=33
MKAR ScP **ScP** 22 44 44.3 +3.6
comp=Z,0.8nm,1.0s,baz=261,slow=4.8,SNR=4.8
GERES **GERESS Array B** 30.09 313 P **P** 22 37 57.1 -0.4
comp=Z,1.0nm,0.9s,baz=101,slow=6.9,SNR=5.1
GERES ScP **ScP** 22 44 43.1 +1.7
comp=Z,0.4nm,0.7s,baz=253,slow=1.4,SNR=3.8
CIMO Cimolais 30.15 307 P **P** 22 37 58.8 +0.7
CIMO IAmb IAmb 22 37 59.6
comp=Z,5.5nm,0.8s
KHC Kasperske Hory 30.26 313 *ce*P **P** 22 37 59.5 +0.4
KHC pmax pmax
comp=Z,12nm,1.7s
KHC Kasperske Hory 30.26 313 *e*P **P** 22 38 00.5 +1.4
KHC *ex* x 22 38 06.5
KHC Kasperske Hory 30.26 313 P **P** 22 37 59.1 +0.1
CTI Castel Tesino 30.62 307 P **P** 22 38 02.4 0.0
CTI pmax pmax
comp=Z,12nm,0.8s
CTI Castel Tesino 30.62 307 P **P** 22 38 02.4 0.0
WTTA Wattenberg 30.93 309 *i*P **P** 22 38 05.5 +0.4
comp=Z,14nm,1.2s,SNR=6.7
WATA Walderalm 30.99 309 *i*P **P** 22 38 05.8 +0.2
comp=Z,9.7nm,1.1s,SNR=6.1
VLC Villacollemand 31.14 303 P **P** 22 38 07.9 +1.0
SQTA Sankt Quirin 31.20 309 *i*P **P** 22 38 07.8 +0.3
comp=Z,13nm,0.7s
MOTA Moosalm 31.30 309 *i*P **P** 22 38 08.5 +0.1
comp=Z,11nm,0.7s,SNR=12
CLL Collm 31.41 317 *i*P **P** 22 38 09.3 +0.2
comp=Z,8.0nm,1.0s
CLL *e*(ScP) 22 44 49.0
CLL Collm 31.41 317 *i*P **P** 22 38 09.3 +0.2
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 31.41 317 P **P** 22 38 09.3 +0.2
CLL IAmb IAmb 22 38 10.5
comp=Z,8.8nm,1.1s
FETA Feichten 31.47 308 *i*P **P** 22 38 10.5 +0.6
comp=Z,6.7nm,0.8s
RETA Reutte 31.56 309 *i*P **P** 22 38 10.3 -0.3
comp=Z,3.4nm,0.7s,SNR=5.5
FUORN **Ofenpass-Fuorn** 31.69 307 P **P** 22 38 12.5 +0.6
GRA1 **Grafenberg Arr** 31.90 313 P **P** 22 38 13.7 +0.2
GRA1 IAmb IAmb 22 38 15.1
comp=Z,13nm,1.1s
GRF Grafenberg Arr 31.90 313 P **P** 22 38 13.7 +0.2
GRF pmax pmax
comp=Z,13nm,1.1s
FIA1 FINESS Array S 32.05 341 P **P** 22 38 14.6 0.0
FINES FINESS Array B 32.05 341 P **P** 22 38 14.5 0.0
comp=Z,5.9nm,0.8s,baz=145,slow=9.4,SNR=16
DAVA Damuels 32.09 308 *i*P **P** 22 38 15.6 +0.3
comp=Z,12nm,0.7s,SNR=12
TUE Stuetta 32.27 307 P **P** 22 38 16.9 -0.1
TUE IAmb IAmb 22 38 31.8
comp=Z,8.4nm,0.8s

SENIN	Lac Senin/Sane	33.65	306		IAmb		IAmb	22 38 32.1	
	comp=Z,13nm,1.3s								
ZAA0	Zalesovo Array	33.88	40		P		P	22 38 31.4	+0.7
ZAA0					IAmb		IAmb	22 38 36.2	
	comp=Z,8.8nm,0.9s								
ZALV	Zalesovo Beam	33.88	40		P		P	22 38 30.9	+0.2
	comp=Z,5.8nm,0.6s,baz=253,slow=9.9,SNR=20								
ZALV	Zalesovo Beam	33.88	40	*i*	P		P	22 38 31.2	+0.5
ZALV					pmax		pmax		
	comp=Z,6.0nm,0.6s								
BNI	Bardonecchia	33.89	304		P		P	22 38 30.9	-0.2
BNI					pmax		pmax		
	comp=Z,28nm,0.7s								
BNI	Bardonecchia	33.89	304		P		P	22 38 30.9	-0.2
LPL	La Plagne	33.91	304	*eP*	P		P	22 38 31.2	-0.1
LPL					pmax		pmax		
	comp=Z,19nm,0.7s								
DGZ	Jazzator, Alta	34.00	48	*i*	P		P	22 38 32.3	+0.4
DGZ					pmax		pmax		
	comp=Z,4.0nm,0.9s								
WLF	Walferdange	35.06	311		P		P	22 38 40.5	-0.5
WLF					pmax		pmax		
	comp=Z,12nm,1.2s								
WLF	Walferdange	35.06	311		P		P	22 38 40.5	-0.5
WLF					IAmb		IAmb	22 38 42.0	
	comp=Z,12nm,1.2s								
SSB	Saint Sauveur	35.41	304		P		P	22 38 44.6	+0.4
SSB					pmax		pmax		
	comp=Z,5.0nm,1.0s								
SSB	Saint Sauveur	35.41	304		P		P	22 38 44.5	+0.4
SSF	Saint Saulge	36.33	307	*eP*	P		P	22 38 51.5	-0.4
SSF					pmax		pmax		
	comp=Z,11nm,0.8s								
UCC	Uccle	36.44	313		P		P	22 38 52.4	-0.3
UCC					pmax		pmax		
	comp=Z,14nm,1.2s								
UCC	Uccle	36.44	313		P		P	22 38 52.4	-0.3
UCC					IAmb		IAmb	22 38 55.0	
	comp=Z,14nm,1.2s								
NC405	NORSAR Array S	36.79	332		P		P	22 38 54.6	-1.1
KONO	Kongsberg	36.90	329		P		P	22 38 55.6	-1.0
KONO					pmax		pmax		
	comp=Z,32nm,1.4s								
KONO	Kongsberg	36.90	329		P		P	22 38 55.6	-1.0
NB2	NORSAR Subarra	36.95	331		P		P	22 38 57.2	+0.1
	comp=Z,1.5nm,0.7s,baz=122,slow=8.6								
NOA	NORSAR Array B	36.95	331		P		P	22 38 56.2	-0.8
	comp=Z,2.0nm,0.7s,baz=124,slow=8.6,SNR=9.8								
LSA	Lhasa	37.16	83		P		P	22 38 59.5	-0.2
LSA					pmax		pmax		
	comp=Z,8.0nm,1.1s								
LSA	Lhasa	37.16	83		P		P	22 38 59.5	-0.2
LFF	La Frestale	38.08	303	*eP*	P		P	22 39 06.4	-0.3
LFF					pmax		pmax		
	comp=Z,6.0nm,0.7s								
TAM	Tamanrasset	38.34	266		P		P	22 39 08.4	-1.0
TAM					pmax		pmax		
	comp=Z,5.0nm,1.2s								
TAM	Tamanrasset	38.34	266		P		P	22 39 08.4	-1.0
ARCES	ARCESS Array B	39.00	348		P		P	22 39 14.6	+0.4
	comp=Z,3.2nm,0.7s,baz=161,slow=9.6,SNR=16								
ARCES					PP		PP	22 40 39.3	-4.1
	comp=Z,2.2nm,0.8s,baz=148,slow=12,SNR=3.8								
ARCES					ScP		ScP	22 45 16.9	+4.3
	comp=Z,1.9nm,0.8s,baz=177,slow=9.7,SNR=6.5								
ESDC	Sonseca Array	41.78	295		P		P	22 39 37.9	+0.2
	comp=Z,2.4nm,1.0s,baz=74,slow=8.3,SNR=14								
EKA	Eskdalemuir Ar	41.84	318		P		P	22 39 37.9	+0.1
	comp=Z,3.5nm,0.7s								
PAB	San Pablo	42.10	295		P		P	22 39 40.3	0.0
PAB					pmax		pmax		
	comp=Z,13nm,1.4s								
PAB	San Pablo	42.10	295		P		P	22 39 40.3	0.0
PAB					IAmb		IAmb	22 39 46.4	
	comp=Z,13nm,1.4s								
PBRG	Braganca	43.64	298	*eP*	P		P	22 39 53.7	+1.0
	comp=Z,11nm,1.9s								
MVO	Moncorvo	43.93	297	*eP*	P		P	22 39 55.5	+0.4
	comp=Z,16nm,1.2s								
ZAK	Zakamensk	44.19	49	*eP*	P		P	22 39 57.9	+0.8
ZAK					pmax		pmax		
	comp=Z,5.0nm,1.3s								
MTE	Manteigas	44.41	296	*eP*	P		P	22 40 00.6	+1.6
MTE					pmax		pmax		
	comp=Z,16nm,1.1s								
MTE	Manteigas	44.41	296		P		P	22 39 59.6	+0.6
MTE					IAmb		IAmb	22 40 01.9	
	comp=Z,11nm,1.1s								
PVRL	Vila Real	44.43	298	*eP*	P		P	22 40 00.3	+1.2
	comp=Z,14nm,2.1s								
PMRV	Marv??o	44.44	295	*eP*	P		P	22 40 00.3	+1.1
PEL					*i* S		Sn	22 40 39.7	-0.2
PEL	Peldehue	0.85	123		P		Pn	22 32 38.9	+0.5
PEL	Peldehue	0.85	123				Pn	22 32 38.9	+0.5
PEL	Peldehue	0.85	123				Pn	22 32 38.9	+0.5
PEL	Peldehue	0.85	123	*eP*			Pn	22 32 39.0	+0.5
PEL					*eS*		Sb	22 32 50.5	+0.3
MT05	Renca	0.98	136		||*iP*	Pn	22 32 40.5	+0.4
MT05					*i* S		Sb	22 32 53.4	-0.3
MT05	Renca	0.98	136				Pn	22 32 40.3	+0.1
RCDM	Rinconada Maip	1.01	143	||*iP*		Pb	22 32 41.8	+0.1
RCDM					*i* S		Sb	22 32 55.2	+0.5
CLCH	Cerro Calan	1.10	130	||*iP*		Pn	22 32 42.5	+0.6
CLCH					*i* S		Sb	22 32 56.7	-0.6
FSR	Penalolen	1.16	133	||*iP*		Pb	22 32 44.6	+0.4
FSR					*i* S		Sb	22 32 59.6	+0.6
MT03	Universidad Ad	1.19	133	*i* P			Pn	22 32 43.9	+0.8
MT03					*i* S		Sb	22 32 59.2	-0.4
CO02	Combarbal	1.55	17	||*iP*		Pb	22 32 50.7	0.0
CO02					*i* S		Sb	22 33 12.0	+2.1
CO02	Combarbal	1.55	17		P		Pn	22 32 49.6	+1.6
LMEL	Las Melosas	1.61	136	||*iP*		Pn	22 32 50.3	+1.3
LMEL					*i* S		Sb	22 33 10.6	-1.3
BO01	Tunca	1.75	167	*eP*			Pn	22 32 52.2	+1.6
BO01	Tunca	1.75	167				Pn	22 32 51.8	+1.1
AUSP	Uspallata	1.88	76	*eP*			Pb	22 32 56.5	0.0
CO03	El Pedregal	1.98	22	||*iP*		Pb	22 32 56.7	-1.3
CO03	El Pedregal	1.98	22				Pb	22 32 56.5	-1.4
RTLS	Leoncito	2.10	66	*eP*			Pb	22 33 00.2	0.0
RTLS					*eS*		Sb	22 33 27.2	+1.3
BO02	Sierra Bellavi	2.20	163	||*iP*		Pn	22 32 58.2	+1.2
BO02					*eS*		Sn	22 33 25.4	+2.3
BO02	Sierra Bellavi	2.20	163				Pn	22 32 58.1	+1.1
ARCO	CERRO ARCO	2.21	95	*eP*			Pb	22 33 01.6	-0.3
ARCO					*eS*		Sb	22 33 30.3	+1.5
ARCO					IAML			22 33 34.7	
	comp=Z,187μm,0.8s								
ASAL	Salagasta	2.29	88	*eP*			Pb	22 33 02.9	-0.3
AAGR	Agrelo	2.32	101	*eP*			Pb	22 33 03.0	-0.8
GO05	Huala	2.34	188	||*iP*		Pn	22 32 58.8	-0.1
GO05	Huala	2.34	188	Pn			Pn	22 32 58.9	0.0
GO04	Tololo Observa	2.58	14	||*iP*		Pn	22 33 04.5	+2.1
GO04	Tololo Observa	2.58	14	Pn			Pn	22 33 04.6	+2.1
AVIZ	Vizcacheras	2.66	108	*eP*			Pb	22 33 07.0	-2.6
RTCV	Cerro Valdivia	2.67	73	*eP*			Pb	22 33 07.7	-2.1
LAMA	Las Malvinas	2.97	140	*eP*			Pn	22 33 11.2	+3.7
CO01	Juntas del Tor	2.97	25	||*iP*		Pn	22 33 11.2	+3.4
CO01	Juntas del Tor	2.97	25	Pn			Pn	22 33 11.1	+3.4
ACCO	Cerro Coronel	2.97	46	*eP*			Pb	22 33 12.4	-2.6
AROD	Rodeo	3.07	36	*eP*			Pb	22 33 14.0	-2.7
ACDV	Cuesta del Vie	3.25	40	*eP*			Pb	22 33 16.8	-2.9
PUMA	Malargue	3.30	149	*eP*			Pn	22 33 15.9	+3.8
EDS3	Malargue	3.55	151	*eP*			Pn	22 33 19.5	+3.8
ACAN	Cantantal	3.70	85	*eP*			Pn	22 33 21.6	+4.0
LCO	Las Campanas	3.73	11	P			Pn	22 33 20.1	+1.8
LCO	Las Campanas	3.73	11				Pn	22 33 20.1	+1.8
BI02	San Fabin de	3.98	177	||*iP*		Pn	22 33 22.3	+0.9
BI02	San Fabin de	3.98	177	Pn			Pn	22 33 22.5	+1.1
AC05	El Transito	3.99	16	||*iP*		Pn	22 33 24.0	+2.4
AC05					*eS*		Sn	22 34 12.3	+4.9
AC05	El Transito	3.99	16				Pn	22 33 24.1	+2.4
BI03	Tigo	4.33	196	||*iP*		Pn	22 33 24.8	-1.4
BI03	Tigo	4.33	196				Pn	22 33 25.8	-0.4
AC04	Llanos de Chal	4.48	5	||*iP*		Pn	22 33 29.0	+0.7
AC04	Llanos de Chal	4.48	5	Pn			Pn	22 33 29.1	+0.7
LAJA	Laja	4.69	191	*eP*			Pn	22 33 30.7	-0.3
APLL	PUNTA DE LOS L	4.85	63	*eP*			Pn	22 33 36.2	+2.7
VCA	Vinchina	4.87	37	*eP*			Pn	22 33 38.2	+4.4
VCA					IAML			22 35 06.4	
	comp=Z,45μm,0.8s								
MRA	San Martin	4.93	88	*eP*			Pn	22 33 36.4	+1.9
MRA					IAML			22 34 39.8	
	comp=Z,56μm,1.0s								
ACLC	CERRO LA CRUZ	5.11	52	*eP*			Pn	22 33 40.0	+3.0
ACLC					*eS*		Sb	22 34 45.6	-6.6
ACLC					IAML			22 34 52.9	
	comp=Z,40μm,2.1s								
GO03	Copiap	5.20	13				Pn	22 33 39.5	+1.3
GO03	Copiap	5.20	13	*eP*			Pn	22 33 39.5	+1.3
CANA	Caviahue	5.21	176	*eP*			Pn	22 33 40.6	+2.2
CANA					IAML			22 35 22.0	
	comp=Z,20μm,1.3s								
TCA	Tanti	6.05	79	*eP*			Pn	22 33 51.3	+1.3
TCA					IAML			22 35 05.6	
	comp=Z,25μm,2.7s								
VA04	Juan Fernndez	6.18	259				Pn	22 33 51.8	+0.1
AC02	Maricunga	6.19	20				Pn	22 33 54.2	+1.9
LC01	Cunco	6.21	182				Pn	22 33 51.3	-0.7
H03N1	Juan Fernandez	6.23	261				P	22 33 53.7	+1.6
	baz=123,slow=22,SNR=8233								
H03N1					S		Sn	22 34 55.4	-6.8
H03N1					T		T	22 40 19.7	
	baz=89,slow=74,SNR=581								
H03N3	Juan Fernandez	6.24	261		P		Pn	22 33 53.9	+1.6
	baz=123,slow=22,SNR=7974								
H03N3					S		Sn	22 34 55.1	-7.3
H03N3					T		T	22 40 19.2	
	baz=89,slow=74,SNR=761								
H03N2	Juan Fernandez	6.25	261		P		Pn	22 33 54.2	+1.9
	baz=123,slow=22,SNR=5965								
H03N2					S		Sn	22 34 55.0	-7.6
H03N2					T		T	22 40 21.4	
	baz=89,slow=74,SNR=780								
H03S1	Juan Fernandez	6.28	257		P		Pn	22 33 52.8	+0.1
	baz=54,slow=17,SNR=3262								
H03S1					S		Sn	22 34 55.0	-8.1
H03S1					T		T	22 40 10.0	
	baz=82,slow=75,SNR=4196								
H03S3	Juan Fernandez	6.28	258		P		Pn	22 33 53.3	+0.6
	baz=54,slow=17,SNR=3509								
H03S3					S		Sn	22 34 55.4	-7.7
H03S3					T		T	22 40 11.3	
	baz=82,slow=75,SNR=4517								
H03S2	Juan Fernandez	6.29	257		P		Pn	22 33 53.3	+0.4
	baz=54,slow=17,SNR=3833								
H03S2					S		Sn	22 34 55.2	-8.3
H03S2					T		T	22 40 12.2	
	baz=82,slow=75,SNR=5686								
CYA	Choya	6.51	51	*eP*			Pn	22 33 56.6	+0.4
CYA					*eS*		Sn	22 35 14.0	+4.6
CYA					IAML			22 35 42.3	
	comp=Z,14μm,1.3s								
AC01	Pan de Azucar	6.56	7		Pn		Pn	22 33 55.7	-1.2
PIL	Pilar	6.57	83	*eP*			Pn	22 34 00.2	+3.2
PLCA	Paso Flores	8.07	175		P		Pn	22 34 18.9	+1.3
	comp=Z,14nm,0.3s,baz=344,slow=13,SNR=137								
PLCA					Lg		Lg	22 36 15.3	
	comp=Z,20nm,0.3s,baz=56,slow=20,SNR=2.1								
PLCA					LR		LR	22 37 32.6	
	comp=Z,209μm,18.5s,baz=358,slow=38								
PLCA	Paso Flores	8.07	175	*eP*			Pn	22 34 17.9	+0.2
PLCA					*eS*		Sn	22 35 50.6	+2.7
FSA	Cafayete	8.15	38	*eP*			Pn	22 34 21.0	+2.2
LVC	Limon Verde	10.30	14	P			Pn	22 34 46.2	-2.4
	comp=Z,4.2nm,0.3s,baz=165,slow=8.2,SNR=18								
LVC					Lg		Lg	22 37 06.3	
	comp=Z,55nm,0.3s,baz=202,slow=23,SNR=4.2								
LVC					LR		LR	22 39 05.7	
	comp=Z,151μm,21.4s,baz=212,slow=39								
LVC	Limon Verde	10.30	14	P			Pn	22 34 46.6	-1.9
LVC	Limon Verde	10.30	14				Pn	22 34 46.6	-1.9
LVC	Limon Verde	10.30	14	*eP*			Pn	22 34 46.1	-2.4
LPA	La Plata	11.54	105	*i* P			Pn	22 34 58.2	-6.9
LPA				pPP				22 35 10.8	
LPA				S			Sn	22 37 08.1	-4.7
LPA				sS				22 37 23.9	
LPA				SSS			SSS	22 37 37.7	
LPA				PCP			PcP	22 40 54.4	-1.0
LPA				SCS			ScS	22 48 04.6	+3.2
LPA				PKIKP				22 52 25.4	
LPA				SKIKS				22 55 50.7	
PB01	IPOC Station P	11.74	9	Pn			Pn	22 35 05.2	-2.7
PATCX	Punta Patache	11.88	6	Pn			Pn	22 35 09.4	-0.5
TA01	Diego Aracena	12.13	6				Pn	22 35 12.0	-1.2
PB08	IPOC Station P	12.67	10				Pn	22 35 17.9	-3.1
PB11	IPOC Station P	12.98	8	Pn			Pn	22 35 22.9	-2.1
CPUP	Villa Florida	13.90	67	P			Pn	22 35 35.0	-2.3
	comp=Z,2.6nm,0.3s,baz=240,slow=12,SNR=46								
CPUP					S		Sn	22 38 11.9	+1.4
	comp=Z,17nm,0.3s,baz=223,slow=11,SNR=8.1								
CPUP					Lg		Lg	22 39 13.8	
CPUP					LR		LR	22 41 37.6	
	comp=Z,156μm,18.0s,slow=40								
CPUP	Villa Florida	13.90	67	P			Pn	22 35 35.0	-2.3
CPUP	Villa Florida	13.90	67	Pn			Pn	22 35 34.0	-3.3
CPUP	Villa Florida	13.90	67	*eP*			Pn	22 35 34.7	-2.6
I41PY	VILLA FLORIDA	13.90	67	Lg			Lg	22 39 22.6	
	baz=232,slow=32,SNR=1.5								
I41PY				*i*				23 46 10.0	
	baz=231,slow=321,SNR=1.0								
PB12	IPOC Station P	14.05	5	Pn			Pn	22 35 41.2	+1.6
AP01	Chacalluta	14.29	5				Pn	22 35 45.5	+2.7
PLTB	Pedras Altas	15.21	91	*eP*			Pn	22 35 51.9	-3.2
CPSB	Cacapava Do Su	15.60	86	*eP*			Pn	22 35 55.7	-4.5
LPAZ	La Paz	16.61	12	P			Pn	22 36 14.8	+1.0
	comp=Z,3.0nm,0.3s,baz=186,slow=6.8,SNR=161								
LPAZ	La Paz	16.61	12	*eP*			P	22 36 15.5	-0.5
ITAB	Concordia	17.57	77	*eP*			Pn	22 36 24.2	-2.1
CNLB	Canela	18.05	85	*eP*			Pn	22 36 29.6	-1.5
AQDB	Aquidauana	18.64	53	*eP*			P	22 36 36.9	-0.9
PTGB	Pitanga	18.82	70	*eP*			P	22 36 39.0	-0.9
PTGB					*eS*		Sn	22 40 09.5	-0.7
SIV	San Ignacio	19.14	32	P			P	22 36 42.3	-0.9
	comp=Z,9.5nm,0.3s,baz=232,slow=11,SNR=164								
TRCB	Terra Rica	19.39	64	*eP*			P	22 36 45.9	-0.1
TRCB					*eS*		S	22 40 22.5	-1.2
PTLB	Pontes e Lacer	20.53	36	*eP*			P	22 36 58.9	+0.5
PTLB					*eS*		S	22 40 44.9	-1.5
TIJ01	Guaruva-PR	21.01	75	*eP*			P	22 36 59.9	-3.8
PCMB	Pacaembu	21.11	64	*eP*			P	22 37 03.9	-0.8
PCMB					*eS*		S	22 40 55.8	-2.3
NNA	Nana	21.17	346		P		P	22 37 06.9	+1.6
	comp=Z,87nm,1.1s,baz=186,slow=10.0,SNR=9.6								
NNA	Nana	21.17	346		P		P	22 37 06.0	+0.7
NNA					pmax		pmax		
	comp=Z,361nm,1.1s								
NNA	Nana	21.17	346		P		P	22 37 06.0	+0.7
EFI	East Falkland	21.38	157		P		P	22 37 06.8	-0.5
EFI					pmax		pmax		
	comp=Z,1μm,0.9s								
EFI					MLR		MLR		
	comp=Z,132μm,20.0s								
EFI	East Falkland	21.38	157		P		P	22 37 06.8	-0.5
EFI	East Falkland	21.38	157		IAMs_20		IAMs_20	22 45 55.3	
	comp=Z,132μm,20.0s								
FRTB	Fartura	21.49	70	*eP*			P	22 37 07.5	-1.2
SALV	Santo Antonio	22.04	44	*eP*			P	22 37 13.7	-1.0
SALV					*eS*		S	22 41 15.6	-0.5
VILB	Vilhena	22.22	30	*eP*			P	22 37 15.8	-0.8
VILB					*eS*		S	22 41 20.5	+1.0
USHA	Ushuaia	22.25	175	P			P	22 37 17.7	+1.2
	comp=Z,220nm,0.8s,baz=360,slow=10.0,SNR=59								
MG01	Puerto William	22.41	174		IAMs_20		IAMs_20	22 45 58.2	
	comp=Z,67μm,20.0s								
PET01	Itanhaem-SP	22.87	75	*eP*			P	22 37 21.4	-2.1
PET01					*eS*		S	22 41 31.0	-0.1
ITRB	Iturama	22.93	61	*eP*			P	22 37 22.3	-1.8
ITRB					*eS*		S	22 41 31.7	-0.5
SPB	Sao Paulo	23.07	73	P			P	22 37 23.0	-2.5
SPB	Sao Paulo	23.07	73	*eP*			P	22 37 23.9	-1.6
SPB					*eS*		S	22 41 34.6	+0.2
ETMB	Extrema	23.28	13	*eP*			P	22 37 28.6	+0.9
ETMB					*eS*		S	22 41 40.5	+2.5
BB19B	Bebedouro	23.51	66	*eP*			P	22 37 27.4	-2.5
VAO	Valinhos	23.73	72	*eP*			P	22 37 30.7	-1.3
VAO					*eS*		S	22 41 45.6	+0.3
ARAG	Araguaiana, MT	24.62	51	*eP*			P	22 37 38.9	-1.3
ARAG					*eS*		S	22 42 00.5	+1.0
PARB	Paraibuna	24.65	74	*eP*			P	22 37 38.8	-1.8
PARB					*eS*		S	22 41 59.5	-0.7
CZSB	Cruzeiro do Su	24.85	357	*eP*			P	22 37 43.7	+1.4
CZSB					*eS*		S	22 42 05.6	+2.3
SAML	Samuel	24.86	20	P			P	22 37 42.4	+0.1
SAML					pmax		pmax		
	comp=Z,240nm,0.8s								
SAML					MLR		MLR		
	comp=Z,21μm,18.0s								
SAML	Samuel	24.86	20	P			P	22 37 42.4	+0.1

SEY	Seymchan	67.74	29	*i* P			P	22 42 46.1	+0.7
	comp=Z,3.9nm,0.6s,baz=279,slow=7.8,SNR=9.1								
SEY	Seymchan	67.74	29	*i* P			P	22 42 45.6	+0.2
ILAR	Eielson Array	82.26	6	P			P	22 44 09.6	+0.3
	comp=Z,0.2nm,0.6s,baz=319,slow=34,SNR=2.2								
ASAR	Alice Springs	99.42	112	P			Pdif	22 45 30.1	-1.0
	comp=Z,0.2nm,0.7s,baz=306,slow=5.0,SNR=1.7								

VAO **23** *22:32:21.3±0.4, 32°.67S×71°.31W, h17km±2km, mb5.9*
SJA **23** *22:32:23.1±0.8, 32°.72S×71°.52W, h22km±4km, ML6.6, MW6.3*
BJI **23** *22:32:23.0±0.0, 32°.71S×71°.39W, h30km, mB6.2/57, Ms6.5/84, Ms7 6.5/76*
NEIC **23** *22:32:23.6, 32°.70S×71°.41W, h35km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr2.67; Mθθ-0.40; Mϕϕ-2.26; Mrθ0.18; Mrϕ-0.42; Mθϕ-1.68; Fault plane solution: M₀3.04000×10¹⁸ NP1:ϕs182.82000°, δ61.90000°, λ82.07000°. NP2:ϕs19.29000°, δ29.11000°, λ104.49000°. Principal axes: T 3.2082, Plg72.0000°, Azm74.0000°; N -0.3768, Plg7.0000°, Azm187.0000°; P -2.8314, Plg17.0000°, Azm279.0000°;*
MOS **23** *22:32:23.7±1.0, 32°.66S×71°.30W, h44km, mb6.0/17, MS6.2/42 Error ellipse: s-maj=11.8km s-min=6.6km az=92.8*
GUC **23** *22:32:23.7±0.6, 32°.74S×71°.51W, h41km±3km, MW6.4*
NEIC **23** *22:32:23.3±1.8, 32°.70S±0°.04×71°.44W±0°.06, h32km±1km, mb6.2/553, Ms_20 6.2/787, Mwb6.3/82, Mww6.4, Md6.1(SJA), Mwc6.4(GCMT), Mwr6.4(GUC), Error ellipse: s-maj=9.4km s-min=6.0km az=253.0*
IDC **23** *22:32:24.9±2.2, 32°.66S×71°.33W, h47km±19km, mb5.2/20, mb1 5.3/24, mb1mx5.1/28, mbtmp5.4/24, ML5.3/4, MS6.2/21, Ms1 6.2/21, ms1mx6.1/27, Error ellipse: s-maj=15.0km s-min=10.1km az=91.0*
GCMT **23** *22:32:28.3±0.0, 32°.76S×71°.74W, h42km, MW6.4/170, Moment Tensor Solution. s170,c420; s157,c636; Duration: 4ᵗ0 Moment tensor: Scale 10¹⁸Nm; Mrr4.07±.02; Mθθ0.32±.02; Mϕϕ-4.39±.02; Mrθ-0.18±.02; Mθϕ-0.36±.01; Mϕr-3.40±.03; Best double couple: M₀5.44100×10¹⁸ NP1:ϕs5.00000°, δ26.00000°, λ92.00000°. NP2:ϕs183.00000°, δ64.00000°, λ89.00000°. Principal axes: T 5.2680, Plg71.0000°, Azm92.0000°; N 0.3420, Plg1.0000°, Azm184.0000°; P -5.6140, Plg19.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC **23** *22:32:28, 32°.83S×71°.82W, h42km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr3.81; Mθθ0.47; Mϕϕ-4.28; Mrθ-0.19; Mrϕ-0.41; Mθr-3.53; Fault plane solution: M₀5.40000×10¹⁸ NP1:ϕs7.00000°, δ25.00000°, λ93.00000°. NP2:ϕs184.00000°, δ66.00000°, λ89.00000°. Principal axes: T 5.1339, Plg69.0000°, Azm91.0000°; N 0.5037, Plg1.0000°, Azm184.0000°; P -5.6376, Plg21.0000°, Azm275.0000°;*
NEIC **23** *22:32:32, 32°.80S×71°.27W, h46km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr3.73; Mθθ0.06; Mϕϕ-3.79; Mrθ-0.31; Mrϕ-0.10; Mθr-4.10; Fault plane solution: M₀5.57000×10¹⁸ NP1:ϕs359.00000°, δ21.00000°, λ86.00000°. NP2:ϕs183.00000°, δ69.00000°, λ92.00000°. Principal axes: T 5.5405, Plg66.0000°, Azm96.0000°; N 0.0551, Plg1.0000°, Azm3.0000°; P -5.5956, Plg24.0000°, Azm272.0000°;*
ISC 23 22:32:22.6±0.4, **32°.68S**±0°.02×**71°.54W**±0°.03, **h32**km±2km, **h32**km:**pP-P, n1921,** σ**2**ˢ**34**/1976, **mb6.2**/334, **MS6.2**/470, **91C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
ROC1	El Roble	0.53	123			Pn	22	32	34.1	0.0
ROC1						Sn	22	32	42.2	0.0
ROC1	El Roble	0.53	123	*eP*		Pb	22	32	34.3	+0.5
ROC1				*eS*		Sb	22	32	41.8	+0.3
ROCH	El Roble	0.53	123	||*iP*	Pb	22	32	34.2	+0.4
MT02	Curacav	0.67	149	||*iP*	Pn	22	32	35.8	0.0
MT02				*i* S		Sn	22	32	44.6	-0.6
MT02	Curacav	0.67	149			Pn	22	32	35.8	0.0
MT02						Sn	22	32	44.9	-0.4
VA03	San

SAML Samuel 24.86 20 eP P P 22 37 42.5 +0.1
IPMB Ipameri, GO 25.59 61 eP P P 22 37 47.8 -1.3
IPMB eS S 22 42 16.6 +1.5
CLDB Colider 26.10 37 eP P P 22 37 51.8 -1.8
CLDB eS S 22 42 24.8 +1.6
ATAH Atahualpa 26.21 344 P P P 22 37 57.1 +2.1
comp=Z,18nm,1.0s,baz=166,slow=7.7,SNR=16
MAN01 Angra dos Reis 26.22 75 eP P 22 37 53.9 -0.9
MAN01 eS S 22 42 25.0 -0.1
BSCB Bom Sucesso 26.49 71 eP P 22 37 56.1 -1.1
BSCB eS S 22 42 28.9 -0.6
VAS01 Vassouras-RJ 26.92 74 eP P 22 38 00.7 -0.4
VAS01 eS S 22 42 36.0 -0.1
BDFB Brasilia 27.26 57 P P P 22 38 03.1 -1.2
baz=228,slow=8.1,SNR=244
BDFB Brasilia 27.26 57 P P P 22 38 03.0 -1.2
BDFB pmax pmax
comp=Z,708nm,1.1s
BDFB MLR MLR
comp=Z,154µm,19.0s
BDFB Brasilia 27.26 57 P P P 22 38 03.0 -1.2
BDFB IAmb IAmb 22 38 25.6
comp=Z,708nm,1.1s
CAM01 Campos-RJ 28.59 75 eP P P 22 38 15.3 -0.6
CAM01 eS S 22 43 02.0 -0.3
PEXB Peixe 29.56 51 eP P P 22 38 23.7 -0.9
PEXB eS S 22 43 18.3 +0.6
MC01 Montes Claros 29.57 64 eP P P 22 38 22.9 -1.9
NPGB Novo Progresso 29.62 34 eP P P 22 38 23.7 -1.4
NPGB eS S 22 43 20.7 +2.2
JANB Januaria 30.33 61 eP P P 22 38 30.2 -1.2
JANB eS S 22 43 28.9 -0.9
SJMB Sao Joao De Ma 30.57 70 eP P P 22 38 32.4 -1.1
SJMB eS S 22 43 33.8 +0.4
BSFB Barra de Sao F 30.77 71 eP P P 22 38 34.1 -1.2
RIB01 Linhares ES 30.87 72 eP P P 22 38 35.2 -1.0
MACA Manacapuru-AM 31.09 21 eP P P 22 38 37.9 -0.2
SDBA SAO DESIDERIO 31.66 57 eP P P 22 38 41.9 -1.4
ITTB Itaituba 31.82 31 eP P P 22 38 43.3 -1.2
ITTB eS S 22 43 55.0 +2.1
PMSA Palmer Station 32.45 174 LR LR 22 51 40.1
comp=Z,55µm,21.9s,baz=344,slow=36
PMSA Palmer Station 32.45 174 IAMs_20 IAMs_20 22 51 18.1
comp=Z,57µm,22.0s
PMSA Palmer Station 32.45 174 eP P P 22 38 50.9 +1.4
SMTB Santa Maria do 32.45 48 eP P P 22 38 49.4 -0.7
PTLC Puerto Leguiza 32.82 354 eP P P 22 38 52.6 -0.7
HOPE Hope Point 32.85 142 P P P 22 38 54.1 +1.0
HOPE pmax pmax
comp=Z,993nm,0.9s
HOPE MLR MLR
comp=Z,54µm,20.0s
HOPE Hope Point 32.85 142 P P 22 38 54.1 +1.0
HOPE Hope Point 32.85 142 IAMs_20 IAMs_20 22 51 35.3
comp=Z,54µm,20.0s
RPN Rapa Nui 33.10 270 IAMs_20 IAMs_20 22 48 31.9
comp=Z,65µm,20.0s
PRPB Parauapebas 33.25 42 eP P P 22 38 56.0 -1.1
PRPB eS S 22 44 16.7 +1.4
OTAV Otavalo 33.39 347 P P P 22 39 02.2 +3.5
OTAV pmax pmax
comp=Z,517nm,1.9s
OTAV MLR MLR
comp=Z,20µm,21.0s
OTAV Otavalo 33.39 347 P P 22 39 02.2 +3.5
OTAV IAmb IAmb 22 39 30.0
comp=Z,517nm,1.9s
OTAV Otavalo 33.39 347 eP P 22 39 00.4 +1.7
OTAV eS S 22 44 22.0 +3.8
PUAC Puerto Asis, P 33.40 351 eP P 22 39 01.5 +3.2
CMBC Cumbal 33.97 349 eP P 22 39 07.7 +4.0
FLOC Florencia 34.30 353 eP P 22 39 08.6 +2.4
CRUC La Cruz 34.45 350 eP P 22 39 11.5 +3.7
MALB Monte Alegre 34.70 31 eP P 22 39 09.0 -0.7
MALB eS S 22 44 36.3 -1.5
MACC Macarena, Meta 34.71 356 eP P 22 39 11.2 +1.5
GDU01 Guandu, BA 34.72 65 eP P 22 39 08.5 -1.4
GDU01 eS S 22 44 37.9 -0.2
GARC Garzon, Huila 34.88 353 eP P 22 39 13.8 +2.4
BBAC Balboa, Cauca 34.94 350 eP P 22 39 14.1 +2.2
BETC Betania 35.37 353 eP P 22 39 18.7 +3.2
POPC Popayan, Colom 35.37 351 eP P 22 39 17.9 +2.3
GR1C Gorgona, Isla 36.04 349 eP P 22 39 23.4 +2.2
PRAC Prado 36.34 354 eP P 22 39 26.5 +2.8
PAYG Puerto Ayora 36.41 327 P P 22 39 25.2 +0.9
PAYG IAmb IAmb 22 39 53.2
comp=Z,298nm,1.2s
PAYG Puerto Ayora 36.41 327 IAMs_20 IAMs_20 22 50 15.9
comp=Z,45µm,22.0s
ORTC Ortega, Tolima 36.56 354 eP P 22 39 28.5 +2.9
VILC Villavicencio, 36.65 356 eP P 22 39 29.0 +2.5
YOTC Yotoco, Valle 36.75 352 eP P 22 39 28.8 +1.4
MALC Bahia Malaga 36.91 350 eP P 22 39 32.5 +3.9
MCPB Macapa, AP 37.03 34 eP P 22 39 29.2 -0.4
MCPB eS S 22 45 13.4 +0.1
CVER Cruz Verde, Cu 37.08 356 eP P 22 39 32.1 +1.6
ANIL Santa Ana 37.15 354 eP P 22 39 32.9 +1.9
CHIC Chingaza 37.17 356 eP P 22 39 33.0 +1.8
TMAB Tom-Au,PA,Br 37.34 41 eP P 22 39 32.2 0.0
ROSC El Rosal 37.41 355 P P 22 39 36.4 +3.1
comp=Z,104nm,0.5s,baz=161,slow=6.8,SNR=39
ROSC LR LR 22 55 22.3
comp=Z,41µm,20.7s,baz=193,slow=37
ROSC El Rosal 37.41 355 eP P 22 39 36.3 +3.1
ROSC El Rosal 37.41 355 P P 22 39 35.4 +2.2
ROSC IAmb IAmb 22 39 50.0
comp=Z,253nm,1.0s
ROSC IAMs_20 IAMs_20 22 55 01.8
comp=Z,41µm,22.0s
PLMC San Jos del P 37.65 352 eP P 22 39 36.8 +1.8
PIZC Pizarro, Choco 37.85 351 eP P 22 39 39.2 +2.8
GUY2C Guyana, Caldas 37.87 354 eP P 22 39 39.5 +2.2
NORC Norcasia 38.17 355 eP P 22 39 40.3 +1.0
SPBC San Pablo de B 38.20 356 eP P 22 39 40.3 +0.7
RUSC La Rusia 38.39 358 eP P 22 39 43.6 +2.0
CBOC Ciudad Bolivar 38.57 353 eP P 22 39 44.6 +1.9
HELC Santa Helena 38.84 354 eP P 22 39 46.8 +1.5
TAMC Tame, Arauca 38.90 360 eP P 22 39 45.7 +0.3
BARC Barichara 39.09 357 eP P 22 39 46.9 -0.3
SOLC Bahia Solano 39.09 351 eP P 22 39 49.6 +2.6
PTBC PUERTO BERRIO, 39.10 355 eP P 22 39 46.9 -0.2
ROSB Rosrio 39.23 47 eP P 22 39 47.1 -1.1
ROSB eS S 22 45 47.3 +0.6
BRRC Barranca, Sant 39.62 357 eP P 22 39 50.4 -0.9
DBBC Dabeiba 39.73 353 eP P 22 39 55.1 +2.7
PAMC Pamplona, Colo 39.82 358 eP P 22 39 52.9 -0.7
ZARC Zaragoza, Cauc 40.08 355 eP P 22 39 55.8 +0.7
UREC San Jos de Ur 40.39 354 eP P 22 39 58.6 +0.9
OCAC Ocana 40.73 357 eP P 22 39 59.1 -1.6
CACAO El Cacao, Vera 40.78 346 eP P 22 40 01.4 +0.4
CACAO eS S 22 46 13.4 +3.6
AZU Azuero 41.10 347 eP P 22 40 05.2 +1.6
AZU eS S 22 46 20.0 +5.5
GMAL Guarumal, Vera 41.27 345 eP P 22 40 06.9 +1.9
GMAL eS S 22 46 20.0 +3.0
SMLC San Martn de 41.32 356 eP P 22 40 04.7 -0.8
SDV Santo Domingo 41.35 1 P P 22 40 06.2 +0.3
SDV Santo Domingo 41.35 1 IAMs_20 IAMs_20 22 58 25.6
comp=Z,23µm,20.0s
SDV Santo Domingo 41.35 1 eP P 22 40 06.1 +0.3
SDV eS S 22 46 18.8 +0.2
MOTC Monteria, Cord 41.42 354 eP P 22 40 07.2 +1.0
CAPC Capurgana 41.46 351 eP P 22 40 08.6 +2.0
UPD2 Meteti 41.46 350 eP P 22 40 08.0 +1.4
UPD2 eS S 22 46 26.0 +6.1
LCBC Los crdobas, 41.56 353 eP P 22 40 10.2 +2.9
UPA Univ. de Panam 42.13 348 eP P 22 40 12.3 +0.3
UPA eS S 22 46 29.9 +0.2
ORIV Oritupano 42.24 12 eP P 22 40 11.9 -1.1
BCIP Isla Barro Col 42.36 348 eP P 22 40 15.6 +1.7
BCIP eS S 22 46 35.9 +2.7
BCIP Isla Barro Col 42.36 348 P P 22 40 15.1 +1.2
BCIP pmax pmax
comp=Z,1µm,1.9s
BCIP Isla Barro Col 42.36 348 P P 22 40 15.1 +1.2
BCIP IAmb IAmb 22 40 35.4
comp=Z,1µm,1.9s
ARGC Ariguani, Magd 42.38 356 eP P 22 40 15.0 +0.9
BCO2 Palmira 42.48 344 eP P 22 40 16.7 +1.6
SJCC San Jacinto, C 42.48 355 eP P 22 40 15.7 +0.8
BRU2 Volcan 42.59 344 eP P 22 40 16.7 +0.7
RCBR Riachuelo 42.60 59 P P 22 40 15.0 -1.0
RCBR pmax pmax
comp=Z,266nm,1.2s
RCBR MLR MLR
comp=Z,82µm,19.0s
RCBR Riachuelo 42.60 59 P P 22 40 15.0 -1.0
RCBR Riachuelo 42.60 59 eP P 22 40 15.8 -0.3
RCBR eS S 22 46 36.9 -0.1
CHGR2 Aguacate 42.61 344 eP P 22 40 15.1 -0.9
SMRC Santa Marta, M 43.68 356 eP P 22 40 24.8 +0.3
HDC Heredia 44.11 342 eP P 22 40 30.4 +2.2
HDC eS S 22 46 56.7 -2.4
URIC Uribia, Colomb 44.14 359 eP P 22 40 26.1 -2.2
TRN Trinidad (W) 44.16 14 eP P 22 40 27.5 -0.9
JTS Las Juntas de 44.61 341 c iP P 22 40 34.2 +2.1
JTS pmax pmax
comp=Z,33nm,0.9s
JTS MLR MLR
comp=Z,7µm,19.0s
JTS Las Juntas de 44.61 341 P P 22 40 34.0 +2.0
JTS IAmb IAmb 22 40 59.5
comp=Z,501nm,2.0s
HATO Hato, Curacao 44.68 4 IAmb IAmb 22 41 27.7
comp=Z,785nm,1.9s
HATO IAMs_20 IAMs_20 22 59 01.9
comp=Z,22µm,21.0s
TOSP Speyside 44.98 15 eP P 22 40 33.5 -1.5
TOSP Speyside 44.98 15 P P 22 40 35.1 +0.2
GRGR Grenville 45.55 14 eP P 22 40 39.1 -0.4
GRGR Grenville 45.55 14 P P 22 40 38.9 -0.6
GRGR IAMs_20 IAMs_20 23 00 20.5
comp=Z,18µm,22.0s
GRHS Sauteurs 45.65 14 eP P 22 40 40.4 +0.2
GRSS Sisters 45.73 14 eP P 22 40 43.6 +2.7
GCMP Grenada, Carri 45.94 14 eP P 22 40 41.7 -0.9
ESPN Las Esperanzas 46.26 343 P P 22 40 46.0 +0.9
ESPN IAmb IAmb 22 42 23.9
comp=Z,480nm,1.6s
SVB Belmont 46.74 14 eP P 22 40 48.6 -0.3
SVB Belmont 46.74 14 P P 22 40 48.1 -0.8
SVB IAmb IAmb 22 41 15.3
comp=Z,267nm,0.7s
PRVC Isla de Provid 46.75 347 eP P 22 40 51.0 +2.1
SVCV St. Vincent, C 46.77 14 eP P 22 40 49.8 +0.7
SVV Soufriere Volc 46.80 14 eP P 22 40 52.1 +2.8
BOAB BOACO BROADBAN 46.87 341 P P 22 40 50.6 +0.8
BOAB IAmb IAmb 22 41 45.7
comp=Z,207nm,1.1s
SFAN Fancy Village 46.87 14 eP P 22 40 51.5 +1.6
BBGH Gun Hill 46.99 16 eP P 22 40 51.1 +0.3
BBGH Gun Hill 46.99 16 eP P 22 40 52.4 +1.6
BBGH Gun Hill 46.99 16 P P 22 40 51.8 +1.1
MCLT Moule a Chique 47.23 14 eP P 22 40 51.5 -1.2
SLDE Delcer 47.30 14 eP P 22 40 52.4 -0.9
SLB Belfond 47.33 14 eP P 22 40 54.3 +0.8
SLPA Patience 47.38 14 eP P 22 40 54.8 +1.0
SLAC Saint Lucia, A 47.42 14 eP P 22 40 53.5 -0.7
SLBI Saint Lucia, B 47.53 14 eP P 22 40 54.5 -0.5
SLW Petit Monier 47.53 14 eP P 22 40 55.5 +0.4
ESTN Estel 47.68 340 P P 22 40 57.3 +1.0
ESTN IAmb IAmb 22 42 01.5
comp=Z,239nm,1.4s
MPOM Morne Pois Mar 47.96 14 eP P 22 40 57.1 -1.2
BIM Bigot 47.99 14 eP P 22 40 57.0 -1.6
BIM Bigot 47.99 14 eP P 22 40 57.4 -1.2
TRMF Trois Ilets 48.01 14 eP P 22 40 56.5 -2.2
ZAM Aeronautique 48.05 14 eP P 22 40 57.6 -1.4
MVM Montagne Vaucl 48.06 14 eP P 22 40 58.0 -1.1
LPMF Morne Lapointe 48.07 14 eP P 22 40 58.1 -1.1
TRIS Tristan da Cun 48.11 113 IAMs_20 IAMs_20 22 59 10.4
comp=Z,39µm,20.0s
FDF Fort de France 48.19 14 eP P 22 40 57.9 -2.3
FDF Fort de France 48.19 14 eP P 22 40 58.2 -2.0
FDF Fort de France 48.19 14 P 22 40 59.2 -0.9
FDF IAmb IAmb 22 41 55.1
comp=Z,339nm,1.1s
FDF IAMs_20 IAMs_20 23 03 07.3
comp=Z,26µm,22.0s
PML Morne Lenard 48.23 13 eP P 22 40 59.2 -1.2
GBMF Grand Be 48.24 14 eP P 22 40 59.9 -0.7
PCM Pelee Case Pet 48.25 13 eP P 22 40 59.6 -1.0
PCM Pelee Case Pet 48.25 13 eP P 22 40 59.7 -0.9
CXM Morne La Croix 48.26 13 eP P 22 40 59.5 -1.3
BAMF Morne Balai 48.27 14 eP P 22 40 60.0 -0.8
ILAM Ilet Lapin Mar 48.28 14 eP P 22 40 59.1 -1.7
ILAM Ilet Lapin Mar 48.28 14 eP P 22 40 59.6 -1.2
SVN Savane Anatole 48.29 13 eP P 22 40 59.2 -1.7
MDN Morne-Daniel 48.71 13 eP P 22 41 02.1 -2.0
DSLB Salisbury 48.82 13 eP P 22 41 02.1 -2.9
TGUH Tegucigalpa,Un 48.85 340 P P 22 41 05.9 +0.5
TGUH pP 22 41 07.1 -7.7
TGUH IAmb IAmb 22 41 52.3
comp=Z,312nm,1.1s
TDBA Terre de Bas, 49.18 13 eP P 22 41 06.8 -0.9
MAGL Barre de l'ile 49.34 13 eP P 22 41 08.8 -0.2
CBE Ff, Capester 49.40 13 eP P 22 41 07.7 -1.8
CBE Ff, Capester 49.40 13 eP P 22 41 09.0 -0.4
ABD La Joyeuse, An 49.82 13 eP P 22 41 10.0 -2.5
ABD La Joyeuse, An 49.82 13 eP P 22 41 10.4 -2.1
MTO3 Montecristo 49.82 337 P P 22 41 14.0 +1.1
MLYT Lee's Yard 49.93 12 eP P 22 41 11.9 -1.6
VNA3 Neumayer Olymp 50.42 158 P P 22 41 17.1 +0.5
SKI Saint Kitts 50.44 11 eP P 22 41 16.1 -1.2
MLPR Magueyes Islan 50.55 6 IAmb IAmb 22 41 46.8
comp=Z,357nm,1.0s
SEUS St. Eustatius 50.56 11 eP P 22 41 16.9 -1.3
SEUS St. Eustatius 50.56 11 IAMs_20 IAMs_20 23 03 47.3
comp=Z,25µm,22.0s
CDVI St. Croix 50.57 8 eP P 22 41 17.1 -1.1
CDVI St. Croix 50.57 8 IAmb IAmb 22 42 08.6
comp=Z,260nm,0.8s
CRPR Cabo Rojo, PR 50.58 5 IAmb IAmb 22 42 01.8
comp=Z,235nm,0.9s
SABA Saba 50.65 10 eP P 22 41 17.3 -1.6
SABA Saba 50.65 10 P P 22 41 18.6 -0.2
SABA IAMs_20 IAMs_20 23 03 38.6
comp=Z,33µm,22.0s
VNA1 Neumayer--Stat 50.72 157 P P 22 41 19.8 +0.9
RTAL Retalhuleu 50.75 334 IAMs_20 IAMs_20 22 57 47.7
comp=Z,19µm,21.0s
SDD Santo Domingo 50.88 2 P P 22 41 21.2 +0.6
ANWB Willy Bob 50.93 12 eP P 22 41 17.7 -3.3
ANWB Willy Bob 50.93 12 P P 22 41 20.0 -0.9
ANWB IAmb IAmb 22 41 48.7
comp=Z,254nm,1.0s
MTDJ Mount Denham 50.95 353 P P 22 41 21.9 +0.7
AOPR Arecibo Observ 50.95 6 IAmb IAmb 22 41 36.5
comp=Z,661nm,1.7s
CBYP Canovanas 50.96 7 IAmb IAmb 22 41 50.2
comp=Z,437nm,1.4s
GCPR Guaynabo City 50.97 7 IAmb IAmb 22 42 17.9
comp=Z,261nm,1.0s
PCDR Punta Cana, DR 51.00 4 P P 22 41 21.7 +0.3
VNA2 Neumayer--Watz 51.06 158 P P 22 41 21.9 +0.5
SMRT St. Maarten 51.09 10 eP P 22 41 20.2 -2.0
SMRT St. Maarten 51.09 10 IAMs_20 IAMs_20 23 03 51.5
comp=Z,28µm,22.0s
EMPR Esperanza - Ma 51.10 6 P 22 41 22.1 0.0
EMPR IAmb IAmb 22 42 06.7
comp=Z,365nm,1.2s
STVI Saint Thomas 51.14 8 P P 22 41 21.5 -1.0
PTCN Pitcairn Islan 51.28 263 IAMs_20 IAMs_20 22 56 56.2
comp=Z,30µm,22.0s
SDDR Presa de Saban 51.37 0 IAMs_20 IAMs_20 23 03 40.5
comp=Z,17µm,22.0s
HUEH Huehuetenango 51.41 335 IAMs_20 IAMs_20 22 58 40.7
comp=Z,18µm,20.0s
GTBY Guantanamo Bay 52.42 356 IAmb IAmb 22 41 48.0
comp=Z,236nm,0.9s
FSCY Frank Sound, G 52.52 349 P P 22 41 33.4 +0.6
FSCY pP 22 41 33.8 -8.6
CCIG Comitan 52.53 335 IAMs_20 IAMs_20 22 58 35.9
comp=Z,25µm,22.0s
LCCY Blossom Villag 52.69 350 P P 22 41 35.6 +1.5
CBCY The Bluff, Cay 52.72 350 P P 22 41 34.4 +0.2
GRTK Grand Turk 53.89 0 P P 22 41 43.9 +1.1
TEIG Tepich 54.99 341 P P 22 41 51.8 +0.9
TEIG IAmb IAmb 22 42 08.9
comp=Z,228nm,0.7s
RKT Rikitea 56.15 263 eS S 22 49 44.4 -2.2
comp=Z,24µm,33.8s
RKT eLQ LQ 22 56 01.0
comp=Z,17µm,29.5s
RKT eLR LR 22 58 21.9
comp=Z,48µm,25.5s
TLIG Tlapa 56.26 329 P P 22 42 02.7 +2.5
NVL N'lazarevskaya 57.36 157 iP P 22 42 07.5 +0.2
NVL eS S 22 50 01.8 +0.4
NVL eSS SS 22 53 50.0 -0.5
NVL eSSS SSS 22 56 02.6
NVL pmax pmax
comp=Z,303nm,1.2s
NVL MLR MLR
comp=Z,15µm,17.0s
QSPA South Pole Qui 57.55 180 P P 22 42 09.8 +1.0
comp=Z,231nm,0.8s,baz=147,slow=2.8,SNR=292
QSPA South Pole Qui 57.55 180 P P 22 42 09.9 +1.0
H10N3 ASCENSION HYDR 58.17 78 P P 22 42 14.0 +0.6
baz=224,slow=7.6,SNR=3.1
H10N1 ASCENSION HYDR 58.19 78 P P 22 42 15.5 +1.9
baz=224,slow=7.6,SNR=7.7
H10N2 ASCENSION HYDR 58.19 78 P P 22 42 13.9 +0.3
baz=224,slow=7.6,SNR=4.6
ASCN Ascension 58.24 78 IAMs_20 IAMs_20 23 04 59.8
comp=Z,27µm,21.0s
061Z Ochoppi 58.90 350 P P 22 42 18.5 0.0
060A Indiantown 59.98 351 P P 22 42 27.2 +1.3
DWPF Disney Wildern 61.19 350 P P 22 42 34.6 +0.5
baz=170
DWPF S S 22 50 49.9 -1.7
baz=170
DWPF Disney Wildern 61.19 350 P P 22 42 35.1 +1.0
SHEL Horse Pasture 61.35 91 P P 22 42 34.7 -1.0
SHEL pmax pmax
comp=Z,1µm,2.0s
SHEL Horse Pasture 61.35 91 P P 22 42 34.7 -1.0
656A Willston 62.59 349 P 22 42 44.8 +1.3
ZAIG Zacatecas 62.60 328 IAMs_20 IAMs_20 23 04 22.0
comp=Z,27µm,21.0s
H06S1 SOCORRO T 63.52 318 T T 23 52 01.6
SNR=13
H06E1 SOCORRO T-PHAS 63.54 318 T T 23 52 04.4
SNR=24
451A Vernon 64.38 346 P P 22 42 56.8 +1.5
TIGA Tifton 64.79 349 P P 22 42 58.1 +0.1
baz=169,SNR=13
TIGA S S 22 51 35.4 -1.2
baz=169
TIGA Tifton 64.79 349 P P 22 42 59.3 +1.3
TIGA IAmb IAmb 22 43 13.8
comp=Z,229nm,1.1s
KVTX Kingsville 64.93 334 P P 22 43 00.4 +1.4
257A Skidaway Islan 64.93 351 P P 22 43 00.7 +1.8
257A IAMs_20 IAMs_20 23 13 41.1
comp=Z,9µm,21.0s
BBSR BB Station 65.03 6 P P 22 42 59.9 +0.4
BRAL Brewton 65.18 345 P P 22 43 01.3 +0.8
baz=166,SNR=9.7
BRAL S S 22 51 40.2 -1.2
baz=166
VNDA Vanda 65.47 191 P P 22 43 03.7 +1.7
comp=Z,14nm,0.8s,baz=136,slow=5.3,SNR=61
VNDA Vanda 65.47 191 P P 22 43 03.5 +1.5
VNDA pmax pmax
comp=Z,99nm,1.1s
VNDA Vanda 65.47 191 P P 22 43 03.5 +1.5
158A Hollywood 65.58 352 P P 22 43 03.7 +0.6
baz=172
158A S S 22 51 46.3 +0.1
baz=172
157A Early Branch 65.62 351 P P 22 43 04.0 +0.7
baz=171
157A S S 22 51 46.4 -0.3
baz=171
250A Grady 65.80 346 P P 22 43 04.7 +0.1
SACV Santiago Islan 65.91 52 P P 22 43 05.3 -0.4
SACV IAmb IAmb 22 43 07.5
comp=Z,200nm,1.1s
SACV Santiago Islan 65.91 52 IAMs_20 IAMs_20 23 10 53.3
comp=Z,16µm,21.0s
NHSC New Hope 65.94 352 P P 22 43 06.2 +0.8
baz=172
NHSC S S 22 51 50.3 -0.4
baz=172
Z59A Georgetown, SC 65.98 353 P P 22 43 06.4 +0.8
baz=173
Z59A S S 22 51 52.7 +1.6
baz=173
735A Kenedy 66.09 335 P P 22 43 07.9 +1.4
Z58A St. Stephen 66.13 352 P P 22 43 07.3 +0.7
baz=172
Z58A S S 22 51 53.1 +0.2
baz=172
833A Chaparral WMA, 66.19 333 P P 22 43 08.9 +1.8
baz=154,SNR=23
833A S S 22 51 56.3 +2.4
baz=154
Z57A Bowman 66.20 352 P P 22 43 07.3 +0.3
baz=172,SNR=11
Z57A S S 22 51 53.2 -0.6
baz=172
Z56A Williston 66.31 351 P P 22 43 08.2 +0.4
baz=171,SNR=7.0
Z56A S S 22 51 53.9 -1.2
baz=171
Z56A Williston 66.31 351 IAMs_20 IAMs_20 23 14 42.6
comp=Z,9µm,20.0s
344A Westbrook Farm 66.32 342 IAmb IAmb 22 43 28.3
comp=Z,195nm,0.9s
441A DeRidder 66.33 340 P P 22 43 09.7 +1.7
441A IAmb IAmb 22 43 36.7
comp=Z,210nm,1.0s
HKT Hockley 66.41 337 P P 22 43 09.8 +1.4
HKT pmax pmax
comp=Z,748nm,2.0s
HKT MLR MLR
comp=Z,9µm,20.0s
HKT Hockley 66.41 337 P P 22 43 09.8 +1.4
HKT Hockley 66.41 337 IAMs_20 IAMs_20 23 12 40.4
comp=Z,9µm,20.0s
Y60A Bolivia 66.63 354 P P 22 43 10.3 +0.4
baz=174
Y60A S S 22 52 00.5 +1.5
baz=174
Y60A Bolivia 66.63 354 P P 22 43 10.4 +0.6
Y58A Scranton 66.68 353 S S 22 51 58.6 -0.9
baz=172
Y59A Loris 66.68 353 P P 22 43 10.5 +0.4
baz=173
GOGA Godfrey 66.70 349 P P 22 43 10.3 +0.1
baz=169,SNR=20
GOGA S S 22 51 56.3 -3.5
baz=169
GOGA Godfrey 66.70 349 IAmb IAmb 22 43 21.6
comp=Z,226nm,1.4s
Y56A Pelion 66.76 351 P P 22 43 10.9 +0.2
baz=171
Y56A S S 22 51 58.6 -1.9
baz=171
Y57A Sumter 66.87 352 P P 22 43 11.6 +0.3
baz=172
Y57A S S 22 52 00.5 -1.3
baz=172
Y57A Sumter 66.87 352 IAmb IAmb 22 43 24.7
comp=Z,131nm,0.9s
Z51A Franklin 66.89 348 P P 22 43 12.1 +0.6
Z51A IAmb IAmb 22 43 24.2
comp=Z,473nm,1.7s
SYO Syowa Base 66.94 159 iP P 22 43 09.6 -1.8
SYO Syowa Base 66.94 159 iX P 22 43 14.6 +3.2
SYO Syowa Base 66.94 159 isP sP 22 43 21.6 -3.4
LRAL Lakeview Retre 66.97 346 P P 22 43 12.3 +0.3
baz=166,SNR=28
LRAL S S 22 51 59.6 -3.6
baz=166
LRAL Lakeview Retre 66.97 346 IAmb IAmb 22 43 24.7
comp=Z,266nm,1.5s
SLBS Sierra La Lagu 66.97 322 P P 22 43 14.6 +2.2
SLBS IAmb IAmb 22 43 32.8
comp=Z,518nm,1.9s
Y55A Saluda 66.98 351 P P 22 43 12.3 +0.3
baz=170,SNR=16
Y55A S S 22 52 01.0 -2.2
baz=170
VBMS Vicksburg 67.00 343 P P 22 43 13.6 +1.4
baz=163
VBMS S S 22 52 04.2 +0.7
baz=163
X60A Albert Glenn T 67.18 354 P P 22 43 13.9 +0.6
baz=174
X60A S S 22 52 06.4 +0.9

baz=174
X59A McDuffie Farm, 67.23 354 P **P** **22 43 14.1 +0.5**
X59A baz=174 S **S** **22 52 06.1 -0.1**
baz=174
Y52A Lilburn 67.24 349 P **P** **22 43 13.8 +0.1**
Y52A IAmb IAmb 22 43 27.0
comp=Z,292nm,1.3s
Y52A IAMs_20 IAMs_20 23 10 33.3
comp=Z,9µm,21.0s
X57A Johnson Farm, 67.28 352 P **P** **22 43 14.3 +0.4**
baz=172
X57A S **S** **22 52 04.8 -1.9**
baz=172
TAOE Nuku Hiva Isla 67.28 274 P **P** **22 43 15.2 +0.6**
TAOE IAmb IAmb 22 43 34.1
comp=Z,212nm,1.2s
TAOE IAMs_20 IAMs_20 23 04 40.6
comp=Z,25µm,22.0s
X58A Rowland 67.28 353 P **P** **22 43 14.5 +0.5**
baz=173,SNR=15
X58A S **S** **22 52 04.7 -2.1**
baz=173
X58A Rowland 67.28 353 P **P** **22 43 14.2 +0.3**
X58A IAmb IAmb 22 43 27.6
comp=Z,190nm,0.9s
HODGE Hodges 67.32 350 IAMs_20 IAMs_20 23 14 21.4
comp=Z,8µm,20.0s
Z47A Carrollton 67.36 345 P **P** **22 43 15.3 +0.8**
Z47A IAmb IAmb 22 43 32.6
comp=Z,190nm,0.8s
X56A White Oak 67.42 352 P **P** **22 43 15.2 +0.4**
baz=171,SNR=10
X56A S **S** **22 52 05.4 -3.0**
baz=171
X55A Gracelyn & Ava 67.47 351 P **P** **22 43 15.5 +0.3**
baz=171,SNR=15
X55A S **S** **22 52 07.3 -1.8**
baz=171
LPIG La Paz 67.50 322 LR LR 23 06 13.9
comp=Z,4µm,18.8s,baz=136,slow=30
W60A Pink Hill 67.63 355 P **P** **22 43 17.0 +0.9**
baz=174,SNR=9.0
W60A S **S** **22 52 11.7 +0.7**
baz=174
X54A Belton 67.65 350 P **P** **22 43 16.7 +0.4**
baz=170,SNR=23
X54A S **S** **22 52 09.6 -1.7**
baz=170
Y49A Blount Mountai 67.65 347 P **P** **22 43 16.6 +0.3**
143A Socs Landing, 67.68 342 P **P** **22 43 17.9 +1.4**
W61A Ground Anchor 67.70 355 P **P** **22 43 17.8 +1.2**
baz=175
W61A S **S** **22 52 13.7 +1.9**
baz=175
NATX Nacogdoches 67.72 339 P **P** **22 43 18.5 +1.7**
baz=159
NATX S **S** **22 52 13.3 +1.1**
baz=159
W58A Raeford 67.74 353 P **P** **22 43 17.5 +0.7**
baz=173,SNR=21
W58A S **S** **22 52 10.3 -1.9**
baz=173
435B Jarrell 67.77 336 P **P** **22 43 18.5 +1.4**
baz=156
435B S **S** **22 52 13.8 +0.9**
baz=156
435B Jarrell 67.77 336 P **P** **22 43 18.7 +1.6**
435B IAmb IAmb 22 43 38.4
comp=Z,222nm,1.2s
W59A Clinton 67.81 354 P **P** **22 43 18.0 +0.8**
baz=174
W59A S **S** **22 52 12.0 -1.1**
baz=174
CNNC Cliffs of the 67.83 354 P **P** **22 43 18.3 +0.9**
baz=174,SNR=5.3
PAULI Pauline 67.84 351 IAmb IAmb 22 43 31.1
comp=Z,224nm,1.1s
W57A Gilead 67.95 353 P **P** **22 43 18.4 +0.3**
baz=172,SNR=15
W57A S **S** **22 52 12.7 -2.1**
baz=172
W57A Gilead 67.95 353 P **P** **22 43 18.3 +0.1**
W57A IAmb IAmb 22 43 31.5
comp=Z,163nm,1.0s
W56A Indian Trail 68.00 352 P **P** **22 43 18.4 -0.1**
baz=172,SNR=13
W56A S **S** **22 52 12.8 -2.6**
baz=172
V62A Hyde County Ai 68.02 356 P **P** **22 43 19.3 +0.8**
baz=176
V62A Hyde County Ai 68.02 356 P **P** **22 43 19.0 +0.4**
TBI Tubuai 68.04 256 *e*S **S** **22 52 14.3 -2.3**
comp=Z,16µm,27.5s
TBI Tubuai 68.04 256 *e*LR LR 23 03 53.0
comp=Z,104µm,26.0s,baz=111
TBI Tubuai 68.04 256 *e*T T 23 57 16.5
comp=Z,109nm,0.2s
X51A Calhoun 68.06 348 IAmb IAmb 22 43 32.5
comp=Z,257nm,1.0s
KMSC Kings Mountain 68.09 351 P **P** **22 43 19.4 +0.3**
baz=171,SNR=24
KMSC S **S** **22 52 14.2 -2.4**
baz=171
KMSC Kings Mountain 68.09 351 P **P** **22 43 19.8 +0.7**
W54A Cherokee Point 68.15 351 P **P** **22 43 20.0 +0.6**
baz=170,SNR=28
W54A S **S** **22 52 15.2 -2.1**
baz=170
BG3 Lake Jocassee 68.17 350 IAmb IAmb 22 43 32.5
comp=Z,347nm,1.5s
V61A Roper 68.28 356 P **P** **22 43 21.2 +1.0**
baz=175
V61A S **S** **22 52 19.5 +0.8**
baz=175
V61A Roper 68.28 356 P **P** **22 43 20.5 +0.3**
JCT Junction City 68.28 334 P **P** **22 43 21.8 +1.3**
baz=155,SNR=28
JCT S **S** **22 52 20.9 +1.7**
baz=155
237A Washetta, Mont 68.30 338 P **P** **22 43 21.7 +1.3**
237A IAmb IAmb 22 43 38.9
comp=Z,305nm,1.0s
V60A Jim Taylor Roa 68.30 355 P **P** **22 43 21.3 +0.9**
baz=175,SNR=11
V60A S **S** **22 52 20.2 +1.2**
baz=175
V60A Jim Taylor Roa 68.30 355 P **P** **22 43 21.2 +0.9**
Y45A Yeager Farm, C 68.33 344 P **P** **22 43 22.0 +1.4**
X48A Hartselle 68.35 346 IAmb IAmb 22 43 38.5
comp=Z,216nm,0.8s
V59A Middlesex 68.38 354 P **P** **22 43 21.7 +0.9**
baz=174,SNR=29
V59A S **S** **22 52 18.2 -1.7**
baz=174
V58A Windy Hill, Pi 68.49 353 P **P** **22 43 21.8 +0.3**
baz=173,SNR=17
V58A S **S** **22 52 20.4 -0.9**
baz=173
V58A Windy Hill, Pi 68.49 353 **P** **22 43 21.8 +0.3**
Z41A Richland Creek 68.58 341 P **P** **22 43 23.6 +1.4**
baz=161,SNR=8.9
Z41A S **S** **22 52 24.3 +1.8**
baz=161
Z41A Richland Creek 68.58 341 P **P** **22 43 23.8 +1.6**
Z41A IAmb IAmb 22 43 40.4
comp=Z,232nm,1.0s
V57A Coltrane Farms 68.65 353 P **P** **22 43 22.6 +0.1**
baz=172,SNR=12
V57A S **S** **22 52 21.6 -1.6**
baz=172
V56A Mocksville 68.65 352 P **P** **22 43 23.1 +0.5**
baz=172,SNR=26
V56A S **S** **22 52 21.6 -1.6**
baz=172
W50A Signal Mountai 68.75 348 P **P** **22 43 24.0 +0.7**
W50A IAmb IAmb 22 43 41.0
comp=Z,187nm,0.7s
V55A Taylorsville 68.78 352 P **P** **22 43 23.7 +0.4**
baz=171,SNR=24
V55A S **S** **22 52 23.2 -1.5**
baz=171
V55A Taylorsville 68.78 352 P **P** **22 43 23.5 +0.1**
V55A IAmb IAmb 22 43 37.0
comp=Z,240nm,1.1s
TXAR Lajitas Array 68.80 330 P **P** **22 43 25.0 +1.3**
comp=Z,13nm,0.6s,baz=152,slow=8.4,SNR=185
TXAR LR LR 23 09 11.2
comp=Z,21µm,19.4s,baz=0.0,slow=32
TXAR PKP2bc 23 11 37.5
comp=Z,1.5nm,0.9s,baz=270,slow=1.3,SNR=8.0
TX31 Lajitas Ar. Si 68.80 330 IAmb IAmb 22 43 36.4
comp=Z,264nm,1.1s
V54A Nebo 68.80 351 P **P** **22 43 23.8 +0.3**
baz=171,SNR=34
V54A S **S** **22 52 22.5 -2.5**
baz=171
U61A Possum Corner 68.81 356 P **P** **22 43 24.7 +1.2**
baz=176,SNR=11
U61A S **S** **22 52 26.5 +1.6**
baz=176
V53A Saluda 68.81 350 IAmb IAmb 22 43 36.3
comp=Z,431nm,1.4s
V53A IAMs_20 IAMs_20 23 15 06.9
comp=Z,9µm,22.0s
WHTX Lake Whitney, 68.83 337 P **P** **22 43 24.9 +1.2**
baz=157,SNR=14
WHTX S **S** **22 52 24.6 -0.8**
baz=157
WHTX Lake Whitney, 68.83 337 IAmb IAmb 22 43 37.9
comp=Z,156nm,0.9s
CPCT Cooper Cave 68.86 349 IAmb IAmb 22 43 36.6
comp=Z,361nm,1.3s
SWET Sewanee 68.88 347 IAmb IAmb 22 43 41.6
comp=Z,210nm,0.7s
OXF Oxford 68.92 344 P **P** **22 43 24.5 +0.2**
baz=164
OXF S **S** **22 52 24.0 -2.3**
baz=164
U59A Littleton 68.93 355 P **P** **22 43 25.2 +0.9**
baz=174,SNR=22
U59A S **S** **22 52 25.3 -1.1**
baz=174
TKL Tuckaleechee C 68.95 349 P **P** **22 43 24.4 0.0**
comp=Z,48nm,0.6s,baz=167,slow=7.4,SNR=98
TKL PKP2bc 23 11 35.4
comp=Z,3.3nm,1.1s,baz=355,slow=5.5,SNR=5.0
U60A Pendleton 69.00 355 P **P** **22 43 25.6 +0.9**
baz=175,SNR=16
U60A S **S** **22 52 27.2 0.0**
baz=175
U58A Oxford 69.03 354 P **P** **22 43 25.6 +0.7**
baz=174,SNR=12
U58A S **S** **22 52 27.5 -0.2**
baz=174
WLAR White Oak Lake 69.07 341 P **P** **22 43 26.2 +1.0**
V52A Sevierville 69.10 350 IAMs_20 IAMs_20 23 11 53.5
comp=Z,14µm,22.0s
U57A Blanch 69.14 353 P **P** **22 43 25.9 +0.4**
baz=173,SNR=17
U57A S **S** **22 52 28.0 -1.0**
baz=173
U56A King 69.17 352 P **P** **22 43 26.4 +0.6**
baz=172,SNR=14
U56A S **S** **22 52 27.7 -1.6**
baz=172
U56A King 69.17 352 IAmb IAmb 22 43 38.9
comp=Z,381nm,1.4s
V51A Loudon 69.18 349 IAmb IAmb 22 43 38.4
comp=Z,221nm,1.2s
Z38A Mt. Pleasant 69.21 339 P **P** **22 43 27.7 +1.6**
X43A Marvell 69.28 343 P **P** **22 43 27.7 +1.2**
baz=163,SNR=8.2
X43A S **S** **22 52 31.3 +0.8**
baz=163
U55A TA2, Sparta 69.40 352 P **P** **22 43 27.6 +0.3**
baz=171,SNR=15
U55A S **S** **22 52 30.0 -2.2**
baz=171
MEH Mehetia 69.44 262 *e*P **P** **22 43 29.9 +1.9**
comp=Z,42nm,1.2s
MEH Mehetia 69.44 262 *e*T T 23 59 04.2
comp=Z,100nm,0.2s
U54A Nelsons Funny 69.52 351 P **P** **22 43 28.1 +0.1**
baz=171,SNR=24
U54A S **S** **22 52 31.3 -2.2**
baz=171
U54A Nelsons Funny 69.52 351 IAmb IAmb 22 43 41.3
comp=Z,298nm,1.2s
T59A Double "B" Far 69.52 355 P **P** **22 43 28.9 +1.0**
baz=174,SNR=34
T59A S **S** **22 52 34.6 +1.2**
baz=174
T58A Grand View Acr 69.58 354 P **P** **22 43 29.0 +0.7**
baz=174,SNR=31
T58A S **S** **22 52 34.4 +0.3**
baz=174
MET Memphis--Engin 69.62 344 P **P** **22 43 30.5 +1.9**
T60A Surry 69.63 356 P **P** **22 43 29.8 +1.2**
baz=175,SNR=5.1
T60A S **S** **22 52 36.8 +2.2**
baz=175
T60A Surry 69.63 356 P **P** **22 43 29.8 +1.2**
T57A Hurt 69.70 353 P **P** **22 43 29.5 +0.5**
baz=173,SNR=14
T57A S **S** **22 52 33.2 -2.3**
baz=173
T57A Hurt 69.70 353 IAmb IAmb 22 43 42.0
comp=Z,335nm,1.4s
X40A Basin Creek Fa 69.75 341 P **P** **22 43 29.8 +0.4**
baz=161,SNR=17
X40A S **S** **22 52 36.0 -0.2**
baz=161
X40A Basin Creek Fa 69.75 341 IAmb IAmb 22 43 42.3
comp=Z,248nm,1.6s
TZTN Tazewell 69.78 350 P **P** **22 43 29.5 0.0**
baz=169,SNR=14
TZTN S **S** **22 52 32.5 -4.0**
baz=169
TZTN Tazewell 69.78 350 IAMs_20 IAMs_20 23 15 39.5
comp=Z,8µm,22.0s
CLTN Cedars of Leba 69.81 347 IAmb IAmb 22 43 43.3
comp=Z,143nm,0.9s
T56A Rocky Mt 69.81 353 P **P** **22 43 30.4 +0.7**
baz=172,SNR=23
T56A S **S** **22 52 35.6 -1.2**
baz=172
T55A Pulaski 69.98 352 P **P** **22 43 31.4 +0.6**
baz=172,SNR=15
T55A S **S** **22 52 37.3 -1.5**
baz=172
MIAR Mount Ida 70.01 341 P **P** **22 43 31.7 +0.7**
baz=160,SNR=51
MIAR S **S** **22 52 38.2 -1.0**
baz=160
T54A Tazewell 70.02 351 P **P** **22 43 31.0 -0.1**
baz=171,SNR=36
T54A S **S** **22 52 36.9 -2.5**
baz=171
BLA Blacksburg 70.03 352 P **P** **22 43 31.6 +0.4**
baz=172,SNR=7.9
BLA S **S** **22 52 37.7 -1.8**
baz=172
BLA Blacksburg 70.03 352 IAmb IAmb 22 43 44.1
comp=Z,512nm,1.6s
T53A Wise 70.06 351 P **P** **22 43 31.2 -0.2**
baz=170,SNR=18
T53A S **S** **22 52 37.2 -2.7**
baz=170
MBO M'Bour 70.08 57 P **P** **22 43 31.8 0.0**
S61A Accomac 70.11 357 P **P** **22 43 33.5 +2.0**
baz=176
U49A Red Boiling Sp 70.11 348 IAmb IAmb 22 43 44.3
comp=Z,486nm,1.6s
WVT Waverly 70.13 346 P **P** **22 43 32.1 +0.3**
baz=165
WVT S **S** **22 52 37.5 -3.2**
baz=165
WVT Waverly 70.13 346 P **P** **22 43 32.0 +0.3**
WVT pmax pmax
comp=Z,487nm,1.0s
WVT MLR MLR
comp=Z,2µm,19.0s
WVT Waverly 70.13 346 P **P** **22 43 32.0 +0.3**
ABTX Abilene, Hawle 70.16 335 P **P** **22 43 33.1 +1.1**
baz=155,SNR=22
ABTX S **S** **22 52 41.6 +0.4**
baz=155
ABTX Abilene, Hawle 70.16 335 IAmb IAmb 22 44 07.3
comp=Z,233nm,1.1s
S60A Water View 70.19 356 P **P** **22 43 33.4 +1.4**
baz=175
S60A S **S** **22 52 43.6 +2.4**
baz=175
S58A Poland Farm, P 70.20 355 P **P** **22 43 33.0 +1.0**
baz=174,SNR=23
S58A S **S** **22 52 42.6 +1.3**
baz=174
W41B Gary Mavity, V 70.24 342 P **P** **22 43 33.0 +0.7**
baz=162,SNR=34
W41B S **S** **22 52 41.2 -0.7**
baz=162
HALT Halls 70.25 345 P **P** **22 43 33.9 +1.5**
S59A Mechanicsville 70.29 355 P **P** **22 43 33.8 +1.2**
baz=175,SNR=19
S59A S **S** **22 52 44.0 +1.7**
baz=175
VAH Vaihoa 70.36 264 *e*P **P** **22 43 35.4 +1.8**
comp=Z,117nm,1.1s
S56A Natural Bridge 70.40 353 P **P** **22 43 33.8 +0.5**
baz=173
S57A Dark Hollow, R 70.42 354 P **P** **22 43 34.2 +0.7**
baz=173,SNR=20
S57A S **S** **22 52 44.3 +0.3**
baz=173
S57A Dark Hollow, R 70.42 354 IAmb IAmb 22 43 47.4
comp=Z,367nm,1.3s
T50A Nancy 70.45 349 IAmb IAmb 22 43 46.1
comp=Z,458nm,1.8s
TVO Taravao 70.48 261 *e*P **P** **22 43 36.3 +1.9**
comp=Z,43nm,1.0s
TVO Taravao 70.48 261 *e*T T 00 00 20.4
comp=Z,6.8nm,0.2s
R58B Mineral 70.53 355 P **P** **22 43 35.2 +1.1**
baz=174,SNR=48
R58B S **S** **22 52 47.0 +1.8**
baz=174
X37A Clayton 70.57 339 IAmb IAmb 22 43 47.5
comp=Z,406nm,1.8s
S55A Lewisburg 70.59 352 P **P** **22 43 35.0 +0.5**
baz=172,SNR=25
S55A S **S** **22 52 44.7 -1.3**
baz=172
TIAR Tiarei 70.66 261 *e*P **P** **22 43 37.4 +1.9**
comp=Z,31nm,1.0s
TIAR Tiarei 70.66 261 *e*T T 00 00 36.5
comp=Z,14nm,0.2s
W39A Magazine 70.68 341 P **P** **22 43 36.2 +1.2**
baz=160,SNR=134
W39A S **S** **22 52 48.1 +1.1**
baz=160
S53A Williamson 70.70 351 P **P** **22 43 35.1 -0.1**
baz=170,SNR=5.8
S53A S **S** **22 52 43.8 -3.4**
baz=170
PMOR Pomariorio Ree 70.70 264 *e*P **P** **22 43 37.5 +1.8**
comp=Z,83nm,1.1s
S54A Dingess, Beckl 70.71 352 P **P** **22 43 35.3 0.0**
baz=171,SNR=15
S54A S **S** **22 52 44.4 -3.0**
baz=171
S54A Dingess, Beckl 70.71 352 IAmb IAmb 22 43 47.8
comp=Z,450nm,1.5s
R59A King George, V 70.71 355 P **P** **22 43 36.5 +1.3**
baz=175
R59A S **S** **22 52 50.0 +2.7**
baz=175
CBN Corbin Frederi 70.74 355 P **P** **22 43 36.4 +1.0**
baz=175,SNR=7.6
CBN S **S** **22 52 48.5 +1.0**
baz=175
R61A Willards 70.74 357 P **P** **22 43 37.3 +1.9**
baz=176
R61A Willards 70.74 357 P **P** **22 43 36.4 +1.0**
R60A Leonardtown, M 70.75 356 P **P** **22 43 36.8 +1.5**
baz=175
R60A S **S** **22 52 51.0 +3.4**
baz=175
PAE Paea 70.81 261 *e*P **P** **22 43 38.3 +1.9**
comp=Z,33nm,0.9s
PAE Paea 70.81 261 *e*T T 00 00 34.5
comp=Z,2.6nm,0.3s
LCAR Lake Charles 70.82 343 IAmb IAmb 22 43 49.2
comp=Z,186nm,0.8s
PENMO Penman 70.83 345 P **P** **22 43 37.9 +2.0**
PPTF Pamatai, Papee 70.83 261 IAmb IAmb 22 44 08.0
comp=Z,310nm,1.1s
PPTF IAMs_20 IAMs_20 23 06 36.1
comp=Z,12µm,20.0s
PPT2 Papeete2 70.84 261 *e*P **P** **22 43 38.6 +1.9**
comp=Z,280nm,1.2s
PPT2 *e*S **S** **22 52 48.2 -1.8**
comp=Z,19µm,29.5s
PPT2 Papeete2 70.84 261 *e*LR LR 23 05 10.7
comp=Z,49µm,26.8s,baz=112
PPT2 Papeete2 70.84 261 *e*T T 00 00 48.3
comp=Z,3.8nm,0.2s
PPT Papeete 70.85 261 P **P** **22 43 38.8 +2.2**
comp=Z,82nm,0.9s,baz=69,slow=1.4,SNR=10
PPT LR LR 23 07 05.0
comp=Z,11µm,18.2s,baz=138,slow=29
S51A Beattyville 70.86 350 IAmb IAmb 22 43 48.7
comp=Z,297nm,1.2s
S51A IAMs_20 IAMs_20 23 12 04.1
comp=Z,9µm,22.0s
R58A Rapidan 70.88 355 P **P** **22 43 37.2 +1.0**
baz=174,SNR=19
R58A S **S** **22 52 50.8 +1.6**
baz=174
FCAR Ozark Folk Cen 70.89 342 IAmb IAmb 22 43 49.1
comp=Z,278nm,1.5s
R57A Stanardsville 70.92 354 P **P** **22 43 37.4 +1.0**
baz=174,SNR=44
R57A S **S** **22 52 50.7 +1.0**
baz=174
R54A Victor 71.05 352 P **P** **22 43 37.4 +0.1**
baz=172,SNR=20
R54A S **S** **22 52 49.8 -1.6**
baz=172
R55A Marlinton 71.06 353 P **P** **22 43 38.3 +0.9**
baz=172,SNR=30
R55A S **S** **22 52 50.9 -0.5**
baz=172
R56A Bull Pasture M 71.11 353 P **P** **22 43 38.8 +1.1**
baz=173,SNR=16
R56A S **S** **22 52 52.7 +0.6**
baz=173
SRIG Santa Rosalia 71.13 322 IAMs_20 IAMs_20 23 07 40.0
comp=Z,8µm,22.0s
R53A Hurricane 71.31 351 P **P** **22 43 39.0 +0.1**
baz=171,SNR=12
R53A S **S** **22 52 52.0 -2.3**
baz=171
R53A Hurricane 71.31 351 IAmb IAmb 22 43 51.4
comp=Z,420nm,1.6s
Q59A Harwood 71.34 356 P **P** **22 43 40.3 +1.3**
baz=175
Q59A S **S** **22 52 56.0 +1.4**
baz=175
Q60A Greensboro 71.44 356 P **P** **22 43 40.9 +1.4**
baz=176
Q60A S **S** **22 52 58.6 +3.0**
baz=176
Q60A Greensboro 71.44 356 IAMs_20 IAMs_20 23 14 46.0
comp=Z,9µm,22.0s
CLNB Carlsbad 71.45 331 P **P** **22 43 41.1 +1.2**
Q58A Fox Den Farm, 71.49 355 P **P** **22 43 40.8 +0.9**
baz=174,SNR=18
Q58A S **S** **22 52 57.7 +1.5**
baz=174
U40A Yellville 71.52 342 P **P** **22 43 40.6 +0.5**
baz=161,SNR=68
U40A S **S** **22 52 55.8 -0.9**
baz=161
U40A Yellville 71.52 342 IAmb IAmb 22 43 57.4
comp=Z,198nm,0.9s
MNTX Cornudas Mount 71.58 330 P **P** **22 43 40.9 +0.2**
baz=150,SNR=93
MNTX S **S** **22 52 57.4 -0.3**
baz=150
R50A Paris 71.60 349 IAmb IAmb 22 43 53.0
comp=Z,263nm,1.4s
R50A IAMs_20 IAMs_20 23 14 36.8
comp=Z,10µm,22.0s
Q57A Strasburg 71.64 354 P **P** **22 43 42.2 +1.3**
baz=174,SNR=42
Q57A S **S** **22 52 59.6 +1.6**
baz=174
Q56A Snyder Ridge, 71.72 354 P **P** **22 43 42.5 +1.2**
baz=173,SNR=16
Q56A S **S** **22 52 59.8 +0.8**
baz=173
Q56A Snyder Ridge, 71.72 354 IAmb IAmb 22 43 55.0

comp=Z,411nm,1.4s
T42A Van Buren 71.72 344 IAmb IAmb 22 43 53.9
comp=Z,578nm,1.9s
R49A Shelbyville 71.75 349 IAmb IAmb 22 43 53.8
comp=Z,369nm,1.4s
R49A IAMs_20 IAMs_20 23 13 14.6
comp=Z,9µm,22.0s
Q55A Buckhannon 71.76 353 P **P** **22 43 42.3 +0.8**
baz=172,SNR=25
Q55A S **S** **22 52 58.2 -1.3**
baz=172
Q53A Leroy 71.78 352 P **P** **22 43 41.7 0.0**
baz=171,SNR=15
Q53A S **S** **22 52 57.5 -2.2**
baz=171
WMOK Wichita Mounta 71.78 337 P **P** **22 43 42.1 +0.3**
baz=156,SNR=19
WMOK S **S** **22 52 58.5 -1.5**
baz=156
Q54A Coxs Mills 71.83 352 P **P** **22 43 41.7 -0.2**
baz=172,SNR=16
Q54A S **S** **22 52 56.9 -3.3**
baz=172
Q54A Coxs Mills 71.83 352 IAmb IAmb 22 43 54.3
comp=Z,423nm,1.9s
HSIG 71.86 324 IAMs_20 IAMs_20 23 11 58.4
comp=Z,10µm,20.0s
USIN University of 71.88 347 IAmb IAmb 22 43 55.1
comp=Z,322nm,1.0s
WCI Wyandotte Cave 71.88 348 P **P** **22 43 41.9 -0.4**
baz=167
WCI S **S** **22 52 56.8 -3.9**
baz=167
WCI Wyandotte Cave 71.88 348 P **P** **22 43 42.0 -0.3**
WCI pmax pmax
comp=Z,240nm,1.3s
WCI Wyandotte Cave 71.88 348 P **P** **22 43 42.0 -0.3**
WCI IAmb IAmb 22 43 54.4
comp=Z,240nm,1.2s
SDMD Soldier's Deli 71.90 356 P **P** **22 43 42.6 +0.3**
TUL1 Leonard 71.92 339 P **P** **22 43 43.0 +0.5**
baz=159,SNR=31
TUL1 S **S** **22 53 00.8 -0.6**
baz=159
S44A Carbondale 71.94 345 IAmb IAmb 22 43 55.4
comp=Z,294nm,1.3s
OKCFA Oklahoma City 71.97 338 IAmb IAmb 22 44 03.9
comp=Z,298nm,1.3s
Q52A Bidwell 71.98 351 P **P** **22 43 42.9 +0.1**
baz=170,SNR=37
Q52A S **S** **22 52 59.6 -2.3**
baz=170
P58A Pank, Wackersv 72.01 355 P **P** **22 43 44.1 +1.1**
baz=175,SNR=25
P58A S **S** **22 53 04.5 +2.3**
baz=175
U38A Gravette 72.01 341 IAmb IAmb 22 43 56.0
comp=Z,557nm,2.0s
P57A Homestead Farm 72.06 355 P **P** **22 43 44.6 +1.3**
baz=174,SNR=32
P57A S **S** **22 53 04.8 +2.1**
baz=174
P61A Hammonton 72.06 357 P **P** **22 43 44.3 +1.0**
baz=177
P61A Hammonton 72.06 357 P **P** **22 43 44.5 +1.2**
P61A IAmb IAmb 22 43 57.6
comp=Z,420nm,1.2s
P61A IAMs_20 IAMs_20 23 17 13.4
comp=Z,8µm,22.0s
P59A Jarrettsville 72.07 356 P **P** **22 43 44.7 +1.4**
baz=176,SNR=33
P59A S **S** **22 53 05.5 +2.6**
baz=176
OK025 Westminster Rd 72.09 338 IAmb IAmb 22 44 04.3
comp=Z,244nm,0.9s
P56A Dayton Farm, R 72.14 354 P **P** **22 43 45.0 +1.1**
baz=174,SNR=31
P56A S **S** **22 53 05.2 +1.4**
baz=174
Q51A Peebles 72.19 350 IAmb IAmb 22 43 57.4
comp=Z,305nm,1.2s
P60A Greenville 72.23 357 P **P** **22 43 45.3 +1.0**
baz=176,SNR=14
P60A S **S** **22 53 05.9 +1.1**
baz=176
P60A Greenville 72.23 357 IAmb IAmb 22 43 58.6
comp=Z,272nm,1.2s
P55A Reedsville 72.24 353 P **P** **22 43 44.9 +0.5**
baz=173,SNR=17
P55A S **S** **22 53 04.5 -0.5**
baz=173
BCOK Bluff Creek, N 72.24 338 IAMs_20 IAMs_20 23 14 02.4
comp=Z,12µm,20.0s
OK029 Liberty Lake 72.32 338 IAmb IAmb 22 44 06.0
comp=Z,444nm,1.4s
PSUB Penn St. - Bra 72.34 357 IAmb IAmb 22 43 59.5
comp=Z,479nm,1.6s
P53A Whipple 72.39 352 P **P** **22 43 45.5 +0.2**
baz=171,SNR=15
P53A S **S** **22 53 03.7 -2.9**
baz=171
MCWV Mont Chateau 72.39 353 P **P** **22 43 45.7 +0.4**
baz=173
MCWV S **S** **22 53 05.8 -0.8**
baz=173
P54A Burton 72.40 353 P **P** **22 43 45.7 +0.3**
baz=172,SNR=42
P54A S **S** **22 53 04.7 -2.1**
baz=172
O61A Allentown 72.47 358 P **P** **22 43 46.9 +1.2**
baz=177,SNR=11
O61A S **S** **22 53 09.9 +2.5**
baz=177
MSTX Muleshoe 72.52 333 P **P** **22 43 47.1 +0.8**
baz=153,SNR=45
MSTX S **S** **22 53 08.6 0.0**
baz=153
MSTX Muleshoe 72.52 333 IAmb IAmb 22 44 15.5
comp=Z,180nm,0.9s
MSTX IAMs_20 IAMs_20 23 12 02.5
comp=Z,7µm,21.0s
P51A Williamsport 72.59 351 P **P** **22 43 46.4 -0.1**
baz=170,SNR=10
P51A S **S** **22 53 06.3 -2.6**
baz=170
O58A Lewisberry 72.61 356 P **P** **22 43 47.8 +1.2**
baz=175,SNR=16
O58A S **S** **22 53 11.2 +2.0**
baz=175
P52A Corning 72.62 351 P **P** **22 43 46.7 0.0**
baz=171,SNR=26
P52A S **S** **22 53 06.3 -2.9**
baz=171
OLIL Olney 72.70 347 IAmb IAmb 22 44 00.2
comp=Z,402nm,1.4s
PAGS Pennsylvania G 72.71 356 IAmb IAmb 22 44 01.3
comp=Z,212nm,1.1s
PAGS IAMs_20 IAMs_20 23 15 48.6
comp=Z,8µm,22.0s
O60A Telford 72.72 357 P **P** **22 43 48.4 +1.2**
baz=176,SNR=16
O60A S **S** **22 53 12.7 +2.3**
baz=176
CCM Cathedral Cave 72.73 344 P **P** **22 43 47.9 +0.6**
baz=163
CCM S **S** **22 53 09.8 -0.8**
baz=163
CCM Cathedral Cave 72.73 344 P **P** **22 43 47.9 +0.6**
CCM pmax pmax
comp=Z,345nm,1.0s
CCM Cathedral Cave 72.73 344 P **P** **22 43 47.9 +0.6**
CCM IAmb IAmb 22 44 01.1
comp=Z,345nm,1.0s
O57A Amberson 72.75 355 P **P** **22 43 48.5 +1.0**
baz=175,SNR=19
O57A S **S** **22 53 12.2 +1.5**
baz=175
O59A Robesonia 72.76 356 P **P** **22 43 48.7 +1.2**
baz=176,SNR=22
O59A S **S** **22 53 13.7 +2.9**
baz=176
BLO Bloomington 72.83 348 IAmb IAmb 22 44 00.1
comp=Z,409nm,1.4s
O56A Blue Knob Stat 72.88 354 P **P** **22 43 49.0 +0.8**
baz=174,SNR=21
O56A S **S** **22 53 12.5 +0.2**
baz=174
O56A Blue Knob Stat 72.88 354 IAmb IAmb 22 44 01.7
comp=Z,444nm,1.4s
O55A Ligonier 72.88 354 P **P** **22 43 48.7 +0.5**
baz=173,SNR=19
O55A S **S** **22 53 11.7 -0.5**
baz=173
P49A Miami Univ. Ec 72.89 349 P **P** **22 43 48.0 -0.3**
baz=168,SNR=20
P49A S **S** **22 53 08.3 -4.0**
baz=168
P49A Miami Univ. Ec 72.89 349 IAmb IAmb 22 44 00.5
comp=Z,504nm,1.5s
P49A IAMs_20 IAMs_20 23 13 59.8
comp=Z,10µm,22.0s
AMTX Amarillo 72.93 334 P **P** **22 43 49.8 +1.0**
baz=154
AMTX S **S** **22 53 12.8 -0.4**
baz=154
AMTX Amarillo 72.93 334 IAmb IAmb 22 44 03.0
comp=Z,507nm,1.6s
P48A Milroy 72.93 349 IAMs_20 IAMs_20 23 13 50.9
comp=Z,8µm,21.0s
O54A Avella 72.96 353 P **P** **22 43 48.6 -0.1**
baz=172
O54A S **S** **22 53 10.8 -2.3**
baz=172
LUPA Lehigh Univers 73.00 357 IAmb IAmb 22 44 02.7
comp=Z,221nm,1.2s
319A Douglas 73.02 327 P **P** **22 43 51.1 +1.7**
319A IAMs_20 IAMs_20 23 10 47.2
comp=Z,15µm,22.0s
Q44A Meyer Farm, Va 73.05 346 IAmb IAmb 22 44 01.4
comp=Z,352nm,1.5s
BRNJ Basking Ridge 73.06 358 IAmb IAmb 22 44 03.7
comp=Z,341nm,1.3s
BRNJ IAMs_20 IAMs_20 23 17 40.8
comp=Z,8µm,21.0s
SLM Saint Louis 73.06 345 IAmb IAmb 22 44 02.8
comp=Z,286nm,1.0s
O52A Adamsville 73.06 352 P **P** **22 43 49.2 -0.1**
baz=171,SNR=13
O52A S **S** **22 53 10.9 -3.3**
baz=171
O52A Adamsville 73.06 352 IAmb IAmb 22 44 01.8
comp=Z,606nm,1.6s
N61A South Mountain 73.11 358 P **P** **22 43 50.7 +1.1**
baz=178,SNR=9.5
N61A S **SKiKP** **22 53 17.7 -1.8**
baz=178
O53A New Philadelph 73.12 352 P **P** **22 43 49.7 +0.1**
baz=171,SNR=19
O53A S **S** **22 53 12.2 -2.7**
baz=171
CROK Carrier 73.14 338 IAmb IAmb 22 44 10.3
comp=Z,383nm,1.0s
CPNY Central Park 73.14 358 IAmb IAmb 22 44 03.1
comp=Z,267nm,1.5s
O51A Pataskala 73.19 351 P **P** **22 43 50.0 -0.1**
baz=170,SNR=21
O51A S **S** **22 53 12.0 -3.7**
baz=170
SSPA Standing Stone 73.19 355 P **P** **22 43 50.6 +0.6**
baz=174
SSPA S **S** **22 53 15.5 -0.2**
baz=174
SSPA Standing Stone 73.19 355 P **P** **22 43 50.7 +0.6**
SSPA IAmb IAmb 22 44 04.2
comp=Z,659nm,1.8s
R40A Maddies Statio 73.20 343 IAmb IAmb 22 44 03.7
comp=Z,288nm,0.8s
N60A Cedar Hill Far 73.26 357 P **P** **22 43 51.5 +1.1**
baz=177,SNR=19
N60A S **SKiKP** **22 53 19.2 -0.5**
baz=177
N62A Caumsett State 73.27 358 P **P** **22 43 51.2 +0.8**
baz=178
N62A S **SKiKP** **22 53 18.7 -1.0**
baz=178
N57A Milroy 73.28 355 P **P** **22 43 51.0 +0.4**
baz=175,SNR=25
N57A S **S** **22 53 16.8 +0.1**
baz=175
N58A Sunbury 73.31 356 P **P** **22 43 51.5 +0.8**
baz=175,SNR=13
N58A S **S** **22 53 18.1 +1.1**
baz=175
N58A Sunbury 73.31 356 IAmb IAmb 22 44 05.1
comp=Z,238nm,1.1s
N58A IAMs_20 IAMs_20 23 15 42.8
comp=Z,9µm,22.0s
ACSO Alum Creek Sta 73.32 351 P **P** **22 43 50.8 +0.1**
baz=170,SNR=34
ACSO S **S** **22 53 13.3 -3.9**
baz=170
ACSO Alum Creek Sta 73.32 351 IAmb IAmb 22 44 03.4
comp=Z,434nm,1.2s
121A Cookes Peak, D 73.33 329 P **P** **22 43 53.4 +2.1**
baz=149,SNR=96
121A S **SKiKP** **22 53 20.6 +0.3**
baz=149
121A Cookes Peak, D 73.33 329 IAmb IAmb 22 44 22.0
comp=Z,231nm,1.1s
N59A State Game Lan 73.34 357 P **P** **22 43 52.2 +1.3**
baz=176,SNR=16
N59A S **SKiKP** **22 53 19.4 -0.4**
baz=176
N59A State Game Lan 73.34 357 IAmb IAmb 22 44 05.6
comp=Z,350nm,1.2s
U32A Winter Ranch, 73.35 337 IAmb IAmb 22 44 12.0
comp=Z,281nm,1.1s
PAL Palisades 73.36 358 P **P** **22 43 51.6 +0.6**
baz=178
PAL S **SKiKP** **22 53 18.6 -1.2**
baz=178
P46A Rosedale 73.39 347 IAmb IAmb 22 44 03.2
comp=Z,384nm,1.2s
N55A Marion Center 73.42 354 P **P** **22 43 52.2 +0.7**
baz=173,SNR=32
N55A S **S** **22 53 17.5 -0.9**
baz=173
O49A Covington 73.47 350 IAmb IAmb 22 44 04.1
comp=Z,433nm,1.2s
O49A IAMs_20 IAMs_20 23 13 44.2
comp=Z,9µm,22.0s
N56A West Decatur 73.50 355 P **P** **22 43 52.5 +0.6**
baz=174,SNR=15
N56A S **S** **22 53 18.0 -1.2**
baz=174
WSPT Westport, CT 73.51 359 IAmb IAmb 22 44 05.5
comp=Z,284nm,1.3s
WSPT IAMs_20 IAMs_20 23 17 03.7
comp=Z,9µm,22.0s
N53A Lisbon 73.63 353 P **P** **22 43 52.7 +0.1**
baz=172
N53A S **SKiKP** **22 53 18.1 -2.1**
baz=172
N53A Lisbon 73.63 353 IAmb IAmb 22 44 05.4
comp=Z,586nm,1.6s
YLE Yale 73.64 359 IAmb IAmb 22 44 06.7
comp=Z,418nm,1.2s
M61A Granite Spring 73.66 358 P **P** **22 43 53.6 +0.9**
baz=178,SNR=5.8
M61A S **S** **22 53 23.1 +2.1**
baz=178
N54A Moraine State 73.69 353 P **P** **22 43 53.5 +0.5**
baz=172,SNR=18
N54A S **SKiKP** **22 53 19.5 -0.8**
baz=172
N54A Moraine State 73.69 353 IAmb IAmb 22 44 06.1
comp=Z,303nm,1.2s
M60A Port Jervis 73.70 358 P **P** **22 43 54.1 +1.1**
baz=177,SNR=18
M60A S **S** **22 53 23.6 +2.2**
baz=177
M63A Gales Ferry 73.72 360 P **P** **22 43 54.0 +0.9**
baz=180
M63A S **S** **22 53 23.7 +2.1**
baz=180
N52A McGinn's Farm, 73.73 352 P **P** **22 43 53.1 -0.1**
baz=171
N52A S **SKiKP** **22 53 18.1 -2.3**
baz=171
M62A Hamden 73.77 359 P **P** **22 43 54.6 +1.3**
baz=179,SNR=15
M62A S **S** **22 53 23.4 +1.3**
baz=179
M58A Price's Panora 73.83 356 P **P** **22 43 54.7 +0.9**
baz=176,SNR=9.7
M58A S **S** **22 53 24.2 +1.3**
baz=176
M57A Sunshine Farm, 73.84 356 P **P** **22 43 54.7 +0.9**
baz=175,SNR=14
M57A S **S** **22 53 23.7 +0.7**
baz=175
M57A Sunshine Farm, 73.84 356 IAmb IAmb 22 44 07.3
comp=Z,469nm,1.6s
M57A IAMs_20 IAMs_20 23 15 48.6
comp=Z,10µm,22.0s
M64A Tiverton 73.87 0 P **P** **22 43 54.7 +0.8**
baz=180
M64A S **S** **22 53 24.0 +0.8**
baz=180
N51A Ashland 73.92 351 P **P** **22 43 54.2 -0.1**
baz=170,SNR=12
N51A S **SKiKP** **22 53 20.1 -0.6**
baz=170
N51A Ashland 73.92 351 IAmb IAmb 22 44 07.5
comp=Z,435nm,1.4s
M59A Waymart 73.95 357 P **P** **22 43 55.3 +0.8**
baz=176,SNR=16
M59A S **S** **22 53 25.3 +1.1**
baz=176
LIC Lamto 73.97 72 *e* P **P** **22 43 53.6 -1.6**
comp=Z,458nm,1.4s
KSPA Keystone Colle 73.98 357 IAmb IAmb 22 44 08.1
comp=Z,438nm,1.7s
M56A Emporium 74.06 355 P **P** **22 43 55.6 +0.5**
baz=174,SNR=21
M56A S **S** **22 53 25.6 +0.2**
baz=174
M56A Emporium 74.06 355 IAmb IAmb 22 44 09.1
comp=Z,420nm,1.2s
KSCT Kent School, K 74.07 358 IAmb IAmb 22 44 08.8
comp=Z,424nm,1.6s
M55A Ridgway 74.09 354 P **P** **22 43 55.7 +0.4**
baz=174,SNR=24
M55A S **S** **22 53 24.0 -1.8**
baz=174
SFIN Lafayette 74.11 348 P **P** **22 43 54.6 -0.8**
baz=166,SNR=16
SFIN S **SKiKP** **22 53 20.4 -0.6**
baz=166
SFIN Lafayette 74.11 348 IAmb IAmb 22 44 07.3
comp=Z,376nm,1.4s
O44A Mansfield 74.15 347 IAmb IAmb 22 44 07.7
comp=Z,234nm,1.1s
N49A Columbus Grove 74.17 350 IAMs_20 IAMs_20 23 14 03.6
comp=Z,8µm,21.0s
L63A North Scituate 74.18 360 P **P** **22 43 56.9 +1.1**
baz=180,SNR=8.9
L63A S **S** **22 53 28.6 +1.8**
baz=180
M54A Oil Creek Stat 74.20 354 P **P** **22 43 56.1 +0.1**
baz=173,SNR=17
M54A S **S** **22 53 24.5 -2.7**
baz=173
TIC Toumodi 74.22 71 *e* P **P** **22 43 55.2 -1.5**
BRYW Bryant College 74.24 0 IAmb IAmb 22 44 10.6
comp=Z,360nm,1.4s
BRYW IAMs_20 IAMs_20 23 16 49.9
comp=Z,8µm,22.0s
M53A WI Miller and 74.24 353 P **P** **22 43 56.2 +0.1**
baz=172,SNR=9.2
M53A S **S** **22 53 24.5 -3.0**
baz=172
M53A WI Miller and 74.24 353 IAmb IAmb 22 44 09.6
comp=Z,436nm,1.4s
L64A Middleborough 74.26 1 P **P** **22 43 57.2 +1.1**
baz=180
L64A S **S** **22 53 28.9 +1.3**
baz=180
KIC Kosan Boka 74.28 72 *e* P **P** **22 43 55.4 -1.6**
comp=Z,746nm,1.5s
Y22D IRIS PASSCAL I 74.28 330 P **P** **22 43 58.8 +2.0**
baz=150
Y22D S **S** **22 53 33.9 +5.4**
baz=150
M51A Elyria 74.30 352 P **P** **22 43 56.5 0.0**
baz=171,SNR=9.8
M51A S **SKiKP** **22 53 24.6 +3.3**
baz=171
MAW Mawson 74.32 163 P **P** **22 43 56.9 +0.5**
comp=Z,171nm,0.8s,baz=215,slow=6.9,SNR=231
MAW PKP2ab 23 11 19.0
comp=Z,2.4nm,1.0s,baz=327,slow=4.3,SNR=4.9
MAW LR LR 23 16 07.4
comp=Z,41µm,20.6s,baz=227,slow=35
MAW Mawson 74.32 163 IAMs_20 IAMs_20 23 15 46.1
comp=Z,9µm,20.0s
L60A Shokan 74.35 358 P **P** **22 43 58.1 +1.3**
baz=178,SNR=10.0
L60A S **S** **22 53 31.9 +3.1**
baz=178
N47A Urbana 74.36 349 IAmb IAmb 22 44 08.8
comp=Z,488nm,1.3s
L62A Suffield 74.36 359 P **P** **22 43 57.7 +0.9**
baz=179
L62A S **S** **22 53 31.4 +2.7**
baz=179
DBIC Dimbokro 74.36 71 P **P** **22 43 57.2 -0.3**
DBIC comp=Z,73nm,0.8s LR LR 23 14 21.7
comp=Z,10µm,20.0s,baz=214,slow=34
DBIC Dimbokro 74.36 71 P **P** **22 43 57.2 -0.3**
DBIC pmax pmax
comp=Z,186nm,0.9s
DBIC Dimbokro 74.36 71 IAmb IAmb 22 44 18.5
comp=Z,186nm,0.9s
M52A Chesterland 74.41 352 P **P** **22 43 57.2 +0.1**
baz=171,SNR=8.5
M52A S **S** **22 53 26.7 -2.8**
baz=171
L58A Harry Jones Me 74.47 357 P **P** **22 43 58.3 +0.8**
baz=176,SNR=16
L58A S **S** **22 53 31.1 +1.0**
baz=176
L57A Andrews Acres 74.48 356 P **P** **22 43 58.3 +0.7**
baz=175,SNR=11
L57A S **S** **22 53 31.1 +0.9**
baz=175
M50A Fremont 74.48 351 IAMs_20 IAMs_20 23 15 08.9
comp=Z,7µm,21.0s
TUC Tucson 74.50 326 P **P** **22 43 59.4 +1.4**
baz=146
TUC S **S** **22 53 32.6 +1.5**
baz=146
TUC Tucson 74.50 326 P **P** **22 43 59.6 +1.6**
TUC pmax pmax
TUC comp=Z,392nm,2.0s MLR MLR
comp=Z,12µm,20.0s
TUC Tucson 74.50 326 P **P** **22 43 59.6 +1.6**
TUC IAmb IAmb 22 44 17.9
comp=Z,392nm,2.0s
TUC Tucson 74.50 326 IAMs_20 IAMs_20 23 11 56.3
comp=Z,11µm,20.0s
L61A Hillsdale 1, H 74.53 358 P **P** **22 43 58.8 +0.9**
baz=178
L61A S **S** **22 53 33.5 +2.7**
baz=178
L59A Walton 74.58 357 P **P** **22 43 59.1 +1.0**
baz=177,SNR=19
L59A S **S** **22 53 32.8 +1.4**
baz=177
L59A Walton 74.58 357 IAmb IAmb 22 44 11.8
comp=Z,278nm,1.1s
QUA2 Belchertown 74.60 359 IAmb IAmb 22 44 12.5
comp=Z,209nm,1.2s
QUA2 IAMs_20 IAMs_20 23 16 28.6
comp=Z,10µm,22.0s
BINY Binghamton 74.63 357 P **P** **22 43 59.2 +0.7**
baz=176,SNR=13
BINY S **S** **22 53 31.5 -0.4**
baz=176
BINY Binghamton 74.63 357 IAmb IAmb 22 44 11.8
comp=Z,268nm,1.3s
BINY IAMs_20 IAMs_20 23 18 57.5
comp=Z,7µm,22.0s
L56A Greenwood 74.66 355 P **P** **22 43 59.3 +0.6**
baz=175,SNR=23
L56A S **S** **22 53 31.3 -1.0**
baz=175
L56A Greenwood 74.66 355 IAMs_20 IAMs_20 23 16 14.4
comp=Z,7µm,21.0s
HDIL Hopedale 74.70 346 P **P** **22 43 58.9 0.0**
baz=164,SNR=22
HDIL S **S** **22 53 29.3 -3.4**

baz=164
L53A **Girard** **74.70 353** P **P** **22 43 58.9 +0.1**
baz=172,SNR=6.7
L53A S **S** **22 53 29.9 -2.8**
baz=172
L55A **Hinsdale** **74.77 355** P **P** **22 43 59.8 +0.6**
baz=174,SNR=29
L55A S **S** **22 53 33.1 -0.4**
baz=174
L61B **Northampton** **74.78 359** P **P** **22 44 00.1 +0.9**
baz=179,SNR=19
L61B S **S** **22 53 35.1 +1.6**
baz=179
P38A **Dawn** **74.78 343** IAmb IAmb 22 44 12.7
comp=Z,163nm,0.8s
HRV **Adam Dziewonsk** **74.82 360** P **P** **22 44 00.8 +1.3**
baz=180
HRV S **S** **22 53 35.6 +1.6**
baz=180
HRV **Adam Dziewonsk** **74.82 360** P **P** **22 44 00.8 +1.3**
HRV pmax pmax
comp=Z,200nm,1.3s
HRV MLR MLR
comp=Z,7µm,22.0s
HRV **Adam Dziewonsk** **74.82 360** P **P** **22 44 00.8 +1.3**
HRV **Adam Dziewonsk** **74.82 360** IAMs_20 IAMs_20 23 16 42.5
comp=Z,7µm,22.0s
ANMO **Albuquerque** **74.83 331***c i* P **P** **22 44 01.6 +1.6**
ANMO pmax pmax
comp=Z,37nm,1.0s
ERPA **Erie** **74.84 353** P **P** **22 43 59.8 +0.2**
baz=173
ERPA S **S** **22 53 31.2 -3.0**
baz=173
ERPA **Erie** **74.84 353** IAmb IAmb 22 44 13.1
comp=Z,388nm,1.3s
L54A **Sinclairville** **74.89 354** P **P** **22 44 00.5 +0.5**
baz=173,SNR=11
L54A S **S** **22 53 33.3 -1.5**
baz=173
K60A **Five Rivers En** **74.97 358** P **P** **22 44 01.6 +1.3**
baz=178
K60A S **S** **22 53 38.7 +3.2**
baz=178
K62A **Royalston** **74.98 359** P **P** **22 44 01.7 +1.2**
baz=179
K62A S **S** **22 53 37.9 +2.1**
baz=179
K62A **Royalston** **74.98 359** IAmb IAmb 22 44 14.4
comp=Z,542nm,1.8s
K62A IAMs_20 IAMs_20 23 16 38.8
comp=Z,9µm,22.0s
K61A **Williamstown** **75.00 359** P **P** **22 44 01.7 +1.2**
baz=178,SNR=6.5
K61A S **S** **22 53 39.9 +3.9**
baz=178
K63A **Dunstable** **75.01 0** P **P** **22 44 01.6 +1.1**
baz=180
K63A S **S** **22 53 38.2 +2.2**
baz=180
TRY **Troy** **75.07 358** IAmb IAmb 22 44 15.6
comp=Z,461nm,1.3s
TRY IAMs_20 IAMs_20 23 16 37.2
comp=Z,8µm,22.0s
SUR **Sutherland** **75.10 119** P **P** **22 44 03.0 +1.1**
SUR IAmb IAmb 22 44 05.0
comp=Z,406nm,1.1s
KSU1 **Kansas State U** **75.12 340** P **P** **22 44 01.5 +0.2**
baz=158,SNR=14
KSU1 S **S** **22 53 35.2 -2.3**
baz=158
KSU1 **Kansas State U** **75.12 340** IAmb IAmb 22 44 14.1
comp=Z,676nm,1.9s
K59A **Cooperstown** **75.15 357** P **P** **22 44 02.1 +0.6**
baz=177,SNR=16
K59A S **S** **22 53 37.1 -0.7**
baz=177
K58A **Earlville** **75.17 357** P **P** **22 44 02.1 +0.5**
baz=176,SNR=20
K58A S **S** **22 53 37.2 -0.8**
baz=176
K58A **Earlville** **75.17 357** IAmb IAmb 22 44 15.5
comp=Z,361nm,1.3s
N41A **Harden Midland** **75.18 345** IAmb IAmb 22 44 14.8
comp=Z,414nm,1.1s
214A **Organ Pipe Nat** **75.18 325** P **P** **22 44 04.0 +2.0**
baz=145,SNR=26
214A S **S** **22 53 41.5 +2.9**
baz=145
214A **Organ Pipe Nat** **75.18 325** IAmb IAmb 22 44 16.3
comp=Z,555nm,1.9s
214A IAMs_20 IAMs_20 23 13 50.4
comp=Z,9µm,19.0s
K57A **Scipio Center** **75.19 356** P **P** **22 44 01.9 +0.2**
baz=176,SNR=7.8
K57A S **S** **22 53 37.9 -0.2**
baz=176
K56A **Middlesex** **75.20 356** P **P** **22 44 02.1 +0.4**
baz=175,SNR=12
K56A S **S** **22 53 36.5 -1.8**
baz=175
L48A **N Adams** **75.20 350** IAmb IAmb 22 44 13.9
comp=Z,290nm,1.1s
L48A IAMs_20 IAMs_20 23 14 45.1
comp=Z,10µm,22.0s
K54A **Basiliko Farm,** **75.21 355** P **P** **22 44 02.3 +0.5**
baz=174,SNR=17
K54A S **S** **22 53 34.8 -3.6**
baz=174
K55A **Perry** **75.28 355** P **P** **22 44 02.6 +0.4**
baz=174,SNR=16
K55A S **S** **22 53 37.6 -1.6**
baz=174
AAM **Ann Arbor** **75.44 351** P **P** **22 44 02.9 -0.2**
baz=169
AAM **Ann Arbor** **75.44 351** IAmb IAmb 22 44 15.5
comp=Z,463nm,1.5s
SFX **San Felipe** **75.46 323** IAMs_20 IAMs_20 23 10 22.9
comp=Z,13µm,21.0s
J62A **Henniker** **75.54 360** P **P** **22 44 05.2 +1.5**
baz=180,SNR=18
J62A S **S** **22 53 45.3 +3.4**
baz=180
L46A **Eue Claire** **75.56 349** IAmb IAmb 22 44 15.7
comp=Z,342nm,1.2s
J60A **Lant Hill Farm** **75.58 359** P **P** **22 44 05.0 +1.1**
baz=178
J60A S **S** **22 53 45.8 +3.4**
baz=178
J63A **Strafford** **75.60 0** P **P** **22 44 05.0 +1.1**
baz=180
J63A S **S** **22 53 45.0 +2.5**
baz=180
J61A **Chester** **75.67 359** P **P** **22 44 05.5 +1.2**
baz=179,SNR=12
J61A S **S** **22 53 46.4 +3.0**
baz=179
ACCN **Adirondack Com** **75.73 358** IAmb IAmb 22 44 18.3
comp=Z,438nm,1.6s
MEDO **Medina** **75.75 355** IAmb IAmb 22 44 17.8
comp=Z,343nm,1.3s
J56A **Wolcott** **75.75 356** P **P** **22 44 05.0 +0.2**
baz=175,SNR=12
J56A S **S** **22 53 44.1 -0.1**
baz=175
J56A **Wolcott** **75.75 356** IAmb IAmb 22 44 17.6
comp=Z,183nm,1.1s
J56A IAMs_20 IAMs_20 23 19 23.2
comp=Z,8µm,22.0s
J58A **Remsen** **75.75 357** P **P** **22 44 05.3 +0.4**
baz=177
J58A S **S** **22 53 44.5 +0.1**
baz=177
SPX **San Pedro Mart** **75.78 322** IAMs_20 IAMs_20 23 10 18.4
comp=Z,18µm,22.0s
FFD **Franklin Falls** **75.79 360** IAMs_20 IAMs_20 23 17 23.0
comp=Z,7µm,21.0s
J55A **Hilton** **75.80 355** P **P** **22 44 05.3 +0.3**
baz=174
J55A S **S** **22 53 43.8 -0.9**
baz=174
J55A **Hilton** **75.80 355** IAmb IAmb 22 44 18.0
comp=Z,382nm,1.4s
J55A IAMs_20 IAMs_20 23 17 00.6
comp=Z,10µm,22.0s
CBKS **Cedar Bluff** **75.81 338** P **P** **22 44 06.4 +1.0**
baz=156,SNR=15
CBKS S **S** **22 53 44.8 -0.4**
baz=156
CBKS **Cedar Bluff** **75.81 338** IAmb IAmb 22 44 19.6
comp=Z,178nm,0.8s
J59A **Piesco** **75.83 358** P **P** **22 44 05.9 +0.5**
baz=177,SNR=17
J59A S **S** **22 53 45.7 +0.5**
baz=177
J59A **Piesco** **75.83 358** IAmb IAmb 22 44 19.3
comp=Z,212nm,1.1s
J59A IAMs_20 IAMs_20 23 18 39.2
comp=Z,8µm,21.0s
J57A **Williamstown** **75.84 357** P **P** **22 44 05.8 +0.5**
baz=176,SNR=19
J57A S **S** **22 53 45.3 +0.1**
baz=176
J57A **Williamstown** **75.84 357** IAmb IAmb 22 44 19.1
comp=Z,300nm,1.2s
J54A **Appleton** **75.87 355** P **P** **22 44 05.8 +0.3**
baz=174,SNR=5.5
J54A S **S** **22 53 43.7 -1.8**
baz=174
J54A **Appleton** **75.87 355** IAmb IAmb 22 44 18.4
comp=Z,336nm,1.4s
T25A **Trinidad** **75.94 333** P **P** **22 44 08.2 +1.8**
baz=152,SNR=106
T25A S **S** **22 53 49.9 +2.8**
baz=152
L44A **Lake County Fo** **76.00 348** P **P** **22 44 06.2 -0.1**
baz=166
L44A S **S** **22 53 42.8 -4.3**
baz=166
I58A **Old Forge** **76.07 357** P **P** **22 44 07.2 +0.5**
baz=177,SNR=21
I58A S **S** **22 53 46.6 -1.3**
baz=177
I59A **Olmsteadville** **76.14 358** P **P** **22 44 07.6 +0.5**
baz=178,SNR=14
I59A S **S** **22 53 49.6 +1.0**
baz=178
L42A **Oliver, Polo** **76.17 346** IAmb IAmb 22 44 19.7
comp=Z,387nm,1.3s
I60A **Shoreham** **76.18 359** P **P** **22 44 08.1 +0.9**
baz=178,SNR=16
I60A S **S** **22 53 51.3 +2.5**
baz=178
I62A **Tamworth** **76.19 0** P **P** **22 44 08.5 +1.2**
baz=180,SNR=5.3
I62A S **S** **22 53 51.6 +2.5**
baz=180
I62A **Tamworth** **76.19 0** IAmb IAmb 22 44 21.4
comp=Z,256nm,1.4s
I61A **Oroboro, Fairl** **76.25 360** P **P** **22 44 08.9 +1.3**
baz=179,SNR=11
I61A S **S** **22 53 51.7 +2.0**
baz=179
I64A **Boothbay** **76.26 1** P **P** **22 44 09.0 +1.3**
baz=182
I64A S **S** **22 53 49.6 -0.1**
baz=182
113A **Mohawk Valley,** **76.31 324** IAmb IAmb 22 44 22.7
comp=Z,340nm,1.9s
113A IAMs_20 IAMs_20 23 15 09.3
comp=Z,8µm,18.0s
I57A **Carthage** **76.35 357** P **P** **22 44 08.8 +0.6**
baz=176,SNR=17
I57A S **S** **22 53 49.1 -1.7**
baz=176
I63A **Otisfield** **76.37 1** P **P** **22 44 10.0 +1.7**
baz=181,SNR=14
I63A S **S** **22 53 53.3 +2.3**
baz=181
I63A **Otisfield** **76.37 1** IAmb IAmb 22 44 23.4
comp=Z,302nm,1.2s
W18A **Petrified Fore** **76.38 329** P **P** **22 44 10.6 +1.8**
baz=148,SNR=18
W18A S **S** **22 53 54.5 +2.6**
baz=148
W18A **Petrified Fore** **76.38 329** IAMs_20 IAMs_20 23 13 22.8
comp=Z,15µm,20.0s
PECO **Prince Edward** **76.41 356** IAmb IAmb 22 44 21.6
comp=Z,377nm,1.4s
PECO IAMs_20 IAMs_20 23 19 53.8
comp=Z,9µm,22.0s
J47A **Sunmer** **76.53 350** IAmb IAmb 22 44 21.4
comp=Z,404nm,1.2s
LBNH **Lisbon** **76.56 360** P **P** **22 44 10.6 +1.2**
baz=180,SNR=10
LBNH S **S** **22 53 54.7 +1.6**
baz=180
LBNH **Lisbon** **76.56 360** IAMs_20 IAMs_20 23 17 34.4
comp=Z,7µm,21.0s
X16A **Lo Mia Camp, P** **76.56 327** IAMs_20 IAMs_20 23 13 21.7
comp=Z,13µm,20.0s
K43A **Burlington** **76.59 347** IAmb IAmb 22 44 22.2
comp=Z,529nm,1.4s
GUVIX **Guadalupe Vict** **76.59 323** IAMs_20 IAMs_20 23 11 31.7
comp=Z,12µm,21.0s
I51A **Listowel** **76.61 353** P **P** **22 44 09.8 +0.1**
baz=172,SNR=30
I51A S **S** **22 53 50.1 -3.6**
baz=172
VT1 **Waterbury** **76.66 359** IAMs_20 IAMs_20 23 17 29.7
comp=Z,8µm,21.0s
I55A **Frankford** **76.74 355** P **P** **22 44 10.7 +0.3**
baz=175,SNR=14
I55A S **S** **22 53 54.3 -0.7**
baz=175
H58A **Gabriels** **76.77 358** P **P** **22 44 11.2 +0.5**
baz=178,SNR=17
H58A S **S** **22 53 57.2 +1.8**
baz=178
ESJX **Sierra Juarez** **76.80 322** IAMs_20 IAMs_20 23 10 49.2
comp=Z,17µm,22.0s
CPBX **Cerro Prieto** **76.80 323** IAmb IAmb 22 44 40.5
comp=Z,515nm,1.6s
CPBX IAMs_20 IAMs_20 23 11 27.2
comp=Z,10µm,21.0s
H61A **Lyndonville** **76.85 360** P **P** **22 44 12.4 +1.3**
baz=180,SNR=25
H61A S **S** **22 53 59.1 +2.7**
baz=180
SCIA **State Center** **76.86 344** P **P** **22 44 11.5 +0.4**
baz=161,SNR=10
SCIA S **S** **22 53 54.2 -2.3**
baz=161
H57A **Richville** **76.86 357** P **P** **22 44 11.5 +0.4**
baz=177,SNR=16
H57A S **S** **22 53 56.7 +0.4**
baz=177
H60A **Morristown** **76.89 359** P **P** **22 44 12.3 +1.0**
baz=179,SNR=7.8
H60A S **S** **22 53 57.7 +1.0**
baz=179
SDCO **Great Sand Dun** **76.89 333** P **P** **22 44 13.3 +1.5**
baz=151,SNR=33
SDCO S **S** **22 53 59.5 +1.9**
baz=151
SDCO **Great Sand Dun** **76.89 333** IAMs_20 IAMs_20 23 14 31.1
comp=Z,11µm,20.0s
H62A **Milan** **76.89 0** P **P** **22 44 12.5 +1.2**
baz=180
H62A S **S** **22 54 00.3 +3.5**
baz=180
H62A **Milan** **76.89 0** IAMs_20 IAMs_20 23 20 11.2
comp=Z,7µm,21.0s
Y14A **Wickenburg** **76.89 326** IAmb IAmb 22 44 25.7
comp=Z,306nm,1.9s
Y14A IAMs_20 IAMs_20 23 13 20.7
comp=Z,6µm,19.0s
I49A **Point Hope** **76.95 352** IAmb IAmb 22 44 24.6
comp=Z,483nm,1.4s
KSCO **Kaye Shedlock'** **76.95 336** P **P** **22 44 13.5 +1.6**
baz=154,SNR=26
KSCO S **S** **22 53 58.2 +0.3**
baz=154
H59A **Cadyville** **76.99 358** P **P** **22 44 12.4 +0.6**
baz=178,SNR=16
H59A S **S** **22 53 59.2 +1.4**
baz=178
H64A **Troy** **76.99 2** P **P** **22 44 12.9 +1.1**
baz=182,SNR=7.9
H64A S **S** **22 53 59.4 +1.7**
baz=182
LONY **Lake Ozonia** **76.99 358** P **P** **22 44 12.5 +0.6**
baz=177,SNR=14
LONY S **S** **22 53 57.6 -0.2**
baz=177
LONY **Lake Ozonia** **76.99 358** IAmb IAmb 22 44 25.2
comp=Z,219nm,1.2s
LONY IAMs_20 IAMs_20 23 19 01.8
comp=Z,8µm,22.0s
H63A **New Sharon** **76.99 1** P **P** **22 44 13.3 +1.5**
baz=181,SNR=17
H63A S **S** **22 54 00.6 +2.9**
baz=181
H56A **Elgin** **77.03 357** P **P** **22 44 12.5 +0.5**
baz=176,SNR=29
H56A S **S** **22 53 57.0 -1.1**
baz=176
DELO **Deloro Mine** **77.03 356** IAmb IAmb 22 44 25.1
comp=Z,544nm,1.8s
DELO IAMs_20 IAMs_20 23 20 04.2
comp=Z,9µm,22.0s
H55A **Tweed** **77.04 356** P **P** **22 44 12.5 +0.4**
baz=175,SNR=14
H55A S **S** **22 53 56.7 -1.6**
baz=175
CCX **Cicese** **77.06 322** IAMs_20 IAMs_20 23 12 42.2
comp=Z,10µm,18.0s
GLA **Glamis** **77.06 324** P **P** **22 44 14.6 +2.0**
baz=144,SNR=8.3
GLA S **S** **22 54 02.4 +3.1**
baz=144
GLA **Glamis** **77.06 324** IAmb IAmb 22 44 26.9
comp=Z,564nm,1.9s
GLA IAMs_20 IAMs_20 23 13 04.2
comp=Z,12µm,18.0s
H65A **Eastbrook** **77.07 2** P **P** **22 44 13.5 +1.3**
baz=183,SNR=16
H65A S **S** **22 54 00.0 +1.4**
baz=183
EMMW **East Machias** **77.12 3** IAmb IAmb 22 44 26.5
comp=Z,226nm,1.2s
EMMW IAMs_20 IAMs_20 23 16 26.9
comp=Z,9µm,22.0s
H53A **Bobcaygeon** **77.16 355** P **P** **22 44 13.1 +0.3**
baz=174,SNR=16
H53A S **S** **22 53 58.6 -1.0**
baz=174
JFWS **Jewell Farm** **77.16 346** P **P** **22 44 13.1 +0.2**
baz=164,SNR=22
JFWS S **S** **22 53 57.0 -2.7**
baz=164
FRNY **Flat Rock** **77.17 359** IAmb IAmb 22 44 26.2
comp=Z,198nm,1.1s
H66A **Whiting** **77.20 3** P **P** **22 44 14.4 +1.5**
baz=184,SNR=19
H66A S **S** **22 54 01.8 +1.8**
baz=184
HAL **Halifax** **77.30 6** IAMs_20 IAMs_20 23 18 45.5
comp=Z,10µm,21.0s
IKP **In-Ko-Pah, Jac** **77.39 323** P **P** **22 44 16.8 +2.3**
baz=143,SNR=10
IKP S **S** **22 54 07.6 +4.7**
baz=143
SADO **Sadowa** **77.40 354** P **P** **22 44 14.2 +0.1**
comp=Z,26nm,0.6s,baz=193,slow=5.8,SNR=57
SADO PKP2ab 23 11 09.1
comp=Z,5.6nm,1.1s,baz=14,slow=4.3,SNR=3.1
SADO LR LR 23 19 23.4
comp=Z,6µm,21.8s,baz=176,slow=36
SADO **Sadowa** **77.40 354** IAmb IAmb 22 44 26.9
comp=Z,375nm,1.4s
SADO IAMs_20 IAMs_20 23 18 50.9
comp=Z,7µm,22.0s
S22A **4UR Ranch, Cre** **77.41 332** P **P** **22 44 16.4 +1.7**
baz=150,SNR=16
S22A S **S** **22 54 05.6 +2.4**
baz=150
S22A **4UR Ranch, Cre** **77.41 332** IAMs_20 IAMs_20 23 13 47.9
comp=Z,10µm,21.0s
CBX **Cerro Bola** **77.41 322** IAMs_20 IAMs_20 23 12 53.4
comp=Z,8µm,19.0s
G59A **Clarenceville** **77.41 359** P **P** **22 44 14.7 +0.5**
baz=178
G59A S **S** **22 54 03.1 +0.8**
baz=178
G60A **Masonville** **77.42 359** P **P** **22 44 15.2 +1.0**
baz=179
G60A S **S** **22 54 05.2 +2.7**
baz=179
RAR **Rarotonga** **77.43 253** IAMs_20 IAMs_20 23 09 52.7
comp=Z,16µm,21.0s
WUAZ **Wupatki** **77.44 328** P **P** **22 44 16.9 +2.1**
baz=146,SNR=41
WUAZ S **S** **22 54 07.3 +3.9**
baz=146
WUAZ **Wupatki** **77.44 328** IAMs_20 IAMs_20 23 14 05.0
comp=Z,8µm,20.0s
G63A **Kingsbury** **77.45 1** P **P** **22 44 15.6 +1.2**
baz=182,SNR=21
G63A S **S** **22 54 05.3 +2.5**
baz=182
K38A **Parkersburg** **77.46 344** IAmb IAmb 22 44 26.9
comp=Z,432nm,1.6s
SWSC **Sam W. Stewart** **77.47 323** P **P** **22 44 16.9 +2.1**
baz=143,SNR=10
SWSC S **S** **22 54 08.9 +5.4**
baz=143
G57A **Newington** **77.48 358** P **P** **22 44 15.1 +0.5**
baz=177,SNR=14
G57A S **S** **22 54 03.3 +0.2**
baz=177
G58A **Ormstown** **77.50 358** P **P** **22 44 15.1 +0.5**
baz=178,SNR=8.2
PLVO **Plevna** **77.52 356** IAmb IAmb 22 44 28.0
comp=Z,302nm,1.4s
G62A **West of Eustis** **77.54 1** P **P** **22 44 16.2 +1.3**
baz=181,SNR=36
G62A S **S** **22 54 04.9 +1.1**
baz=181
G62A **West of Eustis** **77.54 1** IAmb IAmb 22 44 29.6
comp=Z,417nm,1.4s
GGN **Saint George** **77.55 3** IAmb IAmb 22 44 28.9
comp=Z,240nm,1.2s
TKX **Tecate** **77.58 322** IAMs_20 IAMs_20 23 10 60.0
comp=Z,13µm,22.0s
G61A **St-Isidore-de-** **77.60 0** P **P** **22 44 16.5 +1.2**
baz=180,SNR=12
G61A S **S** **22 54 06.3 +2.0**
baz=180
G65A **Princeton** **77.60 3** P **P** **22 44 16.3 +1.1**
baz=183,SNR=15
G65A S **S** **22 54 04.7 +0.4**
baz=183
G65A **Princeton** **77.60 3** IAMs_20 IAMs_20 23 16 52.8
comp=Z,8µm,21.0s
PKME **Peaks-Kenny Pk** **77.61 2** P **P** **22 44 16.3 +1.1**
baz=182,SNR=16
PKME S **S** **22 54 05.3 +0.9**
baz=182
PKME **Peaks-Kenny Pk** **77.61 2** IAmb IAmb 22 44 29.0
comp=Z,198nm,1.2s
G64A **Maxfield** **77.61 2** P **P** **22 44 16.4 +1.2**
baz=182,SNR=18
G64A S **S** **22 54 06.1 +1.7**
baz=182
MVCO **Mesa Verde** **77.62 331** P **P** **22 44 17.6 +1.7**
baz=149,SNR=27
MVCO S **S** **22 54 07.2 +1.7**
baz=149
MVCO **Mesa Verde** **77.62 331** IAmb IAmb 22 44 29.9
comp=Z,664nm,2.0s
BGNE **Belgrade** **77.70 340** P **P** **22 44 16.7 +0.8**
baz=157
BGNE S **S** **22 54 04.8 -0.9**
baz=157
BAR **Barrett** **77.70 322** IAMs_20 IAMs_20 23 11 03.2
comp=Z,13µm,21.0s
G55A **Calabogie** **77.71 356** P **P** **22 44 16.2 +0.3**
baz=176,SNR=7.0
G55A S **S** **22 54 05.6 0.0**
baz=176
L34A **Svendsen Farm,** **77.72 341** IAmb IAmb 22 44 42.9
comp=Z,164nm,0.7s
MONP2 **Monument Peak** **77.74 323** P **P** **22 44 18.7 +2.1**
baz=143,SNR=15
MONP2 S **S** **22 54 11.6 +4.7**
baz=143
Q24A **Divide** **77.82 334** P **P** **22 44 18.7 +1.7**
baz=152
Q24A S **S** **22 54 10.4 +2.7**
baz=152
Q24A **Divide** **77.82 334** IAMs_20 IAMs_20 23 16 48.2
comp=Z,7µm,20.0s
I42A **Draeger Farm,** **77.84 347** IAmb IAmb 22 44 29.3
comp=Z,439nm,1.4s

ORIO	**Orleans, Innes**	**77.85**	**357**	P	**P**	**22 44 17.0**	**+0.4**
ORIO	baz=176,SNR=12			S	**S**	**22 54 07.9**	**+0.9**
BC3	**Big Chuckawall**	**77.86**	**324**	P	**P**	**22 44 19.1**	**+1.9**
BC3	baz=143,SNR=38			S	**S**	**22 54 12.5**	**+4.5**
G54A	**Lake Saint Pet**	**77.94**	**355**	P	**P**	**22 44 17.6**	**+0.4**
G54A	baz=174,SNR=19			S	**S**	**22 54 07.4**	**-0.7**
F63A	**Nahmakanta, Br**	**78.05**	**2**	P	**P**	**22 44 19.0**	**+1.2**
F63A	baz=182,SNR=16			S	**S**	**22 54 11.8**	**+2.6**
F63A	**Nahmakanta, Br**	**78.05**	**2**	IAmb	IAmb	22 44 31.6	
GLMI	comp=Z,196nm,1.1s **Grayling**	**78.05**	**351**	P	**P**	**22 44 17.7**	**-0.1**
GLMI	baz=169			S	**S**	**22 54 04.8**	**-4.6**
GLMI	baz=169 **Grayling**	**78.05**	**351**	IAMs_20	IAMs_20	23 17 07.5	
109C	comp=Z,8µm,20.0s **Camp Elliot, M**	**78.09**	**322**	P	**P**	**22 44 20.4**	**+2.1**
109C	baz=142			S	**S**	**22 54 15.1**	**+4.8**
109C	baz=142 **Camp Elliot, M**	**78.09**	**322**	IAMs_20	IAMs_20	23 13 13.5	
IRM	comp=Z,11µm,19.0s **Iron Mountain**	**78.11**	**324**	P	**P**	**22 44 20.4**	**+2.0**
IRM	baz=144,SNR=40			S	**S**	**22 54 14.7**	**+4.2**
F59A	baz=144 **Saint Guilaume**	**78.18**	**359**	P	**P**	**22 44 19.0**	**+0.6**
F59A	baz=179			S	**S**	**22 54 11.6**	**+1.1**
I40A	baz=179 **Norwalk**	**78.18**	**346**	IAmb	IAmb	22 44 31.1	
F57A	comp=Z,274nm,1.2s **Harrington**	**78.18**	**358**	P	**P**	**22 44 18.7**	**+0.3**
F57A	baz=177			S	**S**	**22 54 10.2**	**-0.4**
H43A	baz=177 **Windswept, Lux**	**78.20**	**348**	IAmb	IAmb	22 44 31.3	
F58A	comp=Z,336nm,1.2s **St-Lin Laurent**	**78.21**	**358**	P	**P**	**22 44 18.8**	**+0.2**
F62A	baz=178 **Pittston Farm,**	**78.23**	**1**	P	**P**	**22 44 20.1**	**+1.4**
F62A	baz=181,SNR=26			S	**S**	**22 54 13.8**	**+2.7**
F64A	baz=181 **Sherman**	**78.23**	**2**	P	**P**	**22 44 20.0**	**+1.3**
F64A	baz=183,SNR=19			S	**S**	**22 54 12.7**	**+1.5**
F64A	baz=183 **Sherman**	**78.23**	**2**	IAmb	IAmb	22 44 32.6	
GBN	comp=Z,245nm,1.2s **Guysborough**	**78.26**	**7**	IAMs_20	IAMs_20	23 21 00.7	
W13A	comp=Z,9µm,20.0s **Hualapai Mount**	**78.26**	**326**	IAMs_20	IAMs_20	23 13 51.8	
F55A	comp=Z,6µm,20.0s **Otter Lake**	**78.27**	**357**	P	**P**	**22 44 19.2**	**+0.2**
F55A	baz=176,SNR=10			S	**S**	**22 54 11.8**	**+0.2**
F60A	baz=176 **Warwick**	**78.29**	**360**	P	**P**	**22 44 19.5**	**+0.5**
F60A	baz=180,SNR=12			S	**S**	**22 54 10.8**	**-0.9**
F61A	baz=180 **St Evariste**	**78.29**	**0**	P	**P**	**22 44 19.6**	**+0.5**
F61A	baz=180			S	**S**	**22 54 12.2**	**+0.4**
XPFO	**Pion Flat**	**78.33**	**323**	IAMs_20	IAMs_20	23 11 46.7	
PFO	comp=Z,17µm,21.0s **Pinyon Flats O**	**78.33**	**323**	LR	LR	23 11 50.4	
PFO	comp=Z,18µm,21.7s,baz=147,slow=30 **Pinyon Flats O**	**78.33**	**323**	P	**P**	**22 44 22.0**	**+2.2**
PFO	baz=143,SNR=28			S	**S**	**22 54 15.6**	**+2.5**
PFO	baz=143 **Pinyon Flats O**	**78.33**	**323**	P	**P**	**22 44 22.0**	**+2.2**
PFO	comp=Z,544nm,2.0s			pmax	pmax		
PFO	comp=Z,17µm,21.0s			MLR	MLR		
PFO	**Pinyon Flats O**	**78.33**	**323**	P	**P**	**22 44 22.0**	**+2.2**
PFO	comp=Z,544nm,1.9s			IAmb	IAmb	22 44 34.3	
PFO	**Pinyon Flats O**	**78.33**	**323**	IAMs_20	IAMs_20	23 11 46.7	
NEE2	comp=Z,17µm,21.0s **Needles Airpor**	**78.34**	**325**	P	**P**	**22 44 21.2**	**+1.6**
NEE2	baz=144			S	**S**	**22 54 15.8**	**+2.9**
LMN	baz=144 **Caledonia Moun**	**78.41**	**5**	IAmb	IAmb	22 44 33.9	
LMN	comp=Z,235nm,1.4s			IAMs_20	IAMs_20	23 16 09.0	
BELC	comp=Z,11µm,22.0s **Belle Mtn. Jos**	**78.41**	**324**	P	**P**	**22 44 22.3**	**+2.1**
BELC	baz=143,SNR=19			S	**S**	**22 54 17.7**	**+3.8**
G45A	baz=143 **Suttons Bay**	**78.42**	**350**	IAmb	IAmb	22 44 32.2	
G45A	comp=Z,400nm,1.4s			IAMs_20	IAMs_20	23 16 32.1	
PV01	comp=Z,7µm,21.0s **Paradox Valley**	**78.44**	**331**	IAmb	IAmb	22 44 34.6	
OGNE	comp=Z,576nm,1.9s **Ogallala**	**78.48**	**337**	P	**P**	**22 44 21.8**	**+1.4**
OGNE	baz=154,SNR=6.4			S	**S**	**22 54 16.3**	**+1.9**
ALGO	baz=154 **Algonquin Park**	**78.49**	**355**	P	**P**	**22 44 20.2**	**+0.1**
ALGO	baz=174,SNR=32			S	**S**	**22 54 12.2**	**-1.8**
PV15	baz=174 **Paradox Valley**	**78.58**	**331**	IAMs_20	IAMs_20	23 15 14.1	
U15A	comp=Z,18µm,20.0s **North Rim**	**78.61**	**328**	IAMs_20	IAMs_20	23 14 30.0	
PV03	comp=Z,9µm,20.0s **Paradox Valley**	**78.66**	**331**	IAmb	IAmb	22 44 35.3	
F49A	comp=Z,400nm,1.9s **Sandfield**	**78.66**	**353**	P	**P**	**22 44 20.9**	**-0.2**
F49A	baz=171,SNR=21			S	**S**	**22 54 11.6**	**-4.2**
E60A	baz=171 **Ste Agathe de**	**78.69**	**0**	P	**P**	**22 44 22.1**	**+0.8**
E60A	baz=180,SNR=22			S	**S**	**22 54 15.8**	**-0.2**
PV12	baz=180 **Saucer Basin,**	**78.69**	**331**	IAmb	IAmb	22 44 57.7	
MURC	comp=Z,291nm,1.5s **Murrieta**	**78.70**	**323**	P	**P**	**22 44 24.0**	**+2.3**
MURC	baz=142,SNR=11			S	**S**	**22 54 21.7**	**+4.9**
PV11	baz=142 **David Mesa, Pa**	**78.70**	**331**	IAmb	IAmb	22 44 35.7	
E58A	comp=Z,504nm,1.8s **La Victoria**	**78.70**	**359**	P	**P**	**22 44 21.9**	**+0.6**
E58A	baz=178,SNR=20			S	**S**	**22 54 15.3**	**-0.9**
ISCO	baz=178 **Idaho Springs**	**78.73**	**334**	P	**P**	**22 44 23.5**	**+1.5**
ISCO	baz=151,SNR=39			S	**S**	**22 54 19.4**	**+2.0**
ISCO	baz=151 **Idaho Springs**	**78.73**	**334**	IAmb	IAmb	22 44 35.9	
ISCO	comp=Z,579nm,2.0s			IAMs_20	IAMs_20	23 15 27.8	
PV16	comp=Z,10µm,22.0s **Nyswonger Mesa**	**78.73**	**331**	IAmb	IAmb	22 44 35.8	
E61A	comp=Z,449nm,1.9s **Lac Etchemin**	**78.75**	**1**	P	**P**	**22 44 22.7**	**+1.1**
E61A	baz=181,SNR=9.4			S	**S**	**22 54 17.5**	**+0.7**
PV19	baz=181 **Morning Glory**	**78.76**	**331**	IAmb	IAmb	22 44 35.8	
E57A	comp=Z,366nm,1.8s **Chemin Saint G**	**78.76**	**358**	P	**P**	**22 44 22.0**	**+0.3**
E57A	baz=178,SNR=11			S	**S**	**22 54 15.1**	**-1.8**
PV20	baz=178 **West Nyswonger**	**78.78**	**331**	IAmb	IAmb	22 44 35.9	
F48A	comp=Z,412nm,2.0s **Evansville**	**78.79**	**352**	P	**P**	**22 44 21.8**	**0.0**
F48A	baz=170,SNR=36			S	**S**	**22 54 12.9**	**-4.2**
E63A	baz=170 **Oxbow**	**78.79**	**2**	P	**P**	**22 44 22.9**	**+1.1**
E63A	baz=183,SNR=14			S	**S**	**22 54 17.8**	**+0.7**
E63A	baz=183 **Oxbow**	**78.79**	**2**	IAMs_20	IAMs_20	23 20 15.3	
PV04	comp=Z,7µm,22.0s **Paradox Valley**	**78.80**	**331**	IAmb	IAmb	22 44 36.2	
E64A	comp=Z,522nm,2.0s **Bridgewater**	**78.81**	**3**	P	**P**	**22 44 22.9**	**+1.0**
E64A	baz=183,SNR=12			S	**S**	**22 54 18.4**	**+1.1**
GMRC	baz=183 **Granite Mounta**	**78.87**	**324**	P	**P**	**22 44 24.7**	**+2.0**
GMRC	baz=143,SNR=47			S	**S**	**22 54 20.7**	**+1.9**
E55A	baz=143 **Montcerf-Lytto**	**78.88**	**357**	P	**P**	**22 44 22.4**	**+0.2**
E55A	baz=176			S	**S**	**22 54 15.7**	**-2.3**
E53A	baz=176 **Dumoine, Ponti**	**78.89**	**356**	P	**P**	**22 44 22.7**	**+0.3**
E53A	baz=175,SNR=18			S	**S**	**22 54 16.3**	**-1.9**
E54A	baz=175 **Lac Daplat, Po**	**78.92**	**356**	P	**P**	**22 44 22.7**	**+0.2**
E54A	baz=175,SNR=18			S	**S**	**22 54 16.2**	**-2.3**
SCI2	baz=175 **San Clemente I**	**78.92**	**321**	P	**P**	**22 44 24.9**	**+2.0**
E56A	baz=141 **St. Veronique**	**78.92**	**358**	P	**P**	**22 44 22.8**	**+0.3**
E56A	baz=177,SNR=28			S	**S**	**22 54 16.2**	**-2.4**
E62A	baz=177 **Clayton Lake**	**78.96**	**1**	P	**P**	**22 44 23.8**	**+1.1**
E62A	baz=182,SNR=23			S	**S**	**22 54 19.1**	**+0.2**
E62A	baz=182 **Clayton Lake**	**78.96**	**1**	IAmb	IAmb	22 44 36.6	
E62A	comp=Z,184nm,1.1s			IAMs_20	IAMs_20	23 20 03.8	
PQI	comp=Z,6µm,20.0s **Presque Isle**	**79.05**	**2**	IAmb	IAmb	22 44 36.9	
PQI	comp=Z,333nm,1.6s			IAMs_20	IAMs_20	23 17 25.2	
BBRC	comp=Z,8µm,22.0s **Big Bear Solar**	**79.08**	**323**	P	**P**	**22 44 26.6**	**+2.6**
TSUM	baz=142 **Tsumeb**	**79.17**	**106**	P	**P**	**22 44 25.1**	**+0.2**
TSUM	comp=Z,210nm,0.9s			IAmb	IAmb	22 44 27.5	
CIS	**Catalina Islan**	**79.18**	**322**	P	**P**	**22 44 26.2**	**+2.0**
CIS	baz=141			S	**S**	**22 54 26.0**	**+4.1**
E51A	baz=141 **G1948 Merrick**	**79.18**	**354**	P	**P**	**22 44 24.1**	**+0.2**
E51A	baz=173,SNR=15			S	**S**	**22 54 18.6**	**-2.6**
D60A	baz=173 **Saint Jean D'O**	**79.23**	**0**	P	**P**	**22 44 25.1**	**+0.9**
D60A	baz=180,SNR=20			S	**S**	**22 54 22.2**	**+0.4**
HEC	baz=180 **Hector,Ludlow**	**79.24**	**324**	P	**P**	**22 44 26.9**	**+2.3**
HEC	baz=143,SNR=24			S	**S**	**22 54 26.6**	**+4.0**
D59A	baz=143 **Saint-Raymond**	**79.33**	**360**	P	**P**	**22 44 25.3**	**+0.6**
FMP	baz=180 **Fort Macarthur**	**79.36**	**322**	P	**P**	**22 44 27.6**	**+2.4**
D57A	baz=141 **Chemin Vers le**	**79.36**	**358**	P	**P**	**22 44 25.6**	**+0.7**
D57A	baz=178,SNR=30			S	**S**	**22 54 21.7**	**-1.5**
E48A	baz=178 **Lockeyer**	**79.38**	**353**	P	**P**	**22 44 25.1**	**+0.1**
E48A	baz=171,SNR=37			S	**S**	**22 54 19.6**	**-3.8**
D63A	baz=171 **Stockholm**	**79.42**	**2**	P	**P**	**22 44 26.2**	**+1.0**
D63A	baz=183,SNR=20			S	**S**	**22 54 23.4**	**-0.3**
D55A	baz=183 **Sainte-Anne-du**	**79.42**	**357**	P	**P**	**22 44 25.4**	**+0.1**
D55A	baz=177,SNR=31			S	**S**	**22 54 20.9**	**-2.9**
D56A	baz=177 **ZEC Mazanza, M**	**79.42**	**358**	P	**P**	**22 44 25.4**	**+0.2**
D56A	baz=177,SNR=21			S	**S**	**22 54 21.6**	**-2.2**
D58A	baz=177 **Chemin du LacG**	**79.42**	**359**	P	**P**	**22 44 25.9**	**+0.7**
D58A	baz=179,SNR=42			S	**S**	**22 54 22.8**	**-1.1**
ECSD	baz=179 **EROS Data Cent**	**79.43**	**342**	P	**P**	**22 44 25.9**	**+0.5**
ECSD	baz=159,SNR=134			S	**S**	**22 54 22.4**	**-1.7**
ECSD	baz=159 **EROS Data Cent**	**79.43**	**342**	IAmb	IAmb	22 44 38.3	
D62A	comp=Z,497nm,1.4s **Allapoint, All**	**79.43**	**2**	P	**P**	**22 44 26.1**	**+0.9**
D62A	baz=182,SNR=15			S	**S**	**22 54 24.6**	**+0.7**
D62A	baz=182 **Allapoint, All**	**79.43**	**2**	IAmb	IAmb	22 44 38.8	
BFSC	comp=Z,217nm,1.1s **Mount Baldy Ra**	**79.44**	**323**	P	**P**	**22 44 27.7**	**+1.8**
E47A	baz=142,SNR=26 **Iron Bridge**	**79.48**	**352**	P	**P**	**22 44 25.6**	**+0.1**
E47A	baz=170,SNR=22			S	**S**	**22 54 20.4**	**-4.0**
TUQ	baz=170 **Turquoise Moun**	**79.52**	**324**	P	**P**	**22 44 28.3**	**+2.0**
TUQ	baz=143			S	**S**	**22 54 29.5**	**+3.8**
E46A	baz=143 **Sault Ste Mari**	**79.53**	**351**	IAmb	IAmb	22 44 38.4	
E46A	comp=Z,393nm,1.2s			IAMs_20	IAMs_20	23 17 50.4	
D61A	comp=Z,9µm,22.0s **St Aubert, Com**	**79.53**	**1**	P	**P**	**22 44 26.7**	**+0.9**
D61A	baz=181,SNR=8.2			S	**S**	**22 54 25.1**	**+0.2**
D52A	baz=181 **ZEK Kipawa Sen**	**79.53**	**355**	P	**P**	**22 44 26.2**	**+0.4**
D52A	baz=174,SNR=26			S	**S**	**22 54 22.2**	**-2.8**
D53A	baz=174 **Lac Vacive, Po**	**79.59**	**356**	P	**P**	**22 44 26.4**	**+0.3**
D53A	baz=175,SNR=26			S	**S**	**22 54 22.9**	**-2.7**
D53A	baz=175 **Lac Vacive, Po**	**79.59**	**356**	IAmb	IAmb	22 44 39.1	
D54A	comp=Z,306nm,1.4s **Lac Fusel, La**	**79.60**	**356**	P	**P**	**22 44 25.9**	**-0.3**
D54A	baz=176,SNR=20			S	**S**	**22 54 22.5**	**-3.2**
RRX	baz=176 **Edison Barstow**	**79.60**	**323**	P	**P**	**22 44 28.8**	**+2.2**
MWC	baz=142 **Mount Wilson**	**79.63**	**322**	IAMs_20	IAMs_20	23 13 25.2	
SNCC	comp=Z,9µm,20.0s **San Nicolas Is**	**79.64**	**321**	P	**P**	**22 44 27.9**	**+1.1**
PASC	baz=140 **Pasadena Art C**	**79.66**	**322**	IAmb	IAmb	22 44 41.2	
PASC	comp=Z,302nm,1.6s **Pasadena Art C**	**79.66**	**322**	IAMs_20	IAMs_20	23 12 34.9	
LATQ	comp=Z,10µm,22.0s **La Tuque**	**79.71**	**359**	P	**P**	**22 44 27.4**	**+0.7**
D51A	baz=179,SNR=20 **Lot 18 Range I**	**79.72**	**355**	P	**P**	**22 44 26.9**	**+0.1**
D51A	baz=173,SNR=13			S	**S**	**22 54 23.9**	**-3.1**
BATG	baz=173 **Bathurst New B**	**79.75**	**4**	IAmb	IAmb	22 44 40.7	
BATG	comp=Z,370nm,1.8s			IAMs_20	IAMs_20	23 19 55.5	
DECC	comp=Z,8µm,22.0s **Green Verdugo**	**79.80**	**322**	P	**P**	**22 44 29.7**	**+2.0**
DECC	baz=141			S	**S**	**22 54 32.9**	**+4.5**
N23A	baz=141 **Red Feather La**	**79.81**	**334**	P	**P**	**22 44 29.4**	**+1.5**
N23A	baz=151,SNR=14			S	**S**	**22 54 30.5**	**+1.8**
N23A	baz=151 **Red Feather La**	**79.81**	**334**	IAmb	IAmb	22 44 41.9	
N23A	comp=Z,585nm,1.9s			IAMs_20	IAMs_20	23 17 09.4	
D50A	comp=Z,7µm,20.0s **G1974 Best Tow**	**79.83**	**354**	P	**P**	**22 44 27.6**	**+0.2**
D50A	baz=173,SNR=22			S	**S**	**22 54 25.2**	**-3.0**
GSC	baz=173 **Goldstone, Bar**	**79.84**	**324**	P	**P**	**22 44 30.0**	**+2.0**
GSC	baz=143,SNR=33			S	**S**	**22 54 31.9**	**+2.9**
GSC	baz=143 **Goldstone, Bar**	**79.84**	**324**	IAMs_20	IAMs_20	23 12 41.8	
SPMN	comp=Z,17µm,22.0s **Marine on St.**	**79.91**	**345**	P	**P**	**22 44 27.7**	**-0.2**
SPMN	baz=162,SNR=24			S	**S**	**22 54 25.4**	**-3.6**
E43A	baz=162 **Lone Tree Farm**	**79.92**	**349**	IAmb	IAmb	22 44 40.9	
SZCU	comp=Z,375nm,1.4s **Shurtz Canyon**	**79.93**	**328**	P	**P**	**22 44 30.2**	**+1.7**
PHWY	**Pilot Hill**	**79.98**	**335**	IAmb	IAmb	22 44 42.5	
SHPR	comp=Z,590nm,1.9s **Sheep Range**	**80.00**	**326**	IAMs_20	IAMs_20	23 14 08.9	
D46A	comp=Z,7µm,21.0s **Sault St. Mari**	**80.01**	**351**	P	**P**	**22 44 28.1**	**-0.3**
D46A	baz=169,SNR=16			S	**S**	**22 54 26.3**	**-3.7**
COWI	baz=169 **Conover**	**80.02**	**348**	IAmb	IAmb	22 44 41.4	
O20A	comp=Z,330nm,1.5s **White River Ci**	**80.02**	**332**	P	**P**	**22 44 30.3**	**+1.4**
O20A	baz=149,SNR=24			S	**S**	**22 54 32.9**	**+2.0**
O20A	baz=149 **White River Ci**	**80.02**	**332**	IAmb	IAmb	22 44 42.8	
O20A	comp=Z,621nm,1.9s			IAMs_20	IAMs_20	23 15 25.1	
D48A	comp=Z,16µm,22.0s **Paudash Townsh**	**80.03**	**353**	P	**P**	**22 44 28.3**	**-0.3**
D48A	baz=171,SNR=18			S	**S**	**22 54 26.0**	**-4.2**
D47A	baz=171 **Chapleau**	**80.05**	**352**	P	**P**	**22 44 28.4**	**-0.3**
D47A	baz=170,SNR=16			S	**S**	**22 54 25.5**	**-5.1**
SHOC	baz=170 **Shoshone, Teco**	**80.06**	**325**	P	**P**	**22 44 30.8**	**+1.7**
SHOC	baz=143			S	**S**	**22 54 33.7**	**+2.6**
D49A	**Beulah Townshi**	**80.08**	**353**	P	**P**	**22 44 28.7**	**-0.1**
D49A	baz=172			S	**S**	**22 54 28.0**	**-2.7**
EDW2	baz=172 **Edwards Air Fo**	**80.11**	**323**	P	**P**	**22 44 30.9**	**+1.5**
EDW2	baz=142,SNR=24			S	**S**	**22 54 33.4**	**+1.5**
SCZ2	baz=142 **Santa Cruz Isl**	**80.28**	**321**	P	**P**	**22 44 32.0**	**+1.8**
OSI	baz=140 **Osito Audit: C**	**80.28**	**322**	P	**P**	**22 44 32.0**	**+1.7**
OSI	baz=141			S	**S**	**22 54 37.7**	**+4.1**
OSI	baz=141 **Osito Audit: C**	**80.28**	**322**	P	**P**	**22 44 32.4**	**+2.1**
OSI	comp=Z,11µm,22.0s			IAMs_20	IAMs_20	23 12 52.4	
MSU	**Marysvale**	**80.28**	**329**	P	**P**	**22 44 32.7**	**+2.3**
MSU	**Marysvale**	**80.28**	**329**	P	**P**	**22 44 32.7**	**+2.3**
BOSA	**Boshof**	**80.31**	**118**	P	**P**	**22 44 30.8**	**-0.2**
BOSA	baz=256,slow=3.6,SNR=86 **Boshof**	**80.31**	**118**	IAmb	IAmb	22 44 50.6	
LRMC	comp=Z,460nm,1.4s **Laurel Mtn Rad**	**80.42**	**323**	P	**P**	**22 44 33.1**	**+2.0**
LRMC	baz=142,SNR=18			S	**S**	**22 54 39.8**	**+4.6**
TCRU	baz=142 **Three Creeks R**	**80.48**	**329**	P	**P**	**22 44 33.3**	**+1.8**
VLDQ	**Val d'Or**	**80.61**	**356**	IAmb	IAmb	22 44 44.7	
VLDQ	comp=Z,325nm,1.4s			IAMs_20	IAMs_20	23 21 26.2	
SBC	comp=Z,7µm,22.0s **Santa Barbara**	**80.66**	**321**	P	**P**	**22 44 34.5**	**+2.3**
F36A	baz=140 **Milaca**	**80.68**	**345**	IAmb	IAmb	22 44 44.4	
PRN	comp=Z,200nm,1.1s **Pahroc Range**	**80.68**	**326**	P	**P**	**22 44 33.5**	**+1.0**
PRN	comp=Z,279nm,1.3s			IAmb	IAmb	22 44 47.1	
PRN	comp=Z,7µm,18.0s			IAMs_20	IAMs_20	23 16 40.9	
SUSD	**Miller**	**80.72**	**340**	P	**P**	**22 44 32.5**	**+0.2**
SUSD	baz=157			S	**S**	**22 54 36.7**	**-1.0**
SUSD	baz=157 **Miller**	**80.72**	**340**	IAmb	IAmb	22 44 45.0	
ARVC	comp=Z,457nm,1.6s **Arvin**	**80.73**	**322**	P	**P**	**22 44 34.6**	**+2.0**
ARVC	baz=141			S	**S**	**22 54 42.1**	**+3.9**
MPMC	baz=141 **Manual Prospec**	**80.78**	**324**	P	**P**	**22 44 34.7**	**+1.6**
MPMC	baz=142,SNR=22			S	**S**	**22 54 44.0**	**+4.9**
FURC	baz=142 **Furnace Creek,**	**80.80**	**325**	P	**P**	**22 44 35.0**	**+2.1**
FURC	baz=143,SNR=38			S	**S**	**22 54 42.4**	**+3.7**
H07S1	baz=143 **FLORES T-PHASE**	**80.87**	**31**	*eP*	**P**	**22 44 35.9**	**+2.6**
TPNV	**Topopah Spring**	**80.88**	**325**	P	**P**	**22 44 35.7**	**+2.1**
TPNV	baz=143,SNR=42			S	**S**	**22 54 43.7**	**+3.7**
TPNV	baz=143 **Topopah Spring**	**80.88**	**325**	IAMs_20	IAMs_20	23 15 15.2	
RWWY	comp=Z,13µm,19.0s **Rawlins**	**80.97**	**334**	IAmb	IAmb	22 44 47.8	
RWWY	comp=Z,495nm,1.8s			IAMs_20	IAMs_20	23 16 49.1	
E38A	comp=Z,10µm,22.0s **The Farm, Brul**	**80.97**	**346**	IAmb	IAmb	22 44 46.1	
E38A	comp=Z,307nm,1.5s			IAMs_20	IAMs_20	23 23 37.8	
ISA	comp=Z,7µm,21.0s **Isabella, Lake**	**80.97**	**323**	P	**P**	**22 44 36.1**	**+2.1**
ISA	baz=142,SNR=24			S	**S**	**22 54 45.1**	**+4.4**
ISA	baz=142 **Isabella, Lake**	**80.97**	**323**	IAMs_20	IAMs_20	23 13 40.6	
PKM	comp=Z,12µm,21.0s **Mcpherson Peak**	**81.06**	**322**	P	**P**	**22 44 36.8**	**+2.2**
PKM	baz=140,SNR=40			S	**S**	**22 54 45.9**	**+3.9**
H07N1	baz=140 **FLORES T-PHASE**	**81.17**	**30**	*eP*	**P**	**22 44 36.5**	**+1.6**
CALA	**Caldeira**	**81.32**	**33**	*eP*	**P**	**22 44 38.1**	**+2.3**
PCAN	comp=Z,125nm,1.1s **Candelaria**	**81.33**	**33**	*eP*	**P**	**22 44 36.0**	**+0.3**
CASY	comp=Z,251nm,1.3s **Casey**	**81.34**	**181**	P	**P**	**22 44 36.0**	**+0.5**
CASY	comp=Z,284nm,1.1s			IAmb	IAmb	22 44 49.1	
PCED	**Cedros**	**81.36**	**33**	*eP*	**P**	**22 44 37.6**	**+1.7**
CWC	comp=Z,144nm,1.4s **Cottonwood Cre**	**81.38**	**324**	P	**P**	**22 44 38.2**	**+1.9**
CWC	baz=142			S	**S**	**22 54 48.5**	**+3.3**
VES	baz=142 **Vestal, Richgr**	**81.42**	**323**	P	**P**	**22 44 38.1**	**+1.8**
VES	baz=141,SNR=9.9			S	**S**	**22 54 49.5**	**+4.3**
NLU	baz=141 **North Lily Min**	**81.44**	**330**	P	**P**	**22 44 37.3**	**+0.8**
GRAC	**Grapevine Rang**	**81.46**	**325**	P	**P**	**22 44 38.6**	**+2.0**
GRAC	baz=142,SNR=13			S	**S**	**22 54 50.2**	**+4.4**
SMMC	baz=142 **Simmler**	**81.48**	**322**	P	**P**	**22 44 39.0**	**+2.4**
LSQQ	baz=140 **Lebel-sur-Quev**	**81.52**	**356**	P	**P**	**22 44 36.6**	**+0.2**
K22A	baz=175 **Casper**	**81.55**	**335**	P	**P**	**22 44 38.3**	**+1.3**
K22A	baz=151,SNR=28			S	**S**	**22 54 49.1**	**+2.4**
PMAN	baz=151 **Manadas**	**81.64**	**33**	*eP*	**P**	**22 44 38.6**	**+1.2**

ROSA **Rosas** 81.65 33 *e*P P 22 44 38.9 +1.5
comp=Z,128nm,1.3s
ROSA **Rosas** 81.65 33 P P 22 44 38.1 +0.7
comp=Z,238nm,1.5s
ROSA IAmb IAmb 22 45 45.8
comp=Z,311nm,1.3s
ROSA IAMs_20 IAMs_20 23 18 09.4
comp=Z,13µm,22.0s
R11A **Troy Canyon, C** 81.69 326 P P 22 44 39.7 +1.9
baz=144,SNR=55
R11A S S 22 54 52.1 +3.8
baz=144
R11A **Troy Canyon, C** 81.69 326 IAMs_20 IAMs_20 23 17 21.6
comp=Z,9µm,18.0s
PSMA **Santa Maria** 81.75 36 *e*P P 22 44 38.6 +0.6
comp=Z,74nm,1.2s
PSMN **Pico do Norte,** 81.79 36 *e*P P 22 44 38.1 -0.1
comp=Z,131nm,1.5s
TIN **Tinemaha, Big** 81.93 324 P P 22 44 41.3 +2.2
baz=142,SNR=15
TIN S S 22 54 55.6 +4.9
baz=142
PAGB **Antelope Grade** 81.93 322 P P 22 44 40.1 +1.1
PAGB IAmb IAmb 22 44 59.2
comp=Z,350nm,1.8s
PAGB IAMs_20 IAMs_20 23 13 42.3
comp=Z,9µm,21.0s
VOG **Valley Oaks Go** 81.94 323 P P 22 44 39.6 +0.6
baz=141
DUG **Dugway, Tooele** 81.95 329 P P 22 44 40.6 +1.4
baz=146,SNR=37
DUG S S 22 54 52.4 +1.5
baz=146
DUG **Dugway, Tooele** 81.95 329 IAmb IAmb 22 44 53.2
comp=Z,482nm,1.9s
DUG IAMs_20 IAMs_20 23 16 01.4
comp=Z,17µm,22.0s
RSSD **Black Hills** 81.99 337 P P 22 44 40.1 +0.8
baz=153
RSSD S S 22 54 52.4 +1.1
baz=153
RSSD **Black Hills** 81.99 337 P P 22 44 40.1 +0.8
RSSD pmax pmax
comp=Z,124nm,1.2s
RSSD **Black Hills** 81.99 337 P P 22 44 40.1 +0.8
SRBC **Serra Branca** 81.99 33 *e*P P 22 44 38.7 -0.5
comp=Z,455nm,1.2s
PGRA **Graciosa** 82.02 33 *e*P P 22 44 39.7 +0.4
comp=Z,157nm,1.0s
ADH **Angra Heroismo** 82.06 34 *e*P P 22 44 40.5 +1.0
comp=Z,72nm,0.9s
PDA **Ponta Delgada** 82.08 35 *e*P P 22 44 41.1 +1.4
comp=Z,128nm,1.2s
PSET **Sete Cidades** 82.11 35 *e*P P 22 44 40.4 +0.5
comp=Z,122nm,1.1s
TCUT **Toone Canyon** 82.13 331 P P 22 44 40.6 +0.4
PSCM **Serra do Cume** 82.15 34 *e*P P 22 44 41.1 +1.0
comp=Z,163nm,1.3s
GRON **Grota Negra** 82.16 35 *e*P P 22 44 41.0 +0.8
comp=Z,126nm,1.2s
CMLA **Cha da Macela** 82.16 35 *e*P P 22 44 40.5 +0.4
comp=Z,103nm,1.1s
CMLA **Cha da Macela** 82.16 35 IAMs_20 IAMs_20 23 23 03.1
comp=Z,8µm,20.0s
EYMN **Ely** 82.24 347 P P 22 44 40.2 -0.1
baz=163,SNR=14
EYMN S S 22 54 49.0 -4.2
baz=163
EYMN **Ely** 82.24 347 IAmb IAmb 22 44 52.8
comp=Z,250nm,1.3s
MATQ **Matagami** 82.26 356 P P 22 44 40.1 -0.2
baz=175,SNR=13
MATQ S S 22 54 50.4 -2.9
baz=175
CHGQ **Chibougamau** 82.27 358 P P 22 44 40.5 +0.1
baz=178,SNR=16
CHGQ S S 22 54 52.0 -1.5
baz=178
BART **Pico Bartolome** 82.35 35 *e*P P 22 44 41.3 +0.1
comp=Z,152nm,1.5s
LBTB **Lobatse** 82.48 115 IAmb IAmb 22 44 43.0
comp=Z,396nm,1.4s
DRLN **Deer Lake** 82.53 9 IAMs_20 IAMs_20 23 23 03.9
comp=Z,8µm,21.0s
PMPB **Monarch Peak** 82.59 322 P P 22 44 43.7 +1.2
PMPB IAMs_20 IAMs_20 23 14 01.6
comp=Z,11µm,20.0s
HWUT **Hardware Ranch** 82.60 331 IAmb IAmb 22 45 00.1
comp=Z,400nm,1.7s
MLAC **Mammoth, Mammo** 82.68 324 P P 22 44 45.1 +2.0
baz=141,SNR=7.8
OMMB **Old Mammoth Mi** 82.75 324 P P 22 44 44.4 +0.8
OMMB IAMs_20 IAMs_20 23 15 34.8
comp=Z,14µm,20.0s
BW06 **Boulder Array** 82.78 333 P P 22 44 44.0 +0.5
baz=148
BW06 S S 22 54 59.6 +0.1
baz=148
PDAR **Pinedale Array** 82.78 333 P P 22 44 43.8 +0.2
comp=Z,9.7nm,0.8s,baz=133,slow=7.3,SNR=37
PDAR PKKPbc **PKKPbc** 23 03 06.6 -2.4
comp=Z,3.0nm,0.6s,baz=120,slow=0.4,SNR=13
PDAR PKPPKP **P'P'df** 23 11 15.1 +7.3
comp=Z,1.5nm,1.1s,baz=354,slow=1.5,SNR=4.9
PDAR LR LR 23 18 11.1
comp=Z,15µm,20.6s,baz=159,slow=33
PMOZ **Porto Moniz, M** 82.88 44 *e*P P 22 44 43.9 -0.2
comp=Z,134nm,1.0s
PMOZ **Porto Moniz, M** 82.88 44 *e*S S 22 55 16.5 +16
PMOZ **Porto Moniz, M** 82.88 44 *e*LR LR 23 11 38.0
comp=Z,6µm,24.0s
PMOZ **Porto Moniz, M** 82.88 44 P P 22 44 44.9 +0.8
MCQ **Macquarie Isla** 82.90 207 IAMs_20 IAMs_20 23 13 16.2
comp=Z,8µm,20.0s
FUL **Funchal** 82.93 44 *e*P P 22 44 44.7 +0.5
comp=Z,220nm,1.1s
PMAR **Madeira** 82.97 44⇑ *e*P P 22 44 45.2 +0.5
comp=Z,335nm,1.3s
NV11 **Mina Array Sit** 82.98 325 IAMs_20 IAMs_20 23 14 48.7
comp=Z,9µm,21.0s
LHV **Little Huntoon** 83.00 325 IAMs_20 IAMs_20 23 14 48.5
comp=Z,11µm,21.0s
NVAR **Mina Array Bea** 83.05 325 P P 22 44 46.1 +1.1
comp=Z,24nm,0.8s,baz=155,slow=6.2,SNR=73
NVAR PKKPbc **PKKPbc** 23 03 07.0 -1.1
comp=Z,2.8nm,0.9s,baz=330,slow=1.3,SNR=7.0
NVAR PKPPKP P'P'df 23 11 19.7 +12
comp=Z,2.0nm,0.9s,baz=226,slow=1.2,SNR=7.4
NVAR LR LR 23 15 00.8
comp=Z,10µm,21.9s,baz=148,slow=31
RYN **Ryan** 83.31 325 P P 22 44 47.4 +1.1
RYN IAMs_20 IAMs_20 23 14 59.5
comp=Z,9µm,22.0s
SAO **San Andreas Ge** 83.35 322 P P 22 44 46.8 +0.5
SAO pmax pmax
comp=Z,45nm,1.0s
SAO MLR MLR
comp=Z,10µm,20.0s
SAO **San Andreas Ge** 83.35 322 P P 22 44 46.8 +0.5
SAO IAMs_20 IAMs_20 23 14 21.6
comp=Z,10µm,20.0s
TOA0 **Torodi Ar. Sit** 83.37 70 P P 22 44 46.2 -0.7
TOA0 IAmb IAmb 22 45 14.4
comp=Z,282nm,1.1s
TORD **Torodi Ar. Bea** 83.37 70 P P 22 44 46.5 -0.4
comp=Z,98nm,0.8s,baz=255,slow=3.7,SNR=278
TORD PKKPbc **PKKPbc** 23 03 04.2 -1.4
comp=Z,0.7nm,0.9s,baz=334,slow=1.8,SNR=1.9
TORD PKPPKP P'P'df 23 11 21.1 +10
comp=Z,1.1nm,1.1s,baz=58,slow=2.3,SNR=3.9
TORD LR LR 23 19 43.1
comp=Z,17µm,21.6s,baz=225,slow=34
AHID **Auburn Hatcher** 83.39 332 IAmb IAmb 22 44 59.9
comp=Z,371nm,1.9s
AHID IAMs_20 IAMs_20 23 18 09.2
comp=Z,14µm,21.0s
KVN **Kaiserville** 83.44 325 IAMs_20 IAMs_20 23 15 16.8
comp=Z,7µm,20.0s
AGMN **Agassiz Nation** 83.51 344 P P 22 44 47.1 +0.2
baz=160,SNR=18
AGMN S S 22 55 02.7 -3.4
baz=160
AGMN **Agassiz Nation** 83.51 344 IAmb IAmb 22 44 59.6
comp=Z,184nm,1.1s
PMPS **Porto Santo** 83.55 44 *e*P P 22 44 48.6 +1.2
comp=Z,215nm,1.8s
PMPST **Porto Santo, M** 83.57 44 *e*P P 22 44 48.7 +1.2
comp=Z,200nm,1.5s

WAKR **Walker** 83.66 324 IAmb IAmb 22 45 02.9
comp=Z,267nm,1.7s
CMB **Columbia Colle** 83.77 323 IAMs_20 IAMs_20 23 16 24.8
comp=Z,7µm,20.0s
REDW **Red Top Meadow** 83.79 332 IAmb IAmb 22 45 02.1
comp=Z,261nm,1.7s
REDW IAMs_20 IAMs_20 23 17 45.8
comp=Z,13µm,22.0s
SNOW **Snow King Moun** 83.84 332 IAMs_20 IAMs_20 23 18 10.1
comp=Z,14µm,21.0s
LOHW **Long Hollow** 83.90 333 IAmb IAmb 22 45 02.7
comp=Z,242nm,1.9s
TPAW **Teton Pass** 83.94 332 IAMs_20 IAMs_20 23 18 00.7
comp=Z,11µm,22.0s
YERR **Yerington** 83.94 325 IAmb IAmb 22 45 03.9
comp=Z,176nm,1.3s
YERR IAMs_20 IAMs_20 23 16 01.1
comp=Z,13µm,20.0s
MDND **Maddock** 84.03 341 P P 22 44 50.2 +0.7
baz=156,SNR=20
MQZ **McQueen's Vall** 84.04 221 IAMs_20 IAMs_20 23 14 43.9
comp=Z,11µm,20.0s
FXWY **Fox Creek** 84.09 332 IAMs_20 IAMs_20 23 18 18.8
comp=Z,10µm,21.0s
PNTR **Pine Nut** 84.19 324 IAMs_20 IAMs_20 23 15 55.9
comp=Z,15µm,20.0s
ODZ **Oahua Downs** 84.25 219 P P 22 44 52.4 +1.3
IMW **Indian Meadow** 84.27 333 IAMs_20 IAMs_20 23 18 34.7
comp=Z,12µm,20.0s
FLWY **Flagg Ranch** 84.34 333 IAmb IAmb 22 45 08.4
comp=Z,250nm,1.4s
KHZ **Kahutara** 84.37 222 IAmb IAmb 22 45 07.1
comp=Z,435nm,1.8s
KHZ IAMs_20 IAMs_20 23 12 36.8
comp=Z,8µm,20.0s
VCNR **Virginia City** 84.38 325 IAMs_20 IAMs_20 23 16 02.8
comp=Z,13µm,20.0s
SNZO **South Karori** 84.40 224 IAMs_20 IAMs_20 23 13 21.7
comp=Z,8µm,21.0s
RUBR **Rubicon Trail** 84.44 324 IAMs_20 IAMs_20 23 16 09.4
comp=Z,7µm,21.0s
MXZ **Matakaoa Point** 84.53 229 IAMs_20 IAMs_20 23 12 47.4
comp=Z,12µm,22.0s
H17A **Grant Village** 84.56 333 P P 22 44 54.2 +1.5
baz=148
PAHR **Pah Rah Range** 84.57 325 IAmb IAmb 22 45 42.1
comp=Z,206nm,1.6s
PAHR IAMs_20 IAMs_20 23 16 13.9
comp=Z,11µm,22.0s
RLMT **Red Lodge** 84.68 334 P P 22 44 54.0 +0.8
baz=149,SNR=20
RLMT **Red Lodge** 84.68 334 IAmb IAmb 22 45 06.7
comp=Z,281nm,1.6s
AFDM **Forest Hills D** 84.77 324 IAMs_20 IAMs_20 23 16 00.7
comp=Z,7µm,20.0s
URZ **Urewera** 84.85 227 P P 22 44 55.6 +1.4
comp=Z,15nm,1.0s,baz=59,slow=3.5,SNR=4.6
URZ **Urewera** 84.85 227 IAmb IAmb 22 45 10.0
comp=Z,281nm,1.9s
LTZ **Lake Taylor** 84.85 222 IAmb IAmb 22 45 13.2
comp=Z,185nm,1.0s
RPZ **Rata Peaks** 84.91 220 P P 22 44 55.7 +1.3
comp=Z,61nm,0.9s,baz=209,slow=2.8,SNR=14
LAO **LA Array** 84.98 337 P P 22 44 55.0 +0.5
baz=151
LAO **LASA Array** 84.98 337 IAmb IAmb 22 45 07.6
comp=Z,343nm,1.5s
LAO IAMs_20 IAMs_20 23 23 01.5
comp=Z,7µm,21.0s
WHZ **Wether Hill Ro** 85.09 217 IAmb IAmb 22 45 10.4
comp=Z,356nm,1.6s
WHZ IAMs_20 IAMs_20 23 13 16.2
comp=Z,10µm,21.0s
THZ **Tophouse** 85.15 223 IAmb IAmb 22 45 11.7
comp=Z,154nm,1.0s
THZ IAMs_20 IAMs_20 23 13 03.5
comp=Z,10µm,21.0s
NNZ **Nelson** 85.23 223 IAmb IAmb 22 45 12.6
comp=Z,278nm,1.2s
WKZ **Wanaka** 85.26 218 IAmb IAmb 22 45 13.8
comp=Z,145nm,1.2s
ULM **Lac du Bonnet** 85.34 345 P P 22 44 55.8 -0.2
comp=Z,420nm,0.8s,baz=164,slow=4.8,SNR=22
ULM **Lac du Bonnet** 85.34 345 IAmb IAmb 22 45 08.5
comp=Z,236nm,1.2s
HLID **Hailey** 85.40 330 P P 22 44 58.1 +1.3
baz=145,SNR=52
HLID **Hailey** 85.40 330 IAmb IAmb 22 45 10.9
comp=Z,421nm,1.8s
HLID IAMs_20 IAMs_20 23 18 13.6
comp=Z,8µm,21.0s
ORV **Oroville** 85.49 324 IAMs_20 IAMs_20 23 16 23.4
comp=Z,9µm,20.0s
PYZ **Puysegur Point** 85.54 216 IAMs_20 IAMs_20 23 16 33.1
comp=Z,10µm,19.0s
DCZ **Deep Cove** 85.79 217 IAMs_20 IAMs_20 23 13 37.7
comp=Z,7µm,20.0s
MFID **Camas Ranch** 85.88 329 IAMs_20 IAMs_20 23 18 58.4
comp=Z,11µm,21.0s
DGMT **Dagmar** 85.91 339 P P 22 44 59.8 +0.8
baz=153,SNR=22
BOZ **Bozeman (W)** 85.97 333 P P 22 45 00.2 +0.7
baz=147,SNR=29
BOZ **Bozeman (W)** 85.97 333 IAMs_20 IAMs_20 23 19 54.5
comp=Z,12µm,20.0s
QRZ **Quartz Range** 85.97 223 IAmb IAmb 22 45 14.2
comp=Z,240nm,1.2s
QRZ IAMs_20 IAMs_20 23 15 41.3
comp=Z,10µm,21.0s
HIZ **Hauiti** 86.08 226 IAmb IAmb 22 45 16.5
comp=Z,322nm,1.4s
DLMT **Dillon** 86.15 332 IAmb IAmb 22 45 14.2
comp=Z,277nm,1.6s
DLMT IAMs_20 IAMs_20 23 20 15.3
comp=Z,12µm,20.0s
O03E **Paynes Creek** 86.21 324 P P 22 45 01.2 +0.4
baz=140,SNR=14
WVOR **Wild Horse Val** 86.35 327 IAMs_20 IAMs_20 23 19 51.8
comp=Z,9µm,19.0s
O02D **Mt. Diablo Mer** 86.61 323 P P 22 45 04.0 +1.3
baz=139
MOD **Modoc Plateau** 86.71 326 IAmb IAmb 22 45 16.3
comp=Z,197nm,1.6s
RAO **Raoul Island** 86.93 237 LR LR 23 13 57.8
comp=Z,13µm,21.9s,baz=138,slow=29
RAO **Raoul Island** 86.93 237 IAMs_20 IAMs_20 23 13 35.3
comp=Z,15µm,22.0s
J08A **Circle Bar Ran** 87.00 328 IAmb IAmb 22 45 45.4
comp=Z,192nm,1.0s
J08A IAMs_20 IAMs_20 23 18 13.1
comp=Z,12µm,22.0s
N02D **Trinity Center** 87.17 324 P P 22 45 06.2 +0.8
baz=139,SNR=13
SCHQ **Schefferville** 87.25 3 P P 22 45 05.1 -0.3
comp=Z,85nm,1.1s,baz=186,slow=3.6,SNR=31
SCHQ LR LR 23 27 50.0
comp=Z,3µm,18.3s,baz=182,slow=38
SCHQ **Schefferville** 87.25 3 IAmb IAmb 22 45 18.0
comp=Z,312nm,1.4s
EGMT **Eagleton** 87.34 335 P P 22 45 06.1 0.0
baz=148,SNR=15
EGMT **Eagleton** 87.34 335 IAmb IAmb 22 45 18.7
comp=Z,220nm,1.4s
M04C **Macdoel** 87.36 325 P P 22 45 07.5 +1.2
baz=140,SNR=14
M02C **Callahan** 87.56 324 P P 22 45 08.3 +1.0
baz=139,SNR=10
M02C S S 22 55 46.6 +0.1
baz=139
KHMM **Horse Mountain** 87.61 323 IAmb IAmb 22 45 51.8
comp=Z,170nm,1.2s
BMO **Blue Mountains** 87.67 329 IAMs_20 IAMs_20 23 20 26.7
comp=Z,15µm,20.0s
YBH **Yreka Blue Hor** 87.74 324 LR LR 23 18 03.6
comp=Z,8µm,21.3s,baz=150,slow=31
MSO **Missoula** 87.89 332 P P 22 45 09.8 +1.1
baz=145,SNR=9.4
MSO **Missoula** 87.89 332 IAmb IAmb 22 45 22.6
comp=Z,211nm,1.8s
L04D **Klamath Falls** 87.91 325 P P 22 45 09.6 +0.6
baz=139,SNR=12
L04D S S 22 55 49.6 -0.4
baz=139
K04D **Chiloquin, OR** 87.95 325 P P 22 45 10.5 +1.3
baz=140
I07A **Izee** 88.03 328 IAMs_20 IAMs_20 23 21 16.4
comp=Z,9µm,19.0s
J05D **Fort Rock, OR** 88.21 326 P P 22 45 11.7 +1.2
baz=140,SNR=17
PINE **Pine Mountain** 88.46 327 IAmb IAmb 22 45 29.1
comp=Z,90nm,0.9s
PINE IAMs_20 IAMs_20 23 23 13.9
comp=Z,7µm,18.0s
L02E **Cave Junction** 88.50 324 P P 22 45 13.4 +1.7
baz=138
HUMO **Hull Mountain** 88.52 325 IAMs_20 IAMs_20 23 18 16.1
comp=Z,8µm,21.0s
F10A **Beach Ranch, E** 88.53 330 IAMs_20 IAMs_20 23 19 40.4
comp=Z,6µm,21.0s
JTMT **Jette** 88.77 333 IAmb IAmb 22 45 25.5
comp=Z,118nm,1.3s
JTMT IAMs_20 IAMs_20 23 21 19.7
comp=Z,11µm,21.0s
K02D **Willamette Mer** 88.93 324 P P 22 45 15.2 +1.5
baz=138
OUZ **Omahuta** 88.95 228 IAmb IAmb 22 45 30.6
comp=Z,144nm,1.6s
OUZ IAMs_20 IAMs_20 23 16 35.6
comp=Z,8µm,20.0s
I05D **Terrebonne, OR** 89.07 327 P P 22 45 16.0 +1.6
baz=140,SNR=8.8
I05D S S 22 56 02.0 +1.4
baz=140
I04A **Tendick Farm,** 89.15 326 P P 22 45 15.5 +0.7
baz=139,SNR=9.7
AVE **Averroes** 89.17 49⇑ *i*P P 22 45 15.0 -0.1
AVE *i* S S 22 56 04.2 +2.3
E09A **Wood Farm, Sta** 89.34 330 IAMs_20 IAMs_20 23 21 50.0
comp=Z,10µm,19.0s
I03D **Drain, OR** 89.53 325 P P 22 45 17.4 +1.0
baz=138
F07A **Phinny Hill Vi** 89.63 329 IAMs_20 IAMs_20 23 21 57.6
comp=Z,12µm,19.0s
WALA **Waterton Lakes** 89.71 334 IAMs_20 IAMs_20 23 22 34.5
comp=Z,13µm,20.0s
E08A **Dider Farm, El** 89.72 329 IAmb IAmb 22 45 30.5
comp=Z,300nm,2.0s
E08A IAMs_20 IAMs_20 23 21 18.9
comp=Z,13µm,20.0s
H04A **Detroit Lake** 89.72 327 IAmb IAmb 22 45 30.7
comp=Z,222nm,1.8s
H04A IAMs_20 IAMs_20 23 19 09.2
comp=Z,14µm,22.0s
G05D **Wamic, OR** 89.75 327 P P 22 45 19.1 +1.6
baz=140,SNR=5.6
G05D S S 22 56 09.3 +2.5
baz=140
LSZ **Lusaka** 89.82 108 P P 22 45 19.9 +1.1
LSZ pmax pmax
comp=Z,243nm,1.2s
LSZ MLR MLR
comp=Z,48µm,20.0s
LSZ **Lusaka** 89.82 108 P P 22 45 19.9 +1.1
HAWA **Hanford** 89.84 329 IAMs_20 IAMs_20 23 20 50.3
comp=Z,14µm,20.0s
H04D **Lebanon** 89.86 326 P P 22 45 18.8 +0.8
baz=139
D08A **Wollman Farm,** 90.10 330 IAmb IAmb 22 45 32.5
comp=Z,322nm,1.9s
D08A IAMs_20 IAMs_20 23 21 34.1
comp=Z,11µm,21.0s
E07A **Sunnyside** 90.11 329 IAmb IAmb 22 45 31.9
comp=Z,192nm,1.9s
F05D **White Salmon** 90.30 328 P P 22 45 21.5 +1.5
baz=140
NEW **Newport** 90.31 331 P P 22 45 19.9 -0.1
baz=143,SNR=15
NEW **Newport** 90.31 331 IAMs_20 IAMs_20 23 22 17.5
comp=Z,12µm,20.0s
C09A **Chrisman Ranch** 90.42 331 IAMs_20 IAMs_20 23 22 19.3
comp=Z,11µm,21.0s
G03D **McMinnville, O** 90.62 326 P P 22 45 23.2 +1.7
baz=139
MDT **Midelt** 90.67 51 P P 22 45 22.7 +0.6
comp=Z,12nm,1.1s,baz=259,slow=5.5,SNR=15
MDT LR LR 23 24 47.5
comp=Z,15µm,21.6s,baz=248,slow=35
IFR **Ifrane** 90.77 50⇑ *i*P P 22 45 23.1 +0.3
IFR *e*S S 22 56 09.0 -8.1
F04A **Amboy** 90.78 327 IAMs_20 IAMs_20 23 20 08.0
comp=Z,13µm,22.0s
PFVI **Vila Bisbo** 90.81 45⇑ *e*P P 22 45 22.5 -0.1
comp=Z,98nm,1.5s
PFVI **Vila Bisbo** 90.81 45 *e*SKS S 22 56 19.1 +2.2
FFC **Flin Flon** 90.92 343 P P 22 45 22.5 -0.1
FFC pmax pmax
comp=Z,128nm,1.6s
FFC MLR MLR
comp=Z,8µm,21.0s
FFC **Flin Flon** 90.92 343 P P 22 45 22.5 -0.1
FFC IAmb IAmb 22 45 35.2
comp=Z,128nm,1.6s
FFC **Flin Flon** 90.92 343 IAMs_20 IAMs_20 23 27 26.2
comp=Z,8µm,21.0s
AFI **Afiamalu** 90.98 253 LR LR 23 18 30.5
comp=Z,23µm,18.2s,baz=117,slow=30
LTY **Liberty** 91.01 329 IAmb IAmb 22 46 02.5
comp=Z,129nm,1.4s
LTY IAMs_20 IAMs_20 23 22 53.0
comp=Z,12µm,19.0s
MORF **Marmelete** 91.03 45 *e*P P 22 45 23.2 -0.5
MORF *e*SKSac **SKSac** 22 55 52.0 -1.3
MORF AMS AMS 23 25 41.3
comp=Z,12µm,17.1s
MORF **Marmelete** 91.03 45 *e*P P 22 45 23.2 -0.5
MORF *e* 22 55 52.0
MORF **Marmelete** 91.03 45⇑ *e*P P 22 45 23.4 -0.3
comp=Z,46nm,1.4s
MORF **Marmelete** 91.03 45 *e*SKS S 22 56 31.0 +12
LON **Longmire** 91.12 328 IAMs_20 IAMs_20 23 21 23.1
comp=Z,8µm,21.0s
PTEO **Sao Teotonio** 91.14 45⇑ *e*P P 22 45 24.3 +0.2
comp=Z,97nm,1.2s
F04D **Rainier, OR** 91.16 327 P P 22 45 25.5 +1.6
baz=139
B08A **Colville Reser** 91.29 330 IAmb IAmb 22 45 37.4
comp=Z,145nm,1.9s
B08A IAMs_20 IAMs_20 23 22 32.6
comp=Z,14µm,21.0s
F03A **Seaside** 91.30 327 IAMs_20 IAMs_20 23 24 30.9
comp=Z,6µm,19.0s
E04D **Cinebar** 91.31 328 P P 22 45 25.3 +0.7
baz=139
PBDV **Barranco-do-Ve** 91.42 46⇑ *e*P P 22 45 25.6 +0.1
comp=Z,98nm,1.3s
PBDV **Barranco-do-Ve** 91.42 46 *e*PP PP 22 49 20.0 +16
PBDV *e*SKS S 22 56 14.7 -7.8
D05A **Enumclaw** 91.53 328 IAmb IAmb 22 46 11.9
comp=Z,85nm,1.1s
D05A IAMs_20 IAMs_20 23 22 15.0
comp=Z,11µm,21.0s
PNCL **Nicolau / Gran** 91.63 45⇑ *e*P P 22 45 26.6 +0.2
comp=Z,45nm,1.9s
PNCL **Nicolau / Gran** 91.63 45 *e*PP PP 22 49 02.9 -2.6
PNCL *e*SKS S 22 56 12.9 -11
LIS **Lisbon** 91.67 44 *e*P P 22 45 26.2 -0.3
LIS *e*SKSac **SKSac** 22 55 55.6 -1.1
LIS AMS AMS 23 23 31.6
comp=Z,7µm,20.8s
LIS **Lisbon** 91.67 44 *e*P P 22 45 26.2 -0.3
LIS *e* 22 55 55.6
LIS **Lisbon** 91.67 44⇑ *e*P P 22 45 25.9 -0.6
comp=Z,93nm,1.1s
LIS **Lisbon** 91.67 44 *e*PP PP 22 49 23.9 +18
PMAFR **Mafra** 91.75 44⇑ *e*P P 22 45 26.8 -0.1
comp=Z,104nm,1.6s
PMAFR **Mafra** 91.75 44 *e*SKS S 22 56 18.4 -7.0
E03A **Lebam** 91.76 327 IAMs_20 IAMs_20 23 24 50.1
comp=Z,8µm,19.0s
D04E **Lakebay** 91.88 328 P P 22 45 29.0 +1.7
baz=139
SFS **San Fernando** 91.97 47⇑ *i*P P 22 45 27.8 -0.2
SFS *e*S S 22 56 16.7 -11
PBEJ **Beja** 91.97 45⇑ *e*P P 22 45 28.0 0.0
comp=Z,49nm,1.8s
CEU **Ceuta** 92.13 48⇑ *i*P P 22 45 29.1 +0.4
CEU *i* S S 22 56 16.5 -12
EVO **Evora** 92.21 45 *i* P P 22 45 27.7 -1.4
EVO *e*S S 22 56 15.4 -14
EVO **Evora** 92.21 45⇑ *e*P P 22 45 28.9 -0.2
comp=Z,43nm,1.6s
EVO **Evora** 92.21 45 *e*PP PP 22 49 08.2 -1.9
D03D **Eldon** 92.29 328 P P 22 45 30.0 +0.8
baz=139
PVLZ **Peæn de** 92.35 49⇑ *i*P P 22 45 29.0 -0.8

PVLZ *i* S S 22 56 17.3 -14
B05A Bryant 92.40 329 P P 22 45 29.9 +0.3
baz=139
PSBE So Bento 92.40 43⇑ *e*P P 22 45 30.1 +0.2
comp=Z,109nm,1.6s
PSBE So Bento 92.40 43 *e*PP PP 22 49 08.2 -3.4
PSBE *e*SKS **S 22 56 26.8 -4.5**
NLWA Neilton Lookou 92.53 327 IAMs_20 IAMs_20 23 24 37.4
comp=Z,6µm,20.0s
PCAS Casmilo, Conde 92.93 43 *e*SKS S 22 56 25.7 -10
A04D Lummi Island 93.01 329 P P 22 45 33.4 +1.0
baz=139
FCC Fort Churchill 93.03 348 IAmb IAmb 22 45 47.9
comp=Z,260nm,1.9s
PMRV Marv??o 93.16 44⇑ *e*P P 22 45 32.8 -0.7
comp=Z,40nm,1.4s
PMRV Marv??o 93.16 44 *e*PP PP 22 49 13.1 -4.5
PMRV *e*SKS **SKSac 22 56 11.0 +5.9**
PMRV Marv??o 93.16 44 *e*LQ LQ 23 10 01.7
PMRV *e*LR LR 23 16 52.1
comp=Z,5µm,20.0s
EMAL Malaga-Limoner 93.26 48 *i* P P 22 45 34.0 +0.1
EMAL *e*S S 22 56 21.9 -17
MELI Melilla 93.30 50⇑ *i* P P 22 45 33.7 -0.4
MELI *e*S S 22 56 24.2 -15
PCBR Castelo Branco 93.38 44⇑ *e*P P 22 45 32.6 -1.8
comp=Z,42nm,1.3s
PCBR Castelo Branco 93.38 44 *e*PP PP 22 49 17.4 -1.8
MTE Manteigas 93.71 43⇑ *e*P P 22 45 35.5 -0.5
comp=Z,65nm,1.3s
MTE Manteigas 93.71 43 *e*PP PP 22 49 16.7 -5.1
MTE *e*SKS **SKSac 22 56 13.7 +5.5**
MTE Manteigas 93.71 43 *e*LQ LQ 23 12 28.2
MTE *e*LR LR 23 16 42.3
comp=Z,13µm,22.0s
MTE Manteigas 93.71 43 IAMs_20 IAMs_20 23 23 58.5
comp=Z,14µm,22.0s
PVIS Viseu 93.71 43⇑ *e*P P 22 45 34.4 -1.6
comp=Z,37nm,1.8s
PVIS Viseu 93.71 43 *e*PP PP 22 49 21.4 -0.4
PVRL Vila Real 94.18 43⇑ *e*P P 22 45 37.6 -0.5
comp=Z,59nm,1.5s
PVRL Vila Real 94.18 43 *e*PP PP 22 49 24.2 -1.3
PCAB Cabril 94.28 42⇑ *e*P P 22 45 37.9 -0.7
comp=Z,44nm,1.6s
PCAB Cabril 94.28 42 *e*PP PP 22 49 26.2 -0.1
PGAV Gavieira, Arco 94.31 42⇑ *e*P P 22 45 37.8 -1.0
comp=Z,55nm,1.7s
PGAV Gavieira, Arco 94.31 42 *e*PP PP 22 49 18.1 -8.5
PGAV *e*SKS **SKSac 22 56 20.8 +9.4**
PGAV Gavieira, Arco 94.31 42 *e*LQ LQ 23 10 22.5
PGAV *e*LR LR 23 16 56.6
comp=Z,9µm,20.0s
MVO Moncorvo 94.50 43⇑ *e*P P 22 45 39.3 -0.3
comp=Z,67nm,1.1s
MVO Moncorvo 94.50 43 *e*PP PP 22 49 26.6 -1.4
MVO *e*SKS SKSac 22 56 23.5 +11
MVO Moncorvo 94.50 43 *e*LQ LQ 23 11 38.6
MVO *e*LR LR 23 17 03.2
comp=Z,14µm,22.0s
PAB San Pablo 95.05 46 P P 22 45 42.3 +0.1
PAB pmax pmax
comp=Z,36nm,1.3s
PAB MLR MLR
comp=Z,11µm,20.0s
PAB San Pablo 95.05 46 P P 22 45 42.3 +0.1
PAB San Pablo 95.05 46 IAMs_20 IAMs_20 23 27 38.1
comp=Z,11µm,20.0s
PBRG Braganca 95.08 43⇑ *e*P P 22 45 41.5 -0.7
comp=Z,41nm,1.5s
PBRG Braganca 95.08 43 *e*PP PP 22 49 31.4 -1.1
ES14 SONSECA Array 95.34 46 IAMs_20 IAMs_20 23 27 57.6
comp=Z,10µm,20.0s
ES15 SONSECA Array 95.34 46 IAMs_20 IAMs_20 23 27 57.6
comp=Z,11µm,20.0s
ES13 SONSECA Array 95.35 46 IAMs_20 IAMs_20 23 27 58.0
comp=Z,10µm,20.0s
ES16 SONSECA Array 95.36 46 IAMs_20 IAMs_20 23 27 58.1
comp=Z,11µm,20.0s
ES12 SONSECA Array 95.36 46 IAMs_20 IAMs_20 23 27 59.1
comp=Z,9µm,20.0s
ES05 SONSECA Array 95.36 46 IAMs_20 IAMs_20 23 27 58.3
comp=Z,11µm,20.0s
ESDC Sonseca Array 95.37 46 P P 22 45 43.3 -0.3
comp=Z,4.7nm,0.9s,baz=246,slow=4.0,SNR=18
ESDC LR LR 23 28 27.7
comp=Z,8µm,18.5s,baz=225,slow=35
ES04 SONSECA Array 95.37 46 IAMs_20 IAMs_20 23 27 58.4
comp=Z,10µm,20.0s
ESBB Sonseca Array 95.37 46 IAMs_20 IAMs_20 23 27 58.5
comp=Z,10µm,20.0s
ES01 SONSECA Array 95.37 46 IAMs_20 IAMs_20 23 27 58.6
comp=Z,10µm,20.0s
ES06 SONSECA Array 95.37 46 IAMs_20 IAMs_20 23 27 58.6
comp=Z,10µm,20.0s
ES11 SONSECA Array 95.38 46 IAMs_20 IAMs_20 23 27 58.7
comp=Z,10µm,20.0s
ES17 SONSECA Array 95.38 46 IAMs_20 IAMs_20 23 27 58.7
comp=Z,11µm,19.0s
ES03 SONSECA Array 95.38 46 IAMs_20 IAMs_20 23 27 58.8
comp=Z,10µm,20.0s
ES07 SONSECA Array 95.38 46 IAMs_20 IAMs_20 23 27 58.8
comp=Z,10µm,19.0s
KHU Kahuku 95.38 289 IAMs_20 IAMs_20 23 17 57.7
comp=Z,7µm,20.0s
ES02 SONSECA Array 95.38 46 IAMs_20 IAMs_20 23 27 58.9
comp=Z,10µm,20.0s
ES10 SONSECA Array 95.39 46 IAMs_20 IAMs_20 23 28 00.1
comp=Z,10µm,20.0s
ES18 SONSECA Array 95.40 46 IAMs_20 IAMs_20 23 27 59.2
comp=Z,11µm,20.0s
ES08 SONSECA Array 95.40 46 IAMs_20 IAMs_20 23 27 59.3
comp=Z,10µm,20.0s
ES09 SONSECA Array 95.41 46 IAMs_20 IAMs_20 23 27 59.5
comp=Z,10µm,20.0s
ES19 SONSECA Array 95.42 46 IAMs_20 IAMs_20 23 27 59.9
comp=Z,10µm,20.0s
IVI Ivigtut 95.48 11 IAMs_20 IAMs_20 23 31 31.1
comp=Z,5µm,19.0s
MLOA Mauna Loa Obse 95.51 290 IAMs_20 IAMs_20 23 17 38.0
comp=Z,10µm,22.0s
POHA Pohakuloa 95.59 290 IAMs_20 IAMs_20 23 17 31.3
comp=Z,7µm,21.0s
KHLU Kahalu`u 95.79 289 IAMs_20 IAMs_20 23 17 34.5
comp=Z,8µm,22.0s
HPAH Hawaii Prepara 95.87 290 IAMs_20 IAMs_20 23 17 49.6
comp=Z,9µm,22.0s
NRS Narsarsuaq 95.91 12 *i* P P 22 45 46.3 +0.9
comp=Z,6µm,18.0s
NRS Narsarsuaq 95.91 12 IAMs_20 IAMs_20 23 33 57.4
comp=Z,6µm,19.0s
CART Cartagena 95.93 49 *i* P P 22 45 45.0 -1.1
CART *i* S SKSac 22 56 35.0 +15
CART Cartagena 95.93 49 IAMs_20 IAMs_20 23 27 32.3
comp=Z,8µm,22.0s
UCM Universidad Co 96.19 46 *i* P P 22 45 46.1 -1.3
UCM *i* S SKSac 22 56 37.1 +16
HLK Haleakala 96.69 290 IAMs_20 IAMs_20 23 18 12.4
comp=Z,11µm,22.0s
MSVF Nonsavu 96.75 244 IAMs_20 IAMs_20 23 20 16.5
comp=Z,9µm,21.0s
TAU Tasmania Unive 96.77 208 IAMs_20 IAMs_20 23 20 29.2
comp=Z,7µm,20.0s
KHLH Kahului Airpor 96.91 290 IAMs_20 IAMs_20 23 18 42.1
comp=Z,10µm,21.0s
KARM1 KARONGA 97.40 107 *i* P Pdif 22 45 55.6 +1.9
KARM1 S pP 22 46 03.8 0.0
KARM1 KARONGA 97.40 107 *i* P Pdif 22 45 55.6 +1.9
KARM1 S pP 22 46 03.8 0.0
HON Honolulu 98.38 290 IAMs_20 IAMs_20 23 19 23.0
comp=Z,10µm,21.0s
KIP Kipapa 98.44 290 IAMs_20 IAMs_20 23 19 12.7
comp=Z,12µm,22.0s
OPA Opana 98.58 290 IAMs_20 IAMs_20 23 19 28.3
comp=Z,12µm,21.0s
KEKH Kekaha 100.08 290 IAMs_20 IAMs_20 23 24 58.2
comp=Z,8µm,18.0s
LHI Lord Howe Isla 100.22 222 IAMs_20 IAMs_20 23 24 07.4
comp=Z,9µm,19.0s
MAHO Mahon 100.62 49 *i* P Pdif 22 46 07.4 +0.3
MAHO *i* S SKSac 22 57 00.5 +17
SFJD Kangerlussuaq 100.64 8 *i* P Pdif 22 46 07.5 +1.0
SFJD *i* 22 50 14.2
comp=Z,300nm,22.0s
SFJD Kangerlussuaq 100.64 8 IAMs_20 IAMs_20 23 32 55.6
comp=Z,4µm,20.0s

YKA Yellowknife Ar 100.95 341 P Pdif 22 46 08.1 0.0
comp=Z,2.4nm,0.6s,baz=138,slow=5.0,SNR=7.6
YKA PP **PP 22 50 17.4 +0.4**
comp=Z,3.7nm,0.9s,baz=137,slow=6.7,SNR=5.0
CCA1 Carnmenellis 101.18 37 *e*P Pdif 22 45 52.5 -17
CCA1 IAMs_20 IAMs_20 23 28 46.7
comp=Z,11µm,20.5s
ANGG Ammassalik, Gr 101.44 14 IAMs_20 IAMs_20 23 29 02.6
comp=Z,5µm,22.0s
DYA Yadsworthy 101.99 37 *e*P Pdif 22 45 55.4 -18
DYA IAMs_20 IAMs_20 23 30 11.0
comp=Z,13µm,19.9s
TOO Toolangi 102.04 209 IAMs_20 IAMs_20 23 22 46.9
comp=Z,10µm,20.0s
JSA Saint Aubin 102.16 39 *e*P Pdif 22 45 57.2 -16
JSA IAMs_20 IAMs_20 23 29 27.8
comp=Z,16µm,21.6s
DZM Mont Dzumac 102.35 234 *e*PP PP 22 50 28.0 +0.4
comp=Z,1µm,28.1s
DZM *e*SKSac **SKSac 22 56 50.3 -3.1**
comp=Z,5µm,28.1s
DZM *e*SP **SP 22 59 26.4 -4.1**
comp=Z,7µm,29.8s
DZM *e*SS **SS 23 05 01.4 -1.6**
comp=Z,9µm,28.2s
DZM Mont Dzumac 102.35 234 *e*LQ LQ 23 15 27.9
comp=Z,13µm,34.3s
DZM *e*LR LR 23 19 46.0
comp=Z,40µm,27.4s
OPO Ambohidratompo 102.38 122 PP PP 22 50 28.1 0.0
comp=Z,2.6nm,0.9s,baz=108,slow=2.7,SNR=3.9
CAN Canberra 102.40 213 IAMs_20 IAMs_20 23 27 20.0
comp=Z,6µm,18.0s
RSBS Rosebush, Pemb 102.51 36 *e*P Pdif 22 45 58.7 -17
RSBS IAMs_20 IAMs_20 23 33 46.6
comp=Z,6µm,18.9s
DSB Dublin 102.52 34 IAMs_20 IAMs_20 23 30 55.6
comp=Z,7µm,22.0s
ILULI Ilulissat 102.70 7 *i* P Pdif 22 46 16.1 +0.4
ILULI *i* 22 50 31.2
comp=Z,5µm,20.0s
ILULI Ilulissat 102.70 7 IAMs_20 IAMs_20 23 41 18.2
comp=Z,1.9nm,0.6s,baz=101,slow=7.0,SNR=6.5
DLBC Dease Lake 103.02 333 Pdiff Pdif 22 46 18.4 +0.9
DLBC PP **PP 22 50 33.9 +1.1**
comp=Z,3.2nm,0.9s,baz=113,slow=7.3,SNR=4.5
DLBC Dease Lake 103.02 333 Pdif 22 46 17.9 +0.5
MCH1 Michaelchurch 103.40 36 *e*P Pdif 22 46 02.5 -17
MCH1 IAMs_20 IAMs_20 23 29 29.6
comp=Z,11µm,23.4s
BATH Bath 103.41 37 *e*P Pdif 22 46 02.5 -17
OLDB Oldbury-Upon-S 103.42 37 *e*P Pdif 22 46 02.5 -17
OLDB IAMs_20 IAMs_20 23 30 14.0
comp=Z,13µm,21.6s
WLF1 Llynfaes 103.48 35 *e*P Pdif 22 46 03.3 -16
WLF1 IAMs_20 IAMs_20 23 34 53.8
comp=Z,13µm,19.2s
WPS Cemaes, Angles 103.50 35 *e*P Pdif 22 46 03.0 -17
WPS IAMs_20 IAMs_20 23 30 59.5
comp=Z,7µm,21.8s
STRD Stroud 103.69 37 *e*P Pdif 22 46 03.8 -17
STRD IAMs_20 IAMs_20 23 30 32.7
comp=Z,12µm,21.3s
SWN1 Swindon 103.72 37 *e*P Pdif 22 46 03.8 -17
SWN1 IAMs_20 IAMs_20 23 31 24.0
comp=Z,10µm,21.3s
VSL Villasalto 103.74 52 IAMs_20 IAMs_20 23 31 52.1
comp=Z,12µm,22.0s
CLGH Cloghs, Cushen 103.78 33 *e*P Pdif 22 46 03.5 -17
CLGH IAMs_20 IAMs_20 23 29 02.6
comp=Z,8µm,22.7s
FOEL Foel Wylfa 103.83 35 *e*P Pdif 22 46 04.5 -17
FOEL IAMs_20 IAMs_20 23 33 22.5
comp=Z,6µm,19.2s
IOMK Kirk Michael 103.99 34 *e*P Pdif 22 46 04.3 -17
IOMK IAMs_20 IAMs_20 23 25 30.5
comp=Z,16µm,28.0s
SIT Sitka 104.27 330 IAMs_20 IAMs_20 23 29 51.8
comp=Z,6µm,22.0s
GAL1 Galloway 104.28 33 *e*P Pdif 22 46 06.5 -17
GAL1 IAMs_20 IAMs_20 23 30 11.8
comp=Z,8µm,21.7s
STNC Stoke 104.43 36 *e*P Pdif 22 46 06.9 -17
STNC IAMs_20 IAMs_20 23 34 00.2
comp=Z,8µm,20.3s
HMNX Herstmonceux 104.45 38 *e*P Pdif 22 46 07.0 -17
HMNX IAMs_20 IAMs_20 23 31 09.5
comp=Z,10µm,21.0s
JIS Juneau Island 104.65 331 IAMs_20 IAMs_20 23 31 21.7
comp=Z,6µm,21.0s
CWF Charnwood Fore 104.67 36 *e*P Pdif 22 46 08.7 -16
CWF IAMs_20 IAMs_20 23 30 40.8
comp=Z,9µm,22.0s
BORG Borgarnes 104.72 20 IAMs_20 IAMs_20 23 34 55.9
comp=Z,5µm,20.0s
LAWE Loch Awe, Argy 104.81 32 *e*P Pdif 22 46 08.9 -16
LAWE IAMs_20 IAMs_20 23 27 37.7
comp=Z,10µm,26.5s
LBWR Ladybower, Pea 104.85 36 *e*P Pdif 22 46 08.7 -17
LBWR IAMs_20 IAMs_20 23 34 03.5
comp=Z,7µm,19.6s
KESW Keswick, Cumbr 104.87 34 *e*P Pdif 22 46 08.7 -17
KESW IAMs_20 IAMs_20 23 25 53.8
comp=Z,8µm,30.5s
PGBU Glenifferbraes 104.95 33 *e*P Pdif 22 46 08.9 -17
PGBU IAMs_20 IAMs_20 23 29 58.2
comp=Z,9µm,22.2s
ELSH Elham, Standar 105.03 39 *e*P Pdif 22 46 09.8 -17
ELSH IAMs_20 IAMs_20 23 31 39.0
comp=Z,10µm,20.9s
BESE Bessie Mountai 105.03 331 IAMs_20 IAMs_20 23 31 32.6
comp=Z,6µm,20.0s
ARMA Armidale 105.10 218 IAMs_20 IAMs_20 23 24 07.1
comp=Z,8µm,21.0s
KMBO Kilima Mbogo 105.14 101 Pdiff Pdif 22 46 31.4 +3.1
comp=Z,0.9nm,0.8s,baz=93,slow=1.6,SNR=4.4
KMBO PP **PP 22 50 44.2 -5.0**
comp=Z,1.4nm,0.9s,baz=235,slow=7.4,SNR=3.6
KMBO Kilima Mbogo 105.14 101 P Pdif 22 46 28.2 0.0
KMBO MLR MLR
comp=Z,20µm,20.0s
KMBO Kilima Mbogo 105.14 101 Pdif Pdif 22 46 28.2 0.0
KMBO Kilima Mbogo 105.14 101 *e*P Pdif 22 46 31.0 +2.7
KMBO *e*S **PP 22 50 54.5 +5.2**
HPK Haverah Park 105.22 35 *e*P Pdif 22 46 10.3 -17
HPK IAMs_20 IAMs_20 23 33 38.8
comp=Z,6µm,18.8s
ESK Eskdalemuir 105.25 33 *e*P Pdif 22 46 10.4 -17
ESK IAMs_20 IAMs_20 23 29 25.2
comp=Z,7µm,23.6s
ESK Eskdalemuir 105.25 33 IAMs_20 IAMs_20 23 37 38.9
comp=Z,6µm,18.0s
EKA Eskdalemuir Ar 105.28 33 Pdiff Pdif 22 46 26.9 -0.6
comp=Z,3.9nm,1.0s,baz=259,slow=6.5,SNR=4.6
EKA PP **PP 22 50 48.4 -1.2**
comp=Z,2.5nm,0.8s,baz=253,slow=5.8,SNR=3.7
LEWI Lewis, Hebride 105.33 30 *e*P Pdif 22 46 10.4 -17
LEWI IAMs_20 IAMs_20 23 39 11.2
comp=Z,5µm,17.1s
KPL Plockton 105.35 31 *e*P Pdif 22 46 10.4 -17
KPL IAMs_20 IAMs_20 23 29 34.4
comp=Z,8µm,22.5s
INVG Invergeldie, C 105.52 32 *e*P Pdif 22 46 11.6 -17
INVG IAMs_20 IAMs_20 23 27 44.0
comp=Z,9µm,26.7s
EDMD Edmundbyers 105.55 34 *e*P Pdif 22 46 11.7 -17
EDMD IAMs_20 IAMs_20 23 26 16.2
comp=Z,8µm,27.3s
EDI Edinburgh 105.61 33 *e*P Pdif 22 46 11.8 -17
EDI IAMs_20 IAMs_20 23 31 21.7
comp=Z,9µm,20.4s
WACR West Acre 105.64 37 *e*P Pdif 22 46 12.0 -17
WACR IAMs_20 IAMs_20 23 30 51.8
comp=Z,10µm,20.8s
SKAG Skagway 105.77 332 IAMs_20 IAMs_20 23 30 34.8
comp=Z,6µm,22.0s
GDLE Glaisdale, N Y 105.87 35 *e*P Pdif 22 46 12.8 -17
GDLE IAMs_20 IAMs_20 23 30 59.0
comp=Z,7µm,23.4s
SENIN Lac Senin/Sane 105.94 45 IAMs_20 IAMs_20 23 31 55.3
comp=Z,12µm,22.0s
MSSA Maissana 106.27 48 IAMs_20 IAMs_20 23 35 26.9
comp=Z,5µm,20.0s
VLC Villacollemand 106.73 48 IAMs_20 IAMs_20 23 37 08.3
comp=Z,5µm,20.0s

ECH Echery 106.80 43 IAMs_20 IAMs_20 23 32 41.0
comp=Z,8µm,22.0s
PRMA PARMA 106.98 48 IAMs_20 IAMs_20 23 41 49.9
comp=Z,8µm,18.0s
ZCCA Zocca 107.20 48 IAMs_20 IAMs_20 23 33 07.5
comp=Z,8µm,22.0s
KULLO Kullorsuaq 107.41 4 *i* P Pdif 22 46 36.1 -0.4
comp=Z,12µm,24.0s
SUMG Summit 107.43 10 *i* P Pdif 22 46 38.5 +1.3
comp=Z,16µm,25.0s
SUMG Summit 107.43 10 IAMs_20 IAMs_20 23 38 15.0
comp=Z,4µm,21.0s
SALO Salr 107.53 47 IAMs_20 IAMs_20 23 35 00.3
comp=Z,7µm,21.0s
BFO Black Forest 107.54 44 IAMs_20 IAMs_20 23 33 16.4
comp=Z,9µm,21.0s
YKU2 Yakutat 107.59 330 IAMs_20 IAMs_20 23 32 28.4
comp=Z,5µm,22.0s
AQU L'Aquila 107.80 51 IAMs_20 IAMs_20 23 36 02.6
comp=Z,11µm,22.0s
BCPM Bancas Point 107.82 331 IAMs_20 IAMs_20 23 32 56.6
comp=Z,6µm,21.0s
INTR Introdacqua 107.97 51 IAMs_20 IAMs_20 23 35 06.0
comp=Z,11µm,22.0s
PCA Pinnacle 108.16 331 IAMs_20 IAMs_20 23 32 54.5
comp=Z,6µm,21.0s
RES Resolute Bay 108.20 354 IAMs_20 IAMs_20 23 38 29.3
comp=Z,8µm,21.0s
STU Stuttgart 108.25 43 IAMs_20 IAMs_20 23 33 35.4
comp=Z,11µm,22.0s
CTI Castel Tesino 108.42 47 IAMs_20 IAMs_20 23 35 49.0
comp=Z,5µm,22.0s
STKA Stephens Creek 108.56 209 Pdiff Pdif 22 46 56.8 +14
comp=Z,0.7nm,0.3s,baz=184,slow=16,SNR=2.8
C36M Paulatuk 108.69 343 IAMs_20 IAMs_20 23 35 30.0
comp=Z,10µm,22.0s
SCO Scoresbysund 108.81 16 *i* P Pdif 22 46 43.5 +0.7
comp=Z,5µm,22.0s
SCO Scoresbysund 108.81 16 IAMs_20 IAMs_20 23 33 49.3
comp=Z,5µm,22.0s
LRW Lerwick 108.87 30 *e*P Pdif 22 46 27.4 -16
LRW IAMs_20 IAMs_20 23 41 28.0
comp=Z,6µm,18.4s
MESA MESA 108.91 330 IAMs_20 IAMs_20 23 31 17.5
comp=Z,8µm,22.0s
YAH Yahtse 108.93 330 IAMs_20 IAMs_20 23 31 31.8
comp=Z,6µm,21.0s
TULEG Thule 108.97 1 IAMs_20 IAMs_20 23 35 48.2
comp=Z,6µm,22.0s
CIMO Cimolais 109.03 47 IAMs_20 IAMs_20 23 42 22.2
comp=Z,7µm,19.0s
CTGM Chitina Glacie 109.09 331 IAMs_20 IAMs_20 23 29 45.1
comp=Z,5µm,22.0s
BARN Barnard Glacie 109.27 331 IAMs_20 IAMs_20 23 39 05.9
comp=Z,4µm,21.0s
ISLE Juniper Island 109.31 330 IAMs_20 IAMs_20 23 31 42.8
comp=Z,6µm,20.0s
EIDS Eidsvold 109.41 221 IAMs_20 IAMs_20 23 29 49.5
comp=Z,8µm,19.0s
ZOU Zoufplan 109.47 47 IAMs_20 IAMs_20 23 35 08.8
comp=Z,7µm,22.0s
TRI Trieste 109.58 48 IAMs_20 IAMs_20 23 39 09.6
comp=Z,6µm,21.0s
TGL Tana Glacier 109.59 330 IAMs_20 IAMs_20 23 31 39.4
comp=Z,7µm,21.0s
SUCK Suckling Hills 109.63 330 IAMs_20 IAMs_20 23 39 55.5
comp=Z,4µm,21.0s
CRQM Cirque 109.72 330 IAMs_20 IAMs_20 23 31 41.2
comp=Z,7µm,22.0s
PRED Cave del Predi 109.78 47 IAMs_20 IAMs_20 23 37 45.0
comp=Z,8µm,20.0s
CADS Cadrg 109.80 47 *e*Pdiff Pdif 22 46 48.2 +0.4
KAIM Kayak Island 109.83 329 IAMs_20 IAMs_20 23 44 25.8
comp=Z,3µm,18.0s
BBOO Buckleboo 109.85 205 IAMs_20 IAMs_20 23 36 15.1
comp=Z,7µm,18.0s
GRA1 Grafenberg Arr 109.86 43 IAMs_20 IAMs_20 23 34 31.9
comp=Z,11µm,22.0s
HMT Hamilton 109.98 330 IAMs_20 IAMs_20 23 36 50.5
comp=Z,4µm,20.0s
MCARA McCarthy VSAT 110.01 331 IAMs_20 IAMs_20 23 34 04.3
comp=Z,4µm,20.0s
DAWY Dawson 110.05 334 IAMs_20 IAMs_20 23 35 24.7
comp=Z,9µm,19.0s
VRDI Verde Repeater 110.10 331 IAMs_20 IAMs_20 23 32 06.8
comp=Z,4µm,21.0s
SCTE Santa Cesarea 110.17 55 IAMs_20 IAMs_20 23 37 38.1
comp=Z,9µm,22.0s
RAGM Ragged Mountai 110.18 330 IAMs_20 IAMs_20 23 36 58.9
comp=Z,4µm,19.0s
LJU Ljubljana 110.20 48 *e*Pdiff Pdif 22 46 50.0 +0.3
LJU *e*PP **PP 22 51 24.3 -1.6**
LJU *e* 22 57 45.6
LJU *e*PS PKKPbc 23 00 55.1 -58
LJU *e* 23 07 04.1
LJU *e* 23 11 19.6
LJU *e* 23 17 57.9
VISS Visnje 110.29 48 *e*PP PP 22 51 24.8 -1.7
BOJS Bojanci 110.42 49 *e*Pdiff Pdif 22 46 51.3 +0.7
BOJS *e*PP **PP 22 51 25.7 -1.7**
BOJS *e* 22 57 46.5
BOJS *e* 23 07 03.9
BOJS *e* 23 17 56.0
ROTZ Rotzenmuhle 110.46 43 *e*PP PP 22 51 25.5 -2.1
baz=243,slow=6.3
MANZ Manzenberg 110.50 43 *e*PKiKP PKiKP 22 50 53.5 +2.2
baz=74,slow=2.0
MANZ *e*PP **PP 22 51 25.5 -2.4**
baz=243,slow=6.3
NRDL Niedersach Rie 110.51 40 *e*PP PP 22 51 26.1 -1.7
baz=243,slow=6.3
MOX Moxa 110.52 42 *e*PKiKP PKiKP 22 50 53.9 +2.6
baz=74,slow=2.0
MOX *e*PP **PP 22 51 25.7 -2.3**
baz=243,slow=6.3
INK Inuvik 110.59 339 Pdiff Pdif 22 46 55.2 +4.4
comp=Z,2.0nm,1.0s,baz=17,slow=6.3,SNR=3.3
INK PKKPbc **PKKPbc 23 01 50.9 -1.2**
comp=Z,3.7nm,0.8s,baz=163,slow=0.9,SNR=5.4
INK Inuvik 110.59 339 P Pdif 22 46 50.7 -0.1
INK MLR MLR
comp=Z,11µm,22.0s
INK Inuvik 110.59 339 Pdif 22 46 50.7 -0.1
INK IAMs_20 IAMs_20 23 36 57.3
comp=Z,11µm,22.0s
EYAK Cordova Ski Ar 110.72 329 IAMs_20 IAMs_20 23 27 05.2
comp=Z,4µm,20.0s
PLN Plauen 110.75 43 *e*PKiKP PKiKP 22 50 52.2 +0.5
baz=74,slow=2.0
PLN *e*PP **PP 22 51 27.2 -2.5**
baz=243,slow=6.3
WERN Wernitzgruen 110.79 43 *e*PKiKP PKiKP 22 50 52.4 +0.6
baz=74,slow=2.0
WERN *e*PP **PP 22 51 28.0 -2.0**
baz=243,slow=6.3
GUNZ Gunzen 110.80 43 *e*PKiKP PKiKP 22 50 52.5 +0.7
baz=74,slow=2.0
GUNZ *e*PP **PP 22 51 27.9 -2.2**
baz=243,slow=6.3
NKC Novy Kostel 110.81 43 *e*P Pdif 22 46 52.3 0.0
NKC *e*SP SP 23 01 04.8 +8.4
NKC MLR MLR
comp=Z,13µm,22.1s
NKC Novy Kostel 110.81 43 *e*PDIFF Pdif 22 46 52.3 0.0
NKC *e*PKP **PKiKP 22 50 51.6 -0.3**
NKC *e*PP PP 22 51 17.1 -13
NKC *e*SP SP 23 01 04.8 +8.4
NKC AMS AMS 23 34 50.0
comp=Z,13µm,22.1s
WERD Werda 110.82 43 *e*PKiKP PKiKP 22 50 52.4 +0.5
baz=74,slow=2.0
TANN Tannenbergstha 110.90 43 *e*PP PP 22 51 28.7 -2.1
baz=243,slow=6.3
GEC2 GERESS Array S 110.93 45 *e*PKiKP PKiKP 22 50 52.3 0.0
baz=74,slow=2.0
GEC2 GERESS Array S 110.93 45 IAMs_20 IAMs_20 23 35 55.3
comp=Z,9µm,22.0s
GERES GERESS Array B 110.93 45 Pdiff Pdif 22 46 53.6 +0.7
comp=Z,0.1nm,0.3s,baz=316,slow=45,SNR=1.9
GERES PKiKP **PKiKP 22 50 51.3 -1.0**
comp=Z,4.5nm,1.0s,baz=194,slow=1.7,SNR=8.2
GERES PKKPbc **PKKPbc 23 01 51.9 +1.3**
comp=Z,1.4nm,0.9s,baz=82,slow=1.9,SNR=5.9
HIN Hinchinbrook I 110.97 329 IAMs_20 IAMs_20 23 34 02.8
comp=Z,5µm,22.0s
KHC Kasperske Hory 110.98 45 *e*P Pdif 22 46 48.4 -4.7
KHC *e* 22 51 31.5

KHC				*e*SP	SP	23 00 57.1	-1.0		
KHC				*e*		23 02 04.3			
KHC				*e*		23 02 16.0			
KHC				MLR	MLR				
	comp=Z,7µm,22.1s								
KHC	**Kasperske Hory**	**110.98**	**45**	*e*PDIFF	**Pdif**	**22 46 48.4**	**-4.7**		
KHC				*e*PKP	**PKiKP**	**22 50 52.1**	**-0.2**		
KHC				*ex*	x	22 51 04.5			
KHC				*ex*	x	22 51 24.5			
KHC				*e*PP	**PP**	**22 51 31.5**	**+0.1**		
KHC				*e*SP	SP	23 00 57.1	-1.0		
KHC				*ex*	x	23 01 51.5			
KHC				*e*PKKP	**PKKPdf**	**23 02 04.3**	**-4.5**		
KHC				*ex*	x	23 02 16.0			
KHC				AMS	AMS	23 35 20.0			
	comp=Z,7µm,22.1s								
EGAK	**Eagle**	**111.08**	**335**	IAMs_20	IAMs_20	23 43 04.9			
	comp=Z,5µm,20.0s								
MENT	**Mentasta**	**111.09**	**332**	IAMs_20	IAMs_20	23 33 55.3			
	comp=Z,6µm,22.0s								
FID	**Port Fidalgo**	**111.13**	**329**	IAMs_20	IAMs_20	23 37 41.2			
	comp=Z,5µm,19.0s								
SKMB	**Sankelmark Bun**	**111.16**	**38**	*e*PP	**PP**	**22 51 31.1**	**-1.4**		
	baz=243,slow=6.3								
BSEG	**Bad Segeberg**	**111.27**	**39**	*e*PKiKP	**PKiKP**	**22 50 53.4**	**+0.9**		
	baz=74,slow=2.0								
BSEG				*e*PP	**PP**	**22 51 30.7**	**-2.6**		
	baz=243,slow=6.3								
GLI	**Glacier Island**	**111.46**	**329**	IAMs_20	IAMs_20	23 27 50.8			
	comp=Z,4µm,22.0s								
PBCC	**Pribram**	**111.47**	**44**	*e*PKKP		23 02 02.3			
DOT	**Dot Lake**	**111.59**	**333**	IAMs_20	IAMs_20	23 35 36.4			
	comp=Z,7µm,20.0s								
CLL	**Collm**	**111.60**	**42**	*e*Pdif	**Pdif**	**22 46 56.0**	**+0.3**		
CLL				*e*		22 47 20.0			
CLL				*e*PKiKP	**PKiKP**	**22 50 55.0**	**+1.7**		
CLL				*ep*PKiKP	PP	22 51 04.0	-32		
CLL				*e*PP	PP	22 51 32.0	-3.7		
CLL				*es*PP		22 51 47.0			
CLL				*e*PPP	PPP	22 53 54.0			
CLL				*e*SKSac	**SKSac**	**22 57 34.0**	**+2.0**		
CLL				*e*Sdif	SKKSac	22 59 12.0	+37		
CLL				*e*PS	PKKPbc	23 01 09.0	-39		
CLL				*e*		23 01 47.0			
CLL				*e*PKKPbc	**PKKPab**	**23 01 48.0**	**-6.6**		
CLL				*e*PKKPab	PKKPdf	23 01 59.0	-8.6		
CLL				*es*PKKPab		23 02 13.0			
CLL				*es*PPS		23 02 27.0			
CLL				*e*PKKSdf	PKKSdf	23 05 41.0	-3.5		
CLL				*es*PKKSdf		23 05 59.0			
CLL				*e*SS	**SS**	**23 07 05.0**	**-3.8**		
CLL				*es*SS		23 07 54.0			
CLL				*e*SSS	SSS	23 11 17.0			
CLL				*e*(sSSS)		23 12 18.0			
CLL				*e*SSSS		23 14 42.0			
CLL				*e*		23 15 36.0			
CLL				LmV		23 41 00.0			
	comp=Z,8µm,18.9s								
CLL	**Collm**	**111.60**	**42**	*e*P	**Pdif**	**22 46 56.0**	**+0.3**		
CLL				*e*		22 57 34.0			
CLL				MLR	MLR				
	comp=Z,8µm,18.9s								
CLL	**Collm**	**111.60**	**42**	IAMs_20	IAMs_20	23 36 50.8			
	comp=Z,8µm,20.0s								
FBE	**Freiberg**	**111.63**	**43**	*e*PP	**PP**	**22 51 32.7**	**-3.2**		
	baz=243,slow=6.3								
TIR	**Tirane**	**111.67**	**54**	IAMs_20	IAMs_20	23 39 42.9			
	comp=Z,8µm,20.0s								
PDG	**Podgorica**	**111.71**	**53**	IAMs_20	IAMs_20	23 42 14.2			
	comp=Z,7µm,20.0s								
BER	**Bergen**	**111.80**	**31**	*e*Pdif	**Pdif**	**22 46 56.8**	**+0.4**		
BER				*e*PP	**PP**	**22 51 36.5**	**-0.4**		
BER				*e*SKSac	**SKSac**	**22 57 30.5**	**-1.8**		
BER				*e*SP	**SP**	**23 01 04.7**	**-0.2**		
BER				*e*SS	**SS**	**23 07 08.8**	**-2.2**		
BER				IVMs_BB	IVMs_BB	23 33 10.2			
	comp=Z,2µm,17.9s								
PAX	**Paxson**	**111.80**	**332**	IAMs_20	IAMs_20	23 34 18.1			
	comp=Z,7µm,22.0s								
MUD	**Monsted U'grnd**	**111.81**	**36**	*i* P	**Pdif**	**22 46 58.0**	**+1.6**		
	comp=Z,5µm,18.0s								
BLS5	**Blasjo**	**111.86**	**33**	*e*Pdif	**Pdif**	**22 46 56.6**	**0.0**		
BLS5				IVmB_BB		22 46 56.6			
	comp=Z,555nm,2.6s								
BLS5				*e*PP	**PP**	**22 51 35.1**	**-2.2**		
BLS5				*e*SP	SP	23 01 05.0	-0.5		
BLS5				*e*SS	**SS**	**23 07 09.3**	**-2.6**		
BLS5				IVMs_BB	IVMs_BB	23 31 05.7			
	comp=Z,2µm,27.7s								
SUE	**Sulen**	**111.87**	**31**	*e*Pdif	**Pdif**	**22 46 57.9**	**+1.3**		
SUE				*e*PP	**PP**	**22 51 38.0**	**+0.7**		
SUE				*e*SP	SP	23 01 05.7	+0.2		
SUE				IVMs_BB	IVMs_BB	23 34 08.3			
	comp=Z,2µm,27.2s								
PRA	**Prague**	**111.89**	**44**	*e*P	**Pdif**	**22 46 56.5**	**-0.5**		
PRA				*e*		22 51 33.2			
PRA				*e*SP	SP	23 01 10.8	+4.5		
PRA				MLR	MLR				
	comp=Z,4µm,21.9s								
PRA	**Prague**	**111.89**	**44**	*e*PDIFF	**Pdif**	**22 46 56.5**	**-0.5**		
PRA				*e*PP	**PP**	**22 51 33.2**	**-4.6**		
PRA				*e*SP	SP	23 01 10.8	+4.5		
PRA				AMS	AMS	23 35 40.0			
	comp=Z,4µm,21.9s								
AAE	**Adis Abeba**	**111.89**	**93**	*e*P	**Pdif**	**22 47 09.1**	**+11**		
AAE				*e*S	**PP**	**22 51 40.5**	**+1.7**		
PRU	**Pruhonice**	**111.92**	**44**	*e*P	**Pdif**	**22 46 53.7**	**-3.5**		
PRU				*e*SP	SP	23 01 13.4	+6.8		
PRU				MLR	MLR				
	comp=Z,8µm,21.7s								
PRU	**Pruhonice**	**111.92**	**44**	*e*PDIFF	**Pdif**	**22 46 53.7**	**-3.5**		
PRU				*e*PP	**PP**	**22 51 32.9**	**-5.2**		
PRU				*e*SP	SP	23 01 13.4	+6.8		
PRU				*e*PKKP	**PKKPab**	**23 01 58.9**	**+5.6**		
PRU				AMS	AMS	23 35 30.0			
	comp=Z,8µm,21.7s								
BRG	**Berggiesshubel**	**111.95**	**43**	PDIF	**Pdif**	**22 46 59.0**	**+1.7**		
BRG	**Berggiesshubel**	**111.95**	**43**	PKP	**PKiKP**	**22 50 54.2**	**+0.2**		
	comp=Z,9.5nm,1.3s								
BRG				*e*		22 51 05.5			
	comp=Z,18nm,1.2s								
BRG				PP	**PP**	**22 51 38.0**	**-0.2**		
BRG				SKS	**SKSdf**	**22 57 56.0**	**-7.5**		
BRG				PS	PKKPbc	23 01 10.0	-37		
BRG				PKKP	**PKKPab**	**23 01 56.1**	**+3.0**		
	comp=Z,8.9nm,1.3s								
BRG				*e*		23 02 04.7			
	comp=Z,15nm,1.3s								
BRG				SS	SS	23 07 02.0	-12		
	comp=Z,8µm,21.7s								
	comp=N,3µm,22.0s								
	comp=E,6µm,22.0s								
BRG	**Berggiesshubel**	**111.95**	**43**	*e*PP	**PP**	**22 51 34.9**	**-3.3**		
	baz=243,slow=6.3								
SCM	**Sheep Creek Mo**	**112.01**	**330**	IAMs_20	IAMs_20	23 32 29.4			
	comp=Z,4µm,20.0s								
SEW	**Seward**	**112.13**	**328**	IAMs_20	IAMs_20	23 30 56.5			
	comp=Z,5µm,22.0s								
PVCC	**Panska Ves**	**112.16**	**43**	*e*P	**Pdif**	**22 46 58.0**	**-0.2**		
PVCC				*e*		22 51 35.1			
PVCC				*e*SP	SP	23 01 15.7	+6.9		
PVCC				MLR	MLR				
	comp=Z,8µm,21.5s								
PVCC	**Panska Ves**	**112.16**	**43**	*e*PDIFF	**Pdif**	**22 46 58.0**	**-0.2**		
PVCC				*e*PKP	**PKiKP**	**22 50 56.4**	**+2.0**		
PVCC				*e*PP	**PP**	**22 51 35.1**	**-4.7**		
PVCC				*e*SP	SP	23 01 15.7	+6.9		
PVCC				AMS	AMS	23 35 40.0			
	comp=Z,8µm,21.5s								
TREC	**Trest**	**112.19**	**45**	*e*P	**Pdif**	**22 46 50.9**	**-7.5**		
TREC				*e*SP	SP	23 01 13.3	+4.1		
TREC				MLR	MLR				
	comp=Z,7µm,22.2s								
TREC	**Trest**	**112.19**	**45**	*e*PDIFF	**Pdif**	**22 46 50.9**	**-7.5**		
TREC				*e*PKP	**PKiKP**	**22 50 54.5**	**0.0**		
TREC				*e*PP	**PP**	**22 51 32.4**	**-7.6**		
TREC				*e*SP	SP	23 01 13.3	+4.1		
TREC				AMS	AMS	23 36 20.0			
	comp=Z,7µm,22.2s								
FOO	**Floro**	**112.24**	**30**	IVmB_BB		22 46 59.6			
	comp=Z,950nm,3.0s								
FOO				*e*Pdif	**Pdif**	**22 46 59.8**	**+1.5**		
FOO				*e*PP	**PP**	**22 51 37.5**	**-2.5**		
FOO				*e*SP	SP	23 01 08.4	-0.4		
FOO				*e*SS	**SS**	**23 07 16.1**	**-0.7**		
FOO				IVMs_BB	IVMs_BB	23 29 57.4			
	comp=Z,2µm,30.8s								
HOMB	**Homborsund**	**112.29**	**34**	*e*Pdif	**Pdif**	**22 46 57.5**	**-1.0**		
HOMB				*e*PP	**PP**	**22 51 40.3**	**-0.1**		
HOMB				*e*SP	SP	23 01 10.1	+0.6		
HOMB				*e*SS	**SS**	**23 07 16.3**	**-1.3**		
HOMB				IVMs_BB	IVMs_BB	23 33 56.6			
	comp=Z,3µm,19.2s								
KNK	**Knik Glacier**	**112.30**	**330**	IAMs_20	IAMs_20	23 35 58.9			
	comp=Z,4µm,22.0s								
SML	**Sawmill**	**112.42**	**330**	IAMs_20	IAMs_20	23 44 50.2			
	comp=Z,3µm,19.0s								
JMIC	**Jan Mayen**	**112.48**	**18**	*e*Pdif	**Pdif**	**22 46 58.4**	**-0.8**		
JMIC				*e*PP	**PP**	**22 51 38.3**	**-3.2**		
JMIC				*e*PS	PKKPbc	23 01 15.5	-30		
JMIC				IVMs_BB	IVMs_BB	23 41 12.1			
	comp=Z,2µm,18.2s								
RUE	**Ruedersdorf**	**112.53**	**41**	*e*PP	**PP**	**22 51 38.1**	**-4.1**		
KDAK	**Kodiak Island**	**112.55**	**325**	IAMs_20	IAMs_20	23 29 49.0			
	comp=Z,7µm,21.0s								
BRLK	**Bradley Lake**	**112.62**	**327**	IAMs_20	IAMs_20	23 30 55.7			
	comp=Z,5µm,19.0s								
KRUC	**Moravsky**	**112.64**	**45**	*e*PKiKP	**PKiKP**	**22 50 50.8**	**-4.6**		
KRUC				*e*PP	**PP**	**22 51 36.4**	**-6.8**		
KRUC				*e*SKS	**SKSac**	**22 57 35.6**	**-0.7**		
KRUC				*e*PS	PKKPbc	23 01 17.5	-27		
KRUC				*e*SS	SS	23 07 35.2	+12		
OHAK	**Old Harbor**	**112.65**	**324**	IAMs_20	IAMs_20	23 29 39.7			
	comp=Z,8µm,20.0s								
GHO	**Glory Hole Cre**	**112.66**	**330**	IAMs_20	IAMs_20	23 33 40.4			
	comp=Z,4µm,21.0s								
CNPM	**China Poot**	**112.67**	**327**	IAMs_20	IAMs_20	23 30 45.0			
	comp=Z,5µm,22.0s								
IDI	**Anoyia**	**112.73**	**62**	IAMs_20	IAMs_20	23 39 49.0			
	comp=Z,6µm,21.0s								
SII	**Sitkinak Islan**	**112.81**	**323**	IAMs_20	IAMs_20	23 29 30.1			
	comp=Z,8µm,20.0s								
VRAC	**Vranov**	**112.85**	**45**	PKiKP	**PKiKP**	**22 50 55.5**	**-0.2**		
	comp=Z,3.4nm,0.9s,baz=336,slow=2.0,SNR=5.0								
VRAC	**Vranov**	**112.85**	**45**	⇓P	**PKiKP**	**22 50 55.0**	**-0.8**		
VRAC	**Vranov**	**112.85**	**45**	*e*PKiKP	**PKiKP**	**22 50 51.6**	**-4.2**		
VRAC				*e*PP	**PP**	**22 51 38.3**	**-6.5**		
VRAC				*e*SKS	**SKSac**	**22 57 37.4**	**+0.2**		
VRAC				*e*PS	PKKPbc	23 01 23.4	-21		
VRAC				*e*SS	SS	23 07 37.6	+12		
VRAC	**Vranov**	**112.85**	**45**	⇓PKiKP	**PKiKP**	**22 50 55.0**	**-0.8**		
UPC	**Upice**	**112.99**	**44**	*e*P	**Pdif**	**22 46 59.4**	**-2.5**		
UPC				*e*SP	SP	23 01 23.4	+6.9		
UPC				MLR	MLR				
	comp=Z,9µm,22.2s								
UPC	**Upice**	**112.99**	**44**	*e*PDIFF	**Pdif**	**22 46 59.4**	**-2.5**		
UPC				*e*PKP	**PKiKP**	**22 50 59.8**	**+3.8**		
UPC				*e*PP	**PP**	**22 51 39.2**	**-6.5**		
UPC				*e*SP	SP	23 01 23.4	+6.9		
UPC				AMS	AMS	23 36 10.0			
	comp=Z,9µm,22.2s								
CHVC	**Chvalec**	**113.05**	**44**	*e*PDIFF	**Pdif**	**22 46 59.4**	**-2.8**		
CHVC				*e*PKP	**PKiKP**	**22 50 55.9**	**-0.2**		
CHVC				*e*PP	**PP**	**22 51 41.3**	**-4.9**		
CHVC				*e*SP	SP	23 01 24.6	+7.6		
CHVC				AMS	AMS	23 36 00.0			
	comp=Z,8µm,22.2s								
HDA	**Harding Lake**	**113.07**	**333**	IAMs_20	IAMs_20	23 37 00.5			
	comp=Z,7µm,20.0s								
DPC	**Dobruska-Polom**	**113.11**	**44**	*e*P	**Pdif**	**22 47 02.2**	**-0.3**		
DPC				*e*SP	SP	23 01 23.3	+5.7		
DPC				MLR	MLR				
	comp=Z,9µm,22.6s								
DPC	**Dobruska-Polom**	**113.11**	**44**	*e*PDIFF	**Pdif**	**22 47 02.2**	**-0.3**		
DPC				*e*PKP	**PKiKP**	**22 50 56.5**	**+0.2**		
DPC				*e*PP	**PP**	**22 51 40.7**	**-5.9**		
DPC				*e*SP	SP	23 01 23.3	+5.7		
DPC				AMS	AMS	23 36 10.0			
	comp=Z,9µm,22.6s								
RGN	**Rugen**	**113.13**	**39**	*e*PP	**PP**	**22 51 43.4**	**-3.1**		
OSTC	**Ostas**	**113.13**	**44**	*e*PDIFF	**Pdif**	**22 47 02.2**	**-0.4**		
OSTC				*e*PKP	**PKiKP**	**22 50 56.6**	**+0.3**		
OSTC				*e*PP	**PP**	**22 51 40.8**	**-5.9**		
OSTC				*e*SP	SP	23 01 28.2	+10		
OSTC				AMS	AMS	23 36 00.0			
	comp=Z,9µm,22.6s								
ILAR	**Eielson Array**	**113.21**	**333**	Pdiff	**Pdif**	**22 47 02.1**	**-0.5**		
	comp=Z,0.2nm,0.5s,baz=324,slow=15,SNR=1.8								
ILAR				PKiKP	**PKiKP**	**22 50 55.4**	**-0.6**		
	comp=Z,2.6nm,0.8s,baz=177,slow=0.5,SNR=12								
ILAR				PKKPbc	**PKKPbc**	**23 01 41.8**	**-1.5**		
	comp=Z,1.9nm,0.9s,baz=285,slow=4.3,SNR=6.2								
SKAR	**Skarslia**	**113.25**	**32**	*e*Pdif	**Pdif**	**22 47 02.7**	**-0.1**		
SKAR				*e*PP	**PP**	**22 51 43.6**	**-3.6**		
SKAR				*e*SP	SP	23 01 17.9	-0.4		
SKAR				*e*SS	**SS**	**23 07 29.4**	**-1.0**		
SKAR				IVMs_BB	IVMs_BB	23 42 05.3			
	comp=Z,2µm,17.7s								
KRLC	**Kraliky**	**113.27**	**45**	*e*P	**Pdif**	**22 46 59.4**	**-3.9**		
KRLC				MLR	MLR				
	comp=Z,5µm,21.2s								
KRLC	**Kraliky**	**113.27**	**45**	*e*PDIFF	**Pdif**	**22 46 59.4**	**-3.9**		
KRLC				*e*PKP	**PKiKP**	**22 50 56.5**	**-0.1**		
KRLC				*e*PP	**PP**	**22 51 42.1**	**-5.7**		
KRLC				*e*SP	SP	23 01 29.3	+10		
KRLC				*e*PKKP	**PKKPab**	**23 01 46.4**	**-1.0**		
KRLC				AMS	AMS	23 36 50.0			
	comp=Z,5µm,21.2s								
SUA	**Susitna One**	**113.30**	**329**	IAMs_20	IAMs_20	23 35 24.5			
	comp=Z,5µm,21.0s								
JAVC	**Velka Javorina**	**113.32**	**46**	*e*PKiKP	**PKiKP**	**22 50 53.7**	**-3.1**		
JAVC				*e*PP	**PP**	**22 51 42.4**	**-5.8**		
JAVC				*e*SKS	**SKSac**	**22 57 41.7**	**+2.6**		
JAVC				*e*PS	PKKPbc	23 01 28.7	-14		
JAVC				*e*SS	SS	23 07 46.4	+14		
AKN	**Aaknes**	**113.33**	**30**	*e*Pdif	**Pdif**	**22 47 01.2**	**-1.9**		
AKN				*e*PP	**PP**	**22 51 43.4**	**-4.4**		
AKN				*e*SKSac	**SKSac**	**22 57 35.8**	**-2.7**		
AKN				*e*SP	SP	23 01 14.8	-4.1		
AKN				IVMs_BB	IVMs_BB	23 31 15.7			
	comp=Z,2µm,25.0s								
RND	**Reindeer**	**113.36**	**331**	IAMs_20	IAMs_20	23 33 40.5			
	comp=Z,6µm,22.0s								
KONO	**Kongsberg**	**113.39**	**33**	IAMs_20	IAMs_20	23 35 56.2			
	comp=Z,6µm,22.0s								
KONO	**Kongsberg**	**113.39**	**33**	*e*Pdif	**Pdif**	**22 47 04.4**	**+1.0**		
KONO				*e*PP	**PP**	**22 51 46.7**	**-1.6**		
KONO				*e*SP	SP	23 01 21.1	+1.5		
KONO				*e*SS	**SS**	**23 07 29.9**	**-2.4**		
KONO				IVMs_BB	IVMs_BB	23 35 44.5			
	comp=Z,2µm,17.2s								
CCB	**Clear Creek Bu**	**113.51**	**333**	IAMs_20	IAMs_20	23 37 13.1			
	comp=Z,8µm,20.0s								
WRH	**Wood River Hil**	**113.54**	**333**	IAMs_20	IAMs_20	23 37 15.0			
	comp=Z,7µm,20.0s								
MCK	**McKinley**	**113.54**	**332**	IAMs_20	IAMs_20	23 35 21.1			
	comp=Z,6µm,22.0s								
SANT	**Santorini**	**113.60**	**61**	IAMs_20	IAMs_20	23 41 49.9			
	comp=Z,7µm,20.0s								
MORC	**Moravsky Berou**	**113.61**	**45**	⇓P	**PKiKP**	**22 50 57.3**	**0.0**		
MORC	**Moravsky Berou**	**113.61**	**45**	*e*PKiKP	**PKiKP**	**22 50 56.0**	**-1.3**		
MORC				*e*PP	**PP**	**22 51 44.7**	**-5.5**		
MORC				*e*PS	PKKPbc	23 01 30.4	-11		
MORC				*e*SS	SS	23 07 49.6	+14		
MORC	**Moravsky Berou**	**113.61**	**45**	⇓PKiKP	**PKiKP**	**22 50 57.3**	**0.0**		
MORC	**Moravsky Berou**	**113.61**	**45**	IAMs_20	IAMs_20	23 39 52.1			
	comp=Z,6µm,20.0s								
COLA	**College**	**113.63**	**333**	*i* PKiKP	**PKiKP**	**22 50 57.1**	**+0.4**		
COLA	**College**	**113.63**	**333**	IAMs_20	IAMs_20	23 38 03.3			
	comp=Z,7µm,19.0s								
MDM	**Murphy Dome**	**113.81**	**333**	IAMs_20	IAMs_20	23 38 08.1			
	comp=Z,7µm,20.0s								
SKT	**Skwentna**	**113.86**	**329**	IAMs_20	IAMs_20	23 32 24.3			
	comp=Z,5µm,22.0s								
VYHS	**Vyhne**	**113.89**	**47**	*e*P	**Pdif**	**22 47 05.9**	**-0.1**		
VYHS				*i*		22 50 58.0			
VYHS	**Vyhne**	**113.89**	**47**	*e*PKP	**PKiKP**	**22 50 58.0**	**+0.2**		
VYHS	**Vyhne**	**113.89**	**47**	*e*PDIFF	**Pdif**	**22 47 05.9**	**-0.1**		
DAG	**Danmarks Havn**	**113.94**	**12**	*i* P	**Pdif**	**22 47 06.0**	**+0.4**		
	comp=Z,7µm,24.0s								
BWN	**Browne**	**113.94**	**332**	IAMs_20	IAMs_20	23 36 06.0			
	comp=Z,7µm,21.0s								
TRF	**Thorofare Moun**	**113.96**	**331**	IAMs_20	IAMs_20	23 33 43.3			
	comp=Z,5µm,22.0s								
OKC	**Ostrava-Krasne**	**113.99**	**45**	*e*PKP	**PKiKP**	**22 50 58.5**	**+0.6**		
OSL	**Oslo**	**114.03**	**33**	*e*Pdif	**Pdif**	**22 47 06.1**	**-0.1**		
OSL				*e*PP	**PP**	**22 51 51.9**	**-0.9**		
OSL				*e*SP	SP	23 01 25.2	-0.1		
OSL				IVMs_BB	IVMs_BB	23 32 35.6			
	comp=Z,2µm,30.1s								
DOMB	**Dombas**	**114.15**	**31**	*e*Pdif	**Pdif**	**22 47 08.0**	**+1.2**		
DOMB				IVmB_BB		22 47 09.7			
	comp=Z,263nm,3.3s								
DOMB				*e*PKPdf	**PKiKP**	**22 50 58.6**	**+0.7**		
DOMB				*e*PP	**PP**	**22 51 52.4**	**-1.2**		
DOMB				*e*SP	SP	23 01 24.1	-2.3		
DOMB				*e*SS	**SS**	**23 07 43.5**	**+1.2**		
DOMB				IVMs_BB	IVMs_BB	23 43 33.2			
	comp=Z,2µm,17.0s								
FORT	**Forrest**	**114.21**	**198**	IAMs_20	IAMs_20	23 39 25.0			
	comp=Z,5µm,21.0s								
NWAO	**Narrogin (SRO)**	**114.22**	**188**	IAMs_20	IAMs_20	23 39 31.3			
	comp=Z,8µm,20.0s								
KTH	**Kantishna Hill**	**114.27**	**331**	IAMs_20	IAMs_20	23 35 50.3			
	comp=Z,4µm,22.0s								
PSZ	**Piszkesteto**	**114.32**	**48**	IAMs_20	IAMs_20	23 41 37.1			
	comp=Z,6µm,20.0s								
PPLA	**Purkeypile**	**114.52**	**330**	IAMs_20	IAMs_20	23 31 35.6			
	comp=Z,5µm,22.0s								
BPAW	**Bear Paw Mtn.**	**114.52**	**332**	IAMs_20	IAMs_20	23 39 36.0			
	comp=Z,4µm,20.0s								
KARP	**Karpathos**	**114.53**	**62**	IAMs_20	IAMs_20	23 42 10.6			
	comp=Z,10µm,21.0s								
LANS	**Liptovska Anna**	**114.53**	**46**	*i* PKiKP	**PKiKP**	**22 51 00.2**	**+1.2**		
LANS	**Liptovska Anna**	**114.53**	**46**	*e*PKP	**PKiKP**	**22 51 00.2**	**+1.2**		
BZS	**Buzias**	**114.55**	**50**	⇑P	PKPdf	22 50 59.0	-0.1		
BZS	**Buzias**	**114.55**	**50**	⇑PKiKP	PKPdf	22 50 59.0	-0.1		
NB2	**NORSAR Subarra**	**114.69**	**32**	PKPdf	PKPdf	22 50 57.7	-1.3		
	comp=Z,72nm,2.5s,baz=241,slow=1.9								
NB2	**NORSAR Subarra**	**114.69**	**32**	PKPdf	PKPdf	22 50 57.7	-1.3		
	baz=241,slow=1.9								
NOA	**NORSAR Array B**	**114.69**	**32**	PKP	PKPdf	22 50 58.7	-0.2		
	comp=Z,1.7nm,0.8s,baz=253,slow=2.0,SNR=5.1								
NOA				PKKPbc	**PKKPab**	**23 01 42.2**	**+1.6**		
	comp=Z,1.7nm,0.8s,baz=68,slow=4.5,SNR=4.6								
NC602	**NORSAR Array S**	**114.72**	**32**	*e*Pdif	**Pdif**	**22 47 08.0**	**-1.4**		
NC602				*e*PKPdf	PKPdf	22 50 57.9	-1.0		
NC602				*e*PP	**PP**	**22 51 58.9**	**+1.3**		
NC602				*e*SP	SP	23 01 31.1	-0.5		
NC602				IVMs_BB	IVMs_BB	23 32 27.6			
	comp=Z,2µm,27.5s								
GKP	**Gorka Klasztor**	**114.77**	**41**	*e*PKiKP	**PKiKP**	**22 50 59.6**	**+0.4**		
GKP				*e*PP	**PP**	**22 51 54.0**	**-4.1**		
GKP				*e*PS	**PKKPbc**	**23 01 36.2**	**-1.4**		
GKP				*e*L	L	23 36 41.2			
	comp=Z,10µm,22.6s								
HERR	**Herculane**	**114.79**	**51**	⇑P	**PKiKP**	**22 50 59.6**	**0.0**		
ALE	**Alert**	**115.05**	**1**	IAMs_20	IAMs_20	23 42 40.8			
	comp=Z,7µm,20.0s								
OJC	**Ojcow**	**115.12**	**45**	*e*PKiKP	**PKPdf**	**22 50 59.9**	**-0.2**		
OJC				*e*PP	**PP**	**22 51 57.0**	**-3.8**		
OJC				*e*PS	**PKKPab**	**23 01 42.6**	**+3.4**		
OJC				*e*SS	SS	23 08 06.3	+11		
OJC				*e*L	L	23 37 44.6			
	comp=Z,8µm,22.2s								
NIE	**Niedzica**	**115.13**	**46**	*e*PKiKP	**PKiKP**	**22 51 00.5**	**+0.3**		
NIE				*e*PP	**PP**	**22 51 57.6**	**-3.3**		
NIE				*e*PS	**PKKPab**	**23 01 42.2**	**+2.9**		
NIE				*e*SS	SS	23 08 00.6	+4.8		
NIE				*e*L	L	23 37 46.6			
	comp=Z,7µm,22.7s								
TBLU	**Trondheim**	**115.14**	**30**	*e*Pdif	**Pdif**	**22 47 09.2**	**-1.9**		
TBLU				*e*PP	**PP**	**22 51 59.7**	**-0.9**		
TBLU				*e*SP	SP	23 01 38.5	+3.1		
TBLU				*e*SS	**SS**	**23 07 53.3**	**-1.8**		
TBLU				IVMs_BB	IVMs_BB	23

FAUS **Fauske** 118.53 26 *e*Pdif **Pdif** 22 47 26.4 +0.3
FAUS IVmBBB 22 47 29.0
comp=Z,274nm,2.7s
FAUS *e*PKPdf **PKPdf** 22 51 05.5 -0.6
FAUS *e*PP **PP** 22 52 23.7 -0.3
FAUS *e*SP SP 23 02 06.2 +0.3
FAUS *e*SS **SS** 23 08 37.9 -1.0
FAUS IVMs_BB IVMs_BB 23 37 39.5
comp=Z,2μm,19.8s
STEI **Steigen** 118.67 25 *e*Pdif **Pdif** 22 47 27.2 +0.5
STEI *e*PKPdf **PKPdf** 22 51 05.3 -1.0
STEI *e*PP **PP** 22 52 23.2 -1.8
STEI *e*SKSdf **SKSdf** 22 58 10.3 -5.2
STEI *e*SP **SP** 23 02 07.9 +0.8
STEI *e*SS **SS** 23 08 42.1 +1.4
STEI IVMs_BB IVMs_BB 23 36 12.4
comp=Z,2μm,24.0s
CFR **Carcaliu** 118.70 53 ⇑P **PKPdf** 22 51 06.7 -0.4
CFR **Carcaliu** 118.70 53 ⇑PKIKP **PKPdf** 22 51 06.7 -0.4
TOPG **Topolog** 118.77 53 ⇓P **PKPdf** 22 51 06.9 -0.4
ASAR **Alice Springs** 118.93 207 Pdiff **Pdif** 22 47 32.4 +3.2
comp=Z,0.2nm,0.7s,baz=156,slow=5.1,SNR=1.7
ASAR PKP **PKPdf** 22 51 07.2 -1.2
comp=Z,3.1nm,0.4s,baz=132,slow=1.7,SNR=23
ASAR PP PP 22 52 41.9 +16
comp=Z,2.5nm,0.7s,baz=153,slow=4.7,SNR=4.1
ASAR PKKPbc **PKKPbc** 23 01 22.4 -0.1
comp=Z,5.5nm,0.8s,baz=335,slow=2.9,SNR=46
TLCR 119.16 53 ⇓P **PKPdf** 22 51 07.9 -0.1
TLCR 119.16 53 ⇓PKIKP **PKPdf** 22 51 07.9 -0.1
PABE **Paberze** 119.21 40 *e*P **PKPdf** 22 51 07.4 -0.3
NIKH **Nikolski High** 119.53 316 IAMs_20 IAMs_20 23 31 10.3
comp=Z,5μm,20.0s
MILM **Milestii Mici** 119.68 51 ⇓P **PKPdf** 22 51 08.4 -0.5
KIS **Kishinev** 119.71 51 ⇑*i*PKP **PKPdf** 22 51 08.0 -1.0
comp=Z,100nm,2.1s
KIS **Kishinev** 119.71 51 *i*PP PP 22 52 28.0 -4.8
KIS **Kishinev** 119.71 51 *e*PS PS 23 02 14.0 -8.0
KIS *e*L L 23 23 31.0
KIS *e*LR LR 23 41 49.0
comp=Z,3μm,19.0s
KIS **Kishinev** 119.71 51 *c i*PKIKP **PKPdf** 22 51 08.0 -1.0
KIS *i* 22 51 19.0
KIS *e*PS PKKPdf 23 02 14.0 +22
KIS pmax pmax
comp=Z,100nm,2.1s
SORM **Soroca** 119.74 49 ⇓P **PKPdf** 22 51 08.1 -0.9
SORM **Soroca** 119.74 49 ⇓PKIKP **PKPdf** 22 51 08.1 -0.9
RDOG **Red Dog Mine** 120.37 334 IAMs_20 IAMs_20 23 41 16.4
comp=Z,6μm,21.0s
TRO **Tromso** 120.39 24 *e*Pdif **Pdif** 22 47 33.3 -1.0
TRO *e*PKPdf **PKPdf** 22 51 09.7 +0.1
TRO *e*PP **PP** 22 52 31.3 -5.4
TRO *e*SKSac **SKSac** 22 58 00.7 -3.5
TRO *e*SP SP 23 02 19.9 -2.5
TRO *e*SS **SS** 23 09 04.7 +1.9
TRO IVMs_BB IVMs_BB 23 37 29.5
comp=Z,3μm,22.1s
ISAL **Salakas** 120.41 41 *e*P **PKiKP** 22 51 10.5 +0.3
IZAR **Zarasai** 120.52 41 *e*P **PKiKP** 22 51 10.7 +0.3
KBS **Kingsbay** 120.58 13 IAMs_20 IAMs_20 23 48 43.4
comp=Z,4μm,18.0s
KBS **Kingsbay** 120.58 13 IVmB_BB 22 47 35.5
comp=Z,171nm,2.3s
KBS *e*Pdif **Pdif** 22 47 35.9 +0.8
KBS *e*PKPdf **PKPdf** 22 51 09.4 -0.4
KBS *e*PP **PP** 22 52 33.5 -4.5
KBS *e*SP SP 23 02 23.0 -0.8
KBS *e*SS **SKKSdf** 23 08 55.8 -5.9
KBS IVMs_BB IVMs_BB 23 39 39.8
comp=Z,1μm,22.8s
ANM **Nome** 120.60 330 IAMs_20 IAMs_20 23 40 34.4
comp=Z,6μm,21.0s
NACGM **Naroch** 120.61 42 *e*PKP **PKPdf** 22 51 10.0 -0.5
NACGM *e*PP **PP** 22 52 37.0 -1.8
NACGM *e*PPP PPP 22 55 19.0
NACGM *e*SKS **SKSdf** 22 58 17.0 -2.8
NACGM *e*PS PKKPdf 23 02 32.0 +42
NACGM *e*SS SS 23 09 44.0 +37
NACGM *e*SSS SSS 23 13 26.0
NACGM *e*LQ LQ 23 33 52.0
NACGM *e*LR LR 23 41 26.0
NACGM LRM MLR 23 43 50.0
comp=Z,12nm,20.0s
NACGM LRM1 23 46 54.0
comp=Z,11nm,20.0s
IDID **Didziasalis** 120.69 41 *e*P **PKiKP** 22 51 11.2 +0.5
BRTR **Keskin Array B** 120.83 60 PKP **PKPdf** 22 51 11.2 -0.5
comp=Z,9.5nm,0.8s,baz=192,slow=2.9,SNR=27
BRTR PKKPbc PKKPbc 23 01 31.0 +15
comp=Z,1.0nm,0.8s,baz=90,slow=5.4,SNR=4.1
HSPB **Hornsund (broa** 120.91 15 *e*Pdif **Pdif** 22 47 35.9 -0.7
HSPB *e*PKPdf **PKiKP** 22 51 12.8 +2.2
HSPB *e*PP **PP** 22 52 38.0 -2.2
HSPB *e*SP SP 23 02 27.8 +1.0
HSPB *e*SS **SS** 23 09 11.0 +1.7
HSPB IVMs_BB IVMs_BB 23 37 11.2
comp=Z,1μm,23.3s
AKASG **Malin Array Be** 121.00 47 PKP **PKPdf** 22 51 10.2 -1.2
comp=Z,14nm,0.9s,baz=265,slow=3.0,SNR=24
AKASG PKKPbc **PKKPbc** 23 01 18.7 +3.6
comp=Z,2.4nm,0.7s,baz=64,slow=3.6,SNR=5.8
MICGM **Minsk** 121.14 42 *e*PKP **PKPdf** 22 51 11.0 -0.5
MICGM *e*PP **PP** 22 52 37.0 -5.4
MICGM *e*PPP PPP 22 55 12.0
MICGM *e*SKS **SKSdf** 22 58 20.0 -0.8
MICGM *e*SS **SKKSdf** 23 09 04.0 +4.2
MICGM *e*SSS SSS 23 13 30.0
MICGM *e*LQ LQ 23 35 10.0
MICGM *e*LR LR 23 39 04.0
MICGM LRM MLR 23 42 52.0
comp=Z,10nm,20.0s
MICGM LRM MLR 23 42 56.0
comp=E,5.5nm,20.0s
MNK **Minsk** 121.14 42 *e*PKIKP **PKPdf** 22 51 11.0 -0.5
MNK *e* 22 58 20.0
MNK *e*SS SS 23 09 04.0 -9.3
SPA0 **Spitsbergen Ar** 121.30 14 *e*Pdif **Pdif** 22 47 38.9 +0.6
SPA0 *e*PKPdf **PKPdf** 22 51 10.9 -0.4
SPA0 *e*PP **PP** 22 52 40.5 -2.4
SPA0 *e*SS SS 23 09 10.2 -4.1
SPA0 IVMs_BB IVMs_BB 23 43 41.6
comp=Z,2μm,21.8s
BJO1 **Bjornoya** 121.32 18 *e*Pdif **Pdif** 22 47 38.2 -0.2
BJO1 *e*PKPdf **PKPdf** 22 51 11.4 +0.1
BJO1 *e*PP **PP** 22 52 40.8 -2.2
BJO1 *e*SKSac **SKSac** 22 58 07.2 +0.1
BJO1 *e*SP SP 23 02 31.6 +1.1
BJO1 *e*SS **SS** 23 09 13.5 -1.0
BJO1 IVMs_BB IVMs_BB 23 36 11.1
comp=Z,2μm,19.4s
VSU **Vasula** 121.40 38 *e*P **PKPdf** 22 51 11.4 -0.5
VSU *e*PP **PP** 22 52 40.3 -3.7
VSU **Vasula** 121.40 38 *i* PKIKP **PKPdf** 22 51 11.2 -0.7
FINES **FINESS Array B** 121.67 34 PKP **PKPdf** 22 51 12.0 -0.3
comp=Z,15nm,1.0s,baz=262,slow=1.3,SNR=11
FINES PKKPbc **PKKPab** 23 01 11.2 +1.0
comp=Z,3.1nm,0.7s,baz=138,slow=7.6,SNR=12
KTK1 **Kautokeino** 121.78 25 *e*PKPdf **PKPdf** 22 51 11.9 -0.4
KTK1 *e*PP **PP** 22 52 46.3 0.0
KTK1 *e*SS SS 23 09 21.9 +1.1
WRA **Warramunga Arr** 122.11 209 Pdiff **Pdif** 22 47 50.7 +7.3
comp=Z,0.3nm,0.8s,baz=85,slow=20,SNR=1.9
WRA PKP **PKPdf** 22 51 13.8 -0.8
comp=Z,12nm,0.5s,baz=156,slow=1.7,SNR=62
WRA PKKPbc **PKKPbc** 23 01 10.9 +0.3
comp=Z,3.4nm,0.6s,baz=342,slow=4.3,SNR=30
WRAB **Tennant Creek** 122.11 209 *i* PKIKP **PKPdf** 22 51 12.7 -1.9
HAMF **Hammerfest** 122.16 23 *e*PKPdf **PKiKP** 22 51 13.3 +0.1
HAMF *e*PP **PP** 22 52 49.9 +1.0
HAMF *e*SP SP 23 02 22.8 -15
HAMF *e*SS **SS** 23 09 27.2 +1.8
HAMF IVMs_BB IVMs_BB 23 36 08.1
comp=Z,1μm,28.4s
ATKA **Atka Island** 122.50 315 IAMs_20 IAMs_20 23 32 13.9
comp=Z,6μm,22.0s
ARCES **ARCESS Array B** 122.65 24 PKP **PKPdf** 22 51 13.7 -0.4
comp=Z,3.6nm,0.7s,baz=264,slow=3.4,SNR=19
ARCES PKKPbc **PKKPbc** 23 01 08.2 -1.1
comp=Z,3.3nm,0.9s,baz=91,slow=3.6,SNR=11
ARE0 **ARCESS Array S** 122.65 24 *e*Pdif **Pdif** 22 47 45.9 +1.5
ARE0 *e*PKPdf **PKPdf** 22 51 12.8 -1.2
ARE0 *e*PP **PP** 22 52 51.7 -0.5
ARE0 *e*SS SS 23 09 32.8 +1.0
ARE0 IVMs_BB IVMs_BB 23 39 01.3
comp=Z,2μm,21.4s
GAZ **Gaziantep** 122.68 64 IAMs_20 IAMs_20 23 44 08.3
comp=Z,7μm,21.0s
SIM **Simferopol'** 122.69 54 *de*PKIKP **PKPdf** 22 51 13.4 -1.4
SIM pmax pmax
comp=Z,12nm,0.5s
HOPEN **Hopen** 123.03 16 *e*Pdif **Pdif** 22 47 44.4 -1.6
HOPEN *e*PKPdf **PKPdf** 22 51 14.5 -0.1
HOPEN *e*PP **PP** 22 52 54.5 -0.1
HOPEN *e*SP SP 23 02 45.5 0.0
HOPEN IVMs_BB IVMs_BB 23 37 27.1
comp=Z,1μm,27.1s
TOKA **Tokat** 123.08 60 IAMs_20 IAMs_20 23 47 36.1
comp=Z,5μm,20.0s
KEV **Kevo** 123.19 24 PKIKP **PKiKP** 22 51 16.6 +1.4
KEV MLR MLR
comp=Z,7μm,22.0s
KEV **Kevo** 123.19 24 PKPdf **PKiKP** 22 51 16.6 +1.4
KEV IAMs_20 IAMs_20 23 39 06.2
comp=Z,7μm,22.0s
PUL **Pulkovo** 123.46 36 *e*P **PKPdf** 22 51 15.5 -0.3
ADK **Adak** 123.94 314 IAMs_20 IAMs_20 23 32 60.0
comp=Z,6μm,21.0s
RABL **Rabaul** 124.68 237 IAMs_20 IAMs_20 23 37 48.1
comp=Z,6μm,20.0s
PSAC3 **Pilbara Seismi** 124.92 193 IAMs_20 IAMs_20 23 47 10.1
comp=Z,8μm,20.0s
ANN **Anapa** 124.93 55 *i* PKIKP **PKPdf** 22 51 18.6 -0.5
ANN *e* 22 53 03.7
ANN *e* 22 58 18.9
ANN *e*PS PS 23 03 10.3 +1.9
ANN *e*SS SS 23 10 01.0 -0.9
ANN pmax pmax
comp=Z,53nm,0.9s
ANN MLR MLR
comp=N,5μm,22.0s
ANN MLR MLR
comp=Z,7μm,22.0s
PSA00 **Pilbara Seismi** 124.96 193 PKPdf **PKPdf** 22 51 19.1 -0.9
APA **Apatity** 125.43 27 ⇑*i*PKIKP PKPdf 22 51 10.3 -9.1
APA *i* 23 03 09.0
APA pmax pmax
comp=Z,36nm,0.9s
MARD **Mardin** 125.43 65 IAMs_20 IAMs_20 23 56 23.3
comp=Z,8μm,21.0s
LVZ **Lovozero** 125.91 27 *i* PKIKP **PKPdf** 22 51 20.2 -0.1
LVZ **Lovozero** 125.91 27 IAMs_20 IAMs_20 23 48 10.9
comp=Z,5μm,20.0s
KOPT **Kop Dagi** 125.96 62 IAMs_20 IAMs_20 23 50 44.3
comp=Z,7μm,20.0s
OBN **Obninsk** 126.19 43 *c i*PKIKP **PKPdf** 22 51 20.7 -0.4
OBN *i* 22 51 31.6
OBN 22 51 36.0
OBN *i* 22 53 13.9
OBN PPP PPP 22 56 04.0
OBN *i* 22 58 19.2
OBN *e*PS PS 23 03 14.5 -4.6
OBN *e*SS SS 23 10 18.4 +1.3
OBN SSS SSS 23 15 02.0
OBN pmax pmax
comp=Z,117nm,1.6s
OBN MLR MLR
comp=Z,5μm,20.0s
OBN **Obninsk** 126.19 43 PKPdf **PKPdf** 22 51 21.1 0.0
OBN IAMs_20 IAMs_20 23 47 36.8
comp=Z,6μm,21.0s
H11S2 **WAKE ISLAND Hyl** 126.20 270 T T 01 10 22.3
baz=118,slow=75
H11S1 **WAKE ISLAND Hyl** 126.21 270 T T 01 10 21.7
baz=118,slow=75
H11S3 **WAKE ISLAND Hyl** 126.22 270 T T 01 10 21.6
baz=118,slow=75,SNR=9853
SOC **Sochi** 126.26 57 *e*P **Pdif** 22 48 01.4 +0.3
SOC *i* 22 51 20.4
SOC *e* 22 53 16.2
SOC *e*PS **PS** 23 03 17.7 -2.4
SOC *e*SSS SSS 23 14 57.2
SOCY **Socotra** 126.29 99 **PKiKP** 22 51 23.3 +0.1
H11N3 **WAKE ISLAND Hyl** 126.58 271 T T 01 10 51.7
baz=118,slow=75,SNR=1650
H11N1 **WAKE ISLAND Hyl** 126.59 271 T T 01 10 51.2
baz=118,slow=75,SNR=495
H11N2 **WAKE ISLAND Hyl** 126.59 271 T T 01 10 55.0
baz=118,slow=75,SNR=5722
WAKE **Wake Island** 126.60 271 IAMs_20 IAMs_20 23 37 01.6
comp=Z,7μm,19.0s
MOS **Moscow** 126.86 42 *i* PKIKP **PKPdf** 22 51 19.3 -3.1
MOS *e* 22 51 32.3
MOS *e* 22 58 17.5
MOS *i* SS SS 23 10 16.3 -9.1
MOS pmax pmax
comp=Z,500nm,2.8s
MOS pmax pmax
comp=Z,123nm,1.8s
MOS MLR MLR
comp=Z,11μm,22.0s
MOS MLR MLR
comp=N,3μm,20.0s
MOS MLR MLR
comp=E,8μm,22.0s
FITZ **Fitzroy Crossi** 126.89 201 PKPdf **PKPdf** 22 51 23.8 0.0
VSR **Storozhevoye** 127.26 48 *e*PKIKP **PKPdf** 22 51 22.7 -0.6
VSR *e*SS SS 23 10 26.3 -4.4
VSR pmax pmax
comp=Z,40nm,1.1s
VSR MLR MLR
comp=Z,7μm,22.0s
LPSR **Galich'ya Gora** 127.28 46 *e*PKIKP **PKPdf** 22 51 22.8 -0.5
LPSR *e*SS SS 23 10 27.3 -3.6
LPSR pmax pmax
comp=Z,60nm,1.2s
LPSR MLR MLR
comp=Z,6μm,21.0s
VORD **Divnogorie** 127.30 48 *e*PKIKP **PKPdf** 22 51 22.7 -0.7
VORD pmax pmax
comp=Z,20nm,0.9s
TMCR **Tamitsa** 127.37 31 *e*PKIKP **PKiKP** 22 51 23.9 +0.2
GEVA **Gevas** 127.44 64 IAMs_20 IAMs_20 23 58 28.6
comp=Z,6μm,20.0s
KLMR **Klimovskoe** 128.10 35 *e*PKIKP **PKPdf** 22 51 23.8 -0.8
KLMR *e*SS SS 23 10 42.1 +1.6
KLMR pmax pmax
comp=Z,242nm,1.3s
KLMR **Klimovskoe** 128.10 35 *e*PKPdf **PKPdf** 22 51 23.9 -0.7
KLMR AMP 22 51 38.8
comp=Z,242nm,1.3s
KLMR *e*PKS PKSab 22 54 43.6 +0.5
KLMR *e*PKS PKSab 22 54 43.6 +0.5
KLMR *e*SKKPbc SKKPbc 23 04 31.6 -7.9
KLMR *e*SS **SS** 23 10 42.1 +1.6
KLMR *e*SS **SS** 23 10 42.1 +1.6
KLMR LQ LQ 23 37 59.1
KLMR LQ LQ 23 37 59.1
KLMR LR LR 23 41 03.3
KLMR AMP 23 52 08.1
comp=Z,2μm,18.2s
KIV **Kislovodsk** 128.44 57 ⇑P **PKiKP** 22 51 26.8 +0.2
KIV **Kislovodsk** 128.44 57 *e*P **Pdif** 22 48 09.4 -1.5
KIV *i* 22 51 25.5
KIV *e* 22 53 29.7
KIV *e*PS PS 23 03 36.9 -2.6
KIV *e*SS SS 23 10 43.7 -2.3
KIV pmax pmax
comp=Z,149nm,1.1s
KIV **Kislovodsk** 128.44 57 PKPdf **PKPdf** 22 51 25.7 -0.3
KIV IAMs_20 IAMs_20 23 47 55.7
comp=Z,3μm,22.0s
AKH **Akhalkalaki** 128.50 61 ⇑P **PKPdf** 22 51 26.6 +0.3
KBZ **Khabaz** 128.54 58 PKP **PKPdf** 22 51 26.2 +0.2
comp=Z,32nm,1.0s,baz=271,slow=3.3,SNR=25
VRH **Novokhopyorsk** 128.85 48 *e*PKIKP **PKPdf** 22 51 25.6 -0.8
VRH pmax pmax
comp=Z,30nm,1.0s
VRH MLR MLR
comp=Z,7μm,22.0s
ZEI **Tsey** 129.08 59 *i* PKIKP **PKPdf** 22 51 25.4 -2.0
ZEI pmax pmax
comp=Z,28nm,1.1s
SMY **Shemya** 129.65 314 IAMs_20 IAMs_20 23 43 56.1
comp=Z,5μm,19.0s
GROC **Groznyy** 130.53 59 *i* PKIKP **PKPdf** 22 51 29.6 -0.2
GROC *e* 22 53 44.8
GROC pmax pmax
comp=Z,68nm,1.1s
PRGR **Permogore** 131.00 34 ⇑*i*PKIKP **PKPdf** 22 51 30.1 0.0
AKT **Akhty** 131.64 61 *e*PKIKP **PKPdf** 22 51 32.1 -0.1
AKT *e* 22 53 51.0
AKT pmax pmax
comp=Z,68nm,1.1s
MAK **Makhachkala** 131.72 59 *de*P **Pdif** 22 48 24.1 -1.3
MAK *i* 22 51 32.6
MAK *e* 22 53 49.6
MAK *e*SSS SSS 23 16 24.5
MAK pmax pmax
comp=Z,199nm,2.5s
WBSI **Waikabubak, Su** 136.64 196 PKP PKiKP 22 51 55.1 +11
MMRI **Maumere** 136.86 200 IAMs_20 IAMs_20 23 47 51.3
comp=Z,4μm,21.0s
XMIS **Christmas Isla** 137.00 176 IAMs_20 IAMs_20 23 51 08.3
comp=Z,6μm,20.0s
FAKI **Fak Fak** 138.03 217 IAMs_20 IAMs_20 23 50 39.4
comp=Z,6μm,19.0s
ARU **Arti** 138.47 40 PP PP 22 54 34.0 -1.0
comp=Z,2.9nm,0.9s,baz=155,slow=22,SNR=1.9
ARU **Arti** 138.47 40 *i* PKIKP **PKPdf** 22 51 43.8 -0.5
ARU MLR MLR
comp=Z,9μm,21.0s
ARU **Arti** 138.47 40 PKPpre 22 51 38.4
JAGI **Jajag, Banyuwa** 138.72 189 IAMs_20 IAMs_20 23 52 44.5
comp=Z,5μm,20.0s
PET **Petropavlovsk** 138.97 315 PKIKP **PKiKP** 22 51 47.1 -0.4
PET **Petropavlovsk** 138.97 315 PKPdf **PKiKP** 22 51 47.1 -0.4
GEYT **Alibeck** 138.99 68 PKhKP PKPpre 22 51 35.5
comp=Z,2.3nm,0.7s,baz=269,slow=5.9,SNR=6.4
GEYT PKP **PKPdf** 22 51 46.2 +0.3
comp=Z,19nm,1.0s,baz=266,slow=4.5,SNR=18
GEYT PP **PP** 22 54 40.2 +1.2
comp=Z,1.4nm,0.5s,baz=25,slow=36,SNR=1.2
SEY **Seymchan** 139.09 331 PKhKP PKPpre 22 51 37.0
comp=Z,5.8nm,0.6s,baz=105,slow=4.3,SNR=9.9
SEY SKP 22 55 17.2
comp=Z,20nm,1.1s,baz=103,slow=2.9,SNR=3.6
SEY **Seymchan** 139.09 331 *i* PKIKP **PKPdf** 22 51 45.5 +0.3
PEA0B **Petropavlovsk-** 139.53 315 IAMs_20 IAMs_20 23 41 51.2
comp=Z,4μm,22.0s
PETK **Petropavlovsk-** 139.53 315 PKhKP PKPpre 22 51 38.5
comp=Z,4.8nm,0.6s,baz=68,slow=8.1,SNR=20
CISI **Cisompet, Garu** 139.98 179 PKP **PKiKP** 22 51 51.6 +0.7
SMRI **Semarang** 140.44 183 PKP **PKiKP** 22 51 51.8 0.0
DBJI **Dramaga** 140.95 177 PKP **PKiKP** 22 51 54.4 +1.6
KAPI **Kappang** 141.00 198 PKhKP PKPpre 22 51 44.3
KAPI **Kappang** 141.00 198 *c i*PKIKP **PKPdf** 22 51 47.9 -2.4
KAPI pmax pmax
comp=Z,96nm,2.5s
MA2 **Magadan** 141.26 327 PKhKP PKPpre 22 51 43.9
comp=Z,11nm,0.5s,baz=28,slow=6.1,SNR=5.6
MA2 **Magadan** 141.26 327 PKHKP PKPpre 22 51 43.9
MA2 MLR MLR
comp=Z,4μm,22.0s
MA2 **Magadan** 141.26 327 IAMs_20 IAMs_20 23 59 41.0
comp=Z,4μm,22.0s
NRIK **Noril'sk** 141.45 12 PKhKP PKPpre 22 51 45.0
comp=Z,6.4nm,0.5s,baz=299,slow=4.5,SNR=5.0
BNSI **Bone** 141.50 199 PKP **PKiKP** 22 51 53.5 -0.4
SANI **Sanana** 141.68 209 PKP **PKiKP** 22 52 00.9 +6.6
GUMO **Guam** 141.76 249 PKIKP **PKPdf** 22 51 51.7 +0.2
GUMO MLR MLR
comp=Z,6μm,19.0s
GUMO **Guam** 141.76 249 PKPdf **PKPdf** 22 51 51.7 +0.2
GUMO **Guam** 141.76 249 IAMs_20 IAMs_20 23 48 04.0
comp=Z,6μm,19.0s
KASI **Kota Agung** 141.82 174 PKP **PKPdf** 22 51 51.9 +0.2
LWLI **Liwa** 142.27 173 PKP **PKiKP** 22 51 56.3 +0.6
KBKI **Kotabaru** 143.47 193 PKP **PKiKP** 22 51 56.6 -1.4
BBKI **Banjar Baru** 143.54 191 PKP **PKiKP** 22 52 00.7 +2.5
TNTI **Ternate** 143.60 213 IAMs_20 IAMs_20 23 54 54.4
comp=Z,3μm,21.0s
LUWI **Luwuk** 143.83 205 IAMs_20 IAMs_20 23 56 35.6
comp=Z,6μm,21.0s
PALK **Pallekele** 143.90 128 PKhKP PKPpre 22 51 52.6
comp=Z,63nm,0.9s,baz=338,slow=4.3,SNR=21
PALK **Pallekele** 143.90 128 PKIKP PKPab 22 51 52.8 +0.2
PALK MLR MLR
comp=Z,14μm,21.0s
PALK **Pallekele** 143.90 128 PKPpre 22 51 52.8
GOA **Goa** 144.26 110 *e*P **PKPab** 22 51 53.0 -0.8
KRJI **Kerinci** 144.78 168 PKP PKPbc 22 51 56.1 +0.1
KRJI PKP **PKPdf** 22 51 56.6 -0.5
KMSI **Cibinong** 144.87 208 PKP **PKPab** 22 51 55.9 -0.2
KMSI PKP PKPbc 22 51 56.6 +0.4
SISI **Saibi** 145.03 164 PKP **PKPbc** 22 51 57.0 +0.3
SISI PKP **PKPdf** 22 51 58.1 +0.7
PPBI **Pangkal Pinang** 145.27 176 PKP **PKPbc** 22 51 56.6 -0.9
PPBI PKP **PKPab** 22 51 57.0 -0.6
BKB **Balikpapan** 145.31 195 PKP **PKiKP** 22 52 00.8 -1.0
BKB **Balikpapan** 145.31 195 IAMs_20 IAMs_20 23 51 50.5
comp=Z,5μm,22.0s
KAD **Karad** 145.55 108 ⇑*i*P **PKPdf** 22 51 57.9 -0.2
PDSI **Padang** 145.74 166 PKP **PKPdf** 22 51 58.5 -0.1
POO **Poona** 145.93 106 *e*P **PKPdf** 22 51 58.8 0.0
POO ⇑*i*P **PKPbc** 22 51 59.0 -0.5
comp=Z,750nm,1.0s
BRVK **Borovoye** 145.96 42 PKP2 **PKPbc** 22 51 58.3 -0.2
BRVK MLR MLR
comp=Z,9μm,21.0s
BRVK **Borovoye** 145.96 42 PKPdf **PKPbc** 22 51 58.3 -0.2
MTKI **Muara Teweh, K** 146.01 192 PKP **PKPbc** 22 52 00.0 +0.2
BVAR **Borovoye Array** 146.03 42 PKPbc **PKPbc** 22 51 58.6 -0.2
MPSI **Mapaga** 146.07 201 PKP **PKPdf** 22 51 59.1 0.0
MPSI PKP **PKPbc** 22 51 59.3 -0.7
URV **Uravakonda** 146.62 115 *e*PKPdf **PKPdf** 22 51 59.5 -0.5
URV IVMs_BB IVMs_BB 23 53 22.5
comp=Z,1μm,22.1s
DSRI **Dabo** 146.81 173 PKP **PKPbc** 22 52 01.9 -0.3
BKNI **Bangkinang** 147.06 166 PKP **PKPdf** 22 52 01.7 +0.9
GSI **Gunungsitoli** 147.15 160 PKP **PKPbc** 22 52 03.8 +0.7
MNSI **Mandailing Nat** 147.20 163 PKP **PKPdf** 22 52 01.1 +0.1
KUR **Kuril'sk** 147.21 304 *c i*PKIKP **PKPdf** 22 52 00.9 +0.9
KUR *e* 22 55 26.9
KUR pmax pmax
comp=Z,6μm,11.4s
KUR pmax pmax
comp=E,302nm,1.4s
KUR pmax pmax
comp=Z,551nm,1.4s
KUR pmax pmax
comp=N,142nm,0.9s
KBL **Kabul** 147.26 76 PKIKP **PKPdf** 22 52 00.7 -0.1
KBL **Kabul** 147.26 76 PKPdf **PKPdf** 22 52 00.7 -0.1
KBL IAMs_20 IAMs_20 00 01 15.5
comp=Z,5μm,22.0s
YAK **Yakutsk** 147.63 341 PKPbc **PKPbc** 22 52 02.6 -0.3
comp=Z,167nm,0.6s,baz=348,slow=0.1,SNR=58
YAK **Yakutsk** 147.63 341 *c i*PKIKP **PKPdf** 22 52 00.0 -0.2
YAK *e* 22 52 13.3
YAK *e* 22 55 34.9
YAK *e* 22 59 06.7
YAK *e* 23 08 11.6
YAK pmax pmax
comp=Z,462nm,1.0s
YAK pmax pmax
comp=N,21nm,1.0s
YAK pmax pmax
comp=E,40nm,1.1s
YAK MLR MLR
comp=Z,5μm,21.0s
YAK MLR MLR
comp=N,2μm,20.0s
YAK MLR MLR
comp=E,2μm,21.0s
YAK **Yakutsk** 147.63 341 **PKPbc** 22 52 02.8 -0.1
YAK IAMs_20 IAMs_20 00 00 01.0
comp=Z,5μm,21.0s
MDRS **Chennai** 147.66 121 *e*P **PKPdf** 22 52 02.3 +0.6
SKHT **Srikalahasti** 147.71 119 *e*PKPdf **PKPdf** 22 52 02.3 +0.5
SKHT IVMs_BB IVMs_BB 23 49 27.6
comp=Z,2μm,21.1s
SBSI **Sibolga** 147.75 162 PKP **PKPdf** 22 52 02.6 +0.6
TAS **Tashkent** 147.78 63 IAMs_20 IAMs_20 00 06 47.9
comp=Z,5μm,19.0s
KLRI **Killari** 147.89 109 *e*PKPdf **PKPdf** 22 52 02.2 +0.1
KLRI IVMs_BB IVMs_BB 23 52 04.1
comp=Z,2μm,23.2s
IUG **Iuzhnay** 148.28 62 ⇑*i*PKP **PKPdf** 22 52 02.4 +0.3
comp=Z,168nm,2.5s,baz=61
IUG *e*SKP 22 55 33.5
baz=61

IUG LR LR 23 58 08.5
comp=Z,1μm,20.7s,baz=61
IUG luzhnay 148.28 62 *c iP*KIKP **PKPdf 22 52 02.4 +0.3**
IUG *e* 22 55 33.4
IUG pmax pmax
comp=Z,168nm,2.5s
IUG MLR MLR
comp=Z,1μm,21.0s
BRZS Berezniki 148.44 46⇑ *i*PKP **PKPdf 22 52 02.0 0.0**
BRZS comp=Z,267nm,3.0s,baz=45
BRZS *e*SKP 22 55 33.2
baz=45
BRZS LR LR 23 56 08.1
baz=45
BRZS Berezniki 148.44 46 *c iP*KIKP **PKPdf 22 52 02.0 0.0**
BRZS *e* 22 55 33.1
BRZS pmax pmax
comp=Z,267nm,3.0s
SRLM Srisailam 148.56 115 *e*PKPdf **PKPdf 22 52 03.5 +0.3**
SRLM IVMs_BB IVMs_BB 23 51 41.8
comp=Z,1μm,19.7s
YUK Yuzh-Kuril'sk 148.81 302 *c iP*KIKP **PKPdf 22 52 02.8 +0.1**
YUK *e* 22 55 43.5
YUK *e*PPP PPP 22 58 55.9
YUK *i* SS SS 23 14 47.6 +1.6
YUK SSS SSS 23 20 21.3
YUK pmax pmax
comp=Z,987nm,2.2s
YUK pmax pmax
comp=N,466nm,1.1s
YUK pmax pmax
comp=Z,855nm,1.1s
YUK pmax pmax
comp=E,391nm,1.3s
RPSI Rantau Prapat 148.85 161 **PKPbc 22 52 07.2 -0.4**
PSI Prapat 148.96 161 PKP **PKPdf 22 52 03.2 -0.9**
comp=E,138nm,0.9s,baz=180,slow=4.2,SNR=33
PSI PKPbc **PKPbc 22 52 07.2 -0.8**
comp=E,112nm,0.8s,baz=180,slow=4.9,SNR=32
HYB Hyderabad 149.07 112 *i* PKP **PKPdf 22 52 03.0 -1.0**
HYB *e*PP **PP 22 55 37.0 -2.4**
HYB *e* 22 59 16.0
HYB *e*PPP PPP 23 06 08.0
HYB *e* 23 07 10.0
HYB Hyderabad 149.07 112 *e*P **PKPdf 22 52 04.0 0.0**
HYBB Hyderabad (bro 149.07 112 *e*PKPdf **PKPdf 22 52 04.0 0.0**
HYBB IVMs_BB IVMs_BB 23 55 20.5
comp=Z,2μm,17.4s
NJS Nagarjunasagar 149.15 114 *e*PKPdf **PKPdf 22 52 04.3 +0.2**
NJS IVMs_BB IVMs_BB 23 51 59.5
comp=Z,1μm,18.5s
DZA Taraz 149.16 60⇑ *i*PKP **PKPdf 22 52 03.9 +0.4**
comp=Z,220nm,2.4s,baz=59
DZA LR LR 23 59 33.1
comp=Z,1μm,19.3s,baz=59
DZA Taraz 149.16 60 *c iP*KIKP **PKPdf 22 52 03.8 +0.4**
DZA pmax pmax
comp=Z,220nm,2.4s
ADKI Addanki 149.23 116 *e*PKPdf **PKPdf 22 52 04.7 +0.5**
ADKI IVMs_BB IVMs_BB 23 56 38.9
comp=Z,1μm,17.1s
SBUM Sibu 149.72 187 IAMs_20 IAMs_20 23 59 29.0
comp=Z,6μm,21.0s
SRSP Sriramsagar 149.75 109 *e*PKPdf **PKPdf 22 52 04.9 -0.1**
SRSP IVMs_BB IVMs_BB 23 54 04.2
comp=Z,1μm,20.2s
DAV Davao City (W) 149.95 216 PKPbc **PKPbc 22 52 10.0 -0.4**
comp=Z,174nm,0.4s,baz=90,slow=7.2,SNR=4.2
DAV Davao City (W) 149.95 216 IAMs_20 IAMs_20 23 58 24.2
comp=Z,6μm,20.0s
DAV Davao City (W) 149.95 216⇑ *e*P **PKPdf 22 52 05.0 -0.5**
MYLAV Mylavaram 150.28 116 *e*PKPdf **PKPdf 22 52 06.5 +0.6**
MYLAV IVMs_BB IVMs_BB 23 57 36.8
comp=Z,1μm,18.1s
JCJ Chichijima 150.31 268 PKP **PKPdf 22 52 07.6 +1.9**
comp=Z,35nm,0.8s,baz=321,slow=4.3,SNR=3.8
YSS Yuzh-Sakhalins 150.32 309⇑ *i*PKIKP **PKPdf 22 52 04.8 -0.2**
YSS Yuzh-Sakhalins 150.32 309 **PKPbc 22 52 10.3 +0.1**
RPR Rampur 150.46 111 *e*PKPdf **PKPdf 22 52 06.0 -0.2**
RPR IVMs_BB IVMs_BB 23 55 06.8
comp=Z,1μm,20.6s
NIL Nilore 150.60 78 PKIKP **PKPdf 22 52 06.1 +0.1**
NIL Nilore 150.60 78 PKPdf **PKPdf 22 52 06.1 +0.1**
NIL Nilore 150.60 78 IAMs_20 IAMs_20 00 07 24.2
comp=Z,6μm,19.0s
LHMI Lhok Sumawe 150.65 156 PKP **PKPdf 22 52 08.8 +2.2**
BTLS Baital 150.72 55⇑ *i*PKP **PKPdf 22 52 06.2 +0.5**
comp=Z,196nm,3.1s,baz=54
BTLS LR LR 00 02 52.6
comp=Z,860nm,19.2s,baz=54
BTLS Baital 150.72 55 *c iP*KIKP **PKPdf 22 52 06.2 +0.5**
BTLS pmax pmax
comp=Z,196nm,3.1s
EKS2 Erkin-Say 150.98 60 P **PKPdf 22 52 06.8 +0.4**
SNR=45
AML Almayashu 150.99 61 P **PKPdf 22 52 07.4 +0.6**
SNR=22
ERM Erimo 151.05 299 PKIKP **PKiKP 22 52 13.0 +0.3**
ERM MLR MLR
comp=Z,10μm,22.0s
ERM Erimo 151.05 299 **PKiKP 22 52 13.0 +0.3**
MYLDM Lahad Datu 151.07 201 PKPdf **PKPdf 22 52 08.8 +1.6**
BHPL Bhopal 151.11 101 *e*P **PKPdf 22 52 06.8 -0.3**
ASAJ Asahikawa 151.11 303 PKPbc **PKPbc 22 52 12.4 +0.2**
comp=Z,82nm,1.0s,baz=28,slow=1.8,SNR=28
PVM Polavaram 151.34 116 *e*PKPdf **PKPdf 22 52 08.0 +0.5**
PVM IVMs_BB IVMs_BB 23 57 56.4
comp=Z,1μm,22.1s
USP Ospenovka 151.40 58 P **PKPdf 22 52 07.1 +0.1**
SNR=29
SGDS Sogindy 151.46 58⇑ *i*PKP **PKPdf 22 52 07.3 +0.3**
comp=Z,342nm,3.2s,baz=57
SGDS *e*PP **PP 22 55 53.6 +0.6**
baz=57
SGDS LR LR 00 02 58.1
comp=Z,3μm,19.6s,baz=57
SGDS Sogindy 151.46 58 *c iP*KIKP **PKPdf 22 52 07.3 +0.3**
SGDS *e* 22 55 53.5
SGDS pmax pmax
comp=Z,342nm,3.2s
NGP Nagpur 151.47 106 *e*P **PKPdf 22 52 05.4 -2.3**
AAK Ala-Archa 151.50 60 PKP **PKPdf 22 52 07.7 +0.5**
comp=Z,28nm,1.1s,baz=201,slow=2.2,SNR=28
AAK PKPbc **PKiKP 22 52 13.9 0.0**
comp=Z,186nm,0.9s,baz=225,slow=2.6,SNR=3.2
AAK Ala-Archa 151.50 60 P **PKPdf 22 52 08.0 +0.7**
SNR=13
UCH Uchtor 151.58 61 P **PKPdf 22 52 08.6 +0.8**
SNR=32
KURBB Kurchatov Arra 151.62 42 PKP **PKPdf 22 52 06.8 -0.1**
comp=Z,12nm,1.0s
KURBB PKPbc **PKiKP 22 52 13.5 -0.1**
comp=Z,74nm,0.8s,baz=304,slow=2.9,SNR=75
KURBB PKPab **pPKPbc 22 52 23.7 +0.1**
comp=Z,92nm,0.7s,baz=302,slow=3.0,SNR=13
KURBB PP **PP 22 55 56.8 +3.4**
comp=Z,18nm,1.1s,baz=288,slow=7.3,SNR=4.2
CHMS Chumysh 151.63 59 P **PKPdf 22 52 07.5 +0.3**
SNR=6.4
KURK Kurchatov 151.63 42 PKIKP **PKPdf 22 52 06.8 -0.1**
KURK 22 52 23.7
KURK Kurchatov 151.63 42 **PKPdf 22 52 06.8 -0.1**
KURK **PKiKP 22 52 13.5 -0.1**
KURK **pPKPbc 22 52 23.7 +0.1**
KBK Karagaybulak 151.83 60 P **PKPdf 22 52 08.5 +0.7**
SNR=12
KZA Kyzart 152.14 61 P **PKPdf 22 52 09.2 +0.7**
SNR=12
TKM2 Tokmak 2 152.25 59 P **PKPdf 22 52 08.5 +0.1**
SNR=23
THN Thein Dam 152.46 82 *ex* **PKPbc 22 52 17.5 +1.8**
KUU Kurty 152.58 57⇑ *i*PKP **PKPdf 22 52 08.5 -0.1**
comp=Z,423nm,3.4s,baz=56
KUU *e*PP **PP 22 55 59.0 -0.4**
baz=56
KUU LR LR 00 02 42.1
comp=Z,2μm,19.1s,baz=56
KUU Kurty 152.58 57 *c iP*KIKP **PKPdf 22 52 08.5 -0.1**
KUU *e* 22 55 58.9
KUU pmax pmax
comp=Z,423nm,3.4s
GRNR Gornyy 152.64 320 *e*PKIKP **PKPdf 22 52 07.1 -1.4**
GRNR MLR MLR
comp=E,1μm,18.0s
MTBS Maitube 152.81 58⇑ *i*PKP **PKPdf 22 52 09.0 -0.1**
baz=57
MTBS Maitube 152.81 58⇑ *i*PKIKP **PKPdf 22 52 09.0 -0.1**
ULHL Ulahol 152.84 60 P **PKPdf 22 52 09.9 +0.6**
SNR=21
NDI New Delhi 152.89 90 *e*P **PKPdf 22 52 10.0 +0.5**
ZAA0 Zalesovo Array 152.89 31 PKPdf **PKPdf 22 52 08.0 -0.7**
ZALV Zalesovo Beam 152.89 31 PKP **PKPdf 22 52 08.2 -0.5**
comp=E,20nm,0.9s,baz=279,slow=2.9,SNR=32
ZALV PKPbc **PKPbc 22 52 16.0 0.0**
comp=E,147nm,0.7s,baz=308,slow=3.1,SNR=75
ZALV PKPab **PKPab 22 52 26.1 -1.1**
comp=E,118nm,0.6s,baz=303,slow=2.6,SNR=18
DHRM DHARAMSHALA 152.92 82 *e*P **PKPdf 22 52 10.0 +0.2**
KSH Kashi 152.98 66 PKPbc **PKPdf 22 52 09.8 +0.3**
KSH PP **PP 22 56 00.5 -1.5**
KSH SS SS 23 15 27.8 -5.2
KSH AMB AMB
comp=E,2μm,7.6s
KSH LR LR
comp=E,4μm,20.5s
KSH LR LR
comp=E,2μm,15.6s
KSH LR LR
comp=E,11μm,22.1s
AAA Alma-Ata 153.14 58⇑ *i*PKP **PKPdf 22 52 09.1 -0.4**
baz=57
AAA *e*PP **PP 22 56 03.0 +0.4**
baz=57
AAA LR LR 23 59 30.3
comp=E,3μm,20.8s,baz=57
AAA Alma-Ata 153.14 58 *c iP*KIKP **PKPdf 22 52 09.9 +0.4**
AAA *e* 22 56 02.9
TNSS Tian-Shan 153.20 58 *e*PKP **PKPdf 22 52 10.3 +0.2**
comp=E,1μm,2.5s,baz=57
TNSS Tian-Shan 153.20 58 *e*PKIKP **PKPdf 22 52 10.2 +0.2**
TNSS pmax pmax
comp=Z,1μm,2.5s
MDOK Medeo 153.25 58 *e*PKP **PKPdf 22 52 09.1 -0.7**
baz=57
MDOK *e*PP **PP 22 56 03.3 0.0**
baz=57
MDOK LR LR 23 59 26.9
comp=Z,2μm,21.5s,baz=57
MDOK Medeo 153.25 58 *e*PKIKP **PKPdf 22 52 09.9 +0.1**
MDOK *e* 22 56 03.3
SMLA Simla 153.44 85 *e*P **PKPdf 22 52 10.8 +0.5**
JHJ2 Mitsune 153.71 280 IAMs_20 IAMs_20 23 59 51.8
comp=Z,5μm,19.0s
TDK Taldyqorghan 153.72 53 *i* PKP **PKPdf 22 52 10.1 -0.2**
comp=Z,334nm,2.5s,baz=52
TDK *e*PP **PP 22 56 05.2 -0.4**
baz=52
TDK LR LR 23 59 59.9
comp=Z,5μm,21.6s,baz=52
TDK Taldyqorghan 153.72 53 *i* PKIKP **PKPdf 22 52 10.0 -0.2**
TDK *e* 22 56 05.2
TDK pmax pmax
comp=Z,333nm,2.5s
CHLP Challavanipeta 153.94 117 *e*PKPdf **PKPdf 22 52 11.3 +0.1**
CHLP IVMs_BB IVMs_BB 23 59 45.8
comp=Z,2μm,20.5s
DDI Dehra Dun 154.01 87 *e*P **PKPdf 22 52 11.4 +0.2**
SATY Saty 154.24 58⇑ *i*PKP **PKPdf 22 52 11.0 -0.3**
comp=Z,138nm,3.6s,baz=56
SATY *e*PP **PP 22 56 08.5 -0.4**
baz=56
SATY Saty 154.24 58 *c iP*KIKP **PKPdf 22 52 10.9 -0.3**
SATY *e* 22 56 08.4
SATY pmax pmax
comp=Z,138nm,3.6s
SATY Saty 154.24 58 *c iP*KIKP **PKPdf 22 52 10.9 -0.3**
SATY *e* 22 56 08.4
SATY pmax pmax
comp=Z,138nm,3.6s
PBA Port Blair 154.57 142 *e*P PKPdf 22 52 12.0 -0.3
BOD Bodaibo 154.58 353 *e*PKIKP **PKPdf 22 52 09.1 -1.9**
BOD pmax pmax
comp=Z,131nm,1.7s
UZB Uzynbulak 154.66 57⇑ *i*PKP **PKPdf 22 52 11.8 -0.1**
comp=Z,181nm,3.2s,baz=56
UZB LR LR 23 59 54.4
comp=Z,1μm,22.0s,baz=56
UZB Uzynbulak 154.66 57 *c iP*KIKP **PKPdf 22 52 11.7 -0.1**
UZB pmax pmax
comp=Z,181nm,3.2s
SHLS Shalkode 154.97 57⇑ *i*PKP **PKPdf 22 52 12.9 +0.7**
comp=Z,192nm,2.5s,baz=56
SHLS *e*PP **PP 22 56 14.8 +1.9**
baz=56
SHLS LR LR 00 00 48.8
comp=Z,993nm,19.2s,baz=56
SHLS Shalkode 154.97 57 *c iP*KIKP **PKPdf 22 52 12.9 +0.7**
SHLS *e* 22 56 14.8
SHLS pmax pmax
comp=Z,192nm,2.5s
TEY Ternei 154.99 308 *e*PKIKP **PKPdf 22 52 11.8 -0.1**
ZEA Zeya 155.04 333 *i* PKIKP **PKPdf 22 52 11.0 -0.8**
ZEA *e* 22 56 20.0
ZEA pmax pmax
comp=Z,270nm,2.5s
ZEA pmax pmax
comp=Z,2μm,9.0s
ZEA pmax pmax
comp=Z,2μm,15.0s
ZEA pmax pmax
comp=E,1μm,11.0s
ZEA pmax pmax
comp=N,900nm,16.0s
MJAR Matsushiro Arr 155.26 287 PKP **PKPdf 22 52 11.8 -0.8**
comp=N,4.9nm,1.1s,baz=230,slow=2.8,SNR=9.7
MJAR PKPbc **pPKPdf 22 52 22.9 -0.2**
comp=N,5.7nm,0.9s,baz=251,slow=2.0,SNR=9.7
MAJO Matsushiro 155.26 287 PKIKP **PKPdf 22 52 12.3 -0.4**
MAJO MLR MLR
comp=Z,6μm,21.0s
MAJO Matsushiro 155.26 287 PKPdf **PKPdf 22 52 12.3 -0.4**
MAJO Matsushiro 155.26 287 IAMs_20 IAMs_20 23 54 12.6
comp=Z,6μm,21.0s
MAT Matsushiro 155.26 287 PKP **PKPdf 22 52 11.6 -1.1**
MAKZ Makanchi 155.38 47 PKIKP **PKPdf 22 52 11.9 -0.6**
MAKZ Makanchi 155.38 47 PKPdf **PKPdf 22 52 11.9 -0.6**
MKAR Makanchi Array 155.58 47 PKP **PKPdf 22 52 11.4 -1.4**
comp=Z,8.5nm,0.9s,baz=321,slow=1.7,SNR=35
KLR Kul'dur 156.01 320 PKP **PKPdf 22 52 12.3 -0.9**
comp=Z,7.8nm,1.0s,baz=324,slow=0.5,SNR=10
ZSN Zaisan 156.81 44⇑ *i*PKP **PKPdf 22 52 14.3 0.0**
comp=Z,285nm,3.7s,baz=42
ZSN *e*PP **PP 22 56 22.8 +0.2**
baz=42
ZSN LR LR 00 01 18.4
comp=Z,2μm,21.4s,baz=42
ZSN Zaisan 156.81 44 *c iP*KIKP **PKPdf 22 52 14.3 0.0**
ZSN *e* 22 56 22.8
ZSN pmax pmax
comp=Z,285nm,3.7s
PYUN Piuthan 157.58 95 *e*P **PKPdf 22 52 15.9 -0.3**
KOLN Koldanda 157.99 96 *e*P **PKPdf 22 52 16.1 -0.6**
BOK Bokaro 158.26 108 *e*P **PKPdf 22 52 16.5 -0.4**
USRK Ussuriysk Ar. 158.36 309 PKP **PKPdf 22 52 14.5 -1.9**
comp=Z,3.1nm,0.9s,baz=58,slow=7.5,SNR=4.7
USRK PKPab **PKPab 22 52 51.6 +0.7**
comp=Z,12nm,0.9s,baz=71,slow=3.2,SNR=8.2
GKN Gorkha 158.93 97 *e*P **PKPdf 22 52 17.3 -0.5**
comp=Z,177nm,1.2s
DMN Daman 159.20 98 *e*P **PKPdf 22 52 18.0 -0.2**
KKN Kakani 159.40 98 *e*P **PKPdf 22 52 17.9 -0.5**
PKI Pulchoki 159.44 98 *e*P **PKPdf 22 52 17.8 -0.8**
comp=Z,351nm,1.6s
JIRN Jiri 160.12 99 *e*P **PKPdf 22 52 18.9 -0.5**
comp=Z,639nm,1.8s
RAMN Ramite 160.21 101 *e*P **PKPdf 22 52 19.5 +0.1**
IRK Irkutsk 160.22 8 *e*PKIKP **PKPdf 22 52 17.6 -0.7**
IRK *e* 22 52 58.5
IRK *e* 22 56 40.0
IRK pmax pmax
comp=Z,160nm,2.2s
MOY Mondy 160.26 14 *e*PKIKP **PKPdf 22 52 17.9 -0.6**
MOY *e* 22 52 59.2
MOY *e* 22 56 37.7
MOY pmax pmax
comp=Z,249nm,3.4s
WMQ Urumqi 160.32 50 PKP **PKPdf 22 52 18.8 +0.1**
WMQ pPKP pPKPdf 22 52 30.8 +1.6
WMQ sPKP 22 52 31.8
WMQ PKPab **PKPab 22 53 01.3 +1.7**
WMQ PKS PP 22 55 51.3 -51
WMQ PP PP 22 56 41.9 -0.1
WMQ SKS **SKSdf 22 59 21.3 -0.3**
WMQ SS **SS 23 16 49.5 -1.3**
WMQ AMB AMB
comp=Z,930nm,5.7s
WMQ LR LR
comp=Z,2μm,28.1s
WMQ LR LR
comp=Z,2μm,26.3s
WMQ LR LR
comp=Z,3μm,29.9s
CIT Chita 160.32 351 *e*PKP2 **PKPab 22 52 57.0 -2.1**
CIT pmax pmax
comp=Z,228nm,2.9s
TLY Talaya 160.69 9 PKP **PKPdf 22 52 19.4 +0.6**
comp=Z,1.6nm,0.4s,baz=295,slow=5.2,SNR=4.9
TLY PKPab **PKPab 22 53 01.6 +0.9**
comp=Z,23nm,0.7s,baz=187,slow=2.9,SNR=11
TLY PP **PP 22 56 47.4 +4.4**
comp=Z,4.0nm,0.9s,baz=86,slow=12,SNR=1.2
TLY Talaya 160.69 9 *c iP*KIKP **PKPdf 22 52 18.6 -0.2**
TLY *e* 22 52 59.6
TLY *e* 22 56 44.2
TLY *e*PPS PPS 23 10 14.5
TLY *e*SS SS 23 16 53.1 +0.3
TLY pmax pmax
comp=Z,92nm,2.2s
TLY Talaya 160.69 9 **PKPab 22 53 01.0 +0.2**
CHJN Chongjin 160.77 304 P **PKPdf 22 52 14.8 -4.4**
ODAN Odare 160.82 102 *e*P **PKPdf 22 52 20.0 0.0**
comp=Z,257nm,1.2s
JNU Nakatsue 161.17 277 PKP **PKPdf 22 52 21.1 +1.1**
comp=Z,6.0nm,1.0s,baz=98,slow=9.2,SNR=3.5
TAPN Taplejung 161.27 101 *e*P **PKPdf 22 52 19.7 -0.9**
comp=Z,449nm,1.7s
ZAK Zakamensk 161.91 11 *e*PKIKP **PKPdf 22 52 19.4 -0.9**
ZAK pmax pmax
comp=Z,14nm,2.4s
GTK Tadong 162.00 102 *e*P **PKPdf 22 52 19.8 -1.4**
BELO BELONIA 162.30 118 *e*P **PKPdf 22 52 21.6 +0.3**
AGT Agartala 162.51 116 *e*P **PKPdf 22 52 21.6 +0.1**
CN2 Changchun 162.68 315 *e*PKP **PKPdf 22 52 19.4 -1.7**
CN2 pPKP sPKPdf 22 52 34.6 -0.6
CN2 PP **PP 22 56 56.8 +2.4**
CN2 LR LR
comp=Z,3μm,22.0s
CN2 LR LR
comp=Z,5μm,22.0s
CN2 LR LR
comp=Z,5μm,23.0s
HHU Hamhung 163.03 301 PKPbc **PKPdf 22 52 20.0 -1.5**
HHU PKPab **pPKPdf 22 52 31.3 -0.7**
WOSN Wonsan 163.35 298 P **PKPdf 22 52 22.3 +0.4**
KSRS Korea Array 163.37 292 PKP **PKPdf 22 52 21.2 -0.7**
comp=Z,14nm,0.9s,baz=101,slow=0.6,SNR=28
KSRS PKPab **PKPab 22 53 14.2 +1.1**
comp=Z,18nm,1.0s,baz=97,slow=3.9,SNR=7.1
CMAR Chiang Mai Arr 163.45 147 PKP **PKPdf 22 52 22.5 -0.1**
comp=Z,9.7nm,0.8s,baz=252,slow=2.4,SNR=43
CMAR PKPab **PKPab 22 53 13.2 -0.5**
comp=Z,10nm,0.9s,baz=220,slow=6.9,SNR=10
CMAR PP **PP 22 56 59.4 +1.3**
comp=Z,0.8nm,0.3s,baz=177,slow=31,SNR=2.6
CHTO Chiang Mai 163.76 146 PKIKP **PKPdf 22 52 22.6 -0.3**
CHTO Chiang Mai 163.76 146 **PKPdf 22 52 22.6 -0.3**
SHL Shillong 163.88 112 *e*P **PKPdf 22 52 22.6 -0.4**
SHL *ex* x 22 52 28.0
SHL *ex* **PKPab 22 53 22.0 +6.2**
GUWA GUWAHATI 164.03 110 *e*P **PKPdf 22 52 21.3 -1.7**
PYS Pyongsong 164.47 300 PKPbc **PKPdf 22 52 22.2 -0.7**
PYAG Pyongyang 164.61 299 PKPbc **PKPdf 22 52 29.0 +6.0**
PYAG pPKP **sPKPdf 22 52 40.0 +2.9**
PYAG PP PP 22 57 21.0 +16
SONM Songino Array 164.79 5 PKP **PKPdf 22 52 22.0 -1.1**
comp=Z,1.3nm,0.9s,baz=346,slow=0.1,SNR=14
SONM PKPab **PKPab 22 53 19.3 +0.3**
comp=Z,20nm,1.1s,baz=341,slow=2.8,SNR=5.7
SONM PP **PP 22 57 06.0 +1.3**
comp=Z,0.8nm,0.4s,baz=26,slow=41,SNR=2.0
LSA Lhasa 164.89 97 PKP **PKPdf 22 52 24.6 +0.4**
LSA LR LR
comp=Z,14μm,24.9s
LSA LR LR
comp=Z,14μm,26.3s
LSA LR LR
comp=Z,32μm,29.9s
LSA Lhasa 164.89 97 PKP2 **PKPab 22 53 21.3 +0.7**
LSA Lhasa 164.89 97 **PKPab 22 53 21.3 +0.7**
SNY Shenyang 164.91 312⇑ PKP **PKPdf 22 52 22.3 -0.9**
SNY AMB AMB
comp=Z,2μm,12.0s
SNY LR LR
comp=Z,2μm,19.9s
SNY LR LR
comp=Z,4μm,20.4s
SNY LR LR
comp=Z,8μm,20.5s
HJU Haeju 164.94 296 P **PKPab 22 53 21.5 +1.6**
TEZP TEZPUR 165.11 110 *e*P **PKPdf 22 52 22.8 -1.1**
SUJ Sinuiju 165.13 304 PKPbc **PKPdf 22 52 22.3 -1.1**
SUJ PKPab **pPKPdf 22 52 33.1 -0.8**
JORH JORHAT 166.31 112 *e*P **PKPdf 22 52 24.8 -0.1**
QIZ Qiongzhong 166.34 186 PKP **PKPdf 22 52 25.1 0.0**
QIZ sPKP 22 52 38.4
QIZ PP **PP 22 57 11.8 -0.8**
QIZ SKS **SKSdf 22 59 28.5 +1.5**
QIZ SS **SS 23 17 54.6 +3.7**
QIZ AMB AMB
comp=Z,3μm,17.3s
QIZ LR LR
comp=Z,4μm,18.4s
QIZ LR LR
comp=Z,4μm,19.6s
QIZ LR LR
comp=Z,7μm,27.1s
ZIRO ZIRO 166.35 108 *e*P **PKPdf 22 52 24.7 -0.4**
DL2 Dalian 167.64 304 PKP **PKPdf 22 52 23.8 -1.6**
DL2 PKPab **PKPab 22 53 33.6 +1.8**
DL2 PP **PP 22 57 19.9 -0.7**
DL2 SS SS 23 18 03.5 -2.9
DL2 AMB AMB
comp=Z,2μm,9.2s
DL2 LR LR
comp=Z,3μm,24.4s
DL2 LR LR
comp=Z,3μm,22.9s
DL2 LR LR
comp=Z,6μm,20.5s
LKP Lekhapani 167.84 113 *e*P **PKPdf 22 52 26.3 +0.3**
QZH Quanzhou 168.24 232 *i* PKP **PKPdf 22 52 26.5 +0.2**
QZH PP **PP 22 57 22.3 -1.2**
QZH SKS **SKSdf 22 59 22.9 -4.9**
QZH SS **SS 23 18 13.3 +1.2**
QZH AMB AMB
comp=Z,2μm,10.9s
QZH LR LR
comp=Z,4μm,19.9s
QZH LR LR
comp=Z,2μm,22.7s
QZH LR LR
comp=Z,7μm,24.2s
HKC Hong Kong Obse 168.48 208⇑ P **PKPdf 22 52 27.0 +0.5**
SSE Sheshan 169.06 265 PKP **PKPdf 22 52 26.9 +0.3**
GZH Guangzhou 169.51 206 PKP **PKPdf 22 52 26.8 -0.3**
GZH PKPab **PKPab 22 53 43.9 +3.7**
GZH PP **PP 22 57 30.8 +1.7**
GZH SS SS 23 18 27.3 +4.0
GZH LR LR
comp=Z,3μm,21.0s
GZH LR LR
comp=Z,5μm,19.8s
GTA Gaotai 170.31 44⇑ PKP **PKPdf 22 52 27.8 +0.5**
GTA pPKP pPKPdf 22 52 40.0 +2.2
GTA sPKP 22 52 45.1
GTA PKPab **PKPab 22 53 44.4 +0.7**
GTA PP **PP 22 57 34.8 +0.9**
GTA SKKS 23 04 17.0
GTA SS **SS 23 18 29.5 -3.1**
GTA AMB AMB
comp=Z,2μm,8.6s
GTA LR LR
comp=Z,4μm,21.6s
GTA LR LR
comp=Z,7μm,22.5s

GTA				LR	LR			
	comp=Z,11μm,21.9s							
BJI	**Beijing**	**170.38**	**322**	PKP	**PKPdf**	**22**	**52**	**26.5 -0.6**
BJI				PP	**PP**	**22**	**57**	**34.5 +0.7**
BJI				SS	SS	23	18	32.9 +0.3
BJI				AMB	AMB			
	comp=Z,3μm,12.0s							
BJI				LR	LR			
	comp=Z,4μm,20.2s							
KMI	**Kunming**	**170.96**	**145**⇑	*i*PKP	**PKPdf**	**22**	**52**	**28.3 +0.1**
KMI				sPKP		22	52	41.4
NJ2	**Nanjing**	**171.18**	**269**	*i* PKP	**PKPdf**	**22**	**52**	**27.5 -0.3**
NJ2				pPKP	**pPKPdf**	**22**	**52**	**36.6 -1.7**
NJ2				sPKP		22	52	40.9
NJ2				PKPab	**PKPab**	**22**	**53**	**49.3 +1.5**
NJ2				PP	**PP**	**22**	**57**	**39.3 +0.3**
NJ2				SKKS		23	04	21.3
NJ2				AMB	AMB			
	comp=Z,3μm,11.3s							
NJ2				LR	LR			
	comp=Z,4μm,18.0s							
NJ2				LR	LR			
	comp=Z,3μm,22.7s							
NJ2				LR	LR			
	comp=Z,7μm,20.8s							
HHC	**Hu-ho-hao-te**	**171.48**	**344**	*e*PKP	**PKPdf**	**22**	**52**	**27.9 0.0**
HHC				pPKP	pPKPdf	22	52	41.1 +2.7
HHC				SKKS		23	04	21.6
HHC				LR	LR			
	comp=Z,10μm,17.5s							
HHC				LR	LR			
	comp=Z,6μm,17.0s							
HHC				LR	LR			
	comp=Z,13μm,17.9s							
TIA	**Tai'an**	**172.03**	**299**	PKP	**PKPdf**	**22**	**52**	**27.8 -0.3**
TIA				PP	**PP**	**22**	**57**	**41.8 -1.0**
TIA				SKKS		23	04	25.3
TIA				AMB	AMB			
	comp=Z,2μm,11.3s							
TIA				LR	LR			
	comp=Z,4μm,21.6s							
TIA				LR	LR			
	comp=Z,4μm,22.1s							
TIA				LR	LR			
	comp=Z,7μm,25.5s							
GYA	**Guiyang**	**173.60**	**165**	⇑PKP	**PKPdf**	**22**	**52**	**28.8 -0.4**
GYA				pPKP	pPKPdf	22	52	40.6 +0.9
GYA				sPKP		22	52	46.3
GYA				PKPab	**PKPab**	**22**	**53**	**57.9 -0.5**
GYA				SKKS		23	04	39.5
GYA				SS	**SS**	**23**	**19**	**00.0 -3.3**
GYA				LR	LR			
	comp=Z,3μm,20.2s							
GYA				LR	LR			
	comp=Z,3μm,22.1s							
GYA				LR	LR			
	comp=Z,7μm,20.9s							
TIY	**Taiyuan**	**174.02**	**328**	*e*PKP	**PKPdf**	**22**	**52**	**28.9 -0.1**
TIY				PKPab	**PKPab**	**22**	**54**	**01.1 +1.0**
TIY				PP	**PP**	**22**	**57**	**51.6 -0.1**
TIY				LR	LR			
	comp=Z,1μm,16.1s							
TIY				LR	LR			
	comp=Z,3μm,16.6s							
TIY				LR	LR			
	comp=Z,4μm,19.2s							
WHN	**Wuhan**	**174.54**	**249**	*i* PKP	**PKPdf**	**22**	**52**	**29.3 +0.1**
WHN				pPKP	**pPKPdf**	**22**	**52**	**41.5 +1.8**
WHN				PP	**PP**	**22**	**57**	**56.8 +1.5**
WHN				SKKS		23	04	35.1
WHN				LR	LR			
	comp=Z,10μm,19.3s							
WHN				LR	LR			
	comp=Z,4μm,16.2s							
WHN				LR	LR			
	comp=Z,25μm,22.8s							
LZH	**Lanzhou**	**174.90**	**47**	⇑PKP	**PKPdf**	**22**	**52**	**29.9 +0.5**
LZH				sPKP		22	52	42.3
LZH				PKPab	**PKPab**	**22**	**54**	**05.4 +1.2**
LZH				SKKS		23	04	39.4
LZH				SS	**SS**	**23**	**19**	**17.5 -0.1**
LZH				AMB	AMB			
	comp=Z,2μm,9.2s							
LZH				LR	LR			
	comp=Z,7μm,19.5s							
LZH				LR	LR			
	comp=Z,10μm,19.0s							
LZH				LR	LR			
	comp=Z,9μm,21.1s							
CD2	**Chengdu**	**175.63**	**113**	PKP	**PKPdf**	**22**	**52**	**29.9 +0.3**
CD2				PKPab	**PKPab**	**22**	**54**	**06.6 -1.0**
CD2				PP	**PP**	**22**	**58**	**01.0 +0.4**
CD2				SKKS		23	04	43.8
CD2				SS	**SS**	**23**	**19**	**22.1 -3.3**
CD2				LR	LR			
	comp=Z,8μm,22.4s							
CD2				LR	LR			
	comp=Z,6μm,21.5s							
CD2				LR	LR			
	comp=Z,3μm,11.3s							
XAN	**Xi'an**	**178.59**	**344**	PKP	**PKPdf**	**22**	**52**	**29.8 -0.2**
XAN				pPKP	pPKPdf	22	52	39.4 -1.1
XAN				sPKP		22	52	44.3
XAN				PKPab	**pPKPab**	**22**	**54**	**20.8 -10**
XAN				SKKS		23	04	54.9
XAN				AMB	AMB			
	comp=Z,4μm,8.8s							
XAN				LR	LR			
	comp=Z,5μm,23.5s							
XAN				LR	LR			
	comp=Z,6μm,21.7s							
XAN				LR	LR			
	comp=Z,14μm,23.9s							

*IDC **23** 22:58:05.2±3.8, 19.°50N×121.°94E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/57, mbtmp3.7/4, Error ellipse: s-maj=330.9km s-min=24.3km az=62.0*

*MAN **23** 22:58:12.8, 19.°23N×121.°15E, h33km, MS3.3*

ISC 23 22:58:12.9±1.0, 19.°25N±0.°05×121.°2E±0.°1, h39km, n11, σ1§80/17, mb3.7/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.38**	**178**	*e*P		**Pn**		**22 58 34.9**	**-0.7**
APYP				*e*S		**Sn**		**22 58 52.2**	**-0.5**
BBP	**Basco**	**1.40**	**32**	*e*P		**Pn**		**22 58 37.2**	**+1.3**
BBP				*e*S		**Sn**		**22 58 54.0**	**+0.9**
ABRA	**Dolores**	**1.65**	**196**	*e*P		**Pn**		**22 58 38.9**	**-0.6**
ABRA				*e*S		**Sn**		**22 59 01.8**	**+2.4**
CAUP	**Cauayan**	**2.37**	**165**	*e*P		**Pn**		**22 58 51.6**	**+2.3**
CAUP				*e*S		**Sn**		**22 59 19.2**	**+2.0**
BOLP	**Bolinao**	**3.10**	**203**	*e*P		**Pn**		**22 59 02.1**	**+2.8**
BOLP				*e*S		Sn		22 59 43.4	+8.3
SMPP	**San Manuel, Pa**	**3.12**	**189**	*e*P		**Pn**		**22 58 59.9**	**+0.3**
SMPP				*e*S		**Sn**		**22 59 37.2**	**+1.6**
BALP	**Baler**	**3.51**	**174**	*e*P		**Pn**		**22 59 06.5**	**+1.6**
BALP				*e*S		**Sn**		**22 59 45.2**	**0.0**
WRA	**Warramunga Arr**	**41.03**	**161**	P		**P**		**23 05 49.4**	**-3.2**
	1.9nm,1.0s,baz=344,slow=8.9,SNR=1.6								
MKAR	**Makanchi Array**	**41.98**	**320**	P		**P**		**23 05 59.0**	**-1.3**
	0.2nm,0.5s,baz=99,slow=7.4,SNR=1.9								
ASAR	**Alice Springs**	**44.42**	**163**	P		**P**		**23 06 19.1**	**-1.1**
	0.8nm,0.4s,baz=344,slow=6.9,SNR=6.9								
KURBB	**Kurchatov Arra**	**45.96**	**323**	P		**P**		**23 06 32.8**	**+0.8**
	0.5nm,0.6s,baz=117,slow=7.9,SNR=3.3								

*IDC **23** 23:01:04.2±1.1, 8.°63N×126.°31E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/49, mbtmp3.8/7, MS3.7/1, Ms1 3.7/1, ms1mx3.4/57, Error ellipse: s-maj=61.1km s-min=20.8km az=81.0*

*MAN **23** 23:01:09.4, 8.°68N×126.°71E, h24km, MS3.6*

ISC 23 23:01:06.6±2.6, 8.°72N±0.°05×126.°78E±0.°08, h12km±15km, n18, σ1§82/25, mb3.7/7, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIP	**Bislig**	**0.71**	**227**	⇓*i*P		**Pb**		**23 01 21.2**	**+0.2**
BIP				*i* S		**Sg**		**23 01 28.1**	**-1.6**
MATI	**Mati**	**1.83**	**196**	*e*P		**Pn**		**23 01 39.3**	**+1.4**
MATI				*e*S		**Sn**		**23 02 00.5**	**-0.5**
BUKP	**Musuan**	**1.89**	**244**	*e*P		**Pn**		**23 01 38.4**	**-0.3**
BUKP				*e*S		**Sn**		**23 02 02.9**	**+0.4**
DAV	**Davao City (W)**	**2.02**	**216**	Pn		**Pb**		**23 01 44.0**	**+0.7**
	79nm,0.3s,baz=67,slow=4.2,SNR=2.7								
DAV				Sn		**Sb**		**23 02 09.5**	**+1.1**
	81nm,0.3s,baz=170,slow=19,SNR=5.2								
KCP	**Kidapawan**	**2.38**	**225**	⇑*i*P		**Pn**		**23 01 47.5**	**+2.0**
KCP				*i* S		**Sn**		**23 02 18.3**	**+3.6**
DDMP	**Don Marcelino,**	**2.80**	**202**	*e*P		**Pn**		**23 01 52.5**	**+1.3**
DDMP				*e*S		**Sn**		**23 02 25.0**	**+0.1**
TBP	**Tagbilaran**	**3.04**	**289**	*e*P		**Pn**		**23 01 56.1**	**+1.6**
SKMP	**Bagumbayan, Su**	**3.11**	**226**	*e*P		**Pn**		**23 01 57.8**	**+2.3**
SKMP				*e*S		**Sn**		**23 02 28.4**	**-4.1**
LLP	**Lapu-Lapu**	**3.19**	**300**⇑	*e*P		**Pn**		**23 01 59.2**	**+2.5**
LLP				*i* S		**Sn**		**23 02 35.9**	**+1.1**
CNOP	**Candoni, Negro**	**4.23**	**285**	*e*P		**Pn**		**23 02 10.6**	**-0.3**
CNOP				*e*S		Sn		23 02 51.3	-9.0
SIJI	**Sorong**	**10.52**	**155**	LR		LR		23 08 37.0	
	comp=Z,445nm,19.7s,baz=356,slow=42								
KSRS	**Korea Array**	**28.63**	**2**	P		**P**		**23 07 03.9**	**+0.9**
	0.7nm,0.4s,baz=172,slow=9.6,SNR=4.6								
WRA	**Warramunga Arr**	**29.43**	**165**	P		**P**		**23 07 10.2**	**-0.2**
	0.4nm,0.5s,baz=330,slow=11,SNR=1.7								
ASAR	**Alice Springs**	**32.93**	**168**	P		**P**		**23 07 41.0**	**-0.1**
	0.3nm,0.4s,baz=342,slow=7.3,SNR=4.7								
USRK	**Ussuriysk Ar.**	**35.64**	**6**	P		**P**		**23 08 05.3**	**+0.9**
	5.2nm,0.8s,baz=192,slow=8.4,SNR=12								
MKAR	**Makanchi Array**	**53.56**	**323**	P		**P**		**23 10 25.8**	**-1.7**
	0.6nm,0.7s,baz=110,slow=7.9,SNR=6.8								
ILAR	**Eielson Array**	**80.62**	**26**	P		**P**		**23 13 19.4**	**+0.4**
	0.4nm,0.7s,baz=241,slow=5.2,SNR=5.1								
FINES	**FINESS Array B**	**87.49**	**332**	P		**P**		**23 13 51.5**	**-2.5**
	1.5nm,0.9s,baz=101,slow=16,SNR=1.2								

IDC 23 23:16:43.6±2.9, 33.°44S×179.°21W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/38, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=69.8km s-min=45.1km az=121.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.66**	**211**	Pn		Pn		23 18 07.8	-1.1
	1.5nm,0.3s,baz=275,slow=4.1,SNR=12								
URZ				Sn		Sn		23 19 06.4	-8.3
	1.4nm,0.3s,baz=250,slow=18,SNR=6.5								
ASAR	**Alice Springs**	**42.02**	**271**	P		P		23 24 37.5	+0.4
	0.9nm,0.5s,baz=95,slow=8.4,SNR=19								
WRA	**Warramunga Arr**	**43.29**	**276**	P		P		23 24 46.5	-0.8
	0.3nm,0.3s,baz=115,slow=8.1,SNR=2.5								
FINES	**FINESS Array B**	**147.60**	**337**	PKPbc		PKPbc		23 36 28.5	-0.6
	1.4nm,0.9s,baz=83,slow=6.0,SNR=7.4								

IDC 23 23:23:24.0±4.3, 4.°27S×102.°93E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.3/43, mbtmp3.4/5, Error ellipse: s-maj=173.6km s-min=23.8km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.92**	**350**	P		P		23 28 30.2	+0.4
	0.7nm,0.4s,baz=172,slow=8.8,SNR=4.9								
WRA	**Warramunga Arr**	**34.33**	**120**	P		P		23 30 12.7	0.0
	0.1nm,0.4s,baz=305,slow=9.0,SNR=1.3								
ASAR	**Alice Springs**	**35.56**	**126**	P		P		23 30 23.1	-0.2
	0.3nm,0.6s,baz=297,slow=8.2,SNR=2.0								
SONM	**Songino Array**	**51.97**	**3**	P		P		23 32 36.0	+0.9
	0.5nm,0.6s,baz=181,slow=7.4,SNR=3.6								
MKAR	**Makanchi Array**	**54.02**	**343**	P		P		23 32 48.9	-1.2
	0.4nm,0.6s,baz=146,slow=8.8,SNR=4.6								

*SJA **23** 23:23:47.5±0.7, 32.°66S×71.°90W, h7km±3km, ML4.1, MW3.6*

*IDC **23** 23:23:51.8±8.0, 32.°69S×71.°38W, h26km±51km, mb3.4/2, mb1 3.7/7, mb1mx3.6/21, mbtmp3.6/7, ML3.5/4, Error ellipse: s-maj=46.0km s-min=23.2km az=93.0*

*GUC **23** 23:23:53.0±0.5, 32.°76S×71.°53W, h41km±2km, ML4.0*

ISC 23 23:23:48.1±1.6, 32.°72S±0.°02×71.°72W±0.°04, h5km±10km, n60, σ1§73/86, 2C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.65**	**113**	*e*P		**Pn**		**23 24 03.7**	**-0.5**
ROC1				*e*S		**Sb**		**23 24 09.4**	**-2.1**
ROCH	**El Roble**	**0.65**	**113**	⇓*i*P		**Pn**		**23 24 03.6**	**-0.5**
ROCH				*i* S		**Sb**		**23 24 11.4**	**-0.1**
ROCH				IAML				23 24 14.9	
	comp=E,15μm,0.7s								
MT02	**Curacav**	**0.73**	**138**	⇓*i*P		**Pn**		**23 24 05.1**	**0.0**
MT02				*i* S		**Sb**		**23 24 13.6**	**0.0**
MT02				IAML				23 24 14.2	
	comp=E,12μm,0.3s								
PEL	**Peldehue**	**0.97**	**116**	⇑*i*P		**Pn**		**23 24 08.2**	**-0.2**
PEL				*i* S		**Sb**		**23 24 19.6**	**-1.0**
PEL				IAML				23 24 20.0	
	comp=N,8μm,0.2s								
PEL	**Peldehue**	**0.97**	**116**	*e*P		**Pn**		**23 24 08.2**	**-0.2**
PEL				*e*S		**Sb**		**23 24 19.8**	**-0.8**
VA03	**San Esteban**	**0.99**	**93**	⇓*i*P		**Pn**		**23 24 08.3**	**-0.5**
VA03				*i* S		**Sb**		**23 24 19.7**	**-1.4**
VA03				IAML				23 24 20.5	
	comp=N,15μm,0.1s								
MT05	**Renca**	**1.06**	**129**	⇓*i*P		**Pn**		**23 24 10.0**	**+0.2**
MT05				*i* S		**Sb**		**23 24 22.8**	**-0.5**
MT05				IAML				23 24 25.3	
	comp=E,10μm,0.2s								
RCDM	**Rinconada Maip**	**1.08**	**135**	*e*P		**Pn**		**23 24 10.9**	**+0.9**
RCDM				*e*S		**Sb**		**23 24 23.8**	**-0.1**
CLCH	**Cerro Calan**	**1.20**	**124**	⇓*i*P		**Pn**		**23 24 11.9**	**+0.3**
CLCH				*i* S		**Sb**		**23 24 26.2**	**-1.1**
CLCH				IAML				23 24 31.4	
	comp=E,6μm,0.4s								
FSR	**Penalolen**	**1.26**	**127**	*e*P		**Pn**		**23 24 12.8**	**+0.5**
FSR				*e*S		**Sb**		**23 24 27.9**	**-0.9**
MT03	**Universidad Ad**	**1.28**	**127**	⇓*i*P		**Pn**		**23 24 13.2**	**+0.4**
MT03				*i* S		**Sb**		**23 24 28.4**	**-1.0**
MT03				IAML				23 24 31.1	
	comp=N,7μm,0.3s								
LMEL	**Las Melosas**	**1.70**	**132**	⇓*i*P		**Pb**		**23 24 19.7**	**-0.2**
LMEL				*i* S		**Sn**		**23 24 40.1**	**-0.7**
LMEL				IAML				23 24 42.8	
	comp=N,4μm,0.1s								
BO01	**Tunca**	**1.75**	**162**	⇓*i*P		**Pb**		**23 24 20.9**	**+0.3**
BO01				*i* S		**Sb**		**23 24 42.8**	**-0.2**
AUSP	**Uspallata**	**2.04**	**76**	*e*P		**Pg**		**23 24 26.6**	**-0.5**
AUSP				*e*S		**Sb**		**23 24 51.6**	**+0.1**
CO03	**El Pedregal**	**2.07**	**25**	⇑*i*P		**Pb**		**23 24 26.4**	**+0.1**
CO03				*i* S		**Sb**		**23 24 52.4**	**-0.1**
BO02	**Sierra Bellavi**	**2.21**	**159**	*e*P		**Pb**		**23 24 27.6**	**-0.9**
RTLS	**Leoncito**	**2.25**	**67**	*e*P		**Pb**		**23 24 29.9**	**+0.5**
RTLS				IAML				23 25 07.0	
	comp=Z,632nm,0.5s								
GO05	**Huala**	**2.29**	**184**	*e*P		**Pn**		**23 24 27.8**	**+1.2**
GO05				IAML				23 25 16.4	
	comp=E,614nm,0.4s								
GO05	**Huala**	**2.29**	**184**	*e*P		**Pn**		**23 24 28.4**	**+1.9**
GO05				*e*S		**Sb**		**23 24 59.4**	**+0.9**
ARCO	**CERRO ARCO**	**2.35**	**94**	*e*P		**Pb**		**23 24 31.4**	**+0.3**
ARCO				*e*S		**Sg**		**23 25 06.5**	**+2.7**
ARCO				IAML				23 25 15.3	
	comp=Z,566nm,0.8s								
ASAL	**Salagasta**	**2.44**	**88**	*e*P		**Pb**		**23 24 32.7**	**+0.2**
ASAL				*e*S		**Sg**		**23 25 05.5**	**-1.1**
ASAL				IAML				23 25 06.6	
	comp=Z,644nm,0.7s								
AAGR	**Agrelo**	**2.46**	**99**	*e*P		**Pb**		**23 24 32.8**	**-0.2**
AAGR				IAML				23 25 10.3	
	comp=Z,388nm,1.2s								
GO04	**Tololo Observa**	**2.66**	**18**	*e*P		**Pn**		**23 24 34.5**	**+2.6**
GO04				*e*S		**Sn**		**23 25 07.3**	**+2.7**
RTCV	**Cerro Valdivia**	**2.83**	**73**	*e*P		**Pb**		**23 24 37.8**	**-1.3**
RTCV				*e*S		**Sb**		**23 25 14.4**	**+0.3**
RTCV				IAML				23 25 20.0	
	comp=Z,385nm,0.9s								
COIS	**El Sosneado**	**2.97**	**144**	*e*P		**Pb**		**23 24 40.2**	**-1.3**
LAMA	**Las Malvinas**	**3.04**	**137**	*e*P		**Pb**		**23 24 40.7**	**-2.1**
CO01	**Juntas del Tor**	**3.07**	**27**	*e*P		**Pn**		**23 24 40.1**	**+2.6**
CO01				*i* S		**Sn**		**23 25 16.3**	**+1.6**
RTLL	**Cerro Villicun**	**3.09**	**64**	*e*P		**Pb**		**23 24 41.2**	**-2.4**
RTLL				*e*S		**Sb**		**23 25 21.1**	**-0.5**
RTLL				IAML				23 25 26.7	
	comp=Z,586nm,0.7s								
ACCO	**Cerro Coronel**	**3.11**	**48**	*e*P		**Pb**		**23 24 42.4**	**-1.7**
ACCO				*e*S		**Sb**		**23 25 24.3**	**+1.9**
ACCO				IAML				23 25 34.5	
	comp=Z,658nm,1.2s								
AROD	**Rodeo**	**3.19**	**38**	*e*P		Pn		23 24 23.3	-16
AROD				*e*S		**Sg**		**23 25 32.7**	**+2.0**
PUMA	**Malargue**	**3.35**	**146**	*e*P		**Pb**		**23 24 45.7**	**-2.3**
ACDV	**Cuesta del Vie**	**3.38**	**42**	*e*P		**Pb**		**23 24 46.9**	**-1.7**
ACDV				IAML				23 25 37.4	
	comp=Z,302nm,0.7s								
BI02	**San Fabin de**	**3.95**	**175**	*e*P		**Pn**		**23 24 51.7**	**+2.2**
AC05	**El Transito**	**4.07**	**18**	*e*P		**Pn**		**23 24 53.8**	**+2.7**
AC05				*i* S		**Sn**		**23 25 40.5**	**+1.3**
BI03	**Tigo**	**4.25**	**194**	*e*P		**Pn**		**23 24 54.6**	**+1.2**
AC04	**Llanos de Chal**	**4.54**	**7**	*e*P		**Pn**		**23 24 59.0**	**+1.6**
AC04				*e*S		**Sn**		**23 25 50.0**	**-0.6**
APLL	**PUNTA DE LOS L**	**5.00**	**64**	*e*P		**Pn**		**23 25 06.6**	**+2.7**
APLL				IAML				23 26 12.2	
	comp=Z,186nm,0.6s								
MRA	**San Martin**	**5.08**	**88**	*e*P		**Pn**		**23 25 06.5**	**+1.5**
MRA				*e*S		**Sn**		**23 26 09.6**	**+5.4**
MRA				IAML				23 26 11.0	
	comp=Z,167nm,0.6s								
ACLC	**CERRO LA CRUZ**	**5.25**	**52**	*e*P		**Pn**		**23 25 09.8**	**+2.4**
ACLC				*e*S		**Sb**		**23 26 19.0**	**-4.9**
ACLC				IAML				23 26 20.2	
	comp=Z,290nm,0.4s								
GO03	**Copiap**	**5.27**	**15**	*e*P		**Pn**		**23 25 09.9**	**+2.3**
GO03				*e*S		**Sb**		**23 26 24.9**	**+0.5**
CYA	**Choya**	**6.65**	**52**	*e*P		**Pn**		**23 25 27.4**	**+0.8**
CYA				*e*S		**Sn**		**23 26 46.0**	**+3.2**
CYA				IAML				23 26 49.0	
	comp=Z,78nm,0.6s								
PLCA	**Paso Flores**	**8.05**	**174**	Pn		**Pn**		**23 25 46.8**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=223,slow=7.1,SNR=2.0								
PLCA				Sn		**Sn**		**23 27 17.0**	**-0.2**
	baz=48,slow=16,SNR=1.0								
AHML	**Horco Molle**	**8.11**	**45**	*e*P		**Pn**		**23 25 46.9**	**+0.3**
AHML				*e*S		**Sn**		**23 27 23.6**	**+4.8**
AHML				IAML				23 27 27.0	
	comp=Z,32nm,1.6s								
LVC	**Limon Verde**	**10.38**	**15**	Pn		**Pn**		**23 26 15.6**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=261,slow=18,SNR=1.6								
LVC				Sn		**Sn**		**23 28 11.0**	**-3.9**
	comp=Z,0.8nm,0.3s,baz=42,slow=21,SNR=2.1								
CPUP	**Villa Florida**	**14.05**	**67**	Pn		**Pn**		**23 27 07.1**	**-0.7**
LPAZ	**La Paz**	**16.68**	**12**	Pn		**Pn**		**23 27 44.5**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=209,slow=2.8,SNR=6.3								
SIV	**San Ignacio**	**19.25**	**33**	P		**P**		**23 28 12.3**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=226,slow=12,SNR=9.0								
TXAR	**Lajitas Array**	**68.75**	**330**	P		**P**		**23 34 54.4**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=156,slow=8.4,SNR=2.9								
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P		**P**		**23 36 15.8**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=262,slow=4.9,SNR=5.5								
H11S2	**WAKE ISLAND Hyd**	**26.05**	**270**	T		T		02 01 49.4	
	baz=118,slow=75,SNR=179								
H11S1	**WAKE ISLAND Hyd**	**26.06**	**270**	T		T		02 01 50.4	
	baz=118,slow=75,SNR=270								
H11S3	**WAKE ISLAND Hyd**	**26.06**	**270**	T		T		02 01 50.7	
	baz=118,slow=75,SNR=205								
H11N3	**WAKE ISLAND Hyd**	**26.43**	**271**	T		T		02 02 18.9	
	baz=118,slow=76,SNR=48								
H11N1	**WAKE ISLAND Hyd**	**26.44**	**271**	T		T		02 02 19.4	
	baz=118,slow=76,SNR=26								
H11N2	**WAKE ISLAND Hyd**	**26.44**	**271**	T		T		02 02 21.0	
	baz=118,slow=76,SNR=85								
BVAR	**Borovoye Array**	**146.16**	**42**	PKPbc		**PKPdf**		**23 43 27.7**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=360,slow=3.7,SNR=4.2								
AAK	**Ala-Archa**	**151.65**	**60**	PKPbc		**PKPbc**		**23 43 43.3**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=199,slow=3.0,SNR=3.9								
KURBB	**Kurchatov Arra**	**151.75**	**42**	PKPbc		**PKPbc**		**23 43 43.1**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=298,slow=3.0,SNR=11								
ZALV	**Zalesovo Beam**	**153.00**	**31**	PKPbc		**PKPbc**		**23 43 45.6**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=253,slow=1.9,SNR=8.2								
MKAR	**Makanchi Array**	**155.72**	**47**	PKPab		**PKPab**		**23 44 07.7**	**-1.6**
	comp=Z,0.4nm,0.8s,baz=300,slow=2.4,SNR=3.8								

*IDC **23** 23:32:39.9±2.2, 36.°73N×72.°88E, h0km, mb3.7/7, mb1 3.8/11, mb1mx3.5/56, mbtmp3.7/11, ML3.7/4, Error ellipse: s-maj=44.8km s-min=24.3km az=154.0*

*NNC **23** 23:32:51.6±4.0, 37.°19N×72.°16E, h60km±105km, mb3.6, mpv3.6, Error ellipse: s-maj=36.5km s-min=29.8km az=73.0*

ISC 23 23:32:55.9±1.5, 37.°4N±0.°1×72.°5E±0.°1, h100km, n27, σ1§64/27, mb3.6/7, 4C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.84**	**10**	P		**Pn**		**23 34 05.4**	**-1.4**
	SNR=20								
UCH	**Uchtor**	**5.08**	**17**	P		**Pn**		**23 34 09.3**	**-0.9**
	SNR=12								
KZA	**Kyzart**	**5.14**	**23**	P		**Pn**		**23 34 10.2**	**-0.7**
	SNR=8.4								
EKS2	**Erkin-Say**	**5.37**	**10**	P		**Pn**		**23 34 14.2**	**+0.4**
	SNR=7.8								
AAK	**Ala-Archa**	**5.47**	**15**	Pn		**Pn**		**23 34 14.3**	**-0.9**
	2.6nm,0.3s,baz=188,slow=6.3,SNR=10		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.93**	**309**	Pn	**Pn**	**23 41 23.2**	**-2.2**
	9.2nm,0.3s,baz=176,slow=2.7,SNR=11						
HNR	**Honiara**	**5.48**	**119**	Pn	**Pn**	**23 41 47.4**	**+0.7**
	14nm,0.3s,baz=205,slow=14,SNR=1.5						
PMG	**Port Moresby**	**8.26**	**251**	Pn	**Pn**	**23 42 25.8**	**+1.0**
	2.4nm,0.3s,baz=56,slow=14,SNR=2.6						
PMG				Sn	**Sn**	**23 43 56.8**	**-0.1**
	4.6nm,0.3s,baz=73,slow=20,SNR=4.5						
PMG	**Port Moresby**	**8.26**	**251**	Pn	**Pn**	**23 42 23.5**	**-1.4**
PATS	**Pohnpei**	**13.93**	**13**	Pn	**Pn**	**23 43 42.7**	**+0.3**
CTA	**Charters Tower**	**15.74**	**212**	Pn	**P**	**23 44 09.9**	**0.0**
	0.3nm,0.3s,baz=38,slow=11,SNR=7.0						
CTAO	**Charters Tower**	**15.74**	**212**	Pn	**Pn**	**23 44 07.1**	**+0.6**
DZM	**Mont Dzumac**	**18.72**	**145**	P	**P**	**23 44 42.7**	**-0.3**
EIDS	**Eidsvold**	**18.85**	**191**	P	**P**	**23 44 44.0**	**-0.2**
FAKI	**Fak Fak**	**23.07**	**279**	P	**P**	**23 45 29.3**	**-0.5**
FAKI				IAmb	IAmb	23 45 40.0	
	comp=Z,17nm,1.0s						
ARMA	**Armidale**	**23.71**	**187**	P	**P**	**23 45 35.5**	**-0.5**
ARMA				IAmb	IAmb	23 45 49.4	
	comp=Z,14nm,1.1s						
WR0	**Warramunga Arr**	**23.84**	**235**	P	**P**	**23 45 36.5**	**-0.7**
WR0				IAmb	IAmb	23 45 50.2	
	comp=Z,11nm,0.8s						
WB0	**Warramunga Arr**	**23.86**	**235**	P	**P**	**23 45 36.2**	**-1.2**
WB2	**Warramunga Arr**	**23.99**	**235**	P	**P**	**23 45 37.4**	**-1.1**
WB2				IAmb	IAmb	23 45 51.1	
	comp=Z,6.0nm,0.7s						
WRA	**Warramunga Arr**	**24.00**	**235**	P	**P**	**23 45 37.0**	**-1.6**
	comp=Z,4.7nm,0.7s,baz=58,slow=9.7,SNR=22						
WRA				PcP	**PcP**	**23 49 20.0**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=56,slow=2.4,SNR=6.8						
AS31	**Alice Springs**	**26.36**	**228**	P	**P**	**23 45 58.5**	**-1.6**
ASAR	**Alice Springs**	**26.36**	**228**	P	**P**	**23 45 58.9**	**-1.2**
	comp=Z,2.3nm,0.7s,baz=59,slow=9.1,SNR=17						
ASAR				PcP	**PcP**	**23 49 25.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=58,slow=2.5,SNR=4.5						
KNRA	**Kununurra**	**27.25**	**249**	P	**P**	**23 46 10.2**	**+2.1**
KNRA				IAmb	IAmb	23 46 22.6	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**27.94**	**205**	P	**P**	**23 46 14.6**	**+0.5**
	comp=Z,4.7nm,0.7s,baz=23,slow=10,SNR=3.9						
STKA	**Stephens Creek**	**27.94**	**205**	P	**P**	**23 46 13.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**30.81**	**246**	P	**P**	**23 46 38.2**	**-1.5**
FITZ				IAmb	IAmb	23 46 43.1	
	comp=Z,6.7nm,1.1s						
LTZ	**Lake Taylor**	**38.91**	**160**	P	**P**	**23 47 48.7**	**-0.6**
LTZ				IAmb	IAmb	23 47 59.8	
	comp=Z,12nm,1.1s						
PLWZ	**Palliser**	**38.99**	**156**	P	**P**	**23 47 50.1**	**+0.1**
TPUB	**Ta-pu**	**45.05**	**313**	P	**P**	**23 48 39.6**	**0.0**
SSLB	**Suanglung**	**45.11**	**313**	P	**P**	**23 48 39.6**	**-0.5**
SSLB				IAmb	IAmb	23 48 40.6	
	comp=Z,3.7nm,0.8s						
JNU	**Nakatsue**	**45.89**	**331**	P	**P**	**23 48 47.7**	**+1.6**
JNU				IAmb	IAmb	23 48 51.5	
	comp=Z,4.9nm,0.8s						
KSRS	**Korea Array**	**50.81**	**332**	P	**P**	**23 49 23.2**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=133,slow=8.1,SNR=4.7						
QIZ	**Qiongzhong**	**51.44**	**301**	P	**P**	**23 49 29.8**	**+0.8**
QIZ				S	**S**	**23 56 48.4**	**+2.0**
QIZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
QIZ				LR	LR		
	comp=N,4μm,18.4s						
QIZ				LR	LR		
	comp=E,4μm,19.4s						
QIZ				LR	LR		
	comp=Z,6μm,21.0s						
KLR	**Kul'dur**	**59.41**	**342**	P	**P**	**23 50 26.2**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=16,slow=22,SNR=2.4						
PETK	**Petropavlovsk-**	**59.73**	**2**	P	**P**	**23 50 28.5**	**+0.6**
	comp=Z,4.3nm,0.7s,baz=164,slow=6.5,SNR=7.6						
CMAR	**Chiang Mai Arr**	**60.78**	**295**	P	**P**	**23 50 36.5**	**+0.7**
	comp=Z,4.1nm,0.7s,baz=116,slow=5.0,SNR=22						
AMKA	**Amchitka**	**61.59**	**17**	P	**P**	**23 50 39.3**	**-1.3**
HHC	**Hu-ho-hao-te**	**61.99**	**324**	*e*P	**P**	**23 50 46.9**	**+3.2**
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,7.4s						
LZH	**Lanzhou**	**64.24**	**315**	*e*P	P	23 51 05.4	+6.6
LZH				pP	sP	23 51 13.8	-1.2
LZH				sP	pP	23 51 16.8	+6.3
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				pmax	pmax		
	comp=Z,84nm,4.3s						
SONM	**Songino Array**	**69.23**	**327**	P	**P**	**23 51 30.1**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=142,slow=6.7,SNR=8.4						
VNDA	**Vanda**	**70.77**	**178**	P	**P**	**23 51 39.3**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=325,slow=6.6,SNR=6.7						
CNPM	**China Poot**	**78.55**	**25**	P	**P**	**23 52 25.4**	**+0.9**
WMQ	**Urumqi**	**78.75**	**317**	*e*P	**P**	**23 52 27.9**	**+1.9**
WMQ				pP	pP	23 52 39.0	+1.1
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,44nm,11.9s						
WMQ				LR	LR		
	comp=N,1μm,19.7s						
WMQ				LR	LR		
	comp=E,830nm,18.5s						
WMQ				LR	LR		
	comp=Z,900nm,17.3s						
TTA	**Tatalina**	**78.82**	**21**	P	**P**	**23 52 26.3**	**+0.4**
TTA				IAmb	IAmb	23 52 43.9	
	comp=Z,2.6nm,0.9s						
SUA	**Susitna One**	**79.87**	**23**	P	**P**	**23 52 31.4**	**-0.4**
SUA				IAmb	IAmb	23 52 32.8	
	comp=Z,6.9nm,0.8s						
GHO	**Glory Hole Cre**	**80.77**	**24**	P	**P**	**23 52 37.1**	**+0.5**
GHO				IAmb	IAmb	23 52 37.6	
	comp=Z,5.8nm,0.8s						
SML	**Sawmill**	**81.02**	**24**	P	**P**	**23 52 38.2**	**+0.4**
HIN	**Hinchinbrook I**	**81.02**	**25**	P	**P**	**23 52 38.1**	**+0.2**
HIN				IAmb	IAmb	23 52 39.2	
	comp=Z,5.7nm,0.8s						
GLI	**Glacier Island**	**81.03**	**25**	P	**P**	**23 52 38.5**	**+0.6**
TRF	**Thorofare Moun**	**81.19**	**22**	P	**P**	**23 52 39.6**	**+0.7**
TRF				IAmb	IAmb	23 52 44.2	
	comp=Z,3.6nm,0.7s						
RND	**Reindeer**	**81.70**	**22**	P	**P**	**23 52 41.5**	**0.0**
RND				IAmb	IAmb	23 52 45.7	
	comp=Z,4.3nm,0.7s						
KLU	**Klutina**	**81.83**	**25**	P	**P**	**23 52 43.3**	**+1.1**
KLU				IAmb	IAmb	23 52 43.5	
	comp=Z,4.5nm,0.7s						
SUCK	**Suckling Hills**	**82.04**	**26**	P	**P**	**23 52 43.8**	**+0.5**
DHY	**Denali Highway**	**82.08**	**23**	IAmb	IAmb	23 52 47.2	
	comp=Z,3.2nm,0.9s						
WRH	**Wood River Hil**	**82.57**	**21**	P	**P**	**23 52 45.4**	**-0.5**
GLB	**Gilahina Butte**	**82.69**	**25**	P	**P**	**23 52 47.2**	**+0.6**
CCB	**Clear Creek Bu**	**82.77**	**21**	P	**P**	**23 52 46.0**	**-0.9**
BALM	**Baldy**	**83.12**	**26**	P	**P**	**23 52 49.5**	**+0.6**
BALM				IAmb	IAmb	23 52 50.5	
	comp=Z,3.9nm,0.8s						
ILAR	**Eielson Array**	**83.17**	**21**	P	**P**	**23 52 47.9**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=255,slow=4.8,SNR=8.8						
QSPA	**South Pole Qui**	**83.17**	**180**	P	**P**	**23 52 49.3**	**0.0**
QSPA				IAmb	IAmb	23 52 55.7	
	comp=Z,4.7nm,0.8s						
MK31	**Makanchi Array**	**83.32**	**319**	P	**P**	**23 52 50.2**	**0.0**
MKAR	**Makanchi Array**	**83.32**	**319**	P	**P**	**23 52 49.8**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=105,slow=5.4,SNR=21						
RIDG	**Independent Ri**	**83.40**	**23**	P	**P**	**23 52 50.4**	**+0.1**
RIDG				IAmb	IAmb	23 53 06.1	
	comp=Z,4.6nm,1.0s						
BARN	**Barnard Glacie**	**83.43**	**26**	P	**P**	**23 52 51.0**	**+0.3**
CTGM	**Chitina Glacie**	**83.53**	**26**	P	**P**	**23 52 51.9**	**+0.8**
MAKZ	**Makanchi**	**83.53**	**319**	P	**P**	**23 52 51.3**	**0.0**
MAKZ				IAmb	IAmb	23 52 52.0	
	comp=Z,2.6nm,0.8s						
DOT	**Dot Lake**	**83.66**	**23**	P	**P**	**23 52 52.2**	**+0.6**
ZALV	**Zalesovo Beam**	**84.07**	**326**	P	**P**	**23 52 52.2**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=93,slow=5.9,SNR=3.7						
MAW	**Mawson**	**84.60**	**203**	P	**P**	**23 52 56.2**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=100,slow=8.8,SNR=21						
MAW	**Mawson**	**84.60**	**203**	P	**P**	**23 52 56.2**	**-0.1**
HYT	**Haines Junctio**	**85.17**	**27**	P	**P**	**23 53 00.7**	**+1.3**
EGAK	**Eagle**	**85.31**	**23**	P	**P**	**23 53 00.9**	**+1.1**
EGAK				IAmb	IAmb	23 53 02.3	
	comp=Z,3.2nm,0.8s						
INK	**Inuvik**	**89.51**	**21**	P	**P**	**23 53 19.6**	**-0.5**
	comp=Z,1.7nm,1.0s,baz=96,slow=3.5,SNR=3.0						
INK	**Inuvik**	**89.51**	**21**	IAmb	IAmb	23 53 21.2	
	comp=Z,2.8nm,1.1s						
NVAR	**Mina Array Bea**	**91.54**	**52**	P	**P**	**23 53 30.4**	**0.0**
	comp=Z,1.5nm,0.9s,baz=244,slow=7.1,SNR=6.4						
YKA	**Yellowknife Ar**	**96.13**	**28**	P	**P**	**23 53 49.3**	**-1.4**
	comp=Z,2.0nm,0.8s,baz=21,slow=18,SNR=3.9						
PDAR	**Pinedale Array**	**98.51**	**48**	P	**P**	**23 54 02.2**	**0.0**
	comp=Z,0.4nm,0.8s,baz=270,slow=2.7,SNR=2.9						
BRTR	**Keskin Array B**	**118.33**	**312**	PKP	**PKPdf**	**23 59 09.7**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=350,slow=1.8,SNR=2.3						
CLL	**Collm**	**125.69**	**332**	*e*PKPdf	**PKiKP**	**23 59 26.0**	**+1.0**
CLL				*e*PP	**PP**	**00 01 16.0**	**-0.4**
CLL				Lm	MLR	00 43 00.0	
	comp=Z,2μm,21.7s						
GERES	**GERESS Array B**	**126.94**	**329**	PKP	**PKPdf**	**23 59 27.5**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=0.0,slow=1.3,SNR=9.1						
LPAZ	**La Paz**	**131.47**	**119**	PKP	**PKPdf**	**23 59 37.8**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=321,slow=6.6,SNR=4.2						
BDFB	**Brasilia**	**148.05**	**134**	PKPbc	**PKPbc**	**00 00 09.4**	**-0.5**
	comp=Z,5.6nm,0.7s,baz=200,slow=1.8,SNR=11						
BDFB	**Brasilia**	**148.05**	**134**		**PKPbc**	**00 00 10.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**153.06**	**286**	PKPbc	**PKPbc**	**00 00 21.2**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=52,slow=2.1,SNR=21						

*NEIC **23** 23:57:43.5±1.5, 51.5°N±0.1°×178.92°E±0.05, h76km±5km, Error ellipse: s-maj=18.1km s-min=4.1km az=185.0*
*IDC **23** 23:57:44.3±6.1, 51.79°N×178.95°E, h72km±54km, mb3.3/7, mb1 3.6/9, mb1mx3.2/63, mbtmp3.7/9, ML2.1/1, Error ellipse: s-maj=65.9km s-min=16.2km az=1.0*
*AEIC **23** 23:57:44±2.2, 51.5°N±0.1°×178.90°E±0.04, h66km±5km, ML3.6/31, mb4.1/32(NEIC), Error ellipse: s-maj=16.6km s-min=1.4km az=190.0*

ISC 23 23:57:43.5±0.8, 51.5°N±0.1°×178.92°E±0.04, h76km, n76, σ0.985/70, mb3.9/16, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.28**	**119**		**Pn**	**23 57 54.3**	**-0.9**
AMKA					**Sn**	**23 58 02.5**	**-1.2**
LSSE	**Little Sitkin**	**0.47**	**333**		**Pn**	**23 57 56.5**	**-0.2**
LSPA	**Little Sitkin**	**0.49**	**335**		**Pn**	**23 57 56.7**	**-0.2**
LSPA					**Sn**	**23 58 07.5**	**+0.8**
LSSA	**Little Sitkin**	**0.51**	**330**		**Pn**	**23 57 56.7**	**-0.3**
LSNW	**Little Sitkin**	**0.52**	**332**		**Pn**	**23 57 56.7**	**-0.4**
CESW	**Semis' Southwe**	**0.56**	**46**		**Pn**	**23 57 57.1**	**-0.3**
CETU	**Semis' Tuman**	**0.58**	**38**		**Pn**	**23 57 57.6**	**-0.1**
CERB	**Semis' Cerberu**	**0.61**	**46**		**Pn**	**23 57 57.7**	**-0.3**
CERB					**Sn**	**23 58 08.5**	**-0.2**
CERAA	**Semis' Rag'd T**	**0.62**	**50**		**Pn**	**23 57 57.7**	**-0.3**
CEAP	**Semis' Anvil P**	**0.64**	**40**		**Pn**	**23 57 58.0**	**-0.2**
GALAA	**Gareloi Lava P**	**1.46**	**79**		**Pn**	**23 58 08.6**	**+0.5**
GAEA	**Gareloi East**	**1.48**	**78**		**Pn**	**23 58 08.6**	**+0.1**
TASE	**Tanaga Southea**	**1.92**	**79**		**Pn**	**23 58 14.6**	**+0.2**
TAFP	**Tanaga Falls P**	**1.97**	**77**		**Pn**	**23 58 14.9**	**0.0**
TAFP					**Sn**	**23 58 38.0**	**-0.7**
KIMD	**Kanaga Island**	**2.41**	**83**		**Pn**	**23 58 21.3**	**+0.5**
KICM	**Kanaga Island**	**2.45**	**79**		**Pn**	**23 58 21.8**	**+0.5**
KIKV	**Kanaga Island**	**2.46**	**80**		**Pn**	**23 58 21.9**	**+0.4**
KIRH	**Kanaga Island**	**2.51**	**80**		**Pn**	**23 58 22.4**	**+0.2**
ADK	**Adak**	**2.76**	**81**		**Pn**	**23 58 25.5**	**-0.1**
ADK	**Adak**	**2.76**	**81**		**Sn**	**23 58 57.1**	**-0.8**
ADAG	**Mount Adagdak**	**2.83**	**79**		**Pn**	**23 58 26.4**	**0.0**
GSTD	**Great Sitkin T**	**3.12**	**78**		**Pn**	**23 59 05.6**	**-0.9**
GSMY	**Great Sitkin M**	**3.17**	**78**		**Pn**	**23 58 31.0**	**-0.1**
GSTR	**Great Sitkin T**	**3.17**	**77**	Pn	**Pn**	**23 58 29.0**	**-2.2**
SMY	**Shemya**	**3.21**	**294**		**Pn**	**23 58 31.7**	**+0.1**
SMY					**Sn**	**23 59 08.0**	**-0.7**
ATKA	**Atka Island**	**4.33**	**78**		**Pn**	**23 58 46.8**	**0.0**
NIKH	**Nikolski High**	**7.65**	**74**		**Pn**	**23 59 32.8**	**+0.7**
UNV	**Unalaska Valle**	**9.16**	**70**	Pn	**Pn**	**23 59 53.8**	**+1.1**
AKUT	**Akutan**	**9.63**	**68**	Pn	**Pn**	**23 59 58.5**	**-0.7**
PETK	**Petropavlovsk-**	**13.08**	**285**	P	**Pn**	**00 00 46.0**	**0.0**
	0.1nm,0.3s,baz=278,slow=40,SNR=1.2						
SVW2	**Sparrevohn**	**16.98**	**46**	P	**P**	**00 01 37.0**	**+0.3**
SVW2				IAmb	IAmb	00 02 05.3	
	comp=Z,32nm,1.9s						
OHAK	**Old Harbor**	**17.10**	**60**	Pn	**Pn**	**00 01 34.8**	**-2.5**
KDAK	**Kodiak Island**	**17.56**	**58**	P	**Pn**	**00 01 40.9**	**-2.0**
	comp=Z,1.0nm,0.3s,baz=263,slow=6.0,SNR=9.9						
KDAK	**Kodiak Island**	**17.56**	**58**		**Pn**	**00 01 41.1**	**-1.8**
CNPM	**China Poot**	**18.57**	**53**	P	**Pn**	**00 01 53.9**	**-1.3**
SKT	**Skwentna**	**19.11**	**45**	P	**Pn**	**00 02 02.2**	**+0.5**
PPLA	**Purkeypile**	**19.16**	**42**	P	**Pn**	**00 02 02.6**	**+0.2**
PPLA				IAmb	IAmb	00 02 13.4	
	comp=Z,29nm,1.8s						
SUA	**Susitna One**	**19.30**	**47**	P	**Pn**	**00 02 03.4**	**-0.6**
SUA				IAmb	IAmb	00 02 47.3	
	comp=Z,16nm,1.6s						
SEW	**Seward**	**19.57**	**52**	P	**P**	**00 02 04.4**	**-0.6**
SEW				IAmb	IAmb	00 02 46.7	
	comp=Z,11nm,0.9s						
KTH	**Kantishna Hill**	**19.95**	**41**	P	Pn	00 02 09.9	-1.6
BPAW	**Bear Paw Mtn.**	**20.15**	**40**	P	Pn	00 02 12.4	-1.3
BPAW				IAmb	IAmb	00 02 57.9	
	comp=Z,14nm,1.8s						
TRF	**Thorofare Moun**	**20.17**	**42**	P	Pn	00 02 11.8	-2.4
GHO	**Glory Hole Cre**	**20.23**	**47**	P	Pn	00 02 12.5	-2.2
KNK	**Knik Glacier**	**20.35**	**48**	P	Pn	00 02 13.6	-2.6
KNK				IAmb	IAmb	00 02 16.8	
	comp=Z,21nm,1.5s						
GLI	**Glacier Island**	**20.87**	**50**	P	**P**	**00 02 18.5**	**-0.6**
GLI				IAmb	IAmb	00 02 21.0	
	comp=Z,5.3nm,0.6s						
SCM	**Sheep Creek Mo**	**20.97**	**47**	P	**P**	**00 02 20.0**	**-0.2**
SCM				IAmb	IAmb	00 02 20.8	
	comp=Z,12nm,1.2s						
FID	**Port Fidalgo**	**21.15**	**51**	P	**P**	**00 02 20.8**	**-1.2**
DHY	**Denali Highway**	**21.29**	**44**	P	**P**	**00 02 23.6**	**0.0**
DHY				IAmb	IAmb	00 02 23.9	
	comp=Z,3.4nm,0.5s						
WRH	**Wood River Hil**	**21.45**	**40**	P	**P**	**00 02 23.9**	**-1.3**
WRH				IAmb	IAmb	00 02 28.3	
	comp=Z,13nm,1.8s						
KLU	**Klutina**	**21.55**	**49**	P	**P**	**00 02 26.8**	**+0.4**
KLU				IAmb	IAmb	00 03 22.2	
	comp=Z,6.6nm,1.1s						
MDM	**Murphy Dome**	**21.58**	**39**	P	**P**	**00 02 27.4**	**+0.8**
MDM				IAmb	IAmb	00 03 08.6	
	comp=Z,14nm,2.0s						
ILAR	**Eielson Array**	**22.05**	**40**	P	**P**	**00 02 30.8**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=225,slow=9.5,SNR=5.0						
GLB	**Gilahina Butte**	**22.54**	**49**	P	**P**	**00 02 36.2**	**-0.7**
GLB				IAmb	IAmb	00 03 33.2	
	comp=Z,9.4nm,1.6s						
RIDG	**Independent Ri**	**22.57**	**43**	P	**P**	**00 02 35.8**	**-1.5**
RIDG				IAmb	IAmb	00 02 51.6	
	comp=Z,18nm,2.0s						
VRDI	**Verde Repeater**	**22.68**	**50**	P	**P**	**00 02 38.4**	**-0.2**
DOT	**Dot Lake**	**22.88**	**44**	P	**P**	**00 02 39.1**	**-1.4**
EGAK	**Eagle**	**24.39**	**42**	P	**P**	**00 02 54.9**	**+0.6**
EGAK				IAmb	IAmb	00 02 56.1	
	comp=Z,5.9nm,1.1s						
SIT	**Sitka**	**26.86**	**60**	P	**P**	**00 03 16.0**	**-0.7**
INK	**Inuvik**	**28.17**	**36**	P	**P**	**00 03 28.2**	**0.0**
INK				IAmb	IAmb	00 03 50.0	
	comp=Z,14nm,2.0s						
KLR	**Kul'dur**	**29.77**	**284**	P	**P**	**00 03 43.1**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=125,slow=20,SNR=2.5						
C36M	**Paulatuk**	**31.72**	**34**	P	**P**	**00 03 59.5**	**-0.1**
BBB	**Bella Bella**	**32.13**	**68**	P	**P**	**00 04 04.9**	**+1.6**
H11N2	**WAKE ISLAND Hy**	**33.09**	**201**	T	T	00 39 21.1	
	baz=10,slow=76,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**33.10**	**201**	T	T	00 39 26.3	
	baz=10,slow=76,SNR=8.1						
H11N1	**WAKE ISLAND Hy**	**33.11**	**201**	T	T	00 39 26.2	
	baz=10,slow=76,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	**34.32**	**201**	T	T	00 40 57.9	
	SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**34.34**	**201**	T	T	00 40 59.3	
H11S3	**WAKE ISLAND Hy**	**34.34**	**201**	T	T	00 40 59.3	
NVAR	**Mina Array Bea**	**44.95**	**81**	P	**P**	**00 05 52.2**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=299,slow=7.7,SNR=5.6						
SONM	**Songino Array**	**45.30**	**295**	P	**P**	**00 05 54.8**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=20,slow=41,SNR=2.3						
PDAR	**Pinedale Array**	**47.62**	**71**	P	**P**	**00 06 11.5**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=321,slow=3.8,SNR=7.9						
SZCU	**Shurtz Canyon**	**48.68**	**79**	P	**P**	**00 06 19.6**	**-0.6**
U15A	**North Rim**	**49.92**	**79**	P	**P**	**00 06 29.8**	**+0.2**
U15A				IAmb	IAmb	00 06 31.4	
	comp=Z,2.2nm,0.9s						
PV13	**Radium Mtn., P**	**50.92**	**75**	P	**P**	**00 06 37.9**	**+0.7**
MKAR	**Makanchi Array**	**58.82**	**307**	P	**P**	**00 07 33.4**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=56,slow=6.5,SNR=8.4						
TXAR	**Lajitas Array**	**60.04**	**80**	P	**P**	**00 07 43.0**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=302,slow=4.4,SNR=11						

*IDC **24** 00:02:13.7±1.8, 0.°31S×123.°15E, h78km±16km, mb3.6/7, mb1 3.9/10, mb1mx3.6/44, mbtmp4.0/10, Error ellipse: s-maj=21.0km s-min=14.2km az=64.0*
*DJA **24** 00:02:15.5±0.2, 0.°5S±2.°×12.°3E±.°, h44km±8km, M4.8/17, mB5.4/3, mb4.8/13, MLv4.8/17, Mw(mB)4.9/3*

ISC 24 00:02:14.2±0.7, 0.°45S±0.°05×123.°00E±0.°05, h78km, n29, σ1.958/33, mb3.8/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.63**	**201**	P	**Pn**	**00 02 28.9**	**-0.2**
LUWI				S	**Sn**	**00 02 40.8**	**+0.7**
GTOI	**Gorontalo**	**1.08**	**0**	P	**Pn**	**00 02 34.8**	**+0.7**
GTOI				S	**Sn**	**00 02 50.6**	**+1.6**
KMSI	**Cibinong**	**1.41**	**44**	P	**Pn**	**00 02 38.0**	**-0.3**
MPSI	**Mapaga**	**3.20**	**284**	P	**Pn**	**00 03 04.0**	**+1.7**
SANI	**Sanana**	**3.38**	**118**	P	Pn	00 03 02.3	-2.5
SANI				S	Sn	00 03 38.5	-5.3
LBMI	**Labuha**	**4.50**	**92**	P	**Pn**	**00 03 23.0**	**+3.0**
LBMI				S	**Sn**	**00 04 16.1**	**+4.9**
TNTI	**Ternate**	**4.53**	**74**	S	**Sn**	**00 04 13.1**	**+1.3**
SPSI	**Sidrap Palu**	**4.76**	**223**	P	**Pn**	**00 03 24.9**	**+1.4**
SPSI				S	**Sn**	**00 04 18.6**	**+1.1**
BNSI	**Bone**	**4.88**	**216**	P	**Pn**	**00 03 27.0**	**+1.8**
NLAI	**Namlea**	**4.94**	**124**	P	**Pn**	**00 03 25.9**	**-0.2**
KAPI	**Kappang**	**5.58**	**216**	P	**Pn**	**00 03 36.3**	**+1.6**
	15nm,0.3s,baz=8.3,slow=6.1,SNR=37						
KAPI				S	**Sn**	**00 04 37.0**	**-0.5**
	11nm,0.3s,baz=39,slow=23,SNR=13						
BKSI	**Bulukumba**	**5.63**	**211**	P	**Pn**	**00 03 36.3**	**+0.8**
	0.3nm37nm,0.8s						
SMKI	**Samarinda**	**5.79**	**270**	P	Pn	00 03 45.6	+7.9
BKB	**Balikpapan**	**6.16**	**262**	P	**Pn**	**00 03 44.7**	**+2.0**
	1.2nm266nm,0.5s						
MSAI	**Masohi**	**6.58**	**116**	P	**Pn**	**00 03 49.0**	**+0.5**
	0.3nm5μm29nm,0.5s						
KBKI	**Kotabaru**	**7.40**	**247**	P	Pn	00 04 08.0	+8.4
SIJI	**Sorong**	**8.27**	**93**	P	**Pn**	**00 04 10.2**	**-1.3**
	4.4nm,0.3s,baz=282,slow=10,SNR=3.9						
SIJI				S	**Sn**	**00 05 40.7**	**-2.8**
	1.3nm,0.3s,baz=0.0,slow=20,SNR=1.1						
EDFI	**Ende, Flores**	**8.35**	**189**	P	**Pn**	**00 04 13.4**	**+0.7**
	12nm,0.7s						
SOEI	**Soe**	**9.33**	**172**	P	**Pn**	**00 04 27.3**	**+1.2**
	36nm,1.0s						
FAKI	**Fak Fak**	**9.56**	**105**	P	Pn	00 04 26.7	-2.5
FITZ	**Fitzroy Crossi**	**17.73**	**172**	P	**P**	**00 06 16.6**	**+0.7**
	0.1nm,0.3s,baz=351,slow=9.9,SNR=2.0						
WRA	**Warramunga Arr**	**22.33**	**151**	P	**P**	**00 07 05.0**	**-0.8**
	1.6nm,0.4s,baz=328,slow=11,SNR=20						
WRA				ScP	**ScP**	**00 14 28.7**	**-0.9**
	1.9nm,1.1s,baz=352,slow=3.3,SNR=6.5						
ASAR	**Alice Springs**	**25.39**	**156**	P	**P**	**00 07 35.2**	**+0.6**
	0.6nm,0.4s,baz=347,slow=13,SNR=11						
ASAR				PcP	**PcP**	**00 11 04.7**	**-0.6**
	0.5nm,0.5s,baz=346,slow=2.2,SNR=5.7						
ASAR				ScP	**ScP**	**00 14 37.6**	**-0.2**
	0.7nm,0.8s,baz=356,slow=2.4,SNR=6.4						
CMAR	**Chiang Mai

DNK ***24*** *00:09:59.8±4.8,64°81N×17°69W,h50km±58km,Ms4.5*
ISC 24 00:09:54.2±0.2,**64°68N**±0°02×**17°50W**±0°02,**h10**km,
n1399,σ1§**55**/1318,**mb5.3**/460,**MS4.8**/29,**36C-23D**,
Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
IVON	**Vonarskard** baz=280	**0.11**	**269**	P	**Pg**	**00 09 53.3**	**-3.7**
IDYN	**Dyngjuhals** baz=26	**0.13**	**27**	P	**Pg**	**00 09 54.2**	**-3.0**
IDJK	**Dyngjujokull** baz=141	**0.21**	**146**	P	**Pg**	**00 09 55.1**	**-3.4**
IGRF	**Grimsfjall** baz=156	**0.29**	**159**	P	**Pg**	**00 09 56.1**	**-4.0**
IGRF	baz=156			S	**Sg**	**00 09 59.7**	**-4.2**
IBJK	**Bruarjokull** baz=119	**0.39**	**122**	P	**Pg**	**00 09 58.2**	**-3.6**
IHUS	**Husbondi** baz=189	**0.39**	**190**	P	**Pg**	**00 09 57.7**	**-4.1**
ISKR	**Skrokkalda** baz=256	**0.40**	**253**	P	**Pg**	**00 09 58.2**	**-3.8**
IVOT	**Vottur** baz=159	**0.43**	**161**	P	**Pg**	**00 09 58.5**	**-4.1**
IJOK	**Jokulheimar** baz=222	**0.48**	**221**	P	**Pg**	**00 09 59.4**	**-4.1**
IJOK	baz=222			S	**Sg**	**00 10 05.8**	**-4.1**
IKRE	**Kreppuhraun** baz=75	**0.49**	**77**	P	**Pg**	**00 10 00.0**	**-3.7**
IASK	**Askja** baz=43	**0.53**	**44**	P	**Pg**	**00 10 00.7**	**-3.7**
IMKO	**Mokollar** baz=57	**0.58**	**58**	P	**Pg**	**00 10 01.7**	**-3.7**
IIEY	**Innrieyrar** baz=205	**0.64**	**205**	P	**Pg**	**00 10 02.1**	**-4.5**
ISVA	**Svartarkot** baz=9.3	**0.67**	**9**	P	**Pg**	**00 10 03.3**	**-3.8**
ISVA	baz=9.3			S	**Sg**	**00 10 13.2**	**-2.7**
IKSK	**Karasker** baz=137	**0.68**	**139**	P	**Pg**	**00 10 02.7**	**-4.7**
IKAL	**Kalfafell** baz=186	**0.74**	**186**	P	Pg	00 10 03.4	-4.9
IVSH	**V-Sauoahnukur** baz=78	**0.77**	**79**	P	**Pg**	**00 10 04.6**	**-4.5**
IVAT	**Vatnsfell** baz=233	**0.79**	**232**	P	Pg	00 10 04.7	-4.6
IFAG	**Fagurholsmyri** baz=154	**0.89**	**155**	P	Pg	00 10 06.1	-5.1
IADA	**Aoalbol** baz=65	**0.89**	**66**	P	**Pg**	**00 10 06.5**	**-4.8**
IMEL	**Melhnausar** baz=21	**0.97**	**21**	P	**Pg**	**00 10 08.0**	**-4.7**
IREN	**Reynihlio** baz=14	**1.01**	**14**	P	Pg	00 10 08.8	-4.7
ISNB	**Snabyli** baz=208	**1.07**	**208**	P	Pg	00 10 09.2	-5.4
IKVO	**Krokottuvotn** baz=14	**1.07**	**14**	P	Pg	00 10 09.8	-5.0
BORG	**Borgarnes** 335nm,0.3s,baz=99,slow=7.7,SNR=482	**1.64**	**274**	Pg	**Pn**	**00 10 18.8**	**-4.2**
BORG	116nm,0.3s,baz=244,slow=23,SNR=12			Lg	Lg	00 10 44.4	
BORG	**Borgarnes**	**1.64**	**274**	P	**Pn**	**00 10 18.7**	**-4.3**
BORG						00 10 46.3	
BORG	**Borgarnes**	**1.64**	**274**	Pn	**Pn**	**00 10 18.7**	**-4.3**
BORG				Sn	**Sg**	**00 10 46.3**	**-0.6**
SCO	**Scoresbysund**	**6.08**	**346**	*i* P	**Pn**	**00 11 22.5**	**-1.3**
SCO	comp=Z,12μm,12.0s			*i*		00 11 22.6	
SCO	**Scoresbysund**	**6.08**	**346**	*i* P	**Pn**	**00 11 22.5**	**-1.3**
SCO	comp=Z,12μm,12.0s			MLR	MLR		
SCO	**Scoresbysund**	**6.08**	**346**	Pn	**Pn**	**00 11 22.7**	**-1.2**
SCO	**Scoresbysund**	**6.08**	**346**	*i* P	**Pn**	**00 11 22.6**	**-1.3**
SCO				*i*		00 11 22.6	
SCO	comp=Z,12μm,12.0s			IAMs_20	IAMs_20	00 13 33.6	
JMIC	**Jan Mayen**	**7.18**	**24**	Pn	**Pn**	**00 11 38.8**	**-0.2**
JMIC	**Jan Mayen** baz=172,slow=7.1,SNR=3.0	**7.18**	**24**	Pn	**Pn**	**00 11 38.5**	**-0.5**
JMIC	comp=Z,3μm,20.5s,baz=199,slow=34			LR	LR	00 14 02.2	
JMIC	**Jan Mayen**	**7.18**	**24**	Pn	**Pn**	**00 11 38.8**	**-0.2**
LEWI	**Lewis, Hebride**	**8.29**	**137**	*eP*	**Pn**	**00 11 51.4**	**-2.9**
ANGG	**Ammassalik, Gr**	**8.53**	**285**	Pn	**Pn**	**00 11 57.3**	**-0.1**
ANGG	**Ammassalik, Gr** comp=Z,34μm,7.7s	**8.53**	**285**	IAMs_20	IAMs_20	00 15 34.9	
LRW	**Lerwick**	**8.82**	**114**	*eP*	**Pn**	**00 11 58.2**	**-3.3**
LRW	comp=Z,7μm,12.4s			IAMs_20	IAMs_20	00 17 09.7	
LRW	**Lerwick**	**8.82**	**114**	*eP*	**Pn**	**00 12 00.4**	**-1.2**
KAC	**Achnashellach**	**9.30**	**135**	*eP*	**Pn**	**00 12 05.1**	**-2.9**
KPL	**Plockton**	**9.32**	**137**	*eP*	**Pn**	**00 12 05.8**	**-2.6**
KPL	**Plockton**	**9.32**	**137**	*eP*	**Pn**	**00 12 06.0**	**-2.5**
DBG	**Daneborg**	**9.72**	**356**	*i* P	**Pn**	**00 12 15.2**	**+1.4**
DBG	comp=Z,6μm,11.0s			IAMs_20	IAMs_20	00 15 48.5	
ICESG	**Greenland Ices**	**9.73**	**307**	*i* P	**Pn**	**00 12 15.9**	**+1.7**
ICESG	comp=Z,24μm,6.1s			IAMs_20	IAMs_20	00 16 43.9	
EAB	**Aberfoyle**	**10.69**	**137**	*eP*	**Pn**	**00 12 25.1**	**-1.9**
SUMG	**Summit** comp=Z,28μm,10.0s	**10.93**	**325**	*i* P	**Pn**	**00 12 30.2**	**-0.5**
SUMG	**Summit**	**10.93**	**325**	P	**Pn**	**00 12 32.0**	**+1.3**
SUMG	**Summit**	**10.93**	**325**	Pn	**Pn**	**00 12 32.0**	**+1.3**
SUMG	**Summit**	**10.93**	**325**	*i* P	**Pn**	**00 12 30.2**	**-0.5**
SUMG	comp=Z,28μm,10.0s			IAMs_20	IAMs_20	00 16 52.1	
PGBU	**Glenifferbraes**	**10.97**	**138**	*eP*	**Pn**	**00 12 28.9**	**-2.0**
AKN	**Aaknes**	**11.22**	**92**	Pn	**Pn**	**00 12 32.8**	**-1.6**
AKN	**Aaknes**	**11.22**	**92**	Pn	**Pn**	**00 12 32.8**	**-1.6**
EDI	**Edinburgh**	**11.26**	**135**	*eP*	**Pn**	**00 12 34.8**	**-0.1**
BER	**Bergen**	**11.35**	**102**	*eP*	**Pn**	**00 12 38.1**	**+1.9**
NEWG	**New Galloway** comp=Z,12μm,10.6s	**11.64**	**139**	*eP*	**Pn**	**00 12 38.6**	**-1.5**
NEWG				IAMs_20	IAMs_20	00 18 11.8	
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**00 12 39.8**	**-2.1**
EKA	**Eskdalemuir Ar** baz=324,slow=13,SNR=38	**11.77**	**136**	Pn	**Pn**	**00 12 39.6**	**-2.2**
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**00 12 39.8**	**-2.1**
ESK	**Eskdalemuir** comp=Z,7μm,10.8s	**11.77**	**136**	*eP*	**Pn**	**00 12 40.2**	**-1.6**
ESK				IAMs_20	IAMs_20	00 18 03.5	
ESK	**Eskdalemuir**	**11.77**	**136**	P	**Pn**	**00 12 40.6**	**-1.2**
ESK	**Eskdalemuir**	**11.77**	**136**	Pn	**Pn**	**00 12 40.6**	**-1.2**
KMY	**Karmoy** comp=Z,86nm,1.0s	**11.98**	**107**	*eP*	**Pn**	**00 12 43.1**	**-1.6**
KMY				IAmb	IAmb	00 12 49.0	
DAG	**Danmarks Havn**	**12.16**	**359**	*i* P	**Pn**	**00 12 49.3**	**+2.2**
DAG	**Danmarks Havn**	**12.16**	**359**	*i* P	**Pn**	**00 12 49.3**	**+2.2**
DAG	**Danmarks Havn** comp=Z,4μm,9.6s	**12.16**	**359**	*i* P	**Pn**	**00 12 49.4**	**+2.2**
DAG				IAMs_20	IAMs_20	00 17 35.9	
DOMB	**Dombas** comp=Z,29nm,1.0s	**12.17**	**90**	*eP*	**Pn**	**00 12 45.5**	**-1.8**
DOMB				IAmb	IAmb	00 12 49.7	
BLS5	**Blasjo** comp=Z,24nm,0.6s	**12.36**	**104**	*eP*	**Pn**	**00 12 48.5**	**-1.5**
BLS5				IAmb	IAmb	00 12 52.5	
SKAR	**Skarslia** comp=Z,56nm,1.2s	**12.46**	**97**	*eP*	**Pn**	**00 12 51.3**	**-0.1**
SKAR				IAmb	IAmb	00 12 58.6	
DSB	**Dublin**	**12.79**	**148**	Pn	**Pn**	**00 12 55.9**	**0.0**
LOF	**Lofoten**	**12.82**	**61**	*eP*	**Pn**	**00 12 56.1**	**0.0**
WPS	**Cemaes, Angles** comp=Z,7μm,10.2s	**13.10**	**144**	*eP*	**Pn**	**00 12 58.9**	**-1.1**
WPS				IAMs_20	IAMs_20	00 19 20.2	
NRS	**Narsarsuaq**	**13.14**	**267**	*i* P	**Pn**	**00 13 02.5**	**+2.1**
NRS	**Narsarsuaq**	**13.14**	**267**	*i* P	**Pn**	**00 13 02.5**	**+2.1**
NRS	**Narsarsuaq**	**13.14**	**267**	Pn	**Pn**	**00 13 01.3**	**+0.8**
NRS	**Narsarsuaq** comp=Z,9μm,8.9s	**13.14**	**267**	*i* P	**Pn**	**00 13 02.5**	**+2.1**
NRS				IAMs_20	IAMs_20	00 19 02.4	
WLF1	**Llynfaes**	**13.23**	**143**	*eP*	**Pn**	**00 12 59.9**	**-1.9**
WLF1	comp=Z,13μm,13.3s			IAMs_20	IAMs_20	00 18 50.0	
NC204	**NORSAR Array S**	**13.23**	**92**		**Pn**	**00 12 59.8**	**-2.1**
SNART	**Snartemo**	**13.33**	**107**	*i* P	**P**	**00 13 10.0**	**-2.8**
NBO00	**NORSAR Array S**	**13.35**	**93**		**Pn**	**00 13 01.5**	**-2.0**
STEI	**Steigen**	**13.46**	**61**	*eP*	**Pn**	**00 13 03.9**	**-0.9**
NAO01	**NORSAR Array S**	**13.49**	**93**	Pn	**Pn**	**00 13 03.7**	**-1.6**
FAUS	**Fauske**	**13.50**	**64**	*eP*	**Pn**	**00 13 06.8**	**+1.4**
FAUS	comp=Z,376nm,2.5s			IAmb	IAmb	00 13 21.5	
NC303	**NORSAR Array S**	**13.52**	**92**		**Pn**	**00 13 03.9**	**-1.8**
NB2	**NORSAR Subarra** baz=302,slow=14	**13.54**	**92**	Pn	**Pn**	**00 13 02.8**	**-3.2**
NB2	**NORSAR Subarra** comp=Z,359nm,3.3s,baz=298,slow=14	**13.54**	**92**	Pn	**Pn**	**00 13 03.4**	**-2.6**
NB2	**NORSAR Subarra** baz=298,slow=14	**13.54**	**92**	Pn	**Pn**	**00 13 03.4**	**-2.6**
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=9.2	**13.54**	**92**	Pn	**Pn**	**00 13 03.3**	**-2.7**
NOA	comp=Z,1μm,21.0s,baz=295,slow=36			LR	LR	00 18 03.2	
KONO	**Kongsberg**	**13.55**	**99**	*i* P	**Pn**	**00 13 05.1**	**-1.1**
KONO	**Kongsberg**	**13.55**	**99**	Pn	**Pn**	**00 13 05.3**	**-0.9**
NB201	**NORSAR Array S**	**13.56**	**92**		**Pn**	**00 13 05.8**	**-0.6**
SFJD	**Kangerlussuaq**	**13.66**	**295**	P	**Pn**	**00 13 06.1**	**-1.5**
SFJD	**Kangerlussuaq**	**13.66**	**295**	Pn	**Pn**	**00 13 06.1**	**-1.5**
SFJD	**Kangerlussuaq** comp=Z,776nm,9.0s	**13.66**	**295**	IAMs_20	IAMs_20	00 18 10.7	
NC405	**NORSAR Array S**	**13.72**	**92**		**Pn**	**00 13 07.1**	**-1.3**
ILULI	**Ilulissat**	**13.79**	**304**	P	**Pn**	**00 13 10.2**	**+0.9**
ILULI	**Ilulissat**	**13.79**	**304**	Pn	**Pn**	**00 13 10.2**	**+0.9**
ILULI	**Ilulissat** comp=Z,14μm,6.5s	**13.79**	**304**	IAMs_20	IAMs_20	00 19 02.2	
NC602	**NORSAR Array S**	**13.82**	**93**	Pn	**Pn**	**00 13 08.8**	**-1.1**
NC602	**NORSAR Array S**	**13.82**	**93**	*eP*	**P**	**00 13 19.0**	**+0.7**
NRA0	**NORESS Array S** baz=315,slow=9.3	**13.82**	**93**	Pn	**Pn**	**00 13 08.9**	**-1.0**
NRA0	**NORESS Array S** baz=315,slow=9.3	**13.82**	**93**	Pn	**Pn**	**00 13 08.9**	**-1.0**
LBWR	**Ladybower, Pea**	**13.86**	**137**	*eP*	**Pn**	**00 13 09.5**	**-0.9**
LBWR	comp=Z,9μm,10.2s			IAMs_20	IAMs_20	00 19 26.1	
HOMB	**Homborsund**	**13.90**	**105**	*eP*	**P**	**00 13 18.0**	**-1.2**
STNC	**Stoke**	**14.00**	**139**	*eP*	**Pn**	**00 13 11.6**	**-0.7**
IVI	**Ivigtut**	**14.30**	**270**	Pn	**Pn**	**00 13 18.3**	**+2.0**
HLM1	**Long Mynd**	**14.32**	**141**	*eP*	**Pn**	**00 13 15.3**	**-1.4**
HLM1	comp=Z,8μm,10.4s			IAMs_20	IAMs_20	00 19 43.6	
RSBS	**Rosebush, Pemb**	**14.37**	**147**	*eP*	**Pn**	**00 13 16.7**	**-0.7**
CWF	**Charnwood Fore**	**14.56**	**138**	*eP*	**Pn**	**00 13 18.9**	**-1.1**
CWF	comp=Z,7μm,11.1s			IAMs_20	IAMs_20	00 19 54.8	
MCH1	**Michaelchurch**	**14.76**	**143**	*eP*	**Pn**	**00 13 21.3**	**-1.4**
TRO	**Tromso**	**14.80**	**54**	*eP*	**Pn**	**00 13 22.7**	**-0.5**
TRO	comp=Z,275nm,1.7s			IAmb	IAmb	00 13 31.1	
HFS	**Hagfors** baz=326,slow=7.4	**15.05**	**93**	P	**Pn**	**00 13 25.0**	**-1.5**
HFS	**Hagfors** comp=Z,0.2nm,0.3s,baz=8.9,slow=10,SNR=5.3	**15.05**	**93**	Pn	**Pn**	**00 13 25.5**	**-1.0**
HFS	comp=Z,3μm,19.9s,baz=235,slow=36			LR	LR	00 18 48.6	
HFS	**Hagfors** baz=326,slow=7.4	**15.05**	**93**	P	**Pn**	**00 13 25.0**	**-1.5**
WACR	**West Acre**	**15.16**	**134**	*eP*	**Pn**	**00 13 26.6**	**-1.4**
WACR	comp=Z,4μm,12.9s			IAMs_20	IAMs_20	00 20 07.1	
STRD	**Stroud**	**15.18**	**141**	*eP*	**Pn**	**00 13 27.4**	**-1.0**
MUD	**Monsted U'grnd** comp=Z,3μm,23.0s	**15.37**	**110**	*i* P	**P**	**00 13 36.4**	**+1.0**
MUD	**Monsted U'grnd** comp=Z,3μm,22.9s	**15.37**	**110**	*i* P	**P**	**00 13 36.4**	**+1.0**
MUD				IAMs_20	IAMs_20	00 19 13.3	
BATH	**Bath**	**15.44**	**142**	*eP*	**Pn**	**00 13 30.7**	**-1.1**
KIF	**Kilpisjarvi**	**15.47**	**57**	P	**Pn**	**00 13 32.0**	**0.0**
KIF	**Kilpisjarvi**	**15.47**	**57**	P	**Pn**	**00 13 32.0**	**0.0**
SWN1	**Swindon**	**15.52**	**141**	*eP*	**Pn**	**00 13 31.5**	**-1.2**
BJO1	**Bjornoya**	**15.74**	**36**	P	**Pn**	**00 13 35.3**	**-0.2**
BJO1	**Bjornoya**	**15.74**	**36**	P	**Pn**	**00 13 35.3**	**-0.2**
WOL	**Wolverton** comp=Z,8μm,11.7s	**15.86**	**140**	*eP*	**Pn**	**00 13 36.1**	**-1.1**
WOL				IAMs_20	IAMs_20	00 20 56.9	
UPNV	**Upernavik** comp=Z,8μm,8.2s	**15.87**	**317**	IAMs_20	IAMs_20	00 20 15.7	
HSPB	**Hornsund (broa**	**16.06**	**26**	P	**P**	**00 13 40.9**	**-2.2**
HSPB	**Hornsund (broa**	**16.06**	**26**	*eP*	**P**	**00 13 40.8**	**-2.2**
HSPB	**Hornsund (broa**	**16.06**	**26**	P	**P**	**00 13 40.9**	**-2.2**
KTK1	**Kautokeino** comp=Z,151nm,1.3s	**16.35**	**57**	*eP*	**P**	**00 13 43.6**	**-2.7**
KTK1				IAmb	IAmb	00 13 49.3	
BRBA	**Barentsburg A**	**16.43**	**23**	P	**P**	**00 13 46.9**	**-0.2**
BRBA	**Barentsburg A**	**16.43**	**23**	P	**P**	**00 13 46.9**	**-0.2**
HAMF	**Hammerfest**	**16.45**	**51**	P	**Pn**	**00 13 43.4**	**-1.3**
HAMF	**Hammerfest** comp=Z,111nm,1.4s	**16.45**	**51**	*eP*	**Pn**	**00 13 44.4**	**-0.3**
HAMF				IAmb	IAmb	00 13 49.5	
KULLO	**Kullorsuaq** comp=Z,7μm,8.1s	**16.59**	**323**	IAMs_20	IAMs_20	00 20 18.4	
KBS	**Kingsbay**	**16.63**	**19**	P	**P**	**00 13 48.6**	**-0.8**
KBS	**Kingsbay** comp=Z,144nm,1.7s	**16.63**	**19**	*ce*P	**Pn**	**00 13 46.4**	**-0.5**
KBS				pmax	pmax		
KBS	**Kingsbay** comp=Z,368nm,1.8s	**16.63**	**19**	P	**P**	**00 13 47.3**	**-2.1**
KBS				IAmb	IAmb	00 14 04.0	
KBS	**Kingsbay**	**16.63**	**19**	P	**P**	**00 13 48.6**	**-0.8**
KBS	**Kingsbay**	**16.63**	**19**	*i* P	**P**	**00 13 50.4**	**+1.0**
SPA0	**Spitsbergen Ar** baz=202,slow=18	**16.86**	**23**	P	**P**	**00 13 51.7**	**-0.2**
SPA0	**Spitsbergen Ar** comp=Z,377nm,1.9s	**16.86**	**23**	P	**P**	**00 13 51.2**	**-0.7**
SPA0				IAmb	IAmb	00 13 57.5	
SPA0	**Spitsbergen Ar** baz=202,slow=18	**16.86**	**23**	P	**P**	**00 13 51.7**	**-0.2**
SPITS	**Spitsbergen Ar** baz=185,slow=19,SNR=5.7	**16.86**	**23**	Pn	**P**	**00 13 51.0**	**-0.9**
SPITS	**Spitsbergen Ar**	**16.86**	**23**	P	**P**	**00 13 51.0**	**-0.9**
NOR	**Nord**	**17.02**	**0**	P	**P**	**00 13 51.5**	**-2.2**
NOR	**Nord**	**17.02**	**0**	*i* P	**P**	**00 13 51.4**	**-2.2**
NOR	**Nord**	**17.02**	**0**	*i* P	**P**	**00 13 51.4**	**-2.2**
NOR	**Nord**	**17.02**	**0**	P	**P**	**00 13 51.5**	**-2.2**
NOR	**Nord**	**17.02**	**0**	*i* P	**P**	**00 13 51.4**	**-2.2**
ARE0	**ARCESS Array S**	**17.11**	**55**	P	**P**	**00 13 52.9**	**-1.8**
ARA0	**ARCESS Array S** baz=281,slow=9.3	**17.11**	**55**	P	**P**	**00 13 52.7**	**-2.0**
ARA0	**ARCESS Array S** baz=281,slow=9.3	**17.11**	**55**	P	**P**	**00 13 52.7**	**-2.0**
ARCES	**ARCESS Array B** comp=Z,0.2nm,0.3s,baz=277,slow=9.7,SNR=28	**17.11**	**55**	P	**P**	**00 13 53.0**	**-1.7**
JSA	**Saint Aubin**	**17.55**	**145**	*eP*	**Pn**	**00 13 57.0**	**-1.6**
KEV	**Kevo**	**17.62**	**54**	P	**Pn**	**00 13 58.3**	**-1.0**
KEV	comp=Z,60nm,1.1s			pmax	pmax		
KEV	**Kevo**	**17.62**	**54**		**Pn**	**00 13 58.3**	**-1.0**
HOPEN	**Hopen**	**17.83**	**31**	P	**P**	**00 14 02.5**	**0.0**
HOPEN	**Hopen**	**17.83**	**31**	P	**P**	**00 14 02.5**	**0.0**
IBBN	**Ibbenburen** comp=Z,1μm,2.4s,baz=326,slow=11	**17.94**	**122**	*eP*	**P**	**00 14 05.4**	**+1.5**
UCC	**Uccle**	**18.01**	**130**	P	**Pn**	**00 14 02.5**	**-1.7**
UCC	comp=Z,153nm,1.9s			pmax	pmax		
UCC	**Uccle**	**18.01**	**130**	Pn	**Pn**	**00 14 02.5**	**-1.7**
SNF	**Seneffe** comp=Z,58nm,2.2s	**18.23**	**131**	P	**P**	**00 14 05.9**	**-1.3**
RGN	**Rugen**	**18.39**	**109**	*eP*	**Pn**	**00 14 09.6**	**+0.7**
RGN	**Rugen**	**18.39**	**109**	P	**Pn**	**00 14 08.9**	**0.0**
BEBN	**Eben Emael**	**18.45**	**128**	⇓P	**Pn**	**00 14 08.2**	**-1.4**
BUG	**Bochum--Univer** comp=Z,3μm,3.6s,baz=326,slow=11	**18.46**	**124**	*eP*	**Pn**	**00 14 11.9**	**+2.1**
BMRD	**Maredsous** comp=Z,90nm,2.4s	**18.57**	**130**	P	**Pn**	**00 14 09.9**	**-1.2**
BSTI	**Sart Tilman** comp=Z,27nm,2.4s	**18.59**	**128**	P	**Pn**	**00 14 10.2**	**-1.1**
BGES	**Gesves** comp=Z,98nm,2.3s	**18.60**	**130**	⇓P	**P**	**00 14 09.5**	**-1.8**
BCLA	**Clerier** comp=Z,97nm,2.4s	**18.64**	**129**	⇓P	**P**	**00 14 10.1**	**-1.6**
DOU	**Dourbes** comp=Z,55nm,2.4s	**18.69**	**131**	P	**Pn**	**00 14 11.0**	**-1.5**
MEM	**Membach** comp=Z,98nm,0.0s	**18.72**	**128**	⇓P	**P**	**00 14 11.1**	**-1.5**
BHOU	**Houvegnez**	**18.94**	**128**	P	**P**	**00 14 13.6**	**-1.4**
MSF	**Maaselka**	**19.15**	**65**	P	**Pn**	**00 14 16.4**	**-1.6**
ASSE	**Asse, Remlinge** comp=Z,1μm,2.7s,baz=326,slow=11	**19.17**	**118**	*eP*	**Pn**	**00 14 19.9**	**+1.7**
CLZ	**Clausthal** comp=Z,332nm,1.6s,baz=326,slow=11	**19.28**	**119**	*eP*	**Pn**	**00 14 21.6**	**+1.8**
GTTG	**Gottingen** comp=Z,425nm,1.7s,baz=326,slow=11	**19.36**	**120**	*eP*	**Pn**	**00 14 22.9**	**+2.2**
WLF	**Walferdange**	**19.57**	**129**	P	**Pn**	**00 14 22.0**	**-1.2**
WLF	**Walferdange** comp=Z,223nm,1.7s	**19.57**	**129**	P	**P**	**00 14 20.5**	**-1.4**
WLF				pmax	pmax		
WLF	**Walferdange**	**19.57**	**129**		**P**	**00 14 20.5**	**-1.4**
WLF				IAmb	IAmb	00 14 28.1	
FIA0	**FINESS Array S** baz=307,slow=12	**19.70**	**79**	P	**Pn**	**00 14 23.1**	**-1.5**
FIA0	**FINESS Array S** baz=307,slow=12	**19.70**	**79**	P	**Pn**	**00 14 23.1**	**-1.5**
FIA1	**FINESS Array S**	**19.70**	**79**		**P**	**00 14 22.5**	**-0.7**
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=305,slow=6.7,SNR=13	**19.70**	**79**	P	**Pn**	**00 14 23.0**	**-1.6**
FINES	comp=Z,2μm,18.1s,baz=92,slow=38			LR	LR	00 22 17.5	
CLF	**Chambon-Foret**	**19.80**	**138**	P	**Pn**	**00 14 24.3**	**-1.7**
TULEG	**Thule**	**19.84**	**327**	P	**Pn**	**00 14 24.8**	**-1.4**
TULEG	comp=Z,247nm,1.5s			IAmb	IAmb	00 14 30.9	
TULEG	**Thule**	**19.84**	**327**	*i* P	**Pn**	**00 14 26.9**	**+0.7**
TULEG	comp=Z,7μm,9.5s			IAMs_20	IAMs_20	00 22 29.2	
TNS	**Taunus Mts** comp=Z,2μm,3.2s,baz=326,slow=11	**19.89**	**124**	*eP*	**Pn**	**00 14 27.7**	**+0.7**
UBBA	**Unterbreizbach** comp=Z,551nm,2.0s,baz=326,slow=11	**19.96**	**121**	*eP*	**Pn**	**00 14 28.9**	**+1.1**
RUE	**Ruedersdorf**	**20.11**	**113**	*eP*	Pn	00 14 28.5	-1.0
SLIT	**Slitere, Latvi**	**20.15**	**92**	*eP*	Pn	00 14 28.3	-1.7
APA0	**Apatity Array** baz=323,slow=11	**20.16**	**59**	P	**P**	**00 14 26.8**	**-1.4**
APA0	**Apatity Array** baz=323,slow=11	**20.16**	**59**	P	**P**	**00 14 26.8**	**-1.4**
NEUB	**Neuenburg** comp=Z,575nm,1.7s,baz=326,slow=11	**20.32**	**118**	*eP*	Pn	00 14 32.1	+0.1
APA	**Apatity**	**20.32**	**59**	⇑ *iP*	**P**	**00 14 27.9**	**-2.0**
APA				*i* S	S	00 18 06.0	-11
APA	comp=Z,38nm,1.0s			pmax	pmax		
MFF	**Saint Martin d**	**20.46**	**144**	*eP*	Pn	00 14 31.5	-2.2
MFF	comp=Z,782nm,2.7s			pmax	pmax		
LVZ	**Lovozero**	**20.69**	**58**	*ce*P	**P**	**00 14 33.2**	**-0.8**
LVZ	comp=Z,238nm,2.5s			pmax	pmax		
LVZ	**Lovozero**	**20.69**	**58**	P	**P**	**00 14 33.3**	**-0.6**
LVZ	comp=Z,149nm,1.3s			IAmb	IAmb	00 14 36.8	
MOX	**Moxa**	**20.71**	**119**	P	Pn	00 14 34.3	-2.3
MOX	comp=Z,135nm,1.8s			pmax	pmax		
MOX	**Moxa** comp=Z,389nm,1.6s,baz=326,slow=11	**20.71**	**119**	*eP*	Pn	00 14 36.5	-0.1
MOX				*eL*	L	00 23 26.7	
CLL	**Collm** comp=Z,366nm,1.6s	**20.71**	**116**	*eP*	**P**	**00 14 34.0**	**-0.2**
CLL				*eS*	Sn	00 18 30.0	0.0
CLL	comp=N,1μm,20.9s			Lm	MLR	00 23 00.0	
CLL	comp=E,2μm,18.7s			Lm	MLR	00 23 00.0	
CLL	comp=Z,2μm,18.6s			Lm	MLR	00 23 00.0	
CLL	**Collm**	**20.71**	**116**	*eP*	**P**	**00 14 34.0**	**-0.2**
CLL				*eS*	Sn	00 18 30.0	0.0
CLL	comp=Z,366nm,1.6s			pmax	pmax		
CLL	comp=Z,2μm,18.6s			MLR	MLR		
CLL	**Collm** comp=Z,366nm,1.6s,baz=326,slow=11	**20.71**	**116**	*eP*	Pn	00 14 35.8	-0.7
CLL	**Collm** comp=Z,316nm,1.5s	**20.71**	**116**	P	**P**	**00 14 33.1**	**-1.1**
CLL				IAmb	IAmb	00 14 38.8	
GKP	**Gorka Klasztor**	**20.92**	**107**	*eP*	Pn	00 14 37.8	-1.2
PBUR	**Paburge**	**21.00**	**96**	*eP*	**P**	**00 14 37.8**	**+0.5**
SSF	**Saint Saulge**	**21.04**	**137**	*eP*	**P**	**00 14 36.4**	**-1.4**
SSF	comp=Z,290nm,1.5s			pmax	pmax		
PLN	**Plauen** comp=Z,352nm,1.6s,baz=326,slow=11	**21.04**	**118**	*eP*	**P**	**00 14 39.6**	**+1.8**
WERD	**Werda** comp=Z,152nm,1.5s,baz=326,slow=11	**21.13**	**118**	*eP*	**P**	**00 14 40.3**	**+1.5**
FBE	**Freiberg** comp=Z,2μm,2.8s,baz=326,slow=11	**21.15**	**116**	*eP*	**P**	**00 14 40.9**	**+1.9**
ECH	**Echery** comp=Z,353nm,2.0s	**21.16**	**129**	IAmb	IAmb	00 14 43.4	
GUNZ	**Gunzen** comp=Z,1μm,2.3s,baz=326,slow=11	**21.21**	**118**	*eP*	**P**	**00 14 41.3**	**+1.6**
TANN	**Tannenbergstha** comp=Z,2μm,2.3s,baz=326,slow=11	**21.21**	**118**	*eP*	**P**	**00 14 41.6**	**+1.8**
WERN	**Wernitzgruen** comp=Z,731nm,1.9s,baz=326,slow=11	**21.29**	**118**	*eP*	**P**	**00 14 42.4**	**+1.9**
GRF	**Grafenberg Arr** comp=Z,4μm,3.5s,baz=326,slow=11	**21.34**	**121**	*eP*	**P**	**00 14 43.4**	**+2.3**
GRF	comp=Z,2μm,18.0s			*eL*	L	00 24 18.6	
NKC	**Novy Kostel**	**21.36**	**118**	*eP*	**P**	**00 14 44.1**	**+2.9**
NKC				*eS*	Sn	00 18 43.8	-1.8
NKC	comp=Z,2μm,10.0s			MLR	MLR		
NKC	**Novy Kostel**	**21.36**	**118**	*eP*	**P**	**00 14 44.1**	**+2.9**
NKC				*eS*	Sn	00 18 43.8	-1.8
NKC	comp=Z,2μm,10.0s			AMS	AMS	00 27 00.0	
STU	**Stuttgart**	**21.38**	**125**	P	**P**	**00 14 41.7**	**+0.2**
STU	comp=Z,537nm,1.9s			pmax	pmax

PRU AMS AMS 00 28 00.0
comp=Z,2µm,10.2s
PUL Pulkovo 22.36 80 *e*P **P 00 14 51.7 -0.2**
PUL Pulkovo 22.36 80*ce*P **P 00 14 51.1 -0.8**
PUL pmax pmax
comp=Z,231nm,1.7s
KSP Ksiaz 22.37 112 *e*P **P 00 14 52.0 -0.1**
KSP *e*S **S 00 19 00.5 +2.9**
PBCC Pribram 22.39 117 *e*P **P 00 14 54.5 +2.2**
PBCC *ex* x 00 14 59.8
WET Wettzell 22.41 119 *e*P **P 00 14 54.6 +2.0**
comp=Z,471nm,2.2s,baz=326,slow=11
CHVC Chvalec 22.47 113 *e*P **P 00 14 53.6 +0.4**
CHVC *ex* x 00 14 55.9
CHVC *e*S **S 00 19 03.2 +3.6**
CHVC AMS AMS 00 23 40.0
comp=Z,2µm,16.1s
GOPC GO Pecny, Ondr 22.51 116 *e*P **P 00 14 56.1 +2.5**
GOPC *e* 00 15 04.3
GOPC *e*S **S 00 18 58.0 -2.3**
GOPC MLR MLR
comp=Z,2µm,10.1s
GOPC GO Pecny, Ondr 22.51 116 *e*P **P 00 14 56.1 +2.5**
GOPC *ex* x 00 15 04.3
GOPC *e*S **S 00 18 58.0 -2.3**
GOPC AMS AMS 00 28 00.0
comp=Z,2µm,10.1s
UPC Upice 22.52 113 *e*P **P 00 14 53.5 -0.2**
UPC *e* 00 14 55.8
UPC *e*S **S 00 19 03.0 +2.6**
UPC MLR MLR
comp=Z,2µm,13.9s
UPC Upice 22.52 113 *e*P **P 00 14 53.5 -0.2**
UPC *epP* **pP 00 14 55.8 -1.2**
UPC *e*S **S 00 19 03.0 +2.6**
UPC AMS AMS 00 28 20.0
comp=Z,2µm,13.9s
OSTC Ostas 22.56 113 *e*P **P 00 14 54.3 +0.1**
OSTC *epP* **sP 00 14 56.9 -2.1**
OSTC *e*S **S 00 19 04.0 +2.8**
OSTC AMS AMS 00 22 50.0
comp=Z,2µm,20.4s
UBR Ueberruh 22.63 126 *e*P **P 00 14 57.8 +2.8**
comp=Z,8µm,4.3s,baz=326,slow=11
FUR Furstenfeldbru 22.63 123 *e*P **P 00 14 57.7 +2.7**
comp=Z,2µm,2.4s,baz=326,slow=11
KHC Kasperske Hory 22.68 118 *e*P **P 00 14 54.7 -0.8**
KHC *e*S **S 00 19 06.1 +2.7**
KHC MLR MLR
comp=Z,2µm,10.1s
KHC Kasperske Hory 22.68 118 *e*P **P 00 14 54.7 -0.8**
KHC *ex* x 00 15 08.8
KHC *e*S **S 00 19 06.1 +2.7**
KHC AMS AMS 00 27 20.0
comp=Z,2µm,10.1s
KHC Kasperske Hory 22.68 118 P **P 00 14 54.7 -0.8**
DPC Dobruska-Polom 22.77 113 *e*P **P 00 14 56.6 +0.2**
DPC *e* 00 14 58.6
DPC *e*S **S 00 19 09.4 +4.4**
DPC MLR MLR
comp=Z,2µm,12.0s
DPC Dobruska-Polom 22.77 113 *e*P **P 00 14 56.6 +0.2**
DPC *epP* **pP 00 14 58.6 -1.1**
DPC *e*S **S 00 19 09.4 +4.4**
DPC AMS AMS 00 28 20.0
comp=Z,2µm,12.0s
SENIN Lac Senin/Sane 22.83 132 P **P 00 14 58.6 +1.4**
SENIN IAmb IAmb 00 15 11.4
comp=Z,225nm,1.6s
SUW Suwalki 22.89 98 *e*P **P 00 14 57.1 -0.4**
SUW *e*S **S 00 19 09.6 +2.7**
DAVA Damuels 22.89 126 *i* pP pP 00 15 00.3 -0.8
comp=Z,61nm,1.2s,SNR=14
SSB Saint Sauveur 22.96 137 IAmb IAmb 00 15 08.6
comp=Z,159nm,1.7s
GEC2 GERESS Array S 22.96 119 *e*P **P 00 15 00.8 +2.4**
comp=Z,536nm,2.0s,baz=326,slow=11
GERES GERESS Array B 22.96 119 P **P 00 14 58.0 -0.5**
comp=Z,4.4nm,0.8s,baz=328,slow=9.5,SNR=28
GERES LR LR 00 25 05.1
comp=Z,2µm,18.6s,baz=328,slow=40
GERES GERESS Array B 22.96 119 P **P 00 14 58.0 -0.5**
RETA Reutte 23.02 125 *i* pP pP 00 15 00.3 -2.1
comp=Z,58nm,1.5s,SNR=19
IZAR Zarasai 23.03 92 *e*P **P 00 14 59.2 +0.2**
ISAL Salakas 23.09 93 *e*P **P 00 14 59.9 +0.3**
KRLC Kraliky 23.16 113 *e*P **P 00 15 00.4 -0.1**
KRLC *e* 00 15 02.9
KRLC *e*S **S 00 19 16.1 +4.3**
KRLC MLR MLR
comp=Z,2µm,12.2s
KRLC Kraliky 23.16 113 *e*P **P 00 15 00.4 -0.1**
KRLC *epP* **pP 00 15 02.9 -1.0**
KRLC *e*S **S 00 19 16.1 +4.3**
KRLC AMS AMS 00 28 50.0
comp=Z,2µm,12.2s
MOTA Moosalm 23.27 124 *i* pP **P 00 15 02.7 +1.0**
comp=Z,99nm,1.7s,SNR=36
TREC Trest 23.28 116 *e*P **P 00 15 01.3 -0.3**
TREC *e* 00 15 06.1
TREC MLR MLR
comp=Z,2µm,10.6s
TREC Trest 23.28 116 *e*P **P 00 15 01.3 -0.3**
TREC *epP* **sP 00 15 06.1 -0.4**
TREC *e*S **S 00 19 21.3 +7.6**
TREC AMS AMS 00 27 10.0
comp=Z,2µm,10.6s
DAVOX Davos/Dischmat 23.32 127 P **P 00 15 01.6 -0.7**
comp=Z,4.7nm,0.8s
TMCR Tamitsa 23.34 66 *e*P **P 00 14 59.7 -2.4**
TMCR *e*S **S 00 19 14.0 -0.4**
TMCR Tamitsa 23.34 66 *e*P **P 00 14 59.6 -2.4**
TMCR *e*S **S 00 19 13.6 -0.8**
PGAV Gavieira, Arco 23.36 162 *e*P **P 00 15 03.7 +1.1**
comp=Z,120nm,1.9s
PGAV *e*S **S 00 19 21.3 +6.0**
PGAV *e*LR LR 00 22 00.4
comp=Z,2µm,18.0s
SQTA Sankt Quirin 23.41 124 *i* pP **P 00 15 04.4 +1.3**
comp=Z,106nm,1.9s,SNR=30
FETA Feichten 23.41 125 *i* pP **P 00 15 04.3 +1.2**
comp=Z,69nm,1.5s,SNR=12
TUE Stuetta 23.41 128 P **P 00 15 04.1 +0.9**
WATA Walderalm 23.44 124 *i* P **P 00 15 03.8 +0.4**
comp=Z,95nm,1.6s,SNR=40
BEL Belsk 23.45 105 *e*P **P 00 15 03.7 +0.5**
WTTA Wattenberg 23.52 124 *i* P **P 00 15 04.6 +0.3**
comp=Z,122nm,1.7s,SNR=42
IDID Didziasalis 23.53 92 *e*P **P 00 15 04.0 0.0**
RJOB Jochberg 23.55 122 *e*P **P 00 15 05.7 +1.4**
comp=Z,557nm,2.4s,baz=326,slow=11
FUORN Ofenpass-Fuorn 23.60 127 IAmb IAmb 00 15 10.6
comp=Z,244nm,1.9s
PCAB Cabril 23.64 162 *e*P **P 00 15 06.3 +1.0**
comp=Z,81nm,1.7s
VRAC Vranov 23.70 114 P **P 00 15 06.0 +0.2**
comp=Z,24nm,1.2s,baz=326,slow=11,SNR=39
VRAC LR LR 00 23 33.7
comp=Z,1µm,19.8s,baz=328,slow=35
VRAC Vranov 23.70 114 ⇓P **P 00 15 06.4 +0.6**
VRAC Vranov 23.70 114 *e*P **P 00 15 05.9 +0.2**
VRAC *e*S **S 00 19 26.1 +5.6**
VRAC Vranov 23.70 114 ⇓P **P 00 15 06.4 +0.6**
MORC Moravsky Berou 23.70 112 ⇑P **P 00 15 06.5 +0.6**
MORC Moravsky Berou 23.70 112 *e*P **P 00 15 05.9 +0.1**
MORC *e*S **S 00 19 27.8 +7.2**
MORC Moravsky Berou 23.70 112 P **P 00 15 05.3 -0.6**
MORC pmax pmax
comp=Z,167nm,1.8s
MORC Moravsky Berou 23.70 112 P **P 00 15 05.2 -0.6**
MORC IAmb IAmb 00 15 30.8
comp=Z,167nm,1.8s
PBRG Braganca 23.73 160 *e*P **P 00 15 07.7 +1.5**
comp=Z,103nm,2.0s
PBRG *e*S Sn 00 19 38.8 -3.7
BNI Bardonecchia 23.81 134 P **P 00 15 07.4 +0.4**
BNI pmax pmax
comp=Z,151nm,1.6s
BNI Bardonecchia 23.81 134 P **P 00 15 07.4 +0.4**
BNI IAmb IAmb 00 15 19.9
comp=Z,151nm,1.6s
KRUC Moravsky 23.82 115 *e*P **P 00 15 06.8 -0.1**
KRUC *e*S **S 00 19 27.8 +5.5**
NACGM Naroch 23.82 93 *e*P **P 00 15 08.0 +1.1**
NACGM *e*PP PnPn 00 15 52.0 +18
NACGM *e*PPP PPP 00 16 10.0
NACGM *e*S **S 00 19 22.0 -0.2**
NACGM *e*SS SnSn 00 20 32.0 +32
NACGM *e*SSS SSS 00 21 06.0
NACGM *e*LQ LQ 00 23 34.0
NACGM *e*LR LR 00 23 54.0
OKC Ostrava-Krasne 23.90 111 *e*P **P 00 15 06.2 -1.4**
OKC *e* 00 15 10.8
OKC Ostrava-Krasne 23.90 111 *e*P **P 00 15 06.2 -1.4**
OKC *e*pP **sP 00 15 10.8 -1.8**
MOA Molln 24.00 119 *i* sP **P 00 15 10.8 +2.2**
comp=Z,51nm,1.6s,SNR=14
PVRL Vila Real 24.11 162 *e*P **P 00 15 11.0 +1.2**
comp=Z,113nm,2.0s
PTO Porto 24.13 163 *e*P **P 00 15 12.0 +2.1**
comp=Z,122nm,2.0s
OJC Ojcow 24.27 109 *e*P **P 00 15 09.4 -1.7**
OJC *epP* **P 00 15 13.0 +1.9**
OJC *e*S **S 00 19 32.8 +3.3**
ABTA Abfaltersbach 24.28 123 *i* pP **P 00 15 13.1 +1.7**
comp=Z,60nm,1.3s,SNR=18
KBA Koelnbreinsper 24.30 122 *i* sP **P 00 15 14.4 +2.8**
comp=Z,82nm,1.8s,SNR=11
MVO Moncorvo 24.32 161 *e*P **P 00 15 13.5 +1.8**
comp=Z,134nm,2.1s
MVO *e*S **S 00 19 38.3 +7.8**
JAVC Velka Javorina 24.48 113 *e*P **P 00 15 14.3 +1.1**
JAVC *e*S **S 00 19 41.1 +8.0**
CONA Conrad Observa 24.54 117 *i* P **P 00 15 13.8 +0.1**
comp=Z,33nm,1.1s,SNR=25
SALO Salr 24.56 127 P **P 00 15 13.6 -0.2**
SALO IAmb IAmb 00 15 24.2
comp=Z,122nm,1.6s
MICGM Minsk 24.56 93⇓ *e*P **P 00 15 14.0 +0.3**
MICGM PM 00 15 17.0
comp=Z,0.9nm,2.0s
MICGM PM 00 15 17.0
comp=N,0.9nm,2.0s
MICGM PM 00 15 18.0
comp=E,0.6nm,2.0s
MICGM *e*PP 00 16 20.0
MICGM *e*S **S 00 19 32.0 -2.1**
MICGM *e*SS **SnSn 00 20 10.0 -8.6**
MICGM *e*LQ LQ 00 22 36.0
MICGM *e*LR LR 00 24 30.0
MICGM LRM MLR 00 25 12.0
comp=Z,5.2nm,20.0s
MNK Minsk 24.56 93 *e*P **P 00 15 14.0 +0.3**
MNK *e*S **S 00 19 32.0 -2.1**
MNK pmax pmax
comp=Z,870nm,2.0s
CTI Castel Tesino 24.57 125 IAmb IAmb 00 15 18.2
comp=Z,208nm,1.9s
PVIS Viseu 24.64 162 *e*P **P 00 15 16.2 +1.6**
comp=Z,84nm,1.9s
SMOL Smolenice 24.67 114 *e*P **P 00 15 14.7 -0.1**
SMOL pmax pmax
comp=Z,102nm,1.6s
SMOL Smolenice 24.67 114 *e*P **P 00 15 14.7 -0.1**
SMOL *e*S S 00 19 45.8 +10
MODS Modra-Piesok 24.72 115 *e*P **P 00 15 16.0 +0.7**
MODS pmax pmax
comp=Z,338nm,1.9s
MODS Modra-Piesok 24.72 115 *e*P **P 00 15 16.0 +0.7**
MODS *e*S **S 00 19 44.0 +7.1**
MYKA Terra Mystica 24.79 122 *i* sP sP 00 15 19.2 -1.8
comp=Z,66nm,1.8s,SNR=13
ARSA Arzberg 24.97 118 *i* P **P 00 15 17.8 +0.3**
comp=Z,45nm,1.6s,SNR=22
LANS Liptovska Anna 24.97 111 *e*P **P 00 15 17.6 +0.1**
LANS pmax pmax
comp=Z,27nm,1.2s
LANS Liptovska Anna 24.97 111 *e*P **P 00 15 17.6 +0.1**
MTE Manteigas 25.00 162 *e*P **P 00 15 19.8 +2.0**
comp=Z,141nm,1.7s
MTE *e*S **S 00 19 49.7 +8.2**
MTE Manteigas 25.00 162 P **P 00 15 18.1 +0.2**
NIE Niedzica 25.09 109 *e*P **P 00 15 18.9 +0.3**
PCAS Casmilo, Conde 25.22 164 *e*S S 00 19 58.4 +14
PRMA PARMA 25.24 129 P **P 00 15 20.5 +0.7**
PRMA IAmb IAmb 00 15 45.0
comp=Z,157nm,1.6s
VYHS Vyhne 25.24 112 *e*P **P 00 15 19.7 -0.2**
VYHS pmax pmax
comp=Z,317nm,1.9s
VYHS Vyhne 25.24 112 *e*P **P 00 15 19.7 -0.2**
VYHS *e*S **S 00 19 53.9 +8.8**
SOKA Soboth 25.26 120 *i* pP pP 00 15 21.4 -2.4
comp=Z,57nm,1.4s,SNR=16
MOZS Mozjanca 25.37 121 *e*P **P 00 15 22.5 +1.3**
MSSA Maissana 25.37 130 P **P 00 15 20.8 -0.4**
PCBR Castelo Branco 25.56 162 *e*P **P 00 15 24.1 +1.3**
comp=Z,75nm,1.6s
KLMR Klimovskoe 25.60 72 *e*P **P 00 15 20.8 -2.2**
comp=Z,105nm,1.4s
KLMR *e*S **S 00 19 46.9 -3.8**
KLMR Klimovskoe 25.60 72 *e*P **P 00 15 20.7 -2.4**
KLMR *e* 00 18 51.9
KLMR pmax pmax
comp=Z,105nm,1.4s
KLMR Klimovskoe 25.60 72 *e*P **P 00 15 20.8 -2.2**
KLMR AMP 00 15 29.0
comp=Z,105nm,1.4s
KLMR *e*PcP **PcP 00 18 51.9 -1.5**
LJU Ljubljana 25.61 121 *e*P **P 00 15 25.0 +1.7**
LJU *e*S **S 00 19 54.1 +3.1**
LJU Ljubljana 25.61 121 *e*P **P 00 15 24.6 +1.3**
TRI Trieste 25.62 123 P **P 00 15 22.9 -0.5**
TRI pmax pmax
comp=Z,64nm,1.4s
TRI Trieste 25.62 123 P **P 00 15 22.9 -0.5**
TRI IAmb IAmb 00 15 43.2
comp=Z,64nm,1.4s
SRO2 Moca 25.65 114 *e*P **P 00 15 26.0 +2.4**
SRO2 pmax pmax
comp=Z,65nm,1.3s
SRO2 Moca 25.65 114 *e*P **P 00 15 26.0 +2.4**
PSBE So Bento 25.71 164 *e*P **P 00 15 26.0 +1.7**
comp=Z,107nm,2.0s
PSBE *e*S S 00 20 08.7 +16
UCM Universidad Co 25.78 154 *e*P **P 00 15 25.1 +0.2**
UCM *e*S **S 00 19 49.5 -4.4**
VLC Villacollemand 25.80 129 P **P 00 15 25.0 0.0**
ZCCA Zocca 25.82 128 P **P 00 15 25.1 -0.2**
CEY Cerknica 25.83 122 *e*P **P 00 15 26.5 +1.1**
KECS Kecovo 25.91 110 *e*P **P 00 15 29.1 +3.1**
KECS pmax pmax
comp=Z,39nm,1.4s
KECS Kecovo 25.91 110 *e*P **P 00 15 29.1 +3.1**
KWP Kalwaria Pacla 25.91 106 *e*P **P 00 15 26.6 +0.6**
KWP Kalwaria Pacla 25.91 106 P **P 00 15 26.9 +0.9**
KWP pmax pmax
comp=Z,460nm,1.4s
KWP Kalwaria Pacla 25.91 106 P **P 00 15 26.9 +0.9**
LSH Leshukonskoye 25.96 61 *e*P **P 00 15 25.1 -1.2**
comp=Z,108nm,1.2s
LSH *e*S **S 00 19 54.5 -1.7**
CRVS Cervenica-Dubn 25.97 109 *e*P **P 00 15 27.7 +1.1**
CRVS pmax pmax
comp=Z,267nm,1.8s
CRVS Cervenica-Dubn 25.97 109 *e*P **P 00 15 27.7 +1.1**
PMRV Marv??o 25.97 162 *e*P **P 00 15 28.1 +1.5**
comp=Z,108nm,1.8s
PMRV *e*S **S 00 20 05.4 +8.5**
PMRV *e*LR LR 00 24 30.6
comp=Z,1µm,18.0s
KNDS Knezji Dol 26.00 122 *e*P **P 00 15 28.6 +1.7**
SCHQ Schefferville 26.04 271 P **P 00 15 25.1 -2.0**
comp=Z,22nm,0.8s,baz=38,slow=8.3,SNR=18
SCHQ Schefferville 26.04 271 P **P 00 15 26.0 -1.1**
BEHE Becsehely 26.09 118 *e*P **P 00 15 30.2 +2.5**
DRLN Deer Lake 26.12 253 P **P 00 15 28.8 +0.9**
DRLN IAmb IAmb 00 15 32.4
comp=Z,160nm,1.8s
PSZ Piszkesteto 26.12 112 ⇓P **P 00 15 29.4 +1.4**
PSZ Piszkesteto 26.12 112 ⇓P **P 00 15 29.4 +1.4**
CRES Cresnjev 26.14 120 *e*P **P 00 15 26.5 -1.6**
GCIS Gornji Cirnik 26.17 120 *e*P **P 00 15 28.9 +0.5**
GCIS *e* 00 20 25.6
PMAFR Mafra 26.21 165 *e*P **P 00 15 30.4 +1.6**
comp=Z,189nm,1.8s
PMAFR *e*S S 00 20 13.3 +13
ESBB Sonseca Array 26.26 156 IAmb IAmb 00 15 35.1
comp=Z,125nm,1.9s
ESDC Sonseca Array 26.26 156 P **P 00 15 28.4 -0.9**
comp=Z,5.5nm,0.8s,baz=348,slow=8.7,SNR=46
KOLS Kolonicke sedl 26.28 108 *e*P **P 00 15 30.8 +1.5**
KOLS pmax pmax
comp=Z,162nm,1.7s
KOLS Kolonicke sedl 26.28 108 *e*P **P 00 15 30.8 +1.5**
LVV L'vov 26.32 104 *e*P **P 00 15 30.0 +0.3**
LVV *e* 00 16 30.0
LVV *e*S **S 00 19 59.5 -2.7**
LVV pmax pmax
comp=Z,270nm,1.4s
LVV MLR MLR
comp=N,2µm,12.0s
LVV MLR MLR
comp=E,2µm,12.0s
LVV MLR MLR
comp=Z,1µm,12.0s
PAB San Pablo 26.32 157 P **P 00 15 30.7 +0.8**
PAB pmax pmax
comp=Z,166nm,2.0s
PAB San Pablo 26.32 157 P **P 00 15 30.7 +0.8**
PAB IAmb IAmb 00 15 35.9
comp=Z,166nm,1.9s
BOJS Bojanci 26.34 121 *e*P **P 00 15 30.3 +0.4**
RES Resolute Bay 26.46 324 P **P 00 15 30.7 0.0**
comp=Z,7.3nm,0.9s,baz=59,slow=10,SNR=2.4
RES Resolute Bay 26.46 324 P **P 00 15 31.2 +0.5**
RES pmax pmax
comp=Z,67nm,1.4s
RES Resolute Bay 26.46 324 P **P 00 15 31.2 +0.5**
RES IAmb IAmb 00 15 38.0
comp=Z,67nm,1.4s
LIS Lisbon 26.46 165 *e*P **P 00 15 33.2 +2.2**
comp=Z,99nm,2.1s
UZH Uzhgorod 26.52 108⇑ *i*P **P 00 15 33.3 +1.8**
UZH *e* 00 15 39.5
UZH *e*S **S 00 20 05.3 -0.1**
OSSC Osservatorio P 26.65 129 P **P 00 15 33.1 +0.4**
OSSC IAmb IAmb 00 15 39.4
comp=Z,111nm,1.3s
EVO Evora 26.78 163 *e*P **P 00 15 33.0 -0.9**
EVO *e*S **S 00 20 12.7 +3.2**
EVO Evora 26.78 163 *e*P **P 00 15 35.6 +1.7**
comp=Z,51nm,2.1s
MORH Mrgy, Hungar 27.02 116 *e*P **P 00 15 34.8 -1.2**
PNCL Nicolau / Gran 27.13 164 *e*P **P 00 15 38.3 +1.3**
comp=Z,46nm,1.9s
PNCL *e*S S 00 20 31.1 +16
PBEJ Beja 27.29 163 *e*P **P 00 15 40.0 +1.5**
comp=Z,51nm,2.1s
MURB Monte Urbino 27.31 127 IAmb IAmb 00 16 02.9
comp=Z,120nm,1.5s
CMLA Cha da Macela 27.37 194 P **P 00 15 39.9 +0.7**
CMLA pmax pmax
comp=Z,252nm,1.8s
CMLA Cha da Macela 27.37 194 P **P 00 15 39.9 +0.7**
PRGR Permogore 27.62 67 *e*P **P 00 15 40.5 -0.7**
comp=Z,89nm,1.8s
PRGR *e*S **S 00 20 21.4 -1.1**
PRGR Permogore 27.62 67⇑ *i*P **P 00 15 40.5 -0.7**
LATE Laterza 27.64 129 P **P 00 15 42.0 +0.3**
PTEO Sao Teotonio 27.66 165 *e*P **P 00 15 43.3 +1.4**
comp=Z,90nm,1.9s
BLY Banja Luka 27.70 119 *e*P **P 00 15 40.9 -1.2**
HORN Hornachuelos 27.83 159 P **P 00 15 47.4 +4.0**
SNR=8.1
AKASG Malin Array Be 27.84 98 P **P 00 15 43.4 +0.1**
comp=Z,7.9nm,0.8s,baz=322,slow=9.8,SNR=30
AKASG LR LR 00 26 03.2
comp=Z,2µm,21.6s,baz=40,slow=35
AKBB Malin Array Si 27.84 98 IAmb IAmb 00 15 46.2
comp=Z,75nm,1.4s
MAHO Mahon 27.87 142 *e*P **P 00 15 42.7 -0.9**
MAHO *e*Lr 00 25 35.7
OBN Obninsk 27.88 84 P **P 00 15 44.2 +0.5**
comp=Z,5.6nm,0.4s,baz=317,slow=2.1,SNR=16
OBN Obninsk 27.88 84*ce*P **P 00 15 43.5 -0.1**
OBN *e*PPP PPP 00 16 38.9
OBN *e* 00 18 58.4
OBN *e*S **S 00 20 26.4 -0.2**
OBN pmax pmax
comp=Z,238nm,2.5s
OBN MLR MLR
comp=Z,1µm,17.0s
OBN Obninsk 27.88 84 P **P 00 15 43.1 -0.6**
NRCA Norcia 27.89 127 P **P 00 15 43.6 -0.4**
NRCA IAmb IAmb 00 16 09.4
comp=Z,97nm,1.7s
MORF Marmelete 27.91 165 *e*P **P 00 15 45.6 +1.5**
comp=Z,56nm,1.6s
MOS Moscow 27.92 82 *e*P **P 00 15 42.0 -2.0**
MOS *e* 00 16 39.2
MOS *e*S **S 00 20 28.8 +1.6**
MOS pmax pmax
comp=Z,600nm,3.1s
MOS pmax pmax
comp=Z,124nm,2.3s
MGRS Mrkonjic Grad 27.94 120 *e*P P 00 15 53.0 +8.6
SESP Santiago Espad 28.03 154 P **P 00 15 48.1 +2.8**
SNR=5.9
PBDV Barranco-do-Ve 28.06 164 *e*P **P 00 15 47.1 +1.7**
comp=Z,42nm,1.9s
PBDV *e*S S 00 20 46.0 +16
PFVI Vila Bisbo 28.06 165 *e*P **P 00 15 48.2 +2.8**
comp=Z,58nm,1.5s
PFVI *e*S S 00 20 43.2 +13
PFVI Vila Bisbo 28.06 165 P **P 00 15 47.2 +1.8**
PFVI IAmb IAmb 00 16 29.7
comp=Z,40nm,1.1s
SIRR Siria 28.17 112 ⇑P **P 00 15 48.6 +2.2**
FRGS Fruska Gora 28.36 115 *e*P **P 00 15 48.1 +0.1**
AQU L'Aquila 28.41 127 P **P 00 15 49.2 +0.6**
AQU pmax pmax
comp=Z,33nm,1.1s
AQU L'Aquila 28.41 127 *e*P **P 00 15 49.9 +1.3**
AQU L'Aquila 28.41 127 P **P 00 15 49.1 +0.6**
BUR08 Bucovina Ar. S 28.50 106 P **P 00 15 49.6 +0.3**
BUR08 IAmb IAmb 00 15 53.7
comp=Z,142nm,1.9s
BURAR Bucovina Array 28.53 106 ⇑P **P 00 15 50.0 +0.4**
BURAR Bucovina Array 28.53 106 ⇑P **P 00 15 50.0 +0.4**
CJR Cluj-Napoca 28.59 109 ⇑P **P 00 15 51.2 +1.1**
CJR Cluj-Napoca 28.59 109 ⇑P **P 00 15 51.2 +1.1**
ARCR ARCALIA 28.60 108 ⇓P **P 00 15 52.0 +1.9**
BZS Buzias 28.68 113 ⇑P **P 00 15 52.8 +1.9**
BZS Buzias 28.68 113 ⇑P **P 00 15 52.8 +1.9**
TEKS Tekeris 28.76 116 *e*P **P 00 15 53.2 +1.6**
INTR Introdacqua 28.89 127 P **P 00 15 52.2 -0.7**
INTR IAmb IAmb 00 16 19.3
comp=Z,68nm,1.6s
EMAL Malaga-Limoner 29.02 158 *e*P **P 00 15 51.5 -2.4**
EMAL *i* S S 00 20 53.1 +8.2
SFS San Fernando 29.05 161 *e*P **P 00 15 55.6 +1.5**
BBLS Lazići 29.29 117 *e*P **P 00 15 59.0 +2.6**
DIVS Divibare 29.32 116 *e*P **P 00 15 56.9 +0.3**
DIVS Divibare 29.32 116 P **P 00 15 55.8 -0.8**
DIVS IAmb IAmb 00 16 00.3
comp=Z,77nm,1.8s
MDVR Moldovita 29.41 114 ⇑P **P 00 15 59.4 +1.9**
SORM Soroca 29.43 102 ⇓P **P 00 15 57.4 0.0**
SORM Soroca 29.43 102 ⇓P **P 00 15 57.4 0.0**
HERR Herculane 29.61 113 ⇑P **P 00 16 01.7 +2.6**
LOT Lotru 29.68 110 ⇓P **P 00 16 02.1 +2.1**
CEU Ceuta 29.73 160 *e*P **P 00 15 56.9 -3.2**
DOPR Dopca 29.92 108 ⇑P **P 00 16 03.9 +2.0**
OZUR 29.98 107 ⇓P **P 00 16 03.4 +1.0**
PAOL Paolisi 29.99 127 P **P 00 16 01.9 -0.7**
PAOL IAmb IAmb 00 16 05.6
comp=Z,63nm,1.5s
TESR Tescani 30.00 106 ⇑P **P 00 16 03.7 +1.1**
ARR Arges 30.10 109 ⇑P **P 00 16 04.9 +1.3**
VOIR 30.21 109 ⇓P **P 00 16 06.5 +2.0**
VOIR 30.21 109 ⇓P **P 00 16 06.5 +2.0**
PDG Podgorica 30.46 119 *e*P **P 00 16 08.4 +1.8**
PDG Podgorica 30.46 119 P **P 00 16 04.2 -2.4**
PDG IAmb IAmb 00 16 06.0
comp=Z,52nm,1.5s
PLOR Plostina 30.53 107 ⇓P **P 00 16 07.8 +0.5**
PLOR Plostina 30.53 107 ⇓P **P 00 16 07.8 +0.5**
MLR Muntele Rosu 30.53 108 P **P 00 16 08.1 +0.6**
comp=Z,12nm,1.1s,baz=324,slow=5.7,SNR=14
MLR Muntele Rosu 30.53 108 ⇓P **P 00 16 09.1 +1.7**
MLR Muntele Rosu 30.53 108 P **P 00 16 07.3 -0.2**

MLR pmax pmax
comp=Z,149nm,1.9s
MLR Muntele Rosu 30.53 108 P **P 00 16 07.3 -0.2**
VRI Vrincioaia 30.55 106 ⇑P **P 00 16 08.7 +1.2**
VRI Vrincioaia 30.55 106 ⇑P **P 00 16 08.7 +1.2**
MILM Milestii Mici 30.58 103 ⇓P **P 00 16 08.3 +0.7**
LPSR Galich'ya Gora 30.63 86 *e*P **P 00 16 07.3 -0.7**
LPSR *e*S S 00 21 18.3 +8.4
LPSR pmax pmax
comp=Z,40nm,1.3s
LPSR smax smax
comp=E,710nm,10.2s
DRME Dracevica, Mon 30.64 119 *e*P **P 00 16 10.0 +1.7**
RSA Sarsar 30.66 161 P P 00 16 14.0 +5.5
SNR=6.3
MELI Melilla 30.71 156 *e*P **P 00 16 10.0 +1.1**
NEHR Nehoiu 30.73 107 ⇑P **P 00 16 10.1 +1.0**
GOG Mont Gurugu 30.77 156 P P 00 16 15.0 +5.5
SNR=5.7
GBN Guysborough 30.83 253 P **P 00 16 10.3 +0.4**
GBN IAmb IAmb 00 16 12.7
comp=Z,110nm,1.9s
KIRV Kirov 30.98 69 P **P 00 16 11.3 +0.3**
comp=Z,28nm,0.9s,baz=310,slow=8.0,SNR=18
BATG Bathurst New B 31.24 260 P **P 00 16 12.9 -0.6**
BATG IAmb IAmb 00 16 20.3
comp=Z,102nm,1.8s
TAF Taforalt 31.27 156 P P 00 16 19.1 +5.2
SNR=5.6
PMPST Porto Santo, M 31.63 178 *e*P **P 00 16 18.0 +1.0**
comp=Z,118nm,1.6s
PMPS Porto Santo 31.65 178 *e*P **P 00 16 19.1 +1.9**
comp=Z,115nm,1.4s
JBK JBK 31.71 156 P P 00 16 23.0 +5.0
SNR=7.7
VSR Storozhevoye 31.73 88 *e*P **P 00 16 17.1 -0.7**
VSR *e*S **S 00 21 23.1 -4.0**
VSR pmax pmax
comp=Z,80nm,1.6s
VSR smax smax
comp=N,290nm,5.8s
VTS Vitosha 31.83 114 P **P 00 16 21.9 +3.0**
VTS Vitosha 31.83 114 P **P 00 16 21.9 +3.0**
LMN Caledonia Moun 31.84 257 P **P 00 16 19.7 +0.9**
TOPG Topolog 32.04 106 ⇓P **P 00 16 21.0 +0.5**
FUL Funchal 32.06 179 *e*P **P 00 16 23.5 +2.8**
comp=N,131nm,2.3s
VLO Vlora 32.25 121 P **P 00 16 25.2 +2.8**
D63A Stockholm 32.30 262 P **P 00 16 24.2 +1.4**
baz=38
HAL Halifax 32.32 254 P **P 00 16 23.3 +0.4**
HAL pmax pmax
comp=Z,41nm,1.4s
HAL Halifax 32.32 254 P **P 00 16 23.3 +0.4**
HAL IAmb IAmb 00 16 24.4
comp=Z,41nm,1.4s
SZH Strazhica 32.36 110 P **P 00 16 24.0 +0.6**
SZH Strazhica 32.36 110 P **P 00 16 24.0 +0.6**
CORL Corleone 32.39 131 P **P 00 16 24.3 +0.6**
TIRR Tirgusor 32.39 106 P **P 00 16 23.3 -0.3**
TIRR pmax pmax
comp=Z,204nm,1.5s
TIRR Tirgusor 32.39 106 P **P 00 16 23.3 -0.3**
TIP Timpagrande 32.40 125 P **P 00 16 23.9 0.0**
TIP IAmb IAmb 00 16 44.9
comp=Z,48nm,1.7s
KKB Krupnik 32.41 115 P **P 00 16 24.0 +0.2**
KKB Krupnik 32.41 115 P **P 00 16 24.0 +0.2**
PQI Presque Isle 32.55 261 P **P 00 16 24.7 -0.2**
PQI IAmb IAmb 00 16 27.4
comp=Z,46nm,1.5s
CZD Col de Zad 32.59 160 P P 00 16 32.0 +6.2
SNR=6.7
CLTB Caltabellotta 32.65 131 IAmb IAmb 00 16 31.4
comp=Z,67nm,1.2s
D62A Allapoint, All 32.66 263 P **P 00 16 27.2 +1.2**
baz=39
D62A Allapoint, All 32.66 263 P **P 00 16 26.1 +0.1**
CHGQ Chibougamau 32.79 271 P **P 00 16 26.4 -0.7**
baz=42,SNR=7.0
VRH Novokhopyorsk 32.84 85 *e*P **P 00 16 26.4 -1.1**
VRH pmax pmax
comp=Z,70nm,1.3s
MDT Midelt 32.87 160 P **P 00 16 27.6 -0.4**
comp=Z,16nm,1.0s,baz=4.5,slow=9.0,SNR=18
MDT LR LR 00 30 13.5
comp=Z,761nm,18.6s,baz=28,slow=37
MMB Musomiste 32.90 114 P **P 00 16 28.3 +0.2**
MMB Musomiste 32.90 114 P **P 00 16 28.3 +0.2**
E63A Oxbow 32.91 261 P **P 00 16 29.1 +0.9**
baz=38
E63A Oxbow 32.91 261 P **P 00 16 27.9 -0.3**
E63A IAmb IAmb 00 16 29.7
comp=Z,61nm,1.8s
CEL Celeste 32.92 127 P **P 00 16 28.4 -0.1**
CEL IAmb IAmb 00 16 38.1
comp=Z,79nm,2.0s
SRN Sarande 32.95 121 P **P 00 16 27.8 -0.8**
PRD Provadia 33.01 109 P **P 00 16 30.0 +1.0**
PRD Provadia 33.01 109 P **P 00 16 30.0 +1.0**
KEK Kerkira 33.02 121 P **P 00 16 30.2 +1.0**
D61A St Aubert, Com 33.06 264 P **P 00 16 30.0 +0.6**
baz=39
NVR Nevrokopi 33.16 115 P **P 00 16 31.5 +1.1**
KEST Kesra 33.17 138 P **P 00 16 30.4 -0.2**
comp=Z,7.4nm,0.9s,baz=248,slow=2.1,SNR=9.6
KEST LR LR 00 30 33.3
comp=Z,885nm,18.2s,baz=16,slow=37
KEST Kesra 33.17 138 P **P 00 16 30.3 -0.2**
RZN Rozhen 33.20 113 P **P 00 16 31.0 0.0**
RZN Rozhen 33.20 113 P **P 00 16 31.0 0.0**
E62A Clayton Lake 33.23 263 P **P 00 16 30.4 -0.6**
SRS Serrai 33.25 115 P **P 00 16 30.9 -0.3**
IGT Igoumenitsa 33.38 120 P **P 00 16 32.9 +0.6**
KPRO Kipourio 33.40 119 P **P 00 16 32.9 +0.4**
SOH Sokhos 33.41 116 P **P 00 16 33.5 +0.9**
JAN Janina 33.47 120 P **P 00 16 33.5 +0.4**
HORT Hortiatis 33.50 116 P **P 00 16 34.5 +1.0**
G65A Princeton 33.52 259 P **P 00 16 32.3 -1.2**
G65A IAmb IAmb 00 16 36.0
comp=Z,70nm,1.9s
D60A Saint Jean D'O 33.60 264 P **P 00 16 34.2 +0.1**
baz=39
LIT Litokhoron 33.70 117 P **P 00 16 34.9 -0.2**
LIT Litokhoron 33.70 117 P **P 00 16 35.2 +0.1**
LIT pmax pmax
comp=Z,141nm,2.0s
LIT Litokhoron 33.70 117 P **P 00 16 35.2 +0.1**
F63A Nahmakanta, Br 33.77 261 P **P 00 16 35.9 +0.2**
baz=37
F63A Nahmakanta, Br 33.77 261 P **P 00 16 36.2 +0.5**
E61A Lac Etchemin 33.79 263 P **P 00 16 36.2 +0.4**
baz=38
PLG Polygyros 33.83 116 P **P 00 16 37.2 +0.9**
EMMW East Machias 33.87 258 P **P 00 16 35.4 -1.1**
EDRB Edirne 33.88 111 P **P 00 16 36.6 0.0**
THL Klokotos Trika 33.98 118 P **P 00 16 35.9 -1.6**
G64A Maxfield 33.99 260 P **P 00 16 36.8 -0.7**
baz=37
F62A Pittston Farm, 33.99 262 P **P 00 16 38.1 +0.6**
baz=38,SNR=6.2
F62A Pittston Farm, 33.99 262 P **P 00 16 38.2 +0.6**
F62A IAmb IAmb 00 16 40.1
comp=Z,69nm,1.6s
RDO Rodhopi 33.99 113 P **P 00 16 37.2 -0.4**
LATQ La Tuque 34.03 267 P **P 00 16 38.5 +0.7**
THAS Thassos island 34.13 114 P **P 00 16 40.2 +1.4**
LKD2 Lefkada island 34.15 121 P **P 00 16 38.6 -0.5**
PKME Peaks-Kenny Pk 34.20 261 P **P 00 16 38.6 -0.8**
baz=37
PKME Peaks-Kenny Pk 34.20 261 P **P 00 16 39.8 +0.4**
PKME IAmb IAmb 00 16 46.0
comp=Z,59nm,1.6s
E60A Ste Agathe de 34.25 264 P **P 00 16 39.2 -0.6**
baz=38,SNR=6.7
D58A Chemin du LacG 34.29 266 P **P 00 16 40.4 +0.2**
baz=39,SNR=5.2
MATQ Matagami 34.30 274 P **P 00 16 39.1 -1.2**
baz=41
PAIG Paliouri 34.30 116 P **P 00 16 39.9 -0.4**
F61A St Evariste 34.36 263 P **P 00 16 41.2 +0.4**
baz=38
ALN Alexandroupoli 34.40 112 P **P 00 16 41.6 +0.4**
ALN Alexandroupoli 34.40 112 P **P 00 16 39.7 -1.4**

ALN pmax pmax
comp=Z,109nm,1.4s
ALN Alexandroupoli 34.40 112 P **P 00 16 39.7 -1.4**
FSK Fiskardo 34.41 121 P **P 00 16 41.6 +0.4**
G63A Kingsbury 34.46 261 P **P 00 16 41.9 +0.2**
baz=37
EVR Evrytania 34.47 119 P **P 00 16 41.6 -0.3**
LSQQ Lebel-sur-Quev 34.55 272 P **P 00 16 41.8 -0.5**
baz=41
SMTH Samothraki Isl 34.56 113 P **P 00 16 43.9 +1.3**
AGG Agios Georgios 34.58 118 P **P 00 16 41.9 -0.8**
XOR Xorichti 34.60 117 P **P 00 16 41.9 -1.1**
PVO Paravola 34.63 120 P **P 00 16 43.3 +0.2**
FCC Fort Churchill 34.66 297 P **P 00 16 43.0 -0.2**
FCC pmax pmax
comp=Z,41nm,1.3s
FCC Fort Churchill 34.66 297 P **P 00 16 43.0 -0.2**
FCC IAmb IAmb 00 16 45.5
comp=Z,41nm,1.3s
NEO Neokhori 34.67 117 P **P 00 16 42.3 -1.2**
VLS Valsamata 34.67 121 P **P 00 16 42.9 -0.6**
G62A West of Eustis 34.77 262 P **P 00 16 44.9 +0.6**
G62A IAmb IAmb 00 16 49.6
comp=Z,81nm,1.9s
F60A Warwick 34.78 264 P **P 00 16 44.8 +0.4**
baz=38
D57A Chemin Vers le 34.79 267 P **P 00 16 44.9 +0.4**
baz=39,SNR=9.9
ANX Ano Chora 34.80 119 P **P 00 16 43.7 -1.0**
EFP Efpalio 34.94 119 P **P 00 16 47.0 +1.2**
SERG Sergoula 35.01 119 P **P 00 16 47.6 +1.2**
E58A La Victoria 35.03 266 P **P 00 16 47.4 +0.9**
baz=38
AOS Alonnisos 35.04 116 P **P 00 16 45.3 -1.4**
TRIZ Trizonia 35.05 119 P **P 00 16 47.6 +0.8**
RLS Riolos of Patr 35.10 120 P **P 00 16 48.0 +0.8**
D56A ZEC Mazanza, M 35.13 268 P **P 00 16 47.8 +0.3**
baz=39,SNR=7.2
G61A St-Isidore-de- 35.14 263 P **P 00 16 48.1 +0.5**
baz=37
A36M Sachs Harbour 35.19 329 P **P 00 16 48.5 +0.8**
baz=45
DRO Drossia 35.28 120 P **P 00 16 51.0 +2.2**
E57A Chemin Saint G 35.37 267 P **P 00 16 46.7 -2.8**
baz=38,SNR=6.3
MOQ Mont Orford 35.43 264 P **P 00 16 50.9 +0.8**
D55A Sainte-Anne-du 35.47 269 P **P 00 16 50.3 0.0**
baz=39,SNR=6.8
VLDQ Val d'Or 35.47 272 P **P 00 16 50.4 0.0**
VLDQ IAmb IAmb 00 16 57.1
comp=Z,68nm,1.6s
H62A Milan 35.55 262 P **P 00 16 50.6 -0.5**
G60A Masonville 35.63 264 P **P 00 16 52.2 +0.4**
baz=37
E56A St. Veronique 35.65 268 P **P 00 16 51.8 -0.1**
baz=38,SNR=9.5
SIGR SIGRI 35.77 114 P **P 00 16 52.3 -0.7**
D54A Lac Fusel, La 35.87 270 P **P 00 16 52.3 -1.5**
baz=39,SNR=8.4
PRK Paraskevi 35.90 114 P **P 00 16 55.0 +0.9**
ANN Anapa 35.91 97 *e*P P 00 16 46.1 -8.0
ANN *e*SS SS 00 24 50.1 -18
ANN pmax pmax
comp=Z,36nm,1.0s
ANN MLR MLR
comp=N,2µm,17.0s
ANN MLR MLR
comp=E,735nm,14.0s
ANN MLR MLR
comp=Z,2µm,18.0s
G59A Clarenceville 36.01 264 P **P 00 16 56.6 +1.7**
baz=37
ITM Ithomi 36.04 120 P **P 00 16 55.6 +0.2**
VLX Vlachokerasia 36.04 120 P **P 00 16 56.3 +0.8**
ARU Arti 36.08 66 *d*/P **P 00 16 54.3 -1.1**
ARU S **S 00 22 35.2 +1.0**
ARU SS **SnSn 00 24 58.9 +0.3**
ARU pmax pmax
comp=Z,60nm,1.6s
ARU Arti 36.08 66 P **P 00 16 54.8 -0.6**
ARU IAmb IAmb 00 17 03.0
comp=Z,44nm,1.3s
LBNH Lisbon 36.15 262 P **P 00 16 57.1 +0.9**
LBNH pmax pmax
comp=Z,21nm,1.2s
LBNH Lisbon 36.15 262 P **P 00 16 57.1 +0.9**
VLY Voula,Athens 36.15 118 P **P 00 16 57.0 +0.7**
E55A Montcerf-Lytto 36.16 269 P **P 00 16 56.2 -0.1**
baz=38
I62A Tamworth 36.19 261 P **P 00 16 57.0 +0.5**
I62A IAmb IAmb 00 17 12.6
comp=Z,56nm,1.6s
H60A Morristown 36.22 263 P **P 00 16 56.8 0.0**
baz=37
G58A Ormstown 36.33 265 P **P 00 16 58.9 +1.2**
baz=37
D53A Lac Vacive, Po 36.38 271 P **P 00 16 58.0 -0.1**
baz=39,SNR=7.9
D53A Lac Vacive, Po 36.38 271 IAmb IAmb 00 17 00.8
comp=Z,45nm,1.2s
FRNY Flat Rock 36.38 265 P **P 00 16 59.5 +1.4**
FRNY IAmb IAmb 00 17 01.1
comp=Z,76nm,1.6s
NRIK Noril'sk 36.45 35 P **P 00 16 58.6 +0.1**
comp=Z,14nm,0.9s,baz=308,slow=6.3,SNR=14
I61A Oroboro, Fairl 36.52 262 P **P 00 16 59.6 +0.3**
baz=36
FFD Franklin Falls 36.65 261 P **P 00 17 01.4 +0.9**
FFD IAmb IAmb 00 17 04.2
comp=Z,120nm,1.9s
E54A Lac Daplat, Po 36.66 270 P **P 00 17 00.1 -0.4**
baz=38,SNR=6.4
ORIO Orleans, Innes 36.71 267 P **P 00 17 01.4 +0.5**
baz=38,SNR=5.5
D52A ZEK Kipawa Sen 36.76 271 P **P 00 17 00.0 -1.4**
baz=39,SNR=6.9
G57A Newington 36.76 266 P **P 00 17 01.2 -0.2**
baz=37,SNR=12
F55A Otter Lake 36.77 268 P **P 00 17 02.2 +0.8**
baz=38
C36M Paulatuk 36.82 325 P **P 00 17 02.1 +0.5**
baz=43,SNR=5.1
C36M Paulatuk 36.82 325 P **P 00 17 02.9 +1.3**
C36M IAmb IAmb 00 17 04.0
comp=Z,136nm,1.8s
MDUB Mudurnu 36.85 107 P **P 00 17 02.5 +0.2**
E53A Dumoine, Ponti 36.91 270 P **P 00 17 03.4 +0.8**
baz=38,SNR=14
H58A Gabriels 36.97 265 P **P 00 17 01.8 -1.4**
baz=37,SNR=5.6
LONY Lake Ozonia 36.98 265 P **P 00 17 03.7 +0.4**
baz=37,SNR=5.3
D51A Lot 18 Range I 37.09 272 P **P 00 17 04.1 -0.1**
baz=39,SNR=7.5
D50A G1974 Best Tow 37.23 273 P **P 00 17 05.1 -0.2**
baz=39,SNR=8.3
G55A Calabogie 37.39 268 P **P 00 17 07.4 +0.7**
baz=37,SNR=7.4
ILGA Ilgaz 37.40 104 P **P 00 17 08.4 +1.2**
ILGA IAmb IAmb 00 17 12.0
comp=Z,107nm,1.5s
ALGO Algonquin Park 37.41 270 P **P 00 17 07.7 +0.8**
baz=38,SNR=5.4
H57A Richville 37.45 266 P **P 00 17 08.8 +1.6**
baz=37
MANT Manisa 37.46 112 P **P 00 17 07.9 +0.2**
E51A G1948 Merrick 37.57 272 P **P 00 17 08.1 -0.2**
baz=38,SNR=5.9
ACCN Adirondack Com 37.58 263 P **P 00 17 07.9 -0.5**
H56A Elgin 37.72 267 P **P 00 17 10.5 +1.0**
baz=37
D49A Beulah Townshi 37.80 274 P **P 00 17 10.4 +0.2**
baz=39
G54A Lake Saint Pet 37.87 269 P **P 00 17 10.9 +0.2**
baz=38,SNR=7.0
J59A Piesco 37.87 264 P **P 00 17 12.1 +1.2**
baz=36
J59A Piesco 37.87 264 P **P 00 17 11.1 +0.2**
I58A Old Forge 37.89 265 P **P 00 17 12.7 +1.6**
baz=36
I57A Carthage 37.99 266 P **P 00 17 12.6 +0.8**
baz=36,SNR=5.4
BR231 Keskin MP Arra 38.03 106 P **P 00 17 12.6 +0.3**
SANT Santorini 38.09 117 P **P 00 17 12.3 -0.4**
TRY Troy 38.11 263 P **P 00 17 14.4 +1.6**
GOF Gofitskoye 38.12 91 ⇑/P **P 00 17 13.9 +1.0**

GOF pmax pmax
comp=Z,289nm,1.4s
H55A Tweed 38.15 268 P **P 00 17 13.9 +0.7**
baz=37,SNR=6.4
BOLV Bolvadin 38.23 109 P **P 00 17 15.7 +1.6**
J58A Remsen 38.29 265 P **P 00 17 14.8 +0.4**
baz=36,SNR=5.6
DELO Deloro Mine 38.36 268 P **P 00 17 15.6 +0.6**
BR131 Keskin Array S 38.48 105 P **P 00 17 17.9 +1.7**
SNR=23
BR131 Keskin Array S 38.48 105 P **P 00 17 17.1 +0.9**
BR131 pmax pmax
comp=Z,114nm,1.6s
BR131 Keskin Array S 38.48 105 P **P 00 17 17.1 +0.9**
BR131 IAmb IAmb 00 17 21.0
comp=Z,114nm,1.6s
BRTR Keskin Array B 38.48 105 P **P 00 17 16.5 +0.3**
comp=Z,18nm,1.1s,baz=332,slow=6.7,SNR=35
BRTR Keskin Array B 38.48 105 *c*eP **P 00 17 18.2 +2.0**
BRTR pmax pmax
comp=Z,18nm,1.1s
J57A Williamstown 38.56 265 P **P 00 17 18.3 +1.7**
baz=36
J57A Williamstown 38.56 265 **P 00 17 16.6 0.0**
PECO Prince Edward 38.56 267 P **P 00 17 17.9 +1.3**
K59A Cooperstown 38.58 264 P **P 00 17 16.3 -0.5**
baz=35
D47A Chapleau 38.72 275 P **P 00 17 17.8 -0.1**
baz=39,SNR=9.8
H53A Bobcygeon 38.73 269 P **P 00 17 19.2 +1.2**
baz=37,SNR=7.3
E48A Lockeyer 38.76 274 P **P 00 17 18.6 +0.3**
baz=38
ISP Isparta 38.82 110 P **P 00 17 19.7 +0.7**
ISP pmax pmax
comp=Z,103nm,1.9s
ISP Isparta 38.82 110 P **P 00 17 19.7 +0.7**
ISP IAmb IAmb 00 17 22.3
comp=Z,103nm,1.9s
IDI Anoyia 38.83 118 IAmb IAmb 00 17 20.7
comp=Z,93nm,1.6s
KIV Kislovodsk 38.84 92 *i* P **P 00 17 20.7 +1.6**
SNR=26
KIV Kislovodsk 38.84 92 *e*P **P 00 17 19.5 +0.4**
KIV *e*S **S 00 23 17.3 +0.6**
KIV pmax pmax
comp=Z,425nm,4.8s
KIV pmax pmax
comp=Z,69nm,0.9s
KIV MLR MLR
comp=Z,3µm,16.0s
KIV Kislovodsk 38.84 92 P **P 00 17 20.8 +1.7**
KIV IAmb IAmb 00 17 23.5
comp=Z,83nm,1.4s
KSCT Kent School, K 38.86 261 P **P 00 17 18.9 -0.2**
K58A Earlville 38.93 265 P **P 00 17 20.0 +0.2**
baz=36
K58A Earlville 38.93 265 P **P 00 17 21.0 +1.2**
J56A Wolcott 39.03 266 P **P 00 17 21.5 +0.9**
KBZ Khabaz 39.12 92 P **P 00 17 21.9 +0.7**
comp=Z,19nm,1.0s,baz=323,slow=7.8,SNR=19
TOKA Tokat 39.17 102 P **P 00 17 21.7 -0.1**
YKA Yellowknife Ar 39.20 313 P **P 00 17 21.5 -0.3**
comp=Z,5.2nm,0.9s,baz=41,slow=8.8,SNR=7.3
D46A Sault St. Mari 39.24 276 P **P 00 17 22.9 +0.6**
baz=38,SNR=6.9
WSPT Westport, CT 39.25 261 P **P 00 17 24.2 +1.8**
E47A Iron Bridge 39.26 275 P **P 00 17 22.9 +0.4**
baz=38,SNR=9.3
F49A Sandfield 39.27 273 P **P 00 17 21.7 -0.9**
baz=38,SNR=8.0
J55A Hilton 39.45 267 P **P 00 17 25.4 +1.3**
F48A Evansville 39.47 274 P **P 00 17 23.6 -0.6**
baz=38
ELL Elmali 39.50 112 P **P 00 17 24.9 +0.1**
ELL pmax pmax
comp=Z,508nm,1.7s
ELL Elmali 39.50 112 P **P 00 17 24.9 +0.1**
PAL Palisades 39.63 261 P **P 00 17 26.5 +1.0**
PAL pmax pmax
comp=Z,79nm,1.9s
PAL Palisades 39.63 261 P **P 00 17 26.5 +1.0**
J54A Appleton 39.80 268 P **P 00 17 28.2 +1.2**
MEDO Medina 39.81 268 P **P 00 17 28.4 +1.4**
AKAS Kas 39.83 112 P **P 00 17 27.1 -0.3**
INK Inuvik 39.83 329 P **P 00 17 26.9 -0.1**
comp=Z,8.7nm,1.1s,baz=30,slow=13,SNR=16
INK Inuvik 39.83 329 P **P 00 17 27.3 +0.3**
INK pmax pmax
comp=Z,50nm,1.6s
INK Inuvik 39.83 329 P **P 00 17 27.3 +0.3**
M59A Waymart 39.84 263 P **P 00 17 28.5 +1.1**
baz=35
MMNY Mt. Morris Dam 39.92 267 P **P 00 17 28.9 +0.9**
KSPA Keystone Colle 39.97 264 P **P 00 17 28.8 +0.4**
L57A Andrews Acres 40.07 265 P **P 00 17 31.4 +2.1**
baz=35
BRNJ Basking Ridge 40.18 262 P **P 00 17 30.1 0.0**
L56A Greenwood 40.26 266 P **P 00 17 32.5 +1.7**
baz=35,SNR=6.2
L56A Greenwood 40.26 266 P **P 00 17 31.4 +0.5**
AKTO Aktyubinsk 40.28 73 P **P 00 17 31.0 +0.1**
ZEI Tsey 40.31 92 *e*P **P 00 17 33.0 +1.5**
ZEI pmax pmax
comp=Z,48nm,1.7s
WVNY West Valley, N 40.49 267 P **P 00 17 33.8 +1.0**
WVNY IAmb IAmb 00 17 36.1
comp=Z,76nm,1.4s
N59A State Game Lan 40.50 263 P **P 00 17 34.1 +1.3**
FFC Flin Flon 40.59 297 P **P 00 17 35.5 +2.1**
FFC pmax pmax
comp=Z,123nm,1.7s
FFC Flin Flon 40.59 297 P **P 00 17 35.5 +2.1**
FFC IAmb IAmb 00 17 40.6
comp=Z,123nm,1.6s
LUPA Lehigh Univers 40.59 262 P **P 00 17 33.4 -0.2**
L55A Hinsdale 40.60 267 P **P 00 17 33.2 -0.4**
baz=35
M57A Sunshine Farm, 40.73 265 P **P 00 17 33.9 -0.9**
baz=35
M57A Sunshine Farm, 40.73 265 P **P 00 17 35.7 +1.0**
E43A Lone Tree Farm 40.91 278 IAmb IAmb 00 17 42.9
comp=Z,82nm,1.9s
L54A Sinclairville 40.94 267 P **P 00 17 37.4 +0.9**
baz=35
N58A Sunbury 40.96 264 P **P 00 17 37.6 +1.0**
baz=34
N58A Sunbury 40.96 264 P **P 00 17 37.7 +1.1**
D41A Chassel 41.04 280 P **P 00 17 38.1 +0.9**
D41A IAmb IAmb 00 17 41.9
comp=Z,138nm,1.9s
M56A Emporium 41.06 266 P **P 00 17 37.7 +0.2**
baz=35
M56A Emporium 41.06 266 P **P 00 17 37.8 +0.4**
I49A Point Hope 41.06 272 P **P 00 17 38.5 +1.1**
I49A IAmb IAmb 00 17 40.5
comp=Z,50nm,1.1s
GLMI Grayling 41.12 275 P **P 00 17 38.7 +0.8**
baz=37
GLMI Grayling 41.12 275 P **P 00 17 38.8 +0.8**
GLMI IAmb IAmb 00 17 41.1
comp=Z,128nm,1.4s
KOPT Kop Dagi 41.13 98 P **P 00 17 40.1 +1.7**
AKH Akhalkalaki 41.26 94 P **P 00 17 40.2 +0.9**
AKH pmax pmax
comp=Z,174nm,1.5s
AKH Akhalkalaki 41.26 94 P **P 00 17 40.2 +0.9**
ERPA Erie 41.32 268 P **P 00 17 40.2 +0.6**
ERPA IAmb IAmb 00 17 46.4
comp=Z,93nm,1.6s
M55A Ridgway 41.33 266 P **P 00 17 38.0 -1.6**
baz=35
P60A Greenville 41.36 262 P **P 00 17 39.8 0.0**
N57A Milroy 41.39 265 P **P 00 17 40.4 +0.3**
baz=34
G45A Suttons Bay 41.40 276 P **P 00 17 41.1 +0.9**
G45A IAmb IAmb 00 17 42.0
comp=Z,139nm,1.8s
PAGS Pennsylvania G 41.47 263 P **P 00 17 42.3 +1.5**
PAGS IAmb IAmb 00 17 43.9
comp=Z,87nm,1.8s
MVL Millersville 41.50 263 P **P 00 17 41.7 +0.6**
TBLG Delisi 41.53 93 P **P 00 17 42.9 +1.6**
TBLG Delisi 41.53 93 P **P 00 17 42.9 +1.6**
N56A West Decatur 41.58 265 P **P 00 17 41.2 -0.5**

baz=34,SNR=5.5
EYMN Ely 41.58 283 P P 00 17 43.2 +1.5
baz=38
EYMN Ely 41.58 283 P P 00 17 42.7 +1.1
EYMN IAmb IAmb 00 17 48.4
comp=Z,72nm,1.6s
ULM Lac du Bonnet 41.60 289 P P 00 17 42.3 +0.6
comp=Z,6.8nm,0.9s,baz=29,slow=8.9,SNR=5.9
ULM Lac du Bonnet 41.60 289 P P 00 17 41.8 +0.1
ULM pmax pmax
comp=Z,65nm,1.6s
ULM Lac du Bonnet 41.60 289 P P 00 17 41.8 +0.1
SSPA Standing Stone 41.63 265 P P 00 17 42.7 +0.6
M54A Oil Creek Stat 41.68 267 P P 00 17 41.9 -0.7
baz=35,SNR=6.0
MAK Makhachkala 41.72 89 eP P 00 17 41.3 -1.5
MAK eS S 00 23 59.5 +0.2
MAK eSS SS 00 27 01.3 -3.2
MAK pmax pmax
comp=Z,127nm,1.5s
MAK MLR MLR
comp=Z,1µm,18.0s
ALLY Alegheny Colle 41.77 268 P P 00 17 43.1 -0.2
ALLY IAmb IAmb 00 17 50.2
comp=Z,72nm,1.5s
O57A Amberson 41.88 264 P P 00 17 46.2 +2.0
baz=34,SNR=5.7
F42A Maple Grove Fa 41.88 278 P P 00 17 45.0 +0.9
K50A Casco 41.92 271 P P 00 17 44.8 +0.3
K50A IAmb IAmb 00 17 47.9
comp=Z,81nm,1.4s
N55A Marion Center 41.98 266 P P 00 17 45.7 +0.6
baz=34
GAZ Gaziantep 42.13 104 P P 00 17 47.1 +0.7
GAZ IAmb IAmb 00 17 51.2
comp=Z,110nm,1.6s
M53A WI Miller and 42.17 268 P P 00 17 46.6 +0.1
M53A IAmb IAmb 00 17 49.7
comp=Z,96nm,1.6s
SDMD Soldier's Deli 42.20 263 P P 00 17 47.2 +0.4
O56A Blue Knob Stat 42.23 265 P P 00 17 47.2 +0.1
baz=34
O56A Blue Knob Stat 42.23 265 IAmb IAmb 00 17 54.3
comp=Z,98nm,1.9s
N54A Moraine State 42.27 267 P P 00 17 48.3 +1.0
baz=34,SNR=7.2
M52A Chesterland 42.38 269 P P 00 17 49.0 +0.7
M52A IAmb IAmb 00 17 55.3
comp=Z,173nm,1.8s
CSS Mathiatis 42.43 109 P P 00 17 49.6 +0.9
I45A Fountain 42.45 275 P P 00 17 48.9 +0.2
I45A IAmb IAmb 00 17 55.7
comp=Z,131nm,1.8s
J47A Sunmer 42.49 273 P P 00 17 49.9 +0.8
J47A IAmb IAmb 00 17 57.3
comp=Z,116nm,1.9s
O55A Ligonier 42.59 266 P P 00 17 50.9 +0.9
baz=34
P57A Homestead Farm 42.64 264 P P 00 17 51.0 +0.6
baz=34
E38A The Farm, Brul 42.66 282 P P 00 17 49.4 -1.0
TOLK Toolik Lake Re 42.74 336 P P 00 17 51.1 +0.2
baz=28,SNR=13
AAM Ann Arbor 42.75 271 P P 00 17 51.5 +0.3
AAM pmax pmax
comp=Z,92nm,1.8s
AAM Ann Arbor 42.75 271 P P 00 17 51.5 +0.3
AAM IAmb IAmb 00 17 55.7
comp=Z,92nm,1.8s
H43A Windswept, Lux 42.76 277 P P 00 17 52.5 +1.2
H43A IAmb IAmb 00 17 58.3
comp=Z,146nm,1.9s
N53A Lisbon 42.76 268 P P 00 17 52.6 +1.3
baz=34,SNR=5.2
N53A Lisbon 42.76 268 P P 00 17 51.5 +0.1
N53A IAmb IAmb 00 17 54.6
comp=Z,87nm,1.5s
M51A Elyria 42.91 269 P P 00 17 54.2 +1.8
baz=35
Q58A Fox Den Farm, 42.95 263 P P 00 17 54.4 +1.5
baz=33
AKT Akhty 43.02 90 eP P 00 17 53.5 -0.1
AKT e 00 19 31.5
AKT e 00 19 42.6
AKT eS S 00 24 24.0 +5.1
AKT pmax pmax
comp=Z,28nm,1.1s
O54A Avella 43.08 267 P P 00 17 54.7 +0.8
baz=34,SNR=5.1
O54A Avella 43.08 267 P P 00 17 54.2 +0.3
O54A IAmb IAmb 00 17 56.4
comp=Z,63nm,1.4s
AGMN Agassiz Nation 43.12 287 P P 00 17 53.9 -0.2
baz=38
AGMN Agassiz Nation 43.12 287 P P 00 17 54.7 +0.5
AGMN IAmb IAmb 00 18 00.9
comp=Z,67nm,1.6s
BRVK Borovoye 43.13 62 ceP P 00 17 53.0 -1.2
BRVK pmax pmax
comp=Z,101nm,2.5s
BRVK Borovoye 43.13 62 P P 00 17 54.0 -0.1
G40A Rib Lake 43.15 280 IAmb IAmb 00 18 01.2
comp=Z,129nm,1.8s
Q57A Strasburg 43.19 264 P P 00 17 56.1 +1.3
baz=33
M50A Fremont 43.22 270 P P 00 17 54.6 -0.4
M50A IAmb IAmb 00 17 58.4
comp=Z,51nm,1.1s
MCWV Mont Chateau 43.28 266 P P 00 17 56.7 +1.1
N51A Ashland 43.33 269 P P 00 17 56.4 +0.5
baz=34
N51A Ashland 43.33 269 IAmb IAmb 00 17 59.1
comp=Z,107nm,1.6s
L48A N Adams 43.37 272 IAmb IAmb 00 17 59.3
comp=Z,54nm,1.2s
O53A New Philadelph 43.38 268 P P 00 17 57.8 +1.4
baz=34,SNR=8.4
O53A New Philadelph 43.38 268 IAmb IAmb 00 17 59.9
comp=Z,120nm,1.6s
CBN Corbin Frederi 43.44 262 P P 00 17 57.8 +0.9
CBN IAmb IAmb 00 18 00.2
comp=Z,100nm,1.9s
MARD Mardin 43.51 100 P P 00 17 59.1 +1.5
Q56A Snyder Ridge, 43.51 265 P P 00 17 59.2 +1.7
baz=33
Q56A Snyder Ridge, 43.51 265 P P 00 17 58.1 +0.6
P54A Burton 43.60 266 P P 00 17 58.8 +0.6
baz=34
GEVA Gevas 43.64 97 P P 00 18 00.1 +1.4
GEVA IAmb IAmb 00 18 03.9
comp=Z,108nm,1.7s
I42A Draeger Farm, 43.71 277 P P 00 17 60.0 +1.0
O52A Adamsville 43.76 268 P P 00 17 59.7 +0.3
baz=34
O52A Adamsville 43.76 268 IAmb IAmb 00 18 02.8
comp=Z,109nm,1.6s
R57A Stanardsville 43.85 263 P P 00 18 01.9 +1.7
baz=33
R58B Mineral 43.86 263 P P 00 17 59.9 -0.3
Q55A Buckhannon 43.94 266 P P 00 18 02.4 +1.6
baz=33,SNR=6.3
O51A Pataskala 44.06 269 P P 00 18 01.5 -0.3
baz=34,SNR=7.7
F36A Milaca 44.08 283 P P 00 18 02.9 +1.0
P53A Whipple 44.09 267 P P 00 18 02.1 +0.1
baz=34,SNR=7.0
P53A Whipple 44.09 267 IAmb IAmb 00 18 05.7
comp=Z,99nm,1.4s
N49A Columbus Grove 44.10 271 IAmb IAmb 00 18 05.3
comp=Z,94nm,1.4s
COLD Coldfoot 44.11 336 P P 00 18 02.3 +0.4
baz=27
COLD Coldfoot 44.11 336 P P 00 18 02.9 +1.0
COLD IAmb IAmb 00 18 07.3
comp=Z,66nm,1.8s
L46A Eue Claire 44.12 274 P P 00 18 03.5 +1.3
R56A Bull Pasture M 44.14 264 P P 00 18 03.9 +1.4
baz=33,SNR=6.6
ACSO Alum Creek Sta 44.16 269 P P 00 18 02.6 0.0
baz=34
ACSO Alum Creek Sta 44.16 269 IAmb IAmb 00 18 05.7
comp=Z,90nm,1.6s
S58A Poland Farm, P 44.23 262 P P 00 18 03.8 +0.6
Q54A Coxs Mills 44.27 266 P P 00 18 04.8 +1.3
baz=33,SNR=6.3
Q54A Coxs Mills 44.27 266 IAmb IAmb 00 18 07.0
comp=Z,72nm,1.6s
P52A Corning 44.28 268 P P 00 18 04.1 +0.5
baz=34,SNR=7.0
P52A Corning 44.28 268 IAmb IAmb 00 18 06.7
comp=Z,67nm,1.4s
SPMN Marine on St. 44.29 282 P P 00 18 05.6 +2.1
baz=36
SPMN Marine on St. 44.29 282 P P 00 18 04.3 +0.7
SPMN IAmb IAmb 00 18 06.9
comp=Z,98nm,1.9s
BHL Bhannes 44.30 108 eP P 00 18 03.7 -0.2
K43A Burlington 44.42 276 P P 00 18 04.8 +0.1
K43A IAmb IAmb 00 18 08.0
comp=Z,53nm,1.1s
DQRL Deir Qamar 44.43 108 eP P 00 18 05.4 +0.4
I40A Norwalk 44.44 279 IAmb IAmb 00 18 12.0
comp=Z,110nm,1.9s
EGAK Eagle 44.47 329 P P 00 18 04.9 +0.1
S57A Dark Hollow, R 44.49 263 P P 00 18 06.6 +1.4
S57A IAmb IAmb 00 18 12.8
comp=Z,80nm,1.9s
D32A Dogwood Acres, 44.51 287 P P 00 18 07.1 +1.8
D32A IAmb IAmb 00 19 09.4
comp=Z,32nm,0.7s
TAM Tamanrasset 44.52 149 P P 00 18 05.8 0.0
TAM pmax pmax
comp=Z,94nm,1.9s
TAM Tamanrasset 44.52 149 P P 00 18 05.8 0.0
TAM IAmb IAmb 00 18 10.1
comp=Z,94nm,1.9s
R55A Marlinton 44.55 265 P P 00 18 06.1 +0.2
R55A IAmb IAmb 00 18 08.2
comp=Z,79nm,1.9s
T59A Double "B" Far 44.55 262 P P 00 18 07.5 +1.7
baz=32
T59A Double "B" Far 44.55 262 P P 00 18 06.9 +1.1
T59A IAmb IAmb 00 18 09.0
comp=Z,75nm,1.8s
QRWL Qaraoun 44.62 108 eP P 00 18 05.8 -0.6
Q53A Leroy 44.67 267 P P 00 18 07.8 +1.1
baz=33,SNR=8.0
L44A Lake County Fo 44.67 275 P P 00 18 07.8 +1.1
L44A IAmb IAmb 00 18 10.0
comp=Z,83nm,1.3s
DAWY Dawson 44.69 328 IAmb IAmb 00 18 09.2
comp=Z,94nm,1.8s
N47A Urbana 44.79 272 IAmb IAmb 00 18 11.7
comp=Z,77nm,1.7s
P51A Williamsport 44.81 269 P P 00 18 07.0 -0.8
baz=34
P51A Williamsport 44.81 269 IAmb IAmb 00 18 10.6
comp=Z,64nm,1.4s
SHBL Chebaa 44.82 108 eP P 00 18 08.4 +0.3
Q52A Bidwell 44.90 268 P P 00 18 09.1 +0.6
baz=33
HQIL Hanson Quary C 44.96 275 P P 00 18 09.5 +0.5
HQIL IAmb IAmb 00 18 12.2
comp=Z,75nm,1.2s
MMAI Mount Meron Ar 44.97 109 P P 00 18 09.9 +0.7
comp=Z,13nm,1.0s,baz=354,slow=5.8,SNR=5.9
MDND Maddock 45.00 289 P P 00 18 10.4 +1.1
MDND IAmb IAmb 00 18 12.2
comp=Z,57nm,1.2s
R54A Victor 45.01 266 P P 00 18 10.2 +0.8
baz=33
JFWS Jewell Farm 45.07 278 P P 00 18 10.2 +0.3
JFWS pmax pmax
comp=Z,65nm,1.8s
JFWS Jewell Farm 45.07 278 P P 00 18 10.2 +0.3
JFWS IAmb IAmb 00 18 14.5
comp=Z,65nm,1.8s
S55A Lewisburg 45.14 265 P P 00 18 11.6 +1.1
baz=33
U59A Littleton 45.18 261 P P 00 18 11.3 +0.5
U59A IAmb IAmb 00 18 16.6
comp=Z,49nm,1.9s
F33A 5 Mile Ranch, 45.25 285 P P 00 18 11.1 -0.2
F33A IAmb IAmb 00 18 18.4
comp=Z,95nm,1.8s
T57A Hurt 45.26 263 P P 00 18 12.7 +1.3
baz=32,SNR=5.3
T57A Hurt 45.26 263 IAmb IAmb 00 18 14.8
comp=Z,51nm,1.5s
RDOG Red Dog Mine 45.29 343 P P 00 18 12.2 +0.9
RDOG IAmb IAmb 00 18 18.0
comp=Z,52nm,1.5s
R53A Hurricane 45.29 267 P P 00 18 14.0 +2.4
baz=33
R53A Hurricane 45.29 267 P P 00 18 12.8 +1.1
Q51A Peebles 45.31 269 IAmb IAmb 00 18 14.8
comp=Z,67nm,1.4s
K27K Chicken 45.32 329 P P 00 18 12.0 +0.4
baz=30
VWCC Virginia Weste 45.36 264 P P 00 18 13.0 +0.8
V60A Jim Taylor Roa 45.46 260 P P 00 18 13.3 +0.4
V60A IAmb IAmb 00 18 16.2
comp=Z,72nm,1.7s
S54A Dingess, Beckl 45.46 266 P P 00 18 13.7 +0.6
S54A IAmb IAmb 00 18 15.3
comp=Z,51nm,1.6s
P49A Miami Univ. Ec 45.48 270 P P 00 18 12.9 -0.2
baz=34,SNR=7.1
P49A Miami Univ. Ec 45.48 270 IAmb IAmb 00 18 15.0
comp=Z,64nm,1.5s
L42A Oliver, Polo 45.57 276 P P 00 18 14.5 +0.7
L42A IAmb IAmb 00 18 20.6
comp=Z,73nm,1.4s
BLA Blacksburg 45.58 264 P P 00 18 14.1 +0.1
BLA pmax pmax
comp=Z,84nm,1.9s
BLA Blacksburg 45.58 264 P P 00 18 14.1 +0.1
BLA IAmb IAmb 00 18 18.8
comp=Z,84nm,1.9s
IL31 45.68 332 IAmb IAmb 00 18 21.8
comp=Z,79nm,1.7s
ILAR Eielson Array 45.68 332 P P 00 18 14.2 -0.2
comp=Z,5.1nm,1.0s,baz=18,slow=6.2,SNR=24
ILAR PcP PcP 00 19 51.1 -1.0
comp=Z,2.2nm,0.8s,baz=357,slow=2.8,SNR=8.2
U57A Blanch 45.77 263 P P 00 18 17.1 +1.6
baz=32
MDM Murphy Dome 45.77 333 IAmb IAmb 00 18 19.2
comp=Z,59nm,1.5s
COLA College 45.77 333 iP P 00 18 16.6 +1.5
COLA pmax pmax
comp=Z,20nm,1.0s
COLA College 45.77 333 P P 00 18 16.3 +1.1
COLA IAmb IAmb 00 18 22.7
comp=Z,27nm,0.9s
TCOL CIGO, UAF Yank 45.78 333 P P 00 18 18.3 +3.2
baz=27
SCRK Sand Creek 45.78 330 P P 00 18 15.2 -0.2
baz=29,SNR=17
SFIN Lafayette 45.80 273 P P 00 18 15.3 -0.4
baz=34
T55A Pulaski 45.81 265 P P 00 18 16.0 +0.1
baz=32
CCB Clear Creek Bu 45.97 333 IAmb IAmb 00 18 19.3
comp=Z,84nm,2.0s
HDA Harding Lake 46.01 332 P P 00 18 17.5 +0.5
baz=27,SNR=11
DOT Dot Lake 46.09 330 IAmb IAmb 00 18 20.8
comp=Z,68nm,1.7s
CNNC Cliffs of the 46.17 261 P P 00 18 19.4 +0.8
CNNC IAmb IAmb 00 19 02.5
comp=Z,20nm,0.5s
WRH Wood River Hil 46.18 333 IAmb IAmb 00 18 24.8
comp=Z,64nm,1.7s
L40A Anamosa 46.18 278 IAmb IAmb 00 18 26.5
comp=Z,35nm,1.2s
T54A Tazewell 46.20 265 P P 00 18 19.2 +0.3
baz=32,SNR=7.3
V58A Windy Hill, Pi 46.22 262 P P 00 18 19.8 +0.8
V58A IAmb IAmb 00 18 21.3
comp=Z,62nm,1.9s
NEA2 Nenana 46.26 333 P P 00 18 19.1 +0.1
baz=26,SNR=20
U56A King 46.29 264 P P 00 18 20.6 +1.1
baz=32
U56A King 46.29 264 P P 00 18 20.8 +1.2
U56A IAmb IAmb 00 18 26.7
comp=Z,62nm,1.4s
ASF Jabal al Asfar 46.31 108 P P 00 18 21.1 +1.2
comp=Z,11nm,1.1s,baz=306,slow=3.4,SNR=6.3
DGMT Dagmar 46.34 293 P P 00 18 21.6 +1.8
R50A Paris 46.35 269 P P 00 18 20.6 +0.5
V57A Coltrane Farms 46.42 263 P P 00 18 21.4 +0.8
baz=32
U55A TA2, Sparta 46.44 265 P P 00 18 20.7 -0.2
baz=32,SNR=9.9
E28A Huff 46.47 289 P P 00 18 21.4 +0.6
E28A IAmb IAmb 00 18 24.0
comp=Z,24nm,0.9s
P46A Rosedale 46.48 272 P P 00 18 22.8 +1.8
BLO Bloomington 46.56 272 P P 00 18 22.0 +0.4
BLO pmax pmax
comp=Z,132nm,1.9s
BLO Bloomington 46.56 272 P P 00 18 22.0 +0.4
O44A Mansfield 46.58 274 P P 00 18 22.3 +0.5
S51A Beattyville 46.58 268 IAmb IAmb 00 18 23.9
comp=Z,39nm,1.3s
HDIL Hopedale 46.60 275 P P 00 18 23.1 +1.2
baz=34
MENT Mentasta 46.64 330 P P 00 18 22.9 +0.9
MENT IAmb IAmb 00 18 30.0
comp=Z,73nm,1.8s
T53A Wise 46.68 266 P P 00 18 23.3 +0.6
baz=32,SNR=6.2
R49A Shelbyville 46.71 270 IAmb IAmb 00 18 30.6
comp=Z,69nm,1.9s
BWN Browne 46.72 333 P P 00 18 23.9 +1.3
U54A Nelsons Funny 46.76 265 P P 00 18 24.8 +1.4
baz=32
V56A Mocksville 46.79 263 P P 00 18 24.7 +1.1
baz=32,SNR=6.5
PAX Paxson 46.99 330 P P 00 18 25.8 +1.0
PAX pmax pmax
comp=Z,84nm,1.7s
PAX Paxson 46.99 330 P P 00 18 25.8 +1.0
HYT Haines Junctio 47.03 325 IAmb IAmb 00 18 42.3
comp=Z,39nm,1.6s
DLBC Dease Lake 47.07 318 IAmb IAmb 00 18 32.5
comp=Z,62nm,2.0s
V55A Taylorsville 47.07 264 P P 00 18 27.1 +1.4
baz=32,SNR=5.1
V55A Taylorsville 47.07 264 P P 00 18 26.1 +0.5
BPAW Bear Paw Mtn. 47.07 334 IAmb IAmb 00 18 35.8
comp=Z,38nm,1.4s
ECSD EROS Data Cent 47.09 284 P P 00 18 26.1 +0.3
baz=35,SNR=5.3
ECSD EROS Data Cent 47.09 284 P P 00 18 26.6 +0.8
ECSD IAmb IAmb 00 18 32.9
comp=Z,48nm,1.8s
W57A Gilead 47.14 263 P P 00 18 27.8 +1.6
baz=31
W57A Gilead 47.14 263 P P 00 18 26.9 +0.7
W57A IAmb IAmb 00 18 29.1
comp=Z,47nm,1.4s
SCIA State Center 47.16 279 P P 00 18 27.3 +1.0
WCI Wyandotte Cave 47.24 271 P P 00 18 26.3 -0.7
baz=33
WCI Wyandotte Cave 47.24 271 P P 00 18 26.8 -0.2
WCI pmax pmax
comp=Z,22nm,0.9s
WCI Wyandotte Cave 47.24 271 P P 00 18 26.8 -0.2
WCI IAmb IAmb 00 18 33.0
comp=Z,22nm,0.8s
RND Reindeer 47.29 333 IAmb IAmb 00 18 29.3
comp=Z,54nm,1.8s
Y60A Bolivia 47.37 260 P 00 18 26.8 -1.2
X58A Rowland 47.37 261 P P 00 18 28.8 +0.8
W56A Indian Trail 47.41 263 P P 00 18 28.7 +0.4
baz=31,SNR=5.0
V54A Nebo 47.44 265 P P 00 18 29.1 +0.4
baz=32,SNR=6.6
P43A Skaggs, Pawnee 47.45 275 P P 00 18 29.5 +0.8
TZTN Tazewell 47.48 267 P P 00 18 30.7 +1.8
baz=32,SNR=6.8
TZTN Tazewell 47.48 267 P P 00 18 29.7 +0.8
OLIL Olney 47.60 273 IAmb IAmb 00 18 36.4
comp=Z,50nm,1.3s
ZAA0 Zalesovo Array 47.63 51 IAmb IAmb 00 18 33.7
comp=Z,49nm,1.6s
ZALV Zalesovo Beam 47.63 51 P P 00 18 30.3 +0.5
comp=Z,8.1nm,1.0s,baz=325,slow=7.4,SNR=23
ZALV PcP PcP 00 20 00.2 +1.1
comp=Z,3.8nm,1.0s,baz=347,slow=4.6,SNR=4.4
ZALV Zalesovo Beam 47.63 51 iP P 00 18 30.7 +0.9
ZALV pmax pmax
comp=Z,8.0nm,1.0s
T50A Nancy 47.63 268 IAmb IAmb 00 18 36.0
comp=Z,32nm,1.4s
SKAG Skagway 47.65 322 P P 00 18 31.1 +1.3
KMSC Kings Mountain 47.72 264 P P 00 18 32.1 +1.4
baz=31,SNR=6.5
EIL Elat 47.72 111 P P 00 18 31.7 +0.9
comp=Z,11nm,1.1s,baz=320,slow=5.6,SNR=3.9
OTUK Ortayu 47.76 65 P P 00 18 31.0 +0.1
BIRD Birdtown, Kers 47.77 263 P P 00 18 32.2 +1.1
BIRD IAmb IAmb 00 18 37.9
comp=Z,77nm,2.0s
BARN Barnard Glacie 47.83 327 P P 00 18 31.8 +0.2
BARN IAmb IAmb 00 18 34.3
comp=Z,56nm,1.8s
CTGM Chitina Glacie 47.84 327 P P 00 18 33.2 +1.7
MCARA McCarthy VSAT 47.86 328 P P 00 18 33.3 +1.8
V53A Saluda 47.91 266 P P 00 18 32.4 +0.1
V53A IAmb IAmb 00 18 34.5
comp=Z,44nm,1.8s
GLB Gilahina Butte 47.98 329 IAmb IAmb 00 20 05.8
comp=Z,33nm,1.8s
BALM Baldy 48.01 327 IAmb IAmb 00 20 06.3
comp=Z,48nm,2.0s
VRDI Verde Repeater 48.09 328 P P 00 18 33.2 -0.3
VRDI IAmb IAmb 00 18 37.5
comp=Z,82nm,2.0s
V52A Sevierville 48.09 266 P P 00 18 33.9 +0.3
KURK Kurchatov 48.11 58 P P 00 18 33.2 -0.3
KURK pmax pmax
comp=Z,36nm,1.0s
KURK Kurchatov 48.11 58 P P 00 18 33.2 -0.3
KURK Kurchatov 48.11 58 IAmb IAmb 00 18 36.3
comp=Z,36nm,1.0s
W54A Cherokee Point 48.13 265 P P 00 18 34.5 +0.6
baz=31,SNR=6.8
X56A White Oak 48.15 263 P P 00 18 34.1 +0.1
baz=31
KURBB Kurchatov Arra 48.15 58 P P 00 18 33.2 -0.7
comp=Z,22nm,0.9s,baz=324,slow=7.4,SNR=12
KURBB PcP PcP 00 20 02.0 +0.9
comp=Z,1.1nm,0.8s,baz=323,slow=6.0,SNR=4.3
KURBB Kurchatov Arra 48.15 58 P P 00 18 33.8 -0.1
Y57A Sumter 48.28 262 P P 00 18 34.9 -0.1
Y57A IAmb IAmb 00 18 41.7
comp=Z,28nm,1.3s
BESE Bessie Mountai 48.28 321 P P 00 18 36.2 +1.3
BCPM Bancas Point 48.31 325 P P 00 18 35.2 +0.2
TKL Tuckaleechee C 48.33 266 IAmb IAmb 00 18 42.4
comp=Z,49nm,1.8s
PCA Pinnacle 48.34 326 P P 00 18 36.3 +1.0
PCA IAmb IAmb 00 19 29.9
comp=Z,20nm,0.7s
TGL Tana Glacier 48.37 328 P P 00 18 36.4 +0.8
TGL IAmb IAmb 00 18 57.4
comp=Z,38nm,1.7s
KLU Klutina 48.40 330 IAmb IAmb 00 18 43.1
comp=Z,37nm,1.5s
JIS Juneau Island 48.41 321 IAmb IAmb 00 18 39.1
comp=Z,69nm,1.8s
X55A Gracelyn & Ava 48.42 264 P P 00 18 36.8 +0.6
baz=31,SNR=6.0
JSC Jenkinsville 48.42 263 IAmb IAmb 00 18 43.3
comp=Z,35nm,1.5s
V51A Loudon 48.45 267 IAmb IAmb 00 18 38.9
comp=Z,42nm,1.4s
YAH Yahtse 48.46 327 IAmb IAmb 00 19 16.2
comp=Z,28nm,1.0s
BG3 Lake Jocassee 48.53 265 IAmb IAmb 00 18 44.1
comp=Z,54nm,1.7s
SML Sawmill 48.63 331 IAmb IAmb 00 18 44.0
comp=Z,68nm,1.6s
P40A Paris 48.63 277 IAmb IAmb 00 18 43.8
comp=Z,75nm,2.0s
T47A Sharon Grove 48.63 270 IAmb IAmb 00 18 44.3
comp=Z,45nm,1.1s
X54A Belton 48.67 264 P P 00 18 38.8 +0.7
baz=31
GHO Glory Hole Cre 48.78 332 IAmb IAmb 00 18 41.5
comp=Z,55nm,1.5s
EGMT Eagleton 48.87 297 P P 00 18 40.6 +1.0
baz=35,SNR=6.2
HODGE Hodges 48.89 264 IAmb IAmb 00 18 42.0

comp=Z,46nm,1.4s
S44A Carbondale 48.97 273 IAmb IAmb 00 18 46.8
comp=Z,32nm,1.2s
Y55A Saluda 48.97 263 P **P** **00 18 41.5 +1.1**
baz=31
Z57A Bowman 49.03 262 P **P** **00 18 42.1 +1.2**
baz=30
SKT Skwentna 49.11 333 IAmb IAmb 00 18 45.4
comp=Z,76nm,1.8s
SUCK Suckling Hills 49.19 328 IAmb IAmb 00 18 59.2
comp=Z,40nm,1.4s
GLI Glacier Island 49.21 330 IAmb IAmb 00 18 48.3
comp=Z,65nm,1.7s
W50A Signal Mountai 49.38 268 IAmb IAmb 00 18 50.4
comp=Z,63nm,1.4s
HIN Hinchinbrook I 49.51 330 IAmb IAmb 00 19 00.9
comp=Z,81nm,1.8s
CCM Cathedral Cave 49.52 275 P **P** **00 18 43.3 -1.2**
CCM pmax pmax
comp=Z,45nm,1.8s
CCM Cathedral Cave 49.52 275 P **P** **00 18 43.3 -1.2**
CCM IAmb IAmb 00 18 48.2
comp=Z,45nm,1.8s
V48A Smith Brothers 49.57 269 IAmb IAmb 00 18 46.9
comp=Z,70nm,1.7s
WALA Waterton Lakes 49.58 301 IAmb IAmb 00 18 50.4
comp=Z,80nm,1.8s
WVT Waverly 49.67 270 P **P** **00 18 46.8 +1.1**
WVT pmax pmax
comp=Z,34nm,1.7s
WVT Waverly 49.67 270 P **P** **00 18 46.8 +1.1**
X51A Calhoun 49.72 267 IAmb IAmb 00 18 53.0
comp=Z,79nm,1.6s
R40A Maddies Statio 49.76 276 IAmb IAmb 00 18 47.2
comp=Z,45nm,1.8s
RSSD Black Hills 49.83 290 P **P** **00 18 47.8 +0.7**
RSSD pmax pmax
comp=Z,14nm,1.2s
RSSD Black Hills 49.83 290 P **P** **00 18 47.8 +0.7**
Y52A Lilburn 49.98 265 IAmb IAmb 00 18 54.9
comp=Z,90nm,1.9s
FPAL Fort Paine 50.07 267 IAmb IAmb 00 18 55.4
comp=Z,96nm,2.0s
GOGA Godfrey 50.11 265 P **P** **00 18 49.5 +0.4**
baz=31,SNR=6.6
GOGA Godfrey 50.11 265 IAmb IAmb 00 18 53.4
comp=Z,79nm,1.9s
T42A Van Buren 50.31 274 IAmb IAmb 00 18 52.0
comp=Z,63nm,1.9s
GEYT Alibeck 50.42 84 P **P** **00 18 52.0 +0.5**
comp=Z,6.2nm,0.9s,baz=320,slow=6.7,SNR=20
GYA0 ALIBECK ARRAY 50.42 84 P **P** **00 18 52.6 +1.1**
S39A Bolivar 50.71 276 IAmb IAmb 00 18 54.9
comp=Z,75nm,1.9s
X48A Hartselle 50.76 269 IAmb IAmb 00 18 60.0
comp=Z,86nm,1.8s
JTMT Jette 50.81 300 P **P** **00 18 55.7 +1.3**
Z51A Franklin 50.92 266 P **P** **00 18 55.8 +0.5**
KSU1 Kansas State U 50.93 280 P **P** **00 18 54.7 -0.5**
baz=33
KSU1 Kansas State U 50.93 280 P **P** **00 18 55.1 -0.1**
Y49A Blount Mountai 50.99 268 IAmb IAmb 00 19 01.2
comp=Z,42nm,1.4s
BRLK Bradley Lake 51.01 332 P **P** **00 18 56.6 +0.9**
BRLK IAmb IAmb 00 19 00.5
comp=Z,56nm,1.7s
W45A Hickory Valley 51.08 271 P **P** **00 18 56.6 +0.3**
W45A IAmb IAmb 00 18 58.1
comp=Z,28nm,0.6s
RLMT Red Lodge 51.08 295 P **P** **00 18 56.9 +0.3**
baz=34,SNR=6.4
RLMT Red Lodge 51.08 295 IAmb IAmb 00 19 00.1
comp=Z,76nm,1.6s
LCAR Lake Charles 51.15 273 P **P** **00 18 57.2 +0.3**
LPAR Lepanto 51.18 272 P **P** **00 18 58.4 +1.3**
YAK Yakutsk 51.26 19 P **P** **00 18 58.0 +0.6**
YAK pmax pmax
comp=Z,17nm,0.5s
YAK Yakutsk 51.26 19 P **P** **00 18 58.0 +0.6**
YAK IAmb IAmb 00 19 44.7
comp=Z,17nm,0.5s
152A Waverly Hall 51.28 265 P **P** **00 18 58.9 +0.9**
152A IAmb IAmb 00 19 02.3
comp=Z,67nm,1.8s
CNPM China Poot 51.30 332 P **P** **00 18 58.5 +0.7**
CNPM IAmb IAmb 00 19 00.1
comp=Z,65nm,1.7s
HBAR Harrisburg 51.37 273 P **P** **00 18 59.1 +0.6**
HBAR IAmb IAmb 00 19 43.5
comp=Z,32nm,0.7s
NEW Newport 51.42 303 P **P** **00 18 58.9 +0.1**
NEW pmax pmax
comp=Z,16nm,1.8s
NEW Newport 51.42 303 P **P** **00 18 58.9 +0.1**
MSO Missoula 51.45 299 P **P** **00 18 58.1 -1.0**
baz=33
BOZ Bozeman (W) 51.60 297 P **P** **00 18 59.5 -0.9**
baz=33,SNR=25
BOZ Bozeman (W) 51.60 297 IAmb IAmb 00 19 03.7
comp=Z,91nm,1.7s
U40A Yellville 51.64 275 P **P** **00 18 59.1 -1.5**
baz=32,SNR=6.3
U40A Yellville 51.64 275 IAmb IAmb 00 19 02.0
comp=Z,52nm,1.6s
FCAR Ozark Folk Cen 51.72 274 IAmb IAmb 00 19 05.0
comp=Z,57nm,1.8s
OXF Oxford 51.72 271 P **P** **00 19 00.1 -1.1**
OXF pmax pmax
comp=Z,11nm,0.9s
OXF Oxford 51.72 271 P **P** **00 19 00.1 -1.1**
BBB Bella Bella 51.82 313 P **P** **00 19 02.7 +1.0**
BBB IAmb IAmb 00 19 10.6
comp=Z,112nm,2.0s
TIGA Tifton 51.86 263 P **P** **00 19 02.8 +0.5**
LRAL Lakeview Retre 51.95 268 P **P** **00 19 02.0 -0.9**
baz=31
LRAL Lakeview Retre 51.95 268 IAmb IAmb 00 19 06.5
comp=Z,97nm,2.0s
YNR Norris Junctio 51.97 295 P **P** **00 19 05.0 +1.7**
YHH Holmes Hill 51.98 296 P **P** **00 19 04.5 +1.1**
LKWY Lake 51.99 295 P **P** **00 19 05.3 +1.9**
LKWY pmax pmax
comp=Z,49nm,1.5s
LKWY Lake 51.99 295 P **P** **00 19 05.3 +1.9**
LKWY IAmb IAmb 00 19 13.6
comp=Z,49nm,1.4s
K22A Casper 52.06 291 P **P** **00 19 02.3 -1.6**
baz=33
DGZ Jazzator, Alta 52.08 53 *i* P **P** **00 19 04.2 +0.3**
DGZ pmax pmax
comp=Z,17nm,1.1s
YMR Madison River 52.12 296 P **P** **00 19 04.6 +0.2**
YHB Horse Butte 52.14 296 P **P** **00 19 05.7 +1.2**
DLMT Dillon 52.17 297 IAmb IAmb 00 19 08.0
comp=Z,63nm,1.9s
H17A Grant Village 52.20 295 P **P** **00 19 05.8 +0.8**
baz=33
H17A Grant Village 52.20 295 P **P** **00 19 06.5 +1.4**
H17A IAmb IAmb 00 19 09.4
comp=Z,44nm,1.6s
C09A Chrisman Ranch 52.22 303 P **P** **00 19 05.2 +0.4**
TAS Tashkent 52.27 72 P **P** **00 19 06.6 +1.4**
TAS pmax pmax
comp=Z,58nm,1.0s
TAS Tashkent 52.27 72 P **P** **00 19 06.6 +1.4**
TAS IAmb IAmb 00 19 08.6
comp=Z,58nm,1.0s
Z47A Carrollton 52.27 269 P **P** **00 19 04.0 -1.3**
Z47A IAmb IAmb 00 19 10.2
comp=Z,73nm,2.0s
WHAR Wooly Hollow 52.30 274 IAmb IAmb 00 19 07.0
comp=Z,100nm,1.9s
Y45A Yeager Farm, C 52.33 271 P **P** **00 19 05.6 -0.2**
Y45A IAmb IAmb 00 19 08.8
comp=Z,94nm,1.9s
X43A Marvell 52.35 272 P **P** **00 19 06.6 +0.7**
X43A IAmb IAmb 00 19 13.6
comp=Z,52nm,1.3s
W41B Gary Mavity, V 52.38 274 P **P** **00 19 04.4 -1.6**
baz=32
W41B Gary Mavity, V 52.38 274 IAmb IAmb 00 19 07.7
comp=Z,77nm,2.0s
R32A Long Quarter, 52.38 281 P **P** **00 19 05.8 -0.3**
352A Blakely 52.40 265 P **P** **00 19 06.0 -0.2**
352A IAmb IAmb 00 19 07.9
comp=Z,100nm,1.9s

BOD Bodaibo 52.40 30 *e*P **P** **00 19 04.9 -1.1**
BOD pmax pmax
comp=Z,27nm,2.4s
SEY Seymchan 52.48 6 *i* P **P** **00 19 07.2 +0.8**
CBKS Cedar Bluff 52.49 283 P **P** **00 19 06.6 -0.3**
CBKS pmax pmax
comp=Z,19nm,0.9s
CBKS Cedar Bluff 52.49 283 P **P** **00 19 06.6 -0.3**
250A Grady 52.54 266 P **P** **00 19 07.7 +0.4**
MAKZ Makanchi 52.59 59 P **P** **00 19 07.0 -0.6**
MAKZ pmax pmax
comp=Z,75nm,1.6s
MAKZ Makanchi 52.59 59 P **P** **00 19 07.0 -0.6**
MAKZ IAmb IAmb 00 19 11.5
comp=Z,75nm,1.6s
MK31 Makanchi Array 52.72 58 *i* P **P** **00 19 07.8 -0.7**
MKAR Makanchi Array 52.72 58 P **P** **00 19 08.0 -0.6**
comp=Z,8.8nm,0.9s,baz=325,slow=5.9,SNR=58
MKAR Makanchi Array 52.72 58 *c i* P **P** **00 19 07.5 -1.0**
MKAR pmax pmax
comp=Z,9.0nm,0.9s
T35A Sooner Cattle 52.73 279 IAmb IAmb 00 19 10.2
comp=Z,39nm,1.4s
USP Ospenovka 52.73 67 P **P** **00 19 10.5 +1.8**
SNR=16
PHWY Pilot Hill 52.76 289 P **P** **00 19 09.7 +0.5**
UALR University of 52.76 274 IAmb IAmb 00 19 11.6
comp=Z,95nm,1.9s
LOHW Long Hollow 52.87 295 IAmb IAmb 00 19 13.4
comp=Z,70nm,1.9s
EKS2 Erkin-Say 52.95 68 P **P** **00 19 12.4 +2.0**
SNR=28
FXWY Fox Creek 53.01 295 IAmb IAmb 00 19 14.7
comp=Z,60nm,1.9s
W39A Magazine 53.02 275 P **P** **00 19 10.2 -0.7**
baz=31
W39A Magazine 53.02 275 IAmb IAmb 00 19 12.1
comp=Z,64nm,1.9s
CHMS Chumysh 53.05 67 P **P** **00 19 11.4 +0.3**
SNR=12
SNOW Snow King Moun 53.06 295 P **P** **00 19 12.3 +1.0**
SNOW IAmb IAmb 00 19 20.9
comp=Z,43nm,1.6s
D08A Wollman Farm, 53.09 303 P **P** **00 19 10.9 -0.3**
D08A IAmb IAmb 00 19 14.9
comp=Z,70nm,2.0s
RWWY Rawlins 53.14 291 P **P** **00 19 12.0 0.0**
RWWY IAmb IAmb 00 19 13.7
comp=Z,72nm,1.6s
TOA0 Torodi Ar. Sit 53.15 156 P **P** **00 19 11.8 -0.2**
SNR=8.8
TOA0 Torodi Ar. Sit 53.15 156 IAmb IAmb 00 19 14.6
comp=Z,54nm,1.6s
TORD Torodi Ar. Bea 53.15 156 P **P** **00 19 10.1 -1.9**
comp=Z,6.8nm,0.8s,baz=341,slow=7.9,SNR=39
FRU1 Bishkek 53.16 67 P **P** **00 19 12.2 +0.3**
FRU1 pmax pmax
comp=Z,215nm,2.0s
FRU1 Bishkek 53.16 67 P **P** **00 19 12.2 +0.3**
BW06 Boulder Array 53.17 293 P **P** **00 19 10.8 -1.3**
baz=32,SNR=9.8
PDAR Pinedale Array 53.17 293 P **P** **00 19 10.7 -1.5**
comp=Z,6.0nm,0.8s,baz=50,slow=5.5,SNR=42
146A Union 53.17 269 P **P** **00 19 10.8 -1.2**
REDW Red Top Meadow 53.18 295 IAmb IAmb 00 21 06.3
comp=Z,14nm,0.5s
X40A Basin Creek Fa 53.22 274 P **P** **00 19 11.7 -0.6**
baz=31
KAN10 Anthony SW Sta 53.22 280 P **P** **00 19 11.9 -0.5**
CCAR Cane Creek 53.25 273 P **P** **00 19 13.6 +1.1**
CCAR IAmb IAmb 00 20 39.6
comp=Z,18nm,0.6s
AAK Ala-Archa 53.26 67 P **P** **00 19 13.1 +0.4**
comp=Z,16nm,0.9s,baz=312,slow=4.4,SNR=31
AAK Ala-Archa 53.26 67 P **P** **00 19 15.1 +2.4**
SNR=11
AAK Ala-Archa 53.26 67 *i* P **P** **00 19 13.7 +1.0**
SNR=12
AAK Ala-Archa 53.26 67 *ce*P **P** **00 19 13.6 +0.9**
AAK pmax pmax
comp=Z,110nm,2.5s
AAK Ala-Archa 53.26 67 P **P** **00 19 13.3 +0.6**
TUL1 Leonard 53.27 277 P **P** **00 19 12.5 -0.2**
N23A Red Feather La 53.30 289 P **P** **00 19 12.5 -0.7**
baz=32,SNR=5.6
N23A Red Feather La 53.30 289 IAmb IAmb 00 19 18.0
comp=Z,94nm,1.8s
553A Crawfordville 53.30 263 P **P** **00 19 13.1 +0.2**
553A IAmb IAmb 00 19 34.0
comp=Z,34nm,1.2s
AML Almayashu 53.37 68 P **P** **00 19 16.6 +2.8**
SNR=25
KBK Karagaybulak 53.42 67 P **P** **00 19 16.4 +2.5**
SNR=9.8
QUOK Quay 53.44 278 P **P** **00 19 14.3 +0.4**
TKM2 Tokmak 2 53.45 66 P **P** **00 19 16.6 +2.4**
SNR=22
TKM2 Tokmak 2 53.45 66 P **P** **00 19 15.4 +1.2**
MIAR Mount Ida 53.48 275 P **P** **00 19 13.8 -0.4**
baz=31
KSCO Kaye Shedlock' 53.53 285 P **P** **00 19 15.9 +1.2**
LTY Liberty 53.54 304 P **P** **00 19 15.6 +1.0**
BRAL Brewton 53.58 267 P **P** **00 19 15.1 +0.2**
UCH Uchtor 53.61 67 P **P** **00 19 17.9 +2.2**
SNR=28
E08A Dider Farm, El 53.62 303 P **P** **00 19 15.8 +0.7**
ECR Eagle Creek 53.64 295 P **P** **00 19 17.2 +1.6**
CROK Carrier 53.70 280 P **P** **00 19 16.1 +0.2**
AHID Auburn Hatcher 53.78 294 P **P** **00 19 17.1 +0.5**
AHID IAmb IAmb 00 19 25.7
comp=Z,73nm,2.0s
DWPF Disney Wildern 53.84 259 P **P** **00 19 17.6 +0.7**
E07A Sunnyside 53.85 303 P **P** **00 19 17.6 +0.8**
E07A IAmb IAmb 00 19 31.0
comp=Z,78nm,2.0s
HAWA Hanford 53.88 303 P **P** **00 19 17.8 +0.8**
WLAR White Oak Lake 54.02 274 P **P** **00 19 18.2 +0.1**
KZA Kyzart 54.03 67 P **P** **00 19 20.6 +1.9**
SNR=8.3
OK029 Liberty Lake 54.08 279 P **P** **00 19 19.1 +0.5**
OK029 IAmb IAmb 00 19 20.7
comp=Z,26nm,1.1s
ISCO Idaho Springs 54.09 288 P **P** **00 19 20.7 +1.7**
baz=32
ISCO Idaho Springs 54.09 288 P **P** **00 19 19.4 +0.3**
ISCO pmax pmax
comp=Z,43nm,2.0s
ISCO Idaho Springs 54.09 288 P **P** **00 19 19.4 +0.3**
ISCO IAmb IAmb 00 19 21.4
comp=Z,43nm,2.0s
143A Socs Landing, 54.13 271 P **P** **00 19 19.6 +0.6**
VBMS Vicksburg 54.16 270 P **P** **00 19 19.6 +0.4**
VBMS IAmb IAmb 00 19 57.8
comp=Z,32nm,0.8s
OK025 Westminster Rd 54.21 278 P **P** **00 19 19.2 -0.4**
OK025 IAmb IAmb 00 19 21.6
comp=Z,51nm,1.4s
X37A Clayton 54.22 276 P **P** **00 19 19.8 +0.2**
U32A Winter Ranch, 54.24 280 P **P** **00 19 20.3 +0.5**
U32A IAmb IAmb 00 19 23.7
comp=Z,70nm,1.8s
Z41A Richland Creek 54.25 273 P **P** **00 19 20.4 +0.5**
Z41A IAmb IAmb 00 19 21.4
comp=Z,50nm,1.6s
BCOK Bluff Creek, N 54.26 279 P **P** **00 19 20.9 +0.9**
ULHL Ulahol 54.28 66 P **P** **00 19 21.7 +1.5**
SNR=11
BMO Blue Mountains 54.38 300 IAmb IAmb 00 19 24.4
comp=Z,48nm,1.7s
LON Longmire 54.38 305 P **P** **00 19 21.0 +0.3**
LON pmax pmax
comp=Z,34nm,2.0s
LON Longmire 54.38 305 P **P** **00 19 21.0 +0.3**
HLID Hailey 54.38 297 P **P** **00 19 20.7 -0.3**
baz=32,SNR=10
OKCFA Oklahoma City 54.40 278 P **P** **00 19 21.4 +0.5**
346A Big Creek Wild 54.42 269 P **P** **00 19 21.3 +0.2**
F07A Phinny Hill Vi 54.44 303 P **P** **00 19 22.5 +1.4**
F07A IAmb IAmb 00 19 29.8
comp=Z,68nm,1.7s
NLWA Neilton Lookou 54.55 307 P **P** **00 19 22.8 +0.9**
NLWA IAmb IAmb 00 19 30.5
comp=Z,42nm,1.6s
Q24A Divide 54.61 287 P **P** **00 19 23.1 +0.3**
MOY Mondy 54.65 42 *e*P **P** **00 19 24.3 +1.6**
MOY pmax pmax
comp=Z,192nm,2.5s
O20A White River Ci 54.87 290 P **P** **00 19 24.2 -0.4**
baz=32,SNR=11
344A Westbrook Farm 54.91 270 P **P** **00 19 25.5 +0.8**
344A IAmb IAmb 00 20 30.2
comp=Z,68nm,2.0s
PRZ Przheval'sk 54.92 64 P **P** **00 19 25.5 +0.7**
PRZ pmax pmax
comp=Z,89nm,1.9s
PRZ Przheval'sk 54.92 64 P **P** **00 19 25.5 +0.7**
PRZ IAmb IAmb 00 19 30.6
comp=Z,89nm,1.9s
MFID Camas Ranch 55.05 298 P **P** **00 19 25.9 +0.2**
IRK Irkutsk 55.06 40 *e*P **P** **00 19 25.3 -0.2**
IRK pmax pmax
comp=Z,130nm,2.0s
Z38A Mt. Pleasant 55.19 275 P **P** **00 19 27.9 +1.2**
HVU Hansel Valley 55.27 295 P **P** **00 19 28.9 +1.5**
HVU pmax pmax
comp=Z,13nm,1.1s
HVU Hansel Valley 55.27 295 P **P** **00 19 28.9 +1.5**
F04A Amboy 55.30 305 P **P** **00 19 28.4 +1.1**
F04A IAmb IAmb 00 19 38.2
comp=Z,79nm,2.0s
TARG Taragay, Kyrgy 55.33 65 IAmb IAmb 00 19 31.6
comp=Z,39nm,1.1s
TLY Talaya 55.39 40 P **P** **00 19 27.9 0.0**
comp=Z,8.6nm,0.9s,baz=337,slow=6.3,SNR=7.2
TLY Talaya 55.39 40 *i* P **P** **00 19 28.2 +0.3**
TLY pmax pmax
comp=Z,11nm,1.1s
TLY Talaya 55.39 40 IAmb IAmb 00 19 29.7
comp=Z,18nm,1.2s
WMOK Wichita Mounta 55.54 279 P **P** **00 19 29.2 -0.1**
baz=31,SNR=14
SMRT St. Maarten 55.63 235 P **P** **00 19 30.2 +0.2**
342A Flagon Creek P 55.66 271 P **P** **00 19 30.6 +0.5**
MA2 Magadan 55.75 7 *ce*P **P** **00 19 32.6 +2.2**
MA2 pmax pmax
comp=Z,65nm,2.5s
MA2 Magadan 55.75 7 P **P** **00 19 31.0 +0.7**
MA2 IAmb IAmb 00 19 35.9
comp=Z,62nm,1.5s
SDCO Great Sand Dun 55.79 287 P **P** **00 19 31.1 -0.2**
baz=31,SNR=9.7
SDCO Great Sand Dun 55.79 287 P **P** **00 19 31.5 +0.2**
I07A Izee 55.85 302 P **P** **00 19 32.5 +1.1**
T25A Trinidad 55.86 285 P **P** **00 19 32.9 +1.2**
baz=31,SNR=5.1
T25A Trinidad 55.86 285 IAmb IAmb 00 19 35.2
comp=Z,89nm,1.9s
J08A Circle Bar Ran 56.09 300 P **P** **00 19 33.3 +0.1**
SABA Saba 56.09 235 P **P** **00 19 31.9 -1.4**
Z35A Perchaven, San 56.10 277 P **P** **00 19 34.3 +1.1**
Z35A IAmb IAmb 00 19 35.6
comp=Z,56nm,1.3s
H04A Detroit Lake 56.30 304 P **P** **00 19 34.9 +0.3**
H04A IAmb IAmb 00 19 46.6
comp=Z,40nm,1.9s
S22A 4UR Ranch, Cre 56.34 288 P **P** **00 19 34.3 -0.9**
baz=31,SNR=8.2
NATX Nacogdoches 56.34 274 P **P** **00 19 36.0 +1.1**
CBYP Canovanas 56.43 238 P **P** **00 19 34.8 -1.0**
ZAK Zakamensk 56.45 41 *e*P **P** **00 19 35.8 +0.1**
ZAK pmax pmax
comp=Z,14nm,1.1s
PV22 Blue Mesa, Par 56.46 290 IAmb IAmb 00 19 37.6
comp=Z,68nm,2.0s
MTP Monte Pirata 56.48 238 P **P** **00 19 34.7 -1.3**
MTP IAmb IAmb 00 19 39.2
comp=Z,62nm,1.4s
KSH Kashi 56.50 68 P **P** **00 19 38.4 +2.3**
KSH pmax pmax
comp=Z,320nm,2.2s
PV15 Paradox Valley 56.50 289 IAmb IAmb 00 19 40.6
comp=Z,79nm,1.9s
NLU North Lily Min 56.56 293 P **P** **00 19 37.7 +1.0**
441A DeRidder 56.58 272 P **P** **00 19 38.1 +1.5**
PINE Pine Mountain 56.62 302 P **P** **00 19 37.8 +0.7**
PINE IAmb IAmb 00 19 43.6
comp=Z,61nm,2.0s
237A Washetta, Mont 56.62 275 P **P** **00 19 38.3 +1.4**
PV04 Paradox Valley 56.63 290 IAmb IAmb 00 19 39.0
comp=Z,76nm,1.9s
DUG Dugway, Tooele 56.64 294 P **P** **00 19 37.0 -0.2**
baz=31,SNR=10
AMTX Amarillo 56.64 282 P **P** **00 19 38.0 +0.8**
PV12 Saucer Basin, 56.65 290 P **P** **00 19 37.4 0.0**
PV12 IAmb IAmb 00 19 39.4
comp=Z,87nm,1.8s
PV10 Paradox Valley 56.70 290 IAmb IAmb 00 19 41.2
comp=Z,67nm,1.6s
PV20 West Nyswonger 56.70 290 IAmb IAmb 00 19 39.5
comp=Z,66nm,1.8s
PV16 Nyswonger Mesa 56.70 290 IAmb IAmb 00 19 39.7
comp=Z,79nm,1.8s
PV01 Paradox Valley 56.71 289 IAmb IAmb 00 19 40.9
comp=Z,51nm,1.6s
PV02 Paradox Valley 56.72 290 IAmb IAmb 00 19 39.9
comp=Z,30nm,1.2s
PV03 Paradox Valley 56.72 290 IAmb IAmb 00 19 44.5
comp=Z,92nm,1.9s
PV19 Morning Glory 56.73 290 IAmb IAmb 00 19 45.8
comp=Z,82nm,2.0s
PV17 East Wray Mesa 56.75 290 IAmb IAmb 00 19 40.0
comp=Z,66nm,1.6s
PV18 Skein Mesa, Pa 56.75 290 IAmb IAmb 00 19 40.1
comp=Z,44nm,1.4s
PV13 Radium Mtn., P 56.79 290 IAmb IAmb 00 19 40.4
comp=Z,44nm,1.2s
WVOR Wild Horse Val 56.95 300 P **P** **00 19 40.1 +0.8**
WVOR pmax pmax
comp=Z,33nm,1.9s
WVOR Wild Horse Val 56.95 300 P **P** **00 19 40.1 +0.8**
PV05 Paradox Valley 56.98 290 P **P** **00 19 40.0 +0.3**
PV05 IAmb IAmb 00 19 41.9
comp=Z,36nm,1.0s
MLPR Magueyes Islan 57.15 240 P **P** **00 19 41.7 +0.9**
J05D Fort Rock, OR 57.17 302 P **P** **00 19 41.1 +0.2**
baz=30
WMQ Urumqi 57.23 56 *e*P **P** **00 19 42.5 +1.3**
WMQ pP sP 00 19 46.8 +0.6
WMQ LR LR
comp=Z,650nm,17.9s
WMQ LR LR
comp=Z,340nm,18.9s
WMQ Urumqi 57.23 56 P **P** **00 19 42.5 +1.3**
WMQ pmax pmax
comp=Z,45nm,1.1s
WMQ Urumqi 57.23 56 P **P** **00 19 42.5 +1.3**
WMQ IAmb IAmb 00 19 44.9
comp=Z,45nm,1.1s
CNBA Chernabura Isl 57.33 335 P **P** **00 19 41.2 -0.4**
WHTX Lake Whitney, 57.34 276 P **P** **00 19 42.2 +0.2**
MVCO Mesa Verde 57.48 289 P **P** **00 19 43.5 +0.2**
baz=31
MVCO Mesa Verde 57.48 289 P **P** **00 19 43.8 +0.6**
MVCO IAmb IAmb 00 19 48.2
comp=Z,70nm,1.8s
K05A Summer Lake 57.53 302 P **P** **00 19 44.2 +0.7**
ABTX Abilene, Hawle 57.72 279 P **P** **00 19 46.1 +1.4**
baz=30
SDDR Presa de Saban 57.84 244 P **P** **00 19 46.4 +0.7**
TCRU Three Creeks R 57.86 293 P **P** **00 19 47.2 +1.3**
MSTX Muleshoe 57.89 282 P **P** **00 19 46.4 +0.3**
baz=30
MSTX Muleshoe 57.89 282 P **P** **00 19 46.0 0.0**
KBL Kabul 57.93 76 P **P** **00 19 47.5 +1.0**
SNR=9.7
KBL Kabul 57.93 76 P **P** **00 19 47.1 +0.6**
KBL pmax pmax
comp=Z,40nm,1.6s
KBL Kabul 57.93 76 P **P** **00 19 47.1 +0.6**
KBL IAmb IAmb 00 19 50.3
comp=Z,40nm,1.6s
MOD Modoc Plateau 58.02 301 P **P** **00 19 47.4 +0.5**
MOD IAmb IAmb 00 19 54.0
comp=Z,64nm,1.9s
HKT Hockley 58.40 274 P **P** **00 19 49.8 +0.4**
HKT pmax pmax
comp=Z,58nm,2.0s
HKT Hockley 58.40 274 P **P** **00 19 49.8 +0.4**
HKT IAmb IAmb 00 19 51.5
comp=Z,58nm,1.9s

435B Jarrell 58.43 276 P P 00 19 50.1 +0.3
ANMO Albuquerque 58.59 286 ceP P 00 19 53.4 +2.4
ANMO pmax pmax
comp=Z,36nm,2.5s
DBIC Dimbokro 58.60 165 P P 00 19 50.1 -0.8
comp=Z,10.0nm,0.9s,baz=355,slow=7.2,SNR=9.7
DBIC Dimbokro 58.60 165 P P 00 19 49.6 -1.4
DBIC pmax pmax
comp=Z,34nm,1.3s
DBIC Dimbokro 58.60 165 P P 00 19 49.6 -1.4
DBIC lAmb lAmb 00 19 53.3
comp=Z,34nm,1.2s
TIC Toumodi 58.61 165 eP P 00 19 49.5 -1.6
ZEA Zeya 58.83 24 eP P 00 19 53.9 +1.7
ZEA pmax pmax
comp=Z,190nm,2.5s
KIC Kosan Boka 58.92 165 eP P 00 19 51.8 -1.4
comp=Z,87nm,1.2s
LIC Lamto 59.02 165 eP P 00 19 52.4 -1.5
comp=Z,42nm,0.9s
R11A Troy Canyon, C 59.32 295 P P 00 19 55.5 -0.5
baz=30,SNR=23
Y22D IRIS PASSCAL I 59.53 286 P P 00 19 59.9 +2.3
SONM Songino Array 59.63 40 P P 00 19 58.3 +0.2
comp=Z,4.9nm,0.9s,baz=329,slow=7.2,SNR=27
JCT Junction City 59.64 278 P P 00 19 58.2 0.0
baz=30
KVN Kaiserville 59.68 298 lAmb lAmb 00 20 03.0
comp=Z,63nm,1.7s
U15A North Rim 59.68 291 lAmb lAmb 00 20 00.1
comp=Z,23nm,1.3s
W18A Petrified Fore 59.78 289 lAmb lAmb 00 20 01.2
comp=Z,59nm,1.9s
ULN Ulaanbaatar 59.79 40 ceP P 00 19 59.1 0.0
ULN pmax pmax
comp=Z,61nm,2.5s
ULN Ulaanbaatar 59.79 40 P P 00 19 59.8 +0.7
ULN lAmb lAmb 00 20 01.2
comp=Z,34nm,1.4s
PRN Pahroc Range 59.93 294 P P 00 20 00.5 +0.3
PRN lAmb lAmb 00 20 03.3
comp=Z,70nm,1.9s
BANOM Banah 59.96 93 P P 00 20 02.4 +2.0
WDC Whiskeytown Da 60.00 302 P P 00 20 00.1 -0.3
WDC pmax pmax
comp=Z,41nm,2.0s
WDC Whiskeytown Da 60.00 302 P P 00 20 00.1 -0.3
WDC lAmb lAmb 00 20 34.9
comp=Z,41nm,2.0s
VCNR Virginia City 60.05 299 P P 00 20 02.2 +1.1
WUAZ Wupatki 60.10 290 P P 00 20 01.6 +0.1
baz=30,SNR=11
RYN Ryan 60.21 298 P P 00 20 01.0 -1.2
PNTR Pine Nut 60.21 299 P P 00 20 02.4 +0.2
PNTR lAmb lAmb 00 20 07.3
comp=Z,38nm,1.6s
NV11 Mina Array Sit 60.24 297 P P 00 20 02.9 +0.6
NV11 lAmb lAmb 00 20 07.8
comp=Z,30nm,1.6s
NVAR Mina Array Bea 60.30 297 P P 00 20 02.8 0.0
comp=Z,1.7nm,0.9s,baz=59,slow=5.0,SNR=7.4
MSFE Esma-Masafi 60.40 93 P P 00 20 06.5 +3.1
NIL Nilore 60.45 73 P P 00 20 03.6 0.0
NIL pmax pmax
comp=Z,84nm,1.3s
NIL Nilore 60.45 73 P P 00 20 03.6 0.0
NAZ Nazwa, Dubai 60.51 94 P P 00 20 06.2 +2.0
MDH Madha 60.51 93 P P 00 20 06.8 +2.7
ORV Oroville 60.52 300 lAmb lAmb 00 20 05.2
comp=Z,36nm,1.9s
LHV Little Huntoon 60.53 297 P P 00 20 05.0 +0.9
LHV lAmb lAmb 00 20 54.2
comp=Z,34nm,1.7s
WAKR Walker 60.66 298 P P 00 20 05.9 +0.7
WAKR lAmb lAmb 00 20 10.3
comp=Z,59nm,1.9s
UOSS Minazif 60.78 93 P P 00 20 07.9 +2.0
TPNV Topopah Spring 60.80 295 P P 00 20 06.5 +0.3
baz=29
TPNV Topopah Spring 60.80 295 lAmb lAmb 00 20 14.2
comp=Z,54nm,1.8s
HATD Hatta, Dubai 60.85 93 P P 00 20 08.1 +1.6
ASHO Ashiyiah 60.95 94 P P 00 20 06.6 -0.6
MNTX Cornudas Mount 60.95 283 P P 00 20 06.9 -0.2
baz=29,SNR=5.5
X16A Lo Mia Camp, P 61.09 290 lAmb lAmb 00 20 10.8
comp=Z,29nm,1.4s
121A Cookes Peak, D 61.22 285 P P 00 20 10.3 +1.2
121A lAmb lAmb 00 20 11.9
comp=Z,40nm,1.6s
OMMB Old Mammoth Mi 61.28 297 lAmb lAmb 00 20 15.1
comp=Z,46nm,1.7s
833A Chaparral WMA, 61.34 276 P P 00 20 10.5 +0.8
ALNE Al Ain 61.36 94 iP P 00 20 12.5 +2.5
SNR=5.7
CMB Columbia Colle 61.43 299 P P 00 20 10.7 +0.4
CMB pmax pmax
comp=Z,35nm,2.0s
CMB Columbia Colle 61.43 299 P P 00 20 10.7 +0.4
CMB lAmb lAmb 00 20 12.2
comp=Z,35nm,1.9s
FURC Furnace Creek, 61.45 295 P P 00 20 11.2 +0.9
baz=29
W13A Hualapai Mount 61.47 292 lAmb lAmb 00 20 13.0
comp=Z,28nm,1.8s
HIA Hailar 61.62 30 P P 00 20 12.4 +1.0
HIA pmax pmax
comp=Z,9.0nm,0.5s
HIA Hailar 61.62 30 P P 00 20 12.4 +1.0
HIA lAmb lAmb 00 21 12.1
comp=Z,9.0nm,0.5s
SOHO SOHO 61.63 93 iP P 00 20 12.6 +0.9
SNR=5.4
MPMC Manual Prospec 62.06 295 P P 00 20 15.6 +0.9
baz=29
Y14A Wickenburg 62.13 291 P P 00 20 15.9 +0.8
Y14A lAmb lAmb 00 20 21.0
comp=Z,30nm,1.9s
TXAR Lajitas Array 62.28 280 P P 00 20 15.4 -0.8
comp=Z,2.8nm,1.0s,baz=46,slow=3.2,SNR=20
GSC Goldstone, Bar 62.45 294 P P 00 20 18.6 +1.4
GSC pmax pmax
comp=Z,59nm,1.9s
GSC Goldstone, Bar 62.45 294 P P 00 20 18.6 +1.4
GSC lAmb lAmb 00 20 23.8
comp=Z,59nm,1.9s
GMRC Granite Mounta 62.45 293 P P 00 20 18.1 +0.8
baz=29,SNR=7.5
PEA0B Petropavlovsk- 62.49 3 P P 00 20 17.7 +0.5
PEA0B pmax pmax
comp=Z,144nm,1.9s
PEA0B Petropavlovsk- 62.49 3 P P 00 20 17.7 +0.5
PETK Petropavlovsk- 62.49 3 P P 00 20 17.4 +0.2
comp=Z,6.6nm,1.1s,baz=26,slow=10,SNR=4.9
PET Petropavlovsk 62.60 3 iP P 00 20 18.3 +0.5
PET pmax pmax
comp=Z,52nm,1.2s
PET Petropavlovsk 62.60 3 P P 00 20 16.8 -1.0
TUC Tucson 62.65 288 P P 00 20 19.4 +0.8
baz=29
TUC Tucson 62.65 288 P P 00 20 19.4 +0.8
TUC pmax pmax
comp=Z,75nm,1.9s
TUC Tucson 62.65 288 P P 00 20 19.4 +0.8
ISA Isabella, Lake 62.78 296 P P 00 20 20.6 +1.1
baz=28
ISA Isabella, Lake 62.78 296 lAmb lAmb 00 20 22.0
comp=Z,29nm,1.6s
IRM Iron Mountain 62.80 292 P P 00 20 19.9 +0.4
baz=28
BIDO Bidbid 62.85 92 P P 00 20 23.0 +3.0
SNR=9.6
DHRM DHARAMSHALA 62.92 72 eP P 00 20 22.2 +1.6
DHRM lAmb lAmb 00 20 29.8
comp=Z,68nm,1.5s
SAO San Andreas Ge 62.95 299 P P 00 20 21.2 +0.7
SAO pmax pmax
comp=Z,32nm,1.6s
SAO San Andreas Ge 62.95 299 P P 00 20 21.2 +0.7
SAO lAmb lAmb 00 20 27.8
comp=Z,32nm,1.6s
PMPB Monarch Peak 63.19 298 P P 00 20 23.2 +1.1
SMDO Samad 63.23 93 P P 00 20 26.0 +3.4
SNR=7.6
BELC Belle Mtn. Jos 63.27 293 P P 00 20 22.6 -0.2
baz=28

WSAR Wadi Sarin 63.32 92 P P 00 20 23.5 +0.4
comp=Z,7.6nm,1.0s,baz=341,slow=5.5,SNR=6.5
BC3 Big Chuckawall 63.36 292 P P 00 20 23.7 +0.4
baz=28,SNR=5.9
PAGB Antelope Grade 63.41 297 P P 00 20 23.4 -0.1
PAGB lAmb lAmb 00 20 46.8
comp=Z,52nm,1.9s
113A Mohawk Valley, 63.46 291 P P 00 20 24.0 +0.1
113A lAmb lAmb 00 20 26.0
comp=Z,53nm,1.9s
GLA Glamis 63.64 292 P P 00 20 25.9 +0.8
GLA pmax pmax
comp=Z,92nm,2.0s
GLA Glamis 63.64 292 P P 00 20 25.9 +0.8
TEIG Tepich 63.69 262 P P 00 20 25.9 +0.4
214A Organ Pipe Nat 63.79 289 P P 00 20 26.6 +0.5
214A lAmb lAmb 00 20 28.2
comp=Z,51nm,1.9s
XPFO Pion Flat 63.80 293 P P 00 20 26.2 0.0
XPFO lAmb lAmb 00 20 32.7
comp=Z,63nm,2.0s
PFO Pinyon Flats O 63.80 293 P P 00 20 26.7 +0.4
PFO pmax pmax
comp=Z,63nm,2.0s
PFO Pinyon Flats O 63.80 293 P P 00 20 26.6 +0.4
PFO lAmb lAmb 00 20 32.7
comp=Z,63nm,2.0s
OSI Osito Audit: C 63.80 296 P P 00 20 27.4 +1.2
JMDO Jabal Madar 63.86 93 P P 00 20 28.5 +1.9
SNR=6.5
KLR Kul'dur 63.93 22 P P 00 20 27.3 +0.6
comp=Z,0.5nm,0.3s,baz=352,slow=3.4,SNR=4.8
KLR Kul'dur 63.93 22 ceP P 00 20 25.8 -0.9
KLR pmax pmax
comp=Z,3.0nm,1.1s
SMLA Simla 64.25 72 eP P 00 20 30.2 +1.1
SMLA lAmb lAmb 00 20 33.3
comp=Z,75nm,1.4s
CPBX Cerro Prieto 64.39 292 P P 00 20 32.5 +2.5
PIX Pinacate 64.40 290 P P 00 20 30.4 +0.4
PIX lAmb lAmb 00 20 32.2
comp=Z,35nm,1.8s
109C Camp Elliot, M 64.69 293 P P 00 20 32.1 +0.1
BAR Barrett 64.70 293 P P 00 20 33.3 +1.2
BAR lAmb lAmb 00 20 35.0
comp=Z,30nm,1.5s
URIC Uribia, Colomb 64.75 242 eP P 00 20 31.8 -0.7
TKX Tecate 64.77 293 P P 00 20 34.8 +2.2
ESJX Sierra Juarez 65.01 292 P P 00 20 34.9 +0.6
CBX Cerro Bola 65.02 293 P P 00 20 34.8 +0.5
GTA Gaotai 65.29 49 ⇑P P 00 20 36.9 +0.9
GTA pP sP 00 20 41.8 +0.8
GTA sP pP 00 20 44.1 +4.4
GTA pmax pmax
comp=Z,20nm,1.3s
GTA LR LR
comp=Z,680nm,17.1s
GTA LR LR
comp=Z,580nm,17.8s
GTA LR LR
comp=Z,790nm,17.1s
SFX San Felipe 65.42 291 P P 00 20 38.0 +1.3
HSIG 65.60 286 P P 00 20 39.3 +1.3
HSIG lAmb lAmb 00 20 40.0
comp=Z,20nm,1.2s
SPX San Pedro Mart 65.67 291 P P 00 20 39.1 +0.4
SPX lAmb lAmb 00 20 41.5
comp=Z,40nm,1.7s
SMRC Santa Marta, M 66.09 244 eP P 00 20 39.7 -1.5
SDV Santo Domingo 66.83 239 eP P 00 20 46.8 +0.7
SDV Santo Domingo 66.83 239 P P 00 20 47.2 +1.1
ATD Arta Tunnel 67.18 112 P P 00 20 48.5 +0.3
ATD lAmb lAmb 00 20 53.8
comp=Z,34nm,1.8s
ARGC Ariguani, Magd 67.30 243 eP P 00 20 50.2 +1.4
HHC Hu-ho-hao-te 67.50 40 eP P 00 20 51.1 +1.0
HHC pmax pmax
comp=Z,42nm,1.5s
ZAIG Zacatecas 67.57 276 P P 00 20 51.1 +0.2
ZAIG lAmb lAmb 00 20 56.3
comp=Z,57nm,1.9s
SJCC San Jacinto, C 67.62 244 eP P 00 20 52.5 +1.6
SRIG Santa Rosalia 67.63 287 P P 00 20 52.7 +1.8
YSS Yuzh-Sakhalins 67.64 14 eP P 00 20 49.6 -1.1
YSS MLR MLR
comp=Z,800nm,18.0s
FURI Furi 67.96 118 P P 00 20 54.1 +0.7
MDJ Mudanjiang 68.03 25 P P 00 20 52.4 -0.8
MDJ lAmb lAmb 00 20 54.7
comp=Z,32nm,1.5s
SMLC San Martn de 68.20 243 eP P 00 20 50.8 -3.8
OCAC Ocana 68.43 242 eP P 00 20 55.9 -0.2
TGUH Tegucigalpa,Un 68.76 258 P P 00 20 59.0 +0.8
MOTC Monteria, Cord 68.83 244 eP P 00 20 59.3 +0.8
PAMC Pamplona, Colo 69.02 241 eP P 00 21 02.5 +2.3
ESTN Estel 69.24 256 P P 00 21 01.3 +0.1
MTO3 Montecristo 69.34 260 P P 00 21 01.9 -0.1
BJI Beijing 69.48 36 P P 00 21 03.6 +1.3
BJI pmax pmax
comp=Z,17nm,2.2s
BJT Baijiatuau 69.50 36 P P 00 21 03.1 +0.7
BJT pmax pmax
comp=Z,44nm,1.7s
BJT Baijiatuau 69.50 36 P P 00 21 03.1 +0.7
BJT lAmb lAmb 00 21 13.7
comp=Z,44nm,1.7s
TAMC Tame, Arauca 69.51 239 eP P 00 21 01.6 -1.2
BOAB BOACO BROADBAND 69.54 255 P P 00 21 02.8 -0.1
BRRC Barranca, Sant 69.61 242 eP P 00 21 03.3 0.0
LZH Lanzhou 69.62 48 eP P 00 21 03.6 +0.2
LZH pP pP 00 21 05.4 -1.7
LZH ePP PP 00 23 39.5 +2.7
LZH pmax pmax
comp=Z,42nm,1.5s
LZH pmax pmax
comp=Z,130nm,7.6s
LZH LR LR
comp=Z,730nm,16.0s
LZH LR LR
comp=Z,820nm,16.3s
LZH LR LR
comp=Z,1μm,18.0s
ZARC Zaragoza, Cauc 69.70 243 eP P 00 21 03.4 -0.5
UREC San Jos de Ur 69.72 244 eP P 00 21 04.3 +0.3
ACON Acoyapa 69.76 255 P P 00 21 04.1 -0.2
ACON lAmb lAmb 00 21 06.0
comp=Z,18nm,1.0s
PTBC PUERTO BERRIO, 70.42 242 eP P 00 21 08.5 +0.2
TLIG Tlapa 70.46 270 P P 00 21 09.4 +0.7
TLIG lAmb lAmb 00 21 14.4
comp=Z,29nm,1.3s
RUSC La Rusia 70.49 241 eP P 00 21 09.9 +0.5
DBBC Dabeiba 70.65 244 eP P 00 21 09.8 -0.1
LSA Lhasa 71.01 61 iP P 00 21 14.5 +2.1
SNR=9.1
LSA Lhasa 71.01 61 P P 00 21 13.3 +0.9
LSA pmax pmax
comp=Z,79nm,1.8s
LSA Lhasa 71.01 61 P P 00 21 13.3 +0.9
SPBC San Pablo de B 71.09 241 eP P 00 21 11.6 -0.9
HELC Santa Helena 71.15 243 eP P 00 21 13.3 +0.1
NORC Norcasia 71.47 242 eP P 00 21 14.3 -0.5
CBOC Ciudad Bolivar 71.63 243 eP P 00 21 16.1 +0.2
CHIC Chingaza 71.90 241 eP P 00 21 16.1 -1.7
ROSC El Rosal 71.93 241 P P 00 21 19.3 +1.4
comp=Z,13nm,0.8s,baz=49,slow=4.9,SNR=12
ROSC El Rosal 71.93 241 eP P 00 21 18.8 +0.9
ROSC El Rosal 71.93 241 P P 00 21 18.7 +0.9
GUY2C Guyana, Caldas 71.97 242 eP P 00 21 17.9 -0.4
GUY2C eP P 00 21 17.9 -0.4
VILC Villavicencio, 72.36 240 eP P 00 21 19.7 -0.5
PLMC San Jos del P 72.61 243 eP P 00 21 19.7 -1.9
XAN Xi'an 73.08 44 ⇑P P 00 21 24.4 +0.2
XAN pmax pmax
comp=Z,26nm,2.0s
XAN Xi'an 73.08 44 P P 00 21 24.4 +0.2
XAN pmax pmax
comp=Z,113nm,2.0s
XAN Xi'an 73.08 44 P P 00 21 24.4 +0.2
ORTC Ortega, Tolima 73.13 242 eP P 00 21 24.2 -0.4
PRAC Prado 73.18 241 eP P 00 21 25.7 +0.8
GUVC San Jose del G 73.41 239 eP P 00 21 26.8 +0.5
YOTC Yotoco, Valle 73.48 243 eP P 00 21 26.9 +0.1
MACC Macarena, Meta 74.23 240 eP P 00 21 31.6 +0.5

BOK Bokaro 74.28 68 eP P 00 21 31.4 +0.1
BETC Betania 74.34 242 eP P 00 21 31.5 -0.3
CD2 Chengdu 74.36 50 P P 00 21 32.9 +1.2
CD2 pmax pmax
comp=Z,40nm,1.6s
KSRS Korea Array 74.64 28 P P 00 21 34.2 +1.0
comp=Z,1.1nm,0.8s,baz=1.3,slow=4.6,SNR=6.4
GARC Garzon, Huila 74.81 241 eP P 00 21 35.1 +0.3
FLOC Florencia 75.43 241 eP P 00 21 37.8 -0.2
PTLC Puerto Leguiza 76.41 240 eP P 00 21 45.0 +1.5
KMBO Kilima Mbogo 76.67 123 P P 00 21 51.0 +5.6
KMBO Kilima Mbogo 76.67 123 P P 00 21 46.6 +1.3
KMBO pmax pmax
comp=Z,11nm,1.8s
KMBO Kilima Mbogo 76.67 123 P P 00 21 46.6 +1.3
MAJO Matsushiro 77.32 20 P P 00 21 48.3 -0.2
MAJO pmax pmax
comp=Z,46nm,2.0s
MAJO Matsushiro 77.32 20 P P 00 21 48.3 -0.2
MAJO lAmb lAmb 00 21 50.2
comp=Z,46nm,2.0s
MAT Matsushiro 77.32 20 P P 00 21 48.6 +0.1
MJAR Matsushiro Arr 77.32 20 P P 00 21 48.2 -0.4
comp=Z,1.3nm,0.9s,baz=302,slow=7.1,SNR=7.2
OTAV Otavalo 77.73 243 P P 00 21 52.2 +0.6
OTAV pmax pmax
comp=Z,28nm,1.6s
OTAV Otavalo 77.73 243 P P 00 21 52.2 +0.6
NJ2 Nanjing 77.73 37 eP P 00 21 51.1 +0.2
NJ2 pmax pmax
comp=Z,16nm,1.0s
WHN Wuhan 77.94 41 P P 00 21 53.8 +1.8
KMI Kunming 79.35 53 ⇑P P 00 22 00.1 -0.1
KMI pP pP 00 22 02.3 -1.6
KMI sP sP 00 22 03.3 -2.0
KMI PP PP 00 25 02.3 +2.8
KMI pmax pmax
comp=Z,13nm,1.3s
KMI Kunming 79.35 53 P P 00 22 00.1 -0.1
KMI pmax pmax
comp=Z,97nm,1.9s
KMI Kunming 79.35 53 P P 00 22 00.1 -0.1
KMI lAmb lAmb 00 22 03.4
comp=Z,96nm,1.9s
GYA Guiyang 79.42 49 ⇑P P 00 22 00.8 +0.4
GYA pP pP 00 22 02.8 -1.4
GYA pmax pmax
comp=Z,16nm,1.4s
SAML Samuel 80.95 226 P P 00 22 06.8 -1.7
SAML pmax pmax
comp=Z,30nm,1.9s
SAML Samuel 80.95 226 P P 00 22 06.8 -1.7
SLVN Son La 83.25 53 P P 00 22 20.4 -0.3
BDFB Brasilia 83.39 210 P P 00 22 21.3 -0.1
comp=Z,4.1nm,0.9s,baz=28,slow=8.1,SNR=4.6
CHTO Chiang Mai 83.80 59 P P 00 22 23.0 -0.5
CHTO pmax pmax
comp=Z,23nm,1.3s
CHTO Chiang Mai 83.80 59 P P 00 22 23.0 -0.5
CHTO lAmb lAmb 00 22 24.6
comp=Z,23nm,1.3s
CMAR Chiang Mai Arr 84.13 59 P P 00 22 25.5 +0.3
comp=Z,5.5nm,1.0s,baz=320,slow=6.4,SNR=23
CMAR PP PP 00 25 39.8 +0.9
comp=Z,1.4nm,0.7s,baz=334,slow=9.3,SNR=6.5
CMAR Chiang Mai Arr 84.13 59 iP P 00 22 24.8 -0.4
CMAR pmax pmax
comp=Z,4.0nm,0.9s
SSLB Suanglung 86.14 38 P P 00 22 35.6 +0.3
TPUB Ta-pu 86.53 38 P P 00 22 36.3 -0.8
TPUB lAmb lAmb 00 23 42.4
comp=Z,25nm,1.5s
YULB Yu-li 86.61 37 P P 00 22 38.4 +0.9
YULB lAmb lAmb 00 24 08.8
comp=Z,32nm,2.0s
LSZ Lusaka 86.93 136 P P 00 22 40.8 +1.7
comp=Z,0.9nm,0.7s,baz=25,slow=4.7,SNR=3.8
LSZ Lusaka 86.93 136 P P 00 22 40.8 +1.7
LSZ pmax pmax
comp=Z,48nm,2.0s
LSZ Lusaka 86.93 136 lAmb lAmb 00 22 57.1
comp=Z,48nm,2.0s
SIV San Ignacio 86.99 222 LR LR 00 56 04.0
comp=Z,538nm,21.1s,baz=56,slow=32
QIZ Qiongzhong 87.38 49 P P 00 22 41.7 +0.4
DLV T Lat 93.54 53 P P 00 23 10.9 +0.5
PMBI Palembang 105.97 61 P Pdif 00 24 12.0 +6.1
WRA Warramunga Arr 131.51 36 PKP PKiKP 00 29 06.6 -0.9
comp=Z,1.1nm,0.9s,baz=339,slow=2.8,SNR=4.7
ASAR Alice Springs 134.96 38 PKP PKiKP 00 29 13.5 -0.9
comp=Z,2.1nm,0.9s,baz=337,slow=2.5,SNR=16
MAW Mawson 143.74 140 PKP PKPdf 00 29 26.7 -0.7
comp=Z,1.4nm,0.8s,baz=301,slow=0.9,SNR=4.9
MAW Mawson 143.74 140 PKIKP PKPdf 00 29 27.0 -0.4
MAW Mawson 143.74 140 PKPdf PKPdf 00 29 27.0 -0.4
STKA Stephens Creek 144.71 32 PKP PKPdf 00 29 28.3 -2.0
comp=Z,4.2nm,0.8s,baz=13,slow=5.3,SNR=6.1
STKA Stephens Creek 144.71 32 PKIKP PKPdf 00 29 29.7 -0.6
STKA Stephens Creek 144.71 32 PKPdf 00 29 29.7 -0.6
QSPA South Pole Qui 154.60 180 PKPdf PKPbc 00 29 48.0 -5.4
VNDA Vanda 167.09 179 PKPab PKPab 00 31 03.2 +0.8
comp=Z,1.1nm,1.1s,baz=225,slow=4.3,SNR=3.1

JMA 24 00:19:23.4+0.6, 24°.97N×123°.47E, h98km, M1.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.66	220	eS	Sn	00 19 52.1	-0.7
	baz=116						
YOJ	Yonaguni jima	0.66	220	P	Pn	00 19 40.8	+0.6
YOJ				S	Sn	00 19 52.4	-0.4
YOJ	Yonaguni jima	0.66	220	eP	Pn	00 19 41.0	+0.8
	baz=116						
IRIF	Iriomote-Funau	0.68	159	P	Pn	00 19 40.4	0.0
IRIF				S	Sn	00 19 53.2	+0.1
JYNG	Yonagunijimaku	0.70	223	P	Pn	00 19 40.2	-0.5
JIJ	Ishigaki jima	0.86	134	P	Pn	00 19 42.0	-0.2
JIJ				S	Sn	00 19 56.1	-0.2
JKRS	Kuro-shima	0.88	146	S	Sn	00 19 57.6	+1.0

TAP 24 00:19:25.3, 24°.97N×122°.25E, h16km, ML2.6, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	Santiao Chiao	0.24	280	P	Pg	00 19 30.8	+0.1
	baz=275						
TWB1				S	Sg	00 19 34.9	+0.5
	baz=275						
TIPB	Shuangxi	0.39	271	P	Pb	00 19 33.6	-0.2
	baz=271						
TIPB				S	Sb	00 19 39.5	0.0
	baz=271						
NTC	Toucheng	0.40	254	eP	Pg	00 19 33.6	+0.1
	baz=263						
NTC				eS	Sb	00 19 40.0	+0.1
	baz=263						
NWF	Wu-fen Shan	0.44	284	eP	Pb	00 19 34.9	+0.1
	baz=284						
NWF				S	Sb	00 19 41.2	+0.1
	baz=284						
WFSB	Wu-fen Shan	0.44	284	eP	Pb	00 19 34.8	+0.2
	baz=284						
WFSB				eS	Sb	00 19 41.2	+0.2
	baz=284						
TWC	Suao	0.51	226	P	Pg	00 19 35.6	+0.1
	baz=219						
TWC				eS	Sg	00 19 42.1	-0.2
	baz=219						
TWE	Neicheng	0.58	245	eP	Pb	00 19 37.2	+0.1
	baz=244						
TWE				eS	Sn	00 19 46.8	-1.3
	baz=244						
TWA	Mucha	0.61	271	eP	Pb	00 19 37.9	+0.4
	baz=271						
TWA				eS	Sb	00 19 46.4	+0.6
	baz=271						
YM08	YM08	0.64	290	P	Pb	00 19 38.6	+0.5
	baz=277						
YM08				eS	Sb	00 19 47.3	+0.5
	baz=277						
YM01	YM01	0.64	286	P	Pb	00 19 38.8	+0.6
	baz=286						

YM01				S	Sb	00 19 47.6	+0.6		
	baz=286								
ENAH	**Nanao**	**0.65**	**218**	*eP*	Pg	00 19 38.1	-0.1		
	baz=212								
ENAH				S	Sg	00 19 46.3	-0.5		
	baz=212								
YM05	**YM05**	**0.65**	**288**	P	Pb	00 19 39.0	+0.6		
	baz=275								
YM05				*eS*	Sb	00 19 47.2	0.0		
	baz=275								
YM10	**YM10**	**0.65**	**287**	*eP*	Pb	00 19 39.1	+0.8		
	baz=287								
YM10				S	Sb	00 19 48.1	+0.9		
	baz=287								
TWY	**Chenhua**	**0.67**	**298**	P	Pb	00 19 39.3	+0.7		
	baz=285								
TWY				S	Sn	00 19 49.2	-0.9		
	baz=285								
YM04	**YM04**	**0.68**	**286**	*eP*	Pb	00 19 39.3	+0.6		
	baz=286								
YM04				*eS*	Sb	00 19 49.0	+1.2		
	baz=286								
YM03	**YM03**	**0.68**	**288**	*eP*	Pb	00 19 39.3	+0.5		
	baz=276								
YM03				*eS*	Sb	00 19 48.7	+0.7		
	baz=276								
PCYT	**Pengchaiyu**	**0.68**	**346**	*eP*	Pb	00 19 38.8	0.0		
	baz=332								
ENTT	**Nioudou**	**0.70**	**243**	*eP*	Pb	00 19 39.2	0.0		
	baz=252								
ENTT				*eS*	Sn	00 19 50.2	-0.9		
	baz=252								
NWLT	**Wulai**	**0.70**	**255**	P	Pb	00 19 39.5	+0.2		
	baz=254								
NWLT				S	Sg	00 19 48.5	0.0		
	baz=254								
ENA	**Nanau**	**0.71**	**221**	P	Pg	00 19 38.9	-0.3		
	baz=214								
ENA				*eS*	Sg	00 19 48.4	-0.1		
	baz=214								
YHNB	**Yeheng**	**0.85**	**250**	*eP*	Pb	00 19 41.4	-0.3		
	baz=264								
YHNB				*eS*	Sg	00 19 53.2	+0.2		
	baz=264								
NSK	**Sanguang**	**0.86**	**251**	*eP*	Pb	00 19 41.4	-0.5		
	baz=265								
NSK				*eS*	Sb	00 19 53.0	-0.3		
	baz=265								
NNSB	**Datong**	**0.95**	**236**	*eP*	Pb	00 19 43.2	-0.4		
	baz=225								
NNSB				*eS*	Sn	00 19 57.0	-0.4		
	baz=225								
NNSH	**Datong**	**0.95**	**236**	*eP*	Pb	00 19 43.6	+0.1		
	baz=236								
NNSH				S	Sn	00 19 57.2	-0.2		
	baz=236								
NNS	**Nan Shan**	**0.95**	**237**	*eP*	Pb	00 19 43.5	0.0		
	baz=225								
NNS				S	Sn	00 19 57.6	+0.1		
	baz=225								
NACB	**Ninganchiao**	**0.99**	**217**	*eP*	Pb	00 19 43.7	-0.4		
	baz=207								
NACB				S	Sb	00 19 56.5	-0.4		
	baz=207								
ETLH	**Xiulin Townshi**	**1.03**	**223**	*eP*	Pb	00 19 45.0	+0.1		
	baz=222								
ETLH				*eS*	Sg	00 19 58.5	-0.3		
	baz=222								
TWD	**Chiawan**	**1.06**	**214**	*eP*	Pb	00 19 45.1	-0.2		
	baz=213								
TWD				*eS*	Sb	00 19 59.2	+0.2		
	baz=213								
FUSS	**Fushou**	**1.16**	**232**	*eP*	Pg	00 19 47.5	-0.3		
	baz=232								
FUSS				*eS*	Sn	00 20 02.5	-0.2		
	baz=232								
LIOB	**Emei**	**1.17**	**254**	*eP*	Pn	00 19 46.6	-0.4		
	baz=255								
TWT	**Tachien**	**1.21**	**234**	*eP*	Pb	00 19 47.9	-0.1		
	baz=219								
TWT				*eS*	Sg	00 20 05.3	+0.8		
	baz=219								
WHF	**Hehuan Shan**	**1.21**	**228**	P	Pb	00 19 48.4	+0.3		
	baz=227								
WHF				*eS*	Sb	00 20 03.8	0.0		
	baz=227								
TDCB	**Techi**	**1.22**	**235**	*eP*	Pb	00 19 48.1	0.0		
	baz=220								
TDCB				*eS*	Sg	00 20 04.5	-0.4		
	baz=220								
CHGB	**Renai**	**1.33**	**228**	*eP*	Pb	00 19 50.4	+0.3		
	baz=227								
CHGB				*eS*	Sg	00 20 07.8	-0.6		
	baz=227								
VWDT	**VWDT**	**1.57**	**220**	*eP*	Pb	00 19 53.3	-0.7		
	baz=231								
VWDT				*eS*	Sb	00 20 14.8	+1.1		
	baz=231								
SMLT	**Sun Moon Lake**	**1.64**	**229**	*eP*	Pb	00 19 55.4	+0.2		
	baz=228								
SMLT				*eS*	Sg	00 20 17.0	-1.1		
	baz=228								
HGSD	**Ruisui**	**1.65**	**207**	*eP*	Pn	00 19 53.1	-0.5		
	baz=191								
HGSD				*eS*	Sb	00 20 17.0	+1.1		
	baz=191								
TYC	**Yuchr**	**1.65**	**231**	*eP*	Pb	00 19 56.0	+0.6		
	baz=230								
TYC				*eS*	Sg	00 20 17.6	-1.0		
	baz=230								
SSLB	**Suanglung**	**1.67**	**225**	*eP*	Pb	00 19 55.5	-0.1		
	baz=225								
SSLB				*eS*	Sb	00 20 16.6	+0.2		
	baz=225								
EHY	**Hungye**	**1.68**	**210**	*eP*	Pn	00 19 54.2	+0.2		
	baz=210								
EHY				*eS*	Sn	00 20 14.4	-0.9		
	baz=210								
YULB	**Yu-li**	**1.79**	**209**	*eP*	Pn	00 19 55.5	-0.1		
	baz=209								
YULB				*eS*	Sn	00 20 17.7	-0.3		
	baz=209								
TWF1	**Yuli**	**1.83**	**209**	*eP*	Pn	00 19 55.2	-0.9		
	baz=211								
TPUB	**Ta-pu**	**2.22**	**222**	*eP*	Pn	00 20 03.2	+1.7		
	baz=206								
TPUB				*eS*	Sb	00 20 32.8	+0.4		
	baz=206								
WTP	**Ta-pu**	**2.27**	**221**	*eP*	Pb	00 20 05.0	-1.0		
	baz=205								
WTP				*eS*	Sb	00 20 34.1	+0.2		
	baz=205								
TWK	**Hsinying**	**2.34**	**224**	*eP*	Pn	00 20 04.8	+1.8		
	baz=206								
TWK				*eS*	Sb	00 20 35.6	-0.1		
	baz=206								

IDC ***24*** *00:21:13.4±1.4, 32°.65N×47°.75E, h0km, mb3.6/10, mb1 3.8/15, mb1mx3.6/49, mbtmp3.7/15, ML3.8/5, Error ellipse: s-maj=29.2km s-min=15.8km az=164.0*
THR ***24*** *00:21:14.8±0.8, 32°.72N×47°.65E, h14km±6km, ML3.8*
TEH ***24*** *00:21:15.6, 32°.70N×47°.80E, h11km, ML3.7*

ISC 24 00:21:16.8±0.6**, 32°.65N**±0°.04×**47°.68E**±0°.04**, h23km, n75,**
σ1**°22/78, mb3.7**/13**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.34**	**276**	*eP*g	**Pb**	**00 21 24.4**	**+0.1**
IKFM	**Kafar-mosalman**	**0.89**	**9**	*eP*g	**Pb**	**00 21 31.7**	**-1.8**
IKFM				*e*		00 21 45.7	
IKMR	**Kamar-syah**	**1.05**	**34**	*eP*g	**Pn**	**00 21 33.7**	**-2.4**
IKMR				*e*		00 21 52.8	
SHGR	**Shooshtar-Gavs**	**1.09**	**119**	*eP*g	**Pn**	**00 21 35.7**	**-0.9**
SHGR				*eS*g	**Sn**	**00 21 52.0**	**+1.0**
SHGR	**Shooshtar-Gavs**	**1.09**	**119**	*eP*g	**Pn**	**00 21 35.7**	**-0.9**
IDOB	**Doab**	**1.21**	**20**	*eP*g	**Pn**	**00 21 37.3**	**-1.3**
BMDN	**Meydan**	**1.40**	**43**	*eP*g	**Pn**	**00 21 40.6**	**-0.5**
BMDN				*e*		00 22 06.3	
IKOM	**Komasi**	**1.53**	**355**	*eP*g	**Pb**	**00 21 44.7**	**+0.1**
IKOM				*e*		00 22 10.5	
AHWZ	**Ahwaz**	**1.55**	**148**	*eP*g	**Pb**	**00 21 45.2**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.71**	**342**	*eP*g	**Pb**	**00 21 47.3**	**-0.4**
KCHF				*e*		00 22 17.2	
KER	**Kermanshah**	**1.79**	**345**	*eP*g	**Pb**	**00 21 48.4**	**-0.7**
IBZA	**Bozab**	**1.82**	**5**	*eP*g	**Pb**	**00 21 49.0**	**-0.7**
IBZA				*e*		00 22 17.0	

IGHG	**Ghaleghazi**	**1.92**	**331**	*eP*n	**Pb**	**00 21 50.7**	**-0.6**
IGHG				*e*		00 22 33.0	
IVIS	**Veis**	**2.00**	**340**	*eP*n	**Pn**	**00 21 50.9**	**+1.6**
IVIS				*e*		00 22 24.1	
KHMZ	**Khomeyn**	**2.20**	**60**	*eP*n	**Pn**	**00 21 52.8**	**+0.7**
KHMZ	**Khomeyn**	**2.20**	**60**	*eP*n	**Pn**	**00 21 52.8**	**+0.7**
IDHR	**Dehrash**	**2.32**	**333**	*eP*n	**Pn**	**00 21 55.8**	**+2.1**
IDHR				*e*		00 22 01.6	
ILIN	**Lien**	**2.34**	**345**	*eP*n	**Pn**	**00 21 56.1**	**+1.9**
ILIN				*e*		00 22 37.0	
SNGE	**Sanandaj**	**2.46**	**354**	*eP*n	**Pn**	**00 21 56.0**	**+0.3**
SNGE				*eS*g	**Sb**	**00 22 29.7**	**-0.6**
SNGE	**Sanandaj**	**2.46**	**354**	*eP*n	**Pn**	**00 21 56.0**	**+0.3**
JHBN	**Jahan bin**	**2.56**	**99**	*eP*n	**Pn**	**00 21 57.7**	**+0.6**
JHBN				*e*		00 22 42.3	
IPIR	**Pirpir**	**2.71**	**88**	*eP*n	**Pn**	**00 21 59.9**	**+0.7**
IPIR				*e*		00 22 38.6	
ROKH	**ROKH**	**2.85**	**95**	*eP*n	**Pn**	**00 22 01.8**	**+0.7**
ROKH				*e*		00 22 55.9	
IBRJ	**Brojen**	**3.12**	**103**	*eP*n	**Pn**	**00 22 04.8**	**0.0**
IRAZ	**Razeghan**	**3.32**	**34**	*eP*n	**Pn**	**00 22 09.6**	**+2.0**
IKLH	**Kolahrood**	**3.34**	**77**	*eP*n	**Pn**	**00 22 09.0**	**+1.1**
IKLH				*e*		00 23 13.4	
QABG	**Abgarm-Qazvin**	**3.44**	**27**	*eP*n	**Pn**	**00 22 10.1**	**+0.9**
IGAR	**Gharneh**	**3.69**	**93**	*eP*n	**Pn**	**00 22 13.1**	**+0.4**
IGAR				*e*		00 22 25.8	
KLNJ	**Kolanjah**	**3.71**	**115**	*eP*n	**Pn**	**00 22 13.5**	**+0.5**
IMHD	**Mahdasht**	**3.91**	**38**	*eP*n	**Pn**	**00 22 17.2**	**+1.6**
IZEF	**Zefreh**	**3.92**	**85**	*eP*n	**Pn**	**00 22 16.7**	**+0.8**
QSDN	**Sirdan**	**4.04**	**17**	*eP*n	**Pn**	**00 22 19.4**	**+1.9**
IRAM	**Ramesheh**	**4.07**	**101**	*eP*n	**Pn**	**00 22 17.5**	**-0.4**
IHSD	**Hasanabad**	**4.08**	**46**	*eP*n	**Pn**	**00 22 19.2**	**+1.3**
IGZV	**Ghazvin**	**4.28**	**29**	*eP*n	**Pn**	**00 22 21.9**	**+1.2**
QALM	**Alamut, Qazvin**	**4.50**	**32**	*eP*n	**Pn**	**00 22 25.6**	**+1.8**
DAMV	**Damavand**	**4.64**	**49**	*eP*n	**Pn**	**00 22 26.5**	**+0.8**
DAMV	**Damavand**	**4.64**	**49**	*eP*n	**Pn**	**00 22 26.5**	**+0.8**
IDMV	**Damavand**	**4.64**	**50**	*eP*n	**Pn**	**00 22 26.7**	**+0.9**
ANAR	**Anarak**	**5.11**	**82**	*eP*n	**Pn**	**00 22 32.7**	**+0.6**
ISAD	**Sadrabad**	**5.14**	**97**	*eP*n	**Pn**	**00 22 32.5**	**-0.1**
IFIR	**Firoozkooh**	**5.16**	**53**	*eP*n	**Pn**	**00 22 33.8**	**+0.9**
ILAS	**Lasjerd**	**5.16**	**57**	*eP*n	**Pn**	**00 22 33.9**	**+1.0**
ISRB	**Sarab**	**5.17**	**360**	*eP*n	**Pn**	**00 22 35.5**	**+2.6**
IAZR	**Azarshahr**	**5.21**	**345**	*eP*n	**Pn**	**00 22 35.9**	**+2.3**
IPRN	**Peran**	**5.26**	**46**	*eP*n	**Pn**	**00 22 34.5**	**+0.4**
IALA	**Alasht**	**5.45**	**50**	*eP*n	**Pn**	**00 22 38.4**	**+1.5**
ISHM	**Shahmirzad**	**5.61**	**54**	*eP*n	**Pn**	**00 22 41.2**	**+2.1**
IHRS	**Heris**	**5.68**	**355**	*eP*n	**Pn**	**00 22 42.6**	**+2.6**
ICHK	**Chekchek**	**5.70**	**92**	*eP*n	**Pn**	**00 22 39.5**	**-0.8**
IANJ	**Anjilo**	**5.89**	**60**	*eP*n	**Pn**	**00 22 43.6**	**+0.7**
IMEH	**Mehriz**	**6.02**	**100**	*eP*n	**Pn**	**00 22 45.3**	**+0.6**
IGLO	**Ghaloghah**	**6.36**	**51**	*eP*n	**Pn**	**00 22 51.2**	**+1.8**
IBAF	**Bafgh**	**6.77**	**97**	*eP*n	**Pn**	**00 22 54.6**	**-0.3**
ASF	**Jabal al Asfar**	**9.13**	**270**	Pn	**Pn**	**00 23 27.3**	**+0.1**
	0.6nm,0.3s,baz=49,slow=7.5,SNR=9.7						
ASF				Sn	**Sn**	**00 25 06.5**	**-2.9**
	0.3nm,0.3s,baz=119,slow=19,SNR=1.4						
ASF				Lg	Lg	00 26 07.0	
	0.3nm,0.3s,baz=46,slow=20,SNR=5.2						
MMAI	**Mount Meron Ar**	**10.34**	**275**	Pn	**Pn**	**00 23 43.7**	**-0.1**
	0.2nm,0.3s,baz=94,slow=16,SNR=2.4						
WSAR	**Wadi Sarin**	**13.46**	**131**	Pn	**Pn**	**00 24 25.8**	**-0.6**
	0.9nm,0.3s,baz=306,slow=11,SNR=11						
IDI	**Anoyia**	**19.08**	**284**	P	**Pn**	**00 25 38.8**	**0.0**
	0.7nm,0.3s,baz=356,slow=8.5,SNR=9.5						
AKTO	**Aktyubinsk**	**19.35**	**20**	P	**P**	**00 25 41.0**	**+0.4**
	0.2nm,0.3s,baz=189,slow=12,SNR=4.2						
MLR	**Muntele Rosu**	**21.12**	**314**	P	**P**	**00 26 00.5**	**+0.6**
	0.9nm,0.4s,baz=126,slow=19,SNR=1.9						
AKASG	**Malin Array Be**	**22.60**	**328**	P	**P**	**00 26 16.0**	**+0.4**
	1.9nm,0.6s,baz=139,slow=9.6,SNR=5.0						
KOLS	**Kolonicke sedl**	**25.02**	**318**	*eP*	**P**	**00 26 40.2**	**+1.2**
CRVS	**Cervenica-Dubn**	**25.47**	**317**	*eP*	**P**	**00 26 46.6**	**+3.6**
BVAR	**Borovoye Array**	**26.11**	**32**	P	**P**	**00 26 48.4**	**-0.3**
	1.3nm,0.7s,baz=220,slow=7.2,SNR=7.2						
VYHS	**Vyhne**	**26.82**	**315**	*eP*	**P**	**00 26 56.8**	**+1.5**
MKAR	**Makanchi Array**	**29.87**	**52**	P	**P**	**00 27 21.9**	**-0.5**
	0.4nm,0.7s,baz=251,slow=6.0,SNR=4.2						
GERES	**GERESS Array B**	**30.09**	**313**	P	**P**	**00 27 24.9**	**+0.3**
	0.1nm,0.3s,baz=100,slow=9.4,SNR=2.4						
SQTA	**Sanit Quirin**	**31.21**	**309**	*i* P	**P**	**00 27 34.2**	**-0.3**
	0.5nm,0.2s						
MOTA	**Moosalm**	**31.31**	**309**	*i* P	**P**	**00 27 35.9**	**+0.5**
	0.3nm,0.2s						
FINES	**FINESS Array B**	**32.03**	**341**	P	**P**	**00 27 40.7**	**-0.6**
	0.5nm,0.4s,baz=144,slow=8.8,SNR=9.0						
DAVA	**Damuels**	**32.11**	**308**	*i* P	**P**	**00 27 42.4**	**+0.1**
	2.3nm,0.4s						
ZALV	**Zalesovo Beam**	**33.84**	**40**	P	**P**	**00 27 57.5**	**+0.3**
	0.5nm,0.3s,baz=229,slow=7.8,SNR=2.6						
ARCES	**ARCESS Array B**	**38.98**	**348**	P	**P**	**00 28 40.8**	**-0.1**
	1.4nm,1.0s,baz=171,slow=8.6,SNR=5.4						
ESDC	**Sonseca Array**	**41.80**	**295**	P	**P**	**00 29 05.2**	**+0.5**
	0.3nm,0.4s,baz=77,slow=8.1,SNR=8.5						
TORD	**Torodi Ar. Bea**	**46.18**	**256**	P	**P**	**00 29 40.2**	**+0.2**
	0.3nm,0.5s,baz=71,slow=8.2,SNR=12						

JMA ***24*** *00:41:37.7±0.1, 24°.01N×121°.66E, h26km±1km, M2.2*
TAP ***24*** *00:41:38.8, 24°.09N×121°.63E, h25km, ML3.0, B*

ISC 24 00:41:38.7±0.9**, 24°.05N**±0°.01×**121°.66E**±0°.02**, h29**km±4km**,**
n97, σ0**°76/190, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.06**	**296**	P	**Pb**	**00 41 43.4**	**-0.3**
	baz=256						
TWD				S	**Sb**	**00 41 46.7**	**-0.3**
	baz=256						
HWA	**Hwalien**	**0.09**	**212**	P	**Pb**	**00 41 43.9**	**+0.1**
	baz=188						
HWA				S	**Sb**	**00 41 48.4**	**+1.1**
	baz=188						
NACB	**Ninganchiao**	**0.13**	**335**	P	**Pb**	**00 41 43.6**	**-0.5**
	baz=338						
NACB				S	**Sb**	**00 41 47.5**	**-0.3**
	baz=338						
ETLH	**Xiulin Townshi**	**0.22**	**314**	P	**Pb**	**00 41 44.6**	**-0.6**
	baz=311						
ETLH				S	**Sb**	**00 41 48.9**	**-0.7**
	baz=311						
ESL	**Shilin**	**0.31**	**221**	*eP*	**Pn**	**00 41 46.4**	**-1.0**
	baz=212						
ESL				*eS*	**Sn**	**00 41 51.7**	**-1.4**
	baz=212						
WHF	**Hehuan Shan**	**0.37**	**284**	P	**Pb**	**00 41 46.9**	**-0.5**
	baz=279						
WHF				S	**Sb**	**00 41 52.6**	**-0.7**
	baz=279						
ENA	**Nanau**	**0.38**	**12**	P	**Pb**	**00 41 47.1**	**-0.2**
	baz=17						
ENA				S	**Sb**	**00 41 53.1**	**+0.1**
	baz=17						
ENAH	**Nanao**	**0.42**	**20**	*eP*	**Pb**	**00 41 47.8**	**-0.1**
	baz=24						
ENAH				*eS*	**Sb**	**00 41 54.2**	**+0.2**
	baz=24						
FUSS	**Fushou**	**0.42**	**297**	P	**Pb**	**00 41 47.9**	**-0.2**
	baz=294						
FUSS				S	**Sb**	**00 41 54.4**	**-0.1**
	baz=294						
EGFH	**Guangfu**	**0.44**	**209**	*eP*	**Pn**	**00 41 48.5**	**-0.6**
	baz=204						
EGFH				*eS*	**Sn**	**00 41 55.2**	**-0.8**
	baz=204						
CHGB	**Renai**	**0.44**	**271**	*eP*	**Pb**	**00 41 48.0**	**-0.3**
	baz=266						
CHGB				S	**Sb**	**00 41 54.9**	**0.0**
	baz=266						
NNSB	**Datong**	**0.45**	**326**	P	**Pb**	**00 41 48.1**	**-0.3**
	baz=326						
NNSB				S	**Sb**	**00 41 54.5**	**-0.5**
	baz=326						
NNSH	**Datong**	**0.45**	**326**	P	**Pb**	**00 41 48.0**	**-0.4**
	baz=326						
NNSH				S	**Sb**	**00 41 54.5**	**-0.5**
	baz=326						
NNS	**Nan Shan**	**0.46**	**326**	*eP*	**Pb**	**00 41 48.2**	**-0.5**
	baz=326						
NNS				S	**Sb**	**00 41 54.9**	**-0.4**
	baz=326						
TWT	**Tachien**	**0.48**	**295**	*eP*	**Pn**	**00 41 49.2**	**-0.6**
	baz=290						
TWT				*eS*	**Sb**	**00 41 55.9**	**0.0**
	baz=290						
TDCB	**Techi**	**0.50**	**294**	*eP*	**Pn**	**00 41 49.1**	**-0.9**
	baz=290						
TDCB				*eS*	**Sb**	**00 41 55.4**	**-0.9**
	baz=290						
VWDT	**VWDT**	**0.56**	**238**	P	**Pb**	**00 41 49.6**	**-0.4**
	baz=233						
VWDT				S	**Sn**	**00 41 58.1**	**-0.9**
	baz=233						
TWC	**Suao**	**0.58**	**18**	*eP*	**Pb**	**00 41 50.2**	**-0.3**
	baz=21						
TWC				S	**Sb**	**00 41 58.6**	**+0.1**
	baz=21						
ENTT	**Nioudou**	**0.59**	**352**	*eP*	**Pb**	**00 41 50.4**	**-0.2**
	baz=354						
ENTT				S	**Sb**	**00 41 58.6**	**-0.2**
	baz=354						
HGSD	**Ruisui**	**0.60**	**201**	*eP*	**Pn**	**00 41 51.2**	**-0.1**
	baz=197						
HGSD				*eS*	**Sn**	**00 42 01.6**	**+1.5**
	baz=197						
EHY	**Hungye**	**0.62**	**209**	*eP*	**Pn**	**00 41 51.0**	**-0.7**
	baz=205						
EHY				*eS*	**Sn**	**00 42 01.4**	**+0.7**
	baz=205						
TWE	**Neicheng**	**0.67**	**1**	*eP*	**Pn**	**00 41 51.8**	**-0.4**
	baz=4.0						
TWE				*eS*	**Sb**	**00 42 00.8**	**+0.1**
	baz=4.0						
YHNB	**Yeheng**	**0.67**	**337**	*eP*	**Pb**	**00 41 51.4**	**-0.5**
	baz=338						
YHNB				*eS*	**Sb**	**00 41 59.8**	**-1.1**
	baz=338						
NSK	**Sanguang**	**0.68**	**336**	*eP*	**Pb**	**00 41 51.8**	**-0.3**
	baz=337						
NSK				*eS*	**Sb**	**00 42 00.1**	**-1.1**
	baz=337						
WHP	**Taichung City**	**0.69**	**289**	*eP*	**Pn**	**00 41 52.6**	**0.0**
	baz=286						
WHP				*eS*	**Sn**	**00 42 01.8**	**-0.6**
	baz=286						
SSLB	**Suanglung**	**0.69**	**248**	*eP*	**Pb**	**00 41 51.9**	**-0.5**
	baz=244						
SSLB				S	**Sn**	**00 42 01.8**	**-0.7**
	baz=244						
SMLT	**Sun Moon Lake**	**0.71**	**256**	P	**Pn**	**00 41 52.6**	**-0.4**
	baz=252						
SMLT				S	**Sn**	**00 42 02.1**	**-0.9**
	baz=252						
NWLT	**Wulai**	**0.73**	**349**	*eP*	**Pb**	**00 41 52.7**	**-0.4**
	baz=350						
NWLT				*eS*	**Sb**	**00 42 02.0**	**-0.7**
	baz=350						
YULB	**Yu-li**	**0.74**	**207**	*eP*	**Pn**	**00 41 53.1**	**-0.1**
	baz=203						
YULB				*eS*	**Sn**	**00 42 03.2**	**-0.3**
	baz=203						
TYC	**Yuchr**	**0.75**	**259**	*eP*	**Pn**	**00 41 53.0**	**-0.4**
	baz=255						
TYC				*eS*	**Sb**	**00 42 02.5**	**-0.5**
	baz=255						
EYUL	**Yuli**	**0.77**	**204**	*eP*	**Pn**	**00 41 54.5**	**+0.9**
	baz=201						
EYUL				*eS*	**Sn**	**00 42 06.1**	**+1.8**
	baz=201						
TWF1	**Yuli**	**0.77**	**205**	*eP*	**Pn**	**00 41 53.8**	**+0.1**
	baz=202						
TWF1				*eS*	**Sn**	**00 42 06.1**	**+1.7**
	baz=202						
NTC	**Toucheng**	**0.81**	**11**	*eP*	**Pn**	**00 41 54.5**	**+0.3**
	baz=13						
NTC				*eS*	**Sn**	**00 42 05.5**	**+0.1**
	baz=13						
LIOB	**Emei**	**0.83**	**315**	*eP*	**Pn**	**00 41 54.6**	**+0.1**
	baz=314						
LIOB				*eS*	**Sn**	**00 42 05.7**	**-0.1**
	baz=314						
NSTT	**Nanjuang**	**0.83**	**314**	*eP*	**Pn**	**00 41 54.6**	**+0.1**
	baz=313						
NSTT				S	**Sn**	**00 42 05.5**	**-0.3**
	baz=313						
TWQ1	**Liyutan**	**0.86**	**290**	*eP*	**Pn**	**00 41 55.4**	**+0.5**
	baz=288						
TWQ1				*eS*	**Sn**	**00 42 07.1**	**+0.6**
	baz=288						
WJS	**Zhushan**	**0.88**	**255**	*eP*	**Pn**	**00 41 56.1**	**+0.9**
	baz=252						
WJS				*eS*	**Sn**	**00 42 08.5**	**+1.5**
	baz=252						
NSY	**Sanyi**	**0.89**	**294**	*eP*	**Pn**	**00 41 56.0**	**+0.6**
	baz=292						
NSY				S	**Sn**	**00 42 07.9**	**+0.5**
	baz=292						
WNT	**Mingjian**	**0.91**	**259**	*eP*	**Pn**	**00 41 56.1**	**+0.5**
	baz=256						
WNT				*eS*	**Sn**	**00 42 08.5**	**+0.8**
	baz=256						
FULB	**Fuli**	**0.91**	**201**	*eP*	**Pn**	**00 41 56.9**	**+1.2**
	baz=199						
FULB				*eS*	**Sn**	**00 42 09.8**	**+2.0**
	baz=199						
NMLH	**Miaoli**	**0.93**	**302**	*eP*	**Pn**	**00 41 56.6**	**+0.8**
	baz=300						
NMLH				*eS*	**Sn**	**00 42 09.3**	**+1.1**
	baz=300						
TWA	**Mucha**	**0.93**	**356**	*eP*	**Pn**	**00 41 55.9**	**-0.4**
	baz=357						
TWA				*eS*	**Sn**	**00 42 08.1**	**-0.1**
	baz=357						
TIPB	**Shuangxi**	**0.93**	**10**	*eP*	**Pb**	**00 41 56.4**	**+0.1**
	baz=11						
TIPB				S	**Sn**	**00 42 09.0**	**+0.8**
	baz=11						
TATO	**Taipei**	**0.93**	**351**	*eP*	**Pn**	**00 41 55.4**	**-0.5**
	baz=352						
TATO				*eS*	**Sn**	**00 42 08.2**	**-0.1**
	baz=352						
ALS	**Alishan**	**0.95**	**235**	*eP*	**Pn**	**00 41 56.5**	**+0.1**
	baz=232						
ALS				*eS*	**Sn**	**00 42 10.1**	**+1.0**
	baz=232						
PTSB	**Yuanli**	**0.95**	**294**	*eP*	**Pb**	**00 41 57.0**	**+0.3**
	baz=292						
PTSB				*eS*	**Sn**	**00 42 10.0**	**+1.1**
	baz=292						
WDJ	**Dajia District**	**0.97**	**288**	*eP*	**Pb**	**00 41 57.4**	**+0.3**
	baz=286						
WDJ				*eS*	**Sn**	**00

YM10				*eS*		**Sb**	**00 42 13.1**	**-0.1**
	baz=356							
YM05	**YM05**	**1.11**	**356**	*eP*		**Pb**	**00 41 59.5**	**+0.1**
	baz=356							
YM05				*eS*		**Sb**	**00 42 13.9**	**+0.4**
	baz=356							
EDH	**Donghe**	**1.12**	**197**	*eP*		**Pb**	**00 41 58.6**	**-0.9**
	baz=195							
EDH				*eS*		**Sb**	**00 42 14.7**	**+0.9**
	baz=195							
YM03	**YM03**	**1.13**	**355**	*eP*		**Pb**	**00 41 59.4**	**-0.2**
	baz=355							
YM03				*eS*		**Sb**	**00 42 14.1**	**+0.2**
	baz=355							
RLNB	**Erlin**	**1.20**	**263**	*eP*		**Pb**	**00 42 00.6**	**-0.1**
	baz=260							
RLNB				*eS*		**Sb**	**00 42 16.2**	**+0.3**
	baz=260							
TPUB	**Ta-pu**	**1.20**	**232**	*eP*		**Pb**	**00 42 00.8**	**-0.1**
	baz=229							
TPUB				*eS*		**Sb**	**00 42 16.6**	**+0.5**
	baz=229							
WTK	**Tuku**	**1.22**	**253**	*eP*		**Pb**	**00 42 01.1**	**-0.1**
	baz=250							
WTK				*eS*		**Sb**	**00 42 16.6**	**+0.1**
	baz=250							
TWY	**Chenhua**	**1.22**	**358**	*eP*		**Pb**	**00 42 01.0**	**-0.2**
	baz=358							
TWY				*eS*		**Sb**	**00 42 16.3**	**-0.2**
	baz=358							
LONT	**Longtian**	**1.24**	**203**	*eP*		**Pb**	**00 42 00.8**	**-0.7**
	baz=201							
LONT				*eS*		**Sb**	**00 42 17.8**	**+0.7**
	baz=201							
JYNG	**Yonagunijimaku**	**1.24**	**71**	P		**Pn**	**00 42 00.4**	**+0.3**
JYNG				S		**Sn**	**00 42 16.3**	**+0.4**
WTP	**Ta-pu**	**1.25**	**230**	*eP*		**Pb**	**00 42 01.9**	**+0.2**
	baz=227							
WTP				*eS*		**Sb**	**00 42 18.2**	**+0.7**
	baz=227							
CHY	**Chiayi**	**1.26**	**244**	*eS*		**Sb**	**00 42 18.4**	**+0.8**
	baz=241							
YOJ	**Yonaguni jima**	**1.30**	**72**	*eP*		**Pn**	**00 42 01.0**	**+0.1**
	baz=73							
YOJ				*eS*		**Sn**	**00 42 18.0**	**+0.6**
	baz=73							
YOJ	**Yonaguni jima**	**1.30**	**72**	P		**Pn**	**00 42 01.1**	**+0.1**
YOJ				S		**Sn**	**00 42 17.9**	**+0.5**
TWK	**Hsinying**	**1.33**	**234**	*eP*		**Pb**	**00 42 02.5**	**-0.5**
	baz=231							
TWK				*eS*		**Sb**	**00 42 19.8**	**+0.2**
	baz=231							
TWG	**Pinlang**	**1.34**	**204**	*eP*		**Pb**	**00 42 03.3**	**+0.1**
	baz=201							
TWG				*eS*		**Sb**	**00 42 20.1**	**+0.2**
	baz=201							
TWGBT	**Beinan**	**1.34**	**203**	*eP*		**Pb**	**00 42 03.4**	**+0.2**
	baz=201							
TWGBT				*eS*		**Sb**	**00 42 19.6**	**-0.4**
	baz=201							
CHN1	**Nanshi**	**1.35**	**230**	*eP*		**Pb**	**00 42 03.1**	**-0.2**
	baz=228							
CHN1				*eS*		**Sb**	**00 42 20.5**	**+0.2**
	baz=228							
SNST	**Tainan City**	**1.35**	**232**	*eP*		**Pb**	**00 42 02.9**	**-0.5**
	baz=230							
SNST				*eS*		**Sb**	**00 42 20.6**	**+0.3**
	baz=230							
LDUT	**Ludao**	**1.38**	**187**	*eP*		**Pn**	**00 42 02.4**	**+0.2**
	baz=186							
LDUT				*eS*		**Sb**	**00 42 20.6**	**-0.7**
	baz=186							
SLGT	**Liugui**	**1.40**	**222**	*eP*		**Pb**	**00 42 03.7**	**-0.7**
	baz=219							
SLGT				*eS*		**Sb**	**00 42 22.0**	**+0.2**
	baz=219							
ICHU	**Yijhu**	**1.44**	**242**	*eP*		**Pb**	**00 42 04.4**	**-0.5**
	baz=239							
ICHU				*eS*		**Sb**	**00 42 22.9**	**+0.1**
	baz=239							
ECL	**Taimali**	**1.59**	**204**	*eP*		**Pb**	**00 42 06.5**	**-0.9**
	baz=202							
ECL				*eS*		**Sb**	**00 42 26.7**	**-0.3**
	baz=202							
SSD	**Sandimen**	**1.61**	**216**	*eP*		**Pb**	**00 42 06.8**	**-1.0**
	baz=214							
SSD				*eS*		**Sb**	**00 42 27.0**	**-0.6**
	baz=214							
TSMG	**Majia**	**1.63**	**215**	*eP*		**Pb**	**00 42 07.0**	**-1.2**
	baz=213							
TSMG				*eS*		**Sb**	**00 42 27.5**	**-0.9**
	baz=213							
MASBT	**Mashibuluo**	**1.72**	**213**	*eP*		**Pb**	**00 42 08.2**	**-1.4**
	baz=212							
MASBT				*eS*		**Sb**	**00 42 29.9**	**-0.9**
	baz=212							
IRIF	**Iriomote-Funau**	**1.91**	**81**	P		**Pn**	**00 42 09.9**	**+0.5**
IRIF				*eS*		**Sn**	**00 42 32.9**	**+0.4**
SCZT	**Fangliau**	**1.93**	**210**	*eP*		**Pb**	**00 42 11.2**	**-2.0**
	baz=208							
SCZT				*eS*		**Sb**	**00 42 35.0**	**-1.8**
	baz=208							
HATJ	**Hateruma jima**	**1.96**	**89**	S		**Sn**	**00 42 34.1**	**+0.3**
PHUB	**P'eng-hu**	**1.98**	**255**	*eP*		**Pn**	**00 42 11.1**	**+0.7**
	baz=253							
PHUB				*eS*		**Sn**	**00 42 35.5**	**+1.2**
	baz=253							
PNG	**Penghu**	**1.98**	**256**	*eP*		**Pn**	**00 42 11.5**	**+1.1**
	baz=254							
PNG				*eS*		**Sn**	**00 42 35.2**	**+0.9**
	baz=254							
SLIU	**Shizi**	**1.99**	**204**	*eP*		**Pb**	**00 42 12.8**	**-1.6**
	baz=202							
SLIU				*eS*		**Sb**	**00 42 37.2**	**-1.5**
	baz=202							
WDGT	**Dungji**	**1.99**	**247**	*eP*		**Pn**	**00 42 11.5**	**+1.0**
	baz=245							
WDGT				*eS*		**Sn**	**00 42 36.0**	**+1.5**
	baz=245							
JKRS	**Kuro-shima**	**2.16**	**85**	P		**Pn**	**00 42 13.2**	**+0.5**
JKRS				*eS*		**Sn**	**00 42 39.5**	**+1.0**
VWUC	**VWUC**	**2.22**	**295**	*eP*		**Pn**	**00 42 13.6**	**+0.1**
	baz=294							
VWUC				*eS*		**Sn**	**00 42 39.3**	**-0.7**
	baz=294							
TWKBT	**Hengchun**	**2.24**	**200**	*eP*		**Pb**	**00 42 15.8**	**-2.7**
	baz=199							
TWKBT				*eS*		**Sb**	**00 42 42.7**	**+2.1**
	baz=199							
JIJ	**Ishigaki jima**	**2.29**	**82**	P		**Pn**	**00 42 14.8**	**+0.2**
JIJ				*eS*		**Sn**	**00 42 40.8**	**-1.1**
JISG	**Ishigakijimahi**	**2.48**	**77**	P		**Pn**	**00 42 17.8**	**+0.6**
JISG				S		**Sn**	**00 42 45.6**	**-0.9**
PTMZ	**Houxiangcun**	**2.51**	**294**	*eP*		**Pn**	**00 42 17.9**	**+0.3**
	baz=292							
PTMZ				*eS*		**Sn**	**00 42 46.3**	**-1.0**
	baz=292							

*IDC **24** 00:41:52.1±1.4, 1′.43N×126′.21E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.6/53, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=112.5km s-min=18.6km az=67.0*

*DJA **24** 00:41:55.6±0.5, 1°.8N×12°.6E±°, h10km, M3.8/6, mb3.6/1, MLv3.9/6*

ISC 24 00:41:57.6±1.3, **1°.5N**±0°.2×**126°.61E**±0°.09, **h47**km, **n10, σ1§45/10, mb3.9/5, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.04**	**133**	P	**Pn**	**00 42 13.9**	**-2.0**
KMSI	**Cibinong**	**2.78**	**251**	P	**Pn**	**00 42 37.7**	**-1.9**
GTOI	**Gorontalo**	**3.69**	**257**	P	**Pn**	**00 42 51.4**	**-0.8**
LUWI	**Luwuk**	**4.59**	**237**	P	**Pn**	**00 43 03.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**19.49**	**183**	P	**P**	**00 46 20.2**	**-0.6**
	0.1nm,0.3s,baz=13,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**22.61**	**161**	P	**P**	**00 46 54.7**	**+0.1**
	2.3nm,0.4s,baz=338,slow=11,SNR=15						
ASAR	**Alice Springs**	**25.99**	**165**	P	**P**	**00 47 27.5**	**+1.2**
	0.4nm,0.5s,baz=347,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**36.10**	**158**	P	**P**	**00 48 57.1**	**+1.9**
	0.6nm,0.2s,baz=338,slow=8.6,SNR=3.2						
MKAR	**Makanchi Array**	**59.32**	**326**	P	**P**	**00 51 54.7**	**-0.1**
	0.3nm,0.4s,baz=118,slow=7.3,SNR=6.6						
KURBB	**Kurchatov Arra**	**63.55**	**328**	P	**P**	**00 52 23.4**	**+0.1**
	0.4nm,0.3s,baz=129,slow=6.3,SNR=8.9						

IDC 24 00:46:18.6±2.2, **9°.68S**×**159°.84E, h0**km, **mb3.8**/5, **mb1 4.0**/5, **mb1mx3.6**/40, **mbtmp3.8**/5, **Error ellipse: s-maj=84.2km s-min=10.8km az=126.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.27**	**24**	Pn	Pn	00 46 30.0	+0.2
	3μm,0.3s,baz=185,slow=14,SNR=360						
HNR				Sn	Sb	00 46 36.4	+5.0
	8μm,0.3s,baz=140,slow=22,SNR=28						
WRA	**Warramunga Arr**	**26.64**	**245**	P	P	00 51 59.0	-0.2
	1.9nm,1.0s,baz=71,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**28.40**	**237**	P	P	00 52 13.7	-1.3
	0.4nm,0.4s,baz=61,slow=9.7,SNR=5.5						
SONM	**Songino Array**	**74.20**	**326**	P	P	00 57 58.4	+1.0
	0.4nm,0.3s,baz=137,slow=6.0,SNR=1.6						
ILAR	**Eielson Array**	**84.16**	**20**	P	P	00 58 51.4	0.0
	0.5nm,0.5s,baz=242,slow=4.3,SNR=8.8						
MKAR	**Makanchi Array**	**88.58**	**318**	P	P	00 59 14.2	+0.7
	0.4nm,0.8s,baz=106,slow=5.1,SNR=2.8						

*SJA **24** 00:56:33.7±0.7, 21′.32S×68°.79W, h110km±4km, ML4.0, MW3.9*

*VAO **24** 00:56:34.7±0.5, 21′.33S×68°.49W, h98km±5km, mb3.9*

*GUC **24** 00:56:35.3±0.7, 21′.35S×68°.73W, h102km±4km, ML3.9*

*IDC **24** 00:56:35.6±1.1, 21′.47S×68°.19W, h96km±12km, mb4.1/3, mb1 4.0/5, mb1mx3.6/33, mbtmp4.4/5, Error ellipse: s-maj=44.3km s-min=13.6km az=121.0*

ISC 24 00:56:33.7±0.6, **21°.30S**±0°.03×**68°.74W**±0°.04, **h103**km±6km, **n71, σ1§73**/105, **mb4.2**/3, **8C-5D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.68**	**224**	⇑*iP*	**Pn**	**00 56 52.4**	**+0.9**
PB09				*i* S	**Sn**	**00 57 05.9**	**+1.1**
PB09				IAML		00 57 08.0	
	comp=E,4μm,0.3s						
PB09	**IPOC Station P**	**0.68**	**224**	*eP*	**Pn**	**00 56 52.2**	**+0.8**
PB09				*eS*	**Sn**	**00 57 06.2**	**+1.4**
PB09				IAML		00 57 07.1	
	comp=Z,4μm,0.3s						
PB01	**IPOC Station P**	**0.75**	**290**	⇓*iP*	**Pn**	**00 56 52.6**	**+0.7**
PB01				*i* S	**Sn**	**00 57 06.6**	**+0.9**
PB01				IAML		00 57 08.3	
	comp=N,6μm,0.2s						
PB01	**IPOC Station P**	**0.75**	**290**	*eP*	**Pn**	**00 56 52.7**	**+0.7**
PB01				*eS*	**Sn**	**00 57 06.7**	**+1.1**
PB01				IAML		00 57 09.3	
	comp=Z,2μm,0.2s						
PB02	**IPOC Station P**	**1.08**	**269**	⇑*iP*	**Pn**	**00 56 56.1**	**+0.8**
PB02				*i* S	**Sn**	**00 57 12.4**	**+0.7**
PB02				IAML		00 57 14.2	
	comp=E,9μm,0.5s						
PB02	**IPOC Station P**	**1.08**	**269**	*eP*	**Pn**	**00 56 56.2**	**+0.9**
PB02				*eS*	**Sn**	**00 57 12.9**	**+1.2**
PB02				IAML		00 57 17.4	
	comp=Z,6μm,0.3s						
PB07	**IPOC Station P**	**1.15**	**248**	⇑*iP*	**Pn**	**00 56 56.8**	**+0.7**
PB07				*i* S	**Sn**	**00 57 13.7**	**+0.6**
PB07				IAML		00 57 15.8	
	comp=E,3μm,0.4s						
PB07	**IPOC Station P**	**1.15**	**248**	*eP*	**Pn**	**00 56 56.9**	**+0.7**
PB07				*eS*	**Sn**	**00 57 14.2**	**+1.0**
PB07				IAML		00 57 14.8	
	comp=Z,3μm,0.5s						
PB03	**IPOC Station P**	**1.20**	**232**	⇑*iP*	**Pn**	**00 56 57.4**	**+0.7**
PB03				*i* S	**Sn**	**00 57 14.9**	**+0.7**
PB03				IAML		00 57 16.0	
	comp=E,2μm,0.3s						
PB03	**IPOC Station P**	**1.20**	**232**	*eP*	**Pn**	**00 56 57.5**	**+0.7**
PB03				*eS*	**Sn**	**00 57 15.2**	**+1.0**
PB03				IAML		00 57 18.4	
	comp=Z,2μm,0.2s						
PB08	**IPOC Station P**	**1.22**	**341**	⇓*iP*	**Pn**	**00 56 59.2**	**+2.0**
PB08				*i* S	**Sn**	**00 57 17.8**	**+2.9**
PB08				IAML		00 57 19.8	
	comp=E,1μm,0.2s						
PB08	**IPOC Station P**	**1.22**	**341**	*eP*	**Pn**	**00 56 59.2**	**+2.0**
PB08				*eS*	**Sn**	**00 57 17.9**	**+2.9**
LVC	**Limon Verde**	**1.31**	**187**	P	**Pn**	**00 56 59.3**	**+1.1**
	comp=E,141nm,0.3s,baz=39,slow=11,SNR=2241						
LVC				S	**Sn**	**00 57 17.9**	**+1.1**
	comp=E,206nm,0.3s,baz=102,slow=20,SNR=14						
LVC	**Limon Verde**	**1.31**	**187**	⇓*iP*	**Pn**	**00 56 59.3**	**+1.1**
LVC				*i* S	**Sn**	**00 57 18.0**	**+1.2**
LVC	**Limon Verde**	**1.31**	**187**	*eP*	**Pn**	**00 56 59.4**	**+1.1**
LVC	**Limon Verde**	**1.31**	**187**	*eP*	**Pn**	**00 56 59.4**	**+1.1**
LVC				*eS*	**Sn**	**00 57 18.2**	**+1.5**
PATCX	**Punta Patache**	**1.41**	**290**	⇑*iP*	**Pn**	**00 57 00.3**	**+1.3**
PATCX				*i* S	**Sn**	**00 57 19.8**	**+1.5**
PATCX				IAML		00 57 25.9	
	comp=E,6μm,0.5s						
PATCX	**Punta Patache**	**1.41**	**290**	*eP*	**Pn**	**00 57 00.3**	**+1.3**
PATCX				*eS*	**Sn**	**00 57 19.3**	**+1.0**
TA01	**Diego Aracena**	**1.54**	**298**	*eP*	**Pn**	**00 57 01.5**	**+1.0**
TA01				*i* S	**Sn**	**00 57 21.6**	**+0.7**
TA01				IAML		00 57 23.3	
	comp=N,1μm,0.5s						
TA01				IAML		00 57 23.6	
	comp=N,4μm,0.9s						
TA01				IAML		00 57 27.3	
	comp=E,2μm,0.3s						
PB06	**IPOC Station P**	**1.60**	**209**	⇑*iP*	**Pn**	**00 57 02.3**	**+0.8**
PB06				*i* S	**Sn**	**00 57 23.3**	**+0.8**
PB06				IAML		00 57 25.1	
	comp=E,2μm,0.2s						
PB06	**IPOC Station P**	**1.60**	**209**	*eP*	**Pn**	**00 57 02.3**	**+0.8**
PB06				*eS*	**Sn**	**00 57 23.5**	**+1.0**
PB06				IAML		00 57 24.7	
	comp=Z,1μm,0.7s						
TA02	**Huaiquique**	**1.66**	**308**	⇓*iP*	**Pn**	**00 57 03.2**	**+1.1**
TA02				*i* S	**Sn**	**00 57 25.1**	**+1.4**
PB04	**IPOC Station P**	**1.67**	**232**	⇑*iP*	**Pn**	**00 57 02.5**	**+0.2**
PB04				IAML		00 57 34.2	
	comp=N,2μm,0.2s						
PB04	**IPOC Station P**	**1.67**	**232**	*eP*	**Pn**	**00 57 02.8**	**+0.4**
PB04				*eS*	**Sn**	**00 57 25.7**	**+1.6**
PB04				IAML		00 57 29.0	
	comp=Z,1μm,0.3s						
GO01	**Chusmiza**	**1.68**	**345**	*eP*	**Pn**	**00 57 04.7**	**+1.9**
GO01				*i* S	**Sn**	**00 57 28.4**	**+3.5**
GO01				IAML		00 57 35.1	
	comp=E,1μm,0.1s						
PB11	**IPOC Station P**	**1.76**	**331**	⇓*iP*	**Pn**	**00 57 04.8**	**+1.4**
PB11				*i* S	**Sn**	**00 57 28.1**	**+1.9**
PB11				IAML		00 57 31.1	
	comp=E,1μm,0.1s						
PB11				IAML		00 57 35.0	
	comp=N,1μm,0.2s						
PB11	**IPOC Station P**	**1.76**	**331**	*eP*	**Pn**	**00 57 04.9**	**+1.4**
PB11				*eS*	**Sn**	**00 57 27.5**	**+1.3**
PB11				IAML		00 57 31.4	
	comp=Z,636nm,0.3s						
PB15	**IPOC Station P**	**2.01**	**200**	*eP*	**Pn**	**00 57 07.4**	**+0.6**
PB15				*i* S	**Sn**	**00 57 33.4**	**+1.4**
PB15	**IPOC Station P**	**2.01**	**200**	*eP*	**Pn**	**00 57 07.4**	**+0.6**
PB15				*eS*	**Sn**	**00 57 33.9**	**+1.9**
PB15				IAML		00 57 40.7	
	comp=Z,3μm,0.2s						
PB05	**IPOC Station P**	**2.06**	**221**	*eP*	**Pn**	**00 57 07.1**	**-0.1**
PB05				*eS*	**Sn**	**00 57 33.2**	**+0.4**
PB05				IAML		00 57 46.8	
	comp=E,682nm,0.5s						
PB05	**IPOC Station P**	**2.06**	**221**	*eP*	**Pn**	**00 57 07.4**	**+0.2**
PB05				*eS*	**Sn**	**00 57 33.8**	**+1.0**
PB05				IAML		00 57 43.8	
	comp=Z,492nm,0.4s						
PSGC	**Pisagua**	**2.14**	**322**	⇑*iP*	**Pn**	**00 57 08.8**	**+0.5**
PSGC				*i* S	**Sn**	**00 57 35.3**	**+0.6**
PSGC				IAML		00 57 42.3	
	comp=E,684nm,0.3s						
PSGCX	**Pisagua**	**2.14**	**322**	*eP*	**Pn**	**00 57 08.8**	**+0.6**
PSGCX				*eP*	**Pn**	**00 57 08.8**	**+0.6**
PSGCX				*eP*		00 57 08.9	
MNMCX	**Minye Minye**	**2.31**	**339**	*eP*	**Pn**	**00 57 12.5**	**+1.9**
PB10	**IPOC Station P**	**2.77**	**217**	*eP*	**Pn**	**00 57 16.8**	**+0.4**
PB10				*eS*	**Sn**	**00 57 52.1**	**+2.8**
PB10				IAML		00 57 57.7	
	comp=Z,281nm,0.6s						
PB16	**IPOC Station P**	**3.04**	**346**	*eP*	**Pn**	**00 57 23.3**	**+2.7**
PB16				*eS*	**Sn**	**00 58 02.4**	**+5.7**
PB12	**IPOC Station P**	**3.06**	**331**	IAML		00 58 09.5	
	comp=N,344nm,0.2s						
PB12				IAML		00 58 09.6	
	comp=E,593nm,0.4s						
PB12	**IPOC Station P**	**3.06**	**331**	*eP*	**Pn**	**00 57 20.8**	**+0.3**
PB12				*eS*	Sn	00 58 07.8	+11
PB12				IAML		00 58 09.3	
	comp=Z,265nm,0.4s						
YJA	**Yavi**	**3.12**	**107**	*eP*	**Pn**	**00 57 24.3**	**+2.8**
YJA				*eS*	**Sn**	**00 58 04.1**	**+5.8**
PB14	**IPOC Station P**	**3.65**	**205**	*eP*	**Pn**	**00 57 31.5**	**+3.1**
PB14				*eS*	Sn	00 58 01.9	-8.9
PB14				IAML		00 58 21.5	
	comp=Z,288nm,1.0s						
AZAP	**Zapla**	**4.46**	**131**	*eP*	**Pn**	**00 57 41.4**	**+2.0**
LPAZ	**La Paz**	**5.02**	**7**	P	**Pn**	**00 57 51.3**	**+4.0**
	comp=Z,2.8nm,0.3s,baz=264,slow=2.5,SNR=129						
SIV	**San Ignacio**	**8.98**	**55**	P	**Pn**	**00 58 38.8**	**-1.8**
	comp=Z,7.2nm,0.3s,baz=250,slow=12,SNR=141						
SIV				S	**Sn**	**01 00 14.5**	**-5.5**
	comp=Z,0.2nm,0.3s,baz=294,slow=14,SNR=1.5						
PTLB	**Pontes e Lacer**	**10.81**	**59**	*eP*	**Pn**	**00 59 03.6**	**-1.9**
CPUP	**Villa Florida**	**11.58**	**118**	*eP*	**Pn**	**00 59 12.3**	**-3.3**
VILB	**Vilhena**	**11.64**	**46**	*eP*	**Pn**	**00 59 16.1**	**-0.5**
ETMB	**Extrema**	**11.68**	**12**	*eP*	**Pn**	**00 59 18.6**	**+1.5**
AQDB	**Aquidauana**	**12.22**	**88**	*eP*	**Pn**	**00 59 22.3**	**-1.9**
SAML	**Samuel**	**13.40**	**24**	*eP*	**Pn**	**00 59 39.2**	**-0.5**
SALV	**Santo Antonio**	**13.48**	**69**	*eP*	**Pn**	**00 59 39.2**	**-1.6**
PTGB	**Pitanga**	**15.72**	**106**	*eP*	**P**	**01 00 09.4**	**-1.9**
CLDB	**Colider**	**16.18**	**52**	*eP*	**Pn**	**01 00 14.0**	**-1.1**
PCMB	**Pacaembu**	**16.27**	**94**	*eP*	**Pn**	**01 00 14.6**	**-1.7**
CPSB	**Cacapava Do Su**	**16.47**	**126**	*eP*	**Pn**	**01 00 17.6**	**-0.9**
ARAG	**Araguaiana, MT**	**16.98**	**74**	*eP*	**Pn**	**01 00 23.6**	**-1.4**
PLTB	**Pedras Altas**	**17.07**	**131**	*eP*	**P**	**01 00 25.0**	**-1.0**
ITRI	**Iturama**	**17.29**	**88**	*eP*	**P**	**01 00 27.2**	**-1.5**
FRTB	**Fartura**	**17.86**	**100**	*eP*	**P**	**01 00 33.6**	**-1.3**
BB19B	**Bebedouro**	**18.85**	**93**	*eP*	**P**	**01 00 44.5**	**-1.2**
NPGB	**Novo Progresso**	**19.19**	**44**	*eP*	**P**	**01 00 49.3**	**-0.2**
IPMB	**Ipameri, GO**	**19.61**	**84**	*eP*	**P**	**01 00 52.8**	**-1.3**
MACA	**Manacapuru-AM**	**19.66**	**25**	*eP*	**P**	**01 00 55.1**	**+0.5**
VAO	**Valinhos**	**20.24**	**99**	*eP*	**P**	**01 00 59.6**	**-1.2**
MALB	**Monte Alegre**	**23.93**	**38**	*eP*	**P**	**01 01 38.7**	**+0.4**
JANB	**Januaria**	**24.01**	**79**	*eP*	**P**	**01 01 39.4**	**+0.3**
GDU01	**Guandu, BA**	**28.78**	**80**	*eP*	**P**	**01 02 21.4**	**-0.5**
DBIC	**Dimbokro**	**68.53**	**73**	P	**P**	**01 07 25.7**	**+0.1**
	comp=Z,5.2nm,1.0s,baz=220,slow=7.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P	**P**	**01 08 16.4**	**0.0**
	comp=Z,2.5nm,0.6s,baz=257,slow=5.6,SNR=30						
MAW	**Mawson**	**84.47**	**163**	P	**P**	**01 08 56.1**	**+1.6**
	comp=Z,1.6nm,0.5s,baz=221,slow=3.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**141.71**	**25**	PKP	**PKPdf**	**01 15 52.9**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=270,slow=0.6,SNR=4.1						
MKAR	**Makanchi Array**	**145.38**	**36**	PKPbc	**PKPab**	**01 16 00.9**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=324,slow=2.3,SNR=17						

DJA 24 01:03:47.2±0.3, **9°S**±5′×**11°9E**±°, **h50**km±8km, **M4.1**/6, **mb4.4**/3, **MLv4.0**/6, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.33**	**170**	P	Pn	01 03 57.4	+0.7
WBSI				S	Sn	01 04 06.8	+3.3
WSI	**Waingapu**	**1.02**	**111**	P	Pn	01 04 05.6	+0.4
BASI	**Baing, Sumba**	**1.53**	**126**	P	Pn	01 04 12.0	-0.1
PLAI	**Plampang**	**1.61**	**287**	P	Pn	01 04 11.6	-1.6
EDFI	**Ende, Flores**	**2.40**	**77**	P	Pn	01 04 23.5	-0.6
TWSI	**Taliwang, Sumb**	**2.48**	**283**	P	Pn	01 04 24.5	-0.7
MMRI	**Maumere**	**2.95**	**77**	P	Pn	01 04 32.0	+0.4
BKSI	**Bulukumba**	**4.04**	**11**	P	Pn	01 04 45.8	-0.8
DNP	**Denpasar**	**4.12**	**278**	P	Pn	01 04 48.0	+0.4
BATI	**Baumata**	**4.36**	**102**	P	Pn	01 04 50.2	-0.8
SOEI	**Soe**	**4.89**	**96**	P	Pn	01 04 58.7	+0.4
BNSI	**Bone**	**4.94**	**9**	P	Pn	01 04 59.7	+0.8
JAGI	**Jajag, Banyuwa**	**5.18**	**279**	P	Pn	01 05 00.4	-1.9
	63nm,1.1s						
SPSI	**Sidrap Palu**	**5.33**	**5**	P	Pn	01 05 04.5	+0.2
	18nm,0.4s						
GMJI	**Gumukmas**	**5.91**	**280**	P	Pn	01 05 12.7	+0.5

*TEH **24** 01:06:54.2, 32′.75N×47′.47E, h8km, ML3.4*

*ISN **24** 01:06:55.6±3.4, 32′.71N×47′.32E, h15km, ML3.1*

*THR **24** 01:06:56.2±0.3, 32′.74N×47′.42E, h35km±3km, ML3.5*

ISC 24 01:06:55.6±1.0, **32°.75N**±0°.04×**47°.49E**±0°.04, **h10**km, **n38, σ1§16**/40, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.19**	**249**	*e*Pg	**Pg**	**01 06 57.6**	**-2.1**
IKFM	**Kafar-mosalman**	**0.83**	**21**	*e*Pg	**Pg**	**01 07 10.0**	**-1.6**
IKMR	**Kamar-syah**	**1.07**	**44**	*e*Pg	**Pg**	**01 07 14.2**	**-2.0**
IKMR				*e*		01 07 35.9	
IDOB	**Doab**	**1.18**	**29**	*e*Pg	**Pb**	**01 07 17.7**	**-0.6**
SHGR	**Shooshtar-Gavs**	**1.28**	**120**	*e*Pg	**Pb**	**01 07 20.5**	**+0.7**
SHGR				IAML		01 07 42.2	
	comp=E,752nm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.28**	**120**	*e*Pg	**Pb**	**01 07

KMI					smax	smax		
	comp=N,180nm,1.0s							
KMI					smax	smax		
	comp=E,180nm,0.9s							
CD2	**Chengdu**	**3.68**	**35**		Pn	**Pn**	**01 09 53.1**	**+1.1**
CD2					Pg	**Pb**	**01 10 00.4**	**+0.3**
CD2					Sg	**Sb**	**01 10 44.0**	**-0.9**
CD2					smax	smax		
	comp=N,330nm,0.8s							
CD2					smax	smax		
	comp=E,330nm,0.8s							
GYA	**Guiyang**	**5.00**	**106**	⇑	Pn	**Pn**	**01 10 10.3**	**+0.2**
GYA					Sn	**Sn**	**01 11 07.3**	**-0.7**
GYA					Sg	**Sb**	**01 11 24.0**	**+1.3**
GYA					smax	smax		
	comp=N,35nm,0.8s							
GYA					smax	smax		
	comp=E,29nm,0.9s							
XAN	**Xi'an**	**8.95**	**45**		P	**Pn**	**01 11 06.3**	**+2.0**
XAN					smax	smax		
	comp=N,29nm,1.3s							
XAN					smax	smax		
	comp=E,28nm,1.4s							
CMAR	**Chiang Mai Arr**	**9.65**	**193**		Pg	Pn	01 11 54.0	+40
	baz=13,slow=18,SNR=2.0							
CMAR					Lg	Lg	01 14 06.1	
	0.4nm,0.3s,baz=5.5,slow=31,SNR=6.4							
WHN	**Wuhan**	**11.70**	**74**		P	**Pn**	**01 11 41.1**	**-0.8**
WMQ	**Urumqi**	**19.29**	**329**		*eP*	**P**	**01 13 18.8**	**-1.1**
SONM	**Songino Array**	**20.29**	**10**		P	**P**	**01 13 28.7**	**-2.2**
	0.3nm,0.4s,baz=189,slow=7.3,SNR=2.3							
MKAR	**Makanchi Array**	**24.05**	**327**		P	**P**	**01 14 12.1**	**+2.0**
	1.3nm,0.8s,baz=138,slow=9.1,SNR=12							
KURBB	**Kurchatov Arra**	**28.51**	**329**		P	**P**	**01 14 52.0**	**+1.7**
	0.2nm,0.3s,baz=141,slow=9.3,SNR=5.3							
WRA	**Warramunga Arr**	**57.31**	**142**		P	**P**	**01 18 42.6**	**-0.6**
	0.8nm,0.7s,baz=330,slow=8.0,SNR=4.3							
ASAR	**Alice Springs**	**60.15**	**145**		P	**P**	**01 19 01.6**	**-1.4**
	0.2nm,0.7s,baz=328,slow=6.8,SNR=1.8							

*OMAN **24** 01:28:50.5, 32°.98N×46°.06E, h10km, mb5.0/7*
*ISN **24** 01:29:04.0±3.1, 32°.67N×47°.82E, h15km, ML3.8*
*IDC **24** 01:29:05.4±1.3, 32°.77N×47°.70E, h0km, mb3.9/13,*
mb1 4.0/20, mb1mx3.8/57, mbtmp3.9/20, ML3.6/7, MS4.3/2,
Ms1 4.3/2, ms1mx3.1/53, Error ellipse: s-maj=27.0km
s-min=13.9km az=164.0
*NEIC **24** 01:29:06.5±2.0, 32°.72N±0°.03×47°.75E±0°.06, h10km±1km,*
Error ellipse: s-maj=8.4km s-min=4.5km az=68.0
*THR **24** 01:29:06.9±1.4, 32°.72N×47°.72E, h14km±13km, ML4.2*
*TEH **24** 01:29:07.1, 32°.70N×47°.79E, h13km, ML3.9*
ISC 24 01:29:08.2±0.5, **32°.70N**±0°.04×**47°.76E**±0°.04, **h23**km, **n125,**
σ**1**§**72**/124, **mb4.0**/20, **3C-4D**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.41**	**268**	*eP*g	**Pb**	**01 29 15.7**	**-1.1**
IKFM	**Kafar-mosalman**	**0.83**	**5**	*eP*g	**Pb**	**01 29 22.8**	**-1.2**
IKMR	**Kamar-syah**	**0.97**	**32**	*eP*g	**Pn**	**01 29 24.9**	**-1.5**
SHGR	**Shooshtar-Gavs**	**1.06**	**123**	*eP*g	**Pn**	**01 29 27.0**	**-0.6**
SHGR	**Shooshtar-Gavs**	**1.06**	**123**	*eP*g	**Pn**	**01 29 27.0**	**-0.6**
SHGR	**Shooshtar-Gavs**	**1.06**	**123**	Pg	**Pn**	**01 29 27.0**	**-0.6**
IDOB	**Doab**	**1.14**	**18**	*eP*g	**Pn**	**01 29 28.1**	**-0.9**
BMDN	**Meydan**	**1.32**	**42**	*eP*g	**Pn**	**01 29 31.5**	**+0.1**
BMDN				*e*		01 29 57.7	
BMDN	**Meydan**	**1.32**	**42**		**Pn**	**01 29 31.5**	**+0.1**
IKOM	**Komasi**	**1.49**	**352**	*eP*g	**Pn**	**01 29 35.6**	**+1.8**
IKOM				*e*		01 29 42.4	
AHWZ	**Ahwaz**	**1.55**	**151**	*eP*g	**Pb**	**01 29 36.6**	**+0.3**
AHWZ	**Ahwaz**	**1.55**	**151**	Pg	**Pb**	**01 29 36.5**	**+0.3**
AHWZ				Sg	**Sb**	**01 29 57.4**	**+1.9**
KCHF	**Cheshme Sefid,**	**1.69**	**339**	*eP*g	**Pn**	**01 29 38.5**	**+2.0**
KCHF				*e*		01 30 08.1	
KCHF	**Cheshme Sefid,**	**1.69**	**339**	Pg	**Pn**	**01 29 38.5**	**+2.0**
KER	**Kermanshah**	**1.77**	**343**	*eP*n	**Pn**	**01 29 39.3**	**+1.8**
IBZA	**Bozab**	**1.77**	**3**	*eP*g	**Pn**	**01 29 39.9**	**+2.2**
IBZA				*e*		01 29 43.8	
IGHG	**Ghaleghazi**	**1.91**	**329**	*eP*n	**Pn**	**01 29 41.6**	**+2.0**
IGHG				*e*		01 30 26.4	
IVIS	**Veis**	**1.98**	**338**	*eP*n	**Pn**	**01 29 42.2**	**+1.8**
IVIS				*e*		01 30 23.9	
KHMZ	**Khomeyn**	**2.12**	**60**	*eP*n	**Pn**	**01 29 45.1**	**+2.7**
KHMZ	**Khomeyn**	**2.12**	**60**	*eP*n	**Pn**	**01 29 45.1**	**+2.7**
IDHR	**Dehrash**	**2.31**	**331**	*eP*n	**Pn**	**01 29 46.7**	**+1.7**
IDHR				*e*		01 29 51.3	
ILIN	**Lien**	**2.31**	**343**	*eP*n	**Pn**	**01 29 47.1**	**+1.9**
ILIN				*e*		01 30 37.8	
SNGE	**Sanandaj**	**2.42**	**352**	*eP*n	**Pn**	**01 29 48.1**	**+1.6**
SNGE				*e*Sg	**Sb**	**01 30 21.4**	**+0.8**
SNGE	**Sanandaj**	**2.42**	**352**	*eP*n	**Pn**	**01 29 48.1**	**+1.6**
SNGE	**Sanandaj**	**2.42**	**352**	Pn	**Pn**	**01 29 48.1**	**+1.6**
JHBN	**Jahan bin**	**2.50**	**100**	*eP*n	**Pn**	**01 29 49.0**	**+1.3**
JHBN				*e*		01 30 36.5	
IPIR	**Pirpir**	**2.64**	**89**	*eP*n	**Pn**	**01 29 50.3**	**+0.6**
IPIR				*e*		01 30 31.7	
ROKH	**ROKH**	**2.79**	**96**	*eP*n	**Pn**	**01 29 53.2**	**+1.6**
ROKH				*e*		01 30 39.1	
BHD	**Baghdad**	**2.90**	**282**	*eP*g	**Pn**	**01 29 55.0**	**+2.0**
	baz=101						
BHD				*e*Sg	**Sb**	**01 30 38.0**	**+3.7**
BHD				AML	AML	01 30 48.5	
	comp=E,516nm,0.5s						
IBRJ	**Brojen**	**3.06**	**104**	*eP*n	**Pn**	**01 29 56.8**	**+1.3**
IRAZ	**Razeghan**	**3.25**	**33**	*eP*n	**Pn**	**01 30 00.8**	**+2.8**
IKLH	**Kolahrood**	**3.27**	**78**	*eP*n	**Pn**	**01 30 00.2**	**+1.9**
IKLH				*e*		01 31 02.8	
QABG	**Abgarm-Qazvin**	**3.36**	**26**	*eP*n	**Pn**	**01 30 01.5**	**+1.9**
IGAR	**Gharneh**	**3.62**	**93**	*eP*n	**Pn**	**01 30 04.3**	**+1.1**
IGAR				*e*		01 30 58.7	
KLNJ	**Kolanjah**	**3.67**	**116**	*eP*n	**Pn**	**01 30 04.2**	**+0.3**
KLNJ				*e*		01 31 23.6	
IMHD	**Mahdasht**	**3.83**	**38**	*eP*n	**Pn**	**01 30 07.2**	**+1.3**
IZEF	**Zefreh**	**3.85**	**86**	*eP*n	**Pn**	**01 30 08.0**	**+1.7**
QSDN	**Sirdan**	**3.97**	**17**	*eP*n	**Pn**	**01 30 10.6**	**+2.6**
IHSB	**Hasanabad**	**4.00**	**46**	*eP*n	**Pn**	**01 30 10.2**	**+2.0**
IRAM	**Ramesheh**	**4.01**	**101**	*eP*n	**Pn**	**01 30 08.9**	**+0.4**
IGZV	**Ghazvin**	**4.20**	**28**	*eP*n	**Pn**	**01 30 13.0**	**+1.9**
MAHB	**Mahabad**	**4.40**	**338**	*eP*n	**Pn**	**01 30 15.8**	**+2.0**
MAHB	**Mahabad**	**4.40**	**338**	Pn	**Pn**	**01 30 15.7**	**+2.0**
QALM	**Alamut, Qazvin**	**4.42**	**32**	*eP*n	**Pn**	**01 30 15.9**	**+1.7**
KAZ1	**Kazerun**	**4.52**	**132**	*eP*n	**Pn**	**01 30 18.5**	**+3.2**
DAMV	**Damavand**	**4.55**	**49**	*eP*n	**Pn**	**01 30 17.2**	**+1.2**
DAMV	**Damavand**	**4.55**	**49**	*eP*n	**Pn**	**01 30 17.2**	**+1.2**
IDMV	**Damavand**	**4.56**	**50**	*eP*n	**Pn**	**01 30 17.6**	**+1.5**
ANAR	**Anarak**	**5.04**	**83**	*eP*n	**Pn**	**01 30 24.2**	**+1.7**
IFIR	**Firoozkooh**	**5.07**	**53**	*eP*n	**Pn**	**01 30 24.6**	**+1.5**
ISAD	**Sadrabad**	**5.08**	**97**	*eP*n	**Pn**	**01 30 24.1**	**+0.9**
ILAS	**Lasjerd**	**5.08**	**57**	*eP*n	**Pn**	**01 30 24.7**	**+1.5**
IPRN	**Peran**	**5.18**	**46**	*eP*n	**Pn**	**01 30 26.9**	**+2.5**
IAZR	**Azarshahr**	**5.18**	**344**	*eP*n	**Pn**	**01 30 26.8**	**+2.2**
IALA	**Alasht**	**5.37**	**50**	*eP*n	**Pn**	**01 30 29.7**	**+2.5**
ISHM	**Shahmirzad**	**5.53**	**54**	*eP*n	**Pn**	**01 30 31.3**	**+1.9**
ICHK	**Chekchek**	**5.63**	**93**	*eP*n	**Pn**	**01 30 30.9**	**+0.1**
IANJ	**Anjilo**	**5.80**	**60**	*eP*n	**Pn**	**01 30 34.6**	**+1.5**
IMRD	**Marand**	**6.23**	**345**	*eP*n	**Pn**	**01 30 42.4**	**+3.4**
IGLO	**Ghaloghah**	**6.28**	**51**	*eP*n	**Pn**	**01 30 41.7**	**+2.0**
GEVA	**Gevas**	**6.79**	**327**	Pn	**Pn**	**01 30 45.7**	**-0.9**
MARD	**Mardin**	**7.35**	**311**	Pn	**Pn**	**01 30 53.5**	**-0.8**
TPRV	**Parvadeh(Tabas**	**7.51**	**85**	*eP*n	**Pn**	**01 31 00.2**	**+3.7**
GENO	**Geno**	**8.99**	**124**	*eP*n	**Pn**	**01 31 15.8**	**-1.1**
ASF	**Jabal al Asfar**	**9.20**	**270**	Pn	**Pn**	**01 31 19.0**	**-0.6**
	comp=E,0.5nm,0.3s,baz=49,slow=9.0,SNR=6.2						
ASF				Sn	**Sn**	**01 32 59.1**	**-3.4**
	comp=E,0.8nm,0.3s,baz=132,slow=19,SNR=2.8						
ASF				Lg	Lg	01 33 58.0	
	comp=E,0.3nm,0.3s,baz=238,slow=22,SNR=4.1						
KOPT	**Kop Dagi**	**9.36**	**323**	Pn	**Pn**	**01 31 20.7**	**-1.3**
GEYT	**Alibeck**	**9.94**	**55**	Pn	**Pn**	**01 31 31.4**	**+1.7**
	comp=E,0.1nm,0.3s,baz=236,slow=16,SNR=4.2						
GYA0B	**ALIBECK ARRAY**	**9.94**	**55**	Pn	**Pn**	**01 31 29.2**	**-0.5**
HATD	**Hatta, Dubai**	**10.74**	**135**	P	**Pn**	**01 31 41.3**	**+0.6**
	SNR=6.9						
ASHO	**Ashiyiah**	**10.80**	**136**	P	**Pn**	**01 31 41.5**	**0.0**
	SNR=8.0						
EIL	**Elat**	**11.38**	**258**	Pn	**Pn**	**01 31 50.5**	**+1.1**
	comp=E,0.9nm,0.3s,baz=72,slow=16,SNR=2.5						
ARQ	**Araqi**	**12.11**	**138**	P	**Pn**	**01 32 00.4**	**+1.0**
HOQ	**Hoqain**	**12.38**	**135**	P	**Pn**	**01 32 04.1**	**+1.0**
BSY	**Bisya**	**12.96**	**138**	P	**Pn**	**01 32 10.9**	**-0.1**
	SNR=8.1						
BRTR	**Keskin Array B**	**13.38**	**306**	Pn	**Pn**	**01 32 19.3**	**+2.5**
	comp=E,0.0nm,0.3s,baz=96,slow=7.6,SNR=4.3						
WSAR	**Wadi Sarin**	**13.44**	**132**	Pn	**Pn**	**01 32 17.7**	**0.0**
	comp=E,1.7nm,0.3s,baz=304,slow=10.0,SNR=18						
JLN	**Jalan Bani Buh**	**14.73**	**133**	P	**Pn**	**01 32 34.4**	**-0.7**
DMTO	**DMTO**	**16.26**	**155**	P	**Pn**	**01 32 51.5**	**-3.7**
	SNR=14						
KBL	**Kabul**	**17.82**	**78**	P	**Pn**	**01 33 13.1**	**-1.8**
KBL				lAmb	lAmb	01 33 25.5	
	comp=E,15nm,1.5s						
CHGR	**Chuyangaron**	**18.36**	**65**	P	**Pn**	**01 33 22.9**	**+1.5**
CHGR				lAmb	lAmb	01 33 29.3	
	comp=E,11nm,0.9s						
IDI	**Anoyia**	**19.14**	**284**	Pn	**Pn**	**01 33 30.7**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=72,slow=14,SNR=3.7						
IDI	**Anoyia**	**19.14**	**284**	lAmb	lAmb	01 33 34.1	
	comp=Z,43nm,1.4s						
AKTO	**Aktyubinsk**	**19.28**	**20**	P	**P**	**01 33 31.3**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=207,slow=11,SNR=12						
BTK	**Batken**	**19.93**	**62**	P	**P**	**01 33 39.7**	**+1.2**
KK31	**Karatay Array**	**20.68**	**53**	P	**P**	**01 33 45.9**	**-0.6**
KK31				lAmb	lAmb	01 33 55.7	
	comp=Z,8.0nm,1.4s						
KKAR	**Karatay Array**	**20.68**	**53**	P	**P**	**01 33 48.2**	**+1.6**
MLR	**Muntele Rosu**	**21.13**	**314**	P	**P**	**01 33 53.7**	**+2.1**
	comp=Z,5.6nm,0.7s,baz=209,slow=5.2,SNR=13						
MLR	**Muntele Rosu**	**21.13**	**314**	⇓P	**P**	**01 33 49.1**	**-2.4**
MLR	**Muntele Rosu**	**21.13**	**314**	P	**P**	**01 33 46.6**	**-4.9**
MLR				lAmb	lAmb	01 33 58.9	
	comp=Z,6.7nm,0.8s						
TESR	**Tesedni**	**21.24**	**317**	⇓P	**P**	**01 33 53.4**	**+0.8**
SORM	**Soroca**	**21.27**	**322**	⇑P	**P**	**01 33 51.9**	**-0.9**
NIL	**Nilore**	**21.34**	**80**	P	**P**	**01 33 52.7**	**-1.2**
NIL				lAmb	lAmb	01 34 00.8	
	comp=Z,14nm,1.3s						
VOIR			**21.66**	**313**	⇓P	**P**	**01 33 58.9**	**+1.7**
LOT	**Lotru**	**22.46**	**311**	⇑P	**P**	**01 34 06.6**	**+0.8**
AKASG	**Malin Array Be**	**22.59**	**328**	P	**P**	**01 34 05.6**	**-1.3**
	comp=Z,1.1nm,0.4s,baz=135,slow=9.0,SNR=9.4						
AKBB	**Malin Array Si**	**22.59**	**328**	P	**P**	**01 34 02.7**	**-4.3**
AKBB				lAmb	lAmb	01 34 12.2	
	comp=Z,4.2nm,0.9s						
BURAR	**Bucovina Array**	**22.67**	**318**	⇑P	**P**	**01 34 05.7**	**-2.3**
MDVR	**Moldovita**	**23.52**	**308**	⇓P	**P**	**01 34 17.2**	**+0.6**
OBN	**Obninsk**	**23.76**	**344**	P	**P**	**01 34 17.3**	**-1.4**
ARU	**Arti**	**24.89**	**14**	P	**P**	**01 34 29.2**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=209,slow=7.3,SNR=6.2						
ARU	**Arti**	**24.89**	**14**	P	**P**	**01 34 29.9**	**+0.8**
KOLS	**Kolonicke sedl**	**25.03**	**318**	*eP*	**P**	**01 34 31.3**	**+0.8**
KDJ	**Kajisay**	**25.09**	**60**	P	**P**	**01 34 31.5**	**+0.3**
KDJ				lAmb	lAmb	01 34 37.7	
	comp=Z,3.3nm,0.8s						
TARG	**Taragay, Kyrgy**	**25.46**	**61**	P	**P**	**01 34 35.4**	**+0.5**
TARG				lAmb	lAmb	01 34 38.2	
	comp=Z,2.9nm,0.7s						
KIRV	**Kirov**	**25.92**	**2**	P	**P**	**01 34 38.3**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=201,slow=2.6,SNR=12						
PSZ	**Piszkesteto**	**25.95**	**314**	P	P	01 34 31.5	-7.4
BVAR	**Borovoye Array**	**26.03**	**32**	P	**P**	**01 34 39.8**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=226,slow=8.1,SNR=14						
VYHS	**Vyhne**	**26.83**	**315**	*eP*	**P**	**01 34 44.0**	**-2.8**
KURBB	**Kurchatov Arra**	**28.84**	**42**	P	**P**	**01 35 06.1**	**+1.3**
	comp=Z,1.6nm,0.2s,baz=244,slow=9.6,SNR=3.2						
KURK	**Kurchatov**	**28.94**	**42**	P	**P**	**01 35 06.0**	**+0.5**
KURK	**Kurchatov**	**28.94**	**42**	lAmb	lAmb	01 35 13.4	
	comp=Z,4.2nm,1.1s						
MKAR	**Makanchi Array**	**29.78**	**52**	P	**P**	**01 35 13.8**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=248,slow=7.5,SNR=14						
GERES	**GERESS Array B**	**30.11**	**312**	P	**P**	**01 35 16.3**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=90,slow=9.8,SNR=2.1						
GERES				LR	LR	01 48 57.2	
	comp=Z,141nm,18.8s,baz=68,slow=40						
FUORN	**Ofenpass-Fuorn**	**31.72**	**307**	P	P	01 35 22.6	-7.9
FINES	**FINESS Array B**	**32.01**	**340**	P	**P**	**01 35 32.3**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=142,slow=8.8,SNR=17						
TUE	**Stuetta**	**32.31**	**307**	P	**P**	**01 35 37.7**	**+2.0**
WMQ	**Urumqi**	**32.97**	**59**	*eP*	**P**	**01 35 43.3**	**+2.0**
ZALV	**Zalesovo Beam**	**33.76**	**40**	P	**P**	**01 35 47.7**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=262,slow=10.0,SNR=5.2						
NOA	**NORSAR Array B**	**36.94**	**331**	P	**P**	**01 36 14.3**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=134,slow=8.6,SNR=3.3						
ARCES	**ARCESS Array B**	**38.95**	**348**	P	**P**	**01 36 31.9**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=154,slow=8.5,SNR=12						
ESDC	**Sonseca Array**	**41.84**	**295**	P	**P**	**01 36 56.6**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=73,slow=9.2,SNR=9.4						
TORD	**Tosodi Ar. Bea**	**46.26**	**256**	P	**P**	**01 37 32.0**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=74,slow=7.4,SNR=6.3						
HHC	**Hu-ho-hao-te**	**50.75**	**62**	*eP*	**P**	**01 38 06.4**	**-0.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,6.1s						
ENH	**Enshi**	**52.03**	**75**	P	**P**	**01 38 14.6**	**-1.6**
ASAJ	**Asahikawa**	**71.23**	**49**	LR	LR	02 15 46.5	
	comp=Z,687nm,20.5s,baz=354,slow=39						

*STR **24** 01:34:33.1±0.3, 46°.N±2°×±°, h11km±3km, MLv2.0/6,*
smi:scs/0.6/LOCSAT earthModelID
smi:scs/0.6/alpes_taup-2.11 preliminary
*LDG **24** 01:34:33.3±0.0, 46°.40N×6°.49E, h2km, Md2.8/2, Ml2.7/44,*
Error ellipse: s-maj=0.9km s-min=0.6km az=79.0
ISC 24 01:34:32.6±1.0, **46°.39N**±0°.01×**6°.43E**±0°.01, **h18**km±4km,
n92, σ**1**§**14**/168, **2C-3D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CABF	**La Chapelle**	**0.32**	**313**	*eP*g	**Pb**	**01 34 40.1**	**+0.2**
CABF				*e*Sg	**Sb**	**01 34 44.9**	**+0.2**
	57nm,0.3s						
OG35	**Corcelles**	**0.69**	**240**	Pg	**Pn**	**01 34 47.1**	**-0.4**
OG35				Pn	**Pb**	**01 34 49.2**	**+3.1**
OG35				Sg	**Sn**	**01 34 56.7**	**-1.1**
RSL	**Roselend**	**0.72**	**169**	Pg	**Pb**	**01 34 46.7**	**+0.1**
RSL				Sg	**Sg**	**01 34 55.2**	**-1.2**
DIX	**Grande Dixence**	**0.75**	**114**	P	**Pg**	**01 34 47.1**	**-0.2**
DIX				S	**Sg**	**01 34 57.1**	**-0.2**
DIX				AML	AML		
	comp=E,80μm,0.4s						
DIX				AML	AML		
	comp=N,92μm,0.2s						
REMY	**Saint-Rhmy-en**	**0.75**	**137**	P	**Pb**	**01 34 47.4**	**+0.1**
REMY				S	**Sb**	**01 34 57.6**	**+0.3**
REMY	**Saint-Rhmy-en**	**0.75**	**137**	P	**Pb**	**01 34 47.4**	**+0.1**
REMY				S	**Sb**	**01 34 57.4**	**+0.1**
REMY				AML	AML		
	comp=E,136μm,0.4s						
REMY				AML	AML		
	comp=N,150μm,1.4s						
REMY				AML	AML		
	comp=E,137μm,0.4s						
MRGE	**Morge**	**0.76**	**145**	⇑P	**Pb**	**01 34 47.6**	**+0.1**
MRGE				AML	AML		
	comp=N,164μm,0.5s						
MRGE				AML	AML		
	comp=E,242μm,0.4s						
CHMF	**Charmoille**	**0.87**	**10**	Pg	**Pg**	**01 34 49.5**	**-0.1**
CHMF				Sg	**Sg**	**01 35 01.4**	**+0.4**
LPL	**La Plagne**	**0.90**	**166**	*eP*g	**Pn**	**01 34 50.3**	**-0.3**
LPL	**La Plagne**	**0.90**	**166**	*eP*n	**Pn**	**01 34 51.1**	**+0.5**
LPL				*e*Sg	**Sb**	**01 35 02.1**	**+0.5**
	comp=E,46nm,0.4s						
LPG	**La Plagne**	**0.92**	**166**	*eP*g	**Pn**	**01 34 50.7**	**-0.2**
LPG	**La Plagne**	**0.92**	**166**	*eP*n	**Pn**	**01 34 51.6**	**+0.7**
LPG				*e*Sg	**Sb**	**01 35 02.5**	**+0.2**
	comp=E,106nm,0.3s						
OGSM	**Saint Maurice**	**0.94**	**213**	Pg	**Pn**	**01 34 51.6**	**+0.7**
OGSM				Pn	**Pg**	**01 34 53.2**	**+2.4**
OGSM				Sg	**Sn**	**01 35 04.8**	**+1.0**
OGSM				Sn	**Sb**	**01 35 06.4**	**+4.1**
LOMF	**Lomont**	**1.00**	**16**	Pg	**Pb**	**01 34 52.0**	**+0.7**
LOMF				Sg	**Sb**	**01 35 05.1**	**+0.9**
LSD	**Lago del Serru**	**1.06**	**152**	P	**Pn**	**01 34 53.3**	**+0.5**
LSD				S	**Sg**	**01 35 06.5**	**-0.6**
MMK	**Mattmark**	**1.12**	**107**	⇓P	**Pg**	**01 34 54.5**	**+0.1**
MMK				AML	AML		
	comp=E,36μm,0.8s						
MMK				AML	AML		
	comp=N,62μm,0.9s						
CIRO	**Champorcher**	**1.12**	**135**	P	**Pg**	**01 34 54.4**	**0.0**
CIRO				S	**Sb**	**01 35 07.4**	**-0.6**
CIRO	**Champorcher**	**1.12**	**135**	⇓P	**Pg**	**01 34 54.5**	**+0.2**
CIRO				S	**Sb**	**01 35 07.8**	**-0.2**
CIRO				AML	AML		
	comp=N,51μm,0.3s						
CIRO				AML	AML		
	comp=N,51μm,0.3s						
CIRO				AML	AML		
	comp=E,52μm,0.7s						
SATI	**Passo dei Sala**	**1.13**	**117**	P	**Pb**	**01 34 53.8**	**+0.1**
SATI				S	**Sb**	**01 35 07.8**	**-0.4**
SATI	**Passo dei Sala**	**1.13**	**117**	P	**Pb**	**01 34 54.0**	**+0.2**
SATI				S	**Sb**	**01 35 08.2**	**0.0**
SATI				AML	AML		
	comp=E,38μm,1.5s						
SATI				AML	AML		
	comp=N,86μm,0.5s						
GDM	**Grand'Maison**	**1.21**	**191**	Pg	**Pg**	**01 34 56.1**	**+0.1**
TRAV	**Traversella**	**1.27**	**133**	P	**Pg**	**01 34 57.1**	**-0.1**
TRAV				S	**Sb**	**01 35 12.4**	**+0.3**
TRAV	**Traversella**	**1.27**	**133**	⇓P	**Pg**	**01 34 57.5**	**+0.3**
TRAV				AML	AML		
	comp=E,81μm,0.4s						
TRAV				AML	AML		
	comp=N,124μm,1.0s						
TRAV				AML	AML		
	comp=N,123μm,1.0s						
BNI	**Bardonecchia**	**1.35**	**172**	P	**Pg**	**01 34 58.6**	**-0.1**
BNI				AML	AML		
	comp=N,26μm,1.3s						
BNI				AML	AML		
	comp=E,19μm,1.6s						
RSP	**Reno Superiore**	**1.38**	**155**	P	**Pg**	**01 34 59.5**	**+0.3**
HINF	**Hinteralfeld**	**1.45**	**11**	*eP*n	**Pn**	**01 34 58.5**	**+0.5**
HINF	**Hinteralfeld**	**1.45**	**11**	*eP*g	**Pb**	**01 35 00.0**	**+0.9**
HINF				*e*Sg	**Sg**	**01 35 19.4**	**-0.2**
	comp=E,37nm,0.2s						
RRL	**Rocca Remolon**	**1.50**	**170**	P	**Pg**	**01 35 01.5**	**+0.1**
ORIF	**Oris-en-Rattie**	**1.52**	**195**	*eP*n	**Pb**	**01 35 00.6**	**+0.2**
ORIF	**Oris-en-Rattie**	**1.52**	**195**	*eP*g	**Pg**	**01 35 02.4**	**+0.4**
ORIF				*e*Sg	**Sg**	**01 35 22.2**	**+0.4**
	comp=E,23nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.52**	**195**	P	**Pg**	**01 35 01.5**	**-0.5**
ORIF				S	**Sg**	**01 35 22.6**	**+0.7**
FUSIO	**Fusio**	**1.55**	**87**	⇑P	**Pb**	**01 35 01.7**	**+0.9**
FUSIO				AML	AML		
	comp=N,24μm,0.9s						
FUSIO				AML	AML		
	comp=E,25μm,1.0s						
HAU	**Haudompre**	**1.61**	**358**	*eP*n	**Pn**	**01 35 00.9**	**+0.7**
HAU	**Haudompre**	**1.61**	**358**	*eP*g	**Pb**	**01 35 03.0**	**+1.1**
HAU				*e*Sn	**Sn**	**01 35 21.1**	**+0.6**
HAU				*e*Sg	**Sg**	**01 35 24.6**	**-0.1**
	comp=E,31nm,0.3s						
MBDF	**Montbardon**	**1.68**	**172**	*eP*g	**Pg**	**01 35 04.5**	**-0.5**
MBDF				*e*Sn	**Sn**	**01 35 22.9**	**+0.5**
MBDF				*e*Sg	**Sg**	**01 35 26.2**	**-0.7**
	comp=E,11nm,0.5s						
SMF	**Signal de Mont**	**1.80**	**279**	*eP*n	**Pn**	**01 35 03.9**	**+1.1**
SMF	**Signal de Mont**	**1.80**	**279**	*eP*g	**Pg**	**01 35 07.4**	**+0.1**
SMF				*e*Sg	**Sg**	**01 35 30.9**	**+0.2**
	comp=E,20nm,0.2s						
MUGIO	**Muggio**	**1.88**	**104**	P	**Pb**	**01 35 07.1**	**+0.8**
MUGIO				AML	AML		
	comp=N,26μm,0.6s						
MUGIO				AML	AML		
	comp=E,22μm,1.4s						
OGAG	**Argentiere**	**1.94**	**178**	Pg	**Pn**	**01 35 02.8**	**-2.0**
PZZ	**Stroppo**	**1.95**	**165**	P	**Pb**	**01 35 08.1**	**+0.5**
LOR	**Lormes**	**1.97**	**297**	*eP*n	**Pn**	**01 35 06.2**

BAIF				*e*Sg		**Sg**	**01 36 37.6**	**-2.0**
	comp=E,2.1nm,0.4s							
LFF	**La Frestale**	**4.25**	**252**	*e*Pn		**Pn**	**01 35 37.8**	**+1.5**
LFF	**La Frestale**	**4.25**	**252**	*e*Pg		**Pg**	**01 35 52.0**	**-1.9**
LFF				*e*Sn		**Sn**	**01 36 24.8**	**-0.6**
LFF				*e*Sg		**Sg**	**01 36 47.3**	**-1.5**
	comp=E,4.8nm,0.4s							
MTLF	**Montolieu**	**4.28**	**226**	*e*Pn		**Pn**	**01 35 37.9**	**+1.2**
MTLF	**Montolieu**	**4.28**	**226**	*e*Pg		**Pg**	**01 35 53.1**	**-1.3**
MTLF				*e*Sn		**Sn**	**01 36 25.8**	**-0.3**
	comp=E,4.8nm,0.4s							
MTLF				*e*Sg		**Sg**	**01 36 48.0**	**-1.8**
	comp=E,1.8nm,0.2s							
MFF	**Saint Martin d**	**4.54**	**275**	*e*Pn		**Pn**	**01 35 42.2**	**+1.8**
MFF				*e*Sn		**Sn**	**01 36 33.3**	**+0.5**
	comp=E,0.7nm,0.2s							
MFF				*e*Sg		**Sg**	**01 36 56.3**	**-2.1**
	comp=E,0.4nm,0.2s							
LDF	**La Druitiere**	**4.96**	**299**	*e*Pn		**Pn**	**01 35 47.8**	**+1.7**
LDF	**La Druitiere**	**4.96**	**299**	*e*Pg		**Pg**	**01 36 05.5**	**-1.9**
LDF				*e*Sn		**Sn**	**01 36 41.8**	**-1.1**
	comp=E,4.7nm,0.8s							
LDF				*e*Sg		**Sg**	**01 37 09.4**	**-2.2**
	comp=E,0.9nm,0.2s							
FLN	**La Foliniere**	**5.24**	**299**	*e*Pn		**Pn**	**01 35 51.6**	**+1.6**
	baz=120							
FLN	**La Foliniere**	**5.24**	**299**	*e*Pg		**Pg**	**01 36 10.7**	**-2.2**
FLN				*e*Sn		**Sn**	**01 36 48.4**	**-1.5**
FLN				*e*Sg		**Sg**	**01 37 18.2**	**-2.5**
	comp=E,1.3nm,0.2s,baz=119							
GRR	**Gorron**	**5.34**	**295**	*e*Pn		**Pn**	**01 35 52.7**	**+1.4**
GRR				*e*Sn		**Sn**	**01 36 51.6**	**-0.6**
	comp=E,5.2nm,0.8s							
GRR				*e*Sg		**Sg**	**01 37 21.4**	**-2.3**
	comp=E,1.1nm,0.2s							
EPF	**Esparros**	**5.49**	**234**	*e*Pg		**Pg**	**01 36 16.2**	**-1.4**
EPF				*e*Sg		**Sg**	**01 37 25.9**	**-2.8**
	comp=E,2.2nm,0.4s							
KHC	**Kasperske Hory**	**5.54**	**58**	*e*SG		**Sg**	**01 37 31.5**	**+1.1**
SGMF	**Saint Gilles**	**6.39**	**290**	*e*Pn		**Pn**	**01 36 06.4**	**+0.7**
SGMF				*e*Sn		**Sn**	**01 37 15.8**	**-2.3**
	comp=E,0.3nm,0.2s							
QUIF	**Quistinic**	**6.72**	**287**	*e*Pn		**Pn**	**01 36 10.9**	**+0.7**
QUIF				*e*Sn		**Sn**	**01 37 23.9**	**-2.3**
	comp=E,0.3nm,0.2s							
ROSF	**Rostrenen**	**6.87**	**290**	*e*Pn		**Pn**	**01 36 12.7**	**+0.3**
ROSF				*e*Sn		**Sn**	**01 37 27.4**	**-2.6**
	comp=E,0.4nm,0.2s							

IDC 24 01:49:22.6±21.0**, 6°39S**×**127°22E, h400**km±289km**, mb3.3**/2**, mb1 3.1**/4**, mb1mx2.8**/34**, mbtmp3.9**/4**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.8**/19**, Error ellipse: s-maj=133.9km s-min=108.8km az=98.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.15**	**154**	P	P	01 52 36.4	-0.3
	0.4nm,0.3s,baz=331,slow=11,SNR=7.6						
WRA				LR	LR	01 59 39.2	
	comp=Z,135nm,21.4s,baz=75,slow=41						
ASAR	**Alice Springs**	**18.34**	**160**	P	P	01 53 11.1	+0.2
	0.3nm,0.3s,baz=344,slow=12,SNR=5.5						
MKAR	**Makanchi Array**	**66.22**	**328**	P	P	01 59 29.3	+0.2
	0.8nm,0.5s,baz=125,slow=6.0,SNR=14						
ZALV	**Zalesovo Beam**	**69.84**	**335**	P	P	01 59 50.3	-0.8
	0.9nm,0.5s,baz=121,slow=6.6,SNR=2.5						
KURBB	**Kurchatov Arra**	**70.56**	**330**	P	P	01 59 55.8	+0.3
	baz=129,slow=5.1						

IDC 24 02:14:13.3±3.8, 5°.42S×104°.63E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/47, mbtmp3.9/5, Error ellipse: s-maj=207.2km s-min=28.4km az=52.0
DJA 24 02:14:26.9±0.4, 5°.S±4°×10°.5E±°, h92km±5km, M3.7/8, MLv3.7/8
ISC 24 02:14:25.7±0.9**, 5°.19S**±0°.07×**104°.71E**±0°.08**, h100km, n13,** σ1°**69**/14**, mb3.7**/5**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.40**	**213**	P	**Pn**	**02 14 42.5**	**+1.7**
KASI				S	**Sn**	**02 14 54.3**	**+2.3**
KLSI		**0.50**	**2**	P	**Pn**	**02 14 42.8**	**+1.3**
KLSI				S	**Sn**	**02 14 55.8**	**+2.6**
LWLI	**Liwa**	**0.67**	**285**	P	**Pn**	**02 14 43.7**	**+0.7**
LHSI	**Lahat**	**1.80**	**319**	P	**Pn**	**02 14 55.6**	**-0.1**
KSI	**Kapahiang**	**2.61**	**306**	P	**Pn**	**02 15 05.9**	**-0.4**
LEM	**Lembang**	**3.31**	**120**	P	Pn	02 15 02.8	-13
PPBI	**Pangkal Pinang**	**3.33**	**25**	P	**Pn**	**02 15 16.5**	**+0.7**
CISI	**Cisompet, Garu**	**3.88**	**127**	P	**Pn**	**02 15 24.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.14**	**124**	P	**P**	**02 19 31.8**	**-0.8**
	2.7nm,0.9s,baz=293,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**32.34**	**120**	P	**P**	**02 20 43.8**	**-1.9**
	0.7nm,0.3s,baz=291,slow=9.1,SNR=7.6						
ASAR	**Alice Springs**	**33.59**	**126**	P	**P**	**02 20 54.5**	**-2.0**
	0.4nm,0.3s,baz=297,slow=7.8,SNR=9.0						
STKA	**Stephens Creek**	**43.53**	**132**	P	**P**	**02 22 18.0**	**-1.7**
	1.1nm,0.5s,baz=308,slow=9.4,SNR=9.5						
MKAR	**Makanchi Array**	**55.44**	**341**	P	**P**	**02 23 51.0**	**+1.2**
	0.3nm,0.5s,baz=141,slow=7.8,SNR=2.3						

JMA 24 02:18:39.7±0.4, 32°.05N×138°.02E, h405km±4km, M3.7
NEIC 24 02:18:40.0±1.4, 31°.92N×0°.09×137°.8E±0°.1, h380km±7km, mb4.0/19, Error ellipse: s-maj=14.0km s-min=12.4km az=94.0
IDC 24 02:18:41.1±1.1, 31°.99N×137°.80E, h386km±10km, mb3.2/18, mb1 3.4/25, mb1mx3.3/52, mbtmp3.9/25, Error ellipse: s-maj=14.0km s-min=12.7km az=133.0
ISC 24 02:18:39.7±0.5**, 31°.95N**±0°.06×**137°.95E**±0°.05**, h380km, n74,** σ1°**81**/93**, mb3.6**/24**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.62**	**71**	P	**Pn**	**02 19 34.1**	**+2.6**
JAOM				*e*S	**S**	**02 20 17.2**	**+3.9**
TTO1	**TONANKAI O.B.S**	**1.94**	**330**	P	**Pn**	**02 19 35.8**	**+2.9**
JHJ	**Hachijo jima 2**	**1.94**	**52**	P	**Pn**	**02 19 35.4**	**+2.1**
	21nm,0.3s,baz=336,slow=19,SNR=64						
JHJ				S	**S**	**02 20 17.8**	**+1.1**
	43nm,0.3s,baz=278,slow=23,SNR=5.2						
JHJ2	**Mitsune**	**1.96**	**53**	P	**Pn**	**02 19 35.5**	**+2.1**
JHJ2	**Mitsune**	**1.96**	**53**	Pn	**Pn**	**02 19 34.9**	**+1.4**
JIE	**Ise**	**2.65**	**337**	P	**Pn**	**02 19 40.6**	**+2.2**
JIE				*e*S	**S**	**02 20 27.6**	**+1.8**
JKN2	**Miekihoku**	**2.68**	**329**	P	**Pn**	**02 19 40.5**	**+1.9**
JKN2				*e*S	**S**	**02 20 27.6**	**+1.3**
JTNC	**Tanabenakahech**	**2.71**	**314**	P	**Pn**	**02 19 40.6**	**+1.7**
HMMJ	**Hamamatsu 2**	**2.91**	**356**	P	**Pn**	**02 19 42.7**	**+2.3**
JWY	**Kouya**	**3.01**	**320**	P	**Pn**	**02 19 43.6**	**+2.2**
JAO	**Obara**	**3.36**	**350**	P	**Pn**	**02 19 46.7**	**+2.3**
JAO				*e*S	**S**	**02 20 38.9**	**+2.0**
JNY	**Yasuok**	**3.40**	**359**	P	**Pn**	**02 19 47.0**	**+2.1**
JOD2	**Odawara 2**	**3.44**	**16**	P	**Pn**	**02 19 46.5**	**+1.4**
JOD2				*e*S	**S**	**02 20 39.0**	**+0.9**
JAI	**Aioi**	**3.47**	**303**	P	**Pn**	**02 19 47.0**	**+1.6**
BSO3	**Boso 3**	**3.56**	**36**	P	**Pn**	**02 19 45.9**	**0.0**
BSO3				*e*S	**S**	**02 20 38.0**	**-1.7**
BSO4	**Boso 4**	**3.63**	**33**	P	**Pn**	**02 19 47.2**	**+0.4**
BSO4				*e*S	**S**	**02 20 41.4**	**+0.3**
BSO1	**Boso 1**	**3.71**	**42**	P	**Pn**	**02 19 47.5**	**+0.6**
BSO1				*e*S	**S**	**02 20 40.4**	**-1.1**
JHU	**Hanno**	**4.05**	**16**	P	**Pn**	**02 19 51.3**	**+0.4**
JHU				*e*S	**S**	**02 20 45.9**	**-2.7**
JRY	**Ryogami san**	**4.14**	**11**	P	**Pn**	**02 19 53.0**	**+1.2**
JRY				*e*S	**S**	**02 20 50.2**	**0.0**
JTO	**Tosashimizu**	**4.45**	**283**	P	**Pn**	**02 19 56.6**	**+1.7**
MJAR	**Matsushiro Arr**	**4.59**	**3**	P	**Pn**	**02 19 56.5**	**+0.2**
	1.2nm,0.3s,baz=195,slow=12,SNR=74						
MJAR				S	**S**	**02 20 56.6**	**-2.0**
	0.1nm,0.3s,baz=196,slow=17,SNR=1.8						
MAJO	**Matsushiro**	**4.59**	**3**		**Pn**	**02 19 57.3**	**+1.0**
MAT	**Matsushiro**	**4.59**	**3**	P	**Pn**	**02 19 57.0**	**+0.7**
MAT				S	**S**	**02 20 56.9**	**-1.6**
JAG	**Ashikaga**	**4.64**	**15**	P	**Pn**	**02 19 56.4**	**-0.4**
JAG				*e*S	**S**	**02 20 56.2**	**-3.2**
JYT	**Yasato**	**4.66**	**23**	P	**Pn**	**02 19 55.9**	**-1.1**
JYT				*e*S	**S**	**02 20 56.1**	**-3.7**
CBIJ	**Chichi jima**	**6.08**	**142**	P	**Pn**	**02 20 11.9**	**-0.6**
CBIJ				*e*S	**S**	**02 21 23.8**	**-4.3**
JCJ	**Chichijima**	**6.08**	**142**	P	**Pn**	**02 20 11.9**	**-0.6**
	15nm,0.3s,baz=296,slow=7.6,SNR=14						
JCJ				S	**S**	**02 21 22.5**	**-5.6**
	50nm,0.3s,baz=292,slow=22,SNR=15						
JCJ	**Chichijima**	**6.08**	**142**	Pn	**Pn**	**02 20 12.1**	**-0.4**
JNU	**Nakatsue**	**6.08**	**283**	P	**Pn**	**02 20 14.1**	**+1.6**
	1.7nm,0.3s,baz=97,slow=4.5,SNR=18						
JNU				S	**S**	**02 21 23.2**	**-4.8**
	baz=54,slow=19,SNR=1.9						
JNU	**Nakatsue**	**6.08**	**283**		**Pn**	**02 20 12.4**	**-0.1**
JMK	**Ichinoseki**	**7.48**	**20**	P	**Pn**	**02 20 27.8**	**-0.4**
JMK				*e*S	**S**	**02 21 52.1**	**-4.8**
KSRS	**Korea Array**	**9.91**	**306**	P	**P**	**02 20 57.8**	**+1.1**
	0.7nm,0.3s,baz=122,slow=11,SNR=27						
KS19	**Wonju Array Si**	**9.97**	**307**		**P**	**02 20 56.2**	**-1.2**
INCN	**Inchon**	**10.82**	**304**	P	**Pn**	**02 21 05.4**	**-1.8**
ERM	**Erimo**	**10.88**	**21**	P	**Pn**	**02 21 08.2**	**+0.5**
ASAJ	**Asahikawa**	**12.69**	**15**	P	**Pn**	**02 21 29.7**	**+0.8**
	2.8nm,0.3s,baz=235,slow=9.3,SNR=15						
JKA	**Kamikawa-asahi**	**12.69**	**15**	P	**Pn**	**02 21 29.7**	**+0.8**
USRK	**Ussuriysk Ar.**	**13.10**	**341**	P	**Pn**	**02 21 32.1**	**-1.5**
	baz=158,slow=9.3,SNR=5.3						
KLR	**Kul'dur**	**17.88**	**347**	P	**P**	**02 22 23.2**	**-0.4**
	0.8nm,0.3s,baz=169,slow=12,SNR=11						
PETK	**Petropavlovsk-**	**25.51**	**28**	P	**P**	**02 23 36.9**	**+1.9**
	1.4nm,0.8s,baz=227,slow=5.7,SNR=1.3						
ULN	**Ulaanbaatar**	**28.30**	**313**	P	**P**	**02 23 58.6**	**-1.3**
ULN				IAmb	IAmb	02 24 01.3	
	comp=Z,3.3nm,0.7s						
SONM	**Songino Array**	**28.69**	**313**	P	**P**	**02 24 03.7**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=112,slow=8.7,SNR=7.9						
CHTO	**Chiang Mai**	**37.38**	**259**	P	**P**	**02 25 14.5**	**-3.5**
CMAR	**Chiang Mai Arr**	**37.55**	**259**	P	**P**	**02 25 18.8**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=52,slow=7.3,SNR=4.4						
MK31	**Makanchi Array**	**44.59**	**306**	P	**P**	**02 26 14.5**	**-1.1**
MKAR	**Makanchi Array**	**44.59**	**306**	P	**P**	**02 26 15.5**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=91,slow=9.6,SNR=22						
MKAR				ScP	**ScP**	**02 31 05.2**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=111,slow=3.2,SNR=6.1						
MAKZ	**Makanchi**	**44.81**	**306**	P	**P**	**02 26 16.7**	**-0.6**
KURK	**Kurchatov**	**46.99**	**312**	P	**P**	**02 26 33.7**	**-0.3**
PRZ	**Przheval'sk**	**47.70**	**300**	P	**P**	**02 26 39.5**	**-0.4**
WRA	**Warramunga Arr**	**51.71**	**184**	P	**P**	**02 27 10.0**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=360,slow=7.7,SNR=5.9						
KK31	**Karatay Array**	**53.31**	**302**	P	**P**	**02 27 20.2**	**-0.9**
KKAR	**Karatay Array**	**53.31**	**302**	P	**P**	**02 27 20.0**	**-1.1**
NIL	**Nilore**	**53.59**	**290**	P	**P**	**02 27 22.9**	**-0.4**
NIL				IAmb	IAmb	02 27 24.4	
	comp=Z,4.7nm,0.8s						
MDM	**Murphy Dome**	**54.74**	**30**	P	**P**	**02 27 32.1**	**+1.2**
MDM				IAmb	IAmb	02 27 33.6	
	comp=Z,4.5nm,0.9s						
ILAR	**Eielson Array**	**55.32**	**30**	P	**P**	**02 27 35.6**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=265,slow=5.9,SNR=10						
CHGR	**Chuyangaron**	**55.36**	**297**	P	**P**	**02 27 35.1**	**-0.8**
ASAR	**Alice Springs**	**55.43**	**185**	P	**P**	**02 27 38.1**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=11,slow=12,SNR=4.4						
KBL	**Kabul**	**56.65**	**293**	P	**P**	**02 27 43.8**	**-1.3**
KBL				IAmb	IAmb	02 27 45.4	
	comp=Z,3.7nm,0.8s						
INK	**Inuvik**	**60.20**	**25**	P	**P**	**02 28 09.5**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=274,slow=5.6,SNR=6.7						
INK	**Inuvik**	**60.20**	**25**	IAmb	IAmb	02 29 15.0	
	comp=Z,12nm,1.8s						
NWAO	**Narrogin (SRO)**	**67.42**	**199**	P	**P**	**02 28 54.0**	**-1.4**
ARCES	**ARCESS Array B**	**67.74**	**339**	P	**P**	**02 28 57.4**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=71,slow=9.1,SNR=7.1						
YKA	**Yellowknife Ar**	**69.63**	**28**	P	**P**	**02 29 09.6**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=304,slow=6.2,SNR=3.5						
FINES	**FINESS Array B**	**71.96**	**332**	P	**P**	**02 29 22.6**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=66,slow=4.6,SNR=19						
KBZ	**Khabaz**	**72.03**	**311**	P	**P**	**02 29 23.5**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=56,slow=3.8,SNR=4.6						
PINE	**Pine Mountain**	**75.85**	**47**	P	**P**	**02 29 46.7**	**+1.3**
PINE				IAmb	IAmb	02 29 49.7	
	comp=Z,11nm,1.3s						
AKASG	**Malin Array Be**	**76.53**	**322**	P	**P**	**02 29 48.4**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=53,slow=3.9,SNR=2.4						
NOA	**NORSAR Array B**	**77.73**	**336**	P	**P**	**02 29 54.9**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=43,slow=5.5,SNR=2.1						
BRTR	**Keskin Array B**	**80.03**	**311**	P	**P**	**02 30 08.3**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=31,slow=2.9,SNR=4.1						
NVAR	**Mina Array Bea**	**80.37**	**51**	P	**P**	**02 30 11.7**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=281,slow=6.3,SNR=7.0						
DUG	**Dugway, Tooele**	**82.88**	**47**	P	**P**	**02 30 23.9**	**+0.9**
DUG				IAmb	IAmb	02 30 25.8	
	comp=Z,2.9nm,0.9s						
PD31	**Pinedale Array**	**83.30**	**43**	P	**P**	**02 30 26.3**	**+1.1**
PD31				IAmb	IAmb	02 32 21.1	
	comp=Z,9.7nm,1.9s						
PDAR	**Pinedale Array**	**83.30**	**43**	P	**P**	**02 30 26.8**	**+1.6**
	comp=Z,0.9nm,0.9s,baz=270,slow=3.0,SNR=5.7						
TXAR	**Lajitas Array**	**95.52**	**51**	P	**P**	**02 31 24.7**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=317,slow=5.1,SNR=5.2						

DDA 24 02:33:25.6, 35°.25N×27°.58E, h4km±2km, ML2.8
NIC 24 02:33:30.2±0.0, 35°.50N×27°.75E, h6km±1km, Ml2.8/2
ISK 24 02:33:31.2, 35°.56N×27°.72E, h8km, ML2.7/11
ATH 24 02:33:31.9, 35°.61N×27°.67E, h21km±1km, ML2.4/3, Error ellipse: s-maj=3.7km s-min=1.1km az=325.0
ISC 24 02:33:32.1±1.3**, 35°.54N**±0°.04×**27°.73E**±0°.03**, h20km**±4**km, n48,** σ1°**32**/59**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.47**	**271**	P	**Pg**	**02 33 40.4**	**-1.2**
KARP				S	**Sb**	**02 33 47.4**	**-0.7**
KARP				AML	AML	02 33 51.1	
	comp=N,2038μm,0.4s						
KARP				AML	AML	02 33 51.1	
	comp=E,2020μm,0.4s						
KARP	**Karpathos**	**0.47**	**271**	PG	**Pg**	**02 33 40.4**	**-1.2**
KARP				SG	**Sb**	**02 33 47.5**	**-0.7**
KARP	**Karpathos**	**0.47**	**271**	P	**Pg**	**02 33 40.2**	**-1.4**
KARP				S	**Sb**	**02 33 48.6**	**+0.5**
KARP				AML	AML	02 33 50.6	
	comp=E,2.0nm,0.3s						
KARP				AML	AML	02 33 50.6	
	comp=E,2.0nm,0.3s						
KARP				AML	AML	02 33 50.9	
	comp=E,2.5nm,0.7s						
KARP				AML	AML	02 33 50.9	
	comp=E,2.5nm,0.7s						
ARG	**Arkhangelos**	**0.75**	**25**	P	**Pg**	**02 33 45.6**	**-1.2**
ARG				S	**Sb**	**02 33 56.4**	**+0.2**
ARG				AML	AML	02 34 01.4	
	comp=N,525μm,0.2s						
ARG				AML	AML	02 34 06.2	
	comp=E,800μm,0.2s						
ARG	**Arkhangelos**	**0.75**	**25**	PG	**Pg**	**02 33 45.5**	**-1.2**
ARG				SG	**Sb**	**02 33 56.6**	**+0.4**
ARG	**Arkhangelos**	**0.75**	**25**	P	**Pg**	**02 33 45.5**	**-1.2**
ARG				S	**Sb**	**02 33 57.1**	**+0.9**
DAT	**Datca**	**1.19**	**354**	PN	**Pn**	**02 33 54.2**	**+0.4**
DAT	**Datca**	**1.19**	**354**	*i* P	**Pn**	**02 33 54.2**	**+0.4**
DAT				*i* S	**Sn**	**02 34 10.9**	**+1.4**
TURN	**Turunc**	**1.30**	**18**	PN	**Pn**	**02 33 55.6**	**-2.3**
TURN	**Turunc**	**1.30**	**18**	*i* P	**Pn**	**02 33 54.8**	**-3.1**
TURN				*i* S	**Sn**	**02 34 14.3**	**-2.7**
TURN				IAML		02 34 18.0	
	comp=E,96nm,0.3s						
TURN				IAML		02 34 20.0	
	comp=N,119nm,0.8s						
ZKR	**Zakros**	**1.31**	**251**	P	**Pn**	**02 33 55.7**	**+0.4**
ZKR				AML	AML	02 34 25.5	
	comp=E,289μm,0.3s						
ZKR				AML	AML	02 34 25.8	
	comp=N,159μm,0.6s						
DALY	**Dalyan (Mula)**	**1.48**	**30**	PN	**Pb**	**02 33 58.4**	**-0.4**
DALY	**Dalyan (Mula)**	**1.48**	**30**	*i* P	**Pb**	**02 33 58.6**	**-0.2**
DALY				*i* S	**Sg**	**02 34 24.7**	**+4.8**
DALY				IAML		02 34 26.0	
	comp=E,133nm,0.5s						
FETY	**Fethiye**	**1.55**	**45**	PN	**Pb**	**02 33 59.7**	**-0.4**
FETY	**Fethiye**	**1.55**	**45**	*i* P	**Pb**	**02 33 59.7**	**-0.4**
BODT	**Bodrum**	**1.56**	**348**	PN	**Pn**	**02 33 59.3**	**+0.6**
KSL	**Kastellorizon**	**1.62**	**67**	P	**Pb**	**02 34 01.4**	**0.0**
KSL	**Kastellorizon**	**1.62**	**67**	S	**Sb**	**02 34 21.9**	**+0.5**
YER	**Yerkesik**	**1.65**	**15**	PN	**Pb**	**02 34 01.1**	**-0.8**
AKAS	**Kas**	**1.67**	**65**	PN	**Pn**	**02 34 01.6**	**+1.2**
AKAS	**Kas**	**1.67**	**65**	*i* P	**Pb**	**02 34 02.1**	**-0.2**
NPS	**Neapolis**	**1.75**	**261**	P	**Pb**	**02 34 03.4**	**-0.2**
ANAF	**Anafi Island**	**1.79**	**298**	P	**Pb**	**02 34 03.1**	**-1.0**
LAST	**Lasithi**	**1.88**	**259**	P	**Pb**	**02 34 05.3**	**-0.5**
SANT	**Santorini**	**2.02**	**295**	P	**Pn**	**02 34 05.6**	**+0.5**
SANT	**Santorini**	**2.02**	**295**	PN	**Pn**	**02 34 05.8**	**+0.7**
SAP1	**Santorini-Akro**	**2.06**	**294**	P	**Pn**	**02 34 06.6**	**+1.0**
CMBO	**Columbo, Santo**	**2.10**	**297**	P	**Pn**	**02 34 06.7**	**+0.6**
AYDN	**Tasoluk**	**2.12**	**3**	*i* P	**Pb**	**02 34 08.4**	**-1.5**
AYDN				*i* S	**Sb**	**02 34 36.4**	**+0.6**
ELL	**Elmali**	**2.13**	**55**	PN	**Pn**	**02 34 08.2**	**+1.5**
TAVA	**DENIZLI_Tavas**	**2.14**	**26**	*i* P	**Pb**	**02 34 09.7**	**-0.6**
TAVA				*i* S	**Sg**	**02 34 40.3**	**-0.8**
TAVA				IAML		02 34 48.0	
	comp=E,38nm,0.5s						
GCAM	**G?zelcaml?**	**2.19**	**350**	PN	**Pn**	**02 34 09.0**	**+1.6**
GOLH	**Golhisar**	**2.25**	**41**	*i* P	**Pn**	**02 34 09.9**	**+1.7**
SMG	**Samos**	**2.28**	**342**	P	**Pn**	**02 34 09.6**	**+1.0**
IOSP	**Ios island**	**2.30**	**302**	P	**Pn**	**02 34 09.1**	**+0.2**
IDI	**Anoyia**	**2.33**	**265**	P	**Pn**	**02 34 11.1**	**+1.6**
APE	**Apeiranthos**	**2.34**	**311**	P	**Pn**	**02 34 10.0**	**+0.5**
APE	**Apeiranthos**	**2.34**	**311**	P	**Pn**	**02 34 09.8**	**+0.2**
SIVA	**Sivas**	**2.45**	**259**	P	**Pn**	**02 34 12.4**	**+1.5**
DGB	**zmir**	**2.60**	**345**	*i* P	**Pn**	**02 34 14.2**	**+1.2**
VAM	**Vamos**	**2.88**	**268**	P	**Pn**	**02 34 17.7**	**+0.8**
IMMV	**Iera Moni Meta**	**3.06**	**270**	P	**Pn**	**02 34 20.5**	**+1.1**
CHOS	**Chios island**	**3.14**	**335**	P	**Pn**	**02 34 22.4**	**+1.9**
AKMS	**Akamas**	**3.80**	**97**	P	**Pn**	**02 34 29.5**	**-0.1**
AKMS				AML	AML	02 35 17.0	
	comp=E,0.1nm,0.3s						
AKMS				AML	AML	02 35 29.1	
	comp=E,0.1nm,0.9s						
ALFC	**Alefka**	**4.00**	**94**	P	**Pn**	**02 34 32.0**	**-0.2**
SZAC	**Souni**	**4.29**	**99**	P	**Pn**	**02 34 37.3**	**+0.9**
ASGA	**Asgata**	**4.58**	**98**	P	**Pn**	**02 34 40.2**	**-0.1**
TRIP	**Tripoli**	**4.82**	**296**	P	**Pn**	**02 34 45.5**	**+1.8**

DJA 24 02:39:19.6±1.0, 10°.S±7°×11°6E±°, h13km±10km, M4.5/10, mB4.9/2, mb4.6/4, MLv4.5/10, Mw(mB)4.1/2
NEIC 24 02:39:22.9±1.6, 10°.31S±0°.07×116°.40E±0°.08, h47km±7km, mb4.4/11, Error ellipse: s-maj=11.1km s-min=9.9km az=66.0
IDC 24 02:39:23.1±0.8, 10°.22S×116°.43E, h41km±6km, mb4.1/13, mb1 4.1/16, mb1mx3.9/49, mbtmp4.3/16, ML4.0/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/39, Error ellipse: s-maj=25.6km s-min=13.1km az=53.0
ISC 24 02:39:21.8±0.5**, 10°.40S**±0°.06×**116°.46E**±0°.05**, h35km, n56,** σ1°**86**/63**, mb4.3**/14**, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWSI	**Taliwang, Sumb**	**1.70**	**14**	P	**Pn**	**02 39 48.8**	**-0.2**
PLAI	**Plampang**	**2.03**	**40**	P	**Pn**	**02 39 53.5**	**0.0**
PLAI				S	**Sn**	**02 40 18.4**	**+0.8**
DNP	**Denpasar**	**2.11**	**324**	P	**Pn**	**02 39 55.8**	**+1.1**
DNP				S	**Sn**	**02 40 22.6**	**+2.9**
SRBI	**Singaraja**	**2.61**	**332**	P	**Pn**	**02 40 02.7**	**+1.2**
SRBI				S	**Sn**	**02 40 35.1**	**+3.1**
JAGI	**Jajag, Banyuwa**	**2.98**	**310**	P	**Pn**	**02 40 06.0**	**-0.6**
JAGI	**Jajag, Banyuwa**	**2.98**	**310**		**Pn**	**02 40 05.8**	**-0.9**
WBSI	**Waikabubak, Su**	**2.98**	**76**	P	**Pn**	**02 40 06.7**	**0.0**
WBSI				S	**Sn**	**02 40 43.4**	**+2.2**
GMJI	**Gumukmas**	**3.65**	**305**	P	**Pn**	**02 40 15.6**	**-0.3**
EDFI	**Ende, Flores**	**5.41**	**73**	P	**Pn**	**02 40 39.5**	**-0.7**
	0.2nm622nm38nm,0.7s						
MMRI	**Maumere**	**5.96**	**73**	Pn	**Pn**	**02 40 49.7**	**+2.

NVAR **Mina Array Bea** 123.83 51 PKP **PKiKP** 02 58 18.0 +0.9
comp=Z,0.3nm,0.6s,baz=42,slow=2.4,SNR=4.2
TXAR **Lajitas Array** 138.09 57 PKhKP PKPpre 02 58 36.6
comp=Z,0.3nm,0.8s,baz=270,slow=0.8,SNR=3.0
TXAR PKP **PKPdf** 02 58 43.8 -0.1
comp=Z,0.2nm,0.7s,baz=186,slow=1.8,SNR=2.0

BJI ***24*** *02:44:49.0±0.0,32.°60N×47.°90E,h5km,mB5.0/40, mb5.0/61,Ms4.9/55,Ms7 4.7/50*
ISN ***24*** *02:44:49.1±2.9,32.°74N×47.°68E,h15km,ML4.7*
MOS ***24*** *02:44:50.7±1.1,32.°56N×47.°83E,h17km,mb5.3/64,Error ellipse: s-maj=5.2km s-min=3.2km az=104.8*
GII ***24*** *02:44:51.2±0.0,32.°61N×47.°87E,h10km*
NEIC ***24*** *02:44:51.4±2.2,32.°59N±0.°05×47.°77E±0.°06,h10km±1km, Error ellipse: s-maj=10.0km s-min=7.5km az=225.0*
TEH ***24*** *02:44:52.0,32.°67N×47.°79E,h18km,ML5.3*
THR ***24*** *02:44:53.2±1.1,32.°63N×47.°74E,h14km±9km,ML5.3*
DSN ***24*** *02:44:53.8±1.1,32.°34N×48.°02E,h10km,mb5.6/3,ML5.5/1, Error ellipse: s-maj=18.7km s-min=9.7km az=24.0*
OMAN ***24*** *02:44:53.4,32.°18N×47.°78E,h13km,mb5.8/18,ms4.2/3*
IDC ***24*** *02:44:54.3±1.1,32.°68N×47.°85E,h27km±6km,mb4.6/42, mb1 4.7/51,mb1mx4.7/61,mbtmp4.8/51,ML4.3/8,MS4.2/33, Ms1 4.2/33,ms1mx4.1/47,Error ellipse: s-maj=9.4km s-min=8.4km az=169.0*
GCMT ***24*** *02:44:55.1±0.4,32.°61N±0.°02×47.°76E±0.°02,h25km±1km, MW5.1/109,Moment Tensor Solution. s8,c8; s109,c154; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.42±.25; Mθθ-4.21±.18; Mφφ3.79±.19; Mrθ-1.31±.43; Mθφ2.05±.14; Mφr1.57±.41; Best double couple: M☉4.92900×10¹⁶ NP1:φs58.00000°,δ66.00000°,λ0.00000°. NP2: φs328.00000°,δ90.00000°,λ156.00000°. Principal axes: T 4.6610, Plg17.0000°, Azm280.0000°; N 0.5390, Plg66.0000°, Azm147.0000°; P -5.1980, Plg17.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 02:44:52.8±0.4,32.°56N±0.°03×47.°78E±0.°03,h19km±1km, h20km:pP-P,n898,σ1§57/943,mb5.2/240,MS4.3/60, 36C-33D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.44**	**286**	*e*Pg		**Pg**	**02 45 01.0**	**-0.8**
IKFM	**Kafar-mosalman**	**0.96**	**3**	*e*Pg		**Pb**	**02 45 08.5**	**-2.3**
SHGR	**Shooshtar-Gavs**	**0.97**	**117**	*e*Pg		**Pg**	**02 45 12.0**	**+0.2**
SHGR				*e*Sg		**Sn**	**02 45 27.1**	**+2.4**
SHGR				IAML			02 45 30.8	
	comp=N,58μm,0.8s							
SHGR				IAML			02 45 48.6	
	comp=E,55μm,0.6s							
SHGR	**Shooshtar-Gavs**	**0.97**	**117**	*e*Pg		**Pg**	**02 45 12.0**	**+0.2**
SHGR	**Shooshtar-Gavs**	**0.97**	**117**			**Pg**	**02 45 11.9**	**+0.2**
IKMR	**Kamar-syah**	**1.08**	**28**	*e*Pg		**Pb**	**02 45 10.6**	**-2.1**
IKMR				*e*			02 45 28.3	
IDOB	**Doab**	**1.27**	**15**	*e*Pg		**Pn**	**02 45 13.8**	**-1.8**
BMDN	**Meydan**	**1.41**	**38**	*e*Pg		**Pn**	**02 45 16.8**	**-0.8**
BMDN				*e*			02 45 43.5	
BMDN	**Meydan**	**1.41**	**38**	Pg		**Pn**	**02 45 16.7**	**-0.8**
AHWZ	**Ahwaz**	**1.43**	**149**	*e*Pg		**Pg**	**02 45 20.7**	**+0.3**
AHWZ	**Ahwaz**	**1.43**	**149**	Pg		**Pg**	**02 45 20.6**	**+0.2**
AHWZ				Sg		**Sg**	**02 45 42.5**	**+3.4**
IKOM	**Komasi**	**1.62**	**352**	*e*Pg		**Pn**	**02 45 20.6**	**+0.1**
IKOM				*e*			02 45 48.2	
KCHF	**Cheshme Sefid,**	**1.82**	**340**	*e*Pg		**Pn**	**02 45 23.8**	**+0.7**
KCHF				*e*			02 45 55.2	
KCHF	**Cheshme Sefid,**	**1.82**	**340**	Pg		**Pn**	**02 45 23.8**	**+0.7**
KER	**Kermanshah**	**1.90**	**344**	*e*Pn		**Pn**	**02 45 24.4**	**+0.2**
IBZA	**Bozab**	**1.90**	**2**	*e*Pg		**Pn**	**02 45 25.0**	**+0.6**
IBZA				*e*			02 46 00.4	
IGHG	**Ghaleghazi**	**2.03**	**330**	*e*Pn		**Pn**	**02 45 27.1**	**+0.9**
IVIS	**Veis**	**2.11**	**339**	*e*Pn		**Pn**	**02 45 27.8**	**+0.7**
IVIS				*e*			02 46 11.1	
KHMZ	**Khomeyn**	**2.17**	**57**	*e*Pn		**Pb**	**02 45 31.4**	**-0.1**
KHMZ	**Khomeyn**	**2.17**	**57**	*e*Pn		**Pb**	**02 45 31.4**	**-0.1**
IDHR	**Dehrash**	**2.43**	**332**	*e*Pn		**Pn**	**02 45 32.1**	**+0.5**
IDHR				*e*			02 46 15.5	
ILIN	**Lien**	**2.45**	**344**	*e*Pn		**Pn**	**02 45 32.6**	**+0.7**
ILIN				*e*			02 46 16.0	
JHBN	**Jahan bin**	**2.46**	**97**	*e*Pn		**Pn**	**02 45 33.3**	**+1.1**
JHBN				*e*			02 46 23.0	
JHBN	**Jahan bin**	**2.46**	**97**	Pn		**Pn**	**02 45 33.2**	**+1.1**
SNGE	**Sanandaj**	**2.55**	**352**	*e*Pn		**Pb**	**02 45 35.9**	**-2.1**
SNGE				*e*Sg		**Sb**	**02 46 10.8**	**+1.8**
SNGE	**Sanandaj**	**2.55**	**352**	*e*Pn		**Pb**	**02 45 35.9**	**-2.1**
SNGE	**Sanandaj**	**2.55**	**352**	Pn		**Pb**	**02 45 35.8**	**-2.1**
IPIR	**Pirpir**	**2.63**	**87**	*e*Pn		**Pn**	**02 45 35.8**	**+1.4**
IPIR				*e*			02 46 21.5	
ROKH	**ROKH**	**2.76**	**94**	*e*Pn		**Pn**	**02 45 37.4**	**+1.3**
ROKH				*e*			02 46 32.5	
BHD	**Baghdad**	**2.95**	**285**	*e*Pg		**Pn**	**02 45 38.0**	**-0.5**
	baz=100							
BHD				*e*Sg		**Sb**	**02 46 19.0**	**-1.2**
BHD				AML		AML	02 46 39.6	
	comp=E,5μm,0.7s							
IBRJ	**Brojen**	**3.02**	**102**	*e*Pn		**Pn**	**02 45 41.2**	**+1.4**
IKLH	**Kolahrood**	**3.28**	**76**	*e*Pn		**Pn**	**02 45 44.3**	**+1.0**
IKLH				*e*			02 46 44.5	
IRAZ	**Razeghan**	**3.35**	**32**	*e*Pn		**Pn**	**02 45 45.3**	**+1.1**
QABG	**Abgarm-Qazvin**	**3.48**	**25**	*e*Pn		**Pn**	**02 45 46.5**	**+0.5**
KLNJ	**Kolanjah**	**3.60**	**115**	*e*Pn		**Pn**	**02 45 48.9**	**+1.1**
KLNJ				*e*			02 47 03.2	
IGAR	**Gharneh**	**3.60**	**91**	*e*Pn		**Pn**	**02 45 48.9**	**+1.1**
IGAR				*e*			02 46 46.2	
IZEF	**Zefreh**	**3.85**	**84**	*e*Pn		**Pn**	**02 45 52.4**	**+1.3**
IMHD	**Mahdasht**	**3.93**	**37**	*e*Pn		**Pn**	**02 45 54.0**	**+1.9**
IRAM	**Ramesheh**	**3.97**	**100**	*e*Pn		**Pn**	**02 45 53.1**	**+0.3**
IHSB	**Hasanabad**	**4.08**	**44**	*e*Pn		**Pn**	**02 45 55.7**	**+1.5**
QSDN	**Sirdan**	**4.10**	**16**	*e*Pn		**Pn**	**02 45 56.1**	**+1.6**
IGZV	**Ghazvin**	**4.31**	**27**	*e*Pn		**Pn**	**02 45 58.7**	**+1.2**
CHTH	**Charan**	**4.34**	**39**	*e*Pn		**Pn**	**02 46 00.3**	**+2.4**
CHTH	**Charan**	**4.34**	**39**	*e*Pn		**Pn**	**02 46 00.3**	**+2.4**
TEH	**Tehran**	**4.35**	**42**	*e*Pn		**Pn**	**02 45 59.4**	**+1.4**
KAZ1	**Kazerun**	**4.42**	**130**	*e*Pn		**Pn**	**02 46 00.8**	**+2.0**
QALM	**Alamut, Qazvin**	**4.53**	**31**	*e*Pn		**Pn**	**02 46 01.5**	**+1.0**
MAHB	**Mahabad**	**4.53**	**338**	*e*Pn		**Pn**	**02 46 01.0**	**+0.6**
IDMV	**Damavand**	**4.63**	**48**	*e*Pn		**Pn**	**02 46 03.3**	**+1.3**
SHI	**Shiraz**	**5.00**	**124**	*e*Pn		**Pn**	**02 46 07.8**	**+1.0**
ANAR	**Anarak**	**5.04**	**81**	*e*Pn		**Pn**	**02 46 08.0**	**+0.5**
ISAD	**Sadrabad**	**5.04**	**96**	*e*Pn		**Pn**	**02 46 08.6**	**+1.0**
ILAS	**Lasjerd**	**5.14**	**55**	*e*Pn		**Pn**	**02 46 09.7**	**+0.8**
IFIR	**Firoozkooh**	**5.14**	**52**	*e*Pn		**Pn**	**02 46 10.3**	**+1.4**
ISRB	**Sarab**	**5.25**	**359**	*e*Pn		**Pn**	**02 46 12.4**	**+2.0**
IPRN	**Peran**	**5.26**	**44**	*e*Pn		**Pn**	**02 46 12.8**	**+2.4**
IAZR	**Azarshahr**	**5.31**	**344**	*e*Pn		**Pn**	**02 46 12.8**	**+1.5**
IALA	**Alasht**	**5.44**	**48**	*e*Pn		**Pn**	**02 46 14.6**	**+1.5**
ISHM	**Shahmirzad**	**5.60**	**53**	*e*Pn		**Pn**	**02 46 16.6**	**+1.4**
ICHK	**Chekchek**	**5.61**	**91**	*e*Pn		**Pn**	**02 46 15.7**	**+0.3**
IHRS	**Heris**	**5.77**	**354**	*e*Pn		**Pn**	**02 46 19.6**	**+2.0**
CUKT	**Cukurca**	**5.80**	**325**	*e*Pn		**Pn**	**02 46 17.2**	**-0.6**
ITBZ	**Tabriz**	**5.81**	**347**	*e*Pn		**Pn**	**02 46 19.8**	**+1.7**
IANJ	**Anjilo**	**5.86**	**59**	*e*Pn		**Pn**	**02 46 19.6**	**+0.8**
IMEH	**Mehriz**	**5.92**	**100**	*e*Pn		**Pn**	**02 46 20.3**	**+0.7**
AHAR	**Ahar**	**5.94**	**354**	*e*Pn		**Pn**	**02 46 21.7**	**+1.9**
HAKT	**HAKKARI**	**6.00**	**327**	*e*Pn		**Pn**	**02 46 20.7**	**0.0**
IGLO	**Ghaloghah**	**6.35**	**50**	*e*Pn		**Pn**	**02 46 26.6**	**+1.1**
IMRD	**Marand**	**6.37**	**345**	*e*Pn		**Pn**	**02 46 28.9**	**+3.2**
JHRM	**Jahrom**	**6.43**	**127**	*e*Pn		**Pn**	**02 46 27.4**	**+0.9**
IBAF	**Bafgh**	**6.68**	**96**	*e*Pn		**Pn**	**02 46 30.4**	**+0.4**
GEVA	**Gevas**	**6.91**	**327**	Pn		**Pn**	**02 46 34.2**	**+1.1**
SRTM	**Siirt_Merkez**	**7.23**	**320**	*e*Pn		**Pn**	**02 46 37.4**	**-0.1**
BLIS	**Bitlis-Merkez**	**7.44**	**323**	*e*Pn		**Pn**	**02 46 39.8**	**-0.7**
MARD	**Mardin**	**7.45**	**311**			**Pn**	**02 46 40.5**	**-0.1**
TPRV	**Parvadeh(Tabas**	**7.51**	**84**	*e*Pn		**Pn**	**02 46 42.8**	**+1.5**
TNSJ	**Nastanj**	**7.52**	**77**	*e*Pn		**Pn**	**02 46 42.9**	**+1.4**
KHGB	**Koh Gabri**	**7.74**	**104**	*e*Pn		**Pn**	**02 46 45.1**	**+0.5**
TVBK	**TV Kerman**	**8.10**	**106**	*e*Pn		**Pn**	**02 46 49.2**	**-0.5**
NGRK	**Negar Kerman**	**8.21**	**108**	*e*Pn		**Pn**	**02 46 51.8**	**+0.7**
CHMN	**Cheshme madani**	**8.78**	**105**	*e*Pn		**Pn**	**02 46 59.2**	**+0.2**
AKT	**Akhty**	**8.90**	**360**	*e*P		**Pn**	**02 47 01.8**	**+1.4**
AKT				*e*S		**Sn**	**02 48 45.4**	**+5.3**
AKT				pmax		pmax		
	comp=Z,66nm,0.6s							
AKT				smax		smax		
	comp=N,20nm,0.9s							
AKT				smax		smax		
	comp=E,18nm,0.6s							
GENO	**Geno**	**8.91**	**123**	*e*Pn		**Pn**	**02 46 59.5**	**-1.1**
SBZV	**Sabzevar**	**8.97**	**62**	*e*Pn		**Pn**	**02 47 02.2**	**+0.8**
ASF	**Jabal al Asfar**	**9.21**	**270**	Pn		**Pn**	**02 47 04.1**	**-0.6**
	comp=E,6.9nm,0.3s,baz=47,slow=9.8,SNR=46							
ASF				Sn		**Sn**	**02 48 42.1**	**-5.8**
	comp=E,1.2nm,0.3s,baz=217,slow=20,SNR=1.3							
ASF				Lg		Lg	02 49 50.7	
	comp=E,3.3nm,0.3s,baz=345,slow=20,SNR=1.6							
ITEG	**Tejag**	**9.25**	**85**	*e*Pn		**Pn**	**02 47 05.9**	**+0.7**
TBLG	**Delisi**	**9.47**	**346**	P		**Pn**	**02 47 10.8**	**+2.8**
TBLG	**Delisi**	**9.47**	**346**	Pn		**Pn**	**02 47 10.8**	**+2.8**
AKH	**Akhalkalaki**	**9.47**	**340**	P		**Pn**	**02 47 10.5**	**+2.3**
AKH	**Akhalkalaki**	**9.47**	**340**	Pn		**Pn**	**02 47 10.5**	**+2.3**
AFRZ	**Afriz**	**9.47**	**82**	*e*Pn		**Pn**	**02 47 09.5**	**+1.2**
KOPT	**Kop Dagi**	**9.48**	**324**	Pn		**Pn**	**02 47 11.4**	**+3.0**
IKOO	**Kooshah**	**9.48**	**88**	*e*Pn		**Pn**	**02 47 09.2**	**+0.7**
ISFR	**Sfrayin**	**9.52**	**59**	*e*Pn		**Pn**	**02 47 10.9**	**+1.9**
SHME	**Shamm**	**9.76**	**130**	*i*P		**Pn**	**02 47 11.0**	**-1.2**
	SNR=18							
SHME				S		**Sn**	**02 48 55.6**	**-5.7**
GAZ	**Gaziantep**	**9.82**	**301**	Pn		**Pn**	**02 47 15.6**	**+2.6**
GNBR	**Gunib**	**9.83**	**356**	*i*P		**Pn**	**02 47 16.9**	**+3.8**
IAKL	**Akhelmad**	**9.90**	**63**	*e*Pn		**Pn**	**02 47 15.8**	**+1.5**
BANOM	**Banah**	**9.95**	**129**	*i*P		**Pn**	**02 47 13.1**	**-1.7**
	SNR=58							
BANOM				S		**Sn**	**02 49 01.7**	**-4.2**
BANOM	**Banah**	**9.95**	**129**	P		**Pn**	**02 47 14.0**	**-0.8**
	SNR=61							
GEYT	**Alibeck**	**10.00**	**55**	Pn		**Pn**	**02 47 16.1**	**+0.6**
	comp=E,1.2nm,0.3s,baz=251,slow=12,SNR=36							
GEYT				Lg		Lg	02 50 10.0	
	baz=242,slow=33,SNR=1.9							
GEYT				LR		LR	02 51 08.3	
	comp=E,955nm,20.6s,baz=240,slow=38							
GYA0	**ALIBECK ARRAY**	**10.00**	**55**	P		**Pn**	**02 47 16.9**	**+1.5**
GYA0B	**ALIBECK ARRAY**	**10.00**	**55**	Pn		**Pn**	**02 47 17.2**	**+1.8**
IPAY	**Payeh**	**10.03**	**64**	*e*Pn		**Pn**	**02 47 15.5**	**-0.5**
KEMA	**Kemaliye**	**10.07**	**314**	*e*Pn		**Pn**	**02 47 17.5**	**+1.1**
IEMG	**Emamgholi**	**10.14**	**58**	*e*Pn		**Pn**	**02 47 19.1**	**+1.5**
SHBL	**Chebaa**	**10.14**	**278**	*e*P		**Pn**	**02 47 17.7**	**+0.2**
NATI	**Neve Ativ**	**10.15**	**277**	Pn		**Pn**	**02 47 17.5**	**+0.1**
BTLR	**Botlikh**	**10.16**	**353**	*i*P		**Pn**	**02 47 21.5**	**+3.9**
AJN	**Ajban**	**10.18**	**140**	*i*P		**Pn**	**02 47 18.2**	**+0.4**
	SNR=14							
IDAH	**Dahanechah**	**10.19**	**86**	*e*Pn		**Pn**	**02 47 19.1**	**+0.8**
QRWL	**Qaraoun**	**10.20**	**279**	*e*P		**Pn**	**02 47 18.6**	**+0.3**
GEM	**Giv'at Ha'Em**	**10.21**	**277**	Pn		**Pn**	**02 47 18.6**	**+0.3**
NAZ	**Nazwa, Dubai**	**10.23**	**136**	*i*P		**Pn**	**02 47 18.5**	**0.0**
	SNR=35							
BHL	**Bhannes**	**10.24**	**281**	*e*P		**Pn**	**02 47 21.8**	**+3.0**
MSFE	**Esma-Masafi**	**10.26**	**132**	*i*P		**Pn**	**02 47 17.6**	**-1.4**
	SNR=17							
DQRL	**Deir Qamar**	**10.30**	**280**	*e*P		**Pn**	**02 47 19.9**	**+0.4**
MAK	**Makhachkala**	**10.38**	**359**	*e*P		**Pn**	**02 47 21.9**	**+1.4**
MAK				*e*S		**Sn**	**02 49 21.9**	**+5.6**
MAK				pmax		pmax		
	comp=Z,395nm,1.1s							
MAK				MLR		MLR		
	comp=Z,3μm,13.0s							
MDH	**Madha**	**10.39**	**132**	*i*P		**Pn**	**02 47 19.8**	**-1.0**
	SNR=18							
MMAI	**Mount Meron Ar**	**10.43**	**276**	Pn		**Pn**	**02 47 20.9**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=91,slow=14,SNR=13							
MMAI				Lg		Lg	02 50 28.1	
	comp=Z,2.3nm,0.3s,baz=95,slow=32,SNR=1.8							
MMAI				LR		LR	02 52 38.1	
	comp=Z,838nm,18.3s,baz=100,slow=44							
MMLI	**Mount Malkishu**	**10.44**	**273**	Pn		**Pn**	**02 47 23.0**	**+1.6**
GHAJ	**Ghor Haditha**	**10.46**	**266**	Pn		**Pn**	**02 47 21.9**	**+0.3**
DBC	**Dubki**	**10.47**	**356**	*i*P		**Pn**	**02 47 25.8**	**+4.0**
NHDN	**Nehbandan**	**10.49**	**93**	*e*Pn		**Pn**	**02 47 22.8**	**+0.6**
DSI	**Dead Sea**	**10.57**	**268**	Pn		**Pn**	**02 47 23.9**	**+0.7**
UOSS	**Minazif**	**10.59**	**134**	*i*P		**Pn**	**02 47 22.3**	**-1.2**
	SNR=21							
UOSS	**Minazif**	**10.59**	**134**	Pn		**Pn**	**02 47 22.7**	**-0.8**
BLGI	**Bet Lehem HaGe**	**10.62**	**274**	Pn		**Pn**	**02 47 24.9**	**+1.1**
HNTI	**Hanita**	**10.62**	**276**	Pn		**Pn**	**02 47 24.7**	**+0.8**
HATD	**Hatta, Dubai**	**10.63**	**134**	*i*P		**Pn**	**02 47 23.0**	**-1.1**
	SNR=36							
ZEI	**Tsey**	**10.66**	**344**	*e*P		Pn	02 47 30.4	+5.9
ZEI				pmax		pmax		
	comp=Z,46nm,1.6s							
ASHO	**Ashiyiah**	**10.70**	**135**	*i*P		**Pn**	**02 47 24.0**	**-1.0**
	SNR=44							
GROC	**Groznyy**	**10.74**	**352**	*e*P		**Pn**	**02 47 26.2**	**+0.8**
GROC				*e*S		**Sn**	**02 49 27.6**	**+2.6**
GROC				pmax		pmax		
	comp=Z,23nm,0.6s							
GROC				MLR		MLR		
	comp=Z,1μm,9.0s							
SLTI	**Sal'it**	**10.78**	**272**	Pn		**Pn**	**02 47 27.0**	**+1.0**
OFRI	**Ofer**	**10.80**	**274**	Pn		**Pn**	**02 47 27.4**	**+1.1**
IMYA	**Miami**	**10.85**	**66**	*e*Pn		**Pn**	**02 47 28.8**	**+1.7**
ZFRI	**Zfri**	**10.94**	**263**	Pn		**Pn**	**02 47 28.9**	**+0.7**
ALNE	**Al Ain**	**11.00**	**138**	*i*P		**Pn**	**02 47 28.3**	**-0.9**
	SNR=34							
PRNI	**Paran**	**11.13**	**262**	Pn		**Pn**	**02 47 31.6**	**+0.7**
HRFI	**Mount Harif**	**11.19**	**260**	Pn		**Pn**	**02 47 32.1**	**+0.4**
AQBJ	**Aqaba**	**11.27**	**259**	Pn		**Pn**	**02 47 34.2**	**+1.5**
MBRI	**Mt Berech**	**11.36**	**259**	Pn		**Pn**	**02 47 34.2**	**+0.1**
EIL	**Elat**	**11.37**	**259**	Pn		**Pn**	**02 47 33.9**	**-0.2**
	comp=Z,3.1nm,0.3s,baz=35,slow=12,SNR=29							
EIL				Lg		Lg	02 50 54.7	
	comp=Z,2.0nm,0.3s,baz=18,slow=20,SNR=3.0							
EIL				LR		LR	02 53 02.1	
	comp=Z,1μm,20.6s,baz=80,slow=43							
EIL	**Elat**	**11.37**	**259**	Pn		**Pn**	**02 47 35.0**	**+0.9**
SOHO	**SOHO**	**11.39**	**135**	*i*P		**Pn**	**02 47 32.6**	**-1.9**
	SNR=23							
KRMI	**Paran Flat**	**11.43**	**261**	Pn		**Pn**	**02 47 35.8**	**+0.9**
KBZ	**Khabaz**	**11.79**	**342**	Pn		**Pn**	**02 47 42.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=142,slow=10,SNR=7.7							
KBZ				LR		LR	02 52 41.5	
	comp=Z,2μm,19.8s,baz=158,slow=40							
KBZ				ScP		**ScP**	**02 56 59.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=67,slow=2.3,SNR=2.7							
TOKA	**Tokat**	**11.94**	**314**	Pn		**Pn**	**02 47 43.6**	**+1.6**
KVAR	**Kislovodsk Arr**	**12.05**	**342**	Pn		**Pn**	**02 47 46.0**	**+2.5**
	baz=72,slow=20,SNR=2.4							
KIV	**Kislovodsk**	**12.05**	**342**	*e*P		**Pn**	**02 47 46.4**	**+2.9**
KIV				*e*S		**Sn**	**02 50 04.8**	**+7.4**
KIV				pmax		pmax		
	comp=Z,64nm,1.1s							
KIV				MLR		MLR		
	comp=Z,1μm,12.0s							
KIV	**Kislovodsk**	**12.05**	**342**	Pn		**Pn**	**02 47 46.7**	**+3.2**
ARXR	**Arkhyz**	**12.11**	**337**	*i*P		**Pn**	**02 47 47.2**	**+2.8**
HRA	**Herat**	**12.21**	**78**	Pn		**Pn**	**02 47 47.0**	**+1.2**
CSS	**Mathiatis**	**12.26**	**285**	Pn		**Pn**	**02 47 47.0**	**+0.7**
CSS	**Mathiatis**	**12.26**	**285**	Pn		**Pn**	**02 47 48.2**	**+1.9**
HOQ	**Hoqain**	**12.27**	**134**	P		**Pn**	**02 47 46.0**	**-0.6**
	SNR=12							
HOQ				P		**Pn**	**02 47 46.0**	**-0.6**
	SNR=12							
SOC	**Sochi**	**12.70**	**332**	*e*P		**P**	**02 47 58.8**	**-4.5**
BSY	**Bisya**	**12.85**	**137**	P		**Pn**	**02 47 53.1**	**-1.3**
	SNR=46							
GOF	**Gofitskoye**	**13.01**	**345**	*e*P		**Pn**	**02 47 59.4**	**+3.0**
SMDO	**Samad**	**13.11**	**134**	P		**Pn**	**02 47 57.0**	**-1.1**
	SNR=28							
SMDO				P		**Pn**	**02 47 57.0**	**-1.1**
	SNR=28							
SMDO				S		**Sn**	**02 50 21.0**	**-2.5**
	SNR=5.9							
SMDO				S		**Sn**	**02 50 21.0**	**-2.5**
	SNR=5.9							
WSAR	**Wadi Sarin**	**13.34**	**131**	Pn		**Pn**	**02 47 59.3**	**-1.9**
	comp=Z,10nm,0.3s,baz=318,slow=9.4,SNR=44							
WSAR				Sn		**Sn**	**02 50 20.3**	**-8.7**
	comp=Z,9.8nm,0.3s,baz=220,slow=18,SNR=2.4							
WSAR				LR		LR	02 54 09.8	
	comp=Z,3μm,20.0s,baz=337,slow=42							
WSAR	**Wadi Sarin**	**13.34**	**131**	P		**Pn**	**02 47 59.5**	**-1.7**
	SNR=21							
BR131	**Keskin Array S**	**13.47**	**306**	P		**Pn**	**02 48 05.8**	**+2.8**
	SNR=15							
BR131	**Keskin Array S**	**13.47**	**306**	P		**Pn**	**02 48 05.1**	**+2.2**
BR131	**Keskin Array S**	**13.47**	**306**	Pn		**Pn**	**02 48 05.1**	**+2.2**
BRTR	**Keskin Array B**	**13.47**	**306**	Pn		**Pn**	**02 48 05.3**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=130,slow=13,SNR=23							
BRTR				ScP		**ScP**	**02 57 02.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=148,slow=3.8,SNR=5.8							
JMDO	**Jabal Madar**	**13.67**	**135**	P		**Pn**	**02 48 04.0**	**-1.5**
	SNR=17							
WBK	**Wadi Bani Khal**	**14.02**	**132**	P		**Pn**	**02 48 08.1**	**-2.3**
	SNR=16							
WBK				P		**Pn**	**02 48 08.1**	**-2.3**
	SNR=16							
ILGA	**Ilgaz**	**14.08**	**311**	Pn		**Pn**	**02 48 12.2**	**+0.8**
BR231	**Keskin MP Arra**	**14.12**	**305**	Pn		**Pn**	**02 48 12.3**	**+0.6**
JLN	**Jalan Bani Buh**	**14.63**	**132**	P		**Pn**	**02 48 16.1**	**-2.6**
	SNR=15							
ANN	**Anapa**	**14.63**	**330**	↑*i*P		**Pn**	**02 48 17.1**	**-1.5**
ANN				*e*S		**Sn**	**02 51 02.4**	**+2.3**
ANN				pmax		pmax		
	comp=Z,54nm,1.2s							
ANN				MLR		MLR		
	comp=E,2μm,23.0s							
ANN				MLR		MLR		
	comp=Z,3μm,23.0s							
MHTO	**MHTO**	**14.68**	**139**	P		**Pn**	**02 48 17.0**	**-2.3**
	SNR=60							
BOLV	**Bolvadin**	**14.99**	**299**	Pn		**Pn**	**02 48 23.9**	**+0.2**
ISP	**Isparta**	**15.05**	**295**	P		**Pn**	**02 48 24.6**	**+0.2**
ISP				pmax		pmax		
	comp=Z,100nm,1.1s							
ISP	**Isparta**	**15.05**	**295**			**Pn**	**02 48 24.6**	**+0.2**
ISP				IAmb		IAmb	02 48 44.4	
	comp=Z,100nm,1.1s							
ELL	**Elmali**	**15.29**	**291**	P		**P**	**02 48 30.1**	**-2.2**
ELL				pmax		pmax		
	comp=Z,322nm,1.0s							
ELL	**Elmali**	**15.29**	**291**			**P**	**02 48 30.1**	**-2.2**
DQM	**DQM**	**15.31**	**143**	P		**Pn**	**02 48 25.6**	**-2.3**
	SNR=39							
AKAS	**Kas**	**15.44**	**289**	Pn		**Pn**	**02 48 29.5**	**-0.2**
ABTO	**Aybut**	**15.94**	**160**	P		**Pn**	**02 48 33.2**	**-2.9**
	SNR=22							
RBK	**Rabkut**	**16.08**	**157**	P		**Pn**	**02 48 35.0**	**-2.8**
	SNR=24							
SHAO	**Shalim**	**16.11**	**152**	*i*P		**Pn**	**02 48 36.0**	**-2.2**
	SNR=21							
SHAO	**Shalim**	**16.11**	**152**	P		**Pn**	**02 48 36.0**	**-2.2**
	SNR=21							
DMTO	**DMTO**	**16.14**	**155**	P		**Pn**	**02 48 36.0**	**-2.5**
	SNR=6.2							
YER	**Yerkesik**	**16.64**	**291**	P		**P**	**02 48 46.9**	**-0.3**
KULA	**Kula-Manisa**	**16.65**	**296**	P		**Pn**	**02 48 46.1**	**+1.1**
KARP	**Karpathos**	**17.34**	**286**	Pn		**Pn**	**02 48 51.6**	**-2.1**
KBL	**Kabul**	**17.83**	**78**	P		**P**	**02 49 01.9**	**+1.3**
	SNR=39							
KBL	**Kabul**	**17.83**	**78**	P		**P

comp=Z,250nm,9.0s
COPA Copaceanca 21.06 310 ⇓P **P** **02 49 36.5 +1.0**
SOCY Socotra 21.07 163 P **P** **02 49 32.5 -3.5**
SOCY IAmb IAmb 02 49 40.6
comp=Z,135nm,1.1s
MMB Musomiste 21.15 302 P **P** **02 49 40.0 +3.4**
MLR Muntele Rosu 21.23 314 P **P** **02 49 38.8 +1.2**
comp=Z,72nm,0.7s,baz=179,slow=4.9,SNR=30
MLR Muntele Rosu 21.23 314 ⇑P **P** **02 49 39.5 +1.9**
MLR Muntele Rosu 21.23 314 P **P** **02 49 39.1 +1.5**
MLR pmax pmax
comp=Z,90nm,0.8s
MLR Muntele Rosu 21.23 314 P **P** **02 49 39.1 +1.5**
MLR IAmb IAmb 02 49 49.6
comp=Z,90nm,0.8s
AXAR Agios Charalam 21.30 294 P **P** **02 49 39.2 +1.0**
VLX Vlachokerasia 21.34 290 P **P** **02 49 38.1 -0.6**
TESR Tescani 21.35 317 ⇑P **P** **02 49 39.6 +0.9**
NIL Nilore 21.35 80 P **P** **02 49 39.1 +0.3**
NIL pmax pmax
comp=Z,244nm,1.2s
NIL Nilore 21.35 80 P **P** **02 49 39.1 +0.3**
SORM Soroca 21.38 322 ⇓P **P** **02 49 37.9 -1.1**
HUMR Humele 21.39 311 ⇑P **P** **02 49 40.3 +1.2**
ATD Arta Tunnel 21.42 193 P **P** **02 49 42.3 +2.6**
comp=Z,34nm,0.8s,baz=346,slow=8.5,SNR=21
ATD LR LR 02 58 14.7
comp=Z,612nm,20.6s,baz=16,slow=37
ATD Arta Tunnel 21.42 193 P **P** **02 49 40.8 +1.2**
GUR Goura 21.43 292 P **P** **02 49 40.3 +0.6**
TRIP Tripoli 21.44 290 P **P** **02 49 42.2 +2.4**
VLAD Vladila 21.54 309 ⇑P **P** **02 49 42.1 +1.4**
AGG Agios Georgios 21.59 295 P **P** **02 49 40.3 -1.1**
AGG Agios Georgios 21.59 295 IAmb IAmb 02 49 52.6
comp=E,65nm,0.9s
OZUR 21.64 315 ⇓P **P** **02 49 42.9 +1.1**
MTUR Matau 21.65 312 ⇑P **P** **02 49 42.3 +0.2**
LIT Litokhoron 21.67 297 P **P** **02 49 42.8 +0.6**
LIT Litokhoron 21.67 297 P **P** **02 49 42.4 +0.2**
LIT pmax pmax
comp=Z,63nm,1.3s
LIT Litokhoron 21.67 297 P **P** **02 49 42.4 +0.2**
ITM Ithomi 21.68 289 P **P** **02 49 41.7 -0.6**
ITM Ithomi 21.68 289 P **P** **02 49 41.9 -0.4**
ITM IAmb IAmb 02 49 55.9
comp=Z,93nm,0.9s
VOIR 21.76 313 ⇓P **P** **02 49 44.6 +1.4**
DOPR Dopca 21.81 314 ⇓P **P** **02 49 44.9 +1.3**
VTS Vitosha 21.82 304 P **P** **02 49 48.0 +4.1**
ANX Ano Chora 21.84 293 P **P** **02 49 44.1 0.0**
AMT Artemida-Makis 21.88 290 P **P** **02 49 43.9 -0.6**
THL Klokotos Trika 21.93 296 P **P** **02 49 45.0 +0.1**
ARR Arges 21.98 312 ⇓P **P** **02 49 46.8 +1.2**
PRAR RASCA 22.06 318 ⇑P **P** **02 49 46.4 +0.1**
RLS Riolos of Patr 22.13 292 P **P** **02 49 47.2 +0.1**
PVO Paravola 22.15 293 P **P** **02 49 48.8 +1.5**
MDB Medias 22.51 314 ⇓P **P** **02 49 52.1 +0.9**
LOT Lotru 22.57 312 ⇓P **P** **02 49 52.1 +0.3**
AML Almayashu 22.63 58 P **P** **02 49 53.5 +0.6**
SNR=54
AKASG Malin Array Be 22.71 328 P **P** **02 49 51.3 -1.9**
comp=Z,11nm,0.4s,baz=135,slow=9.5,SNR=57
AKASG PcP **PcP** **02 53 44.9 0.0**
comp=Z,3.3nm,0.7s,baz=102,slow=1.6,SNR=3.5
AKASG ScP **ScP** **02 57 19.9 -1.7**
comp=Z,1.1nm,0.4s,baz=111,slow=2.1,SNR=7.2
AKASG LR LR 03 00 57.8
comp=Z,660nm,18.6s,baz=145,slow=43
AKBB Malin Array Si 22.71 328 IAmb IAmb 02 49 59.0
comp=Z,55nm,0.8s
BURAR Bucovina Array 22.77 318 ⇑P **P** **02 49 54.6 +0.5**
EKS2 Erkin-Say 22.85 56 P **P** **02 49 55.0 +0.1**
SNR=22
SKO Skopje 22.90 302 *i* P **P** **02 49 57.0 +1.7**
ARCR ARCALIA 22.99 316 ⇑P **P** **02 49 57.3 +1.1**
OHR Ohrid 23.15 299 *i* P **P** **02 50 00.6 +2.7**
HERR Herculane 23.20 309 ⇑P **P** **02 49 58.6 +0.4**
UCH Uchtor 23.25 58 P **P** **02 49 58.7 -0.6**
SNR=11
CJR Cluj-Napoca 23.26 314 ⇓P **P** **02 50 00.6 +1.6**
AAK Ala-Archa 23.35 57 P **P** **02 50 00.1 +0.1**
comp=Z,10nm,0.7s,baz=220,slow=6.6,SNR=18
AAK PcP **PcP** **02 53 47.3 +0.7**
comp=Z,2.5nm,0.4s,baz=207,slow=4.5,SNR=2.2
AAK ScP **ScP** **02 57 23.0 -0.6**
comp=Z,6.9nm,0.6s,baz=206,slow=4.7,SNR=9.1
AAK LR LR 03 00 48.8
comp=Z,961nm,20.1s,baz=253,slow=41
AAK Ala-Archa 23.35 57 P **P** **02 50 00.5 +0.5**
SNR=5.8
AAK Ala-Archa 23.35 57 *i* P **P** **02 49 59.9 -0.1**
AAK pmax pmax
comp=Z,11nm,0.9s
AAK Ala-Archa 23.35 57 P **P** **02 49 59.6 -0.4**
AAK Ala-Archa 23.35 57 ScP **ScP** **02 57 23.2 -0.4**
USP Ospenovka 23.54 55 P **P** **02 50 02.4 +0.6**
SNR=32
MDVR Moldovita 23.62 309 ⇑P **P** **02 50 03.2 +0.6**
CHMS Chumysh 23.63 56 P **P** **02 50 04.0 +1.3**
SNR=16
KBK Karagaybulak 23.67 57 P **P** **02 50 05.3 +2.1**
SNR=14
KZA Kyzart 23.73 59 P P 02 49 55.5 -8.7
SNR=5.5
KSH Kashi 23.77 65 P **P** **02 50 01.3 -2.8**
KSH sP pP 02 50 09.5 -0.5
KSH S **S** **02 54 12.5 -6.2**
KSH pmax pmax
comp=Z,99nm,1.1s
KSH LR LR
comp=Z,970nm,12.8s
KSH LR LR
comp=Z,2μm,13.4s
KSH LR LR
comp=Z,4μm,17.1s
OBN Obninsk 23.89 344 P **P** **02 50 04.8 -0.1**
comp=Z,7.4nm,0.5s,baz=153,slow=6.1,SNR=20
OBN LR LR 03 01 06.5
comp=Z,85nm,18.2s,baz=148,slow=41
OBN Obninsk 23.89 344 ⇑P **P** **02 50 04.6 -0.3**
OBN Obninsk 23.89 344 *de*P **P** **02 50 04.6 -0.3**
OBN *e*PPP PPP 02 50 41.0
OBN *e* 02 53 45.4
OBN *e*S **S** **02 54 19.4 -0.6**
OBN *e*SS **SnSn** **02 55 07.4 +7.6**
OBN *e*SSS SSS 02 55 20.2
OBN pmax pmax
comp=Z,191nm,1.7s
OBN MLR MLR
comp=Z,355nm,15.0s
OBN Obninsk 23.89 344 P **P** **02 50 03.9 -1.1**
OBN IAmb IAmb 02 50 10.1
comp=Z,103nm,1.0s
BZS Buzias 24.01 310 ⇓P **P** **02 50 05.7 -0.5**
ANKE Ethiopia-Afar 24.04 200 *e*P **P** **02 50 06.3 -0.8**
TKM2 Tokmak 2 24.20 57 P **P** **02 50 09.6 +1.3**
SNR=42
TKM2 Tokmak 2 24.20 57 P **P** **02 50 09.3 +1.0**
BANR Banloc 24.23 310 ⇓P **P** **02 50 09.3 +1.1**
MOS Moscow 24.24 346 *e*P **P** **02 50 06.9 -1.3**
MOS *e*S **S** **02 54 27.0 +1.5**
MOS pmax pmax
comp=Z,218nm,1.5s
MOS pmax pmax
comp=Z,400nm,1.9s
MOS smax smax
comp=E,500nm,3.2s
MOS MLR MLR
comp=Z,600nm,16.0s
OTUK Ortayu 24.24 43 P **P** **02 50 08.3 -0.1**
SIRR Siria 24.25 312 ⇓P **P** **02 50 10.1 +1.6**
ULHL Ulahol 24.49 59 P **P** **02 50 12.7 +1.7**
SNR=38
DIVS Divibare 24.54 306 *e*P **P** **02 50 11.3 +0.1**
DRME Dracevica, Mon 24.57 301 *e*P **P** **02 50 11.1 -0.3**
PDG Podgorica 24.58 302 ⇓P **P** **02 50 12.4 +0.9**
PDG Podgorica 24.58 302 *e*P **P** **02 50 11.4 -0.1**
PDG Podgorica 24.58 302 IAmb IAmb 02 50 17.1
comp=Z,44nm,0.8s
LVV L'vov 24.67 321 *e*P **P** **02 50 12.3 +0.1**
LVV *e*PPP PPP 02 50 49.6
LVV *e*S **S** **02 54 31.8 -0.9**
LVV pmax pmax
comp=Z,100nm,1.0s

RUDO Rudo 24.82 305 *e*P **P** **02 50 13.0 -0.6**
BBLS Lazići 24.87 305 *e*P **P** **02 50 13.6 -0.5**
UZH Uzhgorod 24.98 317 *e*P **P** **02 50 14.0 -0.9**
UZH *e*S **S** **02 54 33.0 -4.6**
UZH MLR MLR
comp=Z,300nm,15.0s
TEKS Tekeris 25.00 307 *e*P **P** **02 50 17.6 +2.4**
ARU Arti 25.01 14 P **P** **02 50 15.2 0.0**
comp=Z,10nm,0.6s,baz=190,slow=6.7,SNR=56
ARU ScP **ScP** **02 57 26.5 -1.2**
comp=Z,5.9nm,0.7s,baz=192,slow=3.0,SNR=13
ARU Arti 25.01 14 *d* /P **P** **02 50 15.1 0.0**
ARU PPP PPP 02 50 57.0
ARU 02 53 47.6
ARU *e*S **S** **02 54 41.2 +3.2**
ARU SS **SnSn** **02 55 32.5 +5.3**
ARU SSS SSS 02 55 48.3
ARU pmax pmax
comp=Z,114nm,1.1s
ARU MLR MLR
comp=Z,511nm,17.0s
ARU Arti 25.01 14 P **P** **02 50 15.1 0.0**
ARU ScP **ScP** **02 57 26.4 -1.3**
FRGS Fruska Gora 25.01 308 *e*P **P** **02 50 15.4 0.0**
FURI Furi 25.02 202 P **P** **02 50 15.8 -0.1**
FURI IAmb IAmb 02 50 22.5
comp=Z,54nm,0.8s
UPM Unac-Piva 25.03 303 *e*P **P** **02 50 14.5 -1.2**
HCY Herceg Novi 25.13 302 *e*P **P** **02 50 16.2 -0.3**
KOLS Kolonicke sedl 25.14 318 *e*P **P** **02 50 17.6 +1.1**
KOLS pmax pmax
comp=Z,67nm,1.0s
KOLS Kolonicke sedl 25.14 318 *e*P **P** **02 50 17.6 +1.1**
KDJ Kajisay 25.14 59 IAmb IAmb 02 50 20.7
comp=Z,34nm,0.8s
BRY Bratogost 25.21 303 *e*P **P** **02 50 16.7 -0.6**
KWP Kalwaria Pacla 25.27 320 *e*P **P** **02 50 18.3 +0.7**
KWP *e*pP **pP** **02 50 20.3 -3.4**
KWP *e*S **S** **02 54 43.4 +1.0**
KWP Kalwaria Pacla 25.27 320 P **P** **02 50 18.5 +0.8**
KWP pmax pmax
comp=Z,60nm,0.6s
KWP Kalwaria Pacla 25.27 320 P **P** **02 50 18.4 +0.8**
TREB Trebinje 25.30 302 *e*P **P** **02 50 17.7 -0.3**
DBRK Dubrovnik 25.43 302 *i* P **P** **02 50 18.5 -0.7**
TARG Taragay, Kyrgy 25.52 60 IAmb IAmb 02 50 30.0
comp=Z,53nm,0.8s
NDI New Delhi 25.59 91 *e*P P 02 50 07.0 -14
CRVS Cervenica-Dubn 25.59 317 *e*P **P** **02 50 22.0 +1.5**
CRVS pmax pmax
comp=Z,118nm,1.0s
CRVS Cervenica-Dubn 25.59 317 *e*P **P** **02 50 22.0 +1.5**
STON Ston 25.80 302 *i* P **P** **02 50 22.9 +0.4**
TIP Timpagrande 25.91 294 ⇑P **P** **02 50 24.3 +0.7**
TIP Timpagrande 25.91 294 IAmb IAmb 02 50 32.2
comp=Z,33nm,0.7s
KECS Kecovo 25.95 316 *e*P **P** **02 50 25.4 +1.6**
KECS pmax pmax
comp=Z,85nm,1.2s
KECS Kecovo 25.95 316 *e*P **P** **02 50 25.4 +1.6**
KIRV Kirov 26.05 2 P **P** **02 50 24.5 0.0**
comp=Z,44nm,0.5s,baz=185,slow=6.9,SNR=17
PSZ Piszkesteto 26.05 314 ⇑P **P** **02 50 26.9 +2.1**
PSZ Piszkesteto 26.05 314 IAmb IAmb 02 50 30.2
comp=Z,74nm,0.9s
MICGM Minsk 26.07 333 ⇓*e*P **P** **02 50 24.0 -0.8**
MICGM PM 02 50 25.0
comp=Z,1.5nm,0.5s
MICGM *e*S **S** **02 54 52.0 -2.9**
MNK Minsk 26.07 333 *e*P **P** **02 50 24.0 -0.8**
MNK *e*S **S** **02 54 52.0 -2.9**
PRZ Przheval'sk 26.10 59 IAmb IAmb 02 50 36.6
comp=Z,104nm,1.4s
BRVK Borovoye 26.11 32 P **P** **02 50 25.4 +0.2**
BRVK pmax pmax
comp=Z,38nm,0.8s
BRVK Borovoye 26.11 32 P **P** **02 50 25.4 +0.2**
BRVK IAmb IAmb 02 50 34.1
comp=Z,38nm,0.8s
MATE Matera 26.12 297 ⇑P **P** **02 50 27.9 +2.5**
BVA0 Borovoye Array 26.13 32 *i* P **P** **02 50 25.3 -0.1**
BVAR Borovoye Array 26.13 32 P **P** **02 50 25.4 -0.1**
comp=Z,35nm,0.6s,baz=227,slow=7.6,SNR=144
BVAR PcP **PcP** **02 53 52.9 +0.6**
comp=Z,5.5nm,0.7s,baz=205,slow=3.0,SNR=4.4
BVAR ScP **ScP** **02 57 29.4 -1.6**
comp=Z,17nm,0.6s,baz=241,slow=2.9,SNR=41
BVAR LR LR 03 02 23.6
comp=Z,897nm,18.2s,baz=306,slow=40
MORH Mrgy, Hungar 26.15 310 *e*P **P** **02 50 25.8 +0.2**
RICI Ricice 26.35 303 P **P** **02 50 27.2 -0.4**
MAKA Makarska 26.38 303 *i* P **P** **02 50 28.1 +0.3**
NIE Niedzica 26.50 318 *e*P **P** **02 50 30.1 +1.2**
NIE *e*pP **pP** **02 50 31.9 -3.0**
CEL Celeste 26.52 291 IAmb IAmb 02 50 41.4
comp=Z,63nm,0.9s
MGRS Mrkonjic Grad 26.63 305 *e*P **P** **02 50 36.0 +6.0**
BLY Banja Luka 26.65 306 *e*P **P** **02 50 29.8 -0.4**
LANS Liptovska Anna 26.86 316 *e*P **P** **02 50 33.9 +1.8**
LANS pmax pmax
comp=Z,21nm,1.1s
LANS Liptovska Anna 26.86 316 *e*P **P** **02 50 33.9 +1.8**
SRO2 Moca 26.90 313 *e*P **P** **02 50 33.1 +0.7**
SRO2 pmax pmax
comp=Z,46nm,1.2s
SRO2 Moca 26.90 313 *e*P **P** **02 50 33.1 +0.7**
VYHS Vyhne 26.94 315 *e*P **P** **02 50 33.7 +1.0**
VYHS pmax pmax
comp=Z,43nm,1.4s
VYHS Vyhne 26.94 315 *e*P **P** **02 50 33.7 +1.0**
KIJV Kijevo 26.99 304 *i* P **P** **02 50 32.6 -0.6**
PDGK Podgornoye 27.07 57 P **P** **02 50 33.6 -0.5**
IDID Didziasalis 27.12 333 *e*P **P** **02 50 34.8 +0.5**
OJC Ojcow 27.18 319 *e*P **P** **02 50 35.3 +0.4**
OJC *e*pP **pP** **02 50 37.2 -3.8**
OJC Ojcow 27.18 319 IAmb IAmb 02 50 44.0
comp=Z,54nm,0.8s
MOSL Moslavina 27.20 308 *i* P **P** **02 50 35.5 +0.4**
POO Poona 27.27 114 *e*P **P** **02 50 40.0 +4.0**
IIGN Ignalina 27.35 333 *e*P **P** **02 50 36.8 +0.5**
ZIRJ Zirje 27.44 303 *i* P **P** **02 50 36.5 -0.8**
MORI Morici 27.45 304 *i* P **P** **02 50 36.8 -0.5**
BEHE Becsehely 27.46 309 *e*P **P** **02 50 42.0 +4.6**
ISAL Salakas 27.55 333 *e*P **P** **02 50 38.8 +0.7**
SUW Suwalki 27.68 328 *e*P **P** **02 50 39.2 -0.1**
SUW Suwalki 27.68 328 P **P** **02 50 39.4 +0.1**
SUW pmax pmax
comp=Z,117nm,1.1s
SUW Suwalki 27.68 328 P **P** **02 50 39.4 +0.1**
PAOL Paolisi 27.78 297 IAmb IAmb 02 50 48.0
comp=Z,50nm,1.1s
JAVC Velka Javorina 27.79 315 *e*P **P** **02 50 42.2 +1.7**
JAVC *e*S **S** **02 55 18.3 -4.0**
SMOL Smolenice 27.80 314 *e*P **P** **02 50 41.8 +1.4**
SMOL pmax pmax
comp=Z,18nm,1.2s
SMOL Smolenice 27.80 314 *e*P **P** **02 50 41.8 +1.4**
MODS Modra-Piesok 27.83 314 *e*P **P** **02 50 42.0 +1.2**
MODS pmax pmax
comp=Z,86nm,1.6s
MODS Modra-Piesok 27.83 314 *e*P **P** **02 50 42.0 +1.2**
DUGI Dugi Otok 27.93 304 *i* P **P** **02 50 41.6 -0.1**
OKC Ostrava-Krasne 27.94 317 *e*P **P** **02 50 41.0 -0.7**
OKC *e* 02 50 47.6
OKC Ostrava-Krasne 27.94 317 *e*P **P** **02 50 41.0 -0.7**
OKC *e*pP **pP** **02 50 47.6 -0.1**
OZLJ Ozalj 28.06 307 *i* P **P** **02 50 43.3 +0.5**
CRES Cresnjev 28.13 308 *e*P **P** **02 50 44.6 +1.2**
NVLJ Novalja 28.20 305 *i* P **P** **02 50 43.1 -0.9**
MORC Moravsky Berou 28.26 316 ⇓P **P** **02 50 45.1 +0.5**
MORC Moravsky Berou 28.26 316 *e*P **P** **02 50 44.7 +0.1**
GROS Grobnik 28.29 309 *i* P **P** **02 50 46.9 +2.0**
PABE Paberze 28.35 331 *e*P **P** **02 50 45.4 +0.2**
INTR Introdacqua 28.40 299 IAmb IAmb 02 51 08.1
comp=Z,35nm,0.9s
ARSA Arzberg 28.52 310 *i* pP **P** **02 50 48.4 +1.5**
comp=Z,18nm,1.3s
CONA Conrad Observa 28.54 312 *i* P **P** **02 50 48.1 +0.9**
comp=Z,16nm,1.0s,SNR=14
VRAC Vranov 28.62 315 P **P** **02 50 48.4 +0.6**
comp=Z,14nm,1.0s,baz=92,slow=6.9,SNR=9.2
VRAC LR LR 03 04 29.4
comp=Z,394nm,18.9s,baz=118,slow=41

VRAC Vranov 28.62 315 ⇑P **P** **02 50 48.8 +1.0**
VRAC Vranov 28.62 315 *e*P **P** **02 50 48.5 +0.7**
VRAC *e*S **S** **02 55 33.0 -2.3**
KRUC Moravsky 28.64 314 *e*P **P** **02 50 48.3 +0.3**
KRUC *e*S **S** **02 55 33.4 -2.2**
SOKA Soboth 28.66 309 *e*pP P 02 50 54.4 +6.2
comp=Z,18nm,1.3s
CEY Cerknica 28.80 307 *e*P **P** **02 50 48.3 -1.1**
LJU Ljubljana 28.81 308 *e*P **P** **02 50 50.0 +0.5**
KLMR Klimovskoe 28.82 352 *d* /P **P** **02 50 48.2 -1.1**
KLMR *e*S **S** **02 55 40.3 +2.3**
KLMR pmax pmax
comp=Z,91nm,1.1s
KLMR Klimovskoe 28.82 352 ⇓*i* P **P** **02 50 48.2 -1.1**
KLMR *i* P **P** **02 50 48.2 -1.1**
KLMR *i* P **P** **02 50 48.2 -1.1**
KLMR AMP 02 50 53.7
comp=Z,91nm,1.1s
KLMR *e*S **S** **02 55 40.3 +2.3**
KLMR *e*S **S** **02 55 40.3 +2.3**
KLMR LQ LQ 03 00 08.6
KLMR LQ LQ 03 00 08.6
KLMR LR LR 03 02 03.7
AQU L'Aquila 28.82 300 *e*P **P** **02 50 52.4 +2.7**
AQU L'Aquila 28.82 300 IAmb IAmb 02 51 11.8
comp=Z,51nm,1.0s
KRLC Kraliky 28.83 317 *e*P **P** **02 50 49.8 +0.1**
KRLC *e* 02 50 54.4
KRLC MLR MLR
comp=Z,500nm,16.3s
KRLC Kraliky 28.83 317 *e*P **P** **02 50 49.8 +0.1**
KRLC *e*pP **pP** **02 50 54.4 -1.4**
KRLC AMS AMS 03 04 00.0
comp=Z,500nm,16.3s
OBKA Obir 28.93 309 *i* pP pP 02 50 57.0 +0.3
comp=Z,31nm,1.5s,SNR=8.0
KURBB Kurchatov Arra 28.93 42 P **P** **02 50 50.9 +0.4**
comp=Z,3.8nm,0.6s,baz=248,slow=9.4,SNR=20
KURBB ScP **ScP** **02 57 37.5 -2.0**
comp=Z,3.9nm,0.8s,baz=250,slow=4.0,SNR=16
KURK Kurchatov 29.02 42 P **P** **02 50 50.9 -0.4**
KURK Kurchatov 29.02 42 P **P** **02 50 52.3 +0.9**
KURK IAmb IAmb 02 51 00.0
comp=Z,29nm,1.0s
KURK ScP **ScP** **02 57 38.2 -1.6**
NRCA Norcia 29.10 301 IAmb IAmb 02 50 59.7
comp=Z,38nm,0.9s
PRGR Permogore 29.12 358 ⇓*i* P **P** **02 50 51.0 -1.0**
PRGR *e* 02 51 53.3
DPC Dobruska-Polom 29.22 317 *e*P **P** **02 50 53.1 0.0**
DPC *e* 02 50 58.1
DPC MLR MLR
comp=Z,400nm,14.4s
DPC Dobruska-Polom 29.22 317 *e*P **P** **02 50 53.1 0.0**
DPC *e*pP **pP** **02 50 58.1 -1.1**
DPC AMS AMS 03 04 10.0
comp=Z,400nm,14.4s
TREC Trest 29.28 314 *e*P **P** **02 50 55.1 +1.4**
TREC MLR MLR
comp=Z,700nm,13.9s
TREC Trest 29.28 314 *e*P **P** **02 50 55.1 +1.4**
TREC AMS AMS 03 05 40.0
comp=Z,700nm,13.9s
OSTC Ostas 29.37 317 *e*P **P** **02 50 54.4 0.0**
OSTC *ex* x 02 50 59.5
OSTC AMS AMS 03 04 30.0
comp=Z,300nm,17.3s
KSP Ksiaz 29.45 318 *e*P **P** **02 50 55.5 +0.4**
UPC Upice 29.47 317 *e*P **P** **02 50 55.4 +0.1**
UPC *e* 02 51 00.3
UPC MLR MLR
comp=Z,500nm,12.3s
UPC Upice 29.47 317 *e*P **P** **02 50 55.4 +0.1**
UPC *e*pP **pP** **02 51 00.3 -1.0**
UPC AMS AMS 03 06 20.0
comp=Z,500nm,12.3s
CHVC Chvalec 29.48 317 *e*P **P** **02 50 55.3 -0.1**
CHVC *ex* x 02 51 00.5
CHVC AMS AMS 03 04 30.0
comp=Z,400nm,15.8s
MOA Molln 29.53 311 *i* P **P** **02 50 56.4 +0.5**
comp=Z,23nm,0.7s,SNR=14
VSU Vasula 29.55 337 *e*P **P** **02 50 55.9 0.0**
VSU Vasula 29.55 337 *i* P **P** **02 50 56.3 +0.5**
VSU pmax pmax
comp=Z,50nm,0.8s
PBUR Paburge 29.55 330 *e*P **P** **02 50 55.5 -0.5**
PRED Cave del Predi 29.56 308 IAmb IAmb 02 51 19.9
comp=Z,72nm,1.9s
PUL Pulkovo 29.59 342 *e*P **P** **02 50 55.9 -0.3**
PUL Pulkovo 29.59 342 *ce*P **P** **02 50 56.0 -0.2**
PUL pmax pmax
comp=Z,49nm,0.6s
MAKZ Makanchi 29.65 51 P **P** **02 50 57.6 +0.6**
MAKZ pmax pmax
comp=Z,31nm,1.4s
MAKZ Makanchi 29.65 51 P **P** **02 50 57.6 +0.6**
MK31 Makanchi Array 29.85 51 *i* P **P** **02 50 59.0 +0.2**
MK31 Makanchi Array 29.85 51 IAmb IAmb 02 51 06.5
comp=Z,21nm,0.8s
MKAR Makanchi Array 29.85 51 P **P** **02 50 59.4 +0.6**
comp=Z,22nm,0.7s,baz=248,slow=7.6,SNR=100
MKAR ScP **ScP** **02 57 40.5 -2.2**
comp=Z,3.9nm,1.0s,baz=270,slow=3.5,SNR=7.8
MKAR LR LR 03 04 29.0
comp=Z,461nm,18.4s,baz=246,slow=40
KBA Koelnbreinsper 29.89 309 *i* pP **P** **02 51 00.6 +1.4**
comp=Z,35nm,0.9s,SNR=13
GOPC GO Pecny, Ondr 29.94 315 *e*P **P** **02 50 59.4 -0.1**
GOPC *e* 02 51 04.9
GOPC MLR MLR
comp=Z,600nm,14.1s
GOPC GO Pecny, Ondr 29.94 315 *e*P **P** **02 50 59.4 -0.1**
GOPC *e*pP **pP** **02 51 04.9 -0.7**
GOPC AMS AMS 03 05 40.0
comp=Z,600nm,14.1s
ZOU Zoufplan 29.99 308 IAmb IAmb 02 51 07.5
comp=Z,56nm,1.4s
LATE Laterza 30.03 300 IAmb IAmb 02 51 07.6
comp=Z,30nm,1.0s
GKP Gorka Klasztor 30.11 323 *e*P **P** **02 51 01.6 +0.8**
PRU Pruhonice 30.12 315 *e*P **P** **02 51 01.1 +0.1**
PRU MLR MLR
comp=Z,500nm,13.9s
PRU Pruhonice 30.12 315 *e*P **P** **02 51 01.1 +0.1**
PRU AMS AMS 03 05 50.0
comp=Z,500nm,13.9s
GERES GERESS Array B 30.21 313 P **P** **02 51 01.7 -0.3**
comp=Z,3.7nm,0.7s,baz=108,slow=8.6,SNR=32
GERES PcP **PcP** **02 54 03.6 +1.0**
comp=Z,2.3nm,0.7s,baz=126,slow=1.8,SNR=6.7
GERES ScP **ScP** **02 57 43.0 -0.8**
comp=Z,1.1nm,0.7s,baz=111,slow=3.0,SNR=5.0
GERES LR LR 03 04 37.4
comp=Z,245nm,19.0s,baz=116,slow=39
PRA Prague 30.21 315 AMS AMS 03 06 00.0
comp=Z,300nm,14.8s
CIMO Cimolais 30.28 307 IAmb IAmb 02 51 09.4
comp=Z,45nm,1.4s
PVCC Panska Ves 30.31 316 *e*P **P** **02 51 04.8 +2.0**
PVCC MLR MLR
comp=Z,500nm,15.2s
PVCC Panska Ves 30.31 316 *e*P **P** **02 51 04.8 +2.0**
PVCC AMS AMS 03 06 50.0
comp=Z,500nm,15.2s
PBCC Pribram 30.33 314 *e*P **P** **02 51 03.1 +0.2**
PBCC *ex* x 02 51 07.9
ABTA Abfaltersbach 30.34 308 *i* pP **P** **02 51 05.5 +2.3**
comp=Z,20nm,0.9s,SNR=6.5
ABTA *i* PcP **PcP** **02 54 04.1 +1.1**
comp=Z,4.6nm,0.9s
KHC Kasperske Hory 30.39 313 *ce*P **P** **02 51 04.6 +1.1**
KHC pmax pmax
comp=Z,61nm,1.7s
KHC Kasperske Hory 30.39 313 *e*P **P** **02 51 05.2 +1.7**
KHC *e*pP **pP** **02 51 09.4 -0.1**
KHC AMS AMS 03 05 50.0
comp=Z,400nm,15.5s
OSSC Osservatorio P 30.56 302 IAmb IAmb 02 51 12.8
comp=Z,23nm,0.9s
PYUN Piuthan 30.63 89 *e*P **P** **02 51 06.3 +0.3**
CTI Castel Tesino 30.75 307 IAmb IAmb 02 51 13.6
comp=Z,27nm,0.8s
BRG Berggiesshubel 30.82 316 *e*P **P** **02 51 07.5 +0.3**
comp=Z,7.7nm,1.0s

BRG *e* 02 51 12.3
comp=Z,14nm,1.1s
WTTA Wattenberg 31.06 309 *i* P **P** **02 51 09.5 -0.1**
comp=Z,58nm,1.2s,SNR=7.0
WTTA *i* PcP **PcP** **02 54 06.0 +1.1**
comp=Z,4.3nm,0.6s
WATA Walderalm 31.12 309 *i* P **P** **02 51 10.2 +0.1**
comp=Z,68nm,1.2s,SNR=27
WATA *i* PcP **PcP** **02 54 06.0 +0.9**
comp=Z,5.7nm,0.5s
KOLN Koldanda 31.24 89 *e*P **P** **02 51 11.9 +0.5**
comp=Z,5.6nm,0.4s
SQTA Sankt Quirin 31.33 309 *i* P **P** **02 51 11.8 -0.1**
comp=Z,49nm,1.1s,SNR=22
SQTA *i* PcP **PcP** **02 54 06.8 +1.2**
comp=Z,5.7nm,0.5s
MOTA Moosalm 31.43 309 *i* P **P** **02 51 12.4 -0.5**
comp=Z,58nm,1.1s,SNR=32
MOTA *i* PcP **PcP** **02 54 07.2 +1.3**
comp=Z,2.7nm,0.5s
NKC Novy Kostel 31.46 315 *e*P **P** **02 51 13.5 +0.6**
NKC *e* 02 51 17.4
NKC MLR MLR
comp=Z,600nm,15.4s
NKC Novy Kostel 31.46 315 *e*P **P** **02 51 13.5 +0.6**
NKC *e*pP **pP** **02 51 17.4 -1.6**
NKC AMS AMS 03 05 40.0
comp=Z,600nm,15.4s
CLL Collm 31.53 317 *e*P **P** **02 51 14.0 +0.5**
comp=Z,10.0nm,1.1s
CLL *i* pP **pP** **02 51 17.7 -1.9**
comp=Z,26nm,1.1s
CLL *i* sP **sP** **02 51 20.6 -1.4**
CLL *e*(PP) 02 52 27.0
CLL *e*S **S** **02 56 27.0 +6.2**
CLL *e*PcS **PcS** **02 57 49.0 -1.0**
CLL *e* 02 58 03.0
CLL *e*ScS **ScS** **03 01 50.0 +4.4**
CLL LmV 03 06 00.0
comp=Z,400nm,18.6s
CLL Collm 31.53 317 *e*P **P** **02 51 14.0 +0.5**
CLL *i* 02 51 17.7
CLL *e*S **S** **02 56 27.0 +6.2**
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL MLR MLR
comp=Z,400nm,18.6s
RUE Ruedersdorf 31.57 319 *e*P **P** **02 51 14.5 +0.7**
FETA Feichten 31.60 308 *i* P **P** **02 51 14.3 0.0**
comp=Z,54nm,1.3s,SNR=7.0
FETA *i* PcP **PcP** **02 54 07.7 +1.3**
comp=Z,4.6nm,0.6s
RETA Reutte 31.69 309 *i* P **P** **02 51 14.3 -0.7**
comp=Z,20nm,0.9s,SNR=6.4
RETA *i* PcP **PcP** **02 54 07.8 +1.3**
comp=Z,2.2nm,0.5s
FUORN Ofenpass-Fuorn 31.82 307 IAmb IAmb 02 51 25.5
comp=Z,41nm,1.5s
KEST Kesra 31.83 286 P **P** **02 51 19.0 +2.6**
comp=Z,7.1nm,1.0s,baz=26,slow=3.4,SNR=5.3
GRF Grafenberg Arr 32.02 313 *e*P **P** **02 51 18.9 +1.1**
comp=Z,38nm,1.0s,baz=108,slow=10
GKN Gorkha 32.05 88 *e*P **P** **02 51 18.9 +0.4**
comp=Z,23nm,0.3s
FIA1 FINESS Array S 32.14 340 P **P** **02 51 19.0 +0.3**
FINES FINESS Array B 32.14 340 P **P** **02 51 18.1 -0.6**
comp=Z,8.2nm,0.3s,baz=146,slow=8.6,SNR=127
TMCR Tamitsa 32.20 352 *e*P **P** **02 51 18.5 -0.7**
TMCR pmax pmax
comp=Z,1.0nm,0.5s
DAVA Damuels 32.22 308 *i* P **P** **02 51 19.5 -0.3**
comp=Z,54nm,0.9s,SNR=20
DAVA *i* PcP **PcP** **02 54 09.5 +1.5**
comp=Z,4.2nm,0.5s
TUE Stuetta 32.40 307 IAmb IAmb 02 51 36.3
comp=Z,25nm,1.0s
DMN Daman 32.56 89 *e*P **P** **02 51 23.2 +0.1**
comp=Z,23nm,0.5s
KKN Kakani 32.65 88 *e*P **P** **02 51 23.9 0.0**
comp=Z,40nm,0.6s
PKI Pulchoki 32.83 89 *e*P **P** **02 51 25.5 0.0**
comp=Z,61nm,0.9s
WMQ Urumqi 33.03 58 *e*P **P** **02 51 29.9 +3.1**
WMQ sP sP 02 51 35.0 -0.3
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ LR LR
comp=Z,500nm,14.1s
WMQ LR LR
comp=Z,320nm,14.1s
JIRN Jiri 33.46 88 *e*P **P** **02 51 31.4 +0.3**
comp=Z,73nm,0.6s
BFO Black Forest 33.48 310 P **P** **02 51 31.2 +0.6**
BFO pmax pmax
comp=Z,11nm,1.0s
BFO Black Forest 33.48 310 P **P** **02 51 31.2 +0.6**
ZAA0 Zalesovo Array 33.85 40 P **P** **02 51 33.5 -0.2**
ZAA0 IAmb IAmb 02 51 40.1
comp=Z,30nm,1.1s
ZALV Zalesovo Beam 33.85 40 P **P** **02 51 33.5 -0.2**
comp=Z,16nm,0.4s,baz=249,slow=8.7,SNR=38
ZALV ScP **ScP** **02 57 53.4 -2.6**
comp=Z,3.7nm,0.6s,baz=240,slow=3.5,SNR=6.9
ZALV LR LR 03 06 36.9
comp=Z,370nm,19.4s,baz=240,slow=39
DGZ Jazzator, Alta 33.95 48*c i*P **P** **02 51 35.8 +0.9**
DGZ pmax pmax
comp=Z,11nm,0.7s
RAMN Ramite 34.03 89 *e*P **P** **02 51 35.5 -0.4**
comp=Z,36nm,0.7s
ECH Echery 34.22 309 IAmb IAmb 02 51 43.0
comp=Z,43nm,1.4s
ODAN Odare 34.73 89 *e*P **P** **02 51 42.1 +0.2**
comp=Z,9.4nm,0.4s
TAPN Taplejung 34.84 88 *e*P **P** **02 51 43.3 +0.3**
comp=Z,24nm,0.5s
KMBO Kilima Mbogo 34.96 199 P **P** **02 51 46.6 +2.7**
comp=Z,4.3nm,0.9s,baz=19,slow=9.7,SNR=10.0
KMBO Kilima Mbogo 34.96 199 *i* P **P** **02 51 47.1 +3.1**
SNR=6.5
KMBO Kilima Mbogo 34.96 199 P **P** **02 51 44.9 +1.0**
KMBO pmax pmax
comp=Z,11nm,1.3s
KMBO Kilima Mbogo 34.96 199 P **P** **02 51 44.9 +1.0**
WLF Walferdange 35.19 311 P **P** **02 51 46.6 +1.3**
WLF Walferdange 35.19 311 pP pP 02 51 49.8 -1.7
WLF Walferdange 35.19 311 IAmb IAmb 02 51 50.8
comp=Z,24nm,0.9s
MEM Membach 35.50 313 P **P** **02 51 49.0 +0.9**
MEM PP PP 02 53 25.7 +17
HFS Hagfors 35.53 331 P **P** **02 51 48.3 +0.1**
comp=Z,62nm,0.8s,baz=113,slow=11,SNR=66
HFS ScP **ScP** **02 58 00.6 -1.2**
comp=Z,2.3nm,0.6s,baz=126,slow=5.2,SNR=2.0
SSB Saint Sauveur 35.54 304 IAmb IAmb 02 51 53.8
comp=Z,26nm,1.1s
MUD Monsted U'grnd 35.72 324 *i* P **P** **02 51 50.4 +0.6**
MUD Monsted U'grnd 35.72 324 *i* P **P** **02 51 50.4 +0.6**
APA Apatity 36.04 351 ⇓*i*P **P** **02 51 50.8 -1.7**
APA *i* 02 51 58.9
APA *i* S **S** **02 57 27.0 -3.2**
APA pmax pmax
comp=Z,14nm,0.8s
APA MLR MLR
comp=Z,600nm,16.0s
LVZ Lovozero 36.19 352 *i* P **P** **02 51 56.1 +2.3**
LVZ pmax pmax
comp=Z,31nm,1.1s
LVZ Lovozero 36.19 352 P **P** **02 51 54.1 +0.3**
LVZ IAmb IAmb 02 51 59.8
comp=Z,47nm,1.2s
BMRD Maredsous 36.20 312 pP pP 02 51 58.9 -1.2
DOU Dourbes 36.26 312 P **P** **02 51 56.2 +1.6**
comp=Z,13nm,1.3s
DOU pP **pP** **02 51 59.2 -1.5**
SSF Saint Saulge 36.46 307 *e*P **P** **02 51 56.3 0.0**
SSF pmax pmax
comp=Z,49nm,1.0s
SNF Seneffe 36.55 312 P **P** **02 51 58.4 +1.5**
UCC Uccle 36.56 313 ⇑P **P** **02 51 59.2 +2.1**
UCC Uccle 36.56 313 IAmb IAmb 02 52 03.5
comp=Z,54nm,1.5s
OSL Oslo 36.67 329 *e*P **P** **02 51 57.9 0.0**
NC405 NORSAR Array S 36.90 332 IAmb IAmb 02 52 04.6
comp=Z,30nm,0.8s
KONO Kongsberg 37.01 329 *i* P **P** **02 52 02.6 +1.8**
KONO pmax pmax
comp=Z,15nm,0.8s
KONO Kongsberg 37.01 329 P **P** **02 52 01.2 +0.4**
NB201 NORSAR Array S 37.03 331 *e*P **P** **02 51 59.9 -1.1**
NB2 NORSAR Subarra 37.06 331 P **P** **02 52 00.0 -1.3**
comp=Z,15nm,0.9s,baz=124,slow=8.6
NB2 NORSAR Subarra 37.06 331 P **ScP** **02 58 06.0 -1.5**
comp=Z,1.9nm,0.7s,baz=74,slow=4.6
NB2 NORSAR Subarra 37.06 331 P **P** **02 52 00.0 -1.3**
comp=Z,15nm,0.9s,baz=124,slow=8.6
NOA NORSAR Array B 37.06 331 P **P** **02 52 00.7 -0.6**
comp=Z,8.6nm,0.8s,baz=123,slow=8.4,SNR=34
NOA PP **PP** **02 53 24.3 -1.4**
comp=Z,3.1nm,0.6s,baz=130,slow=11,SNR=5.2
NOA ScP **ScP** **02 58 06.6 -0.9**
comp=Z,0.9nm,0.5s,baz=124,slow=4.3,SNR=7.9
NOA LR LR 03 08 48.1
comp=Z,415nm,20.1s,baz=125,slow=39
NAO01 NORSAR Array S 37.09 331 IAmb IAmb 02 52 06.1
comp=Z,45nm,0.9s
CAF Calviac 37.27 303 *e*P **P** **02 52 03.8 +0.5**
CAF pmax pmax
comp=Z,21nm,1.2s
SKAR Skarslia 38.09 330 *e*P **P** **02 52 11.1 +1.1**
LFF La Frestale 38.21 303 *e*P **P** **02 52 11.3 +0.2**
LFF pmax pmax
comp=Z,15nm,0.7s
TAM Tamanrasset 38.46 266 P **P** **02 52 14.9 +1.2**
TAM pmax pmax
comp=Z,8.0nm,0.9s
TAM Tamanrasset 38.46 266 P **P** **02 52 14.9 +1.2**
DOMB Dombas 38.47 332 *e*P **P** **02 52 13.7 +0.5**
NSS Namsos 38.82 336 *e*P **P** **02 52 16.0 -0.1**
SHL Shillong 38.96 89 P **P** **02 52 18.0 +0.1**
SHL pmax pmax
comp=Z,37nm,0.8s
SHL Shillong 38.96 89 P **P** **02 52 18.0 +0.1**
SHL IAmb IAmb 02 52 30.4
comp=Z,37nm,0.8s
KEV Kevo 39.02 349 P **P** **02 52 17.5 -0.1**
KEV pmax pmax
comp=Z,14nm,0.7s
KEV Kevo 39.02 349 P **P** **02 52 17.5 -0.1**
KTK1 Kautokeino 39.06 346 *e*P **P** **02 52 17.7 -0.3**
ARCES ARCESS Array B 39.08 348 P **P** **02 52 18.1 0.0**
comp=Z,7.5nm,0.6s,baz=158,slow=9.2,SNR=40
ARCES PcP **PcP** **02 54 28.0 +0.3**
comp=Z,3.7nm,0.6s,baz=142,slow=3.1,SNR=5.4
ARCES ScP **ScP** **02 58 14.2 -0.8**
comp=Z,6.7nm,0.6s,baz=163,slow=4.0,SNR=18
ARE0 ARCESS Array S 39.08 348 *e*P **P** **02 52 18.1 0.0**
PALK Pallekele 39.59 122 P **P** **02 52 23.1 0.0**
PALK pmax pmax
comp=Z,19nm,1.0s
PALK Pallekele 39.59 122 P **P** **02 52 23.1 0.0**
FAUS Fauske 39.70 341 *e*P **P** **02 52 23.0 -0.2**
KONS Konsvik 39.72 339 *e*P **P** **02 52 23.5 +0.1**
NBB40 Tonnes 39.76 339 *e*P **P** **02 52 23.7 -0.1**
NBB05 Inndyr 39.81 340 *e*P **P** **02 52 24.1 -0.1**
NBB30 Finnes 39.85 340 *e*P **P** **02 52 24.6 +0.1**
N2TV TVrnvik 39.87 341 *e*P **P** **02 52 24.3 -0.4**
CART Cartagena 39.88 291 P **P** **02 52 25.5 +0.2**
N2IH Innhavet 39.94 342 *e*P **P** **02 52 24.8 -0.5**
STEI Steigen 40.10 342 *e*P **P** **02 52 26.1 -0.5**
WOL Wolverton 40.12 313 *e*P **P** **02 52 27.2 +0.1**
HAMF Hammerfest 40.36 348 *e*P **P** **02 52 28.9 +0.2**
CWF Charnwood Fore 40.40 315 *e*P **P** **02 52 28.8 -0.5**
CWF IAmb IAmb 02 52 30.9
comp=Z,35nm,0.7s
TRO Tromso 40.48 345 *e*P **P** **02 52 29.4 -0.3**
SWN1 Swindon 40.51 313 *e*P **P** **02 52 30.9 +0.7**
SWN1 IAmb IAmb 02 52 32.5
comp=Z,89nm,0.7s
LBWR Ladybower, Pea 40.77 316 *e*P **P** **02 52 33.0 +0.6**
LBWR IAmb IAmb 02 52 38.1
comp=Z,53nm,0.8s
STRD Stroud 40.77 313 *e*P **P** **02 52 32.6 +0.2**
STRD IAmb IAmb 02 52 37.7
comp=Z,110nm,0.8s
HPK Haverah Park 40.81 317 *e*P **P** **02 52 32.3 -0.5**
HPK IAmb IAmb 02 52 38.1
comp=Z,75nm,0.9s
BATH Bath 40.83 313 *e*P **P** **02 52 33.0 +0.1**
BATH IAmb IAmb 02 52 34.6
comp=Z,36nm,0.7s
OLDB Oldbury-Upon-S 40.99 313 *e*P **P** **02 52 33.9 -0.3**
OLDB IAmb IAmb 02 52 39.5
comp=Z,80nm,0.8s
SESP Santiago Espad 41.02 292 P **P** **02 52 36.3 +1.4**
SNR=18
EDMD Edmundbyers 41.18 318 *e*P **P** **02 52 36.1 +0.3**
EDMD IAmb IAmb 02 52 41.1
comp=Z,46nm,0.8s
MCH1 Michaelchurch 41.31 313 *e*P **P** **02 52 36.0 -0.9**
MCH1 IAmb IAmb 02 52 38.4
comp=Z,44nm,0.7s
HLM1 Long Mynd 41.31 314 *e*P **P** **02 52 36.7 -0.2**
HLM1 IAmb IAmb 02 52 42.2
comp=Z,31nm,0.8s
TAF Taforalt 41.48 287 P **P** **02 52 41.2 +2.6**
SNR=7.8
FOEL Foel Wylfa 41.56 315 *e*P **P** **02 52 39.0 +0.1**
FOEL IAmb IAmb 02 52 41.1
comp=Z,38nm,0.7s
JBK JBK 41.70 287 P **P** **02 52 43.0 +2.4**
SNR=8.9
ESY Stoneypath 41.77 319 *e*P **P** **02 52 41.0 +0.4**
KESW Keswick, Cumbr 41.79 317 *e*P **P** **02 52 40.7 -0.1**
KESW IAmb IAmb 02 52 42.1
comp=Z,34nm,0.7s
ESDC Sonseca Array 41.91 295 P **P** **02 52 42.2 +0.1**
comp=Z,7.2nm,0.8s,baz=76,slow=7.9,SNR=56
ESDC PcP **PcP** **02 54 38.2 +0.8**
comp=Z,1.4nm,0.8s,baz=60,slow=3.9,SNR=4.8
ESDC ScP **ScP** **02 58 26.9 +0.1**
comp=Z,0.7nm,0.6s,baz=66,slow=3.1,SNR=10
ESDC LR LR 03 11 00.1
comp=Z,182nm,21.7s,baz=65,slow=37
EKA Eskdalemuir Ar 41.96 318 P **P** **02 52 41.5 -0.6**
comp=Z,11nm,0.7s,baz=102,slow=8.7,SNR=30
EKA PcP **PcP** **02 54 37.9 +0.7**
comp=Z,6.7nm,0.8s,baz=108,slow=4.5,SNR=4.2
EKA ScP **ScP** **02 58 26.2 -0.4**
comp=Z,1.9nm,0.7s,baz=117,slow=5.6,SNR=7.8
ESK Eskdalemuir 41.98 318 *e*P **P** **02 52 41.6 -0.7**
ESK Eskdalemuir 41.98 318 P **P** **02 52 42.1 -0.2**
ESK pmax pmax
comp=Z,24nm,1.0s
ESK Eskdalemuir 41.98 318 P **P** **02 52 42.1 -0.2**
EBL Broad Law 41.98 319 *e*P **P** **02 52 42.3 0.0**
GTA Gaotai 42.17 65 ⇑P **P** **02 52 45.1 +0.8**
GTA pP pP 02 52 49.8 -0.6
GTA sP sP 02 52 52.8 -0.1
GTA ScP **ScP** **02 58 26.8 -1.1**
GTA S **S** **02 59 05.5 +2.1**
GTA sS sS 02 59 14.3 +0.9
GTA pmax pmax
comp=Z,16nm,0.8s
GTA pmax pmax
comp=Z,75nm,6.8s
GTA LR LR
comp=Z,730nm,17.5s
GTA LR LR
comp=Z,710nm,15.9s
GTA LR LR
comp=Z,650nm,18.1s
PAB San Pablo 42.23 295 P **P** **02 52 44.9 +0.3**
PAB pmax pmax
comp=Z,22nm,1.1s
PAB San Pablo 42.23 295 P **P** **02 52 44.9 +0.3**
YRC Rhoscolyn 42.43 315 *e*P **P** **02 52 45.7 -0.3**
WIM Isle of Man 42.62 316 *e*P **P** **02 52 47.6 0.0**
INVG Invergeldie, C 42.66 320 *e*P **P** **02 52 47.8 0.0**
INVG IAmb IAmb 02 52 53.3
comp=Z,50nm,0.9s
MOY Mondy 42.77 47 *e*P **P** **02 52 50.4 +1.4**
MOY pmax pmax
comp=Z,33nm,1.1s
NRIK Noril'sk 43.02 19 P **P** **02 52 50.9 +0.4**
comp=Z,7.4nm,0.4s,baz=256,slow=2.0,SNR=11
NRIK ScP **ScP** **02 58 29.3 -1.3**
comp=Z,3.2nm,0.7s,baz=202,slow=5.4,SNR=3.6
NRIK LR LR 03 14 45.5
comp=Z,512nm,18.2s,baz=196,slow=42
HORN Hornachuelos 43.18 292 P **P** **02 52 52.4 +0.1**
SNR=12
DSB Dublin 43.51 315 IAmb IAmb 02 53 00.5
comp=Z,46nm,0.8s
KAC Achnashellach 43.55 321 *e*P **P** **02 52 55.3 +0.2**
MDT Midelt 43.71 285 P **P** **02 52 57.8 +1.0**
comp=Z,5.6nm,0.8s,baz=51,slow=7.9,SNR=13
PBRG Braganca 43.77 298 *e*P **P** **02 52 57.6 +0.5**
comp=Z,54nm,1.5s
PBRG *e*pP **pP** **02 53 02.8 -0.5**
MVO Moncorvo 44.06 297 *e*P **P** **02 53 00.5 +1.1**
comp=Z,58nm,1.2s
MVO *e*pP **pP** **02 53 05.1 -0.5**
MVO A A 03 18 57.4
comp=Z,124nm,18.0s
ZAK Zakamensk 44.13 49 *e*P **P** **02 53 00.7 +0.7**
ZAK pmax pmax
comp=Z,12nm,1.2s
RSA Sarsar 44.20 288 P **P** **02 53 02.0 +1.4**
SNR=12
TLY Talaya 44.42 47 *e*P **P** **02 53 03.6 +1.5**
TLY *e* 02 54 49.0
TLY *e*S **S** **02 59 41.3 +5.5**
TLY *e*SS **ScS** **03 02 59.1 0.0**
TLY pmax pmax
comp=Z,20nm,0.9s
TLY MLR MLR
comp=Z,1μm,18.0s
TLY Talaya 44.42 47 P **P** **02 53 02.3 +0.2**
MTE Manteigas 44.55 296 *e*P **P** **02 53 05.0 +1.6**
comp=Z,72nm,1.2s
MTE *e*pP **pP** **02 53 09.7 +0.1**
MTE *e*S **S** **02 59 41.4 +3.4**
MTE *e*LR LR 03 05 09.7
comp=Z,163nm,18.0s
MTE Manteigas 44.55 296 P **P** **02 53 05.0 +1.6**
PVRL Vila Real 44.56 298 *e*P **P** **02 53 04.0 +0.6**
comp=Z,60nm,1.6s
PVRL *e*pP **pP** **02 53 09.5 -0.1**
PMRV Marv??o 44.57 295 *e*P **P** **02 53 03.9 +0.4**
comp=Z,38nm,1.2s
PMRV *e*pP **pP** **02 53 09.3 -0.4**
PMRV *e*S **S** **02 59 45.1 +6.8**
PMRV *e*LR LR 03 06 02.0
comp=Z,130nm,22.0s
PCBR Castelo Branco 44.58 296 *e*P **P** **02 53 04.4 +0.9**
comp=Z,86nm,1.3s
PCBR *e*pP **pP** **02 53 09.8 +0.1**
PCAB Cabril 44.73 298 *e*P **P** **02 53 06.4 +1.6**
comp=Z,61nm,1.3s
PCAB *e*pP **pP** **02 53 11.0 0.0**
PVIS Viseu 44.77 297 *e*P **P** **02 53 06.4 +1.3**
comp=Z,58nm,1.4s
PVIS *e*pP **pP** **02 53 11.5 +0.2**
PGAV Gavieira, Arco 44.88 299 *e*P **P** **02 53 07.0 +0.9**
comp=Z,116nm,1.5s
PGAV *e*pP **pP** **02 53 12.4 +0.1**
PGAV A A 03 15 48.2
comp=Z,177nm,18.0s
PBEJ Beja 45.18 293 *e*P **P** **02 53 08.7 +0.4**
comp=Z,51nm,1.2s
PBEJ *e*pP **pP** **02 53 14.4 -0.2**
EVO Evora 45.20 294 *e*P **P** **02 53 10.3 +1.8**
comp=Z,29nm,1.4s
PTO Porto 45.24 298 *e*P **P** **02 53 10.9 +2.2**
comp=Z,59nm,1.3s
HOPEN Hopen 45.29 353 *e*P **P** **02 53 08.9 +0.2**
PBDV Barranco-do-Ve 45.38 292 *e*P **P** **02 53 09.2 -0.8**
comp=Z,27nm,1.2s
PNCL Nicolau / Gran 45.68 293 *e*P **P** **02 53 13.0 +0.7**
comp=Z,28nm,1.0s
LZH Lanzhou 45.89 69 *e*P **P** **02 53 15.0 +0.8**
LZH pP pP 02 53 18.5 -1.9
LZH sP sP 02 53 19.8 -3.1
LZH pmax pmax
comp=Z,47nm,1.3s
LZH pmax pmax
comp=Z,190nm,5.6s
LZH LR LR
comp=Z,1μm,17.2s
LZH LR LR
comp=Z,730nm,14.1s
LZH LR LR
comp=Z,1μm,16.7s
PFVI Vila Bisbo 46.10 292 *e*P **P** **02 53 15.2 -0.4**
comp=Z,82nm,1.4s
SONM Songino Array 46.20 53 P **P** **02 53 16.8 +0.4**
comp=Z,2.5nm,0.4s,baz=282,slow=9.5,SNR=15
SONM ScP **ScP** **02 58 41.1 -3.2**
comp=Z,1.9nm,1.0s,baz=296,slow=4.8,SNR=3.6
SONM LR LR 03 16 28.4
comp=Z,317nm,18.6s,baz=258,slow=41
TOA0 Torodi Ar. Sit 46.24 256 P **P** **02 53 17.4 +0.5**
SNR=17
TOA0 Torodi Ar. Sit 46.24 256 P **P** **02 53 17.0 0.0**
TORD Torodi Ar. Bea 46.24 256 P **P** **02 53 16.7 -0.3**
comp=Z,13nm,0.8s,baz=48,slow=8.5,SNR=81
TORD ScP **ScP** **02 58 44.7 0.0**
comp=Z,1.1nm,0.8s,baz=35,slow=3.1,SNR=2.8
TORD LR LR 03 13 22.7
comp=Z,255nm,18.1s,baz=40,slow=37
ULN Ulaanbaatar 46.64 53*c e*P **P** **02 53 20.2 +0.2**
ULN pmax pmax
comp=Z,22nm,1.0s
ULN Ulaanbaatar 46.64 53 P **P** **02 53 20.1 +0.2**
ULN **pP** **02 53 20.8 -5.4**
HSPB Hornsund (broa 46.89 350 *e*P **P** **02 53 22.0 +0.8**
CD2 Chengdu 47.16 76 P **P** **02 53 24.8 +0.7**
CD2 S **S** **03 00 15.8 -0.1**
CD2 pmax pmax
comp=Z,50nm,0.7s
CD2 pmax pmax
comp=Z,150nm,7.9s
CD2 LR LR
comp=Z,650nm,18.8s
CD2 LR LR
comp=Z,690nm,16.5s
CD2 LR LR
comp=Z,910nm,19.7s
CHTO Chiang Mai 47.68 94 P **P** **02 53 28.2 0.0**
CHTO pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 47.68 94 P **P** **02 53 28.2 0.0**
SPA0 Spitsbergen Ar 47.72 352 P **P** **02 53 28.7 +1.0**
SPA0 Spitsbergen Ar 47.72 352 *e*P **P** **02 53 28.3 +0.5**
CM31 Chiang Mai Arr 47.84 94 P **P** **02 53 29.0 -0.4**
CM31 IAmb IAmb 02 53 56.7
comp=Z,11nm,0.6s
CMAR Chiang Mai Arr 47.84 94 P **P** **02 53 29.5 +0.1**
comp=Z,5.5nm,0.9s,baz=294,slow=8.2,SNR=27
CMAR ScP **ScP** **02 58 51.0 -0.4**
comp=Z,1.4nm,0.5s,baz=288,slow=5.4,SNR=6.0
CMAR LR LR 03 15 56.2
comp=Z,262nm,18.9s,baz=282,slow=39
KMI Kunming 48.27 84 ⇓P **P** **02 53 33.3 +0.4**
KMI pP pP 02 53 37.1 -2.1
KMI sP sP 02 53 39.6 -2.0
KMI pmax pmax
comp=Z,21nm,1.0s
KMI pmax pmax
comp=Z,83nm,4.0s
KMI LR LR
comp=Z,510nm,18.4s
KMI LR LR
comp=Z,160nm,20.7s
KMI LR LR
comp=Z,360nm,15.3s
KBS Kingsbay 48.86 351 *i* P **P** **02 53 38.2 +1.7**
KBS pmax pmax
comp=Z,10.0nm,0.9s
KBS Kingsbay 48.86 351 P **P** **02 53 37.3 +0.8**
KBS Kingsbay 48.86 351 *e*P **P** **02 53 36.7 +0.2**
BTO Baotou 49.70 62 *e*P **P** **02 53 42.6 -1.0**
XAN Xi'an 50.44 71 P **P** **02 53 48.6 -0.6**
XAN PcP **PcP** **02 55 08.0 +0.6**
XAN PcS **PcS** **02 59 03.4 -1.3**
XAN pmax pmax
comp=Z,40nm,1.1s
XAN LR LR
comp=Z,950nm,18.2s
XAN LR LR
comp=Z,1μm,19.3s
XAN LR LR
comp=Z,690nm,18.2s
XAN Xi'an 50.44 71 IAmb IAmb 02 53 58.6
comp=Z,27nm,0.8s
BOD Bodaibo 50.60 39 *e*P **P** **02 53 49.7 -0.3**

BOD pmax pmax
comp=Z,47nm,1.4s
HHC Hu-ho-hao-te 50.80 61 *e*P **P 02 53 52.1 +0.1**
HHC S **S 03 01 04.8 -2.1**
HHC pmax pmax
comp=Z,28nm,0.8s
HHC pmax pmax
comp=Z,130nm,4.9s
HHC LR LR
comp=Z,280nm,16.2s
HHC LR LR
comp=Z,350nm,16.2s
HHC LR LR
comp=Z,370nm,16.2s
OPO Ambohidratompo 50.85 181 P **P 02 53 54.7 +2.3**
comp=Z,5.0nm,0.5s,baz=353,slow=6.4,SNR=6.9
GYA Guiyang 51.05 81 ⇑P **P 02 53 53.4 -0.7**
GYA pP sP 02 54 02.6 -0.1
GYA S **S 03 01 08.8 -2.0**
GYA pmax pmax
comp=Z,17nm,0.6s
GYA LR LR
comp=Z,310nm,14.4s
GYA LR LR
comp=Z,320nm,20.7s
GYA LR LR
comp=Z,310nm,19.3s
LSZ Lusaka 51.13 205 P **P 02 53 55.9 +1.3**
LSZ pmax pmax
comp=Z,39nm,1.7s
LSZ Lusaka 51.13 205 P **P 02 53 55.9 +1.3**
LSZ IAmb IAmb 02 53 58.4
comp=Z,39nm,1.7s
ABPO Ambohimpanom 51.29 181 P **P 02 53 56.1 +0.3**
ABPO pmax pmax
comp=Z,21nm,1.1s
ABPO Ambohimpanom 51.29 181 P **P 02 53 56.1 +0.3**
ENH Enshi 52.05 75 IAmb IAmb 02 54 22.1
comp=Z,47nm,1.2s
DAG Danmarks Havn 53.20 345 *i*P **P 02 54 09.2 +0.1**
comp=Z,17nm,1.0s
DAG Danmarks Havn 53.20 345 *i*P **P 02 54 09.2 +0.1**
DAG pmax pmax
comp=Z,17nm,1.0s
PMAR Madeira 53.67 289 *e*P **P 02 54 15.7 +2.2**
comp=Z,71nm,1.3s
BJI Beijing 54.41 61 P **P 02 54 18.6 +0.1**
BJI pmax pmax
comp=Z,9.0nm,0.6s
BJI LR LR
comp=Z,720nm,19.9s
BJI LR LR
comp=Z,180nm,15.7s
BJI LR LR
comp=Z,350nm,20.8s
KCSI Kotacane, Aceh 54.93 111 P **P 02 54 20.3 -2.3**
comp=Z,1µmcomp=Z,36nm,0.9s
DBIC Dimbokro 55.19 254 P **P 02 54 24.4 0.0**
comp=Z,11nm,0.8s,baz=29,slow=8.7,SNR=14
DBIC LR LR 03 19 32.8
comp=Z,328nm,18.8s,baz=28,slow=38
DBIC Dimbokro 55.19 254 P **P 02 54 24.5 0.0**
DBIC pmax pmax
comp=Z,24nm,1.2s
DBIC Dimbokro 55.19 254 P **P 02 54 24.5 0.0**
DBIC IAmb IAmb 02 54 25.9
comp=Z,24nm,1.1s
KIC Kosan Boka 55.28 254 *e*P **P 02 54 25.5 +0.4**
comp=Z,25nm,0.8s
TIC Toumodi 55.34 254 *e*P **P 02 54 25.9 +0.3**
LIC Lamto 55.59 254 *e*P **P 02 54 27.7 +0.3**
comp=Z,51nm,0.7s
WHN Wuhan 55.91 73 ⇓P **P 02 54 29.8 +0.3**
WHN S **S 03 02 14.5 -1.8**
WHN LR LR
comp=Z,800nm,15.0s
WHN LR LR
comp=Z,1µm,14.7s
WHN LR LR
comp=Z,990nm,18.4s
GSI Gunungsitoli 56.15 113 P **P 02 54 32.0 +0.6**
comp=Z,95nm,0.8s
KULM Kulim 56.17 107 P **P 02 54 30.4 -1.2**
TIA Tai'an 56.22 66 P **P 02 54 32.1 +0.4**
TIA pmax pmax
comp=Z,16nm,0.9s
PSI Prapat 56.28 111 P **P 02 54 31.6 -0.8**
comp=Z,14nm,0.6s,baz=359,slow=4.3,SNR=13
PSI LR LR 03 20 16.1
comp=Z,468nm,18.9s,baz=269,slow=38
PSI Prapat 56.28 111 P **P 02 54 31.7 -0.7**
PSI pmax pmax
comp=Z,90nm,1.7s
RPSI Rantau Prapat 56.34 111 P **P 02 54 31.7 -1.1**
QIZ Qiongzhong 56.78 88 P **P 02 54 34.8 -1.0**
QIZ S **S 03 02 28.5 +0.4**
QIZ LR LR
comp=Z,240nm,19.6s
QIZ LR LR
comp=Z,350nm,18.4s
QIZ LR LR
comp=Z,260nm,24.0s
QIZ Qiongzhong 56.78 88 IAmb IAmb 02 54 36.5
comp=Z,18nm,1.0s
IPM Ipoh 56.95 108 P **P 02 54 35.4 -1.7**
YAK Yakutsk 58.10 33 *e*P **P 02 54 43.4 -1.1**
YAK *e**PP **pP 02 54 51.7 +0.9**
YAK *e* 02 55 33.7
YAK *e* 02 56 52.3
YAK *e*S **S 03 02 41.3 -2.9**
YAK *e**SS **sS 03 02 57.4 +2.8**
YAK *e* 03 04 28.2
YAK *e*SS **SS 03 06 29.5 -5.6**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=Z,47nm,1.8s
YAK pmax pmax
comp=N,21nm,2.0s
YAK pmax pmax
comp=E,43nm,2.3s
YAK smax smax
comp=N,103nm,2.3s
YAK smax smax
comp=E,76nm,3.3s
YAK MLR MLR
comp=Z,162nm,16.0s
YAK MLR MLR
comp=E,153nm,15.0s
YAK Yakutsk 58.10 33 P **P 02 54 43.2 -1.2**
SUMG Summit 58.16 339 *i*P **P 02 54 46.3 +1.0**
comp=E,121nm,0.9s
SUMG Summit 58.16 339 *i*P **P 02 54 46.3 +1.0**
SUMG pmax pmax
comp=Z,120nm,0.9s
SUMG Summit 58.16 339 P **P 02 54 45.1 -0.2**
ZEA Zeya 58.49 43 *e*P **P 02 54 48.2 +0.8**
ZEA pmax pmax
comp=Z,23nm,0.8s
ZEA MLR MLR
comp=Z,500nm,17.0s
ZEA MLR MLR
comp=N,200nm,16.0s
ZEA MLR MLR
comp=E,400nm,16.0s
NJ2 Nanjing 58.97 70 *e*P **P 02 54 50.0 -1.1**
NJ2 pmax pmax
comp=E,8.0nm,0.5s
TSUM Tsumeb 59.03 214 P **P 02 54 52.9 +1.2**
TSUM IAmb IAmb 02 55 05.1
comp=Z,43nm,1.9s
DLV T Lat 59.04 96 IAmb IAmb 02 54 52.5
comp=Z,18nm,0.8s
BKNI Bangkinang 59.46 112 P **P 02 54 53.9 -0.7**
comp=Z,10µmcomp=Z,117nm,1.0s
BKNI Bangkinang 59.46 112 P **P 02 54 53.9 -0.7**
PDSI Padang 59.77 113 P **P 02 54 56.3 -0.5**
comp=Z,18nm,0.8s
SDSI Sungai Dareh 60.54 112 P **P 02 55 01.1 -0.9**
comp=Z,1µmcomp=Z,87nm,0.9s
MYKOM Kota Tinggi 60.81 108 P **P 02 55 03.1 -0.7**
LBTB Lobatse 61.04 203 P **P 02 55 06.4 +1.1**
LBTB pmax pmax
comp=Z,18nm,0.8s
LBTB Lobatse 61.04 203 P **P 02 55 06.3 +1.1**
LBTB IAmb IAmb 02 55 08.5
comp=Z,18nm,0.8s
KRJI Kerinci 61.29 113 P **P 02 55 07.2 -0.1**
comp=Z,10µmcomp=Z,200nm,0.5s
KLR Kul'dur 62.44 47 *ce*P **P 02 55 13.4 -1.0**
KLR pmax pmax
comp=Z,8.0nm,0.9s
KSI Kapahiang 63.14 114 P **P 02 55 19.7 +0.1**
comp=Z,15µmcomp=Z,46nm,0.5s
KS19 Wonju Array Si 63.87 61 P **P 02 55 23.9 -0.2**
KS19 IAmb IAmb 02 55 47.4
comp=Z,13nm,1.0s
TPUB Ta-pu 63.92 78 P **P 02 55 24.6 0.0**
KSRS Korea Array 63.93 61 P **P 02 55 23.6 -0.9**
comp=Z,5.7nm,0.5s,baz=283,slow=7.0,SNR=46
KSRS LR LR 03 26 27.4
comp=Z,330nm,19.5s,baz=288,slow=39
USRK Ussuriysk Ar. 64.31 53 P **P 02 55 24.8 -2.2**
comp=Z,8.1nm,0.7s,baz=286,slow=5.9,SNR=13
USRK LR LR 03 25 22.3
comp=Z,353nm,20.9s,baz=278,slow=38
YULB Yu-li 64.43 78 P **P 02 55 28.2 +0.1**
YULB IAmb IAmb 02 55 30.5
comp=Z,16nm,0.8s
BOSA Boshof 64.50 202 P **P 02 55 30.1 +1.8**
comp=Z,24nm,0.8s,baz=22,slow=6.2,SNR=35
BOSA LR LR 03 25 45.7
comp=Z,452nm,18.7s,baz=31,slow=38
BOSA Boshof 64.50 202 P **P 02 55 28.6 +0.3**
BOSA pmax pmax
comp=Z,23nm,0.8s
BOSA Boshof 64.50 202 P **P 02 55 28.6 +0.3**
TWG Pinlang 64.50 78 P **P 02 55 27.3 -1.1**
IVI Ivigtut 64.77 328 P **P 02 55 29.2 -0.4**
KSM Kuching 66.23 104 P **P 02 55 38.4 -1.3**
KSM IAmb IAmb 02 55 40.2
comp=Z,13nm,0.8s
KSM Kuching 66.23 104 P **P 02 55 39.0 -0.7**
SEY Seymchan 67.73 29 *d*P **P 02 55 48.8 +0.2**
TYV Tymovskoe 68.35 43 *e*P **P 02 55 55.3 +2.6**
TYV pmax pmax
comp=Z,200nm,3.8s
TYV pmax pmax
comp=Z,17nm,0.7s
KKM Kota Kinabalu 68.61 97 P **P 02 55 54.4 -0.6**
MA2 Magadan 68.62 32 *ce*P **P 02 55 54.0 -0.2**
MA2 pmax pmax
comp=Z,18nm,0.9s
MA2 Magadan 68.62 32 P **P 02 55 54.3 0.0**
YSS Yuzh-Sakhalins 70.12 47 ⇑*e*P **P 02 56 01.9 -1.8**
YSS pmax pmax
comp=Z,40nm,0.9s
YSS pmax pmax
comp=Z,400nm,2.8s
YSS MLR MLR
comp=Z,600nm,12.0s
YSS Yuzh-Sakhalins 70.12 47 P **P 02 56 04.3 +0.6**
MYLDM Lahad Datu 70.99 96 P **P 02 56 09.4 -0.1**
MYLDM IAmb IAmb 02 56 43.6
comp=Z,15nm,0.8s
MAJO Matsushiro 71.79 58 P **P 02 56 14.1 +0.1**
MAJO pmax pmax
comp=Z,7.0nm,0.9s
MAJO Matsushiro 71.79 58 P **P 02 56 14.1 +0.1**
MAT Matsushiro 71.79 58 P **P 02 56 12.9 -1.2**
MJAR Matsushiro Arr 71.79 58 P **P 02 56 13.4 -0.7**
comp=Z,1.9nm,0.8s,baz=300,slow=6.5,SNR=7.0
MJAR LR LR 03 30 02.7
comp=Z,121nm,18.1s,baz=295,slow=38
DRLN Deer Lake 75.00 319 P **P 02 56 32.3 -0.4**
PETK Petropavlovsk- 75.29 36 P **P 02 56 32.5 -1.8**
comp=Z,4.6nm,0.8s,baz=219,slow=1.9,SNR=6.4
PETK LR LR 03 33 10.8
comp=Z,318nm,18.6s,baz=278,slow=38
A36M Sachs Harbour 75.62 358 P **P 02 56 35.6 -0.3**
baz=6.0
SCHQ Schefferville 76.50 327 P **P 02 56 41.0 -0.2**
comp=Z,6.2nm,0.7s,baz=48,slow=3.8,SNR=10
SCHQ LR LR 03 32 17.9
comp=Z,72nm,18.8s,baz=355,slow=37
SCHQ Schefferville 76.50 327 P **P 02 56 41.3 +0.1**
C36M Paulatuk 78.21 357 P **P 02 56 50.2 -0.3**
baz=7.0
C36M Paulatuk 78.21 357 P **P 02 56 49.8 -0.7**
C36M IAmb IAmb 02 56 55.1
comp=Z,19nm,0.8s
TOLK Toolik Lake Re 78.28 6 P **P 02 56 50.1 -0.9**
baz=345
GBN Guysborough 79.42 317 P **P 02 56 58.3 +0.8**
INK Inuvik 79.43 0 P **P 02 56 57.3 +0.1**
INK pmax pmax
comp=Z,17nm,1.3s
INK Inuvik 79.43 0 P **P 02 56 57.3 +0.1**
COLD Coldfoot 79.59 7 P **P 02 56 57.9 -0.2**
baz=345
BATG Bathurst New B 80.80 321 P **P 02 57 05.8 +0.8**
BATG IAmb IAmb 02 57 11.5
comp=Z,29nm,0.9s
LMN Caledonia Moun 81.00 319 P **P 02 57 06.3 +0.2**
LMN IAmb IAmb 02 57 12.3
comp=Z,19nm,0.9s
HAL Halifax 81.06 318 P **P 02 57 07.2 +0.8**
HAL pmax pmax
comp=Z,48nm,0.9s
HAL Halifax 81.06 318 P **P 02 57 07.2 +0.8**
MDM Murphy Dome 82.00 7 IAmb IAmb 02 57 16.8
comp=Z,23nm,1.2s
D63A Stockholm 82.03 322 P **P 02 57 12.3 +0.8**
baz=50
TCOL CIGO, UAF Yank 82.11 7 P **P 02 57 12.5 +0.8**
baz=347
COLA College 82.11 7 *i*P **P 02 57 11.7 +0.1**
COLA pmax pmax
comp=Z,14nm,1.0s
COLA College 82.11 7 P **P 02 57 12.3 +0.7**
COLA IAmb IAmb 02 57 17.2
comp=Z,16nm,0.9s
PQI Presque Isle 82.22 321 IAmb IAmb 02 57 18.8
comp=Z,25nm,1.1s
NEA2 Nenana 82.27 7 P **P 02 57 13.1 +0.6**
baz=346
E64A Bridgewater 82.28 321 P **P 02 57 14.1 +1.3**
baz=50
ILAR Eielson Array 82.31 6 P **P 02 57 12.0 -0.7**
comp=Z,3.7nm,0.9s,baz=319,slow=4.3,SNR=18
ILAR PP **PP 03 00 21.4 +0.8**
comp=Z,0.9nm,0.8s,baz=350,slow=5.6,SNR=4.5
ILAR PKKPbc **PKKPbc 03 15 39.4 -1.1**
comp=Z,0.9nm,0.7s,baz=184,slow=2.7,SNR=12
D62A Allapoint, All 82.50 322 P **P 02 57 14.3 +0.4**
baz=49
D62A Allapoint, All 82.50 322 IAmb IAmb 02 57 20.2
comp=Z,25nm,0.8s
BPAW Bear Paw Mtn. 82.53 8 IAmb IAmb 02 57 19.3
comp=Z,15nm,0.8s
E63A Oxbow 82.59 321 P **P 02 57 14.9 +0.4**
baz=50
E63A Oxbow 82.59 321 IAmb IAmb 02 57 20.8
comp=Z,34nm,1.4s
HDA Harding Lake 82.66 6 P **P 02 57 14.1 -0.4**
baz=348
F64A Sherman 82.92 321 P **P 02 57 17.0 +0.8**
baz=50
F64A Sherman 82.92 321 IAmb IAmb 02 57 22.5
comp=Z,14nm,0.9s
G65A Princeton 82.92 320 P **P 02 57 16.6 +0.4**
baz=50
D61A St Aubert, Com 83.00 323 P **P 02 57 16.7 +0.1**
baz=49
E62A Clayton Lake 83.04 322 P **P 02 57 16.9 +0.1**
baz=49
E62A Clayton Lake 83.04 322 IAmb IAmb 02 57 22.8
comp=Z,14nm,0.9s
KTH Kantishna Hill 83.06 8 IAmb IAmb 02 57 22.5
comp=Z,17nm,0.8s
CHGQ Chibougamau 83.22 327 P **P 02 57 17.7 0.0**
baz=46
SCRK Sand Creek 83.33 5 P **P 02 57 17.8 -0.3**
baz=350
K27K Chicken 83.42 4 P **P 02 57 18.5 0.0**
baz=352
F63A Nahmakanta, Br 83.42 321 P **P 02 57 19.2 +0.4**
baz=49
RND Reindeer 83.44 7 IAmb IAmb 02 57 23.2
comp=Z,16nm,1.2s
D60A Saint Jean D'O 83.57 323 P **P 02 57 20.0 +0.5**
baz=48
H65A Eastbrook 83.62 320 P **P 02 57 20.1 +0.3**
baz=50
FCC Fort Churchill 83.63 341 **PcP 02 57 24.8 +1.1**
DOT Dot Lake 83.65 5 IAmb IAmb 02 57 25.6
comp=Z,14nm,0.9s
E61A Lac Etchemin 83.67 322 P **P 02 57 20.5 +0.4**
baz=48
F62A Pittston Farm, 83.75 322 P **P 02 57 21.0 +0.5**
baz=49
BATI Baumata 83.77 106 P **P 02 57 20.9 -0.2**
comp=Z,47nm,0.8s,baz=274,slow=11,SNR=4.5
G63A Kingsbury 84.08 321 P **P 02 57 24.0 +1.8**
baz=49
YKA Yellowknife Ar 84.22 352 P **P 02 57 22.2 -0.4**
comp=Z,2.1nm,0.7s,baz=345,slow=5.5,SNR=7.4
YKA LR LR 03 38 04.5
comp=Z,84nm,19.3s,baz=0.0,slow=38
D58A Chemin du LacG 84.44 324 P **P 02 57 23.8 -0.2**
baz=47
G62A West of Eustis 84.50 321 P **P 02 57 24.4 +0.1**
baz=48
SKT Skwentna 84.50 9 IAmb IAmb 02 57 29.9
comp=Z,14nm,1.1s
F60A Warwick 84.73 323 P **P 02 57 25.7 +0.3**
baz=47
MATQ Matagami 84.82 328 P **P 02 57 26.3 +0.5**
baz=44
D57A Chemin Vers le 84.99 324 P **P 02 57 26.6 -0.2**
baz=46
LSQQ Lebel-sur-Quev 85.02 327 P **P 02 57 26.5 -0.4**
baz=44
E58A La Victoria 85.13 323 P **P 02 57 27.5 0.0**
baz=46
SCM Sheep Creek Mo 85.14 7 IAmb IAmb 02 57 33.0
comp=Z,13nm,0.9s
F59A Saint Guilaume 85.24 323 P **P 02 57 27.9 -0.1**
baz=47
KNK Knik Glacier 85.43 8 IAmb IAmb 02 57 45.6
comp=Z,18nm,0.9s
E57A Chemin Saint G 85.54 324 P **P 02 57 29.3 -0.3**
baz=46
H61A Lyndonville 85.69 321 P **P 02 57 30.8 +0.4**
baz=47
D55A Sainte-Anne-du 85.77 325 P **P 02 57 31.2 +0.6**
baz=45
I62A Tamworth 85.83 321 P **P 02 57 31.6 +0.7**
baz=48
E56A St. Veronique 85.89 324 P **P 02 57 31.1 -0.1**
baz=45
LBNH Lisbon 85.89 321 P **P 02 57 32.0 +0.6**
baz=47
LBNH Lisbon 85.89 321 IAmb IAmb 02 57 34.5
comp=Z,13nm,0.8s
G59A Clarenceville 85.97 322 P **P 02 57 31.8 +0.2**
baz=46
H60A Morristown 86.08 322 P **P 02 57 33.0 +0.8**
baz=47
D54A Lac Fusel, La 86.24 326 P **P 02 57 33.3 +0.3**
baz=44
I61A Oroboro, Fairl 86.25 321 P **P 02 57 33.5 +0.4**
baz=47
FRNY Flat Rock 86.35 323 IAmb IAmb 02 57 39.2
comp=Z,21nm,1.1s
G58A Ormstown 86.37 323 P **P 02 57 33.8 +0.2**
baz=46
HOM Homer 86.72 10 P **P 02 57 35.7 +0.6**
baz=344
K63A Dunstable 86.73 320 P **P 02 57 36.3 +0.9**
baz=47
RAGM Ragged Mountai 86.82 6 IAmb IAmb 02 57 42.0
comp=Z,23nm,1.0s
HYT Haines Junctio 86.85 3 IAmb IAmb 02 57 42.2
comp=Z,14nm,1.0s
H58A Gabriels 86.94 322 P **P 02 57 36.8 +0.2**
baz=46
LONY Lake Ozonia 87.01 323 P **P 02 57 36.9 +0.1**
baz=46
LONY Lake Ozonia 87.01 323 IAmb IAmb 02 57 42.7
comp=Z,20nm,1.1s
D52A ZEK Kipawa Sen 87.19 326 P **P 02 57 37.2 -0.4**
baz=43
I59A Olmsteadville 87.22 322 P **P 02 57 37.7 -0.1**
baz=46
E53A Dumoine, Ponti 87.28 326 P **P 02 57 38.0 0.0**
baz=43
H57A Richville 87.53 323 P **P 02 57 39.9 +0.6**
baz=45
G55A Calabogie 87.63 324 P **P 02 57 39.6 -0.2**
baz=44
ALGO Algonquin Park 87.77 326 P **P 02 57 40.0 -0.4**
baz=43
J59A Piesco 87.78 322 P **P 02 57 40.9 +0.3**
baz=46
I58A Old Forge 87.86 322 P **P 02 57 41.8 +0.8**
baz=45
H56A Elgin 87.88 324 P **P 02 57 41.4 +0.5**
baz=44
I57A Carthage 88.04 323 P **P 02 57 42.0 +0.3**
baz=45
G54A Lake Saint Pet 88.19 325 P **P 02 57 42.5 0.0**
baz=43
J58A Remsen 88.26 322 P **P 02 57 43.6 +0.8**
baz=45
H55A Tweed 88.37 324 P **P 02 57 43.5 +0.3**
baz=44
J57A Williamstown 88.59 323 P **P 02 57 44.6 +0.3**
baz=44
J57A Williamstown 88.59 323 IAmb IAmb 02 58 57.9
comp=Z,14nm,0.8s
PECO Prince Edward 88.72 324 IAmb IAmb 02 57 50.6
comp=Z,16nm,1.0s
J56A Wolcott 89.12 323 P **P 02 57 47.0 +0.2**
baz=44
D47A Chapleau 89.26 329 P **P 02 57 47.6 +0.1**
baz=40
DLBC Dease Lake 89.33 359 IAmb IAmb 02 57 55.1
comp=Z,21nm,1.4s
JIS Juneau Island 89.49 1 IAmb IAmb 02 57 55.1
comp=Z,22nm,1.3s
F49A Sandfield 89.77 327 P **P 02 57 50.0 +0.1**
baz=40
K56A Middlesex 89.78 323 P **P 02 57 50.2 +0.2**
baz=44
D46A Sault St. Mari 89.79 329 P **P 02 57 49.8 -0.1**
baz=39
E47A Iron Bridge 89.80 329 P **P 02 57 49.9 -0.1**
baz=39
FITZ Fitzroy Crossi 89.80 112 P **P 02 57 50.3 0.0**
comp=Z,4.3nm,0.8s,baz=288,slow=3.2,SNR=3.9
FITZ LR LR 03 42 09.3
comp=Z,87nm,18.1s,baz=332,slow=38
FITZ Fitzroy Crossi 89.80 112 IAmb IAmb 02 58 00.9
comp=Z,11nm,1.1s
L57A Andrews Acres 90.03 322 P **P 02 57 51.1 -0.1**
baz=44
K55A Perry 90.13 323 P **P 02 57 51.4 -0.2**
baz=43
L56A Greenwood 90.30 323 P **P 02 57 52.5 +0.1**
baz=43
E46A Sault Ste Mari 90.31 329 IAmb IAmb 02 57 58.0
comp=Z,10nm,0.9s
O60A Telford 90.47 320 P **P 02 57 53.5 +0.3**
baz=45
K54A Basiliko Farm, 90.53 324 P **P 02 57 53.1 -0.4**
baz=43
M57A Sunshine Farm, 90.66 322 P **P 02 57 54.4 +0.3**
baz=44
L55A Hinsdale 90.71 323 P **P 02 57 54.6 +0.2**
baz=43
KNRA Kununurra 90.94 108 P **P 02 57 55.4 -0.2**
M56A Emporium 91.09 323 P **P 02 57 56.2 +0.1**
baz=43
M56A Emporium 91.09 323 IAmb IAmb 02 58 01.8
comp=Z,16nm,1.0s
L54A Sinclairville 91.12 324 P **P 02 57 56.4 +0.2**
baz=42
N57A Milroy 91.30 322 P **P 02 57 56.9 -0.2**
baz=43
M55A Ridgway 91.41 323 P **P 02 57 57.7 +0.1**
baz=43
ULM Lac du Bonnet 91.49 338 P **P 02 57 57.9 +0.2**
comp=Z,4.7nm,0.7s,baz=44,slow=4.5,SNR=3.0
ULM LR LR 03 39 49.2
comp=Z,151nm,21.7s,baz=52,slow=36

ULM	**Lac du Bonnet**	**91.49**	**338**	P	**P**	**02 57 57.7**	**0.0**
ULM				pmax	pmax		
	comp=Z,11nm,1.2s						
ULM	**Lac du Bonnet**	**91.49**	**338**	P	**P**	**02 57 57.7**	**0.0**
ULM				IAmb	IAmb	02 58 02.5	
	comp=Z,11nm,1.1s						
O57A	**Amberson**	**91.74**	**321**	P	**P**	**02 57 59.1**	**0.0**
	baz=43						
M54A	**Oil Creek Stat**	**91.83**	**323**	P	**P**	**02 57 59.6**	**+0.1**
	baz=42						
N55A	**Marion Center**	**92.02**	**323**	P	**P**	**02 58 00.9**	**+0.4**
	baz=42						
COWI	**Conover**	**92.55**	**332**	IAmb	IAmb	02 58 08.0	
	comp=Z,10nm,0.8s						
O55A	**Ligonier**	**92.61**	**322**	P	**P**	**02 58 03.5**	**+0.3**
	baz=42						
P56A	**Dayton Farm, R**	**92.88**	**322**	P	**P**	**02 58 04.5**	**+0.1**
	baz=43						
Q57A	**Strasburg**	**93.00**	**321**	P	**P**	**02 58 05.4**	**+0.4**
	baz=43						
AGMN	**Agassiz Nation**	**93.17**	**337**	IAmb	IAmb	02 58 10.7	
	comp=Z,6.1nm,0.9s						
O54A	**Avella**	**93.18**	**323**	P	**P**	**02 58 06.2**	**+0.4**
	baz=42						
R58B	**Mineral**	**93.50**	**320**	P	**P**	**02 58 07.4**	**+0.1**
	baz=43						
O53A	**New Philadelph**	**93.55**	**323**	P	**P**	**02 58 07.8**	**+0.3**
	baz=41						
R57A	**Stanardsville**	**93.60**	**321**	P	**P**	**02 58 08.0**	**+0.3**
	baz=43						
G40A	**Rib Lake**	**93.66**	**332**	IAmb	IAmb	02 58 13.2	
	comp=Z,10nm,0.8s						
P54A	**Burton**	**93.66**	**323**	P	**P**	**02 58 07.9**	**-0.2**
	baz=42						
Q55A	**Buckhannon**	**93.91**	**322**	P	**P**	**02 58 09.3**	**+0.1**
	baz=42						
O52A	**Adamsville**	**93.97**	**324**	P	**P**	**02 58 09.5**	**+0.1**
	baz=41						
O52A	**Adamsville**	**93.97**	**324**	P	**P**	**02 58 08.1**	**-1.3**
R56A	**Bull Pasture M**	**93.99**	**321**	P	**P**	**02 58 09.0**	**-0.6**
	baz=42						
P53A	**Whipple**	**94.22**	**323**	P	**P**	**02 58 11.0**	**+0.5**
	baz=41						
S57A	**Dark Hollow, R**	**94.22**	**320**	P	**P**	**02 58 10.7**	**0.0**
	baz=43						
O51A	**Pataskala**	**94.32**	**324**	P	**P**	**02 58 11.4**	**+0.3**
	baz=40						
ACSO	**Alum Creek Sta**	**94.44**	**324**	P	**P**	**02 58 11.8**	**+0.2**
	baz=40						
R55A	**Marlinton**	**94.46**	**321**	P	**P**	**02 58 11.6**	**-0.2**
	baz=42						
P52A	**Corning**	**94.48**	**324**	P	**P**	**02 58 11.8**	**0.0**
	baz=40						
T58A	**Grand View Acr**	**94.59**	**320**	P	**P**	**02 58 12.3**	**-0.1**
	baz=43						
Q52A	**Bidwell**	**95.06**	**323**	P	**P**	**02 58 14.0**	**-0.4**
	baz=40						
T56A	**Rocky Mt**	**95.34**	**321**	P	**P**	**02 58 16.4**	**+0.7**
	baz=42						
U57A	**Blanch**	**95.41**	**320**	P	**P**	**02 58 16.4**	**+0.4**
	baz=42						
U56A	**King**	**96.04**	**320**	P	**P**	**02 58 19.3**	**+0.3**
	baz=42						
V57A	**Coltrane Farms**	**96.05**	**320**	P	**P**	**02 58 19.0**	**0.0**
	baz=42						
T54A	**Tazewell**	**96.14**	**322**	P	**P**	**02 58 19.0**	**-0.5**
	baz=41						
U55A	**TA2, Sparta**	**96.28**	**321**	P	**P**	**02 58 19.7**	**-0.5**
	baz=41						
V54A	**Nebo**	**97.30**	**321**	P	Pdif	02 58 25.0	+0.1
	baz=41						
ECSD	**EROS Data Cent**	**97.39**	**335**	P	**P**	**02 58 24.9**	**-0.1**
	baz=30						
KMSC	**Kings Mountain**	**97.45**	**320**	P	Pdif	02 58 25.7	+0.3
	baz=41						
WRA	**Warramunga Arr**	**97.70**	**109**	P	**P**	**02 58 25.2**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=316,slow=4.1,SNR=11						
X55A	**Gracelyn & Ava**	**98.12**	**320**	P	Pdif	02 58 28.7	+0.3
	baz=41						
X54A	**Belton**	**98.46**	**320**	P	Pdif	02 58 30.7	+0.7
	baz=41						
ASAR	**Alice Springs**	**99.29**	**112**	P	**Pdif**	**02 58 32.8**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=306,slow=4.6,SNR=15						
ASAR				PP	PP	**03 02 37.5**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=312,slow=7.5,SNR=4.4						
ASAR				PKKP	**PKKPdf**	**03 15 03.6**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=117,slow=3.7,SNR=4.3						
PDAR	**Pinedale Array**	**102.21**	**343**	PKKPbc	PKKPbc	03 14 48.9	-0.5
	comp=Z,0.6nm,0.7s,baz=186,slow=2.7,SNR=6.9						
NVAR	**Mina Array Bea**	**108.19**	**349**	PKiKP	**PKiKP**	**03 03 19.8**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=232,slow=1.0,SNR=3.9						
NVAR				PKKPbc	**PKKPbc**	**03 14 31.5**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=196,slow=5.6,SNR=7.1						
VNA2	**Neumayer--Watz**	**110.32**	**197**	PKiKP	**PKiKP**	**03 03 25.2**	**+2.7**
VNA3	**Neumayer Olymp**	**111.09**	**197**	PKiKP	**PKiKP**	**03 03 27.0**	**+3.1**
TXAR	**Lajitas Array**	**112.74**	**333**	PKiKP	**PKiKP**	**03 03 28.7**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=71,slow=3.2,SNR=2.9						
TXAR				PP	**PP**	**03 04 14.2**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=31,slow=5.4,SNR=2.4						
TXAR				PKKPbc	**PKKPbc**	**03 14 16.7**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=160,slow=2.9,SNR=2.5						
CPUP	**Villa Florida**	**115.71**	**254**	PKP	**PKiKP**	**03 03 34.1**	**0.0**
	comp=Z,3.5nm,1.1s,baz=352,slow=2.4,SNR=3.5						
LPAZ	**La Paz**	**120.24**	**269**	PKP	**PKiKP**	**03 03 44.1**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=79,slow=5.2,SNR=7.4						
PB16	**IPOC Station P**	**122.36**	**268**		**PKiKP**	**03 03 48.8**	**+0.8**
QSPA	**South Pole Qui**	**122.40**	**180**		**PKiKP**	**03 03 46.3**	**+0.3**
VNDA	**Vanda**	**126.71**	**166**	PKP	**PKiKP**	**03 03 54.0**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=286,slow=7.0,SNR=6.2						
CO01	**Juntas del Tor**	**127.51**	**255**		**PKPdf**	**03 03 56.6**	**-0.3**
PMSA	**Palmer Station**	**128.21**	**210**		**PKPdf**	**03 03 56.8**	**0.0**
PLCA	**Paso Flores**	**130.75**	**242**	PKP	**PKiKP**	**03 04 04.2**	**+0.8**
	comp=Z,7.4nm,1.2s,baz=42,slow=3.7,SNR=3.4						

IDC ***24*** *02:58:07.5±1.2,2°.53N×126°.35E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/40, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=77.2km s-min=20.9km az=63.0*

ISC 24 02:58:14.5±1.1,2°.6N±0°.2×126°.8E±0°.3, h55km, n6, σ0s97/7, mb3.4/4, 1D, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**4.67**	**339**	⇓*iP*	**Pn**	**02 59 23.4**	**+0.9**
SIJI	**Sorong**	**5.67**	**128**	P	**Pn**	**02 59 37.1**	**+0.9**
	2.1nm,0.3s,baz=300,slow=19,SNR=2.1						
SIJI					Sn	**03 00 39.1**	**-0.9**
	1.3nm,0.3s,baz=155,slow=22,SNR=2.0						
WRA	**Warramunga Arr**	**23.62**	**162**	P	**P**	**03 03 20.8**	**0.0**
	0.5nm,0.6s,baz=338,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**27.04**	**166**	P	**P**	**03 03 52.1**	**+0.3**
	0.2nm,0.5s,baz=348,slow=7.9,SNR=1.5						
SONM	**Songino Array**	**48.35**	**342**	P	**P**	**03 06 49.8**	**-1.1**
	0.3nm,0.4s,baz=154,slow=9.0,SNR=2.2						
MKAR	**Makanchi Array**	**58.49**	**326**	P	**P**	**03 08 04.8**	**-0.3**
	0.7nm,0.4s,baz=118,slow=8.8,SNR=12						

IDC ***24*** *03:05:14.0±1.5,6°.21S×150°.87E, h45km±17km, mb3.6/6, mb1 3.8/8, mb1mx3.5/37, mbtmp3.8/8, ML1.6/1, Error ellipse: s-maj=50.0km s-min=9.5km az=129.0*

ISC 24 03:05:13.8±0.9, 6°.2S±0°.2×150°.9E±0°.2, h43km, n9, σ0s60/11, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.22**	**30**	P	**Pn**	**03 05 48.7**	**+0.6**
	15nm,0.3s,baz=124,slow=5.4,SNR=7.4						
KRVT				S	**Sn**	**03 06 14.8**	**+0.5**
	13nm,0.3s,baz=288,slow=20,SNR=5.3						
PMG	**Port Moresby**	**4.87**	**229**	P	**Pn**	**03 06 25.1**	**+0.6**
	1.6nm,0.3s,baz=77,slow=16,SNR=1.4						
PMG				S	**Sn**	**03 07 19.9**	**+0.2**
	3.3nm,0.3s,baz=150,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**21.09**	**228**	P	**P**	**03 09 54.5**	**-0.2**
	2.8nm,0.7s,baz=51,slow=10,SNR=13						
ASAR	**Alice Springs**	**23.83**	**222**	P	**P**	**03 10 23.4**	**+0.2**
	1.4nm,0.5s,baz=58,slow=8.4,SNR=30						
STKA	**Stephens Creek**	**26.95**	**198**	P	**P**	**03 10 51.7**	**+0.3**
	3.5nm,1.0s,baz=9.4,slow=9.8,SNR=4.6						
FITZ	**Fitzroy Crossi**	**27.32**	**242**	P	**P**	**03 10 54.2**	**-0.6**
	0.8nm,0.5s,baz=54,slow=10,SNR=1.5						
VNDA	**Vanda**	**71.48**	**178**	P	**P**	**03 16 29.4**	**-0.1**
	0.5nm,0.7s,baz=320,slow=6.9,SNR=2.5						
ILAR	**Eielson Array**	**84.19**	**22**	P	**P**	**03 17 39.2**	**-1.1**
	0.5nm,0.9s,baz=256,slow=5.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**148.91**	**285**	PKPbc	**PKPbc**	**03 24 58.3**	**+0.3**
	0.6nm,0.6s,baz=59,slow=2.5,SNR=7.6						

NEIC ***24*** *03:13:16.2±1.1, 0°.22S×123°.10E±0°.09, h88km±11km, mb4.0/2, Error ellipse: s-maj=13.9km s-min=8.7km az=111.0*

IDC ***24*** *03:13:16.9±4.8, 0°.21S×123°.06E, h96km±48km, mb3.4/5, mb1 3.6/6, mb1mx3.3/37, mbtmp3.8/6, Error ellipse: s-maj=50.5km s-min=18.9km az=65.0*

DJA ***24*** *03:13:17.3±0.3, 0°.5S×123°.3E±°, h71km±14km, M4.3/13, mB4.7/2, mb4.5/4, MLv4.2/13, Mw(mB)4.0/2*

ISC 24 03:13:17.1±0.8, 0°.27S±0°.06×123°.03E±0°.05, h100km, n22, σ0s97/25, mb3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.81**	**199**	P	**Pn**	**03 13 34.3**	**-1.3**
LUWI	**Luwuk**	**0.81**	**199**		**Pn**	**03 13 34.4**	**-1.2**
GTOI	**Gorontalo**	**0.90**	**359**	P	**Pn**	**03 13 35.6**	**-0.9**
KMSI	**Cibinong**	**1.27**	**49**	P	**Pn**	**03 13 40.2**	**-0.4**
MPSI	**Mapaga**	**3.19**	**281**	P	**Pn**	**03 14 04.9**	**-0.5**
SANI	**Sanana**	**3.44**	**121**	P	**Pn**	**03 14 07.9**	**-0.9**
TNTI	**Ternate**	**4.46**	**77**	S	**Sn**	**03 15 14.7**	**+1.3**
TNTI	**Ternate**	**4.46**	**77**	Pn	**Pn**	**03 14 20.4**	**-2.1**
LBMI	**Labuha**	**4.49**	**95**	S	**Sn**	**03 15 14.2**	**+0.2**
SPSI	**Sidrap Palu**	**4.91**	**222**	P	**Pn**	**03 14 28.7**	**+0.1**
SPSI				S	**Sn**	**03 15 23.9**	**-0.3**
BNSI	**Bone**	**5.03**	**215**	P	**Pn**	**03 14 30.8**	**+0.5**
	0.5nm126nm,0.6s						
KAPI	**Kappang**	**5.74**	**215**	P	**Pn**	**03 14 39.9**	**0.0**
	12nm,0.3s,baz=25,slow=3.6,SNR=23						
KAPI				S	**Sn**	**03 15 42.5**	**-1.9**
	1.6nm,0.3s,baz=81,slow=19,SNR=1.5						
KAPI	**Kappang**	**5.74**	**215**		**Pn**	**03 14 40.0**	**+0.2**
BKSI	**Bulukumba**	**5.79**	**210**	P	**Pn**	**03 14 41.2**	**+0.5**
	0.1nm912nm31nm,1.1s						
MYLDM	**Lahad Datu**	**7.06**	**320**	Pn	**Pn**	**03 14 57.0**	**-0.8**
WB0	**Warramunga Arr**	**22.34**	**151**	P	**P**	**03 18 07.9**	**+0.9**
WB0				IAmb	IAmb	03 18 52.1	
	comp=Z,7.5nm,1.1s						
WRA	**Warramunga Arr**	**22.47**	**151**	P	**P**	**03 18 08.2**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=328,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**25.54**	**156**	P	**P**	**03 18 37.5**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=330,slow=7.9,SNR=8.1						
ASAR				PcP	**PcP**	**03 22 06.0**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=342,slow=2.1,SNR=2.6						
STKA	**Stephens Creek**	**36.01**	**153**	P	**P**	**03 20 09.5**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=354,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**36.01**	**153**	IAmb	IAmb	03 20 09.9	
	comp=Z,3.6nm,1.6s						
MJAR	**Matsushiro Arr**	**39.25**	**19**	P	**P**	**03 20 35.0**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=198,slow=7.5,SNR=2.9						
MKAR	**Makanchi Array**	**58.86**	**328**	P	**P**	**03 23 05.6**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=126,slow=8.6,SNR=10						
MKAR				pP	**pP**	**03 23 30.4**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=130,slow=7.6,SNR=2.4						

SJA ***24*** *03:18:36.5±0.6, 33°.11S×72°.46W, h8km, ML4.7, MW4.4*

IDC ***24*** *03:18:38.6±0.8, 33°.08S×72°.00W, h0km, mb4.2/9, mb1 4.3/13, mb1mx4.1/27, mbtmp4.2/13, ML3.7/4, MS3.9/6, Ms1 3.9/6, ms1mx3.6/18, Error ellipse: s-maj=27.5km s-min=17.7km az=89.0*

GUC ***24*** *03:18:42.4±1.0, 33°.19S×72°.09W, h34km±5km, ML4.1*

NEIC ***24*** *03:18:43.0±2.1, 33°.14S±0°.03×72°.12W±0°.08, h35km±5km, mb4.5/32, ML4.0(GUC), Error ellipse: s-maj=10.3km s-min=1.2km az=114.0*

VAO ***24*** *03:18:44.4±1.2, 33°.13S×71°.74W, h31km±9km, mb4.5*

ISC 24 03:18:41.7±1.1, 33°.14S±0°.03×72°.18W±0°.05, h26km±7km, n169, σ1s75/177, mb4.5/15, MS3.9/4, 3C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MT02	**Curacav**	**0.88**	**98**	⇓*iP*	**Pn**	**03 18 57.0**	**-1.4**
MT02				*i* S	**Sb**	**03 19 08.7**	**-1.1**
MT02	**Curacav**	**0.88**	**98**		**Pn**	**03 18 56.9**	**-1.4**
ROC1	**El Roble**	**0.99**	**81**		**Pn**	**03 18 59.3**	**-0.8**
ROC1	**El Roble**	**0.99**	**81**	*eP*	**Pn**	**03 18 59.2**	**-0.9**
ROC1				*eS*	**Sn**	**03 19 10.5**	**-2.9**
ROCH	**El Roble**	**0.99**	**81**	⇓*iP*	**Pn**	**03 18 59.2**	**-1.0**
ROCH				*i* S	**Sn**	**03 19 11.3**	**-2.1**
ROCH				IAML		03 19 14.9	
	comp=N,7μm,0.7s						
MT05	**Renca**	**1.23**	**102**	⇓*iP*	**Pn**	**03 19 03.0**	**-0.3**
MT05				*i* S	**Sb**	**03 19 18.2**	**-1.7**
MT05				IAML		03 19 27.9	
	comp=N,5μm,0.3s						
MT05	**Renca**	**1.23**	**102**	Pn	**Pn**	**03 19 03.0**	**-0.3**
PEL	**Peldehue**	**1.25**	**91**	*eP*	**Pn**	**03 19 03.5**	**-0.1**
PEL				*i* S	**Sb**	**03 19 18.9**	**-1.6**
PEL				*i* S	**Sn**	**03 19 19.4**	**-0.2**
PEL				IAML		03 19 27.9	
	comp=N,5μm,0.6s						
PEL	**Peldehue**	**1.25**	**91**		**Pn**	**03 19 03.4**	**-0.1**
PEL	**Peldehue**	**1.25**	**91**	*eP*	**Pb**	**03 19 04.0**	**-0.8**
PEL				*eS*	**Sb**	**03 19 23.4**	**+2.9**
CLCH	**Cerro Calan**	**1.40**	**101**	⇓*iP*	**Pb**	**03 19 05.9**	**-1.4**
CLCH				*i* S	**Sb**	**03 19 24.1**	**-0.6**
CLCH				IAML		03 19 27.6	
	comp=N,5μm,0.5s						
VA03	**San Esteban**	**1.42**	**75**	⇑*iP*	**Pn**	**03 19 05.7**	**-0.2**
VA03				*i* S	**Sb**	**03 19 23.8**	**-1.5**
VA03				IAML		03 19 29.2	
	comp=E,8μm,0.2s						
VA03	**San Esteban**	**1.42**	**75**		**Pn**	**03 19 05.7**	**-0.2**
FSR	**Penalolen**	**1.42**	**104**	*eP*	**Pn**	**03 19 05.7**	**-0.2**
FSR				*eS*	**Sn**	**03 19 23.1**	**-0.7**
MT03	**Universidad Ad**	**1.44**	**105**	⇓*iP*	**Pn**	**03 19 06.4**	**+0.2**
MT03				*i* S	**Sb**	**03 19 24.0**	**-2.0**
MT03				IAML		03 19 33.5	
	comp=N,8μm,0.2s						
BO01	**Tunca**	**1.55**	**144**	*eP*	**Pn**	**03 19 06.9**	**-0.6**
BO01				*eS*	**Sn**	**03 19 25.7**	**-1.1**
BO01	**Tunca**	**1.55**	**144**		**Pn**	**03 19 07.1**	**-0.4**
GO05	**Huala**	**1.88**	**174**		**Pb**	**03 19 11.7**	**-0.4**
GO05				*eS*	**Sn**	**03 19 34.9**	**-0.1**
GO05	**Huala**	**1.88**	**174**	Pn	**Pn**	**03 19 12.1**	**0.0**
GO05	**Huala**	**1.88**	**174**	*eP*	**Pn**	**03 19 12.0**	**-0.2**
BO02	**Sierra Bellavi**	**2.02**	**145**	*eP*	**Pn**	**03 19 14.7**	**+0.5**
BO02				*i* S	**Sn**	**03 19 39.4**	**+0.9**
BO02	**Sierra Bellavi**	**2.02**	**145**		**Pn**	**03 19 14.6**	**+0.5**
AUSP	**Uspallata**	**2.52**	**70**	*eP*	**Pb**	**03 19 24.1**	**-2.4**
AUSP				*eS*	**Sb**	**03 19 54.6**	**-2.7**
CO03	**El Pedregal**	**2.62**	**29**	*eP*	**Pn**	**03 19 22.6**	**+0.3**
CO03				*eS*	**Sb**	**03 19 57.0**	**-2.8**
CO03				IAML		03 20 06.7	
	comp=E,4μm,0.7s						
CO03	**El Pedregal**	**2.62**	**29**		**Pn**	**03 19 22.7**	**+0.3**
ARCO	**CERRO ARCO**	**2.74**	**85**	*eP*	**Pb**	**03 19 27.6**	**-2.6**
ARCO				*eS*	**Sb**	**03 20 06.2**	**+2.7**
ARCO				IAML		03 20 09.6	
	comp=Z,2μm,1.3s						
RTLS	**Leoncito**	**2.78**	**62**	*eP*	**Pb**	**03 19 27.4**	**-3.5**
RTLS				*eS*	**Sb**	**03 20 06.0**	**+1.4**
RTLS				IAML		03 20 16.8	
	comp=Z,2μm,0.9s						
AAGR	**Agrelo**	**2.81**	**90**	*eP*	**Pb**	**03 19 30.5**	**-0.8**
AAGR				*eS*	**Sb**	**03 20 12.2**	**+6.8**
AAGR				IAML		03 20 15.1	
	comp=Z,2μm,2.2s						
ASAL	**Salagasta**	**2.87**	**80**	*eP*	**Pb**	**03 19 29.2**	**-3.1**
ASAL				*eS*	**Sb**	**03 20 09.0**	**+2.1**
ASAL				IAML		03 20 20.9	
	comp=Z,2μm,1.0s						
COIS	**El Sosneado**	**2.91**	**133**	*eP*	**Pn**	**03 19 29.3**	**+3.0**
COIS				*eS*	**Sb**	**03 20 10.9**	**+2.8**
GO04	**Tololo Observa**	**3.18**	**22**	Pn	**Pn**	**03 19 30.2**	**-0.1**
PUMA	**Malargue**	**3.26**	**137**	*eP*	**Pn**	**03 19 34.1**	**+3.0**
RTCV	**Cerro Valdivia**	**3.33**	**68**	*eP*	**Pn**	**03 19 34.5**	**+2.4**
RTCV				*eS*	**Sb**	**03 20 26.2**	**+6.1**
RTCV				IAML		03 20 27.4	
	comp=Z,1μm,2.6s						
BI02	**San Fabin de**	**3.59**	**168**	Pn	**Pn**	**03 19 37.4**	**+1.6**
CO01	**Juntas del Tor**	**3.62**	**30**	Pn	**Pn**	**03 19 37.2**	**+0.9**
RTLL	**Cerro Villicun**	**3.62**	**61**	*eP*	Pb	03 19 40.0	-5.0
RTLL				*eS*	**Sb**	**03 20 30.2**	**+1.6**
RTLL				IAML		03 20 35.2	
	comp=Z,782nm,0.5s						
ACCO	**Cerro Coronel**	**3.67**	**47**	*eP*	**Pn**	**03 19 40.0**	**+2.9**
ACCO				*eS*	**Sb**	**03 20 37.7**	**+7.4**
ACCO				IAML		03 20 44.9	
	comp=Z,880nm,1.4s						
BI03	**Tigo**	**3.76**	**190**		**Pn**	**03 19 38.1**	**+0.1**
LCO	**Las Campanas**	**4.30**	**17**		**Pn**	**03 19 45.8**	**0.0**
AC05	**El Transito**	**4.59**	**21**		**Pn**	**03 19 50.0**	**+0.4**
AC04	**Llanos de Chal**	**5.01**	**11**	Pn	**Pn**	**03 19 54.3**	**-0.9**
MRA	**San Martin**	**5.49**	**84**	*eP*	**Pn**	**03 20 03.0**	**+1.1**
MRA				IAML		03 21 40.5	
	comp=Z,273nm,0.9s						
VCA	**Vinchina**	**5.56**	**39**	*eP*	**Pn**	**03 20 04.9**	**+2.0**
VCA				*eS*	**Sb**	**03 21 25.4**	**+0.9**
VCA				IAML		03 21 43.7	
	comp=Z,932nm,1.5s						
H03N1	**Juan Fernandez**	**5.65**	**265**	T	T	03 27 15.1	
	baz=87,slow=73,SNR=36						
H03N3	**Juan Fernandez**	**5.66**	**265**	T	T	03 27 08.8	
	baz=87,slow=73,SNR=40						
H03N2	**Juan Fernandez**	**5.67**	**265**	T	T	03 27 10.1	
	baz=87,slow=73,SNR=44						
H03S1	**Juan Fernandez**	**5.67**	**261**	T	T	03 26 23.4	
	baz=84,slow=74,SNR=301						
H03S3	**Juan Fernandez**	**5.67**	**261**	T	T	03 26 22.7	
	baz=84,slow=74,SNR=308						
H03S2	**Juan Fernandez**	**5.68**	**261**	T	T	03 26 21.9	
	baz=84,slow=74,SNR=462						
LC01	**Cunco**	**5.75**	**178**	Pn	**Pn**	**03 20 06.0**	**+0.6**
ACLC	**CERRO LA CRUZ**	**5.80**	**52**	*eP*	**Pn**	**03 20 07.4**	**+1.1**
ACLC				*eS*	**Sn**	**03 21 16.9**	**+4.8**
ACLC				IAML		03 21 48.5	
	comp=Z,530nm,2.0s						
AC01	**Pan de Azucar**	**7.10**	**12**	Pn	**Pn**	**03 20 25.4**	**+1.4**
CYA	**Choya**	**7.21**	**51**	*eP*	**Pn**	**03 20 24.2**	**-1.3**
CYA				IAML		03 22 32.5	
	comp=Z,185nm,1.1s						
PLCA	**Paso Flores**	**7.69**	**171**	Pn	**Pn**	**03 20 33.1**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=340,slow=13,SNR=8.3						
PLCA				Lg	Lg	03 22 38.1	
	comp=Z,0.1nm,0.3s,baz=60,slow=20,SNR=1.1						
PLCA	**Paso Flores**	**7.69**	**171**	Pn	**Pn**	**03 20 32.0**	**-0.1**
PLCA	**Paso Flores**	**7.69**	**171**	*eP*	**Pn**	**03 20 33.5**	**+1.5**
GO02	**Mina Guanaco**	**8.26**	**17**		**Pn**	**03 20 40.9**	**+0.7**
LL01	**San Ignacio de**	**9.23**	**181**	Pn	**Pn**	**03 20 51.9**	**-1.1**
PB10	**IPOC Station P**	**9.70**	**9**	Pn	**Pn**	**03 21 00.3**	**+0.7**
PB15	**IPOC Station P**	**10.18**	**14**	Pn	**Pn**	**03 21 06.7**	**+0.4**
PB06	**IPOC Station P**	**10.65**	**13**	Pn	**Pn**	**03 21 12.7**	**-0.1**
LVC	**Limon Verde**	**10.88**	**16**	Pn	**Pn**	**03 21 15.0**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=195,slow=9.9,SNR=1.9						
LVC				LR	LR	03 25 24.7	
	comp=Z,557nm,18.1s,baz=210,slow=38						
LVC	**Limon Verde**	**10.88**	**16**	Pn	**Pn**	**03 21 17.0**	**+1.0**
LVC	**Limon Verde**	**10.88**	**16**	*eP*	**Pn**	**03 21 16.7**	**+0.6**
CPUP	**Villa Florida**	**14.57**	**66**	Pn	**Pn**	**03 22 08.2**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=230,slow=11,SNR=5.4						
CPUP				Sn	**Sn**	**03 24 47.3**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=270,slow=18,SNR=4.7						
CPUP				LR	LR	03 28 04.3	
	comp=Z,739nm,18.3s,baz=234,slow=39						
CPUP	**Villa Florida**	**14.57**	**66**	*eP*	**Pn**	**03 22 04.2**	**-1.9**
PB16	**IPOC Station P**	**14.94**	**10**		**Pn**	**03 22 13.7**	**+2.0**
PLTB	**Pedras Altas**	**15.74**	**90**	*eP*	**Pn**	**03 22 18.3**	**-3.4**
LPAZ	**La Paz**	**17.17**	**13**	P	**Pn**	**03 22 40.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=194,slow=8.1,SNR=19						
LPAZ	**La Paz**	**17.17**	**13**		**P**	**03 22 41.1**	**-0.8**
LPAZ	**La Paz**	**17.17**	**13**	*eP*	**P**	**03 22 41.1**	**-0.8**
ITAB	**Concordia**	**18.29**	**77**	*eP*	**Pn**	**03 22 51.3**	**-2.3**
CNLB	**Canela**	**18.63**	**84**	*eP*	**P**	**03 22 55.9**	**-1.5**
PTGB	**Pitanga**	**19.48**	**70**	*eP*	**P**	**03 23 04.7**	**-2.1**
SIV	**San Ignacio**	**19.81**	**33**	P	**P**	**03 23 09.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=230,slow=12,SNR=30						
TRCB	**Terra Rica**	**20.07**	**64**	*eP*	**P**	**03 23 11.6**	**-1.6**
PTLB	**Pontes e Lacer**	**21.21**	**37**	*eP*	**P**	**03 23 24.6**	**-0.8**
TIJ01	**Guaruva-

comp=Z,7.0nm,1.1s,baz=227,slow=5.0,SNR=4.6
CASY Casey 80.88 181 P **P 03 30 54.1 +1.2**
PDAR Pinedale Array 82.94 333 P **P 03 31 04.6 +0.3**
comp=Z,0.2nm,0.6s,baz=156,slow=6.9,SNR=2.4
NVAR Mina Array Bea 83.11 325 P **P 03 31 06.1 +0.8**
comp=Z,0.5nm,0.8s,baz=152,slow=6.0,SNR=4.0
TOA0 Torodi Ar. Sit 84.03 70 P **P 03 31 10.7 +0.5**
TORD Torodi Ar. Bea 84.03 70 P **P 03 31 10.6 +0.3**
comp=Z,5.9nm,0.9s,baz=258,slow=4.6,SNR=28
H11S2 WAKE ISLAND Hyl 25.66 270 T T 05 56 56.0
baz=118,slow=74,SNR=12
H11S1 WAKE ISLAND Hyl 25.67 270 T T 05 56 35.9
baz=118,slow=74,SNR=19
H11S3 WAKE ISLAND Hyl 25.68 270 T T 05 56 30.2
baz=118,slow=74,SNR=10
H11N3 WAKE ISLAND Hyl 26.05 271 T T 05 57 13.4
baz=119
H11N1 WAKE ISLAND Hyl 26.07 271 T T 05 56 58.3
baz=118
H11N2 WAKE ISLAND Hyl 26.07 271 T T 05 57 05.6
baz=118
BRVK Borovoye 146.65 42 PKPbc **PKPab 03 38 21.5 -0.2**
CHGR Chuyangaron 148.37 69 PKPbc **PKiKP 03 38 26.4 -1.0**
RPSI Rantau Prapat 148.59 163 PKPbc **PKPbc 03 38 27.6 +0.7**
KK31 Karatay Array 149.23 60 PKPbc **PKiKP 03 38 28.8 -0.1**
KKAR Karatay Array 149.23 60 PKPbc **PKiKP 03 38 28.6 -0.4**
GAR Garm 149.28 68 **PKiKP 03 38 29.1 -0.2**
KURK Kurchatov 152.32 42 **PKiKP 03 38 35.2 +0.2**
ZALV Zalesovo Beam 153.56 31 PKPbc **PKiKP 03 38 37.6 +0.2**
comp=Z,1.2nm,0.4s,baz=299,slow=3.1,SNR=7.1
ZALV PKPab **pPKPbc 03 38 48.2 +2.5**
comp=Z,1.7nm,0.7s,baz=300,slow=3.3,SNR=4.1
MKAR Makanchi Array 156.28 47 PKPab **PKPab 03 39 02.6 +0.8**
comp=Z,1.0nm,0.8s,baz=298,slow=5.1,SNR=6.3
SONM Songino Array 165.28 4 PKPab **PKPab 03 39 42.5 +1.5**
comp=Z,0.3nm,0.3s,baz=343,slow=5.5,SNR=3.9

WEL ***24*** *03:21:47.1±0.6,33°S±6°×17°9W±1°6,h150km,M4.5/36, mB5.0/22,ML5.0/28,MLv4.9/36,Mw(mB)4.4/22,Error ellipse: s-maj=0.0km s-min=0.0km az=110.5*
IDC ***24*** *03:21:48.5±2.4,32°49S×179°84W,h96km±22km,mb3.7/5, mb1 4.0/7,mb1mx3.7/30,mbtmp4.2/7,Error ellipse: s-maj=28.1km s-min=19.4km az=99.0*
ISC 24 03:21:44.1±1.2,33°08S±0°07×178°3W±0°2,h150km,n95, σ2s62/106,mb3.7/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GLKZ	**Green Lake**	**3.81**	**5**	P	**Pn**		**03 22 41.0**	**-0.9**
GLKZ				S	**Sn**		**03 23 21.4**	**-5.4**
RAO	**Raoul Island**	**3.82**	**5**	P	**Pn**		**03 22 42.8**	**+0.7**
	60nm,0.3s,baz=130,slow=19,SNR=1.6							
RAO				S	**Sn**		**03 23 23.1**	**-4.0**
	152nm,0.3s,baz=143,slow=20,SNR=6.5							
RIZ	**Raoul Island**	**3.83**	**4**	P	**Pn**		**03 22 42.5**	**+0.4**
RIZ				S	**Sn**		**03 23 26.1**	**-1.1**
MXZ	**Matakaoa Point**	**5.28**	**211**	P	**Pn**		**03 23 03.3**	**+2.2**
MXZ				S	**Sn**		**03 24 01.9**	**+0.5**
HAZ	**Te Kaha**	**5.68**	**214**	P	**Pn**		**03 23 09.4**	**+3.0**
HAZ				S	**Sn**		**03 24 12.6**	**+1.9**
PUZ	**Puketiti**	**5.73**	**209**	P	**Pn**		**03 23 10.0**	**+2.8**
PUZ				S	**Sn**		**03 24 12.3**	**+0.1**
RUGZ	**Raukumara Rang**	**5.89**	**213**	P	**Pn**		**03 23 12.0**	**+2.5**
RUGZ				S	**Sn**		**03 24 16.6**	**+0.4**
TWGZ	**Tauwhareparae**	**5.94**	**210**	P	**Pn**		**03 23 13.0**	**+3.1**
TWGZ				S	**Sn**		**03 24 17.6**	**+0.5**
GRZ	**Great Barrier**	**6.07**	**237**	P	**Pn**		**03 23 12.8**	**+1.2**
KUZ	**Kuaotunu**	**6.15**	**232**	P	**Pn**		**03 23 14.0**	**+1.3**
WHRZ	**Whale Island**	**6.15**	**218**	P	**Pn**		**03 23 13.6**	**+0.9**
TKGZ	**Te Karaka**	**6.21**	**209**	P	**Pn**		**03 23 16.6**	**+3.0**
TKGZ				S	**Sn**		**03 24 22.9**	**-0.7**
MWZ	**Matawai**	**6.26**	**212**	P	**Pn**		**03 23 16.1**	**+1.9**
MWZ				S	**Sn**		**03 24 25.0**	**+0.1**
URZ	**Urewera**	**6.40**	**215**	P	**Pn**		**03 23 17.6**	**+1.6**
	3.0nm,0.3s,baz=28,slow=4.7,SNR=34							
URZ				S	**Sn**		**03 24 24.7**	**-3.2**
	17nm,0.3s,baz=315,slow=21,SNR=8.6							
URZ	**Urewera**	**6.40**	**215**	P	**Pn**		**03 23 17.1**	**+1.1**
URZ				S	**Sn**		**03 24 24.6**	**-3.4**
MARZ	**Manawahe**	**6.40**	**219**	P	**Pn**		**03 23 20.1**	**+3.9**
EDRZ	**Edgecumbe**	**6.46**	**218**	P	Pn		03 23 21.8	+4.9
PRGZ	**Paritu Road**	**6.62**	**207**	P	Pn		03 23 25.3	+6.3
PRGZ				S	**Sn**		**03 24 32.1**	**-1.2**
TARZ	**Mount Tarawera**	**6.68**	**218**	P	Pn		03 23 25.2	+5.3
SNGZ	**Shannon Statio**	**6.72**	**211**	P	**Pn**		**03 23 22.5**	**+2.2**
SNGZ				S	**Sn**		**03 24 34.0**	**-1.7**
MUGZ	**Murupara**	**6.73**	**215**	P	**Pn**		**03 23 21.7**	**+1.3**
MUGZ				S	**Sn**		**03 24 35.7**	**-0.3**
RTZ	**Ruatahuna**	**6.74**	**214**	P	**Pn**		**03 23 21.4**	**+0.7**
RTZ				S	**Sn**		**03 24 33.1**	**-3.3**
RRRZ	**Republican Roa**	**6.75**	**217**	P	Pn		03 23 25.7	+4.9
KNZ	**Kokohu**	**6.78**	**208**	P	**Pn**		**03 23 25.7**	**+4.5**
MHGZ	**Mahia Peninsul**	**6.81**	**206**	P	**Pn**		**03 23 24.9**	**+3.4**
MHGZ				S	**Sn**		**03 24 37.6**	**-0.3**
PRRZ	**Plateau Road**	**6.94**	**217**	P	**Pn**		**03 23 27.0**	**+3.8**
WHHZ	**Waihua**	**7.01**	**210**	P	**Pn**		**03 23 27.0**	**+2.9**
WHHZ				S	**Sn**		**03 24 43.3**	**+0.6**
WPRZ	**Whakapapatarin**	**7.07**	**218**	P	**Pn**		**03 23 29.2**	**+4.2**
KUTZ	**Kaahu Road**	**7.23**	**220**	P	**Pn**		**03 23 31.3**	**+4.2**
HATZ	**Hinemaiaia**	**7.39**	**217**	P	**Pn**		**03 23 32.4**	**+3.2**
BKZ	**Black Stump Fm**	**7.41**	**213**	P	**Pn**		**03 23 30.2**	**+0.7**
BKZ				S	**Sn**		**03 24 46.7**	**-5.7**
WATZ	**Wairara**	**7.43**	**219**	P	**Pn**		**03 23 33.8**	**+3.9**
RATZ	**Rangitukua**	**7.53**	**218**	P	**Pn**		**03 23 35.0**	**+3.8**
MCHZ	**McNeill Hill**	**7.54**	**211**	P	**Pn**		**03 23 33.6**	**+2.3**
MCHZ				S	**Sn**		**03 24 52.7**	**-2.9**
CKHZ	**Cape Kidnapper**	**7.57**	**208**	P	**Pn**		**03 23 35.5**	**+3.9**
CKHZ				S	**Sn**		**03 24 53.7**	**-2.3**
RITZ	**Rihia Road**	**7.57**	**217**	P	**Pn**		**03 23 35.4**	**+3.7**
KWHZ	**Kaweka Forest**	**7.65**	**213**	P	**Pn**		**03 23 32.6**	**-0.1**
KWHZ				S	**Sn**		**03 24 55.8**	**-2.4**
KATZ	**Kakaramea**	**7.65**	**218**	P	**Pn**		**03 23 36.3**	**+3.4**
KAHZ	**Kahuranaki**	**7.76**	**209**	P	**Pn**		**03 23 35.7**	**+1.4**
KAHZ				S	**Sn**		**03 24 58.2**	**-2.7**
ETVZ	**East Tongariro**	**7.77**	**217**	P	**Pn**		**03 23 37.4**	**+3.0**
HIZ	**Hauiti**	**7.79**	**224**	P	**Pn**		**03 23 38.2**	**+3.7**
OTVZ	**Oturere**	**7.81**	**217**	P	**Pn**		**03 23 35.1**	**+0.1**
KRHZ	**Kereru**	**7.85**	**212**	P	**Pn**		**03 23 35.0**	**-0.4**
KRHZ				S	**Sn**		**03 24 56.6**	**-6.3**
TWVZ	**Taurewa**	**7.86**	**219**	P	**Pn**		**03 23 37.5**	**+1.9**
BHHZ	**Black Hill Sta**	**7.87**	**214**	P	**Pn**		**03 23 35.9**	**+0.2**
BHHZ				S	**Sn**		**03 25 00.6**	**-2.8**
FWVZ	**Far West T-bar**	**7.94**	**217**	P	**Pn**		**03 23 39.6**	**+2.9**
MOVZ	**Moawhango**	**7.95**	**216**	P	**Pn**		**03 23 36.9**	**+0.1**
WNVZ	**Wahianoa**	**7.97**	**217**	P	**Pn**		**03 23 36.9**	**-0.2**
PXZ	**Pawanui**	**7.97**	**208**	P	**Pn**		**03 23 36.6**	**-0.4**
PXZ				S	**Sn**		**03 25 00.8**	**-4.9**
PNHZ	**Pukenui**	**8.15**	**212**	P	**Pn**		**03 23 39.1**	**-0.3**
WPHZ	**Waipukurau**	**8.17**	**210**	P	**Pn**		**03 23 42.9**	**+3.3**
PRHZ	**Porangahau**	**8.26**	**208**	P	**Pn**		**03 23 43.9**	**+3.0**
VRZ	**Vera Road**	**8.26**	**221**	P	**Pn**		**03 23 44.3**	**+3.5**
TSZ	**Takapari Road**	**8.37**	**212**	P	**Pn**		**03 23 43.7**	**+1.4**
DVHZ	**Dannevirke**	**8.48**	**210**	P	**Pn**		**03 23 43.6**	**-0.3**
ANWZ	**Angora Road**	**8.49**	**208**	P	**Pn**		**03 23 47.3**	**+3.4**
WAZ	**Wanganui**	**8.60**	**217**	P	**Pn**		**03 23 46.9**	**+1.5**
POWZ	**Post Office Ro**	**8.73**	**212**	P	**Pn**		**03 23 48.5**	**+1.4**
NEZ	**North Egmont**	**8.73**	**223**	P	**Pn**		**03 23 50.8**	**+3.5**
PKE	**Pukeiti**	**8.75**	**224**	P	**Pn**		**03 23 50.7**	**+3.3**
BFZ	**Birch Farm**	**8.77**	**209**	P	**Pn**		**03 23 46.6**	**-1.0**
PRWZ	**Pori Road**	**8.78**	**210**	P	**Pn**		**03 23 48.9**	**+1.2**
KHEZ	**Kahui Hut**	**8.80**	**223**	P	**Pn**		**03 23 51.7**	**+3.6**
TIWZ	**Tintock**	**9.00**	**210**	P	**Pn**		**03 23 51.6**	**+0.9**
MRZ	**Mangatainoka R**	**9.03**	**211**	P	**Pn**		**03 23 49.1**	**-2.0**
HOWZ	**Holdsworth Sta**	**9.25**	**211**	P	**Pn**		**03 23 52.3**	**-1.8**
TMWZ	**Te Maipa**	**9.27**	**209**	P	**Pn**		**03 23 53.7**	**-0.6**
OGWZ	**Otaki Gorge**	**9.34**	**212**	P	**Pn**		**03 23 53.6**	**-1.6**
KIW	**Kapiti Island**	**9.49**	**213**	P	**Pn**		**03 23 55.2**	**-2.1**
TRWZ	**Traveller**	**9.60**	**208**	P	**Pn**		**03 23 60.0**	**+1.3**
CAW	**Cannon Point**	**9.62**	**212**	P	**Pn**		**03 23 56.9**	**-2.1**
MSWZ	**Moikau Station**	**9.79**	**210**	P	**Pn**		**03 24 01.4**	**+0.1**
WEL	**Wellington**	**9.90**	**212**	P	**Pn**		**03 24 02.1**	**-0.5**
PLWZ	**Palliser**	**9.92**	**209**	P	**Pn**		**03 24 01.7**	**-1.2**
DUWZ	**D'Urville Isla**	**9.92**	**217**	P	**Pn**		**03 24 01.2**	**-1.8**
BHW	**Baring Head**	**9.95**	**211**	P	**Pn**		**03 24 03.1**	**-0.2**
TUWZ	**Tuamarina**	**10.39**	**214**	P	**Pn**		**03 24 07.4**	**-1.7**
BSWZ	**Blackbirch Sta**	**10.64**	**214**	P	**Pn**		**03 24 09.8**	**-2.7**
BSWZ				S	Sn		03 26 01.6	-8.6
RPZ	**Rata Peaks**	**13.51**	**215**	P	**Pn**		**03 24 47.8**	**-1.9**
	2.7nm,0.3s,baz=38,slow=3.7,SNR=28							
RPZ				S	Sn		03 27 05.3	-14

0.9nm,0.3s,baz=316,slow=23,SNR=7.4
ASAR Alice Springs 42.81 270 P **P 03 29 26.4 -0.9**
1.2nm,0.6s,baz=112,slow=7.9,SNR=3.6
ASAR sP **pP 03 30 00.0 0.0**
0.8nm,0.7s,baz=111,slow=7.9,SNR=2.7
WRA Warramunga Arr 44.04 275 P **P 03 29 36.0 -1.1**
1.2nm,0.5s,baz=115,slow=8.0,SNR=6.9
VNDA Vanda 45.42 186 P P 03 30 00.8 +14
0.5nm,0.7s,baz=15,slow=8.8,SNR=3.6
QSPA South Pole Qui 57.04 180 P P 03 31 29.0 +15
10nm,0.6s,baz=24,slow=1.7,SNR=61
VNA3 Neumayer Olymp 75.66 176 P P 03 33 25.7 +13
H03S2 Juan Fernandez 79.18 123 T T 05 02 28.4
baz=236,slow=74,SNR=6.4
H03S1 Juan Fernandez 79.19 123 T T 05 02 34.6
baz=236,slow=74,SNR=9.0
H03S3 Juan Fernandez 79.20 123 T T 05 02 26.1
baz=236,slow=74,SNR=8.2
H03N3 Juan Fernandez 79.39 123 T T 05 02 37.9
baz=240,slow=72,SNR=9.4
H03N2 Juan Fernandez 79.39 123 T T 05 02 39.8
baz=240,slow=72,SNR=6.8
H03N1 Juan Fernandez 79.41 123 T T 05 02 43.9
baz=240,slow=72,SNR=17
NVAR Mina Array Bea 90.35 43 P P 03 34 41.7 +13
0.3nm,0.8s,baz=209,slow=7.2,SNR=2.5
ARCES ARCESS Array B 141.14 347 PKhKP PKPpre 03 40 58.2
2.0nm,1.1s,baz=47,slow=1.8,SNR=1.8
ARCES PKP PKiKP 03 41 06.6 +8.2
1.4nm,1.0s,baz=61,slow=3.3,SNR=2.2
FINES FINESS Array B 147.56 338 PKPbc **PKPab 03 41 16.2 +3.9**
1.1nm,0.4s,baz=46,slow=4.1,SNR=16
NOA NORSAR Array B 151.35 350 PKPab **PKPab 03 41 34.9 +7.0**
0.4nm,0.5s,baz=43,slow=2.5,SNR=2.1
TORD Torodi Ar. Bea 160.16 180 PKPab PKPab 03 42 18.1 +11
0.9nm,0.7s,baz=171,slow=3.4,SNR=9.4

IDC ***24*** *03:38:40.4±1.2,29°85S×177°26W,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.8/25,mbtmp3.9/4,Error ellipse: s-maj=35.7km s-min=26.4km az=33.0*
NEIC ***24*** *03:38:41.4±1.4,29°92S±0°10×177°4W±0°1,h6km±4km, mb4.2/2,Error ellipse: s-maj=18.6km s-min=7.4km az=46.0*
ISC 24 03:38:41.6±1.0,29°99S±0°08×177°4W±0°2,h10km,n12, σ0s84/14,mb4.1/6,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RAO	**Raoul Island**	**0.85**	**329**	Pn	**Pn**		**03 38 59.1**	**-0.5**
	232nm,0.3s,baz=45,slow=12,SNR=14							
RAO				Sn	**Sn**		**03 39 12.2**	**0.0**
	604nm,0.3s,baz=111,slow=21,SNR=10							
RAO	**Raoul Island**	**0.85**	**329**		**Pg**		**03 38 57.9**	**-0.1**
URZ	**Urewera**	**9.41**	**207**	Sn	**Sn**		**03 42 42.2**	**-0.9**
	0.3nm,0.3s,baz=0.0,slow=20,SNR=1.2							
AS31	**Alice Springs**	**43.63**	**266**	P	**P**		**03 46 46.0**	**-0.6**
AS31				IAmb	IAmb		03 47 22.1	
	comp=Z,0.9nm,0.8s							
ASAR	**Alice Springs**	**43.63**	**266**	P	**P**		**03 46 48.7**	**+2.2**
	comp=Z,0.4nm,0.6s,baz=101,slow=7.5,SNR=5.3							
WB2	**Warramunga Arr**	**44.58**	**271**	P	**P**		**03 46 54.4**	**+0.2**
WB2				IAmb	IAmb		03 46 56.2	
	comp=Z,27nm,1.9s							
WRA	**Warramunga Arr**	**44.59**	**271**	P	**P**		**03 46 55.1**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=112,slow=7.4,SNR=10							
PETK	**Petropavlovsk-**	**85.54**	**345**	P	**P**		**03 51 20.0**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=106,slow=9.2,SNR=2.6							
NVAR	**Mina Array Bea**	**87.60**	**42**	P	**P**		**03 51 29.7**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=202,slow=6.8,SNR=4.7							
FINES	**FINESS Array B**	**144.93**	**341**	PKP		**PKPab**	**03 58 17.2**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=64,slow=4.4,SNR=7.7							
AKASG	**Malin Array Be**	**151.27**	**324**	PKPbc	**PKiKP**		**03 58 35.9**	**+0.4**
	comp=Z,0.1nm,0.2s,baz=53,slow=1.9,SNR=1.4							
AKASG				PKPab	**PKPab**		**03 58 42.8**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=45,slow=3.5,SNR=8.6							
TORD	**Torodi Ar. Bea**	**163.22**	**177**	PKPab	**PKPab**		**03 59 35.5**	**+0.3**
	comp=Z,0.7nm,1.1s,baz=177,slow=5.8,SNR=2.3							

TEH 24 03:56:55.9,32°70N×47°74E,h12km,ML3.0,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.39**	**268**	*e*Sg	Sb	03 57 10.6	-0.1
DHL1				*e*Pg	Pg	03 57 03.5	-0.2
IKFM	**Kafar-mosalman**	**0.83**	**6**	*e*Pg	Pb	03 57 12.2	0.0
IKFM				*e*		03 57 17.2	
IKMR	**Kamar-syah**	**0.98**	**33**	*e*Pg	Pg	03 57 14.5	-0.2
IDOB	**Doab**	**1.15**	**18**	*e*Pg	Pg	03 57 19.2	+1.2
BMDN	**Meydan**	**1.33**	**43**	*e*Pg	Pg	03 57 21.8	+0.3
BMDN				*e*		03 57 46.9	
IKOM	**Komasi**	**1.48**	**353**	*e*Pg	Pg	03 57 25.2	+0.7
IKOM				*e*		03 57 52.0	
KCHF	**Cheshme Sefid,**	**1.68**	**340**	*e*Pg	Pb	03 57 27.5	+0.6
KCHF				*e*		03 57 30.3	
IBZA	**Bozab**	**1.77**	**3**	*e*Pg	Pb	03 57 29.1	+0.6
IBZA				*e*		03 58 00.9	
IGHG	**Ghaleghazi**	**1.90**	**329**	*e*Pg	Pb	03 57 30.8	+0.1
IGHG				*e*		03 58 08.2	
IVIS	**Veis**	**1.97**	**338**	*e*Pn	Pb	03 57 31.4	-0.4
IVIS				*e*		04 05 46.9	
IDHR	**Dehrash**	**2.29**	**331**	*e*Pn	Pb	03 57 35.9	-1.5
IDHR				*e*		03 58 15.7	
JHBN	**Jahan bin**	**2.51**	**100**	*e*Pn	Pn	03 57 38.2	+1.3
JHBN				*e*		03 58 26.6	
IPIR	**Pirpir**	**2.66**	**89**	*e*Pn	Pn	03 57 40.6	+1.8
IPIR				*e*		03 58 33.2	
ROKH	**ROKH**	**2.80**	**96**	*e*Pn	Pn	03 57 42.2	+1.4
ROKH				*e*		03 58 29.9	
IRAZ	**Razeghan**	**3.25**	**33**	*e*Pn	Pn	03 57 49.8	+2.8
IKLH	**Kolahrood**	**3.28**	**78**	*e*Pn	Pn	03 57 49.6	+2.2
IKLH				*e*		03 58 50.2	
QABG	**Abgarm-Qazvin**	**3.37**	**26**	*e*Pn	Pn	03 57 51.1	+2.5
KLNJ	**Kolanjah**	**3.68**	**116**	*e*Pn	Pn	03 57 54.5	+1.5
KLNJ				*e*		03 59 12.6	
IZEF	**Zefreh**	**3.87**	**86**	*e*Pn	Pn	03 57 57.1	+1.6
QSDN	**Sirdan**	**3.98**	**17**	*e*Pn	Pn	03 57 59.9	+3.0
IDMV	**Damavand**	**4.57**	**50**	*e*Pn	Pn	03 58 06.7	+1.5

MDD ***24*** *03:58:10.0±1.9,36°67N×12°57W,h0km,mb3.6/9,Error ellipse: s-maj=16.3km s-min=14.2km az=45.0,PRXIMO*
INMG ***24*** *03:58:11.1±1.4,36°45N×12°94W,h10km,ML2.2,Error ellipse: s-maj=8.2km s-min=5.9km az=85.0*
ISC 24 03:58:09.3±3.7,36°8N±0°1×12°6W±0°2,h10km,n47, σ1s60/83,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PFVI	**Vila Bisbo**	**3.04**	**82**	P	**Pn**		**03 58 57.7**	**+0.2**
	3.1nm,0.1s,SNR=7.9							
PFVI				S	**Sn**		**03 59 33.0**	**-0.8**
	5.8nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**3.04**	**82**	*e*Pn	**Pn**		**03 58 57.7**	**+0.2**
PFVI				*e*Sn	**Sn**		**03 59 32.8**	**-1.1**
PFVI				A	A		03 59 42.3	
	7.2nm,0.5s							
PTEO	**Sao Teotonio**	**3.18**	**75**	P	**Pn**		**03 59 00.5**	**+1.0**
PTEO				S	**Sn**		**03 59 36.7**	**-0.8**
	3.1nm,0.7s							
PTEO	**Sao Teotonio**	**3.18**	**75**	*e*Pn	**Pn**		**03 59 00.5**	**+1.0**
PTEO				*e*Sn	**Sn**		**03 59 36.7**	**-0.8**
PTEO				A	A		03 59 55.4	
	6.2nm,0.7s							
MORF	**Marmelete**	**3.20**	**79**	P	**Pn**		**03 59 00.0**	**+0.3**
MORF				S	**Sn**		**03 59 36.4**	**-1.5**
	4.2nm,0.3s							
MORF	**Marmelete**	**3.20**	**79**	*e*Pn	**Pn**		**03 59 00.0**	**+0.3**
MORF				*e*Sn	**Sn**		**03 59 36.4**	**-1.5**
MORF				A	A		03 59 41.3	
	4.2nm,0.3s							
PMAFR	**Mafra**	**3.41**	**49**	P	**Pn**		**03 59 03.9**	**+1.4**
	2.3nm,0.1s,SNR=7.9							
PMAFR				S	**Sn**		**03 59 43.6**	**+0.6**
	7.8nm,0.1s,SNR=7.4							
PMAFR	**Mafra**	**3.41**	**49**	*e*Pn	**Pn**		**03 59 03.9**	**+1.4**
PMAFR				*e*Sn	**Sn**		**03 59 44.0**	**+1.0**
PMAFR				A	A		04 00 00.8	
	8.6nm,0.4s							
PNCL	**Nicolau / Gran**	**3.50**	**66**	P	**Pn**		**03 59 05.4**	**+1.6**
PNCL				S	**Sn**		**03 59 45.7**	**+0.5**
	2.3nm,0.7s							

PNCL	**Nicolau / Gran**	**3.50**	**66**	*e*Pn	**Pn**		**03 59 05.4**	**+1.6**
PNCL				*e*Sn	**Sn**		**03 59 45.7**	**+0.5**
PNCL				A	A		03 59 51.8	
	2.3nm,0.7s							
PBDV	**Barranco-do-Ve**	**3.76**	**81**	S	**Sn**		**03 59 52.5**	**+0.7**
	1.9nm,0.4s							
PBDV	**Barranco-do-Ve**	**3.76**	**81**	*e*Sn	**Sn**		**03 59 52.5**	**+0.7**
PBDV				A	A		03 59 57.6	
	1.9nm,0.4s							
PBEJ	**Beja**	**3.96**	**70**	S	**Sn**		**03 59 56.2**	**-0.6**
PBEJ	**Beja**	**3.96**	**70**	*e*Sn	**Sn**		**03 59 56.2**	**-0.6**
EVO	**Evora**	**4.04**	**63**	P	**Pn**		**03 59 12.7**	**+1.5**
EVO				S	**Sn**		**03 59 58.4**	**-0.1**
	3.6nm,0.3s							
EVO	**Evora**	**4.04**	**63**	*e*P	**Pn**		**03 59 13.3**	**+2.1**
EVO				*e*S	**Sn**		**03 59 57.4**	**-1.1**
EVO	**Evora**	**4.04**	**63**	*e*Pn	**Pn**		**03 59 12.7**	**+1.5**
EVO				*e*Sn	**Sn**		**03 59 58.4**	**-0.1**
EVO				A	A		04 00 02.3	
	3.6nm,0.3s							
PSBE	**So Bento**	**4.05**	**46**	*e*Pn	**Pn**		**03 59 13.2**	**+1.7**
PSBE				*e*Sn	**Sn**		**04 00 00.5**	**+1.5**
PSBE				A	A		04 00 14.6	
	2.5nm,0.8s							
EGRO	**El Granado**	**4.15**	**78**	P	**Pn**		**03 59 13.2**	**+0.5**
	0.4nm,0.1s,SNR=7.9							
EGRO				S	**Sn**		**04 00 00.9**	**-0.4**
	1.3nm,0.1s,SNR=7.9							
PCAS	**Casmilo, Conde**	**4.59**	**43**	P	**Pn**		**03 59 20.4**	**+1.6**
PCAS				S	**Sn**		**04 00 11.9**	**-0.2**
PCAS	**Casmilo, Conde**	**4.59**	**43**	*e*Pn	**Pn**		**03 59 20.4**	**+1.6**
PCAS				*e*Sn	**Sn**		**04 00 11.9**	**-0.2**
EMIN	**Mina Concepcio**	**4.83**	**76**	P	**Pn**		**03 59 22.6**	**+0.6**
	0.3nm,0.2s,SNR=7.9							
EMIN				S	**Sn**		**04 00 15.3**	**-2.6**
	0.6nm,0.1s,SNR=7.9							
PMRV	**Marv??o**	**4.88**	**56**	P	**Pn**		**03 59 23.7**	**+0.9**
PMRV				S	**Sn**		**04 00 18.1**	**-1.3**
	1.5nm,0.5s							
PMRV	**Marv??o**	**4.88**	**56**	*e*Pn	**Pn**		**03 59 23.7**	**+0.9**
PMRV				*e*Sn	**Sn**		**04 00 18.1**	**-1.3**
PMRV				A	A		04 00 29.2	
	1.5nm,0.5s							
PCBR	**Castelo Branco**	**5.05**	**51**	P	**Pn**		**03 59 26.6**	**+1.4**
PCBR				S	**Sn**		**04 00 23.9**	**+0.3**
PCBR	**Castelo Branco**	**5.05**	**51**	*e*Pn	**Pn**		**03 59 26.6**	**+1.4**
PCBR				*e*Sn	**Sn**		**04 00 23.9**	**+0.3**
MTE	**Manteigas**	**5.36**	**46**	S	**Sn**		**04 00 31.4**	**+0.2**
MTE	**Manteigas**	**5.36**	**46**	*e*Sn	**Sn**		**04 00 31.4**	**+0.2**
PVIS	**Viseu**	**5.38**	**42**	P	**Pn**		**03 59 30.9**	**+1.2**
PVIS				S	**Sn**		**04 00 30.6**	**-1.1**
	1.4nm,0.6s							
PVIS	**Viseu**	**5.38**	**42**	*e*Pn	**Pn**		**03 59 30.9**	**+1.2**
PVIS				*e*Sn	**Sn**		**04 00 30.6**	**-1.1**
PVIS				A	A		04 00 32.7	
	2.7nm,0.6s							
ECAB	**El Cabril**	**5.86**	**75**	P	**Pn**		**03 59 36.8**	**+0.6**
	0.2nm,0.1s,SNR=7.9							
ECAB				S	**Sn**		**04 00 41.3**	**-2.1**
	0.4nm,0.1s,SNR=7.9							
PVRL	**Vila Real**	**5.88**	**39**	S	**Sn**		**04 00 43.5**	**-0.6**
PVRL	**Vila Real**	**5.88**	**39**	*e*Sn	**Sn**		**04 00 43.5**	**-0.6**
PCAB	**Cabril**	**6.07**	**34**	P	**Pn**		**03 59 41.3**	**+2.2**
PCAB				S	**Sn**		**04 00 47.8**	**-0.8**
PCAB	**Cabril**	**6.07**	**34**	*e*Pn	**Pn**		**03 59 41.3**	**+2.2**
PCAB				*e*Sn	**Sn**		**04 00 47.8**	**-0.8**
EPLA	**Plasencia**	**6.08**	**55**	P	**Pn**		**03 59 40.4**	**+1.1**
	0.8nm,0.2s,SNR=5.9							
EPLA				S	**Sn**		**04 00 47.1**	**-1.8**
	0.2nm,0.1s,SNR=7.9						

KLNJ				*e*			04 07 01.9	
QSDN	**Sirdan**	**3.96**	**20**	*e*Pn		**Pn**	**04 05 45.1**	**+2.1**
IZEF	**Zefreh**	**4.06**	**87**	*e*Pn		**Pn**	**04 05 45.1**	**+0.6**
IDMV	**Damavand**	**4.67**	**52**	*e*Pn		**Pn**	**04 05 52.6**	**-0.3**
IFIR	**Firoozkooh**	**5.20**	**55**	*e*Pn		**Pn**	**04 06 00.4**	**+0.3**
ANAR	**Anarak**	**5.25**	**84**	*e*Pn		**Pn**	**04 06 00.2**	**-0.5**
IALA	**Alasht**	**5.48**	**52**	*e*Pn		**Pn**	**04 06 05.8**	**+1.8**
ISHM	**Shahmirzad**	**5.66**	**56**	*e*Pn		**Pn**	**04 06 06.7**	**+0.2**
IANJ	**Anjilo**	**5.95**	**62**	*e*Pn		**Pn**	**04 06 10.1**	**-0.4**
MKAR	**Makanchi Array**	**29.90**	**52**	P		**P**	**04 10 48.7**	**-1.1**
	comp=N,0.4nm,0.6s,baz=242,slow=9.7,SNR=4.3							
MKAR				LR		LR	04 23 49.8	
	comp=N,36nm,19.7s,baz=202,slow=39							
FINES	**FINESS Array B**	**31.85**	**341**	P		**P**	**04 11 07.0**	**+0.2**
	comp=N,2.1nm,0.9s,baz=133,slow=8.2,SNR=2.0							
ZALV	**Zalesovo Beam**	**33.83**	**40**	P		**P**	**04 11 23.1**	**-1.0**
	comp=N,0.6nm,0.3s,baz=243,slow=9.5,SNR=2.3							
TORD	**Torodi Ar. Bea**	**46.07**	**256**	P		**P**	**04 13 06.8**	**+0.6**
	comp=N,0.1nm,0.7s,baz=64,slow=6.6,SNR=1.4							

*IDC **24** 04:10:06.1±1.8, 13°.70N×92°.06W, h0km, mb3.6/6, mb1 3.9/10, mb1mx3.6/44, mbtmp3.7/10, ML3.6/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/34, Error ellipse: s-maj=46.0km s-min=22.6km az=34.0*

*GCG **24** 04:10:07.7±0.9, 13°.50N×91°.91W, h0km±28km, MD4.1*

*NEIC **24** 04:10:10.6±1.7, 13°.89N±0°.04×92°.03W±0°.05, h26km±6km, mb4.0/8, Md3.9/13(MEX), Error ellipse: s-maj=7.9km s-min=5.3km az=69.0*

*SNET **24** 04:10:12.0±1.4, 13°.82N×91°.82W, h15km±770km, ML3.3*

*UCR **24** 04:10:12.2±1.4, 13°.85N×91°.85W, h20km±833km, ML3.2, mb4.0(NEIC)*

ISC 24 04:10:09.1±2.0, 13°.93N±0°.07×92°.06W±0°.06, h15km±11km, n65, σ1s34/74, mb3.8/7, 2C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.69**	**31**		**Pn**	**04 10 25.4**	**+1.1**
THIG		**0.99**	**349**		**Pn**	**04 10 28.8**	**+0.3**
THIG					**Sn**	**04 10 43.0**	**+0.8**
FUG	**Fuego 3**	**1.29**	**66**	*e*P	**Pg**	**04 10 33.9**	**-0.2**
FUG				*e*S	**Sg**	**04 10 53.4**	**+2.5**
HUEH	**Huehuetenango**	**1.49**	**21**	Pn	**Pg**	**04 10 36.9**	**-0.9**
PCG	**Pacaya**	**1.49**	**72**	*e*P	**Pg**	**04 10 37.1**	**-0.6**
PCG				*e*S	**Sg**	**04 10 59.5**	**+2.4**
IXG	**Ixpaco**	**1.59**	**81**	*e*P	**Pn**	**04 10 37.1**	**+0.2**
NBG	**Las Nubes**	**1.79**	**68**	*e*P	**Pg**	**04 10 42.4**	**-1.2**
PCIG		**2.09**	**328**		**Pn**	**04 10 43.3**	**-0.2**
PCIG					**Sn**	**04 11 09.4**	**+0.1**
NUBE	**Las Nubes**	**2.22**	**90**	*e*P	**Pn**	**04 10 44.4**	**-1.0**
NUBE				*e*S	**Sn**	**04 11 10.3**	**-2.4**
NUBE				IAML		04 11 19.5	
	comp=Z,131nm,0.5s						
NUBE	**Las Nubes**	**2.22**	**90**	*e*P	**Pn**	**04 10 44.4**	**-1.0**
NUBE				*e*S	**Sn**	**04 11 10.3**	**-2.4**
NUBE				IAML		04 11 19.5	
	comp=Z,131nm,0.5s						
CCIG	**Comitan**	**2.34**	**358**		**Pb**	**04 10 51.2**	**+0.1**
CCIG					**Sg**	**04 11 21.5**	**-3.0**
RTR	**El Retiro**	**2.35**	**90**	*e*P	**Pn**	**04 10 47.9**	**+0.6**
RTR	**El Retiro**	**2.35**	**90**	*e*P	**Pn**	**04 10 47.9**	**+0.6**
CEVE	**Cerro Verde**	**2.37**	**92**	*e*P	**Pn**	**04 10 47.0**	**-0.7**
CEVE				IAML		04 11 26.8	
	comp=Z,732nm,0.6s						
CEVE	**Cerro Verde**	**2.37**	**92**	*e*P	**Pn**	**04 10 47.0**	**-0.7**
CEVE				IAML		04 11 26.8	
	comp=Z,732nm,0.6s						
SBLS	**San Blas**	**2.37**	**92**	*e*P	**Pn**	**04 10 47.8**	**+0.2**
SBLS	**San Blas**	**2.37**	**92**	*e*P	**Pn**	**04 10 47.8**	**+0.2**
SNJE	**San Jose**	**2.39**	**91**	*e*P	**Pn**	**04 10 47.5**	**-0.4**
SNJE	**San Jose**	**2.39**	**91**	*e*P	**Pn**	**04 10 47.5**	**-0.4**
UNIC	**Universidad Ca**	**2.44**	**88**	*e*P	**Pn**	**04 10 48.8**	**+0.3**
UNIC	**Universidad Ca**	**2.44**	**88**	*e*P	**Pn**	**04 10 48.8**	**+0.3**
TACO	**Tacachico**	**2.63**	**89⇑**	*e*P	**Pn**	**04 10 50.9**	**-0.1**
TACO				*e*S	**Sn**	**04 11 21.4**	**-1.3**
TACO				IAML		04 11 33.4	
	comp=Z,68nm,0.6s						
TACO	**Tacachico**	**2.63**	**89⇑**	*e*P	**Pn**	**04 10 50.9**	**-0.1**
TACO				*e*S	**Sn**	**04 11 21.4**	**-1.3**
TACO				IAML		04 11 33.4	
	comp=Z,68nm,0.6s						
MTO3	**Montecristo**	**2.66**	**80**	*e*P	**Pn**	**04 10 51.8**	**+0.1**
MTO3	**Montecristo**	**2.66**	**80**	*e*P	**Pn**	**04 10 51.8**	**+0.1**
MTO3	**Montecristo**	**2.66**	**80**	Pn	**Pn**	**04 10 51.2**	**-0.5**
ESQI	**Esquipulas**	**2.71**	**76**	Pn	**Pn**	**04 10 52.4**	**+0.2**
SNET	**Serv Nac Est T**	**2.76**	**95**	Pn	**Pn**	**04 10 52.2**	**-0.6**
LFRS	**El Faro**	**2.93**	**96**	*e*P	**Pn**	**04 10 54.3**	**-1.0**
LFRS	**El Faro**	**2.93**	**96**	*e*P	**Pn**	**04 10 54.3**	**-1.0**
PAVA	**Las Pavas**	**3.04**	**94**	*e*P	**Pn**	**04 10 56.9**	**+0.1**
PAVA	**Las Pavas**	**3.04**	**94**	*e*P	**Pn**	**04 10 56.9**	**+0.1**
TECA	**Tecapa**	**3.49**	**97**	*e*P	**Pn**	**04 11 03.4**	**+0.4**
TECA	**Tecapa**	**3.49**	**97**	*e*P	**Pn**	**04 11 03.4**	**+0.4**
PETF	**Flores**	**3.65**	**31**	Pn	**Pn**	**04 11 05.3**	**+0.3**
LCND	**La Caada**	**4.10**	**98**	*e*P	**Pn**	**04 11 11.4**	**+0.1**
LCND	**La Caada**	**4.10**	**98**	*e*P	**Pn**	**04 11 11.4**	**+0.1**
CMIG	**Matias Romero**	**4.16**	**320**	Pn	**Pn**	**04 11 12.5**	**+0.5**
	comp=Z,1.6nm,0.3s,baz=149,slow=12,SNR=27						
CMIG				Sn	**Sb**	**04 12 06.0**	**-6.0**
	comp=Z,7.9nm,0.3s,baz=68,slow=21,SNR=6.7						
CMIG	**Matias Romero**	**4.16**	**320**		**Pn**	**04 11 12.6**	**+0.6**
CNCH	**Conchagua**	**4.16**	**98**	*e*P	**Pn**	**04 11 11.9**	**-0.3**
CNCH	**Conchagua**	**4.16**	**98**	*e*P	**Pn**	**04 11 11.9**	**-0.3**
TGUH	**Tegucigalpa,Un**	**4.65**	**88**		**Pn**	**04 11 19.0**	**+0.1**
ESTN	**Estel**	**5.60**	**98**	Pn	**Pn**	**04 11 32.2**	**+0.3**
MATN	**Matagalpa**	**6.05**	**99**		**Pn**	**04 11 37.9**	**-0.3**
TLIG	**Tlapa**	**7.23**	**301**	Pn	**Pn**	**04 11 54.0**	**-0.4**
TEIG	**Tepich**	**7.24**	**30**	Pn	**Pn**	**04 11 56.9**	**+2.6**
	comp=Z,8.5nm,0.3s,baz=208,slow=1.3,SNR=59						
TEIG				Sn	**Sn**	**04 13 13.7**	**-2.5**
	baz=20,slow=22,SNR=1.0						
TEIG	**Tepich**	**7.24**	**30**		**Pn**	**04 11 55.1**	**+0.8**
ESPN	**Las Esperanzas**	**7.76**	**102**	Pn	**Pn**	**04 12 01.4**	**-0.1**
JTS	**Las Juntas de**	**7.84**	**117**	Pn	**Pn**	**04 12 00.7**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=304,slow=17,SNR=1.9						
JTS				Sn	**Sn**	**04 13 28.7**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=24,slow=18,SNR=0.9						
JTS				Lg	Lg	04 14 06.9	
	comp=Z,0.1nm,0.3s,baz=236,slow=19,SNR=2.8						
TXAR	**Lajitas Array**	**18.72**	**327**	P	**Pn**	**04 14 30.0**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=134,slow=13,SNR=11						
TX31	**Lajitas Ar. Si**	**18.72**	**327**	P	**Pn**	**04 14 28.9**	**+1.2**
TX31				IAmb	IAmb	04 14 35.3	
	comp=Z,6.9nm,1.1s						
TX32	**Lajitas Array**	**18.72**	**327**	P	**Pn**	**04 14 29.2**	**+1.4**
WLAR	**White Oak Lake**	**19.70**	**357**	P	**Pn**	**04 14 38.1**	**-1.1**
WLAR				IAmb	IAmb	04 14 42.9	
	comp=Z,9.5nm,1.0s						
MNTX	**Cornudas Mount**	**21.49**	**328**	P	**P**	**04 14 57.5**	**+0.2**
WMOK	**Wichita Mounta**	**21.59**	**345**	P	**P**	**04 14 59.4**	**+1.0**
WMOK				IAmb	IAmb	04 15 13.5	
	comp=Z,4.9nm,1.1s						
TKL	**Tuckaleechee C**	**22.89**	**18**	P	**P**	**04 15 13.3**	**+1.1**
	comp=Z,2.0nm,1.0s,baz=217,slow=9.1,SNR=4.1						
TKL	**Tuckaleechee C**	**22.89**	**18**	IAmb	IAmb	04 15 34.0	
	comp=Z,30nm,2.0s						
PDAR	**Pinedale Array**	**32.46**	**336**	P	**P**	**04 16 40.1**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=164,slow=10,SNR=1.8						
NVAR	**Mina Array Bea**	**33.69**	**321**	P	**P**	**04 16 51.3**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=129,slow=8.7,SNR=5.9						
YKA	**Yellowknife Ar**	**51.08**	**347**	LR	LR	04 43 16.9	
	comp=Z,36nm,18.9s,baz=0.0,slow=39						
DLBC	**Dease Lake**	**52.69**	**336**	P	**P**	**04 19 24.4**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=219,slow=3.6,SNR=4.1						
DLBC	**Dease Lake**	**52.69**	**336**	IAmb	IAmb	04 19 25.9	
	comp=Z,2.2nm,0.9s						
INK	**Inuvik**	**60.49**	**344**	P	**P**	**04 20 18.0**	**0.0**
	comp=Z,1.1nm,0.7s,baz=162,slow=3.2,SNR=4.8						
ILAR	**Eielson Array**	**62.88**	**337**	P	**P**	**04 20 34.2**	**0.0**
	comp=Z,0.6nm,0.9s,baz=132,slow=5.8,SNR=5.7						
CMAR	**Chiang Mai Arr**	**146.04**	**341**	PKPbc	**PKPdf**	**04 29 49.0**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=340,slow=4.1,SNR=7.8						

*NEIC **24** 04:17:08.0±0.8, 5°.8N±0°.1×126°.9E±0°.2, h149km±3km, mb4.1/6, Error ellipse: s-maj=27.3km s-min=13.8km az=61.0*

*IDC **24** 04:17:11.4±7.0, 5°.74N×127°.04E, h181km±69km, mb3.4/11, mb1 3.5/11, mb1mx3.3/42, mbtmp3.9/11, Error ellipse: s-maj=31.3km s-min=13.9km az=86.0*

ISC 24 04:17:07.8±0.7, 5°.79N±0°.09×126°.9E±0°.1, h150km, n24, σ1s78/27, mb3.9/15, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.20**	**285**	*e*P	**Pn**	**04 17 31.5**	**-2.8**
DDMP				*e*S	**Sn**	**04 17 51.1**	**-3.6**
MATI	**Mati**	**1.30**	**332**	*e*P	**Pn**	**04 17 31.5**	**-3.9**
MATI				*e*S	**Sn**	**04 17 51.4**	**-5.1**
DAV	**Davao City (W)**	**1.81**	**315**	S	**Sn**	**04 18 07.8**	**+1.6**
	31nm,0.3s,baz=294,slow=23,SNR=7.6						
DAV	**Davao City (W)**	**1.81**	**315**	Pn	**Pn**	**04 17 40.7**	**-0.1**
KCP	**Kidapawan**	**2.15**	**304⇑**	*i*P	**Pn**	**04 17 44.9**	**+0.1**
KCP				*i* S	**Sn**	**04 18 13.5**	**+0.3**
BUKP	**Musuan**	**2.75**	**319**	*e*P	**Pn**	**04 17 51.0**	**-1.1**
BUKP				*e*S	**Sn**	**04 18 25.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**23.77**	**183**	P	**P**	**04 22 07.2**	**+0.5**
	2.4nm,0.7s,baz=359,slow=8.6,SNR=8.1						
JCJ	**Chichijima**	**25.72**	**33**	P	**P**	**04 22 24.4**	**0.0**
	13nm,0.4s,baz=326,slow=22,SNR=5.7						
WRA	**Warramunga Arr**	**26.60**	**164**	P	**P**	**04 22 32.4**	**+0.1**
	0.6nm,0.4s,baz=345,slow=10,SNR=8.3						
ASAR	**Alice Springs**	**30.07**	**167**	P	**P**	**04 23 02.9**	**-0.2**
	0.2nm,0.4s,baz=342,slow=7.1,SNR=8.5						
STKA	**Stephens Creek**	**40.00**	**160**	P	**P**	**04 24 28.1**	**+0.2**
	1.2nm,0.5s,baz=335,slow=8.7,SNR=3.6						
STKA	**Stephens Creek**	**40.00**	**160**	IAmb	IAmb	04 24 29.4	
	comp=Z,5.5nm,1.9s						
SONM	**Songino Array**	**45.41**	**341**	P	**P**	**04 25 13.1**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=163,slow=10,SNR=2.8						
PETK	**Petropavlovsk-**	**53.48**	**23**	P	**P**	**04 26 13.8**	**+1.3**
	comp=Z,2.1nm,0.8s,baz=204,slow=9.4,SNR=4.0						
MK31	**Makanchi Array**	**55.97**	**324**	P	**P**	**04 26 31.3**	**+0.8**
MKAR	**Makanchi Array**	**55.97**	**324**	P	**P**	**04 26 31.9**	**+1.3**
	comp=Z,1.3nm,0.5s,baz=122,slow=8.1,SNR=18						
MAKZ	**Makanchi**	**56.16**	**324**	P	**P**	**04 26 32.7**	**+0.8**
MAKZ				IAmb	IAmb	04 26 50.3	
	comp=Z,1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**58.84**	**332**	P	**P**	**04 26 51.3**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=108,slow=6.4,SNR=3.1						
KURK	**Kurchatov**	**60.10**	**327**	P	**P**	**04 26 59.3**	**+0.1**
KURK				IAmb	IAmb	04 27 01.5	
	comp=Z,2.1nm,0.7s						
IL31		**83.19**	**26**	P	**P**	**04 29 16.4**	**-0.5**
IL31				IAmb	IAmb	04 30 30.6	
	comp=Z,8.8nm,1.9s						
ILAR	**Eielson Array**	**83.19**	**26**	P	**P**	**04 29 16.3**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=244,slow=5.1,SNR=4.6						
ARCES	**ARCESS Array B**	**88.58**	**340**	P	**P**	**04 29 43.6**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=81,slow=6.2,SNR=8.6						
FINES	**FINESS Array B**	**90.10**	**332**	P	**P**	**04 29 50.9**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=126,slow=2.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**122.40**	**289**	PKP	**PKPdf**	**04 35 46.6**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=70,slow=2.4,SNR=4.6						

IDC 24 04:19:25.8±1.5, 12°.29S×165°.31E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/36, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=50.1km s-min=31.4km az=123.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.79**	**174**	Pn	Pn	04 21 48.3	+0.3
	0.4nm,0.3s,baz=132,slow=18,SNR=7.6						
DZM				Sn	Sn	04 23 22.8	-16
	0.1nm,0.3s,baz=308,slow=15,SNR=2.3						
WRA	**Warramunga Arr**	**30.67**	**252**	P	P	04 25 42.3	-0.1
	0.3nm,0.6s,baz=83,slow=7.6,SNR=1.5						
ASAR	**Alice Springs**	**31.86**	**245**	P	P	04 25 52.2	-0.7
	0.5nm,0.8s,baz=74,slow=9.8,SNR=4.7						
ILAR	**Eielson Array**	**84.82**	**19**	P	P	04 32 00.8	-1.0
	0.4nm,0.7s,baz=228,slow=5.6,SNR=5.2						
MKAR	**Makanchi Array**	**94.13**	**317**	P	P	04 32 47.3	+0.8
	0.4nm,0.6s,baz=89,slow=6.2,SNR=5.0						
ARCES	**ARCESS Array B**	**117.42**	**345**	PKP	PKiKP	04 38 13.8	+0.8
	1.5nm,1.1s,baz=53,slow=3.5,SNR=3.8						

*BJI **24** 04:29:23.4±0.0, 7°.44S×129°.74E, h162km, mB4.6/12, mb4.6/21*

*DJA **24** 04:29:27.7±0.2, 7°.5S×13°.0E±°, h178km±3km, M4.7/30, mb4.8/30, mB5.2/18, MLv5.2/17, Mw(mB)4.6/18*

*IDC **24** 04:29:28.6±1.4, 6°.81S×129°.65E, h159km±12km, mb4.0/17, mb1 4.0/20, mb1mx4.0/32, mbtmp4.5/20, Error ellipse: s-maj=15.2km s-min=10.1km az=82.0*

*NEIC **24** 04:29:28.7±2.3, 6°.82S±0°.04×129°.66E±0°.07, h166km±5km, mb4.5/32, Error ellipse: s-maj=10.8km s-min=5.3km az=78.0*

ISC 24 04:29:27.2±0.3, 6°.94S±0°.04×129°.64E±0°.05, h150km, n129, σ1s72/139, mb4.4/32, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.94**	**122**	P	**Pn**	**04 30 04.6**	**+3.0**
SAUI				S	**Sn**	**04 30 29.5**	**+1.4**
SAUI	**Saumlaki**	**1.94**	**122**	Pn	**Pn**	**04 30 05.0**	**+3.3**
BNDI	**Bandanaira**	**2.42**	**6**	P	**Pn**	**04 30 10.7**	**+3.3**
MSAI	**Masohi**	**3.64**	**349**	P	**Pn**	**04 30 26.3**	**+3.4**
MSAI				S	**Sn**	**04 31 10.9**	**+4.8**
NLAI	**Namlea**	**4.47**	**325**	P	**Pn**	**04 30 36.7**	**+3.1**
FAKI	**Fak Fak**	**4.77**	**33**	P	**Pn**	**04 30 36.9**	**-0.7**
FAKI	**Fak Fak**	**4.77**	**33**	Pn	**Pn**	**04 30 36.6**	**-1.0**
KMPI	**Kaimana, Papua**	**5.19**	**51**	P	**Pn**	**04 30 44.6**	**+1.4**
	13nm32µm895nm,0.6s						
SOEI	**Soe**	**6.01**	**242**	P	**Pn**	**04 30 56.2**	**+2.0**
	3.1nm6µm550nm,0.8s						
SOEI	**Soe**	**6.01**	**242**	Pn	**Pn**	**04 30 55.8**	**+1.6**
MTN	**Manton Dam**	**6.04**	**166**	Pn	**Pn**	**04 30 55.8**	**+1.3**
SANI	**Sanana**	**6.08**	**323**	P	**Pn**	**04 30 57.5**	**+2.5**
	0.3nm947nm79nm,0.7s						
SIJI	**Soronq**	**6.25**	**15**	P	**Pn**	**04 30 56.3**	**-0.9**
	21nm,0.3s,baz=109,slow=23,SNR=35						
SIJI				S	**Sn**	**04 32 02.9**	**-4.9**
	18nm,0.3s,baz=28,slow=23,SNR=15						
LBMI	**Labuha**	**6.62**	**341**	P	**Pn**	**04 31 03.9**	**+1.7**
	0.8nm185nm,0.8s						
BATI	**Baumata**	**6.74**	**241**	P	**Pn**	**04 31 05.6**	**+1.7**
	159nm,0.3s,baz=125,slow=3.8,SNR=57						
BATI				S	**Sn**	**04 32 17.4**	**-2.3**
	72nm,0.3s,baz=124,slow=22,SNR=17						
BATI	**Baumata**	**6.74**	**241**	P	**Pn**	**04 31 05.6**	**+1.7**
	1.5nm4µm322nm,0.5s						
RKPI	**Ransiki, Papua**	**7.04**	**40**	P	**Pn**	**04 31 07.4**	**-0.4**
	5.7nm15µm983nm,0.4s						
MMRI	**Maumere**	**7.53**	**257**	P	**Pn**	**04 31 16.0**	**+1.6**
	0.8nm10µm111nm,1.8s						
EDFI	**Ende, Flores**	**8.08**	**257**	P	**Pn**	**04 31 24.5**	**+2.7**
	20nm,0.6s						
KNRA	**Kununurra**	**8.72**	**186**	Pn	**Pn**	**04 31 29.8**	**-0.4**
BASI	**Baing, Sumba**	**9.54**	**249**	P	**Pn**	**04 31 40.7**	**-0.4**
SPSI	**Sidrap Palu**	**10.27**	**286**	P	**Pn**	**04 31 53.5**	**+2.7**
SMPI	**Sarmi**	**10.29**	**62**	P	**Pn**	**04 31 49.8**	**-1.3**
	37nm,1.1s						
WBSI	**Waikabubak, Su**	**10.49**	**255**	P	**Pn**	**04 31 54.1**	**+0.3**
	72nm,0.7s						
MMPI	**Merauke**	**10.75**	**99**	P	**Pn**	**04 31 54.2**	**-3.0**
	287nm,0.8s						
FITZ	**Fitzroy Crossi**	**11.75**	**199**	P	**Pn**	**04 32 08.8**	**-1.5**
	4.8nm,0.3s,baz=29,slow=10,SNR=59						
FITZ				S	Sn	04 34 11.6	-8.7
	13nm,0.3s,baz=78,slow=7.5,SNR=10						
FITZ	**Fitzroy Crossi**	**11.75**	**199**	Pn	Pn	04 32 08.4	-1.9
JAY	**Jayapura**	**11.87**	**69**	P	**Pn**	**04 32 11.6**	**-0.3**
	0.3nm,0.3s,baz=234,slow=8.7,SNR=2.5						
JAY				S	**Sn**	**04 34 20.8**	**-2.4**
	0.9nm,0.3s,baz=116,slow=22,SNR=2.1						
JAY	**Jayapura**	**11.87**	**69**	P	**Pn**	**04 32 10.1**	**-1.8**
	8.1nm,0.9s						
PLAI	**Plampang**	**11.90**	**260**	P	**Pn**	**04 32 12.3**	**0.0**
	46nm,0.7s						
TWSI	**Taliwang, Sumb**	**12.77**	**261**	P	**Pn**	**04 32 23.6**	**+0.1**
	21nm,1.3s						
WB0	**Warramunga Arr**	**13.56**	**161**	Pn	**Pn**	**04 32 32.4**	**-1.2**
WRAB	**Tennant Creek**	**13.70**	**161**	Pn	**Pn**	**04 32 35.0**	**-0.3**
WRA	**Warramunga Arr**	**13.70**	**161**	P	**Pn**	**04 32 33.6**	**-1.8**
	2.7nm,0.3s,baz=346,slow=13,SNR=44						
WRA				S	Sn	04 34 57.8	-9.4
	7.6nm,0.3s,baz=342,slow=22,SNR=13						
WB2	**Warramunga Arr**	**13.71**	**161**	Pn	**Pn**	**04 32 34.0**	**-1.4**
WR0	**Warramunga Arr**	**13.78**	**160**	Pn	**Pn**	**04 32 35.0**	**-1.5**
SMKI	**Samarinda**	**13.98**	**297**	P	**Pn**	**04 32 39.5**	**+0.5**
	131nm,0.6s						
COEN	**Coen**	**15.02**	**119**	Pn	**Pn**	**04 32 51.6**	**-0.4**
BBKI	**Banjar Baru**	**15.14**	**282**	P	**Pn**	**04 32 54.2**	**+0.7**
	3µm171nm,0.7s						
MTKI	**Muara Teweh, K**	**15.87**	**291**	P	**Pn**	**04 33 03.8**	**+1.3**
MYLDM	**Lahad Datu**	**16.39**	**317**		**P**	**04 33 10.2**	**+1.3**

AS31	**Alice Springs**	**17.12**	**167**	P		**P**	**04 33 17.4**	**+0.5**
ASAR	**Alice Springs**	**17.12**	**167**	P		**P**	**04 33 18.7**	**+1.8**
	1.5nm,0.3s,baz=346,slow=11,SNR=132							
ASAR				S		**S**	**04 36 22.0**	**-5.9**
	3.3nm,0.3s,baz=352,slow=26,SNR=8.9							
ASAR				ScP		**ScP**	**04 41 12.8**	**-1.7**
	0.6nm,0.3s,baz=3.1,slow=1.7,SNR=6.4							
SPMM	**Sapulut**	**17.52**	**311**	P		**Pn**	**04 33 26.0**	**+3.5**
WOJI	**Wonogiri, Jawa**	**18.59**	**266**	P		**P**	**04 33 35.0**	**+2.0**
KKM	**Kota Kinabalu**	**18.60**	**314**	P		**P**	**04 33 32.8**	**-0.5**
SBUM	**Sibu**	**19.74**	**298**	P		**P**	**04 33 47.4**	**+1.9**
SBUM	**Sibu**	**19.74**	**298**	P		**Pn**	**04 33 49.0**	**+0.5**
CTA	**Charters Tower**	**20.75**	**131**	P		**P**	**04 33 57.6**	**+1.4**
	3.1nm,0.7s,baz=305,slow=12,SNR=2.3							
CTA				S		**S**	**04 37 45.9**	**+6.1**
	4.9nm,0.8s,baz=219,slow=22,SNR=2.4							
KSM	**Kuching**	**21.03**	**293**	P		**P**	**04 33 58.8**	**-0.5**
KSM				IAmb		IAmb	04 34 02.2	
	comp=Z,20nm,0.8s							
KSM	**Kuching**	**21.03**	**293**	P		**P**	**04 34 00.0**	**+0.7**
CISI	**Cisompet, Garu**	**21.66**	**267**	P		**P**	**04 34 05.3**	**-0.9**
CISI	**Cisompet, Garu**	**21.66**	**267**	P		**P**	**04 34 05.5**	**-0.7**
LEM	**Lembang**	**21.87**	**269**	P		**P**	**04 34 09.1**	**+0.6**
	comp=Z,45nm,0.6s,baz=194,slow=23,SNR=8.0							
CNJI	**Cibinong**	**22.34**	**268**	P		**P**	**04 34 12.2**	**-0.8**
	comp=Z,153nm,1.1s							
FORT	**Forrest**	**23.76**	**183**	P		**P**	**04 34 24.7**	**-1.2**
MYKOM	**Kota Tinggi**	**27.16**	**288**	P		**P**	**04 34 56.6**	**-0.2**
STKA	**Stephens Creek**	**27.20**	**157**	P		**P**	**04 34 58.4**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=357,slow=9.1,SNR=5.5							
SDSI	**Sungai Dareh**	**28.76**	**281**	P		**P**	**04 35 09.7**	**-1.3**
	comp=Z,13nm,1.5s							
IPM	**Ipoh**	**30.74**	**291**	P		**P**	**04 35 26.4**	**-2.1**
IPM				IAmb		IAmb	04 35 31.0	
	comp=Z,8.6nm,0.7s							
IPM	**Ipoh**	**30.74**	**291**	P		**P**	**04 35 30.0**	**+1.5**
KULM	**Kulim**	**31.38**	**292**	P		**P**	**04 35 33.0**	**-1.2**
RPSI	**Rantau Prapat**	**32.12**	**286**	P		**P**	**04 35 39.2**	**-1.5**
JCJ	**Chichijima**	**35.95**	**19**	P		**P**	**04 36 11.5**	**-2.0**
	comp=Z,15nm,0.5s,baz=297,slow=23,SNR=4.6							
CMAR	**Chiang Mai Arr**	**39.42**	**310**	P		**P**	**04 36 42.7**	**-0.1**
	comp=Z,8.2nm,0.6s,baz=136,slow=7.2,SNR=46							
CMAR				ScP		**ScP**	**04 42 22.7**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=144,slow=3.4,SNR=4.6							
NJ2	**Nanjing**	**40.12**	**346**	*e*P		**P**	**04 36 49.3**	**+1.0**
NJ2				pmax		pmax		
	comp=Z,3.0nm,0.5s							
KMI	**Kunming**	**41.25**	**322**	⇑P		**P**	**04 37 00.0**	**+2.0**
KMI				pmax		pmax		
	comp=Z,9.0nm,0.9s							
**MAT

ARCES ARCESS Array B 101.40 340 P **Pdif** **04 42 59.6 -1.5**
comp=Z,0.5nm,0.5s,baz=72,slow=6.0,SNR=7.1
GERES GERESS Array B 112.15 320 PKiKP **PKiKP** **04 47 45.2 +0.1**
comp=Z,0.7nm,0.6s,baz=46,slow=3.9,SNR=7.8
PDAR Pinedale Array 117.10 45 PKP **PKPdf** **04 47 54.6 -0.4**
comp=Z,0.5nm,0.7s,baz=218,slow=1.2,SNR=5.5
EKA Eskdalemuir Ar 118.95 331 PKP **PKPdf** **04 47 57.7 -0.1**
comp=Z,0.6nm,0.7s,baz=39,slow=4.6,SNR=4.2
TXAR Lajitas Array 125.20 59 PKP **PKPdf** **04 48 11.8 +1.0**
comp=Z,0.3nm,0.6s,baz=200,slow=1.9,SNR=4.6
TORD Torodi Ar. Bea 128.45 281 PKP **PKPdf** **04 48 16.9 -0.3**
comp=Z,1.7nm,0.7s,baz=60,slow=1.9,SNR=13
TORD SKPbc SKPbc 04 51 20.8
comp=Z,0.6nm,0.7s,baz=84,slow=2.3,SNR=4.6
SCHQ Schefferville 130.45 12 SKPbc **SKPab** **04 51 27.8 -1.8**
comp=Z,4.6nm,0.8s,baz=322,slow=5.8,SNR=4.3
DBIC Dimbokro 134.83 272 PKP **PKPdf** **04 48 30.0 +0.7**
comp=Z,2.6nm,0.9s,baz=306,slow=1.1,SNR=4.4
DBIC SKPbc **SKPbc** **04 51 43.0 -3.0**
comp=Z,2.8nm,0.7s,baz=36,slow=3.2,SNR=6.8
CPUP Villa Florida 146.24 169 PKPbc **PKPdf** **04 48 51.2 +1.7**
comp=Z,8.2nm,0.9s,baz=211,slow=2.9,SNR=15
CPUP SKPbc **SKPbc** **04 52 14.5 -1.4**
comp=Z,2.0nm,0.7s,baz=223,slow=1.3,SNR=4.9
LPAZ La Paz 150.98 143 PKPbc **PKPbc** **04 49 05.3 +1.2**
comp=Z,2.4nm,0.4s,baz=36,slow=2.9,SNR=41
LPAZ La Paz 150.98 143 *eP* **PKPbc** **04 49 05.7 +1.6**
LPAZ La Paz 150.98 143 **PKPbc** **04 49 05.5 +1.4**
DBBC Dabeiba 154.34 88 *eP* **PKPab** **04 49 30.4 +4.7**

*DRS **24** 04:43:29.2±0.0, 42.°91N×47.°16E, h8km, ML3.0/6, FELT I=III MSK at Buynaksk*
*MOS **24** 04:43:30.6±1.2, 42.°91N×47.°16E, h9km, mb3.7/1, Error ellipse: s-maj=5.9km s-min=5.5km az=110.1*
MOS Felt (III) at Buynaksk.
*NORS **24** 04:43:30.6±0.0, 42.°84N×47.°08E, h9km, MPVA4.0*
ISC 24 04:43:31.2±0.9, 42.°88N±0.°03×47.°13E±0.°02, h7km±6km, n47, σ1°41/84, 9C-9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUJR	**Buynaksk**	**0.06**	**193**	*i*	*P*	**Pg**		**04 43 32.9**	**-0.1**
BUJR	6μm,0.6s			⇑	*eS*	**Sg**		**04 43 34.7**	**+0.6**
	37μm,0.5s								
BUJR	**Buynaksk**	**0.06**	**193**	*i*	*PG*	**Pg**		**04 43 32.8**	**-0.1**
KRNR	**Karanay**	**0.17**	**251**	⇓	*iPG*	**Pg**		**04 43 34.5**	**-0.2**
KRNR					pmax	pmax			
	comp=Z,329nm,0.1s								
DBC	**Dubki**	**0.26**	**302**	⇑	*iPG*	**Pg**		**04 43 36.7**	**+0.4**
DBC	comp=Z,366nm,0.4s								
	comp=Z,689nm,0.8s			⇓	*eSg*	**Sb**		**04 43 41.1**	**-1.9**
DBC	**Dubki**	**0.26**	**302**		*ePG*	**Pg**		**04 43 36.7**	**+0.4**
DBC					*eS*	**Sb**		**04 43 41.1**	**-1.9**
MAK	**Makhachkala**	**0.29**	**74**	⇑	*iPG*	**Pb**		**04 43 37.4**	**-1.4**
MAK					*e*			04 43 43.0	
MAK					pmax	pmax			
	comp=Z,420nm,0.3s								
MAK					smax	smax			
	comp=N,4μm,0.6s								
MAK					smax	smax			
	comp=N,4μm,0.5s								
ARKR	**Arakani**	**0.30**	**199**	⇑	*iPG*	**Pg**		**04 43 37.0**	**-0.1**
ARKR					*eS*	**Sg**		**04 43 42.0**	**+1.0**
ARKR					pmax	pmax			
	comp=Z,466nm,0.1s								
UNCR	**Uncukul**	**0.30**	**236**	⇑	*iPG*	**Pg**		**04 43 37.5**	**+0.4**
UNCR					*eS*	**Sg**		**04 43 42.5**	**+1.5**
UNCR					pmax	pmax			
	comp=Z,958nm,0.3s								
DLMR	**Dylym**	**0.41**	**297**		*ePG*	**Pg**		**04 43 39.0**	**-0.2**
DLMR					*i S*	**Sb**		**04 43 47.0**	**-0.3**
DLMR					pmax	pmax			
	comp=Z,214nm,0.2s								
XNZR	**Khunzakh**	**0.46**	**223**		*ePg*	**Pg**		**04 43 40.5**	**+0.3**
XNZR					*eSg*	**Sg**		**04 43 47.1**	**+0.8**
XNZR	**Khunzakh**	**0.46**	**223**		*ePG*	**Pg**		**04 43 40.5**	**+0.3**
XNZR					*eS*	**Sg**		**04 43 47.2**	**+1.0**
GNBR	**Gunib**	**0.51**	**194**	⇓	*iPg*	**Pg**		**04 43 41.3**	**+0.3**
	comp=Z,345nm,0.7s								
GNBR				⇓	*eSg*	**Sg**		**04 43 48.4**	**+0.8**
	comp=Z,550nm,1.0s								
GNBR	**Gunib**	**0.51**	**194**		*ePG*	**Pg**		**04 43 41.2**	**+0.2**
GNBR					*eS*	**Sb**		**04 43 49.7**	**-0.5**
GNBR					pmax	pmax			
	comp=Z,345nm,0.7s								
SGKR	**Sergokala**	**0.58**	**137**		*ePG*	**Pn**		**04 43 45.0**	**-0.9**
BTLR	**Botlikh**	**0.70**	**252**	⇓	*ePg*	**Pb**		**04 43 45.5**	**-0.3**
	comp=Z,108nm,0.6s								
BTLR				⇓	*eSg*	**Sb**		**04 43 55.1**	**-0.6**
	comp=Z,315nm,0.6s								
BTLR	**Botlikh**	**0.70**	**252**		*ePG*	**Pb**		**04 43 45.5**	**-0.3**
BTLR					*eS*	**Sb**		**04 43 55.1**	**-0.6**
KMKR	**Kumukh**	**0.75**	**182**	⇓	*iPG*	**Pb**		**04 43 46.0**	**-0.8**
KMKR					pmax	pmax			
	comp=Z,109nm,0.4s								
URKR	**Urkarakh**	**0.81**	**152**		*ePG*	**Pg**		**04 43 46.2**	**-0.6**
URKR					*eS*	**Sb**		**04 43 58.4**	**-0.5**
GROC	**Groznyy**	**1.03**	**289**		*ePG*	**Pn**		**04 43 53.3**	**+1.2**
GROC					*eS*	**Sn**		**04 44 07.3**	**+0.6**
DRN	**Derbent**	**1.23**	**133**	⇑	*ePg*	**Pg**		**04 43 56.0**	**+1.2**
	comp=Z,51nm,0.5s								
DRN					*ePg*	**Pg**		**04 43 56.0**	**+1.2**
DRN				⇑	*eSg*	**Sn**		**04 44 13.7**	**+1.9**
	comp=Z,184nm,0.8s								
DRN					*eSg*	**Sg**		**04 44 13.9**	**+3.1**
DRN	**Derbent**	**1.23**	**133**		*ePG*	**Pn**		**04 43 54.0**	**-0.9**
DRN					*eS*	**Sn**		**04 44 13.8**	**+2.0**
DRN					pmax	pmax			
	comp=Z,34nm,0.5s								
LGD	**Lagodekhi**	**1.23**	**212**		*ePG*	**Pn**		**04 43 54.5**	**-0.5**
LGD					*eS*	**Sb**		**04 44 10.4**	**-0.7**
AKT	**Akhty**	**1.47**	**162**	⇓	*ePg*	**Pb**		**04 43 58.4**	**-0.7**
	comp=Z,76nm,0.6s								
AKT				⇓	*eSg*	**Sg**		**04 44 18.1**	**-0.4**
	comp=Z,174nm,0.5s								
AKT	**Akhty**	**1.47**	**162**		*ePG*	**Pb**		**04 43 58.3**	**-0.7**
AKT					*e*			04 44 20.2	
AKT					pmax	pmax			
	comp=Z,75nm,0.4s								
AKT					smax	smax			
	comp=N,174nm,0.4s								
AKT					smax	smax			
	comp=N,212nm,0.4s								
AKT					smax	smax			
	comp=E,158nm,0.4s								
KSMR	**Kasumkent**	**1.48**	**149**		*ePG*	**Pg**		**04 44 00.0**	**+0.4**
KSMR					*eS*	**Sg**		**04 44 20.0**	**+1.2**
KSMR					pmax	pmax			
	comp=Z,50nm,0.2s								
KMGR	**Komgaron**	**1.67**	**277**		*ePg*	**Pg**		**04 44 03.5**	**+0.3**
KMGR					*eSg*	**Sg**		**04 44 29.4**	**+4.6**
KMGR	**Komgaron**	**1.67**	**277**		*ePN*	**Pg**		**04 44 03.3**	**+0.1**
KMGR					*eS*	**Sg**		**04 44 25.2**	**+0.4**
VLKR	**Vladikavkaz**	**1.81**	**276**		*ePg*	**Pg**		**04 44 06.3**	**+0.4**
VLKR					*eSg*	**Sg**		**04 44 33.0**	**+3.8**
VLKR	**Vladikavkaz**	**1.81**	**276**		*ePN*	**Pb**		**04 44 04.3**	**-0.4**
VLKR					*eS*	**Sg**		**04 44 31.9**	**+2.7**
DGRG	**David-gareji**	**1.94**	**223**		*ePN*	**Pg**		**04 44 07.8**	**-0.5**
DGRG					*eS*	**Sg**		**04 44 35.0**	**+1.6**
TRKR	**Terskaya**	**1.94**	**297**		*ePg*	**Pg**		**04 44 09.1**	**+0.7**
TRKR					*eSg*	**Sg**		**04 44 36.9**	**+3.4**
TRKR	**Terskaya**	**1.94**	**297**		*ePN*	**Pn**		**04 44 03.9**	**-0.7**
TRKR					*eS*	**Sg**		**04 44 32.8**	**-0.7**
BTKR	**Batakoyurt**	**1.95**	**285**		*ePg*	**Pg**		**04 44 09.5**	**+0.8**
BTKR					*eSg*	**Sg**		**04 44 37.6**	**+3.6**
BTKR	**Batakoyurt**	**1.95**	**285**		*ePN*	**Pg**		**04 44 08.5**	**-0.2**
BTKR					*eS*	**Sg**		**04 44 37.1**	**+3.1**
LACR	**Lac**	**2.08**	**269**		*ePg*	**Pb**		**04 44 08.8**	**-0.6**
LACR					*eSg*	**Sg**		**04 44 36.8**	**-1.3**
LACR	**Lac**	**2.08**	**269**		*ePN*	**Pb**		**04 44 08.4**	**-1.0**
LACR					*eS*	**Sb**		**04 44 36.5**	**+1.0**
KORR	**Kora**	**2.25**	**276**		*ePN*	**Pb**		**04 44 11.7**	**-0.6**
KORR					*eS*	**Sg**		**04 44 42.4**	**-1.2**
STDR	**Stavd-Durt**	**2.29**	**283**		*ePN*	**Pn**		**04 44 09.3**	**-0.2**
STDR					*eS*	**Sg**		**04 44 44.1**	**-0.8**
ZEI	**Tsey**	**2.37**	**269**		*ePN*	**Pn**		**04 44 08.2**	**-2.6**
ZEI					*eS*	**Sn**		**04 44 38.5**	**-1.8**
LSNR	**Lesken**	**2.45**	**280**		*ePN*	**Pb**		**04 44 14.2**	**-1.5**
LSNR					*eS*	**Sb**		**04 44 46.1**	**0.0**
KBZ	**Khabaz**	**3.20**	**287**		*ePN*	**Pn**		**04 44 22.1**	**+0.2**
KBZ					*eS*	**Sn**		**04 45 02.6**	**+2.3**
KIV	**Kislovodsk**	**3.41**	**290**	*i*	*PN*	**Pn**		**04 44 26.4**	**+1.5**
GOF	**Gofitskoye**	**3.66**	**308**	⇑	*ePN*	**Pg**		**04 44 39.6**	**-1.8**
GOF					*eS*	Sg		04 45 38.9	+10
GOF					pmax	pmax			
	comp=Z,27nm,0.6s								
GOF					smax	smax			
	comp=N,208nm,0.7s								
ARXR	**Arkhyz**	**4.33**	**281**	*i*	*PN*	**Pn**		**04 44 38.2**	**+0.5**
OBN	**Obninsk**	**14.04**	**334**		*eP*	**Pn**		**04 46 49.6**	**-0.9**
OBN					pmax	pmax			
	comp=Z,30nm,0.3s								
BRVK	**Borovoye**	**18.47**	**49**	*i*	*P*	**Pn**		**04 47 48.0**	**+0.5**
BRVK					pmax	pmax			
	comp=Z,1.0nm,0.9s								
AAK	**Ala-Archa**	**20.07**	**81**	*i*	*P*	**P**		**04 48 04.8**	**-0.5**

*IDC **24** 04:46:52.8±2.8, 8.°45S×79.°96W, h0km, mb4.3/1, mb1 4.3/1, mb1mx3.5/21, mbtmp4.3/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/26, Error ellipse: s-maj=436.9km s-min=90.9km az=162.0*
ISC 24 04:46:55.5±2.0, 9.°1S±0.°2×78.°8W±0.°6, h35km, n19, σ0°62/5, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**9.28**	**2**		*eP*	**Pn**		**04 49 07.2**	**-0.1**
PUAC	**Puerto Asis, P**	**9.84**	**13**		*eP*	**Pn**		**04 49 15.3**	**+0.7**
FLOC	**Florencia**	**11.07**	**17**		*eP*	**Pn**		**04 49 30.9**	**-0.5**
LPAZ	**La Paz**	**12.63**	**126**		LR	LR		04 55 57.0	
	comp=Z,135nm,18.3s,baz=298,slow=39								
ROSC	**El Rosal**	**14.55**	**18**		LR	LR		04 56 27.5	
	comp=Z,158nm,18.8s,baz=150,slow=40								
H03N2	**Juan Fernandez**	**24.23**	**180**		T	T		05 17 59.4	
	baz=357,slow=75,SNR=87								
H03N1	**Juan Fernandez**	**24.23**	**180**		T	T		05 17 59.8	
	baz=357,slow=75,SNR=134								
H03N3	**Juan Fernandez**	**24.24**	**180**		T	T		05 17 58.6	
	baz=357,slow=75,SNR=128								
CPUP	**Villa Florida**	**26.62**	**133**		LR	LR		05 05 42.6	
	comp=Z,86nm,20.7s,baz=44,slow=40								
BDFB	**Brasilia**	**30.75**	**105**		LR	LR		05 06 53.1	
	comp=Z,124nm,19.9s,baz=145,slow=38								
TORD	**Torodi Ar. Bea**	**82.93**	**76**		P	P		04 59 25.1	+7.6
	2.1nm,0.8s,baz=277,slow=5.2,SNR=12								
H11N3	**WAKE ISLAND Hyl**	**15.80**	**287**		T	T		07 10 15.3	
	baz=92,slow=75,SNR=18								
H11N2	**WAKE ISLAND Hyl**	**15.81**	**287**		T	T		07 10 17.8	
	baz=92,slow=75,SNR=17								
H11N1	**WAKE ISLAND Hyl**	**15.81**	**287**		T	T		07 10 16.6	
	baz=92,slow=75,SNR=15								
H11S2	**WAKE ISLAND Hyl**	**15.97**	**286**		T	T		07 10 30.4	
	baz=94,slow=80								
H11S1	**WAKE ISLAND Hyl**	**15.97**	**286**		T	T		07 10 29.6	
	baz=94,slow=80								
H11S3	**WAKE ISLAND Hyl**	**15.99**	**286**		T	T		07 10 32.9	
	baz=94,slow=80								
WRA	**Warramunga Arr**	**136.43**	**228**		PKP	**PKiKP**		**05 06 16.3**	**-0.1**
	0.5nm,0.6s,baz=125,slow=2.0,SNR=3.7								
MKAR	**Makanchi Array**	**139.12**	**20**		PKP	**PKiKP**		**05 06 21.2**	**+0.1**
	0.4nm,0.7s,baz=333,slow=1.6,SNR=3.5								

WEL 24 05:03:49.6, 44.°5S±1.°×17.°2E±.°, h9km±2km, M2.5/9, ML2.6/9, MLv2.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=91.1, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.23**	**127**			P	Pg	05 03 55.6	+1.5
OXZ	**Oxford**	**0.36**	**312**			P	Pg	05 03 57.4	+0.7
AMCZ	**Amberley**	**0.43**	**25**			P	Pb	05 03 59.3	0.0
AKCZ	**Akaroa Harbour**	**0.47**	**130**			P	Pb	05 04 00.3	+0.2
OKCZ	**Okains Bay**	**0.50**	**108**			P	Pb	05 04 00.8	+0.3
WACZ	**Wakanui South**	**0.55**	**228**			P	Pb	05 04 02.4	+1.0
GVZ	**Greta Valley S**	**0.76**	**38**			P	Pb	05 04 05.5	+0.6
LTZ	**Lake Taylor**	**0.79**	**353**			P	Pb	05 04 05.7	+0.1
ARCZ	**Arundel**	**0.97**	**247**			P	Pn	05 04 09.2	-0.1
RPZ	**Rata Peaks**	**0.99**	**261**			P	Pn	05 04 09.7	+0.1
INZ	**Inchbonnie**	**1.10**	**320**			P	Pn	05 04 11.5	+0.3
WVZ	**Waitaha Valley**	**1.31**	**292**			P	Pg	05 04 16.0	+1.3
KHZ	**Kahutara**	**1.42**	**36**			P	Pn	05 04 15.1	-0.4
LBZ	**Lake Benmore**	**1.80**	**242**			P	Pg	05 04 24.6	+0.6
DSZ	**Denniston Nort**	**1.88**	**346**			P	Pb	05 04 23.1	-0.9
ODZ	**Otahua Downs**	**1.94**	**220**			P	Pn	05 04 23.1	+0.4
JCZ	**Jackson Bay**	**2.67**	**258**			P	Pn	05 04 34.0	+1.3

*IDC **24** 05:08:11.9±1.6, 17.°60N×60.°72W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/27, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=52.3km s-min=30.9km az=9.0*
*TRN **24** 05:08:12.2, 17.°73N×60.°61W, h60km, MD4.0*
ISC 24 05:08:13.0±2.5, 17.°62N±0.°05×60.°67W±0.°06, h12km±15km, n58, σ1°11/80, mb3.5/4, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.07**	**273**		*eP*	**Pb**		**05 08 32.2**	**-1.3**
ANWB					*eS*	**Sg**		**05 08 48.8**	**+1.3**
H05N1	**Guadeloupe/Mar**	**1.35**	**196**		Pn	**Pn**		**05 08 37.2**	**-0.5**
H05N1					Sn	**Sn**		**05 08 52.8**	**-2.7**
ABD	**La Joyeuse, An**	**1.38**	**215**		*eP*	**Pn**		**05 08 37.5**	**-0.7**
ABD					*eS*	**Sb**		**05 08 58.1**	**+1.6**
MLYT	**Lee's Yard**	**1.71**	**239**		*eP*	**Pn**		**05 08 42.5**	**-0.1**
MLYT					*eS*	**Sn**		**05 09 04.9**	**+0.4**
MAGL	**Barre de l'ile**	**1.76**	**200**		*eP*	**Pn**		**05 08 43.4**	**0.0**
MAGL					*eS*	**Sn**		**05 09 07.2**	**+1.5**
CBE	**Ff, Capester**	**1.79**	**210**		*eP*	**Pn**		**05 08 43.8**	**+0.1**
CBE					*eS*	**Sn**		**05 09 07.5**	**+1.2**
TDBA	**Terre de Bas,**	**1.99**	**208**		*eP*	**Pn**		**05 08 47.0**	**+0.5**
TDBA					*eS*	**Sn**		**05 09 12.2**	**+0.8**
TBG	**Guadaloupe-3**	**1.99**	**208**		*eP*	**Pn**		**05 08 46.7**	**+0.2**
SKI	**Saint Kitts**	**2.00**	**262**		*eP*	**Pn**		**05 08 46.4**	**-0.2**
SKI					*eS*	**Sn**		**05 09 11.5**	**-0.1**
SEUS	**St. Eustatius**	**2.21**	**267**		*eP*	**Pn**		**05 08 49.4**	**-0.1**
SEUS					*eS*	**Sn**		**05 09 16.0**	**-0.9**
DSLB	**Salisbury**	**2.29**	**199**		*eP*	**Pn**		**05 08 51.2**	**+0.6**
DSLB					*eS*	**Sn**		**05 09 18.9**	**+0.2**
SMRT	**St. Maarten**	**2.33**	**281**		*eP*	**Pn**		**05 08 51.0**	**-0.3**
SMRT					*eS*	**Sn**		**05 09 18.3**	**-1.6**
DLPL	**La Plaine**	**2.34**	**194**		*eP*	**Pn**		**05 08 51.5**	**+0.1**
DLPL					*eS*	**Sn**		**05 09 20.1**	**0.0**
MDN	**Morne-Daniel**	**2.39**	**197**		*eP*	**Pn**		**05 08 51.9**	**-0.1**
MDN					*eS*	**Sn**		**05 09 21.8**	**+0.5**
SABA	**Saba**	**2.46**	**270**		*eP*	**Pn**		**05 08 52.6**	**-0.3**
SVN	**Savane Anatole**	**2.80**	**190**		*eP*	**Pn**		**05 09 01.5**	**-1.6**
BAMF	**Morne Balai**	**2.83**	**190**		*eP*	**Pn**		**05 08 58.7**	**+0.6**
CXM	**Morne La Croix**	**2.83**	**190**		*eP*	**Pn**		**05 09 00.1**	**+1.9**
ILAM	**Ilet Lapin Mar**	**2.83**	**184**		*eP*	**Pn**		**05 08 58.4**	**+0.3**
ILAM					*eS*	**Sn**		**05 09 32.2**	**-0.1**
PCM	**Pelee Case Pet**	**2.84**	**191**		*eP*	**Pn**		**05 08 58.8**	**+0.7**
GBMF	**Grand Be**	**2.85**	**190**		*eP*	**Pn**		**05 08 59.3**	**+1.0**
PML	**Morne Lenard**	**2.87**	**190**		*eP*	**Pn**		**05 08 58.7**	**+0.1**
FDF	**Fort de France**	**2.91**	**189**		*eP*	**Pn**		**05 08 59.1**	**0.0**
FDF					*eS*	**Sn**		**05 09 33.8**	**-0.3**
LPMF	**Morne Lapointe**	**3.04**	**186**		*eP*	**Pn**		**05 09 00.3**	**-0.7**
ZAM	**Aeronautique**	**3.05**	**187**		*eP*	**Pn**		**05 09 00.8**	**-0.3**
MVM	**Montagne Vaucl**	**3.05**	**184**		*eP*	**Pn**		**05 09 02.5**	**+1.3**
BIM	**Bigot**	**3.11**	**187**		*eP*	**Pn**		**05 09 02.1**	**+0.2**
BIM					*eS*	**Sn**		**05 09 38.3**	**-0.7**
MPOM	**Morne Pois Mar**	**3.16**	**183**		*eP*	**Pn**		**05 09 02.9**	**+0.3**
MPOM					*eS*	**Sn**		**05 09 40.4**	**+0.1**
H05S1	**Guadeloupe/Mar**	**3.18**	**183**		Pn	**Pn**		**05 09 03.4**	**+0.5**
H05S1					Sn	**Sn**		**05 09 38.0**	**-2.8**
SLBI	**Saint Lucia, B**	**3.59**	**185**		*eP*	**Pn**		**05 09 09.3**	**+0.8**
SLBI					*eS*	**Sn**		**05 09 49.2**	**-1.6**
SLW	**Petit Monier**	**3.59**	**184**		*eP*	**Pn**		**05 09 08.4**	**-0.1**
SLAC	**Saint Lucia, A**	**3.71**	**183**		*eP*	**Pn**		**05 09 10.8**	**+0.6**
SLAC					*eS*	**Sn**		**05 09 52.1**	**-1.6**
SLPA	**Patience**	**3.75**	**184**		*eP*	**Pn**		**05 09 11.3**	**+0.6**
SLB	**Belfond**	**3.79**	**186**		*eP*	**Pn**		**05 09 11.9**	**+0.6**
SLB					*eS*	**Sn**		**05 09 55.5**	**-0.3**
MCLT	**Moule a Chique**	**3.90**	**184**		*eP*	**Pn**		**05 09 13.1**	**+0.4**
MCLT					*eS*	**Sn**		**05 09 56.8**	**-1.7**
SVV	**Soufriere Volc**	**4.31**	**187**		*eP*	**Pn**		**05 09 18.7**	**+0.3**
SVCV	**St. Vincent, C**	**4.35**	**186**		*eP*	**Pn**		**05 09 18.8**	**-0.1**
SVCV	**St. Vincent, C**	**4.35**	**186**		*eS*	**Sn**		**05 10 07.8**	**-1.8**
SVB	**Belmont**	**4.36**	**188**		*eP*	**Pn**		**05 09 19.2**	**+0.1**
SVB	**Belmont**	**4.36**	**188**		*eS*	**Sn**		**05 10 08.3**	**-1.6**
OCAC	**Ocana**	**15.45**	**234**		*eP*	**P**		**05 11 53.5**	**-2.1**
PAMC	**Pamplona, Colo**	**15.56**	**230**		*eP*	**Pn**		**05 11 53.5**	**+0.7**
SMLC	**San Martn de**	**15.71**	**238**		*eP*	**Pn**		**05 11 52.3**	**-2.1**
SJCC	**San Jacinto, C**	**16.04**	**243**		*eP*	**Pn**		**05 11 59.6**	**+1.0**
BARC	**Barichara**	**16.41**	**230**		*eP*	**P**		**05 12 07.4**	**+1.0**
BRRC	**Barranca, Sant**	**16.47**	**232**		*eP*	**Pn**		**05 12 02.5**	**-1.5**
RUSC	**La Rusia**	**16.83**	**228**		*eP*	**P**		**05 12 10.7**	**-0.5**
MOTC	**Monteria, Cord**	**17.03**	**241**		*eP*	**Pn**		**05 12 10.9**	**-0.3**
PTBC	**PUERTO BERRIO,**	**17.39**	**232**		*eP*	**Pn**		**05 12 13.2**	**-2.6**
SPBC	**San Pablo de B**	**17.70**	**229**		*eP*	**Pn**		**05 12 19.7**	**+0.1**
CHIC	**Chingaza**	**18.17**	**226**		*eP*	**P**		**05 12 25.8**	**-0.2**
ROSC	**El Rosal**	**18.44**	**228**		P	**Pn**		**05 12 28.8**	**-0.2**
	0.7nm,0.3s,baz=60,slow=20,SNR=1.7								
GUY2C	**Guyana, Caldas**	**18.93**	**231**		*eP*	**P**		**05 12 34.0**	**-0.5**
CBOC	**Ciudad Bolivar**	**19.01**	**234**		*eP*	**Pn**		**05 12 39.4**	**+3.6**
TXAR	**Lajitas Array**	**40.92**	**295**		P	**P**		**05 15 55.6**	**0.0**
	0.4nm,0.7s,baz=110,slow=11,SNR=6.5								
PDAR	**Pinedale Array**	**48.30**	**312**		P	**P**		**05 16 55.1**	**+0.5**
	0.5nm,0.7s,baz=113,slow=8.9,SNR=5.2								
NVAR	**Mina Array Bea**	**54.05**	**305**		P	**P**		**05 17 38.7**	**+0.9**
	0.2nm,0.6s,baz=82,slow=6.7,SNR=2.3								
TORD	**Torodi Ar. Bea**	**60.07**	**85**		P	**P**		**05 18 21.7**	**+1.1**
	0.5nm,0.8s,baz=295,slow=7.2,SNR=2.8								

*NEIC **24** 05:28:08.2±1.4, 59.°38S±0.°05×25.°7W±0.°3, h35km±2km, mb4.4/19, Error ellipse: s-maj=25.0km s-min=4.9km az=104.0*
*IDC **24** 05:28:18.1±8.2, 59.°63S×26.°50W, h118km±72km, mb3.7/7, mb1 3.8/7, mb1mx3.6/24, mbtmp4.0/7, MS3.2/2, Ms1 3.2/2, ms1mx2.9/19, Error ellipse: s-maj=34.9km s-min=17.1km az=67.0*
ISC 24 05:28:09.2±0.7, 59.°5S±0.°1×25.°9W±0.°1, h40km, n36, σ0°89/31, mb4.3/14, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**18.40**	**237**		LR	LR		05 37 52.5	
	comp=Z,76nm,20.1s,baz=65,slow=32								
PMSA	**Palmer Station**	**18.40**	**237**		P	**P**		**05 32 21.3**	**+0.9**
EFI	**East Falkland**	**19.64**	**279**		P	**P**		**05 32 34.7**	**+0.6**
QSPA	**South Pole Qui**	**30.77**	**180**		P	**P**		**05 34 20.1**	**-0.3**
	1.7nm,0.6s,baz=187,slow=1.6,SNR=20								
QSPA					PcP	**PcP**		**05 37 16.5**	**-0.2**
	0.9nm,0.6s,baz=324,slow=3.2,SNR=2.0								
QSPA	**South Pole Qui**	**30.77**	**180**		P	**P**		**05 34 20.5**	**+0.1**
QSPA					IAmb	IAmb		05 34 35.1	
	comp=Z,7.5nm,1.5s								
PLCA	**Paso Flores**	**33.41**	**284**		P	**P**		**05 34 43.0**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=164,slow=6.1,SNR=7.6								
PLCA					LR	LR		05 46 56.0	
	comp=Z,47nm,19.9s,baz=146,slow=34								
PLCA	**Paso Flores**	**33.41**	**284**		P	**P**		**05 34 43.1**	**-0.7**
PLCA					IAmb	IAmb		05 34 49.3	
	comp=Z,2.6nm,1.0s								
LC01	**Cunco**	**35.47**	**285**		P	P		05 34 57.0	-4.5
LC01					IAmb	IAmb		05 35 12.6	
	comp=Z,5.7nm,1.2s								
BO02	**Sierra Bellavi**	**38.19**	**290**		P	**P**		**05 35 23.3**	**-1.4**
BO02					IAmb	IAmb		05 35 35.5	

IBJK Bruarjokull 0.34 112 S **Sg** 05 33 52.6 -1.7
baz=116
IBJK P **Pg** 05 33 47.9 -2.0
baz=116
IVOT Vottur 0.35 159 P **Pg** 05 33 48.5 -1.7
baz=161
ISKR Skrokkalda 0.40 265 P **Pg** 05 33 49.1 -2.0
baz=262
IJOK Jokulheimar 0.43 230 P **Pg** 05 33 49.8 -2.0
baz=228
IJOK S **Sg** 05 33 57.3 -0.1
baz=228
IKRE Kreppuhraun 0.50 68 S **Sg** 05 33 57.7 -1.9
baz=69
IKRE P **Pg** 05 33 50.4 -2.7
baz=69
IASK Askja 0.58 37 P **Pg** 05 33 51.9 -2.6
baz=38
IASK S **Sg** 05 33 58.5 -3.5
baz=38
IIEY Innrieyrar 0.58 210 P **Pg** 05 33 52.3 -2.2
baz=210
IIEY S **Sg** 05 34 01.4 -0.6
baz=210
IKSK Karasker 0.62 135 P **Pg** 05 33 52.2 -3.1
baz=137
IKSK S **Sg** 05 34 00.9 -2.3
baz=137
IMKO Mokollar 0.62 51 S **Sg** 05 34 01.3 -2.0
baz=52
IMKO P **Pg** 05 33 52.4 -2.9
baz=52
IKAL Kalfafell 0.66 188 P **Pg** 05 33 53.8 -2.3
baz=189
IKAL S **Sg** 05 34 03.3 -1.3
baz=189
ISVA Svartarkot 0.75 7 P **Pg** 05 33 54.5 -3.4
baz=6.5
IVAT Vatnsfell 0.75 237 P **Pg** 05 33 55.2 -2.6
baz=237
IVSH V-Sauoahnukur 0.78 73 P **Pg** 05 33 55.2 -3.2
baz=75
IFAG Fagurholsmyri 0.81 153 P **Pg** 05 33 56.0 -2.9
baz=155
IADA Aoalbol 0.91 62 P **Pg** 05 33 57.0 -3.9
baz=62
IADA S **Sg** 05 34 09.2 -3.6
baz=62
IHVE Hveravellir 0.94 288 P **Pg** 05 33 57.8 -3.6
baz=287
ISNB Snabyli 1.00 211 P **Pg** 05 33 59.4 -3.3
baz=211
IMEL Melhnausar 1.04 19 P **Pg** 05 33 59.0 -4.3
baz=19
ISLY Slysaalda 1.06 224 P **Pg** 05 34 00.7 -3.1
baz=223
IRJU Rjupnafell 1.12 209 P **Pg** 05 34 01.6 -3.3
baz=209
IKVO Krokottuvotn 1.15 12 P Pg 05 34 01.0 -4.5
baz=12
BORG Borgarnes 1.67 277 Pg **Pn** **05 34 09.9 -3.8**
92nm,0.3s,baz=92,slow=8.7,SNR=212
BORG Lg Lg 05 34 30.4
74nm,0.3s,baz=98,slow=14,SNR=6.6
BORG Borgarnes 1.67 277 P **Pn** **05 34 10.9 -2.8**
BORG 05 34 35.2
BORG Borgarnes 1.67 277 **Pn** **05 34 10.9 -2.8**
BORG Sn **Sn** **05 34 35.2 -0.5**
IKRO Krokur 1.67 254 P **Pn** **05 34 10.0 -3.7**
baz=254
IHEI Heioarbar 1.68 258 P **Pn** **05 34 09.9 -4.0**
baz=257
SCO Scoresbysund 6.16 346 *i* P **Pn** **05 35 15.9 +0.6**
SCO Scoresbysund 6.16 346 *i* P **Pn** **05 35 15.9 +0.6**
SCO Scoresbysund 6.16 346 **Pn** **05 35 16.2 +0.9**
SCO Sn **Sn** **05 36 27.9 +1.8**
SCO Scoresbysund 6.16 346 *i* P **Pn** **05 35 15.9 +0.6**
SCO IAMs_20 IAMs_20 05 39 19.6
comp=Z,17μm,5.7s
JMIC Jan Mayen 7.25 24 Pn **Pn** **05 35 32.0 +1.7**
baz=204,slow=6.3,SNR=2.1
JMIC Sn **Sn** **05 36 56.6 +3.4**
baz=133,slow=18,SNR=1.2
JMIC LR LR 05 37 47.9
comp=Z,2μm,18.2s,baz=246,slow=33
LEWI Lewis, Hebride 8.22 137 *eP* **Pn** **05 35 40.8 -2.9**
ANGG Ammassalik, Gr 8.56 286 IAMs_20 IAMs_20 05 39 29.2
comp=Z,15μm,7.6s
BIGH Upper Bighouse 8.89 127 *eP* **Pn** **05 35 53.0 +0.2**
ISOG Isortog, Green 9.12 286 IAMs_20 IAMs_20 05 39 51.6
comp=Z,14μm,7.9s
KAC Achnashellach 9.23 135 *eP* **Pn** **05 35 54.9 -2.6**
KPL Plockton 9.26 136 *eP* **Pn** **05 35 55.5 -2.3**
KPL Plockton 9.26 136 *eP* **Pn** **05 35 55.7 -2.2**
ICESG Greenland Ices 9.79 307 *eP* **Pn** **05 36 06.8 +1.4**
ICESG IAMs_20 IAMs_20 05 40 57.5
comp=Z,24μm,5.3s
DBG Daneborg 9.80 356 IAMs_20 IAMs_20 05 42 13.1
comp=Z,5μm,5.9s
MCD Coleburn Disti 9.82 129 *eP* **Pn** **05 36 04.5 -1.1**
INVG Invergeldie, C 10.51 135 *eP* **Pn** **05 36 12.2 -2.8**
INVG IAMs_20 IAMs_20 05 40 35.2
comp=Z,4μm,10.4s
EAB Aberfoyle 10.62 136 *eP* **Pn** **05 36 14.7 -1.8**
PGBU Glenifferbraes 10.90 138 *eP* **Pn** **05 36 18.3 -2.0**
PGBU IAMs_20 IAMs_20 05 41 03.0
comp=Z,4μm,10.9s
SUMG Summit 11.01 326 *i* P **Pn** **05 36 24.0 +1.9**
SUMG Summit 11.01 326 P **Pn** **05 36 24.5 +2.4**
SUMG 05 38 25.9
SUMG Summit 11.01 326 **Pn** **05 36 24.5 +2.4**
SUMG Sn **Sn** **05 38 25.9 +0.1**
SUMG Summit 11.01 326 *i* P **Pn** **05 36 24.0 +1.9**
SUMG IAMs_20 IAMs_20 05 42 02.6
comp=Z,34μm,6.0s
CLGH Cloghs, Cushen 11.10 144⇑ *eP* **Pn** **05 36 21.0 -2.0**
CLGH IAMs_20 IAMs_20 05 42 09.7
comp=Z,5μm,10.6s
EDI Edinburgh 11.19 134 *eP* **Pn** **05 36 23.3 -1.0**
ASK Askoy 11.21 101 *eP* Pn 05 36 19.2 -5.4
ASK *e* 05 36 28.8
BER Bergen 11.32 101 *eP* **Pn** **05 36 23.4 -2.7**
BER *e* 05 36 29.6
EBL Broad Law 11.36 134 *eP* **Pn** **05 36 24.6 -2.1**
NEWG New Galloway 11.57 139 *eP* **Pn** **05 36 27.7 -1.9**
NEWG IAMs_20 IAMs_20 05 41 38.1
comp=Z,4μm,11.2s
GAL1 Galloway 11.66 141 *eP* **Pn** **05 36 28.2 -2.5**
GAL1 IAMs_20 IAMs_20 05 42 26.2
comp=Z,4μm,10.9s
EKA Eskdalemuir Ar 11.70 136 Pn **Pn** **05 36 30.1 -1.1**
EKA Eskdalemuir Ar 11.70 136 Pn **Pn** **05 36 29.6 -1.7**
baz=323,slow=13,SNR=74
EKA Sn **Sn** **05 38 42.8 +0.5**
baz=323,slow=22,SNR=2.5
EKA Eskdalemuir Ar 11.70 136 Pn **Pn** **05 36 30.1 -1.1**
ESK Eskdalemuir 11.70 136 *eP* **Pn** **05 36 29.2 -2.1**
ESK IAMs_20 IAMs_20 05 41 21.4
comp=Z,4μm,11.7s
ESK Eskdalemuir 11.70 136 P **Pn** **05 36 30.3 -1.0**
ESK Eskdalemuir 11.70 136 Pn **Pn** **05 36 30.3 -1.0**
DAG Danmarks Havn 12.24 359 *i* P **Pn** **05 36 39.8 +1.2**
DAG Danmarks Havn 12.24 359 *i* P **Pn** **05 36 39.8 +1.2**
DAG Danmarks Havn 12.24 359 *i* P **Pn** **05 36 39.8 +1.2**
DAG IAMs_20 IAMs_20 05 44 29.2
comp=Z,2μm,6.1s
BLS5 Blasjo 12.33 104 *eP* **Pn** **05 36 36.6 -3.3**
KESW Keswick, Cumbr 12.36 138 *eP* **Pn** **05 36 38.9 -1.4**
KESW IAMs_20 IAMs_20 05 41 51.0
comp=Z,4μm,11.4s
EDMD Edmundbyers 12.49 134 *eP* **Pn** **05 36 40.6 -1.4**
NSS Namsos 12.60 77 *eP* **Pn** **05 36 47.7 +4.2**
NSS IAmb IAmb 05 36 59.9
comp=Z,34nm,1.1s
DSB Dublin 12.72 148 Pn **Pn** **05 36 45.1 -0.1**
KONS Konsvik 12.74 68 *eP* **Pn** **05 36 43.9 -1.5**
LOF Lofoten 12.84 60 *eP* **Pn** **05 36 49.1 +2.3**
NRS Narsarsuaq 13.15 268 *i* P **Pn** **05 36 50.4 -0.5**
NRS Narsarsuaq 13.15 268 *i* P **Pn** **05 36 50.4 -0.5**
NRS Narsarsuaq 13.15 268 Pn **Pn** **05 36 50.9 -0.1**
NRS Narsarsuaq 13.15 268 *i* P **Pn** **05 36 50.5 -0.5**
NRS IAMs_20 IAMs_20 05 44 05.4
comp=Z,6μm,7.5s
NC204 NORSAR Array S 13.21 92 **Pn** **05 36 49.3 -2.7**
MOR8 Moi Rana 13.31 69 *eP* **P** **05 37 01.4 -1.8**

NBO00 NORSAR Array S 13.33 93 **Pn** **05 36 51.1 -2.4**
NAO01 NORSAR Array S 13.47 93 Pn **Pn** **05 36 54.5 -0.9**
STEI Steigen 13.48 61 *eP* **P** **05 37 01.3 -3.7**
STEI IAmb IAmb 05 37 11.3
comp=Z,60nm,1.4s
NC303 NORSAR Array S 13.50 91 Pn **Pn** **05 36 58.0 +2.2**
NB2 NORSAR Subarra 13.52 92 Pn **Pn** **05 36 54.4 -1.7**
baz=305,slow=14
NB2 NORSAR Subarra 13.52 92 Pn **Pn** **05 36 54.4 -1.7**
baz=305,slow=14
NOA NORSAR Array B 13.52 92 Pn **Pn** **05 36 53.1 -3.0**
comp=Z,0.0nm,0.3s,baz=303,slow=13,SNR=3.8
NOA LR LR 05 41 58.5
comp=Z,163nm,21.9s,baz=300,slow=36
FAUS Fauske 13.52 64 *eP* **P** **05 37 04.4 -1.1**
FAUS IAmb IAmb 05 37 08.9
comp=Z,45nm,1.5s
NB201 NORSAR Array S 13.55 92 Pn **Pn** **05 36 55.0 -1.5**
NC405 NORSAR Array S 13.70 91 Pn **Pn** **05 36 57.3 -1.3**
SFJD Kangerlussuaq 13.71 295 Lg Lg 05 40 41.4
comp=Z,0.7nm,0.3s,baz=300,slow=17,SNR=1.6
SFJD LR LR 05 42 16.2
comp=Z,749nm,18.3s,baz=88,slow=38
SFJD Kangerlussuaq 13.71 295 IAMs_20 IAMs_20 05 42 43.3
comp=Z,664nm,7.0s
NC602 NORSAR Array S 13.80 93 Pn **Pn** **05 36 57.8 -2.1**
ILULI Ilulissat 13.85 304 IAMs_20 IAMs_20 05 42 49.5
comp=Z,11μm,6.4s
IVI Ivigtut 14.31 270 Pn **Pn** **05 37 07.2 +0.3**
TRO Tromso 14.84 54 *eP* **P** **05 37 22.5 +2.5**
TRO IAmb IAmb 05 37 26.9
comp=Z,164nm,1.3s
HFS Hagfors 15.03 93 P **Pn** **05 37 15.2 -1.5**
HFS Hagfors 15.03 93 Pn **Pn** **05 37 16.1 -0.6**
comp=Z,0.1nm,0.3s,baz=309,slow=6.9,SNR=1.0
HFS LR LR 05 42 55.3
comp=Z,258nm,20.5s,baz=294,slow=36
HFS Hagfors 15.03 93 P **Pn** **05 37 15.2 -1.5**
MUD Monsted U'grnd 15.33 110 *i* P **P** **05 37 24.0 -1.5**
comp=Z,2μm,10.0s
MUD Monsted U'grnd 15.33 110 *i* P **P** **05 37 24.0 -1.5**
MUD MLR MLR
comp=Z,2μm,10.0s
MUD Monsted U'grnd 15.33 110 *i* P **P** **05 37 24.0 -1.5**
MUD IAMs_20 IAMs_20 05 45 56.2
comp=Z,2μm,10.2s
KIF Kilpisjarvi 15.51 57 P **Pn** **05 37 22.4 -0.4**
KIF Kilpisjarvi 15.51 57 *eP* **P** **05 37 28.3 +0.9**
UPNV Upernavik 15.94 317 IAMs_20 IAMs_20 05 44 14.6
comp=Z,6μm,6.8s
HSPB Hornsund (broa 16.12 26 *eP* **P** **05 37 33.0 -1.2**
HSPB Hornsund (broa 16.12 26 *eP* **P** **05 37 33.4 -0.9**
HSPB *eS* **Sn** **05 40 35.2 +5.3**
KTK1 Kautokeino 16.38 56 *eP* **P** **05 37 36.4 -0.8**
KTK1 IAmb IAmb 05 37 43.6
comp=Z,143nm,1.4s
HAMF Hammerfest 16.49 51 P **Pn** **05 37 36.8 +1.2**
HAMF Hammerfest 16.49 51 *eP* **P** **05 37 39.3 +0.9**
HAMF IAmb IAmb 05 37 45.2
comp=Z,89nm,1.3s
KULLO Kullorsuaq 16.66 323 IAMs_20 IAMs_20 05 44 13.6
comp=Z,6μm,7.7s
KBS Kingsbay 16.70 19 P **P** **05 37 41.0 +0.4**
KBS Kingsbay 16.70 19 *eP* **P** **05 37 40.6 -0.1**
KBS *i* S **Sn** **05 40 47.3 +3.4**
KBS Kingsbay 16.70 19 *ceP* **P** **05 37 42.0 +1.3**
KBS pmax pmax
comp=Z,97nm,1.7s
KBS Kingsbay 16.70 19 P **P** **05 37 42.1 +1.5**
KBS Kingsbay 16.70 19 P **P** **05 37 41.0 +0.4**
KBS Kingsbay 16.70 19 *i* P **P** **05 37 40.5 -0.1**
KBS IAMs_20 IAMs_20 05 41 13.8
comp=Z,2μm,9.9s
SPA0 Spitsbergen Ar 16.93 23 P **P** **05 37 44.7 +1.5**
SPA0 Spitsbergen Ar 16.93 23 *eP* **P** **05 37 42.2 -1.0**
SPA0 *eS* **Sn** **05 40 49.0 -0.4**
SPA0 Spitsbergen Ar 16.93 23 P **P** **05 37 45.7 +2.5**
SPA0 IAmb IAmb 05 37 55.0
comp=Z,160nm,1.5s
SPA0 Spitsbergen Ar 16.93 23 P **P** **05 37 44.7 +1.5**
SPITS Spitsbergen Ar 16.93 23 P **P** **05 37 42.6 -0.6**
baz=249,slow=7.6,SNR=3.5
SPITS LR LR 05 42 35.1
comp=Z,436nm,19.2s,baz=215,slow=31
NOR Nord 17.10 0 P **Pn** **05 37 43.8 +0.5**
NOR Nord 17.10 0 *i* P **Pn** **05 37 43.3 +0.1**
NOR Nord 17.10 0 *i* P **Pn** **05 37 43.3 +0.1**
NOR Nord 17.10 0 P **Pn** **05 37 43.8 +0.5**
NOR Nord 17.10 0 *i* P **Pn** **05 37 43.3 +0.1**
NOR IAMs_20 IAMs_20 05 45 47.9
comp=Z,2μm,6.3s
ARA0 ARCESS Array S 17.15 54 P **Pn** **05 37 42.9 -1.1**
baz=279,slow=12
ARA0 ARCESS Array S 17.15 54 P **Pn** **05 37 42.9 -1.1**
baz=279,slow=12
ARCES ARCESS Array B 17.15 54 P **P** **05 37 46.0 +0.4**
comp=Z,0.2nm,0.3s,baz=283,slow=11,SNR=22
ARCES LR LR 05 43 04.2
comp=Z,990nm,18.8s,baz=271,slow=32
ARE0 ARCESS Array S 17.15 54 P **P** **05 37 46.3 +0.6**
ARE0 ARCESS Array S 17.15 54 *eP* **Pn** **05 37 43.4 -0.5**
ARE0 IAmb IAmb 05 37 48.2
comp=Z,72nm,1.2s
KEV Kevo 17.65 54 P **P** **05 37 52.0 +0.8**
KEV pmax pmax
comp=Z,66nm,1.2s
KEV Kevo 17.65 54 **P** **05 37 52.0 +0.8**
IBBN Ibbenburen 17.88 122 *eP* **P** **05 37 54.2 +0.4**
comp=Z,268nm,1.8s,baz=327,slow=11
HOPEN Hopen 17.89 31 P **P** **05 37 55.1 +1.3**
HOPEN Hopen 17.89 31 P **P** **05 37 55.1 +1.3**
UCC Uccle 17.95 130 P **Pn** **05 37 52.6 -1.3**
comp=Z,44nm,1.9s
UCC Uccle 17.95 130 P **Pn** **05 37 53.3 -0.6**
UCC pmax pmax
comp=Z,30nm,1.2s
UCC Uccle 17.95 130 P **Pn** **05 37 53.3 -0.6**
SNF Seneffe 18.17 131 P **Pn** **05 37 54.8 -1.9**
comp=Z,43nm,2.0s
RGN Rugen 18.35 109 **Pn** **05 37 58.0 -0.8**
BEBN Eben Emael 18.39 128 ⇑P **Pn** **05 37 57.8 -1.6**
BUG Bochum--Univer 18.41 124 *eP* **P** **05 38 00.6 +1.0**
comp=Z,286nm,2.1s,baz=327,slow=11
BMRD Maredsous 18.50 130 P **P** **05 37 59.4 -1.3**
comp=Z,60nm,2.1s
BSTI Sart Tilman 18.53 128 P **P** **05 38 00.1 -1.0**
comp=Z,17nm,2.4s
BGES Gesves 18.54 129 P **P** **05 38 00.1 -1.0**
comp=Z,61nm,2.0s
BCLA Clavier 18.58 129 P **P** **05 37 58.7 -2.9**
comp=Z,58nm,2.1s
DOU Dourbes 18.63 131 P **P** **05 37 59.4 -2.6**
comp=Z,28nm,2.3s
MEM Membach 18.66 128 P **P** **05 38 01.7 -0.8**
comp=Z,44nm,2.3s
BHOU Houvegnez 18.88 128 P **P** **05 38 04.1 -0.7**
comp=Z,80nm,2.4s
ASSE Asse, Remlinge 19.12 117 *eP* **Pn** **05 38 08.2 +0.1**
comp=Z,321nm,2.3s,baz=327,slow=11
SUF Sumiainen 19.16 76 P **P** **05 38 07.6 -0.2**
CLZ Clausthal 19.23 118 *eP* **Pn** **05 38 09.9 +0.3**
comp=Z,103nm,1.4s,baz=327,slow=11
GTTG Gottingen 19.31 120 *eP* **Pn** **05 38 10.9 +0.3**
comp=Z,344nm,2.1s,baz=327,slow=11
WLF Walferdange 19.51 129 P **Pn** **05 38 13.4 +0.5**
comp=Z,56nm,2.1s
WLF Walferdange 19.51 129 P **Pn** **05 38 12.6 -0.4**
WLF pmax pmax
comp=Z,58nm,1.4s
WLF Walferdange 19.51 129 *eP* **Pn** **05 38 14.0 +1.1**
comp=Z,220nm,2.0s,baz=327,slow=11
WLF Walferdange 19.51 129 **Pn** **05 38 12.6 -0.4**
FIA0 FINESS Array S 19.70 79 P **Pn** **05 38 14.5 -0.7**
baz=322,slow=14
FIA0 FINESS Array S 19.70 79 P **Pn** **05 38 14.5 -0.7**
baz=322,slow=14
FINES FINESS Array B 19.70 79 P **P** **05 38 14.3 +0.5**
comp=Z,0.2nm,0.3s,baz=316,slow=13,SNR=15
FINES LR LR 05 45 23.8
comp=Z,555nm,19.4s,baz=294,slow=35
FIA1 FINESS Array S 19.71 79 **Pn** **05 38 15.6 +0.4**
FIA1 IAmb IAmb 05 38 18.1
comp=Z,112nm,1.4s
CLF Chambon-Foret 19.74 138 P **P** **05 38 13.9 -0.3**
UBBA Unterbreizbach 19.91 121 *eP* **Pn** **05 38 17.4 -0.2**

comp=Z,278nm,1.8s,baz=327,slow=11
TULEG Thule 19.92 328 *eP* **Pn** **05 38 22.3 +4.8**
TULEG IAMs_20 IAMs_20 05 47 04.7
comp=Z,5μm,6.6s
RUE Ruedersdorf 20.06 112 *eP* **P** **05 38 18.1 +0.3**
SLIT Slitere, Latvi 20.13 92 *eP* **P** **05 38 18.5 +0.1**
APA0 Apatity Array 20.19 59 P **P** **05 38 18.1 -0.9**
baz=304,slow=8.6
APA0 Apatity Array 20.19 59 P **P** **05 38 18.1 -0.9**
baz=304,slow=8.6
NEUB Neuenburg 20.27 117 *eP* **Pn** 05 38 20.9 -1.0
comp=Z,572nm,1.8s,baz=327,slow=11
APA Apatity 20.35 59||*i* P **P** **05 38 20.3 -0.5**
APA *i* S **S** **05 42 01.0 -8.2**
APA pmax pmax
comp=Z,30nm,1.0s
APA MLR MLR
comp=Z,500nm,12.0s
MFF Saint Martin d 20.39 144 *eP* **P** **05 38 20.5 -0.8**
MFF pmax pmax
comp=Z,118nm,1.6s
MOX Moxa 20.66 119 P **P** **05 38 24.3 0.0**
MOX pmax pmax
comp=Z,57nm,1.6s
MOX Moxa 20.66 119 *eP* **Pn** 05 38 25.3 -1.2
comp=Z,125nm,1.4s,baz=327,slow=11
MOX *eL* L 05 46 39.3
comp=Z,320nm,20.4s
CLL Collm 20.66 116 *eP* **P** **05 38 23.0 -1.3**
comp=Z,211nm,1.6s
CLL *eS* **S** **05 42 15.0 -0.5**
CLL Collm 20.66 116 *eP* **P** **05 38 23.0 -1.3**
CLL *eS* **S** **05 42 15.0 -0.5**
CLL pmax pmax
comp=Z,211nm,1.6s
CLL Collm 20.66 116 *eP* **P** **05 38 24.9 +0.6**
comp=Z,211nm,1.6s,baz=327,slow=11
CLL Collm 20.66 116 P **P** **05 38 23.5 -0.7**
CLL IAmb IAmb 05 38 27.9
comp=Z,104nm,1.3s
LVZ Lovozero 20.72 58*ceP* **P** **05 38 25.7 +0.9**
LVZ pmax pmax
comp=Z,108nm,1.7s
LVZ Lovozero 20.72 58 P **Pn** 05 38 26.1 -1.1
LVZ IAmb IAmb 05 38 31.1
comp=Z,124nm,1.5s
GKP Gorka Klasztor 20.88 106 *eP* **P** **05 38 27.0 +0.3**
PBUR Paburge 20.98 96 *eP* **P** **05 38 27.6 -0.1**
PLN Plauen 20.99 118 *eP* **P** **05 38 28.6 +0.7**
comp=Z,335nm,2.1s,baz=327,slow=11
WERD Werda 21.08 118 *eP* **P** **05 38 29.5 +0.7**
comp=Z,72nm,1.4s,baz=327,slow=11
ECH Echery 21.10 129 P **P** **05 38 29.5 +0.5**
ECH pmax pmax
comp=Z,97nm,1.4s
ECH Echery 21.10 129 P **P** **05 38 29.5 +0.5**
ECH IAmb IAmb 05 38 36.7
comp=Z,97nm,1.4s
FBE Freiberg 21.11 116 *eP* **P** **05 38 29.8 +0.8**
comp=Z,316nm,1.9s,baz=327,slow=11
GUNZ Gunzen 21.16 118 *eP* **P** **05 38 30.3 +0.6**
comp=Z,430nm,2.4s,baz=327,slow=11
TANN Tannenbergstha 21.16 118 *eP* **P** **05 38 30.5 +0.7**
comp=Z,696nm,2.1s,baz=327,slow=11
WERN Wernitzgruen 21.23 118 *eP* **P** **05 38 31.4 +0.9**
comp=Z,135nm,1.4s,baz=327,slow=11
GRA1 Grafenberg Arr 21.29 121 P **P** **05 38 30.5 -0.5**
GRF Grafenberg Arr 21.29 121 P **P** **05 38 30.5 -0.5**
GRF pmax pmax
comp=Z,124nm,1.2s
GRF Grafenberg Arr 21.29 121 *eP* **P** **05 38 32.0 +0.9**
comp=Z,400nm,2.4s,baz=327,slow=11
GRF *eL* L 05 46 49.4
comp=Z,579nm,20.9s
NKC Novy Kostel 21.31 118 *eP* **P** **05 38 30.9 -0.4**
NKC *eS* **S** **05 42 31.0 +2.6**
NKC MLR MLR
comp=Z,1μm,11.0s
NKC Novy Kostel 21.31 118 *eP* **P** **05 38 30.9 -0.4**
NKC *eS* **S** **05 42 31.0 +2.6**
NKC AMS AMS 05 49 10.0
comp=Z,1μm,11.0s
STU Stuttgart 21.32 125 P **P** **05 38 32.0 +0.6**
STU pmax pmax
comp=Z,126nm,1.2s
STU Stuttgart 21.32 125 *eP* **P** **05 38 33.0 +1.6**
comp=Z,184nm,1.4s,baz=327,slow=11
STU Stuttgart 21.32 125 P **P** **05 38 32.0 +0.6**
BRG Berggiesshubel 21.37 115 *i* P **P** **05 38 31.3 -0.6**
comp=Z,460nm,2.2s
BRG *e* 05 38 40.1
comp=Z,266nm,1.8s
BRG S Sn 05 42 40.0 +3.1
BRG Berggiesshubel 21.37 115 *eP* **P** **05 38 32.5 +0.6**
comp=Z,460nm,2.2s,baz=327,slow=11
MANZ Manzenberg 21.38 119 *eP* **P** **05 38 32.5 +0.5**
comp=Z,507nm,2.8s,baz=327,slow=11
BFO Black Forest 21.40 127 P **P** **05 38 32.5 +0.3**
BFO pmax pmax
comp=Z,142nm,1.4s
BFO Black Forest 21.40 127 *eP* **P** **05 38 33.4 +1.2**
comp=Z,152nm,1.4s,baz=327,slow=11
BFO Black Forest 21.40 127 P **P** **05 38 32.5 +0.3**
VSU Vasula 21.56 86 *eP* **P** **05 38 34.2 +0.3**
VSU Vasula 21.56 86 *i* P **P** **05 38 33.9 +0.1**
VSU pmax pmax
comp=Z,133nm,1.1s
ROTZ Rotzenmuhle 21.59 119 *eP* **P** **05 38 35.0 +0.7**
comp=Z,283nm,2.0s,baz=327,slow=11
FRB Frobisher Bay 21.79 291 P **P** **05 38 34.6 -1.6**
comp=Z,16nm,0.9s,baz=75,slow=7.2,SNR=2.6
PVCC Panska Ves 21.89 115 *eP* **P** **05 38 37.7 +0.2**
PVCC *e* 05 38 43.7
PVCC MLR MLR
comp=Z,700nm,12.2s
PVCC Panska Ves 21.89 115 *eP* **P** **05 38 37.7 +0.2**
PVCC *epP* **sP** **05 38 43.7 +4.9**
PVCC *eS* Sn 05 42 47.1 -2.2
PVCC AMS AMS 05 49 40.0
comp=Z,700nm,12.2s
SLVR Solovky 22.09 65 *eP* **P** **05 38 37.6 -1.9**
comp=Z,146nm,1.2s
PABE Paberze 22.19 95 *eP* **P** **05 38 40.2 -0.4**
PRA Prague 22.20 116 *eP* **P** **05 38 42.6 +1.8**
PRA *eS* **S** **05 42 48.7 +3.0**
PRA MLR MLR
comp=Z,600nm,10.2s
PRA Prague 22.20 116 *eP* **P** **05 38 42.6 +1.8**
PRA *eS* **S** **05 42 48.7 +3.0**
PRA AMS AMS 05 51 40.0
comp=Z,600nm,10.2s
PRU Pruhonice 22.31 116 *eP* **P** **05 38 41.8 -0.2**
PRU *e* 05 38 45.7
PRU *eS* **S** **05 42 50.1 +2.3**
PRU MLR MLR
comp=Z,1μm,9.9s
PRU Pruhonice 22.31 116 *eP* **P** **05 38 41.8 -0.2**
PRU *epP* **sP** **05 38 45.7 +2.4**
PRU *eS* **S** **05 42 50.1 +2.3**
PRU AMS AMS 05 51 40.0
comp=Z,1μm,9.9s
KSP Ksiaz 22.32 112 *eP* **P** **05 38 41.0 -1.1**
WET Wettzell 22.36 119 *eP* **P** **05 38 43.0 +0.5**
comp=Z,50nm,1.3s,baz=327,slow=11
PUL Pulkovo 22.36 80 *eP* **P** **05 38 42.6 +0.2**
CHVC Chvalec 22.43 113 *eP* **P** **05 38 42.0 -1.3**
CHVC *ex* x 05 38 44.5
CHVC *eS* **S** **05 42 52.7 +2.6**
CHVC AMS AMS 05 50 00.0
comp=Z,800nm,10.7s
GOPC GO Pecny, Ondr 22.46 115 *eP* **P** **05 38 43.0 -0.7**
GOPC *e* 05 38 47.3
GOPC *eS* **S** **05 42 53.7 +2.9**
GOPC MLR MLR
comp=Z,1μm,10.2s
GOPC GO Pecny, Ondr 22.46 115 *eP* **P** **05 38 43.0 -0.7**
GOPC *epP* **sP** **05 38 47.3 +2.3**
GOPC *eS* **S** **05 42 53.7 +2.9**
GOPC AMS AMS 05 50 10.0
comp=Z,1μm,10.2s
UPC Upice 22.48 113 *eP* **P** **05 38 43.2 -0.6**
UPC *e* 05 38 47.6
UPC *eS* **S** **05 42 54.3 +3.3**
UPC MLR MLR
comp=Z,900nm,12.0s

UPC	**Upice**	**22.48**	**113**	*e*P		**P**	**05 38 43.2**	**-0.6**
UPC				*ep*P		**sP**	**05 38 47.6**	**+2.5**
UPC				*e*S		**S**	**05 42 54.3**	**+3.3**
UPC				AMS		AMS	05 51 30.0	
	comp=Z,900nm,12.0s							
OSTC	**Ostas**	**22.52**	**113**	*e*P		**P**	**05 38 45.4**	**+1.2**
OSTC				*ex*		x	05 38 47.9	
OSTC				*e*S		**S**	**05 42 52.1**	**+0.3**
OSTC				AMS		AMS	05 51 00.0	
	comp=Z,900nm,9.1s							
CAF	**Calviac**	**22.52**	**142**	*e*P		**P**	**05 38 41.8**	**-2.5**
CAF				pmax		pmax		
	comp=Z,123nm,1.5s							
UBR	**Ueberruh**	**22.57**	**125**	*e*P		**P**	**05 38 46.0**	**+1.1**
	comp=Z,1µm,3.4s,baz=327,slow=11							
KHC	**Kasperske Hory**	**22.63**	**118**	*e*P		**P**	**05 38 44.8**	**-0.7**
KHC				*e*			05 38 53.1	
KHC				MLR		MLR		
	comp=Z,1µm,9.8s							
KHC	**Kasperske Hory**	**22.63**	**118**	*e*P		**P**	**05 38 44.8**	**-0.7**
KHC				*ep*P		**sP**	**05 38 53.1**	**+6.3**
KHC				*e*S		S	**05 42 58.2**	**+4.3**
KHC				AMS		AMS	05 51 10.0	
	comp=Z,1µm,9.8s							
KHC	**Kasperske Hory**	**22.63**	**118**	P		P	**05 38 45.9**	**+0.5**
DPC	**Dobruska-Polom**	**22.72**	**113**	*e*P		**P**	**05 38 46.4**	**0.0**
DPC				*e*			05 38 50.0	
DPC				*e*S		**S**	**05 42 53.1**	**-2.5**
DPC				MLR		MLR		
	comp=Z,700nm,11.4s							
DPC	**Dobruska-Polom**	**22.72**	**113**	*e*P		**P**	**05 38 46.4**	**0.0**
DPC				*ep*P		**sP**	**05 38 50.0**	**+2.3**
DPC				*e*S		**S**	**05 42 53.1**	**-2.5**
DPC				AMS		AMS	05 50 00.0	
	comp=Z,700nm,11.4s							
SENIN	**Lac Senin/Sane**	**22.77**	**131**	P		P	**05 38 48.3**	**+1.2**
DAVA	**Damuels**	**22.83**	**126**	*i* P		**P**	**05 38 48.3**	**+0.6**
	comp=Z,83nm,1.3s,SNR=18							
SUW	**Suwalki**	**22.86**	**98**	*e*P		**P**	**05 38 47.0**	**-0.8**
SUW				*e*S		**S**	**05 42 58.9**	**+1.0**
SUW	**Suwalki**	**22.86**	**98**	P		P	**05 38 47.0**	**-0.8**
SUW				pmax		pmax		
	comp=Z,87nm,1.2s							
SUW	**Suwalki**	**22.86**	**98**	P		P	**05 38 47.0**	**-0.8**
SSB	**Saint Sauveur**	**22.89**	**137**	P		P	**05 38 47.8**	**-0.5**
SSB				pmax		pmax		
	comp=Z,32nm,1.1s							
SSB	**Saint Sauveur**	**22.89**	**137**	P		P	**05 38 47.8**	**-0.5**
GEC2	**GERESS Array S**	**22.91**	**119**	*e*P		**P**	**05 38 49.1**	**+0.6**
	comp=Z,111nm,1.5s,baz=327,slow=11							
GEC2	**GERESS Array S**	**22.91**	**119**	P		P	**05 38 48.8**	**+0.3**
GEC2				IAmb		IAmb	05 38 55.4	
	comp=Z,79nm,1.3s							
GERES	**GERESS Array B**	**22.91**	**119**	P		**P**	**05 38 48.4**	**-0.1**
	comp=Z,5.2nm,0.8s,baz=330,slow=7.7,SNR=33							
GERES				LR		LR	05 48 40.5	
	comp=Z,385nm,18.2s,baz=335,slow=39							
RETA	**Reutte**	**22.97**	**125**	*i* P		**P**	**05 38 49.9**	**+0.9**
	comp=Z,74nm,1.7s,SNR=19							
IZAR	**Zarasai**	**23.01**	**92**	*e*P		**P**	**05 38 51.2**	**+1.8**
ISAL	**Salakas**	**23.08**	**92**	*e*P		**P**	**05 38 51.7**	**+1.7**
KRLC	**Kraliky**	**23.12**	**113**	*e*P		**P**	**05 38 50.7**	**+0.1**
KRLC				*e*			05 38 56.7	
KRLC				*e*S		**S**	**05 43 03.0**	**+0.4**
KRLC				MLR		MLR		
	comp=Z,800nm,13.6s							
KRLC	**Kraliky**	**23.12**	**113**	*e*P		**P**	**05 38 50.7**	**+0.1**
KRLC				*ep*P		**sP**	**05 38 56.7**	**+4.8**
KRLC				*e*S		**S**	**05 43 03.0**	**+0.4**
KRLC				AMS		AMS	05 50 20.0	
	comp=Z,800nm,13.6s							
MOTA	**Moosalm**	**23.21**	**124**	*i* P		**P**	**05 38 52.4**	**+0.7**
	comp=Z,72nm,1.3s,SNR=25							
TREC	**Trest**	**23.23**	**115**	*e*P		**P**	**05 38 52.8**	**+1.1**
TREC				MLR		MLR		
	comp=Z,1µm,10.6s							
TREC	**Trest**	**23.23**	**115**	*e*P		**P**	**05 38 52.8**	**+1.1**
TREC				AMS		AMS	05 51 10.0	
	comp=Z,1µm,10.6s							
IIGN	**Ignalina**	**23.26**	**93**	*e*P		**P**	**05 38 53.3**	**+1.4**
DAVOX	**Davos/Dischmat**	**23.27**	**127**	LR		LR	05 48 50.6	
	comp=Z,420nm,19.2s,slow=39							
PGAV	**Gavieira, Arco**	**23.28**	**162**	*e*P		**P**	**05 38 51.8**	**-0.6**
	comp=Z,137nm,1.9s							
PGAV				*e*S		Sn	05 43 17.2	-5.6
LPL	**La Plagne**	**23.34**	**133**	*e*P		**P**	**05 38 52.9**	**-0.2**
LPL				pmax		pmax		
	comp=Z,80nm,1.6s							
TUE	**Stuetta**	**23.35**	**128**	P		**P**	**05 38 54.0**	**+0.8**
TUE				IAmb		IAmb	05 39 07.0	
	comp=Z,38nm,1.2s							
SQTA	**Sankt Quirin**	**23.35**	**124**	*i* P		**P**	**05 38 54.0**	**+1.0**
	comp=Z,63nm,1.3s,SNR=27							
FETA	**Feichten**	**23.36**	**125**	*i* pP		pP	05 38 54.9	+0.9
	comp=Z,56nm,1.9s,SNR=9.5							
TMCR	**Tamitsa**	**23.36**	**66**	*e*P		**P**	**05 38 53.5**	**+0.6**
TMCR				*e*S		**S**	**05 43 05.7**	**-0.5**
TMCR	**Tamitsa**	**23.36**	**66**	*e*P		**P**	**05 38 53.4**	**+0.5**
WATA	**Walderalm**	**23.39**	**124**	*i* P		**P**	**05 38 53.9**	**+0.4**
	comp=Z,62nm,1.3s,SNR=21							
BEL	**Belsk**	**23.41**	**105**	*e*P		**P**	**05 38 53.0**	**-0.5**
WTTA	**Wattenberg**	**23.47**	**124**	*i* P		**P**	**05 38 54.0**	**-0.3**
	comp=Z,78nm,1.4s,SNR=25							
RJOB	**Jochberg**	**23.49**	**121**	*e*P		**P**	**05 38 54.3**	**-0.1**
	comp=Z,230nm,2.1s,baz=327,slow=11							
IDID	**Didziasalis**	**23.51**	**92**	*e*P		**P**	**05 38 56.1**	**+1.7**
FUORN	**Ofenpass-Fuorn**	**23.54**	**127**	P		**P**	**05 38 56.5**	**+1.4**
FUORN				IAmb		IAmb	05 39 03.1	
	comp=Z,61nm,1.4s							
PCAB	**Cabril**	**23.56**	**162**	*e*P		**P**	**05 38 55.8**	**+0.7**
	comp=Z,112nm,1.8s							
PBRG	**Braganca**	**23.65**	**160**	*e*P		**P**	**05 38 55.7**	**-0.3**
	comp=Z,105nm,1.8s							
VRAC	**Vranov**	**23.65**	**114**	P		**P**	**05 38 56.0**	**0.0**
	comp=Z,11nm,1.1s,baz=328,slow=10,SNR=33							
VRAC				LR		LR	05 49 17.2	
	comp=Z,251nm,18.5s,baz=334,slow=39							
VRAC	**Vranov**	**23.65**	**114**	⇑P		**P**	**05 38 56.2**	**+0.2**
VRAC	**Vranov**	**23.65**	**114**	⇓*i*P		**P**	**05 38 55.2**	**-0.7**
VRAC				*e*S		**S**	**05 43 16.4**	**+5.2**
VRAC	**Vranov**	**23.65**	**114**	⇑P		**P**	**05 38 56.2**	**+0.2**
MORC	**Moravsky Berou**	**23.66**	**112**	⇑P		**P**	**05 38 56.1**	**+0.1**
MORC	**Moravsky Berou**	**23.66**	**112**	⇓*i*P		**P**	**05 38 54.9**	**-1.1**
MORC				*e*S		**S**	**05 43 17.4**	**+6.0**
MORC	**Moravsky Berou**	**23.66**	**112**	P		**P**	**05 38 56.3**	**+0.3**
MORC				pmax		pmax		
	comp=Z,21nm,1.2s							
MORC	**Moravsky Berou**	**23.66**	**112**	P		**P**	**05 38 56.3**	**+0.3**
EUNU	**Eureka**	**23.74**	**336**	P		**P**	**05 38 58.4**	**+1.8**
BNI	**Bardonecchia**	**23.74**	**134**	P		**P**	**05 38 58.5**	**+1.5**
BNI				pmax		pmax		
	comp=Z,72nm,1.5s							
BNI	**Bardonecchia**	**23.74**	**134**	P		**P**	**05 38 58.5**	**+1.5**
BNI				IAmb		IAmb	05 39 07.2	
	comp=Z,72nm,1.5s							
KRUC	**Moravsky**	**23.77**	**115**	⇓*i*P		**P**	**05 38 55.7**	**-1.4**
KRUC				*e*S		**S**	**05 43 18.3**	**+5.2**
NACGM	**Naroch**	**23.80**	**93**	*e*P		**P**	**05 38 56.0**	**-1.3**
NACGM				*e*S		**S**	**05 43 08.0**	**-5.4**
NACGM				*e*LQ		LQ	05 48 04.0	
NACGM				*e*LR		LR	05 49 38.0	
OKC	**Ostrava-Krasne**	**23.85**	**111**	*e*P		**P**	**05 38 57.3**	**-0.5**
OKC	**Ostrava-Krasne**	**23.85**	**111**	*e*P		**P**	**05 38 57.3**	**-0.5**
MOA	**Molln**	**23.95**	**119**	*i* P		**P**	**05 38 58.4**	**-0.4**
	comp=Z,42nm,1.7s,SNR=25							
PVRL	**Vila Real**	**24.03**	**162**	*e*P		**P**	**05 39 00.4**	**+0.7**
	comp=Z,144nm,1.8s							
ABTA	**Abfaltersbach**	**24.23**	**123**	*i* P		**P**	**05 39 02.2**	**+0.7**
	comp=Z,38nm,1.3s,SNR=16							
OJC	**Ojcow**	**24.23**	**109**	*e*P		**P**	**05 39 00.7**	**-0.7**
OJC				*e*S		**S**	**05 43 21.9**	**+1.6**
OJC	**Ojcow**	**24.23**	**109**	P		**P**	**05 39 00.4**	**-0.9**
OJC				pmax		pmax		
	comp=Z,13nm,1.0s							
OJC	**Ojcow**	**24.23**	**109**	P		**P**	**05 39 00.4**	**-0.9**
MVO	**Moncorvo**	**24.24**	**161**	*e*P		**P**	**05 39 01.4**	**-0.2**
	comp=Z,151nm,2.0s							
MVO				*e*S		**S**	**05 43 28.3**	**+7.6**
KBA	**Koelnbreinsper**	**24.25**	**122**	*i* pP		pP	05 39 03.3	+0.6
	comp=Z,70nm,1.9s,SNR=9.6							
JAVC	**Velka Javorina**	**24.44**	**113**	⇓*i*P		**P**	**05 39 03.3**	**-0.1**
JAVC				*e*S		**S**	**05 43 33.8**	**+10**
CONA	**Conrad Observa**	**24.49**	**117**	*i* P		**P**	**05 39 03.3**	**-0.5**
	comp=Z,21nm,0.9s,SNR=16							
CTI	**Castel Tesino**	**24.52**	**125**	P		**P**	**05 39 03.8**	**-0.4**
CTI				pmax		pmax		
	comp=Z,67nm,1.3s							
CTI	**Castel Tesino**	**24.52**	**125**	P		**P**	**05 39 03.8**	**-0.4**
MICGM	**Minsk**	**24.55**	**93**	⇓*i*P		**P**	**05 39 04.0**	**-0.2**
MICGM				*e*S		**S**	**05 43 28.0**	**+2.7**
MICGM				*e*LR		LR	05 49 20.0	
MNK	**Minsk**	**24.55**	**93**	⇓*i*P		**P**	**05 39 04.0**	**-0.2**
MNK				*e*S		**S**	**05 43 28.0**	**+2.7**
ZOU	**Zoufplan**	**24.55**	**123**	P		**P**	**05 39 04.8**	**+0.2**
ZOU				IAmb		IAmb	05 39 16.4	
	comp=Z,54nm,1.3s							
PVIS	**Viseu**	**24.56**	**162**	*e*P		**P**	**05 39 05.3**	**+0.8**
	comp=Z,134nm,1.8s							
CIMO	**Cimolais**	**24.57**	**124**	P		**P**	**05 39 04.8**	**+0.2**
CIMO				IAmb		IAmb	05 39 18.8	
	comp=Z,34nm,1.2s							
SMOL	**Smolenice**	**24.62**	**114**	*e*P		**P**	**05 39 05.1**	**+0.1**
SMOL				pmax		pmax		
	comp=Z,27nm,1.2s							
SMOL	**Smolenice**	**24.62**	**114**	*e*P		**P**	**05 39 05.1**	**+0.1**
MODS	**Modra-Piesok**	**24.68**	**114**	*e*P		**P**	**05 39 04.3**	**-1.2**
MODS				pmax		pmax		
	comp=Z,412nm,2.6s							
MODS	**Modra-Piesok**	**24.68**	**114**	*e*P		**P**	**05 39 04.3**	**-1.2**
MYKA	**Terra Mystica**	**24.74**	**122**	*i* P		**P**	**05 39 07.1**	**+1.0**
	comp=Z,44nm,1.6s							
PRED	**Cave del Predi**	**24.87**	**122**	P		**P**	**05 39 07.3**	**0.0**
MTE	**Manteigas**	**24.92**	**162**	*e*P		**P**	**05 39 08.1**	**+0.3**
	comp=Z,189nm,1.5s							
MTE				*e*S		S	05 43 49.0	+17
MTE				A		A	05 47 34.3	
	comp=Z,345nm,20.0s							
MTE	**Manteigas**	**24.92**	**162**	P		**P**	**05 39 07.8**	**0.0**
ARSA	**Arzberg**	**24.92**	**118**	*i* P		**P**	**05 39 07.9**	**+0.2**
	comp=Z,40nm,1.9s,SNR=10							
LANS	**Liptovska Anna**	**24.93**	**111**	*e*P		**P**	**05 39 08.5**	**+0.7**
LANS				pmax		pmax		
	comp=Z,15nm,0.9s							
LANS	**Liptovska Anna**	**24.93**	**111**	*e*P		**P**	**05 39 08.5**	**+0.7**
ROBS	**Robic**	**25.01**	**122**	*e*P		**P**	**05 39 08.1**	**-0.4**
NIE	**Niedzica**	**25.05**	**109**	*e*P		**P**	**05 39 08.7**	**-0.2**
GORS	**Gorjuse**	**25.13**	**122**	*e*P		**P**	**05 39 08.9**	**-0.8**
PCAS	**Casmilo, Conde**	**25.14**	**164**	*e*S		S	05 43 55.8	+21
OBKA	**Obir**	**25.17**	**121**	*i* P		**P**	**05 39 10.5**	**+0.5**
	comp=Z,16nm,1.5s							
VYHS	**Vyhne**	**25.20**	**112**	*e*P		**P**	**05 39 09.8**	**-0.3**
VYHS				pmax		pmax		
	comp=Z,84nm,1.6s							
VYHS	**Vyhne**	**25.20**	**112**	*e*P		**P**	**05 39 09.8**	**-0.3**
SOKA	**Soboth**	**25.21**	**120**	*i* P		**P**	**05 39 10.5**	**+0.1**
	comp=Z,54nm,1.4s,SNR=16							
BISS	**Bistriski jare**	**25.27**	**120**	*e*P		**P**	**05 39 10.9**	**0.0**
PCBR	**Castelo Branco**	**25.48**	**162**	*e*P		**P**	**05 39 13.6**	**+0.9**
	comp=Z,107nm,1.7s							
LJU	**Ljubljana**	**25.56**	**121**	*e*P		**P**	**05 39 13.4**	**-0.1**
LJU	**Ljubljana**	**25.56**	**121**	⇓*i*P		**P**	**05 39 13.1**	**-0.3**
TRI	**Trieste**	**25.56**	**123**	P		**P**	**05 39 13.6**	**+0.1**
TRI				pmax		pmax		
	comp=Z,52nm,1.4s							
TRI	**Trieste**	**25.56**	**123**	P		**P**	**05 39 13.6**	**+0.1**
TRI				IAmb		IAmb	05 39 18.3	
	comp=Z,52nm,1.4s							
KLMR	**Klimovskoe**	**25.61**	**72**	*e*P		**P**	**05 39 11.5**	**-2.3**
	comp=Z,119nm,1.4s							
KLMR				*e*S		**S**	**05 43 39.9**	**-2.4**
KLMR	**Klimovskoe**	**25.61**	**72**	*e*P		**P**	**05 39 11.5**	**-2.3**
KLMR				*e*			05 42 42.6	
KLMR				*e*S		**S**	**05 43 39.9**	**-2.4**
KLMR				pmax		pmax		
	comp=Z,119nm,1.4s							
KLMR	**Klimovskoe**	**25.61**	**72**	*e*P		**P**	**05 39 11.5**	**-2.3**
KLMR				AMP			05 39 18.8	
	comp=Z,119nm,1.4s							
KLMR				*e*PcP		**PcP**	**05 42 42.7**	**-1.5**
KLMR				*e*S		**S**	**05 43 39.9**	**-2.4**
KLMR				*e*S		S	**05 43 39.9**	**-2.4**
KLMR				LQ		LQ	05 46 31.4	
KLMR				LQ		LQ	05 46 31.4	
KLMR				LR		LR	05 47 23.2	
PSBE	**So Bento**	**25.63**	**164**	*e*P		**P**	**05 39 15.1**	**+0.9**
	comp=Z,133nm,1.7s							
PSBE				*e*S		**S**	**05 43 50.6**	**+7.6**
VLC	**Villacollemand**	**25.73**	**129**	P		**P**	**05 39 15.9**	**+0.8**
CEY	**Cerknica**	**25.78**	**122**	⇓*i*P		**P**	**05 39 14.7**	**-0.8**
KECS	**Kecovo**	**25.87**	**110**	*e*P		**P**	**05 39 16.3**	**+0.1**
KECS				pmax		pmax		
	comp=Z,19nm,1.3s							
KECS	**Kecovo**	**25.87**	**110**	*e*P		**P**	**05 39 16.3**	**+0.1**
KWP	**Kalwaria Pacla**	**25.88**	**106**	*e*P		**P**	**05 39 16.6**	**+0.2**
KWP	**Kalwaria Pacla**	**25.88**	**106**	P		**P**	**05 39 16.7**	**+0.4**
KWP				pmax		pmax		
	comp=Z,232nm,1.4s							
KWP	**Kalwaria Pacla**	**25.88**	**106**	P		**P**	**05 39 16.7**	**+0.4**
PMRV	**Marv??o**	**25.89**	**162**	*e*P		**P**	**05 39 16.8**	**+0.3**
	comp=Z,150nm,1.8s							
PMRV				*e*S		S	05 44 09.0	+22
CRVS	**Cervenica-Dubn**	**25.93**	**109**	*e*P		**P**	**05 39 17.5**	**+0.6**
CRVS				pmax		pmax		
	comp=Z,291nm,2.0s							
CRVS	**Cervenica-Dubn**	**25.93**	**109**	*e*P		**P**	**05 39 17.4**	**+0.6**
LSH	**Leshukonskoye**	**25.99**	**60**	*e*P		**P**	**05 39 16.2**	**-1.0**
	comp=Z,110nm,1.5s							
LSH				*e*S		**S**	**05 43 47.0**	**-1.2**
BEHE	**Becsehely**	**26.04**	**118**	*e*P		**P**	**05 39 19.5**	**+1.7**
SCHQ	**Schefferville**	**26.05**	**272**	P		**P**	**05 39 16.1**	**-1.7**
	comp=Z,12nm,0.8s,baz=41,slow=6.8,SNR=11							
SCHQ				LR		LR	05 47 55.2	
	comp=Z,448nm,20.4s,baz=60,slow=33							
SCHQ	**Schefferville**	**26.05**	**272**	P		**P**	**05 39 16.8**	**-1.1**
PSZ	**Piszkesteto**	**26.08**	**112**	⇑P		**P**	**05 39 18.0**	**-0.3**
PSZ	**Piszkesteto**	**26.08**	**112**	P		**P**	**05 39 18.2**	**-0.1**
PSZ				pmax		pmax		
	comp=Z,103nm,1.4s							
PSZ	**Piszkesteto**	**26.08**	**112**	P		**P**	**05 39 18.2**	**-0.1**
CRES	**Cresnjev**	**26.09**	**120**	⇓*i*P		**P**	**05 39 17.3**	**-1.0**
PMAFR	**Mafra**	**26.13**	**165**	*e*P		**P**	**05 39 19.5**	**+0.8**
	comp=Z,218nm,1.7s							
PMAFR				*e*S		S	05 44 03.2	+12
ESBB	**Sonseca Array**	**26.18**	**156**	P		**P**	**05 39 19.1**	**-0.1**
ESBB				IAmb		IAmb	05 39 31.6	
	comp=Z,30nm,1.2s							
ESDC	**Sonseca Array**	**26.18**	**156**	P		**P**	**05 39 18.2**	**-1.0**
	comp=Z,5.5nm,0.9s,baz=350,slow=8.2,SNR=29							
ESDC				LR		LR	05 48 26.0	
	comp=Z,267nm,21.6s,baz=345,slow=34							
KOLS	**Kolonicke sedl**	**26.24**	**108**	*e*P		**P**	**05 39 18.5**	**-1.1**
KOLS				pmax		pmax		
	comp=Z,90nm,1.4s							
KOLS	**Kolonicke sedl**	**26.24**	**108**	*e*P		**P**	**05 39 18.5**	**-1.1**
PAB	**San Pablo**	**26.24**	**157**	P		**P**	**05 39 20.2**	**+0.4**
PAB				pmax		pmax		
	comp=Z,24nm,1.1s							
PAB	**San Pablo**	**26.24**	**157**	P		**P**	**05 39 20.2**	**+0.4**
PAB				IAmb		IAmb	05 39 32.6	
	comp=Z,24nm,1.1s							
BOJS	**Bojanci**	**26.29**	**121**	*e*P		**P**	**05 39 19.2**	**-0.9**
LVV	**L'vov**	**26.29**	**104**	*e*P		**P**	**05 39 19.6**	**-0.4**
LVV				*e*S		**S**	**05 43 47.3**	**-5.8**
LVV				pmax		pmax		
	comp=Z,400nm,1.9s							
LVV				smax		smax		
	comp=E,800nm,7.3s							
LVV				smax		smax		
	comp=N,900nm,6.3s							
LVV				MLR		MLR		
	comp=E,800nm,14.0s							
LVV				MLR		MLR		
	comp=N,700nm,13.0s							
LVV				MLR		MLR		
	comp=Z,300nm,13.0s							
LIS	**Lisbon**	**26.38**	**165**	*e*P		**P**	**05 39 21.4**	**+0.5**
LIS				AMb		AMB	05 39 24.9	
	comp=Z,91nm,2.1s							
LIS	**Lisbon**	**26.38**	**165**	*e*P		**P**	**05 39 21.4**	**+0.5**
UZH	**Uzhgorod**	**26.49**	**108**	*e*P		**P**	**05 39 20.1**	**-1.7**
UZH				*i*			05 39 21.0	
UZH				*i*			05 39 24.7	
UZH				*i*			05 39 58.2	
UZH				*e*S		**S**	**05 43 48.8**	**-7.5**
UZH				MLR		MLR		
	comp=Z,60nm,14.0s							
OSSC	**Osservatorio P**	**26.59**	**129**	P		**P**	**05 39 22.1**	**-0.7**
OSSC				IAmb		IAmb	05 39 29.1	
	comp=Z,47nm,1.1s							
EVO	**Evora**	**26.70**	**163**	*e*P		**P**	**05 39 23.2**	**-0.6**
	comp=Z,39nm,1.7s							
MORH	**Mrgy, Hungar**	**26.98**	**116**	⇓*i*P		**P**	**05 39 24.7**	**-1.5**
PNCL	**Nicolau / Gran**	**27.05**	**164**	*e*P		**P**	**05 39 27.2**	**+0.3**
	comp=Z,53nm,2.0s							
PNCL				*e*S		S	05 44 18.5	+13
PBEJ	**Beja**	**27.21**	**163**	*e*P		**P**	**05 39 29.1**	**+0.7**
	comp=Z,70nm,1.8s							
MURB	**Monte Urbino**	**27.25**	**127**	P		**P**	**05 39 28.9**	**+0.1**
LATE	**Laterza**	**27.58**	**129**	P		**P**	**05 39 31.0**	**-0.7**
LATE				IAmb		IAmb	05 39 41.6	
	comp=Z,46nm,1.5s							
PRGR	**Permogore**	**27.64**	**67**	*e*P		**P**	**05 39 32.4**	**+0.3**
	comp=Z,79nm,1.7s							
PRGR				*e*S		**S**	**05 44 15.3**	**+1.1**
PRGR	**Permogore**	**27.64**	**67**	⇓*i*P		**P**	**05 39 32.3**	**+0.3**
PRGR				pmax		pmax		
	comp=Z,62nm,1.5s							
BLY	**Banja Luka**	**27.65**	**119**	⇓*i*P		**P**	**05 39 32.0**	**-0.3**
AKASG	**Malin Array Be**	**27.82**	**97**	P		**P**	**05 39 32.4**	**-1.3**
	comp=Z,6.0nm,0.8s,baz=321,slow=9.5,SNR=20							
AKASG				LR		LR	05 50 20.7	
	comp=Z,121nm,19.6s,baz=315,slow=36							
AKBB	**Malin Array Si**	**27.82**	**97**	P		**P**	**05 39 32.6**	**-1.2**
AKBB				pmax		pmax		
	comp=Z,32nm,1.3s							
AKBB	**Malin Array Si**	**27.82**	**97**	P		**P**	**05 39 32.5**	**-1.2**
AKBB				IAmb		IAmb	05 39 46.2	
	comp=Z,32nm,1.3s							
MORF	**Marmelete**	**27.83**	**165**	*e*P		**P**	**05 39 34.4**	**+0.4**
MORF				AMb		AMB	05 39 41.9	
	comp=Z,44nm,2.0s							
MORF				*e*S		**S**	**05 44 17.9**	**+0.2**
MORF	**Marmelete**	**27.83**	**165**	*e*P		**P**	**05 39 34.4**	**+0.4**
MORF				*e*S		**S**	**05 44 17.9**	**+0.2**
OBN	**Obninsk**	**27.88**	**84**	LR		LR	05 50 30.2	
	comp=Z,61nm,19.3s,baz=346,slow=36							
OBN	**Obninsk**	**27.88**	**84**	*e*P		**P**	**05 39 33.6**	**-0.6**
OBN				*e*PPP		PPP	05 40 27.7	
OBN				*e*			05 42 46.6	
OBN				*e*S		**S**	**05 44 18.6**	**+0.6**
OBN				*e*SS		**SnSn**	**05 45 32.2**	**+1.8**
OBN				pmax		pmax		
	comp=Z,156nm,1.7s							
OBN				MLR		MLR		
	comp=Z,335nm,15.0s							
OBN	**Obninsk**	**27.88**	**84**	P		**P**	**05 39 33.8**	**-0.5**
MOS	**Moscow**	**27.91**	**82**	*e*P		**P**	**05 39 33.2**	**-1.4**
MOS				*e*			05 40 31.2	
MOS				*e*S		**S**	**05 44 17.2**	**-1.5**
MOS				pmax		pmax		
	comp=Z,93nm,1.7s							
MOS				pmax		pmax		
	comp=Z,200nm,1.9s							
MOS				smax		smax		
	comp=E,500nm,4.3s							
PFVI	**Vila Bisbo**	**27.98**	**165**	*e*S		S	05 44 32.2	+12
FRGS	**Fruska Gora**	**28.31**	**115**	⇓*i*P		**P**	**05 39 37.2**	**-1.0**
BUR08	**Bucovina Ar. S**	**28.46**	**106**	P		**P**	**05 39 40.1**	**+0.4**
BURAR	**Bucovina Array**	**28.49**	**106**	⇓P		**P**	**05 39 40.2**	**+0.3**
BURAR	**Bucovina Array**	**28.49**	**106**	⇓P		**P**	**05 39 40.2**	**+0.3**
CJR	**Cluj-Napoca**	**28.55**	**109**	⇓P		**P**	**05 39 41.0**	**+0.6**
CJR	**Cluj-Napoca**	**28.55**	**109**	⇓P		**P**	**05 39 41.0**	**+0.6**
BZS	**Buzias**	**28.64**	**113**	⇑P		**P**	**05 39 39.2**	**-2.0**
BZS	**Buzias**	**28.64**	**113**	⇑P		**P**	**05 39 39.2**	**-2.0**
TEKS	**Tekeris**	**28.71**	**116**	*e*P		**P**	**05 39 42.2**	**+0.4**
INTR	**Introdacqua**	**28.83**	**126**	P		**P**	**05 39 43.7**	**+0.7**
INTR				IAmb		IAmb	05 39 47.2	
	comp=Z,23nm,1.2s							
BBLS	**Lazići**	**29.24**	**117**	⇓*i*P		**P**	**05 39 45.0**	**-1.6**
DIVS	**Divibare**	**29.27**	**116**	⇓*i*P		**P**	**05 39 43.5**	**-3.4**
DIVS	**Divibare**	**29.27**	**116**	P		**P**	**05 39 47.5**	**+0.7**
DIVS				IAmb		IAmb	05 39 53.1	
	comp=Z,24nm,1.5s							
MDVR	**Moldovita**	**29.37**	**113**	⇑P		**P**	**05 39 47.4**	**-0.3**
SORM	**Soroca**	**29.40**	**102**	⇑P		**P**	**05 39 48.4**	**+0.6**
SORM	**Soroca**	**29.40**	**102**	⇑P		**P**	**05 39 48.4**	**+0.6**
HERR	**Herculane**	**29.57**	**112**	⇑P		**P**	**05 39 48.7**

ANN pmax pmax
comp=Z,31nm,1.2s
ANN MLR MLR
comp=Z,217nm,9.0s
ANN MLR MLR
comp=E,328nm,10.0s
ARU Arti 36.10 66 *c iP* **P 05 40 47.2 +0.9**
ARU 05 42 08.3
ARU 05 42 26.2
ARU PPP PPP 05 43 16.1
ARU S **S 05 46 29.6 +3.6**
ARU SS **SnSn 05 48 51.7 +1.7**
ARU SSS SSS 05 49 15.1
ARU pmax pmax
comp=Z,50nm,1.8s
ARU MLR MLR
comp=Z,597nm,16.0s
ARU Arti 36.10 66 P **P 05 40 46.9 +0.6**
ARU IAmb IAmb 05 40 55.1
comp=Z,18nm,1.3s
ARU PP **PP 05 42 10.1 +2.2**
FRNY Flat Rock 36.39 265 P 05 40 48.4 -0.4
D53A Lac Vacive, Po 36.39 271 P **P 05 40 48.7 -0.2**
baz=39
D53A Lac Vacive, Po 36.39 271 P **P 05 40 48.5 -0.4**
D53A IAmb IAmb 05 40 59.8
comp=Z,21nm,1.2s
NRIK Noril'sk 36.51 35 P **P 05 40 50.4 +0.8**
comp=Z,7.2nm,0.8s,baz=321,slow=5.5,SNR=9.5
NRIK LR LR 05 57 42.9
comp=Z,150nm,18.6s,baz=9.5,slow=39
E54A Lac Daplat, Po 36.67 270 P **P 05 40 51.6 +0.4**
baz=39
ORIO Orleans, Innes 36.72 267 P P 05 40 50.9 -0.8
G57A Newington 36.77 266 P **P 05 40 53.2 +1.1**
baz=38
D52A ZEK Kipawa Sen 36.78 271 P **P 05 40 51.8 -0.4**
baz=39
MDUB Mudurnu 36.81 107 P P 05 40 54.2 +1.6
E53A Dumoine, Ponti 36.92 270 P **P 05 40 52.9 -0.6**
baz=39
LONY Lake Ozonia 36.98 265 P P 05 40 51.8 -2.2
baz=37
D51A Lot 18 Range I 37.10 272 P P 05 40 59.2 +4.3
baz=39
D50A G1974 Best Tow 37.25 273 P P 05 40 55.9 -0.3
baz=39
ILGA Ilgaz 37.37 104 P P 05 40 58.5 +0.9
ILGA IAmb IAmb 05 41 02.1
comp=Z,27nm,1.1s
G55A Calabogie 37.40 268 P P 05 40 57.8 +0.3
baz=38
MANT Manisa 37.42 112 P P 05 40 58.5 +0.5
MANT PP **PP 05 42 22.6 -0.3**
E51A G1948 Merrick 37.59 272 P P 05 40 58.6 -0.4
baz=39
PLVO Plevna 37.72 268 P P 05 41 00.3 +0.1
G54A Lake Saint Pet 37.88 269 P **P 05 41 01.6 +0.1**
baz=38
GOF Gofitskoye 38.10 91 ⇑ *iP* **P 05 41 04.4 +1.0**
GOF pmax pmax
comp=Z,170nm,1.7s
H55A Tweed 38.16 268 P P 05 41 03.9 0.0
baz=37
BOLV Bolvadin 38.19 109 P P 05 41 05.3 +1.0
BR131 Keskin Array S 38.45 105 P P 05 41 07.3 +0.7
BR131 pmax pmax
comp=Z,25nm,1.0s
BR131 Keskin Array S 38.45 105 P **P 05 41 07.3 +0.7**
BR131 IAmb IAmb 05 41 11.1
comp=Z,25nm,1.0s
BRTR Keskin Array B 38.45 105 P **P 05 41 07.0 +0.5**
comp=Z,8.3nm,0.8s,baz=330,slow=7.5,SNR=21
BRTR LR LR 05 57 59.7
comp=Z,105nm,19.1s,baz=304,slow=38
D47A Chapleau 38.74 276 P **P 05 41 06.9 -1.9**
baz=39
ISP Isparta 38.78 110 P **P 05 41 06.8 -2.5**
ISP pmax pmax
comp=Z,28nm,1.5s
ISP Isparta 38.78 110 P **P 05 41 06.8 -2.5**
KIV Kislovodsk 38.83 92 *eP* **P 05 41 09.2 -0.4**
KIV *eS* **S 05 47 07.6 -0.3**
KIV pmax pmax
comp=Z,45nm,1.1s
KIV pmax pmax
comp=Z,106nm,3.8s
KIV MLR MLR
comp=Z,410nm,16.0s
KIV Kislovodsk 38.83 92 P **P 05 41 09.7 +0.1**
KIV IAmb IAmb 05 41 13.6
comp=Z,24nm,1.2s
SADO Sadowa 38.83 270 P **P 05 41 08.3 -1.2**
comp=Z,3.9nm,0.8s,baz=53,slow=8.2,SNR=4.6
SADO Sadowa 38.83 270 P **P 05 41 09.4 -0.1**
SADO PP **PP 05 42 36.2 -1.9**
KBZ Khabaz 39.10 92 P **P 05 41 12.8 +1.0**
comp=Z,11nm,0.8s,baz=321,slow=9.8,SNR=5.5
KBZ LR LR 05 57 42.4
comp=Z,208nm,18.3s,baz=321,slow=37
D46A Sault St. Mari 39.27 276 P **P 05 41 12.8 -0.3**
baz=39
YKA Yellowknife Ar 39.27 313 P **P 05 41 11.2 -1.8**
comp=Z,2.9nm,0.9s,baz=43,slow=9.1,SNR=6.3
YKA PcP **PcP 05 43 20.3 -1.3**
comp=Z,1.8nm,0.8s,baz=38,slow=3.7,SNR=4.1
YKA LR LR 05 57 21.3
comp=Z,98nm,18.6s,baz=0.0,slow=36
E47A Iron Bridge 39.28 275 P **P 05 41 13.1 -0.2**
baz=38
F49A Sandfield 39.29 273 P **P 05 41 12.7 -0.6**
baz=38
ELL Elmali 39.46 112 P **P 05 41 15.9 +0.9**
ELL pmax pmax
comp=Z,170nm,1.4s
ELL Elmali 39.46 112 P **P 05 41 15.9 +0.9**
F48A Evansville 39.49 274 P **P 05 41 15.3 +0.3**
baz=38
AKAS Kas 39.79 112 P **P 05 41 17.7 -0.1**
AKAS IAmb IAmb 05 41 18.8
comp=Z,30nm,1.2s
E46A Sault Ste Mari 39.79 276 P **P 05 41 17.5 0.0**
INK Inuvik 39.91 329 P **P 05 41 16.6 -1.7**
comp=Z,2.8nm,0.9s,baz=26,slow=12,SNR=6.6
INK PcP **PcP 05 43 22.2 -1.3**
comp=Z,5.0nm,1.1s,baz=58,slow=8.5,SNR=4.9
INK Inuvik 39.91 329 P **P 05 41 18.5 +0.3**
INK pmax pmax
comp=Z,13nm,1.2s
INK Inuvik 39.91 329 P **P 05 41 18.4 +0.3**
FFC Flin Flon 40.64 298 P **P 05 41 24.9 +0.4**
FFC pmax pmax
comp=Z,32nm,1.5s
FFC Flin Flon 40.64 298 P **P 05 41 24.9 +0.4**
FFC IAmb IAmb 05 41 29.4
comp=Z,32nm,1.5s
M57A Sunshine Farm, 40.74 265 P **P 05 41 26.1 +0.6**
baz=35
M57A Sunshine Farm, 40.74 265 P **P 05 41 25.5 0.0**
M57A IAmb IAmb 05 41 27.5
comp=Z,32nm,1.5s
GROC Groznyy 40.77 90 *eP* **P 05 41 25.9 +0.2**
GROC *eS* **S 05 47 36.8 -0.1**
GROC pmax pmax
comp=Z,35nm,0.5s
D41A Chassel 41.07 280 P **P 05 41 28.1 +0.1**
D41A IAmb IAmb 05 41 40.1
comp=Z,38nm,1.4s
GLMI Grayling 41.15 275 P **P 05 41 28.6 -0.2**
AKH Akhalkalaki 41.24 94 P **P 05 41 31.1 +1.3**
AKH pmax pmax
comp=Z,68nm,1.4s
AKH Akhalkalaki 41.24 94 P **P 05 41 31.1 +1.3**
TBLG Delisi 41.51 92 P **P 05 41 32.5 +0.7**
TBLG pmax pmax
comp=Z,72nm,1.5s
TBLG Delisi 41.51 92 P **P 05 41 32.5 +0.7**
ULM Lac du Bonnet 41.64 289 LR LR 05 56 25.0
comp=Z,154nm,18.2s,baz=48,slow=33
ULM Lac du Bonnet 41.64 289 P **P 05 41 32.7 0.0**
ULM pmax pmax
comp=Z,10.0nm,1.0s
ULM Lac du Bonnet 41.64 289 P **P 05 41 32.7 0.0**
SSPA Standing Stone 41.64 265 P **P 05 41 33.2 +0.4**
M54A Oil Creek Stat 41.69 267 P **P 05 41 33.6 +0.3**
baz=35
M54A Oil Creek Stat 41.69 267 P **P 05 41 33.2 0.0**
M54A IAmb IAmb 05 41 35.0
comp=Z,23nm,1.2s
MAK Makhachkala 41.70 89 *eP* P 05 41 28.3 -5.0
MAK *e* 05 43 06.2
MAK *eS* **S 05 47 42.3 -8.4**
MAK *eSS* **SS 05 50 50.4 -5.1**
MAK pmax pmax
comp=Z,132nm,1.3s
ABKAR Akbulak array 42.00 73 P **P 05 41 36.2 +0.5**
ABKAR IAmb IAmb 05 41 45.9
comp=Z,15nm,0.7s
GAZ Gaziantep 42.10 104 P **P 05 41 37.5 +0.8**
GAZ IAmb IAmb 05 41 41.3
comp=Z,18nm,1.0s
N54A Moraine State 42.28 267 P **P 05 41 37.4 -0.7**
N53A Lisbon 42.77 268 P **P 05 41 41.9 -0.2**
N53A IAmb IAmb 05 41 46.8
comp=Z,29nm,1.4s
TOLK Toolik Lake Re 42.82 336 P **P 05 41 43.1 +0.9**
baz=28,SNR=15
TOLK Toolik Lake Re 42.82 336 P **P 05 41 43.1 +0.9**
AKT Akhty 43.01 90 *eP* **P 05 41 44.3 +0.2**
AKT *e* 05 43 23.2
AKT *e* 05 43 33.8
AKT pmax pmax
comp=Z,42nm,1.8s
AGMN Agassiz Nation 43.15 287 P **P 05 41 46.0 +0.9**
baz=38
AGMN Agassiz Nation 43.15 287 P **P 05 41 45.0 -0.1**
BRVK Borovoye 43.15 62 *ceP* **P 05 41 44.9 -0.1**
BRVK pmax pmax
comp=Z,43nm,1.7s
BRVK Borovoye 43.15 62 P **P 05 41 45.9 +0.9**
BRVK IAmb IAmb 05 41 50.4
comp=Z,42nm,1.5s
G40A Rib Lake 43.18 280 P **P 05 41 45.4 0.0**
L48A N Adams 43.39 272 P **P 05 41 47.2 +0.1**
L48A IAmb IAmb 05 41 48.4
comp=Z,20nm,1.1s
O53A New Philadelph 43.39 268 P **P 05 41 48.5 +1.4**
baz=34
O53A New Philadelph 43.39 268 P **P 05 41 47.4 +0.3**
O53A IAmb IAmb 05 41 52.1
comp=Z,25nm,1.2s
MARD Mardin 43.49 100 P P 05 41 49.3 +1.2
GEVA Gevas 43.62 97 P P 05 41 50.8 +1.6
O52A Adamsville 43.77 268 P **P 05 41 50.7 +0.5**
baz=34
O52A Adamsville 43.77 268 P **P 05 41 50.7 +0.5**
O52A IAmb IAmb 05 41 55.0
comp=Z,34nm,1.4s
O52A PcP **PcP 05 43 35.7 -1.1**
O51A Pataskala 44.08 269 P **P 05 41 52.8 +0.2**
baz=34,SNR=5.8
P53A Whipple 44.10 267 P **P 05 41 53.4 +0.6**
baz=34
P53A Whipple 44.10 267 P P 05 41 53.3 +0.5
N49A Columbus Grove 44.12 271 P **P 05 41 52.8 -0.1**
N49A IAmb IAmb 05 41 54.0
comp=Z,20nm,0.9s
R56A Bull Pasture M 44.14 265 P **P 05 41 55.0 +1.7**
baz=33
ACSO Alum Creek Sta 44.17 269 P **P 05 41 51.9 -1.5**
baz=34
ACSO Alum Creek Sta 44.17 269 P **P 05 41 52.5 -0.8**
ACSO IAmb IAmb 05 41 54.8
comp=Z,17nm,1.0s
COLD Coldfoot 44.19 336 P **P 05 41 53.8 +0.7**
baz=27
COLD Coldfoot 44.19 336 P **P 05 41 54.6 +1.4**
COLD IAmb IAmb 05 41 59.6
comp=Z,16nm,1.2s
P52A Corning 44.30 268 P **P 05 41 52.3 -2.0**
baz=34
TAM Tamanrasset 44.44 149 P **P 05 41 56.7 +0.8**
TAM pmax pmax
comp=Z,14nm,1.3s
TAM Tamanrasset 44.44 149 P P 05 41 56.7 +0.8
I40A Norwalk 44.46 279 P P 05 41 56.1 +0.4
EGAK Eagle 44.55 329 P **P 05 41 56.4 +0.3**
EGAK IAmb IAmb 05 42 01.5
comp=Z,17nm,1.3s
R55A Marlinton 44.55 265 P **P 05 41 56.4 -0.2**
R55A IAmb IAmb 05 42 02.8
comp=Z,19nm,1.4s
R55A PcP **PcP 05 43 38.0 -1.5**
Q53A Leroy 44.68 267 P **P 05 41 57.7 +0.3**
baz=34
DAWY Dawson 44.77 328 P **P 05 41 58.7 +0.8**
DAWY IAmb IAmb 05 42 04.0
comp=Z,22nm,1.4s
DAWY **PP 05 43 40.8 -1.1**
O49A Covington 44.79 270 P **P 05 41 58.3 0.0**
O49A IAmb IAmb 05 42 02.7
comp=Z,22nm,1.1s
P51A Williamsport 44.82 269 P **P 05 41 58.6 +0.1**
baz=34
P51A Williamsport 44.82 269 P **P 05 41 58.8 +0.2**
P51A IAmb IAmb 05 41 59.8
comp=Z,20nm,1.1s
JFWS Jewell Farm 45.10 278 P P 05 42 01.2 +0.4
JFWS Jewell Farm 45.10 278 P P 05 42 01.2 +0.4
JFWS IAmb IAmb 05 42 10.1
comp=Z,20nm,1.4s
Q51A Peebles 45.32 269 P **P 05 42 02.7 +0.1**
Q51A IAmb IAmb 05 42 06.4
comp=Z,12nm,0.8s
K27K Chicken 45.40 329 P **P 05 42 03.4 +0.6**
baz=30
P49A Miami Univ. Ec 45.49 270 P **P 05 42 02.8 -1.1**
baz=34
P49A Miami Univ. Ec 45.49 270 P **P 05 42 04.0 +0.1**
P49A IAmb IAmb 05 42 05.0
comp=Z,16nm,1.1s
POKR Poker Plat Res 45.55 333 P **P 05 42 05.7 +1.6**
baz=28
IL31 45.75 332 P **P 05 42 06.4 +0.8**
IL31 IAmb IAmb 05 42 12.1
comp=Z,23nm,1.2s
IL31 **PcP 05 43 44.2 +1.1**
ILAR Eielson Array 45.75 332 P **P 05 42 05.2 -0.5**
comp=Z,5.6nm,1.0s,baz=26,slow=5.4,SNR=32
ILAR PcP **PcP 05 43 42.5 -0.7**
comp=Z,4.5nm,0.9s,baz=352,slow=2.7,SNR=16
ILAR LR LR 06 02 39.7
comp=Z,95nm,18.5s,baz=37,slow=38
SFIN Lafayette 45.82 273 P **P 05 42 06.0 -0.5**
baz=34
SFIN Lafayette 45.82 273 P **P 05 42 07.1 +0.7**
SFIN IAmb IAmb 05 42 07.3
comp=Z,8.2nm,0.8s
MDM Murphy Dome 45.85 333 P **P 05 42 07.9 +1.4**
MDM IAmb IAmb 05 42 13.2
comp=Z,26nm,1.2s
COLA College 45.85 333 P **P 05 42 07.2 +0.8**
COLA pmax pmax
comp=Z,21nm,1.1s
COLA College 45.85 333 P **P 05 42 07.2 +0.8**
COLA IAmb IAmb 05 42 12.9
comp=Z,21nm,1.1s
TCOL CIGO, UAF Yank 45.85 333 P **P 05 42 07.3 +0.9**
baz=28
SCRK Sand Creek 45.86 330 P **P 05 42 07.4 +0.8**
baz=29
P48A Milroy 45.86 271 P **P 05 42 06.9 0.0**
P48A IAmb IAmb 05 42 07.2
comp=Z,16nm,1.0s
CCB Clear Creek Bu 46.05 333 P **P 05 42 08.9 +0.9**
CCB IAmb IAmb 05 42 14.2
comp=Z,16nm,1.4s
HDA Harding Lake 46.09 332 P **P 05 42 09.1 +0.7**
baz=28,SNR=9.6
HDA Harding Lake 46.09 332 P **P 05 42 09.5 +1.2**
HDA IAmb IAmb 05 42 14.6
comp=Z,20nm,1.2s
DOT Dot Lake 46.16 330 P **P 05 42 09.8 +0.8**
DOT IAmb IAmb 05 42 15.5
comp=Z,18nm,1.4s
T54A Tazewell 46.21 266 P **P 05 42 09.2 -0.4**
baz=32
RIDG Independent Ri 46.25 331 P **P 05 42 10.3 +0.7**
RIDG IAmb IAmb 05 42 12.8
comp=Z,12nm,1.3s
WRH Wood River Hil 46.26 333 P **P 05 42 10.7 +1.1**
WRH IAmb IAmb 05 42 15.0
comp=Z,14nm,1.3s
U56A King 46.30 264 P **P 05 42 10.2 -0.1**
U56A IAmb IAmb 05 42 21.5
comp=Z,27nm,1.4s
NEA2 Nenana 46.34 334 P **P 05 42 10.9 +0.5**
baz=27,SNR=23
R50A Paris 46.37 269 P **P 05 42 10.4 -0.4**
R50A IAmb IAmb 05 42 20.8
comp=Z,14nm,1.4s
DGMT Dagmar 46.39 293 P P 05 42 10.9 0.0
K38A Parkersburg 46.39 280 P P 05 42 11.2 +0.2
U55A TA2, Sparta 46.45 265 P **P 05 42 11.7 +0.2**
baz=32
BRZS Berezniki 46.50 63 *i* P **P 05 42 12.6 +0.8**
comp=Z,41nm,1.7s,baz=63
BRZS *eS* **S 05 49 02.4 +1.9**
baz=63
BRZS Berezniki 46.50 63 *i* P **P 05 42 12.5 +0.8**
BRZS *eS* **S 05 49 02.4 +1.9**
BRZS pmax pmax
comp=Z,41nm,1.7s
BLO Bloomington 46.57 272 P **P 05 42 11.9 -0.5**
BLO pmax pmax
comp=Z,7.0nm,0.7s
BLO Bloomington 46.57 272 P **P 05 42 11.9 -0.5**
BLO IAmb IAmb 05 42 13.0
comp=Z,6.5nm,0.7s
S51A Beattyville 46.59 268 P **P 05 42 12.4 -0.2**
S51A IAmb IAmb 05 42 17.0
comp=Z,14nm,1.1s
O44A Mansfield 46.60 274 P **P 05 42 13.3 +0.7**
HDIL Hopedale 46.62 275 P **P 05 42 13.5 +0.7**
baz=34
HDIL Hopedale 46.62 275 P **P 05 42 13.5 +0.7**
T53A Wise 46.69 266 P **P 05 42 13.4 -0.1**
baz=32
MENT Mentasta 46.71 330 P **P 05 42 14.8 +1.5**
MENT IAmb IAmb 05 42 21.9
comp=Z,16nm,1.3s
R49A Shelbyville 46.72 270 P **P 05 42 14.3 +0.7**
R49A IAmb IAmb 05 42 18.9
comp=Z,17nm,1.5s
V56A Mocksville 46.80 264 P **P 05 42 14.6 +0.3**
baz=32
PAX Paxson 47.06 331 P **P 05 42 16.7 +0.6**
PAX pmax pmax
comp=Z,18nm,1.4s
PAX Paxson 47.06 331 P **P 05 42 16.7 +0.6**
PAX IAmb IAmb 05 42 27.6
comp=Z,18nm,1.4s
V55A Taylorsville 47.07 264 P **P 05 42 17.0 +0.6**
V55A IAmb IAmb 05 42 24.2
comp=Z,8.7nm,1.0s
MCK McKinley 47.09 333 P **P 05 42 17.5 +1.3**
MCK pmax pmax
comp=Z,29nm,1.3s
MCK McKinley 47.09 333 P **P 05 42 17.5 +1.3**
HYT Haines Junctio 47.10 325 P **P 05 42 17.2 +0.7**
HYT IAmb IAmb 05 42 25.2
comp=Z,17nm,1.3s
ECSD EROS Data Cent 47.13 284 P **P 05 42 17.4 +0.7**
baz=35
DLBC Dease Lake 47.13 318 P **P 05 42 14.2 -2.5**
comp=Z,1.8nm,0.9s,baz=22,slow=11,SNR=3.9
DLBC Dease Lake 47.13 318 P **P 05 42 17.8 +1.1**
BPAW Bear Paw Mtn. 47.15 334 P P 05 42 17.4 +0.7
WCI Wyandotte Cave 47.26 271 P **P 05 42 17.7 -0.1**
baz=33
WCI Wyandotte Cave 47.26 271 P **P 05 42 18.4 +0.6**
WCI pmax pmax
comp=Z,12nm,0.9s
WCI Wyandotte Cave 47.26 271 P **P 05 42 18.4 +0.6**
WCI IAmb IAmb 05 42 22.1
comp=Z,12nm,0.8s
W56A Indian Trail 47.41 263 P **P 05 42 19.5 +0.5**
baz=32
V54A Nebo 47.45 265 P **P 05 42 19.6 +0.3**
baz=32
SUSD Miller 47.52 286 P **P 05 42 19.3 -0.5**
SUSD PcP **PcP 05 43 50.0 +0.2**
OLIL Olney 47.62 273 P **P 05 42 20.4 -0.2**
ZAA0 Zalesovo Array 47.67 51 P **P 05 42 21.2 +0.5**
ZALV Zalesovo Beam 47.67 51 P **P 05 42 20.3 -0.5**
comp=Z,1.0nm,0.3s,baz=324,slow=7.3,SNR=10
ZALV PcP **PcP 05 43 49.6 -0.5**
comp=Z,1.8nm,0.7s,baz=298,slow=3.2,SNR=5.3
ZALV LR LR 06 03 52.7
comp=Z,135nm,18.2s,baz=314,slow=38
MCARA McCarthy VSAT 47.93 328 P **P 05 42 23.3 +0.5**
MCARA IAmb IAmb 05 42 41.3
comp=Z,12nm,1.2s
MCARA PcP **PcP 05 43 52.0 +1.1**
GLB Gilahina Butte 48.06 329 P **P 05 42 24.4 +0.6**
GLB IAmb IAmb 05 42 30.2
comp=Z,12nm,1.3s
USIN University of 48.07 272 P **P 05 42 24.0 -0.1**
BALM Baldy 48.08 328 P **P 05 42 25.3 +1.2**
BALM PcP **PcP 05 43 52.5 +0.9**
KURK Kurchatov 48.14 58 *ceP* **P 05 42 23.6 -0.8**
KURK pmax pmax
comp=Z,36nm,1.7s
KURK Kurchatov 48.14 58 P **P 05 42 24.5 0.0**
KURK IAmb IAmb 05 42 27.5
comp=Z,15nm,1.1s
W54A Cherokee Point 48.14 265 P **P 05 42 24.8 +0.2**
baz=32
X56A White Oak 48.15 263 P **P 05 42 24.6 -0.1**
baz=31
VRDI Verde Repeater 48.17 328 P **P 05 42 25.8 +1.0**
VRDI PcP **PcP 05 43 52.3 +0.3**
PAULI Pauline 48.20 264 P **P 05 42 25.5 +0.3**
PAULI IAmb IAmb 05 42 36.1
comp=Z,14nm,1.2s
V51A Loudon 48.46 267 P **P 05 42 27.7 +0.5**
V51A IAmb IAmb 05 42 28.9
comp=Z,17nm,1.3s
ISLE Juniper Island 48.47 327 P **P 05 42 27.1 +0.1**
ISLE IAmb IAmb 05 42 40.5
comp=Z,9.7nm,1.0s
SCM Sheep Creek Mo 48.47 331 P **P 05 42 28.2 +1.2**
SCM pmax pmax
comp=Z,24nm,1.2s
SCM Sheep Creek Mo 48.47 331 P P 05 42 28.2 +1.2
U49A Red Boiling Sp 48.48 269 P P 05 42 27.4 +0.1
LAO LASA Array 48.64 294 P P 05 42 28.8 +0.4
T47A Sharon Grove 48.65 271 P P 05 42 28.3 -0.2
P40A Paris 48.65 277 P P 05 42 28.7 +0.1
P40A PcP **PcP 05 43 53.5 -0.4**
CPCT Cooper Cave 48.84 267 P **P 05 42 29.9 -0.2**
CPCT IAmb IAmb 05 42 42.3
comp=Z,17nm,1.4s
EGMT Eagleton 48.92 297 P **P 05 42 30.8 +0.2**
baz=35,SNR=14
EGMT Eagleton 48.92 297 P P 05 42 30.8 +0.2
S44A Carbondale 48.98 273 P **P 05 42 30.5 -0.6**
S44A IAmb IAmb 05 42 32.5
comp=Z,24nm,1.4s
PMR Palmer 49.06 332 P **P 05 42 32.2 +0.8**
PMR pmax pmax
comp=Z,25nm,1.5s
PMR Palmer 49.06 332 P **P 05 42 32.2 +0.8**
PMR IAmb IAmb 05 42 37.7
comp=Z,24nm,1.5s
CLTN Cedars of Leba 49.07 269 P **P 05 42 31.7 -0.1**
CLTN IAmb IAmb 05 42 43.6
comp=Z,21nm,1.4s
HMT Hamilton 49.14 328 P P 05 42 33.2 +1.1
SKT Skwentna 49.19 333 P P 05 42 32.5 0.0
SKT IAmb IAmb 05 42 33.9
comp=Z,16nm,1.2s
RAGM Ragged Mountai 49.19 328 P **P 05 42 33.6 +1.1**
RAGM IAmb IAmb 05 42 42.4
comp=Z,22nm,1.2s
RAGM PcP **PcP 05 43 55.9 +0.4**
EYAK Cordova Ski Ar 49.29 329 P P 05 42 34.3 +1.2
T45A Paducah 49.29 272 P **P 05 42 32.5 -1.0**
T45A IAmb IAmb 05 42 36.7
comp=Z,11nm,0.7s
W50A Signal Mountai 49.39 268 P P 05 42 35.0 +0.7
CCM Cathedral Cave 49.54 275 P **P 05 42 35.0 -0.4**
CCM pmax pmax
comp=Z,4.0nm,0.9s
CCM Cathedral Cave 49.54 275 P P 05 42 35.0 -0.4
V48A Smith Brothers 49.58 269 P **P 05 42 35.9 +0.2**

V48A IAmb IAmb 05 42 47.4
comp=Z,14nm,1.4s
HIN Hinchinbrook I 49.59 330 P P 05 42 35.9 +0.4
WALA Waterton Lakes 49.63 301 P P 05 42 36.0 -0.1
WALA IAmb IAmb 05 42 51.3
comp=Z,14nm,1.4s
SWET Sewanee 49.64 268 P P 05 42 36.2 0.0
X51A Calhoun 49.73 267 P P 05 42 37.0 +0.1
X51A IAmb IAmb 05 42 37.8
comp=Z,14nm,1.1s
RSSD Black Hills 49.87 290 P P 05 42 38.2 +0.1
baz=34
Y52A Lilburn 49.99 266 P P 05 42 38.5 -0.3
Y52A IAmb IAmb 05 42 40.3
comp=Z,30nm,1.5s
FPAL Fort Paine 50.08 267 P P 05 42 40.1 +0.5
FPAL IAmb IAmb 05 42 51.0
comp=Z,14nm,1.2s
GOGA Godfrey 50.12 265 P P 05 42 39.3 -0.6
baz=31
T42A Van Buren 50.33 274 P P 05 42 40.2 -1.3
GEYT Alibeck 50.42 84 P P 05 42 42.3 +0.2
comp=Z,2.9nm,0.7s,baz=328,slow=11,SNR=8.9
GEYT PP PP **05 44 37.9 +0.5**
comp=Z,3.2nm,0.9s,baz=328,slow=5.3,SNR=6.6
GEYT LR LR 06 06 33.3
comp=Z,258nm,18.3s,baz=355,slow=39
GYA0B ALIBECK ARRAY 50.42 84 P P 05 42 43.3 +1.2
GYA0B IAmb IAmb 05 42 44.2
comp=Z,19nm,1.4s
GCMT Greycliff 50.73 295 P P 05 42 44.8 +0.3
MGMO Mountain Grove 50.73 275 P P 05 42 43.8 -0.7
S39A Bolivar 50.73 277 P P 05 42 43.9 -0.5
S39A IAmb IAmb 05 42 47.4
comp=Z,11nm,0.9s
GNAR Gosnell 50.77 272 P P 05 42 44.3 -0.4
X48A Hartselle 50.77 269 P P 05 42 44.1 -0.7
X48A IAmb IAmb 05 42 45.2
comp=Z,26nm,1.5s
HRY Holter Researc 50.80 298 P P 05 42 45.0 0.0
Z51A Franklin 50.93 266 P P 05 42 45.8 -0.2
Z51A IAmb IAmb 05 42 57.7
comp=Z,16nm,1.2s
KSU1 Kansas State U 50.95 280 P P 05 42 45.8 -0.3
KSU1 IAmb IAmb 05 42 57.0
comp=Z,12nm,0.8s
255A Hazlehurst 50.97 263 P P 05 42 46.3 +0.1
BTLS Baital 51.08 66 *i* P **P 05 42 47.5 +0.5**
comp=Z,19nm,1.5s,baz=66
BTLS *eS* **S 05 50 06.4 +1.2**
baz=66
BTLS Baital 51.08 66 *i* P **P 05 42 47.5 +0.5**
BTLS *eS* **S 05 50 06.3 +1.2**
BTLS pmax pmax
comp=Z,19nm,1.5s
RLMT Red Lodge 51.13 295 P P 05 42 48.1 +0.5
baz=34,SNR=6.2
RLMT Red Lodge 51.13 295 P P 05 42 48.2 +0.6
RLMT IAmb IAmb 05 42 49.5
comp=Z,19nm,1.4s
LCAR Lake Charles 51.17 273 P P 05 42 47.0 -0.8
KK31 Karatay Array 51.29 70 P P 05 42 49.4 +0.8
KK31 pmax pmax
comp=Z,40nm,1.4s
KK31 Karatay Array 51.29 70 P P 05 42 49.4 +0.8
KKAR Karatay Array 51.29 70 P P 05 42 49.0 +0.4
KKAR pmax pmax
comp=Z,40nm,1.4s
KKAR Karatay Array 51.29 70 P P 05 42 49.0 +0.4
YAK Yakutsk 51.33 19 *i* P **P 05 42 51.3 +2.7**
YAK pmax pmax
comp=Z,7.0nm,0.7s
MSO Missoula 51.50 299 P P 05 42 50.3 +0.1
baz=33
MSO Missoula 51.50 299 P P 05 42 50.6 +0.4
YNE Yellowstone No 51.51 295 P P 05 42 50.4 -0.1
BOZ Bozeman (W) 51.65 297 P P 05 42 51.6 +0.2
baz=33,SNR=24
BOZ Bozeman (W) 51.65 297 P P 05 42 51.6 +0.2
BOZ pmax pmax
comp=Z,17nm,1.1s
BOZ Bozeman (W) 51.65 297 P P 05 42 51.6 +0.2
BOZ IAmb IAmb 05 42 57.9
comp=Z,17nm,1.1s
U40A Yellville 51.66 275 P P 05 42 50.3 -1.1
baz=32,SNR=6.5
U40A Yellville 51.66 275 P P 05 42 50.8 -0.6
LRM Limekiln Ridge 51.78 298 P P 05 42 53.4 +0.9
DZA Taraz 51.80 69 *i* P **P 05 42 52.7 +0.3**
comp=Z,18nm,1.2s,baz=69
DZA Taraz 51.80 69 *i* P **P 05 42 52.6 +0.2**
DZA pmax pmax
comp=Z,18nm,1.2s
YMP Mirror Lake Pl 51.80 295 P P 05 42 52.8 +0.1
IUG Iuzhnay 51.89 71 *i* P **P 05 42 53.5 +0.3**
comp=Z,31nm,1.4s,baz=71
IUG Iuzhnay 51.89 71 *i* P **P 05 42 53.5 +0.3**
IUG pmax pmax
comp=Z,31nm,1.4s
LRAL Lakeview Retre 51.96 268 P P 05 42 51.6 -2.1
baz=31
LRAL Lakeview Retre 51.96 268 P P 05 42 53.0 -0.7
YHH Holmes Hill 52.02 296 P P 05 42 55.1 +0.7
K22A Casper 52.10 291 P P 05 42 53.5 -1.3
baz=33
K22A Casper 52.10 291 P P 05 42 54.1 -0.8
YHL Hebgen Lake 52.10 296 P P 05 42 55.5 +0.5
DGZ Jazzator, Alta 52.11 53 *i* P **P 05 42 54.9 +0.1**
DGZ pmax pmax
comp=Z,12nm,1.4s
YMR Madison River 52.17 296 P P 05 42 56.6 +1.2
QLMT Earthquake Lak 52.22 296 P P 05 42 56.4 +0.6
DLMT Dillon 52.22 297 P P 05 42 55.3 -0.4
U38A Gravette 52.24 277 P P 05 42 54.5 -1.3
H17A Grant Village 52.25 295 P P 05 42 57.7 +1.7
baz=33
H17A Grant Village 52.25 295 P P 05 42 57.0 +1.0
H17A IAmb IAmb 05 43 05.3
comp=Z,13nm,1.1s
WHAR Wooly Hollow 52.32 274 P P 05 42 56.4 +0.1
WHAR IAmb IAmb 05 43 01.4
comp=Z,20nm,1.5s
YPP Pitchstone Pla 52.44 295 P P 05 42 58.2 +0.7
BOD Bodaibo 52.46 30 *eP* **P 05 42 54.8 -2.3**
BOD pmax pmax
comp=Z,12nm,1.8s
SEY Seymchan 52.55 6 *i* P **P 05 42 58.6 +0.9**
FLWY Flagg Ranch 52.56 295 P P 05 42 58.2 -0.1
MAKZ Makanchi 52.62 59 P P 05 42 58.5 0.0
MAKZ pmax pmax
comp=Z,30nm,1.5s
MAKZ Makanchi 52.62 59 P P 05 42 58.5 0.0
MAKZ IAmb IAmb 05 43 02.6
comp=Z,30nm,1.4s
SGDS Sogindy 52.64 66 *i* P **P 05 42 58.8 +0.1**
comp=Z,23nm,1.6s,baz=66
SGDS Sogindy 52.64 66 *i* P **P 05 42 58.8 +0.1**
SGDS pmax pmax
comp=Z,23nm,1.6s
MK31 Makanchi Array 52.75 58 P P 05 42 58.4 -1.0
MK31 pmax pmax
comp=Z,17nm,1.3s
MK31 Makanchi Array 52.75 58 P P 05 42 58.4 -1.0
MK31 IAmb IAmb 05 43 04.2
comp=Z,17nm,1.3s
MKAR Makanchi Array 52.75 58 P P 05 42 58.3 -1.1
comp=Z,2.3nm,0.9s,baz=316,slow=3.3,SNR=18
MKAR LR LR 06 05 27.3
comp=Z,173nm,19.8s,baz=312,slow=36
T35A Sooner Cattle 52.75 279 P P 05 42 58.7 -0.8
T35A IAmb IAmb 05 43 09.0
comp=Z,21nm,1.4s
MCMT McKenzie Canyo 52.76 297 P P 05 43 00.5 +0.6
PHWY Pilot Hill 52.80 289 P P 05 42 59.6 -0.6
TDK Taldyqorghan 52.81 62 *i* P **P 05 43 00.5 +0.6**
baz=62
TDK *eS* **S 05 50 29.6 +0.7**
baz=62
TDK LR LR 06 04 28.9
comp=Z,165nm,13.3s,baz=62
TDK Taldyqorghan 52.81 62 *i* P **P 05 43 00.5 +0.6**
TDK *eS* **S 05 50 29.5 +0.7**
TDK MLR MLR
comp=Z,165nm,13.0s
IMW Indian Meadow 52.81 295 P P 05 43 00.1 -0.2

KUU Kurty 52.94 65 *i* P **P 05 43 01.1 +0.2**
comp=Z,72nm,2.0s,baz=65
KUU LR LR 06 04 45.0
comp=Z,282nm,13.6s,baz=65
KUU Kurty 52.94 65 *i* P **P 05 43 01.1 +0.2**
KUU pmax pmax
comp=Z,72nm,2.0s
KUU MLR MLR
comp=Z,282nm,14.0s
FXWY Fox Creek 53.06 295 P P 05 43 01.8 -0.2
TOA0 Torodi Ar. Sit 53.07 156 P P 05 43 00.7 -1.4
TOA0 IAmb IAmb 05 43 04.5
comp=Z,23nm,1.1s
TORD Torodi Ar. Bea 53.07 156 P P 05 42 59.9 -2.2
comp=Z,9.6nm,0.9s,baz=342,slow=7.9,SNR=32
TORD LR LR 06 05 16.1
comp=Z,116nm,21.6s,baz=15,slow=36
SNOW Snow King Moun 53.10 295 P P 05 43 02.2 -0.1
TPAW Teton Pass 53.16 295 P P 05 43 02.2 -0.6
FRU1 Bishkek 53.18 67 P P 05 43 03.7 +0.9
FRU1 pmax pmax
comp=Z,22nm,0.5s
FRU1 Bishkek 53.18 67 P P 05 43 03.6 +0.9
RWWY Rawlins 53.18 291 P P 05 43 02.5 -0.5
BW06 Boulder Array 53.22 293 P P 05 43 02.1 -1.1
baz=33,SNR=8.3
BW06 Boulder Array 53.22 293 P P 05 43 02.3 -0.9
BW06 IAmb IAmb 05 43 06.8
comp=Z,21nm,1.4s
PD31 Pinedale Array 53.22 293 P P 05 43 02.3 -0.8
PD31 IAmb IAmb 05 43 06.8
comp=Z,18nm,1.3s
PDAR Pinedale Array 53.22 293 P P 05 43 01.2 -1.9
comp=Z,5.9nm,0.8s,baz=57,slow=6.1,SNR=55
PDAR LR LR 06 03 31.9
comp=Z,204nm,20.0s,baz=35,slow=34
REDW Red Top Meadow 53.22 295 P P 05 43 03.4 +0.2
CHKK Chushkaly 53.23 64 *i* P **P 05 43 02.1 -0.9**
baz=64
CHKK Chushkaly 53.23 64 *i* P **P 05 43 02.9 -0.1**
AAK Ala-Archa 53.27 67 *ce* P **P 05 43 03.9 +0.4**
AAK pmax pmax
comp=Z,45nm,1.7s
AAK Ala-Archa 53.27 67 P P 05 43 04.1 +0.6
N23A Red Feather La 53.34 289 P P 05 43 03.8 -0.4
baz=33,SNR=7.3
N23A Red Feather La 53.34 289 P P 05 43 03.8 -0.4
N23A IAmb IAmb 05 43 08.9
comp=Z,35nm,1.5s
BCYI Bear Canyon 53.41 297 P P 05 43 03.9 -0.7
MIAR Mount Ida 53.51 275 P P 05 43 04.2 -0.9
baz=31
KSCO Kaye Shedlock' 53.56 285 P P 05 43 05.4 -0.3
KSCO PcP PcP **05 44 12.0 -0.2**
ECR Eagle Creek 53.69 295 P P 05 43 06.7 +0.1
AAA Alma-Ata 53.74 65 *i* P **P 05 43 07.2 +0.4**
baz=65
AAA LR LR 06 05 10.6
comp=Z,281nm,14.9s,baz=65
AAA Alma-Ata 53.74 65 *i* P **P 05 43 07.2 +0.4**
AAA MLR MLR
comp=Z,281nm,15.0s
AHID Auburn Hatcher 53.83 294 P P 05 43 07.8 +0.2
AHID IAmb IAmb 05 43 13.6
comp=Z,17nm,1.4s
MDOK Medeo 53.84 65 *i* P **P 05 43 08.0 +0.3**
baz=64
MDOK LR LR 06 04 56.5
comp=Z,321nm,15.2s,baz=64
MDOK Medeo 53.84 65 *i* P **P 05 43 07.9 +0.3**
MDOK MLR MLR
comp=Z,321nm,15.0s
TNSS Tian-Shan 53.90 65 *eP* **P 05 43 08.4 0.0**
baz=65
TNSS Tian-Shan 53.90 65 *eP* **P 05 43 08.4 0.0**
BTK Batken 53.97 72 P **P 05 43 08.0 -0.5**
BTK pmax pmax
comp=Z,72nm,1.4s
BTK Batken 53.97 72 P P 05 43 08.0 -0.5
Z41A Richland Creek 54.27 273 P P 05 43 10.3 -0.4
Z41A IAmb IAmb 05 43 21.9
comp=Z,23nm,1.2s
BMO Blue Mountains 54.43 300 P P 05 43 10.9 -0.9
BMO pmax pmax
comp=Z,6.0nm,1.2s
BMO Blue Mountains 54.43 300 P P 05 43 10.9 -0.9
HLID Hailey 54.43 297 P P 05 43 11.3 -0.7
baz=32
HLID Hailey 54.43 297 P P 05 43 12.4 +0.4
SATY Saty 54.45 64 *eP* **P 05 43 12.4 +0.2**
comp=Z,20nm,1.7s,baz=64
SATY LR LR 06 05 41.6
comp=Z,127nm,15.0s,baz=64
SATY Saty 54.45 64 *eP* **P 05 43 12.3 +0.2**
SATY pmax pmax
comp=Z,19nm,1.7s
SATY MLR MLR
comp=Z,127nm,15.0s
SATY Saty 54.45 64 *eP* **P 05 43 12.3 +0.2**
SATY pmax pmax
comp=Z,19nm,1.7s
SATY MLR MLR
comp=Z,127nm,15.0s
CHGR Chuyangaron 54.47 74 P P 05 43 12.5 +0.3
UZB Uzynbulak 54.61 63 *i* P **P 05 43 13.6 +0.2**
comp=Z,25nm,1.8s,baz=63
UZB *eS* **S 05 50 54.3 +0.6**
baz=63
UZB Uzynbulak 54.61 63 *i* P **P 05 43 13.5 +0.2**
UZB *eS* **S 05 50 54.2 +0.6**
UZB pmax pmax
comp=Z,25nm,1.8s
GAR Garm 54.66 73 P P 05 43 13.6 0.0
KDJ Kajisay 54.76 65 P P 05 43 15.6 +1.2
KDJ pmax pmax
comp=Z,24nm,1.4s
KDJ Kajisay 54.76 65 P P 05 43 15.6 +1.2
KDJ IAmb IAmb 05 43 18.5
comp=Z,24nm,1.4s
SHLS Shalkode 54.77 63 *i* P **P 05 43 15.9 +1.4**
comp=Z,43nm,1.6s,baz=62
SHLS Shalkode 54.77 63 *i* P **P 05 43 15.8 +1.4**
SHLS pmax pmax
comp=Z,43nm,1.6s
O20A White River Ci 54.91 290 P P 05 43 15.3 -0.2
baz=32,SNR=7.4
O20A White River Ci 54.91 290 P P 05 43 15.6 0.0
O20A IAmb IAmb 05 43 22.3
comp=Z,11nm,1.1s
HWUT Hardware Ranch 54.99 294 P P 05 43 16.0 -0.1
HWUT IAmb IAmb 05 43 20.4
comp=Z,24nm,1.2s
RDMU Red Mountain 55.08 292 P P 05 43 16.2 -0.6
IRK Irkutsk 55.11 40 *eP* **P 05 43 16.1 -0.5**
IRK pmax pmax
comp=Z,52nm,2.1s
HRA Herat 55.19 82 P P 05 43 18.0 +0.4
HVU Hansel Valley 55.32 295 P P 05 43 18.7 +0.3
HVU pmax pmax
comp=Z,7.0nm,0.6s
HVU Hansel Valley 55.32 295 P P 05 43 18.7 +0.3
TCUT Toone Canyon 55.34 294 P P 05 43 19.1 +0.4
TARG Taragay, Kyrgy 55.35 65 P P 05 43 19.5 +0.5
TLY Talaya 55.44 40 LR LR 06 08 06.8
comp=Z,209nm,21.7s,baz=340,slow=37
TLY Talaya 55.44 40 *eP* **P 05 43 20.5 +1.5**
TLY *eS* **S 05 50 57.9 -6.3**
TLY pmax pmax
comp=Z,46nm,1.8s
TLY MLR MLR
comp=Z,557nm,17.0s
TLY Talaya 55.44 40 P P 05 43 19.7 +0.7
TLY IAmb IAmb 05 43 23.1
comp=Z,13nm,1.2s
WMOK Wichita Mounta 55.57 279 P P 05 43 19.9 -0.2
baz=31,SNR=6.6
SPUT South Promonto 55.59 295 P P 05 43 20.9 +0.5
JLU Jordanelle 55.80 293 P P 05 43 22.0 0.0
MA2 Magadan 55.83 7 *ce* **P P 05 43 23.6 +2.0**
MA2 pmax pmax
comp=Z,16nm,1.3s
SDCO Great Sand Dun 55.83 287 P P 05 43 22.3 0.0
baz=32
SDCO Great Sand Dun 55.83 287 P P 05 43 22.2 0.0
T25A Trinidad 55.89 285 P P 05 43 23.9 +1.3
baz=31
T25A Trinidad 55.89 285 P P 05 43 23.1 +0.4
T25A IAmb IAmb 05 43 24.4
comp=Z,15nm,1.5s
BGU Big Grassy Mou 56.15 295 P P 05 43 24.1 -0.3
S22A 4UR Ranch, Cre 56.37 288 P P 05 43 26.4 +0.2
baz=31
MTP Monte Pirata 56.45 238 P P 05 43 25.0 -1.5
MTP PcP **PcP 05 44 23.2 -0.2**
P17A Butcher Ranch, 56.48 292 P P 05 43 26.2 -0.6
ZAK Zakamensk 56.50 41 *eP* **P 05 43 27.3 +0.6**
ZAK pmax pmax
comp=Z,13nm,1.4s
KSH Kashi 56.51 68 P P 05 43 29.3 +2.3
KSH sP sP 05 43 37.8 +9.5
KSH S **S 05 51 17.0 -2.0**
KSH pmax pmax
comp=Z,42nm,1.2s
KSH LR LR
comp=Z,220nm,10.1s
KSH LR LR
comp=Z,190nm,8.7s
PV07 Paradox Valley 56.52 290 P P 05 43 26.8 -0.4
PV21 Cone Mtn., Par 56.55 290 P P 05 43 27.2 -0.2
PV21 IAmb IAmb 05 43 30.8
comp=Z,13nm,1.2s
PV23 Carpenter Ridg 56.66 290 P P 05 43 27.7 -0.5
PV23 IAmb IAmb 05 43 34.0
comp=Z,14nm,0.9s
PV04 Paradox Valley 56.67 290 P P 05 43 28.1 0.0
DUG Dugway, Tooele 56.69 294 P P 05 43 28.8 +0.6
baz=31,SNR=7.9
DUG Dugway, Tooele 56.69 294 P P 05 43 28.8 +0.6
DUG pmax pmax
comp=Z,16nm,1.3s
DUG Dugway, Tooele 56.69 294 P P 05 43 28.8 +0.6
DUG IAmb IAmb 05 43 39.0
comp=Z,16nm,1.3s
SRU San Rafael Swe 56.71 292 P P 05 43 28.3 -0.1
SRU pmax pmax
comp=Z,7.0nm,0.9s
SRU San Rafael Swe 56.71 292 P P 05 43 28.3 -0.1
PV14 Lion Creek, Pa 56.73 290 P P 05 43 27.8 -0.9
PV14 IAmb IAmb 05 43 32.6
comp=Z,9.3nm,0.9s
PV11 David Mesa, Pa 56.73 290 P P 05 43 28.3 -0.3
PV11 IAmb IAmb 05 43 32.9
comp=Z,15nm,1.2s
PV20 West Nyswonger 56.74 290 P P 05 43 28.6 0.0
PV20 IAmb IAmb 05 43 32.0
comp=Z,13nm,1.1s
PV16 Nyswonger Mesa 56.74 290 P P 05 43 28.5 -0.2
PV16 IAmb IAmb 05 43 33.0
comp=Z,21nm,1.4s
PV01 Paradox Valley 56.75 289 P P 05 43 29.6 +0.8
PV01 IAmb IAmb 05 43 30.1
comp=Z,14nm,1.1s
PV02 Paradox Valley 56.76 290 P P 05 43 28.8 -0.1
PV02 IAmb IAmb 05 43 30.1
comp=Z,13nm,1.0s
PV03 Paradox Valley 56.76 290 P P 05 43 28.5 -0.3
PV03 IAmb IAmb 05 43 33.1
comp=Z,18nm,1.3s
PV17 East Wray Mesa 56.79 290 P P 05 43 28.7 -0.3
PV18 Skein Mesa, Pa 56.79 290 P P 05 43 28.9 -0.2
PV18 IAmb IAmb 05 43 30.2
comp=Z,16nm,1.1s
TMUT Trail Mountain 56.82 292 P P 05 43 28.8 -0.5
PV13 Radium Mtn., P 56.83 290 P P 05 43 29.2 -0.2
PV05 Paradox Valley 57.02 290 P P 05 43 29.8 -0.9
PV05 IAmb IAmb 05 43 30.6
comp=Z,15nm,0.9s
Q16A Castle Valley 57.13 292 P P 05 43 31.0 -0.4
J05D Fort Rock, OR 57.22 302 P P 05 43 32.5 +0.5
baz=30
WMQ Urumqi 57.26 56 *eP* P 05 43 37.8 +5.7
WMQ pmax pmax
comp=Z,7.0nm,1.5s
WMQ pmax pmax
comp=Z,58nm,5.5s
WMQ LR LR
comp=Z,110nm,8.1s
WMQ LR LR
comp=Z,150nm,9.7s
WMQ LR LR
comp=Z,75nm,23.5s
WHTX Lake Whitney, 57.36 276 P P 05 43 32.4 -0.5
MVCO Mesa Verde 57.52 289 P P 05 43 34.7 +0.5
baz=31
MVCO Mesa Verde 57.52 289 P P 05 43 34.5 +0.3
K05A Summer Lake 57.58 302 P P 05 43 34.2 -0.4
K05A IAmb IAmb 05 43 44.8
comp=Z,25nm,1.4s
ABTX Abilene, Hawle 57.75 279 P P 05 43 35.6 -0.1
baz=30
ABTX Abilene, Hawle 57.75 279 P P 05 43 35.1 -0.6
ABTX IAmb IAmb 05 43 36.8
comp=Z,20nm,1.4s
MSU Marysvale 57.88 293 P P 05 43 37.6 +0.8
MSU Marysvale 57.88 293 P P 05 43 37.6 +0.8
MSTX Muleshoe 57.92 282 P P 05 43 36.7 -0.3
baz=30
MSTX Muleshoe 57.92 282 P P 05 43 36.9 -0.1
KBL Kabul 57.94 76 P P 05 43 37.7 +0.5
KBL 05 44 29.0
KBL pmax pmax
comp=Z,20nm,1.5s
KBL Kabul 57.94 76 P P 05 43 37.6 +0.5
KBL IAmb IAmb 05 43 41.4
comp=Z,20nm,1.5s
KBL PcP **PcP 05 44 29.0 -0.4**
DBIC Dimbokro 58.52 165 P P 05 43 38.4 -2.7
comp=Z,15nm,1.1s,baz=354,slow=5.9,SNR=8.7
DBIC LR LR 06 09 27.4
comp=Z,114nm,18.1s,baz=326,slow=37
DBIC Dimbokro 58.52 165 P P 05 43 40.4 -0.7
DBIC pmax pmax
comp=Z,21nm,1.1s
DBIC Dimbokro 58.52 165 P P 05 43 40.4 -0.7
PSUT Pine Spring 58.53 294 P P 05 43 41.6 +0.3
TIC Toumodi 58.53 165 *eP* **P 05 43 39.2 -2.0**
ANMO Albuquerque 58.62 286 *ce* **P P 05 43 42.1 +0.2**
ANMO pmax pmax
comp=Z,12nm,2.5s
KIC Kosan Boka 58.84 165 *eP* **P 05 43 42.7 -0.7**
comp=Z,64nm,1.3s
LIC Lamto 58.94 166 *eP* **P 05 43 42.2 -1.9**
comp=Z,59nm,1.2s
SZCU Shurtz Canyon 59.03 293 P P 05 43 45.5 +0.7
CCUT Cedar City 59.18 293 P P 05 43 46.2 +0.4
R11A Troy Canyon, C 59.37 295 P P 05 43 47.0 0.0
baz=30,SNR=11
R11A Troy Canyon, C 59.37 295 P P 05 43 46.6 -0.5
R11A IAmb IAmb 05 43 53.1
comp=Z,11nm,1.4s
BNM Barren Site 59.38 286 P P 05 43 46.7 -0.6
KNB Kanab 59.43 292 P P 05 43 46.8 -0.7
KNB pmax pmax
comp=Z,14nm,1.4s
KNB Kanab 59.43 292 P P 05 43 46.8 -0.7
LCMT Little Creek M 59.60 293 P P 05 43 48.4 -0.2
PAHR Pah Rah Range 59.64 299 P P 05 43 49.1 +0.2
JCT Junction City 59.67 278 P P 05 43 48.9 -0.2
baz=30,SNR=6.3
JCT Junction City 59.67 278 P P 05 43 48.6 -0.5
JCT pmax pmax
comp=Z,10.0nm,0.9s
JCT Junction City 59.67 278 P P 05 43 48.6 -0.5
JCT IAmb IAmb 05 43 51.0
comp=Z,10nm,0.9s
SONM Songino Array 59.69 40 P P 05 43 49.1 +0.1
comp=Z,1.9nm,0.9s,baz=326,slow=6.9,SNR=13
SONM LR LR 06 11 43.9
comp=Z,203nm,19.4s,baz=336,slow=38
U15A North Rim 59.73 291 P P 05 43 48.5 -1.2
U15A IAmb IAmb 05 43 50.4
comp=Z,11nm,1.1s
KVN Kaiserville 59.73 298 P P 05 43 49.4 -0.2
KVN pmax pmax
comp=Z,7.0nm,1.0s
KVN Kaiserville 59.73 298 P P 05 43 49.4 -0.2
ULN Ulaanbaatar 59.84 40 *ce* **P P 05 43 50.4 +0.2**
ULN pmax pmax
comp=Z,18nm,1.7s
PRN Pahroc Range 59.97 294 P P 05 43 51.9 +0.7

PRN				IAmb	IAmb	05 44 06.7		
	comp=Z,21nm,1.5s							
WUAZ	**Wupatki**	**60.14**	**290**	P	**P**	**05 43 52.4**	**-0.1**	
	baz=30,SNR=8.7							
WUAZ	**Wupatki**	**60.14**	**290**	P	**P**	**05 43 52.0**	**-0.4**	
YERR	**Yerington**	**60.22**	**298**	P	**P**	**05 43 53.3**	**+0.4**	
YERR				IAmb	IAmb	05 43 54.6		
	comp=Z,14nm,1.2s							
NVAR	**Mina Array Bea**	**60.35**	**297**	P	**P**	**05 43 52.2**	**-1.7**	
	comp=Z,1.1nm,0.9s,baz=50,slow=4.4,SNR=8.4							
NVAR				LR	LR	06 08 34.6		
	comp=Z,358nm,19.9s,baz=33,slow=35							
NIL	**Nilore**	**60.46**	**73**	P	**P**	**05 43 54.3**	**-0.1**	
NIL				pmax	pmax			
	comp=Z,36nm,1.2s							
NIL	**Nilore**	**60.46**	**73**	P	**P**	**05 43 54.3**	**-0.1**	
SHPR	**Sheep Range**	**60.80**	**294**	P	**P**	**05 43 57.2**	**+0.3**	
SHPR				IAmb	IAmb	05 44 02.1		
	comp=Z,11nm,1.1s							
TPNV	**Topopah Spring**	**60.84**	**295**	P	**P**	**05 43 56.8**	**-0.4**	
	baz=29							
TPNV	**Topopah Spring**	**60.84**	**295**	P	**P**	**05 43 57.0**	**-0.2**	
TPNV				pmax	pmax			
	comp=Z,12nm,1.4s							
TPNV	**Topopah Spring**	**60.84**	**295**	P	**P**	**05 43 57.0**	**-0.2**	
TPNV				IAmb	IAmb	05 44 02.8		
	comp=Z,12nm,1.4s							
MNTX	**Cornudas Mount**	**60.98**	**283**	P	**P**	**05 43 57.8**	**-0.2**	
	baz=30							
MNTX	**Cornudas Mount**	**60.98**	**283**	P	**P**	**05 43 58.3**	**+0.3**	
MNTX					**PcP**	**05 44 41.2**	**-0.1**	
X16A	**Lo Mia Camp, P**	**61.12**	**290**	P	**P**	**05 43 59.2**	**+0.1**	
X16A				IAmb	IAmb	05 44 04.0		
	comp=Z,8.1nm,1.1s							
121A	**Cookes Peak, D**	**61.26**	**286**	P	**P**	**05 44 00.8**	**+0.7**	
	baz=30							
OMMB	**Old Mammoth Mi**	**61.33**	**298**	P	**P**	**05 44 01.2**	**+0.6**	
OMMB				IAmb	IAmb	05 44 05.0		
	comp=Z,13nm,1.4s							
833A	**Chaparral WMA,**	**61.36**	**276**	P	**P**	**05 44 00.7**	**+0.1**	
FURC	**Furnace Creek,**	**61.50**	**295**	P	**P**	**05 44 01.4**	**0.0**	
	baz=29							
W13A	**Hualapai Mount**	**61.52**	**292**	P	**P**	**05 44 01.8**	**-0.1**	
CWC	**Cottonwood Cre**	**62.00**	**296**	P	**P**	**05 44 06.2**	**+1.2**	
	baz=29							
MPMC	**Manual Prospec**	**62.10**	**295**	P	**P**	**05 44 05.8**	**0.0**	
	baz=29							
TX31	**Lajitas Ar. Si**	**62.31**	**280**	P	**P**	**05 44 06.6**	**-0.5**	
TX31				PcP	**PcP**	**05 44 46.9**	**0.0**	
TX32	**Lajitas Array**	**62.31**	**280**	P	**P**	**05 44 06.6**	**-0.5**	
TX32				PcP	**PcP**	**05 44 46.7**	**-0.1**	
TXAR	**Lajitas Array**	**62.31**	**280**	P	**P**	**05 44 05.5**	**-1.5**	
	comp=Z,3nm,1.0s,baz=66,slow=4.4,SNR=12							
TXAR				LR	LR	06 10 16.5		
	comp=Z,262nm,19.3s,baz=0.0,slow=35							
GSC	**Goldstone, Bar**	**62.50**	**295**	P	**P**	**05 44 09.5**	**+1.2**	
GSC				pmax	pmax			
	comp=Z,8.0nm,1.5s							
GSC	**Goldstone, Bar**	**62.50**	**295**	P	**P**	**05 44 09.5**	**+1.2**	
GMRC	**Granite Mounta**	**62.50**	**293**	P	**P**	**05 44 08.5**	**+0.2**	
	baz=29							
PETK	**Petropavlovsk-**	**62.57**	**3**	LR	LR	06 10 41.5		
	comp=Z,29nm,18.6s,baz=40,slow=35							
TUC	**Tucson**	**62.69**	**288**	P	**P**	**05 44 09.6**	**0.0**	
	baz=29							
TUC	**Tucson**	**62.69**	**288**	P	**P**	**05 44 09.8**	**+0.2**	
TUC				pmax	pmax			
	comp=Z,11nm,1.4s							
TUC	**Tucson**	**62.69**	**288**	P	**P**	**05 44 09.8**	**+0.2**	
TUC				IAmb	IAmb	05 44 14.0		
	comp=Z,11nm,1.4s							
ISA	**Isabella, Lake**	**62.83**	**296**	P	**P**	**05 44 11.2**	**+0.7**	
	baz=28							
ISA	**Isabella, Lake**	**62.83**	**296**	P	**P**	**05 44 10.8**	**+0.3**	
ISA				pmax	pmax			
	comp=Z,9.0nm,1.2s							
ISA	**Isabella, Lake**	**62.83**	**296**	P	**P**	**05 44 10.8**	**+0.3**	
ISA				IAmb	IAmb	05 44 16.7		
	comp=Z,9.0nm,1.1s							
IRM	**Iron Mountain**	**62.84**	**293**	P	**P**	**05 44 10.4**	**-0.1**	
	baz=29							
319A	**Douglas**	**62.89**	**286**	P	**P**	**05 44 10.8**	**-0.2**	
BELC	**Belle Mtn. Jos**	**63.32**	**293**	P	**P**	**05 44 14.4**	**+0.5**	
	baz=29							
EDW2	**Edwards Air Fo**	**63.33**	**295**	P	**P**	**05 44 14.1**	**+0.3**	
	baz=28							
BC3	**Big Chuckawall**	**63.41**	**293**	P	**P**	**05 44 14.3**	**-0.1**	
	baz=29							
113A	**Mohawk Valley,**	**63.51**	**291**	P	**P**	**05 44 14.4**	**-0.5**	
GLA	**Glamis**	**63.68**	**292**	P	**P**	**05 44 16.1**	**0.0**	
GLA				pmax	pmax			
	comp=Z,7.0nm,0.9s							
GLA	**Glamis**	**63.68**	**292**	P	**P**	**05 44 16.1**	**0.0**	
GLA				IAmb	IAmb	05 44 17.3		
	comp=Z,6.7nm,0.9s							
KLR	**Kul'dur**	**64.00**	**22**	*e*P	**P**	**05 44 17.4**	**-0.5**	
KLR				pmax	pmax			
	comp=Z,3.0nm,1.3s							
MONP2	**Monument Peak**	**64.46**	**293**	P	**P**	**05 44 22.9**	**+1.5**	
	baz=28							
GTA	**Gaotai**	**65.33**	**49**	*e*P	**P**	**05 44 27.3**	**+0.4**	
GTA				pP	sP	05 44 31.8	+3.5	
GTA				sP	pP	05 44 34.4	+6.4	
GTA				S	**S**	**05 53 13.8**	**+2.3**	
GTA				sS	sS	05 53 22.8	+10	
GTA				SS	**SS**	**05 57 30.0**	**+6.6**	
GTA				pmax	pmax			
	comp=Z,4.0nm,1.3s							
GTA				pmax	pmax			
	comp=Z,200nm,8.1s							
GTA				LR	LR			
	comp=Z,140nm,17.8s							
GTA				LR	LR			
	comp=Z,250nm,18.1s							
GTA				LR	LR			
	comp=Z,220nm,17.8s							
HSIG		**65.64**	**286**	P	**P**	**05 44 29.0**	**+0.1**	
HSIG				IAmb	IAmb	05 44 33.1		
	comp=Z,11nm,1.2s							
SPX	**San Pedro Mart**	**65.71**	**291**	P	**P**	**05 44 30.1**	**+0.4**	
SPX				IAmb	IAmb	05 44 34.0		
	comp=Z,18nm,1.4s							
SMRC	**Santa Marta, M**	**66.07**	**244**	*e*P	**P**	**05 44 30.5**	**-1.3**	
ARGC	**Ariguani, Magd**	**67.27**	**243**	*e*P	**P**	**05 44 40.8**	**+1.3**	
HHC	**Hu-ho-hao-te**	**67.56**	**40**	*e*P	**P**	**05 44 42.3**	**+1.2**	
HHC				pmax	pmax			
	comp=Z,18nm,0.8s							
HHC				pmax	pmax			
	comp=Z,110nm,4.6s							
HHC				LR	LR			
	comp=Z,140nm,14.5s							
HHC				LR	LR			
	comp=Z,190nm,13.6s							
HHC				LR	LR			
	comp=Z,210nm,12.8s							
ZAIG	**Zacatecas**	**67.59**	**276**	P	**P**	**05 44 41.4**	**-0.4**	
ZAIG				IAmb	IAmb	05 44 44.0		
	comp=Z,17nm,1.5s							
SJCC	**San Jacinto, C**	**67.60**	**244**	*e*P	**P**	**05 44 41.1**	**-0.5**	
SMLC	**San Martn de**	**68.17**	**243**	*e*P	**P**	**05 44 44.4**	**-0.7**	
MOTC	**Monteria, Cord**	**68.81**	**244**	*e*P	**P**	**05 44 48.5**	**-0.6**	
PAMC	**Pamplona, Colo**	**68.99**	**241**	*e*P	**P**	**05 44 50.0**	**-0.8**	
BJI	**Beijing**	**69.54**	**36**	P	**P**	**05 44 53.8**	**+0.5**	
BJI				S	**S**	**05 54 10.1**	**+8.4**	
BJI				pmax	pmax			
	comp=Z,5.0nm,0.7s							
BJI				pmax	pmax			
	comp=Z,160nm,4.7s							
BJI				LR	LR			
	comp=Z,180nm,20.0s							
BJI				LR	LR			
	comp=Z,86nm,7.3s							
BJT	**Baijiatuau**	**69.56**	**36**	P	**P**	**05 44 54.0**	**+0.5**	
BJT				pmax	pmax			
	comp=Z,10.0nm,1.2s							
BJT	**Baijiatuau**	**69.56**	**36**	P	**P**	**05 44 54.0**	**+0.5**	
BJT				IAmb	IAmb	05 45 03.0		
	comp=Z,10.0nm,1.2s							
BRRC	**Barranca, Sant**	**69.59**	**242**	*e*P	**P**	**05 44 52.8**	**-1.1**	
LZH	**Lanzhou**	**69.67**	**48**	*e*P	**P**	**05 44 54.8**	**+0.4**	
LZH				pP	sP	05 44 58.3	+2.5	
LZH				sP	pP	05 44 59.6	+4.2	
LZH				*e*PP	**PP**	**05 47 31.0**	**+3.2**	
LZH				pmax	pmax			
	comp=Z,25nm,1.3s							
LZH				pmax	pmax			
	comp=Z,97nm,7.8s							
LZH				LR	LR			
	comp=Z,320nm,15.2s							
LZH				LR	LR			
	comp=Z,340nm,15.0s							
LZH				LR	LR			
	comp=Z,430nm,18.1s							
ZARC	**Zaragoza, Cauc**	**69.67**	**243**	*e*P	**P**	**05 44 51.6**	**-2.9**	
UREC	**San Jos de Ur**	**69.70**	**244**	*e*P	**P**	**05 44 54.4**	**-0.2**	
PTBC	**PUERTO BERRIO,**	**70.39**	**242**	*e*P	**P**	**05 44 57.8**	**-1.1**	
RUSC	**La Rusia**	**70.47**	**241**	*e*P	**P**	**05 44 58.5**	**-1.5**	
DBBC	**Dabeiba**	**70.63**	**244**	*e*P	**P**	**05 45 00.4**	**-0.1**	
SPBC	**San Pablo de B**	**71.06**	**241**	*e*P	**P**	**05 45 02.2**	**-0.9**	
HELC	**Santa Helena**	**71.12**	**243**	*e*P	**P**	**05 45 03.4**	**-0.3**	
NORC	**Norcasia**	**71.45**	**242**	*e*P	**P**	**05 45 04.7**	**-0.7**	
CBOC	**Ciudad Bolivar**	**71.61**	**243**	*e*P	**P**	**05 45 06.3**	**-0.2**	
CHIC	**Chingaza**	**71.87**	**241**	*e*P	**P**	**05 45 07.2**	**-1.1**	
ROSC	**El Rosal**	**71.90**	**241**	P	**P**	**05 45 05.4**	**-3.1**	
	comp=Z,14nm,0.7s,baz=17,slow=6.9,SNR=3.8							
ROSC				LR	LR	06 13 09.4		
	comp=Z,187nm,21.9s,baz=4.5,slow=33							
ROSC	**El Rosal**	**71.90**	**241**	*e*P	**P**	**05 45 07.5**	**-1.0**	
ROSC	**El Rosal**	**71.90**	**241**	P	**P**	**05 45 08.9**	**+0.4**	
GUY2C	**Guyana, Caldas**	**71.95**	**243**	*e*P	**P**	**05 45 08.4**	**-0.4**	
VILC	**Villavicencio,**	**72.33**	**240**	*e*P	**P**	**05 45 09.1**	**-1.7**	
TOLC	**Tolima**	**72.52**	**242**	*e*P	**P**	**05 45 13.8**	**+1.7**	
PLMC	**San Jos del P**	**72.59**	**243**	*e*P	**P**	**05 45 11.7**	**-0.6**	
ORTC	**Ortega, Tolima**	**73.11**	**242**	*e*P	**P**	**05 45 14.4**	**-0.9**	
XAN	**Xi'an**	**73.13**	**44**	P	**P**	**05 45 17.3**	**+2.1**	
XAN				pmax	pmax			
	comp=Z,14nm,1.7s							
XAN				pmax	pmax			
	comp=Z,170nm,5.1s							
XAN				LR	LR			
	comp=Z,320nm,22.5s							
XAN				LR	LR			
	comp=Z,210nm,20.3s							
XAN				LR	LR			
	comp=Z,370nm,23.5s							
XAN	**Xi'an**	**73.13**	**44**	P	**P**	**05 45 15.2**	**-0.1**	
XAN				pmax	pmax			
	comp=Z,18nm,1.3s							
XAN	**Xi'an**	**73.13**	**44**	P	**P**	**05 45 15.2**	**-0.1**	
XAN				IAmb	IAmb	05 45 19.6		
	comp=Z,18nm,1.3s							
PRAC	**Prado**	**73.15**	**241**	*e*P	**P**	**05 45 14.1**	**-1.5**	
GUVC	**San Jose del G**	**73.38**	**239**	*e*P	**P**	**05 45 16.2**	**-0.6**	
YOTC	**Yotoco, Valle**	**73.46**	**243**	*e*P	**P**	**05 45 15.3**	**-2.1**	
CD2	**Chengdu**	**74.40**	**50**	*e*P	**P**	**05 45 22.8**	**+0.1**	
CD2				S	**S**	**05 54 57.9**	**0.0**	
CD2				pmax	pmax			
	comp=Z,20nm,1.1s							
CD2				pmax	pmax			
	comp=Z,140nm,8.8s							
CD2				LR	LR			
	comp=Z,240nm,15.2s							
CD2				LR	LR			
	comp=Z,360nm,15.7s							
CD2				LR	LR			
	comp=Z,250nm,19.7s							
KSRS	**Korea Array**	**74.70**	**28**	P	**P**	**05 45 23.9**	**-0.4**	
	comp=Z,0.4nm,0.5s,baz=357,slow=6.6,SNR=1.7							
KSRS				LR	LR	06 20 22.7		
	comp=Z,58nm,18.7s,baz=320,slow=37							
POPC	**Popayan, Colom**	**74.91**	**243**	*e*P	**P**	**05 45 24.4**	**-1.7**	
FLOC	**Florencia**	**75.40**	**241**	*e*P	**P**	**05 45 26.9**	**-1.7**	
ENH	**Enshi**	**76.81**	**45**	P	**P**	**05 45 36.1**	**-0.4**	
MAT	**Matsushiro**	**77.39**	**20**	P	**P**	**05 45 42.2**	**+2.5**	
MAT				*e*S	**S**	**05 55 35.0**	**+4.3**	
MJAR	**Matsushiro Arr**	**77.39**	**20**	P	**P**	**05 45 40.0**	**+0.3**	
	comp=Z,3.7nm,1.1s,baz=307,slow=8.4,SNR=8.6							
MJAR	**Matsushiro Arr**	**77.39**	**20**	P	**P**	**05 45 40.0**	**+0.3**	
OTAV	**Otavalo**	**77.70**	**244**	P	**P**	**05 45 42.0**	**-0.2**	
OTAV				pmax	pmax			
	comp=Z,21nm,1.5s							
OTAV	**Otavalo**	**77.70**	**244**	P	**P**	**05 45 42.0**	**-0.2**	
OTAV				IAmb	IAmb	05 45 44.0		
	comp=Z,21nm,1.4s							
NJ2	**Nanjing**	**77.79**	**37**	*e*P	**P**	**05 45 43.3**	**+1.4**	
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
WHN	**Wuhan**	**77.99**	**41**	P	P	05 45 50.4	+7.4	
KMI	**Kunming**	**79.39**	**53**	⇑P	**P**	**05 45 53.0**	**+1.9**	
KMI				sP	PcP	05 46 01.8	+2.5	
KMI				pmax	pmax			
	comp=Z,16nm,1.4s							
GYA	**Guiyang**	**79.46**	**49**	⇑P	**P**	**05 45 53.5**	**+2.1**	
GYA				pmax	pmax			
	comp=Z,16nm,1.4s							
JNU	**Nakatsue**	**79.48**	**27**	LR	LR	06 22 01.9		
	comp=Z,48nm,20.9s,baz=2.5,slow=36							
SAML	**Samuel**	**80.90**	**226**	P	**P**	**05 45 58.7**	**-0.3**	
SAML				pmax	pmax			
	comp=Z,10.0nm,1.4s							
SAML	**Samuel**	**80.90**	**226**	P	**P**	**05 45 58.7**	**-0.3**	
BDFB	**Brasilia**	**83.33**	**210**	P	**P**	**05 46 08.8**	**-3.0**	
	comp=Z,0.9nm,0.4s,baz=104,slow=16,SNR=2.1							
BDFB				LR	LR	06 17 02.9		
	comp=Z,219nm,21.5s,baz=24,slow=31							
CM31	**Chiang Mai Arr**	**84.16**	**59**	P	**P**	**05 46 16.0**	**-0.1**	
CM31				IAmb	IAmb	05 46 17.2		
	comp=Z,6.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**84.16**	**59**	P	**P**	**05 46 14.6**	**-1.5**	
	comp=Z,0.9nm,0.5s,baz=316,slow=5.7,SNR=10							
CMAR				LR	LR	06 26 00.5		
	comp=Z,120nm,20.2s,baz=225,slow=37							
LPAZ	**La Paz**	**89.36**	**228**	LR	LR	06 24 17.6		
	comp=Z,42nm,18.7s,baz=9.5,slow=34							
CPUP	**Villa Florida**	**95.79**	**215**	LR	LR	06 26 15.7		
	comp=Z,120nm,19.1s,baz=36,slow=33							
BOSA	**Boshof**	**98.70**	**143**	LR	LR	06 33 28.7		
	comp=Z,130nm,18.4s,baz=332,slow=36							
WRA	**Warramunga Arr**	**131.57**	**36**	PKP	**PKPdf**	**05 52 56.9**	**-0.5**	
	comp=Z,4.8nm,1.2s,baz=334,slow=2.2,SNR=9.4							
ASAR	**Alice Springs**	**135.01**	**38**	PKP	**PKPdf**	**05 53 03.0**	**-0.9**	
	comp=Z,3.7nm,1.2s,baz=337,slow=0.9,SNR=8.4							
ASAR	**Alice Springs**	**135.01**	**38**	PKIKP	**PKPdf**	**05 53 03.0**	**-0.9**	
MAW	**Mawson**	**143.67**	**140**	PKP	**PKPdf**	**05 53 16.8**	**-1.2**	
	comp=Z,0.8nm,0.7s,baz=331,slow=4.7,SNR=2.2							
MAW	**Mawson**	**143.67**	**140**	PKIKP	**PKPdf**	**05 53 17.5**	**-0.6**	
MAW	**Mawson**	**143.67**	**140**		**PKPdf**	**05 53 17.5**	**-0.6**	
STKA	**Stephens Creek**	**144.77**	**32**	PKP	**PKPab**	**05 53 19.4**	**-0.7**	
	comp=Z,10nm,1.1s,baz=328,slow=5.4,SNR=7.7							
STKA	**Stephens Creek**	**144.77**	**32**	PKIKP	**PKPab**	**05 53 19.8**	**-0.3**	
STKA	**Stephens Creek**	**144.77**	**32**	PKPdf	**PKPab**	**05 53 19.8**	**-0.3**	
HIZ	**Hauiti**	**152.88**	**338**	PKPdf	**PKPdf**	**05 53 34.0**	**0.0**	
HIZ				PKPbc	**pPKPbc**	**05 53 42.1**	**-0.2**	
QSPA	**South Pole Qui**	**154.52**	**180**	PKPdf	**PKPdf**	**05 53 35.2**	**-0.3**	
QSPA				PKPbc	**pPKPbc**	**05 53 44.8**	**-0.3**	
QSPA				PKPab	**PKPab**	**05 53 58.3**	**-0.4**	

IDC 24 05:42:07.1±1.4, 9°24S×159°43E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/35, mbtmp3.6/3, Error ellipse: s-maj=37.5km s-min=9.4km az=14.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.55**	**111**	Pg	Pg	05 42 18.1	+0.6
	1μm,0.3s,baz=197,slow=12,SNR=136						
HNR				Lg	Lg	05 42 24.7	
	4μm,0.3s,baz=162,slow=13,SNR=23						
WRA	**Warramunga Arr**	**26.47**	**244**	P	P	05 47 46.9	+0.7
	0.9nm,0.8s,baz=70,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**28.30**	**236**	P	P	05 48 01.8	-0.8
	0.4nm,0.7s,baz=63,slow=10.0,SNR=5.6						
ILAR	**Eielson Array**	**83.89**	**20**	P	P	05 54 38.2	-0.3
	0.2nm,0.5s,baz=234,slow=4.9,SNR=5.3						

*IDC **24** 05:49:34.8±0.9, 32°17S×178°02W, h0km, mb4.0/5, mb1 4.3/7, mb1mx4.0/40, mbtmp4.1/7, ML4.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/28, Error ellipse: s-maj=29.4km s-min=21.5km az=110.0*
*NEIC **24** 05:49:38.4±0.6, 32°21S±0°08×178°1W±0°2, h29km±2km, mb4.6/6, Error ellipse: s-maj=19.9km s-min=10.0km az=110.0*
ISC 24 05:49:38.0±0.6, 32°22S±0°07×178°1W±0°1, h24km, n36, σ0s77/38, mb4.2/9, 1C-1D, South of Kermadec Islands

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

RAO	**Raoul Island**	**2.96**	**3**	Pn	**Pn**	**05 50 22.6**	**-0.8**	
	173nm,0.3s,baz=16,slow=22,SNR=6.8							
RAO				Sn	**Sn**	**05 50 58.4**	**+0.3**	
	63nm,0.3s,baz=141,slow=22,SNR=1.8							
RAO	**Raoul Island**	**2.96**	**3**		**Pn**	**05 50 23.3**	**-0.1**	
URZ	**Urewera**	**7.19**	**212**	Pn	**Pn**	**05 51 22.0**	**+0.4**	
	1.7nm,0.3s,baz=338,slow=8.2,SNR=8.5							
URZ				Sn	**Sn**	**05 52 41.1**	**-1.4**	
	4.2nm,0.3s,baz=52,slow=21,SNR=9.9							
URZ	**Urewera**	**7.19**	**212**		**Pn**	**05 51 21.8**	**+0.2**	
URZ					**Sn**	**05 52 42.6**	**+0.2**	
BKZ	**Black Stump Fm**	**8.21**	**211**	Pn	**Pn**	**05 51 36.5**	**+0.8**	
BKZ				Sn	**Sn**	**05 53 06.5**	**-1.2**	
BFZ	**Birch Farm**	**9.60**	**207**	Pn	**Pn**	**05 51 53.5**	**-1.1**	
DZM	**Mont Dzumac**	**17.05**	**303**	LR	LR	05 58 11.8		
	comp=Z,74nm,18.1s,baz=279,slow=30							
CTA	**Charters Tower**	**34.05**	**282**	P	**P**	**05 56 21.6**	**+1.2**	
	0.6nm,0.3s,baz=104,slow=8.3,SNR=1.1							
BBOO	**Buckleboo**	**38.43**	**256**	P	**P**	**05 56 57.3**	**-0.5**	
BBOO				IAmb	IAmb	05 57 11.8		
	comp=Z,9.8nm,1.1s							
ASAR	**Alice Springs**	**42.96**	**269**	P	**P**	**05 57 36.4**	**+1.0**	
	comp=Z,3.0nm,1.0s,baz=121,slow=7.5,SNR=11							
WR0	**Warramunga Arr**	**43.93**	**274**	P	**P**	**05 57 43.3**	**+0.1**	
WR0				IAmb	IAmb	05 57 49.2		
	comp=Z,10nm,1.2s							
WB2	**Warramunga Arr**	**44.10**	**274**		**P**	**05 57 44.4**	**-0.2**	
WRA	**Warramunga Arr**	**44.11**	**274**	P	**P**	**05 57 45.8**	**+1.1**	
	comp=Z,4.4nm,1.0s,baz=113,slow=7.9,SNR=12							
WB0	**Warramunga Arr**	**44.14**	**274**	P	**P**	**05 57 44.9**	**0.0**	
WB0				IAmb	IAmb	05 57 58.9		
	comp=Z,7.2nm,1.0s							
FORT	**Forrest**	**45.53**	**257**	P	**P**	**05 57 55.6**	**-0.1**	
FORT				IAmb	IAmb	05 58 08.8		
	comp=Z,29nm,0.7s							
VNDA	**Vanda**	**46.29**	**186**	P	**P**	**05 58 02.2**	**+1.1**	
	comp=Z,0.5nm,1.0s,baz=350,slow=6.3,SNR=1.8							
KEKH	**Kekaha**	**56.69**	**21**	P	**P**	**05 59 19.2**	**-0.3**	
KEKH				PcP	**PcP**	**06 00 14.5**	**-1.0**	
SYO	**Syowa Base**	**75.33**	**193⇑**	*e*P	**P**	**06 01 19.0**	**+0.2**	
SYO	**Syowa Base**	**75.33**	**193⇓**	*e*P	P	06 01 28.0	+9.2	
H03N3	**Juan Fernandez**	**79.74**	**123**	T	T	07 27 50.4		
	baz=232							
H03N2	**Juan Fernandez**	**79.74**	**123**	T	T	07 27 50.2		
	baz=232							
H03N1	**Juan Fernandez**	**79.75**	**123**	T	T	07 27 49.4		
	baz=232							
NVAR	**Mina Array Bea**	**89.62**	**43**	P	**P**	**06 02 34.8**	**+0.9**	
	comp=Z,1.0nm,0.9s,baz=206,slow=6.0,SNR=6.8							
MKAR	**Makanchi Array**	**118.86**	**309**	PKP	**PKiKP**	**06 08 24.7**	**+0.6**	
	comp=Z,0.5nm,0.9s,baz=80,slow=1.6,SNR=3.6							
KURBB	**Kurchatov Arra**	**122.27**	**313**	PKP	**PKiKP**	**06 08 30.3**	**-0.2**	
	comp=Z,0.4nm,0.6s,baz=99,slow=2.1,SNR=4.7							
BVAR	**Borovoye Array**	**127.63**	**315**	PKP	**PKPdf**	**06 08 39.2**	**-1.5**	
	comp=Z,0.3nm,0.5s,baz=116,slow=3.4,SNR=1.9							
FIA1	**FINESS Array S**	**146.81**	**339**		**PKiKP**	**06 09 19.0**	**-0.9**	
FINES	**FINESS Array B**	**146.81**	**339**	PKPbc	**PKPab**	**06 09 17.9**	**-0.7**	
	comp=Z,4.7nm,0.9s,baz=41,slow=3.5,SNR=9.1							
ARTV	**Artvin**	**146.92**	**297**		**PKPab**	**06 09 19.3**	**-0.7**	
AKASG	**Malin Array Be**	**152.67**	**321**	PKPbc	**PKiKP**	**06 09 32.8**	**+0.4**	
	comp=Z,0.2nm,0.3s,baz=56,slow=2.0,SNR=2.2							
BRTR	**Keskin Array B**	**153.34**	**295**	PKPbc	**PKiKP**	**06 09 35.4**	**+1.1**	
	comp=Z,1.1nm,0.9s,baz=99,slow=1.9,SNR=3.8							
BRTR				PKPab	**PKPab**	**06 09 45.9**	**-0.5**	
	comp=Z,1.1nm,0.8s,baz=72,slow=3.5,SNR=5.4							
MBO	**M'Bour**	**155.28**	**132**	PKPdf	**PKPdf**	**06 09 29.3**	**-0.5**	
MBO				PKPbc	**sPKPdf**	**06 09 38.6**	**+0.1**	
BOLV	**Bolvadin**	**155.53**	**294**	PKPdf	**PKPdf**	**06 09 29.5**	**-0.2**	
ISP	**Isparta**	**155.95**	**291**	PKPab	**PKPab**	**06 09 57.2**	**-0.3**	
PSZ	**Piszkesteto**	**159.21**	**324**	PKPdf	**PKPdf**	**06 09 34.1**	**+0.2**	
TORD	**Torodi Ar. Bea**	**161.02**	**179**	PKPab	**PKPab**	**06 10 20.2**	**+0.7**	
	comp=Z,0.5nm,0.7s,baz=186,slow=1.6,SNR=4.0							

IDC 24 06:15:00.3±3.6, 30°42S×138°33E, h0km, mb1 2.9/3, mb1mx2.9/23, mbtmp2.7/3, ML2.5/3, Error ellipse: s-maj=84.0km s-min=16.3km az=41.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.15**	**118**	Pn	Pn	06 15 51.8	+0.6
	0.2nm,0.3s,baz=293,slow=15,SNR=6.6						
STKA				Pg	Pg	06 15 59.1	-1.6
	0.7nm,0.3s,baz=298,slow=16,SNR=10						
STKA				Sn	Sn	06 16 30.6	+1.1
	1.4nm,0.3s,baz=360,slow=23,SNR=3.8						
STKA				Lg	Lg	06 16 38.3	
	1.6nm,0.3s,baz=214,slow=18,SNR=7.8						
ASAR	**Alice Springs**	**7.80**	**329**	Pn	Pn	06 16 55.3	+0.2
	0.1nm,0.3s,baz=153,slow=13,SNR=4

n61,σ0§81/85,mb3.6/3,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.99**	**276**	*eP*	**Pb**	**06 24 09.1**	**-0.2**
ANWB				*eS*	**Sn**	**06 24 24.8**	**+0.3**
H05N1	**Guadeloupe/Mar**	**1.28**	**193**	Pn	**Pn**	**06 24 13.8**	**-0.4**
H05N1				Sn	**Sb**	**06 24 30.4**	**-0.6**
ABD	**La Joyeuse, An**	**1.30**	**213**	*eP*	**Pn**	**06 24 14.4**	**0.0**
ABD				*eS*	**Sn**	**06 24 31.8**	**-0.3**
MLYT	**Lee's Yard**	**1.61**	**239**	*eP*	**Pn**	**06 24 19.4**	**+0.6**
MLYT				*eS*	**Sb**	**06 24 40.6**	**-0.1**
MAGL	**Barre de l'ile**	**1.69**	**198**	*eP*	**Pn**	**06 24 20.0**	**+0.2**
MAGL				*eS*	**Sn**	**06 24 42.0**	**+0.2**
CBE	**Ff, Capester**	**1.70**	**209**	*eP*	**Pn**	**06 24 20.4**	**+0.4**
CBE				*eS*	**Sn**	**06 24 42.2**	**+0.1**
TDBA	**Terre de Bas,**	**1.91**	**207**	*eP*	**Pn**	**06 24 23.6**	**+0.8**
TDBA				*eS*	**Sn**	**06 24 47.0**	**-0.2**
TBG	**Guadaloupe-3**	**1.91**	**207**	*eP*	**Pn**	**06 24 23.0**	**+0.2**
TBG				*eS*	**Sn**	**06 24 47.4**	**+0.2**
SKOC	**St. Kitts, UWI**	**1.91**	**262**	*eP*	**Pn**	**06 24 23.4**	**+0.6**
SKOC				*eS*	**Sn**	**06 24 47.6**	**+0.3**
SKI	**Saint Kitts**	**1.91**	**263**	*eP*	**Pn**	**06 24 23.2**	**+0.3**
SKI				*eS*	**Sn**	**06 24 47.5**	**+0.2**
MDPV	**Dominica, Penn**	**2.04**	**199**	*eP*	**Pn**	**06 24 25.1**	**+0.5**
MDPV				*eS*	**Sn**	**06 24 51.2**	**+0.9**
SEUS	**St. Eustatius**	**2.13**	**268**	*eP*	**Pn**	**06 24 26.0**	**+0.1**
SEUS				*eS*	**Sn**	**06 24 53.2**	**+0.6**
DSLB	**Salisbury**	**2.21**	**197**	*eP*	**Pn**	**06 24 27.7**	**+0.7**
DSLB				*eS*	**Sn**	**06 24 55.5**	**+0.7**
SMRT	**St. Maarten**	**2.27**	**283**	*eP*	**Pn**	**06 24 28.1**	**+0.4**
SMRT				*eS*	**Sn**	**06 24 57.1**	**+1.1**
DLPL	**La Plaine**	**2.27**	**192**	*eP*	**Pn**	**06 24 28.2**	**+0.3**
DLPL				*eS*	**Sn**	**06 24 56.5**	**+0.3**
MDN	**Morne-Daniel**	**2.32**	**195**	*eP*	**Pn**	**06 24 29.2**	**+0.7**
MDN				*eS*	**Sn**	**06 24 58.0**	**+0.7**
SABA	**Saba**	**2.38**	**272**	*eP*	**Pn**	**06 24 29.0**	**-0.3**
SABA				*eS*	**Sn**	**06 24 59.5**	**+0.7**
SVN	**Savane Anatole**	**2.74**	**188**	*eP*	**Pn**	**06 24 34.8**	**+0.4**
BAMF	**Morne Balai**	**2.76**	**188**	*eP*	**Pn**	**06 24 34.8**	**+0.1**
CXM	**Morne La Croix**	**2.77**	**188**	*eP*	**Pn**	**06 24 35.1**	**+0.3**
PCM	**Pelee Case Pet**	**2.77**	**189**	*eP*	**Pn**	**06 24 34.8**	**0.0**
PCM	**Pelee Case Pet**	**2.77**	**189**	*eP*	**Pn**	**06 24 35.1**	**+0.3**
ILAM	**Ilet Lapin Mar**	**2.78**	**182**	*eP*	**Pn**	**06 24 35.3**	**+0.5**
ILAM				*eS*	**Sn**	**06 25 09.9**	**+1.2**
GBMF	**Grand Be**	**2.78**	**188**	*eP*	**Pn**	**06 24 35.3**	**+0.3**
PML	**Morne Lenard**	**2.80**	**189**	*eP*	**Pn**	**06 24 35.3**	**+0.1**
FDF	**Fort de France**	**2.85**	**188**	*eP*	**Pn**	**06 24 35.8**	**+0.1**
FDF				*eS*	**Sn**	**06 25 11.1**	**+0.7**
LPMF	**Morne Lapointe**	**2.98**	**184**	*eP*	**Pn**	**06 24 37.4**	**-0.2**
ZAM	**Aeronautique**	**2.99**	**185**	*eP*	**Pn**	**06 24 37.7**	**0.0**
MVM	**Montagne Vaucl**	**3.00**	**183**	*eP*	**Pn**	**06 24 38.2**	**+0.3**
BIM	**Bigot**	**3.05**	**186**	*eP*	**Pn**	**06 24 39.0**	**+0.5**
BIM				*eS*	**Sn**	**06 25 15.9**	**+0.5**
MPOM	**Morne Pois Mar**	**3.11**	**182**	*eP*	**Pn**	**06 24 39.8**	**+0.5**
MPOM				*eS*	**Sn**	**06 25 17.6**	**+0.8**
H05S1	**Guadeloupe/Mar**	**3.13**	**182**	Pn	**Pn**	**06 24 40.3**	**+0.7**
H05S1				Sn	**Sn**	**06 25 15.3**	**-1.9**
SLBI	**Saint Lucia, B**	**3.53**	**184**	*eP*	**Pn**	**06 24 45.5**	**+0.4**
SLBI				*eS*	**Sn**	**06 25 28.1**	**+0.8**
SLW	**Petit Monier**	**3.53**	**183**	*eP*	**Pn**	**06 24 46.7**	**+1.5**
SLAC	**Saint Lucia, A**	**3.65**	**182**	*eP*	**Pn**	**06 24 47.7**	**+0.9**
SLAC				*eS*	**Sn**	**06 25 31.0**	**+0.7**
SLB	**Belfond**	**3.73**	**184**	*eP*	**Pn**	**06 24 48.3**	**+0.3**
SLB				*eS*	**Sn**	**06 25 32.7**	**+0.4**
MCLT	**Moule a Chique**	**3.84**	**183**	*eP*	**Pn**	**06 24 50.5**	**+1.1**
MCLT	**Moule a Chique**	**3.84**	**183**	*eS*	**Sn**	**06 25 35.6**	**+0.6**
SVV	**Soufriere Volc**	**4.25**	**186**	*eP*	**Pn**	**06 24 56.0**	**+1.0**
SVCV	**St. Vincent, C**	**4.29**	**185**	*eP*	**Pn**	**06 24 56.6**	**+1.0**
SVCV	**St. Vincent, C**	**4.29**	**185**	*eS*	**Sn**	**06 25 36.5**	**+0.5**
SVB	**Belmont**	**4.30**	**187**	*eP*	**Pn**	**06 24 56.7**	**+1.0**
SVB	**Belmont**	**4.30**	**187**	*eS*	**Sn**	**06 25 46.3**	**0.0**
BBGH	**Gun Hill**	**4.55**	**165**	*eS*	**Sn**	**06 25 53.7**	**+1.4**
BBSP	**Saint Philip**	**4.61**	**164**	*eS*	**Sn**	**06 25 54.3**	**+0.4**
OCAC	**Ocana**	**15.36**	**234**	*eP*	**Pn**	**06 27 29.7**	**+2.4**
PAMC	**Pamplona, Colo**	**15.46**	**230**	*eP*	**P**	**06 27 32.0**	**-1.7**
SMLC	**San Martn de**	**15.62**	**238**	*eP*	**Pn**	**06 27 31.6**	**+1.0**
SJCC	**San Jacinto, C**	**15.95**	**243**	*eP*	**Pn**	**06 27 36.8**	**+1.8**
BRRC	**Barranca, Sant**	**16.37**	**232**	*eP*	**Pn**	**06 27 39.0**	**-1.4**
RUSC	**La Rusia**	**16.73**	**228**	*eP*	**P**	**06 27 47.2**	**-0.5**
ZARC	**Zaragoza, Cauc**	**17.01**	**236**	*eP*	**Pn**	**06 27 48.5**	**0.0**
PTBC	**PUERTO BERRIO,**	**17.30**	**232**	*eP*	**Pn**	**06 27 50.3**	**-1.8**
SPBC	**San Pablo de B**	**17.61**	**229**	*eP*	**Pn**	**06 27 55.5**	**-0.4**
CHIC	**Chingaza**	**18.08**	**226**	*eP*	**Pn**	**06 28 02.4**	**+0.3**
HELC	**Santa Helena**	**18.34**	**234**	*eP*	**Pn**	**06 28 02.9**	**-2.4**
GUY2C	**Guyana, Caldas**	**18.84**	**231**	*eP*	**Pn**	**06 28 11.5**	**0.0**
LPAZ	**La Paz**	**34.42**	**191**	LR	LR	06 46 20.5	
	comp=Z,68nm,18.1s,baz=60,slow=39						
TXAR	**Lajitas Array**	**40.87**	**295**	P	**P**	**06 31 33.2**	**+0.4**
	0.3nm,0.6s,baz=96,slow=9.2,SNR=4.4						
PDAR	**Pinedale Array**	**48.27**	**312**	P	**P**	**06 32 32.5**	**+0.5**
	0.4nm,0.8s,baz=116,slow=8.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**60.15**	**85**	P	**P**	**06 33 57.9**	**-0.9**
	0.4nm,0.7s,baz=299,slow=6.5,SNR=2.2						

*IDC **24** 06:35:54.7±2.1,2.65N×92.70E,h0km,mb3.8/4,mb1 3.9/7, mb1mx3.6/37,mbtmp3.8/7,ML4.0/3,Error ellipse: s-maj=50.9km s-min=26.3km az=39.0*
*NEIC **24** 06:35:55.5±1.0,2.6N±0.1×92.62E±0.09,h10km±2km, mb4.2/7,Error ellipse: s-maj=23.4km s-min=14.2km az=186.0*

ISC 24 06:35:55.9±1.0,2.7N±0.1×92.72E±0.08,h10km,n24, σ1§29/22,mb4.1/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.04**	**106**	Pn	**Pn**	**06 37 12.2**	**+0.5**
GSI				Sn	**Sn**	**06 38 09.1**	**-1.0**
RPSI	**Rantau Prapat**	**6.20**	**90**		**Pn**	**06 37 29.0**	**+1.5**
RPSI	**Rantau Prapat**	**6.20**	**90**	Pn	**Pn**	**06 37 27.7**	**+0.2**
PSI	**Prapat**	**6.20**	**89**	Pn	**Pn**	**06 37 29.0**	**+1.4**
	1.4nm,0.3s,baz=359,slow=4.0,SNR=6.6						
PSI				Sn	Sn	06 38 29.2	-9.5
	1.1nm,0.3s,baz=180,slow=8.5,SNR=3.6						
KULM	**Kulim**	**8.32**	**72**		**Pn**	**06 37 58.1**	**+1.4**
KULM					**Sn**	**06 39 28.2**	**-2.6**
IPM	**Ipoh**	**8.47**	**78**		**Pn**	**06 38 00.2**	**+1.3**
PBA	**Port Blair**	**8.90**	**0**	Pn	Pn	06 38 03.2	-1.5
PBA				Sn	Sn	06 39 44.5	-0.6
PALK	**Pallekele**	**12.81**	**291**	Pn	**Pn**	**06 38 58.5**	**+0.2**
	0.8nm,0.3s,baz=215,slow=11,SNR=6.6						
PALK				Sn	Sn	06 41 09.6	-11
	4.6nm,0.3s,baz=298,slow=22,SNR=11						
PALK	**Pallekele**	**12.81**	**291**		**Pn**	**06 38 56.8**	**-1.5**
CMAR	**Chiang Mai Arr**	**16.81**	**21**	Pn	**Pn**	**06 39 50.5**	**-1.1**
	0.4nm,0.3s,baz=212,slow=12,SNR=1.5						
H08S2	**Diego Garcia H**	**22.65**	**243**	T	T	07 03 04.2	
	baz=60						
H08S3	**Diego Garcia H**	**22.65**	**243**	T	T	07 02 55.0	
	baz=60						
H08S1	**Diego Garcia H**	**22.66**	**243**	T	T	07 03 06.7	
	baz=60						
TATO	**Taipei**	**35.48**	**49**	P	**P**	**06 42 54.1**	**+1.2**
KK31	**Karatay Array**	**44.84**	**337**	P	**P**	**06 44 10.7**	**+0.4**
KK31				IAmb	IAmb	06 44 11.8	
	comp=Z,2.3nm,0.9s						
KKAR	**Karatay Array**	**44.84**	**337**	P	**P**	**06 44 10.6**	**+0.2**
KKAR				IAmb	IAmb	06 44 11.7	
	comp=Z,2.3nm,0.9s						
MK31	**Makanchi Array**	**44.85**	**350**	P	**P**	**06 44 10.7**	**+0.2**
MKAR	**Makanchi Array**	**44.85**	**350**	P	**P**	**06 44 10.9**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=169,slow=9.0,SNR=10						
SONM	**Songino Array**	**46.49**	**13**	P	**P**	**06 44 24.4**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=211,slow=6.3,SNR=3.9						
WRA	**Warramunga Arr**	**46.63**	**121**	P	**P**	**06 44 24.6**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=282,slow=6.9,SNR=2.0						
KURK	**Kurchatov**	**49.31**	**348**	P	**P**	**06 44 43.9**	**-1.2**
KURK				IAmb	IAmb	06 44 59.6	
	comp=Z,2.0nm,1.4s						
ZAA0	**Zalesovo Array**	**51.50**	**354**	P	**P**	**06 44 58.9**	**-2.7**
ZAA0				IAmb	IAmb	06 45 02.6	
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**51.50**	**354**	P	**P**	**06 45 02.3**	**+0.7**
	comp=Z,1.7nm,0.4s,baz=181,slow=6.8,SNR=5.9						
PEA0B	**Petropavlovsk-**	**73.02**	**35**	P	**P**	**06 47 26.0**	**0.0**
PEA0B				IAmb	IAmb	06 47 31.8	
	comp=Z,31nm,1.4s						

*JMA **24** 06:36:59.9±0.1,24.11N×121.87E,h21km±3km,M1.7*
*TAP **24** 06:37:00.3,24.15N×121.84E,h17km,ML2.9,B*

ISC 24 06:37:00.0±0.9,24.13N±0.02×121.86E±0.02,h18km±2km, n74,σ0§47/139,1C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.25**	**281**	⇓P	**Pg**	**06 37 06.2**	**+0.4**
	baz=276						
NACB				S	**Sg**	**06 37 10.7**	**+1.0**
	baz=276						
HWA	**Hwalien**	**0.28**	**238**	*eP*	**Pb**	**06 37 06.9**	**+0.4**
	baz=229						
HWA				S	**Sg**	**06 37 11.5**	**+1.0**
	baz=229						
ENA	**Nanau**	**0.32**	**340**	⇓*iP*	**Pb**	**06 37 07.3**	**0.0**
	baz=343						
ENA				*i* S	**Sb**	**06 37 12.4**	**+0.4**
	baz=343						
ENAH	**Nanao**	**0.32**	**351**	⇓*iP*	**Pb**	**06 37 07.5**	**+0.2**
	baz=355						
ENAH				S	**Sb**	**06 37 12.4**	**+0.2**
	baz=355						
ETLH	**Xiulin Townshi**	**0.36**	**283**	P	**Pb**	**06 37 07.9**	**-0.1**
	baz=279						
ETLH				*i* S	**Sb**	**06 37 13.7**	**+0.4**
	baz=279						
TWC	**Suao**	**0.48**	**358**	*i* P	**Pb**	**06 37 10.2**	**+0.2**
	baz=2.0						
TWC				*i* S	**Sb**	**06 37 17.3**	**+0.7**
	baz=2.0						
ESL	**Shilin**	**0.50**	**232**	P	**Pb**	**06 37 10.3**	**+0.1**
	baz=226						
ESL				S	**Sn**	**06 37 18.8**	**-1.7**
	baz=226						
NNSB	**Datong**	**0.53**	**304**	P	**Pg**	**06 37 10.6**	**-0.2**
	baz=303						
NNSB				S	**Sb**	**06 37 18.2**	**0.0**
	baz=303						
NNSH	**Datong**	**0.53**	**304**	*eP*	**Pg**	**06 37 10.6**	**-0.1**
	baz=303						
NNSH				S	**Sb**	**06 37 18.2**	**0.0**
	baz=303						
NNS	**Nan Shan**	**0.55**	**305**	*i* P	**Pb**	**06 37 10.9**	**-0.1**
	baz=304						
NNS				*i* S	**Sb**	**06 37 18.5**	**-0.1**
	baz=304						
WHF	**Hehuan Shan**	**0.55**	**272**	⇑*iP*	**Pb**	**06 37 11.2**	**-0.1**
	baz=269						
WHF				*i* S	**Sb**	**06 37 19.2**	**+0.3**
	baz=269						
NDT	**Datong Townshi**	**0.57**	**326**	P	**Pb**	**06 37 11.3**	**-0.1**
	baz=326						
NDT				S	**Sg**	**06 37 19.4**	**+0.3**
	baz=326						
ENTT	**Nioudou**	**0.58**	**332**	*i* P	**Pb**	**06 37 11.4**	**-0.1**
	baz=333						
ENTT				*i* S	**Sg**	**06 37 19.7**	**+0.3**
	baz=333						
FUSS	**Fushou**	**0.58**	**282**	*eP*	**Pg**	**06 37 11.7**	**0.0**
	baz=280						
FUSS				*i* S	**Sg**	**06 37 20.3**	**+0.8**
	baz=280						
EGFH	**Guangfu**	**0.61**	**221**	*eP*	**Pn**	**06 37 13.6**	**-0.1**
	baz=217						
EGFH				*eS*	**Sn**	**06 37 22.3**	**-0.7**
	baz=217						
TWE	**Neicheng**	**0.62**	**343**	P	**Pb**	**06 37 12.1**	**-0.1**
	baz=346						
TWE				S	**Sg**	**06 37 20.6**	**0.0**
	baz=346						
CHGB	**Renai**	**0.63**	**264**	P	**Pg**	**06 37 12.6**	**-0.1**
	baz=261						
CHGB				S	**Sg**	**06 37 21.9**	**+0.8**
	baz=261						
TWT	**Tachien**	**0.64**	**281**	*i* P	**Pg**	**06 37 13.1**	**+0.3**
	baz=279						
TWT				*i* S	**Sg**	**06 37 22.0**	**+0.6**
	baz=279						
TDCB	**Techi**	**0.66**	**281**	P	**Pg**	**06 37 13.0**	**-0.1**
	baz=279						
TDCB				S	**Sg**	**06 37 21.6**	**-0.2**
	baz=279						
YHNB	**Yeheng**	**0.70**	**321**	P	**Pb**	**06 37 13.4**	**-0.3**
	baz=320						
YHNB				S	**Sb**	**06 37 22.8**	**-0.3**
	baz=320						
NSK	**Sanguang**	**0.71**	**320**	*i* P	**Pb**	**06 37 13.7**	**-0.3**
	baz=320						
NSK				S	**Sb**	**06 37 23.2**	**-0.2**
	baz=320						
NTC	**Toucheng**	**0.72**	**358**	*eS*	**Sg**	**06 37 24.4**	**+0.4**
	baz=359						
NWLT	**Wulai**	**0.73**	**333**	*eP*	**Pb**	**06 37 13.8**	**-0.3**
	baz=334						
NWLT				*eS*	**Sb**	**06 37 23.3**	**-0.4**
	baz=334						
HGSD	**Ruisui**	**0.75**	**213**	P	**Pn**	**06 37 15.7**	**0.0**
	baz=209						
HGSD				*eS*	**Sn**	**06 37 26.3**	**-0.3**
	baz=209						
VWDT	**VWDT**	**0.76**	**241**	*eP*	**Pb**	**06 37 14.3**	**-0.3**
	baz=238						
VWDT				S	**Sg**	**06 37 25.1**	**+0.2**
	baz=238						
EHY	**Hungye**	**0.79**	**219**	P	**Pb**	**06 37 14.9**	**-0.4**
	baz=215						
EHY				S	**Sg**	**06 37 26.5**	**+0.4**
	baz=215						
TIPB	**Shuangxi**	**0.84**	**358**	P	**Pg**	**06 37 16.4**	**-0.1**
	baz=359						
TIPB				S	**Sg**	**06 37 28.0**	**+0.3**
	baz=359						
WHP	**Taichung City**	**0.85**	**280**	*eP*	**Pb**	**06 37 16.2**	**-0.1**
	baz=278						
WHP				S	**Sg**	**06 37 28.2**	**+0.2**
	baz=278						
TWB1	**Santiao Chiao**	**0.88**	**7**	*i* P	**Pg**	**06 37 17.4**	**+0.1**
	baz=9.0						
TWB1				*i* S	**Sn**	**06 37 29.7**	**-0.2**
	baz=9.0						
TWA	**Mucha**	**0.89**	**343**	P	**Pg**	**06 37 17.3**	**0.0**
	baz=344						
TWA				*eS*	**Sg**	**06 37 29.0**	**-0.1**
	baz=344						
YULB	**Yu-li**	**0.90**	**215**	*eP*	**Pb**	**06 37 16.6**	**-0.4**
	baz=213						
YULB				S	**Sg**	**06 37 29.5**	**+0.1**
	baz=213						
SSLB	**Suanglung**	**0.90**	**248**	P	**Pb**	**06 37 16.8**	**-0.3**
	baz=245						
SSLB				*eS*	**Sb**	**06 37 28.6**	**-0.1**
	baz=245						
TATO	**Taipei**	**0.91**	**338**	P	**Pg**	**06 37 17.7**	**0.0**
	baz=339						
TATO				*eS*	**Sb**	**06 37 29.3**	**+0.3**
	baz=339						
SMLT	**Sun Moon Lake**	**0.91**	**255**	P	**Pb**	**06 37 17.4**	**0.0**
	baz=252						
SMLT				*eS*	**Sn**	**06 37 30.6**	**-0.2**
	baz=252						
EYUL	**Yuli**	**0.92**	**213**	*eP*	**Pg**	**06 37 18.7**	**+0.7**
	baz=210						
EYUL				*eS*	**Sg**	**06 37 30.3**	**+0.1**
	baz=210						
LIOB	**Emei**	**0.93**	**304**	P	**Pn**	**06 37 17.8**	**-0.3**
	baz=303						
LIOB				S	**Sg**	**06 37 30.5**	**0.0**
	baz=303						
TWF1	**Yuli**	**0.93**	**214**	P	**Pb**	**06 37 17.0**	**-0.6**
	baz=211						
TWF1				S	**Sg**	**06 37 30.1**	**-0.3**
	baz=211						
NSTT	**Nanjuang**	**0.93**	**303**	*i* P	**Pb**	**06 37 17.4**	**-0.3**
	baz=302						
NSTT				*i* S	**Sb**	**06 37 29.7**	**0.0**
	baz=302						
NWF	**Wu-fen Shan**	**0.94**	**355**	P	**Pg**	**06 37 18.7**	**+0.3**
	baz=356						
NWF				S	**Sn**	**06 37 31.6**	**+0.1**
	baz=356						
WFSB	**Wu-fen Shan**	**0.94**	**355**	P	**Pn**	**06 37 18.3**	**0.0**
	baz=356						
WFSB				S	**Sn**	**06 37 31.4**	**+0.1**
	baz=356						
TYC	**Yuchr**	**0.95**	**257**	P	**Pb**	**06 37 17.2**	**-0.7**
	baz=254						
TYC				S	**Sg**	**06 37 30.5**	**-0.5**
	baz=254						
TAP	**Taipei**	**0.96**	**340**	*eP*	**Pb**	**06 37 17.7**	**-0.4**
	baz=341						
TAP				*eS*	**Sg**	**06 37 31.4**	**-0.1**
	baz=341						
TWQ1	**Liyutan**	**1.02**	**283**	*i* P	**Pg**	**06 37 20.2**	**+0.4**
	baz=281						
TWQ1				*i* S	**Sg**	**06 37 33.7**	**+0.4**
	baz=281						
WHYT	**Xinyi Township**	**1.02**	**245**	*eP*	**Pn**	**06 37 19.3**	**-0.2**
	baz=243						
JYNG	**Yonagunijimaku**	**1.04**	**72**	P	**Pb**	**06 37 19.2**	**-0.2**
JYNG				*eS*	**Sb**	**06 37 33.3**	**+0.6**
NSY	**Sanyi**	**1.05**	**286**	P	**Pg**	**06 37 21.0**	**+0.6**
	baz=285						
NSY				S	**Sg**	**06 37 35.4**	**+1.3**
	baz=285						
YM01	**YM01**	**1.05**	**345**	P	**Pn**	**06 37 20.0**	**+0.2**
	baz=346						
YM01				S	**Sg**	**06 37 34.1**	**-0.2**
	baz=346						
NMLH	**Miaoli**	**1.06**	**293**	P	**Pg**	**06 37 21.0**	**+0.4**
	baz=292						
NMLH				*eS*	**Sn**	**06 37 34.1**	**-0.2**
	baz=292						
YM10	**YM10**	**1.06**	**345**	P	**Pg**	**06 37 20.6**	**0.0**
	baz=345						
YM10				S	**Sg**	**06 37 35.2**	**+0.6**
	baz=345						
FULB	**Fuli**	**1.06**	**210**	*eP*	**Pn**	**06 37 20.2**	**+0.2**
	baz=207						
FULB				*eS*	**Sg**	**06 37 36.5**	**+1.9**
	baz=207						
YM04	**YM04**	**1.06**	**344**	*eP*	**Pb**	**06 37 19.8**	**-0.1**
	baz=344						
YM04				*eS*	**Sg**	**06 37 34.6**	**-0.1**
	baz=344						
YM05	**YM05**	**1.07**	**345**	*eS*	**Sg**	**06 37 35.0**	**+0.2**
	baz=346						
WJS	**Zhushan**	**1.08**	**254**	*eP*	**Pg**	**06 37 21.4**	**+0.3**
	baz=252						
WJS				*eS*	**Sg**	**06 37 36.1**	**+0.9**
	baz=252						
YOJ	**Yonaguni jima**	**1.10**	**72**	P	**Pn**	**06 37 20.4**	**-0.1**
	baz=73						
YOJ				*eS*	**Sn**	**06 37 35.6**	**+0.4**
	baz=73						
YOJ	**Yonaguni jima**	**1.10**	**72**	P	**Pn**	**06 37 20.1**	**-0.4**
YOJ				*eS*	**Sb**	**06 37 34.2**	**-0.2**
WNT	**Mingjian**	**1.11**	**257**	*eP*	**Pg**	**06 37 21.2**	**-0.3**
	baz=255						
WNT				*eS*	**Sg**	**06 37 37.1**	**+1.1**
	baz=255						
ALS	**Alishan**	**1.15**	**238**	P	**Pg**	**06 37 22.3**	**0.0**
	baz=235						
ALS				S	**Sg**	**06 37 37.3**	**-0.1**
	baz=235						
CHN5	**Tsauling**	**1.21**	**244**	P	**Pb**	**06 37 22.3**	**-0.1**
	baz=242						
CHN5				S	**Sg**	**06 37 39.0**	**-0.2**
	baz=242						
ELDTW	**Lidau**	**1.22**	**220**	P	**Pn**	**06 37 22.3**	**+0.1**
	baz=217						
ELDTW				*eS*	**Sg**	**06 37 39.6**	**+0.1**
	baz=217						
EDH	**Donghe**	**1.26**	**204**	*eP*	**Pb**	**06 37 23.6**	**+0.4**
	baz=202						
EDH				*eS*	**Sg**	**06 37 40.9**	**0.0**
	baz=202						
WDLH	**Douliu**	**1.29**	**250**	*eP*	**Pg**	**06 37 24.4**	**-0.6**
	baz=248						
WDLH				*eS*	**Sb**	**06 37 40.3**	**+0.4**
	baz=248						
STYT	**Tauyuan**	**1.40**	**227**	*eS*	**Sg**	**06 37 44.1**	**-1.1**
	baz=224						
TPUB	**Ta-pu**	**1.40**	**234**	*eP*	**Pn**	**06 37 24.8**	**+0.1**
	baz=232						
TPUB				S	**Sg**	**06 37 44.5**	**-0.8**
	baz=232						
WTP	**Ta-pu**	**1.44**	**233**	*eP*	**Pb**	**06 37 26.3**	**-0.1**
	baz=230						
TWGBT	**Beinan**	**1.49**	**209**	*eP*	**Pb**	**06 37 27.0**	**-0.1**
	baz=207						
PCYT	**Pengchaiyu**	**1.51**	**7**	*eP*	**Pn**	**06 37 26.3**	**+0.2**
	baz=8.0						
PCYT				*eS*	**Sn**	**06 37 45.2**	**0.0**
	baz=8.0						
TWK	**Hsinying**	**1.52**	**236**	*eP*	**Pb**	**06 37 27.8**	**0.0**
	baz=234						
TWK				*eS*	**Sb**	**06 37 47.0**	**+0.2**
	baz=234						
CHN1	**Nanshi**	**1.54**	**233**	P	**Pb**	**06 37 28.2**	**+0.1**
	baz=231						
CHN1				*eS*	**Sb**	**06 37 47.7**	**+0.5**
	baz=231						
SLGT	**Liugui**	**1.59**	**225**	*eP*	**Pb**	**06 37 29.1**	**+0.3**
	baz=223						
IRIF	**Iriomote-Funau**	**1.72**	**83**	P	**Pn**	**06 37 28.8**	**-0.2**
IRIF				S	**Sn**	**06 37 50.4**	**0.0**
HATJ	**Hateruma jima**	**1.78**	**92**	*eS*	**Sn**	**06 37 51.9**	**0.0**
JKRS	**Kuro-shima**	**1.96**	**86**	P	**Pn**	**06 37 32.9**	**+0.6**
JKRS				S	**Sn**	**06 37 57.2**	**+0.7**
JIJ	**Ishigaki jima**	**2.09**	**83**	P	**Pn**	**06 37 33.5**	**-0.7**
JIJ				S	**Sn**	**06 37 58.5**	**-1.2**
JISG	**Ishigakijimahi**	**2.28**	**78**	*eS*	**Sn**	**06 38 03.0**	**-1.3**

*SIGU **24** 07:12:48.9±0.2,46.1°×2.6E±°,h154km±1km,mb3.9/9*
*SOF **24** 07:12:48.9,45.58N×26.27E,h15km,MD4.0*
*MOS **24** 07:12:48.1±0.8,45.59N×26.28E,h152km,mb4.3/11,Error ellipse: s-maj=6.1km s-min=4.7km az=116.5*
*BEO **24** 07:12:48.8±1.8,45.78N×26.55E,h56km±2km,ML3.7/14*
*MED_RC **24** 07:12:49.0±0.6,45.60N×26.34E,h136km±10km,MW4.3/8, Moment Tensor Solution.Mantle waves: s8,c8; Duration: 1§0 Moment tensor: Scale 10¹⁵Nm; Mrr-0.38±.36; Mθθ1.28±.66; Mϕϕ-0.90±.44; Mrθ1.66±.34; Mrϕ-2.27±.51; Mθϕ1.31±.23; Best double couple: Mo3.25000×10¹⁵ NP1:ϕs162.00000°,δ55.00000°,λ-13.00000°

ISR Istrita 0.52 163 ⇑P Pn 07 13 11.4 0.0
ISR ⇑S Sn 07 13 27.5 -0.5
ISR Istrita 0.52 163 ⇑P Pn 07 13 11.4 0.0
ISR ⇑S Sn 07 13 27.5 -0.5
ISR Istrita 0.52 163 P Pn 07 13 11.3 0.0
OZUR 0.61 322 ⇓P Pn 07 13 11.7 0.0
OZUR ⇑S Sn 07 13 27.9 -1.0
OZUR 0.61 322 ⇓P Pn 07 13 11.7 0.0
OZUR ⇑S Sn 07 13 27.9 -1.0
SECR 0.61 197 ⇑P Pn 07 13 12.2 +0.4
SECR ⇑S Sn 07 13 28.8 +0.1
SECR 0.61 197 ⇑P Pn 07 13 12.2 +0.4
SECR ⇑S Sn 07 13 28.8 +0.1
PETR Petresti 0.65 80 ⇑P Pn 07 13 12.4 +0.5
PETR ⇓S Sn 07 13 29.2 +0.2
PETR Petresti 0.65 80 ⇑P Pn 07 13 12.4 +0.5
PETR ⇓S Sn 07 13 29.2 +0.2
PLAR PLOIESTI 0.73 197 ⇑P Pn 07 13 12.9 +0.5
PLAR PLOIESTI 0.73 197 ⇑P Pn 07 13 12.9 +0.5
DOPR Dopca 0.74 299 ⇓P Pn 07 13 12.3 -0.2
DOPR ⇑S Sn 07 13 29.6 -0.7
DOPR Dopca 0.74 299 ⇓P Pn 07 13 12.3 -0.2
DOPR ⇑S Sn 07 13 29.6 -0.7
PGOR Pogoanele 0.85 146 ⇑P Pn 07 13 13.5 +0.2
PGOR ⇑S Sn 07 13 30.2 -1.3
PGOR Pogoanele 0.85 146 ⇑P Pn 07 13 13.5 +0.2
PGOR ⇑S Sn 07 13 30.2 -1.3
GHRR 0.88 59 ⇑P Pn 07 13 13.7 +0.3
GHRR ⇓S Sn 07 13 31.7 -0.2
GHRR 0.88 59 ⇑P Pn 07 13 13.7 +0.3
GHRR ⇓S Sn 07 13 31.7 -0.2
VOIR 0.91 259 ⇓P Pn 07 13 13.7 -0.2
VOIR ⇓S Sn 07 13 31.6 -1.0
VOIR 0.91 259 ⇓P Pn 07 13 13.7 -0.2
VOIR ⇓S Sn 07 13 31.6 -1.0
VOIR 0.91 259 P Pn 07 13 13.7 -0.2
TESR Tescani 0.92 14 ⇑P Pn 07 13 13.7 -0.1
TESR S Sn 07 13 30.9 -1.7
TESR Tescani 0.92 14 ⇑P Pn 07 13 13.7 -0.1
TESR S Sn 07 13 30.9 -1.7
TESR Tescani 0.92 14 Pn 07 13 13.7 -0.1
TESR Sn 07 13 31.0 -1.7
SULR 0.94 183 ⇑P Pn 07 13 14.2 +0.2
SULR ⇓S Sn 07 13 32.9 +0.2
SULR 0.94 183 ⇑P Pn 07 13 14.2 +0.2
SULR ⇓S Sn 07 13 32.9 +0.2
SULR 0.94 183 Pn 07 13 14.2 +0.2
SULR Sn 07 13 32.9 +0.2
TUDR 0.94 91 ⇑P Pn 07 13 13.4 -0.5
TUDR ⇑S Sn 07 13 31.7 -1.0
TUDR 0.94 91 ⇑P Pn 07 13 13.4 -0.5
TUDR ⇑S Sn 07 13 31.7 -1.0
TUDR 0.94 91 Pn 07 13 13.6 -0.4
TUDR Sn 07 13 31.7 -1.0
MTUR Matau 0.97 247 ⇓P Pn 07 13 14.6 +0.3
MTUR Matau 0.97 247 ⇓P Pn 07 13 14.6 +0.3
SCHL Schela 1.06 96 ⇑P Pn 07 13 14.4 -0.5
SCHL ⇑S Sn 07 13 33.3 -1.2
SCHL Schela 1.06 96 ⇑P Pn 07 13 14.4 -0.5
SCHL ⇑S Sn 07 13 33.3 -1.2
VARL Varlezi 1.10 75 ⇑P Pn 07 13 15.2 -0.1
VARL ⇑S Sn 07 13 34.1 -1.0
VARL Varlezi 1.10 75 ⇑P Pn 07 13 15.2 -0.1
VARL ⇑S Sn 07 13 34.1 -1.0
BIR Birlad 1.12 54 ⇑P Pn 07 13 15.5 +0.1
BIR ⇓S Sn 07 13 34.7 -0.8
BIR Birlad 1.12 54 ⇑P Pn 07 13 15.5 +0.1
BIR ⇓S Sn 07 13 34.7 -0.8
INCR INCERC-Sediu C 1.18 186 ⇑P Pn 07 13 16.0 -0.1
INCR ⇑S Sn 07 13 35.8 -0.6
INCR INCERC-Sediu C 1.18 186 ⇑P Pn 07 13 16.0 -0.1
INCR ⇑S Sn 07 13 35.8 -0.6
LEHL Lehliu 1.20 163 ⇑P Pn 07 13 16.2 0.0
LEHL ⇓S Sn 07 13 36.1 -0.6
LEHL Lehliu 1.20 163 ⇑P Pn 07 13 16.2 0.0
LEHL ⇓S Sn 07 13 36.1 -0.6
ARR Arges 1.22 259 ⇓P Pn 07 13 16.7 +0.3
ARR ⇓S Sn 07 13 37.2 +0.1
ARR Arges 1.22 259 ⇓P Pn 07 13 16.7 +0.3
ARR ⇓S Sn 07 13 37.2 +0.1
STFAR Stefanesti-Arg 1.22 232 ⇑P Pn 07 13 17.0 +0.5
STFAR ⇑S Sn 07 13 37.8 +0.6
STFAR Stefanesti-Arg 1.22 232 ⇑P Pn 07 13 17.0 +0.5
STFAR ⇑S Sn 07 13 37.8 +0.6
JOSR Joseni 1.23 333 ⇓P Pn 07 13 16.5 0.0
JOSR Joseni 1.23 333 ⇓P Pn 07 13 16.5 0.0
GISR Galati 1.23 98 ⇑P Pn 07 13 16.4 -0.1
GISR ⇓S Sn 07 13 36.0 -1.2
GISR Galati 1.23 98 ⇑P Pn 07 13 16.4 -0.1
GISR ⇓S Sn 07 13 36.0 -1.2
AMRR Amara 1.24 144 ⇑P Pn 07 13 16.5 0.0
AMRR ⇓S Sn 07 13 36.5 -0.8
AMRR Amara 1.24 144 ⇑P Pn 07 13 16.5 0.0
AMRR ⇓S Sn 07 13 36.5 -0.8
BUC1 Bucharest 1.29 189 ⇑P Pn 07 13 17.1 0.0
BUC1 ⇑S Sn 07 13 37.0 -1.2
BUC1 Bucharest 1.29 189 ⇑P Pn 07 13 17.1 0.0
BUC1 ⇑S Sn 07 13 37.0 -1.2
GIUM Giurgiulesti 1.33 95 P Pn 07 13 17.4 0.0
GIUM Giurgiulesti 1.33 95 ⇑P Pn 07 13 17.4 0.0
GIUM ⇑S Sn 07 13 37.8 -1.1
GIUM Giurgiulesti 1.33 95 ⇑P Pn 07 13 17.4 0.0
GIUM ⇑S Sn 07 13 37.8 -1.1
GIRR Girov 1.34 5 ⇓P Pn 07 13 18.3 +0.7
GIRR Girov 1.34 5 ⇓P Pn 07 13 18.3 +0.7
CFR Carcaliu 1.35 108 ⇑P Pn 07 13 16.9 -0.7
CFR ⇓S Sn 07 13 37.2 -2.1
CFR Carcaliu 1.35 108 ⇑P Pn 07 13 16.9 -0.7
CFR ⇓S Sn 07 13 37.2 -2.1
SGRR Singureni 1.42 190 ⇑P Pn 07 13 18.1 -0.2
SGRR ⇓S Sn 07 13 39.1 -1.4
SGRR Singureni 1.42 190 ⇑P Pn 07 13 18.1 -0.2
SGRR ⇓S Sn 07 13 39.1 -1.4
HUMR Humele 1.45 222 ⇑P Pn 07 13 18.5 -0.1
HUMR ⇓S Sn 07 13 40.2 -0.9
HUMR Humele 1.45 222 ⇑P Pn 07 13 18.5 -0.1
HUMR ⇓S Sn 07 13 40.2 -0.9
VASR Vaslui 1.45 44 ⇑P Pn 07 13 18.6 0.0
VASR ⇓S Sn 07 13 39.7 -1.3
VASR Vaslui 1.45 44 ⇑P Pn 07 13 18.6 0.0
VASR ⇓S Sn 07 13 39.7 -1.3
MDB Medias 1.46 292 ⇑P Pn 07 13 19.7 +1.0
MDB Medias 1.46 292 ⇑P Pn 07 13 19.7 +1.0
HARR Harsova 1.47 129 ⇑P Pn 07 13 18.5 -0.3
HARR Harsova 1.47 129 ⇑P Pn 07 13 18.5 -0.3
RASA Rasa 1.52 157 ⇑P Pn 07 13 19.1 -0.3
RASA ⇓S Sn 07 13 40.7 -1.7
RASA Rasa 1.52 157 ⇑P Pn 07 13 19.1 -0.3
RASA ⇓S Sn 07 13 40.7 -1.7
TOPG Topolog 1.63 116 ⇑P Pn 07 13 19.7 -0.8
TOPG ⇓S Sn 07 13 42.1 -2.3
TOPG Topolog 1.63 116 ⇑P Pn 07 13 19.7 -0.8
TOPG ⇓S Sn 07 13 42.1 -2.3
COPA Copaceanca 1.68 208 ⇑P Pn 07 13 20.9 -0.2
COPA ⇑S Sn 07 13 44.1 -1.3
COPA Copaceanca 1.68 208 ⇑P Pn 07 13 20.9 -0.2
COPA ⇑S Sn 07 13 44.1 -1.3
PRAR RASCA 1.75 358 ⇓P Pn 07 13 22.6 +0.8
PRAR RASCA 1.75 358 ⇓P Pn 07 13 22.6 +0.8
CVD1 Cernavoda-Powe 1.79 136 ⇓P Pn 07 13 21.9 -0.4
CVD1 ⇓S Sn 07 13 45.3 -2.2
CVD1 Cernavoda-Powe 1.79 136 ⇓P Pn 07 13 21.9 -0.4
CVD1 ⇓S Sn 07 13 45.3 -2.2
LOT Lotru 1.80 266 ⇑P Pn 07 13 22.7 +0.1
LOT ⇑S Sn 07 13 47.6 -0.4
LOT Lotru 1.80 266 ⇓P Pn 07 13 22.7 +0.1
LOT ⇑S Sn 07 13 47.6 -0.4
TLCR 1.81 103 ⇑P Pn 07 13 22.0 -0.5
TLCR ⇑S Sn 07 13 46.8 -1.1
TLCR 1.81 103 ⇑P Pn 07 13 22.0 -0.5
TLCR ⇑S Sn 07 13 46.8 -1.1
TLCR 1.81 103 eP Pn 07 13 21.9 -0.5
TLCR eS Sn 07 13 46.7 -1.1
TLCR 1.81 103 Pn 07 13 21.9 -0.5
TLCR Sn 07 13 46.8 -1.1
ICOR Ion Corvin 1.83 144 ⇑P Pn 07 13 22.6 -0.2
ICOR ⇓S Sn 07 13 46.7 -1.7
ICOR Ion Corvin 1.83 144 ⇑P Pn 07 13 22.6 -0.2
ICOR ⇓S Sn 07 13 46.7 -1.7
TIRR Tirgusor 1.88 127 ⇑P Pn 07 13 22.9 -0.4
TIRR S Sn 07 13 47.0 -2.4
TIRR Tirgusor 1.88 127 ⇑P Pn 07 13 22.9 -0.4
TIRR S Sn 07 13 47.0 -2.4
TIRR Tirgusor 1.88 127 P Pn 07 13 22.9 -0.4
TIRR 07 13 47.2
TIRR Tirgusor 1.88 127 Pn Pn 07 13 22.9 -0.4
TIRR Sn Sn 07 13 47.2 -2.2
JURR Jurilovca 2.00 114 ⇑P Pn 07 13 24.4 -0.2
JURR Jurilovca 2.00 114 ⇑P Pn 07 13 24.4 -0.2
ARCR ARCALIA 2.00 318 ⇓P Pn 07 13 25.0 +0.3
ARCR ARCALIA 2.00 318 ⇓P Pn 07 13 25.0 +0.3
RAZG Razgrad 2.06 176 ⇑P Pn 07 13 25.0 -0.3
RAZG ⇓S Sn 07 13 51.0 -2.1
RAZG Razgrad 2.06 176 ⇑P Pn 07 13 25.0 -0.3
RAZG ⇓S Sn 07 13 51.0 -2.1
MFTR Murfatlar 2.07 133 ⇑P Pn 07 13 25.2 -0.4
MFTR ⇑S Sn 07 13 51.4 -1.9
MFTR Murfatlar 2.07 133 ⇑P Pn 07 13 25.2 -0.4
MFTR ⇑S Sn 07 13 51.4 -1.9
ZIMR 2.08 200 ⇑P Pn 07 13 25.4 -0.2
ZIMR ⇑S Sn 07 13 51.6 -1.7
ZIMR 2.08 200 ⇑P Pn 07 13 25.4 -0.2
ZIMR ⇑S Sn 07 13 51.6 -1.7
VLAD Vladila 2.12 221 ⇑P Pn 07 13 25.7 -0.4
VLAD ⇓S Sn 07 13 52.2 -2.1
VLAD Vladila 2.12 221 ⇑P Pn 07 13 25.7 -0.4
VLAD ⇓S Sn 07 13 52.2 -2.1
VLAD Vladila 2.12 221 Pn 07 13 25.7 -0.4
VLAD Sn 07 13 52.2 -2.1
BURAR Bucovina Array 2.14 340 ⇓P Pn 07 13 28.1 +1.7
BURAR Bucovina Array 2.14 340 ⇓P Pn 07 13 28.1 +1.7
MILM Milestii Mici 2.16 52 ⇑P Pn 07 13 26.4 -0.1
MILM Milestii Mici 2.16 52 ⇑P Pn 07 13 26.4 -0.1
BUR08 Bucovina Ar. S 2.17 340 Pn Pn 07 13 28.0 +1.3
CJR Cluj-Napoca 2.19 301 ⇓P Pn 07 13 27.4 +0.5
CJR Cluj-Napoca 2.19 301 ⇓P Pn 07 13 27.4 +0.5
TSCT Constanta Port 2.21 130 ⇓P Pn 07 13 26.8 -0.3
TSCT ⇓S Sn 07 13 54.1 -2.0
TSCT Constanta Port 2.21 130 ⇓P Pn 07 13 26.8 -0.3
TSCT ⇓S Sn 07 13 54.1 -2.0
KIS Kishinev 2.21 50⇑iP Pn 07 13 27.0 -0.1
250nm,0.2s
KIS iS Sn 07 13 53.2 -3.1
6µm,0.7s
KIS Kishinev 2.21 50⇑iP Pn 07 13 27.1 -0.1
KIS Pm 07 13 27.2
KIS iS Sn 07 13 53.2 -3.1
KIS Sm 07 13 55.0
KIS Kishinev 2.21 50 ⇑P Pn 07 13 27.0 -0.1
KIS Kishinev 2.21 50 ⇑P Pn 07 13 27.0 -0.1
KIS Kishinev 2.21 50⇑iP Pn 07 13 27.0 -0.1
KIS iS Sn 07 13 53.2 -3.1
EFOR EFORIE 2.25 132 ⇑P Pn 07 13 27.4 -0.2
EFOR ⇓S Sn 07 13 55.3 -1.7
EFOR EFORIE 2.25 132 ⇑P Pn 07 13 27.4 -0.2
EFOR ⇓S Sn 07 13 55.3 -1.7
PSN Preselentsi 2.35 145 P Pn 07 13 28.9 +0.1
PSN Preselentsi 2.35 145 P Pn 07 13 28.9 +0.1
SZH Strazhica 2.37 187 P Pn 07 13 28.6 -0.5
SZH Strazhica 2.37 187 P Pn 07 13 28.6 -0.5
SRE Strehaia 2.41 248 ⇓P Pn 07 13 29.5 0.0
SRE ⇓S Sn 07 13 59.9 -0.5
SRE Strehaia 2.41 248 ⇓P Pn 07 13 29.5 0.0
SRE ⇓S Sn 07 13 59.9 -0.5
DEV Deva 2.41 278 ⇑P Pn 07 13 30.0 +0.5
DEV Deva 2.41 278 ⇑P Pn 07 13 30.0 +0.5
MANR Mangalia 2.42 137 ⇑P Pn 07 13 29.2 -0.4
MANR ⇑S Sn 07 13 58.6 -2.0
MANR Mangalia 2.42 137 ⇑P Pn 07 13 29.2 -0.4
MANR ⇑S Sn 07 13 58.6 -2.0
TSMN Mangalia Port- 2.43 137 ⇑P Pn 07 13 29.6 -0.2
TSMN ⇑S Sn 07 13 59.2 -1.8
TSMN Mangalia Port- 2.43 137 ⇑P Pn 07 13 29.6 -0.2
TSMN ⇑S Sn 07 13 59.2 -1.8
TSSL Sulina 2.44 100 ⇓S Sn 07 14 00.4 -0.7
TSSL Sulina 2.44 100 ⇓S Sn 07 14 00.4 -0.7
PRD Provadia 2.54 162 P Pn 07 13 31.4 +0.3
PRD Provadia 2.54 162 P Pn 07 13 31.4 +0.3
ROIA ROIAK 2.63 163 P Pn 07 13 32.3 0.0
ROIA ROIAK 2.63 163 P Pn 07 13 32.3 0.0
CHRU Chernivtsi 2.70 354 P Pn 07 13 32.9 -0.1
CHRU Pm 07 13 34.2
CHRU eS Sn 07 14 06.5 -0.3
CHRU Sm 07 14 09.9
PUNG Punghina 2.75 242 ⇓P Pn 07 13 33.1 -0.7
PUNG Punghina 2.75 242 ⇓P Pn 07 13 33.1 -0.7
BMR Baia Mare 2.83 318 ⇑P Pn 07 13 35.2 +0.5
BMR Baia Mare 2.83 318 ⇑P Pn 07 13 35.2 +0.5
KSV Kosov 2.83 343⇓iP Pn 07 13 35.5 +0.8
DJES Djerdap 2.85 252⇓iPn Pn 07 13 34.2 -0.8
DJES eSn Sn 07 14 07.5 -2.8
HERR Herculane 2.86 256 ⇑P Pn 07 13 34.9 -0.2
HERR Herculane 2.86 256 ⇑P Pn 07 13 34.9 -0.2
SORM Soroca 2.88 28 ⇓P Pn 07 13 34.9 -0.4
SORM Soroca 2.88 28 ⇓P Pn 07 13 34.9 -0.4
NSLU Nyzhne Selyshc 2.88 334⇑iP Pn 07 13 40.8 +5.5
KMPD K-Podol'skiy 2.95 2⇑iP Pn 07 13 35.9 -0.2
KMPD eS Sn 07 14 10.9 -1.5
NDNU3 Rozkopintsy 2.98 14⇓iP Pn 07 13 36.2 -0.2
NDNU3 Pm 07 13 36.5
NDNU3 eS Sn 07 14 10.7 -2.3
NDNU3 Sm 07 14 12.1
NDNU Novodnistrovsk 3.06 13⇓iP Pn 07 13 37.4 -0.2
NDNU Pm 07 13 37.9
NDNU eS Sn 07 14 12.7 -2.3
NDNU Sm 07 14 13.4
NDNU1 Nyshivtsy 3.09 15 eP Pn 07 13 37.7 -0.2
NDNU1 Pm 07 13 38.3
NDNU1 eS Sn 07 14 13.1 -2.5
NDNU1 Sm 07 14 31.3
JMB Yambol 3.15 177 P Pn 07 13 38.1 -0.7
JMB Yambol 3.15 177 P Pn 07 13 38.1 -0.7
BZS Buzias 3.30 272⇓iPn Pn 07 13 40.5 -0.2
BZS eSn Sn 07 14 15.6 -4.8
BZS Buzias 3.30 272 ⇓P Pn 07 13 40.6 0.0
BZS Buzias 3.30 272 ⇓P Pn 07 13 40.6 0.0
SIRR Siria 3.32 283 ⇓P Pn 07 13 41.4 +0.5
SIRR Siria 3.32 283 ⇓P Pn 07 13 41.4 +0.5
STNU Starunia 3.33 339 eP Pn 07 13 42.1 +1.0
KORU Korolevo 3.35 320⇑iP Pn 07 13 41.6 +0.3
MDVR Moldovita 3.37 257 ⇑P Pn 07 13 41.0 -0.5
MDVR Moldovita 3.37 257 ⇑P Pn 07 13 41.0 -0.5
TRSU Trosnyk 3.39 318⇑iP Pn 07 13 41.7 0.0
ZAGS Zajecar 3.43 240⇓iPn Pn 07 13 40.8 -1.5
ZAGS eSn Sn 07 14 19.9 -3.4
KUBS Kucevo 3.51 252 eSn Sn 07 14 21.9 -3.3
ZAPS Zavoj 3.53 230⇓iPn Pn 07 13 43.7 0.0
ZAPS eSn Sn 07 14 23.1 -2.7
BRIU Brid 3.54 321⇓iP Pn 07 13 44.2 +0.6
HORU Horodok 3.60 1 eP Pn 07 13 43.9 -0.5
HORU Pm 07 13 45.2
HORU eS Sn 07 14 20.7 -6.6
HORU Sm 07 14 28.1
BERU Beregovo 3.63 317 eP Pn 07 13 44.6 -0.2
VTS Vitosha 3.73 218 P Pn 07 13 47.1 +0.7
VTS Vitosha 3.73 218 P Pn 07 13 47.1 +0.7
MUKU Mukachevo 3.77 320⇓iP Pn 07 13 47.0 +0.3
BOVS Bovan 3.85 241⇓iPn Pn 07 13 47.3 -0.4
BOVS eSn Sn 07 14 30.6 -2.4
SVIS Svilajnac 3.87 251 ePn Pn 07 13 48.5 +0.5
MORS Morshin 3.88 336 eP Pn 07 13 49.1 +1.0
KDZ Kurdzhali 4.02 190 P Pn 07 13 50.0 0.0
KDZ Kurdzhali 4.02 190 P Pn 07 13 50.0 0.0
UZH Uzhgorod 4.08 319 eP Pn 07 13 50.9 +0.2
UZH Uzhgorod 4.08 319⇑iP Pn 07 13 50.0 -0.7
UZH eS Sn 07 14 37.1 -1.3
RZN Rozhen 4.10 197 P Pn 07 13 50.9 -0.3
RZN Rozhen 4.10 197 P Pn 07 13 50.9 -0.3
BOSS Bosilegrad 4.17 223 ePn Pn 07 13 52.2 +0.2
BOSS eSn Sn 07 14 39.2 -1.4
BARS Barje 4.28 231⇓iPn Pn 07 13 53.8 +0.4
BARS eSn Sn 07 14 40.8 -2.4
KOLS Kolonicke sedl 4.31 322 eP Pn 07 13 53.6 -0.1
KOLS Kolonicke sedl 4.31 322 ePN Pn 07 13 53.6 -0.1
GRUS Gruza 4.35 249⇓iPn Pn 07 13 54.1 -0.2
GRUS eSn Sn 07 14 42.4 -2.4
TRUS Trudelj 4.43 254⇓ePn Pn 07 13 55.0 -0.3
TRUS eSn Sn 07 14 44.4 -2.2
SELS Selova 4.43 239 ePn Pn 07 13 54.9 -0.5
MMB Musomiste 4.45 206 P Pn 07 13 55.7 +0.1
MMB Musomiste 4.45 206 P Pn 07 13 55.7 +0.1
LVV L'vov 4.48 341 eP Pn 07 13 55.9 0.0
LVV L'vov 4.48 341 eP Pn 07 13 55.4 -0.5
LVV eS Sn 07 14 45.5 -2.3
FRGS Fruska Gora 4.61 267⇓iPn Pn 07 13 57.7 0.0
FRGS eSn Sn 07 14 47.9 -3.0
CRVS Cervenica-Dubn 4.66 317 eP Pn 07 13 59.1 +0.8
CRVS Cervenica-Dubn 4.66 317 ePN Pn 07 13 59.1 +0.8
KWP Kalwaria Pacla 4.70 330 eP Pn 07 13 59.9 +1.1
KWP e 07 14 09.7
KWP Kalwaria Pacla 4.70 330 P Pn 07 13 59.9 +1.1
KWP Kalwaria Pacla 4.70 330 Pn 07 13 59.9 +1.1
ALN Alexandroupoli 4.72 183 P Pn 07 13 58.9 -0.3
ALN Alexandroupoli 4.72 183 Pn Pn 07 13 58.9 -0.3
DIVS Divibare 4.75 254⇓iPn Pn 07 13 59.1 -0.5
DIVS eSn Sn 07 14 50.6 -3.7
DIVS Divibare 4.75 254 Pn Pn 07 13 59.4 -0.2
KECS Kecovo 4.91 308 eP Pn 07 14 02.2 +0.6
KECS Kecovo 4.91 308 ePN Pn 07 14 02.2 +0.6
TEKS Tekeris 4.93 260 ePn Pn 07 14 02.2 +0.3
PSZ Piszkesteto 4.98 300 ⇓P Pn 07 14 02.2 -0.4
PSZ Piszkesteto 4.98 300 ⇓P Pn 07 14 02.2 -0.4
PSZ Piszkesteto 4.98 300 P Pn 07 14 02.2 -0.4
PSZ Piszkesteto 4.98 300 Pn Pn 07 14 02.2 -0.4
SJES Sjenica 5.12 245 ePn Pn 07 14 04.7 +0.2
SJES eSn Sn 07 15 01.3 -1.8
BBLS Lazići 5.23 253 ePn Pn 07 14 06.8 +0.9
BBLS eSn Sn 07 15 03.0 -2.7
SEV Sevastopol' 5.31 99 eP Pn 07 14 05.6 -1.3
SEV Pm 07 14 07.0
SEV iS Sn 07 15 03.8 -3.6
SEV Sm 07 15 10.0
SEV Sevastopol' 5.31 99 eP Pn 07 14 05.6 -1.3
SEV iS Sn 07 15 03.8 -3.6
SEV pmax pmax
comp=Z,56nm,0.4s
SEV smax smax
comp=E,16nm,0.4s
SEV smax smax
comp=N,34nm,0.3s
AKASG Malin Array Be 5.45 20 P Pn 07 14 07.4 -1.2
comp=N,20nm,0.3s,baz=204,slow=12,SNR=69
AKASG S Sn 07 15 07.2 -3.3
comp=N,13nm,0.3s,baz=202,slow=21,SNR=10
AKBB Malin Array Si 5.45 20 P Pn 07 14 07.8 -0.8
AKBB Malin Array Si 5.45 20 Pn Pn 07 14 07.8 -0.8
SIM Simferopol' 5.54 94⇓iP Pn 07 14 08.3 -1.6
SIM Pm 07 14 13.7
SIM iS Sn 07 15 09.2 -3.7
SIM Simferopol' 5.54 94⇓iP Pn 07 14 08.3 -1.6
SIM iS Sn 07 15 09.2 -3.7
SIM pmax pmax
comp=Z,49nm,0.4s
SIM smax smax
comp=E,124nm,0.9s
SIM smax smax
comp=N,193nm,1.0s
NIE Niedzica 5.58 315 eP Pn 07 14 11.4 +1.0
YAL Yalta 5.66 99 eP Pn 07 14 10.9 -0.6
YAL eS Sn 07 15 14.6 -1.2
YAL Yalta 5.66 99 eP Pn 07 14 10.9 -0.6
YAL eS Sn 07 15 14.6 -1.2
ALU Alushta 5.79 96⇓iP Pn 07 14 12.4 -0.8
ALU Pm 07 14 12.6
ALU eS Sn 07 15 16.3 -2.5
ALU Sm 07 15 23.0
ALU Alushta 5.79 96⇓iP Pn 07 14 12.4 -0.8
ALU eS Sn 07 15 16.3 -2.5
ALU pmax pmax
comp=Z,30nm,0.4s
ALU smax smax
comp=E,35nm,0.6s
ALU smax smax
comp=N,63nm,0.4s
ALU smax smax
comp=E,35nm,0.6s
LANS Liptovska Anna 5.84 310 eP Pn 07 14 15.2 +1.2
LANS Liptovska Anna 5.84 310 ePN Pn 07 14 15.2 +1.2
VYHS Vyhne 5.87 302 eP Pn 07 14 14.5 +0.2
VYHS Vyhne 5.87 302 ePN Pn 07 14 14.5 +0.2
SUDU Sudak 6.17 94⇓iP Pn 07 14 17.3 -1.0
SUDU Pm 07 14 20.3
SUDU iS Sn 07 15 24.9 -3.0
SUDU Sm 07 15 30.1
SUDU Sudak 6.17 94⇓iP Pn 07 14 17.3 -1.0
SUDU iS Sn 07 15 24.9 -3.0
SUDU pmax pmax
comp=Z,49nm,0.5s
SUDU smax smax
comp=E,120nm,0.5s
SUDU smax smax
comp=N,85nm,0.6s
LIT Litokhoron 6.19 208 P Pn 07 14 17.4 -1.3
LIT Litokhoron 6.19 208 Pn Pn 07 14 17.4 -1.3
MDUB Mudurnu 6.26 144 Pn Pn 07 14 19.2 -0.4
OJC Ojcow 6.36 319 eP Pn 07 14 20.7 -0.1
OJC e 07 14 31.1
OJC Ojcow 6.36 319 P Pn 07 14 20.2 -0.6
OJC Ojcow 6.36 319 Pn Pn 07 14 20.2 -0.6
BZK Bozkurt 6.65 121 ⇓P Pn 07 14 23.4 -1.3
BZK Bozkurt 6.65 121 ⇓P Pn 07 14 23.4 -1.3
JAVC Velka Javorina 6.72 302 ePN Pn 07 14 26.9 +1.2
OKC Ostrava-Krasne 6.94 310 eP Pn 07 14 27.9 -0.6
OKC Ostrava-Krasne 6.94 310 eP Pn 07 14 27.9 -0.6
OKC ex x 07 14 39.0
ILGA Ilgaz 7.06 128 Pn Pn 07 14 29.1 -1.3
AGG Agios Georgios 7.22 206 P Pn 07 14 31.9 -0.5
AGG Agios Georgios 7.22 206 Pn Pn 07 14 31.9 -0.5
MORC Moravsky Berou 7.24 308 ePN Pn 07 14 33.2 +0.7
MORC Moravsky Berou 7.24 308 P Pn 07 14 32.4 -0.2
MORC Moravsky Berou 7.24 308 Pn Pn 07 14 32.4 -0.2
GCIS Gornji Cirnik 7.49 276 iPn Pn 07 14 37.2 +1.3
CONA Conrad Observa 7.55 292 iPn Pn 07 14 37.9 +1.2
comp=N,2.5nm,0.6s
VRAC Vranov 7.56 303 P Pn 07 14 34.7 -2.1
comp=N,0.4nm,0.3s,baz=110,slow=13,SNR=7.9
VRAC Vranov 7.56 303 ePN Pn 07 14 37.5 +0.8
KRUC Moravsky 7.57 301 ePN Pn 07 14 37.6 +0.7
GROS Grobnik 7.58 280 iPn Pn 07 14 38.4 +1.2
DIKM Dikmen 7.60 118 ⇓P Pn 07 14 36.6 -0.7
DIKM Dikmen 7.60 118 ⇓P Pn 07 14 36.6 -0.7
CRES Cresnjev 7.61 275 ePn Pn 07 14 38.7 +1.2
LEGS Legarje 7.70 276 iPn Pn 07 14 40.0 +1.3
ANN Anapa 7.89 92 eP Pn 07 14 39.6 -1.6
ANN eS Sn 07 16 08.3 -0.8
ANN pmax pmax
comp=Z,10.0nm,0.5s
BR131 Keskin Array S 7.98 135 P Pn 07 14 41.8 -0.8
BR131 Keskin Array S 7.98 135 Pn 07 14 41.8 -0.8
BRTR Keskin Array B 7.98 135 P Pn 07 14 42.4 -0.3
comp=Z,0.2nm,0.3s,baz=320,slow=13,SNR=9.1
BRTR Keskin Array B 7.98 135 iP Pn 07 14 42.2 -0.4
BRTR pmax pmax
comp=Z,2.0nm,0.5s
DPC Dobruska-Polom 8.21 309 eP Pn 07 14 48.0 +2.5
DPC Dobruska-Polom 8.21 309 ePN Pn 07 14 48.0 +2.5
DPC ex x 07 14 56.5
OSTC Ostas 8.38 310 ePN Pn 07 14 58.2 +11
OSTC ex x 07 15 06.7
CHVC Chvalec 8.48 310 ePN Pn 07 14 56.9 +7.9
KSP Ksiaz 8.49 312 eP Pn 07 14 53.3 +4.1
KSP e 07 14 59.6
GEC2 GERESS Array S 9.17 295 Pn 07 14 58.4 0.0
GERES GERESS Array B 9.17 295 P Pn 07 14 58.0 -0.3
comp=Z,0.2nm,0.3s,baz=108,slow=13,SNR=15
KHC Kasperske Hory 9.33 297⇓eP Pn 07 15 01.6 +1.2
KHC pmax pmax
comp=Z,8.0nm,0.9s
KHC Kasperske Hory 9.33 297 ePN Pn 07 15 01.3 +0.9
KHC Kasperske Hory 9.33 297 Pn 07 15 00.8 +0.4
TIP Timpagrande 9.56 231 Pn Pn 07 15 02.9 -0.6
NRCA Norcia 9.88 258 Pn 07 15 07.2 -0.5
VSR Storozhevoye 10.21 52 eP Pn 07 15 13.0 +1.1
VSR pmax pmax
comp=Z,10.0nm,0.5s
CLL Collm 10.51 308 eP P 07 15 27.0 +1.9
MOTA Moosalm 10.64 285 Pn Pn 07 15 19.1 +1.3
comp=Z,8.8nm,1.0s
LPSR Galich'ya Gora 10.81 45 eP Pn 07 15 19.8 0.0
LPSR pmax pmax

comp=Z,10.0nm,0.7s
DAVOX **Davos/Dischmat** 11.46 282 P Pn 07 15 32.2 +3.6
OBN **Obninsk** 11.53 31⇓ *eP* Pn 07 15 30.9 +1.8
OBN pmax pmax
comp=Z,11nm,0.5s
KIV **Kislovodsk** 11.75 92 *eP* Pn 07 15 31.7 -0.6
KIV *eS* Sn 07 17 42.5 +0.3
KIV pmax pmax
comp=Z,26nm,1.1s
GOF **Gofitskoye** 11.79 87⇑ *eP* Pn 07 15 33.1 +0.5
GOF eS Sn 07 17 33.1 -10
GOF pmax pmax
comp=Z,18nm,0.4s
GOF smax smax
comp=N,33nm,0.6s
KBZ **Khabaz** 11.95 93 P P 07 15 44.5 +3.1
comp=N,0.6nm,0.3s,baz=291,slow=12,SNR=8.8
VAE **Valguarnera** 12.06 232 P P 07 15 42.0 -0.8
comp=N,0.6nm,0.3s,baz=50,slow=16,SNR=1.6
CORL **Corleone** 12.40 236 Pn Pn 07 15 40.2 -0.5
BFO **Black Forest** 12.59 289 P Pn 07 15 41.5 -1.5
BFO **Black Forest** 12.59 289 Pn Pn 07 15 41.5 -1.5
AKH **Akhalkalaki** 13.15 103 P Pn 07 15 49.2 -1.2
AKH **Akhalkalaki** 13.15 103 Pn Pn 07 15 49.2 -1.2
SENIN **Lac Senin/Sane** 13.25 280 Pn Pn 07 15 52.2 +0.5
BNI **Bardonecchia** 13.83 275 P Pn 07 15 57.6 -1.5
BNI **Bardonecchia** 13.83 275 Pn Pn 07 15 57.6 -1.5
MMAI **Mount Meron Ar** 14.40 148 P Pn 07 16 07.4 +1.2
comp=N,1.6nm,0.3s,baz=334,slow=13,SNR=3.9
MEM **Membach** 14.45 298 ⇓P P 07 16 11.8 +2.8
BCLA **Clavier** 14.85 296 ⇑P P 07 16 16.8 +3.4
BMRD **Maredsous** 15.16 296 ⇑P P 07 16 20.3 +3.3
DOU **Dourbes** 15.24 295 x x 07 16 33.6
SNF **Seneffe** 15.51 296 ⇓P P 07 16 23.1 +2.4
UCC **Uccle** 15.51 297 P Pn 07 16 18.7 -1.0
UCC pmax pmax
comp=Z,23nm,1.4s
UCC **Uccle** 15.51 297 Pn Pn 07 16 18.7 -1.0
UCC IAmb IAmb 07 16 25.9
comp=Z,22nm,1.4s
ASF **Jabal al Asfar** 15.73 145 P P 07 16 25.3 +1.9
comp=Z,0.2nm,0.3s,baz=137,slow=1.7,SNR=5.3
FINES **FINESS Array B** 15.86 360 P Pn 07 16 21.3 -2.5
comp=Z,0.4nm,0.3s,baz=172,slow=12,SNR=12
FINES **FINESS Array B** 15.86 360 *eP* Pn 07 16 23.4 -0.5
FINES pmax pmax
comp=Z,3.0nm,0.7s
AKT **Akhty** 16.05 97 *eP* P 07 16 29.9 +2.9
AKT pmax pmax
comp=Z,11nm,0.6s
HFS **Hagfors** 16.37 337 P Pn 07 16 28.2 -1.9
comp=Z,0.9nm,0.3s,baz=144,slow=13,SNR=18
CLF **Chambon-Foret** 16.63 287 P P 07 16 32.9 -0.3
CLF IAmb IAmb 07 16 35.6
comp=Z,19nm,0.9s
OSL **Oslo** 17.10 333 *eP* P 07 16 38.2 0.0
KLMR **Klimovskoe** 17.13 22 *eP* P 07 16 36.4 -2.1
KLMR pmax pmax
comp=Z,7.0nm,0.9s
KLMR **Klimovskoe** 17.13 22 *e*Pn P 07 16 36.4 -2.1
KLMR AMP 07 16 44.4
comp=Z,7.0nm,0.9s
KONO **Kongsberg** 17.26 330 *eP* Pn 07 16 40.5 -0.3
EIL **Elat** 17.30 154 P Pn 07 16 42.7 +1.0
comp=Z,1.1nm,0.3s,baz=289,slow=7.4,SNR=5.2
NC602 **NORSAR Array S** 17.48 335 P P 07 16 42.4 +0.1
NC602 IAmb IAmb 07 16 44.4
comp=Z,24nm,1.1s
NC602 **NORSAR Array S** 17.48 335 *eP* P 07 16 42.0 -0.3
NC405 **NORSAR Array S** 17.73 336 P P 07 16 45.1 -0.1
NAO01 **NORSAR Array S** 17.76 335 P 07 16 44.8 -0.7
NB201 **NORSAR Array S** 17.80 336 P P 07 16 45.4 -0.5
NB2 **NORSAR Subarra** 17.82 336 P P 07 16 45.9 -0.2
comp=Z,1.8nm,0.6s,baz=141,slow=12
NB2 **NORSAR Subarra** 17.82 336 P P 07 16 45.9 -0.2
comp=Z,1.8nm,0.6s,baz=141,slow=12
NOA **NORSAR Array B** 17.82 336 P P 07 16 45.8 -0.2
comp=Z,0.1nm,0.3s,baz=146,slow=11,SNR=25
NOA **NORSAR Array B** 17.82 336 *eP* P 07 16 46.5 +0.4
NOA pmax pmax
comp=Z,7.0nm,0.6s
NC303 **NORSAR Array S** 17.92 336 P P 07 16 46.7 -0.5
NC303 IAmb IAmb 07 16 50.0
comp=Z,14nm,0.8s
NBO00 **NORSAR Array S** 17.94 335 P P 07 16 47.7 +0.3
BLS5 **Blasjo** 18.26 326 *eP* Pn 07 16 52.8 +0.1
MFF **Saint Martin d** 18.36 283 P P 07 16 52.8 +0.7
SKAR **Skarslia** 18.46 331 *eP* P 07 16 53.7 +0.6
SKAR *eP* Pn 07 16 54.3 -0.8
ODD1 **Odda** 18.52 328 *eP* Pn 07 16 57.1 +1.4
DOMB **Dombas** 19.24 335 *eP* P 07 17 02.5 +1.0
BER **Bergen** 19.31 327 *eP* Pn 07 17 03.8 -1.1
HYA **Hoyanger** 19.53 330 *eP* Pn 07 17 06.3 -1.2
TBLU **Trondheim** 19.88 338 *eP* P 07 17 09.3 +0.9
AKN **Aaknes** 19.98 333 *eP* P 07 17 11.1 +1.5
FOO **Floro** 20.23 330 *eP* P 07 17 12.9 +0.8
NSS **Namsos** 20.56 342 *eP* P 07 17 15.9 +0.2
EKA **Eskdalemuir Ar** 20.98 308 P P 07 17 19.9 -0.3
comp=Z,1.1nm,0.4s,baz=113,slow=10,SNR=12
MOR8 **Moi Rana** 21.58 347 *eP* P 07 17 27.7 +1.2
AKTO **Aktyubinsk** 21.64 66 ⇑P P 07 17 28.9 +1.6
comp=Z,1.4nm,0.4s,baz=265,slow=11,SNR=6.8
AKTO **Aktyubinsk** 21.64 66 ⇑P P 07 17 28.9 +1.6
comp=Z,1.1nm,0.5s ⇑S pP 07 17 43.9 -11
AKTO
comp=Z,1.6nm,0.6s
KONS **Konsvik** 22.10 346 *eP* P 07 17 32.4 +0.6
FAUS **Fauske** 22.58 349 *eP* P 07 17 37.0 +0.5
LVZ **Lovozero** 22.76 8⇓ *eP* P 07 17 38.1 -0.1
LVZ pmax pmax
comp=Z,19nm,1.6s
ARU **Arti** 22.77 50 P P 07 17 38.7 +0.3
comp=Z,1.9nm,0.3s,baz=250,slow=9.2,SNR=12
ARU **Arti** 22.77 50 *d iP* P 07 17 38.4 +0.1
ARU *PP pP 07 18 04.5 -2.2
ARU 07 18 14.1
ARU S S 07 21 37.2 +2.0
ARU SS SnSn 07 22 33.5 +8.6
ARU pmax pmax
comp=Z,6.0nm,0.7s
ARU **Arti** 22.77 50 P P 07 17 37.5 -0.8
ARU IAmb IAmb 07 17 40.3
comp=Z,6.1nm,0.7s
ARU pP 07 18 04.9 -1.8
AB31 **Akbulak array** 22.92 69 ⇓P P 07 17 41.0 +1.2
comp=Z,0.9nm,0.5s,baz=272,slow=9.8
AB31 ⇑S pP 07 18 04.4 -4.1
comp=Z,2.1nm,0.6s,baz=313,slow=35
ESBB **Sonseca Array** 22.97 266 P P 07 17 39.7 -0.8
ESDC **Sonseca Array** 22.97 266 P P 07 17 39.6 -0.8
comp=Z,2.9nm,0.6s,baz=60,slow=9.2,SNR=23
STEI **Steigen** 23.10 349 *eP* P 07 17 40.8 -0.5
PAB **San Pablo** 23.30 266 P P 07 17 42.4 -1.1
PAB pmax pmax
comp=Z,5.0nm,0.9s
PAB **San Pablo** 23.30 266 P P 07 17 42.4 -1.1
KTK1 **Kautokeino** 23.51 357 *eP* P 07 17 45.4 +0.4
ARCES **ARCESS Array B** 23.99 359 P P 07 17 49.3 -0.1
comp=Z,1.3nm,0.5s,baz=175,slow=9.3,SNR=29
ARCES pP pP 07 18 17.9 -1.9
comp=Z,2.5nm,0.6s,baz=179,slow=9.6,SNR=4.4
ARCES **ARCESS Array B** 23.99 359 *eP* P 07 17 49.5 +0.1
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARE0 **ARCESS Array S** 23.99 359 *eP* P 07 17 49.5 +0.1
PBRG **Braganca** 24.10 273 *eP* P 07 17 50.4 -0.3
TRO **Tromso** 24.37 354 *eP* P 07 17 53.5 +0.7
MVO **Moncorvo** 24.53 272 *eP* P 07 17 55.3 +0.6
comp=Z,16nm,0.8s
GEYT **Allbeck** 24.80 97 P P 07 18 00.0 +2.9
comp=Z,5.8nm,0.7s,baz=298,slow=9.9,SNR=11
GYA0B **ALIBECK ARRAY** 24.80 97 P P 07 17 57.0 -0.1
GYA0B IAmb IAmb 07 18 02.2
comp=Z,6.8nm,0.7s
PVRL **Vila Real** 24.98 272 *eP* P 07 17 56.6 -2.1
PCAB **Cabril** 25.04 273 *eP* P 07 17 59.1 -0.1
PGAV **Gavieira, Arco** 25.12 274 *eP* P 07 17 59.1 -0.9
comp=Z,18nm,1.1s
HAMF **Hammerfest** 25.13 358 *eP* P 07 18 00.2 +0.5
MTE **Manteigas** 25.19 270 *eP* P 07 17 58.8 -1.8
comp=Z,14nm,1.5s
MTE **Manteigas** 25.19 270 P P 07 18 00.3 -0.3
MTE IAmb IAmb 07 18 00.3
comp=Z,6.2nm,0.8s
PVIS **Viseu** 25.31 271 *eP* P 07 18 01.8 +0.1
PCBR **Castelo Branco** 25.37 269 *eP* P 07 18 02.9 +0.8
PMRV **Marv??o** 25.48 268 *eP* P 07 18 02.1 -1.1
comp=Z,11nm,1.3s
BVAR **Borovoye Array** 29.27 59 P P 07 18 38.9 +2.1
comp=Z,0.5nm,0.6s,baz=287,slow=9.9,SNR=2.7
KK31 **Karatay Array** 31.39 79 *eP* P 07 18 57.7 +2.0
KK31 **Karatay Array** 31.39 79 P P 07 18 54.8 -0.8
KK31 *PP* 07 19 27.1 -1.1
KKAR **Karatay Array** 31.39 79 *eP* P 07 18 58.0 +2.3
KKAR **Karatay Array** 31.39 79 P P 07 18 54.8 -0.8
KKAR *PP* 07 19 25.8 -2.3
GAR **Garm** 32.87 86 P P 07 19 07.7 -1.0
GAR pP pP 07 19 40.6 -0.7
SPA0 **Spitsbergen Ar** 32.91 356 *eP* P 07 19 09.1 +0.7
AAK **Ala-Archa** 34.30 77 P P 07 19 22.6 +1.6
comp=Z,1.9nm,0.5s,baz=231,slow=1.6,SNR=3.8
AAK **Ala-Archa** 34.30 77⇑ *eP* P 07 19 23.6 +2.5
AAK pmax pmax
comp=Z,2.0nm,0.7s
AAK **Ala-Archa** 34.30 77 P P 07 19 21.3 +0.2
KURBB **Kurchatov Arra** 34.60 62 P P 07 19 24.6 +1.3
comp=Z,0.7nm,0.3s,baz=288,slow=9.3,SNR=4.6
KURBB PP PP 07 20 44.8 +0.1
comp=Z,0.3nm,0.5s,baz=291,slow=12,SNR=4.4
KURK **Kurchatov** 34.64 62⇓ *eP* P 07 19 24.9 +1.2
KURK pmax pmax
comp=Z,3.0nm,1.9s
KURK **Kurchatov** 34.64 62 P P 07 19 24.0 +0.3
KURK IAmb IAmb 07 19 25.3
comp=Z,1.7nm,0.3s
KURK pP pP 07 19 55.2 -1.2
PMOZ **Porto Moniz, M** 35.63 264 P P 07 19 31.9 -0.6
PMOZ pP pP 07 20 03.5 -2.5
ZALV **Zalesovo Beam** 37.69 56 P P 07 19 51.0 +1.4
comp=Z,2.1nm,0.3s,baz=276,slow=9.5,SNR=6.0
ZALV pP pP 07 20 22.8 +0.1
comp=Z,1.3nm,0.4s,baz=285,slow=9.7,SNR=4.3
MK31 **Makanchi Array** 38.05 67 P P 07 19 52.7 0.0
MK31 *PP pP 07 20 25.6 -0.4
MK31 pmax pmax
comp=Z,1.0nm,1.3s
MK31 **Makanchi Array** 38.05 67 P P 07 19 52.7 0.0
MK31 pP pP 07 20 25.6 -0.4
MKAR **Makanchi Array** 38.05 67 P P 07 19 54.4 +1.7
comp=Z,0.6nm,0.4s,baz=275,slow=8.0,SNR=11
MKAR pP pP 07 20 26.3 +0.3
comp=Z,0.6nm,0.5s,baz=284,slow=8.3,SNR=6.0
TOA0 **Torodi Ar. Sit** 38.51 221 P P 07 19 57.1 +0.3
TORD **Torodi Ar. Bea** 38.51 221 P P 07 19 57.7 +0.9
comp=Z,8.2nm,0.5s,baz=26,slow=8.8,SNR=63
TORD PcP PcP 07 22 06.3 -0.2
comp=Z,0.5nm,0.5s,baz=12,slow=2.1,SNR=3.8
DGZ **Jazzator, Alta** 40.37 61⇑ *eP* P 07 20 14.0 +2.0
DGZ pmax pmax
comp=Z,2.0nm,0.7s
WMQ **Urumqi** 42.70 70 *eP* P 07 20 33.3 +2.3
DBIC **Dimbokro** 47.26 224 P P 07 21 07.0 -0.2
comp=Z,7.7nm,0.4s,baz=13,slow=9.3,SNR=26
DBIC **Dimbokro** 47.26 224 P P 07 21 07.0 -0.2
DBIC pmax pmax
comp=Z,9.0nm,0.5s
DBIC **Dimbokro** 47.26 224 P P 07 21 07.0 -0.2
TIC **Toumodi** 47.37 225 *eP* P 07 21 07.8 -0.2
KIC **Kosan Boka** 47.47 224 *eP* P 07 21 08.9 +0.1
comp=Z,26nm,0.7s
LIC **Lamto** 47.73 224 *eP* P 07 21 10.4 -0.4
comp=Z,32nm,0.5s
SONM **Songino Array** 52.56 57 P P 07 21 48.9 +1.9
comp=Z,0.5nm,0.4s,baz=295,slow=8.5,SNR=3.7
SONM pP pP 07 22 22.3 +0.2
comp=Z,1.2nm,0.7s,baz=293,slow=7.7,SNR=4.9
SCHQ **Schefferville** 56.04 316 P P 07 22 10.8 -1.1
comp=Z,2.1nm,0.8s,baz=266,slow=19,SNR=1.8
SCHQ **Schefferville** 56.04 316 P P 07 22 11.3 -0.6
SCHQ IAmb IAmb 07 22 28.8
comp=Z,5.4nm,1.0s
LZH **Lanzhou** 57.28 70 ⇑P P 07 22 19.5 -1.6
LZH pP pP 07 22 45.3 -11
LZH sP PcP 07 23 12.8 -0.8
LZH PP PP 07 24 29.8 +0.2
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,52nm,7.2s
HHC **Hu-ho-hao-te** 59.45 61 *eP* P 07 22 37.3 +1.3
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,63nm,5.0s
BJT **Baijiatuau** 62.76 60 P P 07 22 57.1 -1.0
BJT pmax pmax
comp=Z,4.0nm,0.7s
BJT **Baijiatuau** 62.76 60 P P 07 22 57.1 -1.0
CMAR **Chiang Mai Arr** 64.97 89 P P 07 23 13.9 +1.1
comp=Z,1.0nm,0.5s,baz=303,slow=7.4,SNR=6.8
YKA **Yellowknife Ar** 67.80 342 P P 07 23 30.1 0.0
comp=Z,1.9nm,0.9s,baz=39,slow=6.5,SNR=3.1
EGAK **Eagle** 69.51 354 P P 07 23 41.8 +1.1
ILAR **Eielson Array** 69.82 357 P P 07 23 44.0 +1.4
comp=Z,0.3nm,0.9s,baz=360,slow=4.2,SNR=4.2
ILAR **Eielson Array** 69.82 357 *eP* P 07 23 43.7 +1.0
E46A **Sault Ste Mari** 69.96 316 P P 07 23 43.6 -0.2
CCB **Clear Creek Bu** 69.98 357 P P 07 23 44.8 +1.2
CCB IAmb IAmb 07 24 00.3
comp=Z,4.4nm,1.4s
DAWY **Dawson** 70.08 353 P P 07 23 44.9 +0.6
DAWY IAmb IAmb 07 23 46.3
comp=Z,3.5nm,0.8s
WRH **Wood River Hil** 70.17 357 P P 07 23 45.6 +0.9
WRH IAmb IAmb 07 23 46.5
comp=Z,4.1nm,1.0s
RIDG **Independent Ri** 70.76 356 P P 07 23 48.8 +0.3
RIDG IAmb IAmb 07 23 50.7
comp=Z,6.0nm,1.1s
DOT **Dot Lake** 70.81 355 P P 07 23 50.0 +1.3
DOT IAmb IAmb 07 23 51.1
comp=Z,4.2nm,0.9s
M54A **Oil Creek Stat** 71.03 310 P P 07 23 50.6 +0.2
E43A **Lone Tree Farm** 71.24 318 P P 07 23 51.6 +0.1
E43A IAmb IAmb 07 24 07.5
comp=Z,4.8nm,1.2s
DHY **Denali Highway** 71.54 357 P P 07 23 55.3 +2.0
Q56A **Snyder Ridge,** 72.50 308 P P 07 23 58.8 -0.4
Q56A IAmb IAmb 07 24 07.5
comp=Z,8.6nm,1.1s
SKT **Skwentna** 72.74 359 P P 07 24 00.4 +0.2
SKT IAmb IAmb 07 24 02.2
comp=Z,4.5nm,0.9s
SCM **Sheep Creek Mo** 72.78 357 P P 07 24 01.3 +0.7
SCM pmax pmax
comp=Z,8.0nm,1.0s
SCM **Sheep Creek Mo** 72.78 357 P P 07 24 01.3 +0.7
SCM IAmb IAmb 07 24 03.3
comp=Z,8.0nm,1.0s
H43A **Windswept, Lux** 73.01 317 P P 07 24 02.6 +0.5
HYT **Haines Junctio** 73.10 352 P P 07 24 03.2 +0.7
G40A **Rib Lake** 73.56 319 P P 07 24 05.5 +0.2
F36A **Milaca** 74.61 321 P P 07 24 10.9 -0.5
F36A IAmb IAmb 07 24 11.6
comp=Z,2.8nm,0.7s
KDAK **Kodiak Island** 76.96 359 P P 07 24 24.6 +0.1
KDAK pmax pmax
comp=Z,69nm,1.5s
KDAK **Kodiak Island** 76.96 359 P P 07 24 24.6 +0.1
ECSD **EROS Data Cent** 77.64 321 P P 07 24 28.4 -0.1
ECSD IAmb IAmb 07 24 29.0
comp=Z,2.5nm,0.5s
WALA **Waterton Lakes** 79.53 335 P P 07 24 39.4 +0.4
WHAR **Wooly Hollow** 82.26 314 P P 07 24 53.1 -0.4
WHAR IAmb IAmb 07 24 53.2
comp=Z,7.2nm,1.4s
TUL1 **Leonard** 83.51 316 P P 07 24 59.4 -0.5
TUL1 IAmb IAmb 07 25 00.3
comp=Z,3.7nm,0.7s
REDW **Red Top Meadow** 83.57 330 P P 07 25 01.0 +0.6
PDAR **Pinedale Array** 83.63 329 P P 07 24 59.8 -0.9
comp=Z,0.5nm,0.6s,baz=81,slow=5.3,SNR=6.1
BMO **Blue Mountains** 84.33 335 P P 07 25 03.7 -0.4
BMO pmax pmax
comp=Z,3.0nm,0.7s
BMO **Blue Mountains** 84.33 335 P P 07 25 03.7 -0.4
BMO IAmb IAmb 07 25 04.4
comp=Z,3.0nm,0.7s
TXAR **Lajitas Array** 92.67 318 P P 07 25 43.2 -0.9
comp=Z,0.2nm,0.6s,baz=25,slow=5.0,SNR=2.9
ASAR **Alice Springs** 118.60 95 PKP PKPdf 07 31 18.3 -0.7
comp=Z,0.2nm,0.3s,baz=323,slow=1.7,SNR=4.5

NEIC ***24*** *07:22:55.2± 1.1, 20.0°S± 0.1° × 178.0°W± 0.2, h561km± 8km, mb4.1/23, Error ellipse: s-maj=24.3km s-min=17.7km az=135.0*
IDC ***24*** *07:22:56.6± 7.0, 19.93°S × 178.07°W, h566km± 84km, mb3.2/9, mb1 3.5/9, mb1mx3.2/22, mbtmp4.0/9, Error ellipse: s-maj=53.0km s-min=25.6km az=160.0*
ISC 24 07:22:56.1± 0.7, 20.0°S± 0.1° × 178.1°W± 0.1, h569km, n40, σ0 76/42, mb4.1/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.32**	**301**	P	**P**	**07 24 20.9**	**-0.9**
ASAR	**Alice Springs**	**44.57**	**256**	P	**P**	**07 30 19.2**	**+0.7**
	0.5nm,0.5s,baz=91,slow=7.5,SNR=8.4						
WB0	**Warramunga Arr**	**44.58**	**262**	P	**P**	**07 30 17.4**	**-1.2**
WB0				IAmb	IAmb	07 30 25.3	
	comp=Z,7.7nm,1.4s						
WB2	**Warramunga Arr**	**44.59**	**262**	P	**P**	**07 30 18.5**	**-0.2**
WB2				IAmb	IAmb	07 30 36.7	
	comp=Z,7.6nm,1.4s						
WRA	**Warramunga Arr**	**44.60**	**262**	P	**P**	**07 30 19.2**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=97,slow=7.7,SNR=16						
CASY	**Casey**	**64.38**	**205**	P	**P**	**07 32 36.6**	**+0.4**
KKM	**Kota Kinabalu**	**69.57**	**285**	P	**P**	**07 33 08.6**	**-0.6**
KKM				IAmb	IAmb	07 33 09.2	
	comp=Z,9.7nm,1.2s						
MJAR	**Matsushiro Arr**	**69.78**	**324**	P	**P**	**07 33 10.7**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=154,slow=6.7,SNR=2.9						
QSPA	**South Pole Qui**	**70.06**	**180**	P	**P**	**07 33 10.7**	**-0.5**
QSPA				IAmb	IAmb	07 33 12.1	
	comp=Z,6.4nm,1.1s						
ADK	**Adak**	**71.59**	**1**	P	**P**	**07 33 19.9**	**-0.2**
PETK	**Petropavlovsk-**	**75.78**	**345**	P	**P**	**07 33 44.2**	**+0.4**
	comp=Z,3.7nm,1.0s,baz=126,slow=9.3,SNR=4.2						
109C	**Camp Elliot, M**	**78.45**	**49**	P	**P**	**07 33 56.6**	**-2.2**
109C				IAmb	IAmb	07 34 06.0	
	comp=Z,6.9nm,1.1s						
YERR	**Yerington**	**80.43**	**43**	P	**P**	**07 34 09.2**	**-0.2**
NVAR	**Mina Array Bea**	**80.72**	**43**	P	**P**	**07 34 11.7**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=222,slow=9.1,SNR=10						
K05A	**Summer Lake**	**81.62**	**39**	P	**P**	**07 34 15.4**	**0.0**
F10A	**Beach Ranch, E**	**85.66**	**38**	P	**P**	**07 34 35.4**	**+0.3**
F10A				IAmb	IAmb	07 34 36.2	
	comp=Z,4.1nm,0.8s						
RND	**Reindeer**	**86.24**	**13**	P	**P**	**07 34 37.6**	**+0.1**
RND				IAmb	IAmb	07 34 38.8	
	comp=Z,6.7nm,1.0s						
TXAR	**Lajitas Array**	**86.85**	**57**	P	**P**	**07 34 42.2**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=212,slow=6.4,SNR=8.2						
PV14	**Lion Creek, Pa**	**86.90**	**47**	P	**P**	**07 34 40.6**	**-0.8**
WRH	**Wood River Hil**	**87.34**	**13**	P	**P**	**07 34 42.5**	**-0.1**
WRH				IAmb	IAmb	07 34 42.7	
	comp=Z,3.0nm,0.8s						
HDA	**Harding Lake**	**87.52**	**13**	P	**P**	**07 34 43.3**	**-0.1**
HDA				IAmb	IAmb	07 34 44.2	
	comp=Z,3.1nm,0.6s						
CCB	**Clear Creek Bu**	**87.55**	**13**	P	**P**	**07 34 42.8**	**-0.7**
MCMT	**McKenzie Canyo**	**87.62**	**40**	P	**P**	**07 34 44.0**	**-0.7**
MDM	**Murphy Dome**	**87.75**	**12**	P	**P**	**07 34 43.8**	**-0.7**
MDM				IAmb	IAmb	07 34 44.8	
	comp=Z,4.6nm,0.9s						
COLA	**College**	**87.75**	**12**	P	**P**	**07 34 44.2**	**-0.1**
ILAR	**Eielson Array**	**87.85**	**13**	P	**P**	**07 34 44.4**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=217,slow=5.6,SNR=12						
PDAR	**Pinedale Array**	**88.65**	**43**	P	**P**	**07 34 49.5**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=185,slow=3.1,SNR=7.3						
BOZ	**Bozeman (W)**	**88.76**	**40**	P	**P**	**07 34 50.7**	**+0.9**
DAWY	**Dawson**	**89.01**	**16**	P	**P**	**07 34 50.4**	**0.0**
DAWY				IAmb	IAmb	07 34 51.7	
	comp=Z,1.9nm,0.7s						
EGAK	**Eagle**	**89.15**	**15**	P	**P**	**07 34 50.9**	**-0.1**
EGAK				IAmb	IAmb	07 34 53.0	
	comp=Z,3.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**89.89**	**290**	P	**P**	**07 34 56.7**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=114,slow=2.3,SNR=4.3						
AKASG	**Malin Array Be**	**142.56**	**331**	PKhKP	PKPpre	07 41 21.6	
	comp=Z,0.6nm,0.3s,baz=38,slow=4.3,SNR=10						
BRTR	**Keskin Array B**	**146.46**	**313**	PKPbc	**PKPbc**	**07 41 34.8**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=29,slow=38,SNR=2.8						
CLL	**Collm**	**147.57**	**347**	*i* PKPbc	**PKPbc**	**07 41 37.1**	**+0.4**
	comp=Z,6.0nm,0.8s						
CLL	**Collm**	**147.57**	**347**	PKPbc	**PKPbc**	**07 41 37.4**	**+0.7**
GEC2	**GERESS Array S**	**149.71**	**345**	PKPdf	**PKPdf**	**07 41 36.3**	**-0.5**
GEC2				PKPbc	**PKPbc**	**07 41 42.0**	**-0.2**
GERES	**GERESS Array B**	**149.71**	**345**	PKPbc	**PKPbc**	**07 41 41.8**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=50,slow=2.1,SNR=7.0						
WLF	**Walferdange**	**150.22**	**354**	PKPdf	**PKPdf**	**07 41 37.5**	**+0.1**
WLF				PKPbc	**PKiKP**	**07 41 44.0**	**+0.2**
WLF				PKPab	**PKPab**	**07 41 51.5**	**-0.3**
TRI	**Trieste**	**152.57**	**342**	PKPdf	**PKPdf**	**07 41 39.1**	**-1.9**
FUORN	**Ofenpass-Fuorn**	**152.59**	**347**	PKPdf	**PKPdf**	**07 41 40.1**	**-1.3**

WEL 24 07:25:40.6, 41°S± 1°, 17°E± °, h7km± 1km, M3.3/31, ML3.5/31, MLv3.3/31, Error ellipse: s-maj=0.0km s-min=0.0km az=45.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.15**	**166**	P	Pg	07 25 44.5	+0.9
KIW				S	Sg	07 25 47.2	+1.5
OGWZ	**Otaki Gorge**	**0.25**	**113**	P	Pb	07 25 46.6	-0.8
OGWZ				S	Sb	07 25 51.0	-1.1
CAW	**Cannon Point**	**0.42**	**159**	P	Pb	07 25 49.9	-0.4
HOWZ	**Holdsworth Sta**	**0.53**	**110**	P	Pb	07 25 52.0	-0.2
HOWZ				S	Sb	07 25 60.0	0.0
MRZ	**Mangatainoka R**	**0.55**	**84**	P	Pb	07 25 51.9	-0.6
MRZ				S	Sb	07 25 59.5	-1.1
OHWZ	**Ohakea**	**0.62**	**34**	P	Pg	07 25 52.6	+0.2
OHWZ				S	Sg	07 26 01.4	+0.9
TCW	**Tory Channel**	**0.66**	**222**	P	Pg	07 25 53.0	-0.4
TCW				S	Sg	07 26 02.3	+0.4
BHW	**Baring Head**	**0.69**	**180**	P	Pg	07 25 54.7	-0.2
DUWZ	**D'Urville Isla**	**0.72**	**263**	P	Pg	07 25 53.9	-0.5
MSWZ	**Moikau Station**	**0.76**	**157**	P	Pb	07 25 56.8	+0.7
POWZ	**Post Office Ro**	**0.76**	**65**	P	Pg	07 25 55.6	+0.4
TIWZ	**Tintock**	**0.78**	**95**	P	Pb	07 25 56.8	+0.4
TIWZ				S	Sb	07 26 08.0	+0.7
PRWZ	**Pori Road**	**0.86**	**79**	P	Pb	07 25 58.1	+0.3
TMWZ	**Te Maipa**	**0.87**	**117**	P	Pn	07 25 59.0	-0.3
PLWZ	**Palliser**	**0.90**	**161**	P	Pn	07 25 59.6	-0.1
PLWZ				S	Sn	07 26 12.7	-0.3
TRWZ	**Traveller**	**0.92**	**138**	P	Pn	07 26 00.6	+0.6
WAZ	**Wanganui**	**0.97**	**6**	P	Pg	07 25 58.7	-0.4
TUWZ	**Tuamarina**	**0.99**	**224**	P	Pg	07 25 58.7	-0.9
CPWZ	**Castlepoint**	**1.03**	**101**	P	Pn	07 26 03.1	+1.6
BFZ	**Birch Farm**	**1.05**	**88**	P	Pn	07 26 02.0	+0.2
BFZ				S	Sn	07 26 17.0	+0.3
TSZ	**Takapari Road**	**1.07**	**52**	P	Pg	07 26 00.8	-0.2
DVHZ	**Dannevirke**	**1.08**	**68**	P	Pb	07 26 01.6	+0.1
DVHZ				S	Sb	07 26 16.1	+0.2
NNZ	**Nelson**	**1.23**	**246**	P	Pb	07 26 02.9	-1.2
BSWZ	**Blackbirch Sta**	**1.24**	**217**	P	Pb	07 26 03.9	-0.5
ANWZ	**Angora Road**	**1.25**	**79**	P	Pg	07 26 05.3	+0.7
PNHZ	**Pukenui**	**1.30**	**52**	P	Pn	07 26 04.9	-0.3
LREZ	**Lake Rotokare**	**1.31**	**344**	P	Pb	07 26 05.5	0.0
WPHZ	**Waipukurau**	**1.37**	**62**	P	Pg	07 26 07.3	+0.5
MTVZ	**Mangateitei**	**1.41**	**19**	P	Pn	07 26 06.2	-0.6
PRHZ	**Porangahau**	**1.42**	**72**	P	Pg	07 26 08.1	+0.2
MOVZ	**Moawhango**	**1.48**	**28**	P	Pn	07 26 06.5	-1.2
MOVZ				S	Sn	07 26 27.1	-0.2
PREZ	**Palmer Road**	**1.48**	**338**	P	Pb	07 26 08.3	-0.1
PREZ				S	Sg	07 26 28.8	+0.8
WNVZ	**Wahianoa**	**1.50**	**22**	P	Pn	07 26 07.4	-0.7
NMEZ	**Namu Road**	**1.51**	**330**	P	Pb	07 26 09.1	+0.3
TRVZ	**Turoa**	**1.51**	**21**	P	Pn	07 26 08.2	-0.1
BHHZ	**Black Hill Sta**	**1.53**	**37**	P	Pn	07 26 07.8	-0.6
DRZ	**Dome Shelter**	**1.54**	**21**	P	Pb	07 26 09.4	-0.2
WHVZ	**Whangaehu Hut**	**1.54**	**21**	P	Pn	07 26 08.2	-0.4
FWVZ	**Far West T-bar**	**1.56**	**20**	P	Pn	07 26 08.4	-0.4
NEZ	**North Egmont**	**1.56**	**338**	P	Pb	07 26 09.8	-0.1
TUVZ	**Tukino**	**1.57**	**23**	P	Pn	07 26 09.3	+0.2
KRHZ	**Kereru**	**1.58**	**48**	P	P

PKE	Pukeiti	1.67	336	P		Pb	07 26 11.1	-0.5
OTVZ	Oturere	1.67	22	P		Pn	07 26 10.3	-0.1
PXZ	Pawanui	1.67	66	P		Pb	07 26 11.2	-0.5
MHEZ	Mangahewa	1.69	346	P		Pn	07 26 11.1	+0.6
WTVZ	West Tongariro	1.70	19	P		Pn	07 26 11.1	+0.4
TWVZ	Taurewa	1.70	15	P		Pn	07 26 10.6	-0.2
ETVZ	East Tongariro	1.71	23	P		Pb	07 26 11.7	-0.7
TMVZ	Te Maari	1.73	22	P		Pn	07 26 11.7	+0.6
KRVZ	Karewarewa	1.73	20	P		Pn	07 26 11.4	+0.3
KWHZ	Kaweka Forest	1.76	43	P		Pb	07 26 12.7	-0.5
QRZ	Quartz Range	1.78	266	P		Pb	07 26 12.6	-0.8
KAHZ	Kahuranaki	1.80	60	P		Pb	07 26 13.3	-0.5
THZ	Tophouse	1.81	234	P		Pn	07 26 12.8	+0.6
KATZ	Kakaramea	1.85	20	P		Pn	07 26 13.8	+0.8
MCHZ	McNeill Hill	1.90	48	P		Pb	07 26 14.7	-0.8
RITZ	Rihia Road	1.90	24	P		Pb	07 26 15.1	-0.5
KHZ	Kahutara	1.97	210	P		Pn	07 26 15.1	+0.8
RATZ	Rangitukua	1.98	21	P		Pb	07 26 16.2	-0.7
BKZ	Black Stump Fm	1.99	39	P		Pn	07 26 15.9	+1.2
WATZ	Wairara	2.12	19	P		Pb	07 26 18.2	-1.1
HIZ	Hauiti	2.20	360	P		Pn	07 26 18.3	+0.7
NMHZ	Naumai	2.20	43	P		Pn	07 26 19.0	+1.4
KUTZ	Kaahu Road	2.35	19	P		Pb	07 26 24.1	+0.9
ALRZ	Allen Road	2.44	28	P		Pn	07 26 21.8	+1.0
TLZ	Tolley Road	2.44	13	P		Pb	07 26 23.5	-1.4
RAHZ	Arahi	2.48	44	P		Pn	07 26 22.1	+0.6
DSZ	Denniston Nort	2.52	245	P		Pn	07 26 24.1	+2.0
GVZ	Greta Valley S	2.63	211	P		Pn	07 26 24.4	+0.9
RTZ	Ruatahuna	2.66	39	P		Pn	07 26 24.6	+0.7
LTZ	Lake Taylor	2.83	222	P		Pn	07 26 26.9	+0.6
URZ	Urewera	3.01	36	P		Pn	07 26 28.4	-0.2
TOZ	Tahuroa Road	3.02	10	P		Pn	07 26 29.5	+0.6
MWZ	Matawai	3.15	42	P		Pn	07 26 30.3	-0.4
INZ	Inchbonie	3.25	231	P		Pn	07 26 33.3	+1.3
OXZ	Oxford	3.35	218	P		Pn	07 26 32.5	-0.9
MQZ	McQueen's Vall	3.41	208	P		Pn	07 26 33.0	-1.1
TWGZ	Tauwhareparae	3.50	45	P		Pn	07 26 35.4	-0.1
AWAZ	Awhitu Peninsu	3.65	357	P		Pn	07 26 39.9	+2.4
ETAZ	East Tamaki Re	3.76	1	P		Pn	07 26 40.8	+1.8
WVZ	Waitaha Valley	3.88	231	P		Pn	07 26 41.5	+1.0
WIAZ	Waiheke Island	3.93	3	P		Pn	07 26 43.8	+2.6
MBAZ	Motutapu North	3.94	0	P		Pn	07 26 43.5	+2.0
RPZ	Rata Peaks	4.12	222	P		Pn	07 26 45.2	+1.3
ARCZ	Arundel	4.23	219	P		Pn	07 26 45.7	+0.2
GCSZ	Gaunt Creek Bo	4.26	231	P		Pn	07 26 48.8	+2.9
FOZ	Fox Glacier	4.69	232	P		Pn	07 26 52.8	+1.1
ODZ	Otahua Downs	5.32	214	P		Pn	07 27 00.2	-0.2
JCZ	Jackson Bay	5.61	231	P		Pn	07 27 04.3	-0.2

MDD ***24*** *07:26:20.9±0.6, 32°.31N× 16°.38W, h30km, mb3.9/5, Error ellipse: s-maj=9.0km s-min=4.9km az=63.0, PRXIMO*
INMG ***24*** *07:26:23.4±0.5, 32°.33N× 16°.31W, h10km, ML2.6, Error ellipse: s-maj=3.9km s-min=2.3km az=146.0*

ISC 24 07:26:14.9±0.9, 32°.30N±0°.04× 16°.18W±0°.05, h10km, n25, σ2§11/39, 2C-1D, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUL	**Funchal**	**0.70**	**300**	P	**Pn**	**07 26 32.0**	**+1.2**
FUL				S	**Sg**	**07 26 38.7**	**+1.2**
	94nm,0.2s						
FUL	**Funchal**	**0.70**	**300**	*eP*	**Pn**	**07 26 32.0**	**+1.2**
FUL				*eS*	**Sg**	**07 26 38.7**	**+1.2**
FUL				A	A	07 26 43.3	
	188nm,0.2s						
PMAR	**Madeira**	**0.75**	**304**	P	**Pn**	**07 26 33.0**	**+1.3**
PMAR				S	**Sg**	**07 26 40.6**	**+1.3**
	202nm,0.2s						
PMAR	**Madeira**	**0.75**	**304**	*ıeP*	**Pn**	**07 26 33.0**	**+1.3**
PMAR				*i* S	**Sg**	**07 26 40.6**	**+1.3**
PMAR				A	A	07 26 44.3	
	403nm,0.2s						
PMPS	**Porto Santo**	**0.76**	**350**	P	**Pn**	**07 26 34.2**	**+2.5**
PMPS				S	**Sb**	**07 26 42.0**	**+1.3**
	52nm,0.3s						
PMPS	**Porto Santo**	**0.76**	**350**	*ıeP*	**Pn**	**07 26 34.2**	**+2.5**
PMPS				*eS*	**Sb**	**07 26 42.0**	**+1.3**
PMPS				A	A	07 26 42.3	
	105nm,0.3s						
PMPST	**Porto Santo, M**	**0.79**	**350**	*ıeP*	**Pn**	**07 26 34.4**	**+2.4**
PMPST				*eS*	**Sb**	**07 26 42.7**	**+1.3**
PMPST				A	A	07 26 44.4	
	164nm,0.2s						
PMOZ	**Porto Moniz, M**	**1.01**	**301**	P	**Pn**	**07 26 36.5**	**+1.4**
PMOZ	22nm,0.2s			S	**Sg**	**07 26 46.4**	**-1.0**
	188nm,0.3s						
PMOZ	**Porto Moniz, M**	**1.01**	**301**	*eP*	**Pn**	**07 26 36.7**	**+1.5**
PMOZ				*eS*	**Sg**	**07 26 46.4**	**-1.0**
PMOZ				A	A	07 26 51.6	
	148nm,0.3s						
EBAJ	**Bajamar**	**3.75**	**182**	P	**Pn**	**07 27 13.3**	**+0.4**
	1.9nm,0.2s,SNR=7.9						
EBAJ				S	**Sn**	**07 27 56.7**	**-0.4**
	4.5nm,0.2s,SNR=7.9						
EFAM	**Famara**	**3.90**	**144**	S	**Sn**	**07 28 01.8**	**+1.1**
	1.1nm,0.1s,SNR=7.9						
TBT	**Taburiente**	**3.91**	**203**	P	**Pn**	**07 27 17.5**	**+2.5**
	1.4nm,0.1s,SNR=7.9						
TBT				S	**Sn**	**07 27 56.3**	**-4.7**
	2.1nm,0.1s,SNR=7.9						
CGUI	**Guimar, Teneri**	**3.97**	**183**	S	**Sn**	**07 28 02.1**	**-0.6**
	6.0nm,0.2s,SNR=7.9						
MACI	**Morro de la Ar**	**4.05**	**184**	P	**Pn**	**07 27 19.1**	**+2.0**
	1.2nm,0.3s,SNR=7.9						
MACI				S	**Sn**	**07 28 03.8**	**-0.9**
	1.8nm,0.3s,SNR=7.9						
CFUE	**Fuerteventura**	**4.12**	**151**	S	**Sn**	**07 28 06.6**	**+0.3**
	7.3nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**4.22**	**192**	P	**Pn**	**07 27 21.3**	**+2.0**
	2.1nm,0.1s,SNR=7.9						
EGOM				S	**Sn**	**07 28 06.5**	**-2.2**
	9.4nm,0.1s,SNR=7.9						
EOSO	**Osorio**	**4.25**	**173**	P	**Pn**	**07 27 23.5**	**+3.8**
	0.8nm,0.2s,SNR=7.9						
EOSO				S	**Sn**	**07 28 09.4**	**0.0**
	0.5nm,0.2s,SNR=7.9						
CHIE	**El Hierro**	**4.82**	**199**	S	**Sn**	**07 28 21.5**	**-1.8**
	1.1nm,0.2s,SNR=7.9						
CCUM	**Cumbre, El Hie**	**4.82**	**200**	S	**Sn**	**07 28 22.6**	**-0.8**
	13nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**7.73**	**49**	S	**Sn**	**07 29 33.8**	**-1.4**
	3.9nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**8.69**	**38**	S	**Sn**	**07 29 53.9**	**-4.8**
	0.9nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**8.84**	**51**	S	**Sn**	**07 30 00.6**	**-1.7**
	1.0nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**9.51**	**52**	S	**Sn**	**07 30 16.7**	**-2.1**
	0.4nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**10.52**	**54**	S	**Sn**	**07 30 39.9**	**-3.7**
	0.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**11.14**	**55**	S	**Sn**	**07 30 55.4**	**-3.4**
	0.3nm,0.2s,SNR=7.9						

NEIC ***24*** *07:53:40.3±1.0, 12°.16S±0°.09× 166°.65E±0°.06, h124km±8km, mb4.5/13, Error ellipse: s-maj=15.2km s-min=3.3km az=211.0*
IDC ***24*** *07:53:42.1±5.3, 12°.22S× 166°.61E, h139km±50km, mb3.6/10, mb1 3.8/11, mb1mx3.6/35, mbtmp4.0/11, Error ellipse: s-maj=29.7km s-min=27.7km az=87.0*

ISC 24 07:53:43.1±0.7, 12°.28S±0°.07× 166°.6E±0°.1, h150km, n29, σ1§24/33, mb4.3/16, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.21**	**169**		**Pn**	**07 54 31.2**	**-2.0**
SANVU				Sn	**Sn**	**07 55 10.3**	**-1.7**
HNR	**Honiara**	**7.08**	**293**	Pn	**Pn**	**07 55 21.9**	**-2.4**
HNR				Sn	**Sn**	**07 56 41.9**	**-1.8**
DZM	**Mont Dzumac**	**9.74**	**181**	P	**Pn**	**07 55 59.9**	**+0.1**
	2.2nm,0.3s,baz=344,slow=12,SNR=21						
DZM				S	**Sn**	**07 57 44.6**	**-3.2**
	1.4nm,0.3s,baz=157,slow=23,SNR=8.2						
DZM	**Mont Dzumac**	**9.74**	**181**		**Pn**	**07 55 59.3**	**-0.4**
DZM					**Sn**	**07 57 48.0**	**+0.2**
ARMA	**Armidale**	**22.74**	**215**	P	**P**	**07 58 33.8**	**+1.2**
ARMA				IAmb	IAmb	07 58 46.0	
	comp=Z,38nm,1.5s						
BKZ	**Black Stump Fm**	**28.19**	**164**	P	**P**	**07 59 21.4**	**-0.3**
BKZ				IAmb	IAmb	07 59 32.7	
	comp=Z,26nm,1.4s						

STKA	**Stephens Creek**	**30.12**	**226**	P	**P**	**07 59 40.5**	**+1.6**
LTZ	**Lake Taylor**	**30.79**	**172**	P	**P**	**07 59 44.8**	**+0.2**
LTZ				IAmb	IAmb	07 59 53.6	
	comp=Z,7.7nm,1.2s						
RPZ	**Rata Peaks**	**31.56**	**174**	P	**P**	**07 59 52.4**	**+1.1**
	comp=Z,4.7nm,0.8s,baz=4.0,slow=4.3,SNR=2.1						
RPZ	**Rata Peaks**	**31.56**	**174**	P	**P**	**07 59 51.8**	**+0.5**
RPZ				IAmb	IAmb	07 59 57.5	
	comp=Z,23nm,1.4s						
WR0	**Warramunga Arr**	**31.65**	**252**	P	**P**	**07 59 52.9**	**+0.5**
WB0	**Warramunga Arr**	**31.75**	**252**	P	**P**	**07 59 53.9**	**+0.5**
WB0				IAmb	IAmb	08 00 00.5	
	comp=Z,8.1nm,1.2s						
MQZ	**McQueen's Vall**	**31.75**	**172**	P	**P**	**07 59 52.8**	**-0.2**
WRA	**Warramunga Arr**	**31.83**	**252**	P	**P**	**07 59 54.1**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=86,slow=9.5,SNR=4.9						
ASAR	**Alice Springs**	**32.98**	**245**	P	**P**	**08 00 03.8**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=69,slow=9.9,SNR=15						
KNRA	**Kununurra**	**36.80**	**260**	P	**P**	**08 00 38.0**	**+1.3**
FITZ	**Fitzroy Crossi**	**39.84**	**256**	P	**P**	**08 01 02.9**	**+0.7**
FITZ				IAmb	IAmb	08 01 10.0	
	comp=Z,7.1nm,1.3s						
FORT	**Forrest**	**40.01**	**236**	P	**P**	**08 01 04.6**	**+1.2**
MJAR	**Matsushiro Arr**	**55.42**	**332**	P	**P**	**08 03 01.7**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=156,slow=9.1,SNR=4.5						
KSRS	**Korea Array**	**61.34**	**326**	P	**P**	**08 03 43.8**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=138,slow=7.7,SNR=4.6						
VNDA	**Vanda**	**65.28**	**181**	P	**P**	**08 04 09.8**	**+1.4**
CMAR	**Chiang Mai Arr**	**73.33**	**294**	P	**P**	**08 05 00.6**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=132,slow=3.8,SNR=4.1						
SONM	**Songino Array**	**80.12**	**324**	P	**P**	**08 05 36.1**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=130,slow=4.5,SNR=4.5						
ILAR	**Eielson Array**	**84.43**	**18**	P	**P**	**08 05 57.3**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=237,slow=6.3,SNR=4.6						
MK31	**Makanchi Array**	**94.96**	**317**	P	**P**	**08 06 49.5**	**+1.0**
MK31				IAmb	IAmb	08 06 49.9	
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**94.96**	**317**	P	**P**	**08 06 49.3**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=96,slow=6.2,SNR=17						
ZALV	**Zalesovo Beam**	**95.01**	**324**	P	**P**	**08 06 47.4**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=113,slow=3.3,SNR=2.0						
ARCES	**ARCESS Array B**	**117.72**	**346**	PKP	**PKPdf**	**08 12 10.6**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=85,slow=2.3,SNR=5.5						
ESDC	**Sonseca Array**	**151.45**	**345**	PKPbc	**PKPbc**	**08 13 20.0**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=350,slow=4.3,SNR=5.2						

CRAAG ***24*** *08:04:09.2, 35°.52N× 5°.13E, Ml2.9*
MDD ***24*** *08:04:14.1±3.1, 35°.58N× 5°.04E, h0km, mb4.0/4, Error ellipse: s-maj=29.6km s-min=11.0km az=12.0, PRXIMO SOLUCIN POBRE*

ISC 24 08:04:14.7±2.6, 35°.7N±0°.2× 5°.03E±0°.10, h10km, n11, σ1§50/14, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**0.58**	**32**	P	**Pg**	**08 04 27.0**	**+1.0**
SET	**Setif**	**0.58**	**32**	P	**Pg**	**08 04 27.0**	**+1.0**
DFRA	**Djebel Bou Aff**	**1.08**	**39**	P	**Pb**	**08 04 34.5**	**-1.1**
DFRA	**Djebel Bou Aff**	**1.08**	**39**	P	**Pb**	**08 04 34.5**	**-1.1**
CTEI	**Djebel Teioual**	**1.18**	**72**	P	**Pb**	**08 04 36.0**	**-1.2**
CTEI	**Djebel Teioual**	**1.18**	**72**	P	**Pb**	**08 04 36.0**	**-1.2**
ETOS	**Mallorca**	**4.42**	**337**	P	**Pn**	**08 05 22.8**	**+1.0**
	1.3nm,0.2s,SNR=6.5						
ETOS				S	**Sn**	**08 06 12.7**	**-0.6**
	0.7nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**4.42**	**320**	P	**Pn**	**08 05 23.2**	**+1.3**
	5.4nm,0.4s,SNR=7.9						
EIBI				S	**Sn**	**08 06 10.8**	**-2.6**
	0.3nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**6.38**	**342**	P	**Pn**	**08 05 49.4**	**+0.7**
	1.4nm,0.2s,SNR=8.7						
CFON				S	**Sn**	**08 07 00.6**	**-1.0**
	0.6nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**6.43**	**332**	S	**Sn**	**08 07 01.9**	**-1.1**
	0.5nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**7.17**	**342**	P	**Pn**	**08 06 01.8**	**+2.1**
	0.4nm,0.1s,SNR=7.9						

BJI ***24*** *08:26:47.0±0.0, 35°.98N× 140°.07E, h83km, mB4.7/19, mb4.7/35, Ms4.1/10, Ms7.3/8/6*
MOS ***24*** *08:26:48.8±1.1, 36°.02N× 139°.81E, h73km, mb4.8/33, Error ellipse: s-maj=7.5km s-min=5.0km az=101.3*
IDC ***24*** *08:26:51.6±0.4, 35°.99N× 139°.75E, h84km±3km, mb4.1/36, mb1 4.2/38, mb1mx4.1/64, mbtmp4.4/38, MS3.3/11, Ms1 3.3/11, ms1mx3.1/37, Error ellipse: s-maj=8.4km s-min=6.6km az=66.0*
NEIC ***24*** *08:26:51.3±1.0, 36°.01N±0°.05× 139°.79E±0°.06, h83km±5km, mb4.7/73, Error ellipse: s-maj=7.9km s-min=7.2km az=47.0*
JMA ***24*** *08:26:52.6±0.2, 36°.05N× 139°.79E, h77km±2km, M4.3 Broadband fault plane solution: P waves. NP1: ϕs189.00000°, δ29.00000°, λ94.00000°. NP2:ϕs4.00000°, δ61.00000°, λ88.00000°. Principal axes: T Plg74.0000°, Azm269.0000°; N Plg2.0000°, Azm5.0000°; P Plg16.0000°, Azm96.0000°;*
JMA Felt IV J1.
NIED ***24*** *08:26:52.6, 36°.05N× 139°.80E, h77km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr4.31; Mθθ-0.27; Mφφ-4.04; Mrθ 0.18; Mθφ-0.42; Mφr2.26; Fault plane solution: Mo4.77000×10¹⁵ NP1:ϕs5.00000°, δ59.00000°, λ89.00000°. NP2:ϕs187.00000°, δ31.00000°, λ91.00000°.*

ISC 24 08:26:51.0±0.4, 36°.01N±0°.04× 139°.90E±0°.04, h82km±3km, h82km:pP-P, n245, σ1§28/280, mb4.6/90, 17C-15D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.32**	**48**	⇑P	**Pn**	**08 27 05.1**	**+1.5**
JYT				S	**Sn**	**08 27 14.5**	**+1.5**
TOK	**Tokyo**	**0.34**	**200**	⇑P	**Pn**	**08 27 06.2**	**+2.5**
JAG	**Ashikaga**	**0.55**	**319**	⇑P	**Pn**	**08 27 05.9**	**+0.5**
JRY	**Ryogami san**	**0.81**	**271**	⇓P	**Pn**	**08 27 08.6**	**+0.6**
JRY				*eS*	**Sn**	**08 27 20.7**	**-0.1**
JKT	**Katashina**	**0.92**	**325**	⇓P	**Pn**	**08 27 09.6**	**+0.3**
JOD2	**Odawara 2**	**1.00**	**222**	⇓P	**Pn**	**08 27 10.5**	**+0.3**
JOD2				S	**Sn**	**08 27 23.8**	**-0.7**
JYN	**Shimob**	**1.22**	**245**	⇓P	**Pn**	**08 27 13.3**	**+0.4**
JFNN	**Fujinakano**	**1.28**	**231**	⇓P	**Pn**	**08 27 14.1**	**+0.5**
JFNN				S	**Sn**	**08 27 30.3**	**-0.4**
JFY	**Yanaizu**	**1.40**	**354**	⇑P	**Pn**	**08 27 16.2**	**+1.1**
JHK	**Hiroka**	**1.43**	**330**	⇓P	**Pn**	**08 27 16.0**	**+0.6**
JHK				*eS*	**Sn**	**08 27 33.8**	**-0.1**
MJAR	**Matsushiro Arr**	**1.47**	**292**	P	**Pn**	**08 27 15.8**	**-0.2**
	56nm,0.3s,baz=105,slow=9.6,SNR=3729						
MJAR				S	**Sn**	**08 27 33.2**	**-1.7**
	45nm,0.3s,baz=167,slow=33,SNR=5.0						
MJAR				LR	LR	08 28 01.6	
	comp=Z,198nm,20.2s,baz=80,slow=53						
MAJO	**Matsushiro**	**1.47**	**292**	P	**Pn**	**08 27 16.3**	**+0.3**
MAJO						08 27 34.3	
MAJO	**Matsushiro**	**1.47**	**292**	Pn	**Pn**	**08 27 16.3**	**+0.3**
MAJO				Sn	**Sn**	**08 27 34.3**	**-0.6**
MAT	**Matsushiro**	**1.47**	**292**	P	**Pn**	**08 27 16.2**	**+0.2**
MAT				S	**Sn**	**08 27 34.5**	**-0.4**
MAT	**Matsushiro**	**1.47**	**292**	P	**Pn**	**08 27 16.2**	**+0.2**
JFT	**Otama**	**1.54**	**13**	⇑P	**Pn**	**08 27 18.6**	**+1.6**
JHJ	**Hachijo jima 2**	**2.89**	**182**	P	**Pn**	**08 27 36.2**	**+1.4**
	512nm,0.3s,baz=137,slow=24,SNR=524						
JHJ				S	**Sn**	**08 28 08.7**	**+0.1**
	543nm,0.3s,baz=23,slow=22,SNR=8.8						
JHJ2	**Mitsune**	**2.89**	**181**	Pn	**Pn**	**08 27 36.4**	**+1.4**
JHJ2				Sn	**Sn**	**08 28 08.7**	**0.0**
ERM	**Erimo**	**6.51**	**22**	P	**Pn**	**08 28 25.0**	**+1.0**
ERM						08 29 37.4	
ERM	**Erimo**	**6.51**	**22**	Pn	**Pn**	**08 28 25.0**	**+1.0**
ERM				Sn	**Sn**	**08 29 37.4**	**+0.6**
JNU	**Nakatsue**	**7.98**	**251**	P	**Pn**	**08 28 44.7**	**+0.5**
	3.8nm,0.3s,baz=78,slow=2.4,SNR=36						
JNU				LR	LR	08 32 00.9	
	comp=Z,153nm,21.3s,baz=36,slow=39						
JNU	**Nakatsue**	**7.98**	**251**		**Pn**	**08 28 44.2**	**-0.1**
ASAJ	**Asahikawa**	**8.35**	**13**	P	**Pn**	**08 28 47.8**	**-1.5**
	2.8nm,0.3s,baz=213,slow=13,SNR=17						
ASAJ				S	**Sn**	**08 30 17.2**	**-4.6**
	1.5nm,0.3s,baz=94,slow=23,SNR=1.6						
ASAJ				LR	LR	08 33 03.6	
	comp=Z,65nm,18.8s,baz=220,slow=44						
ASAJ	**Asahikawa**	**8.35**	**13**	P	**Pn**	**08 28 50.4**	**+1.2**

ASAJ							08 30 21.9	
JKA	**Kamikawa-asahi**	**8.35**	**13**	Pn	**Pn**	**08 28 50.4**	**+1.2**
JKA					**Sn**	**08 30 21.9**	**0.0**
NMR	**Nemuro--Hokkai**	**8.61**	**30**	*ıP*	**Pn**	**08 28 50.2**	**-2.5**
JCJ	**Chichijima**	**9.10**	**167**	P	**Pn**	**08 28 56.6**	**-2.9**
	27nm,0.3s,baz=309,slow=3.6,SNR=37						
JCJ				S	Sn	08 30 30.5	-10
	31nm,0.3s,baz=109,slow=23,SNR=7.1						
JCJ	**Chichijima**	**9.10**	**167**	Pn	**Pn**	**08 28 57.1**	**-2.4**
JCJ					**Sn**	**08 30 39.5**	**-0.8**
GRPR	**Tuman**	**9.15**	**28**	*eP*	**Pn**	**08 28 58.3**	**-1.8**
GRPR				pmax	pmax		
	comp=Z,97nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**9.22**	**28**	*eP*	**Pn**	**08 28 59.2**	**-1.8**
YUK				*eS*	**Sn**	**08 30 35.3**	**-7.7**
YUK				pmax	pmax		
	comp=Z,119nm,0.7s						
YUK				pmax	pmax		
	comp=E,28nm,0.1s						
VLA	**Vladivostok**	**9.41**	**321**	*ıeP*	**Pn**	**08 29 04.4**	**+0.7**
VLA				pmax	pmax		
	comp=Z,79nm,1.6s						
KSRS	**Korea Array**	**9.72**	**282**	P	**Pn**	**08 29 10.4**	**+2.5**
	comp=Z,1.3nm,0.3s,baz=96,slow=14,SNR=67						
KSRS				LR	LR	08 31 46.7	
	comp=Z,66nm,21.1s,baz=100,slow=31						
KS19	**Wonju Array Si**	**9.77**	**282**		**Pn**	**08 29 07.5**	**-1.1**
USA0B	**Ussuriysk Arra**	**10.17**	**326**	P	**Pn**	**08 29 13.5**	**-0.5**
USA0B	**Ussuriysk Arra**	**10.17**	**326**	Pn	**Pn**	**08 29 13.4**	**-0.5**
USRK	**Ussuriysk Ar.**	**10.17**	**326**	P	**Pn**	**08 29 16.9**	**+2.8**
	baz=139,slow=13,SNR=15						
USRK				LR	LR	08 33 11.4	
	comp=Z,187nm,18.5s,baz=145,slow=38						
KUR	**Kuril'sk**	**11.02**	**31**	*eP*	**Pn**	**08 29 25.2**	**-0.2**
KUR				S	**Sn**	**08 31 19.9**	**-6.8**
KUR				pmax	pmax		
	comp=Z,30nm,0.4s						
KUR				smax	smax		
	comp=N,48nm,0.7s						
KUR				smax	smax		
	comp=E,66nm,0.7s						
YSS	**Yuzh-Sakhalins**	**11.14**	**10**	*ıeP*	**Pn**	**08 29 26.0**	**-1.1**
CN2	**Changchun**	**13.54**	**309**	*eP*	**Pn**	**08 30 00.3**	**+0.9**
CN2				*epP*	P	08 30 11.3	+5.7
CN2				*eS*	**Sn**	**08 32 28.3**	**+0.2**
CN2				pmax	pmax		
	comp=E,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=E,100nm,3.0s						
KLR	**Kul'dur**	**14.50**	**338**	P	**Pn**	**08 30 09.0**	**-2.8**
	comp=E,0.1nm,0.3s,baz=175,slow=14,SNR=2.6						
KLR				LR	LR	08 35 57.0	
	comp=E,69nm,18.2s,baz=148,slow=38						
KLR	**Kul'dur**	**14.50**	**338**	*ıeP*	**Pn**	**08 30 12.1**	**+0.3**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
DL2	**Dalian**	**14.80**	**287**	P	**P**	**08 30 20.8**	**+1.2**
DL2				pmax	pmax		
	comp=Z,53nm,1.0s						
NJ2	**Nanjing**	**17.88**	**263**	*eP*	**P**	**08 30 53.4**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
YOJ	**Yonaguni jima**	**18.56**	**236**	P	**P**	**08 31 00.5**	**-0.7**
YOJ				pmax	pmax		
	comp=Z,21nm,0.6s						
YOJ	**Yonaguni jima**	**18.56**	**236**	P	**P**	**08 31 00.5**	**-0.7**
YOJ				IAmb	IAmb	08 31 02.0	
	comp=Z,21nm,0.6s						
BJI	**Beijing**	**19.11**	**289**	P	**Pn**	**08 31 08.5**	**-0.3**
BJI				PcP	**PcP**	**08 35 25.4**	**-2.7**
NACB	**Ninganchiao**	**19.71**	**238**	P	**P**	**08 31 12.4**	**-1.4**
HIA	**Hailar**	**19.80**	**318**	*ıeP*	**P**	**08 31 12.6**	**-2.1**
HIA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ZEA	**Zeya**	**19.81**	**337**	*eP*	**P**	**08 31 12.2**	**-2.5**
ZEA				pmax	pmax		
	comp=Z,14nm,0.9s						
TPUB	**Ta-pu**	**20.95**	**238**	P	**P**	**08 31 25.7**	**-1.6**
TPUB				IAmb	IAmb	08 31 30.7	
	comp=Z,20nm,0.7s						
TWG	**Pinlang**	**20.97**	**236**	P	**P**	**08 31 25.9**	**-1.6**
PETK	**Petropavlovsk-**	**21.18**	**31**	P	**P**	**08 31 29.5**	**0.0**
	comp=Z,1.9nm,0.8s,baz=208,slow=8.2,SNR=3.2						
PETK				LR	LR	08 39 53.4	
	comp=Z,35nm,18.2s,baz=246,slow=

CMAR						pmax	pmax				
	comp=Z,2.0nm,0.7s										
WMQ	**Urumqi**	**40.23**	**298**	*eP*		**P**		**08 34 20.8**	**+1.3**		
WMQ						pmax	pmax				
	comp=Z,11nm,0.7s										
WMQ						pmax	pmax				
	comp=Z,52nm,4.5s										
WMQ						LR	LR				
	comp=Z,210nm,27.7s										
WMQ						LR	LR				
	comp=Z,350nm,29.0s										
WMQ						LR	LR				
	comp=Z,210nm,26.1s										
ZAA0	**Zalesovo Array**	**41.72**	**313**			P	**P**	**08 34 31.2**	**-0.2**		
ZAA0						IAmb	IAmb	08 34 32.3			
	comp=Z,14nm,0.7s										
ZALV	**Zalesovo Beam**	**41.72**	**313**			P	**P**	**08 34 31.7**	**+0.2**		
	comp=Z,12nm,0.5s,baz=91,slow=6.6,SNR=47										
ZALV						PcP	**PcP**	**08 36 26.2**	**-0.3**		
	comp=Z,3.1nm,0.6s,baz=106,slow=3.4,SNR=6.3										
MK31	**Makanchi Array**	**43.64**	**303**			P	**P**	**08 34 46.7**	**-0.5**		
MK31						pmax	pmax				
	comp=Z,7.0nm,1.1s										
MK31	**Makanchi Array**	**43.64**	**303**			P	**P**	**08 34 46.7**	**-0.5**		
MKAR	**Makanchi Array**	**43.64**	**303**			P	**P**	**08 34 47.0**	**-0.2**		
	comp=Z,3.4nm,0.6s,baz=87,slow=9.7,SNR=18										
MKAR						LR	LR	08 55 41.0			
	comp=Z,31nm,18.3s,baz=134,slow=40										
MKAR	**Makanchi Array**	**43.64**	**303**			P	**P**	**08 34 47.0**	**-0.2**		
MAKZ	**Makanchi**	**43.85**	**303**			P	**P**	**08 34 48.3**	**-0.6**		
MAKZ						pmax	pmax				
	comp=Z,11nm,1.1s										
MAKZ	**Makanchi**	**43.85**	**303**			P	**P**	**08 34 48.3**	**-0.6**		
MAKZ						IAmb	IAmb	08 34 49.6			
	comp=Z,11nm,1.1s										
KURK	**Kurchatov**	**45.61**	**309**	*ceP*		**P**		**08 35 02.3**	**-0.5**		
KURK						pmax	pmax				
	comp=Z,43nm,1.3s										
KURK	**Kurchatov**	**45.61**	**309**			P	**P**	**08 35 02.2**	**-0.5**		
KURBB	**Kurchatov Arra**	**45.68**	**309**			P	**P**	**08 35 02.9**	**-0.4**		
	comp=Z,14nm,0.6s,baz=86,slow=8.4,SNR=57										
PDGK	**Podgornoye**	**46.18**	**298**			P	**P**	**08 35 06.8**	**-0.8**		
PRZ	**Przheval'sk**	**47.15**	**298**			P	**P**	**08 35 15.6**	**+0.4**		
PRZ						pmax	pmax				
	comp=Z,21nm,0.8s										
PRZ	**Przheval'sk**	**47.15**	**298**			P	**P**	**08 35 15.6**	**+0.4**		
TARG	**Taragay, Kyrgy**	**47.77**	**297**			P	**P**	**08 35 20.0**	**-0.3**		
KDJ	**Kajisay**	**48.12**	**297**			P	**P**	**08 35 22.9**	**+0.2**		
KDJ						pmax	pmax				
	comp=Z,7.0nm,0.7s										
KDJ	**Kajisay**	**48.12**	**297**			P	**P**	**08 35 22.9**	**+0.2**		
KDJ						IAmb	IAmb	08 35 23.7			
	comp=Z,7.5nm,0.7s										
KDAK	**Kodiak Island**	**48.67**	**41**			P	**P**	**08 35 28.1**	**+1.7**		
	comp=Z,8.1nm,0.8s,baz=270,slow=5.1,SNR=7.5										
KDAK						pP	**pP**	**08 35 47.5**	**+0.8**		
	comp=Z,12nm,0.7s,baz=280,slow=8.3,SNR=2.3										
KDAK	**Kodiak Island**	**48.67**	**41**			P	**P**	**08 35 27.4**	**+1.0**		
KDAK						*PP	**pP**	**08 35 47.8**	**+1.2**		
KDAK						pmax	pmax				
	comp=Z,81nm,1.5s										
KDAK	**Kodiak Island**	**48.67**	**41**			P	**P**	**08 35 27.4**	**+1.0**		
KDAK							**pP**	**08 35 47.8**	**+1.2**		
TKM2	**Tokmak 2**	**49.05**	**299**			P	**P**	**08 35 30.6**	**+0.7**		
	SNR=18										
TKM2	**Tokmak 2**	**49.05**	**299**			P	**P**	**08 35 30.1**	**+0.2**		
KZA	**Kyzart**	**49.52**	**298**			P	**P**	**08 35 34.9**	**+1.2**		
	SNR=7.5										
KBK	**Karagaybulak**	**49.58**	**299**			P	**P**	**08 35 34.4**	**+0.5**		
	SNR=9.0										
COEN	**Coen**	**49.79**	**176**			P	**P**	**08 35 35.4**	**0.0**		
COEN						IAmb	IAmb	08 35 37.5			
	comp=Z,15nm,0.9s										
AAK	**Ala-Archa**	**49.91**	**299**			P	**P**	**08 35 36.2**	**-0.1**		
	comp=Z,6.0nm,0.5s,baz=57,slow=6.1,SNR=7.3										
AAK	**Ala-Archa**	**49.91**	**299**	*ceP*		**P**		**08 35 36.3**	**-0.1**		
AAK						pmax	pmax				
	comp=Z,5.0nm,0.8s										
AAK	**Ala-Archa**	**49.91**	**299**			P	**P**	**08 35 36.2**	**-0.1**		
AAK						IAmb	IAmb	08 35 37.2			
	comp=Z,9.1nm,0.9s										
TOLK	**Toolik Lake Re**	**49.93**	**27**			P	**P**	**08 35 36.6**	**+0.6**		
TOLK						IAmb	IAmb	08 35 56.0			
	comp=Z,9.0nm,1.4s										
OTUK	**Ortayu**	**50.04**	**306**			P	**P**	**08 35 36.2**	**-0.9**		
RND	**Reindeer**	**50.20**	**34**			P	**P**	**08 35 38.8**	**+0.7**		
RND						pmax	pmax				
	comp=Z,11nm,1.3s										
RND	**Reindeer**	**50.20**	**34**			P	**P**	**08 35 38.8**	**+0.7**		
RND						IAmb	IAmb	08 35 40.7			
	comp=Z,11nm,1.3s										
GHO	**Glory Hole Cre**	**50.26**	**36**			P	**P**	**08 35 39.0**	**+0.4**		
GHO						IAmb	IAmb	08 35 46.8			
	comp=Z,13nm,1.3s										
BVAR	**Borovoye Array**	**50.36**	**313**			P	**P**	**08 35 39.1**	**-0.4**		
	comp=Z,2.3nm,0.5s,baz=87,slow=5.4,SNR=10										
BVAR						PcP	**PcP**	**08 36 56.8**	**0.0**		
	comp=Z,1.6nm,0.6s,baz=66,slow=3.7,SNR=4.0										
EKS2	**Erkin-Say**	**50.41**	**299**			P	**P**	**08 35 40.3**	**+0.2**		
	SNR=5.6										
BRVK	**Borovoye**	**50.42**	**313**	*eP*			**P**	**08 35 39.5**	**-0.3**		
BRVK						pmax	pmax				
	comp=Z,3.0nm,0.6s										
MDM	**Murphy Dome**	**50.42**	**32**			P	**P**	**08 35 41.7**	**+2.0**		
MDM						IAmb	IAmb	08 35 43.7			
	comp=Z,7.5nm,0.8s										
COLA	**College**	**50.59**	**32**	*eP*		P	**P**	**08 35 44.3**	**+3.4**		
COLA						pmax	pmax				
	comp=Z,4.0nm,0.7s										
COLA	**College**	**50.59**	**32**			P	**P**	**08 35 42.8**	**+1.9**		
COLA						IAmb	IAmb	08 35 45.1			
	comp=Z,5.5nm,0.8s										
AML	**Almayashu**	**50.62**	**298**			P	**P**	**08 35 42.8**	**+0.8**		
	SNR=26										
HDA	**Harding Lake**	**51.00**	**32**			P	**P**	**08 35 44.9**	**+0.9**		
HDA						IAmb	IAmb	08 35 46.8			
	comp=Z,4.8nm,0.9s										
IL31		**51.01**	**32**			P	**P**	**08 35 44.6**	**+0.6**		
IL31						IAmb	IAmb	08 35 48.0			
	comp=Z,5.6nm,1.1s										
IL31						pP	**pP**	**08 36 04.6**	**+0.2**		
ILAR	**Eielson Array**	**51.01**	**32**			P	**P**	**08 35 45.5**	**+1.5**		
	comp=Z,2.4nm,0.8s,baz=271,slow=6.2,SNR=29										
ILAR						pP	**pP**	**08 36 05.0**	**+0.5**		
	comp=Z,1.5nm,0.5s,baz=268,slow=5.9,SNR=5.8										
RIDG	**Independent Ri**	**51.97**	**33**			P	**P**	**08 35 52.1**	**+0.8**		
RIDG						IAmb	IAmb	08 35 53.7			
	comp=Z,12nm,1.3s										
KNRA	**Kununurra**	**52.48**	**194**			P	**P**	**08 35 54.7**	**-0.8**		
KKAR	**Karatay Array**	**52.59**	**300**			P	**P**	**08 35 56.5**	**+0.3**		
KKAR						pmax	pmax				
	comp=Z,13nm,1.1s										
KKAR	**Karatay Array**	**52.59**	**300**			P	**P**	**08 35 56.5**	**+0.3**		
KKAR						IAmb	IAmb	08 35 57.7			
	comp=Z,13nm,1.1s										
EGAK	**Eagle**	**53.45**	**32**			P	**P**	**08 36 03.6**	**+1.5**		
NIL	**Nilore**	**53.78**	**288**			P	**P**	**08 36 04.6**	**-0.5**		
NIL						pmax	pmax				
	comp=Z,20nm,1.1s										
NIL	**Nilore**	**53.78**	**288**			P	**P**	**08 36 04.6**	**-0.5**		
GAR	**Garm**	**54.04**	**296**			P	**P**	**08 36 06.3**	**-0.8**		
CHGR	**Chuyangaron**	**55.01**	**296**			P	**P**	**08 36 13.7**	**-0.3**		
FITZ	**Fitzroy Crossi**	**55.48**	**197**			P	**P**	**08 36 17.9**	**+0.6**		
FITZ						IAmb	IAmb	08 36 19.6			
	comp=Z,7.7nm,0.8s										
WB0	**Warramunga Arr**	**55.72**	**186**			P	**P**	**08 36 19.2**	**+0.1**		
INK	**Inuvik**	**55.84**	**27**			P	**P**	**08 36 21.0**	**+1.6**		
	comp=Z,4.0nm,0.8s,baz=281,slow=6.9,SNR=14										
INK						pP	**pP**	**08 36 40.9**	**+0.9**		
	comp=Z,2.8nm,0.7s,baz=278,slow=9.1,SNR=4.6										
INK	**Inuvik**	**55.84**	**27**			P	**P**	**08 36 21.1**	**+1.6**		
INK						IAmb	IAmb	08 36 22.6			
	comp=Z,4.4nm,0.8s										
WRAB	**Tennant Creek**	**55.89**	**186**	*de*		P	**P**	**08 36 20.4**	**+0.2**		
WRAB						pmax	pmax				
	comp=Z,25nm,2.5s										
WRAB	**Tennant Creek**	**55.89**	**186**			P	**P**	**08 36 20.5**	**+0.3**		
WB2	**Warramunga Arr**	**55.90**	**186**			P	**P**	**08 36 20.2**	**-0.1**		
WR0	**Warramunga Arr**	**55.90**	**186**			P	**P**	**08 36 20.5**	**+0.2**		
WRA	**Warramunga Arr**	**55.90**	**186**			P	**P**	**08 36 20.1**	**-0.2**		
	comp=Z,11nm,0.6s,baz=1.4,slow=7.6,SNR=290										
WRA						pP	**pP**	**08 36 41.2**	**+0.3**		
	comp=Z,5.6nm,0.8s,baz=3.7,slow=7.4,SNR=4.3										
ARU	**Arti**	**56.32**	**319**			P	**P**	**08 36 22.7**	**-0.3**		
	comp=Z,7.0nm,0.4s,baz=85,slow=4.3,SNR=20										
ARU	**Arti**	**56.32**	**319**	*c*	*i*	P	**P**	**08 36 22.6**	**-0.4**		
ARU						*PP	**sP**	**08 36 49.5**	**-3.4**		
ARU								08 37 22.1			
ARU								08 38 25.6			
ARU						S	**S**	**08 44 08.5**	**+1.8**		
ARU						SS	**SS**	**08 47 55.5**	**+1.4**		
ARU						pmax	pmax				
	comp=Z,12nm,0.5s										
ARU	**Arti**	**56.32**	**319**			P	**P**	**08 36 23.1**	**+0.1**		
AKTO	**Aktyubinsk**	**58.45**	**312**			P	**P**	**08 36 37.5**	**-0.6**		
	comp=Z,3.0nm,0.6s,baz=79,slow=13,SNR=6.6										
C36M	**Paulatuk**	**58.86**	**24**			P	**P**	**08 36 42.0**	**+1.4**		
C36M						IAmb	IAmb	08 36 44.2			
	comp=Z,7.7nm,0.8s										
AS31	**Alice Springs**	**59.62**	**186**			P	**P**	**08 36 46.9**	**+0.5**		
ASAR	**Alice Springs**	**59.62**	**186**			P	**P**	**08 36 46.6**	**+0.2**		
	comp=Z,1.7nm,0.4s,baz=20,slow=6.2,SNR=49										
ASAR						pP	**pP**	**08 37 07.5**	**+0.3**		
	comp=Z,1.2nm,0.5s,baz=23,slow=10.0,SNR=3.7										
KIRV	**Kirov**	**60.33**	**323**			P	**P**	**08 36 50.8**	**0.0**		
	comp=Z,29nm,0.5s,baz=87,slow=2.8,SNR=12										
PSA00	**Pilbara Seismi**	**60.34**	**202**			P	**P**	**08 36 51.5**	**+0.2**		
PALK	**Pallekele**	**60.96**	**257**			P	**P**	**08 36 54.6**	**-1.2**		
	comp=Z,6.8nm,0.6s,baz=184,slow=5.8,SNR=4.1										
PALK	**Pallekele**	**60.96**	**257**			P	**P**	**08 36 55.5**	**-0.3**		
PALK						pmax	pmax				
	comp=Z,1.0nm,1.1s										
PALK	**Pallekele**	**60.96**	**257**			P	**P**	**08 36 55.5**	**-0.3**		
PRGR	**Permogore**	**60.96**	**327**	*eP*		P	**P**	**08 36 50.3**	**-4.7**		
PRGR						pmax	pmax				
	comp=Z,11nm,1.0s										
SPITS	**Spitsbergen Ar**	**61.29**	**349**			P	**P**	**08 36 57.7**	**+0.6**		
	comp=Z,1.6nm,0.6s,baz=48,slow=4.3,SNR=2.0										
LVZ	**Lovozero**	**62.54**	**336**	*eP*		P	**P**	**08 37 06.8**	**+1.1**		
LVZ						pmax	pmax				
	comp=Z,26nm,1.5s										
GEYT	**Alibeck**	**63.26**	**299**			P	**P**	**08 37 11.1**	**+0.1**		
	comp=Z,4.1nm,0.7s,baz=43,slow=7.1,SNR=6.9										
GYA0	**ALIBECK ARRAY**	**63.26**	**299**			P	**P**	**08 37 11.5**	**+0.5**		
GYA0B	**ALIBECK ARRAY**	**63.26**	**299**			P	**P**	**08 37 11.5**	**+0.5**		
GYA0B						IAmb	IAmb	08 37 11.8			
	comp=Z,6.4nm,1.1s										
KEV	**Kevo**	**63.96**	**339**			P	**P**	**08 37 14.8**	**-0.1**		
KEV						pmax	pmax				
	comp=Z,14nm,1.2s										
KEV	**Kevo**	**63.96**	**339**			P	**P**	**08 37 14.8**	**-0.1**		
KEV						IAmb	IAmb	08 37 22.0			
	comp=Z,14nm,1.2s										
HAMF	**Hammerfest**	**64.38**	**341**	*eP*		P	**P**	**08 37 17.6**	**-0.1**		
ARCES	**ARCESS Array B**	**64.52**	**339**			P	**P**	**08 37 18.8**	**+0.2**		
	comp=Z,1.7nm,0.3s,baz=50,slow=7.7,SNR=42										
ARCES						LR	LR	09 08 49.1			
	comp=Z,44nm,21.8s,baz=205,slow=39										
ARE0	**ARCESS Array S**	**64.52**	**339**			P	**P**	**08 37 18.7**	**+0.1**		
ARE0	**ARCESS Array S**	**64.52**	**339**	*eP*		P	**P**	**08 37 18.8**	**+0.2**		
FORT	**Forrest**	**67.36**	**191**			P	**P**	**08 37 37.1**	**-0.1**		
STKA	**Stephens Creek**	**67.55**	**178**			P	**P**	**08 37 39.2**	**+0.8**		
	comp=Z,4.7nm,0.6s,baz=357,slow=7.3,SNR=12										
STKA	**Stephens Creek**	**67.55**	**178**			P	**P**	**08 37 38.9**	**+0.5**		
STKA						pmax	pmax				
	comp=Z,1.0nm,0.7s										
STKA	**Stephens Creek**	**67.55**	**178**			P	**P**	**08 37 38.9**	**+0.5**		
OBN	**Obninsk**	**68.18**	**323**	*eP*		P	**P**	**08 37 41.0**	**-1.2**		
OBN				*e*				08 40 11.3			
OBN						pmax	pmax				
	comp=Z,5.0nm,0.9s										
N2IH	**Innhavet**	**68.21**	**340**			P	**P**	**08 37 42.4**	**+0.3**		
STEI	**Steigen**	**68.43**	**340**			P	**P**	**08 37 43.3**	**-0.2**		
BBOO	**Buckleboo**	**68.56**	**183**			P	**P**	**08 37 45.1**	**+0.4**		
BBOO						IAmb	IAmb	08 37 57.8			
	comp=Z,19nm,1.4s										
N2TV	**Tvrnvik**	**68.71**	**340**			P	**P**	**08 37 45.6**	**+0.3**		
FAUS	**Fauske**	**68.80**	**340**			P	**P**	**08 37 45.9**	**+0.1**		
FAUS						*PP	**P**	**08 37 45.9**	**+0.1**		
FIA1	**FINESS Array S**	**69.14**	**332**			P	**P**	**08 37 47.7**	**-0.4**		
FIA1						IAmb	IAmb	08 38 04.1			
	comp=Z,7.6nm,0.8s										
FINES	**FINESS Array B**	**69.15**	**332**			P	**P**	**08 37 48.0**	**-0.1**		
	comp=Z,5.1nm,0.6s,baz=66,slow=6.9,SNR=24										
FINES	**FINESS Array B**	**69.15**	**332**			P	**P**	**08 37 48.0**	**-0.1**		
NBB05	**Inndyr**	**69.39**	**340**	*eP*		P	**P**	**08 37 49.7**	**+0.3**		
NBB30	**Finnes**	**69.52**	**340**	*eP*		P	**P**	**08 37 50.2**	**0.0**		
MOR8	**Moi Rana**	**69.89**	**339**	*eP*		P	**P**	**08 37 51.5**	**-1.2**		
KBZ	**Khabaz**	**70.64**	**310**			P	**P**	**08 37 57.6**	**+0.1**		
	comp=Z,4.9nm,0.9s,baz=68,slow=1.9,SNR=7.5										
KIV	**Kislovodsk**	**70.65**	**311**	*eP*		P	**P**	**08 37 58.5**	**+0.7**		
KIV						pmax	pmax				
	comp=Z,47nm,1.1s										
KIV	**Kislovodsk**	**70.65**	**311**			P	**P**	**08 37 58.2**	**+0.4**		
KIV						IAmb	IAmb	08 37 59.6			
	comp=Z,11nm,0.8s										
VSU	**Vasula**	**70.71**	**329**	*eP*		P	**P**	**08 37 57.2**	**-0.5**		
VSU						pmax	pmax				
	comp=Z,61nm,1.4s										
SUMG	**Summit**	**71.70**	**359**	*i*	P	**P**		**08 38 05.3**	**+1.3**		
	comp=Z,22nm,0.8s										
SUMG	**Summit**	**71.70**	**359**	*i*	P	**P**		**08 38 05.3**	**+1.3**		
SUMG						pmax	pmax				
	comp=Z,22nm,0.8s										
SUMG	**Summit**	**71.70**	**359**			P	**P**	**08 38 03.7**	**-0.3**		
SUMG						IAmb	IAmb	08 38 06.3			
	comp=Z,9.0nm,0.8s										
NWAO	**Narrogin (SRO)**	**71.79**	**200**			P	**P**	**08 38 04.5**	**+0.1**		
NWAO						pmax	pmax				
	comp=Z,14nm,1.0s										
NWAO	**Narrogin (SRO)**	**71.79**	**200**			P	**P**	**08 38 04.5**	**+0.1**		
NWAO						IAmb	IAmb	08 38 05.9			
	comp=Z,14nm,0.9s										
NWAO	**Narrogin (SRO)**	**71.79**	**200**			P	**P**	**08 38 04.7**	**+0.3**		
NWAO						IAmb	IAmb	08 38 05.9			
	comp=Z,11nm,0.9s										
BMO	**Blue Mountains**	**73.51**	**46**			P	**P**	**08 38 16.2**	**+1.3**		
BMO						pmax	pmax				
	comp=Z,3.0nm,1.0s										
BMO	**Blue Mountains**	**73.51**	**46**			P	**P**	**08 38 16.2**	**+1.3**		
AKASG	**Malin Array Be**	**74.35**	**322**			P	**P**	**08 38 18.6**	**-0.9**		
	comp=Z,1.9nm,0.4s,baz=48,slow=6.1,SNR=13										
AKASG						LR	LR	09 14 19.4			
	comp=Z,33nm,18.7s,baz=10.0,slow=38										
NC405	**NORSAR Array S**	**74.44**	**337**			P	**P**	**08 38 19.9**	**+0.1**		
HFS	**Hagfors**	**74.51**	**335**			P	**P**	**08 38 19.8**	**-0.4**		
	comp=Z,2.9nm,0.7s,baz=78,slow=7.9,SNR=9.0										
NC204	**NORSAR Array S**	**74.61**	**337**			P	**P**	**08 38 21.1**	**+0.2**		
NC204	**NORSAR Array S**	**74.61**	**337**	*eP*		P	**P**	**08 38 21.1**	**+0.2**		
NB2	**NORSAR Subarra**	**74.65**	**337**			P	**P**	**08 38 20.9**	**-0.2**		
	comp=Z,2.2nm,0.4s,baz=41,slow=5.9										
NB2	**NORSAR Subarra**	**74.65**	**337**			P	**P**	**08 38 20.9**	**-0.2**		
	baz=41,slow=5.9										
NOA	**NORSAR Array B**	**74.65**	**337**			P	**P**	**08 38 21.1**	**-0.1**		
	comp=Z,2.7nm,0.5s,baz=40,slow=5.8,SNR=14										
PNTR	**Pine Nut**	**75.37**	**52**			P	**P**	**08 38 27.1**	**+1.2**		
CMB	**Columbia Colle**	**75.45**	**54**			P	**P**	**08 38 28.2**	**+2.0**		
CMB						pmax	pmax				
	comp=Z,5.0nm,1.3s										
CMB	**Columbia Colle**	**75.45**	**54**			P	**P**	**08 38 28.2**	**+2.0**		
LRM	**Limekiln Ridge**	**75.72**	**43**			P	**P**	**08 38 29.1**	**+1.2**		
WAKR	**Walker**	**75.80**	**53**			P	**P**	**08 38 29.4**	**+1.1**		
NVAR	**Mina Array Bea**	**76.57**	**52**			P	**P**	**08 38 35.2**	**+2.4**		
	comp=Z,0.9nm,0.6s,baz=284,slow=5.2,SNR=13										
NVAR						pP	**pP**	**08 38 55.7**	**+1.3**		
	comp=Z,2.0nm,0.9s,baz=288,slow=6.5,SNR=5.1										
BUR08	**Bucovina Ar. S**	**78.34**	**321**			P	**P**	**08 38 42.6**	**+0.3**		
R11A	**Troy Canyon, C**	**78.35**	**51**			P	**P**	**08 38 44.9**	**+2.3**		
BRTR	**Keskin Array B**	**78.61**	**311**			P	**P**	**08 38 44.1**	**+0.1**		
	comp=Z,1.4nm,0.8s,baz=134,slow=7.1,SNR=6.9										
OJC	**Ojcow**	**79.20**	**326**			P	**P**	**08 38 46.9**	**+0.1**		
OJC						pmax	pmax				
	comp=Z,10.0nm,1.1s										
OJC	**Ojcow**	**79.20**	**326**			P	**P**	**08 38 46.9**	**+0.1**		
OJC						IAmb	IAmb	08 38 48.1			
	comp=Z,10nm,1.1s										
PDAR	**Pinedale Array**	**79.25**	**45**			P	**P**	**08 38 48.8**	**+1.2**		
	comp=Z,0.4nm,0.6s,baz=62,slow=0.8,SNR=5.3										
PDAR						pP	**pP**	**08 39 10.8**	**+1.4**		
	comp=Z,0.7nm,0.7s,baz=259,slow=3.4,SNR=4.1										
MORC	**Moravsky Berou**	**80.54**	**326**			P	**P**	**08 38 54.8**	**+0.7**		
MORC						pmax	pmax				
	comp=Z,7.0nm,1.2s										
MORC	**Moravsky Berou**	**80.54**	**326**			P	**P**	**08 38 54.8**	**+0.7**		
PSZ	**Piszkesteto**	**80.77**	**324**			P	**P**	**08 38 55.1**	**-0.3**		
PSZ	**Piszkesteto**	**80.77**	**324**			P	**P**	**08 38 55.1**	**-0.3**		
VYHS	**Vyhne**	**80.86**	**325**	*eP*		P	**P**	**08 38 55.2**	**-0.6**		
VYHS	**Vyhne**	**80.86**	**325**	*eP*		P	**P**	**08 38 55.2**	**-0.6**		
SRU	**San Rafael Swe**	**81.00**	**48**			P	**P**	**08 38 57.8**	**+0.9**		
SRU						pmax	pmax				
	comp=Z,3.0nm,1.0s										
SRU	**San Rafael Swe**	**81.00**	**48**			P	**P**	**08 38 57.8**	**+0.9**		
BRG	**Berggiesshubel**	**81.30**	**329**	*eP*		P	**P**	**08 38 57.9**	**-0.1**		
	comp=Z,4.6nm,1.0s										
VRAC	**Vranov**	**81.31**	**326**			P	**P**	**08 38 58.5**	**+0.4**		
	comp=Z,2.3nm,0.8s,baz=359,slow=9.8,SNR=3.3										
CLL	**Collm**	**81.37**	**329**	*i*	P		**P**	**08 38 58.2**	**-0.2**		
	comp=Z,6.0nm,0.8s										
CLL					*e*	pP	**pP**	**08 39 22.0**	**+1.7**		
CLL	**Collm**	**81.37**	**329**	*i*	P		**P**	**08 38 58.2**	**-0.2**		
CLL					*e*	*PP	**pP**	**08 39 22.0**	**+1.7**		
CLL						pmax	pmax				
	comp=Z,6.0nm,0.8s										
CLL	**Collm**	**81.37**	**329**			P	**P**	**08 38 57.8**	**-0.6**		
CLL						IAmb	IAmb	08 38 59.2			
	comp=Z,6.9nm,0.9s										
KHC	**Kasperske Hory**	**82.77**	**328**	*eP*		P	**P**	**08 39 05.4**	**-0.4**		
KHC						pmax	pmax				
	comp=Z,8.0nm,1.3s										
KHC	**Kasperske Hory**	**82.77**	**328**	*eP*		P	**P**	**08 39 05.7**	**-0.1**		
GERES	**GERESS Array B**	**82.93**	**328**			P	**P**	**08 39 06.4**	**-0.3**		
	comp=Z,0.6nm,0.4s,baz=30,slow=5.9,SNR=8.8										
GERES						LR	LR	09 19 34.3			
	comp=Z,38nm,18.5s,baz=293,slow=38										
EKA	**Eskdalemuir Ar**	**83.68**	**340**			P	**P**	**08 39 10.5**	**+0.2**		
	comp=Z,0.4nm,0.5s,baz=43,slow=4.6,SNR=4.4										
LIT	**Litokhoron**	**84.88**	**317**			P	**P**	**08 39 16.6**	**-0.2**		
LIT						pmax	pmax				
	comp=Z,10.0nm,0.7s										
LIT	**Litokhoron**	**84.88**	**317**			P	**P**	**08 39 16.6**	**-0.2**		
LIT						IAmb	IAmb	08 39 17.1			
	comp=Z,10.0nm,0.7s										
ANMO	**Albuquerque**	**86.17**	**49**	*eP*		P	**P**	**08 39 25.8**	**+2.3**		
ANMO						pmax	pmax				
	comp=Z,4.0nm,2.5s										
SCHQ	**Schefferville**	**86.64**	**15**			P	**P**	**08 39 25.2**	**+0.1**		
	comp=Z,3.7nm,0.7s,baz=336,slow=9.1,SNR=4.1										
SCHQ	**Schefferville**	**86.64**	**15**			IAmb	IAmb	08 39 27.2			
	comp=Z,5.2nm,0.8s										
IDI	**Anoyia**	**86.78**	**312**			P	**P**	**08 39 25.3**	**-0.9**		
	comp=Z,5.8nm,0.9s,baz=0.0,slow=8.1,SNR=2.2										
IDI	**Anoyia**	**86.78**	**312**			IA

SRSP	**Sriramsagar**	**11.05**	**188**	*e*P		**Pn**	**08 32 06.5**	**-3.1**
SRSP				*e*			08 34 08.2	
SHL	**Shillong**	**11.47**	**109**	Pn		**Pn**	**08 32 14.5**	**-1.0**
TARG	**Taragay, Kyrgy**	**11.89**	**352**	Pn		**Pn**	**08 32 20.8**	**-0.6**
CHLP	**Challavanipeta**	**11.99**	**161**	*e*P		**Pn**	**08 32 23.6**	**+1.1**
CHLP				*e*			08 34 30.0	
GAR	**Garm**	**12.00**	**321**	Pn		**Pn**	**08 32 22.1**	**-0.5**
KLRI	**Killari**	**12.19**	**195**	*e*P		**Pn**	**08 32 22.1**	**-3.1**
KLRI				*e*			08 34 31.4	
KDJ	**Kajisay**	**12.37**	**351**	Pn		**Pn**	**08 32 26.9**	**-0.8**
CHGR	**Chuyangaron**	**12.42**	**317**	Pn		**Pn**	**08 32 27.0**	**-1.4**
HYBB	**Hyderabad (bro**	**12.52**	**186**	*e*P		**Pn**	**08 32 27.2**	**-2.5**
HYBB				*e*			08 34 42.3	
HYB	**Hyderabad**	**12.52**	**186**	*i*P		Pn	08 32 26.0	-3.8
BTK	**Batken**	**12.54**	**326**	Pn		**Pn**	**08 32 29.1**	**-0.9**
POO	**Poona**	**12.62**	**207**	*e*P		**Pn**	**08 32 31.0**	**-0.1**
POO				*e*S		Sn	08 34 42.0	-9.4
PVM	**Polavaram**	**12.73**	**172**	*e*P		**Pn**	**08 32 30.4**	**-2.1**
PVM				*e*			08 34 42.2	
MYLAV	**Mylavaram**	**13.14**	**177**	*e*P		**Pn**	**08 32 36.2**	**-2.0**
MYLAV				*e*			08 34 57.6	
NJS	**Nagarjunasagar**	**13.33**	**182**	*e*P		**Pn**	**08 32 38.3**	**-2.5**
NJS				*e*			08 34 57.4	
AAK	**Ala-Archa**	**13.40**	**343**	Pn		**Pn**	**08 32 42.8**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=154,slow=14,SNR=6.1							
AAK				Sn		**Sn**	**08 35 03.0**	**-7.5**
	comp=Z,0.3nm,0.3s,baz=329,slow=19,SNR=1.7							
AAK	**Ala-Archa**	**13.40**	**343**	Pn		**Pn**	**08 32 41.1**	**-0.7**
SRLM	**Srisailam**	**13.80**	**184**	*e*P		**Pn**	**08 32 44.7**	**-2.6**
SRLM				*e*			08 35 19.8	
ADKI	**Addanki**	**14.03**	**180**	*e*P		**Pn**	**08 32 48.0**	**-2.3**
ADKI				*e*			08 35 20.5	
KK31	**Karatay Array**	**15.14**	**333**	Pn		**Pn**	**08 33 01.6**	**-3.7**
KKAR	**Karatay Array**	**15.14**	**333**	Pn		**Pn**	**08 33 01.5**	**-3.8**
KKAR				IAmb		IAmb	08 33 04.9	
	comp=Z,6.4nm,0.9s							
MK31	**Makanchi Array**	**16.94**	**6**	Pn		**Pn**	**08 33 25.9**	**-2.5**
MKAR	**Makanchi Array**	**16.94**	**6**	Pn		**Pn**	**08 33 27.0**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=179,slow=12,SNR=8.0							
GEYT	**Alibeck**	**19.72**	**300**	P		**P**	**08 34 00.3**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=118,slow=12,SNR=4.7							
GYA0B	**ALIBECK ARRAY**	**19.72**	**300**	P		**P**	**08 34 00.3**	**-0.8**
KURBB	**Kurchatov Arra**	**20.69**	**358**	P		**P**	**08 34 10.4**	**-1.0**
	comp=Z,5.2nm,0.2s,baz=188,slow=10.0,SNR=7.2							
CMAR	**Chiang Mai Arr**	**20.76**	**119**	P		Pn	08 34 15.3	+0.5
	comp=Z,2.9nm,0.7s,baz=315,slow=12,SNR=16							
KURK	**Kurchatov**	**20.78**	**358**	P		**P**	**08 34 12.7**	**+0.3**
PALK	**Pallekele**	**22.56**	**178**	P		**P**	**08 34 32.9**	**+1.1**
PALK				IAmb		IAmb	08 34 36.0	
	comp=Z,26nm,1.4s							
BVAR	**Borovoye Array**	**24.10**	**346**	P		**P**	**08 34 47.2**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=156,slow=14,SNR=9.0							
BRVK	**Borovoye**	**24.16**	**346**	P		**P**	**08 34 46.3**	**-1.1**
AKTO	**Aktyubinsk**	**26.26**	**327**	P		**P**	**08 35 07.2**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=128,slow=10,SNR=12							
SONM	**Songino Array**	**27.09**	**41**	P		**P**	**08 35 15.8**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=240,slow=11,SNR=2.0							
QIZ	**Qiongzhong**	**29.25**	**105**	P		**P**	**08 35 33.1**	**-0.5**
QIZ				IAmb		IAmb	08 35 41.8	
	comp=Z,19nm,1.4s							
ARU	**Arti**	**30.46**	**336**	P		**P**	**08 35 43.8**	**-0.1**
ARU				IAmb		IAmb	08 35 47.1	
	comp=Z,8.8nm,1.5s							
GEVA	**Gevas**	**31.46**	**295**	P		**P**	**08 35 52.6**	**-0.5**
GEVA				IAmb		IAmb	08 36 12.0	
	comp=Z,6.2nm,1.2s							
KBZ	**Khabaz**	**32.38**	**305**	P		**P**	**08 36 01.6**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=123,slow=5.2,SNR=4.0							
TWG	**Pinlang**	**37.41**	**91**	P		**P**	**08 36 45.0**	**+0.4**
DGAR	**Diego Garcia**	**37.81**	**192**	P		**P**	**08 36 50.3**	**+2.3**
YOJ	**Yonaguni jima**	**38.56**	**88**	P		**P**	**08 36 55.1**	**+0.8**
KLMR	**Klimovskoe**	**40.83**	**331**	*e*P		**P**	**08 37 13.3**	**+0.6**
KLMR				AMP			08 37 15.5	
	comp=Z,11nm,0.7s							
AKASG	**Malin Array Be**	**42.86**	**314**	P		**P**	**08 37 29.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=81,slow=6.3,SNR=6.8							
AKBB	**Malin Array Si**	**42.86**	**314**	P		**P**	**08 37 30.0**	**+0.5**
AKBB				IAmb		IAmb	08 37 31.6	
	comp=Z,3.8nm,0.7s							
KARP	**Karpathos**	**44.28**	**292**	P		**P**	**08 37 41.0**	**-0.1**
MLR	**Muntele Rosu**	**44.59**	**306**	P		**P**	**08 37 45.6**	**+2.0**
	comp=Z,7.9nm,0.8s,baz=83,slow=8.1,SNR=13							
MLR	**Muntele Rosu**	**44.59**	**306**	P		**P**	**08 37 44.4**	**+0.7**
MLR				IAmb		IAmb	08 37 49.0	
	comp=Z,9.6nm,0.9s							
ALN	**Alexandroupoli**	**44.61**	**299**	P		**P**	**08 37 44.0**	**+0.4**
ALN				IAmb		IAmb	08 37 48.4	
	comp=Z,5.2nm,1.3s							
FINES	**FINESS Array B**	**47.03**	**328**	P		**P**	**08 38 03.3**	**+0.9**
	comp=Z,4.2nm,0.5s,baz=107,slow=9.1,SNR=13							
MAJO	**Matsushiro**	**48.58**	**66**	P		**P**	**08 38 13.5**	**-1.4**
MAJO				IAmb		IAmb	08 38 15.9	
	comp=Z,5.5nm,1.2s							
PSZ	**Piszkesteto**	**48.75**	**309**	P		**P**	**08 38 14.5**	**-1.7**
PSZ				IAmb		IAmb	08 38 21.9	
	comp=Z,2.3nm,0.7s							
KEV	**Kevo**	**49.63**	**339**	P		**P**	**08 38 23.1**	**+0.6**
KEV				IAmb		IAmb	08 38 32.4	
	comp=Z,11nm,1.4s							
ARCES	**ARCESS Array B**	**50.02**	**338**	P		**P**	**08 38 26.7**	**+1.2**
	comp=Z,3.2nm,0.8s,baz=106,slow=7.7,SNR=8.5							
ARE0	**ARCESS Array S**	**50.02**	**338**	P		**P**	**08 38 25.9**	**+0.4**
HFS	**Hagfors**	**52.76**	**325**	P		**P**	**08 38 46.7**	**+0.6**
	comp=Z,2.7nm,0.6s,baz=98,slow=10,SNR=5.1							
GERES	**GERESS Array B**	**52.83**	**311**	P		**P**	**08 38 47.5**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=102,slow=3.4,SNR=3.6							
TRI	**Trieste**	**53.11**	**307**	P		**P**	**08 38 49.8**	**+0.9**
TRI				IAmb		IAmb	08 39 00.2	
	comp=Z,7.7nm,0.9s							
SPITS	**Spitsbergen Ar**	**55.55**	**347**	P		**P**	**08 39 07.3**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=104,slow=12,SNR=1.7							
BATI	**Baumata**	**58.02**	**127**	LR		LR	09 08 19.3	
	comp=Z,735nm,18.0s,baz=232,slow=40							
EKA	**Eskdalemuir Ar**	**62.13**	**320**	P		**P**	**08 39 52.8**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=91,slow=8.6,SNR=3.9							
CART	**Cartagena**	**65.75**	**301**	P		**P**	**08 40 16.9**	**+0.5**
LSZ	**Lusaka**	**67.10**	**235**	P		**P**	**08 40 26.5**	**+1.1**
ESDC	**Sonseca Array**	**67.21**	**304**	P		**P**	**08 40 25.9**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=60,slow=7.6,SNR=4.4							
WRA	**Warramunga Arr**	**72.15**	**126**	P		**P**	**08 40 56.5**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=321,slow=6.1,SNR=6.1							
TORD	**Torodi Ar. Bea**	**73.44**	**276**	P		**P**	**08 41 05.2**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=41,slow=3.9,SNR=3.6							
ASAR	**Alice Springs**	**74.36**	**130**	P		**P**	**08 41 09.3**	**0.0**
	comp=Z,0.7nm,0.7s,baz=320,slow=4.7,SNR=7.5							
ILAR	**Eielson Array**	**78.82**	**19**	P		**P**	**08 41 33.8**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=318,slow=5.7,SNR=6.1							

*REY **24** 08:31:29.4,64°.81N×16°.90W,h12km*
*IDC **24** 08:31:30.8±1.8,64°.60N×17°.34W,h0km,mb3.2/2,*
mb1 3.7/4,mb1mx3.2/54,mbtmp3.5/4,ML3.5/2,MS3.0/3,
Ms1 3.0/3,ms1mx2.6/29,Error ellipse: s-maj=56.4km
s-min=13.3km az=13.0
ISC 24 08:31:29.8±0.7,64°.81N±0°.02×16°.93W±0°.02,h10km,n37,
σ1s86/55,Iceland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.19**	**265**	P	**Pg**	**08 31 33.7**	**-0.2**
	baz=266						
IDYN				S	**Sg**	**08 31 36.8**	**+0.2**
	baz=266						
IKRE	**Kreppuhraun**	**0.24**	**96**	P	**Pg**	**08 31 34.0**	**-0.7**
	baz=95						
IKRE				S	**Sg**	**08 31 37.5**	**-0.6**
	baz=95						
IASK	**Askja**	**0.27**	**26**	P	**Pg**	**08 31 34.8**	**-0.6**
	baz=23						
IASK				S	**Sg**	**08 31 38.8**	**-0.3**
	baz=23						
IMKO	**Mokollar**	**0.31**	**56**	P	**Pg**	**08 31 35.4**	**-0.6**
	baz=54						
IMKO				S	**Sg**	**08 31 39.8**	**-0.3**
	baz=54						
IBJK	**Bruarjokull**	**0.35**	**167**	P	**Pg**	**08 31 36.0**	**-0.8**
	baz=169						
IBJK				S	**Sg**	**08 31 40.9**	**-0.6**
	baz=169						
IVON	**Vonarskard**	**0.38**	**249**	P	**Pg**	**08 31 36.7**	**-0.6**
	baz=251						
IGRF	**Grimsfjall**	**0.43**	**200**	P	**Pg**	**08 31 37.5**	**-0.7**
	baz=202						
IVSH	**V-Sauoahnukur**	**0.52**	**90**	P	**Pg**	**08 31 38.7**	**-1.2**
	baz=89						
IVSH				S	**Sg**	**08 31 45.6**	**-1.1**
	baz=89						
ISVA	**Svartarkot**	**0.55**	**346**	P	**Pg**	**08 31 39.5**	**-1.0**
	baz=344						
ISVA				S	**Sg**	**08 31 47.0**	**-0.7**
	baz=344						
IVOT	**Vottur**	**0.55**	**191**	P	**Pg**	**08 31 39.5**	**-1.0**
	baz=193						
IVOT				S	**Sg**	**08 31 47.1**	**-0.7**
	baz=193						
IHUS	**Husbondi**	**0.60**	**212**	P	**Pg**	**08 31 40.6**	**-0.9**
	baz=213						
IADA	**Aoalbol**	**0.62**	**69**	P	**Pg**	**08 31 40.3**	**-1.5**
	baz=69						
IADA				S	**Sg**	**08 31 48.4**	**-1.4**
	baz=69						
ISKR	**Skrokkalda**	**0.67**	**249**	P	**Pg**	**08 31 41.7**	**-1.1**
	baz=250						
IKSK	**Karasker**	**0.68**	**163**	P	**Pg**	**08 31 40.9**	**-2.1**
	baz=164						
IKSK				S	**Sg**	**08 31 50.1**	**-1.7**
	baz=164						
IJOK	**Jokulheimar**	**0.75**	**229**	P	**Pg**	**08 31 42.9**	**-1.3**
	baz=230						
IJOK				S	**Sg**	**08 31 53.5**	**-0.4**
	baz=230						
IMEL	**Melhnausar**	**0.77**	**9**	P	**Pg**	**08 31 43.2**	**-1.5**
	baz=7.4						
IIEY	**Innrieyrar**	**0.88**	**216**	P	**Pg**	**08 31 45.1**	**-1.7**
	baz=217						
IIEY				S	**Sg**	**08 31 57.4**	**-0.9**
	baz=217						
IGRS	**Grimsstaoir**	**0.90**	**22**	P	**Pg**	**08 31 45.2**	**-1.9**
	baz=21						
IGRS				S	**Sg**	**08 31 58.1**	**-0.8**
	baz=21						
IKVO	**Krokottuvotn**	**0.91**	**1**	P	**Pg**	**08 31 45.2**	**-2.1**
	baz=0.5						
IKAL	**Kalfafell**	**0.92**	**201**	P	**Pg**	**08 31 45.6**	**-2.0**
	baz=202						
IKAL				S	**Sg**	**08 31 58.2**	**-1.4**
	baz=202						
IFAG	**Fagurholsmyri**	**0.94**	**172**	P	**Pg**	**08 31 45.8**	**-2.2**
	baz=173						
IGHA	**Grjothals**	**1.05**	**6**	P	**Pg**	**08 31 47.5**	**-2.5**
	baz=5.3						
IVAT	**Vatnsfell**	**1.06**	**235**	P	**Pg**	**08 31 48.3**	**-1.9**
	baz=236						
IVAT				S	**Sg**	**08 32 03.4**	**-0.6**
	baz=236						
ISKI	**Skildingahlsh**	**1.07**	**358**	P	**Pg**	**08 31 47.8**	**-2.6**
	baz=357						
ISKI				S	**Sg**	**08 32 02.0**	**-2.1**
	baz=357						
IHVE	**Hveravellir**	**1.13**	**274**	P	**Pb**	**08 31 48.8**	**-2.6**
	baz=274						
IGRA	**Granastaoir**	**1.15**	**347**	P	**Pb**	**08 31 49.1**	**-2.6**
	baz=346						
IGRA				S	**Sb**	**08 32 04.5**	**-2.1**
	baz=346						
IDIM	**Dimmadalss**	**1.16**	**0**	P	**Pb**	**08 31 49.2**	**-2.7**
	baz=359						
BORG	**Borgarnes**	**1.88**	**270**	Pg	**Pn**	**08 32 01.2**	**-0.8**
	baz=92,slow=7.9						
BORG				Lg	Lg	08 32 26.4	
	baz=249,slow=24,SNR=1.5						
BORG				LR	LR	08 32 44.1	
	comp=Z,120nm,19.9s,baz=136,slow=43						
SCO	**Scoresbysund**	**6.01**	**344**	*i* P	**Pn**	**08 32 59.7**	**+1.1**
SCO				*i* S	**Sn**	**08 34 12.2**	**+4.8**
SCO	**Scoresbysund**	**6.01**	**344**	*i* S	**Sn**	**08 34 12.2**	**+4.8**
SCO				*e*	**Pn**	**08 32 59.1**	**+0.4**
	baz=171,slow=6.9						
SCO				*i* P	**Pn**	**08 32 59.8**	**+1.1**
SCO				IAML		08 34 14.7	
	comp=Z,1.6nm,0.3s						
EKA	**Eskdalemuir Ar**	**11.70**	**138**	Pn	**Pn**	**08 34 16.8**	**+0.2**
	baz=328,slow=13,SNR=12						
NOA	**NORSAR Array B**	**13.30**	**93**	Pn	**Pn**	**08 34 36.9**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=4.1						
NOA				LR	LR	08 39 33.1	
	comp=Z,30nm,18.5s,baz=295,slow=36						
SFJD	**Kangerlussuaq**	**13.83**	**294**	LR	LR	08 39 35.7	
	comp=Z,124nm,19.5s,baz=84,slow=35						
HFS	**Hagfors**	**14.81**	**94**	LR	LR	08 40 07.1	
	comp=Z,62nm,18.3s,baz=242,slow=34						
FINES	**FINESS Array B**	**19.44**	**80**	P	**Pn**	**08 36 00.3**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=303,slow=18,SNR=2.3						
GERES	**GERESS Array B**	**22.81**	**120**	P	**P**	**08 36 37.0**	**+4.4**
	comp=Z,0.2nm,0.5s,baz=315,slow=9.6,SNR=2.3						
TORD	**Torodi Ar. Bea**	**53.18**	**157**	P	**P**	**08 40 49.2**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=350,slow=9.9,SNR=2.7						

*SJA **24** 08:47:48.6±0.6,37°.61S×71°.33W,h138km±3km,ML3.4,*
MW4.0
*GUC **24** 08:47:50.3±0.7,37°.69S×71°.69W,h107km±6km,ML3.3*
ISC 24 08:47:49.1±1.5,37°.68S±0°.04×71°.71W±0°.06,
h118km±12km,n18,σ1s33/30,2C-2D,Southern
Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CANA	**Caviahue**	**0.56**	**112**	*e*P	**Pn**	**08 48 07.3**	**-0.1**
CANA				*i* S	**Sn**	**08 48 22.1**	**+0.8**
LAJA	**Laja**	**0.89**	**297**	*e*P	**Pn**	**08 48 09.9**	**0.0**
LAJA				*e*S	**Sn**	**08 48 24.7**	**-0.9**
LAJA				IAML		08 48 26.4	
	comp=E,540nm,0.2s						
BI02	**San Fabin de**	**1.08**	**19**	⇓*i*P	**Pn**	**08 48 12.2**	**+0.3**
BI02				*i* S	**Sn**	**08 48 28.7**	**-0.4**
BI02				IAML		08 48 30.3	
	comp=E,356nm,0.4s						
LC01	**Cunco**	**1.22**	**186**	⇓*i*P	**Pn**	**08 48 12.9**	**-0.3**
LC01				*i* S	**Sn**	**08 48 30.8**	**-0.8**
BI03	**Tigo**	**1.34**	**308**	⇑*i*P	**Pn**	**08 48 15.3**	**+0.8**
BI03				*i* S	**Sn**	**08 48 33.9**	**0.0**
BI04	**Isla Mocha**	**1.86**	**246**	*e*S	**Sn**	**08 48 43.7**	**-1.1**
BI04				IAML		08 48 46.2	
	comp=N,900nm,0.2s						
GO05	**Huala**	**2.67**	**356**	*e*P	**Pn**	**08 48 31.9**	**+0.7**
GO05				*i* S	**Sn**	**08 49 03.5**	**+0.1**
GO05				IAML		08 49 05.8	
	comp=E,155nm,0.5s						
GO05	**Huala**	**2.67**	**356**	*e*P	**Pn**	**08 48 31.9**	**+0.7**
GO05				*e*S	**Sn**	**08 49 04.1**	**+0.6**
PUMA	**Malargue**	**2.84**	**41**	*e*P	**Pn**	**08 48 35.5**	**+2.2**
PUMA				*e*S	**Sn**	**08 49 02.6**	**-4.7**
BO02	**Sierra Bellavi**	**2.98**	**15**	⇑*e*P	**Pn**	**08 48 36.1**	**+0.9**
BO02				*e*S	**Sn**	**08 49 10.2**	**-0.4**
PLCA	**Paso Flores**	**3.18**	**164**	*e*P	**Pn**	**08 48 39.0**	**+1.3**
PLCA	**Paso Flores**	**3.18**	**164**	*e*P	**Pn**	**08 48 39.0**	**+1.3**
PLCA				*e*S	**Sn**	**08 49 16.0**	**+0.8**
PEL	**Peldehue**	**4.61**	**11**	*e*P	**Pn**	**08 48 56.7**	**-0.1**
PEL				*e*S	**Sn**	**08 49 47.7**	**-1.7**
ASAL	**Salagasta**	**5.60**	**26**	*e*P	**Pn**	**08 49 11.4**	**+1.2**
ASAL				IAML		08 50 24.6	
	comp=Z,9.3nm,1.0s						
AUSP	**Uspallata**	**5.77**	**20**	*e*P	**Pn**	**08 49 12.7**	**0.0**
RTLS	**Leoncito**	**6.20**	**19**	*e*P	**Pn**	**08 49 18.4**	**-0.1**
RTLS				IAML		08 50 31.7	
	comp=Z,11nm,1.8s						
RTCV	**Cerro Valdivia**	**6.37**	**25**	*e*P	**Pn**	**08 49 19.3**	**-1.2**
RTCV				*e*S	**Sn**	**08 50 32.3**	**+0.4**
RTCV				IAML		08 51 17.9	
	comp=Z,24nm,3.3s						
MRA	**San Martin**	**7.19**	**45**	*e*P	**Pn**	**08 49 33.1**	**+1.3**
MRA				IAML		08 51 28.6	
	comp=Z,4.8nm,3.2s						

*SOME **24** 08:49:14.3,44°.62N×82°.27E,h30km*
*NNC **24** 08:49:15.5±1.5,44°.71N×82°.05E,h0km,mb3.5,mpv3.3,*
Error ellipse: s-maj=15.4km s-min=5.9km az=123.0
ISC 24 08:49:11.9±3.6,44°.55N±0°.06×82°.37E±0°.09,h3km±27km,
n16,σ1s41/27,5C-1D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.86**	**264**	*e*P	**Pn**	**08 49 46.2**	**+1.4**
	3.2nm,0.3s						
DJR				*e*S	**Sb**	**08 50 09.2**	**-1.1**
	6.6nm,0.3s						
MK31	**Makanchi Array**	**2.25**	**359**	⇑Pn	**Pb**	**08 49 52.2**	**-0.9**
	3.2nm,0.2s,baz=182,slow=13,SNR=121						
MK31				⇑Sn	**Sn**	**08 50 19.2**	**+0.9**
	1.9nm,0.2s,baz=183,slow=27,SNR=23						
KAPS	**Kapalarasan**	**2.27**	**290**	*e*P	**Pn**	**08 49 51.9**	**+1.6**
	2.1nm,0.3s						
KAPS				*e*S	**Sb**	**08 50 19.1**	**-2.7**
	8.2nm,0.3s						
KAPS	**Kapalarasan**	**2.27**	**290**	Pg	**Pn**	**08 49 51.9**	**+1.6**
	2.1nm,0.3s						
KAPS				Lg	Lg	08 50 19.2	
	8.2nm,0.3s						
MAKZ	**Makanchi**	**2.28**	**353**	⇑Pn	**Pn**	**08 49 51.8**	**+1.4**
	4.4nm,0.5s						
MAKZ				⇑Sn	**Sb**	**08 50 20.1**	**-2.1**
	10nm,0.4s						
PDGK	**Podgornoye**	**2.41**	**241**	⇑Pn	**Pn**	**08 49 54.8**	**+2.5**
	3.5nm,0.5s						
PDGK				⇓Sn	**Sb**	**08 50 27.4**	**+1.3**
	7.3nm,0.6s						
SHLS	**Shalkode**	**2.52**	**238**	*e*P	**Pn**	**08 49 54.5**	**+0.7**
	16nm,0.3s						
SHLS				*e*S	**Sn**	**08 50 23.6**	**-1.6**
	9.2nm,0.3s						
SHLS	**Shalkode**	**2.52**	**238**	Pg	**Pn**	**08 49 54.5**	**+0.7**
	16nm,0.3s						
SHLS				Lg	Lg	08 50 23.5	
	9.2nm,0.3s						
UZB	**Uzymbulak**	**2.80**	**241**	*e*P	**Pb**	**08 50 02.0**	**-0.6**
	3.9nm,0.3s						
UZB				*e*S	**Sb**	**08 50 36.0**	**-1.3**
	4.7nm,0.2s						
TDK	**Taldyqorghan**	**2.86**	**281**	*e*P	**Pb**	**08 50 04.2**	**+0.6**
	17nm,0.1s						
TDK				*e*S	**Sb**	**08 50 39.8**	**+0.9**
	38nm,0.3s						
TDK	**Taldyqorghan**	**2.86**	**281**	Pg	**Pb**	**08 50 04.2**	**+0.6**
	17nm,0.1s						
TDK				Lg	Lg	08 50 39.8	
	38nm,0.3s						
MNBS	**Baschi**	**2.89**	**262**	*e*P	**Pb**	**08 50 03.2**	**-0.8**
	3.6nm,0.2s						
MNBS				*e*S	**Sb**	**08 50 38.4**	**-1.5**
	10nm,0.3s						
MNBS	**Baschi**	**2.89**	**262**	Pg	**Pb**	**08 50 03.2**	**-0.8**
	3.6nm,0.2s						
MNBS				Lg	Lg	08 50 38.4	
	10nm,0.3s						
SATY	**Saty**	**3.23**	**244**	*e*P	**Pb**	**08 50 09.2**	**-0.7**
	2.7nm,0.2s						
SATY				*e*S	**Sb**	**08 50 48.3**	**-1.4**
	6.2nm,0.3s						
ARXS	**Arharly**	**3.27**	**266**	*e*P	**Pb**	**08 50 10.3**	**-0.3**
	5.9nm,0.3s						
ARXS				*e*S	**Sb**	**08 50 50.3**	**-0.6**
	9.6nm,0.4s						
ARXS	**Arharly**	**3.27**	**266**	Pg	**Pb**	**08 50 10.4**	**-0.3**
	5.9nm,0.3s						
ARXS				Lg	Lg	08 50 50.3	
	9.6nm,0.4s						

*IDC **24** 08:53:00.9±0.6,37°.74N×144°.12E,h0km,mb4.1/17,*
mb1 4.4/24,mb1mx4.2/49,mbtmp4.2/24,ML3.8/7,MS3.1/8,
Ms1 3.2/8,ms1mx2.9/53,Error ellipse: s-maj=17.2km
s-min=13.1km az=128.0
*MOS **24** 08:53:03.7±1.3,37°.94N×144°.14E,h27km,mb4.7/31,Error*
ellipse: s-maj=7.2km s-min=5.1km az=92.9
*NEIC **24** 08:53:05.5±1.1,37°.75N±0°.06×144°.09E±0°.07,h31km±4km,*
mb4.7/77,Error ellipse: s-maj=8.1km s-min=7.8km
az=168.0
*JMA **24** 08:53:05.1±0.1,37°.90N×143°.94E,h49km,M4.7*
ISC 24 08:53:03.4±0.7,37°.83N±0°.05×144°.13E±0°.05,h15km±4km,
n191,σ1s85/217,mb4.6/68,8C-7D,Off east coast of
Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.16**	**284**	P	**Pn**	**08 53 37.2**	**-1.5**
JIKH				*e*S	**Sn**	**08 54 00.9**	**-4.3**
JIO	**Ouri**	**2.28**	**287**	P	**Pn**	**08 53 39.1**	**-1.3**
JIO				*e*S	**Sn**	**08 54 04.2**	**-4.0**
OFUJ	**Ofunato**	**2.30**	**304**	P	**Pn**	**08 53 39.3**	**-1.4**
OFUJ				*e*S	**Sn**	**08 54 05.0**	**-3.7**
JKMT	**Kesennumamotoy**	**2.31**	**296**	P	**Pn**	**08 53 39.4**	**-1.4**
JKMT				*e*S	**Sn**	**08 54 04.5**	**-4.4**
JMK	**Ichinoseki**	**2.55**	**297**	P	**Pn**	**08 53 42.9**	**-1.1**
JMK				*e*S	**Sn**	**08 54 11.7**	**-3.0**
JOM	**Ohasama**	**2.76**	**307**	P	**Pn**	**08 53 46.2**	**-0.8**
JOM				*e*S	**Sn**	**08 54 16.6**	**-3.5**
JFT	**Otama**	**3.03**	**265**	P	**Pn**	**08 53 50.0**	**-0.7**
JFT				*e*S	**Sn**	**08 54 23.4**	**-3.3**
JYK	**Kaneyama**	**3.16**	**291**	P	**Pn**	**08 53 51.9**	**-0.6**
JYK				*e*S	**Sn**	**08 54 26.3**	**-3.5**
JANG	**Nango**	**3.25**	**322**	P	**Pn**	**08 53 52.3**	**-1.5**
JANG				*e*S	**Sn**	**08 54 27.4**	**-4.8**
JNS	**Sasagawa**	**3.81**	**271**	P	**Pn**	**08 54 01.0**	**-0.5**
BSO1	**Boso 1**	**4.07**	**220**	P	**Pn**	**08 54 03.1**	**-1.4**
BSO1				*e*S	**Sn**	**08 54 48.2**	**-3.4**

YUK					MLR	MLR			
	comp=E,42nm,4.0s								
JKA	**Kamikawa-asahi**	**6.38**	**350**		Pn	**Pn**	**08 54 36.4**	**-0.4**
JKA						**Sn**	**08 55 50.7**	**+1.4**
ASAJ	**Asahikawa**	**6.38**	**350**		Pn	**Pn**	**08 54 36.5**	**-0.3**
	comp=E,12nm,0.3s,baz=194,slow=11,SNR=90								
ASAJ					Sn	**Sn**	**08 55 45.0**	**-4.4**
	comp=E,6.4nm,0.3s,baz=229,slow=32,SNR=6.5								
ASAJ	**Asahikawa**	**6.38**	**350**		P	**Pn**	**08 54 36.4**	**-0.3**
ASAJ							08 55 50.7		
KUR	**Kuril'sk**	**7.91**	**20**	*e*P		**Pn**	**08 54 56.0**	**-1.6**
KUR				*e*S		Sn	08 56 18.1	-8.7
KUR				pmax	pmax				
	comp=Z,77nm,0.5s								
KUR				smax	smax				
	comp=N,159nm,0.6s								
KUR				smax	smax				
	comp=E,56nm,0.4s								
YSS	**Yuzh-Sakhalins**	**9.17**	**354**⇓	*e*P		**Pn**	**08 55 13.4**	**-1.6**
YSS				pmax	pmax				
	comp=Z,50nm,0.7s								
YSS				MLR	MLR				
	comp=E,200nm,18.0s								
YSS	**Yuzh-Sakhalins**	**9.17**	**354**		Pn	**Pn**	**08 55 14.6**	**-0.4**
YSS					Sn	**Sn**	**08 56 58.7**	**+0.9**
VLA	**Vladivostok**	**10.71**	**303**⇑	*e*P		**Pn**	**08 55 38.9**	**+2.7**
JCJ	**Chichijima**	**10.83**	**189**		Pn	**Pn**	08 55 32.4	-5.4
	comp=E,13nm,0.3s,baz=286,slow=23,SNR=20								
JCJ					Sn	Sn	08 57 23.2	-16	
	comp=E,21nm,0.3s,baz=296,slow=23,SNR=9.5								
JCJ	**Chichijima**	**10.83**	**189**		Pn	Pn	08 55 32.9	-5.0	
JCJ					Sn	Sn	08 57 25.7	-13	
USA0B	**Ussuriysk Arra**	**11.16**	**309**		P	**Pn**	**08 55 44.0**	**+1.8**
USA0B	**Ussuriysk Arra**	**11.16**	**309**			**Pn**	**08 55 44.0**	**+1.8**
USRK	**Ussuriysk Ar.**	**11.16**	**309**		Pn	**Pn**	**08 55 43.4**	**+1.2**
	baz=118,slow=13,SNR=20								
JNU	**Nakatsue**	**11.78**	**250**		Pn	**Pn**	**08 55 50.2**	**-0.7**
	comp=E,0.2nm,0.3s,baz=63,slow=6.4,SNR=9.4								
JNU					LR	LR	09 00 59.7		
	comp=E,79nm,19.5s,baz=111,slow=41								
JNU	**Nakatsue**	**11.78**	**250**		Pn	**Pn**	**08 55 50.7**	**-0.1**
KSRS	**Korea Array**	**12.86**	**273**		Pn	**Pn**	**08 56 06.9**	**+1.4**
	comp=E,0.4nm,0.3s,baz=84,slow=13,SNR=52								
KSRS					LR	LR	09 00 00.4		
	comp=E,91nm,21.7s,baz=8.0,slow=32								
KSRS	**Korea Array**	**12.86**	**273**	*e*P		**Pn**	**08 56 07.3**	**+1.8**
MDJ	**Mudanjiang**	**12.86**	**306**		Pn	**Pn**	**08 56 04.8**	**-0.8**
KS19	**Wonju Array Si**	**12.89**	**274**			**Pn**	**08 56 05.9**	**-0.1**
TYV	**Tymovskoe**	**13.07**	**356**	*e*P		**Pn**	**08 56 07.9**	**-0.4**
TYV				pmax	pmax				
	comp=Z,21nm,0.9s								
TYV				pmax	pmax				
	comp=Z,200nm,3.1s								
TJN	**Taejon**	**13.47**	**269**⇓	*e*P		**Pn**	**08 56 16.3**	**+2.5**
INCN	**Inchon**	**13.87**	**274**	P		**Pn**	**08 56 19.7**	**+0.3**
INCN	**Inchon**	**13.87**	**274**	Pn		**Pn**	**08 56 19.7**	**+0.3**
KLR	**Kul'dur**	**14.48**	**326**	Pn		**Pn**	**08 56 26.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=159,slow=7.4,SNR=5.4								
KLR					LR	LR	09 02 36.1		
	comp=Z,80nm,18.4s,baz=147,slow=40								
KLR	**Kul'dur**	**14.48**	**326**⇓	*e*P		**Pn**	**08 56 28.5**	**+0.9**
PEA0B	**Petropavlovsk-**	**17.95**	**27**	P		**Pn**	**08 57 11.3**	**-0.9**
PEA0B				pmax	pmax				
	comp=Z,14nm,1.0s								
PEA0B	**Petropavlovsk-**	**17.95**	**27**	P		**Pn**	**08 57 11.2**	**-0.9**
PETK	**Petropavlovsk-**	**17.95**	**27**	P		**Pn**	**08 57 10.1**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=306,slow=13,SNR=3.3								
PETK					LR	LR	09 04 04.3		
	comp=Z,30nm,21.5s,baz=230,slow=37								
PETK	**Petropavlovsk-**	**17.95**	**27**	*e*P		**P**	**08 57 14.5**	**+1.8**
ZEA	**Zeya**	**19.71**	**329**	*e*P		**P**	**08 57 31.3**	**-0.6**
ZEA				pmax	pmax				
	comp=Z,15nm,1.0s								
BJT	**Baijiatuan**	**21.83**	**284**	P		**P**	**08 57 55.9**	**+0.8**
BJT				pmax	pmax				
	comp=Z,14nm,1.0s								
BJT	**Baijiatuan**	**21.83**	**284**	P		**P**	**08 57 55.9**	**+0.8**
MA2	**Magadan**	**22.17**	**9**	P		**P**	**08 57 59.5**	**+1.0**
	comp=Z,9.6nm,0.8s,baz=208,slow=12,SNR=5.4								
MA2					LR	LR	09 06 10.9		
	comp=Z,46nm,21.7s,baz=216,slow=36								
MA2	**Magadan**	**22.17**	**9**	*ce*P		**P**	**08 58 00.0**	**+1.5**
MA2				pmax	pmax				
	comp=Z,19nm,1.7s								
MA2	**Magadan**	**22.17**	**9**	P		**P**	**08 57 59.2**	**+0.7**
MA2				IAmb	IAmb		08 58 02.0		
	comp=Z,11nm,0.7s								
SSLB	**Suanglung**	**24.25**	**241**	P		**P**	**08 58 18.5**	**-1.3**
SEY	**Seymchan**	**25.63**	**9**	P		**P**	**08 58 33.2**	**+1.3**
	comp=Z,11nm,0.7s,baz=194,slow=5.9,SNR=35								
SEY	**Seymchan**	**25.63**	**9**⇓	*e*P		**P**	**08 58 32.2**	**+0.3**
YAK	**Yakutsk**	**25.82**	**344**	*e*P		**P**	**08 58 33.7**	**0.0**
YAK				*e**PP		**sP**	**08 58 38.2**	**+0.8**
YAK				*e*			09 01 59.2		
YAK				*e*S		**S**	**09 03 06.2**	**+3.8**
YAK				*e*SS		**SnSn**	**09 04 03.0**	**+4.8**
YAK				*e*			09 09 28.6		
YAK				pmax	pmax				
	comp=Z,12nm,0.9s								
YAK				pmax	pmax				
	comp=N,3.0nm,0.9s								
YAK				pmax	pmax				
	comp=E,4.0nm,1.1s								
YAK				smax	smax				
	comp=E,119nm,3.8s								
YAK				smax	smax				
	comp=N,98nm,2.5s								
YAK				MLR	MLR				
	comp=Z,77nm,19.0s								
YAK	**Yakutsk**	**25.82**	**344**	P		**P**	**08 58 32.1**	**-1.5**
YAK				IAmb	IAmb		08 58 34.4		
	comp=Z,15nm,0.7s								
BOD	**Bodaibo**	**28.06**	**325**	*e*P		P	08 59 00.3	+6.5	
BOD				pmax	pmax				
	comp=Z,10.0nm,1.6s								
XAN	**Xi'an**	**28.66**	**273**	P		P	08 58 55.8	-3.7	
XAN				pmax	pmax				
	comp=Z,9.0nm,0.6s								
XAN	**Xi'an**	**28.66**	**273**	P		P	08 58 55.8	-3.7	
XAN				IAmb	IAmb		08 59 03.6		
	comp=Z,8.7nm,0.6s								
ULN	**Ulaanbaatar**	**28.73**	**302**⇑	*e*P		**P**	**08 59 03.7**	**+3.6**
ULN				pmax	pmax				
	comp=Z,8.0nm,1.3s								
ULN	**Ulaanbaatar**	**28.73**	**302**	P		**P**	**08 58 59.5**	**-0.6**
SONM	**Songino Array**	**29.16**	**302**	P		**P**	**08 59 04.5**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=97,slow=8.8,SNR=12								
SONM	**Songino Array**	**29.16**	**302**	*e*P		**P**	**08 59 06.8**	**+2.8**
SONM				pmax	pmax				
	comp=Z,3.0nm,0.7s								
ENH	**Enshi**	**29.55**	**266**	P		**P**	**08 59 07.7**	**+0.2**
ENH				IAmb	IAmb		08 59 10.9		
	comp=Z,16nm,0.7s								
KIWB	**Kanaga Island**	**30.43**	**50**	P		**P**	**08 59 15.0**	**+0.1**
TLY	**Talaya**	**31.47**	**309**⇑	*e*P		**P**	**08 59 26.9**	**+2.7**
TLY	**Talaya**	**31.47**	**309**	P		**P**	**08 59 24.4**	**+0.2**
TLY				IAmb	IAmb		08 59 42.0		
	comp=Z,6.4nm,1.1s								
ZAK	**Zakamensk**	**31.50**	**307**	*e*P		**P**	**08 59 26.6**	**+2.1**
ZAK				pmax	pmax				
	comp=Z,5.0nm,1.1s								
DGZ	**Jazzator, Alta**	**41.69**	**305**⇓	*e*P		**P**	**09 00 53.0**	**+1.6**
DGZ				pmax	pmax				
	comp=Z,8.0nm,0.6s								
ZALV	**Zalesovo Beam**	**42.99**	**312**	P		**P**	**09 01 05.3**	**+3.7**
	comp=Z,2.4nm,0.5s,baz=81,slow=8.2,SNR=9.1								
SVW2	**Sparrevohn**	**43.57**	**38**	P		**P**	**09 01 07.1**	**+0.7**
SVW2				IAmb	IAmb		09 01 10.2		
	comp=Z,14nm,1.3s								
CHTO	**Chiang Mai**	**43.58**	**257**	P		**P**	**09 01 06.5**	**-0.4**
CHTO				pmax	pmax				
	comp=Z,6.0nm,1.3s								
CHTO	**Chiang Mai**	**43.58**	**257**	P		**P**	**09 01 06.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**43.79**	**257**	P		**P**	**09 01 09.2**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=41,slow=6.0,SNR=6.1								
CMAR	**Chiang Mai Arr**	**43.79**	**257**	*e*P		**P**	**09 01 09.5**	**+0.9**
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KDAK	**Kodiak Island**	**45.05**	**43**	P		**P**	**09 01 18.4**	**+0.2**
KDAK				pmax	pmax				
	comp=Z,63nm,1.4s								
KDAK	**Kodiak Island**	**45.05**	**43**	P		**P**	**09 01 18.4**	**+0.2**
PPLA	**Purkeypile**	**45.27**	**35**	P		**P**	**09 01 21.3**	**+1.2**
PPLA				IAmb	IAmb		09 01 23.1		
	comp=Z,14nm,1.3s								
MK31	**Makanchi Array**	**45.53**	**302**	P		**P**	**09 01 22.8**	**+0.5**
MK31				pP		**pwP**	**09 01 29.4**	**-4.8**
MK31				IAmb	IAmb		09 01 30.5		
	comp=Z,6.6nm,0.8s								
MKAR	**Makanchi Array**	**45.53**	**302**	P		**P**	**09 01 22.7**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=84,slow=9.7,SNR=11								
MAKZ	**Makanchi**	**45.74**	**302**	P		**P**	**09 01 24.6**	**+0.8**
MAKZ				pmax	pmax				
	comp=Z,7.0nm,0.9s								
MAKZ	**Makanchi**	**45.74**	**302**	P		**P**	**09 01 24.6**	**+0.8**
MAKZ				pP		**sP**	**09 01 30.6**	**+3.1**
MAKZ				IAmb	IAmb		09 01 32.2		
	comp=Z,7.0nm,0.8s								
KTH	**Kantishna Hill**	**45.87**	**34**	P		**P**	**09 01 25.1**	**+0.4**
KTH				IAmb	IAmb		09 01 27.2		
	comp=Z,10nm,1.0s								
TRF	**Thorofare Moun**	**46.15**	**35**	P		**P**	**09 01 27.5**	**+0.4**
TRF				IAmb	IAmb		09 01 31.9		
	comp=Z,14nm,1.4s								
BWN	**Browne**	**46.53**	**34**	P		**P**	**09 01 30.6**	**+0.7**
PMR	**Palmer**	**46.69**	**37**	P		**P**	**09 01 31.2**	**+0.2**
PMR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
PMR	**Palmer**	**46.69**	**37**	P		**P**	**09 01 31.2**	**+0.2**
PMR				IAmb	IAmb		09 01 32.3		
	comp=Z,9.8nm,0.8s								
MCK	**McKinley**	**46.76**	**34**	P		**P**	**09 01 32.1**	**+0.4**
MCK				pmax	pmax				
	comp=Z,9.0nm,1.0s								
MCK	**McKinley**	**46.76**	**34**	P		**P**	**09 01 32.1**	**+0.4**
MCK				IAmb	IAmb		09 01 33.3		
	comp=Z,8.7nm,1.0s								
TOLK	**Toolik Lake Re**	**46.77**	**27**	P		**P**	**09 01 32.4**	**+0.7**
TOLK				IAmb	IAmb		09 01 34.0		
	comp=Z,5.3nm,0.8s								
GHO	**Glory Hole Cre**	**46.78**	**37**	P		**P**	**09 01 32.6**	**+0.7**
RND	**Reindeer**	**46.80**	**35**	P		**P**	**09 01 32.6**	**+0.6**
RND				pmax	pmax				
	comp=Z,9.0nm,0.9s								
RND	**Reindeer**	**46.80**	**35**	P		**P**	**09 01 32.6**	**+0.6**
RND				IAmb	IAmb		09 01 33.4		
	comp=Z,9.4nm,0.9s								
SML	**Sawmill**	**47.06**	**37**	P		**P**	**09 01 35.1**	**+1.0**
MDM	**Murphy Dome**	**47.09**	**33**	P		**P**	**09 01 35.5**	**+1.4**
WRH	**Wood River Hil**	**47.14**	**33**	P		**P**	**09 01 35.1**	**+0.6**
WRH				IAmb	IAmb		09 01 36.2		
	comp=Z,4.3nm,0.8s								
KURK	**Kurchatov**	**47.15**	**308**⇑	*e*P		**P**	**09 01 36.2**	**+1.4**
KURK				pmax	pmax				
	comp=Z,4.0nm,0.7s								
COLA	**College**	**47.24**	**33**⇑	*i*P		**P**	**09 01 36.9**	**+1.6**
COLA				pmax	pmax				
	comp=Z,4.0nm,0.7s								
COLA	**College**	**47.24**	**33**	P		**P**	**09 01 36.4**	**+1.0**
COLA				IAmb	IAmb		09 01 37.4		
	comp=Z,5.1nm,0.7s								
COLA				PcP		**PcP**	**09 03 06.2**	**-0.1**
DHY	**Denali Highway**	**47.47**	**35**	P		**P**	**09 01 37.7**	**+0.4**
DHY				IAmb	IAmb		09 01 50.6		
	comp=Z,5.5nm,1.1s								
SCM	**Sheep Creek Mo**	**47.54**	**37**	P		**P**	**09 01 38.9**	**+1.1**
SCM				pmax	pmax				
	comp=Z,18nm,1.0s								
SCM	**Sheep Creek Mo**	**47.54**	**37**	P		**P**	**09 01 38.9**	**+1.1**
HDA	**Harding Lake**	**47.63**	**33**	P		**P**	**09 01 39.0**	**+0.6**
HDA				IAmb	IAmb		09 01 39.7		
	comp=Z,8.3nm,0.8s								
IL31		**47.66**	**33**	P		**P**	**09 01 39.5**	**+0.9**
IL31				IAmb	IAmb		09 01 40.0		
	comp=Z,8.3nm,0.8s								
ILAR	**Eielson Array**	**47.66**	**33**	P		**P**	**09 01 39.2**	**+0.6**
	comp=Z,6.3nm,0.8s,baz=264,slow=6.5,SNR=68								
HIN	**Hinchinbrook I**	**48.03**	**39**	P		**P**	**09 01 42.2**	**+0.6**
KLU	**Klutina**	**48.23**	**37**	P		**P**	**09 01 44.3**	**+1.1**
EYAK	**Cordova Ski Ar**	**48.39**	**38**	P		**P**	**09 01 44.7**	**+0.4**
EYAK				IAmb	IAmb		09 01 46.7		
	comp=Z,8.8nm,0.8s								
RIDG	**Independent Ri**	**48.58**	**34**	P		**P**	**09 01 46.2**	**+0.4**
RIDG				IAmb	IAmb		09 01 47.1		
	comp=Z,3.3nm,0.8s								
RIDG				PcP		**PcP**	**09 03 10.7**	**-0.6**
DOT	**Dot Lake**	**48.94**	**34**	P		**P**	**09 01 49.0**	**+0.5**
DOT				IAmb	IAmb		09 01 49.5		
	comp=Z,4.6nm,0.9s								
MENT	**Mentasta**	**49.14**	**35**	P		**P**	**09 01 51.5**	**+1.4**
MENT				IAmb	IAmb		09 01 52.8		
	comp=Z,8.2nm,0.7s								
GLB	**Gilahina Butte**	**49.24**	**37**	P		**P**	**09 01 52.2**	**+1.3**
GLB				IAmb	IAmb		09 01 53.5		
	comp=Z,13nm,1.4s								
VRDI	**Verde Repeater**	**49.44**	**37**	P		**P**	**09 01 54.3**	**+1.7**
VRDI				IAmb	IAmb		09 01 54.9		
	comp=Z,9.0nm,0.8s								
MCARA	**McCarthy VSAT**	**49.62**	**37**	P		**P**	**09 01 54.4**	**+0.6**
CRQM	**Cirque**	**49.65**	**38**	P		**P**	**09 01 56.0**	**+1.9**
TGL	**Tana Glacier**	**49.80**	**38**	P		**P**	**09 01 56.7**	**+1.5**
TGL				IAmb	IAmb		09 01 57.7		
	comp=Z,8.7nm,0.9s								
BALM	**Baldy**	**49.99**	**38**	P		**P**	**09 01 58.0**	**+1.2**
BALM				IAmb	IAmb		09 01 58.9		
	comp=Z,7.4nm,0.8s								
BARN	**Barnard Glacie**	**50.32**	**37**	P		**P**	**09 02 00.2**	**+0.9**
BARN				IAmb	IAmb		09 02 01.7		
	comp=Z,8.1nm,1.1s								
HYT	**Haines Junctio**	**52.36**	**37**	P		**P**	**09 02 15.0**	**+0.5**
PBA	**Port Blair**	**52.65**	**254**	P		P	09 02 14.8	-2.3	
INK	**Inuvik**	**52.68**	**28**	P		**P**	**09 02 16.1**	**-0.5**
INK				pmax	pmax				
	comp=Z,3.0nm,0.7s								
INK	**Inuvik**	**52.68**	**28**	P		**P**	**09 02 16.1**	**-0.5**
KK31	**Karatay Array**	**54.59**	**300**	P		**P**	**09 02 30.7**	**-0.3**
KK31				pmax	pmax				
	comp=Z,8.0nm,1.3s								
KK31	**Karatay Array**	**54.59**	**300**	P		**P**	**09 02 30.7**	**-0.3**
KK31				IAmb	IAmb		09 02 46.9		
	comp=Z,8.4nm,1.2s								
KKAR	**Karatay Array**	**54.59**	**300**	P		**P**	**09 02 30.9**	**-0.2**
KKAR				pmax	pmax				
	comp=Z,8.0nm,1.3s								
KKAR	**Karatay Array**	**54.59**	**300**	P		**P**	**09 02 30.9**	**-0.2**
KKAR				IAmb	IAmb		09 02 46.9		
	comp=Z,8.4nm,1.2s								
KKH	**Kailua Kona**	**54.62**	**92**	P		**P**	**09 02 31.2**	**-0.3**
KKH							09 03 33.5		
KKH	**Kailua Kona**	**54.62**	**92**	P		**P**	**09 02 31.2**	**-0.3**
KKH				PcP		**PcP**	**09 03 33.5**	**-0.9**
C36M	**Paulatuk**	**55.79**	**25**	P		**P**	**09 02 39.9**	**+0.7**
C36M				IAmb	IAmb		09 02 40.7		
	comp=Z,5.1nm,0.8s								
NIL	**Nilore**	**56.41**	**289**	P		**P**	**09 02 45.0**	**+0.7**
NIL				pmax	pmax				
	comp=Z,11nm,0.8s								
NIL	**Nilore**	**56.41**	**289**	P		**P**	**09 02 45.0**	**+0.7**
DLBC	**Dease Lake**	**56.66**	**39**	P		**P**	**09 02 46.5**	**+0.9**
ARU	**Arti**	**57.19**	**319**	P		**P**	**09 02 49.5**	**+0.1**
CHGR	**Chuyangaron**	**57.27**	**296**	P		**P**	**09 02 50.0**	**-0.3**
WB0	**Warramunga Arr**	**58.02**	**191**	P		**P**	**09 02 55.1**	**-0.5**
WR0	**Warramunga Arr**	**58.19**	**191**	P		**P**	**09 02 56.3**	**-0.5**
WR0				IAmb	IAmb		09 02 59.9		
	comp=Z,9.7nm,0.9s								
WRAB	**Tennant Creek**	**58.19**	**191**⇑	*e*P		**P**	**09 02 55.8**	**-0.9**
WRAB				pmax	pmax				
	comp=Z,17nm,1.3s								
WB2	**Warramunga Arr**	**58.20**	**191**	P		**P**	**09 02 56.4**	**-0.5**
WRA	**Warramunga Arr**	**58.20**	**191**	P		**P**	**09 02 55.9**	**-0.9**
	comp=Z,9.2nm,0.9s,baz=7.9,slow=6.9,SNR=46								
WRA	**Warramunga Arr**	**58.20**	**191**	*e*P		**P**	**09 02 59.2**	**+2.4**
WRA				pmax	pmax				
	comp=Z,9.0nm,0.9s								
AS31	**Alice Springs**	**61.92**	**191**	P		**P**	**09 03 20.3**	**-2.1**
ASAR	**Alice Springs**	**61.92**	**191**	P		**P**	**09 03 21.4**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=12,slow=6.1,SNR=26								
YKA	**Yellowknife Ar**	**62.02**	**31**	P		**P**	**09 03 23.3**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=306,slow=5.0,SNR=3.8								
ARCES	**ARCESS Array B**	**64.00**	**340**	P		**P**	**09 03 35.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=58,slow=8.6,SNR=5.1								
H04A	**Detroit Lake**	**66.94**	**51**	P		**P**	**09 03 55.7**	**+0.6**
H04A				IAmb	IAmb		09 04 10.4		
	comp=Z,14nm,1.3s								
NEW	**Newport**	**68.04**	**45**	P		**P**	**09 04 02.2**	**+0.2**
NEW				pmax	pmax				
	comp=Z,7.0nm,1.4s								
NEW	**Newport**	**68.04**	**45**	P		**P**	**09 04 02.2**	**+0.2**
NEW				IAmb	IAmb		09 04 03.9		
	comp=Z,7.1nm,1.4s								
PINE	**Pine Mountain**	**68.16**	**51**	P		**P**	**09 04 03.1**	**0.0**
PINE				IAmb	IAmb		09 04 06.0		
	comp=Z,7.4nm,0.9s								
OBN	**Obninsk**	**68.74**	**324**	*e*P		**P**	**09 04 07.3**	**+1.2**
OBN				*e*			09 04 33.5		
OBN				*e*			09 06 41.1		
OBN				pmax	pmax				
	comp=Z,4.0nm,0.9s								
FINES	**FINESS Array B**	**69.10**	**333**	P		**P**	**09 04 08.7**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=41,slow=6.1,SNR=5.8								
WALA	**Waterton Lakes**	**69.38**	**43**	P		**P**	**09 04 10.2**	**-0.3**
LRM	**Limekiln Ridge**	**72.05**	**46**	P		**P**	**09 04 27.3**	**+0.3**
KVN	**Kaiserville**	**72.55**	**54**	P		**P**	**09 04 29.7**	**-0.3**
KVN				pmax	pmax				
	comp=Z,3.0nm,1.0s								
KVN	**Kaiserville**	**72.55**	**54**	P		**P**	**09 04 29.6**	**-0.3**
BOZ	**Bozeman (W)**	**72.65**	**45**	P		**P**	**09 04 31.0**	**+0.6**
BOZ				pmax	pmax				
	comp=Z,2.0nm,0.9s								
BOZ	**Bozeman (W)**	**72.65**	**45**	P		**P**	**09 04 31.0**	**+0.6**
NVAR	**Mina Array Bea**	**72.77**	**55**	P		**P**	**09 04 32.8**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=285,slow=6.7,SNR=12								
QLMT	**Earthquake Lak**	**73.22**	**46**	P		**P**	**09 04 33.4**	**-0.5**
NC405	**NORSAR Array S**	**74.06**	**338**	P		**P**	**09 04 38.6**	**+0.4**
FXWY	**Fox Creek**	**74.17**	**47**	P		**P**	**09 04 40.0**	**+0.5**
NC204	**NORSAR Array S**	**74.21**	**339**	P		**P**	**09 04 39.0**	**-0.1**
NOA	**NORSAR Array B**	**74.27**	**338**	P		**P**	**09 04 39.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=33,slow=6.4,SNR=1.4								
NOA					LR	LR	09 42 37.1		
	comp=Z,43nm,19.6s,baz=40,slow=40								
TPAW	**Teton Pass**	**74.30**	**47**	P		**P**	**09 04 41.3**	**+0.9**
AKASG	**Malin Array Be**	**74.97**	**323**	P		**P**	**09 04 43.3**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=46,slow=6.1,SNR=2.6								
BW06	**Boulder Array**	**75.55**	**47**	P		**P**	**09 04 48.3**	**+0.8**
PD31	**Pinedale Array**	**75.55**	**47**	P		**P**	**09 04 48.7**	**+1.2**
PDAR	**Pinedale Array**	**75.55**	**47**	P		**P**	**09 04 48.1**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=298,slow=1.8,SNR=12								
SRU	**San Rafael Swe**	**77.25**	**50**	P		**P**	**09 04 57.0**	**-0.2**
SRU				pmax	pmax				
	comp=Z,3.0nm,0.8s								
SRU	**San Rafael Swe**	**77.25**	**50**	P		**P**	**09 04 57.0**	**-0.2**
PV21	**Cone Mtn., Par**	**78.53**	**50**	P		**P**	**09 05 04.2**	**-0.1**
MORC	**Moravsky Berou**	**80.85**	**328**	P		**P**	**09 05 17.2**	**+0.7**
MORC				pmax	pmax				
	comp=Z,2.0nm,1.0s								
MORC	**Moravsky Berou**	**80.85**	**328**	P		**P**	**09 05 17.2**	**+0.7**
GERES	**GERESS Array B**	**83.15**	**330**	P		**P**	**09 05 28.4**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=0.0,slow=1.2,SNR=2.2								
TX32	**Lajitas Array**	**87.91**	**54**	P		**P**	**09 05 52.5**	**-0.3**
TXAR	**Lajitas Array**	**87.91**	**54**	P		**P**	**09 05 52.7**	**0.0**
	comp=Z,0.2nm,0.7s,baz=337,slow=3.9,SNR=2.6								

IDC ***24*** *09:03:57.8±0.5,27.47N×142.83E,h0km,mb4.2/23, mb1 4.4/28,mb1mx4.3/43,mbtmp4.2/28,ML3.4/5,MS3.6/15, Ms1 3.6/15,ms1mx3.4/49,Error ellipse: s-maj=14.7km s-min=10.3km az=116.0*

BJI ***24*** *09:04:00.1±0.0,27.47N×142.82E,h26km,mB4.8/23, mb4.6/29,Ms4.1/15,Ms7 3.9/15*

JMA ***24*** *09:04:00.1±0.2,27.44N×143.10E,h31km,M4.3*

MOS ***24*** *09:04:00.5±1.1,27.41N×142.79E,h28km,mb4.8/32,Error ellipse: s-maj=11.5km s-min=6.2km az=110.6*

NIED ***24*** *09:04:00.1,27.44N×143.10E,h31km,MW4.4,Moment Tensor Solution. s2 Moment tensor: Scale 10*^{15}*Nm; Mrr2.82; Mθθ0.40; Mϕϕ-3.21; Mrθ0.95; Mrϕ0.48; Mθϕ3.51; Fault plane solution: Mo4.76000×10*^{15} *NP1:ϕs10.00000°, δ71.00000°,λ104.00000°. NP2:ϕs154.00000°,δ23.00000°, λ56.00000°.*

NEIC ***24*** *09:04:03.5±1.6,27.50N±0.05×142.79E±0.09,h35km±5km, mb4.5/83 Error ellipse: s-maj=13.6km s-min=1.5km az=121.0*

ISC 24 09:04:02.3±0.4,27.51N±0.05×142.87E±0.06,h27km,n175, σ1°12/173,mb4.5/84,MS3.8/20,12C-5D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.74**	**236**	P	**Pb**	**09 04 16.4**	**-0.1**
CBIJ

ZEA MLR MLR
comp=Z,200nm,17.0s
HHC Hu-ho-hao-te 28.95 305 *e*P **P 09 09 59.8 +0.3**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,110nm,5.7s
HHC LR LR
comp=Z,190nm,15.3s
HHC LR LR
comp=Z,230nm,14.5s
HHC LR LR
comp=Z,240nm,15.3s
JAY Jayapura 29.92 184 LR LR 09 21 20.1
comp=Z,93nm,18.4s,baz=33,slow=35
SIJI Sorong 30.34 203 LR LR 09 19 55.4
comp=Z,193nm,19.8s,baz=323,slow=32
LZH Lanzhou 34.07 294 *e*P **P 09 10 45.5 +0.9**
LZH pP pwP 09 10 57.3 +1.8
LZH sP sP 09 11 01.3 +6.9
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,65nm,4.8s
LZH LR LR
comp=Z,210nm,12.0s
LZH LR LR
comp=Z,230nm,12.3s
LZH LR LR
comp=Z,370nm,16.2s
ULN Ulaanbaatar 34.45 316⇑*e*P **P 09 10 48.8 +1.1**
ULN pmax pmax
comp=Z,5.0nm,1.3s
ULN Ulaanbaatar 34.45 316 P 09 10 48.2 +0.5
SONM Songino Array 34.84 315 P **P 09 10 50.5 -0.7**
comp=Z,1.9nm,0.7s,baz=125,slow=7.7,SNR=8.6
SONM LR LR 09 25 45.2
comp=Z,54nm,18.5s,baz=176,slow=38
YAK Yakutsk 35.62 349 LR LR 09 26 37.7
comp=Z,54nm,20.6s,baz=220,slow=38
SEY Seymchan 35.97 7 P **P 09 11 00.1 -0.3**
comp=Z,1.6nm,0.8s,baz=192,slow=9.3,SNR=4.5
GTA Gaotai 37.51 300 *e*P **P 09 11 13.8 -0.2**
GTA pP pP 09 11 19.0 -2.2
GTA sP sP 09 11 22.5 -1.3
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA pmax pmax
comp=Z,45nm,7.5s
GTA LR LR
comp=Z,110nm,15.9s
GTA LR LR
comp=Z,160nm,14.6s
GTA LR LR
comp=Z,150nm,17.1s
ZAK Zakamensk 37.71 318 *e*P **P 09 11 15.8 +0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
TLY Talaya 38.01 320 *e*P **P 09 11 19.4 +1.4**
TLY pmax pmax
comp=Z,26nm,0.9s
TLY MLR MLR
comp=Z,305nm,12.0s
TLY Talaya 38.01 320 P **P 09 11 18.8 +0.8**
TLY IAmb IAmb 09 11 22.4
comp=Z,10nm,0.9s
CMAR Chiang Mai Arr 41.25 267 P **P 09 11 43.6 -1.8**
comp=Z,0.6nm,0.3s,baz=51,slow=9.2,SNR=4.7
CMAR LR LR 09 30 17.3
comp=Z,107nm,18.2s,baz=223,slow=38
CMAR Chiang Mai Arr 41.25 267*ce*P **P 09 11 45.5 +0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
KNRA Kununurra 45.06 199 P **P 09 12 14.3 -1.6**
KNRA IAmb IAmb 09 12 31.5
comp=Z,15nm,1.4s
AKUT Akutan 45.74 40 P **P 09 12 20.9 -0.2**
WMQ Urumqi 46.83 305 *e*P **P 09 12 30.8 +0.9**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,39nm,3.8s
WMQ LR LR
comp=Z,80nm,16.9s
WMQ LR LR
comp=Z,84nm,18.5s
WMQ LR LR
comp=Z,59nm,21.3s
DGZ Jazzator, Alta 47.42 313⇓*i*P **P 09 12 35.1 +0.6**
DGZ pmax pmax
comp=Z,12nm,1.3s
WB0 Warramunga Arr 47.71 191 P **P 09 12 35.7 -1.1**
WB0 IAmb IAmb 09 12 49.5
comp=Z,6.1nm,0.8s
WR0 Warramunga Arr 47.87 191 P **P 09 12 36.9 -1.1**
WR0 IAmb IAmb 09 12 39.7
comp=Z,7.2nm,1.1s
WRAB Tennant Creek 47.88 191⇑*e*P **P 09 12 36.6 -1.5**
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WRAB Tennant Creek 47.88 191 P **P 09 12 37.1 -1.0**
WB2 Warramunga Arr 47.89 191 P **P 09 12 37.1 -1.0**
WRA Warramunga Arr 47.89 191 P **P 09 12 37.0 -1.2**
comp=Z,4.4nm,0.6s,baz=12,slow=8.6,SNR=40
WRA Warramunga Arr 47.89 191 P **P 09 12 37.0 -1.2**
comp=Z,3.3nm,0.7s,baz=14,slow=10.0,SNR=10
FITZ Fitzroy Crossi 48.31 202 P **P 09 12 40.6 -0.9**
FITZ Fitzroy Crossi 48.31 202 P **P 09 12 39.7 -1.8**
PSI Prapat 48.62 247 P **P 09 12 43.4 -0.8**
comp=Z,2.3nm,0.4s,baz=0.6,slow=2.8,SNR=3.9
RPSI Rantau Prapat 48.68 247 P **P 09 12 43.4 -1.1**
ZAA0 Zalesovo Array 49.58 319 P **P 09 12 50.4 -0.4**
ZAA0 IAmb IAmb 09 12 51.9
comp=Z,7.5nm,0.9s
ZALV Zalesovo Beam 49.58 319 P **P 09 12 50.0 -0.9**
comp=Z,4.3nm,0.7s,baz=101,slow=7.7,SNR=14
ZALV PcP **PcP 09 14 12.0 -0.2**
comp=Z,1.7nm,0.7s,baz=103,slow=3.2,SNR=4.0
ZALV LR LR 09 34 37.3
comp=Z,102nm,18.1s,baz=75,slow=37
ZALV Zalesovo Beam 49.58 319 *i* P **P 09 12 51.0 +0.2**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
GSI Gunungsitoli 50.58 247 P **P 09 12 58.4 -0.5**
MK31 Makanchi Array 50.68 309 P **P 09 12 58.2 -1.2**
MK31 pmax pmax
comp=Z,1.0nm,0.8s
MK31 Makanchi Array 50.68 309 P **P 09 12 58.2 -1.2**
MKAR Makanchi Array 50.68 309 P **P 09 12 58.8 -0.6**
comp=Z,0.7nm,0.4s,baz=95,slow=8.7,SNR=13
MKAR PcP **PcP 09 14 16.5 0.0**
comp=Z,1.0nm,0.8s,baz=92,slow=4.8,SNR=4.4
MKAR LR LR 09 35 29.8
comp=Z,81nm,18.2s,baz=106,slow=37
MKAR Makanchi Array 50.68 309*ce*P **P 09 12 59.0 -0.4**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
AS31 Alice Springs 51.61 191 P **P 09 13 05.9 -0.5**
ASAR Alice Springs 51.61 191 P **P 09 13 04.7 -1.7**
comp=Z,0.6nm,0.5s,baz=3.5,slow=5.5,SNR=22
ASAR PcP **PcP 09 14 19.9 -0.2**
comp=Z,0.7nm,0.8s,baz=7.2,slow=3.5,SNR=4.6
KURK Kurchatov 53.13 314⇑*i*P **P 09 13 17.1 -0.4**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 53.13 314 P **P 09 13 16.8 -0.7**
KURK IAmb IAmb 09 13 21.0
comp=Z,5.6nm,0.7s
TARG Taragay, Kyrgy 54.20 303 P **P 09 13 26.2 +0.2**
TARG IAmb IAmb 09 13 27.0
comp=Z,3.9nm,1.1s
PPLA Purkeypile 54.50 31 P **P 09 13 29.3 +1.8**
PPLA IAmb IAmb 09 13 31.4
comp=Z,10nm,1.2s
PMR Palmer 55.76 32 P **P 09 13 36.7 +0.3**
PMR pmax pmax
comp=Z,8.0nm,1.1s
PMR Palmer 55.76 32 P **P 09 13 36.7 +0.3**
PMR IAmb IAmb 09 13 37.6
comp=Z,7.7nm,1.1s
COLD Coldfoot 56.03 26 P **P 09 13 41.3 +3.0**
COLD IAmb IAmb 09 13 41.4
comp=Z,3.7nm,0.9s
RND Reindeer 56.07 30 P **P 09 13 37.6 -1.1**
RND pmax pmax
comp=Z,3.0nm,0.7s
RND Reindeer 56.07 30 P **P 09 13 37.5 -1.1**
RND IAmb IAmb 09 13 39.4
comp=Z,2.8nm,0.7s
AAK Ala-Archa 56.52 305⇓*e*P **P 09 13 42.6 +0.2**
AAK pmax pmax
comp=Z,8.0nm,2.7s
IL31 57.06 29 P **P 09 13 44.9 -0.7**
IL31 IAmb IAmb 09 13 46.3
comp=Z,3.6nm,0.9s
ILAR Eielson Array 57.06 29 P **P 09 13 45.5 -0.1**
comp=Z,2.6nm,0.8s,baz=261,slow=6.0,SNR=24
BRVK Borovoye 58.21 317*c i*P **P 09 13 54.3 +0.3**
BRVK pmax pmax
comp=Z,22nm,1.3s
BRVK Borovoye 58.21 317 P **P 09 13 54.8 +0.9**
DOT Dot Lake 58.22 30 P **P 09 13 54.2 +0.3**
DOT IAmb IAmb 09 14 10.6
comp=Z,5.5nm,1.3s
STKA Stephens Creek 59.07 181 P **P 09 13 58.5 -1.5**
comp=Z,2.2nm,0.8s,baz=3.3,slow=5.1,SNR=3.5
STKA Stephens Creek 59.07 181 P **P 09 13 59.2 -0.8**
STKA pmax pmax
comp=Z,1.0nm,0.9s
STKA Stephens Creek 59.07 181 P **P 09 13 59.2 -0.8**
KK31 Karatay Array 59.34 306 P **P 09 14 02.3 +0.3**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KK31 Karatay Array 59.34 306 P **P 09 14 02.2 +0.3**
KKAR Karatay Array 59.34 306 P **P 09 14 02.2 +0.2**
KKAR pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 59.34 306 P **P 09 14 02.2 +0.2**
EGAK Eagle 59.51 29 P **P 09 14 03.3 +0.5**
DAWY Dawson 60.29 30 P **P 09 14 09.6 +1.3**
DAWY IAmb IAmb 09 14 10.3
comp=Z,3.1nm,0.8s
CHGR Chuyangaron 61.26 301 P **P 09 14 14.9 -0.4**
HYT Haines Junctio 61.39 33 P **P 09 14 17.3 +1.4**
INK Inuvik 62.40 25 P **P 09 14 23.0 +0.7**
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 62.40 25 P **P 09 14 23.0 +0.7**
INK IAmb IAmb 09 14 24.0
comp=Z,3.4nm,0.7s
SVE Sverdlovsk 63.27 322 *e*P **P 09 14 29.4 +1.1**
SVE pmax pmax
comp=Z,8.0nm,0.6s
JIS Juneau Island 63.30 36 P **P 09 14 29.5 +1.1**
ARU Arti 64.47 322*c i*P **P 09 14 36.5 +0.3**
ARU 09 15 08.3
ARU S **S 09 23 16.2 +2.9**
ARU SS **SS 09 27 20.7 -2.5**
ARU pmax pmax
comp=Z,13nm,0.8s
ARU Arti 64.47 322 P **P 09 14 36.0 -0.2**
C36M Paulatuk 65.62 23 P **P 09 14 44.0 +0.6**
YKA Yellowknife Ar 71.49 29 P **P 09 15 20.5 +0.3**
comp=Z,2.5nm,0.7s,baz=291,slow=5.7,SNR=4.9
KLMR Klimovskoe 72.53 330 *e*P **P 09 15 24.5 -1.9**
KLMR pmax pmax
comp=Z,9.0nm,1.2s
KLMR Klimovskoe 72.53 330 *e*P **P 09 15 24.6 -1.9**
KLMR AMP 09 15 30.1
comp=Z,9.0nm,1.2s
ARCES ARCESS Array B 73.35 341 P **P 09 15 32.0 +0.8**
comp=Z,2.1nm,0.9s,baz=52,slow=6.7,SNR=6.9
ARCES ARCESS Array B 73.35 341 P **P 09 15 32.0 +0.8**
PINE Pine Mountain 75.67 48 P **P 09 15 47.0 +1.5**
PINE IAmb IAmb 09 15 47.8
comp=Z,6.7nm,1.0s
K05A Summer Lake 76.14 49 P **P 09 15 49.3 +1.2**
NEW Newport 76.19 43 P **P 09 15 49.0 +0.9**
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 76.19 43 P **P 09 15 49.0 +0.9**
NEW IAmb IAmb 09 15 49.8
comp=Z,3.7nm,0.9s
E09A Wood Farm, Sta 76.32 45 P **P 09 15 49.8 +1.0**
E09A IAmb IAmb 09 16 02.3
comp=Z,6.4nm,1.2s
G08A Pilot Rock 76.33 46 P **P 09 15 49.0 -0.1**
OBN Obninsk 76.54 325 *e*P **P 09 15 50.0 +0.2**
OBN *e* 09 16 01.5
OBN pmax pmax
comp=Z,4.0nm,1.1s
BMO Blue Mountains 77.58 46 P **P 09 15 56.9 +0.9**
BMO pmax pmax
comp=Z,4.0nm,1.1s
BMO Blue Mountains 77.58 46 P **P 09 15 56.9 +0.9**
BMO IAmb IAmb 09 15 57.8
comp=Z,4.0nm,1.1s
WALA Waterton Lakes 77.73 41 P **P 09 15 58.2 +1.3**
WALA IAmb IAmb 09 15 58.6
comp=Z,3.1nm,0.8s
FIA1 FINESS Array S 77.84 334 P **P 09 15 57.4 +0.3**
FINES FINESS Array B 77.85 334 P **P 09 15 57.2 +0.2**
comp=Z,3.4nm,0.7s,baz=66,slow=5.1,SNR=22
JTMT Jette 78.13 42 P **P 09 16 00.5 +1.4**
JTMT IAmb IAmb 09 16 01.0
comp=Z,5.3nm,0.8s
KBZ Khabaz 78.17 313 P **P 09 15 59.9 +0.7**
comp=Z,5.1nm,0.8s,baz=93,slow=4.2,SNR=16
KBZ Khabaz 78.17 313*c i*P **P 09 16 00.0 +0.8**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KIV Kislovodsk 78.21 313 *e*P **P 09 16 01.6 +2.0**
KIV pmax pmax
comp=Z,24nm,1.1s
KIV MLR MLR
comp=Z,201nm,19.0s
CMB Columbia Colle 78.49 53 P **P 09 16 02.1 +0.9**
CMB pmax pmax
comp=Z,4.0nm,0.9s
CMB Columbia Colle 78.49 53 P **P 09 16 02.1 +0.9**
CMB IAmb IAmb 09 16 02.8
comp=Z,3.6nm,0.8s
YERR Yerington 78.88 52 P **P 09 16 03.9 +0.4**
MFID Camas Ranch 79.18 47 P **P 09 16 05.5 +0.6**
MFID IAmb IAmb 09 16 06.8
comp=Z,4.9nm,0.8s
RYN Ryan 79.54 52 P **P 09 16 07.8 +0.7**
RYN IAmb IAmb 09 16 08.8
comp=Z,3.4nm,0.8s
KVN Kaiserville 79.65 51 P **P 09 16 08.4 +0.7**
KVN pmax pmax
comp=Z,3.0nm,0.8s
KVN Kaiserville 79.65 51 P **P 09 16 08.4 +0.7**
NVAR Mina Array Bea 79.78 52 P **P 09 16 09.4 +0.9**
comp=Z,3.0nm,0.8s,baz=283,slow=5.4,SNR=23
NVAR LR LR 09 45 26.6
comp=Z,26nm,19.6s,baz=18,slow=31
LRM Limekiln Ridge 80.15 43 P **P 09 16 11.2 +0.8**
BOZ Bozeman (W) 80.76 43 P **P 09 16 14.4 +0.9**
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 80.76 43 P **P 09 16 14.4 +0.9**
R11A Troy Canyon, C 81.71 51 P **P 09 16 19.5 +0.7**
TPNV Topopah Spring 81.91 53 P **P 09 16 20.5 +0.7**
TPNV pmax pmax
comp=Z,3.0nm,0.8s
TPNV Topopah Spring 81.91 53 P **P 09 16 20.5 +0.7**
TPNV IAmb IAmb 09 16 21.1
comp=Z,3.2nm,0.8s
IMW Indian Meadow 82.04 45 IAmb IAmb 09 16 23.1
comp=Z,3.4nm,0.9s
TPAW Teton Pass 82.24 45 P **P 09 16 21.9 +0.3**
RLMT Red Lodge 82.44 43 IAmb IAmb 09 16 26.4
comp=Z,6.4nm,1.3s
AHID Auburn Hatcher 82.52 46 IAmb IAmb 09 16 24.8
comp=Z,3.4nm,0.8s
AKASG Malin Array Be 82.64 324 P **P 09 16 22.6 -0.5**
comp=Z,1.2nm,0.6s,baz=50,slow=5.3,SNR=6.1
DUG Dugway, Tooele 82.70 48 P **P 09 16 23.9 +0.1**
DUG pmax pmax
comp=Z,4.0nm,0.8s
DUG Dugway, Tooele 82.70 48 P **P 09 16 23.9 +0.1**
DUG IAmb IAmb 09 16 25.5
comp=Z,4.5nm,0.8s
PFO Pinyon Flats O 83.34 56⇑*i*P **P 09 16 27.6 +0.3**
PFO pmax pmax
comp=Z,10.0nm,1.0s
PFO Pinyon Flats O 83.34 56 P **P 09 16 27.2 -0.1**
PFO IAmb IAmb 09 16 29.8
comp=Z,4.1nm,1.1s
NB2 NORSAR Subarra 83.45 339 P **P 09 16 26.8 -0.4**
comp=Z,2.0nm,0.8s,baz=40,slow=5.3
NOA NORSAR Array B 83.45 339 P **P 09 16 26.9 -0.3**
comp=Z,1.6nm,0.8s,baz=41,slow=5.0,SNR=6.5
PDAR Pinedale Array 83.49 45 P **P 09 16 28.4 +0.4**
comp=Z,1.1nm,0.9s,baz=259,slow=4.0,SNR=7.8
KNB Kanab 84.28 51 P **P 09 16 33.0 +0.9**
KNB pmax pmax
comp=Z,4.0nm,0.8s
KNB Kanab 84.28 51 P **P 09 16 33.0 +0.9**
Y14A Wickenburg 85.69 54 IAmb IAmb 09 16 40.5
comp=Z,3.6nm,0.9s
WUAZ Wupatki 86.05 52 IAmb IAmb 09 16 42.6
comp=Z,4.1nm,0.9s
PV14 Lion Creek, Pa 86.16 48 P **P 09 16 41.5 -0.1**
BRTR Keskin Array B 86.17 313 P **P 09 16 41.5 +0.1**
comp=Z,1.1nm,0.7s,baz=92,slow=3.4,SNR=5.0
BRTR LR LR 09 56 54.5
comp=Z,38nm,21.2s,baz=162,slow=37
PV12 Saucer Basin, 86.33 48 IAmb IAmb 09 16 44.4
comp=Z,4.6nm,0.9s
PV03 Paradox Valley 86.33 49 IAmb IAmb 09 16 43.6
comp=Z,3.5nm,1.0s
PV13 Radium Mtn., P 86.40 49 IAmb IAmb 09 16 43.8
comp=Z,2.5nm,0.6s
214A Organ Pipe Nat 86.83 56 P **P 09 16 45.4 +0.7**
214A IAmb IAmb 09 16 46.4
comp=Z,4.4nm,0.8s
VYHS Vyhne 89.29 327 *e*P **P 09 16 55.7 -0.3**
VYHS Vyhne 89.29 327 *e*P **P 09 16 55.7 -0.3**
ANMO Albuquerque 89.75 50⇓*e*P **P 09 16 59.1 +0.4**
ANMO pmax pmax
comp=Z,7.0nm,3.6s
KHC Kasperske Hory 91.32 329⇑*e*P **P 09 17 05.1 -0.4**
KHC pmax pmax
comp=Z,12nm,2.2s
GERES GERESS Array B 91.47 329 P **P 09 17 05.0 -1.3**
comp=Z,0.4nm,0.5s,baz=27,slow=4.5,SNR=4.8
GERES LR LR 10 02 09.1
comp=Z,32nm,18.1s,baz=274,slow=38
TXAR Lajitas Array 94.87 54 P **P 09 17 23.4 +1.0**
comp=Z,1.1nm,0.9s,baz=320,slow=3.0,SNR=12
TORD Torodi Ar. Bea 124.77 312 PKP **PKPdf 09 22 59.7 -0.7**
comp=Z,0.4nm,0.8s,baz=85,slow=1.9,SNR=1.9
LPAZ La Paz 149.23 75 PKPbc **PKPbc 09 23 49.6 -0.2**
comp=Z,1.9nm,0.7s,baz=299,slow=2.3,SNR=11
LPAZ La Paz 149.23 75 PKiKP 09 23 50.5 -0.6
PLCA Paso Flores 149.54 124 PKPbc **PKPbc 09 23 49.4 +0.1**
comp=Z,2.0nm,1.0s,baz=18,slow=4.5,SNR=3.9
PLCA Paso Flores 149.54 124 PKPbc **PKPbc 09 23 49.7 +0.4**

MDD ***24*** *09:11:16.9±0.6, 37.27N×8.95W, h22km±2km, mbLg2.5/5, Error ellipse: s-maj=6.8km s-min=3.5km az=104.0, PRXIMO*
SFS ***24*** *09:11:16.0, 37.35N×5.98W, h11km, ML2.4, ATLANTICO PORTUGAL*
IGIL ***24*** *09:11:17.8, 37.25N×8.88W, h23km, ML2.0*
INMG ***24*** *09:11:17.1±1.5, 37.26N×8.90W, h22km±3km, MD1.9, ML2.1, Error ellipse: s-maj=5.1km s-min=3.2km az=87.0*
ISC 24 09:11:15.0±1.6, 37°24N±0.06×9°00W±0.08, h28km±7km, n30, σ1s21/41, 1C-3D, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.18**	**129**	⇓Pg	**Pb**			**09 11 21.4**	**+0.6**
	8.5nm,0.0s,SNR=18								
PFVI				Lg	Lg			09 11 24.8	
	812nm,0.2s,SNR=7.9								
PFVI	**Vila Bisbo**	**0.18**	**129**	⇓*e*Pg	**Pb**			**09 11 21.4**	**+0.6**
PFVI				*e*Sg	**Sb**			**09 11 24.9**	**+0.2**
PFVI				A	A			09 11 25.5	
	168nm,0.1s								
MORF	**Marmelete**	**0.28**	**77**	*e*P	**Pb**			**09 11 22.4**	**+0.2**
MORF				*e*S	**Sb**			**09 11 26.0**	**-1.1**
MORF				AML	AML			09 11 27.4	
	comp=N,207nm,0.1s								
MORF	**Marmelete**	**0.28**	**77**	Pg	**Pb**			**09 11 22.4**	**+0.2**
MORF				Lg	Lg			09 11 26.5	
	comp=N,132nm,0.1s								
MORF	**Marmelete**	**0.28**	**77**	⇓*i*Pg	**Pb**			**09 11 22.4**	**+0.2**
MORF				*e*Sg	**Sb**			**09 11 26.5**	**-0.5**
MORF				A	A			09 11 28.1	
	comp=N,132nm,0.1s								
PTEO	**Sao Teotonio**	**0.37**	**36**	Pg	**Pb**			**09 11 23.8**	**+0.4**
PTEO				Lg	Lg			09 11 29.2	
	comp=N,42nm,0.2s								
PTEO	**Sao Teotonio**	**0.37**	**36**	⇑*i*Pg	**Pb**			**09 11 23.8**	**+0.4**
PTEO				*e*Sg	**Sb**			**09 11 29.2**	**+0.1**
PTEO				A	A			09 11 29.7	
	comp=N,85nm,0.2s								
PBDV	**Barranco-do-Ve**	**0.85**	**90**	Pg	**Pb**			**09 11 31.4**	**+0.1**
PBDV				Lg	Lg			09 11 42.4	
	comp=N,30nm,0.2s								
PBDV	**Barranco-do-Ve**	**0.85**	**90**	*e*P	**Pb**			**09 11 31.4**	**+0.1**
PBDV				*e*S	**Sn**			**09 11 42.4**	**-0.4**
PBDV				A	A			09 11 44.4	
	comp=N,30nm,0.2s								
PCVE	**Castro Verde**	**0.86**	**63**	Pg	**Pb**			**09 11 31.5**	**+0.2**
PCVE				Lg	Lg			09 11 42.1	
	comp=N,41nm,0.3s								
PCVE	**Castro Verde**	**0.86**	**63**	*e*P	**Pb**			**09 11 31.5**	**+0.2**
PCVE				*e*S	**Sb**			**09 11 42.1**	**-0.4**
PCVE				A	A			09 11 43.2	
	comp=N,41nm,0.3s								
PNCL	**Nicolau / Gran**	**0.94**	**23**	Pg	**Pb**			**09 11 33.2**	**+0.4**
PNCL				Lg	Lg			09 11 45.4	
	comp=N,16nm,0.1s								
PNCL	**Nicolau / Gran**	**0.94**	**23**	*e*P	**Pb**			**09 11 33.2**	**+0.4**
PNCL				*e*S	**Sb**			**09 11 45.4**	**+0.5**
PNCL				A	A			09 11 46.4	
	comp=N,16nm,0.1s								
PBEJ	**Beja**	**1.19**	**49**	Lg	Lg			09 11 52.6	
	comp=N,6.8nm,0.2s								
PBEJ	**Beja**	**1.19**	**49**	*e*Sg	**Sn**			**09 11 52.6**	**+1.5**
PBEJ				A	A			09 11 53.0	
	comp=N,14nm,0.2s								
EGRO	**El Granado**	**1.24**	**76**	Pg	**Pn**			**09 11 37.4**	**+0.9**
	comp=N,0.6nm,0.1s,SNR=18								
EGRO				Lg	Lg			09 11 53.8	
	comp=N,16nm,0.1s,SNR=9.5								
EVO	**Evora**	**1.50**	**31**	Pg	**Pb**			**09 11 42.9**	**+0.6**
EVO				Lg	Lg			09 12 02.6	
	comp=N,12nm,0.1s								
EVO	**Evora**	**1.50**	**31**	*e*P	**Pb**			**09 11 42.9**	**+0.6**
EVO				*e*S	**Sb**			**09 12 01.9**	**+0.9**
EVO	**Evora**	**1.50**	**31**	*e*Sg	**Sb**			**09 12 02.6**	**+1.6**
EVO				A	A			09 12 05.0	
	comp=N,12nm,0.1s								
PMAFR	**Mafra**	**1.72**	**353**	Lg	Lg			09 12 05.0	
	comp=N,7.5nm,0.1s,SNR=7.9								
PBAR	**Barrancos**	**1.81**	**59**	Lg	Lg			09 12 11.4	
PBAR	**Barrancos**	**1.81**	**59**	*e*Sg	**Sb**			**09 12 11.4**	**+1.6**
EMIN	**Mina Concepcio**	**1.92**	**74**	Pn	**Pn**			**09 11 47.2**	**+1.3**
	comp=N,0.2nm,0.1s,SNR=7.9								
EMIN				Pg	**Pb**			**09 11 51.0**	**+1.6**
	comp=N,0.4nm,0.1s,SNR=8.2								
EMIN				Sn	**Sb**			**09 12 10.9**	**-2.1**
	comp=N,1.7nm,0.1s,SNR=11								
EMIN				Lg	Lg			09 12 15.0	
	comp=N,3.1nm,0.1s,SNR=7.9								
PSBE	**So Bento**	**2.27**	**4**	*e*Pn	**Pn**			**09 11 51.2**	**+0.5**
PMRV	**Marv??o**	**2.52**	**30**	Pn	**Pn**			**09 11 53.8**	**-0.3**
PMRV				Sn	**Sn**			**09 12 22.1**	**-1.8**
PMRV				Lg	Lg			09 12 33.1	
	comp=N,3.0nm,0.5s								
PMRV	**Marv??o**	**2.52**	**30**	*e*Pn	**Pn**			**09 11 53.8**	**-0.3**
PMRV				*e*Sn	**Sn**			**09 12 22.1**	**-1.8**
PMRV				*e*Sg	**Sb**			**09 12 33.1**	**+2.9**
PMRV				A	A			09 12 36.3	
	comp=N,3.0nm,0.5s								
ECAB	**El Cabril**	**2.96**	**73**	Pn	**Pn**			**09 11 60.0**	**-0.2**
	comp=N,0.1nm,0.1s,SNR=7.9								
ECAB				Sn	**Sn**			**09 12 33.3**	**-1.5**
	comp=N,0.0nm,0.2s,SNR=6.0								
ECAB				Lg	Lg			09 12 44.7	
	comp=N,5.1nm,0.3s,SNR=7.0								
EADA	**Adamuz**	**3.63**	**74**	Lg	Lg			09 13 05.8	
	SNR=4.0								
EPLA	**Plasencia**	**3.63**	**38**	Pn	**Pn**			**09 12 08.7**	**-0.7**
	comp=N,0.1nm,0.0s,SNR=7.9								
EPLA				Sn	**Sn**			**09 12 50.1**	**-1.2**
	comp=N,0.6nm,0.1s,SNR=4.0								
ELOB	**Lobios**	**4.67**	**9**	Sn	**Sn**			**09 13 13.6**	**-3.5**
	comp=N,0.2nm,0.1s,SNR=7.9								

SKO **24** *09:15:19.9,41.18N,20.86E,h15km*
ATH **24** *09:15:26.0,41.27N,20.96E,h13km,3km,ML2.6/4, Error ellipse: s-maj=4.0km s-min=1.5km az=218.0*
THE **24** *09:15:26.6,41.29N,21.06E,h0km,1km,ML2.5/7, Error ellipse: s-maj=2.2km s-min=0.7km az=44.0*
TIR **24** *09:15:26.7,41.23N,20.85E,h2km,Md2.8/6*
PDG **24** *09:15:27.2,0.4,41.20N,20.90E,h3km,ML2.8/14, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
BEO **24** *09:15:27.6,0.4,41.15N,20.92E,h0km,2km,ML2.5/7*

ISC 24 09:15:26.9±1.1,**41°21N**±0°.01×**20°.93E**±0°.02,**h4**km±9km, **n69,**σ1°.38/117**, 2C-7D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.14**	**225**	⇓*i*	Pg	**Pg**	**09 15 28.9**	**-0.8**
OHR				*i*	Sg	**Sg**	**09 15 30.4**	**-1.1**
OHR				*e*	Lg	Lg	09 15 30.6	
	comp=E,13μm,0.4s							
OHR				*e*	Lg	Lg	09 15 30.8	
	comp=N,3μm,0.5s							
PHP	**Peshkopia**	**0.60**	**322**	P		**Pg**	**09 15 38.1**	**-0.3**
PHP				S		**Sb**	**09 15 47.0**	**-1.9**
	comp=N,2μm,0.3s							
PHP	**Peshkopia**	**0.60**	**322**	*i*	PG	**Pg**	**09 15 38.1**	**-0.3**
PHP				*i*	SG	**Sb**	**09 15 46.9**	**-1.9**
NEST	**Nestorio**	**0.80**	**173**	P		**Pg**	**09 15 41.5**	**-0.7**
NEST				S		**Sb**	**09 15 53.8**	**-0.8**
NEST				AML		AML	09 15 57.4	
	comp=E,870μm,0.6s							
NEST				AML		AML	09 15 58.5	
	comp=N,743μm,0.4s							
TIR	**Tirane**	**0.81**	**280**	*i*	PG	**Pg**	**09 15 41.9**	**-0.6**
TIR				*i*	SG	**Sb**	**09 15 53.8**	**-1.1**
TIR	**Tirane**	**0.81**	**280**	*e*	Pg	**Pg**	**09 15 42.7**	**+0.2**
TIR				*e*	Sg	**Sb**	**09 15 54.6**	**-0.3**
TIR	**Tirane**	**0.81**	**280**	P		**Pg**	**09 15 41.9**	**-0.6**
SKO	**Skopje**	**0.85**	**27**	*e*	Pg	**Pn**	**09 15 44.8**	**-0.9**
SKO				*e*	Sg	**Sb**	**09 15 56.0**	**-0.1**
SKO	**Skopje**	**0.85**	**27**	*i*	Pg	**Pb**	**09 15 44.2**	**-0.1**
SKO				*i*	Sg	**Sb**	**09 15 55.4**	**-0.7**
SKO				*e*	Lg	Lg	09 15 57.2	
	comp=N,20nm,0.3s							
SKO				*e*	Lg	Lg	09 15 58.0	
	comp=E,11nm,0.3s							
PENT	**Pentalofos**	**1.03**	**171**	P		**Pg**	**09 15 46.3**	**-0.3**
PENT				S		**Sn**	**09 16 03.0**	**0.0**
	comp=E,320nm,0.5s							
PENT	**Pentalofos**	**1.03**	**171**	P		**Pg**	**09 15 46.2**	**-0.4**
PENT				S		**Sn**	**09 16 01.7**	**-1.3**
PENT				AML		AML	09 16 03.5	
	comp=E,893μm,0.7s							
PENT				AML		AML	09 16 04.9	
	comp=N,441μm,0.4s							
LSK	**Leskovik**	**1.09**	**193**	*i*	PN	**Pn**	**09 15 48.8**	**-0.2**
LSK				*i*	SN	**Sn**	**09 16 05.0**	**+0.5**
KZN	**Kozani**	**1.11**	**144**	P		**Pb**	**09 15 47.5**	**-1.1**
KZN				S		**Sn**	**09 16 04.5**	**-0.5**
	comp=N,158nm,0.4s							
KZN	**Kozani**	**1.11**	**144**	P		**Pb**	**09 15 47.7**	**-0.9**
KZN				S		**Sn**	**09 16 03.8**	**-1.1**
KZN				AML		AML	09 16 08.7	
	comp=E,445μm,0.5s							
KZN				AML		AML	09 16 09.8	
	comp=N,492μm,0.4s							
PUK	**Puka**	**1.14**	**317**	*i*	PG	**Pb**	**09 15 47.8**	**-1.4**
PUK				*i*	SG	**Sn**	**09 16 04.8**	**-0.9**
VAY	**Valandovo**	**1.24**	**84**	*e*	Pg	**Pg**	**09 15 50.9**	**+0.2**
VAY				*e*	Sg	**Sn**	**09 16 08.1**	**-0.1**
VAY	**Valandovo**	**1.24**	**84**	*i*	Pg	**Pg**	**09 15 51.1**	**+0.4**
VAY				*i*	Sg	**Sn**	**09 16 08.8**	**+0.6**
	comp=N,107nm,0.4s							
VAY				*i*	Sg	**Sg**	**09 16 09.8**	**+3.0**
KPRO	**Kipourio**	**1.30**	**165**	P		**Pn**	**09 15 51.2**	**-0.7**
KPRO				S		**Sg**	**09 16 11.8**	**+3.2**
	comp=N,222nm,0.6s							
KPRO	**Kipourio**	**1.30**	**165**	P		**Pn**	**09 15 51.1**	**-0.7**
KPRO				S		**Sg**	**09 16 09.8**	**+1.2**
KPRO				AML		AML	09 16 16.9	
	comp=N,485μm,0.7s							
KPRO				AML		AML	09 16 22.3	
	comp=E,489μm,0.8s							
BCI	**Bajram Curri**	**1.32**	**331**	*i*	PN	**Pg**	**09 15 52.1**	**-0.1**
BCI				*i*	SN	**Sg**	**09 16 11.4**	**+2.0**
ULC	**Ulcinj**	**1.47**	**301**	⇑*i*	Pg	**Pn**	**09 15 53.6**	**-0.6**
ULC				*i*	Sg	**Sg**	**09 16 17.1**	**+3.0**
SRN	**Sarande**	**1.50**	**208**	P		**Pg**	**09 15 56.3**	**+0.6**
SRN				S		**Sg**	**09 16 18.6**	**+3.4**
SRN	**Sarande**	**1.50**	**208**	*i*	PN	**Pg**	**09 15 56.5**	**+0.8**
SRN				*i*	SN	**Sg**	**09 16 18.1**	**+2.9**
JAN	**Janina**	**1.55**	**182**	P		**Pb**	**09 15 55.5**	**-0.7**
JAN				S		**Sg**	**09 16 18.3**	**+1.5**
	comp=E,142nm,0.5s							
PVY	**Plav**	**1.56**	**333**	⇓*i*	Pg	**Pg**	**09 15 56.7**	**-0.1**
PVY				*i*	Sg	**Sg**	**09 16 20.5**	**+3.4**
LIT	**Litokhoron**	**1.62**	**132**	P		**Pn**	**09 15 55.0**	**-1.3**
LIT				S		**Sg**	**09 16 18.6**	**-0.5**
LIT	**Litokhoron**	**1.62**	**132**	P		**Pb**	**09 15 56.9**	**-0.6**
DRME	**Dracevica, Mon**	**1.63**	**307**	*e*	Pn	**Pb**	**09 15 56.9**	**-0.6**
DRME				*e*	Sn	**Sg**	**09 16 22.1**	**+2.8**
KEK	**Kerkira**	**1.73**	**210**	P		**Pb**	**09 15 58.5**	**-0.6**
KEK				S		**Sg**	**09 16 23.9**	**+1.6**
	comp=E,72nm,0.5s							
KEK	**Kerkira**	**1.73**	**210**	P		**Pb**	**09 15 58.6**	**-0.6**
BOSS	**Bosilegrad**	**1.73**	**42**	*e*	Pn	**Pb**	**09 15 59.2**	**-0.1**
BOSS				*e*	Sn	**Sg**	**09 16 23.3**	**+0.8**
BARS	**Barje**	**1.74**	**22**	*e*	Pn	**Pg**	**09 15 59.7**	**-0.5**
BARS				*e*	Sn	**Sg**	**09 16 23.7**	**+1.0**
IGT	**Igoumenitsa**	**1.74**	**195**	P		**Pb**	**09 15 59.6**	**+0.3**
PDG	**Podgorica**	**1.75**	**315**	*e*	Pn	**Pg**	**09 15 59.8**	**-0.6**
PDG				*e*	Sn	**Sg**	**09 16 23.5**	**+0.5**
TTG	**Podgorica**	**1.75**	**315**	⇓*i*	Pn	**Pb**	**09 15 59.0**	**-0.5**
TTG				*i*	Sn	**Sg**	**09 16 25.0**	**+2.0**
HORT	**Hortiatis**	**1.76**	**110**	P		**Pn**	**09 15 56.6**	**-1.6**
HORT	**Hortiatis**	**1.76**	**110**	P		**Pb**	**09 15 58.6**	**-1.1**
IVA	**Berane**	**1.83**	**335**	⇓*i*	Pn	**Pb**	**09 16 00.8**	**-0.2**
IVA				*i*	Sn	**Sg**	**09 16 27.2**	**+1.5**
THL	**Klokotos Trika**	**1.84**	**153**	P		**Pn**	**09 15 59.2**	**-0.1**
THL				S		**Sb**	**09 16 23.9**	**-0.6**
	comp=E,62nm,0.6s							
THL	**Klokotos Trika**	**1.84**	**153**	P		**Pb**	**09 15 59.9**	**-1.2**
BUM	**Brajici-Budva**	**1.87**	**306**	*e*	Pn	**Pb**	**09 16 01.0**	**-0.7**
BUM				*i*	Sn	**Sg**	**09 16 27.9**	**+0.9**
KOME	**Kolasin**	**1.95**	**328**	*e*	Pn	**Pb**	**09 16 02.5**	**-0.5**
KOME				*i*	Sn	**Sg**	**09 16 30.5**	**+1.0**
CEME	**Cevo**	**2.01**	**312**	⇓*i*	Pn	**Pb**	**09 16 03.2**	**-0.8**
CEME				*i*	Sn	**Sg**	**09 16 31.3**	**-0.1**
SELS	**Selova**	**2.01**	**4**	*e*	Pn	**Pb**	**09 16 02.2**	**-1.9**
NKME	**Niksic**	**2.14**	**317**	*e*	Pn	**Pb**	**09 16 05.2**	**-1.1**
NKME				*i*	Sn	**Sg**	**09 16 34.6**	**-1.1**
NKY	**Niksic**	**2.15**	**319**	*e*	Pn	**Pb**	**09 16 05.0**	**-1.5**
NKY				*i*	Sn	**Sg**	**09 16 34.9**	**-1.2**
SJES	**Sjenica**	**2.17**	**341**	*e*	Pn	**Pb**	**09 16 05.7**	**-1.1**
SJES				*e*	Sn	**Sb**	**09 16 34.4**	**+0.3**
HCY	**Herceg Novi**	**2.20**	**305**	⇓*i*	Pn	**Pb**	**09 16 05.4**	**-1.8**
HCY				*i*	Sn	**Sg**	**09 16 35.8**	**-1.7**
PLE	**Pljevlja**	**2.41**	**332**	⇓*i*	Pn	**Pb**	**09 16 08.8**	**-2.0**
PLE				*i*	Sn	**Sb**	**09 16 41.1**	**+0.2**
AGG	**Agios Georgios**	**2.44**	**153**	P		**Pn**	**09 16 07.9**	**+0.5**
TREB	**Trebinje**	**2.44**	**309**	*e*	Pn	**Pb**	**09 16 08.9**	**-2.5**
BRY	**Bratogost**	**2.45**	**314**	⇑*i*	Pn	**Pb**	**09 16 09.2**	**-2.4**
BRY				*i*	Sn	**Sb**	**09 16 41.5**	**-0.8**
BOVS	**Bovan**	**2.49**	**13**	*e*	Pn	**Pb**	**09 16 09.4**	**+1.2**
UPM	**Unac-Piva**	**2.50**	**324**	*e*	Pn	**Pb**	**09 16 10.5**	**-1.9**
UPM				*i*	Sn	**Sb**	**09 16 43.2**	**-0.3**
XOR	**Xorichti**	**2.53**	**136**	P		**Pn**	**09 16 08.7**	**-0.1**
DBRK	**Dubrovnik**	**2.54**	**306**	*e*	Pn	**Pn**	**09 16 09.9**	**+1.1**
GRUS	**Gruza**	**2.68**	**357**	*e*	Pn	**Pb**	**09 16 12.6**	**-2.8**
ANX	**Ano Chora**	**2.72**	**163**	P		**Pn**	**09 16 13.3**	**+1.8**
ZAGS	**Zajecar**	**2.77**	**20**	*e*	Pn	**Pn**	**09 16 13.7**	**+1.6**
BBLS	**Lazići**	**2.88**	**338**	*e*	Pn	**Pb**	**09 16 16.7**	**-2.2**
STON	**Ston**	**2.92**	**306**	*e*	Pn	**Pn**	**09 16 15.7**	**+1.6**
STON					Sn	**Sb**	**09 16 53.3**	**-2.2**
DIVS	**Divibare**	**2.97**	**347**	*e*	Pn	**Pn**	**09 16 16.2**	**+1.4**
TRUS	**Trudelj**	**3.04**	**353**	*e*	Pn	**Pn**	**09 16 17.1**	**+1.4**
MAKA	**Makarska**	**3.57**	**307**	*e*	Pn	**Pn**	**09 16 24.0**	**+1.0**
RICI	**Ricice**	**3.62**	**310**	*e*	Pn	**Pn**	**09 16 25.8**	**+2.1**
HVAR	**Hvar**	**3.87**	**302**	*e*	Pn	**Pn**	**09 16 27.7**	**+0.6**
KIJV	**Kijevo**	**4.35**	**311**	*e*	Pn	**Pn**	**09 16 35.7**	**+1.9**
KIJV					Sn	**Sn**	**09 17 26.9**	**+1.9**
ZIRJ	**Zirje**	**4.61**	**304**	*i*	Pn	**Pn**	**09 16 38.4**	**+1.0**
ZIRJ					Sn	**Sn**	**09 17 32.2**	**+1.0**
DUGI	**Dugi Otok**	**5.15**	**305**	*e*	Pn	**Pn**	**09 16 46.1**	**+1.4**
DUGI					Sn	**Sn**	**09 17 45.6**	**+1.1**

IDC **24** *09:20:26.7±1.7,22.93S×179.19E,h539km±18km, mb3.4/13,mb1 3.6/15,mb1mx3.4/41,mbtmp4.4/15, Error ellipse: s-maj=16.2km s-min=15.4km az=1.0*
NEIC **24** *09:20:27.3±2.4,23.0S±0.1×179.3E±0.1,h557km±7km, mb4.5/31, Error ellipse: s-maj=19.7km s-min=15.2km az=127.0*

ISC 24 09:20:29.6±0.6,**23°.02S**±0°.08×**179°.16E**±0°.09,**h579**km,**n71,** σ1°.71/74,**mb4.4**/29,**1C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.37**	**349**	P		P	**09 22 02.3**	**-2.1**
RAO	**Raoul Island**	**6.74**	**158**	P		**P**	**09 22 13.1**	**-3.0**
NIUE	**Niue**	**10.92**	**71**	P		P	09 22 52.1	-5.1
AFI	**Afiamalu**	**12.49**	**45**	P		P	09 23 07.8	-5.6
	4.7nm,0.3s,baz=227,slow=1.2,SNR=4.2							
AFI	**Afiamalu**	**12.49**	**45**	P		P	09 23 08.1	-5.3
OUZ	**Omahuta**	**13.09**	**201**	P		**P**	**09 23 20.6**	**+1.4**
HAZ	**Te Kaha**	**14.73**	**184**	P		**P**	**09 23 34.2**	**-1.4**
TOZ	**Tahuroa Road**	**14.99**	**191**	P		**P**	**09 23 40.4**	**+2.3**
PUZ	**Puketiti**	**15.02**	**183**	P		**P**	**09 23 39.0**	**+0.7**
URZ	**Urewera**	**15.29**	**186**	P		**P**	**09 23 38.1**	**-2.8**
	2.7nm,0.3s,baz=317,slow=3.2,SNR=16							
URZ				S		**S**	**09 26 11.7**	**-5.7**
	0.5nm,0.3s,baz=222,slow=22,SNR=11							
URZ	**Urewera**	**15.29**	**186**	P		**P**	**09 23 38.7**	**-2.2**
URZ	**Urewera**	**15.29**	**186**	P		**P**	**09 23 38.2**	**-2.7**
MWZ	**Matawai**	**15.33**	**185**	P		**P**	**09 23 39.2**	**-2.1**
MUGZ	**Murupara**	**15.54**	**187**	P		**P**	**09 23 41.2**	**-2.1**
BKZ	**Black Stump Fm**	**16.25**	**187**	P		**P**	**09 23 48.0**	**-2.1**
VRZ	**Vera Road**	**16.48**	**192**	P		**P**	**09 23 54.4**	**+2.3**
WNVZ	**Wahianoa**	**16.54**	**190**	P		**P**	**09 23 51.7**	**-1.1**
BHHZ	**Black Hill Sta**	**16.63**	**188**	P		**P**	**09 23 51.3**	**-2.1**
TSZ	**Takapari Road**	**17.20**	**188**	P		**P**	**09 23 57.1**	**-1.5**
QRZ	**Quartz Range**	**18.61**	**196**	P		**P**	**09 24 12.4**	**+1.0**
TUWZ	**Tuamarina**	**18.87**	**192**	P		**P**	**09 24 13.3**	**-0.4**
THZ	**Tophouse**	**19.41**	**194**	P		**P**	**09 24 19.0**	**+0.3**
THZ				IAmb		IAmb	09 24 20.9	
	comp=Z,17nm,1.0s							
LTZ	**Lake Taylor**	**20.52**	**195**	P		**P**	**09 24 27.8**	**-1.0**
LTZ				IAmb		IAmb	09 24 33.5	
	comp=Z,16nm,1.0s							
OXZ	**Oxford**	**21.09**	**195**	P		**P**	**09 24 32.5**	**-1.4**
OXZ				IAmb		IAmb	09 24 38.9	
	comp=Z,15nm,0.7s							
RPZ	**Rata Peaks**	**21.70**	**196**	P		**P**	**09 24 38.4**	**-0.9**
	comp=Z,5.2nm,0.6s,baz=335,slow=3.7,SNR=7.5							
RPZ	**Rata Peaks**	**21.70**	**196**	P		**P**	**09 24 38.8**	**-0.5**
RPZ				IAmb		IAmb	09 24 40.1	
	comp=Z,25nm,1.5s							
MLZ	**Mavora Lakes**	**24.04**	**199**	P		**P**	**09 25 00.9**	**+0.7**
WHZ	**Wether Hill Ro**	**24.57**	**199**	P		**P**	**09 25 04.6**	**-0.2**
WHZ				IAmb		IAmb	09 25 06.4	
	comp=Z,19nm,0.8s							
ARMA	**Armidale**	**25.63**	**247**	P		**P**	**09 25 16.2**	**+1.7**
ARMA				IAmb		IAmb	09 25 17.0	
	comp=Z,15nm,0.9s							
EIDS	**Eidsvold**	**25.70**	**259**	P		**P**	**09 25 16.3**	**+1.3**
EIDS				IAmb		IAmb	09 25 18.3	
	comp=Z,19nm,1.2s							
CAN	**Canberra**	**28.93**	**238**	P		**P**	**09 25 44.7**	**+1.5**
CAN				IAmb		IAmb	09 25 45.5	
	comp=Z,21nm,1.0s							
CTA	**Charters Tower**	**30.71**	**269**	P		**P**	**09 25 58.9**	**+0.3**
	comp=Z,12nm,0.4s,baz=95,slow=11,SNR=35							
CTAO	**Charters Tower**	**30.71**	**269**	P		**P**	**09 25 59.7**	**+1.1**
KRVT	**Keravat (AS076**	**32.16**	**301**	P		**P**	**09 26 09.5**	**-1.5**
	comp=Z,15nm,0.5s,baz=254,slow=3.2,SNR=4.4							
TOO	**Toolangi**	**32.29**	**236**	P		**P**	**09 26 13.4**	**+1.5**
TOO				IAmb		IAmb	09 26 14.6	
	comp=Z,15nm,1.1s							
TAU	**Tasmania Unive**	**32.98**	**225**	P		**P**	**09 26 18.7**	**+1.1**
STKA	**Stephens Creek**	**34.35**	**247**	P		**P**	**09 26 30.2**	**+1.0**
	comp=Z,5.4nm,0.5s,baz=95,slow=11,SNR=23							
STKA	**Stephens Creek**	**34.35**	**247**	P		**P**	**09 26 30.3**	**+1.0**
BBOO	**Buckleboo**	**39.09**	**246**	P		**P**	**09 27 08.3**	**+0.2**
BBOO				IAmb		IAmb	09 27 08.7	
	comp=Z,9.2nm,0.8s							
AS31	**Alice Springs**	**41.42**	**260**	P		**P**	**09 27 27.2**	**+0.4**
ASAR	**Alice Springs**	**41.42**	**260**	P		**P**	**09 27 27.0**	**+0.2**
	comp=Z,11nm,0.8s,baz=94,slow=7.1,SNR=81							
ASAR				PcP		**PcP**	**09 29 11.1**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=108,slow=4.3,SNR=4.8							
ASAR				ScP		**ScP**	**09 32 09.3**	**+3.0**
	comp=Z,0.6nm,0.7s,baz=107,slow=4.4,SNR=9.0							
ASAR				S		**S**	**09 32 59.3**	**-1.8**
	comp=Z,0.5nm,0.9s,baz=110,slow=13,SNR=4.6							
WR0	**Warramunga Arr**	**41.52**	**265**	P		**P**	**09 27 26.9**	**-0.6**
WB0	**Warramunga Arr**	**41.69**	**266**	P		**P**	**09 27 28.5**	**-0.4**
WB0				IAmb		IAmb	09 27 29.3	
	comp=Z,6.0nm,0.6s							
WB2	**Warramunga Arr**	**41.69**	**265**	P		**P**	**09 27 28.5**	**-0.5**
WB2				IAmb		IAmb	09 27 29.5	
	comp=Z,19nm,1.2s							
WRAB	**Tennant Creek**	**41.70**	**265**	P		**P**	**09 27 28.5**	**-0.5**
WRAB				IAmb		IAmb	09 27 29.5	
	comp=Z,18nm,1.2s							
WRA	**Warramunga Arr**	**41.70**	**265**	P		**P**	**09 27 28.7**	**-0.3**
	comp=Z,3.2nm,0.2s,baz=96,slow=8.4,SNR=194							
WRA				PcP		**PcP**	**09 29 12.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=105,slow=6.3,SNR=1.6							
WRA				ScP		**ScP**	**09 32 11.2**	**+3.8**
	comp=Z,0.7nm,0.7s,baz=97,slow=3.3,SNR=5.5							
FORT	**Forrest**	**45.90**	**249**	P		**P**	**09 28 01.0**	**-0.3**
KNRA	**Kununurra**	**47.92**	**269**	P		**P**	**09 28 16.6**	**-0.1**
KNRA				IAmb		IAmb	09 28 20.9	
	comp=Z,9.0nm,0.9s							
FITZ	**Fitzroy Crossi**	**50.13**	**265**	P		**P**	**09 28 32.2**	**-0.7**
	comp=Z,2.4nm,0.5s,baz=88,slow=6.1,SNR=16							
FITZ	**Fitzroy Crossi**	**50.13**	**265**	P		**P**	**09 28 33.2**	**+0.3**
NWAO	**Narrogin (SRO)**	**54.90**	**245**	P		**P**	**09 29 06.9**	**+0.2**
NWAO				IAmb		IAmb	09 29 07.8	
	comp=Z,17nm,1.2s							
NWAO	**Narrogin (SRO)**	**54.90**	**245**	P		**P**	**09 29 07.1**	**+0.4**
NWAO				IAmb		IAmb	09 29 07.8	
	comp=Z,14nm,1.2s							
VNDA	**Vanda**	**55.19**	**185**	P		**P**	**09 29 09.4**	**+1.6**
	comp=Z,0.8nm,1.1s,baz=21,slow=5.8,SNR=4.0							
MORW	**Morawa**	**56.46**	**250**	P		**P**	**09 29 17.5**	**0.0**
GIRL	**Giralia**	**59.37**	**257**	P		**P**	**09 29 39.0**	**+1.8**
CASY	**Casey**	**60.56**	**206**	P		**P**	**09 29 44.4**	**0.0**
QSPA	**South Pole Qui**	**67.06**	**180**	P		**P**	**09 30 27.7**	**+1.9**
QSPA				IAmb		IAmb	09 30 28.4	
	comp=Z,7.4nm,0.8s							
PETK	**Petropavlovsk-**	**78.07**	**347**	P		**P**	**09 31 29.4**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=97,slow=9.8,SNR=5.0							
MAW	**Mawson**	**78.30**	**201**	P		**P**	**09 31 30.9**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=149,slow=5.8,SNR=7.4							
MAW	**Mawson**	**78.30**	**201**	P		**P**	**09 31 31.0**	**+1.0**
NJ2	**Nanjing**	**79.51**	**311**	*e*	P	**P**	**09 31 35.5**	**-1.5**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
NVAR	**Mina Array Bea**	**84.66**	**44**	P		**P**	**09 32 04.5**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=224,slow=7.6,SNR=2.6							
HHC	**Hu-ho-hao-te**	**89.26**	**315**	*e*	P	**P**	**09 32 21.3**	**-3.4**
HHC				pmax		pmax		
	comp=Z,19nm,0.8s							
HHC				pmax		pmax		
	comp=Z,120nm,6.9s							
PLCA	**Paso Flores**	**89.42**	**135**	P		**P**	**09 32 27.4**	**+1.8**
	comp=Z,3.1nm,1.1s,baz=230,slow=7.9,SNR=2.1							
TXAR	**Lajitas Array**	**90.62**	**58**	P		**P**	**09 32 32.8**	**+1.4**
	comp=Z,0.1nm,0.6s,baz=216,slow=4.5,SNR=2.3							
LZH	**Lanzhou**	**92.23**	**308**	⇑P		**P**	**09 32 35.0**	**-3.6**
LZH				pP		pP	09 34 40.3	-3.2
LZH				sP		sP	09 35 38.8	-1.9
LZH				PP		**PP**	**09 36 30.3**	**+0.5**
LZH				pmax		pmax		
	comp=Z,21nm,1.4s							
LZH				pmax		pmax		
	comp=Z,67nm,6.2s							
ARCES	**ARCESS Array B**	**130.87**	**348**	PKP		**PKPdf**	**09 38 35.5**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=84,slow=2.8,SNR=4.7							
AKASG	**Malin Array Be**	**143.82**	**327**	PKP		PKPbc	09 38 57.7	-0.8
	comp=Z,1.0nm,0.4s,baz=46,slow=3.9,SNR=6.0							
BRTR	**Keskin Array B**	**146.44**	**308**	PKPbc		**PKPbc**	**09 39 06.9**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=46,slow=4.2,SNR=2.9							
BUR08	**Bucovina Ar. S**	**147.81**	**326**			**PKPdf**	**09 39 04.7**	**-1.6**
ELL	**Elmali**	**150.18**	**304**			**PKPdf**	**09 39 12.7**	**+2.3**

TAP **24** *09:31:51.0,24.77N,122.39E,h109km,ML3.5,C*
JMA **24** *09:31:51.0±0.2,24.75N×122.36E,h106km±2km,M2.5*

ISC 24 09:31:52.1±1.4,**24°.73N**±0°.04×**122°.40E**±0°.02,**h100**km±8km, **n94,**σ0°.77/168,**3C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.47**	**306**	*i*	P	**Pn**	**09 32 07.5**	**-0.2**
	baz=295							
TWB1					S	**Sn**	**09 32 19.8**	**+0.5**
	baz=295							
TWC	**Suao**	**0.52**	**257**	⇑*i*	P	**Pn**	**09 32 07.8**	**-0.2**
	baz=248							
TWC				*i*	S	**Sn**	**09 32 19.7**	**-0.2**
	baz=248							
NTC	**Toucheng**	**0.54**	**284**	*e*	P	**Pn**	**09 32 07.9**	**-0.2**
	baz=274							
NTC				*e*	S	**Sn**	**09 32 20.1**	**0.0**
	baz=274							
JYNG	**Yonagunijimaku**	**0.57**	**119**	P		**Pn**	**09 32 08.6**	**+0.2**
JYNG				S		**Sn**	**09 32 21.2**	**+0.6**
TIPB	**Shuangxi**	**0.58**	**295**	*i*	P	**Pn**	**09 32 08.4**	**-0.1**
	baz=288							
TIPB				S		**Sn**	**09 32 20.7**	**-0.1**
	baz=288							
ILA	**Ilan**	**0.60**	**274**	S		**Sn**	**09 32 21.3**	**+0.3**
	baz=264							
ENAH	**Nanao**	**0.61**	**243**	*i*	P	**Pn**	**09 32 09.1**	**+0.4**
	baz=239							
ENAH				S		**Sn**	**09 32 22.3**	**+1.2**
	baz=239							
YOJ	**Yonaguni jima**	**0.61**	**116**	P		**Pn**	**09 32 08.9**	**+0.2**
	baz=125							
YOJ				S		**Sn**	**09 32 21.9**	**+0.6**
	baz=125							
YOJ	**Yonaguni jima**	**0.61**	**116**	P		**Pn**	**09 32 09.0**	**+0.2**
YOJ				S		**Sn**	**09 32 21.8**	**+0.5**
NWF	**Wu-fen Shan**	**0.66**	**301**	*i*	P	**Pn**	**09 32 09.0**	**-0.3**
	baz=290							
NWF				*i*	S	**Sn**	**09 32 22.2**	**+0.1**
	baz=290							
WFSB	**Wu-fen Shan**	**0.66**	**301**	P		**Pn**	**09 32 09.2**	**0.0**
	baz=290							
WFSB				S		**Sn**	**09 32 22.2**	**+0.2**
	baz=290							
TWE	**Neicheng**	**0.67**	**269**	⇑*i*	P	**Pn**	**09 32 09.2**	**0.0**
	baz=269							
TWE				*i*	S	**Sn**	**09 32 22.0**	**-0.1**
	baz=269							
ENA	**Nanau**	**0.67**	**244**	*i*	P	**Pn**	**09 32 09.4**	**+0.1**
	baz=240							
ENA				*i*	S	**Sn**	**09 32 22.6**	**+0.4**
	baz=240							
ENTT	**Nioudou**	**0.77**	**263**	*i*	P	**Pn**	**09 32 10.5**	**+0.3**
	baz=261							
ENTT				S		**Sn**	**09 32 24.9**	**+1.2**
	baz=261							
TWA	**Mucha**	**0.78**	**289**	P		**Pn**	**09 32 09.7**	**-0.6**
	baz=285							
TWA				*i*	S	**Sn**	**09 32 23.4**	**-0.6**
	baz=285							
NDT	**Datong Townshi**	**0.82**	**261**	*i*	P	**Pn**	**09 32 11.2**	**+0.6**
	baz=259							
NDT				S		**Sn**	**09 32 25.6**	**+0.9**
	baz=259							
NWLT	**Wulai**	**0.82**	**273**	P		**Pn**	**09 32 10.3**	**-0.4**
	baz=275							
NWLT				*e*	S	**Sn**	**09 32 24.8**	**+0.1**
	baz=275							
YM01	**

IRIF	**Iriomote-Funau**	**1.27 108**	P		**Pn**	**09 32 15.4**	**-0.2**
IRIF			S		**Sn**	**09 32 33.5**	**+0.1**
NSTT	**Nanjuang**	**1.28 266**	*i* P		**Pn**	**09 32 15.6**	**-0.1**
	baz=263						
NSTT			*i* S		**Sn**	**09 32 33.2**	**-0.3**
	baz=263						
SBCB	**Hsinchu**	**1.29 273**	P		**Pn**	**09 32 15.9**	**+0.1**
	baz=270						
SBCB			*eS*		**Sn**	**09 32 33.9**	**+0.1**
	baz=270						
CHGB	**Renai**	**1.30 239**	P		**Pn**	**09 32 16.5**	**+0.3**
	baz=231						
CHGB			S		**Sn**	**09 32 34.1**	**-0.4**
	baz=231						
HSN	**Hsinchu**	**1.30 273**	*eP*		**Pn**	**09 32 15.6**	**-0.4**
	baz=263						
HSN			S		**Sn**	**09 32 33.0**	**-1.1**
	baz=263						
OWD	**Renai**	**1.36 236**	*eS*		**Sn**	**09 32 36.0**	**+0.5**
	baz=229						
EGFH	**Guangfu**	**1.38 220**	P		**Pn**	**09 32 17.5**	**+0.6**
	baz=227						
EGFH			S		**Sn**	**09 32 34.3**	**-1.4**
	baz=227						
WHP	**Taichung City**	**1.40 252**	*i* P		**Pn**	**09 32 17.5**	**+0.3**
	baz=257						
WHP			*i* S		**Sn**	**09 32 36.5**	**+0.2**
	baz=257						
HATJ	**Hateruma jima**	**1.44 117**	P		**Pn**	**09 32 17.6**	**-0.1**
HATJ			*eS*		**Sn**	**09 32 37.3**	**+0.2**
NMLH	**Miaoli**	**1.48 263**	*eS*		**Sn**	**09 32 37.6**	**-0.3**
	baz=260						
VWDT	**VWDT**	**1.51 230**	P		**Pn**	**09 32 19.0**	**+0.6**
	baz=223						
VWDT			S		**Sn**	**09 32 38.4**	**0.0**
	baz=223						
HGSD	**Ruisui**	**1.52 216**	P		**Pn**	**09 32 17.8**	**-0.9**
	baz=209						
HGSD			S		**Sn**	**09 32 38.7**	**-0.1**
	baz=209						
NSY	**Sanyi**	**1.53 259**	P		**Pn**	**09 32 18.6**	**-0.1**
	baz=256						
NSY			S		**Sn**	**09 32 39.2**	**+0.3**
	baz=256						
TWQ1	**Liyutan**	**1.53 256**	P		**Pn**	**09 32 19.4**	**+0.6**
	baz=253						
TWQ1			S		**Sn**	**09 32 39.0**	**0.0**
	baz=253						
JKRS	**Kuro-shima**	**1.54 108**	P		**Pn**	**09 32 19.1**	**+0.2**
JKRS			S		**Sn**	**09 32 39.9**	**+0.7**
EHY	**Hungye**	**1.57 219**	*eP*		**Pn**	**09 32 18.1**	**-1.2**
	baz=225						
EHY			*i* S		**Sn**	**09 32 37.9**	**-2.0**
	baz=225						
PTSB	**Yuanli**	**1.57 260**	*eS*		**Sn**	**09 32 39.8**	**-0.1**
	baz=258						
SMLT	**Sun Moon Lake**	**1.61 239**	P		**Pn**	**09 32 20.2**	**+0.4**
	baz=233						
SMLT			S		**Sn**	**09 32 43.3**	**+2.4**
	baz=233						
SSLB	**Suanglung**	**1.62 235**	P		**Pn**	**09 32 20.9**	**+0.9**
	baz=229						
SSLB			S		**Sn**	**09 32 42.7**	**+1.7**
	baz=229						
JIJ	**Ishigaki jima**	**1.63 103**	P		**Pn**	**09 32 19.5**	**-0.4**
JIJ			S		**Sn**	**09 32 40.9**	**-0.2**
TYC	**Yuchr**	**1.63 240**	P		**Pn**	**09 32 20.9**	**+0.9**
	baz=235						
TYC			S		**Sn**	**09 32 41.9**	**+0.7**
	baz=235						
WDJ	**Dajia District**	**1.65 257**	*eS*		**Sn**	**09 32 41.9**	**+0.3**
	baz=255						
YULB	**Yu-li**	**1.67 217**	P		**Pn**	**09 32 19.4**	**-1.1**
	baz=223						
YULB			S		**Sn**	**09 32 41.1**	**-1.0**
	baz=223						
EYUL	**Yuli**	**1.70 216**	*eP*		**Pn**	**09 32 21.4**	**+0.6**
	baz=222						
EYUL			*eS*		**Sn**	**09 32 43.2**	**+0.6**
	baz=222						
TWF1	**Yuli**	**1.70 217**	P		**Pn**	**09 32 19.4**	**-1.5**
	baz=222						
TWF1			S		**Sn**	**09 32 41.1**	**-1.8**
	baz=222						
JISG	**Ishigakijimahi**	**1.74 94**	S		**Sn**	**09 32 43.1**	**-0.6**
WHYT	**Xinyi Township**	**1.75 234**	P		**Pn**	**09 32 22.7**	**+1.1**
	baz=227						
WHYT			S		**Sn**	**09 32 46.0**	**+2.0**
	baz=227						
WJS	**Zhushan**	**1.77 240**	*eP*		**Pn**	**09 32 23.0**	**+1.1**
	baz=246						
WJS			*eS*		**Sn**	**09 32 46.5**	**+2.1**
	baz=246						
WNT	**Mingjian**	**1.78 242**	P		**Pn**	**09 32 22.7**	**+0.8**
	baz=240						
WNT			S		**Sn**	**09 32 45.4**	**+0.8**
	baz=240						
WCHH	**Zhanghua**	**1.80 249**	*eS*		**Sn**	**09 32 44.4**	**-0.7**
	baz=247						
FULB	**Fuli**	**1.83 214**	*eP*		**Pn**	**09 32 22.9**	**+0.4**
	baz=221						
FULB			S		**Sn**	**09 32 46.5**	**+0.8**
	baz=221						
CHKT	**Chengkung**	**1.88 211**	*eS*		**Sn**	**09 32 44.4**	**-2.5**
	baz=204						
ALS	**Alishan**	**1.90 231**	P		**Pn**	**09 32 24.3**	**+0.6**
	baz=223						
ALS			*eS*		**Sn**	**09 32 48.1**	**+0.4**
	baz=223						
CHN5	**Tsauling**	**1.94 235**	P		**Pn**	**09 32 24.3**	**+0.3**
	baz=242						
CHN5			S		**Sn**	**09 32 49.2**	**+1.0**
	baz=242						
WGK	**Gukeng**	**1.98 239**	*eS*		**Sn**	**09 32 50.6**	**+1.6**
	baz=237						
ELDTW	**Lidau**	**1.99 220**	P		**Pn**	**09 32 23.8**	**-0.9**
	baz=213						
ELDTW			S		**Sn**	**09 32 47.9**	**-1.7**
	baz=213						
EDH	**Donghe**	**2.02 210**	*eP*		**Pn**	**09 32 24.3**	**-0.6**
	baz=205						
EDH			*eS*		**Sn**	**09 32 47.9**	**-2.1**
	baz=205						
JTJ	**Tarama**	**2.09 92**	P		**Pn**	**09 32 26.2**	**+0.3**
JTJ			S		**Sn**	**09 32 52.1**	**+0.4**
TPUB	**Ta-pu**	**2.16 229**	P		**Pn**	**09 32 27.2**	**+0.5**
	baz=238						
TPUB			*eS*		**Sn**	**09 32 53.6**	**+0.3**
	baz=238						
CHY	**Chiayi**	**2.18 236**	*eS*		**Sn**	**09 32 54.4**	**+0.5**
	baz=243						
WTP	**Ta-pu**	**2.20 228**	*eP*		**Pn**	**09 32 27.3**	**-0.1**
	baz=238						
WTP			*eS*		**Sn**	**09 32 55.5**	**+1.1**
	baz=238						
LDUT	**Ludao**	**2.22 203**	*eS*		**Sn**	**09 32 53.0**	**-1.6**
	baz=202						
TWG	**Pinlang**	**2.26 213**	S		**Sn**	**09 32 53.8**	**-1.8**
	baz=211						
TWK	**Hsinying**	**2.28 231**	*eP*		**Pn**	**09 32 28.1**	**-0.3**
	baz=238						
TWK			S		**Sn**	**09 32 56.5**	**+0.4**
	baz=238						
CHN1	**Nanshi**	**2.30 228**	*eP*		**Pn**	**09 32 28.9**	**+0.2**
	baz=227						
CHN1			*eS*		**Sn**	**09 32 57.1**	**+0.4**
	baz=227						
SLGT	**Liugui**	**2.36 223**	*eP*		**Pn**	**09 32 30.3**	**+0.8**
	baz=229						
SLGT			*eS*		**Sn**	**09 32 58.7**	**+0.7**
	baz=229						
JIRB	**Irabujima**	**2.52 87**	P		**Pn**	**09 32 31.6**	**+0.1**
SSD	**Sandimen**	**2.56 220**	*eP*		**Pn**	**09 32 32.7**	**+0.7**
	baz=218						
JMJ2	**Miyako jima3**	**2.66 89**	P		**Pn**	**09 32 33.4**	**+0.1**
MASBT	**Mashibuluo**	**2.66 218**	*eP*		**Pn**	**09 32 33.5**	**+0.1**
	baz=216						
MASBT			*eS*		**Sn**	**09 33 05.2**	**+0.2**
	baz=216						

IDC 24 09:40:44.0±2.8, 7°.14S×129°.78E, h113^{km}±40^{km}, mb3.5/1, mb1 3.3/5, mb1mx3.1/45, mbtmp3.6/5, Error ellipse: s-maj=67.6km s-min=21.7km az=91.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.40**	**13**	P	Pn	09 42 16.2	+0.3
	0.6nm,0.3s,baz=229,slow=20,SNR=14						
SIJI				S	Sn	09 43 23.8	-3.9
	2.3nm,0.3s,baz=259,slow=23,SNR=2.1						
FITZ	**Fitzroy Crossi**	**11.62**	**200**	P	Pn	09 43 26.0	-0.5
	0.1nm,0.3s,baz=16,slow=11,SNR=15						
FITZ				S	Sn	09 45 26.2	-8.2
	0.2nm,0.3s,baz=13,slow=21,SNR=2.7						
WRA	**Warramunga Arr**	**13.48**	**161**	P	Pn	09 43 49.6	-1.2
	0.3nm,0.3s,baz=346,slow=13,SNR=21						
WRA				S	Sn	09 46 10.9	-8.5
	0.4nm,0.3s,baz=334,slow=22,SNR=7.1						
ASAR	**Alice Springs**	**16.91**	**167**	P	P	09 44 35.4	+1.4
	0.2nm,0.3s,baz=346,slow=10,SNR=17						
ASAR				S	Sn	09 47 35.1	-7.0
	0.1nm,0.3s,baz=319,slow=38,SNR=2.2						
MKAR	**Makanchi Array**	**68.22**	**327**	P	P	09 51 32.4	-0.1
	0.4nm,0.3s,baz=127,slow=7.9,SNR=2.4						

*IDC **24** 09:47:55.0±2.1, 13°.72N×92°.16W, h0^{km}, mb3.7/3, mb1 4.0/7, mb1mx3.5/38, mbtmp3.8/7, ML3.6/4, MS3.5/2, Ms1 3.5/2, ms1mx2.9/37, Error ellipse: s-maj=57.6km s-min=28.2km az=35.0*
*GCG **24** 09:47:57.7±0.6, 13°.61N×92°.09W, h56^{km}±999^{km}, MD4.1*
*MEX **24** 09:47:58.3±0.5, 13°.84N×91°.95W, h68^{km}±33^{km}, MD3.9*
*NEIC **24** 09:48:00.3±3.0, 13°.84N±0°.07×92°.09W±0°.07, h35^{km}±7^{km}, mb4.1/15, Md3.9/12(MEX), Error ellipse: s-maj=13.6km s-min=2.2km az=45.0*

ISC 24 09:48:02.4±1.0, 13°.92N±0°.09×92°.10W±0°.06, h54^{km}, n45, σ^{2}^{2}20/51, mb4.0/7, 1C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.72**	**33**		**Pn**	**09 48 13.8**	**-2.7**
THIG		**0.99**	**351**	*eP*	**Pn**	**09 48 16.5**	**-3.6**
THIG				*eS*	**Sn**	**09 48 31.4**	**-1.8**
THIG		**0.99**	**351**		**Pn**	**09 48 16.5**	**-3.6**
THIG					**Sn**	**09 48 31.4**	**-1.8**
FUG	**Fuego 3**	**1.32**	**67**	*eP*	**Pn**	**09 48 22.2**	**-2.5**
HUEH	**Huehuetenango**	**1.50**	**22**	Pn	**Pn**	**09 48 25.9**	**-1.3**
PCG	**Pacaya**	**1.52**	**72**	*eP*	**Pn**	**09 48 25.4**	**-2.1**
PCG				*eS*	**Sn**	**09 48 46.4**	**+0.1**
IXG	**Ixpaco**	**1.63**	**81**	*eP*	**Pn**	**09 48 25.5**	**-3.3**
NBG	**Las Nubes**	**1.82**	**68**	*eP*	**Pn**	**09 48 30.7**	**-0.9**
PCIG		**2.08**	**329**	*eP*	**Pn**	**09 48 31.7**	**-3.1**
PCIG				*eS*	**Sn**	**09 48 57.5**	**-2.1**
PCIG		**2.08**	**329**		**Pn**	**09 48 31.7**	**-3.1**
PCIG					**Sn**	**09 48 57.5**	**-2.1**
CCIG	**Comitan**	**2.35**	**359**	*eP*	**Pn**	**09 48 39.4**	**+0.7**
CCIG	**Comitan**	**2.35**	**359**	Pn	**Pn**	**09 48 39.0**	**+0.3**
MTO3	**Montecristo**	**2.70**	**80**	Pn	**Pn**	**09 48 40.0**	**-3.5**
ESQI	**Esquipulas**	**2.75**	**76**	Pn	**Pn**	**09 48 41.5**	**-2.5**
SNET	**Serv Nac Est T**	**2.79**	**94**	Pn	**Pn**	**09 48 41.5**	**-3.2**
PETF	**Flores**	**3.67**	**36**	Pn	**Pn**	**09 48 56.4**	**-0.3**
CMIG	**Matias Romero**	**4.14**	**320**	Pn	**Pn**	**09 49 00.6**	**-2.5**
	1.1nm,0.3s,baz=146,slow=16,SNR=25						
CMIG				Sn	**Sn**	**09 49 50.9**	**+0.6**
	4.6nm,0.3s,baz=175,slow=12,SNR=3.6						
CMIG	**Matias Romero**	**4.14**	**320**	*eP*	**Pn**	**09 49 00.9**	**-2.2**
CMIG	**Matias Romero**	**4.14**	**320**		**Pn**	**09 49 00.9**	**-2.2**
TGUH	**Tegucigalpa,Un**	**4.68**	**88**	Pn	**Pn**	**09 49 11.0**	**+0.3**
ESTN	**Estel**	**5.63**	**98**	Pn	**Pn**	**09 49 20.0**	**-3.6**
MATN	**Matagalpa**	**6.08**	**99**	Pn	**Pn**	**09 49 26.0**	**-3.9**
BOAB	**BOACO BROADBAN**	**6.43**	**102**	Pn	**Pn**	**09 49 30.7**	**-3.8**
TEIG	**Tepich**	**7.26**	**30**	Pn	**Pn**	**09 49 45.7**	**-0.1**
	5.8nm,0.3s,baz=242,slow=1.6,SNR=30						
TEIG				Sn	**Sn**	**09 51 02.9**	**-3.9**
	baz=53,slow=15,SNR=0.8						
JTS	**Las Juntas de**	**7.86**	**117**	Pn	**Pn**	**09 49 51.6**	**-2.6**
	0.4nm,0.3s,baz=194,slow=20,SNR=9.0						
JTS				Sn	Sn	09 51 06.4	-15
	baz=234,slow=20,SNR=0.9						
JTS	**Las Juntas de**	**7.86**	**117**	Pn	**Pn**	**09 49 53.6**	**-0.6**
553A	**Crawfordville**	**17.67**	**22**	P	**P**	**09 52 07.2**	**+2.2**
TX32	**Lajitas Array**	**18.71**	**327**	P	**Pn**	**09 52 19.8**	**+2.3**
TXAR	**Lajitas Array**	**18.71**	**327**	P	**Pn**	**09 52 18.5**	**+1.0**
	0.0nm,0.3s,baz=142,slow=12,SNR=9.5						
TX31	**Lajitas Ar. Si**	**18.71**	**327**	P	**Pn**	**09 52 19.2**	**+1.7**
TX31				IAmb	IAmb	09 52 22.0	
	comp=Z,14nm,1.4s						
GOGA	**Godfrey**	**20.93**	**21**	P	**P**	**09 52 40.2**	**-0.4**
FPAL	**Fort Paine**	**21.35**	**15**	P	**P**	**09 52 45.5**	**+0.4**
FPAL				IAmb	IAmb	09 52 57.5	
	comp=Z,8.2nm,1.4s						
MNTX	**Cornudas Mount**	**21.48**	**328**	P	**P**	**09 52 47.9**	**+1.3**
SWET	**Sewanee**	**21.92**	**14**	P	**P**	**09 52 51.5**	**+0.2**
SWET				IAmb	IAmb	09 52 53.6	
	comp=Z,4.4nm,0.9s						
CPCT	**Cooper Cave**	**22.50**	**16**	P	**P**	**09 52 57.8**	**+0.4**
CPCT				IAmb	IAmb	09 53 04.3	
	comp=Z,8.7nm,1.2s						
TKL	**Tuckaleechee C**	**22.90**	**18**	LR	LR	10 02 37.2	
	comp=Z,133nm,21.3s,baz=205,slow=38						
V55A	**Taylorsville**	**23.93**	**22**	P	**P**	**09 53 10.8**	**-0.6**
V55A				IAmb	IAmb	09 53 16.4	
	comp=Z,17nm,1.4s						
BNM	**Barren Site**	**24.06**	**329**	P	**P**	**09 53 14.6**	**+1.7**
SNOW	**Snow King Moun**	**33.52**	**335**	P	**P**	**09 54 37.6**	**+0.5**
NVAR	**Mina Array Bea**	**33.67**	**321**	P	**P**	**09 54 40.7**	**+2.3**
	comp=Z,0.6nm,0.7s,baz=141,slow=8.8,SNR=5.9						
NVAR				LR	LR	10 10 34.8	
	comp=Z,61nm,19.1s,baz=100,slow=40						
J08A	**Circle Bar Ran**	**37.06**	**327**	P	**P**	**09 55 09.3**	**+1.9**
INK	**Inuvik**	**60.49**	**344**	P	**P**	**09 58 06.5**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=127,slow=4.0,SNR=5.9						
INK	**Inuvik**	**60.49**	**344**	P	**P**	**09 58 06.0**	**-0.3**
INK				IAmb	IAmb	09 58 07.7	
	comp=Z,2.7nm,0.9s						
ILAR	**Eielson Array**	**62.88**	**337**	P	**P**	**09 58 22.7**	**+0.2**
	comp=Z,1.4nm,1.1s,baz=123,slow=3.3,SNR=8.3						
CMAR	**Chiang Mai Arr**	**146.04**	**341**	PKPbc	**PKPbc**	**10 07 37.1**	**0.0**
	comp=Z,1.8nm,0.8s,baz=336,slow=4.0,SNR=8.0						

*NEIC **24** 09:59:14.6±0.8, 21°.17N±0°.08×155°.45W±0°.10, h15^{km}±7^{km}, ML3.5/25(HVO), Error ellipse: s-maj=15.7km s-min=7.7km az=53.0*

HVO 24 09:59:19.7±0.5, 21°.05N±0°.06×155°.62W±0°.05, h7^{km}±4^{km}, Error ellipse: s-maj=9.1km s-min=6.7km az=199.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HLK	**Haleakala**	**0.66**	**244**		Pg	09 59 31.5	-0.9
KHLH	**Kahului Airpor**	**0.77**	**259**		Pg	09 59 33.1	-1.4
HPAH	**Hawaii Prepara**	**1.02**	**184**		Pg	09 59 35.8	-3.4
POHA	**Pohakuloa**	**1.29**	**176**		Pn	09 59 39.9	-4.5
POHA				Sn	Sg	09 59 54.5	-6.7
HUH	**Hualalai**	**1.37**	**189**		Pn	09 59 41.7	-3.9
HMH	**Humu'ula Sheep**	**1.45**	**175**		Pn	09 59 42.2	-4.3
HMH				Sn	Sb	09 59 59.1	-6.8
KHLU	**Kahalu`u**	**1.47**	**190**	Pn	Pn	09 59 42.3	-4.5
MLOA	**Mauna Loa Obse**	**1.51**	**178**		Pn	09 59 43.5	-4.0
MWH	**Moku'aweowe**	**1.56**	**179**	Pn	Pn	09 59 43.6	-4.7
MLH	**Mauna Loa**	**1.56**	**172**	Pn	Pn	09 59 43.6	-4.6
UWB	**Uwekahuna B**	**1.65**	**169**	Pn	Pn	09 59 44.2	-5.0
UWE	**Uwekahuna**	**1.65**	**169**	Pn	Pn	09 59 44.2	-5.0
OBL	**Observatory Le**	**1.65**	**169**	Pn	Pn	09 59 44.3	-5.0
WRMHI	**West Rim**	**1.66**	**170**	Pn	Pn	09 59 44.7	-4.7
AIN	**Ainahou**	**1.68**	**175**	Pn	Pn	09 59 45.3	-4.4
SDHHI	**Sand Hill**	**1.68**	**169**	Pn	Pn	09 59 44.5	-5.2
PUH	**Pauahi**	**1.71**	**167**	Pn	Pn	09 59 45.3	-4.7
STCH	**Steam Cracks**	**1.72**	**164**	Pn	Pn	09 59 45.6	-4.6
JCUZ	**Jacuzzi**	**1.73**	**164**	Pn	Pn	09 59 45.4	-4.8
HLP	**Hilina Pali**	**1.77**	**170**	Pn	Pn	09 59 46.1	-4.7
KHU	**Kahuku**	**1.79**	**180**	Pn	Pn	09 59 46.8	-4.6
HON	**Honolulu**	**2.24**	**277**	Pn	Pn	09 59 52.8	-4.4
KIP	**Kipapa**	**2.27**	**280**	Pn	Pn	09 59 52.9	-4.7
OPA	**Opana**	**2.32**	**286**	Pn	Pn	09 59 53.5	-4.8
KEKH	**Kekaha**	**3.92**	**284**	Pn	Pn	10 00 16.0	-4.4

*IDC **24** 10:06:29.6±1.4, 7°.22S×124°.74E, h539^{km}±26^{km}, mb2.9/3, mb1 3.3/7, mb1mx2.8/37, mbtmp4.1/7, Error ellipse: s-maj=68.7km s-min=19.2km az=65.0*
*NEIC **24** 10:06:29.5±1.8, 7°.3S±0°.1×124°.8E±0°.2, h540^{km}±10^{km}, mb4.2/10, Error ellipse: s-maj=26.9km s-min=16.1km az=103.0*

ISC 24 10:06:29.8±1.0, 7°.2S±0°.1×124°.8E±0°.1, h543^{km}, n21, σ1^{9}09/22, mb3.7/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.56**	**193**	P	**P**	**10 07 41.2**	**-0.7**
BATI	**Baumata**	**3.17**	**202**	P	**P**	**10 07 45.6**	**+0.2**
	30nm,0.3s,baz=46,slow=2.4,SNR=16						
BATI				S	**S**	**10 08 46.0**	**-0.9**
	2.4nm,0.3s,baz=154,slow=17,SNR=1.2						
MTN	**Manton Dam**	**8.32**	**132**	P	**P**	**10 08 30.5**	**-0.1**
KNRA	**Kununurra**	**9.22**	**156**	P	**P**	**10 08 40.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**10.82**	**176**	P	**P**	**10 08 56.2**	**+0.1**
	0.8nm,0.3s,baz=355,slow=7.2,SNR=90						
FITZ	**Fitzroy Crossi**	**10.82**	**176**	P	**P**	**10 08 56.4**	**+0.3**
WB0	**Warramunga Arr**	**15.52**	**144**	P	**P**	**10 09 43.6**	**-1.2**
WB0				IAmb	IAmb	10 09 44.4	
	comp=Z,4.8nm,0.7s						
WRAB	**Tennant Creek**	**15.63**	**145**	P	**P**	**10 09 42.4**	**-3.6**
WRAB				IAmb	IAmb	10 09 45.3	
	comp=Z,4.0nm,0.6s						
WRA	**Warramunga Arr**	**15.63**	**145**	P	**P**	**10 09 44.8**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=323,slow=11,SNR=97						
WB2	**Warramunga Arr**	**15.63**	**145**	P	**P**	**10 09 45.0**	**-1.0**
WB2				IAmb	IAmb	10 09 45.4	
	comp=Z,5.9nm,0.6s						
WR0	**Warramunga Arr**	**15.76**	**144**	P	**P**	**10 09 46.3**	**-1.0**
WR0				IAmb	IAmb	10 09 46.6	
	comp=Z,8.0nm,0.7s						
AS31	**Alice Springs**	**18.50**	**153**	P	**P**	**10 10 13.5**	**+0.7**
AS31				IAmb	IAmb	10 10 15.3	
	comp=Z,1.7nm,0.3s						
ASAR	**Alice Springs**	**18.50**	**153**	P	**P**	**10 10 13.4**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=329,slow=8.6,SNR=67						
COEN	**Coen**	**19.20**	**112**	P	**P**	**10 10 19.9**	**+0.7**
MORW	**Morawa**	**23.25**	**200**	P	**P**	**10 10 55.0**	**-0.3**
MORW				IAmb	IAmb	10 11 15.0	
	comp=Z,5.4nm,0.9s						
BBOO	**Buckleboo**	**27.49**	**159**	P	**P**	**10 11 33.4**	**+0.5**
STKA	**Stephens Creek**	**29.07**	**150**	P	**P**	**10 11 47.4**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=322,slow=9.6,SNR=11						
STKA	**Stephens Creek**	**29.07**	**150**	P	**P**	**10 11 47.5**	**+0.9**
CASY	**Casey**	**59.77**	**187**	P	**P**	**10 15 41.9**	**-0.4**
MKAR	**Makanchi Array**	**65.72**	**329**	P	**P**	**10 16 20.4**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=131,slow=7.9,SNR=3.0						
PETK	**Petropavlovsk-**	**66.26**	**21**	P	**P**	**10 16 24.4**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=246,slow=2.6,SNR=4.2						

*ISK **24** 10:10:28.2, 40°.75N×42°.44E, h5^{km}, ML3.0/6*
*TIF **24** 10:10:28.6, 40°.72N×42°.43E, h17^{km}±1^{km}*
*DDA **24** 10:10:29.2, 40°.75N×42°.44E, h6^{km}±2^{km}, ML3.2*

ISC 24 10:10:28.9±1.0, 40°.76N±0°.02×42°.46E±0°.02, h6^{km}±9^{km}, n33, σ0^{8}81/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SENK	**Senkaya-Erzuru**	**0.21**	**203**	P	**Pg**	**10 10 33.2**	**+0.1**
SENK				S	**Sg**	**10 10 36.7**	**+0.8**
KARS	**Kars**	**0.49**	**105**	PG	**Pb**	**10 10 39.5**	**-0.5**
DAGI	**Agillar**	**0.52**	**308**	*i* P	**Pb**	**10 10 39.8**	**-0.8**
DAGI				*i* S	**Sg**	**10 10 46.2**	**+0.4**
DDEM	**Demirkent**	**0.56**	**284**	*i* P	**Pb**	**10 10 40.0**	**-1.1**
DDEM				*i* S	**Sg**	**10 10 47.0**	**+0.2**
DDEM				IAML		10 10 48.0	
	comp=N,5μm,0.3s						
DDEM				IAML		10 10 49.0	
	comp=E,3μm,0.3s						
ARTV	**Artvin**	**0.59**	**317**	*i* P	**Pb**	**10 10 41.5**	**-0.2**
ARTV				*i* S	**Sb**	**10 10 49.0**	**-1.4**
ARTV				IAML		10 10 51.0	
	comp=N,1μm,0.4s						
DBAD	**Bademkaya**	**0.64**	**294**	*i* P	**Pb**	**10 10 41.6**	**-0.9**
DBAD				*i* S	**Sg**	**10 10 49.4**	**0.0**
DBAD				IAML		10 10 51.0	
	comp=N,852nm,0.2s						
DBAD				IAML		10 10 51.0	
	comp=E,1μm,0.2s						
EPOS	**Posof**	**0.77**	**15**	*i* P	**Pb**	**10 10 44.6**	**-0.2**
EPOS				*i* S	**Sg**	**10 10 53.8**	**0.0**
HOMI	**Horasan**	**0.83**	**211**	*i* P	**Pb**	**10 10 44.9**	**-1.0**
HOMI				*i* S	**Sg**	**10 10 55.3**	**-0.2**
DBOC	**Borcka**	**0.84**	**315**	*i* P	**Pb**	**10 10 45.2**	**-0.7**
DBOC				*i* S	**Sg**	**10 10 55.2**	**-0.7**
EAK	**Akyaka**	**0.87**	**94**	*i* P	**Pg**	**10 10 46.0**	**+0.4**
EAK				*i* S	**Sg**	**10 10 55.6**	**-1.4**
EATA	**Eleskirt**	**0.89**	**178**	*i* P	**Pg**	**10 10 45.7**	**-0.3**
EATA				*i* S	**Sb**	**10 10 58.5**	**-0.7**
KOPR	**Koprukoy-ERZUR**	**0.89**	**211**	PG	**Pb**	**10 10 46.3**	**-0.6**
KOPR				SG	**Sn**	**10 10 59.8**	**-1.7**
AKH	**Akhalkalaki**	**1.02**	**50**	PG	**Pb**	**10 10 49.2**	**+0.2**
AKH	**Akhalkalaki**	**1.02**	**50**	P	**Pb**	**10 10 49.1**	**+0.1**
AKH				S	**Sn**	**10 11 03.8**	**-0.8**
BATM	**Batumi**	**1.02**	**326**	PG	**Pb**	**10 10 48.8**	**-0.3**
BATM	**Batumi**	**1.02**	**326**	*i* P	**Pb**	**10 10 48.5**	**-0.5**
BATM				*i* S	**Sg**	**10 11 01.5**	**-0.3**
BATM	**Batumi**	**1.02**	**326**	P	**Pb**	**10 10 48.7**	**-0.3**
BATM				S	**Sb**	**10 11 02.7**	**-0.1**
AKDA	**Akdag**	**1.06**	**232**	*i* P	**Pn**	**10 10 49.8**	**-0.7**
AKDA				*i* S	**Sn**	**10 11 06.8**	**+1.1**
KRIK	**Erzurum-spir**	**1.24**	**251**	*i* P	**Pn**	**10 10 53.0**	**0.0**
KRIK				*i*

*IDC **24** 10:20:43.9±0.4,38°.19N×122°.23W, h0km, mb5.1/32, mb1 5.1/38, mb1mx5.1/46, mbtmp5.0/38, ML4.4/6, MS6.1/48, Ms1 6.1/48, ms1mx6.0/51, Error ellipse: s-maj=12.2km s-min=6.8km az=49.0*

*NCEDC **24** 10:20:44.1±1.9, 38°.22N±0°.02×122°.31W±0°.03, h11km±3km, Mwr6.0/9, mb5.7/132(NEIC), Ms_20 6.2/789(NEIC), Mwb6.0/50(NEIC), Mwc6.1(GCMT), Mww6.1(NEIC), Error ellipse: s-maj=4.1km s-min=1.1km az=59.0*

*NEIC **24** 10:20:44.1, 38°.22N×122°.32W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr=0.03; Mθθ=0.95; Mφφ 0.98; Mrθ=-0.09; Mφ0.87; Mr=0.26; Fault plane solution: M0 1.32000×10^18^ NP1:φs247.00000°, δ82.00000°, λ,8.00000°. NP2:φs155.00000°, δ82.00000°, λ172.00000°. Principal axes: T 1.3670, Plg11.0000°, Azm111.0000°; N -0.0872, Plg79.0000°, Azm293.0000°; P -1.2798, Plg0.0000°, Azm201.0000°;*

*NEIC **24** 10:20:44.5±1.8, 38°.22N±0°.01×122°.29W±0°.03, h7km±3km Error ellipse: s-maj=3.2km s-min=1.5km az=64.0*

*NEIC **24** 10:20:44.1, 38°.21N×122°.32W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr=0.08; Mθθ=0.96; Mφφ 0.88; Mrθ=0.05; Mφ0.90; Mr=0.00; Fault plane solution: M0 1.29000×10^18^ NP1:φs337.17000°, δ88.11000°, λ-179.43000°. NP2:φs247.15000°, δ89.43000°, λ-1.89000°. Principal axes: T 1.2509, Plg1.0000°, Azm292.0000°; N 0.0773, Plg88.0000°, Azm50.0000°; P -1.3282, Plg2.0000°, Azm202.0000°;*

*BJI **24** 10:20:45.1±0.0, 38°.22N×122°.31W, h10km, mB5.9/52, mb5.5/41, Ms6.3/70, Ms7 6.2/64*

*MOS **24** 10:20:45.6±1.7, 38°.20N×122°.09W, h13km, mb5.9/71, MS6.4/55, Error ellipse: s-maj=5.7km s-min=3.8km az=98.6*

*NEIC **24** 10:20:49, 38°.32N×122°.40W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr=0.07; Mθθ-1.13; Mφφ 1.21; Mrθ=0.38; Mφ1.17; Mr=-0.01; Fault plane solution: M0 1.70000×10^18^ NP1:φs338.00000°, δ78.00000°, λ-174.00000°. NP2:φs247.00000°, δ84.00000°, λ-12.00000°. Principal axes: T 1.7036, Plg5.0000°, Azm293.0000°; N -0.0088, Plg77.0000°, Azm43.0000°; P -1.6948, Plg12.0000°, Azm202.0000°;*

*GCMT **24** 10:20:49.1±0.1, 38°.31N×122°.38W, h12km, MW6.1/172, Moment Tensor Solution. s157,c354; s172,c641; Duration: 2e6 Moment tensor: Scale 10^18^Nm; Mrr-0.05±.01; Mθθ-1.09±.01; Mφφ 1.14±.01; Mrθ-0.14±.02; Mφφ 1.12±.01; Mr-0.25±.02; Best double couple: M0 1.60400×10^18^ NP1:φs157.00000°, δ83.00000°, λ174.00000°. NP2:φs248.00000°, δ84.00000°, λ8.00000°. Principal axes: T 1.6530, Plg9.0000°, Azm113.0000°; N -0.0940, Plg80.0000°, Azm286.0000°; P -1.5560, Plg1.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **24** 10:20:50, 38°.21N×122°.45W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr-0.18; Mθθ-1.17; Mφφ 1.35; Mrθ-0.45; Mφφ 1.09; Mr=0.10; Fault plane solution: M0 1.73000×10^18^ NP1:φs157.00000°, δ77.00000°, λ-169.00000°. NP2:φs64.00000°, δ80.00000°, λ-13.00000°. Principal axes: T 1.7574, Plg2.0000°, Azm111.0000°; N -0.0489, Plg73.0000°, Azm207.0000°; P -1.7085, Plg17.0000°, Azm20.0000°;*

*BGR **24** 10:20:54.4±0.0, 38°.49N×123°.45W, h33km, mb5.9, mB_BB6.1, Ms6.4*

ISC 24 10:20:46.3±0.3, 38°.17N±0°.01×122°.30W±0°.02, h8km±1km, h9km:pP-P, n1813, σ2s44/1898, mb5.7/234, MS6.2/520, 26C-35D, Northern California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SNT	**Sears Point**	**0.12**	**274**				**Pg**	**10 20 47.4**	**-1.7**
NGVM		**0.13**	**32**				**Pg**	**10 20 46.7**	**-2.4**
NLHM	**Lake Herman**	**0.13**	**114**				**Pg**	**10 20 47.5**	**-1.7**
HERB	**Hercules**	**0.16**	**170**				**Sg**	**10 20 52.3**	**+0.2**
CPIM	**Pinole Ridge**	**0.20**	**160**				**Pg**	**10 20 49.5**	**-0.8**
CPIM							**Sg**	**10 20 54.1**	**+1.1**
CVS	**Carmenet Viney**	**0.21**	**324**				**Pg**	**10 20 48.3**	**-2.4**
CVS							**Sg**	**10 20 51.2**	**-2.4**
CSPM	**San Pablo Ridg**	**0.22**	**183**				**Pg**	**10 20 50.0**	**-0.7**
NBRB	**Beebe Ranch Br**	**0.22**	**294**				**Pg**	**10 20 48.8**	**-2.0**
CPMM	**Point Molate**	**0.24**	**201**				**Pg**	**10 20 50.1**	**-1.1**
RFSB	**Richmond Field**	**0.26**	**187**				**Pg**	**10 20 50.4**	**-1.1**
CTAM	**Taylor**	**0.27**	**123**				**Pg**	**10 20 50.9**	**-0.7**
NAPC	**Atlas Peak**	**0.27**	**8**				**Pg**	**10 20 49.2**	**-2.5**
BRIB	**Briones**	**0.28**	**155**				**Pg**	**10 20 50.8**	**-1.1**
BRIB							**Sg**	**10 20 56.1**	**+0.5**
CVPM	**Vollmer Peak**	**0.29**	**168**				**Pg**	**10 20 51.3**	**-0.9**
BL88	**Building 88, L**	**0.30**	**173**				**Pg**	**10 20 51.2**	**-1.0**
VAK	**Adit at Lawren**	**0.30**	**172**				**Pg**	**10 20 51.3**	**-0.9**
BL67	**Building 67, L**	**0.30**	**173**				**Pg**	**10 20 51.3**	**-1.0**
BKS	**Berkeley--Byer**	**0.30**	**170**				**Pg**	**10 20 51.4**	**-0.9**
BRK	**Berkeley--Havi**	**0.30**	**174**				**Pg**	**10 20 51.2**	**-1.1**
BRK							**Sg**	**10 20 56.8**	**+0.5**
NTYM	**Taylor**	**0.36**	**307**				**Pg**	**10 20 51.0**	**-2.4**
CYBM	**Yerba Buena Is**	**0.36**	**188**				**Pg**	**10 20 52.3**	**-1.1**
SMCB	**Saint Mary's C**	**0.36**	**156**				**Pg**	**10 20 52.3**	**-1.2**
NADM	**Allendale**	**0.39**	**42**				**Pg**	**10 20 52.9**	**-1.0**
CRHM	**Round Hill Res**	**0.40**	**142**				**Pg**	**10 20 53.2**	**-0.9**
JPRM	**Presidio of Sa**	**0.40**	**200**				**Pg**	**10 20 53.1**	**-1.1**
BGC	**Bolinger Road**	**0.40**	**152**				**Pg**	**10 20 53.1**	**-1.1**
CMCM	**Mills College**	**0.40**	**166**				**Pg**	**10 20 53.0**	**-1.2**
BDM	**Black Diamond**	**0.41**	**123**				**Pg**	**10 20 53.1**	**-1.2**
NOLM	**Olema**	**0.41**	**251**				**Pg**	**10 20 52.7**	**-1.7**
NOLM							**Sg**	**10 20 59.5**	**-0.3**
MCCM	**Marconi Confer**	**0.46**	**267**				**Pg**	**10 20 53.2**	**-2.0**
MCCM					Sg		**Sg**	**10 20 59.6**	**-1.7**
J061	**Lakeshore Driv**	**0.47**	**200**				**Pg**	**10 20 54.3**	**-1.2**
NBPM	**Berryessa Peak**	**0.50**	**9**				**Pg**	**10 20 54.3**	**-1.8**
MAC	**Mark West Spri**	**0.50**	**319**				**Pg**	**10 20 53.4**	**-2.7**
CMOB	**Morgan Territo**	**0.53**	**133**				**Pg**	**10 20 55.0**	**-1.7**
C055	**Cottonwood Ave**	**0.54**	**164**				**Pg**	**10 20 55.6**	**-1.1**
NHSM	**Mount Saint He**	**0.54**	**333**				**Pg**	**10 20 54.0**	**-2.9**
JMGM	**Milagra Ridge**	**0.55**	**195**				**Pg**	**10 20 55.8**	**-1.2**
JCPM	**Coyote Point**	**0.58**	**182**				**Pg**	**10 20 56.4**	**-1.2**
NPRM	**Point Reyes**	**0.59**	**253**				**Pg**	**10 20 55.7**	**-2.1**
SAC	**San Andreas**	**0.60**	**189**	P			**Pn**	**10 21 00.2**	**-0.9**
CNIC	**Niles Canyon**	**0.62**	**155**				**Pg**	**10 20 56.9**	**-1.4**
CBSNC	**Byron Hot Spri**	**0.63**	**124**				**Pg**	**10 20 56.7**	**-1.8**
CYD1	**Coyote D'meter**	**0.63**	**165**				**Pg**	**10 20 56.9**	**-1.6**
NMCNC	**Mill Creek, So**	**0.64**	**311**				**Pg**	**10 20 55.8**	**-2.9**
NMTM	**Middletown**	**0.64**	**350**				**Pg**	**10 20 56.0**	**-2.7**
GAXM	**Alexander Vall**	**0.65**	**326**				**Pg**	**10 20 55.8**	**-3.0**
CVLM	**Vallecito**	**0.66**	**146**				**Pg**	**10 20 58.0**	**-1.1**
JCHM	**Cahill Ridge**	**0.66**	**185**				**Pg**	**10 20 57.6**	**-1.4**
NDHM	**Dunnigan Hills**	**0.66**	**27**				**Pg**	**10 20 57.9**	**-1.3**
GCRM	**Castle Rock Sp**	**0.68**	**331**				**Pg**	**10 20 56.3**	**-3.2**
WENL	**Wente Vineyard**	**0.70**	**142**				**Pg**	**10 20 58.9**	**-0.9**
GBGM	**Boggs Mountain**	**0.71**	**335**				**Pg**	**10 20 56.9**	**-3.0**
MNRC	**McLaughlin Min**	**0.71**	**351**				**Pg**	**10 20 57.6**	**-2.5**
JHPM	**Huddart Park**	**0.73**	**180**				**Pg**	**10 20 58.9**	**-1.5**
GGPM	**Geyser Peak**	**0.73**	**324**				**Pg**	**10 20 57.5**	**-2.9**
FARB	**Farallon Islan**	**0.73**	**230**				**Pg**	**10 20 58.5**	**-1.9**
CMJM	**Mission San Jo**	**0.73**	**153**				**Pg**	**10 20 58.9**	**-1.6**
GDXM	**Geysers**	**0.74**	**329**				**Pg**	**10 20 57.5**	**-3.2**
FTR	**Fort Ross**	**0.76**	**297**				**Pg**	**10 20 58.3**	**-2.7**
GSGM	**Seigler Mounta**	**0.76**	**335**				**Pg**	**10 20 58.3**	**-2.8**
GSSM	**Skaggs Springs**	**0.77**	**313**				**Pg**	**10 20 58.1**	**-3.0**
JRSC	**Jasper Ridge**	**0.77**	**176**				**Pg**	**10 20 59.3**	**-1.8**
JSFB	**Stanford Teles**	**0.78**	**173**				**Pg**	**10 20 59.6**	**-1.7**
JFP	**Foothills Park**	**0.82**	**174**				**Pg**	**10 21 00.0**	**-2.0**
GCVM	**Cloverdale**	**0.82**	**317**				**Pg**	**10 20 59.2**	**-2.9**
GRTM	**Round Top Moun**	**0.82**	**339**				**Pg**	**10 20 59.1**	**-3.0**
GACM	**Adobe Creek**	**0.83**	**328**				**Pg**	**10 20 59.3**	**-2.9**
GHCM	**House Creek**	**0.83**	**302**				**Pg**	**10 20 59.2**	**-3.0**
BGH	**Bear Gulch**	**0.83**	**182**				**Pg**	**10 21 00.2**	**-2.1**
JJRM	**Joaquin Road**	**0.83**	**175**				**Pg**	**10 21 00.3**	**-2.0**
GPMM	**Pine Mountain**	**0.84**	**323**				**Pg**	**10 20 59.6**	**-3.0**
CMLM	**Mount Lewis**	**0.86**	**143**				**Pg**	**10 21 00.8**	**-2.1**
GWKM	**Walker Ridge**	**0.89**	**350**				**Pg**	**10 21 00.6**	**-2.9**
GDCM	**Dry Creek**	**0.95**	**309**				**Pg**	**10 21 00.8**	**-3.7**
SCCB	**Santa Clara Co**	**0.95**	**159**				**Pg**	**10 21 02.5**	**-2.1**
CMMM	**Mount Mocho**	**0.96**	**138**				**Pg**	**10 21 02.1**	**-2.6**
AASM	**Arroyo Seco**	**0.97**	**74**				**Pg**	**10 21 01.1**	**-3.9**
JPSM		**0.97**	**182**				**Pg**	**10 21 02.0**	**-3.0**
GBMM	**Baldy Mountain**	**0.98**	**351**				**Pg**	**10 21 01.6**	**-3.6**
MHC	**Mount Hamilton**	**0.98**	**148**	P			**Pg**	**10 21 02.5**	**-2.7**
MHC	**Mount Hamilton**	**0.98**	**148**				**Pg**	**10 21 02.5**	**-2.7**
JJOM	**Saint Joseph's**	**1.00**	**165**				**Pg**	**10 21 02.6**	**-2.9**
HOPS	**Hopland Field**	**1.02**	**324**	Pg			**Pg**	**10 21 01.9**	**-4.0**
ARN	**Arnold Ranch**	**1.02**	**143**				**Pg**	**10 21 03.0**	**-2.9**
GHLM	**Highland Sprin**	**1.03**	**327**				Pg	10 20 59.4	-6.9
GSNM	**Snow Mountain**	**1.04**	**318**				**Pg**	**10 21 02.1**	**-4.2**
CCOB	**Coe Ranch Numb**	**1.04**	**151**				**Pg**	**10 21 03.9**	**-2.4**
JBNB	**Ben Lomond Mou**	**1.05**	**174**				**Pg**	**10 21 03.1**	**-3.5**
JUMM	**Mount Umunhum**	**1.06**	**162**				**Pg**	**10 21 03.5**	**-3.1**
AMC	**Almaden**	**1.07**	**160**				**Pg**	**10 21 03.7**	**-3.2**
JLAB	**Laurel Hill**	**1.11**	**156**				**Pg**	**10 21 04.5**	**-3.2**
CMPM	**Mikes Peak**	**1.12**	**136**				**Pg**	**10 21 04.7**	**-3.2**
JHLM	**Holstrom Ranch**	**1.12**	**161**				**Pg**	**10 21 04.5**	**-3.5**
SUTB	**Sutter Butte**	**1.13**	**21**				Pg	10 21 02.1	-5.9
CADM	**Anderson Res.**	**1.14**	**152**				**Pg**	**10 21 05.2**	**-3.0**
GFC	**Funks Creek**	**1.15**	**0**				**Pg**	**10 21 06.1**	**-2.3**
GGUM	**Gualala**	**1.16**	**306**				Pg	10 21 03.8	-4.9
JRGM	**Rodeo Gulch Ro**	**1.17**	**167**				**Pg**	**10 21 04.9**	**-3.8**
MNHB	**New Hogan Dam**	**1.17**	**91**				**Pg**	**10 21 04.7**	**-4.1**
HSPM	**Sheep**	**1.23**	**149**				**Pb**	**10 21 06.3**	**-3.5**
HLPM	**Lions Peak**	**1.25**	**155**				**Pn**	**10 21 06.4**	**-3.6**
GHS	**Gilroy Hot Spr**	**1.27**	**148**				**Pn**	**10 21 06.8**	**-3.7**
AFDM	**Forest Hills D**	**1.30**	**53**	Pn			**Pn**	**10 21 06.3**	**-4.5**
AFDM							**Sg**	**10 21 22.5**	**-5.3**
GWRM	**Wonder Ranch**	**1.30**	**323**				Pn	10 21 05.7	-5.1
JELB	**Ellicott, Sant**	**1.30**	**163**				**Pn**	**10 21 06.8**	**-4.0**
GHOM	**Hamilton Openi**	**1.30**	**312**				Pn	10 21 05.7	-5.2
CDC	**Canada Road**	**1.32**	**150**				**Pn**	**10 21 08.2**	**-2.7**
HCAM	**Canada Road**	**1.32**	**150**				**Pn**	**10 21 08.0**	**-2.9**
OHCM	**Honcut**	**1.32**	**29**				Pn	10 21 05.8	-5.3
CBC	**Chamberlain**	**1.34**	**158**				**Pn**	**10 21 07.5**	**-3.8**
MCUB	**Copperopolis B**	**1.34**	**98**				**Pn**	**10 21 07.0**	**-4.4**
CSR	**Chase Ranch**	**1.34**	**155**				**Pn**	**10 21 08.3**	**-3.0**
HCOM	**Corn Cob Canyo**	**1.37**	**160**				**Pn**	**10 21 07.7**	**-3.9**
GCK	**Clark Valley**	**1.37**	**356**				**Pn**	**10 21 07.6**	**-4.2**
HPCM	**Pacheco Lake**	**1.38**	**144**				**Pn**	**10 21 08.5**	**-3.3**
HFEM	**San Felipe**	**1.39**	**149**				**Pn**	**10 21 08.2**	**-3.7**
SCKWR	**San Luis Creek**	**1.39**	**135**				**Pn**	**10 21 09.1**	**-2.8**
SLD	**San Luis Dam**	**1.39**	**142**				**Pn**	**10 21 08.8**	**-3.3**
GHMM	**Hull Mountain**	**1.41**	**340**				**Pn**	**10 21 08.0**	**-4.4**
PAM	**Palermo**	**1.41**	**25**				Pn	10 21 06.6	-5.7
PACP	**Pacheco Peak**	**1.41**	**145**				**Pn**	**10 21 09.3**	**-3.1**
SFJWR	**San Luis Fatjo**	**1.44**	**141**				**Pn**	**10 21 09.4**	**-3.2**
HTUM	**Tustin Road**	**1.44**	**159**				**Pn**	**10 21 08.6**	**-4.1**
HBTM	**San Juan Bauti**	**1.45**	**156**				**Pn**	**10 21 09.0**	**-3.8**
HERM	**Elkhorn Road**	**1.45**	**161**				**Pn**	**10 21 08.9**	**-3.9**
GNAM	**Navarro Ridge**	**1.46**	**315**				Pn	10 21 08.1	-4.9
MOBB	**Monterey Bay O**	**1.48**	**176**				**Pn**	**10 21 09.6**	**-3.6**
HJGM	**San Juan Grade**	**1.49**	**157**				**Pn**	**10 21 09.3**	**-4.1**
ORV	**Oroville**	**1.51**	**24**	P			Pn	10 21 08.2	-5.5
ORV	**Oroville**	**1.51**	**24**				Pn	10 21 08.6	-5.2
ORV	**Oroville**	**1.51**	**24**				Pn	10 21 08.2	-5.5
CMB	**Columbia Colle**	**1.52**	**95**	P			**Pn**	**10 21 10.0**	**-3.8**
CMB	**Columbia Colle**	**1.52**	**95**				**Pn**	**10 21 10.0**	**-3.8**
GASB	**Alder Springs**	**1.52**	**348**				**Pn**	**10 21 09.8**	**-4.0**
KRKM	**Rackout Spring**	**1.55**	**334**				**Pn**	**10 21 10.7**	**-3.7**
FRP	**Fremont Peak**	**1.56**	**155**				**Pn**	**10 21 10.2**	**-4.2**
SAO	**San Andreas Ge**	**1.56**	**154**	P			**Pn**	**10 21 10.6**	**-3.8**
SAO	**San Andreas Ge**	**1.56**	**154**	Pn			**Pn**	**10 21 10.6**	**-3.8**
GTC	**Three Chop Rid**	**1.57**	**322**				Pn	10 21 09.6	-4.9
HJSM	**John Smith Roa**	**1.57**	**149**				**Pn**	**10 21 10.8**	**-3.7**
BSLM	**Silva Ranch**	**1.59**	**151**				**Pn**	**10 21 11.2**	**-3.5**
BVYM	**Vineyard**	**1.59**	**153**				**Pn**	**10 21 10.9**	**-3.8**
HMOM	**Monterey**	**1.60**	**169**				**Pn**	**10 21 10.7**	**-4.2**
GVV	**Valley View**	**1.63**	**350**				**Pn**	**10 21 11.0**	**-4.4**
BSRM	**Salinas Radio**	**1.63**	**157**				**Pn**	**10 21 11.0**	**-4.2**
BCCM	**Cienega Road**	**1.63**	**152**				**Pn**	**10 21 12.0**	**-3.6**
BHRM	**Hodges Ranch**	**1.66**	**150**				**Pn**	**10 21 12.0**	**-3.7**
BPCNC	**Pine Canyon**	**1.68**	**161**				**Pn**	**10 21 11.3**	**-3.5**
MYLM	**Yosemite Lake**	**1.68**	**117**				**Pn**	**10 21 11.9**	**-4.1**
KFPM	**Farley Peak**	**1.71**	**329**				**Pn**	**10 21 11.9**	**-4.5**
BLRM	**Lewis Ranch**	**1.71**	**151**				**Pn**	**10 21 12.9**	**-3.5**
SCZ	**Santa Cruz**	**1.73**	**155**				**Pn**	**10 21 12.4**	**-4.2**
BJOM	**Mount Johnson**	**1.73**	**153**				**Pn**	**10 21 12.8**	**-3.8**
BEHM	**Elkhorn Ranch**	**1.75**	**149**				**Pn**	**10 21 13.3**	**-3.7**
GROM	**Round Mountain**	**1.77**	**351**				Pn	10 21 12.4	-4.8
BJCM	**Johnson Can.**	**1.78**	**156**				**Pn**	**10 21 13.2**	**-4.1**
BRMM	**Rolling Bench**	**1.78**	**138**				**Pn**	**10 21 14.2**	**-3.1**
BEMM	**Emmet**	**1.79**	**147**				**Pn**	**10 21 13.7**	**-3.8**
KCPM	**Cahto Peak**	**1.81**	**327**				**Pn**	**10 21 13.7**	**-4.2**
BVL	**Bear Valley**	**1.82**	**151**				**Pn**	**10 21 14.2**	**-3.8**
BAVM	**Antelope Valle**	**1.83**	**146**				**Pn**	**10 21 14.3**	**-3.7**
KBNM	**Bluenose Ridge**	**1.85**	**338**				**Pn**	**10 21 14.8**	**-3.8**
KIPM	**Iron Peak**	**1.88**	**331**				**Pn**	**10 21 14.4**	**-4.4**
HAST	**Hastings Reser**	**1.88**	**161**				**Pn**	**10 21 14.9**	**-3.8**
BBGB	**Big Mountain B**	**1.88**	**147**				**Pn**	**10 21 15.3**	**-3.5**
RUBR	**Rubicon Trail**	**1.89**	**62**				**Pn**	**10 21 16.7**	**-2.5**
RUBR							**Sg**	**10 21 41.6**	**-1.7**
BPIM	**Pinnacles**	**1.91**	**151**				**Pn**	**10 21 15.1**	**-4.0**
BSMM	**Soledad Missio**	**1.92**	**159**				**Pn**	**10 21 15.3**	**-4.1**
BMSM	**Mercy Hot Spri**	**1.93**	**141**				**Pn**	**10 21 16.2**	**-3.2**
TAHR	**Tahoe**	**1.94**	**59**				**Pn**	**10 21 17.2**	**-2.5**
DONR	**Donner Summit**	**1.94**	**52**				**Pn**	**10 21 16.8**	**-3.1**
BSGM	**Shirttail Gulc**	**1.94**	**154**				**Pn**	**10 21 15.5**	**-4.1**
BCWM	**Chews Ridge**	**1.95**	**162**				**Pn**	**10 21 15.8**	**-4.1**
IND	**Independence**	**2.01**	**51**				**Pn**	**10 21 18.1**	**-2.6**
KBSM	**Bell Springs**	**2.01**	**330**				**Pn**	**10 21 16.4**	**-4.3**
LRV	**Little Rabbit**	**2.02**	**149**				**Pn**	**10 21 17.4**	**-3.4**
O02D	**Mt. Diablo Mer** baz=169,SNR=1000	**2.04**	**349**	P			**Pn**	**10 21 16.3**	**-4.7**
O02D							**Sg**	**10 21 41.3**	**-5.3**
	baz=169								
O02D	**Mt. Diablo Mer**	**2.04**	**349**				**Pn**	**10 21 16.6**	**-4.4**
LTCM	**Tuscan Springs**	**2.04**	**4**				Pn	10 21 15.3	-5.6
GNO	**Genoa**	**2.06**	**68**				**Pn**	**10 21 19.3**	**-2.1**
LCMM	**Colby Mountain**	**2.06**	**17**				**Pn**	**10 21 16.7**	**-4.8**
BAPM	**Anderson Peak**	**2.06**	**165**				**Pn**	**10 21 17.0**	**-4.3**
MPK	**Martis Peak**	**2.10**	**57**				**Pn**	**10 21 19.6**	**-2.4**
KBF	**Kyburz Flat**	**2.10**	**50**				**Pn**	**10 21 19.5**	**-2.5**
PHRM	**Hernandez Vall**	**2.15**	**146**				**Pn**	**10 21 18.9**	**-3.6**
O03E	**Paynes Creek** baz=191,SNR=1000	**2.15**	**10**	P			Pn	10 21 17.2	-5.4
O03E							**Sn**	**10 21 46.1**	**-3.4**
	baz=191								
O03E	**Paynes Creek**	**2.15**	**10**				Pn	10 21 17.4	-5.2
PBWM	**Bitterwater Cr**	**2.15**	**149**				**Pn**	**10 21 19.3**	**-3.2**
MMIM	**Miami Mountain**	**2.16**	**110**				**Pn**	**10 21 19.7**	**-3.0**
LRC	**Lone Oak Road**	**2.17**	**152**				**Pn**	**10 21 19.4**	**-3.3**
MHDM	**Hidden Dam**	**2.18**	**118**				**Pn**	**10 21 19.4**	**-3.4**
LOY	**Loyalton**	**2.19**	**47**				**Pn**	**10 21 20.7**	**-2.5**
LBPM	**Beegum Peak**	**2.19**	**348**				**Pn**	**10 21 18.8**	**-4.3**
VPK	**Verdi Peak**	**2.19**	**53**				**Pn**	**10 21 21.0**	**-2.3**
BABR	**Babbit Peak**	**2.23**	**49**				**Pn**	**10 21 21.6**	**-2.2**
BFC	**Buffalo Canyon**	**2.23**	**70**				**Pn**	**10 21 21.7**	**-2.1**
PCCM	**Crazy Canyon**	**2.27**	**156**				**Pn**	**10 21 20.4**	**-3.6**
WAKR	**Walker**	**2.27**	**81**	Pn			**Pn**	**10 21 22.9**	**-1.4**
WAKR							**Sn**	**10 21 53.1**	**+0.5**
LDBM	**Digger Butte**	**2.29**	**10**				Pn	10 21 19.5	-5.0
PMPB	**Monarch Peak**	**2.29**	**148**				**Pn**	**10 21 21.4**	**-3.1**
PNTR	**Pine Nut**	**2.30**	**66**	Pn			**Pn**	**10 21 24.3**	**-0.5**
PEAR	**Peavine Mounta**	**2.32**	**51**				**Pn**	**10 21 22.7**	**-2.3**
KMRM	**Mail Ridge**	**2.32**	**332**				**Pn**	**10 21 21.5**	**-3.4**
KPPM	**Pickett Peak**	**2.32**	**339**				**Pn**	**10 21 22.3**	**-2.7**
VCNR	**Virginia City**	**2.35**	**61**	Pn			**Pn**	**10 21 25.0**	**-0.5**
PAPM	**Alder Peak**	**2.38**	**161**				**Pn**	**10 21 21.7**	**-3.9**
PDRM	**Domengine Ranc**	**2.40**	**139**				**Pn**	**10 21 22.9**	**-2.9**
PWMM	**Westland Maint**	**2.41**	**136**				**Pn**	**10 21 23.2**	**-2.7**
WDC	**Whiskeytown Da**	**2.41**	**356**	P			**Pn**	**10 21 22.2**	**-3.8**
WDC	**Whiskeytown Da**	**2.41**	**356**	Pn			**Pn**	**10 21 22.2**	**-3.8**
PSAM	**San Ardo**	**2.42**	**152**				**Pn**	**10 21 22.8**	**-3.4**
LMEM	**Manzanita Entr**	**2.43**	**13**				**Pn**	**10 21 22.3**	**-4.1**
LUL	**Lundy Lake**	**2.46**	**92**				**Pn**	**10 21 25.6**	**-1.4**
PARM	**Anticline Ridg**	**2.48**	**140**				**Pn**	**10 21 24.2**	**-2.7**
KSMM	**Slide Mountain**	**2.48**	**325**				Pn	10 21 21.6	-5.5
BMRR	**Black Mountain**	**2.48**	**38**				Pn	10 21 21.9	-5.3
PSMM	**Smith Mountain**	**2.50**	**147**				**Pn**	**10 21 24.4**	**-3.0**
YERR	**Yerington**	**2.53**	**70**	Pn			**Pn**	**10 21 25.4**	**-2.4**
KCRM	**Chalk Rock**	**2.54**	**333**				**Pn**	**10 21 24.3**	**-3.6**
KCSM	**Cold Springs**	**2.54**	**339**				**Pn**	**10 21 25.5**	**-2.5**
G01D	**G01D**	**2.56**	**316**	P			**Pn**	**10 21 24.8**	**-3.1**
G01D							**Sg**	**10 22 13.1**	**+4.7**
PHPM	**Hope Ranch**	**2.57**	**148**				**Pn**	**10 21 24.9**	**-3.4**
KHBM	**Hayfork Bally**	**2.58**	**344**				**Pn**	**10 21 25.9**	**-2.7**
MDPB	**Devils Postpil**	**2.60**	**101**				**Pn**	**10 21 27.4**	**-1.6**
MINS	**Minaret Summit**	**2.61**	**100**				**Pn**	**10 21 27.4**	**-1.7**
MDCM	**Deadman Creek**	**2.62**	**99**				**Pn**	**10 21 27.6**	**-1.5**
MRDM	**Red Cones**	**2.63**	**102**				**Pn**	**10 21 27.6**	**-1.7**
PKD	**Bear Valley Ra**	**2.63**	**147**				**Pn**	**10 21 25.8**	**-3.3**
PANM	**San Antonio Re**	**2.64**	**155**				**Pn**	**10 21 25.6**	**-3.5**
MMSM	**Mammoth Summit**	**2.64**	**101**				**Pn**	**10 21 28.2**	**-1.4**
MMPM	**Mammoth Pass**	**2.65**	**101**				**Pn**	**10 21 28.1**	**-1.6**
KMPM	**Mount Pierce**	**2.65**	**328**				**Pn**	**10 21 26.9**	**-2.5**
MDYM	**Dry Creek**	**2.65**	**100**				**Pn**	**10 21 28.4**	**-1.3**
MLIM	**Lincoln Peak**	**2.65**	**101**				**Pn**	**10 21 28.5**	**-1.2**
PHCM	**Hearst Castle**	**2.65**	**159**				**Pn**	**10 21 25.3**	**-4.1**
PVCM	**Vineyard Canyo**	**2.65**	**147**				**Pn**	**10 21 26.2**	**-3.2**
OMMB	**Old Mammoth Mi**	**2.67**	**101**	Pn			**Pn**	**10 21 28.3**	**-1.5**
MMLB	**Mammoth Lakes**	**2.67**	**100**				**Pn**	**10 21 28.8**	**-1.2**
FS04D	**FS04D**	**2.69**	**321**	P			**Pb**	**10 21 32.6**	**-2.1**
FS04D				S			**Sg**	**10 22 17.1**	**+4.3**
HATC	**Hat Creek Radi**	**2.72**	**14**				**Pn**	**10 21 27.6**	**-2.7**
FS08D	**FS08D**	**2.74**	**323**	P			**Pn**	**10 21 26.3**	**-4.2**
FS08D				S	

CHFC Chilao Flat St 5.16 137 Pn 10 22 01.2 -2.8
HOLC Holcomb Ridge 5.16 135 Pn 10 22 01.1 -2.9
J05D Fort Rock, OR 5.17 9 P Pn 10 22 03.6 -0.5
baz=190,SNR=313
PASC Pasadena Art C 5.20 139 Pn Pn 10 22 01.6 -2.7
MWC Mount Wilson 5.22 138 P Pn 10 22 01.9 -3.0
MWC Mount Wilson 5.22 138 Pn Pn 10 22 01.9 -3.0
GSC Goldstone, Bar 5.26 121 P Pn 10 22 03.3 -2.1
baz=305
GSC Sb Sb 10 23 23.5 +1.6
baz=305
GSC Goldstone, Bar 5.26 121 P Pn 10 22 03.2 -2.1
GSC Goldstone, Bar 5.26 121 Pn 10 22 03.2 -2.1
XTL Crystal Lake, 5.28 136 Pn 10 22 03.1 -2.5
R11A Troy Canyon, C 5.29 86 P Pn 10 22 01.5 -4.2
baz=271
R11A Sb Sb 10 23 21.7 -1.1
baz=271
R11A Troy Canyon, C 5.29 86 Pn 10 22 02.6 -3.1
GVRC Garvey Reservo 5.33 139 Pn 10 22 04.2 -1.9
SHOC Shoshone, Teco 5.33 113 P Pn 10 22 04.1 -2.0
baz=298
PEM Pine Mountain 5.37 137 Pn 10 22 04.3 -2.3
G35D G35D 5.38 326 P Pn 10 22 04.3 -2.2
G35D S Sb 10 23 24.3 -0.5
RRX Edison Barstow 5.39 126 P Pn 10 22 05.0 -2.0
baz=310
SNCC San Nicolas Is 5.41 155 P Pn 10 22 04.2 -3.1
baz=336
SNCC San Nicolas Is 5.41 155 Pn Pn 10 22 03.9 -3.4
RHC Rose Hills Cem 5.42 139 Pn 10 22 04.6 -2.9
BFSC Mount Baldy Ra 5.43 135 P Pn 10 22 05.0 -2.7
baz=318
BFSC Mount Baldy Ra 5.43 135 Pn 10 22 05.1 -2.6
SSK Sunset Peak 5.43 135 Pn 10 22 05.4 -2.3
G22D G22D 5.48 308 P Pn 10 22 05.3 -2.5
G22D S Sb 10 23 22.4 -5.2
FMP Fort Macarthur 5.51 143 P Pn 10 22 05.5 -3.1
baz=325
G36D G36D 5.54 322 P Pn 10 22 07.3 -1.3
G36D S Sb 10 23 28.7 -0.6
SS2 San Sevaine 5.54 134 Pn 10 22 07.0 -2.1
CSP Cedar Springs 5.56 133 Pn 10 22 06.9 -2.5
I03D Drain, OR 5.58 352 P Pn 10 22 08.7 -0.8
baz=172,SNR=111
I03D Sb Sb 10 23 32.4 +1.6
baz=172
I04A Tendick Farm, 5.62 359 P Pn 10 22 08.8 -1.3
baz=179,SNR=268
I04A Sg Sg 10 23 48.5 +1.9
baz=179
PINE Pine Mountain 5.71 10 Pn Pn 10 22 11.1 -0.5
CIS Catalina Islan 5.71 145 P Pn 10 22 08.0 -3.4
baz=328
G29D G29D 5.73 317 P Pn 10 22 10.2 -1.1
G29D S Sb 10 23 30.7 -4.1
PRN Pahroc Range 5.79 95 Pn Pn 10 22 11.5 -1.2
BTL Butler Peak 5.80 131 Pn 10 22 10.3 -2.5
TUQ Turquoise Moun 5.80 116 P Pn 10 22 10.9 -1.9
baz=300
TUQ Sb Sb 10 23 42.5 +5.0
baz=300
BBRC Big Bear Solar 5.84 130 P Pn 10 22 10.7 -2.8
baz=314
BBRC Big Bear Solar 5.84 130 Pn 10 22 10.9 -2.5
SVD Seven Oaks Dam 5.84 132 Pn 10 22 11.0 -2.3
HEC Hector,Ludlow 5.85 123 P Pn 10 22 11.1 -2.2
baz=307
G37D G37D 5.86 321 P Pn 10 22 12.1 -1.0
G37D S Sb 10 23 36.5 -2.2
CFT Crafton Hills 5.89 133 Pn 10 22 12.1 -1.8
SME Santa Rosa Min 5.91 136 Pn 10 22 11.1 -3.0
SHPR Sheep Range 5.93 104 Pn 10 22 13.5 -1.0
J08A Circle Bar Ran 5.94 28 Pn Pn 10 22 13.8 -0.8
ELS Elsinore Mount 6.00 137 Pn 10 22 12.2 -3.2
SCI2 San Clemente I 6.02 148 P Pn 10 22 12.7 -2.9
baz=331
I02D Swisshome 6.04 349 P Pn 10 22 17.1 +1.2
baz=168,SNR=93
MURC Murrieta 6.16 136 P Pn 10 22 14.4 -3.2
baz=320
MURC Murrieta 6.16 136 Pn 10 22 14.5 -3.1
J11D J11D 6.19 331 P Pn 10 22 17.0 -0.5
J11D S Sb 10 23 50.2 +2.2
HMTC Hemet 6.19 134 Pn 10 22 15.0 -3.0
I05D Terrebonne, OR 6.20 6 P Pn 10 22 18.1 0.0
baz=187,SNR=149
BACC Bachelor Mtn. 6.24 135 Pn 10 22 15.9 -2.8
POB Polly Butte 6.25 134 Pn 10 22 16.1 -2.8
BLAC Blackrock camp 6.30 129 Pn 10 22 17.2 -2.3
GMRC Granite Mounta 6.33 120 P Pn 10 22 17.1 -2.9
baz=305
H04D Lebanon 6.35 357 P Pn 10 22 19.1 -1.1
baz=177,SNR=79
EW2 E Wide Canyon 6.37 130 Pn 10 22 18.1 -2.4
CRY Cary Ranch 6.44 134 Pn 10 22 19.2 -2.4
TPC Twentynine Pal 6.48 127 Pn 10 22 19.5 -2.6
DNR Dunn Ranch,Anz 6.50 133 Pn 10 22 20.2 -2.2
SNDA J Saunders Pla 6.52 133 Pn 10 22 20.5 -2.2
BZNA Buzz No.'s Pla 6.54 134 Pn 10 22 20.7 -2.2
PFO Pinyon Flats O 6.57 132 Pn Pn 10 22 20.7 -2.6
17nm,0.3s,baz=310,slow=10,SNR=212
PFO Sn Sn 10 23 35.4 -3.1
17nm,0.3s,baz=317,slow=19,SNR=0.8
PFO Lg Lg 10 24 12.6
baz=10,slow=19,SNR=1.5
PFO LR LR 10 25 19.6
comp=Z,380µm,18.8s,baz=318,slow=42
PFO Pinyon Flats O 6.57 132 P Pn 10 22 20.7 -2.6
baz=316
PFO Pinyon Flats O 6.57 132 P Pn 10 22 20.9 -2.5
PFO Pinyon Flats O 6.57 132 Pn 10 22 20.6 -2.7
PFO Pinyon Flats O 6.57 132 Pn 10 22 20.9 -2.5
FRD Ford Ranch, An 6.57 134 Pn 10 22 21.1 -2.3
FRD Ford Ranch, An 6.57 134 Pn 10 22 21.0 -2.3
XPFO Pion Flat 6.57 132 Pn 10 22 21.1 -2.3
TPFO Pinon Flats 6.58 132 P Pn 10 22 20.8 -2.6
baz=316
BELC Belle Mtn. Jos 6.58 127 P Pn 10 22 20.7 -2.8
baz=311
PMD Palm Desert 6.59 131 Pn 10 22 20.8 -2.7
J19D J19D 6.71 335 P Pn 10 22 26.8 +2.1
J19D S Sb 10 24 05.8 +2.9
109C Camp Elliot, M 6.76 140 P Pn 10 22 22.0 -3.8
baz=323
MATG Mataguay Scout 6.76 135 Pn 10 22 23.4 -2.5
CTW Cottonwood Mou 6.88 129 Pn 10 22 24.5 -3.0
HAY Hayfield 6.97 128 P Pn 10 22 26.2 -2.6
HAY Hayfield 6.97 128 Pn 10 22 26.2 -2.6
SLH Sleepy Hollow 6.99 133 Pn 10 22 26.4 -2.6
IRM Iron Mountain 7.04 123 P Pn 10 22 26.6 -3.0
baz=307
NEE2 Needles Airpor 7.06 116 P Pn 10 22 27.9 -2.0
baz=301
G03D McMinnville, O 7.07 354 P Pn 10 22 30.5 +0.5
baz=174,SNR=52
G05D Wamic, OR 7.10 6 P Pn 10 22 31.3 +0.8
baz=186,SNR=321
MONP2 Monument Peak 7.12 136 P Pn 10 22 28.5 -2.5
baz=320
BAR Barrett 7.15 138 Pn 10 22 28.2 -3.0
BC3 Big Chuckawall 7.15 127 P Pn 10 22 28.1 -3.2
baz=311
J20D J20D 7.16 331 P Pn 10 22 32.6 +1.7
J20D S Sb 10 24 16.6 +0.5
MFID Camas Ranch 7.18 41 Pn 10 22 30.8 -0.8
TKX Tecate 7.27 139 Pn 10 22 30.6 -2.3
J27D J27D 7.32 337 P Pn 10 22 34.6 +1.5
J27D S Sb 10 24 26.8 +6.3
W13A Hualapai Mount 7.43 112 Pn Pn 10 22 34.2 -0.9
SWSC Sam W. Stewart 7.43 133 P Pn 10 22 32.1 -3.0
baz=317
CBX Cerro Bola 7.44 140 Pn 10 22 32.9 -2.4
IKP In-Ko-Pah, Jac 7.47 136 P Pn 10 22 33.3 -2.4
baz=320
RMX La Rumorosa 7.53 136 Pn 10 22 35.7 -0.8
PDMCI Parker Dam,Lak 7.64 118 P Pn 10 22 35.7 -2.1
baz=303
DUG Dugway, Tooele 7.64 72 P Pn 10 22 35.9 -2.1
baz=258
DUG Dugway, Tooele 7.64 72 P Pn 10 22 36.2 -1.8
DUG Dugway, Tooele 7.64 72 Pn 10 22 36.2 -1.8
BGU Big Grassy Mou 7.67 66 Pn Pn 10 22 36.9 -1.6

F05D White Salmon 7.73 4 P Pn 10 22 39.2 0.0
baz=185,SNR=100
J28D J28D 7.76 334 P Pn 10 22 41.4 +2.3
J28D S Sb 10 24 34.1 +1.0
CCX Cicese 7.80 142 Pn 10 22 37.7 -2.4
F04D Rainier, OR 7.92 356 P Pn 10 22 41.2 -0.5
baz=176,SNR=32
GLA Glamis 7.94 128 P Pn 10 22 38.8 -3.3
baz=312
GLA Glamis 7.94 128 P Pn 10 22 38.7 -3.4
GLA Glamis 7.94 128 Pn 10 22 38.7 -3.4
HLID Hailey 8.04 45 P Pn 10 22 42.4 -1.2
baz=231
ESJX Sierra Juarez 8.06 138 Pn 10 22 42.3 -1.5
E04D Cinebar 8.38 359 P Pn 10 22 46.1 -1.9
baz=179,SNR=9.6
Y14A Wickenburg 8.63 117 Pn Pn 10 22 49.8 -1.8
113A Mohawk Valley, 8.80 125 Pn Pn 10 22 50.2 -3.6
D04E Lakebay 9.01 358 P Pn 10 22 55.2 -1.4
baz=178
SPX San Pedro Mart 9.07 140 Pn Pn 10 22 57.3 -0.6
WUAZ Wupatki 9.15 104 P Pn 10 22 58.4 -0.4
baz=290
D03D Eldon 9.37 357 P Pn 10 23 00.2 -1.4
baz=176,SNR=50
214A Organ Pipe Nat 9.94 126 P Pn 10 23 08.3 -1.2
baz=312
214A S Sn 10 25 03.8 +2.5
baz=312
214A Organ Pipe Nat 9.94 126 Pn 10 23 06.5 -3.0
B05A Bryant 10.09 1 P Pn 10 23 10.5 -0.9
baz=181,SNR=13
W18A Petrified Fore 10.54 103 P Pn 10 23 19.1 +1.2
baz=291
A04D Lummi Island 10.55 359 P Pn 10 23 16.8 -0.9
baz=178
MSO Missoula 10.62 33 P Pn 10 23 19.0 +0.2
baz=218
MSO S Sn 10 25 30.2 +12
baz=218
BW06 Boulder Array 10.73 61 P Pn 10 23 22.6 +2.1
baz=249
BW06 S Sn 10 25 19.3 -1.6
baz=249
PDAR Pinedale Array 10.73 61 Pn Pn 10 23 22.4 +1.9
0.3nm,0.3s,baz=245,slow=10.0,SNR=45
PDAR Lg Lg 10 26 21.6
0.2nm,0.3s,baz=240,slow=34,SNR=2.6
I56US NEWPORT INFRASI 10.77 19 i 11 31 30.0
baz=205,slow=329,SNR=1.4
NEW Newport 10.77 19 P Pn 10 23 20.5 -0.3
baz=202
NEW S Sn 10 25 26.2 +4.8
baz=202
NEW Newport 10.77 19 P Pn 10 23 19.7 -1.1
NEW Newport 10.77 19 Pn 10 23 19.7 -1.1
H17A Grant Village 10.79 51 P Pn 10 23 23.9 +2.7
baz=239
H17A S Sn 10 25 35.5 +13
baz=239
BOZ Bozeman (W) 10.87 44 P Pn 10 23 22.7 +0.5
baz=231
BOZ S Sn 10 25 29.3 +5.2
baz=231
MVCO Mesa Verde 10.98 91 P Pn 10 23 24.5 +0.7
baz=280
TUC Tucson 11.08 118 P Pn 10 23 24.7 -0.4
baz=305
TUC Tucson 11.08 118 P Pn 10 23 24.4 -0.7
TUC Tucson 11.08 118 Pn 10 23 24.4 -0.7
O20A White River Ci 11.09 75 P Pn 10 23 26.7 +1.4
baz=264
RLMT Red Lodge 11.96 50 P Pn 10 23 39.8 +2.5
baz=239
RLMT S Sn 10 26 01.0 +10
baz=239
S22A 4UR Ranch, Cre 12.22 87 P Pn 10 23 42.4 +1.5
baz=277
319A Douglas 12.66 118 Pn 10 23 46.5 -0.3
K22A Casper 12.82 65 P Pn 10 23 48.6 -0.4
baz=255
K22A S Sn 10 26 13.7 +1.8
baz=255
N23A Red Feather La 12.92 73 P Pn 10 23 50.4 +0.1
baz=263
ISCO Idaho Springs 13.09 78 P Pn 10 23 53.1 +0.4
baz=268
ISCO S Sn 10 26 21.3 +2.7
baz=268
Y22D IRIS PASSCAL I 13.09 104 P Pn 10 23 55.0 +2.4
baz=293
121A Cookes Peak, D 13.11 111 P Pn 10 23 54.3 +1.3
baz=300
HSIG 13.14 131 Pn 10 23 53.0 -0.2
ANMO Albuquerque 13.14 99 c i P Pn 10 23 54.1 +0.8
ANMO pmax pmax
comp=Z,68nm,1.7s
SDCO Great Sand Dun 13.27 87 P Pn 10 23 55.2 0.0
baz=277
SDCO S Sn 10 26 30.3 +7.3
baz=277
EGMT Eagleton 13.43 39 P Pn 10 23 56.2 -1.0
baz=228
EGMT S Sn 10 26 30.2 +3.5
baz=228
EGMT Eagleton 13.43 39 Pn 10 23 55.4 -1.8
Q24A Divide 13.45 81 P Pn 10 23 59.4 +1.7
baz=272
Q24A S Sn 10 26 33.6 +6.2
baz=272
T25A Trinidad 14.21 89 P Pn 10 24 09.3 +1.2
baz=280
T25A S Sn 10 26 54.9 +8.9
baz=280
T25A Trinidad 14.21 89 P Pn 10 24 10.2 +2.2
LAO LASA Array 14.59 49 P Pn 10 24 13.0 +0.1
baz=240
LAO S Sn 10 27 02.6 +7.9
baz=240
LAO LASA Array 14.59 49 P Pn 10 24 13.1 +0.1
BBB Bella Bella 14.59 346 Pn Pn 10 24 12.2 -0.7
comp=Z,0.2nm,0.3s,baz=169,slow=13,SNR=14
BBB Sn S 10 27 07.0 -7.1
comp=Z,0.1nm,0.3s,baz=42,slow=16,SNR=1.5
BBB LR LR 10 29 24.5
comp=Z,102µm,21.0s,baz=174,slow=36
BBB Bella Bella 14.59 346 P Pn 10 24 12.0 -0.9
RSSD Black Hills 14.98 61 P Pn 10 24 18.7 +0.2
baz=253
RSSD S S 10 27 15.9 -6.7
baz=253
RSSD Black Hills 14.98 61 P Pn 10 24 19.1 +0.7
RSSD Black Hills 14.98 61 P Pn 10 24 19.1 +0.7
MNTX Cornudas Mount 15.29 110 P Pn 10 24 23.9 +1.3
baz=300
MNTX S S 10 27 42.6 +14
baz=300
MNTX Cornudas Mount 15.29 110 P Pn 10 24 23.1 +0.6
KSCO Kaye Shedlock' 15.41 81 P Pn 10 24 23.8 -0.3
baz=273
KSCO S S 10 27 24.1 -7.2
baz=273
KSCO Kaye Shedlock' 15.41 81 P Pn 10 24 26.2 +2.1
KSCO IAmb IAmb 10 24 46.8
comp=Z,348nm,1.1s
GDL2 Guadalupe Moun 15.82 107 P P 10 24 31.9 -1.5
CPRX Cap Rock 15.84 103 P P 10 24 32.4 -1.2
MSTX Muleshoe 16.33 99 P Pn 10 24 36.1 +0.1
baz=291
MSTX S S 10 27 55.8 +5.6
baz=291
MSTX Muleshoe 16.33 99 Pn 10 24 36.6 +0.5
MSTX IAmb IAmb 10 24 49.9
comp=Z,1µm,1.6s
DIB Dawson Inlet, 16.60 338 P Pn 10 24 39.0 -0.1
H02S1 DAWSON INLET T 16.60 338 Pn Pn 10 24 37.5 -1.7
H02N1 VAN INLET T-PH 16.66 338 Pn Pn 10 24 38.0 -2.1
DGMT Dagmar 16.68 46 P Pn 10 24 38.6 -1.7
baz=239
DGMT S Sn 10 27 45.8 +0.3
baz=239
DGMT Dagmar 16.68 46 Pn 10 24 39.2 -1.1
AMTX Amarillo 16.89 95 P Pn 10 24 43.0 -0.1
baz=287
AMTX S S 10 28 03.5 +2.0
baz=287
LPIG La Paz 17.36 140 P Pn 10 24 48.6 -0.3
comp=Z,1.3nm,0.3s,baz=144,slow=2.8,SNR=7.1
LPIG LR LR 10 31 48.4
comp=Z,173µm,18.2s,baz=332,slow=38
CBKS Cedar Bluff 17.67 81 P Pn 10 24 52.7 -0.1
baz=275
CBKS S S 10 28 14.5 -2.8
baz=275
CBKS Cedar Bluff 17.67 81 P Pn 10 24 52.7 -0.1
CBKS pmax pmax
comp=Z,290nm,1.0s
CBKS Cedar Bluff 17.67 81 P Pn 10 24 52.7 -0.1
TX31 Lajitas Ar. Si 17.80 114 P P 10 24 55.5 +0.2
TX32 Lajitas Array 17.80 114 P P 10 24 55.6 +0.3
TXAR Lajitas Array 17.80 114 P P 10 24 55.1 -0.2
comp=Z,0.9nm,0.3s,baz=294,slow=10,SNR=383
TXAR PcP PcP 10 29 31.9 +0.2
comp=Z,0.0nm,0.3s,baz=306,slow=3.0,SNR=1.8
TXAR LR LR 10 32 22.9
comp=Z,27µm,21.1s,baz=0.0,slow=39
SLBS Sierra La Lagu 17.89 140 P Pn 10 24 51.1 -4.4
SUSD Miller 18.59 63 P P 10 25 02.7 -1.1
baz=258
SUSD S Sn 10 28 30.4 -1.5
baz=258
BGNE Belgrade 18.82 73 P P 10 25 05.8 -0.5
baz=268
BGNE S Sn 10 28 38.4 +0.8
baz=268
MDND Maddock 19.15 52 P P 10 25 07.6 -2.3
baz=248
MDND S Sn 10 28 43.4 -1.8
baz=248
WMOK Wichita Mounta 19.21 93 P P 10 25 11.1 +0.4
baz=287
WMOK S S 10 28 57.0 +8.4
baz=287
WMOK Wichita Mounta 19.21 93 P P 10 25 10.2 -0.6
WMOK pmax pmax
comp=Z,233nm,1.7s
WMOK Wichita Mounta 19.21 93 P P 10 25 10.2 -0.6
KAN12 Harper NE Stat 19.23 85 P P 10 25 10.6 -0.3
ABTX Abilene, Hawle 19.26 100 P P 10 25 10.6 -0.7
baz=293
ABTX S S 10 28 58.7 +9.2
baz=293
ABTX Abilene, Hawle 19.26 100 P P 10 25 10.8 -0.5
ABTX IAmb IAmb 10 25 22.4
comp=Z,620nm,1.6s
KAN13 South Haven SW 19.69 86 P P 10 25 15.5 -0.4
JCT Junction City 20.07 106 P P 10 25 19.6 -0.6
baz=299
JCT S Sn 10 29 18.7 +11
baz=299
JCT Junction City 20.07 106 P P 10 25 19.6 -0.6
JCT pmax pmax
comp=Z,792nm,1.7s
JCT MLR MLR
comp=Z,176µm,18.0s
JCT Junction City 20.07 106 P P 10 25 19.6 -0.6
JCT IAmb IAmb 10 25 32.0
comp=Z,792nm,1.7s
KSU1 Kansas State U 20.07 79 P P 10 25 19.3 -0.8
baz=276
KSU1 S Sn 10 29 07.3 -0.5
baz=276
KSU1 Kansas State U 20.07 79 P P 10 25 19.8 -0.3
KSU1 IAmb IAmb 10 25 28.7
comp=Z,380nm,0.9s
KSU1 IAMs_20 IAMs_20 10 33 11.7
comp=Z,84µm,18.0s
ECSD EROS Data Cent 20.14 66 P P 10 25 18.3 -2.4
baz=263
ECSD S S 10 29 05.2 -1.8
baz=263
T35A Sooner Cattle 20.47 86 P P 10 25 23.4 -1.0
T35A IAmb IAmb 10 25 33.0
comp=Z,425nm,1.1s
T35A IAMs_20 IAMs_20 10 33 45.3
comp=Z,155µm,20.0s
QUOK Quay 20.47 88 IAMs_20 IAMs_20 10 33 44.8
comp=Z,110µm,21.0s
F33A 5 Mile Ranch, 20.73 60 P P 10 25 23.5 -3.5
Z35A Perchaven, San 20.87 96 P P 10 25 27.6 -1.1
Z35A IAmb IAmb 10 25 42.2
comp=Z,233nm,0.9s
DLBC Dease Lake 20.89 349 P P 10 25 29.1 +0.2
comp=Z,168nm,1.1s,baz=163,slow=9.7,SNR=42
DLBC S Sn 10 29 33.4 +6.1
comp=Z,7.0nm,1.2s,baz=351,slow=14,SNR=1.4
DLBC LR LR 10 34 46.7
comp=Z,99µm,18.6s,baz=165,slow=40
DLBC Dease Lake 20.89 349 P P 10 25 29.5 +0.6
DLBC IAmb IAmb 10 25 34.5
comp=Z,514nm,1.4s
DLBC IAMs_20 IAMs_20 10 34 26.7
comp=Z,104µm,19.0s
WHTX Lake Whitney, 21.21 99 P P 10 25 31.2 -1.2
baz=294
WHTX S Sn 10 29 41.0 +5.7
baz=294
WHTX Lake Whitney, 21.21 99 P P 10 25 31.0 -1.5
WHTX IAmb IAmb 10 25 47.3
comp=Z,635nm,1.4s
TUL1 Leonard 21.26 88 P P 10 25 31.7 -1.2
baz=284
TUL1 S S 10 29 32.1 +2.8
baz=284
TUL1 Leonard 21.26 88 P P 10 25 31.5 -1.4
TUL1 IAmb IAmb 10 25 40.8
comp=Z,437nm,1.1s
TUL1 IAMs_20 IAMs_20 10 34 11.2
comp=Z,110µm,20.0s
833A Chaparral WMA, 21.48 110 P P 10 25 34.7 -0.6
baz=303
833A S Sn 10 29 45.2 +3.5
baz=303
833A Chaparral WMA, 21.48 110 P P 10 25 34.9 -0.4
833A IAmb IAmb 10 26 24.1
comp=Z,601nm,1.8s
833A IAMs_20 IAMs_20 10 34 34.6
comp=Z,78µm,18.0s
FFC Flin Flon 21.55 33 P P 10 25 32.3 -3.6
FFC pmax pmax
comp=Z,321nm,1.0s
FFC MLR MLR
comp=Z,87µm,18.0s
FFC Flin Flon 21.55 33 P P 10 25 32.3 -3.6
FFC IAmb IAmb 10 25 48.1
comp=Z,321nm,1.0s
FFC Flin Flon 21.55 33 IAMs_20 IAMs_20 10 34 39.7
comp=Z,87µm,18.0s
JIS Juneau Island 21.60 343 IAMs_20 IAMs_20 10 32 39.5
comp=Z,87µm,20.0s
435B Jarrell 21.63 103 P P 10 25 35.9 -1.0
baz=297
435B S Sn 10 29 45.6 +0.4
baz=297
435B Jarrell 21.63 103 P P 10 25 35.7 -1.2
435B IAmb IAmb 10 25 45.3
comp=Z,384nm,0.9s
AGMN Agassiz Nation 21.66 54 P P 10 25 35.2 -1.9
baz=252
AGMN S S 10 29 37.3 +0.4
baz=252
AGMN Agassiz Nation 21.66 54 IAMs_20 IAMs_20 10 34 15.9
comp=Z,60µm,18.0s
X37A Clayton 21.94 91 P P 10 25 39.2 -1.1
BESE Bessie Mountai 21.99 342 IAMs_20 IAMs_20 10 32 49.6
comp=Z,78µm,20.0s
U38A Gravette 22.24 86 P P 10 25 41.5 -2.0
U38A IAMs_20 IAMs_20 10 34 51.2
comp=Z,145µm,21.0s
ULM Lac du Bonnet 22.33 49 P P 10 25 41.1 -3.2
comp=Z,44nm,0.8s,baz=260,slow=11,SNR=18
ULM LR LR 10 34 38.5
comp=Z,93µm,19.5s,baz=248,slow=38
ULM Lac du Bonnet 22.33 49 P P 10 25 41.7 -2.6
ULM pmax pmax
comp=Z,200nm,1.2s
ULM MLR MLR
comp=Z,104µm,19.0s
ULM Lac du Bonnet 22.33 49 P P 10 25 41.7 -2.6
ULM IAMs_20 IAMs_20 10 34 27.6
comp=Z,104µm,19.0s
P38A Dawn 22.40 77 P P 10 25 43.2 -1.9
P38A IAmb IAmb 10 25 54.5
comp=Z,262nm,0.9s

P38A IAMs_20 IAMs_20 10 34 45.2
comp=Z,105µm,18.0s
I37A Lemond, Waseca 22.48 66 P **P** **10 25 44.7 -1.3**
I37A IAmb IAmb 10 26 33.4
comp=Z,438nm,1.4s
237A Washetta, Mont 22.49 98 P **P** **10 25 44.7 -1.5**
237A IAmb IAmb 10 25 56.2
comp=Z,247nm,1.0s
SCIA State Center 22.53 71 P **P** **10 25 44.8 -1.7**
baz=270
SCIA S **S** **10 29 53.0 -0.7**
baz=270
SCIA State Center 22.53 71 P **P** **10 25 44.8 -1.7**
SCIA IAmb IAmb 10 25 58.4
comp=Z,297nm,1.1s
HHAR Hobbs 22.63 86 P **P** **10 25 45.9 -1.7**
HHAR IAmb IAmb 10 26 14.0
comp=Z,241nm,1.3s
HHAR IAMs_20 IAMs_20 10 35 02.4
comp=Z,125µm,20.0s
F36A Milaca 22.63 61 P **P** **10 25 45.3 -2.2**
F36A IAmb IAmb 10 26 02.7
comp=Z,229nm,1.2s
Z38A Mt. Pleasant 22.67 94 IAMs_20 IAMs_20 10 35 03.9
comp=Z,79µm,19.0s
S39A Bolivar 22.82 82 P **P** **10 25 47.3 -2.4**
S39A IAmb IAmb 10 26 02.1
comp=Z,162nm,0.9s
S39A IAMs_20 IAMs_20 10 35 17.6
comp=Z,101µm,19.0s
ZAIG Zacatecas 22.84 127 P **P** **10 25 49.7 -0.6**
ZAIG IAMs_20 IAMs_20 10 34 53.9
comp=Z,108µm,19.0s
K38A Parkersburg 22.86 69 P **P** **10 25 49.3 -0.7**
K38A IAmb IAmb 10 26 35.2
comp=Z,250nm,1.2s
SKAG Skagway 22.88 343 IAMs_20 IAMs_20 10 33 29.3
comp=Z,68µm,20.0s
W39A Magazine 23.02 89 P **P** **10 25 50.1 -1.6**
baz=286
W39A S **S** **10 30 06.3 +3.7**
baz=286
W39A Magazine 23.02 89 P **P** **10 25 50.2 -1.5**
W39A IAmb IAmb 10 26 13.0
comp=Z,468nm,1.6s
W39A IAMs_20 IAMs_20 10 34 54.0
comp=Z,69µm,18.0s
SPMN Marine on St. 23.04 63 P **P** **10 25 49.3 -2.5**
baz=263
SPMN S **S** **10 30 01.1 -1.5**
baz=263
SPMN Marine on St. 23.04 63 P **P** **10 25 48.5 -3.3**
B35A Bob, Littlefor 23.04 55 P **P** **10 25 51.1 -0.7**
B35A IAmb IAmb 10 26 28.0
comp=Z,265nm,1.6s
HKT Hockley 23.35 103 P **P** **10 25 54.1 -1.0**
HKT pmax pmax
comp=Z,767nm,1.8s
HKT MLR MLR
comp=Z,198µm,18.0s
HKT Hockley 23.35 103 P **P** **10 25 54.1 -1.0**
MIAR Mount Ida 23.37 90 P **P** **10 25 54.0 -1.3**
baz=288
MIAR S **S** **10 30 12.2 +3.8**
baz=288
MIAR Mount Ida 23.37 90 P **P** **10 25 54.5 -0.8**
MIAR pmax pmax
comp=Z,1µm,1.8s
MIAR MLR MLR
comp=Z,185µm,20.0s
MIAR Mount Ida 23.37 90 P **P** **10 25 54.5 -0.8**
U40A Yellville 23.46 85 P **P** **10 25 54.0 -2.2**
baz=284
U40A S **S** **10 30 12.3 +2.4**
baz=284
U40A Yellville 23.46 85 P **P** **10 25 54.0 -2.2**
U40A IAMs_20 IAMs_20 10 35 29.6
comp=Z,124µm,21.0s
NATX Nacogdoches 23.48 97 P **P** **10 25 56.2 -0.2**
baz=294
NATX S **S** **10 30 18.5 +8.2**
baz=294
R40A Maddies Statio 23.55 80 P **P** **10 25 54.6 -2.4**
P40A Paris 23.55 77 P **P** **10 25 55.0 -2.0**
P40A IAMs_20 IAMs_20 10 35 38.6
comp=Z,77µm,18.0s
X40A Basin Creek Fa 23.97 90 P **P** **10 25 58.9 -2.3**
baz=288
X40A S **S** **10 30 19.9 +1.9**
baz=288
X40A Basin Creek Fa 23.97 90 P **P** **10 25 59.7 -1.5**
X40A IAmb IAmb 10 26 16.0
comp=Z,376nm,1.9s
WLAR White Oak Lake 24.00 92 P **P** **10 26 00.9 -0.6**
L40A Anamosa 24.01 71 P **P** **10 25 58.6 -2.8**
L40A IAmb IAmb 10 26 50.0
comp=Z,245nm,1.1s
FCAR Ozark Folk Cen 24.15 86 P **P** **10 26 01.0 -1.8**
FCAR IAmb IAmb 10 26 18.1
comp=Z,147nm,1.1s
WHAR Wooly Hollow 24.18 88 P **P** **10 26 02.0 -1.0**
W41B Gary Mavity, V 24.24 88 P **P** **10 26 02.0 -1.7**
baz=286
W41B S **S** **10 30 26.7 +4.4**
baz=286
W41B Gary Mavity, V 24.24 88 P **P** **10 26 02.7 -0.9**
W41B IAmb IAmb 10 26 10.1
comp=Z,392nm,1.6s
W41B IAMs_20 IAMs_20 10 36 03.2
comp=Z,103µm,18.0s
UALR University of 24.28 89 P **P** **10 26 03.7 -0.3**
UALR IAmb IAmb 10 27 01.1
comp=Z,300nm,1.9s
N41A Harden Midland 24.35 74 P **P** **10 26 02.9 -1.7**
CCM Cathedral Cave 24.38 81 P **P** **10 26 03.1 -1.8**
baz=280
CCM S **S** **10 30 22.8 -1.7**
baz=280
CCM Cathedral Cave 24.38 81 P **P** **10 26 02.6 -2.3**
CCM pmax pmax
comp=Z,482nm,1.2s
CCM MLR MLR
comp=Z,45µm,22.0s
CCM Cathedral Cave 24.38 81 P **P** **10 26 02.6 -2.3**
EYMN Ely 24.39 56 P **P** **10 26 04.2 -0.7**
baz=258
EYMN S **S** **10 30 23.2 -1.4**
baz=258
EYMN Ely 24.39 56 P **P** **10 26 03.8 -1.2**
EYMN IAmb IAmb 10 26 42.4
comp=Z,196nm,1.4s
Z41A Richland Creek 24.39 93 P **P** **10 26 03.9 -1.1**
baz=290
Z41A S **S** **10 30 33.8 +9.1**
baz=290
Z41A Richland Creek 24.39 93 IAMs_20 IAMs_20 10 36 30.3
comp=Z,114µm,20.0s
T42A Van Buren 24.70 83 IAMs_20 IAMs_20 10 36 18.1
comp=Z,105µm,22.0s
JFWS Jewell Farm 24.72 69 P **P** **10 26 05.0 -3.0**
baz=270
JFWS S **S** **10 30 28.5 -1.5**
baz=270
JFWS Jewell Farm 24.72 69 IAMs_20 IAMs_20 10 36 41.5
comp=Z,49µm,19.0s
YKA Yellowknife Ar 24.80 9 P **P** **10 26 07.4 -1.1**
comp=Z,15nm,0.8s,baz=194,slow=9.0,SNR=25
YKA LR LR 10 37 37.6
comp=Z,70µm,19.2s,baz=0.0,slow=41
LCAR Lake Charles 24.87 85 IAMs_20 IAMs_20 10 36 22.7
comp=Z,110µm,22.0s
G40A Rib Lake 24.87 63 IAMs_20 IAMs_20 10 35 10.1
comp=Z,47µm,19.0s
L42A Oliver, Polo 25.17 71 IAMs_20 IAMs_20 10 36 47.4
comp=Z,48µm,18.0s
MESA MESA 25.30 337 IAMs_20 IAMs_20 10 33 46.3
comp=Z,68µm,22.0s
YAH Yahtse 25.38 337 IAMs_20 IAMs_20 10 34 13.4
comp=Z,67µm,20.0s
P43A Skaggs, Pawnee 25.48 76 IAMs_20 IAMs_20 10 36 59.6
comp=Z,87µm,19.0s
X43A Marvell 25.50 89 P **P** **10 26 13.7 -1.4**
baz=288
X43A S **S** **10 30 49.5 +7.0**
baz=288
HDIL Hopedale 25.55 74 P **P** **10 26 13.9 -1.6**
baz=276
HDIL S **S** **10 30 46.4 +3.2**
baz=276
HDIL Hopedale 25.55 74 P **P** **10 26 13.0 -2.5**
HDIL IAmb IAmb 10 26 27.8
comp=Z,175nm,0.9s
HDIL IAMs_20 IAMs_20 10 36 56.4
comp=Z,68µm,22.0s
LPAR Lepanto 25.66 86 IAMs_20 IAMs_20 10 36 55.6
comp=Z,104µm,20.0s
COWI Conover 25.69 61 P **P** **10 26 15.1 -1.6**
COWI IAMs_20 IAMs_20 10 35 44.9
comp=Z,49µm,18.0s
ISLE Juniper Island 25.75 337 IAMs_20 IAMs_20 10 34 24.3
comp=Z,66µm,21.0s
GNAR Gosnell 25.78 85 IAMs_20 IAMs_20 10 36 39.0
comp=Z,76µm,22.0s
SUCK Suckling Hills 25.81 335 IAMs_20 IAMs_20 10 34 18.7
comp=Z,44µm,18.0s
PARMO Parma 25.82 83 IAMs_20 IAMs_20 10 36 55.0
comp=Z,107µm,22.0s
PEBM Pemiscott Bayo 25.87 84 IAMs_20 IAMs_20 10 37 18.3
comp=Z,90µm,18.0s
BARN Barnard Glacie 25.92 338 IAMs_20 IAMs_20 10 34 33.5
comp=Z,50µm,22.0s
Q44A Meyer Farm, Va 25.97 78 IAMs_20 IAMs_20 10 37 07.6
comp=Z,89µm,18.0s
HDBT Hernando Brdge 25.97 87 IAMs_20 IAMs_20 10 37 04.9
comp=Z,55µm,20.0s
TGL Tana Glacier 26.03 337 IAMs_20 IAMs_20 10 34 32.4
comp=Z,55µm,21.0s
MET Memphis--Engin 26.07 87 IAMs_20 IAMs_20 10 37 07.8
comp=Z,68µm,20.0s
BALM Baldy 26.10 338 IAMs_20 IAMs_20 10 34 25.4
comp=Z,60µm,22.0s
CRQM Cirque 26.12 337 IAMs_20 IAMs_20 10 34 33.5
comp=Z,53µm,22.0s
LNXT Lenox 26.16 84 IAMs_20 IAMs_20 10 37 13.0
comp=Z,112µm,22.0s
HMT Hamilton 26.16 335 IAMs_20 IAMs_20 10 34 07.1
comp=Z,54µm,22.0s
D41A Chassel 26.20 59 IAMs_20 IAMs_20 10 37 19.2
comp=Z,45µm,20.0s
O44A Mansfield 26.22 75 IAMs_20 IAMs_20 10 37 38.2
comp=Z,62µm,18.0s
Q23K Middleton Isla 26.25 332 P **P** **10 26 22.8 +1.2**
baz=133
Q23K S S 10 31 04.8 +11
baz=133
GLAT Glass 26.28 84 IAMs_20 IAMs_20 10 37 03.1
comp=Z,98µm,22.0s
RAGM Ragged Mountai 26.34 335 IAMs_20 IAMs_20 10 34 23.8
comp=Z,58µm,20.0s
F42A Maple Grove Fa 26.36 62 IAMs_20 IAMs_20 10 36 06.5
comp=Z,49µm,18.0s
L44A Lake County Fo 26.47 70 P **P** **10 26 23.8 0.0**
baz=273
L44A S **S** **10 30 56.0 -1.8**
baz=273
VBMS Vicksburg 26.56 93 P **P** **10 26 25.3 +0.7**
baz=292
VBMS S **S** **10 31 07.9 +8.6**
baz=292
VBMS Vicksburg 26.56 93 IAMs_20 IAMs_20 10 37 48.8
comp=Z,82µm,19.0s
MCARA McCarthy VSAT 26.58 338 IAMs_20 IAMs_20 10 34 51.4
comp=Z,58µm,22.0s
VRDI Verde Repeater 26.59 337 IAMs_20 IAMs_20 10 34 49.2
comp=Z,52µm,21.0s
T45A Paducah 26.61 82 IAMs_20 IAMs_20 10 37 12.8
comp=Z,77µm,20.0s
W45A Hickory Valley 26.65 86 IAMs_20 IAMs_20 10 37 26.0
comp=Z,81µm,20.0s
OXF Oxford 26.66 88 P **P** **10 26 24.9 -0.7**
baz=288
OXF S **S** **10 31 10.9 +10**
baz=288
OXF Oxford 26.66 88 IAMs_20 IAMs_20 10 37 29.4
comp=Z,77µm,21.0s
344A Westbrook Farm 26.68 95 IAMs_20 IAMs_20 10 37 34.1
comp=Z,67µm,19.0s
OLIL Olney 26.70 78 P **P** **10 26 23.7 -2.2**
OLIL IAmb IAmb 10 26 30.7
comp=Z,287nm,1.1s
OLIL IAMs_20 IAMs_20 10 37 30.1
comp=Z,80µm,19.0s
EYAK Cordova Ski Ar 26.82 334 IAMs_20 IAMs_20 10 34 35.6
comp=Z,73µm,20.0s
GLB Gilahina Butte 26.86 337 IAMs_20 IAMs_20 10 34 58.5
comp=Z,52µm,22.0s
HIN Hinchinbrook I 26.98 333 IAMs_20 IAMs_20 10 34 27.6
comp=Z,80µm,22.0s
USIN University of 27.18 80 P **P** **10 26 28.2 -2.0**
FID Port Fidalgo 27.22 334 IAMs_20 IAMs_20 10 34 36.7
comp=Z,70µm,22.0s
SFIN Lafayette 27.23 74 P **P** **10 26 29.3 -1.4**
baz=277
SFIN S **S** **10 31 06.6 -3.2**
baz=277
SFIN Lafayette 27.23 74 IAMs_20 IAMs_20 10 37 22.0
comp=Z,47µm,20.0s
545A Edgard 27.46 98 IAMs_20 IAMs_20 10 39 24.6
comp=Z,66µm,19.0s
FCC Fort Churchill 27.47 32 P **P** **10 26 30.7 -1.9**
FCC pmax pmax
FCC comp=Z,97nm,1.0s MLR MLR
comp=Z,60µm,20.0s
FCC Fort Churchill 27.47 32 P **P** **10 26 30.7 -1.9**
FCC IAmb IAmb 10 26 41.4
comp=Z,97nm,1.0s
FCC IAMs_20 IAMs_20 10 37 14.2
comp=Z,60µm,20.0s
UNM Universidad Na 27.50 127 IAMs_20 IAMs_20 10 37 23.4
comp=Z,91µm,19.0s
GLI Glacier Island 27.53 334 IAMs_20 IAMs_20 10 34 56.1
comp=Z,53µm,21.0s
KLU Klutina 27.57 335 IAMs_20 IAMs_20 10 35 04.2
comp=Z,61µm,22.0s
PLAL Pickwick Lake 27.58 86 IAMs_20 IAMs_20 10 38 04.5
comp=Z,78µm,18.0s
346A Big Creek Wild 27.71 94 IAMs_20 IAMs_20 10 38 44.1
comp=Z,62µm,21.0s
T47A Sharon Grove 27.82 81 P **P** **10 26 34.2 -1.8**
T47A IAmb IAmb 10 26 41.3
comp=Z,186nm,1.1s
T47A IAMs_20 IAMs_20 10 38 13.7
comp=Z,55µm,19.0s
KDAK Kodiak Island 27.83 325 LR LR 10 35 05.2
comp=Z,76µm,21.3s,baz=124,slow=31
KDAK Kodiak Island 27.83 325 IAMs_20 IAMs_20 10 34 43.3
comp=Z,76µm,22.0s
DAWY Dawson 27.87 344 IAMs_20 IAMs_20 10 36 28.1
comp=Z,67µm,20.0s
SEW Seward 27.87 331 IAMs_20 IAMs_20 10 34 49.3
comp=Z,83µm,22.0s
MENT Mentasta 28.00 339 IAMs_20 IAMs_20 10 36 04.7
comp=Z,65µm,22.0s
G45A Suttons Bay 28.07 64 IAMs_20 IAMs_20 10 37 09.8
comp=Z,47µm,18.0s
Z47A Carrollton 28.14 90 P **P** **10 26 38.0 -0.9**
Z47A IAmb IAmb 10 26 47.2
comp=Z,63nm,0.7s
WCI Wyandotte Cave 28.19 79 P **P** **10 26 37.8 -1.5**
baz=281
WCI S **S** **10 31 23.3 -1.6**
baz=281
WCI Wyandotte Cave 28.19 79 P **P** **10 26 37.4 -1.8**
WCI pmax pmax
comp=Z,556nm,2.0s
WCI MLR MLR
comp=Z,48µm,20.0s
WCI Wyandotte Cave 28.19 79 P **P** **10 26 37.4 -1.8**
WCI Wyandotte Cave 28.19 79 IAMs_20 IAMs_20 10 37 58.4
comp=Z,48µm,20.0s
O22K Cooper Landing 28.22 331 P **P** **10 26 43.4 +4.1**
baz=130
O22K S **S** **10 31 27.1 +2.2**
baz=130
BRLK Bradley Lake 28.23 329 IAMs_20 IAMs_20 10 35 10.7
comp=Z,81µm,21.0s
CNPM China Poot 28.23 329 IAMs_20 IAMs_20 10 35 10.7
comp=Z,91µm,21.0s
N47A Urbana 28.23 73 IAMs_20 IAMs_20 10 38 03.5
comp=Z,44µm,18.0s
SCM Sheep Creek Mo 28.28 335 IAMs_20 IAMs_20 10 35 36.0
comp=Z,43µm,20.0s
V48A Smith Brothers 28.35 84 P **P** **10 26 38.5 -2.2**
KNK Knik Glacier 28.37 334 IAMs_20 IAMs_20 10 35 22.5
comp=Z,60µm,21.0s
CHIR Chirikof Islan 28.39 319 IAMs_20 IAMs_20 10 35 25.0
comp=Z,54µm,18.0s
K27K Chicken 28.46 342 P **P** **10 26 41.6 +0.2**
baz=146
K27K S **S** **10 31 34.3 +5.6**
baz=146
HOM Homer 28.47 329 S **S** **10 31 31.3 +2.4**
baz=126
PAX Paxson 28.53 338 IAMs_20 IAMs_20 10 35 42.7
comp=Z,51µm,22.0s
X48A Hartselle 28.54 87 P **P** **10 26 40.6 -1.8**
X48A IAMs_20 IAMs_20 10 38 36.1
comp=Z,51µm,20.0s
SML Sawmill 28.60 334 IAMs_20 IAMs_20 10 35 42.6
comp=Z,55µm,20.0s
P48A Milroy 28.63 76 P **P** **10 26 42.0 -1.3**
CLTN Cedars of Leba 28.64 83 P **P** **10 26 41.6 -1.7**
CLTN IAMs_20 IAMs_20 10 38 25.6
comp=Z,90µm,21.0s
DOT Dot Lake 28.66 340 IAMs_20 IAMs_20 10 36 25.2
comp=Z,65µm,22.0s
J47A Sunmer 28.69 68 IAMs_20 IAMs_20 10 38 58.4
comp=Z,52µm,19.0s
PMR Palmer 28.73 333 IAMs_20 IAMs_20 10 35 44.0
comp=Z,46µm,20.0s
GHO Glory Hole Cre 28.78 334 IAMs_20 IAMs_20 10 35 46.3
comp=Z,55µm,20.0s
GLMI Grayling 28.80 65 IAMs_20 IAMs_20 10 37 31.6
comp=Z,47µm,20.0s
EGAK Eagle 28.87 343 IAMs_20 IAMs_20 10 37 06.7
comp=Z,57µm,20.0s
SCRK Sand Creek 28.91 340 P **P** **10 26 45.5 0.0**
baz=143
SCRK S S 10 31 46.7 +11
baz=143
RIDG Independent Ri 28.95 339 IAMs_20 IAMs_20 10 36 32.8
comp=Z,74µm,21.0s
U49A Red Boiling Sp 28.96 82 P **P** **10 26 45.7 -0.5**
U49A IAmb IAmb 10 26 51.9
comp=Z,238nm,1.8s
U49A IAMs_20 IAMs_20 10 38 36.1
comp=Z,81µm,21.0s
R49A Shelbyville 29.04 78 P **P** **10 26 44.8 -2.0**
R49A IAmb IAmb 10 26 51.8
comp=Z,236nm,1.4s
R49A IAMs_20 IAMs_20 10 38 34.0
comp=Z,59µm,21.0s
LRAL Lakeview Retre 29.04 89 P **P** **10 26 45.8 -1.1**
baz=290
LRAL S **S** **10 31 39.0 +0.5**
baz=290
LRAL Lakeview Retre 29.04 89 P **P** **10 26 45.8 -1.1**
LRAL IAmb IAmb 10 26 55.7
comp=Z,176nm,1.8s
E46A Sault Ste Mari 29.05 61 IAMs_20 IAMs_20 10 37 48.9
comp=Z,34µm,18.0s
L48A N Adams 29.07 70 P **P** **10 26 45.3 -1.7**
P49A Miami Univ. Ec 29.16 75 P **P** **10 26 46.1 -1.8**
baz=280
P49A S **S** **10 31 36.1 -4.1**
baz=280
P49A Miami Univ. Ec 29.16 75 P **P** **10 26 45.2 -2.7**
TLIG Tlapa 29.20 128 IAMs_20 IAMs_20 10 37 37.6
comp=Z,62µm,21.0s
Y49A Blount Mountai 29.23 87 P **P** **10 26 46.9 -1.7**
Y49A IAMs_20 IAMs_20 10 38 58.3
comp=Z,59µm,21.0s
SUA Susitna One 29.23 332 IAMs_20 IAMs_20 10 35 56.3
comp=Z,60µm,20.0s
D46A Sault St. Mari 29.27 60 P **P** **10 26 48.0 -0.8**
baz=267
D46A S **S** **10 31 39.5 -2.3**
baz=267
Q49A Covington 29.35 74 P **P** **10 26 47.7 -1.9**
N49A Columbus Grove 29.37 73 P **P** **10 26 49.0 -0.7**
N49A IAMs_20 IAMs_20 10 38 47.5
comp=Z,46µm,18.0s
T50A Nancy 29.57 80 P **P** **10 26 50.1 -1.5**
T50A IAMs_20 IAMs_20 10 39 19.2
comp=Z,48µm,20.0s
AAM Ann Arbor 29.61 70 P **P** **10 26 49.3 -2.5**
baz=275
AAM S **S** **10 31 43.0 -4.2**
baz=275
FPAL Fort Paine 29.64 86 IAMs_20 IAMs_20 10 39 18.2
comp=Z,61µm,19.0s
CUT Chulitna 29.68 334 P **P** **10 26 52.9 +0.7**
baz=132
CUT S **S** **10 31 50.5 +2.7**
baz=132
BRAL Brewton 29.69 93 P **P** **10 26 53.4 +0.7**
baz=294
BRAL S **S** **10 31 51.2 +2.6**
baz=294
BRAL Brewton 29.69 93 IAMs_20 IAMs_20 10 40 10.7
comp=Z,70µm,21.0s
R50A Paris 29.69 78 P **P** **10 26 50.7 -1.9**
R50A IAmb IAmb 10 26 57.6
comp=Z,116nm,1.2s
R50A IAMs_20 IAMs_20 10 38 41.2
comp=Z,42µm,19.0s
E47A Iron Bridge 29.77 61 P **P** **10 26 52.3 -0.9**
baz=268
E47A S **S** **10 31 49.7 0.0**
baz=268
SKT Skwentna 29.85 332 IAMs_20 IAMs_20 10 36 16.6
comp=Z,59µm,20.0s
RND Reindeer 29.90 336 IAMs_20 IAMs_20 10 36 29.2
comp=Z,55µm,22.0s
D47A Chapleau 29.91 60 P **P** **10 26 53.8 -0.8**
baz=267
D47A S **S** **10 31 47.7 -4.2**
baz=267
250A Grady 30.00 91 P **P** **10 26 54.9 -0.5**
HDA Harding Lake 30.06 339 P **P** **10 26 56.0 +0.4**
baz=139
HDA S **S** **10 31 56.4 +2.6**
baz=139
HDA Harding Lake 30.06 339 IAMs_20 IAMs_20 10 37 06.0
comp=Z,52µm,22.0s
CNBA Chernabura Isl 30.14 316 IAMs_20 IAMs_20 10 35 55.5
comp=Z,50µm,20.0s
MCK McKinley 30.16 337 IAMs_20 IAMs_20 10 36 38.6
comp=Z,48µm,22.0s
M50A Fremont 30.16 71 IAMs_20 IAMs_20 10 39 14.5
comp=Z,34µm,18.0s
F48A Evansville 30.21 63 P **P** **10 26 57.6 +0.5**
baz=270
F48A S **S** **10 31 54.1 -2.5**
baz=270
CPCT Cooper Cave 30.23 83 P **P** **10 26 55.8 -1.7**
CPCT IAmb IAmb 10 27 04.1
comp=Z,208nm,1.4s
ILAR Eielson Array 30.32 339 P **P** **10 26 57.5 -0.4**
comp=Z,53nm,1.1s,baz=157,slow=7.6,SNR=52
ILAR PcP **PcP** **10 29 57.7 -0.1**
comp=Z,7.6nm,1.1s,baz=156,slow=1.8,SNR=5.1
ILAR LR LR 10 37 36.2
comp=Z,46µm,21.5s,baz=146,slow=33
K50A Casco 30.33 69 IAMs_20 IAMs_20 10 39 40.9
comp=Z,56µm,18.0s
ACSO Alum Creek Sta 30.37 74 P **P** **10 26 57.2 -1.4**
baz=279
ACSO S **S** **10 31 56.9 -2.2**
baz=279
Z51A Franklin 30.38 88 IAMs_20 IAMs_20 10 39 33.8
comp=Z,56µm,21.0s
TRF Thorofare Moun 30.39 335 IAMs_20 IAMs_20 10 36 52.9
comp=Z,56µm,20.0s
S51A Beattyville 30.40 79 IAMs_20 IAMs_20 10 39 36.9
comp=Z,66µm,21.0s
P51A Williamsport 30.43 75 P **P** **10 26 57.9 -1.3**
baz=280
P51A S **S** **10 31 58.4 -1.8**
baz=280
WRH Wood River Hil 30.44 338 IAMs_20 IAMs_20 10 39 18.0
comp=Z,36µm,20.0s
CCB Clear Creek Bu 30.48 339 IAMs_20 IAMs_20 10 37 18.2
comp=Z,50µm,22.0s
E48A Lockeyer 30.54 61 P **P** **10 27 01.5 +1.5**
baz=269
E48A S **S** **10 32 00.2 -1.5**
baz=269
F49A Sandfield 30.62 63 P **P** **10 27 03.8 +3.0**
baz=270
F49A S **S** **10 32 03.5 +0.5**
baz=270

COLA College 30.67 339 *e*P P 10 27 03.1 +2.2
COLA pmax pmax
comp=Z,89nm,1.6s
COLA MLR MLR
comp=Z,40µm,17.0s
COLA College 30.67 339 IAMs_20 IAMs_20 10 37 24.2
comp=Z,48µm,22.0s
O51A Pataskala 30.67 74 P P 10 26 59.3 -2.0
baz=279
O51A S S 10 31 59.9 -3.9
baz=279
TCOL CIGO, UAF Yank 30.67 339 P P 10 27 01.6 +0.6
baz=138
TCOL S S 10 32 08.8 +5.5
baz=138
KTH Kantishna Hill 30.67 335 IAMs_20 IAMs_20 10 36 49.2
comp=Z,56µm,22.0s
PPLA Purkeypile 30.67 333 IAMs_20 IAMs_20 10 36 56.3
comp=Z,53µm,20.0s
TZTN Tazewell 30.70 81 P P 10 27 00.8 -0.8
baz=285
TZTN S S 10 32 02.7 -1.7
baz=285
TZTN Tazewell 30.70 81 IAMs_20 IAMs_20 10 39 55.9
comp=Z,64µm,19.0s
N51A Ashland 30.73 72 P P 10 26 57.0 -4.7
baz=276
POKR Poker Plat Res 30.73 339 P P 10 27 01.7 +0.1
baz=139
POKR S S 10 32 10.2 +5.8
baz=139
TKL Tuckaleechee C 30.76 83 P P 10 27 00.2 -1.9
TKL pmax pmax
comp=Z,520nm,1.9s
TKL Tuckaleechee C 30.76 83 P P 10 27 00.2 -1.9
TKL IAMs_20 IAMs_20 10 39 06.6
comp=Z,36µm,21.0s
W52A Murphy 30.80 84 P P 10 27 00.8 -1.6
W52A IAmb IAmb 10 27 09.2
comp=Z,142nm,1.1s
D48A Paudash Townsh 30.80 60 P P 10 27 00.9 -1.5
baz=268
D48A S S 10 32 04.1 -1.8
baz=268
M51A Elyria 30.81 71 P P 10 27 01.2 -1.3
baz=278
NEA2 Nenana 30.82 338 P P 10 27 02.4 +0.1
baz=136
NEA2 S S 10 32 07.3 +1.7
baz=136
INK Inuvik 30.82 352 P P 10 27 01.6 -0.6
comp=Z,36nm,1.0s,baz=150,slow=9.6,SNR=43
INK Inuvik 30.82 352 P P 10 27 00.4 -1.8
INK pmax pmax
comp=Z,312nm,1.6s
INK MLR MLR
comp=Z,107µm,20.0s
INK Inuvik 30.82 352 P P 10 27 00.4 -1.8
MDM Murphy Dome 30.84 339 IAMs_20 IAMs_20 10 37 28.7
comp=Z,50µm,22.0s
V52A Sevierville 30.85 82 P P 10 27 01.0 -1.9
V52A IAMs_20 IAMs_20 10 39 45.9
comp=Z,76µm,21.0s
SVW2 Sparrevohn 30.90 329 IAMs_20 IAMs_20 10 36 56.0
comp=Z,51µm,20.0s
152A Waverly Hall 30.97 89 IAMs_20 IAMs_20 10 40 03.3
comp=Z,65µm,21.0s
BPAW Bear Paw Mtn. 31.06 336 IAMs_20 IAMs_20 10 37 13.6
comp=Z,41µm,20.0s
Y52A Lilburn 31.07 86 P P 10 27 03.7 -1.2
Y52A IAmb IAmb 10 27 11.3
comp=Z,77nm,0.9s
P52A Corning 31.11 75 P P 10 27 03.1 -2.1
baz=280
P52A S S 10 32 08.6 -2.2
baz=280
P52A Corning 31.11 75 P P 10 27 03.5 -1.7
D49A Beulah Townshi 31.11 60 P P 10 27 05.6 +0.5
baz=268
D49A S S 10 32 09.6 -1.1
baz=268
Q52A Bidwell 31.14 76 P P 10 27 04.2 -1.2
baz=282
Q52A S S 10 32 09.9 -1.4
baz=282
C36M Paulatuk 31.25 359 P P 10 27 05.1 -0.9
baz=177
C36M S S 10 32 12.5 +0.3
baz=177
O52A Adamsville 31.25 74 P P 10 27 05.4 -1.1
baz=280
O52A S S 10 32 10.0 -3.0
baz=280
O52A Adamsville 31.25 74 P P 10 27 05.6 -0.8
N52A McGinn's Farm, 31.26 72 P P 10 27 03.6 -2.8
baz=279
T53A Wise 31.37 80 P P 10 27 05.9 -1.6
baz=285
T53A S S 10 32 15.3 +0.3
baz=285
M52A Chesterland 31.40 71 S S 10 32 13.4 -1.9
baz=278
I51A Listowel 31.42 66 P P 10 27 06.3 -1.5
baz=274
I51A S S 10 32 15.5 0.0
baz=274
V53A Saluda 31.51 82 P P 10 27 07.2 -1.5
V53A IAMs_20 IAMs_20 10 39 12.4
comp=Z,44µm,22.0s
R53A Hurricane 31.51 77 P P 10 27 07.3 -1.4
baz=283
R53A S S 10 32 14.8 -2.3
baz=283
R53A Hurricane 31.51 77 IAMs_20 IAMs_20 10 38 47.3
comp=Z,44µm,20.0s
S53A Williamson 31.52 78 P P 10 27 07.5 -1.3
baz=284
S53A S S 10 32 16.1 -1.2
baz=284
BG3 Lake Jocassee 31.61 84 IAMs_20 IAMs_20 10 40 09.2
comp=Z,65µm,21.0s
GOGA Godfrey 31.69 87 P P 10 27 09.8 -0.6
baz=290
GOGA S S 10 32 19.0 -1.0
baz=290
GOGA Godfrey 31.69 87 IAMs_20 IAMs_20 10 40 01.5
comp=Z,41µm,21.0s
O53A New Philadelph 31.70 73 P P 10 27 08.1 -2.3
baz=280
O53A S S 10 32 20.2 +0.1
baz=280
P53A Whipple 31.70 75 P P 10 27 08.2 -2.2
baz=281
P53A S S 10 32 17.6 -2.5
baz=281
P53A Whipple 31.70 75 P P 10 27 08.8 -1.5
P53A IAmb IAmb 10 27 15.8
comp=Z,306nm,2.0s
Q53A Leroy 31.73 76 P P 10 27 09.1 -1.4
baz=282
Q53A S S 10 32 19.3 -1.1
baz=282
N53A Lisbon 31.89 72 P P 10 27 10.0 -2.1
baz=279
N53A S S 10 32 20.4 -2.6
baz=279
N53A Lisbon 31.89 72 IAMs_20 IAMs_20 10 39 06.3
comp=Z,31µm,18.0s
CMIG Matias Romero 31.91 124 P P 10 27 11.8 -0.5
comp=Z,17nm,0.9s,baz=314,slow=8.1,SNR=15
M53A Wi Miller and 31.92 71 P P 10 27 12.0 -0.2
baz=278
U54A Nelsons Funny 32.05 80 P P 10 27 11.2 -2.3
baz=286
U54A S S 10 32 26.6 +1.0
baz=286
TTA Tatalina 32.09 331 IAMs_20 IAMs_20 10 37 37.7
comp=Z,48µm,20.0s
T54A Tazewell 32.10 79 P P 10 27 11.6 -2.3
baz=285
T54A S S 10 32 26.0 -0.4
baz=285
S54A Dingess, Beckl 32.12 78 P P 10 27 12.1 -2.0
baz=284
S54A S S 10 32 26.5 -0.2
baz=284
D50A G1974 Best Tow 32.15 60 S S 10 32 24.7 -2.1
baz=270

V54A Nebo 32.15 82 P P 10 27 13.3 -1.1
baz=287
V54A S S 10 32 26.8 -0.3
baz=287
L53A Girard 32.16 70 P P 10 27 10.7 -3.6
baz=278
L53A S S 10 32 23.3 -3.9
baz=278
W54A Cherokee Point 32.16 83 P P 10 27 12.9 -1.6
baz=288
W54A S S 10 32 27.0 -0.3
baz=288
X54A Belton 32.18 84 P P 10 27 12.9 -1.7
baz=288
X54A S S 10 32 25.4 -2.3
baz=288
Q54A Coxs Mills 32.23 75 P P 10 27 12.5 -2.5
baz=282
Q54A S S 10 32 27.8 -0.5
baz=282
154A Montrose 32.26 88 IAMs_20 IAMs_20 10 40 43.4
comp=Z,54µm,21.0s
FALS False Pass 32.28 315 IAMs_20 IAMs_20 10 36 59.0
comp=Z,41µm,20.0s
R54A Victor 32.28 77 P P 10 27 13.2 -2.3
baz=283
R54A S S 10 32 28.0 -1.2
baz=283
TIGA Tifton 32.31 90 P P 10 27 15.2 -0.6
baz=293
TIGA S S 10 32 29.6 -0.1
baz=293
ERPA Erie 32.34 69 S S 10 32 29.9 0.0
baz=278
O54A Avella 32.34 73 P P 10 27 13.6 -2.4
baz=280
O54A S S 10 32 27.6 -2.4
baz=280
HODGE Hodges 32.37 85 IAMs_20 IAMs_20 10 40 44.4
comp=Z,61µm,20.0s
P54A Burton 32.37 74 P P 10 27 15.5 -0.8
baz=281
P54A S S 10 32 27.3 -3.3
baz=281
E51A G1948 Merrick 32.38 61 P P 10 27 14.7 -1.6
baz=271
E51A S S 10 32 36.5 +5.9
baz=271
D51A Lot 18 Range I 32.46 60 P P 10 27 16.2 -0.8
baz=270
D51A S S 10 32 29.0 -2.8
baz=270
N54A Moraine State 32.51 72 P P 10 27 15.6 -1.8
baz=279
N54A S S 10 32 29.2 -3.4
baz=279
U55A TA2, Sparta 32.65 80 P P 10 27 16.9 -2.0
baz=286
U55A S S 10 32 33.8 -1.3
baz=286
M54A Oil Creek Stat 32.66 70 P P 10 27 16.4 -2.4
baz=279
M54A S S 10 32 34.0 -1.0
baz=279
T55A Pulaski 32.69 79 P P 10 27 17.4 -1.8
baz=285
T55A S S 10 32 34.6 -1.1
baz=285
V55A Taylorsville 32.70 81 P P 10 27 17.8 -1.3
baz=287
V55A S S 10 32 35.1 -0.6
baz=287
V55A Taylorsville 32.70 81 P P 10 27 17.4 -1.7
V55A IAmb IAmb 10 27 32.2
comp=Z,157nm,1.1s
S55A Lewisburg 32.75 77 P P 10 27 18.2 -1.5
baz=284
S55A S S 10 32 34.2 -2.3
baz=284
Y55A Saluda 32.78 85 P P 10 27 18.2 -1.7
baz=289
Y55A S S 10 32 33.8 -3.2
baz=289
X55A Gracelyn & Ava 32.79 84 P P 10 27 18.3 -1.7
baz=289
X55A S S 10 32 37.0 -0.1
baz=289
Q55A Buckhannon 32.80 75 P P 10 27 18.3 -1.7
baz=282
Q55A S S 10 32 33.7 -3.5
baz=282
KMSC Kings Mountain 32.81 82 P P 10 27 18.3 -1.9
baz=288
KMSC S S 10 32 36.6 -0.9
baz=288
L54A Sinclairville 32.82 69 P P 10 27 18.1 -2.1
baz=278
L54A S S 10 32 35.8 -1.6
baz=278
MCWV Mont Chateau 32.84 74 P P 10 27 18.8 -1.6
baz=281
MCWV S S 10 32 39.1 +1.3
baz=281
P55A Reedsville 32.89 74 P P 10 27 19.3 -1.5
baz=282
R55A Marlinton 32.92 76 P P 10 27 19.4 -1.8
baz=283
R55A S S 10 32 35.4 -3.9
baz=283
R55A Marlinton 32.92 76 IAMs_20 IAMs_20 10 40 56.8
comp=Z,62µm,19.0s
BLA Blacksburg 32.95 78 P P 10 27 19.5 -1.9
baz=285
BLA S S 10 32 39.8 +0.1
baz=285
BLA Blacksburg 32.95 78 IAMs_20 IAMs_20 10 41 07.5
comp=Z,60µm,18.0s
255A Hazlehurst 33.01 89 P P 10 27 20.5 -1.3
255A IAmb IAmb 10 27 30.2
comp=Z,113nm,1.1s
255A IAMs_20 IAMs_20 10 41 16.3
comp=Z,71µm,20.0s
COLD Coldfoot 33.06 340 P P 10 27 22.4 +0.4
baz=138
COLD S S 10 32 45.8 +5.1
baz=138
COLD Coldfoot 33.06 340 IAMs_20 IAMs_20 10 39 14.4
comp=Z,53µm,21.0s
H53A Bobcaygeon 33.11 65 P P 10 27 22.1 -0.5
baz=274
H53A S S 10 32 41.0 -0.9
baz=274
D52A ZEK Kipawa Sen 33.12 60 P P 10 27 21.8 -1.0
baz=271
D52A S S 10 32 40.2 -1.9
baz=271
JSC Jenkinsville 33.14 84 IAMs_20 IAMs_20 10 41 18.7
comp=Z,48µm,21.0s
O55A Ligonier 33.15 73 P P 10 27 21.0 -2.1
baz=281
O55A S S 10 32 40.5 -2.1
baz=281
J54A Appleton 33.19 67 P P 10 27 20.7 -2.6
baz=276
J54A S S 10 32 40.8 -2.3
baz=276
J54A Appleton 33.19 67 IAMs_20 IAMs_20 10 41 26.5
comp=Z,35µm,19.0s
U56A King 33.21 80 P P 10 27 22.1 -1.6
baz=286
U56A S S 10 32 43.8 +0.2
baz=286
U56A King 33.21 80 IAMs_20 IAMs_20 10 41 16.4
comp=Z,72µm,21.0s
K54A Basiliko Farm, 33.23 68 P P 10 27 22.7 -1.1
baz=277
K54A S S 10 32 40.5 -3.3
baz=277
X56A White Oak 33.25 83 P P 10 27 22.4 -1.5
baz=289
Y56A Pelion 33.27 85 P P 10 27 23.5 -0.7
baz=290
Y56A S S 10 32 43.1 -1.4
baz=290
V56A Mocksville 33.27 81 P P 10 27 22.2 -2.0
baz=287
V56A S S 10 32 43.8 -0.8
baz=287

N55A Marion Center 33.28 72 P P 10 27 22.8 -1.5
baz=280
N55A S S 10 32 42.9 -1.9
baz=280
T56A Rocky Mt 33.30 79 P P 10 27 22.6 -1.8
baz=285
T56A S S 10 32 45.3 +0.4
baz=285
WVNY West Valley, N 33.32 69 IAMs_20 IAMs_20 10 41 49.0
comp=Z,55µm,18.0s
MEDO Medina 33.34 67 IAMs_20 IAMs_20 10 41 31.4
comp=Z,41µm,19.0s
M55A Ridgway 33.34 70 P P 10 27 23.2 -1.6
baz=279
M55A S S 10 32 43.7 -1.9
baz=279
Z56A Williston 33.37 86 P P 10 27 23.7 -1.4
baz=290
Z56A Williston 33.37 86 IAMs_20 IAMs_20 10 41 27.0
comp=Z,70µm,21.0s
ALGO Algonquin Park 33.40 62 P P 10 27 26.5 +1.3
baz=273
ALGO S S 10 32 45.2 -1.1
baz=273
W56A Indian Trail 33.40 82 P P 10 27 24.7 -0.7
baz=288
W56A S S 10 32 46.1 -0.5
baz=288
G54A Lake Saint Pet 33.40 63 P P 10 27 26.2 +0.9
baz=274
G54A S S 10 32 44.1 -2.4
baz=274
R56A Bull Pasture M 33.45 76 P P 10 27 25.2 -0.5
baz=283
R56A S S 10 32 44.7 -2.7
baz=283
AKUT Akutan 33.47 313 IAMs_20 IAMs_20 10 37 58.5
comp=Z,32µm,19.0s
Q56A Snyder Ridge, 33.47 75 P P 10 27 26.0 +0.1
baz=282
Q56A S S 10 32 45.8 -1.8
baz=282
L55A Hinsdale 33.48 69 P P 10 27 24.6 -1.4
baz=278
L55A S S 10 32 45.1 -2.5
baz=278
S56A Natural Bridge 33.49 77 P P 10 27 24.5 -1.6
baz=284
S56A S S 10 32 47.8 -0.2
baz=284
D53A Lac Vacive, Po 33.61 60 P P 10 27 25.6 -1.3
baz=271
D53A S S 10 32 47.7 -1.9
baz=271
P56A Dayton Farm, R 33.64 74 P P 10 27 25.7 -1.6
baz=282
P56A S S 10 32 48.4 -1.7
baz=282
E53A Dumoine, Ponti 33.65 61 P P 10 27 28.2 +0.8
baz=272
E53A S S 10 32 50.0 -0.3
baz=272
K55A Perry 33.67 68 P P 10 27 25.8 -1.8
baz=278
K55A S S 10 32 48.3 -2.3
baz=278
MATQ Matagami 33.69 55 P P 10 27 25.7 -2.0
baz=267
MATQ S S 10 32 49.3 -1.4
baz=267
O56A Blue Knob Stat 33.69 72 P P 10 27 25.3 -2.6
baz=281
O56A S S 10 32 42.7 -8.4
baz=281
VLDQ Val d'Or 33.77 58 P P 10 27 24.9 -3.4
VLDQ IAMs_20 IAMs_20 10 41 20.5
comp=Z,46µm,19.0s
M56A Emporium 33.77 70 P P 10 27 26.7 -1.8
baz=279
M56A S S 10 32 47.5 -4.7
baz=279
M56A Emporium 33.77 70 P P 10 27 26.2 -2.3
N56A West Decatur 33.78 71 P P 10 27 26.8 -1.8
baz=280
N56A S S 10 32 47.8 -4.5
baz=280
I55A Frankford 33.78 65 P P 10 27 22.3 -6.2
baz=276
I55A S S 10 32 49.9 -2.4
baz=276
J55A Hilton 33.79 67 P P 10 27 27.5 -1.0
baz=277
J55A S S 10 32 49.7 -2.7
baz=277
J55A Hilton 33.79 67 IAMs_20 IAMs_20 10 41 52.3
comp=Z,47µm,21.0s
MMNY Mt. Morris Dam 33.79 68 IAMs_20 IAMs_20 10 41 54.7
comp=Z,42µm,19.0s
V57A Coltrane Farms 33.81 81 P P 10 27 28.8 -0.1
baz=287
V57A S S 10 32 51.9 -1.0
baz=287
UNV Unalaska Valle 33.84 312 IAMs_20 IAMs_20 10 38 07.5
comp=Z,34µm,20.0s
W57A Gilead 33.86 82 P P 10 27 27.8 -1.4
baz=288
W57A S S 10 32 51.1 -2.5
baz=288
157A Early Branch 33.89 87 P P 10 27 27.5 -2.0
baz=291
157A S S 10 32 56.3 +2.2
baz=291
Z57A Bowman 33.91 85 P P 10 27 28.8 -0.9
baz=290
Z57A S S 10 32 53.6 -0.8
baz=290
T57A Hurt 33.91 78 P P 10 27 28.2 -1.5
baz=286
T57A S S 10 32 54.8 +0.4
baz=286
T57A Hurt 33.91 78 IAMs_20 IAMs_20 10 41 37.8
comp=Z,61µm,19.0s
Y57A Sumter 33.91 84 P P 10 27 28.3 -1.4
baz=290
Y57A S S 10 32 52.8 -1.6
baz=290
A36M Sachs Harbour 33.92 358 P P 10 27 28.2 -1.2
baz=176
A36M S S 10 32 57.8 +4.0
baz=176
S57A Dark Hollow, R 33.94 77 P P 10 27 28.2 -1.8
baz=284
S57A S S 10 32 54.5 -0.5
baz=284
S57A Dark Hollow, R 33.94 77 IAMs_20 IAMs_20 10 43 22.8
comp=Z,50µm,21.0s
TOLK Toolik Lake Re 33.97 343 P P 10 27 31.0 +1.1
baz=140
TOLK S S 10 33 00.2 +5.4
baz=140
TOLK Toolik Lake Re 33.97 343 IAMs_20 IAMs_20 10 39 58.4
comp=Z,44µm,21.0s
E54A Lac Daplat, Po 33.98 61 P P 10 27 28.8 -1.4
baz=272
E54A S S 10 32 53.9 -1.4
baz=272
X57A Johnson Farm, 33.99 83 P P 10 27 30.8 +0.3
baz=289
X57A S S 10 32 52.5 -3.2
baz=289
U57A Blanch 34.00 79 P P 10 27 29.0 -1.5
baz=286
U57A S S 10 32 55.1 -0.6
baz=286
Q57A Strasburg 34.06 75 P P 10 27 29.6 -1.4
baz=283
Q57A S S 10 32 53.9 -2.8
baz=283
LSQQ Lebel-sur-Quev 34.09 57 P P 10 27 33.2 +2.0
baz=269
H55A Tweed 34.11 65 P P 10 27 29.4 -1.9
baz=275
H55A S S 10 32 54.8 -2.6
baz=275
L56A Greenwood 34.13 69 P P 10 27 30.0 -1.6
baz=279
L56A S S 10 32 55.1 -2.7
baz=279

L56A	**Greenwood**	**34.13**	**69**	P	**P**	**10 27 29.6**	**-2.0**
L56A				IAmb	IAmb	10 27 39.9	
	comp=Z,61nm,0.9s						
L56A				IAMs_20	IAMs_20	10 42 05.3	
	comp=Z,54µm,18.0s						
257A	**Skidaway Islan**	**34.13**	**88**	IAMs_20	IAMs_20	10 41 38.0	
	comp=Z,44µm,22.0s						
SSPA	**Standing Stone**	**34.13**	**72**	P	**P**	**10 27 29.9**	**-1.7**
	baz=281						
SSPA				S	**S**	**10 32 54.9**	**-2.9**
	baz=281						
R57A	**Stanardsville**	**34.14**	**76**	P	**P**	**10 27 29.6**	**-2.1**
	baz=284						
R57A				S	**S**	**10 32 58.6**	**+0.6**
	baz=284						
K56A	**Middlesex**	**34.22**	**68**	P	**P**	**10 27 30.2**	**-2.2**
	baz=278						
K56A				S	**S**	**10 32 55.0**	**-4.1**
	baz=278						
P57A	**Homestead Farm**	**34.27**	**74**	P	**P**	**10 27 29.3**	**-3.4**
	baz=282						
P57A				S	**S**	**10 32 57.5**	**-2.4**
	baz=282						
P57A	**Homestead Farm**	**34.27**	**74**	IAMs_20	IAMs_20	10 42 07.2	
	comp=Z,62µm,19.0s						
PECO	**Prince Edward**	**34.31**	**66**	IAMs_20	IAMs_20	10 41 44.0	
	comp=Z,41µm,18.0s						
CCIG	**Comitan**	**34.31**	**121**	IAMs_20	IAMs_20	10 40 53.9	
	comp=Z,58µm,21.0s						
D54A	**Lac Fusel, La**	**34.32**	**60**	P	**P**	**10 27 31.9**	**-1.3**
	baz=272						
D54A				S	**S**	**10 32 58.4**	**-2.2**
	baz=272						
V58A	**Windy Hill, Pi**	**34.35**	**80**	P	**P**	**10 27 31.9**	**-1.6**
	baz=287						
V58A				S	**S**	**10 32 59.9**	**-1.3**
	baz=287						
N57A	**Milroy**	**34.36**	**71**	P	**P**	**10 27 32.0**	**-1.6**
	baz=281						
N57A				S	**S**	**10 32 59.1**	**-2.3**
	baz=281						
G55A	**Calabogie**	**34.38**	**63**	P	**P**	**10 27 35.5**	**+1.8**
	baz=275						
G55A				S	**S**	**10 33 01.5**	**0.0**
	baz=275						
NHSC	**New Hope**	**34.38**	**85**	P	**P**	**10 27 33.1**	**-0.7**
	baz=291						
NHSC	**New Hope**	**34.38**	**85**	IAMs_20	IAMs_20	10 42 20.7	
	comp=Z,61µm,18.0s						
O57A	**Amberson**	**34.40**	**72**	P	**P**	**10 27 31.7**	**-2.3**
	baz=281						
O57A				S	**S**	**10 32 59.4**	**-2.6**
	baz=281						
TEIG	**Tepich**	**34.41**	**112**	P	**P**	**10 27 32.2**	**-2.0**
	comp=Z,15nm,0.8s,baz=293,slow=4.0,SNR=7.6						
TEIG	**Tepich**	**34.41**	**112**	P	**P**	**10 27 32.5**	**-1.7**
T58A	**Grand View Acr**	**34.48**	**78**	P	**P**	**10 27 32.2**	**-2.5**
	baz=286						
T58A				S	**S**	**10 33 01.1**	**-2.0**
	baz=286						
J56A	**Wolcott**	**34.48**	**67**	P	**P**	**10 27 32.6**	**-2.0**
	baz=277						
J56A				S	**S**	**10 33 00.4**	**-2.7**
	baz=277						
W58A	**Raeford**	**34.49**	**82**	P	**P**	**10 27 32.4**	**-2.4**
	baz=288						
W58A				S	**S**	**10 33 01.5**	**-1.9**
	baz=288						
R58A	**Rapidan**	**34.54**	**76**	P	**P**	**10 27 34.3**	**-0.9**
	baz=284						
R58A				S	**S**	**10 33 04.1**	**-0.1**
	baz=284						
X58A	**Rowland**	**34.56**	**83**	P	**P**	**10 27 33.2**	**-2.2**
	baz=289						
X58A				S	**S**	**10 33 02.2**	**-2.2**
	baz=289						
M57A	**Sunshine Farm,**	**34.57**	**70**	P	**P**	**10 27 33.5**	**-1.9**
	baz=280						
M57A				S	**S**	**10 33 01.9**	**-2.7**
	baz=280						
M57A	**Sunshine Farm,**	**34.57**	**70**	IAMs_20	IAMs_20	10 41 53.2	
	comp=Z,30µm,20.0s						
Z58A	**St. Stephen**	**34.59**	**85**	P	**P**	**10 27 35.4**	**-0.2**
	baz=290						
F55A	**Otter Lake**	**34.59**	**62**	P	**P**	**10 27 31.6**	**-3.9**
	baz=274						
F55A				S	**S**	**10 33 02.9**	**-1.9**
	baz=274						
U58A	**Oxford**	**34.62**	**79**	P	**P**	**10 27 33.9**	**-1.9**
	baz=286						
U58A				S	**S**	**10 33 04.4**	**-0.9**
	baz=286						
Q58A	**Fox Den Farm,**	**34.63**	**75**	P	**P**	**10 27 33.4**	**-2.6**
	baz=283						
Q58A				S	**S**	**10 33 06.1**	**+0.6**
	baz=283						
L57A	**Andrews Acres**	**34.67**	**69**	S	**S**	**10 33 02.6**	**-3.5**
	baz=279						
S58A	**Poland Farm, P**	**34.67**	**77**	P	**P**	**10 27 34.5**	**-1.8**
	baz=285						
S58A				S	**S**	**10 33 05.0**	**-1.2**
	baz=285						
S58A	**Poland Farm, P**	**34.67**	**77**	IAMs_20	IAMs_20	10 40 47.1	
	comp=Z,42µm,18.0s						
R58B	**Mineral**	**34.72**	**76**	P	**P**	**10 27 35.5**	**-1.2**
	baz=284						
R58B				S	**S**	**10 33 06.2**	**-0.6**
	baz=284						
R58B	**Mineral**	**34.72**	**76**	IAMs_20	IAMs_20	10 41 53.2	
	comp=Z,44µm,18.0s						
E55A	**Montcerf-Lytto**	**34.76**	**61**	P	**P**	**10 27 34.9**	**-2.0**
	baz=273						
E55A				S	**S**	**10 33 05.2**	**-2.1**
	baz=273						
H56A	**Elgin**	**34.76**	**64**	S	**S**	**10 33 05.2**	**-2.2**
	baz=276						
P58A	**Pank, Wackersv**	**34.80**	**73**	P	**P**	**10 27 35.3**	**-2.1**
	baz=283						
P58A				S	**S**	**10 33 06.4**	**-1.8**
	baz=283						
K57A	**Scipio Center**	**34.80**	**68**	P	**P**	**10 27 37.5**	**+0.1**
	baz=278						
K57A				S	**S**	**10 33 03.8**	**-4.4**
	baz=278						
KIP	**Kipapa**	**34.94**	**252**	eP	**P**	**10 27 42.4**	**+3.7**
KIP				pmax	pmax		
	comp=Z,265nm,2.0s						
KIP				MLR	MLR		
	comp=Z,5µm,12.0s						
O58A	**Lewisberry**	**34.95**	**72**	P	**P**	**10 27 37.2**	**-1.5**
	baz=282						
O58A				S	**S**	**10 33 07.0**	**-3.5**
	baz=282						
N58A	**Sunbury**	**34.97**	**71**	P	**P**	**10 27 38.3**	**-0.6**
	baz=281						
N58A				S	**S**	**10 33 07.7**	**-3.0**
	baz=281						
N58A	**Sunbury**	**34.97**	**71**	IAMs_20	IAMs_20	10 42 03.7	
	comp=Z,29µm,19.0s						
V59A	**Middlesex**	**35.04**	**80**	P	**P**	**10 27 39.8**	**+0.4**
	baz=288						
V59A				S	**S**	**10 33 11.5**	**-0.3**
	baz=288						
CBN	**Corbin Frederi**	**35.04**	**76**	P	**P**	**10 27 38.4**	**-1.0**
	baz=284						
CBN				S	**S**	**10 33 11.8**	**-0.1**
	baz=284						
W59A	**Clinton**	**35.06**	**81**	P	**P**	**10 27 39.9**	**+0.2**
	baz=288						
W59A				S	**S**	**10 33 11.6**	**-0.6**
	baz=288						
M58A	**Price's Panora**	**35.06**	**70**	P	**P**	**10 27 37.0**	**-2.7**
	baz=280						
M58A				S	**S**	**10 33 10.5**	**-1.6**
	baz=280						
PAGS	**Pennsylvania G**	**35.08**	**72**	IAMs_20	IAMs_20	10 42 08.8	
	comp=Z,29µm,18.0s						
J57A	**Williamstown**	**35.09**	**66**	P	**P**	**10 27 38.1**	**-1.7**
	baz=278						
J57A				S	**S**	**10 33 08.9**	**-3.5**
	baz=278						
Y59A	**Loris**	**35.10**	**83**	P	**P**	**10 27 39.2**	**-0.8**
	baz=290						
X59A	**McDuffie Farm,**	**35.13**	**82**	P	**P**	**10 27 40.7**	**+0.5**
	baz=289						
X59A				S	**S**	**10 33 11.4**	**-1.8**
	baz=289						
D55A	**Sainte-Anne-du**	**35.13**	**60**	P	**P**	**10 27 39.8**	**-0.3**
	baz=273						
D55A				S	**S**	**10 33 11.9**	**-1.2**
	baz=273						
U59A	**Littleton**	**35.21**	**79**	P	**P**	**10 27 41.0**	**0.0**
	baz=287						
U59A				S	**S**	**10 33 13.8**	**-0.7**
	baz=287						
U59A	**Littleton**	**35.21**	**79**	IAMs_20	IAMs_20	10 42 28.5	
	comp=Z,66µm,21.0s						
T59A	**Double "B" Far**	**35.23**	**78**	P	**P**	**10 27 39.6**	**-1.5**
	baz=286						
T59A				S	**S**	**10 33 14.0**	**-0.6**
	baz=286						
T59A	**Double "B" Far**	**35.23**	**78**	P	**P**	**10 27 39.6**	**-1.5**
T59A				IAmb	IAmb	10 27 46.1	
	comp=Z,139nm,1.1s						
T59A				IAMs_20	IAMs_20	10 42 26.7	
	comp=Z,44µm,18.0s						
R59A	**King George, V**	**35.24**	**76**	P	**P**	**10 27 40.5**	**-0.7**
	baz=284						
R59A				S	**S**	**10 33 15.6**	**+0.7**
	baz=284						
I57A	**Carthage**	**35.26**	**65**	P	**P**	**10 27 40.1**	**-1.2**
	baz=277						
I57A				S	**S**	**10 33 13.5**	**-1.6**
	baz=277						
BINY	**Binghamton**	**35.27**	**69**	P	**P**	**10 27 40.3**	**-1.2**
	baz=279						
BINY				S	**S**	**10 33 13.7**	**-1.7**
	baz=279						
BINY	**Binghamton**	**35.27**	**69**	IAMs_20	IAMs_20	10 42 41.6	
	comp=Z,47µm,19.0s						
H57A	**Richville**	**35.39**	**65**	P	**P**	**10 27 41.4**	**-1.0**
	baz=276						
H57A				S	**S**	**10 33 14.7**	**-2.4**
	baz=276						
L58A	**Harry Jones Me**	**35.40**	**69**	P	**P**	**10 27 42.3**	**-0.2**
	baz=280						
L58A				S	**S**	**10 33 15.7**	**-1.6**
	baz=280						
DWPF	**Disney Wildern**	**35.41**	**94**	P	**P**	**10 27 42.3**	**-0.5**
	baz=297						
DWPF				S	**S**	**10 33 15.6**	**-2.1**
	baz=297						
DWPF	**Disney Wildern**	**35.41**	**94**	P	**P**	**10 27 41.7**	**-1.1**
DWPF				IAmb	IAmb	10 27 50.6	
	comp=Z,190nm,1.1s						
HUEH	**Huehuetenango**	**35.43**	**122**	IAMs_20	IAMs_20	10 41 43.4	
	comp=Z,48µm,20.0s						
K58A	**Earlville**	**35.43**	**67**	P	**P**	**10 27 39.8**	**-3.0**
	baz=279						
K58A				S	**S**	**10 33 15.4**	**-2.5**
	baz=279						
P59A	**Jarrettsville**	**35.43**	**73**	P	**P**	**10 27 43.3**	**+0.5**
	baz=283						
P59A				S	**S**	**10 33 17.1**	**-0.7**
	baz=283						
PETF	**Flores**	**35.43**	**118**	IAMs_20	IAMs_20	10 43 26.7	
	comp=Z,49µm,19.0s						
E56A	**St. Veronique**	**35.46**	**61**	P	**P**	**10 27 43.2**	**+0.2**
	baz=274						
E56A				S	**S**	**10 33 17.2**	**-0.9**
	baz=274						
O59A	**Robesonia**	**35.47**	**72**	P	**P**	**10 27 43.7**	**+0.5**
	baz=282						
O59A				S	**S**	**10 33 17.0**	**-1.4**
	baz=282						
CNNC	**Cliffs of the**	**35.47**	**81**	P	**P**	**10 27 44.7**	**+1.5**
	baz=288						
J58A	**Remsen**	**35.61**	**66**	P	**P**	**10 27 42.8**	**-1.6**
	baz=278						
J58A				S	**S**	**10 33 16.6**	**-3.9**
	baz=278						
J58A	**Remsen**	**35.61**	**66**	IAMs_20	IAMs_20	10 42 24.8	
	comp=Z,32µm,18.0s						
G57A	**Newington**	**35.61**	**63**	S	**S**	**10 33 18.3**	**-2.1**
	baz=276						
X60A	**Albert Glenn T**	**35.61**	**82**	P	**P**	**10 27 42.3**	**-2.1**
	baz=289						
D56A	**ZEC Mazanza, M**	**35.62**	**60**	P	**P**	**10 27 44.4**	**0.0**
	baz=273						
D56A				S	**S**	**10 33 18.4**	**-2.2**
	baz=273						
N59A	**State Game Lan**	**35.66**	**71**	P	**P**	**10 27 42.3**	**-2.6**
	baz=281						
N59A				S	**S**	**10 33 18.3**	**-3.1**
	baz=281						
N59A	**State Game Lan**	**35.66**	**71**	IAMs_20	IAMs_20	10 40 31.9	
	comp=Z,27µm,20.0s						
W60A	**Pink Hill**	**35.67**	**81**	P	**P**	**10 27 45.9**	**+1.1**
	baz=289						
U60A	**Pendleton**	**35.67**	**78**	P	**P**	**10 27 43.7**	**-1.1**
	baz=287						
U60A				S	**S**	**10 33 21.4**	**-0.1**
	baz=287						
S60A	**Water View**	**35.72**	**76**	P	**P**	**10 27 43.6**	**-1.7**
	baz=285						
F57A	**Harrington**	**35.75**	**62**	S	**S**	**10 33 20.1**	**-2.4**
	baz=275						
I58A	**Old Forge**	**35.79**	**66**	P	**P**	**10 27 44.2**	**-1.7**
	baz=278						
I58A				S	**S**	**10 33 21.5**	**-1.8**
	baz=278						
M59A	**Waymart**	**35.79**	**70**	P	**P**	**10 27 44.6**	**-1.4**
	baz=281						
M59A				S	**S**	**10 33 19.8**	**-3.6**
	baz=281						
V60A	**Jim Taylor Roa**	**35.80**	**80**	P	**P**	**10 27 43.8**	**-2.2**
	baz=288						
CHGQ	**Chibougamau**	**35.80**	**55**	P	**P**	**10 27 44.7**	**-1.3**
	baz=270						
CHGQ				S	**S**	**10 33 20.4**	**-3.0**
	baz=270						
T60A	**Surry**	**35.81**	**77**	IAMs_20	IAMs_20	10 42 59.2	
	comp=Z,55µm,18.0s						
LONY	**Lake Ozonia**	**35.95**	**64**	S	**S**	**10 33 25.7**	**0.0**
	baz=277						
L59A	**Walton**	**35.97**	**68**	P	**P**	**10 27 45.6**	**-1.8**
	baz=280						
L59A				S	**S**	**10 33 24.0**	**-2.1**
	baz=280						
P60A	**Greenville**	**35.99**	**72**	P	**P**	**10 27 46.1**	**-1.4**
	baz=283						
P60A				S	**S**	**10 33 24.4**	**-1.9**
	baz=283						
K59A	**Cooperstown**	**36.01**	**67**	P	**P**	**10 27 46.0**	**-1.8**
	baz=279						
K59A				S	**S**	**10 33 23.8**	**-2.9**
	baz=279						
Q60A	**Greensboro**	**36.02**	**74**	P	**P**	**10 27 46.4**	**-1.4**
	baz=284						
LUPA	**Lehigh Univers**	**36.02**	**71**	IAMs_20	IAMs_20	10 42 45.5	
	comp=Z,34µm,19.0s						
O60A	**Telford**	**36.05**	**72**	P	**P**	**10 27 47.2**	**-0.9**
	baz=282						
O60A				S	**S**	**10 33 25.9**	**-1.3**
	baz=282						
E57A	**Chemin Saint G**	**36.08**	**61**	P	**P**	**10 27 46.3**	**-2.1**
	baz=275						
E57A				S	**S**	**10 33 25.0**	**-2.8**
	baz=275						
J59A	**Piesco**	**36.16**	**66**	P	**P**	**10 27 45.3**	**-3.8**
	baz=278						
J59A				S	**S**	**10 33 28.2**	**-0.8**
	baz=278						
J59A	**Piesco**	**36.16**	**66**	IAMs_20	IAMs_20	10 41 22.9	
	comp=Z,24µm,18.0s						
N60A	**Cedar Hill Far**	**36.17**	**71**	P	**P**	**10 27 47.7**	**-1.4**
	baz=282						
N60A				S	**S**	**10 33 26.5**	**-2.6**
	baz=282						
D57A	**Chemin Vers le**	**36.21**	**60**	P	**P**	**10 27 47.4**	**-2.0**
	baz=274						
D57A				S	**S**	**10 33 26.6**	**-3.1**
	baz=274						
U61A	**Possum Corner**	**36.26**	**78**	IAMs_20	IAMs_20	10 43 10.1	
	comp=Z,62µm,20.0s						
H58A	**Gabriels**	**36.26**	**64**	P	**P**	**10 27 48.1**	**-1.8**
	baz=277						
H58A				S	**S**	**10 33 29.1**	**-1.4**
	baz=277						
G58A	**Ormstown**	**36.26**	**63**	S	**S**	**10 33 29.9**	**-0.5**
	baz=276						
M60A	**Port Jervis**	**36.43**	**70**	P	**P**	**10 27 50.1**	**-1.2**
	baz=281						
M60A				S	**S**	**10 33 31.5**	**-1.6**
	baz=281						
ANM	**Nome**	**36.51**	**330**	IAMs_20	IAMs_20	10 40 25.6	
	comp=Z,41µm,20.0s						
I59A	**Olmsteadville**	**36.56**	**65**	P	**P**	**10 27 51.0**	**-1.5**
	baz=278						
I59A				S	**S**	**10 33 32.8**	**-2.3**
	baz=278						
R61A	**Willards**	**36.56**	**75**	IAMs_20	IAMs_20	10 43 09.0	
	comp=Z,27µm,21.0s						
H59A	**Cadyville**	**36.58**	**64**	P	**P**	**10 27 51.9**	**-0.7**
	baz=277						
H59A				S	**S**	**10 33 33.3**	**-2.0**
	baz=277						
L60A	**Shokan**	**36.60**	**68**	S	**S**	**10 33 34.3**	**-1.5**
	baz=280						
P61A	**Hammonton**	**36.65**	**72**	IAMs_20	IAMs_20	10 41 57.3	
	comp=Z,30µm,19.0s						
E58A	**La Victoria**	**36.68**	**61**	P	**P**	**10 27 52.6**	**-0.8**
	baz=275						
E58A				S	**S**	**10 33 35.2**	**-1.6**
	baz=275						
K60A	**Five Rivers En**	**36.74**	**67**	S	**S**	**10 33 35.0**	**-2.7**
	baz=280						
N61A	**South Mountain**	**36.79**	**71**	S	**S**	**10 33 38.0**	**-0.5**
	baz=282						
G59A	**Clarenceville**	**36.89**	**63**	P	**P**	**10 27 51.5**	**-3.7**
	baz=277						
G59A				S	**S**	**10 33 39.7**	**-0.2**
	baz=277						
061Z	**Ochoppi**	**36.89**	**97**	IAMs_20	IAMs_20	10 43 27.5	
	comp=Z,32µm,20.0s						
D58A	**Chemin du LacG**	**36.89**	**60**	P	**P**	**10 27 53.4**	**-1.9**
	baz=274						
D58A				S	**S**	**10 33 37.9**	**-2.2**
	baz=274						
J60A	**Lant Hill Farm**	**36.97**	**66**	P	**P**	**10 27 54.1**	**-1.8**
	baz=279						
J60A				S	**S**	**10 33 39.3**	**-2.0**
	baz=279						
I60A	**Shoreham**	**36.97**	**65**	S	**S**	**10 33 40.9**	**-0.3**
	baz=279						
PAL	**Palisades**	**37.02**	**70**	S	**S**	**10 33 40.9**	**-1.2**
	baz=282						
CPNY	**Central Park**	**37.03**	**70**	IAMs_20	IAMs_20	10 42 35.2	
	comp=Z,34µm,19.0s						
L61A	**Hillsdale 1, H**	**37.05**	**68**	P	**P**	**10 27 54.9**	**-1.7**
	baz=281						
L61A				S	**S**	**10 33 42.5**	**-0.1**
	baz=281						
M61A	**Granite Spring**	**37.07**	**69**	S	**S**	**10 33 41.1**	**-1.6**
	baz=282						
F59A	**Saint Guilaume**	**37.08**	**62**	S	**S**	**10 33 42.3**	**-0.5**
	baz=276						
K61A	**Williamstown**	**37.18**	**67**	P	**P**	**10 27 58.6**	**+0.8**
	baz=280						
K61A				S	**S**	**10 33 42.2**	**-2.3**
	baz=280						
VT1	**Waterbury**	**37.29**	**64**	IAMs_20	IAMs_20	10 41 48.8	
	comp=Z,30µm,18.0s						
H60A	**Morristown**	**37.29**	**64**	P	**P**	**10 27 58.9**	**+0.2**
	baz=278						
H60A				S	**S**	**10 33 43.9**	**-2.4**
	baz=278						
RDOG	**Red Dog Mine**	**37.32**	**336**	IAMs_20	IAMs_20	10 45 53.0	
	comp=Z,28µm,19.0s						
ESQI	**Esquipulas**	**37.43**	**120**	IAMs_20	IAMs_20	10 42 57.4	
	comp=Z,57µm,22.0s						
G60A	**Masonville**	**37.48**	**63**	S	**S**	**10 33 48.6**	**-0.5**
	baz=278						
J61A	**Chester**	**37.58**	**66**	S	**S**	**10 33 48.7**	**-1.9**
	baz=280						
D59A	**Saint-Raymond**	**37.62**	**60**	P	**P**	**10 28 03.4**	**+2.0**
	baz=275						
D59A				S	**S**	**10 33 49.2**	**-1.8**
	baz=275						
F60A	**Warwick**	**37.64**	**62**	P	**P**	**10 28 04.6**	**+3.0**
	baz=277						
F60A				S	**S**	**10 33 50.5**	**-1.0**
	baz=277						
L61B	**Northampton**	**37.64**	**67**	P	**P**	**10 28 04.8**	**+3.1**
	baz=281						
L61B				S	**S**	**10 33 51.1**	**-0.5**
	baz=281						
YLE	**Yale**	**37.68**	**69**	IAMs_20	IAMs_20	10 41 40.3	
	comp=Z,29µm,22.0s						
M62A	**Hamden**	**37.68**	**69**	S	**S**	**10 33 49.8**	**-2.3**
	baz=282						
I61A	**Oroboro, Fairl**	**37.73**	**65**	P	**P**	**10 28 05.4**	**+3.0**
	baz=279						
I61A				S	**S**	**10 33 52.4**	**-0.5**
	baz=279						
H61A	**Lyndonville**	**37.84**	**64**	P	**P**	**10 28 03.4**	**+0.1**
	baz=278						
H61A				S	**S**	**10 33 54.2**	**-0.3**
	baz=278						
LBNH	**Lisbon**	**37.89**	**64**	P	**P**	**10 28 03.3**	**-0.4**
	baz=279						
LBNH				S	**S**	**10 33 54.2**	**-1.0**
	baz=279						
LBNH	**Lisbon**	**37.89**	**64**	IAMs_20	IAMs_20	10 42 04.7	
	comp=Z,25µm,20.0s						
QUA2	**Belchertown**	**37.91**	**68**	IAMs_20	IAMs_20	10 44 31.5	
	comp=Z,55µm,20.0s						
K62A	**Royalston**	**37.93**	**67**	S	**S**	**10 33 54.2**	**-1.7**
	baz=281						
E60A	**Ste Agathe de**	**37.95**	**61**	P	**P**	**10 28 04.4**	**+0.3**
	baz=276						
E60A				S	**S**	**10 33 54.2**	**-1.8**
	baz=276						
G61A	**St-Isidore-de-**	**38.02**	**63**	S	**S**	**10 33 57.6**	**+0.4**
	baz=278						
SNET	**Serv Nac Est T**	**38.12**	**121**	IAMs_20	IAMs_20	10 43 30.8	
	comp=Z,49µm,19.0s						
J62A	**Henniker**	**38.13**	**66**	S	**S**	**10 33 57.6**	**-1.4**
	baz=280						
D60A	**Saint Jean D'O**	**38.25**	**60**	P	**P**	**10 28 06.3**	**-0.4**
	baz=276						
D60A				S	**S**	**10 33 58.9**	**-1.6**
	baz=276						
F61A	**St Evariste**	**38.30**	**61**	P	**P**	**10 28 07.0**	**-0.2**
	baz=277						
F61A				S	**S**	**10 34 01.1**	**-0.4**
	baz=277						
M63A	**Gales Ferry**	**38.31**	**69**	S	**S**	**10 33 59.6**	**-2.1**
	baz=282						
ATKA	**Atka Island**	**38.33**	**309**	IAMs_20	IAMs_20	10 39 55.3	
	comp=Z,26µm,21.0s						
I62A	**Tamworth**	**38.37**	**65**	P	**P**	**10 28 08.2**	**+0.5**
	baz=280						
I62A				S	**S**	**10 34 02.3**	**-0.1**
	baz=280						
H62A	**Milan**	**38.38**	**64**	P	**P**	**10 28 08.4**	**+0.5**
	baz=279						
H62A				S	**S**	**10 33 59.7**	**-3.0**
	baz=279						
H62A	**Milan**	**38.38**	**64**	IAMs_20	IAMs_20	10 43 06.7	
	comp=Z,44µm,18.0s						
K63A	**Dunstable**	**38.44**	**67**	S	**S**	**10 34 02.4**	**-1.1**
	baz=281						
HRV	**Adam Dziewonsk**	**38.45**	**67**	S	**S**	**10 34 03.5**	**-0.2**
	baz=281						
HRV	**Adam Dziewonsk**	**38.45**	**67**	IAMs_20	IAMs_20	10 44 59.6	
	comp=Z,44µm,18.0s						
L63A	**North Scituate**	**38.54**	**68**	S	**S**	**10 34 05.3**	**+0.2**
	baz=282						
BRYW	**Bryant College**	**38.58**	**68**	IAMs_20	IAMs_20	10 45 17.2	
	comp=Z,41µm,18.0s						
E61A	**Lac Etchemin**	**38.60**	**61**	P	**P**	**10 28 09.2**	**-0.5**
	baz=277						
E61A				S	**S**	**10 34 03.8**	**-2.1**
	baz=277						
WES	**Weston**	**38.64**	**67**	IAMs_20	IAMs_20	10 45 06.8	
	comp=Z,50µm,18.0s						
J63A	**Strafford**	**38.65**	**66**	S	**S**	**10 34 06.1**	**-0.7**
	baz=280						
D61A	**St Aubert, Com**	**38.72**	**59**	P	**P**	**10 28 09.8**	**-0.8**
	baz=276						
D61A				S	**S**	**10 34 05.8**	**-1.9**
	baz=276						
G62A	**West of Eustis**	**38.73**	**63**	P	**P**	**10 28 09.3**	**-1.5**
	baz=278						
G62A				S	**S**	**10 34 06.8**	**-1.1**
	baz=278						
BCX	**Boston College**	**38.76**	**67**	IAMs_20	IAMs_20	10 45 11.0	
	comp=Z,43µm,18.0s						
RES	**Resolute Bay**	**38.80**	**11**	P	**P**	**10 28 10.2**	**-0.8**
RES				pmax	pmax		
	comp=Z,256nm,1.2s						
RES				MLR	MLR		
	comp=Z,65µm,22.0s						

RES Resolute Bay 38.80 11 P **P** **10 28 10.2 -0.8**
RES IAmb IAmb 10 28 16.2
comp=Z,256nm,1.1s
I63A Otisfield 38.87 64 S **S** **10 34 10.5 +0.4**
baz=280
I63A Otisfield 38.87 64 IAms_20 IAms_20 10 44 48.8
comp=Z,33µm,18.0s
M64A Tiverton 38.90 68 S **S** **10 34 10.6 +0.1**
baz=282
F62A Pittston Farm, 39.02 61 P **P** **10 28 12.2 -1.0**
baz=278
F62A S **S** **10 34 10.6 -1.8**
baz=278
F62A Pittston Farm, 39.02 61 IAms_20 IAms_20 10 42 26.6
comp=Z,26µm,20.0s
L64A Middleborough 39.09 68 S **S** **10 34 13.8 +0.5**
baz=282
H63A New Sharon 39.16 63 S **S** **10 34 12.9 -1.5**
baz=279
E62A Clayton Lake 39.24 60 P **P** **10 28 14.7 -0.3**
baz=277
E62A S **S** **10 34 14.4 -1.1**
baz=277
E62A Clayton Lake 39.24 60 IAms_20 IAms_20 10 46 41.2
comp=Z,24µm,18.0s
M65A Busby, Falmout 39.31 68 IAms_20 IAms_20 10 46 20.4
comp=Z,38µm,18.0s
G63A Kingsbury 39.38 63 P **P** **10 28 14.8 -1.4**
baz=279
G63A S **S** **10 34 17.5 -0.2**
baz=279
D62A Allapoint, All 39.50 59 P **P** **10 28 17.4 +0.2**
baz=277
D62A S **S** **10 34 18.0 -1.5**
baz=277
I64A Boothbay 39.57 64 S **S** **10 34 20.6 +0.1**
baz=280
PKME Peaks-Kenny Pk 39.59 62 P **P** **10 28 18.7 +0.8**
baz=279
PKME S **S** **10 34 21.4 +0.6**
baz=279
PKME Peaks-Kenny Pk 39.59 62 IAms_20 IAms_20 10 43 56.5
comp=Z,33µm,20.0s
F63A Nahmakanta, Br 39.65 62 P **P** **10 28 17.7 -0.8**
baz=279
F63A S **S** **10 34 19.8 -2.0**
baz=279
F63A Nahmakanta, Br 39.65 62 IAms_20 IAms_20 10 44 01.2
comp=Z,27µm,18.0s
H64A Troy 39.74 63 S **S** **10 34 21.0 -2.0**
baz=280
ADK Adak 39.87 308 IAms_20 IAms_20 10 40 59.0
comp=Z,25µm,20.0s
G64A Maxfield 39.96 62 P **P** **10 28 18.6 -2.4**
baz=279
G64A S **S** **10 34 25.4 -1.0**
baz=279
E63A Oxbow 40.02 60 S **S** **10 34 25.3 -1.9**
baz=278
E63A Oxbow 40.02 60 P **P** **10 28 19.8 -1.7**
E63A IAms_20 IAms_20 10 43 41.8
comp=Z,22µm,18.0s
D63A Stockholm 40.15 59 P **P** **10 28 21.1 -1.5**
baz=278
D63A S **S** **10 34 27.1 -2.0**
baz=278
F64A Sherman 40.15 61 P **P** **10 28 22.7 +0.1**
baz=279
F64A S **S** **10 34 28.2 -1.0**
baz=279
PQI Presque Isle 40.26 60 IAms_20 IAms_20 10 43 41.2
comp=Z,23µm,19.0s
CRIN San Cristobal 40.31 119 IAms_20 IAms_20 10 44 37.1
comp=Z,41µm,21.0s
H65A Eastbrook 40.41 63 P **P** **10 28 28.1 +3.3**
baz=280
H65A S **S** **10 34 33.4 +0.2**
baz=280
E64A Bridgewater 40.42 60 P **P** **10 28 23.1 -1.7**
baz=278
E64A S **S** **10 34 30.8 -2.5**
baz=278
SCHQ Schefferville 40.49 47 P **P** **10 28 23.2 -2.2**
comp=Z,60nm,0.8s,baz=278,slow=8.2,SNR=22
SCHQ LR LR 10 45 36.4
comp=Z,56µm,19.5s,baz=270,slow=37
SCHQ Schefferville 40.49 47 P **P** **10 28 23.2 -2.2**
SCHQ IAmb IAmb 10 28 29.7
comp=Z,132nm,1.1s
ESTN Estel 40.50 118 P **P** **10 28 24.9 -1.0**
ESTN IAmb IAmb 10 28 49.4
comp=Z,182nm,1.4s
G65A Princeton 40.80 62 P **P** **10 28 28.5 +0.5**
baz=280
G65A S **S** **10 34 39.2 +0.2**
baz=280
EMMW East Machias 40.96 63 IAMs_20 IAMs_20 10 44 42.0
comp=Z,31µm,19.0s
H66A Whiting 41.05 63 P **P** **10 28 29.8 -0.3**
baz=281
H66A S **S** **10 34 41.9 -0.7**
baz=281
GGN Saint George 41.32 62 P **P** **10 28 30.8 -1.4**
GGN IAMs_20 IAMs_20 10 45 38.7
comp=Z,25µm,18.0s
BATG Bathurst New B 41.50 59 P **P** **10 28 33.4 -0.3**
BATG IAMs_20 IAMs_20 10 46 27.9
comp=Z,23µm,19.0s
ACON Acoyapa 42.12 118 IAMs_20 IAMs_20 10 45 46.6
comp=Z,27µm,22.0s
ESPN Las Esperanzas 42.57 117 P **P** **10 28 41.0 -1.9**
ESPN IAmb IAmb 10 28 49.7
comp=Z,164nm,1.2s
ESPN IAMs_20 IAMs_20 10 48 24.6
comp=Z,41µm,20.0s
LMN Caledonia Moun 42.59 61 IAMs_20 IAMs_20 10 43 58.9
comp=Z,30µm,22.0s
JTS Las Juntas de 43.46 120 P **P** **10 28 48.1 -2.0**
comp=Z,9.7nm,0.9s,baz=354,slow=7.9,SNR=6.6
JTS Las Juntas de 43.46 120‖ *e*P **P** **10 28 51.5 +1.5**
JTS pmax pmax
comp=Z,50nm,2.9s
JTS Las Juntas de 43.46 120 P **P** **10 28 50.0 -0.1**
JTS Las Juntas de 43.46 120 IAMs_20 IAMs_20 10 46 36.2
comp=Z,36µm,22.0s
HAL Halifax 43.68 62 IAMs_20 IAMs_20 10 46 36.8
comp=Z,24µm,18.0s
MTDJ Mount Denham 43.68 104 IAMs_20 IAMs_20 10 47 28.6
comp=Z,21µm,21.0s
HDC Heredia 44.24 119 IAMs_20 IAMs_20 10 47 15.9
comp=Z,39µm,22.0s
GTBY Guantanamo Bay 44.56 100 IAMs_20 IAMs_20 10 48 26.8
comp=Z,29µm,18.0s
SMY Shemya 45.44 310 IAMs_20 IAMs_20 10 43 25.1
comp=Z,19µm,20.0s
BBSR BB Station 46.74 79 IAMs_20 IAMs_20 10 49 09.6
comp=Z,37µm,19.0s
DRLN Deer Lake 46.77 54 P **P** **10 29 14.9 -1.1**
DRLN IAMs_20 IAMs_20 10 48 12.4
comp=Z,37µm,19.0s
GRTK Grand Turk 46.80 96 IAMs_20 IAMs_20 10 50 34.8
comp=Z,38µm,19.0s
KULLO Kullorsuaq 47.01 19 *i* P **P** **10 29 17.5 0.0**
comp=Z,322nm,1.1s
comp=Z,81µm,18.0s
KULLO Kullorsuaq 47.01 19 *i* P **P** **10 29 17.5 0.0**
KULLO pmax pmax
comp=Z,320nm,1.1s
KULLO MLR MLR
comp=Z,81µm,18.0s
BCIP Isla Barro Col 47.81 116 IAMs_20 IAMs_20 10 53 19.5
comp=Z,28µm,19.0s
ILULI Ilulissat 48.27 27 *i* P **P** **10 29 28.2 +0.9**
comp=Z,133nm,1.1s
comp=Z,51µm,15.0s
ILULI Ilulissat 48.27 27 *i* P **P** **10 29 28.2 +0.9**
ILULI pmax pmax
comp=Z,130nm,1.1s
ILULI MLR MLR
comp=Z,51µm,15.0s
ILULI Ilulissat 48.27 27 IAMs_20 IAMs_20 10 49 34.8
comp=Z,40µm,21.0s
SFJD Kangerlussuaq 48.45 30 *i* P **P** **10 29 27.8 -0.9**
comp=Z,3µm,16.0s
SFJD Kangerlussuaq 48.45 30 P **P** **10 29 27.0 -1.7**
SFJD pmax pmax
comp=Z,266nm,1.1s
SFJD MLR MLR
comp=Z,49µm,18.0s
SFJD Kangerlussuaq 48.45 30 P **P** **10 29 27.0 -1.7**
TAOE Nuku Hiva Isla 49.66 203 *e*T T 11 21 54.6
comp=Z,141nm,0.2s
TAOE Nuku Hiva Isla 49.66 203 IAMs_20 IAMs_20 10 45 48.4
comp=Z,21µm,18.0s
IVI Ivigtut 49.99 37 IAMs_20 IAMs_20 10 51 05.7
comp=Z,34µm,19.0s
LCBC Los crdobas, 50.52 113 *e*P P 10 29 54.1 +8.9
SMRC Santa Marta, M 50.57 109 *e*P P 10 29 37.3 -8.3
SJCC San Jacinto, C 50.69 111 *e*P **P** **10 29 45.0 -1.6**
NRS Narsarsuaq 51.31 37 *i* P **P** **10 29 52.3 +1.7**
NRS Narsarsuaq 51.31 37 *i* P **P** **10 29 52.3 +1.7**
NRS Narsarsuaq 51.31 37 IAMs_20 IAMs_20 10 51 48.7
comp=Z,28µm,19.0s
UREC San Jos de Ur 51.87 113 *e*P **P** **10 29 55.5 +0.1**
DBBC Dabeiba 51.88 115 *e*P **P** **10 29 55.3 -0.2**
URIC Uribia, Colomb 51.90 107 *e*P **P** **10 29 56.9 +1.3**
SMLC San Martn de 52.23 111 *e*P **P** **10 29 54.1 -4.0**
SUMG Summit 52.24 22 *i* P **P** **10 29 57.9 0.0**
comp=Z,1µm,1.0s
comp=Z,114µm,16.0s
SUMG Summit 52.24 22 P **P** **10 29 56.2 -1.7**
SUMG pmax pmax
comp=Z,491nm,1.0s
SUMG MLR MLR
comp=Z,38µm,19.0s
SUMG Summit 52.24 22 P **P** **10 29 56.2 -1.7**
GCPR Guaynabo City 52.52 96 P **P** **10 29 58.6 -1.5**
GCPR IAmb IAmb 10 30 05.7
comp=Z,102nm,0.9s
ZARC Zaragoza, Cauc 52.53 113 *e*P **P** **10 30 03.2 +2.9**
CBOC Ciudad Bolivar 52.82 116 *e*P **P** **10 29 59.3 -3.3**
HELC Santa Helena 52.94 115 *e*P **P** **10 30 03.9 +0.2**
OCAC Ocana 53.16 111 *e*P **P** **10 30 09.2 +4.1**
PLMC San Jos del P 53.30 117 *e*P **P** **10 30 06.0 -0.1**
GR1C Gorgona, Isla 53.35 120 *e*P **P** **10 30 05.3 -1.0**
PTBC PUERTO BERRIO, 53.47 114 *e*P **P** **10 30 06.0 -1.3**
BRRC Barranca, Sant 53.63 112 *e*P **P** **10 30 07.3 -1.1**
GUY2C Guyana, Caldas 53.73 116 *e*P **P** **10 30 09.8 +0.2**
ANGG Ammassalik, Gr 53.82 31 IAMs_20 IAMs_20 10 52 59.2
comp=Z,31µm,20.0s
NORC Norcasia 53.84 115 *e*P **P** **10 30 10.2 +0.2**
HATO Hato, Curacao 53.90 104 IAMs_20 IAMs_20 10 56 23.7
comp=Z,22µm,20.0s
YOTC Yotoco, Valle 53.91 117 *e*P P 10 30 17.9 +7.3
PAMC Pamplona, Colo 54.21 111 *e*P **P** **10 30 11.6 -1.6**
SPBC San Pablo de B 54.36 114 *e*P P 10 30 07.4 -6.4
BARC Barichara 54.36 112 *e*P **P** **10 30 12.1 -1.9**
PET Petropavlovsk 54.48 313 *e*P **P** **10 30 16.3 +2.2**
PET pmax pmax
comp=Z,446nm,1.0s
PET Petropavlovsk 54.48 313 IAMs_20 IAMs_20 10 48 05.9
comp=Z,17µm,22.0s
BBAC Balboa, Cauca 54.69 120 *e*P **P** **10 30 17.1 +0.7**
SDV Santo Domingo 54.72 108 *e*P **P** **10 30 16.5 -0.1**
SDV Santo Domingo 54.72 108 IAMs_20 IAMs_20 10 56 06.7
comp=Z,19µm,21.0s
SDV Santo Domingo 54.72 108 *e*P **P** **10 30 15.3 -1.3**
SDV *e*S **S** **10 37 58.4 +0.9**
ORTC Ortega, Tolima 54.73 117 *e*P **P** **10 30 15.4 -1.0**
ROSC El Rosal 54.74 115 P **P** **10 30 16.9 0.0**
ROSC comp=Z,4.2nm,0.5s,baz=37,slow=8.4,SNR=8.9
LR LR 10 57 52.8
comp=Z,18µm,18.4s,baz=350,slow=41
ROSC El Rosal 54.74 115 *e*P **P** **10 30 17.2 +0.2**
ROSC El Rosal 54.74 115 IAMs_20 IAMs_20 10 57 33.1
comp=Z,19µm,19.0s
SEY Seymchan 54.78 326 P **P** **10 30 15.6 -0.6**
comp=Z,74nm,1.1s,baz=89,slow=7.4,SNR=28
SEY Seymchan 54.78 326‖ *e*P **P** **10 30 14.7 -1.4**
RUSC La Rusia 54.91 113 *e*P **P** **10 30 14.4 -3.9**
PEA0B Petropavlovsk- 55.00 314 P **P** **10 30 16.3 -1.6**
PEA0B pmax pmax
comp=Z,202nm,1.3s
PEA0B Petropavlovsk- 55.00 314 P **P** **10 30 16.3 -1.6**
PETK Petropavlovsk- 55.00 314 P **P** **10 30 17.2 -0.7**
comp=Z,63nm,1.1s,baz=77,slow=13,SNR=21
PETK LR LR 10 51 34.7
comp=Z,8µm,18.9s,baz=67,slow=34
SMRT St. Maarten 55.02 94 *e*P **P** **10 30 20.2 +1.7**
SMRT St. Maarten 55.02 94 IAMs_20 IAMs_20 10 54 46.5
comp=Z,23µm,20.0s
PRAC Prado 55.12 116 *e*P P 10 30 10.2 -9.1
SABA Saba 55.13 95 *e*P **P** **10 30 18.0 -1.3**
SABA Saba 55.13 95 IAMs_20 IAMs_20 10 55 44.5
comp=Z,24µm,20.0s
OTAV Otavalo 55.19 122 *e*P **P** **10 30 20.9 +0.6**
OTAV Otavalo 55.19 122 P **P** **10 30 19.5 -0.7**
OTAV pmax pmax
comp=Z,80nm,1.6s
OTAV Otavalo 55.19 122 P **P** **10 30 19.5 -0.7**
OTAV IAmb IAmb 10 30 28.2
comp=Z,80nm,1.6s
OTAV Otavalo 55.19 122 IAMs_20 IAMs_20 10 51 16.3
comp=Z,16µm,21.0s
OTAV Otavalo 55.19 122 *e*P **P** **10 30 18.7 -1.5**
OTAV *e*S **S** **10 38 03.0 -1.1**
GCUF Volcan Galeras 55.20 121 *e*P **P** **10 30 21.2 +0.8**
CRUC La Cruz 55.22 120 *e*P **P** **10 30 22.1 +1.7**
CHIC Chingaza 55.30 115 *e*P **P** **10 30 20.3 -0.8**
SEUS St. Eustatius 55.41 94 *e*P **P** **10 30 19.9 -1.4**
SEUS St. Eustatius 55.41 94 IAMs_20 IAMs_20 10 56 00.8
comp=Z,25µm,20.0s
BETC Betania 55.46 118 *e*P **P** **10 30 22.1 +0.4**
SKI Saint Kitts 55.69 94 *e*P **P** **10 30 21.7 -1.6**
SKI Saint Kitts 55.69 94 IAMs_20 IAMs_20 10 56 12.7
comp=Z,30µm,20.0s
GARC Garzon, Huila 55.78 118 *e*P P 10 30 19.3 -5.0
FLOC Florencia 56.10 119 *e*P **P** **10 30 26.8 +0.5**
DAG Danmarks Havn 56.21 16 *i* P **P** **10 30 26.0 -0.2**
comp=Z,55µm,16.0s
DAG Danmarks Havn 56.21 16 *i* P **P** **10 30 26.0 -0.2**
DAG MLR MLR
comp=Z,55µm,16.0s
PUAC Puerto Asis, P 56.22 121 *e*P **P** **10 30 27.7 +0.5**
ANWB Willy Bob 56.25 94 *e*P **P** **10 30 30.7 +3.3**
ANWB Willy Bob 56.25 94 IAMs_20 IAMs_20 10 55 43.0
comp=Z,24µm,21.0s
MLYT Lee's Yard 56.47 95 *e*P **P** **10 30 29.8 +0.8**
MA2 Magadan 56.55 322 *ce*P **P** **10 30 28.1 -0.8**
MA2 pmax pmax
comp=Z,174nm,1.3s
MA2 MLR MLR
comp=Z,7µm,16.0s
MA2 Magadan 56.55 322 P **P** **10 30 27.5 -1.4**
MA2 IAMs_20 IAMs_20 10 52 58.0
comp=Z,13µm,20.0s
SKR Severo-Kuril's 56.75 311 *c i*P **P** **10 30 30.0 -0.4**
SKR *e*S **S** **10 38 22.3 -1.0**
SKR *e* 10 40 18.3
SKR pmax pmax
comp=Z,600nm,13.1s
SKR pmax pmax
comp=Z,800nm,14.6s
SKR MLR MLR
comp=Z,3µm,18.0s
SKR MLR MLR
comp=Z,2µm,17.0s
MACC Macarena, Meta 56.96 117 *e*P **P** **10 30 29.1 -3.3**
ABD La Joyeuse, An 57.16 94 *e*P **P** **10 30 36.9 +3.1**
CBE Ff, Capester 57.30 95 *e*P **P** **10 30 36.7 +1.9**
TBG Guadaloupe-3 57.40 95 *e*P **P** **10 30 37.6 +2.1**
TDBA Terre de Bas, 57.40 95 *e*P **P** **10 30 38.9 +3.4**
MAGL Barre de l'ile 57.62 95 *e*P **P** **10 30 39.6 +2.5**
PTLC Puerto Leguiza 57.70 119 *e*P **P** **10 30 38.9 +1.2**
DSLB Salisbury 57.81 95 *e*P **P** **10 30 38.9 +0.5**
SCO Scoresbysund 57.85 23 *i* P **P** **10 30 39.3 +1.4**
comp=Z,331nm,1.3s
comp=Z,25µm,13.0s
SCO Scoresbysund 57.85 23 *i* P **P** **10 30 39.3 +1.4**
SCO pmax pmax
comp=Z,330nm,1.3s
SCO MLR MLR
comp=Z,25µm,13.0s
MDN Morne-Daniel 57.90 96 *e*P **P** **10 30 39.1 0.0**
DLPL La Plaine 58.01 95 *e*P **P** **10 30 43.3 +3.4**
DLPL La Plaine 58.01 95 IAMs_20 IAMs_20 10 57 44.7
comp=Z,28µm,20.0s
PMOR Pomariorio Ree 58.09 209 *e*P **P** **10 30 44.5 +4.3**
comp=Z,85nm,1.2s
PMOR Pomariorio Ree 58.09 209 *e*T T 11 32 43.6
comp=Z,45nm,0.3s
VAH Vaihoa 58.20 209 *e*P **P** **10 30 45.0 +4.0**
comp=Z,86nm,1.2s
VAH Vaihoa 58.20 209 *e*T T 11 32 41.7
comp=Z,29nm,0.3s
FDF Fort de France 58.43 96 *e*P **P** **10 30 45.5 +2.6**
FDF Fort de France 58.43 96 IAMs_20 IAMs_20 10 56 40.0
comp=Z,22µm,21.0s
BIM Bigot 58.62 96 *e*P P 10 30 38.2 -5.9
MPOM Morne Pois Mar 58.83 96 *e*P P 10 30 34.1 -11
SLBI Saint Lucia, B 58.98 96 *e*P **P** **10 30 48.5 +1.9**
SLAC Saint Lucia, A 59.12 97 *e*P P 10 30 53.0 +5.4
MCLT Moule a Chique 59.20 97 *e*P **P** **10 30 48.5 +0.4**
MCLT Moule a Chique 59.20 97 IAMs_20 IAMs_20 10 57 37.6
comp=Z,26µm,20.0s
SVB Belmont 59.21 97 *e*P **P** **10 30 49.8 +1.5**
SVB Belmont 59.21 97 IAMs_20 IAMs_20 10 58 37.6
comp=Z,14µm,20.0s
GCMP Grenada, Carri 59.54 98 *e*P **P** **10 30 48.7 -1.8**
GRGR Grenville 59.58 99 *e*P **P** **10 30 54.8 +4.1**
GRGR Grenville 59.58 99 IAMs_20 IAMs_20 10 55 09.4
comp=Z,18µm,21.0s
ORIV Oritupano 60.09 103 *e*P **P** **10 30 57.9 +3.6**
KBS Kingsbay 60.16 9 *de*P **P** **10 30 54.3 +0.4**
KBS pmax pmax
comp=Z,166nm,2.1s
KBS MLR MLR
comp=Z,33µm,18.0s
TRN Trinidad (W) 60.67 100 *e*P **P** **10 30 54.5 -3.7**
MEH Mehetia 60.78 208 *e*P **P** **10 31 02.8 +4.0**
comp=Z,23nm,1.1s
MEH Mehetia 60.78 208 *e*T T 11 36 05.7
comp=Z,21nm,0.3s
TOSP Speyside 60.95 99 *e*P P 10 30 53.4 -6.7
TOSP Speyside 60.95 99 IAMs_20 IAMs_20 10 57 21.8
comp=Z,24µm,22.0s
TIAR Tiarei 60.98 210 *e*P **P** **10 31 04.3 +4.2**
comp=Z,17nm,1.2s
TIAR Tiarei 60.98 210 *e*T T 11 36 19.8
comp=Z,10nm,0.3s
PPT Papeete 61.08 210 LR LR 10 52 05.1
comp=Z,13µm,18.3s,baz=16,slow=31
PPTF Pamatai, Papee 61.09 210 IAMs_20 IAMs_20 10 50 17.9
comp=Z,14µm,19.0s
PPT2 Papeete2 61.10 210 *e*S **S** **10 39 23.6 +3.2**
comp=Z,6µm,26.8s
PPT2 *e*LQ LQ 10 46 33.9
comp=Z,7µm,24.8s
PPT2 *e*LR LR 10 49 09.4
comp=Z,32µm,25.2s,baz=18
PPT2 Papeete2 61.10 210 *e*T T 11 36 28.6
comp=Z,7.9nm,0.3s
TVO Taravao 61.15 210 *e*T T 11 36 32.5
comp=Z,4.7nm,0.3s
PAE Paea 61.17 210 *e*P **P** **10 31 05.4 +4.0**
comp=Z,20nm,1.4s
PAE Paea 61.17 210 *e*T T 11 36 33.5
comp=Z,1.7nm,0.3s
RKT Rikitea 62.12 193 *e*S **S** **10 39 36.2 +3.2**
comp=Z,4µm,27.5s
RKT *e*LQ LQ 10 46 57.7
comp=Z,4µm,36.2s
RKT *e*LR LR 10 49 37.0
comp=Z,6µm,26.5s
HSPB Hornsund (broa 62.14 10 *e*P **P** **10 31 09.6 +2.3**
HSPB *e*S **S** **10 39 35.5 +3.3**
HSPB *e*L L 10 57 42.9
comp=Z,44µm,20.4s
H11N3 WAKE ISLAND Hy 63.21 275 T T 11 39 29.9
baz=56,slow=75,SNR=4288
H11N2 WAKE ISLAND Hy 63.21 275 T T 11 39 32.4
baz=56,slow=75,SNR=5496
H11N1 WAKE ISLAND Hy 63.23 275 T T 11 39 33.4
baz=56,slow=75,SNR=4406
PTCN Pitcairn Islan 63.34 188 IAMs_20 IAMs_20 10 51 19.2
comp=Z,12µm,20.0s
WAKE Wake Island 63.65 274 IAMs_20 IAMs_20 10 54 26.8
comp=Z,12µm,20.0s
KUR Kuril'sk 64.08 308 *c i*P **P** **10 31 19.5 -1.1**
KUR *i*S **S** **10 40 03.6 +6.3**
KUR *e*SS **SS** **10 44 14.8 +9.2**
KUR pmax pmax
comp=Z,141nm,1.6s
KUR pmax pmax
comp=Z,960nm,6.0s
KUR MLR MLR
comp=Z,3µm,16.0s
KUR MLR MLR
comp=E,5µm,17.0s
KUR MLR MLR
comp=N,2µm,14.0s
TYV Tymovskoe 64.39 316 *e*P **P** **10 31 23.9 +1.3**
TYV *e*S **S** **10 40 03.6 +2.5**
TYV pmax pmax
comp=Z,45nm,1.1s
TYV pmax pmax
comp=Z,900nm,5.4s
TYV smax smax
comp=E,11nm,1.3s
TYV smax smax
comp=E,3µm,10.5s
YAK Yakutsk 64.67 330 P **P** **10 31 23.3 -0.9**
comp=E,22nm,0.7s,baz=62,slow=1.5,SNR=14
YAK Yakutsk 64.67 330 *e*P **P** **10 31 22.8 -1.4**
YAK *e* 10 31 53.8
YAK *e*S **S** **10 40 05.8 +1.7**
YAK *e**SS sS 10 40 22.9 +14
YAK *e* 10 41 21.8
YAK pmax pmax
comp=Z,68nm,1.1s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,38nm,1.5s
YAK smax smax
comp=E,2µm,4.9s
YAK smax smax
comp=N,792nm,4.3s
YAK MLR MLR
comp=Z,21µm,18.0s
YAK MLR MLR
comp=N,9µm,17.0s
YAK MLR MLR
comp=E,11µm,17.0s
YAK Yakutsk 64.67 330 P **P** **10 31 22.5 -1.7**
YAK IAmb IAmb 10 31 27.9
comp=Z,79nm,1.0s
YAK IAMs_20 IAMs_20 10 58 26.4
comp=Z,19µm,20.0s
CZSB Cruzeiro do Su 64.91 124 *e*P **P** **10 31 24.6 -1.9**
CZSB *e*pP **pP** **10 31 29.0 -0.1**
CZSB *e*S S **10 40 10.1 +1.8**
NNA Nana 65.55 130 IAMs_20 IAMs_20 10 57 30.6
comp=Z,13µm,19.0s
YUK Yuzh-Kuril'sk 65.92 308 *c i*P **P** **10 31 29.7 -2.9**
YUK *e*S **S** **10 40 16.1 -3.9**
YUK *e*SS **SS** **10 44 34.2 0.0**
YUK *e*SSS SSS 10 47 30.1
YUK pmax pmax
comp=Z,367nm,1.3s
YUK pmax pmax
comp=Z,418nm,1.2s
RPN Rapa Nui 66.08 167 LR LR 10 53 33.4
comp=Z,6µm,21.7s,baz=350,slow=30
TBI Tubuai 66.30 207 *e*S **S** **10 40 28.0 +3.2**
comp=Z,5µm,29.0s
TBI *e*LQ LQ 10 48 42.3
comp=Z,6µm,29.5s
TBI *e*LR LR 10 51 27.6
comp=Z,27µm,28.8s,baz=18
TBI Tubuai 66.30 207 *e*T T 11 42 59.6
comp=Z,12nm,0.4s
YSS Yuzh-Sakhalins 66.31 312⇑ *e*P **P** **10 31 36.4 +1.3**
YSS *e* 10 32 06.0
YSS *e* 10 34 00.7
YSS *e*S **S** **10 40 25.8 +1.2**
YSS *e* 10 41 33.0
YSS *e*SS **SS** **10 44 43.5 +3.3**
YSS pmax pmax
comp=Z,800nm,5.7s
YSS pmax pmax
comp=Z,60nm,1.1s
YSS smax smax
comp=E,1µm,14.3s
YSS Yuzh-Sakhalins 66.31 312 IAMs_20 IAMs_20 10 56 07.6
comp=Z,12µm,20.0s
GRNR Gornyy 67.82 318⇑ *i*P **P** **10 31 43.4 -1.2**
GRNR *e* 10 40 46.3

GRNR pmax pmax
comp=Z,20nm,1.1s
ASAJ Asahikawa 67.89 309 LR LR 10 57 09.2
comp=Z,4µm,20.3s,baz=54,slow=32
ERM Erimo 68.66 307 *de*P **P 10 31 51.3 +1.3**
ERM pmax pmax
comp=Z,61nm,1.3s
ERM MLR MLR
comp=Z,4µm,16.0s
ERM Erimo 68.66 307 IAMs_20 IAMs_20 10 54 21.3
comp=Z,12µm,22.0s
RAR Rarotonga 68.76 218 LR LR 10 57 20.6
comp=Z,7µm,18.1s,baz=26,slow=32
RAR Rarotonga 68.76 218 IAMs_20 IAMs_20 10 58 02.0
comp=Z,10µm,19.0s
KWAJ Kwajalein Atol 68.97 265 IAMs_20 IAMs_20 10 54 58.3
comp=Z,13µm,20.0s
AFI Afiamalu 69.50 232 LR LR 10 56 15.9
comp=Z,5µm,18.7s,baz=43,slow=31
LEWI Lewis, Hebride 69.98 31 *e*P **P 10 31 59.4 +1.4**
LEWI IAmb IAmb 10 32 02.6
comp=Z,239nm,1.7s
LEWI IAMs_20 IAMs_20 11 01 48.0
comp=Z,24µm,19.9s
ARCES ARCESS Array B 70.03 12 P **P 10 31 56.1 -2.0**
comp=Z,24nm,1.1s,baz=328,slow=4.3,SNR=17
ARCES PKP2bc 11 00 03.5
comp=Z,1.5nm,0.9s,baz=96,slow=8.7,SNR=4.7
ARCES LR LR 11 04 57.3
comp=Z,23µm,19.5s,baz=340,slow=38
KEV Kevo 70.06 11 P **P 10 31 56.8 -1.4**
KEV pmax pmax
comp=Z,55nm,1.0s
KEV MLR MLR
comp=Z,26µm,19.0s
KEV Kevo 70.06 11 P **P 10 31 56.8 -1.4**
KEV IAmb IAmb 10 32 07.8
comp=Z,55nm,1.0s
MACA Manacapuru-AM 70.10 111 *e*P **P 10 31 57.8 -1.5**
MACA *e*S **S 10 41 10.9 +0.2**
ROSA Rosais 70.14 56 IAMs_20 IAMs_20 10 59 46.0
comp=Z,11µm,20.0s
NRIK Noril'sk 70.56 349 P **P 10 31 59.9 -1.4**
comp=Z,23nm,1.0s,baz=33,slow=4.1,SNR=14
NRIK PKP2bc 10 59 58.3
comp=Z,1.8nm,0.5s,baz=125,slow=8.2,SNR=4.0
NRIK LR LR 11 06 44.8
comp=Z,13µm,18.1s,baz=32,slow=39
ZEA Zeya 70.64 324 *e*P **P 10 32 00.5 -1.6**
ZEA *e*PPP PPP 10 36 25.0
ZEA *e*S **S 10 41 17.0 +1.0**
ZEA *e*PS **PnS 10 41 38.0 -4.5**
ZEA *e*SS **SS 10 45 48.0 +1.3**
ZEA pmax pmax
comp=E,100nm,2.0s
ZEA pmax pmax
comp=Z,190nm,2.0s
ZEA pmax pmax
comp=Z,900nm,9.0s
ZEA smax smax
comp=E,1µm,11.0s
ZEA MLR MLR
comp=Z,15µm,17.0s
ZEA MLR MLR
comp=E,8µm,18.0s
ZEA MLR MLR
comp=N,5µm,17.0s
ETMB Extrema 70.78 120 *e*P **P 10 32 01.1 -2.3**
ETMB *e*S **S 10 41 16.8 -1.8**
TEY Ternei 70.95 313⇑ *e*P P 10 31 59.0 -5.1
TEY *e* 10 32 05.9
TEY pmax pmax
comp=Z,20nm,1.2s
TEY pmax pmax
comp=N,10.0nm,1.4s
KPL Plockton 71.01 31 *e*P **P 10 32 03.8 -0.4**
KPL IAmb IAmb 10 32 08.8
comp=Z,351nm,2.2s
KPL IAMs_20 IAMs_20 11 02 17.4
comp=Z,19µm,19.5s
KAC Achnashellach 71.04 31 *e*P **P 10 32 05.4 +0.9**
KLR Kul'dur 71.17 318 LR LR 11 02 26.5
comp=Z,5µm,18.7s,baz=39,slow=35
KLR Kul'dur 71.17 318⇓ *e*P **P 10 32 05.5 +0.1**
KLR pmax pmax
comp=Z,46nm,1.5s
KLR MLR MLR
comp=Z,8µm,16.0s
SAML Samuel 72.27 117 P **P 10 32 09.8 -2.6**
SAML pmax pmax
comp=Z,43nm,1.6s
SAML MLR MLR
comp=Z,10µm,22.0s
SAML Samuel 72.27 117 P **P 10 32 09.8 -2.6**
SAML Samuel 72.27 117 IAMs_20 IAMs_20 11 04 33.6
comp=Z,10µm,22.0s
SAML Samuel 72.27 117 *e*P **P 10 32 11.8 -0.6**
SAML *e*S **S 10 41 35.0 -0.8**
ELO Logie Almond 72.38 31 *e*P **P 10 32 12.4 -0.1**
CMLA Cha da Macela 72.44 56 IAMs_20 IAMs_20 11 03 00.1
comp=Z,18µm,19.0s
PGBU Glenifferbraes 72.52 32 *e*P **P 10 32 14.8 +1.5**
PGBU IAmb IAmb 10 32 18.1
comp=Z,397nm,1.8s
PGBU IAMs_20 IAMs_20 11 03 04.5
comp=Z,16µm,17.2s
LVZ Lovozero 72.83 9⇑ *e*P **P 10 32 14.9 -0.1**
LVZ pmax pmax
comp=Z,160nm,1.5s
LVZ MLR MLR
comp=Z,18µm,17.0s
EDI Edinburgh 72.97 31 *e*P **P 10 32 15.0 -1.0**
EDI IAMs_20 IAMs_20 11 06 12.9
comp=Z,14µm,15.0s
APA Apatity 72.98 10⇑ *i*P **P 10 32 14.9 -1.0**
APA *i* S **S 10 41 41.0 -1.5**
APA *i* 10 42 20.0
APA pmax pmax
comp=Z,26nm,1.1s
APA MLR MLR
comp=Z,24µm,18.0s
EBL Broad Law 73.13 31 *e*P **P 10 32 15.5 -1.5**
ESY Stoneypath 73.20 31 *e*P **P 10 32 18.9 +1.5**
BOD Bodaibo 73.39 332 *e*P **P 10 32 16.2 -2.3**
BOD pmax pmax
comp=Z,67nm,1.7s
NC303 NORSAR Array S 74.02 21 P **P 10 32 21.5 -0.7**
MALB Monte Alegre 74.04 105 *e*P **P 10 32 21.5 -1.5**
MALB *e*S **S 10 41 55.5 -0.6**
USRK Ussuriysk Ar. 74.09 314 P **P 10 32 21.6 -1.2**
comp=Z,30nm,0.8s,baz=50,slow=5.2,SNR=21
USRK LR LR 11 01 08.7
comp=Z,5µm,21.2s,baz=31,slow=33
NB2 NORSAR Subarra 74.12 22 P **P 10 32 22.0 -0.8**
comp=Z,359nm,2.6s,baz=321,slow=6.2
NB2 NORSAR Subarra 74.12 22 P **P 10 32 22.0 -0.8**
baz=321,slow=6.2
NOA NORSAR Array B 74.12 22 P **P 10 32 22.1 -0.8**
comp=Z,17nm,1.0s,baz=322,slow=6.0,SNR=19
NOA LR LR 11 05 21.7
comp=Z,20µm,20.7s,baz=340,slow=36
WPS Cemaes, Angles 74.17 33 *e*P **P 10 32 23.9 +0.9**
WPS IAmb IAmb 10 32 28.2
comp=Z,443nm,2.1s
NAO01 NORSAR Array S 74.19 22 P **P 10 32 22.6 -0.5**
NAO01 IAmb IAmb 10 32 27.9
comp=Z,120nm,1.1s
LPAZ La Paz 74.24 126 P **P 10 32 22.5 -2.2**
comp=Z,5.8nm,0.8s,baz=338,slow=5.3,SNR=18
LPAZ LR LR 11 03 43.1
comp=Z,12µm,19.4s,baz=334,slow=35
LPAZ La Paz 74.24 126 P **P 10 32 23.2 -1.6**
LPAZ pmax pmax
comp=Z,24nm,1.2s
LPAZ La Paz 74.24 126 P **P 10 32 23.1 -1.6**
LPAZ La Paz 74.24 126 *e*P **P 10 32 22.9 -1.9**
LPAZ *e*S **S 10 41 58.6 -0.7**
WME Myndd Eilian 74.25 33 *e*P **P 10 32 24.4 +0.8**
WLF1 Llynfaes 74.29 33 *e*P **P 10 32 23.8 0.0**
WLF1 IAmb IAmb 10 32 31.1
comp=Z,2µm,2.8s
WLF1 IAMs_20 IAMs_20 11 05 11.0
comp=Z,46µm,15.7s
ITTB Itaituba 74.57 108 *e*P **P 10 32 25.8 -0.2**
ITTB *e*S **S 10 42 01.3 -0.7**
MCPB Macapa, AP 74.78 103 *e*P **P 10 32 25.1 -2.1**
MCPB *e*S **S 10 42 06.0 +1.7**
VLA Vladivostok 74.82 313⇑ *e*P **P 10 32 29.3 +2.2**
VLA pmax pmax
comp=Z,69nm,1.2s
VLA MLR MLR
comp=Z,6µm,18.0s
MAJO Matsushiro 74.92 305 P **P 10 32 26.0 -1.8**
MAJO pmax pmax
comp=Z,54nm,1.0s
MAJO Matsushiro 74.92 305 P **P 10 32 26.0 -1.8**
MAJO IAmb IAmb 10 32 33.4
comp=Z,54nm,1.0s
MAJO Matsushiro 74.92 305 IAMs_20 IAMs_20 10 58 49.2
comp=Z,11µm,21.0s
MAT Matsushiro 74.92 305 P **P 10 32 25.9 -1.9**
MAT S **S 10 42 04.4 -1.0**
MJAR Matsushiro Arr 74.92 305 P **P 10 32 25.9 -1.9**
comp=Z,10nm,1.1s,baz=41,slow=5.5,SNR=24
MJAR LR LR 10 58 59.4
comp=Z,9µm,21.7s,baz=280,slow=31
MJB9 Matsu-Tunnel 74.92 305 IAMs_20 IAMs_20 10 57 13.2
comp=Z,12µm,21.0s
RSBS Rosebush, Pemb 75.06 35 *e*P **P 10 32 28.9 +0.6**
RSBS IAmb IAmb 10 32 33.5
comp=Z,478nm,2.3s
RSBS IAMs_20 IAMs_20 11 05 09.2
comp=Z,25µm,16.9s
FOEL Foel Wylfa 75.08 33 *e*P **P 10 32 29.1 +0.6**
FOEL IAmb IAmb 10 32 35.8
comp=Z,240nm,1.9s
FOEL IAMs_20 IAMs_20 11 05 44.4
comp=Z,19µm,15.7s
MDJ Mudanjiang 75.18 315 IAMs_20 IAMs_20 11 00 51.5
comp=Z,12µm,22.0s
STNC Stoke 75.37 33 *e*P **P 10 32 31.7 +1.6**
STNC IAMs_20 IAMs_20 11 04 27.5
comp=Z,20µm,20.0s
MCH1 Michaelchurch 75.80 34 *e*P **P 10 32 33.3 +0.7**
MCH1 IAmb IAmb 10 32 37.8
comp=Z,237nm,1.9s
MCH1 IAMs_20 IAMs_20 11 08 40.1
comp=Z,26µm,14.7s
JHJ2 Mitsune 75.88 301 IAMs_20 IAMs_20 10 57 44.0
comp=Z,9µm,22.0s
JHJ Hachijo jima 2 75.90 301 LR LR 11 08 38.3
comp=Z,4µm,18.2s,baz=65,slow=38
PB11 IPOC Station P 75.90 129 P **P 10 32 32.5 -1.2**
PB11 IAmb IAmb 10 32 57.6
comp=Z,103nm,1.3s
STRD Stroud 76.32 34 *e*P **P 10 32 36.7 +1.1**
STRD IAmb IAmb 10 32 40.9
comp=Z,667nm,2.2s
STRD IAMs_20 IAMs_20 11 02 51.6
comp=Z,20µm,21.1s
DYA Yadsworthy 76.48 35 *e*P **P 10 32 37.1 +0.6**
DYA IAMs_20 IAMs_20 11 05 35.2
comp=Z,20µm,17.6s
NPGB Novo Progresso 76.62 110 *e*P **P 10 32 36.7 -1.1**
NPGB *e*S **S 10 42 26.9 +2.2**
SWN1 Swindon 76.67 34 *e*P **P 10 32 38.5 +1.0**
SWN1 IAMs_20 IAMs_20 11 03 02.6
comp=Z,21µm,21.2s
TMCR Tamitsa 76.82 9 *e*P **P 10 32 38.1 0.0**
CHJN Chongjin 76.85 313 P **P 10 32 37.3 -1.4**
HIA Hailar 77.12 324 IAMs_20 IAMs_20 11 12 36.3
comp=Z,11µm,19.0s
VILB Vilhena 77.14 118 *e*P **P 10 32 40.4 -0.3**
VILB *e*S **S 10 42 30.0 -0.3**
FINES FINESS Array B 77.45 15 P **P 10 32 41.0 -0.7**
comp=Z,12nm,0.8s,baz=0.0,slow=4.6,SNR=16
FINES LR LR 11 08 19.0
comp=Z,21µm,19.7s,baz=349,slow=37
FINES FINESS Array B 77.45 15 *i* P **P 10 32 42.2 +0.5**
FINES pmax pmax
comp=Z,12nm,0.8s
PATS Pohnpei 77.47 269 IAMs_20 IAMs_20 10 59 36.3
comp=Z,15µm,20.0s
JCJ Chichijima 77.80 295 LR LR 11 06 40.9
comp=Z,4µm,18.1s,baz=49,slow=35
CIT Chita 77.85 328 *e*P **P 10 32 45.3 +1.1**
CIT *e* 10 32 57.6
CIT pmax pmax
comp=Z,152nm,2.4s
CN2 Changchun 77.97 317 *e*P **P 10 32 42.8 -2.2**
CN2 *e*sP sP 10 32 49.5 +0.8
CN2 *e*S **S 10 42 33.0 -5.6**
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,6µm,21.0s
CN2 LR LR
comp=Z,8µm,21.0s
CN2 LR LR
comp=Z,11µm,21.0s
JSA Saint Aubin 78.17 35 *e*P **P 10 32 47.9 +1.9**
JSA IAMs_20 IAMs_20 11 09 28.4
comp=Z,23µm,15.2s
LVC Limon Verde 78.52 131 *e*P **P 10 32 47.9 -0.7**
CLDB Colider 78.85 113 *e*S **S 10 42 48.2 -0.5**
MSVF Nonsavu 78.86 237 IAMs_20 IAMs_20 10 59 35.5
comp=Z,10µm,21.0s
TMAB Tom-Au,PA,Br 79.10 102 *e*P **P 10 32 51.3 -0.3**
HHU Hamhung 79.37 313 P **P 10 32 55.2 +2.5**
HHU S **S 10 42 54.1 +0.4**
BSEG Bad Segeberg 79.58 26 *e*P **P 10 32 57.4 +3.8**
comp=Z,468nm,2.5s,baz=326,slow=5.2
PTLB Pontes e Lacer 79.62 119 *e*P **P 10 32 53.0 -1.3**
PTLB *e*pP **sP 10 32 57.3 -0.7**
PTLB *e*S **S 10 42 56.7 0.0**
UCC Uccle 79.80 31 PcP **P 10 32 58.3 +3.4**
WOSN Wonsan 79.94 312 P **P 10 32 59.0 +3.2**
IBBN Ibbenburen 79.96 29 *e*P **P 10 32 59.1 +3.4**
comp=Z,128nm,1.4s,baz=326,slow=5.2
SNF Seneffe 79.99 31 PcP **P 10 32 57.4 +1.5**
SLIT Slitere, Latvi 80.02 18 *e*P **P 10 32 57.7 +1.8**
PRGR Permogore 80.05 6⇑ *i*P **P 10 32 54.3 -1.7**
PRGR *e* 10 33 04.0
PRGR pmax pmax
comp=Z,101nm,1.0s
PGAV Gavieira, Arco 80.17 44 *e*P **P 10 32 57.5 +0.3**
comp=Z,54nm,1.9s
PGAV A A 11 06 03.3
comp=Z,16µm,20.0s
KLMR Klimovskoe 80.20 9 *d* iP **P 10 32 58.8 +1.9**
KLMR *e* 10 36 01.9
KLMR *e*S **S 10 43 06.1 +4.4**
KLMR *e*SS **SS 10 48 20.7 +10**
KLMR pmax pmax
comp=Z,118nm,1.5s
KLMR MLR MLR
comp=Z,7µm,17.0s
KLMR Klimovskoe 80.20 9⇓ *i*P **P 10 32 58.9 +2.0**
KLMR *i* P **P 10 32 58.9 +2.0**
KLMR *i* P **P 10 32 58.9 +2.0**
KLMR AMP 10 33 02.6
comp=Z,118nm,1.5s
KLMR *e*PP **PP 10 36 01.9 +3.5**
KLMR *e*S **S 10 43 06.2 +4.5**
KLMR *e*S **S 10 43 06.2 +4.5**
KLMR *e*SS **SS 10 48 20.7 +10**
KLMR *e*SS **SS 10 48 20.7 +10**
KLMR LQ LQ 11 02 15.3
KLMR LQ LQ 11 02 15.3
KLMR LR LR 11 04 27.6
KLMR AMP 11 09 12.1
comp=Z,7µm,17.4s
PRPB Parauapebas 80.20 106 *e*P **P 10 32 58.4 +0.8**
PRPB *e*S **S 10 43 04.5 +1.3**
AC01 Pan de Azucar 80.25 134 IAMs_20 IAMs_20 11 02 47.3
comp=Z,8µm,20.0s
VSU Vasula 80.31 16 *e*P **P 10 32 58.9 +1.4**
VSU Vasula 80.31 16 *d* iP **P 10 32 59.6 +2.2**
VSU pmax pmax
comp=Z,248nm,1.6s
VSU MLR MLR
comp=Z,30µm,17.0s
SNY Shenyang 80.32 316⇑ P **P 10 32 55.5 -2.3**
SNY S **S 10 43 04.9 +1.3**
SNY pmax pmax
comp=Z,33nm,1.3s
SNY pmax pmax
comp=Z,680nm,4.4s
SNY LR LR
comp=Z,6µm,21.4s
SNY LR LR
comp=Z,2µm,19.2s
SNY LR LR
comp=Z,10µm,20.7s
BEBN Eben Emael 80.34 30 PcP **P 10 33 00.7 +2.9**
BMRD Maredsous 80.35 31 PcP **P 10 33 00.6 +2.8**
BGES Gesves 80.42 31 PcP **P 10 33 01.6 +3.4**
DOU Dourbes 80.44 31 PcP **P 10 33 01.1 +2.8**
BSTI Sart Tilman 80.46 31 PcP **PcP 10 33 03.4 -2.0**
BCLA Clavier 80.48 31 PcP **P 10 33 01.5 +3.0**
PCAB Cabril 80.48 44 *e*P **P 10 33 01.2 +2.4**
comp=Z,84nm,2.0s
MEM Membach 80.61 30 PcP **P 10 33 02.0 +2.8**
NRDL Niedersach Rie 80.67 27 *e*P **P 10 33 03.0 +3.5**
comp=Z,93nm,1.5s,baz=326,slow=5.2
KSRS Korea Array 80.77 311 P **P 10 32 59.4 -0.9**
comp=Z,8.7nm,1.0s,baz=54,slow=4.8,SNR=25
KSRS PP **PP 10 36 06.3 +2.5**
comp=Z,2.7nm,1.1s,baz=49,slow=6.6,SNR=4.7
KSRS LR LR 11 03 30.2
comp=Z,5µm,21.4s,baz=31,slow=32
PYS Pyongsong 80.79 313 P **P 10 33 04.2 +3.8**
BHOU Houvegnez 80.81 31 PcP **PcP 10 33 04.3 -2.7**
PMOZ Porto Moniz, M 80.84 55 A A 11 05 03.9
comp=Z,7µm,20.0s
PVRL Vila Real 80.95 44 *e*P **P 10 33 03.7 +2.4**
PYAG Pyongyang 80.98 313 P **P 10 33 06.0 +4.6**
PYAG S **S 10 43 10.0 -0.6**
PYAG sS **ScS 10 43 28.0 -1.3**
SUJ Sinuiju 80.99 314 P **P 10 33 04.1 +2.7**
SUJ S **S 10 43 12.0 +1.4**
PBRG Braganca 81.11 43 *e*P **P 10 33 04.3 +2.1**
comp=Z,59nm,1.6s
ASSE Asse, Remlinge 81.17 27 *e*P **P 10 33 05.6 +3.5**
comp=Z,209nm,1.9s,baz=326,slow=5.2
PVIS Viseu 81.23 44 *e*P **P 10 33 04.5 +1.6**
comp=Z,85nm,1.5s
IRK Irkutsk 81.25 333 *e*P **P 10 33 03.5 +0.9**
IRK pmax pmax
comp=Z,154nm,2.4s
CLZ Clausthal 81.30 27 *e*P **P 10 33 06.8 +3.8**
comp=Z,140nm,1.4s,baz=326,slow=5.2
CLZ *e*PP **PP 10 36 10.0 +2.3**
baz=327,slow=8.3
PBUR Paburge 81.36 19 *e*P **P 10 33 04.8 +1.7**
GTTG Gottingen 81.39 28 *e*P **P 10 33 06.9 +3.5**
comp=Z,50nm,1.4s,baz=326,slow=5.2
GTTG *e*PP **PP 10 36 11.2 +2.8**
baz=327,slow=8.3
MVO Moncorvo 81.40 44 *e*P **P 10 33 05.5 +1.8**
comp=Z,97nm,1.4s
MVO A A 11 06 42.2
comp=Z,16µm,20.0s
WLF Walferdange 81.41 31 PcP **P 10 33 05.5 +1.9**
WLF Walferdange 81.41 31 *e*P **P 10 33 07.1 +3.6**
comp=Z,87nm,1.4s,baz=326,slow=5.2
PSBE So Bento 81.55 46 *e*P **P 10 33 06.9 +2.4**
comp=Z,91nm,1.7s
AC04 Llanos de Chal 81.59 136 IAMs_20 IAMs_20 11 05 14.3
comp=Z,7µm,18.0s
AC02 Maricunga 81.62 134 IAMs_20 IAMs_20 11 03 43.4
comp=Z,7µm,20.0s
MTE Manteigas 81.64 45 *e*P **P 10 33 07.3 +2.2**
comp=Z,69nm,1.5s
MTE A A 11 06 31.1
comp=Z,12µm,18.0s
MTE Manteigas 81.64 45 IAMs_20 IAMs_20 11 04 45.9
comp=Z,13µm,20.0s
PMAFR Mafra 81.66 46 *e*P **P 10 33 08.0 +2.9**
comp=Z,146nm,1.4s
JNU Nakatsue 81.76 306 IAMs_20 IAMs_20 11 02 02.2
comp=Z,10µm,22.0s
TJN Taejon 81.81 310 *c* iP **P 10 33 08.4 +2.5**
TNS Taunus Mts 81.88 29 *e*P **P 10 33 09.4 +3.3**
comp=Z,64nm,1.5s,baz=326,slow=5.2
TNS *e*PP **PP 10 36 15.3 +2.6**
baz=327,slow=8.3
LIS Lisbon 81.89 47 *e*P **P 10 33 08.0 +1.7**
LIS *e*SKSac **SKSac 10 43 26.3 -0.5**
LIS AMS AMS 11 05 05.2
comp=N,16µm,26.3s
LIS Lisbon 81.89 47 *e*P **P 10 33 08.0 +1.7**
LIS *e* 10 43 26.3
TLY Talaya 81.93 333 *e*P **P 10 33 05.7 -0.6**
TLY *e* 10 36 14.6
TLY *e*S **S 10 43 20.7 +0.6**
TLY *e* 10 44 02.4
TLY pmax pmax
comp=Z,243nm,2.9s
TLY MLR MLR
comp=Z,31µm,17.0s
TLY Talaya 81.93 333 IAMs_20 IAMs_20 11 12 49.1
comp=Z,15µm,19.0s
UBBA Unterbreizbach 81.99 28 *e*P **P 10 33 09.9 +3.4**
comp=Z,112nm,1.8s,baz=326,slow=5.2
UBBA *e*PP **PP 10 36 16.0 +2.7**
baz=327,slow=8.3
PCBR Castelo Branco 82.07 45 *e*P **P 10 33 08.4 +1.2**
comp=Z,58nm,1.3s
VA04 Juan Fernndez 82.08 145 IAMs_20 IAMs_20 11 04 26.7
comp=Z,9µm,18.0s
NEUB Neuenburg 82.32 27 *e*P **P 10 33 11.4 +3.1**
comp=Z,78nm,1.3s,baz=326,slow=5.2
SALV Santo Antonio 82.33 117 *e*P **P 10 33 08.2 -0.6**
SALV *e*S **S 10 43 25.4 +0.4**
PABE Paberze 82.34 19 *e*P **P 10 33 11.2 +2.9**
PMRV Marv??o 82.40 45 *e*P **P 10 33 10.9 +1.9**
comp=Z,82nm,1.7s
PMRV A A 11 08 13.5
comp=Z,10µm,18.0s
GKP Gorka Klasztor 82.42 23 *e*P **P 10 33 07.2 -1.5**
GKP *e*pP **pP 10 33 11.7 +0.2**
GKP *e*L L 11 11 39.9
comp=Z,16µm,18.0s
LCO Las Campanas 82.42 136 IAMs_20 IAMs_20 11 07 39.8
comp=Z,7µm,18.0s
ROSB Rosrio 82.51 100 *e*P **P 10 33 09.6 -0.2**
ROSB *e*S **S 10 43 26.6 -0.5**
AC05 El Transito 82.52 136 IAMs_20 IAMs_20 11 05 53.0
comp=Z,8µm,18.0s
PNCL Nicolau / Gran 82.66 47 *e*P **P 10 33 12.6 +2.3**
comp=Z,71nm,1.7s
PNCL Nicolau / Gran 82.66 47 *e*PP PP 10 36 22.3 +2.9
EVO Evora 82.67 46 *e*P **P 10 33 11.0 +0.6**
EVO Evora 82.67 46 *e*P **P 10 33 12.9 +2.5**
comp=Z,55nm,2.8s
IZAR Zarasai 82.67 17 *e*P **P 10 33 10.9 +0.9**
CLL Collm 82.68 26 *e*P **P 10 33 10.0 -0.1**
CLL *i* Pmax 10 33 12.3
comp=Z,125nm,1.8s
CLL *i* 10 33 19.8
CLL *e*PP **PP 10 36 20.0 +1.0**
CLL *e*PPP PPP 10 38 06.0
CLL *e*S **S 10 43 28.0 +0.3**
CLL *e*PS **PnS 10 44 12.0 -4.6**
CLL *e*SS SS 10 49 12.0 +24
CLL *e*SSS SSS 10 52 12.0
CLL *e* 10 53 12.0
CLL *e*SSSS 10 55 00.0
CLL Lmax 11 11 00.0
CLL Lm MLR 11 11 00.0
comp=Z,25µm,18.2s
CLL Collm 82.68 26 *e*P **P 10 33 10.0 -0.1**
CLL *e*S **S 10 43 28.0 +0.3**
CLL pmax pmax
comp=Z,125nm,1.8s
CLL MLR MLR
comp=Z,25µm,18.2s
CLL Collm 82.68 26 *e*P **P 10 33 13.0 +2.9**
comp=Z,124nm,1.8s,baz=326,slow=5.2
CLL *e*PP **PP 10 36 21.1 +2.1**
baz=327,slow=8.3
MOX Moxa 82.73 28 *e*P **P 10 33 13.6 +3.2**
comp=Z,264nm,2.3s,baz=326,slow=5.2
MOX *e*PP **PP 10 36 21.8 +2.3**
baz=327,slow=8.3
MOX *e*L L 11 09 35.3
comp=Z,17µm,21.5s
ISAL Salakas 82.81 17 *e*P **P 10 33 11.7 +1.0**
MOY Mondy 82.86 335 *e*P **P 10 33 12.2 +0.9**
MOY pmax pmax
comp=Z,123nm,2.5s
PTEO Sao Teotonio 82.94 47 *e*P **P 10 33 14.3 +2.5**
comp=Z,88nm,2.1s
ECH Echery 82.96 31 IAMs_20 IAMs_20 11 14 46.8
comp=Z,13µm,18.0s

IIGN Ignalina 83.03 17 *e*P **P 10 33 12.9 +1.0**
PLN Plauen 83.06 27 *e*P **P 10 33 15.2 +3.0**
comp=Z,106nm,2.0s,baz=326,slow=5.2
PLN *e*PP **PP 10 36 24.3 +2.1**
baz=327,slow=8.3
PBEJ Beja 83.10 46 *e*P **P 10 33 15.2 +2.6**
FBE Freiberg 83.12 26 *e*P **P 10 33 16.0 +3.5**
comp=Z,351nm,2.3s,baz=326,slow=5.2
ZAK Zakamensk 83.13 333 *e*P **P 10 33 11.9 -0.8**
ZAK pmax pmax
comp=Z,22nm,1.7s
WERD Werda 83.14 27 *e*P **P 10 33 15.5 +2.9**
comp=Z,39nm,1.7s,baz=326,slow=5.2
MORF Marmelete 83.14 47 *e*P **P 10 33 14.8 +1.9**
MORF *e*SKSac **SKSac 10 43 35.3 -0.1**
MORF AMS AMS 11 04 26.4
comp=N,12µm,14.6s
MORF Marmelete 83.14 47 *e*P **P 10 33 14.8 +1.9**
MORF *e* 10 43 35.3
MORF Marmelete 83.14 47 *e*P **P 10 33 14.8 +1.9**
comp=N,100nm,1.9s
PFVI Vila Bisbo 83.16 48 *e*P **P 10 33 14.2 +1.3**
comp=N,130nm,1.6s
PFVI Vila Bisbo 83.16 48 IAMs_20 IAMs_20 11 03 47.3
comp=Z,11µm,20.0s
IDID Didziasalis 83.19 17 *e*P **P 10 33 13.2 +0.5**
GUNZ Gunzen 83.22 27 *e*P **P 10 33 16.2 +3.2**
comp=Z,143nm,2.0s,baz=326,slow=5.2
GUNZ *e*PP **PP 10 36 25.7 +2.1**
baz=327,slow=8.3
TANN Tannenbergstha 83.22 27 *e*P **P 10 33 16.3 +3.2**
comp=Z,505nm,2.5s,baz=326,slow=5.2
TANN *e*PP **PP 10 36 25.8 +2.2**
baz=327,slow=8.3
PCVE Castro Verde 83.27 47 *e*P **P 10 33 15.7 +2.2**
comp=Z,74nm,2.4s
WERN Wernitzgruen 83.30 27 *e*P **P 10 33 16.7 +3.3**
comp=Z,198nm,2.0s,baz=326,slow=5.2
WERN *e*PP **PP 10 36 26.4 +2.1**
baz=327,slow=8.3
STU Stuttgart 83.33 30 *e*P **P 10 33 17.2 +3.6**
comp=Z,291nm,2.2s,baz=326,slow=5.2
STU *e*PP **PP 10 36 27.4 +2.9**
baz=327,slow=8.3
BFO Black Forest 83.34 31 *e*P **P 10 33 17.1 +3.3**
comp=Z,120nm,1.6s,baz=326,slow=5.2
BFO Black Forest 83.34 31 IAMs_20 IAMs_20 11 15 53.9
comp=Z,12µm,18.0s
GRA1 Grafenberg Arr 83.36 28 P **P 10 33 11.6 -2.2**
GRF Grafenberg Arr 83.36 28 P **P 10 33 11.6 -2.2**
GRF pmax pmax
comp=Z,176nm,1.6s
GRF MLR MLR
comp=Z,18µm,18.0s
GRF Grafenberg Arr 83.36 28 *e*P **P 10 33 17.6 +3.9**
comp=Z,294nm,1.9s,baz=326,slow=5.2
GRF *e*PP **PP 10 36 27.6 +2.8**
baz=327,slow=8.3
GRF *e*L L 11 09 19.7
comp=Z,15µm,21.2s
BRG Berggiesshubel 83.37 26 *e*P **P 10 33 13.6 -0.2**
comp=Z,8.9nm,0.9s
BRG *e* 10 33 18.5
comp=Z,478nm,2.4s
BRG Berggiesshubel 83.37 26 S **S 10 43 43.0 +8.2**
BRG SS **SS 10 48 54.0 -4.5**
BRG PKPPKP 10 59 38.5
comp=Z,5.5nm,1.2s
comp=Z,22µm,17.2s
comp=N,14µm,19.3s
comp=E,12µm,19.3s
BRG Berggiesshubel 83.37 26 *e*P **P 10 33 16.9 +3.2**
comp=E,478nm,2.4s,baz=326,slow=5.2
NKC Novy Kostel 83.37 27 *e*P **P 10 33 13.8 0.0**
NKC *e* 10 33 18.4
NKC *e*S **S 10 43 36.9 +2.0**
NKC MLR MLR
comp=Z,18µm,17.0s
NKC Novy Kostel 83.37 27 *e*P **P 10 33 13.8 0.0**
NKC *ex* x 10 33 18.4
NKC *e*S **S 10 43 36.9 +2.0**
NKC AMS AMS 11 11 50.0
comp=Z,18µm,17.0s
DL2 Dalian 83.41 315 P **P 10 33 18.8 +4.6**
DL2 S **S 10 43 40.3 +4.7**
DL2 pmax pmax
comp=Z,43nm,1.1s
DL2 pmax pmax
comp=Z,500nm,4.6s
DL2 LR LR
comp=Z,3µm,20.8s
DL2 LR LR
comp=Z,5µm,18.3s
DL2 LR LR
comp=Z,6µm,17.6s
MANZ Manzenberg 83.45 28 *e*P **P 10 33 17.4 +3.1**
comp=Z,196nm,2.1s,baz=326,slow=5.2
MANZ *e*PP **PP 10 36 27.6 +2.1**
baz=327,slow=8.3
SUW Suwalki 83.48 20 *e*P **P 10 33 13.6 -0.6**
SUW *e*pP **pP 10 33 16.6 -0.4**
SUW *e*S **S 10 43 34.8 -1.0**
SUW *e*L L 11 10 14.7
comp=Z,22µm,21.9s
CO01 Juntas del Tor 83.50 136 IAMs_20 IAMs_20 11 05 18.5
comp=Z,7µm,19.0s
NACGM Naroch 83.57 17 *e*P **P 10 33 14.0 -0.7**
NACGM *e*PP **PP 10 36 20.0 -6.2**
NACGM *e*PPP PPP 10 38 18.0
NACGM *e*S **S 10 43 38.0 +1.3**
NACGM *e*PS **PnS 10 44 30.0 +2.5**
NACGM *e*SS SS 10 49 22.0 +21
NACGM *e*SSS SSS 10 52 40.0
NACGM *e*LQ LQ 11 02 24.0
NACGM *e*LR LR 11 07 36.0
NACGM LRM MLR 11 12 03.0
comp=Z,29nm,18.0s
PBDV Barranco-do-Ve 83.60 47 *e*P **P 10 33 16.7 +1.4**
comp=Z,92nm,1.7s
SMTB Santa Maria do 83.62 106 *e*P **P 10 33 15.5 -0.1**
SMTB *e*S **S 10 43 38.4 +0.1**
ROTZ Rotzenmuhle 83.67 28 *e*P **P 10 33 18.6 +3.3**
comp=Z,162nm,2.0s,baz=326,slow=5.2
ROTZ *e*PP **PP 10 36 29.7 +2.4**
baz=327,slow=8.3
ULN Ulaanbaatar 83.72 329 P **P 10 33 15.3 -0.6**
ULN pmax pmax
comp=Z,130nm,1.8s
ULN Ulaanbaatar 83.72 329 P **P 10 33 15.3 -0.6**
ULN IAmb IAmb 10 33 35.5
comp=Z,130nm,1.8s
CO03 El Pedregal 83.86 137 IAMs_20 IAMs_20 11 07 25.7
comp=Z,8µm,18.0s
PVCC Panska Ves 83.87 26 *e*P **P 10 33 18.3 +1.9**
PVCC MLR MLR
comp=Z,18µm,17.2s
PVCC Panska Ves 83.87 26 *e*P **P 10 33 18.3 +1.9**
PVCC *ex* x 10 43 50.2
PVCC AMS AMS 11 13 10.0
comp=Z,18µm,17.2s
GUMO Guam 83.93 282 LR LR 11 04 58.9
comp=Z,3µm,20.2s,baz=55,slow=32
PAB San Pablo 83.99 43 P **P 10 33 17.3 0.0**
PAB pmax pmax
comp=Z,135nm,1.5s
PAB San Pablo 83.99 43 P **P 10 33 17.3 0.0**
SONM Songino Array 84.01 329 P **P 10 33 16.4 -0.9**
comp=Z,12nm,1.0s,baz=38,slow=2.7,SNR=30
SONM LR LR 11 10 16.0
comp=Z,16µm,20.3s,baz=26,slow=35
UCM Universidad Co 84.04 42 *e*P **P 10 33 15.3 -2.1**
UCM *i*S **S 10 43 45.2 +3.2**
ESDC Sonseca Array 84.11 43 P **P 10 33 17.2 -0.6**
comp=Z,19nm,1.1s,baz=305,slow=3.2,SNR=24
ESDC PP **PP 10 36 28.5 -2.8**
comp=Z,2.2nm,1.1s,baz=316,slow=9.0,SNR=4.1
ESDC LR LR 11 08 46.9
comp=Z,16µm,18.5s,baz=315,slow=34
SSB Saint Sauveur 84.13 35 P **P 10 33 15.7 -2.1**
SSB pmax pmax
comp=Z,57nm,1.5s
SSB MLR MLR
comp=Z,23µm,18.0s
SSB Saint Sauveur 84.13 35 P **P 10 33 15.7 -2.1**
SSB IAmb IAmb 10 33 23.3
comp=Z,57nm,1.5s

KSP Ksiaz 84.19 25 *e*P **P 10 33 18.1 +0.1**
KSP *e*S **S 10 43 42.9 -0.2**
KSP *e*L L 11 10 08.5
comp=Z,22µm,22.0s
MICGM Minsk 84.20 17 *e*P **P 10 33 20.0 +2.1**
MICGM PM 10 33 24.0
comp=Z,0.6nm,2.0s
MICGM PM 10 33 24.0
comp=N,0.4nm,1.5s
MICGM *e*PP PP 10 36 44.0 +13
MICGM *e*PPP PPP 10 38 42.0
MICGM *e*S **S 10 43 46.0 +3.0**
MICGM *e*PS **PnS 10 44 42.0 +6.9**
MICGM *e*SS SS 10 49 34.0 +24
MICGM *e*SSS SSS 10 53 12.0
MICGM *e*LQ LQ 11 02 48.0
MICGM LQM 11 04 36.0
comp=E,12nm,26.0s
MICGM LQM 11 04 48.0
comp=E,26nm,28.0s
MICGM *e*LR LR 11 06 20.0
MICGM LRM MLR 11 12 20.0
comp=Z,20nm,17.0s
MICGM LRM MLR 11 12 24.0
comp=N,18nm,20.0s
MICGM LRM MLR 11 12 26.0
comp=N,15nm,17.0s
MICGM LRM MLR 11 12 28.0
comp=E,4.6nm,16.0s
MICGM LRM MLR 11 12 32.0
comp=Z,29nm,20.0s
MNK Minsk 84.20 17 *de*P **P 10 33 20.0 +2.1**
PRA Prague 84.21 26 *e*S **S 10 43 41.3 -2.0**
PRA AMS AMS 11 12 20.0
comp=Z,10µm,19.0s
PRU Pruhonice 84.32 26 *e*P **P 10 33 18.4 -0.2**
PRU *e* 10 33 22.8
PRU *e*S **S 10 43 48.0 +3.6**
PRU MLR MLR
comp=Z,20µm,18.2s
PRU Pruhonice 84.32 26 *e*P **P 10 33 18.4 -0.2**
PRU *ep*P **PcP 10 33 22.8 +0.4**
PRU *e*S **S 10 43 48.0 +3.6**
PRU AMS AMS 11 12 20.0
comp=Z,20µm,18.2s
CHVC Chvalec 84.33 25 *e*P **P 10 33 19.0 +0.3**
CHVC *ex* x 10 33 24.0
CHVC *e*S **S 10 43 43.6 -0.9**
CHVC AMS AMS 11 10 00.0
comp=Z,20µm,22.5s
UPC Upice 84.38 25 *e*P **P 10 33 19.6 +0.6**
UPC *e* 10 33 24.5
UPC *e*S **S 10 43 45.8 +0.8**
UPC MLR MLR
comp=Z,22µm,19.9s
UPC Upice 84.38 25 *e*P **P 10 33 19.6 +0.6**
UPC *ex* x 10 33 24.5
UPC *e*S **S 10 43 45.8 +0.8**
UPC AMS AMS 11 11 00.0
comp=Z,22µm,19.9s
OSTC Ostas 84.41 25 *e*P **P 10 33 17.4 -1.7**
OSTC *ex* x 10 33 23.4
OSTC *ex* x 10 33 30.3
OSTC *e*S **S 10 43 43.6 -1.7**
OSTC AMS AMS 11 10 10.0
comp=Z,21µm,22.3s
WET Wettzell 84.43 28 *e*P **P 10 33 22.5 +3.2**
comp=Z,100nm,1.6s,baz=326,slow=5.2
GOPC GO Pecny, Ondr 84.47 26 *e*P **P 10 33 19.0 -0.4**
GOPC *e* 10 33 24.6
GOPC *e*S **S 10 43 43.6 -2.3**
GOPC MLR MLR
comp=Z,20µm,19.3s
GOPC GO Pecny, Ondr 84.47 26 *e*P **P 10 33 19.0 -0.4**
GOPC *ex* x 10 33 24.6
GOPC *e*S **S 10 43 43.6 -2.3**
GOPC AMS AMS 11 12 00.0
comp=Z,20µm,19.3s
UBR Ueberruh 84.58 30 *e*P **P 10 33 23.8 +3.7**
comp=Z,277nm,1.5s,baz=326,slow=5.2
DPC Dobruska-Polom 84.62 25 *e*P **P 10 33 20.8 +0.6**
DPC *e* 10 33 24.8
DPC *e*S **S 10 43 45.8 -1.7**
DPC MLR MLR
comp=Z,19µm,19.9s
DPC Dobruska-Polom 84.62 25 *e*P **P 10 33 20.8 +0.6**
DPC *ex* x 10 33 24.8
DPC *e*S **S 10 43 45.8 -1.7**
DPC AMS AMS 11 11 10.0
comp=Z,19µm,19.9s
FUR Furstenfeldbru 84.64 29 *e*P **P 10 33 24.0 +3.7**
comp=Z,298nm,1.4s,baz=326,slow=5.2
KHC Kasperske Hory 84.69 27 *e*P **P 10 33 20.4 -0.2**
KHC *e* 10 33 24.9
KHC *e* 10 36 37.5
KHC *e*S **SKSac 10 43 42.9 -2.1**
KHC MLR MLR
comp=Z,15µm,19.4s
KHC Kasperske Hory 84.69 27 *e*P **P 10 33 20.4 -0.2**
KHC *ep*P **sP 10 33 24.9 +0.5**
KHC *ex* x 10 33 31.4
KHC *e*PP **PP 10 36 37.5 +1.9**
KHC *e*SKS **SKSac 10 43 42.9 -2.1**
KHC AMS AMS 11 09 00.0
comp=Z,15µm,19.4s
BEL Belsk 84.74 22 *e*P **P 10 33 20.7 0.0**
BEL *e*S **S 10 43 45.8 -2.7**
BEL *e*L L 11 11 35.0
comp=Z,20µm,20.8s
DAVA Damuels 84.81 30 *e*sP **P 10 33 22.7 +1.3**
comp=Z,70nm,1.5s,SNR=15
RAO Raoul Island 84.85 226 LR LR 11 02 33.1
comp=Z,6µm,21.9s,baz=56,slow=30
RAO Raoul Island 84.85 226 IAMs_20 IAMs_20 11 09 47.2
comp=Z,7µm,18.0s
MOS Moscow 84.90 11 *e*P **P 10 33 20.3 -1.1**
MOS *e* 10 43 49.9
MOS pmax pmax
comp=Z,231nm,1.8s
MOS pmax pmax
comp=Z,600nm,2.2s
MOS MLR MLR
comp=Z,20µm,19.0s
MOS MLR MLR
comp=N,18µm,20.0s
MOS MLR MLR
comp=E,4µm,17.0s
ARAG Araguaiana, MT 84.95 114 *e*P **P 10 33 22.0 -0.2**
ARAG *e*S **S 10 43 51.9 +0.4**
GEC2 GERESS Array S 84.98 27 *e*P **P 10 33 25.1 +2.9**
comp=E,101nm,1.5s,baz=326,slow=5.2
GERES GERESS Array B 84.98 27 P **P 10 33 21.9 -0.2**
comp=E,19nm,1.1s,baz=348,slow=4.1,SNR=17
GERES PP **PP 10 36 36.0 -2.0**
comp=E,1.2nm,1.0s,baz=318,slow=4.2,SNR=2.4
GERES LR LR 11 14 08.7
comp=E,12µm,18.3s,baz=330,slow=38
RETA Reutte 84.99 30 *i*sP **P 10 33 22.9 +0.7**
comp=E,116nm,1.2s,SNR=54
KRLC Kraliky 85.01 25 *e*P **P 10 33 22.6 +0.4**
KRLC *e* 10 33 26.9
KRLC *e*S **SKSac 10 43 41.3 -5.7**
KRLC MLR MLR
comp=Z,16µm,22.7s
KRLC Kraliky 85.01 25 *e*P **P 10 33 22.6 +0.4**
KRLC *ex* x 10 33 26.9
KRLC *e*SKS **SKSac 10 43 41.3 -5.7**
KRLC AMS AMS 11 10 30.0
comp=Z,16µm,22.7s
SFS San Fernando 85.14 47 *e*P **P 10 33 24.6 +1.6**
SFS *i*S **S 10 43 57.0 +4.0**
SFS San Fernando 85.14 47 IAMs_20 IAMs_20 11 12 29.5
comp=Z,6µm,19.0s
PEXB Peixe 85.17 109 *e*P **P 10 33 23.9 +0.5**
PEXB *e*S **S 10 43 54.5 +0.7**
TREC Trest 85.23 26 *e*S **S 10 43 52.4 -1.2**
TREC AMS AMS 11 12 40.0
comp=Z,20µm,18.6s
MOTA Moosalm 85.24 30 *i*sP **P 10 33 24.9 +1.3**
comp=Z,151nm,1.7s,SNR=30
ZAA0 Zalesovo Array 85.31 344 IAMs_20 IAMs_20 11 14 55.1
comp=Z,12µm,19.0s
ZALV Zalesovo Beam 85.31 344 P **P 10 33 21.6 -2.0**
comp=Z,43nm,1.1s,baz=21,slow=4.7,SNR=26
ZALV LR LR 11 14 48.7
comp=Z,12µm,18.1s,baz=16,slow=38
ZALV Zalesovo Beam 85.31 344 *i*P **P 10 33 22.5 -1.0**
ZALV pmax pmax
comp=Z,30nm,1.0s
SVE Sverdlovsk 85.33 358 *e*P **P 10 33 24.4 +0.8**
SVE *e*S **SKSac 10 43 49.0 +0.4**
SVE pmax pmax
comp=Z,62nm,1.7s
SVE MLR MLR
comp=Z,16µm,21.0s
OBN Obninsk 85.33 12 *e*P **P 10 33 23.3 -0.3**
OBN *e* 10 36 40.5
OBN *e*S **SKSac 10 43 48.0 -0.6**
OBN *e*SSS SSS 10 53 02.5
OBN pmax pmax
comp=Z,86nm,1.0s
OBN MLR MLR
comp=Z,21µm,19.0s
FETA Feichten 85.36 30 *i*sP **P 10 33 24.5 +0.4**
comp=Z,96nm,1.2s,SNR=34
SQTA Sankt Quirin 85.38 30 *i*sP **P 10 33 24.6 +0.4**
comp=Z,155nm,1.7s,SNR=25
VA03 San Esteban 85.43 138 IAMs_20 IAMs_20 11 08 05.5
comp=Z,8µm,19.0s
WATA Walderalm 85.43 29 *es*P **P 10 33 24.5 0.0**
comp=Z,154nm,1.7s,SNR=28
AQDB Aquidauana 85.44 120 *e*P **P 10 33 24.0 -0.6**
WTTA Wattenberg 85.51 29 *i*sP **P 10 33 25.2 +0.2**
comp=Z,156nm,1.8s,SNR=27
MT02 Curacav 85.52 139 IAMs_20 IAMs_20 11 06 24.7
comp=Z,11µm,19.0s
MORC Moravsky Berou 85.52 25 ⇓P **P 10 33 25.3 +0.5**
MORC Moravsky Berou 85.52 25 *e*P **P 10 33 23.8 -0.9**
MORC *e* 10 33 27.3
MORC Moravsky Berou 85.52 25 *e*S **S 10 43 59.1 +2.7**
MORC Moravsky Berou 85.52 25 ⇓P **P 10 33 25.3 +0.5**
BJI Beijing 85.53 319 P **P 10 33 27.8 +2.9**
BJI S **S 10 43 54.6 -2.1**
BJI SS **SS 10 49 33.3 +2.4**
BJI pmax pmax
comp=Z,520nm,7.6s
BJI LR LR
comp=Z,5µm,18.8s
BJT Baijiatuau 85.55 319 IAMs_20 IAMs_20 11 18 54.8
comp=Z,10µm,20.0s
RJOB Jochberg 85.57 29 *e*P **P 10 33 27.1 +2.1**
comp=Z,104nm,1.5s,baz=326,slow=5.2
VRAC Vranov 85.60 26 ⇑P **P 10 33 24.6 -0.6**
VRAC Vranov 85.60 26 *e*P **P 10 33 24.2 -0.9**
VRAC *e* 10 33 28.0
VRAC Vranov 85.60 26 *e*S **S 10 44 00.0 +2.8**
VRAC Vranov 85.60 26 ⇑P **P 10 33 24.6 -0.6**
PEL Peldehue 85.66 139 IAMs_20 IAMs_20 11 06 30.7
comp=Z,9µm,18.0s
OKC Ostrava-Krasne 85.67 24 *e*P **P 10 33 25.3 -0.1**
OKC *e* 10 33 30.5
OKC Ostrava-Krasne 85.67 24 *e*P **P 10 33 25.3 -0.1**
OKC *ex* x 10 33 30.5
KRUC Moravsky 85.75 26 *e*P **P 10 33 24.7 -1.1**
KRUC *e* 10 33 28.3
KRUC Moravsky 85.75 26 *e*S **S 10 44 01.0 +2.4**
ARU Arti 85.76 360 *d i*P **P 10 33 26.5 +0.8**
ARU 10 36 51.7
ARU PPP PPP 10 38 48.9
ARU S **S 10 43 54.5 -3.9**
ARU SP **SPn 10 45 02.5 +10**
ARU PS PnS 10 45 16.3 +22
ARU SS **SS 10 49 38.0 +4.7**
ARU pmax pmax
comp=Z,59nm,1.8s
ARU pmax pmax
comp=Z,219nm,7.5s
ARU MLR MLR
comp=Z,19µm,19.0s
MT05 Renca 85.83 139 IAMs_20 IAMs_20 11 06 34.9
comp=Z,9µm,18.0s
OJC Ojcow 85.86 23 *e*P **P 10 33 25.5 -0.9**
OJC *ep*P **pP 10 33 28.9 -0.2**
OJC *e*S **S 10 43 56.9 -2.7**
OJC *e*L L 11 11 37.5
comp=Z,17µm,21.3s
EMAL Malaga-Limoner 85.93 45 *e*P **P 10 33 27.1 +0.1**
EMAL *e*S **S 10 43 59.8 -1.0**
NBMO Morrinhos-CE 85.95 97 *e*P **P 10 33 27.6 +0.3**
CEU Ceuta 86.01 47 *e*P **P 10 33 30.0 +2.6**
CEU *i*S **S 10 44 05.0 +3.4**
MOA Molln 86.02 28 *i*pP **P 10 33 26.9 -0.3**
comp=Z,81nm,1.8s,SNR=20
JAVC Velka Javorina 86.35 25 *e*P **P 10 33 30.0 +1.1**
JAVC *e* 10 33 32.6
JAVC Velka Javorina 86.35 25 *e*S **S 10 44 05.4 +0.7**
GO05 Huala 86.50 141 IAMs_20 IAMs_20 11 05 48.6
comp=Z,9µm,18.0s
CONA Conrad Observa 86.53 27 *i*sP **P 10 33 31.1 +1.3**
comp=Z,76nm,1.8s,SNR=22
MODS Modra-Piesok 86.64 26 *e*P **P 10 33 29.7 -0.6**
MODS pmax pmax
comp=Z,194nm,1.5s
MODS Modra-Piesok 86.64 26 *e*P **P 10 33 29.7 -0.6**
MODS Modra-Piesok 86.64 26 *e*S **S 10 44 04.4 -3.0**
AVE Averroes 86.64 50 *e*P P 10 33 36.5 +5.9
AVE *e*S **S 10 44 08.9 +1.0**
LANS Liptovska Anna 86.69 24 *e*P **P 10 33 31.5 +1.0**
LANS pmax pmax
comp=Z,35nm,1.4s
LANS Liptovska Anna 86.69 24 *e*P **P 10 33 31.5 +1.0**
LANS *e*PP PP 10 36 30.4 -21
NIE Niedzica 86.72 23 *e*P **P 10 33 31.5 +0.8**
NIE *e*L L 11 12 15.6
comp=Z,10µm,21.2s
BO02 Sierra Bellavi 86.90 140 IAMs_20 IAMs_20 11 06 57.4
comp=Z,8µm,19.0s
ARSA Arzberg 86.98 27 *i*sP **P 10 33 33.4 +1.5**
comp=Z,29nm,1.4s,SNR=13
VYHS Vyhne 87.06 25 *e*P **P 10 33 34.8 +2.5**
VYHS pmax pmax
comp=Z,130nm,1.8s
VYHS Vyhne 87.06 25 *e*P **P 10 33 34.8 +2.5**
MSSA Maissana 87.06 32 IAMs_20 IAMs_20 11 11 46.4
comp=Z,13µm,19.0s
PVLZ Peæn de 87.14 46 *e*P **P 10 33 32.1 -0.9**
PVLZ *i*S **S 10 44 11.5 -1.1**
GORS Gorjuse 87.20 29 *i*P **P 10 33 34.1 +0.9**
CART Cartagena 87.22 43 IAMs_20 IAMs_20 11 09 36.2
comp=Z,12µm,20.0s
HHC Hu-ho-hao-te 87.22 322 *e*P **P 10 33 31.6 -1.8**
HHC PP **PP 10 36 58.1 +1.6**
HHC S **S 10 44 05.1 -8.4**
HHC sS sS 10 44 18.8 +0.7
HHC SS **SS 10 49 55.4 -0.6**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,580nm,4.8s
HHC LR LR
comp=Z,8µm,17.0s
HHC LR LR
comp=Z,10µm,16.2s
HHC LR LR
comp=Z,8µm,16.2s
OBKA Obir 87.25 28 *i*sP **P 10 33 33.6 +0.2**
comp=Z,13nm,0.8s,SNR=18
KWP Kalwaria Pacla 87.26 22 *e*P **P 10 33 33.6 +0.4**
KWP *e*L L 11 15 02.5
comp=Z,20µm,18.5s
SOKA Soboth 87.29 28 *es*P **P 10 33 33.8 +0.3**
comp=Z,30nm,1.0s,SNR=11
BI03 Tigo 87.42 143 IAMs_20 IAMs_20 11 05 35.1
comp=Z,14µm,19.0s
LVV L'vov 87.48 21 *e*P **P 10 33 35.5 +1.2**
LVV *e*S **S 10 44 07.1 -8.2**
LVV MLR MLR
comp=N,12µm,20.0s
LVV MLR MLR
comp=E,7µm,20.0s
LVV MLR MLR
comp=Z,23µm,20.0s
CRVS Cervenica-Dubn 87.53 23 *e*P **P 10 33 38.0 +3.4**
CRVS pmax pmax
comp=Z,284nm,2.1s
CRVS Cervenica-Dubn 87.53 23 *e*P **P 10 33 38.0 +3.4**
SACV Santiago Islan 87.54 73 IAMs_20 IAMs_20 11 15 06.3
comp=Z,8µm,18.0s

SRO2	**Moca**	**87.54**	**25**	*e*P		**P**	**10 33 39.3**	**+4.7**
SRO2	**Moca**	**87.54**	**25**	*e*P		**P**	**10 33 39.3**	**+4.7**
GROS	**Grobnik**	**87.64**	**28**	*e*P		**P**	**10 33 35.2**	**0.0**
GROS				*e*S		S	10 44 07.7	-10
BDFB	**Brasilia**	**87.66**	**112**	P		**P**	**10 33 37.0**	**+1.3**
	comp=Z,5.9nm,0.9s,baz=14,slow=6.7,SNR=7.3							
BDFB				LR	LR		11 18 18.3	
	comp=Z,10µm,18.7s,baz=315,slow=39							
BDFB	**Brasilia**	**87.66**	**112**	IAMs_20	IAMs_20		11 18 06.8	
	comp=Z,13µm,18.0s							
GBAS	**Gorenja Brezov**	**87.69**	**29**	*i* P		**P**	**10 33 34.9**	**-0.6**
KOLS	**Kolonicke sedl**	**87.75**	**22**	*e*P		**P**	**10 33 35.1**	**-0.6**
KOLS				pmax	pmax			
	comp=Z,27nm,1.5s							
KOLS	**Kolonicke sedl**	**87.75**	**22**	*e*P		**P**	**10 33 35.1**	**-0.6**
MELI	**Melilla**	**87.83**	**46**	*e*P		P	10 33 41.7	+5.5
TIA	**Tai'an**	**87.84**	**316**	P		**P**	**10 33 39.1**	**+2.8**
TIA				SS	SS		10 50 04.4	-0.6
TIA				pmax	pmax			
	comp=Z,32nm,1.0s							
TIA				pmax	pmax			
	comp=Z,430nm,3.5s							
TIA				LR	LR			
	comp=Z,3µm,20.1s							
TIA				LR	LR			
	comp=Z,3µm,18.1s							
TIA				LR	LR			
	comp=Z,4µm,20.2s							
IFR	**Ifrane**	**87.85**	**48**	*e*P		**P**	**10 33 37.6**	**+1.0**
IFR				*i* S		**S**	**10 44 26.6**	**+6.7**
SDBA	**SAO DESIDERIO**	**87.90**	**107**	*e*P		**P**	**10 33 35.4**	**-1.5**
SDBA				*e*S		**S**	**10 44 20.4**	**0.0**
PSZ	**Piszkesteto**	**87.91**	**24**	P		**P**	**10 33 35.5**	**-1.0**
PSZ				pmax	pmax			
	comp=Z,91nm,1.4s							
PSZ				MLR	MLR			
	comp=Z,16µm,21.0s							
PSZ	**Piszkesteto**	**87.91**	**24**	P		**P**	**10 33 35.5**	**-1.0**
AKASG	**Malin Array Be**	**88.03**	**18**	P		**P**	**10 33 34.7**	**-2.1**
	comp=Z,11nm,1.0s,baz=332,slow=4.0,SNR=15							
AKASG				PP		**PP**	**10 37 01.2**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=337,slow=9.2,SNR=4.2							
AKASG				LR	LR		11 13 41.7	
	comp=Z,8µm,18.2s,baz=330,slow=36							
AKBB	**Malin Array Si**	**88.03**	**18**	P		**P**	**10 33 33.9**	**-2.9**
AKBB				pmax	pmax			
	comp=Z,49nm,1.4s							
AKBB				MLR	MLR			
	comp=Z,17µm,20.0s							
AKBB	**Malin Array Si**	**88.03**	**18**	P		**P**	**10 33 33.9**	**-2.9**
AKBB				IAmb	IAmb		10 33 41.3	
	comp=Z,49nm,1.4s							
UZH	**Uzhgorod**	**88.03**	**23**	*e*P		**P**	**10 33 34.5**	**-2.4**
UZH				*i*			10 33 40.7	
UZH				*i* S		**S**	**10 44 15.3**	**-5.3**
GOLS	**Golise**	**88.07**	**28**	*e*P		**P**	**10 33 38.6**	**+1.3**
BI02	**San Fabin de**	**88.13**	**141**	IAMs_20	IAMs_20		11 06 27.8	
	comp=Z,9µm,19.0s							
LPSR	**Galich'ya Gora**	**88.13**	**11**	*e*P		**P**	**10 33 38.0**	**+0.7**
LPSR				*e*S		**S**	**10 44 15.3**	**-6.2**
LPSR				pmax	pmax			
	comp=Z,60nm,1.5s							
LPSR				smax	smax			
	comp=E,880nm,5.6s							
LPSR				MLR	MLR			
	comp=Z,22µm,23.0s							
BTO	**Baotou**	**88.15**	**323**	P		**P**	**10 33 39.9**	**+2.1**
MAHO	**Mahon**	**88.17**	**38**	*e*P		**P**	**10 33 39.7**	**+2.0**
MAHO				*e*S		**S**	**10 44 16.3**	**-6.0**
CPUP	**Villa Florida**	**88.41**	**126**	P		**P**	**10 33 38.6**	**-0.3**
	comp=Z,10nm,1.1s,baz=301,slow=5.3,SNR=6.3							
CPUP				LR	LR		11 12 41.6	
	comp=Z,7µm,21.8s,baz=343,slow=35							
CPUP	**Villa Florida**	**88.41**	**126**	*e*P		**P**	**10 33 39.0**	**0.0**
BRVK	**Borovoye**	**88.49**	**352**	*ce*P		**P**	**10 33 38.0**	**-1.1**
BRVK				pmax	pmax			
	comp=Z,83nm,1.7s							
BRVK				MLR	MLR			
	comp=Z,16µm,21.0s							
BRVK	**Borovoye**	**88.49**	**352**	P		**P**	**10 33 37.9**	**-1.1**
BVA0	**Borovoye Array**	**88.51**	**352**	*i* P		**P**	**10 33 38.4**	**-0.7**
ITRB	**Iturama**	**88.63**	**116**	*e*P		**P**	**10 33 39.6**	**-0.5**
DGZ	**Jazzator, Alta**	**88.64**	**341**	*ce*P		**P**	**10 33 39.6**	**-0.4**
DGZ				pmax	pmax			
	comp=Z,101nm,1.9s							
DGZ				MLR	MLR			
	comp=Z,20µm,16.0s							
MDT	**Midelt**	**88.65**	**48**	P		**P**	**10 33 40.7**	**+0.4**
	comp=Z,16nm,1.0s,baz=344,slow=7.4,SNR=4.7							
CASP	**Castiglione de**	**88.87**	**32**	IAMs_20	IAMs_20		11 13 38.3	
	comp=Z,14µm,20.0s							
IPMB	**Ipameri, GO**	**89.04**	**114**	*e*P		**P**	**10 33 41.1**	**-1.1**
RABL	**Rabaul**	**89.06**	**264**	IAMs_20	IAMs_20		11 05 26.7	
	comp=Z,8µm,19.0s							
VORR	**Voronezh**	**89.08**	**11**	*e*P		**P**	**10 33 40.0**	**-1.8**
VORR				pmax	pmax			
	comp=Z,250nm,1.6s							
TRCB	**Terra Rica**	**89.10**	**120**	*e*S		**S**	**10 44 31.7**	**+0.2**
SSE	**Sheshan**	**89.17**	**310**	P		**P**	**10 33 40.4**	**-2.2**
SSE				LR	LR			
	comp=Z,1µm,18.6s							
SSE				LR	LR			
	comp=Z,2µm,19.6s							
TIY	**Taiyuan**	**89.20**	**320**	*e*P		**P**	**10 33 46.6**	**+3.8**
TIY				S		**S**	**10 44 36.1**	**+3.8**
TIY				pmax	pmax			
	comp=Z,430nm,6.5s							
TIY				LR	LR			
	comp=Z,3µm,13.1s							
TIY				LR	LR			
	comp=Z,9µm,17.8s							
KRVT	**Keravat (AS076**	**89.23**	**264**	P		**P**	**10 33 45.0**	**+1.8**
	comp=Z,14nm,0.7s,baz=234,slow=17,SNR=2.5							
PCMB	**Pacaembu**	**89.25**	**118**	*e*P		**P**	**10 33 42.6**	**-0.4**
PCMB				*e*S		**S**	**10 44 31.9**	**-0.9**
LATE	**Laterza**	**89.41**	**32**	IAMs_20	IAMs_20		11 18 43.6	
	comp=Z,6µm,18.0s							
VSR	**Storozhevoye**	**89.51**	**12**	*e*P		**P**	**10 33 43.4**	**-0.5**
VSR				*e*S		**S**	**10 44 30.5**	**-4.0**
VSR				pmax	pmax			
	comp=Z,50nm,1.4s							
VSR				smax	smax			
	comp=E,900nm,7.4s							
VSR				MLR	MLR			
	comp=Z,21µm,21.0s							
KURK	**Kurchatov**	**89.59**	**347**	P		**P**	**10 33 42.8**	**-1.4**
KURK				pmax	pmax			
	comp=Z,80nm,1.4s							
KURK				MLR	MLR			
	comp=Z,13µm,18.0s							
KURK	**Kurchatov**	**89.59**	**347**	P		**P**	**10 33 42.8**	**-1.4**
KURK				IAmb	IAmb		10 33 51.4	
	comp=Z,80nm,1.4s							
LC01	**Cunco**	**89.60**	**143**	P		**P**	**10 33 44.4**	**+0.2**
LC01				IAmb	IAmb		10 33 58.5	
	comp=Z,71nm,1.8s							
LC01				IAMs_20	IAMs_20		11 08 54.5	
	comp=Z,10µm,18.0s							
DZM	**Mont Dzumac**	**89.72**	**241**	LR	LR		11 07 13.9	
	comp=Z,4µm,20.2s,baz=45,slow=31							
DZM	**Mont Dzumac**	**89.72**	**241**	*e*P		**P**	**10 33 47.7**	**+2.4**
	comp=Z,245nm,1.3s							
DZM	**Mont Dzumac**	**89.72**	**241**	*e*LQ		LQ	10 58 35.8	
	comp=Z,6µm,29.8s							
DZM				*e*LR	LR		11 02 23.9	
	comp=Z,5µm,22.9s							
BURAR	**Bucovina Array**	**89.81**	**21**	⇓P		**P**	**10 33 48.5**	**+3.0**
BURAR	**Bucovina Array**	**89.81**	**21**	⇓P		**P**	**10 33 48.5**	**+3.0**
NJ2	**Nanjing**	**89.88**	**312**	*e*P		**P**	**10 33 46.3**	**+0.4**
NJ2				pP		**sP**	**10 33 50.6**	**+0.9**
NJ2				S		**S**	**10 44 34.1**	**-4.5**
NJ2				sS		**sS**	**10 44 43.3**	**0.0**
NJ2				SS		**SS**	**10 50 41.8**	**+6.9**
NJ2				pmax	pmax			
	comp=Z,24nm,1.5s							
NJ2				pmax	pmax			
	comp=Z,420nm,3.5s							
NJ2				LR	LR			
	comp=Z,5µm,15.6s							
NJ2				LR	LR			
	comp=Z,6µm,15.2s							
VRH	**Novokhopyorsk**	**89.90**	**10**	*e*P		**P**	**10 33 45.5**	**-0.2**
VRH				*e*S		**S**	**10 44 38.1**	**0.0**
VRH				pmax	pmax			
	comp=Z,40nm,1.2s							
VRH				smax	smax			
	comp=E,1µm,7.8s							
VRH				MLR	MLR			
	comp=Z,14µm,17.0s							
JANB	**Januaria**	**90.02**	**109**	*e*P		**P**	**10 33 46.7**	**-0.1**
JANB				*e*S		**S**	**10 44 39.2**	**-1.1**
BZS	**Buzias**	**90.49**	**24**	⇓P		**P**	**10 33 46.8**	**-1.8**
BZS	**Buzias**	**90.49**	**24**	⇓P		**P**	**10 33 46.8**	**-1.8**
RCBR	**Riachuelo**	**90.73**	**97**	IAMs_20	IAMs_20		11 16 58.5	
	comp=Z,8µm,20.0s							
RCBR	**Riachuelo**	**90.73**	**97**	*e*P		**P**	**10 33 49.3**	**-0.9**
PTGB	**Pitanga**	**90.77**	**121**	*e*P		**P**	**10 33 49.7**	**-0.4**
BB19B	**Bebedouro**	**90.81**	**116**	*e*P		**P**	**10 33 48.7**	**-1.6**
VSL	**Villasalto**	**90.89**	**35**	IAMs_20	IAMs_20		11 14 49.1	
	comp=Z,10µm,18.0s							
BRZS	**Berezniki**	**91.23**	**350**	⇓*i* P		**P**	**10 33 54.0**	**+2.1**
	comp=Z,97nm,2.5s,baz=351							
BRZS				*e*S		**SKSac**	**10 44 25.7**	**+1.3**
	baz=351							
BRZS				LR	LR		11 18 53.8	
	comp=Z,6µm,16.4s,baz=351							
BRZS	**Berezniki**	**91.23**	**350**	*d i* P		**P**	**10 33 54.0**	**+2.1**
BRZS				*e*S		**SKSac**	**10 44 25.6**	**+1.3**
BRZS				pmax	pmax			
	comp=Z,97nm,2.5s							
DIVS	**Divibare**	**91.28**	**26**	P		**P**	**10 33 51.4**	**-1.0**
DIVS				IAmb	IAmb		10 33 57.8	
	comp=Z,47nm,1.4s							
MC01	**Montes Claros**	**91.34**	**110**	*e*P		**P**	**10 33 50.9**	**-2.0**
OZUR		**91.35**	**22**	⇑P		**P**	**10 33 53.8**	**+1.2**
KIS	**Kishinev**	**91.36**	**19**	*i* P		**P**	**10 33 54.0**	**+1.5**
KIS	**Kishinev**	**91.36**	**19**	*e*PP		PP	10 37 26.0	-2.9
KIS				*e*S		**S**	**10 44 43.0**	**-8.7**
KIS				*e*LQ		LQ	11 04 50.0	
	comp=Z,2µm,30.0s							
KIS				*e*LR	LR		11 16 53.0	
	comp=Z,4µm,16.0s							
KIS	**Kishinev**	**91.36**	**19**	*i* P		**P**	**10 33 54.0**	**+1.5**
KIS				*e*			10 37 26.0	
KIS				*e*S		**S**	**10 44 43.0**	**-8.7**
HERR	**Herculane**	**91.41**	**24**	⇓P		**S**	**10 33 52.4**	**-0.5**
PLCA	**Paso Flores**	**91.68**	**143**	P		**P**	**10 33 53.7**	**-0.2**
	comp=Z,3.9nm,1.0s,baz=297,slow=6.7,SNR=5.9							
PLCA				PKP2bc			10 58 32.1	
	comp=Z,2.9nm,1.2s,baz=23,slow=1.8,SNR=3.4							
PLCA				LR	LR		11 09 37.4	
	comp=Z,8µm,18.1s,baz=336,slow=32							
PLCA	**Paso Flores**	**91.68**	**143**	P		**P**	**10 33 53.7**	**-0.2**
PLCA				pmax	pmax			
	comp=Z,27nm,1.5s							
PLCA	**Paso Flores**	**91.68**	**143**	*e*P		**P**	**10 33 52.9**	**-1.0**
VOIR		**91.73**	**22**	⇓P		P	10 34 01.9	+7.5
VOIR		**91.73**	**22**	⇓P		P	10 34 01.9	+7.5
SGRT	**San Giovanni R**	**91.73**	**30**	IAMs_20	IAMs_20		11 15 29.8	
	comp=Z,11µm,21.0s							
AKTO	**Aktyubinsk**	**91.77**	**360**	P		**P**	**10 33 55.0**	**+0.6**
LL01	**San Ignacio de**	**92.12**	**145**	IAMs_20	IAMs_20		11 08 26.6	
	comp=Z,9µm,18.0s							
MK31	**Makanchi Array**	**92.59**	**343**	P		**P**	**10 33 57.2**	**-1.1**
MK31				pmax	pmax			
	comp=Z,44nm,1.8s							
MK31	**Makanchi Array**	**92.59**	**343**	P		**P**	**10 33 57.2**	**-1.1**
MK31				IAmb	IAmb		10 34 05.2	
	comp=Z,44nm,1.8s							
MKAR	**Makanchi Array**	**92.59**	**343**	P		**P**	**10 33 55.9**	**-2.5**
	comp=Z,5.2nm,0.9s,baz=22,slow=4.9,SNR=24							
MKAR				LR	LR		11 18 54.9	
	comp=Z,12µm,18.2s,baz=356,slow=38							
MKAR	**Makanchi Array**	**92.59**	**343**	*i* P		**P**	**10 33 57.7**	**-0.6**
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MAKZ	**Makanchi**	**92.65**	**344**	P		**P**	**10 33 56.9**	**-1.7**
MAKZ	**Makanchi**	**92.65**	**344**	P		**P**	**10 33 56.9**	**-1.7**
CFR	**Carcaliu**	**92.85**	**20**	⇓P		**P**	**10 34 01.3**	**+1.8**
CFR	**Carcaliu**	**92.85**	**20**	⇓P		**P**	**10 34 01.3**	**+1.8**
AB31	**Akbulak array**	**92.93**	**359**	P		**P**	**10 33 58.6**	**-1.1**
VAO	**Valinhos**	**93.17**	**117**	*e*P		**P**	**10 34 00.3**	**-1.0**
SPB	**Sao Paulo**	**93.22**	**118**	IAMs_20	IAMs_20		11 22 04.2	
	comp=Z,9µm,20.0s							
SPB	**Sao Paulo**	**93.22**	**118**	*e*P		**P**	**10 33 59.9**	**-1.5**
TATO	**Taipei**	**93.30**	**305**	IAMs_20	IAMs_20		11 11 01.7	
	comp=Z,6µm,21.0s							
RASA	**Rasa**	**93.46**	**21**	⇑P		P	10 33 51.6	-11
WHN	**Wuhan**	**93.59**	**314**	⇑*i* P		**P**	**10 34 06.0**	**+2.8**
WHN				pP		**sP**	**10 34 12.3**	**+5.3**
WHN				PP		**PP**	**10 37 44.6**	**-2.5**
WHN				SKS		**SKSac**	**10 44 33.1**	**-5.0**
WHN				S		**S**	**10 45 09.5**	**-2.7**
WHN				pmax	pmax			
	comp=Z,610nm,6.8s							
WHN				LR	LR			
	comp=Z,4µm,16.0s							
WHN				LR	LR			
	comp=Z,14µm,18.1s							
GTA	**Gaotai**	**93.66**	**329**	⇑P		**P**	**10 34 04.3**	**+0.8**
GTA				pP		sP	10 34 08.9	+1.6
GTA				sP		pP	10 34 11.3	+5.0
GTA				PP		**PP**	**10 37 52.9**	**+5.4**
GTA				SKS		**SKSac**	**10 44 40.6**	**+2.0**
GTA				S		**S**	**10 45 09.8**	**-3.0**
GTA				sS		sS	10 45 19.4	+1.9
GTA				SS		**SS**	**10 51 29.4**	**+0.6**
GTA				pmax	pmax			
	comp=Z,180nm,7.8s							
GTA				LR	LR			
	comp=Z,9µm,20.6s							
GTA				LR	LR			
	comp=Z,11µm,18.7s							
GTA				LR	LR			
	comp=Z,14µm,20.3s							
PET01	**Itanhaem-SP**	**93.78**	**118**	*e*P		**P**	**10 34 02.6**	**-1.3**
XAN	**Xi'an**	**93.84**	**320**	P		**P**	**10 34 06.8**	**+2.5**
XAN				S		**S**	**10 45 10.3**	**-4.1**
XAN				SS		**SS**	**10 51 32.1**	**+0.4**
XAN				pmax	pmax			
	comp=Z,18nm,1.0s							
XAN				pmax	pmax			
	comp=Z,250nm,4.1s							
XAN				LR	LR			
	comp=Z,6µm,19.6s							
XAN				LR	LR			
	comp=Z,9µm,17.7s							
XAN				LR	LR			
	comp=Z,10µm,22.1s							
XAN	**Xi'an**	**93.84**	**320**	IAMs_20	IAMs_20		11 13 46.4	
	comp=Z,8µm,20.0s							
KEST	**Kesra**	**93.92**	**38**	P		**P**	**10 34 05.8**	**+1.1**
	comp=Z,10nm,1.0s,baz=115,slow=1.1,SNR=6.4							
KEST				PP		**PP**	**10 37 48.0**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=11,slow=10,SNR=1.6							
KEST				LR	LR		11 16 22.3	
	comp=Z,6µm,18.4s,baz=290,slow=36							
KEST	**Kesra**	**93.92**	**38**	IAMs_20	IAMs_20		11 16 03.2	
	comp=Z,9µm,20.0s							
WMQ	**Urumqi**	**93.98**	**339**	P		**P**	**10 34 02.8**	**-2.0**
WMQ				pmax	pmax			
	comp=Z,26nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,43nm,4.3s							
WMQ				LR	LR			
	comp=Z,4µm,20.7s							
WMQ				LR	LR			
	comp=Z,5µm,18.9s							
WMQ				LR	LR			
	comp=Z,6µm,27.5s							
OUZ	**Omahuta**	**94.10**	**228**	IAMs_20	IAMs_20		11 06 46.1	
	comp=Z,6µm,22.0s							
SCTE	**Santa Cesarea**	**94.23**	**29**	IAMs_20	IAMs_20		11 17 26.0	
	comp=Z,13µm,20.0s							
URZ	**Urewera**	**94.29**	**223**	LR	LR		11 09 04.2	
	comp=Z,6µm,19.8s,baz=37,slow=31							
URZ	**Urewera**	**94.29**	**223**	IAMs_20	IAMs_20		11 09 42.1	
	comp=Z,7µm,20.0s							
CNLB	**Canela**	**94.63**	**124**	*e*P		**P**	**10 34 07.0**	**-0.9**
SJMB	**Sao Joao De Ma**	**94.63**	**110**	*e*P		**P**	**10 34 06.8**	**-1.2**
LZH	**Lanzhou**	**94.67**	**324**	*e*P		**P**	**10 34 10.8**	**+2.5**
LZH				sP		sP	10 34 16.1	+4.0
LZH				PP		**PP**	**10 37 57.3**	**+1.8**
LZH				SKS		**SKSac**	**10 44 42.4**	**-1.9**
LZH				S		**S**	**10 45 17.5**	**-4.4**
LZH				SS		**SS**	**10 51 44.6**	**+1.0**
LZH				pmax	pmax			
	comp=Z,32nm,1.4s							
LZH				pmax	pmax			
	comp=Z,1µm,8.1s							
LZH				LR	LR			
	comp=Z,10µm,17.9s							
LZH				LR	LR			
	comp=Z,20µm,20.1s							
CEL	**Celeste**	**94.76**	**32**	IAMs_20	IAMs_20		11 21 04.1	
	comp=Z,11µm,20.0s							
BSFB	**Barra de Sao F**	**94.96**	**110**	*e*P		**P**	**10 34 08.9**	**-0.6**
TWG	**Pinlang**	**95.08**	**304**	IAMs_20	IAMs_20		11 23 00.1	
	comp=Z,9µm,18.0s							
TDK	**Taldyqorghan**	**95.12**	**345**	*e*P		**P**	**10 34 12.2**	**+2.2**
	baz=346							
TDK				*e*S		**SKSac**	**10 44 47.8**	**+1.7**
	baz=346							
TDK				*e*SP		**SP**	**10 46 43.7**	**+3.0**
	baz=346							
TDK				LR	LR		11 19 02.2	
	comp=Z,6µm,16.5s,baz=346							
TDK	**Taldyqorghan**	**95.12**	**345**	*e*P		**P**	**10 34 12.2**	**+2.2**
TDK				*e*S		**SKSac**	**10 44 47.7**	**+1.7**
TDK				*e*SP		**SP**	**10 46 43.7**	**+3.0**
TDK				MLR	MLR			
	comp=Z,6µm,16.0s							
QZH	**Quanzhou**	**95.16**	**307**	⇑*i* P		**P**	**10 34 08.8**	**-1.7**
QZH				PP		**PP**	**10 37 58.5**	**-1.1**
QZH				SKS		**SKSac**	**10 44 44.4**	**-2.4**
QZH				S		**S**	**10 45 18.8**	**-7.3**
QZH				LR	LR			
	comp=Z,2µm,19.4s							
QZH				LR	LR			
	comp=Z,5µm,19.0s							
QZH				LR	LR			
	comp=Z,5µm,19.4s							
MAN01	**Angra dos Reis**	**95.21**	**115**	*e*P		**P**	**10 34 09.9**	**-0.7**
ANN	**Anapa**	**95.40**	**14**	*e*P		**P**	**10 34 08.9**	**-2.3**
ANN				*i* *PP		**pP**	**10 34 12.7**	**-1.3**
ANN				*e*			10 37 56.9	
ANN				*e*			10 44 51.1	
ANN				pmax	pmax			
	comp=Z,74nm,2.4s							
BTLS	**Baital**	**95.86**	**348**	⇓*i* P		**P**	**10 34 15.1**	**+1.8**
	comp=Z,19nm,2.4s,baz=349							
BTLS				*e*PP		**PP**	**10 38 06.5**	**+2.4**
	baz=349							
BTLS				*e*S		**SKSac**	**10 44 51.1**	**+1.2**
	comp=Z,22nm,4.5s,baz=349							
BTLS				*e*PS		**PS**	**10 46 52.8**	**+2.8**
	baz=349							
BTLS				LR	LR		11 19 53.5	
	comp=Z,2µm,15.2s,baz=349							
BTLS	**Baital**	**95.86**	**348**	*d i* P		**P**	**10 34 15.1**	**+1.8**
BTLS				*e*			10 38 06.5	
BTLS				*e*S		**SKSac**	**10 44 51.1**	**+1.2**
BTLS				*e*PS		**PS**	**10 46 52.7**	**+2.8**
BTLS				pmax	pmax			
	comp=Z,19nm,2.4s							
BTLS				smax	smax			
	comp=N,22nm,4.5s							
PMG	**Port Moresby**	**96.16**	**263**	LR	LR		11 09 38.3	
	comp=N,10µm,21.9s,baz=2.0,slow=30							
PMG	**Port Moresby**	**96.16**	**263**	IAMs_20	IAMs_20		11 10 09.6	
	comp=Z,10µm,21.0s							
ENH	**Enshi**	**96.49**	**317**	IAMs_20	IAMs_20		11 26 20.5	
	comp=Z,9µm,20.0s							
BFZ	**Birch Farm**	**96.50**	**222**	IAMs_20	IAMs_20		11 26 33.9	
	comp=Z,6µm,18.0s							
AGG	**Agios Georgios**	**96.58**	**27**	IAMs_20	IAMs_20		11 17 09.1	
	comp=Z,12µm,21.0s							
KUU	**Kurty**	**96.59**	**347**	⇓*i* P		**P**	**10 34 17.5**	**+0.8**
	comp=Z,32nm,2.3s,baz=347							
KUU				*e*S		**SKSac**	**10 44 54.0**	**+0.1**
	baz=347							
KUU				LR	LR		11 19 59.5	
	comp=Z,5µm,15.4s,baz=347							
KUU	**Kurty**	**96.59**	**347**	*d i* P		**P**	**10 34 17.5**	**+0.8**
KUU				*e*S		**SKSac**	**10 44 53.9**	**+0.1**
KUU				pmax	pmax			
	comp=Z,32nm,2.3s							
SHLS	**Shalkode**	**96.67**	**344**	*e*P		**P**	**10 34 18.9**	**+1.6**
	baz=344							
SHLS				*e*S		**SKSac**	**10 44 55.4**	**+0.8**
	baz=344							
SHLS				LR	LR		11 19 32.0	
	comp=Z,2µm,15.0s,baz=344							
SHLS	**Shalkode**	**96.67**	**344**	*e*P		**P**	**10 34 18.8**	**+1.6**
SHLS				*e*S		**SKSac**	**10 44 55.3**	**+0.8**
UZB	**Uzynbulak**	**96.78**	**344**	*e*P		**P**	**10 34 19.7**	**+1.9**
	baz=345							
UZB				*e*S		**SKSac**	**10 44 56.2**	**+1.1**
	comp=Z,40nm,3.4s,baz=345							
UZB				LR	LR		11 20 25.7	
	comp=Z,2µm,14.5s,baz=345							
UZB	**Uzynbulak**	**96.78**	**344**	*e*P		**P**	**10 34 19.6**	**+1.9**
UZB				*e*S		**SKSac**	**10 44 56.2**	**+1.1**
UZB				smax	smax			
	comp=N,40nm,3.4s							
UZB				MLR	MLR			
	comp=Z,2µm,15.0s							
SATY	**Saty**	**96.99**	**345**	*e*P		**P**	**10 34 20.1**	**+1.5**
	baz=345							
SATY				*e*S		**SKSac**	**10 44 57.1**	**+0.9**
	baz=345							
SATY				LR	LR		11 20 18.6	
	comp=Z,2µm,15.7s,baz=345							
SATY	**Saty**	**96.99**	**345**	*e*P		**P**	**10 34 20.1**	**+1.5**
SATY				*e*S		**SKSac**	**10 44 57.0**	**+0.9**
SATY	**Saty**	**96.99**	**345**	*e*P		**P**	**10 34 20.1**	**+1.5**
SATY				*e*S		**SKSac**	**10 44 57.0**	**+0.9**
JAY	**Jayapura**	**97.05**	**272**	LR	LR		11 09 14.9	
	comp=Z,4µm,21.6s,baz=7.0,slow=30							
KIV	**Kislovodsk**	**97.13**	**11**	*e*P		Pdif	10 34 21.8	+2.5
KIV				*e*			10 38 17.4	
KIV				*e*			10 44 58.9	
KIV				*e*SS		SS	10 52 22.0	+4.6
KIV				pmax	pmax			
	comp=Z,23nm,1.0s							
KIV				pmax	pmax			
	comp=Z,119nm,4.6s							
KIV				MLR	MLR			
	comp=Z,39µm,20.0s							
KIV	**Kislovodsk**	**97.13**	**11**	IAMs_20	IAMs_20		11 18 58.6	
	comp=Z,13µm,22.0s							
AAA	**Alma-Ata**	**97.14**	**346**	⇓*i* P		Pdif	10 34 21.4	+2.1
	baz=346							
AAA				*e*S		**SKSac**	**10 44 58.5**	**+1.7

	comp=Z,11µm,21.0s							
AAK	**Ala-Archa**	**98.13**	**348**	ǁ *e*P	Pdif	10 34 26.0	+2.1	
AAK				pmax	pmax			
	comp=Z,18nm,2.4s							
AAK				MLR	MLR			
	comp=Z,10µm,18.0s							
AAK	**Ala-Archa**	**98.13**	**348**	IAMs_20	IAMs_20	11 22 04.1		
	comp=Z,11µm,19.0s							
ILGA	**Ilgaz**	**98.16**	**18**	IAMs_20	IAMs_20	11 23 52.2		
	comp=Z,11µm,20.0s							
DZA	**Taraz**	**98.37**	**350**	*e*P	Pdif	10 34 26.6	+1.8	
	baz=350							
DZA				*e*S	**SKSac**	**10 45 04.4**	**+1.4**	
	baz=350							
DZA				LR	LR	11 19 33.2		
	comp=Z,3µm,16.9s,baz=350							
DZA	**Taraz**	**98.37**	**350**	*e*P	Pdif	10 34 26.5	+1.7	
DZA				*e*S	**SKSac**	**10 45 04.4**	**+1.4**	
MAK	**Makhachkala**	**98.71**	**8**	*e*P	P	10 34 21.3	-4.9	
MAK				*e*		10 38 22.1		
MAK				*e*		10 44 56.5		
MAK				*e*SS	SS	10 52 42.2	+2.7	
MAK				pmax	pmax			
	comp=Z,28nm,0.3s							
CD2	**Chengdu**	**98.94**	**321**	*e*P	**P**	**10 34 25.4**	**-2.2**	
CD2				PP	**PP**	**10 38 28.3**	**-0.2**	
CD2				SKS	**SKSac**	**10 45 02.3**	**-4.1**	
CD2				SS	**SS**	**10 52 44.3**	**+0.4**	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.4s							
CD2				pmax	pmax			
	comp=Z,200nm,9.2s							
CD2				LR	LR			
	comp=Z,6µm,23.3s							
CD2				LR	LR			
	comp=Z,7µm,20.7s							
KHZ	**Kahutara**	**99.16**	**222**	IAMs_20	IAMs_20	11 19 27.4		
	comp=Z,7µm,18.0s							
GO09	**Cerro Castillo**	**99.23**	**151**	IAMs_20	IAMs_20	11 10 23.5		
	comp=Z,7µm,21.0s							
IUG	**luzhnay**	**99.27**	**351**	*e*P	**Pdif**	**10 34 30.7**	**+1.7**	
	comp=Z,43nm,2.3s,baz=351							
IUG				*e*S	**SKSac**	**10 45 09.0**	**+1.2**	
	baz=351							
IUG				*e*SP	**SP**	**10 47 28.7**	**+2.7**	
	baz=351							
IUG				LR	LR	11 21 35.0		
	comp=Z,3µm,17.2s,baz=351							
IUG	**luzhnay**	**99.27**	**351**	*e*P	**Pdif**	**10 34 30.6**	**+1.7**	
IUG				*e*S	**SKSac**	**10 45 08.9**	**+1.2**	
IUG				*e*SP	**SP**	**10 47 28.6**	**+2.7**	
IUG				pmax	pmax			
	comp=Z,43nm,2.3s							
BRTR	**Keskin Array B**	**99.39**	**19**	P	**Pdif**	**10 34 29.1**	**-0.4**	
	comp=Z,2.6nm,1.1s,baz=15,slow=6.0,SNR=2.9							
BRTR				PP	**PP**	**10 38 31.7**	**+0.2**	
	comp=Z,1.6nm,1.0s,baz=356,slow=5.8,SNR=2.9							
BRTR				PKKPbc	**PKKPbc**	**10 50 51.3**	**-0.8**	
	comp=Z,0.6nm,0.7s,baz=130,slow=1.9,SNR=3.8							
BRTR				LR	LR	11 23 15.3		
	comp=Z,8µm,18.9s,baz=340,slow=38							
TOKA	**Tokat**	**99.50**	**16**	IAMs_20	IAMs_20	11 23 43.5		
	comp=Z,9µm,20.0s							
AKH	**Akhalkalaki**	**99.74**	**11**	IAMs_20	IAMs_20	11 22 29.7		
	comp=Z,10µm,20.0s							
HKPS	**Hong Kong Po S**	**99.88**	**308**	IAMs_20	IAMs_20	11 26 21.1		
	comp=Z,6µm,18.0s							
SANT	**Santorini**	**100.06**	**26**	IAMs_20	IAMs_20	11 29 01.9		
	comp=Z,6µm,18.0s							
LTZ	**Lake Taylor**	**100.09**	**223**	IAMs_20	IAMs_20	11 24 37.0		
	comp=Z,6µm,18.0s							
ISP	**Isparta**	**100.33**	**22**	IAMs_20	IAMs_20	11 25 52.3		
	comp=Z,7µm,18.0s							
MQZ	**McQueen's Vall**	**100.52**	**222**	IAMs_20	IAMs_20	11 16 02.4		
	comp=Z,6µm,18.0s							
OXZ	**Oxford**	**100.59**	**223**	IAMs_20	IAMs_20	11 12 29.2		
	comp=Z,5µm,22.0s							
IDI	**Anoyia**	**100.83**	**27**	IAMs_20	IAMs_20	11 24 54.5		
	comp=Z,7µm,18.0s							
KSH	**Kashi**	**100.89**	**346**	*e*P	**Pdif**	**10 34 34.3**	**-1.9**	
KSH				PP	**PP**	**10 38 45.3**	**+2.5**	
KSH				S	**Sdif**	**10 46 05.3**	**-9.3**	
KSH				LR	LR			
	comp=Z,12µm,23.4s							
KSH				LR	LR			
	comp=Z,7µm,18.2s							
KSH				LR	LR			
	comp=Z,18µm,16.4s							
GYA	**Guiyang**	**101.02**	**316**	*e*P	**Pdif**	**10 34 35.1**	**-1.9**	
GYA				PP	**PP**	**10 38 50.3**	**+5.8**	
GYA				SKS		10 45 12.3		
GYA				S	**Sdif**	**10 46 08.3**	**-7.9**	
GYA				LR	LR			
	comp=Z,2µm,21.6s							
GYA				LR	LR			
	comp=Z,3µm,21.3s							
GYA				LR	LR			
	comp=Z,5µm,24.1s							
RPZ	**Rata Peaks**	**101.38**	**223**	IAMs_20	IAMs_20	11 12 55.1		
	comp=Z,6µm,21.0s							
AKAS	**Kas**	**101.53**	**23**	IAMs_20	IAMs_20	11 25 56.8		
	comp=Z,7µm,19.0s							
COEN	**Coen**	**102.00**	**262**	IAMs_20	IAMs_20	11 14 17.5		
	comp=Z,5µm,20.0s							
TAM	**Tamanrasset**	**102.06**	**48**	IAMs_20	IAMs_20	11 17 59.8		
	comp=Z,8µm,21.0s							
LBZ	**Lake Benmore**	**102.30**	**223**	IAMs_20	IAMs_20	11 17 18.3		
	comp=Z,6µm,19.0s							
ODZ	**Otahua Downs**	**102.49**	**222**	IAMs_20	IAMs_20	11 12 07.4		
	comp=Z,6µm,21.0s							
GAZ	**Gaziantep**	**102.68**	**17**	IAMs_20	IAMs_20	11 25 48.7		
	comp=Z,8µm,20.0s							
CTAO	**Charters Tower**	**103.23**	**255**	IAMs_20	IAMs_20	11 19 33.2		
	comp=Z,4µm,19.0s							
CSS	**Mathiatis**	**103.80**	**20**	IAMs_20	IAMs_20	11 24 34.7		
	comp=Z,10µm,20.0s							
MG01	**Puerto William**	**103.86**	**151**	IAMs_20	IAMs_20	11 14 46.5		
	comp=Z,7µm,19.0s							
FAKI	**Fak Fak**	**103.94**	**277**	IAMs_20	IAMs_20	11 18 37.1		
	comp=Z,9µm,19.0s							
MLZ	**Mavora Lakes**	**104.05**	**223**	IAMs_20	IAMs_20	11 27 12.6		
	comp=Z,6µm,18.0s							
KMI	**Kunming**	**104.18**	**319**	IAMs_20	IAMs_20	11 28 58.2		
	comp=Z,8µm,20.0s							
GEYT	**Alibeck**	**104.27**	**360**	PP	**PP**	**10 39 04.9**	**-3.1**	
	comp=Z,0.6nm,0.4s,baz=319,slow=4.2,SNR=1.3							
WHZ	**Wether Hill Ro**	**104.48**	**223**	IAMs_20	IAMs_20	11 14 29.1		
	comp=Z,5µm,20.0s							
QIZ	**Qiongzhong**	**104.96**	**309**	Pdif	**Pdif**	**10 34 50.0**	**-4.4**	
QIZ				PP	**PP**	**10 39 15.1**	**+1.0**	
QIZ				SKS		10 45 30.3		
QIZ				S	**Sdif**	**10 46 41.9**	**-7.1**	
QIZ				SS	**SS**	**10 54 06.3**	**-1.5**	
QIZ				LR	LR			
	comp=Z,2µm,22.1s							
QIZ				LR	LR			
	comp=Z,3µm,19.6s							
QIZ				LR	LR			
	comp=Z,4µm,22.0s							
QIZ	**Qiongzhong**	**104.96**	**309**	IAMs_20	IAMs_20	11 16 30.7		
	comp=Z,5µm,22.0s							
EFI	**East Falkland**	**105.56**	**144**	IAMs_20	IAMs_20	11 17 09.3		
	comp=Z,7µm,18.0s							
SLVN	**Son La**	**106.61**	**315**	IAMs_20	IAMs_20	11 32 38.1		
	comp=Z,7µm,19.0s							
TORD	**Torodi Ar. Bea**	**106.87**	**58**	PP	**PP**	**10 39 26.9**	**-1.4**	
	comp=Z,2.3nm,1.0s,baz=318,slow=5.0,SNR=3.9							
TORD				PKKPbc	**PKKPbc**	**10 50 29.1**	**-0.4**	
	comp=Z,0.6nm,0.8s,baz=103,slow=3.7,SNR=2.4							
TORD				PKKPab	**PKKPab**	**10 50 45.9**	**-1.7**	
	comp=Z,3.0nm,1.1s,baz=94,slow=3.6,SNR=6.0							
KBL	**Kabul**	**106.89**	**350**	IAMs_20	IAMs_20	11 28 16.0		
	comp=Z,8µm,19.0s							
SAUI	**Saumlaki**	**107.78**	**274**	IAMs_20	IAMs_20	11 26 37.6		
	comp=Z,6µm,18.0s							
KKM	**Kota Kinabalu**	**110.18**	**295**	IAMs_20	IAMs_20	11 19 19.6		
	comp=Z,6µm,21.0s							
MTN	**Manton Dam**	**110.80**	**270**	IAMs_20	IAMs_20	11 17 18.9		
	comp=Z,5µm,22.0s							
DLV	**T Lat**	**111.17**	**306**	IAMs_20	IAMs_20	11 33 43.5		
	comp=Z,4µm,18.0s							
CHTO	**Chiang Mai**	**111.35**	**318**	IAMs_20	IAMs_20	11 34 11.1		
	comp=Z,4µm,18.0s							
CMAR	**Chiang Mai Arr**	**111.64**	**318**	PKiKP	**PKiKP**	**10 39 23.2**	**+1.3**	
	comp=Z,0.8nm,0.7s,baz=40,slow=1.5,SNR=6.6							
PMSA	**Palmer Station**	**112.23**	**157**	IAMs_20	IAMs_20	11 16 21.3		
	comp=Z,7µm,20.0s							

WRAB	**Tennant Creek**	**112.32**	**262**	ǁ PKiKP	**PKiKP**	**10 39 23.6**	**+0.5**	
WRA	**Warramunga Arr**	**112.34**	**262**	PKiKP	**PKiKP**	**10 39 22.3**	**-0.8**	
	comp=Z,1.7nm,0.7s,baz=51,slow=1.5,SNR=13							
WC4	**Warramunga Arr**	**112.35**	**262**	IAMs_20	IAMs_20	11 20 44.2		
	comp=Z,4µm,21.0s							
STKA	**Stephens Creek**	**113.25**	**247**	PKiKP	**PKiKP**	**10 39 23.3**	**-1.2**	
	comp=Z,2.0nm,0.8s,baz=342,slow=3.2,SNR=3.2							
MCQ	**Macquarie Isla**	**114.22**	**219**	IAMs_20	IAMs_20	11 16 37.8		
	comp=Z,5µm,21.0s							
KNRA	**Kununurra**	**114.31**	**269**	IAMs_20	IAMs_20	11 23 59.0		
	comp=Z,5µm,19.0s							
BKB	**Balikpapan**	**114.64**	**289**	IAMs_20	IAMs_20	11 21 54.5		
	comp=Z,5µm,20.0s							
ASAR	**Alice Springs**	**114.71**	**259**	PKP	PKPdf	10 39 25.8	-1.8	
	comp=Z,1.7nm,0.8s,baz=68,slow=2.2,SNR=15							
ASAR				PKKPbc	**PKKPbc**	**10 50 03.8**	**-0.4**	
	comp=Z,0.6nm,1.1s,baz=230,slow=4.3,SNR=2.8							
TAU	**Tasmania Unive**	**114.92**	**234**	IAMs_20	IAMs_20	11 22 36.7		
	comp=Z,4µm,20.0s							
UOSS	**Minazif**	**117.20**	**2**	IAMs_20	IAMs_20	11 34 57.0		
	comp=Z,9µm,22.0s							
HOPE	**Hope Point**	**117.70**	**139**	IAMs_20	IAMs_20	11 25 35.4		
	comp=Z,7µm,22.0s							
BBOO	**Buckleboo**	**117.77**	**249**	IAMs_20	IAMs_20	11 25 54.1		
	comp=Z,5µm,18.0s							
FITZ	**Fitzroy Crossi**	**118.14**	**268**	IAMs_20	IAMs_20	11 22 15.6		
	comp=Z,6µm,21.0s							
PBA	**Port Blair**	**120.57**	**319**	IAMs_20	IAMs_20	11 40 07.4		
	comp=Z,6µm,20.0s							
KULM	**Kulim**	**121.21**	**308**	IAMs_20	IAMs_20	11 41 26.4		
	comp=Z,4µm,19.0s							
MYKOM	**Kota Tinggi**	**121.78**	**302**	IAMs_20	IAMs_20	11 21 39.3		
	comp=Z,4µm,22.0s							
FORT	**Forrest**	**122.78**	**255**	IAMs_20	IAMs_20	11 25 06.9		
	comp=Z,5µm,22.0s							
LHMI	**Lhok Sumawe**	**123.52**	**311**	IAMs_20	IAMs_20	11 42 10.3		
	comp=Z,3µm,19.0s							
VNDA	**Vanda**	**123.97**	**195**	PKP	**PKiKP**	**10 39 45.9**	**+1.8**	
	comp=Z,1.5nm,0.7s,baz=5.8,slow=2.2,SNR=9.8							
RPSI	**Rantau Prapat**	**124.29**	**307**	IAMs_20	IAMs_20	11 42 28.3		
	comp=Z,3µm,18.0s							
MBWA	**Marble Bar**	**124.47**	**269**	IAMs_20	IAMs_20	11 25 36.1		
	comp=Z,5µm,21.0s							
PSAD1	**Pilbara Seismi**	**124.54**	**269**	IAMs_20	IAMs_20	11 25 48.1		
	comp=Z,7µm,20.0s							
PSAC2	**Pilbara Seismi**	**124.55**	**269**	IAMs_20	IAMs_20	11 27 05.3		
	comp=Z,8µm,21.0s							
PMBI	**Palembang**	**124.56**	**297**	IAMs_20	IAMs_20	11 24 58.4		
	comp=Z,4µm,22.0s							
PSAB2	**Pilbara Seismi**	**124.57**	**269**	IAMs_20	IAMs_20	11 26 21.0		
	comp=Z,7µm,21.0s							
PSAA3	**Pilbara Seismi**	**124.59**	**269**	IAMs_20	IAMs_20	11 26 21.4		
	comp=Z,8µm,21.0s							
PSA00	**Pilbara Seismi**	**124.59**	**269**	IAMs_20	IAMs_20	11 26 32.4		
	comp=Z,8µm,21.0s							
PSAB3	**Pilbara Seismi**	**124.60**	**269**	IAMs_20	IAMs_20	11 26 21.7		
	comp=Z,7µm,20.0s							
PSAC1	**Pilbara Seismi**	**124.60**	**269**	IAMs_20	IAMs_20	11 26 32.8		
	comp=Z,8µm,22.0s							
PSAB1	**Pilbara Seismi**	**124.61**	**269**	IAMs_20	IAMs_20	11 26 34.0		
	comp=Z,7µm,20.0s							
PSAD3	**Pilbara Seismi**	**124.68**	**269**	IAMs_20	IAMs_20	11 26 46.9		
	comp=Z,8µm,22.0s							
BKNI	**Bangkinang**	**124.73**	**303**	IAMs_20	IAMs_20	11 33 08.3		
	comp=Z,3µm,20.0s							
QSPA	**South Pole Qui**	**127.99**	**180**	IAMs_20	IAMs_20	11 28 17.1		
	comp=Z,7µm,18.0s							
SOCY	**Socotra**	**129.78**	**5**	IAMs_20	IAMs_20	11 44 02.8		
	comp=Z,5µm,20.0s							
FURI	**Furi**	**129.92**	**25**	IAMs_20	IAMs_20	11 43 29.2		
	comp=Z,5µm,21.0s							
PALK	**Pallekele**	**129.97**	**330**	IAMs_20	IAMs_20	11 46 47.5		
	comp=Z,6µm,20.0s							
MORW	**Mowa**	**131.27**	**262**	IAMs_20	IAMs_20	11 28 42.7		
	comp=Z,4µm,22.0s							
NWAO	**Narrogin (SRO)**	**132.00**	**257**	IAMs_20	IAMs_20	11 32 09.9		
	comp=Z,3µm,20.0s							
KMBO	**Kilima Mbogo**	**138.62**	**32**	PKP	**PKPdf**	**10 40 12.8**	**-0.8**	
	comp=Z,0.8nm,0.3s,baz=243,slow=9.0,SNR=8.4							
KMBO	**Kilima Mbogo**	**138.62**	**32**	PKiKP	**PKPdf**	**10 40 10.0**	**-3.7**	
KMBO				MLR	MLR			
	comp=Z,6µm,20.0s							
KMBO	**Kilima Mbogo**	**138.62**	**32**	PKPdf	**PKPdf**	**10 40 10.0**	**-3.7**	
KMBO	**Kilima Mbogo**	**138.62**	**32**	IAMs_20	IAMs_20	11 43 31.5		
	comp=Z,6µm,20.0s							
CASY	**Casey**	**139.07**	**209**	IAMs_20	IAMs_20	11 33 42.9		
	comp=Z,6µm,19.0s							
LSZ	**Lusaka**	**145.40**	**57**	PKP2	**PKPbc**	**10 40 22.4**	**-2.9**	
LSZ				MLR	MLR			
	comp=Z,9µm,20.0s							
LSZ	**Lusaka**	**145.40**	**57**		**PKPbc**	**10 40 22.4**	**-2.9**	
DGAR	**Diego Garcia**	**146.59**	**333**	IAMs_20	IAMs_20	11 52 09.9		
	comp=Z,5µm,20.0s							
SYO	**Syowa Base**	**147.57**	**168**	ǁ *e*PKPdf	**PKPdf**	**10 40 26.7**	**-0.6**	
SYO	**Syowa Base**	**147.57**	**168**	ǁ *e*pPKPdf	**PKPdf**	**10 40 28.2**	**+0.9**	
SYO	**Syowa Base**	**147.57**	**168**	ǁ /pPKPab	pPKPab	10 40 33.8	-1.1	
SUR	**Sutherland**	**149.47**	**90**		**PKPbc**	**10 40 36.5**	**+0.2**	
LBTB	**Lobatse**	**149.83**	**74**	PKP2	**PKiKP**	**10 40 37.8**	**-0.4**	
LBTB	**Lobatse**	**149.83**	**74**		**PKiKP**	**10 40 37.8**	**-0.4**	
MAW	**Mawson**	**150.38**	**184**	PKPbc	**PKPbc**	**10 40 36.6**	**-0.5**	
	comp=Z,6.8nm,0.9s,baz=132,slow=2.1,SNR=5.9							
MAW	**Mawson**	**150.38**	**184**	PKiKP	**PKPdf**	**10 40 33.7**	**+1.9**	
MAW	**Mawson**	**150.38**	**184**		**PKPdf**	**10 40 33.7**	**+1.9**	
BOSA	**Boshof**	**151.40**	**80**	PKPbc	**PKPbc**	**10 40 39.8**	**-1.2**	
	comp=Z,12nm,1.1s,baz=262,slow=2.6,SNR=6.3							
BOSA	**Boshof**	**151.40**	**80**	PKiKP	**PKPbc**	**10 40 39.5**	**-1.5**	
BOSA	**Boshof**	**151.40**	**80**		**PKPbc**	**10 40 39.5**	**-1.5**	

NEIC ***24*** *10:21:45.8±0.4, 38°.236N±0°.006×122°.34W±0°.01, h10km±1km, Error ellipse: s-maj=1.6km s-min=0.8km az=69.0*
NCEDC ***24*** *10:21:45.4±0.4, 38°.235N±0°.008×122°.32W±0°.01, h9km±1km, ML3.8/4, Error ellipse: s-maj=1.7km s-min=0.9km az=62.0*

ISC 24 10:21:45.9±1.6, 38°.24N±0°.04×122°.33W±0°.04, h0km±18km, n19, σ0°18/19, Northern California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NGVM		**0.10**	**65**			**Pg**	**10 21 47.9**	**+0.1**
NLHM	**Lake Herman**	**0.18**	**130**			**Pg**	**10 21 49.3**	**-0.2**
CPIM	**Pinole Ridge**	**0.27**	**160**			**Pg**	**10 21 51.3**	**+0.4**
CPMM	**Point Molate**	**0.30**	**192**			**Pg**	**10 21 51.6**	**+0.1**
NTYM	**Taylor**	**0.30**	**300**			**Pg**	**10 21 51.9**	**+0.2**
RFSB	**Richmond Field**	**0.32**	**181**			**Pg**	**10 21 52.1**	**0.0**
BL88	**Building 88, L**	**0.37**	**171**			**Pg**	**10 21 53.0**	**+0.1**
VAK	**Adit at Lawren**	**0.37**	**170**			**Pg**	**10 21 53.1**	**+0.2**
BL67	**Building 67, L**	**0.37**	**171**			**Pg**	**10 21 53.2**	**+0.3**
BRK	**Berkeley--Havi**	**0.37**	**172**			**Pg**	**10 21 53.1**	**+0.1**
CYBM	**Yerba Buena Is**	**0.43**	**184**			**Pg**	**10 21 54.1**	**0.0**
SMCB	**Saint Mary's C**	**0.43**	**157**			**Pg**	**10 21 54.1**	**-0.1**
MCCM	**Marconi Confer**	**0.45**	**258**			**Pg**	**10 21 54.5**	**0.0**
CRHM	**Round Hill Res**	**0.46**	**145**			**Pg**	**10 21 55.0**	**+0.3**
BGC	**Bolinger Road**	**0.47**	**153**			**Pg**	**10 21 55.0**	**+0.1**
CMCM	**Mills College**	**0.47**	**165**			**Pg**	**10 21 54.8**	**-0.1**
J061	**Lakeshore Driv**	**0.53**	**195**			**Pg**	**10 21 55.9**	**-0.1**
GDXM	**Geysers**	**0.68**	**327**	Pn		**Pb**	**10 22 00.5**	**-0.1**
KNB	**Kanab**	**7.64**	**96**			**Sn**	**10 25 06.0**	**+0.1**

NEIC ***24*** *10:24:44.3±1.1, 38°.25N±0°.01×122°.35W±0°.02, h17km±1km, Error ellipse: s-maj=2.4km s-min=1.5km az=67.0*
NCEDC ***24*** *10:24:44.2±1.0, 38°.259N±0°.010×122°.34W±0°.01, h10km±2km, ML3.5/7, Error ellipse: s-maj=1.5km s-min=1.3km az=188.0*

ISC 24 10:24:44.2±0.9, 38°.25N±0°.02×122°.34W±0°.02, h12km±6km, n94, σ0°83/99, Northern California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NGVM		**0.10**	**75**			**Pg**	**10 24 46.8**	**-0.2**
CVS	**Carmenet Viney**	**0.13**	**315**			**Pg**	**10 24 47.5**	**+0.1**
CVS						**Sg**	**10 24 49.8**	**+0.1**
NLHM	**Lake Herman**	**0.20**	**131**			**Pg**	**10 24 48.5**	**0.0**
CPIM	**Pinole Ridge**	**0.28**	**159**			**Pg**	**10 24 50.6**	**+0.6**
NTYM	**Taylor**	**0.29**	**299**			**Pg**	**10 24 50.4**	**+0.3**
CSPM	**San Pablo Ridg**	**0.30**	**175**			**Pb**	**10 24 51.0**	**-0.4**
CPMM	**Point Molate**	**0.31**	**190**			**Pg**	**10 24 50.8**	**+0.4**
RFSB	**Richmond Field**	**0.34**	**179**			**Pg**	**10 24 51.5**	**+0.5**
CTAM	**Taylor**	**0.34**	**131**			**Pb**	**10 24 52.1**	**-0.1**
BRIB	**Briones**	**0.37**	**156**			**Pg**	**10 24 51.8**	**+0.3**
BL88	**Building 88, L**	**0.38**	**169**			**Pg**	**10 24 52.3**	**+0.5**
VAK	**Adit at Lawren**	**0.38**	**169**			**Pg**	**10 24 52.3**	**+0.5**

BL67	**Building 67, L**	**0.38**	**170**			**Pg**	**10 24 52.3**	**+0.5**
BRK	**Berkeley--Havi**	**0.38**	**170**			**Pg**	**10 24 52.2**	**+0.3**
BKS	**Berkeley--Byer**	**0.39**	**167**			**Pg**	**10 24 52.3**	**+0.4**
NOLM	**Olema**	**0.41**	**239**			**Pg**	**10 24 52.8**	**+0.4**
MAC	**Mark West Spri**	**0.42**	**315**			**Pg**	**10 24 52.9**	**+0.3**
NBPM	**Berryessa Peak**	**0.43**	**16**			**Pb**	**10 24 54.7**	**+0.9**
MCCM	**Marconi Confer**	**0.44**	**256**	Pg		**Pg**	**10 24 52.7**	**-0.1**
MCCM						Sg	**Sb**	**10 24 59.6**	**-0.7**
HMR	**Hamilton Ranch**	**0.44**	**103**			**Pb**	**10 24 54.2**	**+0.3**
CYBM	**Yerba Buena Is**	**0.44**	**182**			**Pg**	**10 24 53.2**	**+0.3**
SMCB	**Saint Mary's C**	**0.45**	**156**			**Pg**	**10 24 53.4**	**+0.3**
NHSM	**Mount Saint He**	**0.46**	**332**			**Pg**	**10 24 53.5**	**+0.2**
BDM	**Black Diamond**	**0.48**	**128**			**Pb**	**10 24 54.4**	**-0.2**
CRHM	**Round Hill Res**	**0.48**	**145**			**Pb**	**10 24 54.2**	**-0.4**
BGC	**Bolinger Road**	**0.49**	**153**			**Pb**	**10 24 54.4**	**-0.4**
CMCM	**Mills College**	**0.49**	**164**			**Pg**	**10 24 54.1**	**+0.3**
NMTM	**Middletown**	**0.56**	**352**			**Pb**	**10 24 56.4**	**+0.4**
GAXM	**Alexander Vall**	**0.56**	**325**			**Pg**	**10 24 55.2**	**0.0**
NMCNC	**Mill Creek, So**	**0.56**	**307**			**Pb**	**10 24 55.6**	**-0.4**
NPRM	**Point Reyes**	**0.59**	**244**			**Pg**	**10 24 55.9**	**+0.2**
GCRM	**Castle Rock Sp**	**0.60**	**331**			**Pg**	**10 24 55.7**	**-0.1**
CMOB	**Morgan Territo**	**0.61**	**136**			**Pg**	**10 24 56.4**	**+0.2**
GBGM	**Boggs Mountain**	**0.62**	**335**			**Pg**	**10 24 56.5**	**+0.2**
JMGM	**Milagra Ridge**	**0.62**	**190**			**Pg**	**10 24 56.6**	**+0.2**
MNRC	**McLaughlin Min**	**0.63**	**353**			**Pb**	**10 24 57.4**	**+0.2**
GGPM	**Geyser Peak**	**0.65**	**323**			**Pb**	**10 24 57.7**	**+0.2**
GDXM	**Geysers**	**0.66**	**328**	Pg		**Pg**	**10 24 57.0**	**-0.1**
GDXM				Sg		**Sg**	**10 25 06.2**	**+0.5**
JCPM	**Coyote Point**	**0.66**	**179**			**Pg**	**10 24 57.3**	**+0.2**
GSSM	**Skaggs Springs**	**0.69**	**311**			**Pg**	**10 24 57.8**	**+0.2**
FTR	**Fort Ross**	**0.70**	**293**			**Pb**	**10 24 58.5**	**+0.1**
CNIC	**Niles Canyon**	**0.71**	**155**			**Pg**	**10 24 58.1**	**+0.2**
GRTM	**Round Top Moun**	**0.73**	**340**			**Pb**	**10 24 58.9**	**0.0**
JCHM	**Cahill Ridge**	**0.73**	**182**			**Pg**	**10 24 58.7**	**+0.3**
GCVM	**Cloverdale**	**0.74**	**315**			**Pb**	**10 24 59.0**	**0.0**
GACM	**Adobe Creek**	**0.74**	**327**			**Pg**	**10 24 58.7**	**+0.1**
CVLM	**Vallecito**	**0.74**	**147**			**Pb**	**10 24 59.6**	**+0.5**
GHCM	**House Creek**	**0.76**	**298**			**Pg**	**10 24 58.8**	**-0.1**
GPMM	**Pine Mountain**	**0.76**	**322**			**Pg**	**10 24 59.0**	**+0.1**
FARB	**Farallon Islan**	**0.76**	**223**			**Pg**	**10 24 58.7**	**-0.2**
WENL	**Wente Vineyard**	**0.78**	**143**			**Pb**	**10 25 00.1**	**+0.4**
JHPM	**Huddart Park**	**0.81**	**178**			**Pg**	**10 24 59.8**	**0.0**
CMJM	**Mission San Jo**	**0.82**	**153**			**Pg**	**10 24 59.8**	**-0.3**
JRSC	**Jasper Ridge**	**0.85**	**174**			**Pg**	**10 25 00.5**	**-0.2**
JSFB	**Stanford Teles**	**0.86**	**171**			**Pg**	**10 25 00.8**	**0.0**
GDCM	**Dry Creek**	**0.87**	**306**			**Pg**	**10 25 00.6**	**-0.5**
JFP	**Foothills Park**	**0.90**	**172**			**Pb**	**10 25 01.3**	**-0.4**
BGH	**Bear Gulch**	**0.91**	**180**			**Pg**	**10 25 01.9**	**+0.1**
JJRM	**Joaquin Road**	**0.91**	**173**			**Pg**	**10 25 02.3**	**+0.5**
HOPS	**Hopland Field**	**0.94**	**323**	Pg		**Pg**	**10 25 02.5**	**+0.2**
HOPS						**Sn**	**10 25 16.3**	**-0.2**
SCCB	**Santa Clara Co**	**1.04**	**158**			**Pb**	**10 25

IFAG	**Fagurholsmyri**	**0.97**	**173**	P		**Pg**	**10 53 09.5**	**-2.5**
	baz=174							
IGHA	**Grjothals**	**1.02**	**6**	P		**Pg**	**10 53 10.6**	**-2.4**
	baz=4.9							
ISKI	**Skildingahlsh**	**1.04**	**358**	P		**Pg**	**10 53 10.9**	**-2.5**
	baz=357							
IVAT	**Vatnsfell**	**1.08**	**234**	P		**Pg**	**10 53 12.0**	**-2.2**
	baz=235							
IGRA	**Granastaoir**	**1.12**	**346**	P		**Pb**	**10 53 12.4**	**-2.4**
	baz=345							
IGRA				S		**Sb**	**10 53 27.3**	**-2.3**
	baz=345							
IHVE	**Hveravellir**	**1.13**	**273**	P		**Pb**	**10 53 12.2**	**-2.8**
	baz=274							
IDIM	**Dimmadalss**	**1.13**	**360**	P		**Pb**	**10 53 12.3**	**-2.7**
	baz=359							
SCO	**Scoresbysund**	**5.99**	**344**	*i* P		**Pn**	**10 54 23.3**	**+1.4**
SCO				*e*S		**Sn**	**10 55 32.7**	**+2.3**
SCO	**Scoresbysund**	**5.99**	**344**	*e*S		**Sn**	**10 55 32.8**	**+2.3**
SCO				*e*		**Pn**	**10 54 20.6**	**-1.3**
	baz=142,slow=6.9							
SCO				*i* P		**Pn**	**10 54 23.3**	**+1.4**
NOA	**NORSAR Array B**	**13.29**	**94**	Pn		**Pn**	**10 56 01.9**	**0.0**
	0.0nm,0.3s,baz=302,slow=13,SNR=2.4							
ARCES	**ARCESS Array B**	**16.82**	**55**	P		**P**	**10 56 52.6**	**+1.9**
	0.1nm,0.3s,baz=291,slow=12,SNR=2.5							
FINES	**FINESS Array B**	**19.43**	**80**	P		**Pn**	**10 57 22.6**	**+1.9**
	0.1nm,0.3s,baz=289,slow=13,SNR=1.9							
GERES	**GERESS Array B**	**22.82**	**120**	P		**P**	**10 58 00.0**	**+3.8**
	0.3nm,0.4s,baz=352,slow=5.9,SNR=4.2							
ESDC	**Sonseca Array**	**26.31**	**157**	P		**P**	**10 58 30.0**	**+1.0**
	0.6nm,0.8s,baz=353,slow=9.4,SNR=3.0							
TORD	**Torodi Ar. Bea**	**53.20**	**157**	P		**P**	**11 02 11.7**	**+0.1**
	0.2nm,0.6s,baz=343,slow=8.2,SNR=1.9							
PDAR	**Pinedale Array**	**53.34**	**294**	P		**P**	**11 02 13.8**	**+1.1**
	0.4nm,0.7s,baz=50,slow=8.1,SNR=4.2							

*MEX **24** 11:02:06.1±0.4, 14.08N×92.32W, h73km±20km, MD3.9*
*GCG **24** 11:02:06.7±0.5, 13.86N×92.24W, h54km±224km, MD4.0*

ISC 24 11:02:02.9±2.6, 13.9N±0.1×92.36W±0.09, h30km±17km, n8, sσ0.962/14, 1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
THIG		**0.97**	**6**	*i* P		**Pb**	**11 02 21.2**		**-0.1**
THIG				*e*S		**Sn**	**11 02 33.1**		**-0.3**
FUG	**Fuego 3**	**1.56**	**71**	*e*P		**Pb**	**11 02 31.4**		**+0.1**
FUG				*e*S		**Sb**	**11 02 51.1**		**+0.3**
PCG	**Pacaya**	**1.76**	**75**	*e*P		**Pb**	**11 02 34.7**		**-0.1**
PCG				*e*S		**Sb**	**11 02 56.2**		**-0.4**
IXG	**Ixpaco**	**1.88**	**82**	*e*P		**Pb**	**11 02 35.7**		**-1.0**
PCIG		**1.95**	**335**	*e*P		**Pn**	**11 02 34.0**		**0.0**
PCIG				*e*S		**Sn**	**11 02 56.6**		**-0.9**
NBG	**Las Nubes**	**2.06**	**71**	*e*P		**Pb**	**11 02 40.1**		**+0.2**
NBG				*e*S		**Sn**	**11 03 00.6**		**+0.1**
CCIG	**Comitan**	**2.35**	**5**	*e*P		**Pb**	**11 02 44.0**		**-0.7**
CCIG				*e*S		**Sb**	**11 03 14.0**		**+0.6**
CMIG	**Matias Romero**	**3.97**	**323**	*e*P		**Pn**	**11 03 02.7**		**+0.9**

*THE **24** 11:09:44.9, 37.67N×26.53E, h4km, ML3.2/15, Error ellipse: s-maj=0.6km s-min=0.2km az=70.0*
*ATH **24** 11:09:44.3, 37.67N×26.55E, h26km±1km, ML3.3/18, Error ellipse: s-maj=1.8km s-min=1.1km az=87.0*
*ISK **24** 11:09:44.4, 37.67N×26.55E, h15km, ML3.5/17*
*DDA **24** 11:09:46.0, 37.70N×26.63E, h16km±2km, ML3.6*

ISC 24 11:09:45.0±0.9, 37.67N±0.01×26.56E±0.02, h16km±6km, n129, sσ0.977/174, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SMG	**Samos**	**0.23**	**81**	P		**Pg**	**11 09 50.2**		**0.0**
SMG				S		**Sg**	**11 09 53.7**		**0.0**
	14µm,0.5s								
SMG	**Samos**	**0.23**	**81**	P		**Pg**	**11 09 50.2**		**0.0**
SMG				S		**Sg**	**11 09 53.9**		**+0.2**
SMG				AML		AML	11 09 54.2		
	comp=E,21123µm,0.2s								
SMG				AML		AML	11 09 54.3		
	comp=N,30912µm,0.5s								
GCAM	**G?zelcaml?**	**0.54**	**87**	PG		**Pg**	**11 09 55.8**		**+0.1**
GCAM				SG		**Sb**	**11 10 03.9**		**+0.3**
GCAM	**G?zelcaml?**	**0.54**	**87**	*i* P		**Pg**	**11 09 55.8**		**+0.1**
GCAM				*i* S		**Sg**	**11 10 02.8**		**-0.1**
URLA	**Izmir**	**0.69**	**3**	PG		**Pg**	**11 09 58.2**		**-0.4**
URLA				SG		**Sb**	**11 10 09.1**		**+1.1**
URLA	**Izmir**	**0.69**	**3**	*i* P		**Pg**	**11 09 58.2**		**-0.4**
URLA				*i* S		**Sb**	**11 10 08.7**		**+0.7**
URLA				IAML			11 10 11.0		
	comp=E,4µm,0.4s								
URLA				IAML			11 10 12.0		
	comp=N,3µm,0.5s								
BLCB	**Balcova**	**0.81**	**28**	P		**Pb**	**11 10 00.4**		**-0.3**
BLCB				S		**Sn**	**11 10 12.7**		**-0.8**
BLCB	**Balcova**	**0.81**	**28**	PG		**Pb**	**11 10 00.4**		**-0.3**
CHOS	**Chios island**	**0.82**	**331**	P		**Pb**	**11 10 00.5**		**-0.5**
CHOS				S		**Sb**	**11 10 12.1**		**+0.4**
	comp=N,3µm,0.4s								
CHOS	**Chios island**	**0.82**	**331**	P		**Pb**	**11 10 00.7**		**-0.2**
CHOS				S		**Sb**	**11 10 12.4**		**+0.7**
CHOS				AML		AML	11 10 15.9		
	comp=E,5615µm,0.2s								
CHOS				AML		AML	11 10 16.5		
	comp=N,4112µm,0.4s								
CHOS	**Chios island**	**0.82**	**331**	PG		**Pb**	**11 10 00.4**		**-0.5**
BODT	**Bodrum**	**0.86**	**135**	P		**Pb**	**11 10 01.4**		**-0.1**
BODT	**Bodrum**	**0.86**	**135**	PG		**Pb**	**11 10 01.4**		**-0.1**
KRBN	**Karaburun**	**0.92**	**360**	PG		**Pb**	**11 10 02.4**		**-0.2**
BDRM	**Kayabasi**	**0.93**	**130**	*i* P		**Pn**	**11 10 03.6**		**+0.1**
BDRM				*i* S		**Sb**	**11 10 14.4**		**-0.5**
KOSK	**Kos Island**	**0.98**	**160**	P		**Pg**	**11 10 03.8**		**-0.2**
KOSK	**Kos Island**	**0.98**	**160**	PG		**Pn**	**11 10 04.0**		**-0.1**
AMGA	**Amorgos Island**	**0.99**	**212**	P		**Pb**	**11 10 03.2**		**-0.7**
AMGA				S		**Sg**	**11 10 17.3**		**0.0**
	comp=N,2µm,0.3s								
AMGA	**Amorgos Island**	**0.99**	**212**	P		**Pb**	**11 10 03.3**		**-0.5**
AMGA				S		**Sb**	**11 10 16.6**		**-0.1**
AMGA				AML		AML	11 10 22.2		
	comp=E,4519µm,0.3s								
AMGA				AML		AML	11 10 23.0		
	comp=N,3458µm,0.2s								
APE	**Apeiranthos**	**1.01**	**234**	P		**Pb**	**11 10 04.1**		**-0.1**
APE				S		**Sn**	**11 10 18.1**		**-0.5**
	comp=N,1µm,0.4s								
APE	**Apeiranthos**	**1.01**	**234**	P		**Pb**	**11 10 04.2**		**-0.1**
APE				S		**Sb**	**11 10 17.0**		**-0.4**
APE				AML		AML	11 10 21.6		
	comp=N,2298µm,0.4s								
APE				AML		AML	11 10 22.1		
	comp=E,2530µm,0.4s								
APE	**Apeiranthos**	**1.01**	**234**	PG		**Pb**	**11 10 04.2**		**-0.1**
AYDN	**Tasoluk**	**1.05**	**90**	*i* P		**Pg**	**11 10 05.5**		**+0.1**
AYDN				*i* S		**Sg**	**11 10 19.0**		**-0.1**
TNSA	**Tinos**	**1.11**	**264**	P		**Pb**	**11 10 05.5**		**-0.4**
NISR	**Nisiros**	**1.15**	**156**	P		**Pg**	**11 10 07.1**		**-0.2**
PSRA	**Psara**	**1.17**	**318**	P		**Pg**	**11 10 07.4**		**-0.2**
PSRA				S		**Sn**	**11 10 22.2**		**-0.1**
DAT	**Datca**	**1.25**	**139**	P		**Pn**	**11 10 07.9**		**0.0**
DAT				S		**Sg**	**11 10 25.9**		**+0.5**
DAT	**Datca**	**1.25**	**139**	PN		**Pn**	**11 10 07.7**		**-0.2**
DAT	**Datca**	**1.25**	**139**	*i* P		**Pn**	**11 10 07.6**		**-0.3**
DAT				*i* S		**Sb**	**11 10 24.1**		**0.0**
ZEDA	**zmir-Bergama**	**1.35**	**17**	*i* P		**Pn**	**11 10 09.3**		**0.0**
ZEDA				*i* S		**Sb**	**11 10 27.3**		**+0.1**
IOSP	**Ios island**	**1.39**	**227**	P		**Pn**	**11 10 09.1**		**-0.6**
IOSP				S		**Sb**	**11 10 28.5**		**+0.5**
	comp=E,2µm,0.2s								
IOSP	**Ios island**	**1.39**	**227**	P		**Pn**	**11 10 09.2**		**-0.6**
IOSP				AML		AML	11 10 32.5		
	comp=N,4472µm,0.4s								
IOSP				AML		AML	11 10 35.6		
	comp=E,3987µm,0.3s								
DKL	**Dikili**	**1.42**	**11**	PN		**Pb**	**11 10 10.8**		**-0.4**
ANAF	**Anafi Island**	**1.46**	**206**	P		**Pn**	**11 10 10.3**		**-0.4**
ANAF				S		**Sb**	**11 10 30.5**		**+0.5**
	comp=E,4µm,0.4s								
ANAF	**Anafi Island**	**1.46**	**206**	P		**Pn**	**11 10 10.2**		**-0.4**
ANAF				AML		AML	11 10 36.7		
	comp=E,6994µm,0.4s								
ANAF				AML		AML	11 10 37.1		
	comp=N,7438µm,0.4s								
YER	**Yerkesik**	**1.48**	**111**	P		**Pb**	**11 10 11.7**		**-0.4**
YER	**Yerkesik**	**1.48**	**111**	PN		**Pb**	**11 10 11.7**		**-0.4**
CMBO	**Columbo, Santo**	**1.51**	**218**	P		**Pb**	**11 10 12.9**		**+0.2**
CMBO				AML		AML	11 10 40.8		
	comp=E,5854µm,0.5s								
CMBO				AML		AML	11 10 43.2		
	comp=N,4062µm,0.5s								
AKHS	**Akhisar**	**1.56**	**39**	*i* P		**Pg**	**11 10 14.7**		**-0.4**
AKHS				*i* S		**Sg**	**11 10 34.5**		**-0.8**
SANT	**Santorini**	**1.57**	**214**	P		**Pn**	**11 10 12.3**		**0.0**
SANT	**Santorini**	**1.57**	**214**	P		**Pn**	**11 10 12.1**		**-0.1**
SANT				AML		AML	11 10 42.3		
	comp=E,1962µm,0.4s								
SANT				AML		AML	11 10 42.9		
	comp=N,824µm,0.4s								
SANT	**Santorini**	**1.57**	**214**	PN		**Pn**	**11 10 12.2**		**0.0**
SAP3	**Santorini-Thir**	**1.57**	**218**	P		**Pb**	**11 10 13.1**		**-0.5**
PRK	**Paraskevi**	**1.59**	**352**	P		**Pn**	**11 10 12.4**		**-0.1**
PRK				S		**Sb**	**11 10 34.0**		**+0.2**
	comp=N,2µm,0.8s								
PRK	**Paraskevi**	**1.59**	**352**	P		**Pb**	**11 10 13.7**		**-0.3**
PRK				AML		AML	11 10 41.5		
	comp=E,5478µm,0.7s								
PRK				AML		AML	11 10 44.2		
	comp=N,3240µm,0.8s								
SAP1	**Santorini-Akro**	**1.61**	**216**	P		**Pb**	**11 10 14.7**		**+0.3**
TURN	**Turunc**	**1.62**	**123**	PN		**Pn**	**11 10 13.0**		**-2.6**
TURN	**Turunc**	**1.62**	**123**	*i* P		**Pn**	**11 10 13.7**		**-2.0**
TURN				*i* S		**Sn**	**11 10 36.2**		**-2.2**
SIGR	**SIGRI**	**1.63**	**341**	P		**Pn**	**11 10 12.8**		**-0.3**
SIGR				S		**Sb**	**11 10 35.2**		**+0.1**
	comp=N,600nm,0.4s								
SIGR	**SIGRI**	**1.63**	**341**	P		**Pn**	**11 10 13.0**		**-0.1**
SIGR	**SIGRI**	**1.63**	**341**	PN		**Pn**	**11 10 13.0**		**-0.1**
AYVA	**Ayvalik**	**1.64**	**4**	*i* P		**Pg**	**11 10 15.7**		**-0.8**
AYVA				*i* S		**Sg**	**11 10 37.0**		**-0.8**
AYVA				IAML			11 10 42.0		
	comp=N,556nm,0.4s								
KARY	**Karystos**	**1.72**	**283**	P		**Pn**	**11 10 14.3**		**0.0**
KARY				S		**Sb**	**11 10 36.7**		**-0.8**
	comp=N,210nm,0.3s								
KARY	**Karystos**	**1.72**	**283**	P		**Pn**	**11 10 14.2**		**-0.1**
KARY				AML		AML	11 10 41.9		
	comp=E,405µm,0.3s								
KARY				AML		AML	11 10 41.9		
	comp=N,429µm,0.3s								
SERI	**Serifos**	**1.73**	**253**	P		**Pn**	**11 10 13.9**		**-0.6**
SERI				S		**Sb**	**11 10 36.9**		**-1.0**
	comp=N,320nm,0.5s								
SERI	**Serifos**	**1.73**	**253**	P		**Pn**	**11 10 13.9**		**-0.6**
SERI				AML		AML	11 10 40.0		
	comp=N,738µm,0.7s								
SERI				AML		AML	11 10 42.5		
	comp=E,555µm,0.3s								
MANT	**Manisa**	**1.78**	**62**	*i* P		**Pg**	**11 10 19.1**		**-0.1**
MANT				*i* S		**Sn**	**11 10 37.6**		**-0.2**
KULA	**Kula-Manisa**	**1.86**	**63**	P		**Pn**	**11 10 16.7**		**+0.3**
KULA	**Kula-Manisa**	**1.86**	**63**	PN		**Pn**	**11 10 16.6**		**+0.2**
DALY	**Dalyan (Mula)**	**1.88**	**116**	PN		**Pn**	**11 10 17.3**		**+0.8**
DALY	**Dalyan (Mula)**	**1.88**	**116**	*i* P		**Pg**	**11 10 20.7**		**-0.4**
DALY				*i* S		**Sb**	**11 10 42.4**		**+0.2**
TAVA	**DENIZLI_Tavas**	**1.88**	**96**	*i* P		**Pb**	**11 10 20.1**		**+1.0**
TAVA				*i* S		**Sb**	**11 10 43.9**		**+1.4**
ARG	**Arkhangelos**	**1.92**	**139**	P		**Pn**	**11 10 17.5**		**+0.4**
ARG				S		**Sb**	**11 10 42.7**		**-0.8**
	comp=E,318nm,1.3s								
ARG	**Arkhangelos**	**1.92**	**139**	P		**Pn**	**11 10 17.5**		**+0.4**
ARG				AML		AML	11 10 54.2		
	comp=E,482µm,0.4s								
ARG				AML		AML	11 10 55.8		
	comp=N,700µm,1.2s								
ARG	**Arkhangelos**	**1.92**	**139**	PN		**Pn**	**11 10 16.8**		**-0.3**
STEP	**BALIKESIR_Sava**	**1.93**	**28**	*i* P		**Pg**	**11 10 22.1**		**0.0**
STEP				*i* S		**Sg**	**11 10 46.0**		**-1.2**
STEP				IAML			11 10 53.0		
	comp=N,406nm,0.9s								
STEP				IAML			11 10 56.0		
	comp=E,393nm,0.3s								
MHLA	**Plaka, Milos I**	**1.94**	**242**	P		**Pn**	**11 10 17.4**		**0.0**
MHLA				AML		AML	11 10 49.6		
	comp=E,1694µm,0.6s								
MHLA				AML		AML	11 10 50.6		
	comp=N,2929µm,0.6s								
MHLO	**Agia Marina, M**	**1.98**	**241**	P		**Pn**	**11 10 17.7**		**-0.2**
BAYC	**CANAKKALE_Bayr**	**2.07**	**360**	*i* P		**Pn**	**11 10 18.9**		**-0.2**
BAYC				*i* S		**Sn**	**11 10 43.3**		**-1.2**
DION	**Dionisos Attik**	**2.12**	**282**	P		**Pn**	**11 10 20.1**		**+0.3**
DION	**Dionisos Attik**	**2.12**	**282**	P		**Pn**	**11 10 20.1**		**+0.3**
KYMI	**Kymi, Euboea I**	**2.16**	**297**	P		**Pn**	**11 10 20.6**		**+0.2**
KYMI	**Kymi, Euboea I**	**2.16**	**297**	P		**Pn**	**11 10 21.2**		**+0.8**
PTL	**Penteli**	**2.16**	**281**	P		**Pn**	**11 10 20.1**		**-0.4**
PTL				S		**Sn**	**11 10 47.9**		**+0.9**
	comp=N,205nm,0.5s								
PTL	**Penteli**	**2.16**	**281**	P		**Pn**	**11 10 20.5**		**+0.1**
PTL				AML		AML	11 10 56.5		
	comp=E,413µm,0.5s								
PTL				AML		AML	11 10 56.9		
	comp=N,389µm,0.4s								
KARP	**Karpathos**	**2.18**	**167**	P		**Pn**	**11 10 21.1**		**+0.5**
KARP	**Karpathos**	**2.18**	**167**	P		**Pn**	**11 10 20.8**		**+0.2**
KARP	**Karpathos**	**2.18**	**167**	PN		**Pn**	**11 10 20.8**		**+0.2**
VLY	**Voula,Athens**	**2.20**	**276**	P		**Pn**	**11 10 21.3**		**+0.4**
VLY				S		**Sn**	**11 10 48.0**		**+0.3**
	comp=N,310nm,0.5s								
VLY	**Voula,Athens**	**2.20**	**276**	P		**Pn**	**11 10 21.2**		**+0.4**
VLY				AML		AML	11 10 58.9		
	comp=N,490µm,0.5s								
VLY				AML		AML	11 10 59.7		
	comp=E,741µm,0.5s								
USAK	**Uak-Merkez**	**2.20**	**61**	*i* P		**Pg**	**11 10 27.0**		**-0.3**
USAK				*i* S		**Sb**	**11 10 51.3**		**-0.3**
BOZC	**Bozcaada**	**2.20**	**350**	*i* P		**Pn**	**11 10 21.2**		**+0.2**
BOZC				*i* S		**Sb**	**11 10 53.3**		**+1.8**
ATHU	**Athens Univers**	**2.21**	**278**	P		**Pn**	**11 10 21.5**		**+0.4**
ATHU	**Athens Univers**	**2.21**	**278**	P		**Pn**	**11 10 21.1**		**0.0**
BALY	**Balya**	**2.23**	**22**	*i* P		**Pn**	**11 10 21.4**		**+0.1**
BALY				*i* S		**Sn**	**11 10 49.1**		**+0.6**
BALY				IAML			11 11 00.0		
	comp=N,382nm,0.4s								
BALY				IAML			11 11 02.0		
	comp=E,257nm,0.4s								
ATH	**Athens Observa**	**2.27**	**278**	P		**Pn**	**11 10 21.4**		**-0.5**
ATH				S		**Sn**	**11 10 50.1**		**+0.6**
	comp=E,278nm,0.5s								
FETY	**Fethiye**	**2.27**	**116**	*i* P		**Pb**	**11 10 23.8**		**-1.8**
FETY				*i* S		**Sb**	**11 10 51.8**		**-1.7**
GOLH	**Golhisar**	**2.43**	**99**	*i* P		**Pn**	**11 10 25.4**		**+1.2**
GOLH				*i* S		**Sg**	**11 11 07.6**		**+4.4**
DURS	**Dursunbey**	**2.44**	**37**	*i* P		**Pn**	**11 10 24.8**		**+0.4**
DURS				*i* S		**Sb**	**11 10 58.6**		**+0.1**
LIA	**Limnos Island**	**2.47**	**335**	P		**Pn**	**11 10 25.1**		**+0.5**
LIA	**Limnos Island**	**2.47**	**335**	P		**Pn**	**11 10 25.2**		**+0.6**
NPS	**Neapolis**	**2.52**	**198**	P		**Pn**	**11 10 25.7**		**+0.3**
NPS	**Neapolis**	**2.52**	**198**	P		**Pn**	**11 10 26.5**		**+1.1**
ZKR	**Zakros**	**2.57**	**186**	P		**Pn**	**11 10 26.2**		**+0.2**
ZKR	**Zakros**	**2.57**	**186**	P		**Pn**	**11 10 26.6**		**+0.6**
AOS	**Alonnisos**	**2.58**	**306**	P		**Pn**	**11 10 26.2**		**0.0**
AOS	**Alonnisos**	**2.58**	**306**	P		**Pn**	**11 10 26.8**		**+0.7**
VILL	**Villia**	**2.61**	**282**	P		**Pn**	**11 10 26.8**		**+0.1**
DID	**Didima**	**2.64**	**267**	P		**Pn**	**11 10 27.2**		**+0.2**
DID	**Didima**	**2.64**	**267**	P		**Pn**	**11 10 27.0**		**0.0**
LAST	**Lasithi**	**2.65**	**199**	P		**Pn**	**11 10 27.3**		**+0.1**
LAST	**Lasithi**	**2.65**	**199**	P		**Pn**	**11 10 28.0**		**+0.8**
VIL2	**Platees**	**2.66**	**283**	P		**Pn**	**11 10 27.2**		**0.0**
VIL2				AML		AML	11 11 13.3		
	comp=N,258µm,0.5s								
VIL2				AML		AML	11 11 15.6		
	comp=E,320µm,0.5s								
GDZ	**Gediz**	**2.70**	**57**	*i* P		**Pg**	**11 10 35.9**		**-0.9**
GDZ				*i* S		**Sb**	**11 11 08.1**		**+2.2**
IDI	**Anoyia**	**2.73**	**210**	P		**Pn**	**11 10 28.1**		**-0.2**
IDI	**Anoyia**	**2.73**	**210**	P		**Pn**	**11 10 27.3**		**-1.0**
SKIA	**Skiathos**	**2.85**	**303**	P		**Pn**	**11 10 29.9**		**0.0**
SKIA	**Skiathos**	**2.85**	**303**	P		**Pn**	**11 10 30.4**		**+0.5**
LTK	**Loutraki**	**2.86**	**278**	P		**Pn**	**11 10 29.8**		**-0.3**
LTK	**Loutraki**	**2.86**	**278**	P		**Pn**	**11 10 30.5**		**+0.4**
SMTH	**Samothraki Isl**	**2.91**	**344**	P		**Pn**	**11 10 30.8**		**+0.1**
SMTH	**Samothraki Isl**	**2.91**	**344**	P		**Pn**	**11 10 30.7**		**0.0**
VAM	**Vamos**	**2.95**	**221**	P		**Pn**	**11 10 31.7**		**+0.4**
VAM				S		**Sn**	**11 11 08.0**		**+1.6**
	comp=E,205nm,0.5s								
SIVA	**Sivas**	**3.00**	**209**	P		**Pn**	**11 10 33.9**		**+2.0**
IMMV	**Iera Moni Meta**	**3.03**	**224**	P		**Pn**	**11 10 35.0**		**+2.7**
IMMV				AML		AML	11 11 29.1		
	comp=N,632µm,0.6s								
IMMV				AML		AML	11 11 30.8		
	comp=E,544µm,0.8s								
VLI	**Veliai**	**3.04**	**253**	P		**Pn**	**11 10 32.7**		**+0.2**
VLI	**Veliai**	**3.04**	**253**	P		**Pn**	**11 10 32.4**		**-0.2**
KTHA	**Kythira Island**	**3.13**	**244**	P		**Pn**	**11 10 33.9**		**+0.1**
KTHA	**Kythira Island**	**3.13**	**244**	P		**Pn**	**11 10 33.9**		**+0.1**
ANKY	**Antikythira Is**	**3.17**	**236**	P		**Pn**	**11 10 34.9**		**+0.6**
ANKY	**Antikythira Is**	**3.17**	**236**	P		**Pn**	**11 10 33.5**		**-0.8**
ALN	**Alexandroupoli**	**3.25**	**353**	P		**Pn**	**11 10 35.5**		**+0.2**
ALN	**Alexandroupoli**	**3.25**	**353**	P		**Pn**	**11 10 35.8**		**+0.5**
ALN				AML		AML	11 11 30.7		
	comp=N,138µm,0.6s								
ALN				AML		AML	11 11 31.0		
	comp=E,192µm,0.4s								
THAS	**Thassos island**	**3.26**	**335**	P		**Pn**	**11 10 35.6**		**+0.1**
THAS	**Thassos island**	**3.26**	**335**	P		**Pn**	**11 10 35.6**		**+0.1**
GUR	**Goura**	**3.35**	**276**	P		**Pn**	**11 10 37.5**		**+0.7**
RDO	**Rodhopi**	**3.56**	**348**	P		**Pn**	**11 10 40.2**		**+0.6**
RDO	**Rodhopi**	**3.56**	**348**	P		**Pn**	**11 10 40.0**		**+0.4**
ANX	**Ano Chora**	**3.77**	**286**	P		**Pn**	**11 10 43.9**		**+1.3**

IDC 24 11:10:31.5±1.6, 3.30N×124.97E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/47, mbtmp3.8/5, Error ellipse: s-maj=110.4km s-min=22.3km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
FITZ	**Fitzroy Crossi**	**21.27**	**178**	P		P	P	11 15 21.3	+1.6
	2.7nm,0.4s,baz=6.1,slow=9.9,SNR=30								
WRA	**Warramunga Arr**	**24.87**	**159**	P		P	P	11 15 55.8	-0.3
	1.1nm,0.5s,baz=333,slow=11,SNR=36								
ASAR	**Alice Springs**	**28.18**	**162**	P		P	P	11 16 25.5	-0.5
	0.4nm,0.5s,baz=340,slow=7.0,SNR=21								
STKA	**Stephens Creek**	**38.39**	**157**	P		P	P	11 17 54.3	-0.4
	0.7nm,0.3s,baz=334,slow=7.7,SNR=5.2								
MKAR	**Makanchi Array**	**56.92**	**326**	P		P	P	11 20 18.6	0.0
	0.4nm,0.3s,baz=122,slow=7.4,SNR=9.1								

*NEIC **24** 11:15:51.2±1.9, 5.49S±0.06×147.08E±0.07, h208km±4km, mb4.6/62, Error ellipse: s-maj=10.6km s-min=9.2km az=79.0*
*DJA **24** 11:15:51.3±0.4, 5.45S×147.13E, h212km±5km, mb4.0/21, mb1 4.1/27, mb1mx4.0/44, mbtmp4.6/27, Error ellipse: s-maj=12.6km s-min=7.4km az=99.0*

ISC 24 11:15:50.1±0.3, 5.50S±0.04×147.07E±0.05, h195km, n159, sσ1.931/173, mb4.6/53, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PMG	**Port Moresby**	**3.88**	**179**	P		**Pn**	**11 16 51.0**		**+0.7**
	64nm,0.3s,baz=48,slow=8.2,SNR=172								
PMG				S		**Sn**	**11 17 34.3**		**-3.3**
	62nm,0.3s,baz=99,slow=19,SNR=8.4								
PMG	**Port Moresby**	**3.88**	**179**			**Pn**	**11 16 51.0**		**+0.7**
PMG					Sn	**Sn**	**11 17 35.6**		**-1.9**
KRVT	**Keravat (AS076**	**5.08**	**77**	P		**Pn**	**11 17 06.3**		**+0.9**
	2.2nm,0.3s,baz=100,slow=6.6,SNR=22								
RABL	**Rabaul**	**5.24**	**76**			**Pn**	**11 17 08.4**		**+0.9**
JAY	**Jayapura**	**7.00**	**295**	P		**Pn**	**11 17 30.9**		**+0.5**
	1.6nm,0.3s,baz=139,slow=2.9,SNR=24								
JAY				S		**Sn**	**11 18 45.5**		**-4.5**
	2.8nm,0.3s,baz=176,slow=20,SNR=4.0								
JAY	**Jayapura**	**7.00**	**295**	P		**Pn**	**11 17 30.8**		**+0.4**
GENI	**Genyem**	**7.46**	**292**	P		**Pn**	**11 17 36.6**		**+0.3**
	0.7nm69nm,1.1s								
**

JCJ	**Chichijima**	**32.74**	**352**	P	**P**	**11 22 04.5**	**-0.1**
JCJ				IAmb	IAmb	11 22 07.0	
	comp=Z,23nm,1.0s						
MEEK	**Meekatharra**	**34.33**	**229**	P	**P**	**11 22 19.0**	**+0.6**
	baz=34,SNR=8.1						
KMBL	**Kambalda**	**34.93**	**219**	P	**P**	**11 22 23.6**	**+0.2**
	baz=35						
GIRL	**Giralia**	**35.98**	**238**	P	**P**	**11 22 34.3**	**+1.8**
MORW	**Morawa**	**37.55**	**228**	P	**P**	**11 22 46.2**	**+0.5**
	baz=38,SNR=4.6						
MORW	**Morawa**	**37.55**	**228**	P	**P**	**11 22 46.1**	**+0.4**
MORW				IAmb	IAmb	11 22 47.1	
	comp=Z,21nm,1.4s						
YOJ	**Yonaguni jima**	**37.89**	**323**	P	**P**	**11 22 49.6**	**+1.1**
YOJ				IAmb	IAmb	11 22 58.7	
	comp=Z,17nm,1.0s						
TPUB	**Ta-pu**	**38.55**	**319**	P	**P**	**11 22 53.8**	**-0.3**
YHNB	**Yeheng**	**39.05**	**321**	P	**P**	**11 22 59.4**	**+1.1**
YHNB				IAmb	IAmb	11 23 01.0	
	comp=Z,23nm,1.2s						
JNU	**Nakatsue**	**41.37**	**339**	P	**P**	**11 23 16.7**	**-0.4**
	comp=Z,5.7nm,0.8s,baz=233,slow=2.6,SNR=3.7						
JNU	**Nakatsue**	**41.37**	**339**	P	**P**	**11 23 16.1**	**-1.0**
JNU				IAmb	IAmb	11 23 33.0	
	comp=Z,18nm,1.2s						
QRZ	**Quartz Range**	**41.92**	**151**	P	**P**	**11 23 22.8**	**+1.2**
QRZ				IAmb	IAmb	11 23 27.5	
	comp=Z,36nm,1.3s						
MJAR	**Matsushiro Arr**	**42.63**	**349**	P	**P**	**11 23 26.2**	**-1.1**
	comp=Z,5.4nm,1.1s,baz=168,slow=6.9,SNR=8.2						
MJAR				PcP	**PcP**	**11 25 13.3**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=198,slow=5.2,SNR=4.9						
MAT	**Matsushiro**	**42.63**	**349**	P	**P**	**11 23 26.6**	**-0.7**
BFZ	**Birch Farm**	**43.72**	**148**	P	**P**	**11 23 36.7**	**+0.8**
WHZ	**Wether Hill Ro**	**44.14**	**159**	P	**P**	**11 23 40.6**	**+1.4**
WHZ				IAmb	IAmb	11 23 52.7	
	comp=Z,21nm,1.4s						
NJ2	**Nanjing**	**46.00**	**326**	*eP*	**P**	**11 23 55.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**46.31**	**339**	P	**P**	**11 23 56.5**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=151,slow=8.6,SNR=17						
KSRS				pP	**pwP**	**11 24 42.0**	**+1.2**
	comp=Z,2.0nm,1.1s,baz=162,slow=9.5,SNR=2.7						
KSRS				PcP	**PcP**	**11 25 28.1**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=222,slow=1.7,SNR=5.2						
WHN	**Wuhan**	**47.59**	**321**	P	**P**	**11 24 07.5**	**+1.1**
USRK	**Ussuriysk Ar.**	**51.30**	**346**	P	**P**	**11 24 34.6**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=191,slow=6.8,SNR=3.0						
XAN	**Xi'an**	**53.34**	**320**	P	**P**	**11 24 49.5**	**0.0**
XAN				pP	pP	11 25 12.3	-20
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KLR	**Kul'dur**	**56.12**	**348**	P	**P**	**11 25 08.8**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=135,slow=5.7,SNR=3.2						
KLR				PcP	**PcP**	**11 26 03.8**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=181,slow=12,SNR=2.0						
HHC	**Hu-ho-hao-te**	**56.44**	**328**	*eP*	**P**	**11 25 13.6**	**+1.9**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,2μm,7.5s						
LZH	**Lanzhou**	**57.88**	**319**	⇑P	**P**	**11 25 23.8**	**+1.9**
LZH				pP	pP	11 26 04.0	-1.9
LZH				sP	sP	11 26 30.8	+3.8
LZH				PP	**PP**	**11 27 36.3**	**+3.8**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,85nm,7.6s						
PETK	**Petropavlovsk-**	**59.08**	**7**	P	**P**	**11 25 29.7**	**+0.1**
	comp=Z,8.1nm,0.9s,baz=188,slow=6.6,SNR=7.8						
SMY	**Shemya**	**62.37**	**18**	P	**P**	**11 25 53.5**	**+1.6**
GTA	**Gaotai**	**62.40**	**320**	*eP*	**P**	**11 25 53.1**	**+0.6**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SONM	**Songino Array**	**64.00**	**331**	P	**P**	**11 26 03.0**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=153,slow=6.4,SNR=15						
SONM				pP	**pwP**	**11 26 52.2**	**+2.2**
	comp=Z,0.9nm,0.8s,baz=158,slow=6.7,SNR=2.3						
MA2	**Magadan**	**64.94**	**2**	P	**P**	**11 26 08.6**	**+0.1**
	comp=Z,7.4nm,0.8s,baz=116,slow=9.3,SNR=4.8						
MA2	**Magadan**	**64.94**	**2**	P	**P**	**11 26 08.9**	**+0.4**
MA2				IAmb	IAmb	11 26 09.7	
	comp=Z,8.5nm,0.9s						
CASY	**Casey**	**65.75**	**195**	P	**P**	**11 26 13.3**	**-0.4**
ATKA	**Atka Island**	**66.24**	**25**	P	**P**	**11 26 15.9**	**-1.1**
YAK	**Yakutsk**	**68.66**	**351**	P	**P**	**11 26 35.0**	**+3.1**
VNDA	**Vanda**	**72.41**	**177**	P	**P**	**11 26 55.0**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=332,slow=6.8,SNR=36						
VNDA	**Vanda**	**72.41**	**177**	P	**P**	**11 26 55.0**	**+0.6**
WMQ	**Urumqi**	**72.46**	**319**	*eP*	**P**	**11 26 56.8**	**+1.4**
WMQ				LR	LR		
	comp=N,1μm,20.1s						
WMQ				LR	LR		
	comp=E,660nm,18.7s						
WMQ				LR	LR		
	comp=Z,550nm,18.7s						
MK31	**Makanchi Array**	**77.15**	**320**	P	**P**	**11 27 22.9**	**+0.7**
MKAR	**Makanchi Array**	**77.15**	**320**	P	**P**	**11 27 21.9**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=100,slow=6.7,SNR=14						
MKAR				pP	**pwP**	**11 28 11.1**	**+0.2**
	comp=Z,3.5nm,1.1s,baz=115,slow=4.7,SNR=6.0						
MAKZ	**Makanchi**	**77.36**	**320**	P	**P**	**11 27 23.6**	**+0.2**
ZAA0	**Zalesovo Array**	**78.62**	**328**	P	**P**	**11 27 28.9**	**-1.2**
ZALV	**Zalesovo Beam**	**78.62**	**328**	P	**P**	**11 27 28.4**	**-1.7**
	comp=Z,4.7nm,0.7s,baz=119,slow=6.6,SNR=13						
OHAK	**Old Harbor**	**78.83**	**29**	P	**P**	**11 27 33.0**	**+1.9**
OHAK				IAmb	IAmb	11 27 39.9	
	comp=Z,19nm,1.4s						
CNPM	**China Poot**	**80.87**	**27**	P	**P**	**11 27 42.4**	**+0.2**
PMR	**Palmer**	**82.73**	**26**	P	**P**	**11 27 51.0**	**-0.7**
MAW	**Mawson**	**82.73**	**203**	P	**P**	**11 27 51.3**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=95,slow=7.4,SNR=8.0						
MAW	**Mawson**	**82.73**	**203**	P	**P**	**11 27 51.8**	**+0.1**
SML	**Sawmill**	**83.17**	**26**	P	**P**	**11 27 53.9**	**-0.2**
SML				IAmb	IAmb	11 27 55.2	
	comp=Z,11nm,0.9s						
RND	**Reindeer**	**83.64**	**24**	P	**P**	**11 27 55.8**	**-0.7**
DHY	**Denali Highway**	**84.10**	**25**	P	**P**	**11 27 58.9**	**0.0**
QSPA	**South Pole Qui**	**84.47**	**180**	P	**P**	**11 28 00.3**	**-0.4**
QSPA				IAmb	IAmb	11 28 01.3	
	comp=Z,7.5nm,0.9s						
CCB	**Clear Creek Bu**	**84.59**	**23**	P	**P**	**11 27 59.8**	**-1.3**
NRIK	**Noril'sk**	**84.82**	**342**	P	**P**	**11 28 01.6**	**-0.6**
	comp=Z,5.5nm,0.7s,baz=83,slow=2.6,SNR=6.3						
IL31		**85.00**	**23**	P	**P**	**11 28 01.2**	**-1.9**
ILAR	**Eielson Array**	**85.00**	**23**	P	**P**	**11 28 01.4**	**-1.8**
	comp=Z,3.0nm,0.7s,baz=252,slow=4.9,SNR=35						
VRDI	**Verde Repeater**	**85.09**	**27**	P	**P**	**11 28 03.3**	**-0.7**
DOT	**Dot Lake**	**85.70**	**25**	P	**P**	**11 28 06.3**	**-0.4**
BARN	**Barnard Glacie**	**85.86**	**28**	P	**P**	**11 28 07.7**	**-0.1**
BARN				IAmb	IAmb	11 28 09.6	
	comp=Z,7.3nm,0.8s						
EGAK	**Eagle**	**87.28**	**24**	P	**P**	**11 28 13.9**	**-0.4**
EGAK				IAmb	IAmb	11 28 15.8	
	comp=Z,7.6nm,1.1s						
HYT	**Haines Junctio**	**87.72**	**28**	P	**P**	**11 28 17.2**	**+0.5**
HYT				IAmb	IAmb	11 28 20.3	
	comp=Z,7.3nm,1.1s						
DAWY	**Dawson**	**87.79**	**25**	P	**P**	**11 28 16.3**	**-0.5**
DAWY				IAmb	IAmb	11 28 18.8	
	comp=Z,12nm,1.3s						
ORV	**Oroville**	**94.57**	**51**	P	**P**	**11 28 48.8**	**0.0**
ORV				IAmb	IAmb	11 28 49.8	
	comp=Z,5.5nm,0.9s						
AFDM	**Forest Hills D**	**94.94**	**51**	P	**P**	**11 28 50.6**	**+0.1**
AFDM				IAmb	IAmb	11 28 52.4	
	comp=Z,5.0nm,1.0s						
G08A	**Pilot Rock**	**96.67**	**45**	P	**P**	**11 28 58.6**	**+0.2**
G08A				IAmb	IAmb	11 28 59.5	
	comp=Z,5.2nm,1.2s						
J08A	**Circle Bar Ran**	**96.98**	**47**	P	**P**	**11 29 00.3**	**+0.5**
J08A				IAmb	IAmb	11 29 00.9	
	comp=Z,3.0nm,0.9s						
NVAR	**Mina Array Bea**	**97.01**	**52**	P	**P**	**11 28 59.9**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=260,slow=6.2,SNR=20						
NV11	**Mina Array Sit**	**97.12**	**52**	P	**P**	**11 29 00.5**	**-0.1**
NV11				IAmb	IAmb	11 29 04.1	
	comp=Z,2.4nm,1.1s						
E09A	**Wood Farm, Sta**	**97.25**	**44**	P	Pdif	11 29 01.2	+0.4
E09A				IAmb	IAmb	11 29 02.3	
	comp=Z,8.0nm,0.9s						
BMO	**Blue Mountains**	**97.84**	**46**	P	**P**	**11 29 02.8**	**-0.8**
BMO				IAmb	IAmb	11 29 04.6	
	comp=Z,1.9nm,0.8s						
F10A	**Beach Ranch, E**	**97.89**	**44**	P	Pdif	11 29 03.9	0.0
F10A				IAmb	IAmb	11 29 04.8	
	comp=Z,5.1nm,0.9s						
NEW	**Newport**	**97.94**	**42**	P	Pdif	11 29 04.2	+0.2
NEW				IAmb	IAmb	11 29 05.2	
	comp=Z,3.6nm,0.9s						
PDAR	**Pinedale Array**	**103.53**	**47**	Pdiff	**Pdif**	**11 29 28.9**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=197,slow=1.5,SNR=7.8						
PDAR				PP	**PKiKP**	**11 33 46.7**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=254,slow=6.5,SNR=1.6						
ARCES	**ARCESS Array B**	**105.80**	**342**	Pdiff	**Pdif**	**11 29 36.4**	**-2.0**
	comp=Z,1.3nm,0.8s,baz=42,slow=8.6,SNR=4.7						
S39A	**Bolivar**	**116.62**	**50**	PKPdf	**PKPdf**	**11 34 09.9**	**-1.5**
W39A	**Magazine**	**116.86**	**53**	PKPdf	**PKPdf**	**11 34 10.6**	**-1.3**
U40A	**Yellville**	**117.32**	**52**	PKPdf	**PKPdf**	**11 34 11.7**	**-1.1**
E46A	**Sault Ste Mari**	**119.93**	**39**	PKPdf	**PKPdf**	**11 34 16.0**	**-1.4**
KHC	**Kasperske Hory**	**121.45**	**326**	PKPdf	**PKPdf**	**11 34 20.4**	**0.0**
GERES	**GERESS Array B**	**121.53**	**326**	PKP	**PKPdf**	**11 34 19.6**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=79,slow=1.8,SNR=7.7						
T47A	**Sharon Grove**	**121.57**	**50**		**PKPdf**	**11 34 20.1**	**-0.8**
PLCA	**Paso Flores**	**122.50**	**147**	PKP	**PKPdf**	**11 34 22.1**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=300,slow=1.7,SNR=4.7						
PLCA	**Paso Flores**	**122.50**	**147**	PKPdf	**PKPdf**	**11 34 22.3**	**-0.5**
VLDQ	**Val d'Or**	**123.11**	**34**	PKPdf	**PKPdf**	**11 34 21.5**	**-2.0**
T50A	**Nancy**	**123.27**	**49**	PKPdf	**PKPdf**	**11 34 22.8**	**-1.4**
CIMO	**Cimolais**	**123.59**	**324**	PKPdf	**PKPdf**	**11 34 23.6**	**-1.0**
TKL	**Tuckaleechee C**	**124.55**	**50**	PKPdf	**PKPdf**	**11 34 25.6**	**-1.1**
V52A	**Sevierville**	**124.62**	**50**	PKPdf	**PKPdf**	**11 34 25.4**	**-1.4**
Y52A	**Lilburn**	**124.93**	**52**	PKPdf	**PKPdf**	**11 34 27.0**	**-0.5**
PLVO	**Plevna**	**125.00**	**37**	PKPdf	**PKPdf**	**11 34 26.4**	**-0.9**
WVNY	**West Valley, N**	**125.39**	**41**	PKPdf	**PKPdf**	**11 34 27.1**	**-1.0**
R55A	**Marlinton**	**126.24**	**46**	PKPdf	**PKPdf**	**11 34 29.1**	**-0.8**
J59A	**Piesco**	**127.41**	**37**	PKPdf	**PKPdf**	**11 34 30.8**	**-1.1**
MOQ	**Mont Orford**	**127.65**	**34**	PKPdf	**PKPdf**	**11 34 31.7**	**-0.7**
PQI	**Presque Isle**	**129.05**	**31**	PKPdf	**PKPdf**	**11 34 34.0**	**-0.9**
BATG	**Bathurst New B**	**129.59**	**29**	PKPdf	**PKPdf**	**11 34 35.4**	**-0.5**
LPAZ	**La Paz**	**139.00**	**122**	PKPdf	**PKPdf**	**11 34 50.2**	**-5.0**
SDV	**Santo Domingo**	**142.46**	**83**		**PKPdf**	**11 34 57.6**	**-3.3**
CRPR	**Cabo Rojo, PR**	**144.39**	**67**	PKPdf	**PKPab**	**11 35 01.5**	**-1.1**
TORD	**Torodi Ar. Bea**	**145.03**	**285**	PKPbc	**PKPbc**	**11 35 03.5**	**-1.4**
	comp=Z,2.7nm,0.5s,baz=67,slow=4.0,SNR=32						
TORD				pPKPbc	**pPKPdf**	**11 35 59.0**	**+3.6**
	comp=Z,2.1nm,1.1s,baz=73,slow=4.0,SNR=3.6						
TORD				PP	**PP**	**11 38 21.1**	**-4.5**
	comp=Z,0.9nm,1.0s,baz=43,slow=4.0,SNR=3.2						
GCPR	**Guaynabo City**	**145.23**	**66**	PKPdf	**PKPdf**	**11 35 05.4**	**0.0**
CBYP	**Canovanas**	**145.45**	**66**	PKPdf	**PKPdf**	**11 35 05.1**	**-0.7**
CUPR	**Culebra, Puert**	**145.96**	**65**	PKPbc	**PKPbc**	**11 35 08.1**	**+0.3**
STVI	**Saint Thomas**	**146.24**	**65**	PKPbc	**PKPdf**	**11 35 07.5**	**+0.4**
SMRT	**St. Maarten**	**148.03**	**64**	PKPbc	**PKPbc**	**11 35 12.7**	**-0.8**
DBIC	**Dimbokro**	**152.06**	**274**	PKPbc	**PKPbc**	**11 35 23.0**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=120,slow=8.1,SNR=1.6						
DBIC	**Dimbokro**	**152.06**	**274**	PKPbc	**PKPbc**	**11 35 23.2**	**-0.1**
BDFB	**Brasilia**	**154.23**	**145**	PKPbc	**PKPbc**	**11 35 27.7**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=201,slow=11,SNR=3.6						
BDFB				PKPab	**PKPab**	**11 35 41.1**	**-1.5**
	comp=Z,1.7nm,0.5s,baz=215,slow=9.8,SNR=3.8						

IGQ 24 11:16:02.8±1.7, 4°S±13°×8°1W±°, h10km, M4.5,
Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCRA	**Macar, Loja**	**0.70**	**83**	P	Pg	11 16 16.1	-0.2
MCRA				S	Sg	11 16 24.7	-0.8
ARNL	**Arenillas**	**1.07**	**33**	P	Pg	11 16 20.5	-3.0
GONZ	**Gonzanam**	**1.27**	**80**	P	Pn	11 16 25.3	-1.7
GONZ				S	Sb	11 16 40.7	-2.9
ISPG	**Isla Puna-Puer**	**1.56**	**18**	P	Pn	11 16 30.5	-0.1
MORR	**Playas El Morr**	**1.83**	**10**	P	Pn	11 16 33.0	-1.4
SALI	**Salinas**	**2.29**	**351**	P	Pn	11 16 38.6	-2.1
BOSC	**San Juan Bosco**	**2.51**	**59**	P	Pn	11 16 44.6	+0.7
PPLP	**Puerto Lpez**	**2.90**	**357**	P	Pn	11 16 46.8	-2.3
PPLP				S	Sn	11 17 16.8	-7.3
CAB1	**Cabo Pasado-Ma**	**4.05**	**3**	P	Pn	11 17 03.8	-1.2
CAB1				S	Sn	11 17 49.5	-3.0
CABP	**Cabo Pasado**	**4.05**	**3**	P	Pn	11 17 03.9	-1.1
PIS1	**Pisayambo**	**4.06**	**34**	P	Pn	11 17 06.3	+0.7
PKYU	**Pakayacu**	**4.13**	**48**	P	Pn	11 17 06.7	+0.6
FLFR	**Flavio Alfaro**	**4.15**	**11**	P	Pn	11 17 04.3	-2.1
ILLI	**Illinizas Sur**	**4.19**	**27**	P	Pn	11 17 07.3	0.0
VCES	**Cotopaxi**	**4.28**	**32**	P	Pn	11 17 09.8	+1.3
BREF	**Cotopaxi Volca**	**4.36**	**30**	P	Pn	11 17 11.6	+1.8
TAMB	**Tambo**	**4.38**	**31**	P	Pn	11 17 11.5	+1.5
BTAM	**Cotopaxi Volca**	**4.38**	**31**	P	Pn	11 17 11.4	+1.4
VC1	**Cotopaxi 1**	**4.41**	**31**	P	Pn	11 17 10.1	-0.2
ARDO	**Archidona, Ten**	**4.46**	**40**	P	Pn	11 17 10.8	+0.1
ANTG	**Antisana-Guama**	**4.60**	**31**	P	Pn	11 17 13.8	+0.8
ANTS	**Antisana-Sarah**	**4.65**	**32**	P	Pn	11 17 14.1	+0.4
PINO	**Pino**	**4.74**	**26**	P	Pn	11 17 15.2	+0.3
YANA	**Yana**	**4.79**	**26**	P	Pn	11 17 15.0	-0.5
BV15	**Puerto Quito-O**	**4.80**	**17**	P	Pn	11 17 12.8	-2.6
PAC1	**Pacto, Paraso**	**5.05**	**22**	P	Pn	11 17 16.9	-1.9
CUIC	**Cuicocha-Domo**	**5.25**	**26**	P	Pn	11 17 21.8	-0.1

IDC 24 11:39:18.8±3.2, 8°53S×121°63E, h194km±14km, mb3.8/1,
mb1 3.4/5, mb1mx3.0/42, mbtmp3.8/5, MS4.4/1, Ms1 4.4/1,
ms1mx3.6/38, Error ellipse: s-maj=66.5km
s-min=29.4km az=50.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.61**	**130**	P	Pn	11 40 03.1	-0.4
	17nm,0.3s,baz=79,slow=1.7,SNR=11						
BATI				S	Sn	11 40 39.2	+0.7
	18nm,0.3s,baz=176,slow=21,SNR=7.7						
FITZ	**Fitzroy Crossi**	**10.28**	**158**	P	Pn	11 41 42.6	+0.8
	0.3nm,0.3s,baz=338,slow=9.9,SNR=2.0						
FITZ				S	Sn	11 43 32.9	-3.6
	0.3nm,0.3s,baz=103,slow=12,SNR=2.1						
WRA	**Warramunga Arr**	**16.73**	**134**	P	P	11 43 00.7	-0.6
	0.2nm,0.3s,baz=308,slow=11,SNR=6.7						
WRA				S	S	11 46 02.6	-3.6
	0.1nm,0.3s,baz=310,slow=21,SNR=3.9						
ASAR	**Alice Springs**	**19.10**	**143**	P	P	11 43 27.5	+0.4
	0.4nm,0.3s,baz=329,slow=11,SNR=2.3						
ASAR				S	S	11 46 55.4	+2.0
	0.0nm,0.3s,baz=328,slow=24,SNR=3.0						
STKA	**Stephens Creek**	**29.73**	**144**	P	P	11 45 06.8	-0.2
	1.4nm,0.3s,baz=324,slow=9.0,SNR=11						
HNR	**Honiara**	**37.84**	**94**	LR	LR	12 04 44.1	
	comp=Z,535nm,18.2s,baz=6.5,slow=40						

*IDC **24** 11:40:19.7±0.9, 64°.88N×17°.02W, h0km, mb3.6/7,*
mb1 3.8/12, mb1mx3.6/49, mbtmp3.6/12, ML2.7/4, Error
ellipse: s-maj=27.2km s-min=11.7km az=5.0
*REY **24** 11:40:20.3, 64°.83N×16°.88W, h12km*
ISC 24 11:40:20.8±0.6, 64°.83N±0°.02×16°.90W±0°.02, h10km, n42,
σ1§62/59, mb3.6/7, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.20**	**259**	P	**Pg**	**11 40 24.6**	**-0.5**
	baz=260						
IDYN				S	**Sg**	**11 40 28.2**	**+0.2**
	baz=260						
IKRE	**Kreppuhraun**	**0.23**	**102**	P	**Pg**	**11 40 24.7**	**-0.7**
	baz=102						
IKRE				S	**Sg**	**11 40 28.2**	**-0.5**
	baz=102						
IASK	**Askja**	**0.25**	**26**	P	**Pg**	**11 40 25.1**	**-0.7**
	baz=23						
IASK				S	**Sg**	**11 40 28.8**	**-0.5**
	baz=23						
IMKO	**Mokollar**	**0.28**	**58**	P	**Pg**	**11 40 25.8**	**-0.7**
	baz=56						
IMKO				S	**Sg**	**11 40 30.0**	**-0.3**
	baz=56						
IBJK	**Bruarjokull**	**0.37**	**170**	P	**Pg**	**11 40 27.1**	**-1.0**
	baz=172						
IBJK				S	**Sg**	**11 40 32.5**	**-0.5**
	baz=172						
IVON	**Vonarskard**	**0.40**	**247**	P	**Pg**	**11 40 27.8**	**-0.9**
	baz=248						
IGRF	**Grimsfjall**	**0.45**	**200**	P	**Pg**	**11 40 28.9**	**-0.8**
	baz=202						
ISVH	**V-Sauoahnukur**	**0.50**	**92**	P	**Pg**	**11 40 29.3**	**-1.3**
	baz=92						
ISVH				S	**Sg**	**11 40 36.2**	**-1.0**
	baz=92						
ISVA	**Svartarkot**	**0.53**	**344**	P	**Pg**	**11 40 29.9**	**-1.1**
	baz=343						
ISVA				S	**Sg**	**11 40 37.3**	**-0.8**
	baz=343						
IVOT	**Vottur**	**0.57**	**192**	P	**Pg**	**11 40 30.8**	**-1.1**
	baz=193						
IADA	**Aoalbol**	**0.60**	**71**	P	**Pg**	**11 40 30.8**	**-1.5**
	baz=70						
IADA				S	**Sg**	**11 40 38.8**	**-1.4**
	baz=70						
IHUS	**Husbondi**	**0.63**	**212**	P	**Pg**	**11 40 31.9**	**-1.0**
	baz=212						
IHUS				S	**Sg**	**11 40 41.4**	**+0.2**
	baz=212						
ISKR	**Skrokkalda**	**0.69**	**248**	P	**Pg**	**11 40 32.8**	**-1.4**
	baz=248						
IKSK	**Karasker**	**0.70**	**164**	P	**Pg**	**11 40 32.0**	**-2.2**
	baz=165						
IMEL	**Melhnausar**	**0.75**	**8**	P	**Pg**	**11 40 33.7**	**-1.6**
	baz=7.0						
IMEL				S	**Sg**	**11 40 44.4**	**-0.7**
	baz=7.0						
IJOK	**Jokulheimar**	**0.77**	**228**	P	**Pg**	**11 40 34.0**	**-1.6**
	baz=229						
IJOK				S	**Sg**	**11 40 45.4**	**-0.3**
	baz=229						
IGRS	**Grimsstaoir**	**0.88**	**22**	P	**Pg**	**11 40 35.8**	**-1.9**
	baz=21						
IGRS				S	**Sg**	**11 40 48.1**	**-0.9**
	baz=21						
IKVO	**Krokottuvotn**	**0.89**	**1**	P	**Pg**	**11 40 35.8**	**-2.1**
	baz=360						
IIEY	**Innrieyrar**	**0.91**	**216**	P	**Pg**	**11 40 36.4**	**-1.8**
	baz=217						
IIEY				S	**Sg**	**11 40 49.5**	**-0.6**
	baz=217						
IKAL	**Kalfafell**	**0.95**	**201**	P	**Pg**	**11 40 36.9**	**-2.2**
	baz=202						
IKAL				S	**Sg**	**11 40 50.5**	**-0.9**
	baz=202						
IFAG	**Fagurholsmyri**	**0.96**	**173**	P	**Pg**	**11 40 37.0**	**-2.3**
	baz=174						
IGHA	**Grjothals**	**1.02**	**6**	P	**Pg**	**11 40 37.9**	**-2.5**
	baz=4.9						
ISKI	**Skildingahlsh**	**1.04**	**357**	P	**Pg**	**11 40 38.4**	**-2.5**
	baz=357						
IVAT	**Vatnsfell**	**1.08**	**234**	P	**Pg**	**11 40 39.5**	**-2.1**
	baz=235						
IGRA	**Granastaoir**	**1.13**	**346**	P	**Pb**	**11 40 39.9**	**-2.5**
	baz=345						
IDIM	**Dimmadalss**	**1.14**	**359**	P	**Pb**	**11 40 39.8**	**-2.7**
	baz=359						
IHVE	**Hveravellir**	**1.14**	**273**	P	**Pb**	**11 40 39.7**	**-2.9**
	baz=273						
BORG	**Borgarnes**	**1.90**	**269**	Pn	**Pn**	**11 40 52.0**	**-1.2**
	275nm,0.3s,baz=90,slow=8.1,SNR=280						
BORG				Lg	Lg	11 41 18.7	
	55nm,0.3s,baz=276,slow=22,SNR=11						
SCO	**Scoresbysund**	**5.99**	**344**	*i* P	**Pn**	**11 41 50.4**	**+1.1**
SCO				*i* S	**Sn**	**11 43 02.5**	**+4.6**
SCO	**Scoresbysund**	**5.99**	**344**	*i* S	**Sn**	**11 43 02.5**	**+4.6**
SCO				*e*	**Pn**	**11 41 48.3**	**-1.0**
	baz=154,slow=6.2						
SCO				*i* P	**Pn**	**11 41 50.4**	**+1.1**
SCO				IAML		11 43 11.3	
	comp=Z,2.3nm,0.4s						
EKA	**Eskdalemuir Ar**	**11.71**	**138**	Pn	**Pn**	**11 43 08.4**	**+0.8**
	baz=320,slow=13,SNR=32						
NOA	**NORSAR Array B**	**13.29**	**94**	Pn	**Pn**	**11 43 27.9**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=300,slow=13,SNR=4.5						
HFS	**Hagfors**	**14.80**	**94**	Pn	**Pn**	**11 43 49.3**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=275,slow=21,SNR=2.0						
ARCES	**ARCESS Array B**	**16.81**	**55**	Pn	**Pn**	**11 44 16.3**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=284,slow=12,SNR=2.9						
FINES	**FINESS Array B**	**19.42**	**80**	P	**Pn**	**11 44 47.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=302,slow=4.3,SNR=3.9						
GERES	**GERESS

	baz=229							
IGRS	**Grimsstaoir**	**0.87**	**23**	P		**Pg**	**12 19 38.0**	**-1.9**
	baz=21							
IGRS				S		**Sg**	**12 19 50.3**	**-0.9**
	baz=21							
IKVO	**Krokottuvotn**	**0.87**	**1**	P		**Pg**	**12 19 38.1**	**-2.0**
	baz=360							
IIEY	**Innrieyrar**	**0.91**	**215**	P		**Pg**	**12 19 38.9**	**-1.9**
	baz=217							
IIEY				S		**Sg**	**12 19 51.7**	**-1.0**
	baz=217							
IKAL	**Kalfafell**	**0.96**	**200**	P		**Pg**	**12 19 39.3**	**-2.4**
	baz=202							
IKAL				S		**Sg**	**12 19 52.3**	**-1.8**
	baz=202							
IFAG	**Fagurholsmyri**	**0.98**	**173**	P		**Pg**	**12 19 39.4**	**-2.7**
	baz=174							
IGHA	**Grjothals**	**1.01**	**6**	P		**Pg**	**12 19 40.3**	**-2.3**
	baz=4.8							
ISKI	**Skildingahlsh**	**1.03**	**358**	P		**Pg**	**12 19 40.7**	**-2.4**
	baz=356							
ISKI				S		**Sg**	**12 19 54.8**	**-1.6**
	baz=356							
IVAT	**Vatnsfell**	**1.08**	**233**	P		**Pg**	**12 19 42.0**	**-2.1**
	baz=235							
IVAT				S		**Sg**	**12 19 57.4**	**-0.8**
	baz=235							
IGRA	**Granastaoir**	**1.11**	**346**	P		**Pb**	**12 19 42.2**	**-2.3**
	baz=345							
IGRA				S		**Sg**	**12 19 57.1**	**-1.9**
	baz=345							
IDIM	**Dimmadalss**	**1.12**	**0**	P		**Pb**	**12 19 42.1**	**-2.7**
	baz=359							
IHVE	**Hveravellir**	**1.13**	**272**	P		**Pb**	**12 19 42.1**	**-2.7**
	baz=273							
IHED	**Heoinshofoi**	**1.25**	**353**	P		**Pn**	**12 19 44.2**	**-2.6**
	baz=352							
IHED				S		**Sb**	**12 20 01.1**	**-2.0**
	baz=352							
IGIL	**Gilhagi**	**1.26**	**11**	P		**Pn**	**12 19 44.3**	**-2.6**
	baz=9.6							
IGIL				S		**Sb**	**12 20 01.6**	**-1.8**
	baz=9.6							
BORG	**Borgarnes**	**1.88**	**269**	Pg		**Pn**	**12 19 54.5**	**-1.0**
	175nm,0.3s,baz=89,slow=7.9,SNR=272							
BORG				Lg		Lg	12 20 21.0	
	48nm,0.3s,baz=272,slow=18,SNR=12							
BORG				LR		LR	12 20 25.9	
	comp=Z,240nm,20.1s,baz=102,slow=35							
SCO	**Scoresbysund**	**5.98**	**344**	*i* P		**Pn**	**12 20 52.7**	**+1.1**
SCO				*i* S		**Sn**	**12 21 59.7**	**-0.3**
SCO	**Scoresbysund**	**5.98**	**344**	*i* S		**Sn**	**12 21 59.8**	**-0.3**
SCO				*e*		**Pn**	**12 20 52.0**	**+0.3**
	baz=165,slow=7.9							
SCO				*i* P		**Pn**	**12 20 52.7**	**+1.1**
EKA	**Eskdalemuir Ar**	**11.72**	**138**	Pn		**Pn**	**12 22 10.3**	**-0.1**
	baz=322,slow=13,SNR=26							
NOA	**NORSAR Array B**	**13.30**	**94**	Pn		**Pn**	**12 22 30.4**	**-1.5**
	0.0nm,0.3s,baz=300,slow=13,SNR=3.7							
HFS	**Hagfors**	**14.82**	**94**	Pn		**Pn**	**12 22 52.8**	**+0.3**
	0.1nm,0.3s,baz=307,slow=17,SNR=2.1							
ARCES	**ARCESS Array B**	**16.82**	**55**	Pn		**P**	**12 23 21.5**	**+0.9**
	0.1nm,0.3s,baz=281,slow=11,SNR=2.0							
FINES	**FINESS Array B**	**19.43**	**80**	P		**Pn**	**12 23 52.3**	**+1.7**
	0.1nm,0.3s,baz=278,slow=12,SNR=3.5							
GERES	**GERESS Array B**	**22.83**	**120**	P		**P**	**12 24 26.9**	**+0.7**
	0.2nm,0.3s,baz=263,slow=27,SNR=4.0							
ESDC	**Sonseca Array**	**26.32**	**157**	P		**P**	**12 25 00.1**	**+1.1**
	0.6nm,0.8s,baz=346,slow=11,SNR=3.4							
BRTR	**Keskin Array B**	**38.29**	**106**	P		**P**	**12 26 45.3**	**+1.5**
	0.4nm,0.6s,baz=233,slow=35,SNR=2.5							
MKAR	**Makanchi Array**	**52.42**	**59**	P		**P**	**12 28 38.6**	**+3.2**
	0.2nm,0.6s,baz=340,slow=7.7,SNR=2.1							
TORD	**Torodi Ar. Bea**	**53.21**	**157**	P		**P**	**12 28 41.9**	**+0.4**
	0.4nm,0.7s,baz=334,slow=8.5,SNR=2.6							
PDAR	**Pinedale Array**	**53.33**	**293**	P		**P**	**12 28 43.6**	**+1.2**
	0.5nm,0.8s,baz=335,slow=6.6,SNR=4.6							
MJAR	**Matsushiro Arr**	**77.08**	**20**	P		**P**	**12 31 20.1**	**+3.8**
	0.2nm,0.4s,baz=159,slow=33,SNR=2.5							

TAP ***24*** *12:23:47.7,24.9*4*N×122.3*6*E,h15km,ML3.0,C*
JMA ***24*** *12:23:48.5±0.1,24.8*7*N×122.3*7*E,h41km±3km,M2.4*
ISC 24 12:23:47.0±1.2,24.9*2*N±0.0*3*×122.4*0*E±0.0*2*,h6km±9km**,**
n72,σ0.8*75/137,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWB1	**Santiao Chiao**	**0.38**	**284**	P		**Pb**	**12 23 55.4**	**-0.9**
	baz=281							
TWB1				*i* S		**Sg**	**12 23 59.8**	**+0.3**
	baz=281							
NTC	**Toucheng**	**0.52**	**263**	P		**Pb**	**12 23 57.9**	**-0.6**
	baz=270							
NTC				*e*S		**Sb**	**12 24 06.3**	**0.0**
	baz=270							
TIPB	**Shuangxi**	**0.52**	**276**	P		**Pb**	**12 23 58.2**	**-0.4**
	baz=274							
TIPB				S		**Sb**	**12 24 05.8**	**-0.6**
	baz=274							
NWF	**Wu-fen Shan**	**0.58**	**285**	*e*P		**Pb**	**12 23 59.8**	**+0.2**
	baz=284							
NWF				*e*S		**Sb**	**12 24 07.3**	**-0.9**
	baz=284							
WFSB	**Wu-fen Shan**	**0.58**	**285**	*i* P		**Pb**	**12 23 59.6**	**0.0**
	baz=284							
WFSB				*e*S		**Sb**	**12 24 07.4**	**-0.7**
	baz=284							
TWC	**Suao**	**0.58**	**239**	P		**Pg**	**12 23 58.7**	**+0.4**
	baz=234							
TWC				S		**Sb**	**12 24 07.4**	**-0.8**
	baz=234							
ILA	**Ilan**	**0.61**	**256**	S		**Sb**	**12 24 09.3**	**+0.4**
	baz=240							
JYNG	**Yonagunijimaku**	**0.68**	**133**	P		**Pb**	**12 24 01.6**	**+0.3**
JYNG				S		**Sb**	**12 24 11.4**	**+0.4**
TWE	**Neicheng**	**0.69**	**254**	P		**Pg**	**12 24 00.3**	**0.0**
	baz=241							
TWE				S		**Sb**	**12 24 10.5**	**-0.8**
	baz=241							
ENAH	**Nanao**	**0.71**	**229**	P		**Pg**	**12 24 00.9**	**+0.3**
	baz=226							
ENAH				S		**Sb**	**12 24 11.0**	**-0.7**
	baz=226							
YOJ	**Yonaguni jima**	**0.72**	**129**	P		**Pb**	**12 24 02.3**	**+0.3**
	baz=119							
YOJ				S		**Sb**	**12 24 12.3**	**+0.2**
	baz=119							
YOJ	**Yonaguni jima**	**0.72**	**129**	P		**Pb**	**12 24 02.0**	**0.0**
YOJ				*e*S		**Sg**	**12 24 11.6**	**+1.4**
TWA	**Mucha**	**0.74**	**275**	P		**Pb**	**12 24 02.5**	**+0.1**
	baz=273							
TWA				*e*S		**Sb**	**12 24 12.6**	**-0.2**
	baz=273							
PCYT	**Pengchaiyu**	**0.77**	**337**	*e*P		**Pb**	**12 24 03.5**	**+0.7**
	baz=339							
PCYT				*e*S		**Sb**	**12 24 14.0**	**+0.5**
	baz=339							
ENA	**Nanau**	**0.77**	**231**	P		**Pg**	**12 24 01.9**	**+0.1**
	baz=227							
ENA				S		**Sb**	**12 24 12.9**	**-0.7**
	baz=227							
YM08	**YM08**	**0.78**	**290**	P		**Pb**	**12 24 02.9**	**-0.1**
	baz=289							
YM08				S		**Sb**	**12 24 12.9**	**-1.0**
	baz=289							
YM01	**YM01**	**0.79**	**287**	P		**Pb**	**12 24 03.2**	**+0.1**
	baz=286							
YM01				S		**Sb**	**12 24 13.3**	**-0.7**
	baz=286							
YM05	**YM05**	**0.79**	**288**	P		**Pb**	**12 24 03.3**	**0.0**
	baz=287							
YM05				S		**Sb**	**12 24 13.8**	**-0.5**
	baz=287							
YM10	**YM10**	**0.80**	**288**	P		**Pb**	**12 24 03.4**	**+0.1**
	baz=286							
YM10				S		**Sb**	**12 24 13.4**	**-1.0**
	baz=286							
TAP1	**Taipei**	**0.80**	**279**	*e*S		**Sb**	**12 24 15.0**	**+0.5**
	baz=277							
ENTT	**Nioudou**	**0.80**	**250**	P		**Pg**	**12 24 02.8**	**+0.4**
	baz=247							
ENTT				*e*S		**Sb**	**12 24 14.3**	**-0.3**
	baz=247							
YM04	**YM04**	**0.82**	**287**	P		**Pb**	**12 24 03.3**	**-0.3**
	baz=286							
YM04				S		**Sb**	**12 24 14.1**	**-0.8**
	baz=286							
YM03	**YM03**	**0.82**	**289**	*e*P		**Pb**	**12 24 04.5**	**+0.8**
	baz=275							
YM03				*e*S		**Sb**	**12 24 15.5**	**+0.4**
	baz=275							
NWLT	**Wulai**	**0.82**	**260**	P		**Pb**	**12 24 03.7**	**-0.1**
	baz=258							
NWLT				S		**Sb**	**12 24 15.3**	**+0.2**
	baz=258							
TATO	**Taipei**	**0.83**	**274**	*e*P		**Pb**	**12 24 03.7**	**-0.1**
	baz=272							
TATO				*e*S		**Sb**	**12 24 14.4**	**-0.8**
	baz=272							
ANP	**Anpu**	**0.84**	**289**	P		**Pg**	**12 24 03.1**	**-0.1**
	baz=275							
ANP				S		**Sb**	**12 24 16.1**	**+0.5**
	baz=275							
NDT	**Datong Townshi**	**0.86**	**249**	P		**Pg**	**12 24 04.0**	**+0.4**
	baz=246							
NDT				S		**Sb**	**12 24 16.2**	**0.0**
	baz=246							
NTST	**Danshui**	**0.90**	**286**	*e*P		**Pn**	**12 24 06.5**	**+0.3**
	baz=285							
NTST				*e*S		**Sg**	**12 24 16.0**	**+0.1**
	baz=285							
YHNB	**Yeheng**	**0.96**	**255**	*e*P		**Pb**	**12 24 05.8**	**-0.4**
	baz=268							
YHNB				*e*S		**Sb**	**12 24 19.0**	**-0.1**
	baz=268							
NSK	**Sanguang**	**0.97**	**256**	*e*P		**Pg**	**12 24 06.0**	**+0.2**
	baz=268							
NSK				*e*S		**Sb**	**12 24 19.8**	**+0.3**
	baz=268							
NACB	**Ninganchiao**	**1.04**	**225**	*e*P		**Pg**	**12 24 06.7**	**-0.3**
	baz=222							
NACB				S		**Sg**	**12 24 19.4**	**-1.1**
	baz=222							
NNSB	**Datong**	**1.04**	**242**	P		**Pg**	**12 24 06.8**	**-0.2**
	baz=224							
NNSB				S		**Sg**	**12 24 20.6**	**0.0**
	baz=224							
NNSH	**Datong**	**1.04**	**242**	*e*P		**Pg**	**12 24 06.8**	**-0.2**
	baz=224							
NNSH				S		**Sg**	**12 24 20.4**	**-0.3**
	baz=224							
NNS	**Nan Shan**	**1.05**	**243**	P		**Pg**	**12 24 06.8**	**-0.3**
	baz=225							
NNS				S		**Sg**	**12 24 21.0**	**+0.3**
	baz=225							
ETLH	**Xiulin Townshi**	**1.09**	**230**	*e*P		**Pg**	**12 24 07.7**	**-0.3**
	baz=217							
ETLH				*e*S		**Sb**	**12 24 24.0**	**+1.1**
	baz=217							
TWD	**Chiawan**	**1.11**	**221**	P		**Pg**	**12 24 08.2**	**-0.1**
	baz=227							
TWD				S		**Sn**	**12 24 24.7**	**0.0**
	baz=227							
FUSS	**Fushou**	**1.24**	**238**	*e*P		**Pg**	**12 24 10.6**	**-0.3**
	baz=235							
FUSS				*e*S		**Sb**	**12 24 27.9**	**+0.4**
	baz=235							
LIOB	**Emei**	**1.28**	**258**	*e*P		**Pg**	**12 24 11.1**	**-0.6**
	baz=256							
LIOB				*e*S		**Sg**	**12 24 27.9**	**-0.4**
	baz=256							
WHF	**Hehuan Shan**	**1.29**	**234**	P		**Pg**	**12 24 11.5**	**-0.2**
	baz=230							
WHF				*e*S		**Sg**	**12 24 28.5**	**+0.1**
	baz=230							
TWT	**Tachien**	**1.29**	**240**	*e*P		**Pn**	**12 24 12.4**	**+0.6**
	baz=237							
TWT				*e*S		**Sb**	**12 24 29.0**	**+0.2**
	baz=237							
NSTT	**Nanjuang**	**1.30**	**258**	*e*P		**Pg**	**12 24 11.0**	**-1.0**
	baz=255							
NSTT				*e*S		**Sg**	**12 24 28.1**	**-0.8**
	baz=255							
TDCB	**Techi**	**1.31**	**240**	*e*P		**Pn**	**12 24 12.9**	**+0.9**
	baz=237							
TDCB				*e*S		**Sg**	**12 24 28.7**	**-0.4**
	baz=237							
IRIF	**Iriomote-Funau**	**1.34**	**115**	P		**Pn**	**12 24 11.1**	**-1.2**
CHGB	**Renai**	**1.40**	**233**	*e*P		**Pn**	**12 24 13.5**	**+0.2**
	baz=230							
CHGB				*e*S		**Sb**	**12 24 32.2**	**+0.2**
	baz=230							
ESL	**Shilin**	**1.41**	**219**	P		**Pb**	**12 24 13.9**	**+0.2**
	baz=216							
ESL				*e*S		**Sg**	**12 24 31.9**	**-0.3**
	baz=216							
WHP	**Taichung City**	**1.47**	**245**	*e*P		**Pg**	**12 24 15.0**	**-0.2**
	baz=229							
WHP				*e*S		**Sb**	**12 24 33.9**	**+0.2**
	baz=229							
NMLH	**Miaoli**	**1.51**	**256**	*e*P		**Pn**	**12 24 14.8**	**+0.2**
	baz=253							
NMLH				*e*S		**Sb**	**12 24 35.0**	**+0.1**
	baz=253							
EGFH	**Guangfu**	**1.52**	**216**	*e*S		**Sn**	**12 24 35.3**	**+0.3**
	baz=195							
HATJ	**Hateruma jima**	**1.54**	**123**	P		**Pn**	**12 24 14.5**	**-0.6**
HATJ				S		**Sn**	**12 24 33.8**	**-1.6**
NSY	**Sanyi**	**1.57**	**252**	P		**Pn**	**12 24 16.0**	**+0.5**
	baz=265							
NSY				*e*S		**Sn**	**12 24 36.3**	**+0.1**
	baz=265							
TWQ1	**Liyutan**	**1.58**	**249**	*e*P		**Pn**	**12 24 16.1**	**+0.5**
	baz=263							
TWQ1				*e*S		**Sn**	**12 24 36.6**	**+0.2**
	baz=263							
PTSB	**Yuanli**	**1.61**	**253**	*e*P		**Pn**	**12 24 15.8**	**-0.2**
	baz=266							
PTSB				*e*S		**Sn**	**12 24 36.8**	**-0.3**
	baz=266							
JKRS	**Kuro-shima**	**1.62**	**114**	P		**Pn**	**12 24 15.3**	**-0.8**
VWDT	**VWDT**	**1.63**	**225**	*e*P		**Pn**	**12 24 16.8**	**+0.5**
	baz=222							
VWDT				*e*S		**Sn**	**12 24 37.9**	**+0.4**
	baz=222							
HGSD	**Ruisui**	**1.67**	**212**	*e*P		**Pn**	**12 24 17.6**	**+0.7**
	baz=197							
HGSD				*e*S		**Sn**	**12 24 38.2**	**-0.4**
	baz=197							
JIJ	**Ishigaki jima**	**1.68**	**109**	P		**Pn**	**12 24 17.4**	**+0.4**
SMLT	**Sun Moon Lake**	**1.71**	**233**	P		**Pg**	**12 24 19.7**	**-0.1**
	baz=231							
SMLT				*e*S		**Sn**	**12 24 39.8**	**+0.1**
	baz=231							
EHY	**Hungye**	**1.71**	**215**	*e*P		**Pn**	**12 24 16.8**	**-0.7**
	baz=212							
EHY				*e*S		**Sn**	**12 24 38.4**	**-1.3**
	baz=212							
TYC	**Yuchr**	**1.73**	**235**	P		**Pb**	**12 24 19.2**	**0.0**
	baz=232							
TYC				*e*S		**Sn**	**12 24 40.0**	**0.0**
	baz=232							
SSLB	**Suanglung**	**1.73**	**230**	*e*P		**Pn**	**12 24 18.3**	**+0.6**
	baz=240							
SSLB				*e*S		**Sn**	**12 24 40.3**	**+0.2**
	baz=240							
YULB	**Yu-li**	**1.82**	**214**	*e*P		**Pn**	**12 24 18.4**	**-0.5**
	baz=211							
YULB				*e*S		**Sn**	**12 24 41.3**	**-1.0**
	baz=211							
TWF1	**Yuli**	**1.85**	**213**	*e*P		**Pn**	**12 24 18.9**	**-0.5**
	baz=210							
TWF1				*e*S		**Sn**	**12 24 42.3**	**-0.9**
	baz=210							
FULB	**Fuli**	**1.99**	**211**	*e*P		**Pn**	**12 24 21.4**	**+0.3**
	baz=192							
FULB				*e*S		**Sb**	**12 24 48.4**	**-0.2**
	baz=192							
ALS	**Alishan**	**2.02**	**226**	P		**Pb**	**12 24 23.5**	**-0.8**
	baz=206							
ALS				*e*S		**Sn**	**12 24 48.9**	**+1.3**
	baz=206							
CHN5	**Tsauling**	**2.05**	**230**	P		**Pb**	**12 24 24.4**	**-0.3**
	baz=227							
CHN5				S		**Sg**	**12 24 52.1**	**-0.7**
	baz=227							
ELDTW	**Lidau**	**2.13**	**217**	*e*P		**Pn**	**12 24 24.2**	**+0.9**
	baz=200							
ELDTW				*e*S		**Sn**	**12 24 48.7**	**-1.5**
	baz=200							
EDH	**Donghe**	**2.18**	**208**	*e*P		**Pn**	**12 24 22.6**	**-1.2**
	baz=192							
EDH				*e*S		**Sn**	**12 24 49.0**	**-2.1**
	baz=192							
STYT	**Tauyuan**	**2.30**	**221**	*e*P		**Pn**	**12 24 27.4**	**+1.8**
	baz=203							
WTP	**Ta-pu**	**2.33**	**225**	*e*P		**Pb**	**12 24 29.4**	**-0.1**
	baz=206							
WTP				*e*S		**Sb**	**12 24 59.0**	**+0.5**
	baz=206							
TWK	**Hsinying**	**2.40**	**227**	*e*P		**Pn**	**12 24 28.9**	**+2.0**
	baz=208							
TWK				*e*S		**Sn**	**12 24 58.2**	**+1.6**
	baz=208							
SLGT	**Liugui**	**2.50**	**220**	*e*P		**Pn**	**12 24 30.2**	**+1.9**
	baz=218							
SLGT				*e*S		**Sn**	**12 25 01.3**	**+2.3**
	baz=218							
MASBT	**Mashibuluo**	**2.81**	**216**	*e*P		**Pn**	**12 24 34.4**	**+1.9**
	baz=201							
MASBT				*e*S		**Sn**	**12 25 09.2**	**+2.5**
	baz=201							

WEL 24 12:24:51.6,39°S±2°×17°5E±°,h173km±5km,M2.6/55,
MLv2.6/55,Error ellipse: s-maj=0.0km s-min=0.0km
az=108.6,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWVZ	**Taurewa**	**0.24**	**82**	P		Pn	12 25 14.4	-0.4
VRZ	**Vera Road**	**0.29**	**266**	P		Pn	12 25 14.8	0.0
WTVZ	**West Tongariro**	**0.36**	**92**	P		Pn	12 25 14.9	-0.3
FWVZ	**Far West T-bar**	**0.36**	**115**	P		Pn	12 25 15.0	-0.3
NGZ	**Ngauruhoe**	**0.37**	**101**	P		Pn	12 25 15.0	-0.3
TRVZ	**Turoa**	**0.38**	**121**	P		Pn	12 25 15.2	-0.2
MTVZ	**Mangateitei**	**0.39**	**137**	P		Pn	12 25 15.1	-0.1
KRVZ	**Karewarewa**	**0.40**	**89**	P		Pn	12 25 15.0	-0.3
WHVZ	**Whangaehu Hut**	**0.40**	**117**	P		Pn	12 25 15.3	-0.2
OTVZ	**Oturere**	**0.42**	**98**	P		Pn	12 25 15.2	-0.2
WNVZ	**Wahianoa**	**0.43**	**122**	P		Pn	12 25 15.3	-0.1
TUVZ	**Tukino**	**0.44**	**112**	P		Pn	12 25 14.8	-0.7
TMVZ	**Te Maari**	**0.45**	**92**	P		Pn	12 25 15.5	0.0
ETVZ	**East Tongariro**	**0.45**	**94**	P		Pn	12 25 15.6	+0.1
KATZ	**Kakaramea**	**0.46**	**74**	P		Pn	12 25 15.1	-0.4
MOVZ	**Moawhango**	**0.57**	**122**	P		Pn	12 25 15.5	-0.5
RITZ	**Rihia Road**	**0.58**	**78**	P		Pn	12 25 15.9	-0.1
WATZ	**Wairara**	**0.61**	**50**	P		Pn	12 25 16.1	0.0
WAZ	**Wanganui**	**0.66**	**190**	P		Pn	12 25 16.9	+0.6
LREZ	**Lake Rotokare**	**0.67**	**238**	P		Pn	12 25 17.3	+1.0
NEZ	**North Egmont**	**0.82**	**258**	P		Pn	12 25 18.3	+0.9
BHHZ	**Black Hill Sta**	**0.82**	**118**	P		Pn	12 25 17.0	-0.3
KHEZ	**Kahui Hut**	**0.89**	**257**	P		Pn	12 25 18.5	+0.7
PKE	**Pukeiti**	**0.89**	**264**	P		Pn	12 25 18.5	+0.7
NBEZ	**Newall Road No**	**0.99**	**260**	P		Pn	12 25 19.4	+0.9
KWHZ	**Kaweka Forest**	**1.05**	**108**	P		Pn	12 25 19.6	+0.5
BKZ	**Black Stump Fm**	**1.06**	**94**	P		Pn	12 25 18.8	-0.3
KRHZ	**Kereru**	**1.10**	**120**	P		Pn	12 25 19.7	+0.3
TSZ	**Takapari Road**	**1.15**	**146**	P		Pn	12 25 20.5	+0.7
PNHZ	**Pukenui**	**1.16**	**135**	P		Pn	12 25 20.3	+0.4
MCHZ	**McNeill Hill**	**1.26**	**106**	P		Pn	12 25 21.8	+1.1
NMHZ	**Naumai**	**1.30**	**90**	P		Pn	12 25 22.4	+1.2
MTHZ	**Maungataniwha**	**1.36**	**80**	P		Pn	12 25 21.4	-0.3
WPHZ	**Waipukurau**	**1.40**	**134**	P		Pn	12 25 22.5	+0.6
TOZ	**Tahuroa Road**	**1.40**	**12**	P		Pn	12 25 22.4	+0.4
MUGZ	**Murupara**	**1.43**	**65**	P		Pn	12 25 21.6	-0.6
KAHZ	**Kahuranaki**	**1.52**	**118**	P		Pn	12 25 24.1	+0.9
RTZ	**Ruatahuna**	**1.53**	**72**	P		Pn	12 25 23.3	0.0
RAHZ	**Arahi**	**1.54**	**84**	P		Pn	12 25 23.9	+0.6
MRZ	**Mangatainoka R**	**1.59**	**168**	P		Pn	12 25 24.3	+0.5
PXZ	**Pawanui**	**1.63**	**125**	P		Pn	12 25 24.7	+0.6
PRHZ	**Porangahau**	**1.64**	**135**	P		Pn	12 25 24.9	+0.6
MARZ	**Manawahe**	**1.65**	**48**	P		Pn	12 25 25.7	+1.2
ANWZ	**Angora Road**	**1.71**	**143**	P		Pn	12 25 25.8	+0.8
OGWZ	**Otaki Gorge**	**1.71**	**179**	P		Pn	12 25 25.9	+0.9
SNGZ	**Shannon Statio**	**1.75**	**80**	P		Pn	12 25 25.9	+0.4
KIW	**Kapiti Island**	**1.76**	**185**	P		Pn	12 25 26.2	+0.6
HOWZ	**Holdsworth Sta**	**1.82**	**171**	P		Pn	12 25 26.6	+0.5
DUWZ	**D'Urville Isla**	**1.93**	**208**	P		Pn	12 25 28.1	+0.7
CAW	**Cannon Point**	**2.00**	**181**	P		Pn	12 25 28.8	+0.7
RIGZ	**Rimuhau**	**2.09**	**80**	P		Pn	12 25 28.9	-0.2
MHGZ	**Mahia Peninsul**	**2.16**	**92**	P		Pn	12 25 30.7	+0.8
WEL	**Wellington**	**2.19**	**187**	P		Pn	12 25 30.9	+0.6
TCW	**Tory Channel**	**2.20**	**197**	P		Pn	12 25 31.1	+0.7
MSWZ	**Moikau Station**	**2.31**	**178**	P		Pn	12 25 32.0	+0.3
PLWZ	**Palliser**	**2.46**	**178**	P		Pn	12 25 33.7	+0.2
TUWZ	**Tuamarina**	**2.49**	**201**	P		Pn	12 25 34.1	+0.4
NNZ	**Nelson**	**2.50**	**212**	P		Pn	12 25 34.4	+0.6
QRZ	**Quartz Range**	**2.64**	**228**	P		Pn	12 25 35.6	+0.2
BSWZ	**Blackbirch Sta**	**2.78**	**200**	P		Pn	12 25 37.9	+0.8
THZ	**Tophouse**	**3.15**	**212**	P		Pn	12 25 42.4	+0.7
KHZ	**Kahutara**	**3.52**	**200**	P		Pn	12 25 46.8	+0.6
DSZ	**Denniston Nort**	**3.66**	**223**	P		Pn	12 25 48.0	-0.1
GVZ	**Greta Valley S**	**4.17**	**202**	P		Pn	12 25 54.8	+0.2
LTZ	**Lake Taylor**	**4.26**	**210**	P		Pn	12 25 55.8	0.0
OXZ	**Oxford**	**4.82**	**208**	P		Pn	12 26 02.5	-0.4
OKCZ	**Okains Bay**	**4.87**	**198**	P		Pn	12 26 02.6	-1.1
MQZ	**McQueen's Vall**	**4.96**	**201**	P		Pn	12 26 03.6	-1.1
RPZ	**Rata Peaks**	**5.53**	**212**	P		Pn	12 26 12.5	+0.3
ARCZ	**Arundel**	**5.67**	**210**	P		Pn	12 26 14.4	+0.2
ODZ	**Otahua Downs**	**6.81**	**208**	P		Pn	12 26 29.0	0.0

IDC ***24*** *12:39:02.8±1.3,24.0*3*N×121.4*0*E,h0km,mb3.4/5,*
mb1 3.5/6,mb1mx3.4/37,mbtmp3.4/6,ML3.4/1,MS4.2/2,
Ms1 4.2/2,ms1mx3.5/41,Error ellipse: s-maj=73.9km
s-min=21.6km az=69.0
JMA ***24*** *12:39:08.9±0.1,24.2*5*N×122.1*1*E,h58km±2km,M3.6*
TAP ***24*** *12:39:09.3,24.3*4*N×122.1*1*E,h58km,ML4.0,C*
NEIC ***24*** *12:39:09.2±1.6,24.3*1*N±0.0*5*×122.1*3*E±0.0*5*,h55km±9km,*
mb3.8/2,ML4.4(TAP),Error ellipse: s-maj=7.2km
s-min=6.3km az=141.0
ISC 24 12:39:09.3±0.8,24.3*2*N±0.0*2*×122.1*4*E±0.0*2*,h55km±6km**,**
**n159,σ1.8*36/277,mb3.4/7,3C-7D,

TWB1				S	Sn	12 39 31.8	-1.6		
	baz=351								
NNSB	**Datong**	**0.70**	**279**	⇓P	Pn	12 39 23.6	+0.2		
	baz=277								
NNSB				S	Sn	12 39 33.5	-0.1		
	baz=277								
NNSH	**Datong**	**0.70**	**279**	*i* P	Pn	12 39 23.6	+0.2		
	baz=278								
NNSH				*i* S	Sn	12 39 33.5	-0.1		
	baz=278								
TIPB	**Shuangxi**	**0.71**	**336**	*i* P	Pn	12 39 23.7	+0.3		
	baz=341								
TIPB				*i* S	Sn	12 39 34.2	+0.5		
	baz=341								
NNS	**Nan Shan**	**0.71**	**280**	⇓*i*P	Pn	12 39 23.6	+0.1		
	baz=278								
NNS				*i* S	Sn	12 39 33.5	-0.4		
	baz=278								
NWLT	**Wulai**	**0.74**	**308**	*i* P	Pn	12 39 24.5	+0.7		
	baz=300								
NWLT				*i* S	Sn	12 39 34.8	+0.5		
	baz=300								
JYNG	**Yonagunijimaku**	**0.74**	**80**	P	Pn	12 39 24.4	+0.7		
JYNG				S	Sn	12 39 35.2	+0.9		
YHNB	**Yeheng**	**0.78**	**296**	⇓P	Pn	12 39 24.8	+0.4		
	baz=288								
YHNB				S	Sn	12 39 35.9	+0.5		
	baz=288								
YHNB	**Yeheng**	**0.78**	**296**	Pn	Pn	12 39 24.8	+0.4		
NSK	**Sanguang**	**0.80**	**296**	⇓*i*P	Pn	12 39 24.9	+0.3		
	baz=288								
NSK				S	Sn	12 39 36.0	+0.2		
	baz=288								
YOJ	**Yonaguni jima**	**0.80**	**80**	P	Pn	12 39 24.9	+0.3		
	baz=81								
YOJ				S	Sn	12 39 36.6	+0.9		
	baz=81								
YOJ	**Yonaguni jima**	**0.80**	**80**	P	Pn	12 39 25.1	+0.6		
YOJ				eS	Sn	12 39 36.6	+0.9		
YOJ	**Yonaguni jima**	**0.80**	**80**	Pn	Pn	12 39 25.0	+0.4		
NWF	**Wu-fen Shan**	**0.81**	**336**	*i* P	Pn	12 39 25.0	+0.2		
	baz=347								
NWF				*i* S	Sn	12 39 36.1	0.0		
	baz=347								
WFSB	**Wu-fen Shan**	**0.81**	**336**	*e*P	Pn	12 39 25.0	+0.3		
	baz=347								
WFSB				*e*S	Sn	12 39 36.1	+0.1		
	baz=347								
WHF	**Hehuan Shan**	**0.82**	**258**	*i* P	Pn	12 39 25.5	+0.3		
	baz=255								
WHF				*i* S	Sn	12 39 36.6	-0.3		
	baz=255								
ESL	**Shilin**	**0.82**	**232**	*i* P	Pn	12 39 24.6	-0.2		
	baz=229								
ESL				S	Sn	12 39 36.1	-0.1		
	baz=229								
FUSS	**Fushou**	**0.82**	**265**	P	Pn	12 39 25.6	+0.5		
	baz=263								
FUSS				*e*S	Sn	12 39 36.2	-0.4		
	baz=263								
TWA	**Mucha**	**0.83**	**322**	P	Pn	12 39 25.5	+0.5		
	baz=323								
TWA				S	Sn	12 39 37.2	+0.8		
	baz=323								
TATO	**Taipei**	**0.88**	**318**	⇓P	Pn	12 39 26.2	+0.7		
	baz=318								
TATO				S	Sn	12 39 39.0	+1.5		
	baz=318								
TATO	**Taipei**	**0.88**	**318**	Pn	Pn	12 39 26.0	+0.4		
TWT	**Tachien**	**0.89**	**266**	*i* P	Pn	12 39 26.9	+1.1		
	baz=263								
TWT				*i* S	Sn	12 39 38.4	+0.4		
	baz=263								
TDCB	**Techi**	**0.90**	**266**	P	Pn	12 39 26.8	+0.8		
	baz=264								
TDCB				S	Sn	12 39 38.0	-0.2		
	baz=264								
TAP1	**Taipei**	**0.91**	**322**	*e*P	Pn	12 39 26.8	+0.9		
	baz=322								
TAP1				*e*S	Sn	12 39 38.9	+0.7		
	baz=322								
TAP	**Taipei**	**0.92**	**321**	P	Pn	12 39 27.0	+1.0		
	baz=322								
TAP				S	Sn	12 39 39.1	+0.7		
	baz=322								
CHGB	**Renai**	**0.92**	**254**	P	Pn	12 39 26.8	+0.4		
	baz=244								
CHGB				S	Sn	12 39 39.0	+0.2		
	baz=244								
EGFH	**Guangfu**	**0.92**	**225**	P	Pn	12 39 25.8	-0.3		
	baz=216								
EGFH				S	Sn	12 39 39.3	+0.7		
	baz=216								
OWD	**Renai**	**0.96**	**248**	P	Pn	12 39 27.2	+0.5		
	baz=239								
OWD				S	Sn	12 39 38.9	-0.7		
	baz=239								
YM01	**YM01**	**0.97**	**328**	P	Pn	12 39 27.1	+0.3		
	baz=339								
YM01				S	Sn	12 39 41.5	+1.8		
	baz=339								
YM10	**YM10**	**0.98**	**327**	P	Pn	12 39 27.1	+0.1		
	baz=339								
YM10				*e*S	Sn	12 39 40.3	+0.2		
	baz=339								
YM05	**YM05**	**0.99**	**328**	P	Pn	12 39 27.0	-0.1		
	baz=339								
YM05				S	Sn	12 39 39.9	-0.3		
	baz=339								
YM04	**YM04**	**0.99**	**326**	P	Pn	12 39 27.1	0.0		
	baz=339								
YM04				S	Sn	12 39 39.8	-0.5		
	baz=339								
YM08	**YM08**	**1.00**	**330**	P	Pn	12 39 27.6	+0.4		
	baz=340								
YM08				*e*S	Sn	12 39 39.2	-1.1		
	baz=340								
YM03	**YM03**	**1.01**	**327**	P	Pn	12 39 27.4	0.0		
	baz=338								
YM03				*e*S	Sn	12 39 41.9	+1.1		
	baz=338								
TWS1	**Kuangyinshan**	**1.02**	**320**	*i* P	Pn	12 39 28.1	+0.8		
	baz=329								
TWS1				*i* S	Sn	12 39 41.7	+0.9		
	baz=329								
ANP	**Anpu**	**1.03**	**327**	P	Pn	12 39 28.1	+0.4		
	baz=338								
ANP				*e*S	Sn	12 39 42.3	+1.1		
	baz=338								
NTST	**Danshui**	**1.05**	**323**	*e*P	Pn	12 39 28.3	+0.5		
	baz=334								
NTST				*e*S	Sn	12 39 42.9	+1.4		
	baz=334								
HGSD	**Ruisui**	**1.06**	**219**	P	Pn	12 39 27.3	-0.6		
	baz=217								
HGSD				S	Sn	12 39 43.1	+1.4		
	baz=217								
LIOB	**Emei**	**1.08**	**288**	*i* P	Pn	12 39 29.2	+1.0		
	baz=286								
LIOB				S	Sn	12 39 43.4	+1.2		
	baz=286								
VWDT	**VWDT**	**1.08**	**238**	P	Pn	12 39 28.6	+0.5		
	baz=229								
VWDT				S	Sn	12 39 42.3	+0.2		
	baz=229								
NCU	**National Centr**	**1.08**	**307**	*i* P	Pn	12 39 28.7	+0.4		
	baz=306								
NCU				*i* S	Sn	12 39 43.4	+1.1		
	baz=306								
NCUH	**Zhongli**	**1.08**	**307**	P	Pn	12 39 28.7	+0.4		
	baz=306								
NCUH				*e*S	Sn	12 39 43.2	+0.9		
	baz=306								
NSTT	**Nanjuang**	**1.09**	**287**	*i* P	Pn	12 39 29.0	+0.7		
	baz=285								
NSTT				S	Sn	12 39 43.4	+1.1		
	baz=285								
WHP	**Taichung City**	**1.09**	**268**	*i* P	Pn	12 39 30.0	+1.5		
	baz=262								
WHP				*i* S	Sn	12 39 43.6	+0.9		
	baz=262								
EHY	**Hungye**	**1.11**	**223**	*i* P	Pn	12 39 27.9	-0.7		
	baz=229								
SBCB	**Hsinchu**	**1.15**	**294**	P	Pn	12 39 29.8	+0.6		
	baz=304								
SBCB				S	Sn	12 39 46.1	+2.1		
	baz=304								
HSN	**Hsinchu**	**1.17**	**294**	*i* P	Pn	12 39 29.4	0.0		
	baz=295								
HSN				*i* S	Sn	12 39 45.7	+1.3		
	baz=295								
YULB	**Yu-li**	**1.21**	**220**	P	Pn	12 39 29.0	-0.9		
	baz=218								
YULB				*e*S	Sn	12 39 43.8	-1.5		
	baz=218								
SSLB	**Suanglung**	**1.21**	**244**	P	Pn	12 39 30.2	+0.2		
	baz=237								
SSLB				S	Sn	12 39 45.1	-0.3		
	baz=237								
SSLB	**Suanglung**	**1.21**	**244**	Pn	Pn	12 39 30.4	+0.4		
SMLT	**Sun Moon Lake**	**1.22**	**249**	P	Pn	12 39 30.7	+0.6		
	baz=241								
SMLT				*i* S	Sn	12 39 46.3	+0.6		
	baz=241								
EYUL	**Yuli**	**1.23**	**218**	*e*P	Pn	12 39 30.0	-0.3		
	baz=226								
EYUL				*e*S	Sn	12 39 45.7	-0.1		
	baz=226								
TWF1	**Yuli**	**1.24**	**219**	P	Pn	12 39 30.0	-0.4		
	baz=225								
TWF1				S	Sn	12 39 44.8	-1.3		
	baz=225								
TYC	**Yuchr**	**1.25**	**251**	*i* P	Pn	12 39 31.1	+0.7		
	baz=242								
TYC				S	Sn	12 39 46.9	+0.6		
	baz=242								
NMLH	**Miaoli**	**1.25**	**280**	*i* P	Pn	12 39 31.7	+1.2		
	baz=278								
NMLH				S	Sn	12 39 49.1	+2.7		
	baz=278								
NSY	**Sanyi**	**1.27**	**274**	*i* P	Pn	12 39 31.7	+1.0		
	baz=272								
NSY				S	Sn	12 39 48.8	+2.1		
	baz=272								
PCYT	**Pengchaiyu**	**1.30**	**357**	P	Pn	12 39 31.5	+0.3		
	baz=350								
PCYT				S	Sn	12 39 48.0	+0.4		
	baz=350								
PTSB	**Yuanli**	**1.32**	**276**	*i* P	Pn	12 39 32.2	+0.8		
	baz=273								
PTSB				S	Sn	12 39 50.8	+2.9		
	baz=273								
WHYT	**Xinyi Township**	**1.34**	**242**	P	Pn	12 39 33.2	+1.5		
	baz=236								
WHYT				*e*S	Sn	12 39 50.5	+2.0		
	baz=236								
FULB	**Fuli**	**1.36**	**215**	P	Pn	12 39 31.7	-0.4		
	baz=204								
FULB				S	Sn	12 39 49.5	+0.4		
	baz=204								
WDJ	**Dajia District**	**1.37**	**271**	P	Pn	12 39 33.0	+0.9		
	baz=269								
WDJ				S	Sn	12 39 51.6	+2.4		
	baz=269								
WJS	**Zhushan**	**1.39**	**249**	P	Pn	12 39 34.1	+1.8		
	baz=239								
WJS				S	Sn	12 39 52.5	+2.9		
	baz=239								
WNT	**Mingjian**	**1.41**	**252**	P	Pn	12 39 34.3	+1.7		
	baz=249								
WNT				S	Sn	12 39 52.7	+2.7		
	baz=249								
CHKT	**Chengkung**	**1.41**	**211**	*i* P	Pn	12 39 32.0	-0.6		
	baz=200								
CHKT				*i* S	Sn	12 39 48.2	-2.0		
	baz=200								
IRIF	**Iriomote-Funau**	**1.45**	**89**	P	Pn	12 39 33.3	+0.2		
IRIF				*e*S	Sn	12 39 51.6	+0.6		
WCHH	**Zhanghua**	**1.47**	**261**	P	Pn	12 39 34.5	+1.1		
	baz=268								
WCHH				S	Sn	12 39 53.7	+2.1		
	baz=268								
ALS	**Alishan**	**1.47**	**237**	*i* P	Pn	12 39 35.1	+1.4		
	baz=227								
ALS				*i* S	Sn	12 39 53.3	+1.3		
	baz=227								
CHN5	**Tsauling**	**1.52**	**242**	*i* P	Pn	12 39 35.9	+1.6		
	baz=231								
CHN5				*i* S	Sn	12 39 55.6	+2.5		
	baz=231								
ELDTW	**Lidau**	**1.53**	**223**	P	Pn	12 39 34.1	-0.2		
	baz=216								
ELDTW				*i* S	Sn	12 39 52.5	-0.7		
	baz=216								
HATJ	**Hateruma jima**	**1.54**	**100**	P	Pn	12 39 35.1	+0.7		
EDH	**Donghe**	**1.55**	**210**	P	Pn	12 39 34.0	-0.6		
	baz=201								
EDH				S	Sn	12 39 52.9	-0.6		
	baz=201								
WGK	**Gukeng**	**1.58**	**247**	*i* P	Pn	12 39 37.0	+2.0		
	baz=244								
WGK				S	Sn	12 39 57.3	+3.0		
	baz=244								
WDLH	**Douliu**	**1.60**	**247**	P	Pn	12 39 37.6	+2.4		
	baz=245								
WDLH				S	Sn	12 39 58.4	+3.7		
	baz=245								
RLNB	**Erlin**	**1.69**	**256**	P	Pn	12 39 37.6	+1.2		
	baz=253								
RLNB				S	Sn	12 39 58.6	+1.7		
	baz=253								
LONT	**Longtian**	**1.69**	**214**	*e*P	Pn	12 39 36.2	-0.2		
	baz=212								
LONT				*e*S	Sn	12 39 56.5	-0.5		
	baz=212								
JKRS	**Kuro-shima**	**1.70**	**92**	P	Pn	12 39 37.3	+0.7		
JKRS				*e*S	Sn	12 39 58.4	+1.1		
STYT	**Tauyuan**	**1.72**	**228**	P	Pn	12 39 38.1	+1.2		
	baz=219								
STYT				S	Sn	12 39 59.4	+1.6		
	baz=219								
CHN2	**Minshiung**	**1.72**	**243**	P	Pn	12 39 39.5	+2.6		
	baz=232								
CHN2				*e*S	Sn	12 40 00.5	+2.8		
	baz=232								
TPUB	**Ta-pu**	**1.72**	**234**	P	Pn	12 39 38.9	+2.0		
	baz=224								
TPUB				S	Sn	12 40 00.1	+2.3		
	baz=224								
TPUB	**Ta-pu**	**1.72**	**234**	Pn	Pn	12 39 38.6	+1.7		
WTK	**Tuku**	**1.73**	**249**	P	Pn	12 39 38.5	+1.6		
	baz=246								
WTK				S	Sn	12 40 01.1	+3.2		
	baz=246								
LDUT	**Ludao**	**1.75**	**201**	P	Pn	12 39 36.4	-0.9		
	baz=200								
LDUT				*e*S	Sn	12 39 56.9	-1.7		
	baz=200								
WTCT	**Ta-ch'eng**	**1.76**	**255**	P	Pn	12 39 38.5	+1.1		
	baz=252								
WTCT				*e*S	Sn	12 39 59.9	+1.2		
	baz=252								
WTP	**Ta-pu**	**1.77**	**233**	P	Pn	12 39 39.1	+1.5		
	baz=222								
WTP				S	Sn	12 40 01.4	+2.6		
	baz=222								
CHY	**Chiayi**	**1.78**	**243**	P	Pn	12 39 39.8	+2.2		
	baz=231								
CHY				S	Sn	12 40 02.2	+3.1		
	baz=231								
TWGBT	**Beinan**	**1.79**	**213**	*e*P	Pn	12 39 37.2	-0.6		
	baz=212								
TWGBT				*e*S	Sn	12 39 57.7	-1.8		
	baz=212								
TWG	**Pinlang**	**1.79**	**214**	P	Pn	12 39 37.4	-0.5		
	baz=212								
TWG				S	Sn	12 39 58.2	-1.2		
	baz=212								
TWG	**Pinlang**	**1.79**	**214**	Pn	Pn	12 39 36.8	-1.0		
JlJ	**Ishigaki jima**	**1.82**	**88**	P	Pn	12 39 38.3	0.0		
JlJ				S	Sn	12 40 00.1	-0.1		
CHN1	**Nanshi**	**1.86**	**233**	P	Pn	12 39 40.8	+1.9		
	baz=231								
CHN1				S	Sn	12 40 03.7	+2.4		
	baz=231								
SNST	**Tainan City**	**1.87**	**234**	P	Pn	12 39 40.8	+1.9		
	baz=232								
SNST				S	Sn	12 40 03.7	+2.4		
	baz=232								
WLGB	**Puzi**	**1.89**	**244**	*e*P	Pn	12 39 41.2	+2.1		
	baz=241								
WLGB				*e*S	Sn	12 40 05.1	+3.3		
	baz=241								
WSF	**Szhu**	**1.89**	**249**	S	Sn	12 40 03.4	+1.6		
	baz=257								
SGST	**Jiashian**	**1.89**	**230**	P	Pn	12 39 40.0	+0.8		
	baz=219								
SGST				S	Sn	12 40 03.2	+1.3		
	baz=219								
SLGT	**Liugui**	**1.91**	**226**	P	Pn	12 39 41.5	+2.0		
	baz=224								
SLGT				S	Sn	12 40 05.5	+3.1		
	baz=224								
ICHU	**Yijhu**	**1.96**	**241**	*e*P	Pn	12 39 41.2	+1.1		
	baz=228								
ICHU				*e*S	Sn	12 40 05.9	+2.4		
	baz=228								
JISG	**Ishigakijimahi**	**1.99**	**82**	P	Pn	12 39 40.6	+0.1		
JISG				*e*S	Sn	12 40 04.6	+0.3		
CHN8	**Yiju**	**2.02**	**242**	P	Pn	12 39 42.9	+1.9		
	baz=229								
CHN8				S	Sn	12 40 07.7	+2.7		
	baz=229								
ECL	**Taimali**	**2.04**	**213**	P	Pn	12 39 40.0	-1.2		
	baz=212								
ECL				*e*S	Sn	12 40 03.7	-1.7		
	baz=212								
CHN3	**Shinhua**	**2.05**	**233**	*e*S	Sn	12 40 10.6	+4.8		
	baz=241								
SCST	**Cishan**	**2.08**	**227**	*e*P	Pn	12 39 44.0	+2.2		
	baz=225								
SCST				*e*S	Sn	12 40 10.6	+4.0		
	baz=225								
SSD	**Sandimen**	**2.10**	**222**	P	Pn	12 39 44.0	+2.0		
	baz=220								
SSD				*e*S	Sn	12 40 08.7	+1.8		
	baz=220								
TSMG	**Majia**	**2.12**	**221**	P	Pn	12 39 44.6	+2.3		
	baz=210								
TSMG				*e*S	Sn	12 40 09.8	+2.3		
	baz=210								
SCLT	**Jiali**	**2.12**	**238**	*e*S	Sn	12 40 11.1	+3.6		
	baz=235								
TWM1	**Shoushan**	**2.17**	**227**	*e*P	Pn	12 39 46.5	+3.4		
	baz=225								
MASBT	**Mashibuluo**	**2.20**	**219**	*e*P	Pn	12 39 44.0	+0.6		
	baz=216								
MASBT				*e*S	Sn	12 40 11.5	+2.1		
	baz=216								
TAW	**Tawu**	**2.27**	**211**	*e*P	Pn	12 39 45.9	+1.6		
	baz=214								
TAW				S	Sn	12 40 09.8	-1.3		
	baz=214								
EAST	**Anshuo**	**2.27**	**212**	*e*P	Pn	12 39 44.2	-0.2		
	baz=205								
EAST				*e*S	Sn	12 40 10.9	-0.3		
	baz=205								
SSPT	**Xinbi**	**2.33**	**219**	*e*P	Pn	12 39 48.6	+3.3		
	baz=218								
LAY	**Lan-yu**	**2.34**	**194**	P	Pn	12 39 44.6	-0.8		
	baz=193								
LAY				*e*S	Sn	12 40 10.0	-2.9		
	baz=193								
JTJ	**Tarama**	**2.35**	**82**	P	Pn	12 39 45.9	+0.4		
JTJ				*e*S	Sn	12 40 14.5	+1.3		
SCZT	**Fangliau**	**2.40**	**216**	*e*P	Pn	12 39 48.4	+2.3		
	baz=215								
SCZT				*e*S	Sn	12 40 17.0	+2.8		
	baz=215								
SLIU	**Shizi**	**2.44**	**211**	*e*P	Pn	12 39 47.8	+1.2		
	baz=213								
PTTC	**Pingtan**	**2.45**	**299**	*e*P	Pn	12 39 46.5	-0.4		
	baz=298								
PNG	**Penghu**	**2.49**	**253**	P	Pn	12 39 47.4	+0.1		
	baz=249								
PNG				S	Sn	12 40 16.1	-0.4		
	baz=249								
PHUB	**P'eng-hu**	**2.49**	**252**	P	Pn	12 39 47.2	-0.1		
	baz=248								
PHUB				S	Sn	12 40 15.5	-1.0		
	baz=248								
WDGT	**Dungji**	**2.51**	**246**	P	Pn	12 39 47.6	0.0		
	baz=242								
WDGT				*e*S	Sn	12 40 16.4	-0.6		
	baz=242								
VWUC	**VWUC**	**2.54**	**286**	P	Pn	12 39 47.4	-0.6		
	baz=283								
WLCH	**Liuqiu**	**2.55**	**220**	*e*P	Pn	12 39 52.2	+4.0		
	baz=219								
TSEB	**Hengchuen, Pin**	**2.67**	**206**	*e*S	Sn	12 40 21.6	+0.6		
	baz=201								
TWKBT	**Hengchun**	**2.67**	**208**	*e*P	Pn	12 39 50.8	+1.0		
	baz=201								
TWKBT				*e*S	Sn	12 40 20.4	-0.6		
	baz=201								
MATB	**Ma-tsu**	**2.70**	**313**	P	Pn	12 39 49.7	-0.5		
	baz=313								
JIRB	**Irabujima**	**2.80**	**79**	P	Pn	12 39 52.4	+0.8		
JIRB				*e*S	Sn	12 40 25.2	+1.0		
PTMZ	**Houxiangcun**	**2.84**	**285**	*e*P	Pn	12 39 51.6	-0.6		
	baz=283								
JIKM	**Ikemajima**	**2.89**	**77**	P	Pn	12 39 54.0	+1.2		
JIKM				S	Sn	12 40 27.9	+1.6		
JMJ	**Miyako jima 2**	**2.91**	**80**	*e*P	Pn	12 39 54.4	+1.3		
	baz=80								
JMJ				*e*S	Sn	12 40 28.2	+1.4		
	baz=80								
JMJ2	**Miyako jima3**	**2.93**	**81**	P	Pn	12 39 54.7	+1.3		
JMJ2				*e*S	Sn	12 40 28.8	+1.5		
JOGS	**Gusukube**	**3.00**	**81**	P	Pn	12 39 56.0	+1.6		
JOGS				*e*S	Sn	12 40 30.4	+1.2		
LYJJ	**Jianjiangzhen**	**3.09**	**316**	*e*P	Pn	12 39 54.8	-0.8		
	baz=318								
LYJJ				*e*S	Sn	12 40 28.6	-2.8		
	baz=318								
XPSS	**Dashiqiu**	**3.14**	**326**	*e*P	Pn	12 39 55.6	-0.7		
	baz=318								
XPSS				*e*S	Sn	12 40 30.1	-2.4		
	baz=318								
KNM	**Kinmen**	**3.38**	**272**	*e*P	Pn	12 40 00.5	+0.9		
	baz=269								
KNMB	**Chin-men Tao**	**3.43**	**273**	*e*P	Pn	12 39 59.2	-1.0		
	baz=270								
KNMB	**Chin-men Tao**	**3.43**	**273**	Pn	Pn	12 39 59.3	-0.9		
AXDP	**Jialang**	**3.84**	**279**	*e*P	Pn	12 40 05.2	-0.6		
	baz=276								
AXDP				*e*S	Sn	12 40 47.2	-2.6		
	baz=276								
ZPLA	**Ao Xicun**	**4.03**	**265**	*e*P	Pn	12 40 07.7	-0.8		
	baz=262								
ZPLA				*e*S	Sn	12 40 51.7	-2.8		
	baz=262								
INCN	**Inchon**	**13.67**	**15**	P	**P**	**12 42 28.4**	**+0.9**		
KSRS	**Korea Array**	**13.99**	**19**	Pn	**P**	**12 42 30.2**	**-0.8**		
	0.2nm,0.3s,baz=196,slow=12,SNR=5.7								
ASAJ	**Asahikawa**	**25.87**	**35**	LR	LR	12 55 18.1			
	comp=Z,378nm,19.5s,baz=260,slow=37								
SONM	**Songino Array**	**26.59**	**336**	P	**P**	**12 44 42.2**	**-0.2**		
	0.6nm,0.6s,baz=150,slow=9.9,SNR=4.2								
MK31	**Makanchi Array**	**38.85**	**315**	P	**P**	**12 46 29.0**	**-0.1**		
MK31				IAmb	IAmb	12 46 31.5			
	comp=Z,1.4nm,1.4s								
MKAR	**Makanchi Array**	**38.85**	**315**	P	**P**	**12 46 28.6**	**-0.6**		
	comp=Z,0.2nm,0.5s,baz=104,slow=12,SNR=2.6								
ZALV	**Zalesovo Beam**	**40.61**	**327**	P	**P**	**12 46 42.4**	**-1.1**		
	comp=Z,0.8nm,0.5s,baz=128,slow=6.9,SNR=2.5								
WRA	**Warramunga Arr**	**45.57**	**164**	P	**P**	**12 47 23.6**	**-0.5**		
	comp=Z,0.4nm,0.8s,baz=349,slow=9.9,SNR=4.8								
WR0	**Warramunga Arr**	**45.64**	**164**	P	**P**	**12 47 24.4**	**-0.2**		
WR0				IAmb	IAmb	12 47 37.7			
	comp=Z,2.3nm,1.1s								
ASAR	**Alice Springs**	**49.05**	**166**	P	**P**	**12 47 51.3**	**+0.2**		
	comp=Z,0.3nm,0.9s,baz=348,slow=7.1,SNR=1.1								
WSAR	**Wadi Sarin**	**57.66**	**283**	LR	LR	13 15 09.1			
	comp=Z,219nm,19.8s,baz=160,slow=38								

IDC ***24*** *12:43:42.0±0.6,55.69N×163.10E,h0km,mb3.8/24, mb1 4.0/27,mb1mx4.0/51,mbtmp3.8/27,ML4.0/2,MS3.4/1, Ms1 3.4/1,ms1mx2.9/53,Error ellipse: s-maj=17.3km s-min=11.9km az=152.0*

KRSC ***24*** *12:43:42.6±1.2,55.44N×163.48E,h20km±13km,ML4.6*

MOS ***24*** *12:43:45.8±0.9,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.68**	**336**	*i* P	**Pn**	**12 43 58.1**	**-1.6**
KBTR				*e*S	**Sn**	**12 44 09.8**	**+0.3**
KBTR	**Krutoberegovo**	**0.68**	**336**	PN	**Pn**	**12 43 58.1**	**-1.6**
KBTR				S	**Sn**	**12 44 09.8**	**+0.3**
KBG	**Krutoberegovo**	**0.75**	**333**	*i* P	**Pb**	**12 43 59.3**	**-0.5**
KBG				*e*S	**Sn**	**12 44 11.9**	**+0.7**
KBG	**Krutoberegovo**	**0.75**	**333**	PN	**Pb**	**12 43 59.3**	**-0.5**
KBG				S	**Sn**	**12 44 11.9**	**+0.7**
SMKR	**Semkarok**	**1.43**	**315**	*e*P	**Pb**	**12 44 10.6**	**-0.9**
SMKR				*e*S	**Sb**	**12 44 30.9**	**+1.6**
SMKR	**Semkarok**	**1.43**	**315**	PN	**Pb**	**12 44 10.6**	**-0.9**
SMKR				S	**Sb**	**12 44 30.9**	**+1.6**
ZLN	**Zelenaya**	**1.48**	**288**	*e*P	**Pb**	**12 44 11.8**	**-0.5**
ZLN	**Zelenaya**	**1.48**	**288**	PN	**Pb**	**12 44 11.8**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**1.52**	**284**	*e*P	**Pn**	**12 44 11.6**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**1.52**	**284**	PN	**Pn**	**12 44 11.6**	**+0.3**
BDR	**Baidarnaya**	**1.53**	**311**	*e*P	**Pb**	**12 44 12.3**	**-0.9**
BDR				*e*S	**Sb**	**12 44 34.5**	**+2.3**
BDR	**Baidarnaya**	**1.53**	**311**	PN	**Pb**	**12 44 12.3**	**-0.9**
BDR				S	**Sb**	**12 44 34.5**	**+2.3**
CIRR	**Tsirk**	**1.54**	**291**	*e*P	**Pb**	**12 44 12.4**	**-0.9**
CIRR	**Tsirk**	**1.54**	**291**	PN	**Pb**	**12 44 12.4**	**-0.9**
LGNR	**Loginova**	**1.56**	**289**	*e*P	**Pb**	**12 44 13.0**	**-0.8**
LGNR	**Loginova**	**1.56**	**289**	PN	**Pb**	**12 44 13.0**	**-0.8**
BKI	**Bering**	**1.57**	**103**	*e*P	**Pn**	**12 44 10.0**	**-1.9**
BKI				*e*S	**Sn**	**12 44 29.1**	**-2.3**
BKI	**Bering**	**1.57**	**103**	PN	**Pn**	**12 44 10.0**	**-1.9**
BKI				S	**Sn**	**12 44 29.1**	**-2.3**
SRKR	**Sorokina**	**1.60**	**312**	*e*P	**Pb**	**12 44 13.5**	**-0.9**
SRKR				*e*S	**Sb**	**12 44 36.4**	**+2.1**
SRKR	**Sorokina**	**1.60**	**312**	PN	**Pb**	**12 44 13.5**	**-0.9**
SRKR				S	**Sb**	**12 44 36.4**	**+2.1**
BZWR	**Bezymyannyi-We**	**1.63**	**284**	*e*P	**Pn**	**12 44 13.3**	**+0.3**
BZWR				*e*S	**Sb**	**12 44 35.7**	**+0.5**
BZWR	**Bezymyannyi-We**	**1.63**	**284**	PN	**Pn**	**12 44 13.3**	**+0.3**
BZWR				S	**Sb**	**12 44 35.7**	**+0.5**
KLY	**Klyuchi**	**1.66**	**297**	*e*P	**Pn**	**12 44 12.3**	**-0.9**
KLY				*e*S	**Sb**	**12 44 34.9**	**-0.9**
KLY	**Klyuchi**	**1.66**	**297**	PN	**Pn**	**12 44 12.3**	**-0.9**
KLY				S	**Sb**	**12 44 34.9**	**-0.9**
KRSR	**Krestovskiy**	**1.67**	**293**	*e*P	**Pn**	**12 44 13.7**	**+0.3**
KRSR				*e*S	**Sb**	**12 44 36.4**	**+0.3**
KRSR	**Krestovskiy**	**1.67**	**293**	PN	**Pn**	**12 44 13.7**	**+0.3**
KRSR				S	**Sb**	**12 44 36.4**	**+0.3**
TUMD	**Tumrok D**	**1.71**	**258**	*e*P	**Pn**	**12 44 14.4**	**+0.6**
TUMD				*e*S	**Sn**	**12 44 36.5**	**+1.5**
KIRR	**Kirishev**	**1.72**	**283**	*e*P	**Pb**	**12 44 15.1**	**-1.3**
KIRR				*e*S	**Sb**	**12 44 39.1**	**+1.5**
KIRR	**Kirishev**	**1.72**	**283**	PN	**Pb**	**12 44 15.1**	**-1.3**
KIRR				S	**Sb**	**12 44 39.1**	**+1.5**
KMNR	**Kamenistaya**	**1.75**	**277**	*e*P	**Pb**	**12 44 16.0**	**-0.9**
KMNR				*e*S	**Sb**	**12 44 39.8**	**+1.3**
KMNR	**Kamenistaya**	**1.75**	**277**	PN	**Pb**	**12 44 16.0**	**-0.9**
KMNR				S	**Sb**	**12 44 39.8**	**+1.3**
KPT	**Kopyto**	**1.79**	**283**	*e*P	**Pb**	**12 44 16.2**	**-1.3**
KPT	**Kopyto**	**1.79**	**283**	PN	**Pb**	**12 44 16.2**	**-1.3**
KZV	**Kizimen**	**1.79**	**256**	*e*P	**Pn**	**12 44 15.6**	**+0.5**
KZV				*e*S	**Sb**	**12 44 39.6**	**-0.1**
KZV	**Kizimen**	**1.79**	**256**	PN	**Pn**	**12 44 15.6**	**+0.5**
KZV				S	**Sb**	**12 44 39.6**	**-0.1**
TUMR	**Tumrok**	**1.83**	**262**	*e*P	**Pn**	**12 44 16.9**	**+1.3**
TUMR	**Tumrok**	**1.83**	**262**	PN	**Pn**	**12 44 14.4**	**-1.2**
TUMR				S	**Sn**	**12 44 36.5**	**-1.6**
KOZ	**Kozyrevsk**	**2.00**	**285**	*e*P	**Pb**	**12 44 20.1**	**-1.0**
KOZ				*e*S	**Sb**	**12 44 47.1**	**+1.6**
KOZ	**Kozyrevsk**	**2.00**	**285**	PN	**Pb**	**12 44 20.1**	**-1.0**
KOZ				S	**Sb**	**12 44 47.1**	**+1.6**
SRDR	**Sredinnyy**	**2.15**	**291**	*e*P	**Pb**	**12 44 21.9**	**-1.8**
SRDR				*e*S	**Sb**	**12 44 51.1**	**+1.2**
SRDR	**Sredinnyy**	**2.15**	**291**	PN	**Pb**	**12 44 21.9**	**-1.8**
SRDR				S	**Sb**	**12 44 51.1**	**+1.2**
ESO	**Esso**	**2.63**	**279**	*e*P	**Pn**	**12 44 27.4**	**+0.9**
ESO	**Esso**	**2.63**	**279**	PN	**Pn**	**12 44 27.4**	**+0.9**
KII	**Karymskiy**	**2.73**	**237**	*e*P	**Pn**	**12 44 28.6**	**+0.7**
KII	**Karymskiy**	**2.73**	**237**	PN	**Pn**	**12 44 28.6**	**+0.7**
SPN	**Mys Shipunski**	**3.15**	**219**	*e*P	**Pn**	**12 44 32.1**	**-1.6**
SPN				*e*S	**Sn**	**12 45 07.3**	**-3.3**
SPN	**Mys Shipunski**	**3.15**	**219**	PN	**Pn**	**12 44 32.1**	**-1.6**
SPN				S	**Sn**	**12 45 07.3**	**-3.3**
NLC	**Nalytchevo**	**3.36**	**225**	*e*P	**Pn**	**12 44 35.9**	**-0.6**
NLC	**Nalytchevo**	**3.36**	**225**	PN	**Pn**	**12 44 35.9**	**-0.6**
SDLR	**Sedlovina**	**3.47**	**230**	*e*P	**Pn**	**12 44 38.7**	**+0.5**
SDLR	**Sedlovina**	**3.47**	**230**	PN	**Pn**	**12 44 38.7**	**+0.5**
KRER	**Koryakskii**	**3.52**	**231**	*e*P	**Pn**	**12 44 39.6**	**+0.8**
KRER	**Koryakskii**	**3.52**	**231**	PN	**Pn**	**12 44 39.6**	**+0.8**
SMAR	**Somma**	**3.52**	**230**	*e*P	**Pn**	**12 44 39.3**	**+0.4**
SMAR	**Somma**	**3.52**	**230**	PN	**Pn**	**12 44 39.3**	**+0.4**
KRX	**Arik**	**3.52**	**232**	*e*P	**Pn**	**12 44 40.1**	**+1.2**
KRX	**Arik**	**3.52**	**232**	PN	**Pn**	**12 44 40.1**	**+1.2**
AVH	**Avacha**	**3.55**	**231**	*e*P	**Pn**	**12 44 40.3**	**+1.1**
AVH	**Avacha**	**3.55**	**231**	PN	**Pn**	**12 44 40.3**	**+1.1**
UGLR	**Uglovaya**	**3.55**	**230**	*e*P	**Pn**	**12 44 40.7**	**+1.5**
UGLR	**Uglovaya**	**3.55**	**230**	PN	**Pn**	**12 44 40.7**	**+1.5**
KOK	**Koryaka**	**3.57**	**232**	*e*P	**Pn**	**12 44 39.8**	**+0.2**
KOK	**Koryaka**	**3.57**	**232**	PN	**Pn**	**12 44 39.8**	**+0.2**
OSSR	**Ossora**	**3.67**	**358**	*e*P	**Pn**	**12 44 41.1**	**+0.4**
OSSR	**Ossora**	**3.67**	**358**	PN	**Pn**	**12 44 41.1**	**+0.4**
DALK	**Dalny**	**3.70**	**228**	*e*P	**Pn**	**12 44 41.4**	**+0.2**
DALK	**Dalny**	**3.70**	**228**	PN	**Pn**	**12 44 41.4**	**+0.2**
PET	**Petropavlovsk**	**3.75**	**229**	*e*P	**Pn**	**12 44 42.2**	**+0.3**
PET				*e*S	**Sn**	**12 45 25.1**	**-0.2**
PET	**Petropavlovsk**	**3.75**	**229**	PN	**Pn**	**12 44 42.2**	**+0.3**
PET				S	**Sn**	**12 45 25.1**	**-0.2**
PET	**Petropavlovsk**	**3.75**	**229**		**Pn**	**12 44 42.3**	**+0.3**
PALN	**Palana**	**3.95**	**334**	*e*P	Pb	12 44 48.9	-5.3
PALN	**Palana**	**3.95**	**334**	PN	Pb	12 44 48.9	-5.3
KRMR	**Karymshinskiy**	**4.11**	**230**	*e*P	**Pn**	**12 44 49.0**	**+2.1**
KRMR				*e*S	**Sn**	**12 45 36.0**	**+1.8**
KRMR	**Karymshinskiy**	**4.11**	**230**	PN	**Pn**	**12 44 49.0**	**+2.1**
KRMR				S	**Sn**	**12 45 36.0**	**+1.8**
PEA0B	**Petropavlovsk-**	**4.12**	**235**	PN	**Pn**	**12 44 48.1**	**+1.1**
PEA0B	**Petropavlovsk-**	**4.12**	**235**	Pn	**Pn**	**12 44 48.1**	**+1.1**
PETK	**Petropavlovsk-** 2.5nm,0.3s,baz=67,slow=18,SNR=29	**4.12**	**235**	Pn	**Pn**	**12 44 47.8**	**+0.8**
PETK				Sn	**Sn**	**12 45 39.9**	**+5.5**
	3.3nm,0.3s,baz=83,slow=17,SNR=6.3						
RUS	**Russkaya**	**4.25**	**224**	*e*P	**Pn**	**12 44 49.5**	**+0.8**
RUS	**Russkaya**	**4.25**	**224**	PN	**Pn**	**12 44 49.5**	**+0.8**
GRL	**Gorelyy**	**4.34**	**228**	*e*P	**Pn**	**12 44 51.7**	**+1.6**
GRL	**Gorelyy**	**4.34**	**228**	PN	**Pn**	**12 44 51.7**	**+1.6**
MTVR	**Mutnovka**	**4.34**	**226**	*e*P	**Pn**	**12 44 51.0**	**+0.9**
MTVR	**Mutnovka**	**4.34**	**226**	PN	**Pn**	**12 44 51.0**	**+0.9**
APC	**Apacha**	**4.49**	**236**	*e*P	**Pn**	**12 44 54.9**	**+2.9**
APC	**Apacha**	**4.49**	**236**	PN	**Pn**	**12 44 54.9**	**+2.9**
ASAK	**Asacha**	**4.53**	**227**	*e*P	**Pn**	**12 44 54.1**	**+1.4**
ASAK	**Asacha**	**4.53**	**227**	PN	**Pn**	**12 44 54.1**	**+1.4**
KDTR	**Khodutka, Kamc**	**4.90**	**222**	*e*P	**Pn**	**12 44 57.3**	**-0.4**
KDTR	**Khodutka, Kamc**	**4.90**	**222**	PN	**Pn**	**12 44 57.3**	**-0.4**
MIPR	**Malaya Ipel'ka**	**5.10**	**232**	*e*P	**Pn**	**12 45 02.2**	**+1.7**
MIPR	**Malaya Ipel'ka**	**5.10**	**232**	PN	**Pn**	**12 45 02.2**	**+1.7**
SKR	**Severo-Kuril's**	**6.55**	**224**	*e*P	**Pn**	**12 45 22.3**	**+2.0**
SKR	**Severo-Kuril's**	**6.55**	**224**	ePN	**Pn**	**12 45 19.1**	**-1.2**
SKR				*e*S	**Sn**	**12 46 36.5**	**+2.3**
SKR	comp=N,111nm,0.8s			smax	smax		
SKR	comp=E,79nm,0.9s			smax	smax		
ALID	**Alaid**	**6.64**	**228**	*e*P	**Pn**	**12 45 25.0**	**+3.3**
ALID	**Alaid**	**6.64**	**228**	PN	**Pn**	**12 45 25.0**	**+3.3**
SMY	**Shemya**	**6.95**	**110**	PN	**Pn**	**12 45 27.8**	**+2.0**
SMY	**Shemya**	**6.95**	**110**	Pn	**Pn**	**12 45 27.8**	**+2.0**
MA2	**Magadan** comp=E,0.3nm,0.3s,baz=129,slow=14,SNR=2.0	**7.83**	**306**	Pn	**Pn**	**12 45 35.4**	**-2.5**
MA2				LR	LR	12 48 55.2	
	comp=E,266nm,18.4s,baz=260,slow=41						
MA2	**Magadan**	**7.83**	**306**	Pn	**Pn**	**12 45 35.2**	**-2.6**
SEY	**Seymchan**	**9.23**	**327**	*e*PN	Pn	12 46 02.4	+5.3
GSTR	**Great Sitkin T**	**12.66**	**97**	Pn	**Pn**	**12 46 48.0**	**+3.9**
GRNR	**Gornyy**	**16.77**	**264**	*i*P	**P**	**12 47 41.0**	**+0.3**
GRNR	comp=Z,7.0nm,0.8s			pmax	pmax		
GRNR	comp=N,190nm,12.0s			MLR	MLR		
JKA	**Kamikawa-asahi**	**17.53**	**238**	P	**Pn**	**12 47 47.2**	**-1.1**
ASAJ	**Asahikawa** comp=N,0.9nm,0.3s,baz=84,slow=15,SNR=7.4	**17.54**	**238**	Pn	**Pn**	**12 47 47.4**	**-0.9**
YAK	**Yakutsk**	**18.40**	**304**	*e*P	**Pn**	**12 47 58.7**	**0.0**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ERM	**Erimo**	**18.90**	**232**	*e*P	**P**	**12 48 03.6**	**-0.6**
ERM	**Erimo**	**18.90**	**232**	P	**P**	**12 48 02.6**	**-1.6**
KLR	**Kul'dur** comp=Z,1.1nm,0.6s,baz=37,slow=11,SNR=2.5	**20.15**	**265**	P	**P**	**12 48 17.6**	**-0.3**
USRK	**Ussuriysk Ar.** comp=Z,1.5nm,0.7s,baz=36,slow=11,SNR=2.2	**22.96**	**253**	P	**P**	**12 48 47.7**	**-0.4**
OHAK	**Old Harbor**	**23.77**	**68**	P	**P**	**12 48 55.4**	**-0.5**
KDAK	**Kodiak Island** comp=Z,1.1nm,1.0s,baz=240,slow=14,SNR=2.1	**24.00**	**66**	P	**P**	**12 48 56.9**	**-1.1**
CNPM	**China Poot**	**24.32**	**62**	P	**P**	**12 49 01.1**	**0.0**
BWN	**Browne**	**24.64**	**50**	P	**P**	**12 49 04.8**	**+0.9**
BWN	comp=Z,14nm,1.3s			IAmb	IAmb	12 49 07.7	
CCB	**Clear Creek Bu**	**25.34**	**49**	P	**P**	**12 49 12.6**	**+2.4**
MJA0	**Matsu Arr-Jizo**	**25.56**	**232**	*e*P	**P**	**12 49 12.5**	**0.0**
MJA0	comp=Z,6.0nm,0.8s			pmax	pmax		
MAJO	**Matsushiro**	**25.57**	**232**	*ce*P	**P**	**12 49 12.2**	**-0.4**
MAJO	comp=Z,9.0nm,0.7s			pmax	pmax		
MAJO	**Matsushiro**	**25.57**	**232**	P	**P**	**12 49 12.5**	**-0.1**
MAJO	comp=Z,8.9nm,0.7s			IAmb	IAmb	12 49 14.7	
MAT	**Matsushiro**	**25.57**	**232**	P	**P**	**12 49 12.3**	**-0.3**
MJAR	**Matsushiro Arr** comp=Z,5.8nm,0.8s,baz=21,slow=8.8,SNR=22	**25.57**	**232**	P	**P**	**12 49 12.5**	**-0.1**
ILAR	**Eielson Array** comp=Z,0.7nm,0.9s,baz=273,slow=7.3,SNR=7.6	**25.73**	**49**	P	**P**	**12 49 13.5**	**-0.3**
SCM	**Sheep Creek Mo**	**25.83**	**56**	P	**P**	**12 49 15.3**	**+0.5**
SCM	comp=Z,16nm,1.2s			pmax	pmax		
SCM	**Sheep Creek Mo**	**25.83**	**56**	P	**P**	**12 49 15.3**	**+0.5**
SCM	comp=Z,16nm,1.2s			IAmb	IAmb	12 49 29.5	
KSRS	**Korea Array** comp=Z,0.7nm,0.7s,baz=38,slow=8.8,SNR=4.9	**29.91**	**248**	P	**P**	**12 49 49.6**	**-1.7**
KSRS	**Korea Array**	**29.91**	**248**	*e*P	**P**	**12 49 50.1**	**-1.2**
KSRS	comp=Z,1.0nm,0.7s			pmax	pmax		
HYT	**Haines Junctio**	**30.67**	**56**	P	**P**	**12 49 59.1**	**+1.2**
INK	**Inuvik** comp=Z,0.8nm,0.8s,baz=252,slow=6.4,SNR=2.3	**30.74**	**40**	P	**P**	**12 49 58.2**	**-0.1**
INK	**Inuvik**	**30.74**	**40**	P	**P**	**12 49 59.8**	**+1.5**
INK	comp=Z,6.0nm,1.5s			pmax	pmax		
INK	**Inuvik**	**30.74**	**40**	P	**P**	**12 49 59.8**	**+1.5**
SONM	**Songino Array** comp=Z,0.5nm,0.4s,baz=37,slow=10.0,SNR=2.6	**35.20**	**282**	P	**P**	**12 50 37.0**	**-0.7**
H11N2	**WAKE ISLAND Hy** baz=358,slow=76,SNR=322	**35.91**	**174**	T	T	13 29 49.3	
H11N3	**WAKE ISLAND Hy** baz=358,slow=76,SNR=190	**35.92**	**174**	T	T	13 29 50.3	
H11N1	**WAKE ISLAND Hy** baz=358,slow=76,SNR=255	**35.92**	**174**	T	T	13 29 50.6	
H11S1	**WAKE ISLAND Hy** baz=359,slow=75,SNR=11	**37.11**	**175**	T	T	13 31 17.8	
H11S3	**WAKE ISLAND Hy** baz=359,slow=75,SNR=11	**37.12**	**175**	T	T	13 31 16.5	
H11S2	**WAKE ISLAND Hy** baz=359,slow=75,SNR=11	**37.13**	**175**	T	T	13 31 36.5	
DGZ	**Jazzator, Alta**	**44.27**	**296**	*e*P	**P**	**12 51 52.3**	**-0.8**
DGZ	comp=Z,3.0nm,0.8s			pmax	pmax		
KURK	**Kurchatov**	**48.02**	**302**	*e*P	**P**	**12 52 20.1**	**-2.2**
KURK	comp=Z,5.0nm,1.5s			pmax	pmax		
KURK	**Kurchatov**	**48.02**	**302**	P	**P**	**12 52 21.1**	**-1.2**
KURK	comp=Z,3.4nm,0.9s			IAmb	IAmb	12 52 28.7	
WALA	**Waterton Lakes**	**48.16**	**61**	P	**P**	**12 52 25.8**	**+2.2**
WALA	comp=Z,7.0nm,1.4s			IAmb	IAmb	12 52 41.9	
MK31	**Makanchi Array**	**48.77**	**296**	P	**P**	**12 52 26.6**	**-1.7**
MK31	comp=Z,3.0nm,1.5s			pmax	pmax		
MK31	**Makanchi Array**	**48.77**	**296**	P	**P**	**12 52 26.6**	**-1.7**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.6s,baz=60,slow=7.4,SNR=7.8	**48.77**	**296**	P	**P**	**12 52 26.1**	**-2.1**
BRVK	**Borovoye**	**50.34**	**308**	P	**P**	**12 52 38.8**	**-1.2**
BRVK	comp=Z,3.0nm,0.7s			pmax	pmax		
BRVK	**Borovoye**	**50.34**	**308**	P	**P**	**12 52 38.8**	**-1.2**
BRVK	comp=Z,3.0nm,0.7s			IAmb	IAmb	12 52 39.1	
ARCES	**ARCESS Array B** comp=Z,1.1nm,0.8s,baz=12,slow=13,SNR=3.9	**51.48**	**342**	P	**P**	**12 52 47.8**	**-0.6**
ARCES	**ARCESS Array B**	**51.48**	**342**	*e*P	**P**	**12 52 49.3**	**+0.8**
ARCES	comp=Z,1.0nm,0.9s			pmax	pmax		
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.8s,baz=299,slow=9.2,SNR=1.5	**53.18**	**74**	P	**P**	**12 53 02.8**	**+1.1**
PDAR	**Pinedale Array** comp=Z,1.1nm,0.4s,baz=28,slow=4.1,SNR=1.9	**54.70**	**64**	P	**P**	**12 53 12.9**	**+0.1**
AAK	**Ala-Archa**	**55.65**	**297**	*e*P	**P**	**12 53 18.3**	**-1.3**
AAK	comp=Z,2.0nm,0.7s			pmax	pmax		
KK31	**Karatay Array**	**57.30**	**300**	P	**P**	**12 53 30.2**	**-1.0**
KK31	comp=Z,4.0nm,0.9s			pmax	pmax		
KK31	**Karatay Array**	**57.30**	**300**	P	**P**	**12 53 30.2**	**-1.0**
KK31	comp=Z,4.2nm,0.9s			IAmb	IAmb	12 53 31.0	
KKAR	**Karatay Array**	**57.30**	**300**	P	**P**	**12 53 30.3**	**-0.9**
KKAR	comp=Z,4.0nm,0.9s			pmax	pmax		
KKAR	**Karatay Array**	**57.30**	**300**	P	**P**	**12 53 30.3**	**-0.9**
KKAR	comp=Z,4.2nm,0.9s			IAmb	IAmb	12 53 31.1	
FINES	**FINESS Array B** comp=Z,2.4nm,0.8s,baz=46,slow=6.1,SNR=5.8	**58.55**	**338**	P	**P**	**12 53 39.4**	**-0.2**
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.5s,baz=25,slow=7.0,SNR=7.1	**60.52**	**259**	P	**P**	**12 53 53.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**60.52**	**259**	*e*P	**P**	**12 53 53.7**	**0.0**
CMAR	comp=Z,1.0nm,0.5s			pmax	pmax		
NOA	**NORSAR Array B** comp=Z,0.7nm,0.9s,baz=17,slow=15,SNR=1.6	**61.64**	**345**	P	**P**	**12 54 00.8**	**-0.1**
AKASG	**Malin Array Be** comp=Z,2.2nm,0.6s,baz=27,slow=6.3,SNR=5.4	**67.41**	**330**	P	**P**	**12 54 37.8**	**-0.8**
TX31	**Lajitas Ar. Si**	**67.97**	**70**	P	**P**	**12 54 43.6**	**+1.0**
TX32	**Lajitas Array**	**67.97**	**70**	P	**P**	**12 54 44.0**	**+1.4**
TX32	comp=Z,2.7nm,0.7s			IAmb	IAmb	12 54 52.9	
TXAR	**Lajitas Array** comp=Z,0.7nm,0.6s,baz=298,slow=4.6,SNR=14	**67.97**	**70**	P	**P**	**12 54 43.8**	**+1.2**
KBZ	**Khabaz** comp=Z,3.8nm,0.8s,baz=31,slow=3.2,SNR=7.6	**68.98**	**318**	P	**P**	**12 54 48.3**	**-0.2**
KBZ	**Khabaz**	**68.98**	**318**	*e*P	**P**	**12 54 49.2**	**+0.7**
KBZ	comp=Z,4.0nm,0.8s			pmax	pmax		
BUR08	**Bucovina Ar. S**	**71.29**	**332**	P	**P**	**12 55 03.2**	**+0.3**
BUR08	comp=Z,2.5nm,1.0s			IAmb	IAmb	12 55 04.1	
GERES	**GERESS Array B** comp=Z,0.2nm,0.3s,baz=354,slow=8.9,SNR=3.9	**72.87**	**340**	P	**P**	**12 55 12.7**	**+0.5**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.8s,baz=2.9,slow=8.7,SNR=2.2	**75.84**	**322**	P	**P**	**12 55 28.9**	**-0.8**
BRTR	**Keskin Array B**	**75.84**	**322**	P	**P**	**12 55 29.0**	**-0.8**
WR0	**Warramunga Arr**	**79.12**	**207**	P	**P**	**12 55 50.1**	**+2.2**
WR0	comp=Z,3.5nm,1.1s			IAmb	IAmb	12 55 58.1	
WRA	**Warramunga Arr** comp=Z,0.4nm,0.7s,baz=14,slow=5.7,SNR=4.9	**79.16**	**208**	P	**P**	**12 55 47.8**	**-0.4**
FITZ	**Fitzroy Crossi** comp=Z,1.3nm,0.9s,baz=7.1,slow=16,SNR=1.2	**80.03**	**216**	P	**P**	**12 55 52.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**80.03**	**216**	P	**P**	**12 55 52.8**	**-0.1**
FITZ	comp=Z,5.9nm,1.4s			IAmb	IAmb	12 56 08.0	
AS31	**Alice Springs**	**82.83**	**207**	P	**P**	**12 56 08.8**	**+1.1**
ASAR	**Alice Springs** comp=Z,0.6nm,0.7s,baz=14,slow=5.0,SNR=13	**82.83**	**207**	P	**P**	**12 56 07.9**	**+0.2**
ESDC	**Sonseca Array** comp=Z,0.3nm,0.7s,baz=0.0,slow=5.1,SNR=2.0	**84.48**	**350**	P	**P**	**12 56 16.5**	**+0.3**

*NCEDC **24** 12:47:12.6±2.5, 38˚.238N±0˚.008×122˚.35W±0˚.01, h8km±2km, Mwr3.6/3, Error ellipse: s-maj=1.5km s-min=1.1km az=84.0*
*NEIC **24** 12:47:12.4±1.4, 38˚.23N±0˚.01×122˚.36W±0˚.02, h19km±1km, Error ellipse: s-maj=2.5km s-min=1.6km az=67.0*
*NEIC **24** 12:47:12.6, 38˚.24N×122˚.35W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.59; $M_{\theta\theta}$0.73; $M_{\phi\phi}$-1.31; $M_{r\theta}$-0.37; $M_{\theta\phi}$2.68; $M_{\phi r}$-1.08; Fault plane solution: $M_0$3.13000×10^{14} NP1:ϕ_s281.77000°, δ66.95000°, λ8.57000°. NP2:ϕ_s188.40000°, δ82.12000°, λ156.72000°. Principal axes: T 2.9451, Plg22.0000°, Azm143.0000°; N 0.3417, Plg65.0000°, Azm351.0000°; P -3.2868, Plg10.0000°, Azm237.0000°;*

ISC 24 12:47:12.1±0.8, 38˚.23N±0˚.02×122˚.35W±0˚.02, **h14**km±5km, **n224**, σ0˚.88/229, **Northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGVM		**0.12**	**66**		**Pg**	**12 47 15.0**	**-0.4**
NGVM					**Sg**	**12 47 17.1**	**-0.6**
CVS	**Carmenet Viney**	**0.14**	**323**		**Pg**	**12 47 16.0**	**+0.2**
CVS					**Sg**	**12 47 18.7**	**+0.4**
NLHM	**Lake Herman**	**0.20**	**125**		**Pg**	**12 47 16.5**	**0.0**
CPIM	**Pinole Ridge**	**0.27**	**156**		**Pg**	**12 47 18.6**	**+0.9**
CSPM	**San Pablo Ridg**	**0.28**	**173**		**Pb**	**12 47 18.9**	**0.0**
CPMM	**Point Molate**	**0.29**	**189**		**Pg**	**12 47 18.7**	**+0.7**
NTYM	**Taylor**	**0.29**	**303**		**Pg**	**12 47 18.9**	**+0.7**
RFSB	**Richmond Field**	**0.32**	**178**		**Pg**	**12 47 19.3**	**+0.7**
CTAM	**Taylor**	**0.33**	**128**		**Pb**	**12 47 20.0**	**+0.2**
BRIB	**Briones**	**0.35**	**153**		**Pg**	**12 47 19.8**	**+0.6**
CVPM	**Vollmer Peak**	**0.36**	**164**		**Pg**	**12 47 20.3**	**+0.8**
BL88	**Building 88, L**	**0.36**	**168**		**Pg**	**12 47 20.1**	**+0.7**
VAK	**Adit at Lawren**	**0.36**	**167**		**Pg**	**12 47 20.2**	**+0.8**
BL67	**Building 67, L**	**0.36**	**168**		**Pg**	**12 47 20.3**	**+0.8**
BRK	**Berkeley--Havi**	**0.36**	**169**		**Pg**	**12 47 20.1**	**+0.6**
BKS	**Berkeley--Byer**	**0.37**	**166**		**Pg**	**12 47 20.3**	**+0.7**
NADM	**Allendale**	**0.38**	**53**		**Pb**	**12 47 21.1**	**+0.6**
NOLM	**Olema**	**0.40**	**241**		**Pg**	**12 47 20.9**	**+0.8**
CYBM	**Yerba Buena Is**	**0.42**	**181**		**Pg**	**12 47 21.1**	**+0.6**
MCCM	**Marconi Confer**	**0.43**	**258**	Pg	**Pg**	**12 47 21.2**	**+0.6**
MCCM				Sg	**Sb**	**12 47 27.7**	**0.0**
MAC	**Mark West Spri**	**0.43**	**317**		**Pg**	**12 47 21.3**	**+0.6**
SMCB	**Saint Mary's C**	**0.44**	**154**		**Pg**	**12 47 21.4**	**+0.6**
HMR	**Hamilton Ranch**	**0.44**	**100**		**Pb**	**12 47 22.1**	**+0.5**
JPRM	**Presidio of Sa**	**0.45**	**193**		**Pb**	**12 47 21.9**	**+0.1**
NBPM	**Berryessa Peak**	**0.45**	**16**		**Pb**	**12 47 22.2**	**+0.4**
CRHM	**Round Hill Res**	**0.47**	**143**		**Pb**	**12 47 22.3**	**+0.1**
CMCM	**Mills College**	**0.47**	**163**		**Pg**	**12 47 22.0**	**+0.6**
NHSM	**Mount Saint He**	**0.47**	**334**		**Pg**	**12 47 21.9**	**+0.4**
BDM	**Black Diamond**	**0.47**	**126**		**Pg**	**12 47 22.2**	**+0.7**
BGC	**Bolinger Road**	**0.47**	**151**		**Pg**	**12 47 22.1**	**+0.6**
NMCNC	**Mill Creek, So**	**0.57**	**309**		**Pg**	**12 47 23.6**	**+0.4**
GAXM	**Alexander Vall**	**0.57**	**327**		**Pg**	**12 47 23.7**	**+0.3**
NPRM	**Point Reyes**	**0.57**	**246**		**Pg**	**12 47 24.0**	**+0.6**
NMTM	**Middletown**	**0.58**	**353**		**Pb**	**12 47 23.9**	**+0.5**
JMGM	**Milagra Ridge**	**0.60**	**189**		**Pg**	**12 47 24.5**	**+0.6**
CMOB	**Morgan Territo**	**0.60**	**134**		**Pg**	**12 47 24.0**	**+0.1**
GCRM	**Castle Rock Sp**	**0.61**	**332**		**Pg**	**12 47 24.3**	**+0.2**
GBGM	**Boggs Mountain**	**0.64**	**336**		**Pg**	**12 47 25.1**	**+0.5**
JCPM	**Coyote Point**	**0.64**	**178**		**Pg**	**12 47 25.2**	**+0.6**
**MN

BJOM	**Mount Johnson**	**1.80**	**152**		**Pn**	12 47 41.2	**-1.5**
KIPM	**Iron Peak**	**1.80**	**331**		**Pb**	12 47 44.8	**-0.2**
BEHM	**Elkhorn Ranch**	**1.82**	**149**		**Pn**	12 47 42.4	**-0.7**
BJCM	**Johnson Can.**	**1.85**	**155**		**Pn**	12 47 42.5	**-0.9**
BRMM	**Rolling Bench**	**1.85**	**139**		**Pn**	12 47 43.3	**-0.1**
BEMM	**Emmet**	**1.86**	**147**		**Pn**	12 47 42.7	**-0.9**
BVL	**Bear Valley**	**1.90**	**150**		**Pn**	12 47 43.3	**-0.7**
BAVM	**Antelope Valle**	**1.90**	**146**		**Pn**	12 47 43.9	**-0.3**
RUBR	**Rubicon Trail**	**1.90**	**64**	Pn	**Pn**	12 47 44.7	**+0.3**
DONR	**Donner Summit**	**1.94**	**54**		**Pn**	12 47 45.5	**+0.6**
TAHR	**Tahoe**	**1.94**	**61**		**Pn**	12 47 46.0	**+1.0**
HAST	**Hastings Reser**	**1.95**	**161**		**Pn**	12 47 44.2	**-0.6**
BBGB	**Big Mountain B**	**1.95**	**147**		**Pn**	12 47 45.2	**+0.2**
O02D	**Mt. Diablo Mer**	**1.97**	**350**		**Pn**	12 47 45.3	**+0.1**
BPIM	**Pinnacles**	**1.98**	**151**		**Pn**	12 47 44.1	**-1.0**
LTCM	**Tuscan Springs**	**1.98**	**5**		**Pn**	12 47 44.2	**-1.0**
BSMM	**Soledad Missio**	**1.99**	**158**		**Pn**	12 47 44.6	**-0.7**
BMSM	**Mercy Hot Spri**	**2.00**	**141**		**Pn**	12 47 45.2	**-0.3**
IND	**Independence**	**2.01**	**53**		**Pn**	12 47 46.9	**+1.1**
BSGM	**Shirttail Gulc**	**2.02**	**154**		**Pn**	12 47 45.0	**-0.6**
LCMM	**Colby Mountain**	**2.02**	**18**		**Pn**	12 47 45.3	**-0.6**
BCWM	**Chews Ridge**	**2.02**	**162**		**Pn**	12 47 44.9	**-1.0**
GNO	**Genoa**	**2.08**	**70**		**Pn**	12 47 48.0	**+1.3**
LRV	**Little Rabbit**	**2.09**	**149**		**Pn**	12 47 46.8	**0.0**
KBF	**Kyburz Flat**	**2.10**	**52**		**Pn**	12 47 48.3	**+1.2**
MPK	**Martis Peak**	**2.10**	**59**		**Pn**	12 47 48.3	**+1.2**
O03E	**Paynes Creek**	**2.10**	**12**		**Pn**	12 47 46.0	**-1.0**
LBPM	**Beegum Peak**	**2.12**	**349**		**Pn**	12 47 47.6	**+0.3**
BAPM	**Anderson Peak**	**2.13**	**164**		**Pn**	12 47 46.3	**-1.1**
LOY	**Loyalton**	**2.18**	**49**		**Pn**	12 47 49.1	**+1.0**
VPK	**Verdi Peak**	**2.19**	**55**		**Pn**	12 47 49.5	**+1.1**
MMM	**Miami Mountain**	**2.22**	**111**		**Pn**	12 47 49.2	**+0.6**
PHRM	**Hernandez Vall**	**2.22**	**146**		**Pn**	12 47 48.6	**0.0**
PBWM	**Bitterwater Cr**	**2.23**	**149**		**Pn**	12 47 48.7	**+0.1**
LDBM	**Digger Butte**	**2.24**	**11**		**Pn**	12 47 48.4	**-0.5**
LRC	**Lone Oak Road**	**2.24**	**152**		**Pn**	12 47 48.4	**-0.4**
MHDM	**Hidden Dam**	**2.24**	**119**		**Pn**	12 47 48.7	**-0.1**
BFC	**Buffalo Canyon**	**2.25**	**72**		**Pn**	12 47 50.4	**+1.3**
KMRM	**Mail Ridge**	**2.25**	**332**	Pn	**Pn**	12 47 50.5	**+1.5**
WAKR	**Walker**	**2.31**	**82**	Pn	**Pn**	12 47 51.6	**+1.7**
PEAR	**Peavine Mounta**	**2.31**	**53**		**Pn**	12 47 51.4	**+1.4**
PNTR	**Pine Nut**	**2.32**	**67**	Pn	**Pn**	12 47 51.2	**+1.2**
WDC	**Whiskeytown Da**	**2.35**	**356**		**Pn**	12 47 48.9	**-1.3**
WDC	**Whiskeytown Da**	**2.35**	**356**	Pn	**Pn**	12 47 48.5	**-1.7**
PMPB	**Monarch Peak**	**2.36**	**148**	Pn	**Pn**	12 47 50.8	**+0.3**
VCNR	**Virginia City**	**2.36**	**62**	Pn	**Pn**	12 47 51.4	**+0.7**
LMEM	**Manzanita Entr**	**2.38**	**14**		**Pn**	12 47 51.0	**+0.1**
PAPM	**Alder Peak**	**2.45**	**161**		**Pn**	12 47 50.9	**-0.8**
PDRM	**Domengine Ranc**	**2.47**	**140**		**Pn**	12 47 52.0	**+0.1**
PSAM	**San Ardo**	**2.49**	**152**		**Pn**	12 47 52.8	**+0.5**
LUL	**Lundy Lake**	**2.50**	**93**		**Pn**	12 47 53.0	**+2.3**
KHBM	**Hayfork Bally**	**2.52**	**345**		**Pb**	12 47 57.6	**+0.4**
PARM	**Anticline Ridg**	**2.55**	**140**		**Pn**	12 47 53.5	**+0.5**
YERR	**Yerington**	**2.55**	**72**	Pn	**Pn**	12 47 54.2	**+1.0**
PSMM	**Smith Mountain**	**2.57**	**146**		**Pn**	12 47 55.0	**+1.5**
MINS	**Minaret Summit**	**2.66**	**102**		**Pn**	12 47 56.9	**+2.0**
MDCM	**Deadman Creek**	**2.67**	**100**		**Pn**	12 47 57.0	**+2.1**
HATC	**Hat Creek Radi**	**2.67**	**15**		**Pn**	12 47 56.5	**+1.8**
MDYM	**Dry Creek**	**2.70**	**101**		**Pn**	12 47 57.8	**+2.3**
OMMB	**Old Mammoth Mi**	**2.72**	**102**	Pn	**Pn**	12 47 57.2	**+1.6**
MMLB	**Mammoth Lakes**	**2.73**	**101**		**Pn**	12 47 58.5	**+2.8**
PAHR	**Pah Rah Range**	**2.74**	**57**	Pn	**Pn**	12 47 56.4	**+0.6**
ORC	**Owens River**	**2.98**	**100**		**Pb**	12 48 04.5	**-0.7**
PAGB	**Antelope Grade**	**3.01**	**145**	Pn	**Pn**	12 47 59.5	**+0.1**
LHV	**Little Huntoon**	**3.03**	**88**	Pn	**Pn**	12 48 01.1	**+1.6**
RYN	**Ryan**	**3.03**	**81**	Pn	**Pn**	12 48 00.8	**+1.0**
HELL	**Mitchell Peak,**	**3.07**	**119**		**Pn**	12 48 01.3	**+1.1**
NV11	**Mina Array Sit**	**3.31**	**85**	Pn	**Pn**	12 48 04.4	**+0.8**
KVN	**Kaiserville**	**3.43**	**75**	Pn	**Pn**	12 48 05.6	**+0.3**
YBH	**Yreka Blue Hor**	**3.51**	**356**	Pn	**Pn**	12 48 07.8	**+1.5**
MOD	**Modoc Plateau**	**3.99**	**23**	Pn	**Pn**	12 48 13.9	**+0.9**
ISA	**Isabella, Lake**	**4.03**	**128**	Pn	**Pn**	12 48 14.0	**+0.5**
K05A	**Summer Lake**	**4.62**	**13**	Pn	**Pn**	12 48 24.3	**+2.6**
PASC	**Pasadena Art C**	**5.27**	**139**	Pn	**Pn**	12 48 31.2	**+0.7**
MWC	**Mount Wilson**	**5.29**	**138**	Pn	**Pn**	12 48 31.5	**+0.5**
GSC	**Goldstone, Bar**	**5.33**	**122**	Pn	**Pn**	12 48 32.7	**+1.4**
PRN	**Pahroc Range**	**5.84**	**96**	Pn	**Pn**	12 48 39.6	**+1.3**
SHPR	**Sheep Range**	**5.98**	**105**	Pn	**Pn**	12 48 42.6	**+2.3**
PFO	**Pinyon Flats O**	**6.64**	**132**	Pn	**Pn**	12 48 49.7	**+0.4**
GLA	**Glamis**	**8.01**	**128**	Pn	**Pn**	12 49 07.7	**-0.4**

*KRNET **24** 13:01:54.4±0.1,39°.18N×72°.74E,mb2.9*
SOME 24 13:01:58.4,41°.08N×70°.73E,h0km,6C-6D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**1.03**	**176**	⇑*i*P	Pn	13 02 24.3	+4.2
	baz=1.0						
BTK				⇑*i*S	Sn	13 02 46.4	+11
	baz=1.0						
IUG	**Iuzhnay**	**1.19**	**334**	*e*P	Pn	13 02 25.4	+3.0
	5.7nm,0.1s						
IUG				*e*S	Sn	13 02 43.7	+4.4
	48nm,0.2s						
OHH	**Osh**	**1.66**	**109**	⇑*i*P	Pn	13 02 18.8	-10
	baz=1.0						
OHH				⇑*i*S	Sn	13 02 36.4	-14
	baz=1.0						
KK31	**Karatay Array**	**2.03**	**355**	⇑Pn	Pb	13 02 36.4	+0.3
	1.0nm,0.5s,baz=172,slow=17,SNR=22						
KK31				⇑Sn	Sg	13 03 05.6	+2.1
	1.4nm,0.3s,baz=180,slow=33,SNR=16						
BRLS	**Borolday**	**2.06**	**341**	*e*P	Pn	13 02 34.2	0.0
	6.4nm,0.2s						
BRLS				*e*S	Sn	13 02 59.7	-1.0
	6.8nm,0.3s						
AML	**Almayashu**	**2.46**	**64**	⇓*e*P	Pb	13 02 42.5	-1.2
	baz=13						
AML				⇓*i*S	Sg	13 03 17.8	+0.5
	baz=13						
MRKS	**Merke**	**2.49**	**47**	*e*P	Pg	13 02 45.2	-1.0
	1.7nm,0.3s						
MRKS				*e*S	Sg	13 03 18.4	-0.1
	3.0nm,0.5s						
UCH	**Uchtor**	**3.06**	**67**	⇓*i*P	Pn	13 02 46.6	-1.8
	baz=23						
UCH				⇓*i*S	Sn	13 03 25.1	-0.8
	baz=23						
KZA	**Kyzart**	**3.53**	**72**	⇓*i*P	Pn	13 02 48.5	-6.4
	baz=33						
KZA				⇓*i*S	Sn	13 03 28.9	-8.6
	baz=33						

*NIC **24** 13:06:51.4±0.0,35°.43N×31°.32E,h11km±2km,Ml4.4/3*
*ISK **24** 13:06:54.2,35°.37N×31°.61E,h8km,ML3.8/17*
*DDA **24** 13:06:54.5,35°.40N×31°.62E,h13km±2km,MW4.0*
*GII **24** 13:06:56.6±0.0,35°.13N×31°.65E,h10km,MD3.1/4, Mm3.0/2*
*IDC **24** 13:06:56.3±1.7,35°.25N×31°.44E,h55km±22km,mb3.4/5, mb1 3.5/12,mb1mx3.2/59,mbtmp3.5/12,ML3.4/7,Error ellipse: s-maj=16.8km s-min=10.9km az=65.0*
*HLW **24** 13:07:01.4,34°.77N×31°.00E,h23km±13km,Md4.0,Ml4.0*
ISC 24 13:06:55.2±1.1,35°.38N±0°.02×31°.54E±0°.02,h32km±9km, n92,σ2s08/129,mb3.8/5,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKMS	**Akamas**	**0.74**	**119**	P	**Pn**	**13 07 09.0**	**-0.4**
AKMS				S	**Sn**	**13 07 22.5**	**+3.0**
AKMS				AML	AML	13 07 23.8	
	61nm,0.6s						
AKMS				AML	AML	13 07 23.8	
	61nm,0.6s						
AKMS				AML	AML	13 07 24.9	
	138nm,0.4s						
AKMS				AML	AML	13 07 24.9	
	138nm,0.4s						
ALFC	**Alefka**	**0.89**	**104**	P	**Pn**	**13 07 11.1**	**-0.3**
ALFC				S	**Sn**	**13 07 27.2**	**+3.9**
ALFC				AML	AML	13 07 29.7	
	27nm,0.4s						
ALFC				AML	AML	13 07 29.7	
	27nm,0.4s						
ALFC				AML	AML	13 07 30.5	
	24nm,0.4s						
ALFC				AML	AML	13 07 30.5	
	24nm,0.4s						
NATA	**Nata**	**1.03**	**125**	P	**Pn**	**13 07 14.4**	**+1.0**
GAZI	**Gazipasa**	**1.06**	**36**	PG	**Pb**	**13 07 14.4**	**-0.6**
GAZI				SG	**Sn**	**13 07 29.3**	**+1.8**
GAZI	**Gazipasa**	**1.06**	**36**	*i* P	**Pb**	**13 07 14.0**	**-1.0**
GAZI				*i* S	**Sb**	**13 07 24.3**	**-4.3**
GAZI				IAML		13 07 32.0	
	comp=E,1μm,0.3s						
GAZI				IAML		13 07 34.0	
	comp=N,1μm,0.5s						
LEF	**Lefka**	**1.13**	**103**	PG	**Pb**	**13 07 14.6**	**-1.6**
LEF	**Lefka**	**1.13**	**103**	*i* P	**Pn**	**13 07 14.4**	**-0.3**
LEF				*i* S	**Sn**	**13 07 29.4**	**+0.2**
LEF				IAML		13 07 35.0	
	comp=E,2μm,0.4s						
LEF				IAML		13 07 39.0	
	comp=N,2μm,0.5s						
SZAC	**Souni**	**1.26**	**119**	P	**Pb**	**13 07 17.8**	**-0.6**
SZAC				S	**Sb**	**13 07 36.6**	**+2.3**
SZAC				AML	AML	13 07 42.7	
	comp=N,17nm,0.7s						
SZAC				AML	AML	13 07 42.7	
	comp=N,17nm,0.7s						
SZAC				AML	AML	13 07 43.5	
	comp=N,18nm,0.6s						
SZAC				AML	AML	13 07 43.5	
	comp=N,18nm,0.6s						
AKUM	**Antalya-Kumluc**	**1.36**	**314**	*i* P	**Pb**	**13 07 19.6**	**-0.4**
AKUM				*i* S	**Sb**	**13 07 43.3**	**+6.3**
AKUM				IAML		13 07 49.0	
	comp=N,297nm,0.6s						
AKUM				IAML		13 07 53.0	
	comp=E,367nm,0.6s						
TEKE	**Tekeli-Mersin**	**1.49**	**59**	PN	**Pb**	**13 07 20.7**	**-1.5**
TEKE				SN	**Sb**	**13 07 41.2**	**+0.4**
ASGA	**Asgata**	**1.52**	**112**	P	**Pb**	**13 07 21.4**	**-1.3**
CSS	**Mathiatis**	**1.52**	**105**	PN	**Pb**	**13 07 21.8**	**-1.0**
CSS	**Mathiatis**	**1.52**	**105**	Pn	**Pb**	**13 07 20.9**	**-1.9**
CSS	**Mathiatis**	**1.52**	**105**	P	**Pb**	**13 07 20.9**	**-1.9**
KEPZ	**Antalya-Kepez**	**1.52**	**2**	*i* P	**Pb**	**13 07 21.1**	**-1.8**
KEPZ				*i* S	**Sn**	**13 07 37.0**	**-1.9**
KEPZ				IAML		13 07 47.0	
	comp=E,300nm,0.5s						
KEPZ				IAML		13 07 50.0	
	comp=N,355nm,0.6s						
ATHAL	**Athalassa**	**1.54**	**98**	P	**Pb**	**13 07 22.7**	**-0.3**
LFK	**Lefkose**	**1.63**	**93**	PN	**Pb**	**13 07 22.8**	**-1.8**
ERMK	**Ermenek**	**1.68**	**41**	*i* P	**Pb**	**13 07 24.5**	**-1.1**
ERMK				*i* S	**Sb**	**13 07 47.1**	**+0.6**
ERMK				IAML		13 07 56.0	
	comp=N,579nm,0.6s						
ERMK				IAML		13 08 00.0	
	comp=E,648nm,0.8s						
MVOU	**Mavrovouni**	**1.75**	**101**	P	**Pn**	**13 07 23.4**	**+0.2**
MVOU				S	**Sb**	**13 07 48.6**	**+0.4**
AKAS	**Kas**	**1.79**	**299**	PN	**Pb**	**13 07 27.2**	**-0.2**
AKAS	**Kas**	**1.79**	**299**	*i* P	**Pb**	**13 07 28.9**	**+1.4**
AKAS				*i* S	Sb	13 07 57.9	+8.4
AKAS				IAML		13 08 17.0	
	comp=N,122nm,0.9s						
AKKU	**Akkuyu-Mersin**	**1.81**	**64**	PN	**Pb**	**13 07 25.4**	**-2.2**
GULN	**MERSIN_Gulnar**	**1.81**	**63**	*i* P	**Pb**	**13 07 25.4**	**-2.4**
GULN				*i* S	**Sn**	**13 07 47.3**	**+1.2**
GULN				IAML		13 07 53.0	
	comp=N,227nm,0.5s						
GULN				IAML		13 07 54.0	
	comp=E,196nm,0.3s						
TEVE	**Tevekalti-Mers**	**1.87**	**55**	PN	**Pb**	**13 07 26.9**	**-1.8**
KORT	**Korkueli**	**1.89**	**330**	PN	**Pb**	**13 07 28.2**	**-0.8**
KORT	**Korkueli**	**1.89**	**330**	*i* P	**Pb**	**13 07 30.5**	**+1.5**
KORT				*i* S	**Sb**	**13 07 56.0**	**+3.7**
KORT				IAML		13 08 07.0	
	comp=N,235nm,0.6s						
KORT				IAML		13 08 08.0	
	comp=E,386nm,1.0s						
OSC1	**CSNet OBS 1**	**1.89**	**187**	P	**Pn**	**13 07 23.4**	**-1.7**
OSC1				S	**Sn**	**13 07 48.7**	**+1.0**
ELL	**Elmali**	**1.90**	**316**	PN	**Pb**	**13 07 28.4**	**-0.9**
IKL	**Isikli**	**1.94**	**63**	PN	**Pb**	**13 07 27.6**	**-2.3**
EREN	**Erenkoy**	**2.15**	**85**	PN	**Pb**	**13 07 30.5**	**-2.9**
EREN	**Erenkoy**	**2.15**	**85**	*i* P	**Pb**	**13 07 31.2**	**-2.2**
EREN				*i* S	**Sn**	**13 07 54.0**	**-0.2**
EREN				IAML		13 08 12.0	
	comp=E,347nm,0.5s						
EREN				IAML		13 08 19.0	
	comp=N,301nm,0.5s						
SILI	**Silifke-Mersin**	**2.17**	**62**	PN	**Pb**	**13 07 31.0**	**-2.8**
FETY	**Fethiye**	**2.36**	**303**	*i* P	**Pn**	**13 07 30.4**	**-1.2**
FETY				*i* S	**Sn**	**13 07 54.9**	**-4.5**
OSC2	**CSNet OBS 4**	**2.37**	**165**	P	**Pn**	**13 07 32.5**	**+0.7**
OSC2				S	**Sn**	**13 08 01.0**	**+1.2**
KIZK	**Mersin**	**2.38**	**62**	PN	**Pb**	**13 07 33.9**	**-3.4**
KIZK	**Mersin**	**2.38**	**62**	*i* P	**Pb**	**13 07 35.0**	**-2.3**
KIZK				*i* S	**Sn**	**13 08 01.6**	**+1.6**
KIZK				IAML		13 08 09.0	
	comp=N,181nm,0.4s						
KIZK				IAML		13 08 16.0	
	comp=E,217nm,0.5s						
KMER	**Konya-Meram**	**2.48**	**15**	*i* P	**Pb**	**13 07 37.4**	**-1.6**
KMER				*i* S	**Sb**	**13 08 06.3**	**-2.9**
KMER				IAML		13 08 16.0	
	comp=N,224nm,0.9s						
KMER				IAML		13 08 17.0	
	comp=E,368nm,0.8s						
KONT	**Konya--Tatoy**	**2.65**	**14**	*i* P	**Pb**	**13 07 40.9**	**-1.0**
KONT				*i* S	**Sb**	**13 08 13.2**	**-0.8**
KONT				IAML		13 08 25.0	
	comp=N,128nm,0.6s						
KONT				IAML		13 08 27.0	
	comp=E,161nm,0.6s						
BAGO	**Egridir - ISPA**	**2.68**	**347**	*i* P	**Pb**	**13 07 41.5**	**-1.0**
BAGO				*i* S	**Sb**	**13 08 14.2**	**-0.7**
DOGA	**KONYA_Doganhis**	**2.73**	**2**	*i* P	**Pb**	**13 07 42.5**	**-0.8**
DOGA				*i* S	**Sb**	**13 08 13.7**	**-2.7**
DOGA				IAML		13 08 20.0	
	comp=N,199nm,0.7s						
DOGA				IAML		13 08 27.0	
	comp=E,169nm,0.7s						
DALY	**Dalyan (Mula)**	**2.75**	**302**	*i* P	**Pn**	**13 07 36.6**	**-0.3**
DALY				*i* S	**Sn**	**13 08 05.0**	**-4.0**
MERS	**Mersin**	**2.83**	**57**	PN	**Pn**	**13 07 40.7**	**+2.5**
KERG	**Konya-Eregli**	**2.91**	**45**	*i* P	**Pb**	**13 07 43.7**	**-2.8**
KERG				*i* S	**Sb**	**13 08 17.4**	**-4.3**
KERG				IAML		13 08 26.0	
	comp=N,227nm,0.6s						
KERG				IAML		13 08 27.0	
	comp=E,203nm,0.4s						
DED	**Mersin**	**3.07**	**58**	*i* P	**Pn**	**13 07 44.4**	**+2.9**
DED				*i* S	**Sn**	**13 08 17.1**	**0.0**
DED				IAML		13 08 37.0	
	comp=N,59nm,0.5s						
DED				IAML		13 08 37.0	
	comp=E,109nm,0.5s						
KZIL	**AFYON_Kizioren**	**3.09**	**339**	*i* P	**Pn**	**13 07 44.2**	**+2.5**
KZIL				*i* S	**Sn**	**13 08 20.5**	**+2.9**
KZIL				IAML		13 08 30.0	
	comp=E,86nm,0.7s						
KZIL				IAML		13 08 34.0	
	comp=N,70nm,0.5s						
KDHN	**Kadinhani**	**3.17**	**8**	*i* P	**Pb**	**13 07 46.4**	**-4.5**
KDHN				*i* S	**Sn**	**13 08 23.5**	**+3.8**
KDHN				IAML		13 08 30.0	
	comp=N,52nm,0.6s						
KDHN				IAML		13 08 32.0	
	comp=E,52nm,0.6s						
KRTS	**Karatas**	**3.33**	**68**	PN	**Pn**	**13 07 47.7**	**+2.8**
BOLV	**Bolvadin**	**3.37**	**352**	*i* P	**Pn**	**13 07 49.3**	**+3.7**
BOLV				*i* S	**Sn**	**13 08 25.4**	**+0.9**
BOLV				IAML		13 08 36.0	
	comp=N,89nm,0.7s						
BOLV				IAML		13 08 40.0	
	comp=E,101nm,0.9s						
KARA	**Karaisali**	**3.40**	**55**	PN	**Pn**	**13 07 48.8**	**+2.8**
YURE	**YUREGIR**	**3.61**	**65**	PN	**Pn**	**13 07 51.6**	**+2.7**
YURE	**YUREGIR**	**3.61**	**65**	*i* P	**Pn**	**13 07 51.1**	**+2.2**
YURE				*i* S	**Sn**	**13 08 30.2**	**-0.3**
BHL	**Bhannes**	**3.69**	**112**	*e*P	**Pn**	**13 07 50.9**	**+0.8**
DQRL	**Deir Qamar**	**3.72**	**115**	*e*P	**Pn**	**13 07 51.1**	**+0.7**
CEYT	**Ceyhan**	**3.77**	**63**	PN	**Pn**	**13 07 53.5**	**+2.5**
HNTI	**Hanita**	**3.78**	**126**	Pn	**Pn**	**13 07 52.1**	**+0.9**
HNTI				Sn	**Sn**	**13 08 34.0**	**-0.5**
HWQ	**Hawqa**	**3.78**	**106**	*e*P	**Pn**	**13 07 53.0**	**+1.6**
OFRI	**`Ofer**	**3.97**	**133**	Pn	**Pn**	**13 07 55.1**	**+1.3**
OFRI				Sn	**Sn**	**13 08 38.3**	**-0.9**
MMA0B	**Mount Meron ar**	**3.97**	**125**	Pn	**Pn**	**13 07 54.5**	**+0.6**
MMAI	**Mount Meron Ar**	**3.97**	**125**	P	**Pn**	**13 07 54.3**	**+0.4**
	comp=E,14nm,0.3s,baz=309,slow=13,SNR=20						
MMAI				S	**Sn**	**13 08 39.6**	**+0.2**
	comp=E,28nm,0.3s,baz=307,slow=27,SNR=7.4						
RCY	**Rachaya**	**4.01**	**117**	*e*P	**Pn**	**13 07 55.4**	**+0.9**
GEM	**Giv'at Ha'Em**	**4.04**	**121**	Pn	**Pn**	**13 07 55.6**	**+0.9**
GEM				Sn	**Sn**	**13 08 40.7**	**-0.2**
GDZ	**Gediz**	**4.05**	**337**	*i* P	**Pn**	**13 07 55.9**	**+0.8**
MMLI	**Mount Malkishu**	**4.36**	**131**	Pn	**Pn**	**13 08 00.3**	**+1.1**
MMLI				Sn	**Sn**	**13 08 48.4**	**-0.4**
HMDT	**Nahal Hemdat**	**4.55**	**132**	Pn	**Pn**	**13 08 02.9**	**+1.2**
BRTR	**Keskin Array B**	**4.65**	**20**	P	**Pn**	**13 08 07.6**	**+4.4**
	comp=E,0.5nm,0.3s,baz=185,slow=16,SNR=12						
BRTR				S	**Sn**	**13 09 01.6**	**+5.5**
	comp=E,0.5nm,0.3s,baz=194,slow=24,SNR=2.6						
UJAP	**Al Uja**	**4.73**	**135**	Pn	**Pn**	**13 08 05.0**	**+0.8**
UJAP				Sn	**Sn**	**13 08 57.3**	**-0.5**
RSH		**4.77**	**157**	P	**Pn**	**13 08 04.3**	**-0.4**
	baz=148						
DSI	**Dead Sea**	**4.97**	**139**	Pn	**Pn**	**13 08 08.4**	**+0.9**
YTIR	**Yattir**	**5.00**	**142**	Pn	**Pn**	**13 08 08.7**	**+0.7**
KZIT	**Kziot**	**5.06**	**151**	Pn	**Pn**	**13 08 09.1**	**+0.3**
IDI	**Anoyia**	**5.44**	**271**	P	**Pn**	**13 08 13.2**	**-0.8**
	comp=E,0.9nm,0.3s,baz=113,slow=13,SNR=2.3						
IDI				S	**Sn**	**13 09 10.8**	**-4.7**
	comp=E,2.9nm,0.3s,baz=268,slow=13,SNR=7.3						
KARJ	**KARJ**	**5.47**	**140**	Pn	Pn	13 08 05.4	-8.9
ASF	**Jabal al Asfar**	**5.49**	**124**	P	**Pn**	**13 08 17.1**	**+2.4**
	comp=E,1.2nm,0.3s,baz=251,slow=6.6,SNR=14						
ASF				S	**Sn**	**13 09 19.4**	**+2.7**
	comp=E,1.6nm,0.3s,baz=325,slow=16,SNR=2.0						
HMYD	**Mayadein**	**5.60**	**187**	P	**Pn**	**13 08 16.1**	**-0.1**
	baz=182						
HSAF	**As Saff**	**5.74**	**180**	P	**Pn**	**13 08 17.1**	**-1.1**
	baz=174						
GLL	**Jalalah**	**5.79**	**179**	P	**Pn**	**13 08 18.2**	**-0.5**
	baz=173						
PRNI	**Paran**	**5.80**	**149**	Pn	**Pn**	**13 08 18.7**	**-0.2**
KRMI	**Paran Flat**	**5.89**	**152**	Pn	**Pn**	**13 08 21.2**	**+1.0**
HRFI	**Mount Harif**	**6.08**	**150**	Pn	**Pn**	**13 08 22.7**	**-0.2**
EIL	**Elat**	**6.38**	**152**	P	**Pn**	**13 08 26.6**	**-0.3**
	comp=E,1.2nm,0.3s,baz=336,slow=18,SNR=8.2						
EIL				S	**Sn**	**13 09 36.7**	**-1.9**
	comp=E,1.7nm,0.3s,baz=157,slow=2.9,SNR=5.8						
EIL	**Elat**	**6.38**	**152**	Pn	**Pn**	**13 08 25.8**	**-1.1**
SLUM	**Salum**	**6.56**	**236**	P	**Pn**	**13 08 28.5**	**-0.8**
	baz=238						
SWA2		**8.00**	**222**	P	Pn	13 08 46.3	-2.8
	baz=222						
SWA2				AMP		13 10 00.0	
	baz=222						
SWA2				S	Sn	13 10 02.9	-15
	baz=222						
HFRF	**Wahat Farafira**	**8.66**	**200**	P	**Pn**	**13 08 55.9**	**-2.3**
	baz=198						
AKASG	**Malin Array Be**	**15.41**	**354**	P	**Pn**	**13 10 31.8**	**+1.8**
	comp=E,0.2nm,0.3s,baz=288,slow=18,SNR=1.1						
GERES	**GERESS Array B**	**18.81**	**321**	P	**P**	**13 11 11.5**	**-0.5**
	comp=E,0.0nm,0.3s,baz=118,slow=14,SNR=4.1						
KHC	**Kasperske Hory**	**19.06**	**322**	*e*P	**Pn**	**13 11 18.5**	**+2.9**
GEYT	**Alibeck**	**21.45**	**75**	P	**P**	**13 11 41.8**	**+1.1**
	comp=E,5.2nm,1.2s,baz=246,slow=10,SNR=2.0						
FINES	**FINESS Array B**	**26.32**	**354**	P	**P**	**13 12 26.5**	**-1.1**
	comp=E,2.4nm,1.0s,baz=169,slow=12,SNR=5.3						
ARCES	**ARCESS Array B**	**34.38**	**356**	P	**P**	**13 13 37.0**	**-1.8**
	comp=E,1.7nm,1.1s,baz=173,slow=10.0,SNR=2.1						
TORD	**Torodi Ar. Bea**	**34.84**	**238**	P	**P**	**13 13 42.6**	**-0.8**
	comp=E,0.3nm,0.6s,baz=36,slow=8.2,SNR=1.8						
MKAR	**Makanchi Array**	**39.28**	**57**	P	**P**	**13 14 21.5**	**+0.7**
	comp=E,0.6nm,0.7s,baz=282,slow=6.1,SNR=7.3						

*IDC **24** 13:42:38.9±2.7,20°.90S×178°.57W,h627km±34km, mb3.0/12,mb1 3.3/13,mb1mx3.2/29,mbtmp4.0/13,Error ellipse: s-maj=29.0km s-min=14.6km az=157.0*
*NEIC **24** 13:42:38.0±1.6,20°.9S±0°.1×178°.6W±0°.1,h619km±8km, mb4.6/28,Error ellipse: s-maj=19.1km s-min=14.6km az=

comp=Z,0.8nm,0.3s,baz=93,slow=2.6,SNR=6.8
ARCES ARCESS Array B 129.28 349 PKP **PKPdf** **14 00 36.2 +0.2**
comp=Z,0.3nm,0.5s,baz=40,slow=2.1,SNR=6.0
FINES FINESS Array B 136.07 343 PKP **PKPdf** **14 00 49.5 +0.5**
comp=Z,3.5nm,1.1s,baz=93,slow=2.8,SNR=4.4
HFS Hagfors 139.91 351 PKhKP PKPpre 14 00 49.4
comp=Z,0.9nm,0.4s,baz=12,slow=2.1,SNR=5.9
AKASG Malin Array Be 143.16 330 PKP PKPab 14 00 59.8 -0.7
comp=Z,2.4nm,0.4s,baz=41,slow=4.4,SNR=17
AKBB Malin Array Si 143.16 330 PKPpre 14 00 59.8
BRTR Keskin Array B 146.76 311 PKPbc **PKPbc** **14 01 11.4 -0.4**
comp=Z,0.9nm,0.7s,baz=116,slow=4.7,SNR=2.4
MMAI Mount Meron Ar 147.59 299 PKPbc **PKiKP** **14 01 15.5 0.0**
comp=Z,1.6nm,0.5s,baz=67,slow=4.8,SNR=2.4
GERES GERESS Array B 150.50 343 PKPbc **PKPbc** **14 01 20.6 0.0**
comp=Z,0.3nm,0.4s,baz=292,slow=3.6,SNR=5.2

*KRNET **24** 13:49:49.0±0.1, 43.˚40N×78.˚49E, h17km, mb2.2*
*NNC **24** 13:49:58.8±0.4, 43.˚26N×78.˚11E, h0km, mb2.2, mpv2.7, Error ellipse: s-maj=3.9km s-min=2.7km az=9.0*
*SOME **24** 13:49:59.5, 43.˚28N×78.˚12E, h15km*
ISC 24 13:49:58.9±1.0, 43.˚25N±0.˚02×78.˚11E±0.˚02, h7km±9km, n31, σ0s95/57, 7C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KURS	**Kuram**	**0.24**	**10**	*eP*		**Pg**	**13 50 03.8**	**0.0**
	8.7nm,0.1s							
KURS				*eS*		**Sg**	**13 50 07.2**	**+0.1**
	14nm,0.1s							
KURS	**Kuram**	**0.24**	**10**	P		**Pg**	**13 50 03.8**	**0.0**
	8.7nm,0.1s							
KURS				S		**Sg**	**13 50 07.2**	**+0.1**
	14nm,0.1s							
SATY	**Saty**	**0.29**	**131**	*eP*		**Pg**	**13 50 05.1**	**+0.5**
	4.8nm,0.1s							
SATY				*eS*		**Sg**	**13 50 09.2**	**+0.8**
	261nm,0.1s							
SATY	**Saty**	**0.29**	**131**	P		**Pg**	**13 50 05.1**	**+0.5**
	4.8nm,0.1s							
SATY				S		**Sg**	**13 50 09.2**	**+0.8**
	261nm,0.1s							
ANVS	**Anan'yevo**	**0.57**	**215**	⇑*i*	P	Pg	13 50 05.2	-4.7
	baz=24							
ANVS				⇑*i*	S	**Sg**	**13 50 17.4**	**0.0**
	baz=24							
UZB	**Uzynbulak**	**0.67**	**98**	*eP*		**Pg**	**13 50 11.6**	**-0.3**
	2.9nm,0.1s							
UZB				*eS*		**Sg**	**13 50 20.4**	**-0.2**
	16nm,0.2s							
UZB	**Uzynbulak**	**0.67**	**98**	P		**Pg**	**13 50 11.6**	**-0.3**
	2.9nm,0.1s							
UZB				S		**Sg**	**13 50 20.5**	**-0.2**
	16nm,0.2s							
MDOK	**Medeo**	**0.78**	**264**	*eP*		**Pg**	**13 50 14.4**	**+0.4**
	1.5nm,0.1s							
MDOK				*eS*		**Sg**	**13 50 25.1**	**+0.9**
	4.0nm,0.2s							
MDOK	**Medeo**	**0.78**	**264**	Pg		**Pg**	**13 50 14.4**	**+0.4**
	1.5nm,0.1s							
MDOK				Lg		Lg	13 50 25.1	
	4.0nm,0.2s							
PRZ	**Przheval'sk**	**0.79**	**164**	⇓*i*	P	Pg	13 50 06.6	-7.6
	baz=83							
PRZ				⇓*i*	S	**Sg**	**13 50 19.2**	**-5.3**
	baz=83							
MNBS	**Baschi**	**0.86**	**14**	*eP*		**Pg**	**13 50 15.3**	**-0.1**
	6.5nm,0.1s							
MNBS				*eS*		**Sb**	**13 50 26.7**	**-1.2**
	7.0nm,0.2s							
MNBS	**Baschi**	**0.86**	**14**	P		**Pg**	**13 50 15.3**	**-0.1**
	6.5nm,0.1s							
MNBS				S		**Sb**	**13 50 26.7**	**-1.2**
	7.0nm,0.2s							
ARXS	**Arharly**	**0.99**	**348**	*eP*		**Pg**	**13 50 17.2**	**-0.6**
	3.9nm,0.1s							
ARXS				*eS*		**Sg**	**13 50 29.8**	**-0.9**
	2.4nm,0.2s							
ARXS	**Arharly**	**0.99**	**348**	P		**Pg**	**13 50 17.2**	**-0.6**
	3.9nm,0.1s							
ARXS				S		**Sg**	**13 50 29.8**	**-0.9**
	2.4nm,0.2s							
PDGK	**Podgornoye**	**1.01**	**85**	⇓P		**Pg**	**13 50 17.5**	**-0.8**
	1.0nm,0.3s							
PDGK				⇑S		**Sg**	**13 50 30.2**	**-1.2**
	0.9nm,0.4s							
CHKK	**Chushkaly**	**1.02**	**307**	*eP*		**Pg**	**13 50 17.9**	**-0.5**
	0.7nm,0.1s							
CHKK				*eS*		**Sg**	**13 50 31.1**	**-0.6**
	7.4nm,0.1s							
CHKK	**Chushkaly**	**1.02**	**307**	P		**Pg**	**13 50 17.9**	**-0.5**
	0.7nm,0.1s							
CHKK				S		**Sg**	**13 50 31.1**	**-0.6**
	7.4nm,0.1s							
IZV	**Izvestkoviy**	**1.12**	**260**	*eP*		**Pg**	**13 50 20.2**	**-0.2**
	2.0nm,0.2s							
IZV				*eS*		**Sg**	**13 50 34.9**	**0.0**
	5.6nm,0.2s							
IZV	**Izvestkoviy**	**1.12**	**260**	P		**Pg**	**13 50 20.2**	**-0.2**
	2.0nm,0.2s							
IZV				S		**Sg**	**13 50 34.9**	**0.0**
	5.6nm,0.2s							
KTBS	**Karatobe**	**1.14**	**294**	*eP*		**Pb**	**13 50 20.4**	**-0.6**
	2.1nm,0.1s							
KTBS				*eS*		**Sg**	**13 50 35.3**	**-0.3**
	8.1nm,0.5s							
KTBS	**Karatobe**	**1.14**	**294**	P		**Pb**	**13 50 20.4**	**-0.6**
	2.1nm,0.1s							
KTBS				S		**Sg**	**13 50 35.3**	**-0.3**
	8.1nm,0.5s							
KDJ	**Kajisay**	**1.31**	**212**	⇑*eP*		Pn	13 50 18.5	-5.3
	baz=17							
KDJ				⇑*i*	S	**Sb**	**13 50 39.9**	**-1.1**
	baz=17							
KST	**Kastek**	**1.59**	**263**	*eP*		**Pn**	**13 50 28.3**	**+0.8**
	2.1nm,0.3s							
KST				*eS*		**Sn**	**13 50 48.6**	**+0.3**
	1.3nm,0.3s							
DJR	**Jarkent**	**1.63**	**48**	*eP*		**Pb**	**13 50 28.9**	**-0.4**
	0.9nm,0.1s							
DJR				*eS*		**Sb**	**13 50 49.8**	**-0.3**
	7.8nm,0.2s							
KTMS	**Ketmen**	**1.65**	**82**	*eP*		**Pb**	**13 50 30.0**	**+0.4**
	0.6nm,0.1s							
KTMS				*eS*		**Sg**	**13 50 51.9**	**+0.1**
	2.4nm,0.1s							
KTMS	**Ketmen**	**1.65**	**82**	P		**Pb**	**13 50 30.0**	**+0.4**
	0.6nm,0.1s							
KTMS				S		**Sg**	**13 50 51.9**	**+0.1**
	2.4nm,0.1s							
KRBS	**Karabastau**	**1.83**	**285**	*eP*		**Pn**	**13 50 32.0**	**+1.2**
	2.3nm,0.3s							
KRBS				*eS*		**Sn**	**13 50 55.0**	**+0.7**
	9.7nm,0.5s							
KRBS	**Karabastau**	**1.83**	**285**	P		**Pn**	**13 50 32.0**	**+1.2**
	2.3nm,0.3s							
KRBS				S		**Sn**	**13 50 55.0**	**+0.7**
	9.7nm,0.5s							
TKM2	**Tokmak 2**	**1.87**	**261**	⇑P		**Pb**	**13 50 33.1**	**-0.4**
	0.4nm,0.3s							
TKM2				⇑S		**Sg**	**13 50 58.9**	**-0.2**
	0.8nm,0.2s							
KAPS	**Kapalarasan**	**2.22**	**23**	*eP*		**Pb**	**13 50 39.4**	**0.0**
	0.5nm,0.3s							
KAPS				*eS*		**Sb**	**13 51 08.0**	**+0.8**
	5.5nm,0.3s							
KAPS	**Kapalarasan**	**2.22**	**23**	Pg		**Pb**	**13 50 39.4**	**0.0**
	0.5nm,0.3s							
KAPS				Lg		Lg	13 51 08.0	
	5.5nm,0.3s							

*IDC **24** 13:55:12.7±3.7, 20.˚90S×70.˚44W, h0km, mb4.2/1, mb1 4.0/2, mb1mx3.5/40, mbtmp3.9/2, ML3.2/1, Error ellipse: s-maj=128.7km s-min=63.6km az=102.0*
*NEIC **24** 13:55:13.2±1.9, 19.˚94S±0.˚02×71.˚05W±0.˚05, h10km±1km, mb4.7/3, Error ellipse: s-maj=7.5km s-min=3.2km az=267.0*
*SJA **24** 13:55:14.3±0.8, 19.˚96S×70.˚95W, h23km±4km, ML3.8, MW4.0*
*GUC **24** 13:55:17.2±0.9, 19.˚95S×70.˚96W, h33km±3km, ML3.8*
ISC 24 13:55:13.1±1.5, 19.˚95S±0.˚02×71.˚05W±0.˚05, h14km±9km, n65, σ1s06/88, mb4.8/3, 11C-5D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
TA02	**Huaiquique**	**0.92**	**110**	⇓*iP*		**Pg**	**13 55 31.4**	**+0.5**
TA02				*i* S		**Sg**	**13 55 43.0**	**+0.1**
TA02				IAML			13 55 45.1	
	comp=N,9μm,0.2s							
PSGC	**Pisagua**	**0.94**	**68**	⇓*iP*		**Pb**	**13 55 31.4**	**+0.2**
PSGC				*i* S		**Sb**	**13 55 43.0**	**-0.6**
PSGCX	**Pisagua**	**0.94**	**68**			**Pb**	**13 55 31.2**	**0.0**
PSGCX						**Sb**	**13 55 41.9**	**-1.8**
PSGCX	**Pisagua**	**0.94**	**68**	*eP*		**Pb**	**13 55 31.5**	**+0.2**
PSGCX				*eS*		**Sb**	**13 55 43.4**	**-0.3**
TA01	**Diego Aracena**	**1.02**	**127**	⇑*iP*		**Pg**	**13 55 33.4**	**+0.6**
TA01				*i* S		**Sn**	**13 55 46.1**	**-0.9**
TA01				IAML			13 55 48.2	
	comp=E,3μm,0.5s							
TA01	**Diego Aracena**	**1.02**	**127**	Pg		**Pg**	**13 55 33.4**	**+0.6**
TA01				Sg		**Sb**	**13 55 45.5**	**-0.3**
PATCX	**Punta Patache**	**1.20**	**136**	⇑*iP*		**Pb**	**13 55 36.4**	**+0.7**
PATCX				*i* S		**Sn**	**13 55 51.8**	**0.0**
PATCX	**Punta Patache**	**1.20**	**136**			**Pb**	**13 55 36.3**	**+0.5**
PATCX				Sn		**Sn**	**13 55 51.3**	**-0.5**
PATCX	**Punta Patache**	**1.20**	**136**	*eP*		**Pb**	**13 55 36.3**	**+0.7**
PATCX				*eP*		**Pb**	**13 55 36.4**	**+0.7**
PATCX				*eP*		**Pb**	**13 55 36.4**	**+0.7**
PATCX				*eP*		**Pb**	**13 55 36.4**	**+0.7**
PATCX				*eS*		**Sg**	**13 55 52.3**	**+0.3**
PB11	**IPOC Station P**	**1.32**	**82**	⇓*iP*		**Pb**	**13 55 37.9**	**+0.1**
PB11				*i* S		**Sn**	**13 55 53.9**	**-1.0**
PB11				IAML			13 55 55.8	
	comp=N,7μm,0.2s							
PB11	**IPOC Station P**	**1.32**	**82**			**Pb**	**13 55 37.9**	**+0.1**
PB11	**IPOC Station P**	**1.32**	**82**	*eP*		**Pb**	**13 55 38.0**	**+0.1**
PB11				*eS*		**Sb**	**13 55 54.9**	**+0.2**
PB11				IAML			13 55 55.5	
	comp=Z,4μm,0.3s							
PB12	**IPOC Station P**	**1.50**	**27**	⇑*iP*		**Pb**	**13 55 41.2**	**+0.4**
PB12				*i* S		**Sg**	**13 56 00.9**	**-0.5**
PB12				IAML			13 56 07.8	
	comp=N,1μm,0.6s							
PB12	**IPOC Station P**	**1.50**	**27**			**Pb**	**13 55 41.2**	**+0.4**
PB12	**IPOC Station P**	**1.50**	**27**	*eP*		**Pb**	**13 55 41.2**	**+0.4**
PB12				IAML			13 56 07.7	
	comp=Z,741nm,0.4s							
MNMC	**Minye Minye**	**1.60**	**59**	⇓*iP*		**Pb**	**13 55 42.6**	**+0.1**
MNMC				*i* S		**Sg**	**13 56 03.7**	**-0.9**
MNMC				IAML			13 56 09.2	
	comp=E,4μm,0.2s							
MNMC	**Minye Minye**	**1.60**	**59**			**Pb**	**13 55 42.5**	**0.0**
MNMCX	**Minye Minye**	**1.60**	**59**	*eP*		**Pb**	**13 55 42.8**	**+0.2**
AP01	**Chacalluta**	**1.71**	**23**	⇑*eP*		**Pb**	**13 55 44.4**	**+0.1**
AP01				*eS*		**Sb**	**13 56 06.1**	**+0.4**
AP01				IAML			13 56 11.7	
	comp=E,4μm,0.3s							
AP01	**Chacalluta**	**1.71**	**23**	Pn		**Pn**	**13 55 42.5**	**0.0**
PB02	**IPOC Station P**	**1.73**	**142**	⇑*iP*		**Pb**	**13 55 44.1**	**-0.6**
PB02				*i* S		**Sb**	**13 56 07.2**	**+0.7**
PB02	**IPOC Station P**	**1.73**	**142**	*eP*		**Pb**	**13 55 44.2**	**-0.6**
PB02				*eS*		**Sb**	**13 56 06.9**	**+0.4**
PB02				IAML			13 56 14.6	
	comp=Z,3μm,0.4s							
GO01	**Chusmiza**	**1.77**	**81**	⇑*iP*		**Pb**	**13 55 45.0**	**-0.7**
GO01				*i* S		**Sb**	**13 56 07.4**	**-0.5**
GO01	**Chusmiza**	**1.77**	**81**			**Pb**	**13 55 44.9**	**-0.7**
PB08	**IPOC Station P**	**1.79**	**96**	⇑*iP*		**Pb**	**13 55 45.0**	**-0.9**
PB08				*i* S		**Sb**	**13 56 08.2**	**-0.2**
PB08				IAML			13 56 14.2	
	comp=N,2μm,0.7s							
PB08	**IPOC Station P**	**1.79**	**96**			**Pb**	**13 55 45.5**	**-0.4**
PB08	**IPOC Station P**	**1.79**	**96**	*eP*		**Pb**	**13 55 45.8**	**-0.1**
PB08				IAML			13 56 12.7	
	comp=Z,1μm,0.6s							
PB01	**IPOC Station P**	**1.82**	**127**	⇑*iP*		**Pb**	**13 55 45.5**	**-0.8**
PB01				*i* S		**Sb**	**13 56 07.8**	**-1.2**
PB01				⇓*e*			13 56 19.9	
PB01	**IPOC Station P**	**1.82**	**127**			**Pb**	**13 55 45.5**	**-0.8**
PB07	**IPOC Station P**	**2.07**	**149**	*eP*		**Pn**	**13 55 48.7**	**+1.1**
PB07				*eS*		**Sb**	**13 56 14.8**	**-1.5**
PB07				IAML			13 56 34.2	
	comp=E,817nm,0.6s							
PB07	**IPOC Station P**	**2.07**	**149**			**Pn**	**13 55 48.4**	**+0.7**
PB07	**IPOC Station P**	**2.07**	**149**	*eP*		**Pn**	**13 55 48.9**	**+1.3**
PB07				IAML			13 56 24.2	
	comp=Z,747nm,0.5s							
PB16	**IPOC Station P**	**2.17**	**42**	⇑*iP*		**Pb**	**13 55 51.2**	**-1.3**
PB16				*i* S		**Sb**	**13 56 18.4**	**-1.1**
PB16				IAML			13 56 24.8	
	comp=N,796nm,0.3s							
PB16	**IPOC Station P**	**2.17**	**42**			**Pn**	**13 55 50.8**	**+1.4**
PB16	**IPOC Station P**	**2.17**	**42**	*eP*		**Pb**	**13 55 53.0**	**+0.5**
PB16				IAML			13 56 25.4	
	comp=Z,760nm,0.4s							
PB03	**IPOC Station P**	**2.41**	**150**	*eP*		**Pn**	**13 55 53.4**	**+1.1**
PB03				*eS*		**Sn**	**13 56 23.3**	**+1.6**
PB03				IAML			13 56 37.4	
	comp=E,515nm,0.5s							
PB03	**IPOC Station P**	**2.41**	**150**	*eP*		**Pn**	**13 55 53.8**	**+1.5**
PB03				IAML			13 56 39.0	
	comp=Z,360nm,0.3s							
PB09	**IPOC Station P**	**2.49**	**138**			**Pn**	**13 55 55.7**	**+2.2**
PB09	**IPOC Station P**	**2.49**	**138**	*eP*		**Pb**	**13 55 55.8**	**-1.9**
PB09				IAML			13 56 35.2	
	comp=Z,735nm,0.6s							
PB04	**IPOC Station P**	**2.51**	**161**	⇑*eP*		**Pn**	**13 55 54.8**	**+1.1**
PB04				*eS*		**Sn**	**13 56 22.4**	**-1.9**
PB04				IAML			13 56 42.8	
	comp=E,663nm,0.2s							
PB04	**IPOC Station P**	**2.51**	**161**	Pn		**Pn**	**13 55 54.8**	**+1.1**
PB04	**IPOC Station P**	**2.51**	**161**	*eP*		**Pn**	**13 55 55.7**	**+2.0**
PB04				IAML			13 56 47.1	
	comp=Z,358nm,0.5s							
PB05	**IPOC Station P**	**2.99**	**165**	*eP*		**Pn**	**13 56 00.9**	**+0.7**
PB05				IAML			13 57 07.0	
	comp=Z,137nm,0.7s							
PB06	**IPOC Station P**	**3.06**	**154**			**Pn**	**13 56 02.0**	**+0.7**
PB06	**IPOC Station P**	**3.06**	**154**	*eP*		**Pn**	**13 56 02.3**	**+1.0**
PB06				IAML			13 56 58.9	
	comp=Z,271nm,0.4s							
LVC	**Limon Verde**	**3.31**	**143**			**Pn**	**13 56 07.1**	**+2.3**
LVC	**Limon Verde**	**3.31**	**143**	*eP*		**Pn**	**13 56 07.5**	**+2.7**
LVC				*eS*		**Sg**	**13 56 56.9**	**-2.7**
LVC				IAML			13 57 02.6	
	comp=Z,108nm,0.5s							
PB15	**IPOC Station P**	**3.56**	**156**			**Pn**	**13 56 08.8**	**+0.7**
PB15	**IPOC Station P**	**3.56**	**156**	*eP*		**Pn**	**13 56 10.1**	**+2.0**
PB15				IAML			13 57 16.5	
	comp=Z,448nm,0.4s							
PB10	**IPOC Station P**	**3.57**	**173**	Pn		**Pn**	**13 56 08.5**	**+0.4**
PB10	**IPOC Station P**	**3.57**	**173**	*eP*		**Pn**	**13 56 08.8**	**+0.6**
LPAZ	**La Paz**	**4.58**	**38**	Pn		**Pb**	**13 56 30.9**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=224,slow=5.9,SNR=15							
LPAZ	**La Paz**	**4.58**	**38**			Pn	13 56 27.9	+5.3
LPAZ	**La Paz**	**4.58**	**38**	*eP*		Pn	13 56 28.0	+5.4
PB14	**IPOC Station P**	**4.69**	**173**	Pn		**Pn**	**13 56 24.5**	**+0.8**
GO02	**Mina Guanaco**	**5.36**	**166**	Pn		**Pn**	**13 56 33.6**	**+0.7**
AC01	**Pan de Azucar**	**6.18**	**176**	Pn		**Pn**	**13 56 43.8**	**-0.2**
AC05	**El Transito**	**8.87**	**176**	Pn		**Pn**	**13 57 22.2**	**+1.1**
LCO	**Las Campanas**	**9.02**	**178**	Pn		**Pn**	**13 57 23.0**	**-0.2**
PLCA	**Paso Flores**	**20.72**	**179**	P		Pn	13 59 55.8	+0.3
PLCA				IAmb		IAmb	13 59 57.6	
	comp=Z,21nm,1.6s							
S44A	**Carbondale**	**59.85**	**343**	P		**P**	**14 05 19.4**	**+1.3**
S44A				IAmb		IAmb	14 05 19.9	
	comp=Z,6.0nm,0.7s							
SYO	**Syowa Base**	**78.64**	**160**	⇑*eP*		P	14 07 02.4	-12
TOA0	**Torodi Ar. Sit**	**78.75**	**72**	P		**P**	**14 07 15.6**	**-0.1**
TOA0				IAmb		IAmb	14 10 11.2	
	comp=Z,16nm,1.8s							
TORD	**Torodi Ar. Bea**	**78.75**	**72**	P		**P**	**14 07 16.4**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=252,slow=5.4,SNR=7.5							
MKAR	**Makanchi Array**	**145.50**	**33**	PKPbc		**PKiKP**	**14 14 53.5**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=336,slow=4.7,SNR=8.4							

IDC 24 13:58:23.4±2.1, 4.˚28S×151.˚02E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.1/43, mbtmp3.1/2, Error ellipse: s-maj=60.5km s-min=11.8km az=172.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.00**	**91**	Pg		Pb	13 58 43.4	-0.3
	132nm,0.3s,baz=315,slow=1.8,SNR=560							
KRVT				Lg		Lg	13 58 55.5	
	72nm,0.3s,baz=306,slow=21,SNR=6.2							
WRA	**Warramunga Arr**	**22.51**	**225**	P		P	14 03 23.4	-1.6
	0.3nm,0.4s,baz=48,slow=11,SNR=6.6							
ASAR	**Alice Springs**	**25.38**	**219**	P		P	14 03 54.3	+1.6
	0.2nm,0.7s,baz=46,slow=10.0,SNR=4.3							
TORD	**Torodi Ar. Bea**	**148.46**	**288**	PKPbc		PKPbc	14 18 12.3	-0.9
	0.6nm,0.9s,baz=55,slow=1.3,SNR=2.7							

*DDA **24** 13:58:39.6, 35.˚43N×27.˚58E, h7km±1km, MW3.7*
*ISK **24** 13:58:42.7, 35.˚57N×27.˚71E, h2km, ML3.5/13*
*IDC **24** 13:58:42.2±1.3, 35.˚55N×27.˚78E, h0km, mb3.6/4, mb1 3.5/8, mb1mx3.4/58, mbtmp3.4/8, ML2.9/3, Error ellipse: s-maj=35.2km s-min=17.2km az=165.0*
*THE **24** 13:58:43.1, 35.˚52N×27.˚75E, h0km±3km, ML3.0/4, Error ellipse: s-maj=8.2km s-min=1.3km az=143.0*
*NIC **24** 13:58:43.2±0.0, 35.˚54N×27.˚78E, h11km±1km, MlI3.7/5*
*ATH **24** 13:58:45.5, 35.˚77N×27.˚53E, h12km±2km, ML3.0/7, Error ellipse: s-maj=4.4km s-min=1.3km az=138.0*
ISC 24 13:58:43.7±1.1, 35.˚56N±0.˚03×27.˚73E±0.˚02, h12km±8km, n73, σ1s23/103, mb3.5/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KARP	**Karpathos**	**0.47**	**268**	P		**Pg**	**13 58 52.5**	**-0.4**
KARP				S		**Sb**	**13 59 00.8**	**0.0**
	2μm,0.6s							
KARP	**Karpathos**	**0.47**	**268**	P		**Pg**	**13 58 52.8**	**0.0**
KARP				S		**Sg**	**13 58 58.7**	**-0.4**
KARP				AML		AML	13 59 09.1	
	comp=E,4097μm,0.4s							
KARP				AML		AML	13 59 11.1	
	comp=N,4156μm,0.6s							
KARP	**Karpathos**	**0.47**	**268**	PG		**Pg**	**13 58 52.2**	**-0.7**
KARP				SG		**Sg**	**13 58 59.7**	**+0.6**
KARP	**Karpathos**	**0.47**	**268**	P		**Pb**	**13 58 53.2**	**-0.7**
KARP				S		**Sb**	**13 59 01.1**	**+0.3**
KARP				AML		AML	13 59 08.7	
	comp=N,4.1nm,0.4s							
KARP				AML		AML	13 59 08.7	
	comp=N,4.1nm,0.4s							
KARP				AML		AML	13 59 24.8	
	comp=N,3.9nm,0.6s							
KARP				AML		AML	13 59 24.8	
	comp=N,3.9nm,0.6s							
ARG	**Arkhangelos**	**0.73**	**26**	P		**Pb**	**13 58 57.8**	**-0.5**
ARG	**Arkhangelos**	**0.73**	**26**	P		**Pb**	**13 58 58.0**	**-0.3**
ARG				S		**Sg**	**13 59 07.3**	**+0.1**
ARG				AML		AML	13 59 14.1	
	comp=E,3728μm,0.4s							
ARG				AML		AML	13 59 16.4	
	comp=N,3186μm,0.3s							
ARG	**Arkhangelos**	**0.73**	**26**	PG		**Pg**	**13 58 57.6**	**-0.1**
ARG				SG		**Sb**	**13 59 08.0**	**-0.2**
ARG	**Arkhangelos**	**0.73**	**26**	P		**Pg**	**13 58 57.4**	**-0.4**
ARG				S		**Sb**	**13 59 08.2**	**0.0**
DAT	**Datca**	**1.17**	**354**	P		**Pn**	**13 59 06.7**	**+0.7**
DAT				S		**Sn**	**13 59 23.1**	**+1.1**
DAT	**Datca**	**1.17**	**354**	PN		**Pn**	**13 59 06.1**	**+0.1**
DAT				SN		**Sn**	**13 59 22.7**	**+0.7**
DAT	**Datca**	**1.17**	**354**	*i* P		**Pn**	**13 59 06.2**	**+0.2**
DAT				*i* S		**Sb**	**13 59 21.7**	**+0.6**
DAT				IAML			13 59 26.0	
	comp=N,370nm,0.5s							
DAT				IAML			13 59 26.0	
	comp=E,379nm,1.0s							
TURN	**Turunc**	**1.28**	**19**	PN		**Pn**	**13 59 07.7**	**-2.5**
TURN	**Turunc**	**1.28**	**19**	*i* P		**Pn**	**13 59 07.3**	**-2.9**
TURN				*i* S		**Sn**	**13 59 24.0**	**-5.6**
TURN				IAML			13 59 33.0	
	comp=N,726nm,0.6s							
TURN				IAML			13 59 39.0	
	comp=E,651nm,0.8s							
ZKR	**Zakros**	**1.32**	**251**	P		**Pn**	**13 59 07.2**	**-0.8**
ZKR	**Zakros**	**1.32**	**251**	P		**Pb**	**13 59 08.3**	**-0.2**
ZKR				AML		AML	13 59 35.8	
	comp=E,2128μm,0.8s							
ZKR				AML		AML	13 59 36.4	
	comp=N,969μm,0.8s							
ZKR	**Zakros**	**1.32**	**251**	PN		**Pb**	**13 59 08.2**	**-0.2**
DALY	**Dalyan (Mula)**	**1.46**	**30**	PN		**Pg**	**13 59 11.0**	**-0.6**
DALY	**Dalyan (Mula)**	**1.46**	**30**	*i* P		**Pn**	**13 59 09.6**	**-0.3**
DALY				*i* S		**Sg**	**13 59 32.9**	**+2.3**
DALY				IAML			13 59 42.0	
	comp=N,523nm,0.7s							
DALY				IAML			13 59 53.0	
	comp=E,210nm,0.8s							
BDRM	**Kayabasi**	**1.52**	**351**	*i* P		**Pn**	**13 59 11.2**	**+0.4**
BDRM				*i* S		**Sn**	**13 59 28.8**	**-1.7**
BDRM				IAML			13 59 36.0	
	comp=E,605nm,0.5s							
FETY	**Fethiye**	**1.53**	**45**	PN		**Pb**	**13 59 12.1**	**+0.1**
FETY	**Fethiye**	**1.53**	**45**	*i* P		**Pn**	**13 59 11.2**	**+0.3**
FETY				*i* S		**Sg**	**13 59 36.7**	**+3.8**
FETY				IAML			13 59 44.0	
	comp=E,117nm,0.9s							
FETY				IAML			13 59 45.0	
	comp=N,184nm,0.6s							
BODT	**Bodrum**	**1.54**	**347**	P		**Pn**	**13 59 11.1**	**+0.1**
BODT				S		**Sb**	**13 59 32.4**	**+0.8**
BODT	**Bodrum**	**1.54**	**347**	PN		**Pb**	**13 59 11.7**	**-0.4**
KSL	**Kastellorizon**	**1.61**	**68**	P		**Pn**	**13 59 10.6**	**-1.4**
KSL				AML

IOSP	**Ios island**	**2.29**	**301**	P		**Pn**	**13 59 22.0**	**+0.6**
IOSP	**Ios island**	**2.29**	**301**	P		**Pn**	**13 59 21.4**	**+0.1**
APE	**Apeiranthos**	**2.33**	**311**	P		**Pn**	**13 59 22.4**	**+0.5**
APE				S		**Sn**	**13 59 51.2**	**+0.7**
	comp=E,120nm,0.8s							
APE	**Apeiranthos**	**2.33**	**311**	P		**Pn**	**13 59 22.4**	**+0.5**
APE				AML	AML		14 00 04.2	
	comp=E,207μm,0.4s							
APE				AML	AML		14 00 10.0	
	comp=N,292μm,0.6s							
APE	**Apeiranthos**	**2.33**	**311**	PN		**Pn**	**13 59 22.7**	**+0.8**
APE	**Apeiranthos**	**2.33**	**311**	P		**Pn**	**13 59 22.4**	**+0.5**
APE				S		**Sn**	**13 59 52.4**	**+1.8**
IDI	**Anoyia**	**2.34**	**264**	Pn		**Pb**	**13 59 24.1**	**-1.8**
	comp=N,1.5nm,0.3s,baz=52,slow=23,SNR=5.9							
IDI				Sn		**Sb**	**13 59 54.0**	**-0.8**
	comp=N,5.1nm,0.3s,baz=336,slow=21,SNR=2.9							
IDI	**Anoyia**	**2.34**	**264**	P		**Pb**	**13 59 24.2**	**-1.7**
KORT	**Korkueli**	**2.56**	**55**	PN		**Pn**	**13 59 26.9**	**+1.8**
KORT	**Korkueli**	**2.56**	**55**	*i* P		**Pn**	**13 59 26.5**	**+1.4**
KORT				*i* S		**Sb**	**14 00 02.5**	**+1.5**
VAM	**Vamos**	**2.89**	**268**	P		**Pn**	**13 59 31.2**	**+1.7**
URLA	**Izmir**	**2.94**	**342**	*i* P		**Pn**	**13 59 29.9**	**-0.4**
URLA				*i* S		**Sb**	**14 00 09.5**	**-2.4**
IMMV	**Iera Moni Meta**	**3.06**	**269**	P		**Pn**	**13 59 34.9**	**+2.9**
CHOS	**Chios island**	**3.12**	**335**	P		**Pn**	**13 59 33.6**	**+0.7**
KEPZ	**Antalya-Kepez**	**3.40**	**66**	*i* P		**Pn**	**13 59 39.0**	**+2.3**
KEPZ				*i* S		**Sn**	**14 00 15.8**	**-1.2**
OSC1	**CSNet OBS 1**	**3.58**	**124**	P		**Pn**	**13 59 38.2**	**-0.8**
OSC1				S		**Sn**	**14 00 22.3**	**+1.1**
AKMS	**Akamas**	**3.80**	**97**	P		**Pn**	**13 59 41.7**	**-0.4**
AKMS				S		**Sn**	**14 00 27.1**	**+0.2**
AKMS				AML	AML		14 00 32.7	
	comp=N,0.4nm,0.6s							
AKMS				AML	AML		14 00 32.7	
	comp=N,0.4nm,0.6s							
AKMS				AML	AML		14 00 37.0	
	comp=N,0.3nm,0.4s							
AKMS				AML	AML		14 00 37.0	
	comp=N,0.3nm,0.4s							
ALFC	**Alefka**	**4.00**	**94**	P		**Pn**	**13 59 43.9**	**-0.9**
ALFC				S		**Sn**	**14 00 32.9**	**+1.3**
ALFC				AML	AML		14 00 36.3	
	comp=N,0.3nm,0.5s							
ALFC				AML	AML		14 00 36.3	
	comp=N,0.3nm,0.5s							
ALFC				AML	AML		14 00 37.7	
	comp=N,0.3nm,0.6s							
ALFC				AML	AML		14 00 37.7	
	comp=N,0.3nm,0.6s							
VLI	**Velíai**	**4.05**	**288**	P		**Pn**	**13 59 46.7**	**+1.2**
BAYC	**CANAKKALE_Bayr**	**4.28**	**348**	*i* P		**Pn**	**13 59 49.3**	**+0.6**
BAYC				*i* S		**Sn**	**14 00 36.8**	**-1.7**
SZAC	**Souni**	**4.29**	**99**	S		**Sn**	**14 00 39.4**	**+0.4**
ASGA	**Asgata**	**4.58**	**98**	P		**Pn**	**13 59 52.0**	**-0.8**
ASGA				AML	AML		14 00 54.3	
	comp=N,0.2nm,0.7s							
ASGA				AML	AML		14 01 01.2	
	comp=N,0.2nm,0.6s							
CSS	**Mathiatis**	**4.62**	**96**	P		**Pn**	**13 59 52.4**	**-1.0**
MVOU	**Mavrovouni**	**4.86**	**95**	P		**Pn**	**13 59 56.9**	**+0.3**
BRTR	**Keskin Array B**	**6.26**	**47**	Pn		**Pn**	**14 00 18.0**	**+2.0**
	comp=N,0.1nm,0.3s,baz=237,slow=13,SNR=2.3							
MMAI	**Mount Meron Ar**	**6.84**	**110**	Pn		**Pn**	**14 00 24.0**	**+0.1**
	comp=N,1.4nm,0.3s,baz=297,slow=14,SNR=2.9							
GERES	**GERESS Array B**	**16.82**	**326**	Pn		**Pn**	**14 02 39.7**	**+0.6**
	baz=140,slow=14,SNR=3.2							
ESDC	**Sonseca Array**	**25.37**	**289**	P		**P**	**14 04 11.3**	**+0.5**
	comp=N,0.8nm,0.6s,baz=78,slow=9.1,SNR=8.5							
TORD	**Torodi Ar. Bea**	**32.38**	**233**	P		**P**	**14 05 13.0**	**-0.4**
	comp=N,1.1nm,0.8s,baz=35,slow=9.4,SNR=5.7							
MKAR	**Makanchi Array**	**41.79**	**57**	P		**P**	**14 06 33.1**	**0.0**
	comp=N,0.2nm,0.5s,baz=273,slow=5.5,SNR=2.5							
ZALV	**Zalesovo Beam**	**43.20**	**46**	P		**P**	**14 06 44.4**	**0.0**
	comp=N,0.6nm,0.6s,baz=241,slow=5.9,SNR=2.0							

*IDC **24** 14:03:04.8±0.6,55.27S×27.95W,h0km,mb4.2/10, mb1 4.3/10,mb1mx4.1/28,mbtmp4.2/10,MS3.3/1, Ms1 3.3/1,ms1mx2.9/19,Error ellipse: s-maj=22.2km s-min=18.8km az=86.0*

*NEIC **24** 14:03:07.3±1.4,55.3S±0.1×28.1W±0.2,h18km±4km, mb4.6/12,Error ellipse: s-maj=16.6km s-min=14.9km az=182.0*

ISC 24 14:03:06.2±0.6,55.2S±0.1×28.0W±0.1,h10km,n27, σ0s78/25,mb4.3/10,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.99**	**278**		**Pn**	**14 04 20.2**	**-0.9**
PMSA	**Palmer Station**	**20.09**	**227**	P	**P**	**14 07 41.4**	**+1.9**
	6.2nm,0.7s,baz=58,slow=7.7,SNR=7.5						
PMSA	**Palmer Station**	**20.09**	**227**	IAmb	IAmb	14 07 46.2	
	comp=Z,29nm,1.6s						
PLCA	**Paso Flores**	**31.39**	**280**	LR	LR	14 23 50.3	
	comp=Z,50nm,18.2s,baz=340,slow=4.0						
QSPA	**South Pole Qui**	**35.02**	**180**	P	**P**	**14 09 58.7**	**+0.1**
	comp=Z,3.4nm,0.6s,baz=192,slow=3.0,SNR=32						
QSPA	**South Pole Qui**	**35.02**	**180**	P	**P**	**14 09 58.4**	**-0.3**
QSPA				IAmb	IAmb	14 10 43.0	
	comp=Z,23nm,1.9s						
CPUP	**Villa Florida**	**35.91**	**312**	P	**P**	**14 10 06.5**	**0.0**
	comp=Z,2.2nm,0.8s,baz=158,slow=9.7,SNR=3.7						
VA03	**San Esteban**	**37.14**	**289**	P	**P**	**14 10 17.0**	**0.0**
MAW	**Mawson**	**41.09**	**144**	P	**P**	**14 10 49.0**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=322,slow=17,SNR=2.1						
BOSA	**Boshof**	**46.24**	**77**	P	**P**	**14 11 32.0**	**+0.5**
	comp=Z,3.8nm,1.1s,baz=127,slow=2.8,SNR=4.4						
BOSA	**Boshof**	**46.24**	**77**	P	**P**	**14 11 30.9**	**-0.7**
PB08	**IPOC Station P**	**46.69**	**302**	P	**P**	**14 11 35.1**	**-0.3**
PB08				IAmb	IAmb	14 12 22.4	
	comp=Z,6.3nm,0.8s						
PB11	**IPOC Station P**	**47.26**	**302**	P	**P**	**14 11 38.5**	**-1.1**
VNDA	**Vanda**	**47.37**	**183**	P	**P**	**14 11 39.3**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=189,slow=6.2,SNR=14						
VNDA	**Vanda**	**47.37**	**183**	P	**P**	**14 11 39.8**	**+0.2**
MNMC	**Minye Minye**	**47.70**	**302**	P	**P**	**14 11 43.5**	**-0.2**
LPAZ	**La Paz**	**49.52**	**306**	P	**P**	**14 11 58.0**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=127,slow=6.0,SNR=12						
LPAZ	**La Paz**	**49.52**	**306**	P	**P**	**14 11 58.2**	**+0.6**
LPAZ				IAmb	IAmb	14 11 58.8	
	comp=Z,2.3nm,0.7s						
MATP	**Matopo**	**54.50**	**74**	P	**P**	**14 12 33.5**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=229,slow=9.3,SNR=1.9						
TOA0	**Torodi Ar. Sit**	**72.58**	**30**	P	**P**	**14 14 34.1**	**+0.7**
TOA0				IAmb	IAmb	14 15 48.0	
	comp=Z,14nm,1.8s						
TORD	**Torodi Ar. Bea**	**72.58**	**30**	P	**P**	**14 14 34.4**	**+1.0**
	comp=Z,2.3nm,0.5s,baz=204,slow=6.6,SNR=27						
ASAR	**Alice Springs**	**99.91**	**163**	P	**Pdif**	**14 16 49.2**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=179,slow=4.3,SNR=4.8						
FINES	**FINESS Array B**	**123.88**	**28**	PKP	**PKPdf**	**14 22 02.5**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=72,slow=4.5,SNR=6.1						
ARCES	**ARCESS Array B**	**130.36**	**22**	PKP	**PKPdf**	**14 22 14.9**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=191,slow=0.9,SNR=6.3						
INK	**Inuvik**	**144.87**	**321**	PKP	**PKPab**	**14 22 41.2**	**+0.4**
	comp=Z,4.7nm,1.0s,baz=74,slow=3.5,SNR=9.6						
ILAR	**Eielson Array**	**149.21**	**313**	PKPbc	**PKPbc**	**14 22 53.6**	**+0.2**
	comp=Z,5.9nm,0.9s,baz=122,slow=2.0,SNR=39						
SONM	**Songino Array**	**151.15**	**86**	PKPbc	**PKPbc**	**14 22 59.0**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=229,slow=3.1,SNR=6.0						

*IDC **24** 14:10:06.7±1.5,9.21S×158.88E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.5/23,mbtmp3.6/3,Error ellipse: s-maj=49.4km s-min=11.2km az=6.0*

*NEIC **24** 14:10:07.8±0.7,9.4S±0.1×159.03E±0.07,h10km±1km, mb4.3/4,Error ellipse: s-maj=25.3km s-min=7.0km az=338.0*

ISC 24 14:10:10.3±1.2,9.4S±0.4×159.02E±0.08,h27km,n12, σ0s22/10,mb4.0/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.92**	**92**	Pg	**Pb**	**14 10 27.8**	**+0.1**
	108nm,0.3s,baz=219,slow=6.1,SNR=136						
HNR				Lg	Lg	14 10 41.5	
	524nm,0.3s,baz=168,slow=20,SNR=17						
HNR	**Honiara**	**0.92**	**92**	Pn	**Pb**	**14 10 27.6**	**-0.1**
HNR				Sn	**Sb**	**14 10 39.6**	**0.0**
WR0	**Warramunga Arr**	**25.86**	**243**	P	**P**	**14 15 40.2**	**+0.2**
WR0				IAmb	IAmb	14 16 34.5	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**25.93**	**244**	P	**P**	**14 15 41.0**	**+0.4**
WRAB	**Tennant Creek**	**26.02**	**244**	P	**P**	**14 15 41.4**	**-0.1**
WRAB				IAmb	IAmb	14 16 21.4	
	comp=Z,10.0nm,1.4s						
WB2	**Warramunga Arr**	**26.02**	**243**	P	**P**	**14 15 41.6**	**+0.1**
WRA	**Warramunga Arr**	**26.03**	**243**	P	**P**	**14 15 41.8**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=70,slow=9.5,SNR=8.1						
ASAR	**Alice Springs**	**27.87**	**236**	P	**P**	**14 15 57.9**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=60,slow=9.9,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**29.95**	**15**	T	T	14 46 25.7	
	baz=194,slow=76,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**29.96**	**15**	T	T	14 46 26.2	
	baz=194,slow=76,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**29.97**	**15**	T	T	14 46 27.2	
	baz=194,slow=76,SNR=13						
MKAR	**Makanchi Array**	**87.83**	**318**	P	**P**	**14 22 57.3**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=89,slow=6.3,SNR=5.4						

*VAO **24** 14:39:57.9±0.4,20.71S×69.15W,h129km±3km,mb4.5*

*SJA **24** 14:39:58.5±0.7,20.80S×68.98W,h116km±3km,ML4.4, MW4.1*

*NEIC **24** 14:39:58.9±2.2,20.80S±0.04×68.92W±0.06,h111km±3km, Error ellipse: s-maj=8.3km s-min=5.2km az=88.0*

*IDC **24** 14:39:59.9±1.2,20.79S×68.72W,h112km±12km,mb4.0/7, mb1 4.0/11,mb1mx3.7/27,mbtmp4.3/11,Error ellipse: s-maj=23.4km s-min=12.4km az=112.0*

*GUC **24** 14:40:00.0±0.5,20.79S×68.90W,h108km±2km,ML4.5*

ISC 24 14:39:58.4±0.5,20.80S±0.02×68.99W±0.04,h118km±4km, n168,σ1s45/216,mb4.6/12,16C-5D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.53**	**243**	*i* P	**Pn**	**14 40 16.7**	**+0.3**
PB01				*i* S	**Sn**	**14 40 30.0**	**+0.1**
PB01				IAML		14 40 30.3	
	comp=N,15μm,0.2s						
PB01	**IPOC Station P**	**0.53**	**243**		**Pn**	**14 40 16.6**	**+0.3**
PB01				Sn	**Sn**	**14 40 29.4**	**-0.5**
PB01	**IPOC Station P**	**0.53**	**243**	*e*P	**Pn**	**14 40 16.7**	**+0.3**
PB01				*e*S	**Sn**	**14 40 30.3**	**+0.4**
PB01				IAML		14 40 32.4	
	comp=Z,8μm,0.2s						
PB08	**IPOC Station P**	**0.68**	**347**	*i* P	**Pn**	**14 40 18.4**	**+0.6**
PB08				*i* S	**Sn**	**14 40 32.5**	**+0.1**
PB08				IAML		14 40 33.8	
	comp=E,20μm,0.2s						
PB08	**IPOC Station P**	**0.68**	**347**	Pn	**Pn**	**14 40 18.4**	**+0.6**
PB08				Sn	**Sn**	**14 40 31.8**	**-0.6**
PB08	**IPOC Station P**	**0.68**	**347**	*e*P	**Pn**	**14 40 18.4**	**+0.6**
PB08				*e*S	**Sn**	**14 40 32.5**	**+0.1**
PB08				IAML		14 40 34.2	
	comp=Z,6μm,0.2s						
PB02	**IPOC Station P**	**0.99**	**239**	*i* P	**Pn**	**14 40 21.3**	**+1.0**
PB02				*i* S	**Sn**	**14 40 37.8**	**+0.9**
PB02	**IPOC Station P**	**0.99**	**239**	*e*P	**Pn**	**14 40 21.4**	**+1.0**
PB02				*e*S	**Sn**	**14 40 38.0**	**+1.2**
PB02				IAML		14 40 39.6	
	comp=Z,16μm,0.3s						
PB09	**IPOC Station P**	**1.02**	**194**	*i* P	**Pn**	**14 40 21.8**	**+1.1**
PB09				*i* S	**Sn**	**14 40 38.5**	**+1.1**
PB09	**IPOC Station P**	**1.02**	**194**		**Pn**	**14 40 21.7**	**+1.1**
PB09				Sn	**Sn**	**14 40 37.5**	**+0.1**
PB09	**IPOC Station P**	**1.02**	**194**	*e*P	**Pn**	**14 40 21.8**	**+1.1**
PB09				*e*S	**Sn**	**14 40 38.8**	**+1.3**
PB09				IAML		14 40 42.0	
	comp=Z,9μm,0.5s						
PATCX	**Punta Patache**	**1.09**	**269**	*i* P	**Pn**	**14 40 22.2**	**+0.9**
PATCX				*i* S	**Sn**	**14 40 39.5**	**+0.9**
PATCX	**Punta Patache**	**1.09**	**269**		**Pn**	**14 40 22.2**	**+0.9**
PATCX				Sn	**Sn**	**14 40 39.6**	**+1.1**
PATCX	**Punta Patache**	**1.09**	**269**	*e*P	**Pn**	**14 40 22.2**	**+0.9**
TA01	**Diego Aracena**	**1.14**	**282**	*i* P	**Pn**	**14 40 22.5**	**+0.7**
TA01				*i* S	**Sn**	**14 40 40.3**	**+0.9**
TA01	**Diego Aracena**	**1.14**	**282**		**Pn**	**14 40 22.4**	**+0.7**
GO01	**Chusmiza**	**1.15**	**350**	*i* P	**Pn**	**14 40 22.9**	**+0.6**
GO01				*i* S	**Sn**	**14 40 40.5**	**+0.2**
GO01	**Chusmiza**	**1.15**	**350**		**Pn**	**14 40 23.0**	**+0.7**
GO01				Sn	**Sn**	**14 40 40.3**	**0.0**
TA02	**Huaiquique**	**1.20**	**296**	*i* P	**Pn**	**14 40 23.3**	**+1.0**
TA02				*i* S	**Sn**	**14 40 41.3**	**+0.9**
TA02				IAML		14 40 42.5	
	comp=N,16μm,0.2s						
PB11	**IPOC Station P**	**1.21**	**329**	*i* P	**Pn**	**14 40 23.3**	**+0.6**
PB11				*i* S	**Sn**	**14 40 41.3**	**+0.3**
PB11	**IPOC Station P**	**1.21**	**329**	Pn	**Pn**	**14 40 23.2**	**+0.5**
PB11	**IPOC Station P**	**1.21**	**329**	*e*P	**Pn**	**14 40 23.3**	**+0.6**
PB11				*e*S	**Sn**	**14 40 41.8**	**+0.8**
PB11				IAML		14 40 43.1	
	comp=Z,4μm,0.3s						
PB07	**IPOC Station P**	**1.25**	**222**	*i* P	**Pn**	**14 40 24.0**	**+1.0**
PB07				*i* S	**Sn**	**14 40 42.6**	**+0.9**
PB07				IAML		14 40 43.5	
	comp=N,10μm,0.2s						
PB07	**IPOC Station P**	**1.25**	**222**		**Pn**	**14 40 23.8**	**+0.7**
PB07				Sn	**Sn**	**14 40 41.9**	**+0.3**
PB07	**IPOC Station P**	**1.25**	**222**	*e*P	**Pn**	**14 40 24.0**	**+1.0**
PB07				*e*S	**Sn**	**14 40 42.7**	**+1.1**
PB07				IAML		14 40 43.7	
	comp=Z,7μm,0.4s						
PB03	**IPOC Station P**	**1.43**	**210**	*i* P	**Pn**	**14 40 26.2**	**+1.1**
PB03				*i* S	**Sn**	**14 40 46.2**	**+0.9**
PB03				IAML		14 40 46.8	
	comp=N,6μm,0.5s						
PB03	**IPOC Station P**	**1.43**	**210**	*e*P	**Pn**	**14 40 26.2**	**+1.1**
PB03				*e*S	**Sn**	**14 40 46.3**	**+0.9**
PB03				IAML		14 40 48.4	
	comp=Z,5μm,0.2s						
PSGC	**Pisagua**	**1.61**	**318**	*i* P	**Pn**	**14 40 27.7**	**+0.6**
PSGC				*i* S	**Sn**	**14 40 49.0**	**+0.2**
PSGCX	**Pisagua**	**1.61**	**318**		**Pn**	**14 40 27.7**	**+0.6**
PSGCX				Sn	**Sn**	**14 40 48.2**	**-0.7**
PSGCX	**Pisagua**	**1.61**	**318**	*e*P	**Pn**	**14 40 27.7**	**+0.6**
PSGCX				*e*P		14 40 27.7	
MNMC	**Minye Minye**	**1.76**	**341**	*i* P	**Pn**	**14 40 30.2**	**+1.1**
MNMC				*e*S	**Sn**	**14 40 53.7**	**+1.3**
MNMC	**Minye Minye**	**1.76**	**341**		**Pn**	**14 40 30.7**	**+1.6**
MNMC				Sn	**Sn**	**14 40 52.6**	**+0.2**
MNMCX	**Minye Minye**	**1.76**	**341**	*e*P	**Pn**	**14 40 30.2**	**+1.1**
LVC	**Limon Verde**	**1.80**	**178**	P	**Pn**	**14 40 31.1**	**+1.4**
	comp=Z,69nm,0.3s,baz=37,slow=12,SNR=451						
LVC				S	**Sn**	**14 40 55.0**	**+1.5**
	comp=Z,313nm,0.3s,baz=103,slow=23,SNR=47						
LVC	**Limon Verde**	**1.80**	**178**	*i* P	**Pn**	**14 40 31.1**	**+1.4**
LVC				*i* S	**Sn**	**14 40 54.9**	**+1.4**
LVC	**Limon Verde**	**1.80**	**178**	Pn	**Pn**	**14 40 31.1**	**+1.4**
LVC				Sn	**Sn**	**14 40 53.5**	**0.0**
LVC	**Limon Verde**	**1.80**	**178**	*e*P	**Pn**	**14 40 30.7**	**+1.0**
LVC				*e*S	**Sn**	**14 40 55.5**	**+2.0**
LVC	**Limon Verde**	**1.80**	**178**	*e*P	**Pn**	**14 40 31.1**	**+1.4**
LVC				*e*S	**Sn**	**14 40 55.5**	**+2.0**
PB04	**IPOC Station P**	**1.87**	**215**	*i* P	**Pn**	**14 40 32.0**	**+1.7**
PB04	**IPOC Station P**	**1.87**	**215**		**Pn**	**14 40 31.7**	**+1.4**
PB04	**IPOC Station P**	**1.87**	**215**	*e*P	**Pn**	**14 40 31.5**	**+1.2**
PB04				*e*S	**Sn**	**14 40 55.7**	**+1.0**
PB04				IAML		14 41 04.6	
	comp=Z,2μm,0.4s						
PB06	**IPOC Station P**	**1.97**	**196**	*i* P	**Pn**	**14 40 32.5**	**+1.0**
PB06				*i* S	**Sn**	**14 40 57.7**	**+0.8**
PB06	**IPOC Station P**	**1.97**	**196**		**Pn**	**14 40 32.6**	**+1.0**
PB06	**IPOC Station P**	**1.97**	**196**	*e*P	**Pn**	**14 40 32.5**	**+1.0**
PB06				*e*P		14 40 32.6	
PB06				*e*S	**Sn**	**14 40 57.8**	**+0.8**
PB06				IAML		14 41 02.3	
	comp=Z,2μm,0.2s						
PB05	**IPOC Station P**	**2.33**	**209**	*i* P	**Pn**	**14 40 36.8**	**+0.7**
PB05				IAML		14 41 13.4	
	comp=E,1μm,0.3s						
PB05	**IPOC Station P**	**2.33**	**209**	*e*P	**Pn**	**14 40 36.8**	**+0.7**
PB05				*e*S	**Sn**	**14 41 05.2**	**+0.2**
PB05				IAML		14 41 10.5	
	comp=Z,821nm,0.7s						
PB15	**IPOC Station P**	**2.44**	**191**	*i* P	**Pn**	**14 40 38.8**	**+1.2**
PB15				*i* S	**Sn**	**14 41 09.4**	**+1.9**
PB15	**IPOC Station P**	**2.44**	**191**		**Pn**	**14 40 38.4**	**+0.8**
PB15	**IPOC Station P**	**2.44**	**191**	*e*P	**Pn**	**14 40 38.7**	**+1.2**
PB15				*e*S	**Sn**	**14 41 10.1**	**+2.6**
PB15				IAML		14 41 16.8	
	comp=Z,5μm,0.2s						
PB16	**IPOC Station P**	**2.50**	**349**	*i* P	**Pn**	**14 40 40.3**	**+1.6**
PB16				*i* S	**Sn**	**14 41 11.4**	**+1.8**
PB16	**IPOC Station P**	**2.50**	**349**	*e*P	**Pn**	**14 40 40.3**	**+1.6**
PB16				*e*S	**Sn**	**14 41 13.1**	**+3.5**
PB12	**IPOC Station P**	**2.52**	**330**	*i* P	**Pn**	**14 40 38.5**	**+0.1**
PB12				*i* S	**Sn**	**14 41 09.4**	**+0.2**
PB12	**IPOC Station P**	**2.52**	**330**	Pn	**Pn**	**14 40 38.6**	**+0.1**
PB12	**IPOC Station P**	**2.52**	**330**	*e*P	**Pn**	**14 40 38.6**	**+0.1**
PB12				*e*S	**Sn**	**14 41 10.3**	**+1.1**
PB12				IAML		14 41 22.3	
	comp=Z,892nm,0.3s						
AP01	**Chacalluta**	**2.74**	**332**	*e*P	**Pn**	**14 40 42.3**	**+1.1**
AP01				*i* S	**Sn**	**14 41 15.0**	**+0.9**
AP01	**Chacalluta**	**2.74**	**332**		**Pn**	**14 40 41.5**	**+0.3**
PB10	**IPOC Station P**	**3.06**	**208**	*i* P	**Pn**	**14 40 45.8**	**+0.3**
PB10	**IPOC Station P**	**3.06**	**208**	Pn	**Pn**	**14 40 45.6**	**+0.1**
PB10	**IPOC Station P**	**3.06**	**208**	*e*P	**Pn**	**14 40 45.8**	**+0.3**
PB10				*e*S	**Sn**	**14 41 18.3**	**-3.5**
YJA	**Yavi**	**3.51**	**114**	*e*P	**Pn**	**14 40 53.8**	**+2.0**
PB14	**IPOC Station P**	**4.03**	**199**		**Pn**	**14 40 57.7**	**-0.8**
PB14	**IPOC Station P**	**4.03**	**199**	*e*P	**Pn**	**14 40 58.5**	**-0.1**
PB14				*e*S	**Sn**	**14 41 41.6**	**-3.5**
PB14				IAML		14 42 04.8	
	comp=Z,234nm,0.7s						
HJA	**Humahuaca**	**4.09**	**126**	*e*P	**Pn**	**14 41 01.5**	**+2.0**
GO02	**Mina Guanaco**	**4.38**	**187**	Pn	**Pn**	**14 41 03.0**	**-0.2**
LPAZ	**La Paz**	**4.56**	**10**	P	**Pn**	**14 41 08.7**	**+2.6**
	comp=Z,5.4nm,0.3s,baz=189,slow=7.3,SNR=110						
LPAZ	**La Paz**	**4.56**	**10**	Pn	**Pn**	**14 41 08.0**	**+1.9**
LPAZ	**La Paz**	**4.56**	**10**	*e*P	**Pn**	**14 41 05.6**	**-0.5**
AZAP	**Zapla**	**4.97**	**134**	*e*P	**Pn**	**14 41 12.1**	**+0.9**
ASTB	**Santa Barbara**	**5.23**	**128**	*e*P	**Pn**	**14 41 15.2**	**+0.5**
AC01	**Pan de Azucar**	**5.52**	**195**	Pn	**Pn**	**14 41 16.8**	**-1.6**
AC02	**Maricunga**	**6.01**	**181**	Pn	**Pn**	**14 41 25.2**	**-0.2**
GO03	**Copiap**	**6.86**	**189**		**Pn**	**14 41 34.5**	**-1.9**
AC04	**Llanos de Chal**	**7.61**	**194**	Pn	**Pn**	**14 41 42.9**	**-3.7**
AC05	**El Transito**	**8.08**	**188**		**Pn**	**14 41 50.8**	**-2.3**
LCO	**Las Campanas**	**8.32**	**190**		**Pn**	**14 41 52.8**	**-3.6**
SIV	**San Ignacio**	**8.90**	**59**	P	**Pn**	**14 42 01.5**	**-2.7**
	comp=Z,2.5nm,0.3s,baz=258,slow=8.9,SNR=43						
GO04	**Tololo Observa**	**9.47**	**190**	Pn	**Pn**	**14 42 08.2**	**-3.8**
CO03	**El Pedregal**	**10.11**	**188**		**Pn**	**14 42 16.5**	**-4.0**
ETMB	**Extrema**	**11.24**	**14**	*e*P	**Pn**	**14 42 34.3**	**-1.5**
VILB	**Vilhena**	**11.47**	**48**	*e*P	**Pn**	**14 42 37.4**	**-1.4**
VA03	**San Esteban**	**12.00**	**186**	Pn	**Pn**	**14 42 41.4**	**-4.3**
CPUP	**Villa Florida**	**12.02**	**119**	P	**Pn**	**14 42 43.8**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=307,slow=12,SNR=6.6						
CPUP	**Villa Florida**	**12.02**	**119**	Pn	**Pn**	**14 42 43.1**	**-2.9**
ROC1	**El Roble**	**12.26**	**188**	Pn	**Pn**	**14 42 45.8**	**-3.5**
AQDB	**Aquidauana**	**12.44**	**91**	*e*P	**Pn**	**14 42 52.3**	**+0.8**
MT02	**Curacav**	**12.55**	**188**	Pn	Pn	14 42 47.3	-5.6
MT05	**Renca**	**12.64**	**187**	Pn	Pn	14 42 49.0	-5.0
SAML	**Samuel**	**13.05**	**26**	Pn	**Pn**	**14 42 57.4**	**-2.0**
SAML	**Samuel**	**13.05**	**26**	*e*P	**Pn**	**14 42 58.2**	**-1.3**
CZSB	**Cruzeiro do Su**	**13.48**	**344**	*e*P	**Pn**	**14 43 01.6**	**-3.5**
SALV	**Santo Antonio**	**13.53**	**71**	*e*P	**Pn**	**14 43 07.3**	**+1.7**
BO02	**Sierra Bellavi**	**14.03**	**186**	P	**Pn**	**14 43 11.7**	**-0.3**
GO05	**Huala**	**14.39**	**190**	Pn	**Pn**	**14 43 16.8**	**+0.2**
TRCB	**Terra Rica**	**15.32**	**100**	*e*P	**P**	**14 43 31.0**	**+0.4**
BI02	**San Fabin de**	**15.93**	**187**	Pn	**Pn**	**14 43 36.0**	**0.0**
CLDB	**Colider**	**16.07**	**54**	*e*P	**Pn**	**14 43 38.0**	**+0.3**
PTGB	**Pitanga**	**16.09**	**107**	*e*P	**P**	**14 43 38

comp=Z,4.4nm,0.7s,baz=318,slow=3.6,SNR=40

SONM	**Songino Array**	**152.77**	**7**	PKPbc	**PKiKP**	**14 59 43.7**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=345,slow=4.9,SNR=2.9						
LZH	**Lanzhou**	**163.53**	**21**	*e*PKP	**PKPdf**	**14 59 49.1**	**+1.3**
LZH				pPKP	pPKPdf	15 00 18.5	-2.6
LZH				sPKP		15 00 30.3	
LZH				PKP	**PKPab**	**15 00 43.5**	**+3.8**

*IDC **24** 14:46:33.7±0.9, 37°.09N×144°.67E, h0km, mb3.6/9, mb1 3.8/14, mb1mx3.7/55, mbtmp3.8/14, ML3.7/4, MS2.5/2, Ms1 2.5/2, ms1mx2.3/54, Error ellipse: s-maj=25.2km s-min=16.8km az=107.0*
*NEIC **24** 14:46:34.9±1.9, 37°.06N±0°.06×144°.7E±0°.1, h10km±1km, mb4.5/3, Error ellipse: s-maj=14.9km s-min=9.7km az=80.0*
*JMA **24** 14:46:38.9±0.2, 37°.34N×144°.40E, h38km, M4.5*
*NIED **24** 14:46:39.0, 37°.34N×144°.40E, h38km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=3.98; $M_{\theta\theta}$0.98; $M_{\phi\phi}$3.00; $M_{r\theta}$1.10; $M_{\theta\phi}$1.30; $M_{\phi r}$0.30; Fault plane solution: $M_0$3.96000×10^{14} NP1: ϕ_s217.00000°, δ52.00000°, λ-77.00000°. NP2:ϕ_s16.00000°, δ40.00000°, λ-106.00000°.*

ISC 24 14:46:37.2±0.7, 37°.24N±0°.05×144°.66E±0°.07, h26km, n52, c2s77/62, mb3.7/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.75**	**294**	P	**Pn**	**14 47 19.0**	**-0.6**
JIKH				*e*S	**Sn**	**14 47 48.5**	**-3.4**
JIO	**Ouri**	**2.89**	**296**	P	**Pn**	**14 47 21.0**	**-0.5**
JIO				S	**Sn**	**14 47 52.0**	**-3.4**
JKMT	**Kesennumamotoy**	**2.97**	**303**	P	**Pn**	**14 47 21.8**	**-0.8**
JKMT				S	**Sn**	**14 47 54.0**	**-3.3**
OFUJ	**Ofunato**	**2.99**	**309**	P	**Pn**	**14 47 22.1**	**-0.8**
OFUJ				*e*S	**Sn**	**14 47 54.6**	**-3.4**
JFK	**Kawauchi**	**3.02**	**274**	P	**Pn**	**14 47 22.8**	**-0.6**
JMK	**Ichinoseki**	**3.21**	**303**	P	**Pn**	**14 47 25.5**	**-0.4**
JOU	**Okura**	**3.36**	**291**	P	**Pn**	**14 47 28.3**	**+0.3**
JFT	**Otama**	**3.46**	**276**	P	**Pn**	**14 47 29.8**	**+0.5**
JOM	**Ohasama**	**3.46**	**311**	*e*S	**Sn**	**14 48 06.6**	**-3.0**
JYK	**Kaneyama**	**3.79**	**298**	P	**Pn**	**14 47 34.2**	**+0.3**
JRG	**Rokugo**	**3.83**	**306**	P	**Pn**	**14 47 35.1**	**+0.6**
JRG				S	**Sn**	**14 48 16.8**	**-1.9**
BSO1	**Boso 1**	**3.94**	**230**	S	**Sn**	**14 48 20.4**	**-0.3**
JAH	**Hinai**	**4.31**	**314**	P	**Pn**	**14 47 42.1**	**+1.0**
JAH				*e*S	**Sn**	**14 48 29.0**	**-1.5**
JTM	**Tenmabayashi**	**4.52**	**323**	S	**Sn**	**14 48 30.6**	**-4.9**
JRY	**Ryogami san**	**4.79**	**257**	P	**Pn**	**14 47 47.1**	**-0.6**
JRY				*e*S	**Sn**	**14 48 38.3**	**-4.0**
ERM	**Erimo**	**4.91**	**347**	Pn	**Pn**	**14 47 48.1**	**-1.2**
MJAR	**Matsushiro Arr**	**5.22**	**264**	Pn	**Pn**	**14 47 52.9**	**-0.7**
	0.5nm,0.3s,baz=88,slow=14,SNR=44						
MJAR				Sn	**Sn**	**14 48 49.9**	**-3.0**
	0.9nm,0.3s,baz=177,slow=18,SNR=8.3						
MJAR				LR	LR	14 49 57.7	
	comp=Z,56nm,20.8s,baz=265,slow=39						
MAJO	**Matsushiro**	**5.22**	**264**		**Pn**	**14 47 54.6**	**+1.1**
MAT	**Matsushiro**	**5.22**	**264**	P	**Pn**	**14 47 54.5**	**+0.9**
MAT				S	**Sn**	**14 48 45.5**	**-7.4**
JKB	**Kayabe**	**5.43**	**330**	P	**Pn**	**14 47 56.7**	**+0.3**
JKB				*e*S	**Sn**	**14 48 52.2**	**-5.7**
JCH	**Churui**	**5.46**	**350**	P	**Pn**	**14 47 55.5**	**-1.4**
JCH				*e*S	**Sn**	**14 48 52.8**	**-6.1**
JHJ2	**Mitsune**	**5.71**	**225**	P	**Pn**	**14 48 00.4**	**+0.1**
JHJ2				*e*S	**Sn**	**14 49 02.4**	**-2.7**
JHJ2	**Mitsune**	**5.71**	**225**	Pn	**Pn**	**14 47 58.3**	**-2.0**
JHJ2					**Sn**	**14 49 02.7**	**-2.3**
JHJ	**Hachijo jima 2**	**5.73**	**226**	Pn	**Pn**	**14 47 58.1**	**-2.4**
	9.2nm,0.3s,baz=0.2,slow=19,SNR=15						
JHJ				Sn	**Sn**	**14 49 00.2**	**-5.2**
	55nm,0.3s,baz=58,slow=23,SNR=16						
NEM2	**Nemuro 2**	**6.18**	**7**	P	**Pn**	**14 48 03.3**	**-3.4**
JTKR	**Abashiri--Toko**	**6.75**	**355**	P	**Pn**	**14 48 13.3**	**-1.3**
JTKR				*e*S	**Sn**	**14 49 23.6**	**-7.0**
JKA	**Kamikawa-asahi**	**7.05**	**348**		**Pn**	**14 48 18.2**	**-0.5**
JKA	**Kamikawa-asahi**	**7.05**	**348**		**Sn**	**14 49 34.6**	**-3.3**
ASAJ	**Asahikawa**	**7.05**	**348**	Pn	**Pn**	**14 48 18.1**	**-0.6**
	1.4nm,0.3s,baz=203,slow=14,SNR=14						
ASAJ				Sn	**Sn**	**14 49 34.6**	**-3.3**
	0.7nm,0.3s,baz=313,slow=11,SNR=2.0						
JCJ	**Chichijima**	**10.32**	**192**	Pn	**Pn**	**14 48 59.0**	**-4.6**
	1.8nm,0.3s,baz=348,slow=23,SNR=8.9						
JCJ				Sn	Sn	14 50 46.2	-12
	3.0nm,0.3s,baz=275,slow=22,SNR=2.2						
USRK	**Ussuriysk Ar.**	**11.86**	**310**	Pn	**Pn**	**14 49 25.7**	**+1.2**
	baz=108,slow=12,SNR=4.1						
KSRS	**Korea Array**	**13.32**	**276**	Pn	**Pn**	**14 49 48.1**	**+3.6**
	0.0nm,0.3s,baz=232,slow=32,SNR=5.0						
KSRS				LR	LR	14 53 56.9	
	comp=Z,25nm,21.4s,baz=85,slow=33						
KLR	**Kul'dur**	**15.21**	**326**	Pn	**P**	**14 50 14.9**	**0.0**
	0.1nm,0.3s,baz=126,slow=10,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**26.09**	**126**	T	T	15 18 55.5	
	baz=317,slow=74,SNR=247						
H11N1	**WAKE ISLAND Hy**	**26.10**	**126**	T	T	15 18 56.3	
	baz=317,slow=74,SNR=99						
H11N3	**WAKE ISLAND Hy**	**26.11**	**126**	T	T	15 18 56.8	
	baz=317,slow=74,SNR=152						
SEY	**Seymchan**	**26.16**	**8**	P	**P**	**14 52 10.6**	**+1.6**
	2.7nm,0.8s,baz=180,slow=7.3,SNR=9.0						
H11S1	**WAKE ISLAND Hy**	**26.86**	**128**	T	T	15 19 55.1	
	baz=319,slow=76,SNR=38						
H11S3	**WAKE ISLAND Hy**	**26.86**	**128**	T	T	15 20 02.1	
	baz=319,slow=76,SNR=36						
H11S2	**WAKE ISLAND Hy**	**26.88**	**128**	T	T	15 20 03.2	
	baz=319,slow=76,SNR=41						
SONM	**Songino Array**	**29.84**	**303**	P	**P**	**14 52 46.5**	**+4.2**
	0.3nm,0.5s,baz=90,slow=8.6,SNR=2.5						
CMAR	**Chiang Mai Arr**	**44.07**	**258**	P	**P**	**14 54 44.9**	**+1.8**
	0.4nm,0.6s,baz=30,slow=7.5,SNR=1.7						
MK31	**Makanchi Array**	**46.20**	**303**	P	**P**	**14 55 00.6**	**+0.7**
MK31				IAmb	IAmb	14 55 02.5	
	comp=Z,2.5nm,1.4s						
MKAR	**Makanchi Array**	**46.20**	**303**	P	**P**	**14 55 01.0**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=82,slow=9.7,SNR=9.4						
ILAR	**Eielson Array**	**47.93**	**32**	P	**P**	**14 55 15.3**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=264,slow=6.3,SNR=2.0						
MCARA	**McCarthy VSAT**	**49.85**	**37**	P	**P**	**14 55 26.9**	**-0.9**
MCARA				IAmb	IAmb	14 56 43.3	
	comp=Z,26nm,1.7s						
WB0	**Warramunga Arr**	**57.52**	**191**	P	**P**	**14 56 23.9**	**-0.4**
WB0				IAmb	IAmb	14 57 10.4	
	comp=Z,5.1nm,1.1s						
WRA	**Warramunga Arr**	**57.70**	**192**	P	**P**	**14 56 25.2**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=10,slow=7.2,SNR=7.6						
ASAR	**Alice Springs**	**61.42**	**191**	P	**P**	**14 56 50.2**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=5.7,slow=6.6,SNR=2.8						
NVAR	**Mina Array Bea**	**72.77**	**55**	P	**P**	**14 58 05.2**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=309,slow=5.7,SNR=2.6						
NOA	**NORSAR Array B**	**74.98**	**339**	P	**P**	**14 58 16.6**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=44,slow=5.3,SNR=2.1						
AKASG	**Malin Array Be**	**75.70**	**324**	P	**P**	**14 58 21.0**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=39,slow=5.8,SNR=2.5						

IDC 24 14:50:51.3±8.3, 26°.10S×28°.84E, h0km, mb1 2.9/1, mb1mx2.8/47, mbtmp2.9/1, ML2.4/1, Error ellipse: s-maj=86.0km s-min=57.1km az=141.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**4.05**	**231**	Pn	Pn	14 51 54.0	-0.6
	0.2nm,0.3s,baz=55,slow=14,SNR=1.9						
BOSA				Pg	Pb	14 52 06.2	+2.7
	0.6nm,0.3s,baz=56,slow=16,SNR=11						
BOSA				Lg	Lg	14 52 59.5	
	1.1nm,0.3s,baz=149,slow=22,SNR=7.3						
I47ZA	**BOSHOF INFRASO**	**4.07**	**231**	*i*		15 17 40.0	
	baz=53,slow=328,SNR=0.8						
I35NA	**TSUMEB INFRASO**	**12.46**	**301**	*i*		16 03 20.0	
	baz=126,slow=322,SNR=1.4						

*IDC **24** 14:51:15.2±1.0, 17°.63N×60°.45W, h0km, mb3.6/8, mb1 4.0/11, mb1mx3.7/58, mbtmp3.7/11, ML3.4/3, MS3.6/8, Ms1 3.6/8, ms1mx3.2/44, Error ellipse: s-maj=25.6km s-min=22.2km az=86.0*
*TRN **24** 14:51:17.2, 17°.66N×60°.68W, h39km, MD4.4*
*NEIC **24** 14:51:20.2±1.4, 17°.57N±0°.03×60°.79W±0°.03, h31km±5km, mb4.3/4, Md4.5/59(TRN), Error ellipse: s-maj=5.7km s-min=3.3km az=50.0*

ISC 24 14:51:16.4±2.0, 17°.63N±0°.04×60°.68W±0°.05, h10km±12km, n116, σ1s09/155, mb3.8/8, MS3.6/8, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**1.05**	**272**	*e*P	**Pg**	**14 51 36.5**	**-0.1**
ANWB				*e*S	**Sb**	**14 51 51.5**	**+1.0**
ANWB	**Willy Bob**	**1.05**	**272**		**Pg**	**14 51 36.5**	**-0.1**
ANWB					**Sb**	**14 51 51.5**	**+1.0**
H05N1	**Guadeloupe/Mar**	**1.35**	**195**	Pn	**Pn**	**14 51 41.4**	**0.0**
H05N1				Sn	**Sb**	**14 51 56.9**	**-2.4**
ABD	**La Joyeuse, An**	**1.38**	**214**	*e*P	**Pn**	**14 51 41.4**	**-0.4**
ABD				*e*S	**Sb**	**14 52 00.3**	**+0.3**
ABD	**La Joyeuse, An**	**1.38**	**214**		**Pn**	**14 51 41.4**	**-0.4**
ABD					**Sb**	**14 52 00.3**	**+0.3**
MLYT	**Lee's Yard**	**1.70**	**238**	*e*P	**Pn**	**14 51 46.7**	**+0.5**
MLYT				*e*S	**Sn**	**14 52 07.8**	**-0.3**
MAGL	**Barre de l'ile**	**1.76**	**199**	*e*P	**Pn**	**14 51 47.0**	**-0.1**
MAGL				*e*S	**Sn**	**14 52 10.3**	**+0.7**
MAGL	**Barre de l'ile**	**1.76**	**199**		**Pn**	**14 51 47.0**	**-0.1**
MAGL					**Sn**	**14 52 10.3**	**+0.7**
CBE	**Ff, Capester**	**1.78**	**210**	*e*P	**Pn**	**14 51 47.8**	**+0.4**
CBE				*e*S	**Sn**	**14 52 10.1**	**0.0**
CBE	**Ff, Capester**	**1.78**	**210**		**Pn**	**14 51 47.8**	**+0.4**
CBE					**Sn**	**14 52 10.1**	**0.0**
SKI	**Saint Kitts**	**1.98**	**262**	*e*P	**Pn**	**14 51 50.3**	**+0.2**
SKI				*e*S	**Sn**	**14 52 13.3**	**-1.7**
SKI	**Saint Kitts**	**1.98**	**262**		**Pn**	**14 51 50.5**	**+0.4**
SKOC	**St. Kitts, UWI**	**1.98**	**261**	*e*P	**Pn**	**14 51 50.8**	**+0.7**
SKOC				*e*S	**Sn**	**14 52 14.0**	**-1.0**
TDBA	**Terre de Bas,**	**1.99**	**207**	*e*P	**Pn**	**14 51 51.0**	**+0.8**
TDBA				*e*S	**Sn**	**14 52 14.5**	**-0.7**
TDBA	**Terre de Bas,**	**1.99**	**207**		**Pn**	**14 51 51.0**	**+0.8**
TDBA					**Sn**	**14 52 14.5**	**-0.7**
TBG	**Guadaloupe-3**	**1.99**	**208**	*e*P	**Pn**	**14 51 50.9**	**+0.7**
TBG				*e*S	**Sn**	**14 52 15.1**	**-0.1**
TBG	**Guadaloupe-3**	**1.99**	**208**		**Pn**	**14 51 50.9**	**+0.7**
TBG					**Sn**	**14 52 15.1**	**-0.1**
MDPV	**Dominica, Penn**	**2.11**	**200**	*e*P	**Pn**	**14 51 52.3**	**+0.4**
MDPV	**Dominica, Penn**	**2.11**	**200**		**Pn**	**14 51 52.3**	**+0.4**
SEUS	**St. Eustatius**	**2.19**	**267**	*e*P	**Pn**	**14 51 53.3**	**+0.3**
SEUS				*e*S	**Sn**	**14 52 19.1**	**-1.2**
SEUS	**St. Eustatius**	**2.19**	**267**		**Pn**	**14 51 53.3**	**+0.3**
SEUS					**Sn**	**14 52 19.1**	**-1.2**
DSLB	**Salisbury**	**2.29**	**198**	*e*P	**Pn**	**14 51 54.8**	**+0.4**
DSLB				*e*S	**Sn**	**14 52 22.5**	**-0.1**
SMRT	**St. Maarten**	**2.31**	**281**	*e*P	**Pn**	**14 51 54.8**	**+0.1**
SMRT				*e*S	**Sn**	**14 52 21.6**	**-1.6**
SMRT	**St. Maarten**	**2.31**	**281**		**Pn**	**14 51 54.8**	**+0.1**
SMRT					**Sn**	**14 52 21.6**	**-1.6**
DLPL	**La Plaine**	**2.34**	**193**	*e*P	**Pn**	**14 51 55.5**	**+0.4**
DLPL				*e*S	**Sn**	**14 52 23.2**	**-0.8**
DLPL	**La Plaine**	**2.34**	**193**		**Pn**	**14 51 55.5**	**+0.4**
DLPL					**Sn**	**14 52 23.2**	**-0.8**
MDN	**Morne-Daniel**	**2.39**	**197**	*e*P	**Pn**	**14 51 56.4**	**+0.6**
MDN				*e*S	**Sn**	**14 52 24.5**	**-0.6**
MDN	**Morne-Daniel**	**2.39**	**197**		**Pn**	**14 51 56.4**	**+0.6**
MDN					**Sn**	**14 52 24.5**	**-0.6**
SABA	**Saba**	**2.44**	**270**	*e*P	**Pn**	**14 51 56.2**	**-0.2**
SABA				*e*S	**Sn**	**14 52 24.7**	**-1.7**
SABA	**Saba**	**2.44**	**270**		**Pn**	**14 51 56.2**	**-0.2**
SABA					**Sn**	**14 52 24.7**	**-1.7**
SVN	**Savane Anatole**	**2.81**	**190**	*e*P	**Pn**	**14 52 01.6**	**+0.1**
BAMF	**Morne Balai**	**2.83**	**189**	*e*P	**Pn**	**14 52 02.0**	**+0.1**
CXM	**Morne La Croix**	**2.84**	**189**	*e*P	**Pn**	**14 52 02.1**	**+0.1**
PCM	**Pelee Case Pet**	**2.84**	**190**	*e*P	**Pn**	**14 52 02.0**	**+0.1**
PCM	**Pelee Case Pet**	**2.84**	**190**	*e*P	**Pn**	**14 52 02.6**	**+0.7**
ILAM	**Ilet Lapin Mar**	**2.84**	**184**	*e*P	**Pn**	**14 52 02.4**	**+0.5**
ILAM				*e*S	**Sn**	**14 52 34.9**	**-1.3**
ILAM	**Ilet Lapin Mar**	**2.84**	**184**		**Pn**	**14 52 02.4**	**+0.5**
ILAM					**Sn**	**14 52 34.9**	**-1.3**
GBMF	**Grand Be**	**2.85**	**189**	*e*P	**Pn**	**14 52 02.1**	**-0.1**
PML	**Morne Lenard**	**2.87**	**190**	*e*P	**Pn**	**14 52 02.6**	**+0.3**
FDF	**Fort de France**	**2.91**	**189**	*e*P	**Pn**	**14 52 02.9**	**0.0**
FDF				*e*S	**Sn**	**14 52 37.4**	**-0.7**
FDF	**Fort de France**	**2.91**	**189**		**Pn**	**14 52 02.9**	**0.0**
FDF					**Sn**	**14 52 37.4**	**-0.7**
LPMF	**Morne Lapointe**	**3.05**	**185**	*e*P	**Pn**	**14 52 04.5**	**-0.2**
ZAM	**Aeronautique**	**3.06**	**186**	*e*P	**Pn**	**14 52 04.8**	**0.0**
MVM	**Montagne Vaucl**	**3.06**	**184**	*e*P	**Pn**	**14 52 05.7**	**+0.8**
BIM	**Bigot**	**3.12**	**187**	*e*P	**Pn**	**14 52 06.2**	**+0.5**
BIM				*e*S	**Sn**	**14 52 42.0**	**-1.0**
BIM	**Bigot**	**3.12**	**187**		**Pn**	**14 52 06.2**	**+0.5**
BIM					**Sn**	**14 52 42.0**	**-1.0**
MPOM	**Morne Pois Mar**	**3.17**	**183**	*e*P	**Pn**	**14 52 07.0**	**+0.6**
MPOM				*e*S	**Sn**	**14 52 42.5**	**-1.8**
MPOM	**Morne Pois Mar**	**3.17**	**183**		**Pn**	**14 52 07.0**	**+0.6**
MPOM					**Sn**	**14 52 42.5**	**-1.8**
H05S1	**Guadeloupe/Mar**	**3.19**	**183**	Pn	**Pn**	**14 52 06.7**	**0.0**
H05S1				Sn	**Sn**	**14 52 44.2**	**-0.5**
SLBI	**Saint Lucia, B**	**3.59**	**184**	*e*P	**Pn**	**14 52 12.7**	**+0.5**
SLBI				*e*S	**Sn**	**14 52 53.6**	**-1.2**
SLBI	**Saint Lucia, B**	**3.59**	**184**		**Pn**	**14 52 12.7**	**+0.5**
SLBI					**Sn**	**14 52 53.6**	**-1.2**
SLW	**Petit Monier**	**3.59**	**184**	*e*P	**Pn**	**14 52 13.2**	**+0.9**
SLW				*e*S	**Sn**	**14 52 53.7**	**-1.2**
SLW	**Petit Monier**	**3.59**	**184**		**Pn**	**14 52 13.2**	**+0.9**
SLW					**Sn**	**14 52 53.7**	**-1.2**
SLAC	**Saint Lucia, A**	**3.71**	**183**	*e*P	**Pn**	**14 52 14.7**	**+0.8**
SLAC				*e*S	**Sn**	**14 52 56.2**	**-1.6**
SLB	**Belfond**	**3.79**	**185**	*e*P	**Pn**	**14 52 15.8**	**+0.7**
SLB				*e*S	**Sn**	**14 52 58.2**	**-1.6**
SLB	**Belfond**	**3.79**	**185**		**Pn**	**14 52 15.8**	**+0.7**
SLB					**Sn**	**14 52 58.2**	**-1.6**
MCLT	**Moule a Chique**	**3.90**	**184**	*e*P	**Pn**	**14 52 17.1**	**+0.6**
MCLT				*e*S	**Sn**	**14 53 01.1**	**-1.3**
MCLT	**Moule a Chique**	**3.90**	**184**		**Pn**	**14 52 17.1**	**+0.6**
MCLT					**Sn**	**14 53 01.1**	**-1.3**
STVI	**Saint Thomas**	**4.13**	**281**	Pn	**Pn**	**14 52 19.5**	**-0.1**
SVB	**Belmont**	**4.37**	**187**	*e*P	**Pn**	**14 52 23.8**	**+0.9**
SVB	**Belmont**	**4.37**	**187**	*e*S	**Sn**	**14 53 12.7**	**-1.1**
SVB	**Belmont**	**4.37**	**187**		**Pn**	**14 52 23.8**	**+0.9**
SVB					**Sn**	**14 53 12.7**	**-1.1**
CUPR	**Culebra, Puert**	**4.43**	**279**	Pn	**Pn**	**14 52 23.9**	**+0.2**
MTP	**Monte Pirata**	**4.66**	**276**		**Pn**	**14 52 26.5**	**-0.4**
HUMP	**Col San Antoni**	**4.95**	**277**	Pn	**Pn**	**14 52 31.0**	**+0.2**
CBYP	**Canovanas**	**4.96**	**278**	Pn	**Pn**	**14 52 31.3**	**+0.1**
IGPR	**InterUniversit**	**5.18**	**275**	Pn	**Pn**	**14 52 34.5**	**+0.5**
GCPR	**Guaynabo City**	**5.18**	**278**	Pn	**Pn**	**14 52 34.1**	**0.0**
GRGR	**Grenville**	**5.54**	**190**	*e*P	**Pn**	**14 52 40.0**	**+0.9**
GRGR	**Grenville**	**5.54**	**190**	*e*S	**Sn**	**14 53 40.1**	**-2.9**
GRGR	**Grenville**	**5.54**	**190**		**Pn**	**14 52 39.8**	**+0.7**
AOPR	**Arecibo Observ**	**5.82**	**278**	*e*P	**Pn**	**14 52 43.6**	**+0.7**
AOPR	**Arecibo Observ**	**5.82**	**278**	*e*S	**Sn**	**14 53 46.8**	**-2.9**
AOPR	**Arecibo Observ**	**5.82**	**278**		**Pn**	**14 52 43.6**	**+0.7**
AOPR					**Sn**	**14 53 46.8**	**-2.9**
MLPR	**Magueyes Islan**	**6.07**	**274**	Pn	**Pn**	**14 52 47.1**	**+0.8**
CRPR	**Cabo Rojo, PR**	**6.13**	**274**	Pn	**Pn**	**14 52 47.0**	**-0.1**
AGPR	**Aguadilla, PR**	**6.17**	**279**	Pn	**Pn**	**14 52 47.4**	**-0.3**
PLCV	**Puerto La Cruz**	**8.33**	**208**		**Pn**	**14 53 20.2**	**+2.8**
PCRV	**Puerto La Cruz**	**8.34**	**208**	Pn	**Pn**	**14 53 20.2**	**+2.6**
	0.2nm,0.3s,baz=360,slow=13,SNR=1.8						
DR12	**Loma Pena Alta**	**8.35**	**279**	Pn	**Pn**	**14 53 17.8**	**+0.1**
BANI	**BANI**	**9.24**	**276**	Pn	**Pn**	**14 53 30.4**	**+0.5**
SDDR	**Presa de Saban**	**10.16**	**279**		**Pn**	**14 53 42.1**	**-0.5**
GRTK	**Grand Turk**	**10.58**	**293**	Pn	**Pn**	**14 53 45.4**	**-2.8**
PAMC	**Pamplona, Colo**	**15.55**	**230**	*e*P	**Pn**	**14 54 57.4**	**+1.0**
SMLC	**San Martn de**	**15.70**	**238**	*e*P	**Pn**	**14 54 57.2**	**-0.7**
SJCC	**San Jacinto, C**	**16.03**	**243**	*e*P	**Pn**	**14 55 04.5**	**-1.2**
MTDJ	**Mount Denham**	**16.05**	**275**	P	**P**	**14 55 06.0**	**+0.1**
MTDJ				IAmb	IAmb	14 55 06.9	
	comp=Z,44nm,1.2s						
BARC	**Barichara**	**16.41**	**230**	*e*P	**P**	**14 55 09.4**	**-0.6**
RUSC	**La Rusia**	**16.82**	**228**	*e*P	**Pn**	**14 55 13.3**	**+0.6**
MOTC	**Monteria, Cord**	**17.02**	**241**	*e*P	**Pn**	**14 55 15.6**	**+0.8**
PTBC	**PUERTO BERRIO,**	**17.39**	**232**	*e*P	**Pn**	**14 55 16.4**	**-2.9**
SPBC	**San Pablo de B**	**17.69**	**229**	*e*P	**Pn**	**14 55 23.4**	**+0.2**
CHIC	**Chingaza**	**18.17**	**226**	*e*P	**Pn**	**14 55 29.6**	**+0.2**
PTGA	**Pitinga**	**18.26**	**178**	Pn	**Pn**	**14 55 28.6**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=45,slow=14,SNR=6.1						
HELC	**Santa Helena**	**18.43**	**234**	*e*P	**P**	**14 55 31.8**	**-0.7**
ROSC	**El Rosal**	**18.43**	**228**	P	**Pn**	**14 55 33.3**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=38,slow=16,SNR=5.1						
ROSC	**El Rosal**	**18.43**	**228**	IAmb	IAmb	14 55 49.8	
	comp=Z,24nm,1.2s						
DBBC	**Dabeiba**	**18.45**	**237**	*e*P	**P**	**14 55 30.9**	**-1.7**
GUY2C	**Guyana, Caldas**	**18.93**	**231**	*e*P	**P**	**14 55 35.9**	**-2.3**
CBOC	**Ciudad Bolivar**	**19.00**	**234**	*e*P	**P**	**14 55 38.9**	**+0.2**
SAML	**Samuel**	**26.52**	**186**	P	**P**	**14 56 54.0**	**-0.5**
TKL	**Tuckaleechee C**	**27.24**	**316**	LR	LR	15 10 13.8	
	comp=Z,70nm,18.6s,baz=133,slow=42						

ATAH	**Atahualpa**	**30.19**	**217**	LR	LR	15 11 07.2	
	comp=Z,156nm,18.9s,baz=39,slow=39						
LPAZ	**La Paz**	**34.49**	**193**	LR	LR	15 13 48.3	
	comp=Z,136nm,18.6s,baz=19,slow=39						
LVC	**Limon Verde**	**40.79**	**192**	LR	LR	15 18 01.3	
	comp=Z,98nm,18.2s,baz=331,slow=39						
TXAR	**Lajitas Array**	**40.90**	**295**	P	**P**	**14 59 00.5**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=118,slow=8.7,SNR=4.0						
PDAR	**Pinedale Array**	**48.28**	**312**	P	**P**	**14 59 58.7**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=108,slow=9.5,SNR=8.1						
NVAR	**Mina Array Bea**	**54.03**	**305**	P	**P**	**15 00 44.8**	**+3.4**
	comp=Z,0.3nm,0.7s,baz=96,slow=6.4,SNR=2.1						
YKA	**Yellowknife Ar**	**58.17**	**334**	P	**P**	**15 01 10.3**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=15,slow=8.5,SNR=2.4						
PLCA	**Paso Flores**	**58.78**	**189**	P	**P**	**15 01 16.2**	**+1.3**
	comp=Z,2.1nm,0.9s,baz=353,slow=16,SNR=2.0						
PLCA				LR	LR	15 29 16.6	
	comp=Z,36nm,18.1s,baz=141,slow=39						
TORD	**Torodi Ar. Bea**	**60.09**	**85**	P	**P**	**15 01 21.5**	**-2.9**
	comp=Z,0.6nm,0.8s,baz=280,slow=5.4,SNR=3.4						
NOA	**NORSAR Array B**	**65.97**	**30**	LR	LR	15 27 47.8	
	comp=Z,20nm,19.1s,baz=185,slow=33						
GERES	**GERESS Array B**	**66.70**	**44**	P	**P**	**15 02 08.9**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=245,slow=8.7,SNR=2.1						
VAE	**Valguarnera**	**67.82**	**56**	LR	LR	15 27 06.9	
	comp=Z,49nm,19.4s,baz=66,slow=32						
ILAR	**Eielson Array**	**72.60**	**333**	P	**P**	**15 02 45.0**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=96,slow=4.8,SNR=5.1						
FINES	**FINESS Array B**	**73.15**	**30**	LR	LR	15 31 02.9	
	comp=Z,32nm,20.4s,baz=216,slow=33						

*IDC **24** 15:00:10.7±0.4, 64°.53N×17°.50W, h0km, mb4.3/37, mb1 4.4/41, mb1mx4.3/70, mbtmp4.3/41, ML2.7/3, MS3.3/28, Ms1 3.3/28, ms1mx3.2/61, Error ellipse: s-maj=12.5km s-min=7.2km az=16.0*
*BGR **24** 15:00:10.4±0.0, 65°.16N×18°.09W, h33km, mb4.6*
*REY **24** 15:00:11.1, 64°.62N×17°.44W, h5km*
*BGS **24** 15:00:11.8±1.9, 64°.53N×17°.41W, h5km, MS3.9*
*MOS **24** 15:00:11.1±1.1, 64°.57N×17°.46W, h10km, mb4.8/69, Error ellipse: s-maj=9.0km s-min=5.4km az=113.0*
*NE

comp=Z,570nm,12.9s
HFS Hagfors 15.03 93 Pn **P** **15 03 50.5 0.0**
comp=Z,0.1nm,0.3s,baz=322,slow=12,SNR=14
HFS LR LR 15 09 44.8
comp=Z,40nm,20.7s,baz=290,slow=38
ARCES ARCESS Array B 17.14 54 P **Pn** **15 04 10.7 -1.4**
comp=Z,0.1nm,0.3s,baz=264,slow=11,SNR=6.8
ARCES LR LR 15 09 43.9
comp=Z,73nm,19.7s,baz=188,slow=33
ARE0 ARCESS Array S 17.14 54 P **P** **15 04 13.1 -0.7**
KEV Kevo 17.65 54 P **P** **15 04 21.9 +2.5**
KEV pmax pmax
comp=Z,19nm,1.2s
KEV Kevo 17.65 54 P **P** **15 04 21.9 +2.5**
IBBN Ibbenburen 17.89 122 *e*P **P** **15 04 22.6 +0.4**
comp=Z,162nm,2.1s,baz=326,slow=11
SNF Seneffe 18.18 131 pP pP 15 04 26.2 -0.2
BUG Bochum-Univer 18.42 124 *e*P **P** **15 04 28.7 +0.7**
comp=Z,40nm,1.6s,baz=326,slow=11
BMRD Maredsous 18.52 130 pP pP 15 04 30.5 +0.4
BGES Gesves 18.55 129 pP pP 15 04 30.9 +0.4
BCLA Clavier 18.59 129 P **P** **15 04 28.6 -1.3**
BCLA pP **pP** **15 04 31.3 +0.3**
NRDL Niedersach Rie 18.62 118 *e*P **Pn** **15 04 31.0 +0.6**
comp=Z,308nm,2.8s,baz=326,slow=11
DOU Dourbes 18.64 131 P **P** **15 04 29.6 -0.8**
DOU pP **pP** **15 04 31.6 +0.2**
MEM Membach 18.67 128 P **P** **15 04 30.8 0.0**
CLZ Clausthal 19.24 118 *e*P **Pn** **15 04 38.0 +0.1**
comp=Z,29nm,1.1s,baz=326,slow=11
GTTG Gottingen 19.32 120 *e*P **Pn** **15 04 38.9 +0.1**
comp=Z,44nm,1.4s,baz=326,slow=11
WLF Walferdange 19.52 129 pP pP 15 04 41.6 +0.4
FIA1 FINESS Array S 19.70 79 P **Pn** **15 04 44.6 +1.2**
FINES FINESS Array B 19.70 79 P **P** **15 04 39.5 -2.4**
comp=Z,0.0nm,0.3s,baz=218,slow=15,SNR=2.5
FINES LR LR 15 11 29.6
comp=Z,93nm,22.0s,baz=268,slow=34
CLF Chambon-Foret 19.75 138 Pn **P** **15 04 43.3 +0.7**
CLF lAmb lAmb 15 04 55.7
comp=Z,41nm,1.2s
UBBA Unterbreizbach 19.92 121 *e*P **Pn** **15 04 45.7 -0.2**
comp=Z,59nm,1.8s,baz=326,slow=11
NEUB Neuenburg 20.28 118 *e*P Pn 15 04 49.3 -0.9
comp=Z,47nm,1.2s,baz=326,slow=11
APA Apatity 20.35 59⇑*i*P **P** **15 04 49.2 +0.3**
APA pmax pmax
comp=Z,10.0nm,0.8s
APA MLR MLR
comp=Z,200nm,11.0s
MFF Saint Martin d 20.40 144 *e*P **P** **15 04 49.3 -0.4**
MFF pmax pmax
comp=Z,52nm,1.5s
MOX Moxa 20.67 119 *e*P **P** **15 04 53.6 +1.0**
comp=Z,37nm,1.2s,baz=326,slow=11
CLL Collm 20.67 116⇓*i*P **P** **15 04 52.6 0.0**
comp=Z,52nm,1.4s
CLL *i* sP Pn 15 04 58.9 +4.1
CLL *e*SSS SSS 15 09 12.0
CLL Collm 20.67 116⇓*i*P **P** **15 04 52.6 0.0**
CLL *i* 15 04 58.9
CLL pmax pmax
comp=Z,52nm,1.4s
CLL Collm 20.67 116 *e*P **P** **15 04 53.1 +0.5**
comp=Z,52nm,1.4s,baz=326,slow=11
CLL Collm 20.67 116 P **P** **15 04 52.7 0.0**
CLL lAmb lAmb 15 04 54.0
comp=Z,52nm,1.4s
LVZ Lovozero 20.71 58⇑*e*P **P** **15 04 52.4 -0.6**
LVZ pmax pmax
comp=Z,21nm,1.1s
LVZ Lovozero 20.71 58 P Pn 15 04 55.7 +0.4
GKP Gorka Klasztor 20.89 106 *e*P Pn 15 04 56.5 -0.9
PBUR Paburge 20.98 96 *e*P **P** **15 04 56.3 +0.5**
PLN Plauen 21.00 118 *e*P **P** **15 04 56.8 +0.7**
comp=Z,42nm,1.1s,baz=326,slow=11
WERD Werda 21.09 118 *e*P **P** **15 04 57.6 +0.5**
comp=Z,19nm,1.1s,baz=326,slow=11
ECH Echery 21.11 129 P **P** **15 04 57.8 +0.4**
ECH pmax pmax
comp=Z,24nm,1.0s
ECH Echery 21.11 129 P **P** **15 04 57.8 +0.4**
FBE Freiberg 21.11 116 *e*P **P** **15 04 58.0 +0.7**
comp=Z,30nm,1.1s,baz=326,slow=11
GUNZ Gunzen 21.16 118 *e*P **P** **15 04 58.4 +0.5**
comp=Z,35nm,1.3s,baz=326,slow=11
TANN Tannenbergstha 21.17 118 *e*P **P** **15 04 58.6 +0.6**
comp=Z,49nm,1.2s,baz=326,slow=11
WERN Wernitzgruen 21.24 118 *e*P **P** **15 04 59.5 +0.7**
comp=Z,34nm,1.3s,baz=326,slow=11
GRA1 Grafenberg Arr 21.30 121 P **P** **15 04 59.8 +0.5**
GRA1 lAmb lAmb 15 05 12.4
comp=Z,61nm,1.3s
GRF Grafenberg Arr 21.30 121 P **P** **15 04 59.8 +0.5**
GRF pmax pmax
comp=Z,61nm,1.3s
GRF Grafenberg Arr 21.30 121 *e*P **P** **15 05 00.4 +1.1**
comp=Z,41nm,1.4s,baz=326,slow=11
NKC Novy Kostel 21.31 118 *e*P **P** **15 04 59.8 +0.2**
NKC *e* 15 05 03.1
NKC Novy Kostel 21.31 118 *e*P **P** **15 04 59.8 +0.2**
NKC *ep*P **sP** **15 05 03.1 +2.0**
STU Stuttgart 21.33 125 P **P** **15 05 00.0 +0.3**
STU pmax pmax
comp=Z,53nm,1.1s
STU Stuttgart 21.33 125 *e*P **P** **15 05 01.1 +1.3**
comp=Z,46nm,1.0s,baz=326,slow=11
STU Stuttgart 21.33 125 P **P** **15 04 60.0 +0.3**
STU lAmb lAmb 15 05 01.9
comp=Z,53nm,1.1s
BRG Berggiesshubel 21.38 115⇑*i*P **P** **15 05 00.1 -0.1**
comp=Z,34nm,1.1s
BRG Berggiesshubel 21.38 115 *e*P **P** **15 05 00.6 +0.4**
comp=Z,34nm,1.1s,baz=326,slow=11
MANZ Manzenberg 21.39 119 *e*P **P** **15 05 00.7 +0.4**
comp=Z,18nm,1.3s,baz=326,slow=11
BFO Black Forest 21.41 127 P **P** **15 05 00.3 -0.3**
BFO pmax pmax
comp=Z,27nm,1.0s
BFO Black Forest 21.41 127 *e*P **P** **15 05 01.8 +1.2**
comp=Z,37nm,1.2s,baz=326,slow=11
BFO Black Forest 21.41 127 P **P** **15 05 00.3 -0.3**
VSU Vasula 21.56 86 *e*P **P** **15 05 01.7 -0.3**
VSU Vasula 21.56 86 *de*P **P** **15 05 01.3 -0.8**
VSU pmax pmax
comp=Z,71nm,1.0s
ROTZ Rotzenmuhle 21.60 119 *e*P **P** **15 05 03.3 +0.6**
comp=Z,32nm,1.6s,baz=326,slow=11
FRB Frobisher Bay 21.78 291 LR LR 15 12 30.7
comp=Z,47nm,19.6s,baz=313,slow=34
PABE Paberze 22.19 95 *e*P **P** **15 05 09.1 +0.2**
PRU Pruhonice 22.32 116 *e*P **P** **15 05 10.0 -0.3**
PRU Pruhonice 22.32 116 *e*P **P** **15 05 10.0 -0.3**
PRU *e*S Sn 15 09 22.6 -5.1
KSP Ksiaz 22.33 112 *e*P **P** **15 05 10.5 0.0**
PBCC Pribram 22.35 117 *e*P **P** **15 05 10.1 -0.5**
WET Wettzell 22.36 119 *e*P **P** **15 05 11.3 +0.4**
comp=Z,29nm,1.7s,baz=326,slow=11
CHVC Chvalec 22.44 113 *e*P **P** **15 05 11.3 -0.3**
GOPC GO Pecny, Ondr 22.47 115 *e*P **P** **15 05 12.8 +0.8**
GOPC GO Pecny, Ondr 22.47 115 *e*P **P** **15 05 12.8 +0.8**
GOPC *e*S Sn 15 09 27.3 -4.1
UPC Upice 22.48 113 *e*P **P** **15 05 12.2 +0.1**
UPC Upice 22.48 113 *e*P **P** **15 05 12.2 +0.1**
OSTC Ostas 22.52 113 *e*P **P** **15 05 12.1 -0.4**
OSTC *ex* x 15 05 21.8
OSTC *e*S Sn 15 09 27.9 -4.8
CAF Calviac 22.53 142 *e*P **P** **15 05 11.8 -0.9**
CAF pmax pmax
comp=Z,48nm,1.5s
UBR Ueberruh 22.58 125 *e*P **P** **15 05 14.4 +1.2**
comp=Z,20nm,1.2s,baz=326,slow=11
KHC Kasperske Hory 22.64 118 *e*P **P** **15 05 13.4 -0.4**
KHC *e*S **S** **15 09 24.7 +2.5**
KHC Kasperske Hory 22.64 118 *e*P **P** **15 05 13.4 -0.4**
KHC *e*S **S** **15 09 24.7 +2.5**
KHC Kasperske Hory 22.64 118 P **P** **15 05 13.5 -0.3**
DPC Dobruska-Polom 22.73 113 *e*P **P** **15 05 14.3 -0.4**
DPC Dobruska-Polom 22.73 113 *e*P **P** **15 05 14.3 -0.4**
DPC *e*S **S** **15 09 28.2 +4.3**
SENIN Lac Senin/Sane 22.78 131 P **P** **15 05 15.3 -0.2**
DAVA Damuels 22.84 126 *i*P **P** **15 05 16.7 +0.7**
comp=Z,26nm,1.1s,SNR=6.0
SUW Suwalki 22.86 98 *e*P **P** **15 05 15.7 -0.4**
SUW Suwalki 22.86 98 P **P** **15 05 15.3 -0.8**
SUW pmax pmax
comp=Z,49nm,1.2s
SUW Suwalki 22.86 98 P **P** **15 05 15.3 -0.8**
SUW lAmb lAmb 15 05 17.9
comp=Z,49nm,1.2s
SSB Saint Sauveur 22.90 137 P **P** **15 05 15.7 -0.9**
SSB pmax pmax
comp=Z,14nm,0.9s
SSB Saint Sauveur 22.90 137 P **P** **15 05 15.7 -0.9**
GEC2 GERESS Array S 22.92 119 *e*P **P** **15 05 17.2 +0.4**
comp=Z,27nm,1.4s,baz=326,slow=11
GEC2 GERESS Array S 22.92 119 P **P** **15 05 16.7 -0.1**
GEC2 lAmb lAmb 15 05 24.3
comp=Z,38nm,1.5s
GERES GERESS Array B 22.92 119 P **P** **15 05 16.4 -0.4**
comp=Z,6.0nm,0.9s,baz=329,slow=9.3,SNR=25
GERES LR LR 15 14 54.4
comp=Z,97nm,18.2s,baz=310,slow=39
RETA Reutte 22.98 125 *i*P **P** **15 05 18.1 +0.7**
comp=Z,19nm,1.3s,SNR=9.0
IZAR Zarasai 23.02 92 *e* **P** **15 05 16.5 -1.1**
IZAR *e*P **pP** **15 05 17.0 -1.6**
ISAL Salakas 23.08 92 *e*P **P** **15 05 18.2 0.0**
MOTA Moosalm 23.22 124 *i*P **P** **15 05 20.5 +0.6**
comp=Z,18nm,1.2s,SNR=6.8
TREC Trest 23.24 115 *e*P **P** **15 05 21.2 +1.2**
TREC Trest 23.24 115 *e*P **P** **15 05 21.2 +1.2**
IIGN Ignalina 23.27 93 *e*P **P** **15 05 20.6 +0.4**
DAVOX Davos/Dischmat 23.28 127 P **P** **15 05 20.5 -0.1**
comp=Z,7.3nm,0.9s,baz=325,slow=10.0,SNR=13
DAVOX LR LR 15 14 07.8
comp=Z,68nm,18.9s,baz=258,slow=36
PGAV Gavieira, Arco 23.30 162 *e*P P 15 05 13.4 -7.3
comp=Z,41nm,2.0s
LPL La Plagne 23.35 133 *e*P **P** **15 05 21.7 +0.3**
LPL pmax pmax
comp=Z,11nm,1.0s
TUE Stuetta 23.36 128 P **P** **15 05 21.2 -0.3**
SQTA Sankt Quirin 23.36 124 *i*P **P** **15 05 22.1 +0.7**
comp=Z,37nm,1.8s,SNR=8.4
WATA Walderalm 23.40 124 *i*P **P** **15 05 22.4 +0.7**
comp=Z,16nm,1.1s,SNR=5.8
BEL Belsk 23.42 105 *e*P **P** **15 05 22.8 +1.0**
WTTA Wattenberg 23.48 124 *i*P **P** **15 05 23.5 +0.9**
comp=Z,18nm,1.3s,SNR=8.4
RJOB Jochberg 23.50 121 *e*P **P** **15 05 22.3 -0.4**
comp=Z,61nm,2.1s,baz=326,slow=11
IDID Didziasalis 23.51 92 *e*P **P** **15 05 22.4 -0.2**
FUORN Ofenpass-Fuorn 23.55 127 P **P** **15 05 20.4 -3.0**
FUORN lAmb lAmb 15 05 50.8
comp=Z,37nm,1.7s
PCAB Cabril 23.58 162 *e*P **P** **15 05 24.0 +0.5**
comp=Z,35nm,1.6s
VRAC Vranov 23.66 114 P **P** **15 05 22.2 -2.0**
VRAC comp=Z,9.4nm,1.1s,baz=328,slow=9.4,SNR=14
LR LR 15 15 38.3
comp=Z,54nm,18.8s,baz=326,slow=39
VRAC Vranov 23.66 114⇑P **P** **15 05 23.3 -0.9**
VRAC Vranov 23.66 114 *e*P **P** **15 05 24.5 +0.3**
VRAC Vranov 23.66 114⇑P **P** **15 05 23.3 -0.9**
MORC Moravsky Berou 23.67 112⇑P **P** **15 05 24.2 -0.1**
MORC Moravsky Berou 23.67 112 *e*P **P** **15 05 24.6 +0.3**
MORC Moravsky Berou 23.67 112 P **P** **15 05 23.9 -0.4**
MORC pmax pmax
comp=Z,11nm,1.1s
MORC Moravsky Berou 23.67 112 P **P** **15 05 23.9 -0.4**
PBRG Braganca 23.67 160 *e*P **P** **15 05 23.5 -0.9**
comp=Z,27nm,1.8s
BNI Bardonecchia 23.75 134 P **P** **15 05 25.1 -0.2**
BNI pmax pmax
comp=Z,59nm,1.8s
BNI Bardonecchia 23.75 134 P **P** **15 05 25.1 -0.2**
BNI lAmb lAmb 15 05 53.4
comp=Z,58nm,1.8s
KRUC Moravsky 23.78 115 *e*P **P** **15 05 25.2 -0.2**
OKC Ostrava-Krasne 23.86 111 *e*P **P** **15 05 25.8 -0.3**
OKC *e* 15 05 30.7
OKC Ostrava-Krasne 23.86 111 *e*P **P** **15 05 25.8 -0.3**
OKC *ep*P **sP** **15 05 30.7 +3.0**
MOA Molln 23.95 119 *i*P **P** **15 05 27.3 +0.2**
comp=Z,20nm,1.6s
PVRL Vila Real 24.05 162 *e*P **P** **15 05 29.3 +1.3**
comp=Z,36nm,1.6s
OJC Ojcow 24.23 109 *e*P **P** **15 05 29.0 -0.7**
OJC Ojcow 24.23 109 P **P** **15 05 26.9 -2.7**
OJC pmax pmax
comp=Z,28nm,1.5s
OJC Ojcow 24.23 109 P **P** **15 05 26.9 -2.7**
OJC lAmb lAmb 15 05 31.7
comp=Z,28nm,1.5s
ABTA Abfaltersbach 24.23 123 *i*P **P** **15 05 30.8 +1.0**
comp=Z,11nm,1.3s
MVO Moncorvo 24.25 161 *e*P **P** **15 05 30.0 0.0**
comp=Z,37nm,1.5s
JAVC Velka Javorina 24.45 113 *e*P **P** **15 05 32.8 +1.1**
CONA Conrad Observa 24.50 117 *i*P **P** **15 05 32.7 +0.5**
comp=Z,12nm,0.9s,SNR=12
CTI Castel Tesino 24.53 125 P **P** **15 05 32.8 +0.3**
CTI pmax pmax
comp=Z,12nm,0.8s
CTI Castel Tesino 24.53 125 P **P** **15 05 32.8 +0.3**
MICGM Minsk 24.55 93 *e* **P** **15 05 32.0 -0.4**
MNK Minsk 24.55 93 *e*P **P** **15 05 32.0 -0.4**
ZOU Zoufplan 24.56 123 P **P** **15 05 33.0 +0.1**
ZOU lAmb lAmb 15 05 45.2
comp=Z,20nm,1.2s
PVIS Viseu 24.57 162 *e*P **P** **15 05 33.0 +0.1**
comp=Z,35nm,1.2s
CIMO Cimolais 24.58 124 P **P** **15 05 32.9 0.0**
MODS Modra-Piesok 24.68 114 *e*P **P** **15 05 33.5 -0.3**
MODS pmax pmax
comp=Z,26nm,1.4s
MODS Modra-Piesok 24.68 114 *e*P **P** **15 05 33.5 -0.3**
STAL STALIGIAL 24.72 123 P **P** **15 05 34.3 +0.2**
PRED Cave del Predi 24.88 122 P **P** **15 05 35.5 -0.1**
PRED lAmb lAmb 15 05 40.5
comp=Z,22nm,1.2s
ARSA Arzberg 24.93 118 *i*P **P** **15 05 36.8 +0.9**
comp=Z,10nm,1.0s,SNR=7.2
MTE Manteigas 24.93 162 *e*P **P** **15 05 36.2 +0.1**
comp=Z,39nm,2.2s
MTE Manteigas 24.93 162 P **P** **15 05 35.1 -1.0**
MTE lAmb lAmb 15 05 39.0
comp=Z,30nm,1.2s
LANS Liptovska Anna 24.93 111 *e*P **P** **15 05 36.8 +0.8**
LANS pmax pmax
comp=Z,11nm,1.0s
LANS Liptovska Anna 24.93 111 *e*P **P** **15 05 36.8 +0.8**
NIE Niedzica 25.06 109 *e*P **P** **15 05 37.3 +0.1**
OBKA Obir 25.18 121 *i*P **P** **15 05 39.2 +0.9**
comp=Z,8.5nm,1.2s
VYHS Vyhne 25.20 112 *e*P **P** **15 05 38.2 -0.2**
VYHS pmax pmax
comp=Z,16nm,1.2s
VYHS Vyhne 25.20 112 *e*P **P** **15 05 38.2 -0.2**
SOKA Soboth 25.22 120 *i*P **P** **15 05 39.2 +0.6**
comp=Z,11nm,1.1s,SNR=7.0
PCBR Castelo Branco 25.49 162 *e*P **P** **15 05 42.1 +1.0**
comp=Z,32nm,1.6s
KLMR Klimovskoe 25.61 72 *e*P **P** **15 05 40.7 -1.2**
comp=Z,21nm,1.3s
KLMR *e*S **S** **15 10 08.5 -1.9**
KLMR Klimovskoe 25.61 72 *e*P **P** **15 05 40.7 -1.2**
KLMR pmax pmax
comp=Z,21nm,1.3s
KLMR Klimovskoe 25.61 72 *e*P **P** **15 05 40.7 -1.2**
KLMR AMP 15 05 47.5
comp=Z,21nm,1.3s
SRO2 Moca 25.62 114 *e*P **P** **15 05 41.7 -0.4**
SRO2 Moca 25.62 114 *e*P **P** **15 05 41.7 -0.4**
PMRV Marv??o 25.91 162 *e*P **P** **15 05 46.6 +1.7**
comp=Z,41nm,1.4s
CRVS Cervenica-Dubn 25.94 109 *e*P **P** **15 05 45.2 +0.1**
CRVS Cervenica-Dubn 25.94 109 *e*P **P** **15 05 45.2 +0.1**
LSH Leshukonskoye 25.98 60 *e*P **P** **15 05 44.0 -1.3**
comp=Z,28nm,1.3s
SCHQ Schefferville 26.05 272 P **P** **15 05 45.3 -0.8**
comp=Z,13nm,1.0s,baz=34,slow=9.5,SNR=6.4
SCHQ LR LR 15 15 17.5
comp=Z,74nm,19.9s,baz=96,slow=35
SCHQ Schefferville 26.05 272 P **P** **15 05 47.2 +1.1**
SCHQ lAmb lAmb 15 05 50.5
comp=Z,13nm,0.9s
PSZ Piszkesteto 26.09 112⇑P **P** **15 05 45.2 -1.4**
PSZ Piszkesteto 26.09 112 P **P** **15 05 46.9 +0.4**
PSZ pmax pmax
comp=Z,21nm,1.2s
PSZ Piszkesteto 26.09 112 P **P** **15 05 46.9 +0.4**
PSZ lAmb lAmb 15 05 48.2
comp=Z,21nm,1.2s
ESBB Sonseca Array 26.20 156 P **P** **15 05 47.5 -0.1**
ESDC Sonseca Array 26.20 156 P **P** **15 05 47.1 -0.5**
comp=Z,4.4nm,1.0s,baz=347,slow=9.5,SNR=21
ESDC LR LR 15 15 56.1
comp=Z,97nm,18.7s,baz=335,slow=36
KOLS Kolonicke sedl 26.25 108 *e*P **P** **15 05 46.9 -1.0**
KOLS pmax pmax
comp=Z,24nm,1.3s
KOLS Kolonicke sedl 26.25 108 *e*P **P** **15 05 46.9 -1.0**
PAB San Pablo 26.26 157 P **P** **15 05 48.1 0.0**
PAB pmax pmax
comp=Z,17nm,1.2s
PAB San Pablo 26.26 157 P **P** **15 05 48.1 0.0**
PAB lAmb lAmb 15 06 00.7
comp=Z,17nm,1.2s
LVV L'vov 26.29 104 *e*P **P** **15 05 48.5 +0.2**
UZH Uzhgorod 26.49 108 *e*P **P** **15 05 50.0 -0.1**
UZH *i* 15 05 57.5
RES Resolute Bay 26.52 324 LR LR 15 16 12.0
comp=Z,51nm,21.6s,baz=112,slow=36
OSSC Osservatorio P 26.60 129 P **P** **15 05 53.5 +2.4**
MURB Monte Urbino 27.26 127 P **P** **15 05 57.6 +0.5**
MURB lAmb lAmb 15 06 12.1
comp=Z,29nm,1.1s
PRGR Permogore 27.64 67 *e*P **P** **15 06 00.1 -0.1**
comp=Z,12nm,0.6s
PRGR Permogore 27.64 67 *e*P **P** **15 06 00.1 -0.1**
PRGR pmax pmax
comp=Z,12nm,0.6s
AKASG Malin Array Be 27.82 97 P **P** **15 06 00.7 -1.3**
comp=Z,2.5nm,0.7s,baz=321,slow=9.6,SNR=7.5
AKASG LR LR 15 16 47.0
comp=Z,54nm,19.4s,baz=280,slow=36
AKBB Malin Array Si 27.82 97 P **P** **15 06 01.2 -0.8**
AKBB pmax pmax
comp=Z,13nm,1.3s
AKBB Malin Array Si 27.82 97 P **P** **15 06 01.2 -0.8**
OBN Obninsk 27.88 84 P **P** **15 06 01.3 -1.2**
comp=Z,2.5nm,0.4s,baz=348,slow=20,SNR=5.7
OBN LR LR 15 18 10.2
comp=Z,15nm,20.1s,baz=137,slow=39
OBN Obninsk 27.88 84⇑*e*P **P** **15 06 02.5 +0.1**
OBN *e* 15 06 48.7
OBN *e* 15 09 18.5
OBN pmax pmax
comp=Z,29nm,1.3s
OBN MLR MLR
comp=Z,43nm,16.0s
OBN Obninsk 27.88 84 lAmb lAmb 15 06 06.1
comp=Z,65nm,1.6s
MOS Moscow 27.91 82 *e*P **P** **15 06 02.5 -0.3**
BUR08 Bucovina Ar. S 28.47 106 P **P** **15 06 06.6 -1.4**
BZS Buzias 28.65 113⇑P **P** **15 06 10.2 +0.8**
BZS Buzias 28.65 113⇑P **P** **15 06 10.2 +0.8**
DIVS Divibare 29.28 116 P **P** **15 06 14.9 -0.2**
MDVR Moldovita 29.38 113⇑P **P** **15 06 15.0 -1.0**
SORM Soroca 29.40 102⇑P **P** **15 06 14.0 -2.1**
SORM Soroca 29.40 102⇑P **P** **15 06 14.0 -2.1**
VOIR 30.18 109⇑P **P** **15 06 21.2 -1.9**
VOIR 30.18 109⇑P **P** **15 06 21.2 -1.9**
PLOR Plostina 30.50 107⇑P **P** **15 06 23.2 -2.7**
PLOR Plostina 30.50 107⇑P **P** **15 06 23.2 -2.7**
MLR Muntele Rosu 30.50 108 P **P** **15 06 25.9 -0.1**
comp=Z,6.4nm,1.0s,baz=0.0,slow=20,SNR=4.4
MLR Muntele Rosu 30.50 108 P **P** **15 06 25.8 -0.2**
MLR pmax pmax
comp=Z,17nm,1.4s
MLR Muntele Rosu 30.50 108 P **P** **15 06 25.8 -0.2**
MLR lAmb lAmb 15 06 30.5
comp=Z,17nm,1.4s
VRI Vrincioaia 30.52 106⇑P **P** **15 06 24.1 -1.9**
VRI Vrincioaia 30.52 106⇑P **P** **15 06 24.1 -1.9**
KIRV Kirov 30.99 69 P **P** **15 06 29.6 -0.3**
comp=Z,4.0nm,0.5s,baz=309,slow=15,SNR=5.7
KIRV LR LR 15 18 46.4
comp=Z,68nm,20.1s,baz=25,slow=36
CFR Carcaliu 31.66 106⇑P **P** **15 06 34.4 -1.6**
CFR Carcaliu 31.66 106⇑P **P** **15 06 34.4 -1.6**
VSR Storozhevoye 31.72 87 *e*P **P** **15 06 35.0 -1.5**
VSR pmax pmax
comp=Z,10.0nm,1.1s
MDT Midelt 32.80 160 P **P** **15 06 45.8 -0.5**
comp=Z,11nm,0.9s,baz=360,slow=8.6,SNR=15
MDT LR LR 15 21 39.6
comp=Z,82nm,18.0s,baz=358,slow=39
VRH Novokhopyorsk 32.83 85 *e*P **P** **15 06 46.2 0.0**
VRH pmax pmax
comp=Z,40nm,1.4s
KEST Kesra 33.11 138 P **P** **15 06 47.2 -1.7**
comp=Z,3.7nm,1.0s,baz=251,slow=10.0,SNR=2.2
KEST LR LR 15 19 27.5
comp=Z,74nm,18.8s,baz=235,slow=35
KEST Kesra 33.11 138 lAmb lAmb 15 07 04.7
comp=Z,12nm,1.1s
ALN Alexandroupoli 34.37 112 P **P** **15 06 59.7 0.0**
ALN pmax pmax
comp=Z,15nm,1.1s
ALN Alexandroupoli 34.37 112 P **P** **15 06 59.7 0.0**
ALN lAmb lAmb 15 07 00.9
comp=Z,15nm,1.1s
AGG Agios Georgios 34.53 118 P **P** **15 07 01.0 -0.2**
AGG pmax pmax
comp=Z,26nm,1.1s
AGG Agios Georgios 34.53 118 P **P** **15 07 01.0 -0.2**
ANN Anapa 35.90 97 *e*P **P** **15 07 09.8 -3.0**
ANN pmax pmax
comp=Z,33nm,1.1s
ARU Arti 36.09 66 P **P** **15 07 13.3 -1.1**
comp=Z,0.5nm,0.3s,baz=324,slow=14,SNR=1.6
ARU Arti 36.09 66*c i*P **P** **15 07 17.4 +3.0**
ARU 15 08 36.6
ARU S **S** **15 13 00.8 +6.7**
ARU pmax pmax
comp=Z,10.0nm,1.4s
ARU Arti 36.09 66 lAmb lAmb 15 07 19.7
comp=Z,30nm,2.0s
D53A Lac Vacive, Po 36.39 271 P **P** **15 07 17.1 +0.1**
D53A lAmb lAmb 15 07 21.1
comp=Z,21nm,1.3s
NRIK Noril'sk 36.50 35 P **P** **15 07 17.6 -0.1**
comp=Z,5.4nm,0.9s,baz=314,slow=2.9,SNR=6.7
NRIK LR LR 15 23 37.8
comp=Z,49nm,20.0s,baz=11,slow=38
C36M Paulatuk 36.88 325 P **P** **15 07 22.6 +1.6**
C36M lAmb lAmb 15 07 24.9
comp=Z,17nm,1.4s
GOF Gofitskoye 38.10 91⇑*e*P **P** **15 07 32.0 +0.4**
GOF pmax pmax
comp=Z,57nm,1.2s
BR131 Keskin Array S 38.45 105 P **P** **15 07 35.9 +1.1**
BR131 pmax pmax
comp=Z,8.0nm,1.0s
BR131 Keskin Array S 38.45 105 P **P** **15 07 35.9 +1.1**
BRTR Keskin Array B 38.45 105 P **P** **15 07 33.5 -1.3**
comp=Z,5.6nm,0.9s,baz=325,slow=6.3,SNR=19
BRTR LR LR 15 24 28.3
comp=Z,41nm,20.7s,baz=208,slow=38
BRTR Keskin Array B 38.45 105*ce*P **P** **15 07 36.2 +1.4**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
IDI Anoyia 38.78 118 P **P** **15 07 36.1 -1.4**
comp=Z,15nm,0.9s,baz=15,slow=5.6,SNR=6.2
IDI LR LR 15 25 11.9
comp=Z,57nm,19.1s,baz=137,slow=39
IDI Anoyia 38.78 118⇑P P 15 07 29.1 -8.4
IDI Anoyia 38.78 118 P **P** **15 07 35.8 -1.7**
IDI lAmb lAmb 15 07 38.1
comp=Z,17nm,0.9s
KIV Kislovodsk 38.83 92 *e*P **P** **15 07 40.3 +2.5**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,94nm,16.0s
SADO Sadowa 38.83 270 P **P** **15 07 36.7 -1.0**
comp=Z,12nm,1.2s,baz=237,slow=3.8,SNR=3.7
SADO Sadowa 38.83 270 P **P** **15 07 36.8 -1.0**
KVAR Kislovodsk Arr 38.83 92 P **P** **15 07 36.6 -1.2**
comp=Z,1.0nm,0.3s,baz=284,slow=12,SNR=1.0
KVAR LR LR 15 24 25.6
comp=Z,32nm,19.8s,baz=271,slow=38

KBZ **Khabaz** 39.10 92 P **P** **15 07 41.1 +1.1**
comp=Z,4.1nm,0.8s,baz=316,slow=11,SNR=8.9
YKA **Yellowknife Ar** 39.26 313 P **P** **15 07 39.9 -1.2**
comp=Z,4.1nm,0.9s,baz=45,slow=8.5,SNR=5.1
YKA LR LR 15 23 10.9
comp=Z,40nm,21.7s,baz=0.0,slow=35
E46A **Sault Ste Mari** 39.79 276 P **P** **15 07 46.2 +0.5**
E46A IAmb IAmb 15 07 49.6
comp=Z,21nm,1.2s
INK **Inuvik** 39.89 329 P **P** **15 07 46.1 -0.2**
comp=Z,5.4nm,1.0s,baz=40,slow=11,SNR=8.3
INK **Inuvik** 39.89 329 P **P** **15 07 46.9 +0.6**
INK pmax pmax
comp=Z,10.0nm,1.2s
INK **Inuvik** 39.89 329 P **P** **15 07 46.9 +0.6**
AKTO **Aktyubinsk** 40.29 73 P **P** **15 07 49.0 -0.9**
comp=Z,3.3nm,0.9s,baz=305,slow=4.7,SNR=9.2
AKTO **Aktyubinsk** 40.29 73 P **P** **15 07 49.0 -0.9**
M54A **Oil Creek Stat** 41.69 267 P **P** **15 08 02.6 +1.1**
M54A IAmb IAmb 15 08 05.5
comp=Z,18nm,1.1s
N54A **Moraine State** 42.28 267 P **P** **15 08 06.6 +0.4**
N54A IAmb IAmb 15 08 10.5
comp=Z,36nm,1.4s
CSS **Mathiatis** 42.40 109 P **P** **15 08 07.7 +0.4**
CSS IAmb IAmb 15 08 09.1
comp=Z,14nm,1.1s
TOLK **Toolik Lake Re** 42.80 336 P **P** **15 08 12.7 +2.4**
TOLK IAmb IAmb 15 08 15.0
comp=Z,27nm,1.1s
AGMN **Agassiz Nation** 43.15 287 P **P** **15 08 14.2 +1.0**
BRVK **Borovoye** 43.15 62⇑ *e*P **P** **15 08 14.1 +0.9**
BRVK pmax pmax
comp=Z,12nm,1.7s
BRVK **Borovoye** 43.15 62 P **P** **15 08 13.7 +0.6**
G40A **Rib Lake** 43.18 280 P **P** **15 08 14.0 +0.5**
O53A **New Philadelph** 43.39 268 P **P** **15 08 16.6 +1.3**
O53A IAmb IAmb 15 08 19.7
comp=Z,18nm,1.2s
P53A **Whipple** 44.10 267 P **P** **15 08 22.2 +1.2**
N49A **Columbus Grove** 44.12 271 P **P** **15 08 22.0 +0.9**
ACSO **Alum Creek Sta** 44.17 269 P **P** **15 08 22.2 +0.6**
COLD **Coldfoot** 44.17 336 P **P** **15 08 22.5 +1.2**
P52A **Corning** 44.30 268 P **P** **15 08 23.2 +0.6**
P52A IAmb IAmb 15 08 26.5
comp=Z,23nm,1.2s
TAM **Tamanrasset** 44.46 149 P **P** **15 08 24.7 +0.5**
TAM pmax pmax
comp=Z,5.0nm,1.0s
TAM **Tamanrasset** 44.46 149 P **P** **15 08 24.7 +0.5**
EGAK **Eagle** 44.53 329 P **P** **15 08 25.4 +1.3**
DAWY **Dawson** 44.75 328 P **P** **15 08 27.6 +1.6**
DAWY IAmb IAmb 15 08 30.0
comp=Z,12nm,1.2s
O49A **Covington** 44.79 270 P **P** **15 08 26.8 +0.3**
P51A **Williamsport** 44.82 269 P **P** **15 08 27.4 +0.6**
P51A IAmb IAmb 15 08 30.5
comp=Z,21nm,1.3s
F33A **5 Mile Ranch,** 45.28 285 P **P** **15 08 30.9 +0.5**
F33A IAmb IAmb 15 08 34.4
comp=Z,13nm,1.2s
Q51A **Peebles** 45.32 269 P **P** **15 08 30.8 0.0**
P49A **Miami Univ. Ec** 45.49 270 P **P** **15 08 32.4 +0.2**
I37A **Lemond, Waseca** 45.54 281 P **P** **15 08 32.8 +0.4**
L42A **Oliver, Polo** 45.59 277 P **P** **15 08 33.9 +1.1**
IL31 **45.74 332** P **P** **15 08 35.8 +2.1**
IL31 IAmb IAmb 15 08 38.1
comp=Z,13nm,1.2s
ILAR **Eielson Array** 45.74 332 P **P** **15 08 34.7 +0.9**
comp=Z,5.4nm,1.0s,baz=24,slow=6.2,SNR=30
ILAR LR LR 15 28 39.8
comp=Z,43nm,21.7s,baz=64,slow=37
SFIN **Lafayette** 45.82 273 P **P** **15 08 35.2 +0.5**
MDM **Murphy Dome** 45.84 333 P **P** **15 08 36.3 +1.7**
COLA **College** 45.84 333 P **P** **15 08 36.2 +1.7**
COLA pmax pmax
comp=Z,20nm,1.2s
COLA **College** 45.84 333 P **P** **15 08 36.2 +1.7**
P48A **Milroy** 45.86 271 P **P** **15 08 35.2 +0.2**
P48A IAmb IAmb 15 08 36.2
comp=Z,13nm,1.1s
CCB **Clear Creek Bu** 46.03 333 P **P** **15 08 38.7 +2.7**
CCB IAmb IAmb 15 08 40.2
comp=Z,9.3nm,1.3s
HDA **Harding Lake** 46.07 332 P **P** **15 08 38.4 +2.0**
HDA IAmb IAmb 15 08 40.6
comp=Z,16nm,1.4s
DOT **Dot Lake** 46.15 330 P **P** **15 08 38.6 +1.5**
DOT IAmb IAmb 15 08 40.9
comp=Z,8.4nm,1.1s
L40A **Anamosa** 46.20 278 P **P** **15 08 38.3 +0.6**
L40A IAmb IAmb 15 08 46.5
comp=Z,11nm,1.1s
RIDG **Independent Ri** 46.23 331 P **P** **15 08 39.3 +1.6**
RIDG IAmb IAmb 15 08 41.8
comp=Z,8.5nm,1.0s
ASF **Jabal al Asfar** 46.28 108 P **P** **15 08 38.3 -0.2**
comp=Z,2.2nm,0.8s,baz=262,slow=8.8,SNR=2.9
MENT **Mentasta** 46.70 330 P **P** **15 08 43.0 +1.6**
MENT IAmb IAmb 15 08 47.8
comp=Z,7.2nm,1.1s
PAX **Paxson** 47.05 331 P **P** **15 08 45.1 +0.9**
PAX pmax pmax
comp=Z,13nm,1.3s
PAX **Paxson** 47.05 331 P **P** **15 08 45.1 +0.9**
PAX IAmb IAmb 15 08 48.6
comp=Z,13nm,1.3s
MCK **McKinley** 47.07 333 P **P** **15 08 44.9 +0.6**
MCK pmax pmax
comp=Z,11nm,1.1s
MCK **McKinley** 47.07 333 P **P** **15 08 44.9 +0.6**
MCK IAmb IAmb 15 08 51.0
comp=Z,11nm,1.1s
HYT **Haines Junctio** 47.09 325 P **P** **15 08 45.1 +0.6**
HYT IAmb IAmb 15 08 51.3
comp=Z,11nm,1.3s
DLBC **Dease Lake** 47.12 318 P **P** **15 08 45.4 +0.6**
comp=Z,3.4nm,1.0s,baz=12,slow=8.4,SNR=5.4
DLBC **Dease Lake** 47.12 318 P **P** **15 08 45.9 +1.1**
BPAW **Bear Paw Mtn.** 47.13 334 P **P** **15 08 46.0 +1.2**
WCI **Wyandotte Cave** 47.26 271 P **P** **15 08 46.3 +0.3**
WCI pmax pmax
comp=Z,9.0nm,0.9s
WCI **Wyandotte Cave** 47.26 271 P **P** **15 08 46.3 +0.3**
WCI IAmb IAmb 15 08 47.7
comp=Z,9.4nm,0.8s
T50A **Nancy** 47.64 268 P **P** **15 08 49.9 +0.8**
ZAA0 **Zalesovo Array** 47.66 51 P **P** **15 08 49.4 +0.5**
ZAA0 IAmb IAmb 15 08 52.3
comp=Z,12nm,1.4s
ZALV **Zalesovo Beam** 47.66 51 P **P** **15 08 48.1 -0.8**
comp=Z,1.7nm,0.7s,baz=325,slow=7.4,SNR=7.6
ZALV **Zalesovo Beam** 47.66 51 *i* P **P** **15 08 50.9 +2.0**
ZALV pmax pmax
comp=Z,2.0nm,0.9s
KURK **Kurchatov** 48.13 58 P **P** **15 08 52.4 -0.2**
KURK pmax pmax
comp=Z,9.0nm,1.1s
KURK **Kurchatov** 48.13 58 P **P** **15 08 52.4 -0.2**
KURK IAmb IAmb 15 08 54.9
comp=Z,9.3nm,1.1s
PAULI **Pauline** 48.20 264 P **P** **15 08 54.9 +1.5**
ISLE **Juniper Island** 48.45 327 P **P** **15 08 54.4 -0.7**
SCM **Sheep Creek Mo** 48.46 331 P **P** **15 08 57.6 +2.5**
SCM pmax pmax
comp=Z,35nm,1.5s
SCM **Sheep Creek Mo** 48.46 331 P **P** **15 08 57.6 +2.5**
JIS **Juneau Island** 48.47 321 P **P** **15 08 55.2 +0.1**
JIS IAmb IAmb 15 10 39.6
comp=Z,13nm,1.5s
U49A **Red Boiling Sp** 48.48 269 P **P** **15 08 55.8 +0.3**
U49A IAmb IAmb 15 09 01.1
comp=Z,11nm,1.2s
P40A **Paris** 48.65 277 P **P** **15 08 56.1 -0.6**
P40A IAmb IAmb 15 10 23.6
comp=Z,9.4nm,1.3s
T47A **Sharon Grove** 48.65 271 P **P** **15 08 56.9 +0.1**
GHO **Glory Hole Cre** 48.84 332 P **P** **15 08 59.7 +1.7**
CLTN **Cedars of Leba** 49.07 269 P **P** **15 08 59.8 -0.2**
CLTN IAmb IAmb 15 09 03.1
comp=Z,11nm,1.2s
WALA **Waterton Lakes** 49.62 301 P **P** **15 09 05.8 +1.5**
WALA IAmb IAmb 15 09 44.9
comp=Z,11nm,1.6s
X51A **Calhoun** 49.73 267 P **P** **15 09 05.8 +0.8**
X51A IAmb IAmb 15 09 09.6
comp=Z,14nm,1.1s
SPU **Mount Spurr** 50.01 333 P **P** **15 09 07.7 +0.8**
FPAL **Fort Paine** 50.08 267 P **P** **15 09 08.1 +0.3**
FPAL IAmb IAmb 15 09 11.2
comp=Z,15nm,1.5s
T42A **Van Buren** 50.33 274 P **P** **15 09 08.2 -1.4**
GEYT **Alibeck** 50.42 84 P **P** **15 09 09.5 -0.8**
comp=Z,1.7nm,0.7s,baz=298,slow=7.9,SNR=4.5
GEYT LR LR 15 33 50.6
comp=Z,42nm,19.1s,baz=160,slow=40
S39A **Bolivar** 50.73 276 P **P** **15 09 12.0 -0.7**
PLAL **Pickwick Lake** 50.76 270 P **P** **15 09 12.7 -0.2**
PLAL IAmb IAmb 15 09 24.7
comp=Z,21nm,1.9s
X48A **Hartselle** 50.77 269 P **P** **15 09 12.7 -0.2**
X48A IAmb IAmb 15 09 13.6
comp=Z,9.0nm,1.1s
HRY **Holter Researc** 50.79 298 P **P** **15 09 14.2 +1.1**
KSU1 **Kansas State U** 50.95 280 P **P** **15 09 13.8 -0.5**
KSU1 IAmb IAmb 15 09 15.4
comp=Z,11nm,1.1s
Y49A **Blount Mountai** 51.00 268 P **P** **15 09 13.4 -1.3**
Y49A IAmb IAmb 15 10 00.7
comp=Z,14nm,1.3s
RLMT **Red Lodge** 51.12 295 P **P** **15 09 16.6 +0.8**
RLMT IAmb IAmb 15 09 21.5
comp=Z,21nm,1.6s
KK31 **Karatay Array** 51.28 70 P **P** **15 09 17.3 +0.5**
KK31 pmax pmax
comp=Z,22nm,1.8s
KK31 **Karatay Array** 51.28 70 P **P** **15 09 17.3 +0.5**
KK31 IAmb IAmb 15 09 21.8
comp=Z,22nm,1.8s
KKAR **Karatay Array** 51.28 70 P **P** **15 09 17.3 +0.5**
KKAR pmax pmax
comp=Z,22nm,1.8s
KKAR **Karatay Array** 51.28 70 P **P** **15 09 17.3 +0.5**
KKAR IAmb IAmb 15 09 21.8
comp=Z,22nm,1.8s
YNE **Yellowstone No** 51.51 295 P **P** **15 09 19.1 +0.4**
BOZ **Bozeman (W)** 51.64 297 P **P** **15 09 20.4 +0.8**
BOZ pmax pmax
comp=Z,17nm,1.2s
BOZ **Bozeman (W)** 51.64 297 P **P** **15 09 20.4 +0.8**
BOZ IAmb IAmb 15 09 23.5
comp=Z,17nm,1.1s
U40A **Yellville** 51.66 275 P **P** **15 09 19.5 -0.1**
OXF **Oxford** 51.74 271 P **P** **15 09 21.0 +0.8**
OXF pmax pmax
comp=Z,14nm,1.0s
OXF **Oxford** 51.74 271 P **P** **15 09 21.0 +0.8**
OXF IAmb IAmb 15 10 57.9
comp=Z,14nm,1.0s
LRM **Limekiln Ridge** 51.77 298 P **P** **15 09 21.0 +0.4**
YMP **Mirror Lake Pl** 51.79 295 P **P** **15 09 20.1 -0.7**
K22A **Casper** 52.09 291 P **P** **15 09 23.3 +0.3**
K22A IAmb IAmb 15 09 25.8
comp=Z,8.6nm,1.0s
YHL **Hebgen Lake** 52.09 296 P **P** **15 09 23.7 +0.6**
DGZ **Jazzator, Alta** 52.10 53⇑ *e*P **P** **15 09 24.7 +1.7**
DGZ pmax pmax
comp=Z,10.0nm,1.3s
R32A **Long Quarter,** 52.41 282 P **P** **15 09 25.3 +0.1**
R32A IAmb IAmb 15 09 27.7
comp=Z,15nm,1.2s
SEY **Seymchan** 52.54 6 P **P** **15 09 25.9 +0.2**
comp=Z,4.9nm,1.1s,baz=338,slow=7.8,SNR=5.9
SEY **Seymchan** 52.54 6⇑ *e*P **P** **15 09 27.8 +2.0**
FLWY **Flagg Ranch** 52.55 295 P **P** **15 09 27.8 +1.3**
MAKZ **Makanchi** 52.62 59 P **P** **15 09 26.9 +0.2**
MAKZ pmax pmax
comp=Z,19nm,1.9s
MAKZ **Makanchi** 52.62 59 P **P** **15 09 26.9 +0.2**
MAKZ IAmb IAmb 15 09 31.8
comp=Z,19nm,1.9s
MK31 **Makanchi Array** 52.74 58 P **P** **15 09 27.5 -0.1**
MK31 pmax pmax
comp=Z,9.0nm,1.6s
MK31 **Makanchi Array** 52.74 58 P **P** **15 09 27.5 -0.1**
MKAR **Makanchi Array** 52.74 58 P **P** **15 09 27.2 -0.4**
comp=Z,2.1nm,1.0s,baz=332,slow=4.8,SNR=13
MKAR **Makanchi Array** 52.74 58 *ce*P **P** **15 09 27.7 +0.1**
MKAR pmax pmax
comp=Z,2.0nm,1.0s
T35A **Sooner Cattle** 52.75 279 P **P** **15 09 27.8 +0.1**
T35A IAmb IAmb 15 09 30.0
comp=Z,9.8nm,1.1s
MCMT **McKenzie Canyo** 52.76 297 P **P** **15 09 29.1 +1.2**
IMW **Indian Meadow** 52.80 295 P **P** **15 09 28.2 -0.2**
LOHW **Long Hollow** 52.91 295 P **P** **15 09 29.1 0.0**
FXWY **Fox Creek** 53.05 295 P **P** **15 09 31.0 +0.8**
TOA0 **Torodi Ar. Sit** 53.09 156 P **P** **15 09 29.1 -1.3**
TOA0 IAmb IAmb 15 09 30.6
comp=Z,19nm,1.4s
TORD **Torodi Ar. Bea** 53.09 156 P **P** **15 09 29.0 -1.4**
comp=Z,6.4nm,1.0s,baz=341,slow=7.5,SNR=18
TPAW **Teton Pass** 53.15 295 P **P** **15 09 29.8 -1.1**
BW06 **Boulder Array** 53.21 293 P **P** **15 09 31.1 -0.3**
BW06 IAmb IAmb 15 09 34.2
comp=Z,12nm,1.2s
PD31 **Pinedale Array** 53.21 293 P **P** **15 09 31.1 -0.2**
PD31 IAmb IAmb 15 09 34.2
comp=Z,12nm,1.2s
PDAR **Pinedale Array** 53.21 293 P **P** **15 09 30.9 -0.4**
comp=Z,7.0nm,1.0s,baz=60,slow=7.0,SNR=30
REDW **Red Top Meadow** 53.22 295 P **P** **15 09 32.1 +0.7**
AAK **Ala-Archa** 53.27 67 *de*P **P** **15 09 32.9 +1.2**
AAK pmax pmax
comp=Z,17nm,1.7s
AAK **Ala-Archa** 53.27 67 P **P** **15 09 32.6 +0.9**
AAK IAmb IAmb 15 09 37.9
comp=Z,17nm,1.4s
N23A **Red Feather La** 53.33 289 P **P** **15 09 32.9 +0.6**
BCYI **Bear Canyon** 53.41 297 P **P** **15 09 33.2 +0.5**
MIAR **Mount Ida** 53.50 275 P **P** **15 09 32.6 -0.7**
MIAR pmax pmax
comp=Z,19nm,1.9s
MIAR **Mount Ida** 53.50 275 P **P** **15 09 32.6 -0.7**
MIAR IAmb IAmb 15 09 57.0
comp=Z,19nm,1.9s
KSCO **Kaye Shedlock'** 53.56 285 P **P** **15 09 33.6 -0.2**
CROK **Carrier** 53.72 280 P **P** **15 09 34.5 -0.4**
AHID **Auburn Hatcher** 53.82 294 P **P** **15 09 36.3 +0.5**
BTK **Batken** 53.97 72 P **P** **15 09 37.0 +0.2**
BTK pmax pmax
comp=Z,23nm,1.2s
BTK **Batken** 53.97 72 P **P** **15 09 37.0 +0.2**
ISCO **Idaho Springs** 54.12 288 P **P** **15 09 38.2 0.0**
ISCO pmax pmax
comp=Z,8.0nm,1.5s
ISCO **Idaho Springs** 54.12 288 P **P** **15 09 38.2 0.0**
BMO **Blue Mountains** 54.42 300 P **P** **15 09 39.5 -0.5**
BMO pmax pmax
comp=Z,3.0nm,1.0s
BMO **Blue Mountains** 54.42 300 P **P** **15 09 39.5 -0.5**
CHGR **Chuyangaron** 54.47 74 P **P** **15 09 40.8 +0.4**
NLWA **Neilton Lookou** 54.59 307 P **P** **15 09 42.3 +1.1**
NLWA IAmb IAmb 15 09 44.6
comp=Z,15nm,1.2s
GAR **Garm** 54.66 73 P **P** **15 09 42.7 +0.9**
MOY **Mondy** 54.69 42 *e*P **P** **15 09 44.0 +2.1**
MOY pmax pmax
comp=Z,35nm,1.8s
KDJ **Kajisay** 54.76 65 P **P** **15 09 42.6 0.0**
KDJ pmax pmax
comp=Z,6.0nm,0.9s
KDJ **Kajisay** 54.76 65 P **P** **15 09 42.6 0.0**
O20A **White River Ci** 54.91 290 P **P** **15 09 43.3 -0.4**
O20A IAmb IAmb 15 09 47.3
comp=Z,17nm,1.4s
HWUT **Hardware Ranch** 54.98 294 P **P** **15 09 44.0 -0.3**
HWUT IAmb IAmb 15 09 47.8
comp=Z,12nm,1.0s
RDMU **Red Mountain** 55.07 292 P **P** **15 09 45.4 +0.4**
TARG **Taragay, Kyrgy** 55.34 65 P **P** **15 09 47.7 +0.6**
TARG IAmb IAmb 15 09 52.2
comp=Z,8.4nm,1.1s
TLY **Talaya** 55.43 40⇓ *i* P **P** **15 09 48.8 +1.7**
TLY pmax pmax
comp=Z,9.0nm,1.4s
WMOK **Wichita Mounta** 55.56 279 P **P** **15 09 47.6 -0.7**
WMOK pmax pmax
comp=Z,10.0nm,1.2s
WMOK **Wichita Mounta** 55.56 279 P **P** **15 09 47.6 -0.7**
WMOK IAmb IAmb 15 09 52.4
comp=Z,9.6nm,1.2s
JLU **Jordanelle** 55.79 293 P **P** **15 09 50.9 +0.7**
MA2 **Magadan** 55.81 7⇑ *e*P **P** **15 09 51.3 +1.6**
MA2 pmax pmax
comp=Z,8.0nm,1.2s
MA2 **Magadan** 55.81 7 P **P** **15 09 50.7 +1.0**
T25A **Trinidad** 55.89 285 P **P** **15 09 51.4 +0.5**
T25A IAmb IAmb 15 09 55.0
comp=Z,11nm,1.4s
S22A **4UR Ranch, Cre** 56.37 288 P **P** **15 09 54.8 +0.5**
CBYP **Canovanas** 56.41 239 P **P** **15 09 54.3 -0.2**
MTP **Monte Pirata** 56.46 238 P **P** **15 09 55.4 +0.5**
P17A **Butcher Ranch,** 56.48 292 P **P** **15 09 55.0 0.0**
PV22 **Blue Mesa, Par** 56.49 290 P **P** **15 09 54.8 -0.3**
ZAK **Zakamensk** 56.49 41 *e*P **P** **15 09 54.5 -0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
KSH **Kashi** 56.51 68 *e*P **P** **15 09 57.8 +2.7**
PV21 **Cone Mtn., Par** 56.55 290 P **P** **15 09 55.5 0.0**
PV23 **Carpenter Ridg** 56.65 290 P **P** **15 09 56.4 0.0**
PV04 **Paradox Valley** 56.66 290 P **P** **15 09 56.5 +0.2**
DUG **Dugway, Tooele** 56.68 294 P **P** **15 09 57.3 +1.0**
DUG pmax pmax
comp=Z,7.0nm,1.2s
DUG **Dugway, Tooele** 56.68 294 P **P** **15 09 57.3 +1.0**
PV12 **Saucer Basin,** 56.68 290 P **P** **15 09 56.9 +0.4**
PV12 IAmb IAmb 15 10 00.7
comp=Z,13nm,1.2s
SRU **San Rafael Swe** 56.70 292 P **P** **15 09 56.3 -0.3**
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU **San Rafael Swe** 56.70 292 P **P** **15 09 56.3 -0.3**
PV14 **Lion Creek, Pa** 56.73 290 P **P** **15 09 56.7 -0.1**
PV14 IAmb IAmb 15 09 59.5
comp=Z,7.3nm,1.0s
PV11 **David Mesa, Pa** 56.73 290 P **P** **15 09 57.0 +0.2**
PV11 IAmb IAmb 15 09 59.6
comp=Z,14nm,1.2s
PV10 **Paradox Valley** 56.73 290 P **P** **15 09 57.8 +0.9**
PV20 **West Nyswonger** 56.73 290 P **P** **15 09 56.9 +0.1**
PV20 IAmb IAmb 15 09 59.5
comp=Z,7.6nm,1.0s
PV16 **Nyswonger Mesa** 56.73 290 P **P** **15 09 57.0 +0.1**
PV16 IAmb IAmb 15 10 00.5
comp=Z,11nm,1.2s
PV01 **Paradox Valley** 56.75 289 P **P** **15 09 57.1 +0.1**
PV01 IAmb IAmb 15 10 01.2
comp=Z,15nm,1.2s
PV02 **Paradox Valley** 56.75 290 P **P** **15 09 57.6 +0.6**
PV03 **Paradox Valley** 56.76 290 P **P** **15 09 57.1 +0.1**
PV17 **East Wray Mesa** 56.78 290 P **P** **15 09 56.9 -0.3**
PV17 IAmb IAmb 15 10 00.7
comp=Z,15nm,1.2s
PV18 **Skein Mesa, Pa** 56.79 290 P **P** **15 09 57.4 +0.1**
PV13 **Radium Mtn., P** 56.83 290 P **P** **15 09 58.0 +0.4**
Q16A **Castle Valley** 57.12 292 P **P** **15 10 00.0 +0.4**
WMQ **Urumqi** 57.25 56 *e*P **P** **15 10 03.6 +3.3**
WMQ pmax pmax
comp=Z,12nm,0.6s
WMQ pmax pmax
comp=Z,50nm,4.1s
WMQ LR LR
comp=N,200nm,29.0s
WMQ LR LR
comp=E,490nm,29.2s
WMQ LR LR
comp=Z,31nm,29.0s
ABTX **Abilene, Hawle** 57.74 279 P **P** **15 10 03.6 -0.2**
ABTX IAmb IAmb 15 10 07.8
comp=Z,10nm,1.1s
MSU **Marysvale** 57.87 293 P **P** **15 10 05.4 +0.5**
MSU **Marysvale** 57.87 293 P **P** **15 10 05.4 +0.5**
TCRU **Three Creeks R** 57.90 293 P **P** **15 10 05.7 +0.6**
MSTX **Muleshoe** 57.91 282 P **P** **15 10 05.6 +0.5**
PSUT **Pine Spring** 58.52 294 P **P** **15 10 10.1 +0.6**
DBIC **Dimbokro** 58.53 165 P **P** **15 10 06.4 -3.0**
comp=Z,9.0nm,0.9s,baz=358,slow=9.8,SNR=7.1
DBIC **Dimbokro** 58.53 165 P **P** **15 10 08.8 -0.6**
DBIC pmax pmax
comp=Z,13nm,1.0s
DBIC **Dimbokro** 58.53 165 P **P** **15 10 08.8 -0.6**
TIC **Toumodi** 58.54 165 *e*P **P** **15 10 08.2 -1.3**
ANMO **Albuquerque** 58.62 286⇑ *i* P **P** **15 10 11.9 +1.8**
ANMO pmax pmax
comp=Z,5.0nm,1.2s
KIC **Kosan Boka** 58.85 165 *e*P **P** **15 10 10.3 -1.4**
comp=Z,75nm,1.6s
LIC **Lamto** 58.96 166 *e*P **P** **15 10 10.6 -1.8**
comp=Z,82nm,1.5s
SZCU **Shurtz Canyon** 59.02 293 P **P** **15 10 15.0 +2.0**
CCUT **Cedar City** 59.17 293 P **P** **15 10 15.1 +1.1**
R11A **Troy Canyon, C** 59.36 295 P **P** **15 10 15.8 +0.6**
R11A IAmb IAmb 15 10 19.3
comp=Z,12nm,1.4s
BNM **Barren Site** 59.37 285 P **P** **15 10 16.0 +0.6**
KNB **Kanab** 59.42 292 P **P** **15 10 16.2 +0.5**
KNB pmax pmax
comp=Z,10.0nm,1.3s
KNB **Kanab** 59.42 292 P **P** **15 10 16.1 +0.5**
LENM **Lemitar** 59.50 286 P **P** **15 10 17.5 +1.3**
LCMT **Little Creek M** 59.59 293 P **P** **15 10 17.1 +0.3**
PAHR **Pah Rah Range** 59.63 299 P **P** **15 10 17.2 +0.1**
PAHR IAmb IAmb 15 10 20.4
comp=Z,7.5nm,1.2s
SONM **Songino Array** 59.67 40 P **P** **15 10 15.9 -1.3**
comp=Z,1.4nm,0.9s,baz=327,slow=7.7,SNR=5.7
SONM LR LR 15 38 26.2
comp=Z,65nm,19.6s,baz=256,slow=38
U15A **North Rim** 59.72 291 P **P** **15 10 17.6 -0.3**
U15A IAmb IAmb 15 10 20.8
comp=Z,7.5nm,1.1s
KVN **Kaiserville** 59.72 298 P **P** **15 10 18.3 +0.6**
KVN pmax pmax
comp=Z,10.0nm,1.2s
KVN **Kaiserville** 59.72 298 P **P** **15 10 18.3 +0.6**
KVN IAmb IAmb 15 10 21.3
comp=Z,9.7nm,1.2s
W18A **Petrified Fore** 59.82 289 P **P** **15 10 18.7 +0.3**
ULN **Ulaanbaatar** 59.83 40 *ce*P **P** **15 10 19.0 +0.7**
ULN pmax pmax
comp=Z,8.0nm,1.7s
WUAZ **Wupatki** 60.14 290 P **P** **15 10 20.9 +0.3**
YERR **Yerington** 60.21 298 P **P** **15 10 21.9 +0.8**
NVAR **Mina Array Bea** 60.34 297 P **P** **15 10 21.8 -0.2**
comp=Z,1.6nm,1.0s,baz=57,slow=5.0,SNR=7.9
NIL **Nilore** 60.45 73 P **P** **15 10 22.3 -0.3**
NIL pmax pmax
comp=Z,17nm,1.1s
NIL **Nilore** 60.45 73 P **P** **15 10 22.3 -0.3**
SHPR **Sheep Range** 60.79 294 P **P** **15 10 26.1 +1.0**
SHPR IAmb IAmb 15 10 29.4
comp=Z,6.8nm,1.1s
TPNV **Topopah Spring** 60.83 295 P **P** **15 10 26.2 +0.8**
TPNV pmax pmax
comp=Z,17nm,1.8s
TPNV **Topopah Spring** 60.83 295 P **P** **15 10 26.1 +0.8**
TPNV IAmb IAmb 15 10 39.6
comp=Z,17nm,1.8s
AFDM **Forest Hills D** 60.89 300 P **P** **15 10 26.2 +0.7**
MNTX **Cornudas Mount** 60.97 283 P **P** **15 10 26.5 +0.4**
X16A **Lo Mia Camp, P** 61.12 290 P **P** **15 10 28.2 +0.9**
X16A IAmb IAmb 15 10 31.4
comp=Z,6.6nm,1.1s
833A **Chaparral WMA,** 61.36 276 P **P** **15 10 29.7 +0.9**
TX31 **Lajitas Ar. Si** 62.30 280 P **P** **15 10 34.2 -1.1**
TX32 **Lajitas Array** 62.30 280 P **P** **15 10 34.2 -1.1**
TX32 IAmb IAmb 15 10 37.9
comp=Z,5.4nm,1.1s
TXAR **Lajitas Array** 62.30 280 P **P** **15 10 34.8 -0.4**
comp=Z,3.4nm,1.0s,baz=57,slow=4.6,SNR=14
TXAR LR LR 15 36 43.4
comp=Z,57nm,19.0s,baz=0.0,slow=35
GSC **Goldstone, Bar** 62.49 294 P **P** **15 10 36.7 +0.3**
GSC pmax pmax
comp=Z,5.0nm,1.3s
GSC **Goldstone, Bar** 62.49 294 P **P** **15 10 36.7 +0.3**
PETK **Petropavlovsk-** 62.55 3 LR LR 15 36 42.9
comp=Z,22nm,18.6s,baz=45,slow=35
TUC **Tucson** 62.69 288 P **P** **15 10 36.6 -1.2**
TUC pmax pmax
comp=Z,7.0nm,1.2s
TUC **Tucson** 62.69 288 P **P** **15 10 36.6 -1.2**

TUC				IAmb	IAmb	15 10 42.2	
	comp=Z,7.1nm,1.1s						
ADK	**Adak**	**62.72**	**346**	P	**P**	**15 10 37.9**	**+0.3**
ADK	**Adak**	**62.72**	**346**	P	**P**	**15 10 37.9**	**+0.3**
319A	**Douglas**	**62.88**	**286**	P	**P**	**15 10 39.4**	**+0.3**
GTA	**Gaotai**	**65.33**	**49**	*e*P	**P**	**15 10 56.3**	**+1.2**
GTA				pP	sP	15 11 00.8	+4.0
GTA				sP	pP	15 11 03.3	+7.0
GTA				S	**S**	**15 19 40.8**	**+1.3**
GTA				sS	sS	15 19 51.6	+10
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,46nm,6.5s						
GTA				LR	LR		
	comp=N,92nm,17.5s						
GTA				LR	LR		
	comp=E,64nm,19.7s						
GTA				LR	LR		
	comp=Z,94nm,17.5s						
HHC	**Hu-ho-hao-te**	**67.55**	**40**	*e*P	**P**	**15 11 11.3**	**+2.1**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,7.2s						
HHC				LR	LR		
	comp=N,160nm,17.9s						
HHC				LR	LR		
	comp=E,150nm,17.0s						
HHC				LR	LR		
	comp=Z,140nm,16.2s						
LZH	**Lanzhou**	**69.66**	**48**	*e*P	**P**	**15 11 23.3**	**+0.7**
LZH				pP	sP	15 11 26.3	+2.1
LZH				sP	pP	15 11 27.5	+3.7
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,87nm,5.0s						
LZH				LR	LR		
	comp=N,230nm,15.2s						
LZH				LR	LR		
	comp=E,340nm,15.5s						
LZH				LR	LR		
	comp=Z,400nm,18.3s						
PTGA	**Pitinga**	**72.16**	**225**	P	**P**	**15 11 36.5**	**-1.2**
	comp=Z,4.0nm,1.0s,baz=26,slow=6.3,SNR=5.0						
XAN	**Xi'an**	**73.12**	**44**	P	**P**	**15 11 45.4**	**+2.0**
XAN				pP	PcP	15 11 56.4	-3.7
XAN				pmax	pmax		
	comp=Z,7.0nm,1.5s						
KSRS	**Korea Array**	**74.69**	**28**	P	**P**	**15 11 52.3**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=339,slow=5.9,SNR=4.4						
NJ2	**Nanjing**	**77.77**	**37**	*e*P	**P**	**15 12 11.3**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
WHN	**Wuhan**	**77.98**	**41**	P	P	15 12 16.1	+4.9
KMI	**Kunming**	**79.38**	**53**	⇑P	**P**	**15 12 17.3**	**-2.0**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**84.15**	**59**	P	**P**	**15 12 43.0**	**-1.3**
	comp=Z,2.4nm,1.1s,baz=319,slow=6.4,SNR=12						
BOSA	**Boshof**	**98.71**	**143**	LR	LR	16 03 34.8	
	comp=Z,65nm,20.9s,baz=328,slow=39						
WRA	**Warramunga Arr**	**131.56**	**36**	PKP	**PKiKP**	**15 19 27.0**	**+0.4**
	comp=Z,1.0nm,1.0s,baz=353,slow=2.3,SNR=4.3						
ASAR	**Alice Springs**	**135.00**	**38**	PKP	**PKPdf**	**15 19 29.3**	**-2.8**
	comp=Z,1.2nm,1.0s,baz=276,slow=2.0,SNR=6.2						
MAW	**Mawson**	**143.68**	**140**	PKP	PKPbc	15 19 43.9	0.0
	comp=Z,1.0nm,0.8s,baz=297,slow=4.4,SNR=3.6						
STKA	**Stephens Creek**	**144.76**	**32**	PKP	**PKPab**	**15 19 47.2**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=299,slow=1.7,SNR=5.3						

WEL 24 15:04:13.4,44°S±2°×17°2E±°,h9^{km}±2^{km},M2.2/7,ML2.2/6,MLv2.2/7,Error ellipse: s-maj=0.0km s-min=0.0km az=84.3,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.23**	**121**	P	Pg	15 04 19.6	+1.5
OXZ	**Oxford**	**0.36**	**316**	P	Pg	15 04 21.1	+0.6
AMCZ	**Amberley**	**0.46**	**26**	P	Pb	15 04 23.6	0.0
AKCZ	**Akaroa Harbour**	**0.48**	**127**	P	Pb	15 04 24.4	+0.3
OKCZ	**Okains Bay**	**0.51**	**106**	P	Pb	15 04 25.0	+0.4
WACZ	**Wakanui South**	**0.53**	**227**	P	Pb	15 04 25.7	+0.9
GVZ	**Greta Valley S**	**0.78**	**38**	P	Pb	15 04 29.9	+0.7
LTZ	**Lake Taylor**	**0.81**	**354**	P	Pb	15 04 29.7	+0.1
ARCZ	**Arundel**	**0.94**	**247**	P	Pn	15 04 33.0	+0.1
RPZ	**Rata Peaks**	**0.97**	**262**	P	Pn	15 04 33.4	+0.2
INZ	**Inchbonnie**	**1.10**	**321**	P	Pn	15 04 35.2	+0.3
WVZ	**Waitaha Valley**	**1.30**	**293**	P	Pg	15 04 39.2	+0.9
KHZ	**Kahutara**	**1.45**	**36**	P	Pn	15 04 38.8	-1.0
ODZ	**Otahua Downs**	**1.92**	**220**	P	Pg	15 04 50.5	+0.4

*IDC **24** 15:06:00.4±1.4,34°10S×179°61W,h0^{km},mb4.1/4, mb1 4.2/5,mb1mx3.8/32,mbtmp4.1/5,ML3.9/1,MS3.4/1, Ms1 3.4/1,ms1mx2.8/34,Error ellipse: s-maj=41.0km s-min=27.5km az=65.0*

*NEIC **24** 15:06:02.1±1.7,34°1S±0°1×179°7W±0°2,h10^{km}±2^{km}, mb4.5/8,Error ellipse: s-maj=29.7km s-min=21.3km az=116.0*

*WEL **24** 15:06:12.4±0.8,35°S±10°×17°9W±1°5,h205^{km}±10^{km}, M3.6/27,mB4.0/7,ML4.5/25,MLv4.2/27,Mw(mB)3.0/7, Error ellipse: s-maj=0.0km s-min=0.0km az=123.1*

ISC 24 15:06:10.8±1.3,34°97S±0°09×179°3W±0°1,h100^{km},n69, σ1^{s}88/87,mb4.5/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.22**	**216**	P	**Pn**	**15 07 00.6**	**+1.2**
MXZ				S	**Sn**	**15 07 39.2**	**+2.2**
MXZ	**Matakaoa Point**	**3.22**	**216**	Pn	**Pn**	**15 06 59.9**	**+0.5**
WMGZ	**Waiomatatini S**	**3.38**	**212**	P	**Pn**	**15 07 04.0**	**+2.5**
WMGZ				S	**Sn**	**15 07 44.4**	**+3.6**
HAZ	**Te Kaha**	**3.63**	**219**	P	**Pn**	**15 07 06.0**	**+1.0**
HAZ				S	**Sn**	**15 07 50.8**	**+4.0**
PUZ	**Puketiti**	**3.66**	**211**	P	**Pn**	**15 07 06.6**	**+1.3**
PUZ				S	**Sn**	**15 07 51.5**	**+3.9**
RUGZ	**Raukumara Rang**	**3.84**	**218**	P	**Pn**	**15 07 09.6**	**+1.7**
TWGZ	**Tauwhareparae**	**3.87**	**213**	P	**Pn**	**15 07 09.6**	**+1.4**
TWGZ				S	**Sn**	**15 07 56.3**	**+3.7**
TKGZ	**Te Karaka**	**4.14**	**212**	P	**Pn**	**15 07 13.8**	**+1.9**
TKGZ				S	**Sn**	**15 08 02.2**	**+3.0**
MWZ	**Matawai**	**4.20**	**216**	P	**Pn**	**15 07 13.1**	**+0.3**
MWZ				S	**Sn**	**15 08 01.5**	**+0.7**
URZ	**Urewera**	**4.36**	**220**	Pn	**Pn**	**15 07 14.6**	**-0.1**
	5.3nm,0.3s,baz=43,slow=1.2,SNR=35						
URZ				Pg		15 07 23.5	
	9.5nm,0.3s,baz=119,slow=3.2,SNR=9.8						
URZ				Sn	**Sn**	**15 08 05.3**	**+0.8**
	9.0nm,0.3s,baz=328,slow=24,SNR=7.5						
URZ	**Urewera**	**4.36**	**220**	P	**Pn**	**15 07 14.8**	**+0.1**
URZ				S	**Sn**	**15 08 04.8**	**+0.4**
OPRZ	**Ohinepanea**	**4.39**	**228**	P	**Pn**	**15 07 15.8**	**+0.6**
RIGZ	**Rimuhau**	**4.40**	**211**	P	**Pn**	**15 07 16.7**	**+1.4**
RIGZ				S	**Sn**	**15 08 08.3**	**+2.8**
TGRZ	**Tauranga**	**4.50**	**231**	P	**Pn**	**15 07 17.6**	**+0.9**
SNGZ	**Shannon Statio**	**4.65**	**214**	P	**Pn**	**15 07 20.6**	**+1.9**
SNGZ				S	**Sn**	**15 08 14.4**	**+2.9**
RTZ	**Ruatahuna**	**4.69**	**218**	P	**Pn**	**15 07 20.3**	**+1.0**
MUGZ	**Murupara**	**4.70**	**221**	P	**Pn**	**15 07 19.3**	**-0.1**
MUGZ				S	**Sn**	**15 08 13.8**	**+1.0**
RAHZ	**Arahi**	**4.88**	**215**	P	**Pn**	**15 07 23.8**	**+2.0**
RAHZ				S	**Sn**	**15 08 18.7**	**+1.7**
MTHZ	**Maungataniwha**	**4.94**	**217**	P	**Pn**	**15 07 23.9**	**+1.1**
MTHZ				S	**Sn**	**15 08 21.7**	**+3.0**
TOZ	**Tahuroa Road**	**5.00**	**235**	P	**Pn**	**15 07 24.0**	**+0.5**
NMHZ	**Naumai**	**5.15**	**216**	P	**Pn**	**15 07 26.3**	**+0.7**
NMHZ				P		15 07 26.6	
AWAZ	**Awhitu Peninsu**	**5.32**	**245**	P	**Pn**	**15 07 29.1**	**+1.4**
BKZ	**Black Stump Fm**	**5.36**	**217**	P	**Pn**	**15 07 28.2**	**-0.2**
BKZ				S	**Sn**	**15 08 29.8**	**+1.0**
BKZ	**Black Stump Fm**	**5.36**	**217**	Pn	**Pn**	**15 07 27.6**	**-0.7**
MCHZ	**McNeill Hill**	**5.48**	**214**	P	**Pn**	**15 07 31.1**	**+1.2**
KWHZ	**Kaweka Forest**	**5.59**	**216**	P	**Pn**	**15 07 31.8**	**+0.2**
KWHZ				S	**Sn**	**15 08 35.9**	**+1.4**
KAHZ	**Kahuranaki**	**5.69**	**211**	P	**Pn**	**15 07 31.6**	**-1.2**
KAHZ				S	**Sn**	**15 08 36.9**	**+0.1**
OTVZ	**Oturere**	**5.79**	**222**	P	**Pn**	**15 07 34.7**	**+0.3**
OUZ	**Omahuta**	**5.81**	**266**		Pn	15 07 29.8	-4.6
BHHZ	**Black Hill Sta**	**5.82**	**218**	P	**Pn**	**15 07 34.6**	**0.0**
TWVZ	**Taurewa**	**5.86**	**224**	P	**Pn**	**15 07 35.7**	**+0.5**
HIZ	**Hauiti**	**5.86**	**231**	P	**Pn**	**15 07 36.9**	**+1.7**
MOVZ	**Moawhango**	**5.92**	**220**	P	**Pn**	**15 07 33.7**	**-2.3**
MOVZ				S	**Sn**	**15 08 40.6**	**-1.9**
WNVZ	**Wahianoa**	**5.95**	**221**	P	**Pn**	**15 07 36.6**	**+0.2**
PNHZ	**Pukenui**	**6.08**	**214**	P	**Pn**	**15 07 37.5**	**-0.7**
PNHZ				S	**Sn**	**15 08 46.6**	**+0.1**
WPHZ	**Waipukurau**	**6.10**	**212**	P	**Pn**	**15 07 38.9**	**+0.6**
WPHZ				S	**Sn**	**15 08 47.1**	**+0.4**
TSZ	**Takapari Road**	**6.31**	**215**	P	**Pn**	**15 07 39.9**	**-1.4**
TSZ				S	**Sn**	**15 08 49.8**	**-2.1**
WAZ	**Wanganui**	**6.58**	**222**	P	**Pn**	**15 07 44.5**	**-0.5**
WAZ				S	**Sn**	**15 08 59.8**	**+1.4**
BFZ	**Birch Farm**	**6.69**	**210**	P	**Pn**	**15 07 45.9**	**-0.5**
BFZ				S	**Sn**	**15 08 57.7**	**-3.5**
BFZ	**Birch Farm**	**6.69**	**210**	Pn	**Pn**	**15 07 45.0**	**-1.4**
MSWZ	**Moikau Station**	**7.72**	**212**	Pn	**Pn**	**15 07 58.9**	**-1.5**
SNZO	**South Karori**	**7.88**	**215**	Pn	**Pn**	**15 08 02.9**	**+0.3**
TUWZ	**Tuamarina**	**8.34**	**217**	P	**Pn**	**15 08 07.2**	**-1.7**
TUWZ				S	**Sn**	**15 09 37.8**	**-3.5**
TUWZ	**Tuamarina**	**8.34**	**217**	Pn	**Pn**	**15 08 06.0**	**-2.8**
BSWZ	**Blackbirch Sta**	**8.59**	**216**	Pn	**Pn**	**15 08 09.1**	**-3.2**
THZ	**Tophouse**	**9.12**	**220**	Pn	**Pn**	**15 08 15.0**	**-4.5**
KHZ	**Kahutara**	**9.29**	**215**	P	**Pn**	**15 08 20.5**	**-1.2**
KHZ				S	**Sn**	**15 09 58.3**	**-6.0**
KHZ	**Kahutara**	**9.29**	**215**	Pn	**Pn**	**15 08 20.5**	**-1.2**
OXZ	**Oxford**	**10.70**	**216**	Pn	**Pn**	**15 08 38.6**	**-2.3**
RPZ	**Rata Peaks**	**11.47**	**218**	Pn	Pn	15 08 45.7	-5.6
	0.3nm,0.3s,baz=313,slow=7.2,SNR=2.0						
RPZ				Sn	Sn	15 10 47.1	-10
	0.3nm,0.3s,baz=37,slow=22,SNR=1.0						
RPZ				LR	LR	15 13 22.4	
	comp=Z,190nm,18.8s,baz=12,slow=37						
AS31	**Alice Springs**	**41.97**	**273**		**P**	**15 13 51.3**	**-0.8**
ASAR	**Alice Springs**	**41.97**	**273**	P	**P**	**15 13 51.4**	**-0.8**
	1.0nm,0.5s,baz=113,slow=8.1,SNR=38						
ASAR				PcP	**PcP**	**15 15 47.0**	**+1.3**
	0.2nm,0.4s,baz=117,slow=4.0,SNR=1.7						
WR0	**Warramunga Arr**	**43.20**	**278**		**P**	**15 14 01.1**	**-0.9**
WR0				IAmb	IAmb	15 15 29.2	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**43.36**	**278**	P	**P**	**15 14 02.6**	**-0.8**
WB2				IAmb	IAmb	15 14 23.7	
	comp=Z,17nm,1.6s						
WRA	**Warramunga Arr**	**43.37**	**278**	P	**P**	**15 14 02.1**	**-1.3**
	comp=Z,1.7nm,0.5s,baz=120,slow=7.5,SNR=37						
WRA				PcP	**PcP**	**15 15 51.2**	**+0.8**
	comp=Z,0.6nm,1.0s,baz=121,slow=3.0,SNR=2.7						
WB0	**Warramunga Arr**	**43.42**	**278**	P	**P**	**15 14 02.3**	**-1.5**
WB0				IAmb	IAmb	15 14 20.6	
	comp=Z,23nm,1.8s						
FORT	**Forrest**	**43.97**	**260**	P	**P**	**15 14 08.6**	**+0.5**
KNRA	**Kununurra**	**50.12**	**279**	P	**P**	**15 14 54.5**	**-1.6**
FITZ	**Fitzroy Crossi**	**51.40**	**274**	P	**P**	**15 15 04.7**	**-1.0**
QSPA	**South Pole Qui**	**55.15**	**180**	P	P	15 15 41.9	+9.2
	comp=Z,1.7nm,0.7s,baz=92,slow=4.6,SNR=14						
QSPA	**South Pole Qui**	**55.15**	**180**	IAmb	IAmb	15 15 44.8	
	comp=Z,14nm,1.7s						
MAW	**Mawson**	**67.65**	**201**	P	P	15 17 02.3	+5.8
	comp=Z,1.3nm,0.6s,baz=146,slow=5.6,SNR=8.8						
MAW	**Mawson**	**67.65**	**201**	IAmb	IAmb	15 17 05.3	
	comp=Z,2.4nm,1.7s						
H03N3	**Juan Fernandez**	**79.10**	**123**	T	T	16 46 38.4	
	baz=238,slow=72,SNR=18						
H03N2	**Juan Fernandez**	**79.10**	**123**	T	T	16 46 38.0	
	baz=238,slow=72,SNR=14						
H03N1	**Juan Fernandez**	**79.12**	**123**	T	T	16 46 40.3	
	baz=238,slow=72,SNR=17						
KURK	**Kurchatov**	**123.33**	**312**		**PKiKP**	**15 24 56.8**	**+1.1**
KURBB	**Kurchatov Arra**	**123.36**	**312**	PKP	**PKiKP**	**15 24 56.7**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=120,slow=1.9,SNR=4.1						
FINES	**FINESS Array B**	**148.96**	**336**	PKPbc	**PKiKP**	**15 25 46.6**	**-0.8**
	comp=Z,2.7nm,1.0s,baz=70,slow=4.6,SNR=7.8						

*AEIC **24** 15:08:24±2.5,52°8N±0°2×169°5W±0°2,h3^{km}±5^{km},Error ellipse: s-maj=33.6km s-min=4.1km az=154.0*

*NEIC **24** 15:08:24.6±2.4,52°8N±0°2×169°5W±0°2,h12^{km}±2^{km}, ML3.3/38(AEIC),Error ellipse: s-maj=29.6km s-min=4.2km az=149.0*

*IDC **24** 15:08:30.7±9.6,53°18N×169°54W,h59^{km}±95^{km},mb3.3/3, mb1 3.6/6,mb1mx3.1/61,mbtmp3.6/6,ML2.7/3,Error ellipse: s-maj=120.1km s-min=24.5km az=175.0*

ISC 24 15:08:23.2±2.5,52°9N±0°2×169°57W±0°07,h0^{km}±17km, n43,σ0^{s}89/44,mb3.5/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.45**	**73**		**Pb**	**15 08 34.1**	**+0.1**
NIKH					**Sb**	**15 08 41.8**	**+0.6**
OKSP	**Okmok Steeple**	**0.87**	**62**		**Pb**	**15 08 41.2**	**-0.1**
OKSP					**Sb**	**15 08 54.1**	**+0.7**
OKWR	**Okmok West Rim**	**1.01**	**54**		**Pn**	**15 08 44.5**	**-0.2**
OKWE	**Okmok W'ng Wal**	**1.01**	**51**		**Pn**	**15 08 44.5**	**-0.2**
OKWE					**Sn**	**15 09 00.0**	**+0.3**
OKCE	**Okmok Cone E**	**1.02**	**55**		**Pn**	**15 08 44.5**	**-0.3**
OKNC	**Okmok New Cone**	**1.06**	**54**		**Pb**	**15 08 44.6**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**1.06**	**59**		**Pb**	**15 08 44.6**	**+0.1**
OKFG	**Magazine Ridge**	**1.15**	**60**		**Pb**	**15 08 45.8**	**-0.1**
OKFG					**Sn**	**15 09 02.4**	**-0.4**
MAPS	**Pakushin South**	**1.85**	**57**		**Pn**	**15 08 57.0**	**+0.8**
MAPS					**Sg**	**15 09 22.5**	**0.0**
MSOM	**Makushin Julie**	**1.85**	**57**		**Pb**	**15 08 57.4**	**-0.4**
MGOD	**Makushin Gods**	**1.87**	**58**		**Pn**	**15 08 57.4**	**+0.8**
MGOD					**Sb**	**15 09 22.7**	**+0.4**
MCIR	**Makushin Cirqu**	**1.95**	**54**		**Pb**	**15 08 59.2**	**-0.4**
MREP	**Makushin Rep't**	**1.95**	**59**		**Pn**	**15 08 57.7**	**+0.2**
MSW	**Makushin Switc**	**1.98**	**56**		**Pn**	**15 08 58.4**	**+0.4**
MNAT	**Makushin Natee**	**2.02**	**58**		**Pn**	**15 08 58.5**	**+0.1**
UNV	**Unalaska Valle**	**2.09**	**60**		**Pn**	**15 08 59.3**	**-0.1**
AKRB	**Akutan Reef Bi**	**2.45**	**57**		**Pn**	**15 09 06.3**	**+1.9**
AKMO	**Akutan Morgan**	**2.46**	**58**		**Pn**	**15 09 06.2**	**+1.6**
AKMO					**Sn**	**15 09 37.2**	**+1.9**
AKV	**Akutan Volcano**	**2.51**	**58**		**Pn**	**15 09 07.1**	**+1.9**
AKBBA	**Akutan Broad B**	**2.51**	**59**		**Pn**	**15 09 07.0**	**+1.7**
AKLV	**Akutan Long Va**	**2.53**	**57**		**Pn**	**15 09 07.0**	**+1.5**
AKGG	**Akutan Green G**	**2.53**	**56**		**Pn**	**15 09 07.0**	**+1.5**
AKGG					**Sb**	**15 09 40.4**	**-0.6**
AKUT	**Akutan**	**2.61**	**59**		**Pn**	**15 09 07.3**	**+0.8**
AKSA	**Akutan Strait**	**2.65**	**59**		**Pn**	**15 09 08.4**	**+1.3**
ATKA	**Atka Island**	**2.90**	**259**		**Pn**	**15 09 09.7**	**-0.9**
GSTR	**Great Sitkin T**	**4.04**	**262**	Pn	**Pn**	**15 09 27.2**	**+0.9**
ADK	**Adak**	**4.47**	**260**	Pn	**Pn**	**15 09 32.7**	**+0.6**
AMKA	**Amchitka**	**7.01**	**262**	Pn	**Pn**	**15 10 08.1**	**+1.0**
OHAK	**Old Harbor**	**10.31**	**58**	Pn	**Pn**	**15 10 52.0**	**-0.2**
KDAK	**Kodiak Island**	**10.86**	**56**	P	**Pn**	**15 11 00.2**	**+0.6**
	0.1nm,0.3s,baz=236,slow=11,SNR=0.8						
SML	**Sawmill**	**14.49**	**43**	P	**P**	**15 11 55.7**	**-0.7**
ILAR	**Eielson Array**	**16.63**	**35**	P	**Pn**	**15 12 17.1**	**-0.3**
	0.0nm,0.3s,baz=225,slow=12,SNR=1.5						
PETK	**Petropavlovsk-**	**19.62**	**284**	P	**P**	**15 12 53.1**	**+0.1**
	0.1nm,0.3s,baz=80,slow=13,SNR=1.5						
H11N2	**WAKE ISLAND Hy**	**37.75**	**218**	T	T	15 55 41.5	
	baz=24,slow=76,SNR=141						
H11N3	**WAKE ISLAND Hy**	**37.76**	**218**	T	T	15 55 27.2	
	baz=24,slow=76,SNR=134						
H11N1	**WAKE ISLAND Hy**	**37.77**	**218**	T	T	15 55 44.3	
	baz=24,slow=76,SNR=177						
NVAR	**Mina Array Bea**	**37.79**	**91**	P	P	15 15 45.9	+4.7
	0.4nm,0.7s,baz=311,slow=6.8,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**38.95**	**217**	T	T	15 56 55.9	
	baz=23,slow=76,SNR=670						
H11S2	**WAKE ISLAND Hy**	**38.96**	**217**	T	T	15 56 57.0	
	baz=23,slow=76,SNR=488						
H11S3	**WAKE ISLAND Hy**	**38.96**	**217**	T	T	15 57 01.7	
	baz=23,slow=76,SNR=443						
PDAR	**Pinedale Array**	**40.43**	**80**	P	**P**	**15 16 02.5**	**-0.8**
	0.2nm,0.3s,baz=322,slow=2.8,SNR=3.8						
TXAR	**Lajitas Array**	**52.86**	**89**	P	**P**	**15 17 40.1**	**-0.6**
	0.8nm,0.7s,baz=304,slow=4.9,SNR=9.3						
ASAR	**Alice Springs**	**90.61**	**230**	P	**P**	**15 21 27.7**	**+0.4**
	0.3nm,0.6s,baz=23,slow=5.0,SNR=5.0						

*RSNC **24** 15:10:35.9±1.2,6°68N×74°78W,h34^{km}±8^{km},ML3.1, Mw3.2,Fault plane solution: NP1:ϕ≈95.00000°, δ≈56.00000°,λ≈-82.00000°.*

*IDC **24** 15:10:36.1±5.7,6°74N×74°84W,h82^{km}±54^{km},mb1 4.0/1, mb1mx2.9/42,mbtmp4.2/1,ML3.0/1,Error ellipse: s-maj=73.4km s-min=12.0km az=118.0*

ISC 24 15:10:35.0±1.1,6.73N±0°03×74.78W±0°03,h49^{km}±12^{km}, n29,σ1^{s}78/44,7C-3D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTBC	**PUERTO BERRIO,**	**0.37**	**120**	⇓*i*P	Pn	15 10 43.8	-1.0
PTBC				*e*S	**Sn**	**15 10 50.7**	**-1.1**
PTBC				*i*		15 10 50.9	
	comp=Z,2μm,0.1s						
ZARC	**Zaragoza, Cauc**	**0.76**	**354**	⇑*i*P	**Pn**	**15 10 49.6**	**0.0**
ZARC				*e*S	**Sn**	**15 11 01.3**	**+1.1**
ZARC				*i*		15 11 02.2	
	comp=Z,828nm,0.4s						
HELC	**Santa Helena**	**0.91**	**234**	*e*P	**Pn**	**15 10 51.3**	**-0.6**
HELC				*e*S	**Sn**	**15 11 03.9**	**-0.3**
HELC				*i*		15 11 07.6	
	comp=Z,190nm,0.2s						
BRRC	**Barranca, Sant**	**1.13**	**70**	⇑*e*P	**Pn**	**15 10 54.4**	**0.0**
BRRC				*e*S	**Sn**	**15 11 09.4**	**+0.5**
BRRC				*i*		15 11 10.1	
	comp=E,990nm,0.2s						
NORC	**Norcasia**	**1.16**	**184**	⇑*e*P	**Pn**	**15 10 54.1**	**-0.9**
NORC				*e*S	**Sn**	**15 11 08.3**	**-1.4**
NORC				*i*		15 11 10.0	
	comp=Z,281nm,0.2s						
UREC	**San Jos de Ur**	**1.26**	**324**	*e*P	**Pn**	**15 10 56.6**	**+0.3**
UREC				*e*S	**Sn**	**15 11 14.2**	**+2.1**
UREC				*i*		15 11 17.1	
	comp=Z,495nm,0.2s						
SPBC	**San Pablo de B**	**1.28**	**146**	⇑*e*P	**Pn**	**15 10 56.2**	**-0.4**
SPBC				*e*S	**Sn**	**15 11 11.9**	**-0.8**
SPBC				*i*		15 11 14.0	
	comp=Z,206nm,0.2s						
DBBC	**Dabeiba**	**1.45**	**282**	*e*P	**Pn**	**15 10 59.5**	**+0.6**
DBBC				*e*S	**Sn**	**15 11 18.4**	**+1.7**
DBBC				*i*		15 11 28.5	
	comp=Z,445nm,0.7s						
CBOC	**Ciudad Bolivar**	**1.49**	**235**	*e*P	**Pn**	**15 11 01.0**	**+1.4**
BARC	**Barichara**	**1.60**	**95**	⇓*e*P	**Pn**	**15 11 01.2**	**+0.2**
BARC				*e*S	**Sn**	**15 11 20.7**	**0.0**
BARC				*i*		15 11 23.8	
	comp=Z,296nm,0.2s						
GUY2C	**Guyana, Caldas**	**1.60**	**201**	*e*P	**Pn**	**15 11 01.7**	**+0.4**
GUY2C				*i*		15 11 16.0	
	comp=Z,100nm,0.6s						
CTAB	**Cerro Tablazo,**	**1.80**	**161**	*e*P	**Pn**	**15 11 05.5**	**+1.5**
RUSC	**La Rusia**	**1.88**	**116**	⇑*e*P	**Pn**	**15 11 05.3**	**+0.2**
RUSC				*e*S	**Sn**	**15 11 28.1**	**+0.1**
RUSC				*i*		15 11 30.9	
	comp=Z,89nm,0.6s						
ROSC	**El Rosal**	**1.93**	**166**	P	**Pn**	**15 11 07.2**	**+1.5**
	comp=Z,9.3nm,0.3s,baz=35,slow=21,SNR=13						
ROSC				S	**Sn**	**15 11 32.3**	**+3.3**
	comp=Z,32nm,0.3s,baz=53,slow=20,SNR=27						
ROSC	**El Rosal**	**1.93**	**166**	⇑*e*P	**Pn**	**15 11 07.1**	**+1.4**
ROSC				*e*S	**Sn**	**15 11 32.8**	**+3.8**
ROSC				*i*		15 11 33.1	
	comp=Z,70nm,0.4s						
PAMC	**Pamplona, Colo**	**2.16**	**73**	⇓*e*P	**Pn**	**15 11 10.0**	**+1.1**
PAMC				*e*S	**Sn**	**15 11 36.0**	**+1.3**
PAMC				*i*		15 11 39.7	
	comp=Z,176nm,0.4s						
SMLC	**San Martn de**	**2.18**	**19**	⇑*e*P	**Pn**	**15 11 09.3**	**+0.5**
SMLC				*e*S	**Sn**	**15 11 35.5**	**+0.9**
SMLC				*i*		15 11 43.5	
	comp=Z,118nm,0.2s						
TOLC	**Tolima**	**2.19**	**194**	*e*P	**Pn**	**15 11 11.8**	**+2.5**
TOLC				*i*		15 11 47.5	
	comp=Z,149nm,0.5s						
MOTC	**Monteria, Cord**	**2.22**	**337**	*e*P	**Pn**	**15 11 10.1**	**+0.8**
MOTC				*e*S	**Sn**	**15 11 37.7**	**+2.1**
MOTC				*i*		15 11 38.8	
	comp=Z,175nm,0.3s						
ANIL	**Santa Ana**	**2.31**	**196**	*e*P	**Pn**	**15 11 14.1**	**+3.3**
CHIC	**Chingaza**	**2.33**	**153**	*e*P	**Pn**	**15 11 12.8**	**+1.5**
VILC	**Villavicencio,**	**2.81**	**157**	*e*P	**Pn**	**15 11 18.8**	**+1.1**
VILC				*i*		15 11 58.4	
	comp=Z,82nm,0.4s						
ORTC	**Ortega, T

HSRG				*e*			15 15 48.3		
JHBN	**Jahan bin**	**2.59**	**100**	*e*Pn	**Pn**		**15 14 58.2**	**-0.2**
JHBN				*e*			15 15 45.6		
ASAO	**Ashtian**	**2.68**	**47**	*e*Pn	**Pn**		**15 15 00.9**	**+1.3**
ASAO				IAML			15 15 44.6		
	comp=N,69nm,0.6s								
ASAO	**Ashtian**	**2.68**	**47**	*e*Pn	**Pn**		**15 15 00.9**	**+1.3**
IPIR	**Pirpir**	**2.73**	**90**	*e*Pn	**Pn**		**15 15 00.7**	**+0.4**
IPIR				*e*			15 15 45.9		
ROKH	**ROKH**	**2.88**	**97**	*e*Pn	**Pn**		**15 15 02.4**	**+0.1**
ROKH				*e*			15 15 47.7		
IRAZ	**Razeghan**	**3.27**	**35**	*e*Pn	**Pn**		**15 15 09.6**	**+2.0**
IKLH	**Kolahrood**	**3.35**	**79**	*e*Pn	**Pn**		**15 15 10.1**	**+1.4**
IKLH				*e*			15 16 09.6		
QABG	**Abgarm-Qazvin**	**3.37**	**28**	*e*Pn	**Pn**		**15 15 09.7**	**+0.7**
GHVR	**GHOM**	**3.50**	**59**	*e*Pn	**Pn**		**15 15 11.6**	**+0.9**
GHVR	**GHOM**	**3.50**	**59**	*e*Pn	**Pn**		**15 15 11.6**	**+0.9**
KLNJ	**Kolanjah**	**3.76**	**116**	*e*Pn	**Pn**		**15 15 14.4**	**-0.2**
KLNJ				*e*			15 16 29.9		
IGZV	**Ghazvin**	**4.21**	**29**	*e*Pn	**Pn**		**15 15 22.4**	**+1.8**
CHTH	**Charan**	**4.27**	**41**	*e*Pn	**Pn**		**15 15 22.8**	**+1.3**
CHTH	**Charan**	**4.27**	**41**	*e*Pn	**Pn**		**15 15 22.8**	**+1.3**
QALM	**Alamut, Qazvin**	**4.44**	**33**	*e*Pn	**Pn**		**15 15 24.8**	**+1.1**
AKTO	**Aktyubinsk**	**19.28**	**20**	P	**Pn**		**15 18 40.8**	**-0.9**
	comp=N,0.2nm,0.3s,baz=134,slow=1.6,SNR=4.5								
AKASG	**Malin Array Be**	**22.51**	**328**	P	**P**		**15 19 16.9**	**+1.4**
	comp=N,0.2nm,0.3s,baz=141,slow=12,SNR=1.5								
OBN	**Obninsk**	**23.70**	**344**	LR	LR		15 30 14.0		
	comp=N,8.9nm,20.1s,baz=193,slow=40								
BVAR	**Borovoye Array**	**26.05**	**32**	P	**P**		**15 19 48.3**	**-0.7**
	comp=N,0.7nm,0.5s,baz=214,slow=7.2,SNR=6.0								
KURBB	**Kurchatov Arra**	**28.88**	**43**	P	**P**		**15 20 14.3**	**-0.1**
	comp=N,0.3nm,0.6s,baz=248,slow=9.5,SNR=4.2								
MKAR	**Makanchi Array**	**29.83**	**52**	P	**P**		**15 20 22.4**	**-0.6**
	comp=N,0.4nm,0.6s,baz=248,slow=6.4,SNR=5.8								
FINES	**FINESS Array B**	**31.94**	**340**	P	**P**		**15 20 44.1**	**+2.7**
	comp=N,1.6nm,0.9s,baz=151,slow=6.0,SNR=4.0								
ZALV	**Zalesovo Beam**	**33.79**	**40**	P	**P**		**15 20 56.6**	**-1.0**
	comp=N,0.6nm,0.4s,baz=242,slow=9.2,SNR=2.5								
HFS	**Hagfors**	**35.34**	**331**	P	**P**		**15 21 10.4**	**-0.4**
	comp=N,3.3nm,0.8s,baz=115,slow=9.7,SNR=2.5								
ARCES	**ARCESS Array B**	**38.89**	**348**	P	**P**		**15 21 40.3**	**-0.7**
	comp=N,0.6nm,0.7s,baz=165,slow=9.7,SNR=3.7								
ESDC	**Sonseca Array**	**41.75**	**295**	P	**P**		**15 22 06.8**	**+1.7**
	comp=N,0.1nm,0.3s,baz=81,slow=8.8,SNR=1.7								
TORD	**Torodi Ar. Bea**	**46.18**	**256**	P	**P**		**15 22 40.4**	**-0.5**
	comp=N,0.2nm,0.5s,baz=63,slow=8.4,SNR=1.7								
SEY	**Seymchan**	**67.63**	**29**	P	**P**		**15 25 11.7**	**-0.6**
	comp=N,0.8nm,0.6s,baz=300,slow=7.8,SNR=6.4								

DJA 24 15:15:24.5±1.3, 10°S±11°×12°4E±°, h10km, M2.9/5, MLv2.9/5, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.14**	**48**	P	Pg	15 15 28.2	+0.5
BATI				S	Sg	15 15 43.2	+13
BATI	**Baumata**	**0.14**	**48**	P	Pg	15 15 28.2	+0.5
SOEI	**Soe**	**0.88**	**52**	P	Pg	15 15 40.7	-0.8
MMRI	**Maumere**	**2.11**	**322**	P	Pn	15 15 59.8	0.0
MMRI				S	Sn	15 16 26.9	+0.8
EDFI	**Ende, Flores**	**2.40**	**310**	P	Pn	15 16 03.9	-0.1
EDFI				S	Sn	15 16 27.3	-6.3

*TAP **24** 15:16:13.8, 23°.93N×122°.72E, h36km±1km, ML2.8, D*
*JMA **24** 15:16:14.2±0.2, 23°.99N×122°.63E, h28km±4km, M2.2*
ISC 24 15:16:13.3±1.1, 23°.89N±0°.03×122°.68E±0°.02, h23km±14km, n86, σ0°.93/149, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.61**	**24**	P	**Pb**	**15 16 25.1**	**-0.2**
JYNG				S	**Sb**	**15 16 32.2**	**-1.3**
YOJ	**Yonaguni jima**	**0.65**	**28**	P	**Pb**	**15 16 25.9**	**-0.1**
	baz=25						
YOJ				*e*S	**Sb**	**15 16 33.8**	**-0.7**
	baz=25						
YOJ	**Yonaguni jima**	**0.65**	**28**	P	**Pb**	**15 16 25.8**	**-0.1**
YOJ				S	**Sb**	**15 16 33.6**	**-0.9**
ENAH	**Nanao**	**0.97**	**305**	P	**Pb**	**15 16 31.4**	**+0.1**
	baz=302						
ENAH				*e*S	**Sb**	**15 16 45.5**	**+1.8**
	baz=302						
TWD	**Chiawan**	**1.00**	**281**	*e*P	**Pn**	**15 16 31.4**	**-0.6**
	baz=279						
ENA	**Nanau**	**1.01**	**302**	P	**Pb**	**15 16 31.9**	**-0.1**
	baz=300						
ENA				*e*S	**Sb**	**15 16 46.5**	**+1.6**
	baz=300						
NACB	**Ninganchiao**	**1.03**	**286**	P	**Pn**	**15 16 31.6**	**-0.6**
	baz=272						
NACB				*e*S	**Sn**	**15 16 45.3**	**-0.6**
	baz=272						
TWC	**Suao**	**1.04**	**314**	P	**Pb**	**15 16 32.3**	**-0.3**
	baz=301						
TWC				*e*S	**Sb**	**15 16 46.2**	**+0.4**
	baz=301						
HATJ	**Hateruma jima**	**1.05**	**81**	P	**Pb**	**15 16 33.3**	**+0.6**
HATJ				S	**Sb**	**15 16 47.1**	**+1.1**
IRIF	**Iriomote-Funau**	**1.06**	**65**	P	**Pb**	**15 16 33.2**	**+0.2**
IRIF				S	**Sb**	**15 16 47.4**	**+1.0**
ETLH	**Xiulin Townshi**	**1.14**	**286**	P	**Pn**	**15 16 33.4**	**-0.5**
	baz=274						
ETLH				*e*S	**Sn**	**15 16 48.0**	**-0.7**
	baz=274						
ESL	**Shilin**	**1.14**	**266**	*e*P	**Pn**	**15 16 34.3**	**+0.5**
	baz=265						
ESL				*e*S	**Sn**	**15 16 47.5**	**-1.2**
	baz=265						
EGFH	**Guangfu**	**1.16**	**259**	*e*S	**Sn**	**15 16 48.7**	**-0.6**
	baz=246						
HGSD	**Ruisui**	**1.21**	**251**	*e*P	**Pn**	**15 16 34.3**	**-0.6**
	baz=250						
HGSD				*e*S	**Sb**	**15 16 52.4**	**+1.6**
	baz=250						
ILA	**Ilan**	**1.21**	**316**	*e*P	**Pn**	**15 16 33.2**	**-1.6**
	baz=314						
ILA				*e*S	**Sb**	**15 16 52.0**	**+1.2**
	baz=314						
NTC	**Toucheng**	**1.23**	**321**	P	**Pb**	**15 16 36.2**	**+0.3**
	baz=333						
NTC				*e*S	**Sb**	**15 16 52.2**	**+0.9**
	baz=333						
TWE	**Neicheng**	**1.24**	**312**	P	**Pb**	**15 16 35.6**	**-0.4**
	baz=310						
TWE				*e*S	**Sb**	**15 16 52.7**	**+1.2**
	baz=310						
ENTT	**Nioudou**	**1.26**	**307**	*e*P	**Pb**	**15 16 36.0**	**-0.4**
	baz=292						
ENTT				*e*S	**Sb**	**15 16 53.6**	**+1.4**
	baz=292						
JKRS	**Kuro-shima**	**1.27**	**74**	P	**Pb**	**15 16 36.7**	**+0.2**
JKRS				S	**Sb**	**15 16 53.8**	**+1.4**
NDT	**Datong Townshi**	**1.28**	**304**	*e*P	**Pn**	**15 16 35.9**	**+0.2**
	baz=290						
NDT				*e*S	**Sb**	**15 16 53.3**	**+0.7**
	baz=290						
TWB1	**Santiao Chiao**	**1.28**	**331**	*e*P	**Pb**	**15 16 36.2**	**-0.4**
	baz=329						
NNSB	**Datong**	**1.30**	**295**	P	**Pn**	**15 16 36.3**	**+0.3**
	baz=283						
NNSB				*e*S	**Sb**	**15 16 53.0**	**-0.3**
	baz=283						
NNSH	**Datong**	**1.30**	**295**	P	**Pn**	**15 16 36.2**	**+0.2**
	baz=283						
NNSH				*e*S	**Sb**	**15 16 53.1**	**-0.3**
	baz=283						
EHY	**Hungye**	**1.30**	**253**	*e*P	**Pn**	**15 16 36.2**	**+0.2**
	baz=252						
EHY				*e*S	**Sn**	**15 16 52.4**	**-0.3**
	baz=252						
NNS	**Nan Shan**	**1.31**	**295**	P	**Pn**	**15 16 36.4**	**+0.1**
	baz=283						
NNS				*e*S	**Sb**	**15 16 53.6**	**-0.1**
	baz=283						
WHF	**Hehuan Shan**	**1.31**	**281**	*i* P	**Pn**	**15 16 36.5**	**-0.2**
	baz=269						
WHF				*e*S	**Sb**	**15 16 54.5**	**+0.3**
	baz=269						
TIPB	**Shuangxi**	**1.33**	**324**	*e*P	**Pb**	**15 16 36.6**	**-0.9**
	baz=335						
TIPB				*e*S	**Sb**	**15 16 53.4**	**-0.7**
	baz=335						
EYUL	**Yuli**	**1.36**	**247**	*e*P	**Pn**	**15 16 37.0**	**+0.2**
	baz=236						
EYUL				*e*S	**Sn**	**15 16 54.1**	**0.0**
	baz=236						
FUSS	**Fushou**	**1.36**	**285**	P	**Pn**	**15 16 37.4**	**+0.4**
	baz=284						
FUSS				*e*S	**Sb**	**15 16 54.7**	**-0.4**
	baz=284						
YULB	**Yu-li**	**1.36**	**249**	P	**Pn**	**15 16 37.2**	**+0.4**
	baz=238						
YULB				*e*S	**Sn**	**15 16 53.5**	**-0.6**
	baz=238						
TWF1	**Yuli**	**1.37**	**247**	*e*P	**Pn**	**15 16 37.3**	**+0.2**
	baz=236						
TWF1				*e*S	**Sn**	**15 16 55.1**	**+0.6**
	baz=236						
CHGB	**Renai**	**1.38**	**277**	P	**Pn**	**15 16 37.7**	**+0.3**
	baz=266						
CHGB				*e*S	**Sn**	**15 16 54.1**	**-1.0**
	baz=266						
NWLT	**Wulai**	**1.39**	**310**	*e*P	**Pb**	**15 16 38.5**	**-0.1**
	baz=308						
NWLT				*e*S	**Sb**	**15 16 56.6**	**+0.8**
	baz=308						
VWDT	**VWDT**	**1.41**	**265**	P	**Pn**	**15 16 38.0**	**+0.5**
	baz=263						
VWDT				*e*S	**Sn**	**15 16 55.3**	**-0.1**
	baz=263						
YHNB	**Yeheng**	**1.42**	**303**	P	**Pn**	**15 16 38.0**	**+0.3**
	baz=302						
YHNB				*e*S	**Sb**	**15 16 57.3**	**+0.5**
	baz=302						
JIJ	**Ishigaki jima**	**1.42**	**70**	P	**Pb**	**15 16 39.4**	**+0.3**
JIJ				S	**Sb**	**15 16 57.0**	**+0.2**
TDCB	**Techi**	**1.43**	**285**	*e*P	**Pn**	**15 16 38.7**	**+0.7**
	baz=284						
NSK	**Sanguang**	**1.43**	**303**	*i* P	**Pb**	**15 16 38.5**	**-0.9**
	baz=302						
NSK				*e*S	**Sb**	**15 16 56.6**	**-0.6**
	baz=302						
CHKT	**Chengkung**	**1.44**	**237**	*e*P	**Pn**	**15 16 37.6**	**-0.3**
	baz=226						
CHKT				*e*S	**Sn**	**15 16 54.2**	**-1.8**
	baz=226						
FULB	**Fuli**	**1.44**	**242**	*e*P	**Pn**	**15 16 37.6**	**-0.4**
	baz=232						
FULB				*e*S	**Sn**	**15 16 55.6**	**-0.7**
	baz=232						
TWA	**Mucha**	**1.47**	**318**	P	**Pb**	**15 16 39.9**	**-0.1**
	baz=316						
TATO	**Taipei**	**1.53**	**315**	*e*S	**Sb**	**15 17 01.4**	**+1.5**
	baz=328						
EDH	**Donghe**	**1.56**	**234**	*e*P	**Pn**	**15 16 39.0**	**-0.5**
	baz=225						
EDH				S	**Sn**	**15 16 57.2**	**-1.8**
	baz=225						
SSLB	**Suanglung**	**1.58**	**267**	*e*P	**Pn**	**15 16 40.9**	**+1.0**
	baz=255						
SSLB				*e*S	**Sb**	**15 17 01.0**	**-0.4**
	baz=255						
YM05	**YM05**	**1.62**	**322**	*e*P	**Pb**	**15 16 42.5**	**-0.1**
	baz=320						
SMLT	**Sun Moon Lake**	**1.62**	**270**	*e*P	**Pn**	**15 16 41.5**	**+0.9**
	baz=269						
SMLT				*e*S	**Sb**	**15 17 02.3**	**-0.5**
	baz=269						
WHP	**Taichung City**	**1.63**	**284**	*e*P	**Pb**	**15 16 41.8**	**-0.9**
	baz=283						
WHP				*e*S	**Sb**	**15 17 02.1**	**-0.7**
	baz=283						
YM04	**YM04**	**1.63**	**321**	*e*P	**Pb**	**15 16 42.5**	**-0.2**
	baz=319						
LDUT	**Ludao**	**1.64**	**223**	*e*P	**Pn**	**15 16 40.0**	**-0.7**
	baz=222						
LDUT				*e*S	**Sn**	**15 16 58.8**	**-2.3**
	baz=222						
JISG	**Ishigakijimahi**	**1.65**	**65**	P	**Pn**	**15 16 41.2**	**+0.4**
JISG				*e*S	**Sb**	**15 17 02.2**	**-1.1**
TYC	**Yuchr**	**1.66**	**271**	*e*P	**Pn**	**15 16 42.0**	**+1.0**
	baz=270						
ELDTW	**Lidau**	**1.67**	**246**	*e*P	**Pn**	**15 16 41.2**	**0.0**
	baz=244						
ELDTW				*e*S	**Sn**	**15 17 00.8**	**-1.3**
	baz=244						
WHYT	**Xinyi Township**	**1.68**	**264**	*e*S	**Sb**	**15 17 05.1**	**+0.8**
	baz=252						
LIOB	**Emei**	**1.69**	**297**	P	**Pb**	**15 16 43.0**	**-0.8**
	baz=296						
LIOB				*e*S	**Sb**	**15 17 04.3**	**-0.3**
	baz=296						
NSTT	**Nanjuang**	**1.70**	**296**	*e*P	**Pb**	**15 16 43.1**	**-0.7**
	baz=295						
LONT	**Longtian**	**1.73**	**236**	*e*P	**Pn**	**15 16 42.3**	**+0.4**
	baz=227						
LONT				*e*S	**Sn**	**15 17 01.6**	**-1.6**
	baz=227						
ALS	**Alishan**	**1.76**	**258**	*e*P	**Pn**	**15 16 43.5**	**+0.9**
	baz=256						
ALS				*e*S	**Sn**	**15 17 05.0**	**+0.6**
	baz=256						
WJS	**Zhushan**	**1.78**	**268**	*e*P	**Pn**	**15 16 43.7**	**+1.0**
	baz=258						
WJS				*e*S	**Sb**	**15 17 07.7**	**+0.4**
	baz=258						
TWGBT	**Beinan**	**1.81**	**234**	*e*S	**Sn**	**15 17 04.4**	**-1.0**
	baz=225						
TWG	**Pinlang**	**1.82**	**234**	*e*P	**Pn**	**15 16 43.9**	**+0.7**
	baz=225						
TWG				*e*S	**Sn**	**15 17 04.5**	**-1.0**
	baz=225						
WNT	**Mingjian**	**1.82**	**270**	*e*P	**Pb**	**15 16 45.9**	**-0.1**
	baz=268						
WNT				*e*S	**Sb**	**15 17 09.6**	**+1.3**
	baz=268						
CHN5	**Tsauling**	**1.85**	**261**	*e*P	**Pb**	**15 16 46.0**	**-0.5**
	baz=260						
CHN5				*e*S	**Sn**	**15 17 08.2**	**+1.7**
	baz=260						
STYT	**Tauyuan**	**1.90**	**248**	*e*S	**Sn**	**15 17 08.6**	**+0.9**
	baz=239						
WGK	**Gukeng**	**1.95**	**264**	*e*P	**Pn**	**15 16 45.6**	**+0.7**
	baz=262						
WGK				*e*S	**Sb**	**15 17 12.9**	**+1.0**
	baz=262						
TPUB	**Ta-pu**	**1.97**	**253**	*e*P	**Pb**	**15 16 47.5**	**-0.9**
	baz=244						
TPUB				*e*S	**Sb**	**15 17 11.8**	**-0.7**
	baz=244						
WDLH	**Douliu**	**1.97**	**265**	*e*S	**Sb**	**15 17 12.8**	**+0.3**
	baz=263						
JTJ	**Tarama**	**2.00**	**68**	P	**Pb**	**15 16 48.0**	**-0.9**
JTJ				S	**Sb**	**15 17 12.3**	**-1.0**
WTP	**Ta-pu**	**2.00**	**252**	*e*P	**Pn**	**15 16 47.5**	**+1.8**
	baz=243						
WTP				*e*S	**Sb**	**15 17 12.9**	**-0.5**
	baz=243						
SLGT	**Liugui**	**2.07**	**245**	*e*P	**Pn**	**15 16 48.1**	**+1.5**
	baz=238						
SLGT				*e*S	**Sn**	**15 17 13.7**	**+2.0**
	baz=238						
SGST	**Jiashian**	**2.08**	**248**	*e*S	**Sb**	**15 17 14.9**	**-0.9**
	baz=237						
CHN1	**Nanshi**	**2.09**	**251**	*e*P	**Pn**	**15 16 49.2**	**+2.3**
	baz=249						
CHN1				*e*S	**Sb**	**15 17 15.7**	**-0.4**
	baz=249						
TWK	**Hsinying**	**2.10**	**253**	*e*P	**Pb**	**15 16 49.8**	**-0.9**
	baz=251						
TWK				*e*S	**Sn**	**15 17 14.6**	**+2.1**
	baz=251						
WTK	**Tuku**	**2.10**	**265**	*e*P	**Pn**	**15 16 49.3**	**+2.2**
	baz=263						
WTK				*e*S	**Sb**	**15 17 15.8**	**-0.7**
	baz=263						
SNST	**Tainan City**	**2.11**	**252**	*e*S	**Sb**	**15 17 16.0**	**-0.5**
	baz=250						
WTCT	**Ta-ch'eng**	**2.19**	**270**	*e*S	**Sb**	**15 17 18.4**	**-0.6**
	baz=256						
TAW	**Tawu**	**2.24**	**227**	*e*S	**Sn**	**15 17 14.6**	**-1.3**
	baz=234						
SCST	**Cishan**	**2.24**	**244**	*e*S	**Sb**	**15 17 20.6**	**+0.2**
	baz=233						
EAST	**Anshuo**	**2.25**	**229**	*e*P	**Pn**	**15 16 49.0**	**-0.2**
	baz=237						
MASBT	**Mashibuluo**	**2.27**	**236**	*e*P	**Pn**	**15 16 50.3**	**+1.0**
	baz=229						
MASBT				*e*S	**Sn**	**15 17 18.7**	**+2.1**
	baz=229						
SCZT	**Fangliau**	**2.42**	**232**	*e*S	**Sn**	**15 17 21.2**	**+0.8**
	baz=224						
WDGT	**Dungji**	**2.84**	**258**	P	**Pn**	**15 16 58.6**	**+1.5**
	baz=255						
WDGT				*e*S	**Sn**	**15 17 31.2**	**+0.6**
	baz=255						
PHUB	**P'eng-hu**	**2.87**	**263**	*e*P	**Pn**	**15 16 58.6**	**+1.0**
	baz=276						
PHUB				*e*S	**Sn**	**15 17 32.3**	**+0.9**
	baz=276						
PNG	**Penghu**	**2.88**	**264**	*e*S	**Sn**	**15 17 32.5**	**+0.9**
	baz=277						
VCHM	**Qimei**	**3.06**	**258**	*e*S	**Sn**	**15 17 38.0**	**+2.0**
	baz=255						
VWUC	**VWUC**	**3.14**	**291**	*e*P	**Pn**	**15 17 01.0**	**-0.3**
	baz=291						
VWUC				*e*S	**Sn**	**15 17 36.8**	**-1.2**
	baz=291						
PTMZ	**Houxiangcun**	**3.44**	**290**	*e*P	**Pn**	**15 17 05.5**	**+0.1**
	baz=290						
PTMZ				*e*S	**Sn**	**15 17 44.7**	**-0.7**
	baz=290						

*GUC **24** 15:40:28.0±0.8, 29°.36S×70°.91W, h55km±8km, ML3.8*
*IDC **24** 15:40:28.6±1.0, 29°.31S×70°.83W, h60km±7km, mb3.2/3, mb1 3.5/7, mb1mx3.4/25, mbtmp3.5/7, Error ellipse: s-maj=32.6km s-min=22.1km az=103.0*
ISC 24 15:40:28.8±0.8, 29°.35S±0°.04×70°.86W±0°.09, h68km±7km, n18, σ1°.09/27, mb3.3/4, 6C, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC05	**El Transito**	**0.73**	**45**	*i*P	**Pn**	**15 40 44.7**	**+0.7**
AC05				*e*S	**Sn**	**15 40 56.2**	**+1.0**
AC05				IAML		15 40 56.6	
	comp=N,13μm,0.2s						
GO04	**Tololo Observa**	**0.82**	**176**	*i*P	**Pn**	**15 40 45.4**	**+0.1**
GO04				*i* S	**Sn**	**15 40 57.9**	**+0.6**
GO04				IAML		15 41 00.8	
	comp=N,8μm,0.3s						
CO01	**Juntas del Tor**	**0.91**	**133**	*e*P	**Pn**	**15 40 46.7**	**+0.4**
CO01				*i* S	**Sn**	**15 41 00.2**	**+0.9**
CO01				IAML		15 41 00.8	
	comp=N,2μm,0.3s						
AC04	**Llanos de Chal**	**1.16**	**351**	*e*P	**Pn**	**15 40 49.4**	**+0.1**
AC04				*e*S	**Sn**	**15 41 05.2**	**+0.7**
AC04				IAML		15 41 11.2	
	comp=N,5μm,0.5s						
CO03	**El Pedregal**	**1.49**	**174**	*e*P	**Pn**	**15 40 54.1**	**+0.5**
CO03				*i* S	**Sn**	**15 41 13.3**	**+0.9**
CO03				IAML		15 41 16.4	
	comp=E,1μm,0.2s						
GO03	**Copiap**	**1.84**	**18**	*i*P	**Pn**	**15 40 59.2**	**+0.9**
GO03				*i* S	**Sn**	**15 41 23.2**	**+2.6**
GO03				IAML		15 41 28.0	
LVC	**Limon Verde**	**6.94**	**15**	P	**Pn**	**15 42 05.6**	**-2.6**
	comp=E,0.6nm,0.3s,baz=189,slow=9.4,SNR=11						
LVC				S	**Sn**	**15 43 25.0**	**-0.9**
	comp=E,2.3nm,0.3s,baz=182,slow=22,SNR=1.8						
CPUP	**Villa Florida**	**12.35**	**79**	P	**Pn**	**15 43 20.7**	**-1.0**
LPAZ	**La Paz**	**13.24**	**12**	P	**Pn**	**15 43 34.7**	**+0.2**
	comp=E,0.1nm,0.3s,baz=114,slow=6.0,SNR=1.8						
SIV	**San Ignacio**	**16.06**	**36**	P	**Pn**	**15 44 10.2**	**-0.3**
	comp=E,0.1nm,0.3s,baz=251,slow=9.7,SNR=5.3						
TXAR	**Lajitas Array**	**66.23**	**329**	P	**P**	**15 51 11.0**	**+1.3**
	comp=E,0.3nm,0.7s,baz=143,slow=9.1,SNR=3.3						
PDAR	**Pinedale Array**	**80.11**	**332**	pP	pP	15 52 50.6	+0.3
	comp=E,0.2nm,0.5s,baz=123,slow=7.9,SNR=2.3						
NVAR	**Mina Array Bea**	**80.69**	**324**	P	**P**	**15 52 34.9**	**+0.3**
	comp=E,0.1nm,0.4s,baz=88,slow=8.2,SNR=1.8						
TORD	**Torodi Ar. Bea**	**81.68**	**70**	P	**P**	**15 52 40.2**	**+0.1**
	comp=E,0.8nm,0.7s,baz=265,slow=4.5,SNR=4.3						
TORD				pP	**pP**	**15 52 59.0**	**-0.5**
	comp=E,0.4nm,0.7s,baz=280,slow=6.1,SNR=2.6						
WRA	**Warramunga Arr**	**125.30**	**209**	PKP	**PKPdf**	**15 59 22.2**	**-0.3**
	comp=E,0.4nm,0.9s,baz=156,slow=1.8,SNR=5.3						
KURBB	**Kurchatov Arra**	**148.71**	**39**	PKPbc	**PKiKP**	**16 00 08.6**	**-0.8**
	comp=E,0.4nm,0.5s,baz=308,slow=3.1,SNR=6.9						
KURBB				pPKPbc	**pPKPbc**	**16 00 26.2**	**-1.7**
	comp=E,0.4nm,0.6s,baz=301,slow=2.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**149.72**	**29**	PKPbc	**PKiKP**	**16 00 11.0**	**-0.3**
	comp=E,1.5nm,0.5s,baz=303,slow=5.1,SNR=6.5						
ZALV				pPKPbc	**pPKPdf**	**16 00 26.6**	**+0.8**
	comp=E,1.1nm,0.5s,baz=335,slow=4.5,SNR=3.6						
MKAR	**Makanchi Array**	**152.81**	**43**	PKPbc	**PKiKP**	**16 00 17.9**	**-0.1**
	comp=E,0.6nm,0.7s,baz=298,slow=2.6,SNR=5.9						

WEL 24 15:46:23.9, 44°S±2°×17°3E±°, h7km, M2.5/5, ML2.8/4, MLv2.5/5, Error ellipse: s-maj=0.0km s-min=0.0km az=150.2, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMCZ	**Amberley**	**0.38**	**358**	P	Pb	15 46 33.7	+0.8
OXZ	**Oxford**	**0.51**	**296**	P	Pb	15 46 35.8	+0.6
GVZ	**Greta Valley S**	**0.64**	**25**	P	Pb	15 46 38.1	+0.7
MHCZ	**Mount Hutt**	**0.80**	**271**	P	Pn	15 46 41.3	-0.3
LTZ	**Lake Taylor**	**0.82**	**339**	P	Pn	15 46 41.7	-0.2
RPZ	**Rata Peaks**	**1.18**	**262**	P	Pg	15 46 46.4	-0.1
INZ	**Inchbonnie**	**1.22**	**312**	P	Pn	15 46 47.9	+0.6
KHZ	**Kahutara**	**1.30**	**30**	P	Pn	15 46 47.5	-0.9
WVZ	**Waitaha Valley**	**1.49**	**288**	P	Pb	15 46 51.6	-0.2
GCSZ	**Gaunt Creek Bo**	**1.72**	**277**	P	Pb	15 46 55.1	-0.7
THZ	**Tophouse**	**1.80**	**6**	P	Pn	15 46 55.0	-0.3
DSZ	**Denniston Nort**	**1.92**	**340**	P	Pn	15 46 57.6	+0.7
LBZ	**Lake Benmore**	**1.98**	**244**	P	Pb	15 46 59.5	-0.6
FOZ	**Fox Glacier**	**2.07**	**270**	P	Pb	15 47 00.6	-1.2
JCZ	**Jackson Bay**	**2.86**	**258**	P	Pn	15 47 10.8	+0.8

*IDC **24** 15:54:17.9±1.0, 9°.12N×85°.80E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.7/60, mbtmp3.9/12, ML4.5/1, Error ellipse: s-maj=30.7km s-min=19.1km az=55.0*
*NEIC **24** 15:54:20.3±2.1, 9°.1N±0°.1×85°.8E±0°.1, h17km±4km, mb4.1/13, Error ellipse: s-maj=18.7km s-min=16.7km az=197.0*
ISC 24 15:54:18.8±0.7, 9°.04N±0°.10×85°.74E±0°.08, h10km, n40, σ1°.07/41, mb4.0/17, Bay of Bengal

MAKZ	**Makanchi**	**37.77**	**356**	P	**P**	**16 01 35.5**	**+0.4**
MAKZ				IAmb	IAmb	16 02 31.8	
	comp=Z,7.2nm,1.9s						
GEYT	**Alibeck**	**38.04**	**323**	P	**P**	**16 01 39.3**	**+1.7**
	comp=Z,1.6nm,0.7s,baz=174,slow=5.2,SNR=4.4						
GYA0B	**ALIBECK ARRAY**	**38.04**	**323**	P	**P**	**16 01 37.0**	**-0.6**
GYA0B				IAmb	IAmb	16 01 56.7	
	comp=Z,2.4nm,0.7s						
KURBB	**Kurchatov Arra**	**41.88**	**353**	P	**P**	**16 02 10.1**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=172,slow=7.9,SNR=14						
KURBB				PcP	**PcP**	**16 04 03.7**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=176,slow=3.5,SNR=4.9						
KURK	**Kurchatov**	**41.96**	**353**	P	**P**	**16 02 09.9**	**0.0**
SONM	**Songino Array**	**42.44**	**21**	P	**P**	**16 02 13.6**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=203,slow=9.6,SNR=17						
ZAA0	**Zalesovo Array**	**44.79**	**359**	P	**P**	**16 02 32.8**	**+0.1**
ZAA0				IAmb	IAmb	16 02 33.0	
	comp=Z,2.5nm,1.0s						
ZALV	**Zalesovo Beam**	**44.79**	**359**	P	**P**	**16 02 32.6**	**0.0**
	comp=Z,1.6nm,0.5s,baz=189,slow=7.0,SNR=7.5						
BVAR	**Borovoye Array**	**45.59**	**347**	P	**P**	**16 02 38.1**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=139,slow=3.3,SNR=4.7						
BR131	**Keskin Array S**	**55.44**	**312**	P	**P**	**16 03 54.4**	**+0.4**
BR131				IAmb	IAmb	16 05 09.3	
	comp=Z,5.5nm,1.5s						
WB0	**Warramunga Arr**	**55.80**	**121**	P	**P**	**16 03 57.6**	**+0.9**
WRA	**Warramunga Arr**	**55.83**	**121**	P	**P**	**16 03 57.9**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=303,slow=7.9,SNR=8.3						
WRAB	**Tennant Creek**	**55.84**	**121**	P	**P**	**16 03 54.9**	**-2.0**
WB2	**Warramunga Arr**	**55.84**	**121**	P	**P**	**16 03 54.8**	**-2.2**
WR0	**Warramunga Arr**	**56.01**	**121**	P	**P**	**16 03 55.9**	**-2.2**
ASAR	**Alice Springs**	**57.20**	**126**	P	**P**	**16 04 07.2**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=299,slow=6.9,SNR=5.4						
FINES	**FINESS Array B**	**67.88**	**333**	P	**P**	**16 05 16.4**	**-0.9**
	comp=Z,2.5nm,1.1s,baz=104,slow=5.9,SNR=4.4						
ARCES	**ARCESS Array B**	**71.42**	**341**	P	**P**	**16 05 38.5**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=101,slow=6.5,SNR=5.0						
GERES	**GERESS Array B**	**71.44**	**318**	P	**P**	**16 05 39.8**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=62,slow=6.8,SNR=2.1						

*THR **24** 16:02:41.1±0.3, 33.79N×45.75E, h16km±5km, ML3.4*
*TEH **24** 16:02:42.5, 33.82N×45.77E, h17km, ML3.5*
*IDC **24** 16:03:08.3±4.6, 35.25N×45.86E, h187km±76km, mb3.3/5, mb1 3.2/7, mb1mx2.9/54, mbtmp3.8/7, Error ellipse: s-maj=69.8km s-min=21.0km az=9.0*

ISC 24 16:02:42.1±1.0, 33.86N±0.05×45.75E±0.06, h10km, n51, σ1§30/53, mb3.8/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGHG	**Ghaleghazi**	**0.82**	**55**	*e*Pg	**Pb**	**16 02 59.3**	**+0.6**
IGHG				*e*		16 03 18.9	
IDHR	**Derhash**	**0.99**	**32**	*e*Pg	**Pg**	**16 03 01.9**	**+0.7**
IDHR				*e*		16 03 23.5	
IVIS	**Veis**	**1.13**	**54**	*e*		16 03 28.6	
IVIS				*e*Pg	**Pn**	**16 03 04.9**	**+0.8**
KCHF	**Cheshme Sefid,**	**1.15**	**69**	*e*		16 03 29.3	
KCHF				*e*Pg	**Pg**	**16 03 04.3**	**+0.1**
KER	**Kermanshah**	**1.26**	**65**	*e*Pg	**Pg**	**16 03 07.1**	**+0.8**
ILIN	**Lien**	**1.46**	**43**	*e*Pg	**Pg**	**16 03 11.1**	**+1.0**
ILIN				*e*		16 03 35.2	
IKOM	**Komasi**	**1.50**	**77**	*e*Pg	**Pb**	**16 03 10.7**	**+0.6**
IKOM				*e*		16 03 45.5	
DHL1	**Dehloran**	**1.74**	**132**	*e*Pg	**Pb**	**16 03 14.3**	**+0.1**
IKFM	**Kafar-mosalman**	**1.78**	**100**	*e*Pg	**Pb**	**16 03 15.2**	**+0.4**
IKFM				*e*		16 03 47.3	
SNGE	**Sanandaj**	**1.80**	**47**	*e*Pn	**Pn**	**16 03 14.1**	**+0.7**
SNGE				*e*Sg	**Sb**	**16 03 39.8**	**+1.7**
SNGE				IAML		16 03 47.2	
	comp=N,293nm,0.5s						
SNGE	**Sanandaj**	**1.80**	**47**	*e*Pn	**Pn**	**16 03 14.1**	**+0.7**
IBZA	**Bozab**	**1.85**	**70**	*e*Pg	**Pb**	**16 03 16.0**	**-0.2**
IBZA				*e*		16 03 47.8	
IDOB	**Doab**	**2.02**	**91**	*e*Pn	**Pn**	**16 03 17.4**	**+0.9**
IKMR	**Kamar-syah**	**2.22**	**98**	*e*Pn	**Pn**	**16 03 20.4**	**+1.4**
IKMR				*e*		16 04 10.8	
HSAM	**Samen**	**2.40**	**81**	*e*Pn	**Pn**	**16 03 22.3**	**+0.7**
HSAM				*e*		16 04 04.3	
HSRG	**Sareghieh**	**2.50**	**56**	*e*Pn	**Pb**	**16 03 26.1**	**-1.2**
HSRG				*e*		16 04 09.3	
BMDN	**Meydan**	**2.57**	**93**	*e*Pn	**Pn**	**16 03 25.1**	**+1.1**
BMDN				*e*		16 04 23.0	
MAHB	**Mahabad**	**2.90**	**359**	*e*Pn	**Pn**	**16 03 30.1**	**+1.7**
HAGD	**Aghdareh**	**2.96**	**70**	*e*Pn	**Pn**	**16 03 31.5**	**+2.1**
HAGD				*e*		16 04 24.7	
KHMZ	**Khomeyn**	**3.51**	**91**	*e*Pn	**Pn**	**16 03 37.4**	**+0.5**
KHMZ				*e*S	**Sn**	**16 04 18.4**	**-0.2**
KHMZ	**Khomeyn**	**3.51**	**91**	*e*Pn	**Pn**	**16 03 37.4**	**+0.5**
ASAO	**Ashtian**	**3.61**	**78**	*e*Pn	**Pn**	**16 03 38.9**	**+0.6**
ASAO	**Ashtian**	**3.61**	**78**	*e*Pn	**Pn**	**16 03 38.9**	**+0.6**
QABG	**Abgarm-Qazvin**	**3.65**	**59**	*e*Pn	**Pn**	**16 03 40.0**	**+1.1**
ZNJK	**Zanjan**	**3.69**	**40**	*e*Pn	**Pn**	**16 03 40.6**	**+1.2**
ZNJK				*e*Sg	**Sg**	**16 04 37.7**	**-3.0**
ZNJK	**Zanjan**	**3.69**	**40**	*e*Pn	**Pn**	**16 03 40.6**	**+1.2**
IRAZ	**Razeghan**	**3.77**	**65**	*e*Pn	**Pn**	**16 03 42.9**	**+2.3**
IAZR	**Azarshahr**	**3.81**	**3**	*e*Pn	**Pn**	**16 03 43.5**	**+2.4**
QSDN	**Sirdan**	**3.85**	**46**	*e*Pn	**Pn**	**16 03 44.0**	**+2.4**
JHBN	**Jahan bin**	**4.44**	**110**	*e*Pn	**Pn**	**16 03 51.0**	**+1.2**
JHBN				*e*		16 04 52.3	
IPIR	**Pirpir**	**4.46**	**104**	*e*Pn	**Pn**	**16 03 51.5**	**+1.4**
GHVR	**GHOM**	**4.64**	**81**	*e*Pn	**Pn**	**16 03 52.4**	**+0.1**
GHVR	**GHOM**	**4.64**	**81**	*e*Pn	**Pn**	**16 03 52.4**	**+0.1**
QALM	**Alamut, Qazvin**	**4.76**	**56**	*e*Pn	**Pn**	**16 03 55.7**	**+1.5**
CHTH	**Charan**	**4.87**	**64**	*e*Pn	**Pn**	**16 03 56.4**	**+0.8**
CHTH	**Charan**	**4.87**	**64**	*e*Pn	**Pn**	**16 03 56.4**	**+0.8**
IKLH	**Kolahrood**	**4.90**	**95**	*e*Pn	**Pn**	**16 03 58.2**	**+2.2**
GRMI	**Germi**	**5.23**	**15**	*e*Pn	**Pn**	**16 04 02.1**	**+1.6**
GRMI	**Germi**	**5.23**	**19**	*e*Pn	**Pn**	**16 04 02.1**	**+1.6**
IDMV	**Damavand**	**5.45**	**70**	*e*Pn	**Pn**	**16 04 05.1**	**+1.4**
IZEF	**Zefreh**	**5.59**	**98**	*e*Pn	**Pn**	**16 04 08.0**	**+2.5**
KLNJ	**Kolanjah**	**5.70**	**118**	*e*Pn	**Pn**	**16 04 08.4**	**+1.2**
IRAM	**Ramesheh**	**5.95**	**108**	*e*Pn	**Pn**	**16 04 10.8**	**+0.4**
IFIR	**Firoozkooh**	**6.03**	**71**	*e*Pn	**Pn**	**16 04 13.0**	**+1.3**
ASF	**Jabal al Asfar**	**7.62**	**260**	P	Pg	16 05 02.7	-5.3
	comp=N,0.4nm,0.3s,baz=64,slow=17,SNR=2.0						
ASF				S	Sg	16 06 39.0	-7.8
	comp=N,0.3nm,0.3s,baz=0.0,slow=20,SNR=2.4						
AKASG	**Malin Array Be**	**20.72**	**329**	P	**P**	**16 07 21.6**	**-0.9**
	comp=N,0.6nm,0.3s,baz=136,slow=9.8,SNR=8.6						
KURBB	**Kurchatov Arra**	**29.17**	**45**	P	**P**	**16 08 43.5**	**+0.1**
	comp=N,0.7nm,0.7s,baz=251,slow=8.8,SNR=5.6						
MKAR	**Makanchi Array**	**30.42**	**54**	P	**P**	**16 08 55.0**	**+0.4**
	comp=N,0.9nm,0.6s,baz=253,slow=7.4,SNR=15						
HFS	**Hagfors**	**33.58**	**331**	P	**P**	**16 09 21.2**	**-0.9**
	comp=N,1.1nm,0.5s,baz=116,slow=9.8,SNR=1.6						
ZALV	**Zalesovo Beam**	**33.98**	**42**	P	**P**	**16 09 24.3**	**-1.3**
	comp=N,0.9nm,0.4s,baz=260,slow=10,SNR=3.9						
EKA	**Eskdalemuir Ar**	**39.86**	**318**	P	**P**	**16 10 14.8**	**-0.8**
	comp=N,0.4nm,0.6s,baz=94,slow=8.6,SNR=4.6						

*DJA **24** 16:06:36.6±0.8, 2°N±5°×12°7E±°, h108km±8km, M3.6/7, MLv3.6/7*
*NEIC **24** 16:06:39.3±1.1, 1°.32N±0°.09×127°.62E±0°.07, h105km±9km, mb4.1/9, Error ellipse: s-maj=14.3km s-min=8.3km az=147.0*
*IDC **24** 16:06:42.9±10.0, 1°.27N×127°.81E, h133km±123km, mb3.6/4, mb1 3.5/5, mb1mx3.1/35, mbtmp3.9/5, ML3.4/1, Error ellipse: s-maj=97.6km s-min=26.7km az=114.0*

ISC 24 16:06:40.0±0.9, 1.32N±0.10×127.51E±0.09, h128km, n20, σ1§54/18, mb4.0/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.57**	**195**	Pn	**Pn**	**16 06 56.2**	**-3.2**
KMSI	**Cibinong**	**3.61**	**258**	P	Pn	16 07 32.1	-2.4
KMSI				S	**Sn**	**16 08 14.5**	**-2.2**
SANI	**Sanana**	**3.68**	**204**	P	**Pn**	**16 07 35.9**	**+0.4**
GTOI	**Gorontalo**	**4.55**	**261**	P	**Pn**	**16 07 45.3**	**-1.8**
LUWI	**Luwuk**	**5.29**	**244**	Pn	**Pn**	**16 07 57.9**	**+0.9**
MYLDM	**Lahad Datu**	**9.78**	**293**	Pn	**Pn**	**16 08 59.4**	**+1.9**
MTN	**Manton Dam**	**14.53**	**166**	Pn	**Pn**	**16 09 58.2**	**-1.4**
KSM	**Kuching**	**17.20**	**271**	P	**P**	**16 10 33.6**	**+1.4**
KSM				IAmb	IAmb	16 10 53.7	
	comp=Z,21nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.39**	**185**	P	**P**	**16 10 57.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=2.9,slow=13,SNR=2.0						
FITZ	**Fitzroy Crossi**	**19.39**	**185**	IAmb	IAmb	16 11 32.2	
	comp=Z,23nm,1.9s						
GUMO	**Guam**	**21.06**	**54**	P	**P**	**16 11 14.5**	**+0.3**
	comp=Z,28nm,0.9s,baz=180,slow=20,SNR=1.2						

WB0	**Warramunga Arr**	**22.02**	**162**	P	**P**	**16 11 25.0**	**+0.7**
WRA	**Warramunga Arr**	**22.17**	**163**	P	**P**	**16 11 26.6**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=345,slow=11,SNR=47						
WB2	**Warramunga Arr**	**22.17**	**163**	P	**P**	**16 11 27.1**	**+1.2**
WB2				IAmb	IAmb	16 11 48.6	
	comp=Z,11nm,1.4s						
WR0	**Warramunga Arr**	**22.25**	**162**	P	**P**	**16 11 27.6**	**+0.9**
WR0				IAmb	IAmb	16 11 48.5	
	comp=Z,16nm,1.7s						
ASAR	**Alice Springs**	**25.61**	**166**	P	**P**	**16 11 58.8**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=351,slow=7.6,SNR=11						
ENH	**Enshi**	**33.49**	**331**	P	**P**	**16 13 07.2**	**-0.2**
NWAO	**Narrogin (SRO)**	**35.42**	**195**	P	**P**	**16 13 22.9**	**-1.0**
STKA	**Stephens Creek**	**35.62**	**159**	P	**P**	**16 13 27.1**	**+1.5**
	comp=Z,1.2nm,0.5s,baz=334,slow=7.5,SNR=7.2						
STKA	**Stephens Creek**	**35.62**	**159**	IAmb	IAmb	16 14 10.8	
	comp=Z,3.8nm,1.8s						

WEL 24 16:08:17.9, 44°S±20°×16°9E±°, h5km±20km, M2.2/8, ML2.3/8, MLv2.2/8, Error ellipse: s-maj=0.0km s-min=0.0km az=157.7, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBZ	**Lake Benmore**	**0.52**	**93**	P	Pb	16 08 29.8	+0.2
JCZ	**Jackson Bay**	**0.56**	**301**	P	Pb	16 08 30.7	+0.4
WKZ	**Wanaka**	**0.56**	**214**	P	Pb	16 08 30.1	-0.1
FOZ	**Fox Glacier**	**0.87**	**17**	P	Pb	16 08 35.2	-0.2
ODZ	**Otahua Downs**	**1.09**	**129**	P	Pb	16 08 39.5	+0.3
MSZ	**Milford Sound**	**1.14**	**254**	P	Pn	16 08 40.8	+0.3
GCSZ	**Gaunt Creek Bo**	**1.22**	**31**	P	Pn	16 08 42.8	+1.2
RPZ	**Rata Peaks**	**1.32**	**61**	P	Pg	16 08 43.9	+0.7
MLZ	**Mavora Lakes**	**1.38**	**223**	P	Pg	16 08 45.1	+0.6
WHZ	**Wether Hill Ro**	**1.87**	**214**	P	Pb	16 08 51.7	-0.9
MQZ	**McQueen's Vall**	**2.40**	**75**	P	Pg	16 09 03.5	-0.4

*NEIC **24** 16:09:28.6±1.4, 22°.30S±0°.06×67°.40W±0°.10, h169km±7km, mb4.6/8, Error ellipse: s-maj=13.0km s-min=9.1km az=93.0*
*VAO **24** 16:09:29.5±0.3, 22°.07S×67°.58W, h186km±5km, mb3.8*
*IDC **24** 16:09:29.2±0.9, 22°.23S×67°.32W, h163km±13km, mb3.9/1, mb1 3.6/6, mb1mx3.3/29, mbtmp4.0/6, Error ellipse: s-maj=23.1km s-min=14.2km az=119.0*
*GUC **24** 16:09:30.2±0.7, 22°.22S×67°.73W, h203km±6km, ML4.1*
*SCB **24** 16:09:32.1±1.3, 22°.29S×67°.52W, h162km±13km, ML4.1/5, Error ellipse: s-maj=5.2km s-min=3.5km az=1.0*

ISC 24 16:09:29.1±0.6, 22°.25S±0°.04×67°.51W±0°.05, h177km±7km, n107, σ1§14/133, mb4.5/4, 12C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.35**	**254**	P	**Pn**	**16 10 00.9**	**+1.2**
	55nm,0.3s,baz=72,slow=5.6,SNR=304						
LVC				S	**Sn**	**16 10 23.7**	**+0.3**
	16nm,0.3s,baz=190,slow=8.6,SNR=3.8						
LVC	**Limon Verde**	**1.35**	**254**	⇓P	**Pn**	**16 10 00.9**	**+1.2**
LVC				*i* S	**Sn**	**16 10 24.4**	**+1.0**
LVC	**Limon Verde**	**1.35**	**254**	*e*P	**Pn**	**16 10 00.9**	**+1.2**
LVC				*e*S	**Sn**	**16 10 24.8**	**+1.4**
PB09	**IPOC Station P**	**1.67**	**285**	⇑P	**Pn**	**16 10 04.1**	**+1.4**
PB09				*i* S	**Sn**	**16 10 29.7**	**+1.1**
PB09	**IPOC Station P**	**1.67**	**285**		**Pn**	**16 10 03.9**	**+1.2**
YJA	**Yavi**	**1.85**	**88**	P	**Pn**	**16 10 05.5**	**+0.7**
PB06	**IPOC Station P**	**1.96**	**256**	⇑P	**Pn**	**16 10 06.4**	**+0.8**
PB06				*i* S	**Sn**	**16 10 34.4**	**+0.3**
PB06	**IPOC Station P**	**1.96**	**256**		**Pn**	**16 10 06.2**	**+0.5**
PB06	**IPOC Station P**	**1.96**	**256**	P	**Pn**	**16 10 06.5**	**+0.8**
MOCB	**Mochara**	**2.00**	**61**	P	**Pn**	**16 10 07.0**	**+0.6**
PB15	**IPOC Station P**	**2.05**	**242**	⇑P	**Pn**	**16 10 07.7**	**+1.1**
PB15				*i* S	**Sn**	**16 10 36.7**	**+0.9**
PB15	**IPOC Station P**	**2.05**	**242**		**Pn**	**16 10 07.7**	**+1.1**
PB03	**IPOC Station P**	**2.09**	**275**	⇑P	**Pn**	**16 10 07.9**	**+0.8**
PB03				*i* S	**Sn**	**16 10 36.4**	**-0.1**
PB03				IAML		16 10 37.4	
	comp=N,1μm,0.2s						
PB01	**IPOC Station P**	**2.20**	**303**	⇑P	**Pn**	**16 10 08.9**	**+0.7**
PB01				*i* S	**Sn**	**16 10 38.6**	**-0.1**
PB01				IAML		16 10 40.2	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**2.20**	**303**		**Pn**	**16 10 08.8**	**+0.5**
PB01	**IPOC Station P**	**2.20**	**303**	P	**Pn**	**16 10 09.0**	**+0.7**
PB01				S	**Sn**	**16 10 37.9**	**-0.7**
PB01				AML	AML	16 10 39.6	
	comp=E,1μm,0.2s						
PB07	**IPOC Station P**	**2.27**	**283**	⇑P	**Pn**	**16 10 09.8**	**+0.7**
PB07				*i* S	**Sn**	**16 10 39.4**	**-0.7**
PB07				IAML		16 10 41.9	
	comp=E,973nm,0.4s						
PB07	**IPOC Station P**	**2.27**	**283**		**Pn**	**16 10 09.4**	**+0.3**
PB02	**IPOC Station P**	**2.41**	**292**	*i* P	**Pn**	**16 10 11.2**	**+0.6**
PB02				*i* S	**Sn**	**16 10 41.7**	**-1.1**
PB02	**IPOC Station P**	**2.41**	**292**	P	**Pn**	**16 10 11.2**	**+0.6**
PB02				S	**Sn**	**16 10 41.6**	**-1.2**
PB02				AML	AML	16 10 45.1	
	comp=E,1μm,0.2s						
PB04	**IPOC Station P**	**2.45**	**268**	⇑P	**Pn**	**16 10 11.9**	**+0.8**
PB04				*i* S	**Sn**	**16 10 42.7**	**-1.1**
PB04				IAML		16 10 45.0	
	comp=N,556nm,0.1s						
PB04	**IPOC Station P**	**2.45**	**268**		**Pn**	**16 10 11.5**	**+0.3**
PB04	**IPOC Station P**	**2.45**	**268**	P	**Pn**	**16 10 11.9**	**+0.8**
PB05	**IPOC Station P**	**2.56**	**256**	⇑P	**Pn**	**16 10 13.1**	**+0.6**
PB05				*i* S	**Sn**	**16 10 45.0**	**-1.2**
PB05				IAML		16 10 46.5	
	comp=N,303nm,0.5s						
PB08	**IPOC Station P**	**2.60**	**324**	⇓P	**Pn**	**16 10 14.9**	**+1.7**
PB08				*i* S	**Sn**	**16 10 48.5**	**+1.0**
PB08				IAML		16 10 50.5	
	comp=E,354nm,0.3s						
PB08	**IPOC Station P**	**2.60**	**324**		**Pn**	**16 10 14.6**	**+1.4**
PB08	**IPOC Station P**	**2.60**	**324**	P	**Pn**	**16 10 14.9**	**+1.7**
PB08				S	**Sn**	**16 10 47.0**	**-0.5**
PB08				AML	AML	16 10 50.7	
	comp=E,335nm,0.6s						
PATCX	**Punta Patache**	**2.84**	**300**	⇑P	**Pn**	**16 10 15.9**	**+0.1**
PATCX				*i* S	**Sn**	**16 10 50.6**	**-1.5**
PATCX	**Punta Patache**	**2.84**	**300**		**Pn**	**16 10 15.9**	**+0.1**
TA01	**Diego Aracena**	**3.00**	**303**	⇑P	**Pn**	**16 10 17.4**	**-0.3**
TA01				*i* S	**Sn**	**16 10 53.5**	**-1.9**
TA01	**Diego Aracena**	**3.00**	**303**		**Pn**	**16 10 17.0**	**-0.6**
GO01	**Chusmiza**	**3.02**	**328**	⇓P	**Pn**	**16 10 19.4**	**+1.1**
GO01				*i* S	**Sn**	**16 10 57.2**	**+0.6**
GO01	**Chusmiza**	**3.02**	**328**		**Pn**	**16 10 19.1**	**+0.8**
PB10	**IPOC Station P**	**3.08**	**245**		**Pn**	**16 10 18.7**	**+0.2**
PB10	**IPOC Station P**	**3.08**	**245**	P	**Pn**	**16 10 19.0**	**+0.5**
PB10				S	**Sn**	**16 10 54.5**	**-2.6**
PB10				AML	AML	16 10 57.7	
	comp=E,224nm,0.6s						
PB11	**IPOC Station P**	**3.19**	**321**	⇑P	**Pn**	**16 10 20.0**	**-0.1**
PB11				*i* S	**Sn**	**16 10 58.8**	**-1.0**
PB11	**IPOC Station P**	**3.19**	**321**		**Pn**	**16 10 20.0**	**-0.1**
PB11	**IPOC Station P**	**3.19**	**321**	P	**Pn**	**16 10 20.5**	**+0.4**
GO02	**Mina Guanaco**	**3.47**	**213**	⇑P	**Pn**	**16 10 24.7**	**+1.0**
GO02				*i* S	**Sn**	**16 11 06.2**	**-0.1**
GO02	**Mina Guanaco**	**3.47**	**213**		**Pn**	**16 10 24.5**	**+0.8**
PB14	**IPOC Station P**	**3.56**	**228**		**Pn**	**16 10 24.6**	**-0.1**
PSGC	**Pisagua**	**3.60**	**317**	*e*P	**Pn**	**16 10 24.2**	**-0.9**
PSGCX	**Pisagua**	**3.60**	**317**		**Pn**	**16 10 24.3**	**-0.8**
MNMC	**Minye Minye**	**3.67**	**327**	⇓P	**Pn**	**16 10 26.6**	**+0.4**
MNMC				*i* S	**Sn**	**16 11 10.2**	**-0.6**
MNMC	**Minye Minye**	**3.67**	**327**		**Pn**	**16 10 26.5**	**+0.4**
MNMC	**Minye Minye**	**3.67**	**327**	P	**Pn**	**16 10 26.6**	**+0.4**
MNMC				S	**Sn**	**16 11 09.3**	**-1.5**
MNMC				AML	AML	16 11 11.0	
	comp=E,248nm,0.2s						
PB16	**IPOC Station P**	**4.33**	**334**	⇓P	**Pn**	**16 10 35.5**	**+0.6**
PB16				*i* S	**Sn**	**16 11 25.9**	**-0.4**
PB16	**IPOC Station P**	**4.33**	**334**		**Pn**	**16 10 35.3**	**+0.5**
PB12	**IPOC Station P**	**4.48**	**323**		**Pn**	**16 10 34.6**	**-1.8**
AP01	**Chacalluta**	**4.69**	**325**	Pn	**Pn**	**16 10 39.3**	**+0.3**
AC01	**Pan de Azucar**	**4.80**	**215**	Pn	**Pn**	**16 10 39.6**	**-0.7**
AC02	**Maricunga**	**4.80**	**198**	Pn	**Pn**	**16 10 40.0**	**-0.7**
BBOJ	**La Paz, Jacaqu**	**5.29**	**353**	P	**Pn**	**16 10 49.3**	**+2.0**
BBOE	**La Paz, Chanca**	**5.43**	**355**	P	**Pn**	**16 10 51.2**	**+2.1**
BBOD	**La Paz, Gloria**	**5.68**	**349**	P	**Pn**	**16 10 54.3**	**+1.9**
GO03	**Copiap**	**5.87**	**204**	Pn	**Pn**	**16 10 52.7**	**-1.6**
LPAZ	**La Paz**	**5.96**	**354**	P	**Pn**	**16 10 57.4**	**+1.3**
	comp=E,3.8nm,0.3s,baz=146,slow=5.9,SNR=52						
LPAZ				S	**Sn**	**16 12 04.0**	**-0.6**
	baz=204,slow=14,SNR=0.6						
LPAZ	**La Paz**	**5.96**	**354**		**Pn**	**16 10 56.7**	**+0.6**
LPAZ	**La Paz**	**5.96**	**354**	P	**Pn**	**16 10 57.5**	**+1.3**
BBOB	**La Paz, Bander**	**6.11**	**354**	P	**Pn**	**16 10 58.9**	**+0.9**
AC04	**Llanos de Chal**	**6.75**	**208**	Pn	**Pn**	**16 11 02.7**	**-3.1**
AC05	**El Transito**	**7.02**	**200**	Pn	**Pn**	**16 11 07.6**	**-1.9**
LCO	**Las Campanas**	**7.32**	**203**	Pn	**Pn**	**16 11 11.3**	**-2.3**
GO04	**Tololo Observa**	**8.42**	**200**	Pn	**Pn**	**16 11 26.5**	**-1.6**
SIV	**San Ignacio**	**8.70**	**45**	P	**Pn**	**16 11 29.0**	**-2.8**
	comp=E,3.0nm,0.3s,baz=232,slow=10,SNR=40						
SIV				S	Sn	16 12 59.9	-9.1
	comp=E,3.0nm,0.3s,baz=179,slow=18,SNR=12						
SIV	**San Ignacio**	**8.70**	**45**	P	**Pn**	**16 11 33.0**	**+1.3**
CO03	**El Pedregal**	**9.01**	**198**	Pn	**Pn**	**16 11 33.6**	**-2.2**
CPUP	**Villa Florida**	**10.13**	**116**	P	**Pn**	**16 11 48.5**	**-1.8**
	comp=E,0.1nm,0.3s,baz=285,slow=14,SNR=2.1						
CPUP	**Villa Florida**	**10.13**	**116**		**Pn**	**16 11 47.4**	**-3.0**
PTLB	**Pontes e Lacer**	**10.42**	**51**	*e*P	**Pn**	**16 11 53.0**	**-1.1**
VA03	**San Esteban**	**10.81**	**194**	Pn	**Pn**	**16 11 58.8**	**-0.5**
ROC1	**El Roble**	**11.13**	**195**	Pn	**Pn**	**16 12 02.0**	**-1.4**
AQDB	**Aquidauana**	**11.14**	**83**	*e*P	**Pn**	**16 12 04.3**	**+0.7**
MT02	**Curacav**	**11.43**	**196**	Pn	**Pn**	**16 12 06.9**	**-0.2**
ETMB	**Extrema**	**12.43**	**6**	*e*P	**Pn**	**16 12 18.3**	**-1.9**
BO02	**Sierra Bellavi**	**12.82**	**192**	Pn	**Pn**	**16 12 23.7**	**-1.4**
PTGB	**Pitanga**	**14.38**	**103**	*e*P	**P**	**16 12 48.4**	**+1.7**
ITAB	**Concordia**	**14.82**	**113**	*e*P	**P**	**16 12 52.0**	**+0.5**
CPSB	**Cacapava Do Su**	**14.99**	**126**	*e*P	**P**	**16 12 54.2**	**+0.8**
CLDB	**Colider**	**15.93**	**47**	*e*P	**Pn**	**16 13 02.9**	**-0.8**
ARAG	**Araguaiana, MT**	**16.20**	**69**	*e*P	**Pn**	**16 13 07.5**	**+0.4**
FRTB	**Fartura**	**16.58**	**97**	*e*P	**Pn**	**16 13 12.0**	**+0.3**
PLCA	**Paso Flores**	**18.61**	**187**	P	**Pn**	**16 13 34.7**	**-0.7**
	comp=E,0.1nm,0.3s,baz=22,slow=10,SNR=4.2						
PLCA	**Paso Flores**	**18.61**	**187**	P	**P**	**16 13 32.3**	**-0.7**
PLCA				IAmb	IAmb	16 14 09.6	
	comp=Z,55nm,2.0s						
PLCA	**Paso Flores**	**18.61**	**187**	*e*P	**Pn**	**16 13 34.8**	**-0.7**
IPMB	**Ipameri, GO**	**18.61**	**80**	*e*P	**P**	**16 13 33.1**	**-0.2**
PET01	**Itanhaem-SP**	**18.70**	**100**	*e*P	**P**	**16 13 34.5**	**+0.4**
VAO	**Valinhos**	**18.98**	**96**	*e*P	**P**	**16 13 37.2**	**0.0**
NPGB	**Novo Progresso**	**19.13**	**40**	*e*P	**P**	**16 13 37.9**	**-1.0**
BDFB	**Brasilia**	**19.57**	**74**	P	**P**	**16 13 43.5**	**-0.1**

SCO	**Scoresbysund**	**5.96**	**344**	*e*S		**Sn**	**16 12 44.8**	**+0.8**
SCO				*e*		**Pn**	**16 11 36.0**	**+0.7**
	baz=140,slow=9.3							
SCO				*i* P		**Pn**	**16 11 36.7**	**+1.4**
EKA	**Eskdalemuir Ar**	**11.73**	**138**	Pn		**Pn**	**16 12 54.1**	**-0.3**
	baz=321,slow=13,SNR=37							
EKA				Sn		Sn	16 14 53.8	-12
	baz=326,slow=14,SNR=1.7							
NOA	**NORSAR Array B**	**13.30**	**94**	Pn		**Pn**	**16 13 14.2**	**-1.5**
	0.0nm,0.3s,baz=299,slow=13,SNR=3.8							
NOA				LR		LR	16 18 29.0	
	comp=Z,50nm,18.1s,baz=305,slow=38							
SFJD	**Kangerlussuaq**	**13.81**	**294**	LR		LR	16 18 12.2	
	comp=Z,103nm,19.6s,baz=96,slow=35							
HFS	**Hagfors**	**14.81**	**94**	Pn		**Pn**	**16 13 35.4**	**-1.0**
	0.1nm,0.3s,baz=317,slow=10,SNR=1.7							
HFS				LR		LR	16 19 53.3	
	comp=Z,46nm,20.8s,baz=256,slow=39							
ARCES	**ARCESS Array B**	**16.80**	**55**	Pn		**P**	**16 14 04.1**	**-0.4**
	0.1nm,0.3s,baz=266,slow=13,SNR=2.1							
ARCES				LR		LR	16 19 07.7	
	comp=Z,49nm,20.5s,baz=192,slow=32							
FINES	**FINESS Array B**	**19.43**	**80**	P		**Pn**	**16 14 35.0**	**+0.5**
	0.1nm,0.3s,baz=280,slow=11,SNR=4.3							
FINES				LR		LR	16 21 16.9	
	comp=Z,63nm,21.9s,baz=258,slow=34							
FRB	**Frobisher Bay**	**21.91**	**291**	LR		LR	16 23 05.6	
	comp=Z,80nm,18.6s,baz=80,slow=36							
GERES	**GERESS Array B**	**22.84**	**120**	P		**P**	**16 15 09.9**	**-0.4**
	0.1nm,0.3s,baz=318,slow=7.0,SNR=1.7							
ESDC	**Sonseca Array**	**26.33**	**157**	P		**P**	**16 15 41.9**	**-1.3**
	0.2nm,0.4s,baz=340,slow=2.6,SNR=2.1							
AKASG	**Malin Array Be**	**27.62**	**99**	LR		LR	16 26 45.6	
	comp=Z,36nm,20.3s,baz=80,slow=36							
KBZ	**Khabaz**	**38.88**	**93**	LR		LR	16 33 44.9	
	comp=Z,44nm,18.3s,baz=336,slow=36							
ULM	**Lac du Bonnet**	**41.77**	**289**	LR		LR	16 35 01.9	
	comp=Z,51nm,19.3s,baz=77,slow=36							
MKAR	**Makanchi Array**	**52.41**	**59**	P		**P**	**16 19 22.6**	**+3.1**
	0.3nm,0.8s,baz=325,slow=4.2,SNR=2.8							
TORD	**Torodi Ar. Bea**	**53.22**	**157**	P		**P**	**16 19 26.1**	**+0.4**
	0.4nm,0.7s,baz=339,slow=7.7,SNR=3.0							
PDAR	**Pinedale Array**	**53.33**	**293**	P		**P**	**16 19 26.8**	**+0.2**
	0.3nm,0.6s,baz=64,slow=7.4,SNR=4.5							
TXAR	**Lajitas Array**	**62.49**	**281**	P		**P**	**16 20 30.0**	**-0.9**
	0.3nm,0.8s,baz=40,slow=7.1,SNR=3.1							
TXAR				LR		LR	16 47 07.9	
	comp=Z,48nm,18.3s,baz=0.0,slow=36							

TRN 24 16:34:41.0, 10°.02N×62°.50W, h64km, MD3.7, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**1.25**	**60**	*e*P	Pn	16 35 02.6	+0.2
TRN				*e*S	Sn	16 35 18.6	+0.2
TBH	**Brigand Hill**	**1.48**	**72**	*e*P	Pn	16 35 04.8	-0.8
TBH				*e*S	Sn	16 35 24.0	-0.1
TPR	**Prospect**	**2.05**	**56**	*e*P	Pn	16 35 13.4	+0.2
TPR				*e*S	Sn	16 35 37.8	0.0
GRGR	**Grenville**	**2.26**	**22**	*e*P	Pn	16 35 16.1	+0.1
GRGR				*e*S	Sn	16 35 42.5	-0.3
TOSP	**Speyside**	**2.31**	**57**	*e*P	Pn	16 35 17.4	+0.7
TOSP				*e*S	Sn	16 35 43.8	-0.3
GRHS	**Sauteurs**	**2.35**	**21**	*e*P	Pn	16 35 17.4	+0.2
GRHS				*e*S	Sn	16 35 43.5	-1.4
GRSS	**Sisters**	**2.42**	**21**	*e*P	Pn	16 35 19.2	+0.9
GRSS				*e*S	Sn	16 35 46.9	0.0
SVB	**Belmont**	**3.45**	**21**	*e*P	Pn	16 35 32.5	+0.1
SVB				*e*S	Sn	16 36 11.3	-0.8
SVV	**Soufriere Volc**	**3.51**	**21**	*e*P	Pn	16 35 34.2	+1.1
SVV				*e*S	Sn	16 36 12.1	-1.3
MCLT	**Moule a Chique**	**3.97**	**22**	*e*P	Pn	16 35 41.0	+1.5
MCLT				*e*S	Sn	16 36 23.0	-1.8
SLB	**Belfond**	**4.04**	**21**	*e*S	Sn	16 36 24.1	-2.5
SLAC	**Saint Lucia, A**	**4.16**	**22**	*e*P	Pn	16 35 42.3	+0.3
SLAC	**Saint Lucia, A**	**4.16**	**22**	*e*S	Sn	16 36 27.5	-1.9
SLBI	**Saint Lucia, B**	**4.25**	**20**	*e*P	Pn	16 35 43.8	+0.6
SLBI	**Saint Lucia, B**	**4.25**	**20**	*e*S	Sn	16 36 29.4	-2.1

*IDC **24** 16:34:49.0±1.0, 29°.32S×66°.73W, h0km, mb3.5/3, mb1 3.8/8, mb1mx3.6/35, mbtmp3.5/8, ML3.3/5, MS2.8/2, Ms1 2.9/2, ms1mx2.7/19, Error ellipse: s-maj=25.9km s-min=21.6km az=127.0*
*NEIC **24** 16:34:54.9±1.9, 29°.19S±0°.07×66°.68W±0°.03, h41km±8km, mb3.9/1, Md3.7(SJA), Error ellipse: s-maj=11.1km s-min=1.9km az=194.0*

ISC 24 16:34:54.4±0.7, 29°.20S±0°.07×66°.71W±0°.08, h35km, n35, σ1§09/36, mb3.5/3, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO01	**Juntas del Tor**	**3.04**	**254**	Pn	**Pn**	**16 35 42.2**	**+1.9**
AC05	**El Transito**	**3.14**	**276**		**Pn**	**16 35 43.0**	**+1.5**
AC02	**Maricunga**	**3.18**	**317**	Pn	**Pn**	**16 35 44.6**	**+2.1**
GO03	**Copiap**	**3.49**	**296**	Pn	**Pn**	**16 35 46.5**	**+0.2**
LCO	**Las Campanas**	**3.50**	**272**		**Pn**	**16 35 47.3**	**+0.8**
GO04	**Tololo Observa**	**3.68**	**254**	Pn	**Pn**	**16 35 50.3**	**+1.1**
CO03	**El Pedregal**	**3.81**	**244**		**Pn**	**16 35 52.3**	**+1.5**
AC04	**Llanos de Chal**	**3.96**	**284**	Pn	**Pn**	**16 35 51.9**	**-0.8**
AC01	**Pan de Azucar**	**4.60**	**311**	Pn	**Pn**	**16 36 00.8**	**-0.6**
GO02	**Mina Guanaco**	**4.77**	**327**	Pn	**Pn**	**16 36 04.7**	**+0.5**
VA03	**San Esteban**	**4.84**	**222**		**Pn**	**16 36 06.6**	**+1.7**
PEL	**Peldehue**	**5.20**	**220**	Pn	**Pn**	**16 36 11.0**	**+1.2**
ROC1	**El Roble**	**5.27**	**223**		**Pn**	**16 36 11.4**	**+0.5**
MT05	**Renca**	**5.41**	**218**	Pn	**Pn**	**16 36 13.9**	**+1.1**
MT02	**Curacav**	**5.54**	**222**	Pn	**Pn**	**16 36 15.3**	**+0.9**
PB14	**IPOC Station P**	**5.62**	**323**	Pn	**Pn**	**16 36 17.1**	**+1.2**
PB15	**IPOC Station P**	**6.46**	**337**	Pn	**Pn**	**16 36 27.8**	**+0.4**
BO02	**Sierra Bellavi**	**6.56**	**211**	Pn	**Pn**	**16 36 28.8**	**+0.3**
LVC	**Limon Verde**	**6.86**	**343**	Pn	**Pn**	**16 36 32.7**	**-0.2**
	0.7nm,0.3s,baz=179,slow=5.4,SNR=5.5						
LVC				LR	LR	16 39 19.4	
	comp=Z,75nm,18.9s,baz=196,slow=39						
LVC	**Limon Verde**	**6.86**	**343**		**Pn**	**16 36 32.3**	**-0.6**
PB06	**IPOC Station P**	**6.96**	**338**	Pn	**Pn**	**16 36 34.3**	**+0.1**
PB09	**IPOC Station P**	**7.72**	**342**	Pn	**Pn**	**16 36 45.7**	**+1.1**
PB07	**IPOC Station P**	**7.98**	**338**	Pn	**Pn**	**16 36 47.0**	**-1.1**
PB01	**IPOC Station P**	**8.50**	**340**	Pn	**Pn**	**16 36 56.0**	**+0.8**
CPUP	**Villa Florida**	**8.79**	**73**	Pn	**Pn**	**16 36 58.8**	**-0.2**
	0.3nm,0.3s,baz=261,slow=9.9,SNR=4.8						
CPUP				Sn	**Sn**	**16 38 38.5**	**+1.6**
	1.0nm,0.3s,baz=284,slow=15,SNR=1.7						
CPUP				Lg	Lg	16 39 29.0	
	0.6nm,0.3s,baz=283,slow=18,SNR=1.2						
PLCA	**Paso Flores**	**11.92**	**194**	Pn	**Pn**	**16 37 40.5**	**-1.4**
	0.0nm,0.3s,baz=52,slow=12,SNR=2.0						
PLCA				Lg	Lg	16 41 02.0	
	0.1nm,0.3s,baz=3.2,slow=23,SNR=1.6						
LPAZ	**La Paz**	**12.92**	**354**	Pn	**Pn**	**16 37 56.4**	**+0.2**
	0.1nm,0.3s,baz=153,slow=7.0,SNR=3.0						
LPAZ				LR	LR	16 43 25.3	
	comp=Z,36nm,18.6s,baz=112,slow=40						
SIV	**San Ignacio**	**14.14**	**23**	Pn	**Pn**	**16 38 13.9**	**+1.6**
	0.2nm,0.3s,baz=188,slow=22,SNR=3.3						
SAML	**Samuel**	**20.42**	**10**	P	**P**	**16 39 27.3**	**-1.4**
SAML				IAmb	IAmb	16 39 57.7	
	comp=Z,11nm,1.9s						
TXAR	**Lajitas Array**	**68.07**	**326**	P	**P**	**16 45 50.5**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=157,slow=7.5,SNR=2.4						
TORD	**Torodi Ar. Bea**	**78.25**	**68**	P	**P**	**16 46 49.8**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=235,slow=6.8,SNR=2.2						
PDAR	**Pinedale Array**	**81.74**	**330**	P	**P**	**16 47 09.8**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=126,slow=7.5,SNR=2.7						
WRA	**Warramunga Arr**	**127.09**	**205**	PKP	**PKPdf**	**16 53 55.1**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=166,slow=1.6,SNR=11						
ZALV	**Zalesovo Beam**	**147.76**	**32**	PKPbc	**PKPbc**	**16 54 35.9**	**+0.9**
	comp=Z,1.7nm,0.5s,baz=317,slow=3.7,SNR=8.4						
MKAR	**Makanchi Array**	**150.18**	**45**	PKPbc	**PKiKP**	**16 54 42.2**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=302,slow=2.4,SNR=17						

IDC 24 16:37:05.5±5.0, 6°.46S×128°.61E, h367km±60km, mb3.0/2, mb1 3.0/4, mb1mx2.7/28, mbtmp3.8/4, Error ellipse: s-maj=135.9km s-min=17.3km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.51**	**158**	P	P	16 40 13.6	-0.5
	0.5nm,0.3s,baz=334,slow=13,SNR=36						
WRA				S	S	16 42 49.4	-1.0
	0.2nm,0.3s,baz=336,slow=20,SNR=5.4						
ASAR	**Alice Springs**	**17.85**	**164**	P	P	16 40 50.1	0.0
	0.5nm,0.3s,baz=346,slow=12,SNR=42						
ASAR				S	S	16 43 57.1	+0.9
	0.2nm,0.3s,baz=347,slow=19,SNR=7.6						
STKA	**Stephens Creek**	**28.05**	**156**	P	P	16 42 25.0	+0.4
	0.8nm,0.5s,baz=342,slow=9.6,SNR=2.0						
MKAR	**Makanchi Array**	**67.02**	**327**	P	P	16 47 20.0	-0.1
	0.5nm,0.8s,baz=129,slow=8.0,SNR=5.0						

IDC 24 16:39:09.0±3.3, 22°.93N×11°.63W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.4/31, mbtmp3.6/3, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/38, Error ellipse: s-maj=107.0km s-min=41.8km az=83.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**15.96**	**125**	Pn	Pn	16 42 55.2	+0.2
	0.1nm,0.3s,baz=309,slow=13,SNR=8.2						
GERES	**GERESS Array B**	**32.72**	**32**	P	P	16 45 43.1	-0.2
	0.1nm,0.4s,baz=231,slow=8.4,SNR=4.2						
RCBR	**Riachuelo**	**37.15**	**223**	LR	LR	16 58 45.4	
	comp=Z,50nm,19.4s,baz=62,slow=32						
FINES	**FINESS Array B**	**46.35**	**24**	P	P	16 47 36.7	+0.1
	1.3nm,0.8s,baz=215,slow=4.6,SNR=3.7						
WRA	**Warramunga Arr**	**148.27**	**98**	PKPbc	PKPbc	16 58 57.1	-0.6
	0.4nm,0.7s,baz=291,slow=3.2,SNR=2.9						
ASAR	**Alice Springs**	**148.37**	**98**	PKPbc	PKPbc	16 58 57.3	-0.8
	0.3nm,0.6s,baz=302,slow=2.5,SNR=5.9						

*IDC **24** 16:41:41.2±2.3, 3°.31N×125°.32E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/31, mbtmp3.4/3, Error ellipse: s-maj=206.0km s-min=30.0km az=64.0*
ISC 24 16:41:46.3±1.3, 3°.3N±0°.1×125°.3E±0°.6, h35km, n4, σ1§45/5, mb3.4/3, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**3.68**	**356**	⇓*i* P	**Pn**	**16 42 39.7**	**-1.1**
KCP				*i* S	**Sn**	**16 43 24.4**	**+1.3**
WRA	**Warramunga Arr**	**24.75**	**159**	P	**P**	**16 47 04.0**	**-0.7**
	0.6nm,0.5s,baz=337,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**28.09**	**163**	P	**P**	**16 47 35.7**	**+0.8**
	0.1nm,0.3s,baz=346,slow=7.2,SNR=1.5						
MKAR	**Makanchi Array**	**57.11**	**326**	P	**P**	**16 51 29.4**	**0.0**
	0.3nm,0.6s,baz=116,slow=6.6,SNR=2.2						

*IDC **24** 16:54:39.8±0.8, 28°.80S×71°.35W, h0km, mb3.9/5, mb1 4.0/9, mb1mx3.8/32, mbtmp3.8/9, ML3.7/4, MS3.0/2, Ms1 2.9/2, ms1mx2.7/21, Error ellipse: s-maj=38.1km s-min=18.8km az=110.0*
*NEIC **24** 16:54:40.4±2.5, 28°.65S±0°.04×71°.67W±0°.05, h10km±1km, mb4.2/4, ML3.9(GUC), Error ellipse: s-maj=9.5km s-min=4.6km az=134.0*
*SJA **24** 16:54:40.3±0.6, 28°.52S×71°.92W, h47km±14km, ML4.3, MW4.2*
*GUC **24** 16:54:43.5±0.8, 28°.69S×71°.45W, h37km±3km, ML3.9*
ISC 24 16:54:39.4±1.6, 28°.62S±0°.02×71°.56W±0°.05, h3km±9km, n91, σ1§86/111, mb4.2/6, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.60**	**46**	⇑*e*P	**Pn**	**16 54 54.7**	**-0.1**
AC04				*e*S	**Sn**	**16 55 02.6**	**-2.4**
AC04				IAML		16 55 03.5	
	comp=E,9μm,0.2s						
AC04	**Llanos de Chal**	**0.60**	**46**		**Pn**	**16 54 54.6**	**-0.2**
AC04				Sg	**Sn**	**16 55 02.4**	**-2.7**
LCO	**Las Campanas**	**0.85**	**117**		**Pg**	**16 54 57.3**	**+1.6**
AC05	**El Transito**	**1.15**	**101**	⇑*e*P	**Pg**	**16 55 02.5**	**+1.1**
AC05				*e*S	**Sn**	**16 55 15.9**	**-3.0**
AC05				IAML		16 55 21.3	
	comp=N,2μm,0.3s						
AC05	**El Transito**	**1.15**	**101**		**Pg**	**16 55 02.5**	**+1.1**
AC05				Sg	**Sg**	**16 55 16.3**	**0.0**
GO03	**Copiap**	**1.56**	**49**	*e*P	**Pg**	**16 55 09.8**	**+0.5**
GO03				*e*S	**Sg**	**16 55 29.7**	**+0.3**
GO03				IAML		16 55 33.3	
	comp=E,3μm,0.5s						
GO03	**Copiap**	**1.56**	**49**		**Pg**	**16 55 10.0**	**+0.8**
GO03	**Copiap**	**1.56**	**49**	*e*P	**Pg**	**16 55 10.1**	**+0.8**
GO03				*e*S	**Sg**	**16 55 31.9**	**+2.5**
GO04	**Tololo Observa**	**1.68**	**157**	⇑*e*P	**Pn**	**16 55 10.9**	**+0.9**
GO04				*e*S	**Sn**	**16 55 31.2**	**-1.0**
GO04	**Tololo Observa**	**1.68**	**157**		**Pn**	**16 55 10.8**	**+0.8**
CO01	**Juntas del Tor**	**1.86**	**137**	⇑*e*P	**Pn**	**16 55 13.4**	**+0.9**
CO01				*e*S	**Sn**	**16 55 35.8**	**-0.8**
CO01				IAML		16 55 37.5	
	comp=N,3μm,0.5s						
CO01	**Juntas del Tor**	**1.86**	**137**		**Pb**	**16 55 14.1**	**-0.2**
CO03	**El Pedregal**	**2.33**	**161**	⇑*e*P	**Pn**	**16 55 19.9**	**+1.1**
CO03				*e*S	**Sn**	**16 55 47.5**	**-0.6**
CO03				IAML		16 55 55.6	
	comp=N,1μm,0.2s						
CO03	**El Pedregal**	**2.33**	**161**		**Pn**	**16 55 19.9**	**+1.1**
AROD	**Rodeo**	**2.38**	**131**	*e*P	**Pb**	**16 55 23.8**	**+0.6**
AROD				*e*S	**Sb**	**16 55 53.5**	**+0.4**
AC01	**Pan de Azucar**	**2.61**	**19**	*e*P	**Pn**	**16 55 23.4**	**+0.8**
AC01				*e*S	**Sb**	**16 55 58.2**	**-1.2**
AC01				IAML		16 56 12.4	
	comp=N,344nm,0.6s						
AC01	**Pan de Azucar**	**2.61**	**19**		**Pn**	**16 55 23.4**	**+0.8**
ACDV	**Cuesta del Vie**	**2.63**	**127**	*e*P	**Pb**	**16 55 27.6**	**+0.3**
ACDV				*e*S	**Sg**	**16 56 02.2**	**-1.6**
ACDV				IAML		16 56 08.7	
	comp=Z,560nm,0.7s						
AC02	**Maricunga**	**2.79**	**51**	⇑*e*P	**Pb**	**16 55 28.0**	**-2.3**
AC02				*e*S	**Sb**	**16 56 01.8**	**-3.4**
AC02				IAML		16 56 12.5	
	comp=N,762nm,0.5s						
AC02	**Maricunga**	**2.79**	**51**		**Pb**	**16 55 28.5**	**-1.8**
AGUA	**GUANDACOL**	**2.82**	**109**	*e*P	**Pb**	**16 55 30.6**	**+0.1**
AGUA				*e*S	**Sg**	**16 56 10.9**	**+0.9**
AGUA				IAML		16 56 21.0	
	comp=Z,668nm,0.4s						
ACCO	**Cerro Coronel**	**2.92**	**133**	*e*P	**Pb**	**16 55 31.4**	**-1.1**
ACCO				*e*S	**Sg**	**16 56 11.9**	**-1.5**
ACCO				IAML		16 56 20.0	
	comp=Z,741nm,0.6s						
VCA	**Vinchina**	**2.95**	**93**	*e*P	**Pb**	**16 55 33.2**	**+0.5**
VCA				*e*S	**Sg**	**16 56 13.4**	**-0.8**
VCA				IAML		16 56 20.2	
	comp=Z,668nm,0.6s						
RTLS	**Leoncito**	**3.72**	**149**	*e*P	**Pn**	**16 55 42.6**	**+4.5**
RTLS				IAML		16 56 38.9	
	comp=Z,411nm,0.7s						
RTLL	**Cerro Villicun**	**3.80**	**136**	*e*P	**Pn**	**16 55 42.9**	**+4.0**
RTLL				*e*S	**Sb**	**16 56 34.1**	**+0.5**
RTLL				IAML		16 56 43.8	
	comp=Z,199nm,0.4s						
GO02	**Mina Guanaco**	**3.87**	**27**		**Pn**	**16 55 41.9**	**+1.8**
ACLC	**CERRO LA CRUZ**	**4.11**	**102**	*e*P	**Pn**	**16 55 47.0**	**+3.6**
ACLC				*e*S	**Sb**	**16 56 42.7**	**-0.1**
ACLC				IAML		16 56 44.9	
	comp=Z,460nm,0.5s						
PB14	**IPOC Station P**	**4.11**	**15**		**Pn**	**16 55 43.5**	**0.0**
PB14	**IPOC Station P**	**4.11**	**15**	*e*P	**Pn**	**16 55 43.8**	**+0.3**
PB14				IAML		16 57 01.5	
	comp=Z,168nm,0.7s						
RTCV	**Cerro Valdivia**	**4.15**	**142**	*e*P	**Pn**	**16 55 48.1**	**+4.3**
VA03	**San Esteban**	**4.22**	**168**		**Pn**	**16 55 46.0**	**+1.3**
ROC1	**El Roble**	**4.36**	**174**		**Pn**	**16 55 48.0**	**+1.1**
ROC1	**El Roble**	**4.36**	**174**	*e*P	**Pn**	**16 55 47.6**	**+0.7**
VA01	**Torpederas**	**4.39**	**181**	Pn	**Pn**	**16 55 46.7**	**-0.3**
PEL	**Peldehue**	**4.57**	**171**		**Pn**	**16 55 50.6**	**+1.1**
PEL	**Peldehue**	**4.57**	**171**	*e*P	**Pn**	**16 55 52.4**	**+2.9**
PEL				*e*S	**Sb**	**16 56 50.4**	**-5.4**
MT02	**Curacav**	**4.64**	**176**		**Pn**	**16 55 50.3**	**-0.1**
APLL	**PUNTA DE LOS L**	**4.73**	**113**	*e*P	**Pn**	**16 55 54.5**	**+2.8**
APLL				IAML		16 57 00.1	
	comp=Z,153nm,1.0s						
MT05	**Renca**	**4.81**	**172**	Pn	**Pn**	**16 55 53.9**	**+1.2**
CYA	**Choya**	**5.07**	**89**	*e*P	**Pn**	**16 55 59.9**	**+3.5**
CYA				*e*S	**Sb**	**16 57 02.9**	**-7.2**
CYA				IAML		16 57 24.2	
	comp=Z,70nm,0.7s						
PB10	**IPOC Station P**	**5.17**	**10**	Pn	**Pn**	**16 55 57.1**	**-0.6**
PB10	**IPOC Station P**	**5.17**	**10**	*e*P	**Pn**	**16 55 57.5**	**-0.2**
PB15	**IPOC Station P**	**5.71**	**20**		**Pn**	**16 56 04.8**	**-0.6**
PB15	**IPOC Station P**	**5.71**	**20**	*e*P	**Pn**	**16 56 05.9**	**+0.6**
PB15				IAML		16 57 51.8	
	comp=Z,281nm,0.4s						
PB05	**IPOC Station P**	**5.87**	**12**	*e*P	**Pn**	**16 56 07.0**	**-0.5**
PB05				*e*S	**Sn**	**16 57 15.6**	**+0.1**
PB05				IAML		16 57 55.5	
	comp=Z,78nm,0.8s						
PB06	**IPOC Station P**	**6.16**	**17**	Pn	**Pn**	**16 56 11.0**	**-0.5**
PB06	**IPOC Station P**	**6.16**	**17**	*e*P	**Pn**	**16 56 11.3**	**-0.2**
PB06				IAML		16 58 06.4	
	comp=Z,78nm,0.7s						
BO02	**Sierra Bellavi**	**6.19**	**174**	Pn	**Pn**	**16 56 10.5**	**-1.3**
MRA	**San Martin**	**6.30**	**128**	*e*P	**Pn**	**16 56 15.7**	**+2.3**
MRA				*e*S	**Sn**	**16 57 28.8**	**+2.8**
MRA				IAML		16 57 36.8	
	comp=Z,115nm,1.0s						
GO05	**Huala**	**6.38**	**183**	Pn	**Pn**	**16 56 12.8**	**-1.6**
PB04	**IPOC Station P**	**6.39**	**12**	Pn	**Pn**	**16 56 13.8**	**-0.9**
LVC	**Limon Verde**	**6.45**	**22**	Pn	**Pn**	**16 56 16.3**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=184,slow=10,SNR=8.3						
LVC				Pg	Pg	16 56 37.8	-5.1
	comp=Z,3.3nm,0.3s,baz=239,slow=5.2,SNR=11						
LVC				Sn	**Sn**	**16 57 34.5**	**+4.5**
	comp=Z,2.7nm,0.3s,baz=7.4,slow=4.6,SNR=4.2						
LVC				Lg	Lg	16 57 55.2	
	comp=Z,7.8nm,0.3s,baz=247,slow=14,SNR=4.9						
LVC				LR	LR	16 58 50.4	
	comp=Z,121nm,18.5s,baz=248,slow=38						
LVC	**Limon Verde**	**6.45**	**22**		**Pn**	**16 56 15.9**	**+0.3**
TCA	**Tanti**	**6.62**	**116**	*e*P	**Pn**	**16 56 19.0**	**+1.3**
TCA				*e*S	Sn	16 57 40.6	+6.8
TCA				IAML		16 57 41.4	
	comp=Z,73nm,0.7s						
PB07	**IPOC Station P**	**7.03**	**13**	Pn	**Pn**	**16 56 22.0**	**-1.5**
PB09	**IPOC Station P**	**7.11**	**18**	Pn	**Pn**	**16 56 25.8**	**+1.2**
PB01	**IPOC Station P**	**7.78**	**14**	Pn	**Pn**	**16 56 31.8**	**-1.8**
PATCX	**Punta Patache**	**7.87**	**10**	Pn	**Pn**	**16 56 36.4**	**+1.4**
H03N1	**Juan Fernandez**	**7.93**	**231**	T	T	17 04 35.8	
	baz=59,slow=72,SNR=3391						
H03N2	**Juan Fernandez**	**7.94**	**231**	T	T	17 04 40.4	
	baz=59,slow=72,SNR=4799						
H03N3	**Juan Fernandez**	**7.95**	**231**	T	T	17 04 38.1	
	baz=59,slow=72,SNR=3126						
VA04	**Juan Fernndez**	**7.99**	**229**	Pn	**Pn**	**16 56 34.6**	**-1.8**
BI02	**San Fabin de**	**8.02**	**178**		**Pn**	**16 56 36.9**	**-0.1**
BI03	**Tigo**	**8.29**	**188**		**Pn**	**16 56 39.5**	**-1.1**
PB11	**IPOC Station P**	**8.99**	**12**	Pn	**Pn**	**16 56 48.9**	**-1.5**
PSGCX	**Pisagua**	**9.08**	**9**	Pn	**Pn**	**16 56 49.8**	**-1.8**
GO01	**Chusmiza**	**9.17**	**14**	Pn	**Pn**	**16 56 53.6**	**+0.5**
PB12	**IPOC Station P**	**10.03**	**7**	Pn	**Pn**	**16 57 03.3**	**-1.2**
LC01	**Cunco**	**10.25**	**181**	Pn	**Pn**	**16 57 05.6**	**-1.8**
PLCA	**Paso Flores**	**12.11**	**176**	Pn	**Pn**	**16 57 37.1**	**+4.2**
	comp=Z,0.1nm,0.3s,baz=269,slow=16,SNR=0.5						
PLCA				LR	LR	17 02 27.0	
	comp=Z,57nm,20.1s,baz=348,slow=39						
LPAZ	**La Paz**	**12.68**	**15**	Pn	**Pn**	**16 57 44.7**	**+3.4**
	comp=Z,0.4nm,0.3s,baz=201,slow=9.9,SNR=14						
LPAZ	**La Paz**	**12.68**	**15**		**Pn**	**16 57 40.6**	**-0.7**
CPUP	**Villa Florida**	**12.84**	**83**	Pn	**Pn**	**16 57 42.0**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=226,slow=18,SNR=2.0						
SIV	**San Ignacio**	**15.87**	**40**	Pn	**P**	**16 58 25.7**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=246,slow=12,SNR=4.4						
SAML	**Samuel**	**21.10**	**24**	P	**P**	**16 59 26.0**	**+0.7**
QSPA	**South Pole Qui**	**61.60**	**180**	P	**P**	**17 04 57.4**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=98,slow=1.4,SNR=5.8						
QSPA	**South Pole Qui**	**61.60**	**180**	P	**P**	**17 04 58.5**	**+0.4**
QSPA				IAmb	IAmb	17 05 26.3	
	comp=Z,1.2nm,1.0s						
VNDA	**Vanda**	**69.44**	**191**	P	**P**	**17 05 48.9**	**+0.5**

MMRI	**Maumere**	**2.09 320**	P	Pn	17 00 06.5	-0.1
EDFI	**Ende, Flores**	**2.40 308**	P	Pn	17 00 10.5	-0.5
EDFI			S	Sn	17 00 41.1	+0.6
BASI	**Baing, Sumba**	**2.98 270**	P	Pn	17 00 19.4	+0.5
PLAI	**Plampang** 0.3nm60nm,0.6s	**5.92 283**	P	Pn	17 00 58.9	-0.4
TWSI	**Taliwang, Sumb**	**6.80 282**	P	Pn	17 01 11.6	+0.2

*IDC **24** 17:03:52.6±1.6, 10°.19S×123°.97E, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.4/44, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=32.6km s-min=9.6km az=0.0*
*DJA **24** 17:03:55.2±0.5, 10°.5±4'×12°.4E±', h11km±4km, M4.1/9, mb4.4/3, MLv3.9/9*
ISC 24 17:03:53.0±0.8, 10°.40S±0°.07×123°.74E±0°.09, h10km, n14, σ2§13/19, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata** 4μm,0.3s,baz=71,slow=1.9,SNR=49	**0.20**	**339**	Pg	**Pg**	**17 03 58.4**	**+1.0**
BATI				Lg	Lg	17 04 02.5	
	8μm,0.3s,baz=107,slow=19,SNR=22						
BATI	**Baumata**	**0.20**	**339**	P	**Pg**	**17 03 58.2**	**+0.9**
SOEI	**Soe**	**0.82**	**39**	P	**Pn**	**17 04 10.6**	**-0.2**
MMRI	**Maumere**	**2.29**	**320**	P	**Pn**	**17 04 30.5**	**-0.4**
MMRI				S	**Sn**	**17 04 57.2**	**-2.0**
EDFI	**Ende, Flores**	**2.60**	**309**	P	**Pn**	**17 04 34.0**	**-1.2**
EDFI				S	**Sn**	**17 05 04.9**	**-2.1**
BASI	**Baing, Sumba**	**3.11**	**273**	P	**Pn**	**17 04 42.0**	**-0.2**
WBSI	**Waikabubak, Su**	**4.35**	**280**	P	**Pn**	**17 04 59.8**	**+0.6**
PLAI	**Plampang** 0.3nm38nm,0.5s	**6.08**	**284**	P	**Pn**	**17 05 23.4**	**+0.3**
TWSI	**Taliwang, Sumb** 0.1nm18nm,1.2s	**6.96**	**283**	P	**Pn**	**17 05 35.4**	**+0.3**
NLAI	**Namlea**	**7.86**	**25**	P	**Pn**	**17 05 48.2**	**+0.8**
FITZ	**Fitzroy Crossi** 0.8nm,0.3s,baz=2.9,slow=14,SNR=1.3	**7.87**	**167**	Pn	**Pn**	**17 05 51.4**	**+3.8**
FITZ				Sn	**Sn**	**17 07 18.4**	**+1.5**
	3.6nm,0.3s,baz=306,slow=16,SNR=7.9						
WRA	**Warramunga Arr** baz=309,slow=11,SNR=2.5	**13.95**	**134**	Pn	**Pn**	**17 07 11.4**	**+0.5**
WRA				Sn	**Sn**	**17 09 40.6**	**-5.4**
	1.2nm,0.3s,baz=288,slow=21,SNR=7.7						
ASAR	**Alice Springs** baz=322,slow=11,SNR=2.3	**16.38**	**145**	Pn	**Pn**	**17 07 43.8**	**+0.7**
ASAR				Sn	**Sn**	**17 10 41.5**	**-3.6**
	0.4nm,0.3s,baz=316,slow=23,SNR=6.6						
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=136,slow=6.6,SNR=3.7	**67.89**	**331**	P	**P**	**17 14 52.7**	**+0.9**

*SOME **24** 17:15:36.4, 43°.08N×80°.22E, h20km*
*NNC **24** 17:15:37.7±2.0, 43°.28N×80°.28E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=23.6km s-min=7.8km az=164.0*
*KRNET **24** 17:15:38.2±0.1, 43°.18N×80°.14E, h26km, mb3.4*
*IDC **24** 17:15:39.0±2.2, 43°.23N×80°.76E, h0km, mb1 3.6/5, mb1mx3.3/43, mbtmp3.6/5, ML3.2/5, Error ellipse: s-maj=30.3km s-min=12.0km az=141.0*
ISC 24 17:15:38.5±1.3, 43°.16N±0°.05×80°.24E±0°.04, h25km±10km, n52, σ1§92/88, 30C-15D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen** baz=27	**0.30**	**16**	*e*P	**Pb**	**17 15 44.6**	**-1.1**
KTMS				*e*S	**Sn**	**17 15 50.5**	**-2.7**
	baz=27						
KTMS	**Ketmen** 112nm,0.1s	**0.30**	**16**	*e*P	**Pb**	**17 15 44.6**	**-1.1**
KTMS				*e*S	**Sn**	**17 15 50.5**	**-2.7**
	1μm,0.2s						
SHLS	**Shalkode** baz=63	**0.57**	**270**	*e*P	Pb	17 15 43.6	-6.4
SHLS				*e*S	Sb	17 15 48.2	-10
	baz=63						
SHLS	**Shalkode** 717nm,0.2s	**0.57**	**270**	*e*P	Pb	17 15 43.6	-6.4
SHLS				*e*S	Sb	17 15 48.1	-10
	9μm,0.4s						
PDGK	**Podgornoye** 75nm,0.3s	**0.57**	**288**	⇓P	**Pb**	**17 15 48.7**	**-1.4**
PDGK				⇓S	**Sb**	**17 15 57.6**	**-0.3**
	952nm,0.1s						
UZB	**Uzynbulak** baz=68	**0.89**	**270**	*e*P	**Pb**	**17 15 53.5**	**-1.9**
UZB				*e*S	**Sb**	**17 16 05.9**	**-1.1**
	baz=68						
UZB	**Uzynbulak** 118nm,0.1s	**0.89**	**270**	*e*P	**Pb**	**17 15 53.5**	**-1.9**
UZB				*e*S	**Sb**	**17 16 05.9**	**-1.1**
	872nm,0.2s						
DJR	**Jarkent** 41nm,0.3s	**1.22**	**345**	*e*P	**Pb**	**17 16 00.7**	**-0.2**
DJR				*e*S	**Sb**	**17 16 18.4**	**+2.1**
	217nm,0.4s						
PRZ	**Przheval'sk** baz=42	**1.51**	**244**	⇑*i*P	**Pn**	**17 16 04.2**	**0.0**
PRZ				⇑*i*S	**Sn**	**17 16 23.1**	**0.0**
	baz=42						
KURS	**Kuram** 34nm,0.4s	**1.55**	**283**	*e*P	**Pb**	**17 16 05.3**	**-1.2**
KURS				*e*S	**Sb**	**17 16 25.9**	**+0.2**
	263nm,0.5s						
MNBS	**Baschi** 265nm,0.2s	**1.62**	**305**	*e*P	**Pb**	**17 16 06.7**	**-1.2**
MNBS				*e*S	**Sb**	**17 16 29.0**	**+1.0**
	440nm,0.3s						
ANVS	**Anan'yevo** baz=59	**1.93**	**260**	⇓*i*P	**Pb**	**17 16 11.2**	**-1.8**
ANVS				⇓*i*S	**Sn**	**17 16 33.7**	**+0.4**
	baz=59						
ARXS	**Arharly** 81nm,0.3s	**2.04**	**302**	*e*P	**Pb**	**17 16 13.9**	**-1.0**
ARXS				*e*S	**Sb**	**17 16 41.6**	**+1.6**
	334nm,0.4s						
KAPS	**Kapalarasan** 42nm,0.2s	**2.22**	**344**	*e*P	**Pb**	**17 16 16.9**	**-1.1**
KAPS				*e*S	**Sb**	**17 16 46.4**	**+1.3**
	215nm,0.3s						
KOTS	**Kotyrbulak** 52nm,0.2s	**2.29**	**273**	*e*P	**Pb**	**17 16 17.6**	**-1.6**
KOTS				*e*S	**Sb**	**17 16 47.7**	**+0.6**
	863nm,0.4s						
TARG	**Taragay, Kyrgy** baz=31	**2.30**	**232**	⇑*i*P	**Pn**	**17 16 15.7**	**+0.5**
TARG				⇑*i*S	**Sn**	**17 16 43.6**	**+0.7**
	baz=31						
MDOK	**Medeo** 14nm,0.2s	**2.34**	**271**	*e*P	**Pb**	**17 16 18.1**	**-1.9**
MDOK				*e*S	**Sb**	**17 16 48.9**	**+0.4**
	211nm,0.7s						
MDOK	**Medeo** 23nm,0.6s	**2.34**	**271**	⇓Pn	**Pb**	**17 16 17.7**	**-2.3**
MDOK				⇑Lg	Lg	17 16 49.9	
	313nm,0.6s						
KNDC	**Almaty** 45nm,0.7s	**2.40**	**273**	⇑Pn	**Pb**	**17 16 19.3**	**-1.7**
KNDC				⇑Lg	Lg	17 16 52.1	
	413nm,0.8s						
TNSS	**Tian-Shan** 19nm,0.5s	**2.42**	**268**	*e*P	**Pb**	**17 16 19.6**	**-1.9**
TNSS				*e*S	**Sb**	**17 16 51.4**	**+0.4**
	345nm,0.6s						
AAA	**Alma-Ata** 45nm,0.3s	**2.43**	**272**	*e*P	**Pb**	**17 16 20.2**	**-1.4**
AAA				*e*S	**Sb**	**17 16 51.9**	**+0.7**
	200nm,0.3s						
CHKK	**Chushkaly** 27nm,0.4s	**2.47**	**288**	*e*P	**Pb**	**17 16 20.9**	**-1.2**
CHKK				*e*S	**Sb**	**17 16 52.9**	**+0.8**
	136nm,0.3s						
KDJ	**Kajisay** baz=45	**2.48**	**247**	⇑*i*P	**Pn**	**17 16 18.4**	**+0.9**
KDJ				⇑*i*S	**Sn**	**17 16 46.6**	**-0.4**
	baz=45						
KTBS	**Karatobe** 30nm,0.5s	**2.65**	**283**	*e*P	**Pb**	**17 16 24.6**	**-0.7**
KTBS				*e*S	**Sb**	**17 16 58.9**	**+1.5**
	312nm,0.6s						
IZV	**Izvestkoviy** 16nm,0.2s	**2.66**	**269**	*e*P	**Pb**	**17 16 23.8**	**-1.7**
IZV				*e*S	**Sb**	**17 16 58.4**	**+0.6**
	259nm,0.6s						
MTBS	**Maitube**	**2.79**	**271**	*e*P	**Pb**	**17 16 25.9**	**-1.8**
	9.2nm,0.3s						
MTBS				*e*S	**Sb**	**17 17 01.4**	**-0.1**
	103nm,0.6s						
KUU	**Kurty** 18nm,0.4s	**2.93**	**286**	*e*P	**Pb**	**17 16 29.1**	**-1.0**
KUU				*e*S	**Sb**	**17 17 06.9**	**+1.4**
	103nm,0.4s						
ULHL	**Ulahol** baz=53	**3.08**	**254**	⇑*i*P	**Pn**	**17 16 27.1**	**+1.3**
ULHL				⇑*i*S	**Sn**	**17 17 01.3**	**-0.7**
	baz=53						
KST	**Kastek** 28nm,0.5s	**3.13**	**269**	*e*P	**Pb**	**17 16 32.4**	**-1.2**
KST				*e*S	**Sb**	**17 17 12.8**	**+1.4**
	149nm,0.7s						
KRBS	**Karabastau** 13nm,0.8s	**3.37**	**281**	*e*P	**Pb**	**17 16 37.0**	**-0.6**
KRBS				*e*S	**Sb**	**17 17 20.2**	**+2.1**
	33nm,0.3s						
TKM2	**Tokmak 2** baz=67	**3.41**	**268**	⇑*i*P	**Pn**	**17 16 32.2**	**+1.9**
TKM2				⇑*i*S	**Sn**	**17 17 10.1**	**0.0**
	baz=67						
TKM2	**Tokmak 2** 1.2nm,0.3s	**3.41**	**268**	⇓Pn	**Pb**	**17 16 35.2**	**-3.2**
TKM2				⇑Pg	Pn	17 16 39.8	+10
	11nm,0.5s						
TKM2				⇓Lg	Lg	17 17 21.8	
	56nm,0.6s						
KZA	**Kyzart** baz=55	**3.84**	**255**	⇑*i*P	**Pn**	**17 16 37.7**	**+1.4**
KZA				⇑*i*S	**Sn**	**17 17 20.3**	**-0.5**
	baz=55						
MAKZ	**Makanchi** 2.3nm,0.2s	**3.85**	**18**	⇑Pn	**Pn**	**17 16 38.3**	**+2.1**
MAKZ				⇑Lg	Lg	17 17 39.0	
	20nm,0.7s						
MK31	**Makanchi Array** 3.8nm,0.2s,baz=201,slow=13,SNR=486	**3.92**	**21**	⇓Pn	**Pn**	**17 16 38.8**	**+1.8**
MK31				⇑Sn	**Sn**	**17 17 23.0**	**+0.8**
	14nm,0.6s						
MK31				⇑Lg	Lg	17 17 39.0	
	11nm,0.5s,baz=202,slow=27,SNR=3.6						
MKAR	**Makanchi Array** 6.4nm,0.3s,baz=201,slow=12,SNR=452	**3.92**	**21**	Pn	**Pn**	**17 16 39.3**	**+2.2**
MKAR				Pg	**Pb**	**17 16 48.1**	**+1.3**
	1.7nm,0.3s,baz=203,slow=13,SNR=8.1						
MKAR				Sn	**Sn**	**17 17 14.4**	**-7.8**
	3.1nm,0.3s,baz=205,slow=16,SNR=3.7						
MKAR				Lg	Lg	17 17 39.7	
	5.2nm,0.3s,baz=198,slow=29,SNR=2.7						
KBK	**Karagaybulak** baz=64	**3.92**	**264**	⇓*i*P	**Pn**	**17 16 39.1**	**+1.8**
KBK				⇓*i*S	**Sn**	**17 17 21.7**	**-0.8**
	baz=64						
CHMS	**Chumysh** baz=69	**4.02**	**270**	⇑*i*P	**Pn**	**17 16 39.7**	**+1.1**
CHMS				⇑*i*S	**Sn**	**17 17 23.5**	**-1.4**
	baz=69						
AAK	**Ala-Archa** 2.0nm,0.3s,baz=96,slow=9.2,SNR=6.0	**4.25**	**265**	Pn	**Pb**	**17 16 54.7**	**+2.0**
AAK				Sn	**Sb**	**17 17 47.6**	**+4.0**
	2.8nm,0.3s,baz=285,slow=17,SNR=6.9						
AAK	**Ala-Archa** baz=64	**4.25**	**265**	⇑*i*P	**Pn**	**17 16 43.8**	**+2.0**
AAK				⇑*i*S	**Sn**	**17 17 29.9**	**-0.8**
	baz=64						
AAK	**Ala-Archa** 5.4nm,0.5s	**4.25**	**265**	⇓Pg	**Pb**	**17 16 54.3**	**+1.6**
AAK				⇓Lg	Lg	17 17 48.9	
	31nm,0.7s						
UCH	**Uchtor** baz=59	**4.32**	**260**	⇑*i*P	**Pn**	**17 16 44.5**	**+1.5**
UCH				⇑*i*S	**Sn**	**17 17 31.4**	**-1.4**
	baz=59						
EKS2	**Erkin-Say** baz=66	**4.77**	**266**	⇑*i*P	**Pn**	**17 16 50.9**	**+2.0**
EKS2				⇑*i*S	**Sn**	**17 17 42.3**	**-1.2**
	baz=66						
BTLS	**Baital** 2.4nm,0.4s	**4.84**	**295**	*e*P	**Pb**	**17 17 04.0**	**+1.4**
BTLS				*e*S	**Sb**	**17 18 06.6**	**+6.2**
	9.8nm,0.8s						
AML	**Almayashu** baz=60	**4.94**	**260**	⇓*i*P	**Pn**	**17 16 53.1**	**+1.7**
AML				⇓*i*S	**Sn**	**17 17 46.3**	**-1.6**
	baz=60						
ZSN	**Zaisan** 4.8nm,0.4s	**5.39**	**36**	*e*P	**Pb**	**17 17 14.4**	**+2.4**
ZSN				*e*S	Sb	17 18 25.1	+8.9
	25nm,0.5s						
KK31	**Karatay Array** 0.7nm,0.4s,baz=78,slow=16,SNR=11	**7.12**	**273**	Pg	Pb	17 17 46.6	+5.2
KK31				⇓Lg	Lg	17 19 20.8	
	4.5nm,0.5s,baz=74,slow=30,SNR=5.2						
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=231,slow=33,SNR=1.8	**7.56**	**352**	Pn	**Pn**	**17 17 29.0**	**+2.0**
KURBB				Lg	Lg	17 19 38.9	
	0.3nm,0.3s,baz=166,slow=24,SNR=8.2						
KURK	**Kurchatov** 2.9nm,0.8s	**7.64**	**352**	⇑Pg	**Pb**	**17 17 46.9**	**-3.2**
KURK				⇑Lg	Lg	17 19 40.4	
	24nm,0.9s						
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=199,slow=13,SNR=2.6	**11.21**	**14**	Pn	**Pn**	**17 18 17.8**	**+0.8**
ZALV				Sn	**Sn**	**17 20 18.4**	**-3.0**
	0.2nm,0.3s,baz=198,slow=23,SNR=2.6						
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=115,slow=38,SNR=4.2	**11.86**	**330**	Lg	Lg	17 21 59.9	
SONM	**Songino Array** 0.2nm,0.3s,baz=274,slow=11,SNR=3.2	**18.88**	**67**	P	**Pn**	**17 19 55.9**	**-1.8**

*IDC **24** 17:24:06.3±6.5, 36°.41N×71°.00E, h176km±61km, mb3.0/3, mb1 3.2/8, mb1mx2.9/47, mbtmp3.7/8, Error ellipse: s-maj=49.0km s-min=28.0km az=15.0*
*NNC **24** 17:24:13.1±4.8, 36°.97N×70°.76E, h184km±68km, mb2.9, mpv3.8, Error ellipse: s-maj=46.3km s-min=27.8km az=179.0*
ISC 24 17:24:08.2±0.8, 36°.59N±0°.07×70°.92E±0°.08, h200km, n21, σ1§61/26, mb3.2/3, 4C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.73**	**135**	*e*P	**Pn**	**17 25 33.0**	**+1.0**
THN				*e*S	**Sn**	**17 26 35.0**	**-3.2**
AML	**Almayashu** SNR=77	**5.94**	**20**	P	**Pn**	**17 25 35.6**	**+0.7**
UCH	**Uchtor** SNR=20	**6.28**	**25**	P	**Pn**	**17 25 40.2**	**+0.8**
EKS2	**Erkin-Say** SNR=17	**6.45**	**19**	P	**Pn**	**17 25 42.2**	**+0.9**
KK31	**Karatay Array** 1.2nm,0.2s,baz=179,slow=13,SNR=188	**6.51**	**357**	⇓P	**Pn**	**17 25 42.6**	**+0.6**
KK31				⇓S	**Sn**	**17 26 52.8**	**-3.7**
	8.4nm,0.3s,baz=180,slow=21,SNR=5.5						
AAK	**Ala-Archa** 2.9nm,0.3s,baz=161,slow=5.1,SNR=9.0	**6.64**	**23**	P	**Pn**	**17 25 44.9**	**+1.2**
AAK				S	**Sn**	**17 26 57.9**	**-1.8**
	1.7nm,0.3s,baz=146,slow=22,SNR=12						
AAK	**Ala-Archa** SNR=5.3	**6.64**	**23**	P	**Pn**	**17 25 45.0**	**+1.2**
AAK	**Ala-Archa** 2.2nm,0.3s	**6.64**	**23**	⇑P	**Pn**	**17 25 44.8**	**+1.0**
AAK				⇓S	**Sn**	**17 26 58.2**	**-1.4**
	14nm,0.6s						
USP	**Ospenovka** SNR=7.7	**7.21**	**21**	P	**Pn**	**17 25 52.0**	**+0.9**
TKM2	**Tokmak 2** SNR=23	**7.28**	**28**	P	**Pn**	**17 25 53.0**	**+0.8**
TKM2	**Tokmak 2** 8.5nm,0.5s	**7.28**	**28**	⇑P	**Pn**	**17 25 52.8**	**+0.6**
TKM2				⇓S	**Sn**	**17 27 12.1**	**-2.6**
	2.9nm,0.6s						
GEYT	**Alibeck** 0.3nm,0.3s,baz=107,slow=28,SNR=2.1	**10.29**	**281**	S	**Sn**	**17 28 24.8**	**-1.5**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=230,slow=11,SNR=5.1	**13.26**	**36**	P	**Pn**	**17 27 09.6**	**+0.8**
AB31	**Akbulak array** 0.3nm,0.4s	**14.97**	**331**	⇑P	**Pn**	**17 27 30.1**	**+0.2**
BVAR	**Borovoye Array** 0.4nm,0.3s,baz=164,slow=13,SNR=5.2	**16.44**	**359**	P	**Pn**	**17 27 50.0**	**+2.4**
AKTO	**Aktyubinsk** 0.7nm,0.3s,baz=138,slow=8.8,SNR=8.2	**16.67**	**330**	P	**Pn**	**17 27 52.2**	**+1.8**
AKTO	**Aktyubinsk** 2.6nm,0.6s	**16.67**	**330**	⇓P	**Pn**	**17 27 51.5**	**+1.1**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=223,slow=12,SNR=8.6	**19.86**	**25**	P	**P**	**17 28 25.3**	**+1.5**
TORD	**Torodi Ar. Bea** 0.2nm,0.5s,baz=42,slow=4.7,SNR=1.7	**65.66**	**269**	P	**P**	**17 34 31.5**	**+0.1**
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=325,slow=4.9,SNR=1.8	**82.09**	**122**	P	**P**	**17 36 06.4**	**-0.1**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=311,slow=4.5,SNR=10	**84.36**	**125**	P	**P**	**17 36 18.1**	**+0.1**

*SOME **24** 17:44:37.7, 43°.12N×80°.27E, h20km*
*NNC **24** 17:44:38.8±1.3, 43°.12N×80°.23E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=15.0km s-min=6.9km az=8.0*
*KRNET **24** 17:44:39.0±0.1, 43°.13N×80°.22E, h25km, mb3.1*
*IDC **24** 17:44:40.2±2.4, 43°.19N×80°.81E, h0km, mb1 3.3/5, mb1mx3.1/48, mbtmp3.3/5, ML3.0/5, Error ellipse: s-maj=31.4km s-min=13.9km az=142.0*
ISC 24 17:44:39.3±0.9, 43°.11N±0°.05×80°.15E±0°.04, h10km, n52, σ1§85/89, 29C-16D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen** baz=15	**0.36**	**23**	*e*P	**Pg**	**17 44 45.9**	**-0.7**
KTMS				*e*S	**Sg**	**17 44 51.8**	**+0.3**
	baz=15						
KTMS	**Ketmen** 74nm,0.1s	**0.36**	**23**	*e*P	**Pg**	**17 44 45.9**	**-0.7**
KTMS				*e*S	**Sg**	**17 44 51.8**	**+0.3**
	1μm,0.2s						
SHLS	**Shalkode** baz=76	**0.51**	**275**	*e*P	Pg	17 44 44.9	-4.4
SHLS				*e*S	**Sg**	**17 44 49.9**	**-6.1**
	baz=76						
SHLS	**Shalkode** 624nm,0.1s	**0.51**	**275**	*e*P	Pg	17 44 44.9	-4.4
SHLS				*e*S	**Sg**	**17 44 49.9**	**-6.1**
	5μm,0.4s						
PDGK	**Podgornoye** 42nm,0.3s	**0.53**	**294**	⇑P	**Pg**	**17 44 49.9**	**+0.2**
PDGK				⇓S	**Sg**	**17 44 58.6**	**+1.9**
	186nm,0.4s						
UZB	**Uzynbulak** baz=71	**0.83**	**273**	*e*P	**Pg**	**17 44 54.8**	**-0.5**
UZB				*e*S	**Sg**	**17 45 07.1**	**+1.0**
	baz=71						
UZB	**Uzynbulak** 53nm,0.2s	**0.83**	**273**	*e*P	**Pg**	**17 44 54.8**	**-0.5**
UZB				*e*S	**Sg**	**17 45 07.1**	**+1.0**
	840nm,0.3s						
SATY	**Saty** 92nm,0.1s	**1.28**	**268**	*e*P	**Pn**	**17 45 02.7**	**-0.7**
SATY				*e*S	**Sb**	**17 45 21.2**	**+1.0**
	408nm,0.1s						
PRZ	**Przheval'sk** baz=45	**1.44**	**245**	⇓*e*P	**Pn**	**17 45 05.9**	**+0.3**
PRZ				⇓*i*S	**Sg**	**17 45 26.3**	**+0.8**
	baz=45						
KURS	**Kuram** 20nm,0.5s	**1.50**	**285**	*e*P	**Pn**	**17 45 06.5**	**+0.2**
KURS				*e*S	**Sb**	**17 45 27.2**	**+0.9**
	148nm,0.5s						
MNBS	**Baschi** 87nm,0.2s	**1.60**	**308**	*e*P	**Pn**	**17 45 08.0**	**+0.2**
MNBS				*e*S	**Sb**	**17 45 30.0**	**+0.6**
	310nm,0.3s						
ANVS	**Anan'yevo** baz=60	**1.85**	**261**	⇓*i*P	**Pn**	**17 45 12.5**	**+1.2**
ANVS				⇓*i*S	**Sb**	**17 45 37.0**	**+0.3**
	baz=60						
ARXS	**Arharly** 42nm,0.3s	**2.02**	**304**	*e*P	**Pn**	**17 45 15.0**	**+1.5**
ARXS				*e*S	**Sb**	**17 45 42.3**	**+1.0**
	184nm,0.4s						
TARG	**Taragay, Kyrgy** baz=33	**2.22**	**232**	⇑*i*P	**Pn**	**17 45 17.0**	**+0.4**
TARG				⇑*i*S	**Sn**	**17 45 45.7**	**+1.4**
	baz=33						
KOTS	**Kotyrbulak** 32nm,0.2s	**2.23**	**274**	*e*P	**Pb**	**17 45 19.0**	**-0.8**
KOTS				*e*S	**Sb**	**17 45 48.9**	**+1.4**
	490nm,0.4s						
KAPS	**Kapalarasan** 39nm,0.5s	**2.25**	**346**	*e*P	**Pn**	**17 45 18.3**	**+1.6**
KAPS				*e*S	**Sb**	**17 45 47.3**	**-0.6**
	180nm,0.3s						
TDK	**Taldyqorghan** 108nm,0.6s	**2.27**	**327**	*e*P	**Pb**	**17 45 19.5**	**-0.9**
TDK				*e*S	**Sb**	**17 45 49.8**	**+1.2**
	396nm,0.5s						
MDOK	**Medeo** 7.5nm,0.2s	**2.27**	**272**	*e*P	**Pb**	**17 45 20.6**	**+0.1**
MDOK				*e*S	**Sb**	**17 45 51.3**	**+2.5**
	128nm,0.4s						
MDOK	**Medeo** 6.8nm,0.4s	**2.27**	**272**	⇑Pn	**Pn**	**17 45 18.9**	**+1.8**
MDOK				⇓Lg	Lg	17 45 51.3	
	84nm,0.5s						
KNDC	**Almaty** 24nm,0.6s	**2.33**	**274**	⇑Pn	**Pb**	**17 45 20.6**	**-0.9**
KNDC				⇑Lg	Lg	17 45 53.7	
	136nm,0.5s						
TNSS	**Tian-Shan** 11nm,0.2s	**2.35**	**269**	*e*P	**Pb**	**17 45 20.8**	**-1.2**
TNSS				*e*S	**Sb**	**17 45 52.3**	**+1.1**
	180nm,0.6s						
AAA	**Alma-Ata** 15nm,0.2s	**2.37**	**273**	*e*P	**Pb**	**17 45 22.1**	**0.0**
AAA				*e*S	**Sb**	**17 45 54.3**	**+2.8**
	115nm,0.4s						
KDJ	**Kajisay** baz=47	**2.40**	**247**	⇑*i*P	**Pn**	**17 45 19.6**	**+0.7**
KDJ				⇑*i*S	**Sn**	**17 45 49.2**	**+0.7**
	baz=47						
CHKK	**Chushkaly** 14nm,0.4s	**2.42**	**289**	*e*P	**Pb**	**17 45 22.9**	**0.0**
CHKK				*e*S	**Sb**	**17 45 55.1**	**+2.2**
	77nm,0.3s						
IZV	**Izvestkoviy** 6.4nm,0.2s	**2.59**	**270**	*e*P	**Pb**	**17 45 25.4**	**-0.6**
IZV				*e*S	**Sb**	**17 46 00.0**	**+2.0**
	140nm,0.5s						
KTBS	**Karatobe** 16nm,0.5s	**2.60**	**285**	*e*P	**Pb**	**17 45 25.4**	**-0.6**
KTBS				*e*S	**Sb**	**17 46 00.0**	**+2.0**
	172nm,0.6s						
MTBS	**Maitube** 6.8nm,0.3s	**2.73**	**272**	*e*P	**Pb**	**17 45 27.6**	**-0.6**
MTBS				*e*S	**Sb**	**17 46 03.2**	**+1.5**
	55nm,0.3s						
KUU	**Kurty** 10.0nm,0.4s	**2.88**	**287**	*e*P	**Pb**	**17 45 30.4**	**-0.4**
KUU				*e*S	**Sb**	**17 46 08.2**	**+2.1**
	59nm,0.5s						
ULHL	**Ulahol** baz=55	**3.01**	**255**	⇓*i*P	**Pn**	**17 45 28.4**	**+1.1**
ULHL				⇓*i*S	**Sn**	**17 46 04.4**	**+0.9**
	baz=55						
KST	**Kastek** 17nm,0.4s	**3.07**	**270**	*e*P	**Pb**	**17 45 33.8**	**-0.3**
KST				*e*S	**Sb**	**17 46 14.1**	**+2.4**
	82nm,0.7s						
KRBS	**Karabastau** 7.0nm,0.6s	**3.31**	**282**	*e*P	**Pb**	**17 45 38.2**	**0.0**
KRBS				*e*S	**Sb**	**17 46 21.6**	**+2.9**
	11nm,0.2s						
TKM2	**Tokmak 2** baz=68	**3.35**	**268**	⇑*i*P	**Pn**	**17 45 33.8**	**+1.9**
TKM2				⇑*i*S	**Sn**	**17 46 12.5**	**+0.7**
	baz=68						
TKM2	**Tokmak 2** 7.1nm,0.6s	**3.35**	**268**	⇑Pg	**Pb**	**17 45 40.8**	**+1.9**
TKM2				⇑Lg	Lg	17 46 23.6	
	32nm,0.6s						
KZA	**Kyzart** baz=56	**3.76**	**256**	⇑*i*P	**Pn**	**17 45 39.1**	**+1.3**
KZA				⇑*i*S	**Sn**	**17 46 22.8**	**+0.4**
	baz=56						
KBK	**Karagaybulak** baz=65	**3.85**	**265**	⇓*e*P	**Pn**	**17 45 40.7**	**+1.9**
KBK				⇓*i*S	**Sn**	**17 46 25.1**	**+0.9**
	baz=65						
MAKZ	**Makanchi** 2.3nm,0.2s	**3.92**	**19**	⇑Pn	**Pn**	**17 45 39.8**	**+0.2**
MAKZ				⇑Lg	Lg	17 46 38.9	
	15nm,0.7s						
CHMS	**Chumysh** baz=70

	baz=70								
MK31	**Makanchi Array**	**3.98**	**22**	⇑Pn	**Pn**	**17 45 40.1**	**-0.3**		
	2.4nm,0.2s,baz=200,slow=12,SNR=356								
MK31				⇓Lg	Lg	17 46 41.5			
	4.3nm,0.2s,baz=193,slow=27								
MKAR	**Makanchi Array**	**3.98**	**22**	Pn	**Pn**	**17 45 40.1**	**-0.3**		
	7.1nm,0.3s,baz=201,slow=12,SNR=402								
MKAR				Sn	Sn	17 46 16.5	-11		
	2.6nm,0.3s,baz=202,slow=16,SNR=4.1								
MKAR				Lg	Lg	17 46 40.9			
	4.3nm,0.3s,baz=199,slow=30,SNR=7.0								
FRU1	**Bishkek**	**4.07**	**268**	⇑*iP*	**Pn**	**17 45 43.7**	**+2.1**		
	baz=67								
FRU1				⇑*iS*	**Sn**	**17 46 30.4**	**+1.1**		
	baz=67								
USP	**Ospenovka**	**4.14**	**274**	⇓*iP*	**Pn**	**17 45 44.6**	**+2.0**		
	baz=74								
USP				⇓*iS*	**Sn**	**17 46 31.3**	**+0.3**		
	baz=74								
AAK	**Ala-Archa**	**4.19**	**265**	Pn	**Pb**	**17 45 56.0**	**+2.8**		
	1.0nm,0.3s,baz=111,slow=11,SNR=3.0								
AAK				Sn	**Sb**	**17 46 48.8**	**+5.0**		
	1.1nm,0.3s,baz=256,slow=19,SNR=5.8								
AAK	**Ala-Archa**	**4.19**	**265**	⇑*iP*	**Pn**	**17 45 45.3**	**+1.9**		
	baz=65								
AAK				⇑*iS*	**Sn**	**17 46 33.2**	**+0.8**		
	baz=65								
AAK	**Ala-Archa**	**4.19**	**265**	⇑Pg	**Pg**	**17 45 56.8**	**-2.7**		
	3.9nm,0.6s								
AAK				⇑Lg	Lg	17 46 49.0			
	18nm,0.8s								
ARLS	**Aral**	**4.49**	**256**	⇑*iP*	**Pn**	**17 45 48.9**	**+1.4**		
	baz=56								
ARLS				⇑*iS*	**Sn**	**17 46 39.9**	**0.0**		
	baz=56								
AML	**Almayashu**	**4.87**	**261**	⇓*iP*	**Pn**	**17 45 54.5**	**+1.6**		
	baz=60								
AML				⇓*iS*	**Sn**	**17 46 49.5**	**0.0**		
	baz=60								
ZSN	**Zaisan**	**5.47**	**36**	*eP*	**Pb**	**17 46 14.7**	**-0.1**		
	2.6nm,0.4s								
ZSN				*eS*	**Sb**	**17 47 24.4**	**+4.0**		
	17nm,0.7s								
KK31	**Karatay Array**	**7.06**	**273**	Pg	**Pg**	**17 46 51.1**	**-3.3**		
	0.6nm,0.5s,baz=82,slow=16,SNR=7.5								
KK31				⇑Lg	Lg	17 48 20.3			
	4.1nm,0.7s,baz=78,slow=26,SNR=5.5								
KURBB	**Kurchatov Arra**	**7.60**	**352**	Pn	**Pn**	**17 46 34.2**	**+4.2**		
	0.1nm,0.3s,baz=177,slow=12,SNR=3.1								
KURBB				Lg	Lg	17 48 39.0			
	0.2nm,0.3s,baz=185,slow=33,SNR=3.5								
KURK	**Kurchatov**	**7.68**	**353**	⇑Pn	Pn	17 46 38.3	+7.2		
	2.3nm,0.9s								
KURK				⇓Lg	Lg	17 48 41.9			
	16nm,0.9s								
ZALV	**Zalesovo Beam**	**11.27**	**14**	Pn	**Pn**	**17 47 19.4**	**-1.0**		
	0.2nm,0.3s,baz=199,slow=16,SNR=1.7								
SONM	**Songino Array**	**18.96**	**66**	P	**P**	**17 48 57.2**	**-3.5**		
	0.1nm,0.3s,baz=272,slow=11,SNR=2.7								

*THR **24** 17:59:57.6±0.3,33°.79N×45°.77E,h17km±5km, ML3.3*
*TEH **24** 17:59:58.4,33°.70N×45°.77E,h18km, ML3.5*
IDC 24 17:59:58.7±1.9,33°.72N±0°.05×45°.8E±0°.1,h19km,n33,
σ1§62/35,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGHG	**Ghaleghazi**	**0.89**	**46**	*e*Pg	**Pn**	**18 00 16.1**	**-0.3**
IGHG				*e*		18 00 39.3	
IDHR	**Dehrash**	**1.10**	**26**	*e*Pg	**Pg**	**18 00 19.3**	**-0.8**
IDHR				*e*		18 00 40.2	
KCHF	**Cheshme Sefid,**	**1.18**	**61**	*e*Pg	**Pg**	**18 00 21.7**	**+0.1**
KCHF				*e*		18 00 43.8	
IVIS	**Veis**	**1.19**	**47**	*e*Pg	**Pg**	**18 00 21.5**	**-0.4**
IVIS				*e*		18 00 43.9	
KER	**Kermanshah**	**1.30**	**59**	*e*Pg	**Pg**	**18 00 24.2**	**+0.4**
IKOM	**Komasi**	**1.50**	**72**	*e*Pg	**Pg**	**18 00 27.6**	**-0.1**
IKOM				*e*		18 00 56.9	
ILIN	**Lien**	**1.54**	**39**	*e*Pg	**Pg**	**18 00 28.0**	**-0.5**
ILIN				*e*		18 00 52.7	
DHL1	**Dehloran**	**1.62**	**129**	*e*Pg	**Pg**	**18 00 29.1**	**-0.9**
IKFM	**Kafar-mosalman**	**1.72**	**96**	*e*Pg	**Pg**	**18 00 30.5**	**-1.4**
IKFM				*e*		18 01 00.8	
IBZA	**Bozab**	**1.87**	**66**	*e*Pn	**Pb**	**18 00 32.4**	**-0.1**
IBZA				*e*		18 01 05.3	
SNGE	**Sanandaj**	**1.88**	**43**	*e*Pn	**Pn**	**18 00 30.5**	**+0.5**
SNGE				*e*Sg	**Sb**	**18 00 56.0**	**+0.2**
SNGE				IAML		18 01 06.0	
	comp=N,247nm,0.6s						
IDOB	**Doab**	**1.99**	**87**	*e*Pn	**Pb**	**18 00 33.5**	**-0.9**
IKMR	**Kamar-syah**	**2.17**	**95**	*e*Pn	**Pb**	**18 00 36.3**	**-1.1**
IKMR				*e*		18 01 12.4	
IALM	**Almabolaq**	**2.27**	**59**	*e*Pn	**Pb**	**18 00 38.2**	**-1.1**
HSAM	**Samen**	**2.39**	**77**	*e*Pn	**Pb**	**18 00 39.2**	**-2.1**
HSAM				*e*		18 01 22.1	
BMDN	**Meydan**	**2.53**	**90**	*e*Pn	**Pb**	**18 00 41.3**	**-2.3**
BMDN				*e*		18 01 27.8	
HSRG	**Sareghieh**	**2.56**	**53**	*e*Pn	**Pb**	**18 00 42.6**	**-1.6**
HSRG				*e*		18 01 26.4	
HAGD	**Aghdareh**	**2.98**	**67**	*e*Pn	**Pb**	**18 00 47.6**	**-3.8**
HAGD				*e*		18 01 34.6	
MAHB	**Mahabad**	**3.04**	**359**	*e*Pn	**Pn**	**18 00 48.2**	**+2.2**
MAHB				*e*		18 01 39.1	
KHMZ	**Khomeyn**	**3.47**	**88**	*e*Pn	**Pn**	**18 00 53.4**	**+1.5**
KHMZ				*e*S	**Sn**	**18 01 34.3**	**+1.6**
ASAO	**Ashtian**	**3.61**	**76**	*e*Pn	**Pn**	**18 00 55.2**	**+1.3**
QABG	**Abgarm-Qazvin**	**3.70**	**56**	*e*Pn	**Pn**	**18 00 56.5**	**+1.4**
ZNJK	**Zanjan**	**3.78**	**38**	*e*Pn	**Pn**	**18 00 56.9**	**+0.6**
IRAZ	**Razeghan**	**3.81**	**63**	*e*Pn	**Pn**	**18 00 59.0**	**+2.4**
QSDN	**Sirdan**	**3.92**	**44**	*e*Pn	**Pn**	**18 01 00.5**	**+2.3**
JHBN	**Jahan bin**	**4.36**	**109**	*e*Pn	**Pn**	**18 01 05.5**	**+1.3**
JHBN				*e*		18 02 27.5	
IPIR	**Pirpir**	**4.40**	**102**	*e*Pn	**Pn**	**18 01 07.3**	**+2.5**
IPIR				*e*		18 02 02.0	
GHVR	**GHOM**	**4.63**	**79**	*e*Pn	**Pn**	**18 01 08.7**	**+0.9**
QALM	**Alamut, Qazvin**	**4.81**	**54**	*e*Pn	**Pn**	**18 01 12.3**	**+1.9**
IKLH	**Kolahrood**	**4.85**	**93**	*e*Pn	**Pn**	**18 01 13.9**	**+3.0**
GRMI	**Germi**	**5.36**	**18**	*e*Pn	**Pn**	**18 01 18.5**	**+0.7**
KLNJ	**Kolanjah**	**5.60**	**117**	*e*Pn	**Pn**	**18 01 22.4**	**+1.0**
IRAM	**Rameshesh**	**5.87**	**107**	*e*Pn	**Pn**	**18 01 26.5**	**+1.6**

IDC 24 18:12:46.8±17.0,15°.17S×178°.18W,h0km,mb3.6/3,
mb1 3.9/3,mb1mx3.5/24,mbtmp3.6/3,Error ellipse:
s-maj=434.1km s-min=52.7km az=116.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.41**	**257**	P	P	18 21 08.3	+0.6
	0.3nm,0.9s,baz=90,slow=7.9,SNR=5.2						
ASAR	**Alice Springs**	**45.80**	**252**	P	P	18 21 10.2	-0.6
	1.3nm,0.7s,baz=87,slow=8.5,SNR=24						
MJAR	**Matsushiro Arr**	**65.87**	**323**	P	P	18 23 34.2	-0.3
	0.6nm,0.6s,baz=150,slow=6.1,SNR=2.5						
H02N1	**VAN INLET T-PH**	**78.59**	**26**	T	T	19 52 18.4	
	SNR=8324						

*IDC **24** 18:27:59.6±0.9,1°.23N×121°.82E,h0km,mb3.9/6,*
mb1 4.0/7,mb1mx3.7/40,mbtmp3.8/7,ML3.9/1,MS3.1/4,
Ms1 3.1/4,ms1mx2.8/44,Error ellipse: s-maj=131.1km
s-min=16.4km az=66.0
*DJA **24** 18:28:02.0±0.4,1°.5S×12°.1E±°,h10km,M4.3/9,mB4.8/1,*
mb4.6/3,MLv4.2/9,Mw(mB)4.1/1
*NEIC **24** 18:28:07.5±2.9,1°.0N±0°.2×121°.0E±0°.2,h71km±10km,*
mb4.1/14,Error ellipse: s-maj=39.8km s-min=9.2km
az=58.0
ISC 24 18:28:01.2±0.7,1°.16N±0°.06×121°.56E±0°.05,h10km,n35,
σ1§10/36,mb4.1/11,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**1.54**	**110**	P	**Pn**	**18 28 28.4**	**-0.3**
GTOI				S	**Sg**	**18 28 50.7**	**-0.2**
MPSI	**Mapaga**	**1.85**	**244**	P	**Pn**	**18 28 32.5**	**-0.5**
MPSI				S	**Sn**	**18 28 55.4**	**-1.1**
KMSI	**Cibinong**	**2.49**	**104**	P	**Pb**	**18 28 45.7**	**-0.3**
LUWI	**Luwuk**	**2.50**	**151**	P	**Pb**	**18 28 46.4**	**+0.1**
LUWI				S	**Sg**	**18 29 22.3**	**+0.6**
LUWI	**Luwuk**	**2.50**	**151**		**Pg**	**18 28 48.2**	**-1.1**
PCI	**Palu**	**2.68**	**220**	P	**Pn**	**18 28 44.2**	**-0.2**
MYLDM	**Lahad Datu**	**5.02**	**323**		**Pn**	**18 29 18.1**	**+1.5**
SPSI	**Sidrap Palu**	**5.40**	**199**	P	**Pn**	**18 29 22.7**	**+0.9**
	0.1nm896nm26nm,0.9s						
BNSI	**Bone**	**5.71**	**195**	P	**Pn**	**18 29 28.6**	**+2.5**
	0.2nm29nm,0.8s						
KAPI	**Kappang**	**6.40**	**196**	LR	LR	18 31 39.3	
	comp=Z,113nm,19.0s,baz=191,slow=34						
DAV	**Davao City (W)**	**7.11**	**34**	LR	LR	18 32 17.7	
	comp=Z,55nm,19.5s,baz=14,slow=37						
KKM	**Kota Kinabalu**	**7.21**	**312**	Pn	**Pn**	**18 29 47.8**	**+1.0**
TGY	**Tagaytay City**	**12.87**	**357**	LR	LR	18 35 37.3	
	comp=Z,72nm,21.8s,baz=174,slow=36						
MTN	**Manton Dam**	**16.85**	**146**		**P**	**18 32 00.7**	**+1.3**
MTN				IAmb	IAmb	18 32 07.1	
	comp=Z,9.6nm,0.9s						
KNRA	**Kununurra**	**18.18**	**157**	Pn	**P**	**18 32 16.6**	**+2.4**
KNRA				IAmb	IAmb	18 32 30.3	
	comp=Z,8.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.56**	**168**	P	**Pn**	**18 32 30.4**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=349,slow=5.5,SNR=18						
FITZ	**Fitzroy Crossi**	**19.56**	**168**		**Pn**	**18 32 30.7**	**+0.1**
FITZ				IAmb	IAmb	18 32 31.6	
	comp=Z,3.6nm,1.1s						
WB0	**Warramunga Arr**	**24.32**	**149**	P	**P**	**18 33 18.3**	**-0.9**
WB0				IAmb	IAmb	18 33 20.0	
	comp=Z,5.9nm,0.7s						
WRA	**Warramunga Arr**	**24.43**	**150**	P	**P**	**18 33 19.7**	**-0.6**
	comp=Z,4.5nm,0.8s,baz=325,slow=11,SNR=77						
WB2	**Warramunga Arr**	**24.44**	**150**	P	**P**	**18 33 18.8**	**-1.6**
WB2				IAmb	IAmb	18 33 21.1	
	comp=Z,6.1nm,0.7s						
WR0	**Warramunga Arr**	**24.55**	**149**	P	**P**	**18 33 20.8**	**-0.5**
AS31	**Alice Springs**	**27.45**	**155**	P	**P**	**18 33 47.0**	**-0.5**
ASAR	**Alice Springs**	**27.45**	**155**	P	**P**	**18 33 47.5**	**0.0**
	comp=Z,1.0nm,0.6s,baz=344,slow=14,SNR=30						
ASAR				PcP	**PcP**	**18 37 05.5**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=349,slow=2.4,SNR=5.0						
CTAO	**Charters Tower**	**32.13**	**132**	P	**P**	**18 34 30.0**	**+1.0**
CTAO				IAmb	IAmb	18 34 43.1	
	comp=Z,5.4nm,1.1s						
BBOO	**Buckleboo**	**36.46**	**159**	P	**P**	**18 35 05.7**	**-0.7**
STKA	**Stephens Creek**	**37.95**	**152**	P	**P**	**18 35 17.7**	**-1.5**
	comp=Z,1.5nm,0.7s,baz=304,slow=7.3,SNR=4.1						
STKA	**Stephens Creek**	**37.95**	**152**	P	**P**	**18 35 16.7**	**-2.4**
CAN	**Canberra**	**44.44**	**147**	P	**P**	**18 36 13.4**	**+0.8**
CAN				IAmb	IAmb	18 36 29.7	
	comp=Z,3.4nm,0.9s						
TOO	**Toolangi**	**44.45**	**153**	P	**P**	**18 36 11.1**	**-1.4**
SONM	**Songino Array**	**48.31**	**346**	P	**P**	**18 36 43.9**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=148,slow=8.5,SNR=3.6						
MK31	**Makanchi Array**	**56.87**	**329**	P	**P**	**18 37 46.6**	**+0.4**
MKAR	**Makanchi Array**	**56.87**	**329**	P	**P**	**18 37 46.7**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=129,slow=8.6,SNR=15						
MKAR				PcP	**PcP**	**18 38 41.1**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=123,slow=5.3,SNR=2.3						
ZALV	**Zalesovo Beam**	**60.67**	**336**	P	**P**	**18 38 12.6**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=138,slow=5.0,SNR=2.0						
KURK	**Kurchatov**	**61.26**	**330**	P	**P**	**18 38 16.0**	**-0.5**
KURK				IAmb	IAmb	18 38 18.6	
	comp=Z,2.7nm,1.1s						
KDAK	**Kodiak Island**	**86.81**	**32**	LR	LR	19 15 16.9	
	comp=Z,58nm,21.9s,baz=253,slow=33						

IDC 24 18:35:09.7±28.0,18°.03S×172°.27W,h0km,mb3.8/4,
mb1 4.0/4,mb1mx3.6/31,mbtmp3.8/4,Error ellipse:
s-maj=528.4km s-min=183.2km az=73.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**39.19**	**260**	P	P	18 42 38.7	-1.1
	1.0nm,0.4s,baz=82,slow=7.1,SNR=1.1						
STKA	**Stephens Creek**	**43.73**	**243**	P	P	18 43 16.8	-0.2
	0.5nm,0.3s,baz=84,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**50.35**	**259**	P	P	18 44 09.2	+0.3
	0.3nm,0.4s,baz=94,slow=6.0,SNR=11						
ASAR	**Alice Springs**	**50.38**	**254**	P	P	18 44 09.2	+0.1
	1.4nm,0.8s,baz=92,slow=8.3,SNR=27						

*REY **24** 18:54:38.4,64°.84N×16°.85W,h10km*
*IDC **24** 18:54:39.1±1.0,64°.79N×17°.11W,h0km,mb3.2/5,*
mb1 3.6/9,mb1mx3.3/65,mbtmp3.4/9,ML2.7/3,MS3.0/4,
Ms1 3.1/4,ms1mx2.7/30,Error ellipse: s-maj=35.2km
s-min=15.4km az=11.0
ISC 24 18:54:39.5±0.6,64°.85N±0°.02×16°.88W±0°.02,h10km,n37,
σ1§65/52,mb3.4/5,Iceland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDYN	**Dyngjuhals**	**0.22**	**255**	P	**Pg**	**18 54 43.0**	**-1.0**
	baz=257						
IDYN				S	**Sg**	**18 54 46.5**	**-0.6**
	baz=257						
IKRE	**Kreppuhraun**	**0.22**	**107**	P	**Pg**	**18 54 42.7**	**-1.4**
	baz=106						
IKRE				S	**Sg**	**18 54 46.2**	**-1.1**
	baz=106						
IASK	**Askja**	**0.23**	**26**	P	**Pg**	**18 54 43.0**	**-1.2**
	baz=22						
IASK				S	**Sg**	**18 54 46.5**	**-1.0**
	baz=22						
IMKO	**Mokollar**	**0.26**	**60**	P	**Pg**	**18 54 43.7**	**-1.2**
	baz=58						
IMKO				S	**Sg**	**18 54 47.7**	**-0.8**
	baz=58						
IDJK	**Dyngjujokull**	**0.38**	**204**	P	**Pg**	**18 54 45.7**	**-1.4**
	baz=206						
IDJK				S	**Sg**	**18 54 51.4**	**-0.7**
	baz=206						
IBJK	**Bruarjokull**	**0.39**	**172**	P	**Pg**	**18 54 45.5**	**-1.6**
	baz=173						
IVON	**Vonarskard**	**0.41**	**245**	P	**Pg**	**18 54 46.2**	**-1.5**
	baz=247						
IGRF	**Grimsfjall**	**0.47**	**201**	P	**Pg**	**18 54 47.2**	**-1.6**
	baz=202						
IVSH	**V-Sauoahnukur**	**0.49**	**94**	P	**Pg**	**18 54 47.4**	**-1.8**
	baz=94						
IVSH				S	**Sg**	**18 54 54.2**	**-1.5**
	baz=94						
ISVA	**Svartarkot**	**0.52**	**342**	P	**Pg**	**18 54 48.0**	**-1.6**
	baz=341						
ISVA				S	**Sg**	**18 54 55.2**	**-1.1**
	baz=341						
IADA	**Aoalbol**	**0.58**	**72**	P	**Pg**	**18 54 48.8**	**-2.0**
	baz=71						
IADA				S	**Sg**	**18 54 56.6**	**-1.8**
	baz=71						
IVOT	**Vottur**	**0.59**	**193**	P	**Pg**	**18 54 49.2**	**-1.8**
	baz=194						
IHUS	**Husbondi**	**0.65**	**211**	P	**Pg**	**18 54 50.4**	**-1.7**
	baz=213						
IHUS				S	**Sg**	**18 55 00.2**	**-0.3**
	baz=213						
ISKR	**Skrokkalda**	**0.71**	**247**	P	**Pg**	**18 54 51.2**	**-2.0**
	baz=247						
IKSK	**Karasker**	**0.71**	**166**	P	**Pg**	**18 54 50.5**	**-2.8**
	baz=166						
IMEL	**Melhnausar**	**0.73**	**7**	P	**Pg**	**18 54 51.6**	**-2.0**
	baz=6.3						
IMEL				S	**Sg**	**18 55 02.0**	**-1.1**
	baz=6.3						
IJOK	**Jokulheimar**	**0.79**	**228**	P	**Pg**	**18 54 52.5**	**-2.2**
	baz=229						
IJOK				S	**Sg**	**18 55 04.0**	**-1.1**
	baz=229						
IGRS	**Grimsstaoir**	**0.85**	**22**	P	**Pg**	**18 54 53.5**	**-2.4**
	baz=21						
IGRS				S	**Sg**	**18 55 05.7**	**-1.4**
	baz=21						
IKVO	**Krokottuvotn**	**0.87**	**360**	P	**Pg**	**18 54 53.7**	**-2.5**
	baz=359						
IIEY	**Innrieyrar**	**0.93**	**216**	P	**Pg**	**18 54 54.9**	**-2.5**
	baz=217						
IIEY				S	**Sg**	**18 55 08.1**	**-1.4**
	baz=217						
IKAL	**Kalfafell**	**0.97**	**202**	P	**Pg**	**18 54 55.3**	**-2.8**
	baz=202						
IFAG	**Fagurholsmyri**	**0.98**	**174**	P	**Pg**	**18 54 55.4**	**-3.0**
	baz=175						
IGHA	**Grjothals**	**1.00**	**5**	P	**Pg**	**18 54 55.8**	**-3.0**
	baz=4.4						
BORG	**Borgarnes**	**1.91**	**269**	Pn	**Pn**	**18 55 10.3**	**-1.7**
	233nm,0.3s,baz=90,slow=7.7,SNR=738						
BORG				Sn	**Sn**	**18 55 36.3**	**+0.3**
	23nm,0.3s,baz=213,slow=22,SNR=5.7						
BORG				LR	LR	18 55 54.2	
	comp=Z,132nm,21.6s,baz=113,slow=42						
SCO	**Scoresbysund**	**5.98**	**343**	*i*P	**Pn**	**18 56 08.3**	**+0.4**
SCO				*e*S	**Sn**	**18 57 15.5**	**-0.7**
SCO	**Scoresbysund**	**5.98**	**343**	*e*S	**Sn**	**18 57 15.6**	**-0.7**
SCO				*e*	**Pn**	**18 56 07.3**	**-0.6**
	baz=152,slow=7.4						
SCO				*i*P	**Pn**	**18 56 08.3**	**+0.4**
SCO				IAML		18 57 29.0	
	comp=Z,2.4nm,0.5s						
EKA	**Eskdalemuir Ar**	**11.71**	**138**	Pn	**Pn**	**18 57 26.6**	**+0.1**
	baz=326,slow=13,SNR=31						
NOA	**NORSAR Array B**	**13.28**	**94**	Pn	**Pn**	**18 57 46.9**	**-1.0**
	comp=Z,0.0nm,0.3s,baz=300,slow=13,SNR=3.2						
NOA				LR	LR	19 02 52.0	
	comp=Z,33nm,19.0s,baz=300,slow=37						
SFJD	**Kangerlussuaq**	**13.83**	**294**	LR	LR	19 02 45.0	
	comp=Z,127nm,20.0s,baz=88,slow=35						
HFS	**Hagfors**	**14.79**	**94**	Pn	**Pn**	**18 58 09.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=342,slow=9.1,SNR=1.9						
FINES	**FINESS Array B**	**19.41**	**80**	P	**Pn**	**18 59 07.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=316,slow=16,SNR=2.2						
FINES				LR	LR	19 06 08.1	
	comp=Z,45nm,19.9s,baz=263,slow=35						
GERES	**GERESS Array B**	**22.81**	**120**	P	**P**	**18 59 44.7**	**+2.4**
	comp=Z,0.3nm,0.8s,baz=337,slow=13,SNR=4.2						
VRAC	**Vranov**	**23.53**	**115**	LR	LR	19 07 57.9	
	comp=Z,50nm,20.3s,baz=234,slow=34						
ESDC	**Sonseca Array**	**26.32**	**157**	P	**P**	**19 00 16.1**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=165,slow=37,SNR=3.6						
KURBB	**Kurchatov Arra**	**47.83**	**59**	P	**P**	**19 03 18.4**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=323,slow=6.1,SNR=2.5						
PDAR	**Pinedale Array**	**53.35**	**294**	P	**P**	**19 03 59.5**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=69,slow=4.9,SNR=4.4						
TXAR	**Lajitas Array**	**62.51**	**281**	P	**P**	**19 05 04.3**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=26,slow=2.3,SNR=2.4						

*TEH **24** 18:55:13.7,28°.38N×51°.52E,h15km,ML3.4*
*IDC **24** 18:55:13.7±1.4,28°.40N×51°.65E,h0km,mb3.6/7,*
mb1 3.6/10,mb1mx3.4/65,mbtmp3.6/10,ML3.6/3,Error
ellipse: s-maj=32.1km s-min=23.3km az=34.0
*THR **24** 18:55:14.6±0.3,28°.43N×51°.57E,h27km±2km,ML3.1*
ISC 24 18:55:14.7±0.8,28°.40N±0°.06×51°.60E±0°.05,h10km,n25,
σ1§07/27,mb3.5/7,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AHBU	**AHRAM**	**0.54**	**330**	*e*Pg	**Pg**	**18 55 24.6**	**-0.6**
KAZ1	**Kazerun**	**1.23**	**2**	*e*Pg	**Pb**	**18 55 36.7**	**-1.4**
KAZ1				*e*		18 55 41.6	
GHIR	**Ghir-Karzin**	**1.23**	**95**	*e*Pn	**Pg**	**18 55 38.6**	**+0.3**
GHIR				*e*Sg	**Sg**	**18 55 54.5**	**+0.2**
GHIR				IAML		18 56 04.8	
	comp=E,377nm,0.4s						
GHIR	**Ghir-Karzin**	**1.23**	**95**	*e*Pn	**Pg**	**18 55 38.6**	**+0.3**
SHI	**Shiraz**	**1.48**	**33**	*e*Pg	**Pb**	**18 55 42.0**	**-0.4**
SHI				*e*		18 56 04.0	
LMD1	**Lamerd**	**1.74**	**127**	*e*Pg	**Pb**	**18 55 46.4**	**-0.4**
LMD1				*e*		18 56 28.0	
JHRM	**Jahrom**	**1.75**	**86**	*e*Pg	**Pg**	**18 55 47.7**	**-0.5**
JHRM				*e*		18 56 14.2	
KLNJ	**Kolanjah**	**2.60**	**360**	*e*Pn	**Pn**	**18 55 57.5**	**+0.3**
KLNJ				*e*		18 56 49.9	
IRAM	**Ramesheh**	**3.47**	**11**	*e*Pn	**Pn**	**18 56 09.6**	**+0.6**
IPIR	**Pirpir**	**4.32**	**352**	*e*Pn	**Pn**	**18 56 21.6**	**+0.8**
IZEF	**Zefreh**	**4.53**	**8**	*e*Pn	**Pn**	**18 56 24.5**	**+0.9**
NGRK	**Negar Kerman**	**4.66**	**73**	*e*Pn	**Pn**	**18 56 26.4**	**+0.8**
NGRK				*e*		18 57 24.1	
YZKH	**Yazd**	**4.75**	**32**	*e*Pn	**Pn**	**18 56 26.6**	**+0.2**
YZKH	**Yazd**	**4.75**	**32**	*e*Pn	**Pn**	**18 56 26.6**	**+0.2**
IKLH	**Kolahrood**	**4.91**	**360**	*e*Pn	**Pn**	**18 56 28.0**	**-0.8**
WSAR	**Wadi Sarin**	**8.15**	**127**	Pn	**Pn**	**18 57 12.9**	**-0.3**
	comp=E,0.9nm,0.3s,baz=294,slow=14,SNR=12						
WSAR				Sn	**Sn**	**18 58 42.2**	**-3.3**
	comp=E,0.3nm,0.3s,baz=298,slow=18,SNR=1.9						
MMAI	**Mount Meron Ar**	**14.67**	**292**	Pn	**Pn**	**18 58 41.0**	**-1.5**
	comp=E,0.7nm,0.3s,baz=224,slow=13,SNR=5.7						
BRTR	**Keskin Array B**	**18.65**	**312**	P	**Pn**	**18 59 33.5**	**+0.4**
	comp=E,0.1nm,0.3s,baz=125,slow=11,SNR=4.6						
AKTO	**Aktyubinsk**	**22.55**	**11**	P	**P**	**19 00 15.7**	**+0.9**
	comp=E,0.9nm,0.7s,baz=219,slow=16,SNR=4.3						
MKAR	**Makanchi Array**	**30.20**	**44**	P	**P**	**19 01 26.4**	**+1.2**
	comp=E,0.1nm,0.4s,baz=232,slow=10.0,SNR=2.1						
FINES	**FINESS Array B**	**37.16**	**340**	P	**P**	**19 02 25.4**	**-0.1**
	comp=E,1.3nm,0.6s,baz=154,slow=7.9,SNR=9.1						
HFS	**Hagfors**	**40.76**

BVAR	Borovoye Array	26.05	35	P		P	19 04 30.7	+1.8	
	0.6nm,0.5s,baz=222,slow=11,SNR=6.2								
KURBB	Kurchatov Arra	29.22	45	P		P	19 04 56.6	-0.7	
	0.7nm,0.6s,baz=249,slow=9.1,SNR=4.3								
MKAR	Makanchi Array	30.46	54	P		P	19 05 08.1	-0.2	
	0.7nm,0.5s,baz=250,slow=7.5,SNR=14								
HFS	Hagfors	33.65	331	P		P	19 05 34.1	-2.0	
	1.3nm,0.5s,baz=152,slow=6.5,SNR=4.1								
ZALV	Zalesovo Beam	34.03	42	P		P	19 05 38.5	-1.0	
	1.0nm,0.3s,baz=246,slow=8.9,SNR=6.8								
EKA	Eskdalemuir Ar	39.92	318	P		P	19 06 28.6	-0.9	
	0.3nm,0.5s,baz=100,slow=9.7,SNR=4.4								

*AEIC **24** 19:01:59.0±2.9,51.7′N±0.1′×177.1′E±0.03′,h56km±5km, ML4.4/35,mb4.5/42(NEIC), Error ellipse: s-maj=16.1km s-min=2.1km az=186.0*

*NEIC **24** 19:02:00.4±2.4,51.87′N±0.10′×177.15′E±0.07′,h61km±6km, Error ellipse: s-maj=14.2km s-min=6.2km az=186.0*

*IDC **24** 19:02:02.5±3.6,52.03′N×177.11′E,h77km±33km,mb3.6/21, mb1 3.8/24,mb1mx3.6/61,mbtmp4.0/24,MS3.4/5, Ms1 3.4/5,ms1mx2.9/48,Error ellipse: s-maj=20.2km s-min=11.1km az=170.0*

ISC 24 19:01:59.2±0.6,51.7′N±0.1′×177.04′E±0.04′,h61km,n115, σ1°25/109,mb4.3/41,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSSA	Little Sitkin	0.94	75			Pn	19 02 16.1	-0.5
LSNW	Little Sitkin	0.95	74			Pn	19 02 16.2	-0.4
LSSE	Little Sitkin	0.97	77			Pn	19 02 16.5	-0.4
LSPA	Little Sitkin	0.98	75			Pn	19 02 16.8	-0.3
LSPA						Sn	19 02 29.9	-0.3
AMKA	Amchitka	1.45	103	Pn		Pn	19 02 22.7	-0.5
AMKA	Amchitka	1.45	103			Sn	19 02 40.6	-0.6
CETU	Semis' Tuman	1.54	80			Pn	19 02 24.6	+0.1
CESW	Semis' Southwe	1.57	82			Pn	19 02 24.5	-0.4
CEAP	Semis' Anvil P	1.60	79			Pn	19 02 25.2	-0.1
CERB	Semis' Cerberu	1.62	81			Pn	19 02 25.6	0.0
CERB						Sn	19 02 46.4	+1.0
CERAA	Semis' Rag'd T	1.65	82			Pn	19 02 25.5	-0.4
SMY	Shemya	2.07	300	Pn		Pn	19 02 32.1	+0.5
SMY	Shemya	2.07	300			Sn	19 02 57.7	+1.4
GALAA	Gareloi Lava P	2.60	87			Pn	19 02 39.4	+0.6
GAEA	Gareloi East	2.62	87			Pn	19 02 39.5	+0.4
TASE	Tanaga Southea	3.06	86			Pn	19 02 45.4	+0.3
TAFP	Tanaga Falls P	3.09	85			Pn	19 02 45.6	0.0
TAFP						Sn	19 03 21.0	-0.4
KIMD	Kanaga Island	3.56	87			Pn	19 02 52.2	+0.3
KICM	Kanaga Island	3.58	85			Pn	19 02 52.8	+0.5
KICM						Sn	19 03 32.7	-0.5
KIKV	Kanaga Island	3.60	85			Pn	19 02 52.9	+0.4
KINC	Kanaga Island	3.62	84			Pn	19 02 53.1	+0.3
KIRH	Kanaga Island	3.64	85			Pn	19 02 53.2	+0.1
ADK	Adak	3.90	85	Pn		Pn	19 02 56.5	0.0
ADAG	Mount Adagdak	3.95	84			Pn	19 02 57.1	-0.2
GSTD	Great Sitkin T	4.23	83			Pn	19 03 01.7	+0.5
GSTD						Sn	19 03 49.8	+0.5
GSMY	Great Sitkin M	4.29	83			Pn	19 03 02.2	+0.3
GSTR	Great Sitkin T	4.29	82	Pn		Pn	19 03 01.6	-0.3
ATKA	Atka Island	5.44	81	Pn		Pn	19 03 18.6	+0.9
KOKL	Mount Kliuchef	5.44	80			Pn	19 03 18.4	+0.7
KOFP	Korovin Flat P	5.50	81			Pn	19 03 20.1	+1.5
NIKH	Nikolski High	8.73	76	Pn		Pn	19 04 05.6	+3.0
UNV	Unalaska Valle	10.19	71			Pn	19 04 24.2	+1.6
AKUT	Akutan	10.65	70	Pn		Pn	19 04 31.1	+2.2
PEA0B	Petropavlovsk-	11.89	284	Pn		Pn	19 04 48.2	+2.4
PETK	Petropavlovsk-	11.89	284	P		Pn	19 04 48.3	+2.5
	0.6nm,0.3s,baz=95,slow=17,SNR=15							
PETK						S	19 06 53.0	-3.7
	1.8nm,0.3s,baz=75,slow=23,SNR=12							
PETK						LR	19 09 18.8	
	comp=Z,40nm,21.6s,baz=71,slow=37							
SDPT	Sand Point	13.84	66	Pn		Pn	19 05 11.9	-0.2
CNBA	Chernabura Isl	14.30	68	Pn		Pn	19 05 16.0	-2.3
CHIR	Chirikof Islan	16.62	65	Pn		Pn	19 05 46.6	-1.3
SEY	Seymchan	17.28	320	P		P	19 05 55.2	-1.5
	0.1nm,0.3s,baz=107,slow=17,SNR=3.3							
SII	Sitkinak Islan	17.47	63	Pn		Pn	19 05 54.6	-3.7
OHAK	Old Harbor	18.01	61	P		P	19 06 02.3	-2.4
TTA	Tatalina	18.21	42	P		Pn	19 06 08.7	+1.2
KDAK	Kodiak Island	18.44	59	P		Pn	19 06 08.5	-1.7
	2.7nm,0.3s,baz=333,slow=8.1,SNR=12							
KDAK	Kodiak Island	18.44	59	P		P	19 06 07.0	-2.5
RSO	Redoubt South	18.83	51	P		Pn	19 06 16.2	+1.2
CNPM	China Poot	19.38	54	P		Pn	19 06 19.5	-1.9
CNPM						IAmb	IAmb	19 06 25.0
	comp=Z,49nm,1.2s							
BRLK	Bradley Lake	19.60	53	P		Pn	19 06 21.1	-2.9
SKT	Skwentna	19.81	47	P		Pn	19 06 26.1	-0.4
SKT						IAmb	IAmb	19 06 29.6
	comp=Z,66nm,1.8s							
PPLA	Purkeypile	19.81	44	P		Pn	19 06 27.1	+0.5
PPLA						IAmb	IAmb	19 06 30.6
	comp=Z,16nm,0.8s							
SEW	Seward	20.37	53	P		Pn	19 06 29.8	-3.2
KTH	Kantishna Hill	20.58	43	P		Pn	19 06 34.5	-1.0
KTH						IAmb	IAmb	19 06 34.8
	comp=Z,20nm,1.2s							
BPAW	Bear Paw Mtn.	20.74	41	P		Pn	19 06 36.5	-1.0
TRF	Thorofare Moun	20.81	43	P		P	19 06 33.4	-2.0
TRF						IAmb	IAmb	19 06 37.6
	comp=Z,25nm,1.3s							
GHO	Glory Hole Cre	20.95	48	P		Pn	19 06 36.3	-3.7
GHO						IAmb	IAmb	19 07 31.4
	comp=Z,55nm,1.8s							
SML	Sawmill	21.23	48	P		P	19 06 41.6	+1.8
SML						IAmb	IAmb	19 06 44.0
	comp=Z,22nm,1.0s							
RND	Reindeer	21.41	44	P		P	19 06 42.0	+0.3
RND						IAmb	IAmb	19 06 47.6
	comp=Z,42nm,1.9s							
GLI	Glacier Island	21.64	51	P		P	19 06 43.4	-0.7
GLI						IAmb	IAmb	19 07 16.2
	comp=Z,45nm,1.4s							
SCM	Sheep Creek Mo	21.70	48	P		P	19 06 46.1	+1.3
SCM						IAmb	IAmb	19 06 46.7
	comp=Z,27nm,1.0s							
FID	Port Fidalgo	21.92	51	P		P	19 06 46.0	-1.2
FID						IAmb	IAmb	19 07 19.6
	comp=Z,19nm,1.0s							
DHY	Denali Highway	21.96	45	P		P	19 06 48.6	+0.9
DHY						S	19 10 49.9	+3.4
WRH	Wood River Hil	22.06	41	P		P	19 06 47.7	-0.9
MDM	Murphy Dome	22.16	40	P		P	19 06 49.9	+0.1
CCB	Clear Creek Bu	22.23	41	P		P	19 06 48.4	-2.0
KLU	Klutina	22.30	50	P		P	19 06 50.9	-0.4
KLU						IAmb	IAmb	19 07 24.0
	comp=Z,55nm,2.0s							
HDA	Harding Lake	22.51	42	P		P	19 06 54.4	+1.0
IL31		22.65	41	P		P	19 06 54.9	0.0
ILAR	Eielson Array	22.65	41	P		P	19 06 54.3	-0.6
	comp=Z,1.9nm,0.8s,baz=248,slow=7.9,SNR=15							
PAX	Paxson	22.78	46	P		P	19 06 55.5	-0.9
RIDG	Independent Ri	23.23	44	P		P	19 06 59.4	-1.4
RIDG						IAmb	IAmb	19 07 37.1
	comp=Z,39nm,1.9s							
TOLK	Toolik Lake Re	23.25	31	P		P	19 07 00.2	-0.7
TOLK						IAmb	IAmb	19 07 02.6
	comp=Z,7.5nm,0.6s							
GLB	Gilahina Butte	23.30	50	P		P	19 07 01.0	-0.5
GLB						IAmb	IAmb	19 07 05.6
	comp=Z,17nm,1.3s							
DOT	Dot Lake	23.55	45	P		P	19 07 02.5	-1.2
MENT	Mentasta	23.56	46	P		P	19 07 05.1	+1.2
MENT						IAmb	IAmb	19 07 16.8
	comp=Z,12nm,0.8s							
BARN	Barnard Glacie	24.30	51	P		P	19 07 12.3	+1.6
BARN						IAmb	IAmb	19 07 13.0
	comp=Z,19nm,0.9s							
CTGM	Chitina Glacie	24.45	52	P		P	19 07 11.8	-0.3
CTGM						IAmb	IAmb	19 07 13.9
	comp=Z,17nm,0.9s							
EGAK	Eagle	25.02	42	P		P	19 07 16.2	-0.8
EGAK						IAmb	IAmb	19 07 17.8
	comp=Z,17nm,0.8s							
DAWY	Dawson	25.66	44	P		P	19 07 23.3	+0.4
DAWY						IAmb	IAmb	19 07 23.7
	comp=Z,14nm,0.8s							
KLR	Kul'dur	28.58	283	P		P	19 07 50.8	+1.6
	comp=Z,2.3nm,0.8s,baz=110,slow=7.5,SNR=6.9							
INK	Inuvik	28.69	36	P		IAmb	19 07 50.2	+0.2
	comp=Z,1.1nm,0.5s,baz=140,slow=15,SNR=5.4							
INK	Inuvik	28.69	36	IAmb		IAmb	19 07 57.8	
	comp=Z,8.8nm,1.6s							
MJAR	Matsushiro Arr	31.31	256	P		P	19 08 17.2	+3.7
	comp=Z,0.4nm,0.6s,baz=48,slow=7.1,SNR=2.6							
H11N2	WAKE ISLAND Hy	32.90	198	T		T	19 43 34.0	
	baz=11,slow=76,SNR=268							
H11N3	WAKE ISLAND Hy	32.91	198	T		T	19 43 33.4	
	baz=11,slow=76,SNR=265							
H11N1	WAKE ISLAND Hy	32.92	198	T		T	19 43 33.4	
	baz=11,slow=76,SNR=294							
YKA	Yellowknife Ar	36.87	46	P		P	19 09 02.1	+0.9
	comp=Z,1.8nm,0.6s,baz=283,slow=9.4,SNR=7.8							
YKA						LR	LR	19 26 53.7
	comp=Z,46nm,18.5s,baz=0.0,slow=41							
KSRS	Korea Array	37.05	267	P		P	19 09 05.8	+2.7
	comp=Z,0.4nm,0.6s,baz=58,slow=7.5,SNR=2.7							
SONM	Songino Array	44.16	294	P		P	19 10 02.8	+1.1
	comp=Z,2.2nm,0.6s,baz=60,slow=8.2,SNR=17							
SONM						PcP	PcP	19 11 46.8	+1.3
	comp=Z,0.3nm,0.5s,baz=63,slow=2.9,SNR=1.8							
SONM						LR	LR	19 28 55.1
	comp=Z,65nm,18.2s,baz=324,slow=37							
HHC	Hu-ho-hao-te	45.09	283	eP		P	19 10 09.1	-0.1
HHC						pmax	pmax	
	comp=Z,20nm,0.7s							
HHC						pmax	pmax	
	comp=Z,130nm,6.2s							
NVAR	Mina Array Bea	46.07	80	P		P	19 10 18.0	+0.9
	comp=Z,1.7nm,0.9s,baz=294,slow=7.7,SNR=8.0							
NJ2	Nanjing	46.22	268	eP		P	19 10 16.3	-1.7
NJ2						pmax	pmax	
	comp=Z,4.0nm,0.5s							
R11A	Troy Canyon, C	47.78	79	P		P	19 10 27.8	-2.6
R11A						IAmb	IAmb	19 10 59.9
	comp=Z,9.7nm,2.0s							
PDAR	Pinedale Array	48.66	70	P		P	19 10 36.8	-0.4
	comp=Z,1.0nm,0.7s,baz=290,slow=3.8,SNR=8.5							
GSC	Goldstone, Bar	48.99	82	P		P	19 10 38.8	-0.8
GSC						IAmb	IAmb	19 10 42.8
	comp=Z,4.4nm,0.9s							
LZH	Lanzhou	52.79	283	eP		P	19 11 07.9	-0.3
LZH				pP		pP	19 11 24.3	+0.8
LZH				sP		sP	19 11 32.8	+3.0
LZH				ePP		PP	19 13 08.3	+0.5
LZH				pmax		pmax		
	comp=Z,19nm,1.3s							
LZH				pmax		pmax		
	comp=Z,63nm,7.2s							
LZH				LR		LR		
	comp=N,200nm,14.8s							
LZH				LR		LR		
	comp=E,210nm,14.5s							
LZH				LR		LR		
	comp=Z,290nm,17.6s							
GTA	Gaotai	53.01	289	eP		P	19 11 11.3	+1.5
GTA				pP		sP	19 11 29.5	-1.7
GTA				sP		pP	19 11 38.5	+14
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
GTA				pmax		pmax		
	comp=Z,42nm,6.5s							
GTA				LR		LR		
	comp=N,74nm,17.1s							
GTA				LR		LR		
	comp=E,73nm,17.5s							
GTA				LR		LR		
	comp=Z,82nm,17.8s							
SFJD	Kangerlussuaq	56.27	20	LR		LR	19 38 49.7	
	comp=Z,51nm,18.3s,baz=111,slow=39							
KURK	Kurchatov	56.88	311	P		P	19 11 37.4	+0.1
WMQ	Urumqi	56.95	300	eP		P	19 11 39.8	+1.7
KURBB	Kurchatov Arra	56.98	311	P		P	19 11 38.1	+0.1
	comp=Z,3.5nm,0.6s,baz=40,slow=6.7,SNR=32							
ARCES	ARCESS Array B	57.28	349	P		P	19 11 38.8	-1.1
	comp=Z,0.2nm,0.4s,baz=33,slow=7.2,SNR=4.3							
MKAR	Makanchi Array	57.76	306	P		P	19 11 43.3	-0.4
	comp=Z,1.1nm,0.7s,baz=44,slow=6.7,SNR=11							
BVAR	Borovoye Array	58.92	317	P		P	19 11 51.7	+0.1
	comp=Z,3.5nm,0.5s,baz=54,slow=6.6,SNR=24							
BRVK	Borovoye	58.94	318	P		P	19 11 51.2	-0.5
ARU	Arti	60.91	326	P		P	19 12 05.7	+0.5
	comp=Z,1.3nm,0.5s,baz=19,slow=12,SNR=7.5							
ARU	Arti	60.91	326	P		P	19 12 05.4	+0.3
TXAR	Lajitas Array	61.15	78	P		P	19 12 07.6	+0.2
	comp=Z,0.5nm,0.6s,baz=310,slow=5.0,SNR=8.9							
FINES	FINESS Array B	64.83	345	P		P	19 12 30.1	-1.0
	comp=Z,1.4nm,0.7s,baz=8.4,slow=6.6,SNR=5.7							
NB2	NORSAR Subarra	67.02	353	P		P	19 12 44.4	-0.8
	comp=Z,0.6nm,0.5s,baz=9.5,slow=6.5							
NOA	NORSAR Array B	67.02	353	P		P	19 12 44.6	-0.6
	comp=Z,0.2nm,0.3s,baz=13,slow=5.9,SNR=8.2							
TKL	Tuckaleechee C	68.06	60	LR		LR	19 41 24.9	
	comp=Z,46nm,20.1s,baz=15,slow=35							
CMAR	Chiang Mai Arr	68.40	273	P		P	19 12 55.5	+1.0
	comp=Z,0.7nm,0.3s,baz=22,slow=5.8,SNR=4.8							
AKASG	Malin Array Be	74.37	339	P		P	19 13 29.6	-0.3
	comp=Z,0.6nm,0.4s,baz=21,slow=6.3,SNR=6.0							
WRA	Warramunga Arr	80.53	220	P		P	19 14 06.2	+1.6
	comp=Z,0.6nm,0.8s,baz=31,slow=6.0,SNR=3.6							
ASAR	Alice Springs	84.05	219	P		P	19 14 26.1	+3.1
	comp=Z,0.3nm,0.7s,baz=18,slow=5.2,SNR=4.7							
MAW	Mawson	145.16	218	PKPbc		PKiKP	19 21 30.7	-1.3
	comp=Z,0.8nm,0.7s,baz=53,slow=5.1,SNR=2.0							

*IDC **24** 19:03:52.9±4.0,32.62′N×47.72′E,h0km,mb3.6/6, mb1 3.6/7,mb1mx3.3/50,mbtmp3.6/7,ML3.7/1,Error ellipse: s-maj=88.1km s-min=30.0km az=172.0*

*TEH **24** 19:03:54.8,32.74′N×47.60′E,h17km,ML3.5*

*THR **24** 19:03:55.7±0.3,32.83′N×47.62′E,h14km±5km,ML3.5*

ISC 24 19:03:55.7±0.7,32.77′N±0.03′×47.66′E±0.03′,h15km,n44, σ1°61/46,mb3.5/6,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DHL1	Dehloran	0.33	255	ePg		Pg	19 04 00.4	-2.1
DHL1				eSg		Sg	19 04 05.8	-1.4
IKFM	Kafar-mosalman	0.77	12	e			19 04 24.9	
IKFM				ePg		Pg	19 04 09.7	-1.0
IKMR	Kamar-syah	0.96	39	ePg		Pn	19 04 13.2	-1.4
IKMR				e			19 04 17.0	
IDOB	Doab	1.10	23	ePg		Pg	19 04 16.6	-0.5
SHGR	Shooshtar-Gavs	1.17	124	ePg		Pg	19 04 18.6	+0.3
SHGR				eSg		Sn	19 04 35.3	+2.1
SHGR				IAML			19 04 37.7	
	comp=E,892nm,0.3s							
SHGR				IAML			19 04 38.8	
	comp=N,714nm,0.6s							
SHGR	Shooshtar-Gavs	1.17	124	ePg		Pg	19 04 18.6	+0.3
BMDN	Meydan	1.33	47	ePg		Pg	19 04 21.1	-0.2
BMDN				e			19 04 45.4	
IKOM	Komasi	1.41	355	ePg		Pg	19 04 22.3	-0.5
IKOM				e			19 04 47.5	
KCHF	Cheshme Sefid,	1.59	341	ePg		Pb	19 04 25.0	+0.1
KCHF				e			19 04 50.6	
HSAM	Samen	1.64	28	ePg		Pg	19 04 26.5	-0.8
HSAM				e			19 04 52.8	
AHWZ	Ahwaz	1.66	149	ePg		Pb	19 04 25.3	-0.7
KER	Kermanshah	1.67	345	ePn		Pb	19 04 26.4	+0.2
IBZA	Bozab	1.71	6	ePg		Pg	19 04 27.1	-1.4
IBZA				e			19 04 31.0	
IGHG	Ghaleghazi	1.80	330	ePg		Pb	19 04 28.2	-0.3
IGHG				e			19 05 01.6	
IVIS	Veis	1.88	339	ePn		Pb	19 04 28.6	-1.2
IVIS				e			19 04 59.0	
IALM	Almabolaq	2.13	11	ePn		Pb	19 04 33.5	-0.6
KHMZ	Khomeyn	2.16	63	ePn		Pb	19 04 33.6	-1.0
KHMZ				eSg		Sg	19 05 04.0	-1.1
KHMZ	Khomeyn	2.16	63	ePn		Pb	19 04 33.6	-1.0
IDHR	Dehrash	2.20	332	ePn		Pn	19 04 33.2	+1.3
IDHR				e			19 04 39.7	
ILIN	Lien	2.22	345	ePn		Pb	19 04 34.0	-1.7
ILIN				e			19 05 11.8	
HAGD	Aghdareh	2.39	31	ePn		Pb	19 04 36.2	-2.4
HAGD				e			19 04 44.7	
HSRG	Sareghieh	2.52	12	ePn		Pb	19 04 39.2	-1.6
HSRG				e			19 05 21.0	
JHBN	Jahan bin	2.60	101	ePn		Pn	19 04 38.2	+0.7
JHBN				e			19 05 23.9	
IPIR	Pirpir	2.73	91	ePn		Pb	19 04 40.4	-4.0
IPIR				e			19 05 23.8	
ROKH	ROKH	2.88	98	ePn		Pn	19 04 42.3	+1.0
IRAZ	Razeghan	3.23	35	ePn		Pb	19 04 49.0	-4.0
QABG	Abgarm-Qazvin	3.34	28	ePn		Pn	19 04 49.2	+1.6
IKLH	Kolahrood	3.34	79	ePn		Pb	19 04 49.7	-5.1
IKLH				e			19 04 51.0	
GHVR	GHOM	3.48	60	ePn		Pn	19 04 51.0	+1.6
GHVR	GHOM	3.48	60	ePn		Pn	19 04 51.0	+1.6
KLNJ	Kolanjah	3.78	117	ePn		Pn	19 04 54.0	+0.3
KLNJ				e			19 06 05.4	
QSDN	Sirdan	3.93	18	ePn		Pn	19 04 58.2	+2.5
CHTH	Charan	4.25	42	ePn		Pn	19 05 02.0	+2.0
CHTH	Charan	4.25	42	ePn		Pn	19 05 02.1	+2.0
QALM	Alamut, Qazvin	4.41	33	ePn		Pn	19 05 04.9	+2.6
DAMV	Damavand	4.57	50	ePn		Pn	19 05 06.7	+2.1
DAMV	Damavand	4.57	50	ePn		Pn	19 05 06.7	+2.1
AKTO	Aktyubinsk	19.24	20	P		P	19 08 18.6	-0.8
	comp=N,0.2nm,0.3s,baz=205,slow=11,SNR=6.4							
BVAR	Borovoye Array	26.01	32	P		P	19 09 28.0	+0.1
	comp=N,0.6nm,0.6s,baz=209,slow=11,SNR=4.1							
KURBB	Kurchatov Arra	28.85	43	P		P	19 09 54.0	+0.6
	comp=N,0.6nm,0.6s,baz=247,slow=9.2,SNR=6.5							
MKAR	Makanchi Array	29.81	52	P		P	19 10 02.5	+0.5
	comp=N,0.6nm,0.6s,baz=246,slow=8.3,SNR=8.9							
ZALV	Zalesovo Beam	33.76	40	P		P	19 10 35.8	-0.7
	comp=N,0.7nm,0.5s,baz=245,slow=8.1,SNR=4.6							
ARCES	ARCESS Array B	38.86	348	P		P	19 11 21.8	+1.9
	comp=N,0.4nm,0.6s,baz=162,slow=8.9,SNR=4.3							
ESDC	Sonseca Array	41.73	295	P		P	19 11 44.0	-0.2
	comp=N,0.2nm,0.6s,baz=79,slow=8.4,SNR=1.5							

IDC 24 19:05:01.8±3.0,6.16S×147.21E,h0km,mb3.3/2, mb1 3.5/4,mb1mx3.3/31,mbtmp3.3/4,ML2.9/1,MS3.2/1, Ms1 3.2/1,ms1mx2.5/18,Error ellipse: s-maj=73.2km s-min=24.0km az=83.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	Port Moresby	3.22	181	Pn		Pn	19 05 51.6	-2.2
	1.8nm,0.3s,baz=316,slow=6.4,SNR=8.9							
PMG				Pg		Pb	19 06 00.4	+0.4
	3.6nm,0.3s,baz=349,slow=10,SNR=10							
PMG				Sn		Sn	19 06 29.4	-3.5
	2.1nm,0.3s,baz=355,slow=18,SNR=1.6							
PMG				Lg		Lg	19 06 45.6	
	1.1nm,0.3s,baz=150,slow=6.8,SNR=3.8							
WRA	Warramunga Arr	18.55	221	P		Pn	19 09 20.7	+0.4
	0.0nm,0.3s,baz=45,slow=12,SNR=2.5							
ASAR	Alice Springs	21.60	215	P		P	19 09 53.4	-0.2
	0.2nm,0.6s,baz=34,slow=11,SNR=6.4							
STKA	Stephens Creek	26.11	191	P		P	19 10 37.6	+0.1
	0.7nm,0.5s,baz=346,slow=12,SNR=3.1							
TGY	Tagaytay City	32.94	308	LR		LR	19 26 52.0	
	comp=Z,37nm,18.0s,baz=180,slow=40							
TORD	Torodi Ar. Bea	145.33	284	PKPbc		PKPbc	19 24 42.2	-0.3
	0.4nm,0.6s,baz=91,slow=4.0,SNR=2.8							

*NEIC **24** 19:11:33.8±1.7,10.88N±0.10×141.6E±0.1,h36km±6km, mb4.5/10,Error ellipse: s-maj=18.0km s-min=13.9km az=105.0*

*IDC **24** 19:11:36.0±2.9,10.94N×141.71E,h54km±27km,mb3.8/13, mb1 4.1/15,mb1mx3.8/39,mbtmp4.2/15,ML4.4/2,MS3.4/2, Ms1 3.4/2,ms1mx2.7/38,Error ellipse: s-maj=21.4km s-min=14.1km az=85.0*

ISC 24 19:11:34.5±0.5,10.95N±0.08×141.69E±0.09,h40km,n28, σ1°26/29,mb4.3/18,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	Guam	4.07	50	P		Pn	19 12 36.0	+1.8
	26nm,0.3s,baz=224,slow=4.0,SNR=29							
GUMO				S		Sn	19 13 19.2	-1.4
	26nm,0.3s,baz=12,slow=20,SNR=6.5							
JAY	Jayapura	13.41	184	P		Pn	19 14 43.8	+1.4
	1.8nm,0.3s,baz=305,slow=2.5,SNR=10							
PATS	Pohnpei	16.92	103	P		P	19 15 29.9	-0.2
PATS				IAmb		IAmb	19 15 32.0	
	comp=Z,64nm,1.2s							
KSRS	Korea Array	29.15	337	LR		LR	19 28 09.6	
	comp=Z,34nm,20.0s,baz=215,slow=34							
WB0	Warramunga Arr	31.36	193	P		P	19 17 50.3	-1.3
WB0				IAmb		IAmb	19 18 08.7	
	comp=Z,10nm,1.5s							
WR0	Warramunga Arr	31.51	193	P		P	19 17 50.0	-2.9
WR0				IAmb		IAmb	19 17 56.8	
	comp=Z,6.2nm,1.1s							
WRAB	Tennant Creek	31.53	193	P		P	19 17 50.7	-2.3
WRAB				IAmb		IAmb	19 17 58.7	
	comp=Z,4.4nm,0.7s							
WB2	Warramunga Arr	31.54	193	P		P	19 17 51.9	-1.3
WB2				IAmb		IAmb	19 17 52.8	
	comp=Z,3.6nm,0.7s							
WRA	Warramunga Arr	31.54	193	P		P	19 17 52.2	-1.0
	comp

coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**1.12**	**117**	*eP*	Pg	19 16 26.3	-1.4
HZTE				*eS*	Sg	19 16 41.6	-0.6
GBS3	**Finca Las Img**	**1.22**	**111**	*i* P	Pb	19 16 27.6	-1.8
BUEV	**Buena Vista**	**1.26**	**110**	*i* P	Pn	19 16 28.8	-1.1
GB1A	**Borinquen Arri**	**1.26**	**109**	*i* P	Pn	19 16 28.6	-1.3
BUAI	**Buenos Aires**	**1.30**	**105**	*i* P	Pn	19 16 29.2	-1.3
GPS1	**Guardaparques**	**1.32**	**110**	*i* P	Pn	19 16 30.0	-0.8
GPS2	**Hotel Rincn d**	**1.32**	**111**	*i* P	Pn	19 16 29.2	-1.6
ORTG	**Ortega, Santa**	**1.42**	**127**	*eP*	Pn	19 16 32.0	-0.2
ORTG				*eS*	Sg	19 16 51.7	-0.2
LIM1	**Limonal**	**1.44**	**111**	*i* P	Pn	19 16 31.7	-0.7
LIM1				*i* S	Sb	19 16 51.9	+0.4
GUAI	**GUAI**	**1.44**	**131**	*i* P	Pn	19 16 31.9	-0.5
COLC	**Colonia**	**1.49**	**112**	*i* P	Pn	19 16 32.9	-0.3
COLC				*i* S	Sb	19 16 53.2	+0.1
HORNC	**Hornillas**	**1.50**	**110**	*i* P	Pn	19 16 32.7	-0.5
PLVR	**Palo Verde**	**1.52**	**125**	*eP*	Pn	19 16 33.0	-0.6
CUI	**Cuipilapa**	**1.53**	**112**	*i* P	Pn	19 16 32.7	-1.0
ACAL	**Aguas Claras**	**1.66**	**111**	*i* P	Pn	19 16 34.9	-0.6
PTEN	**Parque Tenorio**	**1.67**	**108**	*i* P	Pn	19 16 35.3	-0.4
MATN	**Matagalpa**	**1.82**	**22**	*eP*	Pn	19 16 37.3	-0.4
ESTN	**Estel**	**1.88**	**7**	*eP*	Pn	19 16 38.3	-0.2
ESPN	**Las Esperanzas**	**2.46**	**67**	*eP*	Pn	19 16 46.3	-0.1

GII **24** *19:42:55.7±0.0,39.˚57N×28.˚69E,h1km*
BJI **24** *19:43:28.0±0.0,37.˚70N×30.˚60E,h7km,mB5.2/41, mb5.2/62,Ms4.7/40,Ms7 4.4/37*
IDC **24** *19:43:29.1±0.4,37.˚66N×30.˚65E,h0km,mb4.8/41, mb1 4.8/54,mb1mx4.8/63,mbtmp4.8/54,ML4.2/14, MS4.0/25,Ms1 4.0/25,ms1mx3.9/48,Error ellipse: s-maj=8.9km s-min=8.1km az=151.0*
MOS **24** *19:43:29.3±1.1,37.˚68N×30.˚68E,h10km±13km,mb5.2/42, MS4.3/19,Error ellipse: s-maj=4.4km s-min=3.1km az=84.2*
HLW **24** *19:43:29.3,37.˚85N×30.˚91E,h10km±13km,Md4.5*
ISK **24** *19:43:30.2,37.˚69N×30.˚61E,h4km,ML5.1/28*
PDG **24** *19:43:31.0±0.5,37.˚73N×30.˚59E,h8km±1km,ML4.2/14, Error ellipse: s-maj=0.5km s-min=0.4km az=90.0*
DDA **24** *19:43:31.5,37.˚64N×30.˚64E,h8km±1km,MW4.8*
THE **24** *19:43:32.1,37.˚89N×30.˚60E,h1km±3km,ML5.0/2,Error ellipse: s-maj=8.7km s-min=1.5km az=72.0*
MED_RC **24** *19:43:32.0±0.2,37.˚43N×30.˚60E,h10km,MW4.9/31, Moment Tensor Solution. Body waves: s3,c5;Mantle waves: s31,c55; Duration: 1s3 Moment tensor: Scale 10^16Nm; Mrr-2.05±.10; Mθθ0.39±.11; Mϕϕ1.66±.07; Mrθ1.88±.48; Mθϕ1.54±.08; Mϕr0.53±.36; Best double couple: Ms3.12000×10^16 NP1:ϕs239.00000°,δ66.00000°, λ-135.00000°. NP2:ϕs239.00000°,δ66.00000°, λ-64.00000°. Principal axes: T 3.1500, Plg17.0000°, Azm310.0000°; N -0.0600, Plg24.0000°, Azm48.0000°; P -3.0900, Plg60.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*
BGR **24** *19:43:37.2±0.0,37.˚63N×30.˚29E,h33km,mb4.7*
GCMT **24** *19:43:38.8±0.2,37.˚64N±0.˚02×30.˚61E±0.˚01,h18km, MW5.1/120,Moment Tensor Solution. s73,c90; s120,c202; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-4.06±.12; Mθθ1.41±.09; Mϕϕ2.65±.08; Mrθ3.69±.24; Mθϕ1.52±.06; Mϕr1.13±.17; Best double couple: Ms5.39300×10^16 NP1:ϕs21.00000°,δ27.00000°, λ-124.00000°. NP2:ϕs238.00000°,δ68.00000°, λ-74.00000°. Principal axes: T 4.8540, Plg21.0000°, Azm316.0000°; N 1.0770, Plg15.0000°, Azm52.0000°; P -5.9310, Plg64.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 19:43:31.0±0.5,37.67N±0.˚01×30.64E±0.˚01,h11km±3km, n945,σ1§65/1078,mb5.0/116,MS4.1/28,122C-78D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.18**	**329**	P	**Pg**	**19 43 35.0**	**0.0**
BCK	**Bucak**	**0.21**	**191**	PG	**Pg**	**19 43 35.4**	**-0.1**
BCK				SG	**Sg**	**19 43 39.2**	**+0.7**
BAGO	**Egridir - ISPA**	**0.34**	**20**	⇑*iP*	**Pg**	**19 43 37.7**	**-0.2**
BAGO				*i* S	**Sg**	**19 43 43.4**	**+0.8**
BAGO				IAML		19 43 45.0	
	comp=E,37μm,0.5s						
BAGO				IAML		19 43 47.0	
	comp=N,34μm,0.7s						
BRDR	**BURDUR-Merkez**	**0.46**	**274**	⇑*iP*	**Pg**	**19 43 39.7**	**-0.3**
BRDR				*i* S	**Sg**	**19 43 47.1**	**+0.9**
BRDR				IAML		19 44 00.0	
	comp=N,80μm,0.6s						
BRDR				IAML		19 44 02.0	
	comp=E,59μm,1.1s						
KORT	**Korkueli**	**0.70**	**199**	PG	**Pg**	**19 43 44.2**	**-0.4**
KORT				SG	**Sb**	**19 43 54.7**	**-0.5**
KORT	**Korkueli**	**0.70**	**199**	⇑*iP*	**Pg**	**19 43 44.3**	**-0.4**
KORT				*i* S	**Sb**	**19 43 56.4**	**+1.2**
KORT				IAML		19 44 11.0	
	comp=N,44μm,0.5s						
KORT				IAML		19 44 11.0	
	comp=E,77μm,0.6s						
KZIL	**AFYON_Kizioren**	**0.71**	**326**	⇑*iP*	**Pg**	**19 43 44.6**	**-0.2**
KZIL				IAML		19 43 57.0	
	comp=E,51μm,0.4s						
KZIL				*i* S	**Sn**	**19 43 57.5**	**-0.7**
KZIL				IAML		19 43 58.0	
	comp=N,60μm,0.6s						
ANTB	**Antalya**	**0.77**	**179**	PG	**Pb**	**19 43 46.3**	**-0.1**
ANTB				SG	**Sb**	**19 43 57.4**	**+0.6**
SHUT	**Suhut-Afyon**	**0.89**	**356**	PG	**Pg**	**19 43 47.4**	**-0.8**
SHUT				SG	**Sb**	**19 44 00.3**	**-0.2**
DOGA	**KONYA_Doganhis**	**0.93**	**61**	⇑*iP*	**Pg**	**19 43 48.6**	**-0.3**
DOGA				*i* S	**Sb**	**19 44 01.8**	**+0.2**
DOGA				IAML		19 44 08.0	
	comp=N,42μm,0.6s						
DOGA				IAML		19 44 09.0	
	comp=E,52μm,0.6s						
GOLH	**Golhisar**	**0.96**	**244**	⇑*iP*	**Pg**	**19 43 48.4**	**-1.1**
GOLH				*i* S	**Sn**	**19 44 05.2**	**+0.9**
GOLH				IAML		19 44 23.0	
	comp=N,31μm,1.2s						
GOLH				IAML		19 44 30.0	
	comp=E,43μm,1.5s						
BOLV	**Bolvadin**	**1.08**	**13**	⇑*iP*	**Pg**	**19 43 51.4**	**-0.5**
BOLV				*i* S	**Sn**	**19 44 09.9**	**+2.6**
BOLV				IAML		19 44 11.0	
	comp=E,26μm,0.7s						
BOLV				IAML		19 44 16.0	
	comp=N,34μm,0.7s						
KEPZ	**Antalya-Kepez**	**1.08**	**134**	⇑*iP*	**Pb**	**19 43 50.7**	**-1.2**
KEPZ				*i* S	**Sn**	**19 44 09.2**	**+1.9**
KEPZ				IAML		19 44 18.0	
	comp=E,19μm,1.0s						
KEPZ				IAML		19 44 25.0	
	comp=N,22μm,1.3s						
ELL	**Elmali**	**1.09**	**213**	P	**Pb**	**19 43 50.6**	**-1.3**
AFYO	**Afyonkarahisar**	**1.15**	**347**	⇑*iP*	**Pb**	**19 43 52.5**	**-0.5**
AFYO				*i* S	**Sn**	**19 44 10.9**	**+1.9**
AKUM	**Antalya-Kumluc**	**1.36**	**190**	⇑*iP*	**Pn**	**19 43 55.4**	**-0.6**
AKUM				*i* S	**Sg**	**19 44 23.8**	**+9.0**
AKUM				IAML		19 44 35.0	
	comp=N,21μm,0.8s						
AKUM				IAML		19 44 40.0	
	comp=E,10μm,0.7s						
KMER	**Konya-Meram**	**1.38**	**85**	⇑*iP*	**Pn**	**19 43 56.4**	**+0.1**
KMER				*i* S	**Sg**	**19 44 19.2**	**+3.9**
KMER				IAML		19 44 21.0	
	comp=N,18μm,0.7s						
KMER				IAML		19 44 21.0	
	comp=E,32μm,0.8s						
TAVA	**DENIZLI_Tavas**	**1.39**	**262**	⇑*iP*	**Pn**	**19 43 55.5**	**-0.9**
TAVA				*i* S	**Sg**	**19 44 20.7**	**+5.1**
TAVA				IAML		19 44 31.0	
	comp=N,6μm,1.3s						
TAVA				IAML		19 44 36.0	
	comp=E,4μm,0.6s						
KONT	**Konya--Tatoy**	**1.39**	**78**	PN	**Pb**	**19 43 56.9**	**-0.2**
KONT	**Konya--Tatoy**	**1.39**	**78**	⇑*iP*	**Pb**	**19 43 56.9**	**-0.2**
KONT				*i* S	**Sg**	**19 44 18.2**	**+2.4**
KONT				IAML		19 44 21.0	
	comp=E,14μm,0.6s						
KONT				IAML		19 44 22.0	
	comp=N,19μm,1.1s						
KDHN	**Kadinhani**	**1.45**	**53**	⇑*iP*	**Pn**	**19 43 57.4**	**+0.1**
KDHN				*i* S	**Sg**	**19 44 19.0**	**+1.4**
KDHN				IAML		19 44 21.0	
	comp=N,8μm,0.7s						
KDHN				IAML		19 44 26.0	
	comp=E,8μm,0.7s						
LADK	**Ladik-KONYA**	**1.47**	**68**	PN	**Pb**	**19 43 58.2**	**-0.2**
LADK				SN	**Sg**	**19 44 18.9**	**+0.7**
KIZT	**Kizilcal**	**1.56**	**38**	PN	**Pn**	**19 43 59.4**	**+0.6**
AUKIR	**Kırka- Seyitga**	**1.61**	**357**	⇑*iP*	**Pb**	**19 44 00.5**	**-0.4**
AUKIR				*i* S	**Sg**	**19 44 25.3**	**+2.4**
AUKIR				IAML		19 44 33.0	
	comp=N,11μm,0.8s						
AUKIR				IAML		19 44 40.0	
	comp=E,11μm,1.3s						
FETY	**Fethiye**	**1.61**	**231**	P	**Pb**	**19 44 01.4**	**+0.5**
FETY				S	**Sg**	**19 44 26.1**	**+3.2**
FETY	**Fethiye**	**1.61**	**231**	⇑*iP*	**Pg**	**19 44 01.9**	**-0.1**
FETY				*i* S	**Sg**	**19 44 25.2**	**+2.3**
FETY				IAML		19 44 42.0	
	comp=E,4μm,0.6s						
FETY				IAML		19 44 49.0	
	comp=N,5μm,1.0s						
USAK	**Uak-Merkez**	**1.65**	**310**	⇑*iP*	**Pn**	**19 44 00.1**	**+0.1**
USAK				*i* S	**Sg**	**19 44 27.3**	**+3.2**
USAK				IAML		19 44 34.0	
	comp=N,5μm,0.8s						
USAK				IAML		19 44 39.0	
	comp=E,5μm,0.7s						
AKAS	**Kas**	**1.65**	**210**	PN	**Pb**	**19 44 01.3**	**-0.3**
AKAS	**Kas**	**1.65**	**210**	⇓*iP*	**Pg**	**19 44 02.5**	**-0.2**
AKAS				*i* S	Sg	19 44 36.2	+12
AKAS				IAML		19 44 51.0	
	comp=E,11μm,0.9s						
AKAS				IAML		19 44 58.0	
	comp=N,19μm,1.3s						
GEDZ	**Gediz**	**1.68**	**325**	PN	**Pn**	**19 44 01.1**	**+0.6**
GDZ	**Gediz**	**1.69**	**328**	⇑*iP*	**Pn**	**19 44 00.9**	**+0.2**
GDZ				*i* S	**Sg**	**19 44 26.2**	**+0.9**
GDZ				IAML		19 44 33.0	
	comp=E,3μm,0.8s						
GDZ				IAML		19 44 49.0	
	comp=N,3μm,0.9s						
CIFT	**Cifteler, Eski**	**1.73**	**11**	PN	**Pn**	**19 44 01.5**	**+0.4**
KSL	**Kastellorizon**	**1.73**	**210**	P	**Pb**	**19 44 03.5**	**+0.6**
KSL				S	**Sg**	**19 44 29.5**	**+2.7**
	comp=N,24μm,1.0s						
KULA	**Kula-Manisa**	**1.78**	**299**	P	**Pn**	**19 44 01.8**	**0.0**
KULA				S	**Sn**	**19 44 22.3**	**-2.1**
KULA	**Kula-Manisa**	**1.78**	**299**	PN	**Pn**	**19 44 01.9**	**+0.1**
DALY	**Dalyan (Mula)**	**1.80**	**242**	PN	**Pn**	**19 44 02.9**	**+0.9**
DALY	**Dalyan (Mula)**	**1.80**	**242**	⇑*iP*	**Pb**	**19 44 03.6**	**-0.4**
DALY				*i* S	**Sg**	**19 44 31.4**	**+2.6**
DALY				IAML		19 44 45.0	
	comp=E,12μm,0.9s						
DALY				IAML		19 44 56.0	
	comp=N,10μm,1.0s						
MANT	**Manisa**	**1.84**	**297**	⇑*iP*	**Pn**	**19 44 02.6**	**-0.1**
MANT				*i* S	**Sg**	**19 44 35.6**	**+5.4**
MANT				IAML		19 44 41.0	
	comp=N,8μm,1.0s						
MANT				IAML		19 44 42.0	
	comp=E,7μm,0.8s						
AUSIV	**SIVRIHISAR**	**1.91**	**21**	PN	**Pn**	**19 44 04.3**	**+0.7**
AUSIV	**SIVRIHISAR**	**1.91**	**21**	⇑*iP*	**Pn**	**19 44 04.1**	**+0.5**
AUSIV				*i* S	**Sn**	**19 44 28.3**	**+0.6**
AUSIV				IAML		19 44 40.0	
	comp=E,2μm,0.9s						
AUSIV				IAML		19 44 56.0	
	comp=N,3μm,1.1s						
SVRH	**Sivrihisar-ESK**	**1.91**	**21**	PN	**Pn**	**19 44 04.3**	**+0.7**
SIMA	**Simav-Kutahya**	**1.92**	**318**	PN	**Pn**	**19 44 04.2**	**+0.4**
YER	**Yerkesik**	**1.95**	**255**	P	**Pn**	**19 44 05.4**	**+1.2**
YER				S	**Sb**	**19 44 30.7**	**-0.3**
YER	**Yerkesik**	**1.95**	**255**	PN	**Pn**	**19 44 05.1**	**+0.9**
YER	**Yerkesik**	**1.95**	**255**	P	**Pn**	**19 44 05.3**	**+1.1**
GAZI	**Gazipasa**	**1.96**	**136**	⇑*iP*	**Pn**	**19 44 03.5**	**-0.8**
GAZI				*i* S	**Sg**	**19 44 36.6**	**+2.5**
GAZI				IAML		19 44 47.0	
	comp=N,17μm,0.8s						
GAZI				IAML		19 44 51.0	
	comp=E,10μm,1.4s						
CHBY	**Cihanbeyli**	**2.00**	**62**	PN	**Pn**	**19 44 06.2**	**+1.3**
TVSB	**Tavsanli**	**2.01**	**333**	PN	**Pn**	**19 44 05.5**	**+0.5**
ERMK	**Ermenek**	**2.08**	**119**	⇑*iP*	**Pb**	**19 44 08.0**	**-1.0**
ERMK				*i* S	**Sg**	**19 44 44.9**	**+6.8**
ERMK				IAML		19 44 51.0	
	comp=E,17μm,1.6s						
ERMK				IAML		19 44 55.0	
	comp=N,13μm,0.8s						
TURN	**Turunc**	**2.11**	**246**	PN	**Pn**	**19 44 07.4**	**+1.1**
TURN	**Turunc**	**2.11**	**246**	⇑*iP*	**Pn**	**19 44 07.7**	**+1.5**
TURN				*i* S	**Sg**	**19 44 39.0**	**+0.3**
TURN				IAML		19 44 55.0	
	comp=N,2μm,1.1s						
TURN				IAML		19 44 56.0	
	comp=E,3μm,1.0s						
AYDN	**Tasoluk**	**2.19**	**271**	⇑*iP*	**Pn**	**19 44 07.7**	**+0.3**
AYDN				*i* S	**Sg**	**19 44 47.7**	**+6.3**
AYDN				IAML		19 44 50.0	
	comp=E,3μm,0.9s						
AYDN				IAML		19 44 58.0	
	comp=N,3μm,1.3s						
BORA	**Eskisehir**	**2.22**	**356**	PN	**Pn**	**19 44 08.3**	**+0.4**
BORA	**Eskisehir**	**2.22**	**356**	⇑*iP*	**Pn**	**19 44 08.2**	**+0.4**
BORA				*i* S	**Sg**	**19 44 49.1**	**+6.9**
BORA				IAML		19 44 51.0	
	comp=E,1μm,1.8s						
AUBOZ	**BOZOYUK**	**2.29**	**348**	PN	**Pn**	**19 44 09.5**	**+0.6**
AUBOZ	**BOZOYUK**	**2.29**	**348**	⇑*iP*	**Pn**	**19 44 09.5**	**+0.6**
AUBOZ				*i* S	**Sg**	**19 44 47.7**	**+3.0**
AUBOZ				IAML		19 44 55.0	
	comp=E,4μm,0.7s						
AUBOZ				IAML		19 44 56.0	
	comp=N,2μm,0.9s						
KULU	**Kulu**	**2.31**	**53**	PN	**Pn**	**19 44 10.3**	**+1.1**
SULT	**Sultanhani-AKS**	**2.34**	**76**	PN	**Pn**	**19 44 11.3**	**+1.8**
KKUL	**Konya-Kulu**	**2.34**	**49**	⇓*iP*	**Pn**	**19 44 10.9**	**+1.3**
KKUL				*i* S	**Sg**	**19 44 48.1**	**+1.9**
KKUL				IAML		19 44 53.0	
	comp=N,3μm,0.9s						
KKUL				IAML		19 44 59.0	
	comp=E,4μm,0.9s						
SRCK	**Saricakaya, Es**	**2.37**	**360**	PN	**Pn**	**19 44 10.8**	**+0.9**
YESY	**Yesilyurt**	**2.46**	**86**	PN	**Pn**	**19 44 13.1**	**+1.8**
ARG	**Arkhangelos**	**2.48**	**235**	P	**Pn**	**19 44 13.0**	**+1.6**
ARG				S	**Sb**	**19 44 45.7**	**-0.5**
	comp=E,14μm,1.2s						
AKHS	**Akhisar**	**2.53**	**299**	⇑*iP*	**Pn**	**19 44 11.9**	**-0.2**
AKHS				IAML		19 44 49.0	
	comp=E,1μm,1.0s						
AKHS				*i* S	**Sg**	**19 45 01.2**	**+8.9**
DURS	**Dursunbey**	**2.57**	**319**	⇑*iP*	**Pn**	**19 44 13.2**	**+0.5**
DURS				IAML		19 44 54.0	
	comp=E,2μm,1.1s						
DURS				*i* S	**Sg**	**19 44 57.0**	**+3.4**
DURS				IAML		19 44 59.0	
	comp=N,3μm,1.0s						
AFSR	**Afar-Bala (An**	**2.61**	**46**	PN	**Pn**	**19 44 14.8**	**+1.5**
CAVI	**Cavuskoy**	**2.61**	**346**	PN	**Pn**	**19 44 14.1**	**+0.9**
DAT	**Datca**	**2.62**	**250**	P	**Pn**	**19 44 14.5**	**+1.1**
DAT	**Datca**	**2.62**	**250**	PN	**Pn**	**19 44 14.7**	**+1.3**
DAT	**Datca**	**2.62**	**250**	⇑*iP*	**Pn**	**19 44 14.0**	**+0.6**
DAT				*i* S	**Sg**	**19 44 53.2**	**-1.9**
DAT				IAML		19 44 57.0	
	comp=N,876nm,0.9s						
DAT				IAML		19 44 57.0	
	comp=E,818nm,1.0s						
SERE	**Sereflikochisa**	**2.63**	**60**	PN	**Pn**	**19 44 14.4**	**+0.8**
AKSY	**AKSARAY - Alti**	**2.65**	**67**	⇑*iP*	**Pn**	**19 44 14.8**	**+1.0**
AKSY				IAML		19 44 55.0	
	comp=N,759nm,1.2s						
AKSY				*i* S	**Sg**	**19 44 56.0**	**-0.1**
AKSY				IAML		19 44 59.0	
	comp=E,699nm,0.8s						
BBAL	**Bala**	**2.70**	**45**	⇓*iP*	**Pn**	**19 44 16.6**	**+2.0**
BBAL				IAML		19 44 54.0	
	comp=N,1μm,1.0s						
BBAL				IAML		19 44 56.0	
	comp=E,1μm,0.8s						
BBAL				*i* S	**Sg**	**19 45 05.5**	**+7.7**
GCAM	**G?zelcaml?**	**2.70**	**272**	PN	**Pn**	**19 44 14.6**	**+0.2**
GCAM	**G?zelcaml?**	**2.70**	**272**	*i* P	**Pn**	**19 44 14.3**	**-0.1**
GCAM				IAML		19 44 48.0	
	comp=N,1μm,1.1s						
GCAM				IAML		19 44 54.0	
	comp=E,1μm,0.8s						
GCAM				*i* S	Sg	19 45 09.0	+11
BODT	**Bodrum**	**2.72**	**258**	P	**Pn**	**19 44 15.5**	**+0.8**
BODT	**Bodrum**	**2.72**	**258**	PN	**Pn**	**19 44 15.7**	**+1.0**
ULDT	**Uludag**	**2.74**	**335**	⇑*iP*	**Pn**	**19 44 15.5**	**+0.4**
ULDT				IAML		19 44 51.0	
	comp=N,1μm,0.7s						
ULDT				IAML		19 44 56.0	
	comp=E,2μm,0.7s						
ULDT				*i* S	**Sg**	**19 45 00.6**	**+1.6**
GULN	**MERSIN_Gulnar**	**2.76**	**122**	⇑*iP*	**Pn**	**19 44 17.0**	**+1.8**
GULN				*i* S	**Sb**	**19 44 55.4**	**+1.3**
GULN				IAML		19 44 58.0	
	comp=N,3μm,2.0s						
GULN				IAML		19 44 58.0	
	comp=E,3μm,1.1s						
GULT	**Gulveren**	**2.76**	**358**	PN	**Pn**	**19 44 16.2**	**+0.8**
KERG	**Konya-Eregli**	**2.78**	**94**	⇑*iP*	**Pn**	**19 44 16.9**	**+1.1**
KERG				IAML		19 44 54.0	
	comp=E,1μm,0.6s						
KERG				IAML		19 44 55.0	
	comp=N,1μm,0.6s						
KERG				*i* S	**Sg**	**19 45 03.4**	**+3.0**
IGD	**Bursa**	**2.83**	**337**	⇑*iP*	**Pn**	**19 44 16.7**	**+0.5**
IGD				IAML		19 44 52.0	
	comp=E,870nm,0.6s						
IGD				IAML		19 44 54.0	
	comp=N,1μm,0.9s						
IGD				*i* S	**Sg**	**19 45 02.7**	**+0.9**
GEYV	**SAKARYA_Geyve**	**2.83**	**355**	⇑*iP*	**Pn**	**19 44 16.8**	**+0.6**
GEYV				IAML		19 44 51.0	
	comp=N,2μm,0.7s						
GEYV				IAML		19 44 57.0	
	comp=E,2μm,0.8s						
GEYV				*i* S	**Sg**	**19 45 02.8**	**+0.9**
ADVT	**Abdulvahap**	**2.85**	**346**	PN	**Pn**	**19 44 17.2**	**+0.7**
STEP	**BALIKESIR_Sava**	**2.86**	**308**	⇑*iP*	**Pn**	**19 44 17.1**	**+0.4**
STEP				IAML		19 44 52.0	
	comp=E,2μm,1.1s						
STEP				IAML		19 44 53.0	
	comp=N,4μm,0.8s						
STEP				*i* S	**Sg**	**19 45 09.4**	**+6.6**
KIBS	**BOLU**	**2.91**	**19**	⇑*iP*	**Pn**	**19 44 18.6**	**+1.2**
KIBS				IAML		19 44 55.0	
	comp=N,1μm,1.2s						
KIBS				IAML		19 44 57.0	
	comp=E,2μm,0.7s						
KIBS				*i* S	**Sg**	**19 45 07.0**	**+2.5**
BLCB	**Balcova**	**2.93**	**285**	P	**Pn**	**19 44 17.5**	**-0.1**
KIRS	**Kırehir-Merke**	**2.96**	**59**	⇓*iP*	**Pn**	**19 44 19.4**	**+0.9**
KIRS				IAML		19 44 55.0	
	comp=N,324nm,0.5s						
KIRS				IAML		19 44 56.0	
	comp=E,689nm,0.6s						
KIRS				*i* S	**Sg**	**19 45 07.4**	**+1.2**
NISR	**Nisiros**	**3.00**	**250**	P	**Pn**	**19 44 20.1**	**+1.6**
DGB	**zmir**	**3.00**	**279**	⇑*iP*	**Pn**	**19 44 18.5**	**0.0**
DGB				IAML		19 44 54.0	
	comp=N,673nm,0.8s						
DGB				IAML		19 44 56.0	
	comp=E,528nm,0.8s						
DGB				*i* S	**Sg**	**19 45 13.2**	**+5.9**
SMG	**Samos**	**3.02**	**272**	P	**Pn**	**19 44 18.8**	**0.0**
KIZK	**Mersin**	**3.04**	**112**	⇑*iP*	**Pn**	**19 44 21.9**	**+2.8**
KIZK				IAML		19 44 58.0	
	comp=E,1μm,0.8s						
KIZK				IAML		19 44 59.0	
	comp=N,814nm,1.2s						
KIZK				*i* S	**Sb**	**19 45 01.6**	**-0.8**
ZEDA	**zmir-Bergama**	**3.09**	**296**	⇑*iP*	**Pn**	**19 44 20.1**	**+0.3**
ZEDA				IAML		19 44 58.0	
	comp=N,724nm,0.7s						
ZEDA				IAML		19 44 58.0	
	comp=E,1μm,0.9s						
ZEDA				*i* S	**Sg**	**19 45 13.3**	**+3.2**
BRTR	**Keskin Array B**	**3.12**	**48**	Pn	**Pn**	**19 44 21.1**	**+0.7**
	comp=E,38nm,0.3s,baz=223,slow=16,SNR=818						
BRTR				Sn	**Sn**	**19 44 59.4**	**+1.7**
	comp=E,92nm,0.3s,baz=225,slow=18,SNR=8.0						
BR131	**Keskin Array S**	**3.12**	**48**	P	**Pn**	**19 44 21.0**	**+0.7**
LEF	**Lefka**	**3.12**	**144**	⇓*iS*	**Sb**	**19 45 03.2**	**-1.5**
LEF	**Lefka**	**3.12**	**144**	⇓*iP*	**Pn**	**19 44 17.3**	**-3.0**
BALY	**Balya**	**3.14**	**312**	⇑*iP*	**Pn**	**19 44 20.9**	**+0.4**
BALY				IAML		19 44 58.0	
	comp=N,1μm,0.8s						
BALY				IAML		19 44 59.0	
	comp=E,862nm,0.6s						
CMDR	**Camlidere-ANKA**	**3.17**	**26**	⇑*iP*	**Pn**	**19 44 22.0**	**+1.0**
CMDR				IAML		19 44 59.0	
	comp=N,902nm,0.7s						
CMDR				IAML		19 44 59.0	
	comp=E,324nm,0.5s						
SAHE	**Sakarya_HENDEK**	**3.19**	**3**	⇑*iP*	**Pn**	**19 44 21.9**	**+0.7**
URLA	**Izmir**	**3.27**	**283**	⇑*iP*	**Pn**	**19 44 22.4**	**+0.1**
GULE	**Gulek**	**3.31**	**95**	⇑*iP*	**Pn**	**19 44 24.6**	**+1.6**
BCAM	**Yenicaga**	**3.33**	**19**	⇑*iP*	**Pn**	**19 44 24.3**	**+1.0**
YIGI	**Dzce**	**3.35**	**11**	⇑*iP*	**Pn**	**19 44 24.2**	**+0.8**
DED	**Mersin**	**3.39**	**101**	⇑*iP*	**Pn**	**19 44 26.2**	**+2.3**
BUY	**Buyukada**	**3.39**	**340**	⇑*iP*	**Pn**	**19 44 24.3**	**+0.3**
KAND	**Kocaeli-Kandir**	**3.44**	**354**	⇑*iP*	**Pn**	**19 44 25.2**	**+0.6**
DELI	**KIRIKKALE**	**3.46**	**47**	⇓*iP*	**Pn**	**19 44 25.8**	**+0.7**
AVNS	**Nevsehir-Avano**	**3.50**	**70**	⇑*iP*	**Pn**	**19 44 27.0**	**+1.4**
AYVA	**Ayvalik**	**3.50**	**299**	⇑*iP*	**Pn**	**19 44 25.9**	**+0.4**
KARP	**Karpathos**	**3.51**	**234**	P	**Pn**	**19 44 27.0**	**+1.4**
CDAG	**Cicekdag**	**3.52**	**55**	⇓*iP*	**Pn**	**19 44 26.7**	**+0.9**
**EREN

CUALT	Altinyayla-SIV	5.06	70	*i*	P		Pn	19 44 50.3	+3.3
EDRB	Edirne	5.14	326		P		Pn	19 44 48.0	0.0
ELBS	KAHRAMANMARAS	5.17	81	*i*	P		Pn	19 44 51.2	+2.6
HAVZ	Havza	5.20	48	*i*	P		Pn	19 44 50.0	+1.1
IDI	Anoyia	5.20	245		Pn		Pn	19 44 49.5	+0.6
	comp=E,8.1nm,0.3s,baz=67,slow=16,SNR=62								
IDI					Sn		Sn	19 45 52.1	+3.1
	comp=E,6.1nm,0.3s,baz=72,slow=16,SNR=1.4								
IDI	Anoyia	5.20	245		P		Pn	19 44 49.7	+0.8
IDI	Anoyia	5.20	245	⇓	P		Pn	19 44 51.6	+2.7
KUZU	Kuzuini	5.21	98	*i*	P		Pn	19 44 51.0	+2.0
KYMI	Kymi, Euboea I	5.24	283		P		Pn	19 44 50.9	+1.5
RDO	Rodhopi	5.26	313		P		Pn	19 44 49.6	0.0
DION	Dionisos Attik	5.32	276		P		Pn	19 44 51.8	+1.3
CUGUR	Gurin_SVAS	5.33	77	*i*	P		Pn	19 44 54.1	+3.4
DIKM	Dikmen	5.34	40	⇑	P		Pn	19 44 52.9	+2.2
PTL	Penteli	5.37	276		P		Pn	19 44 52.6	+1.4
SIVA	Sivas	5.40	242		P		Pn	19 44 53.5	+2.0
THAS	Thassos island	5.46	304		P		Pn	19 44 52.9	+0.6
ATH	Athens Observa	5.49	275		P		Pn	19 44 55.3	+2.6
AOS	Alonnisos	5.52	288		P		Pn	19 44 54.5	+1.4
VAM	Vamos	5.65	248		P		Pn	19 44 57.8	+2.8
KDZ	Kurdzhali	5.66	316	*i*	P		Pn	19 44 56.1	+0.9
JMB	Yambol	5.71	328	*i*	P		Pn	19 44 57.2	+1.4
IMMV	Iera Moni Meta	5.79	250		P		Pn	19 44 59.3	+2.4
KAVA	Kavala	5.80	307		P		Pn	19 44 57.9	+0.9
VILL	Villia	5.81	277		P		Pn	19 44 58.8	+1.5
SKIA	Skiathos	5.83	287		P		Pn	19 44 58.6	+1.2
OUR	Ouranopolis	5.83	299		P		Pn	19 44 58.1	+0.7
DID	Didima	5.88	271		P		Pn	19 44 59.4	+1.2
DIM	Dimitrovgrad	5.88	320	*i*	P		Pn	19 44 58.7	+0.6
HNTI	Hanita	5.88	140		Pn		Pn	19 44 57.9	-0.3
PAIG	Paliouri	5.89	295		P		Pn	19 44 59.1	+0.9
GEM	Giv'at Ha'Em	6.05	136		Pn		Pn	19 44 59.9	-0.6
NATI	Neve Ativ	6.05	135		Pn		Pn	19 45 00.3	-0.2
PRD	Provadia	6.05	337	*i*	P		Pn	19 45 00.6	+0.1
MMA0B	Mount Meron ar	6.06	139		Pn		Pn	19 45 00.4	-0.2
MMAI	Mount Meron Ar	6.06	139		Pn		Pn	19 45 00.5	-0.1
	comp=E,32nm,0.3s,baz=329,slow=13,SNR=167								
MMAI					Sn		Sn	19 46 15.1	+5.1
	comp=E,9.3nm,0.3s,baz=304,slow=26,SNR=1.4								
XOR	Xorichti	6.08	288		P		Pn	19 45 01.5	+0.6
RZN	Rozhen	6.08	313	*i*	P		Pn	19 45 01.8	+0.7
KNDR	Palaiochora Ch	6.11	249		P		Pn	19 45 04.3	+3.1
NEF	NEVSHA	6.15	336	*i*	P		Pn	19 45 02.5	+0.6
OFRI	`Ofer	6.17	143		Pn		Pn	19 45 01.3	-0.8
BLGI	Bet Lehem HaGe	6.17	142		Pn		Pn	19 45 02.0	-0.2
MALT	Malatya	6.19	82		P		Pn	19 45 05.3	+2.9
PLG	Polygyros	6.22	298		P		Pn	19 45 03.1	+0.3
VLI	Velíai	6.22	264		P		Pn	19 45 03.8	+1.0
KTHA	Kythira Island	6.23	259		P		Pn	19 45 06.3	+3.4
PSN	Preselentsi	6.29	344	*i*	P		Pn	19 45 03.4	-0.4
MANR	Mangalia	6.34	346	⇑	P		Pn	19 45 05.4	+1.0
PLD	Plovdiv	6.36	316	*i*	P		Pn	19 45 05.6	+0.9
NVR	Nevrokopi	6.40	307		P		Pn	19 45 06.0	+0.7
SRS	Serrai	6.45	304		P		Pn	19 45 06.3	+0.3
SOH	Sokhos	6.47	301		P		Pn	19 45 07.0	+0.7
SLTI	Sal'it	6.51	145		Pn		Pn	19 45 06.6	-0.2
MMLI	Mount Malkishu	6.53	142		Pn		Pn	19 45 07.0	0.0
HORT	Hortiatis	6.55	279		P		Pn	19 45 08.7	+1.3
VLX	Vlachokerasia	6.57	270		P		Pn	19 45 10.1	+2.4
GUR	Goura	6.58	275		P		Pn	19 45 09.7	+1.9
MMB	Musomiste	6.62	308	*i*	P		Pn	19 45 08.8	+0.5
SZH	Strazhica	6.64	329	*i*	P		Pn	19 45 08.8	+0.2
TRIP	Tripoli	6.65	271		P		Pn	19 45 10.8	+2.1
THE	Thessaloniki	6.66	299		P		Pn	19 45 10.3	+1.5
TSCT	Constanta Port	6.66	348	⇑	P		Pn	19 45 10.4	+1.7
AGG	Agios Georgios	6.67	284		P		Pn	19 45 09.8	+0.8
AGG	Agios Georgios	6.67	284		P		Pn	19 45 11.8	+2.8
RAZG	Razgrad	6.68	333	⇓	P		Pn	19 45 09.9	+0.8
QRNJ	Al-Qirein	6.68	141		Pn		Pn	19 45 09.3	+0.1
MFTR	Murfatlar	6.72	346	⇑	P		Pn	19 45 10.4	+0.8
HMDT	Nahal Hemdat	6.73	142		Pn		Pn	19 45 09.8	0.0
ICOR	Ion Corvin	6.79	342	⇓	P		Pn	19 45 11.9	+1.2
TRIZ	Trizonia	6.80	279		P		Pn	19 45 12.9	+2.2
LIT	Litokhoron	6.80	293		P		Pn	19 45 12.5	+1.7
LIT	Litokhoron	6.80	293		P		Pn	19 45 12.6	+1.7
SERG	Sergoula	6.81	279		P		Pn	19 45 13.3	+2.3
MATC	Matruh	6.90	205		P		Pn	19 45 14.2	+2.0
	baz=207								
MATC					S		Sn	19 46 30.7	0.0
	baz=207								
ANX	Ano Chora	6.93	280		P		Pn	19 45 14.9	+2.2
EFP	Efpalio	6.93	279		P		Pn	19 45 15.0	+2.4
UJAP	Al Uja	6.95	144		Pn		Pn	19 45 12.6	-0.1
ITM	Ithomi	6.95	269		P		Pn	19 45 15.9	+3.0
TIRR	Tirgusor	6.99	347	⇓	P		Pn	19 45 14.5	+1.1
TIRR	Tirgusor	6.99	347		P		Pn	19 45 14.4	+1.1
THL	Klokotos Trika	7.01	288		P		Pn	19 45 15.1	+1.4
RASA	Rasa	7.05	339	⇓	P		Pn	19 45 15.2	+1.0
EVR	Evrytania	7.06	283		P		Pn	19 45 16.7	+2.3
AMAZ	Amatzia	7.06	149		Pn		Pn	19 45 13.6	-0.8
DRO	Drossia	7.08	275		P		Pn	19 45 17.2	+2.6
AMT	Artemida-Makis	7.09	272		P		Pn	19 45 18.0	+3.2
HBRG	Burj al `Arab	7.11	186		P		Pn	19 45 16.4	+1.4
	baz=188								
HBRG					S		Sn	19 46 34.4	-1.3
	baz=188								
TLBR	Topalu	7.14	345	⇓	P		Pn	19 45 16.5	+1.1
KKB	Krupnik	7.17	308	*i*	P		Pn	19 45 13.6	-2.3
ZIMR		7.20	328	⇑	P		Pn	19 45 17.4	+1.2
JURR	Jurilovca	7.22	350	⇑	P		Pn	19 45 17.5	+1.1
DSI	Dead Sea	7.23	146		Pn		Pn	19 45 16.3	-0.4
VAY	Valandovo	7.23	303	*i*	Pn		Pn	19 45 18.7	+2.1
YTIR	Yattir	7.29	148		Pn		Pn	19 45 17.3	-0.3
HARR	Harsova	7.33	345	⇓	P		Pn	19 45 18.8	+1.1
YAL	Yalta	7.31	20	⇓	*i*P		Pn	19 45 18.2	+0.4
YAL					*i*S		Sn	19 46 39.3	-1.4
AMRR	Amara	7.37	341	⇑	P		Pn	19 45 19.8	+1.3
LEHL	Lehliu	7.39	338	⇓	P		Pn	19 45 19.6	+0.9
TOPG	Topolog	7.40	347	⇑	P		Pn	19 45 19.9	+0.9
KZIT	Kziot	7.42	154		Pn		Pn	19 45 18.5	-0.9
SGRR	Singureni	7.44	333	⇑	P		Pn	19 45 20.0	+0.5
ASF	Jabal al Asfar	7.51	135		Pn		Pn	19 45 22.1	+1.4
	comp=E,2.8nm,0.3s,baz=269,slow=12,SNR=42								
ASF					Sn		Sn	19 46 44.5	-1.4
	comp=E,1.5nm,0.3s,baz=64,slow=14,SNR=1.4								
ASF					LR		LR	19 48 47.2	
	comp=E,1µm,18.7s,baz=268,slow=42								
VTS	Vitosha	7.52	313	*i*	P		Pn	19 45 22.0	+1.2
GHAJ	Ghor Haditha	7.54	146		Pn		Pn	19 45 20.6	-0.3
ALU	Alushta	7.56	21	⇓	*e*P		Pn	19 45 22.1	+0.9
ALU					*e*S		Sn	19 46 47.2	+0.3
ALU					LR		LR		
	comp=Z,167nm,0.6s				pmax		pmax		
ALU									
	comp=N,94nm,0.6s				smax		smax		
ALU									
	comp=E,227nm,0.7s				smax		smax		
DAMI2	DAM2	7.60	147		Pn		Pn	19 45 21.1	-0.5
TLCR		7.64	350	⇓	P		Pn	19 45 23.5	+1.2
COPA	Copaceanca	7.65	329	⇑	P		Pn	19 45 23.6	+1.2
KARJ	KARJ	7.73	146		Pn		Pn	19 45 12.3	-11
SIM	Simferopol'	7.73	19	⇓	*i*P		Pn	19 45 24.3	+0.8
SIM					*e*S		Sn	19 46 50.8	-0.3
SIM					pmax		pmax		
	comp=Z,197nm,0.6s								
SIM					smax		smax		
	comp=N,301nm,1.1s								
SIM					smax		smax		
	comp=E,230nm,1.3s								
CFR	Carcaliu	7.74	347	⇓	P		Pn	19 45 24.1	+0.6
PGOR	Pogoanele	7.74	340	⇑	P		Pn	19 45 25.7	+2.0
SULR		7.75	336	⇑	P		Pn	19 45 25.9	+2.2
KTUT	Trabzon	7.81	62	⇓	P		Pn	19 45 28.2	+3.5
HMYD	Mayadein	7.85	179		P		Pn	19 45 26.4	+1.2
	baz=181								
VLAD	Vladila	7.89	325	⇑	P		Pn	19 45 27.1	+1.3
SUDU	Sudak	7.93	23	⇓	*i*P		Pn	19 45 27.0	+0.8
SUDU					*i*S		Sn	19 46 56.0	+0.1
SUDU					pmax		pmax		
	comp=Z,136nm,0.5s								
SUDU					smax		smax		
	comp=E,257nm,0.8s								
SUDU					smax		smax		
	comp=N,88nm,0.7s								
HNAT	Natroun	8.01	180		P		Pn	19 45 28.9	+1.4
	baz=182								
GIUM	Giurgiulesti	8.02	348	⇓	P		Pn	19 45 28.0	+0.5
ZFRI	Zfri	8.03	151		Pn		Pn	19 45 26.2	-1.4
ISR	Istrita	8.06	339	⇑	P		Pn	19 45 29.7	+1.7
HSAF	As Saff	8.06	174		P		Pn	19 45 28.7	+0.6
	baz=176								
HUMR	Humele	8.07	330	⇓	P		Pn	19 45 28.8	+0.6
SCHL	Schela	8.11	346	⇑	P		Pn	19 45 29.9	+1.2
GLL	Jalalah	8.12	173		P		Pn	19 45 29.5	+0.6
	baz=175								
SECR		8.12	336	⇑	P		Pn	19 45 29.4	+0.5
PRNI	Paran	8.14	152		Pn		Pn	19 45 28.3	-1.0
FEO	Feodosiya	8.17	24		*e*P		Pn	19 45 31.2	+1.7
FEO					*e*S		Sn	19 47 02.5	+0.7
FEO					pmax		pmax		
	comp=Z,21nm,0.2s								
FEO					smax		smax		
	comp=N,47nm,0.5s								
FEO					smax		smax		
	comp=E,105nm,0.9s								
GRER		8.18	342	⇑	P		Pn	19 45 31.1	+1.4
TUDR		8.23	345	⇑	P		Pn	19 45 31.4	+1.2
STFAR	Stefanesti-Arg	8.36	331	⇑	P		Pn	19 45 34.4	+2.2
NEHR	Nehoiu	8.41	339	⇑	P		Pn	19 45 34.6	+1.8
HRFI	Mount Harif	8.44	153		Pn		Pn	19 45 32.0	-1.4
PETR	Petresti	8.44	344	⇑	P		Pn	19 45 35.1	+1.8
VARL	Varlezi	8.49	347	⇑	P		Pn	19 45 36.0	+2.1
MLR	Muntele Rosu	8.57	337		Pn		Pn	19 45 36.9	+1.8
	comp=E,6.7nm,0.3s,baz=137,slow=4.1,SNR=69								
MLR	Muntele Rosu	8.57	337	⇑	P		Pn	19 45 37.3	+2.2
MTUR	Matau	8.63	333	⇓	P		Pn	19 45 37.8	+1.8
VRI	Vrincioaia	8.70	342	⇑	P		Pn	19 45 38.4	+1.6
GHRR		8.73	345	⇑	P		Pn	19 45 39.4	+2.3
EIL	Elat	8.75	155		Pn		Pn	19 45 36.8	-0.7
	comp=E,5.4nm,0.3s,baz=333,slow=7.6,SNR=47								
EIL					Sn		Sn	19 47 19.6	+3.5
	comp=E,4.6nm,0.3s,baz=322,slow=19,SNR=1.7								
EIL					LR		LR	19 49 30.5	
	comp=E,1µm,18.6s,baz=330,slow=41								
EIL	Elat	8.75	155		Pn		Pn	19 45 36.1	-1.4
ANN	Anapa	8.77	34		*e*P		Pn	19 45 36.2	-1.6
ANN					*e*S		Sn	19 47 16.6	0.0
ANN					pmax		pmax		
	comp=Z,17nm,0.7s								
ANN					MLR		MLR		
	comp=E,619nm,8.0s								
ANN					MLR		MLR		
	comp=Z,336nm,7.0s								
KERU	Kerch	8.79	28		*e*P		Pn	19 45 43.1	+5.0
KERU					pmax		pmax		
	comp=Z,7.0nm,0.6s								
PUNG	Punghina	8.81	321	⇑	P		Pn	19 45 38.9	+0.6
VOIR		8.82	333	⇓	P		Pn	19 45 40.0	+1.4
BIR	Birlad	8.88	346	⇑	P		Pn	19 45 40.9	+1.7
ARR	Arges	8.91	332	⇓	P		Pn	19 45 41.1	+1.3
SRE	Strehaia	8.96	324	⇓	P		Pn	19 45 41.6	+1.2
OZUR		9.16	338	⇑	P		Pn	19 45 45.1	+1.9
DOPR	Dopca	9.17	336	⇓	P		Pn	19 45 44.6	+1.3
VASR	Vaslui	9.21	348	⇓	P		Pn	19 45 45.3	+1.5
LOT	Lotru	9.32	329	⇑	P		Pn	19 45 46.3	+0.8
TESR	Tescani	9.32	343	⇓	P		Pn	19 45 46.1	+0.8
BATM	Batumi	9.39	62	⇑	P		Pn	19 45 49.4	+3.1
BATM	Batumi	9.39	62		P		Pn	19 45 49.8	+3.5
KIS	Kishinev	9.42	352		*e*P		Pn	19 45 52.0	+5.3
KIS	Kishinev	9.42	352		*e*PP		Pn	19 45 58.0	+11
KIS					*e*Lg		Lg	19 49 05.0	
	comp=Z,1µm,16.0s								
KIS					LRM		MLR	19 51 13.0	
	comp=Z,650nm,13.0s								
KIS	Kishinev	9.42	352		*e*P		Pn	19 45 52.0	+5.3
KIS					MLR		MLR		
	comp=Z,650nm,13.0s								
HERR	Herculane	9.50	322	⇓	P		Pn	19 45 48.1	+0.3
PVY	Plav	9.54	304		*e*Pn		Pn	19 45 50.0	+1.5
PVY					*i* Sn		Sn	19 47 33.8	-2.0
MDB	Medias	9.66	333	⇑	P		Pn	19 45 52.3	+2.2
IVA	Berane	9.72	306	⇓	*i*Pn		Pn	19 45 52.9	+2.1
IVA					*i* Sn		Sn	19 47 37.9	-2.1
ULC	Ulcinj	9.76	300	⇓	*i*Pn		Sn	19 45 53.1	+1.7
ULC					*i* Sn		Sn	19 47 39.0	-2.0
MDVR	Moldovita	9.78	319	⇑	P		Pn	19 45 52.7	+1.0
DRME	Dracevica, Mon	9.89	301		*i*Pn		Pn	19 45 54.9	+1.8
DRME					*i* Sn		Sn	19 47 42.2	-1.9
DRME	Dracevica, Mon	9.89	301		*e*Pn		Pn	19 45 56.3	+3.2
PDG	Podgorica	9.94	302		*e*Pn		Pn	19 45 57.2	+3.4
TTG	Podgorica	9.94	302	⇓	*i*Pn		Pn	19 45 55.4	+1.6
TTG					*i* Sn		Sn	19 47 43.4	-1.9
KOME	Kolasin	9.95	305	⇓	*i*Pn		Pn	19 45 55.8	+1.7
KOME					*i* Sn		Sn	19 47 43.6	-2.2
DEV	Deva	10.03	327	⇓	P		Pn	19 45 56.1	+1.0
BUM	Brajici-Budva	10.13	301	⇑	*i*Pn		Pn	19 45 58.1	+1.6
BUM					*i* Sn		Sn	19 47 47.9	-2.2
CEME	Cevo	10.21	302	⇓	*i*Pn		Pn	19 45 59.3	+1.7
CEME					*i* Sn		Sn	19 47 50.1	-2.1
PRAR	RASCA	10.22	343	⇑	P		Pn	19 45 58.2	+0.6
PLE	Pljevlja	10.26	307		*e*Pn		Pn	19 46 00.5	+2.2
PLE					*i* Sn		Sn	19 47 51.1	-2.2
NKY	Niksic	10.28	304	⇑	*i*Pn		Pn	19 46 00.3	+1.8
NKY					*i* Sn		Sn	19 47 51.5	-2.3
NKME	Niksic	10.28	303	⇑	*i*Pn		Pn	19 46 00.3	+1.7
NKME					*i* Sn		Sn	19 47 51.6	-2.3
DIVS	Divibare	10.30	312		*e*Pn		Pn	19 45 59.0	+0.1
BZS	Buzias	10.42	323	⇑	P		Pn	19 46 00.9	+0.6
RUDO	Rudo	10.42	308		*e*Pn		Pn	19 46 02.2	+1.8
CJR	Cluj-Napoca	10.44	332	⇑	P		Pn	19 46 02.7	+2.0
HCY	Herceg Novi	10.46	301	⇓	*i*Pn		Pn	19 46 03.0	+2.1
HCY					*i* Sn		Sn	19 47 55.9	-2.2
HCY	Herceg Novi	10.46	301		*e*Pn		Pn	19 46 01.3	+0.4
BANR	Banloc	10.49	320	⇓	P		Pn	19 46 03.1	+1.7
ARCR	ARCALIA	10.49	336	⇓	P		Pn	19 46 02.4	+1.0
UPM	Unac-Piva	10.51	305	⇓	*i*Pn		Pn	19 46 03.8	+2.0
UPM					*i* Sn		Sn	19 47 57.2	-2.5
UPM	Unac-Piva	10.51	305		*e*Pn		Pn	19 46 04.4	+2.6
BBLS	Lazići	10.53	310		*e*Pn		Pn	19 46 03.6	+1.7
AKH	Akhalkalaki	10.61	65	⇑	P		Pn	19 46 05.9	+2.7
AKH	Akhalkalaki	10.61	65		P		Pn	19 46 07.8	+4.7
BRY	Bratogost	10.62	303	⇑	*i*Pn		Pn	19 46 05.9	+2.7
BRY					*i* Sn		Sn	19 47 59.7	-2.5
BRY	Bratogost	10.62	303		*e*Pn		Pn	19 46 06.3	+3.1
BURAR	Bucovina Array	10.71	340	⇑	P		Pn	19 46 06.8	+2.4
BURAR	Bucovina Array	10.71	340		P		Pn	19 46 06.3	+1.8
DBRK	Dubrovnik	10.78	301	*i*	P		Pn	19 46 08.2	+2.8
TEKS	Tekeris	10.84	313		*e*Pn		Pn	19 46 10.0	+3.9
SIRR	Siria	10.88	325	⇑	P		Pn	19 46 07.6	+0.9
ONI	Oni	10.97	59		P		Pn	19 46 11.8	+3.8
TIP	Timpagrande	11.00	282	⇑	P		Pn	19 46 09.8	+1.4
FRGS	Fruska Gora	11.04	316		*e*Pn		Pn	19 46 08.8	-0.1
KIV	Kislovodsk	11.08	52	⇑	P		Pn	19 46 12.2	+2.7
KIV	Kislovodsk	11.08	52		*e*P		Pn	19 46 12.0	+2.5
KIV					*e*S		Sn	19 48 17.7	+4.3
KIV					pmax		pmax		
	comp=Z,63nm,1.0s								
KIV					MLR		MLR		
	comp=Z,678nm,10.0s								
KVAR	Kislovodsk Arr	11.08	52		Pn		Pn	19 46 12.8	+3.3
	baz=271,slow=22,SNR=5.1								
KBZ	Khabaz	11.10	53		Pn		Pn	19 46 12.3	+2.7
	comp=Z,0.2nm,0.3s,baz=232,slow=6.4,SNR=15								
KBZ					LR		LR	19 51 57.2	
	comp=Z,426nm,18.5s,baz=228,slow=46								
STON	Ston	11.16	302		*i* P		Pn	19 46 13.3	+2.8
MATE	Matera	11.22	290	⇓	P		Pn	19 46 12.8	+1.4
BMR	Baia Mare	11.29	335	⇑	P		Pn	19 46 13.3	+0.9
ZEI	Tsey	11.35	59		*e*P		Pn	19 46 17.4	+4.0
ZEI					pmax		pmax		
	comp=Z,64nm,1.0s								
RICI	Ricice	11.80	304		P		Pn	19 46 22.1	+2.9
GOF	Gofitskoye	11.88	48	⇑	*e*P		Pn	19 46 26.2	+5.8
GOF					pmax		pmax		
	comp=Z,33nm,0.8s								
HVAR	Hvar	12.13	301		*i* P		Pn	19 46 22.7	-1.1
MORH	Mrgy, Hungar	12.35	318		*e*Pn		Pn	19 46 27.2	+0.5
BLY	Banja Luka	12.35	309		*e*Pn		Pn	19 46 28.5	+1.7
KIJV	Kijevo	12.49	305		*i* P		Pn	19 46 30.9	+2.2
UZH	Uzhgorod	12.53	334		*e*P		Pn	19 46 33.6	+4.4
UZH					*e*S		Sn	19 48 55.0	+6.3
UZH					MLR		MLR		
	comp=Z,480nm,11.0s								
KOLS	Kolonicke sedl	12.79	334		*e*P		Pn	19 46 33.4	+0.6
KOLS	Kolonicke sedl	12.79	334		*e*PN		Pn	19 46 33.4	+0.6
GROC	Groznyy	12.80	60		*e*P		Pn	19 46 34.0	+1.1
GROC					pmax		pmax		
	comp=Z,9.0nm,0.4s								
GROC					MLR		MLR		
	comp=Z,234nm,8.0s								
ZIRJ	Zirje	12.85	302		*i* P		Pn	19 46 35.7	+2.0
VAE	Valguarnera	12.88	274		Pn		Pn	19 46 35.7	+1.6
	comp=Z,0.8nm,0.3s,baz=122,slow=1.0,SNR=6.5								
MORI	Morici	12.89	303	*i*	P		Pn	19 46 34.9	+0.6
PSZ	Piszkesteto	12.92	326	⇑	P		Pn	19 46 35.1	+0.6
PSZ	Piszkesteto	12.92	326		P		Pn	19 46 35.8	+1.2
LVV	L'vov	13.05	341		*e*P		Pn	19 46 37.6	+1.3
LVV					*e*S		Sn	19 49 02.8	+1.5
LVV					MLR		MLR		
	comp=N,400nm,10.0s								
LVV					MLR		MLR		
	comp=E,300nm,10.0s								
LVV					MLR		MLR		
	comp=Z,500nm,10.0s								
CRVS	Cervenica-Dubn	13.06	332		*e*P		Pn	19 46 37.1	+0.7
CRVS	Cervenica-Dubn	13.06	332		*e*PN		Pn	19 46 37.1	+0.7
AKASG	Malin Array Be	13.07	356		Pn		Pn	19 46 35.0	-1.6
	comp=Z,3.5nm,0.3s,baz=180,slow=12,SNR=38								
AKASG					Sn		Sn	19 48 58.0	-3.9
	comp=Z,2.3nm,0.3s,baz=99,slow=35,SNR=1.7								
AKASG					LR		LR	19 52 52.5	
	comp=Z,840nm,18.3s,baz=180,slow=43								
AKBB	Malin Array Si	13.07	356		P		Pn	19 46 35.3	-1.3
KECS	Kecovo	13.10	329		*e*P		Pn	19 46 39.2	+2.2
KECS	Kecovo	13.10	329		*e*PN		Pn	19 46 39.2	+2.2
KWP	Kalwaria Pacla	13.26	337		*e*P		Pn	19 46 41.6	+2.4
BEHE	Becsehely	13.53	315		*e*Pn		Pn	19 46 46.6	+3.8
AKT	Akhty	13.72	69		*e*P		Pn	19 46 49.2	+3.6
AKT					*e*S		Sn	19 49 25.6	+7.5
AKT					pmax		pmax		
	comp=Z,8.0nm,0.8s								
AKT					smax		smax		
	comp=N,5.0nm,1.0s								
AKT					smax		smax		
	comp=E,4.0nm,0.8s								
VYHS	Vyhne	13.82	325		*e*P		Pn	19 46 48.1	+1.3
VYHS	Vyhne	13.82	325		*e*PN		Pn	19 46 48.1	+1.3
MAK	Makhachkala	13.91	62		*e*P		Pn	19 46 46.0	-2.0
MAK					*e*S		Sn	19 49 20.6	-1.8
MAK					pmax		pmax		
	comp=Z,148nm,1.4s								
MAK					MLR		MLR		
	comp=Z,693nm,13.0s								
BOJS	Bojanci	13.91	309		*e*Pn		Pn	19 46 52.1	+4.0
NIE	Niedzica	13.92	331		*e*P		Pn	19 46 50.5	+2.2
CRES	Cresnjev	13.95	311		*e*Pn		Pn	19 46 49.0	+0.4
CRES	Cresnjev	13.95	311		*e*Pn		Pn	19 46 48.1	-0.5
AQU	L'Aquila	14.01	295		*e*Pn		P	19 46 54.6	-2.9
LANS	Liptovska Anna	14.04	328		*e*P		Pn	19 46 53.9	+4.0
LANS	Liptovska Anna	14.04	328		*e*PN

PRU MLR MLR
comp=Z,3µm,13.0s
PRU Pruhonice 16.88 322 *eP* **P 19 47 29.8 +0.5**
PRU *epP* **sP 19 47 34.3 +0.2**
PRU *eS* **Sn 19 50 39.9 +5.2**
PRU AMS AMS 19 55 10.0
comp=Z,3µm,13.0s
MICGM Minsk 16.95 354 *eP* **Pn 19 47 26.0 -2.0**
MICGM *ePP* **PnPn 19 47 37.0 -0.5**
MICGM *eS* **Sn 19 50 33.0 -3.1**
MICGM *eLR* LR 19 54 28.0
MICGM LRM MLR 19 55 48.0
comp=Z,2.6nm,12.0s
MNK Minsk 16.95 354 *eP* **Pn 19 47 26.0 -2.0**
MNK *eS* **Sn 19 50 33.0 -3.1**
MNK MLR MLR
comp=Z,2µm,12.0s
WTTA Wattenberg 16.95 310 *i* P **P 19 47 30.9 +0.7**
comp=Z,78nm,1.1s,SNR=26
PBCC Pribram 16.96 320 *eP* **Pn 19 47 28.5 +0.3**
PBCC *ex* x 19 47 33.5
PRA Prague 16.99 322 *eP* **P 19 47 32.8 +2.4**
PRA MLR MLR
comp=Z,2µm,12.4s
PRA Prague 16.99 322 *eP* **P 19 47 32.8 +2.4**
PRA *eS* **S 19 50 47.2 -0.2**
PRA AMS AMS 19 55 10.0
comp=Z,2µm,12.4s
WATA Walderalm 17.02 311 *i* P **P 19 47 31.7 +0.7**
comp=Z,96nm,1.3s,SNR=33
SUW Suwalki 17.14 345 *eP* **Pn 19 47 28.2 -2.1**
KEST Kesra 17.18 270 P **Pn 19 47 31.8 +0.6**
comp=Z,0.9nm,0.3s,baz=6.0,slow=2.1,SNR=35
KEST LR LR 19 54 49.0
comp=Z,282nm,21.9s,baz=350,slow=40
I48TN KESRA INFRASON 17.19 270 *i* 21 27 10.0
baz=77,slow=306,SNR=0.5
SQTA Sankt Quirin 17.19 310 *i* P **P 19 47 33.0 +0.2**
comp=Z,51nm,1.0s,SNR=28
PVCC Panska Ves 17.23 323 *eP* **P 19 47 35.1 +2.0**
PVCC MLR MLR
comp=Z,2µm,11.1s
PVCC Panska Ves 17.23 323 *eP* **P 19 47 35.1 +2.0**
PVCC *epP* **sP 19 47 38.1 +0.1**
PVCC *eS* **S 19 50 52.4 +0.1**
PVCC AMS AMS 19 55 40.0
comp=Z,2µm,11.1s
MOTA Moosalm 17.31 310 *i* P **P 19 47 34.6 +0.4**
comp=Z,76nm,1.3s,SNR=22
FETA Feichten 17.39 309 *i* P **P 19 47 36.8 +1.6**
comp=Z,149nm,1.1s,SNR=74
NACGM Naroch 17.44 353 *eP* **P 19 47 37.0 +1.6**
NACGM *eS* **S 19 50 53.0 -3.5**
NACGM *eSS* SgSg 19 52 01.0 -50
NACGM *eLQ* LQ 19 53 18.0
NACGM *eLR* LR 19 54 56.0
NACGM LRM MLR 19 56 00.0
comp=Z,2.1nm,12.0s
RETA Reutte 17.58 310 *i* P **P 19 47 38.1 +1.1**
comp=Z,46nm,1.2s,SNR=18
BRG Berggiesshubel 17.76 323 *i* P **P 19 47 38.6 -0.3**
comp=Z,68nm,1.7s
BRG S **S 19 51 10.0 +7.0**
DAVOX Davos/Dischmat 17.83 307 P **P 19 47 42.0 +2.0**
comp=Z,1.1nm,0.3s,baz=105,slow=8.4,SNR=35
DAVOX LR LR 19 56 08.0
comp=Z,770nm,20.6s,baz=104,slow=43
IDID Didziasalis 17.85 353 *eP* **P 19 47 39.7 -0.2**
OBN Obninsk 17.91 11 P **P 19 47 40.3 -0.2**
comp=Z,0.3nm,0.3s,baz=182,slow=4.9,SNR=9.4
OBN LR LR 19 55 45.4
comp=Z,39nm,18.9s,baz=202,slow=41
OBN Obninsk 17.91 11*d* *iP* **Pn 19 47 39.4 -0.6**
OBN pmax pmax
comp=Z,41nm,1.7s
OBN MLR MLR
comp=Z,596nm,16.0s
ROTZ Rotzenmuhle 17.94 318 *eP* **P 19 47 42.8 +1.9**
comp=Z,31nm,1.4s,baz=124,slow=11
IIGN Ignalina 17.94 352 *eP* **Pn 19 47 38.8 -1.5**
IIGN IAmb IAmb 19 47 42.4
comp=Z,19nm,0.9s
DAVA Damuels 18.03 309 *i* P **P 19 47 43.1 +0.9**
comp=Z,78nm,1.2s,SNR=41
FBE Freiberg 18.07 323 *eP* **P 19 47 43.4 +1.0**
comp=Z,127nm,2.0s,baz=124,slow=11
NKC Novy Kostel 18.09 320 *eP* **P 19 47 47.2 +4.6**
NKC *eS* **S 19 51 10.2 +0.4**
NKC MLR MLR
comp=Z,2µm,10.2s
NKC Novy Kostel 18.09 320 *eP* **P 19 47 47.2 +4.6**
NKC *eS* **S 19 51 10.2 +0.4**
NKC AMS AMS 19 55 40.0
comp=Z,2µm,10.2s
WERN Wernitzgruen 18.16 320 *eP* **P 19 47 45.3 +1.9**
comp=Z,296nm,3.9s,baz=124,slow=11
GKP Gorka Klasztor 18.17 333 *eP* **P 19 47 44.3 +0.9**
ISAL Salakas 18.17 352 *eP* **Pn 19 47 42.4 -0.7**
TANN Tannenbergstha 18.19 320 *eP* **P 19 47 45.6 +1.8**
comp=Z,245nm,2.8s,baz=124,slow=11
GUNZ Gunzen 18.23 320 *eP* **P 19 47 46.1 +2.0**
comp=Z,127nm,2.8s,baz=124,slow=11
WERD Werda 18.29 320 *eP* **P 19 47 46.5 +1.7**
comp=Z,12nm,1.1s,baz=124,slow=11
IZAR Zarasai 18.33 352 *eP* **Pn 19 47 43.3 -1.9**
PABE Paberze 18.41 348 *eP* **P 19 47 44.3 -1.7**
PABE IAmb IAmb 19 47 48.9
comp=Z,86nm,1.0s
CLL Collm 18.49 323 ⇓ *iP* **Pn 19 47 47.7 +0.6**
comp=Z,24nm,1.2s
CLL *i* PP **PnPn 19 47 59.1 +0.4**
comp=Z,116nm,1.9s
CLL *eS* **S 19 51 20.0 +2.2**
CLL Lmax 19 56 00.0
CLL Collm 18.49 323 ⇓ *iP* **Pn 19 47 47.7 +0.6**
CLL *eS* **S 19 51 20.0 +2.2**
CLL pmax pmax
comp=Z,24nm,1.2s
CLL Collm 18.49 323 *eP* **Pn 19 47 48.5 +1.4**
comp=Z,24nm,1.2s,baz=124,slow=11
CMAH Djebel Manchou 18.54 274 P **Pn 19 47 49.2 +1.4**
MOS Moscow 18.68 12 *eP* **P 19 47 47.5 -1.6**
MOS *eS* **S 19 51 23.4 +1.7**
MOS pmax pmax
comp=Z,200nm,1.7s
MOS pmax pmax
comp=Z,124nm,1.6s
MOS MLR MLR
comp=Z,500nm,15.0s
RUE Ruedersdorf 18.93 327 *eP* **Pn 19 47 52.2 -0.2**
NEUB Neuenburg 19.02 321 *eP* **Pn 19 47 54.8 +1.3**
comp=Z,64nm,1.8s,baz=124,slow=11
STU Stuttgart 19.10 312 *eP* **Pn 19 47 55.2 +0.7**
comp=Z,403nm,3.4s,baz=124,slow=11
CKFL Kef-Lekhel 19.13 274 P **Pn 19 47 56.0 +0.9**
PBUR Paburge 19.28 345 *eP* **P 19 47 55.6 0.0**
CASM Ain Smara 19.34 273 P **P 19 47 57.0 +0.5**
BNI Bardonecchia 19.40 300 P **Pn 19 47 58.3 0.0**
BNI pmax pmax
comp=Z,179nm,1.4s
BFO Black Forest 19.42 310 P **Pn 19 47 58.2 -0.2**
BFO pmax pmax
comp=Z,68nm,1.4s
ECH Echery 20.09 309 P **P 19 48 04.1 -0.5**
ECH pmax pmax
comp=Z,38nm,0.8s
CLZ Clausthal 20.10 321 *eP* Pn 19 48 06.2 -0.3
comp=Z,39nm,1.2s,baz=124,slow=11
ASSE Asse, Remlinge 20.13 322 *eP* Pn 19 48 06.1 -0.6
comp=Z,64nm,1.6s,baz=124,slow=11
GTTG Gottingen 20.13 320 *eP* Pn 19 48 06.6 -0.2
comp=Z,529nm,3.1s,baz=124,slow=11
NRDL Niedersach Rie 20.63 323 *eP* Pn 19 48 11.8 -0.7
comp=Z,74nm,1.2s,baz=124,slow=11
SLIT Slitere, Latvi 20.72 347 *eP* **P 19 48 12.2 +1.0**
SLIT IAmb IAmb 19 48 14.7
comp=Z,346nm,1.0s
SSB Saint Sauveur 20.92 300 P **P 19 48 13.8 +0.2**
SSB pmax pmax
comp=Z,18nm,0.8s
VSU Vasula 20.97 354 *eP* **P 19 48 14.0 +0.1**
VSU Vasula 20.97 354 ⇓ *eP* **P 19 48 14.0 +0.1**
VSU pmax pmax
comp=Z,121nm,0.8s
WLF Walferdange 21.28 312 P **P 19 48 20.8 +3.4**
WLF pmax pmax
comp=Z,164nm,1.1s
GEYT Alibeck 21.69 81 P **P 19 48 22.5 +0.6**
comp=Z,14nm,0.7s,baz=300,slow=12,SNR=37
MEM Membach 21.78 314 P **P 19 48 23.5 +0.7**
MEM x x 19 48 29.0
MEM PnPn **PnPn 19 48 42.6 -1.2**
BCLA Clavier 22.10 313 ⇓ P **P 19 48 25.8 -0.4**
comp=Z,18nm,1.2s
PUL Pulkovo 22.13 360 *eP* **P 19 48 27.4 +1.0**
PUL Pulkovo 22.13 360 ⇑ *eP* **P 19 48 26.7 +0.4**
PUL pmax pmax
comp=Z,158nm,0.9s
BGES Gesves 22.21 313 ⇓ P **P 19 48 27.3 -0.1**
comp=Z,24nm,1.1s
BMRD Maredsous 22.36 313 ⇓ P **P 19 48 28.5 -0.6**
BMRD x x 19 48 55.2
DOU Dourbes 22.38 312 ⇓ P **P 19 48 28.5 -0.7**
comp=Z,14nm,1.2s
AKTO Aktyubinsk 23.30 48 P **P 19 48 38.6 -0.2**
comp=Z,10nm,0.9s,baz=243,slow=10,SNR=33
AKTO LR LR 19 59 00.7
comp=Z,118nm,20.3s,baz=293,slow=40
MUD Monsted U'grnd 23.64 330 *i* P **P 19 48 42.7 +0.7**
comp=Z,193nm,1.5s
MUD Monsted U'grnd 23.64 330 *i* P **P 19 48 42.7 +0.7**
MUD pmax pmax
comp=Z,190nm,1.5s
KLMR Klimovskoe 23.88 11*d* *iP* **P 19 48 43.7 -0.6**
KLMR *eS* **S 19 53 02.1 +2.0**
KLMR pmax pmax
comp=Z,106nm,1.1s
KLMR Klimovskoe 23.88 11 ⇓ *iP* **P 19 48 43.7 -0.6**
KLMR *i* P **P 19 48 43.8 -0.6**
KLMR *i* P **P 19 48 43.8 -0.6**
KLMR AMP 19 48 45.9
comp=Z,106nm,1.1s
KLMR *eS* **S 19 53 02.1 +2.0**
KLMR *eS* **S 19 53 02.1 +2.0**
KLMR LQ LQ 19 56 29.9
KLMR LQ LQ 19 56 29.9
KLMR LR LR 19 58 48.1
FINES FINESS Array B 23.97 355 P **P 19 48 44.9 -0.4**
comp=Z,6.6nm,0.8s,baz=159,slow=11,SNR=31
FINES PcP **PcP 19 52 25.8 -1.2**
comp=Z,2.0nm,0.6s,baz=119,slow=3.0,SNR=4.7
FINES LR LR 19 59 13.4
comp=Z,575nm,19.7s,baz=174,slow=39
KIRV Kirov 24.23 24 P **P 19 48 47.0 -0.7**
comp=Z,33nm,0.7s,baz=260,slow=7.1,SNR=12
KIRV LR LR 19 58 46.6
comp=Z,162nm,18.6s,baz=231,slow=38
KIRV Kirov 24.23 24 P **P 19 48 47.0 -0.7**
MFF Saint Martin d 24.39 301 P **P 19 48 48.9 -0.3**
HFS Hagfors 24.94 340 P **P 19 48 54.6 +0.5**
comp=Z,19nm,0.7s,baz=134,slow=13,SNR=31
HFS LR LR 19 59 08.4
comp=Z,147nm,21.9s,baz=152,slow=38
SUF Sumiainen 25.23 355 P **P 19 48 57.1 +0.4**
SUF pmax pmax
comp=Z,34nm,1.1s
PRGR Permogore 25.75 17 ⇓ *iP* **P 19 49 00.6 -0.8**
PRGR pmax pmax
comp=Z,151nm,1.1s
KONO Kongsberg 25.80 335 ⇓ *eP* **P 19 49 01.3 -0.6**
KONO pmax pmax
comp=Z,40nm,1.0s
KONO Kongsberg 25.80 335 *eP* **P 19 49 03.7 +1.8**
NAO01 NORSAR Array S 26.33 338 *eP* **P 19 49 06.2 -0.5**
NB2 NORSAR Subarra 26.39 339 P **P 19 49 06.7 -0.6**
comp=Z,24nm,0.9s,baz=143,slow=10
NB2 NORSAR Subarra 26.39 339 P **P 19 49 06.7 -0.6**
baz=143,slow=10
NOA NORSAR Array B 26.39 339 P **P 19 49 07.0 -0.3**
comp=Z,11nm,0.8s,baz=142,slow=9.3,SNR=24
NOA LR LR 20 01 17.6
comp=Z,524nm,21.5s,baz=155,slow=40
NOA NORSAR Array B 26.39 339 P **P 19 49 07.0 -0.3**
ARU Arti 26.43 36 P **P 19 49 07.0 -0.6**
comp=Z,14nm,0.8s,baz=232,slow=7.6,SNR=28
ARU Arti 26.43 36*d* *iP* **P 19 49 06.9 -0.7**
ARU PPP PPP 19 49 56.4
ARU S **S 19 53 44.1 +3.2**
ARU SS **SnSn 19 54 52.2 +11**
ARU pmax pmax
comp=Z,38nm,0.8s
TMCR Tamitsa 26.90 7 *eP* **P 19 49 10.2 -1.6**
TMCR pmax pmax
comp=Z,1.0nm,0.6s
ESDC Sonseca Array 26.99 285 P **P 19 49 12.5 -0.5**
comp=Z,4.6nm,0.8s,baz=75,slow=9.3,SNR=34
ESDC PcP **PcP 19 52 33.6 -0.8**
comp=Z,1.5nm,0.9s,baz=66,slow=4.4,SNR=4.1
ESDC LR LR 19 59 58.5
comp=Z,222nm,19.0s,baz=85,slow=37
SKAR Skarsla 27.01 336 *eP* **P 19 49 15.7 +2.8**
PAB San Pablo 27.30 285 P **P 19 49 14.5 -1.3**
PAB pmax pmax
comp=Z,14nm,1.2s
SVE Sverdlovsk 27.61 36 *eP* **P 19 49 18.2 -0.1**
SVE *eS* **S 19 54 03.9 +4.3**
SVE pmax pmax
comp=Z,37nm,1.2s
WSAR Wadi Sarin 27.96 113 P **P 19 49 22.5 +0.8**
comp=Z,3.9nm,0.5s,baz=298,slow=9.8,SNR=5.4
WSAR LR LR 20 02 55.3
comp=Z,465nm,18.6s,baz=325,slow=42
ATD Arta Tunnel 28.23 154 P **P 19 49 22.4 -1.8**
comp=Z,5.7nm,0.8s,baz=287,slow=21,SNR=1.9
EKA Eskdalemuir Ar 28.82 319 P **P 19 49 28.0 -1.0**
comp=Z,0.8nm,0.6s,baz=122,slow=11,SNR=4.0
EKA PcP **PcP 19 52 37.6 -0.8**
comp=Z,2.0nm,0.8s,baz=108,slow=2.7,SNR=3.9
PBRG Braganca 28.89 290 *eP* **P 19 49 33.5 +3.6**
comp=Z,35nm,1.7s
MDT Midelt 29.08 271 P **P 19 49 31.8 +0.1**
comp=Z,6.8nm,0.8s,baz=357,slow=1.0,SNR=11
MDT LR LR 20 01 40.3
comp=Z,116nm,21.0s,baz=134,slow=38
NSS Namsos 29.10 343 *eP* **P 19 49 32.1 +0.7**
MVO Moncorvo 29.16 289 *eP* **P 19 49 31.9 -0.4**
comp=Z,23nm,1.2s
MTE Manteigas 29.63 287 *eP* **P 19 49 36.6 +0.1**
comp=Z,37nm,1.5s
PMRV Marv??o 29.65 285 *eP* **P 19 49 36.5 -0.1**
comp=Z,18nm,1.5s
PCBR Castelo Branco 29.66 286 *eP* **P 19 49 36.4 -0.2**
comp=Z,26nm,1.2s
PVRL Vila Real 29.66 289 *eP* P 19 49 41.8 +5.0
APA Apatity 29.99 2 ⇓ *iP* **P 19 49 35.0 -4.3**
APA *i* 19 50 41.0
APA pmax pmax
comp=Z,12nm,0.8s
APA MLR MLR
comp=Z,700nm,10.0s
PGAV Gavieira, Arco 30.02 291 *eP* **P 19 49 42.5 +2.6**
comp=Z,45nm,1.9s
MOR8 Moi Rana 30.05 347 *eP* **P 19 49 40.2 +0.3**
PBEJ Beja 30.27 283 *eP* **P 19 49 42.0 -0.1**
comp=Z,23nm,1.8s
IUG Iuzhnay 30.36 69 *eP* **P 19 49 43.1 +0.1**
comp=Z,12nm,0.8s,baz=69
IUG Iuzhnay 30.36 69 *eP* **P 19 49 43.1 +0.1**
IUG pmax pmax
comp=Z,12nm,0.8s
LVZ Lovozero 30.37 3 ⇓ *eP* **P 19 49 43.7 +1.0**
LVZ pmax pmax
comp=Z,16nm,0.9s
PBDV Barranco-do-Ve 30.48 281 *eP* **P 19 49 43.6 -0.4**
comp=Z,35nm,1.8s
PCVE Castro Verde 30.48 282 *eP* **P 19 49 44.1 +0.2**
comp=Z,21nm,1.2s
KONS Konsvik 30.58 346 *eP* **P 19 49 44.8 +0.3**
PNCL Nicolau / Gran 30.76 283 *eP* **P 19 49 46.9 +0.5**
comp=Z,26nm,1.5s
FAUS Fauske 31.01 349 *eP* **P 19 49 48.4 +0.2**
DZA Taraz 31.26 67 *eP* **P 19 49 50.7 -0.2**
comp=Z,14nm,1.3s,baz=67
DZA Taraz 31.26 67 *eP* **P 19 49 50.6 -0.2**
DZA pmax pmax
comp=Z,14nm,1.3s
BRVK Borovoye 31.35 48*d* *iP* **P 19 49 51.4 -0.1**
BRVK pmax pmax
comp=Z,13nm,1.3s
BVAR Borovoye Array 31.41 48 P **P 19 49 52.5 +0.6**
comp=Z,1.9nm,0.6s,baz=250,slow=7.3,SNR=15
STEI Steigen 31.52 349 *eP* **P 19 49 52.8 +0.1**
KTK1 Kautokeino 31.66 355 *eP* **P 19 49 54.1 0.0**
ARE0 ARCESS Array S 32.05 357 *eP* **P 19 49 55.9 -1.5**
ARCES ARCESS Array B 32.05 357 P **P 19 49 57.2 -0.3**
comp=Z,14nm,0.9s,baz=170,slow=7.9,SNR=44
BRZS Berezniki 32.31 54 *eP* **P 19 50 00.3 +0.4**
comp=Z,11nm,0.9s,baz=54
BRZS LR LR 20 04 41.0
comp=Z,177nm,16.0s,baz=54
BRZS Berezniki 32.31 54 *eP* **P 19 50 00.3 +0.4**
BRZS pmax pmax
comp=Z,11nm,0.9s
BRZS MLR MLR
comp=Z,177nm,16.0s
AML Almayashu 33.07 69 P **P 19 50 08.8 +1.6**
SNR=9.5
EKS2 Erkin-Say 33.07 68 P **P 19 50 07.4 +0.6**
SNR=29
BTLS Baital 33.09 63 *i* P **P 19 50 07.0 +0.2**
comp=Z,15nm,1.3s,baz=63
BTLS Baital 33.09 63 *i* P **P 19 50 07.0 +0.2**
BTLS pmax pmax
comp=Z,15nm,1.3s
USP Ospenovka 33.54 66 P **P 19 50 10.6 -0.2**
SNR=20
AAK Ala-Archa 33.60 67 P **P 19 50 12.8 +1.3**
SNR=17
AAK Ala-Archa 33.60 67*d* *iP* **P 19 50 12.3 +0.8**
AAK pmax pmax
comp=Z,37nm,1.3s
SGDS Sogindy 33.62 66 *i* P **P 19 50 11.9 +0.4**
comp=Z,16nm,1.4s,baz=66
SGDS Sogindy 33.62 66 *i* P **P 19 50 11.9 +0.4**
SGDS pmax pmax
comp=Z,17nm,1.4s
UCH Uchtor 33.66 68 P **P 19 50 12.5 +0.1**
SNR=8.6
CHMS Chumysh 33.75 67 P **P 19 50 13.6 +1.0**
SNR=30
KBK Karagaybulak 33.93 67 P **P 19 50 15.8 +1.4**
SNR=15
KZA Kyzart 34.23 68 P **P 19 50 18.8 +1.6**
SNR=21
TKM2 Tokmak 2 34.37 67 P **P 19 50 19.1 +0.8**
SNR=16
NIL Nilore 34.64 84 P **P 19 50 20.8 +0.4**
NIL pmax pmax
comp=Z,40nm,0.9s
KUU Kurty 34.81 65 *i* P **P 19 50 22.5 +0.7**
comp=Z,37nm,0.9s,baz=65
KUU Kurty 34.81 65 *i* P **P 19 50 22.4 +0.7**
KUU pmax pmax
comp=Z,37nm,0.9s
ULHL Ulahol 34.93 68 P **P 19 50 26.1 +3.0**
SNR=33
MTBS Maitube 34.95 66 *eP* **P 19 50 23.6 +0.5**
baz=66
MTBS Maitube 34.95 66 *eP* **P 19 50 23.6 +0.5**
KSH Kashi 35.20 73 P **P 19 50 23.8 -1.6**
KSH sP sP 19 50 30.8 +0.1
KSH S **S 19 55 52.5 -6.2**
KSH pmax pmax
comp=Z,11nm,0.7s
KSH pmax pmax
comp=Z,130nm,4.0s
KSH LR LR
comp=Z,320nm,13.2s
KSH LR LR
comp=Z,310nm,12.4s
CHKK Chushkaly 35.28 65 *eP* **P 19 50 26.1 +0.2**
baz=65
CHKK Chushkaly 35.28 65 *eP* **P 19 50 26.0 +0.2**
AAA Alma-Ata 35.30 66 *eP* **P 19 50 26.6 +0.5**
comp=Z,21nm,0.9s,baz=66
AAA Alma-Ata 35.30 66 *eP* **P 19 50 26.6 +0.5**
AAA pmax pmax
comp=Z,21nm,0.9s
TNSS Tian-Shan 35.34 66 *eP* **P 19 50 27.3 +0.4**
baz=66
TNSS Tian-Shan 35.34 66 *eP* **P 19 50 27.2 +0.4**
MDOK Medeo 35.40 66 *eP* **P 19 50 27.5 +0.4**
baz=66
MDOK *eS* **S 19 56 03.3 +1.6**
baz=66
MDOK Medeo 35.40 66 *eP* **P 19 50 27.4 +0.4**
MDOK *eS* **S 19 56 03.3 +1.6**
TORD Torodi Ar. Bea 35.51 234 P **P 19 50 28.0 -0.1**
comp=Z,14nm,0.8s,baz=34,slow=8.5,SNR=42
TORD PcP **PcP 19 52 56.8 -0.6**
comp=Z,3.3nm,0.9s,baz=21,slow=2.4,SNR=2.0
KURK Kurchatov 36.16 53*d* *iP* **P 19 50 33.3 0.0**
KURK pmax pmax
comp=Z,72nm,1.3s
TDK Taldyqorghan 36.17 63 *eP* **P 19 50 33.6 +0.1**
comp=Z,9.3nm,0.8s,baz=63
TDK LR LR 20 06 03.3
comp=Z,318nm,15.7s,baz=63
TDK Taldyqorghan 36.17 63 *eP* **P 19 50 33.6 +0.1**
TDK pmax pmax
comp=Z,9.0nm,0.8s
TDK MLR MLR
comp=Z,318nm,16.0s
SATY Saty 36.40 66 *i* P **P 19 50 36.6 +0.9**
comp=Z,22nm,1.0s,baz=66
SATY *eS* **S 19 56 18.9 +1.8**
baz=66
SATY Saty 36.40 66 *i* P **P 19 50 36.5 +0.9**
SATY *eS* **S 19 56 18.8 +1.8**
SATY pmax pmax
comp=Z,22nm,1.0s
SATY Saty 36.40 66 *i* P **P 19 50 36.5 +0.9**
SATY *eS* **S 19 56 18.8 +1.8**
SATY pmax pmax
comp=Z,22nm,1.0s
UZB Uzynbulak 36.83 66 *eP* **P 19 50 39.2 -0.1**
comp=Z,4.4nm,0.8s,baz=66
UZB Uzynbulak 36.83 66 *eP* **P 19 50 39.2 -0.1**
UZB pmax pmax
comp=Z,4.0nm,0.8s
SHLS Shalkode 37.15 66 *i* P **P 19 50 44.7 +2.6**
comp=Z,9.6nm,1.0s,baz=66
SHLS Shalkode 37.15 66 *i* P **P 19 50 44.6 +2.6**
SHLS pmax pmax
comp=Z,10.0nm,1.0s
MAKZ Makanchi 38.49 60 P **P 19 50 53.3 +0.2**
MAKZ pmax pmax
comp=Z,20nm,0.8s
MKAR Makanchi Array 38.70 60 P **P 19 50 55.2 +0.3**
comp=Z,31nm,0.7s,baz=280,slow=6.3,SNR=282
MKAR LR LR 20 08 56.2
comp=Z,164nm,19.0s,baz=270,slow=40
PMAR Madeira 38.84 277 *eP* **P 19 50 58.0 +1.5**
comp=Z,125nm,2.3s
HOPEN Hopen 39.02 358 *eP* **P 19 50 59.0 +1.8**
KMBO Kilima Mbogo 39.08 169 P **P 19 50 59.7 +1.2**
comp=Z,2.9nm,0.7s,baz=0.4,slow=8.2,SNR=5.3
HSPB Hornsund (broa 39.99 355 *eP* **P 19 51 05.8 +0.5**
HSPB Hornsund (broa 39.99 355 *eP* **P 19 51 06.2 +0.9**
ZALV Zalesovo Beam 40.06 48 P **P 19 51 05.7 -0.4**
comp=Z,9.9nm,0.6s,baz=266,slow=8.6,SNR=31
ZALV LR LR 20 10 55.6
comp=Z,153nm,18.4s,baz=254,slow=41
ZALV Zalesovo Beam 40.06 48 *iP* **P 19 51 05.6 -0.5**
ZALV pmax pmax
comp=Z,10.0nm,0.6s
ZSN Zaisan 40.38 58 *i* P **P 19 51 09.3 +0.3**
comp=Z,14nm,1.1s,baz=58
ZSN Zaisan 40.38 58 *i* P **P 19 51 09.2 +0.3**
ZSN pmax pmax
comp=Z,14nm,1.1s
SPA0 Spitsbergen Ar 41.06 356 *eP* **P 19 51 13.2 -1.0**
DGZ Jazzator, Alta 41.84 55*d* *iP* **P 19 51 21.3 +0.2**
DGZ pmax pmax
comp=Z,24nm,0.8s
KBS Kingsbay 42.07 355*d* *iP* **P 19 51 22.6 +0.2**
KBS pmax pmax
comp=Z,36nm,1.3s
KBS Kingsbay 42.07 355 *eP* **P 19 51 22.9 +0.5**
WMQ Urumqi 42.93 63 *eP* **P 19 51 32.3 +2.4**
NRIK Noril'sk 43.73 25 P **P 19 51 36.9 +1.0**
comp=Z,12nm,0.6s,baz=239,slow=3.2,SNR=13
NRIK PcP **PcP 19 53 22.0 -0.6**
comp=Z,6.1nm,0.8s,baz=249,slow=5.3,SNR=4.4
NRIK LR LR 20 13 24.4
comp=Z,168nm,18.6s,baz=196,slow=41
PYUN Piuthan 44.49 86 *eP* **P 19 51 42.5 -0.3**

comp=Z,99nm,0.6s
DBIC Dimbokro 44.60 235 P **P** **19 51 43.0 -0.5**
comp=Z,19nm,1.1s,baz=46,slow=9.6,SNR=7.1
DBIC PcP **PcP** **19 53 26.0 -0.4**
comp=Z,6.5nm,0.8s,baz=27,slow=2.3,SNR=2.2
DBIC LR LR 20 12 39.7
comp=Z,130nm,18.6s,baz=102,slow=39
TIC Toumodi 44.73 235 *e*P **P** **19 51 43.6 -1.0**
KIC Kosan Boka 44.76 235 *e*P **P** **19 51 43.4 -1.4**
comp=Z,161nm,1.3s
LIC Lamto 45.05 235 *e*P **P** **19 51 46.1 -1.0**
comp=Z,148nm,1.2s
KOLN Koldanda 45.12 87 *e*P **P** **19 51 47.2 -0.7**
comp=Z,88nm,0.6s
GKN Gorkha 45.84 86 *e*P **P** **19 51 52.7 -0.8**
comp=Z,98nm,0.6s
DMN Daman 46.39 86 *e*P **P** **19 51 57.2 -0.7**
comp=Z,118nm,0.6s
KKN Kakani 46.44 86 *e*P **P** **19 51 57.2 -1.1**
comp=Z,49nm,0.6s
HYB Hyderabad 46.46 102 *i* P **P** **19 51 59.0 +0.7**
PKI Pulchoki 46.65 86 *e*P **P** **19 51 58.9 -1.1**
comp=Z,48nm,0.7s
JIRN Jiri 47.22 85 *e*P **P** **19 52 03.7 -0.9**
comp=Z,69nm,0.6s
RAMN Ramite 47.87 86 *e*P **P** **19 52 08.1 -1.4**
comp=Z,79nm,0.8s
SUMG Summit 48.28 338 *i* P **P** **19 52 10.0 -2.2**
SUMG Summit 48.28 338 *i* P **P** **19 52 10.0 -2.2**
ODAN Odare 48.54 86 *e*P **P** **19 52 13.1 -1.5**
comp=Z,20nm,0.5s
TAPN Taplejung 48.56 85 *e*P **P** **19 52 13.7 -1.2**
comp=Z,24nm,0.6s
MOY Mondy 50.04 50 *e*P **P** **19 52 27.1 +1.4**
MOY pmax pmax
comp=Z,63nm,1.8s
LSA Lhasa 50.22 80 P **P** **19 52 27.0 -0.7**
LSA pmax pmax
comp=Z,26nm,1.4s
TLY Talaya 51.64 49 P **P** **19 52 39.2 +1.6**
comp=Z,19nm,0.8s,baz=276,slow=5.9,SNR=18
TLY Talaya 51.64 49 *e*P **P** **19 52 39.3 +1.7**
TLY *e*S S 20 00 10.4 +12
TLY pmax pmax
comp=Z,80nm,0.8s
ZAK Zakamensk 51.76 51 *e*P **P** **19 52 39.4 +0.8**
ZAK pmax pmax
comp=Z,38nm,1.2s
IRK Irkutsk 51.88 49 *e*P **P** **19 52 36.4 -2.9**
LSZ Lusaka 52.71 183 P **P** **19 52 46.7 +0.8**
LSZ pmax pmax
comp=Z,23nm,1.0s
GTA Gaotai 52.89 65 ⇓P **P** **19 52 47.0 -0.2**
GTA pP pP 19 52 51.1 0.0
GTA sP sP 19 52 54.1 +1.5
GTA S **S** **20 00 16.6 +0.4**
GTA sS sS 20 00 24.3 +1.9
GTA SS **SS** **20 03 56.3 +1.5**
GTA pmax pmax
comp=Z,21nm,1.1s
GTA pmax pmax
comp=Z,140nm,7.3s
GTA LR LR
comp=Z,160nm,15.5s
GTA LR LR
comp=Z,190nm,15.9s
GTA LR LR
comp=Z,230nm,15.5s
PALK Pallekele 54.42 111 P **P** **19 52 57.7 -0.9**
comp=Z,9.4nm,0.8s,baz=84,slow=16,SNR=2.6
PALK Pallekele 54.42 111 P **P** **19 52 57.4 -1.1**
PALK pmax pmax
comp=Z,39nm,1.5s
SONM Songino Array 54.47 53 P **P** **19 52 58.6 0.0**
comp=Z,15nm,0.7s,baz=290,slow=8.1,SNR=119
SONM PcP **PcP** **19 54 01.6 -0.5**
comp=Z,4.7nm,1.0s,baz=273,slow=4.0,SNR=1.7
SONM LR LR 20 20 02.9
comp=Z,269nm,19.5s,baz=290,slow=40
ULN Ulaanbaatar 54.87 53*d* P **P** **19 53 01.6 0.0**
ULN pmax pmax
comp=Z,47nm,1.3s
BOD Bodaibo 55.73 40 *e*P **P** **19 53 03.9 -3.5**
BOD pmax pmax
comp=Z,50nm,0.9s
LZH Lanzhou 57.14 67 *e*P **P** **19 53 17.4 -0.6**
LZH pP pP 19 53 20.6 -1.4
LZH sP sP 19 53 22.3 -1.2
LZH pmax pmax
comp=Z,41nm,1.3s
LZH pmax pmax
comp=Z,110nm,6.2s
LZH LR LR
comp=Z,270nm,15.2s
LZH LR LR
comp=Z,370nm,15.7s
LZH LR LR
comp=Z,340nm,19.0s
CIT Chita 57.39 47 *e*P **P** **19 53 19.4 0.0**
CIT *e* 19 53 22.7
CIT *e* 19 54 15.2
CIT pmax pmax
comp=Z,83nm,1.3s
CD2 Chengdu 59.40 73 P **P** **19 53 32.8 -0.9**
CD2 pmax pmax
comp=Z,30nm,1.2s
CD2 pmax pmax
comp=Z,150nm,5.4s
CD2 LR LR
comp=Z,200nm,17.1s
CD2 LR LR
comp=Z,210nm,17.1s
CD2 LR LR
comp=Z,170nm,13.5s
BTO Baotou 59.61 60 *e*P **P** **19 53 33.6 -1.6**
HHC Hu-ho-hao-te 60.57 59 *e*P **P** **19 53 42.3 +0.6**
HHC PP **PP** **19 55 57.8 +2.9**
HHC S **S** **20 01 55.8 -1.8**
HHC pmax pmax
comp=Z,74nm,0.9s
HHC pmax pmax
comp=Z,320nm,4.2s
HHC LR LR
comp=Z,220nm,14.5s
HHC LR LR
comp=Z,210nm,13.4s
HHC LR LR
comp=Z,260nm,15.3s
KMI Kunming 61.45 79 ⇑P **P** **19 53 46.6 -1.4**
KMI pP sP 19 53 53.8 +0.3
KMI pmax pmax
comp=Z,12nm,1.4s
YAK Yakutsk 61.46 32 P **P** **19 53 45.9 -1.3**
comp=Z,3.4nm,0.3s,baz=281,slow=1.1,SNR=3.2
YAK Yakutsk 61.46 32 *e*P **P** **19 53 46.3 -0.9**
YAK *e* 19 54 23.3
YAK *e* 19 56 03.0
YAK *e*S **S** **20 02 09.6 +1.6**
YAK *e**SS sS 20 02 32.3 +18
YAK *e* 20 03 31.1
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=Z,60nm,2.8s
YAK pmax pmax
comp=N,49nm,2.8s
YAK pmax pmax
comp=E,34nm,3.0s
YAK smax smax
comp=E,74nm,3.0s
YAK smax smax
comp=N,52nm,2.6s
CHTO Chiang Mai 61.78 87 P **P** **19 53 48.3 -1.8**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
XAN Xi'an 61.78 67 P **P** **19 53 49.0 -0.9**
XAN pmax pmax
comp=Z,30nm,1.3s
XAN pmax pmax
comp=Z,140nm,3.6s
XAN LR LR
comp=Z,170nm,16.0s
XAN LR LR
comp=Z,180nm,15.0s
XAN Xi'an 61.78 67 P **P** **19 53 49.0 -0.9**
XAN pmax pmax
comp=Z,23nm,0.9s
CMAR Chiang Mai Arr 61.97 88 P **P** **19 53 49.6 -1.8**
comp=Z,9.1nm,0.7s,baz=300,slow=8.2,SNR=47
CMAR LR LR 20 26 19.7
comp=Z,248nm,18.0s,baz=328,slow=42
LBTB Lobatse 62.53 185 P **P** **19 53 55.8 +0.9**
LBTB pmax pmax
comp=Z,25nm,0.8s
GYA Guiyang 63.80 76 ⇑P **P** **19 54 02.1 -1.5**
GYA sP sP 19 54 12.8 +3.7
GYA S **S** **20 02 34.5 -4.4**
GYA SS **SS** **20 06 48.0 +1.4**
GYA pmax pmax
comp=Z,11nm,1.1s
GYA LR LR
comp=Z,120nm,19.3s
GYA LR LR
comp=Z,130nm,11.3s
GYA LR LR
comp=Z,140nm,14.5s
BJI Beijing 64.07 58 P **P** **19 54 05.3 +0.3**
BJI pmax pmax
comp=Z,46nm,0.8s
BJI LR LR
comp=Z,210nm,15.1s
BJI LR LR
comp=Z,180nm,17.1s
SCHQ Schefferville 64.11 320 P **P** **19 54 04.0 -1.1**
comp=Z,11nm,0.7s,baz=46,slow=6.0,SNR=13
SCHQ LR LR 20 23 00.1
comp=Z,126nm,18.6s,baz=78,slow=37
ZEA Zeya 64.20 41 *e*P **P** **19 54 06.0 +0.4**
ZEA pmax pmax
comp=Z,46nm,1.4s
BOSA Boshof 66.12 185 P **P** **19 54 18.0 -0.5**
comp=Z,29nm,0.8s,baz=4.3,slow=6.9,SNR=47
BOSA Boshof 66.12 185 P **P** **19 54 18.6 +0.2**
BOSA pmax pmax
comp=Z,31nm,0.8s
TIA Tai'an 66.59 62 P **P** **19 54 20.8 -0.7**
TIA pmax pmax
comp=Z,32nm,0.9s
WHN Wuhan 67.50 68 P **P** **19 54 26.4 -0.9**
D63A Stockholm 68.82 314 P **P** **19 54 35.2 -0.1**
baz=57,SNR=5.5
KLR Kul'dur 68.95 44 P **P** **19 54 35.6 -0.4**
comp=Z,8.0nm,0.8s,baz=307,slow=6.5,SNR=31
KLR Kul'dur 68.95 44*d i* P **P** **19 54 35.1 -0.9**
KLR pmax pmax
comp=Z,32nm,1.5s
E64A Bridgewater 68.99 313 P **P** **19 54 36.0 -0.3**
baz=57,SNR=8.3
D62A Allapoint, All 69.33 314 P **P** **19 54 38.8 +0.3**
baz=57,SNR=10
E63A Oxbow 69.33 313 P **P** **19 54 38.8 +0.3**
baz=57,SNR=8.8
A36M Sachs Harbour 69.33 352 P **P** **19 54 38.7 +0.7**
baz=20,SNR=6.1
G65A Princeton 69.50 312 P **P** **19 54 39.5 0.0**
baz=57
SEY Seymchan 69.51 25 P **P** **19 54 39.5 +0.2**
comp=Z,7.5nm,1.0s,baz=296,slow=5.4,SNR=15
SEY Seymchan 69.51 25⇓*e*P **P** **19 54 38.3 -1.0**
H66A Whiting 69.57 311 P **P** **19 54 40.1 +0.2**
baz=57,SNR=7.3
F64A Sherman 69.60 313 P **P** **19 54 40.2 +0.1**
baz=57,SNR=6.2
KCSI Kotacane, Aceh 69.82 102 P **P** **19 54 41.4 -0.6**
comp=Z,24nm,0.9s
E62A Clayton Lake 69.86 314 P **P** **19 54 41.8 +0.1**
baz=56
D61A St Aubert, Com 69.91 315 P **P** **19 54 42.3 +0.2**
baz=56
NJ2 Nanjing 69.98 65 *e*P **P** **19 54 41.8 -0.9**
NJ2 pmax pmax
comp=Z,20nm,1.1s
F63A Nahmakanta, Br 70.12 313 P **P** **19 54 43.2 -0.2**
baz=56
G64A Maxfield 70.17 312 P **P** **19 54 44.1 +0.4**
baz=56
H65A Eastbrook 70.18 311 P **P** **19 54 43.6 -0.1**
baz=56,SNR=6.4
PKME Peaks-Kenny Pk 70.48 312 P **P** **19 54 46.0 +0.5**
baz=56
D60A Saint Jean D'O 70.49 315 P **P** **19 54 46.9 +1.4**
baz=56
E61A Lac Etchemin 70.52 314 P **P** **19 54 45.9 +0.1**
baz=56
F62A Pittston Farm, 70.52 313 P **P** **19 54 46.0 +0.2**
baz=56
GRNR Gornyy 70.55 40 *e*P **P** **19 54 42.9 -3.0**
CHGQ Chibougamau 70.65 319 P **P** **19 54 45.8 -0.7**
baz=54
H64A Troy 70.79 312 P **P** **19 54 46.9 -0.5**
baz=56
F61A St Evariste 71.06 314 P **P** **19 54 49.6 +0.5**
baz=55
E60A Ste Agathe de 71.10 314 P **P** **19 54 49.3 0.0**
baz=55
PSI Prapat 71.17 101 P **P** **19 54 49.7 -0.6**
comp=Z,12nm,0.9s,baz=360,slow=3.7,SNR=5.7
PSI LR LR 20 29 24.4
comp=Z,310nm,18.1s,baz=210,slow=39
G62A West of Eustis 71.23 313 P **P** **19 54 49.5 -0.6**
baz=55
MA2 Magadan 71.27 28 P **P** **19 54 50.8 +0.6**
comp=Z,5.7nm,0.7s,baz=310,slow=12,SNR=4.4
MA2 Magadan 71.27 28*de*P **P** **19 54 50.2 +0.1**
MA2 pmax pmax
comp=Z,12nm,1.0s
D58A Chemin du LacG 71.48 316 P **P** **19 54 50.7 -0.9**
baz=54
F60A Warwick 71.61 314 P **P** **19 54 52.6 +0.2**
baz=55,SNR=8.3
C36M Paulatuk 71.68 351 P **P** **19 54 52.3 -0.1**
baz=21,SNR=14
G61A St-Isidore-de- 71.77 313 P **P** **19 54 54.0 +0.6**
baz=55,SNR=7.6
USA0B Ussuriysk Arra 71.92 48 P **P** **19 54 53.1 -1.2**
USA0B pmax pmax
comp=Z,30nm,0.8s
USRK Ussuriysk Ar. 71.92 48 P **P** **19 54 53.4 -0.9**
comp=Z,27nm,0.7s,baz=295,slow=5.3,SNR=49
H62A Milan 71.96 313 P **P** **19 54 54.8 +0.2**
baz=55
D57A Chemin Vers le 72.09 316 P **P** **19 54 55.1 -0.2**
baz=54,SNR=6.4
E58A La Victoria 72.13 315 P **P** **19 54 55.8 +0.3**
baz=54,SNR=10
F59A Saint Guilaume 72.16 314 P **P** **19 54 55.9 +0.2**
baz=54
G60A Masonville 72.34 314 P **P** **19 54 57.2 +0.4**
baz=54
H61A Lyndonville 72.43 313 P **P** **19 54 58.2 +0.8**
baz=54,SNR=7.8
MATQ Matagami 72.44 320 P **P** **19 54 57.0 -0.3**
baz=52,SNR=10
I62A Tamworth 72.47 312 P **P** **19 54 58.0 +0.4**
baz=54
VLA Vladivostok 72.48 49*d i* P **P** **19 54 56.1 -1.5**
VLA pmax pmax
comp=Z,67nm,0.9s
LSQQ Lebel-sur-Quev 72.52 319 P **P** **19 54 57.4 -0.4**
baz=52
D56A ZEC Mazanza, M 72.55 316 P **P** **19 54 58.2 +0.1**
baz=53,SNR=11
E57A Chemin Saint G 72.59 315 P **P** **19 54 58.6 +0.3**
baz=53,SNR=14
LBNH Lisbon 72.60 313 P **P** **19 54 59.3 +0.9**
baz=54
H60A Morristown 72.86 313 P **P** **19 55 00.6 +0.6**
baz=54,SNR=7.6
MNSI Mandailing Nat 72.93 103 P **P** **19 54 59.2 -1.5**
I61A Oroboro, Fairl 72.95 313 P **P** **19 55 01.0 +0.6**
baz=54
D55A Sainte-Anne-du 72.96 317 P **P** **19 55 00.7 +0.3**
baz=53,SNR=14
E56A St. Veronique 73.00 316 P **P** **19 55 00.4 -0.3**
baz=53,SNR=7.1
J62A Henniker 73.13 312 P **P** **19 55 02.9 +1.3**
baz=54
KSRS Korea Array 73.24 56 P **P** **19 55 01.3 -1.0**
comp=Z,30nm,1.0s,baz=303,slow=4.9,SNR=101
K63A Dunstable 73.28 311 P **P** **19 55 02.6 +0.2**
baz=54
L64A Middleborough 73.30 310 P **P** **19 55 03.5 +1.0**
baz=54
H59A Cadyville 73.39 314 P **P** **19 55 03.4 +0.4**
baz=53,SNR=7.1
HRV Adam Dziewonsk 73.40 311 P **P** **19 55 03.8 +0.6**
baz=54
TJN Taejon 73.48 57⇑*e*P **P** **19 55 02.2 -1.5**
J61A Chester 73.50 312 P **P** **19 55 04.8 +1.1**
baz=54
D54A Lac Fusel, La 73.52 317 P **P** **19 55 03.1 -0.7**
baz=52,SNR=5.3
E55A Montcerf-Lytto 73.62 316 P **P** **19 55 04.1 -0.3**
baz=52
I60A Shoreham 73.63 313 P **P** **19 55 05.4 +0.9**
baz=53
INK Inuvik 73.68 354 P **P** **19 55 04.1 -0.3**
comp=Z,3.8nm,0.9s,baz=8.3,slow=13,SNR=7.2
INK Inuvik 73.68 354 P **P** **19 55 04.0 -0.3**
INK pmax pmax
comp=Z,7.0nm,1.0s
K62A Royalston 73.71 311 P **P** **19 55 05.1 +0.1**
baz=54
H58A Gabriels 73.80 314 P **P** **19 55 06.1 +0.5**
baz=53,SNR=8.6
G57A Newington 73.84 315 P **P** **19 55 05.8 +0.1**
baz=53
LONY Lake Ozonia 73.91 314 P **P** **19 55 06.5 +0.4**
baz=53,SNR=9.6
ORIO Orleans, Innes 73.93 315 P **P** **19 55 06.6 +0.5**
baz=52,SNR=6.8
I59A Olmsteadville 74.00 313 P **P** **19 55 07.2 +0.5**
baz=53
TOLK Toolik Lake Re 74.01 0 P **P** **19 55 06.8 +0.5**
baz=360
J60A Lant Hill Farm 74.07 313 P **P** **19 55 06.8 -0.3**
baz=53
L61B Northampton 74.10 312 P **P** **19 55 07.1 -0.2**
baz=53
D53A Lac Vacive, Po 74.12 318 P **P** **19 55 07.3 0.0**
baz=52,SNR=14
F55A Otter Lake 74.16 316 P **P** **19 55 07.7 +0.1**
baz=52
E54A Lac Daplat, Po 74.25 317 P **P** **19 55 07.9 -0.1**
baz=52,SNR=8.2
K61A Williamstown 74.32 312 P **P** **19 55 08.4 -0.1**
baz=53
H57A Richville 74.46 314 P **P** **19 55 10.0 +0.7**
baz=52,SNR=7.7
E53A Dumoine, Ponti 74.54 317 P **P** **19 55 09.6 -0.1**
baz=51,SNR=12
J59A Piesco 74.56 313 P **P** **19 55 10.7 +0.7**
baz=52,SNR=9.4
D52A ZEK Kipswa Sen 74.57 318 P **P** **19 55 09.7 -0.2**
baz=51,SNR=5.1
I58A Old Forge 74.70 314 P **P** **19 55 11.4 +0.6**
baz=52,SNR=6.7
G55A Calabogie 74.72 316 P **P** **19 55 11.1 +0.3**
baz=52,SNR=6.3
M62A Hamden 74.83 311 P **P** **19 55 11.5 0.0**
baz=53
H56A Elgin 74.87 315 P **P** **19 55 12.3 +0.6**
baz=52
I57A Carthage 74.94 314 P **P** **19 55 12.3 +0.2**
baz=52,SNR=6.4
D51A Lot 18 Range I 75.01 318 P **P** **19 55 12.1 -0.3**
baz=50,SNR=7.8
ALGO Algonquin Park 75.02 317 P **P** **19 55 12.2 -0.3**
baz=51,SNR=7.9
J58A Remsen 75.08 313 P **P** **19 55 13.2 +0.3**
baz=52
K59A Cooperstown 75.19 313 P **P** **19 55 14.2 +0.6**
baz=52,SNR=8.4
L60A Shokan 75.30 312 P **P** **19 55 14.7 +0.5**
baz=52
G54A Lake Saint Pet 75.39 316 P **P** **19 55 14.8 +0.1**
baz=51,SNR=13
H55A Tweed 75.42 315 P **P** **19 55 15.2 +0.3**
baz=51
COLD Coldfoot 75.43 0 P **P** **19 55 14.3 -0.2**
baz=359,SNR=10
J57A Williamstown 75.46 314 P **P** **19 55 15.5 +0.4**
baz=52
K58A Earlville 75.66 313 P **P** **19 55 16.4 +0.1**
baz=52,SNR=6.8
L59A Walton 75.66 312 P **P** **19 55 16.8 +0.5**
baz=52,SNR=9.9
I55A Frankford 75.91 315 P **P** **19 55 17.8 +0.2**
baz=51,SNR=5.2
D49A Beulah Townshi 75.92 319 P **P** **19 55 17.4 -0.3**
baz=49
M60A Port Jervis 75.94 311 P **P** **19 55 18.5 +0.6**
baz=52
J56A Wolcott 76.03 314 P **P** **19 55 18.9 +0.5**
baz=51
K57A Scipio Center 76.18 314 P **P** **19 55 19.8 +0.6**
baz=51
H53A Bobcaygeon 76.18 316 P **P** **19 55 19.4 +0.2**
baz=50
YSS Yuzh-Sakhalins 76.19 41 *e*P **P** **19 55 19.0 -0.2**
YSS *e* 19 55 34.9
YSS pmax pmax
comp=Z,30nm,1.3s
BINY Binghamton 76.20 313 P **P** **19 55 19.7 +0.2**
baz=51,SNR=5.8
L58A Harry Jones Me 76.22 313 P **P** **19 55 20.3 +0.8**
baz=52
D48A Paudash Townsh 76.22 320 P **P** **19 55 18.1 -1.4**
baz=49
M59A Waymart 76.28 312 P **P** **19 55 20.2 +0.3**
baz=52
YKA Yellowknife Ar 76.34 344 P **P** **19 55 19.5 -0.2**
comp=Z,9.8nm,0.9s,baz=30,slow=6.1,SNR=12
N60A Cedar Hill Far 76.50 311 P **P** **19 55 22.0 +0.9**
baz=52
K56A Middlesex 76.66 314 P **P** **19 55 22.4 +0.4**
baz=51
L57A Andrews Acres 76.83 313 P **P** **19 55 23.7 +0.7**
baz=51,SNR=8.0
E48A Lockeyer 76.86 319 P **P** **19 55 22.9 -0.1**
baz=49,SNR=9.2
N59A State Game Lan 76.87 312 P **P** **19 55 23.1 -0.1**
baz=51
D47A Chapleau 76.96 320 P **P** **19 55 23.4 -0.3**
baz=48,SNR=7.1
M58A Price's Panora 76.99 312 P **P** **19 55 24.2 +0.3**
baz=51,SNR=6.7
O60A Telford 77.03 311 P **P** **19 55 24.7 +0.6**
baz=51
K55A Perry 77.07 314 P **P** **19 55 24.6 +0.3**
baz=50
L56A Greenwood 77.15 314 P **P** **19 55 25.1 +0.3**
baz=50,SNR=6.1
F49A Sandfield 77.27 319 P **P** **19 55 25.6 +0.2**
baz=48,SNR=7.1
M57A Sunshine Farm, 77.41 313 P **P** **19 55 26.5 +0.3**
baz=51
E47A Iron Bridge 77.45 320 P **P** **19 55 26.3 -0.1**
baz=48,SNR=5.9
N58A Sunbury 77.48 312 P **P** **19 55 26.8 +0.2**
baz=51
F48A Evansville 77.53 319 P **P** **19 55 26.5 -0.3**
baz=48
POKR Poker Plat Res 77.54 359 P **P** **19 55 26.8 +0.3**
baz=1.6,SNR=7.3
D46A Sault St. Mari 77.55 320 P **P** **19 55 27.1 +0.2**
baz=48,SNR=10
L55A Hinsdale 77.62 314 P **P** **19 55 28.0 +0.5**
baz=50,SNR=6.2
COLA College 77.79 359*d i* P **P** **19 55 28.0 +0.2**
COLA pmax pmax
comp=Z,19nm,1.5s
ILAR Eielson Array 77.88 359 P **P** **19 55 28.3 -0.1**
comp=Z,2.0nm,0.8s,baz=353,slow=3.9,SNR=18
M56A Emporium 77.92 313 P **P** **19 55 29.3 +0.2**
baz=50,SNR=6.1
I51A Listowel 78.02 317 P **P** **19 55 29.9 +0.3**
baz=49,SNR=8.6
N57A Milroy 78.02 312 P **P** **19 55 29.5 -0.1**
baz=50,SNR=5.3
NEA2 Nenana 78.08 360 P **P** **19 55 30.2 +0.6**
baz=0.2
L54A Sinclairville 78.09 314 P **P** **19 55 30.2 +0.2**
baz=50
HDA Harding Lake 78.24 359 P **P** **19 55 30.3 -0.1**
baz=2.0,SNR=5.5
M55A Ridgway 78.27 314 P **P** **19 55 30.8 -0.3**

	baz=50,SNR=6.6							
SSPA	**Standing Stone**	**78.30**	**313**	P	**P**	**19 55 31.2**	**0.0**	
	baz=50							
N56A	**West Decatur**	**78.35**	**313**	P	**P**	**19 55 31.8**	**+0.3**	
	baz=50,SNR=5.3							
O57A	**Amberson**	**78.42**	**312**	P	**P**	**19 55 31.5**	**-0.3**	
	baz=50							
K27K	**Chicken**	**78.48**	**357**	P	**P**	**19 55 31.9**	**+0.2**	
	baz=5.9							
ERPA	**Erie**	**78.55**	**315**	P	**P**	**19 55 32.5**	**0.0**	
	baz=49							
SCRK	**Sand Creek**	**78.61**	**358**	P	**P**	**19 55 32.9**	**+0.3**	
	baz=4.3,SNR=11							
P58A	**Pank, Wackersv**	**78.68**	**311**	P	**P**	**19 55 32.3**	**-1.0**	
	baz=50							
M54A	**Oil Creek Stat**	**78.76**	**314**	P	**P**	**19 55 33.9**	**+0.2**	
	baz=49,SNR=6.1							
L53A	**Girard**	**78.81**	**315**	P	**P**	**19 55 34.1**	**+0.2**	
	baz=49							
N55A	**Marion Center**	**78.84**	**313**	P	**P**	**19 55 34.2**	**0.0**	
	baz=50,SNR=7.8							
O56A	**Blue Knob Stat**	**78.93**	**313**	P	**P**	**19 55 34.7**	**0.0**	
	baz=50							
P57A	**Homestead Farm**	**79.11**	**312**	P	**P**	**19 55 35.7**	**+0.1**	
	baz=50,SNR=6.3							
Q58A	**Fox Den Farm,**	**79.26**	**311**	P	**P**	**19 55 36.3**	**-0.2**	
	baz=50							
N54A	**Moraine State**	**79.30**	**314**	P	**P**	**19 55 36.6**	**-0.1**	
	baz=49,SNR=5.2							
O55A	**Ligonier**	**79.40**	**313**	P	**P**	**19 55 37.2**	**0.0**	
	baz=49,SNR=5.5							
P56A	**Dayton Farm, R**	**79.58**	**312**	P	**P**	**19 55 37.6**	**-0.7**	
	baz=49,SNR=5.7							
Q57A	**Strasburg**	**79.63**	**312**	P	**P**	**19 55 37.9**	**-0.6**	
	baz=50,SNR=5.2							
N53A	**Lisbon**	**79.89**	**314**	P	**P**	**19 55 39.1**	**-0.8**	
	baz=48							
R58B	**Mineral**	**80.01**	**310**	P	**P**	**19 55 39.3**	**-1.2**	
	baz=50							
O54A	**Avella**	**80.04**	**313**	P	**P**	**19 55 40.5**	**-0.2**	
	baz=49							
MCWV	**Mont Chateau**	**80.07**	**313**	P	**P**	**19 55 41.2**	**+0.3**	
	baz=49							
Q56A	**Snyder Ridge,**	**80.09**	**312**	P	**P**	**19 55 40.9**	**-0.1**	
	baz=49							
P55A	**Reedsville**	**80.16**	**313**	P	**P**	**19 55 41.2**	**-0.2**	
	baz=49,SNR=5.5							
R57A	**Stanardsville**	**80.18**	**311**	P	**P**	**19 55 41.4**	**-0.1**	
	baz=49							
S58A	**Poland Farm, P**	**80.34**	**310**	P	**P**	**19 55 42.3**	**0.0**	
	baz=50,SNR=7.1							
MAJO	**Matsushiro**	**80.34**	**51**	*d iP*	**P**	**19 55 41.0**	**-1.4**	
MAJO				pmax	pmax			
	comp=Z,23nm,1.3s							
MJAR	**Matsushiro Arr**	**80.34**	**51**	P	**P**	**19 55 41.7**	**-0.7**	
	comp=Z,15nm,0.9s,baz=317,slow=4.7,SNR=53							
N52A	**McGinn's Farm,**	**80.37**	**315**	P	**P**	**19 55 42.2**	**-0.3**	
	baz=48							
EYMN	**Ely**	**80.41**	**325**	P	**P**	**19 55 41.9**	**-0.7**	
	baz=43							
O53A	**New Philadelph**	**80.47**	**314**	P	**P**	**19 55 42.6**	**-0.4**	
	baz=48,SNR=7.2							
P54A	**Burton**	**80.48**	**313**	P	**P**	**19 55 43.1**	**0.0**	
	baz=48							
ULM	**Lac du Bonnet**	**80.59**	**328**	P	**P**	**19 55 42.7**	**-0.8**	
	comp=Z,11nm,0.7s,baz=33,slow=4.8,SNR=9.7							
ULM	**Lac du Bonnet**	**80.59**	**328**	P	**P**	**19 55 41.5**	**-2.0**	
ULM				pmax	pmax			
	comp=Z,14nm,0.8s							
R56A	**Bull Pasture M**	**80.63**	**312**	P	**P**	**19 55 43.9**	**-0.1**	
	baz=49							
Q55A	**Buckhannon**	**80.64**	**312**	P	**P**	**19 55 43.8**	**-0.3**	
	baz=49,SNR=6.0							
N51A	**Ashland**	**80.68**	**315**	P	**P**	**19 55 43.9**	**-0.2**	
	baz=48							
S57A	**Dark Hollow, R**	**80.78**	**311**	P	**P**	**19 55 44.5**	**-0.3**	
	baz=49							
O52A	**Adamsville**	**80.92**	**314**	P	**P**	**19 55 45.2**	**-0.3**	
	baz=48,SNR=5.3							
U59A	**Littleton**	**80.99**	**309**	P	**P**	**19 55 46.2**	**+0.3**	
	baz=50							
V60A	**Jim Taylor Roa**	**81.04**	**308**	P	**P**	**19 55 46.4**	**+0.3**	
	baz=50							
T58A	**Grand View Acr**	**81.06**	**310**	P	**P**	**19 55 46.5**	**+0.2**	
	baz=49							
P53A	**Whipple**	**81.08**	**313**	P	**P**	**19 55 46.5**	**+0.2**	
	baz=48,SNR=10							
Q54A	**Coxs Mills**	**81.09**	**313**	P	**P**	**19 55 46.1**	**-0.3**	
	baz=48							
R55A	**Marlinton**	**81.14**	**312**	P	**P**	**19 55 46.7**	**-0.1**	
	baz=48,SNR=5.3							
S56A	**Natural Bridge**	**81.21**	**311**	P	**P**	**19 55 47.5**	**+0.4**	
	baz=49							
O51A	**Pataskala**	**81.33**	**315**	P	**P**	**19 55 47.4**	**-0.3**	
	baz=47,SNR=10							
P52A	**Corning**	**81.41**	**314**	P	**P**	**19 55 47.6**	**-0.5**	
	baz=48,SNR=5.3							
U58A	**Oxford**	**81.43**	**310**	P	**P**	**19 55 48.0**	**-0.2**	
	baz=49							
T57A	**Hurt**	**81.46**	**310**	P	**P**	**19 55 48.5**	**+0.1**	
	baz=49							
ACSO	**Alum Creek Sta**	**81.49**	**315**	P	**P**	**19 55 48.2**	**-0.2**	
	baz=47							
Q53A	**Leroy**	**81.58**	**313**	P	**P**	**19 55 48.7**	**-0.2**	
	baz=48,SNR=6.2							
V59A	**Middlesex**	**81.65**	**309**	P	**P**	**19 55 49.4**	**+0.1**	
	baz=49							
S55A	**Lewisburg**	**81.70**	**312**	P	**P**	**19 55 50.3**	**+0.6**	
	baz=48							
R54A	**Victor**	**81.72**	**312**	P	**P**	**19 55 49.5**	**-0.3**	
	baz=48							
TGY	**Tagaytay City**	**81.76**	**79**	LR	LR	20 38 44.6		
	comp=Z,89nm,18.5s,baz=268,slow=41							
U57A	**Blanch**	**81.89**	**310**	P	**P**	**19 55 50.6**	**0.0**	
	baz=49,SNR=6.3							
T56A	**Rocky Mt**	**81.91**	**311**	P	**P**	**19 55 50.5**	**-0.3**	
	baz=48							
Q52A	**Bidwell**	**81.94**	**314**	P	**P**	**19 55 50.7**	**-0.1**	
	baz=48							
P51A	**Williamsport**	**82.04**	**314**	P	**P**	**19 55 50.7**	**-0.7**	
	baz=47							
AGMN	**Agassiz Nation**	**82.08**	**327**	P	**P**	**19 55 50.4**	**-1.0**	
	baz=40							
S54A	**Dingess, Beckl**	**82.16**	**312**	P	**P**	**19 55 51.5**	**-0.6**	
	baz=48,SNR=5.4							
V58A	**Windy Hill, Pi**	**82.17**	**309**	P	**P**	**19 55 52.2**	**+0.1**	
	baz=49							
R53A	**Hurricane**	**82.18**	**313**	P	**P**	**19 55 52.1**	**0.0**	
	baz=48,SNR=5.5							
T55A	**Pulaski**	**82.30**	**311**	P	**P**	**19 55 52.6**	**-0.3**	
	baz=48							
V57A	**Coltrane Farms**	**82.51**	**310**	P	**P**	**19 55 53.7**	**-0.2**	
	baz=48,SNR=5.2							
U56A	**King**	**82.57**	**311**	P	**P**	**19 55 54.5**	**+0.2**	
	baz=48,SNR=5.5							
S53A	**Williamson**	**82.72**	**312**	P	**P**	**19 55 54.7**	**-0.3**	
	baz=47							
W58A	**Raeford**	**82.75**	**309**	P	**P**	**19 55 55.3**	**+0.2**	
	baz=49							
T54A	**Tazewell**	**82.81**	**312**	P	**P**	**19 55 55.2**	**-0.3**	
	baz=48							
U55A	**TA2, Sparta**	**82.87**	**311**	P	**P**	**19 55 55.9**	**0.0**	
	baz=48,SNR=8.7							
P49A	**Miami Univ. Ec**	**82.94**	**315**	P	**P**	**19 55 55.0**	**-1.1**	
	baz=46							
V56A	**Mocksville**	**83.00**	**310**	P	**P**	**19 55 56.4**	**-0.1**	
	baz=48							
SPMN	**Marine on St.**	**83.03**	**324**	P	**P**	**19 55 55.7**	**-0.7**	
	baz=42							
W57A	**Gilead**	**83.13**	**309**	P	**P**	**19 55 56.3**	**-0.9**	
	baz=48							
U54A	**Nelsons Funny**	**83.32**	**311**	P	**P**	**19 55 57.6**	**-0.6**	
	baz=48							
JFWS	**Jewell Farm**	**83.48**	**321**	P	**P**	**19 55 57.7**	**-1.1**	
	baz=43,SNR=6.8							
W56A	**Indian Trail**	**83.50**	**310**	P	**P**	**19 55 58.6**	**-0.5**	
	baz=48							
X57A	**Johnson Farm,**	**83.65**	**309**	P	**P**	**19 55 60.0**	**+0.2**	
	baz=48							
SFIN	**Lafayette**	**83.65**	**317**	P	**P**	**19 55 58.3**	**-1.4**	
	baz=45							
V54A	**Nebo**	**83.90**	**311**	P	**P**	**19 56 01.3**	**+0.2**	
	baz=47,SNR=5.8							
KMSC	**Kings Mountain**	**83.95**	**310**	P	**P**	**19 56 00.9**	**-0.5**	
	baz=48,SNR=5.4							
X56A	**White Oak**	**84.20**	**310**	P	**P**	**19 56 02.5**	**-0.2**	
	baz=48							
Z58A	**St. Stephen**	**84.22**	**308**	P	**P**	**19 56 02.6**	**-0.2**	
	baz=48							
W54A	**Cherokee Point**	**84.51**	**311**	P	**P**	**19 56 03.7**	**-0.5**	
	baz=47							
HDIL	**Hopedale**	**84.70**	**318**	P	**P**	**19 56 04.2**	**-0.9**	
	baz=44,SNR=5.9							
WCI	**Wyandotte Cave**	**84.73**	**315**	P	**P**	**19 56 04.8**	**-0.5**	
	baz=45							
WCI	**Wyandotte Cave**	**84.73**	**315**	P	**P**	**19 56 04.6**	**-0.6**	
WCI				pmax	pmax			
	comp=Z,27nm,1.0s							
Z57A	**Bowman**	**84.80**	**308**	P	**P**	**19 56 06.2**	**+0.5**	
	baz=48							
X54A	**Belton**	**84.98**	**310**	P	**P**	**19 56 06.5**	**-0.1**	
	baz=47							
Y55A	**Saluda**	**85.08**	**310**	P	**P**	**19 56 06.7**	**-0.4**	
	baz=47							
DGMT	**Dagmar**	**85.31**	**332**	P	**P**	**19 56 07.8**	**-0.2**	
	baz=34							
ECSD	**EROS Data Cent**	**85.93**	**325**	P	**P**	**19 56 10.3**	**-0.9**	
	baz=39,SNR=14							
GOGA	**Godfrey**	**86.42**	**310**	P	**P**	**19 56 13.8**	**+0.1**	
	baz=46,SNR=12							
SUSD	**Miller**	**86.43**	**326**	P	**P**	**19 56 13.3**	**-0.4**	
	baz=38							
LAO	**LASA Array**	**87.55**	**332**	P	**P**	**19 56 19.8**	**+0.7**	
	baz=33							
CCM	**Cathedral Cave**	**87.56**	**318**	P	**P**	**19 56 18.1**	**-1.1**	
	baz=42							
CCM	**Cathedral Cave**	**87.56**	**318**	P	**P**	**19 56 18.0**	**-1.2**	
CCM				pmax	pmax			
	comp=Z,17nm,1.2s							
BGNE	**Belgrade**	**88.45**	**324**	P	**P**	**19 56 23.0**	**-0.5**	
	baz=38							
LRAL	**Lakeview Retre**	**88.80**	**312**	P	**P**	**19 56 24.4**	**-0.8**	
	baz=44,SNR=9.1							
RSSD	**Black Hills**	**88.84**	**329**	P	**P**	**19 56 24.8**	**-0.7**	
	baz=34							
KSU1	**Kansas State U**	**89.52**	**322**	P	**P**	**19 56 27.4**	**-1.0**	
	baz=39							
U40A	**Yellville**	**89.68**	**318**	P	**P**	**19 56 28.6**	**-0.7**	
	baz=41							
NEW	**Newport**	**89.76**	**339**	P	**P**	**19 56 29.3**	**-0.1**	
	baz=25							
RLMT	**Red Lodge**	**90.00**	**333**	P	**P**	**19 56 31.1**	**+0.2**	
	baz=31,SNR=7.0							
MSO	**Missoula**	**90.09**	**337**	P	**P**	**19 56 30.5**	**-0.7**	
	baz=27							
W41B	**Gary Mavity, V**	**90.23**	**317**	P	**P**	**19 56 30.9**	**-0.9**	
	baz=42							
BOZ	**Bozeman (W)**	**90.42**	**335**	P	**P**	**19 56 32.5**	**-0.3**	
	baz=29							
BDFB	**Brasilia**	**90.72**	**251**	P	**P**	**19 56 35.5**	**+1.0**	
	comp=Z,8.1nm,0.8s,baz=82,slow=6.0,SNR=9.6							
BDFB	**Brasilia**	**90.72**	**251**	P	**P**	**19 56 33.5**	**-1.0**	
BDFB				pmax	pmax			
	comp=Z,10.0nm,0.8s							
MIAR	**Mount Ida**	**91.42**	**317**	P	**P**	**19 56 37.0**	**-0.5**	
	baz=41,SNR=5.7							
BW06	**Boulder Array**	**92.14**	**332**	P	**P**	**19 56 39.3**	**-1.6**	
	baz=30							
PDAR	**Pinedale Array**	**92.14**	**332**	P	**P**	**19 56 39.4**	**-1.5**	
	comp=Z,1.5nm,0.8s,baz=66,slow=3.2,SNR=12							
N23A	**Red Feather La**	**92.30**	**329**	P	**P**	**19 56 41.1**	**-0.6**	
	baz=33							
KSCO	**Kaye Shedlock'**	**92.42**	**325**	P	**P**	**19 56 42.1**	**0.0**	
	baz=35							
ISCO	**Idaho Springs**	**93.08**	**328**	P	**P**	**19 56 44.3**	**-1.1**	
	baz=33							
WMOK	**Wichita Mounta**	**94.00**	**320**	P	**P**	**19 56 48.5**	**-0.9**	
	baz=38							
S22A	**4UR Ranch, Cre**	**95.31**	**327**	P	**P**	**19 56 54.6**	**-1.1**	
	baz=32							
J05D	**Fort Rock, OR**	**95.47**	**340**	P	**P**	**19 56 56.6**	**+0.5**	
	baz=22							
DUG	**Dugway, Tooele**	**95.58**	**333**	P	**P**	**19 56 56.1**	**-0.5**	
	baz=28,SNR=5.4							
NVAR	**Mina Array Bea**	**99.05**	**336**	P	**Pdif**	**19 57 13.0**	**+0.6**	
	comp=Z,0.2nm,0.3s,baz=47,slow=4.0,SNR=5.4							
TXAR	**Lajitas Array**	**100.80**	**320**	P	**Pdif**	**19 57 19.6**	**-0.6**	
	comp=Z,1.2nm,0.8s,baz=64,slow=4.1,SNR=13							
ASAR	**Alice Springs**	**114.19**	**102**	PP	PP	20 03 11.4	+5.1	
	comp=Z,0.5nm,0.8s,baz=305,slow=7.3,SNR=4.2							
MSVF	**Nonsavu**	**145.23**	**64**	PKIKP	**PKPdf**	**20 03 09.7**	**+0.4**	

TAP 24 19:49:25.5,23.73N×121.40E,h18km±1km,ML1.4,1D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGFH	**Guangfu**	**0.07**	**158**	*i*P	Pg	19 49 29.7	+0.7
EGFH	baz=157			*i* S	Sg	19 49 31.8	+0.5
ESL	**Shilin**	**0.09**	**20**	P	Pg	19 49 30.2	+1.1
ESL	baz=24			S	Sg	19 49 32.3	+0.7
EHY	**Hungye**	**0.23**	**198**	P	Pb	19 49 31.5	+0.4
EHY	baz=195			S	Sg	19 49 35.2	+0.4
HGSD	**Ruisui**	**0.24**	**175**	*i* P	Pb	19 49 32.1	+1.0
HGSD	baz=174			*i* S	Sb	19 49 36.4	+1.6
VWDT	**VWDT**	**0.24**	**276**	*i* P	Pb	19 49 32.4	+1.3
VWDT	baz=275			*e*S	Sb	19 49 36.2	+1.4
YULB	**Yu-li**	**0.35**	**196**	P	Pb	19 49 33.3	0.0
YULB	baz=195			S	Sb	19 49 38.3	-0.1
CHGB	**Renai**	**0.39**	**328**	*e*P	Pb	19 49 35.0	+1.0
CHGB	baz=327			*e*S	Sb	19 49 40.1	+0.2
EYUL	**Yuli**	**0.39**	**191**	P	Pb	19 49 34.0	+0.1
EYUL	baz=191			*e*S	Sb	19 49 39.8	+0.2
TWF1	**Yuli**	**0.39**	**194**	*e*P	Pb	19 49 33.9	0.0
TWF1	baz=192			*e*S	Sb	19 49 39.6	0.0
SSLB	**Suanglung**	**0.41**	**278**	*e*P	Pb	19 49 34.8	+0.5
SSLB	baz=278			*e*S	Sb	19 49 40.1	-0.2
WHF	**Hehuan Shan**	**0.43**	**343**	*e*P	Pb	19 49 35.8	+0.8
WHF	baz=344			*e*S	Sb	19 49 41.5	+0.2
NACB	**Ninganchiao**	**0.48**	**22**	*e*P	Pb	19 49 35.4	0.0
NACB	baz=21			*e*S	Sb	19 49 42.5	+0.4
ETLH	**Xiulin Townshi**	**0.48**	**9**	*e*S	Sb	19 49 42.7	+0.4
	baz=8.0						
SMLT	**Sun Moon Lake**	**0.48**	**288**	*e*S	Sb	19 49 43.1	+0.8
	baz=288						
TYC	**Yuchr**	**0.53**	**289**	*e*S	Sb	19 49 44.5	+1.0
	baz=289						
FUSS	**Fushou**	**0.54**	**345**	*e*P	Pn	19 49 37.7	-0.8
FUSS	baz=344			*e*S	Sb	19 49 44.7	+0.7
FULB	**Fuli**	**0.54**	**190**	*e*P	Pb	19 49 37.0	+0.6
FULB	baz=190			*e*S	Sb	19 49 45.3	+1.5
TDCB	**Techi**	**0.57**	**337**	*e*P	Pb	19 49 37.9	+0.9
TDCB	baz=336			*e*S	Sb	19 49 44.9	+0.1
ALS	**Alishan**	**0.59**	**248**	*e*P	Pn	19 49 38.4	-0.8
	baz=247						
ALS	baz=247			*e*S	Sb	19 49 46.2	+0.8
ELDTW	**Lidau**	**0.64**	**213**	*e*P	Pg	19 49 38.9	+0.6
	baz=212						
ELDTW	baz=212			*e*S	Sg	19 49 47.3	+0.4
NNSB	**Datong**	**0.69**	**359**	*e*P	Pn	19 49 41.0	+0.4
	baz=358						
NNSB	baz=358			*e*S	Sg	19 49 49.5	+0.9
NNSH	**Datong**	**0.69**	**359**	*e*S	Sg	19 49 48.9	+0.3
	baz=358						
NNS	**Nan Shan**	**0.71**	**358**	*e*S	Sg	19 49 49.9	+1.0
	baz=358						
EDH	**Donghe**	**0.76**	**187**	*e*S	Sn	19 49 51.9	-0.4
	baz=186						
YHNB	**Yeheng**	**0.94**	**359**	*e*S	Sb	19 49 55.7	+0.3
	baz=358						

JMA 24 19:50:13.6±0.1,24.41N×123.24E,h54km±1km,M1.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.21**	**284**	P	Pn	19 50 22.4	-0.1
YOJ				S	Sn	19 50 28.5	-0.3
JYNG	**Yonagunijimaku**	**0.27**	**279**	P	Pn	19 50 22.7	-0.2
JYNG				S	Sn	19 50 29.2	-0.3
IRIF	**Iriomote-Funau**	**0.45**	**99**	P	Pn	19 50 24.5	-0.1
IRIF				S	Sn	19 50 32.8	+0.3
HATJ	**Hateruma jima**	**0.62**	**124**	P	Pn	19 50 26.4	-0.2
HATJ				S	Sn	19 50 36.1	+0.1
JKRS	**Kuro-shima**	**0.72**	**104**	P	Pn	19 50 28.0	+0.2
JKRS				S	Sn	19 50 38.8	+0.7
JIJ	**Ishigaki jima**	**0.82**	**93**	P	Pn	19 50 29.0	-0.1
JIJ				S	Sn	19 50 40.7	+0.2
JISG	**Ishigakijimahi**	**0.99**	**80**	P	Pn	19 50 31.4	+0.1
JISG				S	Sn	19 50 44.8	+0.4
JTJ	**Tarama**	**1.35**	**80**	P	Pn	19 50 36.7	+0.6
JTJ				S	Sn	19 50 53.8	+0.8
JIRB	**Irabujima**	**1.81**	**76**	P	Pn	19 50 42.9	+0.6
JIRB				*e*S	Sn	19 51 04.8	+0.7

IDC ***24*** *20:21:22.4±0.4,55.34S×28.45W,h0km,mb5.2/16, mb1 5.2/17,mb1mx5.1/23,mbtmp5.1/17,ML4.9/1,MS5.1/17, Ms1 5.1/17,ms1mx5.0/24,Error ellipse: s-maj=15.3km s-min=13.6km az=27.0*

MOS ***24*** *20:21:22.9±1.1,55.34S×28.56W,h10km,mb5.5/14, MS5.0/7,Error ellipse: s-maj=19.3km s-min=12.1km az=115.0*

NEIC ***24*** *20:21:23.6±2.0,55.32S±0.07×28.5W±0.2,h10km±3km, mb5.5/54,Ms_20 5.3/166,Error ellipse: s-maj=14.6km s-min=7.9km az=56.0*

GCMT ***24*** *20:21:27.9±0.1,55.38S±0.01×28.32W±0.01,h12km, MW5.6/146,Moment Tensor Solution. s102,c170; s146,c282; Duration: 196 Moment tensor: Scale 10^17 Nm; Mrr-1.59±.03; Mθθ 1.13±.03; Mϕϕ0.45±.03; Mrθ0.92±.09; Mθϕ1.93±.03; Mϕr2.36±.10; Best double couple: Ms3.44900×10^17 NP1:ϕ=83.00000°,δ31.00000°, λ-35.00000°. NP2:ϕ204.00000°,δ73.00000°, λ-116.00000°. Principal axes: T 3.7330, Plg24.0000°, Azm314.0000°; N -0.5730, Plg25.0000°, Azm212.0000°; P -3.1650, Plg54.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 20:21:23.1±0.2,55.39S±0.05×28.51W±0.05,h10km,n477, σ1§40/451,mb5.4/42,MS5.3/116,8C-9D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.74**	**280**	P	**Pn**	**20 22 34.8**	**+0.2**
HOPE	**Hope Point**	**4.74**	**280**		**Pn**	**20 22 34.8**	**+0.2**
VNA1	**Neumayer--Stat**	**17.69**	**158**	P	**P**	**20 25 32.9**	**+2.8**
VNA3	**Neumayer Olymp**	**17.86**	**160**	P	**P**	**20 25 33.9**	**+1.9**
EFI	**East Falkland**	**17.88**	**270**	*c iP*	**P**	**20 25 34.2**	**+1.9**
EFI				pmax	pmax		
	comp=Z,256nm,1.9s						
EFI	**East Falkland**	**17.88**	**270**	P	**Pn**	**20 25 32.0**	**+0.3**
VNA2	**Neumayer--Wata**	**18.09**	**158**	P	**P**	**20 25 36.7**	**+2.2**
PMSA	**Palmer Station**	**19.78**	**227**	P	**Pn**	**20 25 56.3**	**+1.8**
	comp=Z,3.6nm,0.3s,baz=70,slow=7.4,SNR=35						
PMSA				ScP	**ScP**	**20 33 45.4**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=19,slow=3.6,SNR=3.0						
PMSA	**Palmer Station**	**19.78**	**227**	P	**Pn**	**20 25 55.3**	**+0.8**
PMSA	**Palmer Station**	**19.78**	**227**	*e*P	**Pn**	**20 25 56.2**	**+1.8**
MG01	**Puerto William**	**22.16**	**255**	P	**P**	**20 26 20.4**	**+1.7**
USHA	**Ushuaia**	**22.63**	**255**	P	**P**	**20 26 26.8**	**+3.0**
	comp=Z,76nm,0.8s,baz=175,slow=1.7,SNR=18						
NVL	**N'lazarevskaya**	**23.23**	**147**	*e*P	**P**	**20 26 28.9**	**-1.0**
NVL				*e*S	**S**	**20 30 37.1**	**-4.4**
NVL				pmax	pmax		
	comp=Z,20nm,0.9s						
NVL				MLR	MLR		
	comp=Z,3μm,13.0s						
GO09	**Cerro Castillo**	**26.16**	**261**	P	**P**	**20 26 57.6**	**+0.4**
GO09				IAmb	IAmb	20 27 53.3	
	comp=Z,82nm,1.1s						
LPA	**La Plata**	**28.80**	**303**	*e*P	**P**	**20 27 16.7**	**-4.3**
LPA				PP	**PnPn**	**20 28 03.1**	**-8.6**
LPA				PCP	**PcP**	**20 30 29.8**	**-0.8**
LPA				S	**S**	**20 32 12.8**	**+2.3**
LPA				SS	**SnSn**	**20 33 34.0**	**+2.4**
LPA				SSS	SSS	20 33 48.3	
LPA				SKIKP		20 41 45.5	
PLTB	**Pedras Altas**	**29.50**	**313**	*e*P	**P**	**20 27 28.3**	**+1.0**
CNLB	**Canela**	**30.58**	**319**	*e*P	**P**	**20 27 37.4**	**+0.5**
CNLB				*e*pP	**sP**	**20 27 39.5**	**+0.2**
CNLB				*e*S	**S**	**20 32 40.1**	**+1.4**
CPSB	**Cacapava Do Su**	**30.62**	**314**	*e*P	**P**	**20 27 37.6**	**+0.5**
CPSB				*e*S	**S**	**20 32 41.2**	**+2.1**
LL01	**San Ignacio de**	**31.11**	**276**	IAMs_20	IAMs_20	20 42 28.8	
	comp=Z,4μm,18.0s						
PLCA	**Paso Flores**	**31.15**	**280**	P	**P**	**20 27 42.0**	**+0.2**
	comp=Z,9.8nm,1.0s,baz=148,slow=7.0,SNR=8.6						
PLCA				PcP	**PcP**	**20 30 38.4**	**+1.7**
	comp=Z,8.3nm,1.0s,baz=74,slow=4.9,SNR=9.2						
PLCA				LR	LR	20 42 00.1	
	comp=Z,3μm,18.3s,baz=132,slow=40						
PLCA	**Paso Flores**	**31.15**	**280**	P	**P**	**20 27 39.5**	**-2.4**
PLCA	**Paso Flores**	**31.15**	**280**	*e*P	**P**	**20 27 41.8**	**-0.1**
SYO	**Syowa Base**	**32.57**	**142**	*e*P	**P**	**20 27 53.0**	**-0.9**
SYO	**Syowa Base**	**32.57**	**142**	*i*pP	**P**	**20 27 54.4**	**+0.5**
SYO	**Syowa Base**	**32.57**	**142**	*i*sP	**P**	**20 27 56.9**	**+3.0**
ITAB	**Concordia**	**32.93**	**319**	*e*P	**P**	**20 27 57.8**	**+0.3**
PET01	**Itanhaem-SP**	**34.01**	**328**	*e*P	**P**	**20 28 07.7**	**+0.7**
PET01				*e*S	**S**	**20 33 33.3**	**+1.2**
BI02	**San Fabin de**	**34.40**	**285**	P	**P**	**20 28 08.2**	**-2.2**
PARB	**Paraibuna**	**34.44**	**331**	*e*P	**P**	**20 28 10.4**	**-0.4**
PARB				*e*S	**S**	**20 33 38.8**	**-0.1**
MAN01	**Angra dos Reis**	**34.46**	**334**	*e*P	**P**	**20 28 11.9**	**+1.0**
SPB	**Sao Paulo**	**34.72**	**329**	P	**P**	**20 28 13.4**	**+0.4**
SPB				IAmb	IAmb	20 28 19.5	
	comp=Z,76nm,1.4s						
SPB				IAMs_20	IAMs_20	20 41 38.8	
	comp=Z,3μm,18.0s						
SPB	**Sao Paulo**	**34.72**	**329**	*e*P	**P**	**20 28 14.1**	**+1.0**
SPB				*e*pP	**sP**	**20 28 17.6**	**+2.1**
SPB				*e*S	**S**	**20 33 45.4**	**+2.5**
QSPA	**South Pole Qui**	**34.86**	**180**	ScP	**ScP**	**20 34 31.1**	**-0.8**
	comp=Z,2.3

APLL PUNTA DE LOS L 36.69 297 *i* P P 20 28 30.6 +0.5
PEL Peldehue 36.71 290 P P 20 28 31.0 +0.8
PEL pmax pmax
comp=Z,109nm,0.8s
PEL MLR MLR
comp=Z,3µm,21.0s
PEL Peldehue 36.71 290 P P 20 28 31.0 +0.8
PEL Peldehue 36.71 290 *i* P P 20 28 31.6 +1.4
AUSP Uspallata 36.73 292 *i* P P 20 28 31.6 +0.9
MT02 Curacav 36.87 289 P P 20 28 30.1 -1.4
MT02 IAmb IAmb 20 28 35.9
comp=Z,50nm,0.7s
VA03 San Esteban 36.93 290 P P 20 28 32.7 +0.6
VA03 IAmb IAmb 20 28 35.6
comp=Z,98nm,0.8s
RTLL Cerro Villicun 36.95 294 *i* P P 20 28 32.4 +0.2
RTLS Leoncito 37.01 292 *i* P P 20 28 33.8 +0.7
ROC1 El Roble 37.02 289 P P 20 28 33.8 +0.8
ROC1 El Roble 37.02 289 *i* P P 20 28 34.2 +1.2
RIB01 Linhares ES 37.13 341 *e*P P 20 28 33.9 +0.1
RIB01 *e*S S 20 34 21.3 +1.3
TRCB Terra Rica 37.16 321 *e*P P 20 28 34.9 +0.8
BB19B Bebedouro 37.42 328 *e*P P 20 28 36.8 +0.5
BB19B *e*S S 20 34 25.3 +0.8
BSFB Barra de Sao F 37.68 341 *e*P P 20 28 38.3 -0.2
BSFB *e*S S 20 34 28.8 +0.4
ACLC CERRO LA CRUZ 37.69 298 *i* P P 20 28 38.4 -0.3
PCMB Pacaembu 37.79 324 *e*P P 20 28 39.6 +0.2
PCMB *e*S S 20 34 32.0 +2.0
ACCO Cerro Coronel 37.85 294 *i* P P 20 28 41.9 +1.7
SJMB Sao Joao De Ma 37.87 340 *e*P P 20 28 38.7 -1.4
SJMB *e*S S 20 34 32.0 +0.7
CYA Choya 37.92 300 *i* P P 20 28 38.8 -1.7
AROD Rodeo 38.39 294 *i* P P 20 28 46.4 +1.6
CO03 El Pedregal 38.50 292 IAMs_20 IAMs_20 20 43 07.9
comp=Z,4µm,20.0s
CO01 Juntas del Tor 38.87 293 IAMs_20 IAMs_20 20 43 05.6
comp=Z,4µm,21.0s
VCA Vinchina 38.89 297 *i* P P 20 28 50.2 +1.4
AHML Horco Molle 39.07 302 *i* P P 20 28 49.0 -1.2
GO04 Tololo Observa 39.08 292 P P 20 28 49.8 -0.7
GO04 IAmb IAmb 20 28 55.4
comp=Z,102nm,1.1s
GO04 IAMs_20 IAMs_20 20 44 39.3
comp=Z,3µm,20.0s
ITRB Iturama 39.27 326 *e*P P 20 28 51.7 -0.1
AC05 El Transito 39.87 294 P P 20 28 56.6 -0.3
AC05 IAMs_20 IAMs_20 20 44 23.3
comp=Z,3µm,20.0s
IPMB Ipameri, GO 40.25 330 *e*P P 20 28 59.2 -0.8
MC01 Montes Claros 40.38 337 *e*P P 20 29 00.6 -0.6
MC01 *e*S S 20 35 10.1 +0.9
AQDB Aquidauana 40.41 319 *e*P P 20 29 00.6 -0.6
AC04 Llanos de Chal 40.80 294 IAMs_20 IAMs_20 20 44 07.2
comp=Z,3µm,21.0s
VA04 Juan Fernndez 40.82 281 IAMs_20 IAMs_20 20 48 01.8
comp=Z,3µm,18.0s
GO03 Copiap 40.86 295 P P 20 29 03.6 -1.4
AZAP Zapla 41.10 304 *i* P P 20 29 07.6 +0.3
MAW Mawson 41.12 144 P P 20 29 07.7 +1.1
comp=Z,17nm,0.6s,baz=221,slow=7.9,SNR=48
MAW PcP PcP 20 31 07.8 +2.1
comp=Z,13nm,0.9s,baz=242,slow=5.5,SNR=3.9
MAW LR LR 20 43 39.7
comp=Z,2µm,21.3s,baz=260,slow=32
MAW Mawson 41.12 144 P P 20 29 07.6 +1.0
SUR Sutherland 41.21 77 P P 20 29 09.6 +1.6
comp=Z,22nm,0.8s,baz=219,slow=10,SNR=15
SUR LR LR 20 42 10.2
comp=Z,3µm,19.7s,baz=215,slow=30
SUR Sutherland 41.21 77 P P 20 29 09.7 +1.6
SUR IAmb IAmb 20 29 17.4
comp=Z,247nm,1.9s
JANB Januaria 42.06 337 *e*P P 20 29 15.0 0.0
JANB *e*S S 20 35 33.8 -0.3
AC01 Pan de Azucar 42.22 296 P P 20 29 14.2 -1.9
AC01 IAmb IAmb 20 29 22.0
comp=Z,112nm,1.3s
BDFB Brasilia 42.42 332 P P 20 29 18.7 +0.8
comp=Z,23nm,0.9s,baz=152,slow=5.1,SNR=23
BDFB Brasilia 42.42 332 P P 20 29 17.2 -0.7
BDFB pmax pmax
comp=Z,35nm,1.2s
BDFB Brasilia 42.42 332 P P 20 29 17.2 -0.7
GDU01 Guandu, BA 42.46 344 *e*P P 20 29 17.1 -1.0
GDU01 *e*S S 20 35 40.0 0.0
GO02 Mina Guanaco 42.52 298 P P 20 29 18.8 -0.1
GO02 IAmb IAmb 20 29 21.7
comp=Z,74nm,1.0s
ARAG Araguaiana, MT 43.48 326 *e*P P 20 29 26.5 +0.2
NBCP Cabaceiras do 43.51 345 *e*P P 20 29 26.2 -0.4
NBCP *e*pP sP 20 29 29.5 +0.4
PB15 IPOC Station P 44.09 300 IAMs_20 IAMs_20 20 46 17.2
comp=Z,3µm,21.0s
LVC Limon Verde 44.32 301 P P 20 29 34.3 +0.8
LVC pmax pmax
comp=Z,69nm,0.9s
LVC MLR MLR
comp=Z,2µm,21.0s
LVC Limon Verde 44.32 301 P P 20 29 34.3 +0.8
LVC IAmb IAmb 20 29 38.0
comp=Z,69nm,0.8s
LVC Limon Verde 44.32 301 *e*P P 20 29 34.8 +1.2
LVC *e*pP sP 20 29 36.6 +0.8
PB10 IPOC Station P 44.38 298 P P 20 29 33.5 0.0
PB06 IPOC Station P 44.56 300 IAMs_20 IAMs_20 20 46 30.7
comp=Z,3µm,22.0s
SALV Santo Antonio 44.60 321 *e*P P 20 29 35.5 +0.1
SDBA SAO DESIDERIO 44.76 337 *e*P P 20 29 36.4 -0.3
SDBA *e*S S 20 36 13.7 +0.1
PB09 IPOC Station P 45.17 301 P P 20 29 41.0 +0.9
PB09 IAmb IAmb 20 30 01.6
comp=Z,86nm,1.1s
PB07 IPOC Station P 45.54 301 P P 20 29 44.0 +0.9
PB07 IAmb IAmb 20 29 46.1
comp=Z,59nm,0.9s
PEXB Peixe 45.88 333 *e*P P 20 29 45.9 +0.3
PB01 IPOC Station P 45.93 302 P P 20 29 46.0 -0.1
PB01 IAMs_20 IAMs_20 20 48 22.9
comp=Z,3µm,21.0s
PTLB Pontes e Lacer 46.30 317 *e*P P 20 29 48.6 -0.3
PTLB *e*S S 20 36 35.1 -0.6
BOSA Boshof 46.55 78 P P 20 29 51.2 +0.4
comp=Z,28nm,1.0s,baz=226,slow=7.4,SNR=27
BOSA LR LR 20 45 55.3
comp=Z,4µm,19.2s,slow=32
BOSA Boshof 46.55 78 P P 20 29 50.5 -0.4
BOSA pmax pmax
comp=Z,52nm,1.2s
BOSA Boshof 46.55 78 P P 20 29 50.5 -0.4
BOSA IAmb IAmb 20 30 03.7
comp=Z,52nm,1.2s
GO01 Chusmiza 46.96 303 IAMs_20 IAMs_20 20 48 00.4
comp=Z,2µm,22.0s
VNDA Vanda 47.19 183 P P 20 29 55.5 +0.3
comp=Z,14nm,0.6s,baz=90,slow=18,SNR=80
VNDA LR LR 20 48 08.5
comp=Z,1µm,21.2s,baz=168,slow=34
VNDA Vanda 47.19 183 P P 20 29 55.1 -0.1
VNDA pmax pmax
comp=Z,25nm,0.8s
VNDA Vanda 47.19 183 P P 20 29 55.0 -0.1
VNDA IAmb IAmb 20 30 14.6
comp=Z,25nm,0.8s
PSGCX Pisagua 47.47 302 P P 20 29 56.9 -1.2
PSGCX IAmb IAmb 20 30 00.8
comp=Z,35nm,0.9s
MNMC Minye Minye 47.61 303 P P 20 29 58.5 -1.0
SMTB Santa María do 48.81 335 *e*P P 20 30 08.5 +0.1
VILB Vilhena 48.99 317 *e*P P 20 30 09.4 -0.4
LPAZ La Paz 49.38 306 P P 20 30 14.7 +1.2
comp=Z,65nm,0.8s,baz=141,slow=6.5,SNR=144
LPAZ LR LR 20 49 22.5
comp=Z,1µm,21.9s,baz=168,slow=34
LPAZ La Paz 49.38 306 *e*P P 20 30 13.2 -0.3
LPAZ *e*S S 20 37 20.8 +0.1
LBTB Lobatse 49.55 75 LR LR 20 47 27.4
comp=Z,994nm,18.9s,baz=214,slow=32
LBTB Lobatse 49.55 75 P P 20 30 14.1 0.0
LBTB pmax pmax
comp=Z,42nm,1.1s
LBTB Lobatse 49.55 75 P P 20 30 14.1 0.0
LBTB IAmb IAmb 20 30 27.0
comp=Z,42nm,1.1s

RCBR Riachuelo 49.78 350 *e*P P 20 30 14.9 -0.9
TSUM Tsumeb 50.03 63 LR LR 20 46 04.7
comp=Z,795nm,21.5s,baz=210,slow=30
TSUM Tsumeb 50.03 63 P P 20 30 17.2 -0.6
PRPB Parauapebas 51.96 333 *e*P P 20 30 32.5 +0.3
NPGB Novo Progresso 52.75 326 *e*P P 20 30 37.5 -0.5
NPGB *e*S S 20 38 05.9 -0.2
NBMO Morrinhos-CE 52.76 345 *e*P P 20 30 38.5 +0.4
NBMO *e*pP sP 20 30 41.5 +0.9
SAML Samuel 53.81 316 P P 20 30 45.2 -0.6
SAML pmax pmax
SAML comp=Z,50nm,1.0s MLR MLR
comp=Z,3µm,22.0s
SAML Samuel 53.81 316 P P 20 30 45.2 -0.6
SAML IAmb IAmb 20 30 47.9
comp=Z,50nm,0.9s
SAML Samuel 53.81 316 IAMs_20 IAMs_20 20 51 49.3
comp=Z,3µm,22.0s
SAML Samuel 53.81 316 *e*P P 20 30 45.5 -0.3
ROSB Rosrio 53.84 341 *e*P P 20 30 46.4 +0.3
ETMB Extrema 54.27 312 *e*P P 20 30 48.8 -0.4
ETMB *e*pP sP 20 30 52.9 +1.4
CASY Casey 54.78 161 P P 20 30 51.8 -0.5
CASY IAmb IAmb 20 30 58.2
comp=Z,37nm,0.9s
CASY Casey 54.78 161 IAMs_20 IAMs_20 20 53 08.6
comp=Z,3µm,19.0s
TMAB Tom-Au,PA,Br 55.19 336 *e*P P 20 30 56.1 +0.2
ITTB Itaituba 55.39 326 *e*P P 20 30 58.5 +1.2
ITTB *e*S S 20 38 41.7 0.0
NNA Nana 57.27 300 P P 20 31 11.2 +0.4
NNA pmax pmax
NNA comp=Z,52nm,1.1s MLR MLR
comp=Z,2µm,21.0s
NNA Nana 57.27 300 P P 20 31 11.2 +0.4
NNA IAmb IAmb 20 31 13.3
comp=Z,52nm,1.1s
NNA Nana 57.27 300 IAMs_20 IAMs_20 20 55 16.6
comp=Z,2µm,21.0s
MALB Monte Alegre 57.32 329 *e*P P 20 31 11.2 +0.1
MALB *e*pP sP 20 31 14.7 +1.3
MALB *e*S S 20 39 08.9 +1.6
MCPB Macapa, AP 58.12 332 *e*P P 20 31 16.2 -0.4
MCPB *e*pP sP 20 31 21.0 +1.9
MACA Manacapuru-AM 58.18 321 *e*P P 20 31 16.2 -0.9
CZSB Cruzeiro do Su 58.99 306 *e*P P 20 31 22.9 +0.1
LIC Lamto 64.42 26 *e*P P 20 31 59.3 0.0
comp=Z,71nm,1.2s
KIC Kosan Boka 64.62 26 *e*P P 20 31 59.3 -1.4
comp=Z,18nm,0.8s
TIC Toumodi 64.83 26 *e*P P 20 32 01.7 -0.3
DBIC Dimbokro 64.89 26 P P 20 32 03.3 +0.9
comp=Z,10nm,0.7s,baz=173,slow=7.7,SNR=12
DBIC Dimbokro 64.89 26 P P 20 32 02.0 -0.4
DBIC pmax pmax
comp=Z,65nm,1.6s
DBIC Dimbokro 64.89 26 P P 20 32 02.0 -0.4
DBIC IAmb IAmb 20 32 26.2
comp=Z,65nm,1.6s
PTLC Puerto Leguiza 66.93 308 *e*P P 20 32 14.1 -1.5
PUAC Puerto Asis, P 68.07 307 *e*P P 20 32 24.2 +1.3
MACC Macarena, Meta 68.27 310 *e*P P 20 32 23.3 -0.8
FLOC Florencia 68.57 308 *e*P P 20 32 26.3 +0.4
OTAV Otavalo 68.66 305 P P 20 32 27.7 +0.6
OTAV pmax pmax
OTAV comp=Z,35nm,1.0s MLR MLR
comp=Z,1µm,18.0s
OTAV Otavalo 68.66 305 P P 20 32 27.7 +0.6
OTAV IAmb IAmb 20 32 32.0
comp=Z,35nm,1.0s
OTAV Otavalo 68.66 305 IAMs_20 IAMs_20 21 08 03.7
comp=Z,1µm,18.0s
OTAV Otavalo 68.66 305 *e*P P 20 32 27.6 +0.6
GCUF Volcan Galeras 69.02 306 *e*P P 20 32 33.0 +3.7
BETC Betania 69.45 309 *e*P P 20 32 32.9 +1.4
PCON Cinco Dias 69.56 308 *e*P P 20 32 34.1 +1.3
BBAC Balboa, Cauca 69.68 307 *e*P P 20 32 33.8 +0.8
MARP Paez Belalcaza 69.82 308 *e*P P 20 32 33.9 -0.1
POPC Popayan, Colom 69.88 308 *e*P P 20 32 34.9 +0.6
VILC Villavicencio, 69.96 311 *e*P P 20 32 35.6 +0.9
PRAC Prado 70.12 310 *e*P P 20 32 35.6 0.0
MBO M'Bour 70.19 12 IAMs_20 IAMs_20 21 08 22.0
comp=Z,3µm,19.0s
SACV Santiago Islan 70.21 5 IAMs_20 IAMs_20 21 04 29.3
comp=Z,2µm,20.0s
CHIC Chingaza 70.44 311 *e*P P 20 32 37.9 -0.1
ORTC Ortega, Tolima 70.45 310 *e*P P 20 32 37.4 -0.2
ROSC El Rosal 70.88 311 P P 20 32 41.9 +1.2
comp=Z,37nm,1.0s,baz=140,slow=6.5,SNR=14
ROSC LR LR 21 05 28.2
comp=Z,1µm,18.8s,baz=165,slow=37
ROSC El Rosal 70.88 311 *e*P P 20 32 41.0 +0.4
ROSC El Rosal 70.88 311 P P 20 32 41.1 +0.4
ROSC IAmb IAmb 20 32 43.3
comp=Z,36nm,0.9s
ROSC IAMs_20 IAMs_20 21 01 46.9
comp=Z,3µm,22.0s
GR1C Gorgona, Isla 70.97 306 *e*P P 20 32 42.2 +1.6
YOTC Yotoco, Valle 71.01 309 *e*P P 20 32 39.9 -1.2
TOLC Tolima 71.09 310 *e*P P 20 32 42.0 +0.2
TAMC Tame, Arauca 71.25 314 *e*P P 20 32 42.6 +0.1
RUSC La Rusia 71.30 313 *e*P P 20 32 42.3 -1.0
SPBC San Pablo de B 71.50 311 *e*P P 20 32 42.2 -1.8
TOSP Speyside 71.66 327 IAMs_20 IAMs_20 21 08 21.9
comp=Z,2µm,20.0s
GUY2C Guyana, Caldas 71.68 310 *e*P P 20 32 44.5 -1.1
NORC Norcasia 71.77 311 *e*P P 20 32 43.7 -1.9
BARC Barichara 71.97 313 *e*P P 20 32 45.0 -2.1
PAMC Pamplona, Colo 72.45 314 *e*P P 20 32 50.6 +0.4
PTBC PUERTO BERRIO, 72.47 312 *e*P P 20 32 47.5 -2.2
CBOC Ciudad Bolivar 72.53 310 *e*P P 20 32 49.6 -0.8
HELC Santa Helena 72.62 310 *e*P P 20 32 50.4 -0.7
TOA0 Torodi Ar. St 72.86 31 P P 20 32 51.4 -0.6
TORD Torodi Ar. Bea 72.86 31 P P 20 32 52.1 +0.2
comp=Z,33nm,0.6s,baz=202,slow=4.6,SNR=121
TORD LR LR 20 59 42.1
comp=Z,2µm,18.7s,baz=215,slow=32
SDV Santo Domingo 73.01 316 *e*P P 20 32 53.5 +0.3
SDV Santo Domingo 73.01 316 P P 20 32 52.9 -0.3
SDV Santo Domingo 73.01 316 *e*P P 20 32 53.3 +0.1
BBGH Gun Hill 73.11 328 IAMs_20 IAMs_20 21 07 03.1
comp=Z,2µm,22.0s
ZARC Zaragoza, Cauc 73.49 312 *e*P P 20 32 54.1 -1.6
OCAC Ocana 73.52 313 *e*P P 20 32 54.6 -1.5
DBBC Dabeiba 73.65 310 *e*P P 20 32 57.0 +0.2
UREC San Jos de Ur 74.01 311 *e*P P 20 32 58.5 -0.3
SMLC San Martn de 74.33 313 *e*P P 20 32 59.0 -1.7
PTAC Punta Ardita, 74.47 309 *e*P P 20 33 03.0 +1.5
MOTC Monteria, Cord 74.99 311 *e*P P 20 33 04.2 -0.3
KMBO Kilima Mbogo 75.51 70 IAMs_20 IAMs_20 21 03 05.0
comp=Z,2µm,20.0s
SJCC San Jacinto, C 75.79 312 *e*P P 20 33 09.4 +0.3
URIC Uribia, Colomb 76.11 316 *e*P P 20 33 08.0 -2.9
SMRC Santa Marta, M 76.53 314 *e*P P 20 33 15.7 +2.4
ANWB Willy Bob 78.05 328 IAMs_20 IAMs_20 21 07 44.2
comp=Z,1µm,20.0s
SEUS St. Eustatius 78.26 327 IAMs_20 IAMs_20 21 11 09.6
comp=Z,874nm,19.0s
SABA Saba 78.46 326 IAMs_20 IAMs_20 21 11 20.9
comp=Z,1µm,18.0s
DCZ Deep Cove 78.64 191 P P 20 33 24.8 0.0
DCZ IAMs_20 IAMs_20 21 06 22.8
comp=Z,2µm,19.0s
MQZ McQueen's Vall 79.65 195 IAMs_20 IAMs_20 21 13 03.5
comp=Z,1µm,18.0s
RPZ Rata Peaks 79.88 194 P P 20 33 32.6 +1.0
comp=Z,6.4nm,0.5s,baz=173,slow=6.8,SNR=6.3
RKT Rikitea 80.11 244 *e*S S 20 43 29.6 -8.0
comp=Z,335nm,36.8s
RKT Rikitea 80.11 244 *e*LQ LQ 20 55 07.8
comp=Z,1µm,31.0s
RKT *e*LR LR 20 58 33.2
comp=Z,500nm,24.2s
OXZ Oxford 80.12 195 IAMs_20 IAMs_20 21 06 16.8
comp=Z,1µm,19.0s
JTS Las Juntas de 80.52 304 *de*P P 20 33 36.1 +0.7
JTS pmax pmax
comp=Z,47nm,1.1s
LTZ Lake Taylor 80.61 195 P P 20 33 36.6 +1.0
LTZ IAmb IAmb 20 33 40.1
comp=Z,64nm,1.3s

THZ Tophouse 81.51 196 P P 20 33 41.2 +0.7
THZ IAmb IAmb 20 33 46.4
comp=Z,85nm,1.4s
THZ IAMs_20 IAMs_20 21 06 47.7
comp=Z,2µm,20.0s
PRVC Isla de Provid 81.57 308 *e*P P 20 33 42.0 +1.1
SNZO South Karori 81.66 197 IAMs_20 IAMs_20 21 13 24.6
comp=Z,1µm,19.0s
ESPN Las Esperanzas 81.88 305 P P 20 33 42.2 -0.3
ESPN IAmb IAmb 20 33 44.8
comp=Z,39nm,1.0s
ESPN IAMs_20 IAMs_20 21 16 05.0
comp=Z,930nm,19.0s
NNZ Nelson 81.97 197 IAMs_20 IAMs_20 21 07 17.8
comp=Z,1µm,20.0s
TAU Tasmania Unive 82.01 177 P P 20 33 43.4 +0.5
TAU pmax pmax
comp=Z,38nm,1.0s
TAU Tasmania Unive 82.01 177 P P 20 33 43.4 +0.5
TAU IAmb IAmb 20 33 51.2
comp=Z,38nm,0.9s
SDDR Presa de Saban 82.49 320 IAMs_20 IAMs_20 21 08 22.5
comp=Z,2µm,22.0s
QRZ Quartz Range 82.49 196 IAMs_20 IAMs_20 21 14 17.5
comp=Z,2µm,18.0s
BOAB BOACO BROADBAN 82.74 304 IAMs_20 IAMs_20 21 12 32.8
comp=Z,1µm,21.0s
TAM Tamanrasset 83.11 31 IAMs_20 IAMs_20 21 04 59.0
comp=Z,2µm,21.0s
MATN Matagalpa 83.28 304 P P 20 33 49.8 -0.1
BKZ Black Stump Fm 83.42 199 IAMs_20 IAMs_20 21 02 17.2
comp=Z,1µm,20.0s
MTDJ Mount Denham 84.24 314 IAMs_20 IAMs_20 21 10 59.9
comp=Z,1µm,22.0s
FURI Furi 84.70 66 IAMs_20 IAMs_20 21 12 27.2
comp=Z,2µm,18.0s
GTBY Guantanamo Bay 84.80 317 IAMs_20 IAMs_20 21 13 16.8
comp=Z,2µm,20.0s
TGUH Tegucigalpa,Un 84.90 304 IAMs_20 IAMs_20 21 18 23.1
comp=Z,696nm,18.0s
ESQI Esquipulas 86.32 302 P P 20 34 05.5 +0.3
TBI Tubuai 86.90 232 *e*S S 20 44 37.8 -8.5
comp=Z,192nm,26.0s
TBI Tubuai 86.90 232 *e*LR LR 21 01 39.6
comp=Z,1µm,25.5s
OUZ Omahuta 87.78 198 P P 20 34 11.7 -0.5
OUZ IAmb IAmb 20 34 18.3
comp=Z,24nm,1.1s
OUZ IAMs_20 IAMs_20 21 09 44.7
comp=Z,1µm,20.0s
HUEH Huehuetenango 88.03 301 IAMs_20 IAMs_20 21 15 52.9
comp=Z,1µm,21.0s
ATD Arta Tunnel 89.11 68 LR LR 21 10 39.7
comp=Z,2µm,21.4s,baz=202,slow=33
ATD Arta Tunnel 89.11 68 IAMs_20 IAMs_20 21 10 27.9
comp=Z,2µm,21.0s
CCIG Comitan 89.16 301 IAMs_20 IAMs_20 21 21 30.0
comp=Z,1µm,18.0s
TEIG Tepich 90.71 306 P P 20 34 26.8 +0.9
TEIG Tepich 90.71 306 IAMs_20 IAMs_20 21 16 36.1
comp=Z,977nm,19.0s
PPT2 Papeete2 91.95 235 *e*LR LR 21 04 04.9
comp=Z,728nm,23.8s
061Z Ochoppi 92.44 314 IAMs_20 IAMs_20 21 19 36.2
comp=Z,1µm,20.0s
STKA Stephens Creek 92.67 172 P P 20 34 37.2 +2.1
comp=Z,4.5nm,0.8s,baz=172,slow=5.8,SNR=8.6
TAOE Nuku Hiva Isla 94.72 247 *e*LR LR 21 05 19.5
comp=Z,667nm,25.1s
KEST Kesra 96.37 30 LR LR 21 13 27.3
comp=Z,2µm,18.6s,baz=160,slow=32
ESDC Sonseca Array 96.99 19 P P 20 34 55.9 +1.5
comp=Z,2.7nm,1.0s,baz=187,slow=5.1,SNR=16
ESDC LR LR 21 14 49.1
comp=Z,405nm,19.7s,baz=310,slow=33
553A Crawfordville 97.71 314 IAMs_20 IAMs_20 21 22 50.5
comp=Z,1µm,20.0s
451A Vernon 98.62 313 IAMs_20 IAMs_20 21 26 31.8
comp=Z,1µm,18.0s
VAE Valguarnera 99.51 33 LR LR 21 12 29.4
comp=Z,4µm,21.3s,baz=126,slow=31
ASAR Alice Springs 99.84 164 P Pdif 20 35 07.4 -0.3
comp=Z,3.7nm,0.9s,baz=182,slow=4.1,SNR=22
ASAR PP PP 20 39 11.2 -0.2
comp=Z,5.3nm,1.1s,baz=182,slow=7.5,SNR=7.4
ASAR PKKPbc PKKPbc 20 51 26.2 +1.0
comp=Z,1.0nm,0.9s,baz=313,slow=1.9,SNR=6.7
ASAR LR LR 21 16 10.0
comp=Z,1µm,21.9s,baz=184,slow=33
V60A Jim Taylor Roa 99.90 322 IAMs_20 IAMs_20 21 10 44.8
comp=Z,915nm,18.0s
DZM Mont Dzumac 101.80 194 *e*LR LR 21 08 41.4
comp=Z,635nm,20.8s
HKT Hockley 102.53 305 IAMs_20 IAMs_20 21 14 35.5
comp=Z,1µm,18.0s
735A Kenedy 102.55 303 IAMs_20 IAMs_20 21 09 49.8
comp=Z,950nm,20.0s
WRA Warramunga Arr 103.56 163 Pdiff Pdif 20 35 23.7 -0.6
comp=Z,0.9nm,0.9s,baz=196,slow=4.1,SNR=3.8
WRA PP PKiKP 20 39 42.2 -0.6
comp=Z,1.8nm,1.0s,baz=191,slow=7.3,SNR=5.9
WRAB Tennant Creek 103.57 163 IAMs_20 IAMs_20 21 18 16.7
comp=Z,1µm,20.0s
435B Jarrell 104.05 304 IAMs_20 IAMs_20 21 14 24.5
comp=Z,1µm,19.0s
HBAR Harrisburg 104.95 312 IAMs_20 IAMs_20 21 18 55.4
comp=Z,2µm,22.0s
TXAR Lajitas Array 105.82 299 Pdiff Pdif 20 35 35.6 +1.6
comp=Z,0.5nm,0.9s,baz=110,slow=11,SNR=4.9
TXAR PP PP 20 40 03.2 +5.8
comp=Z,0.7nm,0.9s,baz=146,slow=2.6,SNR=2.4
PALK Pallekele 106.83 102 IAMs_20 IAMs_20 21 18 20.5
comp=Z,1µm,20.0s
UOSS Minazif 107.27 71 IAMs_20 IAMs_20 21 22 16.1
comp=Z,1µm,20.0s
GERES GERESS Array B 109.72 28 PKiKP PKiKP 20 39 55.1 +1.8
comp=Z,0.2nm,0.6s,baz=200,slow=6.7,SNR=4.4
MMRI Maumere 111.70 149 IAMs_20 IAMs_20 21 28 15.5
comp=Z,579nm,19.0s
ANMO Albuquerque 111.74 300 *i* PKiKP PKiKP 20 39 58.9 +1.2
TUC Tucson 111.83 295 P PKiKP 20 39 58.9 +1.2
baz=143
TUC Tucson 111.83 295 IAMs_20 IAMs_20 21 16 13.6
comp=Z,1µm,22.0s
SDCO Great Sand Dun 113.50 303 P PKiKP 20 40 01.8 +0.7
baz=143
GUVIX Guadalupe Vict 114.07 292 IAMs_20 IAMs_20 21 16 03.4
comp=Z,825nm,22.0s
ECSD EROS Data Cent 114.30 312 P PKiKP 20 40 02.1 +0.1
baz=145
UABX UABC, Campus M 114.52 292 IAMs_20 IAMs_20 21 26 54.4
comp=Z,795nm,19.0s
WUAZ Wupatki 114.65 297 P PKiKP 20 40 04.7 +1.5
baz=142
IRM Iron Mountain 115.54 293 P PKiKP 20 40 06.3 +1.6
baz=141
KBZ Khabaz 115.71 50 PKP PKiKP 20 40 05.5 +0.9
comp=Z,1.8nm,0.9s,baz=181,slow=5.4,SNR=3.7
KULM Kulim 115.72 121 IAMs_20 IAMs_20 21 21 50.2
comp=Z,1µm,18.0s
KIV Kislovodsk 115.80 49 *i* PKiKP PKiKP 20 40 05.1 +0.1
KIV pmax pmax
comp=Z,11nm,1.0s
AKT Akhty 116.10 54 *i* PKiKP PKiKP 20 40 06.8 +1.1
AKT *e* 20 41 09.8
AKT pmax pmax
comp=Z,15nm,1.4s
AKASG Malin Array Be 116.11 37 PKP PKiKP 20 40 05.4 +0.2
comp=Z,1.3nm,0.7s,baz=244,slow=1.7,SNR=7.1
GMRC Granite Mounta 116.30 294 P PKiKP 20 40 08.1 +1.8
baz=141
GROC Groznyy 116.58 52 *i* PKiKP PKiKP 20 40 07.8 +1.4
GROC *e* 20 41 17.3
GROC pmax pmax
comp=Z,5.0nm,0.6s
O20A White River Ci 116.70 302 P PKiKP 20 40 08.0 +1.0
baz=141
MAK Makhachkala 117.16 53 *e*P Pdif 20 36 18.9 -5.0
GSC Goldstone, Bar 117.29 293 P PKiKP 20 40 09.5 +1.3
baz=140
EDW2 Edwards Air Fo 117.60 292 P PKiKP 20 40 09.9 +1.2
baz=140
K22A Casper 117.84 305 P PKiKP 20 40 12.2 +3.1
baz=141
RSSD Black Hills 117.84 308 P PKiKP 20 40 09.6 +0.5
baz=141
LRMC Laurel Mtn Rad 117.89 293 P PKiKP 20 40 11.0 +1.6
baz=140

FURC	**Furnace Creek,** baz=140	**118.21**	**294**	P		**PKiKP**	**20 40 11.0**	**+1.2**
MPMC	**Manual Prospec** baz=140	**118.23**	**293**	P		**PKiKP**	**20 40 11.6**	**+1.5**
TPNV	**Topopah Spring** baz=140	**118.26**	**295**	P		**PKiKP**	**20 40 12.2**	**+2.1**
ISA	**Isabella, Lake** baz=140	**118.45**	**292**	P		**PKiKP**	**20 40 12.5**	**+2.1**
PKM	**Mcpherson Peak** baz=140	**118.57**	**291**	P		**PKiKP**	**20 40 12.3**	**+1.5**
CWC	**Cottonwood Cre** baz=140	**118.83**	**293**	P		**PKiKP**	**20 40 12.9**	**+1.7**
VES	**Vestal, Richgr** baz=139	**118.91**	**292**	P		**PKiKP**	**20 40 12.6**	**+1.4**
R11A	**Troy Canyon, C** baz=140	**118.98**	**296**	P		**PKiKP**	**20 40 12.7**	**+1.2**
DUG	**Dugway, Tooele** baz=140	**118.98**	**299**	P		**PKiKP**	**20 40 12.5**	**+1.1**
ULM	**Lac du Bonnet** comp=Z,4.9nm,0.9s,baz=216,slow=3.0,SNR=3.5	**119.25**	**317**	PKP		**PKPdf**	**20 40 10.8**	**-0.5**
ULM				PP		**PP**	**20 41 28.2**	**-4.8**
	comp=Z,11nm,1.0s,baz=97,slow=4.0,SNR=3.6							
PDAR	**Pinedale Array** comp=Z,1.2nm,0.7s,baz=138,slow=4.7,SNR=13	**119.36**	**303**	PKP		**PKPdf**	**20 40 11.6**	**-0.5**
FAKI	**Fak Fak** comp=Z,404nm,19.0s	**119.77**	**158**	IAMs_20	IAMs_20		21 35 43.0	
NOA	**NORSAR Array B** comp=Z,2.0nm,1.0s,baz=205,slow=1.8,SNR=4.0	**120.26**	**21**	PKP		**PKiKP**	**20 40 13.2**	**+0.2**
NVAR	**Mina Array Bea** comp=Z,3.8nm,1.0s,baz=147,slow=3.3,SNR=18	**120.44**	**294**	PKP		**PKiKP**	**20 40 15.3**	**+0.9**
RLMT	**Red Lodge** baz=139	**121.00**	**305**	P		**PKiKP**	**20 40 16.1**	**+0.9**
DGMT	**Dagmar** baz=140	**121.27**	**311**	P		**PKiKP**	**20 40 16.5**	**+1.1**
VSU	**Vasula**	**121.85**	**31** ⇓	*i* PKiKP		**PKiKP**	**20 40 16.9**	**+0.8**
OBN	**Obninsk**	**122.28**	**38**	*i* PKiKP		**PKiKP**	**20 40 17.4**	**+0.3**
OBN				*e*			20 41 54.5	
OBN	comp=Z,7.0nm,1.0s			pmax	pmax			
OBN	comp=Z,311nm,15.0s			MLR	MLR			
HLID	**Hailey** baz=138	**122.30**	**301**	P		**PKiKP**	**20 40 18.9**	**+1.1**
BOZ	**Bozeman (W)** baz=138	**122.47**	**304**	P		**PKiKP**	**20 40 19.2**	**+1.2**
FRB	**Frobisher Bay** comp=Z,13nm,0.7s,baz=183,slow=7.6,SNR=4.0	**122.77**	**340**	PKP		**PKiKP**	**20 40 17.9**	**+0.2**
MOS	**Moscow**	**123.15**	**38**	*e*PKiKP		**PKPdf**	**20 40 18.3**	**-0.2**
KKM	**Kota Kinabalu** comp=Z,531nm,20.0s	**123.31**	**137**	IAMs_20	IAMs_20		21 40 57.7	
EGMT	**Eagleton** baz=138	**123.39**	**307**	P		**PKiKP**	**20 40 20.7**	**+1.1**
O03E	**Paynes Creek** baz=137,SNR=18	**123.65**	**293**	P		**PKiKP**	**20 40 21.6**	**+1.1**
O02D	**Mt. Diablo Mer** baz=137	**124.08**	**293**	P		**PKiKP**	**20 40 22.8**	**+1.5**
FINES	**FINESS Array B** comp=Z,8.0nm,0.7s,baz=202,slow=2.1,SNR=21	**124.15**	**28**	PKP		**PKPdf**	**20 40 20.4**	**0.0**
FIA1	**FINESS Array S**	**124.16**	**28**	PKPdf		**PKiKP**	**20 40 20.8**	**+0.2**
MSO	**Missoula** baz=136	**124.46**	**304**	P		**PKiKP**	**20 40 23.0**	**+1.1**
N02D	**Trinity Center** baz=136,SNR=7.7	**124.61**	**293**	P		**PKiKP**	**20 40 23.8**	**+1.5**
M04C	**Macdoel** baz=136,SNR=7.4	**124.75**	**295**	P		**PKiKP**	**20 40 23.6**	**+1.0**
M02C	**Callahan** baz=136,SNR=6.7	**124.99**	**294**	P		**PKiKP**	**20 40 24.9**	**+1.8**
YBH	**Yreka Blue Hor** comp=Z,3.4nm,0.8s,baz=72,slow=6.1,SNR=5.6	**125.16**	**294**	PKP		**PKiKP**	**20 40 24.8**	**+1.4**
L04D	**Klamath Falls** baz=136	**125.30**	**295**	P		**PKiKP**	**20 40 24.9**	**+1.2**
J05D	**Fort Rock, OR** baz=136,SNR=12	**125.51**	**296**	P		**PKiKP**	**20 40 25.4**	**+1.3**
DMN	**Daman**	**125.55**	**92**	*e*P		**PKiKP**	**20 40 24.7**	**-0.2**
GKN	**Gorkha**	**125.59**	**91**	*e*P		**PKPdf**	**20 40 24.3**	**-0.1**
PKI	**Pulchoki**	**125.70**	**92**	*e*P		**PKPdf**	**20 40 24.7**	**-0.2**
RAMN	**Ramite** comp=Z,14nm,0.7s	**125.90**	**94**	*e*P		**PKPdf**	**20 40 25.1**	**-0.1**
J04D	**Umpqua Nationa** baz=135,SNR=5.6	**125.93**	**296**	P		**PKiKP**	**20 40 26.3**	**+1.3**
L02E	**Cave Junction** baz=136	**125.93**	**294**	P		**PKiKP**	**20 40 25.0**	**+0.2**
CMAR	**Chiang Mai Arr** comp=Z,4.3nm,1.0s,baz=234,slow=3.7,SNR=28	**126.00**	**111**	PKP		**PKiKP**	**20 40 25.9**	**+0.2**
CMAR				PP		**PP**	**20 42 18.8**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=234,slow=7.4,SNR=4.3							
ODAN	**Odare**	**126.28**	**95**	*e*P		**PKiKP**	**20 40 26.0**	**-0.3**
I05D	**Terrebonne, OR** baz=135,SNR=7.2	**126.31**	**297**	P		**PKiKP**	**20 40 26.9**	**+1.3**
K02D	**Willamette Mer** baz=135	**126.34**	**294**	P		**PKiKP**	**20 40 27.3**	**+1.5**
I04A	**Tendick Farm,** baz=135,SNR=6.2	**126.47**	**296**	P		**PKiKP**	**20 40 26.3**	**+0.4**
NEW	**Newport** baz=134	**127.00**	**303**	P		**PKPdf**	**20 40 26.4**	**+0.1**
H04D	**Lebanon** baz=134	**127.15**	**296**	P		**PKiKP**	**20 40 28.1**	**+0.9**
F05D	**White Salmon** baz=134	**127.46**	**299**	P		**PKiKP**	**20 40 29.5**	**+1.8**
AKTO	**Aktyubinsk** comp=Z,8.6nm,1.0s,baz=205,slow=3.3,SNR=14	**127.54**	**54**	PKP		**PKPdf**	**20 40 27.2**	**0.0**
KLMR	**Klimovskoe**	**127.71**	**35**	*e*PKiKP		**PKPdf**	**20 40 26.8**	**-0.3**
KLMR				pmax	pmax			
	comp=Z,20nm,1.4s							
KLMR	**Klimovskoe**	**127.71**	**35**	*e*PKPdf		**PKPdf**	**20 40 26.9**	**-0.2**
KLMR				AMP			20 40 41.1	
	comp=Z,20nm,1.4s							
KLMR				*e*PP		**PP**	**20 42 25.9**	**-3.9**
IUG	**Iuzhnay** comp=Z,8.5nm,1.2s,baz=68	**127.74**	**68**	*e*PKP		**PKiKP**	**20 40 28.3**	**-0.3**
IUG	**Iuzhnay**	**127.74**	**68**	*e*PKiKP		**PKiKP**	**20 40 28.3**	**-0.3**
IUG				pmax	pmax			
	comp=Z,8.0nm,1.2s							
SUMG	**Summit**	**127.86**	**356**	PKiKP		**PKiKP**	**20 40 29.4**	**+1.1**
SUMG	**Summit**	**127.86**	**356**	PKPdf		**PKiKP**	**20 40 29.4**	**+1.1**
B08A	**Colville Reser**	**128.12**	**302**	PKPdf		**PKiKP**	**20 40 28.9**	**-0.1**
F04D	**Rainier, OR** baz=134	**128.38**	**298**	P		**PKiKP**	**20 40 31.6**	**+2.1**
DZA	**Taraz** baz=68	**128.95**	**69**	*e*PKP		**PKiKP**	**20 40 30.5**	**-0.4**
DZA				*e*PP		**PP**	**20 42 37.4**	**-1.0**
	baz=68							
DZA	**Taraz**	**128.95**	**69**	*e*PKiKP		**PKiKP**	**20 40 30.4**	**-0.4**
DZA				*e*			20 42 37.3	
KSH	**Kashi**	**129.12**	**75**	PKP		**PKiKP**	**20 40 31.9**	**+0.5**
KSH				PP		**PP**	**20 42 36.8**	**-2.8**
KSH	comp=Z,520nm,9.1s			AMB	AMB			
KSH	comp=Z,1μm,12.2s			LR	LR			
KSH	comp=Z,2μm,15.1s			LR	LR			
D03D	**Eldon** baz=133,SNR=12	**129.41**	**299**	P		**PKiKP**	**20 40 32.9**	**+1.4**
B05A	**Bryant** baz=133,SNR=18	**129.41**	**300**	P		**PKiKP**	**20 40 32.5**	**+1.0**
AML	**Almayashu** SNR=16	**129.69**	**71**	P		**PKiKP**	**20 40 33.9**	**+1.1**
EKS2	**Erkin-Say** SNR=17	**130.10**	**70**	P		**PKiKP**	**20 40 33.4**	**+0.1**
UCH	**Uchtor** SNR=14	**130.20**	**71**	P		**PKiKP**	**20 40 34.6**	**+0.7**
PRGR	**Permogore**	**130.32**	**37**	*e*PKiKP		**PKiKP**	**20 40 33.0**	**+0.1**
PRGR				pmax	pmax			
	comp=Z,50nm,1.0s							
AAK	**Ala-Archa** SNR=6.2	**130.47**	**71**	P		**PKiKP**	**20 40 34.6**	**+0.5**
AAK	**Ala-Archa**	**130.47**	**71** ⇓	*i* PKiKP		**PKiKP**	**20 40 34.0**	**-0.1**
ARCES	**ARCESS Array B** comp=Z,21nm,0.9s,baz=215,slow=1.5,SNR=43	**130.61**	**22**	PKP		**PKPdf**	**20 40 32.8**	**+0.3**
ARE0	**ARCESS Array S**	**130.61**	**22**	PKPdf		**PKiKP**	**20 40 33.5**	**+0.1**
USP	**Ospenovka** SNR=8.0	**130.90**	**70**	P		**PKiKP**	**20 40 34.8**	**0.0**
SGDS	**Sogindy** comp=Z,44nm,2.8s,baz=70	**131.09**	**70**	*i* PKP		**PKPdf**	**20 40 34.6**	**+0.3**
SGDS				*e*PP		**PP**	**20 42 51.5**	**-0.9**
	baz=70							
SGDS	**Sogindy**	**131.09**	**70**	*i* PKiKP		**PKPdf**	**20 40 34.6**	**+0.3**
SGDS				*e*			20 42 51.4	
SGDS	comp=Z,44nm,2.8s			pmax	pmax			
LVZ	**Lovozero**	**131.51**	**27***c*	*i* PKiKP		**PKiKP**	**20 40 34.8**	**-0.4**
ARU	**Arti** comp=Z,2.5nm,0.7s,baz=254,slow=1.2,SNR=14	**131.81**	**48**	PKP		**PKPdf**	**20 40 34.7**	**-0.4**
ARU	**Arti**	**131.81**	**48**	*i* PKiKP		**PKPdf**	**20 40 35.1**	**0.0**
ARU				SS	SS		21 00 33.4	+1.4
BTLS	**Baital**	**131.85**	**68**	*e*PKP		**PKPdf**	**20 40 36.0**	**+0.4**
	comp=Z,29nm,2.8s,baz=68							
BTLS	**Baital**	**131.85**	**68**	*e*PKiKP		**PKPdf**	**20 40 35.9**	**+0.4**
BTLS				pmax	pmax			
	comp=Z,29nm,2.8s							
QIZ	**Qiongzhong**	**132.03**	**122**	PKP		**PKiKP**	**20 40 37.8**	**+0.1**
QIZ				PP		**PP**	**20 42 56.4**	**-1.6**
QIZ				SS	SS		21 00 32.3	-2.2
QIZ	comp=Z,140nm,7.5s			AMB	AMB			
QIZ	comp=Z,500nm,14.7s			LR	LR			
QIZ	comp=Z,490nm,15.5s			LR	LR			
QIZ	comp=Z,790nm,18.6s			LR	LR			
AAA	**Alma-Ata** baz=72	**132.16**	**72**	*e*PKP		**PKPdf**	**20 40 35.5**	**-0.8**
AAA	**Alma-Ata**	**132.16**	**72**	*e*PKiKP		**PKPdf**	**20 40 35.5**	**-0.8**
MDOK	**Medeo** baz=72	**132.21**	**72**	*i* PKP		**PKPdf**	**20 40 36.7**	**+0.2**
MDOK				*e*PP		**PP**	**20 42 58.7**	**-0.9**
	baz=72							
MDOK	**Medeo**	**132.21**	**72**	*i* PKiKP		**PKPdf**	**20 40 36.7**	**+0.2**
MDOK				*e*			20 42 58.7	
KUU	**Kurty** comp=Z,87nm,3.2s,baz=71	**132.31**	**71**	*i* PKP		**PKPdf**	**20 40 36.5**	**-0.1**
KUU	**Kurty**	**132.31**	**71**	*i* PKiKP		**PKPdf**	**20 40 36.4**	**-0.1**
KUU				pmax	pmax			
	comp=Z,87nm,3.2s							
SATY	**Saty** comp=Z,9.9nm,1.9s,baz=73	**132.88**	**73**	*e*PKP		**PKPdf**	**20 40 38.0**	**+0.2**
SATY				*e*PP		**PP**	**20 43 03.2**	**-0.7**
	baz=73							
SATY	**Saty**	**132.88**	**73**	*e*PKiKP		**PKPdf**	**20 40 37.9**	**+0.2**
SATY				*e*			20 43 03.1	
SATY	comp=Z,10.0nm,1.9s			pmax	pmax			
SATY	**Saty**	**132.88**	**73**	*e*PKiKP		**PKPdf**	**20 40 37.9**	**+0.2**
SATY				*e*			20 43 03.1	
SATY	comp=Z,10.0nm,1.9s			pmax	pmax			
SVE	**Sverdlovsk**	**132.95**	**49**	*e*PKiKP		**PKiKP**	**20 40 38.3**	**-0.1**
SVE	comp=Z,36nm,1.5s			pmax	pmax			
UZB	**Uzynbulak** baz=73	**133.27**	**73**	*i* PKP		**PKPdf**	**20 40 38.7**	**+0.2**
UZB				*e*PP		**PP**	**20 43 05.6**	**-0.8**
	baz=73							
UZB	**Uzynbulak**	**133.27**	**73**	*i* PKiKP		**PKPdf**	**20 40 38.7**	**+0.2**
UZB				*e*			20 43 05.5	
KMI	**Kunming**	**133.46**	**110**	PKP		**PKiKP**	**20 40 42.3**	**+1.5**
KMI				SS	SS		21 00 55.4	+2.8
KMI	comp=Z,470nm,16.6s			LR	LR			
KMI	comp=Z,470nm,15.3s			LR	LR			
KMI	comp=Z,530nm,17.6s			LR	LR			
KMI	**Kunming** comp=Z,536nm,20.0s	**133.46**	**110**	IAMs_20	IAMs_20		21 30 40.5	
SHLS	**Shalkode** baz=74	**133.52**	**74**	*i* PKP		**PKiKP**	**20 40 39.7**	**-0.6**
SHLS				*e*PP		**PP**	**20 43 08.8**	**+0.8**
	baz=74							
SHLS	**Shalkode**	**133.52**	**74**	*i* PKiKP		**PKiKP**	**20 40 39.6**	**-0.6**
SHLS				*e*			20 43 08.7	
TDK	**Taldyqorghan** baz=71	**134.16**	**71**	*e*PKP		**PKPdf**	**20 40 39.7**	**-0.3**
TDK				*e*PP		**PP**	**20 43 10.8**	**-1.1**
	baz=71							
TDK	**Taldyqorghan**	**134.16**	**71**	*e*PKiKP		**PKPdf**	**20 40 39.6**	**-0.3**
TDK				*e*			20 43 10.8	
BRZS	**Berezniki** comp=Z,34nm,2.6s,baz=62	**134.32**	**62**	*i* PKP		**PKiKP**	**20 40 40.9**	**-0.5**
BRZS	**Berezniki** comp=Z,34nm,2.6s	**134.32**	**62**	*i* PKiKP		**PKiKP**	**20 40 40.9**	**-0.5**
BRZS				pmax	pmax			
BRVK	**Borovoye**	**135.03**	**58***d*	*i* PKiKP		**PKPdf**	**20 40 40.5**	**-0.8**
BVAR	**Borovoye Array** comp=Z,13nm,0.9s,baz=232,slow=4.9,SNR=27	**135.06**	**58**	PKP		**PKiKP**	**20 40 42.5**	**-0.4**
YKA	**Yellowknife Ar** comp=Z,13nm,0.8s,baz=121,slow=2.2,SNR=15	**135.18**	**319**	PKP		**PKiKP**	**20 40 42.9**	**+0.2**
YKA				PP		**PP**	**20 43 14.7**	**-3.2**
	comp=Z,3.5nm,0.9s,baz=116,slow=6.8,SNR=5.0							
SPITS	**Spitsbergen Ar** comp=Z,8.4nm,0.9s,baz=178,slow=11,SNR=5.7	**136.08**	**12**	PKP		**PKiKP**	**20 40 44.0**	**-0.3**
SPITS	**Spitsbergen Ar**	**136.08**	**12**	PKiKP		**PKiKP**	**20 40 44.0**	**-0.3**
GYA	**Guiyang**	**136.61**	**113**	PKP		**PKiKP**	**20 40 46.9**	**-0.1**
GYA				PP		**PP**	**20 43 28.8**	**+1.5**
GYA	comp=Z,200nm,13.8s			AMB	AMB			
GYA	comp=Z,380nm,17.2s			LR	LR			
GYA	comp=Z,340nm,17.2s			LR	LR			
GYA	comp=Z,470nm,15.0s			LR	LR			
MKAR	**Makanchi Array** comp=Z,1.5nm,0.9s,baz=237,slow=3.2,SNR=5.7	**137.39**	**72**	PKhKP	PKPpre		20 40 37.2	
MKAR				PKP	sPKPdf		20 40 47.9	-0.3
	comp=Z,2.3nm,0.7s,baz=250,slow=3.3,SNR=9.8							
KURBB	**Kurchatov Arra** comp=Z,1.8nm,0.8s,baz=239,slow=3.5,SNR=8.8	**137.70**	**65**	PKhKP	PKPpre		20 40 39.9	
KURBB				PKP	pPKPdf		20 40 47.8	-0.2
	comp=Z,5.4nm,0.9s,baz=235,slow=2.3,SNR=15							
KURK	**Kurchatov**	**137.80**	**65**	PKiKP		**PKiKP**	**20 40 47.8**	**-0.6**
GUMO	**Guam** comp=Z,417nm,22.0s	**137.97**	**170**	IAMs_20	IAMs_20		21 38 12.4	
WMQ	**Urumqi**	**138.51**	**79**	*e*PKP		**PKiKP**	**20 40 49.3**	**-0.9**
CD2	**Chengdu**	**138.56**	**106**	*e*PKP		**PKiKP**	**20 40 50.0**	**-0.7**
KNMB	**Chin-men Tao** comp=Z,609nm,19.0s	**140.69**	**128**	IAMs_20	IAMs_20		21 33 09.7	
YULB	**Yu-li** comp=Z,463nm,19.0s	**141.02**	**133**	IAMs_20	IAMs_20		21 35 16.0	
SSLB	**Suanglung** comp=Z,448nm,21.0s	**141.22**	**132**	IAMs_20	IAMs_20		21 39 28.5	
NACB	**Ninganchiao** comp=Z,728nm,19.0s	**141.83**	**133**	IAMs_20	IAMs_20		21 34 33.7	
DGZ	**Jazzator, Alta**	**141.88**	**71***c*	*i* PKiKP		**PKPdf**	**20 40 51.5**	**-2.7**
YHNB	**Yeheng** comp=Z,590nm,19.0s	**142.18**	**132**	IAMs_20	IAMs_20		21 34 07.7	
LZH	**Lanzhou**	**142.47**	**101**	*e*PKP		**PKPdf**	**20 40 53.3**	**-2.4**
LZH				PP		**PP**	**20 44 05.4**	**+1.8**
LZH				SS	SS		21 02 36.1	-3.2
LZH	comp=Z,420nm,17.9s			LR	LR			
LZH	comp=Z,330nm,17.3s			LR	LR			
LZH	comp=Z,380nm,19.0s			LR	LR			
TATO	**Taipei** comp=Z,401nm,18.0s	**142.49**	**132**	IAMs_20	IAMs_20		21 45 53.3	
GTA	**Gaotai**	**142.51**	**93**	*e*PKP		**PKPdf**	**20 40 52.8**	**-2.8**
GTA				PP		**PP**	**20 44 06.3**	**+2.5**
GTA				SKKS			20 50 51.6	
GTA				SS	SS		21 02 41.6	+1.8
GTA	comp=Z,92nm,8.9s			AMB	AMB			
GTA	comp=Z,250nm,19.0s			LR	LR			
GTA	comp=Z,460nm,19.4s			LR	LR			
GTA	comp=Z,450nm,18.1s			LR	LR			
ZALV	**Zalesovo Beam** comp=Z,3.5nm,0.6s,baz=199,slow=3.3,SNR=12	**142.75**	**64**	PKhKP	PKPpre		20 40 52.0	
A36M	**Sachs Harbour** baz=109	**143.26**	**329**	P		**PKPdf**	**20 40 56.7**	**+1.0**
XAN	**Xi'an**	**143.76**	**108**	PKP		**PKPdf**	**20 40 59.3**	**+1.4**
XAN				SKKS			20 51 00.5	
XAN	comp=Z,420nm,19.3s			LR	LR			
XAN	comp=Z,530nm,18.2s			LR	LR			
HYT	**Haines Junctio**	**143.79**	**308**	PKPdf		**PKPdf**	**20 40 56.1**	**-1.0**
WHN	**Wuhan**	**143.87**	**118** ⇓	PKP	PKPab		20 40 54.9	-0.3
WHN	comp=Z,330nm,12.2s			LR	LR			
WHN	comp=Z,660nm,10.4s			LR	LR			
WHN	comp=Z,2μm,16.0s			LR	LR			
PCA	**Pinnacle** comp=Z,677nm,19.0s	**144.75**	**306**	IAMs_20	IAMs_20		21 53 18.3	
CTGM	**Chitina Glacie** comp=Z,704nm,20.0s	**145.57**	**307**	IAMs_20	IAMs_20		21 48 19.0	
DAWY	**Dawson**	**145.79**	**313**	PKPdf		**PKPdf**	**20 41 00.7**	**+0.3**
BALM	**Baldy**	**146.06**	**307**			**PKiKP**	**20 41 04.8**	**-0.4**
BALM	comp=Z,346nm,20.0s			IAMs_20	IAMs_20		21 43 36.8	
K27K	**Chicken** baz=107	**146.91**	**312**	P		**PKPdf**	**20 41 02.5**	**+0.3**
MENT	**Mentasta** comp=Z,516nm,22.0s	**147.29**	**310**	IAMs_20	IAMs_20		21 44 12.4	
NJ2	**Nanjing**	**147.32**	**122**	*e*PKPbc		**PKPdf**	**20 41 02.1**	**-1.8**
DOT	**Dot Lake**	**147.65**	**311**			**PKiKP**	**20 41 07.8**	**-0.5**
SCRK	**Sand Creek** baz=105,SNR=35	**147.70**	**312**	P		**PKPdf**	**20 41 03.3**	**-0.4**
RIDG	**Independent Ri**	**148.01**	**311**	PKPbc		**PKiKP**	**20 41 08.7**	**-0.4**
PAX	**Paxson**	**148.07**	**310**	PKP2		**PKiKP**	**20 41 09.0**	**-0.3**
PAX	**Paxson**	**148.07**	**310**	PKPbc		**PKiKP**	**20 41 09.0**	**-0.3**
TIY	**Taiyuan**	**148.39**	**108**	*e*PKPbc		**PKPbc**	**20 41 09.8**	**+0.6**
TIY				PP		**PP**	**20 44 38.9**	**+0.3**
TIY	comp=Z,250nm,8.9s			AMB	AMB			
TIY	comp=Z,640nm,14.9s			LR	LR			
TIY	comp=Z,200nm,12.6s			LR	LR			
TIY	comp=Z,410nm,17.5s			LR	LR			
NRIK	**Noril'sk** comp=Z,15nm,0.9s,baz=336,slow=1.0,SNR=12	**148.96**	**38**	PKPbc		**PKPbc**	**20 41 09.7**	**+0.2**
HDA	**Harding Lake** baz=103,SNR=21	**149.07**	**312**	P		**PKPbc**	**20 41 08.6**	**-1.3**
ILAR	**Eielson Array** comp=Z,104nm,0.8s,baz=112,slow=1.5,SNR=138	**149.12**	**313**	PKPbc		**PKiKP**	**20 41 10.9**	**-0.3**
ILAR	**Eielson Array**	**149.12**	**313**	PKP2		**PKiKP**	**20 41 11.0**	**-0.3**
PMR	**Palmer** comp=Z,551nm,18.0s	**149.34**	**306**	IAMs_20	IAMs_20		21 59 05.7	
POKR	**Poker Plat Res** baz=101,SNR=21	**149.41**	**313**	P		**PKPdf**	**20 41 05.7**	**-0.7**
COLA	**College**	**149.54**	**313***d*	*i* PKP2		**PKPbc**	**20 41 11.1**	**+0.1**
TCOL	**CIGO, UAF Yank** baz=101,SNR=14	**149.55**	**313**	P		**PKiKP**	**20 41 11.7**	**-0.4**
WRH	**Wood River Hil**	**149.56**	**312**			**PKiKP**	**20 41 11.9**	**-0.3**
RND	**Reindeer**	**149.67**	**310**	PKP2		**PKiKP**	**20 41 12.6**	**0.0**
RND	**Reindeer**	**149.67**	**310**			**PKiKP**	**20 41 12.6**	**0.0**
MDM	**Murphy Dome** comp=Z,635nm,18.0s	**149.72**	**313**	IAMs_20	IAMs_20		21 54 01.4	
CNPM	**China Poot**	**149.74**	**302**			**PKiKP**	**20 41 13.2**	**+0.5**
TIA	**Tai'an**	**149.76**	**115**	PKPbc		**PKiKP**	**20 41 13.1**	**-0.4**
KDAK	**Kodiak Island**	**149.85**	**298**	PKP2		**PKiKP**	**20 41 13.5**	**+0.5**
KDAK	**Kodiak Island**	**149.85**	**298**			**PKiKP**	**20 41 13.5**	**+0.5**
NEA2	**Nenana** baz=101,SNR=42	**150.00**	**312**	P		**PKPdf**	**20 41 05.4**	**-1.9**
SUA	**Susitna One** comp=Z,609nm,22.0s	**150.06**	**306**	IAMs_20	IAMs_20		21 46 50.5	
HHC	**Hu-ho-hao-te**	**150.12**	**102**	*e*PKPbc		**PKPbc**	**20 41 11.8**	**-1.6**
HHC				PP		**PP**	**20 44 50.0**	**+1.3**
HHC				SS	SS		21 04 06.1	0.0
HHC	comp=Z,260nm,15.3s			LR	LR			
HHC	comp=Z,370nm,14.5s			LR	LR			
HHC	comp=Z,430nm,15.3s			LR	LR			
MOY	**Mondy**	**150.30**	**76**	*e*PKiKP		**PKPbc**	**20 41 12.9**	**-0.6**
MOY	comp=Z,122nm,1.0s			pmax	pmax			
KTH	**Kantishna Hill** comp=Z,550nm,20.0s	**150.60**	**310**	IAMs_20	IAMs_20		21 49 14.9	
TOLK	**Toolik Lake Re** baz=93	**150.69**	**320**	P		**PKPdf**	**20 41 07.6**	**-0.7**
BPAW	**Bear Paw Mtn.**	**150.73**	**311**	PKPbc		**PKiKP**	**20 41 15.1**	**+0.5**
COLD	**Coldfoot** baz=95	**150.83**	**317**	P		**PKPdf**	**20 41 07.2**	**-1.3**
JCJ	**Chichijima**	**150.93**	**163**			**PKPbc**	**20 41 15.0**	**-0.6**
ZAK	**Zakamensk**	**150.97**	**80**	*e*PKiKP		**PKPdf**	**20 41 10.3**	**+0.9**
ZAK	comp=Z,49nm,1.3s			pmax	pmax			
PPLA	**Purkeypile**	**151.04**	**308**			**PKiKP**	**20 41 16.1**	**+0.6**
SONM	**Songino Array** comp=Z,2.1nm,0.6s,baz=220,slow=3.1,SNR=52	**151.43**	**86**	PKPbc		**PKiKP**	**20 41 16.8**	**0.0**
TLY	**Talaya** comp=Z,9.3nm,0.7s,baz=246,slow=3.9,SNR=10	**151.77**	**77**	PKPbc		**PKiKP**	**20 41 17.9**	**+0.7**
TLY	**Talaya**	**151.77**	**77**	*e*PKiKP		**PKiKP**	**20 41 17.8**	**+0.6**
TLY	comp=Z,120nm,1.8s			pmax	pmax			
ULN	**Ulaanbaatar**	**151.82**	**87***c*	*i* PKiKP		**PKPdf**	**20 41 12.2**	**+1.4**
BJI	**Beijing**	**152.09**	**109**	PKPbc		**PKPbc**	**20 41 14.8**	**-3.0**
BJI	comp=Z,300nm,12.2s			LR	LR			
BJI	comp=Z,280nm,15.7s			LR	LR			
IRK	**Irkutsk**	**152.37**	**77**	*e*PKiKP		**PKPbc**	**20 41 14.6**	**-3.5**
IRK	comp=Z,69nm,2.5s			pmax	pmax			
TTA	**Tatalina** comp=Z,560nm,21.0s	**152.77**	**308**	IAMs_20	IAMs_20		21 50 24.2	
JNU	**Nakatsue** comp=Z,17nm,1.0s,baz=120,slow=3.5,SNR=7.4	**153.48**	**139**	PKPbc		**PKiKP**	**20 41 21.8**	**+0.4**
RDOG	**Red Dog Mine** comp=Z,524nm,20.0s	**155.65**	**319**	IAMs_20	IAMs_20		22 07 00.2	
KSRS	**Korea Array** comp=Z,1.2nm,0.8s,baz=215,slow=1.7,SNR=5.7	**155.99**	**129**	PKP		**PKPdf**	**20 41 17.2**	**+0.4**
KSRS				PKPab		**PKPab**	**20 41 44.2**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=222,slow=4.2,SNR=8.6							
ANM	**Nome** comp=Z,636nm,21.0s	**157.00**	**311**	IAMs_20	IAMs_20		21 53 21.0	
CIT	**Chita**	**157.48**	**83**	*e*PKP2		**PKPab**	**20 41 48.0**	**-2.3**
CIT	comp=Z,74nm,1.2s			pmax	pmax			
MAJO	**Matsushiro**	**159.08**	**149** ⇑	*e*PKiKP		**PKPdf**	**20 41 20.4**	**-0.4**
MJAR	**Matsushiro Arr** comp=Z,1.8nm,1.0s,baz=108,slow=0.9,SNR=6.8	**159.08**	**149**	PKP		**PKPdf**	**20 41 21.4**	**+0.6**
BOD	**Bodaibo**	**159.40**	**68**	*e*PKiKP		**PKPdf**	**20 41 19.8**	**-0.6**
BOD	comp=Z,23nm,1.5s			pmax	pmax			
KLR	**Kul'dur** comp=Z,1.5nm,0.6s,baz=159,slow=2.9,SNR=3.6	**166.47**	**109**	PKP		**PKPdf**	**20 41 27.9**	**+0.4**
KLR	**Kul'dur**	**166.47**	**109***c*	*i* PKiKP		**PKPdf**	**20 41 29.5**	**+2.0**
YAK	**Yakutsk**	**166.91**

JMK	**Ichinoseki**	**1.31**	**337**	P		**Pn**	**20 30 26.3**	**+0.3**
JMK				S		**Sn**	**20 30 41.9**	**-0.4**
JYS	**Shirataka**	**1.51**	**289**	P		**Pn**	**20 30 28.8**	**0.0**
JYS				*e*S		**Sn**	**20 30 47.2**	**0.0**
JYK	**Kaneyama**	**1.67**	**315**	P		**Pn**	**20 30 31.2**	**+0.2**
JYK				*e*S		**Sn**	**20 30 50.8**	**-0.4**
JFY	**Yanaizu**	**1.76**	**260**	P		**Pn**	**20 30 32.5**	**+0.3**
JFY				*e*S		**Sn**	**20 30 54.6**	**+1.3**
JOM	**Ohasama**	**1.79**	**345**	P		**Pn**	**20 30 33.1**	**+0.5**
JOM				S		**Sn**	**20 30 54.9**	**+0.9**
MJAR	**Matsushiro Arr**	**3.17**	**249**	Pn		**Pn**	**20 30 52.5**	**+0.9**
	0.9nm,0.3s,baz=79,slow=15,SNR=62							
MAJO	**Matsushiro**	**3.17**	**249**			**Pn**	**20 30 53.0**	**+1.4**
MAT	**Matsushiro**	**3.17**	**249**	P		**Pn**	**20 30 52.8**	**+1.2**
MAT				*e*S		**Sn**	**20 31 34.2**	**+6.1**
ERM	**Erimo**	**4.38**	**13**	Pn		**Pn**	**20 31 08.9**	**+0.7**
JHJ2	**Mitsune**	**4.92**	**201**	Pn		**Pn**	**20 31 15.6**	**-0.1**
JHJ	**Hachijo jima 2**	**4.92**	**201**	Pn		**Pn**	**20 31 14.8**	**-1.0**
	14nm,0.3s,baz=318,slow=19,SNR=22							
JHJ				Sn		**Sn**	**20 32 09.2**	**-2.1**
	52nm,0.3s,baz=81,slow=22,SNR=6.8							
JHJ				LR		LR	20 32 38.7	
	comp=Z,128nm,18.9s,baz=132,slow=32							
JKA	**Kamikawa-asahi**	**6.39**	**5**			**Pn**	**20 31 35.9**	**+0.1**
ASAJ	**Asahikawa**	**6.39**	**5**	Pn		**Pn**	**20 31 35.9**	**+0.1**
	7.1nm,0.3s,baz=214,slow=11,SNR=44							
ASAJ				Sn		**Sn**	**20 32 45.7**	**-1.7**
	2.2nm,0.3s,baz=142,slow=32,SNR=1.1							
ASAJ				LR		LR	20 34 17.0	
	comp=Z,288nm,20.9s,baz=274,slow=39							
YSS	**Yuzh-Sakhalins**	**9.23**	**4**	Pn		**Pn**	**20 32 15.7**	**+1.0**
USA0B	**Ussuriysk Arra**	**9.87**	**314**	Pn		**Pn**	**20 32 24.9**	**+1.4**
USRK	**Ussuriysk Ar.**	**9.87**	**314**	Pn		**Pn**	**20 32 23.3**	**-0.2**
	baz=118,slow=14,SNR=5.4							
JNU	**Nakatsue**	**10.09**	**246**	Pn		**Pn**	**20 32 28.9**	**+2.3**
	0.4nm,0.3s,baz=37,slow=6.1,SNR=6.8							
JNU				LR		LR	20 36 43.6	
	comp=Z,365nm,18.7s,baz=53,slow=40							
JCJ	**Chichijima**	**10.62**	**179**	Pn		**Pn**	**20 32 31.6**	**-2.4**
	7.5nm,0.3s,baz=284,slow=22,SNR=20							
JCJ				Sn		Sn	20 34 21.1	-10
	3.0nm,0.3s,baz=288,slow=19,SNR=2.7							
JCJ	**Chichijima**	**10.62**	**179**			**Pn**	**20 32 32.2**	**-1.7**
KSRS	**Korea Array**	**11.07**	**273**	Pn		**Pn**	**20 32 44.6**	**+4.5**
	0.1nm,0.3s,baz=90,slow=15,SNR=7.0							
KLR	**Kul'dur**	**13.62**	**331**	Pn		**Pn**	**20 33 14.7**	**0.0**
	0.1nm,0.3s,baz=206,slow=17,SNR=1.9							
PETK	**Petropavlovsk-**	**18.89**	**31**	P		**Pn**	**20 34 22.4**	**+0.2**
	0.1nm,0.3s,baz=196,slow=9.2,SNR=5.5							
PETK				LR		LR	20 40 41.4	
	comp=Z,186nm,21.6s,baz=241,slow=34							
MA2	**Magadan**	**22.58**	**12**	P		**P**	**20 35 01.2**	**0.0**
	6.5nm,0.6s,baz=186,slow=10,SNR=4.5							
MA2				LR		LR	20 42 49.9	
	comp=Z,98nm,21.4s,baz=208,slow=34							
MA2	**Magadan**	**22.58**	**12**	IAmb		IAmb	20 35 04.0	
	comp=Z,19nm,1.3s							
YAK	**Yakutsk**	**25.46**	**347**	P		**P**	**20 35 28.5**	**+0.1**
	comp=Z,7.1nm,0.6s,baz=162,slow=0.9,SNR=5.7							
YAK	**Yakutsk**	**25.46**	**347**	IAmb		IAmb	20 35 29.2	
	comp=Z,13nm,0.6s							
SEY	**Seymchan**	**26.02**	**11**	P		**P**	**20 35 34.8**	**+1.2**
	comp=Z,6.2nm,0.8s,baz=189,slow=9.6,SNR=16							
SEY				LR		LR	20 47 17.9	
	comp=Z,79nm,20.4s,baz=142,slow=40							
SONM	**Songino Array**	**27.70**	**303**	P		**P**	**20 35 49.0**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=96,slow=8.4,SNR=7.6							
ENH	**Enshi**	**27.77**	**264**	P		**P**	**20 35 47.8**	**-1.9**
ENH				IAmb		IAmb	20 35 50.2	
	comp=Z,18nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.21**	**123**	T		T	21 05 27.3	
	baz=316,slow=76,SNR=850							
H11N1	**WAKE ISLAND Hy**	**28.22**	**123**	T		T	21 05 30.2	
	baz=316,slow=76,SNR=1267							
H11N3	**WAKE ISLAND Hy**	**28.23**	**123**	T		T	21 05 30.7	
	baz=316,slow=76,SNR=696							
H11S1	**WAKE ISLAND Hy**	**28.95**	**125**	T		T	21 06 26.8	
	baz=318							
H11S3	**WAKE ISLAND Hy**	**28.95**	**125**	T		T	21 06 26.0	
	baz=318,slow=74,SNR=750							
H11S2	**WAKE ISLAND Hy**	**28.96**	**125**	T		T	21 06 27.1	
	baz=318,slow=74,SNR=519							
ZALV	**Zalesovo Beam**	**41.71**	**312**	P		**P**	**20 37 49.2**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=80,slow=5.2,SNR=3.8							
CMAR	**Chiang Mai Arr**	**42.03**	**255**	P		**P**	**20 37 52.3**	**0.0**
	comp=Z,0.5nm,0.8s,baz=46,slow=6.9,SNR=5.2							
MK31	**Makanchi Array**	**44.06**	**302**	P		**P**	**20 38 07.3**	**-1.1**
MKAR	**Makanchi Array**	**44.06**	**302**	P		**P**	**20 38 08.6**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=80,slow=9.6,SNR=9.3							
MAKZ	**Makanchi**	**44.27**	**302**	P		**P**	**20 38 08.8**	**-1.3**
KURK	**Kurchatov**	**45.79**	**308**	P		**P**	**20 38 22.4**	**+0.4**
KURK				IAmb		IAmb	20 38 34.2	
	comp=Z,5.4nm,0.8s							
KURBB	**Kurchatov Arra**	**45.86**	**308**	P		**P**	**20 38 22.9**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=82,slow=8.0,SNR=13							
TARG	**Taragay, Kyrgy**	**48.42**	**296**	P		**P**	**20 38 41.4**	**-1.9**
TARG				IAmb		IAmb	20 38 43.8	
	comp=Z,3.2nm,0.8s							
ILAR	**Eielson Array**	**48.70**	**33**	P		**P**	**20 38 45.4**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=264,slow=5.9,SNR=22							
BVAR	**Borovoye Array**	**50.37**	**312**	P		**P**	**20 38 58.7**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=84,slow=8.0,SNR=3.5							
ARU	**Arti**	**56.07**	**318**	P		**P**	**20 39 39.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=41,slow=5.0,SNR=4.2							
ARU	**Arti**	**56.07**	**318**	P		**P**	**20 39 38.9**	**-0.4**
ARU				IAmb		IAmb	20 39 55.2	
	comp=Z,2.5nm,0.6s							
C36M	**Paulatuk**	**56.63**	**25**	P		**P**	**20 39 43.4**	**+0.4**
WB0	**Warramunga Arr**	**57.64**	**188**	P		**P**	**20 39 50.1**	**-0.6**
WRA	**Warramunga Arr**	**57.82**	**188**	P		**P**	**20 39 51.8**	**-0.2**
	comp=Z,5.0nm,0.6s,baz=4.8,slow=7.2,SNR=48							
ASAR	**Alice Springs**	**61.54**	**188**	P		**P**	**20 40 18.0**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=14,slow=5.3,SNR=18							
HFS	**Hagfors**	**73.59**	**336**	P		**P**	**20 41 33.1**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=46,slow=6.2,SNR=2.7							
NOA	**NORSAR Array B**	**73.67**	**337**	P		**P**	**20 41 33.9**	**+0.1**
	comp=Z,1.4nm,1.0s,baz=38,slow=5.8,SNR=3.5							
AKASG	**Malin Array Be**	**73.96**	**322**	P		**P**	**20 41 35.0**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=205,slow=6.3,SNR=5.5							
NVAR	**Mina Array Bea**	**74.27**	**54**	P		**P**	**20 41 38.7**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=291,slow=4.3,SNR=4.7							
PDAR	**Pinedale Array**	**76.91**	**46**	P		**P**	**20 41 53.8**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=258,slow=2.3,SNR=7.5							
CLL	**Collm**	**80.66**	**330**	*e*P		**P**	**20 42 13.0**	**-0.1**
CLL				*ep*P		**sP**	**20 42 27.0**	**-1.8**
GERES	**GERESS Array B**	**82.30**	**328**	LR		LR	21 21 45.5	
	comp=Z,430nm,18.6s,baz=204,slow=38							
SCHQ	**Schefferville**	**84.55**	**16**	LR		LR	21 22 59.5	
	comp=Z,439nm,20.1s,baz=159,slow=38							
TXAR	**Lajitas Array**	**89.40**	**53**	P		**P**	**20 42 58.5**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=294,slow=3.1,SNR=11							
LPAZ	**La Paz**	**146.01**	**59**	PKPbc		**PKPbc**	**20 49 41.5**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=358,slow=5.0,SNR=10.0							

DDA ***24*** *20:33:38.6,37.˚62N×30.˚64E,h7km±4km,MW3.7*
ISK ***24*** *20:33:38.5,37.˚67N×30.˚63E,h7km,ML3.4/19*
ISC 24 20:33:39.3±1.1,37.66N±0.02×30.63E±0.02,h6km±9km, n39,σ1°07/49,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.19**	**334**	PG	**Pg**	**20 33 42.9**	**-0.2**
BCK	**Bucak**	**0.20**	**189**	PG	**Pg**	**20 33 43.1**	**-0.1**
BCK				SG	**Sg**	**20 33 46.8**	**+0.9**
BAGO	**Egridir - ISPA**	**0.36**	**21**	*i* P	**Pg**	**20 33 45.7**	**-0.7**
BAGO				IAML		20 33 53.0	
	comp=E,831nm,0.3s						
BAGO				IAML		20 33 54.0	
	comp=N,723nm,0.6s						
BRDR	**BURDUR-Merkez**	**0.45**	**275**	*i* P	**Pg**	**20 33 47.4**	**-0.7**
BRDR				*i* S	**Sb**	**20 33 55.2**	**-1.5**
BRDR				IAML		20 33 56.0	
	comp=E,2μm,0.3s						
BRDR				IAML		20 33 59.0	
	comp=N,3μm,0.4s						
KORT	**Korkueli**	**0.69**	**199**	PG	**Pg**	**20 33 51.7**	**-0.9**
KORT				SG	**Sb**	**20 34 02.9**	**-0.7**
KORT	**Korkueli**	**0.69**	**199**	*i* P	**Pg**	**20 33 51.7**	**-0.9**
KORT				IAML		20 34 09.0	
	comp=N,805nm,0.6s						
KORT				IAML		20 34 09.0	
	comp=E,1μm,0.5s						
KZIL	**AFYON_Kizioren**	**0.71**	**328**	*i* P	**Pg**	**20 33 52.4**	**-0.6**
KZIL				*i* S	**Sb**	**20 34 04.9**	**+0.6**
KZIL				IAML		20 34 05.0	
	comp=E,952nm,0.4s						
KZIL				IAML		20 34 06.0	
	comp=N,1μm,0.3s						
ANTB	**Antalya**	**0.75**	**178**	PG	**Pb**	**20 33 53.8**	**-1.0**
ANTB				SG	**Sb**	**20 34 05.4**	**+0.1**
SHUT	**Suhut-Afyon**	**0.90**	**356**	PG	**Pg**	**20 33 55.7**	**-0.9**
DOGA	**KONYA_Doganhis**	**0.94**	**61**	*i* P	**Pg**	**20 33 56.7**	**-0.6**
DOGA				*i* S	**Sb**	**20 34 10.8**	**-0.1**
DOGA				IAML		20 34 15.0	
	comp=E,1μm,0.5s						
DOGA				IAML		20 34 16.0	
	comp=N,1μm,0.5s						
GOLH	**Golhisar**	**0.95**	**244**	*i* P	**Pg**	**20 33 56.3**	**-1.2**
GOLH				IAML		20 34 09.0	
	comp=E,170nm,0.9s						
GOLH				*i* S	**Sn**	**20 34 14.1**	**+1.1**
GOLH				IAML		20 34 18.0	
	comp=N,762nm,0.5s						
ELL	**Elmali**	**1.07**	**213**	PN	**Pn**	**20 33 59.9**	**-1.0**
KEPZ	**Antalya-Kepez**	**1.08**	**134**	*i* P	**Pg**	**20 33 58.9**	**-1.2**
KEPZ				*i* S	**Sn**	**20 34 18.9**	**+2.6**
KEPZ				IAML		20 34 21.0	
	comp=N,471nm,1.1s						
KEPZ				IAML		20 34 24.0	
	comp=E,251nm,0.6s						
AFYO	**Afyonkarahisar**	**1.16**	**347**	*i* P	**Pg**	**20 34 00.8**	**-0.8**
AFYO				IAML		20 34 24.0	
	comp=E,2μm,1.7s						
AFYO				IAML		20 34 25.0	
	comp=N,930nm,0.7s						
TAVA	**DENIZLI_Tavas**	**1.38**	**263**	*i* P	**Pb**	**20 34 04.6**	**-0.9**
TAVA				*i* S	**Sg**	**20 34 25.7**	**+2.1**
TAVA				IAML		20 34 30.0	
	comp=N,183nm,1.5s						
TAVA				IAML		20 34 33.0	
	comp=E,81nm,0.6s						
KMER	**Konya-Meram**	**1.39**	**85**	*i* P	**Pn**	**20 34 04.5**	**-0.8**
KMER				IAML		20 34 29.0	
	comp=N,476nm,0.8s						
KMER				IAML		20 34 33.0	
	comp=E,379nm,0.8s						
KONT	**Konya--Tatoy**	**1.40**	**78**	PN	**Pn**	**20 34 04.7**	**-0.7**
KONT	**Konya--Tatoy**	**1.40**	**78**	*i* P	**Pb**	**20 34 04.9**	**-1.0**
KONT				IAML		20 34 32.0	
	comp=E,400nm,0.9s						
KONT				IAML		20 34 33.0	
	comp=N,388nm,1.2s						
KDHN	**Kadinhani**	**1.46**	**53**	*i* P	**Pn**	**20 34 05.2**	**-1.1**
KDHN				IAML		20 34 29.0	
	comp=N,242nm,1.1s						
KDHN				*i* S	**Sg**	**20 34 29.3**	**+3.1**
KDHN				IAML		20 34 30.0	
	comp=E,317nm,0.6s						
LADK	**Ladik-KONYA**	**1.48**	**68**	PN	**Pb**	**20 34 06.1**	**-1.1**
KIZT	**Kizilcal**	**1.57**	**38**	PN	**Pn**	**20 34 07.4**	**-0.4**
FETY	**Fethiye**	**1.60**	**231**	*i* P	**Pg**	**20 34 10.0**	**0.0**
AKAS	**Kas**	**1.64**	**210**	PN	**Pb**	**20 34 08.9**	**-1.1**
USAK	**Uak-Merkez**	**1.65**	**310**	*i* P	**Pb**	**20 34 09.6**	**-0.5**
USAK				IAML		20 34 38.0	
	comp=E,121nm,0.5s						
USAK				IAML		20 34 39.0	
	comp=N,115nm,0.6s						
GEDZ	**Gediz**	**1.69**	**326**	PN	**Pn**	**20 34 09.2**	**-0.2**
GDZ	**Gediz**	**1.69**	**328**	*i* P	**Pn**	**20 34 08.7**	**-0.8**
GDZ				IAML		20 34 40.0	
	comp=N,92nm,0.6s						
GDZ				IAML		20 34 41.0	
	comp=E,107nm,0.9s						
CIFT	**Cifteler, Eski**	**1.74**	**11**	PN	**Pn**	**20 34 09.4**	**-0.7**
KULA	**Kula-Manisa**	**1.77**	**300**	PN	**Pn**	**20 34 09.6**	**-1.0**
DALY	**Dalyan (Mula)**	**1.78**	**243**	PN	**Pb**	**20 34 10.9**	**-1.5**
AUSIV	**SIVRIHISAR**	**1.92**	**22**	PN	**Pn**	**20 34 12.3**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.92**	**21**	PN	**Pn**	**20 34 12.5**	**-0.1**
SIMA	**Simav-Kutahya**	**1.93**	**318**	PN	**Pn**	**20 34 12.4**	**-0.3**
YER	**Yerkesik**	**1.94**	**255**	PN	**Pn**	**20 34 13.0**	**+0.2**
GAZI	**Gazipasa**	**1.96**	**136**	PN	**Pn**	**20 34 13.2**	**+0.1**
GAZI	**Gazipasa**	**1.96**	**136**	*i* P	**Pb**	**20 34 14.7**	**-0.7**
GAZI				IAML		20 34 50.0	
	comp=N,144nm,1.0s						
GAZI				IAML		20 34 55.0	
	comp=E,199nm,1.0s						
CHBY	**Cihanbeyli**	**2.01**	**62**	PN	**Pn**	**20 34 14.2**	**+0.4**
TVSB	**Tavsanli**	**2.01**	**333**	PN	**Pn**	**20 34 13.1**	**-0.8**
TURN	**Turunc**	**2.10**	**246**	PN	**Pg**	**20 34 15.5**	**+1.8**
DURS	**Dursunbey**	**2.57**	**320**	*i* P	**Pn**	**20 34 20.9**	**-0.7**

IEPN ***24*** *20:39:04.2,63.˚82N×18.˚63W,h10km*
BGR ***24*** *20:39:10.1±0.0,65.˚47N×17.˚72W,h33km,mb5.7, mB_BB6.0,Ms4.8*
REY ***24*** *20:39:11.5,64.˚63N×17.˚36W,h3km*
BGS ***24*** *20:39:11.5±2.0,64.˚57N×17.˚46W,h5km,MS5.3*
IDC ***24*** *20:39:12.7±0.3,64.˚55N×17.˚42W,h0km,mb4.5/40, mb1 4.6/46,mb1mx4.4/64,mbtmp4.5/46,ML3.1/4,MS4.8/43, Ms1 4.8/43,ms1mx4.7/54,Error ellipse: s-maj=11.6km s-min=6.8km az=16.0*
NAO ***24*** *20:39:12.7±4.6,64.˚48N×17.˚20W,ML4.6*
BJI ***24*** *20:39:12.0±0.0,64.˚70N×17.˚40W,h5km,mB5.6/46, mb4.8/40,Ms5.3/55,Ms7 5.0/50*
MOS ***24*** *20:39:13.1±1.1,64.˚59N×17.˚25W,h13km,mb5.3/48, MS4.9/34,Error ellipse: s-maj=7.6km s-min=5.0km az=105.1*
DNK ***24*** *20:39:13.6±6.1,64.˚18N×17.˚71W,h0km±276km,Ms5.0*
GCMT ***24*** *20:39:18.6±0.1,64.˚65N±0.˚01×17.˚31W±0.˚01,h12km, MW5.3/146,Moment Tensor Solution. s105,c161; s146,c296; Duration: 1ś2 Moment tensor: Scale 10^17 Nm; Mrr-1.29±.02; Mθθ 0.17±.02; Mϕϕ 1.11±.01; Mrθ-0.39±.06; Mθϕ-0.20±.01; Mϕr-0.38±.04; Best double couple: M0 1.32100×10^17 NP1:ϕs155.00000°,δ40.00000°, λ-115.00000°. NP2:ϕs5.00000°,δ54.00000°,λ-71.00000°. Principal axes: T 1.1870, Plg7.0000°, Azm82.0000°; N 0.2620, Plg15.0000°, Azm174.0000°; P -1.4550, Plg73.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 20:39:15.4±0.2,64.˚57N±0.˚02×17.˚05W±0.˚02,h10km, h10km:pP-P,n932,σ2ś45/1018,mb5.0/165,MS4.9/84, 38C-40D,Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDJK	**Dyngjujokull**	**0.10**	**232**	P	**Pg**	**20 39 14.6**	**-3.7**
	baz=156						
IDJK				S	**Sg**	**20 39 16.1**	**-4.1**
	baz=156						
IBJK	**Bruarjokull**	**0.16**	**127**	P	**Pg**	**20 39 17.6**	**-1.5**
	baz=121						
IBJK				S	**Sg**	**20 39 21.9**	**+0.3**
	baz=121						
IGRF	**Grimsfjall**	**0.19**	**211**	P	**Pg**	**20 39 16.0**	**-3.5**
	baz=170						
IDYN	**Dyngjuhals**	**0.26**	**329**	P	Pg	20 39 15.0	-5.9
	baz=359						
IDYN				S	**Sg**	**20 39 17.9**	**-6.5**
	baz=359						
IVOT	**Vottur**	**0.30**	**191**	P	**Pg**	**20 39 18.5**	**-3.0**
	baz=168						
IVOT				S	**Sg**	**20 39 23.8**	**-1.8**
	baz=168						
IVON	**Vonarskard**	**0.32**	**290**	P	Pg	20 39 15.2	-6.8
	baz=286						
IKRE	**Kreppuhraun**	**0.36**	**52**	P	**Pg**	**20 39 19.9**	**-2.7**
	baz=69						
IKRE				S	**Sg**	**20 39 25.4**	**-1.9**
	baz=69						
IHUS	**Husbondi**	**0.38**	**224**	P	**Pg**	**20 39 18.4**	**-4.6**
	baz=201						
IHUS				S	**Sg**	**20 39 23.6**	**-4.3**
	baz=201						
IMKO	**Mokollar**	**0.51**	**36**	P	**Pg**	**20 39 22.0**	**-3.4**
	baz=51						
IASK	**Askja**	**0.52**	**19**	P	**Pg**	**20 39 21.3**	**-4.2**
	baz=35						
IJOK	**Jokulheimar**	**0.57**	**244**	P	Pg	20 39 20.6	-5.9
	baz=231						
IJOK				S	**Sg**	**20 39 27.8**	**-6.2**
	baz=231						
ISKR	**Skrokkalda**	**0.58**	**270**	P	Pg	20 39 20.1	-6.5
	baz=262						
ISKR				S	Sg	20 39 25.8	-8.5
	baz=262						

IIEY	**Innrieyrar**	**0.67**	**225**	P		Pg	20 39 23.1	-5.2
	baz=212								
IKAL	**Kalfafell**	**0.68**	**204**	P		**Pg**	**20 39 23.9**	**-4.6**
	baz=192								
IFAG	**Fagurholsmyri**	**0.71**	**166**	P		**Pg**	**20 39 25.9**	**-3.3**
	baz=158								
IADA	**Aoalbol**	**0.78**	**54**	P		**Pg**	**20 39 26.6**	**-3.8**
	baz=62								
IADA				S		**Sb**	**20 39 39.2**	**-2.4**
	baz=62								
IVAT	**Vatnsfell**	**0.90**	**246**	P		Pg	20 39 26.1	-6.6	
	baz=238								
IMEL	**Melhnausar**	**1.02**	**9**	P		Pg	20 39 28.9	-6.1	
	baz=17								
IHVE	**Hveravellir**	**1.12**	**287**	P		Pb	20 39 28.6	-8.4	
	baz=286								
BORG	**Borgarnes**	**1.85**	**278**	Pg		Pn	20 39 41.8	-5.4	
	130nm,0.3s,baz=97,slow=10,SNR=72								
BORG				Lg		Lg	20 40 05.6		
	106nm,0.3s,baz=58,slow=21,SNR=8.4								
SCO	**Scoresbysund**	**6.23**	**345**	*i* P		**Pn**	**20 40 45.3**	**-2.0**	
SCO	**Scoresbysund**	**6.23**	**345**	*i* P		**Pn**	**20 40 45.3**	**-2.0**	
SCO	**Scoresbysund**	**6.23**	**345**	*i* P		**Pn**	**20 40 45.3**	**-2.0**	
SCO				IAMs_20	IAMs_20	20 44 43.3			
	comp=Z,29μm,6.1s								
JMIC	**Jan Mayen**	**7.21**	**23**	Pn		**Pn**	**20 41 00.5**	**-0.2**	
JMIC	**Jan Mayen**	**7.21**	**23**	Pn		**Pn**	**20 41 00.9**	**+0.3**	
	baz=185,slow=5.2,SNR=5.9								
JMIC				LR		LR	20 43 12.5		
	comp=Z,3μm,21.1s,baz=226,slow=33								
JMIC	**Jan Mayen**	**7.21**	**23**	Pn		**Pn**	**20 41 00.5**	**-0.2**	
LEWI	**Lewis, Hebride**	**8.08**	**138**	*eP*		**Pn**	**20 41 10.5**	**-2.1**	
LRW	**Lerwick**	**8.60**	**114**	*eP*		**Pn**	**20 41 17.7**	**-2.1**	
LRW				IAMs_20	IAMs_20	20 46 34.3			
	comp=Z,10μm,12.5s								
LRW	**Lerwick**	**8.60**	**114**	*eP*		**Pn**	**20 41 19.4**	**-0.4**	
BIGH	**Upper Bighouse**	**8.73**	**128**	*eP*		**Pn**	**20 41 22.3**	**+0.8**	
ANGG	**Ammassalik, Gr**	**8.74**	**286**	IAMs_20	IAMs_20	20 44 58.4			
	comp=Z,69μm,8.0s								
MLA1	**Latheron**	**9.06**	**128**	*eP*		**Pn**	**20 41 25.6**	**-0.5**	
KAC	**Achnashellach**	**9.08**	**136**	*eP*		**Pn**	**20 41 24.8**	**-1.6**	
KPL	**Plockton**	**9.11**	**137**	*eP*		**Pn**	**20 41 24.7**	**-2.1**	
KPL				IAMs_20	IAMs_20	20 46 07.9			
	comp=Z,18μm,14.5s								
KPL	**Plockton**	**9.11**	**137**	*eP*		**Pn**	**20 41 25.4**	**-1.4**	
ISOG	**Isortoq, Green**	**9.30**	**286**	IAMs_20	IAMs_20	20 45 16.7			
	comp=Z,62μm,8.3s								
MCD	**Coleburn Disti**	**9.66**	**130**	*eP*		**Pn**	**20 41 33.8**	**-0.6**	
DBG	**Daneborg**	**9.85**	**355**	IAMs_20	IAMs_20	20 45 08.1			
	comp=Z,17μm,10.6s								
ICESG	**Greenland Ices**	**9.95**	**307**	*i* P		**Pn**	**20 41 38.5**	**-0.1**	
ICESG				IAMs_20	IAMs_20	20 45 30.3			
	comp=Z,42μm,7.7s								
LAWE	**Loch Awe, Argy**	**10.11**	**140**	*eP*		**Pn**	**20 41 38.9**	**-1.5**	
INVG	**Invergeldie, C**	**10.36**	**136**	*eP*		**Pn**	**20 41 41.6**	**-2.2**	
INVG				IAMs_20	IAMs_20	20 46 37.0			
	comp=Z,20μm,11.7s								
ELO	**Logie Almond**	**10.42**	**135**	*eP*		**Pn**	**20 41 42.8**	**-2.0**	
EAB	**Aberfoyle**	**10.47**	**137**	*eP*		**Pn**	**20 41 44.4**	**-1.1**	
PGBU	**Glenifferbraes**	**10.76**	**139**	*eP*		**Pn**	**20 41 48.5**	**-0.8**	
PGBU				IAMs_20	IAMs_20	20 47 08.2			
	comp=Z,16μm,13.3s								
AKN	**Aaknes**	**11.03**	**92**	Pn		**Pn**	**20 41 53.2**	**+0.3**	
AKN	**Aaknes**	**11.03**	**92**	Pn		**Pn**	**20 41 53.2**	**+0.3**	
EDI	**Edinburgh**	**11.04**	**135**	*eP*		**Pn**	**20 41 51.3**	**-1.9**	
EDI	**Edinburgh**	**11.04**	**135**	*eP*		**Pn**	**20 41 51.7**	**-1.5**	
SUMG	**Summit**	**11.13**	**325**	P		**Pn**	**20 41 52.9**	**-1.9**	
SUMG	**Summit**	**11.13**	**325**	IAMs_20	IAMs_20	20 46 11.8			
	comp=Z,79μm,9.0s								
EBL	**Broad Law**	**11.21**	**135**	*eP*		**Pn**	**20 41 54.5**	**-1.1**	
NEWG	**New Galloway**	**11.43**	**140**	*eP*		**Pn**	**20 41 57.1**	**-1.4**	
NEWG				IAMs_20	IAMs_20	20 47 35.8			
	comp=Z,26μm,10.1s								
GAL1	**Galloway**	**11.52**	**142**	*eP*		**Pn**	**20 41 58.4**	**-1.4**	
GAL1				IAMs_20	IAMs_20	20 47 24.3			
	comp=Z,26μm,10.5s								
EKA	**Eskdalemuir Ar**	**11.55**	**137**	Pn		**Pn**	**20 41 59.1**	**-1.1**	
EKA	**Eskdalemuir Ar**	**11.

BRBA Barentsburg A 16.45 22 P **Pn** **20 43 04.2 -1.8**
BRBA Barentsburg A 16.45 22 P **Pn** **20 43 04.2 -1.8**
KBS Kingsbay 16.67 19 P **P** **20 43 11.0 -0.1**
KBS Kingsbay 16.67 19 ⇓*i* P **P** **20 43 09.6 -1.5**
KBS *i* S **S** **20 46 28.3 +3.5**
KBS Kingsbay 16.67 19 *de* P **P** **20 43 09.6 -1.5**
KBS pmax pmax
comp=Z,128nm,1.6s
KBS Kingsbay 16.67 19 *e* P **P** **20 43 11.2 +0.2**
KBS Kingsbay 16.67 19 *i* P P 20 43 17.4 +6.3
KBS IAMs_20 IAMs_20 20 51 33.2
comp=Z,7µm,12.1s
KULLO Kullorsuaq 16.79 323 *i* P **P** **20 43 09.9 -2.5**
KULLO Kullorsuaq 16.79 323 *i* P **P** **20 43 09.9 -2.5**
KULLO Kullorsuaq 16.79 323 *i* P **P** **20 43 09.9 -2.5**
KULLO IAMs_20 IAMs_20 20 49 46.4
comp=Z,21µm,8.5s
SPA0 Spitsbergen Ar 16.88 23 P **P** **20 43 14.4 +0.9**
baz=193,slow=18
SPA0 Spitsbergen Ar 16.88 23⇑ *i* P **P** **20 43 14.6 +1.1**
SPA0 *i* S **S** **20 46 37.0 +7.7**
SPA0 Spitsbergen Ar 16.88 23 P **P** **20 43 14.4 +0.9**
baz=193,slow=18
SPA0 *e* P **P** **20 43 14.6 +1.1**
SPITS Spitsbergen Ar 16.88 23 Pn **P** **20 43 14.4 +0.9**
baz=190,slow=17,SNR=4.2
SPITS LR LR 20 48 08.4
comp=Z,2µm,19.5s,baz=225,slow=32
ARA0 ARCESS Array S 17.02 54 P **P** **20 43 12.7 -2.3**
baz=270,slow=10
ARA0 ARCESS Array S 17.02 54 P **P** **20 43 12.7 -2.3**
baz=270,slow=10
ARCES ARCESS Array B 17.02 54 P **P** **20 43 12.9 -2.1**
comp=Z,0.2nm,0.3s,baz=280,slow=7.3,SNR=13
ARCES LR LR 20 48 33.8
comp=Z,3µm,18.1s,baz=274,slow=33
NOR Nord 17.13 0 P **Pn** **20 43 13.2 -1.3**
NOR Nord 17.13 0 P **Pn** **20 43 13.2 -1.3**
NOR Nord 17.13 0 IAMs_20 IAMs_20 20 50 40.1
comp=Z,6µm,8.5s
BSEG Bad Segeberg 17.42 115 *e* P **P** **20 43 18.0 -1.5**
comp=Z,570nm,2.2s,baz=327,slow=11
KEV Kevo 17.53 53 P **P** **20 43 19.6 -1.0**
KEV pmax pmax
comp=Z,46nm,0.8s
UCC Uccle 17.79 131 P **P** **20 43 23.2 -0.4**
UCC x x 20 43 37.6
UCC x x 20 43 45.9
HOPEN Hopen 17.82 31 ⇓*i* P **P** **20 43 22.3 -1.4**
HOPEN *i* S **S** **20 46 54.0 +5.8**
HOPEN Hopen 17.82 31 *e* P **P** **20 43 22.7 -1.1**
SNF Seneffe 18.01 131 P **P** **20 43 25.4 -0.6**
RGN Rugen 18.17 109 *e* P **P** **20 43 27.9 +0.2**
BEBN Eben Emael 18.23 128 Pn **Pn** **20 43 26.4 -1.8**
BEBN x x 20 43 31.7
BMRD Maredsous 18.35 131 P **P** **20 43 29.9 +0.1**
BMRD x x 20 43 44.5
BSTI Sart Tilman 18.37 129 P **P** **20 43 31.2 +1.2**
BGES Gesves 18.38 130 P **P** **20 43 30.8 +0.7**
comp=Z,92nm,2.2s
BCLA Clavier 18.42 130 P **P** **20 43 26.9 -3.6**
comp=Z,89nm,2.9s
DOU Dourbes 18.47 131 P **Pn** **20 43 32.2 +1.0**
DOU x x 20 43 45.1
MEM Membach 18.50 128 P **Pn** **20 43 30.2 -1.4**
BHOU Houvegnez 18.71 129 P **Pn** **20 43 33.9 -0.3**
comp=Z,148nm,3.1s
ASSE Asse, Remlinge 18.94 118 *e* P **Pn** **20 43 36.7 -0.1**
comp=Z,1µm,2.8s,baz=327,slow=11
SUF Sumiainen 19.00 76 P **Pn** **20 43 36.3 -1.1**
CLZ Clausthal 19.06 119 *e* P **Pn** **20 43 38.7 +0.3**
comp=Z,2µm,3.1s,baz=327,slow=11
GTTG Gottingen 19.14 120 *e* P **Pn** **20 43 39.2 -0.1**
comp=Z,1µm,2.8s,baz=327,slow=11
WLF Walferdange 19.35 129 P **Pn** **20 43 42.9 +1.0**
WLF x x 20 43 51.6
FIA0 FINESS Array S 19.53 79 P **Pn** **20 43 43.0 -0.9**
baz=311,slow=11
FIA0 FINESS Array S 19.53 79 P **Pn** **20 43 43.0 -0.9**
baz=311,slow=11
FINES FINESS Array B 19.53 79 P **Pn** **20 43 42.6 -1.3**
comp=Z,0.2nm,0.3s,baz=309,slow=9.6,SNR=14
FINES LR LR 20 50 55.3
comp=Z,3µm,21.2s,baz=296,slow=36
UBBA Unterbreizbach 19.74 121 *e* P **Pn** **20 43 46.1 -0.3**
comp=Z,514nm,2.2s,baz=327,slow=11
RUE Ruedersdorf 19.88 113 *e* P **Pn** **20 43 46.6 -1.5**
SLIT Slitere, Latvi 19.95 92 *e* P **Pn** **20 43 47.4 -1.5**
TULEG Thule 20.04 328 *i* P Pn 20 43 49.8 0.0
TULEG IAMs_20 IAMs_20 20 51 53.8
comp=Z,19µm,9.6s
APA0 Apatity Array 20.05 59 P **P** **20 43 45.2 -3.0**
APA0 Apatity Array 20.05 59 P **P** **20 43 45.2 -3.0**
NEUB Neuenburg 20.09 118 *e* P Pn 20 43 49.8 -0.8
comp=Z,302nm,1.6s,baz=327,slow=11
APA Apatity 20.21 59 ⇓*i* P Pn 20 43 49.5 -2.4
APA *i* S **S** **20 47 34.0 -2.4**
APA pmax pmax
comp=Z,28nm,0.9s
MOX Moxa 20.48 119 *e* P Pn 20 43 54.0 -1.3
comp=Z,255nm,1.6s,baz=327,slow=11
MOX *e* L L 20 52 39.8
comp=Z,4µm,19.0s
CLL Collm 20.49 116 *e* P Pn 20 43 53.0 -2.3
comp=Z,133nm,1.7s
CLL *e* Pmax 20 43 56.0
CLL *e* 20 44 02.0
CLL *e* 20 44 07.0
CLL *e* 20 45 44.0
CLL *e* S Sn 20 47 52.0 +6.1
CLL Lm MLR 20 52 00.0
comp=Z,4µm,19.5s
CLL Lmax 20 55 00.0
CLL Collm 20.49 116 *e* P Pn 20 43 53.0 -2.3
CLL *e* 20 44 02.0
CLL pmax pmax
comp=Z,133nm,1.7s
CLL MLR MLR
comp=Z,4µm,19.5s
CLL Collm 20.49 116 *e* P Pn 20 43 53.7 -1.6
comp=Z,189nm,1.7s,baz=327,slow=11
LVZ Lovozero 20.58 58 ⇑*e* P Pn 20 43 54.7 -1.6
LVZ pmax pmax
comp=Z,110nm,2.5s
GKP Gorka Klasztor 20.70 107 *e* P Pn 20 43 56.2 -1.5
GKP *e* S Sn 20 47 57.9 +6.9
PBUR Paburge 20.79 96 *e* P Pn 20 43 56.4 -2.4
PLN Plauen 20.82 119 *e* P Pn 20 43 57.4 -1.7
comp=Z,3µm,3.4s,baz=327,slow=11
SSF Saint Saulge 20.82 138 P **P** **20 43 55.9 -0.9**
SSF pmax pmax
comp=Z,199nm,1.8s
WERD Werda 20.91 119 *e* P Pn 20 43 58.1 -2.1
comp=Z,3µm,3.6s,baz=327,slow=11
FBE Freiberg 20.93 116 *e* P Pn 20 43 58.6 -1.8
comp=Z,3µm,3.2s,baz=327,slow=11
ECH Echery 20.94 130 P Pn 20 43 58.2 -2.4
ECH pmax pmax
comp=Z,130nm,1.5s
GUNZ Gunzen 20.98 119 *e* P Pn 20 43 59.1 -2.1
comp=Z,644nm,2.0s,baz=327,slow=11
TANN Tannenbergstha 20.99 118 *e* P Pn 20 43 59.2 -2.1
comp=Z,1µm,1.9s,baz=327,slow=11
WERN Wernitzgruen 21.06 119 *e* P **P** **20 43 60.0 +0.6**
comp=Z,463nm,1.7s,baz=327,slow=11
GRF Grafenberg Arr 21.11 121 P **P** **20 44 01.1 +1.2**
GRF pmax pmax
comp=Z,528nm,1.9s
GRF Grafenberg Arr 21.11 121 *e* P **P** **20 44 00.9 +1.0**
comp=Z,821nm,2.2s,baz=327,slow=11
GRF *e* L L 20 53 24.2
comp=Z,4µm,18.8s
NKC Novy Kostel 21.13 119 *e* P **P** **20 44 00.5 +0.4**
NKC *e* 20 44 03.9
NKC *e* S Sn 20 48 04.7 +3.2
NKC MLR MLR
comp=Z,4µm,17.0s
NKC Novy Kostel 21.13 119 *e* P **P** **20 44 00.5 +0.4**
NKC *e* pP **sP** **20 44 03.9 -1.0**
NKC *e* S Sn 20 48 04.7 +3.2
NKC AMS AMS 20 53 00.0
comp=Z,4µm,17.0s
STU Stuttgart 21.16 126 P **P** **20 44 00.4 0.0**
STU pmax pmax
comp=Z,302nm,1.6s

STU Stuttgart 21.16 126 *e* P **P** **20 44 01.7 +1.4**
comp=Z,851nm,2.3s,baz=327,slow=11
BRG Berggiesshubel 21.19 116 ⇑*i* P **P** **20 44 01.1 +0.3**
comp=Z,52nm,1.1s
BRG *i* 20 44 09.9
comp=Z,660nm,1.9s
BRG S Sn 20 48 08.0 +5.1
comp=Z,5µm,15.4s
comp=N,4µm,12.4s
comp=E,2µm,12.4s
BRG Berggiesshubel 21.19 116 *e* P **P** **20 44 01.1 +0.3**
comp=E,659nm,1.9s,baz=327,slow=11
MANZ Manzenberg 21.20 120 *e* P **P** **20 44 01.3 +0.4**
comp=E,444nm,2.1s,baz=327,slow=11
BFO Black Forest 21.23 128 P **P**
BFO pmax pmax **20 44 00.4 -0.9**
comp=Z,289nm,1.7s
BFO Black Forest 21.23 128 *e* P **P** **20 44 02.2 +1.0**
comp=Z,388nm,1.9s,baz=327,slow=11
VSU Vasula 21.38 86 *e* P **P** **20 44 02.4 -0.3**
VSU Vasula 21.38 86 *d* P **P** **20 44 01.6 -1.1**
VSU pmax pmax
comp=Z,94nm,0.9s
ROTZ Rotzenmuhle 21.42 120 *e* P **P** **20 44 03.7 +0.5**
comp=Z,589nm,2.3s,baz=327,slow=11
PVCC Panska Ves 21.71 115 *e* P **P** **20 44 09.1 +2.8**
PVCC MLR MLR
comp=Z,4µm,13.5s
PVCC Panska Ves 21.71 115 *e* P **P** **20 44 09.1 +2.8**
PVCC *e* S Sn 20 48 15.4 +0.1
PVCC AMS AMS 20 54 10.0
comp=Z,4µm,13.5s
SLVR Solovky 21.93 65 *e* P **P** **20 44 06.1 -2.5**
comp=Z,103nm,1.0s
SLVR *i* S Sn 20 48 17.3 -3.1
FRB Frobisher Bay 21.97 291 LR LR 20 52 15.9
comp=Z,3µm,18.7s,baz=60,slow=36
PABE Paberze 22.01 95 *e* P **P** **20 44 10.0 +0.6**
PRA Prague 22.02 116 *e* P **P** **20 44 09.4 -0.2**
PRA *e* 20 44 14.8
PRA MLR MLR
comp=Z,2µm,11.0s
PRA Prague 22.02 116 *e* P **P** **20 44 09.4 -0.2**
PRA *e* pP **sP** **20 44 14.8 +0.4**
PRA *e* S Sn 20 48 21.4 -1.4
PRA AMS AMS 20 56 40.0
comp=Z,2µm,11.0s
PRU Pruhonice 22.13 116 *e* P **P** **20 44 10.6 -0.2**
PRU *e* 20 44 15.4
PRU MLR MLR
comp=Z,4µm,15.2s
PRU Pruhonice 22.13 116 *e* P **P** **20 44 10.6 -0.2**
PRU *e* pP **sP** **20 44 15.4 -0.2**
PRU *e* S Sn 20 48 22.0 -3.4
PRU AMS AMS 20 53 40.0
comp=Z,4µm,15.2s
KSP Ksiaz 22.15 112 *e* P **P** **20 44 10.5 -0.5**
KSP *e* S Sn 20 48 19.9 -5.9
PBCC Pribram 22.16 117 *e* P P 20 44 18.6 +7.4
PBCC *e* S Sn 20 48 27.5 +1.3
WET Wettzell 22.18 120 *e* P **P** **20 44 11.9 +0.5**
comp=Z,1µm,3.5s,baz=327,slow=11
PUL Pulkovo 22.19 80 ⇑*e* P **P** **20 44 13.5 +2.2**
PUL pmax pmax
comp=Z,84nm,0.5s
CHVC Chvalec 22.25 113 *e* P **P** **20 44 11.6 -0.5**
CHVC *ex* x 20 44 17.1
CHVC *e* S Sn 20 48 28.8 +0.5
CHVC AMS AMS 20 52 30.0
comp=Z,4µm,24.5s
GOPC GO Pecny, Ondr 22.29 116 *e* P **P** **20 44 12.1 -0.4**
GOPC *e* 20 44 19.1
GOPC MLR MLR
comp=Z,5µm,10.6s
GOPC GO Pecny, Ondr 22.29 116 *e* P **P** **20 44 12.1 -0.4**
GOPC *e* pP **sP** **20 44 19.1 +1.8**
GOPC *e* S Sn 20 48 28.7 -0.4
GOPC AMS AMS 20 57 30.0
comp=Z,5µm,10.6s
UPC Upice 22.30 113 *e* P **P** **20 44 14.2 +1.6**
UPC MLR MLR
comp=Z,4µm,11.1s
UPC Upice 22.30 113 *e* P **P** **20 44 14.2 +1.6**
UPC *e* S Sn 20 48 27.2 -2.1
UPC AMS AMS 20 57 40.0
comp=Z,4µm,11.1s
OSTC Ostas 22.34 113 *e* P **P** **20 44 12.5 -0.6**
OSTC *e* pP **sP** **20 44 19.6 +1.7**
OSTC *e* S Sn 20 48 30.4 0.0
OSTC AMS AMS 20 52 30.0
comp=Z,4µm,23.9s
UBR Ueberruh 22.41 126 *e* P **P** **20 44 15.0 +1.2**
comp=Z,1µm,2.2s,baz=327,slow=11
FUR Furstenfeldbru 22.41 124 *e* P **P** **20 44 14.2 +0.4**
comp=Z,2µm,2.2s,baz=327,slow=11
KHC Kasperske Hory 22.46 119 *e* P **P** **20 44 14.7 +0.3**
KHC *e* 20 44 18.8
KHC MLR MLR
comp=Z,5µm,13.0s
KHC Kasperske Hory 22.46 119 *e* P **P** **20 44 14.7 +0.3**
KHC *e* pP **sP** **20 44 18.8 -0.4**
KHC *ex* x 20 44 27.5
KHC *e* S Sn 20 48 29.7 -3.5
KHC AMS AMS 20 55 00.0
comp=Z,5µm,13.0s
DPC Dobruska-Polom 22.54 113 *e* P **P** **20 44 15.0 -0.3**
DPC *e* 20 44 21.9
DPC MLR MLR
comp=Z,4µm,10.6s
DPC Dobruska-Polom 22.54 113 *e* P **P** **20 44 15.0 -0.3**
DPC *e* pP **sP** **20 44 21.9 +1.8**
DPC *e* S Sn 20 48 31.5 -3.8
DPC AMS AMS 20 57 50.0
comp=Z,4µm,10.6s
DAVA Damuels 22.67 127 *i* P **P** **20 44 17.4 +0.6**
comp=Z,30nm,1.1s,SNR=16
SUW Suwalki 22.68 99 *e* P **P** **20 44 15.0 -1.6**
SUW *e* S Sn 20 48 33.1 -5.3
GEC2 GERESS Array S 22.74 119 *e* P **P** **20 44 17.8 +0.4**
comp=Z,971nm,2.4s,baz=327,slow=11
GERES GERESS Array B 22.74 119 P **P** **20 44 17.9 +0.5**
comp=Z,6.2nm,0.8s,baz=330,slow=7.7,SNR=24
GERES LR LR 20 53 46.6
comp=Z,4µm,20.1s,baz=328,slow=38
SSB Saint Sauveur 22.75 138 P **P** **20 44 18.5 +1.0**
SSB pmax pmax
comp=Z,41nm,1.1s
RETA Reutte 22.80 125 *i* P **P** **20 44 18.8 +0.7**
comp=Z,107nm,2.4s
ISAL Salakas 22.89 93 *e* P **P** **20 44 17.7 -1.2**
KRLC Kraliky 22.94 113 *e* P **P** **20 44 19.0 -0.5**
KRLC *e* 20 44 25.2
KRLC MLR MLR
comp=Z,5µm,10.6s
KRLC Kraliky 22.94 113 *e* P **P** **20 44 19.0 -0.5**
KRLC *e* pP **sP** **20 44 25.2 +0.9**
KRLC *e* S Sn 20 48 37.9 -6.9
KRLC AMS AMS 20 58 10.0
comp=Z,5µm,10.6s
MOTA Moosalm 23.04 125 *i* P **P** **20 44 21.2 +0.5**
comp=Z,86nm,2.0s,SNR=24
TREC Trest 23.05 116 *e* P **P** **20 44 21.0 +0.4**
TREC MLR MLR
comp=Z,4µm,17.5s
TREC Trest 23.05 116 *e* P **P** **20 44 21.0 +0.4**
TREC *e* S Sn 20 48 39.4 -8.1
TREC AMS AMS 20 54 00.0
comp=Z,4µm,17.5s
IIGN Ignalina 23.08 93 *e* P **P** **20 44 20.5 -0.3**
ZFI2 Zemlya Franca- 23.09 22 *e* P **P** **20 44 19.2 -1.5**
comp=Z,28nm,1.0s
ZFI2 *e* S **S** **20 48 37.4 +6.0**
DAVOX Davos/Dischmat 23.10 128 P **P** **20 44 21.6 +0.3**
comp=Z,8.3nm,0.8s,baz=319,slow=12,SNR=20
DAVOX LR LR 20 54 14.2
comp=Z,2µm,19.6s,baz=328,slow=39
SQTA Sankt Quirin 23.19 125 *i* P **P** **20 44 22.4 +0.3**
comp=Z,104nm,2.0s,SNR=19
FETA Feichten 23.19 126 *i* pP pP 20 44 23.3 -2.3
comp=Z,49nm,1.6s,SNR=7.8
PGAV Gavieira, Arco 23.20 163 *e* P **P** **20 44 22.4 +0.2**
comp=Z,125nm,1.7s
PGAV *e* S Sn 20 48 44.5 -6.6
PGAV *e* LR LR 20 51 26.3
comp=Z,5µm,16.0s

TMCR Tamitsa 23.21 66 *e* P **P** **20 44 20.5 -1.5**
comp=Z,2.6nm,1.2s
TMCR *e* S Sn 20 48 40.7 -10
TMCR Tamitsa 23.21 66 *e* P **P** **20 44 20.5 -1.5**
TMCR *e* S **S** **20 48 34.1 +0.6**
WATA Walderalm 23.22 124 *i* P **P** **20 44 22.8 +0.4**
comp=Z,57nm,1.4s,SNR=20
BEL Belsk 23.23 105 *e* P **P** **20 44 22.1 -0.2**
WTTA Wattenberg 23.30 124 *i* P **P** **20 44 23.6 +0.2**
comp=Z,72nm,1.5s,SNR=27
RJOB Jochberg 23.32 122 *e* P **P** **20 44 22.8 -0.6**
comp=Z,462nm,2.3s,baz=327,slow=11
IDID Didziasalis 23.33 93 *e* P **P** **20 44 23.3 0.0**
VRAC Vranov 23.48 114 P **P** **20 44 24.8 -0.1**
comp=Z,5.8nm,1.0s,baz=326,slow=11,SNR=12
VRAC LR LR 20 55 09.3
comp=Z,4µm,18.1s,baz=329,slow=40
VRAC Vranov 23.48 114 ⇓*i* P **P** **20 44 25.5 +0.6**
VRAC Vranov 23.48 114 ⇓*i* P **P** **20 44 24.8 -0.1**
VRAC *e* S Sn 20 48 50.1 -7.5
VRAC Vranov 23.48 114 ⇓*i* P **P** **20 44 25.5 +0.6**
MORC Moravsky Berou 23.48 113 ⇓*i* P **P** **20 44 23.8 -1.2**
MORC Moravsky Berou 23.48 113 ⇓*i* P **P** **20 44 24.3 -0.7**
MORC *e* S Sn 20 48 46.8 -11
MORC Moravsky Berou 23.48 113 P **P** **20 44 26.4 +1.4**
MORC pmax pmax
comp=Z,301nm,1.9s
PCAB Cabril 23.48 163 *e* P **P** **20 44 28.6 +3.6**
comp=Z,91nm,1.4s
PBRG Braganca 23.56 160 *e* P **P** **20 44 26.4 +0.6**
comp=Z,87nm,1.8s
PBRG *e* S Sn 20 48 50.8 -8.9
BNI Bardonecchia 23.59 135 P **P** **20 44 25.4 -0.8**
BNI pmax pmax
comp=Z,231nm,1.9s
KRUC Moravsky 23.60 115 ⇓*i* P **P** **20 44 25.4 -0.6**
KRUC *e* S Sn 20 48 51.5 -8.9
NACGM Naroch 23.62 93 *e* P **P** **20 44 26.0 -0.2**
NACGM *e* P **P** **20 44 26.0 -0.2**
NACGM *e* PP **PnPn** **20 44 48.0 -5.0**
NACGM *e* S **S** **20 48 36.0 -4.3**
NACGM *e* SS **SnSn** **20 49 28.0 +11**
NACGM *e* SSS SSS 20 49 44.0
NACGM *e* LQ LQ 20 52 06.0
NACGM LRM MLR 20 53 31.0
comp=Z,5.7nm,20.0s
MOA Molln 23.77 120 *i* P **P** **20 44 27.4 -0.4**
comp=Z,49nm,1.5s,SNR=10
PVRL Vila Real 23.95 162 *e* P **P** **20 44 29.3 -0.2**
comp=Z,120nm,1.8s
OJC Ojcow 24.05 109 *e* P **P** **20 44 29.2 -1.1**
OJC *e* S **S** **20 48 53.8 +6.5**
OJC Ojcow 24.05 109 P **P** **20 44 30.0 -0.3**
OJC pmax pmax
comp=Z,134nm,1.7s
ABTA Abfaltersbach 24.06 124 *i* pP pP 20 44 31.7 -2.4
comp=Z,33nm,1.5s,SNR=9.2
KBA Koelnbreinsper 24.08 122 *i* pP pP 20 44 31.8 -2.6
comp=Z,81nm,1.5s
MVO Moncorvo 24.15 161 *e* P **P** **20 44 32.1 +0.6**
comp=Z,124nm,1.6s
MVO *e* S **S** **20 48 52.0 +2.9**
MVO *e* LR LR 20 51 30.4
comp=Z,3µm,18.0s
JAVC Velka Javorina 24.26 114 ⇓*i* P **P** **20 44 32.9 +0.5**
CONA Conrad Observa 24.31 117 *e* P **P** **20 44 33.0 +0.1**
comp=Z,33nm,1.3s,SNR=17
CTI Castel Tesino 24.35 126 P **P** **20 44 33.7 +0.4**
CTI pmax pmax
comp=Z,139nm,1.6s
MICGM Minsk 24.36 93 ⇓*e* P **P** **20 44 33.0 -0.2**
MICGM PM 20 44 36.0
comp=Z,0.3nm,1.5s
MICGM PM 20 44 36.0
comp=N,0.3nm,1.8s
MICGM *e* PP PnPn 20 45 20.0 +17
MICGM *e* S **S** **20 48 52.0 -0.2**
MICGM *e* LR LR 20 51 00.0
MICGM LRM MLR 20 56 05.0
comp=Z,3.4nm,12.0s
MNK Minsk 24.36 93 *e* P **P** **20 44 33.0 -0.2**
MNK *e* 20 45 20.0
MNK *e* S **S** **20 48 52.0 -0.2**
MNK pmax pmax
comp=Z,310nm,1.5s
MNK MLR MLR
comp=Z,3µm,12.0s
SMOL Smolenice 24.44 115 *e* P **P** **20 44 34.4 +0.4**
SMOL Smolenice 24.44 115 *e* P **P** **20 44 34.4 +0.4**
PVIS Viseu 24.48 163 *e* P **P** **20 44 38.7 +4.3**
comp=Z,92nm,1.2s
MODS Modra-Piesok 24.50 115 *e* P **P** **20 44 34.6 +0.1**
MODS Modra-Piesok 24.50 115 *e* P **P** **20 44 34.6 +0.1**
MYKA Terra Mystica 24.57 122 *i* sP sP 20 44 38.6 -1.6
comp=Z,40nm,1.5s,SNR=7.6
ARSA Arzberg 24.74 119 *i* P **P** **20 44 37.5 +0.7**
comp=Z,24nm,1.0s
LANS Liptovska Anna 24.75 111 *e* P **P** **20 44 37.6 +0.8**
LANS pmax pmax
comp=Z,16nm,1.0s
LANS Liptovska Anna 24.75 111 *e* P **P** **20 44 37.6 +0.8**
MTE Manteigas 24.83 163 *e* P **P** **20 44 39.0 +1.3**
comp=Z,160nm,1.6s
MTE *e* S S 20 49 11.7 +12
MTE *e* LR LR 20 51 47.5
comp=Z,5µm,18.0s
NIE Niedzica 24.87 110 *e* P **P** **20 44 37.9 0.0**
NIE *e* S **S** **20 49 09.7 +9.0**
OBKA Obir 25.00 121 *i* P **P** **20 44 40.5 +1.3**
comp=Z,38nm,1.4s
VYHS Vyhne 25.02 113 *e* P **P** **20 44 39.4 +0.2**
VYHS Vyhne 25.02 113 *e* P **P** **20 44 39.4 +0.2**
SOKA Soboth 25.04 120 *i* P **P** **20 44 39.7 +0.3**
comp=Z,40nm,1.4s,SNR=6.5
PCAS Casmilo, Conde 25.06 164 *e* P **P** **20 44 43.6 +4.0**
comp=Z,175nm,1.7s
PCAS *e* S S 20 49 18.0 +14
LJU Ljubljana 25.39 122 *e* P **P** **20 44 44.3 +1.7**
PCBR Castelo Branco 25.39 163 *e* P **P** **20 44 46.9 +4.3**
comp=Z,115nm,1.2s
SRO2 Moca 25.43 114 *e* P **P** **20 44 42.7 -0.2**
SRO2 pmax pmax
comp=Z,27nm,1.0s
SRO2 Moca 25.43 114 *e* P **P** **20 44 42.7 -0.2**
KLMR Klimovskoe 25.45 72 ⇓*i* P **P** **20 44 41.5 -1.5**
comp=Z,70nm,1.2s
KLMR *i* S **S** **20 49 16.8 +7.2**
KLMR Klimovskoe 25.45 72 *e* P **P** **20 44 41.4 -1.5**
KLMR *e* 20 48 12.9
KLMR *e* S **S** **20 49 09.6 +0.1**
KLMR pmax pmax
comp=Z,70nm,1.2s
KLMR MLR MLR
comp=Z,1µm,13.0s
KLMR Klimovskoe 25.45 72 *e* P **P** **20 44 41.4 -1.5**
KLMR AMP 20 44 47.9
comp=Z,70nm,1.2s
KLMR *e* PcP **PcP** **20 48 13.0 -1.3**
KLMR *e* S **S** **20 49 09.7 +0.2**
KLMR *e* S **S** **20 49 09.7 +0.2**
KLMR LQ LQ 20 51 36.4
KLMR LQ LQ 20 51 36.4
KLMR LR LR 20 52 51.2
KLMR AMP 20 54 14.7
comp=Z,1µm,12.6s
PSBE So Bento 25.55 165 *e* P **P** **20 44 48.6 +4.5**
comp=Z,109nm,1.8s
PSBE *e* S S 20 49 26.4 +15
UCM Universidad Co 25.59 155 *i* P **P** **20 44 46.0 +1.5**
UCM *e* S **S** **20 49 15.1 +2.9**
CEY Cerknica 25.61 122 *e* P **P** **20 44 42.3 -2.3**
KECS Kecovo 25.69 111 *e* P **P** **20 44 46.5 +1.3**
KECS pmax pmax
comp=Z,13nm,1.1s
KECS Kecovo 25.69 111 *e* P **P** **20 44 46.5 +1.3**
KWP Kalwaria Pacla 25.70 106 *e* P **P** **20 44 45.6 +0.2**
PMRV Marv??o 25.81 163 *e* P **P** **20 44 46.6 +0.2**
comp=Z,105nm,1.8s
PMRV *e* S S 20 49 26.8 +11
PMRV *e* LR LR 20 51 56.7
comp=Z,4µm,20.0s
LSH Leshukonskoye 25.85 61 *e* P **P** **20 44 44.4 -2.2**
comp=Z,76nm,0.9s
LSH *i* S **S** **20 49 21.9 +6.2**

BEHE	**Becsehely**	25.87	118	*e*P		P		20 44 48.9	+2.0
PSZ	**Piszkesteto**	25.90	112	⇑P		P		20 44 47.1	-0.2
PSZ	**Piszkesteto**	25.90	112	⇑P		P		20 44 47.1	-0.2
CRES	**Cresnjev**	25.91	121	*e*P		P		20 44 46.2	-1.2
PMAFR	**Mafra**	26.05	166	*e*P		P		20 44 52.7	+4.0
	comp=Z,224nm,0.8s								
PMAFR				*e*S		S		20 49 28.9	+9.4
KOLS	**Kolonicke sedl**	26.06	108	*e*P		P		20 44 47.9	-0.7
KOLS				pmax	pmax				
	comp=Z,62nm,1.4s								
KOLS	**Kolonicke sedl**	26.06	108	*e*P		P		20 44 47.9	-0.7
ESDC	**Sonseca Array**	26.08	157	P		P		20 44 48.6	-0.3
	comp=Z,9.2nm,0.8s,baz=349,slow=9.1,SNR=31								
ESDC				LR	LR			20 55 02.5	
	comp=Z,3μm,18.5s,baz=340,slow=36								
LVV	**L'vov**	26.10	105	*e*P		P		20 44 49.0	0.0
LVV				*e*S		S		20 49 17.0	-3.0
LVV				*e*SS		SnSn		20 50 39.8	+22
LVV				pmax	pmax				
	comp=Z,240nm,1.8s								
LVV				smax	smax				
	comp=N,4μm,7.0s								
LVV				smax	smax				
	comp=E,4μm,7.0s								
LVV				MLR	MLR				
	comp=E,3μm,15.0s								
LVV				MLR	MLR				
	comp=N,2μm,14.0s								
LVV				MLR	MLR				
	comp=Z,2μm,14.0s								
SCHQ	**Schefferville**	26.24	272	P		P		20 44 47.0	-3.2
	comp=Z,22nm,0.8s,baz=42,slow=7.4,SNR=14								
SCHQ				LR	LR			20 53 41.3	
	comp=Z,2μm,19.1s,baz=53,slow=33								
UZH	**Uzhgorod**	26.30	108	*e*P		P		20 44 49.9	-0.9
UZH				*e*				20 44 55.0	
UZH				*i*				20 45 43.7	
UZH				*e*S		S		20 49 17.7	-5.5
UZH				MLR	MLR				
	comp=Z,250nm,14.0s								
LIS	**Lisbon**	26.31	166	*e*P		P		20 44 50.5	-0.5
LIS				AMb	AMB			20 45 11.8	
	comp=Z,129nm,1.3s								
LIS	**Lisbon**	26.31	166	*e*P		P		20 44 50.4	-0.5
H07S1	**FLORES T-PHASE**	26.56	205	*e*P		P		20 44 50.5	-2.8
RES	**Resolute Bay**	26.66	325	LR	LR			20 55 30.8	
	comp=Z,406nm,21.5s,baz=64,slow=37								
PMAN	**Manadas**	26.78	199	*e*P		P		20 44 52.3	-2.9
	comp=Z,147nm,1.5s								
MORH	**Mrgy, Hungar**	26.80	116	*e*P		P		20 44 53.7	-1.6
PNCL	**Nicolau / Gran**	26.97	165	*e*P		P		20 45 00.7	+3.8
	comp=Z,38nm,2.0s								
PNCL				*e*S		S		20 49 44.3	+10
PCAN	**Candelaria**	27.00	200	*e*P		P		20 44 54.1	-3.1
	comp=Z,211nm,1.6s								
PBEJ	**Beja**	27.13	164	*e*P		P		20 45 01.9	+3.5
	comp=Z,49nm,2.0s								
PSET	**Sete Cidades**	27.27	195	*e*P		P		20 44 56.7	-3.0
	comp=Z,167nm,1.5s								
CMLA	**Cha da Macela**	27.31	195	*e*P		P		20 44 56.6	-3.4
	comp=Z,110nm,1.6s								
BLY	**Banja Luka**	27.47	120	*e*P		P		20 44 59.8	-1.6
PRGR	**Permogore**	27.49	67	*e*P		P		20 44 59.3	-2.0
	comp=Z,57nm,1.7s								
PRGR				*e*S		S		20 49 47.8	+6.2
PRGR	**Permogore**	27.49	67	*e*P		P		20 44 59.3	-2.0
PRGR				pmax	pmax				
	comp=Z,23nm,0.9s								
PTEO	**Sao Teotonio**	27.51	166	*e*P		P		20 45 05.3	+3.6
	comp=Z,67nm,1.5s								
AKASG	**Malin Array Be**	27.64	98	P		P		20 45 02.0	-0.8
	comp=Z,9.0nm,0.9s,baz=321,slow=9.6,SNR=16								
AKASG				LR	LR			20 55 49.4	
	comp=Z,2μm,21.6s,baz=320,slow=36								
AKBB	**Malin Array Si**	27.64	98	P		P		20 45 01.7	-1.1
AKBB				pmax	pmax				
	comp=Z,51nm,1.4s								
MAHO	**Mahon**	27.66	143	*i* P		P		20 45 05.5	+2.4
MAHO				*e*S		S		20 49 55.3	+11
OBN	**Obninsk**	27.70	84	P		P		20 45 02.5	-0.7
	comp=Z,4.9nm,0.8s,baz=330,slow=14,SNR=7.0								
OBN				LR	LR			20 55 39.2	
	comp=Z,483nm,21.5s,baz=330,slow=35								
OBN	**Obninsk**	27.70	84	*de*P		P		20 45 02.2	-1.1
OBN				*e*PPP		PPP		20 45 57.2	
OBN				*e*S		S		20 49 51.7	+6.6
OBN				*e*SS		SnSn		20 51 00.8	+4.4
OBN				pmax	pmax				
	comp=Z,54nm,1.3s								
OBN				MLR	MLR				
	comp=Z,2μm,14.0s								
MOS	**Moscow**	27.74	82	*e*P		P		20 45 03.7	0.0
MOS				*e*				20 45 50.3	
MOS				*e*				20 46 07.0	
MOS				*e*S		S		20 49 52.0	+6.3
MOS				pmax	pmax				
	comp=Z,34nm,0.9s								
MOS				pmax	pmax				
	comp=Z,300nm,3.1s								
MOS				MLR	MLR				
	comp=Z,2μm,18.0s								
MORF	**Marmelete**	27.75	166	*e*P		P		20 45 03.4	-0.6
MORF				AMb	AMB			20 45 44.1	
	comp=Z,52nm,1.7s								
MORF	**Marmelete**	27.75	166	*e*P		P		20 45 03.4	-0.6
MORF	**Marmelete**	27.75	166	*e*P		P		20 45 07.8	+3.8
	comp=Z,52nm,1.7s								
MORF				*e*S		S		20 49 58.2	+12
PBDV	**Barranco-do-Ve**	27.90	164	*e*P		P		20 45 08.3	+3.0
	comp=Z,44nm,2.0s								
PBDV				*e*S		S		20 50 01.1	+13
PFVI	**Vila Bisbo**	27.91	166	*e*P		P		20 45 08.9	+3.6
PFVI				*e*S		S		20 49 54.4	+5.8
PSMN	**Pico do Norte,**	28.01	194	*e*P		P		20 45 03.5	-2.8
	comp=Z,66nm,1.8s								
FRGS	**Fruska Gora**	28.13	116	*e*P		P		20 45 06.0	-1.3
AQU	**L'Aquila**	28.19	127	*e*P		P		20 45 04.6	-3.3
BURAR	**Bucovina Array**	28.31	106	⇑P		P		20 45 08.9	-0.1
BURAR	**Bucovina Array**	28.31	106	⇑P		P		20 45 08.9	-0.1
ARCR	**ARCALIA**	28.38	108	⇑P		P		20 45 09.8	+0.3
BZS	**Buzias**	28.46	113	⇑P		P		20 45 09.8	-0.4
BZS	**Buzias**	28.46	113	⇑P		P		20 45 09.8	-0.4
TEKS	**Tekeris**	28.54	117	*e*P		P		20 45 10.8	-0.1
EMAL	**Malaga-Limoner**	28.85	159	*i* P		P		20 45 16.7	+3.0
EMAL				*i* S		S		20 50 16.5	+13
SFS	**San Fernando**	28.88	162	*i* P		P		20 45 19.8	+5.8
SFS				*e*S		S		20 50 19.4	+15
BBLS	**Lazići**	29.07	118	*e*P		P		20 45 15.2	-0.5
DIVS	**Divibare**	29.09	117	*e*P		P		20 45 15.4	-0.5
MDVR	**Moldovita**	29.19	114	⇓P		P		20 45 17.3	+0.5
SORM	**Soroca**	29.21	102	⇓P		P		20 45 13.5	-3.3
SORM	**Soroca**	29.21	102	⇓P		P		20 45 13.5	-3.3
HERR	**Herculane**	29.39	113	⇑P		P		20 45 19.1	+0.7
LOT	**Lotru**	29.46	111	⇑P		P		20 45 20.0	+0.7
CEU	**Ceuta**	29.55	161	*e*P		P		20 45 20.8	+0.9
CEU				*i* S		S		20 50 29.0	+14
DOPR	**Dopca**	29.70	108	⇑P		P		20 45 18.4	-2.8
TESR	**Tescani**	29.78	106	⇑P		P		20 45 21.5	-0.4
ARR	**Arges**	29.88	110	⇑P		P		20 45 21.5	-1.4
VOIR		29.99	109	⇑P		P		20 45 24.3	+0.4
VOIR		29.99	109	⇑P		P		20 45 24.3	+0.4
PUNG	**Punghina**	30.09	113	⇑P		P		20 45 25.2	+0.6
PDG	**Podgorica**	30.24	119	⇓P		P		20 45 24.9	-1.0
PDG	**Podgorica**	30.24	119	*e*P		P		20 45 24.6	-1.3
KIS	**Kishinev**	30.30	103	⇑*i*P		P		20 45 28.0	+1.5
	comp=Z,210nm,3.7s								
KIS				*i* S		S		20 50 30.0	+3.9
	comp=Z,600nm,9.4s								
KIS				*e*LR	LR			20 59 03.0	
	comp=Z,1μm,13.0s								
KIS	**Kishinev**	30.30	103	*c i*P		P		20 45 28.0	+1.5
KIS				*i* S		S		20 50 30.0	+3.9
KIS				*i*				20 50 37.0	
KIS				pmax	pmax				
	comp=Z,210nm,3.7s								
KIS				MLR	MLR				
	comp=Z,800nm,12.0s								
KIS				MLR	MLR				
	comp=N,1μm,13.0s								
PLOR	**Plostina**	30.31	107	⇑P		P		20 45 24.7	-2.0
PLOR	**Plostina**	30.31	107	⇑P		P		20 45 24.7	-2.0
MLR	**Muntele Rosu**	30.32	108	P		P		20 45 27.0	+0.2
	comp=N,2.5nm,0.9s,baz=308,slow=15,SNR=2.3								
MLR	**Muntele Rosu**	30.32	108	⇓P		P		20 45 27.2	+0.4
MLR	**Muntele Rosu**	30.32	108	⇓P		P		20 45 27.2	+0.4
VRI	**Vrincioaia**	30.33	107	⇑P		P		20 45 24.0	-2.8
VRI	**Vrincioaia**	30.33	107	⇑P		P		20 45 24.0	-2.8
MILM	**Milestii Mici**	30.36	103	⇑P		P		20 45 25.7	-1.3
PVLZ	**Peæn de**	30.43	159	*i* P		P		20 45 32.1	+4.4
PVLZ				*e*S		S		20 50 37.7	+10
LPSR	**Galich'ya Gora**	30.44	86	*e*P		P		20 45 27.0	-0.7
LPSR				*e*S		S		20 50 36.5	+8.3
LPSR				pmax	pmax				
	comp=Z,40nm,1.6s								
LPSR				smax	smax				
	comp=N,1μm,8.6s								
LPSR				MLR	MLR				
	comp=Z,2μm,16.0s								
MELI	**Melilla**	30.53	157	*i* P		P		20 45 30.1	+1.5
MELI				*e*S		S		20 50 35.3	+5.5
KIRV	**Kirov**	30.83	70	LR	LR			20 57 37.9	
	comp=Z,3μm,20.5s,baz=298,slow=36								
MATE	**Matera**	30.86	124	⇑P		P		20 45 31.5	+0.1
CFR	**Carcaliu**	31.47	106	⇑P		P		20 45 36.2	-0.6
CFR	**Carcaliu**	31.47	106	⇑P		P		20 45 36.2	-0.6
VSR	**Storozhevoye**	31.54	88	*e*P		P		20 45 35.8	-1.6
VSR				pmax	pmax				
	comp=Z,50nm,1.9s								
VSR				MLR	MLR				
	comp=Z,3μm,20.0s								
VTS	**Vitosha**	31.61	114	*e*P		P		20 45 41.7	+3.5
PMOZ	**Porto Moniz, M**	31.77	180	*e*LR	LR			20 54 43.0	
	comp=Z,2μm,16.0s								
TOPG	**Topolog**	31.82	106	⇓P		P		20 45 38.0	-1.9
AVE	**Averroes**	31.85	165	*e*P		P		20 45 40.2	-0.1
AVE				*i* S		S		20 50 59.6	+9.0
IFR	**Ifrane**	31.93	161	*i* P		P		20 45 43.0	+1.9
IFR				*i* S		S		20 51 01.0	+8.8
RAZG	**Razgrad**	32.12	110	⇑P		P		20 45 40.6	-2.0
VAY	**Valandovo**	32.45	116	*i* P		P		20 45 45.6	+0.2
D63A	**Stockholm**	32.48	262	P		P		20 45 45.5	-0.2
	baz=39								
VRH	**Novokhopyorsk**	32.65	86	*e*P		P		20 45 46.0	-1.1
VRH				*e*S		S		20 51 10.7	+8.0
VRH				pmax	pmax				
	comp=Z,30nm,1.2s								
VRH				smax	smax				
	comp=N,1μm,7.2s								
VRH				MLR	MLR				
	comp=Z,2μm,22.0s								
MMB	**Musomiste**	32.67	115	*e*P		P		20 45 50.3	+2.8
MDT	**Midelt**	32.70	160	P		P		20 45 47.0	-0.8
	comp=Z,6.2nm,0.8s,baz=347,slow=8.5,SNR=14								
KEK	**Kerkira**	32.80	121	P		P		20 45 50.5	+2.0
E64A	**Bridgewater**	32.84	261	P		P		20 45 47.9	-0.9
	baz=38								
E64A				S		S		20 51 08.0	+2.2
	baz=38								
D62A	**Allapoint, All**	32.84	263	P		P		20 45 48.6	-0.3
	baz=39								
VAE	**Valguarnera**	32.91	130	LR	LR			20 58 46.2	
	comp=Z,1μm,19.9s,baz=134,slow=36								
NVR	**Nevrokopi**	32.93	115	P		P		20 45 51.2	+1.5
KEST	**Kesra**	32.95	138	P		P		20 45 50.6	+0.6
	comp=Z,5.0nm,1.0s,baz=283,slow=6.2,SNR=7.8								
RZN	**Rozhen**	32.98	114	*e*P		P		20 45 45.6	-4.7
CHGQ	**Chibougamau**	32.98	272	P		P		20 45 48.6	-1.5
	baz=42,SNR=10								
SRS	**Serrai**	33.02	115	P		P		20 45 50.7	+0.2
E63A	**Oxbow**	33.09	262	P		P		20 45 50.3	-0.8
	baz=38								
E63A				S		S		20 51 14.0	+4.3
	baz=38								
KPRO	**Kipourio**	33.17	119	P		P		20 45 51.2	-0.7
SOH	**Sokhos**	33.19	116	P		P		20 45 55.5	+3.5
D61A	**St Aubert, Com**	33.24	264	P		P		20 45 51.7	-0.6
	baz=39								
HORT	**Hortiatis**	33.28	117	P		P		20 45 56.7	+3.9
KDZ	**Kurdzhali**	33.29	113	*e*P		P		20 45 54.9	+2.1
E62A	**Clayton Lake**	33.41	263	P		P		20 45 52.7	-1.1
	baz=38								
E62A				S		S		20 51 20.1	+5.5
	baz=38								
KAVA	**Kavala**	33.49	114	P		P		20 45 57.3	+2.8
F64A	**Sherman**	33.50	261	P		P		20 45 53.9	-0.7
	baz=38								
F64A				S		S		20 51 20.9	+4.9
	baz=38								
G65A	**Princeton**	33.70	260	P		P		20 45 55.8	-0.5
	baz=37								
G65A				S		S		20 51 23.2	+4.2
	baz=37								
RDO	**Rodhopi**	33.77	113	P		P		20 46 02.3	+5.4
D60A	**Saint Jean D'O**	33.78	265	P		P		20 45 55.6	-1.4
	baz=39								
D60A				S		S		20 51 25.5	+5.2
	baz=39								
OUR	**Ouranopolis**	33.85	116	P		P		20 45 57.6	0.0
THAS	**Thassos island**	33.90	115	P		P		20 45 59.8	+1.7
H66A	**Whiting**	33.92	259	P		P		20 45 57.6	-0.6
	baz=36								
H66A				S		S		20 51 28.4	+6.0
	baz=36								
LKD2	**Lefkada island**	33.93	121	P		P		20 46 00.4	+2.0
F63A	**Nahmakanta, Br**	33.95	262	P		P		20 45 57.9	-0.6
	baz=37								
E61A	**Lac Etchemin**	33.97	264	P		P		20 45 57.7	-1.0
	baz=38								
E61A				S		S		20 51 29.9	+6.5
	baz=38								
PAIG	**Paliouri**	34.08	116	P		P		20 45 58.2	-1.5
D59A	**Saint-Raymond**	34.10	266	P		P		20 45 58.3	-1.5
	baz=39								
G64A	**Maxfield**	34.16	261	P		P		20 45 58.8	-1.5
	baz=37								
G64A				S		S		20 51 31.6	+5.4
	baz=37								
F62A	**Pittston Farm,**	34.17	263	P		P		20 45 58.9	-1.5
	baz=38								
ALN	**Alexandroupoli**	34.18	113	P		P		20 46 05.4	+4.9
ALN	**Alexandroupoli**	34.18	113	P		P		20 45 59.8	-0.7
ALN				pmax	pmax				
	comp=Z,117nm,1.8s								
FSK	**Fiskardo**	34.19	121	P		P		20 46 03.2	+2.6
EVR	**Evrytania**	34.25	120	P		P		20 46 07.5	+6.2
MAKR	**Makrakomi, Fth**	34.28	119	P		P		20 46 07.0	+5.5
SMTH	**Samothraki Isl**	34.34	114	P		P		20 46 04.4	+2.5
AGG	**Agios Georgios**	34.35	119	P		P		20 46 06.3	+4.2
AGG	**Agios Georgios**	34.35	119	P		P		20 46 01.8	-0.3
AGG				pmax	pmax				
	comp=Z,151nm,1.6s								
PKME	**Peaks-Kenny Pk**	34.38	261	P		P		20 46 01.5	-0.7
	baz=37								
XOR	**Xorichti**	34.38	118	P		P		20 46 04.1	+1.8
H65A	**Eastbrook**	34.39	260	P		P		20 46 00.0	-2.3
	baz=36								
H65A				S		S		20 51 34.1	+4.4
	baz=36								
PVO	**Paravola**	34.40	120	P		P		20 46 08.1	+5.6
E60A	**Ste Agathe de**	34.43	265	P		P		20 46 01.2	-1.4
	baz=38,SNR=5.8								
NEO	**Neokhori**	34.44	118	P		P		20 46 08.2	+5.3
D58A	**Chemin du LacG**	34.48	267	P		P		20 46 01.4	-1.7
	baz=39								
D58A				S		S		20 51 38.7	+7.5
	baz=39								
MATQ	**Matagami**	34.50	274	P		P		20 46 01.0	-2.2
	baz=42								
F61A	**St Evariste**	34.55	264	P		P		20 46 01.2	-2.5
	baz=38								
F61A				S		S		20 51 39.3	+7.1
	baz=38								
ANX	**Ano Chora**	34.57	120	P		P		20 46 11.5	+7.4
G63A	**Kingsbury**	34.64	262	P		P		20 46 04.5	0.0
	baz=37								
G63A				S		S		20 51 39.0	+5.4
	baz=37								
LIA	**Limnos Island**	34.69	115	P		P		20 46 05.3	+0.3
EFP	**Efpalio**	34.71	120	P		P		20 46 11.5	+6.3
GADA	**Gvkgeada**	34.72	114	P		P		20 46 11.1	+5.9
LSQQ	**Lebel-sur-Quev**	34.75	273	P		P		20 46 03.4	-2.0
	baz=41								
SERG	**Sergoula**	34.78	120	P		P		20 46 08.1	+2.3
AOS	**Alonnisos**	34.81	117	P		P		20 46 06.2	+0.2
H64A	**Troy**	34.85	261	P		P		20 46 04.6	-1.7
	baz=36								
H64A				S		S		20 51 43.0	+6.2
	baz=36								
RLS	**Riolos of Patr**	34.87	121	P		P		20 46 10.9	+4.4
LAKA	**Lakka**	34.90	120	P		P		20 46 17.0	+10
G62A	**West of Eustis**	34.95	263	P		P		20 46 05.1	-2.0
	baz=37								
G62A				S		S		20 51 43.9	+5.5
	baz=37								
F60A	**Warwick**	34.96	265	P		P		20 46 05.2	-2.0
	baz=38								
F60A				S		S		20 51 43.4	+4.8
	baz=38								
D57A	**Chemin Vers le**	34.98	268	P		P		20 46 05.9	-1.5
	baz=39,SNR=18								
D57A				S		S		20 51 46.2	+7.4
	baz=39								
H63A	**New Sharon**	35.18	262	P		P		20 46 08.4	-0.8
	baz=37								
H63A				S		S		20 51 50.3	+8.4
	baz=37								
E58A	**La Victoria**	35.22	266	P		P		20 46 09.1	-0.4
	baz=38								
E58A				S		S		20 51 47.2	+4.7
	baz=38								
ISK	**Istanbul-Kandi**	35.25	109	P		P		20 46 18.2	+8.4
GUR	**Goura**	35.31	120	P		P		20 46 13.9	+3.5
G61A	**St-Isidore-de-**	35.32	264	P		P		20 46 09.4	-1.0
	baz=37								
G61A				S		S		20 51 49.8	+5.7
	baz=37								
D56A	**ZEC Mazanza, M**	35.33	269	P		P		20 46 08.9	-1.5
	baz=39								
KYMI	**Kymi, Euboea I**	35.37	117	P		P		20 46 14.6	+3.8
A36M	**Sachs Harbour**	35.39	329	P		P		20 46 11.1	+0.4
	baz=45								
A36M				S		S		20 51 53.8	+9.2
	baz=45								
AMT	**Artemida-Makis**	35.43	121	P		P		20 46 15.2	+3.8
SIGR	**SIGRI**	35.55	115	P		P		20 46 17.5	+5.2
E57A	**Chemin Saint G**	35.56	267	P		P		20 46 11.7	-0.7
	baz=38,SNR=5.4								
I64A	**Boothbay**	35.60	260	P		P		20 46 12.1	-0.7
	baz=36								
I64A				S		S		20 51 52.9	+4.4
	baz=36								
D55A	**Sainte-Anne-du**	35.66	269	P		P		20 46 13.2	-0.1
	baz=39,SNR=6.5								
D55A				S		S		20 51 55.4	+6.1
	baz=39								
PRK	**Paraskevi**	35.68	114	P		P		20 46 13.3	-0.2
ANN	**Anapa**	35.71	97	*e*P		P		20 46 12.3	-1.3
ANN				*e*PP		pP		20 46 14.7	-2.5
ANN				*e*				20 47 34.3	
ANN				*e*S		S		20 51 51.4	+1.4
ANN				pmax	pmax				
	comp=Z,11nm,0.8s								
ANN				MLR	MLR				
	comp=E,2μm,12.0s								
ANN				MLR	MLR				
	comp=N,617nm,9.0s								
ANN				MLR	MLR				
	comp=Z,3μm,15.0s								
H62A	**Milan**	35.73	263	P		P		20 46 14.1	+0.2
	baz=37								
H62A				S		S		20 51 56.6	+6.2
	baz=37								
DION	**Dionisos Attik**	35.78	118	P		P		20 46 13.9	-0.5
G60A	**Masonville**	35.82	264	P		P		20 46 13.0	-1.6
	baz=37								
G60A				S		S		20 51 59.0	+7.3
	baz=37								
E56A	**St. Veronique**	35.84	268	P		P		20 46 13.9	-0.9
	baz=39,SNR=6.4								
E56A				S		S		20 51 59.2	+7.1
	baz=39								
I63A	**Otisfield**	35.90	261	P		P		20 46 14.2	-1.2
	baz=36								
I63A				S		S		20 51 52.1	-0.9
	baz=36								
ARU	**Arti**	35.94	66	LR	LR			21 00 15.5	
	comp=Z,3μm,20.4s,baz=309,slow=35								
ARU	**Arti**	35.94	66	*c i*P		P		20 46 14.2	-1.4
ARU				*e*				20 47 32.5	
ARU				*e*				20 48 41.1	
ARU				*e*S		S		20 51 52.1	-1.4
ARU				pmax	pmax				
	comp=Z,42nm,2.1s								
ARU				MLR	MLR				
	comp=Z,3μm,19.0s								
D54A	**Lac Fusel, La**	36.07	270	P		P		20 46 16.0	-0.7
	baz=39,SNR=7.9								
D54A				S		S		20 52 01.1	+5.5
	baz=39								
H61A	**Lyndonville**	36.09	263	P		P		20 46 12.9	-4.1
	baz=37								
H61A				S		S		20 52 01.9	+6.0
	baz=37								
G59A	**Clarenceville**	36.19	265	P		P		20 46 17.2	-0.6
	baz=37								
F57A	**Harrington**	36.27	267	P		P		20 46 19.4	+0.9
	baz=38								
LBNH	**Lisbon**	36.33	263	P		P		20 46 18.7	-0.3
	baz=36								
CHOS	**Chios island**	36.34	115	P		P		20 46 19.2	0.0
E55A	**Montcerf-Lytto**	36.35	269	P		P		20 46 20.2	+1.0
	baz=39								
I62A	**Tamworth**	36.37	262	P		P		20 46 19.1	-0.3
	baz=36								
I62A				S		S		20 52 07.6	+7.5
	baz=36								
H60A	**Morristown**	36.40	264	P		P		20 46 19.3	-0.3
	baz=37								
H60A				S		S		20 52 08.4	+7.7
	baz=37								
NRIK	**Noril'sk**	36.43	35	P		P		20 46 19.6	0.0
	comp=Z,9.5nm,0.9s,baz=326,slow=8.5,SNR=8.5								
NRIK				LR	LR			21 03 14.1	
	comp=Z,1μm,18.3s,baz=345,slow=40								
SVE	**Sverdlovsk**	36.48	65	*e*P		P		20 46 19.7	-0.5
SVE				*e*S		S		20 52 07.0	+5.4
SVE				*e*				20 56 33.4	
SVE				pmax	pmax				
	comp=Z,26nm,1.4s								
SVE				MLR	MLR				
	comp=Z,2μm,18.0s								
G58A	**Ormstown**	36.52	266	P		P		20 46 19.0	-1.6
	baz=37			

J62A S S 20 52 20.5 +9.2
baz=36
E53A Dumoine, Ponti 37.10 270 P P 20 46 24.4 -1.2
baz=38,SNR=21
E53A S **S** **20 52 16.5 +5.1**
baz=38
H58A Gabriels 37.15 265 P P 20 46 23.9 -2.1
baz=37
H58A S **S** **20 52 19.8 +7.6**
baz=37
LONY Lake Ozonia 37.16 266 P P 20 46 25.2 -1.0
baz=37,SNR=5.7
I60A Shoreham 37.23 264 P P 20 46 25.0 -1.7
baz=36
D51A Lot 18 Range I 37.29 273 P P 20 46 26.3 -0.8
baz=39,SNR=9.3
D51A S **S** **20 52 19.7 +5.6**
baz=39
J61A Chester 37.31 263 P P 20 46 24.8 -2.6
baz=36
K63A Dunstable 37.41 261 P P 20 46 28.0 -0.2
baz=35
K63A S S 20 52 24.8 +8.8
baz=35
IOSP Ios island 37.49 117 P P 20 46 29.9 +1.0
I59A Olmsteadville 37.52 264 P P 20 46 28.6 -0.5
baz=36
I59A S S 20 52 26.2 +8.5
baz=36
HRV Adam Dziewonsk 37.57 261 P P 20 46 26.6 -3.0
baz=35
G55A Calabogie 37.58 268 P P 20 46 28.0 -1.6
baz=38,SNR=5.6
G55A S **S** **20 52 25.6 +6.9**
baz=38
ALGO Algonquin Park 37.60 270 P P 20 46 29.3 -0.5
baz=38
H57A Richville 37.64 266 P P 20 46 29.0 -1.1
baz=37
H57A S **S** **20 52 26.1 +6.6**
baz=37
K62A Royalston 37.73 262 P P 20 46 29.4 -1.5
baz=35
K62A S S 20 52 29.2 +8.2
baz=35
L64A Middleborough 37.73 260 P P 20 46 29.8 -1.1
baz=34
J60A Lant Hill Farm 37.77 263 P P 20 46 31.2 0.0
baz=36
J60A S S 20 52 30.6 +9.0
baz=36
H56A Elgin 37.91 267 P P 20 46 32.1 -0.3
baz=37
GOF Gofitskoye 37.92 91⇑ *e*P **P 20 46 32.6 +0.1**
GOF pmax pmax
comp=Z,55nm,0.9s
BODT Bodrum 37.98 115 P P 20 46 32.7 -0.4
D49A Beulah Townshi 38.00 275 P P 20 46 31.9 -1.3
baz=39
J59A Piesco 38.06 265 P P 20 46 33.8 0.0
baz=36
J59A S **S** **20 52 33.5 +7.6**
baz=36
G54A Lake Saint Pet 38.06 270 P P 20 46 33.2 -0.5
baz=38,SNR=5.4
G54A S **S** **20 52 31.8 +5.9**
baz=38
I58A Old Forge 38.08 265 P P 20 46 34.1 +0.2
baz=36
I58A S **S** **20 52 33.7 +7.4**
baz=36
L61B Northampton 38.10 262 P P 20 46 33.7 -0.3
baz=35
L61B S S 20 52 35.0 +8.5
baz=35
L63A North Scituate 38.12 260 P P 20 46 35.7 +1.5
baz=35
L63A S S 20 52 35.2 +8.4
baz=35
K61A Williamstown 38.17 263 P P 20 46 35.2 +0.6
baz=35
K61A S S 20 52 36.2 +8.5
baz=35
I57A Carthage 38.17 266 P P 20 46 34.4 -0.2
baz=36,SNR=5.5
M64A Tiverton 38.21 260 P P 20 46 35.3 +0.4
baz=34
M64A S S 20 52 37.1 +9.0
baz=34
BRTR Keskin Array B 38.27 106 P P 20 46 36.7 +1.0
comp=Z,4.8nm,0.8s,baz=330,slow=6.1,SNR=25
BRTR LR LR 21 04 60.0
comp=Z,649nm,18.0s,baz=298,slow=40
D48A Paudash Townsh 38.27 275 P P 20 46 34.0 -1.5
baz=39
D48A S **S** **20 52 35.1 +6.1**
baz=39
H55A Tweed 38.34 268 P P 20 46 35.7 -0.4
baz=37,SNR=5.2
H55A S **S** **20 52 37.5 +7.4**
baz=37
L62A Suffield 38.43 262 P P 20 46 37.3 +0.5
baz=35
J58A Remsen 38.48 265 P P 20 46 37.0 -0.2
baz=36
J58A S **S** **20 52 39.2 +7.0**
baz=36
K60A Five Rivers En 38.48 263 P P 20 46 38.1 +0.8
baz=35
IDI Anoyia 38.60 119 P P 20 46 36.7 -1.8
comp=Z,19nm,0.9s,baz=339,slow=9.6,SNR=8.1
IDI LR LR 21 03 41.3
comp=Z,967nm,20.6s,baz=310,slow=38
IDI Anoyia 38.60 119 P P 20 46 41.3 +2.9
KIV Kislovodsk 38.64 93 *i* P **P 20 46 39.2 +0.4**
SNR=14
KIV Kislovodsk 38.64 93 *e*P **P 20 46 38.7 0.0**
KIV *e*S **S** **20 52 36.2 +1.3**
KIV pmax pmax
comp=Z,51nm,1.1s
KIV pmax pmax
comp=Z,140nm,4.8s
KIV MLR MLR
comp=Z,4μm,16.0s
KVAR Kislovodsk Arr 38.65 93 P P 20 46 40.4 +1.6
comp=Z,4.7nm,0.9s,baz=287,slow=19,SNR=4.7
KVAR LR LR 21 02 43.4
comp=Z,2μm,19.2s,baz=269,slow=36
L61A Hillsdale 1, H 38.68 263 P P 20 46 38.4 -0.6
baz=35
M63A Gales Ferry 38.69 260 P P 20 46 38.9 -0.1
baz=34
M63A S **S** **20 52 41.6 +6.3**
baz=34
J57A Williamstown 38.74 266 P P 20 46 38.9 -0.5
baz=36
J57A S S 20 52 44.2 +8.0
baz=36
K59A Cooperstown 38.76 264 P P 20 46 39.6 -0.1
baz=36
K59A S S 20 52 44.4 +7.8
baz=36
I55A Frankford 38.82 268 P P 20 46 40.0 -0.1
baz=37
I55A S S 20 52 45.4 +8.0
baz=37
KBZ Khabaz 38.92 93 P P 20 46 41.8 +1.0
comp=Z,16nm,0.8s,baz=321,slow=9.6,SNR=18
KBZ LR LR 21 03 10.8
comp=Z,2μm,21.0s,baz=332,slow=37
D47A Chapleau 38.92 276 P P 20 46 40.1 -0.8
baz=39
D47A S **S** **20 52 46.1 +7.2**
baz=39
H53A Bobcaygeon 38.93 270 P P 20 46 40.5 -0.4
baz=37,SNR=8.9
H53A S **S** **20 52 45.1 +6.2**
baz=37
E48A Lockeyer 38.97 275 P P 20 46 41.2 -0.1
baz=38
SADO Sadowa 39.01 270 P P 20 46 39.6 -2.0
comp=Z,21nm,1.2s,baz=32,slow=10,SNR=5.1
M62A Hamden 39.01 261 P P 20 46 42.3 +0.6
baz=34
K58A Earlville 39.12 265 P P 20 46 42.5 -0.1
baz=36
K58A S **S** **20 52 49.0 +7.1**
baz=36

L60A Shokan 39.13 263 P P 20 46 41.9 -0.9
baz=35
L60A S S 20 52 52.5 +10
baz=35
J56A Wolcott 39.22 267 P P 20 46 43.2 -0.2
baz=36
L59A Walton 39.32 264 P P 20 46 44.4 0.0
baz=35
L59A S S 20 52 53.5 +8.4
baz=35
YKA Yellowknife Ar 39.42 314 P P 20 46 43.0 -1.8
comp=Z,20nm,1.2s,baz=41,slow=8.8,SNR=9.1
YKA PcP **PcP** **20 48 52.0 -0.6**
comp=Z,4.8nm,1.1s,baz=36,slow=3.3,SNR=2.9
YKA LR LR 21 02 13.3
comp=Z,760nm,19.1s,baz=0.0,slow=35
D46A Sault St. Mari 39.45 277 P P 20 46 44.4 -0.9
baz=39
D46A S **S** **20 52 52.7 +5.9**
baz=39
E47A Iron Bridge 39.47 275 P P 20 46 43.3 -2.1
baz=38
E47A S **S** **20 52 54.0 +6.9**
baz=38
F49A Sandfield 39.48 274 P P 20 46 43.3 -2.2
baz=38
F49A S **S** **20 52 53.5 +6.3**
baz=38
M61A Granite Spring 39.50 262 P P 20 46 44.9 -0.9
baz=34
M61A S S 20 52 56.7 +9.1
baz=34
K57A Scipio Center 39.52 266 P P 20 46 46.1 +0.1
baz=36
K57A S S 20 52 56.2 +8.3
baz=36
J55A Hilton 39.64 268 P P 20 46 45.4 -1.6
baz=36
J55A S **S** **20 52 56.7 +6.9**
baz=36
F48A Evansville 39.67 274 P P 20 46 46.6 -0.6
baz=38
F48A S **S** **20 52 57.4 +7.2**
baz=38
BINY Binghamton 39.72 265 P P 20 46 47.8 +0.1
baz=35
L58A Harry Jones Me 39.79 265 P P 20 46 48.6 +0.4
baz=35
PAL Palisades 39.81 262 P P 20 46 48.2 -0.1
baz=34
M60A Port Jervis 39.85 263 P P 20 46 49.3 +0.6
baz=34
M60A S S 20 53 00.7 +7.8
baz=34
K56A Middlesex 39.89 267 P P 20 46 49.2 +0.2
baz=36
K56A S S 20 53 01.5 +7.9
baz=36
J54A Appleton 39.99 268 P P 20 46 50.3 +0.4
baz=36
J54A S S 20 53 02.9 +7.9
baz=36
M59A Waymart 40.02 264 P P 20 46 50.4 +0.2
baz=35
M59A S S 20 53 04.3 +8.8
baz=35
INK Inuvik 40.03 329 P P 20 46 47.2 -2.7
comp=Z,13nm,1.1s,baz=14,slow=9.1,SNR=8.7
INK Inuvik 40.03 329 P P 20 46 46.2 -3.6
INK pmax pmax
comp=Z,32nm,1.3s
ONI Oni 40.08 93 P P 20 46 55.1 +4.4
ZEI Tsey 40.11 93 *e*P **P 20 46 51.9 +0.8**
ZEI pmax pmax
comp=Z,48nm,2.0s
AKTO Aktyubinsk 40.13 73 LR LR 21 03 16.0
comp=Z,3μm,19.9s,baz=330,slow=36
N61A South Mountain 40.18 262 P P 20 46 52.3 +0.8
baz=34
N61A S S 20 53 07.9 +10
baz=34
K55A Perry 40.19 267 P P 20 46 51.4 -0.2
baz=36
L57A Andrews Acres 40.25 266 P P 20 46 52.2 +0.1
baz=35
L57A S S 20 53 07.9 +8.9
baz=35
N60A Cedar Hill Far 40.43 263 P P 20 46 54.5 +1.0
baz=34
N60A S S 20 53 09.4 +7.8
baz=34
L56A Greenwood 40.45 266 P P 20 46 54.3 +0.6
baz=35,SNR=7.5
L56A S S 20 53 10.0 +8.1
baz=35
K54A Basiliko Farm, 40.55 268 P P 20 46 54.6 0.0
baz=36
GROC Groznyy 40.59 91 *e*P **P 20 46 54.9 +0.1**
GROC *e* 20 48 29.5
GROC pmax pmax
comp=Z,43nm,1.3s
I51A Listowel 40.60 271 P P 20 46 55.4 +0.5
baz=36
I51A S **S** **20 53 11.1 +7.1**
baz=36
M58A Price's Panora 40.60 265 P P 20 46 54.8 -0.2
baz=35
M58A S S 20 53 13.5 +9.3
baz=35
N59A State Game Lan 40.68 264 P P 20 46 55.3 -0.4
baz=34
N59A S **S** **20 53 13.1 +7.7**
baz=34
L55A Hinsdale 40.79 267 P P 20 46 55.8 -0.8
baz=35
L55A S S 20 53 15.6 +8.6
baz=35
M57A Sunshine Farm, 40.92 265 P P 20 46 57.1 -0.4
baz=35
M57A S S 20 53 16.7 +7.8
baz=35
O60A Telford 41.02 263 P P 20 46 58.6 +0.3
baz=34
O60A S S 20 53 18.6 +8.4
baz=34
AKH Akhalkalaki 41.05 94 ⇑P **P 20 46 57.8 -1.1**
AKH Akhalkalaki 41.05 94 P P 20 47 00.3 +1.4
L54A Sinclairville 41.13 268 P P 20 46 59.4 +0.1
baz=35,SNR=6.8
L54A S S 20 53 20.0 +8.0
baz=35
N58A Sunbury 41.15 264 P P 20 46 59.8 +0.4
baz=34
N58A S S 20 53 21.3 +9.1
baz=34
M56A Emporium 41.25 266 P P 20 47 01.3 +1.0
baz=35
M56A S S 20 53 22.1 +8.3
baz=35
GLMI Grayling 41.33 275 P P 20 47 00.7 -0.2
baz=37
TBLG Delisi 41.33 93 P P 20 47 02.9 +1.9
MALT Malatya 41.46 102 P P 20 47 03.7 +1.5
ERPA Erie 41.51 269 P P 20 46 59.9 -2.5
baz=35
M55A Ridgway 41.51 267 P P 20 47 01.8 -0.7
baz=35
M55A S S 20 53 26.0 +8.2
baz=35
MAK Makhachkala 41.52 89 *e*P **P 20 46 59.6 -2.9**
MAK *e* 20 48 43.0
MAK *e*S **S** **20 53 14.1 -3.7**
MAK *e*SS **SS** **20 56 23.3 +1.4**
MAK pmax pmax
comp=Z,99nm,1.4s
MAK MLR MLR
comp=Z,2μm,16.0s
P60A Greenville 41.53 262 P P 20 47 02.1 -0.5
baz=34
P60A S **S** **20 53 24.0 +6.0**
baz=34
N57A Milroy 41.58 265 P P 20 47 01.6 -1.3
baz=34
N57A S S 20 53 27.6 +9.0
baz=34
L53A Girard 41.76 269 P P 20 47 04.8 +0.3
baz=35
N56A West Decatur 41.76 266 P P 20 47 03.8 -0.8
baz=34
N56A S S 20 53 30.2 +8.8
baz=34
EYMN Ely 41.79 284 P P 20 47 04.4 -0.3
baz=39
ULM Lac du Bonnet 41.82 289 P P 20 47 02.5 -2.3
comp=Z,7.5nm,0.9s,baz=72,slow=11,SNR=2.0
ULM LR LR 21 03 36.6
comp=Z,1μm,19.4s,baz=44,slow=35
SSPA Standing Stone 41.82 265 P P 20 47 04.4 -0.5
baz=34
O58A Lewisberry 41.83 264 P P 20 47 03.9 -1.1
baz=34
O58A S **S** **20 53 29.7 +7.3**
baz=34
M54A Oil Creek Stat 41.87 268 P P 20 47 04.6 -0.8
baz=35,SNR=6.7
M54A S **S** **20 53 30.5 +7.5**
baz=35
P59A Jarrettsville 42.04 263 P P 20 47 06.6 -0.1
baz=34
P59A S **S** **20 53 32.6 +7.1**
baz=34
O57A Amberson 42.06 265 P P 20 47 06.0 -1.0
baz=34
O57A S S 20 53 33.8 +7.9
baz=34
N55A Marion Center 42.17 266 P P 20 47 08.1 +0.2
baz=34
N55A S **S** **20 53 34.7 +7.1**
baz=34
M53A WI Miller and 42.36 269 P P 20 47 09.8 +0.5
baz=35
M53A S **S** **20 53 36.7 +6.5**
baz=35
O56A Blue Knob Stat 42.41 266 P P 20 47 09.9 0.0
baz=34
O56A S **S** **20 53 38.3 +7.2**
baz=34
N54A Moraine State 42.46 268 P P 20 47 09.8 -0.4
baz=35
N54A S **S** **20 53 39.2 +7.5**
baz=35
P58A Pank, Wackersv 42.52 264 P P 20 47 10.6 -0.1
baz=34
P58A S **S** **20 53 39.2 +6.7**
baz=34
M52A Chesterland 42.57 269 P P 20 47 11.6 +0.5
baz=35
M52A S S 20 53 41.7 +8.4
baz=35
O55A Ligonier 42.78 266 P P 20 47 12.6 -0.2
baz=34
O55A S S 20 53 44.6 +8.1
baz=34
AKT Akhty 42.83 90 *e*P **P 20 47 14.1 +0.8**
AKT *e* 20 48 54.5
AKT *e* 20 49 04.9
AKT pmax pmax
comp=Z,51nm,2.0s
P57A Homestead Farm 42.83 264 P P 20 47 13.5 +0.4
baz=34
P57A S S 20 53 46.1 +9.0
baz=34
TOLK Toolik Lake Re 42.92 337 P P 20 47 13.2 -0.5
baz=28
AAM Ann Arbor 42.95 272 P P 20 47 13.9 -0.2
baz=36
N53A Lisbon 42.95 268 P P 20 47 13.6 -0.6
baz=34,SNR=5.2
N53A S **S** **20 53 46.5 +7.6**
baz=34
BRVK Borovoye 43.01 62 *d i*P **P 20 47 13.8 -0.7**
BRVK pmax pmax
comp=Z,39nm,1.7s
Q58A Fox Den Farm, 43.13 264 P P 20 47 15.5 -0.2
baz=33
Q58A S S 20 53 49.7 +8.1
baz=33
P56A Dayton Farm, R 43.16 265 P P 20 47 17.2 +1.3
baz=34
O54A Avella 43.27 267 P P 20 47 16.9 +0.2
baz=34,SNR=5.2
O54A S **S** **20 53 51.3 +7.7**
baz=34
N52A McGinn's Farm, 43.31 269 P P 20 47 18.0 +1.0
baz=35,SNR=5.2
N52A S S 20 53 53.3 +9.0
baz=35
AGMN Agassiz Nation 43.34 287 P P 20 47 16.6 -0.6
baz=38,SNR=7.0
Q57A Strasburg 43.37 264 P P 20 47 17.6 +0.1
baz=33
Q57A S S 20 53 54.9 +10
baz=33
MCWV Mont Chateau 43.47 266 P P 20 47 19.0 +0.7
baz=34
R59A King George, V 43.51 263 P P 20 47 17.8 -0.9
baz=33
N51A Ashland 43.52 270 P P 20 47 19.1 +0.3
baz=35
N51A S S 20 53 55.5 +8.2
baz=35
O53A New Philadelph 43.57 268 P P 20 47 18.6 -0.5
baz=34
O53A S S 20 53 57.0 +9.0
baz=34
P55A Reedsville 43.59 266 P P 20 47 19.0 -0.4
baz=34
P55A S S 20 53 56.1 +7.8
baz=34
CBN Corbin Frederi 43.62 263 P P 20 47 19.8 +0.3
baz=33
Q56A Snyder Ridge, 43.70 265 P P 20 47 21.1 +0.9
baz=33
Q56A S S 20 53 59.2 +9.3
baz=33
P54A Burton 43.79 267 P P 20 47 19.9 -1.1
baz=34
P54A S S 20 54 00.5 +9.2
baz=34
R58A Rapidan 43.81 264 P P 20 47 20.5 -0.6
baz=33
O52A Adamsville 43.95 269 P P 20 47 22.4 +0.2
baz=34
S59A Mechanicsville 43.96 262 P P 20 47 23.1 +0.8
baz=32
S59A S **S** **20 54 01.4 +7.7**
baz=32
R57A Stanardsville 44.03 264 P P 20 47 22.4 -0.6
baz=33
R57A S S 20 54 05.3 +10
baz=33
R58B Mineral 44.04 263 P P 20 47 23.0 +0.1
baz=33
R58B S S 20 54 03.1 +8.3
baz=33
Q55A Buckhannon 44.12 266 P P 20 47 24.3 +0.6
baz=33
Q55A S S 20 54 06.5 +10
baz=33
O51A Pataskala 44.26 269 P P 20 47 24.2 -0.5
baz=34
O51A S S 20 54 06.9 +8.9
baz=34
P53A Whipple 44.28 268 P P 20 47 24.4 -0.5
baz=34,SNR=6.0
P53A S S 20 54 06.6 +8.3
baz=34
COLD Coldfoot 44.29 336 P P 20 47 23.9 -0.7
baz=27
COLD S S 20 54 10.0 +12
baz=27
R56A Bull Pasture M 44.32 265 P P 20 47 23.6 -1.7
baz=33
ACSO Alum Creek Sta 44.35 270 P P 20 47 24.7 -0.8
baz=34
S58A Poland Farm, P 44.41 263 P P 20 47 25.0 -0.9
baz=32
Q54A Coxs Mills 44.46 267 P P 20 47 25.5 -0.7
baz=34
Q54A S S 20 54 09.7 +8.8
baz=34
P52A Corning 44.48 268 P P 20 47 24.7 -1.8
baz=34,SNR=6.6
P52A S **S** **20 54 08.7 +7.5**
baz=34
SPMN Marine on St. 44.50 282 P P 20 47 25.7 -0.8

baz=37
S57A Dark Hollow, R 44.67 264 P P 20 47 28.4 +0.4
baz=33
S57A S S 20 54 14.2 +10
baz=33
R55A Marlinton 44.73 266 P P 20 47 28.9 +0.3
baz=33
R55A S S 20 54 14.7 +10
baz=33
T59A Double "B" Far 44.73 262 P P 20 47 29.1 +0.6
baz=32
T59A S S 20 54 13.7 +8.7
baz=32
MMAI Mount Meron Ar 44.75 109 P P 20 47 28.5 -0.2
comp=Z,4.2nm,0.9s,baz=359,slow=7.8,SNR=7.7
MMAI LR LR 21 08 52.6
comp=Z,519nm,18.9s,baz=320,slow=40
Q53A Leroy 44.86 267 P P 20 47 29.3 -0.2
baz=33
Q53A S S 20 54 15.7 +8.9
baz=33
L44A Lake County Fo 44.88 276 P P 20 47 28.9 -0.7
baz=35
L44A S S 20 54 15.1 +8.1
baz=35
U60A Pendleton 44.99 261 P P 20 47 29.1 -1.4
baz=32
U60A S **S** **20 54 16.3 +7.7**
baz=32
S56A Natural Bridge 45.00 265 P P 20 47 31.4 +0.7
baz=33
S56A S S 20 54 19.6 +11
baz=33
P51A Williamsport 45.00 269 P P 20 47 29.6 -1.0
baz=34
P51A S S 20 54 16.8 +7.9
baz=34
Q52A Bidwell 45.09 268 P P 20 47 30.6 -0.8
baz=34
Q52A S **S** **20 54 17.5 +7.4**
baz=34
T58A Grand View Acr 45.17 263 P P 20 47 32.8 +0.8
baz=32
T58A S S 20 54 19.4 +8.0
baz=32
R54A Victor 45.19 266 P P 20 47 30.7 -1.5
baz=33
R54A S S 20 54 20.5 +8.8
baz=33
JFWS Jewell Farm 45.28 278 P P 20 47 32.7 -0.1
baz=36
S55A Lewisburg 45.33 265 P P 20 47 33.3 0.0
baz=33
S55A S S 20 54 24.4 +11
baz=33
U59A Littleton 45.36 262 P P 20 47 34.0 +0.6
baz=32
T57A Hurt 45.44 264 P P 20 47 34.8 +0.6
baz=32
T57A S S 20 54 23.1 +7.9
baz=32
R53A Hurricane 45.48 267 P P 20 47 34.1 -0.4
baz=33,SNR=6.6
R53A S S 20 54 25.0 +9.2
baz=33
K27K Chicken 45.52 330 P P 20 47 33.3 -1.1
baz=30
K27K S S 20 54 26.8 +11
baz=30
S54A Dingess, Beckl 45.65 266 P P 20 47 35.8 0.0
baz=33
S54A S S 20 54 27.5 +9.2
baz=33
POKR Poker Plat Res 45.66 333 P P 20 47 35.8 +0.2
baz=28
POKR S S 20 54 30.7 +13
baz=28
P49A Miami Univ. Ec 45.67 271 P P 20 47 34.6 -1.4
baz=34
P49A S **S** **20 54 25.4 +6.8**
baz=34
T56A Rocky Mt 45.75 264 P P 20 47 35.5 -1.1
baz=32
T56A S S 20 54 28.9 +9.2
baz=32
BLA Blacksburg 45.76 265 P P 20 47 36.3 -0.4
baz=32
ILAR Eielson Array 45.86 333 P P 20 47 36.0 -1.2
comp=Z,6.5nm,1.0s,baz=25,slow=5.9,SNR=12
PcP **PcP** **20 49 12.6 -1.5**
ILAR comp=Z,4.0nm,1.0s,baz=355,slow=2.7,SNR=6.3
LR LR 21 09 15.0
comp=Z,532nm,18.6s,baz=30,slow=39
U57A Blanch 45.95 263 P P 20 47 38.6 +0.4
baz=32
U57A S S 20 54 30.5 +7.9
baz=32
COLA College 45.96 333 *d i* P **P 20 47 38.0 +0.1**
COLA pmax pmax
comp=Z,47nm,1.5s
SCRK Sand Creek 45.97 331 P P 20 47 38.7 +0.5
baz=29,SNR=8.9
SCRK S S 20 54 34.3 +12
baz=29
T55A Pulaski 46.00 265 P P 20 47 37.7 -0.9
baz=32
SFIN Lafayette 46.00 273 P P 20 47 37.7 -0.9
baz=34
SFIN S S 20 54 31.8 +8.6
baz=34
V59A Middlesex 46.05 262 P P 20 47 38.9 -0.1
baz=32
ASF Jabal al Asfar 46.09 108 P P 20 47 40.0 +0.6
comp=Z,3.1nm,1.0s,baz=308,slow=1.3,SNR=3.7
ASF LR LR 21 09 48.4
comp=Z,478nm,18.4s,baz=254,slow=40
S53A Williamson 46.10 267 P P 20 47 39.2 -0.2
baz=33,SNR=5.8
S53A S **S** **20 54 32.2 +7.4**
baz=33
HDA Harding Lake 46.20 333 P P 20 47 38.7 -1.1
baz=28
BRZS Berezniki 46.36 63 *e* P **P 20 47 40.4 -0.9**
comp=Z,84nm,2.5s,baz=63
BRZS *i* PP **PP** **20 49 29.3 -0.4**
baz=63
BRZS Berezniki 46.36 63 *e* P **P 20 47 40.3 -0.9**
BRZS *i* 20 49 29.3
BRZS pmax pmax
comp=Z,84nm,2.5s
T54A Tazewell 46.38 266 P P 20 47 40.3 -1.4
baz=32,SNR=5.8
V58A Windy Hill, Pi 46.40 263 P P 20 47 41.1 -0.5
baz=32
W60A Pink Hill 46.43 261 P P 20 47 42.1 +0.1
baz=31
NEA2 Nenana 46.45 334 P P 20 47 41.1 -0.6
baz=26,SNR=13
NEA2 S S 20 54 40.2 +11
baz=26
U56A King 46.47 264 P P 20 47 40.7 -1.6
baz=32
DGMT Dagmar 46.57 294 P P 20 47 42.2 -0.7
baz=36,SNR=6.2
V57A Coltrane Farms 46.60 263 P P 20 47 41.7 -1.6
baz=32
U55A TA2, Sparta 46.63 265 P P 20 47 41.1 -2.5
baz=32,SNR=6.0
U55A S S 20 54 40.8 +8.3
baz=32
HDIL Hopedale 46.80 276 P P 20 47 44.4 -0.4
baz=34,SNR=5.6
T53A Wise 46.86 267 P P 20 47 45.0 -0.4
baz=32,SNR=5.1
T53A S S 20 54 44.2 +8.4
baz=32
U54A Nelsons Funny 46.95 266 P P 20 47 44.5 -1.5
baz=32
U54A S S 20 54 45.4 +8.5
baz=32
V56A Mocksville 46.98 264 P P 20 47 46.7 +0.5
baz=32
V56A S S 20 54 45.7 +8.4
baz=32
V55A Taylorsville 47.25 265 P P 20 47 47.4 -0.9
baz=32
V55A S S 20 54 50.1 +8.9
baz=32

DLBC Dease Lake 47.28 319 P P 20 47 46.8 -1.6
comp=Z,2.2nm,0.8s,baz=17,slow=9.5,SNR=4.4
ECSD EROS Data Cent 47.31 284 P P 20 47 47.5 -1.3
baz=35,SNR=6.7
W57A Gilead 47.32 263 P P 20 47 49.2 +0.4
baz=31
SCIA State Center 47.37 280 P P 20 47 49.5 +0.3
baz=35
WCI Wyandotte Cave 47.44 271 P P 20 47 47.9 -2.0
baz=33
WCI Wyandotte Cave 47.44 271 P P 20 47 47.1 -2.7
WCI pmax pmax
comp=Z,167nm,1.8s
EIL Elat 47.50 112 P P 20 47 49.9 -0.5
comp=Z,3.1nm,0.5s,baz=4.4,slow=6.9,SNR=4.5
ZALV Zalesovo Beam 47.54 52 P P 20 47 50.0 -0.4
comp=Z,4.4nm,0.7s,baz=331,slow=6.8,SNR=11
ZALV PcP **PcP** **20 49 20.0 -0.2**
comp=Z,1.4nm,0.8s,baz=353,slow=5.8,SNR=2.4
ZALV LR LR 21 08 42.4
comp=Z,373nm,18.2s,baz=312,slow=37
W56A Indian Trail 47.59 264 P P 20 47 50.2 -0.7
baz=31
W56A S **S** **20 54 53.3 +7.3**
baz=31
V54A Nebo 47.63 265 P P 20 47 51.3 -0.1
baz=32,SNR=5.7
V54A S S 20 54 55.2 +8.6
baz=32
TZTN Tazewell 47.67 267 P P 20 47 50.6 -1.1
baz=32
SUSD Miller 47.71 287 P P 20 47 51.5 -0.4
baz=35
KMSC Kings Mountain 47.90 264 P P 20 47 53.0 -0.4
baz=32
KURK Kurchatov 48.00 58 P P 20 47 53.3 -0.7
KURK pmax pmax
comp=Z,38nm,1.0s
W54A Cherokee Point 48.32 265 P P 20 47 57.3 +0.7
baz=32,SNR=7.3
W54A S S 20 55 05.0 +8.6
baz=32
Y57A Sumter 48.46 263 P P 20 47 58.1 +0.4
baz=31
TKL Tuckaleechee C 48.52 267 P P 20 47 57.5 -0.7
comp=Z,15nm,1.1s,baz=19,slow=6.8,SNR=6.1
X55A Gracelyn & Ava 48.60 264 P P 20 47 59.2 +0.4
baz=31
CUT Chulitna 48.66 333 P P 20 47 59.3 +0.4
baz=25
Z58A St. Stephen 48.79 262 P P 20 48 04.5 +4.2
baz=30
LAO LASA Array 48.81 294 P P 20 48 01.0 +0.6
baz=35
X54A Belton 48.86 265 P P 20 48 01.6 +0.8
baz=31
Y56A Pelion 49.04 263 P P 20 48 02.9 +0.6
baz=31
EGMT Eagleton 49.09 297 P P 20 48 01.9 -0.7
baz=35,SNR=8.8
Y55A Saluda 49.15 264 P P 20 48 03.3 +0.2
baz=31
Y55A S S 20 55 16.4 +8.3
baz=31
Z57A Bowman 49.21 262 P P 20 48 03.9 +0.4
baz=31
Z56A Williston 49.47 263 P P 20 48 05.6 +0.1
baz=31
CCM Cathedral Cave 49.72 275 P P 20 48 06.5 -0.8
baz=33
157A Early Branch 49.86 262 P P 20 48 09.2 +0.7
baz=30
BGNE Belgrade 49.87 284 P P 20 48 07.9 -0.6
baz=34
RSSD Black Hills 50.05 290 P P 20 48 09.2 -0.9
baz=34
GEYT Alibeck 50.24 84 P P 20 48 11.7 +0.3
comp=Z,6.9nm,0.8s,baz=322,slow=9.4,SNR=15
GEYT LR LR 21 11 46.0
comp=Z,1μm,18.5s,baz=340,slow=39
GOGA Godfrey 50.30 265 P P 20 48 12.0 +0.2
baz=31
BTLS Baital 50.93 66 ⇓ *i* P **P 20 48 16.2 -0.3**
comp=Z,41nm,2.6s,baz=66
BTLS Baital 50.93 66 *d i* P **P 20 48 16.2 -0.3**
BTLS pmax pmax
comp=Z,41nm,2.6s
KSU1 Kansas State U 51.14 281 P P 20 48 17.7 -0.4
baz=33
YAK Yakutsk 51.30 19 *e* P **P 20 48 19.2 +0.2**
YAK pmax pmax
comp=Z,17nm,1.3s
RLMT Red Lodge 51.31 295 P P 20 48 18.7 -0.8
baz=34,SNR=29
DZA Taraz 51.64 70 *e* P **P 20 48 21.7 -0.2**
DZA *e* PP **PP** **20 50 19.3 +0.3**
baz=69
DZA LR LR 21 09 24.7
comp=Z,403nm,15.8s,baz=69
DZA Taraz 51.64 70 *e* P **P 20 48 21.6 -0.2**
DZA *e* 20 50 19.2
DZA MLR MLR
comp=Z,403nm,16.0s
NEW Newport 51.64 303 P P 20 48 21.3 -0.5
baz=33
MSO Missoula 51.67 300 P P 20 48 21.2 -0.9
baz=33
IUG luznay 51.73 71 ⇓ *i* P **P 20 48 22.6 0.0**
comp=Z,35nm,1.3s,baz=71
IUG *e* S **S** **20 55 45.3 +1.3**
comp=Z,48nm,2.9s,baz=71
IUG luznay 51.73 71 *d i* P **P 20 48 22.6 0.0**
IUG *e* S **S** **20 55 45.3 +1.3**
IUG pmax pmax
comp=Z,35nm,1.3s
IUG smax smax
comp=N,48nm,2.9s
BOZ Bozeman (W) 51.83 297 P P 20 48 21.6 -1.7
baz=33,SNR=56
BOZ Bozeman (W) 51.83 297 P P 20 48 21.9 -1.4
BOZ pmax pmax
comp=Z,70nm,1.3s
U40A Yellville 51.84 276 P P 20 48 22.4 -1.0
baz=32
OGNE Ogallala 51.87 286 P P 20 48 23.6 -0.1
baz=33
OXF Oxford 51.92 271 P P 20 48 22.8 -1.1
baz=31
DGZ Jazzator, Alta 51.99 53 *d i* P **P 20 48 24.6 +0.1**
DGZ pmax pmax
comp=Z,26nm,1.3s
TIGA Tifton 52.04 264 P P 20 48 25.4 +0.5
baz=30
LRAL Lakeview Retre 52.14 268 P P 20 48 25.3 -0.3
baz=31
K22A Casper 52.28 291 P P 20 48 26.3 -0.5
baz=33
H17A Grant Village 52.42 295 P P 20 48 29.2 +1.2
baz=33,SNR=6.6
MAKZ Makanchi 52.48 59 P P 20 48 28.4 +0.3
MAKZ pmax pmax
comp=Z,80nm,2.0s
SGDS Sogindy 52.49 67 *i* P **P 20 48 27.9 -0.4**
comp=Z,43nm,2.2s,baz=66
SGDS Sogindy 52.49 67 *i* P **P 20 48 27.8 -0.4**
SGDS pmax pmax
comp=Z,43nm,2.2s
X43A Marvell 52.55 273 P P 20 48 28.3 -0.4
baz=31
SEY Seymchan 52.56 6 P P 20 48 26.7 -1.7
comp=Z,2.5nm,0.8s,baz=295,slow=4.1,SNR=5.2
SEY Seymchan 52.56 6 ⇑ *e* P **P 20 48 26.5 -1.9**
W41B Gary Mavity, V 52.58 274 P P 20 48 28.4 -0.5
baz=32
USP Ospenovka 52.59 67 P P 20 48 29.1 +0.1
SNR=9.9
MKAR Makanchi Array 52.61 59 P P 20 48 28.2 -0.8
comp=Z,6.5nm,0.8s,baz=324,slow=6.0,SNR=26
MKAR LR LR 21 10 38.3
comp=Z,348nm,19.2s,baz=308,slow=36
TDK Taldyqorghan 52.66 63 *e* P **P 20 48 28.7 -0.7**
comp=Z,50nm,1.2s,baz=62
TDK Taldyqorghan 52.66 63 *e* P **P 20 48 28.7 -0.7**
TDK pmax pmax
comp=Z,50nm,1.2s
CBKS Cedar Bluff 52.70 283 P P 20 48 28.7 -1.1
baz=32

KUU Kurty 52.79 65 ⇓ *i* P **P 20 48 29.7 -0.7**
comp=Z,78nm,2.2s,baz=65
KUU LR LR 21 09 27.7
comp=Z,771nm,15.2s,baz=65
KUU Kurty 52.79 65 *d i* P **P 20 48 29.7 -0.7**
KUU pmax pmax
comp=Z,78nm,2.2s
KUU MLR MLR
comp=Z,771nm,15.0s
EKS2 Erkin-Say 52.81 68 P P 20 48 32.4 +1.7
SNR=10
TORD Torodi Ar. Bea 52.97 157 P P 20 48 30.2 -1.7
comp=Z,7.1nm,1.0s,baz=346,slow=8.2,SNR=18
ZSN Zaisan 52.99 56 *i* P **P 20 48 31.2 -0.7**
comp=Z,58nm,2.5s,baz=56
ZSN Zaisan 52.99 56 *i* P **P 20 48 31.1 -0.7**
ZSN pmax pmax
comp=Z,58nm,2.5s
CHKK Chushkaly 53.08 65 *e* P **P 20 48 31.6 -0.9**
baz=64
CHKK Chushkaly 53.08 65 *e* P **P 20 48 31.6 -0.9**
AAK Ala-Archa 53.12 67 *i* P **P 20 48 30.4 -2.5**
SNR=8.8
AAK Ala-Archa 53.12 67 *de* P **P 20 48 32.8 -0.2**
AAK pmax pmax
comp=Z,38nm,1.7s
W39A Magazine 53.22 276 P P 20 48 32.8 -0.8
baz=32
AML Almayashu 53.23 68 P P 20 48 35.2 +1.1
SNR=23
TKM2 Tokmak 2 53.32 66 P P 20 48 35.3 +0.8
SNR=12
BW06 Boulder Array 53.40 294 P P 20 48 32.5 -2.6
baz=32,SNR=25
PDAR Pinedale Array 53.40 294 P P 20 48 32.3 -2.8
comp=Z,7.8nm,0.8s,baz=56,slow=6.0,SNR=46
X40A Basin Creek Fa 53.42 274 P P 20 48 33.0 -2.1
baz=31
UCH Uchtor 53.47 68 P P 20 48 37.0 +1.0
SNR=12
TUL1 Leonard 53.48 278 P P 20 48 34.2 -1.3
baz=32
N23A Red Feather La 53.52 290 P P 20 48 35.1 -1.0
baz=32,SNR=20
AAA Alma-Ata 53.59 65 *e* P **P 20 48 36.2 -0.1**
baz=65
AAA *e* PP **PP** **20 50 37.0 +0.4**
baz=65
AAA LR LR 21 10 06.1
comp=Z,808nm,18.0s,baz=65
AAA Alma-Ata 53.59 65 *e* P **P 20 48 36.2 -0.1**
AAA *e* 20 50 36.9
AAA MLR MLR
comp=Z,808nm,18.0s
MDOK Medeo 53.68 65 *e* P **P 20 48 37.0 -0.1**
baz=65
MDOK *e* PP **PP** **20 50 38.0 +0.5**
baz=65
MDOK LR LR 21 10 14.2
comp=Z,755nm,18.1s,baz=65
MDOK Medeo 53.68 65 *e* P **P 20 48 37.0 -0.1**
MDOK *e* 20 50 38.0
MDOK MLR MLR
comp=Z,755nm,18.0s
MIAR Mount Ida 53.69 275 P P 20 48 36.4 -0.7
baz=31
KSCO Kaye Shedlock' 53.74 286 P P 20 48 36.8 -0.8
baz=32
TNSS Tian-Shan 53.75 65 *e* P **P 20 48 36.9 -1.1**
baz=65
TNSS Tian-Shan 53.75 65 *e* P **P 20 48 36.8 -1.1**
BRAL Brewton 53.76 267 P P 20 48 37.5 -0.1
baz=30
SATY Saty 54.30 64 *i* P **P 20 48 41.3 -0.4**
comp=Z,20nm,1.5s,baz=64
SATY Saty 54.30 64 *i* P **P 20 48 41.2 -0.4**
SATY pmax pmax
comp=Z,20nm,1.5s
SATY Saty 54.30 64 *i* P **P 20 48 41.2 -0.4**
SATY pmax pmax
comp=Z,20nm,1.5s
ISCO Idaho Springs 54.31 289 P P 20 48 42.0 +0.1
baz=32
D03D Eldon 54.38 307 P P 20 48 40.9 -1.0
baz=31
Z41A Richland Creek 54.45 274 P P 20 48 41.1 -1.6
baz=31
UZB Uzynbulak 54.47 63 *e* P **P 20 48 42.5 -0.3**
comp=Z,34nm,1.9s,baz=63
UZB Uzynbulak 54.47 63 *e* P **P 20 48 42.5 -0.3**
UZB pmax pmax
comp=Z,34nm,1.9s
MOY Mondy 54.60 42 *e* P **P 20 48 43.8 +0.2**
MOY pmax pmax
comp=Z,117nm,2.3s
HLID Hailey 54.61 298 P P 20 48 43.0 -0.9
baz=32,SNR=7.6
SHLS Shalkode 54.63 63 *e* P **P 20 48 44.9 +1.0**
comp=Z,64nm,2.5s,baz=63
SHLS Shalkode 54.63 63 *e* P **P 20 48 44.9 +1.0**
SHLS pmax pmax
comp=Z,64nm,2.5s
Q24A Divide 54.83 288 P P 20 48 45.3 -0.4
baz=32
IRK Irkutsk 55.02 40 *e* P **P 20 48 45.1 -1.4**
IRK pmax pmax
comp=Z,79nm,2.4s
E04D Cinebar 55.04 306 P P 20 48 46.1 -0.6
baz=31
O20A White River Ci 55.09 291 P P 20 48 45.9 -1.5
baz=32,SNR=12
F05D White Salmon 55.22 305 P P 20 48 48.6 +0.5
baz=31
TLY Talaya 55.35 41 *c i* P **P 20 48 50.0 +1.1**
TLY *e* 20 50 58.8
TLY *e* PPP PPP 20 52 11.8
TLY *e* S S 20 56 44.8 +12
TLY pmax pmax
comp=Z,16nm,0.9s
TLY MLR MLR
comp=Z,1μm,14.0s
G05D Wamic, OR 55.73 304 P P 20 48 51.7 -0.1
baz=30
WMOK Wichita Mounta 55.75 280 P P 20 48 51.8 -0.3
baz=31,SNR=10
MA2 Magadan 55.83 7 *de* P **P 20 48 51.7 -0.6**
MA2 pmax pmax
comp=Z,39nm,2.5s
SDCO Great Sand Dun 56.01 287 P P 20 48 53.1 -1.1
baz=31
T25A Trinidad 56.08 286 P P 20 48 53.6 -1.0
baz=31
KSH Kashi 56.36 68 P P 20 48 58.3 +1.9
KSH S **S** **20 56 46.4 -0.2**
KSH pmax pmax
comp=Z,35nm,1.1s
KSH pmax pmax
comp=Z,620nm,4.7s
KSH LR LR
comp=Z,540nm,11.8s
KSH LR LR
comp=Z,750nm,14.9s
KSH LR LR
comp=Z,3μm,19.4s
ZAK Zakamensk 56.41 42 *e* P **P 20 48 56.1 -0.5**
ZAK pmax pmax
comp=Z,11nm,1.4s
I05D Terrebonne, OR 56.52 304 P P 20 48 57.6 +0.2
baz=30
NATX Nacogdoches 56.54 274 P P 20 48 57.4 -0.3
baz=30
S22A 4UR Ranch, Cre 56.55 288 P P 20 48 56.2 -1.9
baz=31,SNR=11
AMTX Amarillo 56.86 282 P P 20 48 59.1 -0.9
baz=31
DUG Dugway, Tooele 56.87 294 P P 20 48 58.8 -1.3
baz=31,SNR=26
WMQ Urumqi 57.13 56 *e* P **P 20 49 03.3 +1.5**
I04A Tendick Farm, 57.37 304 P P 20 49 02.9 -0.6
baz=30
J05D Fort Rock, OR 57.39 303 P P 20 49 05.0 +1.3
baz=30,SNR=5.9
WHTX Lake Whitney, 57.54 277 P P 20 49 03.1 -1.7
baz=30
MVCO Mesa Verde 57.70 289 P P 20 49 05.3 -0.8
baz=31
ABTX Abilene, Hawle 57.93 279 P P 20 49 07.6 0.0

baz=30,SNR=7.7
MSU Marysvale 58.06 293 P P 20 49 06.9 -1.7
MSTX Muleshoe 58.10 283 P P 20 49 06.8 -2.0
baz=30
DBIC Dimbokro 58.44 166 P P 20 49 09.8 -1.4
comp=Z,8.5nm,0.8s,baz=3.3,slow=7.9,SNR=6.0
DBIC LR LR 21 15 01.0
comp=Z,1μm,18.6s,baz=352,slow=37
DBIC Dimbokro 58.44 166 P P 20 49 10.1 -1.1
DBIC pmax pmax
comp=Z,55nm,1.7s
TIC Toumodi 58.45 166 *eP* **P 20 49 09.5 -1.8**
HKT Hockley 58.61 274 *eP* **P 20 49 12.0 -0.1**
435B Jarrell 58.64 276 P **P 20 49 10.9 -1.6**
baz=30
KIC Kosan Boka 58.76 166 *eP* **P 20 49 11.7 -1.7**
comp=Z,34nm,0.9s
K02D Willamette Mer 58.78 304 P **P 20 49 13.3 -0.1**
baz=29
ANMO Albuquerque 58.80 286 *ceP* **P 20 49 12.3 -1.5**
ANMO pmax pmax
comp=Z,34nm,2.5s
LIC Lamto 58.87 166 *eP* **P 20 49 12.4 -1.7**
comp=Z,38nm,0.9s
R11A Troy Canyon, C 59.54 296 P **P 20 49 17.7 -1.1**
baz=30,SNR=33
SONM Songino Array 59.59 41 P **P 20 49 18.3 -0.7**
comp=Z,3.8nm,0.8s,baz=330,slow=5.4,SNR=16
SONM LR LR 21 17 31.1
comp=Z,805nm,19.6s,baz=337,slow=38
ULN Ulaanbaatar 59.75 40⇑ *eP* **P 20 49 19.7 -0.4**
ULN pmax pmax
comp=Z,39nm,2.5s
Y22D IRIS PASSCAL I 59.75 286 P **P 20 49 21.6 +1.3**
baz=30
JCT Junction City 59.85 278 P **P 20 49 19.5 -1.4**
baz=30,SNR=5.7
W18A Petrified Fore 60.00 289 P **P 20 49 19.6 -2.5**
baz=30
MSFE Esma-Masafi 60.19 93 P **P 20 49 24.7 +1.4**
WUAZ Wupatki 60.33 291 P **P 20 49 22.7 -1.6**
baz=30,SNR=21
NVAR Mina Array Bea 60.52 298 P **P 20 49 24.1 -1.6**
comp=Z,2.0nm,0.9s,baz=44,slow=3.2,SNR=9.8
NVAR LR LR 21 15 15.8
comp=Z,2μm,19.2s,baz=28,slow=36
UOSS Minazif 60.58 94 P **P 20 49 25.9 0.0**
ASHO Ashiyiah 60.74 94 P **P 20 49 26.7 -0.3**
TPNV Topopah Spring 61.02 295 P **P 20 49 28.9 -0.1**
baz=29
MNTX Cornudas Mount 61.16 283 P **P 20 49 27.8 -2.0**
baz=29,SNR=6.8
GRAC Grapevine Rang 61.41 296 P **P 20 49 30.5 -1.0**
baz=29
121A Cookes Peak, D 61.44 286 P **P 20 49 32.5 +0.6**
baz=29
833A Chaparral WMA, 61.55 276 P **P 20 49 31.6 -0.8**
baz=29
FURC Furnace Creek, 61.68 296 P **P 20 49 32.4 -0.8**
baz=29
SHOC Shoshone, Teco 61.94 295 P **P 20 49 35.0 0.0**
baz=29
CWC Cottonwood Cre 62.17 296 P **P 20 49 36.0 -0.8**
baz=29
TUQ Turquoise Moun 62.21 294 P **P 20 49 34.1 -2.9**
baz=29
NEE2 Needles Airpor 62.28 293 P **P 20 49 37.2 0.0**
baz=29
MPMC Manual Prospec 62.28 296 P **P 20 49 36.6 -1.0**
baz=29
PDMCI Parker Dam,Lak 62.49 292 P **P 20 49 37.4 -1.3**
baz=29
TXAR Lajitas Array 62.49 281 P **P 20 49 36.8 -2.1**
comp=Z,4.0nm,1.0s,baz=46,slow=4.8,SNR=16
TXAR LR LR 21 16 20.1
comp=Z,2μm,18.0s,baz=0.0,slow=36
PETK Petropavlovsk- 62.59 4 LR LR 21 16 19.5
comp=Z,358nm,19.8s,baz=356,slow=36
GSC Goldstone, Bar 62.67 295 P **P 20 49 38.6 -1.4**
baz=29
GMRC Granite Mounta 62.68 294 P **P 20 49 38.8 -1.3**
baz=29
DHRM DHARAMSHALA 62.77 72 *eP* **P 20 49 41.3 +0.5**
DHRM IAmb IAmb 20 49 49.3
comp=Z,20nm,1.3s
LRMC Laurel Mtn Rad 62.86 296 P **P 20 49 40.1 -1.2**
baz=28
TUC Tucson 62.87 288 P **P 20 49 40.2 -1.2**
baz=29
HEC Hector,Ludlow 62.90 294 P **P 20 49 39.8 -1.7**
baz=29
ISA Isabella, Lake 63.01 296 P **P 20 49 41.2 -1.0**
baz=28
IRM Iron Mountain 63.02 293 P **P 20 49 41.6 -0.7**
baz=29
BELC Belle Mtn. Jos 63.50 294 P **P 20 49 45.9 +0.4**
baz=28,SNR=14
EDW2 Edwards Air Fo 63.51 296 P **P 20 49 43.7 -1.8**
baz=28
BC3 Big Chuckawall 63.58 293 P **P 20 49 45.3 -0.8**
baz=28
ARVC Arvin 63.62 296 P **P 20 49 48.4 +2.2**
baz=28
GLA Glamis 63.86 292 P **P 20 49 48.3 +0.5**
baz=28
SMMC Simmler 63.90 297 P **P 20 49 47.3 -0.8**
baz=28
BFSC Mount Baldy Ra 63.94 295 P **P 20 49 47.6 -0.9**
baz=28
KLR Kul'dur 63.96 22⇓ *eP* **P 20 49 49.2 +1.0**
KLR pmax pmax
comp=Z,13nm,1.8s
214A Organ Pipe Nat 64.01 290 P **P 20 49 49.4 +0.5**
baz=28
PFO Pinyon Flats O 64.02 294 P **P 20 49 49.7 +0.7**
baz=28
TPFO Pinon Flats 64.02 294 P **P 20 49 49.7 +0.7**
baz=28
OSI Osito Audit: C 64.03 296 P **P 20 49 50.2 +1.2**
baz=28
SMLA Simla 64.10 72 *eP* **P 20 49 47.3 -2.0**
SMLA IAmb IAmb 20 49 52.7
comp=Z,19nm,1.0s
MURC Murrieta 64.32 294 P **P 20 49 52.0 +1.2**
baz=28
SWSC Sam W. Stewart 64.34 293 P **P 20 49 51.7 +0.7**
baz=28
IKP In-Ko-Pah, Jac 64.73 293 P **P 20 49 52.9 -0.7**
baz=28
URIC Uribia, Colomb 64.87 242 *eP* **P 20 49 52.6 -2.0**
CIS Catalina Islan 64.97 295 P **P 20 49 56.0 +0.9**
baz=28
DDI Dehra Dun 65.17 72 *eP* **P 20 49 56.4 -0.1**
DDI IAmb IAmb 20 49 59.9
comp=Z,24nm,0.7s
GTA Gaotai 65.22 50 ⇓P **P 20 49 55.8 -1.0**
GTA pP sP 20 49 59.8 -2.0
GTA sP pP 20 50 02.8 +2.4
GTA S **S 20 58 41.8 +2.1**
GTA sS sS 20 58 50.3 +4.5
GTA pmax pmax
comp=Z,360nm,8.1s
GTA LR LR
comp=Z,540nm,16.2s
GTA LR LR
comp=Z,740nm,17.1s
GTA LR LR
comp=Z,530nm,16.2s
HHC Hu-ho-hao-te 67.47 40 *eP* **P 20 50 12.3 +1.2**
HHC PP **PP 20 52 41.1 +1.9**
HHC S **S 20 59 07.3 +0.4**
HHC ScS **SKiKP 21 00 07.6 -1.4**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,500nm,6.2s
HHC LR LR
comp=Z,510nm,14.5s
HHC LR LR
comp=Z,440nm,14.5s
HHC LR LR
comp=Z,830nm,15.3s
YSS Yuzh-Sakhalins 67.70 15 *eP* **P 20 50 11.6 -0.7**
YSS pmax pmax
comp=Z,900nm,5.8s
YSS MLR MLR
comp=Z,500nm,17.0s

SJCC San Jacinto, C 67.75 245 *eP* **P 20 50 12.7 -0.4**
SMLC San Martn de 68.32 243 *eP* **P 20 50 14.1 -2.5**
MOTC Monteria, Cord 68.96 245 *eP* **P 20 50 18.1 -2.5**
BJI Beijing 69.46 37 P **P 20 50 22.8 -0.6**
BJI S **S 20 59 34.3 +4.0**
BJI pmax pmax
comp=Z,590nm,6.5s
BJI LR LR
comp=Z,790nm,16.3s
BJI LR LR
comp=Z,440nm,13.3s
LZH Lanzhou 69.55 48⇑ P **P 20 50 24.4 +0.1**
LZH pP pP 20 50 26.5 -1.5
LZH sS sS 20 59 41.5 +3.4
LZH SS **SS 21 03 56.8 -1.8**
LZH pmax pmax
comp=Z,31nm,1.3s
LZH pmax pmax
comp=Z,570nm,5.4s
LZH LR LR
comp=Z,690nm,14.1s
LZH LR LR
comp=Z,650nm,15.2s
LZH LR LR
comp=Z,880nm,18.0s
ZARC Zaragoza, Cauc 69.82 243 *eP* **P 20 50 24.1 -1.8**
VLA Vladivostok 69.91 24⇓ *eP* **P 20 50 28.9 +2.8**
VLA pmax pmax
comp=Z,35nm,0.8s
PTBC PUERTO BERRIO, 70.54 243 *eP* **P 20 50 27.5 -2.8**
RUSC La Rusia 70.61 241 *eP* **P 20 50 29.8 -1.5**
DBBC Dabeiba 70.78 244 *eP* **P 20 50 28.7 -3.2**
SPBC San Pablo de B 71.21 242 *eP* P 20 50 29.1 -5.4
HELC Santa Helena 71.27 244 *eP* **P 20 50 33.6 -1.6**
NORC Norcasia 71.59 243 *eP* **P 20 50 34.5 -2.3**
CBOC Ciudad Bolivar 71.76 244 *eP* **P 20 50 36.6 -1.3**
DL2 Dalian 71.87 33 P P 20 50 42.3 +4.2
DL2 pmax pmax
comp=Z,740nm,5.5s
DL2 LR LR
comp=Z,590nm,12.2s
DL2 LR LR
comp=Z,320nm,17.5s
DL2 LR LR
comp=Z,570nm,13.7s
CHIC Chingaza 72.02 241 *eP* **P 20 50 36.2 -3.6**
ROSC El Rosal 72.05 242 P **P 20 50 38.5 -1.4**
comp=Z,13nm,0.7s,baz=65,slow=13,SNR=8.4
ROSC El Rosal 72.05 242 *eP* **P 20 50 38.6 -1.3**
GUY2C Guyana, Caldas 72.09 243 *eP* **P 20 50 38.5 -1.8**
XAN Xi'an 73.03 45 P **P 20 50 45.8 +0.6**
XAN pP PcP 20 50 56.6 -5.4
XAN PP **PP 20 53 31.0 +3.9**
XAN S **SKiKP 21 00 14.8 -2.5**
XAN SKS **SKSac 21 00 47.8 -2.9**
XAN ScS **ScS 21 00 53.3 +0.3**
XAN pmax pmax
comp=Z,16nm,2.3s
XAN LR LR
comp=Z,1μm,19.3s
XAN LR LR
comp=Z,1μm,13.9s
ORTC Ortega, Tolima 73.25 242 *eP* **P 20 50 44.3 -2.4**
PRAC Prado 73.30 242 *eP* **P 20 50 44.9 -2.0**
YOTC Yotoco, Valle 73.61 243 *eP* **P 20 50 46.0 -2.8**
BOK Bokaro 74.14 68 *eP* **P 20 50 51.1 -0.6**
BOK IAmb IAmb 20 50 57.4
comp=Z,8.8nm,0.5s
CD2 Chengdu 74.28 50 P **P 20 50 51.5 -1.1**
CD2 PP **PP 20 53 37.8 -0.1**
CD2 S **S 21 00 24.0 -2.2**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,580nm,6.5s
CD2 LR LR
comp=Z,440nm,18.0s
CD2 LR LR
comp=Z,550nm,13.1s
CD2 LR LR
comp=Z,680nm,17.1s
KSRS Korea Array 74.65 28 P **P 20 50 54.5 0.0**
comp=Z,1.2nm,0.8s,baz=338,slow=4.6,SNR=4.5
SHL Shillong 74.89 62 *eP* **P 20 50 56.9 +0.5**
SHL IAmb IAmb 20 51 01.7
comp=Z,12nm,0.9s
BELO BELONIA 76.82 64 *eP* **P 20 51 09.4 +2.3**
PUAC Puerto Asis, P 76.84 242 *eP* **P 20 51 05.2 -2.1**
MAJO Matsushiro 77.36 20 *deP* **P 20 51 11.8 +1.8**
MAT Matsushiro 77.36 20 P **P 20 51 08.7 -1.3**
MAT S **S 21 01 03.2 +3.2**
MJAR Matsushiro Arr 77.36 20 P **P 20 51 10.5 +0.5**
comp=Z,0.8nm,0.5s,baz=330,slow=6.3,SNR=6.8
NJ2 Nanjing 77.70 37 *eP* **P 20 51 11.8 -0.2**
NJ2 S S 21 01 11.9 +8.2
NJ2 SKS **SKSac 21 01 21.4 -3.9**
NJ2 ScS **ScS 21 01 28.3 -2.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,640nm,6.9s
NJ2 LR LR
comp=Z,340nm,22.7s
NJ2 LR LR
comp=Z,670nm,19.9s
NJ2 LR LR
comp=Z,330nm,22.7s
WHN Wuhan 77.89 41 P P 20 51 16.8 +3.7
WHN S **S 21 01 08.5 +2.6**
WHN LR LR
comp=Z,540nm,13.4s
WHN LR LR
comp=Z,690nm,9.8s
WHN LR LR
comp=Z,1μm,19.7s
SAIH SAIHA 78.10 63 *eP* **P 20 51 14.2 -0.3**
SAIH IAmb IAmb 20 51 18.1
comp=Z,9.6nm,0.6s
KMI Kunming 79.26 53 ⇓P **P 20 51 20.3 -0.7**
KMI pP pP 20 51 22.3 -2.5
KMI PP **PP 20 54 23.9 +3.8**
KMI S **S 21 01 21.4 +0.3**
KMI sS sS 21 01 27.3 0.0
KMI pmax pmax
comp=Z,420nm,6.6s
KMI LR LR
comp=Z,230nm,16.1s
KMI LR LR
comp=Z,450nm,17.3s
KMI LR LR
comp=Z,530nm,17.6s
GYA Guiyang 79.35 49⇑ P **P 20 51 22.1 +0.8**
GYA PP **PP 20 54 25.6 +5.0**
GYA S **S 21 01 28.1 +6.3**
GYA pmax pmax
comp=Z,11nm,1.7s
GYA pmax pmax
comp=Z,450nm,6.7s
GYA LR LR
comp=Z,250nm,17.7s
GYA LR LR
comp=Z,240nm,17.0s
GYA LR LR
comp=Z,220nm,19.5s
BDFB Brasilia 83.39 210 P **P 20 51 40.8 -1.8**
comp=Z,2.9nm,0.6s,baz=70,slow=9.1,SNR=4.6
BDFB LR LR 21 23 30.8
comp=Z,777nm,18.1s,baz=357,slow=32
CMAR Chiang Mai Arr 84.02 59 P **P 20 51 45.0 -0.9**
comp=Z,2.2nm,0.9s,baz=321,slow=6.5,SNR=15
CMAR PP **PP 20 55 01.1 +1.9**
comp=Z,1.5nm,0.9s,baz=334,slow=8.7,SNR=5.9
CMAR LR LR 21 29 30.3
comp=Z,267nm,19.9s,baz=255,slow=36
CMAR Chiang Mai Arr 84.02 59 *i* P **P 20 51 44.7 -1.2**
CMAR pmax pmax
comp=Z,3.0nm,0.9s
QZH Quanzhou 84.38 40 *eP* **P 20 51 46.4 -1.2**
QZH PP **PP 20 55 07.6 +5.8**
QZH S **S 21 02 18.4 +5.0**
QZH pmax pmax
comp=Z,390nm,6.4s
QZH LR LR
comp=Z,710nm,15.2s
QZH LR LR
comp=Z,320nm,14.2s
QZH LR LR
comp=Z,840nm,16.1s
QIZ Qiongzhong 87.30 49 P **P 20 52 02.6 +0.4**
QIZ S **S 21 02 44.3 +2.0**
QIZ LR LR
comp=Z,400nm,16.3s
QIZ LR LR
comp=Z,460nm,16.9s
QIZ LR LR
comp=Z,470nm,17.7s
LPAZ La Paz 89.48 228 LR LR 21 31 28.2
comp=Z,240nm,18.0s,baz=7.0,slow=35
CPUP Villa Florida 95.87 216 LR LR 21 31 47.9
comp=Z,372nm,18.5s,baz=14,slow=33
BOSA Boshof 98.56 143 LR LR 21 39 57.8
comp=Z,1μm,18.4s,slow=37
WRA Warramunga Arr 131.49 37 PKP **PKPdf 20 58 26.5 -1.3**
comp=Z,0.8nm,0.9s,baz=351,slow=2.2,SNR=3.8
ASAR Alice Springs 134.92 39 PKP **PKPdf 20 58 32.1 -2.0**
comp=Z,1.8nm,0.9s,baz=345,slow=1.7,SNR=11
MAW Mawson 143.53 141 PKP **PKPdf 20 58 46.7 -1.7**
comp=Z,0.8nm,0.6s,baz=273,slow=5.6,SNR=2.1
STKA Stephens Creek 144.70 32 PKP **PKPab 20 58 48.6 -1.7**
comp=Z,2.7nm,0.7s,baz=316,slow=4.6,SNR=7.7

*ECX **24** 20:48:52.1±0.6,31.°30N×115.°85W,h4km±2km, MD1.7, ML1.9*
*MEX **24** 20:48:52.9±0.4,31.°22N×115.°87W,h4km±42km, MD3.6*
ISC 24 20:48:51.5±1.2,**31.°29N**±0.°03×**115.°91W**±0.°03,**h2**km±14km,
n14,σ1°s58/26,**2C-2D,Baja California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VTX	**Valle De La Tr**	**0.14**	**47**⇑	*i* P	**Pg**	**20 48 54.4**	**0.0**
VTX				*i* S	**Sg**	**20 48 55.9**	**-0.3**
SVX	**San Vicente**	**0.30**	**276**	*e*S	**Sg**	**20 49 03.2**	**+2.2**
SPIG	**San Pedro Mart**	**0.45**	**123**	*i* P	**Pg**	**20 49 00.2**	**-0.1**
SPIG				*i* S	**Sg**	**20 49 05.8**	**-0.4**
SPIG	**San Pedro Mart**	**0.45**	**123**	*eP*	**Pg**	**20 48 59.8**	**-0.4**
SPIG				*i* S	**Sg**	**20 49 05.8**	**-0.4**
SPX	**San Pedro Mart**	**0.46**	**124**	*eP*	**Pg**	**20 48 59.9**	**-0.4**
SPX				*i* S	**Sg**	**20 49 05.9**	**-0.4**
SPX	**San Pedro Mart**	**0.46**	**124**⇓	*i* P	**Pg**	**20 49 00.2**	**-0.1**
SPX				*e*S	**Sg**	**20 49 05.8**	**-0.5**
SPX				⇓*e*		20 49 07.0	
SPX				IAML		20 49 07.0	
	comp=N,109nm,0.1s						
SJX	**San Joaquin**	**0.47**	**355**	*eP*	**Pb**	**20 49 05.1**	**+2.5**
SJX				*e*S	**Sb**	**20 49 14.7**	**+4.7**
SQX	**San Quintin**	**0.72**	**178**	*eP*	**Pg**	**20 49 04.6**	**-0.7**
SQX				*e*S	**Sg**	**20 49 14.6**	**0.0**
ECBX	**El Chinero**	**0.75**	**76**⇑	*i* P	**Pg**	**20 49 05.8**	**-0.2**
ECBX				*e*S	**Sg**	**20 49 15.3**	**-0.4**
CBX	**Cerro Bola**	**1.20**	**328**	*eP*	**Pg**	**20 49 13.8**	**-0.8**
CBX				*i* S	**Sg**	**20 49 29.7**	**-0.6**
CBX	**Cerro Bola**	**1.20**	**328**	*eP*	**Pg**	**20 49 13.8**	**-0.8**
CBX				*e*S	**Sg**	**20 49 29.7**	**-0.6**
CBX				*e*		20 49 34.7	
CBX				IAML		20 49 34.7	
	comp=E,29nm,0.2s						
TJIG	**Tijuana**	**1.31**	**330**	*eP*	**Pn**	**20 49 14.8**	**-2.2**
TJIG				*i* S	**Sb**	**20 49 32.2**	**-2.0**
RMX	**La Rumorosa**	**1.31**	**354**	*eP*	**Pn**	**20 49 15.0**	**-2.1**
RMX				*e*S	**Sg**	**20 49 31.8**	**-1.9**
BAR	**Barrett**	**1.53**	**335**	*eP*	**Pn**	**20 49 19.0**	**-0.9**

*ISK **24** 20:55:45.6,37.°67N×30.°64E,h3km,ML3.4/22*
*IDC **24** 20:55:45.8±1.0,37.°61N×30.°73E,h0km,mb3.6/5, mb1 3.6/11,mb1mx3.4/40,mbtmp3.5/11,ML3.5/6,Error ellipse: s-maj=18.5km s-min=17.2km az=137.0*
*NIC **24** 20:55:46.0±0.0,37.°67N×30.°94E,h0km±3km,Ml3.6/2*
*DDA **24** 20:55:46.2,37.°63N×30.°65E,h7km±3km,MW3.8*
ISC 24 20:55:46.7±1.0,**37.°66N**±0.°02×**30.°69E**±0.°03,**h7**km±7km,
n73,σ0°s91/89,**mb3.6**/5,**8C-4D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISP	**Isparta**	**0.21**	**321**	PG	**Pg**	**20 55 50.6**	**-0.3**
BCK	**Bucak**	**0.21**	**201**	PG	**Pg**	**20 55 50.3**	**-0.7**
BCK				SG	**Sg**	**20 55 54.5**	**+0.6**
BAGO	**Egridir - ISPA**	**0.34**	**14**	*i* P	**Pg**	**20 55 53.5**	**+0.1**
BAGO				*i* S	**Sb**	**20 55 59.3**	**-1.4**
BAGO				IAML		20 56 01.0	
	comp=E,1μm,0.3s						
BAGO				IAML		20 56 03.0	
	comp=N,991nm,0.7s						
BRDR	**BURDUR-Merkez**	**0.50**	**274**	*i* P	**Pg**	**20 55 55.0**	**-1.3**
BRDR				*i* S	**Sg**	**20 56 02.5**	**-0.3**
BRDR				IAML		20 56 03.0	
	comp=N,3μm,0.3s						
BRDR				IAML		20 56 03.0	
	comp=E,2μm,0.4s						
KORT	**Korkueli**	**0.71**	**202**	PG	**Pg**	**20 55 58.2**	**-2.2**
KORT				SG	**Sg**	**20 56 10.5**	**+0.9**
KORT	**Korkueli**	**0.71**	**202**	*i* P	**Pg**	**20 55 59.3**	**-1.0**
KORT				*i* S	**Sb**	**20 56 12.2**	**+0.7**
KORT				IAML		20 56 14.0	
	comp=N,1μm,0.4s						
KORT				IAML		20 56 16.0	
	comp=E,2μm,0.8s						
KZIL	**AFYON_Kizioren**	**0.73**	**324**	*i* P	**Pg**	**20 56 00.2**	**-0.6**
KZIL				*i* S	**Sb**	**20 56 12.3**	**+0.1**
KZIL				IAML		20 56 14.0	
	comp=N,1μm,0.6s						
KZIL				IAML		20 56 14.0	
	comp=E,2μm,0.3s						
ANTB	**Antalya**	**0.76**	**182**	PG	**Pg**	**20 56 01.1**	**-0.2**
ANTB				SG	**Sb**	**20 56 12.7**	**0.0**
DOGA	**KONYA_Doganhis**	**0.89**	**60**	*i* P	**Pb**	**20 56 04.1**	**-0.5**
DOGA				IAML		20 56 24.0	
	comp=N,796nm,0.4s						
DOGA				IAML		20 56 25.0	
	comp=E,761nm,0.8s						
SHUT	**Suhut-Afyon**	**0.90**	**353**	PG	**Pg**	**20 56 03.4**	**-0.5**
GOLH	**Golhisar**	**0.99**	**245**	*i* P	**Pg**	**20 56 04.5**	**-1.2**
GOLH				*i* S	**Sb**	**20 56 20.4**	**+0.8**
GOLH				IAML		20 56 24.0	
	comp=N,801nm,0.4s						
GOLH				IAML		20 56 47.0	
	comp=E,166nm,1.4s						
KEPZ	**Antalya-Kepez**	**1.05**	**136**	*i* P	**Pb**	**20 56 06.4**	**-0.9**
KEPZ				IAML		20 56 32.0	
	comp=N,634nm,0.9s						
KEPZ				IAML		20 56 32.0	
	comp=E,367nm,0.7s						
BOLV	**Bolvadin**	**1.07**	**11**	*i* P	**Pb**	**20 56 07.3**	**-0.4**
BOLV				IAML		20 56 30.0	
	comp=N,623nm,0.6s						
BOLV				IAML		20 56 30.0	
	comp=E,823nm,0.8s						
ELL	**Elmali**	**1.10**	**215**	PN	**Pg**	**20 56 07.1**	**-0.7**
AFYO	**Afyonkarahisar**	**1.17**	**345**	*i* P	**Pg**	**20 56 08.5**	**-0.6**
AFYO				*i* S	**Sn**	**20 56 26.1**	**+0.4**
AFYO				IAML		20 56 31.0	
	comp=E,2μm,0.9s						
KONT	**Konya--Tatoy**	**1.35**	**77**	PN	**Pb**	**20 56 13.1**	**+0.7**
KONT	**Konya--Tatoy**	**1.35**	**77**	*i* P	**Pb**	**20 56 12.6**	**+0.2**
KONT				IAML		20 56 37.0	
	comp=E,337nm,1.1s						
KONT				IAML		20 56 40.0	
	comp=N,251nm,1.0s						
AKUM	**Antalya-Kumluc**	**1.36**	**192**	*i* P	**Pn**	**20 56 11.8**	**-0.3**
AKUM				IAML		20 56 42.0	
	comp=N,586nm,1.0s						
AKUM				IAML		20 56 42.0	
	comp=E,378nm,0.5s						
KDHN	**Kadinhani**	**1.42**	**52**	*i* P	**Pb**	**20 56 13.0**	**-0.5**
KDHN				IAML		20 56 42.0	
	comp=E,141nm,0.7s						
KDHN				IAML		20 56 45.0	
	comp=N,160nm,0.6s						
TAVA	**DENIZLI_Tavas**	**1.42**	**263**	*i* P	**Pn**	**20 56 12.1**	**-0.9**
TAVA				*i* S	**Sb**	**20 56 32.3**	**+0.4**
TAVA				IAML		20 56 33.0	
	comp=N,147nm,1.2s						
TAVA				IAML		20 56 36.0	
	comp=E,148nm,1.1s						
LADK	**Ladik-KONYA**	**1.43**	**67**	PN	**Pb**	**20 56 13.7**	**0.0**
KIZT	**Kizilcal**	**1.54**	**37**	PN	**Pg**	**20 56 15.1**	**-1.0**
FETY	**Fethiye**	**1.64**	**232**	PN	**Pn**	**20 56 16.2**	**+0.3**
FETY	**Fethiye**	**1.64**	**232**	*i* P	**Pb**	**20 56 17.0**	**-0.2**

FETY				IAML			20 56 41.0	
	comp=N,137nm,1.0s							
FETY				IAML			20 56 49.0	
	comp=E,123nm,0.9s							
AKAS	**Kas**	**1.67**	**212**	*i* P	**Pg**		**20 56 18.5**	**-0.2**
AKAS				IAML			20 56 54.0	
	comp=E,293nm,0.6s							
AKAS				IAML			20 57 04.0	
	comp=N,350nm,0.8s							
USAK	**Uak-Merkez**	**1.68**	**309**	*i* P	**Pn**		**20 56 15.6**	**-1.0**
USAK				IAML			20 56 44.0	
	comp=N,187nm,0.6s							
USAK				IAML			20 56 46.0	
	comp=E,262nm,0.5s							
GEDZ	**Gediz**	**1.71**	**324**	PN	**Pn**		**20 56 16.7**	**-0.2**
GDZ	**Gediz**	**1.71**	**327**	*i* P	**Pn**		**20 56 16.4**	**-0.6**
GDZ				IAML			20 56 45.0	
	comp=E,163nm,0.7s							
GDZ				IAML			20 56 46.0	
	comp=N,143nm,0.6s							
CIFT	**Cifteler, Eski**	**1.72**	**10**	PN	**Pn**		**20 56 17.1**	**0.0**
KSL	**Kastellorizon**	**1.75**	**211**	P	**Pb**		**20 56 19.3**	**+0.2**
KSL				S	**Sg**		**20 56 45.1**	**+2.2**
KSL				AML	AML		20 56 54.6	
	comp=N,1.4nm,1.0s							
KSL				AML	AML		20 56 54.6	
	comp=N,1.4nm,1.0s							
KSL				AML	AML		20 56 55.0	
	comp=N,1.1nm,0.8s							
KSL				AML	AML		20 56 55.0	
	comp=N,1.1nm,0.8s							
KULA	**Kula-Manisa**	**1.81**	**299**	PN	**Pn**		**20 56 17.3**	**-1.0**
DALY	**Dalyan (Mula)**	**1.83**	**243**	PN	**Pn**		**20 56 18.9**	**+0.4**
AUSIV	**SIVRIHISAR**	**1.90**	**20**	PN	**Pn**		**20 56 19.9**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.90**	**20**	PN	**Pn**		**20 56 20.1**	**+0.5**
GAZI	**Gazipasa**	**1.93**	**137**	PN	**Pb**		**20 56 20.9**	**-1.3**
SIMA	**Simav-Kutahya**	**1.95**	**317**	PN	**Pn**		**20 56 19.9**	**-0.4**
CHBY	**Cihanbeyli**	**1.97**	**61**	PN	**Pb**		**20 56 21.4**	**-1.4**
YER	**Yerkesik**	**1.99**	**255**	PN	**Pn**		**20 56 21.0**	**+0.3**
TVSB	**Tavsanli**	**2.03**	**332**	PN	**Pn**		**20 56 21.1**	**-0.2**
TURN	**Turunc**	**2.14**	**246**	PN	**Pg**		**20 56 23.0**	**+1.1**
AUBOZ	**BOZOYUK**	**2.30**	**347**	*i* P	**Pn**		**20 56 25.1**	**0.0**
AUBOZ				IAML			20 57 07.0	
	comp=E,86nm,0.7s							
AUBOZ				IAML			20 57 17.0	
	comp=N,72nm,0.8s							
ARG	**Arkhangelos**	**2.51**	**236**	P	**Pb**		**20 56 30.9**	**-1.1**
DURS	**Dursunbey**	**2.60**	**319**	*i* P	**Pn**		**20 56 28.6**	**-0.6**
DURS				IAML			20 57 19.0	
	comp=E,121nm,0.7s							
DURS				IAML			20 57 22.0	
	comp=N,129nm,0.7s							
ALFC	**Alefka**	**2.94**	**148**	S	**Sn**		**20 57 09.8**	**+0.5**
AKMS	**Akamas**	**2.95**	**153**	P	**Pn**		**20 56 33.2**	**-0.8**
AKMS				AML	AML		20 57 22.0	
	comp=N,0.6nm,0.6s							
AKMS				AML	AML		20 57 23.0	
	comp=N,0.6nm,0.5s							
BRTR	**Keskin Array B**	**3.10**	**47**	Pn	**Pn**		**20 56 36.8**	**+0.7**
	comp=N,1.9nm,0.3s,baz=223,slow=14,SNR=127							
BRTR				Sn	**Sn**		**20 57 12.0**	**-1.4**
	comp=N,1.3nm,0.3s,baz=223,slow=20,SNR=5.7							
SZAC	**Souni**	**3.40**	**148**	P	**Pn**		**20 56 39.9**	**-0.2**
CSS	**Mathiatis**	**3.44**	**141**	P	**Pn**		**20 56 39.4**	**-1.2**
ASGA	**Asgata**	**3.54**	**143**	P	**Pn**		**20 56 41.4**	**-0.6**
MVOU	**Mavrovouni**	**3.55**	**137**	P	**Pn**		**20 56 40.9**	**-1.2**
MVOU				S	**Sn**		**20 57 23.0**	**-1.4**
OSC1	**CSNet OBS 1**	**4.18**	**173**	P	**Pn**		**20 56 51.3**	**+0.5**
IDI	**Anoyia**	**5.24**	**245**	Pn	**Pn**		**20 57 04.9**	**-0.5**
	comp=N,1.1nm,0.3s,baz=37,slow=11,SNR=11							
IDI				Sn	**Sn**		**20 58 05.2**	**-0.9**
	comp=N,0.8nm,0.3s,baz=15,slow=20,SNR=1.6							
MMAI	**Mount Meron Ar**	**6.03**	**139**	Pn	**Pn**		**20 57 15.7**	**-0.6**
	comp=N,1.8nm,0.3s,baz=327,slow=12,SNR=14							
MMAI				Sn	**Sn**		**20 58 26.7**	**+1.1**
	comp=N,1.9nm,0.3s,baz=299,slow=24,SNR=6.3							
ELND	**Elena**	**6.42**	**327**	⇑P	**Pn**		**20 57 20.6**	**-1.0**
TIRR	**Tirgusor**	**7.00**	**347**	⇓P	**Pn**		**20 57 29.7**	**+0.1**
HARR	**Harsova**	**7.32**	**344**	⇑P	**Pn**		**20 57 34.4**	**+0.4**
TLCR		**7.65**	**350**	⇑P	**Pn**		**20 57 38.1**	**-0.3**
CFR	**Carcaliu**	**7.75**	**347**	⇓P	**Pn**		**20 57 39.3**	**-0.5**
MLR	**Muntele Rosu**	**8.59**	**337**	Pn	**Pn**		**20 57 53.0**	**+1.5**
	comp=N,0.2nm,0.3s,baz=170,slow=16,SNR=3.5							
MLR	**Muntele Rosu**	**8.59**	**337**	⇑P	**Pn**		**20 57 51.0**	**-0.5**
VRI	**Vrincioaia**	**8.71**	**341**	⇑P	**Pn**		**20 57 53.8**	**+0.8**
PLOR	**Plostina**	**8.72**	**341**	⇓P	**Pn**		**20 57 53.0**	**-0.2**
EIL	**Elat**	**8.72**	**155**	Pn	**Pn**		**20 57 53.4**	**+0.1**
	comp=N,0.3nm,0.3s,baz=333,slow=18,SNR=5.0							
EIL				Sn	**Sn**		**20 59 28.6**	**-3.3**
	comp=N,0.2nm,0.3s,baz=3.4,slow=17,SNR=1.7							
VOIR		**8.84**	**333**	⇑P	**Pn**		**20 57 53.7**	**-1.2**
DOPR	**Dopca**	**9.19**	**336**	⇑P	**Pn**		**20 58 00.1**	**+0.5**
TESR	**Tescani**	**9.34**	**343**	⇑P	**Pn**		**20 58 01.5**	**-0.1**
BURAR	**Bucovina Array**	**10.73**	**340**	⇓P	**Pn**		**20 58 22.1**	**+1.3**
GERES	**GERESS Array B**	**16.63**	**318**	Pn	**P**		**20 59 44.0**	**+1.2**
	comp=N,0.1nm,0.3s,baz=134,slow=7.6,SNR=5.5							
FINES	**FINESS Array B**	**23.98**	**355**	P	**P**		**21 01 03.4**	**+1.9**
	comp=N,3.1nm,1.1s,baz=155,slow=10,SNR=2.7							
ARU	**Arti**	**26.41**	**36**	P	**P**		**21 01 23.4**	**-0.2**
	comp=N,0.8nm,0.6s,baz=165,slow=18,SNR=3.8							
TORD	**Torodi Ar. Bea**	**35.54**	**234**	P	**P**		**21 02 44.3**	**-0.2**
	comp=N,0.5nm,0.9s,baz=23,slow=7.8,SNR=3.0							
MKAR	**Makanchi Array**	**38.67**	**60**	P	**P**		**21 03 11.3**	**+0.4**
	comp=N,0.6nm,0.6s,baz=278,slow=7.8,SNR=8.3							
SONM	**Songino Array**	**54.44**	**53**	P	**P**		**21 05 15.0**	**+0.4**
	comp=N,0.5nm,0.7s,baz=302,slow=8.3,SNR=3.2							

*IDC **24** 21:16:12.4±1.0,55°.22S×28°.40W,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.9/23,mbtmp4.0/4, Error ellipse: s-maj=38.4km s-min=28.0km az=70.0*
*NEIC **24** 21:16:17.2±0.5,55°.2S±0°.2×28°.7W±0°.1,h40km±9km, mb4.1/7,Error ellipse: s-maj=23.0km s-min=8.4km az=183.0*

ISC 24 21:16:13.4±0.8,55°.2S±0°.1×28°.58W±0°.10,h10km,n17, σ0s94/15,mb4.2/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.67**	**278**		**Pn**	**21 17 24.5**	**+0.6**
HOPE				Sn	**Sn**	**21 18 17.0**	**-1.1**
QSPA	**South Pole Qui**	**35.05**	**180**	P	**P**	**21 23 05.8**	**-0.3**
QSPA				IAmb	IAmb	21 23 12.2	
	comp=Z,4.0nm,1.1s						
CPUP	**Villa Florida**	**35.66**	**312**	P	**P**	**21 23 11.8**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=102,slow=6.5,SNR=3.7						
CPUP	**Villa Florida**	**35.66**	**312**	P	**P**	**21 23 11.5**	**+0.1**
BOSA	**Boshof**	**46.54**	**78**	P	**P**	**21 24 41.2**	**+0.1**
GO01	**Chusmiza**	**46.82**	**303**	P	**P**	**21 24 43.4**	**-0.4**
GO01				IAmb	IAmb	21 24 48.2	
	comp=Z,1.8nm,0.8s						
VNDA	**Vanda**	**47.38**	**183**	P	**P**	**21 24 47.4**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=164,slow=5.8,SNR=11						
VNDA	**Vanda**	**47.38**	**183**	P	**P**	**21 24 46.7**	**-0.2**
VNDA				IAmb	IAmb	21 24 50.7	
	comp=Z,1.2nm,0.7s						
LPAZ	**La Paz**	**49.24**	**306**	P	**P**	**21 25 04.4**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=229,slow=10,SNR=6.9						
LPAZ	**La Paz**	**49.24**	**306**	P	**P**	**21 25 02.0**	**-0.6**
LPAZ				IAmb	IAmb	21 25 06.1	
	comp=Z,1.6nm,0.8s						
TOA0	**Torodi Ar. Sit**	**72.72**	**31**	P	**P**	**21 27 39.3**	**-2.0**
TOA0				IAmb	IAmb	21 27 42.8	
	comp=Z,1.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.72**	**31**	P	**P**	**21 27 42.0**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=204,slow=6.4,SNR=11						
H08S1	**Diego Garcia H**	**90.04**	**103**	T	T	23 08 58.2	
	baz=219						
H08S2	**Diego Garcia H**	**90.05**	**103**	T	T	23 08 59.1	
	baz=219						
H08S3	**Diego Garcia H**	**90.06**	**103**	T	T	23 08 59.6	
	baz=219						
ILAR	**Eielson Array**	**148.96**	**313**	PKPbc	**PKPbc**	**21 36 00.6**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=129,slow=1.9,SNR=23						
SONM	**Songino Array**	**151.46**	**86**	PKPbc	**PKPbc**	**21 36 06.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=226,slow=3.0,SNR=6.2						

*NEIC **24** 21:16:45.6±1.2,24°.8S±0°.1×179°.9E±0°.2,h499km±9km, mb4.3/16, Error ellipse: s-maj=21.8km s-min=17.3km az=129.0*
*IDC **24** 21:16:45.3±2.2,24°.78S×179°.90E,h488km±22km,mb3.4/8, mb1 3.6/10,mb1mx3.4/22,mbtmp4.2/10, Error ellipse: s-maj=27.9km s-min=17.8km az=154.0*

ISC 24 21:16:45.9±0.6,24°.87S±0°.08×179°.9E±0°.1,h501km,n36, σ0s76/39,mb4.0/13,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.77**	**157**	P	**P**	**21 18 10.6**	**-0.2**
RAO				S	**S**	**21 19 19.6**	**-0.5**
MSVF	**Nonsavu**	**7.31**	**346**	P	**P**	**21 18 34.7**	**-0.9**
NIUE	**Niue**	**11.03**	**60**	P	P	21 19 08.7	-5.6
DZM	**Mont Dzumac**	**12.69**	**280**	P	**P**	**21 19 32.8**	**+0.9**
	0.4nm,0.3s,baz=144,slow=17,SNR=2.5						
URZ	**Urewera**	**13.56**	**190**	P	**P**	**21 19 41.7**	**+0.8**
	0.7nm,0.3s,baz=42,slow=1.8,SNR=2.3						
URZ				S	**S**	**21 22 04.0**	**-1.1**
	0.5nm,0.3s,baz=348,slow=21,SNR=1.8						
URZ	**Urewera**	**13.56**	**190**	P	**P**	**21 19 41.1**	**+0.3**
BKZ	**Black Stump Fm**	**14.55**	**191**	P	**P**	**21 19 52.0**	**+0.8**
QRZ	**Quartz Range**	**17.07**	**199**	P	**P**	**21 20 18.6**	**+1.2**
QRZ				IAmb	IAmb	21 20 33.9	
	comp=Z,12nm,1.1s						
THZ	**Tophouse**	**17.83**	**197**	P	**P**	**21 20 24.9**	**+0.3**
THZ				IAmb	IAmb	21 20 32.9	
	comp=Z,11nm,1.2s						
KHZ	**Kahutara**	**18.28**	**195**	P	**P**	**21 20 28.5**	**-0.1**
KHZ				IAmb	IAmb	21 20 42.1	
	comp=Z,10.0nm,0.9s						
LTZ	**Lake Taylor**	**18.95**	**198**	P	**P**	**21 20 34.2**	**-0.6**
FOZ	**Fox Glacier**	**20.38**	**202**	P	**P**	**21 20 48.3**	**+0.5**
CTAO	**Charters Tower**	**31.43**	**272**	P	**P**	**21 22 25.8**	**+0.1**
STKA	**Stephens Creek**	**34.31**	**249**	P	**P**	**21 22 50.4**	**+0.4**
	comp=Z,1.9nm,0.3s,baz=98,slow=10.0,SNR=18						
STKA	**Stephens Creek**	**34.31**	**249**	P	**P**	**21 22 50.0**	**-0.1**
COEN	**Coen**	**36.22**	**280**	P	**P**	**21 23 06.4**	**+0.3**
BBOO	**Buckleboo**	**39.02**	**248**	P	**P**	**21 23 27.9**	**-0.9**
BBOO				IAmb	IAmb	21 23 43.5	
	comp=Z,7.9nm,1.1s						
AS31	**Alice Springs**	**41.82**	**262**	P	**P**	**21 23 50.9**	**-0.7**
ASAR	**Alice Springs**	**41.82**	**262**	P	**P**	**21 23 51.5**	**0.0**
	comp=Z,1.8nm,0.4s,baz=95,slow=7.3,SNR=41						
ASAR				ScP	**ScP**	**21 28 39.8**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=126,slow=4.7,SNR=2.6						
WR0	**Warramunga Arr**	**42.10**	**267**	P	**P**	**21 23 53.2**	**-0.5**
WR0				IAmb	IAmb	21 23 53.5	
	comp=Z,5.0nm,0.5s						
WB2	**Warramunga Arr**	**42.28**	**267**	P	**P**	**21 23 54.6**	**-0.5**
WB0	**Warramunga Arr**	**42.28**	**267**	P	**P**	**21 23 54.5**	**-0.7**
WRA	**Warramunga Arr**	**42.29**	**267**	P	**P**	**21 23 54.7**	**-0.5**
	comp=Z,4.4nm,0.3s,baz=99,slow=6.9,SNR=167						
WRA				ScP	**ScP**	**21 28 42.4**	**+2.0**
	comp=Z,1.7nm,0.8s,baz=98,slow=3.9,SNR=7.0						
FORT	**Forrest**	**45.92**	**250**	P	**P**	**21 24 22.3**	**-0.9**
FORT				IAmb	IAmb	21 24 23.7	
	comp=Z,9.5nm,0.7s						
MTN	**Manton Dam**	**47.47**	**275**	P	**P**	**21 24 34.5**	**-0.7**
MTN				IAmb	IAmb	21 24 51.1	
	comp=Z,9.2nm,1.1s						
KNRA	**Kununurra**	**48.63**	**271**	P	**P**	**21 24 43.5**	**-0.3**
KNRA				IAmb	IAmb	21 24 44.5	
	comp=Z,20nm,1.1s						
MJAR	**Matsushiro Arr**	**72.66**	**326**	P	**P**	**21 27 21.8**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=156,slow=6.6,SNR=4.6						
NVAR	**Mina Array Bea**	**85.49**	**44**	P	**P**	**21 28 31.4**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=221,slow=9.5,SNR=7.8						
CMAR	**Chiang Mai Arr**	**89.80**	**290**	P	**P**	**21 28 51.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=152,slow=3.6,SNR=5.4						
TXAR	**Lajitas Array**	**91.00**	**58**	P	**P**	**21 28 57.4**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=210,slow=6.3,SNR=12						
ILAR	**Eielson Array**	**92.98**	**14**	P	**P**	**21 29 03.6**	**-1.1**
	comp=Z,0.3nm,0.9s,baz=209,slow=5.2,SNR=2.1						
ARCES	**ARCESS Array B**	**132.82**	**348**	PKP	**PKPdf**	**21 35 02.1**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=23,slow=2.9,SNR=4.0						
AKASG	**Malin Array Be**	**145.74**	**326**	PKPbc	**PKPdf**	**21 35 27.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=42,slow=3.7,SNR=4.4						
BRTR	**Keskin Array B**	**148.10**	**306**	PKPbc	**PKPbc**	**21 35 35.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=70,slow=3.4,SNR=1.7						
CLL	**Collm**	**151.76**	**343**	*i* PKPbc	**PKPbc**	**21 35 43.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**168.22**	**188**	PKPab	**PKPab**	**21 37 07.1**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=174,slow=3.0,SNR=2.8						

*THR **24** 21:27:14.5±0.3,32°.59N×47°.65E,h17km±5km, ML3.2*
*TEH **24** 21:27:15.0,32°.74N×47°.66E,h10km, ML2.9*

ISC 24 21:27:13.5±1.1,32°.62N±0°.07×47°.69E±0°.04,h10km,n10, σ1s23/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.35**	**280**	*e*Pg	**Pb**	**21 27 21.2**	**-0.6**
DHL1				*e*Sg	**Sb**	**21 27 27.9**	**+0.5**
DHL1				*e*		21 27 29.4	
IKFM	**Kafar-mosalman**	**0.91**	**8**	*e*Pg	**Pg**	**21 27 30.7**	**-0.4**
IKFM				*e*		21 27 47.1	
SHGR	**Shooshtar-Gavs**	**1.07**	**118**	*e*Pg	**Pn**	**21 27 34.8**	**+0.2**
SHGR				*e*Sg	**Sn**	**21 27 49.6**	**+0.1**
SHGR				IAML		21 27 55.9	
	comp=E,588nm,0.9s						
IDOB	**Doab**	**1.23**	**19**	*e*Pg	**Pn**	**21 27 36.4**	**-0.6**
IDOB				*e*		21 27 39.2	
BMDN	**Meydan**	**1.42**	**42**	*e*Pg	**Pb**	**21 27 40.1**	**-0.1**
BMDN				*e*		21 27 44.9	
BMDN				*e*Sg	**Sg**	**21 28 02.1**	**+2.9**
IKOM	**Komasi**	**1.56**	**355**	*e*Pg	**Pg**	**21 27 43.3**	**-0.1**
HSAM	**Samen**	**1.76**	**25**	*e*Pg	**Pg**	**21 27 46.6**	**-0.7**
HSAM				*e*		21 27 48.3	
IGHG	**Ghaleghazi**	**1.94**	**332**	*e*Pg	**Pb**	**21 27 49.0**	**-0.2**
IGHG				*e*		21 28 24.5	
KHMZ	**Khomeyn**	**2.21**	**59**	*e*Pn	**Pb**	**21 27 53.2**	**-0.4**
KHMZ				*e*Sg	**Sg**	**21 28 25.5**	**+1.0**
ASAO	**Ashtian**	**2.74**	**45**	*e*Pn	**Pb**	**21 28 00.5**	**-2.3**

*IDC **24** 21:33:47.1±0.8,55°.26S×28°.50W,h0km, mb4.1/6, mb1 4.2/7,mb1mx4.0/21,mbtmp4.1/7,ML3.3/1, Error ellipse: s-maj=26.5km s-min=21.4km az=89.0*
*NEIC **24** 21:33:48.1±1.8,55°.2S±0°.1×28°.6W±0°.2,h10km±1km, mb4.2/10, Error ellipse: s-maj=24.2km s-min=16.1km az=187.0*

ISC 24 21:33:48.2±0.7,55°.2S±0°.1×28°.63W±0°.09,h10km,n23, σ0s82/24,mb4.2/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.65**	**278**	Pn	**Pn**	**21 34 59.3**	**+1.0**
HOPE				Sn	**Sn**	**21 35 51.6**	**-0.6**
PMSA	**Palmer Station**	**19.86**	**227**	P	**P**	**21 38 18.7**	**-0.3**
	0.1nm,0.3s,baz=358,slow=8.6,SNR=3.6						
PMSA	**Palmer Station**	**19.86**	**227**	P	**P**	**21 38 19.0**	**+0.1**
QSPA	**South Pole Qui**	**35.05**	**180**	P	**P**	**21 40 41.1**	**+0.2**
	0.8nm,0.4s,baz=193,slow=2.1,SNR=6.3						
QSPA	**South Pole Qui**	**35.05**	**180**	P	**P**	**21 40 40.7**	**-0.2**
CPUP	**Villa Florida**	**35.64**	**312**	P	**P**	**21 40 47.0**	**+0.8**
	3.9nm,0.9s,baz=149,slow=7.3,SNR=7.4						
CPUP	**Villa Florida**	**35.64**	**312**	P	**P**	**21 40 46.6**	**+0.5**
CPUP				IAmb	IAmb	21 40 48.5	
	comp=Z,4.3nm,0.8s						
GO04	**Tololo Observa**	**38.95**	**292**	P	**P**	**21 41 12.4**	**-2.1**
PB14	**IPOC Station P**	**43.23**	**298**	P	**P**	**21 41 49.2**	**-0.7**
LVC	**Limon Verde**	**44.17**	**301**	P	**P**	**21 41 56.4**	**-1.1**
LVC				IAmb	IAmb	21 42 10.3	
	comp=Z,6.5nm,1.1s						
BOSA	**Boshof**	**46.57**	**78**	P	**P**	**21 42 16.1**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=70,slow=6.7,SNR=3.2						
BOSA	**Boshof**	**46.57**	**78**	P	**P**	**21 42 15.8**	**-0.4**
BOSA				IAmb	IAmb	21 42 24.9	
	comp=Z,1.6nm,0.8s						
VNDA	**Vanda**	**47.38**	**183**	P	**P**	**21 42 21.8**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=189,slow=5.2,SNR=12						
VNDA	**Vanda**	**47.38**	**183**	P	**P**	**21 42 22.1**	**+0.4**
VNDA				IAmb	IAmb	21 42 25.5	
	comp=Z,2.1nm,0.8s						
LPAZ	**La Paz**	**49.22**	**306**	P	**P**	**21 42 38.8**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=168,slow=7.8,SNR=5.0						
LPAZ	**La Paz**	**49.22**	**306**	P	**P**	**21 42 36.6**	**-0.8**
LPAZ				IAmb	IAmb	21 42 40.6	
	comp=Z,2.8nm,1.1s						
TOA0	**Torodi Ar. Sit**	**72.74**	**31**	P	**P**	**21 45 16.2**	**-0.2**
TOA0				IAmb	IAmb	21 45 24.4	
	comp=Z,2.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**72.74**	**31**	P	**P**	**21 45 17.0**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=202,slow=6.2,SNR=10						
FINES	**FINESS Array B**	**124.02**	**28**	PKP	**PKPdf**	**21 52 44.6**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=142,slow=5.3,SNR=3.6						
INK	**Inuvik**	**144.63**	**322**	PKP	**PKPdf**	**21 53 23.2**	**0.0**
	comp=Z,1.8nm,0.8s,baz=192,slow=6.6,SNR=4.0						
INK	**Inuvik**	**144.63**	**322**		**PKPdf**	**21 53 24.6**	**+1.3**
ILAR	**Eielson Array**	**148.94**	**313**	PKPbc	**PKiKP**	**21 53 35.5**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=121,slow=1.7,SNR=19						
SONM	**Songino Array**	**151.49**	**86**	PKPbc	**PKPbc**	**21 53 41.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=213,slow=2.8,SNR=5.8						

*JMA **24** 21:45:39.4±0.6,46°.47N×152°.66E,h30km, M4.8*
*MOS **24** 21:45:41.7±1.2,46°.41N×152°.45E,h67km,mb4.6/14, Error ellipse: s-maj=7.8km s-min=6.4km az=78.6*
*SKHL **24** 21:45:42.1±0.8,46°.32N×152°.61E,h69km±5km,mb4.8/10*
*IDC **24** 21:45:43.3±0.5,46°.55N×152°.32E,h58km±4km,mb3.8/22, mb1 4.0/27,mb1mx3.9/42,mbtmp4.1/27,MS4.2/5, Ms1 4.2/5,ms1mx3.4/52,Error ellipse: s-maj=14.8km s-min=11.3km az=143.0*
*NEIC **24** 21:45:44.3±1.8,46°.5N±0°.1×152°.4E±0°.1,h76km±7km, mb4.6/51,Error ellipse: s-maj=18.2km s-min=10.9km az=141.0*

ISC 24 21:45:43.2±0.5,46°.34N±0°.06×152°.48E±0°.05,h67km±4km, h67km:pP-P,n231,σ1s49/242,mb4.4/68,17C-10D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.41**	**253**	*i* P	**Pn**	**21 46 34.1**	**+0.2**
KUR				AMB	AMB	21 46 34.5	
	90nm,0.4s						
KUR				AMB	AMB	21 46 34.5	
	50nm,0.4s						
KUR				AMB	AMB	21 46 34.5	
	380nm,0.4s						
KUR				*i* S	**Sn**	**21 47 12.9**	**-0.2**
KUR				A	A	21 47 24.0	
	720nm,0.5s						
KUR				A	A	21 47 24.0	
	660nm,0.5s						
KUR	**Kuril'sk**	**3.41**	**253**	*c* iPN	**Pn**	**21 46 34.1**	**+0.2**
KUR				*i* S	**Sn**	**21 47 12.9**	**-0.2**
KUR				pmax	pmax		
	comp=Z,379nm,0.3s						
KUR				pmax	pmax		
	comp=N,101nm,0.2s						
KUR				pmax	pmax		
	comp=E,66nm,0.2s						
KUR				smax	smax		
	comp=N,719nm,0.4s						
KUR				smax	smax		
	comp=E,663nm,0.4s						
SKR	**Severo-Kuril's**	**4.97**	**28**	*e*P	**Pn**	**21 46 54.4**	**-0.8**
SKR				AMB	AMB	21 47 02.0	
	comp=E,60nm,0.7s						
SKR				*e*S	**Sn**	**21 47 47.7**	**-3.6**
SKR				A	A	21 48 07.0	
	comp=E,120nm,0.5s						
SKR				A	A	21 48 07.0	
	comp=E,140nm,0.5s						
SKR	**Severo-Kuril's**	**4.97**	**28**	*e*PN	**Pn**	**21 46 54.4**	**-0.8**
SKR				*e*S	**Sn**	**21 47 47.7**	**-3.6**
SKR				pmax	pmax		
	comp=Z,64nm,0.7s						
SKR				smax	smax		
	comp=N,116nm,0.6s						
SKR				smax	smax		
	comp=E,138nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.21**	**246**	*i* P	**Pn**	**21 46 59.3**	**+0.7**
YUK				AMB	AMB	21 46 59.9	
	comp=E,90nm,0.5s						
YUK				AMB	AMB	21 46 59.9	
	comp=E,130nm,0.5s						
YUK				AMB	AMB	21 46 59.9	
	comp=E,320nm,0.5s						
YUK				*i* S	**Sn**	**21 47 57.7**	**+0.4**
YUK				A	A	21 48 22.0	
	comp=E,610nm,0.5s						
YUK				A	A	21 48 22.0	
	comp=E,250nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.21**	**246**	⇓*i* PN	**Pn**	**21 46 59.3**	**+0.7**
YUK				*i* S	**Sn**	**21 47 57.7**	**+0.4**
YUK				pmax	pmax		
	comp=Z,318nm,0.4s						
YUK				pmax	pmax		
	comp=N,85nm,0.1s						
YUK				pmax	pmax		
	comp=E,131nm,0.3s						
YUK				smax	smax		
	comp=N,607nm,0.4s						
YUK				smax	smax		
	comp=E,246nm,0.4s						
GRPR	**Tuman**	**5.29**	**246**	*e*P	**Pn**	**21 47 00.5**	**+0.9**
GRPR				AMB	AMB	21 47

TYV AMB AMB 21 47 37.9
comp=Z,30nm,0.7s
ERM Erimo 7.97 240 PN **Pn** **21 47 36.7 +0.4**
ERM Erimo 7.97 240 Pn **Pn** **21 47 36.7 +0.4**
JBT2 Biratori 2 8.05 247 P **Pn** **21 47 36.8 -0.6**
JNBK Urakawa-nobuka 8.07 243 P **Pn** **21 47 35.8 -1.8**
JEW Eniwo 8.61 250 P **Pn** **21 47 45.6 +0.6**
JNB Noboribetsu 9.06 249 P **Pn** **21 47 49.9 -1.2**
JKB Kayabe 9.36 246 P **Pn** **21 47 53.1 -2.1**
JKB *eS* **Sn** **21 49 32.0 -6.7**
JSH Shimam 9.62 252 P **Pn** **21 47 59.4 +0.6**
JW2 Yakumo 2 9.66 248 P **Pn** **21 47 58.7 -0.6**
JSR Shiriuchi 9.94 245 P **Pn** **21 48 00.9 -2.2**
JANG Nango 9.96 237 P Pn 21 47 59.7 -3.8
JANG *eS* Sn 21 49 43.6 -10
JTM Tenmabayashi 9.97 240 P **Pn** **21 48 01.2 -2.3**
JTM *eS* Sn 21 49 45.3 -8.4
JTH Tanohata 10.05 234 P Pn 21 48 00.3 -4.4
JTH *eS* Sn 21 49 44.9 -11
JOSM Okushiri--Mats 10.26 250 P **Pn** **21 48 06.2 -1.3**
OFUJ Ofunato 10.76 231 P Pn 21 48 10.8 -3.5
OFUJ *eS* Sn 21 50 02.9 -10
JRG Rokugo 11.12 236 P Pn 21 48 16.1 -3.1
JIO Ouri 11.38 230 P Pn 21 48 18.8 -4.1
MA2 Magadan 13.30 356 P **Pn** **21 48 47.2 -1.5**
comp=Z,1.3nm,0.3s,baz=336,slow=22,SNR=2.5
MA2 Magadan 13.30 356 *eP* **Pn** **21 48 47.7 -1.0**
MA2 Magadan 13.30 356⇓ *eP*N **Pn** **21 48 47.7 -1.0**
MA2 pmax pmax
comp=Z,8.0nm,0.8s
KLR Kul'dur 14.23 289 P **Pn** **21 49 00.4 -0.8**
comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=4.9
KLR Kul'dur 14.23 289 *eP* **Pn** **21 49 02.7 +1.6**
KLR Kul'dur 14.23 289⇓ *eP* **Pn** **21 49 02.7 +1.6**
KLR pmax pmax
comp=Z,6.0nm,0.9s
EKMR Ekimchan 14.29 305 *eP* **Pn** **21 49 01.0 -1.0**
EKMR AMB AMB 21 49 05.3
comp=Z,10.0nm,0.8s
MJAR Matsushiro Arr 14.48 233 P **Pn** **21 49 02.5 -2.1**
comp=Z,0.1nm,0.3s,baz=30,slow=15,SNR=6.9
MAJO Matsushiro 14.48 233 P **Pn** **21 49 03.5 -1.1**
MAJO Matsushiro 14.48 233 Pn **Pn** **21 49 03.5 -1.1**
MAJO P **P** **21 49 11.6 +2.1**
MAT Matsushiro 14.48 233 P **Pn** **21 49 01.9 -2.7**
USA0B Ussuriysk Arra 14.58 269 P **Pn** **21 49 06.0 +0.2**
USA0B Ussuriysk Arra 14.58 269 **Pn** **21 49 06.0 +0.2**
USRK Ussuriysk Ar. 14.58 269 P **Pn** **21 49 05.5 -0.3**
baz=69,slow=13,SNR=30
SMY Shemya 15.39 58 P **Pn** **21 49 16.1 0.0**
SMY pmax pmax
comp=Z,103nm,1.5s
SMY Shemya 15.39 58 Pn **Pn** **21 49 16.1 0.0**
SMY IAmb IAmb 21 49 29.1
comp=Z,103nm,1.5s
JHJ2 Mitsune 16.39 221 Pn **Pn** **21 49 27.4 -1.4**
SEY Seymchan 16.63 360 P **Pn** **21 49 30.8 -0.8**
comp=Z,0.7nm,0.3s,baz=174,slow=11,SNR=6.5
SEY Seymchan 16.63 360⇑ *eP* **Pn** **21 49 32.3 +0.7**
BMKR Bomnak 17.14 308 *eP* **Pn** **21 49 35.1 -2.9**
BMKR AMB AMB 21 49 42.0
comp=Z,10.0nm,0.7s
ZEA Zeya 17.75 304 *eP* **P** **21 49 43.1 -2.4**
ZEA AMB AMB 21 49 50.7
comp=Z,10.0nm,0.8s
ZEA Zeya 17.75 304 *eP* **Pn** **21 49 47.1 +1.6**
ZEA pmax pmax
comp=Z,17nm,1.0s
ZEA MLR MLR
comp=Z,800nm,17.0s
KROS Kirovskiy 18.09 306 *eP* **Pn** **21 49 50.1 +0.5**
KROS AMB AMB 21 49 51.0
comp=Z,10.0nm,0.7s
AMKA Amchitka 18.30 64 P **P** **21 49 53.6 +2.1**
KSRS Korea Array 20.26 253 P **P** **21 50 14.2 +1.3**
comp=Z,8.2nm,0.8s,baz=57,slow=11,SNR=24
KS19 Wonju Array Si 20.27 253 P **P** **21 50 13.0 -0.1**
YAK Yakutsk 20.43 328 P **P** **21 50 14.7 +0.1**
comp=Z,5.9nm,0.4s,baz=121,slow=3.3,SNR=2.1
YAK Yakutsk 20.43 328 *eP* Pn 21 50 17.6 +0.3
YAK Yakutsk 20.43 328 *eP* Pn 21 50 17.6 +0.3
YAK *e**PP pwP 21 50 35.7 +7.1
YAK *eS* Sn 21 54 03.9 -2.9
YAK *e**SS sS 21 54 33.6 +12
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK smax smax
comp=E,73nm,3.2s
YAK smax smax
comp=N,49nm,3.2s
YAK Yakutsk 20.43 328 P **P** **21 50 15.1 +0.5**
YAK IAmb IAmb 21 50 18.7
comp=Z,20nm,0.7s
JNU Nakatsue 21.13 239 P **P** **21 50 23.5 +1.0**
comp=Z,7.7nm,0.9s,baz=78,slow=6.4,SNR=4.0
JNU Nakatsue 21.13 239 P **P** **21 50 22.8 +0.3**
H11N2 WAKE ISLAND Hy 29.07 151 T T 22 23 00.1
baz=340,slow=76,SNR=7939
H11N1 WAKE ISLAND Hy 29.08 151 T T 22 23 00.9
baz=340,slow=76,SNR=5638
H11N3 WAKE ISLAND Hy 29.08 151 T T 22 23 01.1
baz=340,slow=76,SNR=4339
HHC Hu-ho-hao-te 29.89 274 *eP* **P** **21 51 45.1 +0.7**
HHC pmax pmax
comp=Z,24nm,0.7s
HHC pmax pmax
comp=Z,450nm,7.2s
H11S1 WAKE ISLAND Hy 30.14 152 T T 22 24 21.1
baz=340,slow=76,SNR=4062
H11S3 WAKE ISLAND Hy 30.15 152 T T 22 24 19.5
baz=340,slow=76,SNR=5108
H11S2 WAKE ISLAND Hy 30.16 152 T T 22 24 20.2
baz=340,slow=76,SNR=3977
SONM Songino Array 31.06 290 P **P** **21 51 54.6 -0.1**
comp=Z,1.2nm,0.9s,baz=75,slow=7.7,SNR=6.3
SONM ScP **ScP** **21 58 28.3 +2.8**
comp=Z,0.2nm,0.5s,baz=56,slow=3.6,SNR=1.6
TPUB Ta-pu 34.44 239 P **P** **21 52 24.2 -0.1**
TPUB IAmb IAmb 21 52 26.1
comp=Z,7.0nm,0.8s
KDAK Kodiak Island 34.70 50 P **P** **21 52 25.9 -0.2**
comp=Z,19nm,1.1s,baz=261,slow=3.6,SNR=5.4
KDAK Kodiak Island 34.70 50 P **P** **21 52 24.9 -1.3**
KDAK pmax pmax
comp=Z,49nm,1.5s
KDAK Kodiak Island 34.70 50 P **P** **21 52 24.9 -1.3**
SPU Mount Spurr 34.80 44 **S** **21 57 49.3 -3.4**
XAN Xi'an 35.04 265 P **P** **21 52 29.4 -0.1**
XAN pmax pmax
comp=Z,11nm,0.7s
XAN Xi'an 35.04 265 P **P** **21 52 29.1 -0.4**
XAN pmax pmax
comp=Z,11nm,1.0s
SKT Skwentna 35.05 43 P **P** **21 52 28.6 -0.6**
SKT IAmb IAmb 21 52 43.3
comp=Z,6.7nm,1.3s
CNPM China Poot 35.27 47 P **P** **21 52 31.0 -0.1**
COLD Coldfoot 35.92 34 P **P** **21 52 36.7 +0.2**
WRH Wood River Hil 36.62 39 P **P** **21 52 42.4 -0.1**
CCB Clear Creek Bu 36.75 38 P **P** **21 52 44.0 +0.4**
IL31 37.14 38 P **P** **21 52 46.9 -0.1**
ILAR Eielson Array 37.14 38 P **P** **21 52 47.4 +0.4**
comp=Z,0.3nm,0.4s,baz=261,slow=6.3,SNR=6.0
LZH Lanzhou 37.46 272 *eP* **P** **21 52 49.6 -0.6**
LZH pP pP 21 53 08.5 +2.7
LZH sP sP 21 53 17.4 +4.1
LZH *e*PP **PnPn** **21 54 19.8 +1.7**
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,83nm,5.2s
LZH LR LR
comp=N,330nm,13.2s
LZH LR LR
comp=E,350nm,13.4s
LZH LR LR
comp=Z,500nm,16.5s
GTA Gaotai 38.60 279 *eP* **P** **21 52 58.3 -1.4**
GTA pP pP 21 53 16.0 +0.7
GTA sP pwP 21 53 24.9 +5.4
GTA PcP **PcP** **21 55 12.3 +1.5**
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA pmax pmax
comp=Z,150nm,5.4s
GTA LR LR
comp=N,160nm,16.8s
GTA LR LR
comp=E,200nm,16.2s
GTA LR LR
comp=Z,220nm,15.6s
CRQM Cirque 39.17 45 P **P** **21 53 05.9 +1.7**
BALM Baldy 39.51 44 P **P** **21 53 06.2 -0.9**
BALM IAmb IAmb 21 53 11.5
comp=Z,18nm,1.4s
CTGM Chitina Glacie 40.01 44 P **P** **21 53 11.8 +0.6**
CTGM IAmb IAmb 21 53 28.3
comp=Z,10nm,0.9s
CD2 Chengdu 40.41 265 *eP* **P** **21 53 15.3 +0.6**
CD2 pmax pmax
comp=Z,30nm,0.8s
HYT Haines Junctio 41.87 44 P **P** **21 53 26.8 +0.3**
INK Inuvik 42.23 32 P **P** **21 53 29.7 +0.6**
comp=Z,3.3nm,0.9s,baz=296,slow=7.1,SNR=5.9
INK Inuvik 42.23 32 P **P** **21 53 29.5 +0.4**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 42.23 32 P **P** **21 53 29.5 +0.4**
INK IAmb IAmb 21 53 45.5
comp=Z,4.1nm,0.8s
DGZ Jazzator, Alta 42.42 299⇓ *eP* **P** **21 53 31.3 +0.2**
DGZ pmax pmax
comp=Z,4.0nm,2.1s
ZALV Zalesovo Beam 42.49 306 P **P** **21 53 30.5 -1.0**
comp=Z,0.7nm,0.6s,baz=35,slow=4.0,SNR=2.7
ZALV PcP **PcP** **21 55 23.4 +0.4**
comp=Z,1.2nm,0.6s,baz=56,slow=3.7,SNR=6.1
WMQ Urumqi 44.67 291 *eP* **P** **21 53 49.5 +0.4**
C36M Paulatuk 45.39 30 P **P** **21 53 53.3 -1.1**
C36M IAmb IAmb 21 54 11.7
comp=Z,8.8nm,1.1s
MK31 Makanchi Array 46.74 297 P **P** **21 54 03.4 -2.0**
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 46.74 297 P **P** **21 54 03.4 -2.0**
MKAR Makanchi Array 46.74 297 P **P** **21 54 03.9 -1.5**
comp=Z,2.9nm,0.7s,baz=67,slow=7.4,SNR=23
MKAR PcP **PcP** **21 55 38.1 +0.4**
comp=Z,1.1nm,0.5s,baz=65,slow=2.9,SNR=10.0
MKAR LR LR 22 14 56.0
comp=Z,240nm,20.4s,baz=26,slow=38
MAKZ Makanchi 46.93 298 P **P** **21 54 05.0 -1.8**
MAKZ pmax pmax
comp=Z,2.0nm,1.1s
MAKZ Makanchi 46.93 298 P **P** **21 54 05.0 -1.8**
KURK Kurchatov 47.23 304 *i* P **P** **21 54 08.5 -0.6**
KURK Kurchatov 47.23 304⇑ *i*P **P** **21 54 08.5 -0.6**
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 47.23 304 P **P** **21 54 06.9 -2.2**
BRVK Borovoye 50.82 310 *c* *i*P **P** **21 54 35.3 -1.2**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 51.85 256 P **P** **21 54 46.1 +1.5**
comp=Z,3.9nm,0.9s,baz=36,slow=7.3,SNR=31
CMAR PcP **PcP** **21 55 58.3 +1.6**
comp=Z,0.6nm,0.6s,baz=16,slow=3.5,SNR=4.7
AAK Ala-Archa 53.62 296 *eP* **P** **21 54 57.2 -0.4**
AAK Ala-Archa 53.62 296⇑ *eP* **P** **21 54 57.2 -0.4**
AAK pmax pmax
comp=Z,2.0nm,0.7s
ARU Arti 55.02 317 *eP* **P** **21 55 06.5 -0.8**
ARU Arti 55.02 317 *d* *i*P **P** **21 55 06.5 -0.8**
ARU 21 57 08.0
ARU S **S** **22 02 47.4 +3.2**
ARU SS **SS** **22 06 32.1 +4.2**
ARU pmax pmax
comp=Z,4.0nm,0.8s
SBUM Sibu 56.02 231 P **P** **21 55 15.2 +0.1**
SBUM **pP** **21 55 29.9 -1.3**
ARCES ARCESS Array B 58.09 341 P **P** **21 55 27.0 -2.0**
comp=Z,0.4nm,0.5s,baz=42,slow=7.8,SNR=8.3
NIL Nilore 59.62 288 P **P** **21 55 40.6 +0.5**
NIL pmax pmax
comp=Z,7.0nm,0.8s
NIL Nilore 59.62 288 P **P** **21 55 40.6 +0.5**
NIL IAmb IAmb 21 55 41.5
comp=Z,6.5nm,0.8s
KBL Kabul 61.81 291 P **P** **21 55 54.8 -0.5**
KBL pmax pmax
comp=Z,3.0nm,0.6s
KBL Kabul 61.81 291 P **P** **21 55 54.8 -0.5**
KBL IAmb IAmb 21 55 57.0
comp=Z,3.2nm,0.6s
NVAR Mina Array Bea 63.01 62 pP pP 21 56 20.6 +0.7
comp=Z,1.7nm,0.7s,baz=297,slow=7.1,SNR=10
FIA1 FINESS Array S 64.22 335 P **P** **21 56 09.3 -1.2**
FIA1 IAmb IAmb 21 56 19.7
comp=Z,9.8nm,1.2s
FINES FINESS Array B 64.22 335 P **P** **21 56 09.4 -1.1**
comp=Z,1.3nm,0.4s,baz=41,slow=6.2,SNR=27
FINES FINESS Array B 64.22 335 *i* P **P** **21 56 09.3 -1.2**
FINES pmax pmax
comp=Z,1.0nm,0.4s
PDAR Pinedale Array 65.34 53 P **P** **21 56 19.6 +1.1**
comp=Z,1.0nm,0.8s,baz=292,slow=1.6,SNR=8.7
PDAR pP **pP** **21 56 34.9 -0.4**
comp=Z,1.1nm,0.7s,baz=5.7,slow=1.5,SNR=7.0
OBN Obninsk 65.40 325 *eP* **P** **21 56 17.0 -1.2**
OBN Obninsk 65.40 325 *eP* **P** **21 56 17.0 -1.2**
OBN *e* 21 56 48.6
OBN *e* 21 58 42.2
OBN *e*PPP PPP 22 00 17.6
OBN pmax pmax
comp=Z,4.0nm,0.5s
GEYT Alibeck 66.44 301 P **P** **21 56 24.7 -0.6**
comp=Z,1.1nm,0.6s,baz=191,slow=1.5,SNR=3.8
WR0 Warramunga Arr 67.96 198 P **P** **21 56 36.0 +1.1**
WR0 IAmb IAmb 21 56 39.1
comp=Z,5.0nm,1.2s
WB2 Warramunga Arr 67.98 198 P **P** **21 56 36.8 +1.7**
WB2 IAmb IAmb 21 56 41.2
comp=Z,6.2nm,1.2s
WRA Warramunga Arr 67.98 198 P **P** **21 56 36.1 +1.0**
comp=Z,0.8nm,0.7s,baz=16,slow=6.9,SNR=6.3
NC303 NORSAR Array S 68.27 341 P **P** **21 56 35.6 -0.8**
NC405 NORSAR Array S 68.29 341 P **P** **21 56 36.0 -0.5**
NC204 NORSAR Array S 68.36 341 P **P** **21 56 36.9 -0.1**
NB201 NORSAR Array S 68.44 341 P **P** **21 56 36.5 -1.0**
NB201 IAmb IAmb 21 56 37.2
comp=Z,17nm,1.1s
NB2 NORSAR Subarra 68.47 341 P **P** **21 56 36.9 -0.8**
comp=Z,1.3nm,0.5s,baz=28,slow=6.5
NOA NORSAR Array B 68.47 341 P **P** **21 56 37.1 -0.7**
comp=Z,1.7nm,0.6s,baz=31,slow=6.6,SNR=12
NBO00 NORSAR Array S 68.58 341 P **P** **21 56 38.4 +0.1**
NC602 NORSAR Array S 68.67 341 P **P** **21 56 37.6 -1.3**
KIV Kislovodsk 70.77 314 *eP* **P** **21 56 53.6 +1.4**
KIV Kislovodsk 70.77 314 *eP* **P** **21 56 53.6 +1.4**
KIV pmax pmax
comp=Z,12nm,1.1s
KBZ Khabaz 70.83 314 P **P** **21 56 53.1 +0.7**
comp=Z,4.2nm,0.9s,baz=170,slow=2.3,SNR=11
AKASG Malin Array Be 71.64 326 P **P** **21 56 56.0 -1.2**
comp=Z,1.3nm,0.3s,baz=36,slow=6.2,SNR=12
AKASG Malin Array Be 71.64 326 *ce*P **P** **21 56 56.2 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 71.64 326 P **P** **21 56 56.2 -1.0**
AKBB pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 71.64 326 P **P** **21 56 56.2 -1.0**
AKBB IAmb IAmb 21 56 58.7
comp=Z,2.8nm,0.7s
ASAR Alice Springs 71.68 198 P **P** **21 56 59.8 +2.1**
comp=Z,0.7nm,0.7s,baz=14,slow=5.4,SNR=6.9
ASAR pP **PcP** **21 57 16.0 -0.5**
comp=Z,0.8nm,0.8s,baz=12,slow=5.8,SNR=4.1
SCHQ Schefferville 73.86 22 LR LR 22 33 57.7
comp=Z,126nm,20.3s,baz=326,slow=39
BUR08 Bucovina Ar. S 75.67 326 P **P** **21 57 20.7 -0.3**
BUR08 IAmb IAmb 21 57 21.5
comp=Z,4.5nm,0.5s
BURAR Bucovina Array 75.69 326 ⇓P **P** **21 57 21.1 0.0**
BURAR Bucovina Array 75.69 326 ⇓P **P** **21 57 21.1 0.0**
KOLS Kolonicke sedl 75.69 329 *eP* **P** **21 57 20.2 -0.8**
KOLS Kolonicke sedl 75.69 329 *eP* **P** **21 57 20.2 -0.8**
TESR Tescani 76.03 325 ⇑P **P** **21 57 19.0 -4.0**
KRLC Kraliky 76.58 332 *eP* **P** **21 57 25.1 -1.0**
KRLC Kraliky 76.58 332 *eP* **P** **21 57 25.1 -1.0**
MORC Moravsky Berou 76.59 332 ⇑P **P** **21 57 25.8 -0.3**
MORC Moravsky Berou 76.59 332 P **P** **21 57 26.4 +0.2**
MORC pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 76.59 332 P **P** **21 57 26.4 +0.2**
MORC IAmb IAmb 21 57 26.9
comp=Z,3.0nm,0.8s
CLL Collm 76.65 335 *i* P **P** **21 57 25.9 -0.5**
CLL Collm 76.65 335 *i* P **P** **21 57 25.9 -0.5**
OZUR 76.71 325 ⇑P **P** **21 57 23.0 -3.9**
VYHS Vyhne 77.27 330 *eP* **P** **21 57 29.9 0.0**
VYHS Vyhne 77.27 330 *eP* **P** **21 57 29.9 0.0**
VRAC Vranov 77.31 332 ⇑P P 21 57 21.3 -8.9
VRAC Vranov 77.31 332 ⇑P P 21 57 21.3 -8.9
PRU Pruhonice 77.36 334 *eP* **P** **21 57 30.6 +0.2**
PRU Pruhonice 77.36 334 *eP* **P** **21 57 30.6 +0.2**
VOIR 77.55 325 ⇑P **P** **21 57 31.0 -0.7**
VOIR 77.55 325 ⇑P **P** **21 57 31.0 -0.7**
ARR Arges 77.77 325 ⇑P **P** **21 57 32.9 0.0**
TXAR Lajitas Array 78.08 60 P **P** **21 57 36.3 +1.5**
comp=Z,0.6nm,0.5s,baz=301,slow=4.9,SNR=13
TXAR pP **pP** **21 57 51.8 -0.4**
comp=Z,1.0nm,0.6s,baz=301,slow=4.2,SNR=8.6
BRTR Keskin Array B 78.39 316 P **P** **21 57 36.7 +0.2**
comp=Z,2.2nm,0.8s,baz=77,slow=4.6,SNR=15
KHC Kasperske Hory 78.41 334⇓ *eP* **P** **21 57 35.2 -1.1**
KHC pmax pmax
comp=Z,8.0nm,1.0s
KHC Kasperske Hory 78.41 334 *eP* **P** **21 57 35.7 -0.6**
KHC Kasperske Hory 78.41 334 P **P** **21 57 36.2 -0.1**
GRA1 Grafenberg Arr 78.61 336 P **P** **21 57 37.4 0.0**
GRA1 IAmb IAmb 21 57 38.4
comp=Z,4.6nm,0.7s
GRF Grafenberg Arr 78.61 336 P **P** **21 57 37.4 0.0**
GRF pmax pmax
comp=Z,5.0nm,0.7s
GEC2 GERESS Array S 78.63 334 P **P** **21 57 36.3 -1.3**
GERES GERESS Array B 78.63 334 P **P** **21 57 36.9 -0.7**
comp=Z,0.8nm,0.5s,baz=38,slow=6.8,SNR=11
BZS Buzias 78.72 327 ⇓P **P** **21 57 37.4 -0.6**
BZS Buzias 78.72 327 ⇓P **P** **21 57 37.4 -0.6**
CONA Conrad Observa 78.75 332 *i* P **P** **21 57 38.7 +0.4**
comp=Z,3.0nm,0.7s
DSB Dublin 79.16 347 P **P** **21 57 39.2 -1.0**
MEM Membach 79.17 339 P **P** **21 57 39.8 -0.6**
MEM x x 21 57 51.8
MDVR Moldovita 79.39 327 ⇑P **P** **21 57 37.0 -4.8**
BMRD Maredsous 79.76 340 P **P** **21 57 42.5 -1.1**
BMRD pP **pP** **21 58 04.2 +3.2**
KBA Koelnbreinsper 80.31 333 *i* P **P** **21 57 47.4 +0.6**
comp=Z,8.7nm,0.9s
DIVS Divibare 80.62 327 IAmb IAmb 21 57 48.7
comp=Z,3.5nm,0.9s
WATA Walderalm 80.62 334 *i* P **P** **21 57 48.7 +0.2**
comp=Z,10.0nm,1.1s
WTTA Wattenberg 80.67 334 *i* P **P** **21 57 49.3 +0.5**
comp=Z,7.2nm,0.6s
RETA Reutte 80.73 335 *i* P **P** **21 57 48.9 -0.1**
comp=Z,2.9nm,0.8s
MOTA Moosalm 80.75 335 *i* P **P** **21 57 49.2 0.0**
comp=Z,10nm,1.2s
SQTA Sankt Quirin 80.83 334 *i* P **P** **21 57 50.5 +0.9**
comp=Z,5.8nm,0.9s
ECH Echery 81.08 337 IAmb IAmb 21 57 51.9
comp=Z,7.5nm,1.2s
DAVA Damuels 81.17 335 *eP* **P** **21 57 51.5 +0.1**
comp=Z,6.9nm,1.1s
PDG Podgorica 82.33 327 ⇓P **P** **21 57 55.1 -2.2**
BNI Bardonecchia 84.11 336 P **P** **21 58 06.9 +0.2**
BNI pmax pmax
comp=Z,4.0nm,1.2s
BNI Bardonecchia 84.11 336 P **P** **21 58 06.9 +0.2**
BNI IAmb IAmb 21 58 15.3
comp=Z,3.9nm,1.2s
OSSC Osservatorio P 84.15 333 P **P** **21 58 06.0 -0.8**
OSSC IAmb IAmb 21 58 19.3
comp=Z,16nm,1.4s
NRCA Norcia 84.16 331 IAmb IAmb 21 58 08.1
comp=Z,8.1nm,0.8s
SGRT San Giovanni R 84.20 329 P **P** **21 58 06.1 -1.1**
SGRT IAmb IAmb 21 58 21.0
comp=Z,23nm,1.5s
SCTE Santa Cesarea 84.66 326 P **P** **21 58 07.7 -1.7**
R58B Mineral 84.70 38 P **P** **21 58 09.6 0.0**
R58B IAmb IAmb 21 58 10.2
comp=Z,7.5nm,0.9s
ITM Ithomi 85.74 323 P **P** **21 58 14.2 -0.6**
ITM IAmb IAmb 21 58 32.3
comp=Z,16nm,1.2s
IDI Anoyia 86.04 319 P **P** **21 58 15.2 -1.2**
IDI IAmb IAmb 21 58 28.1
comp=Z,9.9nm,1.1s
URZ Urewera 87.07 161 LR LR 22 30 08.0
comp=Z,130nm,20.5s,baz=184,slow=30
ESDC Sonseca Array 91.81 342 LR LR 22 44 51.9
comp=Z,104nm,20.4s,baz=55,slow=39
KEST Kesra 91.81 331 LR LR 22 45 19.2
comp=Z,117nm,18.4s,baz=271,slow=39
VNDA Vanda 123.72 178 PKP **PKiKP** **22 04 32.8 +1.0**
comp=Z,0.7nm,0.7s,baz=23,slow=3.5,SNR=5.4
VNDA pPKP **pPKPdf** **22 04 48.9 -1.3**
comp=Z,0.6nm,0.9s,baz=332,slow=6.3,SNR=3.2
PLCA Paso Flores 148.61 95 PKPbc **PKiKP** **22 05 23.8 +0.3**
comp=Z,1.9nm,0.6s,baz=346,slow=21,SNR=5.9
PLCA pPKPbc **pPKPdf** **22 05 40.4 +3.4**
comp=Z,2.6nm,0.7s,baz=333,slow=8.3,SNR=3.4
CPUP Villa Florida 149.05 60 PKPbc **PKPbc** **22 05 24.1 +0.5**
comp=Z,1.4nm,0.7s,baz=296,slow=2.2,SNR=3.9
CPUP pPKPbc **pPKPdf** **22 05 42.0 +4.0**
comp=Z,2.0nm,0.8s,baz=356,slow=3.0,SNR=2.5

NEIC **24** *22:11:38.6± 1.3, 25.1°S± 0.1° × 179.8°E± 0.1°, h534km± 14km, mb4.2/14, Error ellipse: s-maj=23.0km s-min=9.8km az=222.0*
IDC **24** *22:11:38.2± 5.2, 25.03°S × 179.87°E, h526km± 62km, mb3.3/7, mb1 3.5/9, mb1mx3.2/40, mbtmp4.2/9, Error ellipse: s-maj=35.5km s-min=27.1km az=2.0*
ISC 24 22:11:39.7± 1.0, 25.2°S± 0.1° × 179.8°E± 0.1°, h550km, n26, σ0 0.8 s 57/26, mb4.2/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.63**	**281**	P	**P**	**ISC**	**22 14 24.3**	**-0.7**
	0.5nm,0.3s,baz=93,slow=15,SNR=3.8							
DZM	**Mont Dzumac**	**12.63**	**281**	P	**P**		**22 14 24.1**	**-0.8**
BKZ	**Black Stump Fm**	**14.23**	**191**	P	**P**		**22 14 40.9**	**-0.3**
QRZ	**Quartz Range**	**16.75**	**199**	P	**P**		**22 15 05.9**	**-0.1**
QRZ				IAmb	IAmb		22 15 23.0	
	comp=Z,4.1nm,1.0s							
TUWZ	**Tuamarina**	**16.93**	**195**	P	**P**		**22 15 08.1**	**+0.4**
THZ	**Tophouse**	**17.51**	**197**	P	**P**		**22 15 12.9**	**-0.1**
THZ				IAmb	IAmb		22 15 20.1	
	comp=Z,4.0nm,0.8s							
RPZ	**Rata Peaks**	**19.84**	**199**	P	**P**		**22 15 34.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=28,slow=21,SNR=1.3							
RPZ	**Rata Peaks**	**19.84**	**199**	P	**P**		**22 15 34.5**	**+0.4**
EIDS	**Eidsvold**	**25.96**	**263**	P	**P**		**22 16 29.3**	**+0.3**
EIDS				IAmb	IAmb		22 16 45.9	
	comp=Z,9.9nm,1.1s							
CTA	**Charters Tower**	**31.33**	**272**	P	**P**		**22 17 16.4**	**+0.6**
	comp=Z,7.8nm,0.4s,baz=100,slow=10,SNR=8.3							
CTAO	**Charters Tower**	**31.33**	**272**	P	**P**		**22 17 16.0**	**+0.3**
MCQ	**Macquarie Isla**	**33.12**	**202**	P	**P**		**22 17 29.8**	**-0.6**
STKA	**Stephens Creek**	**34.10**	**250**	P	**P**		**22 17 40.0**	**+0.9**
	comp=Z,1.6nm,0.4s,baz=86,slow=9.2,SNR=8.9							
BBOO	**Buckleboo**	**38.80**	**248**	P	**P**		**22 18 17.7**	**0.0**
BBOO				IAmb	IAmb		22 18 18.2	
	comp=Z,2.9nm,0.5s							
AS31	**Alice Springs**	**41.67**	**262**	P	**P**		**22 18 40.9**	**+0.1**
ASAR	**Alice Springs**	**41.67**	**262**	P	**P**		**22 18 41.1**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=92,slow=6.8,SNR=23							
WR0	**Warramunga Arr**	**41.97**	**268**	P	**P**		**22 18 42.7**	**-0.5**
WR0				IAmb	IAmb		22 18 43.3	
	comp=Z,2.5nm,0.5s							
WB2	**Warramunga Arr**	**42.15**	**268**	P	**P**		**22 18 44.1**	**-0.5**
WB2				IAmb	IAmb		22 18 45.0	
	comp=Z,11nm,1.1s							
WB0	**Warramunga Arr**	**42.16**	**268**	P	**P**		**22 18 43.9**	**-0.8**

WB0					IAmb	IAmb	22 18 45.1				
	comp=Z,4.2nm,0.6s										
WRA	**Warramunga Arr**	**42.16**	**268**		P	**P**	**22 18 44.4**	**-0.3**			
	comp=Z,3.4nm,0.4s,baz=102,slow=7.7,SNR=51										
FORT	**Forrest**	**45.72**	**251**		P	**P**	**22 19 11.7**	**-0.3**			
KNRA	**Kununurra**	**48.52**	**271**		P	**P**	**22 19 32.7**	**-0.6**			
KNRA					IAmb	IAmb	22 19 33.6				
	comp=Z,12nm,1.1s										
FITZ	**Fitzroy Crossi**	**50.57**	**267**		P	**P**	**22 19 49.5**	**+1.2**			
	comp=Z,2.9nm,0.7s,baz=123,slow=8.8,SNR=6.7										
FITZ	**Fitzroy Crossi**	**50.57**	**267**		P	**P**	**22 19 48.6**	**+0.3**			
NVAR	**Mina Array Bea**	**85.78**	**44**		P	**P**	**22 23 20.9**	**-0.5**			
	comp=Z,0.3nm,0.7s,baz=230,slow=7.0,SNR=2.5										
TXAR	**Lajitas Array**	**91.25**	**58**		P	**P**	**22 23 47.5**	**+0.6**			
	comp=Z,0.4nm,0.8s,baz=212,slow=4.4,SNR=5.0										

IDC 24 22:17:21.8±28.0, 21°90S×179°58W, h599km±261km, mb3.1/4, mb1 3.3/4, mb1mx2.8/35, mbtmp4.1/4, Error ellipse: s-maj=264.8km s-min=138.3km az=125.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
CTA	**Charters Tower**	**31.91**	**267**	P		P	22 23 00.6	+0.5
	5.9nm,0.4s,baz=85,slow=9.8,SNR=13							
ASAR	**Alice Springs**	**42.78**	**258**	P		P	22 24 27.8	-0.6
	0.8nm,0.7s,baz=90,slow=9.2,SNR=6.4							
WRA	**Warramunga Arr**	**42.97**	**264**	P		P	22 24 29.6	-0.2
	1.0nm,0.5s,baz=95,slow=8.1,SNR=8.7							
FITZ	**Fitzroy Crossi**	**51.40**	**264**	P		P	22 25 32.1	-0.7
	2.1nm,0.7s,baz=101,slow=5.2,SNR=2.4							
ARCES	**ARCESS Array B**	**130.02**	**349**	PKP		PKPdf	22 35 21.6	-2.1
	2.2nm,1.1s,baz=35,slow=3.3,SNR=4.1							
AKASG	**Malin Array Be**	**143.49**	**329**	PKP		PKPab	22 35 47.6	-0.1
	0.9nm,0.5s,baz=41,slow=4.1,SNR=4.6							
BRTR	**Keskin Array B**	**146.65**	**310**	PKPbc		PKPbc	22 35 58.5	+0.9
	0.2nm,0.4s,baz=18,slow=5.9,SNR=2.0							

*IDC **24** 22:32:45.9±0.6, 19°.62N×99°.58E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.1/44, mbtmp4.2/17, MS3.8/12, Ms1 3.8/12, ms1mx3.5/41, Error ellipse: s-maj=17.6km s-min=11.1km az=107.0*

*NEIC **24** 22:32:48.4±1.1, 19°.58N±0°.04×99°.45E±0°.05, h20km±5km, mb4.5/29, Error ellipse: s-maj=8.7km s-min=1.5km az=132.0*

*MOS **24** 22:32:48.1±1.0, 19°.60N×99°.47E, h24km, mb4.8/24, Error ellipse: s-maj=13.1km s-min=6.5km az=106.0*

*BJI **24** 22:32:48.1±0.0, 19°.72N×99°.53E, h5km, mB4.7/30, mb4.6/43, ML4.7/2, Ms4.6/35, Ms7 4.4/33*

*PLV **24** 22:32:49.2±6.5, 19°.60N×99°.91E, h10km±87km, ML4.4, Hypocentre not reviewed by the ISC*

ISC 24 22:32:47.3±0.3, 19°58N±0°.03×99°52E±0°.04, h10km, n141, σ1§51/151, mb4.5/57, MS3.8/16, 4C-10D, Thailand

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
PAYA	**Payao**	**0.39**	**124**	P		**Pg**	**22 32 54.9**	**-0.2**
PAYA				S		**Sb**	**22 33 01.4**	**-1.1**
CMMT	**Chiang Mai**	**0.94**	**216**	P		**Pg**	**22 33 04.9**	**-0.5**
CHTO	**Chiang Mai**	**0.94**	**216**			**Pg**	**22 33 05.0**	**-0.4**
CHTO				Sn		**Sb**	**22 33 18.3**	**+0.1**
CM09	**Chiang Mai Arr**	**1.24**	**204**	P		**Pb**	**22 33 10.5**	**-0.3**
CM31	**Chiang Mai Arr**	**1.24**	**206**			**Pb**	**22 33 10.6**	**-0.3**
CM31				Sn		**Sb**	**22 33 26.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**1.24**	**206**	Pg		**Pn**	**22 33 10.3**	**-0.5**
	309nm,0.3s,baz=12,slow=15,SNR=2024							
CMAR				Lg		Lg	22 33 29.8	
	683nm,0.3s,baz=28,slow=22,SNR=7.6							
CMAR	**Chiang Mai Arr**	**1.24**	**206**	*i* P		**Pn**	**22 33 10.3**	**-0.5**
CMAR				pmax		pmax		
	comp=Z,636nm,0.4s							
CM05	**Chiang Mai Arr**	**1.29**	**205**	P		**Pn**	**22 33 11.2**	**-0.3**
UTTA	**Uttaradit**	**2.07**	**152**	P		**Pn**	**22 33 21.8**	**-0.4**
TGV	**Tuan Giao**	**4.16**	**61**	*e*Pn			22 33 50.0	
TGV				*e*Pg			22 34 02.3	
TGV				*e*Sg			22 34 58.1	
TGV				IAML			22 35 14.7	
	comp=E,559nm,1.2s							
TGV				IAML			22 35 16.8	
	comp=N,456nm,1.8s							
SLVN	**Son La**	**4.46**	**66**			**Pn**	**22 33 54.9**	**-0.3**
SLVN	**Son La**	**4.46**	**66**	*e*Pg			22 34 08.0	
SLVN				*e*Sg			22 35 06.9	
SLVN				IAML			22 35 27.2	
	comp=E,334nm,1.3s							
SLVN				IAML			22 35 27.5	
	comp=N,358nm,1.9s							
HBVN	**Hoa-Binh**	**5.61**	**76**	*e*Pg			22 34 32.6	
HBVN				*e*Sg			22 35 48.6	
HBVN				IAML			22 35 56.0	
	comp=E,248nm,1.4s							
HBVN				IAML			22 36 03.9	
	comp=N,375nm,1.6s							
VIVB	**Vinh**	**5.91**	**98**	*e*Pg			22 34 35.2	
VIVB				IAML			22 36 05.1	
	comp=E,222nm,1.4s							
VIVB				IAML			22 36 16.5	
	comp=N,298nm,1.2s							
KMI	**Kunming**	**6.27**	**28**	⇑Pn		Pn	22 34 25.6	+5.5
KMI				Pg		**Pg**	**22 34 45.0**	**-2.5**
KMI				Sn		**Sn**	**22 35 34.3**	**+2.3**
KMI				Sg		**Sg**	**22 36 06.6**	**-2.1**
KMI				smax		smax		
	comp=N,120nm,1.3s							
KMI				smax		smax		
	comp=E,110nm,1.5s							
KMI				LR		LR		
	comp=N,4μm,9.0s							
KMI				LR		LR		
	comp=E,5μm,9.6s							
KMI				LR		LR		
	comp=Z,3μm,7.4s							
KMI	**Kunming**	**6.27**	**28**	Pn		**Pn**	**22 34 20.7**	**+0.5**
PLV	**Phu-Lien**	**6.78**	**78**	*e*Pg			22 34 50.8	
PLV				*e*Sg			22 36 18.5	
PLV				IAML			22 37 05.3	
	comp=E,104nm,1.7s							
GYA	**Guiyang**	**9.49**	**43**	*e*P		**Pn**	**22 35 06.5**	**+2.2**
GYA				S		**Sn**	**22 36 57.3**	**+6.2**
GYA				smax		smax		
	comp=E,84nm,1.8s							
GYA				smax		smax		
	comp=E,100nm,2.1s							
GYA				LR		LR		
	comp=E,2μm,4.6s							
GYA				LR		LR		
	comp=E,1μm,4.6s							
GYA				LR		LR		
	comp=E,1μm,6.6s							
DLV	**T Lat**	**11.49**	**130**	Pn		**Pn**	**22 35 32.2**	**+0.4**
CD2	**Chengdu**	**11.91**	**18**	P		**Pn**	**22 35 39.5**	**+2.1**
CD2				pmax		pmax		
	comp=E,30nm,1.3s							
CD2				pmax		pmax		
	comp=E,170nm,10.8s							
CD2				LR		LR		
	comp=E,3μm,9.0s							
CD2				LR		LR		
	comp=E,1μm,11.0s							
CD2				LR		LR		
	comp=E,2μm,7.3s							
MLSI	**Meulaboh, Aceh**	**15.52**	**192**	P		**P**	**22 36 36.6**	**+5.8**
KCSI	**Kotacane, Aceh**	**16.05**	**186**	P		**P**	**22 36 41.1**	**+4.4**
KCSI				S		**P**	**22 36 36.3**	**-0.4**
XAN	**Xi'an**	**16.65**	**28**	P		**Pn**	**22 36 39.8**	**-1.1**
XAN				pmax		pmax		
	comp=E,19nm,1.3s							
XAN				LR		LR		
	comp=E,2μm,13.2s							
XAN				LR		LR		
	comp=E,3μm,12.3s							
XAN				LR		LR		
	comp=E,1μm,11.2s							
XAN	**Xi'an**	**16.65**	**28**	Pn		**Pn**	**22 36 40.0**	**-0.9**
PSI	**Prapat**	**16.69**	**182**	Pn		**P**	**22 36 46.3**	**+2.4**
	comp=E,0.3nm,0.3s,baz=360,slow=9.3,SNR=6.8							
PSI				LR		LR	22 43 27.4	
	comp=E,309nm,20.7s,baz=273,slow=38							
PSI	**Prapat**	**16.69**	**182**	P		**P**	**22 36 43.3**	**-0.6**
RPSI	**Rantau Prapat**	**16.79**	**182**	Pn		**Pn**	**22 36 40.9**	**-1.9**
RPSI	**Rantau Prapat**	**16.79**	**182**	P		**P**	**22 36 46.3**	**+1.4**
LZH	**Lanzhou**	**16.88**	**12**	⇓P		**P**	**22 36 45.6**	**-0.4**
LZH				*e*S		**S**	**22 39 58.8**	**-3.4**
LZH				pmax		pmax		
	comp=E,48nm,1.0s							
LZH				pmax		pmax		
	comp=E,340nm,4.6s							
LZH				LR		LR		
	comp=E,730nm,10.3s							
LZH				LR		LR		
	comp=E,700nm,11.8s							
LZH				LR		LR		
	comp=E,720nm,12.5s							
WHN	**Wuhan**	**17.29**	**48**	P		**P**	**22 36 52.8**	**+2.4**
WHN				LR		LR		
	comp=E,5μm,10.3s							
WHN				LR		LR		
	comp=E,3μm,9.4s							
WHN				LR		LR		
	comp=E,3μm,6.7s							
GTA	**Gaotai**	**19.77**	**1**	*e*P		**P**	**22 37 17.9**	**+0.2**
GTA				pP		sP	22 37 27.0	+4.9
GTA				sP		pP	22 37 31.3	+11
GTA				S		**S**	**22 40 57.3**	**-3.3**
GTA				pmax		pmax		
	comp=E,82nm,7.3s							
GTA				LR		LR		
	comp=E,400nm,14.0s							
GTA				LR		LR		
	comp=E,1μm,14.6s							
GTA				LR		LR		
	comp=E,560nm,12.1s							
SDSI	**Sungai Dareh**	**20.47**	**175**	P		Pn	22 37 27.8	+0.3
	comp=E,20nm,1.3s							
KSM	**Kuching**	**20.86**	**148**	P		**P**	**22 37 29.8**	**+0.2**
KSM				IAmb		IAmb	22 37 34.8	
	comp=Z,18nm,1.1s							
TATO	**Taipei**	**21.01**	**71**	P		**P**	**22 37 30.9**	**-0.3**
SBUM	**Sibu**	**21.07**	**142**	P		**P**	**22 37 32.6**	**+0.8**
TGY	**Tagaytay City**	**21.20**	**102**	LR		LR	22 46 14.5	
	comp=Z,408nm,19.3s,baz=302,slow=38							
PALK	**Pallekele**	**21.99**	**239**	LR		LR	22 45 36.6	
	comp=Z,177nm,20.1s,baz=153,slow=35							
BTO	**Baotou**	**22.80**	**21**	*e*P		**P**	**22 37 50.8**	**+0.4**
HHC	**Hu-ho-hao-te**	**23.57**	**23**	*e*P		**P**	**22 37 59.1**	**+0.9**
HHC				S		**S**	**22 42 07.0**	**-5.5**
HHC				pmax		pmax		
	comp=E,34nm,0.8s							
HHC				pmax		pmax		
	comp=E,130nm,6.0s							
HHC				LR		LR		
	comp=E,670nm,10.6s							
HHC				LR		LR		
	comp=E,480nm,8.5s							
HHC				LR		LR		
	comp=E,610nm,9.8s							
BJT	**Baijiatuan**	**24.89**	**32**	P		**P**	**22 38 09.7**	**-0.7**
BJI	**Beijing**	**24.91**	**31**	P		**P**	**22 38 11.4**	**+0.9**
BJI				pmax		pmax		
	comp=E,20nm,1.1s							
BJI				LR		LR		
	comp=Z,330nm,12.3s							
BJI				LR		LR		
	comp=Z,460nm,14.7s							
BJI				LR		LR		
	comp=Z,110nm,17.0s							
WMQ	**Urumqi**	**26.12**	**340**	*e*P		**P**	**22 38 23.3**	**+1.7**
WMQ				pmax		pmax		
	comp=Z,8.0nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,73nm,4.3s							
WMQ				LR		LR		
	comp=Z,95nm,15.7s							
WMQ				LR		LR		
	comp=Z,83nm,7.3s							
WMQ	**Urumqi**	**26.12**	**340**	P		**P**	**22 38 20.0**	**-1.6**
WMQ				IAmb		IAmb	22 38 27.1	
	comp=Z,13nm,1.0s							
NIL	**Nilore**	**27.25**	**306**	P		**P**	**22 38 32.3**	**+0.4**
NIL				pmax		pmax		
	comp=Z,8.0nm,1.1s							
NIL	**Nilore**	**27.25**	**306**	P		**P**	**22 38 30.4**	**-1.5**
LEM	**Lembang**	**27.42**	**162**	LR		LR	22 50 55.1	
	comp=Z,294nm,20.1s,baz=326,slow=40							
DAV	**Davao City (W)**	**28.18**	**113**	LR		LR	22 49 27.8	
	comp=Z,148nm,20.0s,baz=328,slow=36							
SMRI	**Semarang**	**28.56**	**157**	P		**P**	**22 38 41.8**	**-1.9**
SONM	**Songino Array**	**28.73**	**10**	P		**P**	**22 38 46.3**	**+1.3**
	comp=Z,12nm,1.1s,baz=194,slow=11,SNR=47							
SONM				LR		LR	22 51 26.3	
	comp=Z,76nm,21.9s,baz=252,slow=39							
TARG	**Taragay, Kyrgy**	**28.77**	**325**	P		**P**	**22 38 44.3**	**-1.5**
TARG				IAmb		IAmb	22 38 47.6	
	comp=Z,11nm,1.1s							
ULN	**Ulaanbaatar**	**28.87**	**11**	*d* iP		**P**	**22 38 47.3**	**+1.0**
ULN				pmax		pmax		
	comp=Z,15nm,0.8s							
ULN	**Ulaanbaatar**	**28.87**	**11**	P		**P**	**22 38 46.0**	**-0.3**
ULN				IAmb		IAmb	22 38 48.3	
	comp=Z,17nm,1.1s							
PRZ	**Przheval'sk**	**28.98**	**327**	P		**P**	**22 38 46.1**	**-1.3**
PRZ				IAmb		IAmb	22 38 50.2	
	comp=Z,12nm,1.1s							
KDJ	**Kajisay**	**29.38**	**325**	P		**P**	**22 38 49.7**	**-1.3**
KDJ				IAmb		IAmb	22 38 53.8	
	comp=Z,8.3nm,0.9s							
TJN	**Taejon**	**29.59**	**50**	⇑*e*P		**P**	**22 38 53.0**	**+0.4**
KSRS	**Korea Array**	**30.48**	**48**	P		**P**	**22 38 59.6**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=239,slow=11,SNR=6.8							
KSRS				LR		LR	22 53 17.8	
	comp=Z,140nm,18.4s,baz=240,slow=40							
MK31	**Makanchi Array**	**30.59**	**336**	P		**P**	**22 39 00.5**	**-0.9**
MK31	**Makanchi Array**	**30.59**	**336**	P		**P**	**22 39 00.6**	**-0.8**
MK31				IAmb		IAmb	22 39 03.5	
	comp=Z,7.7nm,0.9s							
MKAR	**Makanchi Array**	**30.59**	**336**	P		**P**	**22 39 00.7**	**-0.7**
	comp=Z,7.0nm,0.8s,baz=140,slow=9.6,SNR=44							
MKAR				PcP		**PcP**	**22 42 00.1**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=126,slow=5.1,SNR=3.8							
MKAR	**Makanchi Array**	**30.59**	**336**	*i* P		**P**	**22 39 02.4**	**+1.0**
MKAR				pmax		pmax		
	comp=Z,7.0nm,0.8s							
LUWI	**Luwuk**	**30.66**	**129**	P		**P**	**22 39 02.7**	**+0.4**
MAKZ	**Makanchi**	**30.73**	**336**	P		**P**	**22 39 03.9**	**+1.3**
MAKZ				pmax		pmax		
	comp=Z,6.0nm,1.1s							
MAKZ	**Makanchi**	**30.73**	**336**	P		**P**	**22 39 01.9**	**-0.7**
MAKZ				IAmb		IAmb	22 39 04.6	
	comp=Z,7.1nm,1.1s							
ZAK	**Zakamensk**	**30.88**	**5**	*e*P		**P**	**22 39 05.1**	**+1.1**
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.2s							
JNU	**Nakatsue**	**31.03**	**58**	LR		LR	22 53 01.5	
	comp=Z,249nm,18.8s,baz=249,slow=39							
AAK	**Ala-Archa**	**31.21**	**323**	*ce*P		**P**	**22 39 08.7**	**+1.6**
AAK				pmax		pmax		
	comp=Z,18nm,2.5s							
AAK	**Ala-Archa**	**31.21**	**323**	P		**P**	**22 39 05.9**	**-1.2**
DGZ	**Jazzator, Alta**	**31.57**	**345**	⇓*i* P		**P**	**22 39 11.7**	**+1.5**
DGZ				pmax		pmax		
	comp=Z,6.0nm,1.3s							
GAR	**Garm**	**31.78**	**314**	P		**P**	**22 39 10.7**	**-1.4**
GAR				IAmb		IAmb	22 39 12.9	
	comp=Z,9.1nm,1.0s							
BTK	**Batken**	**31.98**	**316**	P		**P**	**22 39 11.9**	**-1.9**
BTK	**Batken**	**31.98**	**316**	P		**P**	**22 39 12.4**	**-1.3**
BTK				IAmb		IAmb	22 39 15.6	
	comp=Z,6.6nm,0.9s							
TLY	**Talaya**	**32.20**	**5**	*e*P		**P**	**22 39 16.6**	**+1.1**
TLY				*e*S		**S**	**22 44 32.1**	**+3.7**
TLY				pmax		pmax		
	comp=Z,23nm,1.4s							
TLY				MLR		MLR		
	comp=Z,788nm,11.0s							
TLY	**Talaya**	**32.20**	**5**	P		**P**	**22 39 15.2**	**-0.2**
TLY				IAmb		IAmb	22 39 26.2	
	comp=Z,5.5nm,1.1s							
KK31	**Karatay Array**	**33.83**	**320**	P		**P**	**22 39 27.8**	**-2.0**
KK31	**Karatay Array**	**33.83**	**320**	P		**P**	**22 39 28.7**	**-1.2**
KKAR	**Karatay Array**	**33.83**	**320**	P		**P**	**22 39 29.3**	**-0.5**
KKAR	**Karatay Array**	**33.83**	**320**	P		**P**	**22 39 28.7**	**-1.1**
KURK	**Kurchatov**	**35.20**	**337**	*d* iP		**P**	**22 39 42.7**	**+1.1**
KURK				pmax		pmax		
	comp=Z,20nm,1.3s							
KURK	**Kurchatov**	**35.20**	**337**	P		**P**	**22 39 40.9**	**-0.7**
ZAA0	**Zalesovo Array**	**36.12**	**345**	P		**P**	**22 39 48.9**	**-0.6**
ZALV	**Zalesovo Beam**	**36.12**	**345**	P		**P**	**22 39 49.4**	**-0.1**
	comp=Z,8.3nm,0.9s,baz=152,slow=9.9,SNR=28							
ZALV	**Zalesovo Beam**	**36.12**	**345**	*i* P		**P**	**22 39 50.2**	**+0.8**
ZALV				pmax		pmax		
	comp=Z,9.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**36.52**	**40**	P		**P**	**22 39 52.8**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=231,slow=8.8,SNR=5.6							
MAJO	**Matsushiro**	**37.79**	**55**	⇓*e*P		**P**	**22 40 04.7**	**+0.7**
MAJO				pmax		pmax		
	comp=Z,10.0nm,1.4s							
MAT	**Matsushiro**	**37.79**	**55**	P		**P**	**22 40 05.9**	**+1.9**
MAT				*e*S		**S**	**22 45 51.0**	**-3.9**
MJAR	**Matsushiro Arr**	**37.80**	**55**	P		**P**	**22 40 05.4**	**+1.5**
	comp=Z,2.0nm,0.7s,baz=268,slow=11,SNR=8.8							
MJAR				LR		LR	22 55 57.1	
	comp=Z,83nm,19.5s,baz=280,slow=37							
KLR	**Kul'dur**	**39.25**	**34**	*de*P		**P**	**22 40 16.1**	**+0.1**
BOD	**Bodaibo**	**39.65**	**12**	*e*P		**P**	**22 40 20.0**	**+0.8**
BOD				pmax		pmax		
	comp=Z,10.0nm,1.2s							
GEYT	**Alibeck**	**40.26**	**306**	P		**P**	**22 40 25.1**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=126,slow=7.3,SNR=2.3							
BRVK	**Borovoye**	**40.34**	**333**	*d* iP		**P**	**22 40 26.0**	**+1.0**
BRVK				pmax		pmax		
	comp=Z,16nm,1.3s							
BRVK	**Borovoye**	**40.34**	**333**	P		**P**	**22 40 24.2**	**-0.8**
BRVK				IAmb		IAmb	22 40 26.9	
	comp=Z,10.0nm,0.9s							
SVE	**Sverdlovsk**	**47.02**	**332**	*e*P		**P**	**22 41 20.1**	**+1.4**
SVE				pmax		pmax		
	comp=Z,35nm,1.1s							
YAK	**Yakutsk**	**47.30**	**19**	*e*P		**P**	**22 41 21.3**	**+0.5**
YAK				pmax		pmax		
	comp=Z,8.0nm,0.7s							
ARU	**Arti**	**47.74**	**331**	*c* iP		**P**	**22 41 25.2**	**+0.9**
ARU							22 43 12.3	
ARU				S		**S**	**22 48 22.8**	**+2.3**
ARU				SS		**SS**	**22 51 46.8**	**-1.8**
ARU				pmax		pmax		
	comp=Z,24nm,1.4s							
ARU	**Arti**	**47.74**	**331**	P		**P**	**22 41 23.5**	**-0.8**
NRIK	**Noril'sk**	**50.30**	**355**	P		**P**	**22 41 44.2**	**+0.5**
	comp=Z,7.4nm,0.9s,baz=138,slow=5.8,SNR=7.3							
WRA	**Warramunga Arr**	**52.03**	**137**	P		**P**	**22 41 55.9**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=323,slow=8.0,SNR=3.8							
KIV	**Kislovodsk**	**52.92**	**311**	*e*P		**P**	**22 42 04.3**	**+0.4**
KIV				pmax		pmax		
	comp=Z,11nm,1.0s							
ASAR	**Alice Springs**	**54.51**	**141**	P		**P**	**22 42 15.1**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=320,slow=7.5,SNR=7.3							
ASAR				LR		LR	23 10 32.5	
	comp=Z,94nm,20.5s,baz=322,slow=42							
PETK	**Petropavlovsk-**	**55.56**	**38**	LR		LR	23 07 22.0	
	comp=Z,94nm,18.3s,baz=239,slow=37							
PRGR	**Permogore**	**56.08**	**332**	*e*P		**P**	**22 42 26.0**	**-0.4**
PRGR				pmax		pmax		
	comp=Z,20nm,1.1s							
SEY	**Seymchan**	**56.18**	**26**	⇓*e*P		**P**	**22 42 27.2**	**+0.1**
KLMR	**Klimovskoe**	**58.59**	**330**	*e*P		**P**	**22 42 42.9**	**-1.2**
KLMR				*e*			22 44 52.3	
KLMR				pmax		pmax		
	comp=Z,30nm,1.5s							
KLMR	**Klimovskoe**	**58.59**	**330**	*e*P		**P**	**22 42 42.9**	**-1.2**
KLMR				AMP			22 42 46.1	
	comp=Z,30nm,1.5s							
KLMR				*e*PP		**PP**	**22 44 52.3**	**-1.3**
OBN	**Obninsk**	**58.74**	**323**	*e*P		**P**	**22 42 45.9**	**+0.6**
OBN				*e*			22 43 31.0	
OBN				*e*PPP		PPP	22 46 14.8	
OBN				pmax		pmax		
	comp=Z,16nm,1.7s							
OBN				MLR		MLR		
	comp=Z,90nm,17.0s							
BRTR	**Keskin Array B**	**59.39**	**305**	P		**P**	**22 42 50.0**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=116,slow=6.7,SNR=4.0							
BRTR				LR		LR	23 13 08.1	
	comp=Z,45nm,19.5s,baz=178,slow=41							
BRTR	**Keskin Array B**	**59.39**	**305**	*i* P		**P**	**22 42 49.5**	**-0.8**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
TMCR	**Tamitsa**	**60.22**	**334**	*e*P		**P**	**22 42 54.7**	**-0.7**
PUL	**Pulkovo**	**62.82**	**328**	⇓*e*P		**P**	**22 43 14.2**	**+1.2**
FINES	**FINESS Array B**	**65.09**	**329**	P		**P**	**22 43 27.5**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=108,slow=6.2,SNR=6.2							
FINES	**FINESS Array B**	**65.09**	**329**	*i* P		**P**	**22 43 28.7**	**+0.8**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ARCES	**ARCESS Array B**	**66.22**	**338**	P		**P**	**22 43 34.5**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=99,slow=4.0,SNR=7.3							
CRVS	**Cervenica-Dubn**	**67.73**	**316**	*e*P		**P**	**22 43 46.3**	**+1.2**
CRVS	**Cervenica-Dubn**	**67.73**	**316**	*e*P		**P**	**22 43 46.3**	**+1.2**
VYHS	**Vyhne**	**69.50**	**316**	*e*P		**P**	**22 43 56.9**	**+0.7**
VYHS	**Vyhne**	**69.50**	**316**	*e*P		**P**	**22 43 56.9**	**+0.7**
MORC	**Moravsky Berou**	**70.19**	**317**	P		**P**	**22 44 01.4**	**+1.0**
MORC				pmax		pmax		
	comp=Z,5.0nm,1.1s							
MORC	**Moravsky Berou**	**70.19**	**317**	P		**P**	**22 43 59.2**	**-1.2**
MORC				IAmb		IAmb	22 44 02.0	
	comp=Z,3.8nm,1.0s							
KRLC	**Kraliky**	**70.64**	**317**	*e*P		**P**	**22 44 03.9**	**+0.7**
KRLC	**Kraliky**	**70.64**	**317**	*e*P		**P**	**22 44 03.9**	**+0.7**
OSTC	**Ostas**	**70.94**	**318**	*e*P		**P**	**22 44 05.1**	**+0.2**
CONA	**Conrad Observa**	**71.55**	**315**	*i* P		**P**	**22 44 09.0**	**+0.2**
	comp=Z,4.6nm,1.1s							
PRU	**Pruhonice**	**72.08**	**317**	*e*P		**P**	**22 44 12.7**	**+0.9**
PRU	**Pruhonice**	**72.08**	**317**	*e*P		**P**	**22 44 12.7**	**+0.9**
NB2	**NORSAR Subarra**	**72.27**	**329**	P		**P**	**22 44 12.3**	**-0.5**
	comp=Z,4.7nm,1.1s,baz=83,slow=5.9							
NOA	**NORSAR Array B**	**72.27**	**329**	P		**P**	**22 44 12.7**	**-0.1**
	comp=Z,2.4nm,1.0s,baz=81,slow=5.7,SNR=3.9							
BRG	**Berggiesshubel**	**72.32**	**318**	*e*P		**P**	**22 44 14.0**	**+0.8**
	comp=Z,3.0nm,0.8s							
GEC2	**GERESS Array S**	**72.81**	**316**	P		**P**	**22 44 15.1**	**-1.3**
GEC2				IAmb		IAmb	22 44 17.9	
	comp=Z,4.8nm,0.9s							
GERES	**GERESS Array B**	**72.81**	**316**	P		**P**	**22 44 17.1**	**+0.7**
	comp=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.40**	**121**	*eP*	**Pg**	**22 35 38.8**	**0.0**
PAGZ				*eS*	**Sb**	**22 35 44.9**	**-0.2**
ZCP	**Zamboanga City**	**1.47**	**220**	⇑*iP*	**Pn**	**22 35 56.4**	**+0.2**
ZCP				*i* S	**Sb**	**22 36 16.0**	**+0.3**
CNOP	**Candoni, Negro**	**1.80**	**348**	*eP*	**Pn**	**22 36 00.1**	**-0.6**
CNOP				*eS*	**Sn**	**22 36 20.8**	**-2.5**
TBP	**Tagbilaran**	**1.82**	**27**	*eP*	**Pb**	**22 36 03.1**	**-0.3**
TBP				*eS*	**Sb**	**22 36 26.8**	**+0.9**
BUKP	**Musuan**	**2.02**	**95**	*eP*	**Pb**	**22 36 07.3**	**+0.5**
BUKP				*eS*	**Sg**	**22 36 36.5**	**+1.0**
SKMP	**Bagumbayan, Su**	**2.14**	**135**	*eP*	**Pn**	**22 36 05.0**	**-0.5**
SKMP				*eS*	**Sn**	**22 36 31.7**	**0.0**
KCP	**Kidapawan**	**2.29**	**117**	⇑*iP*	**Pn**	**22 36 10.7**	**-0.7**
KCP				*i* S	**Sb**	**22 36 38.1**	**-1.4**
LLP	**Lapu-Lapu**	**2.43**	**22**	*eP*	**Pb**	**22 36 12.6**	**-1.2**
LLP				*i* S	**Sb**	**22 36 43.2**	**-0.2**
GUIM	**Jordan**	**2.59**	**350**	*eP*	**Pn**	**22 36 13.8**	**+2.2**
GUIM				*eS*	**Sn**	**22 36 44.0**	**+1.3**
MSLP	**Maasin**	**2.74**	**41**	*eP*	**Pb**	**22 36 17.0**	**-2.1**
MSLP				*eS*	**Sb**	**22 36 51.7**	**-0.8**
DDMP	**Don Marcelino,**	**3.29**	**126**	*eP*	**Pn**	**22 36 22.6**	**+1.4**
ENPP	**El Nido**	**4.74**	**312**	*eP*	**Pn**	**22 36 40.2**	**-1.0**
WRA	**Warramunga Arr**	**29.97**	**158**	P	**P**	**22 41 37.6**	**-0.6**
	0.6nm,0.6s,baz=338,slow=9.5,SNR=6.6						
ASAR	**Alice Springs**	**33.27**	**162**	P	**P**	**22 42 08.6**	**+1.3**
	0.6nm,0.7s,baz=345,slow=7.1,SNR=6.2						
STKA	**Stephens Creek**	**43.49**	**157**	P	**P**	**22 43 30.2**	**-2.9**
	0.5nm,0.3s,baz=350,slow=13,SNR=3.4						
MKAR	**Makanchi Array**	**51.93**	**325**	P	**P**	**22 44 42.0**	**+3.5**
	0.5nm,0.6s,baz=127,slow=8.5,SNR=6.2						

*TRN **24** 22:41:45.6, 14°.96N×61°.30W, h159km, MD3.8*
*IDC **24** 22:41:45.9±0.7, 14°.98N×61°.45W, h152km±5km, mb3.1/6, mb1 3.5/7, mb1mx3.2/38, mbtmp3.6/7, Error ellipse: s-maj=18.0km s-min=8.9km az=81.0*
ISC 24 22:41:46.3±0.6, 14°.96N±0°.03×61°.31W±0°.06, h160km±5km, n65, σ1§05/95, mb3.4/6, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCM	**Pelee Case Pet**	**0.17**	**145**	*eP*	**Pn**	**22 42 07.8**	**0.0**
PCM	**Pelee Case Pet**	**0.17**	**145**	*eP*	**Pn**	**22 42 08.2**	**+0.5**
SVN	**Savane Anatole**	**0.18**	**130**	*eP*	**Pn**	**22 42 08.1**	**+0.3**
CXM	**Morne La Croix**	**0.20**	**136**	*eP*	**Pn**	**22 42 08.3**	**+0.3**
BAMF	**Morne Balai**	**0.21**	**132**	*eP*	**Pn**	**22 42 08.3**	**+0.4**
GBMF	**Grand Be**	**0.21**	**138**	*eP*	**Pn**	**22 42 08.0**	**+0.1**
PML	**Morne Lenard**	**0.22**	**145**	*eP*	**Pn**	**22 42 08.1**	**+0.2**
FDF	**Fort de France**	**0.27**	**145**	*eP*	**Pn**	**22 42 08.3**	**+0.2**
FDF				*eS*	**Sn**	**22 42 24.4**	**-0.2**
MDN	**Morne-Daniel**	**0.37**	**348**	*eP*	**Pn**	**22 42 08.6**	**+0.4**
MDN				*eS*	**Sn**	**22 42 25.1**	**0.0**
DLPL	**La Plaine**	**0.38**	**10**	*eP*	**Pn**	**22 42 08.3**	**0.0**
DLPL				*eS*	**Sn**	**22 42 25.1**	**-0.1**
ILAM	**Ilet Lapin Mar**	**0.46**	**113**	*iP*	**Pn**	**22 42 08.4**	**-0.1**
ILAM				*eS*	**Sn**	**22 42 25.0**	**-0.6**
ZAM	**Aeronautique**	**0.47**	**144**	*eP*	**Pn**	**22 42 08.7**	**+0.1**
DSLB	**Salisbury**	**0.49**	**348**	⇑*iP*	**Pn**	**22 42 09.1**	**+0.4**
DSLB				*eS*	**Sn**	**22 42 26.3**	**+0.3**
TRMF	**Trois Ilets**	**0.49**	**149**	*eP*	**Pn**	**22 42 08.8**	**0.0**
BIM	**Bigot**	**0.50**	**152**	*eP*	**Pn**	**22 42 08.7**	**-0.2**
BIM				*eS*	**Sn**	**22 42 25.7**	**-0.3**
LPMF	**Morne Lapointe**	**0.51**	**139**	*eP*	**Pn**	**22 42 08.6**	**-0.2**
MVM	**Montagne Vaucl**	**0.57**	**135**	*eP*	**Pn**	**22 42 09.2**	**0.0**
MPOM	**Morne Pois Mar**	**0.67**	**139**	*eP*	**Pn**	**22 42 09.6**	**-0.1**
MPOM				*eS*	**Sn**	**22 42 27.2**	**-0.3**
H05S1	**Guadeloupe/Mar**	**0.70**	**139**	P	**Pn**	**22 42 10.2**	**+0.3**
	SNR=9444						
H05S1				S	**Sn**	**22 42 27.8**	**-0.1**
TDBA	**Terre de Bas,**	**0.94**	**341**	*eP*	**Pn**	**22 42 12.0**	**+0.4**
TDBA				*eS*	**Sn**	**22 42 30.9**	**-0.1**
TBG	**Guadaloupe-3**	**0.94**	**340**	*eP*	**Pn**	**22 42 11.7**	**+0.1**
MAGL	**Barre de l'Ile**	**0.99**	**2**	*iP*	**Pn**	**22 42 11.9**	**0.0**
MAGL				*eS*	**Sn**	**22 42 31.1**	**-0.5**
SLBI	**Saint Lucia, B**	**0.99**	**161**	*eP*	**Pn**	**22 42 11.6**	**-0.3**
SLBI				*eS*	**Sn**	**22 42 30.4**	**-1.1**
SLW	**Petit Monier**	**1.00**	**159**	*eP*	**Pn**	**22 42 12.0**	**-0.1**
SLW				*eS*	**Sn**	**22 42 31.1**	**-0.7**
SLAC	**Saint Lucia, A**	**1.13**	**159**	*eP*	**Pn**	**22 42 12.9**	**-0.2**
SLAC				*eS*	**Sn**	**22 42 33.3**	**-0.5**
CBE	**Ff, Capester**	**1.14**	**346**	*eP*	**Pn**	**22 42 13.3**	**+0.1**
CBE				*eS*	**Sn**	**22 42 34.0**	**0.0**
SLB	**Belfond**	**1.15**	**167**	*eS*	**Sn**	**22 42 34.0**	**-0.3**
SLPA	**Patience**	**1.16**	**161**	*eP*	**Pn**	**22 42 13.9**	**+0.5**
SLPA				*eS*	**Sn**	**22 42 34.4**	**+0.2**
MCLT	**Moule a Chique**	**1.29**	**164**	*eP*	**Pn**	**22 42 14.5**	**-0.2**
MCLT				*eS*	**Sn**	**22 42 35.8**	**-0.6**
H05N1	**Guadeloupe/Mar**	**1.37**	**10**	P	**Pn**	**22 42 15.1**	**-0.3**
	SNR=1370						
H05N1				S	**Sn**	**22 42 36.2**	**-1.6**
ABD	**La Joyeuse, An**	**1.52**	**354**	*iP*	**Pn**	**22 42 16.7**	**-0.1**
ABD				*eS*	**Sn**	**22 42 39.4**	**-0.9**
SVV	**Soufriere Volc**	**1.63**	**177**	*eP*	**Pn**	**22 42 19.0**	**+1.0**
SVV				*eS*	**Sn**	**22 42 41.7**	**-0.8**
SVB	**Belmont**	**1.68**	**178**	*eP*	**Pn**	**22 42 18.5**	**0.0**
SVB				*eS*	**Sn**	**22 42 42.2**	**-1.1**
MLYT	**Lee's Yard**	**1.95**	**334**	*eP*	**Pn**	**22 42 21.6**	**+0.2**
MLYT				*eS*	**Sn**	**22 42 49.2**	**+0.5**
BCHC	**Barbados, Cave**	**2.44**	**138**	*eP*	**Pn**	**22 42 27.7**	**+0.5**
BCHC				*eS*	**Sn**	**22 42 58.3**	**-0.5**
BBGH	**Gun Hill**	**2.48**	**136**	*eP*	**Pn**	**22 42 28.6**	**+0.9**
BBGH				*eS*	**Sn**	**22 42 58.3**	**-1.4**
NVBH	**Bath Hotel, Ne**	**2.49**	**330**	*eP*	**Pn**	**22 42 27.6**	**-0.2**
NVBH				*eS*	**Sn**	**22 42 58.6**	**-1.3**
NVB	**Round Hill, Ne**	**2.54**	**331**	*eP*	**Pn**	**22 42 28.7**	**+0.3**
BBSP	**Saint Philip**	**2.58**	**135**	*eP*	**Pn**	**22 42 29.4**	**+0.5**
BBSP				*eS*	**Sn**	**22 43 00.7**	**-1.0**
SKI	**Saint Kitts**	**2.73**	**330**	*eP*	**Pn**	**22 42 31.2**	**+0.4**
SKI				*eS*	**Sn**	**22 43 04.3**	**-0.9**
ANWB	**Willy Bob**	**2.73**	**350**	*eP*	**Pn**	**22 42 30.2**	**-0.6**
ANWB				*eS*	**Sn**	**22 43 03.3**	**-2.0**
GRGR	**Grenville**	**2.83**	**187**	*eP*	**Pn**	**22 42 31.6**	**-0.4**
GRGR				*eS*	**Sn**	**22 43 06.5**	**-0.9**
SMRT	**St. Maarten**	**3.51**	**331**	*eP*	**Pn**	**22 42 40.7**	**+0.2**
SMRT				*eS*	**Sn**	**22 43 21.1**	**-1.6**
TOSP	**Speyside**	**3.72**	**168**	*eP*	**Pn**	**22 42 43.6**	**+0.4**
TOSP				*eS*	**Sn**	**22 43 25.3**	**-2.2**
MDP	**Montagnes des**	**12.99**	**138**	P	**Pn**	**22 44 42.9**	**-2.3**
	0.9nm,0.3s,baz=310,slow=16,SNR=8.8						
MDP				S	Sn	22 46 59.2	-10
	1.9nm,0.3s,baz=58,slow=20,SNR=14						
OCAC	**Ocana**	**13.52**	**242**	*eP*	**P**	**22 44 55.4**	**-0.3**
SMLC	**San Martn de**	**13.90**	**245**	*eP*	**Pn**	**22 44 57.6**	**+0.9**
BARC	**Barichara**	**14.31**	**236**	*eP*	**P**	**22 45 04.5**	**-0.1**
SJCC	**San Jacinto, C**	**14.44**	**251**	*eP*	**Pn**	**22 45 04.4**	**+0.8**
RUSC	**La Rusia**	**14.66**	**233**	*eP*	**P**	**22 45 09.8**	**+1.0**
PTGC	**Puerto Gaitan,**	**15.09**	**226**	*eP*	**P**	**22 45 19.6**	**+6.5**
ZARC	**Zaragoza, Cauc**	**15.21**	**242**	*eP*	**P**	**22 45 14.8**	**+0.4**
PTBC	**PUERTO BERRIO,**	**15.38**	**238**	*eP*	**Pn**	**22 45 14.4**	**-0.7**
PTGA	**Pitinga**	**15.64**	**175**	P	**Pn**	**22 45 18.0**	**-0.4**
	0.5nm,0.3s,baz=340,slow=20,SNR=5.3						
PTGA				S	Sn	22 48 01.7	-11
	0.6nm,0.3s,baz=333,slow=19,SNR=4.8						
UREC	**San Jos de Ur**	**15.67**	**244**	*eP*	**P**	**22 45 19.7**	**+0.3**
CHIC	**Chingaza**	**15.96**	**231**	*eP*	**Pn**	**22 45 22.3**	**-0.4**
ROSC	**El Rosal**	**16.27**	**233**	P	**P**	**22 45 29.3**	**+2.8**
	1.5nm,0.3s,baz=70,slow=18,SNR=5.0						
GUY2C	**Guyana, Caldas**	**16.87**	**236**	*eP*	**P**	**22 45 33.0**	**-0.2**
PRAC	**Prado**	**17.43**	**231**	*eP*	**P**	**22 45 37.5**	**-1.3**
TXAR	**Lajitas Array**	**41.52**	**297**	P	**P**	**22 49 16.9**	**-1.4**
	0.2nm,0.5s,baz=101,slow=8.3,SNR=7.7						
PDAR	**Pinedale Array**	**49.65**	**314**	P	**P**	**22 50 21.6**	**-0.5**
	0.9nm,0.6s,baz=119,slow=9.9,SNR=10						
NVAR	**Mina Array Bea**	**55.09**	**307**	P	**P**	**22 51 02.2**	**0.0**
	0.3nm,0.5s,baz=97,slow=5.8,SNR=3.8						
ESDC	**Sonseca Array**	**55.56**	**52**	P	**P**	**22 51 07.3**	**+1.9**
	0.4nm,0.7s,baz=268,slow=8.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**60.97**	**83**	P	**P**	**22 51 43.9**	**+0.7**
	0.8nm,0.5s,baz=282,slow=6.9,SNR=14						
GERES	**GERESS Array B**	**69.04**	**43**	P	**P**	**22 52 35.6**	**+0.7**
	0.1nm,0.3s,baz=249,slow=7.1,SNR=2.5						

*IDC **24** 22:42:20.8±1.6, 19°.68N×99°.53E, h0km, mb3.5/2, mb1 3.5/2, mb1mx3.2/47, mbtmp3.5/2, Error ellipse: s-maj=16.7km s-min=14.4km az=77.0*
ISC 24 22:42:21.5±1.1, 19°.56N±0°.09×99°.50E±0°.07, h10km, n9, σ0§42/9, Thailand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYA	**Payao**	**0.40**	**119**	P	**Pg**	**22 42 29.1**	**-0.3**
CMMT	**Chiang Mai**	**0.91**	**215**	P	**Pn**	**22 42 39.5**	**-0.8**
CM09	**Chiang Mai Arr**	**1.21**	**203**	P	**Pg**	**22 42 45.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**1.22**	**206**	Pg	**Pg**	**22 42 45.0**	**+0.2**
	58nm,0.3s,baz=14,slow=16,SNR=357						
CMAR				Lg	Lg	22 43 04.6	
	70nm,0.3s,baz=24,slow=28,SNR=3.4						
CMAR				LR	LR	22 43 08.4	
	comp=Z,146nm,21.1s,baz=110,slow=36						
PHRA	**Phrae**	**1.26**	**147**	P	**Pn**	**22 42 45.2**	**+0.1**
CM05	**Chiang Mai Arr**	**1.27**	**204**	P	**Pg**	**22 42 45.8**	**0.0**
UTTA	**Uttaradit**	**2.06**	**151**	P	**Pn**	**22 42 56.3**	**+0.1**
SONM	**Songino Array**	**28.76**	**10**	P	**P**	**22 48 19.4**	**0.0**
	0.2nm,0.3s,baz=178,slow=7.4,SNR=4.3						
MKAR	**Makanchi Array**	**30.60**	**336**	P	**P**	**22 48 35.9**	**+0.3**
	0.3nm,0.8s,baz=147,slow=7.3,SNR=3.5						

*IDC **24** 22:53:18.0±1.1, 65°.05N×17°.08W, h0km, mb3.3/5, mb1 3.6/8, mb1mx3.4/39, mbtmp3.4/8, ML2.9/3, MS3.3/8, Ms1 3.3/8, ms1mx3.0/44, Error ellipse: s-maj=32.4km s-min=11.9km az=179.0*
ISC 24 22:53:19.4±0.8, 64°.87N±0°.07×16°.90W±0°.09, h10km, n17, σ1§39/17, mb3.3/5, MS3.3/4, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**1.90**	**268**	Pg	**Pn**	**22 53 50.0**	**-1.8**
	336nm,0.3s,baz=87,slow=8.6,SNR=554						
BORG				Lg	Lg	22 54 16.0	
	43nm,0.3s,baz=236,slow=18,SNR=8.2						
BORG				LR	LR	22 54 33.6	
	comp=Z,264nm,19.5s,baz=114,slow=41						
SCO	**Scoresbysund**	**5.96**	**343**	*i* P	**Pn**	**22 54 47.8**	**+0.3**
SCO				*i* S	**Sn**	**22 55 55.7**	**0.0**
SCO	**Scoresbysund**	**5.96**	**343**	*i* S	**Sn**	**22 55 55.8**	**0.0**
SCO				*i* P	**Pn**	**22 54 47.0**	**-0.5**
SCO				*e*	**Pn**	**22 54 47.0**	**-0.5**
	baz=147,slow=9.3						
SCO				*i* P	**Pn**	**22 54 47.8**	**+0.3**
SCO				IAML		22 56 14.4	
	comp=Z,2.6nm,0.4s						
EKA	**Eskdalemuir Ar**	**11.73**	**138**	Pn	**Pn**	**22 56 05.9**	**-0.7**
	baz=323,slow=13,SNR=35						
NOA	**NORSAR Array B**	**13.29**	**94**	Pn	**Pn**	**22 56 25.7**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=4.1						
NOA				LR	LR	23 01 21.9	
	comp=Z,60nm,19.4s,baz=290,slow=36						
SFJD	**Kangerlussuaq**	**13.82**	**294**	LR	LR	23 01 23.4	
	comp=Z,199nm,18.1s,baz=92,slow=36						
HFS	**Hagfors**	**14.80**	**94**	Pn	**Pn**	**22 56 46.4**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=348,slow=4.9,SNR=1.3						
HFS				LR	LR	23 01 56.3	
	comp=Z,77nm,19.9s,baz=262,slow=35						
ARCES	**ARCESS Array B**	**16.79**	**55**	Pn	**P**	**22 57 16.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=264,slow=9.5,SNR=4.8						
FINES	**FINESS Array B**	**19.42**	**80**	P	**Pn**	**22 57 46.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=305,slow=13,SNR=7.8						
FINES				LR	LR	23 04 59.7	
	comp=Z,90nm,18.6s,baz=255,slow=36						
FRB	**Frobisher Bay**	**21.92**	**291**	LR	LR	23 06 16.7	
	comp=Z,47nm,19.8s,baz=26,slow=36						
GERES	**GERESS Array B**	**22.83**	**120**	P	**P**	**22 58 23.0**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=339,slow=10.0,SNR=6.5						
ESDC	**Sonseca Array**	**26.34**	**157**	P	**P**	**22 58 58.5**	**+3.3**
	comp=Z,0.6nm,0.9s,baz=348,slow=6.7,SNR=4.5						
ESDC				LR	LR	23 08 37.6	
	comp=Z,108nm,19.8s,baz=175,slow=35						
AKTO	**Aktyubinsk**	**39.98**	**74**	LR	LR	23 17 46.1	
	comp=Z,46nm,18.3s,baz=317,slow=37						
BVAR	**Borovoye Array**	**42.88**	**62**	LR	LR	23 20 40.5	
	comp=Z,34nm,18.2s,baz=298,slow=38						
MKAR	**Makanchi Array**	**52.40**	**59**	P	**P**	**23 02 31.2**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=337,slow=8.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**53.23**	**157**	P	**P**	**23 02 39.3**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=345,slow=10,SNR=1.6						
PDAR	**Pinedale Array**	**53.33**	**293**	P	**P**	**23 02 38.8**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=46,slow=2.6,SNR=2.1						

*IDC **24** 23:06:04.3±2.0, 33°.92N×45°.66E, h0km, mb3.8/5, mb1 3.8/5, mb1mx3.5/41, mbtmp3.8/5, MS3.3/1, Ms1 3.3/1, ms1mx2.4/63, Error ellipse: s-maj=58.8km s-min=26.1km az=158.0*
*THR **24** 23:06:04.1±0.4, 33°.79N×45°.70E, h5km±7km, ML3.7*
*TEH **24** 23:06:07.6, 33°.80N×45°.90E, h20km, ML3.2*
ISC 24 23:06:05.9±1.0, 33°.76N±0°.05×45°.75E±0°.07, h10km, n50, σ1§13/50, mb3.9/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.88**	**50**	*e*Pg	**Pg**	**23 06 23.0**	**0.0**
IGHG				*e*		23 06 42.8	
IDHR	**Dehrash**	**1.07**	**29**	*e*Pg	**Pg**	**23 06 26.2**	**-0.4**
IDHR				*e*		23 06 28.7	
KCHF	**Cheshme Sefid,**	**1.19**	**64**	*e*Pg	**Pb**	**23 06 28.1**	**-0.5**
KCHF				*e*		23 06 49.8	
IVIS	**Veis**	**1.19**	**50**	*e*Pg	**Pb**	**23 06 28.1**	**-0.5**
IVIS				*e*		23 06 30.6	
KER	**Kermanshah**	**1.30**	**61**	*e*Pg	**Pb**	**23 06 31.0**	**+0.4**
IKOM	**Komasi**	**1.52**	**74**	*e*Pg	**Pn**	**23 06 34.2**	**+0.9**
IKOM				*e*		23 07 09.2	
ILIN	**Lien**	**1.53**	**41**	*e*Pg	**Pb**	**23 06 34.7**	**+0.2**
ILIN				*e*		23 06 35.8	
DHL1	**Dehloran**	**1.68**	**130**	*e*Pg	**Pb**	**23 06 37.9**	**+1.0**
IKFM	**Kafar-mosalman**	**1.77**	**97**	*e*Pg	**Pb**	**23 06 38.3**	**-0.1**
IKFM				*e*		23 07 06.2	
IBZA	**Bozab**	**1.89**	**68**	*e*Pn	**Pn**	**23 06 39.7**	**+1.2**
IBZA				*e*		23 07 11.4	
IDOB	**Doab**	**2.02**	**89**	*e*Pn	**Pn**	**23 06 41.1**	**+0.8**
IKMR	**Kamar-syah**	**2.21**	**96**	*e*Pn	**Pn**	**23 06 43.7**	**+1.1**
IKMR				*e*		23 07 20.1	
IALM	**Almabolaq**	**2.28**	**61**	*e*Pn	**Pn**	**23 06 45.4**	**+1.5**
HSAM	**Samen**	**2.41**	**79**	*e*Pn	**Pn**	**23 06 46.3**	**+0.6**
HSAM				*e*		23 07 28.0	
HSRG	**Sareghieh**	**2.56**	**54**	*e*Pn	**Pn**	**23 06 49.4**	**+1.7**
HSRG				*e*		23 07 33.1	
BMDN	**Meydan**	**2.56**	**91**	*e*Pn	**Pn**	**23 06 48.5**	**+0.8**
MAHB	**Mahabad**	**3.00**	**359**	*e*Pn	**Pn**	**23 06 55.2**	**+1.6**
MAHB				*e*		23 07 46.1	
HAGD	**Aghdareh**	**3.00**	**68**	*e*Pn	**Pn**	**23 06 55.1**	**+1.4**
HAGD				*e*		23 07 47.7	
SHGR	**Shooshtar-Gavs**	**3.05**	**122**	*e*Pn	**Pn**	**23 06 55.7**	**+1.5**
SHGR				IAML		23 07 55.8	
	comp=E,93nm,0.4s						
SHGR				IAML		23 07 59.8	
	comp=N,108nm,0.6s						
KHMZ	**Khomeyn**	**3.51**	**89**	*e*Pn	**Pn**	**23 07 02.1**	**+1.4**
ASAO	**Ashtian**	**3.63**	**76**	*e*Pn	**Pn**	**23 07 03.9**	**+1.4**
ASAO				*e*S	**Sn**	**23 07 47.3**	**+1.8**
QABG	**Abgarm-Qazvin**	**3.71**	**57**	*e*Pn	**Pn**	**23 07 03.9**	**+0.5**
IRAZ	**Razeghan**	**3.82**	**63**	*e*Pn	**Pn**	**23 07 06.3**	**+1.4**
IAZR	**Azarshahr**	**3.91**	**3**	*e*Pn	**Pn**	**23 07 08.1**	**+1.8**
QSDN	**Sirdan**	**3.92**	**45**	*e*Pn	**Pn**	**23 07 07.2**	**+0.8**
ISRB	**Sarab**	**4.34**	**20**	*e*Pn	**Pn**	**23 07 14.1**	**+1.9**
JHBN	**Jahan bin**	**4.41**	**109**	*e*Pn	**Pn**	**23 07 13.8**	**+0.7**
JHBN				*e*		23 08 09.6	
IPIR	**Pirpir**	**4.44**	**103**	*e*Pn	**Pn**	**23 07 13.9**	**+0.3**
IGZV	**Ghazvin**	**4.50**	**53**	*e*Pn	**Pn**	**23 07 15.5**	**+1.1**
GHVR	**GHOM**	**4.66**	**80**	*e*Pn	**Pn**	**23 07 17.0**	**+0.6**
IHRS	**Heris**	**4.67**	**13**	*e*Pn	**Pn**	**23 07 18.3**	**+1.7**
QALM	**Alamut, Qazvin**	**4.82**	**55**	*e*Pn	**Pn**	**23 07 19.1**	**+0.4**
AHAR	**Ahar**	**4.83**	**12**	*e*Pn	**Pn**	**23 07 20.9**	**+2.1**
IKLH	**Kolahrood**	**4.89**	**94**	*e*Pn	**Pn**	**23 07 21.2**	**+1.5**
IKLH				*e*		23 08 23.7	
IMRD	**Marand**	**4.94**	**360**	*e*Pn	**Pn**	**23 07 22.1**	**+1.8**
GRMI	**Germi**	**5.32**	**18**	*e*Pn	**Pn**	**23 07 26.5**	**+0.9**
GRMI				*e*S	**Sn**	**23 08 26.3**	**-0.7**
IGAR	**Gharneh**	**5.45**	**103**	*e*Pn	**Pn**	**23 07 27.5**	**0.0**
IGAR				*e*		23 08 33.5	
IDMV	**Damavand**	**5.49**	**69**	*e*Pn	**Pn**	**23 07 28.0**	**+0.1**
IZEF	**Zefreh**	**5.58**	**97**	*e*Pn	**Pn**	**23 07 30.0**	**+0.8**
KLNJ	**Kolanjah**	**5.66**	**117**	*e*Pn	**Pn**	**23 07 30.8**	**+0.5**
IRAM	**Ramesheh**	**5.92**	**107**	*e*Pn	**Pn**	**23 07 33.9**	**+0.1**
IFIR	**Firoozkooh**	**6.07**	**70**	*e*Pn	**Pn**	**23 07 36.7**	**+0.8**
ISHM	**Shahmirzad**	**6.53**	**70**	*e*Pn	**Pn**	**23 07 43.2**	**+0.9**
GHIR	**Ghir-Karzin**	**8.27**	**129**	IAML		23 09 41.4	
	comp=E,8.2nm,0.7s						
WSAR	**Wadi Sarin**	**15.42**	**130**	LR	LR	23 17 39.2	
	comp=E,104nm,18.4s,baz=254,slow=45						
AKASG	**Malin Array Be**	**20.80**	**329**	P	**P**	**23 10 45.2**	**-2.0**
	comp=E,1.4nm,0.6s,baz=138,slow=9.5,SNR=6.2						
KURBB	**Kurchatov Arra**	**29.24**	**45**	P	**P**	**23 12 07.8**	**0.0**
	comp=E,1.0nm,0.2s,baz=246,slow=9.0,SNR=6.0						
MKAR	**Makanchi Array**	**30.48**	**54**	P	**P**	**23 12 18.4**	**-0.5**
	comp=E,0.7nm,0.6s,baz=256,slow=6.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**34.05**	**42**	P	**P**	**23 12 49.0**	**-1.1**
	comp=E,0.7nm,0.3s,baz=268,slow=7.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**44.91**	**254**	P	**P**	**23 14 20.7**	**-0.3**
	comp=E,0.5nm,1.0s,baz=25,slow=12,SNR=3.8						

*BJI **24** 23:10:11.5±0.0, 25°.96N×100°.60E, h18km, mB4.4/1, mb4.5/5, ML4.1/14, Ms3.7/4, Ms7 3.6/4*
*IDC **24** 23:10:11.5±0.9, 26°.23N×100°.84E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.7/64, mbtmp3.9/11, ML3.7/1, MS3.1/5, Ms1 3.1/5, ms1mx2.9/79, Error ellipse: s-maj=28.7km s-min=15.7km az=63.0*
*NEIC **24** 23:10:12.9±2.3, 26°.12N±0°.07×100°.59E±0°.07, h10km±1km, mb4.3/21, Error ellipse: s-maj=11.9km s-min=11.0km az=206.0*
ISC 24 23:10:11.9±0.6, 25°.94N±0°.05×100°.50E±0°.05, h10km, n43, σ1§90/49, mb4.2/21, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.18**	**111**	⇑*i*Pg	**Pn**	**23 10 49.4**	**+0.9**
KMI				Sg	**Sn**	**23 11 16.9**	**+1.3**
KMI				smax	smax		
	comp=N,2μm,1.0s						
KMI				smax	smax		
	comp=E,1μm,1.1s						
KMI	**Kunming**	**2.18**	**111**		**Pn**	**23 10 49.4**	**+0.9**
SLVN	**Son La**	**5.54**	**145**		**Pn**	**23 11 36.6**	**+2.0**
GYA	**Guiyang**	**5.56**	**83**	Pn	**Pn**	**23 11 37.8**	**+2.9**
GYA				Pg	Pg	23 12 06.1	+7.6
GYA				Sn	**Sn**	**23 12 40.6**	**+1.7**
GYA				Sg	**Sg**	**23 13 13.4**	**+2.9**
GYA				smax	smax		
	comp=N,54nm,1.2s						
GYA				smax	smax		
	comp=E,31nm,0.9s						
GYA				LR	LR		
	comp=N,510nm,7.2s						
GYA				LR	LR		
	comp=E,490nm,6.8s						
GYA				LR	LR		
	comp=Z,500nm,7.9s						
CD2	**Chengdu**	**5.73**	**29**	Pn	**Pn**	**23 11 41.1**	**+4.0**
CD2				Pg	**Pb**	**23 11 53.4**	**+1.5**
CD2				Sg	**Sb**	**23 13 01.8**	**+1.1**
CD2				smax	smax		
	comp=N,170nm,0.8s						
CD2				smax	smax		
	comp=E,170nm,0.8s						
CHTO	**Chiang Mai**	**7.23**	**192**	Pn	**Pn**	**23 12 00.3**	**+2.5**
CMAR	**Chiang Mai Arr**	**7.58**	**191**	Pn	Pn	23 12 09.5	+7.0
	comp=E,0.3nm,0.3s,baz=358,slow=12,SNR=6.9						
CMA

*IDC **24** 23:16:59.6±1.0,33˚.71N×45˚.71E,h0km,mb4.0/16, mb1 4.0/21,mb1mx3.8/52,mbtmp3.9/21,ML3.4/6,MS3.0/1, Ms1 3.0/1,ms1mx2.4/71,Error ellipse: s-maj=21.7km s-min=12.6km az=163.0*

*NEIC **24** 23:17:01.1±1.7,33˚.63N±0˚.08×45˚.71E±0˚.08,h10km±1km, mb4.1/31,mb_Lg3.9(TEH),Error ellipse: s-maj=13.6km s-min=11.4km az=174.0*

*TEH **24** 23:17:02.2,33˚.75N×45˚.76E,h13km,ML3.9*

*THR **24** 23:17:03.5±0.4,33˚.77N×45˚.82E,h16km±6km,ML4.1*

ISC 24 23:17:01.5±0.5,**33.71N**±0˚.05×**45.68E**±0˚.04,**h10km**,**n132,** σ1§**40**/136,**mb4.1**/29,**5C-3D**,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
IGHG	**Ghaleghazi**	**0.96**	**50**	*e*Pg	**Pg**	**23 17 19.5 -0.5**
IGHG				*e*		23 17 39.5
IDHR	**Dehrash**	**1.15**	**31**	*e*Pg	**Pb**	**23 17 22.6 -1.0**
IDHR				*e*		23 17 43.6
KCHF	**Cheshme Sefid,**	**1.26**	**63**	*e*Pg	**Pn**	**23 17 24.5 -0.9**
KCHF				*e*		23 17 49.9
IVIS	**Veis**	**1.27**	**50**	*e*Pg	**Pn**	**23 17 24.8 -0.6**
IVIS				*e*		23 17 46.7
KER	**Kermanshah**	**1.38**	**60**	*e*Pg	**Pn**	**23 17 26.8 -0.2**
IKOM	**Komasi**	**1.59**	**73**	*e*Pg	**Pn**	**23 17 30.9 +1.0**
IKOM				*e*		23 17 56.6
ILIN	**Lien**	**1.61**	**41**	*e*Pg	**Pn**	**23 17 31.7 +1.5**
ILIN				*e*		23 17 55.5
DHL1	**Dehloran**	**1.69**	**127**	*e*Pg	**Pb**	**23 17 33.0 +0.3**
IKFM	**Kafar-mosalman**	**1.82**	**95**	*e*Pg	**Pb**	**23 17 34.8 0.0**
IKFM				*e*		23 18 07.6
IBZA	**Bozab**	**1.96**	**67**	*e*Pn	**Pn**	**23 17 36.4 +1.3**
IBZA				*e*		23 17 40.6
IDOB	**Doab**	**2.08**	**87**	*e*Pn	**Pn**	**23 17 38.0 +1.3**
IKMR	**Kamar-syah**	**2.26**	**94**	*e*Pn	**Pn**	**23 17 40.4 +1.5**
IKMR				*e*		23 18 26.4
IALM	**Almabolaq**	**2.36**	**60**	*e*Pn	**Pn**	**23 17 42.4 +1.9**
HSAM	**Samen**	**2.48**	**78**	*e*Pn	**Pn**	**23 17 43.4 +1.2**
BMDN	**Meydan**	**2.62**	**90**	*e*Pn	**Pn**	**23 17 45.3 +1.2**
BMDN				*e*		23 18 35.4
HSRG	**Sareghieh**	**2.63**	**54**	*e*Pn	**Pn**	**23 17 46.0 +1.7**
HSRG				*e*		23 18 29.8
MAHB	**Mahabad**	**3.05**	**0**	*e*Pn	**Pn**	**23 17 51.6 +1.7**
HAGD	**Aghdareh**	**3.07**	**68**	*e*Pn	**Pn**	**23 17 51.7 +1.4**
HAGD				*e*		23 18 43.1
SHGR	**Shooshtar-Gavs**	**3.07**	**120**	*e*Pn	**Pn**	**23 17 52.6 +2.5**
SHGR	**Shooshtar-Gavs**	**3.07**	**120**	*e*Pn	**Pn**	**23 17 52.6 +2.5**
KHMZ	**Khomeyn**	**3.57**	**88**	*e*Pn	**Pn**	**23 17 58.8 +1.7**
KHMZ				*e*Sg	**Sb**	**23 18 51.3 +3.1**
KHMZ	**Khomeyn**	**3.57**	**88**	*e*Pn	**Pn**	**23 17 58.8 +1.7**
ASAO	**Ashtian**	**3.70**	**76**	*e*Pn	**Pn**	**23 18 00.5 +1.6**
ASAO				*e*Sg	**Sb**	**23 18 54.7 +2.6**
ASAO	**Ashtian**	**3.70**	**76**	*e*Pn	**Pn**	**23 18 00.5 +1.6**
QABG	**Abgarm-Qazvin**	**3.78**	**57**	*e*Pn	**Pn**	**23 18 00.7 +0.6**
ZNJK	**Zanjan**	**3.84**	**39**	*e*Pn	**Pn**	**23 18 02.8 +1.9**
ZNJK				*e*S	**Sn**	**23 18 46.0 -0.3**
ZNJK	**Zanjan**	**3.84**	**39**	*e*Pn	**Pn**	**23 18 02.8 +1.9**
IRAZ	**Razeghan**	**3.89**	**63**	*e*Pn	**Pn**	**23 18 03.1 +1.5**
IAZR	**Azarshahr**	**3.97**	**3**	*e*Pn	**Pn**	**23 18 04.7 +2.1**
QSDN	**Sirdan**	**4.00**	**45**	*e*Pn	**Pn**	**23 18 04.5 +1.5**
ISRB	**Sarab**	**4.41**	**21**	*e*Pn	**Pn**	**23 18 09.9 +1.2**
JHBN	**Jahan bin**	**4.44**	**108**	*e*Pn	**Pn**	**23 18 09.8 +0.6**
IPIR	**Pirpir**	**4.49**	**102**	*e*Pn	**Pn**	**23 18 10.7 +0.9**
ITBZ	**Tabriz**	**4.53**	**5**	*e*Pn	**Pn**	**23 18 12.6 +2.3**
IMHD	**Mahdasht**	**4.56**	**63**	*e*Pn	**Pn**	**23 18 12.0 +1.4**
IGZV	**Ghazvin**	**4.58**	**53**	*e*Pn	**Pn**	**23 18 12.3 +1.3**
GHVR	**GHOM**	**4.72**	**79**	*e*Pn	**Pn**	**23 18 14.2 +1.4**
GHVR	**GHOM**	**4.72**	**79**	*e*Pn	**Pn**	**23 18 14.2 +1.4**
IHRS	**Heris**	**4.73**	**13**	*e*Pn	**Pn**	**23 18 15.2 +2.1**
QALM	**Alamut, Qazvin**	**4.89**	**55**	*e*Pn	**Pn**	**23 18 17.0 +1.6**
AHAR	**Ahar**	**4.90**	**13**	*e*Pn	**Pn**	**23 18 16.8 +1.5**
IKLH	**Kolahrood**	**4.94**	**93**	*e*Pn	**Pn**	**23 18 17.3 +1.4**
IMRD	**Marand**	**4.99**	**0**	*e*Pn	**Pn**	**23 18 18.7 +2.1**
GEVA	**Gevas**	**5.06**	**336**	*e*Pn	**Pn**	**23 18 19.6 +2.0**
GEVA	**Gevas**	**5.06**	**336**	Pn	**Pn**	**23 18 19.5 +2.0**
GEVA				Sn	**Sn**	**23 19 17.8 +1.6**
IGAR	**Gharneh**	**5.50**	**102**	*e*Pn	**Pn**	**23 18 24.4 +0.7**
IDMV	**Damavand**	**5.56**	**69**	*e*Pn	**Pn**	**23 18 24.9 +0.4**
CLDR	**Caldiran**	**5.61**	**346**	*e*Pn	**Pn**	**23 18 27.2 +2.1**
IZEF	**Zefreh**	**5.63**	**96**	*e*Pn	**Pn**	**23 18 26.6 +1.2**
KLNJ	**Kolanjah**	**5.68**	**117**	*e*Pn	**Pn**	**23 18 28.0 +1.7**
KLNJ				*e*		23 20 05.9
IRAM	**Ramesheh**	**5.96**	**107**	*e*Pn	**Pn**	**23 18 30.4 +0.5**
IPRN	**Peran**	**6.02**	**63**	*e*Pn	**Pn**	**23 18 32.0 +1.3**
IFIR	**Firoozkooh**	**6.14**	**70**	*e*Pn	**Pn**	**23 18 34.0 +1.5**
ILAS	**Lasjerd**	**6.23**	**72**	*e*Pn	**Pn**	**23 18 34.6 +0.8**
ISHM	**Shahmirzad**	**6.61**	**69**	*e*Pn	**Pn**	**23 18 40.0 +1.1**
ANAR	**Anarak**	**6.75**	**92**	*e*Pn	**Pn**	**23 18 41.5 +0.8**
IGLO	**Ghaloghah**	**7.24**	**65**	*e*Pn	**Pn**	**23 18 48.9 +1.4**
ASF	**Jabal al Asfar**	**7.54**	**261**	Pn	**Pn**	**23 18 51.2 -0.4**
	0.4nm,0.3s,baz=47,slow=15,SNR=3.5					
ASF				Pg	Pb	23 19 19.0 +6.6
	0.6nm,0.3s,baz=35,slow=16,SNR=6.4					
ASF				Lg	Lg	23 20 59.6
	1.0nm,0.3s,baz=44,slow=23,SNR=3.5					
KOPT	**Kop Dagi**	**7.54**	**328**	Pn	**Pn**	**23 18 53.1 +1.4**
GAZ	**Gaziantep**	**7.72**	**299**	Pn	**Pn**	**23 18 55.6 +1.5**
AKH	**Akhalkalaki**	**7.88**	**348**	Pn	**Pn**	**23 18 57.3 +1.1**
IMEH	**Mehriz**	**7.89**	**105**	*e*Pn	**Pn**	**23 18 57.3 +0.8**
GHIR	**Ghir-Karzin**	**8.28**	**129**	IAML		23 20 55.8
	comp=E,8.6nm,0.7s					
MMAI	**Mount Meron Ar**	**8.62**	**268**	Pn	**Pn**	**23 19 06.2 -0.2**
	comp=E,0.3nm,0.3s,baz=71,slow=19,SNR=2.5					
MMAI				Lg	Lg	23 21 38.5
	comp=E,2.1nm,0.3s,baz=115,slow=44,SNR=2.6					
EIL	**Elat**	**9.99**	**249**	Pn	**Pn**	**23 19 25.6 +0.6**
	comp=E,0.2nm,0.3s,baz=22,slow=11,SNR=1.2					
EIL				Lg	Lg	23 22 26.5
	comp=E,0.8nm,0.3s,baz=337,slow=4.3,SNR=5.1					
EIL				LR	LR	23 24 18.5
	comp=E,88nm,19.9s,baz=139,slow=44					
KBZ	**Khabaz**	**10.24**	**349**	Pn	**Pn**	**23 19 32.2 +3.9**
	comp=E,0.1nm,0.3s,baz=153,slow=8.4,SNR=3.7					
KIV	**Kislovodsk**	**10.49**	**348**	Pn	**Pn**	**23 19 32.6 +0.6**
GEYT	**Alibeck**	**10.94**	**64**	Pn	**Pn**	**23 19 41.0 +2.9**
	comp=E,0.1nm,0.3s,baz=254,slow=13,SNR=3.6					
GYA0B	**ALIBECK ARRAY**	**10.94**	**64**	Pn	**Pn**	**23 19 38.0 -0.1**
UOSS	**Minazif**	**12.66**	**131**	Pn	**Pn**	**23 20 00.6 -1.1**
WSAR	**Wadi Sarin**	**15.43**	**129**	Pn	**Pn**	**23 20 38.0 -1.3**
	comp=E,0.7nm,0.3s,baz=359,slow=7.6,SNR=7.6					
IDI	**Anoyia**	**17.21**	**281**	Pn	**Pn**	**23 21 01.7 -0.3**
IDI				IAmb	IAmb	23 21 11.3
	comp=Z,29nm,1.5s					
AKTO	**Aktyubinsk**	**19.01**	**25**	P	**P**	**23 21 22.7 -0.6**
	comp=Z,0.3nm,0.3s,baz=207,slow=13,SNR=5.0					
MLR	**Muntele Rosu**	**19.17**	**314**	P	**Pn**	**23 21 27.7 +1.7**
	comp=Z,0.2nm,0.3s,baz=144,slow=17,SNR=2.4					
SORM	**Soroca**	**19.41**	**323**	⇓P	**P**	**23 21 26.1 -1.5**
AGG	**Agios Georgios**	**19.52**	**292**	P	**P**	**23 21 30.6 +1.7**
CHGR	**Chuyangaron**	**19.57**	**69**	P	**P**	**23 21 29.8 +0.2**
CHGR				IAmb	IAmb	23 21 36.4
	comp=Z,14nm,1.1s					
LIT	**Litokhoron**	**19.58**	**296**	P	**P**	**23 21 31.1 +1.4**
LIT				IAmb	IAmb	23 21 35.3
	comp=Z,9.6nm,1.0s					
ITM	**Ithomi**	**19.65**	**287**	P	**P**	**23 21 30.8 +0.4**
ITM				IAmb	IAmb	23 21 37.2
	comp=Z,7.1nm,0.7s					
VOIR		**19.69**	**313**	⇑P	**P**	**23 21 32.8 +2.0**
DOPR	**Dopca**	**19.75**	**314**	⇑P	**P**	**23 21 32.3 +0.9**
ARR	**Arges**	**19.91**	**312**	⇑P	**P**	**23 21 34.7 +1.5**
LOT	**Lotru**	**20.49**	**311**	⇓P	**P**	**23 21 40.0 +0.4**
GAR	**Garm**	**20.51**	**68**	P	**P**	**23 21 41.4 +1.5**
GAR				IAmb	IAmb	23 21 44.0
	comp=Z,9.9nm,0.9s					
BURAR	**Bucovina Array**	**20.74**	**318**	⇑P	**P**	**23 21 44.1 +1.8**
BUR08	**Bucovina Ar. S**	**20.77**	**318**	P	**P**	**23 21 44.1 +1.5**
AKASG	**Malin Array Be**	**20.82**	**330**	P	**P**	**23 21 42.2 -0.8**
	comp=Z,2.0nm,0.4s,baz=137,slow=9.9,SNR=21					
AKBB	**Malin Array Si**	**20.82**	**330**	P	**P**	**23 21 42.2 -0.8**
AKBB				IAmb	IAmb	23 21 46.7
	comp=Z,11nm,1.3s					
BTK	**Batken**	**21.05**	**65**	P	**P**	**23 21 45.7 +0.1**
BTK				IAmb	IAmb	23 21 54.1
	comp=Z,6.9nm,0.7s					
HERR	**Herculane**	**21.11**	**309**	⇓P	**P**	**23 21 46.3 +0.2**
MDVR	**Moldovita**	**21.52**	**308**	⇑P	**P**	**23 21 49.0 -1.7**
KK31	**Karatay Array**	**21.54**	**57**	P	**P**	**23 21 51.3 +0.5**
KK31				IAmb	IAmb	23 22 02.5
	comp=Z,5.5nm,0.8s					
KKAR	**Karatay Array**	**21.54**	**57**	P	**P**	**23 21 51.2 +0.4**
NIL	**Nilore**	**22.92**	**82**	P	**P**	**23 22 04.5 -1.2**
NIL				IAmb	IAmb	23 22 07.3
	comp=Z,7.9nm,0.8s					
TIP	**Timpagrande**	**23.84**	**292**	P	**P**	**23 22 15.9 +1.1**
TIP				IAmb	IAmb	23 22 25.6
	comp=Z,7.2nm,1.0s					
PSZ	**Piszkesteto**	**23.99**	**314**	P	**P**	**23 22 15.5 -0.7**
AAK	**Ala-Archa**	**24.25**	**60**	P	**P**	**23 22 21.2 +2.4**
	comp=Z,1.2nm,0.3s,baz=236,slow=5.4,SNR=3.8					
ARU	**Arti**	**24.39**	**17**	P	**P**	**23 22 19.4 -0.3**
	comp=Z,0.8nm,0.6s,baz=170,slow=4.2,SNR=4.8					
ARU	**Arti**	**24.39**	**17**	P	**P**	**23 22 19.8 +0.1**
ARU				IAmb	IAmb	23 22 28.8
	comp=Z,5.4nm,0.7s					
KIRV	**Kirov**	**25.01**	**5**	P	**P**	**23 22 25.2 0.0**
	comp=Z,7.3nm,0.6s,baz=170,slow=6.1,SNR=5.6					
BRVK	**Borovoye**	**26.12**	**35**	P	**P**	**23 22 35.6 +0.2**
BRVK				IAmb	IAmb	23 22 43.2
	comp=Z,3.3nm,0.8s					
KDJ	**Kajisay**	**26.12**	**62**	P	**P**	**23 22 33.7 -2.1**
BVAR	**Borovoye Array**	**26.15**	**35**	P	**P**	**23 22 35.5 -0.2**
	comp=Z,2.0nm,0.5s,baz=232,slow=7.3,SNR=21					
TARG	**Taragay, Kyrgy**	**26.53**	**63**	P	**P**	**23 22 38.6 -1.1**
KLMR	**Klimovskoe**	**27.45**	**353**	*e*	**P**	**23 22 43.4 -3.9**
KLMR				AMP		23 22 49.9
	comp=Z,8.0nm,0.7s					
CTI	**Castel Tesino**	**28.65**	**306**	P	**P**	**23 22 59.1 +0.7**
KURBB	**Kurchatov Arra**	**29.32**	**45**	P	**P**	**23 23 04.8 +0.7**
	comp=Z,2.4nm,0.7s,baz=252,slow=8.9,SNR=13					
KURK	**Kurchatov**	**29.41**	**45**	P	**P**	**23 23 04.6 -0.3**
KURK				IAmb	IAmb	23 23 06.2
	comp=Z,2.5nm,0.8s					
MAKZ	**Makanchi**	**30.35**	**54**	P	**P**	**23 23 13.3 -0.1**
MAKZ				IAmb	IAmb	23 23 14.9
	comp=Z,1.8nm,0.7s					
FINES	**FINESS Array B**	**30.48**	**341**	P	**P**	**23 23 15.4 +1.2**
	comp=Z,2.0nm,1.0s,baz=147,slow=9.6,SNR=5.2					
MK31	**Makanchi Array**	**30.56**	**54**	P	**P**	**23 23 15.7 +0.5**
MK31				IAmb	IAmb	23 23 17.0
	comp=Z,2.9nm,0.7s					
MKAR	**Makanchi Array**	**30.56**	**54**	P	**P**	**23 23 15.4 +0.2**
	comp=Z,3.3nm,0.6s,baz=249,slow=7.5,SNR=52					
BNI	**Bardonecchia**	**31.91**	**302**	P	**P**	**23 23 27.9 +0.6**
WMQ	**Urumqi**	**33.96**	**60**	*e*P	**P**	**23 23 45.4 +0.3**
WMQ				sP	sP	23 23 55.0 +5.5
WMQ				pmax	pmax	
	comp=Z,9.0nm,0.6s					
WMQ				pmax	pmax	
	comp=Z,75nm,4.7s					
WMQ				LR	LR	
	comp=N,66nm,29.1s					
WMQ				LR	LR	
	comp=E,100nm,29.3s					
WMQ				LR	LR	
	comp=Z,24nm,25.5s					
ZAA0	**Zalesovo Array**	**34.13**	**42**	P	**P**	**23 23 46.0 -0.3**
ZAA0				IAmb	IAmb	23 23 46.5
	comp=Z,3.1nm,0.8s					
ZALV	**Zalesovo Beam**	**34.13**	**42**	P	**P**	**23 23 46.0 -0.4**
	comp=Z,3.2nm,0.5s,baz=262,slow=8.1,SNR=14					
LVZ	**Lovozero**	**34.82**	**353**	P	**P**	**23 23 51.6 -0.6**
NOA	**NORSAR Array B**	**35.21**	**331**	P	**P**	**23 23 53.6 -2.1**
	comp=Z,0.9nm,0.8s,baz=124,slow=8.6,SNR=4.0					
NC303	**NORSAR Array S**	**35.26**	**332**	P	**P**	**23 23 56.6 +0.6**
KEV	**Kevo**	**37.56**	**349**	P	**P**	**23 24 15.2 -0.3**
ARCES	**ARCESS Array B**	**37.60**	**349**	P	**P**	**23 24 14.4 -1.4**
	comp=Z,1.9nm,0.9s,baz=104,slow=5.1,SNR=5.6					
ESDC	**Sonseca Array**	**39.84**	**293**	P	**P**	**23 24 35.0 -0.1**
	comp=Z,0.4nm,0.5s,baz=76,slow=8.6,SNR=7.4					
NRIK	**Noril'sk**	**42.55**	**21**	P	**P**	**23 24 55.0 -1.9**
	comp=Z,4.4nm,0.9s,baz=230,slow=6.3,SNR=5.3					
TOA0	**Torodi Ar. Sit**	**44.84**	**254**	P	**P**	**23 25 14.6 -1.4**
TOA0				IAmb	IAmb	23 25 28.0
	comp=Z,2.9nm,1.1s					
TORD	**Torodi Ar. Bea**	**44.84**	**254**	P	**P**	**23 25 16.0 0.0**
	comp=Z,0.7nm,0.7s,baz=62,slow=6.5,SNR=7.5					
SPA0	**Spitsbergen Ar**	**46.34**	**352**	P	**P**	**23 25 26.9 -0.3**
SONM	**Songino Array**	**46.93**	**54**	P	**P**	**23 25 31.9 -0.4**
	comp=Z,1.0nm,1.0s,baz=291,slow=12,SNR=3.8					
LZH	**Lanzhou**	**47.15**	**70**	*e*P	**P**	**23 25 33.5 -0.8**
LZH				pP	pP	23 25 36.6 -0.9
LZH				sP	sP	23 25 38.1 -0.6
LZH				*e*PP	**PP**	**23 27 23.4 -1.5**
LZH				pmax	pmax	
	comp=Z,17nm,1.3s					
LZH				pmax	pmax	
	comp=Z,52nm,6.2s					
CMAR	**Chiang Mai Arr**	**49.68**	**94**	P	**P**	**23 25 52.2 -1.6**
	comp=Z,1.1nm,0.4s,baz=297,slow=8.3,SNR=6.1					
HHC	**Hu-ho-hao-te**	**51.81**	**62**	*e*P	**P**	**23 26 11.8 +2.1**
HHC				pmax	pmax	
	comp=Z,14nm,0.7s					
HHC				pmax	pmax	
	comp=Z,61nm,5.9s					
SCHQ	**Schefferville**	**74.58**	**326**	P	**P**	**23 28 40.0 -0.5**
ILAR	**Eielson Array**	**81.35**	**5**	P	**P**	**23 29 17.8 -0.1**
	comp=Z,0.8nm,0.9s,baz=327,slow=3.2,SNR=6.4					

*IDC **24** 23:21:16.1±0.8,33˚.73N×45˚.75E,h0km,mb3.9/16, mb1 3.9/21,mb1mx3.8/57,mbtmp3.8/21,ML3.3/3,Error ellipse: s-maj=20.7km s-min=13.7km az=155.0*

*THR **24** 23:21:18.1±0.3,33˚.74N×45˚.68E,h17km±2km,ML4.3*

*TEH **24** 23:21:19.1,33.75N×45.80E,h14km,ML4.2*

*NEIC **24** 23:21:19.3±1.6,33˚.64N±0˚.08×45˚.73E±0˚.08,h23km±6km, Error ellipse: s-maj=11.5km s-min=9.2km az=185.0*

*DSN **24** 23:21:25.6±0.9,33˚.43N×46˚.57E,h10km,mb4.5/1,Error ellipse: s-maj=19.9km s-min=8.5km az=48.0*

*OMAN **24** 23:21:27.3±0.0,33˚.27N×46˚.27E,h33km,mb5.1/11, ms3.3/1,Error ellipse: s-maj=1.8km s-min=1.2km az=35.0*

ISC 24 23:21:17.0±0.4,**33.60N**±0˚.04×**45.77E**±0˚.04,**h10km**,**n167,** σ2§**11**/181,**mb4.1**/22,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
IGHG	**Ghaleghazi**	**0.99**	**42**	*e*Pg	**Pg**	**23 21 36.0 -0.1**
IGHG				*e*		23 21 55.6
IDHR	**Dehrash**	**1.21**	**25**	*e*Pg	**Pn**	**23 21 38.8 -1.5**
IDHR				*e*		23 21 41.7
KCHF	**Cheshme Sefid,**	**1.26**	**57**	*e*Pg	**Pn**	**23 21 41.2 +0.4**
KCHF				*e*		23 22 04.0
IVIS	**Veis**	**1.29**	**44**	*e*Pg	**Pn**	**23 21 41.1 -0.1**
IVIS				*e*		23 22 03.0
KER	**Kermanshah**	**1.38**	**55**	*e*Pg	**Pn**	**23 21 43.7 +1.2**
IKOM	**Komasi**	**1.56**	**68**	*e*Pg	**Pb**	**23 21 47.4 +1.3**
IKOM				*e*		23 22 12.9
DHL1	**Dehloran**	**1.57**	**125**	*e*Pg	**Pg**	**23 21 49.9 +2.8**
ILIN	**Lien**	**1.65**	**37**	*e*Pg	**Pn**	**23 21 47.8 +1.5**
ILIN				*e*		23 22 13.9
IKFM	**Kafar-mosalman**	**1.74**	**92**	*e*Pg	**Pb**	**23 21 50.7 +1.7**
IKFM				*e*		23 22 23.9
IBZA	**Bozab**	**1.94**	**63**	*e*Pn	**Pb**	**23 21 52.8 +0.1**
IBZA				*e*		23 22 24.3
IDOB	**Doab**	**2.02**	**84**	*e*Pn	**Pb**	**23 21 54.3 +0.4**
IKMR	**Kamar-syah**	**2.19**	**91**	*e*Pn	**Pb**	**23 21 56.8 +0.2**
IALM	**Almabolaq**	**2.35**	**57**	*e*Pn	**Pn**	**23 21 58.7 +2.7**
HSAM	**Samen**	**2.44**	**75**	*e*Pn	**Pn**	**23 21 59.6 +2.5**
BMDN	**Meydan**	**2.55**	**88**	*e*Pn	**Pn**	**23 22 01.3 +2.7**
HSRG	**Sareghieh**	**2.65**	**51**	*e*Pn	**Pn**	**23 22 02.8 +2.8**
HSRG				*e*		23 22 46.0
SHGR	**Shooshtar-Gavs**	**2.96**	**119**	*e*Pn	**Pb**	**23 22 08.1 -1.7**
SHGR				IAML		23 23 13.1
	comp=N,301nm,0.5s					
SHGR	**Shooshtar-Gavs**	**2.96**	**119**	*e*Pn	**Pb**	**23 22 08.1 -1.7**
HAGD	**Aghdareh**	**3.05**	**65**	*e*Pn	**Pn**	**23 22 08.1 +2.6**
HAGD				*e*		23 23 00.0
MAHB	**Mahabad**	**3.16**	**359**	*e*		23 22 47.8
MAHB				*e*Pn	**Pn**	**23 22 08.4 +1.4**
KHMZ	**Khomeyn**	**3.50**	**87**	*e*Pn	**Pn**	**23 22 15.0 +3.3**
KHMZ	**Khomeyn**	**3.50**	**87**	*e*Pn	**Pn**	**23 22 15.0 +3.3**
ASAO	**Ashtian**	**3.66**	**74**	*e*Pn	**Pn**	**23 22 17.0 +3.1**
ASAO				*e*Sg	**Sg**	**23 23 13.2 -1.4**
ASAO	**Ashtian**	**3.66**	**74**	*e*Pn	**Pn**	**23 22 17.0 +3.1**
QABG	**Abgarm-Qazvin**	**3.79**	**55**	*e*Pn	**Pn**	**23 22 16.8 +1.2**
IRAZ	**Razeghan**	**3.88**	**61**	*e*Pn	**Pn**	**23 22 19.5 +2.6**
QSDN	**Sirdan**	**4.03**	**43**	*e*Pn	**Pn**	**23 22 20.6 +1.6**
IAZR	**Azarshahr**	**4.08**	**2**	*e*Pn	**Pn**	**23 22 21.2 +1.6**
JHBN	**Jahan bin**	**4.34**	**107**	*e*Pn	**Pn**	**23 22 27.0 +3.7**
IPIR	**Pirpir**	**4.40**	**101**	*e*Pn	**Pn**	**23 22 26.8 +2.7**
ISRB	**Sarab**	**4.49**	**20**	*e*Pn	**Pn**	**23 22 27.1 +1.8**
IMHD	**Mahdasht**	**4.54**	**61**	*e*Pn	**Pn**	**23 22 27.7 +1.7**
IGZV	**Ghazvin**	**4.59**	**51**	*e*Pn	**Pn**	**23 22 28.5 +1.8**
ROKH	**ROKH**	**4.60**	**104**	*e*Pn	**Pn**	**23 22 29.8 +2.9**
GHVR	**GHOM**	**4.67**	**78**	*e*Pn	**Pn**	**23 22 30.2 +2.5**
GHVR				*e*S	**Sn**	**23 23 22.9 +0.9**
GHVR	**GHOM**	**4.67**	**78**	*e*Pn	**Pn**	**23 22 30.2 +2.5**
IHRS	**Heris**	**4.82**	**12**	*e*Pn	**Pn**	**23 22 31.4 +1.5**
IKLH	**Kolahrood**	**4.87**	**92**	*e*Pn	**Pn**	**23 22 33.9 +3.4**
IKLH				*e*		23 22 35.4
QALM	**Alamut, Qazvin**	**4.90**	**53**	*e*Pn	**Pn**	**23 22 32.3 +1.3**
IHSB	**Hasanabad**	**4.91**	**66**	*e*Pn	**Pn**	**23 22 32.9 +2.0**
AHAR	**Ahar**	**4.99**	**12**	*e*Pn	**Pn**	**23 22 33.4 +1.3**
IMRD	**Marand**	**5.11**	**359**	*e*Pn	**Pn**	**23 22 35.1 +1.4**
GEVA	**Gevas**	**5.19**	**336**	Pn	**Pn**	**23 22 35.7 +0.8**
GEVA				Sn	**Sn**	**23 23 32.5 -2.4**
IGAR	**Gharneh**	**5.41**	**101**	*e*Pn	**Pn**	**23 22 40.8 +2.9**
GRMI	**Germi**	**5.48**	**18**	*e*Pn	**Pn**	**23 22 39.9 +1.1**
GRMI				*e*S	**Sn**	**23 23 39.5 -2.4**
GRMI	**Germi**	**5.48**	**18**	*e*Pn	**Pn**	**23 22 39.9 +1.1**
IDMV	**Damavand**	**5.53**	**67**	*e*Pn	**Pn**	**23 22 41.1 +1.4**
KLNJ	**Kolanjah**	**5.57**	**116**	*e*Pn	**Pn**	**23 22 42.5 +2.2**
IRAM	**Ramesheh**	**5.86**	**106**	*e*Pn	**Pn**	**23 22 46.5 +2.4**
IPRN	**Peran**	**6.01**	**62**	*e*Pn	**Pn**	**23 22 48.2 +2.1**
IFIR	**Firoozkooh**	**6.11**	**69**	*e*Pn	**Pn**	**23 22 50.0 +2.4**
ILAS	**Lasjerd**	**6.20**	**71**	*e*Pn	**Pn**	**23 22 50.6 +1.8**
IALA	**Alasht**	**6.30**	**65**	*e*Pn	**Pn**	**23 22 53.3 +3.0**
ISHM	**Shahmirzad**	**6.58**	**68**	*e*Pn	**Pn**	**23 22 56.0 +1.9**
ANAR	**Anarak**	**6.67**	**91**	*e*Pn	**Pn**	**23 22 56.9 +1.7**
ISAD	**Sadrabad**	**6.88**	**102**	*e*Pn	**Pn**	**23 23 02.0 +3.8**
IGLO	**Ghaloghah**	**7.22**	**64**	*e*Pn	**Pn**	**23 23 06.1 +3.3**
ASF	**Jabal al Asfar**	**7.59**	**262**	Pn	**Pn**	**23 23 06.6 -1.3**
	baz=71,slow=12,SNR=0.9					
ASF				Lg	Lg	23 25 21.2
	comp=N,0.8nm,0.3s,baz=24,slow=19,SNR=3.6					
IMEH	**Mehriz**	**7.79**	**104**	*e*Pn	**Pn**	**23 23 13.6 +2.9**
GAZ	**Gaziantep**	**7.84**	**299**	Pn	**Pn**	**23 23 09.9 -1.3**
GHIR	**Ghir-Karzin**	**8.15**	**129**	IAML		23 24 54.7
	comp=E,24nm,0.6s					
IBAF	**Bafgh**	**8.51**	**101**	*e*Pn	**Pn**	**23 23 22.2 +1.7**
MMAI	**Mount Meron Ar**	**8.69**	**269**	Pn	**Pn**	**23 23 22.6 -0.3**
	baz=74,slow=16,SNR=0.7					
MMAI				Lg	Lg	23 25 57.2
	comp=E,0.9nm,0.3s,baz=106,slow=33,SNR=3.5					
TPRV	**Parvadeh(Tabas**	**9.16**	**91**	*e*Pn	**Pn**	**23 23 31.4 +2.1**
TKDS	**Koohdasht(Taba**	**9.47**	**87**	*e*Pn	**Pn**	**23 23 35.3 +1.7**
TOKA	**Tokat**	**10.01**	**315**	Pn	**Pn**	**23 23 39.6 -1.3**
EIL	**Elat**	**10.02**	**250**	Pn	**Pn**	**23 23 42.4 +1.4**
	comp=E,0.2nm,0.3s,baz=63,slow=14,SNR=0.9					
EIL				Lg	Lg

KURBB **Kurchatov Arra** 29.35 45 P P 23 27 20.1 +0.2
comp=Z,1.8nm,0.7s,baz=251,slow=9.0,SNR=12
KURK **Kurchatov** 29.44 45 P P 23 27 20.1 -0.5
KURK **Kurchatov** 29.44 45 IAmb IAmb 23 27 22.4
comp=Z,2.6nm,0.9s
MAKZ **Makanchi** 30.36 53 P P 23 27 29.7 +0.7
MAKZ IAmb IAmb 23 27 31.1
comp=Z,1.7nm,0.6s
MK31 **Makanchi Array** 30.57 54 P P 23 27 31.9 +1.1
MK31 IAmb IAmb 23 27 32.3
comp=Z,3.0nm,0.7s
MKAR **Makanchi Array** 30.57 54 P P 23 27 31.5 +0.7
comp=Z,3.3nm,0.5s,baz=252,slow=9.4,SNR=46
FINES **FINESS Array B** 30.61 341 P P 23 27 29.5 -1.4
comp=Z,1.9nm,0.9s,baz=140,slow=7.2,SNR=2.7
BNI **Bardonecchia** 32.03 303 P P 23 27 45.1 +1.2
ZAA0 **Zalesovo Array** 34.17 42 P P 23 28 02.3 +0.1
ZALV **Zalesovo Beam** 34.17 42 P P 23 28 02.0 -0.2
comp=Z,3.1nm,0.3s,baz=252,slow=9.7,SNR=24
ARCES **ARCESS Array B** 37.72 349 P P 23 28 32.6 +0.2
comp=Z,0.4nm,0.5s,baz=114,slow=8.1,SNR=1.5
ESDC **Sonseca Array** 39.95 293 P P 23 28 52.9 +1.3
comp=Z,0.3nm,0.6s,baz=79,slow=8.7,SNR=5.7
EKA **Eskdalemuir Ar** 40.06 318 P P 23 28 50.9 -1.3
comp=Z,0.3nm,0.5s,baz=90,slow=5.8,SNR=4.1
NRIK **Noril'sk** 42.62 20 P P 23 29 13.7 +0.6
comp=Z,2.1nm,0.4s,baz=182,slow=6.3,SNR=4.4
TOA0 **Torodi Ar. Sit** 44.88 254 P P 23 29 31.5 -0.4
TORD **Torodi Ar. Bea** 44.88 254 P P 23 29 32.6 +0.7
comp=Z,0.5nm,0.6s,baz=61,slow=6.1,SNR=7.6
TLY **Talaya** 44.98 48 P P 23 29 32.5 +0.1
TLY IAmb IAmb 23 29 42.6
comp=Z,3.5nm,0.9s
SPB2 **Spitsbergen Ar** 46.45 352 P P 23 29 43.4 -0.2
SPB3 **Spitsbergen Ar** 46.45 352 P P 23 29 43.8 +0.2
SPB1 **Spitsbergen Ar** 46.46 352 P P 23 29 44.0 +0.4
SPA0 **Spitsbergen Ar** 46.46 352 P P 23 29 44.1 +0.4
SPA1 **Spitsbergen Ar** 46.46 352 P P 23 29 43.7 +0.1
SPA3 **Spitsbergen Ar** 46.46 352 P P 23 29 44.0 +0.4
SPB4 **Spitsbergen Ar** 46.46 352 P P 23 29 43.5 -0.2
SPB5 **Spitsbergen Ar** 46.46 352 P P 23 29 43.9 +0.2
SONM **Songino Array** 46.94 53 P P 23 29 47.6 -0.3
comp=Z,0.4nm,0.5s,baz=268,slow=10.0,SNR=2.9
ULN **Ulaanbaatar** 47.37 53 P P 23 29 51.5 +0.1
CHTO **Chiang Mai** 49.43 93 P P 23 30 07.1 -0.3
CMAR **Chiang Mai Arr** 49.60 94 P P 23 30 08.2 -0.5
comp=Z,1.1nm,0.5s,baz=293,slow=8.6,SNR=8.6
BOSA **Boshof** 64.86 200 P P 23 31 58.5 +2.1
comp=Z,4.7nm,1.1s,baz=75,slow=3.8,SNR=3.6
BOSA **Boshof** 64.86 200 P P 23 31 57.4 +1.0
ILAR **Eielson Array** 81.45 5 P P 23 33 34.1 +0.1
comp=Z,0.3nm,0.8s,baz=304,slow=2.7,SNR=5.6

IDC ***24*** *23:21:41.7±1.5, 14.˙51S×73.˙51W, h60km±13km, mb5.8/33, mb1 5.9/39, mb1mx5.9/40, mbtmp6.1/39, MS6.2/20, Ms1 6.2/20, ms1mx6.1/31, Error ellipse: s-maj=10.3km s-min=8.8km az=54.0*

NEIC ***24*** *23:21:41.6, 14.˙61S×73.˙60W, h101km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}=2.26; $M_{\theta\theta}$=0.08; $M_{\phi\phi}$=2.18; $M_{r\theta}$=0.37; $M_{r\phi}$=0.82; $M_{\theta r}$=-0.32; Fault plane solution: M_0=2.42000×10^{19} NP1:ϕ_s=210.84000°, δ=44.05000°, λ=-72.66000°. NP2:ϕ_s=7.35000°, δ=48.41000°, λ=-106.09000°. Principal axes: T 2.4705, Plg2.0000°, Azm109.0000°; N -0.1112, Plg12.0000°, Azm18.0000°; P -2.3592, Plg78.0000°, Azm209.0000°;*

MOS ***24*** *23:21:41.7±1.2, 14.˙52S×73.˙54W, h70km, mb6.6/11, MS6.3/14 Error ellipse: s-maj=7.7km s-min=5.8km az=101.0*

BJI ***24*** *23:21:41.5±0.0, 14.˙58S×73.˙59W, h80km, mB6.8/62, Ms6.7/80, Ms7 6.7/77*

ARE ***24*** *23:21:43.±2.4, 14.˙70S±0.˙06×73.˙74W±0.˙07, h108km±3km, Error ellipse: s-maj=10.9km s-min=6.8km az=50.0*

VAO ***24*** *23:21:43.4±0.4, 14.˙59S×73.˙45W, h74km±3km, mb6.4*

NEIC ***24*** *23:21:45.5±1.8, 14.˙60S±0.˙04×73.˙57W±0.˙05, h101km±1km, mb6.5/745, Mwb6.9/83, Mww6.8, ML6.6(ARE), Mwc6.8(GCMT), Error ellipse: s-maj=8.8km s-min=5.7km az=287.0*

GCMT ***24*** *23:21:49.5±0.1, 14.˙61S×73.˙72W, h84km, MW6.8/168, Moment Tensor Solution. s168,c415; s163,c747; Duration: 6s4 Moment tensor: Scale 10^{19}Nm; M_{rr}=2.11±.01; $M_{\theta\theta}$=-0.13±.01; $M_{\phi\phi}$=2.24±.01; $M_{r\theta}$=0.44±.01; $M_{\theta\phi}$=0.14±.01; $M_{\phi r}$=0.09±.01; Best double couple: M_0=2.22800×10^{19} NP1:ϕ_s=195.00000°, δ=45.00000°, λ=-73.00000°. NP2:ϕ_s=352.00000°, δ=47.00000°, λ=-107.00000°. Principal axes: T 2.2490, Plg1.0000°, Azm93.0000°; N -0.0400, Plg12.0000°, Azm3.0000°; P -2.2060, Plg78.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s. Triangular moment-rate function*

NEIC ***24*** *23:21:50, 14.˙49S×73.˙37W, h90km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}=1.96; $M_{\theta\theta}$=0.06; $M_{\phi\phi}$=2.01; $M_{r\theta}$=0.40; $M_{\theta\phi}$=0.22; $M_{\phi r}$=0.12; Fault plane solution: M_0=2.04000×10^{19} NP1:ϕ_s=197.00000°, δ=45.00000°, λ=-73.00000°. NP2:ϕ_s=354.00000°, δ=47.00000°, λ=-106.00000°. Principal axes: T 2.0373, Plg1.0000°, Azm96.0000°; N 0.0066, Plg12.0000°, Azm5.0000°; P -2.0440, Plg78.0000°, Azm191.0000°;*

NEIC ***24*** *23:21:50, 14.˙63S×73.˙67W, h88km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}=2.02; $M_{\theta\theta}$=0.25; $M_{\phi\phi}$=2.27; $M_{r\theta}$=0.50; $M_{\theta\phi}$=0.17; $M_{\phi r}$=-0.08; Fault plane solution: M_0=2.22000×10^{19} NP1:ϕ_s=198.00000°, δ=46.00000°, λ=-69.00000°. NP2:ϕ_s=349.00000°, δ=48.00000°, λ=-110.00000°. Principal axes: T 2.2820, Plg1.0000°, Azm94.0000°; N -0.1290, Plg15.0000°, Azm3.0000°; P -2.1531, Plg75.0000°, Azm186.0000°;*

ISC ***24*** **23:21:44.2**±0.3, **14.˙59S**±0.˙02×**73.˙53W**±0.˙03, **h89**km±1km, **h89**km:**pP-P, n**2210, σ2**.11**/2704, **mb6.5**/465, **61C-269D, Central Peru**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
NNA	**Nana**	**4.14**	**308**	P		**Pn**	**23 22 43.1**	**-2.1**
	1μm,0.3s,baz=138,slow=11,SNR=949							
NNA				S		**Sn**	**23 23 29.1**	**-3.4**
	10μm,0.3s,baz=42,slow=11,SNR=23							
NNA				LR		LR	23 24 19.0	
	comp=Z,411μm,21.4s,baz=234,slow=38							
NNA	**Nana**	**4.14**	**308**	Pn		**Pn**	**23 22 43.3**	**-1.9**
NNA						**Sn**	**23 23 30.3**	**-2.2**
NNA				Sn		Sn	23 23 30.7	-1.8
AP01	**Chacalluta**	**4.84**	**141**	*eP*		**Pn**	**23 22 53.8**	**-0.9**
AP01				*i* S		**Sn**	**23 23 46.7**	**-2.8**
AP01	**Chacalluta**	**4.84**	**141**	Pn		**Pn**	**23 22 54.6**	**-0.1**
AP01				Sn		**Sn**	**23 23 48.8**	**-0.7**
PB12	**IPOC Station P**	**5.04**	**143**	⇑*i* P		**Pn**	**23 22 55.7**	**-1.7**
PB12				*i* S		**Sn**	**23 23 51.3**	**-3.2**
PB12	**IPOC Station P**	**5.04**	**143**	Pn		**Pn**	**23 22 55.8**	**-1.7**
I08BO	**LAS PENAS INFR**	**5.15**	**109**	P		**Pn**	**23 23 03.0**	**+3.7**
	baz=304,slow=22,SNR=4.7							
I08BO				*i*			23 49 40.0	
	baz=281,slow=326,SNR=1.1							
I08BO	**LAS PENAS INFR**	**5.15**	**109**			**Pn**	**23 23 03.0**	**+3.7**
PB16	**IPOC Station P**	**5.36**	**135**	⇑*i* P		**Pn**	**23 23 02.7**	**+0.5**
PB16				*i* S		**Sn**	**23 24 03.0**	**0.0**
PB16	**IPOC Station P**	**5.36**	**135**			**Pn**	**23 23 03.4**	**+1.2**
LPAZ	**La Paz**	**5.47**	**109**	P		**Pn**	**23 23 06.7**	**+2.9**
	272nm,0.3s,baz=277,slow=9.9,SNR=1026							
LPAZ				LR		LR	23 25 15.2	
	comp=Z,647μm,21.6s,baz=308,slow=39							
LPAZ				P3KPbc			00 00 58.9	
	0.1nm,0.3s,baz=167,slow=5.7,SNR=6.7							
LPAZ	**La Paz**	**5.47**	**109**	⇑*i* P		**Pn**	**23 23 06.9**	**+3.1**
LPAZ	**La Paz**	**5.47**	**109**	P		**Pn**	**23 23 06.5**	**+2.7**
LPAZ	**La Paz**	**5.47**	**109**	Pn		**Pn**	**23 23 06.5**	**+2.7**
LPAZ						P'P'df	00 01 00.1	-59
MNMC	**Minye Minye**	**5.88**	**141**	⇑*i* P		**Pn**	**23 23 07.2**	**-1.8**
MNMC				*i* S		**Sn**	**23 24 11.8**	**-3.4**
MNMC	**Minye Minye**	**5.88**	**141**			**Pn**	**23 23 08.2**	**-0.8**
PSGC	**Pisagua**	**5.95**	**147**	⇑*i* P		**Pn**	**23 23 07.3**	**-2.5**
PSGCX	**Pisagua**	**5.95**	**147**			**Pn**	**23 23 08.4**	**-1.4**
PB11	**IPOC Station P**	**6.33**	**145**	⇑*i* P		**Pn**	**23 23 12.6**	**-2.5**
PB11				*i* S		**Sn**	**23 24 21.1**	**-5.0**
PB11	**IPOC Station P**	**6.33**	**145**	Pn		**Pn**	**23 23 12.5**	**-2.7**
TA02	**Huaiquique**	**6.51**	**151**	*eP*		**Pn**	**23 23 15.6**	**-1.8**
GO01	**Chusmiza**	**6.53**	**141**	⇑*i* P		**Pn**	**23 23 16.8**	**-1.4**
GO01	**Chusmiza**	**6.53**	**141**			**Pn**	**23 23 16.8**	**-1.4**
TA01	**Diego Aracena**	**6.74**	**152**			**Pn**	**23 23 17.7**	**-2.9**
CZSB	**Cruzeiro do Su**	**6.87**	**7**	*eP*		**Pn**	**23 23 21.0**	**-1.3**
PB08	**IPOC Station P**	**6.92**	**144**	⇑*i* P		**Pn**	**23 23 21.2**	**-2.1**
PB08				*eS*		**Sn**	**23 24 35.5**	**-5.3**
PB08	**IPOC Station P**	**6.92**	**144**	Pn		**Pn**	**23 23 21.4**	**-2.0**
PB08	**IPOC Station P**	**6.92**	**144**	*i* P		**Pn**	**23 23 21.4**	**-2.0**
PB08				*eS*		**Sn**	**23 24 34.5**	**-6.2**
PATCX	**Punta Patache**	**6.98**	**153**			**Pn**	**23 23 20.8**	**-3.0**
PB01	**IPOC Station P**	**7.48**	**150**	Pn		**Pn**	**23 23 28.2**	**-2.5**
PB02	**IPOC Station P**	**7.53**	**153**	*i* P		**Pn**	**23 23 28.6**	**-2.9**
PB02				*eS*		**Sn**	**23 24 47.8**	**-7.5**
PB07	**IPOC Station P**	**7.89**	**155**			**Pn**	**23 23 33.3**	**-3.2**
PB07	**IPOC Station P**	**7.89**	**155**	*i* P		**Pn**	**23 23 33.3**	**-3.2**
PB03	**IPOC Station P**	**8.24**	**155**	*i* P		**Pn**	**23 23 38.5**	**-2.6**
PB09	**IPOC Station P**	**8.24**	**151**			**Pn**	**23 23 38.7**	**-2.4**
PB09	**IPOC Station P**	**8.24**	**151**	*i* P		**Pn**	**23 23 39.1**	**-2.1**
PB04	**IPOC Station P**	**8.34**	**158**			**Pn**	**23 23 39.1**	**-3.4**
PB04	**IPOC Station P**	**8.34**	**158**	*i* P		**Pn**	**23 23 39.7**	**-2.8**
ETMB	**Extrema**	**8.58**	**57**	*eP*		**Pn**	**23 23 45.5**	**-0.1**
ATAH	**Atahualpa**	**8.82**	**327**	P		**Pn**	**23 23 47.0**	**-2.3**
	16nm,0.3s,baz=165,slow=4.9,SNR=79							
ATAH				S		**Sn**	**23 25 24.3**	**-2.9**
	120nm,0.3s,baz=95,slow=14,SNR=4.4							
ATAH	**Atahualpa**	**8.82**	**327**			**Pn**	**23 23 47.0**	**-2.3**
PB06	**IPOC Station P**	**8.90**	**156**	Pn		**Pn**	**23 23 47.2**	**-2.8**
PB06	**IPOC Station P**	**8.90**	**156**	*i* P		**Pn**	**23 23 47.3**	**-2.8**
LVC	**Limon Verde**	**9.10**	**152**	P		**Pn**	**23 23 50.8**	**-2.2**
	107nm,0.3s,baz=347,slow=9.0,SNR=243							
LVC				S		**Sn**	**23 25 30.4**	**-3.5**
	537nm,0.3s,baz=270,slow=24,SNR=10							
LVC				P3KPbc			00 01 01.7	
	0.2nm,0.3s,baz=284,slow=3.7,SNR=3.4							
LVC	**Limon Verde**	**9.10**	**152**	Pn		**Pn**	**23 23 50.8**	**-2.2**
LVC	**Limon Verde**	**9.10**	**152**	*i* P		**Pn**	**23 23 50.9**	**-2.2**
PB10	**IPOC Station P**	**9.31**	**163**	Pn		**Pn**	**23 23 51.5**	**-4.0**
PB10	**IPOC Station P**	**9.31**	**163**	*i* P		**Pn**	**23 23 52.2**	**-3.3**
PB15	**IPOC Station P**	**9.39**	**156**	Pn		**Pn**	**23 23 54.0**	**-2.9**
PB15	**IPOC Station P**	**9.39**	**156**	*i* P		**Pn**	**23 23 54.0**	**-2.9**
PB14	**IPOC Station P**	**10.41**	**164**			**Pn**	**23 24 06.7**	**-4.1**
PB14	**IPOC Station P**	**10.41**	**164**	*i* P		**Pn**	**23 24 07.2**	**-3.6**
YJA	**Yavi**	**10.71**	**136**	*i* P		**Pn**	**23 24 13.8**	**-1.3**
GO02	**Mina Guanaco**	**11.15**	**161**	Pn		**Pn**	**23 24 17.8**	**-3.1**
HJA	**Humahuaca**	**11.50**	**139**	*i* P		**Pn**	**23 24 25.2**	**-0.6**
SAML	**Samuel**	**11.57**	**62**	P		**Pn**	**23 24 23.7**	**-2.7**
SAML	**Samuel**	**11.57**	**62**			**Pn**	**23 24 23.7**	**-2.7**
AC01	**Pan de Azucar**	**11.82**	**167**	Pn		**Pn**	**23 24 26.6**	**-3.1**
SIV	**San Ignacio**	**12.10**	**98**	P		**Pn**	**23 24 31.1**	**-2.4**
	64nm,0.3s,baz=288,slow=12,SNR=390							
SIV				P3KPbc			00 00 50.8	
	0.1nm,0.3s,baz=256,slow=6.4,SNR=3.3							
SIV	**San Ignacio**	**12.10**	**98**			**Pn**	**23 24 31.1**	**-2.4**
AZAP	**Zapla**	**12.46**	**142**	*i* P		**Pn**	**23 24 36.0**	**-2.6**
SLA	**San Lorenzo**	**12.59**	**144**	*i* P		**Pn**	**23 24 36.3**	**-3.9**
ASTB	**Santa Barbara**	**12.64**	**139**	*i* P		**Pn**	**23 24 38.3**	**-2.6**
AC02	**Maricunga**	**12.86**	**162**	Pn		**Pn**	**23 24 42.6**	**-1.5**
VILB	**Vilhena**	**13.05**	**84**	*eP*		**Pn**	**23 24 43.5**	**-2.7**
GO03	**Copiap**	**13.30**	**167**	Pn		**Pn**	**23 24 49.0**	**-0.5**
GO03	**Copiap**	**13.30**	**167**	*i* P		**Pn**	**23 24 45.0**	**-4.4**
FSA	**Cafayete**	**13.46**	**150**	*i* P		**Pn**	**23 24 50.3**	**-1.4**
AC04	**Llanos de Chal**	**13.74**	**171**	Pn		**Pn**	**23 24 54.8**	**-0.3**
PTLB	**Pontes e Lacer**	**13.93**	**95**	*eP*		**Pn**	**23 24 54.6**	**-3.1**
AHML	**Horco Molle**	**14.34**	**149**	*i* P		**Pn**	**23 25 00.9**	**-2.1**
AC05	**El Transito**	**14.49**	**169**	Pn		**Pn**	**23 25 04.2**	**-0.8**
LCO	**Las Campanas**	**14.59**	**170**	P		**Pn**	**23 25 04.7**	**-1.7**
LCO	**Las Campanas**	**14.59**	**170**	Pn		**Pn**	**23 25 04.7**	**-1.7**
PTLC	**Puerto Leguiza**	**14.72**	**355**	*eP*		Pn	23 24 56.2	-12
VCA	**Vinchina**	**14.91**	**162**	*i* P		**Pn**	**23 25 11.3**	**+0.8**
PUAC	**Puerto Asis, P**	**15.34**	**348**	*eP*		**Pn**	**23 25 15.6**	**-0.3**
OTAV	**Otavalo**	**15.52**	**341**	P		**Pn**	**23 25 18.6**	**+0.1**
OTAV				pmax		pmax		
	comp=Z,919nm,1.0s							
OTAV	**Otavalo**	**15.52**	**341**			**Pn**	**23 25 18.6**	**+0.1**
OTAV	**Otavalo**	**15.52**	**341**	*eP*		**Pn**	**23 25 19.4**	**+0.9**
CYA	**Choya**	**15.53**	**154**	*i* P		**Pn**	**23 25 17.7**	**-0.6**
AGUA	**GUANDACOL**	**15.54**	**163**	*i* P		**Pn**	**23 25 18.8**	**+0.5**
GO04	**Tololo Observa**	**15.71**	**171**	IAmb		IAmb	23 25 26.8	
	comp=Z,4μm,1.2s							
AROD	**Rodeo**	**15.95**	**167**	*i* P		**P**	**23 25 25.0**	**-0.6**
ACLC	**CERRO LA CRUZ**	**15.96**	**159**	*i* P		**Pn**	**23 25 23.0**	**-0.7**
CMBC	**Cumbal**	**16.01**	**344**	*eP*		**P**	**23 25 26.8**	**+0.3**
ACDV	**Cuesta del Vie**	**16.03**	**166**	*i* P		**Pn**	**23 25 24.0**	**-0.5**
GCUF	**Volcan Galeras**	**16.16**	**346**	*eP*		**Pn**	**23 25 22.3**	**-4.4**
FLOC	**Florencia**	**16.21**	**352**	*eP*		**Pn**	**23 25 20.4**	**-6.4**
CRUC	**La Cruz**	**16.41**	**348**	*eP*		**P**	**23 25 31.6**	**+0.8**
ACCO	**Cerro Coronel**	**16.44**	**166**	*i* P		**P**	**23 25 30.7**	**-0.4**
MACC	**Macarena, Meta**	**16.63**	**359**	*eP*		**Pn**	**23 25 25.4**	**-6.7**
GARC	**Garzon, Huila**	**16.78**	**353**	*eP*		**Pn**	**23 25 28.4**	**-5.7**
BBAC	**Balboa, Cauca**	**16.91**	**347**	*eP*		**Pn**	**23 25 32.2**	**-3.5**
APLL	**PUNTA DE LOS L**	**17.00**	**159**	*i* P		**Pn**	**23 25 35.3**	**-1.2**
GUVC	**San Jose del G**	**17.05**	**3**	*eP*		**Pn**	**23 25 37.2**	**+0.1**
PCON	**Cinco Dias**	**17.05**	**350**	*eP*		**Pn**	**23 25 33.5**	**-4.2**
SALV	**Santo Antonio**	**17.26**	**97**	*eP*		**Pn**	**23 25 38.0**	**-1.6**
BETC	**Betania**	**17.27**	**354**	*eP*		**P**	**23 25 41.6**	**+1.7**
POPC	**Popayan, Colom**	**17.30**	**349**	*eP*		**Pn**	**23 25 37.1**	**-3.3**
SJA	**San Juan**	**17.46**	**166**	*i* P		**Pn**	**23 25 43.0**	**+0.9**
MARP	**Paez Belalcaza**	**17.49**	**352**	*eP*		**P**	**23 25 38.1**	**-4.6**
RTLS	**Leoncito**	**17.56**	**168**	*i* P		**Pn**	**23 25 44.0**	**+0.5**
CLDB	**Colider**	**17.68**	**80**	*eP*		**P**	**23 25 42.6**	**-1.9**
RTCV	**Cerro Valdivia**	**17.79**	**166**	*i* P		**Pn**	**23 25 46.5**	**+0.5**
AUSP	**Uspallata**	**17.95**	**169**	*i* P		**Pn**	**23 25 48.9**	**+0.6**
AQDB	**Aquidauana**	**17.97**	**112**	*eP*		**P**	**23 25 47.2**	**-0.5**
GR1C	**Gorgona, Isla**	**18.07**	**345**	*eP*		**P**	**23 25 47.1**	**-1.7**
PRAC	**Prado**	**18.24**	**356**	*eP*		**P**	**23 25 46.3**	**-4.3**
VA03	**San Esteban**	**18.29**	**172**	IAmb		IAmb	23 26 40.7	
	comp=Z,2μm,1.1s							
VA01	**Torpederas**	**18.43**	**175**	P		**Pn**	**23 25 53.2**	**-0.5**
ROC1	**El Roble**	**18.44**	**173**	*i* P		**P**	**23 25 53.5**	**+0.5**
ORTC	**Ortega, Tolima**	**18.46**	**355**	*eP*		**P**	**23 25 50.9**	**-2.2**
ORTC				*eP*		**Pn**	**23 25 55.8**	**+1.5**
TCA	**Tanti**	**18.57**	**155**	*i* P		**P**	**23 25 54.6**	**+0.4**
VILC	**Villavicencio,**	**18.58**	**359**	*eP*		**Pn**	**23 25 56.1**	**+0.3**
PEL	**Peldehue**	**18.65**	**173**	IAmb		IAmb	23 26 00.0	
	comp=Z,2μm,0.8s							
PEL	**Peldehue**	**18.65**	**173**	*i* P		**Pn**	**23 25 55.9**	**-0.5**
YOTC	**Yotoco, Valle**	**18.66**	**351**	*eP*		**P**	**23 25 53.3**	**-2.1**
MALC	**Bahia Malaga**	**18.87**	**348**	*eP*		**Pn**	**23 25 58.4**	**-0.6**
CVER	**Cruz Verde, Cu**	**19.00**	**358**	*eP*		**Pn**	**23 26 03.4**	**+2.3**
ANIL	**Santa Ana**	**19.05**	**354**	*eP*		**Pn**	**23 26 00.8**	**-0.7**
CHIC	**Chingaza**	**19.10**	**359**	*eP*		**P**	**23 25 55.9**	**-4.5**
MRA	**San Martin**	**19.12**	**159**	*i* P		**P**	**23 26 01.1**	**+0.8**
CPUP	**Villa Florida**	**19.12**	**130**	P		**P**	**23 25 59.7**	**-0.5**
	comp=Z,4.7nm,0.3s,baz=307,slow=11,SNR=172							
CPUP				S		**S**	**23 29 29.8**	**-2.7**
	baz=148,slow=5.3,SNR=1.5							
CPUP				PcP		**PcP**	**23 30 22.6**	**+1.6**
	comp=Z,2.7nm,0.3s,baz=196,slow=7.4,SNR=3.1							
CPUP				P3KPbc			00 00 24.7	
	comp=Z,0.0nm,0.3s,baz=138,slow=2.6,SNR=3.6							
CPUP	**Villa Florida**	**19.12**	**130**	P		**P**	**23 25 59.7**	**-0.5**
CPUP				pmax		pmax		
	comp=Z,1μm,1.0s							
CPUP	**Villa Florida**	**19.12**	**130**	P		**P**	**23 25 59.7**	**-0.5**
CPUP	**Villa Florida**	**19.12**	**130**	IAmb		IAmb	23 26 05.9	
	comp=Z,1μm,0.9s							
TOLC	**Tolima**	**19.14**	**355**	*eP*		**P**	**23 26 01.6**	**+0.8**
PTGA	**Pitinga**	**19.22**	**45**	P		**P**	**23 26 01.3**	**-0.1**
	comp=Z,31nm,0.3s,baz=232,slow=15,SNR=129							
PTGA				S		**S**	**23 29 31.5**	**-3.0**
	comp=Z,24nm,0.3s,baz=59,slow=7.5,SNR=4.1							
PTGA				P3KPbc			00 00 33.1	
	baz=62,slow=3.1,SNR=5.9							
PTGA	**Pitinga**	**19.22**	**45**	P		**P**	**23 26 01.3**	**-0.1**
ROSC	**El Rosal**	**19.32**	**358**	P		**Pn**	**23 26 05.6**	**+0.8**
	comp=Z,17nm,0.3s,baz=168,slow=9.6,SNR=62							
ROSC				S		**Sn**	**23 29 46.3**	**+4.6**
	comp=Z,4.1nm,0.3s,baz=147,slow=20,SNR=1.2							
ROSC				LR		LR	23 34 41.5	
	comp=Z,179μm,18.7s,baz=206,slow=40							
ROSC				P3KPbc			00 00 31.8	
	comp=Z,1.3nm,0.3s,baz=26,slow=7.7,SNR=12							
ROSC	**El Rosal**	**19.32**	**358**	*eP*		**Pn**	**23 26 05.6**	**+0.8**
ROSC	**El Rosal**	**19.32**	**358**	Pn		**Pn**	**23 26 05.8**	**+1.0**
NPGB	**Novo Progresso**	**19.35**	**69**	*eP*		**P**	**23 26 03.1**	**+0.3**
H03N1	**Juan Fernandez**	**19.39**	**194**	P		**Pn**	**23 26 05.7**	**+0.9**
	baz=126,slow=14,SNR=63							
H03N1				T		T	23 44 49.6	
	baz=17,slow=74,SNR=6003							
H03N2	**Juan Fernandez**	**19.40**	**194**	P		**Pn**	**23 26 06.5**	**+1.7**
	baz=126,slow=14,SNR=157							
H03N2				T		T	23 44 51.4	
	baz=17,slow=74,SNR=6755							
H03N3	**Juan Fernandez**	**19.41**	**194**	P		**Pn**	**23 26 06.4**	**+1.4**
	baz=126,slow=14,SNR=77							
H03N3				T		T	23 44 30.6	
	baz=17,slow=74,SNR=3334							
CTAB	**Cerro Tablazo,**	**19.49**	**358**	*eP*		**Pn**	**23 26 09.3**	**+2.5**
PLMC	**San Jos del P**	**19.56**	**352**	*eP*		**P**	**23 26 06.0**	**+0.8**
VA04	**Juan Fernndez**	**19.57**	**193**	IAmb		IAmb	23 26 43.6	
	comp=Z,4μm,1.2s							
CTAU	**Tausa, Cundina**	**19.67**	**358**	*eP*		**Pn**	**23 26 09.7**	**+0.7**
H03S3	**Juan Fernandez**	**19.76**	**193**	P		**P**	**23 26 07.5**	**+0.7**
	baz=6.5,slow=18,SNR=184							
H03S3				T		T	23 45 20.7	
	baz=334							
GUY2C	**Guyana, Caldas**	**19.77**	**355**	*eP*		**Pn**	**23 26 10.5**	**+0.3**
H03S2	**Juan Fernandez**	**19.78**	**193**	P		**P**	**23 26 07.8**	**+0.8**
	baz=6.5,slow=18,SNR=248							
H03S2				T		T	23 45 24.5	
	baz=334,SNR=3.1							
H03S1	**Juan Fernandez**	**19.78**	**193**	P		**P**	**23 26 07.4**	**+0.4**
	baz=6.5,slow=18,SNR=124							
H03S1				T		T	23 45 17.7	
	baz=334							
PIZC	**Pizarro, Choco**	**19.80**	**349**	*eP*		**Pn**	**23 26 09.6**	**-0.3**
NORC	**Norcasia**	**20.07**	**356**	*eP*		**P**	**23 26 11.7**	**+1.0**
SPBC	**San Pablo de B**	**20.12**	**358**	*eP*		Pn	23 26 12.5	-1.4
ITTB	**Itaituba**	**20.26**	**62**	*eP*		**P**	**23 26 13.3**	**+0.7**
ITTB				*eS*		**S**	**23 29 56.1**	**+0.9**
BO02	**Sierra Bellavi**	**20.27**	**173**	IAmb		IAmb	23 26 20.4	
	comp=Z,2μm,1.1s							
RUSC	**La Rusia**	**20.36**	**1**	*eP*		Pn	23 26 15.5	-1.4
GO05	**Huala**	**20.38**	**176**	IAmb		IAmb	23 26 20.9	
	comp=Z,3μm,1.2s							
CBOC	**Ciudad Bolivar**	**20.47**	**353**	*eP*		**P**	**23 26 15.8**	**+0.7**
HELC	**Santa Helena**	**20.74**	**354**	*eP*		**P**	**23 26 18.6**	**+0.3**
TAMC	**Tame, Arauca**	**20.96**	**5**	*eP*		**P**	**23 26 19.5**	**-0.8**
ARAG	**Araguaiana, MT**	**20.99**	**96**	*eP*		**P**	**23 26 19.6**	**-1.0**
ARAG				*eS*		**S**	**23 30 10.0**	**+0.5**
PTBC	**PUERTO BERRIO,**	**21.01**	**357**	*eP*		**P**	**23 26 20.5**	**-0.3**
SOLC	**Bahia Solano**	**21.04**	**349**	*eP*		**P**	**23 26 21.5**	**+0.5**
BARC	**Barichara**	**21.05**	**1**	*eP*		**P**	**23 26 21.5**	**+0.2**
TRCB	**Terra Rica**	**21.39**	**116**	*eP*		**P**	**23 26 24.4**	**-0.4**
TRCB				*eS*		**S**	**23 30 17.9**	**+0.5**
BRRC	**Barranca, Sant**	**21.56**	**359**	*eP*		**P**	**23 26 25.7**	**-0.8**
PAYG	**Puerto Ayora**	**21.58**	**308**	P		**P**	**23 26 28.0**	**+1.2**
PAYG				IAmb		IAmb	23 26 44.0

VAO	Valinhos	26.46	112	eP		P	23 27 13.3	+0.1	
VAO				eS		S	23 31 42.8	+2.0	
SJS	Escuela Geolog	26.51	336	eP		P	23 27 16.1	+2.4	
PET01	Itanhaem-SP	26.52	115	eP		P	23 27 13.7	0.0	
HDC3	Heredia 3	26.59	336‖	eP		P	23 27 17.1	+2.6	
HDC	Heredia	26.59	336‖	eP		P	23 27 17.0	+2.6	
HDC	Heredia	26.59	336	P		P	23 27 16.6	+2.2	
HDC				IAmb	IAmb		23 27 49.0		
	comp=Z,3µm,1.6s								
LAFE	Finca La Fe, P	26.74	334‖	eP		P	23 27 17.3	+1.7	
SRA1	San Ramn	26.82	335	eP		P	23 27 18.9	+2.5	
HATO	Hato, Curacao	26.98	10	P		P	23 27 17.5	-0.3	
GRZA	Playa Garza	27.15	333‖	eP		P	23 27 21.0	+1.8	
JTS	Las Juntas de	27.19	335	P		P	23 27 22.0	+2.3	
	comp=Z,203nm,1.0s,baz=228,slow=3.5,SNR=47								
JTS				S		S	23 31 50.9	-1.3	
	comp=Z,19nm,1.1s,baz=107,slow=3.2,SNR=1.0								
JTS	Las Juntas de	27.19	335	P		P	23 27 21.4	+1.7	
JTS				S		S	23 31 50.9	-1.3	
JTS				pmax	pmax				
	comp=Z,570nm,1.4s								
JTS	Las Juntas de	27.19	335‖	eP		P	23 27 22.2	+2.5	
JTS	Las Juntas de	27.19	335	P		P	23 27 21.4	+1.7	
JTS	Las Juntas de	27.19	335			S	23 31 50.9	-1.3	
DUNO	Dulce Nombre,	27.23	333‖	eP		P	23 27 21.9	+1.8	
FORC	Fortuna	27.24	335‖	eP		P	23 27 22.5	+2.4	
ARE1	Arenal 1	27.25	335‖	eP		P	23 27 22.8	+2.6	
CEDE	Laguna Cedeo	27.27	335	eP		P	23 27 22.2	+1.8	
COVE	Coope Vega, Sa	27.36	336‖	eP		P	23 27 23.6	+2.5	
GUAI	GUAI	27.41	334‖	eP		P	23 27 23.0	+1.4	
PLVR	Palo Verde	27.41	334‖	eP		P	23 27 23.9	+2.1	
ORTG	Ortega, Santa	27.47	334‖	eP		P	23 27 24.5	+2.3	
ACAL	Aguas Claras	27.54	335‖	eP		P	23 27 24.9	+2.0	
PTEN	Parque Tenorio	27.59	335‖	iP		P	23 27 26.4	+3.1	
CUI	Cuipilapa	27.61	335‖	eP		P	23 27 25.7	+2.2	
COLC	Colonia	27.64	335‖	eP		P	23 27 25.4	+1.7	
HORNC	Hornillas	27.67	335‖	eP		P	23 27 25.6	+1.6	
GUAB	Guayabo de Bag	27.68	335‖	eP		P	23 27 25.9	+1.8	
LIM1	Limonal	27.68	335‖	eP		P	23 27 26.2	+2.0	
PARB	Paraibuna	27.75	112	eP		P	23 27 25.1	+0.4	
GPS3	Bodega del ICE	27.78	334‖	eP		P	23 27 27.0	+2.0	
GPS1	Guardaparques	27.79	334‖	eP		P	23 27 26.9	+1.8	
TRN	Trinidad (W)	27.81	26	eP		P	23 27 26.6	+1.5	
BUEV	Buena Vista	27.84	334‖	eP		P	23 27 27.7	+2.2	
HZTE	Horizontes, Gu	27.84	334‖	eP		P	23 27 28.4	+3.0	
GBS3	Finca Las Img	27.84	334‖	eP		P	23 27 27.2	+1.7	
GB1A	Borinquen Arri	27.85	334	eP		P	23 27 27.5	+1.8	
BUAI	Buenos Aires	27.88	335‖	iP		P	23 27 28.0	+2.2	
SDBA	SAO DESIDERIO	27.91	89	eP		P	23 27 25.6	-0.6	
SDBA				eS		S	23 32 04.5	+0.8	
BSCB	Bom Sucesso	28.08	107	eP		P	23 27 27.9	+0.2	
JANB	Januaria	28.24	95	eP		P	23 27 28.4	-0.7	
MDP	Montagnes des	28.49	48	P		P	23 27 30.9	-0.3	
	comp=Z,41nm,0.8s,baz=237,slow=7.9,SNR=13								
MDP				S		S	23 32 08.1	-4.5	
	comp=Z,66nm,0.9s,baz=313,slow=17,SNR=1.1								
MDP	Montagnes des	28.49	48	P		P	23 27 30.9	-0.3	
MDP						S	23 32 08.1	-4.5	
MC01	Montes Claros	28.55	98	eP		P	23 27 31.4	-0.6	
TPR	Prospect	28.56	27	eP		P	23 27 33.6	+1.7	
ESPN	Las Esperanzas	28.67	338‖	eP		P	23 27 33.2	+0.4	
ESPN	Las Esperanzas	28.67	338	P		P	23 27 33.7	+0.9	
TOSP	Speyside	28.77	27	eP		P	23 27 33.5	-0.1	
TOSP	Speyside	28.77	27	P		P	23 27 33.5	-0.1	
TOSP	Speyside	28.77	27	IAmb	IAmb		23 27 40.8		
	comp=Z,409nm,1.0s								
ACON	Acoyapa	28.80	336‖	eP		P	23 27 35.7	+1.7	
PRVC	Isla de Provid	28.85	344	eP		P	23 27 35.8	+1.4	
GRGR	Grenville	29.04	24	eP		P	23 27 34.4	-1.7	
GRGR	Grenville	29.04	24	P		P	23 27 35.5	-0.6	
GRGR				IAmb	IAmb		23 27 41.8		
	comp=Z,698nm,0.8s								
GRHS	Sauteurs	29.13	24	eP		P	23 27 36.5	-0.3	
MAN01	Angra dos Reis	29.14	111	eP		P	23 27 38.0	+1.0	
GRSS	Sisters	29.21	24	eP		P	23 27 37.4	-0.2	
MASN	Masaya	29.22	334‖	eP		P	23 27 38.7	+0.9	
BOAB	BOACO BROADBAND	29.43	335	P		P	23 27 40.5	+1.0	
GCMP	Grenada, Carri	29.45	25	eP		P	23 27 38.7	-1.1	
VAS01	Vassouras-RJ	29.50	109	eP		P	23 27 40.6	+0.3	
SVB	Belmont	30.23	24	eP		P	23 27 45.0	-1.7	
SVB	Belmont	30.23	24	P		P	23 27 45.0	-1.7	
SVB	Belmont	30.23	24	IAmb	IAmb		23 27 59.0		
	comp=Z,643nm,1.0s								
SVB						PcP	23 30 45.5	-0.2	
SVCV	St. Vincent, C	30.28	24	eP		P	23 27 46.2	-0.8	
SVV	Soufriere Volc	30.29	24	eP		P	23 27 48.1	+1.0	
BHS	Barnard House	30.31	24	eP		P	23 27 48.8	+1.6	
ESTN	Estel	30.31	335	P		P	23 27 47.9	+0.4	
MCLT	Moule a Chique	30.75	24	eP		P	23 27 50.3	-0.9	
BCHC	Barbados, Cave	30.79	27	eP		P	23 27 54.1	+2.5	
SLDE	Delcer	30.79	24	eP		P	23 27 52.8	+1.2	
SLB	Belfond	30.82	24	eP		P	23 27 53.2	+1.3	
BBGH	Gun Hill	30.83	27	eP		P	23 27 52.0	+0.1	
BBGH	Gun Hill	30.83	27	P		P	23 27 53.0	+1.1	
BBGH				IAmb	IAmb		23 28 02.1		
	comp=Z,1µm,0.9s								
BBSP	Saint Philip	30.84	28	eP		P	23 27 55.8	+3.8	
SLPA	Patience	30.89	24	eP		P	23 27 51.8	-0.7	
SLAC	Saint Lucia, A	30.94	24	eP		P	23 27 51.1	-1.8	
SLBI	Saint Lucia, B	31.03	24	eP		P	23 27 49.8	-3.8	
SLW	Petit Monier	31.04	24	eP		P	23 27 52.4	-1.4	
SJMB	Sao Joao De Ma	31.23	102	eP		P	23 27 55.3	-0.2	
SJMB				eS		S	23 32 56.6	+1.0	
ROSB	Rosrio	31.25	71	eP		P	23 27 55.9	+0.2	
BIM	Bigot	31.44	24	eP		P	23 27 53.9	-3.4	
H05S1	Guadeloupe/Mar	31.45	24	P		P	23 28 02.4	+5.1	
	SNR=24								
MPOM	Morne Pois Mar	31.45	24	eP		P	23 27 53.7	-3.6	
TGUH	Tegucigalpa,Un	31.55	334	IAmb	IAmb		23 28 03.6		
	comp=Z,2µm,1.8s								
BSFB	Barra de Sao F	31.55	102	eP		P	23 27 58.2	-0.2	
FDF	Fort de France	31.60	23	eP		P	23 27 53.7	-5.1	
ILAM	Ilet Lapin Mar	31.75	24	eP		P	23 27 56.7	-3.3	
RIB01	Linhares ES	32.01	103	eP		P	23 28 02.2	-0.1	
RIB01				eS		S	23 33 09.2	+1.4	
MDN	Morne-Daniel	32.05	22	eP		P	23 27 59.5	-3.1	
SNET	Serv Nac Est T	32.11	330	P		P	23 28 03.2	-0.1	
SNET				IAmb	IAmb		23 28 09.9		
	comp=Z,1µm,1.1s								
DLPL	La Plaine	32.12	23	eP		P	23 27 58.9	-4.3	
DSLB	Salisbury	32.15	22	eP		P	23 27 59.8	-3.7	
NAN01	Guarapari, ES	32.21	100	eP		P	23 28 04.0	-0.1	
NAN01				eS		S	23 33 12.5	+1.6	
TDBA	Terre de Bas,	32.45	22	eP		P	23 28 01.4	-4.7	
CBE	Ff, Capester	32.66	22	eP		P	23 28 04.9	-3.1	
MAGL	Barre de l'ile	32.67	22	eP		P	23 28 03.6	-4.5	
MTO3	Montecristo	32.79	331	P		P	23 28 10.6	+1.2	
MTO3				IAmb	IAmb		23 28 14.3		
	comp=Z,619nm,1.0s								
MTDJ	Mount Denham	32.85	353	IAmb	IAmb		23 28 15.2		
	comp=Z,736nm,0.9s								
LGNH	Logne	32.91	2	P		P	23 28 10.8	+0.7	
LGNH				IAmb	IAmb		23 28 45.9		
	comp=Z,687nm,1.2s								
GDU01	Guandu, BA	32.91	93	eP		P	23 28 09.8	-0.5	
ESQI	Esquipulas	32.92	331	IAmb	IAmb		23 28 17.6		
	comp=Z,896nm,1.0s								
BANI	BANI	32.92	6	P		P	23 28 10.7	+0.3	
MLPR	Magueyes Islan	32.98	11	IAmb	IAmb		23 28 16.4		
	comp=Z,612nm,0.9s								
CRPR	Cabo Rojo, PR	33.00	11	IAmb	IAmb		23 28 21.7		
	comp=Z,537nm,0.8s								
SDD	Santo Domingo	33.03	6	P		P	23 28 11.5	+0.3	
MLYT	Lee's Yard	33.07	20	eP		P	23 28 09.1	-2.4	
ABD	La Joyeuse, An	33.08	22	eP		P	23 28 05.8	-5.8	
H05N1	Guadeloupe/Mar	33.09	22	P		P	23 28 14.9	+3.2	
	SNR=28								
MPR	Mayaguez	33.20	11	P		P	23 28 11.8	-0.8	
MPR				IAmb	IAmb		23 28 19.3		
	comp=Z,659nm,0.9s								
CDVI	St. Croix	33.28	15	eP		P	23 28 12.7	-0.6	
CDVI	St. Croix	33.28	15	P		P	23 28 12.0	-1.3	
CDVI						PcP	23 30 53.5	-0.2	
PCDR	Punta Cana, DR	33.28	9	P		P	23 28 12.8	-0.5	
HUMP	Col San Antoni	33.40	13	P		P	23 28 13.5	-0.8	
AOPR	Arecibo Observ	33.40	12	eP		P	23 28 12.7	-1.8	
AOPR	Arecibo Observ	33.40	12	P		P	23 28 12.7	-1.8	
AOPR	Arecibo Observ	33.40	12	IAmb	IAmb		23 28 22.1		
	comp=Z,574nm,0.9s								
AGPR	Aguadilla, PR	33.45	11	P		P	23 28 15.3	+0.4	
AGPR				IAmb	IAmb		23 29 26.2		
	comp=Z,820nm,1.3s								
SKI	Saint Kitts	33.46	19	eP		P	23 28 13.1	-1.9	
SKI	Saint Kitts	33.46	19	P		P	23 28 13.1	-1.9	
SKI				pmax	pmax				
	comp=Z,871nm,0.9s								
SKI	Saint Kitts	33.46	19	P		P	23 28 13.1	-1.9	
SKI	Saint Kitts	33.46	19	IAmb	IAmb		23 28 20.6		
	comp=Z,871nm,0.9s								
GCPR	Guaynabo City	33.51	13	IAmb	IAmb		23 28 20.2		
	comp=Z,564nm,0.8s								
SEUS	St. Eustatius	33.53	18	eP		P	23 28 13.6	-2.0	
SEUS	St. Eustatius	33.53	18	P		P	23 28 15.6	+0.1	
SEUS				IAmb	IAmb		23 28 58.7		
	comp=Z,520nm,0.9s								
SABA	Saba	33.58	18	eP		P	23 28 14.6	-1.3	
CUPR	Culebra, Puert	33.69	14	P		P	23 28 15.2	-1.6	
STVI	Saint Thomas	33.81	15	P		P	23 28 17.2	-0.7	
SMRT	St. Maarten	34.03	18	eP		P	23 28 16.7	-3.2	
SMRT	St. Maarten	34.03	18	P		P	23 28 16.7	-3.2	
SMRT	St. Maarten	34.03	18	IAmb	IAmb		23 29 13.9		
	comp=Z,446nm,0.8s								
RTAL	Retalhuleu	34.06	327	P		P	23 28 20.1	0.0	
ANWB	Willy Bob	34.08	20	eP		P	23 28 16.1	-4.2	
ANWB	Willy Bob	34.08	20	P		P	23 28 16.1	-4.2	
ANWB	Willy Bob	34.08	20	IAmb	IAmb		23 28 23.6		
	comp=Z,2µm,1.1s								
GTBY	Guantanamo Bay	34.34	357	P		P	23 28 22.5	+0.1	
FSCY	Frank Sound, G	34.52	347	P		P	23 28 25.2	+1.1	
HUEH	Huehuetenango	34.63	328	P		P	23 28 26.9	+1.6	
HUEH				IAmb	IAmb		23 28 30.3		
	comp=Z,642nm,1.0s								
PETF	Flores	35.22	332	P		P	23 28 31.2	+1.1	
PETF				IAmb	IAmb		23 28 35.6		
	comp=Z,952nm,1.5s								
RPN	Rapa Nui	35.58	244	P		P	23 28 34.1	+0.9	
RPN				pmax	pmax				
	comp=Z,5µm,1.5s								
RPN	Rapa Nui	35.58	244	P		P	23 28 34.1	+0.9	
GRTK	Grand Turk	35.95	4	P		P	23 28 36.9	+0.5	
TEIG	Tepich	37.52	337	P		P	23 28 50.3	+0.6	
RCBR	Riachuelo	37.99	81	P		P	23 28 55.6	+1.8	
RCBR				pmax	pmax				
	comp=Z,500nm,1.0s								
RCBR	Riachuelo	37.99	81	P		P	23 28 55.6	+1.8	
RCBR				IAmb	IAmb		23 28 57.7		
	comp=Z,500nm,1.0s								
RCBR	Riachuelo	37.99	81	eP		P	23 28 54.5	+0.6	
EFI	East Falkland	39.02	165	iP		P	23 29 02.2	+0.3	
EFI				pmax	pmax				
	comp=Z,733nm,1.3s								
EFI				MLR	MLR				
	comp=Z,23µm,15.0s								
EFI	East Falkland	39.02	165	P		P	23 29 02.3	+0.4	
EFI				IAmb	IAmb		23 29 05.0		
	comp=Z,810nm,1.3s								
USHA	Ushuaia	40.35	175	P4KPbc			00 07 30.3		
	comp=Z,13nm,0.7s,baz=35,slow=1.1,SNR=4.7								
MG01	Puerto William	40.51	175	P		P	23 29 15.1	+0.8	
060A	Inuntown	41.91	351	IAmb	IAmb		23 29 29.4		
	comp=Z,799nm,0.8s								
UNM	Universidad Na	42.12	322	P		P	23 29 29.7	+1.6	
UNM				pmax	pmax				
	comp=Z,629nm,0.9s								
UNM	Universidad Na	42.12	322	P		P	23 29 29.7	+1.6	
UNM				IAmb	IAmb		23 29 33.8		
	comp=Z,629nm,0.9s								
DWPF	Disney Wildern	43.13	350	P		P	23 29 36.2	+0.3	
	baz=169								
DWPF				S		S	23 35 57.5	+1.8	
	baz=169								
DWPF	Disney Wildern	43.13	350	P		P	23 29 36.3	+0.4	
DWPF				IAmb	IAmb		23 29 37.3		
	comp=Z,1µm,1.9s								
656A	Willston	44.56	349	IAmb	IAmb		23 29 48.5		
	comp=Z,1µm,1.7s								
553A	Crawfordville	45.74	347	IAmb	IAmb		23 30 00.3		
	comp=Z,820nm,0.9s								
456A	Hilliard	45.79	350	P		P	23 29 57.1	+0.1	
451A	Vernon	46.46	345	IAmb	IAmb		23 30 06.7		
	comp=Z,1µm,1.1s								
TIGA	Tifton	46.77	348	P		P	23 30 04.7	0.0	
	baz=167,SNR=14								
TIGA				S		S	23 36 49.1	+0.9	
	baz=167								
TIGA	Tifton	46.77	348	P		P	23 30 04.8	0.0	
TIGA				IAmb	IAmb		23 31 39.3		
	comp=Z,1µm,1.6s								
257A	Skidaway Islan	46.85	351	P		P	23 30 06.0	+0.7	
257A				IAmb	IAmb		23 30 08.0		
	comp=Z,2µm,1.5s								
255A	Hazlehurst	47.04	350	IAmb	IAmb		23 30 08.2		
	comp=Z,1µm,1.8s								
352A	Blakely	47.10	347	IAmb	IAmb		23 30 11.2		
	comp=Z,738nm,1.1s								
BRAL	Brewton	47.32	344	P		P	23 30 09.0	+0.1	
	baz=162,SNR=36								
BRAL				S		S	23 36 56.8	+0.8	
	baz=162								
BRAL	Brewton	47.32	344	P		P	23 30 08.9	-0.1	
BRAL				IAmb	IAmb		23 30 13.3		
	comp=Z,1µm,1.2s								
BBSR	BB Station	47.45	10	P		P	23 30 09.4	-0.6	
158A	Hollywood	47.49	352	P		P	23 30 11.1	+0.8	
	baz=171,SNR=8.9								
158A				S		S	23 37 01.2	+2.9	
	baz=171								
157A	Early Branch	47.54	351	P		P	23 30 11.2	+0.6	
	baz=170,SNR=18								
157A				S		S	23 37 02.2	+3.1	
	baz=170								
154A	Montrose	47.82	349	IAmb	IAmb		23 30 17.1		
	comp=Z,1µm,1.0s								
NHSC	New Hope	47.85	352	P		P	23 30 14.0	+1.0	
	baz=171,SNR=112								
NHSC				S		S	23 37 05.9	+2.4	
	baz=171								
Z59A	Georgetown, SC	47.88	353	P		P	23 30 13.8	+0.5	
	baz=173								
Z59A				S		S	23 37 07.5	+3.7	
	baz=173								
250A	Grady	47.89	345	IAmb	IAmb		23 30 16.1		
	comp=Z,507nm,0.8s								
Z58A	St. Stephen	48.03	353	P		P	23 30 14.8	+0.4	
	baz=172,SNR=80								
Z58A				S		S	23 37 08.7	+2.7	
	baz=172								
Z57A	Bowman	48.11	352	P		P	23 30 15.2	+0.1	
	baz=171,SNR=78								
Z57A				S		S	23 37 09.6	+2.5	
	baz=171								
152A	Waverly Hall	48.20	347	IAmb	IAmb		23 30 19.6		
	comp=Z,800nm,1.3s								
346A	Big Creek Wild	48.21	342	IAmb	IAmb		23 30 18.5		
	comp=Z,590nm,0.8s								
Z56A	Williston	48.23	351	P		P	23 30 16.1	+0.1	
	baz=170,SNR=37								
Z56A				S		S	23 37 09.6	+0.8	
	baz=170								
Z56A	Williston	48.23	351	IAmb	IAmb		23 30 19.9		
	comp=Z,620nm,0.8s								
Y60A	Bolivia	48.53	355	P		P	23 30 18.5	+0.2	
	baz=174,SNR=17								
Y60A				S		S	23 37 15.8	+2.8	
	baz=174								
Y60A	Bolivia	48.53	355	IAmb	IAmb		23 30 21.8		
	comp=Z,684nm,0.8s								
Y59A	Loris	48.58	354	P		P	23 30 18.9	+0.3	
	baz=173,SNR=13								
Y59A				S		S	23 37 15.8	+2.2	
	baz=173								
GOGA	Godfrey	48.67	349	P		P	23 30 19.1	-0.2	
	baz=167,SNR=106								
GOGA				S		S	23 37 13.6	-1.4	
	baz=167								
GOGA	Godfrey	48.67	349	IAmb	IAmb		23 30 23.3		
	comp=Z,631nm,1.3s								
344A	Westbrook Farm	48.67	340	IAmb	IAmb		23 30 22.9		
	comp=Z,465nm,0.8s								
Y56A	Pelion	48.68	351	P		P	23 30 19.8	+0.3	
	baz=170,SNR=28								
Y56A				S		S	23 37 12.2	-3.0	
	baz=170								
Y57A	Sumter	48.78	352	P		P	23 30 20.7	+0.5	
	baz=171,SNR=143								
Y57A				S		S	23 37 17.0	+0.5	
	baz=171								
441A	DeRidder	48.89	337	P		P	23 30 22.1	+1.0	
Y55A	Saluda	48.91	351	P		P	23 30 21.4	+0.2	
	baz=169,SNR=153								
Y55A				S		S	23 37 14.4	-3.9	
	baz=169								
Z51A	Franklin	48.92	347	P		P	23 30 21.1	-0.2	
Z51A				IAmb	IAmb		23 30 25.3		
	comp=Z,1µm,1.6s								
HOPE	Hope Point	49.01	152	P		P	23 30 22.7	+1.0	
HOPE				pmax	pmax				
	comp=Z,648nm,1.1s								
HOPE	Hope Point	49.01	152	P		P	23 30 22.7	+1.0	
HOPE				IAmb	IAmb		23 31 47.9		
	comp=Z,648nm,1.1s								
LRAL	Lakeview Retre	49.08	345	P		P	23 30 22.1	-0.4	
	baz=163,SNR=158								
LRAL				S		S	23 37 18.7	-2.1	
	baz=163								
LRAL	Lakeview Retre	49.08	345	IAmb	IAmb		23 30 23.1		
	comp=Z,2µm,2.0s								
X60A	Albert Glenn T	49.08	355	P		P	23 30 22.9	+0.5	
	baz=174,SNR=26								
X60A				S		S	23 37 20.3	-0.3	
	baz=174								
X59A	McDuffie Farm,	49.13	354	P		P	23 30 23.3	+0.5	
	baz=174,SNR=34								
X59A				S		S	23 37 20.3	-1.1	
	baz=174								
735A	Kenedy	49.16	332	P		P	23 30 24.0	+0.8	
X57A	Johnson Farm,	49.18	353	P		P	23 30 23.8	+0.5	
	baz=172,SNR=18								
X57A				S		S	23 37 18.9	-3.2	
	baz=172								
X58A	Rowland	49.19	354	P		P	23 30 23.7	+0.4	
	baz=173,SNR=29								
X58A				S		S	23 37 19.4	-2.8	
	baz=173								
X58A	Rowland	49.19	354	IAmb	IAmb		23 30 26.8		
	comp=Z,387nm,0.8s								
Y52A	Lilburn	49.22	348	IAmb	IAmb		23 30 27.4		
	comp=Z,696nm,1.3s								
HKT	Hockley	49.23	334	P		P	23 30 24.3	+0.7	
HKT				pmax	pmax				
	comp=Z,2µm,2.0s								
HKT	Hockley	49.23	334	P		P	23 30 24.3	+0.7	
146A	Union	49.26	343	IAmb	IAmb		23 30 26.2		
	comp=Z,575nm,0.9s								
HODGE	Hodges	49.26	350	IAmb	IAmb		23 30 26.4		
	comp=Z,381nm,0.9s								
VBMS	Vicksburg	49.31	341	P		P	23 30 24.2	0.0	
	baz=158,SNR=9.8								
VBMS				S		S	23 37 21.8	-2.2	
	baz=158								
VBMS	Vicksburg	49.31	341	IAmb	IAmb		23 31 49.8		
	comp=Z,483nm,1.1s								
X56A	White Oak	49.33	352	P		P	23 30 24.8	+0.4	
	baz=170,SNR=106								
X55A	Gracelyn & Ava	49.40	351	P		P	23 30 25.3	+0.4	
	baz=170,SNR=140								
X55A				S		S	23 37 22.3	-2.9	
	baz=170								
833A	Chaparral WMA,	49.47	330	P		P	23 30 26.2	+0.7	
	baz=146,SNR=163								
833A				S		S	23 37 25.4	-1.0	
	baz=146								
Z47A	Carrollton	49.51	344	IAmb	IAmb		23 30 27.7		
	comp=Z,521nm,0.7s								
W60A	Pink Hill	49.53	355	P		P	23 30 26.6	+0.8	
	baz=175,SNR=41								
W60A				S		S	23 37 25.9	-1.0	
	baz=175								
X54A	Belton	49.59	350	P		P	23 30 26.6	+0.3	
	baz=169,SNR=186								
X54A				S		S	23 37 27.6	-0.2	
	baz=169								
W61A	Ground Anchor	49.60	356	P		P	23 30 27.4	+1.0	
	baz=176,SNR=31								
W61A				S		S	23 37 29.8	+1.8	
	baz=176								
W58A	Raeford	49.63	354	P		P	23 30 27.3	+0.6	
	baz=173,SNR=49								
W58A				S		S	23 37 25.7	-2.8	
	baz=173								
W59A	Clinton	49.70	355	P		P	23 30 27.8	+0.6	
	baz=174,SNR=27								
W59A				S		S	23 37 28.4	-1.0	
	baz=174								
Y49A	Blount Mountai	49.72	346	IAmb	IAmb		23 30 27.8		
	comp=Z,1µm,2.0s								
CNNC	Cliffs of the	49.73	355	P		P	23 30 28.0	+0.6	
	baz=174,SNR=51								
CNNC				S		S	23 37 28.9	-0.9	
	baz=174								
CNNC	Cliffs of the	49.73	355	P		P	23 30 27.7	+0.3	
CNNC				IAmb	IAmb		23 30 32.0		
	comp=Z,608nm,0.9s								
PAULI	Pauline	49.77	351	IAmb	IAmb		23 30 30.5		
	comp=Z,554nm,0.8s								
W57A	Gilead	49.85	353	P		P	23 30 28.7	+0.4	
	baz=172,SNR=99								
W57A				S		S	23 37 32.6	+1.1	
	baz=172								
W56A	Indian Trail	49.90	352	P		P	23 30 28.9	+0.2	
	baz=171,SNR=120								
W56A				S		S	23 37 29.9	-2.4	
	baz=171								
V62A	Hyde County Ai

comp=Z,467nm,0.9s
435B Jarrell 50.70 333 P **P** **23 30 35.2 +0.3**
baz=150,SNR=17
435B S **S** **23 37 42.2 -1.3**
baz=150
U61A Possum Corner 50.72 357 P **P** **23 30 35.7 +0.9**
baz=176,SNR=34
U61A S **S** **23 37 45.7 +2.2**
baz=176
V54A Nebo 50.72 351 P **P** **23 30 35.3 +0.4**
baz=170,SNR=174
V54A S **S** **23 37 42.2 -1.4**
baz=170
V53A Saluda 50.75 350 IAmb IAmb 23 30 39.2
comp=Z,373nm,1.0s
W50A Signal Mountai 50.77 348 IAmb IAmb 23 30 39.0
comp=Z,704nm,1.0s
U59A Littleton 50.83 356 P **P** **23 30 36.4 +0.7**
baz=175,SNR=69
U59A S **S** **23 37 43.8 -1.2**
baz=175
U59A Littleton 50.83 356 P **P** **23 30 35.9 +0.3**
U59A IAmb IAmb 23 30 39.5
comp=Z,416nm,0.9s
CPCT Cooper Cave 50.85 348 IAmb IAmb 23 30 38.1
comp=Z,336nm,0.8s
U60A Pendleton 50.90 356 P **P** **23 30 37.0 +0.8**
baz=176,SNR=45
U60A S **S** **23 37 44.9 -1.1**
baz=176
TKL Tuckaleechee C 50.91 349 S **S** **23 37 42.6 -3.5**
comp=Z,5.6nm,1.0s,baz=67,slow=13,SNR=1.0
TKL PKPPKP 00 01 13.9
comp=Z,14nm,1.1s,baz=158,slow=8.5,SNR=4.0
TKL Tuckaleechee C 50.91 349 **S** **23 37 42.6 -3.5**
TKL Tuckaleechee C 50.91 349 IAmb IAmb 23 30 40.1
comp=Z,1μm,1.4s
SWET Sewanee 50.91 347 IAmb IAmb 23 30 38.8
comp=Z,626nm,0.9s
U58A Oxford 50.93 355 P **P** **23 30 36.9 +0.5**
baz=174,SNR=60
U58A S **S** **23 37 44.3 -2.1**
baz=174
Z41A Richland Creek 51.02 339 P **P** **23 30 37.8 +0.7**
baz=156,SNR=111
Z41A S **S** **23 37 47.8 +0.1**
baz=156
U57A Blanch 51.04 354 P **P** **23 30 37.5 +0.3**
baz=173,SNR=122
U57A S **S** **23 37 48.8 +0.9**
baz=173
U56A King 51.08 353 P **P** **23 30 38.2 +0.7**
baz=172,SNR=173
U56A S **S** **23 37 49.8 +1.3**
baz=172
OXF Oxford 51.11 343 P **P** **23 30 36.6 -1.2**
baz=160
OXF S **S** **23 37 45.9 -3.1**
baz=160
OXF Oxford 51.11 343 IAmb IAmb 23 30 41.6
comp=Z,665nm,1.1s
V51A Loudon 51.16 349 IAmb IAmb 23 30 40.8
comp=Z,448nm,0.8s
PLAL Pickwick Lake 51.20 345 IAmb IAmb 23 30 41.5
comp=Z,778nm,1.4s
U55A TA2, Sparta 51.31 352 P **P** **23 30 39.6 +0.2**
baz=171,SNR=70
U55A S **S** **23 37 52.0 +0.2**
baz=171
T59A Double "B" Far 51.42 356 P **P** **23 30 40.9 +0.8**
baz=175,SNR=326
T59A S **S** **23 37 52.2 -1.0**
baz=175
U54A Nelsons Funny 51.44 351 P **P** **23 30 40.4 +0.1**
baz=170,SNR=162
U54A S **S** **23 37 52.6 -1.0**
baz=170
JCT Junction City 51.46 331 P **P** **23 30 40.7 +0.1**
baz=147,SNR=130
JCT S **S** **23 37 53.7 -0.3**
baz=147
JCT Junction City 51.46 331 IAmb IAmb 23 30 45.0
comp=Z,1μm,1.6s
T58A Grand View Acr 51.48 355 P **P** **23 30 41.1 +0.6**
baz=174,SNR=140
T58A S **S** **23 37 53.2 -0.7**
baz=174
T60A Surry 51.54 357 P **P** **23 30 41.9 +0.9**
baz=176,SNR=16
T60A S **S** **23 37 57.3 +2.5**
baz=176
T60A Surry 51.54 357 P **P** **23 30 41.4 +0.4**
X43A Marvell 51.55 342 P **P** **23 30 41.2 +0.1**
baz=158,SNR=28
X43A S **S** **23 37 50.4 -4.7**
baz=158
T57A Hurt 51.59 354 P **P** **23 30 41.8 +0.4**
baz=173,SNR=232
T57A S **S** **23 37 56.1 +0.5**
baz=173
W45A Hickory Valley 51.66 344 IAmb IAmb 23 31 58.4
comp=Z,736nm,1.1s
WHTX Lake Whitney, 51.69 334 P **P** **23 30 42.6 +0.4**
baz=150,SNR=120
WHTX S **S** **23 37 56.3 -0.7**
baz=150
T56A Rocky Mt 51.71 353 P **P** **23 30 42.9 +0.7**
baz=172,SNR=119
T56A S **S** **23 37 58.1 +1.0**
baz=172
TZTN Tazewell 51.73 350 P **P** **23 30 42.2 -0.3**
baz=168,SNR=104
TZTN S **S** **23 37 55.8 -1.7**
baz=168
TZTN Tazewell 51.73 350 IAmb IAmb 23 30 46.3
comp=Z,835nm,1.4s
MET Memphis--Engin 51.84 343 P **P** **23 30 42.0 -1.3**
CLTN Cedars of Leba 51.84 347 IAmb IAmb 23 30 46.7
comp=Z,527nm,1.3s
T55A Pulaski 51.88 353 P **P** **23 30 44.2 +0.6**
baz=171,SNR=205
T55A S **S** **23 37 59.4 -0.2**
baz=171
T54A Tazewell 51.93 352 P **P** **23 30 44.0 0.0**
baz=170,SNR=106
T54A S **S** **23 37 59.7 -0.7**
baz=170
BLA Blacksburg 51.93 353 P **P** **23 30 44.5 +0.6**
baz=172,SNR=57
BLA S **S** **23 38 00.2 -0.1**
baz=172
BLA Blacksburg 51.93 353 IAmb IAmb 23 30 47.0
comp=Z,375nm,0.8s
T53A Wise 51.99 351 P **P** **23 30 44.3 -0.2**
baz=169,SNR=179
T53A S **S** **23 37 59.7 -1.5**
baz=169
S61A Accomac 52.03 358 P **P** **23 30 46.1 +1.5**
baz=177
S61A S **S** **23 38 03.9 +2.4**
baz=177
S61A Accomac 52.03 358 P **P** **23 30 44.9 +0.3**
S58A Poland Farm, P 52.10 355 P **P** **23 30 45.7 +0.6**
baz=174,SNR=145
S58A S **S** **23 38 02.2 -0.2**
baz=174
S58A Poland Farm, P 52.10 355 IAmb IAmb 23 30 48.8
comp=Z,592nm,0.9s
S60A Water View 52.10 357 P **P** **23 30 46.2 +1.0**
baz=176,SNR=22
S60A S **S** **23 38 04.6 +2.1**
baz=176
SLBS Sierra La Lagu 52.10 316 P **P** **23 30 46.9 +1.3**
U49A Red Boiling Sp 52.13 347 IAmb IAmb 23 30 47.1
comp=Z,322nm,0.8s
X40A Basin Creek Fa 52.15 340 P **P** **23 30 45.2 -0.3**
baz=156,SNR=54
X40A S **S** **23 37 57.8 -5.4**
baz=156
S59A Mechanicsville 52.19 356 P **P** **23 30 46.5 +0.7**
baz=175,SNR=51
S59A S **S** **23 38 05.8 +2.1**
baz=175
S56A Natural Bridge 52.30 354 P **P** **23 30 47.1 +0.5**
baz=173,SNR=56
S56A S **S** **23 38 06.9 +1.7**
baz=173
S57A Dark Hollow, R 52.32 355 P **P** **23 30 47.3 +0.5**
baz=173,SNR=145
S57A S **S** **23 38 07.1 +1.6**
baz=173
S57A Dark Hollow, R 52.32 355 IAmb IAmb 23 30 50.5
comp=Z,514nm,0.9s
HALT Halls 52.41 344 P **P** **23 30 46.4 -1.1**
HALT IAmb IAmb 23 30 50.5
comp=Z,880nm,1.2s
T50A Nancy 52.43 349 IAmb IAmb 23 30 49.5
comp=Z,378nm,0.8s
R58B Mineral 52.44 356 P **P** **23 30 48.5 +0.9**
baz=175,SNR=239
R58B S **S** **23 38 05.6 -1.4**
baz=175
HBAR Harrisburg 52.45 342 P **P** **23 30 47.8 0.0**
HBAR IAmb IAmb 23 30 52.3
comp=Z,1μm,1.4s
MIAR Mount Ida 52.45 339 P **P** **23 30 48.0 +0.1**
baz=155,SNR=411
MIAR S **S** **23 38 06.7 -0.7**
baz=155
MIAR Mount Ida 52.45 339 IAmb IAmb 23 30 50.9
comp=Z,551nm,0.8s
TXAR Lajitas Array 52.48 326 P **P** **23 30 48.4 +0.1**
comp=Z,73nm,0.5s,baz=152,slow=7.9,SNR=401
TXAR S **S** **23 38 06.2 -2.0**
comp=Z,1.5nm,0.9s,baz=138,slow=7.7,SNR=2.0
TXAR PKPPKP **P'P'df** **00 01 13.6 -3.1**
comp=Z,0.4nm,0.2s,baz=223,slow=18,SNR=8.2
TXAR P4KPbc 00 08 12.6
comp=Z,1.4nm,0.9s,baz=147,slow=8.4,SNR=6.8
TXAR Lajitas Array 52.48 326 P **P** **23 30 48.4 +0.1**
TXAR **S** **23 38 06.2 -2.0**
S55A Lewisburg 52.50 353 P **P** **23 30 48.7 +0.6**
baz=172,SNR=215
S55A S **S** **23 38 07.0 -0.9**
baz=172
W41B Gary Mavity, V 52.58 341 P **P** **23 30 48.6 -0.2**
baz=157,SNR=157
W41B S **S** **23 38 07.5 -1.7**
baz=157
W41B Gary Mavity, V 52.58 341 IAmb IAmb 23 30 56.6
comp=Z,416nm,1.1s
R59A King George, V 52.62 356 P **P** **23 30 50.0 +1.1**
baz=176,SNR=128
R59A S **S** **23 38 11.2 +1.7**
baz=176
S53A Williamson 52.62 351 P **P** **23 30 48.8 -0.3**
baz=170,SNR=131
S53A S **S** **23 38 07.7 -2.0**
baz=170
S54A Dingess, Beckl 52.62 352 P **P** **23 30 49.0 -0.1**
baz=171,SNR=194
S54A S **S** **23 38 07.7 -2.0**
baz=171
S54A Dingess, Beckl 52.62 352 IAmb IAmb 23 30 52.2
comp=Z,728nm,1.0s
CBN Corbin Frederi 52.64 356 P **P** **23 30 49.9 +0.8**
baz=175,SNR=72
CBN S **S** **23 38 12.0 +2.2**
baz=175
CBN Corbin Frederi 52.64 356 P **P** **23 30 49.7 +0.6**
R60A Leonardtown, M 52.66 357 P **P** **23 30 50.4 +1.2**
baz=176,SNR=25
R60A S **S** **23 38 10.0 0.0**
baz=176
R61A Willards 52.67 358 P **P** **23 30 50.3 +1.0**
baz=178
R61A S **S** **23 38 08.1 -2.1**
baz=178
R61A Willards 52.67 358 P **P** **23 30 49.9 +0.6**
UTMT University of 52.69 344 P **P** **23 30 49.2 -0.3**
GLAT Glass 52.73 344 P **P** **23 30 49.4 -0.4**
PEBM Pemiscott Bayo 52.74 343 IAmb IAmb 23 32 03.1
comp=Z,733nm,1.0s
R58A Rapidan 52.78 356 P **P** **23 30 51.1 +1.0**
baz=175,SNR=154
R58A S **S** **23 38 10.1 -1.6**
baz=175
S51A Beattyville 52.81 350 IAmb IAmb 23 30 53.0
comp=Z,286nm,0.8s
R57A Stanardsville 52.82 355 P **P** **23 30 51.2 +0.8**
baz=174,SNR=150
R57A S **S** **23 38 11.4 -0.9**
baz=174
R55A Marlinton 52.96 354 P **P** **23 30 52.3 +0.7**
baz=172,SNR=82
R55A S **S** **23 38 16.4 +2.1**
baz=172
R55A Marlinton 52.96 354 IAmb IAmb 23 30 54.8
comp=Z,379nm,0.8s
R54A Victor 52.96 353 P **P** **23 30 51.7 +0.2**
baz=171,SNR=108
R54A S **S** **23 38 14.7 +0.5**
baz=171
R56A Bull Pasture M 53.01 354 P **P** **23 30 52.8 +0.9**
baz=173,SNR=39
R56A S **S** **23 38 16.8 +1.8**
baz=173
LCAR Lake Charles 53.07 342 IAmb IAmb 23 30 55.8
comp=Z,1μm,1.8s
W39A Magazine 53.11 339 P **P** **23 30 53.2 +0.5**
baz=155,SNR=253
W39A S **S** **23 38 17.1 +0.7**
baz=155
ABTX Abilene, Hawle 53.18 332 P **P** **23 30 53.6 +0.3**
baz=148,SNR=527
ABTX S **S** **23 38 17.4 -0.1**
baz=148
FCAR Ozark Folk Cen 53.20 341 IAmb IAmb 23 32 02.6
comp=Z,820nm,1.7s
HENM Henderson Moun 53.20 344 IAmb IAmb 23 30 57.7
comp=Z,523nm,1.1s
Q61A Milford 53.22 358 P **P** **23 30 54.5 +1.2**
baz=178
Q61A S **S** **23 38 20.5 +3.0**
baz=178
R53A Hurricane 53.23 352 P **P** **23 30 53.3 -0.2**
baz=170,SNR=66
R53A S **S** **23 38 17.8 -0.1**
baz=170
R53A Hurricane 53.23 352 IAmb IAmb 23 30 55.8
comp=Z,322nm,0.8s
Q59A Harwood 53.26 357 P **P** **23 30 54.6 +1.0**
baz=176,SNR=19
Q59A S **S** **23 38 20.6 +2.5**
baz=176
Q60A Greensboro 53.36 358 P **P** **23 30 55.4 +1.0**
baz=177,SNR=20
Q60A S **S** **23 38 22.4 +3.0**
baz=177
Q60A Greensboro 53.36 358 P **P** **23 30 55.3 +1.0**
Q58A Fox Den Farm, 53.39 356 P **P** **23 30 55.6 +0.9**
baz=175,SNR=272
Q58A S **S** **23 38 22.9 +2.9**
baz=175
Q57A Strasburg 53.54 355 P **P** **23 30 56.9 +1.2**
baz=174,SNR=227
Q57A S **S** **23 38 25.5 +3.4**
baz=174
R50A Paris 53.56 349 IAmb IAmb 23 30 59.6
comp=Z,571nm,1.1s
Q56A Snyder Ridge, 53.61 355 P **P** **23 30 57.2 +1.0**
baz=173
Q56A S **S** **23 38 26.0 +2.9**
baz=173
Q55A Buckhannon 53.66 354 P **P** **23 30 57.5 +0.9**
baz=172,SNR=66
Q55A S **S** **23 38 25.0 +1.3**
baz=172
Q53A Leroy 53.69 352 P **P** **23 30 56.8 -0.1**
baz=170,SNR=149
Q53A S **S** **23 38 24.8 +0.7**
baz=170
R49A Shelbyville 53.73 349 IAmb IAmb 23 31 00.6
comp=Z,475nm,1.1s
Q54A Coxs Mills 53.73 353 P **P** **23 30 56.9 -0.2**
baz=171,SNR=109
Q54A S **S** **23 38 24.2 -0.4**
baz=171
Q54A Coxs Mills 53.73 353 IAmb IAmb 23 31 01.8
comp=Z,478nm,1.1s
SDMD Soldier's Deli 53.81 357 IAmb IAmb 23 31 02.5
comp=Z,414nm,1.0s
U40A Yellville 53.86 341 P **P** **23 30 57.9 -0.3**
baz=157,SNR=366
U40A S **S** **23 38 25.2 -1.3**
baz=157
U40A Yellville 53.86 341 IAmb IAmb 23 31 00.4
comp=Z,494nm,0.8s
WCI Wyandotte Cave 53.89 348 P **P** **23 30 57.6 -0.7**
baz=165
WCI S **S** **23 38 24.2 -2.5**
baz=165
WCI Wyandotte Cave 53.89 348 P **P** **23 30 57.6 -0.7**
WCI pmax pmax
comp=Z,1μm,1.0s
WCI Wyandotte Cave 53.89 348 P **P** **23 30 57.6 -0.7**
Q52A Bidwell 53.90 352 P **P** **23 30 58.0 -0.3**
baz=170,SNR=51
Q52A S **S** **23 38 25.9 -1.0**
baz=170
PTCN Pitcairn Islan 53.90 250 P **P** **23 30 58.7 -0.1**
PTCN IAmb IAmb 23 31 02.0
comp=Z,627nm,0.9s
P58A Pank, Wackersv 53.91 356 P **P** **23 30 59.4 +1.0**
baz=176,SNR=191
P58A S **S** **23 38 31.0 +4.0**
baz=176
P57A Homestead Farm 53.96 356 P **P** **23 31 00.1 +1.3**
baz=175,SNR=138
P57A S **S** **23 38 31.5 +3.9**
baz=175
P57A Homestead Farm 53.96 356 IAmb IAmb 23 31 04.3
comp=Z,741nm,1.2s
P59A Jarrettsville 53.99 357 P **P** **23 30 59.9 +1.0**
baz=177,SNR=95
P59A S **S** **23 38 31.5 +3.5**
baz=177
P61A Hammonton 53.99 359 P **P** **23 30 59.7 +0.7**
baz=178
P61A S **S** **23 38 31.0 +2.9**
baz=178
P61A Hammonton 53.99 359 P **P** **23 30 59.5 +0.5**
P61A IAmb IAmb 23 31 02.9
comp=Z,1μm,1.4s
P56A Dayton Farm, R 54.04 355 P **P** **23 31 00.6 +1.2**
baz=174,SNR=128
P56A S **S** **23 38 32.1 +3.4**
baz=174
Q51A Peebles 54.12 351 IAmb IAmb 23 31 01.9
comp=Z,276nm,0.8s
P55A Reedsville 54.14 354 P **P** **23 31 00.7 +0.6**
baz=173,SNR=73
P55A S **S** **23 38 31.7 +1.6**
baz=173
HHAR Hobbs 54.15 340 IAmb IAmb 23 31 02.5
comp=Z,395nm,0.9s
P60A Greenville 54.16 358 P **P** **23 31 00.7 +0.5**
baz=178,SNR=47
P60A S **S** **23 38 30.4 +0.1**
baz=178
PSUB Penn St. - Bra 54.27 358 IAmb IAmb 23 31 04.1
comp=Z,362nm,1.0s
MCWV Mont Chateau 54.29 354 P **P** **23 31 01.5 +0.3**
baz=172,SNR=85
MCWV S **S** **23 38 33.9 +1.8**
baz=172
MCWV Mont Chateau 54.29 354 P **P** **23 31 01.0 -0.2**
P53A Whipple 54.30 353 P **P** **23 31 01.1 -0.1**
baz=171,SNR=114
P53A S **S** **23 38 31.8 -0.4**
baz=171
P53A Whipple 54.30 353 IAmb IAmb 23 31 06.0
comp=Z,571nm,1.1s
P54A Burton 54.30 353 P **P** **23 31 01.4 +0.1**
baz=172,SNR=164
P54A S **S** **23 38 33.0 +0.7**
baz=172
MVL Millersville 54.37 357 IAmb IAmb 23 31 06.0
comp=Z,504nm,1.1s
O61A Allentown 54.41 359 P **P** **23 31 02.6 +0.6**
baz=179,SNR=21
O61A S **S** **23 38 36.1 +2.4**
baz=179
U38A Gravette 54.45 339 IAmb IAmb 23 31 05.5
comp=Z,343nm,0.9s
TUL1 Leonard 54.47 338 P **P** **23 31 02.6 0.0**
baz=153,SNR=262
TUL1 S **S** **23 38 35.9 +1.2**
baz=153
O58A Lewisberry 54.52 357 P **P** **23 31 03.9 +1.0**
baz=176,SNR=120
O58A S **S** **23 38 39.0 +3.7**
baz=176
P51A Williamsport 54.52 351 P **P** **23 31 02.1 -0.8**
baz=169,SNR=69
P51A S **S** **23 38 33.9 -1.4**
baz=169
P51A Williamsport 54.52 351 IAmb IAmb 23 31 05.2
comp=Z,377nm,0.9s
P52A Corning 54.54 352 P **P** **23 31 02.3 -0.7**
baz=170,SNR=88
P52A S **S** **23 38 31.5 -3.9**
baz=170
P52A Corning 54.54 352 IAmb IAmb 23 31 05.3
comp=Z,351nm,0.8s
WMOK Wichita Mounta 54.61 334 P **P** **23 31 03.1 -0.6**
baz=150,SNR=198
WMOK S **S** **23 38 33.0 -3.7**
baz=150
PAGS Pennsylvania G 54.62 357 IAmb IAmb 23 31 08.6
comp=Z,457nm,1.2s
FVM French Village 54.65 344 IAmb IAmb 23 31 05.8
comp=Z,274nm,0.7s
O57A Amberson 54.65 356 P **P** **23 31 04.9 +1.1**
baz=175,SNR=332
O57A S **S** **23 38 39.7 +2.7**
baz=175
O60A Telford 54.65 358 P **P** **23 31 04.7 +0.9**
baz=178,SNR=47
O60A S **S** **23 38 36.5 -0.5**
baz=178
O59A Robesonia 54.68 358 P **P** **23 31 05.0 +1.0**
baz=177
O59A S **S** **23 38 39.8 +2.5**
baz=177
O56A Blue Knob Stat 54.78 355 P **P** **23 31 05.7 +0.9**
baz=174,SNR=229
O56A S **S** **23 38 40.3 +1.5**
baz=174
O56A Blue Knob Stat 54.78 355 IAmb IAmb 23 31 09.8
comp=Z,730nm,1.1s
O55A Ligonier 54.78 355 P **P** **23 31 05.1 +0.4**
baz=173,SNR=91
O55A S **S** **23 38 35.8 -2.9**
baz=173
BLO Bloomington 54.84 348 IAmb IAmb 23 31 08.6
comp=Z,649nm,0.9s
P49A Miami Univ. Ec 54.85 349 P **P** **23 31 04.0 -1.2**
baz=167,SNR=149
P49A S **S** **23 38 37.0 -2.7**
baz=167
P49A Miami Univ. Ec 54.85 349 IAmb IAmb 23 31 08.3
comp=Z,720nm,1.1s
O54A Avella 54.86 354 P **P** **23 31 05.1 -0.2**
baz=172,SNR=58
O54A S **S** **23 38 33.6 -6.2**
baz=172
P48A Milroy 54.91 349 IAmb IAmb 23 31 09.2
comp=Z,477nm,1.1s
CLNB Carlsbad 54.91 328 P **P** **23 31 06.7 +0.7**
CCM Cathedral Cave 54.95 343 P **P** **23 31 05.1 -0.8**
baz=159
CCM S **S** **23 38 32.4 -8.6**
baz=159
CCM Cathedral Cave 54.95 343 P **P** **23 31 04.9 -1.0**
CCM pmax pmax
comp=Z,382nm,0.9s
CCM Cathedral Cave 54.95 343 P **P** **23 31 04.9 -1.0**
CCM IAmb IAmb 23 32 10.7
comp=Z,382nm,0.9s
O52A Adamsville 54.97 352 P **P** **23 31 05.5 -0.6**
baz=170,SNR=60
O52A S **S** **23 38 35.8 -5.4**
baz=170
O52A Adamsville 54.97 352 IAmb IAmb 23 31 08.1
comp=Z,274nm,0.8s
BRNJ Basking Ridge 55.00 359 IAmb IAmb 23 31 11.2
comp=Z,452nm,1.1s
O53A New Philadelph 55.02 353 P **P** **23 31 06.1 -0.4**
baz=171,SNR=62
O53A S **S** **23 38 36.5 -5.5**
baz=171
O53A New Philadelph 55.02 353 IAmb IAmb 23 32 10.9
comp=Z,624nm,1.2s

N61A	**South Mountain**	**55.06**	**359**	P	**P**	**23 31 07.4**	**+0.7**
	baz=179,SNR=43						
N61A				S	**S**	**23 38 44.1**	**+1.7**
	baz=179						
SSPA	**Standing Stone**	**55.09**	**356**	P	**P**	**23 31 07.8**	**+0.8**
	baz=175						
SSPA				S	**S**	**23 38 43.1**	**+0.3**
	baz=175						
SSPA	**Standing Stone**	**55.09**	**356**	P	**P**	**23 31 07.8**	**+0.8**
SSPA				IAmb	IAmb	23 31 11.0	
	comp=Z,548nm,1.1s						
O51A	**Pataskala**	**55.11**	**352**	P	**P**	**23 31 06.3**	**-0.8**
	baz=169,SNR=105						
O51A				S	**S**	**23 38 37.3**	**-5.8**
	baz=169						
N57A	**Milroy**	**55.19**	**356**	P	**P**	**23 31 08.2**	**+0.6**
	baz=175,SNR=115						
N57A				S	**S**	**23 38 46.4**	**+2.2**
	baz=175						
N60A	**Cedar Hill Far**	**55.20**	**359**	P	**P**	**23 31 08.2**	**+0.5**
	baz=178,SNR=44						
N60A				S	**S**	**23 38 41.6**	**-2.6**
	baz=178						
SLM	**Saint Louis**	**55.21**	**344**	IAmb	IAmb	23 31 11.5	
	comp=Z,744nm,1.1s						
N58A	**Sunbury**	**55.23**	**357**	P	**P**	**23 31 08.8**	**+0.8**
	baz=176,SNR=181						
N58A				S	**S**	**23 38 44.1**	**-0.6**
	baz=176						
S39A	**Bolivar**	**55.23**	**341**	IAmb	IAmb	23 31 11.8	
	comp=Z,673nm,1.1s						
N62A	**Caumsett State**	**55.24**	**0**	P	**P**	**23 31 08.3**	**+0.3**
	baz=180,SNR=7.9						
N62A				S	**S**	**23 38 45.3**	**+0.6**
	baz=180						
ACSO	**Alum Creek Sta**	**55.25**	**351**	P	**P**	**23 31 07.5**	**-0.6**
	baz=169,SNR=163						
ACSO				S	**S**	**23 38 42.4**	**-2.5**
	baz=169						
ACSO	**Alum Creek Sta**	**55.25**	**351**	IAmb	IAmb	23 31 10.5	
	comp=Z,607nm,0.9s						
MNTX	**Cornudas Mount**	**55.25**	**327**	P	**P**	**23 31 07.7**	**-0.6**
	baz=142,SNR=431						
MNTX				S	**S**	**23 38 45.3**	**0.0**
	baz=142						
MNTX	**Cornudas Mount**	**55.25**	**327**	IAmb	IAmb	23 31 12.1	
	comp=Z,567nm,1.4s						
N59A	**State Game Lan**	**55.26**	**358**	P	**P**	**23 31 09.2**	**+1.0**
	baz=177,SNR=49						
N59A				S	**S**	**23 38 47.4**	**+2.3**
	baz=177						
N59A	**State Game Lan**	**55.26**	**358**	IAmb	IAmb	23 31 13.5	
	comp=Z,1µm,1.9s						
N63A	**Mattituck**	**55.30**	**1**	P	**P**	**23 31 09.3**	**+0.9**
	baz=181						
N63A				S	**S**	**23 38 47.6**	**+2.0**
	baz=181						
PAL	**Palisades**	**55.31**	**360**	P	**P**	**23 31 08.8**	**+0.2**
	baz=180,SNR=37						
PAL				S	**S**	**23 38 45.4**	**-0.4**
	baz=180						
N55A	**Marion Center**	**55.32**	**355**	P	**P**	**23 31 09.4**	**+0.7**
	baz=174,SNR=183						
N55A				S	**S**	**23 38 47.4**	**+1.5**
	baz=174						
N56A	**West Decatur**	**55.40**	**356**	P	**P**	**23 31 10.0**	**+0.7**
	baz=174,SNR=194						
N56A				S	**S**	**23 38 49.1**	**+2.0**
	baz=174						
O49A	**Covington**	**55.42**	**350**	IAmb	IAmb	23 31 12.5	
	comp=Z,683nm,1.2s						
P46A	**Rosedale**	**55.42**	**347**	IAmb	IAmb	23 31 11.2	
	comp=Z,455nm,0.8s						
R40A	**Maddies Statio**	**55.46**	**342**	IAmb	IAmb	23 31 13.2	
	comp=Z,379nm,0.9s						
WSPT	**Westport, CT**	**55.48**	**0**	P	**P**	**23 31 10.2**	**+0.5**
WSPT				IAmb	IAmb	23 31 13.2	
	comp=Z,653nm,1.0s						
N53A	**Lisbon**	**55.53**	**353**	P	**P**	**23 31 09.9**	**-0.2**
	baz=172,SNR=93						
N53A				S	**S**	**23 38 43.2**	**-5.5**
	baz=172						
N53A	**Lisbon**	**55.53**	**353**	IAmb	IAmb	23 31 13.0	
	comp=Z,330nm,0.9s						
N54A	**Moraine State**	**55.59**	**354**	P	**P**	**23 31 10.9**	**+0.3**
	baz=172,SNR=130						
N54A				S	**S**	**23 38 48.1**	**-1.5**
	baz=172						
N54A	**Moraine State**	**55.59**	**354**	IAmb	IAmb	23 31 14.1	
	comp=Z,508nm,0.9s						
M61A	**Granite Spring**	**55.62**	**360**	P	**P**	**23 31 11.0**	**+0.3**
	baz=180,SNR=23						
M61A				S	**S**	**23 38 51.3**	**+1.5**
	baz=180						
YLE	**Yale**	**55.62**	**1**	P	**P**	**23 31 11.6**	**+0.9**
N52A	**McGinn's Farm,**	**55.64**	**352**	P	**P**	**23 31 10.2**	**-0.7**
	baz=170,SNR=55						
M60A	**Port Jervis**	**55.64**	**359**	P	**P**	**23 31 11.4**	**+0.5**
	baz=179,SNR=46						
M60A				S	**S**	**23 38 52.3**	**+2.1**
	baz=179						
M66A	**Nantucket**	**55.66**	**3**	P	**P**	**23 31 11.5**	**+0.5**
	baz=184						
M66A				S	**S**	**23 38 53.7**	**+3.4**
	baz=184						
M63A	**Gales Ferry**	**55.73**	**1**	P	**P**	**23 31 12.1**	**+0.6**
	baz=182,SNR=54						
M63A				S	**S**	**23 38 52.7**	**+1.5**
	baz=182						
M57A	**Sunshine Farm,**	**55.74**	**357**	P	**P**	**23 31 12.7**	**+1.1**
	baz=176,SNR=238						
M57A				S	**S**	**23 38 54.2**	**+2.7**
	baz=176						
M58A	**Price's Panora**	**55.75**	**357**	P	**P**	**23 31 12.8**	**+1.1**
	baz=177,SNR=187						
M58A				S	**S**	**23 38 54.6**	**+3.0**
	baz=177						
MSTX	**Muleshoe**	**55.75**	**331**	P	**P**	**23 31 11.7**	**-0.3**
	baz=145,SNR=213						
MSTX				S	**S**	**23 38 52.5**	**+0.4**
	baz=145						
MSTX	**Muleshoe**	**55.75**	**331**	IAmb	IAmb	23 31 15.9	
	comp=Z,781nm,1.2s						
M62A	**Hamden**	**55.75**	**1**	P	**P**	**23 31 12.3**	**+0.6**
	baz=181,SNR=122						
M62A				S	**S**	**23 38 53.5**	**+2.0**
	baz=181						
N51A	**Ashland**	**55.83**	**352**	P	**P**	**23 31 11.4**	**-0.9**
	baz=170,SNR=41						
N51A				S	**S**	**23 38 49.9**	**-2.8**
	baz=170						
N51A	**Ashland**	**55.83**	**352**	IAmb	IAmb	23 32 13.7	
	comp=Z,588nm,1.1s						
M59A	**Waymart**	**55.88**	**358**	P	**P**	**23 31 13.3**	**+0.7**
	baz=178,SNR=158						
M59A				S	**S**	**23 38 56.3**	**+3.0**
	baz=178						
M64A	**Tiverton**	**55.90**	**2**	P	**P**	**23 31 12.9**	**+0.2**
	baz=183,SNR=36						
M64A				S	**S**	**23 38 54.1**	**+0.6**
	baz=183						
KSPA	**Keystone Colle**	**55.90**	**358**	IAmb	IAmb	23 31 22.1	
	comp=Z,607nm,1.5s						
M65A	**Busby, Falmout**	**55.93**	**3**	P	**P**	**23 31 13.1**	**+0.2**
	baz=183						
M65A				S	**S**	**23 38 55.7**	**+1.7**
	baz=183						
M65A	**Busby, Falmout**	**55.93**	**3**	P	**P**	**23 31 13.5**	**+0.5**
M56A	**Emporium**	**55.96**	**356**	P	**P**	**23 31 13.8**	**+0.6**
	baz=175,SNR=185						
M56A				S	**S**	**23 38 56.6**	**+2.2**
	baz=175						
M55A	**Ridgway**	**55.99**	**355**	P	**P**	**23 31 13.8**	**+0.4**
	baz=174,SNR=162						
M55A				S	**S**	**23 38 56.8**	**+2.0**
	baz=174						
M55A	**Ridgway**	**55.99**	**355**	IAmb	IAmb	23 31 17.9	
	comp=Z,776nm,1.1s						
AMTX	**Amarillo**	**56.00**	**332**	P	**P**	**23 31 13.2**	**-0.5**
	baz=147						
AMTX				S	**S**	**23 38 55.0**	**-0.3**
	baz=147						
AMTX	**Amarillo**	**56.00**	**332**	IAmb	IAmb	23 31 17.5	
	comp=Z,317nm,0.9s						
KAN13	**South Haven SW**	**56.07**	**337**	P	**P**	**23 31 14.0**	**-0.1**
SRIG	**Santa Rosalia**	**56.09**	**318**	P	**P**	**23 31 15.1**	**+0.7**
SRIG				IAmb	IAmb	23 31 17.6	
	comp=Z,1µm,1.9s						
M54A	**Oil Creek Stat**	**56.10**	**354**	P	**P**	**23 31 14.4**	**+0.1**
	baz=173,SNR=213						
M54A				S	**S**	**23 38 56.8**	**+0.5**
	baz=173						
M54A	**Oil Creek Stat**	**56.10**	**354**	IAmb	IAmb	23 31 17.4	
	comp=Z,635nm,0.9s						
SFIN	**Lafayette**	**56.12**	**348**	P	**P**	**23 31 12.8**	**-1.5**
	baz=164,SNR=105						
SFIN				S	**S**	**23 38 53.0**	**-3.6**
	baz=164						
SFIN	**Lafayette**	**56.12**	**348**	IAmb	IAmb	23 31 15.3	
	comp=Z,309nm,0.8s						
M53A	**WI Miller and**	**56.14**	**354**	P	**P**	**23 31 14.2**	**-0.2**
	baz=172,SNR=78						
M53A				S	**S**	**23 38 55.7**	**-1.1**
	baz=172						
M53A	**WI Miller and**	**56.14**	**354**	IAmb	IAmb	23 31 17.3	
	comp=Z,400nm,0.9s						
L63A	**North Scituate**	**56.20**	**2**	P	**P**	**23 31 15.3**	**+0.5**
	baz=182,SNR=86						
L63A				S	**S**	**23 38 58.4**	**+0.9**
	baz=182						
M51A	**Elyria**	**56.21**	**352**	P	**P**	**23 31 14.2**	**-0.8**
	baz=170,SNR=37						
M51A				S	**S**	**23 38 55.0**	**-2.8**
	baz=170						
ALLY	**Alegheny Colle**	**56.29**	**354**	P	**P**	**23 31 15.6**	**+0.1**
ALLY				IAmb	IAmb	23 31 18.5	
	comp=Z,611nm,0.9s						
L64A	**Middleborough**	**56.30**	**2**	P	**P**	**23 31 15.7**	**+0.2**
	baz=183,SNR=62						
L64A				S	**S**	**23 39 00.0**	**+1.3**
	baz=183						
L60A	**Shokan**	**56.30**	**359**	P	**P**	**23 31 16.3**	**+0.7**
	baz=179,SNR=102						
L60A				S	**S**	**23 39 00.4**	**+1.5**
	baz=179						
M52A	**Chesterland**	**56.32**	**353**	P	**P**	**23 31 15.1**	**-0.6**
	baz=171,SNR=38						
M52A				S	**S**	**23 38 57.2**	**-1.9**
	baz=171						
M52A	**Chesterland**	**56.32**	**353**	IAmb	IAmb	23 31 18.2	
	comp=Z,371nm,0.8s						
N47A	**Urbana**	**56.33**	**349**	IAmb	IAmb	23 31 17.6	
	comp=Z,610nm,0.8s						
L62A	**Suffield**	**56.34**	**1**	P	**P**	**23 31 16.2**	**+0.3**
	baz=181,SNR=24						
L62A				S	**S**	**23 39 00.7**	**+1.3**
	baz=181						
L57A	**Andrews Acres**	**56.39**	**357**	P	**P**	**23 31 17.1**	**+0.8**
	baz=176,SNR=170						
L57A				S	**S**	**23 39 01.0**	**+0.8**
	baz=176						
L58A	**Harry Jones Me**	**56.39**	**358**	P	**P**	**23 31 17.1**	**+0.8**
	baz=177,SNR=228						
L58A				S	**S**	**23 39 02.7**	**+2.6**
	baz=177						
M50A	**Fremont**	**56.40**	**351**	IAmb	IAmb	23 31 18.6	
	comp=Z,543nm,0.9s						
KAN10	**Anthony SW Sta**	**56.41**	**336**	P	**P**	**23 31 16.1**	**-0.4**
L65A	**Cape Cod Natio**	**56.43**	**3**	P	**P**	**23 31 17.0**	**+0.6**
	baz=184						
L65A				S	**S**	**23 39 02.5**	**+2.0**
	baz=184						
HSIG		**56.45**	**320**	IAmb	IAmb	23 31 22.0	
	comp=Z,963nm,1.8s						
L61A	**Hillsdale 1, H**	**56.50**	**360**	P	**P**	**23 31 17.5**	**+0.5**
	baz=180						
L61A				S	**S**	**23 39 03.3**	**+1.8**
	baz=180						
L59A	**Walton**	**56.51**	**359**	P	**P**	**23 31 17.9**	**+0.7**
	baz=178,SNR=166						
L59A				S	**S**	**23 39 04.1**	**+2.3**
	baz=178						
L59A	**Walton**	**56.51**	**359**	IAmb	IAmb	23 31 21.2	
	comp=Z,692nm,0.9s						
P40A	**Paris**	**56.55**	**343**	IAmb	IAmb	23 31 20.9	
	comp=Z,382nm,0.9s						
BINY	**Binghamton**	**56.55**	**358**	P	**P**	**23 31 18.2**	**+0.9**
	baz=177,SNR=189						
BINY				S	**S**	**23 39 04.6**	**+2.3**
	baz=177						
BINY	**Binghamton**	**56.55**	**358**	IAmb	IAmb	23 31 20.9	
	comp=Z,676nm,0.9s						
L56A	**Greenwood**	**56.57**	**356**	P	**P**	**23 31 18.1**	**+0.6**
	baz=175,SNR=202						
L56A				S	**S**	**23 39 04.7**	**+2.2**
	baz=175						
L53A	**Girard**	**56.60**	**354**	P	**P**	**23 31 17.5**	**-0.3**
	baz=172,SNR=79						
L53A				S	**S**	**23 39 01.7**	**-1.2**
	baz=172						
L55A	**Hinsdale**	**56.67**	**356**	P	**P**	**23 31 18.6**	**+0.4**
	baz=174,SNR=228						
L55A				S	**S**	**23 39 05.4**	**+1.6**
	baz=174						
BCX	**Boston College**	**56.68**	**2**	P	**P**	**23 31 18.4**	**+0.2**
WES	**Weston**	**56.73**	**2**	IAmb	IAmb	23 31 22.6	
	comp=Z,395nm,1.0s						
ERPA	**Erie**	**56.74**	**354**	P	**P**	**23 31 18.6**	**-0.1**
	baz=173,SNR=73						
ERPA				S	**S**	**23 39 04.0**	**-0.7**
	baz=173						
L61B	**Northampton**	**56.76**	**1**	P	**P**	**23 31 19.1**	**+0.2**
	baz=181,SNR=83						
L61B				S	**S**	**23 39 06.0**	**+1.1**
	baz=181						
HDIL	**Hopedale**	**56.79**	**346**	P	**P**	**23 31 17.6**	**-1.4**
	baz=162,SNR=116						
HDIL				S	**S**	**23 39 02.3**	**-3.0**
	baz=162						
HDIL	**Hopedale**	**56.79**	**346**	IAmb	IAmb	23 31 22.6	
	comp=Z,501nm,0.9s						
L54A	**Sinclairville**	**56.79**	**355**	P	**P**	**23 31 19.4**	**+0.3**
	baz=173,SNR=246						
L54A				S	**S**	**23 39 05.6**	**+0.2**
	baz=173						
HRV	**Adam Dziewonsk**	**56.84**	**2**	P	**P**	**23 31 20.1**	**+0.7**
	baz=182						
HRV				S	**S**	**23 39 06.0**	**+0.1**
	baz=182						
HRV	**Adam Dziewonsk**	**56.84**	**2**	P	**P**	**23 31 19.9**	**+0.5**
HRV				pmax	pmax		
	comp=Z,666nm,1.0s						
HRV	**Adam Dziewonsk**	**56.84**	**2**	P	**P**	**23 31 19.9**	**+0.5**
HRV				IAmb	IAmb	23 31 23.2	
	comp=Z,666nm,0.9s						
K60A	**Five Rivers En**	**56.92**	**360**	P	**P**	**23 31 20.8**	**+0.9**
	baz=180,SNR=20						
K60A				S	**S**	**23 39 09.7**	**+2.7**
	baz=180						
K61A	**Williamstown**	**56.98**	**0**	P	**P**	**23 31 21.1**	**+0.7**
	baz=180,SNR=74						
K61A				S	**S**	**23 39 09.5**	**+1.7**
	baz=180						
K62A	**Royalston**	**56.98**	**1**	P	**P**	**23 31 21.0**	**+0.6**
	baz=182,SNR=36						
K62A				S	**S**	**23 39 08.2**	**+0.3**
	baz=182						
K63A	**Dunstable**	**57.02**	**2**	P	**P**	**23 31 21.2**	**+0.6**
	baz=182,SNR=62						
K63A				S	**S**	**23 39 05.6**	**-2.7**
	baz=182						
TRY	**Troy**	**57.04**	**360**	IAmb	IAmb	23 31 25.8	
	comp=Z,589nm,1.0s						
K59A	**Cooperstown**	**57.09**	**359**	P	**P**	**23 31 22.1**	**+0.8**
	baz=178,SNR=148						
K59A				S	**S**	**23 39 09.5**	**+0.1**
	baz=178						
K58A	**Earlville**	**57.10**	**358**	P	**P**	**23 31 21.9**	**+0.6**
	baz=178,SNR=179						
K58A				S	**S**	**23 39 11.5**	**+2.0**
	baz=178						
K58A	**Earlville**	**57.10**	**358**	IAmb	IAmb	23 31 25.2	
	comp=Z,668nm,1.1s						
K57A	**Scipio Center**	**57.10**	**357**	P	**P**	**23 31 21.8**	**+0.5**
	baz=177,SNR=133						
K57A				S	**S**	**23 39 05.6**	**-3.9**
	baz=177						
K56A	**Middlesex**	**57.11**	**357**	P	**P**	**23 31 21.8**	**+0.4**
	baz=176,SNR=112						
K56A				S	**S**	**23 39 05.9**	**-3.7**
	baz=176						
K54A	**Basiliko Farm,**	**57.11**	**355**	P	**P**	**23 31 21.9**	**+0.5**
	baz=174,SNR=111						
K54A				S	**S**	**23 39 08.7**	**-0.9**
	baz=174						
L48A	**N Adams**	**57.15**	**350**	IAmb	IAmb	23 31 23.0	
	comp=Z,414nm,0.8s						
319A	**Douglas**	**57.16**	**323**	IAmb	IAmb	23 31 26.3	
	comp=Z,470nm,0.9s						
MMNY	**Mt. Morris Dam**	**57.18**	**356**	IAmb	IAmb	23 31 26.4	
	comp=Z,892nm,1.2s						
121A	**Cookes Peak, D**	**57.18**	**326**	P	**P**	**23 31 23.3**	**+1.0**
	baz=140,SNR=261						
121A				S	**S**	**23 39 09.7**	**-1.6**
	baz=140						
121A	**Cookes Peak, D**	**57.18**	**326**	IAmb	IAmb	23 31 26.3	
	comp=Z,368nm,0.8s						
K55A	**Perry**	**57.19**	**356**	P	**P**	**23 31 22.2**	**+0.3**
	baz=175,SNR=172						
K55A				S	**S**	**23 39 10.7**	**+0.1**
	baz=175						
AAM	**Ann Arbor**	**57.37**	**351**	P	**P**	**23 31 22.3**	**-0.8**
	baz=168,SNR=33						
AAM				S	**S**	**23 39 11.3**	**-1.6**
	baz=168						
AAM	**Ann Arbor**	**57.37**	**351**	IAmb	IAmb	23 31 25.4	
	comp=Z,294nm,0.9s						
SACV	**Santiago Islan**	**57.44**	**61**	P	**P**	**23 31 24.4**	**+0.3**
L46A	**Eue Claire**	**57.54**	**349**	IAmb	IAmb	23 31 25.8	
	comp=Z,546nm,0.8s						
J60A	**Lant Hill Farm**	**57.55**	**0**	P	**P**	**23 31 25.2**	**+0.8**
	baz=180,SNR=105						
J60A				S	**S**	**23 39 18.0**	**+2.7**
	baz=180						
J62A	**Henniker**	**57.55**	**1**	P	**P**	**23 31 25.1**	**+0.7**
	baz=182,SNR=46						
J62A				S	**S**	**23 39 16.6**	**+1.3**
	baz=182						
KSU1	**Kansas State U**	**57.60**	**339**	P	**P**	**23 31 24.3**	**-0.5**
	baz=153,SNR=91						
KSU1				S	**S**	**23 39 11.3**	**-4.8**
	baz=153						
KSU1	**Kansas State U**	**57.60**	**339**	IAmb	IAmb	23 31 26.9	
	comp=Z,370nm,0.8s						
J63A	**Strafford**	**57.63**	**2**	P	**P**	**23 31 25.4**	**+0.5**
	baz=183,SNR=36						
J63A				S	**S**	**23 39 14.9**	**-1.3**
	baz=183						
HQIL	**Hanson Quary C**	**57.65**	**347**	IAmb	IAmb	23 31 26.5	
	comp=Z,339nm,0.9s						
MEDO	**Medina**	**57.65**	**356**	IAmb	IAmb	23 31 28.4	
	comp=Z,386nm,1.0s						
J61A	**Chester**	**57.66**	**1**	P	**P**	**23 31 26.0**	**+0.9**
	baz=181,SNR=95						
J61A				S	**S**	**23 39 18.2**	**+1.5**
	baz=181						
J56A	**Wolcott**	**57.66**	**357**	P	**P**	**23 31 25.4**	**+0.2**
	baz=176,SNR=130						
J56A				S	**S**	**23 39 11.8**	**-4.9**
	baz=176						
J58A	**Remsen**	**57.69**	**358**	P	**P**	**23 31 25.8**	**+0.4**
	baz=178,SNR=56						
J58A				S	**S**	**23 39 10.9**	**-6.2**
	baz=178						
J58A	**Remsen**	**57.69**	**358**	IAmb	IAmb	23 32 14.0	
	comp=Z,551nm,1.5s						
K50A	**Casco**	**57.69**	**352**	P	**P**	**23 31 24.4**	**-0.9**
J55A	**Hilton**	**57.71**	**356**	P	**P**	**23 31 25.7**	**+0.2**
	baz=175,SNR=152						
J55A				S	**S**	**23 39 12.5**	**-4.7**
	baz=175						
J57A	**Williamstown**	**57.76**	**358**	P	**P**	**23 31 26.2**	**+0.4**
	baz=177,SNR=146						
J57A				S	**S**	**23 39 11.7**	**-6.3**
	baz=177						
J57A	**Williamstown**	**57.76**	**358**	IAmb	IAmb	23 31 28.8	
	comp=Z,437nm,0.9s						
J54A	**Appleton**	**57.77**	**356**	P	**P**	**23 31 26.0**	**+0.1**
	baz=174,SNR=54						
J54A				S	**S**	**23 39 13.9**	**-4.2**
	baz=174						
J54A	**Appleton**	**57.77**	**356**	IAmb	IAmb	23 31 29.1	
	comp=Z,366nm,0.8s						
H10S3	**ASCENSION HYDR**	**57.77**	**91**	P	**P**	**23 31 25.4**	**-0.9**
	baz=200,slow=74,SNR=14						
J59A	**Piesco**	**57.78**	**359**	P	**P**	**23 31 26.7**	**+0.7**
	baz=179,SNR=161						
J59A				S	**S**	**23 39 16.5**	**-1.8**
	baz=179						
J59A	**Piesco**	**57.78**	**359**	IAmb	IAmb	23 31 29.9	
	comp=Z,402nm,1.0s						
H10S2	**ASCENSION HYDR**	**57.79**	**91**	P	**P**	**23 31 27.0**	**+0.6**
	baz=20,slow=74,SNR=17						
Y22D	**IRIS PASSCAL I**	**57.91**	**327**	P	**P**	**23 31 28.3**	**+1.0**
	baz=141,SNR=15						
Y22D				S	**S**	**23 39 22.3**	**+1.7**
	baz=141						
Y22D	**IRIS PASSCAL I**	**57.91**	**327**	IAmb	IAmb	23 32 54.3	
	comp=Z,606nm,1.2s						
I58A	**Old Forge**	**58.01**	**359**	P	**P**	**23 31 28.1**	**+0.4**
	baz=178,SNR=129						
I58A				S	**S**	**23 39 20.1**	**-1.3**
	baz=178						
L44A	**Lake County Fo**	**58.02**	**347**	P	**P**	**23 31 26.2**	**-1.5**
	baz=164,SNR=28						
L44A				S	**S**	**23 39 16.6**	**-4.9**
	baz=164						
L44A	**Lake County Fo**	**58.02**	**347**	IAmb	IAmb	23 31 30.4	
	comp=Z,652nm,1.2s						
I59A	**Olmsteadville**	**58.10**	**360**	P	**P**	**23 31 28.8**	**+0.6**
	baz=180,SNR=124						
I59A				S	**S**	**23 39 20.0**	**-2.5**
	baz=180						
I60A	**Shoreham**	**58.15**	**0**	P	**P**	**23 31 29.4**	**+0.8**
	baz=180,SNR=132						
I60A				S	**S**	**23 39 20.6**	**-2.4**
	baz=180						
H10N3	**ASCENSION HYDR**	**58.16**	**90**	P	**P**	**23 31 30.8**	**+1.9**
	baz=255,slow=6.5,SNR=26						
H10N2	**ASCENSION HYDR**	**58.17**	**90**	P	**P**	**23 31 31.1**	**+2.0**
	baz=255,slow=6.5,SNR=27						
H10N1	**ASCENSION HYDR**	**58.18**	**90**	P	**P**	**23 31 30.9**	**+1.8**
	baz=255,slow=6.5,SNR=31						
I62A	**Tamworth**	**58.22**	**2**	P	**P**	**23 31 29.8**	**+0.8**
	baz=182,SNR=33						
I62A				S	**S**	**23 39 20.8**	**-3.1**
	baz=182						
L42A	**Oliver, Polo**	**58.25**	**346**	IAmb	IAmb	23 32 23.5	
	comp=Z,304nm,1.0s						
I61A	**Oroboro, Fairl**	**58.25**	**1**	P	**P**	**23 31 30.4**	**+1.1**
	baz=182,SNR=140						
I61A				S	**S**	**23 39 21.3**	**-3.1**
	baz=182						
ASCN	**Ascension**	**58.27**	**90**	P	**P**	**23 31 31.2**	**+1.2**
I57A	**Carthage**	**58.28**	**358**	P	**P**	**23 31 29.8**	**+0.3**
	baz=178,SNR=45						
I57A				S	**S**	**23 39 19.9**	**-4.8**
	baz=178						
I64A	**Boothbay**	**58.33**	**3**	P	**P**	**23 31 30.9**	**+1.1**
	baz=184,SNR=57						
I64A				S	**S**	**23 39 23.1**	**-2.3**
	baz=184						
ANMO	**Albuquerque**	**58.35**	**328**	*d iP*	**P**	**23 31 30.6**	**+0.2**
ANMO				pmax	pmax		
	comp=Z,296nm,1.2s						
RKT	**Rikitea**	**58.41**	**252**	*e*S	**S**	**23 39 26.2**	**-1.2**
	comp=Z,95µm,24.8s						
RKT				*e*LQ	LQ	23 46 16.4	
	comp=Z,48µm,25.8s						
RKT				*e*LR	LR	23 48 46.9	
	comp=Z,108µm,28.2s						
I63A	**Otisfield**	**58.42**	**2**	P	**P**	**23 31 31.3**	**+0.9**
	baz=183,SNR=78						
I63A				S	**S**	**23 39 24.5**	**-2.0**
	baz=183						
I63A	**Otisfield**	**58.42**	**2**	IAmb	IAmb	23 31 35.6	
	comp=Z,319nm,0.9s						
CBKS	**Cedar Bluff**	**58.51**	**336**	P	**P**	**23 31 31.5**	**+0.2**
	baz=150,SNR=115						
CBKS				S	**S**	**23 39 26.6**	**-1.5**
	baz=150						
I51A	**Listowel**	**58.51**	**354**	P	**P**	**23 31 30.4**	**-0.7**
	baz=172,SNR=235						
I51A				S	**S**	**23 39 25.1**	**-2.7**
	baz=172						
LBNH	**Lisbon**	**58.56**	**1**	P	**P**	**23 31 32.4**	**+0.9**
	baz=182,SNR=80						
LBNH				S	**S**	**23 39 29.1**	**+0.7**
	baz=182						
I55A	**Frankford**	**58.65**	**357**	P	**P**	**23 31 32.0**	**0.0**
	baz=175,SNR=222						
I55A				S	**S**	**23 39 24.3**	**-5.2**
	baz=175						
TUC	**Tucson**	**58.71**	**323**	P	**P**	**23 31 33.3**	**+0.4**

baz=137
TUC S S 23 39 29.1 -1.9
baz=137
TUC Tucson 58.71 323 P P 23 31 33.1 +0.3
TUC pmax pmax
comp=Z,313nm,1.3s
TUC Tucson 58.71 323 P P 23 31 33.1 +0.3
H58A Gabriels 58.73 359 P P 23 31 33.0 +0.4
baz=179,SNR=109
H58A S S 23 39 28.5 -2.2
baz=179
H57A Richville 58.79 358 P P 23 31 33.2 +0.2
baz=178,SNR=180
H57A S S 23 39 28.9 -2.5
baz=178
H61A Lyndonville 58.86 1 P P 23 31 34.5 +1.0
baz=182,SNR=128
H61A S S 23 39 29.7 -2.6
baz=182
I49A Point Hope 58.86 352 IAmb IAmb 23 31 36.5
comp=Z,632nm,1.1s
H60A Morristown 58.87 1 P P 23 31 34.2 +0.6
baz=181,SNR=41
H60A S S 23 39 30.4 -2.1
baz=181
H62A Milan 58.92 2 P P 23 31 34.8 +0.9
baz=183,SNR=85
H62A S S 23 39 30.1 -3.0
baz=183
H62A Milan 58.92 2 IAmb IAmb 23 31 39.0
comp=Z,287nm,1.1s
LONY Lake Ozonia 58.93 359 P P 23 31 34.5 +0.5
baz=179,SNR=77
LONY S S 23 39 34.1 +0.9
baz=179
LONY Lake Ozonia 58.93 359 IAmb IAmb 23 32 05.4
comp=Z,700nm,1.8s
H55A Tweed 58.95 357 P P 23 31 34.3 +0.2
baz=176,SNR=160
H55A S S 23 39 28.9 -4.5
baz=176
H56A Elgin 58.95 358 P P 23 31 34.5 +0.4
baz=177,SNR=254
H56A S S 23 39 29.2 -4.2
baz=177
H59A Cadyville 58.95 360 P P 23 31 34.7 +0.6
baz=180,SNR=122
H59A S S 23 39 30.5 -3.0
baz=180
WVL Waterville 58.98 3 IAmb IAmb 23 31 38.5
comp=Z,396nm,1.0s
H63A New Sharon 59.05 3 P P 23 31 36.1 +1.3
baz=184,SNR=59
H63A S S 23 39 37.3 +2.5
baz=184
H53A Bobcaygeon 59.06 356 P P 23 31 34.8 -0.1
baz=174,SNR=152
H53A S S 23 39 29.9 -4.9
baz=174
H64A Troy 59.08 4 P P 23 31 35.9 +1.0
baz=185,SNR=158
H64A S S 23 39 37.4 +2.4
baz=185
SCIA State Center 59.08 343 P P 23 31 34.2 -0.8
baz=158,SNR=22
SCIA S S 23 39 33.3 -1.9
baz=158
SCIA State Center 59.08 343 IAmb IAmb 23 31 38.5
comp=Z,977nm,1.7s
T25A Trinidad 59.10 331 P P 23 31 36.0 +0.3
baz=145,SNR=345
T25A S S 23 39 32.6 -3.6
baz=145
FRNY Flat Rock 59.14 360 IAmb IAmb 23 31 39.2
comp=Z,335nm,0.9s
H65A Eastbrook 59.20 4 P P 23 31 36.6 +0.8
baz=186,SNR=153
H65A S S 23 39 37.2 +0.6
baz=186
JFWS Jewell Farm 59.25 346 P P 23 31 35.2 -1.0
baz=161,SNR=67
JFWS S S 23 39 34.2 -3.1
baz=161
JFWS Jewell Farm 59.25 346 IAmb IAmb 23 32 27.0
comp=Z,276nm,0.8s
EMMW East Machias 59.27 5 IAmb IAmb 23 31 41.4
comp=Z,554nm,1.1s
SADO Sadowa 59.30 355 S S 23 39 33.3 -4.6
comp=Z,5.8nm,0.9s,baz=149,slow=16,SNR=1.5
SADO Sadowa 59.30 355 S 23 39 33.3 -4.6
SADO Sadowa 59.30 355 IAmb IAmb 23 31 39.2
comp=Z,426nm,0.9s
H66A Whiting 59.36 5 P P 23 31 37.8 +0.9
baz=187,SNR=211
H66A S S 23 39 38.4 -0.3
baz=187
G59A Clarenceville 59.39 0 P P 23 31 37.5 +0.5
baz=180,SNR=83
G59A S S 23 39 37.6 -1.4
baz=180
G60A Masonville 59.41 1 P P 23 31 38.0 +0.7
baz=181,SNR=55
G60A S S 23 39 41.7 +2.3
baz=181
G57A Newington 59.42 359 P P 23 31 37.8 +0.4
baz=178,SNR=84
G57A S S 23 39 37.1 -2.3
baz=178
G58A Ormstown 59.46 360 P P 23 31 37.9 +0.3
baz=180,SNR=60
G58A S S 23 39 36.9 -3.0
baz=180
G63A Kingsbury 59.53 3 P P 23 31 38.9 +0.8
baz=184,SNR=160
G63A S S 23 39 40.3 -0.6
baz=184
G62A West of Eustis 59.59 2 P P 23 31 39.6 +1.1
baz=183,SNR=332
G62A S S 23 39 41.3 -0.3
baz=183
G61A St-Isidore-de- 59.62 2 P P 23 31 39.9 +1.2
baz=182,SNR=216
G61A S S 23 39 41.5 -0.5
baz=182
G55A Calabogie 59.63 357 P P 23 31 39.0 +0.2
baz=176,SNR=275
G55A S S 23 39 39.3 -2.9
baz=176
HAL Halifax 59.63 8 IAmb IAmb 23 31 42.9
comp=Z,607nm,1.1s
214A Organ Pipe Nat 59.66 321 P P 23 31 40.2 +0.9
baz=135,SNR=203
214A S S 23 39 42.3 -0.9
baz=135
214A Organ Pipe Nat 59.66 321 IAmb IAmb 23 31 44.5
comp=Z,822nm,1.4s
PKME Peaks-Kenny Pk 59.69 3 P P 23 31 40.1 +0.9
baz=185,SNR=181
PKME S S 23 39 44.1 +1.1
baz=185
G64A Maxfield 59.72 4 P P 23 31 40.1 +0.8
baz=185,SNR=179
G64A S S 23 39 41.3 -1.9
baz=185
G65A Princeton 59.75 5 P P 23 31 40.6 +1.0
baz=187,SNR=308
G65A S S 23 39 41.6 -2.1
baz=187
ORIO Orleans, Innes 59.78 358 P P 23 31 40.1 +0.3
baz=178,SNR=83
ORIO S S 23 39 41.9 -2.3
baz=178
G54A Lake Saint Pet 59.85 356 P P 23 31 40.1 -0.2
baz=175,SNR=252
G54A S S 23 39 40.3 -4.7
baz=175
KSCO Kaye Shedlock' 59.86 334 P P 23 31 41.0 +0.3
baz=147,SNR=28
KSCO S S 23 39 43.4 -2.3
baz=147
GLMI Grayling 59.98 351 P P 23 31 40.1 -1.2
baz=168,SNR=24
GLMI S S 23 39 43.7 -3.1
baz=168
SDCO Great Sand Dun 60.10 331 P P 23 31 43.1 +0.5
baz=144,SNR=445
SDCO S S 23 39 51.5 +2.3
baz=144
SDCO Great Sand Dun 60.10 331 P P 23 31 43.1 +0.5
F57A Harrington 60.13 359 P P 23 31 42.3 +0.1
baz=179,SNR=19
F57A S S 23 39 48.3 -0.2
baz=179
F63A Nahmakanta, Br 60.14 4 P P 23 31 43.1 +0.8
baz=185,SNR=115
F63A S S 23 39 47.6 -1.2
baz=185
F63A Nahmakanta, Br 60.14 4 IAmb IAmb 23 31 48.2
comp=Z,307nm,0.9s
F59A Saint Guilaume 60.16 1 P P 23 31 42.7 +0.3
baz=181,SNR=27
F59A S S 23 39 50.2 +1.3
baz=181
F58A St-Lin Laurent 60.17 360 P P 23 31 42.5 +0.1
baz=180
F58A S S 23 39 50.4 +1.3
baz=180
BGNE Belgrade 60.19 339 P P 23 31 42.6 -0.2
baz=152,SNR=90
BGNE S S 23 39 44.1 -5.5
baz=152
H43A Windswept, Lux 60.19 348 IAmb IAmb 23 31 44.3
comp=Z,394nm,0.8s
F55A Otter Lake 60.19 358 P P 23 31 42.8 +0.2
baz=177,SNR=34
F55A S S 23 39 49.4 0.0
baz=177
W18A Petrified Fore 60.20 326 P P 23 31 43.8 +0.7
baz=139,SNR=72
W18A S S 23 39 52.0 +1.7
baz=139
I40A Norwalk 60.26 346 IAmb IAmb 23 31 46.6
comp=Z,545nm,1.1s
F62A Pittston Farm, 60.29 3 P P 23 31 44.0 +0.7
baz=184,SNR=152
F62A S S 23 39 49.6 -1.0
baz=184
F60A Warwick 60.29 1 P P 23 31 43.5 +0.2
baz=182,SNR=130
F60A S S 23 39 52.1 +1.5
baz=182
F61A St Evariste 60.32 2 P P 23 31 44.0 +0.4
baz=183,SNR=60
F61A S S 23 39 51.1 0.0
baz=183
F64A Sherman 60.35 4 P P 23 31 44.7 +1.0
baz=186,SNR=337
F64A S S 23 39 50.3 -1.1
baz=186
G45A Suttons Bay 60.36 350 IAmb IAmb 23 32 31.4
comp=Z,416nm,0.9s
ALGO Algonquin Park 60.40 356 P P 23 31 43.9 -0.2
baz=175,SNR=196
ALGO S S 23 39 48.0 -4.0
baz=175
F49A Sandfield 60.56 353 P P 23 31 43.8 -1.3
baz=171,SNR=87
F49A S S 23 39 49.8 -4.3
baz=171
X16A Lo Mia Camp, P 60.62 324 IAmb IAmb 23 31 50.6
comp=Z,314nm,0.9s
SPX San Pedro Mart 60.68 319 P P 23 31 47.3 +0.7
E58A La Victoria 60.68 0 P P 23 31 46.2 +0.2
baz=180,SNR=109
E58A S S 23 39 57.1 +1.5
baz=180
F48A Evansville 60.69 353 P P 23 31 44.9 -1.1
baz=170,SNR=95
F48A S S 23 39 51.6 -4.2
baz=170
GBN Guysborough 60.70 10 IAmb IAmb 23 31 49.7
comp=Z,353nm,1.0s
E60A Ste Agathe de 60.70 2 P P 23 31 46.2 +0.1
baz=182,SNR=53
E60A S S 23 39 56.2 +0.3
baz=182
E57A Chemin Saint G 60.72 360 P P 23 31 46.4 +0.2
baz=179,SNR=105
E57A S S 23 39 56.0 -0.1
baz=179
S22A 4UR Ranch, Cre 60.74 330 P P 23 31 47.3 +0.4
baz=143,SNR=174
S22A S S 23 39 58.6 +1.3
baz=143
S22A 4UR Ranch, Cre 60.74 330 IAmb IAmb 23 31 51.8
comp=Z,570nm,1.6s
E59A St. Maurice 60.79 1 P P 23 31 47.3 +0.7
baz=181
E59A S S 23 39 58.5 +1.6
baz=181
E53A Dumoine, Ponti 60.80 357 P P 23 31 46.8 0.0
baz=176,SNR=120
E53A S S 23 39 55.1 -2.1
baz=176
E61A Lac Etchemin 60.80 2 P P 23 31 47.7 +0.9
baz=183,SNR=235
E61A S S 23 39 59.6 +2.5
baz=183
E55A Montcerf-Lytto 60.80 358 P P 23 31 46.9 +0.2
baz=177,SNR=45
E55A S S 23 39 56.8 -0.3
baz=177
113A Mohawk Valley, 60.80 321 IAmb IAmb 23 31 50.3
comp=Z,1μm,1.9s
E54A Lac Daplat, Po 60.83 357 P P 23 31 47.0 +0.1
baz=176,SNR=204
E54A S S 23 39 54.2 -3.3
baz=176
E56A St. Veronique 60.87 359 P P 23 31 47.3 +0.2
baz=178,SNR=139
E56A S S 23 39 55.7 -2.2
baz=178
E63A Oxbow 60.90 4 P P 23 31 48.3 +0.9
baz=186,SNR=152
E63A S S 23 39 57.7 -0.7
baz=186
E63A Oxbow 60.90 4 IAmb IAmb 23 31 52.6
comp=Z,413nm,0.9s
Q24A Divide 60.93 332 P P 23 31 48.6 +0.4
baz=145,SNR=59
Q24A S S 23 39 56.6 -3.1
baz=145
E64A Bridgewater 60.94 5 P P 23 31 48.5 +0.8
baz=186,SNR=227
E64A S S 23 39 57.9 -1.0
baz=186
E62A Clayton Lake 61.03 3 P P 23 31 49.5 +1.1
baz=184,SNR=236
E62A S S 23 39 57.0 -3.1
baz=184
E62A Clayton Lake 61.03 3 IAmb IAmb 23 31 52.1
comp=Z,506nm,0.9s
I37A Lemond, Waseca 61.08 344 IAmb IAmb 23 32 34.4
comp=Z,500nm,1.1s
MVCO Mesa Verde 61.14 329 P P 23 31 50.0 +0.4
baz=141,SNR=170
MVCO S S 23 40 04.6 +2.2
baz=141
MVCO Mesa Verde 61.14 329 P P 23 31 50.0 +0.4
PQI Presque Isle 61.18 4 P P 23 31 50.1 +0.8
PQI IAmb IAmb 23 31 53.3
comp=Z,614nm,0.9s
OGNE Ogallala 61.25 336 P P 23 31 50.2 +0.2
baz=148,SNR=45
OGNE S S 23 40 03.3 +0.1
baz=148
OGNE Ogallala 61.25 336 IAmb IAmb 23 31 53.4
comp=Z,483nm,0.8s
D60A Saint Jean D'O 61.27 2 P P 23 31 50.6 +0.7
baz=183,SNR=62
D60A S S 23 40 03.6 +0.7
baz=183
E48A Lockeyer 61.28 353 P P 23 31 49.3 -0.8
baz=170,SNR=60
E48A S S 23 39 59.9 -3.4
baz=170
D57A Chemin Vers le 61.32 360 P P 23 31 50.6 +0.3
baz=180,SNR=109
D57A S S 23 40 02.9 -0.8
baz=180
D59A Saint-Raymond 61.33 1 P P 23 31 50.6 +0.3
baz=182,SNR=13
D59A S S 23 40 05.0 +1.2
baz=182
D55A Sainte-Anne-du 61.35 358 P P 23 31 50.5 +0.1
baz=178,SNR=110
D55A S S 23 40 03.3 -0.8
baz=178
D56A ZEC Mazanza, M 61.37 359 P P 23 31 50.6 0.0
baz=179,SNR=65
D56A S S 23 40 02.9 -1.4
baz=179
WUAZ Wupatki 61.39 325 P P 23 31 52.2 +1.0
baz=138,SNR=308
WUAZ S S 23 40 10.6 +5.2
baz=138
WUAZ Wupatki 61.39 325 IAmb IAmb 23 31 55.8
comp=Z,458nm,0.9s
E47A Iron Bridge 61.39 352 P P 23 31 49.9 -0.9
baz=169,SNR=94
E47A S S 23 39 59.8 -4.9
baz=169
D58A Chemin du LacG 61.40 1 P P 23 31 51.3 +0.5
baz=181,SNR=183
D58A S S 23 40 05.7 +0.9
baz=181
D52A ZEK Kipawa Sen 61.44 356 P P 23 31 51.3 +0.2
baz=175,SNR=271
D52A S S 23 40 03.6 -1.6
baz=175
E46A Sault Ste Mari 61.45 352 IAmb IAmb 23 31 54.1
comp=Z,552nm,1.2s
D53A Lac Vacive, Po 61.50 357 P P 23 31 51.6 +0.1
baz=176,SNR=200
D53A S S 23 40 05.3 -0.7
baz=176
D62A Allapoint, All 61.52 3 P P 23 31 52.5 +1.0
baz=185,SNR=588
D62A S S 23 40 03.3 -2.9
baz=185
D54A Lac Fusel, La 61.52 358 P P 23 31 51.2 -0.4
baz=177,SNR=147
D54A S S 23 40 02.5 -3.8
baz=177
D63A Stockholm 61.54 4 P P 23 31 52.6 +0.9
baz=186,SNR=273
D63A S S 23 40 04.6 -1.8
baz=186
D61A St Aubert, Com 61.58 3 P P 23 31 53.0 +1.0
baz=184,SNR=180
D61A S S 23 40 04.6 -2.4
baz=184
D51A Lot 18 Range I 61.62 355 P P 23 31 51.8 -0.5
baz=174,SNR=77
D51A S S 23 40 02.0 -5.5
baz=174
GLA Glamis 61.64 321 P P 23 31 53.7 +0.9
baz=134,SNR=31
GLA S S 23 40 10.2 +1.7
baz=134
LATQ La Tuque 61.69 1 P P 23 31 53.0 +0.3
baz=181,SNR=72
LATQ S S 23 40 09.0 +0.6
baz=181
ECSD EROS Data Cent 61.76 341 P P 23 31 52.8 -0.6
baz=155,SNR=241
ECSD S S 23 40 08.1 -1.4
baz=155
ECSD EROS Data Cent 61.76 341 P P 23 31 52.8 -0.6
ECSD IAmb IAmb 23 31 57.3
comp=Z,732nm,1.1s
ISCO Idaho Springs 61.81 332 P P 23 31 54.6 +0.5
baz=144,SNR=38
ISCO S S 23 40 11.1 +0.1
baz=144
PV01 Paradox Valley 61.89 329 IAmb IAmb 23 31 59.7
comp=Z,659nm,1.3s
D46A Sault St. Mari 61.92 352 P P 23 31 52.9 -1.4
baz=168
D46A S S 23 40 07.7 -3.7
baz=168
D48A Paudash Townsh 61.93 354 P P 23 31 53.2 -1.1
baz=171,SNR=71
D48A S S 23 40 06.6 -4.8
baz=171
BATG Bathurst New B 61.95 6 IAmb IAmb 23 31 57.9
comp=Z,582nm,0.8s
D47A Chapleau 61.96 353 P P 23 31 53.1 -1.5
baz=170,SNR=128
D47A S S 23 40 07.6 -4.2
baz=170
D49A Beulah Townshi 61.98 354 P P 23 31 53.7 -1.0
baz=172,SNR=53
D49A S S 23 40 08.9 -3.1
baz=172
PV13 Radium Mtn., P 62.04 329 IAmb IAmb 23 32 00.4
comp=Z,452nm,1.1s
SPMN Marine on St. 62.05 345 P P 23 31 54.6 -0.6
baz=159,SNR=136
SPMN S S 23 40 10.9 -2.1
baz=159
SPMN Marine on St. 62.05 345 IAmb IAmb 23 31 57.7
comp=Z,517nm,0.9s
PDMCI Parker Dam,Lak 62.10 322 P P 23 31 56.5 +0.7
baz=135,SNR=31
PDMCI S S 23 40 13.8 -0.2
baz=135
RMX La Rumorosa 62.11 320 IAmb IAmb 23 32 01.1
comp=Z,584nm,1.5s
PV18 Skein Mesa, Pa 62.15 329 P P 23 31 56.3 0.0
PV12 Saucer Basin, 62.15 329 P P 23 31 56.0 -0.4
IKP In-Ko-Pah, Jac 62.16 320 P P 23 31 57.2 +0.8
baz=132,SNR=65
IKP S S 23 40 18.7 +3.6
baz=132
PV07 Paradox Valley 62.17 329 P P 23 31 56.3 -0.2
SWSC Sam W. Stewart 62.17 320 P P 23 31 57.2 +0.9
baz=133,SNR=44
SWSC S S 23 40 19.8 +4.9
baz=133
PV11 David Mesa, Pa 62.17 329 P P 23 31 56.6 +0.1
PV16 Nyswonger Mesa 62.20 329 P P 23 31 56.5 -0.2
PV16 IAmb IAmb 23 32 01.5
comp=Z,1μm,1.9s
PV19 Morning Glory 62.23 329 P P 23 31 56.5 -0.3
PV19 IAmb IAmb 23 32 01.7
comp=Z,865nm,1.9s
PV20 West Nyswonger 62.25 329 P P 23 31 56.6 -0.3
PV04 Paradox Valley 62.26 329 P P 23 31 57.6 +0.6
PV04 IAmb IAmb 23 32 06.8
comp=Z,734nm,1.8s
CBX Cerro Bola 62.29 319 P P 23 31 57.7 +0.5
PV22 Blue Mesa, Par 62.31 329 P P 23 31 57.2 -0.2
PV10 Paradox Valley 62.31 329 P P 23 31 57.1 -0.4
PV10 IAmb IAmb 23 32 42.9
comp=Z,572nm,1.6s
PV23 Carpenter Ridg 62.36 329 P P 23 31 57.7 -0.1
TKX Tecate 62.42 319 P P 23 31 58.8 +0.8
TKX IAmb IAmb 23 32 03.3
comp=Z,911nm,1.5s
PV21 Cone Mtn., Par 62.42 329 P P 23 31 58.6 +0.4
BC3 Big Chuckawall 62.44 321 P P 23 31 59.2 +1.0
baz=133,SNR=152
BC3 S S 23 40 21.4 +2.8
baz=133
W13A Hualapai Mount 62.51 323 P P 23 31 59.8 +1.1
W13A IAmb IAmb 23 32 02.5
comp=Z,874nm,1.9s
MONP2 Monument Peak 62.52 320 P P 23 31 59.8 +0.9
baz=132,SNR=78
MONP2 S S 23 40 20.8 +0.9
baz=132
BAR Barrett 62.54 319 P P 23 31 58.8 0.0
U15A North Rim 62.56 325 P P 23 32 00.7 +1.5
U15A IAmb IAmb 23 32 02.9
comp=Z,1μm,2.0s
IRM Iron Mountain 62.59 322 P P 23 32 00.3 +1.1
baz=134,SNR=280
IRM S S 23 40 23.0 +2.6
baz=134
TJX Tijuana 62.66 319 P P 23 32 00.2 +0.7
NEE2 Needles Airpor 62.70 322 P P 23 32 00.7 +0.9
baz=134,SNR=15
NEE2 S S 23 40 23.5 +1.8
baz=134
F36A Milaca 62.83 344 P P 23 31 59.7 -0.7
F36A IAmb IAmb 23 32 04.2
comp=Z,968nm,1.2s
D41A Chassel 62.84 348 P P 23 31 59.8 -0.6
D41A IAmb IAmb 23 32 04.1
comp=Z,815nm,1.2s
N23A Red Feather La 62.85 333 P P 23 32 01.7 +0.7
baz=144,SNR=8.8

N23A S **S** **23 40 24.5 +0.6**
baz=144
N23A Red Feather La 62.85 333 P **P** **23 32 01.0 0.0**
MBO M'Bour 62.94 65 IAmb IAmb 23 32 05.2
comp=Z,834nm,1.1s
109C Camp Elliot, M 62.95 319 P **P** **23 32 02.3 +0.9**
baz=132,SNR=55
109C S **S** **23 40 28.1 +3.4**
baz=132
109C Camp Elliot, M 62.95 319 P **P** **23 32 01.8 +0.4**
109C IAmb IAmb 23 32 06.6
comp=Z,627nm,1.3s
PHWY Pilot Hill 62.97 333 IAmb IAmb 23 32 04.7
comp=Z,1µm,2.0s
BELC Belle Mtn. Jos 63.01 321 P **P** **23 32 03.1 +1.1**
baz=133,SNR=90
BELC S **S** **23 40 30.2 +4.5**
baz=133
TPFO Pinon Flats 63.02 320 P **P** **23 32 03.3 +1.2**
baz=132,SNR=131
PFO Pinyon Flats O 63.02 320 P **P** **23 32 03.2 +1.1**
baz=132,SNR=150
PFO S **S** **23 40 28.4 +2.4**
baz=132
PFO Pinyon Flats O 63.02 320 P **P** **23 32 03.0 +0.9**
PFO pmax pmax
comp=Z,364nm,1.1s
PFO Pinyon Flats O 63.02 320 P **P** **23 32 03.0 +0.9**
SUSD Miller 63.15 340 P **P** **23 32 02.1 -0.5**
baz=152,SNR=17
SUSD S **S** **23 40 26.1 -0.9**
baz=152
SUSD Miller 63.15 340 IAmb IAmb 23 32 05.6
comp=Z,430nm,0.8s
O20A White River Ci 63.30 331 P **P** **23 32 04.5 +0.6**
baz=142,SNR=60
O20A S **S** **23 40 31.9 +2.6**
baz=142
O20A White River Ci 63.30 331 IAmb IAmb 23 32 08.9
comp=Z,563nm,1.3s
GMRC Granite Mounta 63.34 322 P **P** **23 32 05.2 +1.0**
baz=134,SNR=142
GMRC S **S** **23 40 32.7 +2.9**
baz=134
LSQQ Lebel-sur-Quev 63.44 357 P **P** **23 32 04.1 -0.2**
baz=176
LSQQ S **S** **23 40 27.0 -3.2**
baz=176
MURC Murrieta 63.47 320 P **P** **23 32 06.0 +1.0**
baz=132,SNR=50
MURC S **S** **23 40 34.2 +2.8**
baz=132
F33A 5 Mile Ranch, 63.57 342 IAmb IAmb 23 32 09.3
comp=Z,693nm,1.1s
BBRC Big Bear Solar 63.74 321 P **P** **23 32 08.5 +1.5**
baz=132
BBRC S **S** **23 40 39.9 +4.8**
baz=132
HEC Hector,Ludlow 63.77 321 P **P** **23 32 08.2 +1.3**
baz=133,SNR=119
HEC S **S** **23 40 37.1 +2.0**
baz=133
SCI2 San Clemente I 63.92 319 P **P** **23 32 09.0 +1.1**
baz=130,SNR=20
SCI2 S **S** **23 40 40.2 +3.3**
baz=130
TUQ Turquoise Moun 63.94 322 P **P** **23 32 09.1 +0.9**
baz=134,SNR=41
TUQ S **S** **23 40 38.7 +1.4**
baz=134
RWWY Rawlins 64.06 332 IAmb IAmb 23 32 14.0
comp=Z,1µm,1.4s
CIS Catalina Islan 64.11 319 P **P** **23 32 10.2 +1.1**
baz=131,SNR=24
CIS S **S** **23 40 42.2 +2.9**
baz=131
MATQ Matagami 64.17 357 P **P** **23 32 08.7 -0.4**
baz=176,SNR=121
MATQ S **S** **23 40 37.8 -1.4**
baz=176
BFSC Mount Baldy Ra 64.19 320 P **P** **23 32 10.6 +0.8**
baz=132,SNR=54
BFSC S **S** **23 40 44.1 +3.8**
baz=132
RRX Edison Barstow 64.20 321 P **P** **23 32 11.1 +1.4**
baz=132,SNR=14
RRX S **S** **23 40 44.3 +3.9**
baz=132
CHGQ Chibougamau 64.22 359 P **P** **23 32 09.4 -0.1**
baz=179,SNR=80
CHGQ S **S** **23 40 35.0 -4.9**
baz=179
SHPR Sheep Range 64.23 324 IAmb IAmb 23 32 13.7
comp=Z,1µm,2.0s
FMP Fort Macarthur 64.24 319 P **P** **23 32 11.2 +1.3**
baz=131,SNR=5.6
FMP S **S** **23 40 44.5 +3.8**
baz=131
EYMN Ely 64.29 347 P **P** **23 32 09.3 -0.7**
baz=161,SNR=100
EYMN S **S** **23 40 34.7 -6.1**
baz=161
EYMN Ely 64.29 347 IAmb IAmb 23 32 13.5
comp=Z,522nm,1.1s
GSC Goldstone, Bar 64.37 322 P **P** **23 32 12.0 +1.1**
baz=133,SNR=178
GSC S **S** **23 40 44.8 +2.3**
baz=133
GSC Goldstone, Bar 64.37 322 IAmb IAmb 23 32 14.5
comp=Z,1µm,1.9s
MWC Mount Wilson 64.42 320 IAmb IAmb 23 32 14.9
comp=Z,2µm,2.0s
SHOC Shoshone, Teco 64.46 322 P **P** **23 32 12.3 +0.9**
baz=133,SNR=40
SHOC S **S** **23 40 45.6 +2.1**
baz=133
PASC Pasadena Art C 64.47 320 IAmb IAmb 23 32 59.0
comp=Z,2µm,1.9s
K22A Casper 64.53 334 P **P** **23 32 12.2 +0.4**
baz=144,SNR=11
K22A S **S** **23 40 46.4 +2.0**
baz=144
DECC Green Verdugo 64.62 320 P **P** **23 32 13.7 +1.2**
baz=131,SNR=38
DECC S **S** **23 40 50.1 +4.7**
baz=131
RSSD Black Hills 64.72 336 P **P** **23 32 13.5 +0.4**
baz=147
RSSD S **S** **23 40 48.2 +1.4**
baz=147
SNCC San Nicolas Is 64.72 318 P **P** **23 32 13.7 +0.6**
baz=130,SNR=15
SNCC S **S** **23 40 48.6 +1.8**
baz=130
PRN Pahroc Range 64.80 324 IAmb IAmb 23 32 51.8
comp=Z,386nm,1.0s
EDW2 Edwards Air Fo 64.82 320 P **P** **23 32 14.5 +0.7**
baz=132,SNR=87
EDW2 S **S** **23 40 48.4 +0.4**
baz=132
MPU Maple Canyon 64.87 328 pP 23 32 41.2 +2.9
LRMC Laurel Mtn Rad 65.02 321 P **P** **23 32 16.1 +0.9**
baz=132,SNR=26
LRMC S **S** **23 40 52.8 +2.2**
baz=132
OSI Osito Audit: C 65.09 320 P **P** **23 32 16.6 +1.0**
baz=131
OSI S **S** **23 40 54.8 +3.4**
baz=131
TPNV Topopah Spring 65.17 323 P **P** **23 32 17.6 +1.4**
baz=134,SNR=148
TPNV S **S** **23 40 55.4 +3.0**
baz=134
TPNV Topopah Spring 65.17 323 IAmb IAmb 23 32 20.1
comp=Z,2µm,2.0s
FURC Furnace Creek, 65.20 322 P **P** **23 32 17.4 +1.3**
baz=133,SNR=316
FURC S **S** **23 40 57.8 +5.4**
baz=133
B35A Bob, Littlefor 65.20 345 IAmb IAmb 23 32 18.4
comp=Z,382nm,0.9s
SCZ2 Santa Cruz Isl 65.27 319 P **P** **23 32 17.4 +0.8**
baz=130,SNR=13
SCZ2 S **S** **23 40 58.0 +4.5**
baz=130
MPMC Manual Prospec 65.29 322 P **P** **23 32 17.6 +0.6**
baz=132,SNR=228
MPMC S **S** **23 40 59.6 +5.5**
baz=132
TAOE Nuku Hiva Isla 65.30 267 *e*P **P** **23 32 17.9 +0.5**
comp=Z,1µm,1.0s
TAOE *e*S **S** **23 40 52.9 -1.8**
comp=Z,153µm,24.5s
TAOE *e*LQ LQ 23 49 10.7
comp=Z,50µm,25.5s
TAOE *e*LR LR 23 51 59.4
comp=Z,127µm,27.8s,baz=106
TAOE Nuku Hiva Isla 65.30 267 *e*T T 00 41 00.6
comp=Z,39nm,0.2s
TAOE Nuku Hiva Isla 65.30 267 IAmb IAmb 23 32 21.9
comp=Z,433nm,0.8s
ARVC Arvin 65.50 320 P **P** **23 32 19.1 +1.0**
baz=131,SNR=21
ARVC S **S** **23 40 60.0 +3.9**
baz=131
DUG Dugway, Tooele 65.60 328 P **P** **23 32 19.9 +1.1**
baz=138,SNR=335
DUG S **S** **23 40 59.4 +1.8**
baz=138
DUG Dugway, Tooele 65.60 328 IAmb IAmb 23 32 24.3
comp=Z,878nm,1.4s
SBC Santa Barbara 65.61 319 P **P** **23 32 19.5 +0.7**
baz=130
SBC S **S** **23 41 00.2 +2.7**
baz=130
ISA Isabella, Lake 65.63 321 P **P** **23 32 20.2 +1.2**
baz=132,SNR=160
ISA S **S** **23 40 58.6 +0.7**
baz=132
AGMN Agassiz Nation 65.69 344 P **P** **23 32 18.9 -0.1**
baz=156,SNR=267
AGMN S **S** **23 40 52.0 -6.0**
baz=156
AGMN Agassiz Nation 65.69 344 IAmb IAmb 23 32 22.0
comp=Z,499nm,0.8s
R11A Troy Canyon, C 65.76 325 P **P** **23 32 21.3 +1.3**
baz=135,SNR=435
R11A S **S** **23 41 01.4 +1.8**
baz=135
R11A Troy Canyon, C 65.76 325 IAmb IAmb 23 32 54.6
comp=Z,553nm,1.4s
GRAC Grapevine Rang 65.85 323 P **P** **23 32 21.9 +1.5**
baz=133,SNR=37
GRAC S **S** **23 41 04.8 +4.3**
baz=133
CWC Cottonwood Cre 65.90 322 P **P** **23 32 22.1 +1.2**
baz=132
CWC S **S** **23 41 05.7 +4.3**
baz=132
PKM Mcpherson Peak 65.96 319 P **P** **23 32 22.3 +1.0**
baz=130,SNR=150
PKM S **S** **23 41 04.6 +2.5**
baz=130
BW06 Boulder Array 65.97 332 P **P** **23 32 21.2 -0.1**
baz=142,SNR=23
BW06 S **S** **23 41 02.1 -0.1**
baz=142
PDAR Pinedale Array 65.97 332 P **P** **23 32 20.9 -0.4**
comp=Z,89nm,1.1s,baz=120,slow=5.3,SNR=24
PDAR S **S** **23 40 58.1 -4.0**
comp=Z,2.9nm,1.0s,baz=108,slow=4.8,SNR=2.0
PDAR PKPPKP **P'P'df** **00 00 51.9 -3.6**
comp=Z,4.6nm,1.0s,baz=329,slow=1.7,SNR=9.1
PDAR PKP2ab 00 01 10.4
comp=Z,11nm,1.1s,baz=348,slow=6.2,SNR=8.3
PDAR P4KPbc 00 09 10.5
comp=Z,6.3nm,1.1s,baz=140,slow=4.8,SNR=17
PDAR Pinedale Array 65.97 332 P **P** **23 32 20.9 -0.4**
PDAR S **23 40 58.1 -4.0**
VES Vestal, Richgr 66.12 321 P **P** **23 32 23.2 +1.1**
baz=131,SNR=169
VES S **S** **23 41 08.6 +5.0**
baz=131
SMMC Simmler 66.34 320 P **P** **23 32 25.0 +1.5**
baz=130,SNR=64
SMMC S **S** **23 41 11.4 +4.8**
baz=130
MDND Maddock 66.38 341 P **P** **23 32 24.2 +0.7**
baz=152,SNR=73
MDND S **S** **23 41 06.8 +0.4**
baz=152
TIN Tinemaha, Big 66.40 322 P **P** **23 32 25.4 +1.4**
baz=132,SNR=7.3
TIN S **S** **23 41 12.4 +5.0**
baz=132
VOG Valley Oaks Go 66.61 321 P **P** **23 32 25.4 +0.2**
baz=131,SNR=5.3
VOG S **S** **23 41 12.1 +2.4**
baz=131
H07S1 FLORES T-PHASE 66.63 35 P P 23 32 20.5 -4.8
SNR=7.5
H07S1 FLORES T-PHASE 66.63 35 *e*P **P** **23 32 25.4 +0.1**
PAGB Antelope Grade 66.77 320 IAmb IAmb 23 32 29.9
comp=Z,2µm,1.9s
SNOW Snow King Moun 67.06 331 IAmb IAmb 23 33 16.2
comp=Z,766nm,1.9s
MLAC Mammoth, Mammo 67.15 322 P **P** **23 32 30.0 +1.1**
baz=132,SNR=29
MLAC S **S** **23 41 20.0 +3.5**
baz=132
OMMB Old Mammoth Mi 67.23 322 IAmb IAmb 23 33 00.2
comp=Z,626nm,1.3s
NVAR Mina Array Bea 67.37 323 P **P** **23 32 31.1 +0.8**
comp=Z,49nm,0.7s,baz=145,slow=6.4,SNR=102
NVAR S **S** **23 41 18.3 -0.8**
comp=Z,0.2nm,0.5s,baz=12,slow=23,SNR=1.4
NVAR PKPPKP P'P'df 00 00 45.8 -7.9
comp=Z,2.7nm,0.9s,baz=259,slow=3.8,SNR=5.6
NVAR P4KPbc 00 09 19.1
comp=Z,1.5nm,0.9s,baz=140,slow=4.7,SNR=8.6
NVAR Mina Array Bea 67.37 323 P **P** **23 32 31.1 +0.8**
NVAR S **23 41 18.3 -0.8**
PMPB Monarch Peak 67.42 320 IAmb IAmb 23 32 37.1
comp=Z,2µm,2.0s
ULM Lac du Bonnet 67.49 345 P **P** **23 32 29.9 -0.5**
comp=Z,360nm,0.8s,baz=155,slow=5.7,SNR=115
ULM S **S** **23 41 12.2 -7.3**
comp=Z,4.2nm,0.7s,baz=188,slow=19,SNR=1.2
ULM PKPPKP P'P'df 00 00 44.0 -8.0
comp=Z,4.5nm,0.8s,baz=334,slow=2.6,SNR=3.3
ULM P4KPbc 00 09 18.1
comp=Z,5.2nm,0.9s,baz=186,slow=5.7,SNR=3.5
ULM Lac du Bonnet 67.49 345 **S** **23 41 12.2 -7.3**
ULM Lac du Bonnet 67.49 345 IAmb IAmb 23 32 32.5
comp=Z,458nm,0.9s
CALA Caldeira 67.50 37 *e*P **P** **23 32 30.7 -0.2**
comp=Z,757nm,1.6s
FLWY Flagg Ranch 67.52 332 IAmb IAmb 23 32 59.9
comp=Z,460nm,1.1s
PCED Cedros 67.53 37 *e*P **P** **23 32 31.2 +0.2**
comp=Z,834nm,1.6s
PCAN Candelaria 67.55 37 *e*P **P** **23 32 31.3 +0.2**
comp=Z,442nm,1.7s
RLMT Red Lodge 67.69 333 P **P** **23 32 32.7 +0.6**
baz=142,SNR=16
RLMT S **S** **23 41 23.0 +0.2**
baz=142
H17A Grant Village 67.70 332 P **P** **23 32 33.6 +1.3**
baz=141,SNR=13
H17A S **S** **23 41 25.7 +2.7**
baz=141
LAO LASA Array 67.71 336 P **P** **23 32 32.4 +0.4**
baz=146,SNR=8.4
LAO S **S** **23 41 24.5 +1.9**
baz=146
LAO LASA Array 67.71 336 **pP** **23 32 58.4 +2.3**
LAO IAmb IAmb 23 33 02.0
comp=Z,1µm,1.9s
ROSA Rosais 67.86 37 *e*P **P** **23 32 32.9 -0.1**
comp=Z,860nm,1.6s
ROSA *e*S **S** **23 41 25.0 +0.5**
ROSA Rosais 67.86 37 *e*LR LR 23 54 11.9
comp=Z,5µm,18.9s
ROSA Rosais 67.86 37 IAmb IAmb 23 32 41.0
comp=Z,499nm,1.0s
PMAN Manadas 67.89 37 *e*P **P** **23 32 33.9 +0.7**
comp=Z,702nm,1.5s
VNA3 Neumayer Olymp 67.98 162 P **P** **23 32 34.4 +1.0**
WAKR Walker 68.08 323 IAmb IAmb 23 32 40.6
comp=Z,842nm,1.6s
PGRA Graciosa 68.22 37 *e*P **P** **23 32 36.0 +0.7**
comp=Z,1µm,1.7s
PGRA *e*S **S** **23 41 28.3 -0.5**
PGRA Graciosa 68.22 37 *e*LR LR 23 54 21.4
comp=Z,6µm,19.2s
VNA1 Neumayer--Stat 68.22 161 P **P** **23 32 36.2 +1.4**
YERR Yerington 68.28 323 IAmb IAmb 23 32 41.6
comp=Z,942nm,1.5s
ADH Angra Heroismo 68.40 37 *e*P **P** **23 32 36.7 +0.3**
comp=Z,913nm,1.6s
DGMT Dagmar 68.45 339 P **P** **23 32 37.5 +0.9**
baz=148,SNR=45
DGMT S **S** **23 41 34.2 +3.0**
baz=148
DGMT Dagmar 68.45 339 IAmb IAmb 23 32 42.6
comp=Z,915nm,1.2s
PSCM Serra do Cume 68.50 38 *e*P **P** **23 32 37.4 +0.3**
comp=Z,720nm,1.7s
VNA2 Neumayer--Watz 68.58 161 P **P** **23 32 38.1 +1.0**
PSMA Santa Maria 68.61 40 *e*P **P** **23 32 37.7 -0.1**
comp=Z,380nm,1.2s
PSMN Pico do Norte, 68.66 40 *e*P **P** **23 32 37.7 -0.4**
comp=Z,405nm,1.8s
PSMN *e*S **S** **23 41 33.1 -1.0**
PSMN Pico do Norte, 68.66 40 *e*LR LR 23 54 32.2
comp=Z,5µm,19.2s
PDA Ponta Delgada 68.76 39 *e*P **P** **23 32 38.7 +0.1**
comp=Z,1µm,1.2s
PSET Sete Cidades 68.77 39 *e*P **P** **23 32 38.6 -0.2**
comp=Z,1µm,1.4s
PSET *e*S **S** **23 41 34.5 -1.0**
PSET Sete Cidades 68.77 39 *e*LR LR 23 54 22.7
comp=Z,3µm,21.1s
PAHR Pah Rah Range 68.85 324 IAmb IAmb 23 32 46.0
comp=Z,1µm,1.6s
GRON Grota Negra 68.85 39 *e*P **P** **23 32 40.0 +0.7**
comp=Z,830nm,1.0s
CMLA Cha da Macela 68.86 39 *e*P **P** **23 32 39.3 0.0**
comp=Z,785nm,1.1s
CMLA *e*S **S** **23 41 36.2 -0.2**
CMLA Cha da Macela 68.86 39 *e*LR LR 23 54 02.5
comp=Z,7µm,20.2s
CMLA Cha da Macela 68.86 39 P **P** **23 32 40.4 +1.1**
CMLA pmax pmax
comp=Z,542nm,1.0s
CMLA Cha da Macela 68.86 39 P **P** **23 32 40.4 +1.1**
CMLA IAmb IAmb 23 32 46.3
comp=Z,542nm,1.0s
HLID Hailey 68.89 329 P **P** **23 32 40.7 +1.0**
baz=137,SNR=117
HLID S **S** **23 41 41.3 +4.3**
baz=137
PCALD Caldeiras da R 68.90 39 *e*P **P** **23 32 39.8 +0.2**
comp=Z,915nm,1.6s
BART Pico Bartolome 69.08 39 *e*P **P** **23 32 40.4 -0.4**
comp=Z,2µm,1.5s
BOZ Bozeman (W) 69.11 332 P **P** **23 32 41.4 +0.6**
baz=140,SNR=28
BOZ S **S** **23 41 39.5 +0.1**
baz=140
SCHQ Schefferville 69.38 4 P **P** **23 32 42.2 0.0**
comp=Z,424nm,0.9s,baz=197,slow=4.4,SNR=108
SCHQ S **S** **23 41 39.8 -2.2**
comp=Z,7.1nm,1.1s,baz=260,slow=11,SNR=1.4
SCHQ PKPPKP **P'P'df** **00 00 49.0 +0.5**
comp=Z,12nm,0.9s,baz=13,slow=5.7,SNR=7.6
SCHQ LR LR 00 02 55.7
comp=Z,7µm,21.8s,baz=203,slow=36
SCHQ Schefferville 69.38 4 **S** **23 41 39.8 -2.2**
SCHQ Schefferville 69.38 4 IAmb IAmb 23 32 46.4
comp=Z,480nm,0.9s
MFID Camas Ranch 69.49 328 IAmb IAmb 23 32 52.3
comp=Z,876nm,1.4s
MACI Morro de la Ar 69.69 52 P **P** **23 32 45.8 +1.0**
MCCM Marconi Confer 69.92 320 IAmb IAmb 23 32 49.3
comp=Z,2µm,1.9s
ORV Oroville 69.98 322 IAmb IAmb 23 32 51.9
comp=Z,836nm,1.3s
EGMT Eagleton 70.20 335 P **P** **23 32 47.8 +0.3**
baz=143,SNR=19
EGMT S **S** **23 41 52.9 +0.9**
baz=143
HOPS Hopland Field 70.57 321 IAmb IAmb 23 33 36.8
comp=Z,1µm,1.8s
O03E Paynes Creek 70.64 323 P **P** **23 32 50.2 -0.1**
baz=130,SNR=78
O03E S **S** **23 41 58.7 +1.4**
baz=130
MOD Modoc Plateau 70.83 325 IAmb IAmb 23 32 54.9
comp=Z,2µm,2.0s
LIC Lamto 70.98 78 *e*P **P** **23 32 51.8 -1.0**
comp=Z,2µm,1.1s
MSO Missoula 71.09 332 P **P** **23 32 53.9 +1.0**
baz=139,SNR=69
MSO S **S** **23 42 03.0 +0.6**
baz=139
MSO Missoula 71.09 332 IAmb IAmb 23 32 56.6
comp=Z,1µm,2.0s
TIC Toumodi 71.12 78 *e*P **P** **23 32 52.6 -1.1**
O02D Mt. Diablo Mer 71.14 322 P **P** **23 32 53.6 +0.3**
baz=129,SNR=22
O02D S **S** **23 42 05.0 +1.8**
baz=129
MEH Mehetia 71.21 256 *e*P **P** **23 32 54.4 +0.2**
comp=Z,195nm,1.5s
MEH *e*pP **PcP** **23 33 15.6 +1.9**
comp=Z,171nm,1.3s
VAH Vaihoa 71.25 259 *e*P **P** **23 32 54.6 +0.2**
comp=Z,497nm,1.1s
VAH *e*pP **PcP** **23 33 15.7 +1.8**
comp=Z,847nm,1.4s
DBIC Dimbokro 71.28 78 P **P** **23 32 54.4 -0.3**
comp=Z,476nm,0.7s,baz=225,slow=5.5,SNR=144
DBIC S **S** **23 41 59.9 -5.8**
comp=Z,5.4nm,0.9s,baz=319,slow=9.7,SNR=1.6
DBIC PKPPKP **P'P'df** **00 00 46.5 -3.1**
comp=Z,4.3nm,0.9s,baz=146,slow=7.3,SNR=3.0
DBIC Dimbokro 71.28 78 **S** **23 41 59.9 -5.8**
DBIC Dimbokro 71.28 78 IAmb IAmb 23 32 56.8
comp=Z,759nm,1.1s
KIC Kosan Boka 71.30 78 *e*P **P** **23 32 53.5 -1.2**
comp=Z,2µm,1.1s
KCPM Cahto Peak 71.31 321 IAmb IAmb 23 33 00.4
comp=Z,1µm,1.8s
PMOZ Porto Moniz, M 71.53 48 *i*P **P** **23 32 56.5 +0.7**
comp=Z,540nm,1.5s
PMOZ *e*S **S** **23 42 03.3 -4.7**
PMOZ A A 23 56 01.3
comp=Z,10µm,20.0s
PMOR Pomariorio Ree 71.55 259 *e*P **P** **23 32 56.3 +0.1**
comp=Z,1µm,1.5s
PMOR *e*pP **PcP** **23 33 17.5 +2.4**
comp=Z,2µm,1.4s
N02D Trinity Center 71.60 323 P **P** **23 32 55.8 -0.3**
baz=130,SNR=27
N02D S **S** **23 42 08.0 -0.4**
baz=130
M04C Macdoel 71.62 324 P **P** **23 32 57.0 +0.8**
baz=130,SNR=57
M04C S **S** **23 42 10.6 +1.8**
baz=130
TBI Tubuai 71.64 250 *e*P **P** **23 32 56.9 +0.2**
comp=Z,582nm,1.1s
TBI *e*S **S** **23 42 07.7 -1.9**
comp=Z,49µm,25.8s
TBI *e*LQ LQ 23 51 50.9
comp=Z,28µm,36.0s
TBI *e*LR LR 23 54 51.7
comp=Z,73µm,28.2s,baz=92
TBI Tubuai 71.64 250 *e*T T 00 49 15.6
comp=Z,67nm,0.3s
PMAR Madeira 71.68 48 *e*P **P** **23 32 57.2 +0.4**
comp=Z,632nm,1.3s
K05A Summer Lake 71.70 325 IAmb IAmb 23 33 43.3
comp=Z,2µm,1.6s
KMRM Mail Ridge 71.72 322 IAmb IAmb 23 33 02.7
comp=Z,860nm,1.5s
M02C Callahan 71.95 323 P **P** **23 32 58.5 +0.3**
baz=130,SNR=22
M02C S **S** **23 42 14.1 +1.7**
baz=130
K04D Chiloquin, OR 72.11 325 P **P** **23 33 00.2 +1.0**
baz=131,SNR=16
K04D S **S** **23 42 17.8 +3.4**
baz=131
KHMM Horse Mountain 72.14 322 IAmb IAmb 23 33 05.1
comp=Z,1µm,1.8s
L04D Klamath Falls 72.16 324 P **P** **23 32 59.9 +0.4**
baz=130,SNR=20
L04D S **S** **23 42 17.3 +2.3**
baz=130
J05D Fort Rock, OR 72.26 325 P **P** **23 33 01.1 +1.1**
baz=131,SNR=75
J05D S **S** **23 42 20.9 +4.8**

baz=131
PMPS Porto Santo 72.27 48 eP P 23 33 01.3 +1.2
comp=Z,1µm,1.3s
PMPST **Porto Santo, M 72.28 48 ⇓iP P 23 33 01.2 +1.0**
comp=Z,1µm,1.6s
PMPST eS S 23 42 16.5 +0.1
JCC Jacoby Creek, 72.28 322 P P 23 33 00.5 +0.5
TVO Taravao 72.33 256 eP P 23 33 01.4 +0.4
comp=Z,198nm,1.4s
TVO epP pP 23 33 22.4 -3.1
comp=Z,156nm,1.3s
TVO Taravao 72.33 256 eT T 00 50 12.0
comp=Z,4.1nm,0.3s
PINE Pine Mountain 72.44 326 P P 23 33 00.9 -0.3
PINE IAmb IAmb 23 33 05.0
comp=Z,2µm,2.0s
TIAR Tiarei 72.46 256 eP P 23 33 01.8 +0.1
comp=Z,45nm,0.9s
TIAR epP pP 23 33 23.1 -3.1
comp=Z,53nm,1.2s
TIAR Tiarei 72.46 256 eT T 00 50 21.3
comp=Z,9.7nm,0.2s
KRMB Red Mountain 72.65 323 P P 23 33 01.4 -1.0
KRMB IAmb IAmb 23 33 08.0
comp=Z,1µm,1.7s
PPTF Pamatai, Papee 72.66 256 P P 23 33 03.0 +0.1
PAE Paea 72.66 256 eP P 23 33 03.0 +0.2
comp=Z,78nm,1.3s
PAE epP pP 23 33 24.4 -2.9
comp=Z,118nm,1.4s
PPT2 Papeete2 72.67 256 eP P 23 33 03.3 +0.3
comp=Z,536nm,1.6s
PPT2 epP pP 23 33 24.3 -3.2
comp=Z,444nm,1.5s
PPT2 eS S 23 42 19.2 -2.5
comp=Z,62µm,26.0s
PPT2 eLQ LQ 23 52 19.2
comp=Z,47µm,33.8s
PPT2 eLR LR 23 55 20.3
comp=Z,55µm,28.0s,baz=97
PPT Papeete 72.68 256 P P 23 33 04.5 +1.6
comp=Z,109nm,0.9s,baz=94,slow=3.7,SNR=20
PPT LR LR 23 57 55.8
comp=Z,6µm,18.5s,baz=97,slow=30
J04D Umpqua Nationa 72.71 325 P P 23 33 03.7 +0.9
baz=131,SNR=26
J04D S SKiKP 23 42 25.1 -3.3
baz=131
WALA Waterton Lakes 72.75 333 IAmb IAmb 23 33 07.9
comp=Z,1µm,2.0s
L02E Cave Junction 72.87 323 P P 23 33 04.6 +1.1
baz=129,SNR=13
L02E S S 23 42 24.9 +2.2
baz=129
I05D Terrebonne, OR 73.01 326 P P 23 33 05.9 +1.5
baz=132,SNR=83
I05D S SKiKP 23 42 29.1 +0.4
baz=132
I04A Tendick Farm, 73.24 325 P P 23 33 06.1 +0.4
baz=130,SNR=48
I04A S S 23 42 27.7 +0.7
baz=130
K02D Willamette Mer 73.24 324 P P 23 33 07.1 +1.3
baz=129,SNR=43
K02D S SKiKP 23 42 30.1 +1.0
baz=129
KBO Bosley Butte 73.26 323 IAmb IAmb 23 33 53.2
comp=Z,2µm,1.9s
F07A Phinny Hill Vi 73.32 328 IAmb IAmb 23 33 10.3
comp=Z,2µm,2.0s
G05D Wamic, OR 73.60 327 P P 23 33 09.4 +1.7
baz=132,SNR=77
G05D S S 23 42 35.2 +4.3
baz=132
NEW Newport 73.61 331 P P 23 33 08.2 +0.4
baz=136,SNR=41
NEW S S 23 42 34.0 +3.1
baz=136
J01E Myrtle Point 73.69 324 P P 23 33 09.9 +1.6
baz=129,SNR=18
J01E S S 23 42 35.1 +3.2
baz=129
I03D Drain, OR 73.70 325 P P 23 33 09.3 +1.0
baz=130,SNR=32
I03D S S 23 42 34.1 +2.1
baz=130
KEBM Edson Butte 73.74 324 IAmb IAmb 23 33 14.5
comp=Z,2µm,1.7s
H04D Lebanon 73.89 326 P P 23 33 09.9 +0.5
baz=130,SNR=21
H04D S S 23 42 36.1 +1.9
baz=130
F05D White Salmon 74.10 327 P P 23 33 11.9 +1.2
baz=132,SNR=16
F05D S S 23 42 41.4 +4.8
baz=132
I02D Swisshome 74.24 325 P P 23 33 12.8 +1.3
baz=129,SNR=13
I02D S S 23 42 42.6 +4.6
baz=129
COR Corvallis 74.24 325 P P 23 33 13.0 +1.5
COR pmax pmax
comp=Z,709nm,1.2s
COR Corvallis 74.24 325 P P 23 33 13.0 +1.5
COR IAmb IAmb 23 33 58.7
comp=Z,709nm,1.2s
G03D McMinnville, O 74.62 326 P P 23 33 15.0 +1.3
baz=130,SNR=14
G03D S S 23 42 46.2 +3.9
baz=130
F04A Amboy 74.64 327 IAmb IAmb 23 33 17.0
comp=Z,2µm,2.0s
NVL N'lazarevskaya 74.80 160 ⇓iP P 23 33 16.6 +2.2
NVL eS S 23 42 43.9 +0.2
NVL pmax pmax
comp=Z,2µm,1.2s
FCC Fort Churchill 75.00 349 IAmb IAmb 23 33 19.9
comp=Z,894nm,1.4s
F04D Rainier, OR 75.05 327 P P 23 33 17.7 +1.6
baz=130,SNR=7.9
F04D S S 23 42 52.1 +5.1
baz=130
E04D Cinebar 75.12 327 P P 23 33 17.4 +0.9
baz=131,SNR=30
E04D S S 23 42 51.2 +3.4
baz=131
C06D Leavenworth 75.18 329 P P 23 33 17.6 +0.7
baz=133
C06D S S 23 42 52.7 +4.2
baz=133
QSPA South Pole Qui 75.56 180 P P 23 33 20.4 +1.4
comp=Z,736nm,0.9s,baz=150,slow=2.5,SNR=588
QSPA South Pole Qui 75.56 180 P P 23 33 20.4 +1.4
D04E Lakebay 75.64 328 P P 23 33 21.0 +1.6
baz=131,SNR=8.7
D04E S S 23 42 58.5 +5.1
baz=131
B05A Bryant 76.01 329 P P 23 33 21.9 +0.4
baz=132,SNR=79
B05A S S 23 42 59.8 +2.3
baz=132
D03D Eldon 76.03 328 P P 23 33 23.0 +1.3
baz=131,SNR=86
D03D S S 23 43 01.8 +4.0
baz=131
A04D Lummi Island 76.61 329 P P 23 33 26.2 +1.3
baz=131,SNR=28
A04D S S 23 43 07.5 +3.4
baz=131
FRB Frobisher Bay 78.19 2 P P 23 33 33.4 +0.1
comp=Z,325nm,1.0s,baz=186,slow=5.9,SNR=39
FRB S S 23 43 14.8 -5.7
comp=Z,14nm,0.9s,baz=176,slow=18,SNR=2.1
FRB PKPPKP **P'P'df 00 00 39.0 +6.1**
comp=Z,15nm,0.9s,baz=29,slow=6.1,SNR=3.3
FRB Frobisher Bay 78.19 2 S 23 43 14.8 -5.7
IVI Ivigtut 78.20 12 IAmb IAmb 23 33 37.2
comp=Z,764nm,0.9s
NRS Narsarsuaq 78.75 13 ⇓iP P 23 33 36.5 0.0
NRS Narsarsuaq 78.75 13 P P 23 33 36.8 +0.3
NRS pmax pmax
comp=Z,356nm,0.9s
NRS Narsarsuaq 78.75 13 P P 23 33 36.8 +0.3
AVE Averroes 78.96 51 eP P 23 33 35.1 -3.2
AVE i S S 23 43 33.8 +3.8
TOA0 Torodi Ar. Sit 79.40 73 P P 23 33 41.4 +0.2
SNR=196
TOA0 Torodi Ar. Sit 79.40 73 IAmb IAmb 23 33 43.7
comp=Z,957nm,0.9s
TORD Torodi Ar. Bea 79.40 73 P P 23 33 41.1 0.0
comp=Z,648nm,0.8s,baz=266,slow=4.1,SNR=392
TORD S S 23 43 31.5 -3.9
comp=Z,3.7nm,1.1s,baz=264,slow=3.0,SNR=7.1
TORD PKKP **PKKPdf 23 52 16.0 -3.3**
comp=Z,2.3nm,1.0s,baz=47,slow=4.2,SNR=3.7
TORD PKPPKP **P'P'df 00 00 30.2 -4.7**
comp=Z,4.1nm,0.9s,baz=57,slow=1.8,SNR=5.5
TORD LR LR 00 08 40.8
comp=Z,14µm,18.6s,baz=265,slow=36
TORD P4KPbc 00 10 14.1
comp=Z,1.7nm,1.0s,baz=250,slow=5.3,SNR=5.7
TORD Torodi Ar. Bea 79.40 73 P P 23 33 41.1 0.0
PFVI Vila Bisbo 79.62 47 ⇓iP P 23 33 43.7 +1.8
comp=Z,820nm,1.9s
PFVI epP pP 23 34 08.6 +1.9
PFVI eS S 23 43 41.8 +4.9
PFVI Vila Bisbo 79.62 47 IAmb IAmb 23 33 46.0
comp=Z,2µm,2.0s
MORF Marmelete 79.82 47 eP P 23 33 44.7 +1.7
MORF eS S 23 43 39.9 +0.7
MORF AMS AMS 00 00 18.5
comp=Z,15µm,20.1s
MORF Marmelete 79.82 47 eP P 23 33 44.7 +1.7
MORF eS S 23 43 39.9 +0.7
MORF Marmelete 79.82 47 ⇓iP P 23 33 44.8 +1.7
comp=Z,1µm,1.5s
MORF epP pP 23 34 09.6 +1.7
MORF eS S 23 43 39.8 +0.6
PTEO Sao Teotonio 79.88 47 ⇓iP P 23 33 45.3 +2.0
comp=Z,1µm,1.5s
LIS Lisbon 80.12 46 eP P 23 33 46.0 +1.5
LIS eS S 23 43 43.6 +1.5
LIS AMS AMS 00 06 35.5
comp=Z,23µm,17.7s
LIS Lisbon 80.12 46 eP P 23 33 46.0 +1.5
LIS eS S 23 43 43.6 +1.5
LIS Lisbon 80.12 46 ⇓iP P 23 33 46.1 +1.5
comp=Z,427nm,1.5s
LIS epP pP 23 34 10.3 +1.0
LIS esP sP 23 34 22.3 +2.8
PMAFR Mafra 80.14 45 ⇓iP P 23 33 45.8 +1.2
comp=Z,570nm,1.2s
PMAFR epP pP 23 34 09.8 +0.3
PMAFR i SKS S 23 43 44.7 +2.4
PNCL Nicolau / Gran 80.28 46 ⇓iP P 23 33 47.0 +1.6
comp=Z,424nm,1.2s
PNCL epP pP 23 34 12.3 +2.1
PNCL eSKS S 23 43 47.1 +3.4
PBDV Barranco-do-Ve 80.31 47 ⇓iP P 23 33 47.4 +1.8
comp=Z,618nm,1.5s
PBDV epP pP 23 34 12.3 +1.8
PBDV eSKS S 23 43 48.7 +4.5
PBEJ Beja 80.70 47 ⇓iP P 23 33 49.4 +1.7
comp=Z,420nm,1.3s
PSBE So Bento 80.73 45 ⇓iP P 23 33 49.1 +1.3
comp=Z,423nm,1.3s
PSBE epP pP 23 34 14.8 +2.1
PSBE i SKS S 23 43 51.3 +2.7
IFR Ifrane 80.78 52 eP P 23 33 46.5 -2.0
IFR i S S 23 43 52.6 +3.0
MDT Midelt 80.90 53 P P 23 33 50.4 +1.4
comp=Z,104nm,0.9s,baz=226,slow=2.0,SNR=100
MDT S S 23 43 54.2 +3.5
comp=Z,2.2nm,0.8s,baz=57,slow=19,SNR=5.8
MDT PKP2bc 00 00 20.4
comp=Z,2.4nm,1.0s,baz=58,slow=5.7,SNR=3.9
MDT LR LR 00 07 51.8
comp=Z,9µm,19.6s,baz=274,slow=34
PCAS Casmilo, Conde 81.18 45 ⇓iP P 23 33 51.6 +1.4
comp=Z,359nm,2.3s
PCAS epP pP 23 34 16.6 +1.5
PCAS eSKS S 23 43 54.9 +1.7
SFS San Fernando 81.21 49 P P 23 33 50.4 0.0
SFS pmax pmax
comp=Z,305nm,1.0s
SFS San Fernando 81.21 49 eP P 23 33 49.7 -0.7
SFS i S S 23 44 00.6 +7.1
SFS San Fernando 81.21 49 P P 23 33 50.4 0.0
RAR Rarotonga 81.42 250 P P 23 33 53.7 +1.8
comp=Z,51nm,0.9s,baz=92,slow=6.8,SNR=6.4
RAR LR LR 00 00 52.5
comp=Z,39µm,21.6s,baz=108,slow=29
RAR Rarotonga 81.42 250 P P 23 33 52.2 +0.3
RAR pmax pmax
comp=Z,569nm,1.6s
RAR Rarotonga 81.42 250 P P 23 33 52.2 +0.3
CEU Ceuta 81.58 50 eP P 23 33 52.4 0.0
CEU i S S 23 44 03.9 +6.5
PTO Porto 81.61 44 eP P 23 33 53.7 +1.3
comp=Z,743nm,1.7s
PMRV Marv??o 81.66 46 ⇓iP P 23 33 53.5 +0.7
comp=Z,172nm,1.8s
PMRV epP pP 23 34 18.2 +0.5
PMRV eSKS S 23 44 00.5 +2.3
PMRV Marv??o 81.66 46 eLR LR 00 00 32.9
comp=Z,17µm,22.0s
PCBR Castelo Branco 81.79 45 ⇓iP P 23 33 54.2 +0.8
comp=Z,309nm,1.9s
PCBR epP pP 23 34 18.9 +0.6
PVIS Viseu 81.90 44 ⇓iP P 23 33 54.8 +0.8
comp=Z,669nm,1.5s
PVIS epP pP 23 34 20.0 +1.1
MTE Manteigas 81.99 45 ⇓iP P 23 33 55.5 +1.0
comp=Z,490nm,1.4s
MTE epP pP 23 34 20.8 +1.4
MTE eSKS S 23 44 04.2 +2.6
MTE Manteigas 81.99 45 eLR LR 00 00 44.6
comp=Z,22µm,20.0s
PVLZ Peæn de 82.08 51 eP P 23 33 52.3 -2.7
PVLZ i S S 23 44 06.5 +3.9
PGAV Gavieira, Arco 82.22 43 ⇓iP P 23 33 56.7 +1.0
comp=Z,707nm,1.3s
PGAV epP pP 23 34 21.6 +1.0
PGAV eSKS S 23 44 07.1 +3.2
PGAV A A 00 07 27.4
comp=Z,30µm,22.0s
PCAB Cabril 82.26 43 ⇓iP P 23 33 56.9 +1.0
comp=Z,892nm,1.2s
PVRL Vila Real 82.27 44 ⇓iP P 23 33 57.1 +1.2
comp=Z,671nm,1.6s
PVRL epP pP 23 34 22.2 +1.3
EMAL Malaga-Limoner 82.63 49 eP P 23 33 55.8 -2.1
EMAL i S S 23 44 11.9 +3.8
MVO Moncorvo 82.68 44 ⇓iP P 23 33 59.5 +1.4
comp=Z,852nm,1.4s
MVO epP pP 23 34 23.9 +0.8
MVO eSKS S 23 44 08.2 -0.5
MVO Moncorvo 82.68 44 eLR LR 00 01 02.1
comp=Z,20µm,20.0s
VNDA Vanda 82.84 190 P P 23 34 00.0 +1.7
comp=Z,195nm,1.0s,baz=127,slow=4.9,SNR=368
VNDA S S 23 44 10.8 +1.8
comp=Z,0.9nm,0.9s,baz=303,slow=11,SNR=1.1
VNDA PKKPbc **PKKPbc 23 52 20.6 -3.3**
comp=Z,3.4nm,0.8s,baz=295,slow=4.6,SNR=10
VNDA PKP2bc 00 00 07.5
comp=Z,1.1nm,0.9s,baz=292,slow=6.6,SNR=4.9
VNDA LR LR 00 06 53.5
comp=Z,10µm,18.2s,baz=117,slow=33
VNDA Vanda 82.84 190 IAmb IAmb 23 34 02.6
comp=Z,1µm,1.6s
SFJD Kangerlussuaq 83.09 9 P P 23 33 59.1 -0.4
comp=Z,184nm,1.0s,baz=216,slow=6.0,SNR=26
SFJD S S 23 44 08.7 -2.8
comp=Z,4.7nm,0.7s,baz=138,slow=22,SNR=1.2
SFJD Kangerlussuaq 83.09 9 ⇓iP P 23 33 59.3 -0.2
SFJD Kangerlussuaq 83.09 9 S 23 44 08.7 -2.8
SFJD Kangerlussuaq 83.09 9 P P 23 33 59.3 -0.2
MELI Melilla 83.16 51 eP P 23 33 58.7 -1.9
MELI i S S 23 44 16.8 +3.3
PBRG Braganca 83.16 44 ⇓iP P 23 34 01.7 +1.1
comp=Z,980nm,1.5s
PBRG epP pP 23 34 27.1 +1.6
PBRG eSKS S 23 44 12.7 -0.8
YKA Yellowknife Ar 83.27 342 P P 23 34 00.5 -0.1
comp=Z,389nm,1.0s,baz=134,slow=5.1,SNR=115
YKA PKKPbc **PKKPbc 23 52 22.9 -0.9**
comp=Z,5.6nm,0.9s,baz=313,slow=2.5,SNR=6.5
YKA PKPPKP **P'P'df 00 00 23.2 -0.9**
comp=Z,3.9nm,1.0s,baz=307,slow=2.0,SNR=3.7
YKA Yellowknife Ar 83.27 342 P P 23 34 00.5 -0.1
PAB San Pablo 83.84 47 P P 23 34 05.4 +1.3
PAB pmax pmax
comp=Z,512nm,1.0s
PAB San Pablo 83.84 47 P P 23 34 05.4 +1.3
PAB IAmb IAmb 23 34 09.4
comp=Z,512nm,0.9s
ESDC Sonseca Array 84.16 47 P P 23 34 07.0 +1.2
comp=Z,274nm,0.9s,baz=256,slow=5.0,SNR=251
ESDC S S 23 44 26.5 +2.9
comp=Z,0.3nm,0.6s,baz=315,slow=0.3,SNR=4.7
ESDC PKKPbc **PKKPbc 23 52 21.1 +0.6**
comp=Z,1.4nm,0.9s,baz=51,slow=6.0,SNR=5.0
ESDC PKPPKP **P'P'df 00 00 16.8 -7.7**
comp=Z,4.1nm,0.9s,baz=58,slow=2.2,SNR=15
ESDC LR LR 00 09 13.1
comp=Z,18µm,19.8s,baz=245,slow=34
ESDC Sonseca Array 84.16 47 P P 23 34 07.0 +1.2
ESBB Sonseca Array 84.16 47 IAmb IAmb 23 34 10.7
comp=Z,471nm,1.1s
DIB Dawson Inlet, 84.24 329 IAmb IAmb 23 34 10.8
comp=Z,506nm,1.2s
H02S1 DAWSON INLET T 84.24 329 P P 23 34 06.1 +0.5
SNR=84
H02N1 VAN INLET T-PH 84.30 329 P P 23 34 09.5 +3.4
SNR=17
SYO Syowa Base 84.46 161 ⇑iP P 23 34 06.0 -0.6
SYO Syowa Base 84.46 161 ⇓iPcP P 23 34 08.0 +1.4
SYO Syowa Base 84.46 161 ⇓ipP pP 23 34 28.0 -3.6
XMAS Kiritimati 84.63 274 P P 23 34 08.5 -0.1
OTSS Djebel Tessala 84.77 52 P P 23 34 11.0 +2.0
UCM Universidad Co 84.92 46 eP P 23 34 09.0 -0.5
UCM i S S 23 44 28.7 -2.4
ILULI Ilulissat 85.09 8 ⇓iP P 23 34 09.3 -0.3
ILULI Ilulissat 85.09 8 P P 23 34 09.8 +0.2
ILULI pmax pmax
comp=Z,501nm,1.0s
ILULI Ilulissat 85.09 8 P P 23 34 09.8 +0.2
ILULI IAmb IAmb 23 34 12.7
comp=Z,501nm,1.0s
USTO Oran 85.12 51 P P 23 34 13.0 +2.5
ODJA Bouhanifia 85.28 52 P P 23 34 13.0 +1.6
CART Cartagena 85.47 49 P P 23 34 12.2 -0.1
OJBR Djebel Berber 85.75 52 P P 23 34 14.0 +0.2
TAM Tamanrasset 85.80 65 P P 23 34 16.2 +1.8
TAM pmax pmax
comp=Z,376nm,2.9s
TAM Tamanrasset 85.80 65 IAmb IAmb 23 34 18.7
comp=Z,479nm,1.3s
SUR Sutherland 85.90 122 P P 23 34 16.7 +1.8
SUR Sutherland 85.90 122 P P 23 34 15.6 +0.7
WRAK Wrangell Islan 85.96 332 IAmb IAmb 23 34 19.4
comp=Z,505nm,1.1s
OJGS Djebel Guires 86.03 52 P P 23 34 17.0 +1.8
OKGL Djebel Kef Gue 86.13 51 P P 23 34 16.0 +0.4
TSUM Tsumeb 86.32 109 P P 23 34 17.9 +0.8
TSUM IAmb IAmb 23 34 21.9
comp=Z,733nm,1.3s
IGLA Glengowla, Co 87.01 33 ⇓eP P 23 34 19.7 +0.3
PUH Pauahi 87.16 291 P P 23 34 20.1 -1.0
PUH IAmb IAmb 23 36 58.9
comp=Z,259nm,0.7s
BYL Byron's Ledge 87.21 291 P P 23 34 20.9 -0.4
KKO Keanakako`i 87.21 291 P P 23 34 20.9 -0.4
HATHI Halema'uma'u T 87.21 291 P P 23 34 21.1 -0.3
HLP Hilina Pali 87.22 291 P P 23 34 20.8 -0.5
HLP IAmb IAmb 23 37 13.7
comp=Z,284nm,0.8s
SBLHI Steaming Bluff 87.22 291 P P 23 34 20.0 -1.4
UWB Uwekahuna B 87.23 291 P P 23 34 21.3 -0.1
SDHHI Sand Hill 87.23 291 P P 23 34 21.0 -0.5
UWE Uwekahuna 87.24 291 P P 23 34 20.9 -0.6
WRMHI West Rim 87.25 291 P P 23 34 20.6 -0.9
MLH Mauna Loa 87.35 291 P P 23 34 21.4 -0.7
AIN Ainahou 87.38 291 P P 23 34 21.4 -0.8
AIN IAmb IAmb 23 37 09.5
comp=Z,559nm,1.3s
HMH Humu'ula Sheep 87.47 291 P P 23 34 22.3 -0.5
HMH IAmb IAmb 23 34 55.5
comp=Z,1µm,1.9s
KHU Kahuku 87.48 290 P P 23 34 22.4 -0.4
KHU pmax pmax
comp=Z,540nm,1.5s
KHU Kahuku 87.48 290 P P 23 34 22.4 -0.4
KHU IAmb IAmb 23 35 11.0
comp=Z,540nm,1.5s
MLOA Mauna Loa Obse 87.53 291 P P 23 34 22.4 -0.8
MLOA IAmb IAmb 23 34 27.9
comp=Z,736nm,1.7s
MWH Moku'aweowe 87.54 291 P P 23 34 22.8 -0.6
MWH IAmb IAmb 23 34 25.6
comp=Z,735nm,1.8s
POHA Pohakuloa 87.55 291 P P 23 34 24.8 +1.6
SIT Sitka 87.69 331 P P 23 34 23.2 +0.6
SIT pmax pmax
comp=Z,947nm,1.9s
SIT Sitka 87.69 331 P P 23 34 23.2 +0.6
SIT IAmb IAmb 23 34 25.9
comp=Z,947nm,1.9s
HPAH Hawaii Prepara 87.78 291 P P 23 34 22.6 -1.4
HUH Hualalai 87.81 291 P P 23 34 24.6 +0.2
KHLU Kahalu`u 87.83 291 P P 23 34 23.5 -0.8
KHLU IAmb IAmb 23 34 27.5
comp=Z,325nm,1.0s
JIS Juneau Island 87.90 332 IAmb IAmb 23 34 28.0
comp=Z,676nm,1.1s
IWEX Carrickbyrne, 87.91 34 ⇓eP P 23 34 23.6 -0.2
IWEX IAMs_20 IAMs_20 00 04 20.3
comp=Z,72µm,43.5s
BORG Borgarnes 88.37 20 P P 23 34 27.8 +2.1
comp=Z,199nm,1.1s,baz=274,slow=4.0,SNR=13
BORG Borgarnes 88.37 20 P P 23 34 26.7 +1.0
BORG pmax pmax
comp=Z,2µm,2.0s
BORG Borgarnes 88.37 20 P P 23 34 26.6 +1.0
HLK Haleakala 88.48 292 P P 23 34 27.4 -0.1
HTL Hartland 88.58 36 ⇓eP P 23 34 27.3 +0.4
HTL IAMs_20 IAMs_20 00 04 20.3
comp=Z,79µm,49.9s
DYA Yadsworthy 88.66 37 ⇓eP P 23 34 27.3 0.0
IDGL Inch Island, C 88.77 32 ⇓eP P 23 34 27.6 -0.1
IDGL IAMs_20 IAMs_20 00 05 25.4
comp=Z,38µm,37.7s
RSBS Rosebush, Pemb 88.84 35 ⇓eP P 23 34 28.0 -0.2
RSBS IAmb IAmb 23 34 30.3
comp=Z,445nm,1.6s
RSBS IAMs_20 IAMs_20 00 04 32.1
comp=Z,66µm,40.1s
ILTH Belurgan, Co L 88.89 33 ⇓eP P 23 34 28.3 0.0
SKAG Skagway 88.95 333 IAmb IAmb 23 34 32.8
comp=Z,596nm,1.1s
JSA Saint Aubin 89.19 38 ⇓eP P 23 34 29.7 -0.1
JSA IAMs_20 IAMs_20 00 05 41.0
comp=Z,43µm,36.8s
GMM Mts of Mourne 89.19 33 ⇓eP P 23 34 29.9 +0.2
LFF La Frestale 89.42 43 eP P 23 34 30.6 -0.4
LFF pmax pmax
comp=Z,106nm,0.7s
CLGH Cloghs, Cushen 89.49 32 ⇓eP P 23 34 31.4 +0.3
CLGH IVMsBB 00 06 11.8
comp=Z,7µm,28.5s
YRC Rhoscolyn 89.49 34 ⇓eP P 23 34 31.3 +0.1
KULLO Kullorsuaq 89.58 4 ⇓iP P 23 34 31.7 +0.6
KULLO i 23 34 57.5
KULLO Kullorsuaq 89.58 4 ⇓iP P 23 34 31.7 +0.6
KULLO i 23 34 57.5
WPS Cemaes, Angles 89.60 34 ⇓eP P 23 34 31.6 0.0
WPS IAMs_20 IAMs_20 00 04 54.2
comp=Z,73µm,46.9s
WLF1 Llynfaes 89.61 34 ⇓eP P 23 34 31.5 -0.2
WLF1 IAMs_20 IAMs_20 00 04 54.4
comp=Z,148µm,47.0s
YLL Llanberis 89.67 34 eP P 23 34 31.7 -0.3
WME Myndd Eilian 89.70 34 ⇓eP P 23 34 31.6 -0.5
LLW Llanuwychllyn 89.82 35 ⇓eP P 23 34 32.4 -0.4
LLW IAMs_20 IAMs_20 00 05 20.6
comp=Z,47µm,50.5s
WIM Isle of Man 89.83 33 ⇓eP P 23 34 32.0 -0.8
MCH1 Michaelchurch 89.84 36 ⇓eP P 23 34 32.4 -0.4
MCH1 IAmb IAmb 23 34 34.7
comp=Z,1µm,2.3s
MCH1 IAMs_20 IAMs_20 00 04 59.2
comp=Z,63µm,42.5s
IOMK Kirk Michael 89.93 33 ⇓eP P 23 34 33.3 +0.1
IOMK IAMs_20 IAMs_20 00 05 01.1
comp=Z,140µm,60.1s
OLDB Oldbury-Upon-S 89.96 36 ⇓eP P 23 34 32.6 -0.8

OLDB IAMs_20 IAMs_20 00 04 59.4
comp=Z,72µm,51.4s
BATH Bath 90.00 36⇓ *e*P **P 23 34 33.2 -0.4**
BATH IAMs_20 IAMs_20 00 04 59.9
comp=Z,66µm,52.0s
SUMG Summit 90.00 10⇓ *i*P **P 23 34 34.8 +1.1**
SUMG comp=Z,3µm,1.0s *i* 23 35 00.4
SUMG Summit 90.00 10⇓ *i*P **P 23 34 34.8 +1.1**
SUMG *i* 23 35 00.4
FOEL Foel Wylfa 90.09 35⇓ *e*P **P 23 34 33.9 -0.1**
FOEL IAMs_20 IAMs_20 00 05 27.6
comp=Z,91µm,48.3s
RES Resolute Bay 90.10 354 P **P 23 34 34.2 +0.6**
comp=Z,123nm,0.9s,baz=163,slow=5.2,SNR=36
GAL1 Galloway 90.12 33⇓ *e*P **P 23 34 34.4 +0.3**
GAL1 IAMs_20 IAMs_20 00 06 10.4
comp=Z,19µm,37.2s
HLM1 Long Mynd 90.12 35⇓ *e*P **P 23 34 34.1 -0.1**
HLM1 IAmb IAmb 23 34 36.3
comp=Z,1µm,2.2s
HLM1 IAMs_20 IAMs_20 00 05 27.9
comp=Z,88µm,47.7s
MAHO Mahon 90.14 49 *e*P **P 23 34 31.2 -3.4**
MAHO *i* S S 23 45 02.1 -19
STRD Stroud 90.23 36⇓ *e*P **P 23 34 34.4 -0.3**
STRD IAmb IAmb 23 34 36.6
comp=Z,2µm,2.2s
STRD IAMs_20 IAMs_20 00 05 05.2
comp=Z,79µm,55.1s
KIP Kipapa 90.24 292 *ce*P **P 23 34 35.3 -0.1**
KIP pmax pmax
comp=Z,179nm,1.3s
KIP Kipapa 90.24 292 P **P 23 34 34.9 -0.5**
CAF Calviac 90.29 43 *e*P **P 23 34 35.0 -0.2**
CAF pmax pmax
comp=Z,130nm,0.9s
DFRA Djebel Bou Aff 90.29 52 P **P 23 34 37.9 +2.4**
OPA Opana 90.31 292 P **P 23 34 35.3 -0.5**
OPA pmax pmax
comp=Z,124nm,0.8s
OPA Opana 90.31 292 P **P 23 34 35.2 -0.5**
SWN1 Swindon 90.33 36⇓ *e*P **P 23 34 34.5 -0.6**
SWN1 IAmb IAmb 23 34 37.2
comp=Z,2µm,2.1s
SWN1 IAMs_20 IAMs_20 00 05 05.4
comp=Z,65µm,54.8s
NEWG New Galloway 90.47 33⇓ *e*P **P 23 34 35.8 0.0**
NEWG IAmb IAmb 23 34 38.0
comp=Z,108nm,0.8s
LEWI Lewis, Hebride 90.50 29⇓ *e*P **P 23 34 34.9 -0.9**
LEWI IAMs_20 IAMs_20 00 05 18.6
comp=Z,56µm,55.4s
HYT Haines Junctio 90.58 334 IAmb IAmb 23 34 42.0
comp=Z,687nm,1.5s
WOL Wolverton 90.58 37⇓ *e*P **P 23 34 35.7 -0.6**
BOSA Boshof 90.61 120 P **P 23 34 37.8 +0.5**
comp=Z,142nm,1.0s,baz=247,slow=4.9,SNR=77
BOSA PKKPbc **PKKPbc 23 52 06.0 +2.1**
comp=Z,8.3nm,0.7s,baz=56,slow=2.0,SNR=13
BOSA LR LR 00 14 01.2
comp=Z,17µm,18.3s,slow=35
BOSA Boshof 90.61 120 IAmb IAmb 23 34 40.4
comp=Z,453nm,1.2s
PGBU Glenifferbraes 90.64 32⇓ *e*P **P 23 34 36.2 -0.3**
PGBU IAmb IAmb 23 34 39.4
comp=Z,170nm,0.8s
PGBU IAMs_20 IAMs_20 00 06 03.9
comp=Z,43µm,46.8s
CASM Ain Smara 90.67 53 P **P 23 34 37.1 -0.1**
KPL Plockton 90.72 30⇓ *e*P **P 23 34 36.9 +0.1**
KPL IAmb IAmb 23 34 40.0
comp=Z,144nm,0.9s
KPL IAMs_20 IAMs_20 00 05 48.8
comp=Z,52µm,48.1s
STNC Stoke 90.73 35⇓ *e*P **P 23 34 37.3 +0.3**
STNC IAmb IAmb 23 34 39.6
comp=Z,1µm,2.0s
STNC IAMs_20 IAMs_20 00 05 45.6
comp=Z,96µm,50.7s
KESW Keswick, Cumbr 90.84 33⇓ *e*P **P 23 34 37.7 +0.2**
KESW IAmb IAmb 23 34 39.9
comp=Z,213nm,0.9s
KESW IAMs_20 IAMs_20 00 05 25.5
comp=Z,63µm,59.3s
EAB Aberfoyle 90.87 32⇓ *e*P **P 23 34 37.1 -0.4**
CKFL Kef-Lekhel 90.89 53 P **P 23 34 38.0 -0.3**
C36M Paulatuk 90.90 344 P **P 23 34 36.5 -0.9**
baz=132
C36M S **S 23 45 23.7 -2.9**
baz=132
C36M Paulatuk 90.90 344 IAmb IAmb 23 34 39.1
comp=Z,736nm,1.9s
KAC Achnashellach 90.97 30⇓ *e*P **P 23 34 38.0 +0.1**
CWF Charnwood Fore 91.09 35⇓ *e*P **P 23 34 38.8 +0.1**
CWF IAmb IAmb 23 34 40.9
comp=Z,822nm,2.0s
CWF IAMs_20 IAMs_20 00 05 56.5
comp=Z,75µm,45.6s
BCPM Bancas Point 91.09 333 P **P 23 34 38.6 +0.1**
ESK Eskdalemuir 91.09 33⇓ *e*P **P 23 34 38.4 -0.1**
ESK IAMs_20 IAMs_20 00 07 07.7
comp=Z,14µm,25.0s
ESK Eskdalemuir 91.09 33 P **P 23 34 38.5 -0.1**
ESK pmax pmax
comp=Z,149nm,1.0s
ESK Eskdalemuir 91.09 33 P **P 23 34 38.5 -0.1**
CAEH 'Ain El Ouahch 91.11 52 P **P 23 34 41.0 +1.8**
LBWR Ladybower, Pea 91.11 35⇓ *e*P **P 23 34 39.1 +0.3**
LBWR IAmb IAmb 23 34 41.3
comp=Z,1µm,2.2s
LBWR IAMs_20 IAMs_20 00 05 57.5
comp=Z,96µm,50.2s
EKA Eskdalemuir Ar 91.12 33 P **P 23 34 38.6 -0.1**
comp=Z,71nm,0.8s,baz=241,slow=4.2,SNR=98
EKA PKPPbc **PKKPdf 23 51 59.4 -1.4**
comp=Z,9.1nm,0.9s,baz=325,slow=1.3,SNR=3.9
EKA PKPPKP **P'P'df 00 00 08.2 -2.1**
comp=Z,7.1nm,0.9s,baz=63,slow=3.8,SNR=10
INVG Invergeldie, C 91.12 31⇓ *e*P **P 23 34 38.7 0.0**
INVG IAMs_20 IAMs_20 00 06 37.7
comp=Z,45µm,39.7s
ELO Logie Almond 91.31 31⇓ *e*P **P 23 34 39.8 +0.2**
EDI Edinburgh 91.35 32⇓ *e*P **P 23 34 39.5 -0.3**
HPK Haverah Park 91.39 34⇓ *e*P **P 23 34 39.8 -0.2**
HPK IAMs_20 IAMs_20 00 06 07.3
comp=Z,62µm,39.8s
CLF Chambon-Foret 91.49 41 IAmb IAmb 23 34 44.5
comp=Z,335nm,1.2s
CMAH Djebel Manchou 91.50 53 P **P 23 34 40.0 -1.0**
EDMD Edmundbyers 91.55 33 *e*P **P 23 34 40.7 0.0**
EDMD IAmb IAmb 23 34 44.0
comp=Z,225nm,1.0s
EDMD IAMs_20 IAMs_20 00 05 43.0
comp=Z,68µm,63.7s
ESY Stoneypath 91.64 32⇓ *e*P **P 23 34 41.2 +0.1**
ELSH Elham, Standar 91.90 37⇓ *e*P **P 23 34 42.7 +0.3**
ELSH IAmb IAmb 23 34 46.4
comp=Z,350nm,0.9s
ELSH IAMs_20 IAMs_20 00 07 34.8
comp=Z,28µm,27.9s
SCO Scoresbysund 91.92 15⇓ *i*P **P 23 34 43.2 +1.1**
SCO Scoresbysund 91.92 15⇓ *i*P **P 23 34 43.2 +1.1**
LBTB Lobatse 91.95 116 PKKPbc PKKPbc 23 52 00.3 -0.1
comp=Z,23nm,0.8s,baz=89,slow=2.1,SNR=19
SSF Saint Saulge 91.96 42 *e*P **P 23 34 42.2 -0.6**
SSF pmax pmax
comp=Z,286nm,1.8s
TABL Table Mountain 91.98 333 IAmb IAmb 23 34 53.4
comp=Z,421nm,1.3s
MCD Coleburn Disti 92.00 30⇓ *e*P **P 23 34 42.7 0.0**
GDLE Glaisdale, N Y 92.01 34⇓ *e*P **P 23 34 43.0 +0.1**
GDLE IAMs_20 IAMs_20 00 06 25.9
comp=Z,54µm,36.6s
BIGH Upper Bighouse 92.06 30⇓ *e*P **P 23 34 42.9 -0.1**
BIGH IAMs_20 IAMs_20 00 06 03.9
comp=Z,49µm,49.1s
MAW Mawson 92.14 165 P **P 23 34 44.3 +1.0**
comp=Z,279nm,1.0s,baz=218,slow=5.7,SNR=204
MAW PKKPbc **PKKPdf 23 51 59.1 +1.8**
comp=Z,6.2nm,0.9s,baz=328,slow=4.4,SNR=8.3
MAW PKPPKP **P'P'df 00 00 05.3 -4.6**
comp=Z,4.6nm,0.8s,baz=348,slow=3.6,SNR=8.5
WACR West Acre 92.17 36⇓ *e*P **P 23 34 43.5 -0.2**
WACR IAmb IAmb 23 34 48.8
comp=Z,302nm,1.0s
WACR IAMs_20 IAMs_20 00 06 24.6
comp=Z,56µm,43.5s
MLA1 Latheron 92.25 30⇓ *e*P **P 23 34 44.1 +0.3**
CTGM Chitina Glacie 92.30 333 IAmb IAmb 23 34 49.4
comp=Z,380nm,1.2s
ISLE Juniper Island 92.59 333 IAmb IAmb 23 34 51.0
comp=Z,290nm,1.2s
KEST Kesra 92.74 54 P **P 23 34 46.9 +0.1**
comp=Z,48nm,0.8s,baz=235,slow=2.2,SNR=36
KEST S **SKSac 23 45 13.0 +0.2**
comp=Z,3.8nm,0.9s,baz=313,slow=13,SNR=2.0
KEST PKKPbc **PKKPbc 23 52 00.5 +1.3**
comp=Z,8.6nm,0.9s,baz=336,slow=6.5,SNR=6.2
KEST PKPPKP **P'P'df 00 00 02.2 -6.9**
comp=Z,2.0nm,0.8s,baz=327,slow=3.7,SNR=3.7
KEST LR LR 00 15 43.3
comp=Z,9µm,20.2s,baz=202,slow=35
KEST Kesra 92.74 54 **SKSac 23 45 13.0 +0.2**
DAWY Dawson 92.91 336 IAmb IAmb 23 34 51.2
comp=Z,227nm,1.1s
A36M Sachs Harbour 92.94 346 P **P 23 34 46.7 -0.1**
baz=130
A36M S **S 23 45 41.1 -3.7**
baz=130
INK Inuvik 93.00 341 P **P 23 34 47.2 +0.1**
comp=Z,221nm,1.0s,baz=112,slow=6.4,SNR=90
INK PKKPbc **PKKPdf 23 51 54.7 -3.1**
comp=Z,14nm,0.9s,baz=87,slow=3.8,SNR=3.8
INK PKPPKP **P'P'df 00 00 05.7 -0.3**
comp=Z,4.1nm,1.1s,baz=321,slow=5.7,SNR=3.9
INK LR LR 00 22 02.5
comp=Z,8µm,18.1s,baz=115,slow=39
INK Inuvik 93.00 341 IAmb IAmb 23 34 51.5
comp=Z,350nm,1.1s
CRQM Cirque 93.01 333 IAmb IAmb 23 34 51.9
comp=Z,378nm,1.2s
HMT Hamilton 93.34 332 IAmb IAmb 23 34 54.2
comp=Z,309nm,1.2s
SNF Seneffe 93.56 39 ⇓P **P 23 34 50.2 +0.1**
SNF pP **pP 23 35 17.3 +1.9**
LPL La Plagne 93.60 44 *e*P **P 23 34 51.4 +0.6**
LPL pmax pmax
comp=Z,118nm,1.1s
DOU Dourbes 93.62 39 ⇓P **P 23 34 50.6 +0.2**
comp=Z,191nm,1.7s
DOU pP **pP 23 35 17.0 +1.3**
UCC Uccle 93.70 38 ⇓P **P 23 34 50.8 +0.1**
comp=Z,216nm,0.0s
UCC pP **pP 23 35 15.0 -1.0**
BMRD Maredsous 93.79 39 ⇓P **P 23 34 51.4 +0.2**
comp=Z,187nm,1.2s
BMRD pP **pP 23 35 18.6 +2.1**
EGAK Eagle 93.92 337 IAmb IAmb 23 34 55.6
comp=Z,301nm,1.1s
K27K Chicken 93.95 336 P **P 23 34 52.4 +0.8**
baz=116
K27K S **S 23 45 52.8 -1.2**
baz=116
LRW Lerwick 94.00 29⇓ *e*P **P 23 34 52.1 +0.2**
LRW IAmb IAmb 23 34 54.4
comp=Z,458nm,2.0s
LRW IAMs_20 IAMs_20 00 06 30.8
comp=Z,41µm,51.1s
BGES Gesves 94.01 39 ⇓P **P 23 34 52.5 +0.3**
BGES pP **pP 23 35 20.8 +3.3**
EYAK Cordova Ski Ar 94.10 332 IAmb IAmb 23 34 56.4
comp=Z,440nm,1.7s
BCLA Clavier 94.15 39 P **P 23 34 52.9 0.0**
BCLA pP **pP 23 35 20.5 +2.3**
AFI Afiamalu 94.31 255 P **P 23 34 57.7 +3.2**
comp=Z,78nm,0.9s,baz=335,slow=2.7,SNR=5.8
AFI LR LR 00 07 34.4
comp=Z,15µm,21.9s,baz=104,slow=29
AFI Afiamalu 94.31 255 P **P 23 34 57.7 +3.2**
AFI pmax pmax
comp=Z,90nm,0.9s
AFI Afiamalu 94.31 255 P **P 23 34 57.7 +3.2**
AFI Afiamalu 94.31 255 IAmb IAmb 23 35 03.3
comp=Z,90nm,0.8s
BSTI Sart Tilman 94.36 39 ⇓P **P 23 34 54.2 +0.4**
comp=Z,68nm,0.0s
BSTI pP **pP 23 35 21.2 +2.1**
HIN Hinchinbrook I 94.39 332 IAmb IAmb 23 34 57.5
comp=Z,318nm,1.2s
WLF Walferdange 94.45 40 P **P 23 34 54.7 +0.5**
WLF pP **pP 23 35 22.3 +2.8**
WLF Walferdange 94.45 40 *e*Pdiff **P 23 34 55.4 +1.2**
WLF *e*pP **pP 23 35 23.6 +4.1**
baz=256,slow=4.6
BEBN Eben Emael 94.50 39 P **P 23 34 54.6 +0.2**
BEBN pP **pP 23 35 19.4 -0.3**
KLU Klutina 94.54 333 IAmb IAmb 23 34 57.4
comp=Z,196nm,0.9s
BHOU Houvegnez 94.56 39 P **P 23 34 55.3 +0.6**
comp=Z,182nm,3.1s
BHOU pP **pP 23 35 20.8 +0.8**
DOT Dot Lake 94.59 335 IAmb IAmb 23 34 58.7
comp=Z,338nm,1.4s
MEM Membach 94.64 39 ⇓P **P 23 34 55.1 0.0**
MEM pP **pP 23 35 22.3 +1.9**
ECH Echery 94.66 41 IAmb IAmb 23 34 59.1
comp=Z,326nm,1.6s
SCRK Sand Creek 94.69 335 P **P 23 34 55.1 -0.1**
baz=114
SCRK S **S 23 45 57.0 -3.8**
baz=114
EUNU Eureka 94.73 358 IAmb IAmb 23 34 58.3
comp=Z,260nm,1.9s
GLI Glacier Island 94.84 332 IAmb IAmb 23 34 59.2
comp=Z,137nm,1.0s
RIDG Independent Ri 94.95 335 IAmb IAmb 23 35 00.5
comp=Z,359nm,1.3s
RAO Raoul Island 95.08 238 PKKPbc PKKPbc 23 51 56.5 +4.3
comp=Z,157nm,0.3s,baz=76,slow=21,SNR=4.1
RAO LR LR 00 08 13.9
comp=Z,22µm,21.9s,baz=115,slow=29
AHRW Bad Neuenahr-A 95.27 39 *e*Pdiff **P 23 34 59.3 +1.4**
AHRW *e*pP **pP 23 35 27.6 +4.3**
baz=256,slow=4.6
AHRW *e*PP **PP 23 38 50.0 +0.6**
baz=256,slow=7.4
BFO Black Forest 95.45 42 P **P 23 34 57.9 -1.0**
BFO pmax pmax
comp=Z,101nm,1.6s
BFO Black Forest 95.45 42 *e*Pdiff **P 23 34 59.6 +0.8**
BFO *e*pP **pP 23 35 27.9 +3.8**
baz=256,slow=4.6
BFO Black Forest 95.45 42 P **P 23 34 57.9 -1.0**
TUE Stuetta 95.62 44 IAmb IAmb 23 35 07.4
comp=Z,148nm,1.2s
URZ Urewera 95.64 228 PKKPbc PKKPbc 23 51 50.8 -0.2
comp=Z,24nm,0.8s,baz=327,slow=3.1,SNR=9.5
URZ LR LR 00 08 33.8
comp=Z,6µm,20.6s,baz=124,slow=29
URZ Urewera 95.64 228 IAmb IAmb 23 35 03.6
comp=Z,362nm,1.7s
BUG Bochum--Univer 95.64 38 *e*Pdiff **P 23 35 00.7 +1.1**
BUG *e*pP **pP 23 35 29.0 +4.0**
baz=256,slow=4.6
BUG *e*PP **PP 23 38 52.0 -0.2**
baz=256,slow=7.4
KNK Knik Glacier 95.65 332 IAmb IAmb 23 35 01.7
comp=Z,504nm,2.0s
VLC Villacollemand 95.73 46 IAmb IAmb 23 35 29.7
comp=Z,157nm,1.3s
DHY Denali Highway 95.76 334 IAmb IAmb 23 35 02.1
comp=Z,420nm,2.0s
PRMA PARMA 95.84 45 IAmb IAmb 23 35 42.5
comp=Z,414nm,1.8s
MATP Matopo 95.87 113 S **SKSac 23 45 34.0 +3.4**
comp=Z,3.0nm,1.1s,baz=57,slow=23,SNR=1.7
MATP PKKPbc PKKPbc 23 51 51.5 +1.4
comp=Z,19nm,0.8s,baz=101,slow=2.7,SNR=24
MATP Matopo 95.87 113 **SKSac 23 45 34.0 +3.4**
JMIC Jan Mayen 95.89 17⇓ *i*P **P 23 35 00.9 +0.6**
JMIC IVmB_BB 23 35 02.8
comp=Z,4µm,4.7s
JMIC *e*PP **PP 23 38 53.9 +0.2**
JMIC *e*SKSac **SKSac 23 45 30.1 +2.1**
JMIC *e*SS **SS 23 52 45.2 +2.3**
JMIC IVMs_BB IVMs_BB 00 15 42.5
comp=Z,5µm,20.2s
O22K Cooper Landing 95.92 331 P **P 23 35 00.4 -0.3**
baz=109
GHO Glory Hole Cre 95.98 332 IAmb IAmb 23 35 04.9
comp=Z,139nm,1.1s
PMR Palmer 96.01 332 IAmb IAmb 23 35 03.0
comp=Z,232nm,1.8s
TNS Taunus Mts 96.03 40 *e*Pdiff **P 23 35 02.7 +1.2**
TNS *e*pP **pP 23 35 30.9 +4.1**
baz=256,slow=4.6
TNS *e*PP **PP 23 38 54.8 -0.6**
baz=256,slow=7.4
DAVOX Davos/Dischmat 96.05 43 P **P 23 35 02.5 +0.6**
comp=Z,56nm,0.8s,baz=267,slow=3.9,SNR=110
DAVOX PP **PP 23 38 57.3 +1.5**
comp=Z,19nm,1.1s,baz=220,slow=8.5,SNR=4.3
DAVOX S **SKSac 23 45 29.5 -0.9**
comp=Z,2.6nm,0.9s,baz=351,slow=8.1,SNR=2.1
DAVOX PKKPbc **PKKPbc 23 51 50.9 -0.1**
comp=Z,5.4nm,0.6s,baz=205,slow=6.0,SNR=12
DAVOX PKPPKP **P'P'df 00 00 01.5 -0.6**
comp=Z,13nm,0.9s,baz=69,slow=5.7,SNR=15
DAVOX Davos/Dischmat 96.05 43 **SKSac 23 45 29.5 -0.9**
HDA Harding Lake 96.06 335 P **P 23 35 00.6 -0.7**
baz=111
HDA Harding Lake 96.06 335 IAmb IAmb 23 35 04.9
comp=Z,182nm,1.1s
STU Stuttgart 96.12 41 *e*Pdiff **P 23 35 02.7 +0.8**
STU *e*pP **pP 23 35 30.9 +3.7**
baz=256,slow=4.6
STU Stuttgart 96.12 41 IAmb IAmb 23 35 05.7
comp=Z,141nm,1.2s
IL31 96.16 336 IAmb IAmb 23 35 03.7
comp=Z,387nm,1.9s
ILAR Eielson Array 96.16 336 P **P 23 35 01.0 -0.7**
comp=Z,38nm,0.8s,baz=149,slow=3.5,SNR=77
ILAR PP **PP 23 38 52.0 -3.9**
comp=Z,11nm,0.8s,baz=109,slow=8.0,SNR=7.9
ILAR S **SKSac 23 45 29.0 -0.8**
comp=Z,1.3nm,1.1s,baz=57,slow=2.6,SNR=1.2
ILAR PKKPbc **PKKPbc 23 51 50.4 -0.8**
comp=Z,2.6nm,0.9s,baz=289,slow=3.5,SNR=5.6
ILAR PKPPKP 23 59 53.5
comp=Z,1.4nm,1.0s,baz=311,slow=4.5,SNR=4.1
ILAR Eielson Array 96.16 336 P **P 23 35 01.0 -0.7**
ILAR **SKSac 23 45 29.0 -0.8**
IBBN Ibbenburen 96.17 38 *e*Pdiff **P 23 35 03.2 +1.2**
IBBN *e*pP **pP 23 35 31.6 +4.2**
baz=256,slow=4.6
IBBN *e*PP **PP 23 38 56.0 -0.3**
baz=256,slow=7.4
DAVA Damuels 96.18 43 *i* PcP **PcP 23 35 03.0 +0.5**
comp=Z,127nm,1.1s,SNR=45
DAVA *i* pP **sP 23 35 32.7 -5.0**
comp=Z,81nm,1.1s
DAVA *i* PP **PP 23 39 00.4 +3.7**
comp=Z,41nm,1.4s
DAVA *i* PKKPdf **PKKPbc 23 51 50.5 -0.1**
comp=Z,8.4nm,0.8s
DAVA Damuels 96.18 43 *i* PKiKP **P'P'df 00 00 03.0 +1.1**
comp=Z,32nm,1.0s
BRLK Bradley Lake 96.24 330 IAmb IAmb 23 35 07.4
comp=Z,162nm,0.8s
CNPM China Poot 96.34 330 P **P 23 35 02.5 -0.1**
CNPM IAmb IAmb 23 35 04.7
comp=Z,435nm,2.0s
CORL Corleone 96.36 53 P **P 23 35 03.3 -0.1**
CORL IAmb IAmb 23 36 05.7
comp=Z,240nm,1.3s
KHZ Kahutara 96.38 223 P **P 23 35 04.2 +0.9**
KHZ IAmb IAmb 23 35 07.8
comp=Z,265nm,1.4s
UBR Ueberruh 96.43 43 *e*Pdiff **P 23 35 04.6 +1.2**
UBR *e*pP **pP 23 35 32.8 +4.1**
baz=256,slow=4.6
UBR *e*PP **PP 23 38 57.8 -0.8**
baz=256,slow=7.4
KDAK Kodiak Island 96.48 328 P **P 23 35 02.9 -0.4**
comp=Z,56nm,0.8s,baz=134,slow=4.1,SNR=18
KDAK LR LR 00 19 43.6
comp=Z,9µm,20.5s,baz=103,slow=36
KDAK Kodiak Island 96.48 328 P **P 23 35 02.9 -0.4**
KDAK pmax pmax
comp=Z,208nm,1.3s
KDAK Kodiak Island 96.48 328 P **P 23 35 02.9 -0.4**
KDAK Kodiak Island 96.48 328 IAmb IAmb 23 35 08.2
comp=Z,208nm,1.3s
CCB Clear Creek Bu 96.49 335 IAmb IAmb 23 35 06.9
comp=Z,206nm,1.2s
POKR Poker Flat Res 96.50 336 P **P 23 35 03.3 0.0**
baz=111
WRH Wood River Hil 96.54 335 IAmb IAmb 23 35 07.3
comp=Z,196nm,1.2s
HOM Homer 96.57 330 P **P 23 35 03.9 +0.3**
baz=108
COLA College 96.59 336 *d* iP **P 23 35 02.9 -0.7**
COLA pmax pmax
comp=Z,312nm,1.0s
COLA College 96.59 336 P **P 23 35 03.5 -0.1**
TCOL CIGO, UAF Yank 96.59 336 P **P 23 35 03.4 -0.2**
baz=110
DAG Danmarks Havn 96.62 11⇓ *i*P **P 23 35 03.3 -0.2**
DAG *i* 23 35 28.4
DAG Danmarks Havn 96.62 11⇓ *i*P **P 23 35 03.3 -0.2**
DAG *i* 23 35 28.4
MCK McKinley 96.64 334 IAmb IAmb 23 35 08.0
comp=Z,349nm,1.6s
FETA Feichten 96.68 43 *i* PcP **PcP 23 35 05.1 +0.3**
comp=Z,110nm,1.2s,SNR=71
FETA *i* pP **pP 23 35 34.5 +4.5**
comp=Z,92nm,1.3s
FETA *i* PP **PP 23 39 01.7 +1.1**
comp=Z,71nm,2.5s
FETA *i* PKKPdf **PKKPdf 23 51 50.6 -0.1**
comp=Z,3.2nm,0.7s
FETA Feichten 96.68 43 *i* PKiKP **P'P'df 00 00 00.8 -0.1**
comp=Z,12nm,1.0s
OHAK Old Harbor 96.69 327 P **P 23 35 03.6 -0.6**
SUA Susitna One 96.70 332 P **P 23 35 04.7 +0.3**
KMY Karmoy 96.76 31 *e*P **P 23 35 06.4 +1.9**
KMY *e*SKSac **SKSac 23 45 34.0 +1.0**
CUT Chulitna 96.79 333 P **P 23 35 04.3 -0.2**
baz=108
RETA Reutte 96.81 43 *i* PcP **PcP 23 35 05.5 +0.3**
comp=Z,91nm,1.2s,SNR=40
RETA *i* pP **pP 23 35 35.1 +4.6**
comp=Z,81nm,1.2s
RETA Reutte 96.81 43 *i* PKiKP **P'P'df 00 00 00.4 -0.2**
comp=Z,12nm,1.3s
OXZ Oxford 96.96 222 IAmb IAmb 23 35 09.4
comp=Z,306nm,1.6s
NEA2 Nenana 96.98 335 P **P 23 35 05.2 -0.3**
baz=109
MOTA Moosalm 97.00 43 *i* PcP **PcP 23 35 06.4 +0.2**
comp=Z,174nm,1.3s,SNR=68
MOTA *i* pP **sP 23 35 36.2 -5.3**
comp=Z,121nm,1.1s
MOTA *i* PP **PP 23 39 03.0 -0.1**
comp=Z,65nm,2.2s
MOTA *i* PKKPdf **PKKPbc 23 51 47.0 -1.4**
comp=Z,12nm,0.6s
MOTA Moosalm 97.00 43 *i* PKiKP **P'P'df 00 00 00.7 +0.4**
comp=Z,13nm,1.0s
NNZ Nelson 97.02 224 IAmb IAmb 23 35 11.0
comp=Z,306nm,1.5s
ODZ Otahua Downs 97.03 220 IAmb IAmb 23 35 11.2
comp=Z,190nm,1.7s
SQTA Sankt Quirin 97.04 43 *i* PcP Pdif 23 35 06.7 +0.3
comp=Z,229nm,1.8s,SNR=75
SQTA *i* pP pP 23 35 36.2 +4.6
comp=Z,202nm,1.3s
SQTA *i* PP **PP 23 39 03.9 +0.5**
comp=Z,12nm,1.0s
SQTA *i* PKKPdf **PKKPbc 23 51 48.1 -0.1**
comp=Z,8.6nm,0.5s
LTZ Lake Taylor 97.05 223 IAmb IAmb 23 35 10.9
comp=Z,129nm,1.1s
SUE Sulen 97.07 29 *e*P Pdif 23 35 06.2 +0.3
SUE IVmBBB 23 35 10.2
comp=Z,4µm,3.7s
SUE *e*PP **PP 23 39 04.6 +1.6**
SUE *e*SKSac **SKSac 23 45 37.7 +3.2**
SUE *e*SS **SS 23 53 04.6 +4.5**
SUE IVMs_BB IVMs_BB 00 08 47.7
comp=Z,6µm,49.9s
THZ Tophouse 97.09 224 IAmb IAmb 23 35 11.6
comp=Z,312nm,1.6s
ASK Askoy 97.11 29 *e*P **P 23 35 03.6 -2.4**
ASK *e*SKSac **SKSac 23 45 32.8 -1.9**
VAE Valguarnera 97.12 53 P Pdif 23 35 08.1 +1.2
comp=Z,12nm,0.9s,baz=244,slow=2.0,SNR=6.6
LSZ Lusaka 97.13 108 S **SKSac 23 45 41.6 +4.4**

comp=Z,3.9nm,1.1s,baz=17,slow=3.6,SNR=2.4
LSZ PKKPbc PKKPbc 23 51 43.6 -3.0
comp=Z,3.6nm,0.8s,baz=97,slow=3.7,SNR=5.8
LSZ Lusaka 97.13 108 P Pdif 23 35 09.1 +1.6
LSZ Lusaka 97.13 108 **SKSac 23 45 41.6 +4.4**
LSZ Lusaka 97.13 108 P Pdif 23 35 08.5 +1.0
UBBA Unterbreizbach 97.14 39 *e*Pdiff Pdif 23 35 07.8 +1.5
UBBA *ep*P pP 23 35 36.1 +4.4
baz=256,slow=4.6
UBBA *e*PP **PP** **23 39 03.2 -0.5**
baz=256,slow=7.4
BER Bergen 97.14 29⇓ *i*P Pdif 23 35 07.3 +1.0
BER IVmBBB 23 35 09.7
comp=Z,4μm,2.2s
BER *e*SKSac **SKSac** **23 45 36.5 +1.6**
BER *e*SS **SS** **23 53 03.7 +2.6**
BER IVMs_BB IVMs_BB 00 09 11.4
comp=Z,6μm,45.2s
SKT Skwentna 97.22 332 IAmb IAmb 23 35 10.5
comp=Z,292nm,1.1s
GTTG Gottingen 97.30 39 *e*Pdiff Pdif 23 35 08.6 +1.4
GTTG *ep*P pP 23 35 36.6 +4.1
baz=256,slow=4.6
FUR Furstenfeldbru 97.31 42 *e*Pdiff Pdif 23 35 08.4 +1.0
FUR *ep*P pP 23 35 36.6 +4.0
baz=256,slow=4.6
FUR *e*PP **PP** **23 39 04.5 -0.8**
baz=256,slow=7.4
WATA Walderalm 97.31 43 *i* PcP Pdif 23 35 07.8 +0.2
comp=Z,144nm,1.2s,SNR=75
WATA *i* pP sP 23 35 37.6 -5.2
comp=Z,179nm,1.4s
WATA *i* PP **PP** **23 39 04.9 -0.5**
comp=Z,48nm,1.8s
WATA Walderalm 97.31 43 *e*PKPdf **P'P'df** **23 59 56.4 -3.3**
comp=Z,12nm,1.4s
WATA *i* PKiKP **P'P'df** **00 00 01.0 +1.3**
comp=Z,25nm,1.1s
WTTA Wattenberg 97.34 43 *i* PcP Pdif 23 35 08.3 +0.5
comp=Z,242nm,1.2s,SNR=137
WTTA *i* pP sP 23 35 38.0 -5.0
comp=Z,205nm,1.4s
WTTA *i* PP **PP** **23 39 05.5 -0.2**
comp=Z,51nm,1.5s
WTTA *i* PKKPdf **PKKPbc** **23 51 47.2 -0.3**
comp=Z,7.1nm,0.5s
WTTA Wattenberg 97.34 43 *i* PKPdf **P'P'df** **23 59 56.4 -3.4**
comp=Z,15nm,1.3s
WTTA *i* PKiKP **P'P'df** **00 00 01.2 +1.5**
comp=Z,32nm,1.0s
FOO Floro 97.36 28⇓ *i*P Pdif 23 35 08.1 +0.9
FOO IVmB_BB 23 35 09.6
comp=Z,4μm,4.2s
FOO *e*SKSac **SKSac** **23 45 37.4 +1.4**
FOO *e*SS **SS** **23 53 07.4 +3.3**
FOO IVMs_BB IVMs_BB 00 08 30.2
comp=Z,5μm,50.4s
RPZ Rata Peaks 97.41 221 PKKPbc PKKPbc 23 51 47.2 +0.7
comp=Z,14nm,0.7s,baz=143,slow=1.9,SNR=9.2
RPZ LR LR 00 11 32.8
comp=Z,7μm,18.2s,baz=93,slow=31
RPZ Rata Peaks 97.41 221 P Pdif 23 35 08.0 0.0
RPZ IAmb IAmb 23 35 11.3
comp=Z,238nm,1.5s
BLS5 Blasjo 97.42 31 *e*P Pdif 23 35 08.5 +1.0
BLS5 IVmB_BB 23 35 10.0
comp=Z,4μm,4.0s
BLS5 *e*SKSac **SKSac** **23 45 38.2 +1.7**
BLS5 *e*SS **SS** **23 53 06.7 +1.6**
BLS5 IVMs_BB IVMs_BB 00 09 16.6
comp=Z,8μm,54.6s
KTH Kantishna Hill 97.43 334 IAmb IAmb 23 35 11.2
comp=Z,154nm,1.0s
AQU L'Aquila 97.45 48⇓ *i*P Pdif 23 35 08.7 +0.5
SNART Snartemo 97.50 32 *e*P Pdif 23 35 08.3 +0.4
SNART *e*SKSac **SKSac** **23 45 36.8 -0.1**
NRDL Niedersach Rie 97.61 38 *e*Pdiff Pdif 23 35 10.3 +1.8
NRDL *ep*P sP 23 35 38.6 -5.2
baz=256,slow=4.6
NRDL *e*PP **PP** **23 39 07.6 +0.3**
baz=256,slow=7.4
CLZ Clausthal 97.61 38 *e*Pdiff Pdif 23 35 10.1 +1.4
CLZ *ep*P pP 23 35 38.3 +4.4
baz=256,slow=4.6
CLZ *e*PP **PP** **23 39 06.9 -0.6**
baz=256,slow=7.4
BPAW Bear Paw Mtn. 97.62 334 IAmb IAmb 23 35 12.0
comp=Z,183nm,1.0s
GRF Grafenberg Arr 97.63 41 *e*Pdiff Pdif 23 35 10.0 +1.2
GRF *ep*P pP 23 35 38.1 +4.1
baz=256,slow=4.6
ODD1 Odda 97.63 30 *e*P Pdif 23 35 14.2 +5.6
INTR Introdacqua 97.73 49 IAmb IAmb 23 35 13.1
comp=Z,130nm,1.1s
SKMB Sankelmark Bun 97.77 36 *e*Pdiff Pdif 23 35 10.9 +1.8
SKMB *ep*P sP 23 35 39.2 -5.3
baz=256,slow=4.6
SKMB *e*PP **PP** **23 39 08.4 -0.1**
baz=256,slow=7.4
QRZ Quartz Range 97.77 224 IAmb IAmb 23 35 14.3
comp=Z,285nm,1.9s
HYA Hoyanger 97.77 29⇓ *i*P Pdif 23 35 09.4 +0.4
HYA *e*SKSac **SKSac** **23 45 38.8 +0.7**
ABTA Abfaltersbach 97.80 44 *i* PcP Pdif 23 35 10.1 +0.4
comp=Z,116nm,1.2s,SNR=54
ABTA *i* pP sP 23 35 39.9 -5.1
comp=Z,121nm,1.1s
ABTA *i* PP **PP** **23 39 09.3 +0.2**
comp=Z,53nm,1.6s
ABTA *i* PKKPdf **PKKPbc** **23 51 45.9 -0.2**
comp=Z,1.5nm,0.5s
ABTA Abfaltersbach 97.80 44 *e*PKPdf **P'P'df** **23 59 56.9 -1.9**
comp=Z,32nm,1.1s
ASSE Asse, Remlinge 97.86 38 *e*Pdiff Pdif 23 35 11.4 +1.8
ASSE *ep*P sP 23 35 39.7 -5.3
baz=256,slow=4.6
ASSE *e*PP **PP** **23 39 09.3 0.0**
baz=256,slow=7.4
PAOL Paolisi 98.01 50 P **P** **23 35 10.3 -0.4**
MUD Monsted U'grnd 98.04 34⇓ *i*P Pdif 23 35 11.5 +1.1
MUD *i* 23 35 36.8
MUD Monsted U'grnd 98.04 34⇓ *i*P Pdif 23 35 11.5 +1.1
MUD *i* 23 35 36.8
ZOU Zoufplan 98.07 44 IAmb IAmb 23 35 14.8
comp=Z,236nm,1.5s
BSEG Bad Segeberg 98.08 36 *e*Pdiff Pdif 23 35 11.8 +1.3
BSEG *ep*P pP 23 35 40.1 +4.2
baz=256,slow=4.6
BSEG *e*PP **PP** **23 39 10.5 -0.3**
baz=256,slow=7.4
MOX Moxa 98.10 40 *e*Pdiff Pdif 23 35 12.3 +1.5
MOX *ep*P pP 23 35 40.5 +4.4
baz=256,slow=4.6
MOX *e*PP **PP** **23 39 10.1 -1.0**
baz=256,slow=7.4
HOMB Homborsund 98.14 32⇓ *e*Pdif Pdif 23 35 11.6 +0.8
HOMB IVmB_BB 23 35 13.1
comp=Z,3μm,4.1s
HOMB *e*SKSac **SKSac** **23 45 41.0 +0.9**
HOMB *e*SS **SS** **23 53 18.1 +2.9**
HOMB IVMs_BB IVMs_BB 00 09 55.9
comp=Z,6μm,47.2s
WKZ Wanaka 98.15 220 P Pdif 23 35 11.4 0.0
WKZ IAmb IAmb 23 35 59.0
comp=Z,353nm,1.7s
RJOB Jochberg 98.21 43 *e*Pdiff Pdif 23 35 11.6 +0.1
RJOB *ep*P pP 23 35 39.9 +3.1
baz=256,slow=4.6
MANZ Manzenberg 98.26 41 *e*Pdiff Pdif 23 35 13.2 +1.6
MANZ *ep*P pP 23 35 41.4 +4.5
baz=256,slow=4.6
MANZ *e*PP **PP** **23 39 11.4 -1.1**
baz=256,slow=7.4
COLD Coldfoot 98.26 337 P Pdif 23 35 11.9 +0.7
baz=108
WHZ Wether Hill Ro 98.27 218 IAmb IAmb 23 35 53.2
comp=Z,231nm,1.9s
ROTZ Rotzenmuhle 98.27 41 *e*Pdiff Pdif 23 35 13.1 +1.5
ROTZ *ep*P pP 23 35 41.3 +4.3
baz=256,slow=4.6
NEUB Neuenburg 98.32 39 *e*Pdiff Pdif 23 35 13.3 +1.5
NEUB *ep*P pP 23 35 41.6 +4.5
baz=256,slow=4.6
NEUB *e*PP **PP** **23 39 12.2 -0.7**
baz=256,slow=7.4
ROBS Robic 98.37 44 *e*Pdiff Pdif 23 35 12.5 +0.4
ROBS *ep*Pdiff pP 23 35 37.5 +0.1
ROBS *e*SP SP 23 47 58.7 +1.1
PLN Plauen 98.40 40 *e*Pdiff Pdif 23 35 13.6 +1.5
PLN *ep*P pP 23 35 41.9 +4.4
baz=256,slow=4.6
PLN *e*PP **PP** **23 39 12.2 -1.3**
baz=256,slow=7.4
AKN Aaknes 98.41 28 *e*P Pdif 23 35 14.2 +2.3
AKN IVmBBB 23 35 15.9
comp=Z,2μm,2.6s
AKN *e*SKSac **SKSac** **23 45 42.1 +0.6**
AKN *e*ScS **ScS** **23 46 33.8 +1.2**
AKN *e*SS **SS** **23 53 22.3 +3.3**
AKN IVMs_BB IVMs_BB 00 09 04.1
comp=Z,6μm,47.9s
MLZ Mavora Lakes 98.43 219 IAmb IAmb 23 35 17.3
comp=Z,201nm,1.9s
KBA Koelnbreinsper 98.43 44 *i* Pdiff Pdif 23 35 12.8 +0.2
comp=Z,66nm,1.0s,SNR=26
KBA *i* PKKPdf **PKKPbc** **23 51 43.1 -1.3**
comp=Z,2.3nm,0.7s
TOLK Toolik Lake Re 98.48 339 P Pdif 23 35 12.2 0.0
baz=108
GUNZ Gunzen 98.48 40 *e*Pdiff Pdif 23 35 14.2 +1.7
GUNZ *ep*P pP 23 35 42.5 +4.6
baz=256,slow=4.6
GUNZ *e*PP **PP** **23 39 12.8 -1.4**
baz=256,slow=7.4
WERD Werda 98.48 40 *e*Pdiff Pdif 23 35 14.1 +1.5
WERD *ep*P pP 23 35 42.3 +4.4
baz=256,slow=4.6
WERD *e*PP **PP** **23 39 12.8 -1.3**
baz=256,slow=7.4
WERN Wernitzgruen 98.49 40 *e*Pdiff Pdif 23 35 14.4 +1.8
WERN *ep*P sP 23 35 42.7 -5.2
baz=256,slow=4.6
WERN *e*PP **PP** **23 39 13.0 -1.3**
baz=256,slow=7.4
NKC Novy Kostel 98.53 40 *e*P **P** **23 35 08.5 -4.2**
NKC *e* 23 45 39.2
NKC Novy Kostel 98.53 40 *e*PDIFF **P** **23 35 08.5 -4.2**
NKC *ex* x 23 35 14.3
NKC *e*PP **PP** **23 39 08.6 -5.9**
NKC *e*SKS **SKSac** **23 45 39.2 -3.4**
NKC AMS AMS 00 09 50.0
comp=Z,23μm,30.1s
MYKA Terra Mystica 98.54 44 *i* Pdiff Pdif 23 35 13.4 +0.4
comp=Z,44nm,0.7s,SNR=25
MYKA *i* pPdiff pP 23 35 42.8 +4.6
comp=Z,96nm,1.9s
MYKA *i* PP **PP** **23 39 14.3 -0.4**
comp=Z,65nm,1.7s
WET Wettzell 98.56 42 *e*Pdiff Pdif 23 35 14.2 +1.3
WET *ep*P pP 23 35 42.4 +4.1
baz=256,slow=4.6
WET *e*PP **PP** **23 39 13.0 -1.8**
baz=256,slow=7.4
TANN Tannenbergstha 98.57 40 *e*Pdiff Pdif 23 35 14.7 +1.7
TANN *ep*P pP 23 35 42.9 +4.5
baz=256,slow=4.6
TANN *e*PP **PP** **23 39 13.7 -1.2**
baz=256,slow=7.4
SKAR Skarslia 98.64 30⇓ *e*Pdif Pdif 23 35 13.8 +0.8
SKAR IVmB_BB 23 35 15.5
comp=Z,3μm,4.3s
SKAR *e*PP **PP** **23 39 14.2 -0.9**
SKAR *e*SKSac **SKSac** **23 45 44.6 +1.9**
SKAR *e*SS **SS** **23 53 25.3 +3.1**
SKAR IVMs_BB IVMs_BB 00 09 30.6
comp=Z,6μm,48.1s
DUGI Dugi Otok 98.97 47 *i* P Pdif 23 35 15.2 +0.3
KHC Kasperske Hory 99.01 42 *e*P **Pdif** **23 35 10.5 -4.5**
KHC *e* 23 45 39.9
KHC Kasperske Hory 99.01 42 *e*PDIFF **Pdif** **23 35 10.5 -4.5**
KHC *ex* x 23 35 15.3
KHC *ex* x 23 35 21.5
KHC *e*PP PP 23 39 10.2 -8.1
KHC *e*SKS **SKSac** **23 45 39.9 -5.2**
KHC *e*PKKP **PKKPbc** **23 51 42.0 -0.7**
KHC *e*PKPPKP 23 59 56.5
KHC AMS AMS 00 09 00.0
comp=Z,18μm,30.6s
LJU Ljubljana 99.02 45 *e*Pdiff **Pdif** **23 35 15.7 +0.7**
LJU *ep*Pdiff **pP** **23 35 40.8 +0.4**
LJU *e* 23 39 11.4
LJU *i* PP **PP** **23 39 17.4 -1.0**
LJU *e*SKSac **SKSac** **23 45 48.5 +3.3**
LJU *e*Sdiff **S** **23 46 38.5 +0.2**
LJU *i* SP SP 23 48 06.0 +1.3
LJU Ljubljana 99.02 45⇓ *i*P **Pdif** **23 35 15.5 +0.5**
KONO Kongsberg 99.02 31 *d*P **Pdif** **23 35 15.4 +0.7**
KONO pmax pmax
comp=Z,53nm,1.2s
KONO Kongsberg 99.02 31⇓ *e*Pdif **Pdif** **23 35 14.7 0.0**
KONO IVmB_BB 23 35 16.8
comp=Z,2μm,5.0s
KONO *e*PP **PP** **23 39 16.5 -1.5**
KONO *e*SKSac **SKSac** **23 45 45.6 +1.1**
KONO *e*SP SP 23 48 05.1 +1.1
KONO *e*SS **SS** **23 53 30.1 +2.6**
KONO IVMs_BB IVMs_BB 00 10 28.0
comp=Z,7μm,32.0s
GEC2 GERESS Array S 99.03 42 *e*Pdiff **Pdif** **23 35 16.2 +1.0**
GEC2 *ep*P **pP** **23 35 44.4 +3.9**
baz=256,slow=4.6
GEC2 *e*PP **PP** **23 39 16.5 -2.0**
baz=256,slow=7.4
GERES GERESS Array B 99.03 42 P **Pdif** **23 35 15.3 +0.2**
comp=Z,18nm,0.7s,baz=253,slow=2.6,SNR=120
GERES PP **PP** **23 39 17.8 -0.7**
comp=Z,2.2nm,0.9s,baz=234,slow=4.5,SNR=4.0
GERES PKiKP **PKiKP** **23 39 49.0 +3.8**
comp=Z,4.4nm,0.8s,baz=230,slow=3.3,SNR=3.9
GERES PKKPbc **PKKPbc** **23 51 42.7 0.0**
comp=Z,3.9nm,0.9s,baz=80,slow=1.8,SNR=9.2
GERES PKPPKP 23 59 57.7
comp=Z,3.8nm,1.0s,baz=101,slow=1.4,SNR=11
GERES LR LR 00 20 00.8
comp=Z,7μm,18.2s,baz=254,slow=35
GERES GERESS Array B 99.03 42 P **Pdif** **23 35 15.3 +0.2**
CLL Collm 99.10 39⇓ *i*Pdif **Pdif** **23 35 16.0 +0.8**
comp=Z,630nm,2.3s
CLL *i* pPdif **pP** **23 35 43.0 +2.4**
CLL *e*PP **PP** **23 39 17.0 -1.8**
CLL *ep*PP 23 39 40.0
CLL *es*PP 23 39 52.0
CLL *ep*PKiKP PKiKP 23 40 12.0 +27
CLL *e*PPP PPP 23 41 22.0
CLL *e*SKSac **SKSac** **23 45 48.0 +2.7**
CLL *e* 23 46 02.0
CLL *e*Sdif **S** **23 46 43.0 +4.3**
CLL *es*Sdiff **sS** **23 47 27.0 +4.5**
CLL *e*SP SP 23 48 08.0 +2.8
CLL *e*PS PS 23 48 19.0 +2.2
CLL *e*PPS PPS 23 49 00.0
CLL *e* 23 49 50.0
CLL *e*PKKPbc **PKKPbc** **23 51 42.0 -0.5**
CLL *ep*PKKPbc 23 52 04.0
comp=Z,65nm,2.2s
CLL *e* 23 52 44.0
CLL *e*SS **SS** **23 53 24.0 -5.0**
CLL *es*PSS 23 54 18.0
CLL *e* 23 55 00.0
CLL *e*SSS SSS 23 57 12.0
CLL *es*SSS 23 58 06.0
CLL *e* 23 59 18.0
CLL *i* PKPPKPd **P'P'df** **23 59 57.0 +1.2**
comp=Z,201nm,2.5s
CLL *ep*PKPPKPd 00 00 24.0
CLL *e* 00 00 39.0
CLL *e*SSSS 00 00 48.0
CLL *e* 00 00 52.0
CLL *e* 00 04 26.0
CLL Collm 99.10 39⇓ *i*P **Pdif** **23 35 16.0 +0.8**
CLL *i* *PP **pP** **23 35 43.0 +2.4**
CLL *e* 23 45 48.0
CLL *e*S **S** **23 46 43.0 +4.3**
CLL pmax pmax
comp=Z,630nm,2.3s
CLL Collm 99.10 39 *e*Pdiff **Pdif** **23 35 16.7 +1.5**
CLL *ep*P **pP** **23 35 45.0 +4.4**
baz=256,slow=4.6
CLL *e*PP **PP** **23 39 17.9 -0.8**
baz=256,slow=7.4
OBKA Obir 99.12 44 *i* Pdiff **Pdif** **23 35 16.2 +0.6**
comp=Z,65nm,0.9s,SNR=23
OBKA *i* PKKPdf **PKKPbc** **23 51 42.3 -0.1**
MOA Molln 99.20 43 *i* Pdiff **Pdif** **23 35 16.3 +0.5**
comp=Z,86nm,1.1s,SNR=46
MOA *i* pPdiff **pP** **23 35 45.2 +4.0**
comp=Z,91nm,1.5s
MOA *i* PKKPdf **PKKPbc** **23 51 42.0 -0.1**
comp=Z,2.5nm,0.6s
MOA Molln 99.20 43 *e*PKiKP **P'P'df** **23 59 58.0 +2.0**
comp=Z,15nm,1.4s
FBE Freiberg 99.23 40 *e*Pdiff **Pdif** **23 35 17.7 +1.9**
FBE *ep*P **sP** **23 35 46.0 -5.2**
baz=256,slow=4.6
FBE *e*PP **PP** **23 39 18.4 -1.4**
baz=256,slow=7.4
TIP Timpagrande 99.28 52 ⇑P **Pdif** **23 35 16.6 +0.2**
TIP Timpagrande 99.28 52 pP 23 35 40.6 -1.2
DOMB Dombas 99.32 28 *e*P **Pdif** **23 35 17.2 +1.2**
DOMB IVmB_BB 23 35 18.6
comp=Z,3μm,2.6s
DOMB *e*PP **PP** **23 39 18.0 -2.2**
DOMB *e*SKSac **SKSac** **23 45 43.1 -2.9**
DOMB *e*SP **SP** **23 48 07.1 0.0**
DOMB *e*SS **SS** **23 53 31.2 -0.5**
DOMB IVMs_BB IVMs_BB 00 09 32.4
comp=Z,6μm,32.8s
ZIRJ Zirje 99.33 47 *i* P **Pdif** **23 35 16.4 0.0**
PBCC Pribram 99.39 41 *e*PDIFF **Pdif** **23 35 13.7 -2.9**
PBCC *ex* x 23 35 17.7
PBCC *e*SKS 23 45 41.1
MORI Morici 99.41 47 *i* P **Pdif** **23 35 17.9 +1.1**
SOKA Soboth 99.48 44 *i* Pdiff **Pdif** **23 35 17.3 +0.1**
comp=Z,23nm,0.8s,SNR=14
SOKA Soboth 99.48 44 *i* PKiKP **P'P'df** **23 59 55.4 -0.2**
comp=Z,26nm,1.8s
PERS Pernice 99.53 44 *i* Pdiff **Pdif** **23 35 17.3 0.0**
PERS *ep*Pdiff **pP** **23 35 43.0 +0.3**
PERS *e*SKSac **SKSac** **23 45 49.8 +2.0**
PERS *e*Sdiff **ScS** **23 46 40.5 -2.2**
BRG Berggiesshubel 99.59 40 *e*PFIF 23 35 18.4
comp=Z,561nm,2.2s
BRG pPDIF 23 35 47.2
comp=Z,125nm,1.4s
BRG PP **PP** **23 39 19.8 -2.8**
comp=Z,404nm,2.8s
BRG SKS **SKSac** **23 45 53.0 +5.2**
BRG SP SP 23 48 15.0 +4.5
BRG PKKP **PKKPbc** **23 51 41.2 +0.2**
comp=Z,12nm,1.2s
BRG *e* 23 52 07.9
comp=Z,36nm,1.4s
BRG SS **SS** **23 53 39.0 +3.1**
BRG PKPPKP 23 59 50.8
comp=Z,136nm,2.0s
BRG *e* 00 00 38.1
comp=Z,78nm,2.0s
BRG Berggiesshubel 99.59 40 *e*Pdiff **Pdif** **23 35 19.0 +1.6**
BRG *ep*P **pP** **23 35 47.3 +4.5**
baz=256,slow=4.6
BRG *e*PP **PP** **23 39 21.4 -1.1**
baz=256,slow=7.4
CRES Cresnjev 99.61 45 *i* Pdiff **Pdif** **23 35 18.3 +0.6**
CRES Cresnjev 99.61 45⇓ *i*P **Pdif** **23 35 18.3 +0.6**
OSL Oslo 99.64 31 *e*Pdif **Pdif** **23 35 17.8 +0.4**
OSL IVmB_BB 23 35 21.2
comp=Z,2μm,2.6s
OSL *e*SKSac **SKSac** **23 45 47.7 +0.2**
OSL *e*SP SP 23 48 10.1 -0.5
OSL *e*SS **SS** **23 53 39.1 +3.1**
OSL IVMs_BB IVMs_BB 00 11 01.3
comp=Z,8μm,43.4s
PRA Prague 99.74 41 *e*P **Pdif** **23 35 14.5 -3.6**
PRA *e* 23 39 24.8
PRA *e* 23 45 51.6
PRA MLR MLR
comp=Z,8μm,27.3s
PRA Prague 99.74 41 *e*PDIFF **Pdif** **23 35 14.5 -3.6**
PRA *ex* x 23 35 20.6
PRA *e*PP **PP** **23 39 24.8 +1.1**
PRA *e*SKS **SKSac** **23 45 51.6 +3.1**
PRA AMS AMS 00 10 10.0
comp=Z,8μm,27.3s
NOR Nord 99.77 7⇓ *i*P **Pdif** **23 35 17.8 +0.2**
NOR *i* 23 35 43.8
NOR Nord 99.77 7⇓ *i*P **Pdif** **23 35 17.8 +0.2**
NOR *i* 23 35 43.8
PRU Pruhonice 99.80 41 *e*P **Pdif** **23 35 10.5 -7.9**
PRU *e* 23 45 46.1
PRU Pruhonice 99.80 41 *e*PDIFF **Pdif** **23 35 10.5 -7.9**
PRU *ex* x 23 35 19.1
PRU *e*PP PP 23 39 13.2 -11
PRU *e*SKS **SKSac** **23 45 46.1 -2.7**
PRU *e*PKPPKP 23 59 56.4
PRU AMS AMS 00 10 20.0
comp=Z,18μm,31.9s
RUE Ruedersdorf 99.80 38 *e*P **Pdif** **23 35 19.2 +1.0**
RUE Ruedersdorf 99.80 38 *e*Pdiff **Pdif** **23 35 19.7 +1.4**
RUE *ep*P **pP** **23 35 48.0 +4.3**
baz=256,slow=4.6
HVAR Hvar 99.81 48 *i* P **Pdif** **23 35 19.5 +0.9**
PVCC Panska Ves 99.92 40 *e*P **Pdif** **23 35 15.3 -3.6**
PVCC *e* 23 39 23.1
PVCC *e* 23 45 51.3
PVCC Panska Ves 99.92 40 *e*PDIFF **Pdif** **23 35 15.3 -3.6**
PVCC *ex* x 23 35 20.3
PVCC *e*PP **PP** **23 39 23.1 -1.9**
PVCC *e*SKS **SKSac** **23 45 51.3 +1.9**
PVCC *e*PKPPKP **P'P'df** **23 59 53.7 -0.7**
PVCC AMS AMS 00 10 40.0
comp=Z,19μm,28.4s
ARSA Arzberg 99.92 44 *i* Pdiff **Pdif** **23 35 19.2 +0.2**
comp=Z,47nm,1.3s,SNR=22
ARSA *i* pPdiff **pP** **23 35 49.0 +4.5**
comp=Z,38nm,1.4s
ARSA *i* PKKPdf **PKKPbc** **23 51 40.2 +0.2**
comp=Z,1.4nm,0.5s
ARSA Arzberg 99.92 44 *e*PKiKP **P'P'df** **23 59 54.5 -0.2**
comp=Z,21nm,2.0s
RGN Rugen 99.93 36 *e*P **Pdif** **23 35 19.9 +1.1**
GOPC GO Pecny, Ondr 99.94 41 *e*P **Pdif** **23 35 14.1 -4.9**
GOPC *e* 23 39 24.7
GOPC *e* 23 45 49.4
GOPC GO Pecny, Ondr 99.94 41 *e*PDIFF **Pdif** **23 35 14.1 -4.9**
GOPC *ex* x 23 35 19.9
GOPC *e*PP **PP** **23 39 24.7 -0.5**
GOPC *e*SKS **SKSac** **23 45 49.4 -0.2**
PTJ Puntijarka 99.98 45 P **Pdif** **23 35 20.6 +1.2**
NB2 NORSAR Subarra100.11 29 P **Pdif** **23 35 20.1 +0.5**
comp=Z,653nm,2.5s,baz=253,slow=4.4
NB2 NORSAR Subarra100.11 29 P **Pdif** **23 35 20.1 +0.5**
baz=253,slow=4.4
NOA NORSAR Array B100.11 29 P **Pdif** **23 35 20.4 +0.9**
comp=Z,15nm,0.9s,baz=254,slow=4.4,SNR=15
NOA PKiKP **PKiKP** **23 39 51.9 +5.1**
comp=Z,3.2nm,0.8s,baz=273,slow=1.8,SNR=7.9
NOA S **SKSac** **23 45 46.8 -3.2**
comp=Z,0.7nm,0.8s,baz=76,slow=9.9,SNR=3.4
NOA PKKPbc **PKKPbc** **23 51 37.5 -2.5**
comp=Z,6.8nm,0.9s,baz=254,slow=3.0,SNR=10
NOA PKPPKP 23 59 54.4
comp=Z,8.9nm,0.9s,baz=77,slow=2.0,SNR=17
TBLU Trondheim 100.13 27⇓ *e*Pdif **Pdif** **23 35 20.7 +1.2**
TBLU IVmB_BB 23 35 22.5
comp=Z,3μm,2.9s
TBLU *e*PP **PP** **23 39 24.3 -1.9**
TBLU *e*SKSac **SKSac** **23 45 51.9 +2.0**
TBLU IVMs_BB IVMs_BB 00 11 45.9
comp=Z,6μm,28.5s
NC602 NORSAR Array S 100.20 30⇓ *e*Pdif **Pdif** **23 35 20.9 +0.9**
NC602 *e*SKSac **SKSac** **23 45 51.0 +0.7**
NC602 *e*SP SP 23 48 14.3 -2.3
NC602 *e*SS **SS** **23 53 43.9 -0.1**
NC602 IVMs_BB IVMs_BB 00 10 40.7
comp=Z,7μm,39.4s
KOGS Kog 100.27 45 *i* Pdiff **Pdif** **23 35 21.2 +0.6**
KOGS *e*SKSac **SKSac** **23 45 55.0 +3.7**
CONA Conrad Observa 100.27 43 *i* Pdiff **Pdif** **23 35 21.3 +0.7**
comp=Z,62nm,1.1s,SNR=36
CONA *i* pPdiff pP 23 35 50.2 +4.2
comp=Z,48nm,1.5s
CONA Conrad Observa 100.27 43 *e*PKiKP **P'P'df** **23 59 54.8 +0.8**
comp=Z,14nm,1.6s
TREC Trest 100.27 42 *e*P **Pdif** **23 35 14.6 -6.0**

TREC					*e*			23 39 37.4	
TREC					*e*			23 45 46.5	
TREC					MLR	MLR			
	comp=Z,10µm,23.9s								
TREC	**Trest**	**100.27**	**42**	*e*PDIFF	**Pdif**		**23 35 14.6**	**-6.0**	
TREC				*ex*	x		23 35 21.4		
TREC				*e*PP	PP		23 39 37.4	+10	
TREC				*e*SKS			23 45 46.5		
TREC				AMS	AMS		00 13 00.0		
	comp=Z,10µm,23.9s								
KALN	**Kalnik**	**100.35**	**45**	*i* P	**Pdif**		**23 35 21.3**	**+0.3**	
RICI	**Ricice**	**100.36**	**48**	P	**Pdif**		**23 35 21.9**	**+0.8**	
BLY	**Banja Luka**	**100.61**	**46**	⇓*i*P	**Pdif**		**23 35 22.8**	**+0.7**	
BEHE	**Becsehely**	**100.63**	**45**	⇓*i*P	**Pdif**		**23 35 25.5**	**+3.3**	
STON	**Ston**	**100.66**	**48**	*i* P	**Pdif**		**23 35 22.3**	**-0.1**	
UPC	**Upice**	**100.82**	**41**	*e*P	**Pdif**		**23 35 11.8**	**-11**	
UPC				*e*			23 39 39.2		
UPC				*e*			23 45 47.8		
UPC				MLR	MLR				
	comp=Z,22µm,23.3s								
UPC	**Upice**	**100.82**	**41**	*e*PDIFF	**Pdif**		**23 35 11.8**	**-11**	
UPC				*ex*	x		23 35 23.9		
UPC				*e*PP	**PP**		**23 39 39.2**	**+7.3**	
UPC				*e*SKS			23 45 47.8		
UPC				*e*PKPPKP			23 59 52.5		
UPC				AMS	AMS		00 18 10.0		
	comp=Z,22µm,23.3s								
KRUC	**Moravsky**	**100.82**	**42**	⇓*i*PDIFF	**Pdif**		**23 35 23.5**	**+0.6**	
KRUC				*e*			23 35 48.3		
KRUC				*e*PP	**PP**		**23 39 27.0**	**-4.9**	
KRUC				*e*SKS			23 45 55.5		
CHVC	**Chvalec**	**100.86**	**40**	*e*PDIFF	**Pdif**		**23 35 20.6**	**-2.5**	
CHVC				*ex*	x		23 35 24.5		
CHVC				*e*SKS			23 45 52.2		
CHVC				*ex*	x		23 59 50.9		
CHVC				AMS	AMS		00 18 30.0		
	comp=Z,20µm,23.4s								
OSTC	**Ostas**	**100.95**	**41**	*e*PDIFF	**Pdif**		**23 35 16.7**	**-6.9**	
OSTC				*ex*	x		23 35 24.2		
OSTC				*e*PP	**PP**		**23 39 36.4**	**+3.5**	
OSTC				*e*SKS			23 45 50.0		
OSTC				*e*PKKP	**PKKPdf**		**23 51 46.1**	**+3.3**	
OSTC				*e*PKPPKP			23 59 52.2		
OSTC				AMS	AMS		00 18 20.0		
	comp=Z,21µm,23.5s								
DPC	**Dobruska-Polom**	**100.99**	**41**	*e*P	**Pdif**		**23 35 18.2**	**-5.5**	
DPC				*e*			23 39 31.0		
DPC				*e*			23 45 51.3		
DPC				MLR	MLR				
	comp=Z,16µm,27.2s								
DPC	**Dobruska-Polom**	**100.99**	**41**	*e*PDIFF	**Pdif**		**23 35 18.2**	**-5.5**	
DPC				*ex*	x		23 35 24.6		
DPC				*e*PP	**PP**		**23 39 31.0**	**-2.2**	
DPC				*e*SKS			23 45 51.3		
DPC				*e*PKPPKP			23 59 52.3		
DPC				AMS	AMS		00 11 00.0		
	comp=Z,16µm,27.2s								
VRAC	**Vranov**	**100.99**	**42**	P	**Pdif**		**23 35 24.5**	**+0.8**	
	comp=Z,11nm,0.9s,baz=261,slow=6.2,SNR=36								
VRAC				PP	**PP**		**23 39 31.7**	**-1.5**	
	comp=Z,4.5nm,0.8s,baz=276,slow=12,SNR=3.3								
VRAC				S	**SKSac**		**23 45 55.9**	**+1.2**	
	comp=Z,0.9nm,0.3s,baz=76,slow=19,SNR=1.7								
VRAC				PKPPKP			23 59 49.8		
	comp=Z,1.9nm,0.8s,baz=107,slow=5.3,SNR=4.3								
VRAC	**Vranov**	**100.99**	**42**	⇓P	**Pdif**		**23 35 25.8**	**+2.1**	
VRAC	**Vranov**	**100.99**	**42**	⇓*i*PDIFF	**Pdif**		**23 35 24.6**	**+0.9**	
VRAC				*e*			23 35 49.7		
VRAC				*e*PP	PP		23 39 25.1	-8.1	
VRAC				*e*SKS			23 45 55.5		
VRAC	**Vranov**	**100.99**	**42**		**SKSac**		**23 45 55.9**	**+1.2**	
KSP	**Ksiaz**	**101.05**	**40**	*e*Pdif	**Pdif**		**23 35 25.1**	**+1.2**	
KSP				*e*			23 35 49.9		
KSP				*e*SKS			23 45 59.5		
KSP				*e*SP	SP		23 48 23.1	-3.1	
TREB	**Trebinje**	**101.10**	**49**	*e*P	**Pdif**		**23 35 24.1**	**-0.3**	
NSS	**Namsos**	**101.12**	**26**	⇓*e*Pdif	**Pdif**		**23 35 24.7**	**+0.8**	
NSS				IVmB_BB			23 35 26.3		
	comp=Z,3µm,3.1s								
NSS				*e*PP	**PP**		**23 39 30.5**	**-3.2**	
NSS				*e*SKSac	**SKSac**		**23 45 55.1**	**+0.5**	
NSS				*e*SP	SP		23 48 28.2	+2.0	
NSS				*e*SS	**SS**		**23 53 59.0**	**+2.6**	
NSS				IVMs_BB	IVMs_BB		00 12 28.2		
	comp=Z,4µm,25.6s								
HFS	**Hagfors**	**101.14**	**31**	P	**Pdif**		**23 35 23.8**	**-0.3**	
	comp=Z,7.2nm,0.9s,baz=260,slow=0.9,SNR=6.4								
HFS				PP	**PP**		**23 39 40.4**	**+6.4**	
	comp=Z,15nm,1.1s,baz=243,slow=6.5,SNR=3.8								
HFS				PKKPbc	**PKKPbc**		**23 51 35.3**	**-1.6**	
	comp=Z,9.2nm,0.8s,baz=194,slow=0.6,SNR=6.9								
HCY	**Herceg Novi**	**101.16**	**49**	⇓*i*P	**Pdif**		**23 35 25.9**	**+1.2**	
HCY	**Herceg Novi**	**101.16**	**49**	*e*P	**Pdif**		**23 35 26.6**	**+1.9**	
KRLC	**Kraliky**	**101.23**	**41**	*e*P	**Pdif**		**23 35 21.0**	**-3.8**	
KRLC				*e*			23 39 42.1		
KRLC				*e*			23 45 55.6		
KRLC				MLR	MLR				
	comp=Z,12µm,21.9s								
KRLC	**Kraliky**	**101.23**	**41**	*e*PDIFF	**Pdif**		**23 35 21.0**	**-3.8**	
KRLC				*ex*	x		23 35 26.2		
KRLC				*e*PP	**PKiKP**		**23 39 42.1**	**-7.0**	
KRLC				*e*SKS			23 45 55.6		
KRLC				*e*PKKP	**PKKPbc**		**23 51 36.9**	**+0.5**	
KRLC				*e*PKPPKP			23 59 49.9		
KRLC				AMS	AMS		00 19 20.0		
	comp=Z,12µm,21.9s								
BRY	**Bratogost**	**101.27**	**48**	⇓*i*P	**Pdif**		**23 35 25.8**	**+0.4**	
BRY	**Bratogost**	**101.27**	**48**	*e*P	**Pdif**		**23 35 25.7**	**+0.4**	
MODS	**Modra-Piesok**	**101.28**	**43**	*e*P	**Pdif**		**23 35 25.3**	**+0.2**	
MODS				*e*			23 39 32.6		
MODS	**Modra-Piesok**	**101.28**	**43**	*e*PDIFF	**Pdif**		**23 35 25.3**	**+0.2**	
MODS				*e*PP	**PP**		**23 39 32.6**	**-2.8**	
SMOL	**Smolenice**	**101.40**	**43**	*e*P	**Pdif**		**23 35 27.7**	**+2.1**	
SMOL	**Smolenice**	**101.40**	**43**	*e*PDIFF	**Pdif**		**23 35 27.7**	**+2.1**	
BUM	**Brajici-Budva**	**101.43**	**49**	⇓*i*P	**Pdif**		**23 35 26.8**	**+0.9**	
CEME	**Cevo**	**101.49**	**49**	⇓*i*P	**Pdif**		**23 35 26.8**	**+0.6**	
NKME	**Niksic**	**101.55**	**49**	⇓*i*P	**Pdif**		**23 35 27.0**	**+0.6**	
VLO	**Vlora**	**101.58**	**51**	*i* P	**Pdif**		**23 35 29.4**	**+2.9**	
UPM	**Unac-Piva**	**101.58**	**48**	*e*P	**Pdif**		**23 35 26.8**	**+0.1**	
UPM	**Unac-Piva**	**101.58**	**48**	*e*P	**Pdif**		**23 35 27.6**	**+0.9**	
NKY	**Niksic**	**101.59**	**49**	*e*P	**Pdif**		**23 35 27.4**	**+0.7**	
JAVC	**Velka Javorina**	**101.62**	**42**	⇓*i*PDIFF	**Pdif**		**23 35 27.9**	**+1.3**	
JAVC				*e*			23 35 53.1		
JAVC				*e*PP	**PP**		**23 39 33.3**	**-4.7**	
JAVC				*e*SKS			23 46 01.2		
DRME	**Dracevica, Mon**	**101.63**	**49**	⇓*i*P	**Pdif**		**23 35 28.1**	**+1.4**	
DRME	**Dracevica, Mon**	**101.63**	**49**	⇓*i*P	**Pdif**		**23 35 27.9**	**+1.2**	
ULC	**Ulcinj**	**101.64**	**50**	⇓*i*P	**Pdif**		**23 35 27.1**	**+0.3**	
MORC	**Moravsky Berou**	**101.67**	**41**	⇓P	**Pdif**		**23 35 28.3**	**+1.5**	
MORC	**Moravsky Berou**	**101.67**	**41**	⇓*i*PDIFF	**Pdif**		**23 35 28.1**	**+1.3**	
MORC				*e*			23 35 52.6		
MORC				*e*PP	**PP**		**23 39 33.9**	**-4.5**	
MORC				*e*SKS			23 45 59.8		
MORC	**Moravsky Berou**	**101.67**	**41**	⇓P	**Pdif**		**23 35 28.3**	**+1.5**	
PDG	**Podgorica**	**101.72**	**49**	⇑P	**Pdif**		**23 35 28.6**	**+1.5**	
PDG	**Podgorica**	**101.72**	**49**	⇓P	**PKiKP**		**23 39 52.4**	**+2.3**	
PDG	**Podgorica**	**101.72**	**49**	⇓P	**PKKPbc**		**23 51 33.6**	**-1.0**	
PDG	**Podgorica**	**101.72**	**49**	⇓*i*P	**Pdif**		**23 35 27.9**	**+0.8**	
TTG	**Podgorica**	**101.72**	**49**	⇓*i*P	**Pdif**		**23 35 27.9**	**+0.8**	
STOK	**Stokkvaagen**	**101.86**	**24**	*e*Pdif	**Pdif**		**23 35 28.3**	**+1.2**	
STOK				*e*SKSac	**SKSac**		**23 46 00.2**	**+2.2**	
MORH	**Mrgy, Hungar**	**101.86**	**45**	⇓*i*P	**Pdif**		**23 35 28.5**	**+0.9**	
SRN	**Sarande**	**101.87**	**52**	*i* P	**Pdif**		**23 35 28.6**	**+0.8**	
KONS	**Konsvik**	**101.92**	**24**	*e*Pdif	**Pdif**		**23 35 28.5**	**+1.1**	
KONS				*e*SKSac	**SKSac**		**23 45 58.4**	**+0.1**	
SRO2	**Moca**	**101.93**	**44**	*e*PP	**PP**		**23 39 37.2**	**-3.1**	
KOME	**Kolasin**	**101.97**	**49**	⇓*i*P	**Pdif**		**23 35 29.4**	**+1.0**	
TIR	**Tirane**	**102.00**	**50**	*i* P	**Pdif**		**23 35 29.8**	**+1.4**	
TIR	**Tirane**	**102.00**	**50**	⇓P	**Pdif**		**23 35 24.6**	**-3.8**	
TIR	**Tirane**	**102.00**	**50**	⇓P	**PKiKP**		**23 39 52.7**	**+2.0**	
TIR	**Tirane**	**102.00**	**50**	⇓P	**Pdif**		**23 35 24.6**	**-3.8**	
GKP	**Gorka Klasztor**	**102.00**	**38**	*e*Pdif	**Pdif**		**23 35 29.4**	**+1.3**	
GKP				*e*			23 35 54.1		
GKP				*e*PKiKP	**PP**		**23 39 37.6**	**-3.0**	
GKP				*e*SKS			23 46 02.0		
GKP				*e*SP	SP		23 48 31.3	-4.7	
BBLS	**Lazići**	**102.05**	**48**	⇓*i*P	**Pdif**		**23 35 29.6**	**+1.0**	
PUK	**Puka**	**102.12**	**50**	*i* P	**Pdif**		**23 35 30.2**	**+1.1**	
TEKS	**Tekeris**	**102.23**	**47**	*e*P	**Pdif**		**23 35 31.7**	**+2.3**	
IVA	**Berane**	**102.25**	**49**	⇓*i*P	**Pdif**		**23 35 30.6**	**+1.0**	
PVY	**Plav**	**102.26**	**49**	⇓*i*P	**Pdif**		**23 35 30.9**	**+1.2**	
BCI	**Bajram Curri**	**102.30**	**49**	*i* P	**Pdif**		**23 35 31.7**	**+1.9**	
VYHS	**Vyhne**	**102.33**	**43**	*e*P	**Pdif**		**23 35 30.5**	**+0.8**	
VYHS	**Vyhne**	**102.33**	**43**	*e*PDIFF	**Pdif**		**23 35 30.5**	**+0.8**	
LOF	**Lofoten**	**102.33**	**23**	⇓*e*Pdif	**Pdif**		**23 35 28.7**	**-0.5**	
LOF				⇑*e*Pdif	**Pdif**		**23 35 29.0**	**-0.2**	
LOF				IVmB_BB			23 35 31.1		
	comp=Z,2µm,4.5s								
LOF				*e*PP	**PP**		**23 39 43.6**	**+0.9**	
LOF				*e*SKSac	**SKSac**		**23 46 03.1**	**+2.9**	
LOF				*e*SP	SP		23 48 42.1	+3.3	
LOF				*e*SS	**SS**		**23 54 16.0**	**+3.0**	
LOF				IVMs_BB	IVMs_BB		00 12 34.4		
	comp=Z,3µm,30.1s								
LSK	**Leskovik**	**102.37**	**52**	*i* P	**Pdif**		**23 35 30.8**	**+0.6**	
MOR8	**Moi Rana**	**102.40**	**25**	⇓*e*Pdif	**Pdif**		**23 35 31.0**	**+1.4**	
MOR8				IVmB_BB			23 35 32.4		
	comp=Z,2µm,4.5s								
MOR8				*e*PP	**PP**		**23 39 46.6**	**+3.3**	
MOR8				*e*SKSac	**SKSac**		**23 45 58.3**	**-2.5**	
MOR8				*e*SP	SP		23 48 42.5	+2.7	
MOR8				*e*SS	**SS**		**23 54 16.7**	**+2.5**	
MOR8				IVMs_BB	IVMs_BB		00 14 43.7		
	comp=Z,4µm,20.8s								
PHP	**Peshkopia**	**102.48**	**50**	*i* P	**Pdif**		**23 35 32.0**	**+1.4**	
DIVS	**Divibare**	**102.50**	**47**	⇓*i*P	**Pdif**		**23 35 31.5**	**+0.8**	
FRGS	**Fruska Gora**	**102.52**	**46**	⇓*i*P	**Pdif**		**23 35 31.2**	**+0.6**	
OHR	**Ohrid**	**102.66**	**51**	*i* P	**Pdif**		**23 35 32.8**	**+1.4**	
LANS	**Liptovska Anna**	**102.83**	**42**	*e*PP	**PKiKP**		**23 39 47.1**	**-4.9**	
FAUS	**Fauske**	**102.89**	**23**	⇓*e*Pdif	**Pdif**		**23 35 32.0**	**+0.3**	
FAUS				IVmBBB			23 35 36.1		
	comp=Z,1µm,4.1s								
FAUS				*e*SKSac	**SKSac**		**23 46 04.6**	**+1.7**	
FAUS				*e*SS	**SS**		**23 54 24.8**	**+4.0**	
FAUS				IVMs_BB	IVMs_BB		00 15 49.5		
	comp=Z,5µm,26.4s								
STEI	**Steigen**	**102.94**	**23**	⇓*e*Pdif	**Pdif**		**23 35 31.1**	**-0.8**	
STEI				IVmB_BB			23 35 33.9		
	comp=Z,1µm,4.7s								
STEI				*e*SKSac	**SKSac**		**23 46 04.5**	**+1.5**	
STEI				*e*SP	SP		23 48 48.6	+3.4	
STEI				*e*SS	**SS**		**23 54 23.7**	**+2.4**	
STEI				IVMs_BB	IVMs_BB		00 13 08.8		
	comp=Z,4µm,28.6s								
PSZ	**Piszkesteto**	**102.95**	**44**	P	**Pdif**		**23 35 33.7**	**+1.1**	
PSZ	**Piszkesteto**	**102.95**	**44**	⇑P	**PKiKP**		**23 39 54.1**	**+1.8**	
PSZ	**Piszkesteto**	**102.95**	**44**	P	**Pdif**		**23 35 33.7**	**+1.1**	
OJC	**Ojcow**	**103.17**	**41**	*e*Pdif	**Pdif**		**23 35 34.4**	**+1.0**	
OJC				*e*			23 35 59.3		
OJC				*e*PKiKP	**PP**		**23 39 44.1**	**-5.5**	
OJC				*e*SKS			23 46 08.1		
OJC				*e*SP	**SP**		**23 48 42.8**	**-5.9**	
SKO	**Skopje**	**103.26**	**50**	*i* P	**Pdif**		**23 35 35.4**	**+1.4**	
KBS	**Kingsbay**	**103.35**	**11**	*d* P	**Pdif**		**23 35 33.6**	**0.0**	
KBS				pmax	pmax				
	comp=Z,21nm,1.0s								
KBS	**Kingsbay**	**103.35**	**11**	⇓*e*Pdif	**Pdif**		**23 35 33.3**	**-0.3**	
KBS				IVmBBB			23 35 38.6		
	comp=Z,1µm,4.9s								
KBS				*e*PP	**PP**		**23 39 49.3**	**-0.7**	
KBS				*e*SKSac	**SKSac**		**23 46 06.0**	**+1.3**	
KBS				*e*SP	**SP**		**23 48 50.6**	**+1.4**	
KBS				IVMs_BB	IVMs_BB		00 15 06.9		
	comp=Z,4µm,27.6s								
NIE	**Niedzica**	**103.40**	**42**	*e*Pdif	**Pdif**		**23 35 36.2**	**+1.7**	
NIE				*e*			23 36 00.4		
NIE				*e*PKiKP	**PP**		**23 39 46.0**	**-5.3**	
NIE				*e*SKS			23 46 08.0		
NIE				*e*SP	SP		23 48 41.4	-10	
KECS	**Kecovo**	**103.41**	**43**	*e*PP	**PKiKP**		**23 39 51.5**	**-1.5**	
MDVR	**Moldovita**	**103.81**	**47**	P	**Pdif**		**23 35 37.8**	**+1.3**	
MDVR	**Moldovita**	**103.81**	**47**	⇑P	**PKKPbc**		**23 51 26.9**	**-1.7**	
BZS	**Buzias**	**103.84**	**46**	P	**Pdif**		**23 35 37.8**	**+1.3**	
BZS	**Buzias**	**103.84**	**46**	⇓P	**PKiKP**		**23 39 51.7**	**-2.2**	
BZS	**Buzias**	**103.84**	**46**	⇓P	**PKKPbc**		**23 51 28.0**	**-0.4**	
BZS	**Buzias**	**103.84**	**46**	P	**Pdif**		**23 35 37.8**	**+1.3**	
HSPB	**Hornsund (broa**	**103.90**	**13**	*e*Pdif	**Pdif**		**23 35 37.4**	**+1.3**	
HSPB				*e*			23 36 03.0		
HSPB				*e*PKiKP	**PKiKP**		**23 39 50.0**	**-3.1**	
HSPB				*e*SKS			23 46 10.4		
HSPB				*e*SP	**SP**		**23 48 51.8**	**-3.2**	
HSPB				*e*SS	**SS**		**23 54 44.5**	**+10**	
HSPB	**Hornsund (broa**	**103.90**	**13**	⇓*e*Pdif	**Pdif**		**23 35 36.4**	**+0.4**	
HSPB				IVmB_BB			23 35 38.8		
	comp=Z,1µm,4.8s								
HSPB				*e*SKSac	**SKSac**		**23 46 09.0**	**+1.7**	
HSPB				*e*SP	SP		23 48 54.9	-0.1	
HSPB				*e*SS	**SS**		**23 54 36.7**	**+2.5**	
HSPB				IVMs_BB	IVMs_BB		00 20 42.6		
	comp=Z,3µm,28.2s								
SIRR	**Siria**	**103.95**	**45**	P	**Pdif**		**23 35 38.2**	**+1.2**	
SIRR	**Siria**	**103.95**	**45**	⇑P	**PKiKP**		**23 39 55.2**	**+1.1**	
BEL	**Belsk**	**103.98**	**40**	*e*Pdif	**Pdif**		**23 35 38.5**	**+1.6**	
BEL				*e*			23 36 02.7		
BEL				*e*PKiKP	**PKiKP**		**23 39 52.8**	**-1.1**	
BEL				*e*SKS			23 46 11.9		
BEL				*e*SP	SP		23 48 51.8	-5.1	
BEL				*e*SS	**SS**		**23 54 30.0**	**-6.5**	
VAY	**Valandovo**	**104.01**	**51**	*i* P	**Pdif**		**23 35 38.7**	**+1.3**	
CRVS	**Cervenica-Dubn**	**104.10**	**43**	*e*P	**Pdif**		**23 35 39.4**	**+1.8**	
CRVS				*e*			23 39 53.5		
CRVS				*e*SS	SS		23 54 46.8	+8.3	
CRVS	**Cervenica-Dubn**	**104.10**	**43**	*e*PDIFF	**Pdif**		**23 35 39.3**	**+1.7**	
CRVS				*e*PP	**PKiKP**		**23 39 53.5**	**-0.8**	
CRVS				*e*SS	SS		23 54 46.8	+8.3	
SPA0	**Spitsbergen Ar**	**104.16**	**12**	⇓*e*Pdif	**Pdif**		**23 35 37.6**	**+0.5**	
SPA0				*e*PP	**PP**		**23 39 57.3**	**+1.2**	
SPA0				*e*SKSac	**SKSac**		**23 46 06.0**	**-2.6**	
SPA0				*e*SP	SP		23 48 59.5	+1.7	
SPA0				*e*SS	**SS**		**23 54 40.5**	**+2.7**	
SPITS	**Spitsbergen Ar**	**104.16**	**12**	Pdiff	**Pdif**		**23 35 37.7**	**+0.5**	
	comp=Z,6.8nm,0.9s,baz=155,slow=12,SNR=3.7								
SPITS				PP	**PKiKP**		**23 39 54.6**	**+0.9**	
	comp=Z,18nm,1.0s,baz=131,slow=19,SNR=3.6								
HERR	**Herculane**	**104.32**	**47**	P	**Pdif**		**23 35 39.6**	**+1.0**	
HERR	**Herculane**	**104.32**	**47**	⇓P	**PKiKP**		**23 39 55.5**	**+0.7**	
HERR	**Herculane**	**104.32**	**47**	⇓P	**PKKPab**		**23 51 45.2**	**+1.5**	
TRO	**Tromso**	**104.42**	**21**	⇓*e*Pdif	**Pdif**		**23 35 38.8**	**+0.4**	
TRO				IVmBBB			23 35 41.7		
	comp=Z,972nm,2.0s								
TRO				*e*SKSac	**SKSac**		**23 46 09.9**	**+0.1**	
TRO				*e*SP	**SP**		**23 49 02.0**	**+1.3**	
TRO				*e*SS	**SS**		**23 54 44.5**	**+2.9**	
TRO				IVMs_BB	IVMs_BB		00 11 53.3		
	comp=Z,3µm,46.4s								
PUNG	**Punghina**	**104.62**	**48**	⇓P	**PKiKP**		**23 39 57.4**	**+2.1**	
PUNG	**Punghina**	**104.62**	**48**	⇑P	PKKPab		23 51 25.5	-17	
UZH	**Uzhgorod**	**104.62**	**43**	*e*P	**Pdif**		**23 35 38.7**	**-1.1**	
UZH				*i*			23 46 09.0		
UZH				*e*S	**Sdif**		**23 47 26.4**	**+1.4**	
UZH				*i* SS	**SS**		**23 54 46.9**	**+1.4**	
UZH				MLR	MLR				
	comp=Z,900nm,18.0s								
BJO1	**Bjornoya**	**104.63**	**16**	*e*Pdif	**Pdif**		**23 35 40.3**	**+1.0**	
BJO1				IVmBBB			23 35 42.6		
	comp=Z,752nm,1.6s								
BJO1				*e*PP	**PP**		**23 39 59.5**	**-0.2**	
BJO1				*e*SKSac	**SKSac**		**23 46 06.2**	**-4.4**	
BJO1				*e*SP	**SP**		**23 49 01.7**	**-1.0**	
BJO1				*e*SS	**SS**		**23 54 49.6**	**+5.3**	
BJO1				IVMs_BB	IVMs_BB		00 13 41.4		
	comp=Z,3µm,27.4s								
KOLS	**Kolonicke sedl**	**104.64**	**43**	*e*PP	**PKiKP**		**23 39 56.6**	**+1.3**	
VTS	**Vitosha**	**104.66**	**49**	*e*P	**Pdif**		**23 35 40.2**	**-0.2**	
DEV	**Deva**	**104.77**	**46**	⇑P	**PKKPab**		**23 51 43.7**	**+2.0**	
SRE	**Strehaia**	**104.85**	**47**	⇓P	**PKKPbc**		**23 51 25.2**	**-0.1**	
MMB	**Musomiste**	**104.91**	**50**	*e*P	**Pdif**		**23 35 41.8**	**+0.4**	
KWP	**Kalwaria Pacla**	**104.98**	**42**	*e*Pdif	**Pdif**		**23 35 41.9**	**+0.4**	
KWP				*e*			23 36 08.0		
KWP				*e*PKiKP	**PKiKP**		**23 39 58.5**	**+2.6**	
KWP				*e*SKS			23 46 16.0		
KWP				*e*SP	**SP**		**23 49 01.8**	**-5.8**	
PBUR	**Paburge**	**105.00**	**35**	*e*P	**Pdif**		**23 35 41.9**	**+0.5**	
IDI	**Anoyia**	**105.06**	**57**	Pdiff	**Pdif**		**23 35 43.0**	**+0.7**	
IDI	comp=Z,18nm,0.8s,baz=288,slow=4.3,SNR=11			PP	**PKiKP**		**23 39 58.6**	**+2.0**	
	comp=Z,28nm,0.8s,baz=64,slow=7.6,SNR=8.9								
IDI	**Anoyia**	**105.06**	**57**	⇑P	**Pdif**		**23 35 43.4**	**+1.1**	
IDI	**Anoyia**	**105.06**	**57**	⇓P	**PKiKP**		**23 39 58.8**	**+2.2**	
IDI	**Anoyia**	**105.06**	**57**	⇑P	**PKKPab**		**23 51 40.5**	**-0.3**	
SLIT	**Slitere, Latvi**	**105.30**	**34**	*e*P	**Pdif**		**23 35 41.3**	**-1.3**	
CJR	**Cluj-Napoca**	**105.32**	**45**	⇑P	**Pdif**		**23 35 44.3**	**+1.2**	
CJR	**Cluj-Napoca**	**105.32**	**45**	⇓P	**PKiKP**		**23 40 02.4**	**+5.8**	
CJR	**Cluj-Napoca**	**105.32**	**45**	⇑P	**PKKPab**		**23 51 41.7**	**+2.4**	
CJR	**Cluj-Napoca**	**105.32**	**45**	⇑P	**Pdif**		**23 35 44.3**	**+1.2**	
LOT	**Lotru**	**105.33**	**46**	⇓P	**PKiKP**		**23 39 58.5**	**+1.7**	
LOT	**Lotru**	**105.33**	**46**	⇑P	**PKKPbc**		**23 51 23.4**	**-0.6**	
BMR	**Baia Mare**	**105.34**	**44**	⇑P	**PKiKP**		**23 40 02.0**	**+5.4**	
BMR	**Baia Mare**	**105.34**	**44**	⇓P	**PKKPbc**		**23 51 26.6**	**+2.7**	
SUW	**Suwalki**	**105.59**	**37**	*e*Pdif	**Pdif**		**23 35 45.1**	**+1.1**	
SUW				*e*			23 36 10.1		
SUW				*e*PKiKP	**PKiKP**		**23 39 58.8**	**+1.9**	
SUW				*e*SKS	**SKSac**		**23 46 17.5**	**+1.7**	
SUW				*e*SP	**SP**		**23 49 02.7**	**-11**	
SUW				*e*SS	**SKKPbc**		**23 55 04.7**	**+5.4**	
SANT	**Santorini**	**105.66**	**56**	⇓P	**PKiKP**		**23 39 58.5**	**+0.9**	
PLD	**Plovdiv**	**105.69**	**50**	*e*P	**Pdif**		**23 35 45.2**	**+0.5**	
APE	**Apeiranthos**	**105.79**	**55**	⇑P	**PKiKP**		**23 39 58.9**	**+1.1**	
APE	**Apeiranthos**	**105.79**	**55**	*i* P	**Pdif**		**23 35 45.0**	**-0.4**	
APE				pmax	pmax				
	comp=Z,34nm,3.0s								
LVV	**L'vov**	**105.86**	**42**	*e*P	**Pdif**		**23 35 44.9**	**-0.4**	
LVV				*e*			23 46 15.4		
LVV				*e*S	**Sdif**		**23 47 28.2**	**-7.0**	
LVV				*e*SS	**SKKPbc**		**23 55 00.0**	**+1.6**	
LVV				*e*SSS	SSS		23 59 00.9		
LVV				MLR	MLR				
	comp=Z,5µm,22.0s								
LVV				MLR	MLR				
	comp=N,3µm,18.0s								
ARCR	**ARCALIA**	**105.87**	**45**	⇑P	**Pdif**		**23 35 46.9**	**+1.4**	
ARCR	**ARCALIA**	**105.87**	**45**	⇑P	PKiKP		23 40 06.4	+8.8	
ARCR	**ARCALIA**	**105.87**	**45**	⇓P	**PKKPbc**		**23 51 22.4**	**0.0**	
ARR	**Arges**	**105.93**	**47**	⇑P	**Pdif**		**23 35 47.2**	**+1.3**	
ARR	**Arges**	**105.93**	**47**	⇓P	**PKiKP**		**23 39 59.2**	**+1.3**	
KTK1	**Kautokeino**	**105.94**	**22**	*e*Pdif	**Pdif**		**23 35 46.0**	**+0.7**	
KTK1				*e*SKSac	**SKSac**		**23 46 17.2**	**+0.4**	
KTK1				*e*SP	**SP**		**23 49 17.9**	**+1.4**	
**H

CFR	**Carcaliu**	**108.39**	**47**	⇓P		**PKiKP**	**23 40 04.0**	**+1.7**	
CFR	**Carcaliu**	**108.39**	**47**	⇑P		**PKKPdf**	**23 51 26.1**	**-2.6**	
TOPG	**Topolog**	**108.54**	**47**	⇑P		**PKiKP**	**23 40 04.5**	**+1.9**	
TOPG	**Topolog**	**108.54**	**47**	⇑P		**PKKPdf**	**23 51 27.2**	**-1.2**	
TIRR	**Tirgusor**	**108.55**	**48**	⇑P		**PKiKP**	**23 40 04.6**	**+2.0**	
TIRR	**Tirgusor**	**108.55**	**48**	⇑P		**PKiKP**	**23 40 04.6**	**+2.0**	
SORM	**Soroca**	**108.62**	**44**	⇓P		PKKPdf	23 51 12.1	-16	
MANR	**Mangalia**	**108.65**	**48**	⇑P		**PKiKP**	**23 40 05.0**	**+2.2**	
ARMT	**Armutlu**	**108.69**	**52**	*e*P		**PKiKP**	**23 40 02.8**	**-0.3**	
ISK	**Istanbul-Kandi**	**108.86**	**51**	*e*P		**PKiKP**	**23 40 02.1**	**-1.3**	
TLCR		**108.86**	**47**	⇑P		**PKiKP**	**23 40 03.8**	**+0.6**	
TLCR		**108.86**	**47**	⇓P		**PKKPdf**	**23 51 26.1**	**-1.8**	
KAVV	**Kandilli-Istan**	**108.87**	**51**	*e*P		**PKiKP**	**23 40 02.1**	**-1.3**	
MILM	**Milestii Mici**	**108.91**	**45**	⇓P		**PKiKP**	**23 40 04.2**	**+1.0**	
MILM	**Milestii Mici**	**108.91**	**45**	⇑P		PKKPdf	23 51 13.0	-15	
KIS	**Kishinev**	**108.92**	**45**	⇓*i*P		**Pdif**	**23 35 59.5**	**+0.5**	
	comp=E,450nm,13.0s								
KIS	**Kishinev**	**108.92**	**45**	*i* PKP		PKiKP	23 40 17.0	+14	
KIS	**Kishinev**	**108.92**	**45**	*e*PP		**PP**	**23 40 39.0**	**+7.1**	
	comp=E,590nm,10.7s								
KIS				*e*SKP			23 43 17.0		
KIS				*i* SKS		**SKSac**	**23 46 32.0**	**+1.4**	
KIS				*i* SKKS		**SKKSac**	**23 47 25.0**	**-1.6**	
KIS	**Kishinev**	**108.92**	**45**	*d*P		**Pdif**	**23 35 59.5**	**+0.5**	
KIS				*e*			23 40 39.0		
KIS				*i*			23 46 32.0		
KIS				pmax	pmax				
	comp=Z,150nm,13.0s								
KIS				pmax	pmax				
	comp=Z,590nm,10.7s								
TVSB	**Tavsanli**	**109.08**	**53**	*e*P		**PKiKP**	**23 40 05.6**	**+1.6**	
AKASG	**Malin Array Be**	**109.21**	**41**	Pdiff		**Pdif**	**23 36 00.5**	**+0.3**	
	comp=Z,0.1nm,0.3s,baz=251,slow=5.8,SNR=4.7								
AKASG				PKiKP		**PKiKP**	**23 40 04.5**	**+0.8**	
	comp=Z,23nm,0.8s,baz=268,slow=2.9,SNR=41								
AKASG				PP		**PP**	**23 40 29.8**	**-4.2**	
	comp=Z,7.5nm,0.8s,baz=261,slow=7.5,SNR=5.2								
AKASG				PKKPbc		**PKKPbc**	**23 51 10.0**	**-1.9**	
	comp=Z,8.7nm,0.9s,baz=74,slow=3.0,SNR=14								
AKASG				PKPPKP			23 59 34.9		
	comp=Z,4.0nm,0.8s,baz=81,slow=2.1,SNR=4.9								
AKASG	**Malin Array Be**	**109.21**	**41**			**Pdif**	**23 36 00.5**	**+0.3**	
ELL	**Elmali**	**109.26**	**56**	*e*P		**PKiKP**	**23 40 05.7**	**+1.3**	
PUL	**Pulkovo**	**109.46**	**31**	*e*P		**PKiKP**	**23 36 01.2**	**+0.1**	
PUL	**Pulkovo**	**109.46**	**31**	*d*P		**Pdif**	**23 36 01.9**	**+0.8**	
KORT	**Korkueli**	**109.63**	**56**	*e*P		**PKiKP**	**23 40 08.1**	**+3.0**	
KMBO	**Kilima Mbogo**	**109.79**	**97**	PKiKP		**PKiKP**	**23 40 09.2**	**+3.0**	
	comp=Z,2.7nm,0.8s,baz=240,slow=4.5,SNR=5.0								
KMBO				PKKPbc		**PKKPbc**	**23 51 14.4**	**+5.3**	
	comp=Z,4.0nm,0.8s,baz=33,slow=4.7,SNR=4.2								
KMBO				PKPPKP			23 59 39.5		
	comp=Z,0.6nm,0.5s,baz=294,slow=1.6,SNR=4.7								
KMBO	**Kilima Mbogo**	**109.79**	**97**	*e*P		**PKiKP**	**23 40 06.5**	**+0.3**	
KMBO				*e*S		SKSac	23 46 48.1	+12	
APA	**Apatity**	**109.84**	**23**	⇓*i*P		**Pdif**	**23 36 05.0**	**+2.4**	
APA				*i* PPP		PPP	23 42 56.0		
APA				*i*			23 46 32.0		
APA				*i* PS		PS	23 49 57.0	-11	
APA				pmax	pmax				
	comp=Z,15nm,0.8s								
BCK	**Bucak**	**109.85**	**55**	*e*P		**PKiKP**	**23 40 05.8**	**+0.4**	
SHUT	**Suhut-Afyon**	**109.88**	**54**	*e*P		**PKiKP**	**23 40 07.0**	**+1.5**	
SRCK	**Saricakaya, Es**	**110.01**	**52**	*e*P		**PKiKP**	**23 40 06.9**	**+1.3**	
LVZ	**Lovozero**	**110.25**	**23**	*d*P		**Pdif**	**23 36 05.1**	**+0.6**	
CIFT	**Cifteler, Eski**	**110.31**	**53**	*e*P		**PKiKP**	**23 40 06.9**	**+0.6**	
DZM	**Mont Dzumac**	**110.85**	**239**	*e*PP		**PP**	**23 40 43.3**	**-2.9**	
	comp=Z,6μm,28.6s								
DZM				*e*SP		SP	23 50 04.5	-3.4	
	comp=Z,13μm,27.0s								
DZM				*e*SS		**SS**	**23 56 10.7**	**+0.4**	
	comp=Z,37μm,28.9s								
DZM	**Mont Dzumac**	**110.85**	**239**	*e*LR		LR	00 13 02.2		
	comp=Z,69μm,32.1s								
KIZT	**Kizilcal**	**110.93**	**54**	*e*P		**PKiKP**	**23 40 08.1**	**+0.6**	
KONT	**Konya--Tatoy**	**111.27**	**55**	*e*P		**PKiKP**	**23 40 09.5**	**+1.4**	
LADK	**Ladik-KONYA**	**111.29**	**54**	*e*P		**PKiKP**	**23 40 09.3**	**+1.1**	
LEF	**Lefka**	**111.57**	**58**	⇑P		**PKiKP**	**23 40 08.8**	**+0.2**	
LOD	**Lodumlu**	**111.65**	**53**	*e*P		**PKiKP**	**23 40 09.9**	**+1.1**	
CHBY	**Cihanbeyli**	**111.71**	**54**	*e*P		**PKiKP**	**23 40 10.9**	**+1.9**	
AFSR	**Afar-Bala (An**	**111.87**	**53**	*e*P		**PKiKP**	**23 40 10.6**	**+1.4**	
TEVE	**Tevekalti-Mers**	**112.08**	**56**	*e*P		**PKiKP**	**23 40 09.7**	**0.0**	
AKKU	**Akkuyu-Mersin**	**112.16**	**57**	*e*P		**PKiKP**	**23 40 10.1**	**+0.4**	
SULT	**Sultanhani-AKS**	**112.19**	**54**	*e*P		**PKiKP**	**23 40 09.2**	**-0.7**	
SERE	**Sereflikochisa**	**112.25**	**54**	*e*P		**PKiKP**	**23 40 10.4**	**+0.4**	
IKL	**Isikli**	**112.27**	**57**	*e*P		**PKiKP**	**23 40 10.6**	**+0.7**	
CANT	**Cankiri**	**112.31**	**52**	*e*P		**PKiKP**	**23 40 10.7**	**+0.7**	
BR131	**Keskin Array S**	**112.32**	**53**	P		**PKiKP**	**23 40 11.1**	**+1.0**	
	SNR=15								
BRTR	**Keskin Array B**	**112.32**	**53**	Pdiff		**Pdif**	**23 36 14.4**	**-0.1**	
	comp=Z,0.7nm,0.8s,baz=174,slow=1.2,SNR=3.8								
BRTR				PKiKP		**PKiKP**	**23 40 10.5**	**+0.4**	
	comp=Z,27nm,0.9s,baz=195,slow=1.9,SNR=48								
BRTR				PKKPbc		**PKKPbc**	**23 51 01.3**	**-0.3**	
	comp=Z,5.8nm,0.9s,baz=121,slow=4.7,SNR=8.0								
BRTR				PKPPKP			23 59 27.1		
	comp=Z,1.0nm,0.9s,baz=168,slow=2.4,SNR=3.8								
BRTR	**Keskin Array B**	**112.32**	**53**			**Pdif**	**23 36 14.4**	**-0.1**	
YESY	**Yesilyurt**	**112.36**	**55**	*e*P		**PKiKP**	**23 40 10.9**	**+0.6**	
TMCR	**Tamitsa**	**112.39**	**26**	*e*P		**Pdif**	**23 36 12.1**	**-1.9**	
SILI	**Silifke-Mersin**	**112.47**	**56**	*e*P		**PKiKP**	**23 40 10.9**	**+0.6**	
BZK	**Bozkurt**	**112.60**	**50**	⇓P		PKiKP	23 39 57.4	-13	
BZK	**Bozkurt**	**112.60**	**50**	*e*P		**PKiKP**	**23 40 11.8**	**+1.4**	
EREN	**Erenkoy**	**112.64**	**57**	*e*P		**PKiKP**	**23 40 13.1**	**+2.4**	
OPO	**Ambohidratompo**	**112.94**	**118**	PKKPbc		PKKPbc	23 50 58.7	-0.3	
	comp=Z,7.8nm,0.8s,baz=43,slow=2.9,SNR=7.5								
MERS	**Mersin**	**112.96**	**56**	*e*P		**PKiKP**	**23 40 11.9**	**+0.5**	
EIL	**Elat**	**112.98**	**64**	PKiKP		**PKiKP**	**23 40 13.1**	**+1.6**	
	comp=Z,38nm,0.8s,baz=318,slow=2.5,SNR=39								
EIL				PKKPbc		**PKKPab**	**23 51 07.8**	**+1.9**	
	comp=Z,15nm,1.0s,baz=357,slow=3.9,SNR=7.8								
CORM	**Corum**	**113.08**	**52**	*e*P		**PKiKP**	**23 40 12.7**	**+1.1**	
OBN	**Obninsk**	**113.33**	**36**	PKiKP		**PKiKP**	**23 40 12.4**	**+1.1**	
	comp=Z,16nm,0.8s,baz=253,slow=0.5,SNR=19								
OBN				PP		**PP**	**23 40 58.7**	**-4.5**	
	comp=Z,6.2nm,0.8s,baz=236,slow=5.6,SNR=7.4								
OBN				PKKPbc		**PKKPbc**	**23 50 58.7**	**+0.2**	
	comp=Z,12nm,1.0s,baz=284,slow=3.5,SNR=8.7								
OBN	**Obninsk**	**113.33**	**36**	⇑P		**PKiKP**	**23 40 11.6**	**+0.3**	
OBN	**Obninsk**	**113.33**	**36**	⇓P		**PKKPbc**	**23 50 56.2**	**-2.3**	
OBN	**Obninsk**	**113.33**	**36**	*d*P		**Pdif**	**23 36 19.1**	**+0.7**	
OBN				*i*			23 40 11.6		
OBN				*e*PPP		PPP	23 43 30.2		
OBN				*e*			23 46 48.7		
OBN				*e*SS		SS	23 56 37.0	-5.0	
OBN				*e*SSS		SSS	00 00 58.7		
OBN				pmax	pmax				
	comp=Z,5.0nm,1.0s								
OBN				pmax	pmax				
	comp=Z,71nm,0.9s								
OBN				MLR	MLR				
	comp=Z,12μm,21.0s								
KARA	**Karaisali**	**113.39**	**55**	*e*P		**PKiKP**	**23 40 12.5**	**+0.4**	
DIKM	**Dikmen**	**113.54**	**51**	⇓P		**PKiKP**	**23 40 13.0**	**+0.8**	
MMAI	**Mount Meron Ar**	**113.56**	**60**	PKiKP		**PKiKP**	**23 40 13.4**	**+0.8**	
	comp=Z,26nm,0.8s,baz=313,slow=1.8,SNR=43								
MMAI				PKKPbc		**PKKPab**	**23 51 06.6**	**+3.3**	
	comp=Z,11nm,0.9s,baz=99,slow=4.3,SNR=9.9								
FURI	**Furi**	**113.58**	**87**	*e*P		**PKiKP**	**23 40 14.8**	**+1.3**	
FURI	**Furi**	**113.58**	**87**	*e*P		**PKiKP**	**23 40 13.6**	**+0.1**	
KRTS	**Karatas**	**113.64**	**56**	*e*P		**PKiKP**	**23 40 13.1**	**+0.6**	
AAE	**Adis Abeba**	**113.69**	**86**	*e*P		**PKiKP**	**23 40 13.6**	**-0.1**	
AAE				*e*S		**SKKSac**	**23 48 10.7**	**+9.2**	
KLMR	**Klimovskoe**	**113.82**	**29**	P		**Pdif**	**23 36 20.8**	**+0.3**	
KLMR				*i*			23 40 11.4		
KLMR				*e*SS		SS	23 56 53.6	+5.5	
KLMR				pmax	pmax				
	comp=Z,15nm,1.5s								
KLMR	**Klimovskoe**	**113.82**	**29**	Pdif		**Pdif**	**23 36 20.8**	**+0.3**	
KLMR				AMP			23 36 32.3		
	comp=Z,15nm,1.5s								
KLMR				*e*PKiKP		**PKiKP**	**23 40 11.4**	**-0.7**	
KLMR				*e*PKKPbc		**PKKPbc**	**23 50 56.1**	**-0.9**	
KLMR				*e*SS		**SS**	**23 56 53.6**	**+5.5**	
KLMR				*e*SS		**SS**	**23 56 53.6**	**+5.5**	
MOS	**Moscow**	**113.83**	**35**	*i* P		**Pdif**	**23 36 10.2**	**-10**	
MOS				*i*			23 40 11.2		
MOS				*e*			23 40 41.6		
MOS				*e*			23 46 49.7		
MOS				*i* PS		**PS**	**23 50 32.9**	**-12**	
MOS				pmax	pmax				
	comp=Z,58nm,1.2s								
MOS				pmax	pmax				
	comp=Z,300nm,2.6s								
KOZT	**Kozan**	**114.01**	**55**	*e*P		**PKiKP**	**23 40 13.1**	**-0.2**	
BNN	**Bunyan**	**114.03**	**54**	*e*P		**PKiKP**	**23 40 14.1**	**+0.7**	
KVT	**Kavak**	**114.15**	**51**	*e*P		**PKiKP**	**23 40 15.4**	**+1.9**	
SARI	**SarD1z-Kayseri**	**114.48**	**54**	*e*P		**PKiKP**	**23 40 15.3**	**+0.9**	
TOKT	**Tokat**	**114.54**	**52**	*e*P		PKPdf	23 40 13.9	-0.4	
ANKE	**Ethiopia-Afar**	**114.74**	**86**	*e*P		PKPdf	23 40 12.1	-3.7	
ANKE				*i* S		**SKKSac**	**23 48 18.1**	**+9.4**	
ASF	**Jabal al Asfar**	**114.78**	**61**	PKP		**PKiKP**	**23 40 16.5**	**+1.4**	
	comp=Z,40nm,0.9s,baz=195,slow=0.6,SNR=63								
ASF				PKKPbc		**PKKPab**	**23 51 01.5**	**+3.5**	
	comp=Z,9.6nm,0.9s,baz=72,slow=1.9,SNR=13								
KMRS	**Kahramanmaras**	**114.86**	**55**	*e*P		**PKiKP**	**23 40 16.0**	**+1.1**	
SVSK	**Karacayir**	**114.90**	**53**	*e*P		**PKiKP**	**23 40 15.9**	**+1.1**	
ANN	**Anapa**	**114.98**	**47**	*de*P		**Pdif**	**23 36 25.4**	**-0.6**	
ANN				*i*			23 40 15.2		
ANN				*e*			23 40 42.2		
ANN				*i* PS		**PKKPbc**	**23 50 52.6**	**+0.1**	
ANN				pmax	pmax				
	comp=Z,405nm,3.9s								
ANN				pmax	pmax				
	comp=Z,503nm,2.5s								
ANN				pmax	pmax				
	comp=Z,97nm,0.9s								
LPSR	**Galich'ya Gora**	**115.08**	**38**	*i* PKIKP		**PKPdf**	**23 40 15.7**	**+0.9**	
LPSR				*e*			23 46 50.4		
LPSR				*e*PS		**PKKPbc**	**23 50 49.2**	**-3.2**	
LPSR				pmax	pmax				
	comp=Z,150nm,0.8s								
GAZ	**Gaziantep**	**115.12**	**56**	*e*P		**PKiKP**	**23 40 16.3**	**+0.8**	
RSDY	**Resadiye-TOKAT**	**115.14**	**52**	*e*P		**PKPdf**	**23 40 14.5**	**-0.9**	
VORR	**Voronezh**	**115.40**	**39**	*e*PKIKP		**PKiKP**	**23 40 14.0**	**-1.4**	
VORR				pmax	pmax				
	comp=Z,350nm,2.0s								
VSR	**Storozhevoye**	**115.44**	**40**	*i* PKIKP		**PKiKP**	**23 40 15.5**	**0.0**	
VSR				*e*			23 46 51.3		
VSR				*e*PS		**PKKPab**	**23 50 53.0**	**-1.3**	
VSR				pmax	pmax				
	comp=Z,100nm,0.9s								
VORD	**Divnogorie**	**115.56**	**40**	*e*PKIKP		**PKPdf**	**23 40 16.4**	**+0.6**	
VORD				pmax	pmax				
	comp=Z,40nm,0.8s								
MALT	**Malatya**	**116.06**	**54**	*e*P		**PKiKP**	**23 40 18.2**	**+0.9**	
ESPY	**Espiye-Giresun**	**116.18**	**51**	*e*P		**PKiKP**	**23 40 18.9**	**+1.6**	
URFA	**Urfa**	**116.39**	**55**	*e*P		**PKiKP**	**23 40 19.1**	**+1.1**	
PRGR	**Permogore**	**116.44**	**28**	⇓*i*P		**Pdif**	**23 36 31.1**	**-1.0**	
PRGR				*i*			23 40 17.8		
PRGR				pmax	pmax				
	comp=Z,14nm,1.0s								
SOC	**Sochi**	**116.72**	**48**	*d*PKIKP		**PKiKP**	**23 40 19.0**	**+0.7**	
SOC				*e*			23 41 27.9		
SOC				*e*PS		**PKKPab**	**23 50 56.6**	**+7.7**	
SVRC	**Sivrice-ELAZID**	**116.75**	**54**	*e*P		**PKiKP**	**23 40 20.2**	**+1.5**	
PTK	**Pertek**	**116.79**	**54**	*e*P		**PKiKP**	**23 40 20.1**	**+1.3**	
KTUT	**Trabzon**	**116.96**	**51**	⇑P		**PKPdf**	**23 40 18.0**	**-0.8**	
KTUT	**Trabzon**	**116.96**	**51**	*e*P		**PKPdf**	**23 40 17.9**	**-0.9**	
VRH	**Novokhopyorsk**	**117.03**	**40**	*i* PKIKP		**PKiKP**	**23 40 19.0**	**+0.4**	
VRH				*e*			23 47 02.7		
VRH				*e*PS		PKKPdf	23 51 04.4	-8.1	
VRH				pmax	pmax				
	comp=Z,120nm,0.9s								
DYBB	**Diyarbakir**	**117.42**	**55**	*e*P		**PKiKP**	**23 40 20.7**	**+0.8**	
YEDI	**Yedisu-Bingol**	**117.66**	**53**	*e*P		**PKiKP**	**23 40 22.1**	**+1.6**	
MAZI	**Mazidag**	**117.69**	**55**	*e*P		**PKiKP**	**23 40 21.6**	**+1.1**	
BNGB	**Bingl**	**117.79**	**53**	*e*P		**PKiKP**	**23 40 22.1**	**+1.4**	
KARO	**Karliova-Bingo**	**118.06**	**53**	*e*P		**PKiKP**	**23 40 22.6**	**+1.3**	
ATD	**Arta Tunnel**	**118.11**	**85**	PKP		**PKiKP**	**23 40 23.8**	**+1.9**	
	comp=Z,56nm,0.9s,baz=281,slow=4.1,SNR=28								
ATD				PKKPbc		**PKKPab**	**23 50 45.1**	**+0.9**	
	comp=Z,14nm,0.9s,baz=302,slow=12,SNR=6.1								
ATD	**Arta Tunnel**	**118.11**	**85**	P		**PKiKP**	**23 40 24.3**	**+2.4**	
	SNR=13								
ATD	**Arta Tunnel**	**118.11**	**85**	*e*P		**PKiKP**	**23 40 23.4**	**+1.5**	
ATD				*e*S		**SKSdf**	**23 47 22.2**	**-4.2**	
ATD	**Arta Tunnel**	**118.11**	**85**	PKPdf		**PKiKP**	**23 40 24.5**	**+2.7**	
ATD	**Arta Tunnel**	**118.11**	**85**	*e*P		**PKiKP**	**23 40 22.6**	**+0.7**	
ATD				*e*S		**SKSdf**	**23 47 16.1**	**-10**	
SVAN	**Silvan-Diyarba**	**118.25**	**54**	*e*P		**PKiKP**	**23 40 22.9**	**+1.4**	
BATM	**Batumi**	**118.36**	**50**	⇓P		**PKiKP**	**23 40 22.0**	**+0.5**	
BATM	**Batumi**	**118.36**	**50**	⇓PKIKP		**PKiKP**	**23 40 22.0**	**+0.5**	
VRTB	**Varto-Mus**	**118.38**	**53**	*e*P		**PKiKP**	**23 40 23.6**	**+1.7**	
CHVG	**Ch'k'valeri**	**118.53**	**49**	⇓P		**PKiKP**	**23 40 24.9**	**+3.1**	
KOPR	**Koprukoy-ERZUR**	**118.62**	**52**	*e*P		**PKiKP**	**23 40 23.7**	**+1.4**	
KIV	**Kislovodsk**	**118.82**	**48**	⇓P		**PKiKP**	**23 40 22.8**	**+0.4**	
KIV	**Kislovodsk**	**118.82**	**48**	P		**PKiKP**	**23 40 23.0**	**+0.5**	
KIV	**Kislovodsk**	**118.82**	**48**	*e*P		**Pdif**	**23 36 42.9**	**-0.3**	
KIV				*i*			23 40 22.3		
KIV				*e*			23 41 41.6		
KIV				*e*			23 47 07.2		
KIV				*e*PS		**PS**	**23 51 31.7**	**+0.9**	
KIV				*e*SS		SS	23 57 53.0	-1.7	
KIV				*e*SSS		SSS	00 02 23.4		
KIV				pmax	pmax				
	comp=Z,236nm,1.0s								
KIV	**Kislovodsk**	**118.82**	**48**	PKPdf		**PKiKP**	**23 40 22.9**	**+0.4**	
GURO	**Guroymak-BITLI**	**118.87**	**54**	*e*P		**PKiKP**	**23 40 24.2**	**+1.4**	
GOF	**Gofitskoye**	**118.92**	**46**	⇑*e*PKIKP		**PKiKP**	**23 40 23.0**	**+0.5**	
GOF				pmax	pmax				
	comp=Z,220nm,0.9s								
SENK	**Senkaya-Erzuru**	**118.95**	**52**	*e*P		**PKiKP**	**23 40 24.1**	**+1.1**	
KBZ	**Khabaz**	**119.00**	**48**	Pdiff		**Pdif**	**23 36 46.5**	**+2.6**	
	comp=Z,0.8nm,0.7s,baz=111,slow=4.7,SNR=3.9								
KBZ				PKP		**PKiKP**	**23 40 23.6**	**+0.9**	
	comp=Z,192nm,0.8s,baz=258,slow=2.3,SNR=165								
KBZ				PKKPbc		**PKKPab**	**23 50 38.9**	**0.0**	
	comp=Z,17nm,0.9s,baz=153,slow=3.9,SNR=14								
MLAZ	**Malazgirt-MUS**	**119.23**	**53**	*e*P		**PKiKP**	**23 40 24.6**	**+1.1**	
SIRT	**Sirnak**	**119.27**	**55**	*e*P		**PKiKP**	**23 40 24.6**	**+1.0**	
KIRV	**Kirov**	**119.28**	**30**	PKP		**PKiKP**	**23 40 23.2**	**+0.5**	
	comp=Z,93nm,0.6s,baz=299,slow=0.8,SNR=24								
KIRV				PKKPbc		**PKKPab**	**23 50 36.5**	**-0.6**	
	comp=Z,14nm,0.8s,baz=67,slow=3.4,SNR=5.6								
KARS	**Kars**	**119.50**	**51**	*e*P		**PKiKP**	**23 40 25.5**	**+1.5**	
AGRB	**Hanur-Agry**	**119.53**	**53**	*e*P		**PKiKP**	**23 40 25.2**	**+1.0**	
AKDM	**Akdamar-Van**	**119.63**	**54**	*e*P		**PKiKP**	**23 40 25.5**	**+1.1**	
AKH	**Akhalkalaki**	**119.72**	**50**	⇑P		**PKiKP**	**23 40 25.5**	**+1.1**	
AKH	**Akhalkalaki**	**119.72**	**50**	⇑P		**PKiKPab**	**23 50 38.1**	**+2.0**	
VANB	**Van**	**119.93**	**54**	*e*P		**PKiKP**	**23 40 25.6**	**+0.7**	
CUKT	**Cukurca**	**120.21**	**55**	*e*P		**PKiKP**	**23 40 25.9**	**+0.4**	
CLDR	**Caldiran**	**120.29**	**53**	*e*P		**PKiKP**	**23 40 26.9**	**+1.2**	
TASB	**TASBURUN-IGDIR**	**120.45**	**52**	*e*P		**PKiKP**	**23 40 26.9**	**+1.1**	
GROC	**Groznyy**	**121.16**	**48**	*i* PKIKP		**PKiKP**	**23 40 27.4**	**+0.5**	
GROC				*e*			23 41 58.9		
GROC				*e*SP		SP	23 51 41.3	+0.8	
GROC				pmax	pmax				
	comp=Z,98nm,0.9s								
SEY	**Seymchan**	**122.06**	**337**	PKKPbc		PKKPbc	23 50 26.9	-0.5	
	comp=Z,30nm,0.9s,baz=248,slow=3.2,SNR=24								
SEY				SKKPbc		SKKPbc	23 54 22.9	+13	
	comp=Z,8.0nm,0.9s,baz=166,slow=1.5,SNR=3.9								
SEY	**Seymchan**	**122.06**	**337**	*d*P		**Pdif**	**23 36 58.0**	**+0.9**	
H11N3	**WAKE ISLAND Hyd**	**122.27**	**284**	T		T	01 52 11.8		
	baz=99,SNR=830								
H11N2	**WAKE ISLAND Hyd**	**122.29**	**284**	T		T	01 53 15.9		
	baz=99,slow=74,SNR=450								
H11N1	**WAKE ISLAND Hyd**	**122.29**	**284**	T		T	01 53 18.5		
	baz=99,slow=74,SNR=295								
H11S2	**WAKE ISLAND Hyd**	**122.35**	**283**	T		T	01 52 11.9		
	baz=93,slow=74,SNR=283								
H11S1	**WAKE ISLAND Hyd**	**122.36**	**283**	T		T	01 52 11.5		
	baz=93,slow=74,SNR=280								
H11S3	**WAKE ISLAND Hyd**	**122.37**	**283**	T		T	01 52 10.5		
	baz=93,slow=74,SNR=206								
MAK	**Makhachkala**	**122.44**	**48**	*e*P		**Pdif**	**23 36 56.7**	**-2.5**	
MAK				*i*			23 40 26.9		
MAK				*e*PPP		PPP	23 44 41.2		
MAK				*e*			23 47 20.0		
MAK				*e*SS		SS	23 58 36.7	-4.1	
MAK				*e*SSS		SSS	00 03 12.5		
MAK				pmax	pmax				
	comp=Z,225nm,1.0s								
MAK				MLR	MLR				
	comp=Z,5μm,20.0s								
STKA	**Stephens Creek**	**122.83**	**216**	PKP		**PKiKP**	**23 40 30.9**	**+0.2**	
	comp=Z,127nm,0.8s,baz=95,slow=1.9,SNR=115								
STKA				PKKPbc		**PKKPab**	**23 50 24.9**	**0.0**	
	comp=Z,13nm,0.8s,baz=331,slow=5.6,SNR=18								
AKT	**Akhty**	**122.86**	**50**	*e*PKIKP		**PKiKP**	**23 40 31.3**	**+0.8**	
AKT				*e*			23 40 58.1		
AKT				*e*			23 42 10.0		
AKT				pmax	pmax				
	comp=Z,111nm,0.8s								
PET	**Petropavlovsk**	**123.93**	**325**	*i* PKIKP		**PKiKP**	**23 40 32.8**	**+0.7**	
NRIK	**Noril'sk**	**123.99**	**8**	PKP		**PKiKP**	**23 40 32.1**	**+0.3**	
	comp=Z,46nm,0.9s,baz=31,slow=2.0,SNR=34								
NRIK				PP		**PP**	**23 42 15.8**	**-0.2**	
	comp=Z,28nm,1.1s,baz=342,slow=7.7,SNR=5.3								
NRIK				PKKPbc		**PKKPbc**	**23 50 19.0**	**-1.0**	
	comp=Z,34nm,1.2s,baz=140,slow=4.7,SNR=10								
NRIK				SKKPbc		SKKPbc	23 53 54.8	-8.9	
	comp=Z,9.0nm,1.0s,baz=183,slow=4.7,SNR=4.2								
PETK	**Petropavlovsk-**	**124.42**	**325**	PKP		**PKiKP**	**23 40 33.3**	**+0.2**	
	comp=Z,38nm,0.8s,baz=86,slow=5.8,SNR=40								
PETK				PKKPbc		**PKKPbc**	**23 50 19.1**	**+1.2**	
	comp=Z,5.2nm,0.9s,baz=307,slow=5.4,SNR=5.9								
PETK	**Petropavlovsk-**	**124.42**	**325**			**PKiKP**	**23 40 33.3**	**+0.2**	
MA2	**Magadan**	**124.62**	**334**	PKiKP		**PKPdf**	**23 40 32.9**	**-0.1**	
MA2	**Magadan**	**124.62**	**334**	PKPdf		**PKPdf**	**23 40 32.9**	**-0.1**	
ARU	**Arti**	**124.66**	**30**	P		**Pdif**	**23 37 07.7**	**-1.1**	
ARU				*i*			23 40 33.4		
ARU							23 42 21.7		
ARU				PPP		PPP	23 44 59.0		
ARU							23 47 30.5		
ARU	**Arti**	**124.66**	**30**			PKPpre	23 40 26.0		
SVE	**Sverdlovsk**	**125.45**	**29**	*c* PKIKP		**PKiKP**	**23 40 35.6**	**+0.6**	
SVE				pmax	pmax				
	comp=Z,170nm,1.5s								
SKR	**Severo-Kuril's**	**126.30**	**323**	*e*PKIKP		**PKPdf**	**23

KUR pmax pmax
comp=Z,483nm,2.1s
WSAR Wadi Sarin 134.10 72 PKP **PKiKP 23 40 52.8 -0.7**
comp=Z,78nm,0.8s,baz=281,slow=2.5,SNR=35
WSAR PP **PP 23 43 21.6 -2.4**
comp=Z,33nm,1.0s,baz=265,slow=9.6,SNR=4.0
WSAR Wadi Sarin 134.10 72 P **PKiKP 23 40 53.0 -0.5**
SNR=22
WBK Wadi Bani Khal 134.43 73 P **PKiKP 23 40 53.7 -0.4**
SNR=37
JLN Jalan Bani Buh 134.85 73 P **PKiKP 23 40 54.5 -0.5**
SNR=48
BRZS Berezniki 135.28 31⇓*i* PKP **PKPdf 23 40 54.2 +0.7**
comp=Z,688nm,2.7s,baz=30
BRZS Berezniki 135.28 31*d i* PKIKP **PKPdf 23 40 54.2 +0.7**
BRZS pmax pmax
comp=Z,688nm,2.7s
YUK Yuzh-Kuril'sk 135.49 319*c i* PKIKP **PKPdf 23 40 54.3 +0.3**
YUK *i* 23 41 21.6
YUK *e* 23 43 30.4
YUK *e*SS SS 00 01 49.5 +28
YUK pmax pmax
comp=Z,519nm,1.2s
YSS Yuzh-Sakhalins 135.81 324*d i* PKIKP **PKiKP 23 40 55.6 -0.5**
YSS *e* 23 41 20.7
YSS *e* 23 43 34.5
YSS *e*PPS PPS 23 55 26.8
YSS *e*SS SS 00 01 34.1 +9.4
YSS pmax pmax
comp=Z,240nm,2.1s
YSS pmax pmax
comp=Z,6µm,4.8s
YSS Yuzh-Sakhalins 135.81 324 PKPdf **PKPdf 23 40 54.5 0.0**
WRA Warramunga Arr 136.08 219 PKHKP PKPpre 23 40 42.0
comp=Z,11nm,0.9s,baz=144,slow=2.7,SNR=26
WRA PKP **PKPdf 23 40 55.5 -0.4**
comp=Z,433nm,0.9s,baz=138,slow=2.0,SNR=128
WRA PP **PP 23 43 35.3 0.0**
comp=Z,14nm,1.0s,baz=142,slow=4.4,SNR=4.8
WRA SKKPbc SKKPbc 23 53 14.1 -3.2
comp=Z,6.6nm,0.7s,baz=331,slow=5.8,SNR=6.4
WRA Warramunga Arr 136.08 219 PKPpre 23 40 42.0
WRA **PKPdf 23 40 55.5 -0.4**
WRAB Tennant Creek 136.08 219 PKHKP PKPpre 23 40 45.1
WRAB PKP **PKPdf 23 40 55.1 -0.8**
WRAB Tennant Creek 136.08 219 PKPpre 23 40 45.1
WRAB **PKPdf 23 40 55.1 -0.8**
BOD Bodaibo 136.48 354 *e*PKHKP PKPpre 23 40 41.6
BOD pmax pmax
comp=Z,191nm,2.0s
GRNR Gornyy 136.56 333 *e*PKHKP PKPpre 23 40 40.4
ZALV Zalesovo Beam 137.21 19 PKHKP PKPpre 23 40 46.4
comp=Z,17nm,0.7s,baz=326,slow=4.0,SNR=29
ZALV PKP **PKPdf 23 40 57.4 +0.4**
comp=Z,984nm,0.8s,baz=310,slow=1.5,SNR=116
ZALV Zalesovo Beam 137.21 19 PKPpre 23 40 46.4
ZALV **PKPdf 23 40 57.4 +0.4**
KURK Kurchatov 137.51 26 PKHKP PKPpre 23 40 47.0
KURK PKP **PKPdf 23 40 58.0 +0.4**
KURK Kurchatov 137.51 26 **PKPdf 23 40 58.0 +0.4**
KURK Kurchatov 137.51 26 PKPpre 23 40 47.0
KURBB Kurchatov Arra 137.54 26 PKhKP PKPpre 23 40 47.8
comp=Z,5.6nm,0.7s,baz=309,slow=3.8,SNR=20
KURBB PKP **PKPdf 23 40 58.0 +0.4**
comp=Z,174nm,0.9s,baz=311,slow=2.6,SNR=74
KURBB PP **PP 23 43 45.6 +1.6**
comp=Z,12nm,0.9s,baz=327,slow=6.3,SNR=7.1
KURBB PKKPbc PKKPdf 23 49 34.6 -58
comp=Z,1.1nm,0.4s,baz=186,slow=0.8,SNR=4.2
KURBB SKKPbc SKKPbc 23 53 08.0 -6.3
comp=Z,2.4nm,0.3s,baz=138,slow=3.7,SNR=6.0
BRLS Borolday 137.72 41 *i* PKP **PKiKP 23 40 59.5 -0.8**
baz=41
BRLS Borolday 137.72 41 *i* PKIKP **PKiKP 23 40 59.4 -0.8**
ERM Erimo 138.20 318*d i* PKIKP **PKPdf 23 41 00.0 +0.9**
IUG Iuzhnay 138.29 42⇓*i* PKP **PKiKP 23 41 01.2 -0.4**
comp=Z,896nm,3.5s,baz=41
IUG *e*PP **PP 23 43 51.3 +1.9**
baz=41
IUG Iuzhnay 138.29 42*d i* PKIKP **PKiKP 23 41 01.2 -0.4**
IUG *e* 23 43 51.2
IUG pmax pmax
comp=Z,896nm,3.5s
DZA Taraz 138.73 40 *e*PKP **PKiKP 23 41 01.8 -0.5**
baz=40
DZA Taraz 138.73 40 *e*PKIKP **PKiKP 23 41 01.8 -0.5**
BTLS Baital 139.11 36⇓*i* PKP **PKiKP 23 41 02.3 -0.7**
comp=Z,758nm,3.1s,baz=35
BTLS *e*SKP 23 44 28.5
baz=35
BTLS Baital 139.11 36*d i* PKIKP **PKiKP 23 41 02.3 -0.7**
BTLS pmax pmax
comp=Z,758nm,3.1s
H08S1 Diego Carcia H 139.69 121 PKhKP PKPpre 23 40 59.7
baz=349,slow=9.5,SNR=7.1
H08S2 Diego Garcia H 139.70 121 PKhKP PKPpre 23 40 58.2
baz=349,slow=9.5,SNR=9.6
H08S2 Diego Garcia H 139.70 121 **PKPdf 23 40 58.2 -4.2**
H08S3 Diego Garcia H 139.70 121 PKhKP PKPpre 23 41 01.5
baz=349,slow=9.5,SNR=7.1
KLR Kul'dur 139.72 334 SKKPbc SKKPbc 23 52 47.1 -19
comp=Z,4.8nm,0.9s,baz=276,slow=3.2,SNR=3.8
KLR Kul'dur 139.72 334*d i* PKIKP **PKPdf 23 41 02.1 +0.4**
DGAR Diego Garcia 139.79 121 P **PKiKP 23 41 05.2 -0.1**
DGAR Diego Garcia 139.79 121*d i* PKIKP **PKiKP 23 41 04.3 -1.0**
EKS2 Erkin-Say 140.36 39 P **PKPdf 23 40 57.6 -5.7**
SNR=27
TEY Ternei 140.38 326⇓*e* PKHKP PKPpre 23 40 49.9
TEY *e* 23 41 03.4
TEY *e* 23 44 01.1
TEY pmax pmax
comp=N,10.0nm,1.9s
TEY pmax pmax
comp=Z,20nm,1.6s
SGDS Sogindy 140.40 37⇓*i* PKP **PKiKP 23 41 05.1 -0.7**
comp=Z,2µm,3.6s,baz=37
SGDS Sogindy 140.40 37*d i* PKIKP **PKiKP 23 41 05.1 -0.7**
SGDS pmax pmax
comp=Z,2µm,3.6s
USP Ospenovka 140.43 37 P **PKPdf 23 40 56.1 -7.1**
SNR=14
AML Almayashu 140.61 39 P **PKPdf 23 40 58.2 -5.9**
SNR=59
CHMS Chumysh 140.74 38 P **PKPdf 23 40 58.7 -5.1**
SNR=17
AAK Ala-Archa 140.80 38 PKhKP PKPpre 23 40 59.3
comp=Z,31nm,0.9s,baz=241,slow=2.0,SNR=35
AAK Ala-Archa 140.80 38 P **PKPdf 23 40 59.4 -4.7**
SNR=25
AAK Ala-Archa 140.80 38*d i* PKIKP **PKiKP 23 41 06.1 -0.6**
AAK Ala-Archa 140.80 38 PKPpre 23 40 59.4
KBL Kabul 140.89 53 PKHKP PKPpre 23 40 59.0
KBL Kabul 140.89 53 PKPpre 23 40 59.0
UCH Uchtor 141.05 39 P **PKPdf 23 41 00.5 -4.4**
SNR=73
KBK Karagaybulak 141.06 38 P **PKPdf 23 41 00.1 -4.5**
SNR=35
KUU Kurty 141.10 35 *i* PKP **PKiKP 23 41 06.3 -0.8**
comp=Z,3µm,4.9s,baz=35
KUU *e*PP **PP 23 44 08.3 +2.0**
baz=35
KUU Kurty 141.10 35 *i* PKIKP **PKiKP 23 41 06.3 -0.8**
KUU *e* 23 44 08.3
TKM2 Tokmak 2 141.28 37 P **PKPdf 23 41 00.6 -4.4**
SNR=73
TDK Taldyqorghan 141.49 32 *e*PKP **PKiKP 23 41 06.7 -1.2**
comp=Z,4µm,5.0s,baz=32
TDK Taldyqorghan 141.49 32 *e*PKIKP **PKiKP 23 41 06.7 -1.2**
CHKK Chushkaly 141.49 35 *i* PKP **PKPdf 23 41 06.4 +1.3**
baz=34
CHKK Chushkaly 141.49 35 *i* PKIKP **PKPdf 23 41 06.4 +1.3**
KZA Kyzart 141.58 38 P **PKPdf 23 41 02.3 -3.6**
SNR=24
DGZ Jazzator, Alta 141.69 20*d i* PKIKP **PKPdf 23 41 06.2 +0.7**
AAA Alma-Ata 141.86 36 *e*PKP **PKiKP 23 41 07.8 -1.0**
baz=35
AAA Alma-Ata 141.86 36 *e*PKIKP **PKiKP 23 41 07.8 -1.0**
MAKZ Makanchi 141.91 27 PKHKP PKPpre 23 41 00.8
MAKZ Makanchi 141.91 27 PKPpre 23 41 00.8
MDOK Medeo 141.97 36 *e*PKP **PKiKP 23 41 07.8 -1.3**
baz=35
MDOK Medeo 141.97 36 *e*PKIKP **PKiKP 23 41 07.8 -1.3**
MKAR Makanchi Array 142.06 27 PKhKP PKPpre 23 41 01.2
comp=Z,47nm,0.7s,baz=336,slow=4.4,SNR=87
MKAR SKKPbc **Sdif 23 52 33.0 -4.6**
comp=Z,12nm,0.9s,baz=128,slow=7.9,SNR=7.1
MKAR Makanchi Array 142.06 27 PKPpre 23 41 01.2
JAY Jayapura 142.07 246 PKhKP PKPpre 23 41 03.1
comp=Z,93nm,0.9s,baz=147,slow=4.7,SNR=14
ULHL Ulahol 142.07 37 P **PKPdf 23 41 03.3 -3.1**
SNR=48
CIT Chita 142.24 353 *e*PKHKP PKPpre 23 41 02.1
CIT *e* 23 44 11.0
CIT *e* 23 56 36.5
IRK Irkutsk 142.40 2⇑*i* PKHKP PKPpre 23 41 01.3
IRK *e* 23 44 12.8
IRK pmax pmax
comp=Z,988nm,2.7s
FITZ Fitzroy Crossi 142.42 211 PKhKP PKPpre 23 41 02.7
comp=Z,202nm,0.9s,baz=178,slow=4.1,SNR=118
MOY Mondy 142.76 6 *e*PKIKP **PKPdf 23 41 04.3 -2.9**
MOY pmax pmax
comp=Z,1µm,2.2s
SATY Saty 142.79 35 *i* PKP **PKPdf 23 41 09.1 +1.5**
comp=Z,1µm,4.5s,baz=34
SATY Saty 142.79 35 *i* PKIKP **PKPdf 23 41 09.1 +1.5**
SATY Saty 142.79 35 *i* PKIKP **PKPdf 23 41 09.1 +1.5**
TLY Talaya 142.94 3 PKhKP PKPpre 23 41 05.5
comp=Z,65nm,0.9s,baz=334,slow=3.3,SNR=35
TLY Talaya 142.94 3*d i* PKHKP PKPpre 23 40 57.0
TLY pmax pmax
comp=Z,902nm,1.5s
TLY MLR MLR
comp=Z,18µm,20.0s
TLY Talaya 142.94 3 PKPdf **PKPdf 23 41 04.3 -3.1**
UZB Uzynbulak 143.07 34 *i* PKP **PKPdf 23 41 09.7 +1.6**
baz=34
UZB Uzynbulak 143.07 34 *i* PKIKP **PKPdf 23 41 09.7 +1.6**
USRK Ussuriysk Ar. 143.36 329 PKhKP PKPpre 23 41 05.6
comp=Z,80nm,0.9s,baz=27,slow=1.7,SNR=54
USRK Ussuriysk Ar. 143.36 329 PKPbc 23 41 05.6 -0.1
KSH Kashi 143.51 41 PKP PKPab 23 41 04.0 -1.4
KSH AMB AMB
comp=Z,6µm,7.2s
KSH LR LR
comp=Z,6µm,19.2s
KSH LR LR
comp=Z,5µm,16.8s
KSH LR LR
comp=Z,88µm,43.8s
VLA Vladivostok 144.18 328*c i* PKIKP **PKiKP 23 41 12.4 -1.0**
ZAK Zakamensk 144.21 3 *e*PKIKP PKPbc 23 41 08.4 +0.2
ZAK pmax pmax
comp=Z,492nm,1.4s
MJAR Matsushiro Arr 144.25 314 PKhKP PKPpre 23 41 07.8
comp=Z,277nm,0.8s,baz=252,slow=1.9,SNR=165
MJAR SKKPbc SKKPbc 23 52 50.3 +3.4
comp=Z,6.5nm,1.0s,baz=222,slow=1.7,SNR=5.5
MJAR Matsushiro Arr 144.25 314 **PKPab 23 41 07.8 -0.4**
MAJO Matsushiro 144.25 314*d i* PKIKP **PKPdf 23 41 11.3 +1.1**
MAT Matsushiro 144.25 314 PKP **PKPab 23 41 07.1 -1.1**
NIL Nilore 144.46 52 PKIKP PKPbc 23 41 09.7 +0.3
NIL Nilore 144.46 52 PKPdf PKPbc 23 41 09.7 +0.3
JCJ Chichijima 144.51 296 PKhKP PKPpre 23 41 08.6
comp=Z,600nm,0.9s,baz=72,slow=1.0,SNR=70
JMU Jammu 146.10 52 *ex* PKPdf 23 41 00.0 -13
CHJN Chongjin 146.20 328 P **PKPdf 23 41 12.5 -0.8**
MNCY Minicoy 146.65 97 *e*P PKiKP 23 41 29.4 +10
CN2 Changchun 146.68 335 *e*PKP **PKiKP 23 41 18.6 +0.1**
CN2 Changchun 146.68 335 *e*pPKP PKiKP 23 41 29.0 +10
CN2 Changchun 146.68 335 *e*PP PP 23 44 47.8 +8.5
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,4µm,22.0s
CN2 LR LR
comp=E,7µm,22.0s
CN2 LR LR
comp=Z,6µm,23.0s
WMQ Urumqi 146.74 25 PKPbc **PKPbc 23 41 15.8 -0.3**
WMQ PKPab **PKiKP 23 41 18.8 0.0**
WMQ PP **PP 23 44 46.1 +6.3**
WMQ AMB AMB
comp=Z,1µm,11.5s
WMQ LR LR
comp=Z,3µm,29.0s
WMQ LR LR
comp=Z,3µm,29.3s
WMQ LR LR
comp=Z,10µm,29.1s
ULN Ulaanbaatar 146.82 359*d* PKP2 **PKPbc 23 41 15.6 -0.7**
ULN Ulaanbaatar 146.82 359 **PKPbc 23 41 15.7 -0.7**
THN Thein Dam 146.84 52 *e*P **PKPab 23 41 17.5 -0.6**
SONM Songino Array 146.85 0 PKPbc **PKPbc 23 41 15.5 -0.9**
comp=Z,324nm,0.7s,baz=328,slow=1.6,SNR=249
SONM Songino Array 146.85 0 **PKPbc 23 41 15.5 -0.9**
DHRM DHARAMSHALA 147.37 52 *e*P **PKPbc 23 41 17.4 -1.0**
GOA Goa 148.47 84 *e*P **PKPdf 23 41 18.6 +0.7**
POO Poona 148.51 78 *e*P **PKPdf 23 41 18.8 +0.9**
POO ⇓*i*P **PKPbc 23 41 19.0 -2.6**
comp=Z,520nm,0.6s
SMLA Simla 148.51 53 *e*P **PKPdf 23 41 18.6 +1.1**
HHU Hamhung 148.74 328 PKPbc PKPab 23 41 41.2 +16
HHU PkP2 23 41 47.3
HHU PP PP 23 44 30.0 -22
KAD Karad 148.85 81⇓*i* P **PKPdf 23 41 19.3 +0.8**
SNY Shenyang 149.08 335⇓*i* PKPbc **PKPdf 23 41 19.5 +1.4**
SNY PP **PP 23 44 55.3 +2.0**
SNY SKKS 23 51 38.9
SNY AMB AMB
comp=Z,6µm,9.8s
SNY LR LR
comp=Z,6µm,23.7s
SNY LR LR
comp=Z,4µm,27.0s
SNY LR LR
comp=Z,18µm,29.9s
WOSN Wonsan 149.36 327 P **PKPdf 23 41 18.8 +0.2**
NDI New Delhi 149.51 58 *e*P **PKPdf 23 41 20.0 +0.8**
NDI *ex* **PP 23 44 58.0 +0.9**
DDI Dehra Dun 149.54 54 *e*P **PKPdf 23 41 20.6 +1.2**
DDI IAmb IAmb 23 41 28.0
comp=Z,2µm,0.9s
BATI Baumata 150.04 216 PKP **PKPdf 23 41 21.8 +1.2**
comp=Z,1µm,1.0s,baz=221,slow=0.7,SNR=25
BATI PKPbc **PKiKP 23 41 27.5 +1.1**
comp=Z,1µm,1.0s,baz=130,slow=1.1,SNR=50
BATI Baumata 150.04 216 **PKiKP 23 41 27.5 +1.1**
SUJ Sinuiju 150.09 332 PKPbc **PKPdf 23 41 19.8 +0.1**
SUJ PKPab **pPKPdf 23 41 47.0 +0.8**
SUJ PP PP 23 44 41.9 -17
PYS Pyongsong 150.10 329 PKPbc **PKPdf 23 41 20.5 +0.7**
PYAG Pyongyang 150.30 329 PKPbc **PKPdf 23 41 22.0 +1.9**
PYAG pPKP **pPKPbc 23 41 50.0 -1.6**
PYAG PKPab **sPKPab 23 42 16.0 +8.6**
KSRS Korea Array 150.31 324 PKP **PKPdf 23 41 21.1 +0.9**
comp=Z,100nm,0.9s,baz=34,slow=1.0,SNR=148
KSRS PKPbc **PKiKP 23 41 27.0 +0.8**
comp=Z,386nm,0.8s,baz=344,slow=2.0,SNR=54
KSRS Korea Array 150.31 324 **PKiKP 23 41 27.0 +0.8**
INCN Inchon 151.01 326 P **PKPdf 23 41 21.9 +0.6**
INCN Inchon 151.01 326 PKIKP **PKPdf 23 41 21.2 -0.1**
INCN Inchon 151.01 326 PKPdf **PKPdf 23 41 21.2 -0.1**
SIJI Sorong 151.05 240 PKP **PKPdf 23 41 22.1 0.0**
comp=Z,64nm,0.9s,baz=62,slow=0.9,SNR=0.9
SIJI PKPbc **PKiKP 23 41 28.4 -0.1**
comp=Z,406nm,0.7s,baz=12,slow=4.0,SNR=8.8
SIJI Sorong 151.05 240 **PKPdf 23 41 22.1 0.0**
SIJI **PKiKP 23 41 28.4 -0.1**
HJU Haeju 151.08 327 P **PKPdf 23 41 22.4 +1.0**
KLRI Killari 151.14 79 *e*PKPdf **PKPdf 23 41 22.6 +0.5**
KLRI IVMs_BB IVMs_BB 00 38 57.9
comp=Z,3µm,33.6s
JNU Nakatsue 151.17 314 PKPdf **PKPdf 23 41 22.5 +0.8**
BHPL Bhopal 151.25 68 *e*P **PKPdf 23 41 21.9 -0.3**
TJN Taejon 151.38 323*d* PKIKP **PKPdf 23 41 21.6 -0.3**
URV Uravakonda 151.76 86 *e*PKPdf **PKPdf 23 41 23.8 +0.7**
URV IVMs_BB IVMs_BB 00 39 15.7
comp=Z,3µm,30.2s
DL2 Dalian 152.34 334 PKPbc **PKPdf 23 41 23.8 +0.6**
DL2 PP **PP 23 45 11.3 -0.7**
DL2 AMB AMB
comp=Z,7µm,9.4s
DL2 LR LR
comp=Z,5µm,29.0s
DL2 LR LR
comp=Z,3µm,21.0s
DL2 LR LR
comp=Z,13µm,26.9s
SRSP Sriramsagar 152.74 77 *e*PKPdf **PKPdf 23 41 24.8 +0.4**
SRSP IVMs_BB IVMs_BB 00 35 47.3
comp=Z,1µm,37.7s
SRSP IVMsBB 00 36 33.8
comp=Z,1µm,30.6s
HYBB Hyderabad (bro 153.02 80 *e*PKPdf **PKPdf 23 41 25.0 +0.1**
HYBB IVMs_BB IVMs_BB 00 45 18.8
comp=Z,2µm,22.7s
HYB Hyderabad 153.03 80 *i* PKP **PKPdf 23 41 24.0 -0.9**
HYB *e*pPKP **pPKPab 23 42 09.0 -0.5**
HYB *e*PP **PP 23 45 16.0 -1.9**
HYB *e*SKKS 23 52 00.0
HYB *e* 23 54 50.0
HYB *e*SPP SPP 23 58 06.0
HYB Hyderabad 153.03 80 *e*P **PKPdf 23 41 25.4 +0.5**
NGP Nagpur 153.12 72⇓*i*P **PKPdf 23 41 25.6 +0.6**
BJI Beijing 153.26 343 PKPbc **PKPdf 23 41 25.3 +0.8**
BJI PP **PP 23 45 16.6 -0.4**
BJI AMB AMB
comp=Z,6µm,8.4s
SRLM Srisailam 153.37 83 *e*PKPdf **PKPdf 23 41 26.1 +0.7**
SRLM IVMs_BB IVMs_BB 00 40 35.6
comp=Z,2µm,33.4s
HHC Hu-ho-hao-te 153.47 351 *e*PKPbc **PKPdf 23 41 26.6 +1.6**
HHC PP **PP 23 45 14.6 -3.5**
HHC SKS **SKSdf 23 48 21.4 -2.8**
HHC SKKS **SKKSac 23 52 00.8 -0.5**
HHC LR LR
comp=Z,9µm,22.6s
HHC LR LR
comp=Z,4µm,19.6s
HHC LR LR
comp=Z,16µm,20.4s
RPR Rampur 153.64 77 *e*PKPdf **PKPdf 23 41 26.3 +0.6**
RPR IVMs_BB IVMs_BB 00 40 07.7
comp=Z,2µm,41.0s
PALK Pallekele 153.69 103 PKP **PKPdf 23 41 27.0 +1.0**
comp=Z,104nm,0.9s,baz=20,slow=2.8,SNR=35
PALK Pallekele 153.69 103 PKPdf **PKPdf 23 41 26.9 +1.0**
NJS Nagarjunasagar 153.76 82 *e*PKPdf **PKPdf 23 41 26.5 +0.6**
NJS IVMs_BB IVMs_BB 00 37 28.5
comp=Z,1µm,46.1s
BTO Baotou 153.90 354 *e*PKPbc **PKPdf 23 41 26.4 +0.8**
SKHT Srikalahasti 154.04 89 *e*PKPdf **PKPdf 23 41 27.6 +1.3**
SKHT IVMs_BB IVMs_BB 00 37 23.4
comp=Z,2µm,48.6s
PYUN Piuthan 154.39 55 *e*P **PKPdf 23 41 26.4 -0.4**
comp=Z,401nm,0.9s
ADKI Addanki 154.40 84 *e*PKPdf **PKPdf 23 41 27.9 +1.0**
ADKI IVMs_BB IVMs_BB 00 40 42.5
comp=Z,3µm,34.9s
MDRS Chennai 154.49 90 *e*P **PKPdf 23 41 28.2 +1.2**
GTA Gaotai 154.59 12⇓PKPbc **PKPdf 23 41 27.8 +1.1**
GTA PKPab **PKPab 23 41 50.3 +0.3**
GTA PP **PP 23 45 30.3 +5.7**
GTA SKS **SKSdf 23 48 25.3 -0.3**
GTA SKKS **SKKSac 23 52 08.6 +1.2**
GTA AMB AMB
comp=Z,5µm,11.3s
GTA LR LR
comp=Z,7µm,23.4s
GTA LR LR
comp=Z,5µm,22.5s
GTA LR LR
comp=Z,19µm,21.4s
KOLN Koldanda 155.02 55 *e*P **PKPdf 23 41 26.8 -0.9**
comp=Z,122nm,0.9s
MYLAV Mylavaram 155.03 82 *e*PKPdf **PKPdf 23 41 28.8 +1.1**
MYLAV IVMs_BB IVMs_BB 00 45 23.2
comp=Z,1µm,25.4s
GKN Gorkha 155.72 53 *e*P **PKPdf 23 41 27.7 -0.9**
PVM Polavaram 155.96 80 *e*PKPdf **PKPdf 23 41 29.7 +0.8**
PVM IVMs_BB IVMs_BB 00 40 26.9
comp=Z,2µm,40.2s
DMN Daman 156.28 53 *e*P **PKPdf 23 41 28.5 -0.9**
TIY Taiyuan 156.37 348 *e*PKP **PKPdf 23 41 30.0 +1.0**
TIY PKPab **PKPab 23 41 57.8 +0.3**
TIY PP **PP 23 45 34.0 -0.4**
TIY AMB AMB
comp=Z,6µm,9.2s
TIY LR LR
comp=Z,4µm,21.8s
TIY LR LR
comp=Z,7µm,24.5s
TIY LR LR
comp=Z,13µm,34.4s
TIA Tai'an 156.45 338 PKP **PKPdf 23 41 29.8 +0.7**
TIA PP **PP 23 45 35.5 +0.5**
TIA LR LR
comp=Z,4µm,35.1s
TIA LR LR
comp=Z,5µm,21.8s
TIA LR LR
comp=Z,11µm,30.1s
KAPI Kappang 156.49 215 PKP **PKPdf 23 41 30.9 +1.1**
comp=Z,198nm,0.9s,baz=199,slow=1.8,SNR=38
KAPI PKPab **PKPab 23 42 00.4 +1.8**
comp=Z,243nm,1.1s,baz=159,slow=3.2,SNR=9.0
KAPI Kappang 156.49 215 **PKPab 23 42 00.4 +1.8**
KAPI Kappang 156.49 215 PKPdf **PKPdf 23 41 31.4 +1.6**
PKI Pulchoki 156.53 53 *e*P **PKPdf 23 41 28.6 -1.3**
JIRN Jiri 157.09 52 *e*P **PKPdf 23 41 29.6 -1.0**
RAMN Ramite 157.76 53 *e*P **PKPdf 23 41 30.5 -0.8**
comp=Z,704nm,1.0s
CHLP Challavanipeta 158.17 77 *e*PKPdf **PKPdf 23 41 32.1 +0.4**
CHLP IVMs_BB IVMs_BB 00 43 25.6
comp=Z,2µm,34.6s
TAPN Taplejung 158.40 51 *e*P **PKPdf 23 41 31.6 -0.6**
comp=Z,188nm,0.9s
ODAN Odare 158.41 53 *e*P **PKPdf 23 41 31.3 -0.8**
comp=Z,627nm,1.0s
LZH Lanzhou 158.47 6⇓PKP **PKPdf 23 41 33.3 +1.5**
LZH PP **PP 23 45 47.4 +1.5**
LZH SKS **SKSdf 23 48 27.3 -2.5**
LZH SKKS **SKKSac 23 52 30.8 +2.7**
LZH AMB AMB
comp=Z,9µm,9.5s
LZH LR LR
comp=Z,10µm,18.0s
LZH LR LR
comp=Z,9µm,18.1s
LZH LR LR
comp=Z,11µm,20.6s
BOK Bokaro 158.53 62 *e*P **PKPdf 23 41 32.5 +0.4**
LEM Lembang 158.69 183 PKP **PKPdf 23 41 33.2 +0.5**
comp=Z,333nm,0.9s,baz=146,slow=4.2,SNR=33
LEM PKPab **sPKPdf 23 42 09.9 +0.9**
comp=Z,355nm,0.8s,baz=158,slow=4.0,SNR=13
LEM PP **PP 23 45 47.2 +0.2**
comp=Z,466nm,1.3s,baz=172,slow=13,SNR=5.1
LEM Lembang 158.69 183 PP 23 45 47.2 +0.2
SSE Sheshan 158.74 323 PKP **PKPdf 23 41 32.8 +0.8**
SSE PP **PP 23 45 46.4 -1.6**
SSE AMB AMB
comp=Z,4µm,9.8s
SSE LR LR
comp=Z,3µm,22.9s
SSE LR LR
comp=Z,4µm,23.6s
NJ2 Nanjing 159.26 329 *i* PKP **PKPdf 23 41 33.3 +0.7**
NJ2 PKPab **PKPab 23 42 12.6 +2.5**
NJ2 PKS **PKSdf 23 45 06.8 +0.6**
NJ2 PP **PP 23 45 48.6 -2.0**
NJ2 AMB AMB
comp=Z,14µm,9.9s
NJ2 LR LR
comp=Z,7µm,24.2s
NJ2 LR LR
comp=Z,7µm,24.2s
NJ2 LR LR
comp=Z,14µm,24.6s
LSA Lhasa 159.36 41 PKP **PKPdf 23 41 35.0 +1.5**
LSA LR LR
comp=Z,24µm,29.9s
LSA LR LR
comp=Z,33µm,32.7s
LSA LR LR
comp=Z,41µm,32.0s
BWNR Bhubaneshwar 159.49 71⇓*i* x **PKPdf 23 41 30.8 -2.4**
DAV Davao City (W) 159.81 250 PKP **PKPdf 23 41 33.2 -0.6**
comp=Z,78nm,0.3s,baz=163,slow=4.2
DAV PKPab **PKPab 23 42 14.9 +1.7**
comp=Z,212nm,0.4s,baz=90,slow=5.7,SNR=9.2
DAV Davao City (W) 159.81 250 **PKPdf 23 41 33.2 -0.6**
DAV Davao City (W) 159.81 250 **PKPab 23 42 16.1 +2.9**

DAV	**Davao City (W)**	**159.81**	**250**	⇓*iP*		**PKPdf**	**23 41 33.9**	**+0.1**
XAN	**Xi'an**	**160.51**	**354**	PKP		**PKPdf**	**23 41 35.0**	**+0.9**
XAN				PP		**PP**	**23 45 54.6**	**-2.2**
XAN				SKKS			23 52 37.8	
XAN				AMB	AMB			
	comp=Z,13μm,12.8s							
XAN				LR	LR			
	comp=Z,10μm,26.5s							
XAN				LR	LR			
	comp=Z,15μm,23.5s							
GUWA	**GUWAHATI**	**161.99**	**48**	*eP*		**PKPdf**	**23 41 35.9**	**+0.1**
SHL	**Shillong**	**162.50**	**49**	*eP*		**PKPdf**	**23 41 37.0**	**+0.5**
SHL				*i* P		pPKPdf	23 41 40.0	-23
SHL				*ex*		**PP**	**23 46 12.0**	**+3.0**
SHL	**Shillong**	**162.50**	**49**	P		**PKPdf**	**23 41 37.2**	**+0.7**
	SNR=27							
WHN	**Wuhan**	**162.55**	**337**	PKP		**PKPdf**	**23 41 37.0**	**+0.8**
WHN				sPKP			23 42 06.3	
WHN				PKPab		**PKPab**	**23 42 25.0**	**+0.5**
WHN				PKS		PP	23 45 08.5	-59
WHN				PP		PP	23 46 08.8	+0.8
WHN				SKKS			23 52 51.3	
WHN				LR	LR			
	comp=Z,16μm,22.4s							
WHN				LR	LR			
	comp=Z,6μm,18.8s							
WHN				LR	LR			
	comp=Z,22μm,22.6s							
AGT	**Agartala**	**162.92**	**55**	*eP*		**PKPdf**	**23 41 38.7**	**+2.0**
AGT				*eP*		pPKPdf	23 41 41.3	-22
AGT				*ex*		**PP**	**23 46 13.9**	**+2.7**
BELO	**BELONIA**	**163.39**	**57**	*eP*		**PKPdf**	**23 41 39.3**	**+2.1**
CD2	**Chengdu**	**163.57**	**8**	PKP		**PKPdf**	**23 41 38.5**	**+1.2**
CD2				PKPab		**PKPab**	**23 42 30.8**	**+1.8**
CD2				PKS		**PKSdf**	**23 45 10.8**	**+0.4**
CD2				PP		**PP**	**23 46 12.1**	**-1.0**
CD2				SKKS			23 52 54.6	
CD2				AMB	AMB			
	comp=Z,15μm,11.3s							
CD2				LR	LR			
	comp=Z,8μm,21.5s							
CD2				LR	LR			
	comp=Z,9μm,24.2s							
CD2				LR	LR			
	comp=Z,15μm,33.2s							
QZH	**Quanzhou**	**164.65**	**314**	*i* PKP		**PKPdf**	**23 41 39.8**	**+1.5**
QZH				PKPab		**PKPab**	**23 42 34.3**	**+0.4**
QZH				PP		**PP**	**23 46 18.0**	**-1.9**
QZH				AMB	AMB			
	comp=Z,7μm,8.2s							
QZH				LR	LR			
	comp=Z,4μm,18.9s							
QZH				LR	LR			
	comp=Z,6μm,23.7s							
QZH				LR	LR			
	comp=Z,10μm,26.5s							
SAIH	**SAIHA**	**165.00**	**56**	*eP*		**PKPdf**	**23 41 40.7**	**+1.8**
TGY	**Tagaytay City**	**165.98**	**270**	PKP		**PKPdf**	**23 41 38.9**	**-0.9**
	comp=Z,95nm,0.3s,baz=10,slow=7.1,SNR=3.3							
RPSI	**Rantau Prapat**	**166.03**	**147**			**PKPdf**	**23 41 39.2**	**-0.6**
PSI	**Prapat**	**166.12**	**147**	PKP		**PKPdf**	**23 41 39.2**	**-0.8**
	comp=Z,164nm,0.9s,baz=180,slow=5.3,SNR=12							
PSI				PKPab		**PKPab**	**23 42 41.3**	**+0.5**
	comp=Z,161nm,1.1s,baz=180,slow=6.5,SNR=10							
PSI				PP		**PP**	**23 46 21.6**	**-5.6**
	comp=Z,10.0nm,0.4s,baz=360,slow=7.8,SNR=5.9							
PBA	**Port Blair**	**166.31**	**101**	*eP*		PKPdf	23 41 39.9	-0.1
PBA	**Port Blair**	**166.31**	**101**	P		PKPdf	23 41 41.0	+1.1
	SNR=21							
KSM	**Kuching**	**166.43**	**197**			**PKPdf**	**23 41 40.8**	**+0.6**
DGPR	**DIGLIPUR**	**166.78**	**94**	*eP*		**PKPdf**	**23 41 40.4**	**+0.1**
GYA	**Guiyang**	**168.19**	**359**	⇓PKP		**PKPdf**	**23 41 41.9**	**+0.7**
GYA				PKPab		**PKPab**	**23 42 50.8**	**+1.3**
GYA				PP		**PP**	**23 46 36.1**	**-1.0**
GYA				SKS		**SKSdf**	**23 48 33.0**	**-4.4**
GYA				SKKS		**SKKSac**	**23 53 15.1**	**-2.6**
GYA				AMB	AMB			
	comp=Z,12μm,9.4s							
GYA				LR	LR			
	comp=Z,5μm,25.1s							
GYA				LR	LR			
	comp=Z,6μm,22.1s							
GYA				LR	LR			
	comp=Z,16μm,28.9s							
KMI	**Kunming**	**168.95**	**18**	⇓PKP		**PKPdf**	**23 41 42.8**	**+0.9**
KMI				pPKP		pPKPdf	23 42 01.6	-6.9
KMI				sPKP			23 42 09.9	
KULM	**Kulim**	**169.12**	**148**			**PKPdf**	**23 41 42.1**	**0.0**
GZH	**Guangzhou**	**169.34**	**323**	PKP		**PKPdf**	**23 41 42.0**	**+0.2**
GZH				PKPab		**PKPab**	**23 42 53.1**	**-1.5**
GZH				LR	LR			
	comp=Z,5μm,25.5s							
GZH				LR	LR			
	comp=Z,6μm,25.1s							
CHTO	**Chiang Mai**	**171.65**	**59**	PKIKP		**PKPdf**	**23 41 43.4**	**+0.2**
CHTO	**Chiang Mai**	**171.65**	**59**			**PKPdf**	**23 41 43.4**	**+0.2**
CM31	**Chiang Mai Arr**	**171.82**	**61**	P		**PKPdf**	**23 41 44.1**	**+0.8**
	SNR=94							
CMAR	**Chiang Mai Arr**	**171.82**	**61**	PKP		**PKPdf**	**23 41 43.8**	**+0.5**
	comp=Z,67nm,0.9s,baz=274,slow=1.4,SNR=162							
CMAR				PKPab		**PKPab**	**23 43 07.7**	**+1.7**
	comp=Z,25nm,1.0s,baz=279,slow=5.3,SNR=7.2							
CMAR				PP		**PP**	**23 46 57.5**	**+0.4**
	comp=Z,9.8nm,0.9s,baz=302,slow=4.3,SNR=3.6							
CMAR	**Chiang Mai Arr**	**171.82**	**61**			**PKPdf**	**23 41 43.8**	**+0.5**
CMAR						**PKPab**	**23 43 07.7**	**+1.7**
CMAR						**PP**	**23 46 57.5**	**+0.4**
QIZ	**Qiongzhong**	**174.53**	**324**	PKP		**PKPdf**	**23 41 45.4**	**+1.0**
QIZ				sPKP			23 42 11.8	
QIZ				PKPab		**PKPab**	**23 43 16.3**	**-1.5**
QIZ				PP		**PP**	**23 47 07.0**	**-2.3**
QIZ				AMB	AMB			
	comp=Z,10μm,8.8s							
QIZ				LR	LR			
	comp=Z,4μm,33.3s							
QIZ				LR	LR			
	comp=Z,6μm,23.5s							
QIZ				LR	LR			
	comp=Z,22μm,37.3s							

*IDC **24** 23:23:17.1±5.0,3°.59S×140°.83E,h0km,mb3.6/2, mb1 4.1/3,mb1mx3.7/34,mbtmp3.8/3,ML4.0/1,MS3.0/1, Ms1 3.0/1,ms1mx2.7/44,Error ellipse: s-maj=198.3km s-min=12.7km az=91.0*

*DJA **24** 23:23:18.6±0.9,3°.5S±5°×14°.0E±°,h15km±8km,M3.7/4, MLv3.7/4*

ISC 24 23:23:17.8±1.1,3°.44S±0°.06×140°.15E±0°.06,h10km,n19, σ1s81/20,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.84**	**1**	S	**Sn**	**23 23 47.5**	**-0.6**
GENI	**Genyem**	**0.84**	**1**	P	**Pn**	**23 23 35.2**	**-0.5**
GENI				S	**Sn**	**23 23 47.5**	**-0.6**
GENI	**Genyem**	**0.84**	**1**	P	**Pn**	**23 23 35.2**	**-0.5**
JAY	**Jayapura**	**1.07**	**31**	Pg	**Pg**	**23 23 37.7**	**-0.6**
	34nm,0.3s,baz=228,slow=6.8,SNR=53						
JAY				Lg	Lg	23 23 52.1	
	106nm,0.3s,baz=69,slow=6.7,SNR=14						
JAY	**Jayapura**	**1.07**	**31**	S	**Sg**	**23 23 51.3**	**-1.0**
JAY	**Jayapura**	**1.07**	**31**	P	**Pg**	**23 23 37.7**	**-0.6**
JAY				S	**Sg**	**23 23 51.3**	**-1.0**
JAY	**Jayapura**	**1.07**	**31**	P	**Pg**	**23 23 37.7**	**-0.6**
WAMI	**Wamena**	**1.51**	**253**	P	**Pn**	**23 23 44.8**	**-0.1**
WAMI	**Wamena**	**1.51**	**253**	P	**Pn**	**23 23 44.8**	**-0.1**
SMPI	**Sarmi**	**2.04**	**315**	S	**Sg**	**23 24 21.4**	**-1.9**
SMPI	**Sarmi**	**2.04**	**315**	P	**Pb**	**23 23 54.8**	**-0.1**
SMPI				S	**Sg**	**23 24 21.4**	**-1.9**
SMPI	**Sarmi**	**2.04**	**315**	P	**Pb**	**23 23 54.8**	**-0.1**
SRPI	**Serui, Papua**	**4.21**	**292**	P	**Pn**	**23 24 26.6**	**+4.6**
SRPI	**Serui, Papua**	**4.21**	**292**	P	**Pn**	**23 24 26.6**	**+4.6**
BNDI	**Bandanaira**	**10.28**	**264**	P	**Pn**	**23 25 44.1**	**-1.4**
WRA	**Warramunga Arr**	**17.36**	**199**	P	**Pn**	**23 27 20.9**	**+0.6**
	0.6nm,0.3s,baz=24,slow=12,SNR=20						
GUMO	**Guam**	**17.55**	**15**	LR	LR	23 34 41.7	
	comp=Z,43nm,18.3s,baz=236,slow=39						
ASAR	**Alice Springs**	**21.00**	**196**	P		**P**	**23 28 02.4**	**+0.8**
	5.4nm,0.6s,baz=26,slow=8.8,SNR=41							
MKAR	**Makanchi Array**	**71.24**	**322**	P		P	23 34 42.7	+5.4
	0.1nm,0.6s,baz=111,slow=6.3,SNR=2.1							

*IDC **24** 23:24:16.9±9.2,12°.17S×167°.07E,h245km±85km,mb3.6/8, mb1 3.8/8,mb1mx3.5/37,mbtmp4.2/8,MS2.9/1,Ms1 2.9/1, ms1mx2.6/49,Error ellipse: s-maj=35.8km s-min=25.5km az=46.0*

ISC 24 23:24:14.0±0.9,12°.1S±0°.2×167°.1E±0°.2,h220km,n15, σ0s84/15,mb3.9/8,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.91**	**183**	LR	LR	23 29 50.6	
	comp=Z,66nm,18.7s,baz=224,slow=34						
RPZ	**Rata Peaks**	**31.67**	**175**	P	**P**	**23 30 17.6**	**+0.8**
	3.7nm,0.5s,baz=344,slow=5.4,SNR=7.1						
WRA	**Warramunga Arr**	**32.37**	**252**	P	**P**	**23 30 22.0**	**-1.3**
	0.5nm,0.5s,baz=84,slow=8.6,SNR=2.2						
ASAR	**Alice Springs**	**33.51**	**245**	P	**P**	**23 30 33.0**	**-0.1**
	0.6nm,0.5s,baz=68,slow=9.8,SNR=4.0						
USRK	**Ussuriysk Ar.**	**64.49**	**333**	P	**P**	**23 34 28.3**	**+1.1**
	1.1nm,0.6s,baz=126,slow=5.1,SNR=2.2						
CMAR	**Chiang Mai Arr**	**73.74**	**293**	P	**P**	**23 35 25.7**	**+1.1**
	0.7nm,0.3s,baz=122,slow=4.4,SNR=11						
SONM	**Songino Array**	**80.30**	**323**	P	**P**	**23 36 01.2**	**+0.5**
	0.8nm,0.7s,baz=146,slow=6.1,SNR=5.0						
ILAR	**Eielson Array**	**84.12**	**18**	P	**P**	**23 36 19.3**	**-0.6**
	6.3nm,0.6s,baz=241,slow=4.7,SNR=13						
MKAR	**Makanchi Array**	**95.20**	**317**	P	**P**	**23 37 12.6**	**0.0**
	2.1nm,0.7s,baz=96,slow=6.3,SNR=22						
ARCES	**ARCESS Array B**	**117.70**	**346**	PKP	**PKPdf**	**23 42 32.2**	**-1.2**
	1.8nm,0.3s,baz=88,slow=2.2,SNR=16						
FINES	**FINESS Array B**	**123.24**	**339**	PKP	**PKiKP**	**23 42 44.3**	**-0.2**
	1.9nm,0.7s,baz=107,slow=2.1,SNR=1.2						
NOA	**NORSAR Array B**	**128.07**	**345**	PKP	**PKPdf**	**23 42 52.9**	**-0.7**
	0.6nm,0.8s,baz=30,slow=3.1,SNR=1.9						
KEST	**Kesra**	**149.06**	**323**	PKPbc	**PKPbc**	**23 43 36.8**	**+0.1**
	6.3nm,0.9s,baz=6.7,slow=4.7,SNR=5.4						
ESDC	**Sonseca Array**	**151.44**	**345**	PKPbc	**PKPbc**	**23 43 41.7**	**-0.5**
	1.3nm,0.9s,baz=356,slow=3.3,SNR=3.2						
ESDC				PKPab	**PKPab**	**23 43 51.4**	**+0.2**
	1.2nm,0.8s,baz=8.4,slow=3.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**165.70**	**276**	PKPab	**PKPab**	**23 44 52.8**	**-1.0**
	1.5nm,0.9s,baz=115,slow=3.8,SNR=1.7						

DJA 24 23:25:00.9±2.2,5°.5S±15°×13°.1E±°,h30km±17km,M3.8/4, MLv3.8/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.52**	**289**	P	Pn	23 25 26.0	-0.1
BNDI				S	Sn	23 25 45.4	+0.6
FAKI	**Fak Fak**	**2.26**	**23**	P	Pn	23 25 36.8	+0.5
FAKI	**Fak Fak**	**2.26**	**23**	P	Pn	23 25 37.1	+0.8
KMPI	**Kaimana, Papua**	**2.70**	**60**	P	Pn	23 25 42.3	0.0
KMPI				S	Sn	23 26 14.8	+0.7
KMPI	**Kaimana, Papua**	**2.70**	**60**	P	Pn	23 25 42.5	+0.2

*SOME **24** 23:46:29.8,43°.10N×80°.28E,h15km*
*KRNET **24** 23:46:29.9±0.1,43°.03N×80°.35E,h14km,mb3.2*
*NNC **24** 23:46:29.2±1.8,43°.03N×80°.29E,h0km,mb3.5,mpv3.5, Error ellipse: s-maj=12.1km s-min=6.4km az=145.0*

ISC 24 23:46:30.4±1.5,43°.06N±0°.04×80°.26E±0°.06,h3km±12km, n36,σ1s53/61,10C-4D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**0.39**	**10**	*eP*	**Pg**	**23 46 38.2**	**+0.3**
	baz=59						
KTMS				*eS*	**Sg**	**23 46 44.0**	**+1.0**
	baz=59						
KTMS	**Ketmen**	**0.39**	**10**	*eP*	**Pg**	**23 46 38.2**	**+0.3**
	44nm,0.1s						
KTMS				*eS*	**Sg**	**23 46 44.1**	**+1.0**
	194nm,0.1s						
KTMS	**Ketmen**	**0.39**	**10**	P	**Pg**	**23 46 38.2**	**+0.3**
	44nm,0.1s						
KTMS				S	**Sg**	**23 46 44.1**	**+1.0**
	194nm,0.1s						
SHLS	**Shalkode**	**0.59**	**279**	*eP*	Pb	23 46 37.2	-6.4
	baz=91						
SHLS				*eS*	Sb	23 46 42.2	-10
	baz=91						
SHLS	**Shalkode**	**0.59**	**279**	*eP*	Pb	23 46 37.2	-6.4
	50nm,0.1s						
SHLS				*eS*	Sb	23 46 42.2	-10
	630nm,0.3s						
SHLS	**Shalkode**	**0.59**	**279**	P	Pb	23 46 37.2	-6.4
	50nm,0.1s						
SHLS				S	Sb	23 46 42.2	-10
	630nm,0.3s						
PDGK	**Podgornoye**	**0.62**	**295**	P	**Pb**	**23 46 42.3**	**-1.8**
	8.2nm,0.1s						
PDGK				S	**Sb**	**23 46 51.4**	**-2.0**
	72nm,0.1s						
PDGK	**Podgornoye**	**0.62**	**295**	⇑P	**Pb**	**23 46 42.2**	**-1.8**
	3.5nm,0.2s						
PDGK				⇑S	**Sb**	**23 46 51.3**	**-2.0**
	7.3nm,0.2s						
UZB	**Uzunbulak**	**0.91**	**276**	*eP*	**Pb**	**23 46 47.1**	**-1.9**
	12nm,0.1s						
UZB				*eS*	**Sb**	**23 46 59.6**	**-2.0**
	141nm,0.2s						
UZB	**Uzunbulak**	**0.91**	**276**	P	**Pb**	**23 46 47.1**	**-1.9**
	12nm,0.1s						
UZB				S	**Sb**	**23 46 59.6**	**-2.0**
	141nm,0.2s						
DJR	**Jarkent**	**1.31**	**345**	*eP*	**Pb**	**23 46 54.6**	**-1.2**
	4.3nm,0.3s						
DJR				*eS*	**Sb**	**23 47 12.3**	**-0.9**
	28nm,0.3s						
SATY	**Saty**	**1.36**	**270**	*eP*	**Pb**	**23 46 55.6**	**-1.0**
	19nm,0.1s						
SATY				*eS*	**Sb**	**23 47 13.9**	**-0.6**
	86nm,0.2s						
SATY	**Saty**	**1.36**	**270**	P	**Pb**	**23 46 55.6**	**-1.0**
	19nm,0.1s						
SATY				S	**Sb**	**23 47 13.9**	**-0.6**
	86nm,0.2s						
PRZ	**Przheval'sk**	**1.49**	**248**	⇑*iP*	**Pg**	**23 46 58.8**	**-0.2**
	baz=50						
PRZ				⇑*iS*	**Sb**	**23 47 18.1**	**-0.2**
	baz=50						
KURS	**Kuram**	**1.59**	**286**	*eP*	**Pb**	**23 47 00.5**	**0.0**
	baz=87						
KURS				*eS*	**Sg**	**23 47 22.4**	**+1.0**
	baz=87						
KURS	**Kuram**	**1.59**	**286**	*eP*	**Pb**	**23 47 00.5**	**0.0**
	1.3nm,0.3s						
KURS				*eS*	**Sg**	**23 47 22.4**	**+1.0**
	12nm,0.9s						
MNBS	**Baschi**	**1.69**	**308**	*eP*	**Pb**	**23 47 00.5**	**-1.8**
	baz=6.0						
MNBS				*eS*	**Sb**	**23 47 22.8**	**-1.2**
	baz=6.0						
MNBS	**Baschi**	**1.69**	**308**	*eP*	**Pb**	**23 47 00.5**	**-1.8**
	24nm,0.1s						
MNBS				*eS*	**Sb**	**23 47 22.8**	**-1.2**
	33nm,0.2s						
MNBS	**Baschi**	**1.69**	**308**	P	**Pb**	**23 47 00.5**	**-1.8**
	24nm,0.1s						
MNBS				S	**Sb**	**23 47 22.8**	**-1.2**
	33nm,0.2s						
ANVS	**Anan'yevo**	**1.93**	**263**	⇓*iP*	**Pb**	**23 47 05.7**	**-0.6**
	baz=64						
ANVS				⇓*iS*	**Sg**	**23 47 32.1**	**-0.2**
	baz=64						
ARXS	**Arharly**	**2.11**	**304**	*eP*	**Pb**	**23 47 07.9**	**-1.5**
	7.6nm,0.1s						
ARXS				*eS*	**Sb**	**23 47 35.5**	**-0.5**
	15nm,0.2s						
ARXS	**Arharly**	**2.11**	**304**	Pg	**Pb**	**23 47 07.9**	**-1.5**
	7.6nm,0.1s						
ARXS				Lg	Lg	23 47 35.5	
	15nm,0.2s						
TARG	**Taragay, Kyrgy**	**2.26**	**235**	⇑*iP*	**Pb**	**23 47 10.2**	**-1.9**
	baz=36						
TARG				⇑*iS*	**Sb**	**23 47 40.0**	**-0.6**
	baz=36						
KOTS	**Kotyrbulak**	**2.31**	**275**	*eP*	**Pb**	**23 47 11.3**	**-1.6**
	baz=76						
KOTS				*eS*	**Sb**	**23 47 41.8**	**-0.1**
	baz=76						
KOTS	**Kotyrbulak**	**2.31**	**275**	*eP*	**Pb**	**23 47 11.3**	**-1.6**
	5.7nm,0.2s						
KOTS				*eS*	**Sb**	**23 47 41.8**	**-0.1**
	50nm,0.4s						
KOTS	**Kotyrbulak**	**2.31**	**275**	Pg	**Pb**	**23 47 11.3**	**-1.6**
	5.7nm,0.2s						
KOTS				Lg	Lg	23 47 41.8	
	50nm,0.4s						
KAPS	**Kapalarasan**	**2.31**	**344**	*eP*	**Pb**	**23 47 10.7**	**-2.2**
	4.9nm,0.3s						
KAPS				*eS*	**Sb**	**23 47 39.9**	**-2.0**
	16nm,0.3s						
KAPS	**Kapalarasan**	**2.31**	**344**	Pg	**Pb**	**23 47 10.7**	**-2.2**
	4.9nm,0.3s						
KAPS				Lg	Lg	23 47 39.9	
	16nm,0.3s						
TNSS	**Tian-Shan**	**2.43**	**271**	*eP*	**Pb**	**23 47 14.3**	**-0.7**
	1.7nm,0.3s						
TNSS				*eS*	**Sb**	**23 47 46.1**	**+0.6**
	19nm,0.5s						
KDJ	**Kajisay**	**2.46**	**249**	⇑*iP*	**Pb**	**23 47 12.9**	**-2.5**
	baz=50						
KDJ				⇑*iS*	**Sb**	**23 47 44.4**	**-1.8**
	baz=50						
IZV	**Izvestkoviy**	**2.68**	**271**	*eP*	**Pb**	**23 47 18.1**	**-1.0**
	9.0nm,0.8s						
IZV				*eS*	**Sb**	**23 47 53.4**	**+1.0**
	25nm,0.7s						
IZV	**Izvestkoviy**	**2.68**	**271**	Pg	**Pb**	**23 47 18.1**	**-1.0**
	9.0nm,0.8s						
IZV				Lg	Lg	23 47 53.4	
	25nm,0.7s						
KTBS	**Karatobe**	**2.69**	**285**	*eP*	**Pb**	**23 47 17.6**	**-1.7**
	7.1nm,1.1s						
KTBS				*eS*	**Sb**	**23 47 51.9**	**-0.8**
	15nm,0.5s						
KTBS	**Karatobe**	**2.69**	**285**	Pg	**Pb**	**23 47 17.6**	**-1.7**
	7.1nm,1.1s						
KTBS				Lg	Lg	23 47 51.9	
	15nm,0.5s						
ULHL	**Ulahol**	**3.08**	**256**	⇑*iP*	**Pn**	**23 47 21.7**	**+1.6**
	baz=57						
ULHL				⇑*iS*	**Sb**	**23 47 59.7**	**-4.3**
	baz=57						
TKM2	**Tokmak 2**	**3.43**	**269**	⇓*eP*	**Pn**	**23 47 26.9**	**+1.9**
	baz=70						
TKM2				⇓*iS*	**Sn**	**23 48 08.5**	**+2.3**
	baz=70						

IDC 24 23:46:44.6±4.8,12°.73S×72°.92W,h0km,mb3.6/1, mb1 3.9/2,mb1mx3.6/38,mbtmp3.8/2,ML4.1/1,Error ellipse: s-maj=176.9km s-min=47.8km az=47.0,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.83**	**128**	Pn	Pn	23 48 13.2	+0.2
	2.6nm,0.3s,baz=329,slow=9.7,SNR=50						
H03N1	**Juan Fernandez**	**21.33**	**194**	T	T	00 09 53.3	
	baz=17,slow=74,SNR=9.1						
H03N2	**Juan Fernandez**	**21.33**	**194**	T	T	00 09 53.8	
	baz=17,slow=74,SNR=7.1						
H03N3	**Juan Fernandez**	**21.35**	**194**	T	T	00 09 51.9	
	baz=17,slow=74,SNR=8.9						
TORD	**Torodi Ar. Bea**	**78.31**	**74**	P	P	23 58 47.1	-0.2
	0.4nm,0.7s,baz=269,slow=5.8,SNR=4.3						
SONM	**Songino Array**	**145.00**	**1**	PKPbc	PKPab	00 06 22.8	-0.6
	0.4nm,0.5s,baz=340,slow=2.1,SNR=2.2						

IDC 24 23:50:51.2±1.4,64°.64N×18°.24W,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.4/68,mbtmp3.7/4,ML4.0/1,Error ellipse: s-maj=35.6km s-min=15.1km az=21.0,Iceland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**1.33**	**276**	Pg	Pg	23 51 15.0	-1.6
	18nm,0.3s,baz=91,slow=9.1,SNR=64						
BORG				Lg	Lg	23 51 34.7	
	28nm,0.3s,baz=252,slow=20,SNR=16						
BORG				LR	LR	23 51 34.8	
	comp=Z,6μm,20.7s,baz=347,slow=33						
EKA	**Eskdalemuir Ar**	**11.96**	**134**	Pn	Pn	23 53 42.1	-0.7
	baz=325,slow=13,SNR=11						
ESDC	**Sonseca Array**	**26.36**	**155**	P	P	23 56 29.2	+0.5
	1.5nm,0.9s,baz=344,slow=9.8,SNR=8.0						
ILAR	**Eielson Array**	**45.56**	**332**	P	P	23 59 12.4	+0.3
	0.4nm,0.9s,baz=32,slow=8.6,SNR=3.1						
PDAR	**Pinedale Array**	**52.89**	**293**	P	P	00 00 08.5	-0.2
	1.3nm,0.8s,baz=77,slow=7.9,SNR=7.1						

*NEIC **24** 23:51:08.4±1.4,19°.29N±0°.06×145°.9E±0°.2,h124km±5km, mb4.4/19,Error ellipse: s-maj=23.8km s-min=8.7km az=84.0*

*IDC **24** 23:51:08.1±2.4,19°.25N×145°.93E,h124km±24km, mb3.6/11,mb1 3.8/13,mb1mx3.5/68,mbtmp4.1/13,Error ellipse: s-maj=29.2km s-min=15.6km az=80.0*

ISC 24 23:51:06.4±0.6,19°.34N±0°.06×146°.1E±0°.1,h100km,n45, σ1s08/41,mb4.2/19,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.83**	**191**	P	**Pn**	**23 52 32.0**	**+1.6**
	29nm,0.3s,baz=95,slow=2.7,SNR=17						
GUMO				S	**Sn**	**23 53 34.6**	**-1.3**
	baz=151,slow=23,SNR=0.9						
GUMO	**Guam**	**5.83**	**191**		**Pn**	**23 52 31.2**	**+0.8**
GUMO					**Sn**	**23 53 36.3**	**+0.4**
JCJ	**Chichijima**	**8.51**	**336**	P	**Pn**	**23 53 08.1**	**+1.3**
	12nm,0.3s,baz=284,slow=22,SNR=19						
JCJ				S	**Sn**	**23 54 39.6**	**-1.5**
	6.9nm,0.3s,baz=122,slow=23,SNR=8.0						
PATS	**Pohnpei**	**17.21**	**135**	P	**P**	**23 55 01.4**	**+0.6**
MJAR	**Matsushiro Ar**	**18.48**	**340**	P	**Pn**	**23 55 17.1**	**+1.3**
	0.1nm,0.3s,baz=146,slow=9.1,SNR=4.3						
H11S3	**WAKE ISLAND Hy**	**19.54**	**89**	T	T	00 16 33.0	
	baz=274,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**19.55**	**89**	T	T	00 16 21.8	
	baz=274,slow=75,SNR=51						
H11S2	**WAKE ISLAND Hy**	**19.55**	**89**	T	T	00 16 22.3	
	baz=274,slow=75,SNR=46						
H11N1	**WAKE ISLAND Hy**	**19.64**	**85**	T	T	00 16 44.6	
	baz=267,slow=74,SNR=16						
H11N2	**WAKE ISLAND Hy**	**19.65**	**85**	T	T	00 16 44.3	
	baz=267,slow=74,SNR=10						
H11N3	**WAKE ISLAND Hy**	**19.66**	**85**	T	T	00 16 49.7	
	baz=267,slow=74,SNR=16						
KSRS	**Korea Array**	**24.02**	**323**	P	**P**	**23 56 11.4**	**-0.5**
	1.6nm,0.6s,baz=150,slow=9.6,

R11A					IAmb	IAmb	00 03 30.1		
	comp=Z,6.2nm,1.3s								
BOZ	**Bozeman (W)**	**84.66**	**44**	P	**P**	**Pn**	**00 03 29.3**	**-0.1**	
BOZ					IAmb	IAmb	00 03 30.2		
	comp=Z,6.3nm,1.4s								
YHL	**Hebgen Lake**	**85.24**	**44**	P	**P**		**00 03 33.3**	**+0.9**	
YHB	**Horse Butte**	**85.27**	**44**	P	**P**		**00 03 32.5**	**-0.1**	
YHH	**Holmes Hill**	**85.48**	**44**	P	**P**		**00 03 34.2**	**+0.6**	
SPUT	**South Promonto**	**85.72**	**48**	P	**P**		**00 03 34.5**	**-0.3**	
PSUT	**Pine Spring**	**85.73**	**51**	P	**P**		**00 03 33.8**	**-1.1**	
IMW	**Indian Meadow**	**85.77**	**45**	P	**P**		**00 03 34.7**	**-0.4**	
CBX	**Cerro Bola**	**85.77**	**57**	P	**P**		**00 03 36.8**	**+1.7**	
FXWY	**Fox Creek**	**85.81**	**45**	P	**P**		**00 03 35.3**	**+0.1**	
FLWY	**Flagg Ranch**	**85.86**	**45**	P	**P**		**00 03 33.8**	**-1.7**	
DUG	**Dugway, Tooele**	**85.87**	**49**	P	**P**		**00 03 36.2**	**+0.7**	
DUG					IAmb	IAmb	00 03 53.9		
	comp=Z,5.0nm,1.4s								
TPAW	**Teton Pass**	**85.92**	**45**	P	**P**		**00 03 35.1**	**-0.7**	
FINES	**FINESS Array B**	**86.45**	**335**	P	**P**		**00 03 35.4**	**-2.3**	
	comp=Z,0.6nm,0.6s,baz=48,slow=2.8,SNR=6.2								
PDAR	**Pinedale Array**	**87.14**	**46**	P	**P**		**00 03 41.5**	**-0.2**	
	comp=Z,0.5nm,0.4s,baz=176,slow=1.3,SNR=8.9								

*IDC **24** 23:54:07.2±1.7, 14°.73S×73°.69W, h71km±22km, mb3.6/1, mb1 3.8/5, mb1mx3.5/42, mbtmp4.1/5, Error ellipse: s-maj=37.2km s-min=13.0km az=44.0*

ISC 24 23:54:07.5±0.9, 14°.8S±0°.1×73°.8W±0°.1, h89km, n14, σ1°.9 40/10, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.09**	**314**	P	**Pn**	**23 55 08.0**	**+0.2**
	6.6nm,0.3s,baz=129,slow=8.2,SNR=6.3						
NNA				S	**Sn**	**23 55 54.6**	**+0.2**
	37nm,0.3s,baz=30,slow=21,SNR=15						
LPAZ	**La Paz**	**5.67**	**105**	P	**Pn**	**23 55 32.5**	**+2.7**
	4.1nm,0.3s,baz=330,slow=8.3,SNR=46						
LVC	**Limon Verde**	**9.02**	**150**	P	**Pn**	**23 56 16.7**	**+1.5**
	0.5nm,0.3s,baz=2.5,slow=8.9,SNR=10						
LVC				S	**Sn**	**23 57 55.5**	**+0.2**
	1.6nm,0.3s,baz=67,slow=20,SNR=10						
SIV	**San Ignacio**	**12.35**	**97**	P	**Pn**	**23 56 58.2**	**-2.0**
	1.3nm,0.3s,baz=290,slow=11,SNR=17						
H03N1	**Juan Fernandez**	**19.09**	**193**	T	T	00 17 13.1	
	baz=18,slow=74,SNR=18						
H03N2	**Juan Fernandez**	**19.09**	**193**	T	T	00 17 13.6	
	baz=18,slow=74,SNR=8.3						
H03N3	**Juan Fernandez**	**19.10**	**193**	T	T	00 17 13.4	
	baz=18,slow=74,SNR=18						
H03S3	**Juan Fernandez**	**19.45**	**193**	T	T	00 17 31.7	
	baz=193,slow=74,SNR=6.0						
H03S2	**Juan Fernandez**	**19.47**	**193**	T	T	00 17 31.2	
	baz=193,slow=74,SNR=5.7						
H03S1	**Juan Fernandez**	**19.47**	**193**	T	T	00 17 37.0	
	baz=193,slow=74,SNR=6.0						
PTGA	**Pitinga**	**19.60**	**46**	P	**P**	**23 58 29.0**	**+0.2**
	0.7nm,0.3s,baz=226,slow=16,SNR=8.2						
TORD	**Torodi Ar. Bea**	**79.74**	**73**	P	**P**	**00 06 05.9**	**-0.4**
	1.0nm,0.8s,baz=264,slow=6.0,SNR=4.7						
ZALV	**Zalesovo Beam**	**137.53**	**19**	PKP	**PKiKP**	**00 13 22.6**	**-0.2**
	0.4nm,0.3s,baz=309,slow=4.6,SNR=4.0						
SONM	**Songino Array**	**147.10**	**360**	PKPbc	**PKPab**	**00 13 42.2**	**+0.1**
	0.5nm,0.5s,baz=341,slow=3.1,SNR=4.1						

*DDA **25** 00:02:36.5, 38°.04N×25°.80E, h14km±1km, ML2.1*
*ATH **25** 00:02:36.7, 38°.10N×25°.83E, h28km±2km, ML2.3/8, Error ellipse: s-maj=2.7km s-min=1.0km az=78.0*
*ISK **25** 00:02:36.7, 38°.10N×25°.79E, h20km, ML2.6/6*
*THE **25** 00:02:37.5, 38°.08N×25°.84E, h5km±2km, ML2.3/5, Error ellipse: s-maj=2.6km s-min=0.7km az=16.0*

ISC 25 00:02:37.5±0.9, 38°.09N±0°.02×25°.83E±0°.03, h17km±8km, n40, σ0°.55/56, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.35**	**31**	P	**Pg**	**00 02 44.6**	**-0.3**
CHOS				S	**Sg**	**00 02 49.5**	**-0.3**
	1µm,0.3s						
CHOS	**Chios island**	**0.35**	**31**	P	**Pg**	**00 02 44.6**	**-0.3**
CHOS				S	**Sg**	**00 02 49.7**	**-0.1**
CHOS				AML	AML	00 02 50.9	
	comp=E,2471µm,0.2s						
CHOS				AML	AML	00 02 51.8	
	comp=N,1748µm,0.3s						
CHOS	**Chios island**	**0.35**	**31**	PG	**Pg**	**00 02 44.6**	**-0.3**
CHOS				SG	**Sg**	**00 02 50.0**	**+0.2**
PSRA	**Psara**	**0.50**	**336**	P	**Pg**	**00 02 47.1**	**-0.4**
PSRA				AML	AML	00 02 55.0	
	comp=E,1249µm,0.2s						
PSRA				AML	AML	00 02 55.8	
	comp=N,993µm,0.2s						
URLA	**Izmir**	**0.66**	**66**	PG	**Pb**	**00 02 50.9**	**+0.2**
URLA				SG	**Sg**	**00 03 00.6**	**+1.2**
URLA	**Izmir**	**0.66**	**66**	*i* P	**Pb**	**00 02 50.2**	**-0.5**
URLA				*i* S	**Sg**	**00 03 00.4**	**+0.9**
URLA				IAML		00 03 02.0	
	comp=N,109nm,0.5s						
URLA				IAML		00 03 03.0	
	comp=E,74nm,0.3s						
TNSA	**Tinos**	**0.76**	**224**	P	**Pb**	**00 02 52.3**	**0.0**
KRBN	**Karaburun**	**0.76**	**48**	PG	**Pb**	**00 02 52.5**	**+0.1**
DGB	**zmir**	**0.83**	**92**	*i* P	**Pb**	**00 02 52.8**	**-0.8**
DGB				IAML		00 03 05.0	
	comp=E,32nm,0.4s						
DGB				*i* S	**Sg**	**00 03 05.3**	**+0.5**
SMG	**Samos**	**0.89**	**115**	P	**Pb**	**00 02 54.3**	**-0.2**
SMG				S	**Sg**	**00 03 07.1**	**+0.7**
	comp=E,248nm,0.4s						
SMG	**Samos**	**0.89**	**115**	P	**Pb**	**00 02 54.2**	**-0.2**
SMG				AML	AML	00 03 07.5	
	comp=N,603µm,0.5s						
SMG				AML	AML	00 03 07.6	
	comp=E,389µm,0.3s						
BLCB	**Balcova**	**1.00**	**72**	P	**Pb**	**00 02 56.3**	**-0.2**
BLCB				S	**Sn**	**00 03 10.7**	**+0.1**
BLCB	**Balcova**	**1.00**	**72**	PG	**Pb**	**00 02 56.3**	**-0.2**
APE	**Apeiranthos**	**1.04**	**193**	P	**Pb**	**00 02 57.1**	**-0.1**
APE				S	**Sg**	**00 03 12.3**	**+0.8**
	comp=E,88nm,0.2s						
APE	**Apeiranthos**	**1.04**	**193**	P	**Pb**	**00 02 57.3**	**0.0**
APE				S	**Sg**	**00 03 12.4**	**+1.0**
APE				AML	AML	00 03 14.5	
	comp=N,169µm,0.2s						
APE				AML	AML	00 03 15.5	
	comp=E,174µm,0.2s						
APE	**Apeiranthos**	**1.04**	**193**	PG	**Pb**	**00 02 56.5**	**-0.7**
APE				SG	**Sn**	**00 03 11.4**	**-0.3**
KARY	**Karystos**	**1.10**	**267**	P	**Pn**	**00 02 57.9**	**-0.3**
KARY	**Karystos**	**1.10**	**267**	P	**Pn**	**00 02 57.9**	**-0.3**
SIGR	**SIGRI**	**1.12**	**1**	P	**Pn**	**00 02 57.8**	**-0.7**
SIGR	**SIGRI**	**1.12**	**1**	P	**Pn**	**00 02 57.9**	**-0.6**
SIGR				AML	AML	00 03 15.3	
	comp=N,137µm,0.6s						
SIGR				AML	AML	00 03 16.7	
	comp=E,144µm,0.5s						
SIGR	**SIGRI**	**1.12**	**1**	PN	**Pn**	**00 02 57.8**	**-0.7**
GCAM	**G?zelcaml?**	**1.18**	**109**	*i* P	**Pn**	**00 02 59.0**	**-0.2**
PRK	**Paraskevi**	**1.21**	**17**	S	**Sg**	**00 03 17.6**	**+1.0**
	comp=E,130nm,0.4s						
PRK	**Paraskevi**	**1.21**	**17**	P		00 04 00.0	
PRK	**Paraskevi**	**1.21**	**17**	P	**Pn**	**00 02 59.8**	**+0.2**
PRK				AML	AML	00 03 20.2	
	comp=E,368µm,0.4s						
PRK				AML	AML	00 03 20.4	
	comp=N,154µm,0.3s						
AMGA	**Amorgos Island**	**1.26**	**178**	P	**Pn**	**00 03 00.0**	**-0.4**
AMGA				S	**Sn**	**00 03 17.3**	**+0.4**
AMGA	**Amorgos Island**	**1.26**	**178**	P	**Pn**	**00 02 60.0**	**-0.4**
DKL	**Dikili**	**1.29**	**40**	PN	**Pn**	**00 03 00.3**	**-0.6**
DKL				SN	**Sn**	**00 03 17.7**	**-0.1**
ZEDA	**zmir-Bergama**	**1.31**	**48**	*i* P	**Pb**	**00 03 02.0**	**+0.2**
ZEDA				*i* S	**Sg**	**00 03 20.9**	**+0.8**
ZEDA				IAML		00 03 21.0	
	comp=E,34nm,0.9s						
ZEDA				IAML		00 03 22.0	
	comp=N,86nm,0.9s						
AYVA	**Ayvalik**	**1.39**	**29**	*i* P	**Pb**	**00 03 03.8**	**+0.7**
AYVA				*i* S	**Sg**	**00 03 22.4**	**-0.1**
AYVA				IAML		00 03 24.0	
	comp=N,35nm,0.3s						
AYVA				IAML		00 03 26.0	
	comp=E,49nm,0.5s						
SERI	**Serifos**	**1.41**	**229**	P	**Pn**	**00 03 03.0**	**+0.5**
SERI				AML	AML	00 03 24.2	
	comp=E,158µm,0.4s						
SERI				AML	AML	00 03 24.4	
	comp=N,222µm,0.3s						
IOSP	**Ios island**	**1.43**	**198**	P	**Pn**	**00 03 02.4**	**-0.3**
IOSP				S	**Sg**	**00 03 23.8**	**+0.1**
	comp=N,90nm,0.3s						
IOSP	**Ios island**	**1.43**	**198**	P	**Pn**	**00 03 02.5**	**-0.3**
IOSP				AML	AML	00 03 26.1	
	comp=E,186µm,0.3s						
IOSP				AML	AML	00 03 27.8	
	comp=N,167µm,0.4s						
DION	**Dionisos Attik**	**1.49**	**270**	P	**Pn**	**00 03 03.7**	**0.0**
PTL	**Penteli**	**1.55**	**269**	P	**Pn**	**00 03 04.1**	**-0.3**
ANAF	**Anafi Island**	**1.73**	**181**	P	**Pn**	**00 03 06.7**	**-0.1**
BOZC	**Bozcaada**	**1.76**	**6**	PN	**Pn**	**00 03 06.2**	**-1.1**
EZN	**Ezine**	**1.78**	**12**	PN	**Pn**	**00 03 06.9**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.96**	**48**	*i* P	**Pb**	**00 03 14.3**	**+1.4**
STEP				*i* S	**Sg**	**00 03 40.6**	**0.0**
STEP				IAML		00 03 45.0	
	comp=E,24nm,0.3s						
STEP				IAML		00 03 48.0	
	comp=N,17nm,0.2s						
GELI	**Tayfur-Gelibol**	**2.36**	**12**	PN	**Pn**	**00 03 15.8**	**+0.3**

*BJI **25** 00:04:13.3±0.0, 5°.09S×151°.99E, h111km, mB5.2/4, mb4.7/24*
*IDC **25** 00:04:15.6±0.5, 5°.05S×151°.44E, h101km±4km, mb4.2/25, mb1 4.3/29, mb1mx4.3/44, mbtmp4.6/29, Error ellipse: s-maj=11.8km s-min=7.4km az=109.0*
*NEIC **25** 00:04:16.0±1.5, 5°.07S±0°.06×151°.52E±0°.08, h106km±5km, mb4.7/57, Error ellipse: s-maj=11.5km s-min=8.9km az=115.0*
*DJA **25** 00:04:16.7±0.3, 5°.S±3°×15°.2E±°, h105km±4km, M5.1/19, mb4.7/19, mB5.1/2, MLv5.3/2, Mw(mB)4.5/2*

ISC 25 00:04:15.6±0.3, 5°.07S±0°.04×151°.45E±0°.05, h100km, n123, σ1°.9 35/132, mb4.7/51, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.95**	**37**	P	**Pn**	**00 04 35.8**	**+0.4**
	2µm,0.3s,baz=225,slow=0.8,SNR=799						
KRVT				S	**Sn**	**00 04 51.0**	**+0.6**
	3µm,0.3s,baz=320,slow=23,SNR=90						
RABL	**Rabaul**	**1.12**	**39**		**Pn**	**00 04 37.5**	**+0.2**
RABL				Sn	**Sn**	**00 04 54.7**	**+0.9**
PMG	**Port Moresby**	**6.06**	**224**	P	**Pn**	**00 05 44.2**	**+1.5**
	23nm,0.3s,baz=32,slow=5.6,SNR=21						
PMG				S	**Sn**	**00 06 49.1**	**-1.6**
	28nm,0.3s,baz=3.6,slow=22,SNR=2.3						
PMG	**Port Moresby**	**6.06**	**224**	Pn	**Pn**	**00 05 44.0**	**+1.3**
HNR	**Honiara**	**9.48**	**118**	P	**Pn**	**00 06 27.0**	**-2.2**
	13nm,0.3s,baz=128,slow=4.4,SNR=2.1						
HNR				S	**Sn**	**00 08 21.9**	**+7.9**
	27nm,0.3s,baz=185,slow=23,SNR=1.8						
JAY	**Jayapura**	**11.02**	**283**	P	**Pn**	**00 06 50.7**	**+0.5**
	0.3nm,0.3s,baz=180,slow=20,SNR=2.5						
JAY	**Jayapura**	**11.02**	**283**	P	**Pn**	**00 06 53.1**	**+2.9**
	12nm,1.1s						
GENI	**Genyem**	**11.52**	**282**	P	**Pn**	**00 06 59.7**	**+2.7**
	35nm,2.2s						
COEN	**Coen**	**12.03**	**222**	Pn	**Pn**	**00 07 04.4**	**+0.7**
PATS	**Pohnpei**	**13.66**	**30**		**Pn**	**00 07 25.9**	**+0.7**
CTA	**Charters Tower**	**15.77**	**198**	P	**Pn**	**00 07 52.8**	**+0.8**
	2.1nm,0.3s,baz=26,slow=13,SNR=13						
CTAO	**Charters Tower**	**15.77**	**198**	Pn	**Pn**	**00 07 51.0**	**-1.1**
SANVU	**Saraoutou**	**18.60**	**125**	P	**P**	**00 08 24.2**	**-1.0**
FAKI	**Fak Fak**	**19.27**	**276**	P	**Pn**	**00 08 34.3**	**-0.3**
	57nm,1.8s						
FAKI	**Fak Fak**	**19.27**	**276**	P	**P**	**00 08 31.9**	**-0.7**
FAKI				IAmb	IAmb	00 08 38.5	
	comp=Z,40nm,1.0s						
GUMO	**Guam**	**19.65**	**341**	P	**Pn**	**00 08 37.8**	**-1.1**
	comp=Z,4.4nm,0.3s,baz=176,slow=8.4,SNR=7.8						
GUMO	**Guam**	**19.65**	**341**		**P**	**00 08 37.2**	**+0.6**
EIDS	**Eidsvold**	**20.19**	**181**	P	**P**	**00 08 42.7**	**+0.3**
EIDS				IAmb	IAmb	00 08 44.4	
	comp=Z,36nm,0.8s						
SIJI	**Sorong**	**20.58**	**281**	P	**P**	**00 08 46.8**	**+0.1**
	comp=Z,24nm,0.6s,baz=117,slow=11,SNR=4.1						
MTN	**Manton Dam**	**21.49**	**248**	P	**P**	**00 08 57.5**	**+1.0**
MTN				IAmb	IAmb	00 09 16.6	
	comp=Z,39nm,1.1s						
WB0	**Warramunga Arr**	**22.12**	**227**		**P**	**00 09 03.5**	**+0.4**
WB0				IAmb	IAmb	00 09 22.9	
	comp=Z,30nm,0.9s						
WR0	**Warramunga Arr**	**22.14**	**227**		**P**	**00 09 02.7**	**-0.6**
WR0				IAmb	IAmb	00 09 05.6	
	comp=Z,22nm,0.6s						
WRAB	**Tennant Creek**	**22.26**	**227**	P	**P**	**00 09 05.0**	**+0.4**
WRAB				IAmb	IAmb	00 09 06.7	
	comp=Z,30nm,0.6s						
WB2	**Warramunga Arr**	**22.27**	**227**		**P**	**00 09 04.6**	**0.0**
WB2				IAmb	IAmb	00 09 06.9	
	comp=Z,30nm,0.6s						
WB2					**S**	**00 13 04.9**	**+1.7**
WRA	**Warramunga Arr**	**22.27**	**227**	P	**P**	**00 09 04.6**	**-0.1**
	comp=Z,16nm,0.4s,baz=52,slow=9.8,SNR=75						
WRA				S	**S**	**00 13 02.0**	**-1.4**
	comp=Z,9.6nm,1.0s,baz=53,slow=20,SNR=14						
WRA				ScP	**ScP**	**00 16 24.9**	**-0.9**
	comp=Z,4.0nm,1.0s,baz=50,slow=2.9,SNR=6.4						
DZM	**Mont Dzumac**	**22.28**	**141**	P	**P**	**00 09 05.2**	**+0.4**
	comp=Z,51nm,0.7s,baz=286,slow=9.3,SNR=47						
DZM	**Mont Dzumac**	**22.28**	**141**	P	**P**	**00 09 03.9**	**-0.9**
DZM				IAmb	IAmb	00 09 06.4	
	comp=Z,58nm,0.9s						
KNRA	**Kununurra**	**24.65**	**243**		**P**	**00 09 27.1**	**-0.1**
AS31	**Alice Springs**	**25.06**	**221**	P	**P**	**00 09 31.3**	**+0.5**
ASAR	**Alice Springs**	**25.06**	**221**	P	**P**	**00 09 31.1**	**+0.3**
	comp=Z,22nm,0.5s,baz=58,slow=8.6,SNR=177						
ASAR				S	**S**	**00 13 49.4**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=49,slow=17,SNR=1.7						
ASAR				ScP	**ScP**	**00 16 32.1**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=45,slow=3.5,SNR=7.7						
ARMA	**Armidale**	**25.22**	**180**	P	**P**	**00 09 32.3**	**0.0**
ARMA				IAmb	IAmb	00 09 35.6	
	comp=Z,50nm,1.1s						
STKA	**Stephens Creek**	**28.23**	**198**	P	**P**	**00 09 59.1**	**0.0**
	comp=Z,8.4nm,0.7s,baz=358,slow=8.4,SNR=19						
STKA	**Stephens Creek**	**28.23**	**198**	P	**P**	**00 09 58.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**28.36**	**241**	P	**P**	**00 10 00.4**	**0.0**
	comp=Z,10nm,0.4s,baz=62,slow=7.0,SNR=42						
FITZ	**Fitzroy Crossi**	**28.36**	**241**	P	**P**	**00 10 00.1**	**-0.4**
FITZ				IAmb	IAmb	00 10 01.2	
	comp=Z,13nm,0.6s						
MSVF	**Nonsavu**	**28.90**	**118**	P	**P**	**00 10 04.2**	**-1.2**
MSVF				IAmb	IAmb	00 10 13.2	
	comp=Z,30nm,1.1s						
BBOO	**Buckleboo**	**31.12**	**206**	P	**P**	**00 10 24.0**	**-0.7**
BBOO				IAmb	IAmb	00 10 25.7	
	comp=Z,7.1nm,0.6s						
MPSI	**Mapaga**	**31.97**	**279**	P	**P**	**00 10 32.8**	**+0.4**
JCJ	**Chichijima**	**33.20**	**345**	P	**P**	**00 10 41.4**	**-1.6**
	comp=Z,21nm,0.8s,baz=263,slow=19,SNR=2.7						
JCJ	**Chichijima**	**33.20**	**345**	P	**P**	**00 10 40.3**	**-2.7**
FORT	**Forrest**	**33.74**	**218**	P	**P**	**00 10 46.7**	**-1.0**
FORT				IAmb	IAmb	00 10 59.2	
	comp=Z,13nm,0.8s						
PSA00	**Pilbara Seismi**	**34.74**	**239**	P	**P**	**00 10 55.8**	**-0.7**
PSA00				IAmb	IAmb	00 11 01.5	
	comp=Z,10nm,1.1s						
OUZ	**Omahuta**	**36.31**	**149**	P	**P**	**00 11 09.5**	**-0.1**
TAU	**Tasmania Unive**	**37.87**	**185**	P	**P**	**00 11 22.1**	**-0.6**
GIRL	**Giralia**	**39.97**	**240**	P	**P**	**00 11 40.3**	**-0.3**
QRZ	**Quartz Range**	**40.32**	**155**	P	**P**	**00 11 43.5**	**+0.4**
YOJ	**Yonaguni jima**	**40.35**	**318**	P	**P**	**00 11 44.0**	**+0.3**
URZ	**Urewera**	**40.45**	**148**	P	**P**	**00 11 44.6**	**+0.3**
	comp=Z,7.7nm,0.6s,baz=352,slow=3.6,SNR=7.8						
URZ	**Urewera**	**40.45**	**148**	P	**P**	**00 11 44.0**	**-0.3**
URZ				IAmb	IAmb	00 11 45.3	
	comp=Z,11nm,0.8s						
MXZ	**Matakaoa Point**	**40.58**	**147**	P	**P**	**00 11 45.5**	**+0.1**
BKZ	**Black Stump Fm**	**40.82**	**150**	P	**P**	**00 11 47.8**	**+0.4**
NNZ	**Nelson**	**41.00**	**155**	P	**P**	**00 11 48.3**	**-0.4**
NACB	**Ninganchiao**	**41.12**	**316**	P	**P**	**00 11 50.2**	**+0.2**
NACB				IAmb	IAmb	00 12 08.8	
	comp=Z,12nm,0.7s						
MORW	**Morawa**	**41.14**	**230**	P	**P**	**00 11 49.2**	**-1.0**
THZ	**Tophouse**	**41.25**	**155**	P	**P**	**00 11 50.6**	**-0.4**
THZ				IAmb	IAmb	00 11 52.3	
	comp=Z,16nm,1.0s						
SSLB	**Suanglung**	**41.31**	**315**	P	**P**	**00 11 52.2**	**+0.6**
TUWZ	**Tuamarina**	**41.42**	**154**	P	**P**	**00 11 52.5**	**+0.4**
FOZ	**Fox Glacier**	**41.60**	**160**	P	**P**	**00 11 53.9**	**+0.3**
FOZ				IAmb	IAmb	00 11 56.1	
	comp=Z,18nm,1.2s						
BSWZ	**Blackbirch Sta**	**41.62**	**155**	P	**P**	**00 11 53.6**	**-0.3**
SNZO	**South Karori**	**41.66**	**153**	P	**P**	**00 11 52.7**	**-1.5**
LTZ	**Lake Taylor**	**41.85**	**157**	P	**P**	**00 11 57.0**	**+1.2**
BFZ	**Birch Farm**	**41.87**	**151**	P	**P**	**00 11 56.4**	**+0.4**
MSWZ	**Moikau Station**	**41.98**	**153**	P	**P**	**00 11 56.9**	**0.0**
KHZ	**Kahutara**	**42.06**	**155**	P	**P**	**00 11 57.5**	**+0.1**
KHZ				IAmb	IAmb	00 11 57.8	
	comp=Z,25nm,1.2s						
PLWZ	**Palliser**	**42.11**	**153**	P	**P**	**00 11 57.6**	**-0.3**
RPZ	**Rata Peaks**	**42.20**	**159**	P	**P**	**00 11 59.1**	**+0.6**
	comp=Z,16nm,1.0s,baz=268,slow=5.2,SNR=7.6						
RPZ	**Rata Peaks**	**42.20**	**159**	P	**P**	**00 11 58.6**	**+0.1**
RPZ				IAmb	IAmb	00 11 59.5	
	comp=Z,11nm,0.8s						
LBZ	**Lake Benmore**	**42.48**	**160**	P	**P**	**00 12 00.1**	**-0.7**
WKZ	**Wanaka**	**42.49**	**161**	P	**P**	**00 12 01.1**	**+0.2**
WKZ				IAmb	IAmb	00 12 08.5	
	comp=Z,12nm,1.1s						
DCZ	**Deep Cove**	**42.51**	**164**	P	**P**	**00 12 00.8**	**-0.2**
DCZ				IAmb	IAmb	00 12 01.8	
	comp=Z,18nm,1.1s						
JNU	**Nakatsue**	**42.70**	**334**	P	**P**	**00 12 01.4**	**-1.4**
	comp=Z,7.0nm,0.8s,baz=188,slow=23,SNR=3.1						
JNU	**Nakatsue**	**42.70**	**334**	P	**P**	**00 12 01.8**	**-1.0**
JNU				IAmb	IAmb	00 12 08.7	
	comp=Z,13nm,0.9s						
MLZ	**Mavora Lakes**	**42.70**	**163**	P	**P**	**00 12 02.7**	**+0.1**
MLZ				IAmb	IAmb	00 12 04.0	
	comp=Z,14nm,0.9s						
MQZ	**McQueen's Vall**	**42.79**	**157**	P	**P**	**00 12 04.3**	**+1.0**
MQZ				IAmb	IAmb	00 12 12.1	
	comp=Z,15nm,1.1s						
MJAR	**Matsushiro Arr**	**43.20**	**344**	P	**P**	**00 12 05.5**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=160,slow=7.9,SNR=7.3						
KSRS	**Korea Array**	**47.65**	**335**	P	**P**	**00 12 42.8**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=152,slow=8.5,SNR=10						
NJ2	**Nanjing**	**48.22**	**322**	*e*P	**P**	**00 12 47.1**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**52.08**	**342**	P	**P**	**00 13 15.4**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=191,slow=9.5,SNR=4.7						
KLR	**Kul'dur**	**56.73**	**345**	P	**P**	**00 13 49.0**	**+0.2**
	comp=Z,4.4nm,0.9s,baz=154,slow=2.8,SNR=11						
CMAR	**Chiang Mai Arr**	**56.78**	**296**	P	**P**	**00 13 51.5**	**+1.7**
	comp=Z,1.1nm,0.3s,baz=108,slow=5.8,SNR=2.3						
PETK	**Petropavlovsk-**	**58.20**	**4**	P	**P**	**00 13 58.5**	**-0.6**
	comp=Z,3.8nm,0.7s,baz=151,slow=5.7,SNR=7.7						
HHC	**Hu-ho-hao-te**	**58.49**	**325**	*e*P	**P**	**00 14 01.1**	**-0.4**
HHC				pmax	pmax		
	comp=Z,34nm,1.0s						
HHC				LR	LR		
	comp=Z,5µm,14.8s						
HHC				LR	LR		
	comp=Z,8µm,14.3s						
HHC				LR	LR		
	comp=Z,7µm,16.0s						
LZH	**Lanzhou**	**60.49**	**317**	⇓P	**P**	**00 14 17.9**	**+2.5**
LZH				pP	pP	00 14 43.8	+4.0
LZH				sP	PcP	00 14 55.8	-3.4
LZH				PP	**PP**	**00 16 34.3**	**+4.3**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,85nm,7.2s						
GTA	**Gaotai**	**64.94**	**318**	*e*P	**P**	**00 14 42.4**	**-2.5**
GTA				pP	pP	00 15 09.6	+0.1
GTA				sP	sP	00 15 22.0	+1.7
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SONM	**Songino Array**	**65.84**	**328**	P	**P**	**00 14 50.7**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=138,slow=5.0,SNR=15						
SEY	**Seymchan**	**67.81**	**0**	P	**P**	**00 15 02.9**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=163,slow=9.3,SNR=3.6						
VNDA	**Vanda**	**72.62**	**178**	P	**P**	**00 15 31.9**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=322,slow=6.4,SNR=18						
WMQ	**Urumqi**	**75.03**	**318**	*e*P	**P**	**00 15 47.6**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
MK31	**Makanchi Array**	**79.64**	**319**	P	**P**	**00 16 12.1**	**0.0**
MKAR	**Makanchi Array**	**79.64**	**319**	P	**P**	**00 16 12.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=98,slow=8.3,SNR=9.1						
ZALV	**Zalesovo Beam**	**80.63**	**327**	P	**P**	**00 16 16.5**	**-0.6**
	comp=Z,1.6nm,0

CHKT	**Chengkung**	**1.57**	**309**	*eP*		**Pg**	**00 06 02.5**	**+0.4**
	baz=312							
CHKT				*eS*		**Sg**	**00 06 22.4**	**-0.1**
	baz=312							
LONT	**Longtian**	**1.65**	**299**	*eP*		**Pg**	**00 06 03.9**	**+0.3**
	baz=302							
LONT				*eS*		**Sg**	**00 06 25.7**	**+0.7**
	baz=302							
TWGBT	**Beinan**	**1.65**	**296**	*eP*		**Pb**	**00 06 02.6**	**-0.4**
	baz=298							
TWGBT				*eS*		**Sg**	**00 06 26.0**	**+0.9**
	baz=298							
ECL	**Taimali**	**1.68**	**287**	*eP*		**Pg**	**00 06 04.7**	**+0.4**
	baz=290							
ECL				*eS*		**Sg**	**00 06 25.9**	**-0.2**
	baz=290							
FULB	**Fuli**	**1.69**	**310**	*eP*		**Pg**	**00 06 04.2**	**-0.1**
	baz=313							
FULB				*eS*		**Sg**	**00 06 26.2**	**0.0**
	baz=313							
EAST	**Anshuo**	**1.73**	**279**	*eP*		**Pb**	**00 06 04.3**	**0.0**
	baz=282							
EAST				*eS*		**Sb**	**00 06 25.6**	**-0.8**
	baz=282							
TWKBT	**Hengchun**	**1.75**	**265**	*eP*		**Pb**	**00 06 04.2**	**-0.5**
	baz=267							
TWKBT				*eS*		**Sn**	**00 06 25.7**	**-0.2**
	baz=267							
SLIU	**Shizi**	**1.76**	**274**	*eP*		**Pn**	**00 06 03.3**	**+0.1**
	baz=276							
SLIU				*eS*		**Sn**	**00 06 25.7**	**-0.3**
	baz=276							
EYUL	**Yuli**	**1.77**	**314**	*eP*		**Pg**	**00 06 05.7**	**-0.1**
	baz=317							
EYUL				*eS*		**Sg**	**00 06 29.3**	**+0.5**
	baz=317							
TWF1	**Yuli**	**1.79**	**314**	*eP*		**Pg**	**00 06 05.9**	**-0.4**
	baz=316							
TWF1				*eS*		**Sg**	**00 06 30.4**	**+1.0**
	baz=316							
HGSD	**Ruisui**	**1.81**	**320**	*eP*		**Pg**	**00 06 06.3**	**-0.3**
	baz=322							
HGSD				*eS*		**Sg**	**00 06 29.4**	**-0.7**
	baz=322							
YULB	**Yu-li**	**1.81**	**315**	*eP*		**Pb**	**00 06 06.1**	**+0.3**
	baz=317							
YULB				*eS*		**Sg**	**00 06 30.4**	**+0.1**
	baz=317							
EHY	**Hungye**	**1.88**	**318**	*eP*		**Sg**	**00 06 08.4**	**+0.4**
	baz=320							
EHY				*eS*		**Sg**	**00 06 31.4**	**-1.0**
	baz=320							
ELDTW	**Lidau**	**1.89**	**305**	*eP*		**Pb**	**00 06 06.8**	**-0.2**
	baz=307							
ELDTW				*eS*		**Sb**	**00 06 30.4**	**-0.5**
	baz=307							
SCZT	**Fangliau**	**1.94**	**278**	*eP*		**Pb**	**00 06 07.9**	**0.0**
	baz=280							
SCZT				*eS*		**Sb**	**00 06 31.5**	**-0.9**
	baz=280							
MASBT	**Mashibuluo**	**1.97**	**285**	*eP*		**Pb**	**00 06 08.3**	**-0.1**
	baz=287							
SSD	**Sandimen**	**2.01**	**289**	*eP*		**Pb**	**00 06 09.3**	**+0.3**
	baz=291							
VWDT	**VWDT**	**2.17**	**319**	*eP*		**Pb**	**00 06 12.2**	**+0.4**
	baz=321							
HATJ	**Hateruma jima**	**2.19**	**28**	P		**Pb**	**00 06 11.7**	**-0.4**
HATJ				*eS*		**Sb**	**00 06 38.3**	**-1.3**
WTP	**Ta-pu**	**2.23**	**301**	*eP*		**Pb**	**00 06 12.1**	**-0.8**
	baz=303							
ALS	**Alishan**	**2.23**	**309**	*eP*		**Pg**	**00 06 14.4**	**-0.4**
	baz=311							
TPUB	**Ta-pu**	**2.25**	**302**	*eP*		**Pg**	**00 06 14.3**	**-0.7**
	baz=304							
SSLB	**Suanglung**	**2.31**	**316**	*eP*		**Pb**	**00 06 14.4**	**+0.2**
	baz=318							
TWK	**Hsinying**	**2.34**	**300**	*eP*		**Pb**	**00 06 15.2**	**+0.5**
	baz=301							
YOJ	**Yonaguni jima**	**2.36**	**7**	*eS*		**Sb**	**00 06 45.3**	**+0.9**
ETLH	**Xiulin Townshi**	**2.37**	**332**	*eP*		**Pb**	**00 06 14.8**	**-0.4**
	baz=333							
CHGB	**Renai**	**2.39**	**324**	*eP*		**Pb**	**00 06 15.7**	**0.0**
	baz=326							
IRIF	**Iriomote-Funau**	**2.41**	**23**	P		**Pb**	**00 06 15.3**	**-0.6**
IRIF				S		**Sb**	**00 06 44.7**	**-1.2**
WHF	**Hehuan Shan**	**2.42**	**327**	*eP*		**Pb**	**00 06 16.2**	**0.0**
	baz=329							
JKRS	**Kuro-shima**	**2.44**	**29**	P		**Pb**	**00 06 15.4**	**-0.9**
JKRS				S		**Sb**	**00 06 45.2**	**-1.5**
TYC	**Yuchr**	**2.46**	**317**	*eP*		**Pb**	**00 06 17.3**	**+0.6**
	baz=318							
FUSS	**Fushou**	**2.51**	**328**	*eP*		**Pb**	**00 06 16.9**	**-0.8**
	baz=329							
TDCB	**Techi**	**2.56**	**327**	*eP*		**Pb**	**00 06 16.5**	**-2.0**
	baz=328							
NNSH	**Datong**	**2.60**	**333**	*eP*		**Pb**	**00 06 18.9**	**-0.3**
	baz=334							
JIJ	**Ishigaki jima**	**2.61**	**30**	P		**Pn**	**00 06 16.1**	**+1.3**
JIJ				S		**Sn**	**00 06 47.9**	**+1.0**
NNS	**Nan Shan**	**2.62**	**333**	*eP*		**Pb**	**00 06 17.6**	**-1.9**
	baz=334							
JISG	**Ishigakijimahi**	**2.88**	**31**	S		**Sn**	**00 06 54.6**	**+1.0**
JTJ	**Tarama**	**3.12**	**36**	P		**Pn**	**00 06 22.7**	**+0.8**
JTJ				*eS*		**Sn**	**00 07 00.2**	**+0.6**

*IDC **25** 00:22:04.5±4.4, 6.°01N×94.°52E, h80km±40km, mb3.4/9, mb1 3.5/10, mb1mx3.3/33, mbtmp3.7/10, ML4.0/1, Error ellipse: s-maj=56.8km s-min=19.2km az=54.0*

ISC 25 00:22:04.0±1.2, 6.°1N±0.°2×94.°5E±0.°2, h73km, n13, σ0$65/11, mb3.6/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**5.51**	**126**	P		**Pn**	**00 23 24.1**	**+0.4**
	4.4nm,0.3s,baz=360,slow=6.6,SNR=17							
PSI				S		**Sn**	**00 24 26.4**	**+0.6**
	1.2nm,0.3s,baz=180,slow=21,SNR=1.7							
H08S3	**Diego Garcia H**	**25.78**	**238**	T		T	00 54 48.7	
	baz=59,slow=74							
H08S2	**Diego Garcia H**	**25.78**	**238**	T		T	00 54 49.3	
	baz=59,slow=74							
H08S1	**Diego Carcia H**	**25.80**	**238**	T		T	00 54 50.1	
	baz=59							
MKAR	**Makanchi Array**	**41.92**	**347**	P		**P**	**00 29 47.9**	**+0.4**
	0.4nm,0.6s,baz=178,slow=8.4,SNR=5.3							
SONM	**Songino Array**	**42.87**	**12**	P		**P**	**00 29 54.8**	**-0.5**
	0.3nm,0.4s,baz=195,slow=5.8,SNR=2.3							
WRA	**Warramunga Arr**	**46.97**	**124**	P		**P**	**00 30 27.1**	**-1.0**
	0.4nm,0.3s,baz=306,slow=8.5,SNR=5.8							
ZALV	**Zalesovo Beam**	**48.39**	**352**	P		**P**	**00 30 38.9**	**+0.3**
	1.3nm,0.5s,baz=181,slow=8.0,SNR=6.9							
ASAR	**Alice Springs**	**48.53**	**129**	P		**P**	**00 30 39.2**	**-0.9**
	0.3nm,0.4s,baz=300,slow=7.9,SNR=4.9							
BRTR	**Keskin Array B**	**63.85**	**311**	P		**P**	**00 32 29.1**	**-0.2**
	0.4nm,0.8s,baz=96,slow=5.8,SNR=3.1							
FINES	**FINESS Array B**	**74.46**	**332**	P		**P**	**00 33 34.1**	**-0.1**
	1.8nm,0.9s,baz=116,slow=4.4,SNR=5.9							
ARCES	**ARCESS Array B**	**77.08**	**340**	P		**P**	**00 33 49.3**	**+0.3**
	0.6nm,0.3s,baz=99,slow=6.9,SNR=19							
GERES	**GERESS Array B**	**79.38**	**318**	P		**P**	**00 34 03.0**	**+0.7**
	0.1nm,0.3s,baz=110,slow=5.8,SNR=3.7							

*IDC **25** 01:08:21.6±1.8, 14.°61S×73.°62W, h74km±20km, mb3.4/3, mb1 3.7/8, mb1mx3.4/33, mbtmp3.8/8, Error ellipse: s-maj=46.2km s-min=12.8km az=34.0*

ISC 25 01:08:21.8±0.9, 14.°8S±0.°1×73.°7W±0.°1, h100km, n8, σ1$77/10, mb3.4/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**4.15**	**313**	P		**Pn**	**01 09 22.5**	**-0.6**
	4.8nm,0.3s,baz=120,slow=13,SNR=15							
NNA				S		**Sn**	**01 10 08.1**	**-2.5**
	7.6nm,0.3s,baz=7.5,slow=12,SNR=9.0							
LPAZ	**La Paz**	**5.59**	**106**	P		**Pn**	**01 09 44.0**	**+0.9**
	1.8nm,0.3s,baz=291,slow=12,SNR=41							
LVC	**Limon Verde**	**8.97**	**150**	P		**Pn**	**01 10 30.0**	**+1.1**
	0.3nm,0.3s,baz=341,slow=13,SNR=1.7							
LVC				S		**Sn**	**01 12 07.5**	**-1.0**
	0.6nm,0.3s,baz=270,slow=22,SNR=6.2							
SIV	**San Ignacio**	**12.27**	**97**	P		**Pn**	**01 11 10.8**	**-2.4**
	0.9nm,0.3s,baz=272,slow=10,SNR=15							
PTGA	**Pitinga**	**19.54**	**45**	P		**P**	**01 12 40.9**	**-0.8**
	0.4nm,0.3s,baz=223,slow=19,SNR=3.2							
TEIG	**Tepich**	**37.67**	**337**	P		**P**	**01 15 29.1**	**+1.5**
	3.1nm,0.5s,baz=18,slow=11,SNR=3.1							
TXAR	**Lajitas Array**	**52.58**	**327**	P		**P**	**01 17 27.0**	**+1.5**
	0.1nm,0.5s,baz=150,slow=7.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**79.66**	**73**	P		**P**	**01 20 20.1**	**+1.1**
	0.6nm,1.0s,baz=245,slow=5.1,SNR=2.1							

*IDC **25** 01:22:35.6±2.3, 14.°39N×89.°38W, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.5/27, mbtmp3.4/5, ML3.9/2, Error ellipse: s-maj=75.7km s-min=29.6km az=44.0*
*GCG **25** 01:22:38.4±0.3, 13.°14N×89.°37W, h99km±38km, MD3.9*
*SNET **25** 01:22:43.4±0.9, 13.°63N×89.°56W, h96km±4km, ML3.3*
*INET **25** 01:22:44.1, 13.°45N×89.°51W, h82km, ML3.1*

ISC 25 01:22:42.2±1.0, 13.°53N±0.°09×89.°53W±0.°06, h103km±6km, n27, σ1$67/40, mb3.3/3, 2C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LALI	**Alcalda de L**	**0.21**	**103**	*eP*		**Pn**	**01 22 57.3**	**+0.5**
LALI				*eS*		**Sn**	**01 23 08.3**	**+0.6**
LALI				IAML			01 23 10.1	
	comp=Z,425nm,0.2s							
CEVE	**Cerro Verde**	**0.31**	**343**	*eP*		**Pn**	**01 22 57.7**	**+0.1**
CEVE				*eS*		**Sn**	**01 23 09.0**	**0.0**
CEVE				IAML			01 23 10.7	
	comp=Z,5µm,0.3s							
BOQS	**Boqueron**	**0.31**	**51**	*eP*		**Pn**	**01 22 58.0**	**+0.5**
SBLS	**San Blas**	**0.32**	**343**	*eP*		**Pn**	**01 22 57.8**	**+0.2**
SNET	**Serv Nac Est T**	**0.33**	**62**	*eP*		**Pn**	**01 22 57.8**	**+0.4**
SNET				*eS*		**Sn**	**01 23 09.2**	**+0.4**
SNET				IAML			01 23 13.2	
	comp=Z,637nm,0.2s							
UEES	**Universidad Ev**	**0.34**	**57**	*eP*		**Pn**	**01 22 57.6**	**+0.2**
SNJE	**San Jose**	**0.34**	**347**	*eP*		**Pn**	**01 22 57.9**	**+0.3**
RTR	**El Retiro**	**0.38**	**343**	*eP*		**Pn**	**01 22 58.4**	**+0.5**
NUBE	**Las Nubes**	**0.44**	**326**	*eP*		**Pn**	**01 22 58.1**	**-0.1**
NUBE				*eS*		**Sn**	**01 23 09.9**	**-0.2**
LFRS	**El Faro**	**0.46**	**79**	*iP*		**Pn**	**01 22 58.8**	**+0.6**
TACO	**Tacachico**	**0.47**	**21**	*eP*		**Pn**	**01 22 58.2**	**0.0**
TACO				*eS*		**Sn**	**01 23 09.7**	**-0.4**
TACO				IAML			01 23 13.9	
	comp=Z,228nm,0.4s							
LBRS	**Las Brisas**	**0.51**	**67**	*eP*		**Pn**	**01 22 59.4**	**+0.9**
PAVA	**Las Pavas**	**0.60**	**73**	*eP*		**Pn**	**01 23 00.1**	**+0.8**
PAVA				*eS*		**Sn**	**01 23 13.9**	**+1.8**
MTO3	**Montecristo**	**0.88**	**11**	*eP*		**Pn**	**01 23 02.3**	**+0.4**
MTO3				*eS*		**Sn**	**01 23 16.4**	**-0.2**
MTO3				IAML			01 23 17.0	
	comp=Z,248nm,0.3s							
ALJI	**Alcalda de J**	**0.96**	**102**	*eP*		**Pn**	**01 23 04.0**	**+1.5**
ALJI				*eS*		**Sn**	**01 23 19.2**	**+1.6**
ALJI				IAML			01 23 24.8	
	comp=Z,699nm,0.3s							
COEB	**Comit de Eme**	**0.97**	**92**	*eP*		**Pn**	**01 23 04.3**	**+1.6**
COEB				*eS*		**Sn**	**01 23 19.7**	**+1.6**
COEB				IAML			01 23 24.3	
	comp=Z,946nm,0.3s							
TECA	**Tecapa**	**1.00**	**92**	*eP*		**Pn**	**01 23 04.7**	**+1.6**
IXG	**Ixpaco**	**1.09**	**306**	*iP*		**Pn**	**01 23 04.9**	**+0.8**
NBG	**Las Nubes**	**1.31**	**323**	*eP*		**Pn**	**01 23 08.5**	**+1.8**
NBG				*eS*		**Sn**	**01 23 29.9**	**+4.7**
MRL	**Marmol**	**1.54**	**354**	*eP*		**Pn**	**01 23 11.3**	**+1.9**
FUG	**Fuego 3**	**1.56**	**306**	*eP*		**Pn**	**01 23 10.9**	**+1.2**
FUG				*eS*		**Sn**	**01 23 33.9**	**+3.4**
LCND	**La Caada**	**1.61**	**98**	*eP*		**Pn**	**01 23 11.7**	**+1.6**
LCND				*eS*		**Sn**	**01 23 33.6**	**+2.4**
LCND				IAML			01 23 39.4	
	comp=Z,354nm,0.3s							
JTS	**Las Juntas de**	**5.52**	**125**	Pn		**Pn**	**01 24 04.6**	**+2.6**
	comp=Z,3.5nm,0.3s,baz=1.9,slow=18,SNR=20							
JTS				Sn		**Sn**	**01 25 02.0**	**-2.3**
	comp=Z,0.8nm,0.3s,baz=8.2,slow=17,SNR=1.3							
TXAR	**Lajitas Array**	**20.47**	**322**	P		**P**	**01 27 08.8**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=128,slow=12,SNR=2.4							
PDAR	**Pinedale Array**	**33.88**	**333**	P		**P**	**01 29 13.0**	**-2.4**
	comp=Z,0.2nm,0.5s,baz=147,slow=11,SNR=1.7							
NVAR	**Mina Array Bea**	**35.56**	**319**	P		**P**	**01 29 31.3**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=130,slow=9.5,SNR=2.4							
SCHQ	**Schefferville**	**44.86**	**18**	P		**P**	**01 30 45.2**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=232,slow=15,SNR=2.4							

IDC 25 01:32:47.1±8.8, 49.°65S×115.°82E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/39, mbtmp3.6/3, Error ellipse: s-maj=360.2km s-min=30.3km az=99.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.80**	**355**	T		T	01 52 10.7	
	baz=168,slow=74,SNR=16							
H01W1	**Cape Leeuwin H**	**14.80**	**355**	T		T	01 52 10.1	
	baz=168,slow=74,SNR=18							
H01W3	**Cape Leeuwin H**	**14.81**	**355**	T		T	01 52 11.1	
	baz=168,slow=74,SNR=20							
ASAR	**Alice Springs**	**29.56**	**35**	P		P	01 38 53.5	0.0
	0.7nm,0.7s,baz=209,slow=8.7,SNR=4.3							
VNDA	**Vanda**	**32.87**	**163**	P		P	01 39 22.0	-0.1
	0.6nm,0.8s,baz=310,slow=7.7,SNR=4.1							
WRA	**Warramunga Arr**	**33.13**	**33**	P		P	01 39 24.9	0.0
	0.7nm,0.6s,baz=200,slow=8.4,SNR=4.6							
PDAR	**Pinedale Array**	**148.25**	**85**	PKPbc		PKPbc	01 52 34.2	-0.6
	0.4nm,0.7s,baz=217,slow=4.3,SNR=2.8							

*IDC **25** 01:34:45.0±0.7, 49.°86S×118.°56E, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.2/40, mbtmp4.2/11, Error ellipse: s-maj=34.8km s-min=16.4km az=106.0*
*NEIC **25** 01:34:46.6±1.2, 49.°88S±0.°03×118.°6E±0.°3, h10km±1km, mb4.8/21, Error ellipse: s-maj=27.9km s-min=4.9km az=268.0*

ISC 25 01:34:46.5±0.5, 49.°87S±0.°09×118.°5E±0.°2, h10km, n51, σ0$58/45, mb4.6/20, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.31**	**346**	T		T	01 53 56.5	
	baz=168,slow=74,SNR=244							
H01W1	**Cape Leeuwin H**	**15.31**	**346**	T		T	01 53 56.6	
	baz=168,slow=74,SNR=228							
H01W3	**Cape Leeuwin H**	**15.32**	**346**	T		T	01 54 01.3	
	baz=168,slow=74,SNR=251							
CASY	**Casey**	**16.97**	**191**			**Pn**	**01 38 43.6**	**0.0**
FORT	**Forrest**	**20.37**	**24**	P		**P**	**01 39 22.0**	**-1.2**
FORT				IAmb		IAmb	01 39 29.3	
	comp=Z,78nm,1.4s							
BBOO	**Buckleboo**	**21.44**	**44**	P		**P**	**01 39 34.7**	**0.0**
BBOO				IAmb		IAmb	01 39 43.1	
	comp=Z,43nm,1.2s							
STKA	**Stephens Creek**	**24.88**	**52**	P		**P**	**01 40 09.1**	**-0.1**
	comp=Z,4.1nm,1.1s,baz=192,slow=15,SNR=4.9							
STKA	**Stephens Creek**	**24.88**	**52**	P		**P**	**01 40 09.1**	**-0.1**
ASAR	**Alice Springs**	**28.79**	**30**	P		**P**	**01 40 45.0**	**+0.5**
	comp=Z,6.7nm,1.1s,baz=204,slow=8.2,SNR=22							
AS31	**Alice Springs**	**28.79**	**30**	P		**P**	**01 40 44.6**	**0.0**
VNDA	**Vanda**	**32.16**	**164**	P		**P**	**01 41 13.6**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=302,slow=9.0,SNR=5.7							
VNDA	**Vanda**	**32.16**	**164**	P		**P**	**01 41 13.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**32.21**	**13**	P		**P**	**01 41 14.3**	**-0.3**
	comp=Z,3.7nm,1.0s,baz=128,slow=15,SNR=3.2							
FITZ	**Fitzroy Crossi**	**32.21**	**13**	P		**P**	**01 41 14.8**	**+0.2**
FITZ				IAmb		IAmb	01 41 23.0	
	comp=Z,15nm,1.2s							
WRA	**Warramunga Arr**	**32.41**	**29**	P		**P**	**01 41 16.1**	**-0.4**
	comp=Z,4.1nm,0.9s,baz=200,slow=8.4,SNR=9.9							
WB2	**Warramunga Arr**	**32.41**	**29**	P		**P**	**01 41 16.3**	**-0.2**
WB2				IAmb		IAmb	01 41 23.9	
	comp=Z,13nm,0.9s							
MAW	**Mawson**	**32.43**	**216**	P		**P**	**01 41 16.7**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=70,slow=15,SNR=3.0							
MAW	**Mawson**	**32.43**	**216**	P		**P**	**01 41 16.3**	**+0.1**
WR0	**Warramunga Arr**	**32.46**	**29**	P		**P**	**01 41 17.4**	**+0.5**
WR0				IAmb		IAmb	01 41 24.2	
	comp=Z,18nm,1.1s							
WB0	**Warramunga Arr**	**32.59**	**29**	P		**P**	**01 41 18.4**	**+0.3**
WB0				IAmb		IAmb	01 41 25.2	
	comp=Z,14nm,0.9s							
QSPA	**South Pole Qui**	**40.26**	**180**	P		**P**	**01 42 23.2**	**-0.1**
	comp=Z,3.6nm,0.8s,baz=350,slow=3.2,SNR=8.1							
QSPA	**South Pole Qui**	**40.26**	**180**	P		**P**	**01 42 22.9**	**-0.3**
QSPA				IAmb		IAmb	01 42 35.9	
	comp=Z,32nm,1.3s							
COEN	**Coen**	**41.08**	**38**	P		**P**	**01 42 30.9**	**+0.5**
COEN				IAmb		IAmb	01 42 38.6	
	comp=Z,17nm,0.9s							
H08S2	**Diego Garcia H**	**56.91**	**302**	T		T	02 45 57.2	
	baz=146,slow=76							
H08S1	**Diego Carcia H**	**56.92**	**302**	T		T	02 46 07.9	
	baz=146,slow=76							
H08S3	**Diego Garcia H**	**56.93**	**302**	T		T	02 46 03.4	
	baz=146,slow=76							
CMAR	**Chiang Mai Arr**	**70.20**	**340**	P		**P**	**01 45 59.6**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=190,slow=5.4,SNR=1.1							
KMI	**Kunming**	**75.97**	**345**	P		**P**	**01 46 34.8**	**+1.1**
ENH	**Enshi**	**80.19**	**352**	P		**P**	**01 46 56.0**	**-0.7**
ENH				IAmb		IAmb	01 47 03.6	
	comp=Z,10nm,1.1s							
LSA	**Lhasa**	**82.87**	**336**	P		**P**	**01 47 11.2**	**-0.2**
KMBO	**Kilima Mbogo**	**83.52**	**276**	P		**P**	**01 47 14.9**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=90,slow=3.0,SNR=2.7							
KMBO	**Kilima Mbogo**	**83.52**	**276**	P		**P**	**01 47 14.8**	**-0.3**
KMBO				IAmb		IAmb	01 47 17.1	
	comp=Z,7.2nm,1.4s							
XAN	**Xi'an**	**83.97**	**352**	P		**P**	**01 47 16.5**	**0.0**
XAN				IAmb		IAmb	01 47 32.6	
	comp=Z,9.8nm,1.3s							
KSRS	**Korea Array**	**87.34**	**7**	P		**P**	**01 47 33.5**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=185,slow=7.3,SNR=1.7							
LL01	**San Ignacio de**	**87.63**	**172**	P		**P**	**01 47 34.1**	**-0.7**
PLCA	**Paso Flores**	**89.42**	**173**	P		**P**	**01 47 43.7**	**+0.3**
	comp=Z,3.4nm,1.0s,baz=192,slow=7.1,SNR=3.8							
PLCA	**Paso Flores**	**89.42**	**173**	P		**P**	**01 47 43.4**	**-0.1**
GTA	**Gaotai**	**90.42**	**346**	*eP*		**P**	**01 47 48.0**	**+0.2**
GTA				pP		pwP	01 47 54.1	-0.9
GTA				sP		sP	01 47 57.3	+6.8
GTA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
NIL	**Nilore**	**92.34**	**324**	P		**P**	**01 47 55.9**	**-0.8**
CN2	**Changchun**	**93.48**	**5**	*eP*		**P**	**01 48 03.1**	**+1.5**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
ILAR	**Eielson Array**	**135.31**	**37**	PKP		**PKPdf**	**01 54 03.4**	**-1.6**
	comp=Z,0.4nm,0.9s,baz=178,slow=2.6,SNR=4.7							
NVAR	**Mina Array Bea**	**138.58**	**84**	PKP		**PKPdf**	**01 54 12.8**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=224,slow=5.0,SNR=1.8							
ESDC	**Sonseca Array**	**138.86**	**278**	PKP		**PKPdf**	**01 54 13.2**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=99,slow=0.6,SNR=1.2							
TXAR	**Lajitas Array**	**142.20**	**107**	PKP		**PKPdf**	**01 54 19.1**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=193,slow=3.5,SNR=2.7							
BOZ	**Bozeman (W)**	**146.50**	**78**	PKPdf		**PKPbc**	**01 54 27.5**	**0.0**
PD31	**Pinedale Array**	**146.52**	**83**	PKPdf		**PKPbc**	**01 54 27.1**	**-0.6**
PDAR	**Pinedale Array**	**146.52**	**83**	PKPbc		**PKPbc**	**01 54 27.2**	**-0.4**
	comp=Z,1.8nm,1.0s,baz=229,slow=1.6,SNR=10.0							
YKA	**Yellowknife Ar**	**148.81**	**46**	PKPbc		**PKPbc**	**01 54 32.4**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=276,slow=2.0,SNR=4.2							
237A	**Washetta, Mont**	**148.87**	**112**	PKPdf		**PKPdf**	**01 54 31.1**	**+1.1**
WMOK	**Wichita Mounta**	**148.90**	**105**	PKPdf		**PKPdf**	**01 54 30.3**	**+0.2**
NATX	**Nacogdoches**	**149.38**	**114**	PKPbc		**PKPbc**	**01 54 35.7**	**+0.3**

*IDC **25** 01:35:49.2±1.5, 56.°96S×66.°70W, h0km, mb4.0/5, mb1 4.1/8, mb1mx4.0/26, mbtmp3.9/8, ML4.0/3, Error ellipse: s-maj=55.0km s-min=23.4km az=73.0*
*NEIC **25** 01:35:50.9±1.6, 57.°02S±0.°04×67.°2W±0.°2, h10km±1km, mb4.4/12, Error ellipse: s-maj=19.9km s-min=7.3km az=88.0*

ISC 25 01:35:50.7±0.7, 57.°03S±0.°07×67.°0W±0.°1, h10km, n28, σ0$89/27, mb4.1/10, Drake Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MG01	**Puerto William**	**2.13**	**351**	Pn		**Pn**	**01 36 25.8**	**-0.4**
MG01				Sn		**Sn**	**01 36 53.7**	**+1.2**
USHA	**Ushuaia**	**2.33**	**340**	Pn		**Pn**	**01 36 28.1**	**-0.9**
	19nm,0.3s,baz=150,slow=20,SNR=198							
USHA				Sn		**Sn**	**01 36 57.7**	**0.0**
	52nm,0.3s,baz=150,slow=19,SNR=6.2							
EFI	**East Falkland**	**7.50**	**48**			**Pn**	**01 37 40.3**	**+0.3**
PMSA	**Palmer Station**	**7.91**	**171**	Pn		**Pn**	**01 37 45.5**	**0.0**
	0.9nm,0.3s,baz=346,slow=14,SNR=26							
PMSA	**Palmer Station**	**7.91**	**171**			**Pn**	**01 37 46.0**	**+0.5**
LL01	**San Ignacio de**	**15.06**	**345**	Pn		**Pn**	**01 39 25.1**	**+1.8**
LL01				IAmb		IAmb	01 39 31.8	
	comp=Z,5.9nm,0.7s							
PLCA	**Paso Flores**	**16.47**	**351**	Pn		**Pn**

VAO **Valinhos** 35.77 329 *eP* **P** 01 49 32.1 +0.8
PTGB **Pitanga** 35.81 321 *eP* **P** 01 49 32.1 +0.5
BO02 **Sierra Bellavi** 35.90 288 P **P** 01 49 33.1 +0.7
GO05 **Huala** 36.35 287 P **P** 01 49 35.6 -0.5
GO05 IAmb IAmb 01 49 51.2
comp=Z,14nm,1.1s
CPUP **Villa Florida** 36.38 312 P **P** 01 49 36.7 +0.3
comp=Z,22nm,0.8s,baz=151,slow=7.2,SNR=45
CPUP ScP **ScP** 01 55 29.1 -0.4
comp=Z,11nm,1.1s,baz=183,slow=2.8,SNR=7.3
CPUP **Villa Florida** 36.38 312 P **P** 01 49 36.5 +0.1
CPUP IAmb IAmb 01 49 37.6
comp=Z,26nm,0.9s
BSCB **Bom Sucesso** 37.09 334 *eP* **P** 01 49 43.7 +1.1
PEL **Peldehue** 37.12 290 P **P** 01 49 43.0 +0.4
PEL IAmb IAmb 01 49 43.7
comp=Z,12nm,0.9s
MT02 **Curacav** 37.27 289 P **P** 01 49 43.8 0.0
MT02 IAmb IAmb 01 49 44.6
comp=Z,14nm,1.1s
VA03 **San Esteban** 37.34 290 P **P** 01 49 45.5 +1.0
VA03 IAmb IAmb 01 49 52.4
comp=Z,14nm,1.1s
ROC1 **El Roble** 37.42 290 P **P** 01 49 45.5 +0.1
TRCB **Terra Rica** 37.77 321 *eP* **P** 01 49 49.0 +0.8
RIB01 **Linhares ES** 37.78 341 *eP* **P** 01 49 49.3 +1.2
BB19B **Bebedouro** 38.06 328 *eP* **P** 01 49 51.7 +1.1
BSFB **Barra de Sao F** 38.33 340 *eP* **P** 01 49 53.6 +0.8
PCMB **Pacaembu** 38.41 324 *eP* **P** 01 49 54.2 +0.7
SJMB **Sao Joao De Ma** 38.52 340 *eP* **P** 01 49 54.6 +0.1
CO03 **El Pedregal** 38.93 292 P **P** 01 49 57.9 +0.1
CO03 IAmb IAmb 01 50 08.3
comp=Z,17nm,1.1s
NAN01 **Guarapari, ES** 39.16 342 *eP* **P** 01 50 00.3 +0.5
CO01 **Juntas del Tor** 39.31 294 P **P** 01 50 02.2 +1.0
GO04 **Tololo Observa** 39.51 293 P **P** 01 50 03.1 +0.2
ITRB **Iturama** 39.90 326 *eP* **P** 01 50 06.7 +0.9
AC05 **El Transito** 40.32 295 P **P** 01 50 10.2 +0.7
AC05 IAmb IAmb 01 50 21.1
comp=Z,15nm,0.8s
LCO **Las Campanas** 40.40 294 P **P** 01 50 10.5 +0.3
MAW **Mawson** 40.50 144 P **P** 01 50 10.4 +0.1
comp=Z,45nm,0.7s,baz=233,slow=8.1,SNR=205
MAW PcP **PcP** 01 52 10.6 +1.1
comp=Z,11nm,0.8s,baz=272,slow=8.4,SNR=4.9
MAW ScP **ScP** 01 55 44.0 -0.5
comp=Z,17nm,1.1s,baz=248,slow=5.2,SNR=15
MAW **Mawson** 40.50 144 P **P** 01 50 10.7 +0.4
MAW **PcP** 01 52 10.7 +1.1
MAW **ScP** 01 55 45.8 +1.2
IPMB **Ipameri, GO** 40.88 330 *eP* **P** 01 50 15.1 +1.1
AQDB **Aquidauana** 41.01 319 *eP* **P** 01 50 14.9 -0.1
MC01 **Montes Claros** 41.03 337 *eP* **P** 01 50 15.6 +0.4
SUR **Sutherland** 41.15 76 P **P** 01 50 15.7 -0.5
comp=Z,5.4nm,0.8s,baz=214,slow=9.3,SNR=7.1
SUR **Sutherland** 41.15 76 P **P** 01 50 16.0 -0.2
AC04 **Llanos de Chal** 41.24 294 P **P** 01 50 17.6 +0.8
AC04 IAmb IAmb 01 50 18.1
comp=Z,22nm,0.8s
GO03 **Copiap** 41.31 296 P **P** 01 50 17.3 -0.2
GO03 IAmb IAmb 01 50 21.4
comp=Z,18nm,1.1s
AC02 **Maricunga** 41.38 298 P **P** 01 50 18.7 +0.2
AC02 IAmb IAmb 01 50 24.6
comp=Z,14nm,0.8s
AC01 **Pan de Azucar** 42.68 296 P **P** 01 50 28.6 0.0
AC01 IAmb IAmb 01 50 34.6
comp=Z,23nm,1.1s
JANB **Januaria** 42.71 337 *eP* **P** 01 50 29.7 +0.8
GO02 **Mina Guanaco** 43.00 298 P **P** 01 50 32.2 +0.8
BDFB **Brasilia** 43.06 331 P **P** 01 50 33.0 +1.3
comp=Z,11nm,0.5s,baz=151,slow=4.5,SNR=24
BDFB **Brasilia** 43.06 331 P **P** 01 50 32.9 +1.1
BDFB IAmb IAmb 01 50 33.5
comp=Z,14nm,0.7s
GDU01 **Guandu, BA** 43.11 344 *eP* **P** 01 50 32.2 +0.2
ARAG **Araguaiana, MT** 44.10 326 *eP* **P** 01 50 41.2 +1.3
PB15 **IPOC Station P** 44.58 300 P **P** 01 50 44.7 +0.7
PB15 IAmb IAmb 01 50 49.7
comp=Z,17nm,0.9s
LVC **Limon Verde** 44.82 301 P **P** 01 50 47.1 +1.1
LVC **Limon Verde** 44.82 301 *eP* **P** 01 50 47.4 +1.4
SALV **Santo Antonio** 45.21 321 *eP* **P** 01 50 49.9 +1.1
SDBA **SAO DESIDERIO** 45.41 337 *eP* **P** 01 50 50.6 +0.3
PB09 **IPOC Station P** 45.67 301 P **P** 01 50 54.3 +1.8
PB09 IAmb IAmb 01 50 54.7
comp=Z,24nm,0.8s
PB07 **IPOC Station P** 46.04 301 P **P** 01 50 56.2 +0.8
PB01 **IPOC Station P** 46.43 302 P **P** 01 50 59.6 +1.3
PB01 IAmb IAmb 01 51 01.2
comp=Z,24nm,0.7s
BOSA **Boshof** 46.48 77 P **P** 01 50 57.6 -1.1
comp=Z,12nm,0.8s,baz=212,slow=7.6,SNR=36
BOSA PcP **PcP** 01 52 31.4 +0.7
comp=Z,4.2nm,0.9s,baz=202,slow=8.4,SNR=3.1
BOSA **Boshof** 46.48 77 P **P** 01 50 57.6 -1.1
BOSA IAmb IAmb 01 50 58.6
comp=Z,26nm,1.1s
PEXB **Peixe** 46.52 332 *eP* **P** 01 50 59.2 +0.2
VNDA **Vanda** 46.59 183 P **P** 01 51 00.1 +1.3
comp=Z,18nm,0.6s,baz=186,slow=6.5,SNR=154
VNDA ScP **ScP** 01 56 09.3 +0.1
comp=Z,2.5nm,0.9s,baz=216,slow=5.0,SNR=4.7
VNDA **Vanda** 46.59 183 P **P** 01 51 00.5 +1.6
VNDA IAmb IAmb 01 51 01.4
comp=Z,39nm,1.1s
PTLB **Pontes e Lacer** 46.90 317 *eP* **P** 01 51 02.3 +0.5
PB08 **IPOC Station P** 47.04 303 P **P** 01 51 05.1 +1.6
PB08 IAmb IAmb 01 51 05.6
comp=Z,16nm,0.5s
GO01 **Chusmiza** 47.47 303 P **P** 01 51 08.3 +1.4
GO01 IAmb IAmb 01 51 08.7
comp=Z,21nm,0.8s
PB11 **IPOC Station P** 47.61 302 P **P** 01 51 08.5 +0.9
PB11 IAmb IAmb 01 51 09.7
comp=Z,21nm,0.8s
MNMC **Minye Minye** 48.12 303 P **P** 01 51 13.1 +1.4
PB16 **IPOC Station P** 48.77 303 P **P** 01 51 18.1 +1.1
H10N1 **ASCENSION HYDR** 49.23 18 T T 02 45 32.3
baz=190,slow=76,SNR=12
H10N3 **ASCENSION HYDR** 49.23 18 T T 02 45 06.0
baz=190,slow=76,SNR=36
H10N2 **ASCENSION HYDR** 49.25 18 T T 02 45 32.7
baz=190,slow=76,SNR=18
SMTB **Santa Maria do** 49.45 334 *eP* **P** 01 51 22.6 +1.0
LBTB **Lobatse** 49.51 74 P **P** 01 51 21.1 -0.9
comp=Z,23nm,0.7s,baz=213,slow=7.6,SNR=27
LBTB **Lobatse** 49.51 74 P **P** 01 51 21.2 -0.8
VILB **Vilhena** 49.58 317 *eP* **P** 01 51 22.5 0.0
LPAZ **La Paz** 49.92 306 P **P** 01 51 27.1 +1.3
comp=Z,22nm,0.7s,baz=153,slow=5.7,SNR=63
LPAZ ScP **ScP** 01 56 23.9 -1.1
comp=Z,2.7nm,0.8s,baz=87,slow=4.4,SNR=5.8
LPAZ **La Paz** 49.92 306 P **P** 01 51 26.9 +1.2
LPAZ IAmb IAmb 01 51 28.0
comp=Z,27nm,0.8s
LPAZ **La Paz** 49.92 306 *eP* **P** 01 51 26.9 +1.2
CLDB **Colider** 49.92 323 *eP* **P** 01 51 24.3 -0.8
TSUM **Tsumeb** 50.13 62 P **P** 01 51 26.0 -0.7
TSUM IAmb IAmb 01 51 27.2
comp=Z,13nm,1.0s
RCBR **Riachuelo** 50.42 350 *eP* **P** 01 51 29.1 +0.2
PRPB **Paraupebas** 52.60 332 *eP* **P** 01 51 46.1 +1.1
NPGB **Novo Progresso** 53.37 326 *eP* **P** 01 51 50.8 +0.2
CASY **Casey** 54.13 161 P **P** 01 51 56.6 +1.1
SAML **Samuel** 54.39 316 P **P** 01 51 58.1 +0.1
SAML **Samuel** 54.39 316 *eP* **P** 01 51 58.1 +0.1
ROSB **Rosrio** 54.49 340 *eP* **P** 01 51 59.5 +0.7
ETMB **Extrema** 54.83 312 *eP* **P** 01 52 01.3 +0.1
TMAB **Tom-Au,PA,Br** 55.84 336 *eP* **P** 01 52 09.7 +1.3
MALB **Monte Alegre** 57.95 329 *eP* **P** 01 52 24.3 +1.1
MCPB **Macapa, AP** 58.76 332 *eP* **P** 01 52 30.1 +1.2
MACA **Manacapuru-AM** 58.79 321 *eP* **P** 01 52 28.5 -0.6
LSZ **Lusaka** 58.86 70 P **P** 01 52 29.0 -0.7
CZSB **Cruzeiro do Su** 59.52 306 *eP* **P** 01 52 34.3 +0.1
LIC **Lamto** 64.88 26 *eP* **P** 01 53 09.6 -0.1
comp=Z,92nm,0.9s
KIC **Kosan Boka** 65.08 26 *eP* **P** 01 53 10.5 -0.6
comp=Z,47nm,1.1s
TIC **Toumodi** 65.29 25 *eP* **P** 01 53 12.0 -0.4
DBIC **Dimbokro** 65.35 26 P **P** 01 53 12.3 -0.4
comp=Z,10nm,0.6s,baz=170,slow=6.8,SNR=15
DBIC **Dimbokro** 65.35 26 P **P** 01 53 12.5 -0.2
DBIC IAmb IAmb 01 53 13.6
comp=Z,13nm,0.7s
ABPO **Ambohimpanom** 66.28 89 P **P** 01 53 19.8 +0.7
PTLC **Puerto Leguiza** 67.47 308 *eP* **P** 01 53 24.1 -2.3
FLOC **Florencia** 69.11 308 *eP* **P** 01 53 35.8 -0.7
OTAV **Otavalo** 69.19 305 P **P** 01 53 39.3 +1.8
OTAV **Otavalo** 69.19 305 *eP* **P** 01 53 39.0 +1.4
RER **Riviere de l'E** 69.35 97 P **P** 01 53 39.3 +1.2
GARC **Garzon, Huila** 69.58 308 *eP* **P** 01 53 37.6 -2.1
BBAC **Balboa, Cauca** 70.21 307 *eP* **P** 01 53 44.0 +0.5
POPC **Popayan, Colom** 70.42 307 *eP* **P** 01 53 45.1 +0.4
PRAC **Prado** 70.68 310 *eP* **P** 01 53 45.8 -0.4
CHIC **Chinigaza** 71.00 311 *eP* **P** 01 53 46.9 -1.7
ORTC **Ortega, Tolima** 71.01 309 *eP* **P** 01 53 48.0 -0.1
ROSC **El Rosal** 71.44 311 P **P** 01 53 52.0 +0.9
comp=Z,10nm,0.8s,baz=159,slow=11,SNR=6.1
ROSC **El Rosal** 71.44 311 P **P** 01 53 51.8 +0.7
YOTC **Yotoco, Valle** 71.56 308 *eP* **P** 01 53 50.5 -1.0
RUSC **La Rusia** 71.87 312 *eP* **P** 01 53 52.6 -1.2
SPBC **San Pablo de B** 72.07 311 *eP* **P** 01 53 51.7 -2.8
GUY2C **Guyana, Caldas** 72.24 310 *eP* **P** 01 53 54.9 -1.1
NORC **Norcasia** 72.33 310 *eP* **P** 01 53 54.2 -1.8
BARC **Barichara** 72.54 313 *eP* **P** 01 53 55.2 -2.3
PTBC **PUERTO BERRIO,** 73.03 311 *eP* **P** 01 53 57.7 -2.4
TOA0 **Torodi Ar. Sit** 73.28 30 P **P** 01 54 01.6 +0.1
TOA0 IAmb IAmb 01 54 02.8
comp=Z,9.6nm,0.5s
TORD **Torodi Ar. Bea** 73.28 30 P **P** 01 54 01.5 0.0
comp=Z,7.7nm,0.4s,baz=200,slow=6.3,SNR=282
GRGR **Grenville** 73.43 326 P **P** 01 54 03.0 +0.6
SDV **Santo Domingo** 73.60 316 P **P** 01 54 03.6 0.0
SDV IAmb IAmb 01 54 05.1
comp=Z,17nm,0.8s
SDV **Santo Domingo** 73.60 316 *eP* **P** 01 54 04.4 +0.8
SMLC **San Martn de** 74.91 313 *eP* **P** 01 54 09.5 -1.5
KMBO **Kilima Mbogo** 75.52 70 P **P** 01 54 14.6 -0.2
comp=Z,0.7nm,0.5s,baz=210,slow=10,SNR=1.6
KMBO **Kilima Mbogo** 75.52 70 P **P** 01 54 15.1 +0.2
SJCC **San Jacinto, C** 76.35 312 *eP* **P** 01 54 18.8 -0.5
RPZ **Rata Peaks** 79.33 194 P **P** 01 54 35.6 +0.2
comp=Z,1.8nm,0.3s,baz=164,slow=7.0,SNR=5.1
FOZ **Fox Glacier** 79.68 193 P **P** 01 54 37.5 +0.3
LTZ **Lake Taylor** 80.08 195 P **P** 01 54 39.9 +0.4
LTZ IAmb IAmb 01 54 41.3
comp=Z,33nm,1.2s
CUPR **Culebra, Puert** 80.38 324 P **P** 01 54 41.2 +0.1
CUPR IAmb IAmb 01 54 41.9
comp=Z,24nm,1.1s
ACON **Acoyapa** 82.61 304 P **P** 01 54 53.1 +0.2
ACON IAmb IAmb 01 54 54.1
comp=Z,11nm,0.6s
NWAO **Narrogin (SRO)** 86.63 151 P **P** 01 55 12.8 -0.3
comp=Z,13nm,0.6s,baz=182,slow=5.3,SNR=11
NWAO **Narrogin (SRO)** 86.63 151 P **P** 01 55 13.0 0.0
NWAO IAmb IAmb 01 55 13.7
comp=Z,13nm,0.7s
TOO **Toolangi** 86.63 175 P **P** 01 55 13.1 +0.1
MORW **Morawa** 89.93 149 P **P** 01 55 28.7 -0.1
FORT **Forrest** 91.21 160 P **P** 01 55 34.8 +0.2
STKA **Stephens Creek** 92.03 171 P **P** 01 55 38.0 -0.5
comp=Z,3.2nm,0.8s,baz=171,slow=3.7,SNR=8.1
STKA **Stephens Creek** 92.03 171 P **P** 01 55 38.8 +0.4
ASAR **Alice Springs** 99.19 163 P **Pdif** 01 56 10.8 -0.3
comp=Z,6.0nm,0.9s,baz=192,slow=4.0,SNR=35
ASAR PP **PP** 02 00 10.7 -3.9
comp=Z,3.2nm,0.8s,baz=188,slow=7.2,SNR=13
AS31 **Alice Springs** 99.19 163 **Pdif** 01 56 10.4 -0.8
AS31 IAmb IAmb 01 56 12.7
comp=Z,1.6nm,0.7s
WRA **Warramunga Arr** 102.91 163 P **Pdif** 01 56 26.9 -0.8
comp=Z,1.1nm,0.8s,baz=198,slow=4.3,SNR=5.0
WRA PP **PP** 02 00 36.4 -6.2
comp=Z,0.8nm,0.8s,baz=194,slow=6.2,SNR=3.1
TXAR **Lajitas Array** 106.30 298 PKKPbc PKKPbc 02 12 12.2 -0.1
comp=Z,0.2nm,0.7s,baz=316,slow=3.5,SNR=3.5
TXAR PKKPab PKKPab 02 12 27.6 -0.3
comp=Z,0.5nm,0.8s,baz=242,slow=2.7,SNR=6.6
CLL **Collm** 112.24 26 *e*pPdif pPdif 01 57 42.0 -3.6
AKASG **Malin Array Be** 116.48 37 PKP **PKPdf** 02 01 10.5 -0.9
comp=Z,0.2nm,0.4s,baz=225,slow=2.5,SNR=2.0
PDAR **Pinedale Array** 119.87 303 PKP **PKPdf** 02 01 18.2 -0.4
comp=Z,0.3nm,0.3s,baz=132,slow=1.3,SNR=5.1
PDAR SKP **SKPdf** 02 04 39.4 -0.3
comp=Z,0.5nm,0.8s,baz=149,slow=3.1,SNR=4.0
PDAR PKKPbc **PKKPab** 02 11 28.1 -0.1
comp=Z,0.6nm,0.6s,baz=126,slow=1.6,SNR=6.9
NOA **NORSAR Array B** 120.75 21 PKP **PKiKP** 02 01 19.7 +0.1
comp=Z,0.2nm,0.6s,baz=178,slow=2.2,SNR=5.2
NVAR **Mina Array Bea** 120.89 294 PKP **PKiKP** 02 01 21.8 +1.0
comp=Z,0.3nm,0.6s,baz=163,slow=6.3,SNR=3.0
NVAR SKP **SKPdf** 02 04 42.5 +0.8
comp=Z,0.2nm,0.4s,baz=101,slow=4.7,SNR=2.6
NVAR PKKPbc **PKKPab** 02 11 25.6 +1.3
comp=Z,0.8nm,0.8s,baz=319,slow=2.6,SNR=4.6
FINES **FINESS Array B** 124.59 28 PKP **PKPdf** 02 01 26.4 -0.3
comp=Z,3.9nm,0.4s,baz=181,slow=1.5,SNR=44
FINES SKP **SKPdf** 02 04 47.1 -0.5
comp=Z,4.7nm,1.1s,baz=222,slow=2.6,SNR=6.1
CMAR **Chiang Mai Arr** 125.58 111 PKP **PKPdf** 02 01 29.6 -0.4
comp=Z,6.5nm,0.8s,baz=236,slow=3.7,SNR=27
KLMR **Klimovskoe** 128.09 35 *e*PKPdf **PKPdf** 02 01 31.9 -1.5
KLMR AMP 02 01 35.0
comp=Z,12nm,1.3s
ARCES **ARCESS Array B** 131.10 22 PKP **PKPdf** 02 01 38.9 -0.1
comp=Z,1.3nm,0.3s,baz=217,slow=2.7,SNR=32
ARCES SKPbc **SKPbc** 02 04 48.3 -1.1
comp=Z,4.4nm,0.8s,baz=193,slow=2.3,SNR=13
YKA **Yellowknife Ar** 135.78 318 PKP **PKPdf** 02 01 47.8 0.0
comp=Z,1.5nm,0.7s,baz=124,slow=2.4,SNR=3.7
YKA SKPbc **SKPbc** 02 05 05.0 -0.2
comp=Z,7.5nm,0.9s,baz=118,slow=2.0,SNR=12
MKAR **Makanchi Array** 137.38 72 PKhKP PKPpre 02 01 42.6
comp=Z,0.5nm,0.7s,baz=240,slow=4.1,SNR=4.1
MKAR PKP **PKPdf** 02 01 51.5 +0.1
comp=Z,1.5nm,0.6s,baz=220,slow=1.6,SNR=9.0
MKAR SKPbc **SKPbc** 02 05 09.8 -0.7
comp=Z,3.3nm,0.8s,baz=247,slow=2.5,SNR=14
WMQ **Urumqi** 138.42 79 *e*PKP **PKiKP** 02 01 56.1 +0.5
DLBC **Dease Lake** 139.86 307 SKPbc **SKPbc** 02 05 17.6 +0.5
comp=Z,6.7nm,0.8s,baz=210,slow=1.2,SNR=11
DLBC SKPab **SKPab** 02 05 27.7 -1.1
comp=Z,2.6nm,0.7s,baz=123,slow=2.2,SNR=4.5
LZH **Lanzhou** 142.14 101 *e*PKP **PKiKP** 02 02 02.3 -1.3
LZH pPKP pPKPdf 02 02 31.3 -8.4
LZH LR LR
comp=Z,140nm,18.0s
LZH LR LR
comp=Z,140nm,17.9s
LZH LR LR
comp=Z,190nm,20.1s
GTA **Gaotai** 142.26 94 ⇑PKP **PKiKP** 02 02 02.8 -0.9
GTA LR LR
comp=Z,120nm,18.1s
GTA LR LR
comp=Z,130nm,18.1s
GTA LR LR
comp=Z,330nm,22.9s
ZALV **Zalesovo Beam** 142.83 64 PKhKP PKPpre 02 01 56.9
comp=Z,2.2nm,0.5s,baz=226,slow=6.0,SNR=9.3
ZALV SKPbc **SKPbc** 02 05 23.9 -0.9
comp=Z,1.8nm,0.5s,baz=236,slow=4.1,SNR=5.2
XAN **Xi'an** 143.37 109 PKP **PKiKP** 02 02 05.9 -0.1
INK **Inuvik** 145.43 321 PKPbc **PKPab** 02 02 06.0 +0.1
comp=Z,8.5nm,0.5s,baz=81,slow=3.6,SNR=29
INK SKPbc **SKPbc** 02 05 30.6 +0.2
comp=Z,11nm,0.9s,baz=82,slow=0.9,SNR=6.4
NJ2 **Nanjing** 146.82 122 *e*PKPbc **PKPbc** 02 02 10.8 +0.2
NRIK **Noril'sk** 149.31 39 PKPbc **PKiKP** 02 02 16.6 -0.5
comp=Z,8.2nm,0.9s,baz=60,slow=1.5,SNR=7.1
ILAR **Eielson Array** 149.69 312 PKPbc **PKPbc** 02 02 17.2 +0.1
comp=Z,8.3nm,0.9s,baz=124,slow=1.4,SNR=46
ILAR SKPbc **SKPdf** 02 05 40.1 +8.7
comp=Z,2.1nm,1.0s,baz=134,slow=1.3,SNR=4.1
HHC **Hu-ho-hao-te** 149.78 103 *e*PKPbc **PKPdf** 02 02 15.4 +2.1
HHC SKS **SKSdf** 02 09 06.0 -0.9
SONM **Songino Array** 151.26 87 PKP **PKPdf** 02 02 15.2 -0.2
comp=Z,1.1nm,0.8s,baz=212,slow=2.0,SNR=6.3
SONM PKPbc **PKPbc** 02 02 21.4 -0.1
comp=Z,33nm,0.5s,baz=219,slow=3.6,SNR=115
BJI **Beijing** 151.69 109 PKPbc **PKPbc** 02 02 22.4 -0.1
KSRS **Korea Array** 155.44 129 PKP **PKPdf** 02 02 21.1 -0.4
comp=Z,1.0nm,0.6s,baz=253,slow=1.3,SNR=4.5
KSRS PKPab **PKPab** 02 02 48.0 +0.1
comp=Z,2.6nm,0.7s,baz=215,slow=4.5,SNR=8.4
MJAR **Matsushiro Arr** 158.44 149 PKPab **PKPab** 02 03 01.0 +0.1
comp=Z,3.3nm,0.7s,baz=212,slow=5.5,SNR=9.7
USRK **Ussuriysk Ar.** 162.70 125 PKPab **PKPab** 02 03 18.3 -1.0
comp=Z,3.4nm,0.8s,baz=173,slow=3.0,SNR=7.2

*THE **25** 01:47:52.4,34.°75N×27.°01E,h0km±3km, ML2.7/2, Error ellipse: s-maj=6.4km s-min=1.1km az=154.0*
*DDA **25** 01:47:53.0,34.°76N×27.°02E,h35km±169km, ML2.3*
*NIC **25** 01:47:54.0±0.0,34.°75N×27.°35E,h18km±4km, Ml3.4/3*
*ATH **25** 01:47:54.4,34.°98N×26.°91E,h66km±4km, ML2.5/4, Error ellipse: s-maj=8.1km s-min=2.0km az=336.0*
ISC 25 01:47:53.4±1.3,34.74N±0.07×27.08E±0.04,h51km±26km, n33,σ1§05/46,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.80**	**298**	P	**Pn**	**01 48 07.3**	**-1.1**
ZKR				S	**Sn**	**01 48 19.1**	**-0.3**
	652nm,0.5s						
ZKR	**Zakros**	**0.80**	**298**	P	**Pn**	**01 48 07.4**	**-1.0**
ZKR				S	**Sn**	**01 48 18.3**	**-1.1**
ZKR				AML	AML	01 48 19.9	
	comp=N,582μm,0.5s						
ZKR				AML	AML	01 48 20.4	
	comp=E,1994μm,0.6s						
KARP	**Karpathos**	**0.81**	**5**	P	**Pn**	**01 48 08.0**	**-0.6**
KARP				S	**Sn**	**01 48 21.8**	**+2.1**
	comp=E,630nm,0.8s						
KARP	**Karpathos**	**0.81**	**5**	P	**Pn**	**01 48 08.1**	**-0.6**
KARP				S	**Sn**	**01 48 19.5**	**-0.2**
KARP				AML	AML	01 48 23.6	
	comp=E,1070μm,0.5s						
KARP				AML	AML	01 48 25.3	
	comp=N,1154μm,0.5s						
KARP	**Karpathos**	**0.81**	**5**	P	**Pn**	**01 48 07.9**	**-0.6**
KARP				S	**Sn**	**01 48 21.6**	**+2.0**
STIA	**Sitia Lasithi**	**0.93**	**300**	P	**Pn**	**01 48 09.9**	**-0.3**
STIA				S	**Sn**	**01 48 23.3**	**+0.8**
NPS	**Neapolis**	**1.31**	**294**	P	**Pn**	**01 48 15.5**	**+0.2**
NPS	**Neapolis**	**1.31**	**294**	P	**Pn**	**01 48 15.2**	**-0.1**
NPS				AML	AML	01 48 39.5	
	comp=E,406μm,0.5s						
NPS				AML	AML	01 48 39.8	
	comp=N,240μm,0.5s						
LAST	**Lasithi**	**1.38**	**288**	P	**Pn**	**01 48 16.6**	**+0.3**
LAST	**Lasithi**	**1.38**	**288**	P	**Pn**	**01 48 16.5**	**+0.3**
LAST				AML	AML	01 48 42.0	
	comp=N,214μm,0.7s						
LAST				AML	AML	01 48 52.1	
	comp=E,216μm,0.7s						
ARG	**Arkhangelos**	**1.70**	**30**	P	**Pn**	**01 48 21.4**	**+0.7**
ARG	**Arkhangelos**	**1.70**	**30**	P	**Pn**	**01 48 21.5**	**+0.9**
ARG	**Arkhangelos**	**1.70**	**30**	P	**Pn**	**01 48 21.4**	**+0.7**
ARG				S	**Sn**	**01 48 42.4**	**+1.2**
IDI	**Anoyia**	**1.87**	**287**	P	**Pn**	**01 48 24.4**	**+1.3**
IDI	**Anoyia**	**1.87**	**287**	P	**Pn**	**01 48 23.4**	**+0.4**
ANAF	**Anafi Island**	**1.93**	**327**	P	**Pn**	**01 48 22.2**	**-1.5**
TURN	**Turunc**	**2.24**	**25**	*i* P	**Pn**	**01 48 28.0**	**-3.0**
AMGA	**Amorgos Island**	**2.29**	**336**	P	**Pn**	**01 48 27.2**	**-1.5**
DALY	**Dalyan (Mula)**	**2.43**	**31**	*i* P	**Pn**	**01 48 30.6**	**0.0**
KSL	**Kastellorizon**	**2.48**	**55**	P	**Pn**	**01 48 31.7**	**+0.4**
KSL				S	**Sn**	**01 49 01.8**	**+1.4**
AKAS	**Kas**	**2.54**	**54**	*i* P	**Pn**	**01 48 32.5**	**+0.2**
AKAS				*i* S	**Sn**	**01 49 02.6**	**+0.5**
AKAS				IAML		01 49 04.0	
	comp=N,19nm,0.7s						
AKAS				IAML		01 49 05.0	
	comp=E,16nm,0.9s						
IMMV	**Iera Moni Meta**	**2.64**	**287**	P	**Pn**	**01 48 35.0**	**+1.6**
APE	**Apeiranthos**	**2.64**	**332**	P	**Pn**	**01 48 31.8**	**-1.7**
AYDN	**Tasoluk**	**2.98**	**12**	*i* P	**Pn**	**01 48 37.7**	**-0.6**
AKUM	**Antalya-Kumluc**	**3.10**	**58**	*i* P	**Pn**	**01 48 39.9**	**+0.1**
AKUM				IAML		01 49 18.0	
	comp=E,9.7nm,1.2s						
AKUM				IAML		01 49 21.0	
	comp=N,13nm,1.5s						
GOLH	**Golhisar**	**3.20**	**38**	*i* P	**Pn**	**01 48 42.1**	**+0.8**
GOLH				IAML		01 49 22.0	
	comp=N,9.8nm,0.9s						
OSC1	**CSNet OBS 1**	**3.70**	**108**	S	**Sn**	**01 49 29.3**	**-1.0**
KEPZ	**Antalya-Kepez**	**4.26**	**58**	*i* P	**Pn**	**01 48 56.2**	**+0.4**
KEPZ				*i* S	**Sn**	**01 49 43.4**	**-0.9**
AKMS	**Akamas**	**4.33**	**85**	P	**Pn**	**01 48 56.7**	**0.0**
AKMS				S	**Sn**	**01 49 44.9**	**-1.1**
AKMS				AML	AML	01 49 48.0	
	comp=N,0.1nm,0.5s						
AKMS				AML	AML	01 49 48.0	
	comp=N,0.1nm,0.5s						
AKMS				AML	AML	01 49 53.0	
	comp=N,0.1nm,1.0s						
AKMS				AML	AML	01 49 53.0	
	comp=N,0.1nm,1.0s						
NATA	**Nata**	**4.52**	**88**	P	**Pn**	**01 48 59.9**	**+0.5**
ALFC	**Alefka**	**4.55**	**83**	P	**Pn**	**01 48 59.1**	**-0.6**
ALFC				AML	AML	01 49 50.0	
	comp=N,0.1nm,0.5s						
ALFC				AML	AML	01 49 51.6	
	comp=N,0.1nm,0.4s						
SZAC	**Souni**	**4.78**	**88**	P	**Pn**	**01 49 02.9**	**0.0**
SZAC				S	**Sn**	**01 49 56.9**	**-0.1**
SZAC				AML	AML	01 49 57.6	
	comp=N,0.1nm,0.7s						
SZAC				AML	AML	01 49 57.6	
	comp=N,0.1nm,0.7s						
ASGA	**Asgata**	**5.08**	**88**	P	**Pn**	**01 49 06.3**	**-0.6**
ASGA				S	**Sn**	**01 50 03.9**	**-0.4**

*IDC **25** 01:53:04.3±3.2,38.°28N×143.°43E,h0km,mb3.6/2, mb1 3.8/4,mb1mx3.4/32,mbtmp3.8/4,ML3.4/2,MS4.3/1, Ms1 4.5/1,ms1mx3.4/36,Error ellipse: s-maj=70.2km s-min=34.3km az=66.0*
*JMA **25** 01:53:12.3±0.2,38.°19N×142.°65E,h27km±3km, M3.7*
ISC 25 01:53:08.8±1.4,38.°23N±0.07×142.°9E±0.1,h18km,n24, σ1§47/22,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.16**	**274**	P	**Pn**	**01 53 29.3**	**-0.8**
JIO	**Ouri**	**1.27**	**281**	P	**Pn**	**01 53 31.3**	**-0.3**
JIO				*e*S	**Sn**	**01 53 45.1**	**-3.1**
JKMT	**Kesennumamotoy**	**1.28**	**297**	P	**Pn**	**01 53 32.2**	**+0.4**
OFUJ	**Ofunato**	**1.30**	**311**	P	**Pb**	**01 53 33.2**	**+0.4**
JMK	**Ichinoseki**	**1.52**	**299**	P	**Pn**	**01 53 36.2**	**+1.1**
JMM	**Marumori**	**1.73**	**258**	P	**Pn**	**01 53 37.2**	**-0.8**
JOM	**Ohasama**	**1.78**	**314**	P	**Pb**	**01 53 40.8**	**-0.1**
JOM				*e*S	**Sn**	**01 54 01.3**	**+0.4**
JOU	**Okura**	**1.79**	**275**	P	**Pn**	**01 53 39.5**	**+0.6**
JOU				*e*S	**Sn**	**01 53 59.4**	**-1.8**
JYK	**Kaneyama**	**2.13**	**289**	P	**Pn**	**01 53 45.2**	**+1.7**
JYK				*e*S	**Sn**	**01 54 10.1**	**+0.6**
JRG	**Rokugo**	**2.14**	**304**	P	**Pb**	**01 53 46.8**	**-0.2**
JFT	**Otama**	**2.18**	**252**	P	**Pn**	**01 53 44.7**	**+0.6**
JYS	**Shirataka**	**2.26**	**271**	P	**Pn**	**01 53 46.3**	**+1.0**
MJAR	**Matsushiro Arr**	**4.13**	**247**	Pn	**Pn**	**01 54 13.5**	**+2.6**
	0.5nm,0.3s,baz=75,slow=5.2,SNR=21						
MAT	**Matsushiro**	**4.13**	**247**	P	**Pn**	**01 54 13.9**	**+2.9**
MAT				*e*S	**Sn**	**01 55 00.5**	**+1.7**
JCJ	**Chichijima**	**11.12**	**183**	Pn	**Pn**	**01 55 46.0**	**-0.9**
	1.1nm,0.3s,baz=112,slow=22,SNR=2.1						
JCJ				Sn	Sn	01 57 40.9	-10
	0.7nm,0.3s,baz=102,slow=23,SNR=2.5						
H11N2	**WAKE ISLAND Hy 27.78**	**125**		T	T	02 28 31.3	
	baz=316,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy 27.79**	**125**		T	T	02 28 21.

Ms1 3.9/3,ms1mx3.4/48,Error ellipse: s-maj=25.9km s-min=17.6km az=81.0

JMA ***25*** *02:12:50.1±0.2,28.06N×128.19E,h12km±2km,M4.4*

JMA Felt I J1.

NIED ***25*** *02:12:50.1,28.06N×128.19E,h12km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.39; Mθθ4.17; Mϕϕ-4.56; Mrθ-0.76; Mθϕ0.04; Mϕr-0.49; Fault plane solution: M₀4.46000×10¹⁵ NP1: ϕs224.00000°,δ86.00000°,λ168.00000°. NP2: ϕs315.00000°,δ78.00000°,λ4.00000°.*

NEIC ***25*** *02:12:54.7±1.4,27.92N±0.05×128.15E±0.05,h35km±2km, mb4.5/22 Error ellipse: s-maj=9.7km s-min=6.2km az=317.0*

ISC 25 02:12:51.7±1.3,27.99N±0.03×128.25E±0.04,h15km±9km, n65,σ1§06/79,mb4.2/21,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.65**	**108**	P	**Pg**	**02 13 04.0**	**-0.5**
JTK				S	**Sb**	**02 13 14.0**	**+0.2**
JOKE	**Okinoerabujima**	**0.69**	**155**	P	**Pg**	**02 13 04.7**	**-0.5**
JOKE				*eS*	**Sb**	**02 13 14.6**	**-0.1**
JAMN	**Amaminishikomi**	**0.86**	**73**	P	**Pb**	**02 13 06.9**	**-1.4**
JAMN				*eS*	**Sb**	**02 13 19.1**	**-0.5**
JYRO	**Yoronjima**	**0.98**	**169**	P	**Pb**	**02 13 09.1**	**-0.9**
JYRO				*eS*	**Sg**	**02 13 23.9**	**+0.5**
JIH	**Iheya**	**0.98**	**195**	P	**Pb**	**02 13 09.7**	**-0.8**
JIH				*eS*	**Sb**	**02 13 23.3**	**+0.1**
JOW	**Kunigami**	**1.15**	**179**	P	**Pn**	**02 13 12.6**	**-0.8**
JOW				*eS*	**Sn**	**02 13 28.9**	**+0.1**
JOW	**Kunigami**	**1.15**	**179**		**Pn**	**02 13 12.6**	**-0.8**
JOW					**Sb**	**02 13 28.1**	**-0.1**
JAM	**Amami Oshima**	**1.27**	**70**	P	**Pn**	**02 13 14.1**	**-0.8**
JAM				*eS*	**Sb**	**02 13 31.4**	**-0.1**
JTAJ	**Takarajima**	**1.43**	**36**	P	**Pn**	**02 13 15.5**	**-1.7**
JTAJ				*eS*	**Sn**	**02 13 32.8**	**-3.0**
JNTH	**Nagotoyohara**	**1.48**	**188**	P	**Pn**	**02 13 17.5**	**-0.3**
JNTH				*eS*	**Sn**	**02 13 36.8**	**-0.1**
JZK	**Kikaishima**	**1.56**	**78**	P	**Pb**	**02 13 20.1**	**-0.2**
JZK				*eS*	**Sb**	**02 13 40.6**	**+0.8**
JAGN	**Aguni-jima**	**1.66**	**213**	P	**Pn**	**02 13 19.9**	**-0.4**
JAGN				*eS*	**Sn**	**02 13 41.5**	**+0.2**
JJT3	**Tamagusuku3**	**1.88**	**193**	P	**Pn**	**02 13 24.3**	**+0.9**
JKE	**Kume jima 2**	**2.11**	**219**	P	**Pn**	**02 13 26.1**	**-0.4**
JYAK	**Yakushimahirau**	**2.99**	**41**	P	**Pn**	**02 13 38.8**	**+0.2**
JYAK				*eS*	**Sn**	**02 14 14.1**	**-0.1**
JKDJ	**Kitadaitoujima**	**3.39**	**126**	P	**Pn**	**02 13 44.3**	**+0.1**
JKDJ				*eS*	**Sn**	**02 14 22.8**	**-1.4**
JMZ	**Minamidaito 2**	**3.42**	**128**	P	**Pn**	**02 13 45.1**	**+0.5**
JMZ				*eS*	**Sn**	**02 14 23.4**	**-1.5**
JNU	**Nakatsue**	**5.60**	**23**	Pn	**Pn**	**02 14 17.9**	**+3.4**
	3.9nm,0.3s,baz=200,slow=5.5,SNR=27						
JNU	**Nakatsue**	**5.60**	**23**	Pn	**Pn**	**02 14 17.7**	**+3.2**
YOJ	**Yonaguni jima**	**5.87**	**234**	Pn	**Pn**	**02 14 18.2**	**0.0**
TATO	**Taipei**	**6.76**	**245**	Pn	**Pn**	**02 14 30.6**	**+0.1**
YHNB	**Yeheng**	**7.00**	**243**		**Pn**	**02 14 33.4**	**-0.4**
NACB	**Ninganchiao**	**7.09**	**239**	Pn	**Pn**	**02 14 34.8**	**-0.2**
YULB	**Yu-li**	**7.76**	**235**		**Pn**	**02 14 43.1**	**-1.2**
SSLB	**Suanglung**	**7.79**	**239**	Pn	**Pn**	**02 14 43.9**	**-0.7**
TWG	**Pinlang**	**8.28**	**233**	Pn	**Pn**	**02 14 50.8**	**-0.6**
TPUB	**Ta-pu**	**8.31**	**238**	Pn	**Pn**	**02 14 52.1**	**+0.3**
KSRS	**Korea Array**	**9.44**	**358**	Pn	**Pn**	**02 15 07.9**	**+0.6**
	0.3nm,0.3s,baz=178,slow=13,SNR=7.2						
KSRS				LR	LR	02 18 58.3	
	comp=Z,517nm,18.1s,baz=178,slow=39						
MJAR	**Matsushiro Arr**	**11.98**	**42**	Pn	**Pn**	**02 15 45.7**	**+3.6**
	0.1nm,0.3s,baz=238,slow=18,SNR=2.1						
JCJ	**Chichijima**	**12.40**	**91**	LR	LR	02 20 22.3	
	comp=Z,319nm,20.5s,baz=200,slow=36						
JCJ	**Chichijima**	**12.40**	**91**	Pn	**Pn**	**02 15 48.1**	**+0.3**
BJT	**Baijiatuan**	**15.61**	**323**	Pn	**Pn**	**02 16 31.9**	**+0.7**
USRK	**Ussuriysk Ar.**	**16.45**	**10**	Pn	**P**	**02 16 44.1**	**-0.6**
	baz=188,slow=8.7,SNR=3.5						
ENH	**Enshi**	**16.55**	**282**	Pn	**Pn**	**02 16 42.7**	**-0.7**
ENH				IAmb	IAmb	02 16 59.6	
	comp=Z,16nm,0.9s						
XAN	**Xi'an**	**17.62**	**295**		**Pn**	**02 16 55.4**	**-1.4**
KLR	**Kul'dur**	**21.38**	**6**	P	**P**	**02 17 40.2**	**+1.6**
	comp=Z,2.5nm,0.8s,baz=120,slow=13,SNR=2.3						
KMI	**Kunming**	**22.98**	**269**	P	**P**	**02 17 56.2**	**-0.1**
ULN	**Ulaanbaatar**	**25.80**	**326**	P	**P**	**02 18 23.1**	**+0.8**
ULN				IAmb	IAmb	02 18 30.8	
	comp=Z,10nm,1.1s						
SONM	**Songino Array**	**26.11**	**325**	P	**P**	**02 18 24.8**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=130,slow=10,SNR=13						
MK31	**Makanchi Array**	**40.40**	**310**	P	**P**	**02 20 28.4**	**-0.8**
MKAR	**Makanchi Array**	**40.40**	**310**	P	**P**	**02 20 27.9**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=102,slow=10.0,SNR=13						
MAKZ	**Makanchi**	**40.61**	**310**	P	**P**	**02 20 30.1**	**-0.8**
ZAA0	**Zalesovo Array**	**40.87**	**322**	P	**P**	**02 20 32.5**	**-0.4**
ZAA0				IAmb	IAmb	02 20 36.2	
	comp=Z,7.8nm,1.5s						
ZALV	**Zalesovo Beam**	**40.87**	**322**	P	**P**	**02 20 31.8**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=111,slow=8.2,SNR=1.8						
ZALV				PcP	**PcP**	**02 22 33.3**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=108,slow=2.3,SNR=1.6						
PRZ	**Przheval'sk**	**42.61**	**303**	P	**P**	**02 20 47.2**	**-0.4**
PRZ				IAmb	IAmb	02 20 54.6	
	comp=Z,9.7nm,0.7s						
TARG	**Taragay, Kyrgy**	**43.02**	**302**	P	**P**	**02 20 50.8**	**-0.4**
TARG				IAmb	IAmb	02 20 56.6	
	comp=Z,6.9nm,1.1s						
KURK	**Kurchatov**	**43.57**	**315**	P	**P**	**02 20 54.7**	**-0.3**
KURBB	**Kurchatov Array**	**43.61**	**315**	P	**P**	**02 20 54.6**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=104,slow=8.4,SNR=7.9						
FITZ	**Fitzroy Crossi**	**45.88**	**183**	P	**P**	**02 21 13.2**	**-0.4**
FITZ				IAmb	IAmb	02 21 16.4	
	comp=Z,7.3nm,1.1s						
WB0	**Warramunga Arr**	**47.84**	**172**	P	**P**	**02 21 28.8**	**-0.2**
WB0				IAmb	IAmb	02 21 35.9	
	comp=Z,7.7nm,1.2s						
WRA	**Warramunga Arr**	**48.01**	**172**	P	**P**	**02 21 29.6**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=353,slow=8.5,SNR=7.9						
WB2	**Warramunga Arr**	**48.01**	**172**	P	**P**	**02 21 30.4**	**0.0**
WB2				IAmb	IAmb	02 21 39.7	
	comp=Z,6.7nm,0.9s						
KK31	**Karatay Array**	**48.42**	**304**	P	**P**	**02 21 34.5**	**+1.1**
KK31				IAmb	IAmb	02 21 37.6	
	comp=Z,5.1nm,1.4s						
GAR	**Garm**	**48.82**	**299**	P	**P**	**02 21 36.8**	**+0.1**
GAR				IAmb	IAmb	02 21 40.5	
	comp=Z,5.8nm,0.9s						
BRVK	**Borovoye**	**49.05**	**317**	P	**P**	**02 21 39.8**	**+1.7**
KBL	**Kabul**	**50.41**	**293**	P	**P**	**02 21 48.9**	**-0.1**
KBL				IAmb	IAmb	02 22 01.4	
	comp=Z,7.2nm,1.1s						
ASAR	**Alice Springs**	**51.64**	**173**	P	**P**	**02 21 57.2**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=358,slow=7.8,SNR=5.0						
GEYT	**Alibeck**	**58.44**	**299**	P	**P**	**02 22 46.1**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=79,slow=7.5,SNR=1.4						
NWAO	**Narrogin (SRO)**	**61.48**	**191**	P	**P**	**02 23 07.2**	**-0.6**
RND	**Reindeer**	**62.22**	**30**	P	**P**	**02 23 13.6**	**+1.0**
MDM	**Murphy Dome**	**62.30**	**29**	P	**P**	**02 23 13.9**	**+0.9**
MDM				IAmb	IAmb	02 23 26.5	
	comp=Z,5.0nm,0.9s						
SML	**Sawmill**	**62.68**	**32**	P	**P**	**02 23 15.3**	**-0.4**
ILAR	**Eielson Array**	**62.89**	**29**	P	**P**	**02 23 17.7**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=264,slow=3.9,SNR=4.4						
PDAR	**Pinedale Array**	**91.78**	**39**	P	**P**	**02 25 60.0**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=259,slow=0.9,SNR=2.4						
SCHQ	**Schefferville**	**96.50**	**9**	LR	LR	03 13 09.0	
	comp=Z,144nm,19.3s,baz=196,slow=37						

NEIC ***25*** *02:20:24.1±1.7,20.05S×177.63W±0.09,h522km±13km, mb4.2/9,Error ellipse: s-maj=29.4km s-min=11.6km az=174.0*

IDC ***25*** *02:20:24.6±7.9,20.05S×177.68W,h525km±94km,mb3.1/4, mb1 3.3/6,mb1mx2.9/28,mbtmp4.1/6,Error ellipse: s-maj=56.4km s-min=33.7km az=7.0*

ISC 25 02:20:22.9±0.9,20.25S±0.2×177.5W±0.1,h500km,n18, σ1§23/18,mb3.9/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.92**	**299**	P	**P**	**02 21 51.3**	**+2.0**
AFI	**Afiamalu**	**8.29**	**42**	P	**P**	**02 22 22.0**	**-0.4**
DZM	**Mont Dzumac**	**15.14**	**260**	P	**P**	**02 23 34.5**	**-0.2**
	0.3nm,0.3s,baz=168,slow=23,SNR=1.2						
DZM	**Mont Dzumac**	**15.14**	**260**	P	**P**	**02 23 35.3**	**+0.6**
URZ	**Urewera**	**18.59**	**194**	P	**P**	**02 24 09.2**	**+0.7**
	0.7nm,0.3s,baz=52,slow=14,SNR=1.8						
URZ	**Urewera**	**18.59**	**194**	P	**P**	**02 24 09.2**	**+0.7**
URZ				IAmb	IAmb	02 24 10.8	
	comp=Z,7.0nm,0.7s						
QRZ	**Quartz Range**	**22.25**	**200**	P	**P**	**02 24 42.4**	**+0.6**
ARMA	**Armidale**	**29.66**	**244**	P	**P**	**02 25 47.7**	**+0.3**
ARMA				IAmb	IAmb	02 25 48.7	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**38.38**	**244**	P	**P**	**02 27 00.5**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=76,slow=9.8,SNR=5.1						
STKA	**Stephens Creek**	**38.38**	**244**	P	**P**	**02 27 00.4**	**-0.3**
BBOO	**Buckleboo**	**43.14**	**243**	P	**P**	**02 27 38.2**	**-0.5**
BBOO				IAmb	IAmb	02 27 38.7	
	comp=Z,6.6nm,0.6s						
AS31	**Alice Springs**	**45.09**	**256**	P	**P**	**02 27 52.8**	**-1.2**
ASAR	**Alice Springs**	**45.09**	**256**	P	**P**	**02 27 52.7**	**-1.3**
	comp=Z,3.6nm,0.6s,baz=97,slow=7.5,SNR=42						
WB0	**Warramunga Arr**	**45.13**	**262**	P	**P**	**02 27 52.4**	**-2.0**
WB0				IAmb	IAmb	02 28 03.3	
	comp=Z,3.0nm,1.1s						
WB2	**Warramunga Arr**	**45.14**	**262**	P	**P**	**02 27 52.6**	**-1.9**
WB2				IAmb	IAmb	02 28 00.3	
	comp=Z,5.7nm,1.1s						
WRA	**Warramunga Arr**	**45.15**	**262**	P	**P**	**02 27 52.2**	**-2.3**
	comp=Z,2.4nm,0.7s,baz=96,slow=7.5,SNR=19						
MAW	**Mawson**	**82.01**	**200**	P	**P**	**02 31 50.1**	**+0.4**
TXAR	**Lajitas Array**	**86.47**	**57**	P	**P**	**02 32 12.6**	**+0.1**
	comp=Z,0.3nm,0.9s,baz=224,slow=3.8,SNR=2.0						

NEIC ***25*** *02:32:13.8±1.1,10.65S±0.1×165.9E±0.2,h135km±11km, mb4.4/7,Error ellipse: s-maj=24.8km s-min=15.1km az=80.0*

IDC ***25*** *02:32:17.4±6.8,10.67S×165.81E,h170km±61km,mb3.7/7, mb1 3.8/8,mb1mx3.4/42,mbtmp4.2/8,Error ellipse: s-maj=37.4km s-min=19.7km az=19.0*

ISC 25 02:32:15.6±0.9,10.64S±0.09×165.9E±0.1,h155km,n19, σ0§75/21,mb4.3/11,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.94**	**165**	Pn	**Pn**	**02 33 27.2**	**-1.2**
SANVU					**Sn**	**02 34 24.1**	**-1.2**
DZM	**Mont Dzumac**	**11.38**	**177**	P	**Pn**	**02 34 55.6**	**+1.9**
	1.3nm,0.3s,baz=9.6,slow=14,SNR=8.7						
DZM				S	**Sn**	**02 36 59.9**	**+0.2**
	0.3nm,0.3s,baz=88,slow=14,SNR=1.6						
PMG	**Port Moresby**	**18.49**	**272**	P	**P**	**02 36 19.8**	**-0.2**
CTA	**Charters Tower**	**21.11**	**241**	P	**P**	**02 36 47.2**	**-1.0**
	6.0nm,0.6s,baz=63,slow=11,SNR=4.0						
CTAO	**Charters Tower**	**21.11**	**241**	P	**P**	**02 36 48.6**	**+0.3**
CTAO				IAmb	IAmb	02 36 50.2	
	comp=Z,7.4nm,0.8s						
URZ	**Urewera**	**29.28**	**162**	P	**P**	**02 38 03.4**	**+0.1**
	comp=Z,3.1nm,0.3s,baz=155,slow=3.4,SNR=5.8						
URZ	**Urewera**	**29.28**	**162**	P	**P**	**02 38 03.2**	**0.0**
URZ				IAmb	IAmb	02 38 10.4	
	comp=Z,6.8nm,0.9s						
BKZ	**Black Stump Fm**	**29.94**	**163**	P	**P**	**02 38 10.0**	**+0.8**
BKZ				IAmb	IAmb	02 38 13.6	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**30.83**	**223**	P	**P**	**02 38 16.9**	**-0.1**
WB2	**Warramunga Arr**	**31.75**	**249**	P	**P**	**02 38 25.3**	**0.0**
WB2				IAmb	IAmb	02 38 25.6	
	comp=Z,3.7nm,0.7s						
WRA	**Warramunga Arr**	**31.76**	**249**	P	**P**	**02 38 25.3**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=81,slow=8.9,SNR=20						
ASAR	**Alice Springs**	**33.10**	**243**	P	**P**	**02 38 36.8**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=65,slow=10,SNR=14						
RPZ	**Rata Peaks**	**33.25**	**173**	P	**P**	**02 38 38.9**	**+0.8**
	comp=Z,4.6nm,0.6s,baz=10,slow=5.1,SNR=4.9						
BBOO	**Buckleboo**	**35.21**	**227**	P	**P**	**02 38 55.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**39.62**	**255**	P	**P**	**02 39 32.1**	**-0.3**
PSA00	**Pilbara Seismi**	**45.40**	**250**	P	**P**	**02 40 18.8**	**-0.2**
PSA00				IAmb	IAmb	02 40 31.4	
	comp=Z,14nm,1.1s						
RPN	**Rapa Nui**	**80.62**	**116**	P	**P**	**02 44 11.6**	**+0.1**
	comp=Z,43nm,0.6s,baz=309,slow=8.1,SNR=2.2						
ILAR	**Eielson Array**	**83.09**	**18**	P	**P**	**02 44 24.2**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=243,slow=4.0,SNR=2.7						
MKAR	**Makanchi Array**	**93.33**	**317**	P	**P**	**02 45 12.4**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=100,slow=6.1,SNR=3.8						

IDC ***25*** *02:36:51.1±0.8,55.22S×28.19W,h0km,mb3.9/7, mb1 4.0/7,mb1mx3.9/28,mbtmp3.9/7,Error ellipse: s-maj=31.5km s-min=19.9km az=74.0*

NEIC ***25*** *02:36:52.1±1.0,55.3S±0.1×28.4W±0.2,h10km±1km, mb4.4/9,Error ellipse: s-maj=24.3km s-min=17.6km az=198.0*

ISC 25 02:36:52.2±0.8,55.3S±0.1×28.4W±0.1,h10km,n19, σ0§51/19,mb4.2/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.80**	**278**		**Pn**	**02 38 03.6**	**-0.8**
PMSA	**Palmer Station**	**19.92**	**227**	P	**Pn**	**02 41 25.5**	**+0.2**
	2.0nm,0.5s,baz=69,slow=9.6,SNR=2.6						
PMSA	**Palmer Station**	**19.92**	**227**	P	**P**	**02 41 23.8**	**+0.1**
MG01	**Puerto William**	**22.26**	**255**	P	**P**	**02 41 48.7**	**-0.3**
MG01				IAmb	IAmb	02 42 03.1	
	comp=Z,13nm,0.8s						
QSPA	**South Pole Qui**	**34.99**	**180**	P	**P**	**02 43 44.6**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=195,slow=2.1,SNR=11						
QSPA	**South Pole Qui**	**34.99**	**180**	P	**P**	**02 43 44.1**	**-0.3**
QSPA				IAmb	IAmb	02 43 51.1	
	comp=Z,2.1nm,0.7s						
CPUP	**Villa Florida**	**35.78**	**312**	P	**P**	**02 43 51.0**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=162,slow=8.7,SNR=4.6						
CPUP	**Villa Florida**	**35.78**	**312**	P	**P**	**02 43 51.1**	**-0.3**
CPUP				IAmb	IAmb	02 43 57.1	
	comp=Z,10nm,1.4s						
MT02	**Curacav**	**36.90**	**289**	P	**P**	**02 44 01.3**	**+0.4**
MAW	**Mawson**	**41.18**	**144**	P	**P**	**02 44 35.9**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=226,slow=7.9,SNR=1.9						
MAW	**Mawson**	**41.18**	**144**	P	**P**	**02 44 35.6**	**-0.7**
VNDA	**Vanda**	**47.33**	**183**	P	**P**	**02 45 26.2**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=196,slow=6.4,SNR=9.1						
VNDA	**Vanda**	**47.33**	**183**	P	**P**	**02 45 25.6**	**+0.2**
VNDA				IAmb	IAmb	02 45 39.7	
	comp=Z,2.2nm,0.9s						
LPAZ	**La Paz**	**49.37**	**306**	P	**P**	**02 45 43.2**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=129,slow=4.4,SNR=9.3						
LPAZ	**La Paz**	**49.37**	**306**	P	**P**	**02 45 43.5**	**+1.0**
LPAZ				IAmb	IAmb	02 45 50.5	
	comp=Z,7.1nm,1.6s						
TOA0	**Torodi Ar. Sit**	**72.71**	**31**	P	**P**	**02 48 20.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**72.71**	**31**	P	**P**	**02 48 20.1**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=202,slow=6.4,SNR=7.6						
ILAR	**Eielson Array**	**149.09**	**313**	PKPbc	**PKiKP**	**02 56 40.5**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=126,slow=1.7,SNR=28						
SONM	**Songino Array**	**151.35**	**86**	PKPbc	**PKPbc**	**02 56 45.1**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=248,slow=1.6,SNR=2.7						

IDC 25 02:37:20.2±30.0,19.82S×178.61W,h574km±308km, mb3.3/4,mb1 3.5/4,mb1mx2.9/32,mbtmp4.3/4,Error ellipse: s-maj=187.7km s-min=94.7km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.00**	**263**	P	P	02 43 09.3	+0.2
	3.4nm,0.4s,baz=89,slow=9.4,SNR=6.8						
STKA	**Stephens Creek**	**37.58**	**243**	P	P	02 43 46.3	-0.5
	2.0nm,0.5s,baz=96,slow=5.6,SNR=10						
ASAR	**Alice Springs**	**44.12**	**256**	P	P	02 44 39.1	+0.3
	4.1nm,0.6s,baz=94,slow=8.0,SNR=61						
WRA	**Warramunga Arr**	**44.13**	**261**	P	P	02 44 38.4	-0.5
	0.8nm,0.3s,baz=95,slow=7.3,SNR=19						
GERES	**GERESS Array B**	**149.40**	**344**	PKPbc	PKPbc	02 56 04.8	-0.4
	0.3nm,0.5s,baz=32,slow=3.9,SNR=3.7						

IDC ***25*** *02:38:46.1±1.2,55.21S×28.22W,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.6/27,mbtmp3.7/5,Error ellipse: s-maj=46.4km s-min=27.4km az=96.0*

NEIC ***25*** *02:38:47.2±1.0,55.3S±0.1×28.5W±0.2,h10km±1km, mb4.2/8,Error ellipse: s-maj=25.6km s-min=17.4km az=31.0*

ISC 25 02:38:47.4±0.9,55.3S±0.1×28.5W±0.1,h10km,n15, σ0§54/15,mb4.0/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.75**	**278**	Pn	**Pn**	**02 39 58.1**	**-0.8**
PMSA	**Palmer Station**	**19.90**	**227**	P	**Pn**	**02 43 20.2**	**0.0**
	1.6nm,0.6s,baz=101,slow=16,SNR=1.9						
PMSA	**Palmer Station**	**19.90**	**227**	P	**P**	**02 43 19.3**	**+0.7**
LL01	**San Ignacio de**	**31.13**	**276**	P	**P**	**02 45 05.9**	**0.0**
LL01				IAmb	IAmb	02 45 13.8	
	comp=Z,4.6nm,1.2s						
QSPA	**South Pole Qui**	**35.00**	**180**	P	**P**	**02 45 40.1**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=210,slow=4.5,SNR=2.4						
QSPA	**South Pole Qui**	**35.00**	**180**	P	**P**	**02 45 38.8**	**-0.9**
QSPA				IAmb	IAmb	02 45 57.0	
	comp=Z,7.7nm,1.7s						
CPUP	**Villa Florida**	**35.74**	**312**	P	**P**	**02 45 46.6**	**+0.4**
MAW	**Mawson**	**41.22**	**144**	P	**P**	**02 46 31.7**	**0.0**
VNDA	**Vanda**	**47.34**	**183**	P	**P**	**02 47 21.2**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=159,slow=8.6,SNR=2.2						
VNDA	**Vanda**	**47.34**	**183**	P	**P**	**02 47 20.3**	**-0.3**
VNDA				IAmb	IAmb	02 47 30.8	
	comp=Z,4.4nm,1.6s						
LPAZ	**La Paz**	**49.32**	**306**	P	**P**	**02 47 38.1**	**+0.8**
	comp=Z,0.9nm,1.0s,baz=154,slow=5.9,SNR=1.7						
LPAZ	**La Paz**	**49.32**	**306**	P	**P**	**02 47 37.6**	**+0.2**
LPAZ				IAmb	IAmb	02 47 42.5	
	comp=Z,3.1nm,1.4s						
TOA0	**Torodi Ar. Sit**	**72.72**	**31**	P	**P**	**02 50 15.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**72.72**	**31**	P	**P**	**02 50 15.2**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=202,slow=6.0,SNR=3.6						
ILAR	**Eielson Array**	**149.04**	**313**	PKPbc	**PKPbc**	**02 58 34.1**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=130,slow=2.3,SNR=4.6						

IDC ***25*** *02:47:16.4±4.6,28.05N×128.22E,h0km,mb3.5/3, mb1 3.6/3,mb1mx3.3/29,mbtmp3.5/3,Error ellipse: s-maj=252.7km s-min=31.1km az=65.0*

JMA ***25*** *02:47:16.0±0.2,28.05N×128.21E,h13km±3km,M3.5*

ISC 25 02:47:15.7±2.0,28.05N±0.06×128.21E±0.07,h1km±14km, n17,σ0§80/21,mb3.6/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.70**	**112**	P	**Pg**	**02 47 29.6**	**+0.4**
JTK				S	**Sg**	**02 47 39.4**	**+1.1**
JOKE	**Okinoerabujima**	**0.76**	**155**	P	**Pg**	**02 47 30.4**	**+0.2**
JOKE				S	**Sg**	**02 47 40.3**	**+0.3**
JAMN	**Amaminishikomi**	**0.87**	**77**	P	**Pg**	**02 47 32.5**	**+0.1**
JAMN				S	**Sg**	**02 47 44.4**	**+0.8**
JIH	**Iheya**	**1.04**	**192**	P	**Pg**	**02 47 35.6**	**+0.1**
JIH				*eS*	**Sg**	**02 47 49.4**	**+0.5**
JYRO	**Yoronjima**	**1.04**	**168**	P	**Pg**	**02 47 35.2**	**-0.5**
JYRO				S	**Sg**	**02 47 48.6**	**-0.6**
JOW	**Kunigami**	**1.22**	**177**	P	**Pg**	**02 47 38.5**	**-0.5**
JOW				S	**Sg**	**02 47 54.1**	**-0.6**
JAM	**Amami Oshima**	**1.28**	**73**	P	**Pn**	**02 47 39.7**	**-1.0**
JAM				S	**Sb**	**02 47 56.5**	**-1.0**
JTAJ	**Takarajima**	**1.40**	**38**	P	**Pn**	**02 47 40.9**	**-1.5**
JNTH	**Nagotoyohara**	**1.54**	**186**	P	**Pn**	**02 47 43.9**	**-0.3**
JAGN	**Aguni-jima**	**1.69**	**211**	P	**Pn**	**02 47 45.7**	**-0.7**
JYAK	**Yakushimahirau**	**2.96**	**42**	*eS*	**Sn**	**02 48 39.3**	**-0.8**
SONM	**Songino Array**	**26.04**	**325**	P	**P**	**02 52 51.6**	**+1.1**
	0.7nm,0.6s,baz=134,slow=8.6,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**36.20**	**95**	T	T	03 32 03.1	
	baz=290						
H11N1	**WAKE ISLAND Hy**	**36.21**	**95**	T	T	03 32 01.0	
	baz=290						
H11N3	**WAKE ISLAND Hy**	**36.22**	**95**	T	T	03 32 05.5	
	baz=290						
MKAR	**Makanchi Array**	**40.33**	**310**	P	**P**	**02 54 55.3**	**+0.5**
	0.5nm,0.8s,baz=100,slow=7.9,SNR=4.0						
WRA	**Warramunga Arr**	**48.08**	**172**	P	**P**	**02 55 57.7**	**+0.7**
	0.5nm,0.8s,baz=354,slow=8.3,SNR=2.5						

ANF ***25*** *02:50:39.7±0.2,33.74N×118.26W,h7km±2km,ML3.2/33, ML3.3/33,Error ellipse: s-maj=2.0km s-min=1.8km az=79.0*

SCEDC ***25*** *02:50:40.6,33.70N×118.28W,h8km,M3.3,ML3.2,ML3.

BACC	**Bachelor Mtn.**	**1.03**	**94**		**Pg**	**02 50 59.2**	**-1.2**
HMTC	**Hemet**	**1.06**	**89**		**Pg**	**02 50 59.3**	**-1.6**
HMTC					**Sg**	**02 51 14.0**	**-0.7**
SVD	**Seven Oaks Dam**	**1.06**	**67**		**Pb**	**02 51 00.1**	**-0.6**
SVD					**Sg**	**02 51 14.6**	**-0.3**
SBB	**Saddle Back Bu**	**1.07**	**20**		**Pb**	**02 50 59.2**	**-1.5**
SBB					**Sg**	**02 51 14.4**	**-0.5**
BBSC	**Beaumont Base**	**1.10**	**77**		**Pb**	**02 51 01.1**	**-0.2**
BBSC					**Sg**	**02 51 15.6**	**-0.5**
ADO	**Adelanto Recei**	**1.11**	**39**		**Sb**	**02 51 15.9**	**+0.1**
SNCC	**San Nicolas Is**	**1.13**	**248**	P	**Pb**	**02 51 01.0**	**-0.7**
	baz=66,SNR=12						
SNCC				S	**Sg**	**02 51 17.2**	**+0.3**
	baz=66						
SNCC	**San Nicolas Is**	**1.13**	**248**	Pg	**Pb**	**02 51 01.9**	**+0.2**
SCZ2	**Santa Cruz Isl**	**1.17**	**286**	P	**Pb**	**02 51 01.0**	**-1.5**
	baz=104,SNR=15						
SCZ2				S	**Sb**	**02 51 18.3**	**+0.7**
	baz=104						
VTV	**Victorville**	**1.17**	**42**		**Sb**	**02 51 17.9**	**+0.3**
TPO	**Tropico Hills**	**1.19**	**2**		**Pn**	**02 51 01.7**	**-1.0**
EDW2	**Edwards Air Fo**	**1.21**	**11**	P	**Pn**	**02 51 02.0**	**-1.1**
	baz=192,SNR=141						
EDW2				Sb	**Sb**	**02 51 18.6**	**-0.2**
	baz=192						
109C	**Camp Elliot, M**	**1.26**	**129**	P	**Pn**	**02 51 02.4**	**-1.3**
	baz=310,SNR=20						
109C				S	**Sb**	**02 51 20.2**	**0.0**
	baz=310						
109C	**Camp Elliot, M**	**1.26**	**129**		**Pn**	**02 51 02.6**	**-1.1**
BBRC	**Big Bear Solar**	**1.26**	**63**	P	**Pn**	**02 51 02.3**	**-1.6**
	baz=244,SNR=7.3						
BBRC				S	**Sb**	**02 51 19.8**	**-0.7**
	baz=244						
CPE	**Camp Elliot**	**1.26**	**129**		**Pn**	**02 51 02.4**	**-1.2**
RYS	**Reyes Peak**	**1.30**	**317**		**Pn**	**02 51 05.3**	**+0.8**
SBC	**Santa Barbara**	**1.41**	**303**	P	**Pn**	**02 51 04.7**	**-0.9**
	baz=122						
SBC				S	**Sn**	**02 51 24.9**	**+0.8**
	baz=122						
SDRC	**San Diego Road**	**1.47**	**130**		**Pn**	**02 51 05.7**	**-0.8**
ARVC	**Arvin**	**1.51**	**342**	P	**Pn**	**02 51 07.1**	**0.0**
	baz=162						
ARVC				S	**Sn**	**02 51 27.2**	**+0.6**
	baz=162						
PFO	**Pinyon Flats O**	**1.52**	**92**	P	**Pn**	**02 51 07.3**	**0.0**
	baz=274,SNR=33						
PFO				S	**Sn**	**02 51 27.5**	**+0.6**
	baz=274						
PFO	**Pinyon Flats O**	**1.52**	**92**		**Pn**	**02 51 07.4**	**+0.1**
TPFO	**Pinon Flats**	**1.52**	**93**	S	**Sb**	**02 51 28.3**	**+0.5**
	baz=274						
TJX	**Tijuana**	**1.56**	**139**	Pn	**Pn**	**02 51 08.4**	**+0.6**
RRX	**Edison Barstow**	**1.59**	**41**	P	**Pn**	**02 51 08.4**	**+0.2**
	baz=222,SNR=9.9						
BAR	**Barrett**	**1.68**	**126**		**Pn**	**02 51 08.6**	**-0.9**
MONP2	**Monument Peak**	**1.74**	**117**	P	**Pn**	**02 51 10.1**	**-0.4**
	baz=298,SNR=12						
MONP2				S	**Sn**	**02 51 32.8**	**+0.1**
	baz=298						
PKM	**Mcpherson Peak**	**1.75**	**314**	P	**Pn**	**02 51 10.8**	**+0.3**
	baz=133						
NJQ	**Nojoqui County**	**1.79**	**299**		**Pn**	**02 51 12.5**	**+1.6**
LRMC	**Laurel Mtn Rad**	**1.85**	**15**	P	**Pn**	**02 51 12.1**	**+0.2**
	baz=196,SNR=5.5						
LRMC				S	**Sn**	**02 51 34.2**	**-1.1**
	baz=196						
BELC	**Belle Mtn. Jos**	**1.92**	**80**	P	**Pn**	**02 51 13.8**	**+1.0**
	baz=262						
CBX	**Cerro Bola**	**1.93**	**135**		**Pn**	**02 51 12.4**	**-0.5**
HEC	**Hector,Ludlow**	**1.97**	**54**	P	**Pn**	**02 51 14.0**	**+0.5**
	baz=235,SNR=14						
ISA	**Isabella, Lake**	**1.98**	**355**	P	**Pn**	**02 51 13.8**	**+0.2**
	baz=175,SNR=28						
ISA	**Isabella, Lake**	**1.98**	**355**		**Pn**	**02 51 13.8**	**+0.2**
WHFM	**Hanning Flat**	**2.00**	**358**		**Pn**	**02 51 14.3**	**+0.4**
GSC	**Goldstone, Bar**	**2.02**	**37**	P	**Pn**	**02 51 14.3**	**+0.2**
	baz=218,SNR=65						
GSC				S	**Sn**	**02 51 39.1**	**-0.1**
	baz=218						
GSC	**Goldstone, Bar**	**2.02**	**37**		**Pn**	**02 51 14.3**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**2.09**	**119**	P	**Pn**	**02 51 15.7**	**+0.5**
	baz=300,SNR=14						
IKP				S	**Sn**	**02 51 42.3**	**+1.3**
	baz=300						
SMMC	**Simmler**	**2.16**	**319**	P	**Pn**	**02 51 16.0**	**0.0**
	baz=138						
SMMC				S	**Sn**	**02 51 43.7**	**+1.1**
	baz=138						
SWSC	**Sam W. Stewart**	**2.20**	**109**	Sb	**Sg**	**02 51 49.2**	**-2.0**
	baz=291						
VES	**Vestal, Richgr**	**2.25**	**343**	S	**Sn**	**02 51 45.4**	**+0.6**
	baz=163						
CCX	**Cicese**	**2.27**	**143**		**Pn**	**02 51 18.2**	**+0.7**
BC3	**Big Chuckawall**	**2.35**	**90**	Sb	**Sb**	**02 51 53.9**	**+2.2**
	baz=272						
GMRC	**Granite Mounta**	**2.43**	**62**	Sb	**Sb**	**02 51 55.0**	**+1.1**
	baz=244						
MPMC	**Manual Prospec**	**2.45**	**15**	P	**Pn**	**02 51 19.8**	**-0.4**
	baz=196,SNR=40						
MPMC				Sb	**Sb**	**02 51 55.9**	**+1.3**
	baz=196						
WLHM	**Little Horse**	**2.46**	**359**		**Pb**	**02 51 25.3**	**+0.7**
ESJX	**Sierra Juarez**	**2.58**	**130**		**Pn**	**02 51 22.7**	**+0.7**
PAGB	**Antelope Grade**	**2.61**	**322**	Pn	**Pn**	**02 51 22.3**	**+0.1**
IRM	**Iron Mountain**	**2.65**	**79**	Sb	**Sb**	**02 52 02.0**	**+2.0**
	baz=261						
GLA	**Glamis**	**2.96**	**101**		**Pn**	**02 51 27.9**	**+0.9**
PMPB	**Monarch Peak**	**3.27**	**321**		**Pn**	**02 51 30.7**	**-0.6**
TPNV	**Topopah Spring**	**3.65**	**26**	P	**Pn**	**02 51 37.5**	**+0.8**
	baz=208						
TPNV	**Topopah Spring**	**3.65**	**26**	Pn	**Pn**	**02 51 37.8**	**+1.1**
SHPR	**Sheep Range**	**3.80**	**41**	Pn	**Pn**	**02 51 40.0**	**+1.3**
W13A	**Hualapai Mount**	**3.89**	**68**		**Pn**	**02 51 40.4**	**+0.3**
OMMB	**Old Mammoth Mi**	**3.96**	**352**		**Pn**	**02 51 43.5**	**+2.4**
SAO	**San Andreas Ge**	**4.02**	**321**	Pn	**Pn**	**02 51 41.1**	**-0.5**
Y14A	**Wickenburg**	**4.40**	**85**	Pn	**Pn**	**02 51 48.9**	**+2.1**
PRN	**Pahroc Range**	**4.55**	**34**		**Pn**	**02 51 49.7**	**+0.7**
NV11	**Mina Array Sit**	**4.74**	**1**		**Pn**	**02 51 52.7**	**+1.1**
KNB	**Kanab**	**5.56**	**52**	Pn	**Pn**	**02 52 04.3**	**+1.4**
X16A	**Lo Mia Camp, P**	**5.72**	**81**		**Pn**	**02 52 06.2**	**+1.0**
PSUT	**Pine Spring**	**6.01**	**35**	Pn	**Pn**	**02 52 10.8**	**+1.6**

*JMA **25** 03:14:32.8±0.1,23°.85N×122°.46E,h20km,M2.6*
*TAP **25** 03:14:32.2,23°.78N×122°.41E,h13km,ML3.0,D*

ISC 25 03:14:32.1±1.1,23°.80N±0°.02×122°.46E±0°.02,h16km±9km,
n80,σ0s57/152,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.79**	**34**	P	**Pb**	**03 14 46.9**	**-0.5**
JYNG				S	**Sb**	**03 14 56.0**	**-1.9**
YOJ	**Yonaguni jima**	**0.83**	**37**	*eP*	**Pb**	**03 14 48.3**	**+0.2**
	baz=38						
YOJ	**Yonaguni jima**	**0.83**	**37**	P	**Pb**	**03 14 47.7**	**-0.5**
YOJ				S	**Sb**	**03 14 57.2**	**-1.9**
TWD	**Chiawan**	**0.83**	**290**	*eP*	**Pb**	**03 14 48.2**	**0.0**
	baz=292						
TWD				*eS*	**Sg**	**03 14 59.6**	**+0.3**
	baz=292						
NACB	**Ninganchiao**	**0.87**	**296**	*eP*	**Pb**	**03 14 48.8**	**0.0**
	baz=297						
NACB				*eS*	**Sg**	**03 15 00.7**	**+0.2**
	baz=297						
ENAH	**Nanao**	**0.88**	**318**	P	**Pg**	**03 14 49.2**	**+0.2**
	baz=320						
ENAH				S	**Sn**	**03 15 02.0**	**-0.1**
	baz=320						
ENA	**Nanau**	**0.90**	**314**	P	**Pg**	**03 14 49.8**	**+0.2**
	baz=316						
ENA				S	**Sg**	**03 15 01.3**	**-0.2**
	baz=316						
ESL	**Shilin**	**0.94**	**271**	*eP*	**Pb**	**03 14 49.2**	**-0.7**
	baz=272						
ESL				*eS*	**Sg**	**03 15 02.8**	**+0.2**
	baz=272						
EGFH	**Guangfu**	**0.95**	**262**	*eP*	**Pb**	**03 14 50.2**	**0.0**
	baz=262						
EGFH				*eS*	**Sg**	**03 15 03.2**	**+0.2**
	baz=262						
ETLH	**Xiulin Townshi**	**0.98**	**295**	*eP*	**Pb**	**03 14 50.5**	**-0.2**
	baz=296						
ETLH				S	**Sg**	**03 15 03.9**	**0.0**
	baz=296						
TWC	**Suao**	**0.98**	**326**	P	**Pb**	**03 14 50.6**	**-0.1**
	baz=328						
TWC				*eS*	**Sg**	**03 15 03.6**	**-0.3**
	baz=328						
HGSD	**Ruisui**	**0.99**	**252**	*eP*	**Pb**	**03 14 50.9**	**-0.1**
	baz=252						
HGSD				*eS*	**Sb**	**03 15 03.6**	**-0.1**
	baz=252						
EHY	**Hungye**	**1.08**	**255**	*eP*	**Pb**	**03 14 52.1**	**-0.3**
	baz=254						
EHY				*eS*	**Sg**	**03 15 06.8**	**-0.3**
	baz=254						
EYUL	**Yuli**	**1.14**	**247**	*eP*	**Pn**	**03 14 53.4**	**0.0**
	baz=246						
EYUL				*eS*	**Sb**	**03 15 08.1**	**+0.2**
	baz=246						
YULB	**Yu-li**	**1.14**	**249**	*eP*	**Pb**	**03 14 53.3**	**0.0**
	baz=249						
YULB				*eS*	**Sb**	**03 15 08.3**	**+0.4**
	baz=249						
WHF	**Hehuan Shan**	**1.14**	**288**	*eP*	**Pb**	**03 14 53.5**	**-0.2**
	baz=289						
WHF				*eS*	**Sb**	**03 15 08.4**	**0.0**
	baz=289						
TWF1	**Yuli**	**1.15**	**248**	*eP*	**Pn**	**03 14 53.5**	**0.0**
	baz=247						
TWF1				*eS*	**Sn**	**03 15 09.1**	**0.0**
	baz=247						
NNSB	**Datong**	**1.16**	**303**	P	**Pn**	**03 14 53.8**	**0.0**
	baz=304						
NNSB				*eS*	**Sn**	**03 15 09.0**	**-0.5**
	baz=304						
NNSH	**Datong**	**1.16**	**303**	*eP*	**Pn**	**03 14 53.9**	**+0.1**
	baz=304						
NNSH				*eS*	**Sg**	**03 15 09.8**	**+0.1**
	baz=304						
ENTT	**Nioudou**	**1.17**	**316**	*eP*	**Pb**	**03 14 54.1**	**+0.2**
	baz=318						
ENTT				S	**Sg**	**03 15 09.6**	**-0.2**
	baz=318						
TWE	**Neicheng**	**1.17**	**322**	*eP*	**Pb**	**03 14 54.2**	**+0.3**
	baz=324						
TWE				*eS*	**Sg**	**03 15 10.4**	**+0.5**
	baz=324						
NDT	**Datong Townshi**	**1.18**	**313**	*eP*	**Pb**	**03 14 54.1**	**0.0**
	baz=315						
NDT				S	**Sg**	**03 15 10.9**	**+0.8**
	baz=315						
NNS	**Nan Shan**	**1.18**	**303**	*eP*	**Pn**	**03 14 54.0**	**0.0**
	baz=304						
NNS				*eS*	**Sn**	**03 15 09.5**	**-0.4**
	baz=304						
FUSS	**Fushou**	**1.19**	**292**	*eP*	**Pn**	**03 14 54.4**	**0.0**
	baz=293						
FUSS				*eS*	**Sb**	**03 15 09.8**	**0.0**
	baz=293						
CHGB	**Renai**	**1.20**	**283**	*eP*	**Pn**	**03 14 54.2**	**-0.3**
	baz=283						
CHGB				*eS*	**Sb**	**03 15 09.9**	**-0.1**
	baz=283						
VWDT	**VWDT**	**1.21**	**268**	*eP*	**Pn**	**03 14 54.4**	**+0.2**
	baz=268						
VWDT				*eS*	**Sb**	**03 15 09.7**	**-0.2**
	baz=268						
FULB	**Fuli**	**1.22**	**241**	*eP*	**Pn**	**03 14 54.1**	**-0.4**
	baz=240						
FULB				*eS*	**Sb**	**03 15 09.7**	**-0.7**
	baz=240						
TWT	**Tachien**	**1.25**	**291**	*eP*	**Pb**	**03 14 55.6**	**+0.1**
	baz=292						
TWT				*eS*	**Sn**	**03 15 11.6**	**-0.2**
	baz=292						
HATJ	**Hateruma jima**	**1.26**	**78**	P	**Pn**	**03 14 55.9**	**+0.9**
HATJ				S	**Sb**	**03 15 11.4**	**-0.1**
TDCB	**Techi**	**1.27**	**291**	*eP*	**Pb**	**03 14 55.8**	**+0.1**
	baz=292						
TDCB				*eS*	**Sg**	**03 15 12.5**	**-0.6**
	baz=292						
TWB1	**Santiao Chiao**	**1.28**	**341**	*eP*	**Pb**	**03 14 56.3**	**+0.5**
	baz=342						
IRIF	**Iriomote-Funau**	**1.28**	**65**	P	**Pn**	**03 14 56.0**	**+0.7**
IRIF				S	**Sb**	**03 15 11.5**	**-0.6**
TIPB	**Shuangxi**	**1.30**	**334**	P	**Pg**	**03 14 56.9**	**-0.3**
	baz=335						
TIPB				S	**Sg**	**03 15 13.5**	**-0.7**
	baz=335						
NWLT	**Wulai**	**1.30**	**318**	*eP*	**Pb**	**03 14 56.4**	**+0.1**
	baz=320						
NWLT				*eS*	**Sg**	**03 15 14.2**	**-0.1**
	baz=320						
YHNB	**Yeheng**	**1.31**	**312**	*eP*	**Pn**	**03 14 56.1**	**+0.3**
	baz=313						
YHNB				*eS*	**Sb**	**03 15 12.8**	**-0.3**
	baz=313						
NSK	**Sanguang**	**1.33**	**311**	*eP*	**Pb**	**03 14 56.7**	**0.0**
	baz=313						
EDH	**Donghe**	**1.34**	**232**	*eP*	**Pn**	**03 14 55.6**	**-0.5**
	baz=231						
EDH				*eS*	**Sn**	**03 15 12.2**	**-1.4**
	baz=231						
SSLB	**Suanglung**	**1.38**	**270**	*eP*	**Pn**	**03 14 56.9**	**+0.2**
	baz=270						
SSLB				*eS*	**Sn**	**03 15 13.9**	**-0.7**
	baz=270						
NWF	**Wu-fen Shan**	**1.41**	**334**	*eP*	**Pb**	**03 14 58.5**	**+0.5**
	baz=336						
NWF				*eS*	**Sg**	**03 15 17.4**	**-0.2**
	baz=336						
WFSB	**Wu-fen Shan**	**1.41**	**334**	*eP*	**Pb**	**03 14 57.8**	**-0.2**
	baz=335						
WFSB				*eS*	**Sg**	**03 15 17.1**	**-0.5**
	baz=335						
SMLT	**Sun Moon Lake**	**1.43**	**274**	*eP*	**Pn**	**03 14 58.0**	**+0.5**
	baz=274						
SMLT				*eS*	**Sn**	**03 15 16.0**	**0.0**
	baz=274						
LDUT	**Ludao**	**1.44**	**219**	*eP*	**Pn**	**03 14 56.9**	**-0.6**
	baz=218						
LDUT				*eS*	**Sn**	**03 15 14.9**	**-1.2**
	baz=218						
ELDTW	**Lidau**	**1.45**	**246**	*eP*	**Pn**	**03 14 58.2**	**+0.4**
	baz=245						
ELDTW				*eS*	**Sn**	**03 15 16.6**	**0.0**
	baz=245						
WHP	**Taichung City**	**1.46**	**289**	*eP*	**Pb**	**03 14 59.5**	**+0.6**
	baz=290						
WHP				*eS*	**Sb**	**03 15 17.6**	**+0.3**
	baz=290						
TYC	**Yuchr**	**1.47**	**274**	*eP*	**Pb**	**03 14 58.6**	**-0.4**
	baz=275						
TYC				*eS*	**Sn**	**03 15 16.9**	**+0.1**
	baz=275						
JKRS	**Kuro-shima**	**1.49**	**73**	P	**Pn**	**03 14 58.8**	**+0.7**
JKRS				S	**Sn**	**03 15 17.4**	**+0.2**
LONT	**Longtian**	**1.51**	**234**	*eP*	**Pn**	**03 14 59.3**	**+0.8**
	baz=233						
LONT				*eS*	**Sn**	**03 15 18.1**	**+0.3**
	baz=233						
ALS	**Alishan**	**1.54**	**260**	*eP*	**Pn**	**03 14 59.6**	**+0.4**
	baz=259						
ALS				*eS*	**Sn**	**03 15 18.8**	**-0.2**
	baz=259						
LIOB	**Emei**	**1.56**	**303**	*eP*	**Pb**	**03 15 00.2**	**-0.4**
	baz=304						
LIOB				*eS*	**Sb**	**03 15 20.2**	**0.0**
	baz=304						
NSTT	**Nanjuang**	**1.56**	**302**	*eP*	**Pb**	**03 15 00.3**	**-0.4**
	baz=303						
NSTT				*eS*	**Sb**	**03 15 20.6**	**+0.3**
	baz=303						
YM01	**YM01**	**1.56**	**329**	*eP*	**Pb**	**03 15 00.8**	**+0.1**
	baz=330						
YM01				*eS*	**Sb**	**03 15 20.9**	**+0.6**
	baz=330						
YM10	**YM10**	**1.58**	**329**	*eP*	**Pb**	**03 15 00.8**	**-0.2**
	baz=330						
YM10				*eS*	**Sg**	**03 15 21.7**	**-1.3**
	baz=330						
YM05	**YM05**	**1.58**	**329**	*eP*	**Pb**	**03 15 01.4**	**+0.4**
	baz=330						
YM05				*eS*	**Sb**	**03 15 21.4**	**+0.5**
	baz=330						
YM04	**YM04**	**1.59**	**328**	*eP*	**Pn**	**03 14 59.6**	**0.0**
	baz=329						
YM04				*eS*	**Sb**	**03 15 21.5**	**+0.6**
	baz=329						
YM08	**YM08**	**1.59**	**330**	*eP*	**Pb**	**03 15 00.6**	**-0.5**
	baz=331						
TWGBT	**Beinan**	**1.60**	**233**	*eS*	**Sn**	**03 15 20.1**	**0.0**
	baz=231						
TWG	**Pinlang**	**1.60**	**233**	*eP*	**Pn**	**03 15 00.2**	**+0.4**
	baz=231						
TWG				*eS*	**Sn**	**03 15 19.9**	**-0.3**
	baz=231						
WNT	**Mingjian**	**1.62**	**273**	*eP*	**Pn**	**03 14 59.7**	**-0.3**
	baz=273						
WNT				*eS*	**Sb**	**03 15 21.6**	**-0.4**
	baz=273						
TWQ1	**Liyutan**	**1.63**	**290**	*eP*	**Pb**	**03 15 01.5**	**-0.3**
	baz=290						
TWQ1				*eS*	**Sb**	**03 15 21.9**	**-0.3**
	baz=290						
JIJ	**Ishigaki jima**	**1.64**	**70**	P	**Pn**	**03 15 00.9**	**+0.6**
JIJ				*eS*	**Sn**	**03 15 20.7**	**-0.4**
CHN5	**Tsauling**	**1.64**	**263**	*eP*	**Pn**	**03 15 00.9**	**+0.6**
	baz=263						
CHN5				*eS*	**Sb**	**03 15 21.9**	**-0.7**
	baz=263						
TWY	**Chenhua**	**1.66**	**332**	*eP*	**Pb**	**03 15 02.0**	**-0.4**
	baz=333						
TWY				*eS*	**Sb**	**03 15 23.8**	**+0.7**
	baz=333						
STYT	**Tauyuan**	**1.68**	**248**	*eP*	**Pn**	**03 15 01.5**	**+0.6**
	baz=247						
STYT				*eS*	**Sn**	**03 15 22.3**	**+0.1**
	baz=247						
TPUB	**Ta-pu**	**1.75**	**254**	*eP*	**Pn**	**03 15 02.3**	**+0.5**
	baz=253						
TPUB				*eS*	**Sn**	**03 15 24.6**	**+0.8**
	baz=253						
WDLH	**Douliu**	**1.76**	**267**	*eP*	**Pn**	**03 15 03.0**	**+1.1**
	baz=266						
WDLH				*eS*	**Sb**	**03 15 24.9**	**-1.0**
	baz=266						
WTP	**Ta-pu**	**1.78**	**252**	*eP*	**Pb**	**03 15 03.8**	**-0.5**
	baz=251						
WTP				*eS*	**Sn**	**03 15 24.7**	**+0.2**
	baz=251						
ECL	**Taimali**	**1.83**	**229**	*eS*	**Sn**	**03 15 24.6**	**-1.1**
	baz=228						
SLGT	**Liugui**	**1.84**	**245**	*eP*	**Pn**	**03 15 03.6**	**+0.5**
	baz=244						
SLGT				*eS*	**Sn**	**03 15 26.8**	**+0.7**
	baz=244						
PCYT	**Pengchaiyu**	**1.86**	**349**	*eP*	**Pn**	**03 15 03.5**	**+0.3**
	baz=350						
JISG	**Ishigakijimahi**	**1.87**	**65**	P	**Pn**	**03 15 04.0**	**+0.6**
JISG				S	**Sn**	**03 15 26.6**	**0.0**
TWK	**Hsinying**	**1.88**	**254**	*eP*	**Pn**	**03 15 04.2**	**+0.6**
	baz=253						
TWK				*eS*	**Sn**	**03 15 27.4**	**+0.3**
	baz=253						
SNST	**Tainan City**	**1.89**	**253**	*eS*	**Sn**	**03 15 27.7**	**+0.6**
	baz=252						
SSD	**Sandimen**	**1.98**	**238**	*eP*	**Pn**	**03 15 05.8**	**+0.8**
	baz=237						
SSD				*eS*	**Sn**	**03 15 29.5**	**+0.2**
	baz=237						
TSMG	**Majia**	**1.99**	**237**	*eP*	**Pn**	**03 15 06.5**	**+1.4**
	baz=236						
TSMG				*eS*	**Sn**	**03 15 29.1**	**-0.6**
	baz=236						
MASBT	**Mashibuluo**	**2.05**	**235**	*eP*	**Pn**	**03 15 05.8**	**-0.2**
	baz=234						
MASBT				*eS*	**Sn**	**03 15 31.8**	**+0.6**
	baz=234						
SLIU	**Shizi**	**2.19**	**224**	*eP*	**Pn**	**03 15 08.8**	**+0.9**
	baz=223						
SLIU				*eS*	**Sn**	**03 15 34.1**	**-0.7**
	baz=223						
JTJ	**Tarama**	**2.22**	**67**	P	**Pn**	**03 15 09.9**	**+1.7**
JTJ				*eS*	**Sn**	**03 15 36.0**	**+0.7**
TWKBT	**Hengchun**	**2.39**	**220**	*eP*	**Pn**	**03 15 11.9**	**+1.3**
	baz=218						
TWKBT				*eS*	**Sn**	**03 15 39.5**	**-0.1**
	baz=218						
WDGT	**Dungji**	**2.62**	**259**	*eP*	**Pn**	**03 15 15.1**	**+1.3**
	baz=258						
WDGT				*eS*	**Sn**	**03 15 45.4**	**+0.1**
	baz=258						
VWUC	**VWUC**	**2.99**	**294**	*eP*	**Pn**	**03 15 18.9**	**+0.1**
	baz=294						
VWUC				*eS*	**Sn**	**03 15 53.5**	**-0.8**
	baz=294						

WEL 25 03:19:10.1,43°S±2°×17°1E±°,h5km±2km,M2.1/6,ML2.1/7,
MLv2.1/6,Error ellipse: s-maj=0.0km s-min=0.0km
az=64.3,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.29**	**351**	P	**Pb**	03 19 17.3	-0.4
GCSZ	**Gaunt Creek Bo**	**0.35**	**277**	P	**Pb**	03 19 18.4	-0.4
RPZ	**Rata Peaks**	**0.40**	**153**	P	**Pb**	03 19 19.7	0.0
ARCZ	**Arundel**	**0.65**	**155**	P	**Pb**	03 19 24.1	+0.2
FOZ	**Fox Glacier**	**0.74**	**256**	P	**Pb**	03 19 25.8	+0.4
INZ	**Inchbonnie**	**0.79**	**37**	P	**Pg**	03 19 25.7	+0.5
LBZ	**Lake Benmore**	**1.12**	**203**	P	**Pb**	03 19 32.0	+0.1
LTZ	**Lake Taylor**	**1.22**	**62**	P	**Pn**	03 19 34.9	+1.0
MQZ	**McQueen's Vall**	**1.39**	**105**	P	**Pg**	03 19 36.7	0.0
JCZ	**Jackson Bay**	**1.63**	**243**	P	**Pb**	03 19 40.9	+0.2
BSWZ	**Blackbirch Sta**	**2.80**	**55**	P	**Pn**	03 19 57.0	+1.4

WEL 25 03:20:24.9,43°S±10°×17°1E±°,h20km±9km,M2.0/7,
ML2.1/7,MLv2.0/7,Error ellipse: s-maj=0.0km
s-min=0.0km az=2.4,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.28**	**350**	P	**Pb**	03 20 32.1	+0.9
GCSZ	**Gaunt Creek Bo**	**0.35**	**275**	P	**Pb**	03 20 33.2	+0.8
RPZ	**Rata Peaks**	**0.41**	**154**	P	**Pb**	03 20 34.5	+1.0
ARCZ	**Arundel**	**0.66**	**156**	P	**Pn**	03 20 39.0	-0.2
FOZ	**Fox Glacier**	**0.74**	**255**	P	**Pn**	03 20 40.6	+0.3
INZ	**Inchbonnie**	**0.78**	**37**	P	**Pn**	03 20 40.5	-0.2
LBZ	**Lake Benmore**	**1.13**	**203**	P	**Pb**	03 20 46.8	+1.0
LTZ	**Lake Taylor**	**1.22**	**63**	P	**Pb**	03 20 49.8	+2.5
MQZ	**McQueen's Vall**	**1.40**	**106**	P	**Pb**	03 20 51.6	+1.3
JCZ	**Jackson Bay**	**1.63**	**243**	P	**Pb**	03 20 55.7	+1.3
WKZ	**Wanaka**	**1.96**	**220**	P	**Pb**	03 21 03.2	+3.3

*ATH **25** 03:23:47.2,34°.19N×26°.60E,h39km±7km,ML2.6/5,Error*
ellipse: s-maj=10.4km s-min=3.8km az=345.0
*NIC **25** 03:23:50.4±0.0,34°.33N×26°.74E,h105km±5km,Ml3.6/3*
*THE **25** 03:23:52.3,34°.43N×26°.36E,h1¹km±1km,ML2.0/1,Error*
ellipse: s-maj=2.4km s-min=1.3km az=301.0
*DDA **25** 03:23:57.0,34°.71N×27°.09E,h14km,ML2.1*

ISC 25 03:23:47.3±1.6,34°.18N±0°.06×26°.45E±0°.04,h28km±14km,
n35,σ1s40/46,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.95**	**349**	P	**

ANAF						AML	AML	03 24 51.5		
	comp=E,651μm,0.2s									
ANAF						AML	AML	03 24 53.7		
	comp=N,693μm,0.3s									
SANT	**Santorini**	**2.33**	**340**		P	**Pn**		**03 24 24.8**	**+0.9**	
ARG	**Arkhangelos**	**2.46**	**34**		P	**Pn**		**03 24 27.8**	**+2.2**	
ARG					S	**Sn**		**03 24 54.0**	**-0.6**	
AMGA	**Amorgos Island**	**2.69**	**351**		P	**Pn**		**03 24 29.6**	**+0.9**	
AMGA	**Amorgos Island**	**2.69**	**351**		P	**Pn**		**03 24 29.4**	**+0.6**	
AMGA						AML	AML	03 25 00.3		
	comp=E,131μm,0.2s									
AMGA						AML	AML	03 25 01.8		
	comp=N,156μm,0.2s									
IOSP	**Ios island**	**2.71**	**340**		P	**Pn**		**03 24 30.4**	**+1.4**	
IOSP					S	**Sn**		**03 25 00.4**	**-0.5**	
TURN	**Turunc**	**2.98**	**29**	*i* P		**Pn**		**03 24 34.6**	**-1.4**	
TURN				*i* S		**Sn**		**03 25 08.4**	**-4.9**	
TURN					IAML			03 25 09.0		
	comp=N,17nm,0.3s									
TURN					IAML			03 25 09.0		
	comp=E,20nm,0.5s									
APE	**Apeiranthos**	**2.98**	**346**		P	**Pn**		**03 24 33.4**	**+0.6**	
APE					AML	AML		03 25 08.3		
	comp=N,73μm,0.2s									
APE					AML	AML		03 25 08.7		
	comp=E,85μm,0.2s									
DALY	**Dalyan (Mula)**	**3.19**	**34**	*i* P		**Pn**		**03 24 37.5**	**+1.9**	
DALY				*i* S		**Sn**		**03 25 10.4**	**-2.3**	
DALY					IAML			03 25 12.0		
	comp=N,14nm,0.9s									
KSL	**Kastellorizon**	**3.24**	**52**		P	**Pn**		**03 24 37.8**	**+1.5**	
KSL					S	**Sn**		**03 25 12.5**	**-1.4**	
FETY	**Fethiye**	**3.26**	**41**	*i* P		**Pn**		**03 24 38.0**	**+1.3**	
AKAS	**Kas**	**3.30**	**51**	*i* P		**Pn**		**03 24 38.8**	**+1.5**	
AKAS					IAML			03 25 19.0		
	comp=N,29nm,1.3s									
AKAS					IAML			03 25 21.0		
	comp=E,5.5nm,0.4s									
AKUM	**Antalya-Kumluc**	**3.84**	**55**	*i* P		**Pn**		**03 24 46.1**	**+1.6**	
TAVA	**DENIZLI_Tavas**	**3.84**	**31**	*i* P		**Pn**		**03 24 46.3**	**+1.5**	
TAVA					IAML			03 25 33.0		
	comp=E,5.2nm,0.5s									
TAVA					IAML			03 25 35.0		
	comp=N,4.0nm,0.5s									
OSC1	**CSNet OBS 1**	**4.08**	**98**		P	**Pn**		**03 24 48.5**	**+0.7**	
OSC1					S	**Sn**		**03 25 35.1**	**+0.5**	
AKMS	**Akamas**	**4.93**	**79**		P	**Pn**		**03 24 59.9**	**+0.4**	
AKMS					AML	AML		03 25 53.9		
	comp=N,0.2nm,0.2s									
AKMS					AML	AML		03 25 54.7		
	comp=N,0.2nm,0.3s									
OSC2	**CSNet OBS 4**	**4.98**	**101**		S	**Sn**		**03 25 56.6**	**-0.3**	
ALFC	**Alefka**	**5.16**	**77**		P	**Pn**		**03 25 03.8**	**+1.0**	
ALFC					AML	AML		03 25 59.9		
	comp=N,0.1nm,0.2s									
ALFC					AML	AML		03 26 00.5		
	comp=N,0.1nm,0.1s									
SZAC	**Souni**	**5.35**	**82**		P	**Pn**		**03 25 05.8**	**+0.5**	
SZAC					AML	AML		03 26 06.1		
	comp=N,0.1nm,0.3s									
SZAC					AML	AML		03 26 06.9		
	comp=N,0.1nm,0.4s									
ASGA	**Asgata**	**5.65**	**82**		P	**Pn**		**03 25 10.0**	**+0.5**	
CSS	**Mathiatis**	**5.73**	**80**		P	**Pn**		**03 25 11.7**	**+1.0**	

*IDC **25** 03:27:22.6±0.6,21°.56S×174°.45W,h0km,mb4.3/13, mb1 4.5/14,mb1mx4.3/34,mbtmp4.3/14,ML4.3/1,MS4.0/3, Ms1 4.0/3,ms1mx3.3/34,Error ellipse: s-maj=24.0km s-min=15.9km az=119.0*

*NEIC **25** 03:27:23.8±1.2,21°.6S±0°.1×174°.4W±0°.1,h10km±1km, mb4.8/36,Error ellipse: s-maj=24.6km s-min=16.2km az=115.0*

*BJI **25** 03:27:23.0±0.0,21°.40S×174°.30W,h10km,mB5.3/2, mb5.1/4,Ms4.8/1*

ISC 25 03:27:24.0±0.5,21°.62S±0°.09×174°.4W±0°.1,h10km,n100, σ0s95/94,mb4.7/30,MS4.5/3,6C-2D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.88**	**60**	P	Pn	03 28 26.4	-11
	baz=4.3,SNR=5.3						
NIUE				S	Sn	03 29 16.6	-18
	baz=4.3						
NIUE	**Niue**	**4.88**	**60**		Pn	03 28 27.1	-10
NIUE					Sn	03 29 16.5	-18
AFI	**Afiamalu**	**8.06**	**18**	Pn	Pn	03 29 14.4	-6.9
	3.6nm,0.3s,baz=89,slow=12,SNR=3.4						
AFI					Sn	03 30 36.6	-16
	9.2nm,0.3s,baz=247,slow=8.5,SNR=4.1						
AFI	**Afiamalu**	**8.06**	**18**		Pn	03 29 12.9	-8.4
AFI					Sn	03 30 37.1	-16
RAO	**Raoul Island**	**8.24**	**202**	Pn	**Pn**	**03 29 22.4**	**-1.3**
RAR	**Rarotonga**	**13.61**	**91**	Pn	Pn	03 30 27.3	-10
	9.0nm,0.3s,baz=232,slow=8.8,SNR=7.6						
RAR				LR	LR	03 35 27.4	
	comp=Z,229nm,18.8s,baz=283,slow=36						
RAR	**Rarotonga**	**13.61**	**91**		Pn	03 30 26.9	-10
DZM	**Mont Dzumac**	**17.82**	**265**	P	**P**	**03 31 36.0**	**+3.0**
	0.6nm,0.3s,baz=85,slow=18,SNR=4.7						
DZM	**Mont Dzumac**	**17.82**	**265**	P	**P**	**03 31 34.1**	**+1.1**
URZ	**Urewera**	**18.13**	**202**	P	**P**	**03 31 37.8**	**+1.5**
	0.9nm,0.3s,baz=316,slow=3.2,SNR=5.7						
URZ				S	Sn	03 34 42.8	-15
	0.7nm,0.3s,baz=217,slow=20,SNR=5.4						
URZ	**Urewera**	**18.13**	**202**	P	**Pn**	**03 31 35.4**	**-0.5**
BFZ	**Birch Farm**	**20.60**	**201**	P	**P**	**03 32 03.7**	**+0.4**
BFZ				IAmb	IAmb	03 32 11.4	
	comp=Z,45nm,1.1s						
THZ	**Tophouse**	**22.76**	**205**	P	**P**	**03 32 25.9**	**-0.6**
THZ				IAmb	IAmb	03 32 36.4	
	comp=Z,30nm,1.3s						
RPZ	**Rata Peaks**	**25.14**	**205**	P	**P**	**03 32 49.5**	**+0.3**
	comp=Z,14nm,0.6s,baz=18,slow=0.1,SNR=13						
RPZ	**Rata Peaks**	**25.14**	**205**	P	**P**	**03 32 49.4**	**+0.1**
RPZ				IAmb	IAmb	03 32 54.5	
	comp=Z,17nm,0.6s						
ARMA	**Armidale**	**31.68**	**247**	P	**P**	**03 33 49.0**	**+1.0**
ARMA				IAmb	IAmb	03 34 00.9	
	comp=Z,32nm,1.5s						
EIDS	**Eidsvold**	**31.85**	**256**	P	**P**	**03 33 49.5**	**+0.1**
EIDS				IAmb	IAmb	03 33 53.0	
	comp=Z,32nm,1.4s						
CTA	**Charters Tower**	**36.76**	**265**	P	**P**	**03 34 31.4**	**-0.6**
	baz=37						
CTAO	**Charters Tower**	**36.76**	**265**	P	**P**	**03 34 31.7**	**-0.3**
CTAO				IAmb	IAmb	03 34 33.5	
	comp=Z,23nm,1.4s						
QLP	**Quilpie**	**37.99**	**254**	P	**P**	**03 34 42.0**	**-0.4**
	baz=38						
TOO	**Toolangi**	**38.03**	**236**	P	**P**	**03 34 42.3**	**-0.3**
TAU	**Tasmania Unive**	**38.28**	**227**	P	**P**	**03 34 45.2**	**+0.6**
MTSU	**Mount Surprise**	**38.92**	**268**	P	**P**	**03 34 50.6**	**+0.2**
	baz=39,SNR=5.1						
STKA	**Stephens Creek**	**40.39**	**246**	P	**P**	**03 35 01.8**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=91,slow=7.0,SNR=6.7						
STKA	**Stephens Creek**	**40.39**	**246**	P	**P**	**03 35 02.2**	**-0.1**
	baz=41,SNR=5.0						
STKA	**Stephens Creek**	**40.39**	**246**	P	**P**	**03 35 01.4**	**-0.9**
COEN	**Coen**	**41.03**	**273**	P	**P**	**03 35 08.4**	**+0.5**
COEN				IAmb	IAmb	03 35 18.4	
	comp=Z,22nm,1.4s						
BBOO	**Buckleboo**	**45.11**	**245**	P	**P**	**03 35 39.2**	**-1.5**
BBOO				IAmb	IAmb	03 35 41.0	
	comp=Z,23nm,1.3s						
AS31	**Alice Springs**	**47.56**	**257**	P	**P**	**03 35 59.4**	**-0.8**
AS31				IAmb	IAmb	03 36 00.3	
	comp=Z,7.3nm,1.4s						
ASAR	**Alice Springs**	**47.57**	**257**	P	**P**	**03 35 59.2**	**-1.0**
	comp=Z,8.7nm,0.8s,baz=92,slow=8.2,SNR=69						
ASAR				PcP	**PcP**	**03 37 30.4**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=103,slow=3.7,SNR=4.8						
WC3	**Warramunga Arr**	**47.77**	**262**	P	**P**	**03 35 59.8**	**-2.0**
	baz=48						
WB0	**Warramunga Arr**	**47.79**	**262**	P	**P**	**03 36 00.7**	**-1.2**
WB0				IAmb	IAmb	03 36 01.1	
	comp=Z,10nm,0.8s						
WB2	**Warramunga Arr**	**47.79**	**262**	P	**P**	**03 36 00.3**	**-1.6**
WRA	**Warramunga Arr**	**47.80**	**262**	P	**P**	**03 36 00.4**	**-1.7**
	comp=Z,8.8nm,0.8s,baz=101,slow=8.2,SNR=35						
FORT	**Forrest**	**51.97**	**247**	P	**P**	**03 36 32.6**	**-1.0**
	baz=52,SNR=12						
FORT	**Forrest**	**51.97**	**247**	P	**P**	**03 36 32.4**	**-1.2**
WRKA	**Warakurna**	**52.42**	**254**	P	**P**	**03 36 35.8**	**-1.4**
	baz=53,SNR=42						
KNRA	**Kununurra**	**53.96**	**266**	P	**P**	**03 36 47.5**	**-1.0**
KNRA				IAmb	IAmb	03 36 50.2	
	comp=Z,23nm,1.2s						
FITZ	**Fitzroy Crossi**	**56.23**	**262**	P	**P**	**03 37 04.3**	**-0.6**
	baz=57,SNR=3.5						
FITZ	**Fitzroy Crossi**	**56.23**	**262**	P	**P**	**03 37 04.3**	**-0.6**
FITZ				IAmb	IAmb	03 37 05.2	
	comp=Z,7.0nm,1.0s						
VNDA	**Vanda**	**57.12**	**186**	P	**P**	**03 37 11.6**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=16,slow=6.2,SNR=5.8						
SOEI	**Soe**	**59.91**	**271**	P	**P**	**03 37 30.3**	**-0.6**
KLBR	**Kellerberrin**	**60.65**	**245**	P	**P**	**03 37 35.4**	**-0.2**
	baz=61,SNR=5.9						
MEEK	**Meekatharra**	**60.75**	**251**	P	**P**	**03 37 36.4**	**0.0**
	baz=61,SNR=3.5						
NWAO	**Narrogin (SRO)**	**60.90**	**243**	P	**P**	**03 37 36.2**	**-1.0**
BLDU	**Ballidu**	**61.69**	**246**	P	**P**	**03 37 42.0**	**-0.6**
	baz=62						
MORW	**Morawa**	**62.53**	**248**	P	**P**	**03 37 47.6**	**-0.8**
	baz=63,SNR=3.5						
MORW	**Morawa**	**62.53**	**248**	P	**P**	**03 37 47.3**	**-1.1**
MORW				IAmb	IAmb	03 38 05.6	
	comp=Z,13nm,1.2s						
GIRL	**Giralia**	**65.51**	**254**	P	**P**	**03 38 07.5**	**-0.5**
QSPA	**South Pole Qui**	**68.45**	**180**	P	**P**	**03 38 26.8**	**+0.6**
QSPA				IAmb	IAmb	03 38 42.0	
	comp=Z,5.3nm,0.9s						
MJAR	**Matsushiro Arr**	**73.15**	**322**	P	**P**	**03 38 54.6**	**-0.3**
	comp=Z,4.6nm,0.6s,baz=165,slow=5.5,SNR=13						
MAJO	**Matsushiro**	**73.15**	**322**	P	**P**	**03 38 55.1**	**+0.1**
MAJO				IAmb	IAmb	03 38 55.5	
	comp=Z,6.0nm,0.7s						
MAT	**Matsushiro**	**73.15**	**322**	P	**P**	**03 38 54.9**	**-0.1**
ADK	**Adak**	**73.22**	**359**	P	**P**	**03 38 54.3**	**-0.6**
PEA0B	**Petropavlovsk-**	**78.27**	**343**	P	**P**	**03 39 23.7**	**-0.1**
PETK	**Petropavlovsk-**	**78.27**	**343**	P	**P**	**03 39 23.5**	**-0.3**
	comp=Z,4.3nm,0.6s,baz=133,slow=8.3,SNR=8.2						
NVAR	**Mina Array Bea**	**79.56**	**42**	P	**P**	**03 39 31.4**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=227,slow=7.9,SNR=8.6						
KSRS	**Korea Array**	**79.99**	**317**	P	**P**	**03 39 34.8**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=140,slow=6.2,SNR=5.7						
MAW	**Mawson**	**81.63**	**199**	P	**P**	**03 39 42.6**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=114,slow=7.7,SNR=13						
MAW	**Mawson**	**81.63**	**199**	P	**P**	**03 39 42.4**	**+0.4**
MTPU	**Mount Pierson**	**83.23**	**45**	P	**P**	**03 39 51.3**	**+0.1**
G08A	**Pilot Rock**	**83.49**	**36**	P	**P**	**03 39 52.2**	**+0.1**
G08A				IAmb	IAmb	03 40 08.9	
	comp=Z,5.0nm,1.3s						
MFID	**Camas Ranch**	**84.09**	**39**	P	**P**	**03 39 55.5**	**+0.2**
TMUT	**Trail Mountain**	**84.56**	**44**	P	**P**	**03 39 58.1**	**+0.1**
TXAR	**Lajitas Array**	**84.80**	**56**	P	**P**	**03 39 59.4**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=206,slow=7.9,SNR=3.2						
F10A	**Beach Ranch, E**	**84.87**	**36**	P	**P**	**03 39 58.7**	**-0.4**
F10A				IAmb	IAmb	03 40 00.7	
	comp=Z,7.7nm,1.1s						
P17A	**Butcher Ranch,**	**84.96**	**44**	P	**P**	**03 39 59.9**	**+0.1**
HLID	**Hailey**	**85.01**	**39**	P	**P**	**03 39 60.0**	**0.0**
WHN	**Wuhan**	**85.85**	**305**	⇓P	**P**	**03 40 05.3**	**+1.1**
SYO	**Syowa Base**	**86.35**	**192**	⇑*eP*	**P**	**03 40 05.0**	**-1.0**
SYO	**Syowa Base**	**86.35**	**192**	⇓*es*P	**P**	**03 40 10.0**	**+4.0**
PDAR	**Pinedale Array**	**87.50**	**42**	P	**P**	**03 40 11.8**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=198,slow=3.0,SNR=6.4						
RPSI	**Rantau Prapat**	**87.92**	**274**	P	**P**	**03 40 13.5**	**-1.2**
ILAR	**Eielson Array**	**88.70**	**11**	P	**P**	**03 40 17.2**	**0.0**
	comp=Z,0.9nm,0.9s,baz=205,slow=5.2,SNR=6.8						
XAN	**Xi'an**	**91.52**	**306**	P	**P**	**03 40 32.9**	**+1.8**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XAN				LR	LR		
	comp=Z,170nm,15.0s						
CMAR	**Chiang Mai Arr**	**93.68**	**288**	P	**P**	**03 40 43.5**	**+2.1**
	comp=Z,1.1nm,0.3s,baz=122,slow=2.8,SNR=13						
INK	**Inuk**	**94.50**	**14**	LR	LR	04 17 09.3	
	comp=Z,177nm,21.6s,baz=118,slow=32						
ULM	**Lac du Bonnet**	**99.31**	**40**	LR	LR	04 21 06.0	
	comp=Z,70nm,18.9s,baz=218,slow=32						
ARCES	**ARCESS Array B**	**130.59**	**351**	PKP	**PKPdf**	**03 46 34.2**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=38,slow=1.6,SNR=4.6						
AKASG	**Malin Array Be**	**145.59**	**333**	PKPbc	**PKPdf**	**03 47 02.0**	**-0.4**
	comp=Z,2.5nm,0.5s,baz=37,slow=4.6,SNR=15						
AKBB	**Malin Array Si**	**145.59**	**333**		**PKPdf**	**03 47 02.0**	**-0.4**
CLL	**Collm**	**149.82**	**351**	*e*PKPbc	**PKPbc**	**03 47 13.0**	**-1.2**
	comp=Z,13nm,1.5s						
CLL				*ep*PKPbc	**PKPab**	**03 47 18.0**	**-1.5**
CLL	**Collm**	**149.82**	**351**		**PKPbc**	**03 47 13.5**	**-0.7**
OSTC	**Ostas**	**149.95**	**346**	⇑*e*PKP	**PKiKP**	**03 47 15.9**	**+0.4**
BR131	**Keskin Array S**	**150.08**	**313**		**PKPbc**	**03 47 15.1**	**-0.4**
BRTR	**Keskin Array B**	**150.08**	**313**	PKPbc	**PKPbc**	**03 47 15.2**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=149,slow=2.6,SNR=9.4						
BRG	**Berggiesshubel**	**150.09**	**349**	*e*PKP	**PKiKP**	**03 47 15.4**	**-0.4**
	comp=Z,4.0nm,0.7s						
DPC	**Dobruska-Polom**	**150.12**	**346**	⇑*e*PKP	**PKiKP**	**03 47 16.5**	**+0.6**
KRLC	**Kraliky**	**150.27**	**345**	⇑*e*PKP	**PKiKP**	**03 47 15.6**	**-0.6**
MORC	**Moravsky Berou**	**150.36**	**344**	*e*PKP	**PKPbc**	**03 47 15.3**	**-0.3**
MORC	**Moravsky Berou**	**150.36**	**344**		**PKPbc**	**03 47 15.4**	**-0.3**
GOPC	**GO Pecny, Ondr**	**150.85**	**348**	⇑*e*PKP	**PKiKP**	**03 47 17.0**	**-0.4**
VRAC	**Vranov**	**151.03**	**345**	*e*PKP	**PKPbc**	**03 47 16.7**	**-0.5**
JAVC	**Velka Javorina**	**151.17**	**343**	*e*PKP	**PKiKP**	**03 47 18.4**	**+0.3**
VYHS	**Vyhne**	**151.18**	**342**	*e*PKP	**PKiKP**	**03 47 18.1**	**0.0**
VYHS				*e*		03 47 24.0	
KRUC	**Moravsky**	**151.31**	**345**	*e*PKP	**PKPbc**	**03 47 17.8**	**0.0**
KHC	**Kasperske Hory**	**151.83**	**349**	⇑*e*PKP	**PKPbc**	**03 47 18.8**	**-0.2**
KHC				*ex*	x	03 47 33.5	
KHC	**Kasperske Hory**	**151.83**	**349**		**PKPbc**	**03 47 18.8**	**-0.2**
GERES	**GERESS Array B**	**152.08**	**349**	PKPbc	**PKiKP**	**03 47 20.0**	**0.0**
	comp=Z,0.7nm,0.7s,baz=90,slow=2.9,SNR=9.2						
TORD	**Torodi Ar. Bea**	**170.77**	**155**	PKPab	**PKPab**	**03 48 50.4**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=194,slow=4.8,SNR=2.6						

*IDC **25** 03:40:04.8±0.7,36°.23N×141°.81E,h0km,mb4.0/14, mb1 4.1/18,mb1mx4.0/38,mbtmp4.0/18,ML3.7/4,MS3.7/6, Ms1 3.7/6,ms1mx3.2/48,Error ellipse: s-maj=19.1km s-min=15.1km az=97.0*

*NEIC **25** 03:40:07.2±1.3,36°.22N±0°.06×141°.94E±0°.10,h21km±5km, mb4.5/21,Error ellipse: s-maj=11.5km s-min=8.3km az=104.0*

*NIED **25** 03:40:08.5,36°.31N×141°.82E,h54km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.06; Mθθ0.21; Mθφ-1.26; Mrθ0.90; Mθφ-0.22; Mrφ1.09; Fault plane solution: M₀1.85000×10¹⁵ NP1:φs32.00000°, δ71.00000°,λ109.00000°. NP2:φs165.00000°,δ26.00000°, λ46.00000°.*

*JMA **25** 03:40:08.5±0.3,36°.31N×141°.82E,h54km,M3.6*

ISC 25 03:40:07.7±0.5,36°.17N±0°.05×141°.89E±0°.06,h23km,n73, σ1s32/70,mb4.3/26,MS3.8/4,1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.96**	**241**	P	**Pn**	**03 40 26.4**	**+0.7**
CHOJ				*e*S	**Sn**	**03 40 39.9**	**+1.3**
JHYU	**Hitachinakayam**	**1.07**	**280**	P	**Pn**	**03 40 26.5**	**-0.7**
JHYU				S	**Sb**	**03 40 39.7**	**-1.3**
JIHU	**Itakohorinouch**	**1.12**	**260**	P	**Pn**	**03 40 28.5**	**+0.5**
JHO	**Hitachi**	**1.15**	**293**	P	**Pn**	**03 40 26.9**	**-1.5**
ONAJ	**Iwakimizuishiy**	**1.28**	**317**	P	**Pn**	**03 40 28.3**	**-1.9**
JFK	**Kawauchi**	**1.45**	**326**	P	**Pn**	**03 40 30.7**	**-1.8**
BSO1	**Boso 1**	**1.69**	**207**	P	**Pn**	**03 40 36.9**	**+1.7**
BSO3	**Boso 3**	**1.77**	**220**	P	**Pn**	**03 40 38.3**	**+1.7**
JFT	**Otama**	**1.83**	**318**	P	**Pn**	**03 40 37.3**	**-0.5**
JMM	**Marumori**	**1.91**	**333**	P	**Pn**	**03 40 36.8**	**-2.0**
JAG	**Ashikaga**	**1.99**	**278**	P	**Pn**	**03 40 39.3**	**-0.5**
JFY	**Yanaizu**	**2.15**	**306**	P	**Pn**	**03 40 41.9**	**-0.2**
MJAR	**Matsushiro Arr**	**3.00**	**278**	Pn	**Pn**	**03 40 54.2**	**+0.5**
	1.4nm,0.3s,baz=114,slow=6.5,SNR=75						
MJAR				LR	LR	03 42 08.6	
	comp=Z,394nm,20.3s,baz=270,slow=43						
MAJO	**Matsushiro**	**3.00**	**278**	Pn	**Pn**	**03 40 54.7**	**+0.9**
MAT	**Matsushiro**	**3.00**	**278**	P	**Pn**	**03 40 54.8**	**+1.0**
MAT				S	**Sn**	**03 41 28.2**	**-0.8**
JHJ2	**Mitsune**	**3.50**	**210**	Pn	**Pn**	**03 41 01.7**	**+1.1**
JHJ	**Hachijo jima 2**	**3.50**	**210**	Pn	**Pn**	**03 41 02.0**	**+1.3**
	20nm,0.3s,baz=70,slow=23,SNR=24						
JHJ				Sn	**Sn**	**03 41 42.1**	**+0.7**
	91nm,0.3s,baz=138,slow=23,SNR=13						
ERM	**Erimo**	**5.92**	**9**	Pn	**Pn**	**03 41 32.1**	**-1.8**
ASAJ	**Asahikawa**	**7.96**	**4**	Pn	**Pn**	**03 42 02.3**	**+0.5**
	1.0nm,0.3s,baz=251,slow=2.0,SNR=4.8						
JKA	**Kamikawa-asahi**	**7.96**	**4**		**Pn**	**03 42 01.3**	**-0.6**
JCJ	**Chichijima**	**9.05**	**178**	Pn	**Pn**	**03 42 15.8**	**-1.1**
	4.5nm,0.3s,baz=288,slow=23,SNR=17						
JCJ				Sn	**Sn**	**03 43 51.7**	**-6.4**
	5.2nm,0.3s,baz=286,slow=23,SNR=4.5						
JCJ	**Chichijima**	**9.05**	**178**		**Pn**	**03 42 15.3**	**-1.6**
JNU	**Nakatsue**	**9.57**	**255**	Pn	**Pn**	**03 42 24.1**	**+0.1**
KSRS	**Korea Array**	**11.27**	**281**	Pn	**Pn**	**03 42 50.1**	**+2.9**
	0.2nm,0.3s,baz=93,slow=13,SNR=7.9						
KSRS				LR	LR	03 46 53.6	
	comp=Z,257nm,21.6s,baz=24,slow=36						
PEA0B	**Petropavlovsk-**	**20.25**	**28**	P	**P**	**03 44 39.7**	**-1.5**
PEA0B				IAmb	IAmb	03 44 56.8	
	comp=Z,24nm,1.4s						
BJT	**Baijiatuau**	**20.58**	**289**	P	**P**	**03 44 43.3**	**-1.5**
XAN	**Xi'an**	**26.99**	**275**	P	**P**	**03 45 47.4**	**-0.4**
XAN				pP	pP	03 45 54.3	+0.3
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XAN	**Xi'an**	**26.99**	**275**	P	**P**	**03 45 47.1**	**-0.6**
YAK	**Yakutsk**	**27.00**	**347**	P	**P**	**03 45 47.1**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**27.38**	**120**	T	T	04 14 30.0	
	baz=313,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hy**	**27.39**	**120**	T	T	04 14 28.6	
	baz=313,slow=74,SNR=8.1						
H11N3	**WAKE ISLAND Hy**	**27.40**	**120**	T	T	04 14 31.2	
	baz=313,slow=74,SNR=16						
ENH	**Enshi**	**27.66**	**267**	P	**P**	**03 45 52.6**	**-1.2**
H11S1	**WAKE ISLAND Hy**	**28.07**	**122**	T	T	04 15 26.3	
	baz=314,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.07**	**122**	T	T	04 15 23.4	
	baz=314,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**28.09**	**122**	T	T	04 15 30.6	
	baz=314,slow=76,SNR=12						
ULN	**Ulaanbaatar**	**28.16**	**305**	P	**P**	**03 45 57.9**	**-0.4**
ULN				IAmb	IAmb	03 45 59.6	
	comp=Z,8.9nm,1.2s						
SONM	**Songino Array**	**28.59**	**305**	P	**P**	**03 46 00.0**	**-2.0**
	comp=Z,6.1nm,0.9s,baz=102,slow=9.3,SNR=27						
TLY	**Talaya**	**31.19**	**312**	P	**P**	**03 46 24.6**	**-0.3**
TLY				IAmb	IAmb	03 46 26.8	
	comp=Z,5.0nm,0.9s						
GYA	**Guiyang**	**31.47**	**262**	⇓P	**P**	**03 46 27.3**	**-0.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WMQ	**Urumqi**	**41.58**	**298**	P	**P**	**03 47 53.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**41.66**	**257**	P	**P**	**03 47 55.5**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=44,slow=5.1,SNR=6.5						
LSA	**Lhasa**	**42.68**	**276**	P	**P**	**03 48 03.2**	**-0.1**
ZAA0	**Zalesovo Array**	**42.78**	**313**	P	**P**	**03 48 02.9**	**-0.4**
ZALV	**Zalesovo Beam**	**42.78**	**313**	P	**P**	**03 48 03.2**	**0.0**
	comp=Z,3.2nm,0.8s,baz=88,slow=7.7,SNR=9.5						
MK31	**Makanchi Array**	**44.91**	**303**	P	**P**	**03 48 20.3**	**-0.1**
MK31				IAmb	IAmb	03 48 23.4	
	comp=Z,4.1nm,0.9s						
MKAR	**Makanchi Array**	**44.91**	**303**	P	**P**	**03 48 20.6**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=91,slow=9.7,SNR=18						
MAKZ	**Makanchi**	**45.12**	**303**	P	**P**	**03 48 22.0**	**-0.1**
MAKZ				IAmb	IAmb	03 48 25.2	
	comp=Z,3.5nm,0.8s						
KURK	**Kurchatov**	**46.77**	**309**	P	**P**	**03 48 34.5**	**-0.5**
KURK				IAmb	IAmb	03 48 35.7	
	comp=Z,6.8nm,0.8s						
TARG	**Taragay, Kyrgy**	**49.13**	**297**	P	**P**	**03 48 53.3**	**-0.7**
TARG				IAmb	IAmb	03 48 55.1	
	comp=Z,3.8nm,0.9s						
ILAR	**Eielson Array**	**50.02**	**32**	P	**P**	**03 49 00.1**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=257,slow=6.4,SNR=10						
AAK	**Ala-Archa**	**51.24**	**299**	LR	LR	04 11 19.1	
	comp=Z,361nm,21.2s,baz=65,slow=

XAN					IAmb	IAmb	04 00 16.6		
	comp=Z,5.1nm,1.1s								
H11N2	**WAKE ISLAND Hy**	**27.38**	**120**		T	T	04 29 43.8		
	baz=312,slow=75,SNR=24								
H11N1	**WAKE ISLAND Hy**	**27.39**	**121**		T	T	04 29 48.4		
	baz=312,slow=75,SNR=14								
H11N3	**WAKE ISLAND Hy**	**27.40**	**120**		T	T	04 29 45.2		
	baz=312,slow=75,SNR=14								
ENH	**Enshi**	**27.76**	**267**		P	**P**	**04 00 19.5**	**0.0**	
H11S1	**WAKE ISLAND Hy**	**28.08**	**123**		T	T	04 30 49.2		
	baz=314,slow=75,SNR=17								
H11S3	**WAKE ISLAND Hy**	**28.08**	**123**		T	T	04 30 26.5		
	baz=314,slow=75,SNR=13								
H11S2	**WAKE ISLAND Hy**	**28.10**	**123**		T	T	04 30 41.9		
	baz=314,slow=75,SNR=10.0								
ULN	**Ulaanbaatar**	**28.14**	**305**		P	**P**	**04 00 21.8**	**-1.0**	
ULN					IAmb	IAmb	04 00 26.4		
	comp=Z,2.7nm,0.5s								
SONM	**Songino Array**	**28.57**	**305**		P	**P**	**04 00 28.3**	**+1.6**	
	comp=Z,2.9nm,0.8s,baz=98,slow=9.3,SNR=13								
ZAA0	**Zalesovo Array**	**42.73**	**313**		P	**P**	**04 02 27.9**	**+0.3**	
ZAA0					IAmb	IAmb	04 02 29.4		
	comp=Z,5.4nm,1.4s								
MK31	**Makanchi Array**	**44.89**	**303**		P	**P**	**04 02 43.6**	**-1.5**	
MKAR	**Makanchi Array**	**44.89**	**303**		P	**P**	**04 02 46.5**	**+1.3**	
	comp=Z,2.0nm,0.8s,baz=87,slow=8.4,SNR=12								
MAKZ	**Makanchi**	**45.10**	**303**		P	**P**	**04 02 46.4**	**-0.3**	
KURK	**Kurchatov**	**46.74**	**309**		P	**P**	**04 02 56.9**	**-2.6**	
KURBB	**Kurchatov Arra**	**46.81**	**309**		P	**P**	**04 03 01.3**	**+1.2**	
	comp=Z,2.0nm,0.7s,baz=85,slow=8.1,SNR=12								
WB2	**Warramunga Arr**	**56.45**	**189**		P	P	04 04 17.7	+5.3	
WB2					IAmb	IAmb	04 04 28.9		
	comp=Z,4.3nm,1.1s								
WRA	**Warramunga Arr**	**56.45**	**189**		P	P	04 04 19.7	+7.3	
	comp=Z,0.6nm,0.6s,baz=4.8,slow=7.7,SNR=5.7								
ASAR	**Alice Springs**	**60.17**	**189**		P	P	04 04 46.1	+7.7	
	comp=Z,0.2nm,0.7s,baz=19,slow=14,SNR=4.2								
AKASG	**Malin Array Be**	**75.14**	**323**		P	**P**	**04 06 14.0**	**+1.4**	
	comp=Z,0.5nm,0.5s,baz=46,slow=6.0,SNR=5.3								
BRTR	**Keskin Array B**	**79.67**	**312**		P	**P**	**04 06 40.6**	**+2.2**	
	comp=Z,0.4nm,0.6s,baz=24,slow=3.4,SNR=3.6								

*WEL **25** 03:57:38.0±0.9,33°S±5″×17°8W±1′4,h250km,M4.8/12, mB5.0/8,ML6.0/5,MLv5.3/12,Mw(mB)4.3/8, Error ellipse: s-maj=0.0km s-min=0.0km az=106.0*
*IDC **25** 03:57:41.8±0.6,33°31S×178°23W,h0km, mb4.5/8, mb1 4.7/10,mb1mx4.5/25,mbtmp4.6/10,ML4.8/2,MS3.9/5, Ms1 3.9/5,ms1mx3.6/23,Error ellipse: s-maj=23.8km s-min=19.6km az=100.0*
*NEIC **25** 03:57:43.1±1.9,33°32S±0′.07×178°3W±0°.1,h10km±1km, mb4.6/16, Error ellipse: s-maj=20.2km s-min=9.8km az=112.0*

ISC 25 03:57:42.5±0.5,33°35S±0′.05×178°20W±0′.08,h10km, n101,σ2s09/98,mb4.6/15,MS3.9/7,1C-1D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**4.08**	**3**	P	Pn	03 58 42.0	-2.9
GLKZ				S	**Sn**	**03 59 28.3**	**-4.5**
RAO	**Raoul Island**	**4.09**	**3**	Pn	**Pn**	**03 58 43.5**	**-1.6**
	72nm,0.3s,baz=40,slow=23,SNR=4.9						
RAO				Sn	**Sn**	**03 59 28.2**	**-4.8**
	381nm,0.3s,baz=56,slow=21,SNR=7.1						
RAO	**Raoul Island**	**4.09**	**3**		**Pn**	**03 58 43.4**	**-1.7**
RAO					**Sn**	**03 59 29.7**	**-3.3**
RIZ	**Raoul Island**	**4.10**	**3**	P	**Pn**	**03 58 43.2**	**-1.9**
RIZ				S	**Sn**	**03 59 28.9**	**-4.3**
MXZ	**Matakaoa Point**	**5.08**	**213**	P	**Pn**	**03 58 57.3**	**-1.3**
MXZ	**Matakaoa Point**	**5.08**	**213**	Pn	**Pn**	**03 58 57.4**	**-1.3**
PUZ	**Puketiti**	**5.52**	**210**	P	**Pn**	**03 59 03.2**	**-1.6**
PUZ				S	**Sn**	**04 00 03.5**	**-4.8**
GRZ	**Great Barrier**	**5.96**	**239**	P	**Pn**	**03 59 13.6**	**+2.8**
KUZ	**Kuaotunu**	**6.03**	**234**	P	**Pn**	**03 59 13.9**	**+2.3**
MWZ	**Matawai**	**6.06**	**214**	P	**Pn**	**03 59 10.6**	**-1.6**
MWZ				S	**Sn**	**04 00 20.8**	**-0.9**
URZ	**Urewera**	**6.21**	**217**	Pn	**Pn**	**03 59 12.8**	**-1.3**
	16nm,0.3s,baz=259,slow=3.7,SNR=53						
URZ				Sn	**Sn**	**04 00 22.9**	**-2.2**
	67nm,0.3s,baz=186,slow=22,SNR=17						
URZ	**Urewera**	**6.21**	**217**	P	**Pn**	**03 59 12.9**	**-1.2**
URZ	**Urewera**	**6.21**	**217**	Pn	**Pn**	**03 59 13.8**	**-0.3**
URZ					**Sn**	**04 00 22.5**	**-2.6**
SNGZ	**Shannon Statio**	**6.51**	**212**	P	**Pn**	**03 59 15.8**	**-2.6**
ABAZ	**Army Bay**	**6.57**	**238**	P	**Pn**	**03 59 19.9**	**+0.7**
WCZ	**Waipu Caves**	**6.66**	**245**	P	Pn	03 59 25.2	+4.8
NMHZ	**Naumai**	**7.01**	**214**	S	**Sn**	**04 00 44.5**	**-0.6**
OUZ	**Omahuta**	**7.04**	**252**	P	**Pn**	**03 59 24.6**	**-1.0**
BKZ	**Black Stump Fm**	**7.21**	**215**	P	**Pn**	**03 59 25.5**	**-2.5**
BKZ	**Black Stump Fm**	**7.21**	**215**	Pn	**Pn**	**03 59 27.5**	**-0.5**
CKHZ	**Cape Kidnapper**	**7.35**	**210**	P	**Pn**	**03 59 27.7**	**-2.1**
CKHZ				S	**Sn**	**04 00 52.2**	**-1.1**
KWHZ	**Kaweka Forest**	**7.45**	**214**	P	**Pn**	**03 59 30.0**	**-1.3**
KAHZ	**Kahuranaki**	**7.55**	**210**	P	**Pn**	**03 59 29.6**	**-3.1**
KAHZ				S	**Sn**	**04 00 55.1**	**-3.2**
PXZ	**Pawanui**	**7.76**	**209**	P	**Pn**	**03 59 31.2**	**-4.2**
MOVZ	**Moawhango**	**7.76**	**217**	S	**Sn**	**04 00 59.6**	**-4.0**
WNVZ	**Wahianoa**	**7.78**	**218**	P	**Pn**	**03 59 34.3**	**-1.6**
WNVZ				S	**Sn**	**04 01 02.8**	**-1.5**
MTVZ	**Mangateitei**	**7.89**	**218**	P	**Pn**	**03 59 35.1**	**-2.2**
PNHZ	**Pukenui**	**7.95**	**213**	P	**Pn**	**03 59 35.1**	**-3.0**
PNHZ				S	**Sn**	**04 01 05.1**	**-2.9**
PRHZ	**Porangahau**	**8.05**	**209**	P	Pn	03 59 34.6	-4.8
TSZ	**Takapari Road**	**8.17**	**213**	P	**Pn**	**03 59 37.2**	**-3.9**
DVHZ	**Dannevirke**	**8.28**	**211**	P	**Pn**	**03 59 40.4**	**-2.2**
ANWZ	**Angora Road**	**8.28**	**209**	P	**Pn**	**03 59 39.8**	**-2.7**
BFZ	**Birch Farm**	**8.56**	**210**	P	Pn	03 59 41.2	-5.2
PRWZ	**Pori Road**	**8.57**	**211**	P	**Pn**	**03 59 44.1**	**-2.5**
MRZ	**Mangatainoka R**	**8.83**	**212**	P	**Pn**	**03 59 45.6**	**-4.5**
SNZO	**South Karori**	**9.75**	**213**	Pn	**Pn**	**04 00 02.3**	**-0.4**
THZ	**Tophouse**	**10.96**	**217**	Pn	**Pn**	**04 00 19.8**	**+0.4**
RPZ	**Rata Peaks**	**13.32**	**216**	Pn	**Pn**	**04 00 48.8**	**-2.8**
	3.7nm,0.3s,baz=43,slow=2.5,SNR=18						
RPZ				Sn	Sn	04 03 04.9	-15
	5.5nm,0.3s,baz=264,slow=21,SNR=12						
RPZ	**Rata Peaks**	**13.32**	**216**	Pn	**Pn**	**04 00 49.0**	**-2.6**
LBZ	**Lake Benmore**	**14.24**	**216**		**Pn**	**04 01 01.6**	**-2.6**
MSVF	**Nonsavu**	**15.91**	**347**	Pn	**Pn**	**04 01 25.2**	**-1.4**
DZM	**Mont Dzumac**	**17.61**	**306**	LR	LR	04 07 46.4	
	comp=Z,374nm,18.0s,baz=192,slow=34						
DZM	**Mont Dzumac**	**17.61**	**306**	*e*Pn	**Pn**	**04 01 46.7**	**-1.4**
	28nm,0.8s						
DZM				eLR	LR	04 05 52.2	
	comp=Z,866nm,28.0s						
DZM	**Mont Dzumac**	**17.61**	**306**	Pn	**Pn**	**04 01 47.1**	**-1.1**
RAR	**Rarotonga**	**20.32**	**58**	LR	LR	04 09 00.0	
	comp=Z,346nm,18.9s,baz=251,slow=33						
TBI	**Tubuai**	**27.11**	**76**	*e*LQ	LQ	04 08 38.5	
	661nm,29.0s						
TBI				eLR	LR	04 09 43.4	
	comp=Z,356nm,25.8s						
EIDS	**Eidsvold**	**27.85**	**278**	P	**P**	**04 03 35.7**	**+3.4**
	baz=28						
EIDS	**Eidsvold**	**27.85**	**278**	P	**P**	**04 03 33.5**	**+1.2**
EIDS				IAmb	IAmb	04 03 39.7	
	comp=Z,16nm,1.1s						
PPT2	**Papeete2**	**30.10**	**66**	*e*LR	LR	04 11 01.0	
	comp=Z,345nm,21.8s						
CMSA	**Cobar Meteorol**	**30.43**	**263**	P	**P**	**04 03 57.5**	**+2.3**
	baz=30						
STKA	**Stephens Creek**	**33.75**	**261**	LR	LR	04 16 23.5	
	comp=Z,227nm,20.8s,baz=88,slow=33						
STKA	**Stephens Creek**	**33.75**	**261**	P	**P**	**04 04 26.9**	**+2.6**
	baz=33,SNR=17						
CTAO	**Charters Tower**	**34.21**	**284**	P	**P**	**04 04 29.0**	**+0.6**
CTAO				IAmb	IAmb	04 04 45.4	
	comp=Z,10nm,0.9s						
HTT	**Hallett**	**35.61**	**258**	P	**P**	**04 04 42.2**	**+1.7**
	baz=35,SNR=4.2						
BBOO	**Buckleboo**	**38.09**	**258**	P	**P**	**04 05 01.5**	**0.0**
BBOO				IAmb	IAmb	04 05 04.9	
	comp=Z,16nm,1.4s						
RKT	**Rikitea**	**39.19**	**86**	*e*LR	LR	04 15 26.9	
	comp=Z,452nm,31.0s						
QIS	**Mount Isa**	**39.45**	**278**	P	**P**	**04 05 15.4**	**+2.3**
	baz=39,SNR=5.8						
COEN	**Coen**	**40.00**	**289**	P	**P**	**04 05 19.1**	**+1.5**
COEN				IAmb	IAmb	04 05 33.9	
	comp=Z,13nm,1.0s						
AS31	**Alice Springs**	**42.86**	**270**	P	**P**	**04 05 41.7**	**+0.5**
ASAR	**Alice Springs**	**42.86**	**270**	P	**P**	**04 05 41.6**	**+0.5**
	comp=Z,11nm,0.6s,baz=111,slow=7.4,SNR=57						
ASAR				S	**S**	**04 12 01.9**	**-3.9**
	comp=Z,1.5nm,1.0s,baz=112,slow=14,SNR=3.7						
ASAR				LR	LR	04 22 11.6	
	comp=Z,143nm,18.1s,baz=121,slow=34						
WR0	**Warramunga Arr**	**43.94**	**275**		P	**P**	**04 05 50.3**	**+0.5**
WR0					IAmb	IAmb	04 06 05.6	
	comp=Z,8.6nm,0.8s							
WB2	**Warramunga Arr**	**44.11**	**275**	P	P	**P**	**04 05 51.5**	**+0.3**
	baz=44							
WB2	**Warramunga Arr**	**44.11**	**275**			P	**P**	**04 05 51.4**	**+0.2**
WRA	**Warramunga Arr**	**44.12**	**275**	P		P	**P**	**04 05 51.8**	**+0.5**
	comp=Z,4.3nm,0.5s,baz=117,slow=7.7,SNR=32								
WRKA	**Warakurna**	**47.01**	**266**	P		P	**P**	**04 06 14.2**	**+0.1**
	baz=47,SNR=25								
KNRA	**Kununurra**	**50.82**	**277**	P		P	**P**	**04 06 43.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**52.24**	**272**	P		P	**P**	**04 06 55.0**	**+1.0**
	baz=52,SNR=8.7								
FITZ	**Fitzroy Crossi**	**52.24**	**272**	P		P	**P**	**04 06 54.2**	**+0.1**
FITZ					IAmb	IAmb	04 06 59.1		
	comp=Z,5.6nm,0.8s								
CASY	**Casey**	**52.47**	**209**	P		P	**P**	**04 06 55.9**	**+0.8**
CASY					IAmb	IAmb	04 07 14.8		
	comp=Z,7.0nm,0.8s								
MEEK	**Meekatharra**	**54.41**	**259**	P		P	**P**	**04 07 09.5**	**-0.4**
	baz=54,SNR=4.4								
MORW	**Morawa**	**55.58**	**255**	P		P	**P**	**04 07 17.7**	**-0.6**
QSPA	**South Pole Qui**	**56.77**	**180**	P		P	**P**	**04 07 28.3**	**+1.8**
	comp=Z,14nm,0.8s,baz=38,slow=1.4,SNR=43								
QSPA	**South Pole Qui**	**56.77**	**180**	P		P	**P**	**04 07 28.0**	**+1.5**
MAW	**Mawson**	**59.50**	**201**	P		P	**P**	**04 08 52.1**	**+1.4**
	comp=Z,2.8nm,0.9s,baz=112,slow=4.4,SNR=6.5								
MAW	**Mawson**	**69.50**	**201**	P		P	**P**	**04 08 51.3**	**+0.6**
SYO	**Syowa Base**	**74.21**	**193**	*i*eP		P	**P**	**04 09 18.2**	**-0.8**
SYO	**Syowa Base**	**74.21**	**193**	*i*eP		P	**P**	**04 09 23.0**	**+4.0**
VNA3	**Neumayer Olymp**	**75.38**	**176**	P		P	P	04 09 40.7	+15
VNA2	**Neumayer--Watz**	**75.81**	**177**	P		P	P	04 09 43.3	+15
VNA1	**Neumayer--Stat**	**76.05**	**177**	P		P	P	04 09 44.8	+15
H03N3	**Juan Fernandez**	**79.20**	**123**	T		T	T	05 38 52.8	
	baz=240,slow=72,SNR=13								
H03N2	**Juan Fernandez**	**79.20**	**123**	T		T	T	05 39 04.2	
	baz=240,slow=72,SNR=10								
H03N1	**Juan Fernandez**	**79.21**	**123**	T		T	T	05 38 51.7	
	baz=240,slow=72,SNR=22								
PLCA	**Paso Flores**	**80.63**	**133**	P		P	**P**	**04 09 57.0**	**+1.4**
	comp=Z,4.3nm,1.0s,baz=215,slow=10,SNR=4.5								
PLCA					LR	LR	04 38 57.9		
	comp=Z,81nm,18.4s,baz=302,slow=31								
PLCA	**Paso Flores**	**80.63**	**133**	P		P	**P**	**04 09 56.5**	**+0.9**
PLCA					IAmb	IAmb	04 09 57.8		
	comp=Z,7.1nm,1.1s								
PETK	**Petropavlovsk-**	**88.62**	**346**	P		P	**P**	**04 10 36.8**	**+1.6**
	comp=Z,4.0nm,0.8s,baz=132,slow=6.0,SNR=4.6								
NVAR	**Mina Array Bea**	**90.51**	**43**	P		P	**P**	**04 10 46.0**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=222,slow=7.7,SNR=12								
TXAR	**Lajitas Array**	**94.12**	**58**	P		P	**P**	**04 11 02.4**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=223,slow=8.6,SNR=3.6								
MKAR	**Makanchi Array**	**119.51**	**309**	PKP		**PKPdf**		**04 16 31.3**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=112,slow=1.6,SNR=3.8								
KURBB	**Kurchatov Arra**	**122.97**	**312**	PKP		**PKPdf**		**04 16 38.2**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=109,slow=1.9,SNR=11								
BVAR	**Borovoye Array**	**128.36**	**314**	PKP		**PKPdf**		**04 16 49.3**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=336,slow=3.2,SNR=3.4								
ARCES	**ARCESS Array B**	**141.42**	**347**	PKhKP		PKPpre		04 17 09.3	
	comp=Z,0.8nm,0.7s,baz=15,slow=3.7,SNR=4.6								
KBZ	**Khabaz**	**146.53**	**300**	PKPbc		**PKPab**		**04 17 25.0**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=69,slow=3.9,SNR=3.9								
FINES	**FINESS Array B**	**147.83**	**338**	PKPbc		**PKPbc**		**04 17 27.1**	**+0.3**
	comp=Z,7.1nm,0.8s,baz=42,slow=4.1,SNR=26								
ASF	**Jabal al Asfar**	**150.54**	**277**	PKPbc		**PKiKP**		**04 17 36.2**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=322,slow=0.5,SNR=8.5								
NB2	**NORSAR Subarra**	**151.63**	**350**	PKP		**PKPbc**		**04 17 36.2**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=17,slow=4.1								
NOA	**NORSAR Array B**	**151.63**	**350**	PKPbc		**PKPbc**		**04 17 36.5**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=14,slow=4.1,SNR=10								
MMAI	**Mount Meron Ar**	**151.94**	**279**	PKPbc		**PKiKP**		**04 17 39.0**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=138,slow=3.0,SNR=5.7								
AKASG	**Malin Array Be**	**153.47**	**319**	PKPbc		**PKiKP**		**04 17 41.6**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=91,slow=1.0,SNR=6.0								
BRTR	**Keskin Array B**	**153.73**	**293**	PKPbc		**PKPbc**		**04 17 42.1**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=142,slow=3.5,SNR=7.2								
BRTR				PKPab		**sPKPab**		**04 17 56.9**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=151,slow=3.9,SNR=7.9								
TORD	**Torodi Ar. Bea**	**159.89**	**180**	PKPab		**PKPab**		**04 18 21.5**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=184,slow=3.5,SNR=12								

*IDC **25** 03:58:05.5±5.5,38°27N×73°30E,h99km±37km,mb3.6/7, mb1 3.7/10,mb1mx3.4/45,mbtmp4.0/10,MS3.6/2, Ms1 3.6/2,ms1mx2.8/41,Error ellipse: s-maj=52.4km s-min=24.8km az=143.0*
*NNC **25** 03:58:23.7±4.2,39°96N×73°02E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=41.8km s-min=29.0km az=164.0*

ISC 25 03:58:05.8±0.7,38°26N±0°.08×73°26E±0°.10,h100km,n26, σ1s07/25,mb3.9/7,2D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.88**	**5**	P	**Pn**	**03 59 04.3**	**+0.6**
	SNR=37						
UCH	**Uchtor**	**4.08**	**13**	P	**Pn**	**03 59 07.5**	**+1.1**
	SNR=26						
KZA	**Kyzart**	**4.11**	**21**	P	**Pn**	**03 59 07.8**	**+0.9**
	SNR=8.9						
EKS2	**Erkin-Say**	**4.42**	**5**	P	**Pn**	**03 59 11.9**	**+1.2**
	SNR=19						
AAK	**Ala-Archa**	**4.47**	**12**	P	**Pn**	**03 59 12.4**	**+0.8**
	3.0nm,0.3s,baz=180,slow=5.9,SNR=13						
AAK				S	**Sn**	**04 00 01.7**	**-0.8**
	1.7nm,0.3s,baz=49,slow=23,SNR=11						
AAK	**Ala-Archa**	**4.47**	**12**	P	**Pn**	**03 59 13.4**	**+1.8**
	SNR=8.0						
AAK	**Ala-Archa**	**4.47**	**12**	Pn	**Pn**	**03 59 12.1**	**+0.5**
	6.0nm,0.6s						
AAK				Lg	Lg	03 59 57.7	
	9.0nm,0.5s						
TKM2	**Tokmak 2**	**4.99**	**20**	⇓Pn	**Pn**	**03 59 18.5**	**0.0**
	2.0nm,0.6s						
TKM2				Lg	Lg	04 00 15.2	
	3.9nm,0.5s						
KK31	**Karatay Array**	**5.27**	**338**	⇓Pn	**Pn**	**03 59 22.3**	**+0.1**
	9.8nm,0.8s,baz=160,slow=13,SNR=48						
KK31				Lg	Lg	04 00 16.9	
	21nm,0.4s,baz=148,slow=20,SNR=20						
KURBB	**Kurchatov Arra**	**12.92**	**15**	P	**P**	**04 01 11.4**	**-0.8**
	0.1nm,0.3s,baz=205,slow=10,SNR=9.0						
PYUN	**Piuthan**	**12.99**	**138**	*e*P	**Pn**	**04 01 05.3**	**-1.6**
	44nm,0.5s						
KOLN	**Koldanda**	**13.58**	**137**	*e*P	**Pn**	**04 01 12.6**	**-1.9**
	7.1nm,0.4s						
GKN	**Gorkha**	**13.97**	**134**	*e*P	**P**	**04 01 25.9**	**+1.6**
	30nm,0.5s						
KKN	**Kakani**	**14.50**	**133**	*e*P	**P**	**04 01 32.6**	**+2.3**
	27nm,0.6s						
BVAR	**Borovoye Array**	**14.90**	**353**	P	**P**	**04 01 34.3**	**0.0**
	1.4nm,0.3s,baz=166,slow=10,SNR=21						
AKTO	**Aktyubinsk**	**16.30**	**323**	P	**Pn**	**04 01 48.5**	**-0.1**
	0.8nm,0.3s,baz=118,slow=14,SNR=5.4						
ZALV	**Zalesovo Beam**	**17.58**	**23**	P	**P**	**04 02 03.0**	**-0.9**
	1.2nm,0.3s,baz=215,slow=11,SNR=19						
WSAR	**Wadi Sarin**	**19.51**	**224**	LR	LR	04 11 38.0	
	comp=Z,161nm,18.6s,baz=219,slow=42						
BRTR	**Keskin Array B**	**30.66**	**285**	P	**P**	**04 04 11.6**	**+0.7**
	0.7nm,0.9s,baz=69,slow=8.2,SNR=4.1						
FINES	**FINESS Array B**	**37.07**	**324**	P	**P**	**04 05 05.7**	**-0.2**
	0.7nm,0.4s,baz=118,slow=11,SNR=5.6						
ARCES	**ARCESS Array B**	**40.23**	**336**	P	**P**	**04 05 32.5**	**+0.2**
	1.5nm,0.6s,baz=112,slow=8.2,SNR=12						
NOA	**NORSAR Array B**	**44.08**	**322**	P	**P**	**04 06 03.3**	**-0.4**
	0.9nm,0.8s,baz=90,slow=7.6,SNR=3.5						
OPO	**Ambohidratompo**	**61.60**	**208**	LR	LR	04 31 35.1	
	comp=Z,40nm,20.4s,baz=256,slow=33						
TORD	**Torodi Ar. Bea**	**67.55**	**269**	P	**P**	**04 08 51.2**	**-0.5**
	1.1nm,0.5s,baz=48,slow=5.8,SNR=22						
INK	**Inuvik**	**71.87**	**10**	P	**P**	**04 09 17.1**	**-0.3**
	1.4nm,0.6s,baz=340,slow=14,SNR=3.0						
YKA	**Yellowknife Ar**	**79.39**	**4**	P	**P**	**04 10 00.6**	**+0.2**
	0.8nm,0.5s,baz=1.7,slow=6.0,SNR=3.4						

*IDC **25** 04:15:18.1±4.3,36°17N×71°30E,h67km±31km,mb3.8/7, mb1 3.9/12,mb1mx3.5/62,mbtmp4.1/12,ML4.1/6,Error ellipse: s-maj=47.5km s-min=22.1km az=139.0*
*NEIC **25** 04:15:22.9±1.9,36°49N±0°.06×71°15E±0°.08,h102km±9km, mb4.0/9,Error ellipse: s-maj=9.7km s-min=8.7km az=222.0*

*NNC **25** 04:15:25.5±3.1,36°71N×71°08E,h155km±46km,mb4.0, mpv4.9,Error ellipse: s-maj=27.6km s-min=22.0km az=50.0*

ISC 25 04:15:21.5±0.6,36°42N±0°.05×71°19E±0°.06,h100km,n68, σ1s93/78,mb4.1/7,6C-7D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.56**	**224**	Pn	**Pn**	**04 16 04.8**	**+3.1**
CEP	**Cherat**	**2.66**	**167**	⇓P	**Pn**	**04 16 06.4**	**+3.6**
GAR	**Garm**	**2.67**	**345**	Pn	**Pn**	**04 16 03.9**	**+0.9**
CHGR	**Chuyangaron**	**2.76**	**325**	Pn	**Pn**	**04 16 04.4**	**+0.3**
NIL	**Nilore**	**3.24**	**148**	Pn	**Pn**	**04 16 13.8**	**+3.3**
THW	**Thamme Wali**	**3.64**	**173**	P	**Pn**	**04 16 18.9**	**+2.9**
BTK	**Batken**	**3.65**	**356**	Pn	**Pn**	**04 16 17.6**	**+1.7**
TAS	**Tashkent**	**5.12**	**344**	Pn	**Pn**	**04 16 36.5**	**+0.7**
THN	**Thein Dam**	**5.46**	**135**	*e*P	**Pn**	**04 16 42.5**	**+2.1**
THN				*e*S	**Sn**	**04 17 43.0**	**+1.1**
DHRM	**DHARAMSHALA**	**5.93**	**133**	*e*P	**Pn**	**04 16 48.8**	**+1.7**
DHRM				*e*S	**Sn**	**04 17 51.3**	**-2.4**
DHRM				IAML		04 17 58.1	
	comp=N,210nm,0.6s						
DHRM				IAML		04 17 58.2	
	comp=E,401nm,0.0s						
AML	**Almayashu**	**6.03**	**18**	P	**Pn**	**04 16 49.5**	**+1.1**
	SNR=260						
UCH	**Uchtor**	**6.35**	**23**	P	**Pn**	**04 16 53.9**	**+1.0**
	SNR=53						
KZA	**Kyzart**	**6.47**	**28**	P	**Pn**	**04 16 55.3**	**+0.8**
	SNR=34						
EKS2	**Erkin-Say**	**6.55**	**17**	P	**Pn**	**04 16 56.5**	**+1.1**
	SNR=86						
KK31	**Karatay Array**	**6.70**	**356**	⇓P	**Pn**	**04 16 57.7**	**+0.5**
	comp=E,60nm,0.3s,baz=177,slow=12,SNR=1222						
KK31				⇑S	**Sn**	**04 18 08.5**	**-3.5**
	comp=E,13nm,0.5s,baz=186,slow=24,SNR=4.2						
KK31	**Karatay Array**	**6.70**	**356**	Pn	**Pn**	**04 16 57.3**	**+0.1**
KKAR	**Karatay Array**	**6.70**	**356**	Pn	**Pn**	**04 16 57.2**	**0.0**
AAK	**Ala-Archa**	**6.71**	**21**	P	**Pn**	**04 16 59.0**	**+1.4**
	comp=E,28nm,0.3s,baz=170,slow=5.8,SNR=90						
AAK				S	**Sn**	**04 18 13.8**	**+1.1**
	comp=E,1.1nm,0.3s,baz=325,slow=20,SNR=7.7						
AAK	**Ala-Archa**	**6.71**	**21**	P	**Pn**	**04 16 59.0**	**+1.4**
	SNR=56						
AAK	**Ala-Archa**	**6.71**	**21**	⇓P	**Pn**	**04 16 59.0**	**+1.4**
	comp=E,42nm,0.4s						
AAK				⇑S	**Sn**	**04 18 13.5**	**+0.9**
	comp=E,20nm,0.6s						
KBK	**Karagaybulak**	**6.87**	**24**	P	**Pn**	**04 17 01.0**	**+1.2**
	SNR=11						
FRU1	**Bishkek**	**6.91**	**22**	Pn	**Pn**	**04 17 01.4**	**+1.2**
CHMS	**Chumysh**	**7.12**	**22**	P	**Pn**	**04 17 03.9**	**+0.9**
	SNR=20						
SMLA	**Simla**	**7.25**	**135**	*e*P	**Pn**	**04 17 05.7**	**+0.9**
SMLA				*e*S	**Sn**	**04 18 24.2**	**-1.4**
SMLA				IAML		04 18 27.1	
	comp=N,99nm,0.3s						
SMLA

NMR				*i* S		**Sb**	**04 49 20.7**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**1.02**	**312**	*i* P		**Pb**	**04 49 11.6**	**-0.4**
YUK				AMB	AMB		04 49 11.8	
	10.0nm,0.3s							
YUK				AMB	AMB		04 49 11.8	
	60nm,0.3s							
YUK				AMB	AMB		04 49 11.8	
	100nm,0.3s							
YUK				*i* S		**Sb**	**04 49 24.7**	**-0.4**
YUK				A	A		04 49 29.0	
	210nm,0.4s							
YUK				A	A		04 49 29.0	
	560nm,0.4s							
GRPR	**Tuman**	**1.04**	**308**	*i* P		**Pb**	**04 49 12.0**	**-0.4**
GRPR				AMB	AMB		04 49 12.0	
	110nm,0.4s							
GRPR				*i* S		**Sb**	**04 49 25.4**	**-0.3**
GRPR				A	A		04 49 26.0	
	170nm,0.4s							
GRPR				A	A		04 49 26.0	
	1µm,0.4s							
JKHN	**Kushirohamanak**	**1.30**	**259**	P		**Pb**	**04 49 16.0**	**-0.8**
JRA	**Rausu**	**1.42**	**295**	P		**Pn**	**04 49 17.4**	**+1.0**
JNSB	**Nemuroshibetsu**	**1.45**	**288**	P		**Pn**	**04 49 17.7**	**+1.0**
JNSB				*e*S		**Sn**	**04 49 35.3**	**+0.7**
JNK	**Nakash**	**1.61**	**279**	P		**Pn**	**04 49 19.6**	**+0.6**
JNK				*e*S		**Sn**	**04 49 38.6**	**0.0**
JAK	**Akkeshi**	**1.66**	**258**	P		**Pn**	**04 49 20.6**	**+1.0**
JAK				*e*S		**Sn**	**04 49 40.1**	**+0.3**
KUR	**Kuril'sk**	**2.00**	**20**	*e*P		**Pn**	**04 49 25.6**	**+1.2**
KUR				AMB	AMB		04 49 27.4	
	20nm,0.4s							
KUR				AMB	AMB		04 49 27.4	
	60nm,0.4s							
KUR				*e*S		**Sn**	**04 49 49.0**	**+0.7**
KUR				A	A		04 49 51.5	
	350nm,0.5s							
KUR				A	A		04 49 51.5	
	470nm,0.5s							
JTKR	**Abashiri--Toko**	**2.26**	**287**	P		**Pn**	**04 49 29.8**	**+1.8**
JAR	**Ashorobuto**	**2.29**	**270**	P		**Pn**	**04 49 29.8**	**+1.4**
JOB	**Onbets**	**2.29**	**260**	P		**Pn**	**04 49 29.9**	**+1.5**
JMP	**Maruseppu**	**2.65**	**285**	P		**Pn**	**04 49 35.6**	**+2.2**
JCH	**Churui**	**2.70**	**255**	P		**Pn**	**04 49 36.0**	**+2.0**
H11N2	**WAKE ISLAND Hy**	**28.92**	**138**	T		T	05 25 31.6	
	baz=330,slow=76,SNR=88							
H11N1	**WAKE ISLAND Hy**	**28.93**	**138**	T		T	05 25 30.7	
	baz=330,slow=76,SNR=90							
H11N3	**WAKE ISLAND Hy**	**28.94**	**138**	T		T	05 25 32.6	
	baz=330,slow=76,SNR=83							
H11S1	**WAKE ISLAND Hy**	**29.88**	**140**	T		T	05 26 39.7	
	baz=331,slow=76,SNR=136							
H11S3	**WAKE ISLAND Hy**	**29.88**	**140**	T		T	05 26 37.7	
	baz=331,slow=76,SNR=99							
H11S2	**WAKE ISLAND Hy**	**29.89**	**140**	T		T	05 26 44.2	
	baz=331,slow=76,SNR=86							
ILAR	**Eielson Array**	**41.91**	**36**	P		**P**	**04 56 40.8**	**+0.9**
	0.3nm,0.6s,baz=276,slow=8.8,SNR=5.3							
FINES	**FINESS Array B**	**65.15**	**333**	P		**P**	**04 59 29.1**	**-1.0**
	1.4nm,0.9s,baz=52,slow=7.2,SNR=5.2							
NOA	**NORSAR Array B**	**69.91**	**339**	P		**P**	**04 59 57.4**	**-3.0**
	0.8nm,0.7s,baz=38,slow=3.6,SNR=3.5							

*UPA **25** 05:30:26.4±3.0, 7°.61N×81°.85W, h0km±8km, MW4.2*
*UCR **25** 05:30:29.6±1.4, 7°.47N×82°.21W, h5km, MD3.8*

ISC 25 05:30:24.3±1.4, 7°.58N±0°.05×81°.95W±0°.03, h5km±10km, n51, σ1§44/69, 4C-6D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**0.73**	**76**	*i* P	**Pg**	**05 30 38.6**	**+0.2**
GMAL				*e*S	**Sg**	05 30 48.6	+0.6
RSUS3	**Rio de Jesus,**	**0.88**	**63**	*i* P	**Pg**	**05 30 41.5**	**+0.3**
CHIR3	**Chiriqui UPA,**	**0.89**	**335**	*e*P	**Pn**	**05 30 42.9**	**-0.6**
MARI3	**Mariato, Verag**	**0.96**	**86**	*i* P	**Pb**	**05 30 43.3**	**-0.1**
MARI3				*e*S	**Sb**	**05 30 56.2**	**-0.1**
PONU3	**Ponuga, Veragu**	**1.01**	**73**	*e*P	**Pg**	**05 30 43.4**	**-0.3**
PONU3				*e*S	**Sg**	**05 30 57.3**	**+0.4**
STIA3	**Santiago, Vera**	**1.10**	**62**	*i* P	**Pb**	**05 30 44.7**	**-1.1**
STIA3				*e*S	**Sn**	**05 31 00.8**	**-1.1**
CACAO	**El Cacao, Vera**	**1.11**	**102**	*i* P	**Pn**	**05 30 45.7**	**-0.7**
CACAO				*e*S	**Sn**	**05 31 01.6**	**-0.4**
SFRA3	**San Francisco,**	**1.18**	**56**	*i* P	**Pb**	**05 30 46.1**	**-1.0**
SFRA3				*e*S	**Sn**	**05 31 02.9**	**-0.9**
OCU3	**Ocu, Herrera**	**1.22**	**73**	*e*P	**Pn**	**05 30 47.1**	**-0.9**
OCU3				*e*S	**Sn**	**05 31 06.5**	**+1.7**
PTAR3	**Potrerillos Ar**	**1.23**	**334**	*e*P	**Pg**	**05 30 49.0**	**+1.1**
BCO2	**Palmira**	**1.27**	**333**	*e*P	**Pg**	**05 30 49.6**	**+1.0**
BCO2				*e*S	**Sn**	**05 31 08.1**	**+1.9**
CHGR2	**Aguacate**	**1.36**	**352**	*e*P	**Pn**	**05 30 49.9**	**0.0**
CHGR2				*e*S	**Sg**	**05 31 08.5**	**+0.4**
BRJ2	**Volcan**	**1.41**	**329**	*e*P	**Pg**	**05 30 52.7**	**+1.3**
TOSI3	**Tonosi**	**1.51**	**97**	*e*P	**Pg**	**05 30 52.0**	**-0.7**
TOSI3				*e*S	**Sb**	**05 31 11.7**	**-0.5**
CHIT3	**Chitre**	**1.56**	**76**	*e*P	**Pn**	**05 30 52.0**	**-0.7**
CHIT3				*e*S	**Sb**	**05 31 13.2**	**-0.6**
EDSV	**San Vito**	**1.59**	**321**	*e*P	**Pg**	**05 30 55.9**	**+1.1**
AZU	**Azuero**	**1.68**	**83**	*e*P	**Pn**	**05 30 54.4**	**+0.1**
AZU				*e*S	**Sb**	**05 31 17.1**	**+0.1**
PCRI3	**Pocri, Los San**	**1.82**	**87**	*i* P	**Pb**	**05 30 57.5**	**-0.6**
PCRI3				*e*S	**Sg**	**05 31 22.0**	**-0.9**
PNME	**Penonome**	**1.84**	**61**	*i* P	**Pn**	**05 30 56.9**	**+0.3**
PEDA3	**Pedasi**	**1.91**	**92**	*e*P	**Pb**	**05 30 59.5**	**-0.2**
PEDA3				*e*S	**Sb**	**05 31 22.8**	**-1.0**
EDPN	**Palmar Norte**	**2.02**	**313**	*e*P	**Pb**	**05 31 01.6**	**0.0**
EDBA	**Buenos Aires**	**2.04**	**320**	*e*P	**Pg**	**05 31 03.9**	**+0.4**
VTON	**El Valle, Cocl**	**2.09**	**61**	*e*P	**Pb**	**05 31 01.3**	**-1.4**
VTON				*e*S	**Sg**	**05 31 30.5**	**-1.0**
DRK0	**Durika**	**2.10**	**323**	*e*P	**Pb**	**05 31 03.4**	**+0.4**
DRK0				*e*S	**Sg**	**05 31 31.5**	**-0.4**
DRK0	**Durika**	**2.10**	**323**	*e*P	**Pb**	**05 31 03.5**	**+0.4**
DRK0				*e*S	**Sg**	**05 31 32.4**	**+0.4**
PEZE	**Perez Zeledon,**	**2.47**	**316**	*e*P	**Pb**	**05 31 09.6**	**+0.3**
ZANG	**Zanguenga, Cho**	**2.47**	**56**	*e*P	**Pn**	**05 31 05.9**	**+0.7**
EDDO	**Dominical**	**2.52**	**311**	*e*P	**Pb**	**05 31 10.4**	**+0.5**
BCIP	**Isla Barro Col**	**2.62**	**53**	*e*P	**Pb**	**05 31 09.5**	**-2.2**
CDM	**Cerro de Muert**	**2.65**	**318**	*e*P	**Pb**	**05 31 11.7**	**-0.9**
ARRA3	**Arraijan, Pana**	**2.66**	**59**	*e*P	**Pb**	**05 31 11.0**	**-1.3**
TABO3	**Taboga, Panama**	**2.66**	**63**	*e*P	**Pb**	**05 31 10.5**	**-1.9**
FLAM	**Flamenco Islan**	**2.73**	**61**	*e*S	**Sn**	**05 31 43.9**	**+1.7**
RIMA	**Rio Macho**	**2.88**	**319**	*e*P	**Pb**	**05 31 15.2**	**-1.0**
LCR2	**La Lucha 2**	**2.95**	**317**	*e*P	**Pb**	**05 31 15.6**	**-1.9**
HDC	**Heredia**	**3.22**	**319**	*e*P	**Pb**	**05 31 20.1**	**-1.9**
HDC				*e*S	**Sb**	**05 31 58.0**	**-3.6**
JACO	**JACO, Garabito**	**3.38**	**308**	*e*P	**Pb**	**05 31 21.0**	**-3.7**
SOLC	**Bahia Solano**	**4.71**	**106**	*e*P	**Pn**	**05 31 35.4**	**-0.6**
PRVC	**Isla de Provid**	**5.79**	**6**	*e*P	**Pn**	**05 31 51.1**	**+0.3**
CBOC	**Ciudad Bolivar**	**6.14**	**106**	*e*P	**Pn**	**05 31 55.9**	**0.0**
MOTC	**Monteria, Cord**	**6.34**	**79**	*e*P	**Pn**	**05 32 00.6**	**+2.2**
HELC	**Santa Helena**	**6.53**	**102**	*e*P	**Pn**	**05 32 02.4**	**+1.0**
YOTC	**Yotoco, Valle**	**6.63**	**122**	*e*P	**Pn**	**05 32 00.2**	**-2.3**
GUY2C	**Guyana, Caldas**	**6.95**	**109**	*e*P	**Pn**	**05 32 08.4**	**+1.1**
SJCC	**San Jacinto, C**	**7.08**	**71**	*e*P	**Pn**	**05 32 11.0**	**+2.4**
BBAC	**Balboa, Cauca**	**7.25**	**139**	*e*P	**Pn**	**05 32 11.5**	**+0.4**
POPC	**Popayan, Colom**	**7.26**	**133**	*e*P	**Pn**	**05 32 13.0**	**+1.7**
PTBC	**PUERTO BERRIO,**	**7.51**	**97**	*e*P	**Pn**	**05 32 18.1**	**+3.5**
ORTC	**Ortega, Tolima**	**7.61**	**118**	*e*P	**Pn**	**05 32 18.1**	**+2.2**
GCUF	**Volcan Galeras**	**7.81**	**144**	*e*P	**Pn**	**05 32 21.3**	**+2.3**
SPBC	**San Pablo de B**	**8.06**	**103**	*e*P	**Pn**	**05 32 26.0**	**+3.9**

IDC 25 05:40:53.5±11.0, 35°.48N×142°.40E, h0km, mb3.6/2, mb1 3.5/3, mb1mx3.3/40, mbtmp3.5/3, ML2.6/1, Error ellipse: s-maj=248.9km s-min=104.6km az=173.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**3.56**	**289**	Pn	Pn	05 41 49.6	-0.4
	0.6nm,0.3s,baz=106,slow=9.4,SNR=15						
MAT	**Matsushiro**	**3.56**	**289**	P	Pn	05 41 50.0	0.0
MAT				S	Sn	05 42 27.6	-5.3
H11N2	**WAKE ISLAND Hy**	**26.68**	**120**	T	T	06 15 44.5	
	baz=313,slow=75,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**26.68**	**120**	T	T	06 15 37.0	
	baz=313,slow=75,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	**26.69**	**120**	T	T	06 15 25.4	
	baz=313,slow=75,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**27.35**	**122**	T	T	06 16 43.9	
	baz=314,slow=75,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**27.35**	**122**	T	T	06 16 17.2	
	baz=314,slow=75,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**27.37**	**122**	T	T	06 16 18.8	
	baz=314,slow=75,SNR=5.2						
SONM	**Songino Array**	**29.33**	**306**	P	P	05 46 57.8	-0.1
	0.7nm,0.7s,baz=105,slow=9.7,SNR=3.8						
MKAR	**Makanchi Array**	**45.63**	**304**	P	P	05 49 15.5	0.0
	0.4nm,0.6s,baz=88,slow=12,SNR=4.0						

*NEIC **25** 05:51:07.1±2.6, 5°.2S±0°.1×150°.5E±0°.1, h124km±8km, mb4.3/10, Error ellipse: s-maj=24.0km s-min=9.9km az=129.0*
*IDC **25** 05:51:09.1±0.8, 5°.42S×150°.51E, h137km±8km, mb3.5/7, mb1 3.7/8, mb1mx3.4/39, mbtmp4.0/8, MS3.3/1, Ms1 3.3/1, ms1mx2.7/19, Error ellipse: s-maj=24.2km s-min=8.9km az=132.0*

ISC 25 05:51:09.2±0.7, 5°.3S±0°.1×150°.5E±0°.1, h150km, n23, σ1§46/26, mb4.1/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.80**	**59**	P	**Pn**	**05 51 41.8**	**-0.2**
	31nm,0.3s,baz=255,slow=2.0,SNR=10						
KRVT				S	**Sn**	**05 52 07.2**	**+0.1**
	15nm,0.3s,baz=76,slow=20,SNR=8.0						
RABL	**Rabaul**	**1.97**	**58**	Pn	**Pn**	**05 51 40.3**	**-3.7**
PMG	**Port Moresby**	**5.29**	**218**	P	**Pn**	**05 52 26.0**	**-0.4**
	9.2nm,0.3s,baz=38,slow=6.8,SNR=9.7						
PMG				S	**Sn**	**05 53 23.7**	**-3.1**
	43nm,0.3s,baz=359,slow=17,SNR=13						
COEN	**Coen**	**11.26**	**219**	Pn	**Pn**	**05 53 46.5**	**+0.6**
EIDS	**Eidsvold**	**20.02**	**178**	P	Pn	05 55 30.7	-3.0
EIDS				IAmb	IAmb	05 56 02.1	
	comp=Z,19nm,1.2s						
WB0	**Warramunga Arr**	**21.30**	**226**	P	**P**	**05 55 43.1**	**-1.1**
WB0				IAmb	IAmb	05 55 47.2	
	comp=Z,10nm,1.3s						
WB2	**Warramunga Arr**	**21.44**	**226**	P	**P**	**05 55 45.4**	**-0.4**
WB2				IAmb	IAmb	05 55 54.7	
	comp=Z,19nm,1.5s						
WRA	**Warramunga Arr**	**21.45**	**226**	P	**P**	**05 55 45.1**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=49,slow=10,SNR=8.6						
WRA				PcP	**PcP**	**05 59 45.1**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=34,slow=2.1,SNR=5.0						
WRA				ScP	**ScP**	**06 03 08.5**	**+2.1**
	comp=Z,0.7nm,0.8s,baz=49,slow=2.1,SNR=5.5						
DZM	**Mont Dzumac**	**22.77**	**139**	P	**P**	**05 55 59.4**	**+0.4**
	comp=Z,6.1nm,0.5s,baz=315,slow=10.0,SNR=13						
DZM	**Mont Dzumac**	**22.77**	**139**	P	**P**	**05 55 59.5**	**+0.5**
KNRA	**Kununurra**	**23.71**	**242**	P	**P**	**05 56 08.1**	**+0.4**
AS31	**Alice Springs**	**24.30**	**219**	P	**P**	**05 56 13.6**	**+0.6**
ASAR	**Alice Springs**	**24.30**	**219**	P	**P**	**05 56 13.5**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=51,slow=8.9,SNR=14						
ASAR				S	**S**	**06 00 20.2**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=42,slow=16,SNR=4.5						
ASAR				ScP	**ScP**	**06 03 16.4**	**+2.6**
	comp=Z,0.2nm,0.6s,baz=50,slow=2.0,SNR=4.3						
FITZ	**Fitzroy Crossi**	**27.43**	**240**	P	**P**	**05 56 41.8**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=74,slow=8.1,SNR=7.4						
FITZ	**Fitzroy Crossi**	**27.43**	**240**	P	**P**	**05 56 41.8**	**+0.7**
FITZ				IAmb	IAmb	05 57 09.5	
	comp=Z,12nm,1.2s						
DAV	**Davao City (W)**	**27.70**	**296**	LR	LR	06 07 28.9	
	comp=Z,57nm,18.8s,baz=168,slow=35						
STKA	**Stephens Creek**	**27.77**	**196**	P	**P**	**05 56 43.7**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=21,slow=17,SNR=6.2						
STKA	**Stephens Creek**	**27.77**	**196**	P	**P**	**05 56 44.2**	**+0.2**
MAJO	**Matsushiro**	**43.13**	**345**	P	**P**	**05 58 53.6**	**-1.2**
MAJO				IAmb	IAmb	05 58 56.2	
	comp=Z,11nm,1.3s						
MKAR	**Makanchi Array**	**79.16**	**319**	P	P	06 03 00.2	+2.8
	comp=Z,0.2nm,0.5s,baz=120,slow=4.5,SNR=3.0						
RND	**Reindeer**	**82.04**	**23**	P	**P**	**06 03 13.7**	**+1.3**
RND				IAmb	IAmb	06 03 47.7	
	comp=Z,12nm,1.6s						
ILAR	**Eielson Array**	**83.44**	**23**	P	**P**	**06 03 19.9**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=250,slow=5.0,SNR=6.7						
TORD	**Torodi Ar. Bea**	**148.24**	**286**	PKPbc	**PKPab**	**06 10 40.8**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=88,slow=2.4,SNR=5.1						

*GII **25** 06:01:14.6±0.0, 32°.74N×47°.92E, h2km*
*THR **25** 06:01:30.9±0.9, 32°.71N×47°.18E, h14km±8km, ML4.5*
*NEIC **25** 06:01:36.1±2.3, 32°.70N±0°.05×47°.71E±0°.05, h10km±1km, Error ellipse: s-maj=8.8km s-min=6.4km az=220.0*
*MOS **25** 06:01:36.1±1.4, 32°.75N×47°.86E, h16km, mb5.0/40, Error ellipse: s-maj=5.8km s-min=3.3km az=111.7*
*TEH **25** 06:01:36.5, 32°.74N×47°.71E, h12km, ML4.7*
*IDC **25** 06:01:38.2±2.9, 32°.71N×47°.71E, h25km±19km, mb4.2/26, mb1 4.2/33, mb1mx4.2/51, mbtmp4.3/33, ML4.3/6, MS3.9/35, Ms1 3.9/35, ms1mx3.8/57, Error ellipse: s-maj=15.2km s-min=11.2km az=177.0*
*OMAN **25** 06:01:44.1, 31°.91N×47°.61E, h30km, mb5.2/16, ms3.7/3*

ISC 25 06:01:37.9±0.3, 32°.69N±0°.03×47°.69E±0°.03, h23km, n456, σ2§19/445, mb4.7/115, MS4.1/35, 32C-17D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.35**	**269**	*e*Pg	**Pb**	**06 01 43.8**	**-1.8**
DHL1				*e*Sg	**Sb**	**06 01 49.7**	**-1.0**
IKFM	**Kafar-mosalman**	**0.84**	**9**	*e*Pg	**Pb**	**06 01 52.0**	**-1.9**
IKFM				*e*		06 02 11.6	
IKFM	**Kafar-mosalman**	**0.84**	**9**	Pg	**Pb**	**06 01 52.0**	**-1.9**
IKMR	**Kamar-syah**	**1.01**	**35**	*e*Pg	**Pn**	**06 01 54.8**	**-1.9**
IKMR				*e*		06 02 13.8	
IKMR	**Kamar-syah**	**1.01**	**35**	Pg	**Pn**	**06 01 55.0**	**-1.7**
SHGR	**Shooshtar-Gavs**	**1.10**	**121**	*e*Pg	**Pb**	**06 01 58.4**	**+0.1**
SHGR				*e*Sg	**Sn**	**06 02 18.1**	**+5.7**
SHGR				IAML		06 02 50.5	
	comp=E,5µm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.10**	**121**	*e*Pg	**Pb**	**06 01 58.4**	**+0.1**
SHGR	**Shooshtar-Gavs**	**1.10**	**121**		**Pn**	**06 01 58.0**	**+0.1**
IDOB	**Doab**	**1.17**	**20**	*e*Pg	**Pn**	**06 01 57.4**	**-1.7**
IDOB	**Doab**	**1.17**	**20**		**Pn**	**06 01 57.0**	**-2.1**
BMDN	**Meydan**	**1.36**	**44**	*e*Pg	**Pn**	**06 02 01.2**	**-0.6**
BMDN				*e*		06 02 32.5	
BMDN	**Meydan**	**1.36**	**44**		**Pn**	**06 02 01.0**	**-0.8**
IKOM	**Komasi**	**1.49**	**354**	*e*		06 02 30.8	
IKOM				*e*Pg	**Pb**	**06 02 04.4**	**-0.7**
IKOM	**Komasi**	**1.49**	**354**		**Pn**	**06 02 04.0**	**+0.5**
AHWZ	**Ahwaz**	**1.57**	**149**	*e*Sg	**Sb**	**06 02 29.9**	**+4.1**
AHWZ				*e*Pg	**Pb**	**06 02 06.0**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.68**	**341**	*e*		06 02 39.4	
KCHF				*e*Pg	**Pb**	**06 02 07.6**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.68**	**341**	Pg	**Pb**	**06 02 08.0**	**-0.2**
HSAM	**Samen**	**1.70**	**26**	*e*Pg	**Pn**	**06 02 07.0**	**+0.6**
HSAM	**Samen**	**1.70**	**26**	Pg	**Pn**	**06 02 07.0**	**+0.6**
KER	**Kermanshah**	**1.76**	**345**	*e*Pg	**Pb**	**06 02 08.9**	**-0.7**
IBZA	**Bozab**	**1.78**	**4**	*e*		06 02 39.1	
IBZA				*e*Pg	**Pb**	**06 02 09.6**	**-0.5**
IGHG	**Ghaleghazi**	**1.89**	**330**	*e*Pg	**Pb**	**06 02 10.8**	**-1.1**
IGHG				*e*		06 02 57.5	
IGHG	**Ghaleghazi**	**1.89**	**330**	Pg	**Pb**	**06 02 11.0**	**-0.9**
IVIS	**Veis**	**1.96**	**339**	*e*Pn	**Pn**	**06 02 11.3**	**+1.4**
IVIS				*e*		06 02 47.2	
IVIS	**Veis**	**1.96**	**339**	Pn	**Pn**	**06 02 11.0**	**+1.1**
KHMZ	**Khomeyn**	**2.17**	**60**	*e*Pn	**Pn**	**06 02 14.4**	**+1.5**
KHMZ	**Khomeyn**	**2.17**	**60**	*e*Pn	**Pn**	**06 02 14.4**	**+1.5**
KHMZ	**Khomeyn**	**2.17**	**60**	Pn	**Pn**	**06 02 14.0**	**+1.1**
IALM	**Almabolaq**	**2.20**	**10**	*e*Pn	**Pn**	**06 02 15.4**	**+2.0**
IDHR	**Dehrash**	**2.28**	**332**	*e*Pn	**Pn**	**06 02 16.0**	**+1.6**
IDHR				*e*		06 02 57.2	
IDHR	**Dehrash**	**2.28**	**332**	Pn	**Pn**	**06 02 16.0**	**+1.6**
ILIN	**Lien**	**2.31**	**345**	*e*Pn	**Pn**	**06 02 16.6**	**+1.8**
ILIN				*e*		06 02 55.4	
ILIN	**Lien**	**2.31**	**345**	Pn	**Pb**	**06 02 17.0**	**-2.0**
SNGE	**Sanandaj**	**2.42**	**353**	*e*Pn	Pn	06 02 11.3	-5.0
SNGE				*e*Sg	**Sn**	**06 02 45.5**	**+0.3**
SNGE				IAML		06 02 58.7	
	comp=N,2µm,0.5s						
HAGD	**Aghdareh**	**2.45**	**29**	*e*Pn	**Pn**	**06 02 19.0**	**+2.3**
HAGD				*e*		06 03 02.2	
JHBN	**Jahan bin**	**2.55**	**99**	*e*Pn	**Pn**	**06 02 19.7**	**+1.5**
JHBN				*e*		06 03 09.7	
HSRG	**Sareghieh**	**2.59**	**11**	*e*Pn	**Pn**	**06 02 20.6**	**+1.8**
ASAO	**Ashtian**	**2.69**	**46**	*e*Pn	**Pn**	**06 02 21.0**	**+1.0**
ASAO	**Ashtian**	**2.69**	**46**	*e*Pn	**Pn**	**06 02 21.0**	**+1.0**
IPIR	**Pirpir**	**2.70**	**89**	*e*Pn	**Pn**	**06 02 21.6**	**+1.4**
IPIR				*e*		06 03 07.8	
ROKH	**ROKH**	**2.84**	**96**	*e*Pn	**Pn**	**06 02 23.3**	**+1.2**
IBRJ	**Brojen**	**3.12**	**103**	*e*Pn	**Pn**	**06 02 27.0**	**+1.1**
IRAZ	**Razeghan**	**3.29**	**34**	*e*Pn	**Pn**	**06 02 31.1**	**+2.9**
IKLH	**Kolahrood**	**3.33**	**78**	*e*Pn	**Pn**	**06 02 31.4**	**+2.6**
IKLH				*e*		06 03 30.0	
QABG	**Abgarm-Qazvin**	**3.40**	**27**	*e*Pn	**Pn**	**06 02 31.4**	**+1.7**
IQOM	**Qom**	**3.54**	**52**	*e*Pn	**Pn**	**06 02 33.6**	**+1.9**
IGAR	**Gharneh**	**3.68**	**93**	*e*Pn	**Pn**	**06 02 35.1**	**+1.4**
KLNJ	**Kolanjah**	**3.72**	**116**	*e*Pn	**Pn**	**06 02 34.9**	**+0.7**
KLNJ				*e*		06 03 44.7	
IMHD	**Mahdasht**	**3.88**	**39**	*e*Pn	**Pn**	**06 02 38.8**	**+2.6**
IZEF	**Zefreh**	**3.91**	**86**	*e*Pn	**Pn**	**06 02 38.8**	**+2.0**
QSDN	**Sirdan**	**4.00**	**17**	*e*Pn	**Pn**	**06 02 40.4**	**+2.4**
IHSB	**Hasanabad**	**4.05**	**46**	*e*Pn	**Pn**	**06 02 40.6**	**+2.1**
IRAM	**Ramesheh**	**4.07**	**101**	*e*Pn	**Pn**	**06 02 39.6**	**+0.6**
IVRN	**Varamin**	**4.07**	**54**	*e*Pn	**Pn**	**06 02 40.4**	**+1.5**
IGZV	**Ghazvin**	**4.24**	**29**	*e*Pn	**Pn**	**06 02 43.0**	**+1.7**
MAHB	**Mahabad**	**4.39**	**339**	*e*Pn	**Pn**	**06 02 44.9**	**+1.6**
QALM	**Alamut, Qazvin**	**4.46**	**32**	*e*Pn	**Pn**	**06 02 45.9**	**+1.5**
DAMV	**Damavand**	**4.60**	**49**	*e*Pn	**Pn**	**06 02 46.8**	**+0.4**
DAMV	**Damavand**	**4.60**	**49**	*e*Pn	**Pn**	**06 02 46.8**	**+0.4**
IDMV	**Damavand**	**4.61**	**50**	*e*Pn	**Pn**	**06 02 47.6**	**+1.1**
ANAR	**Anarak**	**5.10**	**83**	*e*Pn	**Pn**	**06 02 54.2**	**+1.1**
IFIR	**Firoozkooh**	**5.13**	**54**	*e*Pn	**Pn**	**06 02 54.9**	**+1.4**
ISRB	**Sarab**	**5.13**	**360**	*e*Pn	**Pn**	**06 02 56.3**	**+2.8**
ILAS	**Lasjerd**	**5.13**	**57**	*e*Pn	**Pn**	**06 02 55.2**	**+1.6**
ISAD	**Sadrabad**	**5.13**	**97**	*e*Pn	**Pn**	**06 02 54.7**	**+1.1**
IAZR	**Azarshahr**	**5.17**	**345**	*e*Pn	**Pn**	**06 02 56.3**	**+2.1**
IPRN	**Peran**	**5.22**	**46**	*e*Pn	**Pn**	**06 02 57.0**	**+2.2**
IALA	**Alasht**	**5.42**	**50**	*e*Pn	**Pn**	**06 02 59.9**	**+2.3**
ISHM	**Shahmirzad**	**5.58**	**55**	*e*Pn	**Pn**	**06 03 01.0**	**+1.2**
IHRS	**Heris**	**5.64**	**355**	*e*Pn	**Pn**	**06 03 03.3**	**+2.7**
ICHK	**Chekchek**	**5.69**	**93**	*e*Pn	**Pn**	**06 03 02.5**	**+1.2**
IANJ	**Anjilo**	**5.86**	**60**	*e*Pn	**Pn**	**06 03 03.8**	**+0.2**
IMEH	**Mehriz**	**6.02**	**101**	*e*Pn	**Pn**	**06 03 06.0**	**+0.2**
LKRN	**Lenkeran, Azer**	**6.08**	**8**	P	**Pn**	**06 03 09.9**	**+3.6**
IMRD	**Marand**	**6.23**	**345**	*e*Pn	**Pn**	**06 03 11.9**	**+3.3**
IGLO	**Ghaloghah**	**6.33**	**51**	*e*Pn	**Pn**	**06 03 12.7**	**+2.7**
GEVA	**Gevas**	**6.77**	**327**	Pn	**Pn**	**06 03 16.9**	**+1.0**
TPRV	**Parvadeh(Tabas**	**7.57**	**85**	*e*Pn	**Pn**	**06 03 27.8**	**+0.8**
KHGB	**Koh Gabri**	**7.84**	**105**	*e*Pn	**Pn**	**06 03 32.4**	**+1.6**
TKDS	**Koohdasht(Taba**	**7.96**	**81**	*e*Pn	**Pn**	**06 03 33.2**	**+0.9**
GANJ	**Ganja**	**8.02**	**352**	P	**Pn**	**06 03 31.7**	**-1.3**
SEKA	**Sheki**	**8.52**	**357**	P	**Pn**	**06 03 40.2**	**+0

MHTO MHTO 14.82 139 P Pn 06 05 04.4 -1.7
BOLV Bolvadin 14.87 299 P 06 05 11.8 -0.6
ISP Isparta 14.93 295 P P 06 05 12.0 -1.0
ISP Isparta 14.93 295 P 06 05 12.0 -1.0
ELL Elmali 15.18 290 P P 06 05 14.7 -1.1
ELL pmax pmax
comp=Z,128nm,1.0s
ELL Elmali 15.18 290 P P 06 05 14.7 -1.1
MDUB Mudurnu 15.35 305 P 06 05 16.7 -1.0
WHFO Wadi Hawf 15.69 158 P Pn 06 05 13.0 -4.7
SNR=62
ABTO Aybut 16.08 160 P Pn 06 05 19.6 -3.1
RBK Rabkut 16.22 157 P Pn 06 05 21.5 -2.9
DMTO DMTO 16.28 155 P Pn 06 05 22.0 -3.2
SNR=22
DMTO S Sn 06 08 16.0 -9.1
SNR=10
YER Yerkesik 16.52 291 P P 06 05 34.8 +4.1
KULA Kula-Manisa 16.53 296 P P 06 05 31.9 +1.2
MANT Manisa 16.60 296 P P 06 05 35.5 +3.8
KBL Kabul 17.88 78 P Pn 06 05 45.7 +0.3
KBL pmax pmax
comp=Z,39nm,1.3s
KBL Kabul 17.88 78 P Pn 06 05 45.6 +0.3
CHGR Chuyangaron 18.41 65 P P 06 05 49.9 -1.7
CHGR IAmb IAmb 06 05 57.0
comp=Z,29nm,0.7s
APE Apeiranthos 18.69 290 *i* P Pn 06 05 59.1 +4.0
APE pmax pmax
comp=Z,77nm,1.6s
AB31 Akbulak array 18.92 25 P P 06 05 56.5 -0.4
VRH Novokhopyorsk 19.02 348 *e*P P 06 05 57.7 -0.3
VRH *e*S Sn 06 09 21.8 -9.2
VRH pmax pmax
comp=Z,60nm,0.7s
VRH smax smax
comp=N,50nm,0.7s
TIRR Tirgusor 19.06 314 ⇑P Pn 06 06 01.8 +2.4
TIRR Tirgusor 19.06 314 ⇑P Pn 06 06 01.8 +2.4
IDI Anoyia 19.08 284 P Pn 06 05 59.7 -0.1
comp=N,2.2nm,0.3s,baz=76,slow=13,SNR=11
IDI Anoyia 19.08 284 P Pn 06 06 00.5 +0.7
IDI Anoyia 19.08 284 ⇓P Pn 06 06 00.7 +0.9
IDI Anoyia 19.08 284 P Pn 06 06 00.7 +0.9
IDI IAmb IAmb 06 06 09.8
comp=Z,88nm,1.3s
ALN Alexandroupoli 19.14 301 P Pn 06 06 02.7 +2.3
ALN pmax pmax
comp=Z,22nm,0.8s
ALN Alexandroupoli 19.14 301 P Pn 06 06 02.7 +2.3
NEF NEVSHA 19.20 309 *e*P Pn 06 06 04.1 +2.9
TLCR 19.22 316 ⇓P Pn 06 06 03.7 +2.5
TLCR 19.22 316 ⇓P Pn 06 06 03.7 +2.5
TOPG Topolog 19.30 315 ⇑P Pn 06 06 03.1 +0.8
AKTO Aktyubinsk 19.31 20 P P 06 06 01.5 +0.3
comp=Z,2.2nm,0.3s,baz=208,slow=11,SNR=20
AKTO LR LR 06 17 08.4
comp=Z,146nm,18.8s,baz=200,slow=48
GAR Garm 19.37 65 P P 06 06 01.6 -0.5
GAR IAmb IAmb 06 06 09.1
comp=Z,61nm,1.1s
HARR Harsova 19.48 314 ⇑P Pn 06 06 07.3 +2.9
HARR Harsova 19.48 314 ⇑P Pn 06 06 07.3 +2.9
VSR Storozhevoye 19.55 344 *e*P P 06 06 02.1 -1.7
VSR *e*S S 06 09 37.7 -5.4
VSR pmax pmax
comp=Z,120nm,1.1s
VSR smax smax
comp=E,20nm,0.7s
RDO Rodhopi 19.59 302 P Pn 06 06 08.4 +2.7
CFR Carcaliu 19.61 315 ⇓P Pn 06 06 06.4 +0.4
CFR Carcaliu 19.61 315 ⇓P Pn 06 06 06.4 +0.4
VAM Vamos 19.65 284 P Pn 06 06 07.0 +0.5
VORR Voronezh 19.96 344 *e*P Pn 06 06 10.0 -0.1
VORR pmax pmax
comp=Z,350nm,1.6s
BTK Batken 19.99 62 P P 06 06 09.0 +0.2
BTK pmax pmax
comp=Z,56nm,1.5s
BTK Batken 19.99 62 P P 06 06 09.0 +0.2
BTK IAmb IAmb 06 06 19.4
comp=Z,56nm,1.4s
KYMI Kymi, Euboea I 20.04 294 P P 06 06 09.1 -0.2
DION Dionisos Attik 20.08 292 P Pn 06 06 12.8 +1.1
SZH Strazhica 20.09 308 *e*P Pn 06 06 13.0 +1.3
PTL Penteli 20.13 292 P Pn 06 06 12.7 +0.4
ANKY Antikythira Is 20.39 286 P P 06 06 14.1 +1.0
ISR Istrita 20.55 313 ⇑P Pn 06 06 18.3 +1.2
ISR Istrita 20.55 313 ⇑P Pn 06 06 18.3 +1.2
VLI Veliai 20.73 288 P P 06 06 15.8 -1.0
KK31 Karatay Array 20.73 53 P P 06 06 16.5 -0.3
KK31 pmax pmax
comp=Z,12nm,1.0s
KK31 Karatay Array 20.73 53 P P 06 06 16.5 -0.3
KKAR Karatay Array 20.73 53 P P 06 06 16.5 -0.3
KKAR pmax pmax
comp=Z,12nm,1.0s
KKAR Karatay Array 20.73 53 P P 06 06 16.5 -0.3
VRI Vrincioaia 20.82 315 ⇑P Pn 06 06 21.6 +1.4
VRI Vrincioaia 20.82 315 ⇑P Pn 06 06 21.6 +1.4
NEHR Nehoiu 20.85 314 ⇓P Pn 06 06 22.6 +2.0
NVR Nevrokopi 20.85 301 P P 06 06 17.5 -0.6
PLOR Plostina 20.86 315 ⇑P Pn 06 06 21.5 +0.8
PLOR Plostina 20.86 315 ⇑P Pn 06 06 21.5 +0.8
LPSR Galich'ya Gora 20.89 345 *e*P P 06 06 17.9 -0.5
LPSR *e*S S 06 10 04.0 -6.1
LPSR pmax pmax
comp=Z,350nm,1.2s
LPSR smax smax
comp=E,290nm,1.9s
SRS Serrai 20.98 300 P Pn 06 06 22.4 +0.2
PGB Panagyurishte 21.02 305 *e*P P 06 06 22.3 +2.4
MLR Muntele Rosu 21.10 314 ⇓P P 06 06 24.6 +3.7
MLR Muntele Rosu 21.10 314 P P 06 06 21.6 +0.8
MLR pmax pmax
comp=Z,80nm,1.3s
MLR Muntele Rosu 21.10 314 P P 06 06 21.6 +0.8
MLR IAmb IAmb 06 06 35.3
comp=Z,80nm,1.3s
HORT Hortiatis 21.21 299 P P 06 06 25.1 +3.1
TESR Tescani 21.21 317 ⇑P P 06 06 23.9 +2.0
SORM Soroca 21.24 322 ⇓P P 06 06 24.1 +1.9
SORM Soroca 21.24 322 ⇓P P 06 06 24.1 +1.9
THE Thessaloniki 21.32 299 P P 06 06 24.2 +1.1
NIL Nilore 21.40 80 P P 06 06 23.9 -0.3
NIL pmax pmax
comp=Z,69nm,1.3s
NIL Nilore 21.40 80 P P 06 06 23.9 -0.3
NIL IAmb IAmb 06 06 30.2
comp=Z,69nm,1.3s
AGG Agios Georgios 21.47 294 P P 06 06 25.9 +1.1
AGG pmax pmax
comp=Z,41nm,1.1s
AGG Agios Georgios 21.47 294 P P 06 06 25.9 +1.1
AGG IAmb IAmb 06 06 36.8
comp=Z,41nm,1.1s
KKB Krupnik 21.56 302 *e*P P 06 06 31.2 +5.5
ITM Ithomi 21.57 289 P P 06 06 26.7 +0.8
ITM Ithomi 21.57 289 P P 06 06 25.9 +0.1
ITM IAmb IAmb 06 06 35.2
comp=Z,40nm,1.0s
VOIR 21.62 313 ⇑P P 06 06 28.0 +1.6
VOIR 21.62 313 ⇑P P 06 06 28.0 +1.6
MAKR Makrakomi, Fth 21.62 294 P P 06 06 29.3 +2.9
DOPR Dopca 21.67 314 ⇑P P 06 06 28.4 +1.5
ANX Ano Chora 21.72 293 P P 06 06 29.9 +2.3
AMT Artemida-Makis 21.77 290 P P 06 06 31.2 +3.2
DRO Drossia 21.81 291 P P 06 06 27.8 -0.6
ARR Arges 21.85 312 ⇑P P 06 06 30.9 +2.1
AKASG Malin Array Be 22.57 328 P P 06 06 34.7 -1.6
comp=Z,4.6nm,0.5s,baz=140,slow=10,SNR=12
AKASG Malin Array Be 22.57 328 *ce*P P 06 06 38.0 +1.6
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKBB Malin Array Si 22.57 328 P P 06 06 35.0 -1.4
AKBB pmax pmax
comp=Z,24nm,1.1s
AKBB Malin Array Si 22.57 328 P P 06 06 35.0 -1.4
AKBB IAmb IAmb 06 06 44.2
comp=Z,24nm,1.1s
BURAR Bucovina Array 22.63 318 ⇓P P 06 06 39.3 +2.0
BURAR Bucovina Array 22.63 318 ⇓P P 06 06 39.3 +2.0
BUR08 Bucovina Ar. S 22.66 318 P P 06 06 37.0 -0.5

HERR Herculane 23.06 309 ⇑P P 06 06 41.9 +0.3
CJR Cluj-Napoca 23.12 314 ⇑P P 06 06 42.1 -0.1
CJR Cluj-Napoca 23.12 314 ⇑P P 06 06 42.1 -0.1
AAK Ala-Archa 23.34 57 LR LR 06 17 13.1
comp=Z,664nm,18.6s,baz=253,slow=40
AAK Ala-Archa 23.34 57 *ce*P P 06 06 46.6 +1.9
AAK pmax pmax
comp=Z,15nm,2.5s
AAK Ala-Archa 23.34 57 P P 06 06 46.8 +2.2
MDVR Moldovita 23.48 308 ⇑P P 06 06 46.7 +0.7
OBN Obninsk 23.75 344 P P 06 06 48.4 +0.1
comp=Z,7.2nm,0.3s,baz=178,slow=5.5,SNR=8.5
OBN LR LR 06 16 47.1
comp=Z,76nm,18.2s,baz=160,slow=38
OBN Obninsk 23.75 344 *d* iP P 06 06 48.5 +0.2
OBN pmax pmax
comp=Z,124nm,1.3s
OBN MLR MLR
comp=Z,248nm,15.0s
OBN Obninsk 23.75 344 P P 06 06 48.9 +0.6
KSH Kashi 23.78 65 *e*P P 06 06 45.9 -3.1
KSH pP pP 06 06 47.6 -8.2
KSH S S 06 10 53.3 -10
KSH pmax pmax
comp=Z,44nm,1.3s
KSH pmax pmax
comp=Z,170nm,3.0s
KSH LR LR
comp=N,370nm,10.7s
KSH LR LR
comp=E,320nm,11.2s
KSH LR LR
comp=Z,2μm,13.9s
KSH pmax pmax
comp=Z,500nm,3.0s
BZS Buzias 23.87 310 ⇑P P 06 06 50.3 +0.8
BZS Buzias 23.87 310 ⇑P P 06 06 50.3 +0.8
MOS Moscow 24.10 346 *e*P P 06 06 50.5 -1.1
MOS *e* 06 07 19.8
MOS *e*S S 06 11 06.5 -1.2
MOS pmax pmax
comp=Z,41nm,0.6s
SIRR Siria 24.11 312 ⇓P P 06 06 53.3 +1.4
DIVS Divibare 24.40 306 P P 06 06 54.5 -0.2
DIVS IAmb IAmb 06 07 04.5
comp=Z,28nm,1.2s
LVV L'vov 24.52 321 *e*P P 06 06 55.3 -0.3
LVV *e*S S 06 11 13.4 -1.3
LVV pmax pmax
comp=Z,120nm,1.8s
LVV smax smax
comp=N,150nm,2.5s
LVV smax smax
comp=E,230nm,2.5s
UZH Uzhgorod 24.83 317 *e*P P 06 07 00.2 +1.9
UZH *i* 06 07 02.2
UZH *e* 06 07 08.9
ARU Arti 24.91 14 P P 06 06 59.1 +0.2
comp=E,2.4nm,0.4s,baz=192,slow=9.7,SNR=16
ARU Arti 24.91 14 *d* iP P 06 06 59.5 +0.6
ARU 06 07 30.9
ARU S S 06 11 21.3 +0.5
ARU SS SnSn 06 12 10.7 +1.3
ARU pmax pmax
comp=Z,43nm,1.4s
ARU MLR MLR
comp=Z,234nm,17.0s
ARU Arti 24.91 14 P P 06 06 59.0 0.0
ARU IAmb IAmb 06 07 02.4
comp=Z,41nm,1.3s
KOLS Kolonicke sedl 25.00 318 *e*P P 06 07 01.0 +1.1
KOLS Kolonicke sedl 25.00 318 *e*P P 06 07 00.9 +1.1
KDJ Kajisay 25.14 60 P P 06 07 01.5 0.0
KDJ pmax pmax
comp=Z,11nm,0.8s
KDJ Kajisay 25.14 60 P P 06 07 01.5 0.0
KDJ IAmb IAmb 06 07 06.9
comp=Z,10nm,0.8s
CRVS Cervenica-Dubn 25.45 317 *e*P P 06 07 05.0 +1.1
CRVS pmax pmax
comp=Z,57nm,1.0s
CRVS Cervenica-Dubn 25.45 317 *e*P P 06 07 05.0 +1.1
TARG Taragay, Kyrgy 25.52 61 P P 06 07 03.7 -1.4
TARG IAmb IAmb 06 07 08.9
comp=Z,9.1nm,0.7s
STON Ston 25.67 302 *i* P P 06 07 06.6 +0.6
SVE Sverdlovsk 25.74 16 *e*P P 06 07 07.2 +0.7
SVE *e*S S 06 11 37.7 +3.7
SVE pmax pmax
comp=Z,22nm,1.0s
TIP Timpagrande 25.79 293 ⇓P P 06 07 09.2 +1.9
TIP Timpagrande 25.79 293 P P 06 07 08.0 +0.7
TIP IAmb IAmb 06 07 13.0
comp=Z,19nm,0.9s
KECS Kecovo 25.81 316 *e*P P 06 07 09.8 +2.6
KECS pmax pmax
comp=Z,36nm,1.0s
KECS Kecovo 25.81 316 *e*P P 06 07 09.8 +2.6
PSZ Piszkesteto 25.91 314 P P 06 07 09.1 +0.8
PSZ pmax pmax
comp=Z,52nm,1.0s
PSZ Piszkesteto 25.91 314 P P 06 07 09.1 +0.8
KIRV Kirov 25.93 2 P P 06 07 08.0 -0.1
comp=Z,19nm,0.4s,baz=190,slow=9.1,SNR=14
MICGM Minsk 25.93 333 ⇓ *e*P P 06 07 07.0 -1.2
MICGM PM 06 07 14.0
comp=Z,0.3nm,2.0s
MNK Minsk 25.93 333 *e*P P 06 07 07.0 -1.2
MNK pmax pmax
comp=Z,310nm,2.0s
BRVK Borovoye 26.04 32 *ce*P P 06 07 09.4 +0.1
BRVK pmax pmax
comp=Z,20nm,1.7s
BRVK Borovoye 26.04 32 P P 06 07 08.5 -0.8
BVA0 Borovoye Array 26.07 32 *i* P P 06 07 09.5 0.0
BVAR Borovoye Array 26.07 32 P P 06 07 09.6 +0.1
comp=Z,5.7nm,0.5s,baz=224,slow=8.1,SNR=26
BVAR PcP PcP 06 10 36.6 -0.2
comp=Z,0.9nm,0.4s,baz=159,slow=2.0,SNR=5.0
BVAR ScP ScP 06 14 13.8 -1.2
comp=Z,0.9nm,0.5s,baz=242,slow=3.1,SNR=5.0
BVAR LR LR 06 19 28.6
comp=Z,352nm,19.7s,baz=296,slow=41
RICI Ricice 26.22 303 P P 06 07 12.3 +1.3
NIE Niedzica 26.36 317 *e*P P 06 07 13.5 +1.2
CEL Celeste 26.41 291 P P 06 07 11.7 -1.1
VYHS Vyhne 26.80 315 *e*P P 06 07 21.9 +5.7
VYHS pmax pmax
comp=Z,12nm,1.1s
VYHS Vyhne 26.80 315 *e*P P 06 07 21.9 +5.7
KIJV Kijevo 26.86 304 *i* P P 06 07 17.1 +0.3
IDID Didziasalis 26.98 333 *e*P P 06 07 18.8 +1.1
OJC Ojcow 27.04 319 *e*P P 06 07 18.8 +0.5
OJC Ojcow 27.04 319 P P 06 07 18.5 +0.2
OJC pmax pmax
comp=Z,37nm,1.0s
OJC Ojcow 27.04 319 P P 06 07 18.5 +0.2
ZIRJ Zirje 27.31 303 *i* P P 06 07 23.4 +2.6
MORI Morici 27.32 303 *i* P P 06 07 20.1 -0.8
ISAL Salakas 27.40 333 *e*P P 06 07 20.2 -1.3
ISAL IAmb IAmb 06 07 29.4
comp=Z,19nm,1.0s
IZAR Zarasai 27.49 333 *e*P P 06 07 23.0 +0.8
JAVC Velka Javorina 27.65 315 *e*P P 06 07 25.2 +1.3
DUGI Dugi Otok 27.80 303 *i* P P 06 07 25.0 -0.2
MORC Moravsky Berou 28.12 316 *e*P P 06 07 27.8 -0.3
MORC Moravsky Berou 28.12 316 P P 06 07 27.6 -0.5
MORC pmax pmax
comp=Z,10.0nm,0.9s
MORC Moravsky Berou 28.12 316 P P 06 07 27.6 -0.5
MORC IAmb IAmb 06 07 34.5
comp=Z,9.9nm,0.9s
PABE Paberze 28.21 331 *e*P P 06 07 28.7 0.0
ARSA Arzberg 28.39 310 *i* sP sP 06 07 36.0 -4.4
comp=Z,7.7nm,1.0s
CONA Conrad Observa 28.41 312 *i* pP P 06 07 32.4 +1.8
comp=Z,8.3nm,0.8s
VRAC Vranov 28.48 315 P P 06 07 32.0 +0.7
comp=Z,3.9nm,0.7s,baz=85,slow=5.3,SNR=4.3
VRAC Vranov 28.48 315 *e*P P 06 07 31.5 +0.3
VRAC Vranov 28.48 315 P P 06 07 32.0 +0.7
KRUC Moravsky 28.50 314 *e*P P 06 07 31.0 -0.4
KLMR Klimovskoe 28.68 352 *e*P P 06 07 30.9 -1.9
KLMR pmax pmax
comp=Z,15nm,0.8s
KLMR Klimovskoe 28.68 352 *e*P P 06 07 30.9 -1.9
KLMR AMP 06 07 36.8
comp=Z,15nm,0.8s
KRLC Kraliky 28.69 316 *e*P P 06 07 36.8 +3.6
KRLC Kraliky 28.69 316 *e*P P 06 07 36.8 +3.6
KURBB Kurchatov Arra 28.89 43 P P 06 07 35.6 +0.8
comp=Z,3.8nm,0.5s,baz=248,slow=9.4,SNR=16
KURBB ScP ScP 06 14 22.6 -1.1
comp=Z,0.7nm,0.8s,baz=250,slow=3.6,SNR=3.3
NRCA Norcia 28.98 300 P P 06 07 38.6 +2.8
NRCA IAmb IAmb 06 07 56.1
comp=Z,33nm,1.5s
KURK Kurchatov 28.98 42 P P 06 07 36.4 +0.8
KURK pmax pmax
comp=Z,8.0nm,0.9s
KURK Kurchatov 28.98 42 P P 06 07 36.4 +0.8
KURK Kurchatov 28.98 42 ScP 06 14 22.6 -1.4
PRGR Permogore 28.99 358 *e*P P 06 07 32.3 -3.3
PRGR pmax pmax
comp=Z,24nm,1.1s
DPC Dobruska-Polom 29.08 317 *e*P P 06 07 40.5 +3.9
DPC Dobruska-Polom 29.08 317 *e*P P 06 07 40.5 +3.9
KSP Ksiaz 29.31 318 *e*P P 06 07 39.0 +0.5
UPC Upice 29.32 317 *e*P P 06 07 42.5 +3.8
UPC Upice 29.32 317 *e*P P 06 07 42.5 +3.8
CHVC Chvalec 29.34 317 *e*P P 06 07 42.6 +3.8
MOA Molln 29.39 311 *i* P P 06 07 40.0 +0.7
comp=Z,10.0nm,0.8s
VSU Vasula 29.41 337 *i* P P 06 07 41.9 +2.6
VSU pmax pmax
comp=Z,30nm,0.8s
MYKA Terra Mystica 29.43 308 *i* sP P 06 07 43.9 +4.2
comp=Z,4.3nm,0.6s
MURB Monte Urbino 29.47 301 P P 06 07 41.5 +1.4
MAKZ Makanchi 29.63 51 P P 06 07 41.0 -0.5
MAKZ pmax pmax
comp=Z,2.0nm,0.9s
MAKZ Makanchi 29.63 51 P P 06 07 41.0 -0.5
KBA Koelnbreinsper 29.75 309 *e*pP P 06 07 44.2 +1.5
comp=Z,11nm,0.7s
GOPC GO Pecny, Ondr 29.80 315 *e*P P 06 07 48.1 +5.1
GOPC GO Pecny, Ondr 29.80 315 *e*P P 06 07 48.1 +5.1
MK31 Makanchi Array 29.84 52 P P 06 07 43.4 +0.1
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 29.84 52 P P 06 07 43.4 +0.1
MKAR Makanchi Array 29.84 52 P P 06 07 43.9 +0.6
comp=Z,4.5nm,0.7s,baz=248,slow=8.4,SNR=34
MKAR LR LR 06 20 49.3
comp=Z,121nm,20.1s,baz=249,slow=39
GERES GERESS Array B 30.07 313 P P 06 07 45.1 -0.4
comp=Z,0.9nm,0.6s,baz=132,slow=8.2,SNR=4.0
CIMO Cimolais 30.15 307 P P 06 07 46.8 +0.7
CIMO IAmb IAmb 06 07 52.2
comp=Z,8.7nm,0.7s
ABTA Abfaltersbach 30.21 308 *e*pP P 06 07 49.7 +3.0
comp=Z,10nm,1.0s
KHC Kasperske Hory 30.25 313 *ce*P P 06 07 50.2 +3.3
KHC pmax pmax
comp=Z,7.0nm,1.2s
KHC Kasperske Hory 30.25 313 *e*P P 06 07 51.9 +5.0
CTI Castel Tesino 30.62 306 P P 06 07 50.4 0.0
CTI pmax pmax
comp=Z,24nm,0.6s
CTI Castel Tesino 30.62 306 P P 06 07 50.4 0.0
WTTA Wattenberg 30.92 309 *i* pP P 06 07 55.7 +2.6
comp=Z,30nm,1.2s
WATA Walderalm 30.98 309 *i* P P 06 07 54.1 +0.5
comp=Z,28nm,0.9s
SQTA Sankt Quirin 31.19 309 *i* pP P 06 07 58.2 +2.8
comp=Z,24nm,0.6s
MOTA Moosalm 31.29 309 *i* P P 06 07 56.1 -0.2
comp=Z,16nm,0.5s
NKC Novy Kostel 31.32 315 *e*P P 06 08 00.3 +3.9
NKC Novy Kostel 31.32 315 *e*P P 06 08 00.3 +3.9
CLL Collm 31.39 317 *e*P P 06 07 57.0 +0.1
CLL Collm 31.39 317 *e*P P 06 07 57.0 +0.1
FETA Feichten 31.46 308 *i* P P 06 07 58.0 +0.1
comp=Z,11nm,0.6s
RETA Reutte 31.55 309 *i* pP P 06 08 01.3 +2.8
comp=Z,5.3nm,0.5s
FINES FINESS Array B 32.00 340 P P 06 08 01.5 -0.6
comp=Z,1.9nm,0.3s,baz=144,slow=9.4,SNR=23
FINES LR LR 06 23 11.5
comp=Z,149nm,18.0s,baz=138,slow=40
FINES FINESS Array B 32.00 340 *ce*P P 06 08 01.7 -0.4
FINES pmax pmax
comp=Z,2.0nm,0.3s
TUE Stuetta 32.27 307 P P 06 08 05.0 0.0
TUE IAmb IAmb 06 08 11.0
comp=Z,8.6nm,0.8s
SUF Sumiainen 33.02 342 P P 06 08 11.3 +0.2
SUF pmax pmax
comp=Z,21nm,1.2s
WMQ Urumqi 33.03 59 *e*P P 06 08 13.3 +1.8
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,52nm,5.3s
SENIN Lac Senin/Sane 33.64 306 P P 06 08 16.9 -0.1
ZAA0 Zalesovo Array 33.80 40 P P 06 08 17.7 -0.3
ZAA0 IAmb IAmb 06 08 23.1
comp=Z,15nm,1.2s
ZALV Zalesovo Beam 33.80 40 P P 06 08 17.9 -0.1
comp=Z,6.7nm,0.4s,baz=260,slow=10,SNR=17
ZALV LR LR 06 24 53.8
comp=Z,78nm,18.8s,baz=218,slow=41
BNI Bardonecchia 33.89 303 P P 06 08 18.5 -0.5
BNI pmax pmax
comp=Z,51nm,0.6s
BNI Bardonecchia 33.89 303 P P 06 08 18.5 -0.5
LPL La Plagne 33.91 304 *e*P P 06 08 18.8 -0.5
LPL pmax pmax
comp=Z,54nm,0.8s
ECH Echery 34.08 309 P P 06 08 20.9 +0.3
ECH pmax pmax
comp=Z,11nm,1.2s
ECH Echery 34.08 309 P P 06 08 20.9 +0.3
ECH IAmb IAmb 06 08 26.5
comp=Z,11nm,1.2s
HFS Hagfors 35.39 331 P P 06 08 31.1 -0.5
comp=Z,7.0nm,0.6s,baz=128,slow=9.6,SNR=9.9
APA Apatity 35.91 351 ⇑ *i*P P 06 08 42.6 +6.6
APA pmax pmax
comp=Z,6.0nm,0.9s
APA MLR MLR
comp=Z,600nm,18.0s
SSF Saint Saulge 36.33 306 *e*P P 06 08 41.6 +1.7
SSF pmax pmax
comp=Z,28nm,0.8s
NC602 NORSAR Array S 36.61 331 *e*P P 06 08 43.2 +1.1
NB2 NORSAR Subarra 36.91 331 P P 06 08 43.2 -1.5
comp=Z,2.8nm,0.8s,baz=124,slow=8.6
NB2 NORSAR Subarra 36.91 331 P P 06 08 43.2 -1.5
baz=124,slow=8.6
NOA NORSAR Array B 36.91 331 P P 06 08 43.4 -1.3
comp=Z,0.9nm,0.6s,baz=125,slow=8.6,SNR=6.6
NOA LR LR 06 25 38.7
comp=Z,137nm,19.2s,baz=110,slow=39
SKAR Skarslia 37.94 329 *e*P P 06 08 54.3 +0.8
LFF La Frestale 38.08 303 *e*P P 06 08 58.2 +3.5
LFF pmax pmax
comp=Z,12nm,0.5s
DOMB Dombas 38.32 332 *e*P P 06 08 58.2 +1.6
TAM Tamanrasset 38.39 266 P P 06 08 58.5 +0.7
TAM pmax pmax
comp=Z,14nm,1.1s
TAM Tamanrasset 38.39 266 P P 06 08 58.5 +0.7
TAM IAmb IAmb 06 09 03.3
comp=Z,14nm,1.1s
NSS Namsos 38.68 336 *e*P P 06 08 58.5 -1.0
MFF Saint Martin d 38.78 305 *e*P P 06 09 03.3 +2.7
MFF pmax pmax
comp=Z,11nm,0.7s
KTK1 Kautokeino 38.93 346 *e*P P 06 09 00.9 -0.6
ARCES ARCESS Array B 38.94 348 P P 06 09 01.2 -0.5
comp=Z,2.1nm,0.4s,baz=159,slow=9.1,SNR=31
ARCES LR LR 06 25 58.5
comp=Z,138nm,21.4s,baz=146,slow=38
ARE0 ARCESS Array S 38.94 348 *e*P P 06 09 02.0 +0.3
MOR8 Moi Rana 38.96 339 *e*P P 06 09 01.5 -0.4
FAUS Fauske 39.55 341 *e*P P 06 09 05.3 -1.5
KONS Konsvik 39.57 339 *e*P P 06 09 06.4 -0.5
STEI Steigen 39.96 342 *e*P P 06 09 09.6 -0.5

HAMF	**Hammerfest**	**40.22**	**348**	*e*P		**P**	**06 09 12.6**	**+0.3**
TRO	**Tromso**	**40.34**	**345**	*e*P		**P**	**06 09 12.8**	**-0.4**
ESBB	**Sonseca Array**	**41.79**	**295**	P		**P**	**06 09 26.6**	**+0.8**
ESDC	**Sonseca Array**	**41.80**	**295**	P		**P**	**06 09 25.9**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=73,slow=8.2,SNR=20							
EKA	**Eskdalemuir Ar**	**41.82**	**318**	P		**P**	**06 09 25.4**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=105,slow=8.3,SNR=5.9							
PAB	**San Pablo**	**42.11**	**295**	P		**P**	**06 09 31.2**	**+2.8**
PAB				pmax	pmax			
	comp=Z,9.0nm,1.2s							
PAB	**San Pablo**	**42.11**	**295**	P		**P**	**06 09 31.2**	**+2.8**
GTA	**Gaotai**	**42.19**	**66**	*e*P		**P**	**06 09 31.1**	**+2.0**
GTA				pP	pP		06 09 36.8	+0.6
GTA				sP	sP		06 09 39.4	+0.3
GTA				S	**S**		**06 15 53.8**	**+5.9**
GTA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
GTA				pmax	pmax			
	comp=Z,83nm,7.8s							
GTA				LR	LR			
	comp=N,230nm,14.6s							
GTA				LR	LR			
	comp=E,260nm,16.8s							
GTA				LR	LR			
	comp=Z,310nm,14.6s							
MOY	**Mondy**	**42.74**	**47**	*e*P		**P**	**06 09 35.7**	**+2.3**
MOY				pmax	pmax			
	comp=Z,21nm,2.1s							
NRIK	**Noril'sk**	**42.93**	**20**	LR		LR	06 31 50.4	
	comp=Z,265nm,18.2s,baz=195,slow=42							
PBRG	**Braganca**	**43.64**	**298**	*e*P		**P**	**06 09 41.5**	**+0.8**
	comp=Z,20nm,1.4s							
MVO	**Moncorvo**	**43.93**	**297**	*e*P		**P**	**06 09 46.1**	**+3.0**
	comp=Z,16nm,1.1s							
ZAK	**Zakamensk**	**44.11**	**49**	*e*P		**P**	**06 09 45.1**	**+0.7**
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.8s							
TLY	**Talaya**	**44.39**	**48**	LR		LR	06 29 58.1	
	comp=Z,286nm,18.7s,baz=278,slow=38							
TLY	**Talaya**	**44.39**	**48**	*i* P		**P**	**06 09 47.6**	**+1.0**
TLY				pmax	pmax			
	comp=Z,6.0nm,1.0s							
MTE	**Manteigas**	**44.42**	**296**	*e*P		**P**	**06 09 49.2**	**+2.2**
	comp=Z,24nm,2.0s							
MTE	**Manteigas**	**44.42**	**296**	P		**P**	**06 09 48.0**	**+1.0**
MTE				IAmb	IAmb		06 09 52.5	
	comp=Z,21nm,1.1s							
PVRL	**Vila Real**	**44.43**	**298**	*e*P		**P**	**06 09 49.4**	**+2.3**
	comp=Z,34nm,0.9s							
PMRV	**Marv??o**	**44.45**	**295**	*e*P		**P**	**06 09 47.8**	**+0.6**
	comp=Z,16nm,1.1s							
PCBR	**Castelo Branco**	**44.46**	**296**	*e*P		**P**	**06 09 48.3**	**+1.1**
	comp=Z,40nm,2.1s							
PCAB	**Cabril**	**44.61**	**298**	*e*P		**P**	**06 09 50.9**	**+2.4**
	comp=Z,42nm,1.9s							
PVIS	**Viseu**	**44.64**	**297**	*e*P		**P**	**06 09 52.9**	**+4.1**
	comp=Z,24nm,1.3s							
PGAV	**Gavieira, Arco**	**44.76**	**299**	*e*P		**P**	**06 09 51.0**	**+1.3**
	comp=Z,46nm,0.9s							
PBEJ	**Beja**	**45.06**	**293**	*e*P		**P**	**06 09 55.0**	**+2.9**
	comp=Z,17nm,1.6s							
PCAS	**Casmilo, Conde**	**45.20**	**296**	*e*P		**P**	**06 09 55.0**	**+1.9**
	comp=Z,26nm,2.5s							
PSBE	**So Bento**	**45.51**	**295**	*e*P		**P**	**06 09 59.6**	**+3.9**
PNCL	**Nicolau / Gran**	**45.56**	**293**	*e*P		**P**	**06 09 59.4**	**+3.4**
	comp=Z,28nm,1.4s							
LZH	**Lanzhou**	**45.92**	**69**	*e*P		**P**	**06 09 58.5**	**-0.6**
LZH				pP	pP		06 10 01.8	-4.5
LZH				sP	sP		06 10 03.3	-5.9
LZH				*e*PP		**PP**	**06 11 46.3**	**-0.5**
LZH				pmax	pmax			
	comp=Z,24nm,1.3s							
LZH				pmax	pmax			
	comp=Z,92nm,5.6s							
LZH				LR	LR			
	comp=N,370nm,14.2s							
LZH				LR	LR			
	comp=E,370nm,14.4s							
LZH				LR	LR			
	comp=Z,520nm,17.5s							
PMAFR	**Mafra**	**45.98**	**295**	*e*P		P	06 10 05.1	+5.7
SONM	**Songino Array**	**46.19**	**53**	P		**P**	**06 10 00.5**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=284,slow=9.3,SNR=7.3							
SONM				LR	LR		06 32 36.2	
	comp=Z,147nm,19.7s,baz=246,slow=40							
TOA0	**Torodi Ar. Sit**	**46.20**	**256**	P		**P**	**06 10 01.8**	**+0.4**
TOA0				IAmb	IAmb		06 10 04.9	
	comp=Z,6.6nm,0.9s							
TORD	**Torodi Ar. Bea**	**46.20**	**256**	P		**P**	**06 10 01.1**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=67,slow=6.7,SNR=21							
ULN	**Ulaanbaatar**	**46.63**	**53**	*ce*P		**P**	**06 10 05.1**	**+0.6**
ULN				pmax	pmax			
	comp=Z,14nm,1.3s							
ULN	**Ulaanbaatar**	**46.63**	**53**	P		**P**	**06 10 05.1**	**+0.6**
ULN				IAmb	IAmb		06 10 10.8	
	comp=Z,16nm,1.2s							
CD2	**Chengdu**	**47.21**	**76**	*e*P		**P**	**06 10 09.9**	**+0.8**
SPA0	**Spitsbergen Ar**	**47.59**	**352**	*e*P		**P**	**06 10 12.9**	**+1.6**
SPITS	**Spitsbergen Ar**	**47.59**	**352**	P		**P**	**06 10 11.6**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=147,slow=14,SNR=15							
CMAR	**Chiang Mai Arr**	**47.92**	**94**	P		**P**	**06 10 14.1**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=296,slow=9.1,SNR=9.9							
CMAR				LR	LR		06 32 17.9	
	comp=Z,90nm,19.5s,baz=272,slow=38							
CMAR	**Chiang Mai Arr**	**47.92**	**94**	*i* P		**P**	**06 10 17.2**	**+2.5**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KMI	**Kunming**	**48.33**	**84**	⇓P		**P**	**06 10 18.3**	**+0.2**
KMI				pmax	pmax			
	comp=Z,11nm,1.7s							
XAN	**Xi'an**	**50.47**	**71**	P		**P**	**06 10 36.9**	**+2.8**
XAN				pmax	pmax			
	comp=Z,9.0nm,1.3s							
BOD	**Bodaibo**	**50.55**	**39**	*e*P		**P**	**06 10 34.1**	**-0.2**
BOD				pmax	pmax			
	comp=Z,15nm,1.5s							
HHC	**Hu-ho-hao-te**	**50.81**	**61**	*e*P		**P**	**06 10 35.8**	**-0.9**
HHC				S	**S**		**06 17 54.3**	**+3.0**
HHC	**Hu-ho-hao-te**	**50.81**	**61**	SS		**SS**	**06 21 24.3**	**-1.5**
HHC				pmax	pmax			
	comp=Z,14nm,1.1s							
HHC				pmax	pmax			
	comp=Z,97nm,5.4s							
HHC				LR	LR			
	comp=N,220nm,15.9s							
HHC				LR	LR			
	comp=E,270nm,16.4s							
HHC				LR	LR			
	comp=Z,300nm,16.4s							
OPO	**Ambohidratompo**	**50.97**	**181**	LR		LR	06 32 01.8	
	comp=Z,204nm,20.9s,baz=176,slow=36							
GYA	**Guiyang**	**51.11**	**81**	*e*P		**P**	**06 10 39.3**	**+0.2**
GYA				S	S		06 17 34.5	-21
GYA	**Guiyang**	**51.11**	**81**	SS		**SS**	**06 21 24.0**	**-7.1**
GYA				pmax	pmax			
	comp=Z,8.0nm,0.6s							
GYA				LR	LR			
	comp=N,120nm,8.5s							
GYA				LR	LR			
	comp=E,85nm,10.5s							
GYA				LR	LR			
	comp=Z,150nm,16.0s							
LSZ	**Lusaka**	**51.21**	**204**	LR		LR	06 33 12.6	
	comp=Z,419nm,19.3s,baz=346,slow=37							
DBIC	**Dimbokro**	**55.16**	**254**	LR		LR	06 37 30.3	
	comp=Z,180nm,21.0s,baz=40,slow=39							
MATP	**Matopo**	**55.91**	**202**	LR		LR	06 36 06.9	
	comp=Z,316nm,19.6s,baz=16,slow=37							
SUMG	**Summit**	**58.02**	**339**	*i* P		**P**	**06 11 29.0**	**0.0**
	comp=Z,59nm,1.3s							
SUMG	**Summit**	**58.02**	**339**	*i* P		**P**	**06 11 29.0**	**0.0**
SUMG				pmax	pmax			
	comp=Z,59nm,1.3s							
YAK	**Yakutsk**	**58.03**	**33**	*i* P		**P**	**06 11 29.6**	**+0.9**
YAK				pmax	pmax			
	comp=Z,9.0nm,0.5s							
NJ2	**Nanjing**	**59.00**	**70**	*e*P		**P**	**06 11 34.3**	**-1.6**
NJ2				pmax	pmax			
	comp=Z,11nm,0.6s							
TSUM	**Tsumeb**	**59.09**	**214**	LR		LR	06 38 12.5	
	comp=Z,282nm,18.8s,baz=177,slow=37							
CN2	**Changchun**	**59.98**	**55**	*e*P		**P**	**06 11 45.1**	**+2.6**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.4s							
LBTB	**Lobatse**	**61.13**	**203**	LR		LR	06 39 55.1	
	comp=Z,203nm,18.6s,baz=21,slow=38							
KLR	**Kul'dur**	**62.41**	**47**	LR		LR	06 41 48.9	
	comp=Z,142nm,18.3s,baz=210,slow=39							
KLR	**Kul'dur**	**62.41**	**47**	*ce*P		**P**	**06 11 57.8**	**-1.1**
KLR				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KSRS	**Korea Array**	**63.94**	**61**	P		**P**	**06 12 07.9**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=286,slow=6.9,SNR=4.4							
KSRS				LR		LR	06 43 04.1	
	comp=Z,135nm,19.0s,baz=286,slow=39							
USRK	**Ussuriysk Ar.**	**64.30**	**53**	P		**P**	**06 12 09.8**	**-1.7**
	comp=Z,1.8nm,0.6s,baz=303,slow=6.2,SNR=5.5							
USRK				LR		LR	06 43 00.3	
	comp=Z,129nm,20.2s,baz=286,slow=39							
BOSA	**Boshof**	**64.58**	**202**	P		**P**	**06 12 14.8**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=40,slow=4.5,SNR=4.3							
BOSA				LR		LR	06 41 19.6	
	comp=Z,310nm,20.7s,baz=18,slow=37							
BOSA	**Boshof**	**64.58**	**202**	IAmb		IAmb	06 12 29.6	
	comp=Z,5.4nm,1.1s							
SEY	**Seymchan**	**67.66**	**29**	LR		LR	06 45 10.3	
	comp=Z,67nm,19.6s,baz=338,slow=39							
SEY	**Seymchan**	**67.66**	**29**	*i* P		**P**	**06 12 32.9**	**+0.2**
MA2	**Magadan**	**68.56**	**32**	LR		LR	06 47 35.9	
	comp=Z,76nm,18.1s,baz=290,slow=40							
MA2	**Magadan**	**68.56**	**32**	*i* P		**P**	**06 12 36.8**	**-1.6**
MA2				pmax	pmax			
	comp=Z,7.0nm,1.0s							
YSS	**Yuzh-Sakhalins**	**70.09**	**47**	*e*P		**P**	**06 12 49.4**	**+1.3**
YSS				pmax	pmax			
	comp=Z,20nm,1.1s							
YSS				MLR		MLR		
	comp=Z,200nm,13.0s							
MJAR	**Matsushiro Arr**	**71.79**	**58**	LR		LR	06 48 44.3	
	comp=Z,42nm,19.0s,baz=290,slow=39							
PETK	**Petropavlovsk-**	**75.23**	**36**	LR		LR	06 49 54.9	
	comp=Z,97nm,18.1s,baz=236,slow=38							
ILAR	**Eielson Array**	**82.19**	**6**	P		**P**	**06 13 58.1**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=308,slow=3.2,SNR=4.4							
ILAR				PP		**PP**	**06 17 02.0**	**-2.3**
	comp=Z,0.5nm,1.0s,baz=345,slow=9.6,SNR=4.4							
D62A	**Allapoint, All**	**82.35**	**322**	P		**P**	**06 13 58.4**	**+0.5**
D62A				IAmb	IAmb		06 14 04.8	
	comp=Z,7.5nm,0.9s							
GUMO	**Guam**	**88.68**	**75**	LR		LR	06 59 22.2	
	comp=Z,22nm,18.8s,baz=7.0,slow=39							
WRA	**Warramunga Arr**	**97.81**	**109**	P		**P**	**06 15 11.6**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=319,slow=4.0,SNR=4.4							
ASAR	**Alice Springs**	**99.41**	**112**	P		**Pdif**	**06 15 17.3**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=305,slow=4.7,SNR=5.8							

TAP 25 06:03:44.1,24.06N×121.65E,h26km,ML2.9,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.05**	**291**	P	Pb	06 03 48.7	+0.1
	baz=294						
TWD				*i* S	Sb	06 03 52.0	+0.4
	baz=294						
HWA	**Hwalien**	**0.09**	**203**	*i* P	Pb	06 03 49.2	+0.3
	baz=206						
HWA				S	Sb	06 03 54.0	+2.1
	baz=206						
NACB	**Ninganchiao**	**0.12**	**337**	*i* P	Pb	06 03 49.0	-0.1
	baz=327						
NACB				S	Sb	06 03 52.7	+0.4
	baz=327						
ETLH	**Xiulin Townshi**	**0.21**	**314**	*i* P	Pb	06 03 49.9	-0.2
	baz=313						
ETLH				S	Sb	06 03 54.2	+0.1
	baz=313						
ESL	**Shilin**	**0.32**	**218**	*e*P	Pb	06 03 51.1	-0.3
	baz=226						
ESL				*e*S	Sb	06 03 57.3	+0.9
	baz=226						
WHF	**Hehuan Shan**	**0.36**	**283**	P	Pb	06 03 52.0	-0.5
	baz=283						
WHF				*e*S	Sb	06 03 57.8	-0.2
	baz=283						
ENA	**Nanau**	**0.37**	**14**	*e*P	Pb	06 03 52.4	+0.1
	baz=4.0						
ENA				S	Sb	06 03 58.4	+0.4
	baz=4.0						
FUSS	**Fushou**	**0.41**	**297**	*i* P	Pb	06 03 53.1	0.0
	baz=302						
FUSS				S	Sb	06 03 59.8	+0.6
	baz=302						
ENAH	**Nanao**	**0.41**	**21**	P	Pb	06 03 53.1	+0.2
	baz=10.0						
ENAH				S	Sb	06 03 59.8	+0.9
	baz=10.0						
CHGB	**Renai**	**0.43**	**270**	*i* P	Pb	06 03 53.5	+0.1
	baz=264						
CHGB				S	Sb	06 04 00.7	+1.0
	baz=264						
NNSB	**Datong**	**0.43**	**327**	*i* P	Pb	06 03 53.3	-0.1
	baz=325						
NNSB				S	Sb	06 04 00.0	+0.3
	baz=325						
NNSH	**Datong**	**0.43**	**327**	P	Pb	06 03 53.3	-0.2
	baz=324						
NNSH				S	Sb	06 04 00.0	+0.3
	baz=324						
EGFH	**Guangfu**	**0.44**	**207**	*e*P	Pb	06 03 53.9	+0.5
	baz=219						
EGFH				*e*S	Sn	06 04 01.0	-1.0
	baz=219						
OWD	**Renai**	**0.44**	**256**	*e*P	Pn	06 03 54.5	-0.6
	baz=263						
OWD				*e*S	Sb	06 04 00.0	+0.1
	baz=263						
NNS	**Nan Shan**	**0.45**	**327**	P	Pb	06 03 53.4	-0.2
	baz=325						
NNS				S	Sb	06 04 00.3	+0.2
	baz=325						
TWT	**Tachien**	**0.47**	**294**	P	Pn	06 03 55.0	-0.4
	baz=292						
TWT				S	Sb	06 04 01.6	+0.9
	baz=292						
TDCB	**Techi**	**0.48**	**293**	*e*P	Pb	06 03 54.3	+0.1
	baz=292						
TDCB				*e*S	Sb	06 04 01.5	+0.5
	baz=292						
NDT	**Datong Townshi**	**0.55**	**347**	P	Pb	06 03 55.3	+0.1
	baz=342						
NDT				S	Sb	06 04 03.5	+0.7
	baz=342						
VWDT	**VWDT**	**0.55**	**236**	P	Pb	06 03 55.1	-0.2
	baz=232						
VWDT				*e*S	Sn	06 04 04.0	-0.8
	baz=232						
TWC	**Suao**	**0.57**	**19**	*e*P	Pb	06 03 55.8	+0.1
	baz=13						
TWC				*e*S	Sn	06 04 04.4	-0.9
	baz=13						
ENTT	**Nioudou**	**0.58**	**353**	P	Pb	06 03 55.6	-0.2
	baz=346						
ENTT				*e*S	Sb	06 04 04.2	+0.6
	baz=346						
HGSD	**Ruisui**	**0.60**	**200**	*e*P	Pb	06 03 56.6	+0.5
	baz=216						
HGSD				S	Sn	06 04 05.7	-0.4
	baz=216						
EHY	**Hungye**	**0.63**	**208**	*e*P	Pb	06 03 55.9	-0.7
	baz=215						
EHY				*e*S	Sb	06 04 04.8	-0.2
	baz=215						
YHNB	**Yeheng**	**0.65**	**338**	P	Pb	06 03 56.9	-0.1
	baz=335						
YHNB				S	Sb	06 04 06.1	+0.3
	baz=335						
TWE	**Neicheng**	**0.66**	**2**	*e*P	Pb	06 03 57.2	+0.2
	baz=354						
TWE				*e*S	Sb	06 04 06.4	+0.7
	baz=354						
WHP	**Taichung City**	**0.67**	**289**	P	Pn	06 03 58.4	+0.2
	baz=288						
WHP				S	Sb	06 04 06.9	+0.5
	baz=288						
SSLB	**Suanglung**	**0.69**	**247**	P	Pb	06 03 57.3	-0.3
	baz=254						
SSLB				*e*S	Sb	06 04 06.6	-0.2
	baz=254						
SMLT	**Sun Moon Lake**	**0.70**	**255**	P	Pb	06 03 57.9	0.0
	baz=252						
SMLT				*e*S	Sb	06 04 07.9	+0.6
	baz=252						
ILA	**Ilan**	**0.71**	**8**	*e*S	Sn	06 04 09.8	+1.3
	baz=359						
NWLT	**Wulai**	**0.72**	**350**	P	Pb	06 03 58.0	-0.2
	baz=339						
NWLT				*e*S	Sb	06 04 07.7	0.0
	baz=339						
YULB	**Yu-li**	**0.74**	**206**	P	Pb	06 03 58.2	-0.2
	baz=208						
YULB				S	Sb	06 04 08.1	0.0
	baz=208						
EYUL	**Yuli**	**0.77**	**203**	*e*P	Pn	06 03 59.3	-0.1
	baz=219						
EYUL				*e*S	Sn	06 04 10.6	+0.3
	baz=219						
TWF1	**Yuli**	**0.78**	**204**	*e*P	Pn	06 03 59.3	-0.1
	baz=218						
TWF1				*e*S	Sn	06 04 10.6	+0.3
	baz=218						
WHYT	**Xinyi Township**	**0.81**	**243**	*e*P	Pb	06 03 59.2	-0.5
	baz=249						
WHYT				*e*S	Sn	06 04 10.8	-0.4
	baz=249						
NSTT	**Nanjuang**	**0.81**	**314**	*e*P	Pn	06 04 00.5	+0.4
	baz=312						
NSTT				S	Sn	06 04 11.5	+0.2
	baz=312						
LIOB	**Emei**	**0.82**	**315**	P	Pn	06 04 00.2	+0.1
	baz=313						
LIOB				S	Sn	06 04 11.1	-0.3
	baz=313						
TWQ1	**Liyutan**	**0.84**	**290**	*e*P	Pn	06 04 01.4	+1.0
	baz=289						
TWQ1				*e*S	Sn	06 04 14.6	+2.5
	baz=289						
WJS	**Zhushan**	**0.87**	**254**	*e*P	Pn	06 04 01.9	+1.1
	baz=256						
WJS				*e*S	Sn	06 04 14.6	+1.9
	baz=256						
NSY	**Sanyi**	**0.88**	**294**	*e*S	Sn	06 04 14.7	+1.8
	baz=293						
TCU	**Taichung**	**0.89**	**276**	*e*S	Sn	06 04 16.0	+2.9
	baz=276						
WNT	**Mingjian**	**0.90**	**258**	*e*P	Pn	06 04 01.7	+0.6
	baz=259						
WNT				*e*S	Sn	06 04 15.1	+1.8
	baz=259						
NMLH	**Miaoli**	**0.91**	**301**	*e*P	Pn	06 04 02.6	+1.2
	baz=299						
NMLH				*e*S	Sn	06 04 15.6	+1.9
	baz=299						
TWA	**Mucha**	**0.92**	**357**	*e*S	Sb	06 04 13.3	+0.1
	baz=341						
FULB	**Fuli**	**0.92**	**201**	P	Pn	06 04 01.3	-0.2
	baz=219						
FULB				S	Sn	06 04 14.2	+0.3
	baz=219						
TIPB	**Shuangxi**	**0.92**	**10**	*e*P	Pn	06 04 01.2	-0.3
	baz=355						
TIPB				*e*S	Sn	06 04 14.0	0.0
	baz=355						
ALS	**Alishan**	**0.95**	**235**	*e*P	Pn	06 04 01.8	-0.3
	baz=228						
ALS				*e*S	Sn	06 04 14.8	-0.1
	baz=228						
CHKT	**Chengkung**	**0.99**	**195**	*e*S	Sn	06 04 17.9	+2.3
	baz=213						
CHN5	**Tsauling**	**1.00**	**243**	*e*P	Pb	06 04 02.8	0.0
	baz=246						
CHN5				S	Sn	06 04 19.1	+3.1
	baz=246						
NWF	**Wu-fen Shan**	**1.01**	**7**	*e*P	Pb	06 04 03.2	+0.2
	baz=348						
NWF				*e*S	Sn	06 04 16.9	+0.7
	baz=348						
WFSB	**Wu-fen Shan**	**1.01**	**7**	*e*P	Pb	06 04 03.2	+0.2
	baz=348						
WFSB				*e*S	Sn	06 04 18.2	+2.1
	baz=348						
ELDTW	**Lidau**	**1.04**	**214**	*e*P	Pn	06 04 02.7	-0.6
	baz=218						
ELDTW				*e*S	Sb	06 04 16.8	-0.1
	baz=218						
YM01	**YM01**	**1.08**	**356**	*e*P	Pn	06 04 04.0	+0.2
	baz=351						
YM01				*e*S	Sb	06 04 18.4	+0.4
	baz=351						
YM10	**YM10**	**1.09**	**356**	*e*S	Sb	06 04 19.3	+1.1
	baz=351						
EDH	**Donghe**	**1.13**	**196**	*e*P	Pb	06 04 05.1	0.0
	baz=203						
EDH				*e*S	Sb	06 04 20.0	+0.7
	baz=203						
RLNB	**Erlin**	**1.19**	**262**	*e*S	Sb	06 04 22.7	+1.7
	baz=264						
TPUB	**Ta-pu**	**1.20**	**231**	*e*P	Pb	06 04 07.6	+1.3
	baz=227						
TPUB				S	Sb	06 04 23.2	+1.9
	baz=227						
STYT	**Tauyuan**	**1.21**	**222**	*e*S	Sb	06 04 23.7	+2.0
	baz=227						
WTP	**Ta-pu**	**1.25**	**230**	*e*P	Pb	06 04 07.9	+0.8
	baz=226						
WTP				*e*S	Sb	06 04 24.4	+1.6
	baz=226						
TWK	**Hsinying**	**1.32**	**233**	*e*P	Pb	06 04 08.0	-0.4
	baz=239						
TWK				S	Sb	06 04 27.2	+2.2
	baz=239						
SNST	**Tainan City**	**1.35**	**232**	*e*S	Sb	06 04 26.7	+1.2
	baz=237						
CHN1	**Nanshi**	**1.35**	**230**	*e*P	Pb	06 04 09.0	+0.2
	baz=235						
CHN1				S	Sb	06 04 28.0	+2.4
	baz=235						

JMA 25 06:04:10.3±0.2,24.21N×123.77E,h16km±2km,M0.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.13**	**344**	P	Pg	06 04 14.1	0.0
IRIF				S	Sb	06 04 16.9	-0.2
HATJ	**Hateruma jima**	**0.16**	**168**	P	Pg	06 04 14.3	-0.1
HATJ				S	Sg	06 04 17.0	-0.1
JKRS	**Kuro-shima**	**0.22**	**83**	P	Pg	06 04 15.5	+0.2
JKRS				S	Sg	06 04 19.2	+0.4
JIJ	**Ishigaki jima**	**0.37**	**66**	P	Pg	06 04 17.8	-0.2
JIJ				S	Sg	06 04 22.9	-0.3
JISG	**Ishigakijimahi**	**0.62**	**53**	P	Pb	06 04 22.7	-0.1
JISG				*e*S	Sb	06 04 31.1	-0.1

IDC 25 06:15:01.1±3.4,30.27S×138.50E,h0km,mb1 3.1/3, mb1mx3.0/37,mbtmp2.8/3,ML2.8/3,Error ellipse: s-maj=90.7km s-min=17.6km az=43.0,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.11**	**122**	Pn	Pn	06 15 50.5	-1.0
	0.4nm,0.3s,baz=298,slow=12,SNR=4.7						
STKA				Pg	Pb	06 15 58.4	+1.1
	2.0nm,0.3s,baz=299,slow=15,SNR=19						
STKA				Lg	Lg	06 16 40.1	
	2.6nm,0.3s,baz=199,slow=22,SNR=6.4						
ASAR	**Alice Springs**	**7.74**	**327**	Pn	Pn	06 16 55.5	+0.3
	0.1nm,0.3s,baz=150,slow=12,SNR=7.3						
ASAR				Sn	Sn	06 18 20.8	-2.8
	0.1nm,0.3s,baz=152,slow=21,SNR=3.2						
WRA	**Warramunga Arr**	**10.94**	**339**	Pn	Pn	06 17 38.9	-0.1
	0.1nm,0.3s,baz=155,slow=12,SNR=4.7						

*NNC **25** 07:02:47.9±0.8,41.06N×74.99E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=5.3km s-min=3.5km az=179.0*
*SOME **25** 07:02:47.8,41.12N×75.02E,h5km*
*KRNET **25** 07:02:48.5±0.1,41.12N×74.99E,h16km,mb3.1*
*KNET **25** 07:02:48.9±0.6,41.17N×75.00E,h4km±3km,ml2.5, Error ellipse: s-maj=4

KZA ⇓*i*S **Sg** **07 03 20.5 +0.6**
baz=11
KZA **Kyzart** **0.99 11** ⇑P **Pb** **07 03 07.1 -0.4**
14nm,0.2s,SNR=17
KZA ⇑S **Sn** **07 03 21.3 -1.4**
83nm,0.2s
UCH **Uchtor** **1.18 342** ⇓*i*P **Pn** **07 03 10.7 -0.3**
baz=42
UCH ⇓*i*S **Sn** **07 03 26.7 -0.8**
baz=42
UCH **Uchtor** **1.18 342** ⇓P **Pg** **07 03 10.8 +0.2**
16nm,0.1s,SNR=122
UCH ⇑S **Sn** **07 03 27.8 +0.3**
63nm,0.3s
AML **Almayashu** **1.42 317** ⇑*e*P **Pb** **07 03 14.6 -0.2**
baz=17
AML ⇑*i*S **Sg** **07 03 34.1 +0.5**
baz=17
AML **Almayashu** **1.42 317** ⇓P **Pb** **07 03 14.7 -0.1**
56nm,0.2s,SNR=35
ULHL **Ulahol** **1.47 39** ⇑*i*P **Pb** **07 03 15.7 +0.2**
baz=39
ULHL ⇑*i*S **Sg** **07 03 36.0 +0.8**
baz=39
ULHL **Ulahol** **1.47 39** ⇑P **Pb** **07 03 15.2 -0.3**
8.4nm,0.1s,SNR=9.0
AAK **Ala-Archa** **1.58 346** ⇑*e*P **Pb** **07 03 17.6 +0.2**
baz=47
AAK ⇑*i*S **Sg** **07 03 38.9 +0.2**
baz=47
AAK **Ala-Archa** **1.58 346** ⇓P **Pg** **07 03 18.0 -0.2**
26nm,0.2s,SNR=16
AAK ⇑S **Sg** **07 03 39.8 +1.0**
66nm,0.5s
AAK **Ala-Archa** **1.58 346** ⇑P **Pb** **07 03 17.0 -0.4**
6.7nm,0.3s
AAK ⇓S **Sg** **07 03 39.6 +0.8**
44nm,0.5s
OHH **Osh** **1.78 252** ⇑*e*P **Pb** **07 03 21.3 +0.6**
baz=51
OHH ⇑*i*S **Sg** **07 03 45.4 +0.3**
baz=51
EKS2 **Erkin-Say** **1.81 330** ⇑*e*P **Pb** **07 03 21.6 +0.4**
baz=30
EKS2 ⇑*i*S **Sg** **07 03 45.9 -0.1**
baz=30
EKS2 **Erkin-Say** **1.81 330** ⇓P **Pg** **07 03 22.2 -0.4**
15nm,0.5s,SNR=19
TKM2 **Tokmak 2** **1.87 13** ⇑*i*P **Pb** **07 03 22.6 +0.3**
baz=14
TKM2 ⇑*i*S **Sg** **07 03 47.8 -0.2**
baz=14
TKM2 **Tokmak 2** **1.87 13** ⇑Pn **Pb** **07 03 22.7 +0.4**
5.0nm,0.3s
TKM2 ⇓Sn **Sg** **07 03 48.4 +0.4**
12nm,0.3s
CHMS **Chumysh** **1.90 354** ⇑*e*P **Pb** **07 03 23.3 +0.5**
baz=55
CHMS ⇑*e*S **Sg** **07 03 48.9 -0.2**
baz=55
CHMS **Chumysh** **1.90 354** ⇓P **Pg** **07 03 24.0 -0.3**
15nm,0.2s,SNR=25
CHMS ⇓S **Sg** **07 03 50.3 +1.2**
29nm,0.3s
KDJ **Kajisay** **1.93 57** ⇑*e*P **Pb** **07 03 24.0 +0.7**
baz=58
KDJ ⇑*i*S **Sg** **07 03 50.2 +0.3**
baz=58
KST **Kastek** **2.07 20** *e*P **Pg** **07 03 26.8 -0.7**
7.0nm,0.4s
KST *e*S **Sg** **07 03 55.2 +0.9**
34nm,0.5s
KST **Kastek** **2.07 20** Pg **Pg** **07 03 26.8 -0.7**
7.0nm,0.4s
KST Lg Lg 07 03 55.2
34nm,0.5s
MRKS **Merke** **2.11 322** *e*P **Pb** **07 03 26.9 +0.6**
32nm,0.3s
MRKS *e*S **Sg** **07 03 55.1 -0.6**
36nm,0.3s
MRKS **Merke** **2.11 322** Pg **Pb** **07 03 26.9 +0.6**
32nm,0.3s
MRKS Lg Lg 07 03 55.1
36nm,0.3s
USP **Ospenovka** **2.19 350** ⇑*i*P **Pb** **07 03 27.4 -0.4**
baz=51
USP ⇑*i*S **Sb** **07 03 55.7 +0.6**
baz=51
USP **Ospenovka** **2.19 350** ⇑P **Pb** **07 03 28.1 +0.3**
30nm,0.2s,SNR=40
USP ⇓S **Sg** **07 03 58.8 +0.4**
44nm,0.2s
TARG **Taragay, Kyrgy** **2.20 73** ⇑*i*P **Pb** **07 03 28.1 +0.1**
baz=73
TARG ⇑*i*S **Sb** **07 03 57.0 +1.5**
baz=73
IZV **Izvestkoviy** **2.27 31** *e*P **Pg** **07 03 30.7 -0.8**
5.1nm,0.4s
IZV *e*S **Sg** **07 04 01.2 +0.2**
13nm,0.6s
IZV **Izvestkoviy** **2.27 31** Pg **Pg** **07 03 30.7 -0.8**
5.1nm,0.4s
IZV Lg Lg 07 04 01.2
13nm,0.6s
MTBS **Maitube** **2.29 27** *e*P **Pg** **07 03 30.8 -0.9**
3.3nm,0.2s
MTBS *e*S **Sg** **07 04 01.5 +0.1**
18nm,0.5s
MTBS **Maitube** **2.29 27** Pg **Pg** **07 03 30.8 -0.9**
3.3nm,0.2s
MTBS Lg Lg 07 04 01.5
18nm,0.5s
ARK **Arkit** **2.39 288** ⇑*i*P **Pb** **07 03 29.8 -1.3**
baz=87
ARK ⇑*i*S **Sb** **07 04 00.2 -0.5**
baz=87
TNSS **Tian-Shan** **2.42 36** *e*P **Pg** **07 03 33.9 -0.3**
7.1nm,0.2s
TNSS *e*S **Sg** **07 04 06.8 +1.3**
13nm,0.5s
TNSS **Tian-Shan** **2.42 36** Pg **Pg** **07 03 33.9 -0.3**
7.1nm,0.2s
TNSS Lg Lg 07 04 06.8
13nm,0.5s
MDOK **Medeo** **2.56 36** *e*P **Pb** **07 03 35.5 +1.4**
2.7nm,0.4s
MDOK *e*S **Sg** **07 04 09.8 -0.3**
9.2nm,0.6s
MDOK **Medeo** **2.56 36** Pg **Pb** **07 03 34.5 +0.4**
9.1nm,0.6s
MDOK Lg Lg 07 04 10.3
15nm,0.9s
MDOK **Medeo** **2.56 36** Pg **Pb** **07 03 35.5 +1.4**
2.7nm,0.4s
MDOK Lg Lg 07 04 09.8
9.2nm,0.6s
ANVS **Anan'yevo** **2.60 49** ⇑*i*P **Pb** **07 03 33.5 -1.3**
baz=49
ANVS ⇑*i*S **Sb** **07 04 06.3 -0.6**
baz=49
KRBS **Karabastau** **2.64 11** *e*P **Pb** **07 03 36.5 +1.2**
1.7nm,0.4s
KRBS *e*S **Sg** **07 04 11.5 -1.2**
19nm,0.4s
KRBS **Karabastau** **2.64 11** Pg **Pb** **07 03 36.5 +1.2**
1.7nm,0.4s
KRBS Lg Lg 07 04 11.5
19nm,0.4s
KOTS **Kotyrbulak** **2.65 36** *e*P **Pb** **07 03 37.0 +1.4**
14nm,0.4s
KOTS *e*S **Sg** **07 04 12.3 -0.6**
19nm,0.5s
KOTS **Kotyrbulak** **2.65 36** Pg **Pb** **07 03 37.0 +1.4**
14nm,0.4s
KOTS Lg Lg 07 04 12.3
19nm,0.5s
KTBS **Karatobe** **2.89 25** *e*P **Pb** **07 03 41.5 +1.9**
2.7nm,0.2s
KTBS *e*S **Sg** **07 04 19.7 -1.0**
24nm,0.6s
KTBS **Karatobe** **2.89 25** Pg **Pb** **07 03 41.5 +1.9**
2.7nm,0.2s
KTBS Lg Lg 07 04 19.7
24nm,0.6s
KUU **Kurty** **2.96 19** *e*P **Pb** **07 03 42.2 +1.4**
2.6nm,0.2s
KUU *e*S **Sg** **07 04 21.2 -1.7**
20nm,0.6s
KUU **Kurty** **2.96 19** Pg **Pb** **07 03 42.2 +1.4**
2.6nm,0.2s
KUU Lg Lg 07 04 21.2
20nm,0.6s
SATY **Saty** **3.20 51** *e*P **Pb** **07 03 46.5 +1.6**
2.2nm,0.4s
SATY *e*S **Sg** **07 04 28.5 -2.1**
9.4nm,0.5s
SATY **Saty** **3.20 51** Pg **Pb** **07 03 46.5 +1.6**
2.2nm,0.4s
SATY Lg Lg 07 04 28.5
9.4nm,0.5s
BTK **Batken** **3.35 253** ⇑*i*P **Pn** **07 03 43.7 +3.2**
baz=53
BTK ⇑*i*S **Sb** **07 04 24.2 -4.3**
baz=53
ARXS **Arharly** **3.74 33** *e*P **Pb** **07 03 55.8 +1.7**
1.6nm,0.3s
ARXS *e*S **Sg** **07 04 44.3 -3.7**
6.9nm,0.4s
ARXS **Arharly** **3.74 33** Pg **Pb** **07 03 55.8 +1.7**
1.6nm,0.3s
ARXS Lg Lg 07 04 44.3
6.9nm,0.4s
IUG **Iuzhnay** **3.87 287** *e*P **Pb** **07 03 58.8 +2.5**
8.7nm,0.4s
IUG *e*S **Sg** **07 04 49.5 -2.6**
22nm,0.4s
IUG **Iuzhnay** **3.87 287** Pg **Pb** **07 03 58.8 +2.5**
8.7nm,0.4s
IUG Lg Lg 07 04 49.5
22nm,0.4s
KK31 **Karatay Array** **3.89 302** ⇑Pg **Pb** **07 03 58.1 +1.4**
3.0nm,0.5s,baz=118,slow=17,SNR=34
KK31 ⇑Lg Lg 07 04 49.6
3.3nm,0.5s,baz=123,slow=26,SNR=6.1
BTLS **Baital** **4.00 350** *e*P **Pb** **07 04 00.7 +2.2**
0.9nm,0.4s
BTLS *e*S **Sg** **07 04 52.5 -3.7**
8.3nm,0.5s
BTLS **Baital** **4.00 350** Pg **Pb** **07 04 00.7 +2.2**
0.9nm,0.4s
BTLS Lg Lg 07 04 52.5
8.3nm,0.5s
PDGK **Podgornoye** **4.01 55** Pg **Pb** **07 03 59.9 +1.2**
0.4nm,0.4s
PDGK Lg Lg 07 04 52.0
2.5nm,0.7s
PDGK **Podgornoye** **4.01 55** ⇑Pg **Pg** **07 04 02.2 -2.4**
1.8nm,0.6s
PDGK ⇑Lg Lg 07 04 54.3
8.1nm,0.7s
BRLS **Boroldaу** **4.30 298** *e*P **Pb** **07 04 06.4 +2.7**
0.9nm,0.3s
BRLS *e*S **Sg** **07 05 02.4 -3.5**
10nm,0.5s
BRLS **Boroldaу** **4.30 298** Pg **Pb** **07 04 06.4 +2.7**
0.9nm,0.3s
BRLS Lg Lg 07 05 02.4
10nm,0.5s

NEIC ***25*** *07:11:31.7±2.3,46.9N±0.1×152.8E±0.2,h79km±9km, mb4.2/7, Error ellipse: s-maj=27.4km s-min=6.1km az=137.0*
IDC ***25*** *07:11:32.4±3.0,47.04N×152.76E,h80km±26km,mb3.5/9, mb1 3.7/12,mb1mx3.4/41,mbtmp3.8/12, Error ellipse: s-maj=35.7km s-min=16.7km az=163.0*
ISC 25 07:11:29.0±1.0,46.8N±0.2×153.0E±0.1,h56km,n33, σ1ŝ30/23,mb4.1/12,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.99**	**24**	P	**Pn**	**07 13 10.0**	**+1.4**
	0.1nm,0.3s,baz=199,slow=12,SNR=3.3						
YSS	**Yuzh-Sakhalins**	**7.03**	**275**	Pn	**Pn**	**07 13 10.8**	**+1.6**
JKA	**Kamikawa-asahi**	**7.80**	**254**		**Pn**	**07 13 22.0**	**+2.3**
ASAJ	**Asahikawa**	**7.80**	**254**	P	**Pn**	**07 13 21.9**	**+2.1**
	1.2nm,0.3s,baz=80,slow=16,SNR=4.2						
ERM	**Erimo**	**8.53**	**239**	Pn	**Pn**	**07 13 29.1**	**-0.6**
USRK	**Ussuriysk Ar.**	**14.96**	**268**	P	**Pn**	**07 14 56.4**	**-0.6**
	baz=70,slow=14,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**29.30**	**152**	T	T	07 48 43.0	
	baz=340,slow=76,SNR=262						
H11N1	**WAKE ISLAND Hy**	**29.32**	**153**	T	T	07 48 41.8	
	baz=340,slow=76,SNR=210						
H11N3	**WAKE ISLAND Hy**	**29.32**	**152**	T	T	07 49 05.4	
	baz=340,slow=76,SNR=203						
H11S1	**WAKE ISLAND Hy**	**30.39**	**154**	T	T	07 50 13.1	
	baz=340,slow=76,SNR=285						
H11S3	**WAKE ISLAND Hy**	**30.40**	**154**	T	T	07 50 10.9	
	baz=340,slow=76,SNR=229						
H11S2	**WAKE ISLAND Hy**	**30.41**	**154**	T	T	07 50 13.7	
	baz=340,slow=76,SNR=235						
RDOG	**Red Dog Mine**	**30.80**	**31**	P	**P**	**07 17 37.3**	**-1.6**
RDOG				IAmb	IAmb	07 17 51.0	
	comp=Z,5.9nm,1.0s						
INK	**Inuvik**	**41.64**	**32**	P	**P**	**07 19 12.3**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=236,slow=4.5,SNR=6.2						
INK	**Inuvik**	**41.64**	**32**	IAmb	IAmb	07 19 17.5	
	comp=Z,5.9nm,1.2s						
C36M	**Paulatuk**	**44.80**	**30**	P	**P**	**07 19 37.5**	**+0.9**
MKAR	**Makanchi Array**	**46.85**	**297**	P	**P**	**07 19 51.5**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=54,slow=7.6,SNR=3.2						
EUNU	**Eureka**	**49.08**	**11**	P	**P**	**07 20 10.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**52.31**	**256**	P	**P**	**07 20 35.9**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=31,slow=6.7,SNR=4.9						
NVAR	**Mina Array Bea**	**62.47**	**62**	P	**P**	**07 21 47.7**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=306,slow=7.7,SNR=3.0						
FINES	**FINESS Array B**	**63.95**	**335**	P	**P**	**07 21 54.7**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=48,slow=7.1,SNR=12						
PDAR	**Pinedale Array**	**64.77**	**54**	P	**P**	**07 22 02.4**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=205,slow=6.6,SNR=3.7						
TCRU	**Three Creeks R**	**65.86**	**59**	P	**P**	**07 22 07.0**	**-1.8**
NB2	**NORSAR Subarra**	**68.15**	**341**	P	**P**	**07 22 21.6**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.15**	**341**	P	**P**	**07 22 21.9**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=28,slow=6.4,SNR=5.1						
AKASG	**Malin Array Be**	**71.46**	**326**	P	**P**	**07 22 41.9**	**-1.2**
	comp=Z,2.1nm,0.5s,baz=33,slow=6.2,SNR=4.3						
BUR08	**Bucovina Ar. S**	**75.48**	**327**	P	**P**	**07 23 07.0**	**0.0**
BUR08				IAmb	IAmb	07 23 22.0	
	comp=Z,2.9nm,1.2s						
TX31	**Lajitas Ar. Si**	**77.52**	**60**	P	**P**	**07 23 19.7**	**+0.8**
TX31				IAmb	IAmb	07 23 20.2	
	comp=Z,4.9nm,1.4s						
TX32	**Lajitas Array**	**77.52**	**60**	P	**P**	**07 23 19.0**	**+0.2**
TXAR	**Lajitas Array**	**77.52**	**60**	P	**P**	**07 23 19.2**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=301,slow=4.7,SNR=12						
H03N2	**Juan Fernandez**	**138.82**	**90**	T	T	10 06 18.1	
	baz=307,slow=77,SNR=13						
H03N1	**Juan Fernandez**	**138.84**	**90**	T	T	10 06 16.5	
	baz=307,slow=77,SNR=17						
H03N3	**Juan Fernandez**	**138.84**	**90**	T	T	10 06 19.6	
	baz=307,slow=77,SNR=14						

KRNET ***25*** *07:28:12.8±0.1,41.10N×75.03E,h18km,mb3.5*
SOME ***25*** *07:28:13.5,41.15N×75.02E,h10km*
NNC ***25*** *07:28:14.8±0.9,41.14N×75.01E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=6.2km s-min=4.1km az=5.0*
KNET ***25*** *07:28:15.0±0.4,41.19N×74.95E,h6km±2km,ml2.7, Error ellipse: s-maj=3.1km s-min=2.6km az=101.0*
ISC 25 07:28:12.6±1.2,41.08N±0.04×75.02E±0.02,h17km±11km, n72,σ1ŝ76/116,45C-19D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARLS	**Aral**	**0.94**	**326**	⇓*i*P	**Pb**	**07 28 30.7**	**+0.2**
	baz=26						
ARLS				⇓*i*S	**Sg**	**07 28 43.6**	**+0.4**
	baz=26						
KZA	**Kyzart**	**1.01**	**10**	⇑*i*P	**Pb**	**07 28 31.9**	**0.0**
	baz=9.0						
KZA				⇑*i*S	**Sg**	**07 28 45.6**	**0.0**
	baz=9.0						
KZA	**Kyzart**	**1.01**	**10**	⇑P	**Pn**	**07 28 32.5**	**+0.1**
	45nm,0.2s,SNR=120						
KZA				⇑S	**Sn**	**07 28 46.7**	**+0.3**
	143nm,0.2s						
UCH	**Uchtor**	**1.21**	**342**	⇑*e*P	**Pb**	**07 28 35.5**	**+0.3**
	baz=41						
UCH				⇑*i*S	**Sg**	**07 28 52.2**	**+0.4**
	baz=41						
UCH	**Uchtor**	**1.21**	**342**	⇓P	**Pg**	**07 28 36.2**	**+0.3**
	62nm,0.1s,SNR=411						
UCH				⇓S	**Sg**	**07 28 53.2**	**+1.3**
	53nm,0.2s						
AML	**Almayashu**	**1.45**	**317**	⇑*i*P	**Pg**	**07 28 40.1**	**-0.4**
	baz=16						
AML				⇑*i*S	**Sg**	**07 29 00.0**	**+0.6**
	baz=16						
AML	**Almayashu**	**1.45**	**317**	⇓P	**Pg**	**07 28 40.1**	**-0.4**
	102nm,0.2s,SNR=146						
ULHL	**Ulahol**	**1.48**	**38**	⇑*i*P	**Pb**	**07 28 40.3**	**+0.5**
	baz=38						
ULHL				⇑*i*S	**Sg**	**07 29 00.3**	**-0.1**
	baz=38						
KBK	**Karagaybulak**	**1.57**	**358**	⇑*i*P	**Pb**	**07 28 41.9**	**+0.5**
	baz=58						
KBK				⇑*i*S	**Sg**	**07 29 03.2**	**-0.2**
	baz=58						
KBK	**Karagaybulak**	**1.57**	**358**	⇑P	**Pg**	**07 28 43.3**	**+0.4**
	60nm,0.1s,SNR=15						
KBK				⇑S	**Sg**	**07 29 05.0**	**+1.6**
	110nm,0.2s						
AAK	**Ala-Archa**	**1.60**	**346**	⇑*i*P	**Pg**	**07 28 42.7**	**-0.8**
	baz=46						
AAK				⇑*i*S	**Sg**	**07 29 04.2**	**-0.1**
	baz=46						
AAK	**Ala-Archa**	**1.60**	**346**	⇓P	**Pg**	**07 28 43.4**	**-0.1**
	55nm,0.2s,SNR=35						
AAK				⇑S	**Sg**	**07 29 05.2**	**+0.8**
	46nm,0.2s						
AAK	**Ala-Archa**	**1.60**	**346**	⇑P	**Pg**	**07 28 43.1**	**-0.4**
	28nm,0.5s						
AAK				⇓S	**Sg**	**07 29 04.8**	**+0.5**
	60nm,0.6s						
FRU1	**Bishkek**	**1.75**	**351**	⇑*i*P	**Pb**	**07 28 45.1**	**+0.8**
	baz=50						
FRU1				⇑*i*S	**Sg**	**07 29 08.7**	**-0.3**
	baz=50						
OHH	**Osh**	**1.79**	**253**	⇓*i*P	**Pg**	**07 28 46.5**	**-0.4**
	baz=52						
OHH				⇓*i*S	**Sg**	**07 29 10.4**	**+0.3**
	baz=52						
EKS2	**Erkin-Say**	**1.83**	**330**	⇑*i*P	**Pb**	**07 28 46.7**	**+1.0**
	baz=29						
EKS2				⇑*i*S	**Sg**	**07 29 11.2**	**-0.4**
	baz=29						
EKS2	**Erkin-Say**	**1.83**	**330**	⇓P	**Pg**	**07 28 47.3**	**-0.5**
	18nm,0.2s,SNR=45						
TKM2	**Tokmak 2**	**1.89**	**13**	⇑*i*P	**Pb**	**07 28 47.6**	**+0.9**
	baz=13						
TKM2				⇑*i*S	**Sg**	**07 29 12.8**	**-0.6**
	baz=13						
TKM2	**Tokmak 2**	**1.89**	**13**	⇓P	**Pg**	**07 28 48.7**	**-0.2**
	29nm,0.2s,SNR=17						
TKM2				⇑S	**Sg**	**07 29 14.5**	**+1.1**
	40nm,0.1s						
TKM2	**Tokmak 2**	**1.89**	**13**	⇑Pn	**Pg**	**07 28 48.2**	**-0.6**
	19nm,0.4s						
TKM2				⇑Sn	**Sg**	**07 29 13.0**	**-0.5**
	22nm,0.3s						
CHMS	**Chumysh**	**1.93**	**354**	⇑*e*P	**Pb**	**07 28 48.0**	**+0.7**
	baz=54						
CHMS				⇑*i*S	**Sg**	**07 29 13.6**	**-1.0**
	baz=54						
CHMS	**Chumysh**	**1.93**	**354**	⇓P	**Pg**	**07 28 49.1**	**-0.5**
	34nm,0.1s,SNR=21						
CHMS				⇓S	**Sg**	**07 29 14.6**	**0.0**
	102nm,0.5s						
KDJ	**Kajisay**	**1.93**	**56**	⇑*i*P	**Pg**	**07 28 48.5**	**-1.1**
	baz=57						
KDJ				⇑*i*S	**Sg**	**07 29 14.2**	**-0.5**
	baz=57						
KST	**Kastek**	**2.08**	**19**	*e*P	**Pg**	**07 28 52.0**	**-0.5**
	18nm,0.2s						
KST				*e*S	**Sg**	**07 29 19.5**	**-0.1**
	71nm,0.4s						
KST	**Kastek**	**2.08**	**19**	Pg	**Pg**	**07 28 52.0**	**-0.5**
	18nm,0.2s						
KST				Lg	Lg	07 29 19.5	
	71nm,0.4s						
MRKS	**Merke**	**2.13**	**322**	*e*P	**Pg**	**07 28 52.5**	**-1.0**
	91nm,0.3s						
MRKS				*e*S	**Sg**	**07 29 20.7**	**-0.6**
	93nm,0.3s						
MRKS	**Merke**	**2.13**	**322**	Pg	**Pg**	**07 28 52.5**	**-1.0**
	91nm,0.3s						
MRKS				Lg	Lg	07 29 20.7	
	93nm,0.3s						
TARG	**Taragay, Kyrgy**	**2.19**	**72**	⇓*i*P	**Pb**	**07 28 52.2**	**+0.2**
	baz=72						
TARG				⇓*i*S	**Sg**	**07 29 21.2**	**-2.0**
	baz=72						
USP	**Ospenovka**	**2.22**	**350**	⇑*i*P	**Pb**	**07 28 52.4**	**+0.2**
	baz=50						
USP				⇑*i*S	**Sg**	**07 29 21.6**	**-2.3**
	baz=50						
USP	**Ospenovka**	**2.22**	**350**	⇑P	**Pb**	**07 28 53.5**	**+1.2**
	70nm,0.2s,SNR=94						
USP				⇑S	**Sg**	**07 29 24.1**	**+0.2**
	113nm,0.3s						
IZV	**Izvestkoviy**	**2.29**	**31**	*e*P	**Pg**	**07 28 55.5**	**-0.9**
	9.0nm,0.4s						
IZV				*e*S	**Sg**	**07 29 24.9**	**-1.2**
	24nm,0.4s						
IZV	**Izvestkoviy**	**2.29**	**31**	Pg	**Pg**	**07 28 55.5**	**-0.9**
	9.0nm,0.4s						
IZV				Lg	Lg	07 29 24.9	
	24nm,0.4s						
MTBS	**Maitube**	**2.30**	**27**	*e*P	**Pg**	**07 28 56.6**	**-0.1**
	14nm,0.1s						
MTBS				*e*S	**Sg**	**07 29 26.9**	**+0.3**
	56nm,0.4s						
MTBS	**Maitube**	**2.30**	**27**	Pg	**Pg**	**07 28 56.6**	**-0.1**
	14nm,0.1s						
MTBS				Lg	Lg	07 29 26.9	
	56nm,0.4s						
ARK	**Arkit**	**2.41**	**288**	⇑*i*P	**Pb**	**07 28 55.5**	**0.0**
	baz=87						
ARK				⇑*i*S	**Sb**	**07 29 26.5**	**+1.5**
	baz=87						
MDOK	**Medeo**	**2.57**	**35**	*e*P	**Pg**	**07 29 00.4**	**-1.5**
	12nm,0.4s						
MDOK				*e*S	**Sg**	**07 29 33.8**	**-1.3**
	22nm,0.6s						
MDOK	**Medeo**	**2.57**	**35**	⇓Pn	**Pg**	**07 29 00.2**	**-1.6**
	13nm,0.5s						
MDOK				Lg	Lg	07 29 35.0	
	23nm,0.7s						
MDOK	**Medeo**	**2.57**	**35**	Pg	**Pg**	**07 29 00.4**	**-1.5**
	12nm,0.4s						
MDOK				Lg	Lg	07 29 33.8	
	22nm,0.6s						
ANVS	**Anan'yevo**	**2.61**	**48**	⇑*i*P	**Pb**	**07 28 58.1**	**-0.8**
	baz=49						
ANVS				⇑*i*S	**Sb**	**07 29 30.7**	**0.0**
	baz=49						
KOTS	**Kotyrbulak**	**2.65**	**35**	*e*P	**Pg**	**07 29 02.3**	**-1.2**
	47nm,0.4s						
KOTS				*e*S	**Sg**	**07 29 36.4**	**-1.5**
	30nm,0.6s						
KOTS	**Kotyrbulak**	**2.65**	**35**	Pg	**Pg**	**07 29 02.3**	**-1.2**
	47nm,0.4s						
KOTS				Lg	Lg	07 29 36.4	
	30nm,0.6s						
KRBS	**Karabastau**	**2.66**	**10**	*e*P	**Pg**	**07 29 02.8**	**-0.7**
	6.0nm,0.2s						
KRBS				*e*S	**Sg**	**07 29 37.4**	**-0.5**
	75nm,0.7s						
KRBS	**Karabastau**	**2.66**	**10**	Pg	**Pg**	**07 29 02.8**	**-0.7**
	6.0nm,0.2s						
KRBS				Lg	Lg	07 29 37.4	
	75nm,0.7s						
KTBS	**Karatobe**	**2.90**	**25**	*e*P	**Pg**	**07 29 07.0**	**-1.2**
	8.0nm,0.2s						
KTBS				*e*S	**Sg**	**07 29 44.9**	**-1.0**
	33nm,0.6s						
KTBS	**Karatobe**	**2.90**	**25**	Pg	**Pg**	**07 29 07.0**	**-1.2**
	8.0nm,0.2s						
KTBS				Lg	Lg	07 29 44.8	
	33nm,0.6s						
KUU	**Kurty**	**2.98**	**19**	*e*P	**Pg**	**07 29 08.3**	**-1.2**
	3.0nm,0.3s						
KUU				*e*S	**Sg**	**07 29 47.0**	**-1.2**
	52nm,0.6s						
KUU	**Kurty**	**2.98**	**19**	Pg	**Pg**	**07 29 08.3**	**-1.2**
	3.0nm,0.3s						
KUU				Lg	Lg	07 29 47.0	
	52nm,0.6s						
CHKK	**Chushkaly**	**3.13**	**27**	*e*P	**Pg**	**07 29 11.1**	**-1.4**
	2.5nm,0.3s						

CHKK					*e*S		**Sg**	**07 29 51.9**	**-1.2**
	50nm,0.3s								
CHKK	**Chushkaly**	**3.13**	**27**		Pg		**Pg**	**07 29 11.1**	**-1.4**
	2.5nm,0.3s								
CHKK					Lg		Lg	07 29 51.9	
	50nm,0.3s								
SATY	**Saty**	**3.20**	**51**		*e*P		**Pg**	**07 29 12.9**	**-1.0**
	2.3nm,0.4s								
SATY					*e*S		**Sg**	**07 29 54.8**	**-0.6**
	20nm,0.3s								
SATY	**Saty**	**3.20**	**51**		Pg		**Pg**	**07 29 12.9**	**-1.0**
	2.3nm,0.4s								
SATY					Lg		Lg	07 29 54.8	
	20nm,0.3s								
KURS	**Kuram**	**3.35**	**43**		*e*P		**Pg**	**07 29 14.6**	**-2.2**
	3.4nm,0.6s								
KURS					*e*S		**Sg**	**07 29 57.9**	**-2.3**
	11nm,0.6s								
KURS	**Kuram**	**3.35**	**43**		Pg		**Pg**	**07 29 14.6**	**-2.2**
	3.4nm,0.6s								
KURS					Lg		Lg	07 29 57.9	
	11nm,0.6s								
BTK	**Batken**	**3.36**	**254**	⇑	*i*P		**Pn**	**07 29 08.3**	**+3.9**
	baz=53								
BTK				⇑	*i*S		**Sb**	**07 29 49.3**	**-3.0**
	baz=53								
UZB	**Uzynbulak**	**3.62**	**54**		*e*P		**Pg**	**07 29 19.3**	**-2.6**
	2.0nm,0.2s								
UZB					*e*S		**Sg**	**07 30 05.7**	**-3.2**
	11nm,0.6s								
UZB	**Uzynbulak**	**3.62**	**54**		Pg		**Pg**	**07 29 19.3**	**-2.6**
	2.0nm,0.2s								
UZB					Lg		Lg	07 30 05.7	
	11nm,0.6s								
ARXS	**Arharly**	**3.75**	**33**		*e*P		**Pg**	**07 29 22.0**	**-2.4**
	7.7nm,0.5s								
ARXS					*e*S		**Sg**	**07 30 10.2**	**-2.8**
	27nm,0.6s								
ARXS	**Arharly**	**3.75**	**33**		Pg		**Pg**	**07 29 22.0**	**-2.4**
	7.7nm,0.5s								
ARXS					Lg		Lg	07 30 10.2	
	27nm,0.6s								
IUG	**Iuzhnay**	**3.89**	**288**		*e*P		**Pg**	**07 29 24.2**	**-2.8**
	15nm,0.4s								
IUG					*e*S		**Sg**	**07 30 14.3**	**-3.1**
	58nm,0.4s								
IUG	**Iuzhnay**	**3.89**	**288**		Pg		**Pg**	**07 29 24.2**	**-2.8**
	15nm,0.4s								
IUG					Lg		Lg	07 30 14.4	
	58nm,0.4s								
SHLS	**Shalkode**	**3.90**	**56**		*e*P		**Pg**	**07 29 29.0**	**+1.7**
	6.8nm,0.2s								
SHLS					*e*S		**Sg**	**07 30 22.3**	**+4.5**
	20nm,0.7s								
SHLS	**Shalkode**	**3.90**	**56**		Pg		**Pg**	**07 29 29.0**	**+1.7**
	6.8nm,0.2s								
SHLS					Lg		Lg	07 30 22.3	
	20nm,0.7s								
KK31	**Karatay Array**	**3.92**	**303**		Pg		**Pb**	**07 29 23.7**	**+2.6**
	7.7nm,0.5s,baz=125,slow=16,SNR=89								
KK31				⇑	Lg		Lg	07 30 15.4	
	4.8nm,0.3s,baz=124,slow=29,SNR=6.2								
PDGK	**Podgornoye**	**4.01**	**54**	⇑	Pg		**Pg**	**07 29 27.3**	**-2.0**
	4.4nm,0.6s								
PDGK				⇓	Lg		Lg	07 30 18.0	
	11nm,0.7s								
BTLS	**Baital**	**4.02**	**350**		*e*P		**Pg**	**07 29 26.4**	**-3.1**
	2.9nm,0.2s								
BTLS					*e*S		**Sg**	**07 30 18.4**	**-3.2**
	18nm,0.5s								
BTLS	**Baital**	**4.02**	**350**		Pg		**Pg**	**07 29 26.4**	**-3.1**
	2.9nm,0.2s								
BTLS					Lg		Lg	07 30 18.4	
	18nm,0.5s								
BRLS	**Borolday**	**4.32**	**298**		*e*P		**Pg**	**07 29 32.2**	**-3.1**
	1.2nm,0.4s								
BRLS					*e*S		**Sg**	**07 30 28.3**	**-3.0**
	21nm,0.4s								
BRLS	**Borolday**	**4.32**	**298**		Pg		**Pg**	**07 29 32.2**	**-3.1**
	1.2nm,0.4s								
BRLS					Lg		Lg	07 30 28.3	
	21nm,0.4s								
KAPS	**Kapalarasan**	**5.26**	**36**		*e*P		**Pb**	**07 29 48.2**	**+4.1**
	0.7nm,0.5s								
KAPS					*e*S		**Sg**	**07 30 55.3**	**-6.1**
	3.5nm,0.4s								
KAPS	**Kapalarasan**	**5.26**	**36**		Pg		**Pb**	**07 29 48.2**	**+4.1**
	0.7nm,0.5s								
KAPS					Lg		Lg	07 30 55.3	
	3.5nm,0.4s								
MAKZ	**Makanchi**	**7.61**	**39**	⇑	Pn		Pn	07 30 07.7	+5.1
	0.7nm,0.8s								
MAKZ				⇑	Lg		Lg	07 32 15.3	
	1.7nm,0.9s								
MK31	**Makanchi Array**	**7.75**	**40**	⇓	Pn		Pn	07 30 10.0	+5.4
	0.4nm,0.5s,baz=225,slow=15,SNR=3.9								
MK31				⇓	Lg		Lg	07 32 21.4	
	1.1nm,0.7s,baz=224,slow=18,SNR=7.7								

BJI ***25*** *07:31:40.9±0.0,29.°73N×130.°05E,h117km,mB4.7/35, mb4.8/50*

MOS ***25*** *07:31:40.9±0.9,29.°78N×129.°88E,h103km,mb4.7/32, Error ellipse: s-maj=8.6km s-min=5.1km az=83.0*

IDC ***25*** *07:31:42.3±0.5,29.°89N×129.°87E,h102km±4km,mb4.0/22, mb1 4.2/28,mb1mx4.1/49,mbtmp4.5/28,MS3.4/13, Ms1 3.4/13,ms1mx3.2/39,Error ellipse: s-maj=10.9km s-min=7.8km az=100.0*

JMA ***25*** *07:31:42.1,29.°85N×129.°99E,h91km±1km,M4.4*

JMA Felt I J1.

NIED ***25*** *07:31:42.2,29.°85N×129.°99E,h91km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr-0.09; Mθθ0.39; Mφφ-0.30; Mrθ0.72; Mθφ-0.04; Mφr-1.04; Fault plane solution: M₀1.31000×10¹⁶ NP1: φs323.00000°,δ89.00000°,λ-75.00000°. NP2:φs57.00000°, δ15.00000°,λ-176.00000°.*

NEIC ***25*** *07:31:43.7±1.5,29.°89N±0.°07×129.°88E±0.°07, h111km±5km,mb4.7/144 Error ellipse: s-maj=10.2km s-min=8.9km az=140.0*

ISC 25 07:31:42.3±0.4,**29.°87N**±0.°04×**129.°96E**±0.°04,**h100**km±3km, **h100km:pP-P,n287,**σ1**42/**319,**mb4.7/**113,**6C-5D,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.08**	**247**	P	**Pn**	**07 31 54.9**	**-1.3**
JNN				*e*S	**Sn**	**07 32 04.8**	**-1.9**
JYAK	**Yakushimahirau**	**0.60**	**52**	P	**Pn**	**07 31 57.7**	**-1.1**
JYAK				S	**Sn**	**07 32 09.8**	**-1.5**
JKC	**Kuchinoerabu**	**0.62**	**19**	P	**Pn**	**07 31 58.2**	**-0.8**
JKC				*e*S	**Sn**	**07 32 10.0**	**-1.6**
JMTN	**Minamitane**	**0.97**	**57**	P	**Pn**	**07 32 01.7**	**-0.7**
JMTN				S	**Sn**	**07 32 16.7**	**-0.8**
JTAJ	**Takarajima**	**0.97**	**223**	P	**Pn**	**07 32 01.7**	**-0.7**
JTAJ				S	**Sn**	**07 32 17.3**	**-0.3**
JTN	**Tanegashima 3**	**1.18**	**48**	P	**Pn**	**07 32 04.0**	**-0.7**
JTN				*e*S	**Sn**	**07 32 20.7**	**-0.9**
JAM	**Amami Oshima**	**1.49**	**192**	P	**Pn**	**07 32 07.5**	**-0.9**
JAM				*e*S	**Sn**	**07 32 27.6**	**-0.6**
JTSR	**Tashiro 2**	**1.53**	**33**	P	**Pn**	**07 32 08.7**	**-0.3**
JTSR				S	**Sn**	**07 32 28.3**	**-1.0**
JZK	**Kikaishima**	**1.55**	**180**	P	**Pn**	**07 32 09.3**	**+0.1**
JSU	**Suzuyama**	**1.68**	**15**	P	**Pn**	**07 32 11.0**	**+0.1**
JSU				*e*S	**Sn**	**07 32 31.9**	**-0.7**
JAMN	**Amaminishikomi**	**1.76**	**203**	P	**Pn**	**07 32 11.1**	**-0.7**
JAMN				*e*S	**Sn**	**07 32 34.1**	**-0.2**
JSJ	**Shimokoshiki**	**1.81**	**353**	P	**Pn**	**07 32 12.3**	**-0.2**
JSJ				S	**Sn**	**07 32 35.4**	**0.0**
JNAR	**Kushima--Naru**	**2.00**	**34**	P	**Pn**	**07 32 15.1**	**+0.3**
JNAR				S	**Sn**	**07 32 39.3**	**-0.4**
JNU	**Nakatsue**	**3.33**	**13**	P	**Pn**	**07 32 33.9**	**+1.4**
	baz=192,slow=9.5						
JNU				S	**Sn**	**07 33 11.9**	**+0.6**
	74nm,0.3s,baz=257,slow=21,SNR=14						
JNU				LR	LR	07 33 45.2	
	comp=Z,501nm,18.0s,baz=182,slow=37						
JNU	**Nakatsue**	**3.33**	**13**	Pn	**Pn**	**07 32 34.3**	**+1.8**
TJN	**Taejon**	**6.84**	**342**	*ce*P	**Pn**	**07 33 22.1**	**+2.2**
SSE	**Sheshan**	**7.67**	**281**	Pn	**Pn**	**07 33 33.2**	**+2.0**
KSRS	**Korea Array**	**7.75**	**348**	P	**Pn**	**07 33 34.5**	**+2.2**
	1.8nm,0.3s,baz=166,slow=14,SNR=43						
KSRS				LR	LR	07 36 34.2	
	comp=Z,134nm,21.6s,baz=165,slow=38						
KS19	**Wonju Array Si**	**7.81**	**348**		**Pn**	**07 33 34.3**	**+1.2**
INCN	**Inchon**	**8.08**	**341**	P	**Pn**	**07 33 38.7**	**+1.9**
INCN	**Inchon**	**8.08**	**341**	Pn	**Pn**	**07 33 38.7**	**+1.9**
YOJ	**Yonaguni jima**	**8.20**	**231**	P	**Pn**	**07 33 36.6**	**-1.9**
YOJ	**Yonaguni jima**	**8.20**	**231**	Pn	**Pn**	**07 33 36.6**	**-1.9**
TATO	**Taipei**	**8.97**	**239**	Pn	**Pn**	**07 33 49.4**	**+0.5**
JHJ	**Hachijo jima 2**	**8.99**	**66**	P	**Pn**	**07 33 50.9**	**+1.7**
	92nm,0.3s,baz=125,slow=15,SNR=23						
JHJ				S	**Sn**	**07 35 29.4**	**+0.7**
	26nm,0.3s,baz=61,slow=21,SNR=7.1						
JHJ2	**Mitsune**	**9.01**	**66**	Pn	**Pn**	**07 33 50.9**	**+1.4**
YHNB	**Yeheng**	**9.23**	**238**		**Pn**	**07 33 52.7**	**+0.2**
NACB	**Ninganchiao**	**9.37**	**235**	Pn	**Pn**	**07 33 57.7**	**+3.3**
MAJO	**Matsushiro**	**9.59**	**44**	*i* P	**Pn**	**07 33 58.1**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MAJO	**Matsushiro**	**9.59**	**44**	Pn	**Pn**	**07 33 57.9**	**+0.6**
MAT	**Matsushiro**	**9.59**	**44**	P	**Pn**	**07 33 57.7**	**+0.4**
MAT				S	**Sn**	**07 35 43.4**	**+0.2**
MJAR	**Matsushiro Arr**	**9.59**	**44**	P	**Pn**	**07 33 58.8**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=238,slow=12,SNR=31						
MJAR				S	**Sn**	**07 35 42.4**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=214,slow=16,SNR=8.7						
NJ2	**Nanjing**	**9.78**	**286**	*e*P	**Pn**	**07 34 00.5**	**+0.6**
NJ2				S	**Sn**	**07 35 46.5**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,26nm,0.6s						
NJ2				LR	LR		
	comp=Z,260nm,6.4s						
NJ2				LR	LR		
	comp=Z,200nm,7.1s						
NJ2				LR	LR		
	comp=Z,350nm,10.9s						
SSLB	**Suanglung**	**10.07**	**235**		**Pn**	**07 34 01.8**	**-2.2**
YULB	**Yu-li**	**10.08**	**232**		**Pn**	**07 34 03.3**	**-0.8**
TPUB	**Ta-pu**	**10.61**	**234**	Pn	**Pn**	**07 34 10.6**	**-0.7**
JCJ	**Chichijima**	**11.11**	**101**	P	**Pn**	**07 34 19.0**	**+1.1**
	comp=Z,10nm,0.3s,baz=280,slow=6.5,SNR=15						
JCJ				LR	LR	07 38 41.2	
	comp=Z,59nm,18.9s,baz=270,slow=37						
JCJ	**Chichijima**	**11.11**	**101**	Pn	**Pn**	**07 34 19.3**	**+1.3**
QZH	**Quanzhou**	**11.23**	**247**	⇓ *i*P	**Pn**	**07 34 19.8**	**+0.2**
QZH				S	**Sn**	**07 36 24.0**	**+0.9**
QZH				LR	LR		
	comp=Z,490nm,6.1s						
QZH				LR	LR		
	comp=Z,220nm,4.6s						
QZH				LR	LR		
	comp=Z,240nm,8.3s						
KNMB	**Chin-men Tao**	**11.62**	**245**	Pn	**Pn**	**07 34 23.9**	**-1.1**
WHN	**Wuhan**	**13.52**	**277**	⇑P	**Pn**	**07 34 50.0**	**+0.1**
WHN				S	**Sn**	**07 37 22.5**	**+3.9**
WHN				LR	LR		
	comp=Z,910nm,8.6s						
WHN				LR	LR		
	comp=Z,600nm,4.0s						
WHN				LR	LR		
	comp=Z,530nm,13.3s						
CN2	**Changchun**	**14.36**	**347**	*e*P	**P**	**07 35 04.0**	**-0.8**
CN2				*e*S	**S**	**07 37 46.0**	**-6.1**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				LR	LR		
	comp=Z,210nm,12.0s						
CN2				LR	LR		
	comp=Z,250nm,12.0s						
CN2				LR	LR		
	comp=Z,220nm,13.0s						
USA0B	**Ussuriysk Arra**	**14.39**	**6**	P	**Pn**	**07 35 03.0**	**+1.9**
USA0B	**Ussuriysk Arra**	**14.39**	**6**	Pn	**Pn**	**07 35 03.0**	**+1.9**
USRK	**Ussuriysk Ar.**	**14.39**	**6**	LR	LR	07 40 10.1	
	comp=Z,100nm,19.5s,baz=174,slow=35						
BJT	**Baijiatuan**	**15.16**	**316**	P	**Pn**	**07 35 11.5**	**+0.6**
BJT				pmax	pmax		
	comp=Z,16nm,0.6s						
BJT	**Baijiatuan**	**15.16**	**316**	Pn	**Pn**	**07 35 11.5**	**+0.6**
BJI	**Beijing**	**15.17**	**316**	P	**P**	**07 35 12.3**	**-1.4**
BJI				S	**S**	**07 38 04.8**	**-3.9**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ERM	**Erimo**	**16.13**	**38**	*ce*P	**Pn**	**07 35 23.3**	**+0.3**
ERM				pmax	pmax		
	comp=Z,54nm,1.3s						
ERM	**Erimo**	**16.13**	**38**	Pn	**Pn**	**07 35 23.1**	**0.0**
ERM				IAmb	IAmb	07 35 24.0	
	comp=Z,37nm,0.8s						
TIY	**Taiyuan**	**16.52**	**303**	*e*P	**P**	**07 35 32.0**	**+3.2**
TIY				pmax	pmax		
	comp=Z,39nm,0.5s						
TIY				pmax	pmax		
	comp=Z,260nm,6.4s						
ASAJ	**Asahikawa**	**17.41**	**32**	P	**P**	**07 35 37.0**	**-1.5**
	comp=Z,7.5nm,0.3s,baz=224,slow=12,SNR=25						
ASAJ				LR	LR	07 41 51.4	
	comp=Z,106nm,21.9s,baz=162,slow=35						
ASAJ	**Asahikawa**	**17.41**	**32**	P	**P**	**07 35 37.3**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,117nm,0.8s						
JKA	**Kamikawa-asahi**	**17.41**	**32**	P	**P**	**07 35 37.3**	**-1.1**
ENH	**Enshi**	**17.73**	**276**		**Pn**	**07 35 41.9**	**-0.8**
XAN	**Xi'an**	**18.32**	**289**	P	**Pn**	**07 35 49.0**	**-0.9**
XAN				sP	sP	07 36 23.8	+4.0
XAN				pmax	pmax		
	comp=Z,99nm,0.8s						
XAN	**Xi'an**	**18.32**	**289**	P	**Pn**	**07 35 48.9**	**-0.9**
XAN				pmax	pmax		
	comp=Z,70nm,0.9s						
XAN	**Xi'an**	**18.32**	**289**	P	**Pn**	**07 35 48.9**	**-0.9**
XAN				IAmb	IAmb	07 35 50.1	
	comp=Z,70nm,0.9s						
HHC	**Hu-ho-hao-te**	**18.54**	**311**	*e*P	**Pn**	**07 35 53.3**	**+0.9**
HHC				S	**S**	**07 39 09.0**	**-8.3**
HHC				PcP	**PcP**	**07 40 13.0**	**-3.5**
HHC				pmax	pmax		
	comp=Z,41nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,3.9s						
KLR	**Kul'dur**	**19.38**	**4**	P	**P**	**07 35 59.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=174,slow=6.5,SNR=14						
KLR				LR	LR	07 43 19.0	
	comp=Z,72nm,18.3s,baz=186,slow=36						
KLR	**Kul'dur**	**19.38**	**4**	*ce*P	**P**	**07 35 59.3**	**-0.7**
KLR				pmax	pmax		
	comp=Z,13nm,1.4s						
BTO	**Baotou**	**19.45**	**309**	*e*P	**Pn**	**07 36 04.0**	**+0.9**
YSS	**Yuzh-Sakhalins**	**19.74**	**27**	*i* P	**P**	**07 36 05.2**	**+1.3**
YSS				pmax	pmax		
	comp=Z,51nm,1.0s						
YSS	**Yuzh-Sakhalins**	**19.74**	**27**	P	**P**	**07 36 04.5**	**+0.6**
GYA	**Guiyang**	**20.81**	**266**	⇓P	Pn	07 36 17.5	-1.7
GYA				S	S	07 39 50.3	-12
GYA				SS	Sn	07 40 38.5	+24
GYA				pmax	pmax		
	comp=Z,21nm,1.2s						
GYA				LR	LR		
	comp=Z,190nm,9.3s						
GYA				LR	LR		
	comp=Z,110nm,9.3s						
GYA				LR	LR		
	comp=Z,220nm,11.4s						
KUR	**Kuril'sk**	**20.83**	**38**	*d iP*	Pn	07 36 19.8	+0.8
KUR				pmax	pmax		
	comp=Z,373nm,1.1s						
GRNR	**Gornyy**	**21.43**	**11**	*e*P	**P**	**07 36 23.9**	**+1.8**
GRNR				MLR	MLR		
	comp=Z,130nm,12.0s						
CD2	**Chengdu**	**22.61**	**279**	P	**P**	**07 36 33.5**	**-1.3**
CD2				S	**S**	**07 40 34.0**	**-1.3**
CD2				pmax	pmax		
	comp=Z,50nm,1.0s						
CD2				pmax	pmax		
	comp=Z,250nm,5.2s						
LZH	**Lanzhou**	**22.73**	**293**	⇓P	**P**	**07 36 35.0**	**-1.1**
LZH				pP	pP	07 36 59.3	+3.8
LZH				S	**S**	**07 40 31.3**	**-6.0**
LZH				sS	sS	07 41 12.5	+0.1
LZH				pmax	pmax		
	comp=Z,37nm,1.0s						
LZH				pmax	pmax		
	comp=Z,190nm,4.6s						
LZH				LR	LR		
	comp=Z,200nm,11.0s						
LZH				LR	LR		
	comp=Z,210nm,12.1s						
LZH				LR	LR		
	comp=Z,230nm,13.2s						
TYV	**Tymovskoe**	**23.03**	**21**	*e*P	**P**	**07 36 38.7**	**+0.1**
TYV				pmax	pmax		
	comp=Z,18nm,1.0s						
ZEA	**Zeya**	**23.93**	**356**	*e*P	**P**	**07 36 47.1**	**+0.3**
ZEA				pmax	pmax		
	comp=Z,15nm,1.0s						
ULN	**Ulaanbaatar**	**25.16**	**322**	*ce*P	**P**	**07 36 57.6**	**-0.7**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ULN	**Ulaanbaatar**	**25.16**	**322**	P	**P**	**07 36 58.1**	**-0.1**
SONM	**Songino Array**	**25.50**	**321**	P	**P**	**07 37 00.9**	**-0.4**
	comp=Z,5.6nm,0.4s,baz=141,slow=9.9,SNR=22						
SONM				ScP	**ScP**	**07 43 59.9**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=133,slow=3.1,SNR=7.8						
GTA	**Gaotai**	**26.46**	**299**	*e*P	**P**	**07 37 11.5**	**+1.4**
GTA				pP	pP	07 37 34.0	+2.0
GTA				sP	sP	07 37 48.3	+4.7
GTA				sS	sS	07 42 16.3	+1.0
GTA				SS	**SnSn**	**07 42 59.8**	**+11**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,98nm,7.1s						
GTA				LR	LR		
	comp=Z,110nm,15.9s						
GTA				LR	LR		
	comp=Z,110nm,17.5s						
GTA				LR	LR		
	comp=Z,100nm,16.5s						
MYLDM	**Lahad Datu**	**26.84**	**206**	P	**P**	**07 37 15.8**	**+2.4**
MYLDM				IAmb	IAmb	07 37 16.6	
	comp=Z,43nm,1.4s						
TLY	**Talaya**	**29.25**	**326**	*i* P	**P**	**07 37 36.9**	**+2.3**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**30.40**	**255**	P	**P**	**07 37 44.9**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=51,slow=7.1,SNR=3.7						
CMAR				PcP	**PcP**	**07 40 43.4**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=56,slow=1.0,SNR=8.3						
CMAR				LR	LR	07 49 36.0	
	comp=Z,106nm,20.0s,baz=143,slow=35						
PEA0B	**Petropavlovsk-**	**30.81**	**33**	P	**P**	**07 37 48.7**	**+0.3**
PEA0B				pmax	pmax		
	comp=Z,29nm,1.0s						
PEA0B	**Petropavlovsk-**	**30.81**	**33**	P	**P**	**07 37 48.7**	**+0.3**
PETK	**Petropavlovsk-**	**30.81**	**33**	P	**P**	**07 37 48.8**	**+0.4**
	comp=Z,16nm,0.8s,baz=213,slow=4.9,SNR=22						
PETK				LR	LR	07 52 02.1	
	comp=Z,43nm,18.5s,baz=233,slow=40						
PET	**Petropavlovsk**	**31.22**	**34**	P	**P**	**07 37 50.7**	**-1.2**
PET				pmax	pmax		
	comp=Z,38nm,1.0s						
PET	**Petropavlovsk**	**31.22**	**34**	P	**P**	**07 37 50.7**	**-1.2**
YAK	**Yakutsk**	**32.17**	**360**	*i* P	**P**	**07 38 00.1**	**0.0**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FAKI	**Fak Fak**	**32.68**	**176**	P	**P**	**07 38 05.3**	**+0.2**
MA2	**Magadan**	**32.88**	**19**	*i* P	**P**	**07 38 08.0**	**+1.6**
MA2				pmax	pmax		
	comp=Z,34nm,3.4s						
KSM	**Kuching**	**33.86**	**217**	P	**P**	**07 38 14.2**	**-1.2**
KSM				IAmb	IAmb	07 38 17.9	
	comp=Z,13nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**34.89**	**98**	T	T	08 14 50.4	
	baz=296,slow=75,SNR=8.6						
H11N1	**WAKE ISLAND Hy**	**34.89**	**98**	T	T	08 14 57.9	
	baz=296,slow=75,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**34.90**	**98**	T	T	08 14 56.6	
	baz=296,slow=75,SNR=8.1						
SEY	**Seymchan**	**36.10**	**17**	P	**P**	**07 38 34.1**	**0.0**
	comp=Z,4.1nm,0.7s,baz=236,slow=5.1,SNR=12						
WMQ	**Urumqi**	**36.18**	**304**	*e*P	**P**	**07 38 36.3**	**+1.2**
MK31	**Makanchi Array**	**40.36**	**308**	P	**P**	**07 39 09.8**	**-0.4**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MK31	**Makanchi Array**	**40.36**	**308**	P	**P**	**07 39 09.8**	**-0.4**
MKAR	**Makanchi Array**	**40.36**	**308**	P	**P**	**07 39 08.1**	**-2.0**
	comp=Z,1.1nm,0.7s,baz=97,slow=9.7,SNR=10						
MKAR				pP	**pP**	**07 39 33.4**	**+0.2**
	comp=Z,3.4nm,0.8s,baz=96,slow=11,SNR=12						
MKAR				PcP	**PcP**	**07 41 10.5**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=73,slow=5.0,SNR=7.4						
MKAR				ScP	**ScP**	**07 44 50.8**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=79,slow=6.3,SNR=9.4						
MKAR				LR	LR	07 58 31.0	
	comp=Z,36nm,18.9s,baz=136,slow=40						
ZALV	**Zalesovo Beam**	**40.37**	**320**	P	**P**	**07 39 09.5**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=93,slow=5.9,SNR=4.0						
ZALV				pP	**pP**	**07 39 34.3**	**+1.3**
	comp=Z,1.8nm,0.7s,baz=80,slow=8.1,SNR=3.6						
ZALV				ScP	**ScP**	**07 44 50.0**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=90,slow=4.4,SNR=5.5						
MAKZ	**Makanchi**	**40.58**	**308**	P	**P**	**07 39 11.6**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.3s						
MAKZ	**Makanchi**	**40.58**	**308**	P	**P**	**07 39 11.6**	**-0.3**
UGM	**Wanagama**	**41.96**	**210**	P	**P**	**07 39 24.2**	**+0.7**
AMKA	**Amchitka**	**42.20**	**45**	P	**P**	**07 39 26.2**	**+1.2**
MTN	**Manton Dam**	**42.48**	**178**	P	**P**	**07 39 27.2**	**-0.4**
KURK	**Kurchatov**	**43.33**	**314**	*i* P	**P**	**07 39 34.8**	**+0.7**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KURK	**Kurchatov**	**43.33**	**314**	P	**P**	**07 39 33.7**	**-0.5**
KURBB	**Kurchatov Arra**	**43.37**	**314**	P	**P**	**07 39 32.9**	**-1.6**
	comp=Z,1.4nm,0.4s,baz=99,slow=8.6,SNR=15						
KURBB				pP	**pP**	**07 39 58.9**	**+1.2**
	comp=Z,3.3nm,0.7s,baz=102,slow=9.0,SNR=9.0						
KNRA	**Kununurra**	**45.30**	**182**	P	**P**	**07 39 50.4**	**+0.3**
ATKA	**Atka Island**	**46.31**	**45**	P	**P**	**07 39 58.7**	**+0.9**
NIL	**Nilore**	**47.85**	**290**	P	**P**	**07 40 08.9**	**-1.3**
NIL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NIL	**Nilore**	**47.85**	**290**	P	**P**	**07 40 08.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**47.87**	**186**	P	**P**	**07 40 10.4**	**+0.2**
	comp=Z,8.4nm,0.8s,baz=21,slow=5.6,SNR=11						
FITZ	**Fitzroy Crossi**	**47.87**	**186**	P	**P**	**07 40 10.3**	**+0.2**
FITZ				IAmb	IAmb	07 40 11.4	
	comp=Z,11nm,1.1s						

RSO	Redoubt South	58.32	35	P	P	07 41 26.8	+0.1
PPLA	Purkeypile	58.38	32	P	P	07 41 28.1	+1.1
OHAK	Old Harbor	58.39	38	P	P	07 41 27.1	+0.1
KDAK	Kodiak Island	58.70	38	P	P	07 41 29.4	+0.3
KDAK				pmax	pmax		
	comp=Z,74nm,1.5s						
KDAK	Kodiak Island	58.70	38	P	P	07 41 29.4	+0.3
SKT	Skwentna	58.77	33	P	P	07 41 29.5	-0.1
SKT				IAmb	IAmb	07 41 31.2	
	comp=Z,8.5nm,1.0s						
BPAW	Bear Paw Mtn.	58.83	30	P	P	07 41 30.9	+1.0
BPAW				IAmb	IAmb	07 41 31.8	
	comp=Z,8.0nm,1.1s						
KTH	Kantishna Hill	58.90	31	P	P	07 41 30.7	+0.2
COLD	Coldfoot	58.93	27	P	P	07 41 30.7	+0.2
COLD				IAmb	IAmb	07 41 36.5	
	comp=Z,7.8nm,1.4s						
CNPM	China Poot	59.18	36	P	P	07 41 32.3	-0.1
SUA	Susitna One	59.19	33	P	P	07 41 33.1	+0.5
TRF	Thorofare Moun	59.19	31	P	P	07 41 33.7	+1.0
BWN	Browne	59.48	30	P	P	07 41 35.7	+1.3
MCK	McKinley	59.77	31	P	P	07 41 37.2	+0.8
MCK				pmax	pmax		
	comp=Z,23nm,1.4s						
MCK	McKinley	59.77	31	P	P	07 41 37.2	+0.8
RND	Reindeer	59.84	31	P	P	07 41 37.1	+0.1
RND				pmax	pmax		
	comp=Z,17nm,1.0s						
RND	Reindeer	59.84	31	P	P	07 41 37.1	+0.1
MDM	Murphy Dome	59.93	29	P	P	07 41 38.5	+1.0
SEW	Seward	60.00	35	P	P	07 41 38.0	0.0
GHO	Glory Hole Cre	60.02	33	P	P	07 41 39.5	+1.3
CCB	Clear Creek Bu	60.15	29	P	P	07 41 39.7	+0.8
SML	Sawmill	60.29	33	P	P	07 41 40.3	+0.2
FORT	Forrest	60.34	182	P	P	07 41 40.7	+0.1
IL31		60.52	29	P	P	07 41 41.7	+0.2
ILAR	Eielson Array	60.52	29	P	P	07 41 40.7	-0.8
	comp=Z,2.3nm,0.7s,baz=240,slow=5.4,SNR=20						
ILAR				pP	pP	07 42 05.4	-0.7
	comp=Z,1.0nm,0.8s,baz=296,slow=8.5,SNR=6.5						
HDA	Harding Lake	60.55	30	P	P	07 41 41.4	-0.3
HDA				IAmb	IAmb	07 41 42.1	
	comp=Z,10nm,0.9s						
DHY	Denali Highway	60.55	31	P	P	07 41 41.6	-0.3
SCM	Sheep Creek Mo	60.76	33	P	P	07 41 43.9	+0.6
SCM				pmax	pmax		
	comp=Z,17nm,1.0s						
SCM	Sheep Creek Mo	60.76	33	P	P	07 41 43.9	+0.6
FID	Port Fidalgo	61.35	34	P	P	07 41 46.8	-0.4
FID				IAmb	IAmb	07 41 48.5	
	comp=Z,12nm,0.8s						
PAX	Paxson	61.42	31	P	P	07 41 48.1	+0.3
PAX				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PAX	Paxson	61.42	31	P	P	07 41 48.1	+0.3
PAX				IAmb	IAmb	07 41 48.7	
	comp=Z,6.4nm,1.0s						
RIDG	Independent Ri	61.56	30	P	P	07 41 48.5	-0.1
DOT	Dot Lake	61.92	30	P	P	07 41 51.1	+0.1
DOT				IAmb	IAmb	07 41 51.9	
	comp=Z,11nm,1.0s						
MENT	Mentasta	62.21	31	P	P	07 41 54.1	+1.1
MENT				IAmb	IAmb	07 41 54.9	
	comp=Z,13nm,1.0s						
STKA	Stephens Creek	62.40	169	P	P	07 41 54.8	+0.4
	comp=Z,2.2nm,0.4s,baz=360,slow=4.2,SNR=10						
STKA	Stephens Creek	62.40	169	P	P	07 41 54.3	-0.2
STKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
STKA	Stephens Creek	62.40	169	P	P	07 41 54.2	-0.2
GLB	Gilahina Butte	62.48	33	P	P	07 41 56.1	+1.3
GLB				IAmb	IAmb	07 41 56.9	
	comp=Z,9.1nm,1.1s						
BBOO	Buckleboo	62.61	174	P	P	07 41 55.7	-0.2
BBOO				IAmb	IAmb	07 41 57.7	
	comp=Z,9.0nm,1.2s						
EGAK	Eagle	62.93	29	P	P	07 41 57.7	0.0
DAWY	Dawson	63.85	29	P	P	07 42 04.3	+0.5
INK	Inuvik	64.95	24	P	P	07 42 11.5	+0.7
INK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
INK	Inuvik	64.95	24	P	P	07 42 11.5	+0.7
INK				IAmb	IAmb	07 42 12.1	
	comp=Z,8.7nm,1.1s						
C36M	Paulatuk	67.76	22	P	P	07 42 29.0	+0.3
KIV	Kislovodsk	68.12	309	eP	P	07 42 32.3	+0.7
KIV				pmax	pmax		
	comp=Z,18nm,1.0s						
EUNU	Eureka	68.50	6	P	P	07 42 32.9	-0.5
FIA1	FINESS Array S	70.46	330	P	P	07 42 43.3	-2.2
FIA1				IAmb	IAmb	07 42 56.2	
	comp=Z,12nm,1.2s						
FINES	FINESS Array B	70.46	330	P	P	07 42 43.9	-1.6
	comp=Z,1.4nm,0.3s,baz=62,slow=5.3,SNR=26						
FINES	FINESS Array B	70.46	330	iP	P	07 42 44.0	-1.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VSU	Vasula	71.51	327	iP	P	07 42 52.2	+0.3
VSU				pmax	pmax		
	comp=Z,17nm,0.9s						
RES	Resolute Bay	71.69	11	P	P	07 42 53.2	+0.5
RES				pmax	pmax		
	comp=Z,10.0nm,0.8s						
RES	Resolute Bay	71.69	11	P	P	07 42 53.2	+0.5
RES				IAmb	IAmb	07 42 53.6	
	comp=Z,10nm,0.8s						
AKASG	Malin Array Be	73.77	319	P	P	07 43 03.8	-1.7
	comp=Z,0.8nm,0.3s,baz=59,slow=6.2,SNR=4.7						
YKA	Yellowknife Ar	74.59	26	P	P	07 43 10.5	+0.5
	comp=Z,4.6nm,0.7s,baz=305,slow=5.9,SNR=11						
BRTR	Keskin Array B	76.01	308	P	P	07 43 18.5	-0.3
	comp=Z,1.7nm,0.7s,baz=147,slow=2.5,SNR=5.2						
BRTR				pP	pP	07 43 44.9	+0.5
	comp=Z,1.7nm,0.7s,baz=90,slow=4.9,SNR=4.3						
NC405	NORSAR Array S	76.49	334	P	P	07 43 20.0	-1.0
NB2	NORSAR Subarra	76.73	334	P	P	07 43 20.9	-1.4
	comp=Z,0.7nm,0.6s,baz=51,slow=5.6						
NOA	NORSAR Array B	76.73	334	P	P	07 43 20.8	-1.5
	comp=Z,1.0nm,0.7s,baz=50,slow=5.5,SNR=4.6						
NOA				LR	LR	08 20 37.9	
	comp=Z,24nm,19.5s,baz=190,slow=38						
NC204	NORSAR Array S	76.75	334	P	P	07 43 21.0	-1.4
NC204				IAmb	IAmb	07 43 24.0	
	comp=Z,35nm,1.5s						
SUMG	Summit	77.52	356	iP	P	07 43 26.6	-0.4
	comp=Z,14nm,0.7s						
SUMG	Summit	77.52	356	iP	P	07 43 26.6	-0.4
SUMG				pmax	pmax		
	comp=Z,14nm,0.7s						
SUMG	Summit	77.52	356	P	P	07 43 26.1	-0.8
F04A	Amboy	80.13	42	P	P	07 43 42.8	+1.6
F04A				IAmb	IAmb	07 43 43.3	
	comp=Z,19nm,1.0s						
LTY	Liberty	80.41	41	P	P	07 43 43.1	+0.3
B08A	Colville Reser	80.54	39	P	P	07 43 44.5	+1.1
B08A				IAmb	IAmb	07 43 45.4	
	comp=Z,12nm,1.0s						
MORC	Moravsky Berou	80.64	323	ePG	P	07 43 47.7	+3.7
VYHS	Vyhne	80.69	321	eP	P	07 43 44.1	-0.1
VYHS	Vyhne	80.69	321	eP	P	07 43 44.1	-0.1
H04A	Detroit Lake	80.95	43	P	P	07 43 45.4	-0.3
H04A				IAmb	IAmb	07 43 47.7	
	comp=Z,12nm,1.2s						
E07A	Sunnyside	81.27	41	P	P	07 43 48.1	+0.7
E07A				IAmb	IAmb	07 43 49.7	
	comp=Z,17nm,1.3s						
C09A	Chrisman Ranch	81.44	39	P	P	07 43 48.7	+0.5
C09A				IAmb	IAmb	07 43 50.2	
	comp=Z,11nm,1.1s						
D08A	Wollman Farm,	81.51	40	P	P	07 43 49.7	+1.1
D08A				IAmb	IAmb	07 43 50.6	
	comp=Z,10.0nm,1.0s						
F07A	Phinny Hill Vi	81.60	42	P	P	07 43 50.1	+1.0
F07A				IAmb	IAmb	07 43 51.4	
	comp=Z,15nm,1.2s						
E08A	Dider Farm, El	81.76	41	P	P	07 43 50.5	+0.6
E08A				IAmb	IAmb	07 43 52.0	
	comp=Z,10nm,1.1s						
NEW	Newport	81.80	38	P	P	07 43 50.4	+0.3
NEW				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NEW	Newport	81.80	38	P	P	07 43 50.4	+0.3
NEW				IAmb	IAmb	07 43 52.0	
	comp=Z,8.9nm,0.9s						
PINE	Pine Mountain	82.19	44	P	P	07 43 53.8	+1.3
PINE				IAmb	IAmb	07 43 55.1	
	comp=Z,20nm,1.0s						
E09A	Wood Farm, Sta	82.26	40	P	P	07 43 50.7	-1.8
E09A				IAmb	IAmb	07 43 54.8	
	comp=Z,14nm,1.2s						
G08A	Pilot Rock	82.50	42	P	P	07 43 54.3	+0.4
K05A	Summer Lake	82.81	45	P	P	07 43 56.5	+0.8
K05A				IAmb	IAmb	07 43 57.8	
	comp=Z,11nm,0.9s						
I07A	Izee	82.88	43	P	P	07 43 56.9	+1.0
WALA	Waterton Lakes	83.01	37	P	P	07 43 57.5	+1.0
WALA				IAmb	IAmb	07 43 58.8	
	comp=Z,11nm,0.9s						
F10A	Beach Ranch, E	83.09	40	P	P	07 43 57.8	+0.8
KHC	Kasperske Hory	83.10	324	iP	P	07 43 56.8	-0.1
KHC				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GERES	GERESS Array B	83.21	323	P	P	07 43 57.6	+0.1
	comp=Z,1.1nm,0.9s,baz=35,slow=4.9,SNR=5.0						
MOD	Modoc Plateau	83.64	45	P	P	07 44 00.2	+0.3
MOD				IAmb	IAmb	07 44 02.1	
	comp=Z,9.0nm,0.9s						
BMO	Blue Mountains	83.71	41	P	P	07 44 01.1	+0.9
BMO				pmax	pmax		
	comp=Z,15nm,1.3s						
BMO	Blue Mountains	83.71	41	P	P	07 44 01.1	+0.9
BMO				IAmb	IAmb	07 44 02.3	
	comp=Z,15nm,1.3s						
J08A	Circle Bar Ran	83.91	43	P	P	07 44 01.8	+0.6
J08A				IAmb	IAmb	07 44 03.7	
	comp=Z,18nm,1.1s						
ORV	Oroville	84.22	47	P	P	07 44 02.3	-0.4
ORV				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ORV	Oroville	84.22	47	P	P	07 44 02.3	-0.4
ORV				IAmb	IAmb	07 44 04.0	
	comp=Z,9.3nm,1.1s						
WVOR	Wild Horse Val	84.35	44	P	P	07 44 04.8	+1.3
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WVOR	Wild Horse Val	84.35	44	P	P	07 44 04.8	+1.3
MSO	Missoula	84.38	38	P	P	07 44 04.2	+0.7
MSO				IAmb	IAmb	07 44 05.2	
	comp=Z,8.3nm,1.1s						
FFC	Flin Flon	84.66	27	P	P	07 44 04.8	+0.1
FFC				pmax	pmax		
	comp=Z,11nm,0.9s						
FFC	Flin Flon	84.66	27	P	P	07 44 04.8	+0.1
FFC				IAmb	IAmb	07 44 05.9	
	comp=Z,11nm,0.8s						
AFDM	Forest Hills D	84.90	48	P	P	07 44 07.0	+0.8
STAL	STALIGIAL	85.36	322	P	P	07 44 07.7	-0.7
STAL				IAmb	IAmb	07 44 09.0	
	comp=Z,19nm,1.3s						
MFID	Camas Ranch	85.42	42	P	P	07 44 09.8	+1.0
MFID				IAmb	IAmb	07 44 11.3	
	comp=Z,22nm,1.5s						
PAHR	Pah Rah Range	85.47	46	P	P	07 44 10.1	+0.8
PAHR				IAmb	IAmb	07 44 10.7	
	comp=Z,8.5nm,0.9s						
VCNR	Virginia City	85.54	47	P	P	07 44 09.7	+0.1
VCNR				IAmb	IAmb	07 44 11.6	
	comp=Z,5.4nm,0.8s						
HRY	Holter Researc	85.58	37	P	P	07 44 10.2	+0.6
PNTR	Pine Nut	85.69	47	P	P	07 44 11.7	+1.3
PNTR				IAmb	IAmb	07 44 13.5	
	comp=Z,6.5nm,0.8s						
CMB	Columbia Colle	85.79	48	P	P	07 44 11.5	+0.8
CMB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMB	Columbia Colle	85.79	48	P	P	07 44 11.5	+0.8
CMB				IAmb	IAmb	07 44 12.4	
	comp=Z,5.6nm,0.9s						
LRM	Limekiln Ridge	85.82	38	P	P	07 44 12.5	+1.5
DLMT	Dillon	86.03	39	P	P	07 44 12.5	+0.7
DLMT				IAmb	IAmb	07 44 14.1	
	comp=Z,14nm,0.9s						
WAKR	Walker	86.13	47	P	P	07 44 13.3	+0.8
HLID	Hailey	86.15	41	P	P	07 44 13.8	+1.3
HLID				IAmb	IAmb	07 44 15.1	
	comp=Z,7.1nm,1.0s						
BOZ	Bozeman (W)	86.40	38	P	P	07 44 14.1	+0.4
BOZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BOZ	Bozeman (W)	86.40	38	P	P	07 44 14.1	+0.4
BOZ				IAmb	IAmb	07 44 15.8	
	comp=Z,6.3nm,1.0s						
RYN	Ryan	86.64	47	P	P	07 44 16.1	+1.1
KVN	Kaiserville	86.66	46	P	P	07 44 15.5	+0.4
KVN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KVN	Kaiserville	86.66	46	P	P	07 44 15.5	+0.4
KVN				IAmb	IAmb	07 44 17.4	
	comp=Z,7.1nm,1.1s						
LHV	Little Huntoon	86.88	47	P	P	07 44 17.7	+1.8
LHV				IAmb	IAmb	07 44 19.7	
	comp=Z,8.6nm,1.3s						
NVAR	Mina Array Bea	86.90	47	P	P	07 44 17.3	+1.0
	comp=Z,1.3nm,0.6s,baz=295,slow=5.5,SNR=14						
NVAR				LR	LR	08 20 49.6	
	comp=Z,30nm,19.9s,baz=64,slow=34						
YHL	Hebgen Lake	87.13	39	P	P	07 44 17.8	+0.4
YHB	Horse Butte	87.19	39	P	P	07 44 19.1	+1.5
YHH	Holmes Hill	87.35	38	P	P	07 44 19.2	+0.8
YMR	Madison River	87.36	39	P	P	07 44 20.0	+1.5
YPP	Pitchstone Pla	87.71	39	P	P	07 44 21.8	+1.6
YMP	Mirror Lake Pl	87.75	38	P	P	07 44 20.1	-0.3
IMW	Indian Meadow	87.88	39	P	P	07 44 20.7	-0.3
IMW				IAmb	IAmb	07 44 24.0	
	comp=Z,7.2nm,1.1s						
FLWY	Flagg Ranch	87.89	39	P	P	07 44 22.0	+1.0
FLWY				IAmb	IAmb	07 44 24.2	
	comp=Z,9.2nm,0.9s						
RLMT	Red Lodge	87.97	37	P	P	07 44 22.2	+0.9
RLMT				IAmb	IAmb	07 44 23.8	
	comp=Z,16nm,1.3s						
FXWY	Fox Creek	88.00	39	P	P	07 44 22.2	+0.7
TPAW	Teton Pass	88.14	40	P	P	07 44 22.7	+0.5
TPAW				IAmb	IAmb	07 44 23.9	
	comp=Z,5.5nm,0.9s						
SNOW	Snow King Moun	88.26	39	P	P	07 44 24.3	+1.5
SNOW				IAmb	IAmb	07 44 25.0	
	comp=Z,7.0nm,1.2s						
REDW	Red Top Meadow	88.28	40	P	P	07 44 24.5	+1.6
LAO	LASA Array	88.47	35	P	P	07 44 23.7	+0.3
LAO				IAmb	IAmb	07 44 26.4	
	comp=Z,8.0nm,0.7s						
HWUT	Hardware Ranch	89.01	41	P	P	07 44 25.2	-1.1
HWUT				IAmb	IAmb	07 44 29.0	
	comp=Z,14nm,1.2s						
DUG	Dugway, Tooele	89.19	43	P	P	07 44 26.9	-0.2
DUG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DUG	Dugway, Tooele	89.19	43	P	P	07 44 26.9	-0.2
BW06	Boulder Array	89.38	39	P	P	07 44 28.7	+0.7
PD31	Pinedale Array	89.38	39	P	P	07 44 28.1	+0.1
PDAR	Pinedale Array	89.38	39	P	P	07 44 28.5	+0.4
	comp=Z,1.9nm,0.8s,baz=311,slow=1.3,SNR=16						
ULM	Lac du Bonnet	90.49	27	P	P	07 44 33.2	+0.5
	comp=Z,3.7nm,0.6s,baz=350,slow=4.5,SNR=3.5						
ULM	Lac du Bonnet	90.49	27	P	P	07 44 32.9	+0.2
ULM				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ULM	Lac du Bonnet	90.49	27	P	P	07 44 32.9	+0.2
ULM				IAmb	IAmb	07 44 33.9	
	comp=Z,6.3nm,0.8s						
PPT	Papeete	90.65	110	LR	LR	08 17 06.1	
	comp=Z,23nm,21.4s,baz=226,slow=30						
RDMU	Red Mountain	90.83	41	P	P	07 44 34.4	-0.5
P17A	Butcher Ranch,	90.87	42	P	P	07 44 36.2	+1.2
Q16A	Castle Valley	90.98	43	P	P	07 44 35.3	-0.2
KNB	Kanab	91.20	45	P	P	07 44 38.4	+1.9
KNB				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KNB	Kanab	91.20	45	P	P	07 44 38.4	+1.9
SRU	San Rafael Swe	91.24	43	P	P	07 44 37.5	+0.8
SRU				pmax	pmax		
	comp=Z,10.0nm,1.4s						
SRU	San Rafael Swe	91.24	43	P	P	07 44 37.5	+0.8
RSSD	Black Hills	91.37	36	P	P	07 44 37.4	+0.2
RSSD				pmax	pmax		
	comp=Z,14nm,1.5s						
RSSD	Black Hills	91.37	36	P	P	07 44 37.4	+0.2
PV21	Cone Mtn., Par	92.51	42	P	P	07 44 43.2	+0.5
PV21				IAmb	IAmb	07 44 48.0	
	comp=Z,4.4nm,0.8s						
PV14	Lion Creek, Pa	92.61	42	P	P	07 44 43.8	+0.7
PV22	Blue Mesa, Par	92.63	42	P	P	07 44 44.4	+1.2
PV22				IAmb	IAmb	07 44 45.5	
	comp=Z,3.5nm,1.0s						
PV13	Radium Mtn., P	92.87	42	P	P	07 44 45.4	+1.1
PV13				IAmb	IAmb	07 44 46.1	
	comp=Z,4.3nm,0.9s						
PV01	Paradox Valley	93.03	42	P	P	07 44 46.4	+1.4
PV01				IAmb	IAmb	07 44 47.3	
	comp=Z,4.0nm,0.9s						
KEST	Kesra	94.11	315	LR	LR	08 32 21.8	
	comp=Z,139nm,18.2s,baz=271,slow=39						
TXAR	Lajitas Array	102.02	46	P	Pdif	07 45 26.3	+0.7
	comp=Z,0.4nm,0.8s,baz=193,slow=3.6,SNR=4.0						
TORD	Torodi Ar. Bea	114.33	303	PKP	PKPdf	07 50 09.9	-1.1
	comp=Z,0.3nm,0.6s,baz=59,slow=1.8,SNR=3.3						

NEIC ***25*** *07:41:37.4±2.2,8.1S±0.1×122.6E±0.1, h195km±8km, mb4.1/9, Error ellipse: s-maj=23.3km s-min=14.3km az=224.0*
DJA ***25*** *07:41:37.4±0.4,8.5S±5.5×12.2E±, h209km±4km, M4.0/10, mB5.3/1, mb4.2/3, MLv3.9/10, Mw(mB)4.7/1*
IDC ***25*** *07:41:38.1±2.3,8.07S×122.56E, h198km±26km, mb3.3/1, mb1 3.6/5, mb1mx3.2/40, mbtmp4.0/5, Error ellipse: s-maj=109.7km s-min=24.4km az=58.0*
ISC 25 07:41:38.2±0.9, 8.20S±0.07×122.55E±0.06, h209km±6km, n28, σ1§88/42, mb4.2/3, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	Maumere	0.53	216	P	Pn	07 42 05.5	-0.9
MMRI				S	S	07 42 28.9	+0.4
MMRI	Maumere	0.53	216		Pn	07 42 05.8	-0.6
EDFI	Ende, Flores	1.01	237	P	Pn	07 42 08.2	-0.9
EDFI				S	S	07 42 34.3	+1.4
BATI	Baumata	2.27	151	P	Pn	07 42 21.1	+0.9
	59nm,0.3s,baz=66,slow=1.5,SNR=35						
BATI				S	S	07 42 55.1	+2.4
	102nm,0.3s,baz=30,slow=18,SNR=9.8						
BATI	Baumata	2.27	151	P	Pn	07 42 21.2	+0.9
BATI				S	S	07 42 54.7	+2.0
SOEI	Soe	2.29	132	P	Pn	07 42 20.3	-0.2
SOEI				S	S	07 42 54.3	+1.2
SOEI	Soe	2.29	132		Pn	07 42 21.3	+0.7
SOEI				Sn	S	07 42 50.7	-2.4
BASI	Baing, Sumba	2.79	224	P	Pn	07 42 25.4	-0.5
BASI				S	S	07 43 01.3	-1.6
WBSI	Waikabubak, Su	3.43	245	P	Pn	07 42 33.3	-0.2
WBSI				S	S	07 43 13.3	-3.1
BKSI	Bulukumba	3.74	320	P	Pn	07 42 35.2	-2.0
PLAI	Plampang	4.76	262	P	Pn	07 42 49.1	-0.7
TWSI	Taliwang, Sumb	5.63	264	P	Pn	07 43 00.0	-0.9
	0.1nm16nm,1.2s						
KNRA	Kununurra	9.60	141		Pn	07 43 51.8	-0.3
KNRA				Sn	S	07 45 36.4	-3.5
MTN	Manton Dam	9.62	119		Pn	07 43 51.9	-0.5
MTN				Sn	S	07 45 36.9	-3.4
FITZ	Fitzroy Crossi	10.29	163	P	Pn	07 44 01.0	0.0
	2.2nm,0.3s,baz=350,slow=11,SNR=47						
FITZ				S	S	07 45 52.6	-3.8
	1.2nm,0.3s,baz=108,slow=20,SNR=4.2						
FITZ	Fitzroy Crossi	10.29	163		Pn	07 43 59.5	-1.5
FITZ					S	07 45 52.6	-3.8
WB0	Warramunga Arr	16.24	136	P	P	07 45 14.9	+0.6
WB0				IAmb	IAmb	07 45 38.0	
	comp=Z,8.5nm,1.4s						
WRA	Warramunga Arr	16.32	137	P	Pn	07 45 16.2	+0.1
	comp=Z,0.5nm,0.3s,baz=317,slow=12,SNR=11						
WRA				S	S	07 48 10.8	-5.0
	comp=Z,0.2nm,0.3s,baz=318,slow=25,SNR=3.0						
WB2	Warramunga Arr	16.33	137	P	P	07 45 16.0	+0.6
WB2				IAmb	IAmb	07 45 39.5	
	comp=Z,21nm,1.6s						
WR0	Warramunga Arr	16.47	136	P	P	07 45 17.1	+0.2
WR0				IAmb	IAmb	07 45 18.1	
	comp=Z,4.9nm,1.1s						
AS31	Alice Springs	18.84	146	P	Pn	07 45 44.7	-1.0
ASAR	Alice Springs	18.84	146	P	Pn	07 45 45.5	-0.2
	comp=Z,0.6nm,0.3s,baz=321,slow=9.8,SNR=31						
ASAR				S	S	07 49 06.2	+0.4
	comp=Z,0.1nm,0.3s,baz=332,slow=23,SNR=5.4						
COEN	Coen	21.02	108	P	P	07 46 06.5	+0.5
COEN				IAmb	IAmb	07 46 20.8	
	comp=Z,11nm,1.0s						
FORT	Forrest	23.04	168	P	P	07 46 27.6	+2.5
BBOO	Buckleboo	27.50	155	P	P	07 47 06.9	+1.5
MK31	Makanchi Array	65.42	331	P	P	07 51 57.9	-0.7
MKAR	Makanchi Array	65.42	331	P	P	07 51 58.9	+0.3
	comp=Z,0.5nm,0.5s,baz=134,slow=7.7,SNR=8.3						
QSPA	South Pole Qui	81.78	180	P	P	07 53 35.4	+1.8
QSPA				IAmb	IAmb	07 54 07.2	
	comp=Z,6.9nm,1.5s						

THR ***25*** *07:42:49.4±0.5, 32.75N×47.30E, h18km±6km, ML3.4*
IDC ***25*** *07:42:49.2±2.4, 32.71N×47.54E, h0km, mb3.4/3, mb1 3.4/3, mb1mx3.3/32, mbtmp3.4/3, Error ellipse: s-maj=59.9km s-min=33.7km az=155.0*
TEH ***25*** *07:42:51.0, 32.67N×47.72E, h8km, ML3.6*
ISC 25 07:42:53.1±0.9, 32.73N±0.04×47.56E±0.04, h23km, n42, σ1§36/44, mb3.4/3, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	Dehloran	0.24	259	ePg	Pb	07 42 58.7	-0.4
DHL1				eSg	Sb	07 43 04.6	+1.4
IKFM	Kafar-mosalman	0.83	17	ePg	Pb	07 43 07.8	-1.1
IKMR	Kamar-syah	1.05	41	ePg	Pn	07 43 10.3	-2.1
IKMR				e		07 43 32.7	
IDOB	Doab	1.18	26	ePg	Pn	07 43 13.2	-1.2
SHGR	Shooshtar-Gavs	1.22	120	eSg	Sb	07 43 34.9	+4.2
BMDN	Meydan	1.42	48	ePg	Pn	07 43 17.3	-0.4
BMDN				e		07 43 44.7	
IKOM	Komasi	1.45	358	ePg	Pb	07 43 20.1	+0.6
IKOM				e		07 43 46.3	
KCHF	Cheshme Sefid,	1.60	344	ePg	Pb	07 43 23.1	+0.9
KCHF				e		07 43 52.1	
AHWZ	Ahwaz	1.67	146	ePg	Pn	07 43 20.7	-0.2
KER	Kermanshah

QSDN	Sirdan	4.00	19	*e*Pn		Pn	07 43 55.6	+2.4
IZEF	Zefreh	4.02	86	*e*Pn		Pn	07 43 52.9	-0.6
IVRN	Varamin	4.14	56	*e*Pn		Pn	07 43 55.4	+0.4
IRAM	Ramesheh	4.18	101	*e*Pn		Pn	07 43 54.9	-0.8
MAHB	Mahabad	4.31	340	*e*Pn		Pn	07 44 00.4	+3.0
QALM	Alamut, Qazvin	4.49	34	*e*Pn		Pn	07 44 00.9	+1.0
ANAR	Anarak	5.20	83	*e*Pn		Pn	07 44 10.4	+0.7
AKASG	**Malin Array Be**	22.48	328	P		P	07 47 49.9	-0.7
	comp=N,0.2nm,0.2s,baz=138,slow=9.8,SNR=4.3							
MKAR	**Makanchi Array**	29.90	52	P		P	07 48 58.8	-0.2
	comp=N,0.4nm,0.7s,baz=245,slow=7.9,SNR=3.7							
TORD	**Torodi Ar. Bea**	46.10	256	P		P	07 51 15.1	-0.6
	comp=N,0.6nm,0.7s,baz=63,slow=6.8,SNR=4.2							

MOS ***25*** *07:44:00.4±0.0, 42°.47N×43°.45E, h14km, MPVA3.3*
NORS ***25*** *07:44:00.7±0.0, 42°.55N×43°.50E, h15km, MPVA3.5*
TIF ***25*** *07:44:01.0, 42°.55N×43°.48E, h12km± 1km*

ISC 25 07:44:01.0±0.9, 42°.55N±0°.03×43°.50E±0°.03, h13km±6km, n14, σ0°73/27, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	0.06	319	P	Pg	07 44 03.8	+0.2
ONI				S	Sg	07 44 05.1	-0.4
DIGR	**Digorskoe uzhe**	0.36	9	*i* Pg	Pb	07 44 08.9	-0.4
DIGR				*i* Sg	Sb	07 44 15.3	+0.4
ZEI	**Tsey**	0.38	50	*e*Pg	Pb	07 44 09.7	0.0
ZEI				*e*Sg	Sb	07 44 15.8	+0.2
TKB	**Tkibuli**	0.42	243	P	Pb	07 44 10.0	-0.4
TKB				S	Sb	07 44 15.8	-0.9
LACR	**Lac**	0.65	64	*e*Pg	Pb	07 44 14.1	-0.1
LACR				*e*Sg	Sn	07 44 24.8	-1.4
KORR	**Kora**	0.68	37	*e*Pg	Pn	07 44 15.9	-0.5
KORR				*e*Sg	Sn	07 44 26.5	-0.4
LSNR	**Lesken**	0.77	18	*e*Pg	Pn	07 44 17.1	-0.5
LSNR				*e*Sg	Sn	07 44 29.0	-0.1
BKRG	**Bakuriani**	0.79	179	P	Pn	07 44 17.2	-0.7
BKRG				S	Sn	07 44 28.3	-1.4
PNSH	**Pansheti**	0.83	83	P	Pn	07 44 17.8	-0.7
ARNR	**Ardon**	0.85	42	*e*Pg	Pn	07 44 18.8	+0.1
ARNR				*e*Sg	Sn	07 44 31.6	+0.5
CHVG	**Ch'k'valeri**	1.06	280	P	Pn	07 44 22.2	+0.7
CHVG				S	Sn	07 44 36.4	+0.2
TRLG	**Trialeti**	1.10	156	P	Pg	07 44 23.3	+1.2
TRLG				S	Sn	07 44 38.4	+1.0
AKH	**Akhalkalaki**	1.14	180	P	Pb	07 44 22.2	-0.3
AKH				S	Sn	07 44 38.9	+0.7
KBZ	**Khabaz**	1.26	340	*e*Pg	Pg	07 44 25.2	0.0
KBZ				*e*Sg	Sg	07 44 42.9	+1.2

IDC ***25*** *08:05:55.9±1.4, 10°.27N×126°.67E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/39, mbtmp3.9/5, MS2.7/2, Ms1 2.7/2, ms1mx2.4/52, Error ellipse: s-maj=69.1km s-min=26.9km az=65.0*
MAN ***25*** *08:06:00.8, 10°.14N×126°.35E, h21km, mb4.8, ML3.8, MS3.7*

ISC 25 08:05:57.9±1.3, 10°.2N±0°.2×126°.5E±0°.1, h10km, n16, σ0°83/8, mb3.9/5, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	2.51	273	*e*P	Pn	08 06 39.8	+1.0
LLP				*e*S	Sn	08 07 08.3	-1.2
TBP	**Tagbilaran**	2.66	259	⇑*i* P	Pn	08 06 41.4	+0.5
DAV	**Davao City (W)**	3.24	197	LR	LR	08 08 29.7	
	comp=Z,269nm,20.6s,baz=320,slow=46						
KCP	**Kidapawan**	3.46	204	⇓*e*P	Pg	08 07 12.8	+8.5
JCJ	**Chichijima**	22.39	39	LR	LR	08 20 43.4	
	comp=Z,9.2nm,18.3s,baz=300,slow=40						
CMAR	**Chiang Mai Arr**	27.92	290	P	P	08 11 49.0	+0.5
	0.7nm,0.3s,baz=102,slow=6.5,SNR=4.9						
ASAR	**Alice Springs**	34.42	168	P	P	08 12 45.6	-0.2
	0.3nm,0.5s,baz=354,slow=7.0,SNR=8.2						
H11S3	**WAKE ISLAND Hy 39.71**	73		T	T	08 56 31.1	
	baz=262,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy 39.73**	73		T	T	08 56 28.9	
	baz=262,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy 39.73**	73		T	T	08 56 30.3	
	baz=262,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy 40.05**	72		T	T	08 56 54.5	
	baz=264,slow=74,SNR=60						
H11N2	**WAKE ISLAND Hy 40.06**	71		T	T	08 56 55.1	
	baz=264,slow=74,SNR=49						
H11N3	**WAKE ISLAND Hy 40.07**	72		T	T	08 56 58.0	
	baz=264,slow=74,SNR=53						
MKAR	**Makanchi Array**	52.23	323	P	P	08 15 09.4	+0.1
	1.0nm,0.7s,baz=115,slow=9.7,SNR=7.4						
ARCES	**ARCESS Array B**	84.35	340	P	P	08 18 29.6	-0.4
	1.0nm,0.7s,baz=83,slow=7.4,SNR=4.0						
FINES	**FINESS Array B**	86.07	332	P	P	08 18 38.2	-0.5
	1.1nm,0.7s,baz=76,slow=8.0,SNR=6.8						

MEX ***25*** *08:08:07.3±0.4, 31°.06N×115°.97W, h10km, MD3.6*
ECX ***25*** *08:08:07.3±0.7, 31°.22N×115°.91W, h6km±4km, MD2.0, ML2.2*

ISC 25 08:08:06.2±1.1, 31°.19N±0°.03×115°.91W±0°.04, h14km±8km, n14, σ0°86/27, 3C-3D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTX	**Valle De La Tr**	0.23	29	⇓*i* P	Pg	08 08 11.5	+0.2
VTX				*i* S	Sg	08 08 14.2	-0.5
SPIG	**San Pedro Mart**	0.41	110	*i* P	Pb	08 08 15.5	+0.1
SPIG				*i* S	Sb	08 08 21.5	-0.1
SPIG	**San Pedro Mart**	0.41	110	*e*P	Pg	08 08 15.1	+0.6
SPIG				*i* S	Sb	08 08 21.0	-0.6
SPX	**San Pedro Mart**	0.41	112	*i* P	Pg	08 08 15.1	+0.5
SPX				*i* S	Sb	08 08 21.1	-0.6
SPX	**San Pedro Mart**	0.41	112	⇑*i* P	Pb	08 08 15.5	0.0
SPX				*e*S	Sb	08 08 21.2	-0.6
SPX				⇓*e*		08 08 22.6	
SPX				IAML		08 08 22.6	
	comp=N,194nm,0.1s						
SJX	**San Joaquin**	0.57	356	*e*P	Pn	08 08 21.4	+1.5
SJX				*e*S	Sn	08 08 31.6	+2.5
SQX	**San Quintin**	0.61	177	*e*P	Pg	08 08 18.4	+0.3
SQX				*e*S	Sb	08 08 27.4	+0.3
ECBX	**El Chinero**	0.79	69	⇑*i* P	Pg	08 08 21.8	+0.3
ECBX				*i* S	Sb	08 08 31.7	-0.5
SFX	**San Felipe**	0.92	99	*e*P	Pn	08 08 24.5	-0.2
SFX				*e*S	Sn	08 08 37.0	-0.8
CBX	**Cerro Bola**	1.29	330	*i* P	Pn	08 08 29.3	-0.6
CBX				*i* S	Sb	08 08 45.4	-1.3
CBX	**Cerro Bola**	1.29	330	*e*P	Pn	08 08 29.5	-0.4
CBX				*e*S	Sb	08 08 45.8	-1.0
CBX				IAML		08 08 46.7	
	comp=E,71nm,0.2s						
CBX				⇑*e*		08 08 46.7	
CBX				⇓*e*		08 08 50.8	
CBX				IAML		08 08 50.8	
	comp=N,61nm,0.3s						
MBIG	**Mexicali**	1.36	26	*i* P	Pn	08 08 29.8	-0.9
MBIG				*i* S	Sb	08 08 49.1	+0.5
TJIG	**Tijuana**	1.40	333	*e*P	Pn	08 08 31.1	-0.2
TJIG				*i* S	Sn	08 08 48.6	-1.0
BAR	**Barrett**	1.62	337	*e*P	Pn	08 08 34.9	+0.5

IDC ***25*** *08:18:47.6±1.7, 10°.15N×126°.49E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/53, mbtmp3.7/4, MS3.7/1, Ms1 3.7/1, ms1mx2.5/52, Error ellipse: s-maj=272.1km s-min=26.1km az=73.0*
NEIC ***25*** *08:18:49.4±0.7, 10°.1N±0°.1×126°.3E±0°.2, h10km±1km, mb4.1/5, Error ellipse: s-maj=31.2km s-min=10.0km az=118.0*
MAN ***25*** *08:18:53.6, 10°.07N×126°.20E, h15km, mb4.8, ML3.7, MS3.6*

ISC 25 08:18:48.8±2.2, 10°.10N±0°.04×126°.30E±0°.08, h9km±13km, n25, σ1°86/21, mb4.0/7, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	1.42	272	*e*P	Pg	08 19 16.6	+0.7
MSLP				*e*S	Sg	08 19 35.0	+0.6
LLP	**Lapu-Lapu**	2.30	276	*e*P	Pb	08 19 30.9	+0.4
LLP				*e*S	Sn	08 19 58.1	+2.7
TBP	**Tagbilaran**	2.43	261	⇓*i* P	Pb	08 19 32.6	-0.1
TBP				*i* S	Sn	08 19 53.4	-5.2
BUKP	**Musuan**	2.52	209	*e*P	Pb	08 19 33.4	-0.8
BUKP				*e*S	Sb	08 20 04.5	-0.9
CNP	**Catarman**	2.88	326	*e*P	Pb	08 19 39.1	-1.3
CNP				*e*S	Sb	08 20 13.7	-2.2
KCP	**Kidapawan**	3.29	201	⇑*e*P	Pb	08 19 44.8	-2.7
PAGZ	**Pagadian**	3.65	232	*e*P	Pn	08 19 48.3	+2.9
PVCP	**Virac**	4.06	329	*e*P	Pb	08 19 58.8	-1.7
MYLDM	**Lahad Datu**	9.14	238	Pn	Pn	08 21 01.9	+0.9
KNRA	**Kununurra**	25.73	175	P	P	08 24 19.8	+0.1
KNRA				IAmb	IAmb	08 24 28.7	
	comp=Z,8.9nm,1.0s						
FITZ	**Fitzroy Crossi**	28.02	181	P	P	08 24 41.5	+1.1
FITZ				IAmb	IAmb	08 24 50.8	
	comp=Z,2.1nm,1.0s						
WRA	**Warramunga Arr**	30.89	165	P	P	08 25 06.4	+0.6
	comp=Z,0.4nm,0.8s,baz=347,slow=9.2,SNR=3.3						
ASAR	**Alice Springs**	34.37	168	P	P	08 25 36.3	-0.1
	comp=Z,0.2nm,0.3s,baz=353,slow=7.0,SNR=7.4						
CTA	**Charters Tower**	35.86	147	LR	LR	08 41 49.6	
	comp=Z,134nm,21.4s,baz=347,slow=39						
H11S3	**WAKE ISLAND Hy 39.95**	73		T	T	09 09 20.9	
	baz=262,slow=74,SNR=9.0						
H11S1	**WAKE ISLAND Hy 39.96**	73		T	T	09 09 21.9	
	baz=262,slow=74,SNR=5.7						
H11S2	**WAKE ISLAND Hy 39.96**	73		T	T	09 09 24.3	
	baz=262,slow=74,SNR=6.4						
H11N1	**WAKE ISLAND Hy 40.28**	71		T	T	09 09 48.6	
	baz=265,slow=74,SNR=22						
H11N2	**WAKE ISLAND Hy 40.29**	71		T	T	09 09 45.4	
	baz=265,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy 40.30**	71		T	T	09 09 49.8	
	baz=265,slow=74,SNR=18						
FORT	**Forrest**	40.68	178	P	P	08 26 30.6	+1.0
BBOO	**Buckleboo**	43.67	168	P	P	08 26 55.0	+0.9
BBOO				IAmb	IAmb	08 27 07.7	
	comp=Z,3.1nm,0.8s						
STKA	**Stephens Creek**	44.23	161	P	P	08 26 59.4	+0.9
ARCES	**ARCESS Array B**	84.36	340	P	P	08 31 22.1	+1.0
	comp=Z,1.6nm,1.0s,baz=81,slow=6.6,SNR=4.3						
FINES	**FINESS Array B**	86.05	332	P	P	08 31 29.7	0.0
	comp=Z,0.9nm,0.7s,baz=85,slow=6.5,SNR=4.6						

ECX ***25*** *08:24:10.5±0.6, 27°.63N×111°.57W, h17km±5km, MD2.7*
MEX ***25*** *08:24:10.1±0.6, 27°.55N×111°.54W, h3km, MD3.8*

ISC 25 08:24:09.6±1.2, 27°.7N±0°.1×111°.59W±0°.07, h10km, n6, σ0°36/12, 2C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	0.68	70	*e*P	Pg	08 24 22.3	-0.4
GUYB				*i* S	Sg	08 24 32.0	+0.5
GUYB	**Guaymas**	0.68	70	⇑*e*P	Pg	08 24 22.2	-0.4
GUYB				*i* S	Sg	08 24 31.9	+0.4
SRIG	**Santa Rosalia**	0.68	239	*e*P	Pg	08 24 22.4	-0.2
SRIG				*e*S	Sg	08 24 31.7	+0.2
SRIG	**Santa Rosalia**	0.68	239	⇑*i* P	Pg	08 24 22.4	-0.2
SRIG				*i* S	Sg	08 24 31.9	+0.4
HSIG		1.46	23	*e*P	Pn	08 24 36.0	0.0
HSIG				*e*S	Sn	08 24 54.9	-0.2
HSIG		1.46	23	*e*P	Pn	08 24 36.0	0.0
HSIG				*i* S	Sn	08 24 55.4	+0.2

IDC ***25*** *08:37:54.3±2.8, 37°.80N×142°.59E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/49, mbtmp3.5/4, ML2.1/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/49, Error ellipse: s-maj=69.5km s-min=34.4km az=53.0*
NIED ***25*** *08:37:55.5, 38°.39N×142°.13E, h35km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.28; $M_{\theta\theta}$=0.02; $M_{\phi\phi}$=1.27; $M_{r\theta}$=0.43; $M_{r\phi}$=-0.13; $M_{\theta\phi}$=2.39; Fault plane solution: M_0=2.74000×10^{14} NP1: ϕ_s=188.00000°, δ76.00000°, λ-83.00000°. NP2: ϕ_s=342.00000°, δ15.00000°, λ-115.00000°.*
JMA ***25*** *08:37:55.4±0.1, 38°.39N×142°.13E, h35km±1km, M3.7*

ISC 25 08:37:56.2±2.2, 38°.42N±0°.05×142°.2E±0°.1, h36km±4km, n24, σ2°00/26, mb3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	0.55	259	P	Pn	08 38 06.1	-1.4
JIKH				S	Sn	08 38 13.3	-2.1
JIO	**Ouri**	0.63	274	P	Pn	08 38 07.7	-0.9
JIO				S	Sn	08 38 15.9	-1.5
JKMT	**Kesennumamotoy**	0.66	307	P	Pn	08 38 08.4	-0.6
JKMT				*e*S	Sn	08 38 17.2	-0.9
OFUJ	**Ofunato**	0.76	331	P	Pn	08 38 09.8	-0.6
OFUJ				S	Sn	08 38 19.8	-0.8
JMK	**Ichinoseki**	0.90	307	P	Pn	08 38 11.9	-0.4
JMK				S	Sn	08 38 23.4	-0.7
JOU	**Okura**	1.17	268	P	Pn	08 38 15.7	-0.2
JOU				S	Sn	08 38 30.3	-0.3
JMM	**Marumori**	1.20	243	P	Pn	08 38 15.1	-1.3
JMM				*e*S	Sn	08 38 29.8	-1.6
JOM	**Ohasama**	1.25	328	P	Pn	08 38 17.3	+0.2
JOM				S	Sn	08 38 33.1	+0.5
JFK	**Kawauchi**	1.45	224	P	Pn	08 38 18.3	-1.6
JFK				*e*S	Sn	08 38 34.6	-3.1
JYK	**Kaneyama**	1.49	290	P	Pn	08 38 20.5	+0.2
JYK				S	Sn	08 38 38.8	+0.3
JRG	**Rokugo**	1.53	310	P	Pn	08 38 21.9	+0.9
MJAR	**Matsushiro Arr**	3.65	240	Pn	Pn	08 38 52.7	+2.6
	0.2nm,0.3s,baz=59,slow=8.3,SNR=15						
MAT	**Matsushiro**	3.65	240	P	Pn	08 38 53.1	+3.0
MAT				*e*S	Sn	08 39 38.4	+6.5
JNU	**Nakatsue**	10.57	243	LR	LR	08 44 51.6	
	comp=Z,60nm,21.6s,baz=274,slow=39						
SEY	**Seymchan**	25.32	11	LR	LR	08 55 26.5	
	comp=Z,33nm,18.1s,baz=48,slow=41						
H11N2	**WAKE ISLAND Hy 28.39**	124		T	T	09 14 17.6	
	baz=317,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy 28.40**	124		T	T	09 14 20.8	
	baz=317,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy 28.41**	124		T	T	09 14 17.3	
	baz=317,slow=75,SNR=30						
H11S1	**WAKE ISLAND Hy 29.16**	126		T	T	09 15 12.0	
	baz=318,slow=76,SNR=9.2						
H11S3	**WAKE ISLAND Hy 29.16**	126		T	T	09 15 02.4	
	baz=318,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy 29.18**	126		T	T	09 15 12.0	
	baz=318,slow=76,SNR=12						
MKAR	**Makanchi Array**	43.89	301	P	P	08 46 07.4	+8.3
	0.4nm,0.6s,baz=93,slow=6.2,SNR=4.0						
WRA	**Warramunga Arr**	58.51	189	P	P	08 47 48.4	-0.4
	0.5nm,0.6s,baz=6.9,slow=6.9,SNR=5.4						
ASAR	**Alice Springs**	62.24	189	P	P	08 48 14.2	-0.1
	0.4nm,0.7s,baz=6.6,slow=5.5,SNR=6.8						

NEIC ***25*** *08:43:03.9±1.6, 14°.38N±0°.07×93°.19E±0°.08, h37km±8km, mb4.6/22, Error ellipse: s-maj=12.1km s-min=9.7km az=116.0*
IDC ***25*** *08:43:03.8±0.7, 14°.30N×93°.11E, h37km±5km, mb3.9/11, mb1 4.1/12, mb1mx3.8/42, mbtmp4.1/12, ML4.2/1, MS3.6/14, Ms1 3.6/14, ms1mx3.3/50, Error ellipse: s-maj=26.0km s-min=13.5km az=58.0*

ISC 25 08:43:03.8±0.5, 14°.40N±0°.06×93°.14E±0°.05, h35km, n95, σ1°54/86, mb4.4/29, MS3.6/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	2.76	188	Pn	Pn	08 43 45.7	+0.2
MHMT	**Maesarieng**	5.94	50	P	Pn	08 44 30.4	+1.2
PHET	**Kaeng Krachan**	6.48	102	P	Pn	08 44 38.0	+1.4
PHET				S	Sn	08 45 47.7	-1.7
CM15	**Chiang Mai Arr**	6.86	53	P	Pn	08 44 51.7	+10
CM31	**Chiang Mai Arr**	6.87	53	Pn	Pn	08 44 42.6	+0.5
CM31				Sn	Sn	08 45 58.0	-1.2
CMAR	**Chiang Mai Arr**	6.87	53	Pn	Pn	08 44 42.1	0.0
	1.1nm,0.3s,baz=244,slow=15,SNR=16						
CMAR				Sn	Sn	08 45 57.9	-1.3
	1.7nm,0.3s,baz=244,slow=29,SNR=3.7						
CMAR				LR	LR	08 48 05.5	
	comp=Z,278nm,20.0s,baz=294,slow=43						
SUKH	**Sukhothai**	6.95	63	P	Pn	08 44 44.3	+1.1
CHTO	**Chiang Mai**	7.08	51		Pn	08 44 45.4	+0.4
CHTO				Sn	Sn	08 46 03.4	-1.0
CMMT	**Chiang Mai**	7.08	51	P	Pn	08 44 46.4	+1.3
CMMT				S	Sn	08 45 59.8	-4.6
PHIT	**Phitsanulok**	7.53	67	P	Pn	08 44 52.3	+1.2
PHIT				S	Sn	08 46 16.6	+1.3
PATY	**Pattaya**	7.65	100	P	Pn	08 44 54.1	+1.3
SURT	**Suratani**	7.74	134	P	Pn	08 44 57.0	+3.0
PBKT	**Sadao Pong**	7.85	73	P	Pn	08 44 57.3	+1.8
PBKT	**Sadao Pong**	7.85	73	Pn	Pn	08 44 56.1	+0.6
UTTA	**Uttaradit**	7.86	64	P	Pn	08 44 57.9	+2.2
PHRA	**Phrae**	7.92	58	P	Pn	08 44 58.0	+1.5
PAYA	**Payao**	8.11	52	P	Pn	08 45 00.3	+1.1
CRAI	**Chiangrai**	9.01	49	P	Pn	08 45 08.3	-3.2
CHLP	**Challavanipeta**	9.62	296	*e*P	Pn	08 45 17.9	-2.0
CHLP				*e*		08 46 54.4	
SHL	**Shillong**	11.17	354	*e*P	Pn	08 45 49.0	+7.8
SHL				*e*S	Sn	08 47 48.0	+3.0
SHL	**Shillong**	11.17	354	Pn	Pn	08 45 42.1	+0.9
PVM	**Polavaram**	11.44	286	*e*P	Pn	08 45 43.6	-1.2
PVM				*e*		08 47 37.5	
MYLAV	**Mylavaram**	12.28	283	*e*P	Pn	08 45 53.1	-3.1
MYLAV				*e*		08 47 55.6	
ADKI	**Addanki**	12.80	278	*e*P	Pn	08 46 01.4	-1.9
ADKI				*e*		08 48 10.1	
PSI	**Prapat**	12.86	153	LR	LR	08 50 35.1	
	comp=Z,240nm,18.8s,baz=273,slow=35						
RPSI	**Rantau Prapat**	12.96	153	Pn	Pn	08 46 07.1	+1.6
SKHT	**Srikalahasti**	13.05	269	*e*		08 48 14.7	
NJS	**Nagarjunasagar**	13.51	281	*e*P	Pn	08 46 12.8	-0.3
NJS				*e*		08 48 28.9	
ODAN	**Odare**	13.51	337	*e*P	Pn	08 46 10.4	-2.9
	76nm,0.5s						
TAPN	**Taplejung**	13.85	339	*e*P	Pn	08 46 15.5	-2.4
	17nm,0.5s						
SRLM	**Srisailam**	13.86	279	*e*P	Pn	08 46 17.1	-0.7
SRLM				*e*		08 48 33.6	
RAMN	**Ramite**	13.90	335	*e*P	Pn	08 46 16.6	-2.0
RPR	**Rampur**	13.99	290	*e*P	Pn	08 46 18.0	-1.6
RPR				*e*		08 48 41.2	
HYB	**Hyderabad**	14.35	284	*i* P	P	08 46 30.0	-1.2
HYB				*e*S	Sn	08 49 04.0	+1.4
HYBB	**Hyderabad (bro**	14.35	284	*e*P	Pn	08 46 24.5	-0.1
HYBB				*e*		08 49 01.1	
JIRN	**Jiri**	14.70	335	*e*P	Pn	08 46 27.2	-2.3
	23nm,0.5s						
SRSP	**Sriramsagar**	14.88	290	*e*P	Pn	08 46 29.9	-1.8
SRSP				*e*		08 49 03.4	
PKI	**Pulchoki**	14.96	332	*e*P	Pn	08 46 31.8	-1.2
	21nm,0.5s						
DMN	**Daman**	15.12	332	*e*P	Pn	08 46 33.3	-1.9
	5.2nm,0.2s						
URV	**Uravakonda**	15.38	274	*e*P	Pn	08 46 35.8	-2.5
URV				*e*		08 49 13.4	
KOLN	**Koldanda**	16.00	328	*e*P	Pn	08 46 46.4	0.0
	15nm,0.4s						
KLRI	**Killari**	16.30	285	*e*P	Pn	08 46 49.0	-1.2
KLRI				*e*		08 49 32.6	
POO	**Poona**	18.95	285	*e*P	Pn	08 47 36.0	+13
KSM	**Kuching**	21.28	126	P	P	08 47 46.3	-1.1
KSM				IAmb	IAmb	08 47 51.1	
	comp=Z,14nm,0.9s						
HKPS	**Hong Kong Po S**	21.40	65	P	P	08 47 46.6	-2.0
ENH	**Enshi**	21.82	41	P	P	08 47 51.5	-1.7
ENH				IAmb	IAmb	08 48 07.2	
	comp=Z,13nm,0.8s						
XAN	**Xi'an**	24.21	33	P	P	08 48 15.3	-2.0
XAN				IAmb	IAmb	08 48 28.2	
	comp=Z,16nm,1.0s						
NIL	**Nilore**	26.32	320	P	P	08 48 35.5	-0.9
NIL				IAmb	IAmb	08 48 50.4	
	comp=Z,18nm,0.8s						
H08S3	**Diego Garcia H**	29.98	224	T	T	09 20 20.3	
	baz=42,slow=75,SNR=12						
H08S2	**Diego Garcia H**	29.99	224	T	T	09 20 27.0	
	baz=42,slow=75,SNR=10.0						
H08S1	**Diego Garcia H**	30.00	224	T	T	09 20 22.1	
	baz=42,slow=75,SNR=7.9						
TARG	**Taragay, Kyrgy**	30.31	337	P	P	08 49 12.5	+0.1
GAR	**Garm**	31.70	325	P	P	08 49 23.7	-0.6
CHGR	**Chuyangaron**	32.12	323	P	P	08 49 30.0	+1.9
BTK	**Batken**	32.18	327	P	P	08 49 31.1	+2.6
BTK				IAmb	IAmb	08 49 42.6	
	comp=Z,12nm,1.0s						
MK31	**Makanchi Array**	33.55	346	P	P	08 49 41.1	+0.8
MK31				IAmb	IAmb	08 49 53.0	
	comp=Z,4.4nm,0.8s						
MKAR	**Makanchi Array**	33.55	346	P	P	08 49 40.9	+0.6
	comp=Z,1.4nm,0.7s,baz=155,slow=8.9,SNR=14						
MKAR				pP	pP	08 49 51.7	+1.7
	comp=Z,6.0nm,0.8s,baz=159,slow=7.8,SNR=29						
MKAR				LR	LR	09 07 44.3	
	comp=Z,67nm,18.2s,baz=161,slow=44						
MAKZ	**Makanchi**	33.63	346	P	P	08 49 41.3	+0.3
MAKZ				IAmb	IAmb	08 49 53.5	
	comp=Z,5.2nm,0.7s						
KK31	**Karatay Array**	34.58	330	P	P	08 49 50.8	+1.5
KKAR	**Karatay Array**	34.58	330	P	P	08 49 47.5	-1.8
SONM	**Songino Array**	35.11	16	P	P	08 49 54.8	+0.9
	comp=Z,0.5nm,0.4s,baz=200,slow=9.8,SNR=3.5						
SONM				pP	pP	08 50 05.5	+1.8
	comp=Z,4.2nm,1.0s,baz=205,slow=8.6,SNR=11						
KURBB	**Kurchatov Arra**	38.02	345	pP	pP	08 50 29.9	+1.6
	comp=Z,6.7nm,0.7s,baz=159,slow=8.0,SNR=22						
KSRS	**Korea Array**	38.46	47	LR	LR

comp=Z,0.4nm,0.3s,baz=76,slow=5.6,SNR=7.1
GERES pP **pP** **08 54 37.9 +1.0**
comp=Z,1.4nm,0.6s,baz=76,slow=5.6,SNR=9.3
NB2 NORSAR Subarra 73.61 330 P P 08 54 42.3 +8.9
comp=Z,2.2nm,0.8s,baz=89,slow=6.2
NOA NORSAR Array B 73.61 330 pP pP 08 54 43.9 -0.1
comp=Z,1.6nm,0.7s,baz=89,slow=5.9,SNR=7.1
BOSA Boshof 78.29 236 LR LR 09 24 24.8
comp=Z,103nm,20.0s,baz=316,slow=32
ESDC Sonseca Array 86.30 310 pP pP 08 55 52.8 -0.3
comp=Z,0.9nm,0.8s,baz=56,slow=4.8,SNR=6.2
TORD Torodi Ar. Bea 88.17 283 P **P** **08 55 51.4 -0.4**
comp=Z,0.4nm,0.6s,baz=74,slow=5.3,SNR=3.4
TORD pP **pP** **08 56 03.3 +0.8**
comp=Z,1.5nm,0.7s,baz=76,slow=3.9,SNR=8.0
ILAR Eielson Array 89.09 22 pP pP 08 56 06.3 +0.2
comp=Z,0.6nm,0.8s,baz=297,slow=4.5,SNR=5.9

WEL 25 08:53:05.0,44.°S±1.°×17.°2E±.°, h10km±2km, M2.3/11, ML2.4/11, MLv2.3/11, Error ellipse: s-maj=0.0km s-min=0.0km az=120.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.20**	**126**	P	**Pg**	08 53 10.5	**+1.4**
OXZ	**Oxford**	**0.39**	**313**	P	**Pb**	08 53 13.4	**-0.7**
AMCZ	**Amberley**	**0.44**	**21**	P	**Pb**	08 53 15.0	**+0.1**
AKCZ	**Akaroa Harbour**	**0.45**	**129**	P	**Pb**	08 53 15.2	**+0.2**
OKCZ	**Okains Bay**	**0.47**	**106**	P	**Pb**	08 53 15.7	**+0.2**
WACZ	**Wakanui South**	**0.56**	**231**	P	**Pb**	08 53 17.9	**+1.0**
MHCZ	**Mount Hutt**	**0.63**	**275**	P	**Pb**	08 53 19.0	**+0.8**
GVZ	**Greta Valley S**	**0.76**	**35**	P	**Pb**	08 53 21.0	**+0.6**
LTZ	**Lake Taylor**	**0.82**	**352**	P	**Pb**	08 53 21.6	**+0.2**
ARCZ	**Arundel**	**0.98**	**248**	P	**Pn**	08 53 25.0	**+0.2**
RPZ	**Rata Peaks**	**1.01**	**263**	P	**Pn**	08 53 25.3	**0.0**
INZ	**Inchbonnie**	**1.13**	**320**	P	**Pn**	08 53 27.2	**+0.3**
KHZ	**Kahutara**	**1.43**	**35**	P	**Pn**	08 53 30.2	**-0.8**
THZ	**Tophouse**	**1.86**	**11**	P	**Pn**	08 53 36.8	**-0.2**
DSZ	**Denniston Nort**	**1.90**	**346**	P	**Pn**	08 53 38.7	**+1.1**
ODZ	**Otahua Downs**	**1.94**	**221**	P	**Pn**	08 53 39.1	**+1.0**
TUWZ	**Tuamarina**	**2.43**	**28**	P	**Pb**	08 53 48.1	**-0.8**
MTHZ	**Maungataniwha**	**5.78**	**37**	P	**Pn**	08 54 34.0	**+3.0**
SNGZ	**Shannon Statio**	**6.06**	**39**	P	**Pn**	08 54 35.0	**+0.3**

*TEH **25** 09:10:03.0, 36.°03N×53.°61E, h8km, ML3.5*
*THR **25** 09:10:13.2±1.0, 36.°23N×52.°69E, h46km±12km, ML3.0*
ISC 25 09:10:02.9±1.0, 36.°08N±0.°04×53.°52E±0.°04, h10km, n36, σ1§97/37, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHM	**Shahmirzad**	**0.33**	**213**	*e*Pg	**Pg**	**09 10 10.6**	**+1.0**
ISHM				*e*		09 10 17.6	
IGLO	**Ghaloghah**	**0.49**	**31**	*e*Pg	**Pg**	**09 10 13.0**	**+0.5**
IALA	**Alasht**	**0.57**	**270**	*e*Pg	**Pb**	**09 10 15.5**	**+0.3**
IALA				*e*		09 10 28.2	
IANJ	**Anjilo**	**0.69**	**152**	*e*Pg	**Pg**	**09 10 15.0**	**-1.3**
IFIR	**Firoozkooh**	**0.76**	**235**	*e*Pg	**Pg**	**09 10 18.3**	**+0.7**
IFIR				*e*		09 10 31.1	
ILAS	**Lasjerd**	**0.83**	**213**	*e*Pg	**Pg**	**09 10 18.9**	**-0.1**
IPRN	**Peran**	**0.97**	**280**	*e*Pg	**Pb**	**09 10 22.8**	**+1.0**
IPRN				*e*		09 10 44.2	
IDMV	**Damavand**	**1.31**	**248**	*e*Pn	**Pb**	**09 10 28.3**	**+0.6**
DAMV	**Damavand**	**1.33**	**251**	*e*Pn	**Pg**	**09 10 29.0**	**+0.5**
IVRN	**Varamin**	**1.82**	**234**	*e*Pn	**Pb**	**09 10 37.1**	**+0.8**
IMND	**Minoodasht**	**1.92**	**52**	*e*Pn	**Pn**	**09 10 37.8**	**+2.2**
IHSB	**Hasanabad**	**1.93**	**251**	*e*Pn	**Pb**	**09 10 39.2**	**+1.0**
IHSB				*e*		09 10 42.5	
CHTH	**Charan**	**1.95**	**266**	*e*Pg	**Pb**	**09 10 38.8**	**+0.2**
CHTH				*e*Sg	**Sn**	**09 10 55.8**	**-5.0**
THKV	**Tehran--Karaj**	**2.15**	**266**	IAML		09 10 55.9	
	comp=N,188nm,0.4s						
QALM	**Alamut, Qazvin**	**2.34**	**279**	*e*Pn	**Pb**	**09 10 46.1**	**+0.7**
IMHD	**Mahdasht**	**2.35**	**261**	*e*Pn	**Pb**	**09 10 45.5**	**+0.2**
IMHD				*e*		09 10 51.0	
IQOM	**Qom**	**2.35**	**239**	*e*Pn	**Pb**	**09 10 44.8**	**-0.6**
GHVR	**GHOM**	**2.42**	**229**	*e*Pn	**Pb**	**09 10 46.8**	**+0.3**
IGZV	**Ghazvin**	**2.68**	**277**	*e*Pn	**Pb**	**09 10 50.7**	**-0.4**
IGZV				*e*		09 11 36.8	
ANAR	**Anarak**	**2.89**	**176**	*e*Pn	**Pn**	**09 10 51.0**	**+1.9**
IRAZ	**Razeghan**	**3.00**	**258**	*e*Pn	**Pb**	**09 10 54.3**	**-2.1**
IKLH	**Kolahrood**	**3.19**	**211**	*e*Pn	**Pn**	**09 10 55.8**	**+2.5**
QABG	**Abgarm-Qazvin**	**3.21**	**264**	*e*Pn	**Pn**	**09 10 57.4**	**+3.8**
ASAO	**Ashtian**	**3.24**	**243**	*e*Pn	**Pn**	**09 10 55.6**	**+1.6**
ASAO				*e*Sg	**Sb**	**09 11 37.6**	**-2.6**
TNSJ	**Nastanj**	**3.30**	**129**	*e*Pn	**Pn**	**09 10 56.5**	**+1.8**
SBZV	**Sabzevar**	**3.33**	**84**	*e*Pn	**Pn**	**09 10 57.0**	**+1.9**
IZEF	**Zefreh**	**3.33**	**197**	*e*Pn	**Pn**	**09 10 57.9**	**+2.7**
QSDN	**Sirdan**	**3.53**	**278**	*e*Pn	**Pb**	**09 11 03.2**	**-2.4**
QSDN				*e*		09 12 02.0	
ISFR	**Sfrayin**	**3.74**	**74**	*e*Pn	**Pn**	**09 11 03.0**	**+2.1**
KHMZ	**Khomeyn**	**3.74**	**232**	*e*Pn	**Pn**	**09 11 03.3**	**+2.4**
TKDS	**Koohdasht(Taba**	**3.85**	**129**	*e*Pn	**Pn**	**09 11 03.6**	**+1.3**
IPIR	**Pirpir**	**4.02**	**213**	*e*Pn	**Pn**	**09 11 07.6**	**+2.8**
IRAM	**Ramesheh**	**4.37**	**193**	*e*Pn	**Pn**	**09 11 11.5**	**+2.0**
JHBN	**Jahan bin**	**4.51**	**212**	*e*Pn	**Pn**	**09 11 14.4**	**+2.9**
IMEH	**Mehriz**	**4.77**	**169**	*e*Pn	**Pn**	**09 11 17.0**	**+2.0**
GRMI	**Germi**	**5.24**	**303**	*e*Pn	**Pn**	**09 11 20.7**	**-0.6**

*IDC **25** 09:16:00.5±2.4, 16.°05S×73.°71W, h58km±22km, mb3.5/3, mb1 3.7/6, mb1mx3.5/29, mbtmp3.8/6, ML3.8/3, MS2.3/1, Ms1 2.3/1, ms1mx2.1/22, Error ellipse: s-maj=39.1km s-min=15.9km az=42.0*
ISC 25 09:15:58.9±1.0, 16.°3S±0.°1×73.°9W±0.°1, h50km, n18, σ1§81/18, 2C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.96**	**122**	*e*P	**Pn**	**09 16 57.5**	**+0.4**
AP01				*e*S	**Sn**	**09 17 40.9**	**-1.5**
PB12	**IPOC Station P**	**4.10**	**125**	*e*P	**Pn**	**09 17 00.1**	**+0.9**
PB16	**IPOC Station P**	**4.64**	**117**	*e*P	**Pn**	**09 17 08.7**	**+1.6**
PSGC	**Pisagua**	**4.86**	**134**	*e*P	**Pn**	**09 17 11.2**	**+1.5**
MNMC	**Minye Minye**	**4.96**	**126**	*e*P	**Pn**	**09 17 12.8**	**+1.5**
NNA	**Nana**	**5.14**	**325**	P	**Pn**	**09 17 13.8**	**+0.3**
	6.8nm,0.3s,baz=148,slow=9.7,SNR=12						
NNA				S	**Sn**	**09 18 11.5**	**-0.1**
	12nm,0.3s,baz=202,slow=21,SNR=5.0						
PB11	**IPOC Station P**	**5.30**	**132**	*e*P	**Pn**	**09 17 17.3**	**+1.6**
LPAZ	**La Paz**	**5.50**	**91**	P	**Pn**	**09 17 22.8**	**+3.9**
	4.4nm,0.3s,baz=278,slow=8.2,SNR=77						
GO01	**Chusmiza**	**5.58**	**128**	*e*P	**Pn**	**09 17 21.7**	**+1.8**
LVC	**Limon Verde**	**7.85**	**144**	P	**Pn**	**09 17 54.2**	**+3.3**
	1.0nm,0.3s,baz=331,slow=11,SNR=37						
LVC				S	**Sn**	**09 19 17.1**	**-1.5**
	14nm,0.3s,baz=108,slow=21,SNR=20						
LVC				LR	LR	09 20 49.8	
	comp=Z,22nm,20.1s,baz=260,slow=36						
SIV	**San Ignacio**	**12.29**	**91**	P	**Pn**	**09 18 49.6**	**-1.8**
	0.7nm,0.3s,baz=275,slow=13,SNR=15						
H03N1	**Juan Fernandez**	**17.70**	**194**	T	T	09 38 35.5	
	baz=18,slow=74,SNR=931						
H03N2	**Juan Fernandez**	**17.70**	**194**	T	T	09 38 34.5	
	baz=18,slow=74,SNR=763						
H03N3	**Juan Fernandez**	**17.72**	**194**	T	T	09 38 26.5	
	baz=18,slow=74,SNR=647						
PTGA	**Pitinga**	**20.64**	**43**	P	**P**	**09 20 34.0**	**-0.5**
	2.3nm,0.6s,baz=228,slow=14,SNR=6.6						
TXAR	**Lajitas Array**	**53.70**	**327**	P	**P**	**09 25 16.0**	**0.0**
	0.4nm,0.7s,baz=151,slow=9.1,SNR=5.9						
TORD	**Torodi Ar. Bea**	**80.18**	**73**	P	**P**	**09 28 03.6**	**-1.0**
	0.7nm,0.4s,baz=265,slow=5.2,SNR=8.0						
WRA	**Warramunga Arr**	**134.59**	**219**	PKP	**PKiKP**	**09 35 13.7**	**-0.4**
	0.6nm,0.9s,baz=149,slow=2.3,SNR=3.4						

*ISK **25** 09:16:58.7, 37.°29N×38.°57E, h5km, ML2.5/8*
*DDA **25** 09:17:00.1, 37.°36N×38.°57E, h7km±2km, ML2.3*
ISC 25 09:16:59.4±1.4, 37.°30N±0.°05×38.°56E±0.°03, h7km±11km, n13, σ0§73/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.26**	**56**	PG	**Pg**	**09 17 04.9**	**+0.4**
ATAB	**Bozova**	**0.27**	**309**	*i* P	**Pg**	**09 17 05.3**	**+0.6**
ATAB				*i* S	**Sb**	**09 17 10.0**	**-1.4**
SANL	**SANLIURFA_Merk**	**0.37**	**110**	*i* P	**Pb**	**09 17 07.8**	**-0.6**
SANL				*i* S	**Sb**	**09 17 13.6**	**-0.7**
SANL				IAML		09 17 17.0	
	comp=E,290nm,0.5s						
SANL				IAML		09 17 18.0	
	comp=N,188nm,0.3s						
MALT	**Malatya**	**1.02**	**354**	PG	**Pg**	**09 17 18.8**	**-0.1**
MALT				SG	**Sn**	**09 17 35.6**	**+0.8**
GAZ	**Gaziantep**	**1.08**	**264**	PN	**Pn**	**09 17 21.3**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.23**	**29**	PN	**Pn**	**09 17 23.3**	**+0.1**
ELZG	**Elazig**	**1.24**	**16**	*i* P	**Pn**	**09 17 23.9**	**+0.6**
ELZG				*i* S	**Sn**	**09 17 41.5**	**+1.0**
ELZG				IAML		09 17 43.0	
	comp=N,67nm,0.4s						
ELZG				IAML		09 17 46.0	
	comp=E,161nm,0.4s						
KMRS	**Kahramanmaras**	**1.33**	**279**	PN	**Pg**	**09 17 25.4**	**+0.4**
DIYA	**Diyarbakir**	**1.39**	**63**	*i* P	**Pg**	**09 17 26.7**	**+0.6**
DIYA				*i* S	**Sn**	**09 17 45.0**	**+1.0**
DIYA				IAML		09 17 47.0	
	comp=E,78nm,0.4s						
DIYA				IAML		09 17 50.0	
	comp=N,72nm,0.3s						
DYBB	**Diyarbakir**	**1.42**	**62**	PN	**Pg**	**09 17 26.9**	**+0.3**
MAZI	**Mazidag**	**1.52**	**83**	PN	**Pg**	**09 17 28.0**	**-0.5**
HEKM	**Malatya_Hekimh**	**1.65**	**344**	*i* P	**Pg**	**09 17 30.5**	**-0.4**
HEKM				*i* S	**Sg**	**09 17 52.5**	**+0.2**
HEKM				IAML		09 18 00.0	
	comp=E,58nm,0.5s						
HEKM				IAML		09 18 00.0	
	comp=N,36nm,0.6s						
PTK	**Pertek**	**1.72**	**22**	PN	**Pb**	**09 17 30.7**	**-0.8**

*IDC **25** 09:22:17.6±2.4, 36.°32N×142.°06E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.5/39, mbtmp3.7/6, ML3.3/2, MS2.5/2, Ms1 2.5/2, ms1mx2.3/41, Error ellipse: s-maj=58.3km s-min=24.8km az=71.0*
*JMA **25** 09:22:21.8±0.2, 36.°32N×141.°75E, h60km±4km, M3.3*
ISC 25 09:22:22.7±1.3, 36.°30N±0.°05×141.°68E±0.°09, h26km, n22, σ1§05/20, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.88**	**273**	P	**Pn**	**09 22 39.1**	**-0.3**
CHOJ	**Chosi**	**0.90**	**228**	P	**Pn**	**09 22 39.4**	**-0.1**
JHO	**Hitachi**	**0.94**	**289**	P	**Pn**	**09 22 39.7**	**-0.6**
JIHU	**Itakohorinouch**	**0.99**	**250**	P	**Pb**	**09 22 41.4**	**+0.2**
ONAJ	**Iwakimizuishiy**	**1.06**	**319**	P	**Pn**	**09 22 41.0**	**-1.0**
JYT	**Yasato**	**1.20**	**267**	P	**Pn**	**09 22 43.4**	**-0.4**
JFK	**Kawauchi**	**1.24**	**329**	P	**Pn**	**09 22 44.0**	**-0.4**
JFT	**Otama**	**1.62**	**319**	P	**Pn**	**09 22 50.0**	**+0.4**
JMM	**Marumori**	**1.71**	**336**	P	**Pn**	**09 22 50.1**	**-0.7**
BSO3	**Boso 3**	**1.78**	**213**	P	**Pn**	**09 22 51.4**	**0.0**
JAG	**Ashikaga**	**1.80**	**275**	P	**Pn**	**09 22 52.3**	**+0.3**
MJAR	**Matsushiro Arr**	**2.81**	**276**	Pn	**Pn**	**09 23 07.4**	**+1.5**
	1.1nm,0.3s,baz=113,slow=8.7,SNR=39						
MJAR				LR	LR	09 24 21.3	
	comp=Z,65nm,19.7s,baz=110,slow=40						
MAT	**Matsushiro**	**2.81**	**276**	P	**Pn**	**09 23 07.9**	**+2.0**
MAT				S	**Sb**	**09 23 43.7**	**-2.4**
JHJ	**Hachijo jima 2**	**3.54**	**207**	Pn	**Pn**	**09 23 15.9**	**0.0**
	20nm,0.3s,baz=316,slow=18,SNR=17						
JHJ				Sn	**Sn**	**09 23 56.0**	**-1.0**
	24nm,0.3s,baz=81,slow=22,SNR=7.6						
KSRS	**Korea Array**	**11.08**	**280**	LR	LR	09 29 15.3	
	comp=Z,28nm,18.1s,baz=235,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.60**	**120**	T	T	09 56 59.5	
	baz=312,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**27.60**	**120**	T	T	09 57 38.8	
	baz=312,slow=74,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**27.61**	**120**	T	T	09 57 40.1	
	baz=312,slow=74,SNR=4.8						
SONM	**Songino Array**	**28.37**	**305**	P	**P**	**09 28 16.4**	**+1.7**
	1.2nm,0.7s,baz=103,slow=9.9,SNR=5.3						
ZALV	**Zalesovo Beam**	**42.56**	**313**	P	**P**	**09 30 16.2**	**+0.2**
	0.5nm,0.3s,baz=67,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**44.69**	**303**	P	**P**	**09 30 33.7**	**+0.4**
	0.6nm,0.6s,baz=83,slow=11,SNR=7.0						
WRA	**Warramunga Arr**	**56.37**	**188**	P	**P**	**09 32 01.0**	**-0.7**
	0.5nm,0.9s,baz=5.9,slow=7.4,SNR=3.5						

*DJA **25** 10:31:32.6±0.5, 6.°S±5.°×10.°3E±.°, h43km±32km, M4.7/13, mB5.7/1, mb5.0/1, MLv4.6/13, Mw(mB)5.2/1*
*IDC **25** 10:31:34.0±1.2, 5.°68S×102.°98E, h56km±5km, mb3.9/9, mb1 4.0/10, mb1mx3.7/32, mbtmp4.1/10, MS3.3/5, Ms1 3.3/5, ms1mx3.0/36, Error ellipse: s-maj=32.6km s-min=11.1km az=42.0*
*NEIC **25** 10:31:34.0±1.6, 5.°68S±0.°10×103.°0E±0.°1, h58km±8km, mb4.6/6, Error ellipse: s-maj=19.3km s-min=9.2km az=52.0*
ISC 25 10:31:31.5±0.9, 5.°78S±0.°08×103.°00E±0.°08, h33km, n46, σ1§59/39, mb4.3/16, MS3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.30**	**54**	P	**Pb**	**10 31 54.8**	**-0.6**
MNAI	**Manna**	**1.41**	**358**		**Pb**	**10 31 56.3**	**-0.9**
KASI	**Kota Agung**	**1.51**	**81**	P	**Pn**	**10 31 56.9**	**+0.7**
LHSI	**Lahat**	**2.01**	**15**	P	**Pb**	**10 32 05.7**	**-1.6**
KLSI		**2.03**	**58**	P	**Pn**	**10 32 05.1**	**+1.7**
KSI	**Kapahiang**	**2.15**	**349**	P	**Pn**	**10 32 06.2**	**+1.1**
KSI				S	**Sn**	**10 32 33.3**	**+2.6**
BLSI	**Bandar Lampung**	**2.27**	**80**	P	**Pn**	**10 32 08.7**	**+2.0**
MASI	**Maura Aman, Be**	**2.73**	**344**	P	**Pn**	**10 32 15.0**	**+2.0**
SKJI	**Sukabumi**	**3.74**	**109**	P	**Pn**	**10 32 28.9**	**+2.0**
DBJI	**Dramaga**	**3.81**	**102**	P	**Pn**	**10 32 30.0**	**+2.1**
CBJI	**Citeko**	**3.88**	**100**	P	**Pb**	**10 32 37.6**	**-1.6**
KRJI	**Kerinci**	**3.97**	**337**	P	**Pn**	**10 32 32.7**	**+2.5**
PPSI	**Pulau Pagai**	**4.23**	**315**	P	**Pn**	**10 32 34.5**	**+0.9**
CNJI	**Cibinong**	**4.38**	**111**	P	**Pn**	**10 32 35.5**	**-0.2**
LEM	**Lembang**	**4.71**	**103**	P	**Pn**	**10 32 45.0**	**+4.6**
	15nm,0.3s,baz=344,slow=20,SNR=4.3						
LEM				S	**Sn**	**10 33 37.1**	**+3.2**
	9.3nm,0.3s,baz=359,slow=23,SNR=6.9						
LEM				LR	LR	10 34 40.2	
	comp=Z,228nm,21.2s,baz=17,slow=39						
CISI	**Cisompet, Garu**	**5.10**	**111**	P	**Pn**	**10 32 45.8**	**+0.1**
CISI	**Cisompet, Garu**	**5.10**	**111**		**Pn**	**10 32 46.1**	**+0.4**
KAPI	**Kappang**	**16.69**	**88**	LR	LR	10 41 53.3	
	comp=Z,152nm,18.3s,baz=284,slow=37						
MYLDM	**Lahad Datu**	**18.92**	**55**	P	**P**	**10 35 49.4**	**-0.3**
MYLDM				IAmb	IAmb	10 35 56.1	
	comp=Z,20nm,0.7s						
BATI	**Baumata**	**20.93**	**103**	P	Pn	10 36 14.2	-0.1
	comp=Z,48nm,0.4s,baz=45,slow=3.4,SNR=7.4						
SOEI	**Soe**	**21.43**	**102**	P	**P**	**10 36 16.8**	**-0.4**
SOEI				IAmb	IAmb	10 36 25.6	
	comp=Z,26nm,0.7s						
CMAR	**Chiang Mai Arr**	**24.41**	**351**	P	**P**	**10 36 46.0**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=183,slow=8.7,SNR=8.7						
DAV	**Davao City (W)**	**25.89**	**61**	LR	LR	10 46 58.4	
	comp=Z,40nm,18.9s,baz=193,slow=36						
H08S2	**Diego Garcia H**	**30.35**	**265**	T	T	11 09 16.8	
	baz=88,slow=76,SNR=11						
H08S3	**Diego Garcia H**	**30.36**	**265**	T	T	11 09 17.5	
	baz=88,slow=76,SNR=27						
H08S1	**Diego Garcia H**	**30.37**	**265**	T	T	11 09 12.9	
	baz=88,slow=76,SNR=9.7						
H01W3	**Cape Leeuwin H**	**30.74**	**162**	T	T	11 09 43.7	
	baz=339,slow=76,SNR=90						
H01W2	**Cape Leeuwin H**	**30.75**	**162**	T	T	11 09 44.4	
	baz=339,slow=76,SNR=36						
H01W1	**Cape Leeuwin H**	**30.75**	**162**	T	T	11 09 45.4	
	baz=339,slow=76,SNR=35						
WRA	**Warramunga Arr**	**33.55**	**118**	P	**P**	**10 38 08.4**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=318,slow=10.0,SNR=10						
ASAR	**Alice Springs**	**34.65**	**124**	P	**P**	**10 38 18.2**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=299,slow=7.8,SNR=12						
STKA	**Stephens Creek**	**44.43**	**131**	P	**P**	**10 39 40.0**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=314,slow=4.8,SNR=6.1						
KSRS	**Korea Array**	**48.89**	**26**	P	**P**	**10 40 12.8**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=220,slow=6.9,SNR=5.4						
KSRS				pP	**sP**	**10 40 28.5**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=227,slow=7.2,SNR=6.6						
KDJ	**Kajisay**	**53.17**	**336**	P	**P**	**10 40 47.0**	**+0.4**
KDJ				IAmb	IAmb	10 41 02.7	
	comp=Z,8.8nm,0.9s						
MJAR	**Matsushiro Arr**	**53.46**	**35**	P	**P**	**10 40 45.8**	**-2.8**
	comp=Z,1.7nm,0.7s,baz=220,slow=7.9,SNR=4.9						
SONM	**Songino Array**	**53.47**	**3**	P	**P**	**10 40 48.4**	**-0.1**
	comp=Z,3.9nm,0.6s,baz=181,slow=9.2,SNR=20						
SONM				pP	**sP**	**10 41 02.8**	**+0.9**
	comp=Z,3.0nm,0.8s,baz=184,slow=9.3,SNR=6.2						
MK31	**Makanchi Array**	**55.47**	**343**	P	**P**	**10 41 02.5**	**-0.5**
MK31				IAmb	IAmb	10 41 19.5	
	comp=Z,2.1nm,0.8s						
MKAR	**Makanchi Array**	**55.47**	**343**	P	**P**	**10 41 02.2**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=146,slow=9.1,SNR=16						
MKAR				pP	**sP**	**10 41 17.0**	**+0.7**
	comp=Z,2.1nm,0.4s,baz=153,slow=8.7,SNR=12						
USRK	**Ussuriysk Ar.**	**56.18**	**25**	P	**P**	**10 41 07.2**	**-1.0**
	comp=Z,3.4nm,0.7s,baz=223,slow=3.3,SNR=7.0						
KURK	**Kurchatov**	**60.07**	**342**	P	**P**	**10 41 35.1**	**-0.1**
ZALV	**Zalesovo Beam**	**61.44**	**348**	P	**P**	**10 41 43.5**	**-1.0**
	comp=Z,3.6nm,0.4s,baz=163,slow=5.9,SNR=10						
ZALV				pP	**sP**	**10 41 58.1**	**+0.3**
	comp=Z,6.3nm,0.4s,baz=157,slow=5.8,SNR=6.0						
ZALV				LR	LR	11 13 21.5	
	comp=Z,32nm,19.4s,baz=204,slow=41						
BVAR	**Borovoye Array**	**64.75**	**339**	pP	pP	10 42 20.2	+3.9
	comp=Z,1.9nm,0.5s,baz=148,slow=8.7,SNR=8.5						
MAW	**Mawson**	**67.43**	**196**	LR	LR	11 06 23.5	
	comp=Z,33nm,20.7s,baz=50,slow=31						
KBZ	**Khabaz**	**73.10**	**319**	pP	pP	10 43 13.8	+5.3
	comp=Z,1.3nm,0.4s,baz=116,slow=5.9,SNR=6.9						
BRTR	**Keskin Array B**	**78.06**	**312**	pP	pP	10 43 42.4	+5.1
	comp=Z,3.1nm,0.7s,baz=139,slow=6.8,SNR=10						
TXAR	**Lajitas Array**	**145.60**	**44**	PKPbc	**PKPbc**	**10 51 07.4**	**-0.1**
	comp=Z,4.4nm,0.7s,baz=299,slow=1.6,SNR=64						
TXAR				pPKPbc	sPKPab	10 51 23.1	+1.5
	comp=Z,3.4nm,0.7s,baz=297,slow=1.4,SNR=16						

IDC 25 10:34:10.9±8.3, 24.°74S×69.°61E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/36, mbtmp3.7/4, MS3.7/2, Ms1 3.7/2, ms1mx3.0/30, Error ellipse: s-maj=286.7km s-min=39.3km az=157.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.21**	**10**	T	T	10 56 46.3	
	baz=189,slow=76,SNR=36						
H08S2	**Diego Garcia H**	**17.22**	**10**	T	T	10 56 32.7	
	baz=189,slow=76,SNR=47						
H08S3	**Diego Garcia H**	**17.23**	**10**	T	T	10 56 39.2	
	baz=189,slow=76,SNR=42						
H01W2	**Cape Leeuwin H**	**39.65**	**115**	T	T	11 23 01.3	
	baz=271,slow=75,SNR=11						
H01W3	**Cape Leeuwin H**	**39.66**	**115**	T	T	11 23 00.8	
	baz=271,slow=75,SNR=40						
BOSA	**Boshof**	**39.66**	**254**	LR	LR	10 54 00.2	
	comp=Z,110nm,21.8s,baz=46,slow=30						
H01W1	**Cape Leeuwin H**	**39.67**	**115**	T	T	11 23 07.1	
	baz=271,slow=75,SNR=5.6						
CMAR	**Chiang Mai Arr**	**51.57**	**36**	P	P	10 43 19.7	+0.6
	0.9nm,0.8s,baz=232,slow=6.7,SNR=5.8						
CMAR				LR	LR	11 03 13.0	
	comp=Z,57nm,18.4s,baz=230,slow=34						
MKAR	**Makanchi Array**	**72.11**	**9**	P	P	10 45 37.0	0.0
	0.6nm,0.8s,baz=196,slow=7.6,SNR=4.9						
TORD	**Torodi Ar. Bea**	**76.18**	**292**	P	P	10 46 01.7	+0.2
	0.5nm,0.9s,baz=101,slow=3.5,SNR=2.6						
SONM	**Songino Array**	**79.45**	**24**	P	P	10 46 18.5	-0.6
	0.4nm,0.4s,baz=230,slow=6.6,SNR=3.1						

*DDA **25** 10:49:00.4, 40.°30N×40.°18E, h3km±3km, ML2.0*
*ISK **25** 10:49:00.2, 40.°30N×40.°19E, h5km, ML2.5/5*
ISC 25 10:49:00.4±1.1, 40.°31N±0.°04×40.°18E±0.°03, h4km±11km, n11, σ0§83/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYB	**BAYBURT**	**0.08**	**127**	*i* P	**Pg**	**10 49 02.0**	**-0.2**
BAYB				*i* S	**Sg**	**10 49 03.3**	**-0.1**
BAYB				IAML		10 49 04.0	
	comp=E,4μm,0.3s						
BAYB				IAML		10 49 04.0	
	comp=N,4μm,0.3s			

baz=119,slow=14,SNR=7.6
KSRS Korea Array 11.38 264 P Pn 11 07 20.5 +4.6
0.6nm,0.3s,baz=70,slow=14,SNR=10
KSRS LR LR 11 11 16.1
comp=Z,25nm,21.5s,baz=50,slow=35
KLR Kul'dur 12.15 326 LR LR 11 11 30.2
comp=Z,74nm,18.5s,baz=119,slow=34
SEY Seymchan 24.14 11 P **P 11 09 48.7 +1.3**
3.3nm,0.8s,baz=194,slow=8.3,SNR=12
H11N2 WAKE ISLAND Hy 29.06 126 T T 11 41 06.6
baz=318,slow=75,SNR=813
H11N1 WAKE ISLAND Hy 29.07 126 T T 11 41 09.4
baz=318,slow=75,SNR=808
H11N3 WAKE ISLAND Hy 29.08 126 T T 11 41 07.2
baz=318,slow=75,SNR=809
H11S1 WAKE ISLAND Hy 29.86 128 T T 11 42 09.1
baz=320,slow=76,SNR=174
H11S3 WAKE ISLAND Hy 29.86 128 T T 11 42 10.4
baz=320,slow=76,SNR=152
H11S2 WAKE ISLAND Hy 29.87 128 T T 11 42 12.0
baz=320,slow=76,SNR=170
ZALV Zalesovo Beam 40.67 310 P **P 11 12 11.0 -0.6**
2.2nm,0.4s,baz=84,slow=8.7,SNR=7.1
MK31 Makanchi Array 43.31 300 P **P 11 12 32.6 -0.7**
MK31 IAmb IAmb 11 12 33.2
comp=Z,1.8nm,0.7s
MKAR Makanchi Array 43.31 300 P **P 11 12 32.5 -0.8**
comp=Z,1.6nm,0.6s,baz=85,slow=9.5,SNR=18
ILAR Eielson Array 46.99 34 P **P 11 13 03.0 +0.8**
comp=Z,0.5nm,0.7s,baz=269,slow=6.0,SNR=8.4
WR0 Warramunga Arr 59.70 188 P **P 11 14 34.8 -1.1**
WR0 IAmb IAmb 11 14 43.7
comp=Z,9.7nm,1.4s
WRA Warramunga Arr 59.70 189 P **P 11 14 35.0 -0.9**
comp=Z,0.7nm,0.7s,baz=7.3,slow=6.9,SNR=6.9
ASAR Alice Springs 63.43 188 P **P 11 15 00.8 -0.2**
comp=Z,0.3nm,0.6s,baz=18,slow=13,SNR=8.1
FINES FINESS Array B 66.81 332 P **P 11 15 22.0 -0.6**
comp=Z,1.9nm,0.6s,baz=28,slow=8.6,SNR=6.6
NB2 NORSAR Subarra 72.04 337 P **P 11 15 54.1 -0.8**
comp=Z,0.6nm,0.5s,baz=32,slow=6.5
NOA NORSAR Array B 72.04 337 P **P 11 15 54.2 -0.7**
comp=Z,1.0nm,0.6s,baz=38,slow=6.1,SNR=4.7
PDAR Pinedale Array 75.43 46 P **P 11 16 16.4 +1.1**
comp=Z,0.2nm,0.6s,baz=264,slow=3.0,SNR=3.9

IDC 25 11:08:05.1±9.1, 26°08S×29°51E, h0km, mb1 2.8/1, mb1mx2.8/26, mbtmp2.9/1, ML2.1/1, Error ellipse: s-maj=96.5km s-min=58.1km az=145.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**4.54**	**235**	Pn		Pn	Pn	11 09 15.7	+0.4
	0.1nm,0.3s,baz=61,slow=10,SNR=1.6								
BOSA				Pg		Pg	Pg	11 09 31.5	-0.8
	0.1nm,0.3s,baz=55,slow=17,SNR=1.3								
BOSA				Sn		Sn	Sn	11 10 09.2	+0.3
	0.1nm,0.3s,baz=99,slow=4.4,SNR=1.8								
BOSA				Lg		Lg	Lg	11 10 29.3	
	0.8nm,0.3s,baz=338,slow=16,SNR=9.0								
I47ZA	**BOSHOF INFRASO**	**4.56**	**235**	*i*				11 39 20.0	
	baz=57,slow=326,SNR=0.6								
I35NA	**TSUMEB INFRASO**	**12.37**	**299**	*i*				12 31 50.0	
	baz=122,slow=327,SNR=1.1								

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*SOME **25** 11:30:33.3, 43.73N×69.68E*
NNC 25 11:30:34.4±2.0, 43.66N×69.76E, h0km, mb3.5, mpv3.0, 4C-2D, Error ellipse: s-maj=11.0km s-min=6.5km az=142.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRLS	**Boroldaу**	**0.63**	**175**	P		P	Pn	11 30 50.3	-0.3
	4.0nm,0.3s								
BRLS				S			Sn	11 31 01.7	+0.3
	19nm,0.4s								
KK31	**Karatay Array**	**0.78**	**135**	⇑P			Pg	11 30 49.6	+0.2
	2.3nm,0.5s,baz=323,slow=18,SNR=31								
KK31				⇑S			Sg	11 31 00.4	+1.0
	3.5nm,0.3s,baz=314,slow=34,SNR=72								
IUG	**luzhnay**	**1.52**	**172**	P			Pg	11 31 03.5	0.0
	22nm,0.5s								
IUG				S			Sn	11 31 25.8	+2.3
	30nm,0.4s								
MRKS	**Merke**	**2.70**	**109**	Pg			Pb	11 31 24.5	+0.9
	4.2nm,0.5s								
MRKS				Lg			Lg	11 32 01.7	
	7.2nm,0.6s								
AAK	**Ala-Archa**	**3.61**	**105**	⇓Pg			Pb	11 31 38.7	-0.6
	2.8nm,0.4s								
AAK				⇑Lg			Lg	11 32 30.4	
	3.5nm,0.8s								
TKM2	**Tokmak 2**	**4.33**	**98**	⇓Pg			Pb	11 31 52.7	+1.2
	2.4nm,0.6s								
TKM2				⇑Lg			Lg	11 32 52.5	
	2.5nm,0.7s								
KST	**Kastek**	**4.57**	**96**	Pg			Pg	11 31 59.0	-3.0
	2.8nm,0.5s								
KST				Lg			Lg	11 33 00.5	
	3.4nm,0.8s								

IDC 25 11:33:57.1±1.9, 0.72N×125.49E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/32, mbtmp3.4/3, Error ellipse: s-maj=198.7km s-min=24.4km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.30**	**158**	P		P	P	11 38 55.1	-1.1
	0.2nm,0.3s,baz=335,slow=10,SNR=17								
ASAR	**Alice Springs**	**25.59**	**162**	P		P	P	11 39 29.0	+0.8
	0.2nm,0.3s,baz=345,slow=12,SNR=13								
MKAR	**Makanchi Array**	**59.34**	**327**	P		P	P	11 44 01.0	-0.1
	0.3nm,0.4s,baz=120,slow=7.5,SNR=4.6								

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*SKHL **25** 11:49:58.1±0.2, 44.42N×146.83E, h105km±4km, mb4.2/3, msh4.8/3*
*JMA **25** 11:49:58.2±0.3, 43.76N×147.26E, h25km, M3.2*
ISC 25 11:49:56.6±2.2, 43.90N±0.09×147.43E±0.10, h30km±16km, n18, σ1s24/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.14**	**277**	*i* P			**Pn**	**11 50 16.6**	**+0.1**
YUK					AMB	AMB	AMB	11 50 16.8	
	30nm,0.4s								
YUK					AMB	AMB	AMB	11 50 16.8	
	150nm,0.4s								
YUK				*i* S			**Sb**	**11 50 30.5**	**-1.6**
YUK				A		A	A	11 50 31.0	
	250nm,0.4s								
YUK				A		A	A	11 50 31.0	
	140nm,0.4s								
GRPR	**Tuman**	**1.20**	**275**	*e*P			**Pn**	**11 50 17.5**	**+0.2**
GRPR					AMB	AMB	AMB	11 50 18.0	
	80nm,0.4s								
GRPR				*e*S			**Sn**	**11 50 32.1**	**-0.5**
GRPR				A		A	A	11 50 32.8	
	320nm,0.5s								
GRPR				A		A	A	11 50 32.8	
	250nm,0.5s								
NEM2	**Nemuro 2**	**1.34**	**247**	P			**Pn**	**11 50 19.1**	**0.0**
NEM2				*e*S			**Sn**	**11 50 34.2**	**-1.7**
NMR	**Nemuro--Hokkai**	**1.34**	**247**	*e*P			**Pb**	**11 50 21.6**	**+0.5**
KUR	**Kuril'sk**	**1.37**	**13**	*e*P			**Pn**	**11 50 19.7**	**+0.1**
KUR					AMB	AMB	AMB	11 50 20.1	
	80nm,0.3s								
KUR				*e*S			**Sn**	**11 50 36.1**	**-0.6**
KUR				A		A	A	11 50 37.9	
	130nm,0.4s								
KUR				A		A	A	11 50 37.9	
	200nm,0.4s								
JRA	**Rausu**	**1.67**	**272**	P			**Pn**	**11 50 24.6**	**+0.9**
JNSB	**Nemuroshibetsu**	**1.76**	**267**	P			**Pn**	**11 50 26.1**	**+1.1**
JKHN	**Kushirohamanak**	**1.84**	**244**	P			**Pn**	**11 50 26.5**	**+0.4**
JKHN				*e*S			**Sn**	**11 50 47.2**	**-1.2**
JNK	**Nakash**	**1.99**	**262**	P			**Pn**	**11 50 29.0**	**+0.8**
JNK				*e*S			**Sn**	**11 50 51.7**	**-0.3**
JAK	**Akkeshi**	**2.19**	**247**	P			**Pn**	**11 50 31.2**	**+0.4**
JAK				*e*S			**Sn**	**11 50 55.3**	**-1.5**
JTKR	**Abashiri--Toko**	**2.54**	**273**	P			**Pn**	**11 50 37.3**	**+1.5**
JAR	**Ashorobuto**	**2.73**	**258**	P			**Pn**	**11 50 40.0**	**+1.7**
JOB	**Onbets**	**2.80**	**250**	P			**Pn**	**11 50 40.6**	**+1.3**
JMP	**Maruseppu**	**2.94**	**273**	P			**Pn**	**11 50 43.0**	**+1.7**
ASAJ	**Asahikawa**	**3.49**	**275**	P			**Pn**	**11 50 50.6**	**+1.8**
JNBK	**Urakawa-nobuka**	**3.79**	**246**	P			**Pn**	**11 50 54.5**	**+1.6**
ULN	**Ulaanbaatar**	**28.16**	**292**	*e*P			P	11 55 35.5	-11
BRVK	**Borovoye**	**49.61**	**309**	*e*P			P	11 58 34.9	-10

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*IDC **25** 11:56:41.7±0.6, 15°.13S×173°.65W, h0km, mb4.4/12, mb1 4.7/13, mb1mx4.4/30, mbtmp4.4/13, ML4.9/1, MS3.9/24, Ms1 3.9/24, ms1mx3.8/29, Error ellipse: s-maj=27.8km s-min=13.8km az=128.0*
*NEIC **25** 11:56:43.0±1.5, 15°.24S±0°.09×173°.63W±0°.04, h10km±1km, mb4.7/77, Error ellipse: s-maj=15.8km s-min=5.0km az=166.0*
ISC 25 11:56:43.3±0.4, 15°.21S±0°.06×173°.55W±0°.09, h10km, n140, σ1s24/100, mb4.7/48, MS4.0/26, 8C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.15**	**53**	Pn			**Pn**	**11 57 17.3**	**-2.0**
	326nm,0.3s,baz=214,slow=3.1,SNR=351								
AFI						Sn	Sn	11 57 37.7	-8.3
	419nm,0.3s,baz=56,slow=22,SNR=26								
AFI						LR	LR	11 58 00.9	
	comp=Z,3μm,20.5s,baz=220,slow=36								
AFI	**Afiamalu**	**2.15**	**53**	Pn			**Pn**	**11 57 17.4**	**-1.8**
NIUE	**Niue**	**5.18**	**139**	Pn			**Pn**	**11 58 01.9**	**+1.0**
NIUE							**Sn**	**11 58 59.7**	**-1.1**
KNTN	**Kanton**	**12.48**	**9**	Pn			**Pn**	**11 59 40.9**	**-0.3**
RAR	**Rarotonga**	**14.39**	**117**	LR			LR	12 03 22.1	
	comp=Z,67nm,21.5s,baz=296,slow=28								
DZM	**Mont Dzumac**	**20.14**	**247**	*e*P			Pn	12 01 23.8	+4.2
	1.5nm,0.3s								
DZM					*e*LQ		LQ	12 05 20.1	
	857nm,28.0s								
DZM					*e*LR		LR	12 06 30.6	
	comp=Z,2μm,26.5s								
DZM	**Mont Dzumac**	**20.14**	**247**	Pn			Pn	12 01 18.5	-1.1
DZM						IAmb	IAmb	12 01 28.1	
	comp=Z,54nm,1.3s								
PAE	**Paea**	**23.12**	**99**	*e*T			T	12 25 36.3	
	comp=Z,6.6nm,0.3s								
PPT	**Papeete**	**23.12**	**99**	LR			LR	12 07 33.1	
	comp=Z,69nm,21.4s,baz=258,slow=28								
PPT2	**Papeete2**	**23.12**	**99**	*e*LR			LR	12 07 05.4	
	comp=Z,221nm,26.2s								
TIAR	**Tiarei**	**23.34**	**99**	*e*T			T	12 25 52.4	
	comp=Z,1.9nm,0.3s								
HAZ	**Te Kaha**	**23.74**	**197**	P			**P**	**12 01 57.0**	**+1.3**
PUZ	**Puketiti**	**23.90**	**196**	P			**P**	**12 02 00.7**	**+3.4**
RUGZ	**Raukumara Rang**	**23.96**	**197**	P			**P**	**12 02 00.1**	**+2.2**
MWZ	**Matawai**	**24.35**	**197**	P			**P**	**12 02 02.3**	**+0.8**
URZ	**Urewera**	**24.40**	**198**	P			**P**	**12 02 01.7**	**-0.2**
	comp=Z,6.2nm,0.3s,baz=280,slow=2.6,SNR=14								
URZ	**Urewera**	**24.40**	**198**	P			**P**	**12 02 01.7**	**-0.2**
URZ	**Urewera**	**24.40**	**198**	IAmb		IAmb	IAmb	12 02 10.3	
	comp=Z,12nm,0.8s								
TOZ	**Tahuroa Road**	**24.44**	**201**	P			**P**	**12 02 04.5**	**+2.2**
RIGZ	**Rimuhau**	**24.63**	**196**	P			**P**	**12 02 06.2**	**+2.2**
PMOR	**Pomariorio Ree**	**24.77**	**93**	*e*T			T	12 27 33.7	
	comp=Z,1.9nm,0.2s								
BKZ	**Black Stump Fm**	**25.42**	**198**	P			**P**	**12 02 10.3**	**-0.9**
BKZ	**Black Stump Fm**	**25.42**	**198**	P			**P**	**12 02 10.3**	**-0.9**
BKZ						IAmb	IAmb	12 02 22.3	
	comp=Z,31nm,1.3s								
OTVZ	**Oturere**	**25.68**	**200**	P			**P**	**12 02 13.6**	**-0.1**
KWHZ	**Kaweka Forest**	**25.68**	**198**	P			**P**	**12 02 13.1**	**-0.5**
WNVZ	**Wahianoa**	**25.85**	**200**	P			**P**	**12 02 14.2**	**-1.0**
BFZ	**Birch Farm**	**26.89**	**197**				**P**	**12 02 22.2**	**-2.2**
QRZ	**Quartz Range**	**28.25**	**203**	P			**P**	**12 02 37.3**	**+0.7**
NNZ	**Nelson**	**28.29**	**201**	P			**P**	**12 02 35.2**	**-1.7**
NNZ						IAmb	IAmb	12 02 39.9	
	comp=Z,24nm,1.2s								
BSWZ	**Blackbirch Sta**	**28.57**	**200**	P			**P**	**12 02 40.2**	**+0.8**
THZ	**Tophouse**	**28.94**	**201**	P			**P**	**12 02 42.0**	**-0.8**
THZ						IAmb	IAmb	12 02 53.2	
	comp=Z,29nm,1.5s								
KHZ	**Kahutara**	**29.31**	**200**	P			**P**	**12 02 45.4**	**-0.5**
KHZ						IAmb	IAmb	12 03 03.3	
	comp=Z,22nm,1.2s								
LTZ	**Lake Taylor**	**30.06**	**201**	P			**P**	**12 02 50.6**	**-2.1**
OXZ	**Oxford**	**30.62**	**201**	P			**P**	**12 02 56.7**	**-0.9**
RPZ	**Rata Peaks**	**31.30**	**202**	P			**P**	**12 03 03.4**	**-0.3**
	comp=Z,6.6nm,0.8s,baz=34,slow=3.0,SNR=6.1								
RPZ	**Rata Peaks**	**31.30**	**202**	P			**P**	**12 03 02.5**	**-1.2**
FOZ	**Fox Glacier**	**31.61**	**203**	P			**P**	**12 03 04.5**	**-1.7**
FOZ						IAmb	IAmb	12 03 18.2	
	comp=Z,16nm,1.1s								
LBZ	**Lake Benmore**	**32.20**	**202**	P			**P**	**12 03 09.1**	**-2.4**
LBZ						IAmb	IAmb	12 03 10.8	
	comp=Z,10.0nm,1.2s								
TAOE	**Nuku Hiva Isla**	**33.25**	**83**	*e*T			T	12 38 12.5	
	comp=Z,24nm,0.2s								
MLZ	**Mavora Lakes**	**33.81**	**203**	P			**P**	**12 03 24.7**	**-0.9**
DCZ	**Deep Cove**	**34.27**	**204**	P			**P**	**12 03 29.1**	**-0.4**
WHZ	**Wether Hill Ro**	**34.31**	**203**	P			**P**	**12 03 29.2**	**-0.7**
H11S2	**WAKE ISLAND Hy**	**38.72**	**329**	T			T	12 45 12.0	
	baz=149,slow=76,SNR=18								
H11S3	**WAKE ISLAND Hy**	**38.73**	**329**	T			T	12 45 12.2	
	baz=149,slow=76,SNR=30								
H11S1	**WAKE ISLAND Hy**	**38.74**	**329**	T			T	12 45 24.8	
	baz=149,slow=76,SNR=36								
CAN	**Canberra**	**39.03**	**232**	P			**P**	**12 04 09.3**	**-1.1**
CAN						IAmb	IAmb	12 04 16.0	
	comp=Z,29nm,1.2s								
H11N3	**WAKE ISLAND Hy**	**39.67**	**330**	T			T	12 46 10.9	
	baz=150,slow=76,SNR=8.2								
H11N1	**WAKE ISLAND Hy**	**39.67**	**330**	T			T	12 46 16.2	
	baz=150,slow=76,SNR=12								
H11N2	**WAKE ISLAND Hy**	**39.69**	**330**	T			T	12 46 24.2	
	baz=150,slow=76,SNR=43								
TOO	**Toolangi**	**42.47**	**230**	P			**P**	**12 04 37.7**	**-1.1**
TOO						IAmb	IAmb	12 04 38.8	
	comp=Z,18nm,1.1s								
TAU	**Tasmania Unive**	**43.36**	**222**	P			**P**	**12 04 42.9**	**-2.9**
STKA	**Stephens Creek**	**44.01**	**240**	P			**P**	**12 04 51.0**	**-0.2**
	comp=Z,2.5nm,0.4s,baz=81,slow=7.8,SNR=9.8								
STKA						LR	LR	12 20 30.0	
	comp=Z,173nm,20.6s,baz=35,slow=32								
STKA	**Stephens Creek**	**44.01**	**240**	P			**P**	**12 04 51.4**	**+0.2**
BBOO	**Buckleboo**	**48.78**	**240**	P			**P**	**12 05 27.1**	**-1.6**
BBOO						IAmb	IAmb	12 05 38.4	
	comp=Z,12nm,1.3s								
WR0	**Warramunga Arr**	**49.55**	**257**	P			**P**	**12 05 34.0**	**-0.8**
WR0						IAmb	IAmb	12 05 34.9	
	comp=Z,15nm,1.4s								
WB0	**Warramunga Arr**	**49.70**	**257**	P			**P**	**12 05 35.0**	**-0.9**
WB0						IAmb	IAmb	12 05 40.1	
	comp=Z,7.4nm,1.1s								
WB2	**Warramunga Arr**	**49.73**	**257**	P			**P**	**12 05 35.4**	**-0.8**
WB2						IAmb	IAmb	12 05 46.3	
	comp=Z,14nm,1.4s								
WRAB	**Tennant Creek**	**49.73**	**257**	P			**P**	**12 05 35.5**	**-0.8**
WRAB						IAmb	IAmb	12 05 35.7	
	comp=Z,7.1nm,1.0s								
WRA	**Warramunga Arr**	**49.74**	**257**	P			**P**	**12 05 34.6**	**-1.7**
	comp=Z,3.7nm,0.8s,baz=99,slow=5.9,SNR=135								
AS31	**Alice Springs**	**50.03**	**252**	P			**P**	**12 05 37.4**	**-1.1**
ASAR	**Alice Springs**	**50.03**	**252**	P			**P**	**12 05 37.1**	**-1.4**
	comp=Z,7.2nm,0.3s,baz=87,slow=8.2,SNR=148								
ASAR						LR	LR	12 25 18.2	
	comp=Z,242nm,21.1s,baz=90,slow=34								
FORT	**Forrest**	**55.37**	**243**	P			**P**	**12 06 15.3**	**-2.6**
VNDA	**Vanda**	**63.55**	**186**	P			**P**	**12 07 15.1**	**+1.5**
	comp=Z,4.6nm,0.8s,baz=12,slow=6.6,SNR=12								
VNDA						LR	LR	12 34 53.2	
	comp=Z,43nm,18.4s,baz=16,slow=36								
MJAR	**Matsushiro Arr**	**68.69**	**320**	LR			LR	12 32 18.1	
	comp=Z,89nm,21.6s,baz=130,slow=31								
PETK	**Petropavlovsk-**	**72.40**	**342**	P			**P**	**12 08 09.8**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=133,slow=8.7,SNR=4.4								
PETK						LR	LR	12 35 54.1	
	comp=Z,24nm,20.1s,baz=150,slow=32								
ISA	**Isabella, Lake**	**72.62**	**44**	P			**P**	**12 08 11.7**	**+0.5**
ISA						IAmb	IAmb	12 08 12.9	
	comp=Z,9.1nm,1.4s								
AFDM	**Forest Hills D**	**72.89**	**40**				**P**	**12 08 13.0**	**+0.3**
AFDM						IAmb	IAmb	12 08 13.9	
	comp=Z,7.9nm,1.2s								
WDC	**Whiskeytown Da**	**72.92**	**38**	IAmb		IAmb	IAmb	12 08 15.6	
	comp=Z,11nm,1.4s								
OMMB	**Old Mammoth Mi**	**73.37**	**42**				**P**	**12 08 16.0**	**+0.1**
OMMB						IAmb	IAmb	12 08 17.6	
	comp=Z,8.6nm,1.4s								
WAKR	**Walker**	**73.60**	**42**	IAmb		IAmb	IAmb	12 08 19.6	
	comp=Z,9.7nm,1.3s								
PNTR	**Pine Nut**	**73.83**	**41**	IAmb		IAmb	IAmb	12 08 20.1	
	comp=Z,8.8nm,1.1s								
VCNR	**Virginia City**	**73.92**	**41**	IAmb		IAmb	IAmb	12 08 20.6	
	comp=Z,8.7nm,1.2s								
YERR	**Yerington**	**74.00**	**41**	P			**P**	**12 08 19.4**	**-0.1**
NVAR	**Mina Array Bea**	**74.28**	**42**	P			**P**	**12 08 21.4**	**+0.2**
	comp=Z,3.6nm,0.9s,baz=227,slow=9.2,SNR=22								
NVAR						LR	LR	12 33 17.1	
	comp=Z,168nm,21.3s,baz=254,slow=30								
PAHR	**Pah Rah Range**	**74.33**	**41**	IAmb		IAmb	IAmb	12 08 34.3	
	comp=Z,14nm,1.4s								
NV11	**Mina Array Sit**	**74.38**	**42**	IAmb		IAmb	IAmb	12 08 23.2	
	comp=Z,12nm,1.2s								
QSPA	**South Pole Qui**	**74.84**	**180**	P			**P**	**12 08 24.4**	**+0.5**
MOD	**Modoc Plateau**	**75.06**	**38**	IAmb		IAmb	IAmb	12 08 27.1	
	comp=Z,12nm,1.2s								
K05A	**Summer Lake**	**75.21**	**37**				**PcP**	**12 08 40.1**	**+0.2**
PINE	**Pine Mountain**	**75.83**	**36**	P			**P**	**12 08 30.1**	**+0.1**
PINE							**PcP**	**12 08 43.4**	**+0.8**
PRN	**Pahroc Range**	**75.88**	**44**	P			**P**	**12 08 30.7**	**+0.4**
PRN						IAmb	IAmb	12 08 31.6	
	comp=Z,9.7nm,1.3s								
KSRS	**Korea Array**	**75.92**	**316**	LR			LR	12 35 52.8	
	comp=Z,46nm,20.7s,baz=116,slow=31								
R11A	**Troy Canyon, C**	**76.02**	**43**	P			**P**	**12 08 30.8**	**-0.3**
TUC	**Tucson**	**76.38**	**51**	P			**P**	**12 08 34.3**	**+1.0**
I07A	**Izee**	**76.83**	**37**	IAmb		IAmb	IAmb	12 08 37.4	
	comp=Z,13nm,1.4s								
I07A							**PcP**	**12 08 49.1**	**+2.3**
CCUT	**Cedar City**	**77.10**	**45**	P			**P**	**12 08 37.9**	**+0.5**
USRK	**Ussuriysk Ar.**	**77.14**	**323**	LR			LR	12 36 08.2	
	comp=Z,98nm,21.8s,baz=137,slow=31								
U15A	**North Rim**	**77.28**	**46**	IAmb		IAmb	IAmb	12 08 40.7	
	comp=Z,13nm,1.4s								
WUAZ	**Wupatki**	**77.48**	**48**	IAmb		IAmb	IAmb	12 08 42.4	
	comp=Z,8.2nm,1.2s								
G08A	**Pilot Rock**	**77.86**	**36**	P			**P**	**12 08 41.2**	**-0.2**
G08A							**PcP**	**12 08 53.9**	**+2.8**
G08A						IAmb	IAmb	12 08 55.6	
	comp=Z,9.5nm,1.3s								
MTPU	**Mount Pierson**	**78.15**	**45**	P			**P**	**12 08 44.3**	**+0.9**
MSU	**Marysvale**	**78.39**	**45**	P			**P**	**12 08 46.8**	**+2.2**
MFID	**Camas Ranch**	**78.63**	**39**				**P**	**12 08 45.3**	**-0.3**
MFID						IAmb	IAmb	12 08 59.7	
	comp=Z,11nm,1.4s								
NJ2	**Nanjing**	**79.93**	**307**	*e*P			**P**	**12 08 53.3**	**+0.5**
NJ2						pmax	pmax		
	comp=Z,6.0nm,0.5s								
MA2	**Magadan**	**79.94**	**342**	LR			LR	12 39 44.2	
	comp=Z,47nm,19.6s,baz=134,slow=32								
TCUT	**Toone Canyon**	**80.21**	**43**	P			**P**	**12 08 55.0**	**+0.6**
KLR	**Kul'dur**	**80.28**	**327**	LR			LR	12 39 06.5	
	comp=Z,55nm,21.5s,baz=186,slow=32								
TRF	**Thorofare Moun**	**80.46**	**10**	P			**P**	**12 08 54.2**	**-0.9**
PV21	**Cone Mtn., Par**	**80.61**	**46**	IAmb		IAmb	IAmb	12 08 58.5	
	comp=Z,8.5nm,1.3s								
TXAR	**Lajitas Array**	**80.63**	**56**	P			**P**	**12 08 57.5**	**+0.7**
	comp=Z,1.7nm,1.1s,baz=217,slow=6.1,SNR=9.9								
TXAR						LR	LR	12 36 34.0	
	comp=Z,90nm,21.5s,baz=0.0,slow=30								
CN2	**Changchun**	**80.84**	**320**	*e*P			**P**	**12 08 59.8**	**+2.4**
CN2						pmax	pmax		
	comp=Z,10.0nm,0.9s								
TPAW	**Teton Pass**	**81.69**	**41**	IAmb		IAmb	IAmb	12 09 21.0	
	comp=Z,8.1nm,1.2s								
CCB	**Clear Creek Bu**	**82.00**	**11**	IAmb		IAmb	IAmb	12 09 16.0	
	comp=Z,8.0nm,1.0s								
PDAR	**Pinedale Array**	**82.22**	**42**	P			**P**	**12 09 04.4**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=222,slow=1.2,SNR=5.8								
PDAR						LR	LR	12 40 28.5	
	comp=Z,141nm,19.0s,baz=265,slow=32								
ILAR	**Eielson Array**	**82.28**	**11**	P			**P**	**12 09 03.8**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=198,slow=5.8,SNR=9.7								
ILAR						LR	LR	12 38 48.5	
	comp=Z,73nm,21.3s,baz=200,slow=31								
CMIG	**Matias Romero**	**83.96**	**71**	LR			LR	12 37 01.3	
	comp=Z,68nm,18.6s,baz=230,slow=29								
H03S2	**Juan Fernandez**	**85.43**	**124**	T			T	13 44 12.6	
	baz=252,slow=75,SNR=6.7								
H03S1	**Juan Fernandez**	**85.45**	**124**	T			T	13 44 20.4	
	baz=252,slow=75,SNR=5.3								
H03S3	**Juan Fernandez**	**85.45**	**124**	T			T	13 44 05.1	
	baz=252,slow=75,SNR=5.1								
MAW	**Mawson**	**87.93**	**199**	P			**P**	**12 09 33.0**	**0.0**
	comp=Z,5.4nm,0.7s,baz=125,slow=7.3,SNR=18								
MAW						LR	LR	12 46 25.1	
	comp=Z,142nm,20.2s,baz=71,slow=34								
MAW	**Mawson**	**87.93**	**199**	P			**P**	**12 09 33.1**	**+0.1**
INK	**Inuvik**	**88.11**	**14**	LR			LR	12 41 15.0	
	comp=Z,113nm,22.0s

ellipse: s-maj=39.6km s-min=25.8km az=63.0
ISC 25 12:01:26.0±1.0, 37.03N±0.03×140.67E±0.04, h6km±8km, n19, σ0s55/23, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFFD	**Fukushimafurud**	**0.10**	**306**	P	**Pg**	**12 01 28.3**	**+0.1**
JFFD				S	**Sg**	**12 01 30.0**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.13**	**56**	P	**Pg**	**12 01 28.6**	**-0.1**
ONAJ				S	**Sg**	**12 01 30.7**	**+0.2**
JFK	**Kawauchi**	**0.37**	**26**	P	**Pg**	**12 01 32.9**	**-0.4**
JFK				*e*S	**Sg**	**12 01 38.0**	**-0.2**
JHO	**Hitachi**	**0.43**	**191**	P	**Pg**	**12 01 34.0**	**-0.2**
JHO				S	**Sg**	**12 01 40.1**	**+0.3**
JFT	**Otama**	**0.55**	**332**	P	**Pg**	**12 01 36.6**	**0.0**
JFT				S	**Sg**	**12 01 44.0**	**+0.1**
JSB	**Shiboa**	**0.60**	**264**	P	**Pb**	**12 01 38.2**	**-0.7**
JMM	**Marumori**	**0.84**	**7**	P	**Pg**	**12 01 41.2**	**-0.9**
JMM				S	**Sg**	**12 01 52.5**	**-0.5**
JFY	**Yanaizu**	**0.85**	**296**	P	**Pg**	**12 01 42.1**	**-0.3**
JFY				S	**Sg**	**12 01 53.2**	**-0.3**
JYT	**Yasato**	**0.89**	**205**	P	**Pg**	**12 01 42.2**	**-0.8**
JYT				*e*S	**Sg**	**12 01 53.9**	**-0.6**
MJAR	**Matsushiro Arr**	**2.03**	**257**	Pn	**Pn**	**12 02 01.3**	**+0.5**
	0.4nm,0.3s,baz=77,slow=15,SNR=22						
MJAR				Sn	**Sb**	**12 02 28.1**	**-0.8**
	0.8nm,0.3s,baz=73,slow=33,SNR=26						
MAT	**Matsushiro**	**2.03**	**257**	P	**Pn**	**12 02 01.9**	**+1.1**
MAT				S	**Sb**	**12 02 29.3**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**28.66**	**120**	T	T	12 37 11.2	
	baz=313,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**28.67**	**120**	T	T	12 37 11.4	
	baz=313,slow=75,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**28.68**	**120**	T	T	12 37 12.2	
	baz=313,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**29.36**	**122**	T	T	12 38 06.0	
	baz=314,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**29.36**	**122**	T	T	12 38 04.5	
	baz=314,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.38**	**122**	T	T	12 38 04.3	
	baz=314,slow=76,SNR=8.2						
MKAR	**Makanchi Array**	**43.61**	**302**	P	**P**	**12 09 31.0**	**0.0**
	0.2nm,0.5s,baz=82,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**56.98**	**187**	P	**P**	**12 11 13.0**	**+0.6**
	0.4nm,0.7s,baz=3.1,slow=7.3,SNR=5.6						

*SKHL **25** 12:20:16.0±0.5, 44.65N×146.59E, h160km±2km, mb3.9/4, msh4.5/3*
*JMA **25** 12:20:17.7±0.4, 44.51N×146.60E, h164km±3km, M3.5*
ISC 25 12:20:15.2±1.8, 44.50N±0.08×146.72E±0.09, h182km±13km, n24, σ1s15/34, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.77**	**233**	*i* P	**Pn**	**12 20 42.5**	**+0.9**
YUK				AMB	AMB	12 20 44.0	
	20nm,0.3s						
YUK				AMB	AMB	12 20 44.0	
	10.0nm,0.3s						
YUK				AMB	AMB	12 20 44.0	
	40nm,0.3s						
YUK				*i* S	**Sn**	**12 21 02.7**	**+0.9**
YUK				A	A	12 21 03.9	
	50nm,0.2s						
YUK				A	A	12 21 03.9	
	50nm,0.2s						
GRPR	**Tuman**	**0.85**	**234**	*i* P	**Pn**	**12 20 42.7**	**+0.6**
GRPR				AMB	AMB	12 20 43.0	
	30nm,0.3s						
GRPR				*e*S	**Sn**	**12 21 03.0**	**+0.3**
GRPR				A	A	12 21 03.0	
	60nm,0.3s						
GRPR				A	A	12 21 03.0	
	120nm,0.3s						
KUR	**Kuril'sk**	**1.10**	**48**	*e*P	**Pn**	**12 20 44.2**	**+0.4**
KUR				AMB	AMB	12 20 45.9	
	20nm,0.4s						
KUR				*e*S	**Sn**	**12 21 05.0**	**-1.0**
KUR				A	A	12 21 07.3	
	80nm,0.4s						
KUR				A	A	12 21 07.3	
	70nm,0.4s						
JRA	**Rausu**	**1.28**	**245**	P	**Pn**	**12 20 45.6**	**+0.3**
NEM2	**Nemuro 2**	**1.33**	**212**	P	**Pn**	**12 20 46.1**	**+0.3**
NEM2				*e*S	**Sn**	**12 21 07.5**	**-1.9**
NMR	**Nemuro--Hokkai**	**1.34**	**213**	*i* P	**Pn**	**12 20 46.0**	**+0.2**
JNSB	**Nemuroshibetsu**	**1.43**	**240**	P	**Pn**	**12 20 47.3**	**+0.6**
JNK	**Nakash**	**1.71**	**238**	P	**Pn**	**12 20 50.1**	**+0.8**
JKHN	**Kushirohamanak**	**1.81**	**219**	P	**Pn**	**12 20 51.2**	**+0.8**
JKHN				*e*S	**Sn**	**12 21 17.0**	**-0.6**
JTKR	**Abashiri--Toko**	**2.09**	**256**	P	**Pn**	**12 20 53.6**	**+0.3**
JTKR				*e*S	**Sn**	**12 21 21.6**	**-1.3**
JAK	**Akkeshi**	**2.10**	**225**	P	**Pn**	**12 20 54.3**	**+0.9**
JAK				*e*S	**Sn**	**12 21 22.5**	**-0.6**
JAR	**Ashorobuto**	**2.45**	**242**	P	**Pn**	**12 20 58.8**	**+1.4**
JMP	**Maruseppu**	**2.46**	**260**	P	**Pn**	**12 20 58.0**	**+0.4**
JOB	**Onbets**	**2.63**	**234**	P	**Pn**	**12 21 00.9**	**+1.4**
JOB				*e*S	**Sn**	**12 21 34.1**	**+0.2**
JKK2	**Kamakawa 2**	**2.92**	**259**	P	**Pn**	**12 21 04.1**	**+1.1**
JKK2				*e*S	**Sn**	**12 21 40.0**	**-0.3**
JSE	**Soyaes**	**2.98**	**280**	P	**Pn**	**12 21 03.8**	**+0.2**
JCH	**Churui**	**3.08**	**234**	P	**Pn**	**12 21 05.9**	**+1.0**
JFR	**Furan**	**3.27**	**247**	P	**Pn**	**12 21 08.9**	**+1.7**
JWK2	**Keihoku**	**3.52**	**285**	P	**Pn**	**12 21 11.7**	**+1.4**
JNBK	**Urakawa-nobuka**	**3.64**	**234**	P	**Pn**	**12 21 12.1**	**+0.3**
JNBK				*e*S	**Sn**	**12 21 52.3**	**-3.8**
YSS	**Yuzh-Sakhalins**	**3.71**	**313**	*e*P	**Pn**	**12 21 11.8**	**-0.7**
YSS				AMB	AMB	12 21 12.4	
	30nm,0.5s						
JRBN	**Rebuntou**	**4.12**	**285**	P	**Pn**	**12 21 18.1**	**+0.3**
EKMR	**Ekimchan**	**12.47**	**318**	*e*P	**Pn**	**12 23 06.0**	**-0.4**
BMKR	**Bomnak**	**15.40**	**318**	*e*P	**Pn**	**12 23 43.7**	**+0.8**

ISC 25 12:26:19.6±1.2, 44.87N±0.04×16.90E±0.05, h9km, n5, σ0s56/9, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLY	**Banja Luka**	**0.23**	**121**	*e*Pg	**Pg**	**12 26 23.8**	**-0.6**
BLY				*e*Sg	**Sg**	**12 26 28.3**	**+0.7**
MOSL	**Moslavina**	**0.75**	**352**	*i* Pg	**Pg**	**12 26 33.9**	**-0.3**
MOSL				Sg	**Sg**	**12 26 43.9**	**0.0**
KIJV	**Kijevo**	**0.94**	**203**	*e*Pg	**Pg**	**12 26 37.0**	**-0.6**
KIJV				Sg	**Sg**	**12 26 50.4**	**+0.7**
ZIRJ	**Zirje**	**1.52**	**217**	*e*Pn	**Pb**	**12 26 48.0**	**+0.1**
ZIRJ				Sg	**Sg**	**12 27 08.3**	**0.0**
DUGI	**Dugi Otok**	**1.59**	**237**	*e*Pn	**Pb**	**12 26 49.5**	**+0.4**

IDC 25 12:27:02.5±1.8, 6.11S×143.42E, h0km, mb3.7/2, mb1 4.2/4, mb1mx3.7/32, mbtmp3.9/4, ML3.9/2, Error ellipse: s-maj=50.7km s-min=30.4km az=83.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**4.48**	**323**	Pn	Pn	12 28 11.6	-0.1
	3.0nm,0.3s,baz=163,slow=11,SNR=11						
JAY				Sn	Sn	12 29 06.7	+2.0
	2.5nm,0.3s,baz=302,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**16.33**	**212**	Pn	Pn	12 30 49.0	-4.4
	0.5nm,0.3s,baz=29,slow=13,SNR=25						
ASAR	**Alice Springs**	**19.71**	**207**	P	P	12 31 33.5	-0.2
	0.6nm,0.3s,baz=35,slow=8.1,SNR=49						
MKAR	**Makanchi Array**	**75.34**	**322**	P	P	12 38 48.0	+0.1
	0.2nm,0.5s,baz=98,slow=8.0,SNR=4.1						
ILAR	**Eielson Array**	**87.00**	**24**	P	P	12 39 49.5	0.0
	0.7nm,0.8s,baz=234,slow=4.3,SNR=6.0						

IDC 25 12:43:57.6±3.2, 19.24S×177.54W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/29, mbtmp3.5/4, Error ellipse: s-maj=178.8km s-min=29.1km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.22**	**261**	P	P	12 52 16.7	-0.2
	0.4nm,0.7s,baz=97,slow=7.7,SNR=5.6						
ASAR	**Alice Springs**	**45.24**	**255**	P	P	12 52 16.9	-0.1
	0.5nm,0.6s,baz=89,slow=7.8,SNR=16						
ILAR	**Eielson Array**	**87.00**	**13**	P	P	12 56 44.6	+0.3
	0.3nm,0.6s,baz=215,slow=5.7,SNR=4.8						
PDAR	**Pinedale Array**	**87.75**	**43**	P	P	12 56 48.5	-0.3
	0.2nm,0.6s,baz=222,slow=9.3,SNR=3.1						

*IDC **25** 12:57:13.7±2.4, 2.30N×128.45E, h243km±24km, mb3.3/6, mb1 3.4/7, mb1mx3.1/33, mbtmp3.8/7, Error ellipse: s-maj=42.6km s-min=14.6km az=61.0*
ISC 25 12:57:13.9±1.2, 2.4N±0.2×128.6E±0.3, h250km, n7, σ0s50/8, mb3.7/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.19**	**140**	P	**Pn**	**12 58 19.9**	**-0.2**
	3.4nm,0.3s,baz=328,slow=19,SNR=7.8						
FITZ	**Fitzroy Crossi**	**20.52**	**188**	P	**P**	**13 01 33.1**	**-0.5**
	0.6nm,0.4s,baz=16,slow=10,SNR=5.5						
WRA	**Warramunga Arr**	**22.87**	**166**	P	**P**	**13 01 56.2**	**+0.1**
	1.0nm,0.3s,baz=343,slow=10,SNR=74						
ASAR	**Alice Springs**	**26.38**	**169**	P	**P**	**13 02 27.7**	**+0.1**
	1.5nm,0.6s,baz=353,slow=7.7,SNR=70						
ASAR				PcP	**PcP**	**13 05 47.0**	**+0.5**
	0.4nm,0.4s,baz=356,slow=2.2,SNR=11						
CMAR	**Chiang Mai Arr**	**33.14**	**301**	P	**P**	**13 03 27.6**	**+0.4**
	1.0nm,0.7s,baz=120,slow=6.8,SNR=7.2						
STKA	**Stephens Creek**	**36.22**	**161**	P	**P**	**13 03 53.6**	**+0.3**
	0.8nm,0.3s,baz=336,slow=11,SNR=11						
MKAR	**Makanchi Array**	**59.72**	**325**	P	**P**	**13 06 51.9**	**-0.6**
	0.6nm,0.4s,baz=118,slow=8.8,SNR=4.6						

*TAP **25** 13:01:16.8, 24.08N×122.29E, h10km, ML2.7, C*
*JMA **25** 13:01:17.2±0.1, 24.08N×122.31E, h6km±4km, M1.9*
ISC 25 13:01:16.7±1.0, 24.85N±0.03×122.32E±0.02, h9km±10km, n49, σ0s35/85, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.34**	**298**	*i* P	**Pg**	**13 01 23.5**	**+0.1**
	baz=296						
TWB1				*i* S	**Sg**	**13 01 28.0**	**+0.1**
	baz=296						
NTC	**Toucheng**	**0.44**	**271**	P	**Pb**	**13 01 25.9**	**-0.8**
	baz=267						
TIPB	**Shuangxi**	**0.46**	**285**	*e*P	**Pb**	**13 01 26.2**	**-0.9**
	baz=283						
TIPB				*e*S	**Sb**	**13 01 33.5**	**-0.5**
	baz=283						
TWC	**Suao**	**0.49**	**241**	P	**Pg**	**13 01 26.2**	**0.0**
	baz=237						
TWC				*e*S	**Sb**	**13 01 34.4**	**-0.3**
	baz=237						
NWF	**Wu-fen Shan**	**0.53**	**295**	*i* P	**Pb**	**13 01 28.2**	**-0.1**
	baz=292						
NWF				*e*S	**Sg**	**13 01 34.6**	**+0.4**
	baz=292						
WFSB	**Wu-fen Shan**	**0.53**	**295**	P	**Pb**	**13 01 27.9**	**-0.4**
	baz=292						
WFSB				*e*S	**Sg**	**13 01 34.4**	**+0.3**
	baz=292						
TWE	**Neicheng**	**0.60**	**258**	P	**Pg**	**13 01 28.5**	**0.0**
	baz=247						
TWE				*e*S	**Sb**	**13 01 38.0**	**-0.1**
	baz=247						
ENAH	**Nanao**	**0.61**	**229**	*e*P	**Pg**	**13 01 28.9**	**+0.3**
	baz=227						
ENAH				*e*S	**Sg**	**13 01 36.6**	**+0.1**
	baz=227						
ENA	**Nanau**	**0.67**	**231**	*i* P	**Pg**	**13 01 29.7**	**0.0**
	baz=228						
TWA	**Mucha**	**0.68**	**281**	P	**Pb**	**13 01 30.6**	**-0.1**
	baz=279						
TWA				S	**Sb**	**13 01 40.1**	**-0.2**
	baz=279						
JYNG	**Yonagunijimaku**	**0.70**	**125**	P	**Pg**	**13 01 30.4**	**+0.2**
JYNG				*e*S	**Sg**	**13 01 39.8**	**+0.5**
ENTT	**Nioudou**	**0.71**	**253**	P	**Pb**	**13 01 31.0**	**-0.4**
	baz=250						
ENTT				*e*S	**Sb**	**13 01 41.2**	**-0.1**
	baz=250						
YM01	**YM01**	**0.74**	**294**	*e*P	**Pb**	**13 01 31.5**	**-0.3**
	baz=292						
YM01				S	**Sb**	**13 01 41.8**	**-0.3**
	baz=292						
YOJ	**Yonaguni jima**	**0.74**	**121**	*e*P	**Pg**	**13 01 30.7**	**-0.3**
	baz=122						
YOJ				*e*S	**Sg**	**13 01 40.8**	**+0.2**
	baz=122						
YOJ	**Yonaguni jima**	**0.74**	**121**	P	**Pg**	**13 01 31.1**	**+0.1**
YOJ				S	**Sg**	**13 01 40.2**	**-0.5**
YM08	**YM08**	**0.74**	**297**	*e*P	**Pb**	**13 01 31.2**	**-0.7**
	baz=295						
YM08				*e*S	**Sg**	**13 01 41.0**	**+0.3**
	baz=295						
NWLT	**Wulai**	**0.74**	**265**	P	**Pb**	**13 01 31.6**	**-0.3**
	baz=262						
NWLT				*e*S	**Sb**	**13 01 42.4**	**+0.3**
	baz=262						
YM05	**YM05**	**0.75**	**295**	*e*P	**Pb**	**13 01 31.4**	**-0.6**
	baz=293						
YM05				S	**Sb**	**13 01 42.2**	**-0.2**
	baz=293						
YM10	**YM10**	**0.75**	**294**	*e*P	**Pb**	**13 01 31.5**	**-0.5**
	baz=292						
YM10				S	**Sb**	**13 01 42.1**	**-0.3**
	baz=292						
TATO	**Taipei**	**0.76**	**280**	*e*P	**Pb**	**13 01 31.9**	**-0.3**
	baz=277						
TATO				*e*S	**Sb**	**13 01 42.2**	**-0.5**
	baz=277						
YM04	**YM04**	**0.77**	**293**	*e*P	**Pb**	**13 01 31.8**	**-0.6**
	baz=292						
NDT	**Datong Townshi**	**0.77**	**252**	*e*P	**Pb**	**13 01 32.1**	**-0.2**
	baz=249						
NDT				S	**Sb**	**13 01 42.7**	**-0.2**
	baz=249						
TWY	**Chenhua**	**0.78**	**303**	P	**Pb**	**13 01 32.0**	**-0.4**
	baz=288						
TWY				*e*S	**Sb**	**13 01 43.2**	**+0.1**
	baz=288						
YM03	**YM03**	**0.78**	**295**	*e*P	**Pb**	**13 01 31.8**	**-0.6**
	baz=293						
YM03				S	**Sb**	**13 01 43.0**	**-0.2**
	baz=293						
PCYT	**Pengchaiyu**	**0.81**	**344**	P	**Pb**	**13 01 32.5**	**-0.4**
	baz=345						
PCYT				*e*S	**Sb**	**13 01 44.1**	**+0.1**
	baz=345						
YHNB	**Yeheng**	**0.87**	**258**	*e*P	**Pg**	**13 01 33.6**	**+0.1**
	baz=251						
YHNB				*e*S	**Sb**	**13 01 46.1**	**+0.1**
	baz=251						
NACB	**Ninganchiao**	**0.94**	**224**	*e*P	**Pg**	**13 01 34.7**	**-0.2**
	baz=224						
NACB				*e*S	**Sg**	**13 01 46.6**	**-0.5**
	baz=224						
NNSH	**Datong**	**0.95**	**244**	*e*P	**Pb**	**13 01 35.0**	**-0.3**
	baz=233						
NNSH				*e*S	**Sb**	**13 01 48.2**	**+0.1**
	baz=233						
NNSB	**Datong**	**0.95**	**244**	*e*P	**Pb**	**13 01 35.1**	**-0.3**
	baz=232						
NNSB				*e*S	**Sb**	**13 01 48.4**	**+0.3**
	baz=232						
NNS	**Nan Shan**	**0.95**	**245**	*e*P	**Pb**	**13 01 35.2**	**-0.3**
	baz=232						
NNS				S	**Sb**	**13 01 48.1**	**-0.1**
	baz=232						
ETLH	**Xiulin Townshi**	**0.99**	**230**	*e*P	**Pg**	**13 01 35.6**	**-0.3**
	baz=229						
ETLH				*e*S	**Sg**	**13 01 48.5**	**-0.3**
	baz=229						
TWD	**Chiawan**	**1.01**	**221**	*e*P	**Pb**	**13 01 36.3**	**-0.1**
	baz=220						
FUSS	**Fushou**	**1.15**	**239**	*e*P	**Pg**	**13 01 38.6**	**-0.2**
	baz=238						
FUSS				*e*S	**Sb**	**13 01 54.4**	**+0.4**
	baz=238						
WHF	**Hehuan Shan**	**1.19**	**234**	*e*P	**Pg**	**13 01 39.3**	**-0.3**
	baz=233						
WHF				*e*S	**Sb**	**13 01 55.4**	**+0.1**
	baz=233						
LIOB	**Emei**	**1.20**	**261**	*e*P	**Pn**	**13 01 40.4**	**+0.7**
	baz=259						
NSTT	**Nanjuang**	**1.22**	**260**	*e*P	**Pn**	**13 01 40.4**	**+0.5**
	baz=259						
CHGB	**Renai**	**1.30**	**233**	*e*P	**Pg**	**13 01 41.7**	**-0.1**
	baz=233						
ESL	**Shilin**	**1.31**	**218**	*e*P	**Pn**	**13 01 41.2**	**0.0**
	baz=219						
WHP	**Taichung City**	**1.37**	**246**	*e*P	**Pb**	**13 01 42.4**	**-0.2**
	baz=245						
WHP				*e*S	**Sg**	**13 02 00.7**	**-0.2**
	baz=245						
IRIF	**Iriomote-Funau**	**1.39**	**111**	P	**Pg**	**13 01 42.9**	**-0.4**
IRIF				*e*S	**Sg**	**13 02 01.1**	**-0.2**
VWDT	**VWDT**	**1.53**	**225**	*e*P	**Pb**	**13 01 45.1**	**-0.1**
	baz=226						
HATJ	**Hateruma jima**	**1.57**	**120**	P	**Pb**	**13 01 45.4**	**-0.5**
HATJ				S	**Sn**	**13 02 05.5**	**+0.3**
HGSD	**Ruisui**	**1.58**	**211**	*e*P	**Pb**	**13 01 46.0**	**-0.1**
	baz=199						
EHY	**Hungye**	**1.62**	**214**	*e*P	**Pn**	**13 01 46.0**	**+0.5**
	baz=214						
SSLB	**Suanglung**	**1.63**	**230**	*e*P	**Pb**	**13 01 46.9**	**-0.1**
	baz=231						
JKRS	**Kuro-shima**	**1.66**	**111**	P	**Pn**	**13 01 46.6**	**+0.6**
JKRS				*e*S	**Sb**	**13 02 08.1**	**-0.3**
YULB	**Yu-li**	**1.72**	**213**	*e*P	**Pn**	**13 01 46.7**	**-0.2**
	baz=216						
JIJ	**Ishigaki jima**	**1.73**	**106**	P	**Pb**	**13 01 48.3**	**-0.4**
JIJ				S	**Sb**	**13 02 10.5**	**0.0**
JISG	**Ishigakijimahi**	**1.83**	**98**	P	**Pb**	**13 01 50.4**	**0.0**
JISG				S	**Sb**	**13 02 13.5**	**+0.1**

*SOME **25** 13:01:43.6, 44.68N×82.10E, h0km*
*NNC **25** 13:01:47.4±1.2, 44.72N×82.03E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=14.3km s-min=4.0km az=123.0*
ISC 25 13:01:44.9±1.1, 44.69N±0.04×82.19E±0.05, h10km, n42, σ1s88/65, 6C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.76**	**259**	*e*P	**Pg**	**13 02 17.9**	**-0.7**
	9.3nm,0.2s						
DJR				*e*S	**Sg**	**13 02 41.8**	**+0.5**
	16nm,0.4s						
DJR	**Jarkent**	**1.76**	**259**	P	**Pg**	**13 02 18.1**	**-0.5**
	16nm,0.3s						
DJR				S	**Sg**	**13 02 42.2**	**+0.9**
	16nm,0.3s						
KTMS	**Ketmen**	**1.82**	**227**	*e*P	**Pb**	**13 02 18.5**	**+0.2**
	0.3nm,0.1s						
KTMS				*e*S	**Sg**	**13 02 43.5**	**+0.2**
	52nm,0.4s						
KTMS	**Ketmen**	**1.82**	**227**	Pg	**Pb**	**13 02 18.5**	**+0.2**
	1.3nm,0.1s						
KTMS				Lg	Lg	13 02 44.5	
	52nm,0.4s						
KAPS	**Kapalarasan**	**2.10**	**287**	*e*P	**Pb**	**13 02 23.1**	**0.0**
	6.3nm,0.3s						
KAPS				*e*S	**Sg**	**13 02 51.6**	**-0.7**
	17nm,0.4s						
KAPS	**Kapalarasan**	**2.10**	**287**	Pg	**Pb**	**13 02 23.1**	**0.0**
	6.3nm,0.3s						
KAPS				Lg	Lg	13 02 51.6	
	17nm,0.4s						
MK31	**Makanchi Array**	**2.10**	**2**	Pn	**Pb**	**13 02 23.8**	**+0.6**
	12nm,0.5s,baz=181,slow=13,SNR=451						
MK31				⇑Sn	**Sg**	**13 02 51.1**	**-1.4**
	34nm,0.5s,baz=185,slow=26,SNR=32						
MAKZ	**Makanchi**	**2.12**	**356**	⇑Pn	**Pb**	**13 02 24.0**	**+0.5**
	5.2nm,0.6s						
MAKZ				⇑Sn	**Sg**	**13 02 51.9**	**-1.2**
	28nm,0.6s						
PDGK	**Podgornoye**	**2.38**	**236**	Pg	**Pb**	**13 02 27.3**	**-0.6**
	2.6nm,0.3s						
PDGK				Lg	Lg	13 02 59.5	
	19nm,0.5s						
PDGK	**Podgornoye**	**2.38**	**236**	⇑Pn	**Pb**	**13 02 27.2**	**-0.6**
	2.0nm,0.4s						
PDGK				⇑Sn	**Sg**	**13 03 00.1**	**-1.2**
	56nm,0.8s						
SHLS	**Shalkode**	**2.50**	**233**	*e*P	**Pn**	**13 02 26.7**	**+1.0**
	11nm,0.3s						
SHLS				*e*S	**Sn**	**13 02 57.7**	**+1.4**
	92nm,0.4s						
SHLS	**Shalkode**	**2.50**	**233**	Pg	**Pn**	**13 02 26.7**	**+1.0**
	11nm,0.3s						
SHLS				Lg	Lg	13 02 57.7	
	92nm,0.4s						
TDK	**Taldyqorghan**	**2.71**	**278**	*e*P	**Pb**	**13 02 33.2**	**-0.2**
	21nm,0.2s						
TDK				*e*S	**Sb**	**13 03 08.8**	**+2.0**
	83nm,0.4s						
UZB	**Uzynbulak**	**2.76**	**237**	*e*P	**Pb**	**13 02 34.1**	**-0.3**
	7.1nm,0.4s						
UZB				*e*S	**Sb**	**13 03 10.5**	**+2.1**
	10nm,0.3s						
UZB	**Uzynbulak**	**2.76**	**237**	Pg	**Pb**	**13 02 34.1**	**-0.3**
	7.1nm,0.4s						
UZB				Lg	Lg	13 03 10.5	
	10nm,0.3s						
KURS	**Kuram**	**3.14**	**249**	*e*P	**Pb**	**13 02 40.5**	**-0.2**
	3.0nm,0.5s						
KURS				*e*S	**Sb**	**13 03 21.6**	**+2.5**
	6.4nm,0.5s						
KURS	**Kuram**	**3.14**	**249**	Pg	**Pb**	**13 02 40.5**	**-0.2**
	3.0nm,0.5s						
KURS				Lg	Lg	13 03 21.7	
	6.4nm,0.5s						
ARXS	**Arharly**	**3.16**	**263**	*e*P	**Pb**	**13 02 40.9**	**-0.4**
	8.1nm,0.3s						
ARXS				*e*S	**Sb**	**13 03 22.6**	**+2.7**
	23nm,0.5s						
ARXS	**Arharly**	**3.16**	**263**	Pg	**Pb**	**13 02 40.9**	**-0.4**
	8.1nm,0.3s						
ARXS				Lg	Lg	13 03 22.5	
	23nm,0.5s						
SATY	**Saty**	**3.19**	**241**	*e*P	**Pb**	**13 02 41.6**	**-0.1**
	3.9nm,0.3s						
SATY				*e*S	**Sb**	**13 03 23.3**	**+2.7**
	16nm,0.3s						
SATY	**Saty**	**3.19**	**241**	Pg	**Pb**	**13 02 41.6**	**-0.1**
	3.9nm,0.3s						
SATY				Lg	Lg	13 03 23.3	
	16nm,0.3s						
ZSN	**Zaisan**	**3.33**	**33**	*e*P	**Pb**	**13 02 45.1**	**+1.1**
	7.1nm,0.3s						
ZSN				*e*S	**Sg**	**13 03 29.3**	**-2.5**
	9.5nm,0.5s						
ZSN	**Zaisan**	**3.33**	**33**	Pg	**Pb**	**13 02 45.1**	**+1.1**
	7.1nm,0.3s						
ZSN				Lg	Lg	13 03 29.3	
	9.5nm,0.5s						
CHKK	**Chushkaly**	**3.83**	**259**	*e*P	**Pb**	**13 02 52.4**	**-0.1**
	2.2nm,0.2s						
CHKK				*e*S	**Sb**	**13 03 42.3**	**+3.3**
	16nm,0.2s						
CHKK	**Chushkaly**	**3.83**	**259**	Pg	**Pb**	**13 02 52.4**	**-0.1**
	2.2nm,0.2s						
CHKK				Lg	Lg	13 03 42.3	
	16nm,0.2s						
KOTS	**Kotyrbulak**	**3.95**	**250**	*e*P	**Pb**	**13 02 54.2**	**-0.4**
	12nm,0.4s						
KOTS				*e*S	**Sb**	**13 03 45.4**	**+

KUU 1.6nm,0.1s eS Sg 13 03 58.4 -3.8
KUU 8.0nm,0.3s **Kurty** 4.28 261 Pg Pb 13 03 02.0 +1.8
KUU 1.6nm,0.1s Lg Lg 13 03 58.4
IZV 8.0nm,0.3s **Izvestkoviy** 4.36 250 eP Pb 13 03 03.3 +1.6
IZV 2.4nm,0.4s eS Sg 13 04 01.9 -3.0
IZV 8.4nm,0.6s **Izvestkoviy** 4.36 250 Pg Pb 13 03 03.3 +1.6
IZV 2.4nm,0.4s Lg Lg 13 04 01.9
MTBS 8.4nm,0.6s **Maitube** 4.45 251 eP Pb 13 03 05.2 +2.0
MTBS 4.1nm,0.4s eS Sg 13 04 03.8 -3.9
MTBS 11nm,0.5s **Maitube** 4.45 251 Pg Pb 13 03 05.2 +2.0
MTBS 4.1nm,0.4s Lg Lg 13 04 03.8
KST 11nm,0.5s **Kastek** 4.79 252 eP Pg 13 03 12.6 -4.1
KST 2.8nm,0.6s eS Sg 13 04 16.8 -2.1
KST 2.8nm,0.4s **Kastek** 4.79 252 Pg Pg 13 03 12.6 -4.1
KST 2.8nm,0.6s Lg Lg 13 04 16.8
TKM2 2.8nm,0.4s **Tokmak 2** 5.09 252 ⇓Pg Pg 13 03 18.1 -4.3
TKM2 1.4nm,0.7s ⇑Lg Lg 13 04 28.4
1.8nm,0.5s

*IDC **25** 13:24:29.8±2.3,31°.19S×67°.57W,h90km±23km,mb3.8/3, mb1 3.8/8,mb1mx3.6/28,mbtmp4.0/8,Error ellipse: s-maj=29.6km s-min=19.4km az=110.0*
*NEIC **25** 13:24:30.2±2.5,31°.22S±0°.08×67°.6W±0°.1,h169km±26km, Error ellipse: s-maj=17.4km s-min=10.9km az=89.0*
*SJA **25** 13:24:31.2±0.7,31°.19S×67°.56W,h110km±4km,ML4.1, MW4.0*

ISC 25 13:24:30.7±0.7,31°.16S±0°.04×67°.54W±0°.04,h114km±8km, n74,σ1§67/93,1C,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.82**	**258**	*eP*		**Pn**		**13 24 51.4**	**+0.8**
RTLL				*eS*		**Sn**		**13 25 05.9**	**+0.3**
RTLL				IAML				13 25 07.6	
	comp=Z,2µm,0.3s								
RTCV	**Cerro Valdivia**	**1.11**	**231**	*eP*		**Pn**		**13 24 54.2**	**+0.7**
RTCV				*eS*		**Sn**		**13 25 10.9**	**+0.2**
ACAN	**Cantantal**	**1.15**	**165**	*eP*		**Pn**		**13 24 55.3**	**+1.4**
ACAN				*eS*		**Sn**		**13 25 11.8**	**+0.4**
ACCO	**Cerro Coronel**	**1.43**	**293**	*eP*		**Pn**		**13 24 58.7**	**+1.3**
ACCO				*eS*		**Sn**		**13 25 17.7**	**+0.2**
ACCO				IAML				13 25 19.4	
	comp=Z,932nm,0.4s								
RTLS	**Leoncito**	**1.63**	**247**	*eP*		**Pn**		**13 25 01.1**	**+1.4**
RTLS				*eS*		**Sn**		**13 25 23.5**	**+1.8**
ACDV	**Cuesta del Vie**	**1.68**	**305**	*eP*		**Pn**		**13 25 01.8**	**+1.7**
ACDV				*eS*		**Sn**		**13 25 24.1**	**+1.5**
ACDV				IAML				13 25 25.4	
	comp=Z,1µm,0.4s								
ACLC	**CERRO LA CRUZ**	**1.80**	**16**	*eP*		**Pn**		**13 25 03.3**	**+1.7**
ACLC				*eS*		**Sn**		**13 25 26.4**	**+1.3**
ACLC				IAML				13 25 27.3	
	comp=Z,2µm,0.6s								
AGUA	**GUANDACOL**	**1.86**	**333**	*eP*		**Pn**		**13 25 04.2**	**+1.9**
AGUA				*eS*		**Sn**		**13 25 27.9**	**+1.6**
AGUA				IAML				13 25 30.7	
	comp=Z,2µm,0.3s								
AUSP	**Uspallata**	**1.90**	**236**	*eP*		**Pn**		**13 25 04.4**	**+1.4**
AUSP				*eS*		**Sn**		**13 25 28.4**	**+0.9**
AROD	**Rodeo**	**1.94**	**300**	*eP*		**Pn**		**13 25 05.2**	**+1.7**
AROD				*eS*		**Sn**		**13 25 29.6**	**+1.2**
MRA	**San Martin**	**1.99**	**129**	*eP*		**Pn**		**13 25 05.4**	**+1.5**
MRA				*eS*		**Sn**		**13 25 29.4**	**+0.1**
MRA				IAML				13 25 31.1	
	comp=Z,2µm,0.3s								
VCA	**Vinchina**	**2.48**	**346**	*eP*		**Pn**		**13 25 12.6**	**+2.4**
VCA				*eS*		**Sn**		**13 25 42.6**	**+2.0**
VCA				IAML				13 25 48.5	
	comp=Z,845nm,0.4s								
CO01	**Juntas del Tor**	**2.50**	**297**	Pn		**Pn**		**13 25 13.2**	**+2.7**
TCA	**Tanti**	**2.52**	**95**	*eP*		**Pn**		**13 25 12.4**	**+1.7**
TCA				*eS*		**Sn**		**13 25 41.4**	**0.0**
TCA				IAML				13 25 43.3	
	comp=Z,994nm,0.6s								
CO03	**El Pedregal**	**2.73**	**276**			**Pn**		**13 25 15.4**	**+2.1**
CO03				IAML				13 25 49.5	
	comp=N,708nm,0.4s								
CO03				IAML				13 25 51.0	
	comp=E,780nm,0.5s								
CO02	**Combarbal**	**2.97**	**268**			**Pn**		**13 25 18.0**	**+1.5**
GO04	**Tololo Observa**	**2.98**	**288**	Pn		**Pn**		**13 25 18.5**	**+1.7**
VA03	**San Esteban**	**3.02**	**237**			**Pn**		**13 25 18.2**	**+1.0**
VA03				IAML				13 25 57.2	
	comp=N,700nm,0.5s								
VA03				IAML				13 25 58.9	
	comp=E,777nm,0.3s								
CYA	**Choya**	**3.10**	**30**	*eP*		**Pn**		**13 25 19.4**	**+1.2**
CYA				*eS*		**Sn**		**13 25 55.2**	**+0.4**
CYA				IAML				13 25 56.1	
	comp=Z,777nm,0.6s								
AC05	**El Transito**	**3.32**	**314**			**Pn**		**13 25 23.6**	**+2.5**
AC05				IAML				13 26 03.7	
	comp=E,415nm,0.2s								
AC05				IAML				13 26 06.1	
	comp=N,526nm,0.5s								
PEL	**Peldehue**	**3.32**	**233**			**Pn**		**13 25 21.7**	**+0.6**
PEL				IAML				13 26 02.6	
	comp=N,320nm,0.5s								
PEL				IAML				13 26 03.2	
	comp=E,272nm,0.5s								
PEL	**Peldehue**	**3.32**	**233**	*eP*		**Pn**		**13 25 22.1**	**+1.0**
PEL				*eS*		**Sn**		**13 26 01.6**	**+1.5**
ROC1	**El Roble**	**3.46**	**238**	Pn		**Pn**		**13 25 23.2**	**0.0**
ROC1	**El Roble**	**3.46**	**238**	*eP*		**Pn**		**13 25 23.3**	**0.0**
ROC1				*eS*		**Sn**		**13 26 04.1**	**+0.4**
LCO	**Las Campanas**	**3.48**	**307**			**Pn**		**13 25 24.7**	**+1.3**
LCO				IAML				13 26 06.5	
	comp=E,605nm,0.3s								
LCO				IAML				13 26 07.3	
	comp=E,420nm,0.1s								
MT05	**Renca**	**3.51**	**230**			**Pn**		**13 25 24.5**	**+0.9**
MT05				IAML				13 26 08.2	
	comp=N,905nm,0.3s								
MT02	**Curacav**	**3.70**	**235**			**Pn**		**13 25 25.9**	**-0.3**
VA01	**Torpederas**	**3.95**	**241**	Pn		**Pn**		**13 25 28.9**	**-0.6**
VA01				IAML				13 26 17.8	
	comp=E,235nm,0.6s								
LAMA	**Las Malvinas**	**4.02**	**200**	*eP*		**Pn**		**13 25 30.7**	**+0.3**
AC04	**Llanos de Chal**	**4.26**	**313**	Pn		**Pn**		**13 25 34.4**	**+0.7**
AC04				IAML				13 26 27.1	
	comp=E,266nm,0.2s								
AC04				IAML				13 26 30.9	
	comp=N,250nm,0.7s								
GO03	**Copiap**	**4.26**	**326**			**Pn**		**13 25 34.9**	**+1.1**
GO03				IAML				13 26 24.5	
	comp=N,245nm,0.6s								
GO03				IAML				13 26 30.0	
	comp=E,237nm,0.5s								
GO03	**Copiap**	**4.26**	**326**	*eP*		**Pn**		**13 25 35.4**	**+1.6**
GO03				*eS*		**Sn**		**13 26 22.7**	**0.0**
COIS	**El Sosneado**	**4.30**	**203**	*eP*		**Pn**		**13 25 34.4**	**+0.2**
AC02	**Maricunga**	**4.53**	**342**	Pn		**Pn**		**13 25 40.4**	**+2.6**
BO02	**Sierra Bellavi**	**4.53**	**216**			**Pn**		**13 25 38.0**	**+0.7**
AHML	**Horco Molle**	**4.77**	**24**	*eP*		**Pn**		**13 25 40.9**	**+0.4**
AHML				*eS*		**Sn**		**13 26 32.3**	**-2.5**
AHML				IAML				13 26 51.6	
	comp=Z,112nm,0.5s								
EDS3	**Malargue**	**4.86**	**198**	*eP*		**Pn**		**13 25 42.7**	**+0.9**
GO05	**Huala**	**5.32**	**223**	Pn		**Pn**		**13 25 45.5**	**-2.4**
AC01	**Pan de Azucar**	**5.67**	**331**	Pn		**Pn**		**13 25 53.1**	**+0.4**
GO02	**Mina Guanaco**	**6.24**	**343**	Pn		**Pn**		**13 26 01.5**	**+0.8**
BI02	**San Fabin de**	**6.31**	**208**	Pn		**Pn**		**13 26 00.5**	**-0.7**
SLA	**San Lorenzo**	**6.66**	**16**	*eP*		**Pn**		**13 26 08.6**	**+2.3**
SLA				IAML				13 27 40.5	
	comp=Z,36nm,3.6s								
PB14	**IPOC Station P**	**6.99**	**338**			**Pn**		**13 26 10.9**	**+0.2**
PB14	**IPOC Station P**	**6.99**	**338**	*eP*		**Pn**		**13 26 11.1**	**+0.3**
PB14				IAML				13 27 39.7	
	comp=Z,31nm,0.6s								
PB10	**IPOC Station P**	**8.07**	**340**	Pn		**Pn**		**13 26 24.3**	**-0.9**
PB15	**IPOC Station P**	**8.11**	**347**			**Pn**		**13 26 26.2**	**+0.4**
LC01	**Cunco**	**8.50**	**204**	Pn		**Pn**		13 26 25.3	-5.6
LVC	**Limon Verde**	**8.60**	**351**	P		**Pn**		**13 26 32.9**	**+0.2**
	comp=Z,6.9nm,0.3s,baz=168,slow=9.8,SNR=40								
LVC				S		**Sn**		**13 28 07.1**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=308,slow=17,SNR=1.2								
LVC	**Limon Verde**	**8.60**	**351**	Pn		**Pn**		**13 26 32.1**	**-0.6**
PB06	**IPOC Station P**	**8.61**	**347**			**Pn**		**13 26 32.4**	**-0.3**
PB04	**IPOC Station P**	**9.10**	**345**			**Pn**		**13 26 37.4**	**-1.8**
PB09	**IPOC Station P**	**9.45**	**350**			**Pn**		**13 26 43.4**	**-0.6**
PB07	**IPOC Station P**	**9.63**	**347**			**Pn**		**13 26 44.6**	**-1.8**
PLCA	**Paso Flores**	**9.86**	**193**	P		**Pn**		**13 26 47.9**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=7.8,slow=12,SNR=13								
PLCA	**Paso Flores**	**9.86**	**193**	Pn		**Pn**		**13 26 47.2**	**-2.1**
CPUP	**Villa Florida**	**10.17**	**64**	P		**Pn**		**13 26 52.5**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=247,slow=11,SNR=9.0								
CPUP				S		**Sn**		**13 28 45.1**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=260,slow=18,SNR=1.7								
CPUP	**Villa Florida**	**10.17**	**64**			**Pn**		**13 26 52.7**	**-0.8**
PB01	**IPOC Station P**	**10.23**	**350**			**Pn**		**13 26 52.7**	**-1.8**
PATCX	**Punta Patache**	**10.56**	**347**	Pn		**Pn**		**13 26 55.7**	**-3.3**
TA01	**Diego Aracena**	**10.81**	**347**	Pn		**Pn**		**13 26 58.4**	**-3.9**
PB08	**IPOC Station P**	**11.07**	**352**	Pn		**Pn**		**13 27 03.8**	**-2.3**
PB11	**IPOC Station P**	**11.51**	**350**	Pn		**Pn**		**13 27 08.7**	**-3.1**
GO01	**Chusmiza**	**11.54**	**352**			**Pn**		**13 27 10.0**	**-2.5**
PSGCX	**Pisagua**	**11.75**	**348**	Pn		**Pn**		**13 27 11.2**	**-3.7**
LL01	**San Ignacio de**	**11.86**	**198**	Pn		**Pn**		**13 27 11.7**	**-4.3**
MNMC	**Minye Minye**	**12.12**	**351**			**Pn**		**13 27 16.9**	**-3.1**
PB12	**IPOC Station P**	**12.74**	**348**	Pn		**Pn**		**13 27 24.0**	**-4.0**
PB16	**IPOC Station P**	**12.89**	**352**	Pn		**Pn**		**13 27 29.3**	**-1.0**
LPAZ	**La Paz**	**14.81**	**358**	P		**Pn**		**13 27 55.6**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=170,slow=9.0,SNR=13								
SIV	**San Ignacio**	**16.21**	**23**	P		**P**		**13 28 13.2**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=216,slow=9.5,SNR=5.1								
USHA	**Ushuaia**	**23.67**	**181**	P		**P**		**13 29 33.0**	**+1.4**
	comp=Z,15nm,0.5s,baz=181,slow=1.3,SNR=4.0								
TORD	**Torodi Ar. Bea**	**79.64**	**68**	P		**P**		**13 36 28.3**	**+2.4**
	comp=Z,1.1nm,0.6s,baz=268,slow=5.7,SNR=11								
PDAR	**Pinedale Array**	**83.07**	**330**	P		**P**		**13 36 44.4**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=134,slow=5.2,SNR=1.9								
LZH	**Lanzhou**	**171.29**	**53**	⇑PKP		**PKPdf**		**13 44 27.3**	**+1.5**
LZH				pPKP		pPKPdf		13 44 57.8	+0.4
LZH				sPKP				13 45 09.8	
LZH				PKP		PKPab		13 45 54.5	+7.9

*DJA **25** 13:52:23.7±0.7,9°.S±6°×12°.4E±°,h95km±10km,M3.6/6, mb3.9/3,MLv3.5/6*
*IDC **25** 13:52:24.4±3.3,9°.28S×124°.36E,h114km±36km,mb3.1/1, mb1 3.3/4,mb1mx3.1/41,mbtmp3.6/4,Error ellipse: s-maj=68.6km s-min=21.9km az=55.0*

ISC 25 13:52:21.6±1.3,9°.2S±0°.1×124°.6E±0°.1,h100km,n9, σ2§43/13,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.67**	**208**	P		**Pn**		**13 52 41.7**	**+2.7**
BATI	**Baumata**	**1.38**	**221**	P		**Pn**		**13 52 48.4**	**+1.9**
	98nm,0.3s,baz=73,slow=2.5,SNR=73								
BATI				S		**Sn**		**13 53 04.8**	**-0.5**
	53nm,0.3s,baz=162,slow=20,SNR=6.1								
BATI	**Baumata**	**1.38**	**221**	P		**Pn**		**13 52 48.2**	**+1.7**
MMRI	**Maumere**	**2.38**	**282**	P		**Pn**		**13 52 57.1**	**-2.1**
EDFI	**Ende, Flores**	**2.89**	**278**	P		**Pn**		**13 53 03.8**	**-2.2**
FITZ	**Fitzroy Crossi**	**8.94**	**174**	P		**Pn**		**13 54 30.8**	**+2.7**
	0.7nm,0.3s,baz=358,slow=12,SNR=48								
FITZ				S		**Sn**		**13 56 04.8**	**-2.3**
	2.4nm,0.3s,baz=250,slow=22,SNR=15								
WRA	**Warramunga Arr**	**14.28**	**140**	P		**P**		**13 55 42.7**	**-0.7**
	0.3nm,0.3s,baz=320,slow=14,SNR=20								
WRA				S		**Sn**		**13 58 14.0**	**-2.5**
	0.9nm,0.3s,baz=260,slow=22,SNR=13								
ASAR	**Alice Springs**	**16.96**	**149**	P		**P**		**13 56 15.9**	**+2.8**
	0.1nm,0.3s,baz=320,slow=11,SNR=18								
ASAR				S		**Sn**		**13 59 18.5**	**-2.9**
	0.3nm,0.3s,baz=320,slow=23,SNR=7.6								
MKAR	**Makanchi Array**	**67.24**	**330**	P		**P**		**14 03 05.8**	**+0.5**
	0.4nm,0.8s,baz=143,slow=7.5,SNR=3.8								

*ISK **25** 14:04:13.9,40°.41N×26°.10E,h8km,ML2.5/15*
*ATH **25** 14:04:14.0,40°.43N×26°.05E,h29km±1km,ML2.2/6,Error ellipse: s-maj=2.0km s-min=0.9km az=295.0*
*DDA **25** 14:04:14.9,40°.36N×26°.12E,h7km±2km,ML2.6*

ISC 25 14:04:14.2±0.9,40°.41N±0°.02×26°.08E±0°.02,h14km±8km, n44,σ0§50/65,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GOKA	**anakkale-Gk**	**0.25**	**211**	*i* P		**Pb**		**14 04 20.1**	**-0.4**
GOKA				*i* S		**Sb**		**14 04 24.4**	**-0.4**
GOKA				IAML				14 04 25.0	
	comp=E,962nm,0.2s								
GOKA				IAML				14 04 25.0	
	comp=N,915nm,0.6s								
GADA	**Gvkgeada**	**0.26**	**213**	PG		**Pg**		**14 04 20.0**	**+0.3**
GADA				SG		**Sb**		**14 04 24.2**	**-0.7**
GELI	**Tayfur-Gelibol**	**0.30**	**91**	PG		**Pg**		**14 04 20.3**	**-0.2**
GELI				SG		**Sg**		**14 04 24.7**	**0.0**
SMTH	**Samothraki Isl**	**0.42**	**279**	P		**Pg**		**14 04 22.9**	**+0.2**
SMTH				S		**Sg**		**14 04 29.4**	**+1.0**
SMTH				AML	AML			14 04 29.9	
	comp=N,852µm,0.1s								
SMTH				AML	AML			14 04 29.9	
	comp=E,644µm,0.1s								
ALN	**Alexandroupoli**	**0.49**	**357**	P		**Pg**		**14 04 24.0**	**0.0**
ALN				S		**Sg**		**14 04 31.1**	**+0.6**
ALN				AML	AML			14 04 31.9	
	comp=E,325µm,0.3s								
ALN				AML	AML			14 04 32.2	
	comp=N,180µm,0.1s								
ALN	**Alexandroupoli**	**0.49**	**357**	PG		**Pg**		**14 04 24.0**	**0.0**
ALN				SG		**Sb**		**14 04 31.3**	**-0.4**
LPK	**Lapseki**	**0.52**	**93**	PG		**Pg**		**14 04 24.4**	**-0.1**
LPK				SG		**Sb**		**14 04 31.8**	**-0.8**
BOZC	**Bozcaada**	**0.56**	**182**	PG		**Pg**		**14 04 25.4**	**+0.1**
BOZC				SG		**Sb**		**14 04 33.6**	**-0.2**
BOZC	**Bozcaada**	**0.56**	**182**	*i* P		**Pg**		**14 04 25.0**	**-0.3**
BOZC				*i* S		**Sb**		**14 04 33.1**	**-0.4**
EZN	**Ezine**	**0.61**	**162**	PG		**Pg**		**14 04 25.7**	**-0.4**
EZN				SG		**Sb**		**14 04 34.9**	**-0.2**
KESN	**Edirne-Kesan**	**0.62**	**47**	*i* P		**Pb**		**14 04 27.3**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**0.76**	**151**	*i* P		**Pg**		**14 04 28.6**	**-0.2**
BAYC				*i* S		**Sb**		**14 04 39.2**	**-0.1**
UKOP	**Uzunkopru-Edir**	**0.83**	**30**	PG		**Pn**		**14 04 31.3**	**-0.3**
RDO	**Rodhopi**	**0.85**	**331**	P		**Pg**		**14 04 30.3**	**-0.3**
RDO				S		**Sg**		**14 04 41.7**	**-0.1**
RDO				AML	AML			14 04 45.9	
	comp=E,224µm,0.1s								
RDO				AML	AML			14 04 46.6	
	comp=N,242µm,0.3s								
RDO	**Rodhopi**	**0.85**	**331**	PG		**Pg**		**14 04 30.3**	**-0.3**
LIA	**Limnos Island**	**0.85**	**234**	P		**Pb**		**14 04 31.0**	**+0.2**
LIA				S		**Sb**		**14 04 42.7**	**+0.6**
MAR6	**Marsite Statio**	**0.95**	**71**	PG		**Pb**		**14 04 32.5**	**0.0**
MAR3	**Marsite Statio**	**0.98**	**70**	PG		**Pb**		**14 04 33.1**	**0.0**
MAR2	**Marsite Statio**	**0.99**	**71**	PG		**Pb**		**14 04 33.4**	**+0.3**
MAR4	**Marsite Statio**	**1.00**	**67**	PG		**Pb**		**14 04 33.3**	**-0.2**
THAS	**Thassos island**	**1.06**	**281**	P		**Pg**		**14 04 34.3**	**-0.3**
THAS				S		**Sg**		**14 04 48.0**	**-0.4**
THAS				AML	AML			14 04 50.5	
	comp=N,222µm,0.2s								
THAS				AML	AML			14 04 50.6	
	comp=E,230µm,0.3s								
PRK	**Paraskevi**	**1.17**	**173**	P		**Pn**		**14 04 36.6**	**+0.5**
PRK				S		**Sn**		**14 04 53.1**	**+1.3**
PRK				AML	AML			14 04 54.6	
	comp=N,519µm,0.4s								
PRK				AML	AML			14 04 55.4	
	comp=E,334µm,0.5s								
MRMT	**Marmara Adasi**	**1.17**	**80**	PN		**Pb**		**14 04 36.3**	**0.0**
AYVA	**Ayvalik**	**1.19**	**157**	*i* P		**Pb**		**14 04 36.3**	**-0.3**
AYVA				*i* S		**Sg**		**14 04 51.9**	**-0.8**
AYVA				IAML				14 04 54.0	
	comp=N,230nm,0.4s								
AYVA				IAML				14 04 56.0	
	comp=E,124nm,0.3s								
SIGR	**SIGRI**	**1.21**	**188**	P		**Pb**		**14 04 36.6**	**-0.2**
SIGR				S		**Sn**		**14 04 53.6**	**+0.8**
SIGR				AML	AML			14 04 54.6	
	comp=E,207µm,0.3s								
SIGR				AML	AML			14 04 55.5	
	comp=N,221µm,0.3s								
SIGR	**SIGRI**	**1.21**	**188**	PN		**Pb**		**14 04 36.4**	**-0.4**
TKR	**Tekirdag**	**1.25**	**62**	PN		**Pg**		**14 04 37.9**	**-0.4**
MAR9	**Marsite Statio**	**1.25**	**80**	PN		**Pn**		**14 04 37.6**	**+0.3**
GONE	**Gonen-Balikesi**	**1.28**	**106**	PN		**Pg**		**14 04 38.2**	**-0.7**
KAVA	**Kavala**	**1.33**	**297**	P		**Pn**		**14 04 38.2**	**-0.1**
KDZ	**Kurdzhali**	**1.34**	**338**	PN		**Pg**		**14 04 39.7**	**-0.3**
KDZ	**Kurdzhali**	**1.34**	**338**	*i* P		**Pb**		**14 04 39.4**	**+0.2**
BALY	**Balya**	**1.36**	**119**	*i* P		**Pb**		**14 04 39.2**	**-0.2**
BALY				*i* S		**Sb**		**14 04 56.4**	**-0.2**
BALY				IAML				14 04 59.0	
	comp=E,118nm,0.6s								
EDC	**Edincik**	**1.36**	**92**	PN		**Pb**		**14 04 39.3**	**-0.2**
DKL	**Dikili**	**1.48**	**154**	PN		**Pn**		**14 04 41.1**	**+0.7**
EDRB	**Edirne**	**1.52**	**19**	PN		**Pb**		**14 04 42.0**	**-0.3**
KIRK	**Kırklareli**	**1.57**	**29**	*i* P		**Pb**		**14 04 43.0**	**-0.1**
KIRK				*i* S		**Sn**		**14 05 02.9**	**+0.9**
BALB	**Balikesir**	**1.58**	**118**	PN		**Pn**		**14 04 42.3**	**+0.5**
OUR	**Ouranopolis**	**1.60**	**268**	P		**Pn**		**14 04 41.5**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.63**	**129**	*i* P		**Pb**		**14 04 43.4**	**-0.6**
STEP				*i* S		**Sb**		**14 05 05.0**	**+0.5**
ZEDA	**zmir-Bergama**	**1.63**	**152**	*i* P		**Pn**		**14 04 43.5**	**+0.9**
ZEDA				*i* S		**Sg**		**14 05 06.2**	**-0.5**
ZEDA				IAML				14 05 07.0	
	comp=N,88nm,0.6s								
RZN	**Rozhen**	**1.64**	**322**	*i* P		**Pn**		**14 04 43.1**	**+0.2**
CHOS	**Chios island**	**2.02**	**181**	P		**Pn**		**14 04 48.1**	**+0.2**
STIP	**Stip**	**3.21**	**295**	*i* Pn		**Pn**		**14 05 02.8**	**-1.5**

IDC 25 14:10:09.4±3.7,26°.24S×28°.60E,h0km,mb1 2.6/3, mb1mx2.6/42,mbtmp2.6/3,ML2.2/3,Error ellipse: s-maj=30.9km s-min=22.0km az=109.0,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**2.97**	**294**			**Pn**		**14 10 58.0**	**0.0**
	1.0nm,0.3s,baz=115,slow=15,SNR=9.8								
LBTB				Pg		Pb		14 11 04.2	+0.9
	1.0nm,0.3s,baz=114,slow=18,SNR=11								
LBTB				Sn		Sb		14 11 37.9	-2.4
	0.6nm,0.3s,baz=122,slow=12,SNR=1.9								
LBTB				Lg		Lg		14 11 44.1	
	1.3nm,0.3s,baz=184,slow=21,SNR=8.5								
LBTB				Rg		Rg		14 11 60.0	
	9.4nm,0.8s,baz=197,slow=12,SNR=4.1								
BOSA	**Boshof**	**3.80**	**231**	Pn		Pn		14 11 10.6	+1.3
	0.1nm,0.3s,baz=75,slow=12,SNR=1.0								
BOSA				Sn		Sn		14 11 54.9	0.0
	0.2nm,0.3s,baz=169,slow=14,SNR=2.4								
BOSA				Lg		Lg		14 12 08.8	
	1.2nm,0.3s,baz=63,slow=6.2,SNR=4.4								
I47ZA	**BOSHOF INFRASO**	**12.35**	**302**	*i*				14 34 30.0	
	baz=51,slow=313,SNR=1.1								
MATP	**Matopo**	**5.79**	**359**	Pn		Pn		14 11 35.6	-1.0
	0.0nm,0.3s,baz=180,slow=12,SNR=1.3								
MATP				Lg		Lg		14 13 01.7	
	0.2nm,0.3s,baz=242,slow=21,SNR=2.5								
I35NA	**TSUMEB INFRASO**	**12.35**	**302**	*i*				15 27 40.0	
	baz=128,slow=311,SNR=1.4								

*MAN **25** 14:14:30.1,7°.24N×126°.61E,h97km,mb5.0,ML3.9,MS4.0*
*NEIC **25** 14:14:31.3±2.3,7°.44N±0°.08×126°.70E±0°.07,h75km±6km, mb4.7/44,Error ellipse: s-maj=12.1km s-min=10.4km az=189.0*
*IDC **25** 14:14:31.6±1.3,7°.37N×126°.73E,h79km±13km,mb3.9/16, mb1 4.0/18,mb1mx3.8/48,mbtmp4.3/18,MS2.9/3, Ms1 3.0/3,ms1mx2.6/46,Error ellipse: s-maj=16.4km s-min=10.4km az=80.0*
*DJA **25** 14:14:35.4±0.8,7°.N±8°×12°.7E±°,h65km±6km,M4.7/13, mb4.8/13,mB5.0/5,MLv4.8/7,Mw(mB)4.3/5*

ISC 25 14:14:31.0±0.8,7°.31N±0°.04×126°.72E±0°.05,h66km±7km, n102,σ1§49/116,mb4.5/39,1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.58**	**232**	*eP*		**Pn**		**14 14 42.4**	**-1.9**
MATI				*eS*		**Sn**		**14 14 50.7**	**-3.4**
BIP	**Bislig**	**1.02**	**333**	⇑*eP*		**Pn**		**14 14 50.6**	**+0.9**
BIP				*eS*		**Sn**		**14 15 02.4**	**-1.1**
DAV	**Davao City (W)**	**1.16**	**258**	P		**Pn**		**14 14 52.1**	**+0.8**
	420nm,0.3s,baz=228,slow=3.8,SNR=18								
DAV				LR		LR		14 15 07.8	
	comp=Z,113nm,19.9s,baz=101,slow=31								
DAV				S		**Sn**		**14 15 08.8**	**+2.3**
	961nm,0.3s,baz=53,slow=20,SNR=12								
DAV

comp=Z,11nm,1.1s
NJ2 Nanjing 25.69 344 *e*P **P 14 19 55.3 +0.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
PMG Port Moresby 26.27 129 P **P 14 20 00.8 +0.3**
PMG lAmb lAmb 14 20 07.7
comp=Z,27nm,0.9s
MNAI Manna 26.40 245 P **P 14 20 01.1 -0.5**
COEN Coen 26.70 142 P **P 14 20 04.0 -0.3**
COEN lAmb lAmb 14 20 57.5
comp=Z,36nm,1.5s
PBKT Sadao Pong 26.79 292 P **P 14 20 05.7 +0.6**
PBKT lAmb lAmb 14 20 09.6
comp=Z,8.4nm,0.9s
WB0 Warramunga Arr 27.94 164 P **P 14 20 15.1 -0.2**
WRA Warramunga Arr 28.10 165 P **P 14 20 15.6 -1.1**
comp=Z,1.2nm,0.5s,baz=344,slow=9.1,SNR=26
WB2 Warramunga Arr 28.10 165 P **P 14 20 16.4 -0.3**
WB2 lAmb lAmb 14 20 37.1
comp=Z,36nm,1.8s
WR0 Warramunga Arr 28.17 164 P **P 14 20 17.2 -0.1**
WR0 lAmb lAmb 14 21 03.7
comp=Z,8.2nm,1.2s
JHJ Hachijo jima 2 28.40 24 P **P 14 20 16.3 -3.0**
comp=Z,42nm,0.6s,baz=270,slow=20,SNR=1.9
CMAR Chiang Mai Arr 29.21 295 P **P 14 20 26.7 0.0**
comp=Z,0.5nm,0.5s,baz=99,slow=7.2,SNR=4.4
CMAR PcP **PcP 14 23 30.8 -1.9**
comp=Z,0.7nm,0.5s,baz=153,slow=3.0,SNR=3.0
CMAR LR LR 14 32 02.1
comp=Z,30nm,19.7s,baz=204,slow=36
PSA00 Pilbara Seismi 29.48 193 P **P 14 20 28.9 -0.1**
PSA00 lAmb lAmb 14 20 31.0
comp=Z,66nm,1.9s
GSI Gunungsitoli 29.66 260 P **P 14 20 29.8 -0.9**
GSI lAmb lAmb 14 21 11.4
comp=Z,68nm,1.4s
KSRS Korea Array 30.03 2 LR LR 14 31 18.6
comp=Z,22nm,21.9s,baz=200,slow=34
MJAR Matsushiro Arr 30.93 18 P **P 14 20 40.1 -1.6**
comp=Z,2.1nm,0.6s,baz=194,slow=9.6,SNR=8.2
MJAR LR LR 14 33 09.5
comp=Z,16nm,20.6s,baz=35,slow=36
AS31 Alice Springs 31.57 167 P **P 14 20 47.3 -0.2**
ASAR Alice Springs 31.57 167 P **P 14 20 47.0 -0.4**
comp=Z,2.0nm,0.4s,baz=348,slow=7.3,SNR=39
ASAR PcP **PcP 14 23 38.8 -0.1**
comp=Z,0.4nm,0.5s,baz=356,slow=2.7,SNR=5.2
GIRL Giralia 32.18 202 P **P 14 20 53.3 +0.5**
BJI Beijing 33.94 345 P **P 14 21 09.5 +1.6**
BJI pmax pmax
comp=Z,4.0nm,0.8s
LZH Lanzhou 35.47 327 *e*P **P 14 21 21.8 +0.4**
LZH pP pP 14 21 37.3 -0.2
LZH sP sP 14 21 46.5 +1.3
LZH *e*PP PP 14 23 03.5 +20
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,87nm,4.9s
LZH LR LR
comp=N,350nm,13.0s
LZH LR LR
comp=E,370nm,13.2s
LZH LR LR
comp=Z,520nm,16.3s
HHC Hu-ho-hao-te 36.03 340 *e*P **P 14 21 26.8 +0.7**
HHC S S 14 26 48.8 -12
HHC sS sS 14 27 26.3 -1.0
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,81nm,5.1s
HHC LR LR
comp=N,120nm,12.3s
HHC LR LR
comp=E,140nm,13.2s
HHC LR LR
comp=Z,65nm,11.6s
USA0B Ussuriysk Arra 37.04 6 P **P 14 21 34.5 +0.1**
USA0B lAmb lAmb 14 21 36.5
comp=Z,34nm,1.9s
USRK Ussuriysk Ar. 37.04 6 P **P 14 21 33.5 -0.9**
comp=Z,0.6nm,0.3s,baz=184,slow=9.6,SNR=5.9
ERM Erimo 37.51 20 P **P 14 21 39.7 +1.3**
MORW Morawa 37.60 195 P **P 14 21 39.9 +0.5**
MORW lAmb lAmb 14 22 25.6
comp=Z,59nm,2.0s
FORT Forrest 37.89 178 P **P 14 21 41.9 +0.1**
ASAJ Asahikawa 39.21 18 P **P 14 21 51.8 -0.9**
comp=Z,7.2nm,0.8s,baz=207,slow=11,SNR=9.2
JKA Kamikawa-asahi 39.21 18 P **P 14 21 52.9 +0.2**
GTA Gaotai 40.08 327 *e*P **P 14 22 00.8 +0.6**
GTA pP pP 14 22 21.0 +4.5
GTA sP sP 14 22 29.5 +5.3
GTA PcP **PcP 14 24 02.8 -1.1**
GTA S **S 14 28 05.5 +3.8**
GTA sS sS 14 28 34.8 +6.1
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,66nm,7.6s
GTA LR LR
comp=N,59nm,16.5s
GTA LR LR
comp=E,110nm,16.8s
GTA LR LR
comp=Z,66nm,17.1s
BBOO Buckleboo 40.87 168 P **P 14 22 06.9 +0.2**
BBOO lAmb lAmb 14 22 10.2
comp=Z,40nm,1.8s
NWAO Narrogin (SRO) 41.02 192 P **P 14 22 08.4 +0.5**
NWAO Narrogin (SRO) 41.02 192 P **P 14 22 08.5 +0.6**
NWAO lAmb lAmb 14 23 00.4
comp=Z,126nm,1.9s
STKA Stephens Creek 41.47 161 P **P 14 22 11.7 +0.1**
comp=Z,7.8nm,0.7s,baz=344,slow=8.6,SNR=19
STKA Stephens Creek 41.47 161 P **P 14 22 11.8 +0.2**
ULN Ulaanbaatar 43.75 341 P **P 14 22 29.1 -0.9**
CAN Canberra 47.32 155 P **P 14 22 59.4 +1.1**
TOO Toolangi 47.97 160 P **P 14 23 04.7 +1.4**
TOO lAmb lAmb 14 24 47.7
comp=Z,45nm,1.9s
WMQ Urumqi 49.84 323 *e*P **P 14 23 19.3 +1.7**
PEA0B Petropavlovsk- 52.15 23 P **P 14 23 36.2 +1.5**
PETK Petropavlovsk- 52.15 23 P **P 14 23 34.8 +0.1**
comp=Z,2.5nm,0.5s,baz=191,slow=2.9,SNR=29
PET Petropavlovsk 52.47 24 P **P 14 23 38.3 +1.3**
MK31 Makanchi Array 54.65 324 P **P 14 23 52.5 -0.7**
MKAR Makanchi Array 54.65 324 P **P 14 23 52.0 -1.2**
comp=Z,1.1nm,0.4s,baz=126,slow=9.3,SNR=12
MKAR PcP **PcP 14 24 55.8 +0.4**
comp=Z,1.3nm,0.7s,baz=117,slow=4.6,SNR=5.3
ZALV Zalesovo Beam 57.43 332 P **P 14 24 10.7 -2.2**
comp=Z,0.6nm,0.3s,baz=144,slow=8.0,SNR=3.6
KURK Kurchatov 58.76 326 P **P 14 24 20.1 -2.1**
KURK Kurchatov 58.76 326 lAmb lAmb 14 24 57.2
comp=Z,5.0nm,0.6s
KURBB Kurchatov Arra 58.76 326 P **P 14 24 20.1 -2.1**
comp=Z,1.0nm,0.3s,baz=125,slow=7.2,SNR=7.6
GAR Garm 59.54 311 P **P 14 24 26.6 -1.4**
KK31 Karatay Array 60.65 316 P **P 14 24 34.0 -1.4**
KK31 lAmb lAmb 14 24 35.0
comp=Z,1.9nm,0.8s
KKAR Karatay Array 60.65 316 P **P 14 24 33.9 -1.5**
KKAR lAmb lAmb 14 24 35.0
comp=Z,1.9nm,0.8s
BKZ Black Stump Fm 65.26 139 P **P 14 25 05.5 -0.4**
ATKA Atka Island 65.59 35 P **P 14 25 08.4 +0.5**
CASY Casey 74.34 187 P **P 14 26 02.3 +1.1**
CASY lAmb lAmb 14 26 06.6
comp=Z,20nm,1.4s
ILAR Eielson Array 81.90 26 P **P 14 26 41.4 -1.7**
comp=Z,0.4nm,0.6s,baz=252,slow=4.8,SNR=6.7
SPITS Spitsbergen Ar 86.99 349 P **P 14 27 07.1 -1.5**
comp=Z,0.6nm,0.4s,baz=79,slow=3.1,SNR=6.2
ARCES ARCESS Array B 87.11 340 P **P 14 27 07.7 -1.6**
comp=Z,0.6nm,0.6s,baz=82,slow=6.5,SNR=4.2
FINES FINESS Array B 88.69 332 P **P 14 27 14.5 -2.5**
comp=Z,2.7nm,0.9s,baz=110,slow=2.2,SNR=5.0
TORD Torodi Ar. Bea 121.74 290 PKP **PKPdf 14 33 17.5 -1.1**
comp=Z,0.5nm,0.4s,baz=72,slow=1.7,SNR=7.5

MAN 25 14:25:02.1,16°41N×120°23E,h14km,mb4.6,ML3.5,
MS3.3,1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.30**	**265**	*e*P		Pb	14 25 09.8	+0.5
BOLP				*e*S		Sb	14 25 16.0	+1.8
BCP	**Baguio City**	**0.37**	**89**	⇑*i*P		Pb	14 25 10.2	-0.4
BCP				*i* S		Sg	14 25 15.6	+0.7
SMPP	**San Manuel, Pa**	**0.51**	**121**	*e*P		Pg	14 25 12.5	+0.3
SMPP				*e*S		Sg	14 25 19.5	+0.5
ABRA	**Dolores**	**1.32**	**21**	*e*P		Pn	14 25 24.7	-1.4
ABRA				*e*S		Sb	14 25 41.4	-2.1
BALP	**Baler**	**1.46**	**117**	*e*P		Pn	14 25 27.8	-0.3
BALP				*e*S		Sb	14 25 47.3	-0.2
SIPP	**Brgy, Tapao**	**1.52**	**8**	⇓*i*P		Pn	14 25 28.4	-0.6
SIPP				*e*S		Sg	14 25 57.1	+5.9
CAUP	**Cauayan**	**1.62**	**71**	*e*P		Pb	14 25 31.2	-0.7
APYP	**Conner**	**1.74**	**34**	*e*P		Pn	14 25 30.9	-1.1
APYP				*e*S		Sb	14 25 54.9	-0.8
LQP	**Lukban**	**2.61**	**151**	*e*P		Pg	14 25 50.8	-1.5
LUBP	**Lubang**	**2.66**	**180**	*e*P		Pn	14 25 44.8	+0.2
LUBP				*e*S		Sn	14 26 15.4	-1.3
ENPP	**El Nido**	**5.23**	**189**	*e*P		Pn	14 26 18.2	-1.8

IDC 25 14:29:41.3±3.9,8°53S×159°08E,h152km±52km,mb3.0/3, mb1 3.3/3,mb1mx3.0/35,mbtmp3.4/3,Error ellipse: s-maj=105.0km s-min=24.2km az=141.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.24**	**136**	P		Pn	14 30 08.9	+0.5
	61nm,0.3s,baz=206,slow=5.6,SNR=28							
HNR				S		Sn	14 30 29.0	-0.1
	59nm,0.3s,baz=96,slow=1.3,SNR=7.3							
WRA	**Warramunga Arr**	**26.48**	**242**	P		P	14 35 05.2	+0.6
	0.4nm,0.7s,baz=69,slow=9.6,SNR=5.5							
H11S3	**WAKE ISLAND Hy**	**27.89**	**16**	T		T	15 04 34.3	
	baz=199							
H11S2	**WAKE ISLAND Hy**	**27.89**	**16**	T		T	15 04 38.9	
	baz=199,slow=74							
H11S1	**WAKE ISLAND Hy**	**27.90**	**16**	T		T	15 04 39.2	
	baz=199,slow=74							
ASAR	**Alice Springs**	**28.41**	**235**	P		P	14 35 21.2	-0.7
	0.2nm,0.8s,baz=64,slow=9.9,SNR=5.0							
H11N1	**WAKE ISLAND Hy**	**29.11**	**15**	T		T	15 06 09.8	
	baz=194,slow=76							
H11N3	**WAKE ISLAND Hy**	**29.11**	**15**	T		T	15 06 11.1	
	baz=194,slow=76							
H11N2	**WAKE ISLAND Hy**	**29.12**	**15**	T		T	15 06 11.1	
	baz=194,slow=76							
ILAR	**Eielson Array**	**83.35**	**20**	P		P	14 41 50.9	-0.1
	0.3nm,0.4s,baz=247,slow=4.9,SNR=11							

*MOS **25** 14:31:34.6±1.1, 16°.04S×73°.18W, h46km, mb5.7/73, MS5.0/9, Error ellipse: s-maj=8.7km s-min=4.7km az=108.1*
*NEIC **25** 14:31:36.8, 16°.20S×73°.20W, h57km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}3.16; $M_{\theta\theta}$-1.59; $M_{\phi\phi}$-1.57; $M_{r\theta}$-2.47; $M_{r\phi}$0.76; $M_{\theta r}$0.11; Fault plane solution: M_o3.76000×10^{17} NP1:ϕ_s138.88000°, δ27.44000°, λ116.91000°. NP2:ϕ_s289.11000°, δ65.74000°, λ76.78000°. Principal axes: T 4.2116, Plg67.0000°, Azm175.0000°; N -1.1895, Plg12.0000°, Azm295.0000°; P -3.0221, Plg20.0000°, Azm29.0000°;*
*VAO **25** 14:31:37.0±0.4, 16°.11S×73°.18W, h62km±3km, mb5.7*
*NEIC **25** 14:31:37.3±1.4, 16°.13S±0°.06×73°.11W±0°.08, h62km±1km, mb5.6/545, Mwb5.7/40, Mww5.5, ML5.7(ARE), Mwc5.5(GCMT), Mwr5.6(GUC), Error ellipse: s-maj=12.9km s-min=9.8km az=243.0*
*ARE **25** 14:31:37±2.3, 16°.38S±0°.06×73°.41W±0°.07, h56km±3km, Error ellipse: s-maj=10.5km s-min=7.5km az=61.0*
*GUC **25** 14:31:38.2±0.4, 16°.62S×73°.46W, h36km±3km, MW5.6*
*BJI **25** 14:31:38.0±0.0, 16°.20S×73°.20W, h64km, mB5.4/47, Ms5.4/53, Ms7 5.3/54*
*NEIC **25** 14:31:39, 16°.21S×73°.24W, h70km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.00; $M_{\theta\theta}$-1.88; $M_{\phi\phi}$-0.11; $M_{r\theta}$-1.41; $M_{\phi\theta}$0.77; $M_{\theta r}$-0.49; Fault plane solution: M_o2.57000×10^{17} NP1:ϕ_s129.00000°, δ34.00000°, λ125.00000°. NP2:ϕ_s270.00000°, δ63.00000°, λ69.00000°. Principal axes: T 2.6420, Plg66.0000°, Azm142.0000°; N -0.1526, Plg18.0000°, Azm279.0000°; P -2.4895, Plg15.0000°, Azm15.0000°;*
*IDC **25** 14:31:39.3±1.5, 16°.08S×73°.07W, h75km±12km, mb5.1/38, mb1 5.1/44, mb1mx5.1/49, mbtmp5.3/44, MS4.8/28, Ms1 4.8/28, ms1mx4.8/34 Error ellipse: s-maj=10.8km s-min=8.0km az=66.0*
*GCMT **25** 14:31:40.3±0.1, 16°.20S±0°.01×73°.13W±0°.01, h90km, MW5.5/145, Moment Tensor Solution. s145,c260; s140,c262; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}1.67±.03; $M_{\theta\theta}$-1.69±.03; $M_{\phi\phi}$0.01±.04; $M_{r\theta}$-1.44±.02; $M_{\theta\phi}$0.78±.03; $M_{\theta r}$-0.56±.03; Best double couple: M_o2.41100×10^{17} NP1:ϕ_s134.00000°, δ34.00000°, λ133.00000°. NP2:ϕ_s266.00000°, δ66.00000°, λ66.00000°. Principal axes: T 2.4680, Plg61.0000°, Azm139.0000°; N -0.1160, Plg22.0000°, Azm277.0000°; P -2.3530, Plg17.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **25** 14:31:40, 16°.20S×73°.05W, h80km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.72; $M_{\theta\theta}$-1.61; $M_{\phi\phi}$-0.11; $M_{r\theta}$-1.56; $M_{\phi\theta}$0.75; $M_{\theta r}$-0.58; Fault plane solution: M_o2.47000×10^{17} NP1:ϕ_s134.00000°, δ32.00000°, λ132.00000°. NP2:ϕ_s267.00000°, δ67.00000°, λ67.00000°. Principal axes: T 2.5875, Plg61.0000°, Azm142.0000°; N -0.2495, Plg21.0000°, Azm276.0000°; P -2.3380, Plg19.0000°, Azm14.0000°;*

ISC 25 14:31:37.2±0.3,16°21S±0°.03×73°.18W±0°.04,h61km±2km, h61km:pP-P,n1624,σ1°20/1869,mb5.6/335,38C-43D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.46**	**129**	⇑*i*P		**Pn**	**14 32 30.2**	**+1.5**
AP01				*i* S		**Sn**	**14 33 09.5**	**+1.1**
AP01	**Chacalluta**	**3.46**	**129**			**Pn**	**14 32 30.1**	**+1.5**
PB12	**IPOC Station P**	**3.62**	**132**	⇑*i*P		**Pn**	**14 32 31.7**	**+0.7**
PB12				*i* S		**Sn**	**14 33 12.8**	**+0.3**
PB12	**IPOC Station P**	**3.62**	**132**			**Pn**	**14 32 31.8**	**+0.7**
PB16	**IPOC Station P**	**4.10**	**122**	*e*P		**Pn**	**14 32 40.1**	**+2.2**
PB16				*e*S		**Sn**	**14 33 26.1**	**+1.2**
PB16	**IPOC Station P**	**4.10**	**122**			**Pn**	**14 32 40.5**	**+2.6**
PSGC	**Pisagua**	**4.45**	**140**	⇑*i*P		**Pn**	**14 32 42.7**	**+0.4**
PSGCX	**Pisagua**	**4.45**	**140**			**Pn**	**14 32 42.6**	**+0.3**
MNMC	**Minye Minye**	**4.49**	**131**	⇑*i*P		**Pn**	**14 32 44.1**	**+1.2**
MNMC				*i* S		**Sn**	**14 33 35.0**	**+1.0**
MNMC	**Minye Minye**	**4.49**	**131**			**Pn**	**14 32 44.1**	**+1.2**
LPAZ	**La Paz**	**4.85**	**92**	P		Pn	14 32 54.0	+5.8
	63nm,0.3s,baz=281,slow=11,SNR=728							
LPAZ				S		Sn	14 33 54.9	+11
	44nm,0.3s,baz=198,slow=25,SNR=5.4							
LPAZ				LR		LR	14 35 04.5	
	comp=Z,14μm,21.6s,baz=252,slow=43							
LPAZ	**La Paz**	**4.85**	**92**	P		Pn	14 32 53.1	+4.9
LPAZ	**La Paz**	**4.85**	**92**			Pn	14 32 53.2	+5.0
PB11	**IPOC Station P**	**4.87**	**137**	⇑*e*P		**Pn**	**14 32 48.6**	**+0.5**
PB11				*i* Pg		**Sn**	**14 33 38.5**	**-4.8**
PB11				*e*P		**Sn**	**14 33 38.5**	**-4.8**
PB11	**IPOC Station P**	**4.87**	**137**	Pn		**Pn**	**14 32 48.7**	**+0.6**
TA02	**Huaiquique**	**4.97**	**145**	⇓*e*P		**Pn**	**14 32 48.7**	**-0.6**
TA02				*e*S		**Sn**	**14 33 42.4**	**-3.1**
GO01	**Chusmiza**	**5.12**	**133**	⇑*i*P		**Pn**	**14 32 53.3**	**+1.4**
GO01				*i* S		**Sn**	**14 33 50.8**	**+0.9**
GO01	**Chusmiza**	**5.12**	**133**			**Pn**	**14 32 53.2**	**+1.4**
TA01	**Diego Aracena**	**5.19**	**147**	*e*P		**Pn**	**14 32 51.9**	**-0.3**
TA01	**Diego Aracena**	**5.19**	**147**			**Pn**	**14 32 52.3**	**0.0**
PATCX	**Punta Patache**	**5.41**	**148**	*e*P		**Pn**	**14 32 54.3**	**-1.1**
PATCX				*e*S		**Sn**	**14 33 48.8**	**-7.7**
PATCX	**Punta Patache**	**5.41**	**148**			**Pn**	**14 32 55.4**	**0.0**
PB08	**IPOC Station P**	**5.47**	**136**	⇑*i*P		**Pn**	**14 32 57.2**	**+0.7**
PB08	**IPOC Station P**	**5.47**	**136**	Pn		**Pn**	**14 32 57.5**	**+1.0**
NNA	**Nana**	**5.50**	**319**	P		**Pn**	**14 32 59.0**	**+2.4**
	50nm,0.3s,baz=130,slow=16,SNR=71							
NNA				S		Sn	14 34 08.1	+10
	689nm,0.3s,baz=255,slow=23,SNR=12							
NNA				LR		LR	14 35 03.9	
	comp=Z,11μm,19.4s,baz=150,slow=37							
NNA	**Nana**	**5.50**	**319**	P		**Pn**	**14 32 56.0**	**-0.6**
NNA	**Nana**	**5.50**	**319**	Pn		**Pn**	**14 32 57.0**	**+0.4**
PB01	**IPOC Station P**	**5.95**	**145**	⇓*i*P		**Pn**	**14 33 02.7**	**-0.1**
PB01	**IPOC Station P**	**5.95**	**145**			**Pn**	**14 33 03.2**	**+0.4**
PB02	**IPOC Station P**	**5.96**	**149**	⇑*i*P		**Pn**	**14 33 03.1**	**+0.1**
PB07	**IPOC Station P**	**6.31**	**151**			**Pn**	**14 33 07.7**	**-0.2**
PB09	**IPOC Station P**	**6.69**	**147**			**Pn**	**14 33 13.6**	**+0.5**
PB04	**IPOC Station P**	**6.73**	**155**			**Pn**	**14 33 13.2**	**-0.4**
PB06	**IPOC Station P**	**7.30**	**153**			**Pn**	**14 33 21.0**	**-0.4**
LVC	**Limon Verde**	**7.54**	**148**	P		**Pn**	**14 33 26.3**	**+1.5**
	74nm,0.3s,baz=341,slow=8.1,SNR=262							
LVC				S		**Sn**	**14 34 47.3**	**-1.6**
	312nm,0.3s,baz=95,slow=20,SNR=20							
LVC	**Limon Verde**	**7.54**	**148**	P		**Pn**	**14 33 25.7**	**+0.9**
LVC							14 34 47.4	
LVC	**Limon Verde**	**7.54**	**148**	Pn		**Pn**	**14 33 25.7**	**+0.9**
LVC	**Limon Verde**	**7.54**	**148**	*e*P		**Pn**	**14 33 25.8**	**+1.0**
PB10	**IPOC Station P**	**7.68**	**162**	Pn		**Pn**	**14 33 25.1**	**-1.3**
PB15	**IPOC Station P**	**7.79**	**154**			**Pn**	**14 33 27.6**	**-0.6**
CZSB	**Cruzeiro do Su**	**8.44**	**3**	*e*P		**Pn**	**14 33 36.3**	**-0.6**
PB14	**IPOC Station P**	**8.77**	**163**			**Pn**	**14 33 39.9**	**-1.7**
ETMB	**Extrema**	**9.29**	**48**	*e*P		**Pn**	**14 33 48.7**	**+0.2**
GO02	**Mina Guanaco**	**9.52**	**160**	Pn		**Pn**	**14 33 51.2**	**-0.7**
AC01	**Pan de Azucar**	**10.18**	**167**	Pn		**Pn**	**14 33 58.9**	**-1.7**
ATAH	**Atahualpa**	**10.36**	**330**	P		**Pn**	**14 34 03.7**	**+0.2**
	2.4nm,0.3s,baz=114,slow=0.9,SNR=10							
ATAH				S		**Sn**	**14 36 04.9**	**+6.6**
	14nm,0.3s,baz=336,slow=19,SNR=1.6							
AC02	**Maricunga**	**11.23**	**161**	Pn		**Pn**	**14 34 14.2**	**-1.1**
SIV	**San Ignacio**	**11.64**	**91**	P		**Pn**	**14 34 19.5**	**-1.1**
	6.3nm,0.3s,baz=274,slow=14,SNR=98							
SIV				LR		LR	14 39 53.0	
	comp=Z,4μm,20.9s,baz=280,slow=43							
GO03	**Copiap**	**11.66**	**167**			**Pn**	**14 34 20.6**	**-0.2**
AC04	**Llanos de Chal**	**12.10**	**171**			**Pn**	**14 34 24.5**	**-2.3**
SAML	**Samuel**	**12.13**	**55**	P		**Pn**	**14 34 25.2**	**-2.1**
SAML	**Samuel**	**12.13**	**55**			**Pn**	**14 34 25.2**	**-2.1**
AC05	**El Transito**	**12.85**	**168**			**Pn**	**14 34 36.7**	**-0.5**
LCO	**Las Campanas**	**12.95**	**170**	P		**Pn**	**14 34 38.1**	**-0.6**
LCO	**Las Campanas**	**12.95**	**170**			**Pn**	**14 34 38.0**	**-0.6**
VILB	**Vilhena**	**12.97**	**77**	*e*P		**Pn**	**14 34 37.8**	**-1.0**
PTLB	**Pontes e Lacer**	**13.53**	**89**	*e*P		**Pn**	**14 34 44.5**	**-1.9**
CO01	**Juntas del Tor**	**14.00**	**169**	Pn		**Pn**	**14 34 52.8**	**+0.1**
GO04	**Tololo Observa**	**14.07**	**171**	Pn		**Pn**	**14 34 53.1**	**-0.6**
CO03	**El Pedregal**	**14.74**	**172**	Pn		**Pn**	**14 35 02.1**	**-0.3**
CO02	**Combarbal**	**15.06**	**173**	Pn		**Pn**	**14 35 06.4**	**-0.2**
CO02				lAmb		lAmb	14 35 35.3	
	comp=Z,474nm,1.1s							
PTLC	**Puerto Leguiza**	**16.35**	**354**	*e*P		**Pn**	**14 35 18.0**	**-5.0**
PTLC				*e*S		Sn	14 38 11.0	-13
VA03	**San Esteban**	**16.66**	**172**	Pn		**Pn**	**14 35 26.5**	**-0.2**
VA03				lAmb		lAmb	14 35 49.8	
	comp=Z,789nm,1.4s							
VA01	**Torpederas**	**16.80**	**176**	P		**P**	**14 35 30.0**	**+0.4**
VA01				lAmb		lAmb	14 35 54.2	
	comp=Z,752nm,1.4s							
SALV	**Santo Antonio**	**16.81**	**91**	*e*P		**Pn**	**14 35 28.0**	**-0.7**
ROC1	**El Roble**	**16.81**	**174**	P		**P**	**14 35 30.5**	**+0.4**
PUAC	**Puerto Asis, P**	**16.98**	**348**	‖*e*P		**Pn**	**14 35 29.8**	**-1.1**
PEL	**Peldehue**	**17.01**	**173**	P		**P**	**14 35 32.0**	**-0.1**
PEL				pmax	pmax			
	comp=Z,1μm,1.3s							
PEL	**Peldehue**	**17.01**	**173**	P		**P**	**14 35 32.0**	**-0.1**
MT02	**Curacav**	**17.08**	**174**	P		**P**	**14 35 33.3**	**+0.5**
MT02				lAmb		lAmb	14 35 57.8	
	comp=Z,479nm,1.1s							
AQDB	**Aquidauana**	**17.12**	**107**	*e*P		**Pn**	**14 35 31.8**	**-0.8**
OTAV	**Otavalo**	**17.15**	**342**	P		**P**	**14 35 33.7**	**-0.4**
OTAV				pmax	pmax			
	comp=Z,181nm,1.2s							
OTAV	**Otavalo**	**17.15**	**342**	P		**P**	**14 35 33.7**	**-0.4**
OTAV	**Otavalo**	**17.15**	**342**	*e*P		**Pn**	**14 35 30.9**	**-2.3**
MT05	**Renca**	**17.25**	**173**	P		**P**	**14 35 35.3**	**+0.5**
CLDB	**Colider**	**17.71**	**75**	*e*P		**Pn**	**14 35 38.2**	**-1.5**
GCUF	**Volcan Galeras**	**17.80**	**346**	‖*e*P		**P**	**14 35 42.6**	**+1.2**
FLOC	**Florencia**	**17.84**	**352**	‖*e*P		**P**	**14 35 40.1**	**-1.2**
FLOC				*e*S		S	14 39 29.2	+26
CPUP	**Villa Florida**	**17.86**	**127**	P		**P**	**14 35 41.0**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=307,slow=11,SNR=30							
CPUP				LR		LR	14 43 33.9	
	comp=Z,2μm,19.3s,baz=300,slow=40							
CPUP	**Villa Florida**	**17.86**	**127**			**P**	**14 35 40.9**	**-0.6**
CPUP	**Villa Florida**	**17.86**	**127**	*e*P		**P**	**14 35 41.3**	**-0.2**
MACA	**Manacapuru-AM**	**17.86**	**45**	*e*P		**P**	**14 35 39.2**	**-2.4**
H03N1	**Juan Fernandez**	**17.92**	**196**	T		T	14 54 07.6	
	baz=18,slow=74							
H03N2	**Juan Fernandez**	**17.93**	**196**	T		T	14 54 09.3	
	baz=18,slow=74							
H03N3	**Juan Fernandez**	**17.94**	**196**	T		T	14 54 04.7	
	baz=18,slow=74							
CRUC	**La Cruz**	**18.05**	**348**	*e*P		**Pn**	**14 35 48.4**	**+4.2**
VA04	**Juan Fernndez**	**18.09**	**195**	P		**Pn**	**14 35 44.7**	**+0.4**
MACC	**Macarena, Meta**	**18.25**	**358**	‖*e*P		**P**	**14 35 43.5**	**-2.3**
GARC	**Garzon, Huila**	**18.42**	**353**	‖*e*P		**P**	**14 35 47.8**	**-0.1**
SOTA	**Rioblanco**	**18.54**	**349**	*e*P		**Pn**	**14 35 51.2**	**+0.9**
BBAC	**Balboa, Cauca**	**18.55**	**347**	‖*e*P		**Pn**	**14 35 50.6**	**+0.4**
BO02	**Sierra Bellavi**	**18.63**	**174**			**Pn**	**14 35 51.5**	**+0.6**
BO02				lAmb		lAmb	14 36 37.2	
	comp=Z,397nm,1.1s							
PCON	**Cinco Dias**	**18.69**	**350**	‖*e*P		**Pn**	**14 35 53.9**	**+1.7**
GO05	**Huala**	**18.76**	**177**	P		**Pn**	**14 35 52.0**	**-0.3**
GO05				lAmb		lAmb	14 36 15.9	
	comp=Z,519nm,1.1s							
BETC	**Betania**	**18.90**	**353**	‖*e*P		**Pn**	**14 35 55.4**	**+1.2**
POPC	**Popayan, Colom**	**18.95**	**349**	‖*e*P		**Pn**	**14 35 55.1**	**+0.2**
MARP	**Paez Belalcaza**	**19.13**	**352**	‖*e*P		**Pn**	**14 35 56.5**	**-0.6**
NPGB	**Novo Progresso**	**19.67**	**64**	*e*P		**P**	**14 36 00.7**	**-0.8**
GR1C	**Gorgona, Isla**	**19.71**	**345**	*e*P		**P**	**14 36 02.4**	**+0.5**
PRAC	**Prado**	**19.86**	**355**	‖*e*P		**Pn**	**14 36 05.4**	**-0.2**
ORTC	**Ortega, Tolima**	**20.09**	**354**	‖*e*P		Pn	14 36 07.9	-0.4
PTGA	**Pitinga**	**20.15**	**42**	P		**P**	**14 36 05.9**	**-0.8**
	comp=Z,15nm,0.3s,baz=222,slow=11,SNR=57							
PTGA				S		**S**	**14 39 46.4**	**-3.3**
	comp=Z,1.0nm,0.3s,baz=320,slow=12,SNR=4.1			

LPA SSS SSS 14 41 35.6
LPA SCS **ScS** **14 47 40.4 -3.4**
LPA PKIKP **PKiKP** **14 48 10.4 +1.0**
LPA SKIKS 14 55 05.0
BRRC Barranca, Sant 23.17 359 ǁ *e*P **P** **14 36 37.3 -1.4**
DBBC Dabeiba 23.27 352 *e*P **P** **14 36 40.5 +0.8**
PAMC Pamplona, Colo 23.40 1 *e*P **P** **14 36 40.4 -1.1**
MALB Monte Alegre 23.46 54 *e*P **P** **14 36 40.2 -1.3**
PLTB Pedras Altas 23.60 135 *e*P **P** **14 36 43.0 +0.4**
ZARC Zaragoza, Cauc 23.61 356 ǁ *e*P **P** **14 36 42.4 -0.4**
PTAC Punta Ardita, 23.65 348 *e*P **P** **14 36 42.3 -0.9**
BB19B Bebedouro 23.84 105 *e*P **P** **14 36 42.6 -2.4**
UREC San Jos de Ur 23.92 354 ǁ *e*P **P** **14 36 45.1 -0.5**
IPMB Ipameri, GO 23.93 98 *e*P **P** **14 36 45.4 -0.4**
BDFB Brasilia 24.20 92 P **P** **14 36 48.2 -0.2**
comp=Z,74nm,0.9s,baz=260,slow=12,SNR=31
BDFB LR LR 14 47 34.2
comp=Z,565nm,18.3s,baz=263,slow=40
BDFB Brasilia 24.20 92 P **P** **14 36 48.1 -0.3**
BDFB pmax pmax
comp=Z,77nm,0.8s
BDFB Brasilia 24.20 92 P **P** **14 36 48.1 -0.3**
OCAC Ocana 24.29 360 ǁ *e*P **P** **14 36 47.1 -2.0**
CNLB Canela 24.32 126 *e*P **P** **14 36 49.6 +0.4**
TIJ01 Guaruva-PR 24.32 116 *e*P **P** **14 36 49.4 0.0**
PEXB Peixe 24.46 84 *e*P **P** **14 36 49.7 -0.9**
PLCA Paso Flores 24.55 175 P **P** **14 36 52.3 +1.1**
comp=Z,362nm,1.1s,baz=353,slow=10,SNR=148
PLCA PcP **PcP** **14 40 29.1 +1.0**
comp=Z,6.7nm,0.5s,baz=285,slow=1.0,SNR=9.2
PLCA LR LR 14 45 00.7
comp=Z,2µm,21.8s,baz=346,slow=32
PLCA Paso Flores 24.55 175 P **P** **14 36 52.0 +0.8**
PLCA 14 40 29.1
PLCA pmax pmax
comp=Z,508nm,1.2s
PLCA Paso Flores 24.55 175 P **P** **14 36 52.0 +0.8**
PLCA Paso Flores 24.55 175 *e*P **P** **14 36 51.7 +0.5**
SMLC San Martn de 24.86 358 *e*P **P** **14 36 52.9 -1.4**
MOTC Monteria, Cord 24.95 354 ǁ *e*P **P** **14 36 55.9 +0.9**
PRPB Parauapebas 24.96 69 *e*P **P** **14 36 54.1 -1.2**
SDV Santo Domingo 25.06 6 P **P** **14 36 56.3 +0.1**
comp=Z,105nm,0.9s,baz=185,slow=11,SNR=20
SDV LR LR 14 47 38.0
comp=Z,6µm,20.3s,baz=188,slow=38
SDV Santo Domingo 25.06 6 P **P** **14 36 55.7 -0.5**
SDV IAmb IAmb 14 37 25.9
comp=Z,249nm,1.1s
SDV Santo Domingo 25.06 6 *e*P **P** **14 36 54.8 -1.5**
LCBC Los crdobas, 25.10 353 *e*P **P** **14 36 57.9 +1.5**
SPB Sao Paulo 25.27 111 P **P** **14 36 57.8 -0.1**
SPB IAmb IAmb 14 37 22.8
comp=Z,266nm,0.9s
SPB Sao Paulo 25.27 111 *e*P **P** **14 36 58.0 +0.1**
BAUV El Baul 25.50 12 *e*P **P** **14 36 60.0 0.0**
PET01 Itanhaem-SP 25.57 113 *e*P **P** **14 37 00.9 +0.3**
VAO Valinhos 25.58 109 *e*P **P** **14 37 01.0 +0.1**
ARGC Ariguani, Magd 25.92 358 ǁ *e*P **P** **14 37 04.0 +0.2**
SMTB Santa Maria do 26.00 77 *e*P **P** **14 37 05.0 +0.3**
SJCC San Jacinto, C 26.01 356 ǁ *e*P **P** **14 37 04.6 -0.1**
BCIP Isla Barro Col 26.06 345 P **P** **14 37 05.1 +0.1**
BCIP pmax pmax
comp=Z,793nm,2.0s
BCIP Isla Barro Col 26.06 345 P **P** **14 37 05.1 +0.1**
LL01 San Ignacio de 26.09 179 P **P** **14 37 04.9 -0.2**
LL01 IAmb IAmb 14 37 29.6
comp=Z,174nm,1.4s
MCPB Macapa, AP 26.11 55 *e*P **P** **14 37 06.0 +0.3**
PARB Paraibuna 26.85 110 *e*P **P** **14 37 12.8 +0.5**
ORIV Oritupano 26.91 22 *e*P **P** **14 37 12.7 -0.1**
SMRC Santa Marta, M 27.21 358 ǁ *e*P **P** **14 37 14.1 -1.4**
PCRV Puerto La Cruz 27.54 18 P **P** **14 37 17.9 -0.5**
comp=Z,17nm,0.9s,baz=182,slow=7.0,SNR=6.8
PCRV LR LR 14 49 02.4
comp=Z,12µm,18.4s,slow=38
PLCV Puerto La Cruz 27.55 19 P **P** **14 37 17.9 -0.5**
SDBA SAO DESIDERIO 27.64 86 *e*P **P** **14 37 20.2 +0.7**
URIC Uribia, Colomb 27.75 2 ǁ *e*P **P** **14 37 17.4 -2.9**
JANB Januaria 27.81 92 *e*P **P** **14 37 21.0 0.0**
MC01 Montes Claros 28.03 95 *e*P **P** **14 37 22.9 -0.1**
TMAB Tom-Au,PA,Br 28.26 63 *e*P **P** **14 37 24.1 -0.8**
MAN01 Angra dos Reis 28.28 108 *e*P **P** **14 37 24.4 -0.7**
VAS01 Vassouras-RJ 28.68 107 *e*P **P** **14 37 29.7 +1.1**
JTS Las Juntas de 28.79 335 P **P** **14 37 30.5 +0.9**
comp=Z,7.8nm,0.7s,baz=203,slow=5.3,SNR=6.2
JTS LR LR 14 49 22.4
comp=Z,1µm,20.4s,baz=214,slow=37
JTS Las Juntas de 28.79 335 *i* P **P** **14 37 29.9 +0.3**
JTS pmax pmax
comp=Z,45nm,2.4s
JTS Las Juntas de 28.79 335 P **P** **14 37 29.8 +0.2**
MDP Montagnes des 29.34 45 P **P** **14 37 34.0 -0.5**
comp=Z,15nm,1.1s,baz=236,slow=8.0,SNR=4.6
MDP LR LR 14 50 17.1
comp=Z,10µm,18.6s,baz=220,slow=38
TOSP Speyside 30.06 25 P **P** **14 37 40.9 +0.2**
TOSP IAmb IAmb 14 37 42.8
comp=Z,167nm,1.3s
GRGR Grenville 30.38 23 *e*P **P** **14 37 42.5 -1.1**
ACON Acoyapa 30.41 336 P **P** **14 37 44.0 +0.1**
GRHS Sauteurs 30.47 23 *e*P **P** **14 37 44.2 -0.1**
PRVC Isla de Provid 30.49 344 *e*P **P** **14 37 43.3 -1.2**
GRSS Sisters 30.55 23 *e*P **P** **14 37 45.6 +0.6**
SJMB Sao Joao De Ma 30.60 99 *e*P **P** **14 37 46.0 +0.3**
GCMP Grenada, Carri 30.79 23 *e*P **P** **14 37 46.6 -0.6**
BSFB Barra de Sao F 30.92 100 *e*P **P** **14 37 48.6 +0.2**
BOAB BOACO BROADBAN 31.04 336 P **P** **14 37 49.7 +0.3**
RIB01 Linhares ES 31.35 101 *e*P **P** **14 37 52.6 +0.4**
ROSB Rosrio 31.49 68 *e*P **P** **14 37 53.0 -0.4**
SVB Belmont 31.57 23 *e*P **P** **14 37 52.8 -1.4**
SVB Belmont 31.57 23 P **P** **14 37 52.5 -1.7**
SVB IAmb IAmb 14 38 18.4
comp=Z,145nm,0.8s
MATN Matagalpa 31.57 336 P **P** **14 37 54.0 -0.3**
SVCV St. Vincent, C 31.61 23 *e*P **P** **14 37 54.6 +0.1**
NAN01 Guarapari, ES 31.62 98 *e*P **P** **14 37 54.1 +0.5**
SVV Soufriere Volc 31.63 23 *e*P **P** **14 37 55.3 +0.7**
MCLT Moule a Chique 32.09 23 *e*P **P** **14 37 59.6 +1.0**
BBGH Gun Hill 32.12 26 *e*P **P** **14 38 02.0 +3.1**
SLB Belfond 32.16 23 *e*P P 14 37 54.2 -5.2 **14 38 02.0 +1.6**
SLAC Saint Lucia, A 32.28 23 *e*P **P**
SLBI Saint Lucia, B 32.37 23 *e*P P 14 37 52.9 -8.2 **14 38 01.8 -0.9**
GDU01 Guandu, BA 32.54 90 *e*P **P**
MPOM Morne Pois Mar 32.80 22 *e*P **P** **14 38 06.7 +1.9**
NBCP Cabaceiras do 33.10 88 *e*P **P** **14 38 07.4 -0.2**
DSLB Salisbury 33.52 21 *e*P P 14 38 21.6 +10 **14 38 18.4 -0.3**
CBE Ff, Capester 34.04 20 *e*P P 14 38 28.5 +13
MTO3 Montecristo 34.36 331 P **P**
MTO3 IAmb IAmb 14 38 38.0
comp=Z,63nm,1.1s
MLYT Lee's Yard 34.47 19 *e*P **P** **14 38 17.1 -2.3**
MTDJ Mount Denham 34.48 353 P **P** **14 38 19.6 0.0**
MTDJ IAmb IAmb 14 38 52.9
comp=Z,152nm,1.2s
BANI BANI 34.49 5 P **P** **14 38 19.7 0.0**
MLPR Magueyes Islan 34.49 10 P **P** **14 38 17.9 -1.7**
CRPR Cabo Rojo, PR 34.52 10 P **P** **14 38 18.6 -1.1**
MPR Mayaguez 34.72 10 P **P** **14 38 20.4 -1.0**
MPR IAmb IAmb 14 38 22.9
comp=Z,111nm,0.9s
PCDR Punta Cana, DR 34.82 8 P **P** **14 38 22.0 -0.3**
SKI Saint Kitts 34.88 18 *e*P **P** **14 38 26.1 +3.2**
SKI Saint Kitts 34.88 18 P **P** **14 38 22.5 -0.4**
SKI pmax pmax
comp=Z,143nm,0.9s
SKI Saint Kitts 34.88 18 P **P** **14 38 22.5 -0.4**
HUMP Col San Antoni 34.89 12 P **P** **14 38 21.7 -1.3**
HUMP IAmb IAmb 14 38 25.0
comp=Z,74nm,1.2s
MTP Monte Pirata 34.91 13 P **P** **14 38 21.7 -1.4**
MTP IAmb IAmb 14 38 55.3
comp=Z,79nm,1.1s
AOPR Arecibo Observ 34.91 11 P **P** **14 38 22.1 -1.1**
SEUS St. Eustatius 34.96 17 *e*P **P** **14 38 24.8 +1.2**
DR12 Loma Pena Alta 34.98 6 P **P** **14 38 22.5 -1.3**
GO09 Cerro Castillo 34.98 179 P **P** **14 38 24.1 +0.6**
GCPR Guaynabo City 35.00 12 P **P** **14 38 22.0 -1.9**
GCPR IAmb IAmb 14 38 25.8
comp=Z,59nm,0.9s
NBMO Morrinhos-CE 35.01 72 *e*P **P** **14 38 24.1 0.0**
CBYP Canovanas 35.01 12 P **P** **14 38 22.2 -1.9**
CBYP IAmb IAmb 14 38 56.6
comp=Z,115nm,1.1s
CUPR Culebra, Puert 35.17 13 P **P** **14 38 23.9 -1.4**
CUPR IAmb IAmb 14 38 56.6
comp=Z,116nm,1.1s
RPN Rapa Nui 35.20 246 P **P** **14 38 26.9 +1.3**
comp=Z,98nm,1.0s,baz=82,slow=13,SNR=5.5
RPN Rapa Nui 35.20 246 IAmb IAmb 14 38 28.9
comp=Z,203nm,0.9s
SMRT St. Maarten 35.47 17 *e*P **P** **14 38 30.1 +2.2**
SMRT St. Maarten 35.47 17 P **P** **14 38 25.6 -2.4**
SMRT IAmb IAmb 14 38 51.7
comp=Z,90nm,0.8s
ANWB Willy Bob 35.48 19 *e*P P 14 38 38.9 +11
ANWB Willy Bob 35.48 19 P **P** **14 38 24.9 -3.2**
SC01 Santiago de lo 35.49 4 P **P** **14 38 28.5 +0.3**
GTBY Guantanamo Bay 35.96 357 P **P** **14 38 32.4 +0.3**
GTBY IAmb IAmb 14 39 26.1
comp=Z,156nm,1.4s
FSCY Frank Sound, G 36.16 347 P **P** **14 38 34.8 +0.9**
CBCY The Bluff, Cay 36.30 349 P **P** **14 38 35.3 +0.3**
EFI East Falkland 37.38 164 *e*P **P** **14 38 44.9 +1.0**
EFI pmax pmax
comp=Z,208nm,1.2s
EFI East Falkland 37.38 164 P **P** **14 38 44.6 +0.7**
GRTK Grand Turk 37.54 3 P **P** **14 38 45.2 -0.3**
RCBR Riachuelo 37.95 78 P **P** **14 38 49.4 +0.1**
comp=Z,57nm,0.9s,baz=237,slow=9.2,SNR=14
RCBR Riachuelo 37.95 78 P **P** **14 38 49.2 -0.1**
RCBR pmax pmax
comp=Z,69nm,1.0s
RCBR Riachuelo 37.95 78 P **P** **14 38 49.2 -0.1**
RCBR IAmb IAmb 14 38 50.7
comp=Z,70nm,0.9s
RCBR Riachuelo 37.95 78 *e*P **P** **14 38 49.1 -0.2**
USHA Ushuaia 38.72 176 P **P** **14 38 57.0 +1.9**
comp=Z,154nm,1.0s,baz=320,slow=3.4,SNR=21
MG01 Puerto William 38.88 175 P **P** **14 38 56.8 +0.3**
TEIG Tepich 39.13 337 P **P** **14 38 58.9 0.0**
comp=Z,44nm,1.1s,baz=139,slow=6.8,SNR=19
TEIG Tepich 39.13 337 P **P** **14 38 58.4 -0.5**
TEIG IAmb IAmb 14 39 28.8
comp=Z,95nm,1.1s
CMIG Matias Romero 39.40 326 P **P** **14 39 01.5 +0.2**
comp=Z,20nm,0.9s,baz=116,slow=6.0,SNR=23
553A Crawfordville 47.38 347 P **P** **14 40 04.8 -0.6**
HOPE Hope Point 47.44 152 P **P** **14 40 07.4 +1.9**
HOPE pmax pmax
comp=Z,159nm,1.0s
HOPE Hope Point 47.44 152 P **P** **14 40 07.4 +1.9**
451A Vernon 48.10 345 P **P** **14 40 11.1 +0.3**
ZAIG Zacatecas 48.25 323 P **P** **14 40 12.4 -0.1**
ZAIG IAmb IAmb 14 40 15.9
comp=Z,59nm,1.2s
TIGA Tifton 48.42 348 P **P** **14 40 13.3 0.0**
baz=167
PMSA Palmer Station 48.92 175 P **P** **14 40 18.1 +1.4**
comp=Z,72nm,1.0s,baz=0.3,slow=6.1,SNR=55
PMSA Palmer Station 48.92 175 P **P** **14 40 17.6 +0.9**
PMSA Palmer Station 48.92 175 *e*P **P** **14 40 17.2 +0.4**
BRAL Brewton 48.95 344 P **P** **14 40 17.5 0.0**
baz=162
BRAL Brewton 48.95 344 P **P** **14 40 17.3 -0.1**
158A Hollywood 49.13 352 P **P** **14 40 18.4 -0.3**
baz=171
157A Early Branch 49.18 351 P **P** **14 40 19.2 +0.1**
baz=170
154A Montrose 49.46 349 P **P** **14 40 21.2 -0.1**
NHSC New Hope 49.49 352 P **P** **14 40 21.5 0.0**
baz=171
NHSC New Hope 49.49 352 P **P** **14 40 21.0 -0.5**
250A Grady 49.53 345 P **P** **14 40 21.9 +0.1**
Z58A St. Stephen 49.67 353 P **P** **14 40 23.1 +0.2**
baz=172
Z57A Bowman 49.75 352 P **P** **14 40 23.2 -0.2**
baz=171
152A Waverly Hall 49.84 347 P **P** **14 40 23.2 -1.0**
346A Big Creek Wild 49.84 342 P **P** **14 40 23.7 -0.5**
346A IAmb IAmb 14 40 25.9
comp=Z,92nm,0.9s
Z56A Williston 49.87 351 P **P** **14 40 24.1 -0.3**
baz=170
Z56A Williston 49.87 351 P **P** **14 40 24.1 -0.3**
Z56A IAmb IAmb 14 40 26.1
comp=Z,81nm,1.0s
Y60A Bolivia 50.16 355 P **P** **14 40 26.4 -0.2**
baz=174
Y60A Bolivia 50.16 355 P **P** **14 40 26.5 0.0**
Y59A Loris 50.21 354 P **P** **14 40 26.9 -0.1**
baz=173
Y58A Scranton 50.21 353 P **P** **14 40 26.6 -0.4**
baz=172
GOGA Godfrey 50.31 349 P **P** **14 40 27.1 -0.6**
baz=167,SNR=7.6
GOGA S **S** **14 47 36.0 0.0**
baz=167
GOGA Godfrey 50.31 349 P **P** **14 40 27.1 -0.6**
GOGA pmax pmax
comp=Z,54nm,1.1s
GOGA Godfrey 50.31 349 P **P** **14 40 27.1 -0.6**
GOGA IAmb IAmb 14 40 44.9
comp=Z,54nm,1.1s
Y56A Pelion 50.32 351 P **P** **14 40 27.2 -0.6**
baz=170
Y57A Sumter 50.41 352 P **P** **14 40 27.9 -0.6**
baz=171
Y57A Sumter 50.41 352 P **P** **14 40 27.9 -0.6**
Y55A Saluda 50.55 351 P **P** **14 40 29.3 -0.2**
baz=169,SNR=6.6
Z51A Franklin 50.56 347 P **P** **14 40 28.5 -1.1**
Z51A IAmb IAmb 14 40 46.9
comp=Z,65nm,0.9s
X60A Albert Glenn T 50.71 355 P **P** **14 40 30.8 +0.1**
baz=174
LRAL Lakeview Retre 50.72 345 P **P** **14 40 30.0 -0.8**
baz=163,SNR=13
LRAL S **S** **14 47 37.8 -3.9**
baz=163
LRAL Lakeview Retre 50.72 345 P **P** **14 40 29.5 -1.3**
LRAL IAmb IAmb 14 40 47.9
comp=Z,77nm,1.1s
342A Flagon Creek P 50.76 339 P **P** **14 40 30.5 -0.7**
X59A McDuffie Farm, 50.76 354 P **P** **14 40 30.8 -0.3**
baz=173
JSC Jenkinsville 50.79 351 P **P** **14 40 30.9 -0.4**
JSC pmax pmax
comp=Z,23nm,1.0s
JSC Jenkinsville 50.79 351 P **P** **14 40 30.9 -0.4**
X57A Johnson Farm, 50.82 353 P **P** **14 40 31.3 -0.2**
baz=172
HKT Hockley 50.82 334 P **P** **14 40 32.3 +0.7**
HKT pmax pmax
comp=Z,73nm,1.5s
HKT Hockley 50.82 334 P **P** **14 40 32.2 +0.7**
HKT IAmb IAmb 14 40 34.2
comp=Z,73nm,1.4s
Y52A Lilburn 50.86 348 P **P** **14 40 31.4 -0.5**
Y52A IAmb IAmb 14 40 49.0
comp=Z,54nm,1.1s
146A Union 50.89 343 P **P** **14 40 32.3 +0.2**
HODGE Hodges 50.90 350 P **P** **14 40 32.3 +0.1**
HODGE **pP** **14 40 48.4 -0.2**
VBMS Vicksburg 50.94 341 P **P** **14 40 32.2 -0.2**
baz=158
VBMS S **S** **14 47 44.2 -0.6**
baz=158
VBMS Vicksburg 50.94 341 P **P** **14 40 32.3 -0.2**
VBMS IAmb IAmb 14 41 02.8
comp=Z,80nm,1.2s
X56A White Oak 50.97 352 P **P** **14 40 32.5 -0.2**
baz=170,SNR=6.4
833A Chaparral WMA, 51.03 330 P **P** **14 40 32.8 -0.5**
baz=147
833A Chaparral WMA, 51.03 330 P **P** **14 40 32.5 -0.7**
833A IAmb IAmb 14 40 35.4
comp=Z,44nm,0.8s
X55A Gracelyn & Ava 51.03 351 P **P** **14 40 33.6 +0.5**
baz=170,SNR=7.5
BIRD Birdtown, Kers 51.04 352 P **P** **14 40 33.0 -0.2**
BIRD IAmb IAmb 14 40 51.0
comp=Z,94nm,1.1s
Z47A Carrollton 51.15 344 P **P** **14 40 32.7 -1.3**
W60A Pink Hill 51.16 355 P **P** **14 40 34.3 +0.2**
baz=174
X54A Belton 51.23 350 P **P** **14 40 34.7 +0.1**
baz=169,SNR=6.4
X54A S **S** **14 47 46.2 -2.5**
baz=169
W61A Ground Anchor 51.23 356 P **P** **14 40 34.8 +0.2**
baz=175
W58A Raeford 51.27 354 P **P** **14 40 34.7 -0.2**
baz=173,SNR=8.4
CNNC Cliffs of the 51.36 355 P **P** **14 40 36.0 +0.4**
baz=174
Y49A Blount Mountai 51.36 346 P **P** **14 40 34.5 -1.2**
Y49A IAmb IAmb 14 40 35.8
comp=Z,50nm,0.7s
PAULI Pauline 51.41 351 P **P** **14 40 35.2 -0.8**
PAULI IAmb IAmb 14 40 53.6
comp=Z,64nm,1.0s
W57A Gilead 51.48 353 P **P** **14 40 36.2 -0.3**
baz=172
W57A Gilead 51.48 353 P **P** **14 40 36.1 -0.3**
W57A **pP** **14 40 52.9 -0.2**
W57A IAmb IAmb 14 40 54.2
comp=Z,50nm,1.1s
W56A Indian Trail 51.54 352 P **P** **14 40 36.4 -0.5**
baz=171
W56A S **S** **14 47 51.7 -1.4**
baz=171
V62A Hyde County Ai 51.55 357 P **P** **14 40 37.2 +0.2**
baz=177
X51A Calhoun 51.70 348 P **P** **14 40 37.6 -0.5**
X51A **pP** **14 40 54.1 -0.5**
X51A IAmb IAmb 14 40 55.3
comp=Z,63nm,1.1s
W54A Cherokee Point 51.72 351 P **P** **14 40 38.2 -0.1**
baz=169,SNR=5.6
BG3 Lake Jocassee 51.75 350 P **P** **14 40 38.4 -0.1**
V61A Roper 51.81 356 P **P** **14 40 39.1 +0.1**
baz=176
V60A Jim Taylor Roa 51.83 356 P **P** **14 40 39.2 +0.1**
baz=175
V60A S **S** **14 47 57.5 +0.6**
baz=175
V60A Jim Taylor Roa 51.83 356 P **P** **14 40 37.7 -1.4**
V60A IAmb IAmb 14 40 58.5
comp=Z,52nm,0.8s
FPAL Fort Paine 51.83 347 P **P** **14 40 38.5 -0.7**
FPAL pP **pP** **14 40 54.6 -1.1**
FPAL IAmb IAmb 14 40 56.0
comp=Z,80nm,0.9s
V59A Middlesex 51.91 355 P **P** **14 40 39.6 -0.1**
baz=174,SNR=5.6
V59A S **S** **14 47 57.8 -0.2**
baz=174
NATX Nacogdoches 51.96 337 P **P** **14 40 40.3 +0.2**
baz=154
NATX S **S** **14 47 57.1 -1.7**
baz=154
NATX Nacogdoches 51.96 337 P **P** **14 40 40.3 +0.2**
NATX IAmb IAmb 14 40 42.8
comp=Z,62nm,1.1s
V58A Windy Hill, Pi 52.02 354 P **P** **14 40 40.3 -0.2**
baz=173
V58A S **S** **14 47 59.8 +0.2**
baz=173
V58A Windy Hill, Pi 52.02 354 P **P** **14 40 39.5 -1.0**
X48A Hartselle 52.08 345 P **P** **14 40 39.6 -1.3**
X48A IAmb IAmb 14 40 57.9
comp=Z,105nm,1.2s
Y45A Yeager Farm, C 52.18 343 P **P** **14 40 41.1 -0.6**
V57A Coltrane Farms 52.19 353 P **P** **14 40 41.3 -0.4**
baz=172
V57A S **S** **14 48 01.6 -0.2**
baz=172
V56A Mocksville 52.19 352 P **P** **14 40 41.6 -0.2**
baz=171,SNR=11
435B Jarrell 52.29 333 P **P** **14 40 42.3 -0.3**
baz=150
435B S **S** **14 48 03.1 -0.3**
baz=150
435B Jarrell 52.29 333 P **P** **14 40 41.8 -0.8**
435B IAmb IAmb 14 42 12.8
comp=Z,53nm,1.1s
V55A Taylorsville 52.33 352 P **P** **14 40 43.2 +0.4**
baz=170,SNR=5.5
V55A S **S** **14 48 02.7 -1.2**
baz=170
V55A Taylorsville 52.33 352 P **P** **14 40 42.7 -0.1**
V55A IAmb IAmb 14 41 15.6
comp=Z,54nm,1.1s
U61A Possum Corner 52.34 357 P **P** **14 40 43.0 +0.1**
baz=176
V54A Nebo 52.36 351 P **P** **14 40 43.1 0.0**
baz=169,SNR=8.0
V54A S **S** **14 48 05.9 +1.6**
baz=169
V53A Saluda 52.39 350 P **P** **14 40 42.2 -1.2**
W50A Signal Mountai 52.41 347 P **P** **14 40 42.7 -0.8**
W50A IAmb IAmb 14 41 00.5
comp=Z,83nm,1.1s
U59A Littleton 52.45 355 P **P** **14 40 43.5 -0.2**
baz=174,SNR=7.9
U59A S **S** **14 48 06.7 +1.2**
baz=174
U59A Littleton 52.45 355 P **P** **14 40 43.6 -0.1**
U59A IAmb IAmb 14 40 45.1
comp=Z,36nm,0.8s
CPCT Cooper Cave 52.49 348 P **P** **14 40 42.7 -1.3**
CPCT pP **pP** **14 40 59.9 -0.6**
CPCT IAmb IAmb 14 41 01.2
comp=Z,50nm,1.2s
U60A Pendleton 52.53 356 P **P** **14 40 43.8 -0.4**
baz=175,SNR=5.8
TKL Tuckaleechee C 52.55 349 P **P** **14 40 43.7 -0.7**
comp=Z,23nm,1.1s,baz=149,slow=9.0,SNR=7.9
TKL Tuckaleechee C 52.55 349 P **P** **14 40 43.9 -0.5**
TKL pmax pmax
comp=Z,58nm,1.2s
TKL Tuckaleechee C 52.55 349 P **P** **14 40 43.9 -0.5**
TKL IAmb IAmb 14 40 45.4
comp=Z,58nm,1.2s
SWET Sewanee 52.55 347 P **P** **14 40 43.3 -1.3**
SWET IAmb IAmb 14 41 01.3
comp=Z,81nm,0.9s
U58A Oxford 52.56 355 P **P** **14 40 44.4 -0.1**
baz=174
U58A S **S** **14 48 05.7 -1.3**
baz=174
237A Washetta, Mont 52.62 336 P **P** **14 40 45.4 +0.4**
Z41A Richland Creek 52.64 339 P **P** **14 40 44.8 -0.3**
baz=156
Z41A S **S** **14 48 08.0 -0.1**
baz=156
Z41A Richland Creek 52.64 339 P **P** **14 40 44.7 -0.4**
U57A Blanch 52.67 354 P **P** **14 40 45.1 -0.3**
baz=173,SNR=6.7
V52A Sevierville 52.70 349 P **P** **14 40 45.0 -0.6**
V52A IAmb IAmb 14 41 02.7
comp=Z,108nm,1.2s
U56A King 52.71 353 P **P** **14 40 45.5 -0.1**
baz=171,SNR=6.7
U56A King 52.71 353 P **P** **14 40 44.8 -0.8**
U56A IAmb IAmb 14 41 03.8
comp=Z,87nm,1.2s
OXF Oxford 52.75 343 P **P** **14 40 44.7 -1.2**
baz=160
OXF S **S** **14 48 05.3 -4.3**
baz=160
OXF Oxford 52.75 343 P **P** **14 40 44.5 -1.4**
OXF pmax pmax
comp=Z,357nm,2.0s
OXF Oxford 52.75 343 P **P** **14 40 44.5 -1.4**
V51A Loudon 52.80 349 P **P** **14 40 45.4 -0.9**
V51A **pP** **14 41 02.2 -0.7**
V51A IAmb IAmb 14 41 03.4
comp=Z,83nm,1.2s
PLAL Pickwick Lake 52.84 345 P **P** **14 40 44.6 -1.9**
PLAL pP **pP** **14 41 01.4 -1.7**
PLAL IAmb IAmb 14 41 03.0
comp=Z,49nm,1.1s
U55A TA2, Sparta 52.95 352 P **P** **14 40 47.2 -0.3**
baz=171
JCT Junction City 53.02 331 P **P** **14 40 47.7 -0.4**
baz=148,SNR=9.0
JCT S **S** **14 48 10.3 -3.3**
baz=148
JCT Junction City 53.02 331 P **P** **14 40 47.0 -1.1**
JCT pmax pmax
comp=Z,51nm,1.2s
JCT Junction City 53.02 331 P **P** **14 40 47.0 -1.1**
JCT IAmb IAmb 14 42 15.7

	comp=Z,51nm,1.1s						
T59A	**Double "B" Far**	**53.05 356**	P	**P**	**14 40 48.2**	**+0.1**
	baz=175,SNR=18						
T59A			S	**S**	**14 48 12.6**	**-1.0**
	baz=175						
T59A	**Double "B" Far**	**53.05 356**	P	**P**	**14 40 47.9**	**-0.2**
U54A	**Nelsons Funny**	**53.07 351**	P	**P**	**14 40 47.5**	**-0.9**
	baz=170,SNR=6.0						
U54A			S	**S**	**14 48 11.5**	**-2.6**
	baz=170						
U54A	**Nelsons Funny**	**53.07 351**	P	**P**	**14 40 47.6**	**-0.8**
U54A			IAmb	IAmb	14 41 05.9		
	comp=Z,61nm,1.1s						
T58A	**Grand View Acr**	**53.11 355**	P	**P**	**14 40 48.2**	**-0.3**
	baz=174,SNR=9.8						
T58A			S	**S**	**14 48 15.4**	**+1.1**
	baz=174						
WLAR	**White Oak Lake**	**53.13 339**	P	**P**	**14 40 49.0**	**+0.2**
T60A	**Surry**	**53.16 356**	P	**P**	**14 40 48.7**	**-0.2**
	baz=176						
T60A	**Surry**	**53.16 356**	P	**P**	**14 40 49.0**	**+0.1**
X43A	**Marvell**	**53.18 342**	P	**P**	**14 40 48.6**	**-0.5**
	baz=159						
X43A	**Marvell**	**53.18 342**	P	**P**	**14 40 48.8**	**-0.3**
X43A			IAmb	IAmb	14 40 50.7		
	comp=Z,96nm,1.1s						
T57A	**Hurt**	**53.23 354**	P	**P**	**14 40 49.0**	**-0.5**
	baz=173,SNR=9.7						
T57A			S	**S**	**14 48 13.6**	**-2.5**
	baz=173						
T57A	**Hurt**	**53.23 354**	P	**P**	**14 40 48.6**	**-0.8**
T57A			IAmb	IAmb	14 40 51.2		
	comp=Z,106nm,1.3s						
V48A	**Smith Brothers**	**53.26 346**	P	**P**	**14 40 48.5**	**-1.2**
WHTX	**Lake Whitney,**	**53.28 334**	P	**P**	**14 40 49.9**	**0.0**
	baz=151,SNR=21						
WHTX			S	**S**	**14 48 16.2**	**-0.7**
	baz=151						
WHTX	**Lake Whitney,**	**53.28 334**	P	**P**	**14 40 49.2**	**-0.7**
W45A	**Hickory Valley**	**53.29 344**	P	**P**	**14 40 48.1**	**-1.9**
W45A			IAmb	IAmb	14 40 50.4		
	comp=Z,71nm,0.8s						
T56A	**Rocky Mt**	**53.34 353**	P	**P**	**14 40 50.2**	**-0.1**
	baz=172						
TZTN	**Tazewell**	**53.37 350**	P	**P**	**14 40 50.0**	**-0.5**
	baz=168						
TZTN			S	**S**	**14 48 14.9**	**-3.2**
	baz=168						
TZTN	**Tazewell**	**53.37 350**	P	**P**	**14 40 49.6**	**-0.9**
TZTN			IAmb	IAmb	14 41 07.7		
	comp=Z,84nm,1.4s						
Z38A	**Mt. Pleasant**	**53.42 337**	P	**P**	**14 40 51.2**	**+0.4**
CLTN	**Cedars of Leba**	**53.48 347**	P	**P**	**14 40 50.7**	**-0.6**
SLBS	**Sierra La Lagu**	**53.50 317**	P	**P**	**14 40 52.8**	**+1.0**
SLBS			IAmb	IAmb	14 40 54.2		
	comp=Z,33nm,0.7s						
T55A	**Pulaski**	**53.52 352**	P	**P**	**14 40 51.2**	**-0.4**
	baz=171,SNR=10.0						
VWCC	**Virginia Weste**	**53.55 353**	P	**P**	**14 40 51.5**	**-0.3**
BLA	**Blacksburg**	**53.57 353**	P	**P**	**14 40 51.3**	**-0.7**
	baz=171						
BLA	**Blacksburg**	**53.57 353**	P	**P**	**14 40 51.5**	**-0.5**
BLA			pmax	pmax			
	comp=Z,44nm,1.1s						
BLA	**Blacksburg**	**53.57 353**	P	**P**	**14 40 51.5**	**-0.5**
BLA			IAmb	IAmb	14 41 35.0		
	comp=Z,44nm,1.1s						
T54A	**Tazewell**	**53.57 352**	P	**P**	**14 40 51.3**	**-0.7**
	baz=170						
T54A			S	**S**	**14 48 18.5**	**-2.4**
	baz=170						
T53A	**Wise**	**53.63 351**	P	**P**	**14 40 51.5**	**-1.0**
	baz=169,SNR=6.7						
S61A	**Accomac**	**53.65 358**	P	**P**	**14 40 52.2**	**-0.3**
	baz=177						
S60A	**Water View**	**53.72 357**	P	**P**	**14 40 52.6**	**-0.4**
	baz=176						
S58A	**Poland Farm, P**	**53.73 355**	P	**P**	**14 40 52.9**	**-0.2**
	baz=174,SNR=11						
S58A	**Poland Farm, P**	**53.73 355**	P	**P**	**14 40 52.3**	**-0.8**
S58A			IAmb	IAmb	14 41 11.9		
	comp=Z,51nm,0.8s						
U49A	**Red Boiling Sp**	**53.77 347**	P	**P**	**14 40 52.1**	**-1.3**
X40A	**Basin Creek Fa**	**53.77 340**	P	**P**	**14 40 52.7**	**-0.7**
	baz=156						
X40A			S	**S**	**14 48 21.2**	**-2.3**
	baz=156						
X40A	**Basin Creek Fa**	**53.77 340**	P	**P**	**14 40 52.5**	**-0.9**
S59A	**Mechanicsville**	**53.82 356**	P	**P**	**14 40 53.8**	**+0.1**
	baz=175						
UALR	**University of**	**53.87 340**	P	**P**	**14 40 53.4**	**-0.8**
UALR			IAmb	IAmb	14 40 55.6		
	comp=Z,92nm,1.1s						
S56A	**Natural Bridge**	**53.93 354**	P	**P**	**14 40 54.3**	**-0.3**
	baz=172						
S57A	**Dark Hollow, R**	**53.95 354**	P	**P**	**14 40 54.3**	**-0.4**
	baz=173,SNR=10						
S57A			S	**S**	**14 48 25.6**	**-0.3**
	baz=173						
S57A	**Dark Hollow, R**	**53.95 354**	P	**P**	**14 40 54.4**	**-0.4**
S57A			IAmb	IAmb	14 41 29.8		
	comp=Z,50nm,1.0s						
TXAR	**Lajitas Array**	**54.00 327**	P	**P**	**14 40 54.7**	**-0.7**
	comp=Z,6.1nm,0.6s,baz=150,slow=8.9,SNR=64						
TXAR			LR	LR	15 02 28.0		
	comp=Z,334nm,21.2s,baz=0.0,slow=34						
TX31	**Lajitas Ar. Si**	**54.01 327**	P	**P**	**14 40 54.5**	**-0.9**
TX31			IAmb	IAmb	14 41 13.0		
	comp=Z,115nm,1.4s						
TX32	**Lajitas Array**	**54.01 327**	P	**P**	**14 40 54.5**	**-0.9**
R58B	**Mineral**	**54.06 355**	P	**P**	**14 40 55.7**	**+0.2**
	baz=174,SNR=12						
R58B			S	**S**	**14 48 25.8**	**-1.5**
	baz=174						
R58B	**Mineral**	**54.06 355**	P	**P**	**14 40 55.3**	**-0.2**
R58B			IAmb	IAmb	14 41 13.9		
	comp=Z,89nm,1.1s						
T50A	**Nancy**	**54.07 348**	P	**P**	**14 40 54.0**	**-1.6**
MIAR	**Mount Ida**	**54.07 339**	P	**P**	**14 40 55.2**	**-0.4**
	baz=156,SNR=36						
MIAR			S	**S**	**14 48 22.8**	**-4.8**
	baz=156						
MIAR	**Mount Ida**	**54.07 339**	P	**P**	**14 40 54.5**	**-1.2**
MIAR			pmax	pmax			
	comp=Z,82nm,1.0s						
MIAR	**Mount Ida**	**54.07 339**	P	**P**	**14 40 54.5**	**-1.2**
MIAR			IAmb	IAmb	14 40 57.3		
	comp=Z,82nm,1.0s						
S55A	**Lewisburg**	**54.13 353**	P	**P**	**14 40 55.7**	**-0.4**
	baz=171,SNR=7.7						
W41B	**Gary Mavity, V**	**54.21 341**	P	**P**	**14 40 55.7**	**-0.9**
	baz=157,SNR=22						
W41B			S	**S**	**14 48 27.8**	**-1.6**
	baz=157						
W41B	**Gary Mavity, V**	**54.21 341**	P	**P**	**14 40 56.2**	**-0.4**
W41B			IAmb	IAmb	14 40 58.1		
	comp=Z,53nm,0.9s						
R59A	**King George, V**	**54.24 356**	P	**P**	**14 40 56.6**	**-0.1**
	baz=175,SNR=5.2						
S53A	**Williamson**	**54.26 351**	P	**P**	**14 40 55.8**	**-1.2**
	baz=170						
S54A	**Dingess, Beckl**	**54.26 352**	P	**P**	**14 40 56.1**	**-0.9**
	baz=170						
S54A			S	**S**	**14 48 31.7**	**+1.6**
	baz=170						
S54A	**Dingess, Beckl**	**54.26 352**	P	**P**	**14 40 56.4**	**-0.6**
S54A			IAmb	IAmb	14 41 29.4		
	comp=Z,53nm,0.9s						
CBN	**Corbin Frederi**	**54.27 356**	P	**P**	**14 40 56.4**	**-0.5**
	baz=175						
R60A	**Leonardtown, M**	**54.28 357**	P	**P**	**14 40 56.6**	**-0.4**
	baz=176						
GNAR	**Gosnell**	**54.28 343**	P	**P**	**14 40 56.4**	**-0.8**
R61A	**Willards**	**54.28 358**	P	**P**	**14 40 56.3**	**-0.7**
	baz=178						
WHAR	**Wooly Hollow**	**54.33 341**	P	**P**	**14 40 56.8**	**-0.7**
WHAR			IAmb	IAmb	14 40 58.9		
	comp=Z,89nm,1.1s						
Z35A	**Perchaven, San**	**54.36 335**	P	**P**	**14 40 58.0**	**+0.3**
GLAT	**Glass**	**54.37 344**	P	**P**	**14 40 57.4**	**-0.4**
R58A	**Rapidan**	**54.41 355**	P	**P**	**14 40 58.2**	**+0.2**
	baz=174,SNR=12						
R58A			S	**S**	**14 48 32.8**	**+0.9**
	baz=174						
R57A	**Stanardsville**	**54.45 355**	P	**P**	**14 40 58.6**	**+0.3**
	baz=174,SNR=6.8						
R57A			S	**S**	**14 48 32.8**	**+0.3**
	baz=174						
S51A	**Beattyville**	**54.45 350**	P	**P**	**14 40 57.1**	**-1.2**
T47A	**Sharon Grove**	**54.52 346**	P	**P**	**14 40 57.4**	**-1.4**
T47A			IAmb	IAmb	14 42 19.9		
	comp=Z,40nm,0.9s						
R55A	**Marlinton**	**54.59 353**	P	**P**	**14 40 59.6**	**+0.2**
	baz=172,SNR=5.3						
R55A	**Marlinton**	**54.59 353**	P	**P**	**14 40 59.0**	**-0.4**
R55A			IAmb	IAmb	14 41 55.3		
	comp=Z,53nm,1.2s						
R54A	**Victor**	**54.59 352**	P	**P**	**14 40 58.9**	**-0.5**
	baz=171,SNR=5.7						
R54A			S	**S**	**14 48 32.4**	**-2.2**
	baz=171						
R56A	**Bull Pasture M**	**54.64 354**	P	**P**	**14 40 59.6**	**-0.1**
	baz=173						
LCAR	**Lake Charles**	**54.70 342**	P	**P**	**14 40 59.2**	**-0.9**
LCAR			IAmb	IAmb	14 41 01.1		
	comp=Z,62nm,1.2s						
W39A	**Magazine**	**54.73 339**	P	**P**	**14 41 00.4**	**0.0**
	baz=156,SNR=30						
W39A	**Magazine**	**54.73 339**	P	**P**	**14 40 59.6**	**-0.8**
W39A			IAmb	IAmb	14 41 02.7		
	comp=Z,113nm,1.1s						
X37A	**Clayton**	**54.75 338**	P	**P**	**14 41 00.2**	**-0.4**
ABTX	**Abilene, Hawle**	**54.76 333**	P	**P**	**14 41 00.6**	**-0.1**
	baz=148,SNR=21						
ABTX			S	**S**	**14 48 34.9**	**-2.2**
	baz=148						
ABTX	**Abilene, Hawle**	**54.76 333**	P	**P**	**14 41 00.3**	**-0.5**
FCAR	**Ozark Folk Cen**	**54.83 341**	P	**P**	**14 41 00.5**	**-0.6**
FCAR			IAmb	IAmb	14 41 02.1		
	comp=Z,72nm,1.3s						
R53A	**Hurricane**	**54.87 352**	P	**P**	**14 41 00.7**	**-0.6**
	baz=170						
R53A	**Hurricane**	**54.87 352**	P	**P**	**14 41 00.6**	**-0.8**
R53A			IAmb	IAmb	14 41 02.5		
	comp=Z,78nm,1.5s						
Q59A	**Harwood**	**54.88 357**	P	**P**	**14 41 01.1**	**-0.3**
	baz=176						
T45A	**Paducah**	**54.91 345**	P	**P**	**14 41 00.4**	**-1.3**
Q60A	**Greensboro**	**54.97 357**	P	**P**	**14 41 01.0**	**-1.1**
	baz=177						
Q58A	**Fox Den Farm,**	**55.02 356**	P	**P**	**14 41 02.5**	**+0.1**
	baz=175,SNR=12						
Q58A			S	**S**	**14 48 40.9**	**+0.8**
	baz=175						
Q57A	**Strasburg**	**55.17 355**	P	**P**	**14 41 03.9**	**+0.3**
	baz=174,SNR=14						
Q57A			S	**S**	**14 48 43.5**	**+1.3**
	baz=174						
R50A	**Paris**	**55.20 349**	P	**P**	**14 41 02.8**	**-0.9**
Q56A	**Snyder Ridge,**	**55.24 354**	P	**P**	**14 41 04.4**	**+0.4**
Q56A			IAmb	IAmb	14 41 23.9		
	comp=Z,54nm,0.8s						
Q55A	**Buckhannon**	**55.29 353**	P	**P**	**14 41 04.6**	**+0.2**
	baz=172,SNR=6.3						
Q55A			S	**S**	**14 48 42.2**	**-1.7**
	baz=172						
Q53A	**Leroy**	**55.33 352**	P	**P**	**14 41 03.7**	**-1.0**
	baz=170,SNR=8.4						
Q54A	**Coxs Mills**	**55.37 353**	P	**P**	**14 41 03.2**	**-1.7**
	baz=171,SNR=7.4						
Q54A	**Coxs Mills**	**55.37 353**	P	**P**	**14 41 04.2**	**-0.8**
Q54A			IAmb	IAmb	14 41 37.0		
	comp=Z,34nm,0.8s						
R49A	**Shelbyville**	**55.37 349**	P	**P**	**14 41 03.9**	**-1.0**
R49A			IAmb	IAmb	14 41 21.8		
	comp=Z,82nm,1.4s						
SDMD	**Soldier's Deli**	**55.43 357**	P	**P**	**14 41 05.4**	**+0.1**
SDMD				**pP**	**14 41 22.5**	**+0.6**
SDMD			IAmb	IAmb	14 41 24.9		
	comp=Z,37nm,0.9s						
U40A	**Yellville**	**55.49 341**	P	**P**	**14 41 04.9**	**-1.1**
	baz=157,SNR=47						
U40A			S	**S**	**14 48 44.6**	**-2.0**
	baz=157						
U40A	**Yellville**	**55.49 341**	P	**P**	**14 41 04.8**	**-1.1**
U40A			IAmb	IAmb	14 41 07.2		
	comp=Z,68nm,0.8s						
WCI	**Wyandotte Cave**	**55.53 347**	P	**P**	**14 41 04.5**	**-1.6**
	baz=165						
WCI	**Wyandotte Cave**	**55.53 347**	P	**P**	**14 41 04.5**	**-1.6**
WCI			pP	**pP**	**14 41 21.8**	**-0.8**
Q52A	**Bidwell**	**55.53 351**	P	**P**	**14 41 05.2**	**-1.0**
	baz=170						
P58A	**Pank, Wackersv**	**55.54 356**	P	**P**	**14 41 05.9**	**-0.2**
	baz=175,SNR=9.5						
P58A			S	**S**	**14 48 48.3**	**+1.2**
	baz=175						
T42A	**Van Buren**	**55.58 343**	P	**P**	**14 41 04.5**	**-2.0**
P57A	**Homestead Farm**	**55.58 355**	P	**P**	**14 41 06.9**	**+0.4**
	baz=174,SNR=6.2						
P57A			S	**S**	**14 48 49.5**	**+1.8**
	baz=174						
P57A	**Homestead Farm**	**55.58 355**	P	**P**	**14 41 06.7**	**+0.2**
P59A	**Jarrettsville**	**55.61 357**	P	**P**	**14 41 07.0**	**+0.3**
	baz=176,SNR=7.8						
P59A			S	**S**	**14 48 49.1**	**+1.1**
	baz=176						
P61A	**Hammonton**	**55.61 358**	P	**P**	**14 41 05.7**	**-0.9**
	baz=178						
P56A	**Dayton Farm, R**	**55.67 355**	P	**P**	**14 41 07.5**	**+0.3**
	baz=174,SNR=5.4						
S44A	**Carbondale**	**55.70 345**	P	**P**	**14 41 06.2**	**-1.1**
Q51A	**Peebles**	**55.76 350**	P	**P**	**14 41 06.0**	**-1.8**
P55A	**Reedsville**	**55.77 354**	P	**P**	**14 41 07.8**	**-0.1**
	baz=172						
P60A	**Greenville**	**55.77 358**	P	**P**	**14 41 07.4**	**-0.4**
	baz=177						
P60A			S	**S**	**14 48 50.0**	**-0.2**
	baz=177						
P60A	**Greenville**	**55.77 358**	P	**P**	**14 41 07.4**	**-0.4**
HHAR	**Hobbs**	**55.77 340**	P	**P**	**14 41 06.6**	**-1.3**
HHAR			IAmb	IAmb	14 41 09.4		
	comp=Z,80nm,1.0s						
PSUB	**Penn St. - Bra**	**55.88 358**	P	**P**	**14 41 08.5**	**-0.1**
MCWV	**Mont Chateau**	**55.92 354**	P	**P**	**14 41 08.3**	**-0.6**
	baz=172						
P53A	**Whipple**	**55.93 352**	P	**P**	**14 41 08.4**	**-0.6**
	baz=170						
P53A	**Whipple**	**55.93 352**	P	**P**	**14 41 08.7**	**-0.2**
P53A			IAmb	IAmb	14 42 26.3		
	comp=Z,76nm,1.1s						
P54A	**Burton**	**55.93 353**	P	**P**	**14 41 08.4**	**-0.6**
	baz=172,SNR=7.9						
MVL	**Millersville**	**55.99 357**	P	**P**	**14 41 09.1**	**-0.3**
MVL			IAmb	IAmb	14 41 28.8		
	comp=Z,49nm,0.9s						
O61A	**Allentown**	**56.02 359**	P	**P**	**14 41 09.4**	**-0.1**
	baz=178						
U38A	**Gravette**	**56.07 339**	P	**P**	**14 41 08.9**	**-1.2**
U38A			IAmb	IAmb	14 41 11.4		
	comp=Z,57nm,1.0s						
TUL1	**Leonard**	**56.08 338**	P	**P**	**14 41 09.4**	**-0.7**
	baz=154,SNR=28						
TUL1	**Leonard**	**56.08 338**	P	**P**	**14 41 08.8**	**-1.3**
O58A	**Lewisberry**	**56.15 357**	P	**P**	**14 41 10.7**	**+0.2**
	baz=176,SNR=7.1						
O58A			S	**S**	**14 48 56.9**	**+1.7**
	baz=176						
P51A	**Williamsport**	**56.16 351**	P	**P**	**14 41 08.8**	**-1.8**
	baz=169						
P51A	**Williamsport**	**56.16 351**	P	**P**	**14 41 09.5**	**-1.1**
P51A			IAmb	IAmb	14 41 27.4		
	comp=Z,50nm,1.1s						
P52A	**Corning**	**56.17 352**	P	**P**	**14 41 09.3**	**-1.4**
	baz=170						
P52A	**Corning**	**56.17 352**	P	**P**	**14 41 09.5**	**-1.2**
P52A			IAmb	IAmb	14 42 09.6		
	comp=Z,79nm,1.4s						
WMOK	**Wichita Mounta**	**56.21 335**	P	**P**	**14 41 09.8**	**-1.2**
	baz=150,SNR=28						
WMOK			S	**S**	**14 48 55.3**	**-0.9**
	baz=150						
WMOK	**Wichita Mounta**	**56.21 335**	P	**P**	**14 41 09.6**	**-1.5**
WMOK			pmax	pmax			
	comp=Z,30nm,1.0s						
WMOK	**Wichita Mounta**	**56.21 335**	P	**P**	**14 41 09.6**	**-1.5**
PAGS	**Pennsylvania G**	**56.24 357**	P	**P**	**14 41 11.2**	**+0.1**
PAGS			IAmb	IAmb	14 41 44.6		
	comp=Z,69nm,1.3s						
OKCSW	**OKLAHOMA CITY**	**56.25 336**	P	**P**	**14 41 10.9**	**-0.4**
OKCFA	**Oklahoma City**	**56.27 336**	P	**P**	**14 41 10.7**	**-0.7**
OKCFA			IAmb	IAmb	14 41 12.4		
	comp=Z,84nm,1.2s						
O60A	**Telford**	**56.27 358**	P	**P**	**14 41 09.8**	**-1.5**
	baz=178						
O60A			S	**S**	**14 48 56.5**	**-0.2**
	baz=178						
O57A	**Amberson**	**56.28 356**	P	**P**	**14 41 11.7**	**+0.3**
	baz=175,SNR=13						
O57A			S	**S**	**14 48 57.8**	**+0.9**
	baz=175						
FVM	**French Village**	**56.29 344**	P	**P**	**14 41 09.8**	**-1.7**
FVM			pmax	pmax			
	comp=Z,147nm,1.5s						
FVM	**French Village**	**56.29 344**	P	**P**	**14 41 09.8**	**-1.7**
O59A	**Robesonia**	**56.30 357**	P	**P**	**14 41 11.9**	**+0.4**
	baz=177,SNR=8.1						
O59A			S	**S**	**14 48 59.1**	**+2.0**
	baz=177						
OK025	**Westminster Rd**	**56.37 336**	P	**P**	**14 41 11.0**	**-1.2**
O56A	**Blue Knob Stat**	**56.41 355**	P	**P**	**14 41 12.3**	**-0.1**
	baz=174,SNR=9.1						
O56A	**Blue Knob Stat**	**56.41 355**	P	**P**	**14 41 11.9**	**-0.5**
O56A			IAmb	IAmb	14 41 45.1		
	comp=Z,53nm,1.1s						
O55A	**Ligonier**	**56.41 354**	P	**P**	**14 41 11.6**	**-0.8**
	baz=173						
O55A			S	**S**	**14 48 57.8**	**-0.9**
	baz=173						
OLIL	**Olney**	**56.41 346**	P	**P**	**14 41 11.6**	**-0.8**
OLIL			IAmb	IAmb	14 41 29.1		
	comp=Z,78nm,1.1s						
BLO	**Bloomington**	**56.48 348**	P	**P**	**14 41 11.7**	**-1.2**
BLO			pmax	pmax			
	comp=Z,77nm,1.0s						
BLO	**Bloomington**	**56.48 348**	P	**P**	**14 41 11.7**	**-1.2**
BLO			IAmb	IAmb	14 42 28.1		
	comp=Z,77nm,0.9s						
P49A	**Miami Univ. Ec**	**56.49 349**	P	**P**	**14 41 11.1**	**-1.8**
	baz=167,SNR=6.4						
P49A	**Miami Univ. Ec**	**56.49 349**	P	**P**	**14 41 10.8**	**-2.1**
P49A			IAmb	IAmb	14 41 13.1		
	comp=Z,75nm,1.2s						
P49A				**pP**	**14 41 28.3**	**-1.2**
O54A	**Avella**	**56.50 353**	P	**P**	**14 41 12.2**	**-0.8**
	baz=172						
O54A	**Avella**	**56.50 353**	P	**P**	**14 41 11.7**	**-1.3**
BCOK	**Bluff Creek, N**	**56.54 336**	P	**P**	**14 41 12.9**	**-0.4**
P48A	**Milroy**	**56.55 349**	P	**P**	**14 41 11.7**	**-1.7**
P48A			IAmb	IAmb	14 41 48.0		
	comp=Z,186nm,1.9s						
LUPA	**Lehigh Univers**	**56.55 358**	P	**P**	**14 41 13.5**	**+0.1**
CCM	**Cathedral Cave**	**56.58 343**	P	**P**	**14 41 12.3**	**-1.3**
	baz=159						
CCM			S	**S**	**14 48 57.0**	**-4.0**
	baz=159						
CCM	**Cathedral Cave**	**56.58 343**	P	**P**	**14 41 12.2**	**-1.4**
CCM			pmax	pmax			
	comp=Z,46nm,1.0s						
CCM	**Cathedral Cave**	**56.58 343**	P	**P**	**14 41 12.2**	**-1.4**
CCM			IAmb	IAmb	14 42 28.5		
	comp=Z,46nm,0.9s						
OK029	**Liberty Lake**	**56.60 336**	P	**P**	**14 41 12.8**	**-1.0**
O52A	**Adamsville**	**56.61 352**	P	**P**	**14 41 12.3**	**-1.5**
	baz=170,SNR=6.9						
O52A	**Adamsville**	**56.61 352**	P	**P**	**14 41 12.6**	**-1.2**
O52A			IAmb	IAmb	14 41 13.9		
	comp=Z,28nm,0.7s						
BRNJ	**Basking Ridge**	**56.61 359**	P	**P**	**14 41 13.0**	**-0.7**
BRNJ			IAmb	IAmb	14 41 32.5		
	comp=Z,34nm,0.8s						
QUOK	**Quay**	**56.65 337**	P	**P**	**14 41 13.4**	**-0.8**
GDL2	**Guadalupe Moun**	**56.65 328**	P	**P**	**14 41 13.8**	**-0.7**
O53A	**New Philadelph**	**56.66 353**	P	**P**	**14 41 12.9**	**-1.3**
	baz=171						
O53A	**New Philadelph**	**56.66 353**	P	**P**	**14 41 13.5**	**-0.6**
O53A			IAmb	IAmb	14 42 29.1		
	comp=Z,56nm,1.1s						
N61A	**South Mountain**	**56.67 359**	P	**P**	**14 41 14.3**	**+0.1**
	baz=179						
SSPA	**Standing Stone**	**56.72 356**	P	**P**	**14 41 14.4**	**-0.2**
	baz=175						
SSPA	**Standing Stone**	**56.72 356**	P	**P**	**14 41 14.6**	**0.0**
SSPA			IAmb	IAmb	14 41 49.2		
	comp=Z,92nm,1.2s						
O51A	**Pataskala**	**56.75 351**	P	**P**	**14 41 13.5**	**-1.3**
	baz=169						
MNTX	**Cornudas Mount**	**56.78 327**	P	**P**	**14 41 14.1**	**-1.1**
	baz=142,SNR=22						
MNTX			S	**S**	**14 49 04.6**	**+0.7**
	baz=142						
MNTX	**Cornudas Mount**	**56.78 327**	P	**P**	**14 41 14.6**	**-0.6**
Q44A	**Meyer Farm, Va**	**56.79 345**	P	**P**	**14 41 13.1**	**-2.0**
N60A	**Cedar Hill Far**	**56.81 358**	P	**P**	**14 41 15.0**	**-0.2**
	baz=178						
N60A			S	**S**	**14 49 03.7**	**-0.2**
	baz=178						
N57A	**Milroy**	**56.81 356**	P	**P**	**14 41 15.0**	**-0.2**
	baz=175,SNR=8.1						
N57A			S	**S**	**14 49 04.0**	**+0.1**
	baz=175						
N62A	**Caumsett State**	**56.85 360**	P	**P**	**14 41 14.9**	**-0.5**
	baz=180						
N58A	**Sunbury**	**56.85 357**	P	**P**	**14 41 15.4**	**0.0**
	baz=176,SNR=12						
N58A			S	**S**	**14 49 05.2**	**+0.8**
	baz=176						
N58A	**Sunbury**	**56.85 357**	P	**P**	**14 41 15.5**	**0.0**
N58A			IAmb	IAmb	14 41 35.2		
	comp=Z,84nm,0.9s						
SLM	**Saint Louis**	**56.85 344**	P	**P**	**14 41 14.6**	**-0.9**
SLM			pmax	pmax			
	comp=Z,309nm,1.9s						
SLM	**Saint Louis**	**56.85 344**	P	**P**	**14 41 14.6**	**-0.9**
S39A	**Bolivar**	**56.86 341**	P	**P**	**14 41 14.4**	**-1.3**
S39A			IAmb	IAmb	14 41 16.9		
	comp=Z,64nm,0.8s						
N59A	**State Game Lan**	**56.88 358**	P	**P**	**14 41 16.0**	**+0.2**
	baz=177						
N59A			S	**S**	**14 49 05.7**	**+0.8**
	baz=177						
N59A	**State Game Lan**	**56.88 358**	P	**P**	**14 41 15.4**	**-0.3**
N59A			IAmb	IAmb	14 42 09.6		
	comp=Z,41nm,0.9s						
ACSO	**Alum Creek Sta**	**56.88 351**	P	**P**	**14 41 14.3**	**-1.5**
	baz=169,SNR=5.4						
ACSO	**Alum Creek Sta**	**56.88 351**	P	**P**	**14 41 14.4**	**-1.3**
ACSO			IAmb	IAmb	14 41 32.7		
	comp=Z,49nm,0.9s						
PAL	**Palisades**	**56.92 359**	P	**P**	**14 41 15.2**	**-0.8**
	baz=179						
PAL			S	**S**	**14 49 04.8**	**-0.5**
	baz=179						
PAL	**Palisades**	**56.92 359**	P	**P**	**14 41 15.1**	**-0.8**
PAL			pmax	pmax			
	comp=Z,165nm,2.0s						
PAL	**Palisades**	**56.92 359**	P	**P**	**14 41 15.1**	**-0.8**
PAL			IAmb	IAmb	14 41 49.4		
	comp=Z,165nm,1.9s						
N55A	**Marion Center**	**56.95 355**	P	**P**	**14 41 15.9**	**-0.3**
	baz=173,SNR=11						
N55A			S	**S**	**14 49 05.3**	**-0.6**
	baz=173						
N56A	**West Decatur**	**57.03 355**	P	**P**	**14 41 16.8**	**0.0**
	baz=174,SNR=7.1						
Q49A	**Covington**	**57.06 350**	P	**P**	**14 41 15.6**	**-1.3**
Q49A			IAmb	IAmb	14 42 30.1		
	comp=Z,43nm,0.9s						
WSPT	**Westport, CT**	**57.08 360**	P	**P**	**14 41 17.0**	**-0.1**
W

T35A Sooner Cattle 57.24 338 P P 14 41 17.6 -0.7
M60A Port Jervis 57.26 359 P P 14 41 17.9 -0.5
baz=178,SNR=6.1
M60A S S 14 49 09.9 +0.1
baz=178
N52A McGinn's Farm, 57.27 352 P P 14 41 17.7 -0.8
baz=170
MSTX Muleshoe 57.31 331 P P 14 41 17.9 -1.2
baz=146
MSTX S S 14 49 09.7 -1.3
baz=146
MSTX Muleshoe 57.31 331 P P 14 41 18.2 -0.9
MSTX IAmb IAmb 14 41 21.0
comp=Z,80nm,1.1s
M63A Gales Ferry 57.33 1 P P 14 41 18.2 -0.6
baz=181
M63A S S 14 49 09.8 -0.8
baz=181
M62A Hamden 57.36 0 P P 14 41 19.0 0.0
baz=180,SNR=8.1
M58A Price's Panora 57.37 357 P P 14 41 19.2 +0.1
baz=176,SNR=16
M58A S S 14 49 13.4 +2.1
baz=176
M57A Sunshine Farm, 57.37 356 P P 14 41 19.3 +0.1
baz=176,SNR=16
M57A S S 14 49 13.1 +1.9
baz=176
M57A Sunshine Farm, 57.37 356 P P 14 41 18.5 -0.7
M57A IAmb IAmb 14 41 37.9
comp=Z,82nm,1.0s
CROK Carrier 57.43 336 P P 14 41 19.4 -0.3
N51A Ashland 57.47 352 P P 14 41 18.6 -1.3
baz=170
N51A Ashland 57.47 352 P P 14 41 18.4 -1.5
N51A IAmb IAmb 14 42 32.6
comp=Z,49nm,0.9s
M59A Waymart 57.49 358 P P 14 41 20.2 +0.1
baz=178,SNR=10
M59A S S 14 49 12.5 -0.4
baz=178
M64A Tiverton 57.49 2 P P 14 41 19.5 -0.4
baz=182
M64A S S 14 49 12.2 -0.6
baz=182
KSPA Keystone Colle 57.52 358 P P 14 41 20.0 -0.2
KSPA IAmb IAmb 14 41 54.7
comp=Z,72nm,1.3s
AMTX Amarillo 57.58 332 P P 14 41 19.9 -1.0
baz=147
AMTX Amarillo 57.58 332 P P 14 41 20.4 -0.5
AMTX IAmb IAmb 14 42 32.9
comp=Z,34nm,1.0s
M56A Emporium 57.58 356 P P 14 41 20.5 -0.2
baz=174,SNR=11
M56A S S 14 49 13.7 -0.4
baz=174
M56A Emporium 57.58 356 P P 14 41 20.1 -0.6
M56A IAmb IAmb 14 42 15.2
comp=Z,86nm,1.1s
P43A Skaggs, Pawnee 57.61 345 P P 14 41 19.5 -1.4
M55A Ridgway 57.62 355 P P 14 41 20.6 -0.3
baz=174,SNR=11
M55A Ridgway 57.62 355 P P 14 41 19.9 -1.0
M55A IAmb IAmb 14 41 53.1
comp=Z,63nm,1.1s
KSCT Kent School, K 57.64 360 P P 14 41 20.2 -0.8
KAN13 South Haven SW 57.68 337 P P 14 41 20.7 -0.8
UJ32A Winter Ranch, 57.72 335 P P 14 41 21.3 -0.5
M54A Oil Creek Stat 57.73 354 P P 14 41 20.9 -0.8
baz=173,SNR=9.2
M54A Oil Creek Stat 57.73 354 P P 14 41 21.1 -0.6
M54A IAmb IAmb 14 41 39.4
comp=Z,35nm,0.9s
N49A Columbus Grove 57.75 350 P P 14 41 20.4 -1.4
SFIN Lafayette 57.77 347 P P 14 41 19.9 -2.1
baz=164,SNR=7.6
SFIN Lafayette 57.77 347 P P 14 41 19.7 -2.2
SFIN IAmb IAmb 14 41 21.8
comp=Z,29nm,0.8s
M53A WI Miller and 57.77 353 P P 14 41 20.5 -1.5
baz=172
M53A S S 14 49 13.4 -3.1
baz=172
L63A North Scituate 57.79 1 P P 14 41 22.0 -0.1
baz=182,SNR=8.1
L63A S S 14 49 15.8 -0.9
baz=182
BRYW Bryant College 57.85 1 P P 14 41 22.2 -0.3
M51A Elyria 57.85 352 P P 14 41 21.5 -1.0
baz=170
L64A Middleborough 57.89 2 P P 14 41 22.3 -0.4
baz=183
L64A S S 14 49 16.2 -1.8
baz=183
HSIG 57.91 321 P P 14 41 23.1 -0.1
HSIG IAmb IAmb 14 41 41.3
comp=Z,71nm,1.6s
L60A Shokan 57.91 359 P P 14 41 23.0 +0.1
baz=179,SNR=6.5
L60A S S 14 49 18.4 +0.1
baz=179
ALLY Alegheny College 57.92 354 P P 14 41 22.6 -0.5
N47A Urbana 57.97 349 P P 14 41 21.2 -2.2
N47A IAmb IAmb 14 41 39.6
comp=Z,55nm,1.0s
L58A Harry Jones Me 58.01 358 P P 14 41 23.8 +0.1
baz=177,SNR=14
L58A S S 14 49 20.0 +0.4
baz=177
KAN10 Anthony SW Sta 58.01 337 P P 14 41 23.3 -0.4
L57A Andrews Acres 58.01 357 P P 14 41 23.5 -0.2
baz=176,SNR=10
L57A S S 14 49 19.4 -0.3
baz=176
M50A Fremont 58.04 351 P P 14 41 23.1 -0.7
M50A IAmb IAmb 14 41 40.7
comp=Z,39nm,0.9s
L59A Walton 58.13 358 P P 14 41 24.2 -0.3
baz=178,SNR=15
L59A Walton 58.13 358 P P 14 41 24.0 -0.5
BINY Binghamton 58.17 358 P P 14 41 25.0 +0.2
baz=177,SNR=14
BINY S S 14 49 22.6 +0.9
baz=177
BINY Binghamton 58.17 358 P P 14 41 24.6 -0.1
P40A Paris 58.18 343 P P 14 41 22.9 -2.0
P40A IAmb IAmb 14 41 25.0
comp=Z,29nm,0.8s
L56A Greenwood 58.19 356 P P 14 41 24.8 -0.1
baz=175,SNR=14
L56A S S 14 49 21.6 -0.5
baz=175
L56A Greenwood 58.19 356 P P 14 41 24.4 -0.5
QUA2 Belchertown 58.20 1 P P 14 41 24.7 -0.2
L53A Girard 58.24 354 P P 14 41 24.4 -0.8
baz=172
RKT Rikitea 58.24 253 *e*S S 14 49 21.0 -2.5
comp=Z,512nm,29.0s
RKT eLQ LQ 14 56 08.6
comp=Z,1μm,31.5s
RKT eLR LR 14 58 37.5
comp=Z,3μm,28.0s
L55A Hinsdale 58.30 355 P P 14 41 25.4 -0.3
baz=174,SNR=13
L55A S S 14 49 22.0 -1.4
baz=174
WES Weston 58.32 2 P P 14 41 24.5 -1.2
WES pmax pmax
comp=Z,40nm,1.0s
WES Weston 58.32 2 P P 14 41 24.5 -1.2
WES IAmb IAmb 14 41 27.6
comp=Z,40nm,1.0s
L61B Northampton 58.36 0 P P 14 41 25.5 -0.6
baz=181,SNR=7.2
L61B S S 14 49 22.5 -1.7
baz=181
ERPA Erie 58.37 354 P P 14 41 25.1 -1.0
baz=172
ERPA Erie 58.37 354 P P 14 41 25.2 -1.0
ERPA IAmb IAmb 14 42 36.7
comp=Z,73nm,1.1s
L54A Sinclairville 58.42 355 P P 14 41 26.1 -0.5
baz=173,SNR=8.9
L54A S S 14 49 22.6 -2.5
baz=173
HDIL Hopedale 58.42 346 P P 14 41 25.1 -1.4
baz=162
HDIL S S 14 49 23.3 -1.7
baz=162
HDIL Hopedale 58.42 346 P P 14 41 24.5 -2.1
HDIL pP pP 14 41 41.6 -1.5
HDIL IAmb IAmb 14 41 42.9
comp=Z,68nm,1.1s
HRV Adam Dziewonsk 58.44 1 P P 14 41 26.5 -0.1
baz=182
HRV S S 14 49 26.1 +0.9
baz=182
HRV Adam Dziewonsk 58.44 1 P P 14 41 26.1 -0.5
HRV pmax pmax
comp=Z,56nm,1.0s
HRV Adam Dziewonsk 58.44 1 P P 14 41 26.1 -0.5
HRV IAmb IAmb 14 41 45.0
comp=Z,56nm,1.0s
WVNY West Valley, N 58.53 355 P P 14 41 26.7 -0.6
WVNY pP pP 14 41 44.2 +0.2
K61A Williamstown 58.58 360 P P 14 41 27.7 +0.1
baz=180,SNR=5.8
K61A S S 14 49 28.0 +0.9
baz=180
K62A Royalston 58.58 1 P P 14 41 27.5 -0.1
baz=181
K62A Royalston 58.58 1 P P 14 41 27.6 0.0
K62A IAmb IAmb 14 41 47.6
comp=Z,121nm,1.9s
K63A Dunstable 58.62 1 P P 14 41 27.5 -0.3
baz=182
K63A S S 14 49 27.0 -0.4
baz=182
TRY Troy 58.65 360 P P 14 41 27.7 -0.3
TRY IAmb IAmb 14 41 46.6
comp=Z,66nm,1.0s
319A Douglas 58.65 324 P P 14 41 28.2 -0.3
319A pP pP 14 41 45.1 -0.3
319A IAmb IAmb 14 41 46.8
comp=Z,61nm,1.1s
121A Cookes Peak, D 58.70 326 P P 14 41 29.0 +0.2
baz=140,SNR=14
121A S S 14 49 27.4 -1.9
baz=140
121A Cookes Peak, D 58.70 326 P P 14 41 28.9 0.0
121A IAmb IAmb 14 41 47.4
comp=Z,58nm,1.2s
P38A Dawn 58.70 342 P P 14 41 26.7 -1.8
P38A IAmb IAmb 14 41 28.7
comp=Z,82nm,1.4s
K59A Cooperstown 58.71 359 P P 14 41 28.5 0.0
baz=178,SNR=14
K59A S S 14 49 29.1 +0.4
baz=178
K58A Earlville 58.72 358 P P 14 41 28.4 -0.1
baz=177,SNR=11
K58A S S 14 49 27.7 -1.2
baz=177
K58A Earlville 58.72 358 P P 14 41 28.0 -0.6
K57A Scipio Center 58.72 357 P P 14 41 28.1 -0.5
baz=176,SNR=8.7
K57A S S 14 49 27.7 -1.2
baz=176
K56A Middlesex 58.73 356 P P 14 41 28.4 -0.3
baz=175,SNR=11
K56A S S 14 49 26.9 -2.2
baz=175
K54A Basiliko Farm, 58.74 355 P P 14 41 28.2 -0.6
baz=174,SNR=7.8
K54A S S 14 49 27.2 -1.9
baz=174
L48A N Adams 58.78 350 P P 14 41 27.4 -1.7
L48A IAmb IAmb 14 41 45.6
comp=Z,67nm,1.1s
MMNY Mt. Morris Dam 58.81 356 P P 14 41 28.6 -0.5
MMNY IAmb IAmb 14 41 30.2
comp=Z,50nm,0.7s
K55A Perry 58.81 356 P P 14 41 28.8 -0.5
baz=175,SNR=16
K55A S S 14 49 29.2 -0.9
baz=175
N41A Harden Midland 58.96 344 P P 14 41 28.9 -1.3
N41A pP pP 14 41 45.7 -1.4
AAM Ann Arbor 59.01 351 P P 14 41 30.3 -0.2
baz=168
J62A Henniker 59.15 1 P P 14 41 31.1 -0.5
baz=182
J62A S S 14 49 34.3 0.0
baz=182
J60A Lant Hill Farm 59.16 360 P P 14 41 31.7 +0.1
baz=180,SNR=8.1
J60A S S 14 49 35.6 +1.1
baz=180
J63A Strafford 59.22 2 P P 14 41 31.5 -0.6
baz=182
KSU1 Kansas State U 59.22 339 P P 14 41 31.1 -1.0
baz=154,SNR=11
KSU1 S S 14 49 32.3 -3.2
baz=154
KSU1 Kansas State U 59.22 339 P P 14 41 31.4 -0.7
J61A Chester 59.26 1 P P 14 41 32.4 +0.1
baz=181,SNR=8.2
J61A S S 14 49 35.4 -0.4
baz=181
MEDO Medina 59.27 356 P P 14 41 32.1 -0.3
MEDO IAmb IAmb 14 41 50.3
comp=Z,71nm,1.2s
J56A Wolcott 59.28 357 P P 14 41 31.9 -0.6
baz=176,SNR=16
J56A S S 14 49 34.6 -1.4
baz=176
J56A Wolcott 59.28 357 P P 14 41 32.0 -0.4
HQIL Hanson Quary C 59.29 347 P P 14 41 30.8 -1.7
HQIL IAmb IAmb 14 42 39.3
comp=Z,48nm,0.9s
ACCN Adirondack Com 59.30 360 P P 14 41 33.0 +0.5
ACCN IAmb IAmb 14 41 51.1
comp=Z,48nm,1.1s
J58A Remsen 59.30 358 P P 14 41 32.2 -0.4
baz=178,SNR=6.6
J58A S S 14 49 36.6 +0.2
baz=178
J58A Remsen 59.30 358 P P 14 41 32.3 -0.4
J58A IAmb IAmb 14 41 34.7
comp=Z,60nm,1.5s
J55A Hilton 59.33 356 P P 14 41 32.1 -0.7
baz=175,SNR=16
J55A S S 14 49 35.2 -1.4
baz=175
J55A Hilton 59.33 356 P P 14 41 32.4 -0.3
BNM Barren Site 59.35 328 P P 14 41 33.3 -0.1
J57A Williamstown 59.38 358 P P 14 41 32.6 -0.5
baz=177,SNR=14
J57A S S 14 49 36.8 -0.5
baz=177
J57A Williamstown 59.38 358 P P 14 41 32.9 -0.2
J57A IAmb IAmb 14 41 51.2
comp=Z,65nm,1.1s
R32A Long Quarter, 59.38 337 P P 14 41 32.8 -0.5
J59A Piesco 59.39 359 P P 14 41 33.2 0.0
baz=179,SNR=12
J59A S S 14 49 38.1 +0.6
baz=179
J59A Piesco 59.39 359 P P 14 41 33.0 -0.2
J59A IAmb IAmb 14 41 51.7
comp=Z,82nm,1.1s
J54A Appleton 59.40 355 P P 14 41 32.5 -0.7
baz=174,SNR=5.6
J54A S S 14 49 34.5 -3.1
baz=174
J54A Appleton 59.40 355 P P 14 41 32.7 -0.5
J54A IAmb IAmb 14 41 51.0
comp=Z,105nm,1.4s
FFD Franklin Falls 59.40 1 P P 14 41 32.4 -0.8
FFD IAmb IAmb 14 41 51.8
comp=Z,38nm,0.8s
Y22D IRIS PASSCAL I 59.44 328 S S 14 49 32.9 -5.9
baz=142
LENM Lemitar 59.54 328 P P 14 41 34.6 -0.1
I58A Old Forge 59.62 358 P P 14 41 34.5 -0.3
baz=178,SNR=10.0
I58A S S 14 49 39.7 -0.9
baz=178
L44A Lake County Fo 59.66 347 P P 14 41 33.3 -1.8
baz=164
I59A Olmsteadville 59.71 359 P P 14 41 35.3 -0.1
baz=179,SNR=11
I59A S S 14 49 41.8 +0.2
baz=179
I60A Shoreham 59.76 360 P P 14 41 35.7 +0.1
baz=180,SNR=8.4
I60A S S 14 49 43.9 +1.8
baz=180
I62A Tamworth 59.81 2 P P 14 41 36.4 +0.3
baz=182
I62A S S 14 49 43.7 +0.9
baz=182
I61A Oroboro, Fairl 59.85 1 P P 14 41 36.7 +0.3
baz=181,SNR=15
I61A S S 14 49 43.7 +0.3
baz=181
L42A Oliver, Polo 59.89 346 P P 14 41 34.8 -1.8
L42A IAmb IAmb 14 42 23.7
comp=Z,42nm,1.0s
ANMO Albuquerque 59.89 329 *c*eP P 14 41 36.8 -0.3
ANMO pmax pmax
comp=Z,24nm,1.0s
NCB Newcomb 59.89 359 P P 14 41 36.3 -0.3
I57A Carthage 59.89 358 P P 14 41 36.5 -0.1
baz=177,SNR=6.6
I57A S S 14 49 43.0 -0.9
baz=177
I64A Boothbay 59.92 3 P P 14 41 36.9 +0.2
baz=184
I64A S S 14 49 43.9 -0.3
baz=184
PECO Prince Edward 59.95 357 P P 14 41 36.4 -0.6
I63A Otisfield 60.01 2 P P 14 41 37.7 +0.2
baz=183
I63A S S 14 49 46.0 +0.6
baz=183
I63A Otisfield 60.01 2 P P 14 41 37.5 +0.1
I63A IAmb IAmb 14 41 56.4
comp=Z,45nm,1.2s
J47A Sunmer 60.11 350 P P 14 41 36.5 -1.6
J47A pP 14 41 53.7 -1.2
CBKS Cedar Bluff 60.12 336 P P 14 41 37.4 -1.0
baz=150,SNR=7.9
CBKS Cedar Bluff 60.12 336 P P 14 41 37.2 -1.1
CBKS pmax pmax
comp=Z,166nm,1.2s
CBKS Cedar Bluff 60.12 336 P P 14 41 37.2 -1.1
I51A Listowel 60.15 353 P P 14 41 36.8 -1.6
baz=171,SNR=9.4
LBNH Lisbon 60.16 1 P P 14 41 38.6 +0.1
baz=181,SNR=7.1
LBNH S S 14 49 47.0 -0.4
baz=181
LBNH Lisbon 60.16 1 P P 14 41 38.6 +0.1
LBNH pmax pmax
comp=Z,79nm,1.3s
LBNH Lisbon 60.16 1 P P 14 41 38.6 +0.1
LBNH IAmb IAmb 14 41 57.3
comp=Z,79nm,1.3s
TUC Tucson 60.20 323 P P 14 41 38.5 -0.6
TUC pmax pmax
comp=Z,20nm,1.1s
TUC Tucson 60.20 323 P P 14 41 38.5 -0.6
K43A Burlington 60.26 347 P P 14 41 37.4 -1.8
I55A Frankford 60.27 356 P P 14 41 38.5 -0.7
baz=175,SNR=22
I55A S S 14 49 46.8 -1.9
baz=175
L40A Anamosa 60.32 345 P P 14 41 38.2 -1.4
L40A IAmb IAmb 14 41 40.1
comp=Z,78nm,1.1s
H58A Gabriels 60.34 359 P P 14 41 39.2 -0.5
baz=179,SNR=7.1
H58A S S 14 49 50.3 +0.7
baz=179
H57A Richville 60.41 358 P P 14 41 39.5 -0.7
baz=178,SNR=20
H61A Lyndonville 60.46 1 P P 14 41 41.1 +0.6
baz=181,SNR=9.3
H60A Morristown 60.47 0 P P 14 41 40.6 0.0
baz=181
H60A S S 14 49 52.8 +1.4
baz=181
N35A Tabor 60.49 341 P P 14 41 39.7 -1.1
I49A Point Hope 60.50 352 P P 14 41 39.4 -1.4
I49A IAmb IAmb 14 41 57.4
comp=Z,49nm,0.9s
H62A Milan 60.51 2 P P 14 41 41.0 +0.1
baz=182
H62A Milan 60.51 2 P P 14 41 41.4 +0.6
LONY Lake Ozonia 60.55 359 P P 14 41 40.8 -0.3
baz=178,SNR=8.0
LONY S S 14 49 52.7 +0.4
baz=178
LONY Lake Ozonia 60.55 359 P P 14 41 40.9 -0.3
H59A Cadyville 60.56 360 P P 14 41 41.1 0.0
baz=180,SNR=8.2
H59A S S 14 49 53.1 +0.6
baz=180
WVL Waterville 60.56 3 P P 14 41 41.6 +0.5
WVL IAmb IAmb 14 42 00.2
comp=Z,51nm,1.1s
DELO Deloro Mine 60.56 356 P P 14 41 40.6 -0.6
DELO IAmb IAmb 14 41 59.1
comp=Z,72nm,1.0s
H56A Elgin 60.57 357 P P 14 41 41.0 -0.2
baz=177,SNR=13
H55A Tweed 60.57 357 P P 14 41 40.9 -0.4
baz=176,SNR=21
H55A S S 14 49 51.6 -1.0
baz=176
H63A New Sharon 60.64 3 P P 14 41 42.2 +0.5
baz=184
H64A Troy 60.66 3 P P 14 41 42.2 +0.3
baz=184,SNR=10.0
H64A S S 14 49 54.4 +0.7
baz=184
T25A Trinidad 60.68 332 P P 14 41 42.3 -0.2
baz=145,SNR=34
T25A Trinidad 60.68 332 P P 14 41 41.8 -0.6
T25A IAmb IAmb 14 41 44.6
comp=Z,71nm,1.1s
H53A Bobcaygeon 60.69 356 P P 14 41 41.3 -0.8
baz=174,SNR=12
H53A S S 14 49 52.1 -2.0
baz=174
SCIA State Center 60.71 343 P P 14 41 41.3 -1.0
baz=158
SCIA S S 14 49 54.5 -0.1
baz=158
SCIA State Center 60.71 343 P P 14 41 41.3 -1.0
SCIA IAmb IAmb 14 41 42.5
comp=Z,39nm,0.7s
FRNY Flat Rock 60.75 360 P P 14 41 42.1 -0.4
FRNY IAmb IAmb 14 42 00.9
comp=Z,53nm,1.1s
H65A Eastbrook 60.77 4 P P 14 41 42.8 +0.2
baz=185,SNR=9.1
H65A S S 14 49 56.1 +0.9
baz=185
EMMW East Machias 60.85 5 P P 14 41 43.5 +0.4
EMMW IAmb IAmb 14 42 02.0
comp=Z,64nm,1.2s
JFWS Jewell Farm 60.89 346 P P 14 41 41.9 -1.5
baz=161
JFWS Jewell Farm 60.89 346 P P 14 41 41.9 -1.5
JFWS pmax pmax
comp=Z,38nm,0.7s
JFWS Jewell Farm 60.89 346 P P 14 41 41.9 -1.5
JFWS IAmb IAmb 14 42 27.8
comp=Z,38nm,0.7s
SADO Sadowa 60.92 355 P P 14 41 42.5 -1.2
comp=Z,16nm,0.6s,baz=192,slow=5.4,SNR=16
SADO Sadowa 60.92 355 P P 14 41 42.1 -1.6
SADO IAmb IAmb 14 42 28.2
comp=Z,47nm,1.1s
H66A Whiting 60.93 5 P P 14 41 43.9 +0.2
baz=186,SNR=7.7
H66A S S 14 49 58.0 +0.9
baz=186
N33A J Bar K, Exete 60.98 339 P P 14 41 43.6 -0.6
G59A Clarenceville 60.99 360 P P 14 41 44.1 0.0
baz=180
G60A Masonville 61.01 1 P P 14 41 44.2 -0.1
baz=181,SNR=6.7
G60A S S 14 49 59.5 +1.2
baz=181
G57A Newington 61.04 359 P P 14 41 44.2 -0.2
baz=178,SNR=6.8
PLVO Plevna 61.05 357 P P 14 41 44.1 -0.4

PLVO IAmb IAmb 14 42 02.6
comp=Z,64nm,1.1s
G58A Ormstown 61.07 359 P **P** **14 41 44.0 -0.5**
baz=179
G63A Kingsbury 61.11 3 P **P** **14 41 45.3 +0.4**
baz=184,SNR=12
G63A S **S** **14 49 59.0 -0.5**
baz=184
214A Organ Pipe Nat 61.13 322 P **P** **14 41 45.2 -0.2**
baz=136
G62A West of Eustis 61.18 2 P **P** **14 41 46.0 +0.6**
baz=183,SNR=25
G62A S **S** **14 50 01.8 +1.5**
baz=183
G62A West of Eustis 61.18 2 P **P** **14 41 45.8 +0.4**
HAL Halifax 61.18 8 P **P** **14 41 45.4 0.0**
HAL pmax pmax
comp=Z,48nm,1.0s
HAL Halifax 61.18 8 P **P** **14 41 45.4 0.0**
HAL IAmb IAmb 14 41 47.0
comp=Z,48nm,1.0s
G61A St-Isidore-de- 61.21 1 P **P** **14 41 46.2 +0.6**
baz=182,SNR=17
G61A S **S** **14 50 00.5 -0.2**
baz=182
MOQ Mont Orford 61.23 1 P **P** **14 41 45.8 0.0**
G55A Calabogie 61.25 357 P **P** **14 41 45.5 -0.4**
baz=176,SNR=15
G55A S **S** **14 50 00.1 -1.0**
baz=176
K38A Parkersburg 61.28 344 P **P** **14 41 45.0 -1.1**
K38A IAmb IAmb 14 41 46.0
comp=Z,28nm,0.7s
PKME Peaks-Kenny Pk 61.28 3 P **P** **14 41 46.3 +0.3**
baz=184,SNR=10
PKME S **S** **14 50 02.5 +1.0**
baz=184
PKME Peaks-Kenny Pk 61.28 3 P **P** **14 41 46.4 +0.3**
PKME IAmb IAmb 14 42 04.9
comp=Z,72nm,1.1s
G64A Maxfield 61.30 4 P **P** **14 41 46.4 +0.3**
baz=185,SNR=16
G64A S **S** **14 50 01.7 -0.1**
baz=185
GGN Saint George 61.30 5 P **P** **14 41 46.0 -0.1**
GGN IAmb IAmb 14 41 48.9
comp=Z,119nm,1.5s
G65A Princeton 61.33 5 P **P** **14 41 46.8 +0.5**
baz=186,SNR=14
G65A S **S** **14 50 01.9 -0.2**
baz=186
G65A Princeton 61.33 5 P **P** **14 41 46.3 -0.1**
G65A IAmb IAmb 14 42 05.3
comp=Z,82nm,1.1s
ORIO Orleans, Innes 61.40 358 P **P** **14 41 46.8 0.0**
baz=178
ORIO Orleans, Innes 61.40 358 P **P** **14 41 46.8 0.0**
KSCO Kaye Shedlock' 61.45 334 P **P** **14 41 47.2 -0.3**
baz=148,SNR=13
KSCO Kaye Shedlock' 61.45 334 P **P** **14 41 47.3 -0.3**
G54A Lake Saint Pet 61.47 356 P **P** **14 41 46.6 -0.7**
baz=175,SNR=16
G54A S **S** **14 50 01.9 -2.1**
baz=175
I42A Draeger Farm, 61.51 347 P **P** **14 41 46.8 -0.9**
I42A IAmb IAmb 14 41 48.0
comp=Z,53nm,1.1s
SDCO Great Sand Dun 61.67 331 P **P** **14 41 49.4 +0.2**
baz=144,SNR=150
SDCO Great Sand Dun 61.67 331 P **P** **14 41 48.8 -0.4**
W18A Petrified Fore 61.72 326 P **P** **14 41 49.5 0.0**
baz=140,SNR=18
W18A Petrified Fore 61.72 326 P **P** **14 41 49.0 -0.4**
W18A IAmb IAmb 14 42 08.1
comp=Z,92nm,1.4s
L34A Svendsen Farm, 61.72 341 P **P** **14 41 47.8 -1.3**
F63A Nahmakanta, Br 61.73 3 P **P** **14 41 49.2 +0.2**
baz=184,SNR=5.5
F63A S **S** **14 50 08.8 +1.6**
baz=184
F63A Nahmakanta, Br 61.73 3 P **P** **14 41 48.5 -0.6**
F63A IAmb IAmb 14 42 31.0
comp=Z,30nm,0.8s
F57A Harrington 61.74 359 P **P** **14 41 49.0 -0.1**
baz=178
BGNE Belgrade 61.81 339 P **P** **14 41 48.6 -1.2**
baz=153,SNR=13
BGNE S **S** **14 50 06.9 -1.6**
baz=153
BGNE Belgrade 61.81 339 P **P** **14 41 49.1 -0.6**
F55A Otter Lake 61.81 357 P **P** **14 41 49.4 -0.2**
baz=177
F55A S **S** **14 50 07.3 -1.0**
baz=177
H43A Windswept, Lux 61.83 348 P **P** **14 41 48.6 -1.2**
H43A IAmb IAmb 14 41 50.5
comp=Z,44nm,0.8s
F62A Pittston Farm, 61.88 3 P **P** **14 41 50.1 0.0**
baz=184,SNR=9.0
F62A S **S** **14 50 10.8 +1.6**
baz=184
F62A Pittston Farm, 61.88 3 P **P** **14 41 50.3 +0.3**
F62A IAmb IAmb 14 41 51.9
comp=Z,66nm,1.4s
F60A Warwick 61.89 1 P **P** **14 41 49.7 -0.4**
baz=181,SNR=7.6
F60A S **S** **14 50 09.6 +0.4**
baz=181
I40A Norwalk 61.90 346 P **P** **14 41 49.1 -1.2**
I40A IAmb IAmb 14 41 51.1
comp=Z,80nm,1.3s
F61A St Evariste 61.92 2 P **P** **14 41 50.5 +0.1**
baz=182
F61A S **S** **14 50 10.1 +0.5**
baz=182
F64A Sherman 61.93 4 P **P** **14 41 50.4 0.0**
baz=185,SNR=18
F64A S **S** **14 50 10.5 +0.8**
baz=185
F64A Sherman 61.93 4 P **P** **14 41 50.1 -0.2**
F64A IAmb IAmb 14 42 09.4
comp=Z,68nm,1.0s
G45A Suttons Bay 62.00 350 P **P** **14 41 49.8 -1.1**
G45A IAmb IAmb 14 42 32.2
comp=Z,39nm,0.7s
ALGO Algonquin Park 62.02 356 P **P** **14 41 50.3 -0.7**
baz=175,SNR=21
SPX San Pedro Mart 62.11 319 P **P** **14 41 52.5 +0.1**
X16A Lo Mia Camp, P 62.12 325 P **P** **14 41 52.3 +0.1**
F49A Sandfield 62.20 353 P **P** **14 41 50.5 -1.7**
baz=170,SNR=5.8
GBN Guysborough 62.23 9 P **P** **14 41 52.2 -0.1**
GBN IAmb IAmb 14 42 20.8
comp=Z,35nm,0.9s
LMN Caledonia Moun 62.23 7 P **P** **14 41 52.4 0.0**
LMN IAmb IAmb 14 42 18.4
comp=Z,47nm,0.8s
113A Mohawk Valley, 62.27 322 P **P** **14 41 53.3 +0.3**
E58A La Victoria 62.28 360 P **P** **14 41 52.4 -0.3**
baz=180,SNR=7.7
E58A S **S** **14 50 14.4 +0.2**
baz=180
S22A 4UR Ranch, Cre 62.30 330 P **P** **14 41 53.4 0.0**
baz=143,SNR=26
S22A 4UR Ranch, Cre 62.30 330 P **P** **14 41 53.4 0.0**
E60A Ste Agathe de 62.30 1 P **P** **14 41 52.3 -0.5**
baz=182
E57A Chemin Saint G 62.33 359 P **P** **14 41 52.7 -0.5**
baz=179,SNR=10
E57A S **S** **14 50 14.7 -0.2**
baz=179
F48A Evansville 62.33 353 P **P** **14 41 51.5 -1.6**
baz=170,SNR=5.3
F48A S **S** **14 50 09.8 -5.1**
baz=170
E61A Lac Etchemin 62.39 2 P **P** **14 41 53.9 +0.4**
baz=183,SNR=12
E61A S **S** **14 50 16.6 +1.0**
baz=183
E53A Dumoine, Ponti 62.42 356 P **P** **14 41 53.1 -0.6**
baz=175,SNR=14
E53A S **S** **14 50 15.3 -0.7**
baz=175
E54A Lac Daplat, Po 62.45 357 P **P** **14 41 53.4 -0.4**
baz=176,SNR=16
E54A S **S** **14 50 15.8 -0.6**
baz=176

E56A St. Veronique 62.48 359 P **P** **14 41 53.7 -0.4**
baz=178,SNR=13
E63A Oxbow 62.48 4 P **P** **14 41 54.6 +0.6**
baz=185,SNR=9.2
E63A S **S** **14 50 16.9 +0.2**
baz=185
E63A Oxbow 62.48 4 P **P** **14 41 54.4 +0.3**
E63A IAmb IAmb 14 42 23.8
comp=Z,47nm,1.1s
Q24A Divide 62.51 332 P **P** **14 41 54.7 -0.1**
baz=145,SNR=19
Q24A Divide 62.51 332 P **P** **14 41 54.2 -0.6**
Q24A IAmb IAmb 14 41 56.9
comp=Z,54nm,1.0s
E64A Bridgewater 62.52 4 P **P** **14 41 54.6 +0.3**
baz=186,SNR=9.4
E64A S **S** **14 50 17.5 +0.3**
baz=186
E62A Clayton Lake 62.62 3 P **P** **14 41 55.7 +0.7**
baz=184,SNR=15
E62A S **S** **14 50 19.4 +0.9**
baz=184
E62A Clayton Lake 62.62 3 P **P** **14 41 55.2 +0.1**
E62A IAmb IAmb 14 42 14.3
comp=Z,69nm,1.1s
Y14A Wickenburg 62.66 323 P **P** **14 41 55.4 -0.2**
Y14A IAmb IAmb 14 42 14.3
comp=Z,44nm,1.2s
MVCO Mesa Verde 62.69 329 P **P** **14 41 55.8 -0.2**
baz=141,SNR=15
MVCO S **S** **14 50 18.0 -2.2**
baz=141
MVCO Mesa Verde 62.69 329 P **P** **14 41 55.3 -0.7**
MVCO IAmb IAmb 14 41 57.5
comp=Z,43nm,1.2s
I37A Lemond, Waseca 62.72 344 P **P** **14 41 54.8 -0.9**
I37A IAmb IAmb 14 41 56.1
comp=Z,54nm,0.7s
PQI Presque Isle 62.76 4 P **P** **14 41 55.9 0.0**
PQI IAmb IAmb 14 42 14.9
comp=Z,71nm,1.1s
OGNE Ogallala 62.85 336 P **P** **14 41 56.5 -0.3**
baz=149,SNR=11
OGNE S **S** **14 50 19.5 -2.2**
baz=149
OGNE Ogallala 62.85 336 P **P** **14 41 56.6 -0.1**
OGNE IAmb IAmb 14 42 27.3
comp=Z,91nm,1.1s
D60A Saint Jean D'O 62.86 2 P **P** **14 41 56.7 +0.2**
baz=182
D60A S **S** **14 50 22.5 +1.1**
baz=182
WUAZ Wupatki 62.90 325 P **P** **14 41 57.7 +0.4**
baz=138,SNR=16
WUAZ Wupatki 62.90 325 P **P** **14 41 57.7 +0.4**
WUAZ IAmb IAmb 14 42 55.5
comp=Z,63nm,1.2s
E48A Lockeyer 62.92 353 P **P** **14 41 56.1 -0.9**
baz=170
E48A S **S** **14 50 17.9 -4.3**
baz=170
D57A Chemin Vers le 62.93 359 P **P** **14 41 57.0 -0.1**
baz=179,SNR=15
D57A S **S** **14 50 23.2 +0.8**
baz=179
D55A Sainte-Anne-du 62.97 358 P **P** **14 41 57.0 -0.3**
baz=178,SNR=15
D55A S **S** **14 50 21.6 -1.1**
baz=178
D56A ZEC Mazanza, M 62.98 359 P **P** **14 41 56.8 -0.6**
baz=178,SNR=10
D56A S **S** **14 50 22.3 -0.6**
baz=178
D58A Chemin du LacG 63.01 0 P **P** **14 41 57.3 -0.3**
baz=180,SNR=16
D58A S **S** **14 50 23.4 +0.1**
baz=180
E47A Iron Bridge 63.03 352 P **P** **14 41 56.6 -1.1**
baz=169,SNR=9.4
D52A ZEK Kipawa Sen 63.06 356 P **P** **14 41 57.6 -0.4**
baz=174,SNR=24
D52A S **S** **14 50 23.2 -0.9**
baz=174
ESJX Sierra Juarez 63.07 320 P **P** **14 41 59.5 +0.9**
E46A Sault Ste Mari 63.09 351 P **P** **14 41 56.7 -1.4**
E46A IAmb IAmb 14 42 14.9
comp=Z,37nm,1.0s
K31A O'Neill 63.10 339 P **P** **14 41 57.6 -0.7**
D62A Allapoint, All 63.10 3 P **P** **14 41 58.5 +0.3**
baz=184,SNR=26
D62A S **S** **14 50 25.0 +0.5**
baz=184
D62A Allapoint, All 63.10 3 P **P** **14 41 58.6 +0.4**
D62A IAmb IAmb 14 42 00.7
comp=Z,92nm,1.1s
GLA Glamis 63.10 321 P **P** **14 41 57.2 -1.4**
baz=134
GLA Glamis 63.10 321 P **P** **14 41 58.1 -0.5**
GLA pmax pmax
comp=Z,33nm,1.2s
GLA Glamis 63.10 321 P **P** **14 41 58.1 -0.5**
G40A Rib Lake 63.11 347 P **P** **14 41 58.1 -0.2**
D63A Stockholm 63.11 4 P **P** **14 41 58.7 +0.4**
baz=186,SNR=10
D63A S **S** **14 50 23.9 -0.8**
baz=186
D53A Lac Vacive, Po 63.12 357 P **P** **14 41 58.0 -0.4**
baz=175,SNR=19
D53A S **S** **14 50 22.6 -2.1**
baz=175
D53A Lac Vacive, Po 63.12 357 P **P** **14 41 57.9 -0.4**
D53A IAmb IAmb 14 42 16.4
comp=Z,67nm,1.1s
D54A Lac Fusel, La 63.14 357 P **P** **14 41 57.7 -0.8**
baz=176,SNR=14
D54A S **S** **14 50 23.7 -1.3**
baz=176
D61A St Aubert, Com 63.17 2 P **P** **14 41 58.7 0.0**
baz=183
D61A S **S** **14 50 25.4 +0.1**
baz=183
ECSD EROS Data Cent 63.39 341 P **P** **14 41 59.3 -0.9**
baz=155,SNR=43
ECSD S **S** **14 50 24.8 -3.5**
baz=155
ECSD EROS Data Cent 63.39 341 P **P** **14 41 59.0 -1.2**
ECSD pP **pP** **14 42 16.1 -1.1**
ISCO Idaho Springs 63.39 332 P **P** **14 42 00.7 0.0**
baz=145,SNR=22
ISCO S **S** **14 50 31.2 +2.2**
baz=145
ISCO Idaho Springs 63.39 332 P **P** **14 42 00.1 -0.6**
ISCO pmax pmax
comp=Z,21nm,0.7s
ISCO Idaho Springs 63.39 332 P **P** **14 42 00.1 -0.6**
PV01 Paradox Valley 63.45 329 P **P** **14 42 01.3 +0.3**
BATG Bathurst New B 63.51 5 P **P** **14 42 00.9 0.0**
BATG IAmb IAmb 14 42 02.6
comp=Z,46nm,1.0s
E43A Lone Tree Farm 63.53 349 P **P** **14 41 59.9 -1.1**
D46A Sault St. Mari 63.56 352 P **P** **14 41 59.6 -1.7**
baz=168
D48A Paudash Townsh 63.56 353 P **P** **14 41 59.8 -1.5**
baz=171
D48A S **S** **14 50 24.6 -5.6**
baz=171
PV15 Paradox Valley 63.56 330 P **P** **14 42 01.8 +0.1**
PV15 IAmb IAmb 14 42 04.4
comp=Z,88nm,1.0s
PV02 Paradox Valley 63.58 329 P **P** **14 42 01.7 -0.2**
PV13 Radium Mtn., P 63.59 329 P **P** **14 42 02.0 +0.1**
D47A Chapleau 63.60 352 P **P** **14 42 00.1 -1.4**
baz=169,SNR=5.6
D47A S **S** **14 50 24.5 -6.2**
baz=169
IKP In-Ko-Pah, Jac 63.61 320 P **P** **14 42 02.8 +0.8**
baz=133,SNR=5.2
D49A Beulah Townshi 63.61 354 P **P** **14 42 00.6 -1.0**
baz=171
SWSC Sam W. Stewart 63.62 321 P **P** **14 42 02.2 +0.3**
baz=134
PV05 Paradox Valley 63.66 329 P **P** **14 42 02.1 -0.4**
COWI Conover 63.67 348 P **P** **14 42 01.3 -0.7**
COWI **pP** **14 42 18.1 -0.9**
PV03 Paradox Valley 63.67 329 P **P** **14 42 01.6 -0.8**
SPMN Marine on St. 63.69 345 P **P** **14 42 00.9 -1.2**
baz=159,SNR=14

SPMN S **S** **14 50 28.6 -3.2**
baz=159
SPMN Marine on St. 63.69 345 P **P** **14 42 01.2 -0.9**
SPMN IAmb IAmb 14 42 03.2
comp=Z,108nm,1.1s
PV18 Skein Mesa, Pa 63.70 329 P **P** **14 42 02.0 -0.6**
PV12 Saucer Basin, 63.70 329 P **P** **14 42 02.4 -0.3**
PV12 IAmb IAmb 14 42 21.4
comp=Z,128nm,1.9s
PV07 Paradox Valley 63.72 329 P **P** **14 42 02.3 -0.4**
PV11 David Mesa, Pa 63.72 329 P **P** **14 42 02.6 -0.2**
PV17 East Wray Mesa 63.75 329 P **P** **14 42 02.9 0.0**
PV16 Nyswonger Mesa 63.75 329 P **P** **14 42 02.5 -0.5**
PV16 IAmb IAmb 14 42 58.2
comp=Z,89nm,1.7s
PV19 Morning Glory 63.78 329 P **P** **14 42 03.2 0.0**
PV20 West Nyswonger 63.80 329 P **P** **14 42 02.8 -0.5**
PV04 Paradox Valley 63.81 329 P **P** **14 42 03.0 -0.3**
PV14 Lion Creek, Pa 63.85 329 P **P** **14 42 03.8 +0.1**
PV10 Paradox Valley 63.86 329 P **P** **14 42 03.0 -0.8**
PV22 Blue Mesa, Par 63.87 329 P **P** **14 42 03.8 +0.1**
BC3 Big Chuckawall 63.90 321 P **P** **14 42 04.7 +0.8**
baz=134,SNR=6.2
PV23 Carpenter Ridg 63.91 329 P **P** **14 42 04.3 +0.2**
MONP2 Monument Peak 63.97 320 P **P** **14 42 05.2 +0.7**
baz=133,SNR=7.0
BAR Barrett 63.98 320 P **P** **14 42 04.1 -0.3**
PV21 Cone Mtn., Par 63.98 329 P **P** **14 42 04.1 -0.4**
W13A Hualapai Mount 64.00 323 P **P** **14 42 04.8 +0.1**
IRM Iron Mountain 64.06 322 P **P** **14 42 05.5 +0.6**
baz=135,SNR=8.8
U15A North Rim 64.07 326 P **P** **14 42 05.5 +0.3**
VLDQ Val d'Or 64.14 357 P **P** **14 42 04.7 -0.3**
VLDQ IAmb IAmb 14 42 23.3
comp=Z,48nm,1.1s
109C Camp Elliot, M 64.39 320 P **P** **14 42 07.0 0.0**
baz=132
N23A Red Feather La 64.43 333 P **P** **14 42 07.2 -0.3**
baz=145,SNR=16
N23A Red Feather La 64.43 333 P **P** **14 42 07.3 -0.1**
F36A Milaca 64.46 344 P **P** **14 42 06.0 -1.2**
BELC Belle Mtn. Jos 64.47 321 P **P** **14 42 08.5 +0.9**
baz=134,SNR=7.7
D41A Chassel 64.48 348 P **P** **14 42 06.3 -0.9**
D41A IAmb IAmb 14 42 08.6
comp=Z,39nm,0.8s
PFO Pinyon Flats O 64.48 321 P **P** **14 42 08.5 +0.8**
baz=133,SNR=7.2
PFO Pinyon Flats O 64.48 321 P **P** **14 42 07.1 -0.6**
PFO pmax pmax
comp=Z,50nm,1.3s
PFO Pinyon Flats O 64.48 321 P **P** **14 42 07.1 -0.6**
PHWY Pilot Hill 64.56 334 P **P** **14 42 07.8 -0.5**
PHWY IAmb IAmb 14 42 10.5
comp=Z,88nm,1.6s
E38A The Farm, Brul 64.68 346 P **P** **14 42 08.0 -0.6**
E38A IAmb IAmb 14 42 09.6
comp=Z,48nm,1.1s
SUSD Miller 64.78 340 P **P** **14 42 08.5 -0.8**
baz=153
SUSD Miller 64.78 340 P **P** **14 42 09.5 +0.2**
SUSD IAmb IAmb 14 42 29.1
comp=Z,67nm,0.8s
KNB Kanab 64.80 326 P **P** **14 42 10.3 +0.5**
KNB pmax pmax
comp=Z,65nm,1.0s
KNB Kanab 64.80 326 P **P** **14 42 10.3 +0.5**
GMRC Granite Mounta 64.81 322 P **P** **14 42 10.4 +0.5**
baz=134,SNR=11
GMRC S **S** **14 50 45.0 -1.4**
baz=134
PKCU Pink Cliffs 64.83 326 P **P** **14 42 10.4 +0.2**
O20A White River Ci 64.86 331 P **P** **14 42 10.4 +0.2**
baz=143,SNR=18
O20A S **S** **14 50 47.5 +0.5**
baz=143
O20A White River Ci 64.86 331 P **P** **14 42 10.3 +0.2**
O20A IAmb IAmb 14 42 11.9
comp=Z,36nm,0.8s
MURC Murrieta 64.92 320 P **P** **14 42 10.9 +0.4**
baz=133
LCMT Little Creek M 65.02 325 P **P** **14 42 11.4 +0.2**
LSQQ Lebel-sur-Quev 65.06 357 P **P** **14 42 10.5 -0.5**
baz=176
SRU San Rafael Swe 65.17 329 P **P** **14 42 12.1 -0.1**
SRU pmax pmax
comp=Z,40nm,0.9s
SRU San Rafael Swe 65.17 329 P **P** **14 42 12.1 -0.1**
F33A 5 Mile Ranch, 65.20 342 P **P** **14 42 11.4 -0.6**
MTPU Mount Pierson 65.21 327 P **P** **14 42 12.8 +0.1**
HEC Hector,Ludlow 65.24 322 P **P** **14 42 13.4 +0.9**
baz=134,SNR=12
SCI2 San Clemente I 65.35 319 P **P** **14 42 13.8 +0.6**
baz=131
SZCU Shurtz Canyon 65.36 326 P **P** **14 42 13.8 +0.3**
TUQ Turquoise Moun 65.41 322 P **P** **14 42 14.3 +0.5**
baz=134,SNR=11
CCUT Cedar City 65.48 326 P **P** **14 42 14.7 +0.4**
CIS Catalina Islan 65.55 319 P **P** **14 42 14.3 -0.3**
baz=132
TAOE Nuku Hiva Isla 65.55 268 *e*S **S** **14 50 53.2 -3.0**
comp=Z,424nm,27.9s
TAOE *e*LQ LQ 14 59 12.2
comp=Z,936nm,33.5s
TAOE *e*LR LR 15 01 59.9
comp=Z,2µm,25.7s,baz=103
P17A Butcher Ranch, 65.55 329 P **P** **14 42 14.6 -0.1**
MSU Marysvale 65.56 327 P **P** **14 42 16.4 +1.6**
MSU Marysvale 65.56 327 P **P** **14 42 16.4 +1.6**
BFSC Mount Baldy Ra 65.64 320 P **P** **14 42 15.0 -0.2**
baz=132
RWWY Rawlins 65.64 333 P **P** **14 42 14.7 -0.6**
RWWY IAmb IAmb 14 43 05.8
comp=Z,56nm,1.1s
TMUT Trail Mountain 65.65 328 P **P** **14 42 15.3 -0.2**
SHPR Sheep Range 65.72 324 P **P** **14 42 16.1 +0.2**
TCRU Three Creeks R 65.77 327 P **P** **14 42 16.7 +0.5**
MATQ Matagami 65.79 357 P **P** **14 42 14.8 -0.9**
baz=175,SNR=13
MATQ S **S** **14 50 54.9 -2.7**
baz=175
RDMU Red Mountain 65.83 330 P **P** **14 42 16.1 -0.4**
CHGQ Chibougamau 65.83 359 P **P** **14 42 15.4 -0.6**
baz=179,SNR=6.8
GSC Goldstone, Bar 65.84 322 P **P** **14 42 17.2 +0.7**
baz=134,SNR=11
GSC Goldstone, Bar 65.84 322 P **P** **14 42 16.3 -0.2**
GSC pmax pmax
comp=Z,23nm,1.2s
GSC Goldstone, Bar 65.84 322 P **P** **14 42 16.3 -0.2**
MWC Mount Wilson 65.87 320 P **P** **14 42 16.5 -0.3**
MWC pmax pmax
comp=Z,60nm,1.3s
MWC Mount Wilson 65.87 320 P **P** **14 42 16.5 -0.3**
MWC IAmb IAmb 14 42 35.8
comp=Z,60nm,1.3s
PASC Pasadena Art C 65.91 320 P **P** **14 42 16.9 0.0**
PASC IAmb IAmb 14 42 35.9
comp=Z,77nm,1.4s
EYMN Ely 65.93 347 P **P** **14 42 15.7 -1.0**
baz=161,SNR=15
EYMN S **S** **14 50 55.0 -4.3**
baz=161
EYMN Ely 65.93 347 P **P** **14 42 16.2 -0.5**
EYMN IAmb IAmb 14 42 17.6
comp=Z,66nm,1.1s
SHOC Shoshone, Teco 65.94 323 P **P** **14 42 18.2 +1.2**
baz=134,SNR=5.7
DECC Green Verdugo 66.06 320 P **P** **14 42 18.5 +0.7**
baz=132
K22A Casper 66.12 334 P **P** **14 42 18.0 -0.2**
baz=145,SNR=22
K22A S **S** **14 50 59.6 -2.6**
baz=145
K22A Casper 66.12 334 P **P** **14 42 17.8 -0.4**
K22A IAmb IAmb 14 42 19.7
comp=Z,40nm,0.8s
EDW2 Edwards Air Fo 66.27 321 P **P** **14 42 19.5 +0.3**
baz=132,SNR=11
PRN Pahroc Range 66.30 325 P **P** **14 42 19.8 +0.3**
PRN IAmb IAmb 14 43 08.9
comp=Z,68nm,1.1s
RSSD Black Hills 66.33 336 P **P** **14 42 19.7 +0.1**
baz=148
RSSD S **S** **14 51 02.2 -2.6**

baz=148
RSSD Black Hills 66.33 336 P **P** **14 42 19.2 -0.3**
RSSD Black Hills 66.33 336 P **P** **14 42 19.2 -0.3**
VNA3 Neumayer Olymp 66.35 162 P **P** **14 42 20.4 +1.3**
PSUT Pine Spring 66.46 326 P **P** **14 42 20.2 -0.4**
LRMC Laurel Mtn Rad 66.49 321 P **P** **14 42 21.4 +0.7**
baz=133
OSI Osito Audit: C 66.54 320 P **P** **14 42 21.6 +0.6**
baz=132
NLU North Lily Min 66.59 328 P **P** **14 42 21.6 +0.3**
D32A Dogwood Acres, 66.59 343 P **P** **14 42 20.3 -0.6**
VNA1 Neumayer--Stat 66.59 161 P **P** **14 42 22.2 +1.6**
DRLN Deer Lake 66.64 11 P **P** **14 42 21.0 -0.1**
DRLN IAmb IAmb 14 42 22.3
comp=Z,75nm,1.1s
TPNV Topopah Spring 66.66 323 P **P** **14 42 22.6 +0.8**
baz=134,SNR=23
TPNV Topopah Spring 66.66 323 P **P** **14 42 22.0 +0.2**
TPNV pmax pmax
comp=Z,26nm,1.0s
TPNV Topopah Spring 66.66 323 P **P** **14 42 22.0 +0.2**
FURC Furnace Creek, 66.68 323 P **P** **14 42 22.6 +0.9**
baz=134,SNR=18
SCZ2 Santa Cruz Isl 66.70 319 P **P** **14 42 22.0 +0.1**
baz=131
JLU Jordanelle 66.77 329 P **P** **14 42 22.7 +0.2**
B35A Bob, Littlefor 66.84 345 P **P** **14 42 21.5 -1.0**
B35A IAmb IAmb 14 42 22.9
comp=Z,67nm,0.7s
ARVC Arvin 66.94 320 P **P** **14 42 23.6 +0.2**
baz=132
VNA2 Neumayer--Watz 66.95 161 P **P** **14 42 24.8 +1.9**
SBC Santa Barbara 67.04 319 P **P** **14 42 24.2 +0.1**
baz=131
ISA Isabella, Lake 67.09 321 P **P** **14 42 25.3 +0.9**
baz=132,SNR=18
ISA Isabella, Lake 67.09 321 P **P** **14 42 24.3 -0.1**
ISA pmax pmax
comp=Z,22nm,0.9s
ISA Isabella, Lake 67.09 321 P **P** **14 42 24.3 -0.1**
TCUT Toone Canyon 67.14 330 P **P** **14 42 25.1 +0.2**
DUG Dugway, Tooele 67.14 328 P **P** **14 42 25.5 +0.7**
baz=138,SNR=56
DUG S **S** **14 51 15.3 +0.7**
baz=138
DUG Dugway, Tooele 67.14 328 P **P** **14 42 25.1 +0.3**
DUG pmax pmax
comp=Z,100nm,1.2s
DUG Dugway, Tooele 67.14 328 P **P** **14 42 25.1 +0.3**
DUG IAmb IAmb 14 42 27.7
comp=Z,100nm,1.2s
E28A Huff 67.23 340 P **P** **14 42 25.2 +0.2**
R11A Troy Canyon, C 67.27 325 P **P** **14 42 26.4 +0.7**
baz=136,SNR=39
R11A Troy Canyon, C 67.27 325 P **P** **14 42 26.0 +0.3**
AGMN Agassiz Nation 67.33 344 P **P** **14 42 24.6 -1.0**
baz=156,SNR=20
AGMN S **S** **14 51 13.8 -2.4**
baz=156
AGMN Agassiz Nation 67.33 344 P **P** **14 42 24.4 -1.1**
AGMN IAmb IAmb 14 42 26.4
comp=Z,65nm,0.7s
GRAC Grapevine Rang 67.33 323 P **P** **14 42 26.8 +0.8**
baz=134,SNR=7.3
CWC Cottonwood Cre 67.37 322 P **P** **14 42 27.0 +0.7**
baz=133
CWC S **S** **14 51 16.6 -1.0**
baz=133
PKM Mcpherson Peak 67.39 320 P **P** **14 42 27.2 +0.7**
baz=131,SNR=15
BW06 Boulder Array 67.55 332 P **P** **14 42 26.9 -0.4**
baz=142,SNR=28
PD31 Pinedale Array 67.55 332 P **P** **14 42 26.4 -1.0**
PDAR Pinedale Array 67.55 332 P **P** **14 42 26.8 -0.6**
comp=Z,5.2nm,0.7s,baz=118,slow=12,SNR=44
PDAR PKPPKP **P'P'df** **15 10 48.4 0.0**
comp=Z,0.5nm,0.9s,baz=19,slow=6.3,SNR=5.5
VES Vestal, Richgr 67.57 321 P **P** **14 42 28.2 +0.8**
baz=132,SNR=8.4
HWUT Hardware Ranch 67.59 330 P **P** **14 42 26.9 -0.8**
HWUT IAmb IAmb 14 43 13.5
comp=Z,72nm,1.1s
H07S1 FLORES T-PHASE 67.77 34 eS **S** **14 51 23.6 +1.7**
SMMC Simmler 67.79 320 P **P** **14 42 29.5 +0.7**
baz=131,SNR=11
SPUT South Promonto 67.80 329 P **P** **14 42 29.1 +0.2**
BGU Big Grassy Mou 67.80 328 P **P** **14 42 29.0 +0.1**
TIN Tinemaha, Big 67.88 322 P **P** **14 42 30.2 +0.8**
baz=133
MDND Maddock 68.01 341 P **P** **14 42 30.1 +0.2**
baz=153,SNR=13
MDND S **S** **14 51 25.0 +0.6**
baz=153
MDND Maddock 68.01 341 P **P** **14 42 29.9 0.0**
VOG Valley Oaks Go 68.07 321 P **P** **14 42 30.7 +0.2**
baz=132
PAGB Antelope Grade 68.21 320 P **P** **14 42 31.8 +0.3**
AHID Auburn Hatcher 68.26 331 P **P** **14 42 31.6 -0.2**
HVU Hansel Valley 68.31 329 P **P** **14 42 32.0 -0.1**
HVU pmax pmax
comp=Z,42nm,0.7s
HVU Hansel Valley 68.31 329 P **P** **14 42 32.0 -0.1**
REDW Red Top Meadow 68.60 331 P **P** **14 42 33.5 -0.5**
REDW IAmb IAmb 14 42 53.3
comp=Z,88nm,1.4s
ECR Eagle Creek 68.61 331 P **P** **14 42 34.2 +0.2**
MLAC Mammoth, Mammo 68.62 322 P **P** **14 42 34.8 +0.5**
baz=133
SNOW Snow King Moun 68.64 332 P **P** **14 42 34.1 -0.1**
LOHW Long Hollow 68.68 332 P **P** **14 42 34.0 -0.4**
OMMB Old Mammoth Mi 68.71 322 P **P** **14 42 34.9 0.0**
TPAW Teton Pass 68.75 331 P **P** **14 42 34.2 -0.7**
NV11 Mina Array Sit 68.77 323 P **P** **14 42 35.1 0.0**
LHV Little Huntoon 68.85 323 P **P** **14 42 35.9 +0.6**
NVAR Mina Array Bea 68.86 323 P **P** **14 42 36.3 +0.7**
comp=Z,10nm,0.8s,baz=152,slow=7.0,SNR=56
NVAR PKP2bc 15 10 45.5
comp=Z,0.4nm,0.4s,baz=270,slow=4.0,SNR=6.3
NVAR LR LR 15 11 51.3
comp=Z,249nm,19.8s,baz=122,slow=35
PMPB Monarch Peak 68.87 320 P **P** **14 42 36.0 +0.4**
FXWY Fox Creek 68.90 331 P **P** **14 42 35.5 -0.3**
ROSA Rosais 68.95 36 eP **P** **14 42 36.5 +0.6**
comp=Z,231nm,1.2s
ROSA eS **S** **14 51 38.0 +2.1**
IMW Indian Meadow 69.06 332 P **P** **14 42 36.7 -0.1**
FLWY Flagg Ranch 69.09 332 P **P** **14 42 37.1 +0.1**
FLWY IAmb IAmb 14 42 39.7
comp=Z,71nm,0.9s
RYN Ryan 69.12 323 P **P** **14 42 37.5 +0.3**
ULM Lac du Bonnet 69.12 345 P **P** **14 42 35.9 -0.8**
comp=Z,45nm,0.6s,baz=156,slow=6.1,SNR=37
ULM PKP2ab 15 10 45.6
comp=Z,3.3nm,0.6s,baz=329,slow=6.0,SNR=3.6
ULM LR LR 15 15 30.4
comp=Z,778nm,20.9s,baz=145,slow=38
ULM Lac du Bonnet 69.12 345 P **P** **14 42 35.4 -1.3**
ULM pmax pmax
comp=Z,54nm,0.7s
ULM Lac du Bonnet 69.12 345 P **P** **14 42 35.4 -1.3**
ULM IAmb IAmb 14 42 37.1
comp=Z,54nm,0.7s
KVN Kaiserville 69.17 324 P **P** **14 42 37.1 -0.4**
KVN pmax pmax
comp=Z,29nm,1.2s
KVN Kaiserville 69.17 324 P **P** **14 42 37.1 -0.4**
H17A Grant Village 69.28 332 P **P** **14 42 38.0 -0.2**
RLMT Red Lodge 69.28 334 P **P** **14 42 38.0 -0.1**
baz=143,SNR=20
RLMT S **S** **14 51 39.4 -0.6**
baz=143
RLMT Red Lodge 69.28 334 P **P** **14 42 37.7 -0.4**
YPP Pitchstone Pla 69.29 332 P **P** **14 42 38.4 +0.1**
LAO LASA Array 69.32 336 P **P** **14 42 38.1 0.0**
baz=146,SNR=5.6
LAO LASA Array 69.32 336 P **P** **14 42 38.4 +0.3**
LAO **pP** **14 42 55.4 0.0**
LAO IAmb IAmb 14 42 56.6
comp=Z,85nm,1.3s
YMP Mirror Lake Pl 69.37 333 P **P** **14 42 38.5 -0.2**
YNE Yellowstone No 69.51 333 P **P** **14 42 39.4 -0.3**
WAKR Walker 69.56 323 P **P** **14 42 40.2 +0.2**
YNR Norris Junctio 69.58 332 P **P** **14 42 40.0 0.0**
SAO San Andreas Ge 69.62 320 P **P** **14 42 41.2 +1.0**
SAO pmax pmax
comp=Z,21nm,1.2s
SAO San Andreas Ge 69.62 320 P **P** **14 42 41.2 +1.0**
YMR Madison River 69.67 332 P **P** **14 42 40.9 +0.4**
PSMN Pico do Norte, 69.68 39 eP **P** **14 42 40.6 +0.1**
comp=Z,93nm,1.7s
PSMN eS **S** **14 51 45.6 +1.0**
YHH Holmes Hill 69.71 332 P **P** **14 42 40.9 0.0**
YERR Yerington 69.77 323 P **P** **14 42 41.7 +0.4**
CMB Columbia Colle 69.81 322 P **P** **14 42 42.0 +0.7**
CMB pmax pmax
comp=Z,15nm,1.1s
CMB Columbia Colle 69.81 322 P **P** **14 42 42.0 +0.7**
PSET Sete Cidades 69.82 38 eP **P** **14 42 41.9 +0.6**
comp=Z,258nm,1.6s
YHB Horse Butte 69.84 332 P **P** **14 42 42.0 +0.4**
CMLA Cha da Macela 69.89 39 eS **S** **14 51 48.4 +1.3**
YHL Hebgen Lake 69.91 332 P **P** **14 42 42.6 +0.5**
GCMT Greycliff 69.98 334 P **P** **14 42 42.2 -0.1**
QLMT Earthquake Lak 70.00 332 P **P** **14 42 42.9 +0.3**
PNTR Pine Nut 70.05 323 P **P** **14 42 43.9 +0.9**
PNTR IAmb IAmb 14 42 45.7
comp=Z,50nm,0.8s
DGMT Dagmar 70.07 339 P **P** **14 42 43.0 +0.4**
baz=148,SNR=12
DGMT Dagmar 70.07 339 P **P** **14 42 43.1 +0.5**
DGMT IAmb IAmb 14 43 01.8
comp=Z,100nm,1.1s
VCNR Virginia City 70.22 323 P **P** **14 42 45.1 +1.1**
PAHR Pah Rah Range 70.34 324 P **P** **14 42 45.3 +0.6**
PAHR IAmb IAmb 14 42 47.4
comp=Z,69nm,0.8s
MACI Morro de la Ar 70.42 51 P **P** **14 42 45.9 +0.5**
HLID Hailey 70.44 329 P **P** **14 42 45.8 +0.5**
baz=138,SNR=48
HLID S **S** **14 51 54.6 +0.9**
baz=138
HLID Hailey 70.44 329 P **P** **14 42 45.4 +0.1**
BCYI Bear Canyon 70.52 331 P **P** **14 42 45.6 -0.2**
MCMT McKenzie Canyo 70.65 331 P **P** **14 42 46.8 +0.2**
BOZ Bozeman (W) 70.69 332 P **P** **14 42 46.6 0.0**
baz=141,SNR=32
BOZ Bozeman (W) 70.69 332 P **P** **14 42 46.4 -0.3**
BOZ pmax pmax
comp=Z,44nm,1.3s
BOZ Bozeman (W) 70.69 332 P **P** **14 42 46.4 -0.3**
AFDM Forest Hills D 70.75 322 P **P** **14 42 47.0 0.0**
DLMT Dillon 70.94 332 P **P** **14 42 48.5 +0.3**
SCHQ Schefferville 70.96 4 P **P** **14 42 47.4 -0.5**
comp=Z,23nm,0.9s,baz=169,slow=5.1,SNR=14
SCHQ LR LR 15 13 56.7
comp=Z,710nm,21.7s,baz=194,slow=36
SCHQ Schefferville 70.96 4 P **P** **14 42 47.8 -0.1**
SCHQ IAmb IAmb 14 43 07.8
comp=Z,73nm,1.1s
LIC Lamto 71.00 77 eP **P** **14 42 48.3 -0.7**
comp=Z,335nm,1.1s
MFID Camas Ranch 71.04 329 P **P** **14 42 49.2 +0.4**
MFID IAmb IAmb 14 42 51.8
comp=Z,104nm,1.1s
TIC Toumodi 71.14 77 eP **P** **14 42 49.3 -0.7**
LRM Limekiln Ridge 71.23 332 P **P** **14 42 50.2 +0.1**
DBIC Dimbokro 71.31 77 P **P** **14 42 50.2 -0.8**
comp=Z,70nm,0.9s,baz=219,slow=5.8,SNR=30
DBIC LR LR 15 13 16.6
comp=Z,550nm,21.2s,baz=226,slow=35
DBIC Dimbokro 71.31 77 P **P** **14 42 50.1 -0.8**
DBIC pmax pmax
comp=Z,131nm,0.9s
DBIC Dimbokro 71.31 77 P **P** **14 42 50.1 -0.8**
KIC Kosan Boka 71.31 77 eP **P** **14 42 50.5 -0.4**
comp=Z,515nm,1.1s
ORV Oroville 71.46 322 P **P** **14 42 51.6 +0.3**
ORV pmax pmax
comp=Z,114nm,1.2s
ORV Oroville 71.46 322 P **P** **14 42 51.5 +0.3**
ORV IAmb IAmb 14 42 54.6
comp=Z,114nm,1.1s
HRY Holter Researc 71.64 333 P **P** **14 42 52.3 -0.1**
WVOR Wild Horse Val 71.80 326 P **P** **14 42 52.6 -0.8**
WVOR pmax pmax
comp=Z,28nm,1.3s
WVOR Wild Horse Val 71.80 326 P **P** **14 42 52.6 -0.8**
EGMT Eagleton 71.80 335 P **P** **14 42 53.1 -0.2**
baz=143,SNR=20
EGMT S **S** **14 52 08.1 -0.9**
baz=143
EGMT Eagleton 71.80 335 P **P** **14 42 52.7 -0.6**
EGMT IAmb IAmb 14 43 12.5
comp=Z,77nm,1.2s
O03E Paynes Creek 72.12 323 P **P** **14 42 54.9 -0.4**
baz=131,SNR=13
TVO Taravao 72.27 256 eT T 16 01 10.8
comp=Z,3.8nm,0.3s
MOD Modoc Plateau 72.34 325 P **P** **14 42 57.0 +0.3**
MOD IAmb IAmb 14 42 59.6
comp=Z,44nm,0.8s
J08A Circle Bar Ran 72.35 327 P **P** **14 42 56.8 +0.1**
PMOZ Porto Moniz, M 72.36 47 eLR LR 15 06 12.5
comp=Z,575nm,20.0s
PMOZ Porto Moniz, M 72.36 47 P **P** **14 42 57.2 +0.2**
TIAR Tiarei 72.40 256 eT T 16 01 20.4
comp=Z,6.5nm,0.2s
PPT2 Papeete2 72.61 256 eS **S** **14 52 16.8 -2.7**
comp=Z,1μm,26.8s
PPT2 Papeete2 72.61 256 eLR LR 15 05 11.5
comp=Z,1μm,25.2s,baz=102
PPT Papeete 72.62 256 P **P** **14 43 00.8 +2.1**
comp=Z,124nm,0.7s,baz=225,slow=21,SNR=6.1
PPT LR LR 15 06 29.7
comp=Z,411nm,21.3s,baz=128,slow=29
O02D Mt. Diablo Mer 72.62 322 P **P** **14 42 58.2 -0.1**
baz=130,SNR=6.6
MSO Missoula 72.66 332 P **P** **14 42 59.2 +0.8**
baz=139,SNR=16
MSO Missoula 72.66 332 P **P** **14 42 58.6 +0.1**
MSO IAmb IAmb 14 43 17.9
comp=Z,63nm,1.2s
WDC Whiskeytown Da 72.73 323 P **P** **14 42 58.0 -0.9**
WDC pmax pmax
comp=Z,15nm,0.7s
WDC Whiskeytown Da 72.73 323 P **P** **14 42 58.0 -0.9**
BMO Blue Mountains 72.81 329 P **P** **14 42 58.7 -0.7**
BMO pmax pmax
comp=Z,30nm,0.7s
BMO Blue Mountains 72.81 329 P **P** **14 42 58.7 -0.7**
N02D Trinity Center 73.08 323 P **P** **14 43 00.6 -0.4**
baz=130,SNR=8.6
M04C Macdoel 73.11 324 P **P** **14 43 01.5 +0.2**
baz=131,SNR=18
NVL N'lazarevskaya 73.18 160 eP **P** **14 43 01.6 +0.5**
NVL pmax pmax
comp=Z,208nm,1.1s
KMRM Mail Ridge 73.19 322 P **P** **14 43 02.7 +1.0**
K05A Summer Lake 73.21 325 P **P** **14 43 02.5 +0.6**
I07A Izee 73.39 327 P **P** **14 43 03.5 +0.7**
M02C Callahan 73.44 323 P **P** **14 43 02.9 -0.2**
baz=130,SNR=6.8
JTMT Jette 73.51 332 P **P** **14 43 04.4 +1.0**
F10A Beach Ranch, E 73.57 330 P **P** **14 43 04.1 +0.3**
YBH Yreka Blue Hor 73.57 324 P **P** **14 43 03.7 -0.2**
YBH pmax pmax
comp=Z,23nm,0.9s
YBH Yreka Blue Hor 73.57 324 P **P** **14 43 03.7 -0.2**
KHMM Horse Mountain 73.62 322 P **P** **14 43 03.7 -0.6**
K04D Chiloquin, OR 73.62 325 P **P** **14 43 04.6 +0.4**
baz=131,SNR=6.3
L04D Klamath Falls 73.66 324 P **P** **14 43 04.6 +0.1**
baz=131,SNR=8.1
J05D Fort Rock, OR 73.77 326 P **P** **14 43 05.8 +0.7**
baz=132,SNR=32
J05D S **S** **14 52 32.5 +0.7**
baz=132
QSPA South Pole Qui 73.95 180 P **P** **14 43 06.6 +0.7**
PINE Pine Mountain 73.95 326 P **P** **14 43 06.7 +0.4**
PINE IAmb IAmb 14 43 09.6
comp=Z,89nm,1.1s
KRMB Red Mountain 74.13 323 P **P** **14 43 07.6 +0.4**
J04D Umpqua Nationa 74.22 325 P **P** **14 43 08.3 +0.4**
baz=131,SNR=8.0
HUMO Hull Mountain 74.28 324 P **P** **14 43 07.4 -0.5**
WALA Waterton Lakes 74.34 334 P **P** **14 43 08.0 -0.3**
L02E Cave Junction 74.36 323 P **P** **14 43 09.1 +0.7**
baz=130,SNR=8.4
E09A Wood Farm, Sta 74.41 330 P **P** **14 43 08.2 -0.4**
I05D Terrebonne, OR 74.53 326 P **P** **14 43 10.4 +1.0**
baz=132,SNR=45
K02D Willamette Mer 74.74 324 P **P** **14 43 11.7 +1.0**
baz=130,SNR=10.0
I04A Tendick Farm, 74.75 325 P **P** **14 43 10.7 0.0**
baz=131,SNR=16
E08A Dider Farm, El 74.84 329 P **P** **14 43 10.7 -0.3**
F07A Phinny Hill Vi 74.86 328 P **P** **14 43 10.3 -0.9**
G05D Wamic, OR 75.13 327 P **P** **14 43 14.2 +1.4**
baz=132,SNR=20
G05D S **S** **14 52 49.2 +2.6**
baz=132
D08A Wollman Farm, 75.17 330 P **P** **14 43 12.9 -0.1**
NEW Newport 75.18 331 P **P** **14 43 13.1 +0.1**
baz=136,SNR=9.9
NEW S **S** **14 52 46.8 -0.2**
baz=136
NEW Newport 75.18 331 P **P** **14 43 12.9 -0.1**
NEW pmax pmax
comp=Z,62nm,1.6s
NEW Newport 75.18 331 P **P** **14 43 12.9 -0.1**
J01E Myrtle Point 75.19 324 P **P** **14 43 13.1 0.0**
baz=130
I03D Drain, OR 75.20 325 P **P** **14 43 13.7 +0.5**
baz=130,SNR=9.5
H04A Detroit Lake 75.22 326 P **P** **14 43 13.2 -0.2**
H04A IAmb IAmb 14 43 15.7
comp=Z,106nm,1.3s
E07A Sunnyside 75.28 329 P **P** **14 43 14.0 +0.4**
E07A IAmb IAmb 14 43 17.0
comp=Z,76nm,1.1s
C09A Chrisman Ranch 75.38 330 P **P** **14 43 14.5 +0.3**
H04D Lebanon 75.41 326 P **P** **14 43 14.9 +0.5**
baz=131
F05D White Salmon 75.64 327 P **P** **14 43 16.4 +0.8**
baz=132,SNR=8.3
F05D S **S** **14 52 53.9 +1.8**
baz=132
I02D Swisshome 75.74 325 P **P** **14 43 17.0 +0.7**
baz=130
COR Corvallis 75.75 326 P **P** **14 43 17.7 +1.4**
COR pmax pmax
comp=Z,348nm,1.5s
COR Corvallis 75.75 326 P **P** **14 43 17.7 +1.4**
G03D McMinnville, O 76.14 326 P **P** **14 43 19.8 +1.3**
baz=131
F04A Amboy 76.17 327 P **P** **14 43 18.9 +0.3**
LTY Liberty 76.17 329 P **P** **14 43 18.9 +0.2**
LTY IAmb IAmb 14 43 21.7
comp=Z,58nm,1.1s
B08A Colville Reser 76.28 330 P **P** **14 43 19.6 +0.3**
LON Longmire 76.40 328 P **P** **14 43 20.2 +0.2**
LON pmax pmax
comp=Z,25nm,1.1s
LON Longmire 76.40 328 P **P** **14 43 20.2 +0.2**
F04D Rainier, OR 76.58 327 P **P** **14 43 22.0 +1.0**
baz=131
F04D S **S** **14 53 04.4 +2.0**
baz=131
FCC Fort Churchill 76.64 349 P **P** **14 43 20.8 -0.2**
FCC pmax pmax
comp=Z,77nm,1.2s
FCC Fort Churchill 76.64 349 P **P** **14 43 20.8 -0.2**
FCC IAmb IAmb 14 43 39.5
comp=Z,77nm,1.2s
E04D Cinebar 76.66 327 P **P** **14 43 22.0 +0.6**
baz=132,SNR=6.6
E04D S **S** **14 53 04.8 +1.6**
baz=132
C06D Leavenworth 76.73 329 P **P** **14 43 22.1 +0.3**
baz=133
D05A Enumclaw 76.78 328 P **P** **14 43 22.1 0.0**
E03A Lebam 77.17 327 P **P** **14 43 24.4 +0.1**
D04E Lakebay 77.17 328 P **P** **14 43 25.6 +1.3**
baz=132,SNR=7.1
D04E S **S** **14 53 10.8 +2.0**
baz=132
B06A Marblemount 77.43 329 P **P** **14 43 25.8 +0.1**
B06A IAmb IAmb 14 43 27.4
comp=Z,61nm,0.8s
B05A Bryant 77.56 329 P **P** **14 43 26.6 +0.1**
baz=132,SNR=22
D03D Eldon 77.57 328 P **P** **14 43 27.6 +1.0**
baz=131,SNR=24
D03D S **S** **14 53 14.8 +1.6**
baz=131
NLWA Neilton Lookou 77.88 327 P **P** **14 43 29.1 +0.8**
A04D Lummi Island 78.16 329 P **P** **14 43 30.4 +0.7**
baz=132,SNR=7.2
OUK Oukaimeden 78.42 53 P **P** **14 43 34.1 +2.1**
SNR=16
PGC Sidney 78.49 329 P **P** **14 43 32.8 +1.2**
PGC IAmb IAmb 14 43 34.2
comp=Z,67nm,0.8s
OUZM OUZ 79.13 53 P **P** **14 43 38.0 +2.3**
SNR=9.8
TOA0 Torodi Ar. Sit 79.54 73 P **P** **14 43 37.5 -0.6**
TORD Torodi Ar. Bea 79.54 73 P **P** **14 43 37.7 -0.4**
comp=Z,138nm,0.9s,baz=265,slow=4.1,SNR=282
TORD ScS **ScS** **14 53 59.0 +1.9**
comp=Z,4.7nm,1.3s,baz=282,slow=5.0,SNR=6.2
TORD LR LR 15 17 39.6
comp=Z,547nm,21.5s,baz=280,slow=35
IVI Ivigtut 79.70 12 P **P** **14 43 37.9 +0.1**
IVI IAmb IAmb 14 43 56.7
comp=Z,114nm,1.2s
ZHG ZHG 80.35 51 P **P** **14 43 44.0 +1.8**
SNR=10
ZHG P **P** **14 43 44.0 +1.8**
SNR=10
PFVI Vila Bisbo 80.47 47⇑ eP **P** **14 43 44.0 +1.4**
comp=Z,161nm,1.5s
PFVI epP **pP** **14 44 01.2 +0.9**
PFVI eS **S** **14 53 47.4 +3.0**
MORF Marmelete 80.67 47 eP **P** **14 43 44.2 +0.4**
MORF eS **S** **14 53 47.6 +0.9**
MORF AMS AMS 15 18 05.0
comp=Z,786nm,19.6s
MORF Marmelete 80.67 47 eP **P** **14 43 44.2 +0.4**
MORF Marmelete 80.67 47⇑ eP **P** **14 43 44.6 +0.8**
comp=Z,203nm,1.6s
MORF epP **pP** **14 44 00.1 -1.3**
MORF eS **S** **14 53 49.7 +3.0**
PTEO Sao Teotonio 80.74 47 eP **P** **14 43 45.3 +1.3**
comp=Z,255nm,1.4s
PTEO epP **pP** **14 44 02.6 +0.9**
PMAFR Mafra 81.03 45 eP **P** **14 43 47.5 +1.9**
comp=Z,113nm,1.5s
PMAFR epP **pP** **14 44 03.1 -0.2**
PMAFR eS **S** **14 53 51.8 +1.5**
PNCL Nicolau / Gran 81.14 46⇑ eP **P** **14 43 47.3 +1.1**
comp=Z,85nm,1.3s
PNCL epP **pP** **14 44 04.6 +0.7**
PNCL eS **S** **14 53 52.5 +1.1**
PBDV Barranco-do-Ve 81.15 47⇑ eP **P** **14 43 46.8 +0.5**
comp=Z,113nm,1.4s
PBDV Barranco-do-Ve 81.15 47 eS **S** **14 53 52.9 +1.3**
PCVE Castro Verde 81.26 47⇑ eP **P** **14 43 48.1 +1.3**
comp=Z,103nm,1.3s
PCVE epP **pP** **14 44 05.0 +0.5**
PCVE eS **S** **14 53 54.9 +2.3**
VNDA Vanda 81.32 190 P **P** **14 43 48.1 +1.6**
comp=Z,26nm,0.9s,baz=130,slow=5.2,SNR=44
VNDA LR LR 15 12 37.1
comp=Z,906nm,22.0s,baz=135,slow=30
VNDA Vanda 81.32 190 P **P** **14 43 48.2 +1.6**
VNDA pmax pmax
comp=Z,68nm,1.2s
VNDA Vanda 81.32 190 P **P** **14 43 48.1 +1.6**
VNDA IAmb IAmb 14 43 50.2
comp=Z,68nm,1.1s
ARF Arif 81.32 54 P **P** **14 43 50.0 +2.5**
SNR=7.4
CZD Col de Zad 81.37 52 P **P** **14 43 51.0 +3.1**
SNR=7.8
PBEJ Beja 81.56 47⇑ eP **P** **14 43 49.1 +0.7**
comp=Z,66nm,1.3s
PBEJ epP **pP** **14 44 06.8 +0.7**
RSA Sarsar 81.60 50 P **P** **14 43 52.0 +3.2**
SNR=7.3
RSA P **P** **14 43 52.0 +3.2**
SNR=7.3
SICH Sidi Chahed 81.63 51 P **P** **14 43 52.0 +3.2**
SNR=6.4
SICH P **P** **14 43 52.0 +3.2**
SNR=6.4
PSBE So Bento 81.63 45⇑ eP **P** **14 43 49.3 +0.5**

PSBE ep**P** **pP** **14 44 06.8 +0.3**
PSBE e**S** **S** **14 53 57.4 +0.9**
PCAS **Casmilo, Conde** **82.09** **44** e**P** **P** **14 43 51.6 +0.4**
comp=Z,61nm,2.0s
PCAS ep**P** **pP** **14 44 08.6 -0.3**
PCAS e**S** **S** **14 54 00.9 -0.3**
SMIR **Smir Dam** **82.27** **50** P **P** **14 43 55.0 +2.8**
SNR=13
SMIR P **P** **14 43 55.0 +2.8**
SNR=13
PMRV **Marv??o** **82.55** **45**⇑ e**P** **P** **14 43 53.0 -0.6**
comp=Z,37nm,1.7s
PMRV ep**P** **pP** **14 44 11.1 -0.2**
PMRV e**S** **S** **14 54 06.4 +0.5**
PMRV **Marv??o** **82.55** **45** e**LR** LR 15 10 10.5
comp=Z,362nm,18.0s
PCBR **Castelo Branco** **82.68** **45** e**P** **P** **14 43 53.6 -0.6**
comp=Z,60nm,1.3s
PCBR ep**P** **pP** **14 44 12.3 +0.3**
PVIS **Viseu** **82.81** **44** e**P** **P** **14 43 55.1 +0.1**
comp=Z,142nm,1.5s
SYO **Syowa Base** **82.83** **160**‖ e**P** **P** **14 43 52.9 -1.7**
SYO **Syowa Base** **82.83** **160**⇑ *i*PcP **P** **14 43 55.4 +0.8**
SYO **Syowa Base** **82.83** **160**⇑ *i*pP pP 14 44 10.0 -1.9
SYO **Syowa Base** **82.83** **160**‖ *i*sP sP 14 44 18.0 -0.7
AKLM **AKL** **82.89** **51** P **P** **14 43 58.0 +2.4**
SNR=10.0
AKLM P **P** **14 43 58.0 +2.4**
SNR=10.0
MTE **Manteigas** **82.90** **45**⇑ e**P** **P** **14 43 55.6 +0.1**
comp=Z,120nm,1.3s
MTE ep**P** **pP** **14 44 12.1 -1.1**
MTE e**S** **S** **14 54 09.4 -0.1**
MTE **Manteigas** **82.90** **45** e**LR** LR 15 10 58.2
comp=Z,964nm,22.0s
MTE **Manteigas** **82.90** **45** P **P** **14 43 55.5 0.0**
MTE IAmb IAmb 14 43 58.3
comp=Z,70nm,1.1s
BBB **Bella Bella** **83.03** **329** P **P** **14 43 55.6 -0.2**
BBB IAmb IAmb 14 44 15.4
comp=Z,122nm,1.1s
PALE **Palemas** **83.13** **50** P **P** **14 43 59.0 +2.2**
SNR=6.7
PALE P **P** **14 43 59.0 +2.2**
SNR=6.7
PGAV **Gavieira, Arco** **83.16** **43**⇑ e**P** **P** **14 43 57.2 +0.4**
comp=Z,187nm,1.8s
PGAV ep**P** **pP** **14 44 14.5 -0.1**
PGAV **Gavieira, Arco** **83.16** **43** e**S** **S** **14 54 17.2 +5.0**
PGAV **Gavieira, Arco** **83.16** **43** e**LR** LR 15 11 45.3
comp=Z,1µm,20.0s
PVRL **Vila Real** **83.20** **44** e**P** **P** **14 43 58.4 +1.4**
comp=Z,114nm,1.5s
PCAB **Cabril** **83.20** **43** e**P** **P** **14 43 57.7 +0.8**
comp=Z,174nm,1.5s
PCAB ep**P** **pP** **14 44 15.2 +0.5**
HORN **Hornachuelos** **83.31** **48** P **P** **14 43 58.9 +1.4**
SNR=39
MVO **Moncorvo** **83.60** **44**⇑ e**P** **P** **14 43 59.5 +0.4**
comp=Z,143nm,1.6s
MVO ep**P** **pP** **14 44 17.4 +0.6**
MVO e**S** **S** **14 54 16.9 +0.2**
MVO **Moncorvo** **83.60** **44** e**LR** LR 15 11 14.0
comp=Z,878nm,18.0s
TDRA **Tendrara** **83.67** **53** P **P** **14 44 01.5 +1.7**
SNR=7.7
JBK **JBK** **83.79** **52** P **P** **14 44 02.0 +1.6**
SNR=12
JBK P **P** **14 44 02.0 +1.6**
SNR=12
GOG **Mont Gurugu** **83.83** **51** P **P** **14 44 02.0 +1.5**
SNR=9.1
GOG P **P** **14 44 02.0 +1.5**
SNR=9.1
PBRG **Braganca** **84.09** **44**⇑ e**P** **P** **14 44 01.6 +0.1**
comp=Z,194nm,1.4s
PBRG ep**P** **pP** **14 44 18.5 -0.8**
TAF **Taforalt** **84.10** **51** P **P** **14 44 04.0 +2.2**
SNR=25
SFJD **Kangerlussuaq** **84.63** **9** P **P** **14 44 03.0 -0.5**
comp=Z,9.9nm,0.9s,baz=226,slow=11,SNR=4.0
PAB **San Pablo** **84.70** **46** P **P** **14 44 05.0 +0.3**
PAB pmax pmax
comp=Z,195nm,1.2s
PAB **San Pablo** **84.70** **46** P **P** **14 44 05.0 +0.3**
SUR **Sutherland** **84.76** **122** PcP **PcP** **14 44 07.3 -1.5**
YKA **Yellowknife Ar** **84.91** **342** P **P** **14 44 05.0 -0.1**
comp=Z,30nm,0.7s,baz=135,slow=5.1,SNR=53
YKA LR LR 15 24 59.4
comp=Z,453nm,20.5s,baz=0.0,slow=38
YKA **Yellowknife Ar** **84.91** **342** P **P** **14 44 05.0 -0.1**
ESDC **Sonseca Array** **85.02** **46** P **P** **14 44 07.2 +0.8**
comp=Z,80nm,1.0s,baz=253,slow=5.3,SNR=213
ESDC PKPPKP **P'P'df** **15 10 21.4 +2.8**
comp=Z,1.1nm,1.1s,baz=81,slow=3.0,SNR=5.6
ESDC LR LR 15 20 10.8
comp=Z,729nm,19.1s,baz=250,slow=34
ESBB **Sonseca Array** **85.03** **46** P **P** **14 44 05.9 -0.4**
SESP **Santiago Espad** **85.37** **48** P **P** **14 44 09.0 +0.8**
SNR=26
TSUM **Tsumeb** **85.49** **109** P **P** **14 44 10.4 +1.1**
comp=Z,85nm,1.0s,baz=248,slow=5.6,SNR=66
TSUM **Tsumeb** **85.49** **109** P **P** **14 44 09.2 -0.1**
DIB **Dawson Inlet,** **85.78** **329** P **P** **14 44 10.2 +0.6**
DIB IAmb IAmb 14 44 28.8
comp=Z,63nm,1.1s
TAM **Tamanrasset** **86.17** **65** P **P** **14 44 12.3 -0.2**
TAM pmax pmax
comp=Z,173nm,1.2s
TAM **Tamanrasset** **86.17** **65** P **P** **14 44 12.3 -0.2**
ILULI **Ilulissat** **86.63** **8** P **P** **14 44 13.3 -0.1**
ILULI **pP** **14 44 30.7 -0.6**
ILULI IAmb IAmb 14 44 32.0
comp=Z,45nm,1.1s
WRAK **Wrangell Islan** **87.53** **331** P **P** **14 44 18.7 +0.6**
WRAK pP **pP** **14 44 36.3 +0.4**
DLBC **Dease Lake** **87.68** **334** P **P** **14 44 18.8 -0.2**
DLBC pP **pP** **14 44 37.5 +0.7**
JIS **Juneau Island** **89.48** **332** P **P** **14 44 27.5 +0.3**
BOSA **Boshof** **89.53** **120** P **P** **14 44 28.6 +0.1**
comp=Z,31nm,1.1s,baz=261,slow=2.8,SNR=19
BOSA LR LR 15 22 37.0
comp=Z,297nm,19.3s,baz=254,slow=34
BOSA **Boshof** **89.53** **120** P **P** **14 44 28.8 +0.3**
BOSA pmax pmax
comp=Z,45nm,1.2s
BOSA **Boshof** **89.53** **120** P **P** **14 44 28.8 +0.3**
BOSA IAmb IAmb 14 44 30.6
comp=Z,45nm,1.2s
BESE **Bessie Mountai** **89.86** **333** P **P** **14 44 29.1 -0.1**
BESE **pP** **14 44 47.4 +0.4**
MAW **Mawson** **90.51** **165** P **P** **14 44 32.1 +0.1**
comp=Z,28nm,1.1s,baz=219,slow=5.7,SNR=31
MAW LR LR 15 23 19.6
comp=Z,699nm,21.6s,baz=232,slow=34
MAW **Mawson** **90.51** **165** P **P** **14 44 32.4 +0.3**
MAW pmax pmax
comp=Z,26nm,1.5s
MAW **Mawson** **90.51** **165** P **P** **14 44 32.4 +0.3**
SKAG **Skagway** **90.53** **333** P **P** **14 44 32.8 +0.7**
LBTB **Lobatse** **90.94** **116** P **P** **14 44 35.1 -0.1**
comp=Z,28nm,1.1s,baz=246,slow=8.3,SNR=10
LBTB **Lobatse** **90.94** **116** P **P** **14 44 35.0 -0.1**
LBTB pmax pmax
comp=Z,94nm,1.4s
LBTB **Lobatse** **90.94** **116** P **P** **14 44 35.0 -0.1**
SUMG **Summit** **91.52** **10** *i* P **P** **14 44 38.1 +1.1**
comp=Z,209nm,1.1s
SUMG **Summit** **91.52** **10** *i* P **P** **14 44 38.1 +1.1**
SUMG pmax pmax
comp=Z,210nm,1.1s
SUMG **Summit** **91.52** **10** P **P** **14 44 37.7 +0.6**
HYT **Haines Junctio** **92.17** **334** P **P** **14 44 40.9 +1.0**
CLF **Chambon-Foret** **92.49** **41** P **P** **14 44 41.9 +0.4**
C36M **Paulatuk** **92.54** **344** P **P** **14 44 41.5 +0.3**
baz=132
SSB **Saint Sauveur** **92.99** **44** P **P** **14 44 43.6 -0.4**
SSB pmax pmax
comp=Z,65nm,1.6s
SSB **Saint Sauveur** **92.99** **44** P **P** **14 44 43.6 -0.4**
SSB IAmb IAmb 14 44 46.8
comp=Z,65nm,1.6s
KEST **Kesra** **93.42** **54** P **P** **14 44 46.2 0.0**
comp=Z,10nm,1.0s,baz=269,slow=3.6,SNR=8.3

KEST LR LR 15 25 42.7
comp=Z,468nm,21.8s,baz=198,slow=35
KEST **Kesra** **93.42** **54** P **P** **14 44 46.6 +0.4**
BNI **Bardonecchia** **94.34** **44** P **P** **14 44 50.8 +0.5**
BNI pmax pmax
comp=Z,19nm,1.3s
BNI **Bardonecchia** **94.34** **44** P **P** **14 44 50.8 +0.5**
DAWY **Dawson** **94.52** **336** P **P** **14 44 50.1 -0.5**
DAWY IAmb IAmb 14 45 09.0
comp=Z,27nm,1.1s
A36M **Sachs Harbour** **94.58** **346** P **P** **14 44 50.3 -0.3**
baz=131
INK **Inuvik** **94.63** **341** P **P** **14 44 50.2 -0.7**
comp=Z,7.3nm,0.8s,baz=105,slow=5.3,SNR=9.4
INK **Inuvik** **94.63** **341** P **P** **14 44 50.6 -0.3**
INK pP **pP** **14 45 07.8 -0.8**
INK IAmb IAmb 14 45 09.5
comp=Z,29nm,1.1s
DOU **Dourbes** **94.66** **39** P **P** **14 44 50.7 -0.7**
comp=Z,21nm,1.8s
DOU **Dourbes** **94.66** **39** pP pP 14 45 08.3 -1.1
URZ **Urewera** **94.82** **228** P **P** **14 44 53.5 +0.9**
comp=Z,16nm,1.1s,baz=174,slow=20,SNR=3.4
URZ LR LR 15 18 35.3
comp=Z,288nm,20.9s,baz=142,slow=30
URZ **Urewera** **94.82** **228** IAmb IAmb 14 44 55.6
comp=Z,44nm,1.3s
BMRD **Maredsous** **94.83** **39** P **P** **14 44 52.0 -0.2**
baz=254,slow=4.6
BMRD pP **pP** **14 45 08.5 -1.7**
MATP **Matopo** **94.94** **113** P **P** **14 44 53.9 +0.2**
comp=Z,26nm,1.0s,baz=247,slow=4.8,SNR=27
MATP PP **PP** **14 48 39.3 -4.0**
comp=Z,11nm,1.1s,baz=273,slow=7.1,SNR=5.1
BGES **Gesves** **95.05** **39** P **P** **14 44 52.6 -0.6**
comp=Z,34nm,2.1s
BGES pP **pP** **14 45 11.8 +0.6**
SENIN **Lac Senin/Sane** **95.17** **43** P **P** **14 44 54.2 0.0**
SENIN IAmb IAmb 14 44 57.0
comp=Z,34nm,1.8s
BSTI **Sart Tilman** **95.40** **39** P **P** **14 44 54.8 -0.1**
BSTI pP **pP** **14 45 11.1 -1.6**
BSTI sP **sP** **14 45 17.4 -2.3**
WLF **Walferdange** **95.47** **40** P **P** **14 44 55.9 +0.8**
comp=Z,36nm,1.7s
WLF pP **pP** **14 45 11.9 -1.2**
WLF **Walferdange** **95.47** **40** P **P** **14 44 55.7 +0.6**
WLF pmax pmax
comp=Z,50nm,1.2s
WLF **Walferdange** **95.47** **40** e**P**diff **P** **14 44 55.9 +0.8**
baz=254,slow=4.6
WLF **Walferdange** **95.47** **40** P **P** **14 44 55.7 +0.6**
Q23K **Middleton Isla** **95.52** **331** P **P** **14 44 54.6 -0.6**
baz=112
EGAK **Eagle** **95.53** **336** P **P** **14 44 54.8 -0.2**
EGAK IAmb IAmb 14 45 13.4
comp=Z,33nm,1.2s
ECH **Echery** **95.64** **41** P **P** **14 44 55.7 -0.3**
ECH pmax pmax
comp=Z,44nm,1.3s
ECH **Echery** **95.64** **41** P **P** **14 44 55.7 -0.3**
ECH IAmb IAmb 14 44 58.1
comp=Z,44nm,1.3s
MEM **Membach** **95.68** **39** P **P** **14 44 56.7 +0.6**
MEM pP **pP** **14 45 13.8 -0.2**
KLU **Klutina** **96.12** **333** P **P** **14 44 57.4 -0.6**
KLU **pP** **14 45 14.9 -1.0**
KLU IAmb IAmb 14 45 16.1
comp=Z,28nm,1.0s
DOT **Dot Lake** **96.19** **335** P **P** **14 44 58.1 -0.1**
DOT pP **pP** **14 45 15.2 -0.9**
DOT IAmb IAmb 14 45 16.3
comp=Z,16nm,1.0s
SCRK **Sand Creek** **96.29** **335** P **P** **14 44 58.1 -0.7**
baz=114
AHRW **Bad Neuenahr-A** **96.30** **39** e**P**diff **P** **14 44 59.7 +0.8**
baz=254,slow=4.6
LSZ **Lusaka** **96.32** **108** P **P** **14 45 00.4 +0.4**
comp=Z,1.7nm,0.2s,baz=200,slow=8.0,SNR=4.1
RPZ **Rata Peaks** **96.42** **221** P **P** **14 45 00.8 +1.0**
comp=Z,3.5nm,0.8s,baz=69,slow=13,SNR=3.0
RPZ LR LR 15 18 19.2
comp=Z,681nm,22.0s,baz=108,slow=29
RPZ **Rata Peaks** **96.42** **221** IAmb IAmb 14 45 02.8
comp=Z,50nm,1.7s
BFO **Black Forest** **96.42** **42** e**P**diff **P** **14 44 60.0 +0.3**
baz=254,slow=4.6
PAX **Paxson** **96.50** **334** P **P** **14 44 58.8 -0.9**
PAX **pP** **14 45 16.0 -1.6**
PAX IAmb IAmb 14 45 17.5
comp=Z,24nm,1.1s
TUE **Stuetta** **96.55** **44** P **P** **14 44 59.5 -0.9**
BUG **Bochum--Univer** **96.69** **38** e**P**diff **P** **14 45 01.4 +0.7**
baz=254,slow=4.6
BUG ep**P** **pP** **14 45 19.2 +0.6**
baz=254,slow=4.5
TNS **Taunus Mts** **97.05** **40** e**P**diff Pdif 14 45 03.0 +0.5
baz=254,slow=4.6
STU **Stuttgart** **97.10** **41** e**P**diff Pdif 14 45 03.3 +0.5
baz=254,slow=4.6
DAVA **Damuels** **97.13** **43** *i* PcP Pdif 14 45 04.2 +1.1
comp=Z,32nm,1.2s,SNR=6.1
LATE **Laterza** **97.19** **48** P **P** **14 45 02.7 -0.5**
LATE IAmb IAmb 14 45 06.8
comp=Z,35nm,1.4s
FUORN **Ofenpass-Fuorn** **97.20** **44** P **P** **14 45 02.7 -0.8**
FUORN IAmb IAmb 14 45 08.5
comp=Z,23nm,1.1s
IBBN **Ibbenburen** **97.24** **38** e**P**diff Pdif 14 45 04.2 +1.0
baz=254,slow=4.6
UBR **Ueberruh** **97.39** **43** e**P**diff Pdif 14 45 04.9 +0.8
baz=254,slow=4.6
UBR ep**P** pP 14 45 22.6 +0.6
baz=254,slow=4.5
FETA **Feichten** **97.62** **43** *i* PcP Pdif 14 45 05.9 +0.7
comp=Z,33nm,1.5s,SNR=11
HDA **Harding Lake** **97.66** **335** P Pdif 14 45 05.0 +0.2
baz=112
RETA **Reutte** **97.76** **43** *i* PcP Pdif 14 45 06.7 +0.9
comp=Z,33nm,1.4s,SNR=8.6
IL31 **97.77** **335** P **P** **14 45 04.7 -0.5**
ILAR **Eielson Array** **97.77** **335** P **P** **14 45 04.3 -0.9**
comp=Z,1.5nm,0.8s,baz=164,slow=3.9,SNR=17
ILAR LR LR 15 33 17.6
comp=Z,259nm,20.8s,baz=112,slow=38
BRLK **Bradley Lake** **97.80** **330** P **P** **14 45 05.2 -0.4**
MOTA **Moosalm** **97.95** **43** *i* PcP Pdif 14 45 07.5 +0.8
comp=Z,42nm,1.4s,SNR=15
SQTA **Sankt Quirin** **97.98** **43** *i* PcP Pdif 14 45 07.9 +1.0
comp=Z,58nm,1.2s,SNR=18
CCB **Clear Creek Bu** **98.09** **335** P **P** **14 45 05.8 -0.9**
RND **Reindeer** **98.09** **334** P **P** **14 45 06.1 -0.7**
RND pmax pmax
comp=Z,30nm,1.1s
RND **Reindeer** **98.09** **334** P **P** **14 45 06.0 -0.7**
RND IAmb IAmb 14 45 26.0
comp=Z,30nm,1.1s
POKR **Poker Flat Res** **98.11** **336** P Pdif 14 45 07.0 +0.2
baz=111
WRH **Wood River Hil** **98.14** **335** P **P** **14 45 05.9 -1.1**
WRH pP **pP** **14 45 23.9 -0.7**
WRH IAmb IAmb 14 45 25.0
comp=Z,16nm,1.0s
UBBA **Unterbreizbach** **98.17** **40** e**P**diff Pdif 14 45 08.2 +0.9
baz=254,slow=4.6
COLA **College** **98.19** **335***c* *i*P **P** **14 45 06.5 -0.5**
COLA pmax pmax
comp=Z,14nm,1.0s
COLA **College** **98.19** **335** P **P** **14 45 06.6 -0.5**
COLA IAmb IAmb 14 45 25.3
comp=Z,31nm,1.1s
MCK **McKinley** **98.23** **334** P **P** **14 45 06.9 -0.5**
MCK pmax pmax
comp=Z,9.0nm,1.0s
MCK **McKinley** **98.23** **334** P **P** **14 45 06.9 -0.5**
WATA **Walderalm** **98.26** **43** *i* Pdif Pdif 14 45 08.8 +0.7
comp=Z,50nm,1.3s,SNR=14
FUR **Furstenfeldbru** **98.27** **42** e**P**diff Pdif 14 45 08.9 +0.9
baz=254,slow=4.6
WTTA **Wattenberg** **98.28** **43** *i* Pdif Pdif 14 45 09.1 +0.9
comp=Z,73nm,1.4s,SNR=20
GTTG **Gottingen** **98.34** **39** e**P**diff Pdif 14 45 09.4 +1.3
baz=254,slow=4.6
MDM **Murphy Dome** **98.37** **335** P **P** **14 45 06.4 -1.6**
INTR **Introdacqua** **98.54** **49** P **P** **14 45 09.0 -0.4**
CIMO **Cimolais** **98.57** **44** P **P** **14 45 08.0 -1.4**

CIMO IAmb IAmb 14 45 11.4
comp=Z,18nm,1.2s
NEA2 **Nenana** **98.58** **335** P Pdif 14 45 09.0 +0.1
baz=110
BWN **Browne** **98.60** **335** P **P** **14 45 07.7 -1.3**
BWN IAmb IAmb 14 45 27.1
comp=Z,30nm,1.0s
GRF **Grafenberg Arr** **98.63** **41** e**P**diff Pdif 14 45 10.4 +0.9
baz=254,slow=4.6
CLZ **Clausthal** **98.66** **39** e**P**diff Pdif 14 45 10.8 +1.2
baz=254,slow=4.6
NRDL **Niedersach Rie** **98.67** **38** e**P**diff Pdif 14 45 10.9 +1.4
baz=254,slow=4.6
NRDL ep**P** pP 14 45 28.6 +1.2
baz=254,slow=4.5
ABTA **Abfaltersbach** **98.73** **44** *i* Pdiff Pdif 14 45 11.0 +0.9
comp=Z,37nm,1.3s,SNR=15
SKT **Skwentna** **98.80** **332** P **P** **14 45 08.2 -1.8**
SKT IAmb IAmb 14 45 34.3
comp=Z,22nm,1.1s
RSO **Redoubt South** **98.91** **330** P **P** **14 45 09.9 -0.8**
RSO **pP** **14 45 28.4 -0.3**
ASSE **Asse, Remlinge** **98.92** **38** e**P**diff Pdif 14 45 12.1 +1.5
baz=254,slow=4.6
ASSE ep**P** pP 14 45 29.7 +1.2
baz=254,slow=4.5
KTH **Kantishna Hill** **99.02** **334** pP 14 45 27.9 -1.1
MOX **Moxa** **99.11** **40** e**P**diff **Pdif** **14 45 12.7 +1.1**
baz=254,slow=4.6
MOX ep**P** **pP** **14 45 30.1 +0.5**
baz=254,slow=4.5
RJOB **Jochberg** **99.16** **43** e**P**diff **Pdif** **14 45 11.6 -0.4**
baz=254,slow=4.6
BSEG **Bad Segeberg** **99.17** **37** e**P**diff **Pdif** **14 45 12.8 +1.0**
baz=254,slow=4.6
BPAW **Bear Paw Mtn.** **99.21** **334** **Pdif** **14 45 11.1 -0.7**
BPAW IAmb IAmb 14 45 29.7
comp=Z,22nm,1.1s
MANZ **Manzenberg** **99.26** **41** e**P**diff **Pdif** **14 45 13.4 +1.1**
baz=254,slow=4.6
MANZ ep**P** **pP** **14 45 31.2 +0.9**
baz=254,slow=4.5
ROTZ **Rotzenmuhle** **99.27** **41** e**P**diff **Pdif** **14 45 13.4 +1.1**
baz=254,slow=4.6
ROBS **Robic** **99.28** **45** *i* Pdiff **Pdif** **14 45 12.8 +0.4**
NEUB **Neuenburg** **99.35** **39** e**P**diff **Pdif** **14 45 14.0 +1.4**
baz=254,slow=4.6
PRED **Cave del Predi** **99.36** **44** P **Pdif** **14 45 12.1 -0.8**
PRED IAmb IAmb 14 45 14.6
comp=Z,21nm,1.3s
KBA **Koelnbreinsper** **99.36** **44** *i* Pdiff **Pdif** **14 45 13.4 +0.3**
comp=Z,12nm,1.4s
PPLA **Purkeypile** **99.36** **333** **Pdif** **14 45 11.9 -0.7**
PPLA IAmb IAmb 14 45 13.8
comp=Z,45nm,1.5s
PPLA pP **pP** **14 45 29.6 -1.0**
PLN **Plauen** **99.41** **40** e**P**diff **Pdif** **14 45 13.9 +1.0**
baz=254,slow=4.6
PLN ep**P** **pP** **14 45 31.4 +0.5**
baz=254,slow=4.5
MYKA **Terra Mystica** **99.45** **44** *i* Pdiff **Pdif** **14 45 14.2 +0.9**
comp=Z,18nm,1.2s,SNR=6.6
SKDS **Skadanscina** **99.45** **45** e**P**diff **Pdif** **14 45 13.5 +0.2**
GUNZ **Gunzen** **99.49** **40** e**P**diff **Pdif** **14 45 14.6 +1.3**
baz=254,slow=4.6
GUNZ ep**P** **pP** **14 45 32.0 +0.7**
baz=254,slow=4.5
WERD **Werda** **99.49** **40** e**P**diff **Pdif** **14 45 14.4 +1.0**
baz=254,slow=4.6
WERD ep**P** **pP** **14 45 32.1 +0.8**
baz=254,slow=4.5
WERN **Wernitzgruen** **99.50** **40** e**P**diff **Pdif** **14 45 14.3 +0.9**
baz=254,slow=4.6
NKC **Novy Kostel** **99.53** **40** e**P** **Pdif** **14 45 15.0 +1.5**
NKC MLR MLR
comp=Z,900nm,22.3s
NKC **Novy Kostel** **99.53** **40** e**P**DIFF **Pdif** **14 45 15.0 +1.5**
NKC AMS AMS 15 24 50.0
comp=Z,900nm,22.3s
WET **Wettzell** **99.54** **42** e**P**diff **Pdif** **14 45 14.4 +0.8**
baz=254,slow=4.6
WET ep**P** **pP** **14 45 31.7 +0.1**
baz=254,slow=4.5
TANN **Tannenbergstha** **99.58** **40** e**P**diff **Pdif** **14 45 15.0 +1.2**
baz=254,slow=4.6
TANN ep**P** **pP** **14 45 32.3 +0.6**
baz=254,slow=4.5
COLD **Coldfoot** **99.88** **337** P **Pdif** **14 45 15.3 +0.7**
baz=106
KHC **Kasperske Hory** **99.99** **42***c* *i*P **Pdif** **14 45 15.3 -0.3**
KHC pmax pmax
comp=Z,32nm,1.4s
KHC **Kasperske Hory** **99.99** **42** e**P**DIFF **Pdif** **14 45 16.9 +1.3**
KHC ep**P** **pP** **14 45 34.5 +0.9**
KHC e**S**P **sP** **14 45 42.9 +2.4**
KHC e**S**P SP 14 58 05.1 -8.5
KHC AMS AMS 15 24 30.0
comp=Z,600nm,30.8s
GEC2 **GERESS Array S** **100.00** **42** e**P**diff **Pdif** **14 45 16.3 +0.5**
baz=254,slow=4.6
GEC2 ep**P** **pP** **14 45 34.0 +0.2**
baz=254,slow=4.5
GERES **GERESS Array B** **100.00** **42** P **Pdif** **14 45 15.2 -0.5**
comp=Z,3.8nm,1.0s,baz=259,slow=2.7,SNR=22
OBKA **Obir** **100.04** **44** *i* Pdiff **Pdif** **14 45 17.0 +1.0**
comp=Z,11nm,1.2s,SNR=5.8
CLL **Collm** **100.12** **40** *i* Pdif **Pdif** **14 45 16.5 +0.4**
comp=Z,26nm,1.4s
CLL *i* pPdif pP 14 45 34.3 +0.2
CLL *i* 14 45 48.5
comp=Z,23nm,1.4s
CLL ePP **PP** **14 49 20.0 -2.5**
CLL e**S**KSac **SKSac** **14 55 53.0 +3.5**
CLL e**S**dif **Sdif** **14 56 41.0 -5.2**
CLL e**S**P **SP** **14 58 15.0 +0.1**
CLL e**P**PS PPS 14 59 06.0
CLL e**S**S SS 15 03 30.0 -11
CLL *e* 15 04 42.0
CLL e**S**SS SSS 15 07 24.0
CLL *e* 15 09 12.0
CLL e**S**SSS 15 11 00.0
CLL LmV 15 27 00.0
comp=Z,600nm,20.2s
CLL **Collm** **100.12** **40** *i* P **Pdif** **14 45 16.5 +0.4**
CLL *i* *PP pP 14 45 34.3 +0.2
CLL *e* 14 55 53.0
CLL e**S** **Sdif** **14 56 41.0 -5.2**
CLL pmax pmax
comp=Z,26nm,1.4s
CLL MLR MLR
comp=Z,600nm,20.2s
CLL **Collm** **100.12** **40** e**P**diff **Pdif** **14 45 17.2 +1.2**
baz=254,slow=4.6
CLL ep**P** pP 14 45 34.8 +0.8
baz=254,slow=4.5
MOA **Molln** **100.15** **43** *i* Pdiff **Pdif** **14 45 17.2 +0.9**
comp=Z,17nm,1.5s
KONO **Kongsberg** **100.23** **31** *i* P **Pdif** **14 45 16.4 +0.1**
KONO pmax pmax
comp=Z,26nm,1.5s
FBE **Freiberg** **100.25** **40** e**P**diff **Pdif** **14 45 17.9 +1.3**
baz=254,slow=4.6
FBE ep**P** pP 14 45 35.4 +0.8
baz=254,slow=4.5
BOJS **Bojanci** **100.29** **46** e**P**diff **Pdif** **14 45 16.6 -0.4**
SOKA **Soboth** **100.40** **44** *i* Pdiff **Pdif** **14 45 18.3 +0.7**
comp=Z,7.6nm,1.4s
BRG **Berggiesshubel** **100.61** **40**⇑ *i*P **Pdif** **14 45 20.1 +1.8**
comp=Z,37nm,1.5s
BRG pP **pPdif** **14 45 32.1 -4.0**
comp=Z,11nm,1.2s
BRG sP sP 14 45 51.4 +8.2
comp=Z,27nm,1.4s
BRG **Berggiesshubel** **100.61** **40** e**P**diff **Pdif** **14 45 19.3 +1.0**
baz=254,slow=4.6
BRG ep**P** pP 14 45 36.9 +0.6
baz=254,slow=4.5
GCIS **Gornji Cirnik** **100.63** **45** e**P**diff **Pdif** **14 45 18.9 +0.4**
PRA **Prague** **100.74** **41** AMS AMS 15 25 10.0
comp=Z,400nm,29.2s
PRU **Pruhonice** **100.79** **41** e**P** **Pdif** **14 45 20.4 +1.3**
PRU MLR MLR
comp=Z,700nm,24.9s
PRU **Pruhonice** **100.79** **41** e**P**DIFF **Pdif** **14 45 20.4 +1.3**
PRU e**S**P SP 14 58 14.9 -7.2
PRU AMS AMS 15 25 20.0

	comp=Z,700nm,24.9s								
ARSA	**Arzberg**	**100.85**	**44**	*i*	Pdiff	**Pdif**	**14 45 20.4**	**+1.0**	
	comp=Z,7.0nm,0.9s								
PVCC	**Panska Ves**	**100.92**	**41**		AMS	AMS	15 25 30.0		
	comp=Z,900nm,26.3s								
GOPC	**GO Pecny, Ondr**	**100.93**	**41**	*e*	SP	SP	14 58 13.2	-10	
GOPC					AMS	AMS	15 25 20.0		
	comp=Z,500nm,23.5s								
CONA	**Conrad Observa**	**101.21**	**43**	*i*	Pdiff	**Pdif**	**14 45 22.2**	**+1.1**	
	comp=Z,14nm,1.3s,SNR=7.1								
TREC	**Trest**	**101.25**	**42**		AMS	AMS	15 27 00.0		
	comp=Z,600nm,23.2s								
NOA	**NORSAR Array B**	**101.34**	**30**		P	**Pdif**	**14 45 21.4**	**+0.1**	
	comp=Z,1.1nm,0.9s,baz=257,slow=4.4,SNR=3.5								
KRUC	**Moravsky**	**101.78**	**42**	*e*	PDIFF	**Pdif**	**14 45 24.0**	**+0.5**	
KRUC				*e*			14 45 42.5		
UPC	**Upice**	**101.82**	**41**	*e*	SP	SP	14 58 25.4	-7.6	
UPC					AMS	AMS	15 26 10.0		
	comp=Z,800nm,23.6s								
CHVC	**Chvalec**	**101.86**	**41**		AMS	AMS	15 26 10.0		
	comp=Z,700nm,20.1s								
OSTC	**Ostas**	**101.95**	**41**		AMS	AMS	15 26 20.0		
	comp=Z,800nm,22.3s								
VRAC	**Vranov**	**101.96**	**42**	*e*	PDIFF	**Pdif**	**14 45 25.7**	**+1.4**	
VRAC				*e*			14 45 43.1		
DPC	**Dobruska-Polom**	**101.98**	**41**	*e*	P	**Pdif**	**14 45 26.3**	**+1.8**	
DPC					MLR	MLR			
	comp=Z,600nm,26.0s								
DPC	**Dobruska-Polom**	**101.98**	**41**	*e*	PDIFF	**Pdif**	**14 45 26.3**	**+1.8**	
DPC				*e*	SP	**sPdif**	**14 45 52.0**	**+2.7**	
DPC				*e*	SP	SP	14 58 21.5	-13	
DPC					AMS	AMS	15 25 50.0		
	comp=Z,600nm,26.0s								
KRLC	**Kraliky**	**102.22**	**41**	*e*	P	**Pdif**	**14 45 27.5**	**+2.0**	
KRLC				*e*	SP	SP	14 58 33.6	-3.8	
KRLC					MLR	MLR			
	comp=Z,400nm,24.1s								
KRLC	**Kraliky**	**102.22**	**41**	*e*	PDIFF	**Pdif**	**14 45 27.5**	**+2.0**	
KRLC				*e*	SP	SP	14 58 33.6	-3.8	
KRLC					AMS	AMS	15 28 20.0		
	comp=Z,400nm,24.1s								
MODS	**Modra-Piesok**	**102.23**	**43**	*e*	P	**Pdif**	**14 45 25.7**	**+0.1**	
MODS	**Modra-Piesok**	**102.23**	**43**	*e*	PDIFF	**Pdif**	**14 45 25.7**	**+0.1**	
JAVC	**Velka Javorina**	**102.57**	**43**	*e*	PDIFF	**Pdif**	**14 45 29.2**	**+2.1**	
MORC	**Moravsky Berou**	**102.65**	**42**	*e*	PDIFF	**Pdif**	**14 45 29.2**	**+1.8**	
VYHS	**Vyhne**	**103.27**	**43**	*e*	P	**Pdif**	**14 45 31.4**	**+1.2**	
VYHS	**Vyhne**	**103.27**	**43**	*e*	PDIFF	**Pdif**	**14 45 31.4**	**+1.2**	
UZH	**Uzhgorod**	**105.56**	**43**	*e*	P	**Pdif**	**14 45 42.0**	**+1.7**	
SPITS	**Spitsbergen Ar**	**105.66**	**12**		PKKPab	PKKPab	15 01 34.2	+1.0	
	comp=Z,11nm,0.9s,baz=129,slow=15,SNR=6.0								
ARCES	**ARCESS Array B**	**108.10**	**21**		PKKPbc	PKKPbc	15 01 09.2	-3.2	
	comp=Z,1.0nm,0.5s,baz=92,slow=3.4,SNR=15								
ARCES					PKKPab	**PKKPab**	**15 01 23.8**	**+1.3**	
	comp=Z,3.5nm,0.9s,baz=69,slow=4.0,SNR=6.9								
FINES	**FINESS Array B**	**108.51**	**30**		PKKPbc	PKKPbc	15 01 08.9	-1.8	
	comp=Z,2.9nm,0.5s,baz=97,slow=4.5,SNR=28								
FINES					PKKP	**PKKPdf**	**15 01 26.4**	**+1.0**	
	comp=Z,1.3nm,0.5s,baz=101,slow=2.8,SNR=5.4								
AKASG	**Malin Array Be**	**110.20**	**41**		PKiKP	**PKiKP**	**14 50 02.1**	**+0.1**	
	comp=Z,0.9nm,0.5s,baz=264,slow=3.3,SNR=5.9								
AKASG					PP	**PP**	**14 50 33.3**	**-3.7**	
	comp=Z,1.5nm,0.8s,baz=262,slow=6.9,SNR=9.7								
AKASG					PKKPab	**PKKPab**	**15 01 15.3**	**+1.7**	
	comp=Z,0.2nm,0.3s,baz=78,slow=4.0,SNR=8.3								
DZM	**Mont Dzumac**	**110.31**	**239**	*e*	PS	PS	15 00 06.4	-2.7	
	comp=Z,290nm,27.8s								
DZM	**Mont Dzumac**	**110.31**	**239**	*e*	LR	LR	15 22 41.0		
	comp=Z,1μm,31.6s								
APA	**Apatity**	**111.19**	**23**	||| *i*	PKiKP	**PKiKP**	**14 50 07.2**	**+3.8**
APA					pmax	pmax			
	comp=Z,3.0nm,1.0s								
BRTR	**Keskin Array B**	**113.01**	**53**		PKiKP	**PKiKP**	**14 50 06.9**	**-1.0**	
	comp=Z,2.8nm,0.7s,baz=212,slow=4.4,SNR=8.1								
BRTR					PKKPab	**PKKPab**	**15 01 02.2**	**+0.4**	
	comp=Z,1.7nm,0.8s,baz=147,slow=3.4,SNR=4.2								
EIL	**Elat**	**113.38**	**64**		PKiKP	**PKiKP**	**14 50 09.6**	**+0.8**	
	comp=Z,1.7nm,0.4s,baz=40,slow=6.5,SNR=4.5								
OBN	**Obninsk**	**114.43**	**36**	*d*	*i* PKiKP	**PKiKP**	**14 50 10.3**	**+0.4**	
OBN				*e*			14 51 03.2		
OBN				*e*			14 56 52.0		
OBN				*e*	SS	SS	15 06 48.0	-6.8	
OBN					pmax	pmax			
	comp=Z,7.0nm,0.4s								
KLMR	**Klimovskoe**	**115.05**	**30**	*e*	PKiKP	**PKiKP**	**14 50 10.7**	**-0.2**	
KLMR				*e*			14 50 27.7		
KLMR				*e*			14 51 07.4		
KLMR				*e*	SP	SP	15 00 42.7	-0.4	
KLMR					pmax	pmax			
	comp=Z,15nm,1.2s								
KLMR	**Klimovskoe**	**115.05**	**30**	*e*	PKPdf	**PKiKP**	**14 50 10.7**	**-0.2**	
KLMR					AMP		14 50 13.0		
	comp=Z,15nm,1.2s								
KLMR				*e*	pPKPdf	PKPdf	14 50 27.7	+17	
KLMR				*e*	PP	**PP**	**14 51 07.4**	**-3.8**	
KLMR				*e*	SP	SP	15 00 42.8	-0.3	
ASF	**Jabal al Asfar**	**115.26**	**62**		PKP	**PKiKP**	**14 50 13.2**	**+0.8**	
	comp=Z,5.2nm,0.8s,baz=190,slow=2.3,SNR=9.7								
LPSR	**Galich'ya Gora**	**116.13**	**39**	*e*	PKiKP	**PKiKP**	**14 50 13.5**	**+0.3**	
LPSR					pmax	pmax			
	comp=Z,20nm,1.0s								
VSR	**Storozhevoye**	**116.45**	**41**	*e*	PKiKP	**PKPdf**	**14 50 13.7**	**-0.2**	
VSR					pmax	pmax			
	comp=Z,10.0nm,0.6s								
VORD	**Divnogorie**	**116.56**	**41**	*e*	PKiKP	**PKPdf**	**14 50 13.5**	**-0.6**	
VORD					pmax	pmax			
	comp=Z,10.0nm,1.3s								
SOC	**Sochi**	**117.53**	**49**	*i*	PKiKP	**PKPdf**	**14 50 14.9**	**-1.3**	
SOC				*e*			14 51 26.9		
SOC				*e*	PPP	PPP	14 53 58.2		
SOC				*e*	SSS	SSS	15 11 53.5		
SOC					pmax	pmax			
	comp=Z,13nm,0.5s								
SOC					MLR	MLR			
	comp=Z,278nm,19.0s								
PRGR	**Permogore**	**117.70**	**28**	*e*	PKiKP	**PKPdf**	**14 50 15.1**	**-0.9**	
PRGR				*e*			14 50 31.6		
PRGR					pmax	pmax			
	comp=Z,26nm,1.1s								
VRH	**Novokhopyorsk**	**118.04**	**40**	*e*	PKiKP	**PKPdf**	**14 50 16.8**	**-0.2**	
VRH					pmax	pmax			
	comp=Z,10.0nm,0.9s								
KIV	**Kislovodsk**	**119.64**	**48**	*i*	PKiKP	**PKiKP**	**14 50 20.8**	**+0.3**	
KIV				*e*			14 51 44.3		
KIV				*e*	PS	**PS**	**15 01 33.9**	**0.0**	
KIV				*e*	SS	SS	15 08 02.4	-1.3	
KIV					pmax	pmax			
	comp=Z,32nm,1.0s								
KIV					MLR	MLR			
	comp=Z,385nm,22.0s								
GOF	**Gofitskoye**	**119.77**	**47**	||| *e*	PKiKP	**PKiKP**	**14 50 21.6**	**+1.0**
KBZ	**Khabaz**	**119.82**	**49**		PKP	**PKiKP**	**14 50 21.7**	**+1.0**	
	comp=Z,14nm,0.9s,baz=276,slow=2.7,SNR=19								
ZEI	**Tsey**	**120.64**	**50**	*i*	PKiKP	**PKiKP**	**14 50 23.6**	**+0.9**	
ZEI					pmax	pmax			
	comp=Z,16nm,1.4s								
STKA	**Stephens Creek**	**121.71**	**215**		PKP	**PKPdf**	**14 50 24.4**	**-0.4**	
	comp=Z,8.8nm,0.5s,baz=97,slow=2.9,SNR=35								
STKA	**Stephens Creek**	**121.71**	**215**		PKPdf	**PKPdf**	**14 50 24.3**	**-0.5**	
H11N3	**WAKE ISLAND Hyd**	**122.98**	**283**		T	T	17 06 13.6		
	baz=98,slow=75								
H11N2	**WAKE ISLAND Hyd**	**123.00**	**283**		T	T	17 06 13.5		
	baz=98,slow=75								
H11N1	**WAKE ISLAND Hyd**	**123.00**	**283**		T	T	17 06 02.6		
	baz=98,slow=75								
AKT	**Akhty**	**123.63**	**51**	*e*	PKiKP	**PKiKP**	**14 50 29.4**	**+0.9**	
AKT				*e*			14 50 46.9		
AKT				*e*			14 52 15.4		
AKT					pmax	pmax			
	comp=Z,18nm,1.3s								
SEY	**Seymchan**	**123.67**	**337**		PKP	**PKiKP**	**14 50 28.1**	**+0.4**	
	comp=Z,9.4nm,0.7s,baz=101,slow=2.5,SNR=48								
BBOO	**Buckleboo**	**123.81**	**210**			**PKPdf**	**14 50 27.9**	**-0.9**	
PET	**Petropavlovsk**	**125.43**	**324**	*i*	PKiKP	**PKPdf**	**14 50 30.5**	**-0.6**	
PET					pmax	pmax			
	comp=Z,27nm,0.5s								
NRIK	**Noril'sk**	**125.54**	**8**		PKP	**PKiKP**	**14 50 31.9**	**+0.6**	
	comp=Z,5.2nm,0.9s,baz=313,slow=2.3,SNR=5.3								
ARU	**Arti**	**125.87**	**31**	*i*	PKiKP	**PKiKP**	**14 50 33.0**	**+0.7**	
ARU							14 52 23.4		
ARU					PPP	PPP	14 55 05.1		
ARU							14 57 39.0		
ARU					SP	SP	15 02 15.8	-4.0	
ARU	**Arti**	**125.87**	**31**		PKPdf	**PKPdf**	**14 50 32.0**	**+0.1**	
PEA0B	**Petropavlovsk-**	**125.93**	**325**		PKiKP	**PKiKP**	**14 50 32.7**	**+0.2**	
PEA0B	**Petropavlovsk-**	**125.93**	**325**			**PKiKP**	**14 50 32.7**	**+0.2**	
PETK	**Petropavlovsk-**	**125.93**	**325**		PKP	**PKiKP**	**14 50 32.8**	**+0.3**	
	comp=Z,8.3nm,0.5s,baz=80,slow=2.6,SNR=76								
MA2	**Magadan**	**126.22**	**334**	*i*	PKiKP	**PKPdf**	**14 50 32.3**	**-0.2**	
MA2					pmax	pmax			
	comp=Z,16nm,1.2s								
SVE	**Sverdlovsk**	**126.68**	**30**	*e*	PKiKP	**PKiKP**	**14 50 34.1**	**+0.2**	
SVE					pmax	pmax			
	comp=Z,22nm,1.4s								
CTA	**Charters Tower**	**127.07**	**228**		PKP	**PKiKP**	**14 50 35.8**	**-0.1**	
	comp=Z,12nm,0.5s,baz=100,slow=3.8,SNR=28								
CTAO	**Charters Tower**	**127.07**	**228**		PKiKP	**PKiKP**	**14 50 36.0**	**+0.1**	
CTAO	**Charters Tower**	**127.07**	**228**		PKPdf	**PKiKP**	**14 50 36.0**	**+0.1**	
FORT	**Forrest**	**129.01**	**204**		PKPdf	**PKPdf**	**14 50 38.7**	**-0.1**	
YAK	**Yakutsk**	**131.45**	**346**		PKP	**PKPdf**	**14 50 40.8**	**-1.5**	
	comp=Z,6.1nm,0.7s,baz=8.0,slow=0.9,SNR=2.3								
YAK	**Yakutsk**	**131.45**	**346**	*e*	PKiKP	**PKPdf**	**14 50 42.7**	**+0.4**	
YAK				*e*			14 53 01.7		
YAK					pmax	pmax			
	comp=Z,39nm,1.3s								
YAK					pmax	pmax			
	comp=N,6.0nm,1.3s								
YAK					pmax	pmax			
	comp=E,4.0nm,1.3s								
YAK					pmax	pmax			
	comp=Z,78nm,3.5s								
YAK					pmax	pmax			
	comp=N,58nm,2.8s								
YAK					MLR	MLR			
	comp=Z,388nm,23.0s								
YAK					MLR	MLR			
	comp=N,282nm,24.0s								
YAK	**Yakutsk**	**131.45**	**346**		PKPdf	**PKPdf**	**14 50 41.8**	**-0.5**	
GEYT	**Alibeck**	**132.16**	**53**		PKP	**PKPdf**	**14 50 43.9**	**-0.6**	
	comp=N,3.0nm,0.7s,baz=232,slow=7.3,SNR=11								
GYA0B	**ALIBECK ARRAY**	**132.16**	**53**			**PKPdf**	**14 50 44.1**	**-0.4**	
AS31	**Alice Springs**	**132.35**	**214**		PKPdf	**PKPdf**	**14 50 44.5**	**-0.8**	
ASAR	**Alice Springs**	**132.35**	**214**		PKhKP	PKPpre	14 50 28.0		
	comp=N,0.8nm,0.5s,baz=146,slow=2.4,SNR=19								
ASAR					PKP	**PKPdf**	**14 50 44.9**	**-0.4**	
	comp=N,17nm,0.8s,baz=130,slow=1.7,SNR=79								
ASAR					SKP		14 54 12.0		
	comp=N,1.7nm,0.9s,baz=144,slow=3.4,SNR=3.0								
ASAR					PKKP	**PKKPdf**	**15 00 38.4**	**-0.3**	
	comp=N,0.4nm,0.6s,baz=339,slow=1.6,SNR=8.9								
BRVK	**Borovoye**	**133.40**	**30**	*c*	*i* PKiKP	**PKiKP**	**14 50 48.0**	**+0.5**	
BRVK					pmax	pmax			
	comp=Z,25nm,1.3s								
BRVK	**Borovoye**	**133.40**	**30**		PKPdf	**PKPdf**	**14 50 46.4**	**+0.1**	
WR0	**Warramunga Arr**	**134.90**	**218**		PKPdf	**PKPdf**	**14 50 49.8**	**-0.4**	
WB2	**Warramunga Arr**	**135.03**	**218**		PKPdf	**PKPdf**	**14 50 50.0**	**-0.4**	
WRA	**Warramunga Arr**	**135.04**	**218**		PKhKP	PKPpre	14 50 36.9		
	comp=Z,2.2nm,0.8s,baz=173,slow=2.0,SNR=12								
WRA					PKP	**PKPdf**	**14 50 50.4**	**0.0**	
	comp=Z,26nm,0.5s,baz=142,slow=1.9,SNR=73								
WRA					PP	**PP**	**14 53 22.6**	**-2.2**	
	comp=Z,5.7nm,1.2s,baz=145,slow=5.5,SNR=9.0								
WRAB	**Tennant Creek**	**135.04**	**218**	*c*	*i* PKiKP	**PKiKP**	**14 50 51.4**	**-0.5**	
WRAB					pmax	pmax			
	comp=Z,37nm,0.8s								
WRAB	**Tennant Creek**	**135.04**	**218**			**PKPdf**	**14 50 50.1**	**-0.3**	
KUR	**Kuril'sk**	**135.09**	**319**	*i*	PKiKP	**PKPdf**	**14 50 49.9**	**+0.2**	
KUR					ePPP	PPP	14 56 18.8		
WB0	**Warramunga Arr**	**135.14**	**218**		PKPdf	**PKPdf**	**14 50 50.2**	**-0.4**	
YSS	**Yuzh-Sakhalins**	**137.31**	**324**	*i*	PKiKP	**PKiKP**	**14 50 55.3**	**-0.3**	
YSS				*e*			14 51 12.1		
YSS	**Yuzh-Sakhalins**	**137.31**	**324**		PKPdf	**PKPdf**	**14 50 54.2**	**+0.4**	
BOD	**Bodaibo**	**138.11**	**354**	*e*	PKHKP	PKPpre	14 50 42.4		
BOD					pmax	pmax			
	comp=Z,12nm,2.2s								
ZALV	**Zalesovo Beam**	**138.61**	**20**		PKhKP	PKPpre	14 50 45.6		
	comp=Z,0.8nm,0.3s,baz=296,slow=7.5,SNR=2.1								
ZALV					PKP	**PKPdf**	**14 50 55.2**	**-0.7**	
	comp=Z,34nm,0.9s,baz=237,slow=1.3,SNR=6.4								
KURK	**Kurchatov**	**138.80**	**27**	*c*	*i* PKiKP	**PKiKP**	**14 50 57.6**	**-1.0**	
KURK					pmax	pmax			
	comp=Z,29nm,1.3s								
KURK	**Kurchatov**	**138.80**	**27**			PKPpre	14 50 47.9		
KURK						**PKPdf**	**14 50 55.4**	**-1.0**	
KURK						**PP**	**14 53 47.5**	**-0.4**	
KURBB	**Kurchatov Arra**	**138.82**	**27**		PKhKP	PKPpre	14 50 47.9		
KURBB					PKP	**PKPdf**	**14 50 55.4**	**-1.1**	
	comp=Z,11nm,0.9s,baz=315,slow=2.3,SNR=3.3								
KURBB					PP	**PP**	**14 53 47.5**	**-0.6**	
	comp=Z,3.9nm,1.2s,baz=317,slow=6.0,SNR=7.8								
JKA	**Kamikawa-asahi**	**138.92**	**320**			**PKPdf**	**14 50 57.1**	**+0.3**	
ASAJ	**Asahikawa**	**138.93**	**320**		PKiKP	**PKPdf**	**14 50 57.1**	**+0.3**	
KK31	**Karatay Array**	**139.10**	**41**		PKiKP	**PKPdf**	**14 50 57.2**	**0.0**	
KK31	**Karatay Array**	**139.10**	**41**		PKPdf	**PKPdf**	**14 50 57.2**	**0.0**	
KKAR	**Karatay Array**	**139.10**	**41**		PKiKP	**PKPdf**	**14 50 57.2**	**-0.1**	
KKAR	**Karatay Array**	**139.10**	**41**		PKPdf	**PKPdf**	**14 50 57.2**	**-0.1**	
IUG	**Iuzhnay**	**139.25**	**43**	*e*	PKiKP	**PKPdf**	**14 50 56.6**	**-1.1**	
	baz=43								
IUG				*i*	PP	**PP**	**14 53 50.3**	**-1.2**	
IUG	**Iuzhnay**	**139.25**	**43**	*e*	PKiKP	**PKPdf**	**14 50 56.6**	**-1.1**	
ZEA	**Zeya**	**139.29**	**341**	*e*	PKHKP	PKPpre	14 50 50.9		
ZEA				*e*			15 06 04.0		
ZEA					pmax	pmax			
	comp=Z,63nm,2.0s								
DZA	**Taraz**	**139.73**	**41**	*e*	PKP	**PKPdf**	**14 50 57.5**	**-0.9**	
	baz=41								
DZA	**Taraz**	**139.73**	**41**	*e*	PKiKP	**PKPdf**	**14 50 57.5**	**-0.9**	
CHGR	**Chuyangaron**	**140.18**	**48**		PKPdf	**PKPdf**	**14 50 59.5**	**0.0**	
BTLS	**Baital**	**140.20**	**37**	*e*	PKP	**PKPdf**	**14 50 58.5**	**-0.7**	
	baz=37								
BTLS	**Baital**	**140.20**	**37**	*e*	PKiKP	**PKPdf**	**14 50 58.4**	**-0.7**	
PSA00	**Pilbara Seismi**	**140.34**	**199**		PKPdf	**PKPdf**	**14 51 00.1**	**0.0**	
FITZ	**Fitzroy Crossi**	**141.20**	**209**		PKhKP	PKPpre	14 50 54.6		
	comp=Z,6.2nm,0.4s,baz=0.6,slow=3.0,SNR=15								
FITZ					PKP	**PKPdf**	**14 51 02.6**	**+0.8**	
	comp=Z,12nm,1.0s,baz=190,slow=5.1,SNR=3.8								
FITZ					PP	**PP**	**14 54 03.4**	**+0.8**	
	comp=Z,6.7nm,1.1s,baz=116,slow=6.4,SNR=3.4								
FITZ	**Fitzroy Crossi**	**141.20**	**209**		PKPpre		14 50 54.1		
KLR	**Kul'dur**	**141.32**	**334**		PKhKP	PKPpre	14 50 54.1		
	comp=Z,2.6nm,0.6s,baz=67,slow=5.6,SNR=9.0								
KLR					PKP	**PKPdf**	**14 51 00.9**	**-0.1**	
	comp=Z,4.4nm,0.5s,baz=0.6,slow=2.5,SNR=13								
KLR					PP	**PP**	**14 54 02.9**	**-0.5**	
	comp=Z,1.0nm,0.7s,baz=33,slow=5.3,SNR=4.8								
KLR	**Kul'dur**	**141.32**	**334**	*c*	*i* PKiKP	**PKPdf**	**14 51 02.3**	**+1.3**	
SGDS	**Sogindy**	**141.46**	**39**	*i*	PKP	**PKPdf**	**14 51 00.4**	**-1.2**	
	baz=38								
SGDS	**Sogindy**	**141.46**	**39**	*i*	PKiKP	**PKPdf**	**14 51 00.4**	**-1.2**	
AAK	**Ala-Archa**	**141.84**	**40**	*i*	PKiKP	**PKPdf**	**14 50 59.4**	**-3.0**	
AAK					pmax	pmax			
	comp=Z,18nm,1.1s								
TEY	**Ternei**	**141.89**	**325**	||| *e*	PKiKP	**PKPdf**	**14 51 01.7**	**-0.4**
TEY					pmax	pmax			
	comp=Z,10.0nm,1.6s								
GENI	**Genyem**	**142.12**	**243**		PKP	**PKPdf**	**14 51 00.1**	**-3.4**	
GENI					PKP	**PKiKP**	**14 51 00.8**	**-5.7**	
KUU	**Kurty**	**142.21**	**37**	*e*	PKP	**PKPdf**	**14 51 00.5**	**-2.4**	
	baz=37								
KUU	**Kurty**	**142.21**	**37**	*e*	PKiKP	**PKPdf**	**14 51 00.4**	**-2.4**	
CHKK	**Chushkaly**	**142.60**	**36**	*e*	PKP	**PKPdf**	**14 51 00.6**	**-3.0**	
	baz=36								
CHKK	**Chushkaly**	**142.60**	**36**	*e*	PKiKP	**PKPdf**	**14 51 00.5**	**-3.0**	
TDK	**Taldyqorghan**	**142.65**	**34**	*e*	PKP	**PKPdf**	**14 51 00.6**	**-3.0**	
	comp=Z,37nm,1.1s,baz=34								
TDK	**Taldyqorghan**	**142.65**	**34**	*e*	PKiKP	**PKPdf**	**14 51 00.5**	**-3.0**	
TDK					pmax	pmax			
	comp=Z,37nm,1.1s								
MTBS	**Maitube**	**142.72**	**38**	*i*	PKP	**PKPdf**	**14 51 02.0**	**-1.8**	
	baz=38								
MTBS	**Maitube**	**142.72**	**38**	*i*	PKiKP	**PKPdf**	**14 51 02.0**	**-1.8**	
AAA	**Alma-Ata**	**142.95**	**37**	*e*	PKP	**PKPdf**	**14 51 01.7**	**-2.6**	
	baz=37								
AAA	**Alma-Ata**	**142.95**	**37**	*e*	PKiKP	**PKPdf**	**14 51 01.6**	**-2.6**	
MDOK	**Medeo**	**143.06**	**37**	*i*	PKP	PKPbc	14 51 01.6	+0.1	
	baz=37								
MDOK	**Medeo**	**143.06**	**37**	*i*	PKiKP	PKPbc	14 51 01.6	+0.1	
DGZ	**Jazzator, Alta**	**143.07**	**21**	*i*	PKiKP	PKPbc	14 51 01.0	-0.3	
TNSS	**Tian-Shan**	**143.08**	**37**	*i*	PKP	PKPbc	14 51 02.9	+1.0	
	baz=37								
TNSS	**Tian-Shan**	**143.08**	**37**	*i*	PKiKP	PKPbc	14 51 02.8	+0.9	
MAKZ	**Makanchi**	**143.17**	**29**		PKHKP	PKPpre	14 51 00.1		
MAKZ	**Makanchi**	**143.17**	**29**			PKPpre	14 51 00.1		
GUMO	**Guam**	**143.17**	**271**		PKhKP	PKPpre	14 51 01.6		
	comp=Z,38nm,0.7s,baz=325,slow=24,SNR=2.2								
MKAR	**Makanchi Array**	**143.33**	**29**		PKhKP	PKPpre	14 51 01.7		
	comp=Z,5.7nm,0.6s,baz=312,slow=3.1,SNR=32								
MKAR					PKP	**PKPdf**	**14 51 05.3**	**+0.6**	
	comp=Z,5.6nm,0.6s,baz=300,slow=2.2,SNR=31								
MKAR					SKKPbc	SKKPbc	15 02 48.6	-1.9	
	comp=Z,0.8nm,0.8s,baz=126,slow=7.3,SNR=4.1								
SMPI	**Sarmi**	**143.68**	**243**		PKP	PKPbc	14 51 03.6	-0.3	
SMPI					PKP	**PKPdf**	**14 51 04.8**	**-1.5**	
CIT	**Chita**	**143.87**	**353**	*e*	PKiKP	PKPab	14 51 02.2	-0.5	
CIT				*e*			14 51 20.9		
CIT				*e*			14 54 14.2		
CIT					pmax	pmax			
	comp=Z,63nm,1.7s								
SATY	**Saty**	**143.90**	**36**	*i*	PKP	PKPbc	14 51 04.4	+0.5	
	comp=Z,28nm,1.6s,baz=36								
SATY	**Saty**	**143.90**	**36**	*i*	PKiKP	PKPbc	14 51 04.4	+0.5	
SATY					pmax	pmax			
	comp=Z,28nm,1.6s								
SATY	**Saty**	**143.90**	**36**	*i*	PKiKP	PKPbc	14 51 04.4	+0.5	
SATY					pmax	pmax			
	comp=Z,28nm,1.6s								
ZSN	**Zaisan**	**143.95**	**26**	*e*	PKP	PKPbc	14 51 04.0	+0.3	
	comp=Z,48nm,1.9s,baz=26								
ZSN	**Zaisan**	**143.95**	**26**	*e*	PKiKP	PKPbc	14 51 04.0	+0.3	
ZSN					pmax	pmax			
	comp=Z,48nm,1.9s								
IRK	**Irkutsk**	**143.99**	**3**	*e*	PKiKP	PKPbc	14 51 03.4	-0.3	
IRK					pmax	pmax			
	comp=Z,76nm,2.1s								
UZB	**Uzynbulak**	**144.20**	**36**	*i*	PKP	PKPbc	14 51 05.2	+0.4	
	comp=Z,94nm,1.7s,baz=36								
UZB	**Uzynbulak**	**144.20**	**36**	*i*	PKiKP	PKPbc	14 51 05.2	+0.4	
UZB					pmax	pmax			
	comp=Z,94nm,1.7s								
PRZ	**Przheval'sk**	**144.26**	**37**		PKiKP	**PKPdf**	**14 51 06.5**	**-0.2**	
PRZ	**Przheval'sk**	**144.26**	**37**		PKPdf	**PKPdf**	**14 51 06.5**	**-0.2**	
MOY	**Mondy**	**144.32**	**6**	*e*	PKiKP	**PKPdf**	**14 51 06.3**	**-0.1**	
MOY				*e*			14 51 24.4		
MOY					pmax	pmax			
	comp=Z,105nm,2.4s								
TARG	**Taragay, Kyrgy**	**144.37**	**39**		PKPdf	PKPbc	14 51 05.8	+0.1	
BHUJ	**Bhuj**	**144.39**	**73**	*e*	P	**PKPab**	**14 51 04.7**	**-0.8**	
SHLS	**Shalkode**	**144.44**	**35**	*i*	PKP	**PKPdf**	**14 51 07.5**	**+0.5**	
	comp=Z,136nm,1.3s,baz=35								
SHLS	**Shalkode**	**144.44**	**35**	*i*	PKiKP	**PKPdf**	**14 51 07.4**	**+0.5**	
SHLS					pmax	pmax			
	comp=Z,136nm,1.3s								
KSH	**Kashi**	**144.47**	**43**		PKP	**PKPdf**	**14 51 06.5**	**-0.6**	
**T

BJI					LR	LR			
	comp=Z,170nm,21.6s								
BJI					LR	LR			
	comp=Z,490nm,31.3s								
HHC	**Hu-ho-hao-te**	**155.10**	**351**	*e*PKP	**PKPdf**		**14 51 25.0**	**+1.3**	
HHC				SS	SS		15 14 59.5	-2.4	
HHC				AMB	AMB				
	comp=Z,340nm,10.2s								
HHC				LR	LR				
	comp=Z,400nm,21.2s								
HHC				LR	LR				
	comp=Z,260nm,21.7s								
HHC				LR	LR				
	comp=Z,430nm,21.2s								
KAPI	**Kappang**	**155.34**	**212**	PKPbc	PKPdf		14 51 34.1	+9.4	
	comp=Z,7.4nm,0.5s,baz=170,slow=8.9,SNR=4.6								
KAPI				PKPab	pPKPbc		14 51 51.4	-0.5	
	comp=Z,20nm,0.5s,baz=198,slow=4.3,SNR=6.0								
BTO	**Baotou**	**155.53**	**354**	*e*PKP	**PKPdf**		**14 51 25.5**	**+1.2**	
KOLN	**Koldanda**	**155.63**	**58**	*e*P	**PKPdf**		**14 51 24.5**	**-0.5**	
	comp=Z,68nm,1.5s								
GTA	**Gaotai**	**156.08**	**13**	⇑PKP	**PKPdf**		**14 51 25.8**	**+0.7**	
GTA				pPKP	pPKPdf		14 51 40.8	-2.9	
GTA				sPKP			14 51 48.0		
GTA				PKPab	**PKPab**		**14 51 54.0**	**+1.4**	
GTA				PP	**PP**		**14 55 35.3**	**+6.2**	
GTA				SKKS			15 02 14.3		
GTA				SS	**SS**		**15 15 18.5**	**+5.8**	
GTA				AMB	AMB				
	comp=Z,41nm,6.8s								
GTA				LR	LR				
	comp=Z,250nm,22.5s								
GTA				LR	LR				
	comp=Z,220nm,21.3s								
GTA				LR	LR				
	comp=Z,500nm,23.2s								
GKN	**Gorkha**	**156.38**	**56**	*e*P	**PKPdf**		**14 51 25.7**	**-0.2**	
	comp=Z,165nm,1.7s								
DMN	**Daman**	**156.92**	**57**	*e*P	**PKPdf**		**14 51 26.4**	**-0.3**	
	comp=Z,71nm,1.5s								
KKN	**Kakani**	**156.98**	**56**	*e*P	**PKPdf**		**14 51 26.7**	**-0.1**	
LEM	**Lembang**	**157.10**	**182**	PKP	**PKPdf**		**14 51 27.1**	**-0.1**	
	comp=Z,27nm,0.6s,baz=212,slow=11,SNR=4.4								
LEM				PKPab	**PKPab**		**14 51 59.8**	**+2.2**	
	comp=Z,41nm,0.8s,baz=168,slow=17,SNR=5.5								
PKI	**Pulchoki**	**157.18**	**57**	*e*P	**PKPdf**		**14 51 26.4**	**-0.8**	
	comp=Z,88nm,1.6s								
GUN	**Gumba**	**157.41**	**55**	*e*P	**PKPdf**		**14 51 28.0**	**+0.5**	
JIRN	**Jiri**	**157.76**	**56**	*e*P	**PKPdf**		**14 51 28.3**	**+0.4**	
TIA	**Tai'an**	**158.07**	**337**	PKP	**PKPdf**		**14 51 29.0**	**+1.4**	
RAMN	**Ramite**	**158.40**	**57**	*e*P	**PKPdf**		**14 51 28.3**	**-0.3**	
	comp=Z,172nm,1.6s								
BOK	**Bokaro**	**158.94**	**66**	*e*P	PKPdf		14 51 15.9	-13	
ODAN	**Odare**	**159.07**	**56**	*e*P	**PKPdf**		**14 51 29.0**	**-0.4**	
	comp=Z,89nm,1.3s								
TAPN	**Taplejung**	**159.10**	**55**	*e*P	**PKPdf**		**14 51 29.4**	**-0.1**	
LZH	**Lanzhou**	**160.02**	**7**	⇑PKP	**PKPdf**		**14 51 32.0**	**+1.9**	
LZH				pPKP	pPKPdf		14 51 50.3	+1.9	
LZH				SKKS			15 02 37.0		
LZH				SS	**SS**		**15 15 52.8**	**-1.7**	
LZH				AMB	AMB				
	comp=Z,360nm,9.3s								
LZH				LR	LR				
	comp=Z,650nm,18.5s								
LZH				LR	LR				
	comp=Z,350nm,18.4s								
LZH				LR	LR				
	comp=Z,670nm,20.1s								
NJ2	**Nanjing**	**160.81**	**327**	*e*PKP	**PKPdf**		**14 51 32.3**	**+1.5**	
XAN	**Xi'an**	**162.14**	**354**	PKP	**PKPdf**		**14 51 33.0**	**+0.7**	
XAN				pPKP	pPKPdf		14 51 51.3	+0.7	
XAN				sPKP			14 52 00.5		
XAN				PKPab	**PKPab**		**14 52 18.8**	**-0.1**	
XAN				SS	SS		15 16 15.3	-1.1	
XAN				AMB	AMB				
	comp=Z,300nm,11.4s								
XAN				LR	LR				
	comp=Z,340nm,21.4s								
XAN				LR	LR				
	comp=Z,300nm,22.5s								
XAN				LR	LR				
	comp=Z,450nm,25.7s								
GUWA	**GUWAHATI**	**162.76**	**52**	*e*P	**PKPdf**		**14 51 32.0**	**-1.0**	
SHL	**Shillong**	**163.23**	**54**	*e*P	**PKPdf**		**14 51 29.3**	**-4.4**	
SHL	**Shillong**	**163.23**	**54**	PKIKP	**PKPdf**		**14 51 33.2**	**-0.6**	
SHL	**Shillong**	**163.23**	**54**		**PKPdf**		**14 51 33.2**	**-0.6**	
ITAN	**ITANAGAR**	**163.69**	**46**	*e*P	**PKPdf**		**14 51 32.8**	**-1.1**	
BELO	**BELONIA**	**163.93**	**62**	*e*P	**PKPdf**		**14 51 31.4**	**-2.8**	
WHN	**Wuhan**	**164.15**	**336**	⇓PKP	**PKPdf**		**14 51 35.5**	**+1.3**	
WHN				pPKP	**pPKPdf**		**14 51 54.0**	**+1.4**	
WHN				AMB	AMB				
	comp=Z,580nm,17.4s								
WHN				LR	LR				
	comp=Z,190nm,3.9s								
WHN				LR	LR				
	comp=Z,1μm,31.0s								
RPSI	**Rantau Prapat**	**164.49**	**149**		**PKPdf**		**14 51 34.4**	**-0.6**	
PSI	**Prapat**	**164.58**	**149**	PKIKP	**PKPdf**		**14 51 34.4**	**-0.8**	
SSLB	**Suanglung**	**164.73**	**302**		**PKPdf**		**14 51 34.3**	**-0.6**	
CD2	**Chengdu**	**165.10**	**10**	PKP	**PKPdf**		**14 51 36.0**	**+0.9**	
CD2				pPKP	pPKPdf		14 51 53.5	0.0	
CD2				PP	PP		14 56 25.8	+8.4	
CD2				SKKS			15 03 01.5		
CD2				SS	**SS**		**15 16 50.0**	**+3.0**	
CD2				AMB	AMB				
	comp=Z,550nm,8.3s								
CD2				LR	LR				
	comp=Z,360nm,21.5s								
CD2				LR	LR				
	comp=Z,370nm,23.3s								
CD2				LR	LR				
	comp=Z,640nm,21.5s								
MYKOM	**Kota Tinggi**	**165.38**	**168**		**PKPdf**		**14 51 35.0**	**-0.7**	
SAIH	**SAIHA**	**165.53**	**62**	*e*P	**PKPdf**		**14 51 36.5**	**+0.7**	
ENH	**Enshi**	**165.79**	**351**		**PKPdf**		**14 51 35.6**	**-0.1**	
QZH	**Quanzhou**	**165.97**	**310**	PKP	**PKPdf**		**14 51 37.3**	**+1.4**	
QZH				pPKP	**pPKPdf**		**14 51 55.5**	**+1.2**	
QZH				LR	LR				
	comp=Z,260nm,17.5s								
QZH				LR	LR				
	comp=Z,110nm,18.8s								
QZH				LR	LR				
	comp=Z,290nm,18.2s								
IPM	**Ipoh**	**167.03**	**153**		**PKPdf**		**14 51 35.7**	**-1.4**	
GYA	**Guiyang**	**169.80**	**1**	⇑PKP	**PKPdf**		**14 51 39.5**	**+0.8**	
GYA				pPKP	pPKPdf		14 51 58.3	+1.2	
GYA				PKPab	**PKPab**		**14 52 53.3**	**+0.4**	
GYA				AMB	AMB				
	comp=Z,460nm,8.7s								
GYA				LR	LR				
	comp=Z,250nm,24.4s								
GYA				LR	LR				
	comp=Z,170nm,20.4s								
GYA				LR	LR				
	comp=Z,450nm,24.1s								
KMI	**Kunming**	**170.34**	**23**	⇑PKP	**PKPdf**		**14 51 39.8**	**+0.6**	
KMI				pPKP	pPKPdf		14 51 57.8	+0.2	
CM31	**Chiang Mai Arr**	**172.15**	**72**		**PKPab**		**14 53 04.6**	**+0.8**	
CMAR	**Chiang Mai Arr**	**172.15**	**72**	PKP	**PKPdf**		**14 51 40.1**	**+0.1**	
	comp=Z,5.2nm,0.9s,baz=288,slow=1.8,SNR=44								
CMAR				PKPab	**PKPab**		**14 53 03.6**	**-0.2**	
	comp=Z,11nm,1.1s,baz=280,slow=5.8,SNR=19								
CMAR				PP	**PP**		**14 56 55.8**	**+0.4**	
	comp=Z,3.9nm,1.1s,baz=279,slow=6.5,SNR=5.9								
PBKT	**Sadao Pong**	**174.37**	**86**		**PKPdf**		**14 51 40.9**	**+0.1**	
PBKT				PKPab	**PKPab**		**14 53 14.5**	**+0.8**	
QIZ	**Qiongzhong**	**175.98**	**315**	PKP	**PKPdf**		**14 51 40.5**	**-0.8**	
QIZ				PP	**PP**		**14 57 12.5**	**-0.4**	
QIZ				SS	SS		15 18 38.0	+1.6	
QIZ				LR	LR				
	comp=Z,230nm,16.1s								
QIZ				LR	LR				
	comp=Z,190nm,20.0s								
QIZ				LR	LR				
	comp=Z,430nm,26.0s								

TIF ***25*** *14:34:02.7,41.24N×43.58E,h13km±1km*
DDA ***25*** *14:34:02.8,41.28N×43.54E,h20km, ML2.8*
ISC 25 14:34:02.8±0.9, 41.25N±0.02×43.56E±0.02, h17km±11km, n23, σ0.42/46, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
AKH	**Akhalkalaki**	**0.17**	**342**	P	**Pb**		**14 34 07.6**	**+0.1**
AKH				S	**Sb**		**14 34 10.3**	**-0.3**
DMNI	**Dmanisi**	**0.48**	**81**	P	**Pg**		**14 34 12.6**	**+0.1**
DMNI				S	**Sg**		**14 34 18.9**	**0.0**
TRLG	**Trialeti**	**0.50**	**55**	P	**Pb**		**14 34 13.0**	**-0.1**
TRLG				S	**Sg**		**14 34 19.7**	**+0.2**
BKRG	**Bakuriani**	**0.51**	**357**	P	**Pb**		**14 34 13.7**	**+0.4**
BKRG				S	**Sb**		**14 34 21.2**	**+0.7**
EAK	**Akyaka**	**0.57**	**177**	*i* P	**Pg**		**14 34 14.1**	**0.0**
EAK				*i* S	**Sg**		**14 34 21.9**	**+0.3**
KZRT	**Kazreti**	**0.64**	**78**	*i* P	**Pg**		**14 34 15.3**	**-0.1**
KZRT				*i* S	**Sg**		**14 34 23.4**	**-0.7**
KZRT	**Kazreti**	**0.64**	**78**	P	**Pg**		**14 34 15.4**	**-0.1**
KZRT				S	**Sg**		**14 34 23.7**	**-0.4**
TBLG	**Delisi**	**1.00**	**61**	*i* P	**Pn**		**14 34 22.0**	**-0.1**
TBLG				*i* S	**Sg**		**14 34 35.2**	**-0.2**
TBLG				IAML			14 34 36.0	
	comp=E,118nm,0.2s							
TBLG				IAML			14 34 36.0	
	comp=N,251nm,0.4s							
TBLG	**Delisi**	**1.00**	**61**	P	**Pn**		**14 34 22.0**	**-0.1**
TBLG				S	**Sg**		**14 34 35.5**	**0.0**
TKB	**Tkibuli**	**1.18**	**339**	P	**Pg**		**14 34 25.7**	**+0.1**
TKB				S	**Sg**		**14 34 41.7**	**+0.8**
ARTV	**Artvin**	**1.23**	**267**	*i* P	**Pg**		**14 34 26.4**	**-0.3**
ARTV				*i* S	**Sg**		**14 34 43.3**	**+0.5**
DAGI	**Agillar**	**1.26**	**263**	*i* P	**Pg**		**14 34 26.7**	**-0.3**
DAGI				*i* S	**Sg**		**14 34 43.8**	**+0.4**
ONI	**Oni**	**1.34**	**357**	P	**Pg**		**14 34 28.2**	**-0.4**
ONI				S	**Sg**		**14 34 46.1**	**0.0**
DGRG	**David-gareji**	**1.38**	**81**	P	**Pg**		**14 34 28.9**	**-0.4**
DGRG				S	**Sg**		**14 34 48.3**	**+1.0**
DDEM	**Demirkent**	**1.42**	**256**	*i* P	**Pg**		**14 34 30.0**	**-0.1**
DDEM				*i* S	**Sg**		**14 34 47.9**	**-0.7**
DDEM				IAML			14 34 56.0	
	comp=N,156nm,0.6s							
DBAD	**Bademkaya**	**1.43**	**261**	*i* P	**Pb**		**14 34 29.3**	**+0.3**
DBAD				*i* S	**Sg**		**14 34 48.9**	**-0.1**
DBOC	**Borcka**	**1.43**	**274**	*i* P	**Pb**		**14 34 29.6**	**+0.6**
DBOC				*i* S	**Sg**		**14 34 48.4**	**-0.6**
IGDI	**IGDIR**	**1.44**	**164**	*i* P	**Pb**		**14 34 29.5**	**+0.4**
IGDI				*i* S	**Sg**		**14 34 48.6**	**-0.6**
BATM	**Batumi**	**1.45**	**285**	*i* P	**Pg**		**14 34 30.3**	**-0.3**
BATM				*i* S	**Sg**		**14 34 48.8**	**-0.7**
BATM	**Batumi**	**1.45**	**285**	P	**Pg**		**14 34 30.4**	**-0.3**
BATM				S	**Sg**		**14 34 49.5**	**0.0**
PNSH	**Pansheti**	**1.59**	**29**	P	**Pg**		**14 34 33.0**	**-0.4**
PNSH				S	**Sg**		**14 34 53.8**	**-0.3**
EATA	**Eleskirt**	**1.61**	**211**	*i* P	**Pg**		**14 34 33.2**	**-0.6**
EATA				*i* S	**Sg**		**14 34 55.1**	**+0.3**
CHVG	**Ch'k'valeri**	**1.83**	**324**	P	**Pg**		**14 34 37.7**	**-0.3**
CHVG				S	**Sg**		**14 35 01.7**	**-0.1**

JMA 25 14:46:35.3±0.2, 24.04N×123.54E, h24km±2km, M0.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
HATJ	**Hateruma jima**	**0.24**	**86**	P	Pb		14 46 41.3	-0.1
HATJ				*e*S	Sb		14 46 45.5	-0.1
IRIF	**Iriomote-Funau**	**0.34**	**31**	P	Pb		14 46 42.7	-0.2
IRIF				S	Sb		14 46 48.2	+0.2
JKRS	**Kuro-shima**	**0.47**	**65**	P	Pb		14 46 45.0	0.0
JKRS				S	Sb		14 46 52.2	+0.6
JIJ	**Ishigaki jima**	**0.64**	**60**	P	Pb		14 46 47.5	-0.3
JIJ				S	Sb		14 46 55.8	-0.5
YOJ	**Yonaguni jima**	**0.64**	**311**	S	Sb		14 46 56.9	+0.5
JISG	**Ishigakijimahi**	**0.89**	**52**	P	Pb		14 46 51.5	-0.6
JISG				*e*S	Sb		14 47 03.2	-0.3
JTJ	**Tarama**	**1.22**	**60**	S	Sb		14 47 13.6	+0.7

TAP 25 14:47:19.1, 23.65N×121.42E, h14km, ML1.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
EGFH	**Guangfu**	**0.02**	**27**	*i* P	Pg		14 47 21.7	+0.2
	baz=18							
EGFH				*i* S	Sg		14 47 23.4	+0.1
	baz=18							
HGSD	**Ruisui**	**0.16**	**178**	*e*P	Pb		14 47 23.7	-0.1
	baz=187							
HGSD				*e*S	Sb		14 47 26.9	-0.1
	baz=187							
ESL	**Shilin**	**0.16**	**5**	*i* P	Pg		14 47 23.2	+0.1
	baz=14							
ESL				*i* S	Sg		14 47 25.6	-0.1
	baz=14							
EHY	**Hungye**	**0.17**	**211**	*i* P	Pg		14 47 23.1	0.0
	baz=210							
EHY				*i* S	Sg		14 47 26.0	+0.1
	baz=210							
VWDT	**VWDT**	**0.27**	**292**	P	Pg		14 47 25.1	+0.3
	baz=292							
VWDT				S	Sg		14 47 29.0	+0.3
	baz=292							
YULB	**Yu-li**	**0.28**	**203**	P	Pg		14 47 25.1	+0.1
	baz=203							
YULB				S	Sg		14 47 29.1	+0.1
	baz=203							
TWF1	**Yuli**	**0.32**	**200**	P	Pg		14 47 25.6	-0.1
	baz=205							
TWF1				S	Sg		14 47 30.4	+0.4
	baz=205							
SSLB	**Suanglung**	**0.45**	**288**	P	Pg		14 47 27.8	-0.1
	baz=288							
SSLB				S	Sg		14 47 33.3	-0.7
	baz=288							
CHGB	**Renai**	**0.46**	**331**	P	Pg		14 47 28.5	+0.1
	baz=341							
CHGB				S	Sg		14 47 35.0	+0.4
	baz=341							
FULB	**Fuli**	**0.47**	**194**	*e*P	Pg		14 47 28.2	-0.1
	baz=206							
FULB				*e*S	Sb		14 47 35.8	0.0
	baz=206							
WHF	**Hehuan Shan**	**0.51**	**344**	P	Pg		14 47 29.3	+0.1
	baz=346							
WHF				S	Sg		14 47 36.5	+0.3
	baz=346							
ETLH	**Xiulin Townshi**	**0.56**	**6**	*e*S	Sg		14 47 37.4	-0.1
	baz=8.0							
NNSH	**Datong**	**0.77**	**358**	*e*P	Pg		14 47 33.8	-0.3
	baz=3.0							
NNSH				S	Sg		14 47 44.1	-0.2
	baz=3.0							

JMA ***25*** *15:27:18.9±0.3,30.50N×138.75E,h491km,M3.9*
NEIC ***25*** *15:27:21.6±1.3,30.43N±0.09×138.2E±0.1,h448km±7km, mb4.4/94, Error ellipse: s-maj=14.1km s-min=12.4km az=95.0*
IDC ***25*** *15:27:22.1±0.9,30.48N×138.32E,h455km±10km, mb3.3/21,mb1 3.5/29,mb1mx3.4/55,mbtmp4.2/29, Error ellipse: s-maj=13.0km s-min=8.7km az=90.0*
ISC 25 15:27:20.8±0.4, 30.41N±0.05×138.33E±0.06, h440km, n160, σ1.01/168, mb4.3/68, 2C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
JHCJ	**Hachijojimakas**	**2.93**	**25**	P	**P**		**15 28 28.1**	**+1.7**
JHJ	**Hachijo jima 2**	**2.97**	**24**	P	**P**		**15 28 27.9**	**+1.2**
	78nm,0.3s,baz=304,slow=14,SNR=51							
JHJ				S	**S**		**15 29 17.9**	**-2.5**
	31nm,0.3s,baz=253,slow=19,SNR=2.0							
JHJ2	**Mitsune**	**2.97**	**25**	P	**P**		**15 28 28.2**	**+1.5**
JHJ2	**Mitsune**	**2.97**	**25**		**P**		**15 28 28.3**	**+1.5**
JMKN	**Mikurajimanish**	**3.63**	**17**	P	**P**		**15 28 32.8**	**+0.8**
JIE	**Ise**	**4.20**	**341**	P	**P**		**15 28 39.9**	**+2.9**
CBIJ	**Chichi jima**	**4.73**	**133**	P	**P**		**15 28 41.5**	**-0.6**
CBIJ				S	**S**		**15 29 44.9**	**-3.4**
JCJ	**Chichijima**	**4.73**	**133**	P	**P**		**15 28 41.5**	**-0.7**
	27nm,0.3s,baz=300,slow=23,SNR=82							
JCJ				S	**S**		**15 29 44.9**	**-3.4**
	27nm,0.3s,baz=291,slow=17,SNR=9.6							
BSO3	**Boso 3**	**4.75**	**22**	P	**P**		**15 28 41.7**	**-0.1**
BSO1	**Boso 1**	**4.78**	**27**	P	**P**		**15 28 42.4**	**+0.6**
BSO1				S	**S**		**15 29 47.6**	**-0.5**
BSO4	**Boso 4**	**4.87**	**20**	P	**P**		**15 28 43.4**	**+0.3**
MJAR	**Matsushiro Arr**	**6.11**	**359**	P	**P**		**15 28 55.5**	**-0.4**
	0.4nm,0.3s,baz=176,slow=11,SNR=21							
MAJO	**Matsushiro**	**6.12**	**359**		**P**		**15 28 55.7**	**-0.1**
MAT	**Matsushiro**	**6.12**	**359**	P	**P**		**15 28 56.0**	**+0.2**
MAT				S	**S**		**15 30 10.0**	**-3.6**

JNU	**Nakatsue**	**6.90**	**295**	P	**P**		**15 29 06.2**	**+1.9**
	1.1nm,0.3s,baz=105,slow=5.5,SNR=11							
JNU	**Nakatsue**	**6.90**	**295**	P	**P**		**15 29 06.7**	**+2.4**
KSRS	**Korea Array**	**11.13**	**312**	P	**P**		**15 29 51.5**	**+1.3**
	1.0nm,0.3s,baz=127,slow=10,SNR=27							
KS19	**Wonju Array Si**	**11.20**	**312**	P	**P**		**15 29 51.5**	**+0.6**
ERM	**Erimo**	**12.21**	**17**	P	**P**		**15 30 03.3**	**+1.4**
ASAJ	**Asahikawa**	**14.09**	**13**	P	**P**		**15 30 23.9**	**+1.6**
	2.5nm,0.3s,baz=232,slow=9.4,SNR=25							
JKA	**Kamikawa-asahi**	**14.09**	**13**	P	**P**		**15 30 23.7**	**+1.5**
USA0B	**Ussuriysk Arra**	**14.65**	**342**	P	**P**		**15 30 28.3**	**+0.1**
USRK	**Ussuriysk Ar.**	**14.65**	**342**	P	**P**		**15 30 28.8**	**+0.6**
	baz=149,slow=11,SNR=33							
YOJ	**Yonaguni jima**	**14.83**	**250**	P	**P**		**15 30 30.0**	**-0.5**
YHNB	**Yeheng**	**16.09**	**253**	P	**P**		**15 30 42.3**	**-1.6**
YHNB				IAmb	IAmb		15 31 06.8	
	comp=Z,25nm,1.4s							
NACB	**Ninganchiao**	**16.12**	**251**	P	**P**		**15 30 42.4**	**-1.7**
NACB				IAmb	IAmb		15 31 22.1	
	comp=Z,15nm,0.7s							
YULB	**Yu-li**	**16.72**	**249**	P	**P**		**15 30 49.3**	**-1.2**
YULB				IAmb	IAmb		15 30 50.4	
	comp=Z,7.2nm,0.9s							
SSLB	**Suanglung**	**16.81**	**251**	P	**P**		**15 30 50.9**	**-0.7**
SSLB				IAmb	IAmb		15 30 52.3	
	comp=Z,9.7nm,0.7s							
YSS	**Yuzh-Sakhalins**	**16.87**	**10**	P	**P**		**15 30 52.0**	**+0.3**
YSS				IAmb	IAmb		15 30 55.6	
	comp=Z,17nm,0.8s							
TPUB	**Ta-pu**	**17.30**	**250**	P	**P**		**15 30 55.9**	**-0.8**
TPUB				IAmb	IAmb		15 31 08.2	
	comp=Z,8.0nm,0.8s							
GUMO	**Guam**	**17.80**	**159**	P	**P**		**15 31 02.8**	**+0.8**
	comp=Z,2.9nm,0.3s,baz=330,slow=20,SNR=1.2							
GUMO	**Guam**	**17.80**	**159**	P	**P**		**15 31 02.3**	**+0.3**
KLR	**Kul'dur**	**19.45**	**347**	P	**P**		**15 31 18.1**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=163,slow=7.3,SNR=32							
HHC	**Hu-ho-hao-te**	**24.04**	**303**	*e*P	**P**		**15 31 58.3**	**-1.0**
HHC				pmax	pmax			
	comp=Z,19nm,0.9s							
HHC				pmax	pmax			
	comp=Z,97nm,4.0s							
HHC				LR	LR			
	comp=N,120nm,10.0s							
HHC				LR	LR			
	comp=E,110nm,10.4s							
HHC				LR	LR			
	comp=Z,100nm,11.1s							
ENH	**Enshi**	**24.87**	**277**	P	**P**		**15 32 06.0**	**-0.8**
XAN	**Xi'an**	**25.10**	**286**	P	**P**		**15 32 08.3**	**-0.5**
XAN				pP	PP		15 32 35.5	-42
XAN				pmax	pmax			
	comp=Z,38nm,0.7s							
XAN	**Xi'an**	**25.10**	**286**	P	**P**		**15 32 08.3**	**-0.5**
DAV	**Davao City (W)**	**26.12**	**210**	P	**P**		**15 32 19.7**	**+1.7**
	comp=Z,348nm,0.4s,baz=31,slow=11,SNR=3.8							
DAV	**Davao City (W)**	**26.12**	**210**	IAmb	IAmb		15 32 23.1	
	comp=Z,402nm,0.4s							
PETK	**Petropavlovsk-**	**26.72**	**26**	P	**P**		**15 32 23.8**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=262,slow=2.9,SNR=2.4							
GYA	**Guiyang**	**28.08**	**270**	⇑P	**P**		**15 32 35.0**	**-0.3**
GYA				pmax	pmax			
	comp=Z,9.0nm,0.7s							
LZH	**Lanzhou**	**29.29**	**290**	⇓P	**P**		**15 32 46.5**	**+0.6**
LZH				pP	PP		15 34 04.5	+1.0
LZH				sP	sP		15 34 55.5	+2.5
LZH				pmax	pmax			
	comp=Z,25nm,1.3s							
LZH				pmax	pmax			
	comp=Z,67nm,5.2s							
CD2	**Chengdu**	**29.68**	**280**	*e*P	**P**		**15 32 48.5**	**-0.7**
SONM	**Songino Array**	**29.99**	**315**	P	**P**		**15 32 51.8**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=125,slow=9.0,SNR=3.3							
MA2	**Magadan**	**30.35**	**13**	P	**P**		**15 32 55.4**	**+0.8**
MA2				IAmb	IAmb		15 32 56.2	
	comp=Z,20nm,0.8s							
YAK	**Yakutsk**	**32.13**	**352**	P	**P**		**15 33 09.8**	**0.0**
YAK				IAmb	IAmb		15 33 12.5	
	comp=Z,5.9nm,0.6s							
SLVN	**Son La**	**32.17**	**262**	P	**P**		**15 33 11.1**	**+0.3**
SLVN				IAmb	IAmb		15 33 12.3	
	comp=Z,8.9nm,0.7s							
GTA	**Gaotai**	**32.63**	**297**	⇑P	**P**		**15 33 14.5**	**-0.2**
GTA				pP	pP		15 34 33.8	+1.3
GTA				sP	sP		15 35 25.0	+2.0
GTA				pmax	pmax			
	comp=Z,9.0nm,0.8s							
TLY	**Talaya**	**33.24**	**320**	P	**P**		**15 33 18.7**	**-0.8**
FAKI	**Fak Fak**	**33.65**	**191**	P	**P**		**15 33 24.5**	**+1.1**
SMY	**Shemya**	**34.30**	**39**	P	**P**		**15 33 30.6**	**+2.2**
AMKA	**Amchitka**	**36.74**	**43**	P	**P**		**15 33 50.2**	**+1.2**
PBKT	**Sadao Pong**	**36.75**	**257**	P	**P**		**15 33 49.7**	**+0.2**
PBKT				IAmb	IAmb		15 33 50.7	
	comp=Z,11nm,0.6s							
CM31	**Chiang Mai Arr**	**37.60**	**261**	P	**P**		**15 33 56.7**	**+0.1**
CM31				IAmb	IAmb		15 33 57.6	
	comp=Z,8.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**37.60**	**261**	P	**P**		**15 33 56.9**	**+0.3**
	comp=Z,5.1nm,0.7s,baz=57,slow=6.4,SNR=40							
KSM	**Kuching**	**39.18**	**228**	P	**P**		**15 34 10.4**	**+1.0**
KSM				IAmb	IAmb		15 34 11.6	
	comp=Z,12nm,1.0s							
ADK	**Adak**	**39.28**	**44**	P	**P**		**15 34 10.0**	**+0.2**
ADK				IAmb	IAmb		15 35 36.7	
	comp=Z,37nm,1.3s							

WB2 Warramunga Arr 50.21 185 P **P** **15 35 34.8 -0.1**
WB2 IAmb IAmb 15 36 12.6
comp=Z,30nm,1.9s
WRA Warramunga Arr 50.21 185 P **P** **15 35 35.0 +0.2**
comp=Z,3.4nm,0.7s,baz=0.5,slow=7.7,SNR=49
WR0 Warramunga Arr 50.21 185 P **P** **15 35 35.0 +0.1**
WR0 IAmb IAmb 15 37 03.3
comp=Z,30nm,2.0s
BRVK Borovoye 53.38 316 P **P** **15 35 57.9 +0.3**
OHAK Old Harbor 53.43 39 P **P** **15 35 58.0 +0.2**
RSO Redoubt South 53.73 35 P **P** **15 36 01.1 +1.0**
KDAK Kodiak Island 53.80 38 P **P** **15 36 00.8 +0.3**
comp=Z,11nm,0.8s,baz=260,slow=4.9,SNR=4.9
KDAK Kodiak Island 53.80 38 P **P** **15 36 01.0 +0.5**
AS31 Alice Springs 53.94 185 P **P** **15 36 02.0 +0.2**
ASAR Alice Springs 53.94 185 P **P** **15 36 02.1 +0.3**
comp=Z,1.2nm,0.5s,baz=359,slow=6.2,SNR=69
PPLA Purkeypile 54.09 32 P **P** **15 36 04.2 +1.6**
PPLA IAmb IAmb 15 38 00.5
comp=Z,38nm,1.8s
SKT Skwentna 54.37 33 P **P** **15 36 05.3 +0.9**
SKT IAmb IAmb 15 37 02.9
comp=Z,25nm,1.7s
KK31 Karatay Array 54.42 304 P **P** **15 36 05.0 -0.1**
KKAR Karatay Array 54.42 304 P **P** **15 36 04.9 -0.3**
CNPM China Poot 54.49 36 P **P** **15 36 05.7 +0.4**
PSA00 Pilbara Seismi 54.66 201 P **P** **15 36 06.5 -0.5**
PSA00 IAmb IAmb 15 36 07.9
comp=Z,8.5nm,0.8s
BRLK Bradley Lake 54.67 36 P **P** **15 36 07.9 +1.3**
BPAW Bear Paw Mtn. 54.69 31 P **P** **15 36 08.2 +1.5**
KTH Kantishna Hill 54.69 31 P **P** **15 36 07.7 +0.9**
SUA Susitna One 54.73 34 P **P** **15 36 07.9 +0.8**
SUA IAmb IAmb 15 36 48.1
comp=Z,28nm,1.3s
TRF Thorofare Moun 54.98 31 P **P** **15 36 09.9 +1.0**
TRF IAmb IAmb 15 37 12.1
comp=Z,44nm,2.0s
SEW Seward 55.38 35 P **P** **15 36 12.4 +0.9**
GAR Garm 55.41 299 P **P** **15 36 12.2 -0.1**
GAR IAmb IAmb 15 36 12.7
comp=Z,16nm,1.4s
TOLK Toolik Lake Re 55.53 25 P **P** **15 36 14.2 +1.6**
TOLK IAmb IAmb 15 37 11.2
comp=Z,28nm,2.0s
GHO Glory Hole Cre 55.60 33 P **P** **15 36 13.7 +0.5**
GHO IAmb IAmb 15 37 43.7
comp=Z,37nm,1.7s
RND Reindeer 55.62 31 P **P** **15 36 13.2 -0.1**
KNK Knik Glacier 55.83 34 P **P** **15 36 15.0 +0.2**
KNK IAmb IAmb 15 37 09.2
comp=Z,44nm,1.6s
SML Sawmill 55.88 33 P **P** **15 36 15.5 +0.4**
SML IAmb IAmb 15 36 48.5
comp=Z,27nm,1.4s
MDM Murphy Dome 55.90 30 P **P** **15 36 16.2 +1.1**
WRH Wood River Hil 55.96 30 P **P** **15 36 16.3 +0.8**
WRH IAmb IAmb 15 36 17.6
comp=Z,20nm,1.8s
CCB Clear Creek Bu 56.08 30 P **P** **15 36 16.7 +0.3**
SCM Sheep Creek Mo 56.36 33 P **P** **15 36 19.2 +0.8**
CHGR Chuyangaron 56.37 298 P **P** **15 36 18.2 -0.7**
HDA Harding Lake 56.45 30 P **P** **15 36 18.9 -0.1**
HDA IAmb IAmb 15 36 34.4
comp=Z,25nm,1.9s
IL31 56.48 30 P **P** **15 36 19.0 -0.1**
ILAR Eielson Array 56.48 30 P **P** **15 36 18.4 -0.8**
comp=Z,0.6nm,0.5s,baz=298,slow=8.0,SNR=12
KLU Klutina 57.04 34 P **P** **15 36 24.1 +0.9**
KLU IAmb IAmb 15 36 46.0
comp=Z,46nm,1.8s
PAX Paxson 57.16 32 P **P** **15 36 24.2 +0.1**
PAX IAmb IAmb 15 37 21.2
comp=Z,22nm,2.0s
RIDG Independent Ri 57.40 31 P **P** **15 36 25.9 +0.3**
RIDG IAmb IAmb 15 37 20.1
comp=Z,18nm,1.6s
DOT Dot Lake 57.76 31 P **P** **15 36 28.2 +0.2**
DOT IAmb IAmb 15 36 29.0
comp=Z,5.9nm,0.6s
MENT Mentasta 57.97 32 P **P** **15 36 30.6 +1.2**
MENT IAmb IAmb 15 36 31.2
comp=Z,5.6nm,0.5s
GLB Gilahina Butte 58.06 34 P **P** **15 36 31.4 +1.2**
GLB IAmb IAmb 15 37 34.0
comp=Z,28nm,1.7s
ISLE Juniper Island 58.87 35 P **P** **15 36 36.5 +0.8**
ISLE IAmb IAmb 15 38 48.5
comp=Z,32nm,1.3s
EGAK Eagle 58.93 30 P **P** **15 36 36.2 +0.4**
BARN Barnard Glacie 59.13 34 P **P** **15 36 39.0 +1.4**
ARU Arti 59.73 321 P **P** **15 36 40.8 -0.7**
INK Inuvik 61.45 25 P **P** **15 36 53.8 +1.2**
FORT Forrest 61.63 190 P **P** **15 36 55.0 +0.7**
FORT IAmb IAmb 15 38 11.5
comp=Z,22nm,1.1s
STKA Stephens Creek 62.03 177 P **P** **15 36 57.6 +0.7**
comp=Z,1.0nm,0.5s,baz=359,slow=7.5,SNR=5.0
STKA Stephens Creek 62.03 177 P **P** **15 36 57.6 +0.7**
BBOO Buckleboo 62.92 182 P **P** **15 37 03.3 +0.6**
BBOO IAmb IAmb 15 37 47.8
comp=Z,36nm,1.7s
C36M Paulatuk 64.51 23 P **P** **15 37 12.8 +0.3**
GEYT Alibeck 64.89 301 P **P** **15 37 15.4 -0.1**
comp=Z,0.9nm,0.4s,baz=64,slow=6.6,SNR=2.5
ARCES ARCESS Array B 69.29 340 P **P** **15 37 42.0 -0.2**
comp=Z,0.6nm,0.5s,baz=61,slow=9.4,SNR=7.7
YKA Yellowknife Ar 70.83 28 P **P** **15 37 51.4 0.0**
comp=Z,1.5nm,0.7s,baz=295,slow=7.6,SNR=2.7
KBZ Khabaz 73.28 311 P **P** **15 38 06.0 -0.1**
comp=Z,3.9nm,0.8s,baz=116,slow=5.4,SNR=7.1
FIA1 FINESS Array S 73.47 332 P **P** **15 38 06.5 -0.3**
FINES FINESS Array B 73.47 332 P **P** **15 38 06.2 -0.7**
comp=Z,1.7nm,0.5s,baz=63,slow=5.3,SNR=16
LTY Liberty 75.14 44 P **P** **15 38 17.4 +0.6**
LTY IAmb IAmb 15 39 08.5
comp=Z,3.1nm,0.5s
PINE Pine Mountain 76.65 47 P **P** **15 38 26.6 +1.2**
PINE IAmb IAmb 15 38 27.6
comp=Z,8.2nm,1.1s
NEW Newport 76.72 42 P **P** **15 38 26.0 +0.6**
AKASG Malin Array Be 77.94 322 P **P** **15 38 31.2 -0.8**
comp=Z,0.7nm,0.3s,baz=51,slow=5.1,SNR=5.2
AKBB Malin Array Si 77.94 322 P **P** **15 38 31.1 -0.9**
AKBB IAmb IAmb 15 38 31.5
comp=Z,2.5nm,0.5s
WALA Waterton Lakes 78.11 40 P **P** **15 38 33.7 +0.6**
WALA IAmb IAmb 15 41 22.9
comp=Z,18nm,1.7s
HFS Hagfors 79.03 335 P **P** **15 38 36.5 -1.2**
comp=Z,1.0nm,0.4s,baz=98,slow=2.9,SNR=9.4
NC405 NORSAR Array S 79.04 337 P **P** **15 38 37.2 -0.6**
NOA NORSAR Array B 79.26 337 P **P** **15 38 38.1 -0.9**
comp=Z,0.4nm,0.5s,baz=50,slow=4.9,SNR=1.6
PNTR Pine Nut 79.88 51 P **P** **15 38 43.5 +0.5**
PNTR IAmb IAmb 15 41 00.7
comp=Z,26nm,2.0s
NVAR Mina Array Bea 81.08 51 P **P** **15 38 49.5 +0.2**
comp=Z,0.3nm,0.6s,baz=290,slow=4.9,SNR=2.5
BRTR Keskin Array B 81.28 311 P **P** **15 38 49.8 -0.4**
comp=Z,1.5nm,0.7s,baz=108,slow=4.0,SNR=6.5
BOZ Bozeman (W) 81.32 42 P **P** **15 38 51.0 +0.7**
PDAR Pinedale Array 84.18 43 P **P** **15 39 04.8 -0.2**
comp=Z,0.3nm,0.5s,baz=29,slow=2.1,SNR=3.8
TORD Torodi Ar. Bea 119.87 310 PKP **PKPdf** **15 45 19.6 -1.2**
comp=Z,0.2nm,0.5s,baz=123,slow=2.4,SNR=1.9

*IDC **25** 15:37:18.1±1.0,21.71N×146.01E,h0km,mb3.7/9, mb1 3.9/11,mb1mx3.7/50,mbtmp3.8/11,ML3.5/2,Error ellipse: s-maj=35.5km s-min=18.4km az=85.0*
*NEIC **25** 15:37:21.4±1.2,21.8N±0.1×145.8E±0.1,h21km±6km, mb4.7/2,Error ellipse: s-maj=20.2km s-min=15.4km az=57.0*
ISC 25 15:37:23.7±0.9,**21.8N**±0.1×**145.8E**±0.2,**h35**km,**n14,** σ1§**16**/15,**mb3.8**/11,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.23**	**329**	Pn	**Pn**	**15 38 52.6**	**-0.5**
	7.1nm,0.3s,baz=279,slow=22,SNR=17						
JCJ				Sn	**Sn**	**15 40 01.5**	**-1.6**
	9.1nm,0.3s,baz=287,slow=23,SNR=12						
JCJ	**Chichijima**	**6.23**	**329**		**Pn**	**15 38 52.4**	**-0.7**
MJAR	**Matsushiro Arr**	**16.11**	**337**	Pn	**Pn**	**15 41 06.9**	**-0.7**
	0.0nm,0.3s,baz=163,slow=8.7,SNR=1.4						
KSRS	**Korea Array**	**21.97**	**319**	P	**P**	**15 42 16.5**	**+2.0**
	1.1nm,0.9s,baz=149,slow=9.5,SNR=4.5						
USRK	**Ussuriysk Ar.**	**25.10**	**336**	P	**P**	**15 42 46.7**	**+1.6**
	2.2nm,1.0s,baz=152,slow=8.6,SNR=2.0						
KLR	**Kul'dur**	**29.57**	**341**	P	**P**	**15 43 26.6**	**+1.5**
	0.9nm,0.4s,baz=168,slow=9.3,SNR=2.6						
WB0	**Warramunga Arr**	**42.79**	**196**	P	**P**	**15 45 17.4**	**-0.8**
WB0				IAmb	IAmb	15 46 14.7	
	comp=Z,24nm,1.8s						
WB2	**Warramunga Arr**	**42.97**	**196**	P	**P**	**15 45 19.4**	**-0.2**
WB2				IAmb	IAmb	15 45 25.7	
	comp=Z,29nm,1.9s						
WRA	**Warramunga Arr**	**42.97**	**196**	P	**P**	**15 45 19.0**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=13,slow=8.6,SNR=8.4						
ASAR	**Alice Springs**	**46.65**	**195**	P	**P**	**15 45 48.1**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=13,slow=7.0,SNR=9.1						
MKAR	**Makanchi Array**	**56.44**	**312**	P	**P**	**15 47 03.0**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=89,slow=10,SNR=3.0						
ILAR	**Eielson Array**	**60.84**	**27**	P	**P**	**15 47 31.8**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=270,slow=4.5,SNR=5.5						
NVAR	**Mina Array Bea**	**81.16**	**52**	P	**P**	**15 49 36.1**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=268,slow=2.5,SNR=2.3						
FINES	**FINESS Array B**	**84.13**	**335**	P	**P**	**15 49 50.2**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=27,slow=4.7,SNR=4.3						

BUC 25 15:44:54.3±0.4,**45.74N**×**26.73E,h125**km±2km,**ml3.5**/22, **62C-22D,Error ellipse: s-maj=2.3km s-min=2.1km az=160.0,Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.12**	**334**	⇓P	Pn	15 45 11.6	+0.1
PLOR				⇓S	Sn	15 45 25.3	+0.9
PLOR	**Plostina**	**0.12**	**334**	⇓P	Pn	15 45 11.6	+0.1
PLOR				⇓S	Sn	15 45 25.0	+0.9
VRI	**Vrincioaia**	**0.13**	**360**	⇑P	Pn	15 45 11.8	+0.4
VRI				⇑S	Sn	15 45 24.7	+0.3
VRI	**Vrincioaia**	**0.13**	**360**	⇑P	Pn	15 45 11.8	+0.4
VRI				⇑S	Sn	15 45 24.7	+0.3
NEHR	**Nehoiu**	**0.43**	**224**	⇑S	Sn	15 45 26.9	+0.7
NEHR	**Nehoiu**	**0.43**	**224**	⇑S	Sn	15 45 26.9	+0.7
GHRR		**0.57**	**56**	⇑P	Pn	15 45 13.9	+0.7
GHRR				⇑S	Sn	15 45 28.6	+1.1
GHRR		**0.57**	**56**	⇑P	Pn	15 45 13.9	+0.7
GHRR				⇑S	Sn	15 45 28.6	+1.1
MLR	**Muntele Rosu**	**0.60**	**246**	⇑P	Pn	15 45 14.3	+0.7
MLR				⇑S	Sn	15 45 28.6	+0.4
MLR	**Muntele Rosu**	**0.60**	**246**	⇑P	Pn	15 45 14.3	+0.7
MLR				⇑S	Sn	15 45 28.6	+0.4
TUDR		**0.68**	**102**	⇓S	Sn	15 45 29.9	+1.2
TUDR		**0.68**	**102**	⇓S	Sn	15 45 29.9	+1.2
TESR	**Tescani**	**0.78**	**356**	⇑P	Pn	15 45 14.6	-0.1
TESR				⇑S	Sn	15 45 28.9	-1.4
TESR	**Tescani**	**0.78**	**356**	⇑P	Pn	15 45 14.6	-0.1
TESR				⇑S	Sn	15 45 28.9	-1.4
BIR	**Birlad**	**0.82**	**50**	⇑P	Pn	15 45 15.5	+0.4
BIR				⇑S	Sn	15 45 31.1	+0.3
BIR	**Birlad**	**0.82**	**50**	⇑P	Pn	15 45 15.5	+0.4
BIR				⇑S	Sn	15 45 31.1	+0.3
DOPR	**Dopca**	**0.96**	**284**	⇑S	Sn	15 45 33.1	-0.1
DOPR	**Dopca**	**0.96**	**284**	⇑S	Sn	15 45 33.1	-0.1
GIUM	**Giurgiulesti**	**1.07**	**103**	⇑S	Sn	15 45 35.4	+0.5
GIUM	**Giurgiulesti**	**1.07**	**103**	⇑S	Sn	15 45 35.4	+0.5
SULR		**1.11**	**198**	⇓P	Pn	15 45 18.6	+0.8
SULR				⇑S	Sn	15 45 36.8	+1.2
SULR		**1.11**	**198**	⇓P	Pn	15 45 18.6	+0.8
SULR				⇑S	Sn	15 45 36.8	+1.2
CFR	**Carcaliu**	**1.14**	**119**	⇓P	Pn	15 45 18.5	+0.4
CFR				⇑S	Sn	15 45 35.7	-0.4
CFR	**Carcaliu**	**1.14**	**119**	⇓P	Pn	15 45 18.5	+0.4
CFR				⇑S	Sn	15 45 35.7	-0.4
VASR	**Vaslui**	**1.17**	**39**	⇑P	Pn	15 45 18.8	+0.4
VASR				⇑S	Sn	15 45 36.6	-0.1
VASR	**Vaslui**	**1.17**	**39**	⇑P	Pn	15 45 18.8	+0.4
VASR				⇑S	Sn	15 45 36.6	-0.1
AMRR	**Amara**	**1.21**	**159**	⇑S	Sn	15 45 38.0	+0.6
AMRR	**Amara**	**1.21**	**159**	⇑S	Sn	15 45 38.0	+0.6
VOIR		**1.22**	**256**	⇑P	Pn	15 45 19.1	+0.1
VOIR		**1.22**	**256**	⇑P	Pn	15 45 19.1	+0.1
LEHL	**Lehliu**	**1.27**	**177**	⇑S	Sn	15 45 39.1	+0.6
LEHL	**Lehliu**	**1.27**	**177**	⇑S	Sn	15 45 39.1	+0.6
HARR	**Harsova**	**1.35**	**141**	⇓P	Pn	15 45 20.6	+0.2
HARR	**Harsova**	**1.35**	**141**	⇓P	Pn	15 45 20.6	+0.2
TOPG	**Topolog**	**1.45**	**126**	⇓P	Pn	15 45 21.2	-0.2
TOPG	**Topolog**	**1.45**	**126**	⇓P	Pn	15 45 21.2	-0.2
BUC1	**Bucharest**	**1.48**	**200**	⇓S	Sn	15 45 42.7	+0.1
BUC1	**Bucharest**	**1.48**	**200**	⇓S	Sn	15 45 42.7	+0.1
ARR	**Arges**	**1.52**	**257**	⇑P	Pn	15 45 23.0	+0.6
ARR				⇑S	Sn	15 45 44.5	+0.9
ARR	**Arges**	**1.52**	**257**	⇑P	Pn	15 45 23.0	+0.6
ARR				⇑S	Sn	15 45 44.5	+0.9
TLCR		**1.57**	**110**	⇓P	Pn	15 45 23.1	+0.3
TLCR				⇓S	Sn	15 45 44.3	-0.2
TLCR		**1.57**	**110**	⇓P	Pn	15 45 23.1	+0.3
TLCR				⇓S	Sn	15 45 44.3	-0.2
HUMR	**Humele**	**1.73**	**226**	⇓P	Pn	15 45 24.5	-0.2
HUMR				⇑S	Sn	15 45 47.2	-0.7
HUMR	**Humele**	**1.73**	**226**	⇓P	Pn	15 45 24.5	-0.2
HUMR				⇑S	Sn	15 45 47.2	-0.7
TIRR	**Tirgusor**	**1.75**	**136**	⇑P	Pn	15 45 25.1	+0.2
TIRR				⇑S	Sn	15 45 47.6	-0.7
TIRR	**Tirgusor**	**1.75**	**136**	⇑P	Pn	15 45 25.1	+0.2
TIRR				⇑S	Sn	15 45 47.6	-0.7
ICOR	**Ion Corvin**	**1.79**	**154**	⇑P	Pn	15 45 26.3	+0.9
ICOR				⇑S	Sn	15 45 49.1	-0.2
ICOR	**Ion Corvin**	**1.79**	**154**	⇑P	Pn	15 45 26.3	+0.9
ICOR				⇑S	Sn	15 45 49.1	-0.2
MILM	**Milestii Mici**	**1.87**	**50**	⇑P	Pn	15 45 26.5	+0.2
MILM	**Milestii Mici**	**1.87**	**50**	⇑P	Pn	15 45 26.5	+0.2
SORM	**Soroca**	**2.64**	**24**	⇑P	Pn	15 45 35.7	-0.4
SORM	**Soroca**	**2.64**	**24**	⇑P	Pn	15 45 35.7	-0.4
HERR	**Herculane**	**3.16**	**256**	⇑P	Pn	15 45 42.2	-0.6
HERR	**Herculane**	**3.16**	**256**	⇑P	Pn	15 45 42.2	-0.6
MDVR	**Moldovita**	**3.67**	**257**	⇑P	Pn	15 45 49.4	-0.1
MDVR	**Moldovita**	**3.67**	**257**	⇑P	Pn	15 45 49.4	-0.1

*KRNET **25** 15:50:02.6±0.1,41.30N×71.99E,h20km,mb3.2*
*NNC **25** 15:50:03.8±1.1,41.34N×72.05E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=10.5km s-min=3.4km az=4.0*
*SOME **25** 15:50:03.5,41.33N×72.00E,h15km*
ISC 25 15:50:02.7±1.2,**41.23N**±0.03×**71.86E**±0.02,**h5**km±10km, **n46,**σ1§**58**/77,**18C-8D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.57**	**8**	⇓*i*P	**Pg**	**15 50 12.3**	**-1.4**
	baz=60						
ARK				⇓*i*S	**Sg**	**15 50 18.8**	**-2.4**
	baz=60						
OHH	**Osh**	**1.00**	**135**	⇑*i*P	**Pg**	**15 50 21.0**	**-0.9**
	baz=42						
OHH				⇑*i*S	**Sg**	**15 50 34.2**	**-0.6**
	baz=42						
BTK	**Batken**	**1.42**	**214**	⇑*i*P	**Pg**	**15 50 30.4**	**+0.5**
	baz=16						
BTK				⇑*i*S	**Sg**	**15 50 50.4**	**+2.2**
	baz=16						
AML	**Almayashu**	**1.64**	**56**	⇑*i*P	**Pn**	**15 50 30.5**	**-2.1**
	baz=56						
AML				⇑*i*S	**Sn**	**15 50 50.9**	**-3.4**
	baz=56						
IUG	**luzhnay**	**1.65**	**304**	*e*P	**Pb**	**15 50 34.0**	**+0.4**
	70nm,0.2s						
IUG				*e*S	**Sg**	**15 50 56.4**	**+0.7**
	235nm,0.3s						
IUG	**luzhnay**	**1.65**	**304**	P	**Pb**	**15 50 34.0**	**+0.4**
	70nm,0.2s						
IUG				S	**Sg**	**15 50 56.4**	**+0.7**
	235nm,0.3s						
DZA	**Taraz**	**1.70**	**347**	*e*P	**Pb**	**15 50 34.3**	**-0.3**
DZA				*e*S	**Sn**	**15 50 55.9**	**+0.6**
DZA	**Taraz**	**1.70**	**347**	P	**Pb**	**15 50 34.3**	**-0.3**
DZA				S	**Sn**	**15 50 55.9**	**+0.6**
MRKS	**Merke**	**1.82**	**34**	*e*P	**Pn**	**15 50 35.5**	**+0.7**
	39nm,0.2s						
MRKS				*e*S	**Sn**	**15 50 57.1**	**-1.2**
	136nm,0.2s						
MRKS	**Merke**	**1.82**	**34**	P	**Pn**	**15 50 34.3**	**-0.5**
	38nm,0.2s						
MRKS				S	**Sn**	**15 50 57.1**	**-1.2**
	136nm,0.2s						
ARLS	**Aral**	**1.95**	**70**	⇑*i*P	**Pn**	**15 50 36.1**	**-0.6**
	baz=71						
ARLS				⇑*e*S	**Sn**	**15 51 00.4**	**-1.2**
	baz=71						
CHM	**Chimkent**	**2.01**	**303**	*e*P	**Pg**	**15 50 41.5**	**+0.3**
	12nm,0.5s						
CHM				*e*S	**Sg**	**15 51 08.3**	**+1.1**
	456nm,0.3s						
EKS2	**Erkin-Say**	**2.02**	**44**	⇑*i*P	**Pn**	**15 50 37.2**	**-0.4**
	baz=44						
EKS2				⇑*i*S	**Sn**	**15 51 01.9**	**-1.4**
	baz=44						
KK31	**Karatay Array**	**2.12**	**332**	⇓Pn	**Pn**	**15 50 39.9**	**+1.0**
	4.1nm,0.3s,baz=145,slow=13,SNR=116						
KK31				⇓Sn	**Sb**	**15 51 07.6**	**-0.7**
	10nm,0.3s,baz=143,slow=26,SNR=10						
BRLS	**Borolday**	**2.34**	**321**	*e*P	**Pb**	**15 50 44.5**	**-1.0**
	48nm,0.3s						
BRLS				*e*S	**Sb**	**15 51 13.3**	**-1.4**
	94nm,0.3s						
BRLS	**Borolday**	**2.34**	**321**	Pg	**Pb**	**15 50 44.4**	**-1.0**
	48nm,0.3s						
BRLS				Lg	Lg	15 51 13.3	
	94nm,0.3s						
GAR	**Garm**	**2.52**	**208**	⇑*i*P	**Pb**	**15 50 47.2**	**-1.4**
	baz=10.0						
GAR				⇑*i*S	**Sb**	**15 51 19.4**	**-0.6**
	baz=10.0						
FRU1	**Bishkek**	**2.60**	**52**	⇑*i*P	**Pn**	**15 50 45.1**	**-0.3**
	baz=52						
FRU1				⇑*i*S	**Sn**	**15 51 15.9**	**-1.5**
	baz=52						
KZA	**Kyzart**	**2.68**	**70**	⇓*e*P	**Pn**	**15 50 46.3**	**-0.5**
	baz=71						
KZA				⇓*i*S	**Sn**	**15 51 18.1**	**-1.7**
	baz=71						
CHMS	**Chumysh**	**2.78**	**50**	⇑*e*P	**Pn**	**15 50 47.7**	**-0.3**
	baz=49						
CHMS				⇑*i*S	**Sn**	**15 51 20.2**	**-1.7**
	baz=49						
TKM2	**Tokmak 2**	**3.25**	**58**	⇓Pg	**Pb**	**15 50 59.4**	**-1.6**
	3.8nm,0.4s						
TKM2				⇑Lg	Lg	15 51 40.1	
	6.4nm,0.3s						
KST	**Kastek**	**3.55**	**58**	*e*P	**Pb**	**15 51 06.0**	**0.0**
	3.6nm,0.4s						
KST				*e*S	**Sb**	**15 51 50.5**	**+1.1**
	17nm,0.6s						
KST	**Kastek**	**3.55**	**58**	Pg	**Pb**	**15 51 06.0**	**0.0**
	3.6nm,0.4s						
KST				Lg	Lg	15 51 50.5	
	17nm,0.6s						
KRBS	**Karabastau**	**3.75**	**48**	*e*P	**Pb**	**15 51 08.3**	**-1.0**
	4.4nm,0.3s						
KRBS				*e*S	**Sb**	**15 51 54.6**	**-0.5**
	8.1nm,0.5s						
KRBS	**Karabastau**	**3.75**	**48**	Pg	**Pb**	**15 51 08.4**	**-1.0**
	4.4nm,0.3s						
KRBS				Lg	Lg	15 51 54.6	
	8.1nm,0.5s						
MTBS	**Maitube**	**3.89**	**59**	*e*P	**Pb**	**15 51 11.1**	**-0.7**
	5.0nm,0.4s						
MTBS				*e*S	**Sb**	**15 51 59.1**	**-0.1**
	13nm,0.3s						
MTBS	**Maitube**	**3.89**	**59**	Pg	**Pb**	**15 51 11.1**	**-0.7**
	5.0nm,0.4s						
MTBS				Lg	Lg	15 51 59.1	
	13nm,0.3s						
IZV	**Izvestkoviy**	**3.97**	**61**	*e*P	**Pb**	**15 51 13.5**	**+0.3**
	3.5nm,0.4s						
IZV				*e*S	**Sb**	**15 52 03.6**	**+2.0**
	9.2nm,0.5s						
IZV	**Izvestkoviy**	**3.97**	**61**	Pg	**Pb**	**15 51 13.5**	**+0.3**
	3.5nm,0.4s						
IZV				Lg	Lg	15 52 03.6	
	9.2nm,0.5s						
BTLS	**Baital**	**4.13**	**22**	*e*P	**Pb**	**15 51 16.4**	**+0.5**
	0.7nm,0.6s						
BTLS				*e*S	**Sb**	**15 52 07.9**	**+1.9**
	12nm,0.5s						
TNSS	**Tian-Shan**	**4.19**	**63**	*e*P	**Pb**	**15 51 17.0**	**-0.2**
	7.8nm,0.5s						
TNSS				*e*S	**Sb**	**15 52 09.1**	**+0.9**
	9.2nm,0.1s						
TNSS	**Tian-Shan**	**4.19**	**63**	Pg	**Pb**	**15 51 17.0**	**-0.2**
	7.8nm,0.5s						
TNSS				Lg	Lg	15 52 09.1	
	9.2nm,0.1s						
KUU	**Kurty**	**4.24**	**50**	*e*P	**Pb**	**15 51 17.6**	**-0.2**
	4.6nm,0.6s						
KUU				*e*S	**Sb**	**15 52 10.3**	**+0.9**
	13nm,0.6s						
KUU	**Kurty**	**4.24**	**50**	Pg	**Pb**	**15 51 17.6**	**-0.2**
	4.6nm,0.6s						
KUU				Lg	Lg	15 52 10.3	
	13nm,0.6s						
MDOK	**Medeo**	**4.31**	**62**	*e*P	**Pb**	**15 51 20.5**	**+1.5**
	2.4nm,0.5s						
MDOK				*e*S	**Sb**	**15 52 15.2**	**+3.8**
	6.2nm,0.6s						
MDOK	**Medeo**	**4.31**	**62**	Pn	**Pn**	**15 51 08.7**	**-0.3**
	1.4nm,0.4s						
MDOK				Lg	Lg	15 52 14.1	
	6.9nm,0.7s						
MDOK	**Medeo**	**4.31**	**62**	Pg	**Pb**	**15 51 20.5**	**+1.5**
	2.4nm,0.5s						
MDOK				Lg	Lg	15 52 15.2	
	6.2nm,0.6s						
KTBS	**Karatobe**	**4.34**	**54**	*e*P	**Pb**	**15 51 19.4**	**-0.1**
	2.2nm,0.6s						
KTBS				*e*S	**Sb**	**15 52 13.4**	**+1.2**
	14nm,0.4s						
KTBS	**Karatobe**	**4.34**	**54**	Pg	**Pb**	**15 51 19.4**	**-0.1**
	2.2nm,0.6s						
KTBS				Lg	Lg	15 52 13.4	
	14nm,0.4s						
KOTS	**Kotyrbulak**	**4.38**	**61**	*e*P	**Pb**	**15 51 21.4**	**+1.1**
	5.5nm,0.4s						
KOTS				*e*S	**Sb**	**15 52 17.0**	**+3.6**
	8.0nm,0.5s						
KOTS	**Kotyrbulak**	**4.38**	**61**	Pg	**Pb**	**15 51 21.4**	**+1.1**
	5.5nm,0.4s						
KOTS				Lg	Lg	15 52 17.0	
	8.0nm,0.5s						
CHKK	**Chushkaly**	**4.61**	**54**	*e*P	**Pb**	**15 51 24.9**	**+0.9**
	1.5nm,0.1s						
CHKK				*e*S	**Sb**	**15 52 23.0**	**+3.3**
	7.2nm,0.3s						
CHKK	**Chushkaly**	**4.61**	**54**	Pg	**Pb**	**15 51 24.9**	**+0.9**
	1.5nm,0.1s						
CHKK				Lg	Lg	15 52 23.0	
	7.2nm,0.3s						
ARXS	**Arharly**	**5.31**	**54**	*e*P	**Pb**

	baz=323								
ILA				*i*	S	**Sb**	16 05 16.6	-0.7	
	baz=323								
TWE	**Neicheng**	**0.38**	**309**	⇑	P	**Pg**	16 05 11.5	0.0	
	baz=314								
TWE					S	**Sg**	16 05 16.2	-0.4	
	baz=314								
NTC	**Toucheng**	**0.40**	**339**		P	**Pg**	16 05 11.9	+0.1	
	baz=344								
NTC					S	**Sg**	16 05 17.7	+0.5	
	baz=344								
ENTT	**Nioudou**	**0.41**	**292**		P	**Pg**	16 05 12.0	-0.1	
	baz=294								
ENTT					S	**Sg**	16 05 17.4	-0.3	
	baz=294								
NDT	**Datong Townshi**	**0.45**	**286**	*i*	P	**Pg**	16 05 12.7	0.0	
	baz=286								
NDT				*i*	S	**Sg**	16 05 18.6	-0.2	
	baz=286								
NACB	**Ninganchiao**	**0.47**	**229**	*e*	P	**Pg**	16 05 12.5	-0.7	
	baz=227								
NACB					S	**Sg**	16 05 18.7	-0.8	
	baz=227								
TIPB	**Shuangxi**	**0.51**	**343**		P	**Pg**	16 05 14.1	+0.2	
	baz=347								
TIPB					S	**Sb**	16 05 21.1	-0.7	
	baz=347								
TWB1	**Santiao Chiao**	**0.52**	**0**	*i*	P	**Pb**	16 05 14.7	-0.1	
	baz=357								
TWB1				*i*	S	**Sg**	16 05 21.5	+0.3	
	baz=357								
NWLT	**Wulai**	**0.53**	**304**		P	**Pg**	16 05 14.0	-0.3	
	baz=300								
NWLT					S	**Sg**	16 05 20.3	-1.1	
	baz=300								
ETLH	**Xiulin Townshi**	**0.53**	**239**		P	**Pg**	16 05 13.7	-0.7	
	baz=238								
ETLH					S	**Sg**	16 05 21.5	-0.1	
	baz=238								
TWD	**Chiawan**	**0.54**	**222**		P	**Pg**	16 05 13.9	-0.4	
	baz=222								
TWD					*e*S	**Sg**	16 05 21.5	0.0	
	baz=222								
NNSB	**Datong**	**0.55**	**265**		P	**Pg**	16 05 14.2	-0.5	
	baz=264								
NNSB					S	**Sg**	16 05 21.6	-0.5	
	baz=264								
NNSH	**Datong**	**0.55**	**265**		P	**Pg**	16 05 14.3	-0.4	
	baz=264								
NNSH					S	**Sg**	16 05 21.6	-0.5	
	baz=264								
NNS	**Nan Shan**	**0.56**	**266**	*i*	P	**Pg**	16 05 14.4	-0.5	
	baz=265								
NNS				*i*	S	**Sg**	16 05 22.3	-0.1	
	baz=265								
YHNB	**Yeheng**	**0.58**	**289**	*e*	P	**Pg**	16 05 15.1	-0.3	
	baz=292								
YHNB				*e*	S	**Sg**	16 05 22.3	-0.9	
	baz=292								
HWA	**Hwalien**	**0.61**	**215**	*e*	P	**Pb**	16 05 17.0	+0.7	
	baz=219								
HWA				*e*	S	**Sn**	16 05 26.2	-1.3	
	baz=219								
NWF	**Wu-fen Shan**	**0.61**	**343**	*e*	P	**Pb**	16 05 16.6	+0.2	
	baz=336								
NWF				*e*	S	**Sb**	16 05 24.8	0.0	
	baz=336								
WFSB	**Wu-fen Shan**	**0.61**	**343**	*e*	P	**Pb**	16 05 16.3	0.0	
	baz=338								
WFSB					S	**Sb**	16 05 24.7	-0.1	
	baz=338								
TWA	**Mucha**	**0.62**	**324**		P	**Pb**	16 05 16.4	+0.1	
	baz=332								
TWA					S	**Sb**	16 05 24.7	-0.1	
	baz=332								
TATO	**Taipei**	**0.67**	**317**		P	**Pn**	16 05 18.0	-0.8	
	baz=311								
TATO					S	**Sb**	16 05 26.1	-0.2	
	baz=311								
TAP1	**Taipei**	**0.69**	**323**	*e*	P	**Pg**	16 05 17.6	+0.2	
	baz=316								
TAP1				*e*	S	**Sg**	16 05 27.3	+0.7	
	baz=316								
TAP	**Taipei**	**0.70**	**322**		S	**Sg**	16 05 27.1	+0.2	
	baz=316								
FUSS	**Fushou**	**0.71**	**251**		P	**Pb**	16 05 17.1	-1.0	
	baz=250								
FUSS					S	**Sg**	16 05 27.0	-0.3	
	baz=250								
WHF	**Hehuan Shan**	**0.74**	**243**		P	**Pg**	16 05 17.6	-0.7	
	baz=248								
WHF					S	**Sg**	16 05 27.5	-0.6	
	baz=248								
YM01	**YM01**	**0.76**	**330**	*e*	P	**Pg**	16 05 19.1	+0.5	
	baz=333								
YM01				*e*	S	**Sg**	16 05 29.0	+0.3	
	baz=333								
TWT	**Tachien**	**0.77**	**253**		P	**Pb**	16 05 18.8	-0.3	
	baz=248								
TWT					S	**Sb**	16 05 29.4	-0.1	
	baz=248								
YM10	**YM10**	**0.77**	**330**		P	**Pg**	16 05 19.5	+0.7	
	baz=332								
YM10					S	**Sg**	16 05 29.8	+0.6	
	baz=332								
YM05	**YM05**	**0.78**	**331**		P	**Pg**	16 05 19.3	+0.3	
	baz=333								
YM05					S	**Sg**	16 05 30.0	+0.7	
	baz=333								
YM04	**YM04**	**0.78**	**329**		P	**Pg**	16 05 19.2	+0.1	
	baz=331								
YM04					S	**Sn**	16 05 30.4	-1.5	
	baz=331								
TDCB	**Techi**	**0.79**	**253**	*e*	P	**Pb**	16 05 18.6	-0.7	
	baz=249								
TDCB				*e*	S	**Sb**	16 05 29.1	-0.8	
	baz=249								
YM08	**YM08**	**0.79**	**333**	*e*	P	**Pb**	16 05 19.2	-0.1	
	baz=335								
YM08				*e*	S	**Sg**	16 05 29.7	+0.1	
	baz=335								
TWS1	**Kuangyinshan**	**0.80**	**320**	*i*	P	**Pn**	16 05 20.1	-0.6	
	baz=322								
TWS1				*i*	S	**Sn**	16 05 31.3	-1.0	
	baz=322								
YM03	**YM03**	**0.80**	**330**	*e*	P	**Pg**	16 05 19.7	+0.2	
	baz=332								
YM03				*e*	S	**Sg**	16 05 30.2	+0.2	
	baz=332								
ANP	**Anpu**	**0.82**	**329**		P	**Pg**	16 05 20.0	+0.2	
	baz=332								
ANP				*e*	S	**Sb**	16 05 30.2	-0.5	
	baz=332								
ESL	**Shilin**	**0.83**	**217**	*e*	P	**Pb**	16 05 19.4	-0.6	
	baz=221								
ESL				*e*	S	**Sg**	16 05 31.8	+0.8	
	baz=221								
CHGB	**Renai**	**0.85**	**241**	*e*	P	**Pb**	16 05 19.6	-0.8	
	baz=247								
CHGB				*e*	S	**Sb**	16 05 31.4	-0.4	
	baz=247								
TWY	**Chenhua**	**0.86**	**336**		P	**Pn**	16 05 21.1	-0.3	
	baz=339								
TWY					S	**Sg**	16 05 32.2	+0.3	
	baz=339								
NCU	**National Centr**	**0.87**	**304**	*e*	P	**Pn**	16 05 22.1	+0.5	
	baz=312								
NCU				*e*	S	**Sn**	16 05 33.0	-1.1	
	baz=312								
NCUH	**Zhongli**	**0.87**	**304**	*e*	P	**Pn**	16 05 22.0	+0.4	
	baz=312								
NCUH					S	**Sn**	16 05 33.5	-0.7	
	baz=312								
JYNG	**Yonagunijimaku**	**0.88**	**92**		P	**Pb**	16 05 20.7	0.0	
JYNG					S	**Sn**	16 05 33.7	-0.4	
LIOB	**Emei**	**0.90**	**281**	*i*	P	**Pg**	16 05 21.4	+0.1	
	baz=281								
LIOB				*e*	S	**Sb**	16 05 32.5	-0.5	
	baz=281								
OWD	**Renai**	**0.91**	**235**	*e*	P	**Pb**	16 05 20.7	-0.6	
	baz=239								
OWD				*e*	S	**Sb**	16 05 33.0	-0.3	
	baz=239								
NSTT	**Nanjuang**	**0.91**	**280**		P	**Pb**	16 05 20.9	-0.4	
	baz=280								
NSTT					S	**Sb**	16 05 33.0	-0.2	
	baz=280								
YOJ	**Yonaguni jima**	**0.94**	**91**	*e*	P	**Pb**	16 05 21.5	-0.3	
	baz=90								
YOJ					S	**Sn**	16 05 35.9	+0.3	
	baz=90								
YOJ	**Yonaguni jima**	**0.94**	**91**		P	**Pb**	16 05 21.8	+0.1	
YOJ				*e*	S	**Sg**	16 05 34.8	+0.6	
EGFH	**Guangfu**	**0.96**	**212**	*e*	P	**Pb**	16 05 22.5	+0.3	
	baz=227								
EGFH				*e*	S	**Sn**	16 05 36.3	+0.2	
	baz=227								
SBCB	**Hsinchu**	**0.96**	**289**	*e*	P	**Pn**	16 05 23.3	+0.5	
	baz=290								
SBCB				*e*	S	**Sn**	16 05 36.5	+0.2	
	baz=290								
WHP	**Taichung City**	**0.97**	**258**	*i*	P	**Pb**	16 05 22.2	-0.2	
	baz=258								
WHP				*i*	S	**Sb**	16 05 34.4	-0.7	
	baz=258								
HSN	**Hsinchu**	**0.98**	**289**		P	**Pg**	16 05 23.3	+0.6	
	baz=293								
HSN					S	**Sn**	16 05 36.6	-0.1	
	baz=293								
VWDT	**VWDT**	**1.06**	**227**	*e*	P	**Pb**	16 05 23.6	-0.3	
	baz=227								
VWDT				*e*	S	**Sg**	16 05 39.2	+1.1	
	baz=227								
NMLH	**Miaoli**	**1.09**	**273**	*e*	P	**Pg**	16 05 25.2	+0.4	
	baz=284								
NMLH				*e*	S	**Sg**	16 05 39.3	+0.2	
	baz=284								
HGSD	**Ruisui**	**1.11**	**208**	*e*	P	**Pn**	16 05 24.7	-0.2	
	baz=207								
HGSD				*e*	S	**Sg**	16 05 41.4	+1.6	
	baz=207								
NSY	**Sanyi**	**1.12**	**267**	*e*	P	**Pg**	16 05 25.4	0.0	
	baz=278								
NSY				*e*	S	**Sg**	16 05 42.5	+2.5	
	baz=278								
EHY	**Hungye**	**1.15**	**212**	*e*	P	**Pn**	16 05 23.3	-2.1	
	baz=211								
EHY					S	**Sg**	16 05 42.2	+1.4	
	baz=211								
SMLT	**Sun Moon Lake**	**1.16**	**239**		P	**Pb**	16 05 26.0	+0.4	
	baz=243								
SMLT				*e*	S	**Sn**	16 05 40.8	-0.4	
	baz=243								
PTSB	**Yuanli**	**1.17**	**269**	*e*	P	**Pn**	16 05 25.0	-0.7	
	baz=268								
SSLB	**Suanglung**	**1.17**	**234**	*e*	P	**Pn**	16 05 25.4	-0.3	
	baz=238								
SSLB				*e*	S	**Sb**	16 05 40.5	-0.3	
	baz=238								
TYC	**Yuchr**	**1.18**	**241**	*e*	P	**Pb**	16 05 26.2	+0.3	
	baz=245								
TYC				*e*	S	**Sb**	16 05 40.7	-0.3	
	baz=245								
WDJ	**Dajia District**	**1.23**	**264**	*e*	P	**Pg**	16 05 29.1	+1.5	
	baz=258								
WDJ				*e*	S	**Sg**	16 05 45.4	+1.7	
	baz=258								
TCU	**Taichung**	**1.24**	**255**	*e*	P	**Pb**	16 05 27.3	+0.3	
	baz=255								
TCU					S	**Sg**	16 05 46.5	+2.6	
	baz=255								
YULB	**Yu-li**	**1.25**	**210**		P	**Pn**	16 05 25.9	-1.0	
	baz=210								
YULB				*e*	S	**Sn**	16 05 43.9	+0.4	
	baz=210								
EYUL	**Yuli**	**1.28**	**208**	*e*	P	**Pn**	16 05 26.2	-1.0	
	baz=223								
EYUL				*e*	S	**Sb**	16 05 44.4	+0.4	
	baz=223								
TWF1	**Yuli**	**1.29**	**209**	*e*	P	**Pn**	16 05 26.5	-0.8	
	baz=208								
TWF1				*e*	S	**Sn**	16 05 43.9	-0.4	
	baz=208								
WHYT	**Xinyi Township**	**1.30**	**233**	*e*	P	**Pb**	16 05 28.1	+0.1	
	baz=237								
WHYT				*e*	S	**Sb**	16 05 44.7	+0.2	
	baz=237								
WJS	**Zhushan**	**1.32**	**240**	*e*	P	**Pg**	16 05 29.6	+0.3	
	baz=241								
WJS				*e*	S	**Sg**	16 05 48.7	+2.2	
	baz=241								
WNT	**Mingjian**	**1.33**	**243**		P	**Pg**	16 05 30.4	+0.9	
	baz=241								
WNT					S	**Sg**	16 05 49.5	+2.7	
	baz=241								
FULB	**Fuli**	**1.43**	**206**	*e*	P	**Pn**	16 05 29.1	-0.1	
	baz=221								
FULB				*e*	S	**Sb**	16 05 48.7	+0.6	
	baz=221								
ALS	**Alishan**	**1.45**	**228**	*e*	P	**Pb**	16 05 30.8	+0.1	
	baz=216								
ALS				*e*	S	**Sb**	16 05 49.9	+0.8	
	baz=216								
CHN5	**Tsauling**	**1.48**	**234**		P	**Pb**	16 05 31.6	+0.4	
	baz=235								
CHN5				*e*	S	**Sg**	16 05 51.7	0.0	
	baz=235								
CHKT	**Chengkung**	**1.49**	**203**	*e*	P	**Pn**	16 05 30.4	+0.3	
	baz=183								
CHKT				*e*	S	**Sn**	16 05 49.6	+0.3	
	baz=183								
WGK	**Gukeng**	**1.52**	**239**		P	**Pb**	16 05 32.1	+0.3	
	baz=240								
WGK					S	**Sg**	16 05 53.9	+0.9	
	baz=240								
WDLH	**Douliu**	**1.54**	**239**	*e*	P	**Pb**	16 05 32.6	+0.5	
	baz=226								
WDLH				*e*	S	**Sg**	16 05 53.6	+0.1	
	baz=226								
ELDTW	**Lidau**	**1.56**	**215**	*e*	P	**Pn**	16 05 30.9	-0.3	
	baz=215								
ELDTW				*e*	S	**Sn**	16 05 50.6	-0.6	
	baz=215								
IRIF	**Iriomote-Funau**	**1.60**	**95**		P	**Pn**	16 05 30.9	-0.7	
IRIF				*e*	S	**Sn**	16 05 51.0	-1.0	
EDH	**Donghe**	**1.63**	**203**	*e*	P	**Pn**	16 05 31.7	-0.3	
	baz=188								
EDH				*e*	S	**Sn**	16 05 53.0	+0.3	
	baz=188								
WTK	**Tuku**	**1.66**	**242**	*e*	P	**Pb**	16 05 34.4	+0.3	
	baz=243								
WTK				*e*	S	**Sg**	16 05 57.2	-0.1	
	baz=243								
TPUB	**Ta-pu**	**1.71**	**227**	*e*	P	**Pb**	16 05 35.3	+0.3	
	baz=228								
TPUB				*e*	S	**Sb**	16 05 57.2	+0.9	
	baz=228								
HATJ	**Hateruma jima**	**1.71**	**104**		P	**Pn**	16 05 34.1	+0.9	
HATJ				*e*	S	**Sn**	16 05 55.6	+0.8	
STYT	**Tauyuan**	**1.73**	**221**		P	**Pb**	16 05 34.8	-0.6	
	baz=221								
STYT				*e*	S	**Sb**	16 05 57.5	+0.6	
	baz=221								
CHY	**Chiayi**	**1.73**	**236**	*e*	P	**Pb**	16 05 36.1	+0.7	
	baz=237								
CHY				*e*	S	**Sb**	16 05 58.2	+1.3	
	baz=237								
WTP	**Ta-pu**	**1.76**	**226**		P	**Pb**	16 05 35.9	+0.1	
	baz=226								
WTP				*e*	S	**Sb**	16 05 58.6	+0.9	
	baz=226								
WSF	**Szhu**	**1.82**	**243**	*e*	P	**Pn**	16 05 35.7	+1.1	
	baz=244								
WSF				*e*	S	**Sb**	16 05 59.5	+0.1	
	baz=244								
TWK	**Hsinying**	**1.83**	**229**		P	**Pb**	16 05 37.4	+0.3	
	baz=229								
TWK					S	**Sg**	16 06 02.1	-0.6	
	baz=229								
SNST	**Tainan City**	**1.85**	**228**	*e*	P	**Pb**	16 05 37.6	+0.2	
	baz=228								
SNST					S	**Sg**	16 06 02.6	-0.8	
	baz=228								
TWGBT	**Beinan**	**1.85**	**207**	*e*	P	**Pn**	16 05 35.1	+0.1	
	baz=207								
TWGBT				*e*	S	**Sn**	16 05 57.9	-0.4	
	baz=207								
TWG	**Pinlang**	**1.85**	**207**	*e*	P	**Pn**	16 05 35.1	0.0	
	baz=207								
TWG				*e*	S	**Sn**	16 05 58.0	-0.3	
	baz=207								
CHN1	**Nanshi**	**1.86**	**226**		P	**Pb**	16 05 37.4	-0.1	
	baz=227								
CHN1					S	**Sg**	16 06 02.9	-0.7	
	baz=227								
JKRS	**Kuro-shima**	**1.86**	**97**		P	**Pn**	16 05 35.5	+0.3	
JKRS					S	**Sn**	16 05 58.2	-0.3	
LDUT	**Ludao**	**1.86**	**195**	*e*	P	**Pn**	16 05 33.4	-1.8	
	baz=183								
LDUT				*e*	S	**Sn**	16 05 57.1	-1.4	
	baz=183								
SGST	**Jiashian**	**1.90**	**223**	*e*	P	**Pn**	16 05 36.5	+0.8	
	baz=224								
SGST					S	**Sb**	16 06 02.8	+1.1	
	baz=224								
ICHU	**Yijhu**	**1.92**	**235**	*e*	S	**Sb**	16 06 01.7	-0.6	
	baz=219								
SLGT	**Liugui**	**1.92**	**220**		P	**Pb**	16 05 38.5	-0.1	
	baz=221								
SLGT				*e*	S	**Sb**	16 06 02.6	+0.2	
	baz=221								
JIJ	**Ishigaki jima**	**1.97**	**93**		P	**Pn**	16 05 36.7	0.0	
JIJ					S	**Sn**	16 05 59.4	-1.8	
CHN8	**Yiju**	**1.98**	**235**	*e*	S	**Sg**	16 06 06.8	-0.7	
	baz=221								
ECL	**Taimali**	**2.10**	**207**	*e*	P	**Pn**	16 05 38.0	-0.5	
	baz=195								
ECL				*e*	S	**Sn**	16 06 03.8	-0.6	
	baz=195								
JISG	**Ishigakijimahi**	**2.12**	**87**		P	**Pn**	16 05 38.2	-0.6	
JISG				*e*	S	**Sn**	16 06 04.8	-0.1	
TSMG	**Majia**	**2.15**	**215**	*e*	P	**Pb**	16 05 42.0	-0.6	
	baz=227								
TSMG				*e*	S	**Sb**	16 06 08.8	-0.3	
	baz=227								
MASBT	**Mashibuluo**	**2.24**	**214**	*e*	P	**Pb**	16 05 42.5	-1.5	
	baz=214								
MASBT				*e*	S	**Sb**	16 06 10.9	-0.6	
	baz=214								
PTTC	**Pingtan**	**2.25**	**297**	*e*	P	**Pn**	16 05 41.0	+0.4	
	baz=299								
PTTC				*e*	S	**Sn**	16 06 09.0	+0.9	
	baz=299								
EAST	**Anshuo**	**2.34**	**207**	*e*	P	**Pn**	16 05 41.7	0.0	
	baz=196								
VWUC	**VWUC**	**2.36**	**283**	*e*	P	**Pn**	16 05 42.6	+0.6	
	baz=283								
PNG	**Penghu**	**2.40**	**248**	*e*	P	**Pn**	16 05 43.7	+1.1	
	baz=250								
PNG				*e*	S	**Sn**	16 06 12.6	+0.8	
	baz=250								
PHUB	**P'eng-hu**	**2.41**	**247**	*e*	P	**Pn**	16 05 42.2	-0.5	
	baz=248								
PHUB				*e*	S	**Sn**	16 06 11.9	0.0	
	baz=248								
SCZT	**Fangliau**	**2.45**	**211**	*e*	P	**Pb**	16 05 46.1	-1.4	
	baz=211								
SCZT				*e*	S	**Sb**	16 06 17.1	-0.4	
	baz=211								
WDGT	**Dungji**	**2.45**	**241**	*e*	P	**Pn**	16 05 43.3	0.0	
	baz=242								
WDGT				*e*	S	**Sn**	16 06 15.0	+2.0	
	baz=242								
JTJ	**Tarama**	**2.48**	**86**		P	**Pn**	16 05 44.7	+1.0	
JTJ				*e*	S	**Sn**	16 06 13.3	-0.4	

IEPN ***25*** *16:19:02.0, 64.˝13N×17.˝99W, h10km*
BJI ***25*** *16:19:02.0±0.0, 64.˝60N×17.˝80W, h5km, mB5.1/23, mb4.7/35, Ms4.5/14, Ms7.4:3/11*
REY ***25*** *16:19:03.2, 64.˝61N×17.˝47W, h2km*
MOS ***25*** *16:19:03.8±1.0, 64.˝49N×17.˝63W, h14km, mb5.1/42, Error ellipse: s-maj=7.2km s-min=5.2km az=103.4*
NAO ***25*** *16:19:03.3±6.3, 64.˝40N×17.˝87W, ML4.3*
BGS ***25*** *16:19:03.7±2.1, 64.˝45N×17.˝78W, h5km, MS4.1*
IDC ***25*** *16:19:04.1±0.5, 64.˝55N×17.˝53W, h0km, mb4.2/25, mb1 4.3/30, mb1mx4.2/58, mbtmp4.2/30, ML2.8/3, MS3.8/38, Ms1 3.8/38, ms1mx3.8/46, Error ellipse: s-maj=15.3km s-min=10.5km az=19.0*
NEIC ***25*** *16:19:04.4±1.4, 64.˝45N±0.˝07×17.˝8W±0.˝1, h9km±4km, mb5.0/153, Error ellipse: s-maj=11.2km s-min=8.5km az=206.0*
GCMT ***25*** *16:19:06.4±0.3, 64.˝51N±0.˝03×17.˝14W±0.˝07, h13km±1km, MW4.8/95, Moment Tensor Solution. s22,c24; s95,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.96±.14; $M_{\theta\theta}$1.08±.10; $M_{\phi\phi}$0.88±.09; $M_{r\theta}$-0.55±.25; $M_{\theta\phi}$-0.52±.04; $M_{\phi r}$-0.62±.27; Best double couple: $M_0$1.86300×10^{16} NP1:ϕ_s326.00000°, δ47.00000°, λ-66.00000°. NP2: ϕ_s113.00000°, δ48.00000°, λ-113.00000°. Principal axes: T 1.5090, Plg1.0000°, Azm219.0000°; N 0.7160, Plg17.0000°, Azm129.0000°; P -2.2170, Plg73.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DNK ***25*** *16:19:09.7±4.0, 64.˝99N×17.˝16W, h0km±724km*
BGR ***25*** *16:19:18.8±0.0, 64.˝30N×14.˝42W, h33km, mb5.0, Ms3.5*

ISC 25 16:19:04.8±0.6**, 64.˝61N**±0.˝02×**17.˝57W**±0.˝02**, h6**km±3km**, n602**, σ1²**84**/669**, mb4.9**/203**, MS4.0**/55**, 18C-16D, Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.11**	**309**	P		**Pg**		16 19 06.4	-0.7
	baz=297								
IVON				S		**Sg**		16 19 08.2	-0.5
	baz=297								
IDJK	**Dyngjujokull**	**0.17**	**126**	P		**Pg**		16 19 06.6	-1.7
	baz=137								
IDJK				S		**Sg**		16 19 09.2	-1.5
	baz=137								
IDYN	**Dyngjuhals**	**0.20**	**25**	P		**Pg**		16 19 07.2	-1.7
	baz=14								
IDYN				S		**Sg**		16 19 10.3	-1.2
	baz=14								
IHUS	**Husbondi**	**0.32**	**187**	P		**Pg**		16 19 09.8	-1.1
	baz=194								
ISKR	**Skrokkalda**	**0.36**	**263**	P		**Pg**		16 19 10.7	-1.0
	baz=263								
IVOT	**Vottur**	**0.38**	**154**	P		**Pg**		16 19 10.3	-1.7
	baz=160								
IVOT				S		**Sg**		16 19 16.0	-1.0
	baz=160								
IBJK	**Bruarjokull**	**0.38**	**111**	P		**Pg**		16 19 09.7	-2.4
	baz=114								
IJOK	**Jokulheimar**	**0.41**	**225**	P		**Pg**		16 19 11.4	-1.3
	baz=228								
IJOK				S		**Sg**		16 19 18.3	+0.3
	baz=228								
IKRE	**Kreppuhraun**	**0.54**	**70**	S		**Sg**		16 19 19.4	-2.7
	baz=69								
IKRE				P		**Pg**		16 19 12.6	-2.5
	baz=69								
IIEY	**Innrieyrar**	**0.57**	**206**	P		**Pg**		16 19 14.0	-1.7
	baz=209								
IIEY				S		**Sg**		16 19 23.0	-0.1
	baz=209								
IMKO	**Mokollar**	**0.64**	**54**	P		**Pg**		16 19 15.2	-2.0
	baz=52								
IMKO				S		**Sg**		16 19 23.5	-2.0
	baz=52								
IKSK	**Karasker**	**0.65**	**133**	P		**Pg**		16 19 14.1	-3.1
	baz=136								
IKAL	**Kalfafell**	**0.66**	**185**	P		**Pg**		16 19 15.4	-2.1
	baz=188								
IKAL				S		**Sg**		16 19 25.2	-0.8
	baz=188								
IVAT	**Vatnsfell**	**0.72**	**235**	P		**Pg**		16 19 17.0	-1.6
	baz=236								
ISVA	**Svartarkot**	**0.74**	**10**	P		**Pg**		16 19 16.3	-2.8
	baz=71								
IVSH	**V-Sauoahnukur**	**0.81**	**75**	P		**Pg**		16 19 16.9	-3.5
	baz=74								
IFAG	**Fagurholsmyri**	**0.83**	**151**	P		**Pg**		16 19 17.9	-2.8
	baz=154								
IFAG				S		**Sg**		16 19 29.7	-1.9
	baz=154								
IHVE	**Hveravellir**	**0.90**	**288**	P		**Pg**		16 19 19.5	-2.5
	baz=287								
IADA	**Aoalbol**	**0.95**	**63**	P		**Pg**		16 19 19.0	-3.9
	baz=62			

IRJU	**Rjupnafell**	**1.11**	**207**	P		**Pg**	**16 19 23.2**	**-2.7**
	baz=208							
IRJU				S		**Sg**	**16 19 39.0**	**-1.2**
	baz=208							
IMJO	**Mjoaskard**	**1.14**	**235**	P		**Pg**	**16 19 24.2**	**-2.4**
	baz=236							
IGYG	**Gygjarholskot**	**1.20**	**255**	P		**Pg**	**16 19 24.6**	**-3.0**
	baz=256							
IGRS	**Grimsstaoir**	**1.20**	**30**	P		**Pg**	**16 19 23.5**	**-4.3**
	baz=28							
IHVO	**Lagu-Hvolar**	**1.22**	**208**	P		**Pg**	**16 19 25.2**	**-3.0**
	baz=210							
IGOD	**Go??abunga**	**1.22**	**220**	P		**Pg**	**16 19 25.6**	**-2.6**
	baz=221							
IHAU	**Haukadalur**	**1.23**	**240**	P		**Pg**	**16 19 25.3**	**-3.0**
	baz=240							
ISMJ	**Smjorgil**	**1.31**	**225**	P		**Pn**	**16 19 26.8**	**-2.7**
	baz=226							
IGRA	**Granastaoir**	**1.32**	**360**	P		**Pn**	**16 19 25.5**	**-4.1**
	baz=358							
IALF	**Alftagrof**	**1.33**	**213**	P		**Pn**	**16 19 26.8**	**-2.9**
	baz=215							
IESK	**Eystri-Skogar**	**1.37**	**218**	P		**Pn**	**16 19 27.4**	**-2.9**
	baz=219							
IDIM	**Dimmadalss**	**1.39**	**11**	P		**Pn**	**16 19 26.6**	**-3.9**
	baz=9.3							
IHLA	**Hella**	**1.39**	**346**	P		**Pn**	**16 19 27.1**	**-3.4**
	baz=344							
ISAU	**Saurbar**	**1.39**	**245**	P		**Pn**	**16 19 27.8**	**-2.8**
	baz=245							
IMID	**Miomork**	**1.39**	**228**	P		**Pn**	**16 19 28.1**	**-2.6**
	baz=229							
IHED	**Heoinshofoi**	**1.48**	**4**	P		**Pn**	**16 19 28.0**	**-3.9**
	baz=2.6							
IBRE	**Brettingsstaoi**	**1.53**	**355**	P		**Pn**	**16 19 29.0**	**-3.5**
	baz=353							
IASM	**Asmuli**	**1.54**	**241**	P		**Pn**	**16 19 30.2**	**-2.5**
	baz=242							
IGIL	**Gilhagi**	**1.56**	**18**	P		**Pn**	**16 19 29.0**	**-4.0**
	baz=17							
IASB	**`sbjarnarst**	**1.62**	**277**	P		**Pn**	**16 19 31.2**	**-2.6**
	baz=276							
BORG	**Borgarnes**	**1.62**	**277**	Pn		**Pn**	**16 19 30.7**	**-3.1**
	109nm,0.3s,baz=102,slow=7.4,SNR=172							
BORG				Sn		**Sn**	**16 19 55.1**	**+0.1**
	42nm,0.3s,baz=32,slow=19,SNR=16							
BORG					LR	LR	16 19 56.6	
	comp=Z,963nm,19.8s,baz=77,slow=32							
BORG	**Borgarnes**	**1.62**	**277**	P		**Pn**	**16 19 31.4**	**-2.4**
BORG							16 19 55.1	
BORG	**Borgarnes**	**1.62**	**277**			**Pn**	**16 19 31.4**	**-2.4**
ISOL	**Solvholt**	**1.62**	**247**	P		**Pn**	**16 19 31.1**	**-2.7**
	baz=247							
SCO	**Scoresbysund**	**6.14**	**346**	*i* P		**Pn**	**16 20 36.9**	**+1.2**
SCO	**Scoresbysund**	**6.14**	**346**	*i* P		**Pn**	**16 20 36.9**	**+1.2**
SCO	**Scoresbysund**	**6.14**	**346**			**Pn**	**16 20 36.7**	**+1.0**
SCO	**Scoresbysund**	**6.14**	**346**	*i* P		**Pn**	**16 20 36.9**	**+1.2**
LEWI	**Lewis, Hebride**	**8.26**	**137**	*e*P		**Pn**	**16 21 03.0**	**-1.9**
LEWI					IAMs_20	IAMs_20	16 25 09.3	
	comp=Z,2µm,11.3s							
LRW	**Lerwick**	**8.82**	**113**	*e*P		**Pn**	**16 21 09.8**	**-2.8**
KAC	**Achnashellach**	**9.27**	**135**	*e*P		**Pn**	**16 21 17.4**	**-1.3**
KPL	**Plockton**	**9.29**	**136**	*e*P		**Pn**	**16 21 17.2**	**-1.8**
KPL					IAMs_20	IAMs_20	16 25 22.8	
	comp=Z,2µm,10.5s							
ICESG	**Greenland Ices**	**9.75**	**307**	*i* P		Pn	16 21 31.5	+5.9
MCD	**Coleburn Disti**	**9.86**	**129**	*e*P		**Pn**	**16 21 26.1**	**-0.7**
INVG	**Invergeldie, C**	**10.54**	**135**	*e*P		**Pn**	**16 21 34.5**	**-1.6**
INVG					IAMs_20	IAMs_20	16 26 01.7	
	comp=Z,2µm,12.7s							
ELO	**Logie Almond**	**10.61**	**134**	*e*P		**Pn**	**16 21 35.6**	**-1.5**
EAB	**Aberfoyle**	**10.65**	**136**	*e*P		**Pn**	**16 21 36.9**	**-0.7**
PGBU	**Glenifferbraes**	**10.93**	**138**	*e*P		**Pn**	**16 21 40.3**	**-1.2**
SUMG	**Summit**	**10.98**	**326**	*i* P		**Pn**	**16 21 43.5**	**+1.1**
SUMG	**Summit**	**10.98**	**326**	*e*P		**Pn**	**16 21 43.5**	**+1.1**
SUMG	**Summit**	**10.98**	**326**	Pn		**Pn**	**16 21 42.1**	**-0.2**
SUMG	**Summit**	**10.98**	**326**	*e*P		**Pn**	**16 21 43.5**	**+1.1**
AKN	**Aaknes**	**11.25**	**91**	*e*P		**Pn**	**16 21 45.4**	**-0.4**
EKA	**Eskdalemuir Ar**	**11.73**	**136**	Pn		**Pn**	**16 21 51.1**	**-1.4**
EKA	**Eskdalemuir Ar**	**11.73**	**136**	Pn		**Pn**	**16 21 51.0**	**-1.4**
	baz=322,slow=13,SNR=20							
EKA				Sn		**Sn**	**16 23 58.6**	**-5.0**
	baz=326,slow=24,SNR=2.4							
EKA	**Eskdalemuir Ar**	**11.73**	**136**	Pn		**Pn**	**16 21 51.1**	**-1.4**
ESK	**Eskdalemuir**	**11.73**	**136**	*e*P		**Pn**	**16 21 51.4**	**-1.1**
ESK					IAMs_20	IAMs_20	16 26 47.7	
	comp=Z,1µm,10.6s							
ESK	**Eskdalemuir**	**11.73**	**136**	P		**Pn**	**16 21 51.5**	**-0.9**
ESK	**Eskdalemuir**	**11.73**	**136**	Pn		**Pn**	**16 21 51.5**	**-0.9**
SKAR	**Skarslia**	**12.48**	**96**	*e*P		**Pn**	**16 22 04.9**	**+2.2**
SKAR					IAmb	IAmb	16 22 11.9	
	comp=Z,49nm,1.4s							
NSS	**Namsos**	**12.64**	**77**	*e*P		Pn	16 22 11.6	+6.9
NSS					IAmb	IAmb	16 22 20.7	
	comp=Z,23nm,1.1s							
DSB	**Dublin**	**12.75**	**148**	Pn		**Pn**	**16 22 04.5**	**-1.8**
KONS	**Konsvik**	**12.78**	**68**	*e*P		**Pn**	**16 22 07.0**	**+0.4**
NC204	**NORSAR Array S**	**13.26**	**92**	Pn		**Pn**	**16 22 11.6**	**-1.7**
MOR8	**Moi Rana**	**13.35**	**69**	*e*P		**Pn**	**16 22 19.1**	**+4.8**
MOR8					IAmb	IAmb	16 22 28.9	
	comp=Z,24nm,1.1s							
NBO00	**NORSAR Array S**	**13.38**	**92**	Pn		**Pn**	**16 22 13.7**	**-1.2**
STEI	**Steigen**	**13.51**	**61**	*e*P		**P**	**16 22 23.9**	**-2.1**
FAUS	**Fauske**	**13.56**	**64**	*e*P		**P**	**16 22 26.9**	**+0.5**
NOA	**NORSAR Array B**	**13.56**	**92**	Pn		**Pn**	**16 22 14.6**	**-2.8**
	comp=Z,0.0nm,0.3s,baz=300,slow=13,SNR=4.2							
NOA					LR	LR	16 27 29.2	
	comp=Z,123nm,19.8s,baz=300,slow=37							
KONO	**Kongsberg**	**13.57**	**99**	*i* P		**Pn**	**16 22 17.2**	**-0.3**
KONO					pmax	pmax		
	comp=Z,12nm,1.4s							
SFJD	**Kangerlussuaq**	**13.67**	**295**		LR	LR	16 27 37.4	
	comp=Z,336nm,20.6s,baz=93,slow=38							
SFJD	**Kangerlussuaq**	**13.67**	**295**	P		**Pn**	**16 22 16.0**	**-2.7**
SFJD	**Kangerlussuaq**	**13.67**	**295**	Pn		**Pn**	**16 22 16.0**	**-2.7**
NC405	**NORSAR Array S**	**13.74**	**91**	Pn		**Pn**	**16 22 21.1**	**+1.3**
NC602	**NORSAR Array S**	**13.85**	**93**	Pn		**Pn**	**16 22 21.6**	**+0.4**
CWF	**Charnwood Fore**	**14.53**	**137**	*e*P		**Pn**	**16 22 29.5**	**-1.1**
CWF					IAMs_20	IAMs_20	16 28 28.1	
	comp=Z,834nm,12.5s							
TRO	**Tromso**	**14.87**	**54**	*e*P		**P**	**16 22 43.8**	**+2.9**
TRO					IAmb	IAmb	16 22 47.9	
	comp=Z,114nm,1.4s							
HFS	**Hagfors**	**15.07**	**93**	P		**Pn**	**16 22 40.5**	**+2.6**
	baz=297,slow=11							
HFS	**Hagfors**	**15.07**	**93**	Pn		**Pn**	**16 22 36.7**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=316,slow=8.1,SNR=1.7							
HFS					LR	LR	16 28 35.4	
	comp=Z,149nm,18.2s,baz=292,slow=38							
HFS	**Hagfors**	**15.07**	**93**	P		**Pn**	**16 22 40.5**	**+2.6**
	baz=297,slow=11							
MUD	**Monsted U'grnd**	**15.37**	**110**	*i* P		**P**	**16 22 47.2**	**+0.6**
MUD	**Monsted U'grnd**	**15.37**	**110**	*e*P		**P**	**16 22 47.2**	**+0.6**
MUD	**Monsted U'grnd**	**15.37**	**110**	*e*P		**P**	**16 22 47.2**	**+0.6**
KIF	**Kilpisjarvi**	**15.53**	**57**	*e*P		**Pn**	**16 22 43.9**	**0.0**
HSPB	**Hornsund (broa**	**16.14**	**26**	*e*P		**P**	**16 22 53.6**	**-1.4**
HSPB	**Hornsund (broa**	**16.14**	**26**	*e*P		**P**	**16 22 53.4**	**-1.6**
HSPB				*e*S		**S**	**16 25 58.2**	**-5.8**
HSPB	**Hornsund (broa**	**16.14**	**26**	*e*P		**P**	**16 22 53.4**	**-1.6**
KTK1	**Kautokeino**	**16.41**	**56**	*e*P		**Pn**	**16 22 56.2**	**+1.0**
KTK1					IAmb	IAmb	16 23 01.3	
	comp=Z,67nm,1.3s							
HAMF	**Hammerfest**	**16.52**	**51**	*e*P		**Pn**	**16 22 57.8**	**+1.2**
HAMF					IAmb	IAmb	16 23 06.1	
	comp=Z,38nm,1.2s							
KBS	**Kingsbay**	**16.71**	**19**	P		**P**	**16 23 01.9**	**+0.6**
KBS	**Kingsbay**	**16.71**	**19**	*e*P		**P**	**16 23 01.2**	**-0.1**
KBS				*i* S		**S**	**16 26 13.3**	**-2.4**
KBS	**Kingsbay**	**16.71**	**19**	P		**P**	**16 23 00.3**	**-1.0**
KBS					pmax	pmax		
	comp=Z,122nm,1.8s							
KBS	**Kingsbay**	**16.71**	**19**	Pn		**P**	**16 23 00.2**	**-1.0**
KBS	**Kingsbay**	**16.71**	**19**	*e*P		**P**	**16 23 03.0**	**+1.7**
KBS					IAmb	IAmb	16 23 08.5	
	comp=Z,126nm,1.8s							
SPA0	**Spitsbergen Ar**	**16.93**	**23**	P		**P**	**16 23 06.0**	**+2.1**
SPA0	**Spitsbergen Ar**	**16.93**	**23**	*e*P		**P**	**16 23 07.0**	**+3.1**
SPA0				*e*S		**S**	**16 26 21.0**	**+0.6**
SPA0	**Spitsbergen Ar**	**16.93**	**23**	Pn		**P**	**16 23 03.3**	**-0.6**
SPA0	**Spitsbergen Ar**	**16.93**	**23**	*e*P		**P**	**16 23 04.7**	**+0.9**
SPA0					IAmb	IAmb	16 23 14.4	
	comp=Z,58nm,1.3s							
SPITS	**Spitsbergen Ar**	**16.93**	**23**	LR		LR	16 27 55.7	
	comp=Z,402nm,19.8s,baz=200,slow=31							
NOR	**Nord**	**17.09**	**0**	P		**P**	**16 23 05.1**	**-0.4**
NOR	**Nord**	**17.09**	**0**	*i* P		**P**	**16 23 05.9**	**+0.4**
NOR	**Nord**	**17.09**	**0**	*i* P		**P**	**16 23 05.9**	**+0.4**
NOR	**Nord**	**17.09**	**0**	*i* P		**P**	**16 23 06.0**	**+0.5**
ARA0	**ARCESS Array S**	**17.18**	**54**	P		**P**	**16 23 06.5**	**-0.1**
	baz=270,slow=11							
ARA0	**ARCESS Array S**	**17.18**	**54**	P		**P**	**16 23 06.5**	**-0.1**
	baz=270,slow=11							
ARCES	**ARCESS Array B**	**17.18**	**54**	P		**Pn**	**16 23 04.0**	**-0.9**
	baz=278,slow=8.5,SNR=15							
ARCES					LR	LR	16 28 25.8	
	comp=Z,512nm,19.3s,baz=294,slow=33							
ARE0	**ARCESS Array S**	**17.18**	**54**	P		**P**	**16 23 06.3**	**-0.3**
ARE0	**ARCESS Array S**	**17.18**	**54**	*e*P		**P**	**16 23 06.7**	**+0.1**
ARE0					IAmb	IAmb	16 23 09.0	
	comp=Z,104nm,1.7s							
BSEG	**Bad Segeberg**	**17.64**	**114**	*e*P		**Pn**	**16 23 10.3**	**-0.4**
	comp=Z,290nm,2.1s,baz=327,slow=11							
KEV	**Kevo**	**17.68**	**54**	P		**P**	**16 23 12.2**	**+0.1**
KEV					pmax	pmax		
	comp=Z,107nm,1.7s							
KEV	**Kevo**	**17.68**	**54**	P		**P**	**16 23 12.2**	**+0.1**
HOPEN	**Hopen**	**17.90**	**31**	P		**Pn**	**16 23 08.3**	**-5.5**
IBBN	**Ibbenburen**	**17.92**	**121**	*e*P		**P**	**16 23 15.3**	**+0.5**
	comp=Z,256nm,1.9s,baz=327,slow=11							
UCC	**Uccle**	**17.98**	**130**	P		**Pn**	**16 23 12.7**	**-2.3**
UCC					pmax	pmax		
	comp=Z,74nm,1.5s							
UCC	**Uccle**	**17.98**	**130**	Pn		**Pn**	**16 23 12.7**	**-2.3**
SNF	**Seneffe**	**18.21**	**130**	P		**Pn**	**16 23 16.0**	**-1.7**
RGN	**Rugen**	**18.39**	**109**	*e*P		**Pn**	**16 23 19.4**	**-0.6**
RGN	**Rugen**	**18.39**	**109**	P		**Pn**	**16 23 19.6**	**-0.4**
BEBN	**Eben Emael**	**18.43**	**128**	Pn		**P**	**16 23 18.5**	**-1.9**
BUG	**Bochum--Univer**	**18.45**	**124**	*e*P		**Pn**	**16 23 21.3**	**+0.6**
	comp=Z,289nm,2.3s,baz=327,slow=11							
BMRD	**Maredsous**	**18.54**	**130**	P		**P**	**16 23 19.9**	**-1.8**
	comp=Z,49nm,2.1s							
BGES	**Gesves**	**18.58**	**129**	P		**P**	**16 23 21.0**	**-1.1**
	comp=Z,43nm,2.0s							
BGES					pP	**sP**	**16 23 31.6**	**+6.2**
BCLA	**Clavier**	**18.62**	**129**	P		**P**	**16 23 19.8**	**-2.8**
	comp=Z,41nm,2.3s							
BCLA					pP	**sP**	**16 23 32.2**	**+6.4**
DOU	**Dourbes**	**18.66**	**131**	P		**P**	**16 23 22.9**	**-0.1**
MEM	**Membach**	**18.70**	**127**	P		**P**	**16 23 21.6**	**-1.9**
	comp=Z,28nm,2.3s							
BHOU	**Houvegnez**	**18.91**	**128**	P		**P**	**16 23 24.5**	**-1.3**
	comp=Z,59nm,2.4s							
AHRW	**Bad Neuenahr-A**	**19.13**	**126**	*e*P		**Pn**	**16 23 29.3**	**+0.3**
	comp=Z,140nm,1.7s,baz=327,slow=11							
ASSE	**Asse, Remlinge**	**19.16**	**117**	*e*P		**P**	**16 23 27.0**	**-1.4**
	comp=Z,426nm,2.7s,baz=327,slow=11							
SUF	**Sumiainen**	**19.20**	**76**	P		**Pn**	**16 23 30.4**	**+0.7**
CLZ	**Clausthal**	**19.27**	**118**	*e*P		**P**	**16 23 28.6**	**-1.2**
	comp=Z,108nm,1.7s,baz=327,slow=11							
GTTG	**Gottingen**	**19.35**	**119**	*e*P		**P**	**16 23 30.2**	**-0.4**
	comp=Z,133nm,1.8s,baz=327,slow=11							
WLF	**Walferdange**	**19.55**	**129**	P		**P**	**16 23 32.8**	**0.0**
WLF					PnPn	**PnPn**	**16 23 45.4**	**-1.7**
WLF	**Walferdange**	**19.55**	**129**	P		**P**	**16 23 31.8**	**-1.0**
WLF					pmax	pmax		
	comp=Z,54nm,1.4s							
WLF	**Walferdange**	**19.55**	**129**	*e*P		**P**	**16 23 32.9**	**+0.1**
	comp=Z,250nm,2.5s,baz=327,slow=11							
WLF	**Walferdange**	**19.55**	**129**	P		**P**	**16 23 31.8**	**-1.0**
FIA0	**FINESS Array S**	**19.74**	**79**	P		**Pn**	**16 23 36.1**	**-0.1**
	baz=302,slow=7.9							
FIA0	**FINESS Array S**	**19.74**	**79**	P		**Pn**	**16 23 36.1**	**-0.1**
	baz=302,slow=7.9							
FIA1	**FINESS Array S**	**19.74**	**79**			**Pn**	**16 23 35.8**	**-0.5**
FIA1					IAmb	IAmb	16 23 41.5	
	comp=Z,152nm,1.8s							
FINES	**FINESS Array B**	**19.74**	**79**	P		**Pn**	**16 23 36.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=305,slow=6.7,SNR=9.2							
FINES					LR	LR	16 30 45.1	
	comp=Z,317nm,19.9s,baz=286,slow=36							
CLF	**Chambon-Foret**	**19.77**	**138**			**P**	**16 23 34.5**	**-0.7**
TNS	**Taunus Mts**	**19.88**	**124**	*e*P		**P**	**16 23 36.8**	**+0.4**
	comp=Z,2µm,5.4s,baz=327,slow=11							
UBBA	**Unterbreizbach**	**19.95**	**121**	*e*P		**Pn**	**16 23 38.4**	**-0.3**
	comp=Z,182nm,1.8s,baz=327,slow=11							
RUE	**Ruedersdorf**	**20.11**	**112**	*e*P		**P**	**16 23 38.5**	**-0.3**
SLIT	**Slitere, Latvi**	**20.17**	**92**	*e*P		**P**	**16 23 39.2**	**-0.2**
APA0	**Apatity Array**	**20.22**	**59**	P		Pn	16 23 41.0	-0.9
	baz=260,slow=14							
APA0	**Apatity Array**	**20.22**	**59**	P		Pn	16 23 41.0	-0.9
	baz=260,slow=14							
NEUB	**Neuenburg**	**20.31**	**117**	*e*P		**P**	**16 23 41.8**	**+0.8**
	comp=Z,302nm,1.7s,baz=327,slow=11							
APA	**Apatity**	**20.38**	**59**⇑	*i*P		**P**	**16 23 41.1**	**-0.6**
APA				*i* S		**S**	**16 27 24.0**	**-6.0**
APA					pmax	pmax		
	comp=Z,16nm,1.0s							
MFF	**Saint Martin d**	**20.42**	**144**	*e*P		Pn	16 23 45.1	+0.8
MFF					pmax	pmax		
	comp=Z,94nm,1.4s							
MOX	**Moxa**	**20.70**	**119**	P		**P**	**16 23 45.5**	**+0.2**
MOX					pmax	pmax		
	comp=Z,36nm,1.5s							
MOX	**Moxa**	**20.70**	**119**	*e*P		**P**	**16 23 46.0**	**+0.7**
	comp=Z,113nm,1.6s,baz=327,slow=11							
MOX					*e*L	L	16 31 47.7	
	comp=Z,239nm,21.4s							
CLL	**Collm**	**20.70**	**115**⇓	*i*P		**P**	**16 23 45.0**	**-0.3**
	comp=Z,158nm,1.7s							
CLL					*e*		16 23 54.0	
CLL					*e*PP	**PnPn**	**16 24 09.0**	**+6.1**
CLL					*e*		16 24 28.0	
CLL					*e*S	**S**	**16 27 34.0**	**-2.5**
CLL	**Collm**	**20.70**	**115**⇓	*i*P		**P**	**16 23 45.0**	**-0.3**
CLL					*e*S	**S**	**16 27 34.0**	**-2.5**
CLL					pmax	pmax		
	comp=Z,158nm,1.7s							
CLL	**Collm**	**20.70**	**115**	*e*P		**P**	**16 23 45.6**	**+0.3**
	comp=Z,158nm,1.7s,baz=327,slow=11							
CLL	**Collm**	**20.70**	**115**			**P**	**16 23 44.9**	**-0.4**
CLL					IAmb	IAmb	16 23 49.5	
	comp=Z,116nm,1.5s							
LVZ	**Lovozero**	**20.75**	**58**	*c*eP		Pn	16 23 47.3	-0.8
LVZ					pmax	pmax		
	comp=Z,77nm,1.7s							
LVZ	**Lovozero**	**20.75**	**58**			**P**	**16 23 46.5**	**+0.8**
LVZ					IAmb	IAmb	16 23 52.0	
	comp=Z,118nm,1.7s							
GKP	**Gorka Klasztor**	**20.93**	**106**	*e*P		Pn	16 23 49.4	-0.8
PBUR	**Paburge**	**21.02**	**95**	*e*P		**P**	**16 23 50.2**	**+1.6**
PLN	**Plauen**	**21.03**	**118**	*e*P		**P**	**16 23 49.3**	**+0.4**
	comp=Z,1µm,3.8s,baz=327,slow=11							
WERD	**Werda**	**21.12**	**118**	*e*P		**P**	**16 23 50.2**	**+0.4**
	comp=Z,1µm,3.9s,baz=327,slow=11							
ECH	**Echery**	**21.14**	**129**	P		**P**	**16 23 49.6**	**-0.5**
ECH					pmax	pmax		
	comp=Z,65nm,1.4s							
ECH	**Echery**	**21.14**	**129**			**P**	**16 23 49.5**	**-0.5**
ECH					IAmb	IAmb	16 23 53.4	
	comp=Z,65nm,1.4s							
FBE	**Freiberg**	**21.15**	**116**	*e*P		**P**	**16 23 50.7**	**+0.6**
	comp=Z,164nm,1.8s,baz=327,slow=11							
GUNZ	**Gunzen**	**21.20**	**118**	*e*P		**P**	**16 23 51.1**	**+0.4**
	comp=Z,158nm,2.0s,baz=327,slow=11							
TANN	**Tannenbergstha**	**21.20**	**118**	*e*P		**P**	**16 23 51.2**	**+0.4**
	comp=Z,282nm,1.9s,baz=327,slow=11							
WERN	**Wernitzgruen**	**21.27**	**118**	*e*P		**P**	**16 23 52.0**	**+0.5**
	comp=Z,122nm,1.5s,baz=327,slow=11							
GRA1	**Grafenberg Arr**	**21.33**	**121**	P		**P**	**16 23 51.3**	**-0.7**
GRA1					IAmb	IAmb	16 24 02.5	
	comp=Z,149nm,1.7s							
GRF	**Grafenberg Arr**	**21.33**	**121**	P		**P**	**16 23 51.3**	**-0.7**
GRF					pmax	pmax		
	comp=Z,149nm,1.7s							
GRF	**Grafenberg Arr**	**21.33**	**121**	*e*P		**P**	**16 23 52.9**	**+0.9**
	comp=Z,304nm,2.6s,baz=327,slow=11							
GRF					*e*L	L	16 32 09.2	
	comp=Z,300nm,21.3s							
NKC	**Novy Kostel**	**21.35**	**118**	*e*P		**P**	**16 23 52.3**	**0.0**
NKC				*e*S		**S**	**16 27 49.1**	**-0.2**
NKC					MLR	MLR		
	comp=Z,500nm,11.5s							
NKC	**Novy Kostel**	**21.35**	**118**	*e*P		**P**	**16 23 52.3**	**0.0**
NKC				*e*S		**S**	**16 27 49.1**	**-0.2**
NKC					AMS	AMS	16 34 40.0	
	comp=Z,500nm,11.5s							
STU	**Stuttgart**	**21.36**	**125**	P		**P**	**16 23 52.3**	**-0.1**
STU					pmax	pmax		
	comp=Z,233nm,1.8s							
STU	**Stuttgart**	**21.36**	**125**	*e*P		**P**	**16 23 53.6**	**+1.2**
	comp=Z,190nm,1.7s,baz=327,slow=11							
STU	**Stuttgart**	**21.36**	**125**	P		**P**	**16 23 52.3**	**-0.1**
BRG	**Berggiesshubel**	**21.41**	**115**⇑	*i*P		**P**	**16 23 53.1**	**+0.2**
	comp=Z,90nm,1.5s							
BRG					*e*		16 24 01.9	
	comp=Z,147nm,1.7s							
BRG	**Berggiesshubel**	**21.41**	**115**	*e*P		**P**	**16 23 53.2**	**+0.3**
	comp=Z,160nm,1.8s,baz=327,slow=11							
MANZ	**Manzenberg**	**21.42**	**119**	*e*P		**P**	**16 23 53.3**	**+0.3**
	comp=Z,95nm,1.9s,baz=327,slow=11							
BFO	**Black Forest**	**21.44**	**127**	P		**P**	**16 23 52.5**	**-0.7**
BFO					pmax	pmax		
	comp=Z,69nm,1.2s							
BFO	**Black Forest**	**21.44**	**127**	*e*P		**P**	**16 23 54.2**	**+1.0**
	comp=Z,249nm,2.2s,baz=327,slow=11							
BFO	**Black Forest**	**21.44**	**127**	P		**P**	**16 23 52.5**	**-0.7**
BFO					IAmb	IAmb	16 23 58.1	
	comp=Z,69nm,1.2s							
VSU	**Vasula**	**21.60**	**86**	*e*P		**P**	**16 23 55.3**	**+0.5**
VSU	**Vasula**	**21.60**	**86**	*i* P		**P**	**16 23 54.6**	**-0.3**
VSU					pmax	pmax		
	comp=Z,51nm,0.9s							
ROTZ	**Rotzenmuhle**	**21.63**	**119**	*e*P		**P**	**16 23 55.8**	**+0.5**
	comp=Z,340nm,2.5s,baz=327,slow=11							
FRB	**Frobisher Bay**	**21.74**	**291**	LR		LR	16 31 32.4	
	comp=Z,105nm,19.0s,baz=125,slow=34							
PVCC	**Panska Ves**	**21.93**	**115**	*e*P		**P**	**16 24 03.7**	**+5.2**
PVCC					MLR	MLR		
	comp=Z,300nm,11.6s							
PVCC	**Panska Ves**	**21.93**	**115**	*e*P		**P**	**16 24 03.7**	**+5.2**
PVCC				*e*S		Sn	16 28 10.0	-0.6
PVCC					AMS	AMS	16 34 00.0	
	comp=Z,300nm,11.6s							
SLVR	**Solovky**	**22.12**	**65**	*e*P		**P**	**16 24 00.1**	**-0.2**
	comp=Z,117nm,1.5s							
PRA	**Prague**	**22.24**	**116**	*e*P		**P**	**16 24 00.6**	**-1.2**
PRA					MLR	MLR		
	comp=Z,200nm,9.4s							
PRA	**Prague**	**22.24**	**116**	*e*P		**P**	**16 24 00.6**	**-1.2**
PRA				*e*S		**S**	**16 28 10.8**	**+4.2**
PRA					AMS	AMS	16 37 00.0	
	comp=Z,200nm,9.4s							
PRU	**Pruhonice**	**22.35**	**116**	*e*P		**P**	**16 24 02.6**	**-0.4**
PRU					MLR	MLR		
	comp=Z,400nm,12.9s							
PRU	**Pruhonice**	**22.35**	**116**	*e*P		**P**	**16 24 02.6**	**-0.4**
PRU				*e*S		**S**	**16 28 13.2**	**+4.5**
PRU					AMS	AMS	16 35 20.0	
	comp=Z,400nm,12.9s							
KSP	**Ksiaz**	**22.37**	**112**	*e*P		**P**	**16 24 02.8**	**-0.3**
KSP				*e*S		**S**	**16 28 14.3**	**+5.3**
PBCC	**Pribram**	**22.38**	**117**	*e*P		**P**	**16 24 02.9**	**-0.5**
WET	**Wettzell**	**22.39**	**119**	*e*P		**P**	**16 24 03.7**	**+0.2**
	comp=Z,135nm,2.1s,baz=327,slow=11							
PUL	**Pulkovo**	**22.40**	**80**	*e*P		**P**	**16 24 02.8**	**-0.7**
PUL	**Pulkovo**	**22.40**	**80**	*i* P		**P**	**16 24 03.0**	**-0.4**
PUL					pmax	pmax		
	comp=Z,61nm,0.9s							
CHVC	**Chvalec**	**22.47**	**113**	*e*P		**P**	**16 24 04.1**	**-0.2**
CHVC					AMS	AMS	16 35 30.0	
	comp=Z,300nm,11.2s							
GOPC	**GO Pecny, Ondr**	**22.50**	**115**	*e*P		**P**	**16 24 03.8**	**-0.9**
GOPC				*e*S		**S

WATA Walderalm 23.43 124 *i* pP P **16 24 14.9 +0.5**
comp=Z,53nm,2.3s,SNR=13
BEL Belsk 23.45 105 *e*P P **16 24 14.7 +0.2**
WTTA Wattenberg 23.51 124 *i* pP P **16 24 16.0 +0.8**
comp=Z,64nm,2.2s,SNR=18
RJOB Jochberg 23.53 121 *e*P P **16 24 14.6 -0.7**
comp=Z,128nm,2.0s,baz=327,slow=11
IDID Didziasalis 23.55 92 *e*P P **16 24 16.6 +1.2**
FUORN Ofenpass-Fuorn 23.58 126 P P **16 24 15.0 -1.0**
FUORN IAmb IAmb 16 24 43.5
comp=Z,79nm,1.6s
PCAB Cabril 23.59 162 *e*P P **16 24 16.0 +0.1**
comp=Z,93nm,1.7s
PBRG Braganca 23.68 160 *e*P P **16 24 17.4 +0.6**
comp=Z,69nm,1.9s
VRAC Vranov 23.70 114 P P **16 24 17.1 +0.2**
comp=Z,3.3nm,0.6s,baz=330,slow=12,SNR=21
VRAC LR LR 16 34 43.9
comp=Z,109nm,19.2s,baz=334,slow=40
VRAC Vranov 23.70 114 ⇓P P **16 24 17.9 +1.0**
VRAC Vranov 23.70 114 ⇓*i*P P **16 24 16.7 -0.2**
VRAC *e*S Sn 16 28 42.6 -10
MORC Moravsky Berou 23.70 112 ⇓*i*P P **16 24 16.6 -0.4**
MORC *e*S S **16 28 42.0 +10**
MORC Moravsky Berou 23.70 112 P P **16 24 16.0 -1.0**
MORC pmax pmax
comp=Z,155nm,1.9s
MORC Moravsky Berou 23.70 112 P P **16 24 16.0 -1.0**
EUNU Eureka 23.71 336 P P **16 24 17.0 +0.1**
EUNU IAmb IAmb 16 24 44.5
comp=Z,80nm,1.6s
BNI Bardonecchia 23.78 134 P P **16 24 16.2 -1.6**
BNI pmax pmax
comp=Z,70nm,1.4s
BNI Bardonecchia 23.78 134 P P **16 24 16.2 -1.6**
BNI IAmb IAmb 16 24 28.9
comp=Z,70nm,1.4s
KRUC Moravsky 23.82 115 ⇓*i*P P **16 24 17.5 -0.5**
KRUC *e*S S **16 28 43.1 +9.3**
NACGM Naroch 23.84 93 *e*P P **16 24 20.0 +1.8**
NACGM *e*S S **16 28 42.0 +7.9**
OKC Ostrava-Krasne 23.90 111 *e*P P **16 24 16.8 -2.0**
OKC Ostrava-Krasne 23.90 111 *e*P P **16 24 16.8 -2.0**
MOA Molln 23.99 119 *i*P P **16 24 19.8 +0.1**
comp=Z,28nm,1.5s,SNR=11
PVRL Vila Real 24.05 162 *e*P P **16 24 20.0 -0.4**
comp=Z,88nm,1.9s
MVO Moncorvo 24.26 160 *e*P P **16 24 22.1 -0.2**
comp=Z,84nm,2.1s
MVO *e*LR LR 16 31 15.9
comp=Z,198nm,18.0s
ABTA Abfaltersbach 24.26 123 *i* pP P **16 24 23.4 +1.0**
comp=Z,26nm,1.6s,SNR=12
OJC Ojcow 24.27 108 *e*P P **16 24 21.3 -0.9**
OJC Ojcow 24.27 108 P P **16 24 20.5 -1.8**
OJC pmax pmax
comp=Z,113nm,1.9s
OJC Ojcow 24.27 108 P P **16 24 20.5 -1.8**
KBA Koelnbreinsper 24.29 121 *i* pP P **16 24 23.5 +0.8**
comp=Z,48nm,1.7s,SNR=9.7
JAVC Velka Javorina 24.48 113 ⇓*i*P P **16 24 24.6 +0.3**
JAVC *e*S S 16 28 55.7 +11
CONA Conrad Observa 24.53 117 *i* P P **16 24 25.1 +0.4**
comp=Z,14nm,1.1s
CTI Castel Tesino 24.55 125 P P **16 24 24.3 -0.7**
CTI pmax pmax
comp=Z,130nm,1.8s
CTI Castel Tesino 24.55 125 P P **16 24 24.3 -0.7**
PVIS Viseu 24.58 162 *e*P P **16 24 25.4 +0.2**
comp=Z,83nm,1.7s
MICGM Minsk 24.59 93 ⇓*e*P P **16 24 24.0 -1.1**
MICGM PM 16 24 25.0
comp=Z,0.3nm,1.0s
MICGM PM 16 24 26.0
comp=N,0.4nm,1.0s
MNK Minsk 24.59 93 *e*P P **16 24 24.0 -1.1**
MNK pmax pmax
comp=Z,300nm,1.0s
ZOU Zoufplan 24.59 123 P P **16 24 24.8 -0.7**
CIMO Cimolais 24.61 124 P P **16 24 25.0 -0.5**
CIMO IAmb IAmb 16 24 39.6
comp=Z,47nm,1.6s
SMOL Smolenice 24.66 114 *e*P P **16 24 27.1 +1.2**
SMOL Smolenice 24.66 114 *e*P P **16 24 27.1 +1.2**
MODS Modra-Piesok 24.72 114 *e*P P **16 24 26.5 +0.1**
MODS pmax pmax
comp=Z,105nm,2.0s
MODS Modra-Piesok 24.72 114 *e*P P **16 24 26.5 +0.1**
STAL STALIGIAL 24.75 123 P P **16 24 25.8 -0.9**
MYKA Terra Mystica 24.77 122 pP P **16 24 28.3 +1.4**
comp=Z,26nm,1.7s
PRED Cave del Predi 24.91 122 P P **16 24 27.2 -1.0**
MTE Manteigas 24.94 162 *e*P P **16 24 28.4 -0.1**
comp=Z,112nm,1.5s
MTE *e*LR LR 16 31 22.0
comp=Z,314nm,20.0s
MTE Manteigas 24.94 162 P P **16 24 26.4 -2.1**
ARSA Arzberg 24.96 118 *i* pP P **16 24 29.6 +1.0**
comp=Z,14nm,1.1s
LANS Liptovska Anna 24.97 110 *e*P P **16 24 33.1 +4.4**
LANS Liptovska Anna 24.97 110 *e*P P **16 24 33.1 +4.4**
NIE Niedzica 25.10 109 *e*P P **16 24 29.9 +0.1**
NIE *e*S S **16 29 00.8 +6.3**
PCAS Casmilo, Conde 25.16 163 *e*P P **16 24 29.9 -0.5**
comp=Z,105nm,1.8s
OBKA Obir 25.21 120 *i* P P **16 24 31.4 +0.5**
comp=Z,22nm,1.3s
VYHS Vyhne 25.24 112 *e*P P **16 24 31.2 +0.1**
VYHS pmax pmax
comp=Z,71nm,1.7s
VYHS Vyhne 25.24 112 *e*P P **16 24 31.2 +0.1**
SOKA Soboth 25.25 120 *i* P P **16 24 31.7 +0.5**
comp=Z,40nm,1.8s,SNR=22
PCBR Castelo Branco 25.50 162 *e*P P **16 24 33.6 +0.2**
comp=Z,68nm,1.7s
TRI Trieste 25.60 123 P P **16 24 34.5 +0.1**
TRI pmax pmax
comp=Z,19nm,1.1s
TRI Trieste 25.60 123 P P **16 24 34.5 +0.1**
KLMR Klimovskoe 25.65 72 *e*P P **16 24 33.0 -1.7**
comp=Z,60nm,1.3s
KLMR *e*S S **16 29 04.7 +1.8**
KLMR Klimovskoe 25.65 72 *e*P P **16 24 32.9 -1.7**
KLMR pmax pmax
comp=Z,60nm,1.3s
KLMR Klimovskoe 25.65 72 *e*P P **16 24 33.0 -1.7**
KLMR AMP 16 24 40.3
comp=Z,60nm,1.3s
KLMR LQ LQ 16 30 59.0
KLMR LQ LQ 16 30 59.0
KLMR LR LR 16 32 42.6
PSBE So Bento 25.65 164 *e*P P **16 24 34.5 -0.4**
comp=Z,92nm,1.8s
KECS Kecovo 25.91 110 *e*P P **16 24 39.1 +1.9**
KECS pmax pmax
comp=Z,17nm,1.5s
KECS Kecovo 25.91 110 *e*P P **16 24 39.0 +1.9**
PMRV Marv??o 25.91 162 *e*P P **16 24 37.4 +0.1**
comp=Z,87nm,1.8s
PMRV *e*LR LR 16 31 41.0
comp=Z,316nm,20.0s
KWP Kalwaria Pacla 25.92 106 *e*P P **16 24 37.4 +0.2**
KWP Kalwaria Pacla 25.92 106 P P **16 24 37.2 -0.1**
KWP pmax pmax
comp=Z,172nm,1.4s
KWP Kalwaria Pacla 25.92 106 P P **16 24 37.2 -0.1**
CRVS Cervenica-Dubn 25.98 108 *e*P P **16 24 37.6 -0.2**
CRVS pmax pmax
comp=Z,193nm,2.1s
CRVS Cervenica-Dubn 25.98 108 *e*P P **16 24 37.6 -0.2**
SCHQ Schefferville 26.01 271 P P **16 24 38.7 +0.7**
comp=Z,12nm,1.0s,baz=59,slow=13,SNR=5.7
SCHQ LR LR 16 33 15.7
comp=Z,227nm,19.3s,baz=68,slow=33
LSH Leshukonskoye 26.02 60 *e*P P **16 24 37.2 -0.8**
comp=Z,60nm,1.4s
LSH *e*S S **16 29 10.1 +1.3**
PSZ Piszkesteto 26.12 112 ⇓P P **16 24 40.4 +1.2**
PSZ Piszkesteto 26.12 112 P P **16 24 39.3 +0.2**
PSZ pmax pmax
comp=Z,153nm,1.7s
PSZ Piszkesteto 26.12 112 P P **16 24 39.3 +0.2**
PMAFR Mafra 26.15 165 *e*P P **16 24 40.0 +0.6**
comp=Z,130nm,1.6s
ESBB Sonseca Array 26.21 156 P P **16 24 39.6 -0.4**
ESBB IAmb IAmb 16 24 44.9
comp=Z,42nm,1.6s
ESDC Sonseca Array 26.21 156 P P **16 24 39.8 -0.2**
comp=Z,2.8nm,0.8s,baz=348,slow=8.8,SNR=15
ESDC LR LR 16 35 15.8
comp=Z,255nm,18.1s,baz=315,slow=37
KALN Kalnik 26.25 118 *i* P P **16 24 35.9 -4.3**
PTJ Puntijarka 26.25 119 P P **16 24 38.2 -2.1**
PAB San Pablo 26.27 156 P P **16 24 39.0 -1.6**
PAB pmax pmax
comp=Z,114nm,2.0s
PAB San Pablo 26.27 156 P P **16 24 39.0 -1.6**
KOLS Kolonicke sedl 26.28 107 *e*P P **16 24 40.4 -0.1**
KOLS pmax pmax
comp=Z,70nm,1.5s
KOLS Kolonicke sedl 26.28 107 *e*P P **16 24 40.3 -0.2**
LVV L'vov 26.33 104 *e*P P **16 24 40.9 0.0**
LVV *e* 16 25 24.1
LVV *e*S S **16 29 09.7 -4.1**
LVV pmax pmax
comp=Z,350nm,1.9s
LVV smax smax
comp=N,190nm,5.5s
LVV smax smax
comp=E,510nm,5.5s
RES Resolute Bay 26.50 324 LR LR 16 34 47.0
comp=E,93nm,19.0s,baz=123,slow=36
UZH Uzhgorod 26.53 108 *e*P P **16 24 44.0 +1.3**
UZH *e* 16 24 49.6
UZH *e* 16 25 33.2
UZH *e*S S **16 29 17.2 +0.2**
UZH *e*SS SnSn 16 30 44.0 +26
OSSC Osservatorio P 26.62 129 P P **16 24 42.3 -1.3**
OSSC IAmb IAmb 16 25 18.0
comp=Z,43nm,1.3s
MOSL Moslavina 26.80 119 *i* P P **16 24 42.5 -2.7**
PNCL Nicolau / Gran 27.07 164 *e*P P **16 24 46.3 -1.4**
comp=Z,46nm,1.7s
PBEJ Beja 27.23 163 *e*P P **16 24 49.3 +0.1**
comp=Z,46nm,1.9s
MURB Monte Urbino 27.29 127 P P **16 24 46.7 -3.0**
MURB IAmb IAmb 16 25 00.5
comp=Z,50nm,1.2s
DUGI Dugi Otok 27.55 123 *i* P P **16 24 47.4 -4.5**
PCVE Castro Verde 27.60 164 *e*P P **16 24 54.2 +1.7**
comp=Z,47nm,1.8s
PRGR Permogore 27.67 67 *e*P P **16 24 53.4 +0.5**
comp=Z,30nm,1.1s
PRGR Permogore 27.67 67 *e*P P **16 24 53.5 +0.6**
PRGR pmax pmax
comp=Z,30nm,1.0s
AKASG Malin Array Be 27.86 97 P P **16 24 53.6 -1.1**
comp=Z,1.9nm,0.7s,baz=322,slow=9.1,SNR=17
AKASG LR LR 16 35 40.9
comp=Z,116nm,19.1s,baz=325,slow=36
AKBB Malin Array Si 27.86 97 P P **16 24 53.9 -0.8**
AKBB pmax pmax
comp=Z,67nm,2.0s
AKBB Malin Array Si 27.86 97 P P **16 24 53.9 -0.8**
AKBB IAmb IAmb 16 24 59.0
comp=Z,67nm,1.9s
NRCA Norcia 27.87 127 P P **16 24 53.8 -1.1**
NRCA IAmb IAmb 16 25 00.3
comp=Z,55nm,1.7s
OBN Obninsk 27.92 84 P P **16 24 54.9 -0.2**
comp=Z,4.2nm,0.3s,baz=267,slow=2.8,SNR=9.5
OBN LR LR 16 35 58.9
comp=Z,30nm,18.1s,baz=298,slow=36
OBN Obninsk 27.92 84 ⇓*e*P P **16 24 53.7 -1.4**
OBN *e* 16 25 43.3
OBN pmax pmax
comp=Z,92nm,1.7s
OBN MLR MLR
comp=Z,154nm,16.0s
OBN Obninsk 27.92 84 P P **16 24 54.4 -0.7**
MOS Moscow 27.95 82 *e*P P **16 24 55.0 -0.5**
MOS *e* 16 25 42.9
MOS *e*PPP PPP 16 25 52.9
MOS *e* 16 28 09.0
MOS *e*S S **16 29 40.6 +1.3**
MOS pmax pmax
comp=Z,79nm,1.9s
SIRR Siria 28.17 112 ⇓P P **16 24 57.6 +0.1**
BUR08 Bucovina Ar. S 28.51 106 ⇑P P **16 24 59.4 -1.2**
BURAR Bucovina Array 28.54 106 ⇑P P **16 25 01.1 +0.2**
INTR Introdacqua 28.87 126 P P **16 25 02.2 -1.6**
INTR IAmb IAmb 16 25 23.0
comp=Z,30nm,1.5s
DIVS Divibare 29.31 116 P P **16 25 06.4 -1.3**
MDVR Moldovita 29.41 113 ⇓P P **16 25 08.8 +0.2**
SORM Soroca 29.44 102 ⇑P P **16 25 08.2 -0.5**
HERR Herculane 29.61 112 ⇑P P **16 25 09.7 -0.6**
TESR Tescani 30.01 106 ⇑P P **16 25 14.6 +0.8**
VOIR 30.22 109 ⇑P P **16 25 15.2 -0.5**
PLOR Plostina 30.54 106 ⇑P P **16 25 18.1 -0.4**
MLR Muntele Rosu 30.54 108 ⇓P P **16 25 19.3 +0.7**
MLR Muntele Rosu 30.54 108 P P **16 25 18.5 -0.2**
MLR pmax pmax
comp=Z,19nm,1.2s
MLR Muntele Rosu 30.54 108 P P **16 25 18.4 -0.2**
MLR IAmb IAmb 16 25 22.6
comp=Z,19nm,1.2s
VRI Vrincioaia 30.56 106 ⇓P P **16 25 18.9 +0.2**
LPSR Galich'ya Gora 30.66 86 *e*P P **16 25 20.2 +0.7**
LPSR pmax pmax
comp=Z,20nm,1.5s
GBN Guysborough 30.79 253 P P **16 25 17.9 -2.7**
GBN IAmb IAmb 16 25 24.0
comp=Z,37nm,1.4s
KIRV Kirov 31.03 69 P P **16 25 22.5 -0.1**
comp=Z,6.2nm,0.7s,baz=304,slow=11,SNR=9.2
KIRV LR LR 16 37 17.2
comp=Z,351nm,19.4s,baz=325,slow=35
BATG Bathurst New B 31.20 260 P P **16 25 21.2 -3.1**
CFR Carcaliu 31.70 106 ⇓P P **16 25 28.2 -0.5**
VSR Storozhevoye 31.76 87 *e*P P **16 25 28.8 -0.4**
VSR pmax pmax
comp=Z,30nm,1.3s
VORD Divnogorie 32.00 88 *e*P P **16 25 31.2 -0.1**
VORD pmax pmax
comp=Z,40nm,1.6s
CORL Corleone 32.36 131 P P **16 25 31.6 -3.0**
TIRR Tirgusor 32.40 106 P P **16 25 32.8 -2.0**
TIRR pmax pmax
comp=Z,58nm,1.5s
TIRR Tirgusor 32.40 106 P P **16 25 32.8 -2.0**
VRH Novokhopyorsk 32.87 85 *e*P P **16 25 39.0 +0.1**
VRH pmax pmax
comp=Z,40nm,1.5s
KEST Kesra 33.13 138 P P **16 25 41.7 +0.2**
comp=Z,4.5nm,0.8s,baz=328,slow=2.5,SNR=8.9
KEST LR LR 16 39 10.8
comp=Z,188nm,18.7s,baz=334,slow=36
KEST Kesra 33.13 138 P P **16 25 39.6 -1.8**
AGG Agios Georgios 34.57 118 P P **16 25 53.0 -0.8**
AGG pmax pmax
comp=Z,64nm,1.4s
AGG Agios Georgios 34.57 118 P P **16 25 53.0 -0.8**
VLDQ Val d'Or 35.45 272 P P **16 26 00.4 -0.9**
ANN Anapa 35.93 96 *e*P P **16 26 02.5 -3.0**
ANN *e* 16 27 22.6
ANN *e*S S **16 31 39.8 -3.9**
ANN pmax pmax
comp=Z,50nm,1.3s
ANN MLR MLR
comp=Z,205nm,12.0s
ARU Arti 36.13 66 P P **16 26 07.4 +0.3**
comp=Z,0.6nm,0.4s,baz=320,slow=7.5,SNR=12
ARU Arti 36.13 66 *d i*P P **16 26 07.7 +0.6**
ARU 16 27 28.5
ARU PPP PPP 16 27 45.0
ARU 16 28 29.5
ARU S S **16 31 52.4 +5.8**
ARU SS SS **16 34 17.6 -5.9**
ARU pmax pmax
comp=Z,38nm,1.8s
ARU MLR MLR
comp=Z,303nm,17.0s
ARU Arti 36.13 66 P P **16 26 07.5 +0.3**
D53A Lac Vacive, Po 36.35 271 P P **16 26 08.0 -1.0**
D53A IAmb IAmb 16 26 10.1
comp=Z,34nm,1.7s
NRIK Noril'sk 36.52 35 P P **16 26 10.2 -0.1**
comp=Z,2.6nm,0.8s,baz=315,slow=8.6,SNR=9.8
NRIK LR LR 16 43 12.4
comp=Z,194nm,18.0s,baz=246,slow=40
SVE Sverdlovsk 36.66 64 *e*P P **16 26 12.5 +0.9**
SVE pmax pmax
comp=Z,24nm,1.8s
SOC Sochi 37.89 95 *e*P P **16 26 24.7 +2.6**
SOC *e*PPP PPP 16 28 16.3
SOC *e*S S **16 32 16.7 +3.1**
SOC *e*SSS SSS 16 35 20.2
SOC MLR MLR
comp=Z,158nm,16.0s
GOF Gofitskoye 38.14 91 ⇑*e*P P **16 26 25.1 +0.8**
GOF pmax pmax
comp=Z,147nm,1.7s
BR131 Keskin Array S 38.49 105 P P **16 26 26.9 -0.5**
BR131 pmax pmax
comp=Z,50nm,1.8s
BR131 Keskin Array S 38.49 105 P P **16 26 26.9 -0.6**
BR131 IAmb IAmb 16 26 32.8
comp=Z,50nm,1.8s
BRTR Keskin Array B 38.49 105 P P **16 26 27.0 -0.5**
comp=Z,2.5nm,0.9s,baz=325,slow=6.3,SNR=9.8
BRTR LR LR 16 42 50.2
comp=Z,57nm,19.7s,baz=334,slow=37
IDI Anoyia 38.82 118 P P **16 26 28.9 -1.2**
IDI IAmb IAmb 16 27 53.1
comp=Z,29nm,1.3s
KIV Kislovodsk 38.87 92 ⇑P P **16 26 30.0 -0.5**
KIV Kislovodsk 38.87 92 *e*P P **16 26 30.3 -0.2**
KIV *e*S S **16 32 29.4 +0.8**
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,252nm,16.0s
KIV Kislovodsk 38.87 92 P P **16 26 30.5 0.0**
KBZ Khabaz 39.14 92 P P **16 26 33.6 +1.0**
comp=Z,6.9nm,0.9s,baz=311,slow=12,SNR=16
KBZ LR LR 16 43 03.4
comp=Z,114nm,19.8s,baz=326,slow=37
ELL Elmali 39.50 111 P P **16 26 33.1 -2.8**
ELL pmax pmax
comp=Z,98nm,1.4s
ELL Elmali 39.50 111 P P **16 26 33.1 -2.8**
E46A Sault Ste Mari 39.75 276 P P **16 26 34.1 -3.6**
INK Inuvik 39.88 329 P P **16 26 38.3 -0.2**
INK pmax pmax
comp=Z,12nm,1.3s
INK Inuvik 39.88 329 P P **16 26 38.2 -0.2**
GROC Groznyy 40.81 90 *e*P P **16 26 46.4 -0.1**
GROC *e* 16 28 21.7
GROC *e* 16 28 45.1
GROC *e*S S **16 32 59.9 +2.4**
GROC pmax pmax
comp=Z,48nm,1.5s
KOPT Kop Dagi 41.14 98 P P **16 26 49.7 0.0**
AKH Akhalkalaki 41.28 94 ⇑P P **16 26 51.4 +0.7**
AKH Akhalkalaki 41.28 94 P P **16 26 50.5 -0.1**
AKH pmax pmax
comp=Z,51nm,1.4s
AKH Akhalkalaki 41.28 94 P P **16 26 50.5 -0.1**
AKH IAmb IAmb 16 26 56.0
comp=Z,51nm,1.4s
TBLG Delisi 41.55 92 P P **16 26 51.8 -0.9**
TBLG pmax pmax
comp=Z,87nm,1.7s
TBLG Delisi 41.55 92 P P **16 26 51.8 -0.9**
GNBR Gunib 41.98 90 *i* P P **16 26 57.4 +1.2**
ZKTA Zakatala 42.44 91 P P **16 27 00.0 +0.1**
SEKA Sheki 43.04 91 P P **16 27 04.8 -0.1**
O54A Avella 43.05 267 P P **16 27 02.3 -2.5**
O54A IAmb IAmb 16 28 36.2
comp=Z,39nm,1.5s
AKT Akhty 43.05 90 *e*P P **16 27 05.6 +0.6**
AKT *e* 16 28 49.1
AKT *e* 16 28 53.7
AKT pmax pmax
comp=Z,18nm,1.2s
GANJ Ganja 43.13 92 P P **16 27 06.0 +0.5**
BRVK Borovoye 43.19 62 *ce*P P **16 27 06.5 +0.7**
BRVK pmax pmax
comp=Z,30nm,1.7s
BRVK Borovoye 43.19 62 P P **16 27 06.0 +0.2**
BRVK IAmb IAmb 16 27 11.3
comp=Z,48nm,1.7s
BVAR Borovoye Array 43.25 62 P P **16 27 06.9 +0.5**
comp=Z,5.4nm,1.0s,baz=318,slow=8.4,SNR=16
MNGR Mingechevir, A 43.35 91 P P **16 27 07.5 +0.3**
NAX Nakhchivan 43.99 94 P P **16 27 15.9 +3.4**
N49A Columbus Grove 44.08 271 P P **16 27 12.1 -1.0**
N49A IAmb IAmb 16 27 17.4
comp=Z,22nm,0.9s
COLD Coldfoot 44.16 336 P P **16 27 13.5 0.0**
TAM Tamanrasset 44.47 149 P P **16 27 15.6 -1.1**
TAM pmax pmax
comp=Z,44nm,1.8s
TAM Tamanrasset 44.47 149 P P **16 27 15.6 -1.1**
TAM IAmb IAmb 16 27 20.2
comp=Z,44nm,1.8s
EGAK Eagle 44.52 329 P P **16 27 16.4 0.0**
EGAK IAmb IAmb 16 27 23.1
comp=Z,23nm,1.6s
DAWY Dawson 44.73 328 P P **16 27 18.8 +0.6**
DAWY IAmb IAmb 16 27 24.7
comp=Z,24nm,1.5s
O49A Covington 44.75 270 P P **16 27 17.2 -1.2**
O49A IAmb IAmb 16 27 22.6
comp=Z,18nm,0.9s
Q51A Peebles 45.28 269 P P **16 27 21.3 -1.5**
Q51A IAmb IAmb 16 27 26.9
comp=Z,18nm,1.1s
IL31 45.73 332 P P **16 27 26.8 +0.9**
IL31 IAmb IAmb 16 27 32.8
comp=Z,28nm,1.5s
ILAR Eielson Array 45.73 332 P P **16 27 26.9 +0.9**
comp=Z,5.9nm,1.3s,baz=32,slow=6.5,SNR=12
ILAR PcP **PcP** **16 29 04.0 +0.4**
comp=Z,1.3nm,0.9s,baz=354,slow=2.1,SNR=7.8
ILAR LR LR 16 47 56.1
comp=Z,67nm,20.3s,baz=354,slow=38
LKRN Lenkeran, Azer 45.79 91 P P **16 27 28.9 +2.2**
P48A Milroy 45.82 271 P P **16 27 24.7 -2.3**
P48A IAmb IAmb 16 27 30.1
comp=Z,24nm,1.2s
COLA College 45.83 333 *i* P P **16 27 29.5 +2.8**
COLA pmax pmax
comp=Z,18nm,1.2s
CCB Clear Creek Bu 46.02 333 P P **16 27 27.7 -0.5**
CCB IAmb IAmb 16 27 35.0
comp=Z,21nm,1.6s
DOT Dot Lake 46.13 330 P P **16 27 29.5 +0.3**
BRZS Berezniki 46.54 63 *e*P P **16 27 32.8 +0.2**
comp=Z,12nm,1.3s,baz=63
BRZS *e*PP **PP** **16 29 22.1 +0.6**
baz=63
BRZS *e*S S **16 34 22.4 +1.4**
baz=63
BRZS *i* S S 16 34 22.5 +1.4
baz=63
BRZS Berezniki 46.54 63 *e*P P **16 27 32.7 +0.2**
BRZS *e* 16 29 22.1
BRZS *e*S S **16 34 22.4 +1.4**
BRZS pmax pmax
comp=Z,12nm,1.3s
BPAW Bear Paw Mtn. 47.12 334 P P **16 27 37.4 +0.4**
BPAW IAmb IAmb 16 27 43.5
comp=Z,19nm,1.4s
N41A Harden Midland 47.12 276 P P **16 27 35.8 -1.4**
N41A IAmb IAmb 16 27 40.6
comp=Z,19nm,1.1s
WCI Wyandotte Cave 47.22 271 P P **16 27 37.1 -0.9**
WCI pmax pmax
comp=Z,16nm,1.1s
WCI Wyandotte Cave 47.22 271 P P **16 27 37.1 -0.9**
WCI IAmb IAmb 16 27 41.6
comp=Z,16nm,1.1s
ZAA0 Zalesovo Array 47.69 51 P P **16 27 42.3 +0.8**
ZALV Zalesovo Beam 47.69 51 P P **16 27 41.9 +0.4**
comp=Z,1.7nm,0.8s,baz=348,slow=6.7,SNR=7.9
ZALV LR LR 16 50 30.5
comp=Z,73nm,19.8s,baz=333,slow=40
KURK Kurchatov 48.17 58 *ce*P P **16 27 45.3 +0.1**
KURK pmax pmax
comp=Z,32nm,1.7s
KURK Kurchatov 48.17 58 P P **16 27 44.9 -0.3**
KURK IAmb IAmb 16 27 50.0

BESE **Bessie Mountai** 48.32 321 P **P** 16 27 44.7 -1.6
BESE IAmb IAmb 16 29 24.4
comp=Z,11nm,0.7s
T47A Sharon Grove 48.61 270 P **P** 16 27 47.1 -1.6
T42A Van Buren 50.29 274 P **P** 16 28 00.6 -1.0
T42A IAmb IAmb 16 28 10.3
comp=Z,34nm,2.0s
GEYT Alibeck 50.46 83 P **P** 16 28 03.2 +0.3
comp=Z,1.8nm,0.7s,baz=296,slow=8.1,SNR=7.7
GEYT PP **PP** 16 30 00.1 +1.8
comp=Z,1.8nm,0.8s,baz=306,slow=8.0,SNR=5.5
GEYT LR LR 16 51 53.9
comp=Z,113nm,18.1s,baz=350,slow=39
GYA0 ALIBECK ARRAY 50.46 83 P **P** 16 28 03.5 +0.6
GYA0B ALIBECK ARRAY 50.46 83 P **P** 16 28 03.5 +0.6
S39A Bolivar 50.69 276 P **P** 16 28 02.6 -2.1
HRY Holter Researc 50.76 298 P **P** 16 28 05.0 -0.2
Z51A Franklin 50.89 266 P **P** 16 28 04.2 -2.0
RLMT Red Lodge 51.09 295 P **P** 16 28 05.6 -2.2
BTLS Baital 51.12 66 *e*P **P** 16 28 08.4 +0.7
comp=Z,14nm,1.9s,baz=66
BTLS *i* PP **PP** 16 30 05.3 +1.3
baz=66
BTLS *e*S **S** 16 35 27.3 +1.7
baz=66
BTLS *i* S S 16 35 27.4 +1.8
baz=66
BTLS Baital 51.12 66 *e*P **P** 16 28 08.4 +0.7
BTLS *e*S **S** 16 35 27.3 +1.7
BTLS pmax pmax
comp=Z,14nm,1.9s
KK31 Karatay Array 51.32 70 P **P** 16 28 10.1 +0.8
KK31 pmax pmax
comp=Z,66nm,1.9s
KK31 Karatay Array 51.32 70 P **P** 16 28 10.1 +0.8
KKAR Karatay Array 51.32 70 P **P** 16 28 10.2 +0.8
KKAR pmax pmax
comp=Z,66nm,1.9s
KKAR Karatay Array 51.32 70 P **P** 16 28 10.2 +0.8
YAK Yakutsk 51.34 19 *i* P **P** 16 28 11.7 +2.6
YAK pmax pmax
comp=Z,2.0nm,0.9s
BOZ Bozeman (W) 51.61 297 P **P** 16 28 12.3 +0.7
BOZ pmax pmax
comp=Z,12nm,1.1s
BOZ Bozeman (W) 51.61 297 P **P** 16 28 12.3 +0.7
BOZ IAmb IAmb 16 28 15.9
comp=Z,12nm,1.1s
U40A Yellville 51.62 275 P **P** 16 28 09.7 -1.9
YMP Mirror Lake PI 51.75 295 P **P** 16 28 11.4 -1.5
DZA Taraz 51.83 69 *e*P **P** 16 28 13.9 +0.8
baz=69
DZA Taraz 51.83 69 *e*P **P** 16 28 13.9 +0.8
IUG Iuzhnay 51.93 71 *e*P **P** 16 28 14.8 +0.8
comp=Z,38nm,1.7s,baz=71
IUG *i* PP **PP** 16 30 12.9 +1.4
baz=71
IUG *i* S **S** 16 35 38.8 +1.8
baz=71
IUG *e*S S 16 35 38.9 +1.9
baz=71
IUG Iuzhnay 51.93 71 *e*P **P** 16 28 14.7 +0.8
IUG *e*S **S** 16 35 38.9 +1.9
IUG pmax pmax
comp=Z,38nm,1.7s
YHH Holmes Hill 51.98 296 P **P** 16 28 13.8 -0.8
DGZ Jazzator, Alta 52.14 53 *i* P **P** 16 28 16.8 +1.3
DGZ pmax pmax
comp=Z,3.0nm,0.9s
BOD Bodaibo 52.48 30 *e*P **P** 16 28 18.7 +1.0
BOD pmax pmax
comp=Z,8.0nm,1.7s
SEY Seymchan 52.55 6 P **P** 16 28 19.2 +1.1
comp=Z,1.3nm,0.9s,baz=325,slow=6.3,SNR=3.0
SEY Seymchan 52.55 6 *i* P **P** 16 28 19.1 +0.9
MAKZ Makanchi 52.65 58 P **P** 16 28 18.8 -0.4
MAKZ pmax pmax
comp=Z,51nm,1.9s
MAKZ Makanchi 52.65 58 P **P** 16 28 18.8 -0.4
MAKZ IAmb IAmb 16 28 23.5
comp=Z,51nm,1.9s
SGDS Sogindy 52.68 66 *e*P **P** 16 28 20.2 +0.7
comp=Z,21nm,1.8s,baz=66
SGDS Sogindy 52.68 66 *e*P **P** 16 28 20.2 +0.7
SGDS pmax pmax
comp=Z,21nm,1.8s
UALR University of 52.74 274 P **P** 16 28 18.8 -1.1
PHWY Pilot Hill 52.76 289 P **P** 16 28 18.8 -1.6
MK31 Makanchi Array 52.78 58 P **P** 16 28 20.1 -0.1
MK31 pmax pmax
comp=Z,14nm,1.4s
MK31 Makanchi Array 52.78 58 P **P** 16 28 20.1 -0.1
MKAR Makanchi Array 52.78 58 P **P** 16 28 20.4 +0.2
comp=Z,4.4nm,1.1s,baz=322,slow=3.7,SNR=17
MKAR LR LR 16 50 48.6
comp=Z,78nm,20.3s,baz=329,slow=36
TDK Taldygorghan 52.84 62 *e*P **P** 16 28 21.6 +1.0
comp=Z,24nm,1.7s,baz=62
TDK LR LR 16 49 32.1
comp=Z,97nm,14.2s,baz=62
TDK Taldyqorghan 52.84 62 *e*P **P** 16 28 21.6 +1.0
TDK pmax pmax
comp=Z,24nm,1.7s
TDK MLR MLR
comp=Z,97nm,14.0s
KUU Kurty 52.98 65 *e*P **P** 16 28 22.2 +0.6
comp=Z,15nm,1.4s,baz=65
KUU *i* PP **PP** 16 30 22.0 +1.2
baz=65
KUU *e*S **S** 16 35 52.4 +1.3
baz=65
KUU *i* S S 16 35 52.8 +1.7
baz=65
KUU Kurty 52.98 65 *e*P **P** 16 28 22.2 +0.6
KUU *e*S **S** 16 35 52.4 +1.3
KUU pmax pmax
comp=Z,15nm,1.4s
FXWY Fox Creek 53.02 295 P **P** 16 28 20.6 -1.6
TOA0 Torodi Ar. Sit 53.10 156 P **P** 16 28 21.8 -1.0
TOA0 IAmb IAmb 16 28 25.3
comp=Z,19nm,1.2s
TORD Torodi Ar. Bea 53.10 156 P **P** 16 28 21.7 -1.0
comp=Z,11nm,1.2s,baz=344,slow=9.1,SNR=16
TORD LR LR 16 53 42.1
comp=Z,130nm,18.0s,baz=150,slow=39
TPAW Teton Pass 53.11 295 P **P** 16 28 21.1 -1.8
ZSN Zaisan 53.16 56 *e*P **P** 16 28 23.4 +0.5
comp=Z,23nm,2.1s,baz=56
ZSN *i* PP **PP** 16 30 23.5 +1.1
baz=56
ZSN *i* S **S** 16 35 55.2 +1.7
baz=56
ZSN Zaisan 53.16 56 *e*P **P** 16 28 23.4 +0.5
ZSN pmax pmax
comp=Z,23nm,2.1s
BW06 Boulder Array 53.17 293 P **P** 16 28 23.1 -0.3
PD31 Pinedale Array 53.17 293 P **P** 16 28 22.2 -1.2
PDAR Pinedale Array 53.17 293 P **P** 16 28 23.4 0.0
comp=Z,5.6nm,0.9s,baz=54,slow=7.5,SNR=37
PDAR LR LR 16 50 11.5
comp=Z,96nm,18.7s,baz=29,slow=35
REDW Red Top Meadow 53.18 295 P **P** 16 28 22.4 -1.0
N23A Red Feather La 53.30 289 P **P** 16 28 22.8 -1.5
N23A IAmb IAmb 16 28 26.8
comp=Z,15nm,1.2s
AAK Ala-Archa 53.31 67 *ce*P **P** 16 28 25.0 +0.7
AAK pmax pmax
comp=Z,36nm,1.7s
AAK Ala-Archa 53.31 67 P **P** 16 28 24.6 +0.3
BCYI Bear Canyon 53.37 297 P **P** 16 28 23.9 -0.9
AAA Alma-Ata 53.78 65 *e*P **P** 16 28 28.6 +1.0
baz=65
AAA LR LR 16 50 14.8
comp=Z,241nm,19.5s,baz=65
AAA Alma-Ata 53.78 65 *e*P **P** 16 28 28.6 +1.0
AAA MLR MLR
comp=Z,241nm,19.0s
MDOK Medeo 53.87 65 *e*P **P** 16 28 29.4 +1.0
baz=65
MDOK *i* PP **PP** 16 30 30.7 +1.6
baz=65
MDOK *i* S **S** 16 36 05.6 +2.0
baz=65
MDOK LR LR 16 50 21.2
comp=Z,159nm,14.6s,baz=65
MDOK Medeo 53.87 65 *e*P **P** 16 28 29.3 +1.0
MDOK MLR MLR
comp=Z,159nm,15.0s
TNSS Tian-Shan 53.94 65 *e*P **P** 16 28 30.0 +0.8
baz=65
TNSS Tian-Shan 53.94 65 *e*P **P** 16 28 29.9 +0.8
BTK Batken 54.01 71 P **P** 16 28 29.9 +0.6
BTK pmax pmax
comp=Z,84nm,1.8s
BTK Batken 54.01 71 P **P** 16 28 29.9 +0.6
BMO Blue Mountains 54.39 300 P **P** 16 28 31.4 -0.6
BMO pmax pmax
comp=Z,24nm,2.0s
BMO Blue Mountains 54.39 300 P **P** 16 28 31.4 -0.6
BMO IAmb IAmb 16 28 43.7
comp=Z,24nm,1.9s
HLID Hailey 54.39 297 P **P** 16 28 30.9 -1.3
HLID IAmb IAmb 16 28 38.5
comp=Z,18nm,1.9s
SATY Saty 54.48 64 *e*P **P** 16 28 33.4 +0.5
comp=Z,15nm,1.8s,baz=64
SATY Saty 54.48 64 *e*P **P** 16 28 33.3 +0.5
SATY pmax pmax
comp=Z,15nm,1.8s
SATY Saty 54.48 64 *e*P **P** 16 28 33.3 +0.5
SATY pmax pmax
comp=Z,15nm,1.8s
CHGR Chuyangaron 54.51 74 P **P** 16 28 32.8 -0.2
UZB Uzynbulak 54.65 63 *e*P **P** 16 28 35.1 +1.0
comp=Z,29nm,2.2s,baz=63
UZB Uzynbulak 54.65 63 *e*P **P** 16 28 35.0 +1.0
UZB pmax pmax
comp=Z,29nm,2.2s
GAR Garm 54.70 73 P **P** 16 28 34.6 +0.2
MOY Mondy 54.72 42 *e*P **P** 16 28 36.4 +2.0
KDJ Kajisay 54.80 65 P **P** 16 28 33.7 -1.4
KDJ pmax pmax
comp=Z,39nm,1.8s
KDJ Kajisay 54.80 65 P **P** 16 28 33.7 -1.4
SHLS Shalkode 54.81 63 *e*P **P** 16 28 36.8 +1.7
comp=Z,32nm,1.7s,baz=62
SHLS *i* PP **PP** 16 30 40.0 +2.5
baz=62
SHLS *i* S **S** 16 36 19.9 +3.7
baz=62
SHLS Shalkode 54.81 63 *e*P **P** 16 28 36.8 +1.7
SHLS pmax pmax
comp=Z,32nm,1.7s
O20A White River Ci 54.87 290 P **P** 16 28 34.8 -1.0
O20A IAmb IAmb 16 28 39.7
comp=Z,25nm,1.4s
HWUT Hardware Ranch 54.95 294 P **P** 16 28 36.1 -0.2
HWUT IAmb IAmb 16 28 40.2
comp=Z,12nm,1.0s
TARG Taragay, Kyrgy 55.38 65 P **P** 16 28 40.0 +0.3
TARG IAmb IAmb 16 28 45.5
comp=Z,17nm,1.1s
TLY Talaya 55.46 40 *e*P **P** 16 28 39.5 -0.1
TLY *e*S **S** 16 36 28.0 +3.5
TLY pmax pmax
comp=Z,32nm,1.8s
TLY MLR MLR
comp=Z,348nm,15.0s
TLY Talaya 55.46 40 P **P** 16 28 40.1 +0.5
SDCO Great Sand Dun 55.78 287 P **P** 16 28 41.3 -1.2
S22A 4UR Ranch, Cre 56.33 288 P **P** 16 28 45.0 -1.4
PV07 Paradox Valley 56.48 290 P **P** 16 28 46.2 -1.1
PV21 Cone Mtn., Par 56.51 290 P **P** 16 28 47.1 -0.5
ZAK Zakamensk 56.52 41 *e*P **P** 16 28 50.0 +2.6
ZAK pmax pmax
comp=Z,9.0nm,1.7s
KSH Kashi 56.55 68 *e*P **P** 16 28 51.3 +3.6
KSH sP sP 16 28 55.5 +4.3
KSH S **S** 16 36 42.0 +2.6
KSH pmax pmax
comp=Z,62nm,1.6s
KSH pmax pmax
comp=Z,170nm,3.9s
KSH LR LR
comp=Z,390nm,10.5s
PV23 Carpenter Ridg 56.62 290 P **P** 16 28 47.0 -1.4
PV23 IAmb IAmb 16 28 52.0
comp=Z,10nm,0.9s
PV04 Paradox Valley 56.62 290 P **P** 16 28 47.3 -1.0
PV04 IAmb IAmb 16 28 52.0
comp=Z,9.0nm,1.0s
SRU San Rafael Swe 56.66 292 P **P** 16 28 48.4 -0.2
SRU pmax pmax
comp=Z,9.0nm,1.0s
SRU San Rafael Swe 56.66 292 P **P** 16 28 48.4 -0.2
PV14 Lion Creek, Pa 56.69 290 P **P** 16 28 47.4 -1.5
PV14 IAmb IAmb 16 28 52.4
comp=Z,10nm,1.0s
PV11 David Mesa, Pa 56.69 290 P **P** 16 28 47.1 -1.7
PV11 IAmb IAmb 16 28 52.6
comp=Z,14nm,1.1s
PV10 Paradox Valley 56.69 290 P **P** 16 28 48.9 -0.1
PV10 IAmb IAmb 16 28 54.3
comp=Z,16nm,1.0s
PV16 Nyswonger Mesa 56.70 290 P **P** 16 28 48.0 -0.9
PV16 IAmb IAmb 16 28 52.8
comp=Z,24nm,1.5s
PV01 Paradox Valley 56.71 289 P **P** 16 28 47.5 -1.5
PV01 IAmb IAmb 16 28 52.9
comp=Z,14nm,1.2s
PV02 Paradox Valley 56.72 290 P **P** 16 28 48.1 -1.0
PV02 IAmb IAmb 16 28 52.9
comp=Z,16nm,1.0s
PV19 Morning Glory 56.73 290 P **P** 16 28 47.9 -1.2
PV17 East Wray Mesa 56.74 290 P **P** 16 28 47.9 -1.4
PV17 IAmb IAmb 16 28 52.9
comp=Z,10nm,1.1s
PV18 Skein Mesa, Pa 56.75 290 P **P** 16 28 48.2 -1.1
PV18 IAmb IAmb 16 28 53.0
comp=Z,14nm,1.0s
TMUT Trail Mountain 56.78 292 P **P** 16 28 48.7 -0.9
PV13 Radium Mtn., P 56.79 290 P **P** 16 28 49.4 -0.2
WMQ Urumqi 57.29 56 *e*P **P** 16 28 55.8 +3.0
WMQ LR LR
comp=Z,130nm,20.5s
WMQ LR LR
comp=Z,140nm,24.3s
WHTX Lake Whitney, 57.32 276 P **P** 16 28 51.2 -1.9
TCRU Three Creeks R 57.86 293 P **P** 16 28 56.1 -1.1
DBIC Dimbokro 58.54 165 LR LR 16 53 53.8
comp=Z,91nm,20.9s,baz=18,slow=36
TIC Toumodi 58.55 165 *e*P **P** 16 29 00.0 -1.8
ANMO Albuquerque 58.58 286 *ce*P **P** 16 29 01.6 -0.5
ANMO pmax pmax
comp=Z,10.0nm,2.5s
KIC Kosan Boka 58.86 165 *e*P **P** 16 29 04.5 +0.5
comp=Z,21nm,1.1s
LIC Lamto 58.96 165 *e*P **P** 16 29 04.3 -0.4
comp=Z,50nm,1.2s
KNB Kanab 59.39 292 P **P** 16 29 06.9 -0.8
KNB pmax pmax
comp=Z,22nm,1.6s
KNB Kanab 59.39 292 P **P** 16 29 06.9 -0.8
LCMT Little Creek M 59.56 292 P **P** 16 29 08.8 0.0
PAHR Pah Rah Range 59.60 299 P **P** 16 29 08.4 -0.8
U15A North Rim 59.68 291 P **P** 16 29 07.7 -2.2
U15A IAmb IAmb 16 29 13.1
comp=Z,9.3nm,1.1s
KVN Kaiserville 59.69 298 P **P** 16 29 09.6 -0.2
KVN pmax pmax
comp=Z,8.0nm,1.1s
KVN Kaiserville 59.69 298 P **P** 16 29 09.6 -0.2
SONM Songino Array 59.70 40 P **P** 16 29 11.0 +1.3
comp=Z,1.7nm,0.9s,baz=316,slow=10,SNR=7.4
SONM LR LR 16 57 16.7
comp=Z,130nm,19.4s,baz=288,slow=38
ULN Ulaanbaatar 59.86 40 P **P** 16 29 11.2 +0.4
ULN pmax pmax
comp=Z,15nm,1.5s
ULN Ulaanbaatar 59.86 40 P **P** 16 29 11.2 +0.4
ULN IAmb IAmb 16 29 14.6
comp=Z,15nm,1.4s
PRN Pahroc Range 59.93 294 P **P** 16 29 08.6 -2.8
PRN IAmb IAmb 16 29 15.6
comp=Z,17nm,1.7s
YERR Yerington 60.18 298 P **P** 16 29 11.2 -1.9
YERR IAmb IAmb 16 29 15.7
comp=Z,10nm,1.2s
NVAR Mina Array Bea 60.30 297 P **P** 16 29 15.4 +1.3
comp=Z,1.1nm,0.8s,baz=50,slow=4.6,SNR=5.0
NVAR LR LR 16 53 54.7
comp=Z,190nm,20.0s,baz=46,slow=35
NIL Nilore 60.49 73 P **P** 16 29 14.6 -0.6
NIL pmax pmax
comp=Z,20nm,1.3s
NIL Nilore 60.49 73 P **P** 16 29 14.6 -0.6
NIL IAmb IAmb 16 29 18.4
comp=Z,20nm,1.2s
SHPR Sheep Range 60.76 294 P **P** 16 29 14.8 -2.3
SHPR IAmb IAmb 16 29 23.0
comp=Z,9.6nm,1.2s
X16A Lo Mia Camp, P 61.08 290 P **P** 16 29 17.7 -1.6
X16A IAmb IAmb 16 29 22.0
comp=Z,8.4nm,1.1s
TXAR Lajitas Array 62.27 280 P **P** 16 29 27.9 +0.7
comp=Z,2.3nm,0.9s,baz=60,slow=5.3,SNR=12
TXAR PcP **PcP** 16 30 07.1 0.0
comp=Z,1.1nm,1.0s,baz=116,slow=4.1,SNR=3.9
TXAR LR LR 16 55 15.5
comp=Z,115nm,19.9s,baz=0.0,slow=35
KLR Kul'dur 64.01 22 *i* P **P** 16 29 39.4 +1.0
KLR pmax pmax
comp=Z,2.0nm,1.3s
GTA Gaotai 65.36 49 ⇑P **P** 16 29 48.5 +0.9
GTA pP sP 16 29 53.5 +2.4
GTA sP pP 16 29 55.8 +5.6
GTA S **S** 16 38 31.5 -0.3
GTA sS sS 16 38 38.5 +2.5
GTA pmax pmax
comp=Z,3.0nm,1.5s
GTA pmax pmax
comp=Z,170nm,7.6s
GTA LR LR
comp=Z,83nm,20.3s
GTA LR LR
comp=Z,140nm,17.1s
GTA LR LR
comp=Z,120nm,18.1s
BTO Baotou 67.37 41 *e*P **P** 16 30 02.0 +1.6
HHC Hu-ho-hao-te 67.58 40 *e*P **P** 16 30 03.5 +1.8
HHC S **S** 16 38 58.8 +0.2
HHC SS **SS** 16 43 23.0 +5.0
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,76nm,4.0s
HHC LR LR
comp=Z,140nm,16.2s
HHC LR LR
comp=Z,210nm,16.6s
BJI Beijing 69.56 36 P **P** 16 30 11.3 -2.6
BJI pmax pmax
comp=Z,4.0nm,0.6s
LZH Lanzhou 69.69 47 *e*P **P** 16 30 14.0 -1.1
LZH pP pP 16 30 17.5 -0.1
LZH sP sP 16 30 19.0 +0.4
LZH *e*PP **PP** 16 32 50.3 +1.8
LZH pmax pmax
comp=Z,26nm,1.3s
LZH pmax pmax
comp=Z,92nm,5.0s
LZH LR LR
comp=Z,280nm,15.5s
LZH LR LR
comp=Z,430nm,18.5s
ROSC El Rosal 71.87 241 LR LR 16 57 34.6
comp=Z,119nm,21.9s,baz=321,slow=32
XAN Xi'an 73.15 44 P **P** 16 30 38.5 +2.7
XAN pmax pmax
comp=Z,13nm,1.7s
XAN pmax pmax
comp=Z,200nm,4.7s
XAN LR LR
comp=Z,170nm,22.5s
XAN LR LR
comp=Z,150nm,18.2s
XAN LR LR
comp=Z,200nm,23.5s
KSRS Korea Array 74.72 28 LR LR 17 07 04.8
comp=Z,40nm,18.3s,baz=334,slow=38
NJ2 Nanjing 77.80 37 *e*P **P** 16 31 03.0 +0.5
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
KMI Kunming 79.41 53 ⇑P **P** 16 31 13.5 +1.8
KMI pmax pmax
comp=Z,9.0nm,1.5s
GYA Guiyang 79.49 49 *e*P **P** 16 31 14.5 +2.5
GYA pmax pmax
comp=Z,6.0nm,0.5s
JNU Nakatsue 79.49 27 LR LR 17 08 42.3
comp=Z,49nm,18.6s,baz=350,slow=37
JHJ Hachijo jima 2 80.98 19 LR LR 17 08 18.3
comp=Z,32nm,18.6s,baz=0.5,slow=36
BDFB Brasilia 83.32 209 LR LR 17 02 12.2
comp=Z,121nm,21.5s,baz=325,slow=31
CMAR Chiang Mai Arr 84.19 59 P **P** 16 31 36.5 -0.2
comp=Z,0.7nm,0.3s,baz=308,slow=7.0,SNR=6.5
CMAR PP **PP** 16 34 52.4 +1.9
comp=Z,0.3nm,0.3s,baz=333,slow=9.1,SNR=5.3
CMAR LR LR 17 10 03.5
comp=Z,53nm,19.9s,baz=296,slow=36
CMAR Chiang Mai Arr 84.19 59 *i* P **P** 16 31 37.4 +0.7
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CPUP Villa Florida 95.77 215 LR LR 17 10 22.9
comp=Z,75nm,19.1s,baz=43,slow=32
PSI Prapat 98.53 65 LR LR 17 21 07.6
comp=Z,68nm,18.5s,baz=270,slow=38
BOSA Boshof 98.73 143 LR LR 17 19 27.7
comp=Z,103nm,19.2s,baz=342,slow=37
ASAR Alice Springs 135.03 38 PKP **PKPdf** 16 38 22.5 -1.8
comp=Z,1.1nm,1.1s,baz=7.6,slow=1.4,SNR=5.2
STKA Stephens Creek 144.79 32 PKP **PKPab** 16 38 40.5 -0.2
comp=Z,3.3nm,0.9s,baz=334,slow=10,SNR=5.9

PRE ***25*** *16:20:38.1±1.1,26°.48S×27°.41E,h2km,ML3.2*
NEIC ***25*** *16:20:39.8±1.4,26°.40S±0°.07×27°.32E±0°.08,h5km±1km, mb4.3/3, Error ellipse: s-maj=13.4km s-min=10.6km az=306.0*
IDC ***25*** *16:20:39.2±1.4,26°.42S×27°.41E,h0km,mb4.0/4, mb1 4.1/10,mb1mx3.8/36,mbtmp4.1/10,ML3.4/5, Error ellipse: s-maj=27.2km s-min=17.9km az=110.0*

ISC 25 16:20:38.6±1.1,26°.42S±0°.03×27°.38E±0°.03,h7km±7km, n32,σ2s08/52,mb4.2/6,South Africa

Code	Station Name	Δ°	Az°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.22**	**71**	*e*P	**Pg**	**16 20 42.4**		**-0.7**
KLOF				*e*S	**Sg**	**16 20 45.4**		**-0.6**
KLOF				AML	AML	16 20 48.4		
	comp=Z,7μm,0.6s							
PRYS	**Parys**	**0.50**	**182**	*e*P	**Pg**	**16 20 47.3**		**-1.0**
PRYS				*e*S	**Sg**	**16 20 53.5**		**-1.5**
PRYS				AML	AML	16 21 00.4		
	comp=Z,2μm,0.6s							
KSR	**Koster**	**0.71**	**323**	*e*P	**Pg**	**16 20 52.5**		**+0.1**
KSR				*e*S	**Sb**	**16 21 03.9**		**+0.4**
KSR				AML	AML	16 21 11.3		
	comp=Z,182nm,0.2s							
SLR	**Silverton**	**1.06**	**50**	*e*P	**Pb**	**16 20 59.1**		**-0.3**
SLR				*e*S	**Sb**	**16 21 13.0**		**-0.5**
SLR				AML	AML	16 21 17.5		
	comp=Z,976nm,0.5s							
LBTB	**Lobatse**	**2.13**	**311**	Pn	**Pb**	**16 21 17.3**		**-0.4**
	comp=Z,65nm,0.3s,baz=132,slow=14,SNR=668							
LBTB				Pg	**Pg**	**16 21 18.8**		**-0.7**
	comp=Z,64nm,0.3s,baz=132,slow=17,SNR=259							
LBTB				Lg	Lg	16 21 46.7		
	comp=Z,319nm,0.3s,baz=221,slow=17,SNR=62							
LBTB	**Lobatse**	**2.13**	**311**	*e*P	**Pn**	**16 21 16.7**		**+2.0**
LBTB				*e*S	**Sb**	**16 21 44.3**		**-0.1**
LBTB				AML	AML	16 21 47.7		
	comp=Z,1μm,0.2s							
BOSA	**Boshof**	**2.88**	**220**	Pn	**Pn**	**16 21 26.1**		**+1.0**
	comp=Z,3.4nm,0.3s,baz=42,slow=12,SNR=134							
BOSA				Pg	**Pb**	**16 21 31.7**		**+1.2**
	comp=Z,5.6nm,0.3s,baz=44,slow=16,SNR=12							
BOSA				Lg	Lg	16 22 07.5		
	comp=Z,45nm,0.3s,baz=143,slow=20,SNR=23							
BOSA	**Boshof**	**2.88**	**220**	*e*P	**Pn**	**16 21 26.3**		**+1.2**
BOSA				*e*S	**Sn**	**16 22 00.8**		**+0.6**
BOSA				AML	AML	16 22 10.1		
	comp=Z,74nm,0.2s							
POGA	**Pongola**	**3.97**	**104**	*e*P	**Pn**	**16 21 40.3**		**+0.3**

POGA				*e*S	**Sn**	**16 22 25.6**	**-1.2**
POGA				AML	AML	16 22 42.6	
	comp=Z,110nm,0.4s						
MOPA	**Mopani**	**4.65**	**52**	*e*P	**Pn**	**16 21 50.5**	**+1.1**
MOPA				*e*S	**Sn**	**16 22 42.5**	**-1.2**
MOPA				AML	AML	16 23 12.4	
	comp=Z,86nm,0.4s						
MSNA	**Messina**	**4.72**	**31**	*e*P	**Pn**	**16 21 50.4**	**+0.1**
MSNA				*e*S	**Sn**	**16 22 43.1**	**-2.3**
MSNA				AML	AML	16 23 04.9	
	comp=Z,89nm,0.5s						
UPI	**Upington**	**5.78**	**249**	*e*P	**Pn**	**16 22 06.3**	**+1.5**
UPI				*e*S	**Sn**	**16 23 09.8**	**-1.7**
UPI				AML	AML	16 23 42.2	
	comp=Z,24nm,0.6s						
MATP	**Matopo**	**6.06**	**10**	Pn	**Pn**	**16 22 10.1**	**+1.3**
	comp=Z,6.3nm,0.3s,baz=190,slow=13,SNR=87						
MATP				Sn	**Sn**	**16 23 16.9**	**-1.5**
	comp=Z,3.5nm,0.3s,baz=249,slow=17,SNR=12						
MATP				Lg	Lg	16 23 46.2	
	comp=Z,13nm,0.3s,baz=90,slow=20,SNR=16						
SOE	**Somerset East**	**6.46**	**194**	*e*P	**Pn**	**16 22 13.9**	**-0.4**
SOE				*e*S	**Sn**	**16 23 24.9**	**-3.5**
SOE				AML	AML	16 24 01.4	
	comp=Z,28nm,0.7s						
GRAN	**Grantham**	**7.41**	**217**	*e*P	**Pn**	**16 22 28.2**	**+0.9**
GRAN				*e*S	**Sn**	**16 23 47.6**	**-4.1**
GRAN				AML	AML	16 24 00.3	
	comp=Z,9.2nm,0.4s						
ROSN	**Rosenhof**	**8.04**	**197**	*e*P	**Pn**	**16 22 35.8**	**0.0**
ROSN				AML	AML	16 24 08.7	
	comp=Z,30nm,0.6s						
SUR	**Sutherland**	**8.25**	**222**	Pn	**Pn**	**16 22 40.7**	**+1.8**
	comp=Z,1.3nm,0.3s,baz=51,slow=16,SNR=36						
SUR				Sn	**Sn**	**16 24 08.2**	**-4.3**
	comp=Z,1.2nm,0.3s,baz=145,slow=21,SNR=6.3						
SUR				Lg	Lg	16 24 54.2	
	comp=Z,6.0nm,0.3s,baz=146,slow=20,SNR=5.6						
SUR	**Sutherland**	**8.25**	**222**		**Pn**	**16 22 39.9**	**+1.0**
CVNA	**Calvinia**	**8.36**	**231**	*e*P	**Pn**	**16 22 40.7**	**+0.3**
CVNA				*e*S	**Sn**	**16 24 10.7**	**-4.4**
CVNA				AML	AML	16 24 27.4	
	comp=Z,11nm,0.4s						
KOMG	**Komaggas**	**9.36**	**247**	*e*P	**Pn**	**16 22 54.7**	**+0.7**
KOMG				*e*S	**Sn**	**16 24 35.2**	**-4.4**
KOMG				AML	AML	16 25 42.7	
	comp=Z,24nm,0.5s						
LSZ	**Lusaka**	**11.12**	**4**	Pn	**Pn**	**16 23 18.0**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=187,slow=12,SNR=10						
LSZ				Sn	**Sn**	**16 25 17.7**	**-5.2**
	comp=Z,0.7nm,0.3s,baz=66,slow=20,SNR=3.0						
LSZ				Lg	Lg	16 26 22.6	
	comp=Z,0.9nm,0.3s,baz=259,slow=19,SNR=2.2						
LSZ	**Lusaka**	**11.12**	**4**		**Pn**	**16 23 17.7**	**-0.5**
TSUM	**Tsumeb**	**11.54**	**307**	Pn	**Pn**	**16 23 24.9**	**+0.9**
	comp=Z,1.6nm,0.3s,baz=120,slow=13,SNR=20						
TSUM				Sn	**Sn**	**16 25 27.6**	**-5.7**
	comp=Z,0.3nm,0.3s,baz=252,slow=19,SNR=1.9						
TSUM				Lg	Lg	16 26 38.2	
	comp=Z,0.8nm,0.3s,baz=248,slow=18,SNR=5.8						
TSUM	**Tsumeb**	**11.54**	**307**		**Pn**	**16 23 24.1**	**+0.1**
TOA0	**Torodi Ar. Sit**	**46.59**	**324**	P	**P**	**16 29 08.3**	**+0.8**
TORD	**Torodi Ar. Bea**	**46.59**	**324**	P	**P**	**16 29 08.7**	**+1.2**
	comp=Z,1.0nm,0.4s,baz=136,slow=7.0,SNR=10.0						
ESDC	**Sonseca Array**	**71.96**	**335**	P	**P**	**16 32 04.2**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=166,slow=6.2,SNR=1.2						
VNDA	**Vanda**	**72.82**	**171**	P	**P**	**16 32 09.9**	**+2.4**
VNDA				IAmb	IAmb	16 32 31.5	
	comp=Z,1.9nm,1.1s						
PSZ	**Piszkesteto**	**74.30**	**355**	P	**P**	**16 32 18.4**	**+2.0**
PSZ				IAmb	IAmb	16 32 19.3	
	comp=Z,3.8nm,0.8s						
FINES	**FINESS Array B**	**87.56**	**359**	P	**P**	**16 33 29.0**	**+2.3**
	comp=Z,2.9nm,1.1s,baz=169,slow=2.8,SNR=1.7						
MKAR	**Makanchi Array**	**88.13**	**34**	P	**P**	**16 33 31.2**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=234,slow=3.7,SNR=3.5						
NVAR	**Mina Array Bea**	**148.83**	**301**	PKPbc	**PKiKP**	**16 40 30.2**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=64,slow=4.1,SNR=5.2						

JMA ***25*** *16:20:58.0±0.2,34.40N×140.53E,h53km±3km,M3.3*
IDC ***25*** *16:20:58.8±2.0,34.38N×140.54E,h47km±18km,mb3.2/3, mb1 3.5/6,mb1mx3.2/52,mbtmp3.7/6,ML3.5/3,Error ellipse: s-maj=35.9km s-min=11.6km az=69.0*
ISC 25 16:20:57.6±0.9,34.40N±0.04×140.61E±0.05,h53km±11km, n25,σ1§65/35,mb3.6/3,1C-10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.40**	**50**	⇑P		**Pn**	**16 21 08.6**	**+1.3**
BSO1				X			16 21 15.5	
BSO3	**Boso 3**	**0.41**	**348**	⇓P		**Pn**	**16 21 08.6**	**+0.9**
BSO3				X			16 21 16.9	
BSO4	**Boso 4**	**0.63**	**339**	⇓P		**Pn**	**16 21 11.3**	**+0.9**
BSO4				*e*X			16 21 21.3	
KTR	**Katsuura**	**0.78**	**342**	⇓P		**Pn**	**16 21 13.0**	**+0.5**
KTR				S		**Sn**	**16 21 23.4**	**0.0**
JKUC	**kamogawauchiur**	**0.83**	**336**	⇓P		**Pn**	**16 21 13.5**	**+0.4**
JKUC				S		**Sn**	**16 21 24.3**	**-0.2**
TATJ	**Tateyama 2**	**0.86**	**317**	⇓P		**Pn**	**16 21 14.2**	**+0.7**
JMKN	**Mikurajimanish**	**0.99**	**239**	⇓P		**Pn**	**16 21 15.5**	**+0.3**
JMKN				S		**Sn**	**16 21 27.7**	**-0.4**
JM2	**Oshima 3**	**1.02**	**288**	⇓P		**Pn**	**16 21 15.5**	**-0.2**
JM2				*e*S		**Sn**	**16 21 27.4**	**-1.7**
JTHY	**Toshimahigashi**	**1.10**	**277**	P		**Pn**	**16 21 16.9**	**+0.2**
JKO	**Kozu shima**	**1.24**	**260**	P		**Pn**	**16 21 18.9**	**+0.4**
JKO				*e*S		**Sn**	**16 21 33.7**	**-0.5**
KTJ3	**Kamata3**	**1.38**	**293**	⇓P		**Pn**	**16 21 20.1**	**-0.3**
KTJ3				*e*S		**Sn**	**16 21 35.0**	**-2.5**
JHJ2	**Mitsune**	**1.45**	**207**	P		**Pn**	**16 21 22.4**	**+1.0**
JHJ	**Hachijo jima 2**	**1.45**	**209**	P		**Pn**	**16 21 22.2**	**+0.7**
	24nm,0.3s,baz=339,slow=18,SNR=26							
JHJ				S		**Sn**	**16 21 39.5**	**+0.2**
	119nm,0.3s,baz=75,slow=20,SNR=19							
JIZS	**Izushimoda**	**1.46**	**283**	⇓P		**Pn**	**16 21 21.7**	**+0.1**
JIZS				S		**Sn**	**16 21 38.9**	**-0.8**
JOD2	**Odawara 2**	**1.52**	**305**	⇓P		**Pn**	**16 21 22.4**	**+1.0**
JOD2				*e*S		**Sn**	**16 21 39.8**	**-1.3**
MJAR	**Matsushiro Arr**	**2.90**	**318**	P		**Pn**	**16 21 42.1**	**+0.9**
	1.9nm,0.3s,baz=152,slow=13,SNR=91							
MJAR				S		**Sn**	**16 22 15.3**	**+0.5**
	1.4nm,0.3s,baz=143,slow=25,SNR=17							
MAT	**Matsushiro**	**2.90**	**318**	P		**Pn**	**16 21 43.0**	**+1.7**
MAT				S		**Sn**	**16 22 16.4**	**+1.5**
JCJ	**Chichijima**	**7.41**	**169**	P		**Pn**	**16 22 43.0**	**-0.1**
	2.6nm,0.3s,baz=81,slow=21,SNR=13							
JCJ				S		**Sn**	**16 24 01.8**	**-3.9**
	1.0nm,0.3s,baz=254,slow=20,SNR=1.7							
ASAJ	**Asahikawa**	**9.82**	**8**	P		**Pn**	**16 23 16.2**	**+0.2**
	0.5nm,0.3s,baz=224,slow=9.9,SNR=6.7							
ASAJ				S		**Sn**	**16 24 58.6**	**-6.2**
	0.2nm,0.3s,baz=122,slow=19,SNR=2.1							
H11N2	**WAKE ISLAND Hy**	**27.49**	**115**	T		T	16 56 37.4	
	baz=308,slow=75,SNR=19							
H11N1	**WAKE ISLAND Hy**	**27.50**	**115**	T		T	16 56 28.2	
	baz=308,slow=75,SNR=12							
H11N3	**WAKE ISLAND Hy**	**27.51**	**115**	T		T	16 56 38.5	
	baz=308,slow=75,SNR=12							
MKAR	**Makanchi Array**	**45.01**	**304**	P		**P**	**16 29 09.3**	**+1.6**
	0.5nm,0.5s,baz=84,slow=9.4,SNR=7.7							
WRA	**Warramunga Arr**	**54.37**	**187**	P		**P**	**16 30 20.5**	**+1.4**
	0.6nm,0.5s,baz=3.1,slow=7.7,SNR=17							
ASAR	**Alice Springs**	**58.10**	**187**	P		**P**	**16 30 47.0**	**+1.4**
	0.1nm,0.6s,baz=1.4,slow=6.9,SNR=6.6							

PRE ***25*** *16:32:59.4±1.1,26.13S×25.41E,h5km,ML2.3*
IDC ***25*** *16:32:59.8±1.7,26.06S×25.21E,h0km,mb1 2.3/1, mb1mx2.3/27,mbtmp2.3/1,ML2.6/1,Error ellipse: s-maj=31.5km s-min=9.9km az=99.0*
ISC 25 16:33:00.0±3.2,26.1S±0.2×26E±,h10km,n8,σ1§14/10, South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SWZ	**Schweizer**	**1.09**	**196**	*e*P		**Pg**	**16 33 18.7**	**-2.2**
SWZ				*e*S		**Sg**	**16 33 34.1**	**-1.0**
SWZ				AML		AML	16 33 39.0	
	comp=N,119nm,0.7s							
LBTB	**Lobatse**	**1.12**	**357**	Pn		**Pn**	**16 33 21.6**	**-0.2**
	comp=N,1.0nm,0.3s,baz=194,slow=17,SNR=15							
LBTB				Lg		Lg	16 33 37.0	
	comp=N,2.0nm,0.3s,baz=110,slow=22,SNR=31							
LBTB				Rg		Rg	16 33 42.1	
	comp=N,144nm,0.6s,baz=118,slow=1.2,SNR=40							
LBTB	**Lobatse**	**1.12**	**357**	*e*P		**Pb**	**16 33 21.0**	**-0.5**
LBTB				*e*S		**Sn**	**16 33 36.6**	**-0.7**
LBTB				AML		AML	16 33 45.4	
	comp=N,83nm,0.7s							
BOSA	**Boshof**	**2.50**	**188**	Pn		**Pn**	**16 33 40.9**	**+0.1**
	comp=N,0.7nm,0.3s,baz=5.4,slow=18,SNR=8.4							
BOSA				Pg		**Pg**	**16 33 47.8**	**-0.2**
	comp=N,0.8nm,0.3s,baz=358,slow=16,SNR=3.7							
BOSA				Sn		**Sb**	**16 34 14.8**	**-1.2**
	comp=N,1.4nm,0.3s,baz=86,slow=19,SNR=12							
BOSA				Lg		Lg	16 34 21.9	
	comp=N,3.4nm,0.3s,baz=264,slow=16,SNR=19							
BOSA				Rg		Rg	16 34 30.4	
	comp=N,34nm,0.9s,baz=92,slow=4.2,SNR=15							
BOSA	**Boshof**	**2.50**	**188**	*e*P		**Pn**	**16 33 41.8**	**+0.9**
BOSA				*e*S		**Sn**	**16 34 11.9**	**+0.5**
BOSA				AML		AML	16 34 33.8	
	comp=Z,16nm,0.8s							
I47ZA	**BOSHOF INFRASO**	**2.51**	**189**	*i*			16 48 00.0	
	baz=357,slow=315,SNR=1.9							
MATP	**Matopo**	**6.25**	**25**	Lg		Lg	16 36 17.8	
	comp=Z,0.5nm,0.3s,baz=291,slow=22,SNR=8.3							
I35NA	**TSUMEB INFRASO**	**10.17**	**311**	*i*			17 31 00.0	
	baz=136,slow=321,SNR=1.2							

JMA ***25*** *16:52:41.6±0.3,23.82N×122.48E,h20km±5km,M3.1*
TAP ***25*** *16:52:42.1,23.85N×122.51E,h31km,ML3.4,D*
ISC 25 16:52:40.8±2.9,23.79N±0.02×122.50E±0.02,h16km±22km, n123,σ0§75/201,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.77**	**32**	P		**Pb**	**16 52 55.9**	**+0.1**
JYNG				S		**Sb**	**16 53 05.2**	**-0.9**
YOJ	**Yonaguni jima**	**0.81**	**35**	⇓P		**Pb**	**16 52 56.8**	**+0.3**
	baz=36							
YOJ				*i* S		**Sb**	**16 53 06.6**	**-0.7**
	baz=36							
YOJ	**Yonaguni jima**	**0.81**	**35**	P		**Pb**	**16 52 56.8**	**+0.3**
YOJ				S		**Sb**	**16 53 06.2**	**-1.1**
HWA	**Hwalien**	**0.83**	**283**	*e*P		**Pn**	**16 52 57.4**	**-0.4**
	baz=266							
HWA				*e*S		**Sn**	**16 53 09.5**	**-0.3**
	baz=266							
TWD	**Chiawan**	**0.87**	**289**	*i* P		**Pb**	**16 52 57.5**	**+0.1**
	baz=271							
TWD				*e*S		**Sb**	**16 53 08.9**	**0.0**
	baz=271							
ENAH	**Nanao**	**0.90**	**316**	*i* P		**Pn**	**16 52 58.4**	**-0.4**
	baz=310							
ENAH				S		**Sn**	**16 53 10.1**	**-1.4**
	baz=310							
NACB	**Ninganchiao**	**0.91**	**295**	*i* P		**Pb**	**16 52 58.0**	**-0.1**
	baz=289							
NACB				S		**Sb**	**16 53 09.7**	**-0.2**
	baz=289							
ENA	**Nanau**	**0.93**	**313**	P		**Pn**	**16 52 58.9**	**-0.3**
	baz=309							
ESL	**Shilin**	**0.97**	**271**	*i* P		**Pb**	**16 52 58.8**	**-0.4**
	baz=266							
ESL				*e*S		**Sb**	**16 53 11.2**	**-0.7**
	baz=266							
EGFH	**Guangfu**	**0.99**	**263**	P		**Pb**	**16 52 59.6**	**+0.1**
	baz=258							
EGFH				*i* S		**Sn**	**16 53 12.9**	**-0.6**
	baz=258							
TWC	**Suao**	**1.00**	**324**	*i* P		**Pn**	**16 52 59.7**	**-0.5**
	baz=320							
TWC				*e*S		**Sb**	**16 53 11.7**	**-1.0**
	baz=320							
ETLH	**Xiulin Townshi**	**1.01**	**294**	P		**Pb**	**16 52 59.7**	**-0.3**
	baz=288							
ETLH				*e*S		**Sb**	**16 53 12.2**	**-0.9**
	baz=288							
HGSD	**Ruisui**	**1.03**	**253**	*i* P		**Pb**	**16 52 60.0**	**-0.2**
	baz=249							
HGSD				*i* S		**Sb**	**16 53 12.9**	**-0.5**
	baz=249							
EHY	**Hungye**	**1.11**	**255**	*i* P		**Pn**	**16 53 01.6**	**-0.1**
	baz=251							
EHY				*e*S		**Sb**	**16 53 15.8**	**-0.1**
	baz=251							
EYUL	**Yuli**	**1.17**	**248**	*e*P		**Pn**	**16 53 02.6**	**+0.2**
	baz=244							
EYUL				*e*S		**Sb**	**16 53 17.2**	**-0.2**
	baz=244							
YULB	**Yu-li**	**1.17**	**250**	*i* P		**Pn**	**16 53 02.4**	**-0.1**
	baz=246							
YULB				S		**Sb**	**16 53 17.6**	**0.0**
	baz=246							
WHF	**Hehuan Shan**	**1.18**	**287**	P		**Pn**	**16 53 02.4**	**-0.5**
	baz=271							
ILA	**Ilan**	**1.18**	**325**	P		**Pb**	**16 53 03.4**	**+0.6**
	baz=321							
ILA				S		**Sn**	**16 53 18.6**	**+0.2**
	baz=321							
TWF1	**Yuli**	**1.18**	**248**	*e*P		**Pn**	**16 53 02.7**	**0.0**
	baz=244							
TWF1				*e*S		**Sb**	**16 53 17.4**	**-0.5**
	baz=244							
TWE	**Neicheng**	**1.19**	**321**	P		**Pb**	**16 53 03.4**	**+0.4**
	baz=317							
TWE				S		**Sn**	**16 53 18.8**	**+0.2**
	baz=317							
ENTT	**Nioudou**	**1.20**	**315**	*e*P		**Pb**	**16 53 03.3**	**+0.2**
	baz=298							
NNSH	**Datong**	**1.20**	**302**	*e*P		**Pb**	**16 53 02.7**	**-0.4**
	baz=298							
NNSB	**Datong**	**1.20**	**302**	P		**Pb**	**16 53 03.0**	**-0.2**
	baz=298							
NDT	**Datong Townshi**	**1.21**	**312**	*e*P		**Pb**	**16 53 03.4**	**+0.2**
	baz=307							
NDT				*e*S		**Sn**	**16 53 18.9**	**0.0**
	baz=307							
NNS	**Nan Shan**	**1.21**	**302**	*e*P		**Pb**	**16 53 03.1**	**-0.2**
	baz=299							
NTC	**Toucheng**	**1.22**	**330**	*e*P		**Pb**	**16 53 04.2**	**+0.8**
	baz=327							
HATJ	**Hateruma jima**	**1.23**	**77**	P		**Pb**	**16 53 04.1**	**+0.5**
HATJ				*e*S		**Sn**	**16 53 20.3**	**+0.8**
FUSS	**Fushou**	**1.23**	**292**	*e*P		**Pb**	**16 53 03.5**	**-0.3**
	baz=286							
FUSS				*e*S		**Sb**	**16 53 18.6**	**-0.9**
	baz=286							
CHGB	**Renai**	**1.24**	**283**	*e*P		**Pn**	**16 53 03.5**	**-0.1**
	baz=268							
CHGB				*e*S		**Sn**	**16 53 19.3**	**-0.8**
	baz=268							
VWDT	**VWDT**	**1.24**	**268**	P		**Pb**	**16 53 03.7**	**-0.1**
	baz=263							
VWDT				S		**Sb**	**16 53 19.1**	**-0.4**
	baz=263							
CHKT	**Chengkung**	**1.25**	**237**	*e*P		**Pn**	**16 53 03.1**	**-0.4**
	baz=223							
CHKT				*e*S		**Sn**	**16 53 17.9**	**-2.0**
	baz=223							
IRIF	**Iriomote-Funau**	**1.25**	**64**	P		**Pb**	**16 53 04.8**	**+0.8**
IRIF				*e*S		**Sn**	**16 53 20.7**	**+0.7**
FULB	**Fuli**	**1.25**	**242**	*e*P		**Pn**	**16 53 03.2**	**-0.4**
	baz=229							
TWT	**Tachien**	**1.29**	**291**	*e*P		**Pb**	**16 53 04.8**	**+0.1**
	baz=285							
TWT				*e*S		**Sb**	**16 53 19.7**	**-1.4**
	baz=285							
TWB1	**Santiao Chiao**	**1.29**	**339**	*e*P		**Pb**	**16 53 04.2**	**-0.5**
	baz=338							
TDCB	**Techi**	**1.30**	**291**	*e*P		**Pb**	**16 53 04.8**	**-0.2**
	baz=285							
TDCB				*e*S		**Sb**	**16 53 21.0**	**-0.6**
	baz=285							
TIPB	**Shuangxi**	**1.32**	**333**	*e*P		**Pb**	**16 53 04.9**	**-0.3**
	baz=329							
TIPB				*e*S		**Sb**	**16 53 22.3**	**+0.4**
	baz=329							
NWLT	**Wulai**	**1.33**	**317**	*e*P		**Pb**	**16 53 05.0**	**-0.4**
	baz=313							
NWLT				*e*S		**Sb**	**16 53 23.1**	**+0.9**
	baz=313							
YHNB	**Yeheng**	**1.34**	**311**	P		**Pb**	**16 53 05.2**	**-0.4**
	baz=307							
EDH	**Donghe**	**1.37**	**233**	*e*P		**Pn**	**16 53 04.7**	**-0.5**
	baz=221							
EDH				S		**Sn**	**16 53 21.1**	**-1.8**
	baz=221							
SSLB	**Suanglung**	**1.41**	**270**	*e*P		**Pn**	**16 53 06.1**	**+0.3**
	baz=265							
SSLB				*e*S		**Sb**	**16 53 24.0**	**-0.5**
	baz=265							
NWF	**Wu-fen Shan**	**1.43**	**333**	*e*P		**Pb**	**16 53 07.5**	**+0.5**
	baz=330							
NWF				*e*S		**Sb**	**16 53 25.9**	**+0.9**
	baz=330							
WFSB	**Wu-fen Shan**	**1.43**	**333**	*e*P		**Pb**	**16 53 07.3**	**+0.3**
	baz=330							
WFSB				*e*S		**Sb**	**16 53 25.5**	**+0.5**
	baz=330							
TWA	**Mucha**	**1.44**	**325**	*e*P		**Pb**	**16 53 07.8**	**+0.5**
	baz=340							
JKRS	**Kuro-shima**	**1.45**	**72**	P		**Pb**	**16 53 07.7**	**+0.3**
JKRS				*e*S		**Sb**	**16 53 26.4**	**+0.7**
LDUT	**Ludao**	**1.46**	**220**	*e*P		**Pn**	**16 53 06.1**	**-0.4**
	baz=218							
LDUT				*e*S		**Sn**	**16 53 23.2**	**-2.1**
	baz=218							
SMLT	**Sun Moon Lake**	**1.46**	**274**	P		**Pb**	**16 53 07.2**	**-0.5**
	baz=268							
SMLT				*e*S		**Sn**	**16 53 24.0**	**-1.4**
	baz=268							
ELDTW	**Lidau**	**1.48**	**246**	*e*P		**Pn**	**16 53 06.8**	**-0.1**
	baz=242							
ELDTW				*e*S		**Sn**	**16 53 24.8**	**-1.2**
	baz=242							
TATO	**Taipei**	**1.49**	**322**	*e*P		**Pb**	**16 53 07.8**	**-0.3**
	baz=318							
TATO				*e*S		**Sb**	**16 53 26.5**	**-0.3**
	baz=318							
WHP	**Taichung City**	**1.50**	**289**	*e*P		**Pb**	**16 53 08.2**	**0.0**
	baz=283							
WHP				*e*S		**Sb**	**16 53 26.6**	**-0.5**
	baz=283							
TAP	**Taipei**	**1.53**	**324**	*e*S		**Sb**	**16 53 29.7**	**+1.7**
	baz=321							
LONT	**Longtian**	**1.54**	**235**	*e*P		**Pn**	**16 53 08.0**	**+0.5**
	baz=223							
LONT				*e*S		**Sn**	**16 53 27.1**	**0.0**
	baz=223							
ALS	**Alishan**	**1.57**	**260**	*e*P		**Pb**	**16 53 09.4**	**-0.3**
	baz=255							
ALS				*e*S		**Sn**	**16 53 27.8**	**-0.7**
	baz=255							
YM01	**YM01**	**1.59**	**328**	*e*P		**Pb**	**16 53 09.7**	**0.0**
	baz=341							
YM01				*e*S		**Sb**	**16 53 28.9**	**-0.7**
	baz=341							
LIOB	**Emei**	**1.59**	**302**	*e*P		**Pb**	**16 53 10.1**	**+0.2**
	baz=299							
NSTT	**Nanjuang**	**1.60**	**302**	*e*P		**Pb**	**16 53 10.0**	**0.0**
	baz=285							
NSTT				*e*S		**Sb**	**16 53 30.0**	**+0.1**
	baz=285							
YM10	**YM10**	**1.60**	**328**	*e*P		**Pb**	**16 53 09.8**	**-0.2**
	baz=342							
YM05	**YM05**	**1.60**	**328**	*e*P		**Pb**	**16 53 09.7**	**-0.4**
	baz=341							
YM05				*e*S		**Sb**	**16 53 29.9**	**-0.2**
	baz=341							
JIJ	**Ishigaki jima**	**1.61**	**69**	P		**Pn**	**16 53 08.8**	**+0.3**
JIJ				*e*S		**Sb**	**16 53 29.7**	**-0.5**
YM04	**YM04**	**1.61**	**327**	*e*P		**Pb**	**16 53 09.9**	**-0.2**
	baz=341							
YM08	**YM08**	**1.61**	**329**	*e*P		**Pb**	**16 53 09.9**	**-0.3**
	baz=328							
TTN	**Taitung**	**1.61**	**230**	*e*S		**Sn**	**16 53 29.3**	**+0.3**
	baz=227							
WJS	**Zhushan**	**1.62**	**271**	*e*P		**Pb**	**16 53 10.6**	**+0.4**
	baz=257							
WJS				*e*S		**Sb**	**16 53 31.2**	**+0.7**
	baz=257							
TWGBT	**Beinan**	**1.62**	**234**	*e*P		**Pn**	**16 53 09.0**	**+0.3**
	baz=221							
TWGBT				*e*S		**Sn**	**16 53 28.9**	**-0.4**
	baz=221							
TWS1	**Kuangyinshan**	**1.63**	**323**	*e*P		**Pb**	**16 53 10.1**	**-0.4**
	baz=320							
TWS1				*e*S		**Sb**	**16 53 31.3**	**+0.6**
	baz=320							
YM03	**YM03**	**1.63**	**328**	*e*P		**Pb**	**16 53 09.6**	**-0.9**
	baz=326							
ANP	**Anpu**	**1.65**	**328**	*e*P		**Pb**	**16 53 10.2**	**-0.6**
	baz=325							
WNT	**Mingjian**	**1.66**	**273**	*e*P		**Pb**	**16 53 11.4**	**+0.4**
	baz=268							
WNT				*e*S		**Sb**	**16 53 32.1**	**+0.4**
	baz=268							
TWQ1	**Liyutan**	**1.67**	**290**	*e*P		**Pb**	**16 53 11.2**	**0.0**
	baz=284							
TWQ1				*e*S		**Sb**	**16 53 32.6**	**+0.8**
	baz=284							
CHN5	**Tsauling**	**1.68**	**264**	*e*P		**Pb**	**16 53 11.1**	**-0.2**
	baz=259							
CHN5				*e*S		**Sb**	**16 53 31.3**	**-0.9**
	baz=259							
TWY	**Chenhua**	**1.69**	**331**	*e*P		**Pb**	**16 53 11.6**	**+0.2**
	baz=330							
NSY	**Sanyi**	**1.70**	**292**	*e*P		**Pb**	**16 53 11.1**	**-0.6**
	baz=287							
TCU	**Taichung**	**1.70**	**282**	*e*P		**Pb**	**16 53 12.2**	**+0.6**
	baz=276							
TCU				*e*S		**Sb**	**16 53 34.3**	**+1.5**
	baz=276							
STYT	**Tauyuan**	**1.71**	**249**	*e*P		**Pb**	**16 53 11.3**	**-0.7**
	baz=237							
STYT				*e*S		**Sn**	**16 53 32.2**	**+0.6**
	baz=237							
NMLH	**Miaoli**	**1.72**	**296**	*e*P		**Pb**	**16 53 12.1**	**+0.1**
	baz=290							
NMLH				*e*S		**Sb**	**16 53 34.5**	**+1.1**
	baz=290							
PTSB	**Yuanli**	**1.76**	**292**	*e*P		**Pb**	**16 53 12.6**	**-0.1**
	baz=286							
PTSB				*e*S		**Sb**	**16 53 35.5**	**+0.9**
	baz=286							
**W

		baz=248							
CHY	**Chiayi**	**1.92**	**262**	*e*S		**Sb**	**16 53 39.0**	**-0.2**
	baz=256								
WTK	**Tuku**	**1.93**	**267**	*e*P		**Pb**	**16 53 15.4**	**-0.2**
	baz=262								
WTK				*e*S		**Sb**	**16 53 39.9**	**+0.4**
	baz=262								
LAY	**Lan-yu**	**1.95**	**207**	*e*P		**Pn**	**16 53 12.6**	**-0.7**
	baz=205								
LAY				*e*S		**Sn**	**16 53 36.2**	**-1.3**
	baz=205								
RLNB	**Erlin**	**1.96**	**273**	*e*P		**Pb**	**16 53 15.6**	**-0.4**
	baz=257								
RLNB				*e*S		**Sb**	**16 53 41.1**	**+0.9**
	baz=257								
SSD	**Sandimen**	**2.01**	**239**	*e*P		**Pn**	**16 53 15.1**	**+1.2**
	baz=229								
TSMG	**Majia**	**2.02**	**238**	*e*P		**Pn**	**16 53 15.4**	**+1.2**
	baz=228								
WTCT	**Ta-ch'eng**	**2.03**	**272**	*e*P		**Pb**	**16 53 16.7**	**-0.5**
	baz=255								
WTCT				*e*S		**Sb**	**16 53 42.4**	**+0.2**
	baz=255								
SCST	**Cishan**	**2.05**	**244**	*e*P		**Pb**	**16 53 17.6**	**0.0**
	baz=231								
SCST				*e*S		**Sb**	**16 53 42.8**	**-0.1**
	baz=231								
EAST	**Anshuo**	**2.07**	**228**	*e*P		**Pn**	**16 53 15.2**	**+0.4**
	baz=234								
MASBT	**Mashibuluo**	**2.08**	**236**	*e*P		**Pn**	**16 53 16.1**	**+1.1**
	baz=226								
MASBT				*e*S		**Sn**	**16 53 40.3**	**-0.2**
	baz=226								
CHN3	**Shinhua**	**2.08**	**250**	*e*S		**Sb**	**16 53 45.8**	**+2.0**
	baz=245								
WSF	**Szhu**	**2.09**	**266**	*e*P		**Pb**	**16 53 17.6**	**-0.6**
	baz=261								
WSF				*e*S		**Sb**	**16 53 43.8**	**-0.2**
	baz=261								
SGLT	**Jiouru**	**2.13**	**240**	*e*S		**Sb**	**16 53 45.4**	**+0.3**
	baz=233								
CHN8	**Yiju**	**2.14**	**258**	*e*S		**Sb**	**16 53 45.0**	**-0.6**
	baz=253								
JTJ	**Tarama**	**2.18**	**67**	P		**Pb**	**16 53 18.7**	**-1.2**
JTJ				*e*S		**Sb**	**16 53 45.4**	**-1.3**
SSPT	**Xinbi**	**2.20**	**234**	*e*P		**Pb**	**16 53 20.0**	**-0.2**
	baz=225								
SCZT	**Fangliau**	**2.23**	**231**	*e*P		**Pb**	**16 53 19.5**	**-1.3**
	baz=221								
TSEB	**Hengchuen, Pin**	**2.39**	**218**	*e*S		**Sn**	**16 53 50.1**	**+1.9**
	baz=224								
TWKBT	**Hengchun**	**2.41**	**220**	*e*S		**Sn**	**16 53 51.0**	**+2.2**
	baz=225								
TWP	**Hsiaoliuchiu**	**2.44**	**234**	*e*S		**Sb**	**16 53 55.4**	**+1.4**
	baz=224								
WDGT	**Dungji**	**2.66**	**259**	*e*P		**Pn**	**16 53 24.2**	**+1.3**
	baz=253								
WDGT				*e*S		**Sn**	**16 53 55.2**	**+0.4**
	baz=253								
PHUB	**P'eng-hu**	**2.69**	**265**	*e*P		**Pn**	**16 53 25.1**	**+1.6**
	baz=248								
PHUB				*e*S		**Sn**	**16 53 56.4**	**+0.7**
	baz=248								
PNG	**Penghu**	**2.71**	**266**	*e*P		**Pn**	**16 53 25.2**	**+1.6**
	baz=260								
PNG				*e*S		**Sn**	**16 53 57.4**	**+1.5**
	baz=260								
PTTC	**Pingtan**	**3.00**	**305**	*e*P		**Pn**	**16 53 27.3**	**-0.4**
	baz=303								
VWUC	**VWUC**	**3.02**	**294**	*e*P		**Pn**	**16 53 28.2**	**+0.2**
	baz=289								
MATB	**Ma-tsu**	**3.30**	**316**	*e*P		**Pn**	**16 53 32.2**	**+0.6**
	baz=315								
PTMZ	**Houxiangcun**	**3.32**	**293**	*e*P		**Pn**	**16 53 32.2**	**+0.3**
	baz=288								
XPSS	**Dashiqiu**	**3.75**	**327**	*e*P		**Pn**	**16 53 37.8**	**-0.2**
	baz=337								
KNM	**Kinmen**	**3.76**	**280**	*e*P		**Pn**	**16 53 40.6**	**+2.5**
	baz=274								
KNMB	**Chin-men Tao**	**3.81**	**281**	*e*P		**Pn**	**16 53 39.3**	**+0.6**
	baz=276								
AXDP	**Jialang**	**4.27**	**286**	*e*P		**Pn**	**16 53 45.7**	**+0.6**
	baz=280								
ZPLA	**Ao Xicun**	**4.35**	**273**	*e*P		**Pn**	**16 53 47.0**	**+0.8**
	baz=267								

JMA ***25*** *16:53:52.7,23.64N×121.47E,h19km±2km,M3.3*
TAP ***25*** *16:53:53.1,23.64N×121.42E,h22km,ML3.8,B*
IDC ***25*** *16:53:54.5±2.5,22.80N×121.37E,h0km,mb3.2/3,*
mb1 3.5/3,mb1mx3.2/42,mbtmp3.3/3,Error ellipse:
s-maj=74.1km s-min=32.9km az=51.0

ISC 25 16:53:53.1±0.8,**23.65N**±0.01×**121.46E**±0.02,**h18**km±2km,
n154,⌀**062**/212,**mb3.3**/3,**9C-19D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
EGFH	**Guangfu**	**0.03**	**312**	⇑P		**Pg**	**16 53 56.9**	**+0.6**
	baz=7.0							
EGFH				S		**Sg**	**16 53 59.3**	**+0.8**
	baz=7.0							
HGSD	**Ruisui**	**0.16**	**191**	⇓P		**Pg**	**16 53 58.4**	**+1.0**
	baz=176							
HGSD				*e*S		**Sg**	**16 54 02.8**	**+2.4**
	baz=176							
ESL	**Shilin**	**0.17**	**353**	⇑P		**Pg**	**16 53 58.1**	**+0.5**
	baz=9.0							
ESL				S		**Sg**	**16 54 01.3**	**+0.6**
	baz=9.0							
EHY	**Hungye**	**0.18**	**221**	⇓P		**Pb**	**16 53 57.7**	**+0.4**
	baz=203							
EHY				S		**Sb**	**16 54 00.7**	**+0.6**
	baz=203							
YULB	**Yu-li**	**0.29**	**210**	⇓P		**Pb**	**16 53 59.0**	**-0.7**
	baz=204							
VWDT	**VWDT**	**0.31**	**291**	⇓P		**Pg**	**16 54 00.0**	**+0.3**
	baz=300							
VWDT				*e*S		**Sg**	**16 54 04.4**	**+0.1**
	baz=300							
EYUL	**Yuli**	**0.32**	**203**	⇓P		**Pg**	**16 53 59.7**	**-0.3**
	baz=206							
TWF1	**Yuli**	**0.33**	**206**	⇓P		**Pg**	**16 53 59.6**	**-0.5**
	baz=208							
HWA	**Hwalien**	**0.36**	**23**	P		**Pb**	**16 54 01.5**	**+0.5**
	baz=23							
HWA				*e*S		**Sb**	**16 54 07.2**	**+0.9**
	baz=23							
OWD	**Renai**	**0.40**	**320**	⇑P		**Pg**	**16 54 01.5**	**+0.1**
	baz=333							
OWD				*e*S		**Sg**	**16 54 06.4**	**-0.7**
	baz=333							
TWD	**Chiawan**	**0.45**	**17**	P		**Pg**	**16 54 02.3**	**0.0**
	baz=21							
FULB	**Fuli**	**0.47**	**198**	P		**Pg**	**16 54 02.5**	**-0.2**
	baz=201							
FULB				*e*S		**Sb**	**16 54 10.1**	**+0.7**
	baz=201							
SSLB	**Suanglung**	**0.48**	**287**	⇓P		**Pg**	**16 54 02.2**	**-0.6**
	baz=295							
SSLB				*e*S		**Sg**	**16 54 08.2**	**-1.1**
	baz=295							
CHGB	**Renai**	**0.49**	**328**	⇑P		**Pg**	**16 54 03.1**	**+0.1**
	baz=339							
CHGB				*e*S		**Sg**	**16 54 09.4**	**-0.3**
	baz=339							
WHF	**Hehuan Shan**	**0.53**	**341**	P		**Pb**	**16 54 03.6**	**-0.3**
	baz=346							
WHF				*e*S		**Sg**	**16 54 10.4**	**-0.7**
	baz=346							
NACB	**Ninganchiao**	**0.54**	**14**	P		**Pb**	**16 54 03.3**	**-0.6**
	baz=17							
CHKT	**Chengkung**	**0.55**	**189**	*e*P		**Pb**	**16 54 04.0**	**-0.1**
	baz=173							
CHKT				*e*S		**Sg**	**16 54 12.6**	**+1.1**
	baz=173							
WHYT	**Xinyi Township**	**0.55**	**275**	*e*P		**Pb**	**16 54 04.0**	**-0.2**
	baz=273							
WHYT				*e*S		**Sb**	**16 54 10.6**	**-1.2**
	baz=273							
ETLH	**Xiulin Townshi**	**0.56**	**3**	P		**Pb**	**16 54 03.7**	**-0.6**
	baz=7.0							
ETLH				*e*S		**Sb**	**16 54 10.8**	**-1.1**
	baz=7.0							
SMLT	**Sun Moon Lake**	**0.56**	**295**	⇓P		**Pb**	**16 54 03.9**	**-0.5**
	baz=300							
SMLT				*e*S		**Sb**	**16 54 11.1**	**-1.0**
	baz=300							
ELDTW	**Lidau**	**0.61**	**222**	P		**Pb**	**16 54 03.9**	**-1.3**
	baz=218							
ALS	**Alishan**	**0.61**	**257**	⇓P		**Pb**	**16 54 05.1**	**-0.2**
	baz=256							
ALS				*e*S		**Sb**	**16 54 13.8**	**+0.1**
	baz=256							
FUSS	**Fushou**	**0.63**	**342**	⇑P		**Pb**	**16 54 05.6**	**0.0**
	baz=346							
FUSS				*e*S		**Sb**	**16 54 13.5**	**-0.6**
	baz=346							
TWT	**Tachien**	**0.66**	**337**	⇑P		**Pb**	**16 54 06.2**	**+0.2**
	baz=333							
TWT				*e*S		**Sb**	**16 54 14.1**	**-0.7**
	baz=333							
TDCB	**Techi**	**0.66**	**336**	⇑P		**Pb**	**16 54 06.2**	**+0.1**
	baz=340							
TDCB				*e*S		**Sb**	**16 54 14.1**	**-0.9**
	baz=340							
EDH	**Donghe**	**0.69**	**192**	*e*P		**Pb**	**16 54 05.4**	**-1.0**
	baz=187							
EDH				*e*S		**Sg**	**16 54 16.8**	**+1.1**
	baz=187							
WJS	**Zhushan**	**0.69**	**285**	⇓P		**Pg**	**16 54 07.0**	**+0.3**
	baz=286							
WJS				*e*S		**Sg**	**16 54 16.7**	**+0.9**
	baz=286							
CHN5	**Tsauling**	**0.71**	**266**	⇓P		**Pb**	**16 54 07.0**	**0.0**
	baz=259							
CHN5				*i* S		**Sg**	**16 54 16.9**	**+0.2**
	baz=259							
WNT	**Mingjian**	**0.74**	**288**	⇓P		**Pg**	**16 54 08.0**	**+0.4**
	baz=290							
WNT				S		**Sg**	**16 54 18.7**	**+1.1**
	baz=290							
NNSB	**Datong**	**0.78**	**355**	⇑eP		**Pb**	**16 54 08.0**	**-0.2**
	baz=8.0							
NNSB				*e*S		**Sb**	**16 54 18.1**	**-0.4**
	baz=8.0							
NNSH	**Datong**	**0.78**	**355**	*e*P		**Pb**	**16 54 07.9**	**-0.3**
	baz=7.0							
NNSH				*e*S		**Sb**	**16 54 17.8**	**-0.7**
	baz=7.0							
WHP	**Taichung City**	**0.78**	**324**	*e*P		**Pn**	**16 54 09.2**	**-0.1**
	baz=327							
LONT	**Longtian**	**0.79**	**202**	*e*P		**Pb**	**16 54 07.1**	**-1.2**
	baz=188							
NNS	**Nan Shan**	**0.79**	**355**	P		**Pb**	**16 54 08.2**	**-0.2**
	baz=8.0							
NNS				*e*S		**Sb**	**16 54 18.4**	**-0.5**
	baz=8.0							
STYT	**Tauyuan**	**0.80**	**233**	⇓P		**Pb**	**16 54 08.0**	**-0.5**
	baz=230							
STYT				S		**Sb**	**16 54 18.6**	**-0.4**
	baz=230							
WGK	**Gukeng**	**0.82**	**273**	P		**Pb**	**16 54 09.1**	**+0.3**
	baz=273							
WGK				*i* S		**Sg**	**16 54 20.6**	**+0.6**
	baz=273							
ENA	**Nanau**	**0.82**	**19**	P		**Pb**	**16 54 07.8**	**-1.0**
	baz=13							
TPUB	**Ta-pu**	**0.83**	**246**	⇓*e*P		**Pb**	**16 54 08.9**	**-0.1**
	baz=243							
TPUB				*e*S		**Sn**	**16 54 21.4**	**-0.2**
	baz=243							
WDLH	**Douliu**	**0.84**	**273**	⇓P		**Pb**	**16 54 09.3**	**+0.2**
	baz=273							
WDLH				*e*S		**Sg**	**16 54 20.9**	**+0.2**
	baz=273							
ENAH	**Nanao**	**0.86**	**22**	*e*P		**Pb**	**16 54 08.9**	**-0.6**
	baz=15							
WTP	**Ta-pu**	**0.87**	**243**	⇓P		**Pb**	**16 54 09.5**	**-0.1**
	baz=249							
WTP				S		**Sb**	**16 54 21.4**	**+0.5**
	baz=249							
TCU	**Taichung**	**0.87**	**305**	*e*P		**Pg**	**16 54 10.3**	**+0.2**
	baz=294							
TCU				*e*S		**Sn**	**16 54 22.6**	**0.0**
	baz=294							
TWGBT	**Beinan**	**0.89**	**203**	*e*P		**Pb**	**16 54 08.0**	**-2.0**
	baz=191							
CHN2	**Minshiung**	**0.91**	**263**	*e*P		**Pn**	**16 54 10.7**	**-0.1**
	baz=272							
CHN2				*e*S		**Sn**	**16 54 24.1**	**+0.7**
	baz=272							
WCHH	**Zhanghua**	**0.93**	**298**	*e*P		**Pb**	**16 54 11.0**	**+0.4**
	baz=299							
WCHH				*e*S		**Sn**	**16 54 24.0**	**0.0**
	baz=299							
TTN	**Taitung**	**0.93**	**198**	*e*P		**Pb**	**16 54 10.4**	**-0.2**
	baz=182							
TTN				*e*S		**Sb**	**16 54 22.5**	**-0.1**
	baz=182							
TWQ1	**Liyutan**	**0.94**	**318**	*e*P		**Pn**	**16 54 11.6**	**+0.3**
	baz=329							
TWQ1				*e*S		**Sn**	**16 54 24.7**	**+0.4**
	baz=329							
NDT	**Datong Townshi**	**0.95**	**3**	*e*P		**Pb**	**16 54 10.5**	**-0.5**
	baz=15							
CHY	**Chiayi**	**0.96**	**261**	*e*P		**Pb**	**16 54 11.1**	**0.0**
	baz=270							
CHY				*e*S		**Sb**	**16 54 23.9**	**+0.4**
	baz=270							
TWK	**Hsinying**	**0.96**	**247**	⇓*e*P		**Pb**	**16 54 11.2**	**-0.1**
	baz=245							
TWK				*e*S		**Sg**	**16 54 24.3**	**-0.2**
	baz=245							
CHN1	**Nanshi**	**0.97**	**242**	*e*P		**Pb**	**16 54 11.5**	**+0.2**
	baz=239							
CHN1				*e*S		**Sg**	**16 54 24.9**	**+0.3**
	baz=239							
LDUT	**Ludao**	**0.97**	**179**	*e*P		**Pb**	**16 54 09.4**	**-1.9**
	baz=175							
LDUT				*e*S		**Sb**	**16 54 23.3**	**-0.4**
	baz=175							
SNST	**Tainan City**	**0.98**	**244**	*e*P		**Pb**	**16 54 11.5**	**+0.1**
	baz=242							
SNST				*e*S		**Sb**	**16 54 24.5**	**+0.5**
	baz=242							
SGST	**Jiashian**	**0.98**	**235**	P		**Pb**	**16 54 10.9**	**-0.6**
	baz=224							
SGST				*e*S		**Sb**	**16 54 24.3**	**+0.3**
	baz=224							
WTK	**Tuku**	**0.98**	**273**	*e*P		**Pb**	**16 54 11.6**	**+0.1**
	baz=272							
WTK				*e*S		**Sb**	**16 54 24.3**	**+0.3**
	baz=272							
SLGT	**Liugui**	**0.99**	**229**	*e*P		**Pb**	**16 54 11.4**	**-0.3**
	baz=221							
SLGT				*e*S		**Sb**	**16 54 24.7**	**+0.4**
	baz=221							
ENTT	**Nioudou**	**0.99**	**6**	*e*P		**Pb**	**16 54 11.0**	**-0.8**
	baz=18							
NSY	**Sanyi**	**0.99**	**321**	*e*P		**Pg**	**16 54 13.0**	**+0.6**
	baz=324							
WDJ	**Dajia District**	**1.02**	**313**	*e*P		**Pg**	**16 54 13.0**	**+0.1**
	baz=316							
YHNB	**Yeheng**	**1.02**	**356**	*e*P		**Pb**	**16 54 11.8**	**-0.4**
	baz=359							
YHNB				*e*S		**Sb**	**16 54 25.3**	**-0.1**
	baz=359							
TWC	**Suao**	**1.02**	**20**	*e*P		**Pb**	**16 54 11.2**	**-1.1**
	baz=15							
RLNB	**Erlin**	**1.03**	**284**	*e*P		**Pb**	**16 54 12.3**	**-0.1**
	baz=284							
PTSB	**Yuanli**	**1.05**	**319**	*e*P		**Pg**	**16 54 13.7**	**+0.2**
	baz=323							
NSTT	**Nanjuang**	**1.06**	**337**	*e*P		**Pn**	**16 54 13.5**	**+0.4**
	baz=349							
NSTT				*e*S		**Sb**	**16 54 26.8**	**+0.2**
	baz=349							
LIOB	**Emei**	**1.07**	**338**	*e*P		**Pn**	**16 54 13.7**	**+0.5**
	baz=331							
NMLH	**Miaoli**	**1.07**	**326**	*e*P		**Pg**	**16 54 14.2**	**+0.2**
	baz=330							
TWE	**Neicheng**	**1.09**	**10**	*e*P		**Pn**	**16 54 12.7**	**-0.7**
	baz=13							
WTCT	**Ta-ch'eng**	**1.10**	**282**	*e*P		**Pn**	**16 54 13.7**	**+0.2**
	baz=281							
ICHU	**Yijhu**	**1.12**	**255**	*e*P		**Pn**	**16 54 13.8**	**0.0**
	baz=253							
ICHU				*e*S		**Sn**	**16 54 28.5**	**-0.2**
	baz=253							
NWLT	**Wulai**	**1.13**	**2**	*e*P		**Pn**	**16 54 13.6**	**-0.4**
	baz=14							
WSF	**Szhu**	**1.13**	**270**	*e*P		**Pn**	**16 54 13.8**	**-0.2**
	baz=269							
WSF				*e*S		**Sn**	**16 54 29.1**	**+0.1**
	baz=269							
ECL	**Taimali**	**1.14**	**204**	*e*P		**Pn**	**16 54 13.7**	**-0.4**
	baz=191							
CHN3	**Shinhua**	**1.15**	**241**	*e*P		**Pg**	**16 54 15.4**	**+0.1**
	baz=236							
SCST	**Cishan**	**1.16**	**230**	*e*P		**Pg**	**16 54 15.4**	**-0.2**
	baz=242							
SCST				*e*S		**Sg**	**16 54 31.4**	**+0.5**
	baz=242							
SSD	**Sandimen**	**1.17**	**220**	*e*P		**Pn**	**16 54 14.5**	**0.0**
	baz=217							
SSD				*e*S		**Sb**	**16 54 29.8**	**+0.2**
	baz=217							
CHN8	**Yiju**	**1.18**	**256**	⇓*e*P		**Pn**	**16 54 14.8**	**+0.2**
	baz=253							
CHN8				*e*S		**Sg**	**16 54 31.0**	**-0.4**
	baz=253							
TSMG	**Majia**	**1.20**	**219**	*e*P		**Pn**	**16 54 14.8**	**0.0**
	baz=225							
TSMG				*e*S		**Sn**	**16 54 30.5**	**-0.1**
	baz=225							
SBCB	**Hsinchu**	**1.22**	**340**	*e*P		**Pg**	**16 54 17.3**	**+0.6**
	baz=346							
HSN	**Hsinchu**	**1.23**	**339**	*e*P		**Pg**	**16 54 17.0**	**0.0**
	baz=329							
SCLT	**Jiali**	**1.25**	**248**	*e*P		**Pb**	**16 54 16.3**	**+0.2**
	baz=245							
SCLT				*e*S		**Sg**	**16 54 33.6**	**0.0**
	baz=245							
NTC	**Toucheng**	**1.25**	**16**	*e*P		**Pb**	**16 54 16.5**	**+0.4**
	baz=16							
TWM1	**Shoushan**	**1.25**	**229**	*e*P		**Pg**	**16 54 17.3**	**-0.1**
	baz=240							
SGLT	**Jiouru**	**1.27**	**224**	*e*P		**Pg**	**16 54 18.3**	**+0.6**
	baz=212							
MASBT	**Mashibuluo**	**1.28**	**216**	*e*P		**Pn**	**16 54 15.4**	**-0.6**
	baz=213							
TATO	**Taipei**	**1.32**	**1**	*e*P		**Pn**	**16 54 16.8**	**+0.1**
	baz=20							
TWA	**Mucha**	**1.33**	**5**	*e*P		**Pn**	**16 54 16.7**	**-0.1**
	baz=21							
TWA				*e*S		**Sn**	**16 54 34.0**	**-0.1**
	baz=21							
NCUH	**Zhongli**	**1.34**	**349**	*e*P		**Pb**	**16 54 17.9**	**+0.2**
	baz=357							
NCU	**National Centr**	**1.34**	**350**	*e*P		**Pb**	**16 54 17.9**	**+0.3**
	baz=358							
SNJT	**Kaohsiung City**	**1.36**	**229**	*e*P		**Pb**	**16 54 18.6**	**+0.6**
	baz=223							
TIPB	**Shuangxi**	**1.36**	**14**	*e*P		**Pn**	**16 54 16.7**	**-0.5**
	baz=16							
EAST	**Anshuo**	**1.38**	**204**	*e*P		**Pn**	**16 54 17.2**	**-0.2**
	baz=193							
SSPT	**Xinbi**	**1.42**	**215**	*e*P		**Pb**	**16 54 19.1**	**+0.2**
	baz=207							
TWB1	**Santiao Chiao**	**1.44**	**20**	*e*P		**Pn**	**16 54 18.6**	**+0.3**
	baz=20							
TWS1	**Kuanyinshan**	**1.45**	**359**	*e*P		**Pn**	**16 54 19.1**	**+0.8**
	baz=18							
NWF	**Wu-fen Shan**	**1.45**	**12**	*e*P		**Pn**	**16 54 18.4**	**-0.1**
	baz=15							
WFSB	**Wu-fen Shan**	**1.45**	**12**	*e*P		**Pn**	**16 54 18.4**	**0.0**
	baz=15							
SCZT	**Fangliau**	**1.48**	**211**	*e*P		**Pb**	**16 54 19.9**	**-0.2**
	baz=208							
YM01	**YM01**	**1.50**	**4**	*e*P		**Pn**	**16 54 19.9**	**+0.8**
	baz=22							
YM04	**YM04**	**1.50**	**3**	*e*P		**Pn**	**16 54 20.1**	**+0.9**
	baz=20							
YM10	**YM10**	**1.51**	**4**	*e*P		**Pn**	**16 54 20.1**	**+0.9**
	baz=21							
NTST	**Danshui**	**1.51**	**360**	*e*P		**Pn**	**16 54 20.2**	**+1.0**
	baz=18							
YM05	**YM05**	**1.52**	**4**	*e*P		**Pn**	**16 54 18.8**	**-0.5**
	baz=21							
YM03	**YM03**	**1.53**	**3**	*e*P		**Pn**	**16 54 19.7**	**+0.1**
	baz=20							
ANP	**Anpu**	**1.54**	**2**	*e*P		**Pn**	**16 54 20.4**	**+0.8**
	baz=20							
YM08	**YM08**	**1.54**	**5**	*e*P		**Pn**	**16 54 20.3**	**+0.7**
	baz=21							
SLIU	**Shizi**	**1.55**	**203**	*e*P		**Pb**	**16 54 21.2**	**0.0**
	baz=192							
JYNG	**Yonagunijimaku**	**1.58**	**59**	P		**Pn**	**16 54 20.4**	**+0.3**
JYNG				S		**Sn**	**16 54 40.6**	**+0.5**
LAY	**Lan-yu**	**1.60**	**177**	*e*P		**Pn**	**16 54 18.4**	**-2.1**
	baz=166							
WLCH	**Liuqiu**	**1.63**	**218**	*e*P		**Pb**	**16 54 23.0**	**+0.5**
	baz=213							
TWY	**Chenhua**	**1.63**	**5**	*e*P		**Pb**	**16 54 22.0**	**-0.5**
	baz=20							
YOJ	**Yonaguni jima**	**1.64**	**60**	P		**Pn**	**16 54 21.1**	**+0.2**
	baz=60							
YOJ	**Yonaguni jima**	**1.64**	**60**	P		**Pn**	**16 54 21.2**	**+0.3**
YOJ				*e*S		**Sn**	**16 54 42.1**	**+0.6**
TWP	**Hsiaoliuchiu**	**1.64**	**218**	*e*P		**Pb**	**16 54 22.9**	**+0.2**
	baz=230							
WDGT	**Dungji**	**1.69**	**257**	⇓*e*P		**Pn**	**16 54 21.2**	**-0.4**
	baz=253							
PHUB	**P'eng-hu**	**1.73**	**266**	⇑*e*P		**Pn**	**16 54 21.9**	**-0.4**
	baz=263							
PNG	**Penghu**	**1.75**	**268**	*e*P		**Pn**	**16 54 22.1**	**-0.3**
	baz=265							
HEN	**Hengchun**	**1.76**	**202**	*e*P		**Pb**	**16 54 24.6**	**-0.2**
	baz=193							
TWK1	**Hengchun**	**1.80**	**200**	*e*P		**Pn**	**16 54 23.7**	**+0.6**
	baz=191							
TWKBT	**Hengchun**	**1.80**	**199**	*e*P		**Pn**	**16 54 23.5**	**+0.4**
	baz=192							
TSEB	**Hengchuen, Pin**	**1.81**	**197**	*e*P		**Pn**	**16 54 24.0**	**+0.7**
	baz=184							
VCHM	**Qimei**	**1.91**	**257**	*e*P		**Pn**	**16 54 24.2**	**-0.5**
	baz=253							
PCYT	**Pengchaiyu**	**2.05**	**16**	*e*P		**Pn**	**16 54 27.6**	**+0.9**
	baz=17							
HATJ	**Hateruma jima**	**2.19**	**79**	P		**Pn**	**16 54 28.6**	**+0.1**
HATJ				*e*S		**Sn**	**16 54 55.4**	**+0.2**
IRIF	**Iriomote-Funau**	**2.19**	**71**	P		**Pn**	**16 54 29.2**	**+0.7**
VWUC	**VWUC**	**2.27**	**307**	*e*P		**Pn**	**16 54 29.3**	**-0.3**
	baz=308							
PTTC	**Pingtan**	**2.40**	**321**	*e*P		**Pn**	**16 54 31.6**	**+0.1**
	baz=325							
JKRS	**Kuro-shima**	**2.41**	**75**	P		**Pn**	**16 54 32.3**	**+0.7**
JKRS				*e*S		**Sn**	**16 55 01.2**	**+0.6**
PTMZ	**Houxiangcun**	**2.54**	**304**	*e*P		**Pn**	**16 54 33.5**	**+0.1**
	baz=304							
JIJ	**Ishigaki jima**	**2.56**	**73**	P		**Pn**	**16 54 33.6**	**0.0**
JIJ				*e*S		**Sn**	**16 55 04.4**	**+0.1**
JISG	**Ishigakijimahi**	**2.77**	**70**	P		**Pn**	**16 54 36.4**	**-0.1**
JISG				*e*S		**Sn**	**16 55 09.6**	**+0.1**
MATB	**Ma-tsu**	**2.85**	**332**	*e*P		**Pn**	**16 54 37.7**	**+0.1**
	baz=339							
KNM	**Kinmen**	**2.87**	**286**	*e*P		**Pn**	**16 54 39.0**	**+1.2**
	baz=282							
KNMB	**Chin-men Tao**	**2.92**	**287**	*e*P		**Pn**	**16 54 38.1**	**-0.5**
	baz=272							
JTJ	**Tarama**	**3.13**	**71**

H11S3	**WAKE ISLAND Hy**	**42.39**	**88**	T	T	17 46 55.8		
	baz=284,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**42.40**	**88**	T	T	17 46 56.8		
	baz=284,slow=75,SNR=9.5							
H11S2	**WAKE ISLAND Hy**	**42.41**	**88**	T	T	17 46 57.3		
	baz=284,slow=75,SNR=9.2							
ASAR	**Alice Springs**	**48.56**	**165**	P	**P**	**17 02 33.5**	**-1.9**	
	0.2nm,0.6s,baz=340,slow=7.1,SNR=5.1							

IDC 25 17:14:27.8±3.3,**4°.83N×88°.29E, h0**km,**mb3.4/3, mb1 3.7/4, mb1mx3.4/32, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=93.7km s-min=33.3km az=65.0, North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.08**	**37**	Pn	Pn	17 18 28.8	+0.5
	0.2nm,0.3s,baz=235,slow=14,SNR=6.2						
H08S3	**Diego Garcia H**	**20.05**	**232**	T	T	17 40 19.1	
	baz=51,slow=74,SNR=11						
H08S2	**Diego Garcia H**	**20.05**	**232**	T	T	17 40 18.4	
	baz=51,slow=74,SNR=14						
H08S1	**Diego Garcia H**	**20.06**	**232**	T	T	17 40 20.1	
	baz=51,slow=74,SNR=11						
MKAR	**Makanchi Array**	**42.13**	**354**	P	P	17 22 22.0	+0.2
	0.3nm,0.6s,baz=171,slow=9.9,SNR=4.4						
SONM	**Songino Array**	**45.58**	**17**	P	P	17 22 49.3	-0.4
	0.6nm,0.7s,baz=200,slow=9.3,SNR=2.3						
H01W3	**Cape Leeuwin H**	**46.39**	**150**	T	T	18 12 55.0	
	baz=325						
H01W2	**Cape Leeuwin H**	**46.41**	**150**	T	T	18 12 40.6	
	baz=325						
H01W1	**Cape Leeuwin H**	**46.41**	**150**	T	T	18 12 44.8	
	baz=325						
WRA	**Warramunga Arr**	**51.52**	**120**	P	P	17 23 35.6	-0.2
	0.4nm,0.7s,baz=298,slow=9.0,SNR=5.5						

*IDC **25** 17:16:52.6±4.7, 38°.51N×123°.11W, h0km, mb1 3.6/3, mb1mx3.3/42, mbtmp3.1/3, ML3.3/3, Error ellipse: s-maj=54.9km s-min=11.6km az=50.0*
*NEIC **25** 17:16:54.6±1.3, 38°.814N±0°.010×122°.82W±0°.01, h6km±2km, Error ellipse: s-maj=1.8km s-min=1.2km az=58.0*
*NCEDC **25** 17:16:54.3±1.3, 38°.82N±0°.01×122°.83W±0°.02, h3km±5km, Md2.9/91, Error ellipse: s-maj=2.5km s-min=1.6km az=50.0*
ISC 25 17:16:54.4±0.9,**38°.81N**±0°.02×**122°.81W**±0°.02,**h3**km±6km, **n102**,σ0°**86**/105,**Northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.01**	**83**	Pg	**Pg**	**17 16 55.0**	**0.0**
GDXM				Sg	**Sg**	17 16 55.8	+0.3
GGPM	**Geyser Peak**	**0.05**	**210**		**Pg**	**17 16 55.6**	**+0.1**
GACM	**Adobe Creek**	**0.08**	**330**		**Pg**	17 16 55.8	-0.2
GCRM	**Castle Rock Sp**	**0.08**	**113**		**Pg**	**17 16 56.3**	**+0.2**
GSGM	**Seigler Mounta**	**0.10**	**53**		**Pg**	**17 16 57.0**	**+0.6**
GAXM	**Alexander Vall**	**0.10**	**154**		**Pg**	**17 16 56.7**	**+0.2**
GBGM	**Boggs Mountain**	**0.10**	**86**		**Pg**	**17 16 57.0**	**+0.5**
GPMM	**Pine Mountain**	**0.11**	**292**		**Pg**	**17 16 56.5**	**-0.1**
GCVM	**Cloverdale**	**0.16**	**257**		**Pg**	**17 16 57.8**	**+0.3**
GRTM	**Round Top Moun**	**0.17**	**40**		**Pg**	**17 16 58.0**	**+0.2**
GSSM	**Skaggs Springs**	**0.19**	**236**		**Pg**	**17 16 58.4**	**+0.4**
NHSM	**Mount Saint He**	**0.22**	**134**		**Pg**	**17 16 58.9**	**+0.3**
NMCNC	**Mill Creek, So**	**0.23**	**200**		**Pg**	**17 16 59.3**	**+0.5**
MAC	**Mark West Spri**	**0.27**	**164**		**Pg**	**17 17 00.2**	**+0.7**
HOPS	**Hopland Field**	**0.28**	**313**	Pg	**Pg**	**17 16 59.8**	**+0.1**
HOPS				Sg	**Sg**	17 17 04.1	+0.8
GHLM	**Highland Sprin**	**0.28**	**326**		**Pg**	**17 16 59.9**	**0.0**
NMTM	**Middletown**	**0.29**	**90**		**Pg**	**17 17 00.5**	**+0.6**
MNRC	**McLaughlin Min**	**0.30**	**76**		**Pg**	**17 17 01.1**	**+0.9**
GSNM	**Snow Mountain**	**0.33**	**295**		**Pg**	**17 17 00.9**	**+0.3**
GDCM	**Dry Creek**	**0.34**	**264**		**Pg**	**17 17 01.3**	**+0.5**
GWKM	**Walker Ridge**	**0.35**	**46**		**Pb**	**17 17 02.9**	**-0.5**
GHCM	**House Creek**	**0.36**	**236**		**Pg**	**17 17 01.8**	**+0.5**
FTR	**Fort Ross**	**0.39**	**224**		**Pg**	**17 17 02.6**	**+0.7**
GBMM	**Baldy Mountain**	**0.42**	**37**		**Pg**	**17 17 03.2**	**+0.8**
NTYM	**Taylor**	**0.43**	**164**		**Pg**	**17 17 03.4**	**+0.7**
NBPM	**Berryessa Peak**	**0.51**	**106**		**Pb**	**17 17 05.4**	**-0.5**
GTSM	**Trough Springs**	**0.53**	**18**		**Pb**	**17 17 05.5**	**-1.0**
GGUM	**Gualala**	**0.54**	**276**		**Pg**	**17 17 05.1**	**+0.4**
CVS	**Carmenet Viney**	**0.54**	**149**		**Pg**	**17 17 05.2**	**+0.5**
GWRM	**Wonder Ranch**	**0.55**	**317**		**Pg**	**17 17 05.0**	**+0.1**
GHOM	**Hamilton Openi**	**0.61**	**293**		**Pg**	**17 17 06.6**	**+0.4**
MCCM	**Marconi Confer**	**0.66**	**185**	Pg	**Pg**	**17 17 07.5**	**+0.4**
GHMM	**Hull Mountain**	**0.69**	**352**		**Pb**	**17 17 08.8**	**-0.5**
NGVM		**0.70**	**138**		**Pg**	**17 17 08.2**	**+0.3**
NDHM	**Dunnigan Hills**	**0.71**	**93**		**Pb**	**17 17 10.0**	**+0.7**
NADM	**Allendale**	**0.74**	**117**		**Pb**	**17 17 10.7**	**+0.7**
GNAM	**Navarro Ridge**	**0.75**	**302**		**Pb**	**17 17 09.3**	**-0.8**
NOLM	**Olema**	**0.77**	**179**		**Pb**	**17 17 10.6**	**+0.2**
GCK	**Clark Valley**	**0.79**	**22**		**Pn**	**17 17 11.5**	**-1.0**
NPRM	**Point Reyes**	**0.82**	**191**		**Pb**	**17 17 10.9**	**-0.5**
GTC	**Three Chop Rid**	**0.83**	**316**		**Pb**	**17 17 11.0**	**-0.5**
GASB	**Alder Springs**	**0.85**	**5**		**Pb**	**17 17 12.3**	**+0.4**
NLHM	**Lake Herman**	**0.86**	**142**		**Pg**	**17 17 11.2**	**+0.3**
OSUM	**Sutter Buttes**	**0.88**	**58**		**Pg**	**17 17 11.4**	**+0.1**
SUTB	**Sutter Butte**	**0.91**	**62**		**Pg**	**17 17 12.1**	**+0.4**
CPMM	**Point Molate**	**0.91**	**159**		**Pb**	**17 17 12.6**	**-0.3**
CPIM	**Pinole Ridge**	**0.94**	**150**		**Pg**	**17 17 12.9**	**+0.4**
KFPM	**Farley Peak**	**0.96**	**331**		**Pb**	**17 17 13.1**	**-0.6**
GVV	**Valley View**	**0.97**	**6**		**Pn**	**17 17 14.7**	**-0.5**
CTAM	**Taylor**	**1.00**	**141**		**Pb**	**17 17 14.7**	**+0.4**
BRIB	**Briones**	**1.03**	**149**		**Pg**	**17 17 14.3**	**+0.3**
BRK	**Berkeley--Havi**	**1.03**	**155**		**Pb**	**17 17 14.7**	**-0.1**
VAK	**Adit at Lawren**	**1.03**	**154**		**Pg**	**17 17 14.4**	**+0.3**
CVPM	**Vollmer Peak**	**1.03**	**153**		**Pg**	**17 17 14.6**	**+0.5**
BKS	**Berkeley--Byer**	**1.03**	**154**		**Pb**	**17 17 14.9**	**0.0**
JPRM	**Presidio of Sa**	**1.04**	**165**		**Pb**	**17 17 15.2**	**0.0**
KCPM	**Cahto Peak**	**1.06**	**326**		**Pb**	**17 17 15.1**	**-0.5**
GROM	**Round Mountain**	**1.11**	**6**		**Pn**	**17 17 16.9**	**-0.2**
KBNM	**Bluenose Ridge**	**1.12**	**345**		**Pn**	**17 17 17.3**	**+0.5**
KIPM	**Iron Peak**	**1.13**	**333**		**Pn**	**17 17 17.4**	**+0.2**
BDM	**Black Diamond**	**1.13**	**138**		**Pg**	**17 17 16.4**	**+0.3**
CRHM	**Round Hill Res**	**1.15**	**145**		**Pb**	**17 17 17.1**	**+0.2**
OHCM	**Honcut**	**1.16**	**63**		**Pg**	**17 17 15.4**	**-1.2**
PAM	**Palermo**	**1.19**	**57**		**Pg**	**17 17 16.4**	**-0.9**
ORV	**Oroville**	**1.27**	**53**	Pg	**Pg**	**17 17 17.4**	**-1.3**
ORV	**Oroville**	**1.27**	**53**		**Pg**	**17 17 17.5**	**-1.1**
CMOB	**Morgan Territo**	**1.27**	**141**		**Pg**	**17 17 17.8**	**-1.0**
O02D	**Mt. Diablo Mer**	**1.37**	**1**		**Pb**	**17 17 22.7**	**+1.9**
CNIC	**Niles Canyon**	**1.37**	**151**		**Pn**	**17 17 19.7**	**-0.8**
AASM	**Arroyo Seco**	**1.39**	**105**		**Pn**	**17 17 18.3**	**-2.4**
AFDM	**Forest Hills D**	**1.44**	**84**	Pn	**Pn**	**17 17 19.2**	**-2.3**
CMJM	**Mission San Jo**	**1.48**	**150**		**Pn**	**17 17 21.4**	**-0.6**
LBPM	**Beegum Peak**	**1.51**	**358**		**Pg**	**17 17 25.4**	**+2.1**
KMRM	**Mail Ridge**	**1.57**	**334**		**Pg**	**17 17 25.2**	**+0.6**
O03E	**Paynes Creek**	**1.68**	**27**		**Pn**	**17 17 23.7**	**-1.2**
MNHB	**New Hogan Dam**	**1.70**	**112**		**Pn**	**17 17 23.5**	**-1.6**
WDC	**Whiskeytown Da**	**1.78**	**7**		**Pn**	**17 17 26.0**	**-0.2**
JSTM	**Santa Teresa H**	**1.79**	**153**		**Pn**	**17 17 24.9**	**-1.3**
AMC	**Almaden**	**1.81**	**155**		**Pn**	**17 17 25.8**	**-0.7**
CMB	**Columbia Colle**	**2.06**	**111**	Pn	**Pn**	**17 17 28.6**	**-1.3**
RUBR	**Rubicon Trail**	**2.09**	**82**		**Pn**	**17 17 30.8**	**+0.2**
KHMM	**Horse Mountain**	**2.18**	**341**	Pn	**Pn**	**17 17 30.5**	**-1.3**
SAO	**San Andreas Ge**	**2.31**	**152**	Pn	**Pn**	**17 17 31.1**	**-2.3**
VCNR	**Virginia City**	**2.51**	**78**		**Pn**	**17 17 36.0**	**-0.4**
PNTR	**Pine Nut**	**2.52**	**83**		**Pn**	**17 17 37.7**	**+1.1**
WAKR	**Walker**	**2.66**	**95**	Pn	**Pn**	**17 17 39.9**	**+1.5**
YERR	**Yerington**	**2.79**	**85**		**Pn**	**17 17 40.5**	**+0.2**
PAHR	**Pah Rah Range**	**2.81**	**70**		**Pn**	**17 17 42.0**	**+1.5**
YBH	**Yreka Blue Hor**	**2.92**	**2**	Pn	**Pb**	**17 17 44.6**	**-2.7**
	0.2nm,0.3s,baz=187,slow=16,SNR=1.9						
YBH				Pg	**Pg**	**17 17 50.3**	**-0.1**
	0.3nm,0.3s,baz=188,slow=8.5,SNR=12						
YBH	**Yreka Blue Hor**	**2.92**	**2**	Pg	**Pb**	**17 17 47.6**	**+0.3**
PMPB	**Monarch Peak**	**3.04**	**148**	Pn	**Pn**	**17 17 42.8**	**-0.7**
MDPB	**Devils Postpil**	**3.17**	**111**		**Pn**	**17 17 44.6**	**-0.8**
OMMB	**Old Mammoth Mi**	**3.23**	**110**	Pn	**Pn**	**17 17 45.4**	**-0.9**
RYN	**Ryan**	**3.36**	**92**		**Pn**	**17 17 47.6**	**-0.4**
LHV	**Little Huntoon**	**3.42**	**98**		**Pn**	**17 17 49.0**	**+0.3**
NVAR	**Mina Array Bea**	**3.55**	**95**	Pn	**Pn**	**17 17 51.2**	**+0.5**
	0.5nm,0.3s,baz=269,slow=14,SNR=6.2						
NVAR				Pg	**Pb**	**17 17 58.1**	**0.0**
	1.6nm,0.3s,baz=261,slow=18,SNR=37						
NVAR				Lg	Lg	17 18 46.4	
	0.5nm,0.3s,baz=252,slow=31,SNR=1.7						
MOD	**Modoc Plateau**	**3.64**	**31**		**Pn**	**17 17 51.6**	**-0.2**
NV11	**Mina Array Sit**	**3.67**	**94**		**Pn**	**17 17 51.8**	**-0.4**
KVN	**Kaiserville**	**3.68**	**85**	Pn	**Pn**	**17 17 52.3**	**-0.2**
ISA	**Isabella, Lake**	**4.67**	**131**	Pn	**Pn**	**17 18 04.4**	**-1.5**
PDAR	**Pinedale Array**	**10.80**	**64**	Pn	Pn	17 19 35.9	+5.7
	0.0nm,0.3s,baz=257,slow=10,SNR=4.5						
TXAR	**Lajitas Array**	**18.43**	**115**	P	**P**	**17 21 12.1**	**+1.0**
	0.1nm,0.3s,baz=289,slow=8.4,SNR=4.0						

IDC 25 17:28:41.4±3.1,**30°.00S×177°.47W, h0**km,**mb3.6/2, mb1 3.8/2, mb1mx3.4/39, mbtmp3.6/2, Error ellipse: s-maj=62.3km s-min=23.8km az=85.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.84**	**333**	Pn	Pn	17 29 01.2	+0.6
	204nm,0.3s,baz=208,slow=21,SNR=12						
RAO				Sn	Sn	17 29 13.2	-0.4
	633nm,0.3s,baz=90,slow=20,SNR=16						
URZ	**Urewera**	**9.38**	**207**	Sn	Sn	17 32 39.6	-4.3
	0.3nm,0.3s,baz=132,slow=22,SNR=1.0						
ASAR	**Alice Springs**	**43.59**	**266**	P	P	17 36 47.0	-0.5
	0.2nm,0.4s,baz=104,slow=7.4,SNR=8.4						
WRA	**Warramunga Arr**	**44.54**	**271**	P	P	17 36 55.4	+0.2
	0.5nm,0.3s,baz=110,slow=8.1,SNR=17						
FINES	**FINESS Array B**	**144.93**	**340**	PKP	PKPab	17 48 18.6	-0.3
	4.5nm,1.1s,baz=64,slow=3.2,SNR=8.8						

*NEIC **25** 17:38:04.6±1.0, 6°.4N±0°.1×123°.9E±0°.1, h552km±9km, mb4.2/15, Error ellipse: s-maj=20.7km s-min=15.9km az=56.0*
*IDC **25** 17:38:04.3±1.7, 6°.38N×123°.88E, h547km±19km, mb2.8/6, mb1 3.0/8, mb1mx2.7/44, mbtmp3.9/8, Error ellipse: s-maj=35.3km s-min=13.0km az=68.0*
ISC 25 17:38:04.3±0.7,**6°.34N**±0°.10×**123°.9E**±0°.1,**h550**km,**n28,** σ1ᵍ**01**/34,**mb3.8**/15,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYLDM	**Lahad Datu**	**5.49**	**258**	P	**P**	**17 39 38.6**	**+0.3**
KKM	**Kota Kinabalu**	**7.64**	**268**	P	**P**	**17 39 57.3**	**-1.3**
SIJI	**Sorong**	**10.27**	**134**	P	**P**	**17 40 25.5**	**+0.3**
	0.7nm,0.3s,baz=319,slow=19,SNR=1.6						
SBUM	**Sibu**	**12.26**	**252**	P	**P**	**17 40 46.7**	**+1.0**
JAY	**Jayapura**	**18.95**	**117**	P	**P**	**17 41 50.5**	**-0.6**
	0.5nm,0.3s,baz=315,slow=2.9,SNR=1.5						
FITZ	**Fitzroy Crossi**	**24.34**	**176**	P	**P**	**17 42 39.6**	**+0.2**
	0.8nm,0.4s,baz=8.5,slow=8.4,SNR=6.1						
FITZ	**Fitzroy Crossi**	**24.34**	**176**	P	**P**	**17 42 39.5**	**+0.1**
GSI	**Gunungsitoli**	**26.72**	**260**	P	**P**	**17 42 59.4**	**-1.1**
COEN	**Coen**	**27.80**	**137**	P	**P**	**17 43 10.1**	**+0.2**
COEN				IAmb	IAmb	17 43 30.0	
	comp=Z,11nm,1.0s						
WB0	**Warramunga Arr**	**27.93**	**158**	P	**P**	**17 43 11.1**	**+0.2**
WB0				IAmb	IAmb	17 43 14.3	
	comp=Z,5.9nm,1.1s						
WRA	**Warramunga Arr**	**28.07**	**159**	P	**P**	**17 43 12.1**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=342,slow=9.1,SNR=38						
WRA				PcP	**PcP**	**17 46 09.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=328,slow=2.7,SNR=4.9						
WRA				S	**S**	**17 47 14.4**	**-4.4**
	comp=Z,0.3nm,0.8s,baz=334,slow=16,SNR=1.4						
WRA				ScP	**ScP**	**17 48 58.0**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=340,slow=3.3,SNR=2.1						
WB2	**Warramunga Arr**	**28.07**	**159**	P	**P**	**17 43 12.4**	**+0.2**
WB2				IAmb	IAmb	17 43 24.1	
	comp=Z,11nm,1.4s						
WR0	**Warramunga Arr**	**28.16**	**158**	P	**P**	**17 43 13.1**	**+0.2**
WR0				IAmb	IAmb	17 43 14.4	
	comp=Z,8.3nm,1.4s						
AS31	**Alice Springs**	**31.39**	**162**	P	**P**	**17 43 42.0**	**+1.2**
ASAR	**Alice Springs**	**31.39**	**162**	P	**P**	**17 43 41.8**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=340,slow=7.2,SNR=26						
ASAR				PcP	**PcP**	**17 46 17.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=346,slow=2.7,SNR=7.6						
ASAR				S	**S**	**17 48 09.2**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=332,slow=17,SNR=10						
ASAR				ScP	**ScP**	**17 49 09.1**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=341,slow=3.4,SNR=7.2						
MORW	**Morawa**	**36.01**	**192**	P	**P**	**17 44 19.8**	**+0.3**
MORW				IAmb	IAmb	17 44 26.2	
	comp=Z,17nm,1.2s						
FORT	**Forrest**	**37.12**	**174**	P	**P**	**17 44 29.5**	**+0.8**
FORT				IAmb	IAmb	17 44 30.2	
	comp=Z,12nm,0.7s						
NWAO	**Narrogin (SRO)**	**39.56**	**189**	P	**P**	**17 44 49.0**	**+0.7**
NWAO	**Narrogin (SRO)**	**39.56**	**189**	P	**P**	**17 44 49.1**	**+0.7**
NWAO				IAmb	IAmb	17 44 55.6	
	comp=Z,33nm,1.3s						
BBOO	**Buckleboo**	**40.62**	**164**	P	**P**	**17 44 58.0**	**+1.1**
BBOO				IAmb	IAmb	17 45 10.9	
	comp=Z,12nm,1.2s						
STKA	**Stephens Creek**	**41.59**	**157**	P	**P**	**17 45 05.5**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=351,slow=13,SNR=1.4						
STKA	**Stephens Creek**	**41.59**	**157**	IAmb	IAmb	17 45 09.1	
	comp=Z,0.3nm,0.9s						
MK31	**Makanchi Array**	**53.81**	**326**	P	**P**	**17 46 35.9**	**0.0**
MKAR	**Makanchi Array**	**53.81**	**326**	P	**P**	**17 46 35.7**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=122,slow=8.3,SNR=22						
MKAR				PcP	**PcP**	**17 47 32.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=120,slow=3.1,SNR=4.6						
MAKZ	**Makanchi**	**54.00**	**325**	P	**P**	**17 46 37.3**	**+0.2**
MAKZ				IAmb	IAmb	17 46 37.6	
	comp=Z,1.5nm,0.6s						
PETK	**Petropavlovsk-**	**54.17**	**24**	P	**P**	**17 46 38.4**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=218,slow=3.5,SNR=1.9						
KURK	**Kurchatov**	**58.04**	**328**	P	**P**	**17 47 05.0**	**+0.1**
KURK				IAmb	IAmb	17 47 05.5	
	comp=Z,3.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**119.41**	**289**	PKP	**PKPdf**	**17 55 51.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=72,slow=2.6,SNR=2.4						

*IDC **25** 17:52:02.5±2.0, 37°.23N×144°.75E, h0km, mb3.3/3, mb1 3.6/7, mb1mx3.4/40, mbtmp3.7/7, ML3.5/4, MS2.5/2, Ms1 2.5/2, ms1mx2.3/23, Error ellipse: s-maj=46.6km s-min=24.6km az=78.0*
*JMA **25** 17:52:08.4±0.2, 37°.45N×144°.35E, h48km, M3.8*
*NIED **25** 17:52:08.5, 37°.45N×144°.35E, h48km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.42; Mθθ-0.02; Mφφ1.44; Mrθ-1.00; Mθφ-0.36; Mφr1.39; Fault plane solution: M₀2.26000×10¹⁴ NP1: φs150.00000°, δ70.00000°, λ-102.00000°. NP2:φs3.00000°, δ23.00000°, λ-59.00000°.*
ISC 25 17:52:05.7±1.1,**37°.39N**±0°.05×**144°.65E**±0°.08,**h35**km,**n31,** σ2ᵍ**31**/37,**mb3.5/3,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.69**	**291**	P	**Pn**	**17 52 47.0**	**+0.6**
JIKH				eS	**Sn**	**17 53 15.6**	**-2.1**
JIO	**Ouri**	**2.82**	**293**	P	**Pn**	**17 52 49.0**	**+0.7**
JIO				S	**Sn**	**17 53 19.2**	**-1.8**
JKMT	**Kesennumamotoy**	**2.88**	**301**	P	**Pn**	**17 52 49.8**	**+0.7**
JKMT				eS	**Sn**	**17 53 20.4**	**-2.1**
OFUJ	**Ofunato**	**2.89**	**307**	P	**Pn**	**17 52 50.2**	**+0.9**
OFUJ				eS	**Sn**	**17 53 21.0**	**-1.9**
JMK	**Ichinoseki**	**3.12**	**301**	P	**Pn**	**17 52 53.3**	**+0.9**
JMK				eS	**Sn**	**17 53 27.2**	**-1.3**
JOM	**Ohasama**	**3.36**	**309**	S	**Sn**	**17 53 33.1**	**-1.3**
JFT	**Otama**	**3.44**	**273**	P	**Pn**	**17 52 58.5**	**+1.7**
JYK	**Kaneyama**	**3.71**	**296**	P	**Pn**	**17 53 02.3**	**+1.7**
BSO1	**Boso 1**	**4.04**	**229**	P	**Pn**	**17 53 04.6**	**+0.1**
JRY	**Ryogami san**	**4.82**	**255**	P	**Pn**	**17 53 16.3**	**+0.5**
JRY				eS	**Sn**	**17 54 07.4**	**-3.0**
JOD2	**Odawara 2**	**4.97**	**246**	P	**Pn**	**17 53 18.1**	**+0.3**
JOD2				eS	**Sn**	**17 54 11.2**	**-2.8**
MJAR	**Matsushiro Arr**	**5.23**	**263**	Pn	**Pn**	**17 53 22.8**	**+1.4**
	0.5nm,0.3s,baz=86,slow=16,SNR=27						
MJAR				Sn	**Sn**	**17 54 21.2**	**+0.8**
	0.2nm,0.3s,baz=95,slow=28,SNR=5.8						
MJAR				LR	LR	17 56 11.8	
	comp=Z,53nm,18.0s,baz=60,slow=47						
MAT	**Matsushiro**	**5.23**	**263**	P	**Pn**	**17 53 23.1**	**+1.7**
MAT				S	**Sn**	**17 54 19.9**	**-0.6**
JKB	**Kayabe**	**5.29**	**329**	P	**Pn**	**17 53 24.2**	**+2.0**
JCH	**Churui**	**5.31**	**350**	P	**Pn**	**17 53 23.2**	**+0.7**
JHJ	**Hachijo jima 2**	**5.83**	**225**	Pn	**Pn**	**17 53 29.0**	**-0.7**
	6.7nm,0.3s,baz=141,slow=23,SNR=12						
JHJ				Sn	**Sn**	**17 54 29.7**	**-5.6**
	16nm,0.3s,baz=90,slow=21,SNR=7.6						
NEM2	**Nemuro 2**	**6.03**	**8**	P	**Pn**	**17 53 31.3**	**-1.0**
NEM2				eS	**Sn**	**17 54 34.6**	**-5.5**
JOSM	**Okushiri--Mats**	**6.16**	**321**	P	**Pn**	**17 53 36.1**	**+2.0**
JTKR	**Abashiri--Toko**	**6.60**	**355**	P	**Pn**	**17 53 40.8**	**+0.6**
JTKR				eS	**Sn**	**17 54 49.3**	**-4.9**
ASAJ	**Asahikawa**	**6.90**	**348**	Pn	**Pn**	**17 53 46.0**	**+1.6**
	1.0nm,0.3s,baz=204,slow=16,SNR=20						
ASAJ				Sn	**Sn**	**17 54 58.8**	**-2.7**
	0.4nm,0.3s,baz=218,slow=19,SNR=1.7						
JCJ	**Chichijima**	**10.47**	**192**	Pn	**Pn**	**17 54 30.3**	**-3.1**
	0.8nm,0.3s,baz=1.9,slow=19,SNR=11						
JCJ				Sn	Sn	17 56 16.9	-13
	1.6nm,0.3s,baz=315,slow=20,SNR=2.1						
KSRS	**Korea Array**	**13.30**	**275**	LR	LR	17 59 49.3	
	comp=Z,19nm,18.9s,baz=246,slow=35						
H11N2	**WAKE ISLAND Hy**	**26.18**	**126**	T	T	18 24 57.3	
	baz=317,slow=74,SNR=39						
H11N1	**WAKE ISLAND Hy**	**26.19**	**126**	T	T	18 24 52.9	
	baz=317,slow=74,SNR=17						
H11N3	**WAKE ISLAND Hy**	**26.20**	**126**	T	T	18 24 59.1	
	baz=317,slow=74,SNR=26						
H11S1	**WAKE ISLAND Hy**	**26.96**	**128**	T	T	18 25 55.2	
	baz=319,slow=76,SNR=2.7						
H11S3	**WAKE ISLAND Hy**	**26.98**	**128**	T	T	18 25 56.4	
	baz=319,slow=76,SNR=3.0						
H11S2	**WAKE ISLAND Hy**	**26.98**	**128**	T	T	18 25 52.9	
	baz=319,slow=76,SNR=6.3						
MKAR	**Makanchi Array**	**46.12**	**302**	P	**P**	**18 00 29.9**	**+3.4**
	0.3nm,0.7s,baz=79,slow=9.1,SNR=2.6						
WRA	**Warramunga Arr**	**57.84**	**191**	P	**P**	**18 01 55.7**	**+1.8**
	0.3nm,0.5s,baz=9.8,slow=7.1,SNR=5.7						
ASAR	**Alice Springs**	**61.56**	**191**	P	**P**	**18 02 20.5**	**+1.0**
	0.2nm,0.5s,baz=9.5,slow=6.8,SNR=5.5						

*IDC **25** 18:01:58.7±3.7, 4°.22N×126°.13E, h72km±32km, mb3.5/6, mb1 3.7/7, mb1mx3.4/39, mbtmp3.8/7, MS2.6/3, Ms1 2.6/3, ms1mx2.4/30, Error ellipse: s-maj=41.1km s-min=19.4km az=81.0*
*NEIC **25** 18:01:58.6±3.0, 4°.29N±0°.07×126°.3E±0°.1, h73km±4km, mb4.3/9, Error ellipse: s-maj=16.5km s-min=9.5km az=70.0*
*MAN **25** 18:01:59.2, 4°.74N×126°.17E, h9km, mb4.9, ML3.8, MS3.8*
ISC 25 18:01:58.1±0.7,**4°.36N**±0°.06×**126°.24E**±0°.09,**h73**km,**n30,** σ1ᵍ**76**/33,**mb4.0**/9,**1D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.81**	**343**	eP	**Pn**	**18 02 24.5**	**-2.8**
DDMP				eS	**Sn**	**18 02 44.4**	**-5.1**
MATI	**Mati**	**2.57**	**0**	eP	**Pn**	**18 02 38.2**	**+0.7**
SKMP	**Bagumbayan, Su**	**2.73**	**322**	eP	**Pn**	**18 02 38.5**	**-1.1**
SKMP				eS	**Sn**	**18 03 09.6**	**-2.1**
DAV	**Davao City (W)**	**2.77**	**346**	S	**Sn**	**18 03 15.0**	**+2.3**
	53nm,0.3s,baz=303,slow=5.6,SNR=3.7						
DAV				LR	LR	18 03 30.6	
	comp=Z,24nm,20.3s,baz=180,slow=32						
DAV	**Davao City (W)**	**2.77**	**346**		**Pn**	**18 02 40.6**	**+0.3**
KCP	**Kidapawan**	**2.87**	**337**	eP	**Pn**	**18 02 42.9**	**+1.3**
KCP				/ S	**Sn**	**18 03 17.

	4.4nm,0.4s,baz=291,slow=3.2,SNR=11						
URZ				S	**S**	18 25 23.7	**-10**
	4.9nm,0.8s,baz=30,slow=20,SNR=1.7						
URZ	**Urewera**	**21.70**	**198**	P	**P**	**18 21 38.7**	**-0.4**
URZ				IAmb	IAmb	18 22 06.5	
	comp=Z,32nm,1.5s						
BKZ	**Black Stump Fm**	**22.72**	**199**	P	**P**	**18 21 49.2**	**-0.7**
BKZ				IAmb	IAmb	18 22 08.2	
	comp=Z,30nm,1.5s						
WEL	**Wellington**	**25.19**	**199**	P	P	18 22 24.1	+12
QRZ	**Quartz Range**	**25.56**	**203**	P	**P**	**18 22 18.8**	**+2.9**
QRZ	**Quartz Range**	**25.56**	**203**	P	**P**	**18 22 16.4**	**+0.5**
TUWZ	**Tuamarina**	**25.59**	**201**	P	**P**	**18 22 17.0**	**+0.9**
THZ	**Tophouse**	**26.24**	**202**	P	**P**	**18 22 25.6**	**+3.5**
THZ	**Tophouse**	**26.24**	**202**	P	**P**	**18 22 23.5**	**+1.5**
KHZ	**Kahutara**	**26.60**	**200**	P	**P**	**18 22 26.9**	**+1.7**
KHZ	**Kahutara**	**26.60**	**200**	P	**P**	**18 22 24.5**	**-0.8**
KHZ				IAmb	IAmb	18 22 29.3	
	comp=Z,19nm,1.2s						
GVZ	**Greta Valley S**	**27.26**	**200**	P	P	18 22 38.4	+7.2
LTZ	**Lake Taylor**	**27.36**	**202**	P	**P**	**18 22 34.9**	**+2.8**
LTZ	**Lake Taylor**	**27.36**	**202**	P	**P**	**18 22 32.2**	**+0.1**
LTZ				IAmb	IAmb	18 22 38.4	
	comp=Z,20nm,1.4s						
INZ	**Inchbonnie**	**27.61**	**203**	P	**P**	**18 22 35.5**	**+1.3**
OXZ	**Oxford**	**27.92**	**201**	P	**P**	**18 22 41.4**	**+4.4**
OXZ	**Oxford**	**27.92**	**201**	P	**P**	**18 22 38.4**	**+1.4**
OXZ				IAmb	IAmb	18 22 48.8	
	comp=Z,19nm,1.5s						
MQZ	**McQueen's Vall**	**28.05**	**200**	P	P	18 22 43.8	+5.7
WVZ	**Waitaha Valley**	**28.17**	**203**	P	**P**	**18 22 43.3**	**+4.1**
RPZ	**Rata Peaks**	**28.61**	**202**	P	**P**	**18 22 43.6**	**+0.4**
	comp=Z,3.4nm,0.4s,baz=17,slow=4.6,SNR=12						
RPZ	**Rata Peaks**	**28.61**	**202**	P	P	18 22 48.1	+4.9
RPZ	**Rata Peaks**	**28.61**	**202**	P	**P**	**18 22 43.6**	**+0.4**
RPZ				IAmb	IAmb	18 22 57.6	
	comp=Z,10nm,1.2s						
FOZ	**Fox Glacier**	**28.92**	**204**	P	**P**	**18 22 50.0**	**+4.1**
FOZ	**Fox Glacier**	**28.92**	**204**	P	**P**	**18 22 46.9**	**+1.0**
FOZ				IAmb	IAmb	18 23 00.8	
	comp=Z,17nm,1.1s						
WHZ	**Wether Hill Ro**	**31.62**	**204**	P	**P**	**18 23 08.7**	**-1.0**
WHZ				IAmb	IAmb	18 23 10.9	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**42.03**	**242**	P	**P**	**18 24 37.6**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=83,slow=13,SNR=2.9						
BBOO	**Buckleboo**		**46.79**	**242**	P	**P**	**18 25 14.5**	**-1.6**
WR0	**Warramunga Arr**	**48.20**	**259**	P	**P**	**18 25 27.0**	**-0.2**
WR0				IAmb	IAmb	18 25 35.7	
	comp=Z,7.7nm,1.5s						
WB0	**Warramunga Arr**	**48.36**	**259**	P	**P**	**18 25 28.2**	**-0.2**
WB2	**Warramunga Arr**	**48.38**	**259**	P	**P**	**18 25 28.0**	**-0.5**
WRA	**Warramunga Arr**	**48.39**	**259**	P	**P**	**18 25 28.6**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=98,slow=7.0,SNR=42						
AS31	**Alice Springs**	**48.48**	**254**	P	**P**	**18 25 28.9**	**-0.4**
ASAR	**Alice Springs**	**48.48**	**254**	P	**P**	**18 25 29.4**	**+0.1**
	comp=Z,6.2nm,0.6s,baz=91,slow=8.2,SNR=78						
FITZ	**Fitzroy Crossi**		**56.79**	**260**	P	**P**	**18 26 30.6**	**-0.1**
QSPA	**South Pole Qui**		**72.26**	**180**	P	**P**	**18 28 11.7**	**+1.0**
NVAR	**Mina Array Bea**		**76.75**	**42**	P	**P**	**18 28 38.8**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=224,slow=9.0,SNR=13						
TXAR	**Lajitas Array**	**82.75**	**56**	P	**P**	**18 29 12.0**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=212,slow=6.8,SNR=3.5						
PDAR	**Pinedale Array**	**84.69**	**42**	P	**P**	**18 29 20.9**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=224,slow=3.8,SNR=5.3						
H03S2	**Juan Fernandez**	**84.69**	**124**	T	T	20 02 31.6	
	baz=249,slow=75,SNR=21						
H03S1	**Juan Fernandez**	**84.71**	**124**	T	T	20 02 32.7	
	baz=249,slow=75,SNR=20						
H03S3	**Juan Fernandez**	**84.71**	**124**	T	T	20 02 27.9	
	baz=249,slow=75,SNR=18						
ILAR	**Eielson Array**	**84.97**	**11**	P	**P**	**18 29 21.0**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=224,slow=5.7,SNR=5.2						
ABTX	**Abilene, Hawle**	**87.24**	**55**	P	**P**	**18 29 32.1**	**+0.2**
PB04	**IPOC Station P**	**95.89**	**116**		pP	18 30 33.9	-4.9
CLL	**Collm**	**146.05**	**352**	*e*PKiKP	**PKiKP**	**18 36 30.0**	**+2.2**

*IDC **25** 18:38:09.2±5.6,22.°88N×122.°33E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.2/34,mbtmp3.3/3,Error ellipse: s-maj=396.0km s-min=29.6km az=60.0*
*TAP **25** 18:38:26.9,22.°65N×121.°60E,h122km,ML3.8,C*
ISC 25 18:38:25.8±1.0,22.°64N±0.°03×121.°57E±0.°04,h132km±5km, n102,σ1s06/185,mb3.3/3,3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LDUT	**Ludao**	**0.10**	**291**	*e*P	**Pn**	**18 38 43.7**	**+0.1**
	baz=283						
LDUT				*e*S	**Sn**	**18 38 57.5**	**+0.3**
	baz=283						
TTN	**Taitung**	**0.41**	**287**	P	**Pn**	**18 38 45.7**	**+1.1**
	baz=274						
TTN				S	**Sn**	**18 39 00.4**	**+1.5**
	baz=274						
EDH	**Donghe**	**0.42**	**324**	P	**Pn**	**18 38 45.1**	**+0.4**
	baz=321						
EDH				*e*S	**Sn**	**18 38 58.6**	**-0.4**
	baz=321						
LONT	**Longtian**	**0.49**	**303**	P	**Pn**	**18 38 45.0**	**0.0**
	baz=291						
LONT				S	**Sn**	**18 38 59.0**	**-0.7**
	baz=291						
TWGBT	**Beinan**	**0.49**	**292**	P	**Pn**	**18 38 45.0**	**0.0**
	baz=282						
TWGBT				*e*S	**Sn**	**18 38 58.6**	**-1.0**
	baz=282						
TWG	**Pinlang**	**0.50**	**292**	*e*P	**Pn**	**18 38 45.1**	**0.0**
	baz=282						
TWG				*e*S	**Sn**	**18 38 58.6**	**-1.0**
	baz=282						
CHKT	**Chengkung**	**0.50**	**337**	*e*P	**Pn**	**18 38 45.5**	**+0.5**
	baz=343						
CHKT				*e*S	**Sn**	**18 38 59.8**	**+0.1**
	baz=343						
ECL	**Taimali**	**0.57**	**266**	*e*P	**Pn**	**18 38 45.4**	**-0.1**
	baz=261						
ECL				*e*S	**Sn**	**18 38 59.2**	**-1.2**
	baz=261						
LAY	**Lan-yu**	**0.59**	**182**	*e*P	**Pn**	**18 38 45.3**	**-0.4**
	baz=183						
LAY				*e*S	**Sn**	**18 38 59.5**	**-1.3**
	baz=183						
FULB	**Fuli**	**0.62**	**335**	P	**Pn**	**18 38 46.4**	**+0.5**
	baz=326						
FULB				S	**Sn**	**18 39 01.3**	**+0.2**
	baz=326						
TAW	**Tawu**	**0.69**	**246**	*e*P	**Pn**	**18 38 46.5**	**+0.3**
	baz=247						
TAW				*e*S	**Sn**	**18 39 00.9**	**-0.8**
	baz=247						
EAST	**Anshuo**	**0.72**	**250**	*e*P	**Pn**	**18 38 47.0**	**+0.5**
	baz=250						
EAST				*e*S	**Sn**	**18 39 02.9**	**+0.6**
	baz=250						
EYUL	**Yuli**	**0.75**	**342**	*e*P	**Pn**	**18 38 46.9**	**+0.2**
	baz=334						
EYUL				*e*S	**Sn**	**18 39 01.6**	**-1.0**
	baz=334						
ELDTW	**Lidau**	**0.75**	**317**	⇓*i*P	**Pn**	**18 38 47.3**	**+0.4**
	baz=310						
ELDTW				*e*S	**Sn**	**18 39 02.1**	**-0.8**
	baz=310						
TWF1	**Yuli**	**0.76**	**340**	⇓*i*P	**Pn**	**18 38 46.8**	**-0.1**
	baz=334						
TWF1				S	**Sn**	**18 39 00.9**	**-1.9**
	baz=334						
YULB	**Yu-li**	**0.80**	**341**	⇓*i*P	**Pn**	**18 38 47.0**	**-0.1**
	baz=340						
YULB				S	**Sn**	**18 39 01.8**	**-1.6**
	baz=340						
SLIU	**Shizi**	**0.83**	**240**	*e*P	**Pn**	**18 38 48.3**	**+0.9**
	baz=248						
SLIU				*e*S	**Sn**	**18 39 03.6**	**-0.1**
	baz=248						
TSMG	**Majia**	**0.86**	**275**	*e*P	**Pn**	**18 38 48.6**	**+1.0**
	baz=282						
TSMG				*e*S	**Sn**	**18 39 03.5**	**-0.7**
	baz=282						
HGSD	**Ruisui**	**0.86**	**351**	P	**Pn**	**18 38 48.3**	**+0.6**
	baz=344						
HGSD				S	**Sn**	**18 39 05.2**	**+0.9**
	baz=344						
MASBT	**Mashibuluo**	**0.87**	**269**	*e*P	**Pn**	**18 38 48.5**	**+0.8**
	baz=265						
SSD	**Sandimen**	**0.88**	**277**	*e*P	**Pn**	**18 38 48.8**	**+1.0**
	baz=285						
SSD				*e*S	**Sn**	**18 39 04.0**	**-0.5**
	baz=285						
EHY	**Hungye**	**0.90**	**345**	*e*P	**Pn**	**18 38 47.9**	**0.0**
	baz=341						
EHY				*e*S	**Sn**	**18 39 03.6**	**-1.2**
	baz=341						
STYT	**Tauyuan**	**0.92**	**305**	*e*P	**Pn**	**18 38 48.9**	**+0.7**
	baz=305						
STYT				*e*S	**Sn**	**18 39 05.1**	**-0.1**
	baz=305						
SCZT	**Fangliau**	**0.92**	**254**	*e*P	**Pn**	**18 38 48.9**	**+0.7**
	baz=254						
SCZT				*e*S	**Sn**	**18 39 04.3**	**-0.8**
	baz=254						
SLGT	**Liugui**	**0.93**	**293**	*e*P	**Pn**	**18 38 49.4**	**+1.2**
	baz=292						
SLGT				*e*S	**Sn**	**18 39 05.1**	**-0.2**
	baz=292						
SSPT	**Xinbi**	**0.94**	**261**	*e*P	**Pn**	**18 38 49.7**	**+1.4**
	baz=257						
SSPT				*e*S	**Sn**	**18 39 06.5**	**+1.1**
	baz=257						
TSEB	**Hengchuen, Pin**	**0.96**	**221**	*e*P	**Pn**	**18 38 49.7**	**+1.2**
	baz=230						
TSEB				*e*S	**Sn**	**18 39 06.9**	**+1.2**
	baz=230						
TWKBT	**Hengchun**	**0.99**	**226**	*e*P	**Pn**	**18 38 49.5**	**+0.8**
	baz=234						
TWKBT				*e*S	**Sn**	**18 39 06.2**	**0.0**
	baz=234						
TWK1	**Hengchun**	**0.99**	**226**	*e*P	**Pn**	**18 38 49.5**	**+0.8**
	baz=234						
TWK1				*e*S	**Sn**	**18 39 06.3**	**+0.1**
	baz=234						
HEN	**Hengchun**	**1.00**	**231**	*e*P	**Pn**	**18 38 49.6**	**+0.8**
	baz=231						
HEN				*e*S	**Sn**	**18 39 06.7**	**+0.4**
	baz=231						
SGLT	**Jiouru**	**1.00**	**275**	*e*S	**Sn**	**18 39 09.2**	**+2.8**
	baz=281						
SGST	**Jiashian**	**1.01**	**296**	*e*P	**Pn**	**18 38 49.0**	**0.0**
	baz=296						
SGST				*e*S	**Sn**	**18 39 04.7**	**-1.9**
	baz=296						
SCST	**Cishan**	**1.03**	**284**	*e*P	**Pn**	**18 38 50.7**	**+1.6**
	baz=290						
SCST				*e*S	**Sn**	**18 39 06.8**	**0.0**
	baz=290						
EGFH	**Guangfu**	**1.04**	**353**	*e*P	**Pn**	**18 38 49.5**	**+0.3**
	baz=346						
EGFH				*e*S	**Sn**	**18 39 06.5**	**-0.5**
	baz=346						
WTP	**Ta-pu**	**1.07**	**305**	*e*P	**Pn**	**18 38 50.4**	**+0.8**
	baz=296						
WTP				*e*S	**Sn**	**18 39 07.8**	**+0.1**
	baz=296						
TWM1	**Shoushan**	**1.08**	**280**	*e*P	**Pn**	**18 38 51.5**	**+1.9**
	baz=286						
TWM1				*e*S	**Sn**	**18 39 09.6**	**+1.8**
	baz=286						
TPUB	**Ta-pu**	**1.09**	**307**	*e*P	**Pn**	**18 38 50.3**	**+0.5**
	baz=299						
TPUB				*e*S	**Sn**	**18 39 06.7**	**-1.4**
	baz=299						
CHN1	**Nanshi**	**1.11**	**300**	*e*P	**Pn**	**18 38 50.6**	**+0.7**
	baz=299						
CHN1				*e*S	**Sn**	**18 39 08.0**	**-0.3**
	baz=299						
ALS	**Alishan**	**1.12**	**321**	P	**Pn**	**18 38 51.1**	**+0.7**
	baz=311						
ALS				*e*S	**Sn**	**18 39 08.7**	**-0.3**
	baz=311						
WLCH	**Liuqiu**	**1.14**	**256**	*e*P	**Pn**	**18 38 53.1**	**+2.9**
	baz=249						
WLCH				*e*S	**Sn**	**18 39 11.8**	**+3.1**
	baz=249						
SNJT	**Kaohsiung City**	**1.15**	**276**	*e*S	**Sn**	**18 39 10.0**	**+1.1**
	baz=283						
SNST	**Tainan City**	**1.15**	**301**	*e*P	**Pn**	**18 38 51.1**	**+0.8**
	baz=294						
SNST				*e*S	**Sn**	**18 39 08.6**	**-0.3**
	baz=294						
TWP	**Hsiaoliuchiu**	**1.16**	**256**	*e*P	**Pn**	**18 38 52.3**	**+1.9**
	baz=249						
TWP				*e*S	**Sn**	**18 39 11.6**	**+2.6**
	baz=249						
KAU	**Kaohsiung**	**1.17**	**267**	*e*S	**Sn**	**18 39 11.1**	**+1.8**
	baz=274						
ESL	**Shilin**	**1.18**	**354**	*e*P	**Pn**	**18 38 50.8**	**+0.2**
	baz=353						
ESL				*e*S	**Sn**	**18 39 08.7**	**-0.9**
	baz=353						
TWK	**Hsinying**	**1.18**	**302**	*e*P	**Pn**	**18 38 51.4**	**+0.7**
	baz=296						
TWK				*e*S	**Sn**	**18 39 09.1**	**-0.5**
	baz=296						
VWDT	**VWDT**	**1.18**	**340**	P	**Pn**	**18 38 52.1**	**+1.5**
	baz=342						
VWDT				*e*S	**Sn**	**18 39 10.0**	**+0.4**
	baz=342						
CHN3	**Shinhua**	**1.20**	**292**	*e*P	**Pn**	**18 38 52.6**	**+1.8**
	baz=297						
CHN3				*e*S	**Sn**	**18 39 11.9**	**+2.1**
	baz=297						
WHYT	**Xinyi Township**	**1.25**	**328**	*e*P	**Pn**	**18 38 52.0**	**+0.6**
	baz=319						
WHYT				*e*S	**Sn**	**18 39 10.4**	**-0.4**
	baz=319						
CHN5	**Tsauling**	**1.26**	**319**	*e*P	**Pn**	**18 38 52.3**	**+0.7**
	baz=312						
CHN5				*e*S	**Sn**	**18 39 10.4**	**-0.8**
	baz=312						
SSLB	**Suanglung**	**1.28**	**334**	P	**Pn**	**18 38 52.3**	**+0.6**
	baz=324						
SSLB				*e*S	**Sn**	**18 39 11.1**	**-0.4**
	baz=324						
CHY	**Chiayi**	**1.36**	**309**	*e*P	**Pn**	**18 38 52.9**	**+0.4**
	baz=309						
CHY				*e*S	**Sn**	**18 39 12.3**	**-0.6**
	baz=309						
SCLT	**Jiali**	**1.38**	**293**	P	**Pn**	**18 38 53.7**	**+1.0**
	baz=293						
SCLT				S	**Sn**	**18 39 13.9**	**+0.7**
	baz=293						
SMLT	**Sun Moon Lake**	**1.39**	**334**	*e*P	**Pn**	**18 38 53.6**	**+0.7**
	baz=325						
SMLT				*e*S	**Sn**	**18 39 13.5**	**-0.1**
	baz=325						
WGK	**Gukeng**	**1.40**	**319**	*e*P	**Pn**	**18 38 53.6**	**+0.8**
	baz=310						
WGK				*e*S	**Sn**	**18 39 13.9**	**+0.3**
	baz=310						
WJS	**Zhushan**	**1.41**	**327**	*e*P	**Pn**	**18 38 54.2**	**+1.1**
	baz=326						
WJS				*e*S	**Sn**	**18 39 14.1**	**+0.2**
	baz=326						
WDLH	**Douliu**	**1.42**	**318**	*e*P	**Pn**	**18 38 54.0**	**+0.9**
	baz=310						
WDLH				*e*S	**Sn**	**18 39 13.9**	**0.0**
	baz=310						
TYC	**Yuchr**	**1.42**	**333**	*e*P	**Pn**	**18 38 53.9**	**+0.7**
	baz=325						
TYC				*e*S	**Sn**	**18 39 14.0**	**-0.1**
	baz=325						
TWD	**Chiawan**	**1.44**	**1**	*e*P	**Pn**	**18 38 53.9**	**+0.6**
	baz=353						
TWD				*e*S	**Sn**	**18 39 14.1**	**-0.3**
	baz=353						
CHN8	**Yiju**	**1.44**	**300**	*e*P	**Pn**	**18 38 54.0**	**+0.7**
	baz=300						
CHN8				*e*S	**Sn**	**18 39 14.5**	**+0.2**
	baz=300						
CHGB	**Renai**	**1.47**	**346**	*e*P	**Pn**	**18 38 55.1**	**+1.3**
	baz=345						
CHGB				*e*S	**Sn**	**18 39 15.6**	**+0.3**
	baz=345						
WNT	**Mingjian**	**1.48**	**327**	*e*P	**Pn**	**18 38 54.8**	**+1.0**
	baz=319						
WNT				*e*S	**Sn**	**18 39 15.9**	**+0.7**
	baz=319						
WTK	**Tuku**	**1.51**	**314**	*e*P	**Pn**	**18 38 54.5**	**+0.4**
	baz=314						
WTK				*e*S	**Sn**	**18 39 15.0**	**-0.7**
	baz=314						
WHF	**Hehuan Shan**	**1.53**	**349**	*e*P	**Pn**	**18 38 55.8**	**+1.0**
	baz=355						
WHF				*e*S	**Sn**	**18 39 18.1**	**+1.1**
	baz=355						
NACB	**Ninganchiao**	**1.53**	**1**	*e*P	**Pn**	**18 38 54.6**	**+0.3**
	baz=350						
NACB				*e*S	**Sn**	**18 39 15.4**	**-0.8**
	baz=350						
ETLH	**Xiulin Townshi**	**1.57**	**357**	*e*P	**Pn**	**18 38 55.4**	**+0.5**
	baz=354						
ETLH				*e*S	**Sn**	**18 39 16.0**	**-1.1**
	baz=354						
WSF	**Szhu**	**1.59**	**309**	*e*P	**Pn**	**18 38 55.5**	**+0.4**
	baz=315						
WSF				*e*S	**Sn**	**18 39 17.1**	**-0.3**
	baz=315						
FUSS	**Fushou**	**1.63**	**349**	*e*P	**Pn**	**18 38 57.5**	**+1.7**
	baz=356						
FUSS				*e*S	**Sn**	**18 39 19.8**	**+1.1**
	baz=356						
TWT	**Tachien**	**1.65**	**347**	*e*P	**Pn**	**18 38 57.4**	**+1.5**
	baz=339						
TWT				*e*S	**Sn**	**18 39 20.6**	**+1.7**
	baz=339						
TDCB	**Techi**	**1.65**	**347**	*e*P	**Pn**	**18 38 57.2**	**+1.2**
	baz=339						
TDCB				*e*S	**Sn**	**18 39 20.5**	**+1.5**
	baz=339						
RLNB	**Erlin**	**1.68**	**318**	*e*P	**Pn**	**18 38 56.8**	**+0.8**
	baz=314						
RLNB				*e*S	**Sn**	**18 39 19.6**	**+0.5**
	baz=314						
WMLT	**Mailiao**	**1.70**	**313**	*e*S	**Sn**	**18 39 19.9**	**+0.2**
	baz=313						
WTCT	**Ta-ch'eng**	**1.71**	**316**	*e*S	**Sn**	**18 39 19.4**	**-0.3**
	baz=312						
WCHH	**Zhanghua**	**1.71**	**327**	*e*P	**Pn**	**18 38 57.7**	**+1.3**
	baz=320						
WCHH				*e*S	**Sn**	**18 39 20.4**	**+0.5**
	baz=320						
TCU	**Taichung**	**1.72**	**331**	*e*S	**Sn**	**18 39 21.1**	**+1.2**
	baz=323						
WHP	**Taichung City**	**1.73**	**341**	*e*P	**Pn**	**18 38 57.7**	**+0.9**
	baz=341						
WHP				*e*S	**Sn**	**18 39 21.5**	**+1.0**
	baz=341						
ENA	**Nanau**	**1.79**	**5**	*e*S	**Sn**	**18 39 21.3**	**-0.3**
	baz=11						
NNSB	**Datong**	**1.79**	**354**	*e*P	**Pn**	**18 38 58.8**	**+1.2**
	baz=357						
NNSB				*e*S	**Sn**	**18 39 21.9**	**0.0**
	baz=357						
NNSH	**Datong**	**1.79**	**354**	*e*P	**Pn**	**18 38 58.9**	**+1.4**
	baz=358						
NNSH				*e*S	**Sn**	**18 39 21.4**	**-0.4**
	baz=358						
NNS	**Nan Shan**	**1.81**	**354**	*e*P	**Pn**	**18 38 59.2**	**+1.6**
	baz=357						
NNS				*e*S	**Sn**	**18 39 22.5**	**+0.4**
	baz=357						
TWQ1	**Liyutan**	**1.86**	**337**	*e*S	**Sn**	**18 39 23.9**	**+0.9**
	baz=337						
WDGT	**Dungji**	**1.87**	**290**	*e*P	**Pn**	**18 38 58.4**	**+0.1**
	baz=290						
WDGT				*e*S	**Sn**	**18 39 21.6**	**-1.5**
	baz=290						
WDJ	**Dajia District**	**1.91**	**334**	*e*S	**Sn**	**18 39 24.8**	**+0.8**
	baz=344						
NDT	**Datong Townshi**	**1.96**	**358**	*e*P	**Pn**	**18 39 00.6**	**+1.2**
	baz=3.0						
NDT				*e*S	**Sn**	**18 39 25.4**	**+0.3**
	baz=3.0						
YHNB	**Yeheng**	**2.03**	**355**	*e*P	**Pn**	**18 39 02.1**	**+1.7**
	baz=355						
YHNB				*e*S	**Sn**	**18 39 27.8**	**+0.9**
	baz=355						
PHUB	**P'eng-hu**	**2.04**	**296**	*e*P	**Pn**	**18 39 00.3**	**0.0**
	baz=301						
PHUB				*e*S	**Sn**	**18 39 25.0**	**-1.8**
	baz=301						
NSTT	**Nanjuang**	**2.05**	**345**	*e*S	**Sn**	**18 39 27.1**	**0.0**
	baz=336						
VCHM	**Qimei**	**2.06**	**287**	*e*P	**Pn**	**18 39 00.5**	**0.0**
	baz=282						
VCHM				*e*S	**Sn**	**18 39 25.6**	**-1.6**
	baz=282						
LIOB	**Emei**	**2.06**	**346**	*e*P	**Pn**	**18 39 01.3**	**+0.6**
	baz=337						
PNG	**Penghu**	**2.08**	**297**	*e*P	**Pn**	**18 39 00.9**	**+0.1**
	baz=297						
PNG				*e*S	**Sn**	**18 39 26.1**	**-1.5**
	baz=297						
TWE	**Neicheng**	**2.08**	**2**	*e*P	**Pn**	**18 39 02.7**	**+1.9**
	baz=358						
TWE				*e*S	**Sn**	**18 39 28.6**	**+0.9**
	baz=358						
NWLT	**Wulai**	**2.13**	**358**	*e*P	**Pn**	**18 39 02.9**	**+1.4**
	baz=358						
NWLT				*e*S	**Sn**	**18 39 30.2**	**+1.2**
	baz=358						
YOJ	**Yonaguni jima**	**2.25**	**36**	*e*P	**Pn**	**18 39 04.1**	**+1.2**
	baz=41						
TIPB	**Shuangxi**	**2.34**	**6**	*e*P	**Pn**	**18 39 06.0**	**+2.0**
	baz=356						
TIPB				*e*S	**Sn**	**18 39 34.0**	**+0.5**
	baz=356						
YM01	**YM01**	**2.50**	**360**	*e*P	**Pn**	**18 39 08.1**	**+2.0**
VWUC	**VWUC**	**3.05**	**321**	*e*P	**Pn**	**18 39 12.8**	**-0.2**
	baz=321						
VWUC				*e*S	**Sn**	**18 39 47.8**	**-1.8**
	baz=321						
PTMZ	**Houxiangcun**	**3.28**	**317**	*e*S	**Sn**	**18 39 53.3**	**-1.7**
	baz=317						
PTTC	**Pingtan**	**3.29**	**330**	*e*P	**Pn**	**18 39 16.0**	**-0.3**
	baz=335						
PTTC				*e*S	**Sn**	**18 39 52.9**	**-2.4**
	baz=335						
ZPLA	**Ao Xicun**	**3.74**	**291**	*e*P	**Pn**	**18 39 22.2**	**+0.1**
	baz=291						
MKAR	**Makanchi Array**	**39.70**	**317**	P	**P**	**18 45 45.6**	**+0.6**
	0.3nm,0.5s,baz=110,slow=9.4,SNR=3.8						
WRA	**Warramunga Arr**	**44.12**	**163**	P	**P**	**18 46 19.5**	**-1.7**
	0.7nm,1.0s,baz=344,slow=8.6,SNR=5.8						
ASAR	**Alice Springs**	**47.56**	**165**	P	**P**	**18 46 47.2**	**-0.9**
	0.1nm,0.5s,baz=349,slow=7.0,SNR=1.6						

*IDC **25** 18:42:15.2±0.6,34.°33N×134.°88E,h0km,mb3.9/11, mb1 4.1/18,mb1mx3.9/46,mbtmp3.9/18,ML3.5/6,MS2.9/8, Ms1 3.0/8,ms1mx2.8/43,Error ellipse: s-maj=17.7km s-min=15.5km az=59.0*
*JMA **25** 18:42:16.3,34.°36N×134.°89E,h11km±1km,M4.2 Broadband fault plane solution: P waves. NP1: φs25.00000°,δ47.00000°,λ122.00000°. NP2: φs162.00000°,δ51.00000°,λ60.00000°. Principal axes: T Plg67.0000°, Azm8.0000°; N Plg23.0000°, Azm182.0000°; P Plg2.0000°, Azm273.0000°;*
JMA Felt III J1.
*NIED **25** 18:42:16.4,34.°37N×134.°89E,h11km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.62; Mθθ0.35; Mϕϕ -0.97; Mrθ0.48; Mϕϕ -0.18; Mϕr-0.45; Fault plane solution: M0 1.09000×10¹⁵ NP1: φs156.00000°,δ67.00000°,λ53.00000°. NP2:φs39.00000°, δ43.00000°,λ145.00000°.*
*NEIC **25** 18:42:19.3±1.7,34.°35N±0.°06×134.°93E±0.°06,h28km±6km, mb4.6/10 Error ellipse: s-maj=9.6km s-min=5.7km az=206.0*
ISC 25 18:42:16.7±1.5,34.°35N±0.°07×134.°92E±0.°05,h8km±8km, n41,σ0s94/46,mb4.2/18,2C,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAWN	**Awajishima-nag**	**0.14**	**353**	⇑P	**Pg**	**18 42 19.4**

MJB9	**Matsu-Tunnel**	**3.46**	**50**	Pn		**Pn**	**18 43 10.5**	**-0.3**
JNU	**Nakatsue**	**3.58**	**251**	Pn		**Pn**	**18 43 12.7**	**+0.1**
	4.8nm,0.3s,baz=92,slow=4.7,SNR=30							
JNU				Lg		Lg	18 44 09.2	
	3.5nm,0.3s,baz=341,slow=18,SNR=2.8							
JNU	**Nakatsue**	**3.58**	**251**			**Pn**	**18 43 13.0**	**+0.4**
JHJ	**Hachijo jima 2**	**4.23**	**105**	Pn		**Pn**	**18 43 22.4**	**+1.0**
	24nm,0.3s,baz=295,slow=12,SNR=12							
JHJ				Sn		**Sn**	**18 44 10.9**	**0.0**
	21nm,0.3s,baz=66,slow=23,SNR=7.1							
JHJ				LR		LR	18 44 47.9	
	comp=Z,102nm,21.2s,baz=308,slow=36							
JHJ2	**Mitsune**	**4.26**	**105**			**Pn**	**18 43 20.6**	**-1.2**
KSRS	**Korea Array**	**6.47**	**301**	Pn		**Pn**	**18 43 52.6**	**+0.5**
	1.2nm,0.3s,baz=117,slow=14,SNR=17							
KSRS				Sn		**Sn**	**18 45 04.4**	**-1.7**
	3.1nm,0.3s,baz=118,slow=24,SNR=22							
KSRS				LR		LR	18 46 17.3	
	comp=Z,89nm,19.9s,baz=136,slow=37							
KS19	**Wonju Array Si**	**6.53**	**301**	Pn		**Pn**	**18 43 52.5**	**-0.5**
USRK	**Ussuriysk Ar.**	**10.10**	**348**	Pn		**Pn**	**18 44 42.7**	**+0.8**
	baz=168,slow=12,SNR=2.1							
ASAJ	**Asahikawa**	**11.42**	**29**	Pn		**Pn**	**18 45 01.9**	**+1.9**
	0.4nm,0.3s,baz=236,slow=15,SNR=2.2							
ASAJ				LR		LR	18 49 43.5	
	comp=Z,79nm,18.7s,baz=280,slow=39							
KLR	**Kul'dur**	**15.06**	**352**	Pn		**Pn**	**18 45 50.9**	**+1.3**
	0.1nm,0.3s,baz=151,slow=9.7,SNR=5.7							
KLR				LR		LR	18 50 39.9	
	comp=Z,42nm,18.9s,baz=166,slow=34							
ENH	**Enshi**	**21.86**	**266**	P		**P**	**18 47 12.2**	**+2.5**
GUMO	**Guam**	**22.55**	**154**	LR		LR	18 54 33.0	
	comp=Z,11nm,18.2s,baz=68,slow=33							
SONM	**Songino Array**	**25.21**	**311**	P		**P**	**18 47 42.8**	**0.0**
	2.1nm,0.8s,baz=117,slow=9.9,SNR=11							
TLY	**Talaya**	**28.39**	**317**	LR		LR	19 00 25.0	
	comp=Z,28nm,19.7s,baz=152,slow=38							
CMAR	**Chiang Mai Arr**	**35.68**	**253**	LR		LR	19 04 52.5	
	comp=Z,79nm,18.4s,baz=290,slow=38							
MKAR	**Makanchi Array**	**41.14**	**304**	P		**P**	**18 50 01.2**	**0.0**
	0.4nm,0.8s,baz=90,slow=10,SNR=4.8							
KURK	**Kurchatov**	**43.50**	**310**	P		**P**	**18 50 19.2**	**-1.1**
KURBB	**Kurchatov Arra**	**43.56**	**310**	P		**P**	**18 50 19.5**	**-1.3**
	1.1nm,0.8s,baz=97,slow=8.3,SNR=14							
KK31	**Karatay Array**	**49.90**	**300**	P		**P**	**18 51 10.6**	**0.0**
KK31				IAmb		IAmb	18 51 11.5	
	comp=Z,3.3nm,0.8s							
KKAR	**Karatay Array**	**49.90**	**300**	P		**P**	**18 51 10.5**	**-0.1**
KKAR				IAmb		IAmb	18 51 11.5	
	comp=Z,3.3nm,0.8s							
MDM	**Murphy Dome**	**53.96**	**31**	P		**P**	**18 51 41.1**	**+0.6**
WRA	**Warramunga Arr**	**53.99**	**181**	P		**P**	**18 51 40.4**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=357,slow=7.7,SNR=18							
WRA				PcP		**PcP**	**18 52 46.2**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=356,slow=4.2,SNR=1.7							
IL31		**54.55**	**31**	P		**P**	**18 51 44.0**	**-0.8**
IL31				IAmb		IAmb	18 53 22.3	
	comp=Z,16nm,1.9s							
ILAR	**Eielson Array**	**54.55**	**31**	P		**P**	**18 51 44.0**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=263,slow=6.2,SNR=14							
HDA	**Harding Lake**	**54.56**	**31**	P		**P**	**18 51 43.8**	**-1.1**
HDA				IAmb		IAmb	18 52 53.7	
	comp=Z,11nm,1.6s							
ARU	**Arti**	**54.88**	**319**	P		**P**	**18 51 46.2**	**-1.0**
ARU				IAmb		IAmb	18 51 47.1	
	comp=Z,4.4nm,0.7s							
DOT	**Dot Lake**	**55.93**	**32**	P		**P**	**18 51 53.5**	**-1.4**
MENT	**Mentasta**	**56.20**	**33**	P		**P**	**18 51 56.0**	**-0.8**
MENT				IAmb		IAmb	18 53 03.5	
	comp=Z,16nm,1.7s							
ASAR	**Alice Springs**	**57.70**	**181**	P		**P**	**18 52 07.5**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=9.0,slow=12,SNR=9.0							
ASAR				PcP		**PcP**	**18 53 01.1**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=4.8,slow=3.0,SNR=4.7							
KBZ	**Khabaz**	**68.55**	**309**	P		**P**	**18 53 20.0**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=40,slow=2.2,SNR=5.2							
FINES	**FINESS Array B**	**68.65**	**331**	P		**P**	**18 53 22.4**	**+2.4**
	comp=Z,1.7nm,0.9s,baz=70,slow=6.4,SNR=4.3							
AKASG	**Malin Array Be**	**73.08**	**320**	P		**P**	**18 53 45.9**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=50,slow=5.3,SNR=5.0							
BRTR	**Keskin Array B**	**76.55**	**309**	P		**P**	**18 54 07.2**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=90,slow=3.7,SNR=6.7							
PDAR	**Pinedale Array**	**83.25**	**42**	P		**P**	**18 54 44.0**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=246,slow=3.8,SNR=4.3							
TXAR	**Lajitas Array**	**95.90**	**49**	P		**P**	**18 55 44.4**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=328,slow=3.2,SNR=2.5							
LPAZ	**La Paz**	**152.59**	**55**	PKPbc		**PKiKP**	**19 02 15.1**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=266,slow=6.0,SNR=3.7							

*NEIC **25** 18:53:30.6±0.9, 19°.07N±0°.09×66°.42W±0°.03, h35km±15km, Error ellipse: s-maj=13.4km s-min=3.9km az=185.0*
*RSPR **25** 18:53:31.2, 19°.13N×66°.43W, h31km,8km, MD2.8/11*
ISC 25 18:53:29.7±1.6, 19°.08N±0°.08×66°.42W±0°.03, h28km, n41, σ0^{s}36/45, 8C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.61**	**190**	⇓*eP*		**Pn**	**18 53 42.9**	**+0.4**
EMPR	**Esperanza - Ma**	**0.61**	**190**	*eS*		**Sn**	**18 53 51.8**	**+0.4**
EMPR	**Esperanza - Ma**	**0.61**	**190**			**Pn**	**18 53 42.9**	**+0.4**
AOPR	**Arecibo Observ**	**0.80**	**204**	⇑*eP*		**Pb**	**18 53 44.9**	**-0.1**
AOPR	**Arecibo Observ**	**0.80**	**204**	*eS*		**Sb**	**18 53 55.6**	**+0.2**
AOPR	**Arecibo Observ**	**0.80**	**204**			**Pb**	**18 53 45.0**	**-0.1**
AOPR	**Arecibo Observ**	**0.80**	**204**			**Sb**	**18 53 55.6**	**+0.2**
GCPR	**Guaynabo City**	**0.83**	**158**	Pn		**Pn**	**18 53 45.4**	**-0.1**
AGPR	**Aguadilla, PR**	**0.90**	**227**	⇑*eP*		**Pn**	**18 53 46.1**	**-0.3**
AGPR	**Aguadilla, PR**	**0.90**	**227**	*eS*		**Sb**	**18 53 57.7**	**-0.6**
AGPR	**Aguadilla, PR**	**0.90**	**227**			**Pn**	**18 53 46.0**	**-0.5**
AGPR	**Aguadilla, PR**	**0.90**	**227**			**Sb**	**18 53 57.7**	**-0.6**
CBYP	**Canovanas**	**0.96**	**147**	⇑*eP*		**Pn**	**18 53 47.5**	**+0.1**
CBYP	**Canovanas**	**0.96**	**147**	*eS*		**Sn**	**18 54 00.2**	**0.0**
CBYP	**Canovanas**	**0.96**	**147**			**Pn**	**18 53 47.5**	**+0.1**
CBYP						**Sn**	**18 54 00.2**	**0.0**
CELP	**Cerrillos**	**1.01**	**189**	⇑*eP*		**Pb**	**18 53 48.7**	**+0.1**
CELP	**Cerrillos**	**1.01**	**189**	*eS*		**Sb**	**18 54 01.9**	**+0.3**
CELP	**Cerrillos**	**1.01**	**189**			**Pb**	**18 53 48.7**	**+0.1**
CELP						**Sb**	**18 54 01.9**	**+0.3**
HUMP	**Col San Antoni**	**1.08**	**150**	⇑*eP*		**Pb**	**18 53 49.5**	**-0.2**
HUMP	**Col San Antoni**	**1.08**	**150**	*eS*		**Sn**	**18 54 03.2**	**+0.3**
HUMP	**Col San Antoni**	**1.08**	**150**			**Pn**	**18 53 49.2**	**+0.3**
HUMP	**Col San Antoni**	**1.08**	**150**			**Sn**	**18 54 03.2**	**+0.3**
LSP	**Las Mesas**	**1.10**	**215**	⇑*eP*		**Pb**	**18 53 49.8**	**-0.4**
LSP	**Las Mesas**	**1.10**	**215**	*eS*		**Sn**	**18 54 03.9**	**+0.3**
LSP	**Las Mesas**	**1.10**	**215**			**Pb**	**18 53 49.8**	**-0.4**
LSP						**Sn**	**18 54 03.9**	**+0.3**
IGPR	**InterUniversit**	**1.15**	**165**	⇑*eP*		**Pb**	**18 53 50.5**	**-0.4**
IGPR	**InterUniversit**	**1.15**	**165**	*eS*		**Sn**	**18 54 05.0**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.25**	**212**	⇑*eP*		**Pn**	**18 53 51.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.25**	**212**	*eS*		**Sn**	**18 54 07.0**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.25**	**212**			**Pn**	**18 53 51.5**	**+0.2**
MLPR	**Magueyes Islan**	**1.26**	**208**	⇓*eP*		**Pn**	**18 53 51.2**	**-0.2**
MLPR	**Magueyes Islan**	**1.26**	**208**	*eS*		**Sn**	**18 54 07.0**	**-0.3**
MLPR	**Magueyes Islan**	**1.26**	**208**			**Pn**	**18 53 51.0**	**-0.4**
MLPR	**Magueyes Islan**	**1.26**	**208**			**Sn**	**18 54 07.0**	**-0.3**
MTP	**Monte Pirata**	**1.27**	**140**	Pn		**Pn**	**18 53 51.7**	**+0.1**
CUPR	**Culebra, Puert**	**1.32**	**125**	⇓*eP*		**Pn**	**18 53 52.3**	**0.0**
CUPR	**Culebra, Puert**	**1.32**	**125**	*eS*		**Sn**	**18 54 09.0**	**0.0**
CUPR	**Culebra, Puert**	**1.32**	**125**			**Pn**	**18 53 52.8**	**+0.6**
CUPR						**Pb**	**18 53 53.6**	**-0.2**
STVI	**Saint Thomas**	**1.56**	**117**	Pn		**Pn**	**18 53 54.8**	**-0.8**
DR12	**Loma Pena Alta**	**2.82**	**265**	Pn		**Pn**	**18 54 13.8**	**+0.8**
SDDR	**Presa de Saban**	**4.61**	**270**	Pn		**Pn**	**18 54 38.1**	**+0.5**

*KRNET **25** 18:58:04.1±0.1, 39°.21N×77°.41E, mb2.9*
*NNC **25** 18:58:07.5±1.9, 39°.59N×77°.20E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=12.8km s-min=11.6km az=144.0*
*SOME **25** 18:58:07.7, 39°.62N×77°.22E, h5km*
ISC 25 18:58:04.0±2.6, 39°.5N±0°.1×77°.17E±0°.05, h10km, n35, σ1^{s}56/53, 10C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**2.63**	**0**	⇑*iP*		**Pg**	**18 58 53.8**	**-0.6**
KDJ	baz=57			⇑*iS*		**Sg**	**18 59 29.9**	**+1.4**
PRZ	**Przheval'sk**	**3.12**	**17**	⇑*iP*		**Pb**	**18 58 59.4**	**-0.4**
PRZ	baz=13			⇑*iS*		**Sg**	**18 59 40.7**	**-3.7**
ARLS	**Aral**	**3.20**	**318**	⇑*iP*		**Pb**	**18 59 02.8**	**+1.7**
	baz=19							
ARLS				⇑*iS*		**Sg**	**18 59 44.9**	**-2.0**
ANVS	**Anan'yevo**	**3.30**	**6**	⇓*iP*		**Pb**	**18 59 02.9**	**+0.1**
	baz=3.0							
ANVS				⇓*iS*		**Sb**	**18 59 46.0**	**+2.8**
	baz=3.0							
TNSS	**Tian-Shan**	**3.54**	**357**	*eP*		**Pg**	**18 59 11.7**	**-0.2**
	8.5nm,0.4s							
TNSS				*eS*		**Sg**	**18 59 57.7**	**0.0**
	15nm,0.4s							
TNSS	**Tian-Shan**	**3.54**	**357**	Pg		**Pg**	**18 59 11.2**	**-0.6**
	8.5nm,0.4s							
TNSS				Lg		Lg	18 59 57.7	
	15nm,0.4s							
IZV	**Izvestkoviy**	**3.56**	**353**	*eP*		**Pg**	**18 59 11.9**	**-0.3**
	2.5nm,0.3s							
IZV				*eS*		**Sg**	**18 59 58.8**	**+0.4**
	12nm,0.3s							
IZV	**Izvestkoviy**	**3.56**	**353**	Pg		**Pg**	**18 59 11.9**	**-0.3**
	2.5nm,0.3s							
IZV				Lg		Lg	18 59 58.8	
	12nm,0.3s							
TKM2	**Tokmak 2**	**3.62**	**341**	⇑Pg		**Pb**	**18 59 08.1**	**-0.2**
	1.0nm,0.4s							
TKM2				⇓Lg		Lg	18 59 59.3	
	6.5nm,0.8s							
KST	**Kastek**	**3.66**	**346**	*eP*		**Pg**	**18 59 13.6**	**-0.4**
	2.7nm,0.5s							
KST				*eS*		**Sg**	**19 00 01.6**	**+0.2**
	5.3nm,0.4s							
KST	**Kastek**	**3.66**	**346**	Pg		**Pg**	**18 59 13.6**	**-0.4**
	2.7nm,0.5s							
KST				Lg		Lg	19 00 01.6	
	5.3nm,0.4s							
MDOK	**Medeo**	**3.66**	**359**	*eP*		**Pg**	**18 59 13.6**	**-0.6**
	5.1nm,0.3s							
MDOK				*eS*		**Sg**	**19 00 01.3**	**-0.4**
	9.3nm,0.5s							
MDOK	**Medeo**	**3.66**	**359**	Pg		**Pg**	**18 59 11.9**	**-2.3**
	7.1nm,1.0s							
MDOK				Lg		Lg	19 00 01.2	
	15nm,1.0s							
MDOK	**Medeo**	**3.66**	**359**	Pg		**Pg**	**18 59 13.6**	**-0.6**
	5.1nm,0.3s							
MDOK				Lg		Lg	19 00 01.3	
	9.3nm,0.5s							
SATY	**Saty**	**3.68**	**14**	*eP*		**Pg**	**18 59 13.5**	**-1.0**
	7.1nm,0.3s							
SATY				*eS*		**Sg**	**19 00 01.2**	**-0.9**
	8.3nm,0.5s							
SATY	**Saty**	**3.68**	**14**	Pg		**Pg**	**18 59 13.5**	**-1.0**
	7.1nm,0.3s							
SATY				Lg		Lg	19 00 01.2	
	8.3nm,0.5s							
KOTS	**Kotyrbulak**	**3.73**	**359**	*eP*		**Pg**	**18 59 15.6**	**0.0**
	12nm,0.4s							
KOTS				*eS*		**Sg**	**19 00 04.5**	**+0.6**
	17nm,0.3s							
KOTS	**Kotyrbulak**	**3.73**	**359**	Pg		**Pg**	**18 59 15.6**	**0.0**
	12nm,0.4s							
KOTS				Lg		Lg	19 00 04.5	
	17nm,0.3s							
SHLS	**Shalkode**	**4.04**	**25**	*eP*		**Pg**	**18 59 23.3**	**+1.8**
	7.9nm,0.5s							
SHLS				*eS*		**Sg**	**19 00 17.6**	**+3.8**
	18nm,0.4s							
SHLS	**Shalkode**	**4.04**	**25**	Pg		**Pg**	**18 59 22.9**	**+1.4**
	7.9nm,0.5s							
SHLS				Lg		Lg	19 00 17.6	
	18nm,0.4s							
KURS	**Kuram**	**4.06**	**10**	*eP*		**Pg**	**18 59 20.7**	**-1.1**
KURS				*eS*		**Sg**	**19 00 13.1**	**-1.2**
	7.4nm,0.9s							
KURS	**Kuram**	**4.06**	**10**	Pg		**Pg**	**18 59 20.7**	**-1.1**
KURS				Lg		Lg	19 00 13.1	
	7.4nm,0.9s							
PDGK	**Podgornoye**	**4.21**	**24**	⇑Pg		**Pb**	**18 59 20.7**	**+2.5**
	2.4nm,0.5s							
PDGK				⇑Lg		Lg	19 00 16.8	
	9.7nm,0.6s							
KTBS	**Karatobe**	**4.23**	**355**	*eP*		**Pg**	**18 59 23.5**	**-1.4**
	1.4nm,0.4s							
KTBS				*eS*		**Sg**	**19 00 18.2**	**-1.5**
	16nm,0.4s							
KTBS	**Karatobe**	**4.23**	**355**	Pg		**Pg**	**18 59 23.1**	**-1.9**
	2.0nm,0.4s							
KTBS				Lg		Lg	19 00 18.2	
	16nm,0.4s							
CHKK	**Chushkaly**	**4.36**	**358**	*eP*		**Pg**	**18 59 26.2**	**-1.2**
	1.9nm,0.3s							
CHKK				*eS*		**Sg**	**19 00 22.6**	**-1.3**
	6.7nm,0.3s							
CHKK	**Chushkaly**	**4.36**	**358**	Pg		**Pg**	**18 59 26.2**	**-1.2**
	1.9nm,0.3s							
CHKK				Lg		Lg	19 00 22.6	
	6.7nm,0.3s							
MRKS	**Merke**	**4.40**	**319**	*eP*		**Pg**	**18 59 27.6**	**-0.8**
	0.7nm,0.2s							
MRKS				*eS*		**Sg**	**19 00 25.0**	**-0.4**
	3.3nm,0.6s							
KUU	**Kurty**	**4.43**	**352**	*eP*		**Pg**	**18 59 27.6**	**-1.3**
	2.1nm,0.6s							
KUU				*eS*		**Sg**	**19 00 25.2**	**-1.2**
	11nm,0.5s							
KUU	**Kurty**	**4.43**	**352**	Pg		**Pg**	**18 59 27.6**	**-1.3**
	2.1nm,0.6s							
KUU				Lg		Lg	19 00 25.2	
	11nm,0.5s							
KTMS	**Ketmen**	**4.61**	**30**	*eP*		**Pg**	**18 59 29.8**	**-2.6**
	0.3nm,0.2s							
KTMS				*eS*		**Sg**	**19 00 29.4**	**-2.8**
	5.7nm,0.5s							
KTMS	**Ketmen**	**4.61**	**30**	Pg		**Pg**	**18 59 29.4**	**-3.0**
	0.3nm,0.2s							
KTMS				Lg		Lg	19 00 29.4	
	5.7nm,0.5s							
ARXS	**Arharly**	**4.74**	**6**	*eP*		**Pg**	**18 59 33.0**	**-1.7**
	8.3nm,0.4s							
ARXS				*eS*		**Sg**	**19 00 34.4**	**-1.7**
	6.2nm,0.5s							
ARXS	**Arharly**	**4.74**	**6**	Pg		**Pg**	**18 59 33.0**	**-1.7**
	8.3nm,0.4s							
ARXS				Lg		Lg	19 00 34.4	
	6.2nm,0.5s							
KK31	**Karatay Array**	**6.17**	**308**	⇓Pg		**Pg**	**19 00 01.2**	**-1.0**
	0.1nm,0.3s							
KK31				⇑Lg		Lg	19 01 20.7	
	0.8nm,0.7s,baz=124,slow=29							

*SNET **25** 19:10:07.7±1.0, 13°.53N×90°.13W, h61km±12km, ML2.4*
*GCG **25** 19:10:08.1±0.6, 13°.41N×90°.21W, h42km±75km, MD3.7*
ISC 25 19:10:09.0±2.9, 13°.5N±0°.2×90°.09W±0°.09, h57km±23km, n12, σ0^{s}79/18, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.51**	**36**	⇓*eP*		**Pn**	**19 10 20.1**	**-0.9**
NUBE				*eS*		**Sn**	**19 10 29.6**	**-0.1**
NUBE				IAML			19 10 32.4	
	comp=Z,59nm,0.3s							
CEVE	**Cerro Verde**	**0.56**	**54**	⇑*eP*		**Pn**	**19 10 21.1**	**-0.6**
CEVE				*eS*		**Sn**	**19 10 31.8**	**+0.9**
CEVE				IAML			19 10 37.1	
	comp=Z,416nm,0.3s							
SBLS	**San Blas**	**0.57**	**53**	*eP*		**Pn**	**19 10 21.2**	**-0.6**
SBLS				*eS*		**Sn**	**19 10 31.6**	**+0.6**
RTR	**El Retiro**	**0.59**	**47**	*eP*		**Pn**	**19 10 21.4**	**-0.6**
RTR				*eS*		**Sn**	**19 10 32.6**	**+1.2**
SNJE	**San Jose**	**0.60**	**52**	*eP*		**Pn**	**19 10 21.6**	**-0.5**
IXG	**Ixpaco**	**0.76**	**333**	*eP*		**Pn**	**19 10 23.3**	**-0.7**
TACO	**Tacachico**	**0.86**	**56**	*eP*		**Pn**	**19 10 24.4**	**-0.7**
TACO				*eS*		**Sn**	**19 10 37.4**	**+0.4**
LFRS	**El Faro**	**1.01**	**83**	*eP*		**Pn**	**19 10 27.2**	**+0.1**
PCG	**Pacaya**	**1.02**	**331**	*eS*		**Sn**	**19 10 42.5**	**+1.3**
NBG	**Las Nubes**	**1.12**	**347**	*eP*		**Pn**	**19 10 29.0**	**+0.2**
MTO3	**Montecristo**	**1.15**	**38**	⇓*iP*		**Pn**	**19 10 28.0**	**-1.0**
FUG	**Fuego 3**	**1.20**	**323**	*eP*		**Pn**	**19 10 29.3**	**-0.4**
FUG				*eS*		**Sn**	**19 10 45.0**	**-0.1**

*SKHL **25** 19:13:02.8±0.4, 43°.17N×146°.24E, h28km±1km, mb3.7/1*
*JMA **25** 19:13:02.2±0.2, 43°.11N×146°.15E, h43km±1km, M2.8*
ISC 25 19:13:00.3±2.7, 43°.12N±0°.08×146°.2E±0°.1, h16km±10km, n12, σ0^{s}44/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.39**	**310**	P		**Pn**	**19 13 11.6**	**+0.5**
NEM2				*eS*		**Sn**	**19 13 18.5**	**+0.4**
NMR	**Nemuro--Hokkai**	**0.40**	**309**	*i* P		**Pn**	**19 13 11.7**	**+0.4**
NMR				*i* S		**Sn**	**19 13 18.5**	**+0.1**
JKHN	**Kushirohamanak**	**0.72**	**267**	P		**Pn**	**19 13 16.1**	**+0.3**
GRPR	**Tuman**	**0.91**	**343**	*eP*		**Pn**	**19 13 18.3**	**-0.1**
GRPR				*i* S		**Sg**	**19 13 30.0**	**-0.1**
GRPR				A		A	19 13 30.0	
	410nm,0.3s							
GRPR				A		A	19 13 30.0	
	180nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**0.94**	**347**	*i* P		**Pn**	**19 13 18.7**	**0.0**
YUK				AMB		AMB	19 13 20.0	
	60nm,0.4s							
YUK				*i* S		**Sb**	**19 13 30.2**	**-0.1**
YUK				A		A	19 13 34.0	
	260nm,0.2s							
YUK				A		A	19 13 34.0	
	110nm,0.2s							
JNSB	**Nemuroshibetsu**	**1.06**	**309**	P		**Pg**	**19 13 20.8**	**0.0**
JNSB				*eS*		**Sn**	**19 13 34.7**	**-0.1**
JAK	**Akkeshi**	**1.07**	**264**	P		**Pg**	**19 13 20.8**	**-0.2**
JAK				*eS*		**Sn**	**19 13 34.7**	**-0.4**
JRA	**Rausu**	**1.11**	**318**	P		**Pg**	**19 13 21.9**	**+0.2**
JRA				*eS*		**Sg**	**19 13 36.2**	**0.0**
JNK	**Nakash**	**1.14**	**295**	P		**Pb**	**19 13 21.9**	**+0.3**
JNK				*eS*		**Sb**	**19 13 36.1**	**-0.1**
JOB	**Onbets**	**1.71**	**264**	P		**Pn**	**19 13 29.8**	**+0.5**
JAR	**Ashorobuto**	**1.75**	**277**	P		**Pn**	**19 13 30.7**	**+0.8**
JAR				*eS*		**Sb**	**19 13 52.6**	**-1.0**
JTKR	**Abashiri--Toko**	**1.84**	**298**	P		**Pb**	**19 13 32.9**	**-0.5**

*IDC **25** 19:26:12.8±1.1, 14°.89S×173°.71W, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.8/33, mbtmp4.0/5, ML4.5/1, MS3.6/8, Ms1 3.6/8, ms1mx3.1/49, Error ellipse: s-maj=54.9km s-min=22.1km az=149.0*
*NEIC **25** 19:26:16.4±0.5, 14°.8S±0°.1×173°.64W±0°.09, h32km±6km, mb4.6/9, Error ellipse: s-maj=18.6km s-min=12.8km az=177.0*
ISC 25 19:26:14.8±0.7, 14°.81S±0°.09×173°.39W±0°.07, h30km, n33, σ1^{s}63/21, mb4.2/7, MS3.9/7, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.80**	**60**	Pn		**Pb**	**19 26 47.7**	**+0.5**
	139nm,0.3s,baz=243,slow=4.5,SNR=62							
AFI				Sn		**Sb**	**19 27 08.0**	**-1.4**
	490nm,0.3s,baz=266,slow=19,SNR=41							
AFI				LR		LR	19 27 44.7	
	comp=Z,247nm,20.2s,baz=204,slow=44							
AFI	**Afiamalu**	**1.80**	**60**			**Pb**	**19 26 47.9**	**+0.7**
AFI						**Sb**	**19 27 07.6**	**-1.7**
NIUE	**Niue**	**5.38**	**143**	Pn		**Pn**	**19 27 31.9**	**-1.2**
FUNA	**Funafuti**	**9.58**	**310**	Pn		**Pn**	**19 28 29.4**	**-1.3**
KNTN	**Kanton**	**12.07**	**8**	Pn		**Pn**	**19 29 07.4**	**+2.5**
URZ	**Urewera**	**24.82**	**198**	P		**P**	**19 31 35.5**	**+1.2**
	4.0nm,0.7s,baz=45,slow=5.7,SNR=1.5							
URZ				LR		LR	19 39 42.8	
	comp=Z,149nm,18.1s,baz=11,slow=33							
URZ	**Urewera**	**24.82**	**198**	P		**P**	**19 31 35.2**	**+0.8**
BHW	**Baring Head**	**28.39**	**199**	P		**P**	**19 32 07.8**	**+1.4**
QRZ	**Quartz Range**	**28.68**	**203**	P		**P**	**19 32 08.9**	**-0.1**
NNZ	**Nelson**	**28.71**	**201**	P		**P**	**19 32 12.4**	**+3.1**
WHZ	**Wether Hill Ro**	**34.74**	**203**	P		**P**	**19 33 03.1**	**+0.9**
H11S2	**WAKE ISLAND Hy**	**38.47**	**329**	T		T	20 14 23.9	
	baz=146,slow=76,SNR=7.0							
H11S3	**WAKE ISLAND Hy**	**38.48**	**329**	T		T	20 14 19.5	
	baz=146,slow=76,SNR=7.1							
H11S1	**WAKE ISLAND Hy**	**38.48**	**329**	T		T	20 14 25.6	
	baz=146,slow=76,SNR=7.3							
H11N3	**WAKE ISLAND Hy**	**39.41**	**330**	T		T	20 15 40.3	
	baz=148,slow=76,SNR=4.7							
H11N1	**WAKE ISLAND Hy**	**39.41**	**330**	T		T	20 16 00.3	
	baz=148,slow=76,SNR=5.4							
H11N2	**WAKE ISLAND Hy**	**39.43**	**330**	T		T	20 15 36.1	
	baz=148,

EORO	**Oroz-Betelu**	**2.08**	**124**	P	Pb	19 49 14.4	-1.5
	0.2nm,0.1s,SNR=7.9						
EORO				S	Sn	19 49 36.9	-1.2
	3.2nm,0.3s,SNR=7.9						
ATE	**Arette**	**2.36**	**114**	S	Sn	19 49 47.1	+2.0
	0.9nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**2.54**	**116**	*e*Pn	Pn	19 49 18.2	-0.9
ETSF				*e*Sn	Sn	19 49 47.0	-2.6
	1.3nm,0.2s						
ETSF	**Etsaut**	**2.54**	**116**	P	Pn	19 49 18.2	-0.9
ETSF				S	Sn	19 49 47.0	-2.6
	0.6nm,0.2s						
EPON	**Pontenova**	**2.64**	**255**	P	Pn	19 49 20.8	+0.3
	0.3nm,0.1s,SNR=7.9						
EPON				S	Sn	19 49 49.0	-3.0
	3.3nm,0.3s,SNR=7.9						
EPF	**Esparros**	**3.09**	**108**	*e*Pn	Pn	19 49 25.9	-0.7
EPF				*e*Sn	Sn	19 50 00.4	-2.7
	0.6nm,0.3s						
EPF	**Esparros**	**3.09**	**108**	P	Pn	19 49 25.9	-0.7
EPF				S	Sn	19 50 00.4	-2.7
	0.3nm,0.3s						
ECAL	**Calabor**	**3.10**	**228**	S	Sn	19 50 00.5	-3.1
	8.0nm,0.3s,SNR=7.9						
ECHI	**Chisagues Biel**	**3.14**	**115**	S	Sn	19 50 04.1	-0.4
	0.7nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**3.20**	**226**	S	Sn	19 50 01.5	-4.5
	0.8nm,0.3s						
PBRG	**Braganca**	**3.20**	**226**	*e*Sn	Sn	19 50 01.5	-4.5
PBRG				A	A	19 50 02.6	
	1.6nm,0.3s						
LFF	**La Frestale**	**3.26**	**73**	*e*Pn	Pn	19 49 28.1	-0.9
LFF	**La Frestale**	**3.26**	**73**	*e*Pg	Pg	19 49 40.0	-1.3
LFF				*e*Sn	Sn	19 50 03.9	-3.4
	1.7nm,0.3s						
LFF	**La Frestale**	**3.26**	**73**	P	Pn	19 49 28.1	-0.9
LFF				Pg	Pg	19 49 40.0	-1.3
LFF				S	Sn	19 50 03.9	-3.4
	0.9nm,0.3s						
ETOR	**Torete**	**3.46**	**159**	S	Sn	19 50 08.7	-3.6
	2.0nm,0.2s,SNR=7.9						
MFF	**Saint Martin d**	**3.54**	**43**	*e*Pn	Pn	19 49 32.0	-0.8
MFF				*e*Sn	Sn	19 50 11.7	-2.4
	3.0nm,0.3s						
MFF	**Saint Martin d**	**3.54**	**43**	P	Pn	19 49 32.0	-0.8
MFF				S	Sn	19 50 11.7	-2.4
	1.5nm,0.3s						
MVO	**Moncorvo**	**3.83**	**222**	*e*Sn	Sn	19 50 17.0	-4.3
QUIF	**Quistinic**	**3.86**	**5**	*e*Pn	Pn	19 49 36.4	-0.8
QUIF				*e*Sn	Sn	19 50 18.4	-3.6
	1.0nm,0.4s						
QUIF	**Quistinic**	**3.86**	**5**	P	Pn	19 49 36.4	-0.8
QUIF				S	Sn	19 50 18.4	-3.6
	0.5nm,0.4s						
CSOR	**Sort**	**3.89**	**114**	P	Pn	19 49 35.5	-2.2
	0.2nm,0.1s,SNR=7.9						
CSOR				S	Sn	19 50 21.4	-1.6
	0.6nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.89**	**70**	*e*Pn	Pn	19 49 36.3	-1.3
RJF	**Les Rejaudoux**	**3.89**	**70**	*e*Pg	Pg	19 49 50.8	-2.4
RJF				*e*Sn	Sn	19 50 19.1	-3.7
	2.2nm,0.2s						
RJF	**Les Rejaudoux**	**3.89**	**70**	P	Pn	19 49 36.3	-1.3
RJF				Pg	Pg	19 49 50.8	-2.4
RJF				S	Sn	19 50 19.1	-3.7
	1.1nm,0.2s						
PGAV	**Gavieira, Arco**	**3.98**	**240**	S	Sn	19 50 20.4	-4.9
PGAV	**Gavieira, Arco**	**3.98**	**240**	*e*Sn	Sn	19 50 20.4	-4.9
CAF	**Calviac**	**4.18**	**76**	*e*Pn	Pn	19 49 40.2	-1.4
CAF				*e*Sn	Sn	19 50 24.8	-5.2
	1.1nm,0.3s						
CAF	**Calviac**	**4.18**	**76**	P	Pn	19 49 40.2	-1.4
CAF				S	Sn	19 50 24.8	-5.2
	0.6nm,0.3s						
ROSF	**Rostrenen**	**4.27**	**3**	*e*Pn	Pn	19 49 41.6	-1.3
ROSF				*e*Sn	Sn	19 50 28.1	-4.1
	2.6nm,0.3s						
ROSF	**Rostrenen**	**4.27**	**3**	P	Pn	19 49 41.6	-1.3
ROSF				S	Sn	19 50 28.1	-4.1
	1.3nm,0.3s						
MTLF	**Montolieu**	**4.32**	**98**	*e*Pn	Pn	19 49 43.2	-0.3
MTLF				*e*Sn	Sn	19 50 29.2	-4.2
	0.5nm,0.3s						
MTLF	**Montolieu**	**4.32**	**98**	P	Pn	19 49 43.2	-0.3
MTLF				S	Sn	19 50 29.2	-4.2
	0.2nm,0.3s						
TCF	**Toulx Ste Croi**	**4.70**	**60**	*e*Pn	Pn	19 49 47.1	-1.7
TCF				*e*Sn	Sn	19 50 38.3	-4.6
	3.8nm,0.3s						
TCF	**Toulx Ste Croi**	**4.70**	**60**	P	Pn	19 49 47.1	-1.7
TCF				S	Sn	19 50 38.3	-4.6
	1.9nm,0.3s						
GRR	**Gorron**	**4.73**	**23**	*e*Pn	Pn	19 49 47.4	-1.8
GRR				*e*Sn	Sn	19 50 39.0	-4.6
	1.4nm,0.3s						
GRR	**Gorron**	**4.73**	**23**	P	Pn	19 49 47.4	-1.8
GRR				S	Sn	19 50 39.0	-4.6
	0.7nm,0.3s						
CFON	**Fontmartina**	**5.03**	**115**	S	Sn	19 50 47.7	-3.4
	SNR=7.9						
LDF	**La Druitiere**	**5.14**	**27**	*e*Sn	Sn	19 50 48.4	-5.2
	0.2nm,0.2s						
LASF	**Ste Croix**	**5.41**	**87**	*e*Pn	Pn	19 49 57.3	-1.3
LASF				*e*Sn	Sn	19 50 56.3	-4.1
	1.2nm,0.3s						
LASF	**Ste Croix**	**5.41**	**87**	P	Pn	19 49 57.3	-1.3
LASF				S	Sn	19 50 56.3	-4.1
	0.6nm,0.3s						
AVF	**Avril sur Loir**	**5.63**	**59**	*e*Pn	Pn	19 50 00.1	-1.4
AVF				*e*Sn	Sn	19 51 00.7	-5.0
	1.7nm,0.5s						
AVF	**Avril sur Loir**	**5.63**	**59**	P	Pn	19 50 00.1	-1.4
AVF				S	Sn	19 51 00.7	-5.0
	0.9nm,0.5s						
SSF	**Saint Saulge**	**5.85**	**57**	*e*Sn	Sn	19 51 03.7	-7.4
SSF	**Saint Saulge**	**5.85**	**57**	S	Sn	19 51 03.7	-7.4
VIVF	**Saint-Julien-l**	**6.01**	**80**	*e*Sn	Sn	19 51 08.1	-7.1
VIVF	**Saint-Julien-l**	**6.01**	**80**	S	Sn	19 51 08.1	-7.1
LOR	**Lormes**	**6.16**	**56**	*e*Sn	Sn	19 51 12.5	-6.2
LOR	**Lormes**	**6.16**	**56**	S	Sn	19 51 12.5	-6.2

MAN ***25*** *19:50:28.4,5°.93N×125°.83E,h142km,mb4.7,ML3.6, MS3.5*
IDC ***25*** *19:50:29.2±1.1,5°.93N×125°.62E,h147km±29km,mb3.5/4, mb1 3.7/4,mb1mx3.1/55,mbtmp3.9/4,Error ellipse: s-maj=99.6km s-min=45.8km az=82.0*
ISC 25 19:50:29.2±0.9,5°.94N±0°.10×125°.8E±0°.1,h144km±9km, n10,σ0965/16,mb3.8/4,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.21**	**324**	*e*P	**Pn**	**19 50 48.4**	**-0.4**
DDMP				*e*S	**Sn**	**19 51 04.4**	**+0.7**
MATI	**Mati**	**1.09**	**23**	*e*P	**Pn**	**19 50 53.3**	**-0.9**
MATI				*e*S	**Sn**	**19 51 13.2**	**-0.2**
DAV	**Davao City (W)**	**1.16**	**347**	P	**Pn**	**19 50 54.7**	**-0.1**
	61nm,0.3s,baz=238,slow=6.3,SNR=9.8						
DAV				S	**Sn**	**19 51 14.9**	**+0.5**
	71nm,0.3s,baz=271,slow=22,SNR=2.0						
KCP	**Kidapawan**	**1.30**	**325**	||*i*P	**Pn**	**19 50 56.4**	**+0.2**
SKMP	**Bagumbayan, Su**	**1.41**	**294**	*e*P	**Pn**	**19 50 56.0**	**-1.3**
SKMP				*e*S	**Sn**	**19 51 19.1**	**+0.3**
BUKP	**Musuan**	**2.08**	**338**	*e*P	**Pn**	**19 51 04.7**	**-0.2**
BUKP				*e*S	**Sn**	**19 51 32.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**23.88**	**180**	P	**P**	**19 55 30.0**	**+0.3**
	1.1nm,0.4s,baz=9.9,slow=8.1,SNR=12						
WRA	**Warramunga Arr**	**27.04**	**162**	P	**P**	**19 55 57.7**	**-0.5**
	0.6nm,0.4s,baz=339,slow=10,SNR=27						
ASAR	**Alice Springs**	**30.46**	**165**	P	**P**	**19 56 28.6**	**+0.1**
	1.2nm,0.4s,baz=338,slow=7.3,SNR=34						
ASAR				PcP	**PcP**	**19 59 23.8**	**-0.7**
	0.2nm,0.4s,baz=339,slow=2.8,SNR=2.1						
STKA	**Stephens Creek**	**40.49**	**159**	P	**P**	**19 57 54.6**	**+0.6**
	2.1nm,0.5s,baz=333,slow=9.0,SNR=6.6						

JMA ***25*** *19:51:01.4,39°.76N×141°.83E,h58km±1km,M3.8 Broadband fault plane solution: P waves. NP1: φs200.00000°,δ20.00000°,λ88.00000°. NP2:φs23.00000°, δ70.00000°,λ91.00000°. Principal axes: T Plg65.0000°, Azm294.0000°; N Plg1.0000°, Azm202.0000°; P Plg25.0000°, Azm112.0000°;*

JMA Felt II J1.
NIED ***25*** *19:51:01.4,39°.76N×141°.83E,h58km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr0.87; Mθθ-0.14; Mφφ-0.73; Mrθ0.45; Mθφ-0.21; Mrφ0.78; Fault plane solution: M0 1.22000×10 15 NP1:φs26.00000°, δ69.00000°,λ96.00000°. NP2:φs191.00000°,δ22.00000°, λ76.00000°.*
IDC ***25*** *19:51:02.8±2.0,39°.75N×141°.79E,h75km±18km,mb3.6/18, mb1 3.8/22,mb1mx3.6/68,mbtmp4.0/22,MS2.7/9, Ms1 2.8/9,ms1mx2.6/46 Error ellipse: s-maj=19.8km s-min=13.2km az=101.0*
NEIC ***25*** *19:51:02.1±1.0,39°.75N±0°.07×141°.8E±0°.1,h70km±5km, mb4.5/17,Error ellipse: s-maj=13.2km s-min=9.1km az=112.0*
ISC 25 19:51:01.2±0.7,39°.75N±0°.03×141°.86E±0°.06,h60km±5km, n69,σ1909/74,mb4.2/25,3C-9D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.17**	**190**	||P	**Pn**	**19 51 10.7**	**+0.2**
MIYJ					S	**Sn**	**19 51 17.1**	**-0.1**
JTH	**Tanohata**	**0.19**	**1**	||P	**Pn**	**19 51 10.7**	**+0.1**
JTH					S	**Sn**	**19 51 17.2**	**-0.2**
JKZ	**Kuzumaki**	**0.47**	**300**	||P	**Pn**	**19 51 12.9**	**0.0**
JKZ					S	**Sn**	**19 51 20.8**	**-0.6**
JKEN	**Kujiedanarisaw**	**0.47**	**346**	||P	**Pn**	**19 51 12.7**	**-0.1**
JKEN					S	**Sn**	**19 51 20.9**	**-0.4**
JOM	**Ohasama**	**0.52**	**238**	||P	**Pn**	**19 51 13.2**	**-0.1**
JOM					S	**Sn**	**19 51 21.6**	**-0.5**
JANG	**Nango**	**0.68**	**337**	||P	**Pn**	**19 51 14.8**	**-0.4**
JANG					S	**Sn**	**19 51 24.5**	**-0.9**
JMK	**Ichinoseki**	**0.94**	**212**	||P	**Pn**	**19 51 18.3**	**-0.1**
JMK					S	**Sn**	**19 51 30.6**	**-0.5**
JRG	**Rokugo**	**1.01**	**250**	||P	**Pn**	**19 51 19.1**	**-0.2**
JAH	**Hinai**	**1.04**	**296**	||P	**Pn**	**19 51 19.6**	**-0.1**
JAH					S	**Sn**	**19 51 33.8**	**+0.4**
JTM	**Tenmabayashi**	**1.20**	**330**	||P	**Pn**	**19 51 21.7**	**-0.2**
JTM					S	**Sn**	**19 51 36.7**	**-0.6**
JIO	**Ouri**	**1.35**	**197**	||P	**Pn**	**19 51 23.9**	**0.0**
JIO				*e*S	**Sn**	**19 51 40.1**	**-0.7**
JYK	**Kaneyama**	**1.43**	**235**	||P	**Pn**	**19 51 24.9**	**0.0**
JYK				*e*S	**Sn**	**19 51 41.9**	**-0.8**
ERM	**Erimo**	**2.47**	**23**		**Pn**	**19 51 39.9**	**+0.9**
MAJO	**Matsushiro**	**4.30**	**223**		**Pn**	**19 52 05.0**	**+0.9**
MAT	**Matsushiro**	**4.30**	**223**	P	**Pn**	**19 52 05.3**	**+1.2**
MAT				*e*S	**Sn**	**19 52 55.5**	**+2.4**
MJAR	**Matsushiro Arr**	**4.30**	**223**	P	**Pn**	**19 52 06.5**	**+2.4**
	0.3nm,0.3s,baz=31,slow=13,SNR=18						
MJAR				LR	LR	19 54 02.9	
	comp=Z,62nm,18.1s,baz=250,slow=42						
ASAJ	**Asahikawa**	**4.40**	**7**	P	**Pn**	**19 52 06.0**	**+0.6**
	1.5nm,0.3s,baz=225,slow=9.8,SNR=22						
ASAJ				S	**Sn**	**19 52 57.2**	**+1.9**
	2.9nm,0.3s,baz=180,slow=20,SNR=1.6						
ASAJ				LR	LR	19 54 31.3	
	comp=Z,27nm,19.6s,baz=187,slow=47						
JKA	**Kamikawa-asahi**	**4.40**	**7**	Pn	**Pn**	**19 52 05.7**	**+0.3**
JHJ	**Hachijo jima 2**	**6.82**	**195**	P	**Pn**	**19 52 40.5**	**+1.8**
	1.9nm,0.3s,baz=107,slow=19,SNR=2.2						
JHJ				S	**Sn**	**19 53 50.6**	**-4.3**
	2.8nm,0.3s,baz=49,slow=19,SNR=1.7						
JHJ2	**Mitsune**	**6.82**	**195**	Pn	**Pn**	**19 52 38.6**	**0.0**
USRK	**Ussuriysk Ar.**	**8.59**	**304**	P	**Pn**	**19 53 04.0**	**+1.3**
	baz=107,slow=13,SNR=8.1						
USRK				S	**Sn**	**19 54 34.1**	**-4.0**
	baz=132,slow=19,SNR=1.4						
USRK				LR	LR	19 56 46.6	
	comp=Z,38nm,18.7s,baz=162,slow=40						
MDJ	**Mudanjiang**	**10.32**	**302**	Pn	**Pn**	**19 53 29.1**	**+2.8**
JNU	**Nakatsue**	**11.04**	**237**	LR	LR	19 58 40.8	
	comp=Z,36nm,18.8s,baz=317,slow=42						
KSRS	**Korea Array**	**11.14**	**263**	P	Pn	19 53 42.8	+5.2
	0.3nm,0.3s,baz=67,slow=14,SNR=3.2						
KSRS				LR	LR	19 57 34.1	
	comp=Z,21nm,21.6s,baz=75,slow=35						
KLR	**Kul'dur**	**11.90**	**326**	LR	LR	19 58 03.8	
	comp=Z,56nm,20.3s,baz=134,slow=35						
MA2	**Magadan**	**20.63**	**13**	P	**P**	**19 55 35.8**	**+0.4**
	6.3nm,0.6s,baz=178,slow=17,SNR=3.3						
MA2	**Magadan**	**20.63**	**13**	P	**P**	**19 55 36.1**	**+0.7**
MA2				IAmb	IAmb	19 55 36.5	
	comp=Z,9.2nm,0.7s						
YAK	**Yakutsk**	**23.52**	**346**	P	**P**	**19 56 03.7**	**-1.8**
	comp=Z,1.5nm,0.3s,baz=153,slow=2.5,SNR=5.1						
SEY	**Seymchan**	**24.07**	**12**	P	**P**	**19 56 10.9**	**+0.4**
	comp=Z,3.5nm,0.5s,baz=195,slow=6.6,SNR=14						
SONM	**Songino Array**	**26.66**	**299**	P	**P**	**19 56 33.3**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=88,slow=8.7,SNR=5.8						
SONM				LR	LR	20 07 49.8	
	comp=Z,30nm,18.1s,baz=122,slow=38						
ENH	**Enshi**	**28.02**	**260**	P	**P**	**19 56 45.7**	**-0.9**
TLY	**Talaya**	**28.89**	**307**	LR	LR	20 08 18.1	
	comp=Z,42nm,19.7s,baz=126,slow=36						
H11N2	**WAKE ISLAND Hy**	**29.34**	**126**	T	T	20 27 33.7	
	baz=320,slow=74						
H11N1	**WAKE ISLAND Hy**	**29.35**	**126**	T	T	20 27 37.4	
	baz=320,slow=74						
H11N3	**WAKE ISLAND Hy**	**29.36**	**126**	T	T	20 27 35.9	
	baz=320						
H11S1	**WAKE ISLAND Hy**	**30.14**	**127**	T	T	20 28 36.6	
	baz=320,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**30.14**	**127**	T	T	20 28 38.3	
	baz=320,slow=76,SNR=36						
H11S2	**WAKE ISLAND Hy**	**30.15**	**127**	T	T	20 28 37.7	
	baz=320,slow=76,SNR=45						
ZAA0	**Zalesovo Array**	**40.39**	**310**	P	**P**	**19 58 33.0**	**0.0**
ZAA0				IAmb	IAmb	19 58 33.4	
	comp=Z,5.5nm,0.6s						
ZALV	**Zalesovo Beam**	**40.39**	**310**	P	**P**	**19 58 32.9**	**-0.1**
	comp=Z,5.7nm,0.5s,baz=92,slow=8.1,SNR=25						
ZALV				PcP	**PcP**	**20 00 34.5**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=72,slow=4.7,SNR=2.7						
CMAR	**Chiang Mai Arr**	**42.58**	**253**	P	**P**	**19 58 51.1**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=46,slow=6.4,SNR=1.6						
MK31	**Makanchi Array**	**43.02**	**300**	P	**P**	**19 58 54.3**	**-0.4**
MK31				IAmb	IAmb	19 58 55.1	
	comp=Z,2.8nm,0.7s						
MKAR	**Makanchi Array**	**43.02**	**300**	P	**P**	**19 58 54.4**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=86,slow=9.8,SNR=41						
MAKZ	**Makanchi**	**43.23**	**300**	P	**P**	**19 58 56.1**	**-0.3**
KURK	**Kurchatov**	**44.58**	**306**	P	**P**	**19 59 06.3**	**-0.7**
KURK				IAmb	IAmb	19 59 07.4	
	comp=Z,7.6nm,0.9s						
KRVT	**Kevat (AS076**	**44.83**	**166**	LR	LR	20 16 50.0	
	comp=Z,136nm,20.2s,baz=27,slow=34						
ILAR	**Eielson Array**	**47.03**	**34**	P	**P**	**19 59 27.1**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=270,slow=6.0,SNR=6.3						
KK31	**Karatay Array**	**52.10**	**298**	P	**P**	**20 00 04.3**	**-0.8**
KKAR	**Karatay Array**	**52.10**	**298**	P	**P**	**20 00 04.5**	**-0.6**
ARU	**Arti**	**54.58**	**317**	P	**P**	**20 00 22.9**	**-0.2**
ARU				IAmb	IAmb	20 00 23.7	
	comp=Z,4.1nm,0.9s						
UWB	**Uwekahuna B**	**57.15**	**91**	P	**P**	**20 00 41.8**	**-0.3**
SBLHI	**Steaming Bluff**	**57.16**	**91**	P	**P**	**20 00 42.0**	**-0.2**
HATHI	**Halema'uma'u T**	**57.17**	**91**	P	**P**	**20 00 41.9**	**-0.3**
WRA	**Warramunga Arr**	**59.79**	**188**	P	**P**	**20 00 59.0**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=5.2,slow=7.2,SNR=6.1						
ARCES	**ARCESS Array B**	**61.59**	**339**	P	**P**	**20 01 11.8**	**0.0**
	comp=Z,0.7nm,0.5s,baz=62,slow=8.4,SNR=8.9						
GEYT	**Alibeck**	**62.85**	**298**	P	**P**	**20 01 20.7**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=20,slow=4.6,SNR=2.1						
ASAR	**Alice Springs**	**63.52**	**188**	P	**P**	**20 01 24.9**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=7.6,slow=5.9,SNR=6.8						
FINES	**FINESS Array B**	**66.58**	**332**	P	**P**	**20 01 44.4**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=46,slow=8.2,SNR=9.9						
KIV	**Kislovodsk**	**69.41**	**310**	P	**P**	**20 02 03.9**	**+1.1**
KIV				IAmb	IAmb	20 02 04.7	
	comp=Z,6.6nm,0.9s						
KBZ	**Khabaz**	**69.41**	**310**	P	**P**	**20 02 03.1**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=59,slow=2.4,SNR=3.9						
NC405	**NORSAR Array S**	**71.61**	**337**	P	**P**	**20 02 15.6**	**-0.2**
NC204	**NORSAR Array S**	**71.77**	**337**	P	**P**	**20 02 17.3**	**+0.4**
NC204				IAmb	IAmb	20 02 20.3	
	comp=Z,33nm,1.4s						
NB2	**NORSAR Subarra**	**71.82**	**337**	P	**P**	**20 02 16.6**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**71.82**	**337**	P	**P**	**20 02 17.0**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=38,slow=6.1,SNR=5.3						
NOA				LR	LR	20 38 59.0	
	comp=Z,12nm,18.3s,baz=210,slow=40						
AKASG	**Malin Array Be**	**72.37**	**322**	P	**P**	**20 02 20.1**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=44,slow=5.8,SNR=11						
PDAR	**Pinedale Array**	**75.53**	**46**	P	**P**	**20 02 40.0**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=333,slow=1.7,SNR=3.5						
BUR08	**Bucovina Ar. S**	**76.39**	**322**	P	**P**	**20 02 44.9**	**+0.8**
BUR08				IAmb	IAmb	20 04 58.4	
	comp=Z,7.8nm,1.6s						
OJC	**Ojcow**	**76.98**	**326**	P	**P**	**20 02 47.6**	**+0.3**
OJC				IAmb	IAmb	20 02 48.6	
	comp=Z,6.3nm,1.1s						
GERES	**GERESS Array B**	**80.59**	**328**	P	**P**	**20 03 07.0**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=39,slow=5.0,SNR=3.9						

NEIC ***25*** *20:03:05.4±0.7,33°.00N±0°.10×140°.0E±0°.2,h140km±4km, mb4.3/15,Error ellipse: s-maj=19.6km s-min=13.9km az=79.0*
JMA ***25*** *20:03:05.5±0.1,33°.13N×140°.22E,h135km±1km,M3.5*
NIED ***25*** *20:03:05.6,33°.14N×140°.22E,h135km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr-1.87; Mθθ3.58; Mφφ-1.71; Mrθ-4.39; Mθφ-0.53; Mrφ3.13; Fault plane solution: M0 6.22000×1014 NP1: φs125.00000°,δ80.00000°,λ-69.00000°. NP2: φs239.00000°,δ24.00000°,λ-153.00000°.*
IDC ***25*** *20:03:05.0±0.5,32°.99N×140°.06E,h136km±3km,mb3.6/13, mb1 3.7/15,mb1mx3.4/51,mbtmp4.0/15 Error ellipse: s-maj=18.0km s-min=12.4km az=85.0*
ISC 25 20:03:04.8±0.7,32°.98N±0°.05×140°.21E±0°.08,h139km±5km, n56,σ1932/62,mb4.1/21,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.35**	**291**	P	**Pn**	**20 03 24.6**	**+0.4**
JHJ2				S	**Sn**	**20 03 39.1**	**+0.3**
JHJ2	**Mitsune**	**0.35**	**291**		**Pn**	**20 03 24.4**	**+0.2**
JHCJ	**Hachijojimakas**	**0.35**	**284**	P	**Pn**	**20 03 24.7**	**+0.5**
JHCJ				S	**Sn**	**20 03 38.9**	**+0.1**
JHJ	**Hachijo jima 2**	**0.38**	**291**	P	**Pn**	**20 03 24.6**	**+0.4**
	478nm,0.3s,baz=106,slow=22,SNR=348						
JHJ				S	**Sn**	**20 03 38.9**	**-0.1**
	baz=143,slow=20						
JAOM	**Aogashimamukai**	**0.64**	**216**	P	**Pn**	**20 03 27.2**	**+1.5**
JMKN	**Mikurajimanish**	**1.04**	**331**	P	**Pn**	**20 03 28.1**	**-0.8**
JMKN				S	**Sn**	**20 03 45.3**	**-1.9**
JKO	**Kozu shima**	**1.50**	**324**	P	**Pn**	**20 03 33.1**	**-0.4**
JKO				*e*S	**Sn**	**20 03 53.5**	**-1.9**
BSO1	**Boso 1**	**1.79**	**21**	P	**Pn**	**20 03 36.1**	**-0.1**
BSO3	**Boso 3**	**1.83**	**8**	P	**Pn**	**20 03 36.5**	**-0.5**
JIM2	**Oshima 3**	**1.84**	**340**	P	**Pn**	**20 03 36.6**	**-0.9**
JIM2				*e*S	**Sn**	**20 03 59.8**	**-2.7**
JIZS	**Izushimoda**	**2.05**	**328**	P	**Pn**	**20 03 39.3**	**-0.6**
JIZS				*e*S	**Sn**	**20 04 04.6**	**-2.2**
TK02	**Tokai 2**	**2.26**	**296**	P	**Pn**	**20 03 42.3**	**+0.1**
TK04	**Tokai 4**	**2.39**	**306**	P	**Pn**	**20 03 44.1**	**+0.2**
TK04				S	**Sn**	**20 04 13.2**	**-0.9**
JOD2	**Odawara 2**	**2.46**	**338**	P	**Pn**	**20 03 44.3**	**-0.5**
JOD2				S	**Sn**	**20 04 13.7**	**-2.0**
SHZ3	**Shizuoka 3**	**2.66**	**322**	P	**Pn**	**20 03 47.3**	**-0.1**
JYN	**Shimok**	**2.86**	**332**	P	**Pn**	**20 03 50.0**	**0.0**
MJAR	**Matsushiro Arr**	**3.91**	**336**	P	**Pn**	**20 04 02.8**	**-0.8**
	0.3nm,0.3s,baz=167,slow=11,SNR=7.2						
MAJO	**Matsushiro**	**3.91**	**336**		**Pn**	**20 04 03.2**	**-0.4**
MAT	**Matsushiro**	**3.91**	**336**	P	**Pn**	**20 04 03.0**	**-0.6**
MAT				S	**Sn**	**20 04 51.5**	**+2.2**
JCJ	**Chichijima**	**6.11**	**163**	P	**Pn**	**20 04 31.9**	**-1.1**
	4.1nm,0.3s,baz=10,slow=12,SNR=35						
JCJ				S	**Sn**	**20 05 37.3**	**-4.5**
	20nm,0.3s,baz=274,slow=22,SNR=16						
JCJ	**Chichijima**	**6.11**	**163**		**Pn**	**20 04 32.0**	**-0.9**
JCJ					**Sn**	**20 05 37.1**	**-4.8**
SSLB	**Suanglung**	**19.23**	**246**	P	**P**	**20 07 18.1**	**-0.3**
SSLB				IAmb	IAmb	20 07 19.0	
	comp=Z,4.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**27.23**	**112**	T	T	20 37 44.0	
	baz=305,slow=75,SNR=8.5						
H11N1	**WAKE ISLAND Hy**	**27.23**	**112**	T	T	20 37 44.8	
	baz=305,slow=75,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**27.24**	**112**	T	T	20 37 44.0	
	baz=305,slow=75,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**27.78**	**115**	T	T	20 38 13.5	
	baz=307						
H11S1	**WAKE ISLAND Hy**	**27.78**	**115**	T	T	20 38 17.4	
	baz=307						
H11S2	**W

RTAL	**Retalhuleu**	**0.85**	**52**			**Pn**	**20 03 35.3**	**+0.4**
ERG	**Entre ros, C**	**0.91**	**61**	*e*P		**Pn**	**20 03 37.1**	**+1.5**
THIG		**0.91**	**7**	*e*P		**Pn**	**20 03 35.6**	**-0.1**
THIG				*e*S		**Sn**	**20 03 47.3**	**-1.8**
THIG		**0.91**	**7**			**Pn**	**20 03 35.6**	**-0.1**
THIG						**Sn**	**20 03 47.3**	**-1.8**
FUG	**Fuego 3**	**1.56**	**73**	*e*P		**Pb**	**20 03 45.6**	**-0.2**
HUEH	**Huehuetenango**	**1.57**	**33**	*e*P		**Pg**	**20 03 46.6**	**0.0**
HUEH	**Huehuetenango**	**1.57**	**33**			**Pg**	**20 03 46.5**	**0.0**
PCG	**Pacaya**	**1.77**	**77**	*e*P		**Pb**	**20 03 49.0**	**-0.4**
PCIG		**1.88**	**335**	*e*P		**Pn**	**20 03 48.3**	**-0.6**
PCIG		**1.88**	**335**			**Pn**	**20 03 48.3**	**-0.6**
IXG	**Ixpaco**	**1.90**	**85**	*e*P		**Pn**	**20 03 50.0**	**+0.6**
NBG	**Las Nubes**	**2.06**	**73**	*e*P		**Pb**	**20 03 54.3**	**-0.1**
CCIG	**Comitan**	**2.28**	**6**	*e*P		**Pb**	**20 03 58.5**	**+0.4**
CCIG				*e*S		**Sg**	**20 04 28.6**	**-1.3**
CCIG	**Comitan**	**2.28**	**6**			**Pb**	**20 03 58.1**	**0.0**
NUBE	**Las Nubes**	**2.53**	**92**	*e*P		**Pn**	**20 03 58.2**	**0.0**
NUBE				IAML			20 04 33.7	
	comp=Z,250nm,0.6s							
NUBE	**Las Nubes**	**2.53**	**92**	*e*P		**Pn**	**20 03 58.2**	**0.0**
NUBE				IAML			20 04 33.7	
	comp=Z,250nm,0.6s							
RTR	**El Retiro**	**2.66**	**92**	*e*P		**Pn**	**20 03 59.9**	**0.0**
RTR	**El Retiro**	**2.66**	**92**	*e*P		**Pn**	**20 03 59.9**	**0.0**
CEVE	**Cerro Verde**	**2.69**	**93**	*e*P		**Pn**	**20 04 01.3**	**+0.9**
CEVE				IAML			20 04 46.2	
	comp=Z,1µm,0.3s							
CEVE	**Cerro Verde**	**2.69**	**93**	*e*P		**Pn**	**20 04 01.3**	**+0.9**
CEVE				IAML			20 04 46.2	
	comp=Z,1µm,0.3s							
SBLS	**San Blas**	**2.69**	**93**	*e*P		**Pn**	**20 04 01.2**	**+0.8**
SBLS	**San Blas**	**2.69**	**93**	*e*P		**Pn**	**20 04 01.2**	**+0.8**
SNJE	**San Jose**	**2.70**	**92**	*e*P		**Pn**	**20 04 01.8**	**+1.3**
SNJE	**San Jose**	**2.70**	**92**	*e*P		**Pn**	**20 04 01.8**	**+1.3**
TGIG		**2.85**	**346**	*e*P		**Pn**	**20 04 03.8**	**+1.3**
TGIG				*e*S		**Sn**	**20 04 37.7**	**+0.6**
TGIG		**2.85**	**346**			**Pn**	**20 04 03.8**	**+1.3**
TGIG						**Sn**	**20 04 37.7**	**+0.6**
TACO	**Tacachico**	**2.94**	**90**	*e*P		**Pn**	**20 04 04.4**	**+0.7**
TACO				*e*S		**Sn**	**20 04 37.8**	**-1.5**
TACO				IAML			20 04 48.6	
	comp=Z,73nm,0.4s							
TACO	**Tacachico**	**2.94**	**90**	*e*P		**Pn**	**20 04 04.4**	**+0.7**
TACO				*e*S		**Sn**	**20 04 37.8**	**-1.5**
TACO				IAML			20 04 48.6	
	comp=Z,73nm,0.4s							
MTO3	**Montecristo**	**2.96**	**82**	*e*P		**Pn**	**20 04 05.2**	**+1.1**
MTO3	**Montecristo**	**2.96**	**82**	*e*P		**Pn**	**20 04 05.2**	**+1.1**
MTO3	**Montecristo**	**2.96**	**82**	Pn		**Pn**	**20 04 05.1**	**+1.0**
ESQI	**Esquipulas**	**3.00**	**79**	*e*P		**Pn**	**20 04 05.2**	**+0.7**
ESQI	**Esquipulas**	**3.00**	**79**	Pn		**Pn**	**20 04 05.3**	**+0.7**
BOQS	**Boqueron**	**3.03**	**95**	*e*P		**Pn**	**20 04 06.4**	**+1.4**
BOQS	**Boqueron**	**3.03**	**95**	*e*P		**Pn**	**20 04 06.4**	**+1.4**
LFRS	**El Faro**	**3.25**	**96**	*e*P		**Pn**	**20 04 08.3**	**+0.3**
LFRS				*e*S		**Sn**	**20 04 45.6**	**-1.4**
LFRS	**El Faro**	**3.25**	**96**	*e*P		**Pn**	**20 04 08.3**	**+0.3**
LFRS				*e*S		**Sn**	**20 04 45.6**	**-1.4**
PETF	**Flores**	**3.78**	**40**	Pn		**Pn**	**20 04 18.1**	**+2.9**
CMIG	**Matias Romero**	**3.91**	**322**	Pn		**Pn**	**20 04 17.2**	**+0.4**
	comp=Z,3.0nm,0.3s,baz=145,slow=12,SNR=18							
CMIG				Sn		**Sn**	**20 05 02.4**	**-0.6**
	comp=Z,6.7nm,0.3s,baz=86,slow=14,SNR=5.0							
CMIG				Lg		Lg	20 05 13.0	
	comp=Z,12nm,0.3s,baz=217,slow=12,SNR=3.7							
CMIG	**Matias Romero**	**3.91**	**322**	*e*P		**Pn**	**20 04 16.8**	**0.0**
CMIG	**Matias Romero**	**3.91**	**322**			**Pn**	**20 04 16.8**	**0.0**
CNCH	**Conchagua**	**4.48**	**99**	*e*P		**Pn**	**20 04 26.3**	**+1.6**
CNCH	**Conchagua**	**4.48**	**99**	*e*P		**Pn**	**20 04 26.5**	**+1.6**
CRIN	**San Cristobal**	**5.35**	**103**			**Pn**	**20 04 37.6**	**+0.8**
ESTN	**Estel**	**5.92**	**98**	Pn		**Pn**	**20 04 46.1**	**+1.4**
MATN	**Matagalpa**	**6.38**	**99**			**Pn**	**20 04 51.5**	**+0.6**
TEIG	**Tepich**	**7.33**	**32**	Pn		**Pn**	**20 05 05.4**	**+1.4**
	comp=Z,4.7nm,0.3s,baz=227,slow=5.2,SNR=26							
TEIG	**Tepich**	**7.33**	**32**			**Pn**	**20 05 05.2**	**+1.2**
JTS	**Las Juntas de**	**8.15**	**116**	Pn		Pn	20 05 24.8	+10
	comp=Z,0.8nm,0.3s,baz=346,slow=19,SNR=5.4							
JTS				Lg		Lg	20 07 24.3	
	baz=281,slow=17,SNR=6.9							
TXAR	**Lajitas Array**	**18.49**	**327**	P		**P**	**20 07 34.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=142,slow=8.9,SNR=5.8							
MNTX	**Cornudas Mount**	**21.27**	**328**	P		**P**	**20 08 04.4**	**+1.0**
MNTX				IAmb		IAmb	20 08 06.7	
	comp=Z,4.1nm,1.1s							
AMTX	**Amarillo**	**22.43**	**340**	P		**P**	**20 08 16.2**	**+0.3**
AMTX				IAmb		IAmb	20 08 18.4	
	comp=Z,8.8nm,1.0s							
BNM	**Barren Site**	**23.86**	**330**	P		**P**	**20 08 30.5**	**-0.2**
PFO	**Pinyon Flats O**	**29.30**	**316**	LR		LR	20 20 43.6	
	comp=Z,67nm,19.6s,baz=116,slow=36							
NVAR	**Mina Array Bea**	**33.44**	**321**	P		**P**	**20 09 56.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=132,slow=10,SNR=6.2							
F10A	**Beach Ranch, E**	**38.13**	**332**	P		**P**	**20 10 36.7**	**+0.3**
F10A				IAmb		IAmb	20 10 39.9	
	comp=Z,4.2nm,0.8s							
ILAR	**Eielson Array**	**62.69**	**337**	P		**P**	**20 13 40.9**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=134,slow=3.9,SNR=3.8							
CMAR	**Chiang Mai Arr**	**145.87**	**341**	PKPbc		**PKPdf**	**20 22 57.4**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=343,slow=3.8,SNR=9.6							

*IDC **25** 20:16:59.4±0.9, 9°.03S×126°.10E, h0km, mb3.8/7, mb1 3.9/11,mb1mx3.8/30,mbtmp3.9/11, ML3.9/4, Error ellipse: s-maj=32.3km s-min=18.4km az=81.0*
*NEIC **25** 20:17:00.6±1.6, 9°.05S±0°.06×126°.11E±0°.08, h10km±1km, mb4.4/4, Error ellipse: s-maj=15.1km s-min=6.6km az=55.0*
*DJA **25** 20:17:07.0±0.7, 9°.S±8°×12°.6E±°, h94km±9km, M4.1/7, mB5.0/1, mb4.2/5, MLv4.1/7, Mw(mB)4.2/1*
ISC 25 20:17:03.5±0.6, 9°.25S±0°.06×126°.15E±0°.07, h35km, n37, σ1°94/36, mb3.9/8, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.92**	**255**	P		**Pn**	**20 17 34.7**	**+0.9**
SOEI	**Soe**	**1.92**	**255**			**Pn**	**20 17 34.7**	**+0.9**
BATI	**Baumata**	**2.62**	**249**	Pn		**Pn**	**20 17 44.8**	**+1.4**
	32nm,0.3s,baz=125,slow=2.4,SNR=31							
BATI				Sn		**Sn**	**20 18 13.2**	**-1.0**
	29nm,0.3s,baz=346,slow=11,SNR=5.4							
BATI	**Baumata**	**2.62**	**249**	P		**Pn**	**20 17 44.6**	**+1.2**
BATI				S		**Sn**	**20 18 16.5**	**+2.4**
MMRI	**Maumere**	**3.91**	**279**	P		**Pn**	**20 18 01.6**	**+0.5**
MMRI	**Maumere**	**3.91**	**279**			**Pn**	**20 18 01.1**	**+0.1**
EDFI	**Ende, Flores**	**4.43**	**276**	P		**Pn**	**20 18 08.2**	**-0.1**
WSI	**Waingapu**	**5.78**	**265**	P		Pn	20 18 19.5	-7.4
MTN	**Manton Dam**	**6.06**	**127**			Pn	20 18 38.0	+7.3
WBSI	**Waikabubak, Su**	**6.67**	**266**	P		**Pn**	**20 18 38.7**	**-0.5**
	0.2nm34nm,1.5s							
KNRA	**Kununurra**	**6.88**	**158**	Pn		Pn	20 18 47.4	+5.4
BNSI	**Bone**	**7.69**	**308**	P		Pn	20 19 01.5	+8.4
PLAI	**Plampang**	**8.28**	**272**	P		**Pn**	**20 19 00.6**	**-0.5**
	0.1nm39nm,1.1s							
FITZ	**Fitzroy Crossi**	**8.81**	**183**	Pn		**Pn**	**20 19 11.1**	**+2.7**
	0.9nm,0.3s,baz=21,slow=12,SNR=28							
FITZ				Sn		**Sn**	**20 20 43.3**	**-3.3**
	4.2nm,0.3s,baz=305,slow=4.8,SNR=16							
FITZ	**Fitzroy Crossi**	**8.81**	**183**			**Pn**	**20 19 10.9**	**+2.5**
WB0	**Warramunga Arr**	**13.15**	**144**			**Sn**	**20 20 10.3**	**+2.4**
WRAB	**Tennant Creek**	**13.26**	**144**			**Sn**	**20 22 36.3**	**+0.7**
WRA	**Warramunga Arr**	**13.26**	**144**	Pn		**Pn**	**20 20 10.5**	**+1.1**
	0.6nm,0.3s,baz=323,slow=13,SNR=34							
WRA				Sn		**Sn**	**20 22 33.4**	**-2.2**
	1.0nm,0.3s,baz=322,slow=21,SNR=11							
WB2	**Warramunga Arr**	**13.26**	**144**			**Pn**	**20 20 11.7**	**+2.2**
WR0	**Warramunga Arr**	**13.39**	**144**			**Pn**	**20 20 13.1**	**+2.0**
PSA00	**Pilbara Seismi**	**13.67**	**206**	Pn		**Pn**	**20 20 15.5**	**+0.5**
WOJI	**Wonogiri, Jawa**	**15.12**	**274**	P		**Pn**	**20 20 31.6**	**-3.0**
AS31	**Alice Springs**	**16.14**	**154**	P		**Pn**	**20 20 49.1**	**+1.3**
ASAR	**Alice Springs**	**16.14**	**154**	Pn		**Pn**	**20 20 50.5**	**+2.6**
	0.4nm,0.3s,baz=320,slow=11,SNR=36							
ASAR				Sn		**Sn**	**20 23 40.7**	**-5.3**
	0.1nm,0.3s,baz=327,slow=23,SNR=6.6							
STKI	**Sintang**	**17.29**	**302**	P		Pn	20 20 48.9	-13
STKA	**Stephens Creek**	**26.69**	**150**	P		**P**	**20 22 41.5**	**+2.0**
	0.9nm,0.8s,baz=322,slow=12,SNR=2.2							
STKA	**Stephens Creek**	**26.69**	**150**	IAmb		IAmb	20 23 01.3	
	comp=Z,1.2nm,1.0s							
KSRS	**Korea Array**	**46.49**	**2**	P		**P**	**20 25 26.6**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=175,slow=9.6,SNR=4.2							
USRK	**Ussuriysk Ar.**	**53.46**	**5**	P		**P**	**20 26 20.4**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=190,slow=6.0,SNR=6.2							
MXZ	**Matakaoa Point**	**54.68**	**130**	P		**P**	**20 26 28.1**	**-1.1**
JKA	**Kamikawa-asahi**	**55.17**	**14**	P		**P**	**20 26 31.8**	**-0.8**
JKA				IAmb		IAmb	20 26 53.5	
	comp=Z,46nm,1.4s							
SONM	**Songino Array**	**59.47**	**345**	P		**P**	**20 27 00.8**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=155,slow=4.8,SNR=2.4							
PETK	**Petropavlovsk-**	**67.68**	**20**	P		**P**	**20 27 58.9**	**+2.0**
	comp=Z,1.1nm,0.5s,baz=134,slow=4.2,SNR=2.6							
MKAR	**Makanchi Array**	**68.09**	**329**	P		**P**	**20 27 59.1**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=129,slow=6.9,SNR=8.4							
ZALV	**Zalesovo Beam**	**71.98**	**336**	P		**P**	**20 28 22.3**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=122,slow=6.2,SNR=2.2							
IMAR	**Indian Mountai**	**94.37**	**24**	P		**P**	**20 30 19.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**125.46**	**280**	PKP		**PKiKP**	**20 36 04.6**	**+2.3**
	comp=Z,1.0nm,0.6s,baz=73,slow=2.2,SNR=7.8							

*ISN **25** 20:19:26.3±2.2, 32°.78N×47°.48E, h18km±111km, ML3.0*
*TEH **25** 20:19:29.8, 32°.80N×47°.45E, h10km, ML3.0*
ISC 25 20:19:30.5±1.0, 32°.76N±0°.04×47°.38E±0°.04, h15km±7km, n28, σ1°48/31, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.12**	**228**	*e*Pg		**Pg**	**20 19 33.5**	**-0.4**
DHL1				*e*Sg		**Sg**	**20 19 37.2**	**+1.1**
IKFM	**Kafar-mosalman**	**0.86**	**27**	*e*Pg		**Pg**	**20 19 45.0**	**-2.1**
IKMR	**Kamar-syah**	**1.13**	**48**	*e*Pg		**Pg**	**20 19 49.9**	**-2.4**
IKMR				*e*			20 20 10.3	
IDOB	**Doab**	**1.22**	**33**	*e*Pg		**Pg**	**20 19 52.7**	**-1.4**
SHGR	**Shooshtar-Gavs**	**1.36**	**118**	*e*Pg		**Pg**	**20 19 56.7**	**0.0**
IKOM	**Komasi**	**1.42**	**4**	*e*Pg		**Pn**	**20 19 57.0**	**+1.1**
IKOM				*e*			20 19 58.5	
BMDN	**Meydan**	**1.51**	**53**	*e*Pg		**Pn**	**20 19 57.3**	**0.0**
BMDN				*e*			20 20 26.4	
KCHF	**Cheshme Sefid,**	**1.54**	**349**	*e*Pg		**Pb**	**20 19 59.3**	**+0.4**
KCHF				*e*			20 20 24.9	
KER	**Kermanshah**	**1.64**	**353**	*e*Pg		**Pb**	**20 20 00.9**	**+0.4**
IGHG	**Ghaleghazi**	**1.71**	**337**	*e*Pg		**Pb**	**20 20 02.0**	**+0.2**
IGHG				*e*			20 20 35.8	
IBZA	**Bozab**	**1.75**	**13**	*e*Pg		**Pn**	**20 20 02.1**	**+1.5**
IBZA				*e*			20 20 30.9	
HSAM	**Samen**	**1.77**	**35**	*e*Pg		**Pn**	**20 20 02.0**	**+1.1**
HSAM				*e*			20 20 29.8	
IVIS	**Veis**	**1.82**	**346**	*e*Pn		**Pb**	**20 20 03.5**	**-0.1**
IVIS				*e*			20 20 33.4	
NSR	**Nassriya**	**2.04**	**212**	*e*Pg		**Pn**	**20 20 03.0**	**-1.3**
NSR				*e*Sg		**Sn**	**20 20 30.0**	**+0.6**
IDHR	**Dehrash**	**2.11**	**337**	*e*			20 20 43.9	
IDHR				*e*Pn		**Pn**	**20 20 07.4**	**+2.0**
ILIN	**Lien**	**2.18**	**351**	*e*			20 20 51.2	
ILIN				*e*Pn		**Pn**	**20 20 08.6**	**+2.1**
IALM	**Almabolaq**	**2.20**	**17**	*e*Pn		**Pn**	**20 20 08.9**	**+2.2**
SNGE	**Sanandaj**	**2.33**	**359**	*e*Pn		**Pn**	**20 20 09.0**	**+0.5**
KHMZ	**Khomeyn**	**2.37**	**65**	*e*Pn		**Pn**	**20 20 10.5**	**+1.4**
HAGD	**Aghdareh**	**2.53**	**35**	*e*Pn		**Pn**	**20 20 12.7**	**+1.5**
HAGD				*e*			20 20 20.4	
BHD	**Baghdad**	**2.57**	**282**	*e*Pg		**Pn**	**20 20 13.0**	**+1.4**
	baz=100							
BHD				*e*Sg		**Sg**	**20 20 50.5**	**-2.7**
BHD				AML		AML	20 20 50.7	
	comp=E,106nm,0.4s							
HSRG	**Sareghieh**	**2.59**	**16**	*e*Pn		**Pn**	**20 20 14.5**	**+2.4**
HSRG				*e*			20 20 57.3	
JHBN	**Jahan bin**	**2.82**	**100**	*e*Pn		**Pn**	**20 20 15.7**	**+0.3**
JHBN				*e*			20 21 13.7	
ASAO	**Ashtian**	**2.84**	**50**	*e*Pn		**Pn**	**20 20 16.6**	**+1.1**
IPIR	**Pirpir**	**2.96**	**90**	*e*Pn		**Pn**	**20 20 17.9**	**+0.7**
IPIR				*e*			20 21 01.6	
IRAZ	**Razeghan**	**3.38**	**38**	*e*Pn		**Pn**	**20 20 24.6**	**+1.6**
IKLH	**Kolahrood**	**3.57**	**80**	*e*Pn		**Pn**	**20 20 26.5**	**+0.9**
IKLH				*e*			20 21 24.0	
KLNJ	**Kolanjah**	**3.98**	**115**	*e*Pn		**Pn**	**20 20 32.4**	**+1.0**
KLNJ				*e*			20 22 12.5	

IDC 25 20:21:40.3±2.3, 1°.44N×126°.68E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/26, mbtmp3.3/3, Error ellipse: s-maj=178.0km s-min=28.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.54**	**161**	P		P	20 26 41.4	-0.6
	0.6nm,0.4s,baz=340,slow=11,SNR=6.6							
ASAR	**Alice Springs**	**25.93**	**165**	P		P	20 27 15.0	+0.6
	0.3nm,0.6s,baz=344,slow=11,SNR=1.5							
MKAR	**Makanchi Array**	**59.41**	**326**	P		P	20 31 44.7	0.0
	0.2nm,0.5s,baz=110,slow=7.8,SNR=2.3							

*JMA **25** 20:23:06.7±0.4, 43°.86N×148°.43E, h0km, M3.9*
*SKHL **25** 20:23:06.2±0.7, 44°.14N×148°.81E, h33km±4km, mb4.2/3*
ISC 25 20:23:04.3±3.5, 44°.07N±0°.09×149°.0E±0°.2, h35km, n19, σ1°92/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.39**	**327**	*i* P		**Pn**	**20 23 27.3**	**+0.1**
KUR				AMB	AMB	20 23 27.9	
	80nm,0.3s						
KUR				*i* S		**Sn**	**20 23 42.7**	**-1.7**
KUR				A	A	20 23 47.3	
	250nm,0.4s						
KUR				A	A	20 23 47.3	
	150nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.23**	**270**	*i* P		**Pn**	**20 23 39.4**	**+0.7**
YUK				AMB	AMB	20 23 41.0	
	30nm,0.4s						
YUK				AMB	AMB	20 23 41.0	
	20nm,0.4s						
YUK				AMB	AMB	20 23 41.0	
	40nm,0.4s						
YUK				*i* S		**Sn**	**20 24 04.8**	**-0.1**
YUK				A	A	20 24 06.0	
	60nm,0.4s						
YUK				A	A	20 24 06.0	
	130nm,0.4s						
GRPR	**Tuman**	**2.29**	**269**	*e*P		**Pn**	**20 23 40.7**	**+1.1**
GRPR				AMB	AMB	20 23 42.0	
	40nm,0.4s						
GRPR				*e*S		**Sn**	**20 24 05.8**	**-0.8**
GRPR				A	A	20 24 08.0	
	150nm,0.3s						
GRPR				A	A	20 24 08.0	
	70nm,0.3s						
NEM2	**Nemuro 2**	**2.43**	**254**	P		**Pn**	**20 23 42.4**	**+0.9**
NEM2				*e*S		**Sn**	**20 24 08.9**	**-1.0**
NMR	**Nemuro--Hokkai**	**2.44**	**254**	*i* P		**Pn**	**20 23 42.4**	**+0.8**
NMR				*i* S		**Sn**	**20 24 09.9**	**-0.2**
JRA	**Rausu**	**2.76**	**269**	P		**Pn**	**20 23 48.5**	**+2.4**
JNSB	**Nemuroshibetsu**	**2.87**	**265**	P		**Pn**	**20 23 49.5**	**+2.1**
JKHN	**Kushirohamanak**	**2.92**	**252**	P		**Pn**	**20 23 49.8**	**+1.5**
JNK	**Nakash**	**3.10**	**262**	P		**Pn**	**20 23 52.6**	**+1.7**
JAK	**Akkeshi**	**3.27**	**252**	P		**Pn**	**20 23 54.3**	**+1.2**
JAK				*e*S		**Sn**	**20 24 29.9**	**-0.9**
JTKR	**Abashiri--Toko**	**3.64**	**270**	P		**Pn**	**20 24 00.4**	**+2.4**
JAR	**Ashorobuto**	**3.84**	**260**	P		**Pn**	**20 24 02.9**	**+2.1**
JCH	**Churui**	**4.33**	**252**	P		**Pn**	**20 24 09.5**	**+1.9**
JCH				*e*S		**Sn**	**20 24 55.9**	**-0.8**
JNBK	**Urakawa-nobuka**	**4.87**	**251**	P		**Pn**	**20 24 16.5**	**+1.5**
JKB	**Kayabe**	**6.20**	**252**	P		**Pn**	**20 24 35.0**	**+1.7**
JKB				*e*S		**Sn**	**20 25 40.0**	**-2.9**
JOT	**Ohata**	**6.41**	**248**	P		**Pn**	**20 24 37.4**	**+1.3**
JOT				*e*S		**Sn**	**20 25 44.7**	**-3.3**
JANG	**Nango**	**6.64**	**239**	*e*S		**Sn**	**20 25 49.4**	**-4.4**
JOMM	**Oshimamatsumae**	**7.05**	**252**	P		**Pn**	**20 24 46.5**	**+1.5**
JOSM	**Okushiri--Mats**	**7.22**	**257**	P		**Pn**	**20 24 49.2**	**+2.0**

*VAO **25** 20:36:02.5±0.6, 22°.10S×69°.22W, h148km±3km, mb4.0*
*GUC **25** 20:36:07.4±0.8, 21°.87S×68°.61W, h119km±4km, ML3.8*
*IDC **25** 20:36:22.2±8.8, 20°.62S×68°.09W, h224km±73km, mb3.5/1, mb1 3.2/2, mb1mx2.9/17, mbtmp3.7/2, Error ellipse: s-maj=100.0km s-min=93.9km az=152.0*
ISC 25 20:36:06.5±0.7, 21°.84S±0°.04×68°.68W±0°.07, h132km±7km, n36, σ1°40/54, 10C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.52**	**274**	*e*P		**Pn**	**20 36 25.9**	**-0.2**
PB09				*e*S		**Sn**	**20 36 40.1**	**-0.8**
LVC	**Limon Verde**	**0.80**	**195**	*i* P		**Pn**	**20 36 27.7**	**-0.6**
LVC				*e*S		**Sn**	**20 36 43.1**	**-1.6**
LVC	**Limon Verde**	**0.80**	**195**	*e*S		**Sn**	**20 36 42.8**	**-2.0**
PB03	**IPOC Station P**	**1.02**	**258**	*i* P		**Pn**	**20 36 29.9**	**0.0**
PB03				*i* S		**Sn**	**20 36 46.9**	**-0.7**
PB03				IAML			20 36 47.9	
	comp=E,3µm,0.2s							
PB01	**IPOC Station P**	**1.09**	**316**	*i* P		**Pn**	**20 36 30.2**	**-0.3**
PB01				*i* S		**Sn**	**20 36 47.8**	**-1.0**
PB01				IAML			20 36 49.7	
	comp=E,3µm,0.2s							
PB07	**IPOC Station P**	**1.13**	**275**	*i* P		**Pn**	**20 36 31.0**	**0.0**
PB07				*i* S		**Sn**	**20 36 49.1**	**-0.4**
PB07				IAML			20 36 50.3	
	comp=N,3µm,0.2s							
PB06	**IPOC Station P**	**1.20**	**224**	*i* P		**Pn**	**20 36 31.9**	**+0.2**
PB06				*i* S		**Sn**	**20 36 50.2**	**-0.6**
PB06				IAML			20 36 51.6	
	comp=E,2µm,0.2s							
PB02	**IPOC Station P**	**1.24**	**294**	*i* P		**Pn**	**20 36 32.1**	**0.0**
PB02				*i* S		**Sn**	**20 36 51.4**	**-0.1**
PB02				IAML			20 36 52.1	
	comp=N,2µm,0.2s							
PB04	**IPOC Station P**	**1.45**	**250**	*e*P		**Pn**	**20 36 34.5**	**+0.1**
PB04				*e*S		**Sn**	**20 36 55.0**	**-0.6**
PB04				IAML			20 36 57.5	
	comp=N,2µm,0.2s							
PB15	**IPOC Station P**	**1.55**	**208**	*e*P		**Pn**	**20 36 35.4**	**0.0**
PB15				*e*S		**Sn**	**20 36 56.9**	**-0.7**
PATCX	**Punta Patache**	**1.71**	**306**	*i* P		**Pn**	**20 36 37.1**	**0.0**
PATCX				*i* S		**Sn**	**20 37 00.0**	**-0.5**
PATCX				IAML			20 37 01.9	
	comp=N,1µm,0.2s							
PB08	**IPOC Station P**	**1.74**	**345**	*i* P		**Pn**	**20 36 38.6**	**+0.7**
PB08				*i* S		**Sn**	**20 37 02.3**	**+0.5**
PB08				IAML			20 37 03.8	
	comp=E,734nm,0.7s							
TA01	**Diego Aracena**	**1.89**	**312**	*e*P		**Pn**	**20 36 38.6**	**-0.6**
TA01				*e*S		**Sn**	**20 37 03.8**	**-0.4**
TA01				IAML			20 37 07.3	
	comp=E,671nm,0.6s							
GO01	**Chusmiza**	**2.21**	**347**	*i* P		**Pn**	**20 36 44.0**	**+0.3**
GO01				*i* S		**Sn**	**20 37 12.8**	**+0.7**
GO01				IAML			20 37 15.3	
	comp=N,987nm,0.1s							
PB11	**IPOC Station P**	**2.26**	**336**	*e*P		**Pn**	**20 36 43.7**	**-0.2**
PB11				*e*S		**Sn**	**20 37 11.8**	**-0.8**
PB11				IAML			20 37 14.0	
	comp=E,789nm,0.4s							
PB10	**IPOC Station P**	**2.40**	**226**	*e*P		**Pn**	**20 36 45.4**	**-0.1**
PB10				*e*S		**Sn**	**20 37 13.2**	**-2.4**
PB10				IAML			20 37 21.6	
	comp=E,134nm,0.6s							
PB10				IAML			20 37 23.9	
	comp=N,129nm,0.4s							
PSGC	**Pisagua**	**2.61**	**329**	*e*P		**Pn**	**20 36 46.9**	**-1.4**
PSGC				*e*S		**Sn**	**20 37 18.5**	**-1.8**
PSGC				IAML			20 37 19.9	
	comp=E,256nm,0.4s							
LPAZ	**La Paz**	**5.54**	**5**	P		**Pn**	**20 37 29.4**	**+1.8**
	comp=E,0.8nm,0.3s,baz=183,slow=4.2,SNR=14							
LPAZ				S		**Sn**	**20 38 22.8**	**-7.8**
	comp=E,0.2nm,0.3s,baz=186,slow=9.0,SNR=3.9							
CPUP	**Villa Florida**	**11.29**	**116**	*e*P		**Pn**	**20 38 44.3**	**+0.3**

baz=248,slow=75,SNR=13
H11N3 WAKE ISLAND Hy 41.37 62 T T 21 30 17.7
baz=248,slow=75,SNR=16
LSA Lhasa 45.31 312 P **P** **20 46 27.0 +0.8**
LSA IAmb IAmb 20 46 54.2
comp=Z,2.5nm,0.8s
SONM Songino Array 49.88 340 P **P** **20 46 59.2 -1.7**
comp=Z,0.8nm,0.6s,baz=158,slow=7.3,SNR=5.2
TLY Talaya 54.10 341 LR LR 21 14 32.5
comp=Z,22nm,18.1s,baz=170,slow=40
MK31 Makanchi Array 60.38 325 P **P** **20 48 15.7 -0.9**
MK31 IAmb IAmb 20 48 16.6
comp=Z,1.8nm,0.8s
MKAR Makanchi Array 60.38 325 P **P** **20 48 15.8 -0.9**
comp=Z,3.1nm,0.7s,baz=117,slow=8.7,SNR=29
MAKZ Makanchi 60.57 325 P **P** **20 48 17.1 -0.9**
ZALV Zalesovo Beam 63.32 333 P **P** **20 48 33.2 -3.0**
comp=Z,0.6nm,0.4s,baz=119,slow=5.2,SNR=4.5
KURK Kurchatov 64.55 327 P **P** **20 48 43.1 -1.2**
KK31 Karatay Array 66.11 317 P **P** **20 48 53.2 -1.4**
KK31 IAmb IAmb 20 49 11.8
comp=Z,1.1nm,0.9s
KKAR Karatay Array 66.11 317 P **P** **20 48 53.2 -1.4**

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*ISN **25** 20:45:03.4±1.1,32.°55N×47.°51E,h213^{km}±32^{km}, ML3.2*
*TEH **25** 20:45:08.2,32.°76N×47.°49E,h11^{km}, ML3.0*
ISC 25 20:45:08.2±1.2,32.°76N±0.°03×47.°46E±0.°03,h12^{km}±11^{km}, n29,σ1°19/31,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.16**	**243**	*e*Pg	**Pg**	**20 45 12.4**	**+0.4**
IKFM	**Kafar-mosalman**	**0.83**	**23**	*e*Pg	**Pg**	**20 45 23.6**	**-0.8**
IKMR	**Kamar-syah**	**1.09**	**45**	*e*Pg	**Pn**	**20 45 28.9**	**-0.3**
IKMR				*e*		20 45 46.2	
IDOB	**Doab**	**1.20**	**30**	*e*Pg	**Pg**	**20 45 31.2**	**0.0**
SHGR	**Shooshtar-Gavs**	**1.31**	**119**	*e*Pn	**Pg**	**20 45 33.1**	**-0.2**
IKOM	**Komasi**	**1.42**	**2**	*e*Pg	**Pg**	**20 45 35.5**	**0.0**
IKOM				*e*		20 45 37.2	
BMDN	**Meydan**	**1.47**	**51**	*e*Pg	**Pb**	**20 45 35.5**	**0.0**
BMDN				*e*		20 46 02.2	
KCHF	**Cheshme Sefid,**	**1.56**	**347**	*e*Pg	**Pg**	**20 45 38.4**	**+0.3**
KCHF				*e*		20 46 02.9	
KER	**Kermanshah**	**1.65**	**351**	*e*Pg	**Pg**	**20 45 39.0**	**0.0**
IGHG	**Ghaleghazi**	**1.74**	**335**	*e*Pn	**Pb**	**20 45 40.2**	**+0.1**
IGHG				*e*		20 46 19.1	
HSAM	**Samen**	**1.74**	**33**	*e*Pg	**Pb**	**20 45 40.6**	**+0.4**
HSAM				*e*		20 46 08.3	
AHWZ	**Ahwaz**	**1.74**	**144**	*e*Pg	**Pg**	**20 45 41.2**	**-0.4**
IBZA	**Bozab**	**1.74**	**11**	*e*Pg	**Pg**	**20 45 40.9**	**-0.8**
IBZA				*e*		20 45 44.1	
IVIS	**Veis**	**1.84**	**344**	*e*Pn	**Pg**	**20 45 43.1**	**-0.4**
IVIS				*e*		20 46 13.4	
NSR	**Nassriya**	**2.07**	**213**	*e*Pg	**Pn**	**20 45 43.0**	**+0.3**
baz=35							
NSR				*e*Sg	**Sb**	**20 46 11.0**	**-0.2**
NSR				AML	AML	20 46 14.4	
comp=E,172nm,0.4s							
IDHR	**Dehrash**	**2.13**	**336**	*e*Pn	**Pb**	**20 45 46.2**	**-0.7**
IDHR				*e*		20 46 24.0	
IALM	**Almabolaq**	**2.18**	**16**	*e*Pn	**Pb**	**20 45 46.7**	**-1.1**
ILIN	**Lien**	**2.20**	**349**	*e*Pn	**Pb**	**20 45 47.0**	**-1.0**
ILIN				*e*		20 46 25.7	
KHMZ	**Khomeyn**	**2.32**	**64**	*e*Pn	**Pb**	**20 45 48.2**	**-1.8**
SNGE	**Sanandaj**	**2.33**	**358**	*e*Pn	**Pn**	**20 45 47.9**	**+1.3**
HAGD	**Aghdareh**	**2.49**	**34**	*e*Pn	**Pb**	**20 45 51.1**	**-2.0**
HAGD				*e*		20 46 31.3	
HSRG	**Sareghieh**	**2.57**	**15**	*e*Pn	**Pb**	**20 45 52.8**	**-1.6**
HSRG				*e*		20 46 36.2	
BHD	**Baghdad**	**2.63**	**282**	*e*Pg	**Pn**	**20 45 51.0**	**+0.6**
BHD				AML	AML	20 46 21.5	
comp=E,102nm,0.3s							
BHD				*e*Sg	**Sb**	**20 46 27.0**	**-0.5**
JHBN	**Jahan bin**	**2.76**	**100**	*e*Pn	**Pn**	**20 45 53.7**	**+1.2**
JHBN				*e*		20 46 43.5	
ASAO	**Ashtian**	**2.79**	**49**	*e*Pn	**Pn**	**20 45 54.3**	**+1.4**
IPIR	**Pirpir**	**2.90**	**90**	*e*Pn	**Pn**	**20 45 56.8**	**+2.4**
IPIR				*e*		20 46 33.5	
IRAZ	**Razeghan**	**3.35**	**37**	*e*Pn	**Pn**	**20 46 03.1**	**+2.6**
IKLH	**Kolahrood**	**3.51**	**80**	*e*Pn	**Pn**	**20 46 04.9**	**+2.1**
IKLH				*e*		20 47 18.4	
KLNJ	**Kolanjah**	**3.93**	**115**	*e*Pn	**Pn**	**20 46 09.4**	**+0.8**
KLNJ				*e*		20 47 22.7	

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*ISN **25** 20:54:22.4±1.4,32.°89N×47.°35E,h15^{km}±999^{km}, ML2.9*
*TEH **25** 20:54:23.8,32.°68N×47.°56E,h10^{km}, ML2.9*
ISC 25 20:54:24.7±1.1,32.°74N±0.°06×47.°55E±0.°05,h10^{km},n13, σ0°53/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.23**	**255**	*e*Pg	**Pg**	**20 54 28.6**	**-0.9**
DHL1				*e*		20 54 33.1	
IKFM	**Kafar-mosalman**	**0.82**	**18**	*e*Pg	**Pg**	**20 54 40.0**	**-0.6**
IKFM				*e*		20 54 53.8	
IKMR	**Kamar-syah**	**1.04**	**42**	*e*Pg	**Pb**	**20 54 44.7**	**-0.2**
IKMR				*e*		20 55 02.3	
IDOB	**Doab**	**1.17**	**27**	*e*Pg	**Pn**	**20 54 47.4**	**0.0**
IDOB				*e*		20 54 51.4	
BMDN	**Meydan**	**1.42**	**49**	*e*Pg	**Pg**	**20 54 51.7**	**-0.3**
BMDN				*e*		20 55 18.3	
IKOM	**Komasi**	**1.43**	**359**	*e*Pg	**Pg**	**20 54 51.9**	**-0.3**
IKOM				*e*		20 54 53.3	
KCHF	**Cheshme Sefid,**	**1.59**	**345**	*e*Pn	**Pg**	**20 54 54.9**	**-0.3**
KCHF				*e*		20 55 19.0	
KER	**Kermanshah**	**1.68**	**348**	*e*Pn	**Pb**	**20 54 55.9**	**+0.1**
HSAM	**Samen**	**1.71**	**31**	*e*Pn	**Pb**	**20 54 56.7**	**+0.2**
HSAM				*e*		20 54 59.3	
IBZA	**Bozab**	**1.75**	**9**	*e*Pn	**Pb**	**20 54 57.0**	**0.0**
IBZA				*e*		20 55 00.2	
IGHG	**Ghaleghazi**	**1.78**	**333**	*e*Pn	**Pb**	**20 54 58.1**	**+0.4**
IGHG				*e*		20 55 35.2	
NSR	**Nassriya**	**2.10**	**215**	*e*Pg	**Pn**	**20 55 00.0**	**+0.1**
NSR				*e*Sg	**Sn**	**20 55 27.0**	**+0.9**
BHD	**Baghdad**	**2.71**	**282**	*e*Pg	**Pn**	**20 55 08.0**	**-0.4**
baz=98							
BHD				*e*Sg	**Sn**	**20 55 42.0**	**+0.8**
BHD				AML	AML	20 55 42.2	
comp=E,76nm,0.4s							

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*DNK **25** 21:03:56.8±2.0,82.°85N×4.°84W,h16^{km}±51^{km}, ML2.8*
*BER **25** 21:03:58.3±1.4,82.°91N×5.°76W,h10^{km}, ML2.3*
*IEPN **25** 21:04:00.0,82.°89N×4.°08W,h15^{km}*
*IDC **25** 21:04:01.5±1.2,83.°13N×0.°22W,h0^{km},mb3.6/8, mb1 3.8/10,mb1mx3.5/53,mbtmp3.6/10, ML3.6/2,MS3.1/14, Ms1 3.1/14,ms1mx2.9/55,Error ellipse: s-maj=25.1km s-min=22.5km az=62.0*
ISC 25 21:03:55.8±0.8,82.°71N±0.°08×6.°12W±0.°05,h10^{km},n42, σ2°44/40,mb3.5/8,MS3.2/12,3C-2D,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.83**	**238**	⇑*i*P	**Pn**	**21 04 28.9**	**+1.8**
NOR	**Nord**	**1.83**	**238**	⇓*i*P	**Pn**	**21 04 29.0**	**+1.8**
NOR				IAML		21 04 53.6	
comp=Z,23nm,0.3s							
NOR	**Nord**	**1.83**	**238**	⇑iP	**Pn**	**21 04 29.0**	**+1.8**
NOR				IAML		21 04 53.6	
comp=Z,23nm,0.3s							
KBS	**Kingsbay**	**4.74**	**134**	⇓*i*P	**Pn**	**21 05 08.5**	**+1.4**
KBS				*e*S	**Sn**	**21 05 58.7**	**-3.4**
KBS	**Kingsbay**	**4.74**	**134**	*e*P	**Pn**	**21 05 08.6**	**+1.4**
KBS				*e*S	**Sn**	**21 05 58.7**	**-3.4**
KBS				IAML		21 06 04.4	
comp=Z,7.1nm,0.4s							
KBS	**Kingsbay**	**4.74**	**134**	*i*P	**Pn**	**21 05 08.7**	**+1.5**
KBS				*i*S	**Sn**	**21 05 59.2**	**-2.9**
SPA0	**Spitsbergen Ar**	**5.83**	**129**	⇓*i*P	**Pn**	**21 05 23.7**	**+1.7**
SPA0				*e*S	**Sn**	**21 06 25.7**	**-3.2**
SPA0	**Spitsbergen Ar**	**5.83**	**129**	*e*P	**Pn**	**21 05 23.8**	**+1.7**
SPA0				*e*S	**Sn**	**21 06 27.3**	**-1.6**
SPITS	**Spitsbergen Ar**	**5.83**	**129**	Pn	**Pn**	**21 05 24.2**	**+2.1**
baz=324,slow=14,SNR=93							
SPITS				Sn	**Sn**	**21 06 25.0**	**-3.8**
baz=323,slow=22,SNR=0.4							
SPITS				LR	LR	21 07 36.3	
comp=Z,148nm,20.0s,baz=285,slow=38							
DAG	**Danmarks Havn**	**6.35**	**207**	*i*P	**Pn**	**21 05 31.9**	**+2.7**
DAG				*i*S	**Sn**	**21 06 40.4**	**-1.2**
DAG				IAML		21 06 49.8	
comp=Z,2.9nm,0.3s							
DAG	**Danmarks Havn**	**6.35**	**207**	*i*P	**Pn**	**21 05 32.0**	**+2.8**
DAG				*i*S	**Sn**	**21 06 40.4**	**-1.2**
DAG				IAML		21 06 49.8	
comp=Z,2.9nm,0.3s							
HSPB	**Hornsund (broa**	**6.81**	**135**	*e*P	**Pn**	**21 05 38.0**	**+2.5**
HSPB				*e*S	**Sn**	**21 06 49.8**	**-3.2**
HSPB	**Hornsund (broa**	**6.81**	**135**	*e*P	**Pn**	**21 05 38.4**	**+2.9**
ZFI2	**Zemlya Franca-**	**7.67**	**76**	*e*P	**Pn**	**21 05 44.2**	**-3.1**
ZFI2				*e*S	Sn	21 07 01.1	-13
comp=Z,6.0nm,0.8s							
HOPEN	**Hopen**	**8.21**	**122**	*e*P	**Pn**	**21 05 55.7**	**+1.0**
HOPEN	**Hopen**	**8.21**	**122**	*e*P	**Pn**	**21 05 56.2**	**+1.6**
DBG	**Daneborg**	**8.85**	**206**	*i*P	**Pn**	**21 06 05.2**	**+1.7**
DBG				*i*S	**Sn**	**21 07 38.2**	**-4.9**
DBG				IAML		21 07 43.9	
comp=Z,1.6nm,0.4s							
DBG	**Daneborg**	**8.85**	**206**	*i*P	**Pn**	**21 06 05.2**	**+1.7**
DBG				*i*S	**Sn**	**21 07 38.2**	**-4.9**
DBG				IAML		21 07 43.9	
comp=Z,1.6nm,0.4s							
SUMG	**Summit**	**11.97**	**231**	*i*P	**Pn**	**21 06 45.9**	**-0.6**
SUMG				*e*S	Sn	21 08 50.0	-10
SUMG				IAML		21 08 59.4	
comp=Z,4.2nm,0.3s							
SUMG	**Summit**	**11.97**	**231**	*i*P	**Pn**	**21 06 45.9**	**-0.6**
SUMG				*e*S	Sn	21 08 50.0	-10
SUMG				IAML		21 08 59.4	
comp=Z,4.2nm,0.3s							
ARCES	**ARCESS Array B**	**14.83**	**134**	Pn	**Pn**	**21 07 25.8**	**+0.7**
comp=Z,0.3nm,0.3s,baz=351,slow=12,SNR=11							
ARCES				LR	LR	21 13 14.0	
comp=Z,80nm,19.3s,baz=322,slow=38							
NOA	**NORSAR Array B**	**22.22**	**157**	LR	LR	21 15 19.8	
comp=Z,20nm,21.6s,baz=105,slow=30							
NRIK	**Noril'sk**	**22.43**	**68**	P	**P**	**21 08 52.6**	**-1.6**
comp=Z,3.0nm,0.8s,baz=6.3,slow=9.2,SNR=2.3							
FINES	**FINESS Array B**	**22.82**	**139**	LR	LR	21 17 20.2	
comp=Z,55nm,20.3s,baz=18,slow=35							
HFS	**Hagfors**	**23.25**	**155**	LR	LR	21 16 54.7	
comp=Z,24nm,19.1s,baz=332,slow=33							
FRB	**Frobisher Bay**	**23.85**	**257**	LR	LR	21 18 30.1	
comp=Z,77nm,18.4s,baz=150,slow=35							
KLMR	**Klimovskoe**	**24.69**	**123**	*e*	**P**	**21 09 18.7**	**+2.3**
KLMR				AMP		21 09 27.1	
comp=Z,8.0nm,1.0s							
SCHQ	**Schefferville**	**32.32**	**251**	LR	LR	21 22 53.8	
comp=Z,55nm,18.2s,baz=30,slow=34							
DLBC	**Dease Lake**	**36.29**	**312**	LR	LR	21 26 24.7	
comp=Z,28nm,19.3s,baz=305,slow=37							
ZALV	**Zalesovo Beam**	**56.99**	**79**	LR	LR	21 29 05.6	
comp=Z,47nm,18.0s,baz=310,slow=42							
KURBB	**Kurchatov Arra**	**39.45**	**86**	P	**P**	**21 11 27.6**	**+2.1**
comp=Z,1.3nm,1.0s,baz=353,slow=7.4,SNR=8.4							
ULM	**Lac du Bonnet**	**40.47**	**278**	LR	LR	21 27 54.8	
comp=Z,29nm,20.0s,baz=254,slow=35							
BBB	**Bella Bella**	**42.28**	**309**	LR	LR	21 32 51.7	
comp=Z,43nm,18.6s,baz=42,slow=41							
ESDC	**Sonseca Array**	**43.18**	**178**	P	P	21 12 07.3	+11
comp=Z,0.4nm,0.5s,baz=0.8,slow=9.0,SNR=2.4							
MKAR	**Makanchi Array**	**43.69**	**84**	P	**P**	**21 12 01.6**	**+1.3**
comp=Z,0.5nm,0.9s,baz=15,slow=5.3,SNR=4.9							
MKAR				LR	LR	21 33 38.0	
comp=Z,39nm,18.1s,baz=4.5,slow=41							
SONM	**Songino Array**	**45.58**	**61**	P	**P**	**21 12 16.0**	**+0.6**
comp=Z,0.2nm,0.5s,baz=342,slow=9.1,SNR=1.9							
YBH	**Yreka Blue Hor**	**52.05**	**302**	LR	LR	21 38 04.3	
comp=Z,28nm,18.2s,baz=346,slow=39							
NVAR	**Mina Array Bea**	**54.83**	**297**	P	P	21 13 35.6	+10
comp=Z,0.1nm,0.3s,baz=0.0,slow=3.6,SNR=2.3							
ANMO	**Albuquerque**	**56.86**	**285**	LR	LR	21 38 38.2	
comp=Z,4.9nm,18.1s,baz=138,slow=36							
TORD	**Torodi Ar. Bea**	**69.67**	**172**	P	P	21 15 15.5	+10
comp=Z,0.9nm,1.1s,baz=348,slow=4.9,SNR=2.6							
CMAR	**Chiang Mai Arr**	**73.70**	**73**	P	**P**	**21 15 30.8**	**+1.4**
comp=Z,0.3nm,0.3s,baz=344,slow=7.7,SNR=4.8							

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*ISN **25** 21:04:38.3±1.8,32.°63N×47.°52E,h193^{km}±55^{km}, ML3.1*
*TEH **25** 21:04:40.1,32.°63N×47.°72E,h8^{km}, ML3.0*
ISC 25 21:04:42.2±1.0,32.°60N±0.°03×47.°65E±0.°04,h23^{km},n28, σ1°27/30,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.32**	**286**	*e*Pg	**Pb**	**21 04 47.7**	**-1.6**
IKFM	**Kafar-mosalman**	**0.94**	**10**	*e*Pg	**Pb**	**21 04 57.5**	**-2.3**
SHGR	**Shooshtar-Gavs**	**1.09**	**116**	*e*Pg	**Pn**	**21 05 00.9**	**-1.1**
IKMR	**Kamar-syah**	**1.11**	**34**	*e*Pg	**Pn**	**21 04 59.7**	**-2.6**
IKMR				*e*		21 05 04.1	
IDOB	**Doab**	**1.27**	**20**	*e*Pg	**Pn**	**21 05 04.2**	**-0.5**
BMDN	**Meydan**	**1.46**	**42**	*e*		21 05 33.7	
BMDN				*e*Pg	**Pn**	**21 05 07.5**	**+0.2**
AHWZ	**Ahwaz**	**1.52**	**146**	*e*Pg	**Pb**	**21 05 09.2**	**-0.4**
IKOM	**Komasi**	**1.58**	**356**	*e*Pg	**Pb**	**21 05 10.4**	**-0.4**
IKOM				*e*		21 05 37.4	
KCHF	**Cheshme Sefid,**	**1.75**	**343**	*e*Pg	**Pb**	**21 05 12.9**	**-0.8**
KCHF				*e*		21 05 42.1	
HSAM	**Samen**	**1.80**	**26**	*e*Pg	**Pb**	**21 05 13.4**	**-1.2**
HSAM				*e*		21 05 43.3	
KER	**Kermanshah**	**1.84**	**347**	*e*Pn	**Pb**	**21 05 14.1**	**-1.1**
IBZA	**Bozab**	**1.88**	**5**	*e*Pg	**Pb**	**21 05 14.7**	**-1.2**
IBZA				*e*		21 05 46.1	
IGHG	**Ghaleghazi**	**1.95**	**333**	*e*Pn	**Pb**	**21 05 15.8**	**-1.4**
IGHG				*e*		21 05 54.1	
NSR	**Nassriya**	**2.04**	**219**	*e*Pg	**Pn**	**21 05 15.0**	**0.0**
baz=34							
NSR				*e*Sg	**Sb**	**21 05 44.0**	**+0.7**
NSR				AML	AML	21 05 46.3	
comp=E,116nm,0.3s							
IVIS	**Veis**	**2.04**	**341**	*e*Pn	**Pb**	**21 05 16.8**	**-1.8**
IVIS				*e*		21 05 51.3	
KHMZ	**Khomeyn**	**2.25**	**59**	*e*Pn	**Pn**	**21 05 19.6**	**+1.4**
IALM	**Almabolaq**	**2.30**	**11**	*e*Pn	**Pn**	**21 05 19.9**	**+0.9**
IDHR	**Dehrash**	**2.35**	**334**	*e*Pn	**Pn**	**21 05 21.1**	**+1.6**
IDHR				*e*		21 05 28.8	
ILIN	**Lien**	**2.39**	**346**	*e*Pn	**Pn**	**21 05 21.8**	**+1.7**
ILIN				*e*		21 06 05.1	
HAGD	**Aghdareh**	**2.55**	**29**	*e*Pn	**Pn**	**21 05 23.7**	**+1.4**
HAGD				*e*		21 06 08.8	
JHBN	**Jahan bin**	**2.58**	**97**	*e*Pn	**Pn**	**21 05 23.5**	**+0.7**
JHBN				*e*		21 06 11.0	
HSRG	**Sareghieh**	**2.69**	**11**	*e*	**Sb**	**21 06 03.4**	**+0.9**
IPIR	**Pirpir**	**2.74**	**87**	*e*Pn	**Pn**	**21 05 26.1**	**+1.1**
IPIR				*e*		21 06 09.8	
ASAO	**Ashtian**	**2.78**	**45**	*e*Pn	**Pn**	**21 05 26.8**	**+1.3**
BHD	**Baghdad**	**2.83**	**285**	*e*Pg	**Pn**	**21 05 26.0**	**+0.1**
BHD				*e*Sg	**Sn**	**21 06 00.0**	**+0.7**
BHD				AML	AML	21 06 07.2	
comp=E,93nm,0.4s							
ROKH	**ROKH**	**2.88**	**94**	*e*Pn	**Pn**	**21 05 27.3**	**+0.5**
ROKH				*e*		21 06 27.3	
IKLH	**Kolahrood**	**3.38**	**77**	*e*Pn	**Pn**	**21 05 35.0**	**+1.2**
IKLH				*e*		21 06 36.4	
KLNJ	**Kolanjah**	**3.71**	**114**	*e*Pn	**Pn**	**21 05 38.8**	**+0.4**
KLNJ				*e*		21 05 41.7	

IDC 25 21:05:01.1±2.3,6.°71S×129.°40E,h224^{km}±33^{km},mb2.8/1, mb1 3.0/5,mb1mx2.8/38,mbtmp3.6/5,Error ellipse: s-maj=49.2km s-min=17.0km az=86.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.09**	**18**	P	Pn	**21 06 29.7**	**-0.4**
1.1nm,0.3s,baz=225,slow=23,SNR=11							
FITZ	**Fitzroy Crossi**	**11.90**	**199**	P	Pn	21 07 43.0	-1.1
0.2nm,0.3s,baz=18,slow=10,SNR=19							
FITZ				S	S	21 09 48.9	-6.8
0.1nm,0.3s,baz=315,slow=20,SNR=1.0							
WRA	**Warramunga Arr**	**14.00**	**160**	P	Pn	21 08 08.6	-1.7
0.2nm,0.3s,baz=342,slow=12,SNR=14							
WRA				S	S	21 10 42.9	-2.4
0.1nm,0.3s,baz=342,slow=30,SNR=1.3							
ASAR	**Alice Springs**	**17.41**	**166**	P	Pn	21 08 50.1	-1.0
0.3nm,0.3s,baz=346,slow=11,SNR=19							
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	21 15 34.2	+0.1
0.1nm,0.4s,baz=132,slow=8.1,SNR=4.2							

IDC 25 21:15:17.6±14.0,6.°59S×129.°45E,h185^{km}±153^{km},
mb2.8/1,mb1 3.1/4,mb1mx2.9/38,mbtmp3.5/4,ML3.3/3, Error ellipse: s-maj=109.5km s-min=55.3km az=39.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.03**	**198**	P	Pn	21 18 03.5	+0.1
0.1nm,0.3s,baz=13,slow=11,SNR=2.0							
FITZ				S	Sn	21 20 08.5	-8.7
0.1nm,0.3s,baz=300,slow=20,SNR=1.3							
WRA	**Warramunga Arr**	**14.10**	**161**	P	Pn	21 18 29.9	+0.5
0.2nm,0.3s,baz=339,slow=12,SNR=18							
WRA				S	Sn	21 20 53.2	-13
0.1nm,0.3s,baz=340,slow=24,SNR=1.3							
ASAR	**Alice Springs**	**17.52**	**166**	P	P	21 19 08.7	-0.5
0.2nm,0.3s,baz=344,slow=10.0,SNR=11							
MKAR	**Makanchi Array**	**67.58**	**327**	P	P	21 25 54.2	0.0
0.1nm,0.4s,baz=141,slow=4.8,SNR=2.4							

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*IDC **25** 21:22:01.1±1.4,35.°52N×23.°49E,h0^{km},mb3.7/5, mb1 3.8/5,mb1mx3.5/49,mbtmp3.7/5,Error ellipse: s-maj=51.2km s-min=27.3km az=137.0*
*ATH **25** 21:22:03.6,35.°41N×23.°44E,h6^{km}±1^{km},ML3.1/10,Error ellipse: s-maj=2.1km s-min=0.8km az=222.0*
*THE **25** 21:22:03.8,35.°41N×23.°43E,h9^{km},ML3.1/13,Error ellipse: s-maj=0.8km s-min=0.4km az=71.0*
ISC 25 21:22:03.6±1.0,35.°41N±0.°03×23.°43E±0.°03,h15^{km}±7^{km}, n39,σ0°84/66,mb3.8/5,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.27**	**129**	P	**Pg**	**21 22 08.7**	**-0.6**
KNDR				S	**Sg**	**21 22 12.6**	**-0.6**
3µm,0.3s							
RODP	**Rodopos**	**0.31**	**60**	P	**Pg**	**21 22 10.3**	**+0.3**
RODP				S	**Sb**	**21 22 15.3**	**-0.4**
2µm,0.3s							
IMMV	**Iera Moni Meta**	**0.45**	**83**	P	**Pg**	**21 22 12.3**	**-0.3**
IMMV				S	**Sg**	**21 22 19.2**	**+0.5**
4µm,0.3s							
IMMV	**Iera Moni Meta**	**0.45**	**83**	P	**Pg**	**21 22 12.6**	**-0.1**
IMMV				S	**Sb**	**21 22 19.4**	**-0.4**
IMMV				AML	AML	21 22 21.9	
comp=E,8680µm,0.4s							
IMMV				AML	AML	21 22 23.6	
comp=N,7511µm,0.3s							
ANKY	**Antikythira Is**	**0.47**	**347**	P	**Pg**	**21 22 12.9**	**-0.1**
ANKY				S	**Sg**	**21 22 19.8**	**+0.4**
comp=N,3µm,0.3s							
ANKY	**Antikythira Is**	**0.47**	**347**	P	**Pg**	**21 22 13.0**	**0.0**
ANKY				S	**Sb**	**21 22 20.1**	**-0.3**
ANKY				AML	AML	21 22 22.1	
comp=E,5625µm,0.2s							
ANKY				AML	AML	21 22 22.3	
comp=N,6156µm,0.3s							
CHAN	**Chania**	**0.51**	**77**	P	**Pg**	**21 22 13.6**	**-0.1**
CHAN				S	**Sb**	**21 22 21.3**	**-0.2**
comp=N,1µm,0.3s							
VAM	**Vamos**	**0.63**	**90**	P	**Pg**	**21 22 15.5**	**-0.3**
VAM				S	**Sg**	**21 22 24.7**	**+0.5**
comp=N,5µm,0.2s							
VAM	**Vamos**	**0.63**	**90**	P	**Pg**	**21 22 15.6**	**-0.3**
VAM				S	**Sg**	**21 22 24.6**	**+0.4**
VAM				AML	AML	21 22 26.9	
comp=E,3729µm,0.3s							
VAM				AML	AML	21 22 27.6	
comp=N,6505µm,0.3s							
GVDS	**Gavdos**	**0.78**	**136**	P	**Pg**	**21 22 18.1**	**-0.6**
GVDS				S	**Sb**	**21 22 29.8**	**+0.6**
comp=N,2µm,0.2s							
GVD	**Gavdhos**	**0.78**	**136**	P	**Pg**	**21 22 18.7**	**0.0**
GVD				S	**Sb**	**21 22 30.1**	**+0.9**
comp=N,2µm,0.3s							
GVD	**Gavdhos**	**0.78**	**136**	P	**Pg**	**21 22 18.5**	**-0.2**
GVD				S	**Sb**	**21 22 29.7**	**+0.4**
GVD				AML	AML	21 22 32.8	
comp=E,3610µm,0.3s							
GVD				AML	AML	21 22 34.0	
comp=N,4559µm,0.3s							
PRNS	**Prines Rethymn**	**0.88**	**92**	P	**Pg**	**21 22 19.1**	**-1.4**
PRNS				S	**Sg**	**21 22 31.7**	**-0.3**
KTHA	**Kythira Island**	**0.90**	**341**	P	**Pg**	**21 22 20.5**	**-0.6**
KTHA				S	**Sb**	**21 22 33.6**	**+0.8**
comp=N,2µm,0.3s							
KTHA	**Kythira Island**	**0.90**	**341**	P	**Pg**	**21 22 20.8**	**-0.3**
KTHA				S	**Sg**	**21 22 32.6**	**-0.3**
KTHA				AML	AML	21 22 36.2	
comp=N,1898µm,0.2s							
KTHA				AML	AML	21 22 36.2	
comp=E,5757µm,0.4s							
SIVA	**Sivas**	**1.19**	**109**	P	**Pg**	**21 22 25.3**	**-1.2**
SIVA				S	**Sb**	**21 22 42.4**	**+1.3**
comp=E,1µm,0.6s							
SIVA	**Sivas**	**1.19**	**109**	P	**Pg**	**21 22 25.4**	**-1.2**
SIVA				S	**Sg**	**21 22 41.6**	**-0.6**
SIVA				AML	AML	21 22 53.2	
comp=N,1965µm,0.5s							
SIVA				AML	AML	21 22 57.0	
comp=E,1151µm,0.5s							
IDI	**An

OXZ	**Oxford**	**0.40**	**322**	P	Pb	21	26	47.3 +0.1
AKCZ	**Akaroa Harbour**	**0.46**	**121**	P	Pb	21	26	48.4 +0.2
WACZ	**Wakanui South**	**0.49**	**231**	P	Pb	21	26	49.9 +1.1
AMCZ	**Amberley**	**0.50**	**24**	P	Pb	21	26	49.8 +0.8
OKCZ	**Okains Bay**	**0.51**	**100**	P	Pb	21	26	49.4 +0.3
GVZ	**Greta Valley S**	**0.83**	**36**	P	Pn	21	26	55.7 -0.2
LTZ	**Lake Taylor**	**0.86**	**355**	P	Pn	21	26	55.9 -0.5
ARCZ	**Arundel**	**0.92**	**250**	P	Pn	21	26	57.1 -0.1
RPZ	**Rata Peaks**	**0.96**	**265**	P	Pn	21	26	57.9 +0.1
INZ	**Inchbonnie**	**1.14**	**323**	P	Pn	21	27	00.3 +0.2
WVZ	**Waitaha Valley**	**1.32**	**295**	P	Pg	21	27	04.8 +1.7
KHZ	**Kahutara**	**1.49**	**35**	P	Pn	21	27	04.6 -0.5

MOS ***25*** *21:32:07.8±0.9, 67.°71N×142.°24E, h11km, mb4.5/16, MS3.5/5, Error ellipse: s-maj=14.3km s-min=6.5km az=89.5*

IDC ***25*** *21:32:07.9±0.5, 67.°64N×142.°29E, h0km, mb4.0/23, mb1 4.2/28, mb1mx4.0/56, mbtmp4.0/28, ML4.1/4, MS3.5/25, Ms1 3.5/25, ms1mx3.4/51, Error ellipse: s-maj=12.5km s-min=11.4km az=98.0*

YARS ***25*** *21:32:08.7±0.0, 67.°63N×142.°35E, h22km, ML3.2/5, Ms3.5/3*

NEIC ***25*** *21:32:09.4±1.3, 67.°69N±0.°09×142.°19E±0.°07, h10km±1km, mb4.5/66, Error ellipse: s-maj=15.6km s-min=4.4km az=179.0*

ISC 25 21:32:09.0±0.3, 67.°67N±0.°03×142.°34E±0.°03, h10km, n197, σ1$51/215, mb4.4/81, MS3.6/31, 6C-4D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.25**	**164**	*i*	Pg		**Pn**	**21 32 30.9**	**-1.7**
	402nm,0.2s								
MOMR					*e*Sg		**Sb**	**21 32 46.9**	**-2.0**
	3μm,0.2s								
YBGR	**Belaya Gora**	**1.69**	**57**	*i*	Pn		**Pb**	**21 32 37.8**	**-2.3**
YBGR					*e*Pg		**Pg**	**21 32 39.7**	**-1.6**
	549nm,0.4s								
YBGR					*e*Sn		**Sb**	**21 32 59.3**	**-2.0**
YBGR					*e*Sn		**Sb**	**21 32 59.3**	**-2.0**
YBGR					*e*Sg		**Sg**	**21 33 01.5**	**-1.6**
	4μm,0.4s								
DEPR	**Deputatskiy**	**1.95**	**334**	*e*Pg			**Pg**	**21 32 44.6**	**-1.7**
	56nm,0.4s								
DEPR					*e*Sg		**Sg**	**21 33 10.9**	**-0.7**
	1μm,1.4s								
UNR	**Ust'-Nera**	**3.13**	**173**	*i*	Pn		**Pn**	**21 32 57.3**	**-1.1**
UNR					*e*Pg		**Pb**	**21 33 04.7**	**0.0**
	26nm,0.2s								
UNR					*e*Sn		**Sn**	**21 33 33.5**	**-2.4**
UNR					*e*Sg		**Sb**	**21 33 45.7**	**+2.8**
	904nm,0.5s								
UNR					*e*AML		AML	21 34 03.3	
	655nm,4.5s								
ATKR	**Artyk**	**3.69**	**161**	*i*	Pn		**Pn**	**21 33 04.8**	**-1.2**
ATKR					*i* Pg		**Pb**	**21 33 14.8**	**+0.6**
	88nm,0.4s								
ATKR					*e*Sn		**Sn**	**21 33 47.2**	**-2.3**
ATKR					*e*Sn		**Sn**	**21 33 47.2**	**-2.3**
ATKR					*e*Sg		**Sb**	**21 34 03.2**	**+4.4**
	1μm,0.4s								
SEY	**Seymchan**	**6.34**	**134**		Pn		**Pn**	**21 33 42.6**	**+0.2**
	0.9nm,0.3s,baz=331,slow=15,SNR=12								
SEY					Lg		Lg	21 35 23.3	
	4.6nm,0.3s,baz=6.3,slow=23,SNR=3.7								
SEY	**Seymchan**	**6.34**	**134**	*i*	P		**Pn**	**21 33 42.1**	**-0.3**
YAK	**Yakutsk**	**7.80**	**230**		Pn		**Pn**	**21 34 02.0**	**-0.3**
	0.1nm,0.3s,baz=350,slow=1.8,SNR=1.2								
YAK					Lg		Lg	21 36 10.4	
	0.3nm,0.3s,baz=331,slow=19,SNR=2.2								
YAK	**Yakutsk**	**7.80**	**230**	*i*	P		**Pn**	**21 34 02.9**	**+0.5**
YAK					pmax		pmax		
	comp=Z,9.0nm,0.8s								
YAK	**Yakutsk**	**7.80**	**230**	*i*	Pn		**Pn**	**21 34 01.9**	**-0.5**
YAK					*e*Pg		Pb	21 34 29.4	+5.3
	comp=Z,16nm,0.6s								
YAK					*e*Sn		**Sn**	**21 35 27.8**	**-2.9**
YAK					*e*Sn		**Sn**	**21 35 27.8**	**-2.9**
YAK					*e*Sg		**Sg**	**21 36 12.5**	**-6.6**
	comp=Z,182nm,1.1s								
YAK					*e*AML		AML	21 36 54.4	
	comp=Z,976nm,9.3s								
TBGR	**Tabaga**	**7.98**	**229**	*e*Pn			**Pn**	**21 34 04.6**	**-0.3**
TBGR					*e*Pg		Pb	21 34 32.6	+5.4
	comp=Z,24nm,0.2s								
TBGR					*e*Sn		**Sn**	**21 35 32.5**	**-2.5**
TBGR					*e*Sn		**Sn**	**21 35 32.5**	**-2.5**
TBGR					*e*Sg		**Sg**	**21 36 18.1**	**-6.7**
	comp=Z,339nm,0.4s								
TBGR					*e*AML		AML	21 37 07.8	
	comp=Z,508nm,8.8s								
MA2	**Magadan**	**8.94**	**151**		Pn		**Pn**	**21 34 19.5**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=332,slow=17,SNR=1.6								
MA2					Lg		Lg	21 36 49.5	
	comp=Z,2.9nm,0.3s,baz=315,slow=19,SNR=2.9								
MA2					LR		LR	21 38 06.7	
	comp=Z,180nm,19.3s,baz=330,slow=40								
MA2	**Magadan**	**8.94**	**151**	*ce*P			**Pn**	**21 34 19.5**	**+1.5**
MA2					pmax		pmax		
	comp=Z,5.0nm,1.1s								
MA2					MLR		MLR		
	comp=Z,125nm,12.0s								
MA2	**Magadan**	**8.94**	**151**		Pn		**Pn**	**21 34 19.8**	**+1.9**
ZEA	**Zeya**	**15.73**	**215**	*e*P			**Pn**	**21 35 51.2**	**+0.9**
ZEA					pmax		pmax		
	comp=N,36nm,1.2s								
ZEA					pmax		pmax		
	comp=Z,43nm,1.2s								
ZEA					MLR		MLR		
	comp=Z,2μm,9.0s								
PEA0B	**Petropavlovsk-**	**16.37**	**145**		P		**P**	**21 36 01.6**	**+0.1**
PEA0B					pmax		pmax		
	comp=Z,50nm,1.4s								
PEA0B	**Petropavlovsk-**	**16.37**	**145**				**P**	**21 36 01.6**	**+0.1**
PEA0B					IAmb		IAmb	21 36 08.8	
	comp=Z,50nm,1.4s								
PETK	**Petropavlovsk-**	**16.37**	**145**		Pn		**P**	**21 36 00.2**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=352,slow=15,SNR=8.9								
PETK					LR		LR	21 42 18.6	
	comp=Z,84nm,19.5s,baz=268,slow=37								
PET	**Petropavlovsk**	**16.66**	**144**		P		**P**	**21 36 04.9**	**+0.2**
PET					pmax		pmax		
	comp=Z,90nm,1.0s								
PET	**Petropavlovsk**	**16.66**	**144**		P		**P**	**21 36 04.9**	**+0.2**
GRNR	**Gornyy**	**17.20**	**193**	⇓*i*	P		**Pn**	**21 36 04.7**	**-4.5**
GRNR					pmax		pmax		
	comp=Z,2.0nm,0.9s								
GRNR					MLR		MLR		
	comp=E,70nm,11.0s								
GRNR					MLR		MLR		
	comp=N,420nm,17.0s								
GRNR					MLR		MLR		
	comp=Z,410nm,17.0s								
KLR	**Kul'dur**	**19.25**	**201**		P		**Pn**	**21 36 33.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=4.6,slow=8.0,SNR=7.2								
KLR					Lg		Lg	21 42 16.7	
	baz=84,slow=17,SNR=7.1								
KLR					LR		LR	21 44 02.4	
	comp=Z,168nm,18.4s,baz=8.0,slow=37								
KLR	**Kul'dur**	**19.25**	**201**	*ce*P			**Pn**	**21 36 34.4**	**+0.2**
KLR					pmax		pmax		
	comp=Z,7.0nm,1.1s								
KLR					MLR		MLR		
	comp=Z,157nm,18.0s								
NRIK	**Noril'sk**	**19.58**	**300**		Lg		Lg	21 42 28.5	
	comp=Z,0.3nm,0.3s,baz=353,slow=17,SNR=2.3								
NRIK					LR		LR	21 45 35.3	
	comp=Z,62nm,20.7s,baz=8.0,slow=41								
RDOG	**Red Dog Mine**	**20.08**	**63**		P		Pn	21 36 42.0	-2.0
RDOG					IAmb		IAmb	21 36 52.9	
	comp=Z,29nm,1.2s								
YSS	**Yuzh-Sakhalins**	**20.77**	**179**	*e*P			P	21 36 38.3	-11
YSS					MLR		MLR		
	comp=Z,200nm,16.0s								
HIA	**Hailar**	**21.67**	**223**	*i*	P		**P**	**21 36 59.3**	**-0.1**
HIA					pmax		pmax		
	comp=Z,11nm,1.0s								
HIA	**Hailar**	**21.67**	**223**		P		**P**	**21 36 58.9**	**-0.6**
HIA					IAmb		IAmb	21 37 10.2	
	comp=Z,11nm,0.8s								
ASAJ	**Asahikawa**	**23.61**	**180**		LR		LR	21 46 44.4	
	comp=Z,106nm,20.2s,baz=23,slow=37								
IRK	**Irkutsk**	**23.97**	**249**	*e*P			**P**	**21 37 22.6**	**-0.6**
IRK					pmax		pmax		
	comp=Z,47nm,2.4s								
MDJ	**Mudanjiang**	**24.07**	**203**		P		**P**	**21 37 23.7**	**-0.5**
USA0B	**Ussuriysk Arra**	**24.16**	**198**		P		**P**	**21 37 24.3**	**-0.7**
USA0B					pmax		pmax		
	comp=Z,20nm,1.0s								
USA0B	**Ussuriysk Arra**	**24.16**	**198**		P		**P**	**21 37 24.3**	**-0.7**
USRK	**Ussuriysk Ar.**	**24.16**	**198**		P		**P**	**21 37 24.9**	**-0.1**
	comp=Z,10nm,0.8s,baz=9.7,slow=10.0,SNR=31								
USRK					LR		LR	21 47 25.5	
	comp=Z,164nm,19.8s,baz=1.9,slow=38								
TOLK	**Toolik Lake Re**	**24.20**	**56**		P		**P**	**21 37 24.9**	**-0.4**
TOLK					IAmb		IAmb	21 37 40.4	
	comp=Z,8.7nm,0.8s								
IMAR	**Indian Mountai**	**24.23**	**64**		P		**P**	**21 37 25.8**	**+0.3**
TLY	**Talaya**	**24.65**	**249**		LR		LR	21 48 52.6	
	comp=Z,81nm,19.2s,baz=30,slow=41								
TLY	**Talaya**	**24.65**	**249**	*i*	P		**P**	**21 37 27.3**	**-2.2**
TLY					pmax		pmax		
	comp=Z,5.0nm,0.8s								
TLY					MLR		MLR		
	comp=Z,280nm,16.0s								
COLD	**Coldfoot**	**24.74**	**59**		P		**P**	**21 37 30.7**	**+0.6**
CN2	**Changchun**	**25.56**	**209**	*e*P			**P**	**21 37 37.3**	**-0.3**
CN2					*e*S		**S**	**21 42 01.8**	**-3.2**
CN2					pmax		pmax		
	comp=Z,20nm,0.9s								
CN2					pmax		pmax		
	comp=Z,160nm,3.7s								
CN2					LR		LR		
	comp=N,920nm,10.0s								
CN2					LR		LR		
	comp=E,660nm,10.0s								
CN2					LR		LR		
	comp=Z,1μm,10.0s								
MOY	**Mondy**	**25.62**	**252**	*e*P			**P**	**21 37 39.7**	**+1.4**
MOY					pmax		pmax		
	comp=Z,30nm,1.6s								
ZAK	**Zakamensk**	**25.86**	**248**	*e*P			**P**	**21 37 41.1**	**+0.6**
ZAK					pmax		pmax		
	comp=Z,6.0nm,1.2s								
ATKA	**Atka Island**	**25.96**	**105**		P		**P**	**21 37 42.5**	**+1.2**
ATKA					IAmb		IAmb	21 37 55.6	
	comp=Z,15nm,1.0s								
BPAW	**Bear Paw Mtn.**	**26.28**	**66**		P		**P**	**21 37 45.4**	**+1.4**
BPAW					IAmb		IAmb	21 38 02.6	
	comp=Z,8.7nm,1.4s								
BMAR	**Burnt Mountain**	**26.44**	**56**		P		**P**	**21 37 46.0**	**+0.5**
MDM	**Murphy Dome**	**26.70**	**62**		P		**P**	**21 37 47.5**	**-0.3**
MDM					IAmb		IAmb	21 37 52.7	
	comp=Z,7.6nm,1.2s								
ULN	**Ulaanbaatar**	**26.71**	**240**	*i*	P		**P**	**21 37 48.6**	**+0.3**
ULN					pmax		pmax		
	comp=Z,4.0nm,1.1s								
ULN	**Ulaanbaatar**	**26.71**	**240**		P		**P**	**21 37 48.4**	**+0.1**
COLA	**College**	**26.88**	**62**	*i*	P		**P**	**21 37 50.8**	**+1.4**
COLA					pmax		pmax		
	comp=Z,9.0nm,0.9s								
COLA	**College**	**26.88**	**62**		P		**P**	**21 37 50.1**	**+0.7**
COLA					IAmb		IAmb	21 38 02.4	
	comp=Z,9.1nm,0.8s								
TRF	**Thorofare Moun**	**26.92**	**66**		P		**P**	**21 37 51.0**	**+1.0**
TRF					IAmb		IAmb	21 37 54.2	
	comp=Z,10nm,1.2s								
SONM	**Songino Array**	**26.96**	**241**		P		**P**	**21 37 52.1**	**+1.6**
	comp=Z,1.7nm,0.8s,baz=25,slow=9.6,SNR=13								
SONM					Lg		Lg	21 46 19.7	
	comp=Z,0.6nm,0.9s,baz=40,slow=21,SNR=1.4								
SONM					LR		LR	21 49 05.6	
	comp=Z,220nm,18.1s,baz=40,slow=38								
SONM	**Songino Array**	**26.96**	**241**	*e*P			**P**	**21 37 52.6**	**+2.1**
SONM					pmax		pmax		
	comp=Z,2.0nm,0.8s								
WRH	**Wood River Hil**	**27.05**	**63**		P		**P**	**21 37 52.2**	**+1.2**
MCK	**McKinley**	**27.22**	**65**		P		**P**	**21 37 53.4**	**+0.9**
MCK					pmax		pmax		
	comp=Z,7.0nm,1.0s								
MCK	**McKinley**	**27.22**	**65**		P		**P**	**21 37 53.4**	**+0.9**
MCK					IAmb		IAmb	21 38 04.6	
	comp=Z,6.8nm,1.0s								
IL31		**27.27**	**62**		P		**P**	**21 37 53.2**	**+0.3**
ILAR	**Eielson Array**	**27.27**	**62**		P		**P**	**21 37 53.7**	**+0.7**
	comp=Z,3.0nm,0.9s,baz=295,slow=7.7,SNR=21								
ILAR					LR		LR	21 51 27.4	
	comp=Z,44nm,18.8s,baz=328,slow=42								
DHY	**Denali Highway**	**28.18**	**65**		P		**P**	**21 38 01.8**	**+0.5**
BRLK	**Bradley Lake**	**29.16**	**73**		P		**P**	**21 38 11.2**	**+1.4**
INK	**Inuvik**	**29.27**	**49**		LR		LR	21 51 44.1	
	comp=Z,94nm,19.6s,baz=272,slow=40								
ZAA0	**Zalesovo Array**	**29.93**	**272**		P		**P**	**21 38 15.8**	**-0.9**
ZALV	**Zalesovo Beam**	**29.93**	**272**		P		**P**	**21 38 17.2**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=38,slow=7.5,SNR=4.3								
ZALV					LR		LR	21 50 51.6	
	comp=Z,82nm,18.4s,baz=50,slow=38								
ZALV	**Zalesovo Beam**	**29.93**	**272**	*e*P			**P**	**21 38 17.7**	**+1.0**
ZALV					pmax		pmax		
	comp=Z,2.0nm,0.8s								
KDAK	**Kodiak Island**	**29.94**	**77**		LR		LR	21 50 22.2	
	comp=Z,192nm,18.5s,baz=321,slow=36								
EYAK	**Cordova Ski Ar**	**30.46**	**68**		P		**P**	**21 38 22.9**	**+1.7**
SPITS	**Spitsbergen Ar**	**30.91**	**341**		P		**P**	**21 38 25.5**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=57,slow=9.1,SNR=8.7								
BJI	**Beijing**	**31.19**	**221**		P		**P**	**21 38 29.5**	**+1.6**
BJI					S		**S**	**21 43 34.5**	**+0.9**
BJI					pmax		pmax		
	comp=Z,6.0nm,0.9s								
BJI					LR		LR		
	comp=N,350nm,11.5s								
BJI					LR		LR		
	comp=E,270nm,8.6s								
BJI					LR		LR		
	comp=Z,150nm,20.1s								
MJA0	**Matsu Arr-Jizo**	**31.26**	**186**	*e*P			**P**	**21 38 28.6**	**0.0**
MJA0					pmax		pmax		
	comp=Z,1.0nm,0.8s								
MJAR	**Matsushiro Arr**	**31.26**	**186**		LR		LR	21 52 01.2	
	comp=Z,35nm,18.2s,baz=10.0,slow=38								
KSRS	**Korea Array**	**31.34**	**202**		P		**P**	**21 38 28.6**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=16,slow=9.3,SNR=5.5								
KSRS					LR		LR	21 51 39.4	
	comp=Z,100nm,21.7s,baz=20,slow=37								
KSRS	**Korea Array**	**31.34**	**202**	*e*P			**P**	**21 38 30.9**	**+1.7**
KSRS					pmax		pmax		
	comp=Z,2.0nm,0.7s								
HHC	**Hu-ho-hao-te**	**31.66**	**228**	*e*P			**P**	**21 38 34.0**	**+1.8**
HHC					S		**S**	**21 43 39.8**	**-1.4**
HHC					PcS		**PcS**	**21 45 07.0**	**-1.3**
HHC					SS		**SnSn**	**21 45 22.0**	**-4.9**
HHC					pmax		pmax		
	comp=Z,22nm,1.0s								
HHC					pmax		pmax		
	comp=Z,100nm,4.7s								
HHC					LR		LR		
	comp=N,590nm,10.4s								
HHC					LR		LR		
	comp=E,300nm,12.5s								
HHC					LR		LR		
	comp=Z,540nm,11.3s								
DGZ	**Jazzator, Alta**	**32.28**	**264**	*i*	P		**P**	**21 38 38.3**	**+0.7**
DGZ					pmax		pmax		
	comp=Z,2.0nm,0.7s								
RES	**Resolute Bay**	**33.29**	**24**		LR		LR	21 52 55.2	
	comp=Z,31nm,18.4s,baz=318,slow=37								
KURK	**Kurchatov**	**34.83**	**274**	*ce*P			**P**	**21 39 00.0**	**+0.4**
KURK					pmax		pmax		
	comp=Z,7.0nm,1.0s								
KURK	**Kurchatov**	**34.83**	**274**		P		**P**	**21 38 59.6**	**+0.1**
KURK					IAmb		IAmb	21 39 01.3	
	comp=Z,4.7nm,0.9s								
BRVK	**Borovoye**	**36.11**	**283**	*ce*P			**P**	**21 39 11.1**	**+0.5**
BRVK					pmax		pmax		
	comp=Z,9.0nm,2.5s								
BRVK	**Borovoye**	**36.11**	**283**		P		**P**	**21 39 09.9**	**-0.7**
ARCES	**ARCESS Array B**	**36.45**	**328**		P		**P**	**21 39 13.4**	**0.0**
	comp=Z,0.8nm,0.6s,baz=27,slow=8.2,SNR=5.1								
ARCES					PcP		**PcP**	**21 41 36.3**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=46,slow=5.2,SNR=5.8								
MK31	**Makanchi Array**	**36.63**	**266**		P		**P**	**21 39 14.8**	**-0.3**
MK31					pmax		pmax		
	comp=Z,7.0nm,0.9s								
MK31	**Makanchi Array**	**36.63**	**266**		P		**P**	**21 39 14.8**	**-0.3**
MK31					IAmb		IAmb	21 39 20.0	
	comp=Z,6.6nm,0.8s								
MKAR	**Makanchi Array**	**36.63**	**266**		P		**P**	**21 39 15.1**	**0.0**
	comp=Z,7.3nm,0.8s,baz=42,slow=6.9,SNR=59								
MKAR					LR		LR	21 56 56.2	
	comp=Z,28nm,20.4s,baz=360,slow=41								
GTA	**Gaotai**	**36.63**	**241**	⇓*i*	P		**P**	**21 39 17.3**	**+2.0**
GTA					pP		sP	21 39 22.0	+2.0
GTA					sP		pP	21 39 24.5	+5.9
GTA					S		**S**	**21 44 59.8**	**+1.8**
GTA					sS		sS	21 45 07.5	+4.0
GTA					SS		**SnSn**	**21 47 28.0**	**+0.6**
GTA					pmax		pmax		
	comp=Z,3.0nm,0.9s								
GTA					pmax		pmax		
	comp=Z,43nm,5.6s								
GTA					LR		LR		
	comp=N,160nm,13.3s								
GTA					LR		LR		
	comp=E,210nm,14.6s								
GTA					LR		LR		
	comp=Z,220nm,15.2s								
MAKZ	**Makanchi**	**36.73**	**267**		P		**P**	**21 39 15.6**	**-0.4**
MAKZ					pmax		pmax		
	comp=Z,5.0nm,0.9s								
MAKZ	**Makanchi**	**36.73**	**267**		P		**P**	**21 39 15.6**	**-0.4**
MAKZ					IAmb		IAmb	21 39 20.9	
	comp=Z,4.7nm,0.8s								
WMQ	**Urumqi**	**37.09**	**258**	*e*P			**P**	**21 39 21.8**	**+2.7**
WMQ					pP		sP	21 39 25.8	+2.0
WMQ					sP		pP	21 39 28.5	+6.0
WMQ					pmax		pmax		
	comp=Z,11nm,0.7s								
WMQ					pmax		pmax		
	comp=Z,56nm,5.1s								
WMQ					LR		LR		
	comp=N,75nm,17.5s								
WMQ					LR		LR		
	comp=Z,58nm,19.5s								
WMQ	**Urumqi**	**37.09**	**258**		P		**P**	**21 39 20.2**	**+1.0**
WMQ					pmax		pmax		
	comp=Z,12nm,0.7s								
WMQ	**Urumqi**	**37.09**	**258**		P		**P**	**21 39 20.2**	**+1.0**
DLBC	**Dease Lake**	**37.42**	**60**		LR		LR	21 56 24.5	
	comp=Z,62nm,20.1s,baz=304,slow=39								
ARU	**Arti**	**37.69**	**295**	*d*	P		**P**	**21 39 24.2**	**+0.3**
ARU								21 40 47.1	
ARU					S		**S**	**21 45 16.5**	**+3.0**
ARU					SS		**SS**	**21 47 53.6**	**-4.7**
ARU					pmax		pmax		
	comp=Z,2.0nm,0.8s								
TMCR	**Tamitsa**	**37.88**	**316**	*e*P			**P**	**21 39 23.7**	**-1.8**
NJ2	**Nanjing**	**38.22**	**213**	*e*P			**P**	**21 39 31.3**	**+2.7**
NJ2					pmax		pmax		
	comp=Z,5.0nm,0.5s								
LZH	**Lanzhou**	**38.35**	**234**	*e*P			**P**	**21 39 32.0**	**+2.0**
LZH					pP		sP	21 39 36.8	+2.2
LZH					sP		pP	21 39 39.3	+6.0
LZH				*e*PP			**PnPn**	**21 41 03.5**	**+4.3**
LZH					pmax		pmax		
	comp=Z,23nm,1.3s								
LZH					pmax		pmax		
	comp=Z,72nm,5.4s								
LZH					LR		LR		
	comp=N,220nm,13.0s								
LZH					LR		LR		
	comp=E,230nm,13.2s								
LZH					LR		LR		
	comp=Z,370nm,16.4s								
XAN	**Xi'an**	**38.76**	**227**		P		P	21 39 37.8	+4.5
XAN					pP		sP	21 39 52.0	+14
XAN					pmax		pmax		
	comp=Z,6.0nm,0.9s								
XAN					LR		LR		
	comp=N,430nm,9.8s								
XAN					LR		LR		
	comp=E,320nm,8.8s								
XAN					LR		LR		
	comp=Z,480nm,11.3s								
YKA	**Yellowknife Ar**	**38.89**	**46**		P		**P**	**21 39 35.2**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=327,slow=8.9,SNR=3.5								
YKA					LR		LR	21 57 54.4	
	comp=Z,34nm,20.7s,baz=0.0,slow=40								
KLMR	**Klimovskoe**	**40.16**	**312**		P		**P**	**21 39 43.4**	**-1.1**
KLMR					pmax		pmax		
	comp=Z,7.0nm,1.2s								
KLMR	**Klimovskoe**	**40.16**	**312**		P		**P**	**21 39 43.5**	**-1.1**
KLMR					AMP			21 39 50.1	
	comp=Z,7.0nm,1.2s								
ENH	**Enshi**	**42.16**	**224**		P		**P**	**21 40 01.5**	**+0.1**
KDJ	**Kajisay**	**42.52**	**267**		P		**P**	**21 40 04.7**	**+0.3**
KDJ					pmax		pmax		
	comp=Z,3.0nm,0.7s								
KDJ	**Kajisay**	**42.52**	**267**		P		**P**	**21 40 04.7**	**+0.3**
TARG	**Taragay, Kyrgy**	**42.63**	**266**		P		**P**	**21 40 05.1**	**-0.5**
FRU1	**Bishkek**	**42.91**	**270**		P		**P**	**21 40 07.9**	**+0.4**
FRU1					pmax		pmax		
	comp=Z,12nm,1.1s								
FRU1	**Bishkek**	**42.91**	**270**		P		**P**	**21 40 07.9**	**+0.4**
FRU1					IAmb		IAmb	21 40 14.4	
	comp=Z,12nm,1.1s								
AAK	**Ala-Archa**	**43.11**	**270**		P		**P**	**21 40 10.2**	**+1.0**
AAK					pmax		pmax		
	comp=Z,9.0nm,0.8s								
AAK	**Ala-Archa**	**43.11**	**270**		P		**P**	**21 40 10.2**	**+1.0**
AAK					IAmb		IAmb	21 40 15.9	
	comp=Z,8.8nm,0.8s								
FINES	**FINESS Array B**	**43.18**	**321**		P		**P**	**21 40 09.9**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=34,slow=9.0,SNR=12								
KK31	**Karatay Array**	**44.24**	**274**		P		**P**	**21 40 18.3**	**+0.2**
KK31					pmax		pmax		
	comp=Z,2.0nm,0.9s								
KK31	**Karatay Array**	**44.24**	**274**		P		**P**	**21 40 18.3**	**+0.2**
OBN	**Obninsk**	**45.84**	**310**	*e*P			**P**	**21 40 30.5**	**-0.1**
OBN				*e*				21 42 11.9	
OBN				*e*				21 42 21.4	
OBN					pmax		pmax		
	comp=Z,4.0nm,0.8s								
OBN					MLR		MLR		
	comp=Z,36

	comp=Z,6.6nm,0.8s								
TAPN	**Taplejung**	**51.75**	**247**	*e*P		**P**		**21 41 17.6**	**+0.9**
	comp=Z,33nm,0.9s								
AKASG	**Malin Array Be**	**51.85**	**312**	P		**P**		**21 41 16.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=28,slow=8.5,SNR=5.8								
AKASG	**Malin Array Be**	**51.85**	**312**	*e*P		**P**		**21 41 18.4**	**+1.7**
SHL	**Shillong**	**51.95**	**242**	P		**P**		**21 41 17.1**	**-0.9**
SHL				pmax	pmax				
	comp=Z,5.0nm,1.0s								
SHL	**Shillong**	**51.95**	**242**	P		**P**		**21 41 17.1**	**-0.9**
SHL				IAmb	IAmb			21 41 28.4	
	comp=Z,5.4nm,1.0s								
JIRN	**Jiri**	**52.01**	**249**	*e*P		**P**		**21 41 20.1**	**+1.4**
	comp=Z,87nm,0.9s								
SLVN	**Son La**	**52.17**	**227**	P		**P**		**21 41 20.0**	**+0.5**
SLVN				IAmb	IAmb			21 41 21.0	
	comp=Z,4.5nm,1.0s								
KKN	**Kakani**	**52.22**	**250**	*e*P		**P**		**21 41 21.5**	**+1.4**
	comp=Z,51nm,0.8s								
KBL	**Kabul**	**52.25**	**270**	P		**P**		**21 41 19.9**	**-0.3**
KBL				pmax	pmax				
	comp=Z,4.0nm,0.5s								
KBL	**Kabul**	**52.25**	**270**	P		**P**		**21 41 19.9**	**-0.3**
KBL				IAmb	IAmb			21 41 20.7	
	comp=Z,4.1nm,0.5s								
GKN	**Gorkha**	**52.25**	**251**	*e*P		**P**		**21 41 21.5**	**+1.2**
	comp=Z,73nm,0.7s								
ODAN	**Odare**	**52.31**	**248**	*e*P		**P**		**21 41 21.7**	**+0.9**
	comp=Z,29nm,1.1s								
PKI	**Pulchoki**	**52.37**	**250**	*e*P		**P**		**21 41 22.0**	**+0.7**
	comp=Z,31nm,0.9s								
DMN	**Daman**	**52.44**	**250**	*e*P		**P**		**21 41 23.1**	**+1.3**
RAMN	**Ramite**	**52.51**	**248**	*e*P		**P**		**21 41 22.9**	**+0.6**
	comp=Z,22nm,0.8s								
PYUN	**Piuthan**	**52.76**	**253**	*e*P		**P**		**21 41 25.8**	**+1.7**
	comp=Z,42nm,0.3s								
KOLN	**Koldanda**	**52.84**	**252**	*e*P		**P**		**21 41 25.7**	**+1.0**
	comp=Z,55nm,0.9s								
GEYT	**Alibeck**	**53.41**	**282**	P		**P**		**21 41 29.7**	**+1.1**
	comp=Z,3.3nm,0.9s,baz=17,slow=6.2,SNR=8.5								
GEYT				LR		LR		22 07 32.9	
	comp=Z,58nm,20.6s,baz=185,slow=40								
GYA0B	**ALIBECK ARRAY**	**53.41**	**282**	P		**P**		**21 41 28.9**	**+0.3**
GYA0B				IAmb	IAmb			21 41 35.0	
	comp=Z,5.5nm,0.9s								
KIV	**Kislovodsk**	**53.64**	**298**	*e*P		**P**		**21 41 30.6**	**+0.4**
KIV				pmax	pmax				
	comp=Z,17nm,1.0s								
KIV	**Kislovodsk**	**53.64**	**298**	P		**P**		**21 41 29.9**	**-0.3**
KIV				IAmb	IAmb			21 41 32.4	
	comp=Z,4.9nm,0.9s								
KBZ	**Khabaz**	**53.77**	**298**	P		**P**		**21 41 32.7**	**+1.7**
	comp=Z,4.0nm,0.9s,baz=53,slow=5.9,SNR=7.9								
ULM	**Lac du Bonnet**	**54.60**	**42**	LR		LR		22 08 02.0	
	comp=Z,83nm,18.5s,baz=342,slow=39								
KWP	**Kalwaria Pacla**	**54.60**	**316**	P		**P**		**21 41 37.5**	**+0.4**
KWP				pmax	pmax				
	comp=Z,7.0nm,0.8s								
KWP	**Kalwaria Pacla**	**54.60**	**316**	P		**P**		**21 41 37.5**	**+0.4**
GCMT	**Greycliff**	**54.72**	**55**	P		**P**		**21 41 38.6**	**+0.4**
HRA	**Herat**	**54.98**	**276**	P		**P**		**21 41 41.0**	**+0.8**
HRA				IAmb	IAmb			21 41 42.1	
	comp=Z,3.2nm,0.8s								
YHH	**Holmes Hill**	**55.24**	**56**	P		**P**		**21 41 42.0**	**-0.1**
YNE	**Yellowstone No**	**55.31**	**55**	P		**P**		**21 41 43.6**	**+1.0**
TGY	**Tagaytay City**	**55.32**	**206**	LR		LR		22 06 42.7	
	comp=Z,54nm,18.2s,baz=218,slow=38								
CLL	**Collm**	**55.44**	**324**	*i* P		**P**		**21 41 42.8**	**-0.2**
	comp=Z,5.0nm,0.9s								
CLL	**Collm**	**55.44**	**324**	*i* P		**P**		**21 41 42.8**	**-0.2**
CLL				pmax	pmax				
	comp=Z,5.0nm,0.9s								
CLL	**Collm**	**55.44**	**324**	P		**P**		**21 41 42.7**	**-0.4**
CLL				IAmb	IAmb			21 41 44.0	
	comp=Z,4.2nm,0.9s								
RLMT	**Red Lodge**	**55.44**	**55**	P		**P**		**21 41 43.8**	**+0.3**
RLMT				IAmb	IAmb			21 41 49.0	
	comp=Z,6.3nm,0.9s								
H17A	**Grant Village**	**55.68**	**56**	P		**P**		**21 41 46.0**	**+0.7**
H17A				IAmb	IAmb			21 41 51.5	
	comp=Z,6.1nm,1.1s								
BUR08	**Bucovina Ar. S**	**55.74**	**313**	P		**P**		**21 41 45.5**	**+0.1**
FXWY	**Fox Creek**	**56.22**	**57**	P		**P**		**21 41 49.5**	**+0.4**
CM31	**Chiang Mai Arr**	**56.33**	**232**	P		**P**		**21 41 50.3**	**+0.5**
CM31				IAmb	IAmb			21 41 57.1	
	comp=Z,2.8nm,0.8s								
CMAR	**Chiang Mai Arr**	**56.33**	**232**	P		**P**		**21 41 50.1**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=9.6,slow=8.3,SNR=8.3								
CMAR				LR		LR		22 08 32.7	
	comp=Z,78nm,18.7s,baz=240,slow=39								
TPAW	**Teton Pass**	**56.37**	**57**	P		**P**		**21 41 49.7**	**-0.5**
TPAW				IAmb	IAmb			21 41 54.4	
	comp=Z,4.9nm,1.1s								
LOHW	**Long Hollow**	**56.38**	**57**	P		**P**		**21 41 50.8**	**+0.6**
REDW	**Red Top Meadow**	**56.52**	**57**	P		**P**		**21 41 51.6**	**+0.4**
REDW				IAmb	IAmb			21 41 56.3	
	comp=Z,3.6nm,0.8s								
PSZ	**Piszkesteto**	**56.92**	**317**	P		**P**		**21 41 54.5**	**+0.7**
PSZ				pmax	pmax				
	comp=Z,6.0nm,0.9s								
PSZ	**Piszkesteto**	**56.92**	**317**	P		**P**		**21 41 54.5**	**+0.7**
PSZ				IAmb	IAmb			21 41 56.4	
	comp=Z,6.0nm,0.9s								
PD31	**Pinedale Array**	**57.47**	**56**	P		**P**		**21 41 58.1**	**+0.1**
PDAR	**Pinedale Array**	**57.47**	**56**	P		**P**		**21 41 58.6**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=3.7,slow=3.8,SNR=12								
PDAR				LR		LR		22 09 54.4	
	comp=Z,94nm,18.5s,baz=336,slow=39								
PBKT	**Sadao Pong**	**57.52**	**229**	P		**P**		**21 41 58.9**	**+0.6**
PBKT				IAmb	IAmb			21 42 03.2	
	comp=Z,3.8nm,0.8s								
GERES	**GERESS Array B**	**57.58**	**322**	P		**P**		**21 41 59.1**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=46,slow=5.8,SNR=8.0								
NVAR	**Mina Array Bea**	**58.45**	**65**	P		**P**		**21 42 05.8**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=314,slow=5.9,SNR=9.6								
DUG	**Dugway, Tooele**	**58.73**	**60**	P		**P**		**21 42 07.8**	**+1.1**
DUG				pmax	pmax				
	comp=Z,3.0nm,0.9s								
DUG	**Dugway, Tooele**	**58.73**	**60**	P		**P**		**21 42 07.8**	**+1.1**
DUG				IAmb	IAmb			21 42 12.6	
	comp=Z,3.4nm,0.8s								
R11A	**Troy Canyon, C**	**59.46**	**63**			**P**		**21 42 12.7**	**+0.9**
PSUT	**Pine Spring**	**59.88**	**62**	P		**P**		**21 42 15.4**	**+0.6**
BRTR	**Keskin Array B**	**60.41**	**303**	P		**P**		**21 42 18.4**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=262,slow=28,SNR=4.2								
ECSD	**EROS Data Cent**	**60.41**	**46**	P		**P**		**21 42 18.7**	**+0.6**
SRU	**San Rafael Swe**	**60.46**	**59**	P		**P**		**21 42 18.5**	**-0.2**
SRU				pmax	pmax				
	comp=Z,5.0nm,1.0s								
SRU	**San Rafael Swe**	**60.46**	**59**	P		**P**		**21 42 18.5**	**-0.2**
ESDC	**Sonseca Array**	**69.99**	**333**	P		**P**		**21 43 20.2**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=5.4,slow=6.6,SNR=10								
TXAR	**Lajitas Array**	**71.66**	**57**	LR		LR		22 19 00.7	
	comp=Z,59nm,18.2s,baz=0.0,slow=39								
WRAB	**Tennant Creek**	**87.54**	**188**	*e*P		**P**		**21 44 57.9**	**+1.2**
WRAB				pmax	pmax				
	comp=Z,5.0nm,1.1s								
WRA	**Warramunga Arr**	**87.55**	**188**	P		**P**		**21 44 55.2**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=2.9,slow=7.2,SNR=2.7								
ASAR	**Alice Springs**	**91.27**	**188**	P		**P**		**21 45 12.7**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=356,slow=4.8,SNR=2.4								
TORD	**Torodi Ar. Bea**	**94.53**	**322**	P		**P**		**21 45 30.6**	**+1.1**
	comp=Z,0.7nm,0.9s,baz=6.8,slow=2.8,SNR=3.2								
VNDA	**Vanda**	**145.45**	**173**	PKPbc		**PKPdf**		**21 51 44.0**	**-0.9**
	comp=Z,1.9nm,1.0s,baz=319,slow=4.7,SNR=7.2								
MAW	**Mawson**	**145.77**	**222**	PKPbc		**PKPab**		**21 51 45.7**	**-1.0**
	comp=Z,4.2nm,0.9s,baz=320,slow=5.3,SNR=8.8								
MAW	**Mawson**	**145.77**	**222**	PKP2		**PKPab**		**21 51 46.1**	**-0.6**
MAW	**Mawson**	**145.77**	**222**			**PKPab**		**21 51 46.1**	**-0.6**
PLCA	**Paso Flores**	**147.62**	**50**	PKPbc		**PKiKP**		**21 51 52.6**	**-2.0**
	comp=Z,2.3nm,0.9s,baz=325,slow=2.7,SNR=5.5								
PLCA	**Paso Flores**	**147.62**	**50**	*e*PKP2		**PKiKP**		**21 51 52.9**	**-1.8**
PLCA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
PLCA	**Paso Flores**	**147.62**	**50**			**PKPbc**		**21 51 52.4**	**-0.2**

NEIC ***25*** *21:46:22.2±0.8, 18.°1N±0.°2×67.°79W±0.°05, h134km±5km, Error ellipse: s-maj=25.4km s-min=5.6km az=188.0*
RSPR ***25*** *21:46:23.6, 18.°16N×67.°75W, h131km, MD3.2/10*

ISC 25 21:46:22.5±1.8, 18.°2N±0.°1×67.°78W±0.°05, h135km±10km, n49, σ0°45/60, 15C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CRPR	**Cabo Rojo, PR**	**0.66**	**103**	⇑*e*P		**Pn**	**21 46 43.1**	**0.0**
CRPR	**Cabo Rojo, PR**	**0.66**	**103**	*e*S		**Sn**	**21 46 58.6**	**0.0**
CRPR	**Cabo Rojo, PR**	**0.66**	**103**			**Pn**	**21 46 43.1**	**0.0**
CRPR						**Sn**	**21 46 58.5**	**0.0**
LSP	**Las Mesas**	**0.66**	**88**	⇑*e*P		**Pn**	**21 46 43.1**	**0.0**
LSP	**Las Mesas**	**0.66**	**88**	*e*S		**Sn**	**21 46 58.5**	**-0.2**
LSP	**Las Mesas**	**0.66**	**88**			**Pn**	**21 46 43.1**	**0.0**
LSP						**Sn**	**21 46 58.5**	**-0.2**
PCDR	**Punta Cana, DR**	**0.67**	**302**	⇑*e*P		**Pn**	**21 46 43.6**	**+0.4**
PCDR	**Punta Cana, DR**	**0.67**	**302**	*e*S		**Sn**	**21 46 59.5**	**+0.8**
PCDR	**Punta Cana, DR**	**0.67**	**302**			**Pn**	**21 46 43.1**	**0.0**
PCDR						**Sn**	**21 46 59.1**	**+0.3**
AGPR	**Aguadilla, PR**	**0.71**	**64**	⇑*e*P		**Pn**	**21 46 43.7**	**+0.3**
AGPR	**Aguadilla, PR**	**0.71**	**64**	*e*S		**Sn**	**21 46 59.3**	**0.0**
AGPR	**Aguadilla, PR**	**0.71**	**64**			**Pn**	**21 46 43.5**	**+0.1**
AGPR						**Sn**	**21 46 59.5**	**+0.2**
MLPR	**Magueyes Islan**	**0.73**	**105**	⇑*i*P		**Pn**	**21 46 42.8**	**-0.8**
MLPR	**Magueyes Islan**	**0.73**	**105**	*e*S		**Sn**	**21 46 59.2**	**-0.3**
MLPR	**Magueyes Islan**	**0.73**	**105**			**Pn**	**21 46 42.7**	**-0.9**
MLPR						**Sn**	**21 46 59.1**	**-0.3**
GBPR	**Guanica, Bosqu**	**0.88**	**102**	⇑*e*P		**Pn**	**21 46 45.1**	**+0.4**
GBPR	**Guanica, Bosqu**	**0.88**	**102**	*e*S		**Sn**	**21 47 01.8**	**+0.2**
GBPR	**Guanica, Bosqu**	**0.88**	**102**			**Pn**	**21 46 45.1**	**+0.4**
GBPR						**Sn**	**21 47 01.8**	**+0.2**
AOPR	**Arecibo Observ**	**1.00**	**79**	⇑*e*P		**Pn**	**21 46 45.6**	**-0.2**
AOPR	**Arecibo Observ**	**1.00**	**79**	*e*S		**Sn**	**21 47 03.3**	**-0.2**
AOPR	**Arecibo Observ**	**1.00**	**79**			**Pn**	**21 46 45.6**	**-0.2**
AOPR						**Sn**	**21 47 03.3**	**-0.2**
CELP	**Cerrillos**	**1.15**	**94**	⇑*e*P		**Pn**	**21 46 47.4**	**+0.2**
CELP	**Cerrillos**	**1.15**	**94**	*e*S		**Sn**	**21 47 06.0**	**0.0**
CELP	**Cerrillos**	**1.15**	**94**			**Pn**	**21 46 47.4**	**+0.2**
CELP						**Sn**	**21 47 06.0**	**0.0**
EMPR	**Esperanza - Ma**	**1.23**	**75**	⇑*e*P		**Pn**	**21 46 47.9**	**-0.2**
EMPR	**Esperanza - Ma**	**1.23**	**75**	*e*S		**Sn**	**21 47 07.7**	**+0.2**
EMPR	**Esperanza - Ma**	**1.23**	**75**			**Pn**	**21 46 47.9**	**-0.2**
EMPR	**Esperanza - Ma**	**1.23**	**75**			**Sn**	**21 47 07.1**	**-0.4**
IGPR	**InterUniversit**	**1.60**	**96**	⇑*e*P		**Pn**	**21 46 52.3**	**+0.2**
IGPR	**InterUniversit**	**1.60**	**96**	*e*S		**Sn**	**21 47 14.9**	**+0.3**
IGPR	**InterUniversit**	**1.60**	**96**			**Sn**	**21 47 14.9**	**+0.3**
GCPR	**Guaynabo City**	**1.62**	**84**	⇑*e*P		**Pn**	**21 46 52.4**	**+0.1**
GCPR	**Guaynabo City**	**1.62**	**84**			**Pn**	**21 46 50.9**	**-1.4**
GCPR						**Sn**	**21 47 13.6**	**-1.5**
DR12	**Loma Pena Alta**	**1.64**	**293**			**Pn**	**21 46 52.5**	**-0.1**
CBYP	**Canovanas**	**1.83**	**86**	⇑*e*P		**Pn**	**21 46 55.3**	**+0.5**
CBYP	**Canovanas**	**1.83**	**86**			**Pn**	**21 46 54.6**	**-0.3**
HUMP	**Col San Antoni**	**1.84**	**90**	⇑*e*P		**Pn**	**21 46 55.0**	**+0.2**
HUMP	**Col San Antoni**	**1.84**	**90**	*e*S		**Sn**	**21 47 19.6**	**+0.1**
HUMP	**Col San Antoni**	**1.84**	**90**			**Pn**	**21 46 54.9**	**+0.1**
HUMP						**Sn**	**21 47 19.3**	**-0.1**
MTP	**Monte Pirata**	**2.12**	**91**	⇑*e*P		**Pn**	**21 46 58.8**	**+0.6**
MTP	**Monte Pirata**	**2.12**	**91**	*e*S		**Sn**	**21 47 26.1**	**+0.5**
MTP	**Monte Pirata**	**2.12**	**91**			**Pn**	**21 46 58.8**	**+0.6**
MTP	**Monte Pirata**	**2.12**	**91**			**Sn**	**21 47 24.9**	**-0.7**
CUPR	**Culebra, Puert**	**2.38**	**86**	⇑*e*P		**Pn**	**21 47 02.0**	**+0.7**
CUPR	**Culebra, Puert**	**2.38**	**86**	*e*S		**Sn**	**21 47 31.4**	**+0.1**
CUPR	**Culebra, Puert**	**2.38**	**86**			**Pn**	**21 47 00.9**	**-0.5**
CUPR						**Sn**	**21 47 31.0**	**-0.3**
STVI	**Saint Thomas**	**2.69**	**85**	⇑*e*P		**Pn**	**21 47 06.1**	**+0.7**
STVI	**Saint Thomas**	**2.69**	**85**			**Pn**	**21 47 05.8**	**+0.5**
SDDR	**Presa de Saban**	**3.42**	**284**	Pn		**Pn**	**21 47 14.3**	**-0.5**

ASRS 25 21:52:26.9±0.3, 52.°N±1.°×9.°6E±.°, h5km, MLh3.6/18, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TDJR	**Todzha**	**0.62**	**29**	Pg		Pg	21 52 39.4	+0.4
TDJR				Sg		Sg	21 52 45.7	-1.4
ARDR	**Aradan**	**1.52**	**299**	Pg		Pg	21 52 59.6	+3.5
ARDR				Sg		Sg	21 53 20.4	+4.7
ERNS	**Erzin**	**1.62**	**190**	Pg		Pg	21 53 00.3	+2.3
ERNS				Sg		Sg	21 53 22.8	+3.8
KNGR	**Kungurtug, Tuv**	**1.74**	**135**	Pg		Pg	21 52 59.9	-0.3
KNGR				Sg		Sb	21 53 22.2	+0.6
ORL	**Orlik**	**2.68**	**74**	Pg		Pb	21 53 13.3	-2.1
ORL				Sg		Sn	21 53 44.5	+0.8
DJOS	**Djoyskaya Sosn**	**2.74**	**292**	Pg		Pg	21 53 21.6	+2.1
DJOS				Sg		Sg	21 53 59.5	+4.5
CERR	**Cheremushki**	**2.75**	**293**	Pg		Pg	21 53 18.7	-1.0
CERR				Sg		Sg	21 53 59.1	+3.7
DJO	**Djoy, Khakassi**	**2.84**	**291**	Pg		Pg	21 53 23.8	+2.4
DJO				Sg		Sg	21 54 02.5	+4.3
ABNR	**Abakan**	**3.15**	**308**	Sg		Sg	21 54 11.8	+3.9
ORY	**Orie**	**3.17**	**355**	Pg		Pb	21 53 24.4	+0.8
ORY				Sg		Sb	21 54 01.3	-1.2
TBTR	**Tabat**	**3.18**	**292**	Pg		Pg	21 53 29.7	+2.0
TBTR				Sg		Sg	21 54 11.0	+2.1
SHRR	**Shira**	**4.20**	**311**	Pg		Pg	21 53 46.3	-1.1
SHRR				Sg		Sg	21 54 42.6	+0.7
TASR	**Tashtagol**	**4.82**	**284**	Pg		Pg	21 53 59.5	+0.2
TASR				Sg		Sg	21 55 03.5	+1.8
CUR	**Chagan-Uzun**	**4.91**	**252**	Pg		Pg	21 54 02.0	+1.1
CUR				Sg		Sg	21 55 08.7	+4.2
ULGR	**Ulagan, Altay**	**4.96**	**259**	Pg		Pg	21 54 01.1	-0.7
ULGR				Sg		Sg	21 55 07.6	+1.6
ARTR	**Artybash**	**5.16**	**273**	Pg		Pg	21 54 08.0	+2.3
ARTR				Sg		Sg	21 55 14.1	+1.6
AKAR	**Aktash**	**5.26**	**256**	Sg		Sg	21 55 15.4	-0.3
CHBI	**Chibit, Altay**	**5.33**	**256**	Sg		Sg	21 55 23.6	+5.5
DGZ	**Jazzator, Alta**	**5.61**	**251**	Sg		Sg	21 55 29.3	+2.2
GALT	**Gorno-Altaysk,**	**5.98**	**275**	Sg		Sg	21 55 43.2	+4.5
TUNR	**Tungur**	**6.09**	**257**	Pg		Pg	21 54 26.5	+3.0
TUNR				Sg		Sg	21 55 48.2	+5.8

IDC 25 21:57:25.4±1.9, 0.°24N×126.°19E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/29, mbtmp3.4/3, Error ellipse: s-maj=185.6km s-min=24.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.59**	**159**	P		P	22 02 16.5	-0.5
	0.7nm,0.7s,baz=337,slow=10,SNR=7.3							
ASAR	**Alice Springs**	**24.92**	**163**	P		P	22 02 50.8	+0.4
	0.3nm,0.6s,baz=345,slow=7.1,SNR=5.8							
MKAR	**Makanchi Array**	**60.12**	**327**	P		P	22 07 34.6	-0.1
	0.4nm,0.4s,baz=124,slow=7.9,SNR=11							

DNK ***25*** *22:07:51.3±1.5, 82.°92N×5.°59W, h40km±78km, ML2.8*
IEPN ***25*** *22:07:52.0, 82.°86N×4.°97W, h15km*

ISC 25 22:07:50.4±1.8, 82.°5N±0.°1×6.°21W±0.°05, h10km, n35, σ1°90/46, 4C-2D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NOR	**Nord**	**1.71**	**243**	Pn		**Pb**	**22 08 21.6**	**-0.1**
NOR	**Nord**	**1.71**	**243**	⇑*i*P		**Pb**	**22 08 21.7**	**-0.1**
NOR				*i*			22 08 39.9	
NOR	**Nord**	**1.71**	**243**	⇑*i*P		**Pb**	**22 08 21.7**	**-0.1**
NOR				*i*			22 08 39.9	
NOR				IAML			22 08 48.3	
	comp=Z,22nm,0.4s							
NOR	**Nord**	**1.71**	**243**	⇑*i*P		**Pb**	**22 08 21.7**	**-0.1**
NOR				*i*			22 08 39.9	
NOR				IAML			22 08 48.3	
	comp=Z,22nm,0.4s							
KBS	**Kingsbay**	**4.61**	**131**	Pn		**Pn**	**22 09 01.1**	**+1.2**
KBS				Sn		**Sn**	**22 09 51.6**	**-1.8**
KBS	**Kingsbay**	**4.61**	**131**	⇑*i*P		**Pn**	**22 09 01.2**	**+1.2**
KBS				*i* S		**Sn**	**22 09 52.0**	**-1.4**
KBS	**Kingsbay**	**4.61**	**131**	*e*P		**Pn**	**22 09 01.5**	**+1.6**
KBS				*i*			22 09 02.4	
KBS				*e*S		**Sn**	**22 09 52.5**	**-0.9**
KBS				IAML			22 09 57.2	
	comp=Z,13nm,0.5s							
KBS	**Kingsbay**	**4.61**	**131**	*i* P		**Pn**	**22 09 01.5**	**+1.6**
KBS				*i*			22 09 02.4	
BRBA	**Barentsburg A**	**5.59**	**132**	Pn		**Pn**	**22 09 15.3**	**+1.9**
BRBA	**Barentsburg A**	**5.59**	**132**	Pn		**Pn**	**22 09 15.3**	**+1.9**
SPA0	**Spitsbergen Ar**	**5.71**	**127**	Pn		**Pn**	**22 09 16.6**	**+1.6**
	baz=9.5,slow=5.6							
SPA0				Sn		**Sn**	**22 10 19.4**	**-1.1**
SPA0	**Spitsbergen Ar**	**5.71**	**127**	⇓*i*P		**Pn**	**22 09 16.4**	**+1.4**
SPA0				*e*S		**Sn**	**22 10 18.6**	**-1.9**
SPA0	**Spitsbergen Ar**	**5.71**	**127**	Pn		**Pn**	**22 09 16.6**	**+1.6**
	baz=9.5,slow=5.6							
SPA0				*e*S		**Sn**	**22 10 19.1**	**-1.3**
DAG	**Danmarks Havn**	**6.16**	**208**	*i* P		**Pn**	**22 09 24.6**	**+3.5**
DAG				*i* S		**Sn**	**22 10 31.5**	**+0.1**
DAG	**Danmarks Havn**	**6.16**	**208**	*i* P		**Pn**	**22 09 24.7**	**+3.5**
DAG				*i* S		**Sn**	**22 10 31.6**	**+0.1**
DAG				IAML			22 10 40.3	
	comp=Z,3.0nm,0.3s							
DAG	**Danmarks Havn**	**6.16**	**208**	*i* P		**Pn**	**22 09 24.7**	**+3.5**
DAG				*i* S		**Sn**	**22 10 31.6**	**+0.1**
DAG				IAML			22 10 40.3	
	comp=Z,3.0nm,0.3s							
HSPB	**Hornsund (broa**	**6.67**	**134**	Pn		**Pn**	**22 09 31.0**	**+2.8**
HSPB	**Hornsund (broa**	**6.67**	**134**	⇓*i*P		**Pn**	**22 09 31.2**	**+3.0**
HSPB				*e*S		**Sn**	**22 10 44.1**	**0.0**
HSPB	**Hornsund (broa**	**6.67**	**134**	*e*P		**Pn**	**22 09 31.2**	**+3.0**
ZFI2	**Zemlya Franca-**	**7.74**	**75**	*e*P		Pn	22 09 36.9	-5.9
ZFI2				*e*S		Sn	22 10 54.8	-16
	comp=Z,5.0nm,0.8s							
HOPEN	**Hopen**	**8.11**	**120**	Pn		**Pn**	**22 09 49.2**	**+1.3**
HOPEN	**Hopen**	**8.11**	**120**	*e*P		**Pn**	**22 09 49.0**	**+1.2**
DBG	**Daneborg**	**8.66**	**206**	*e*P		**Pn**	**22 09 57.8**	**+2.4**
DBG				*i* S		**Sn**	**22 11 29.1**	**-3.8**
DBG				IAML			22 11 50.4	
	comp=Z,1.5nm,0.4s							
DBG	**Daneborg**	**8.66**	**206**	*i* P		**Pn**	**22 09 57.9**	**+2.5**
DBG				*i* S		**Sn**	**22 11 29.1**	**-3.8**
DBG				IAML			22 11 50.4	
	comp=Z,1.5nm,0.4s							
BJO1	**Bjornoya**	**9.32**	**135**	Pn		**Pn**	**22 10 06.5**	**+2.0**
BJO1	**Bjornoya**	**9.32**	**135**	Pn		**Pn**	**22 10 06.5**	**+2.0**
SUMG	**Summit**	**11.83**	**232**	*i* P		**Pn**	**22 10 38.0**	**-1.2**
SUMG				*i*			22 12 45.0	
SUMG				IAML			22 12 52.1	
	comp=Z,3.8nm,0.4s							
SUMG	**Summit**	**11.83**	**232**	*i* P		**Pn**	**22 10 38.0**	**-1.2**
SUMG				*i*			22 12 45.0	
SUMG				IAML			22 12 52.1	
	comp=Z,3.8nm,0.4s							
HAMF	**Hammerfest**	**13.45**	**134**	Pn		**Pn**	**22 11 01.9**	**+1.1**
HAMF	**Hammerfest**	**13.45**	**134**	Pn		**Pn**	**22 11 01.9**	**+1.1**
ARA0	**ARCESS Array S**	**14.69**	**133**	Pn		**Pn**	**22 11 17.8**	**-0.1**
	baz=351,slow=12							
ARA0	**ARCESS Array S**	**14.69**	**133**	Pn		**Pn**	**22 11 17.8**	**-0.1**
	baz=351,slow=12							
APA0	**Apatity Array**	**17.32**	**126**	P		**P**	**22 11 52.6**	**-0.4**
	baz=18,slow=16							
APA0	**Apatity Array**	**17.32**	**126**	P		**P**	**22 11 52.6**	**-0.4**
	baz=18,slow=16							
KLMR	**Klimovskoe**	**24.59**	**123**	*e*P		**P**	**22 13 09.6**	**-0.4**
KLMR				AMP			22 13 15.3	

BATM				*i* S		**Sn**	**22 12 16.8**	**-2.2**
BATM	**Batumi**	**1.64**	**285**	PN		**Pb**	**22 11 57.6**	**-1.1**
BATM				S		**Sg**	**22 12 20.0**	**-0.5**
BATM	**Batumi**	**1.64**	**285**	P		**Pb**	**22 11 57.6**	**-1.0**
BATM				S		**Sg**	**22 12 20.0**	**-0.5**
EATA	**Eleskirt**	**1.66**	**217**	*i* P		**Pb**	**22 11 58.8**	**-0.4**
LACR	**Lac**	**1.68**	**13**	*e*Pg		**Pg**	**22 11 59.1**	**-0.9**
LACR				*e*Sg		**Sg**	**22 12 23.0**	**+1.3**
LACR	**Lac**	**1.68**	**13**	*e*PN		**Pg**	**22 11 58.9**	**-1.1**
LACR				*e*S		**Sg**	**22 12 22.8**	**+1.1**
LACR				pmax	pmax			
	comp=Z,97nm,0.8s							
LACR				smax	smax			
	comp=N,146nm,0.5s							
DIGR	**Digorskoe uzhe**	**1.72**	**355**	*e*Pg		**Pg**	**22 12 01.8**	**+1.0**
DIGR				*e*Sg		**Sg**	**22 12 27.1**	**+4.1**
DIGR	**Digorskoe uzhe**	**1.72**	**355**	*e*PN		**Pg**	**22 11 59.9**	**-0.8**
DIGR				*e*S		**Sg**	**22 12 25.8**	**+2.8**
AGRB	**Hanur-Agry**	**1.73**	**201**	PN		**Pb**	**22 11 59.2**	**-1.0**
DDFL	**Dedoflistskaro**	**1.76**	**81**	*i* P		**Pg**	**22 12 01.7**	**+0.1**
DDFL				*i* S		**Sg**	**22 12 26.4**	**+1.9**
DDFL	**Dedoflistskaro**	**1.76**	**81**	PN		**Pg**	**22 12 02.5**	**+0.9**
DDFL				S		**Sg**	**22 12 31.7**	**+7.3**
DDFL	**Dedoflistskaro**	**1.76**	**81**	P		**Pg**	**22 12 02.5**	**+0.9**
DDFL				S		**Sg**	**22 12 31.7**	**+7.3**
HOMI	**Horasan**	**1.84**	**232**	*i* P		**Pn**	**22 12 00.6**	**+0.1**
HOMI				IAML			22 12 35.0	
	comp=N,123nm,1.3s							
HOMI				IAML			22 12 58.0	
	comp=E,117nm,1.3s							
KOPR	**Koprukoy-ERZUR**	**1.91**	**232**	PN		**Pn**	**22 12 01.6**	**+0.3**
KORR	**Kora**	**1.91**	**6**	*e*Pg		**Pg**	**22 12 05.1**	**+0.8**
KORR				*e*Sg		**Sg**	**22 12 29.9**	**+0.8**
KORR	**Kora**	**1.91**	**6**	PN		**Pg**	**22 12 05.1**	**+0.8**
KORR				S		**Sg**	**22 12 31.5**	**+2.5**
TUTA	**Tutak**	**1.94**	**203**	*i* P		**Pb**	**22 12 03.8**	**-0.1**
LGD	**Lagodekhi**	**1.94**	**70**	*e*PN		**Pb**	**22 12 02.8**	**-1.0**
LGD	**Lagodekhi**	**1.94**	**70**	P		**Pb**	**22 12 02.6**	**-1.1**
LGD				S		**Sg**	**22 12 29.4**	**-0.7**
VLKR	**Vladikavkaz**	**1.97**	**19**	*e*Pg		**Pg**	**22 12 06.0**	**+0.5**
VLKR				*e*Pg		**Pb**	**22 12 06.2**	**+1.9**
VLKR				*e*Sg		**Sg**	**22 12 33.9**	**+2.9**
VLKR				*e*Sg		**Sb**	**22 12 34.0**	**+4.8**
VLKR	**Vladikavkaz**	**1.97**	**19**	*e*PN		**Pg**	**22 12 05.8**	**+0.3**
VLKR				*e*S		**Sg**	**22 12 33.4**	**+2.4**
GANJ	**Ganja**	**1.98**	**105**	PN		**Pb**	**22 12 02.7**	**-1.8**
CHVG	**Ch'k'valeri**	**2.00**	**321**	PN		**Pg**	**22 12 04.8**	**-1.2**
CHVG	**Ch'k'valeri**	**2.00**	**321**	P		**Pg**	**22 12 04.8**	**-1.2**
ARNR	**Ardon**	**2.02**	**10**	*e*Pg		**Pg**	**22 12 07.1**	**+0.6**
ARNR				*e*Sg		**Sg**	**22 12 35.8**	**+3.0**
ARNR	**Ardon**	**2.02**	**10**	*e*PN		**Pg**	**22 12 06.0**	**-0.5**
ARNR				*e*S		**Sg**	**22 12 35.2**	**+2.5**
KMGR	**Komgaron**	**2.03**	**23**	*e*Pg		**Pg**	**22 12 06.0**	**-0.7**
KMGR				*e*Sg		**Sg**	**22 12 35.1**	**+2.2**
KMGR	**Komgaron**	**2.03**	**23**	*e*PN		**Pg**	**22 12 06.0**	**-0.7**
KMGR				*e*S		**Sg**	**22 12 35.2**	**+2.2**
CLDR	**Caldiran**	**2.04**	**178**	PN		**Pn**	**22 12 03.7**	**+0.5**
CLDR	**Caldiran**	**2.04**	**178**	*i* P		**Pb**	**22 12 05.3**	**-0.3**
LSNR	**Lesken**	**2.09**	**0**	*e*Pg		**Sg**	**22 12 07.8**	**0.0**
LSNR				*e*Sg		**Sg**	**22 12 36.7**	**+1.5**
LSNR	**Lesken**	**2.09**	**0**	*e*PN		**Pg**	**22 12 07.8**	**0.0**
LSNR				*e*S		**Sg**	**22 12 36.9**	**+2.0**
AKDA	**Akdag**	**2.15**	**241**	*i* P		**Pn**	**22 12 04.5**	**-0.2**
ZKTA	**Zakatala**	**2.17**	**77**	PN		**Pb**	**22 12 06.3**	**-1.3**
STDR	**Stavd-Durt**	**2.19**	**5**	*e*PN		**Pg**	**22 12 10.2**	**+0.5**
STDR				*e*S		**Sg**	**22 12 37.6**	**-0.5**
VMUR	**Van-Muradiye**	**2.20**	**185**	*i* P		**Pb**	**22 12 08.8**	**+0.5**
VMUR				*i* S		**Sg**	**22 12 42.3**	**+3.7**
BTKR	**Batakoyurt**	**2.25**	**14**	*e*Pg		**Pg**	**22 12 10.7**	**-0.2**
BTKR				*e*Sg		**Sg**	**22 12 43.9**	**+3.8**
CHOM	**Cayeli-Rize**	**2.30**	**269**	PN		**Pn**	**22 12 07.3**	**+0.8**
BTLR	**Botlikh**	**2.33**	**50**	*e*Pg		**Pb**	**22 12 09.7**	**-0.7**
BTLR				*e*Sg		**Sg**	**22 12 41.2**	**-1.5**
BTLR	**Botlikh**	**2.33**	**50**	*e*PN		**Pb**	**22 12 09.7**	**-0.7**
BTLR				*e*S		**Sg**	**22 12 41.2**	**-1.5**
EJDE	**Erzurum, Palan**	**2.34**	**235**	*i* P		**Pb**	**22 12 08.9**	**-1.8**
EJDE				IAML			22 12 54.0	
	comp=E,141nm,1.0s							
EJDE				IAML			22 13 08.0	
	comp=N,70nm,0.8s							
KRIK	**Erzurum-spir**	**2.34**	**250**	*i* P		**Pb**	**22 12 11.0**	**+0.2**
NAX	**Nakhchivan**	**2.39**	**147**	PN		**Pg**	**22 12 13.4**	**-0.3**
EMRE	**Erzurum,Aziziy**	**2.44**	**243**	*i* P		**Pg**	**22 12 13.3**	**-1.4**
EMRE				IAML			22 12 53.0	
	comp=N,75nm,0.7s							
EMRE				IAML			22 13 16.0	
	comp=E,85nm,1.1s							
GROC	**Groznyy**	**2.50**	**36**	*e*PN		**Pg**	**22 12 13.6**	**-2.1**
GROC				*e*			22 12 17.7	
GROC				*e*			22 12 45.7	
GROC				*e*			22 12 55.0	
GROC				pmax	pmax			
	comp=Z,47nm,0.4s							
GROC				smax	smax			
	comp=N,212nm,0.4s							
GROC				smax	smax			
	comp=N,255nm,0.4s							
GROC				smax	smax			
	comp=N,142nm,0.6s							
GROC				MLR	MLR			
	comp=Z,48nm,2.0s							
MNGR	**Mingechevir, A**	**2.52**	**98**	PN		**Pb**	**22 12 13.0**	**-0.6**
XNZR	**Khunzakh**	**2.55**	**57**	*e*PN		**Pb**	**22 12 13.3**	**-1.0**
XNZR				*e*S		**Sb**	**22 12 46.0**	**-0.2**
SEKA	**Sheki**	**2.56**	**88**	PN		**Pb**	**22 12 13.3**	**-1.1**
GRS	**Goris**	**2.57**	**130**	*i* P		**Pb**	**22 12 13.0**	**-1.5**
GRS				*i* S		**Sb**	**22 12 47.0**	**+0.5**
TRKR	**Terskaya**	**2.62**	**15**	*e*PN		**Pg**	**22 12 17.8**	**-0.3**
TRKR				*e*S		**Sb**	**22 12 48.1**	**+0.1**
GNBR	**Gunib**	**2.65**	**62**	*e*PN		**Pb**	**22 12 14.8**	**-1.1**
GNBR				*e*S		**Sb**	**22 12 48.2**	**-0.6**
VRTB	**Varto-Mus**	**2.71**	**222**	PN		**Pn**	**22 12 13.5**	**+1.2**
KOPT	**Kop Dagi**	**2.77**	**246**	*i* P		**Pb**	**22 12 17.3**	**-0.8**
BAYB	**BAYBURT**	**2.85**	**252**	*i* P		**Pb**	**22 12 17.4**	**-2.6**
KIV	**Kislovodsk**	**2.88**	**344**	*e*PN		**Pb**	**22 12 19.0**	**-0.9**
KIV				*e*S		**Sb**	**22 12 55.1**	**-0.5**
KIV				pmax	pmax			
	comp=Z,33nm,1.0s							
DBC	**Dubki**	**2.90**	**50**	*e*Pn		**Pb**	**22 12 19.4**	**-0.8**
DBC				*e*Sn		**Sg**	**22 12 59.7**	**-1.3**
DBC	**Dubki**	**2.90**	**50**	*e*PN		**Pb**	**22 12 17.7**	**-2.5**
DBC				*e*S		**Sb**	**22 12 56.5**	**+0.4**
AKDM	**Akdamar-Van**	**2.93**	**193**	PN		**Pn**	**22 12 16.1**	**+0.8**
GEVA	**Gevas**	**2.93**	**192**	*i* P		**Pg**	**22 12 23.1**	**-0.8**
BUJR	**Buynaksk**	**2.96**	**55**	*e*PN		**Pb**	**22 12 20.4**	**-0.7**
BUJR				*e*S		**Sb**	**22 12 53.6**	**-4.0**
GURO	**Guroymak-BITLI**	**2.97**	**208**	PN		**Pn**	**22 12 17.1**	**+1.3**
AKT	**Akhty**	**2.97**	**83**	*e*Pn		**Pb**	**22 12 18.6**	**-2.8**
AKT				*e*Sn		**Sb**	**22 12 58.2**	**+0.1**
AKT	**Akhty**	**2.97**	**83**	*e*PN		**Pb**	**22 12 18.0**	**-3.4**
AKT				*e*			22 12 26.0	
AKT				*e*S		**Sb**	**22 12 56.7**	**-1.4**
AKT				*e*			22 13 04.7	
AKT				*e*			22 13 12.7	
AKT				pmax	pmax			
	comp=Z,41nm,0.7s							
AKT				smax	smax			
	comp=N,35nm,0.4s							
AKT				smax	smax			
	comp=E,105nm,0.4s							
AKT				smax	smax			
	comp=E,82nm,0.4s							
AKT				MLR	MLR			
	comp=Z,15nm,2.0s							
ARXR	**Arkhyz**	**3.02**	**323**	*e*PN		**Pb**	**22 12 19.5**	**-2.8**
ARXR				*e*S		**Sb**	**22 12 59.5**	**-0.1**
MUSM	**Mu-Merkez**	**3.03**	**216**	*i* P		**Pn**	**22 12 18.4**	**+1.8**
URKR	**Urkarakh**	**3.03**	**70**	*e*PN		**Pn**	**22 12 18.0**	**+1.3**
URKR				*e*S		**Sb**	**22 12 59.2**	**-0.6**
YEDI	**Yedisu-Bingol**	**3.04**	**236**	PN		**Pn**	**22 12 17.7**	**+0.8**
MACK	**Trabzon**	**3.06**	**267**	*i* P		**Pb**	**22 12 21.5**	**-1.3**
MACK				IAML			22 13 09.0	
	comp=E,56nm,0.6s							
MACK				IAML			22 13 10.0	
	comp=N,41nm,0.3s							
BNGB	**Bingl**	**3.25**	**229**	PN		**Pn**	**22 12 21.2**	**+1.5**
MAK	**Makhachkala**	**3.28**	**56**	*e*PN		**Pn**	**22 12 22.0**	**+2.1**
MAK				*e*S		**Sb**	**22 13 04.3**	**-2.4**
BINT	**Bingol**	**3.44**	**229**	PN		**Pn**	**22 12 20.8**	**-1.5**
SRTM	**Siirt_Merkez**	**3.51**	**205**	*i* P		**Pn**	**22 12 24.3**	**+1.1**
KELT	**Kelkit**	**3.61**	**255**	*i* P		**Pb**	**22 12 32.1**	**-0.2**
KELT				*i* S		**Sb**	**22 13 18.0**	**+1.4**
RPOR	**Krasnaya Polya**	**3.62**	**315**	*e*PN		**Pb**	**22 12 28.3**	**-4.2**
RPOR				*e*S		**Sn**	**22 13 10.4**	**+2.4**
HAKT	**HAKKARI**	**3.63**	**181**	*i* P		**Pb**	**22 12 34.5**	**+1.9**
ESPY	**Espiye-Giresun**	**3.85**	**268**	PN		**Pn**	**22 12 29.2**	**+1.4**
SOC	**Sochi**	**3.86**	**310**	*e*PN		**Pn**	**22 12 30.9**	**+3.0**
SOC				*e*			22 12 38.6	
SOC				*e*			22 13 17.2	
SOC				*e*SS		**Sg**	**22 13 29.2**	**-2.5**
SOC				pmax	pmax			
	comp=Z,8.0nm,0.5s							
SOC				MLR	MLR			
	comp=Z,32nm,7.0s							
GOF	**Gofitskoye**	**3.91**	**352**	*e*PN		**Pb**	22 12 32.3	-5.0
GUZR	**Guzeripl'**	**3.91**	**317**	*e*PN		**Pn**	**22 12 31.9**	**+3.2**
GUZR				*e*S		**Sb**	**22 13 18.7**	**-6.3**
PTK	**Pertek**	**4.09**	**237**	PN		**Pn**	**22 12 32.8**	**+1.5**
ARU	**Arti**	**18.02**	**27**	*i* P		**P**	**22 15 42.7**	**+3.2**
ARU				pmax	pmax			
	comp=Z,1.0nm,0.2s							

REY ***25*** *22:21:29.9, 64.6°63N × 17.6°38W, h6km*

IDC ***25*** *22:21:30.4 ± 0.5, 64.6°60N × 17.6°50W, h0km, mb3.8/21, mb1 4.0/27, mb1mx3.9/62, mbtmp3.9/27, ML2.6/4, MS3.2/13, Ms1 3.2/13, ms1mx2.9/57, Error ellipse: s-maj=17.5km s-min=8.5km az=10.0*

NEIC ***25*** *22:21:31.6 ± 1.5, 64.5°59N ± 0.7°09 × 17.7°5W ± 0.7°1, h9km ± 4km, mb4.2/24, Error ellipse: s-maj=12.6km s-min=8.0km az=186.0*

ISC 25 22:21:31.0 ± 0.4, **64°61N** ± 0.7°02 × **17°45W** ± 0.7°02, **h10**km, **n122**, σ 1**85**/124, **mb4.0**/39, **MS3.1**/9, **Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IDJK	**Dyngjujokull**	**0.14**	**139**	P		**Pg**	**22 21 32.9**	**-1.4**
	baz=154							
IVON	**Vonarskard**	**0.15**	**296**	P		**Pg**	**22 21 33.5**	**-0.9**
	baz=287							
IVON				S		**Sg**	**22 21 36.2**	**-0.5**
	baz=287							
IDYN	**Dyngjuhals**	**0.19**	**11**	P		**Pg**	**22 21 33.4**	**-1.7**
	baz=14							
IGRF	**Grimsfjall**	**0.22**	**159**	P		**Pg**	**22 21 34.3**	**-1.2**
	baz=168							
IBJK	**Bruarjokull**	**0.33**	**115**	P		**Pg**	**22 21 35.9**	**-1.8**
	baz=120							
IVOT	**Vottur**	**0.36**	**161**	P		**Pg**	**22 21 36.8**	**-1.3**
	baz=167							
IVOT				S		**Sg**	**22 21 42.5**	**-0.4**
	baz=167							
ISKR	**Skrokkalda**	**0.41**	**264**	P		**Pg**	**22 21 38.0**	**-1.0**
	baz=262							
ISKR				S		**Sb**	**22 21 44.1**	**-2.5**
	baz=262							
IJOK	**Jokulheimar**	**0.45**	**229**	P		**Pb**	**22 21 38.5**	**-2.5**
	baz=230							
IKRE	**Kreppuhraun**	**0.49**	**68**	P		**Pg**	**22 21 38.3**	**-2.3**
	baz=69							
IIEY	**Innrieyrar**	**0.59**	**210**	P		**Pg**	**22 21 41.0**	**-1.5**
	baz=212							
IIEY				S		**Sb**	**22 21 50.0**	**-1.9**
	baz=212							
IMKO	**Mokollar**	**0.60**	**51**	P		**Pg**	**22 21 40.2**	**-2.4**
	baz=51							
IMKO				S		**Sg**	**22 21 48.7**	**-1.9**
	baz=51							
IKSK	**Karasker**	**0.62**	**136**	P		**Pg**	**22 21 40.4**	**-2.6**
	baz=140							
IKSK				S		**Sg**	**22 21 49.5**	**-1.5**
	baz=140							
IKAL	**Kalfafell**	**0.67**	**189**	P		**Pg**	**22 21 42.2**	**-1.7**
	baz=191							
IKAL				S		**Sb**	**22 21 52.3**	**-1.8**
	baz=191							
ISVA	**Svartarkot**	**0.74**	**6**	P		**Pg**	**22 21 42.5**	**-2.8**
	baz=4.1							
IVSH	**V-Sauoahnukur**	**0.77**	**74**	P		Pg	22 21 42.8	-2.9
	baz=75							
IVAT	**Vatnsfell**	**0.77**	**237**	P		**Pg**	**22 21 44.1**	**-1.6**
	baz=237							
IVAT				S		**Sb**	**22 21 54.7**	**-2.1**
	baz=237							
IFAG	**Fagurholsmyri**	**0.81**	**154**	P		**Pg**	**22 21 44.3**	**-2.4**
	baz=157							
IADA	**Aoalbol**	**0.90**	**62**	P		Pg	22 21 45.0	-3.3
	baz=62							
IHVE	**Hveravellir**	**0.95**	**287**	P		**Pg**	**22 21 46.6**	**-2.6**
	baz=286							
ISNB	**Snabyli**	**1.02**	**211**	P		**Pg**	**22 21 48.1**	**-2.4**
	baz=212							
ISNB				S		**Sb**	**22 22 02.1**	**-2.0**
	baz=212							
IMEL	**Melhnausar**	**1.02**	**19**	P		Pb	22 21 47.1	-3.7
	baz=18							
IREN	**Reynihlio**	**1.07**	**12**	P		Pb	22 21 47.9	-3.7
	baz=11							
IRJU	**Rjupnafell**	**1.13**	**209**	P		**Pg**	**22 21 50.2**	**-2.5**
	baz=210							
IKVO	**Krokottuvotn**	**1.14**	**12**	P		Pn	22 21 48.9	-4.0
	baz=11							
IFED	**Fedgar**	**1.14**	**240**	P		**Pg**	**22 21 50.3**	**-2.5**
	baz=240							
IGRS	**Grimsstaoir**	**1.18**	**28**	P		Pn	22 21 49.7	-3.8
	baz=27							
IMJO	**Mjoaskard**	**1.18**	**236**	P		**Pg**	**22 21 51.1**	**-2.6**
	baz=236							
IGYG	**Gygjarholskot**	**1.25**	**256**	P		**Pb**	**22 21 51.9**	**-2.6**
	baz=256							
IHVO	**Lagu-Hvolar**	**1.25**	**210**	P		**Pb**	**22 21 52.2**	**-2.4**
	baz=211							
IGOD	**Go??abunga**	**1.26**	**222**	P		**Pb**	**22 21 52.6**	**-2.3**
	baz=222							
IHAU	**Haukadalur**	**1.27**	**241**	P		**Pb**	**22 21 52.5**	**-2.5**
	baz=241							
IGHA	**Grjothals**	**1.28**	**15**	P		**Pn**	**22 21 51.3**	**-3.6**
	baz=14							
IGRA	**Granastaoir**	**1.32**	**358**	P		Pn	22 21 52.0	-3.3
	baz=356							
IALF	**Alftagrof**	**1.36**	**215**	P		**Pn**	**22 21 53.9**	**-2.1**
	baz=216							
IDIM	**Dimmadalss**	**1.38**	**9**	P		**Pn**	**22 21 52.8**	**-3.5**
	baz=7.7							
IHLA	**Hella**	**1.40**	**344**	P		**Pn**	**22 21 53.8**	**-2.8**
	baz=343							
IESK	**Eystri-Skogar**	**1.40**	**220**	P		**Pn**	**22 21 54.5**	**-2.0**
	baz=220							
IMID	**Miomork**	**1.43**	**229**	P		**Pn**	**22 21 55.1**	**-1.9**
	baz=230							
ISAU	**Saurbar**	**1.44**	**246**	P		**Pn**	**22 21 54.6**	**-2.4**
	baz=246							
IHED	**Heoinshofoi**	**1.48**	**2**	P		**Pn**	**22 21 54.4**	**-3.2**
	baz=1.1							
IBRE	**Brettingsstaoi**	**1.53**	**353**	P		**Pn**	**22 21 55.4**	**-3.0**
	baz=352							
IGIL	**Gilhagi**	**1.54**	**17**	P		**Pn**	**22 21 55.2**	**-3.3**
	baz=16							
IASM	**Asmuli**	**1.59**	**242**	P		**Pn**	**22 21 57.5**	**-1.7**
	baz=242							
BORG	**Borgarnes**	**1.67**	**277**	Pg		**Pn**	**22 21 58.9**	**-1.4**
	43nm,0.3s,baz=105,slow=11,SNR=34							
BORG				Lg		Lg	22 22 22.2	
	12nm,0.3s,baz=262,slow=20,SNR=7.7							
BORG				LR		LR	22 22 46.4	
	comp=Z,315nm,19.2s,baz=125,slow=46							
BORG	**Borgarnes**	**1.67**	**277**			**Pn**	**22 21 58.9**	**-1.4**
BORG				Sn		**Sb**	**22 22 21.0**	**-1.9**
SCO	**Scoresbysund**	**6.15**	**346**	Pn		**Pn**	**22 23 02.8**	**+1.1**
JMIC	**Jan Mayen**	**7.24**	**24**	Pn		**Pn**	**22 23 15.5**	**-1.1**
	baz=152,slow=7.1,SNR=2.6							
EKA	**Eskdalemuir Ar**	**11.70**	**136**	Pn		**Pn**	**22 24 17.4**	**-0.3**
	baz=323,slow=13,SNR=20							
ESK	**Eskdalemuir**	**11.70**	**136**	Pn		**Pn**	**22 24 16.9**	**-0.8**
NOA	**NORSAR Array B**	**13.51**	**92**	Pn		**Pn**	**22 24 41.2**	**-1.3**
	0.0nm,0.3s,baz=299,slow=13,SNR=2.7							
NOA				LR		LR	22 29 50.7	
	comp=Z,46nm,19.8s,baz=295,slow=37							
SFJD	**Kangerlussuaq**	**13.71**	**295**	LR		LR	22 29 40.7	
	comp=Z,137nm,18.4s,baz=84,slow=36							
HFS	**Hagfors**	**15.02**	**93**	Pn		**Pn**	**22 25 02.8**	**-0.2**
	0.1nm,0.3s,baz=318,slow=10,SNR=1.8							
HFS				LR		LR	22 30 03.5	
	comp=Z,64nm,21.3s,baz=271,slow=34							
ARCES	**ARCESS Array B**	**17.13**	**54**	P		**Pn**	**22 25 30.7**	**+0.5**
	0.1nm,0.3s,baz=345,slow=23,SNR=2.0							
FINES	**FINESS Array B**	**19.69**	**79**	P		**P**	**22 26 01.2**	**+1.2**
	0.0nm,0.3s,baz=128,slow=17,SNR=2.3							
FINES				LR		LR	22 32 46.0	
	comp=Z,55nm,20.6s,baz=292,slow=34							
CLL	**Collm**	**20.66**	**116**	*i* P		**P**	**22 26 11.2**	**+0.7**
	comp=Z,10.0nm,1.3s							
CLL				*e*			22 26 19.0	
CLL	**Collm**	**20.66**	**116**	P		**P**	**22 26 09.8**	**-0.7**
ECH	**Echery**	**21.10**	**129**	P		**P**	**22 26 14.7**	**-0.7**
ECH				IAmb		IAmb	22 26 17.8	
	comp=Z,5.8nm,0.8s							
NKC	**Novy Kostel**	**21.30**	**118**	*e*P		**P**	**22 26 20.9**	**+3.4**
BRG	**Berggiesshubel**	**21.37**	**115**	*e*P		**P**	**22 26 19.1**	**+1.0**
	comp=Z,8.8nm,1.0s							
BFO	**Black Forest**	**21.40**	**127**	P		**P**	**22 26 19.2**	**+0.7**
BFO				IAmb		IAmb	22 26 22.7	
	comp=Z,7.0nm,0.9s							
FRB	**Frobisher Bay**	**21.79**	**291**	LR		LR	22 34 31.7	
	comp=Z,60nm,21.1s,baz=154,slow=36							
PRU	**Pruhonice**	**22.30**	**116**	*e*P		**P**	**22 26 30.5**	**+2.3**
CHVC	**Chvalec**	**22.42**	**113**	*e*P		**P**	**22 26 31.5**	**+1.9**
KHC	**Kasperske Hory**	**22.63**	**118**	*e*P		**P**	**22 26 32.2**	**+0.5**
KHC	**Kasperske Hory**	**22.63**	**118**	P		**P**	**22 26 31.8**	**0.0**
DPC	**Dobruska-Polom**	**22.72**	**113**	*e*P		**P**	**22 26 34.3**	**+1.6**
GEC2	**GERESS Array S**	**22.91**	**119**	P		**P**	**22 26 35.2**	**+0.4**
GERES	**GERESS Array B**	**22.91**	**119**	P		**P**	**22 26 36.1**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=335,slow=7.9,SNR=10							
GERES				LR		LR	22 35 39.4	
	comp=Z,67nm,21.4s,baz=275,slow=37							
RETA	**Reutte**	**22.97**	**125**	*i* P		**P**	**22 26 37.1**	**+1.8**
	comp=Z,4.0nm,0.9s							
MOTA	**Moosalm**	**23.21**	**124**	*i* pP		**P**	**22 26 39.7**	**+1.8**
	comp=Z,5.8nm,1.0s							
TREC	**Trest**	**23.23**	**116**	*e*P		**P**	**22 26 39.2**	**+1.2**
DAVOX	**Davos/Dischmat**	**23.27**	**127**	P		**P**	**22 26 39.8**	**+1.3**
	comp=Z,2.8nm,0.7s,baz=320,slow=12,SNR=6.8							
DAVOX				LR		LR	22 36 38.5	
	comp=Z,72nm,18.2s,baz=96,slow=39							
TUE	**Stuetta**	**23.35**	**128**	P		**P**	**22 26 40.4**	**+1.0**
TUE				IAmb		IAmb	22 26 51.2	
	comp=Z,6.2nm,0.9s							
SQTA	**Sankt Quirin**	**23.35**	**124**	*i* P		**P**	**22 26 40.8**	**+1.5**
WATA	**Walderalm**	**23.39**	**124**	*i* P		**P**	**22 26 40.5**	**+0.8**
	comp=Z,5.2nm,1.1s							
WTTA	**Wattenberg**	**23.47**	**124**	*i* P		**P**	**22 26 41.5**	**+0.9**
	comp=Z,7.6nm,1.2s							
VRAC	**Vranov**	**23.65**	**114**	P		**P**	**22 26 43.4**	**+1.3**
	comp=Z,1.8nm,0.5s,baz=347,slow=13,SNR=3.9							
VRAC				LR		LR	22 37 14.3	
	comp=Z,66nm,18.2s,baz=308,slow=40							
VRAC	**Vranov**	**23.65**	**114**	*e*P		**P**	**22 26 35.5**	**-6.6**
MORC	**Moravsky Berou**	**23.65**	**112**	P		**P**	**22 26 42.8**	**+0.6**
MORC				IAmb		IAmb	22 26 56.2	
	comp=Z,15nm,1.8s							
OJC	**Ojcow**	**24.22**	**109**	P		**P**	**22 26 47.1**	**-0.4**
CONA	**Conrad Observa**	**24.48**	**117**	*i* P		**P**	**22 26 51.0**	**+1.0**
	comp=Z,4.6nm,0.8s							
CTI	**Castel Tesino**	**24.51**	**125**	P		**P**	**22 26 51.7**	**+1.4**
CTI				IAmb		IAmb	22 26 53.3	
	comp=Z,5.2nm,0.7s							
CIMO	**Cimolais**	**24.57**	**124**	P		**P**	**22 26 52.1**	**+1.3**
CIMO				IAmb		IAmb	22 26 55.0	
	comp=Z,4.1nm,0.8s							
SMOL	**Smolenice**	**24.62**	**114**	*e*P		**P**	**22 26 51.8**	**+0.7**
PRED	**Cave del Predi**	**24.86**	**122**	P		**P**	**22 26 54.6**	**+1.1**
PRED				IAmb		IAmb	22 27 07.2	
	comp=Z,3.8nm,1.0s							
ARSA	**Arzberg**	**24.91**	**118**	*i* P		**P**	**22 26 55.7**	**+1.8**
	comp=Z,4.4nm,1.0s							
VYHS	**Vyhne**	**25.19**	**112**	*e*P		**P**	**22 26 56.9**	**+0.6**
SOKA	**Soboth**	**25.21**	**120**	*i* P		**P**	**22 26 56.9**	**+0.3**
	comp=Z,3.1nm,1.0s							
KLMR	**Klimovskoe**	**25.60**	**72**	*e*P		**P**	**22 26 55.8**	**-4.1**
	comp=Z,18nm,2.1s							
KWP	**Kalwaria Pacla**	**25.87**	**106**	P		**P**	**22 27 03.3**	**+0.8**
SCHQ	**Schefferville**	**26.06**	**272**	P		**P**	**22 27 05.6**	**+1.4**
	comp=Z,4.0nm,0.7s,baz=60,slow=7.3,SNR=3.7							
PSZ	**Piszkesteto**	**26.07**	**112**	P		**

WAT2	**Susitna Watana**	**0.81**	**224**			**Pg**	**22 25 09.0**	**-0.4**
WAT2						**Sg**	**22 25 19.6**	**-0.5**
HDA	**Harding Lake**	**0.88**	**11**			**Pg**	**22 25 11.2**	**+0.6**
WAT1	**Susitna Watana**	**0.91**	**217**			**Pg**	**22 25 10.7**	**-0.5**
WAT1						**Sg**	**22 25 22.4**	**-0.6**
WRH	**Wood River Hil**	**0.98**	**341**			**Pg**	**22 25 13.1**	**+0.6**
WAT6	**Susitna Watana**	**0.99**	**190**			**Pg**	**22 25 11.8**	**-1.0**
WAT6						**Sg**	**22 25 24.3**	**-1.4**
WAT7	**Susitna Watana**	**0.99**	**224**			**Pg**	**22 25 12.2**	**-0.6**
PS08	**TAPS Pump Stn8**	**1.02**	**13**			**Pg**	**22 25 13.8**	**+0.5**
PAX	**Paxson**	**1.03**	**124**			**Pg**	**22 25 12.2**	**-1.4**
CCB	**Clear Creek Bu**	**1.12**	**350**			**Pg**	**22 25 15.5**	**+0.4**
BWN	**Browne**	**1.12**	**304**			**Pg**	**22 25 14.8**	**-0.5**
RIDG	**Independent Ri**	**1.13**	**79**			**Pg**	**22 25 14.8**	**-0.7**
HUR	**Hurricane**	**1.18**	**242**			**Pg**	**22 25 16.0**	**-0.4**
IL31		**1.24**	**9**			**Pg**	**22 25 16.7**	**-0.8**
ILAR	**Eielson Array**	**1.24**	**9**	Pg		**Pg**	**22 25 17.1**	**-0.4**
	26nm,0.3s,baz=189,slow=16,SNR=378							
ILAR				Lg		Lg	22 25 34.5	
	55nm,0.3s,baz=187,slow=29,SNR=10.0							
NEA2	**Nenana**	**1.29**	**325**			**Pg**	**22 25 17.9**	**-0.6**
TRF	**Thorofare Moun**	**1.32**	**267**			**Pg**	**22 25 18.3**	**-0.8**
COLA	**College**	**1.34**	**351**			**Pg**	**22 25 18.9**	**-0.6**
MDM	**Murphy Dome**	**1.46**	**345**			**Pn**	**22 25 20.6**	**+0.3**
DOT	**Dot Lake**	**1.47**	**85**			**Pn**	**22 25 20.5**	**0.0**
M24K	**Tolsona, Glenn**	**1.55**	**159**			**Pn**	**22 25 22.1**	**+0.5**
SCRK	**Sand Creek**	**1.56**	**73**			**Pn**	**22 25 21.5**	**-0.2**
POKR	**Poker Plat Res**	**1.57**	**359**			**Pn**	**22 25 22.1**	**+0.3**
KTH	**Kantishna Hill**	**1.60**	**272**			**Pn**	**22 25 22.6**	**+0.4**
BPAW	**Bear Paw Mtn.**	**1.70**	**290**			**Pn**	**22 25 23.7**	**0.0**
PS11	**TAPS Pump St11**	**1.71**	**149**			**Pb**	**22 25 25.2**	**-0.2**
SCM	**Sheep Creek Mo**	**1.73**	**180**			**Pn**	**22 25 24.4**	**+0.3**
MENT	**Mentasta**	**1.75**	**109**			**Pn**	**22 25 25.3**	**+0.9**
CUT	**Chulitna**	**1.76**	**230**			**Sg**	**22 25 50.2**	**-0.1**
PS07	**TAPS Pump Stn7**	**1.81**	**348**			**Pn**	**22 25 25.5**	**+0.4**
PS07						**Sg**	**22 25 52.5**	**+0.6**
GHO	**Glory Hole Cre**	**1.93**	**203**			**Pn**	**22 25 27.4**	**+0.6**
PMR	**Palmer**	**2.13**	**204**	Pn		**Pn**	**22 25 30.6**	**+1.1**
KLU	**Klutina**	**2.17**	**162**			**Pn**	**22 25 31.5**	**+1.4**
KNK	**Knik Glacier**	**2.21**	**194**			**Pn**	**22 25 31.7**	**+1.1**
CHUM	**Lake Minchumin**	**2.23**	**281**			**Pn**	**22 25 31.1**	**+0.2**
PPLA	**Purkeypile**	**2.29**	**255**			**Pn**	**22 25 33.5**	**+1.7**
K27K	**Chicken**	**2.39**	**76**			**Pn**	**22 25 33.2**	**+0.2**
SKT	**Skwentna**	**2.49**	**232**			**Pn**	**22 25 34.6**	**+0.2**
PS06	**TAPS Pump Stn6**	**2.53**	**337**			**Pn**	**22 25 35.5**	**+0.5**
BC03		**2.56**	**99**			**Pn**	**22 25 35.3**	**0.0**
BCAR	**Beaver Creek A**	**2.58**	**99**	Pn		**Pn**	**22 25 35.9**	**+0.4**
SUA	**Susitna One**	**2.62**	**218**			**Pn**	**22 25 36.8**	**+0.4**
GLB	**Gilahina Butte**	**2.68**	**141**			**Pn**	**22 25 38.9**	**+1.7**
GLI	**Glacier Island**	**2.69**	**177**			**Pn**	**22 25 38.2**	**+1.1**
PWL	**Port Wells**	**2.74**	**190**			**Pn**	**22 25 40.4**	**+2.5**
FID	**Port Fidalgo**	**2.84**	**171**			**Pn**	**22 25 41.1**	**+1.8**
STLK	**Strandline Lak**	**2.93**	**227**			**Pn**	**22 25 41.5**	**+1.0**
VRDI	**Verde Repeater**	**2.96**	**140**			**Pn**	**22 25 42.0**	**+1.0**
MCARA	**McCarthy VSAT**	**2.96**	**135**	Pn		**Pn**	**22 25 41.9**	**+1.0**
EGAK	**Eagle**	**2.98**	**63**			**Pn**	**22 25 42.9**	**+1.8**
EYAK	**Cordova Ski Ar**	**3.11**	**165**			**Pn**	**22 25 44.2**	**+1.3**
BVCY	**Beaver Creek**	**3.17**	**108**			**Pn**	**22 25 44.8**	**+0.9**
HIN	**Hinchinbrook I**	**3.19**	**172**			**Pn**	**22 25 45.5**	**+1.4**
SLKM	**Skilak Lake**	**3.34**	**205**			**Pn**	**22 25 49.3**	**+3.1**
RAGM	**Ragged Mountai**	**3.42**	**157**			**Pn**	**22 25 49.1**	**+1.9**
CRQM	**Cirque**	**3.43**	**143**			**Pn**	**22 25 49.4**	**+1.9**
BALM	**Baldy**	**3.44**	**135**			**Pn**	**22 25 50.5**	**+2.9**
TGL	**Tana Glacier**	**3.52**	**141**			**Pn**	**22 25 50.5**	**+1.8**
KIAG	**Kiagna River**	**3.52**	**136**			**Pn**	**22 25 50.8**	**+2.0**
HMT	**Hamilton**	**3.54**	**154**			**Pn**	**22 25 50.9**	**+2.0**
SEW	**Seward**	**3.60**	**197**			**Pn**	**22 25 52.2**	**+2.5**
BERG	**Berg Lake**	**3.61**	**150**			**Pn**	**22 25 52.0**	**+2.2**
BARN	**Barnard Glacie**	**3.65**	**131**	Pn		**Pn**	**22 25 53.0**	**+2.5**
IM03		**3.67**	**315**			**Pn**	**22 25 51.0**	**+0.5**
IMAR	**Indian Mountai**	**3.67**	**315**	Pn		**Pn**	**22 25 51.6**	**+1.0**
WAX	**Waxell Ridge**	**3.77**	**144**			**Pn**	**22 25 54.4**	**+2.4**
ISLE	**Juniper Island**	**3.78**	**139**			**Pn**	**22 25 54.9**	**+2.5**
CTGM	**Chitina Glacie**	**3.83**	**130**	Pn		**Pn**	**22 25 54.4**	**+1.4**
COLD	**Coldfoot**	**3.88**	**343**			**Pn**	**22 25 54.8**	**+1.3**
TTA	**Tatalina**	**3.97**	**265**			**Pn**	**22 25 55.2**	**+0.4**
TT01	**Tatalina**	**3.98**	**264**			**Pn**	**22 25 55.3**	**+0.5**
RSO	**Redoubt South**	**4.01**	**222**			**Pn**	**22 25 56.5**	**+1.0**
BM03	**Burnt Mountain**	**4.05**	**15**			**Pn**	**22 25 56.8**	**+1.0**
BMAR	**Burnt Mountain**	**4.06**	**15**	Pn		**Pn**	**22 25 56.9**	**+0.9**
CNPM	**China Poot**	**4.47**	**306**	Pn		**Pn**	**22 26 04.3**	**+2.9**
SVW2	**Sparrevohn**	**4.56**	**241**			**Pn**	**22 26 05.2**	**+2.3**
TOLK	**Toolik Lake Re**	**5.19**	**351**			**Pn**	**22 26 13.9**	**+2.4**
HYT	**Haines Junctio**	**5.36**	**116**			**Pn**	**22 26 17.3**	**+3.3**
KDAK	**Kodiak Island**	**6.33**	**206**	Pn		**Pn**	**22 26 27.9**	**+0.7**
	0.2nm,0.3s,baz=16,slow=15,SNR=1.7							
KDAK				Sn		**Sn**	**22 27 38.3**	**-1.2**
	0.6nm,0.3s,baz=303,slow=23,SNR=7.3							
KDAK	**Kodiak Island**	**6.33**	**206**			**Pn**	**22 26 28.2**	**+1.0**
INK	**Inuvik**	**7.38**	**44**	Pn		**Pn**	**22 26 42.2**	**+0.7**
	0.2nm,0.3s,baz=252,slow=9.6,SNR=2.1							
INK				Sn		**Sn**	**22 28 01.5**	**-3.8**
	0.3nm,0.3s,baz=4.9,slow=12,SNR=1.6							
TX31	**Lajitas Ar. Si**	**44.06**	**120**	P		**P**	**22 33 03.7**	**+1.9**
TXAR	**Lajitas Array**	**44.06**	**120**	P		**P**	**22 33 04.1**	**+2.2**
	0.4nm,0.5s,baz=332,slow=8.1,SNR=10.0							
MKAR	**Makanchi Array**	**63.23**	**324**	P		**P**	**22 35 21.1**	**-0.9**
	0.1nm,0.4s,baz=44,slow=7.7,SNR=4.1							

*NEIC **25** 22:33:03.5±2.0, 6°.14S±0°.08×154°.92E±0°.08, h35km±2km, mb4.5/20, Error ellipse: s-maj=15.3km s-min=10.9km az=35.0*

*IDC **25** 22:33:08.8±1.4, 6°.17S×154°.78E, h82km±13km, mb3.9/13, mb1 4.2/18, mb1mx3.9/45, mbtmp4.4/18, MS3.1/6, Ms1 3.1/6, ms1mx2.9/34, Error ellipse: s-maj=15.8km s-min=9.5km az=41.0*

ISC 25 22:33:08.9±0.5, 6°.10S±0°.06×154°.80E±0°.06, h89km, n48, σ0s92/48, mb4.3/22, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.24**	**306**		**Pn**	**22 33 55.6**	**-2.1**
RABL				Sn	**Sn**	**22 34 33.2**	**-2.1**
KRVT	**Keravat (AS076**	**3.29**	**303**	P	**Pn**	**22 33 58.7**	**+0.4**
	22nm,0.3s,baz=35,slow=3.9,SNR=12						
KRVT				S	**Sn**	**22 34 36.4**	**-0.1**
	42nm,0.3s,baz=43,slow=4.4,SNR=5.9						
KRVT				LR	LR	22 35 06.4	
	comp=Z,126nm,19.1s,baz=129,slow=36						
HNR	**Honiara**	**6.08**	**123**	P	**Pn**	**22 34 36.5**	**+0.2**
	53nm,0.3s,baz=327,slow=2.9,SNR=6.9						
HNR				S	**Sn**	**22 35 44.6**	**+0.1**
	baz=280,slow=15,SNR=1.4						
HNR				LR	LR	22 37 24.2	
	comp=Z,124nm,18.1s,baz=302,slow=42						
HNR	**Honiara**	**6.08**	**123**		Pn	22 34 31.5	-4.9
PMG	**Port Moresby**	**8.25**	**246**	P	**Pn**	**22 35 05.7**	**-0.2**
	14nm,0.3s,baz=49,slow=7.9,SNR=25						
PMG				S	**Sn**	**22 36 38.9**	**+1.5**
	3.2nm,0.3s,baz=330,slow=19,SNR=6.5						
PMG				LR	LR	22 38 16.6	
	comp=Z,110nm,20.8s,baz=75,slow=38						
PMG	**Port Moresby**	**8.25**	**246**		**Pn**	**22 35 04.8**	**-1.1**
PATS	**Pohnpei**	**13.32**	**15**	Pn	**Pn**	**22 36 13.4**	**-1.2**
CTA	**Charters Tower**	**16.19**	**210**	P	**Pn**	**22 36 50.8**	**-0.5**
	0.3nm,0.3s,baz=0.3,slow=17,SNR=3.1						
CTAO	**Charters Tower**	**16.19**	**210**		**P**	**22 36 52.2**	**-0.5**
DZM	**Mont Dzumac**	**19.46**	**146**	P	**P**	**22 37 28.2**	**-0.6**
	2.0nm,0.3s,baz=273,slow=11,SNR=19						
DZM				LR	LR	22 43 58.8	
	comp=Z,60nm,19.4s,baz=360,slow=34						
DZM	**Mont Dzumac**	**19.46**	**146**	P	**P**	**22 37 28.0**	**-0.8**
DZM				IAmb	IAmb	22 37 29.0	
	comp=Z,20nm,0.8s						
WR0	**Warramunga Arr**	**24.02**	**233**	P	**P**	**22 38 16.0**	**+0.2**
SIJI	**Sorong**	**24.05**	**282**	P	**P**	**22 38 17.6**	**+1.6**
	comp=Z,5.8nm,0.3s,baz=161,slow=15,SNR=4.3						
SIJI				LR	LR	22 47 55.6	
	comp=Z,77nm,20.3s,baz=150,slow=37						
WB2	**Warramunga Arr**	**24.16**	**233**	P	**P**	**22 38 17.5**	**+0.4**
WRA	**Warramunga Arr**	**24.17**	**233**	P	**P**	**22 38 17.6**	**+0.4**
	comp=Z,26nm,0.9s,baz=57,slow=10,SNR=44						
MTN	**Manton Dam**	**24.27**	**252**	P	**P**	**22 38 18.7**	**+0.7**
MTN				IAmb	IAmb	22 38 33.5	
	comp=Z,18nm,1.0s						
ARMA	**Armidale**	**24.37**	**187**	P	**P**	**22 38 18.1**	**-0.8**
ARMA				IAmb	IAmb	22 38 30.8	
	comp=Z,32nm,1.3s						
AS31	**Alice Springs**	**26.62**	**227**	P	**P**	**22 38 39.1**	**-0.2**
ASAR	**Alice Springs**	**26.62**	**227**	P	**P**	**22 38 38.9**	**-0.5**
	comp=Z,5.9nm,0.7s,baz=61,slow=8.6,SNR=49						
ASAR				LR	LR	22 47 29.2	
	comp=Z,60nm,18.3s,baz=10.0,slow=32						
H11S3	**WAKE ISLAND Hy**	**27.11**	**25**	T	T	23 06 53.9	
	baz=205,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**27.11**	**25**	T	T	23 06 53.1	
	baz=205,slow=76,SNR=37						
H11S1	**WAKE ISLAND Hy**	**27.13**	**25**	T	T	23 06 47.5	
	baz=205,slow=76,SNR=26						
KNRA	**Kununurra**	**27.24**	**247**	P	**P**	**22 38 45.3**	**+0.3**
KNRA				IAmb	IAmb	22 38 47.1	
	comp=Z,21nm,0.9s						
STKA	**Stephens Creek**	**28.46**	**204**	P	**P**	**22 38 54.5**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=27,slow=11,SNR=4.9						
STKA	**Stephens Creek**	**28.46**	**204**	P	**P**	**22 38 54.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**30.84**	**245**	P	**P**	**22 39 16.3**	**-0.5**
FITZ				IAmb	IAmb	22 39 17.2	
	comp=Z,7.0nm,0.8s						
BBOO	**Buckleboo**	**31.79**	**211**	P	**P**	**22 39 24.0**	**-1.1**
BBOO				IAmb	IAmb	22 39 41.4	
	comp=Z,9.1nm,1.1s						
MMRI	**Maumere**	**32.38**	**264**	P	**P**	**22 39 30.8**	**+0.4**
PSA00	**Pilbara Seismi**	**37.13**	**242**	P	**P**	**22 40 11.3**	**0.0**
URZ	**Urewera**	**37.88**	**151**	P	**P**	**22 40 17.4**	**+0.1**
	comp=Z,8.0nm,0.4s,baz=46,slow=1.8,SNR=8.2						
URZ	**Urewera**	**37.88**	**151**	P	**P**	**22 40 16.9**	**-0.4**
BKZ	**Black Stump Fm**	**38.31**	**152**	P	**P**	**22 40 20.2**	**-0.8**
RPZ	**Rata Peaks**	**40.10**	**162**	P	**P**	**22 40 36.0**	**+0.2**
	comp=Z,2.7nm,0.4s,baz=323,slow=5.1,SNR=1.9						
RPZ	**Rata Peaks**	**40.10**	**162**	P	**P**	**22 40 35.7**	**-0.1**
RPZ				IAmb	IAmb	22 40 45.5	
	comp=Z,18nm,1.3s						
MORW	**Morawa**	**43.12**	**233**	P	**P**	**22 41 00.3**	**-0.5**
MORW				IAmb	IAmb	22 41 00.5	
	comp=Z,9.5nm,1.1s						
PETK	**Petropavlovsk-**	**59.04**	**2**	P	**P**	**22 43 00.7**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=177,slow=7.2,SNR=2.8						
CMAR	**Chiang Mai Arr**	**60.23**	**295**	P	**P**	**22 43 10.2**	**+1.9**
	comp=Z,3.9nm,0.8s,baz=122,slow=5.3,SNR=29						
MK31	**Makanchi Array**	**82.61**	**319**	P	**P**	**22 45 23.2**	**+0.7**
MKAR	**Makanchi Array**	**82.61**	**319**	P	**P**	**22 45 22.9**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=94,slow=5.8,SNR=6.4						
ILAR	**Eielson Array**	**82.62**	**22**	P	**P**	**22 45 23.2**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=226,slow=4.9,SNR=3.3						
QSPA	**South Pole Qui**	**83.86**	**180**	P	**P**	**22 45 28.5**	**-0.2**
QSPA				IAmb	IAmb	22 45 30.4	
	comp=Z,2.2nm,0.8s						
MAW	**Mawson**	**85.14**	**203**	P	**P**	**22 45 35.0**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=35,slow=4.3,SNR=2.0						
MAW	**Mawson**	**85.14**	**203**	P	**P**	**22 45 34.9**	**0.0**
KURK	**Kurchatov**	**86.01**	**322**	P	**P**	**22 45 38.9**	**-0.7**
KURK				IAmb	IAmb	22 45 52.8	
	comp=Z,1.7nm,1.2s						
KURBB	**Kurchatov Arra**	**86.05**	**322**	P	**P**	**22 45 39.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=91,slow=5.2,SNR=4.1						
NVAR	**Mina Array Bea**	**91.33**	**52**	P	**P**	**22 46 06.6**	**+1.3**
	comp=Z,0.8nm,1.0s,baz=234,slow=5.5,SNR=3.1						
BVAR	**Borovoye Array**	**91.47**	**323**	P	**P**	**22 46 03.2**	**-2.1**
	comp=Z,0.2nm,0.4s,baz=90,slow=7.2,SNR=2.3						
TORD	**Torodi Ar. Bea**	**152.59**	**287**	PKPbc	**PKPbc**	**22 52 56.1**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=52,slow=3.1,SNR=2.3						

*ISN **25** 22:37:34.9±1.4, 32°.61N×47°.56E, h194km±45km, ML3.1*
*TEH **25** 22:37:41.1, 32°.74N×47°.53E, h9km, ML3.0*
*THR **25** 22:37:41.4±0.6, 32°.78N×47°.42E, h14km±5km, ML3.3*

ISC 25 22:37:41.5±1.0, 32°.68N±0°.03×47°.42E±0°.03, h13km±8km, n39, σ1s17/44, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.12**	**272**	*e*Pg	**Pg**	**22 37 45.5**	**+0.8**
IKFM	**Kafar-mosalman**	**0.92**	**23**	*e*Sg	**Pg**	**22 37 57.6**	**-1.7**
IKFM				*e*Sg	**Sg**	**22 38 08.9**	**-2.4**
IKMR	**Kamar-syah**	**1.16**	**44**	*e*Pg	**Pb**	**22 38 00.9**	**-2.6**
IKMR				*e*		22 38 19.7	
IDOB	**Doab**	**1.28**	**30**	*e*Pg	**Pn**	**22 38 04.6**	**-0.7**
SHGR	**Shooshtar-Gavs**	**1.30**	**115**	*e*Pg	**Pg**	**22 38 06.4**	**-0.1**
SHGR				*e*Sg	**Sg**	**22 38 24.1**	**+0.7**
SHGR				IAML		22 38 28.3	
	comp=N,397nm,0.3s						
SHGR				IAML		22 38 28.4	
	comp=E,464nm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.30**	**115**	*e*Pg	**Pg**	**22 38 06.4**	**-0.1**
IKOM	**Komasi**	**1.50**	**3**	*e*		22 38 10.5	
IKOM				*e*Pg	**Pb**	**22 38 09.1**	**-0.2**
BMMN	**Meydan**	**1.54**	**50**	*e*		22 38 35.3	
BMDN				*e*Pg	**Pn**	**22 38 08.7**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.63**	**349**	*e*Pg	**Pb**	**22 38 11.8**	**+0.3**
KCHF				*e*		22 38 36.1	
AHWZ	**Ahwaz**	**1.70**	**142**	*e*Pg	**Pb**	**22 38 12.5**	**-0.1**
KER	**Kermanshah**	**1.72**	**352**	*e*Pn	**Pb**	**22 38 12.7**	**-0.4**
IGHG	**Ghaleghazi**	**1.80**	**337**	*e*Pn	**Pb**	**22 38 14.3**	**-0.1**
IGHG				*e*		22 38 47.7	
HSAM	**Samen**	**1.82**	**33**	*e*Pg	**Pn**	**22 38 13.6**	**+0.8**
HSAM				*e*		22 38 16.6	
IBZA	**Bozab**	**1.83**	**12**	*e*Pg	**Pb**	**22 38 14.0**	**-1.0**
IBZA				*e*		22 38 17.1	
IVIS	**Veis**	**1.91**	**346**	*e*Pn	**Pb**	**22 38 16.3**	**+0.1**
IVIS				*e*		22 38 46.5	
NSR	**Nassriya**	**1.99**	**214**	*e*Pg	**Pn**	**22 38 12.0**	**-2.8**
	baz=35						
NSR				*e*Sg	**Sn**	**22 38 41.0**	**+1.5**
NSR				AML	AML	22 38 57.0	
	comp=E,117nm,0.5s						
IDHR	**Dehrash**	**2.19**	**337**	*e*Pn	**Pb**	**22 38 20.0**	**-1.2**
IDHR				*e*		22 38 57.3	
IALM	**Almabolaq**	**2.27**	**16**	*e*Pn	**Pn**	**22 38 20.4**	**+1.5**
ILIN	**Lien**	**2.27**	**350**	*e*Pn	**Pn**	**22 38 20.1**	**+1.2**
ILIN				*e*		22 39 00.5	
KHMZ	**Khomeyn**	**2.38**	**63**	*e*Pn	**Pn**	**22 38 21.5**	**+1.1**
KHMZ	**Khomeyn**	**2.38**	**63**	*e*Pn	**Pn**	**22 38 21.5**	**+1.1**
SNGE	**Sanandaj**	**2.41**	**359**	*e*Pn	**Pn**	**22 38 20.9**	**+0.1**
SNGE				*e*Sg	**Sb**	**22 38 53.9**	**-0.7**
SNGE	**Sanandaj**	**2.41**	**359**	*e*Pn	**Pn**	**22 38 20.9**	**+0.1**
HAGD	**Aghdareh**	**2.58**	**33**	*e*Pn	**Pn**	**22 38 24.3**	**+1.1**
HAGD				*e*		22 39 04.4	
BHD	**Baghdad**	**2.62**	**284**	*e*Pg	**Pn**	**22 38 23.0**	**-0.5**
BHD				*e*Sg	**Sn**	**22 38 57.0**	**+1.8**
BHD				AML	AML	22 39 15.4	
	comp=E,97nm,0.7s						
HSRG	**Sareghieh**	**2.66**	**15**	*e*	**Sg**	**22 39 08.9**	**+2.0**
JHBN	**Jahan bin**	**2.78**	**98**	*e*Pn	**Pn**	**22 38 26.4**	**+0.4**
JHBN				*e*		22 39 19.2	
ASAO	**Ashtian**	**2.87**	**49**	*e*Pn	**Pn**	**22 38 28.3**	**+1.2**
ASAO	**Ashtian**	**2.87**	**49**	*e*Pn	**Pn**	**22 38 28.3**	**+1.2**
IPIR	**Pirpir**	**2.93**	**89**	*e*Pn	**Pn**	**22 38 28.6**	**+0.5**
IPIR				*e*		22 39 12.9	
ROKH	**ROKH**	**3.07**	**95**	*e*Pn	**Pn**	**22 38 30.4**	**+0.4**
ROKH				*e*		22 39 26.5	
IRAZ	**Razeghan**	**3.43**	**37**	*e*Pn	**Pn**	**22 38 36.4**	**+1.6**
IKLH	**Kolahrood**	**3.55**	**78**	*e*Pn	**Pn**	**22 38 37.8**	**+1.2**
IKLH				*e*		22 39 05.3	
GHVR	**GHOM**	**3.70**	**60**	*e*Pn	**Pn**	**22 38 39.3**	**+0.8**
GHVR	**GHOM**	**3.70**	**60**	*e*Pn	**Pn**	**22 38 39.3**	**+0.8**
IGAR	**Gharneh**	**3.91**	**93**	*e*Pn	**Pn**	**22 38 41.6**	**+0.1**
IGAR				*e*		22 39 29.5	
KLNJ	**Kolanjah**	**3.92**	**114**	*e*Pn	**Pn**	**22 38 42.4**	**+0.6**
KLNJ				*e*		22 39 34.7	
IGZV	**Ghazvin**	**4.36**	**31**	*e*Pn	**Pn**	**22 38 48.7**	**+1.0**
IDMV	**Damavand**	**4.80**	**52**	*e*Pn	**Pn**	**22 38 53.6**	**-0.1**

*IDC **25** 22:47:26.5±0.7, 18°.82S×174°.53W, h0km, mb4.2/11, mb1 4.5/12, mb1mx4.3/34, mbtmp4.2/12, ML4.0/1, MS3.1/5, Ms1 3.1/5, ms1mx2.9/25, Error ellipse: s-maj=30.1km s-min=16.7km az=125.0*

*NEIC **25** 22:47:26.7±1.7, 19°.2S±0°.1×174°.3W±0°.1, h10km±1km, mb4.5/22, Error ellipse: s-maj=17.7km s-min=17.6km az=175.0*

ISC 25 22:47:27.4±0.6, 19°.1S±0°.1×174°.3W±0°.1, h10km, n50, σ1s57/40, mb4.5/21, MS3.1/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.17**	**91**	Pn	Pn	22 48 27.4	-3.7
AFI	**Afiamalu**	**5.69**	**26**	Pn	**Pn**	**22 48 51.8**	**-0.2**
	4.3nm,0.3s,baz=98,slow=22,SNR=1.8						
AFI				Sn	Sn	22 49 46.4	-11
	15nm,0.3s,baz=251,slow=19,SNR=2.9						
RAR	**Rarotonga**	**13.84**	**101**	Pn	Pn	22 50 39.9	-3.9
	12nm,0.3s,baz=223,slow=5.3,SNR=13						
RAR				Sn	Sn	22 52 58.5	-19
	3.1nm,0.3s,baz=51,slow=19,SNR=1.8						
RAR				LR	LR	22 55 36.5	
	comp=Z,24nm,20.3s,baz=272,slow=35						
RAR	**Rarotonga**	**13.84**	**101**	Pn	Pn	22 50 40.1	-3.7
DZM	**Mont Dzumac**	**18.24**	**257**	P	**P**	**22 51 47.0**	**+5.9**
	0.9nm,0.3s,baz=76,slow=20,SNR=10						
DZM				LR	LR	22 57 31.6	
	comp=Z,121nm,19.1s,baz=206,slow=33						
URZ	**Urewera**	**20.52**	**200**	P	**P**	**22 52 06.9**	**+1.1**
	15nm,0.4s,baz=313,slow=2.8,SNR=14						
URZ				S	S	22 55 38.8	-17
	5.7nm,0.8s,baz=138,slow=7.8,SNR=2.0						
URZ	**Urewera**	**20.52**	**200**	P	**P**	**22 52 04.0**	**-1.8**
URZ				IAmb	IAmb	22 52 08.2	
	comp=Z,16nm,0.5s						
BKZ	**Black Stump Fm**	**21.55**	**200**	P	**P**	**22 52 14.8**	**-2.1**
PPT	**Papeete**	**23.55**	**90**	LR	LR	22 59 28.6	
	comp=Z,42nm,18.9s,baz=267,slow=30						
THZ	**Tophouse**	**25.10**	**203**	P	**P**	**22 52 52.3**	**0.0**
THZ				IAmb	IAmb	22 53 02.1	
	comp=Z,14nm,1.1s						
HNR	**Honiara**	**26.67**	**287**	LR	LR	23 02 42.1	
	comp=Z,50nm,18.9s,baz=141,slow=35						
RPZ	**Rata Peaks**	**27.47**	**203**	P	**P**	**22 53 17.5**	**+3.8**
	comp=Z,8.0nm,0.5s,baz=358,slow=3.0,SNR=7.5						
EIDS	**Eidsvold**	**32.56**	**253**	P	**P**	**22 53 57.1**	**-1.8**
EIDS				IAmb	IAmb	22 54 02.4	
	comp=Z,4.2nm,0.9s						
CTAO	**Charters Tower**	**37.09**	**262**	P	**P**	**22 54 38.3**	**+0.1**
CTAO				IAmb	IAmb	22 54 40.5	
	comp=Z,16nm,1.1s						
TOO	**Toolangi**	**39.52**	**234**	P	**P**	**22 54 58.0**	**-0.5**
COEN	**Coen**	**40.98**	**271**	P	**P**	**22 55 09.5**	**-1.3**
COEN				IAmb	IAmb	22 55 17.3	
	comp=Z,4.7nm,0.8s						
STKA	**Stephens Creek**	**41.51**	**243**	P	**P**	**22 55 14.7**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=83,slow=11,SNR=3.6						
STKA				LR	LR	23 11 35.1	
	comp=Z,48nm,18.2s,baz=45,slow=35						
STKA	**Stephens Creek**	**41.51**	**243**	P	**P**	**22 55 13.0**	**-2.0**
BBOO	**Buckleboo**	**46.27**	**243**	P	**P**	**22 55 51.2**	**-2.0**
BBOO				IAmb	IAmb	22 56 06.2	
	comp=Z,6.8nm,1.1s						
WR0	**Warramunga Arr**	**48.04**	**260**	P	**P**	**22 56 06.7**	**-0.6**
WR0				IAmb	IAmb	22 56 11.6	
	comp=Z,5.4nm,1.0s						
WB0	**Warramunga Arr**	**48.20**	**260**	P	**P**	**22 56 07.9**	**-0.7**
AS31	**Alice Springs**	**48.21**	**255**	P	**P**	**22 56 08.2**	**-

BTGS eSn **Sn** **22 56 08.4 -0.4**
BTGS eSg **Sg** **22 56 18.8 -2.5**
5µm,0.6s
UNR Ust'-Nera 3.11 174 ePn **Pn** **22 55 34.3 -0.3**
UNR ePg **Pb** **22 55 40.7 -0.1**
432nm,0.5s
UNR eSn **Sn** **22 56 10.0 -1.8**
UNR eSn **Sn** **22 56 10.0 -1.8**
UNR eSg **Sb** **22 56 21.7 +2.9**
2µm,0.7s
UNR eAML AML 22 56 40.7
7µm,7.8s
ATKR Artyk 3.65 161 ePn **Pn** **22 55 41.5 -0.6**
ATKR ePg **Pb** **22 55 50.7 +0.6**
255nm,0.5s
ATKR eSn **Sn** **22 56 23.6 -1.7**
ATKR eSn **Sn** **22 56 23.6 -1.7**
ATKR eSg **Sg** **22 56 38.7 -3.8**
5µm,0.6s
SEY Seymchan 6.29 134 Pn **Pn** **22 56 17.6 -0.7**
3.8nm,0.3s,baz=312,slow=10,SNR=27
SEY Pg Pb 22 56 26.4 -8.6
6.3nm,0.3s,baz=311,slow=15,SNR=15
SEY Lg Lg 22 57 58.2
27nm,0.3s,baz=209,slow=20,SNR=2.3
SEY LR LR 22 58 36.7
comp=Z,1µm,21.2s,baz=311,slow=37
YAK Yakutsk 7.82 230 Pn **Pn** **22 56 37.9 -1.3**
0.6nm,0.3s,baz=203,slow=3.0,SNR=5.8
YAK Sn **Sn** **22 58 04.2 -3.5**
1.5nm,0.3s,baz=333,slow=22,SNR=8.3
YAK Lg Lg 22 58 50.7
0.6nm,0.3s,baz=34,slow=22,SNR=1.7
YAK LR LR 23 00 10.9
comp=Z,3µm,20.4s,baz=52,slow=42
YAK Yakutsk 7.82 230 eP **Pn** **22 56 41.4 +2.2**
YAK e 22 58 04.6
YAK pmax pmax
comp=Z,31nm,0.5s
YAK smax smax
comp=N,307nm,0.5s
YAK smax smax
comp=E,486nm,1.0s
YAK Yakutsk 7.82 230 Pn **Pn** **22 56 39.5 +0.2**
YAK Yakutsk 7.82 230 *i* Pn **Pn** **22 56 39.3 0.0**
YAK ePg Pb 22 57 06.0 +5.0
comp=E,151nm,0.9s
YAK eSn **Sn** **22 58 06.0 -1.8**
YAK eSn **Sn** **22 58 06.0 -1.8**
YAK eSg **Sg** **22 58 49.4 -6.8**
comp=E,506nm,0.6s
YAK eAML AML 22 59 33.4
comp=E,9µm,10.1s
TBGR Tabaga 8.00 229 *i* Pn **Pn** **22 56 41.6 -0.1**
TBGR ePg Pb 22 57 09.0 +4.9
comp=E,35nm,0.1s
TBGR eSn **Sn** **22 58 10.8 -1.4**
TBGR eSn **Sn** **22 58 10.8 -1.4**
TBGR eSg **Sg** **22 58 54.5 -7.3**
comp=E,331nm,0.2s
TBGR eAML AML 22 59 37.8
comp=E,4µm,9.2s
MA2 Magadan 8.90 152 Pn **Pn** **22 56 54.7 +0.7**
comp=E,0.8nm,0.3s,baz=352,slow=15,SNR=3.1
MA2 Lg Lg 22 59 22.9
comp=E,4.1nm,0.3s,baz=304,slow=22,SNR=3.2
MA2 LR LR 23 00 43.9
comp=E,2µm,20.6s,baz=338,slow=41
MA2 Magadan 8.90 152*ce*P **Pn** **22 56 57.4 +3.4**
MA2 pmax pmax
comp=Z,31nm,1.0s
MA2 MLR MLR
comp=Z,2µm,10.0s
OKH Okha 14.15 179*d i*P **Pn** **22 58 08.7 +3.0**
OKH *i* S Sn 23 00 51.7 +9.1
OKH pmax pmax
comp=Z,300nm,7.3s
OKH smax smax
comp=E,200nm,8.9s
OKH smax smax
comp=N,300nm,9.0s
OKH MLR MLR
comp=E,4µm,16.0s
OKH MLR MLR
comp=N,2µm,14.0s
OKH MLR MLR
comp=Z,900nm,11.0s
ZEA Zeya 15.74 215 eP **Pn** **22 58 27.2 +0.2**
ZEA pmax pmax
comp=N,59nm,1.0s
ZEA pmax pmax
comp=Z,87nm,1.0s
ZEA pmax pmax
comp=Z,500nm,4.0s
ZEA pmax pmax
comp=N,300nm,5.0s
ZEA pmax pmax
comp=E,100nm,5.0s
ZEA MLR MLR
comp=Z,13µm,9.0s
ZEA MLR MLR
comp=N,11µm,8.0s
PEA0B Petropavlovsk- 16.33 146 P **P** **22 58 36.2 -1.4**
PEA0B pmax pmax
comp=Z,120nm,1.3s
PEA0B Petropavlovsk- 16.33 146 **P** **22 58 36.2 -1.4**
PEA0B IAmb IAmb 22 58 45.7
comp=Z,120nm,1.3s
PETK Petropavlovsk- 16.33 146 Pn **Pn** **22 58 35.8 +1.1**
comp=Z,0.3nm,0.3s,baz=330,slow=10,SNR=16
PETK LR LR 23 04 55.7
comp=Z,770nm,19.0s,baz=328,slow=38
PET Petropavlovsk 16.62 144 eP **P** **22 58 44.4 +3.6**
PET eS **Sn** **23 01 42.4 -0.3**
PET pmax pmax
comp=Z,303nm,1.1s
PET pmax pmax
comp=Z,200nm,10.2s
PET MLR MLR
comp=Z,700nm,13.0s
PET MLR MLR
comp=Z,1µm,13.0s
PET Petropavlovsk 16.62 144 P **Pn** **22 58 39.2 +1.0**
PET IAmb IAmb 22 58 51.9
comp=Z,119nm,1.0s
GRNR Gornyy 17.19 193‖ *i*P **P** **22 58 47.8 +0.6**
GRNR eS **S** **23 02 03.5 -2.5**
GRNR pmax pmax
comp=N,20nm,1.0s
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR smax smax
comp=E,9.0nm,0.7s
GRNR MLR MLR
comp=E,370nm,16.0s
GRNR MLR MLR
comp=N,3µm,17.0s
GRNR MLR MLR
comp=Z,3µm,17.0s
SKR Severo-Kuril's 18.32 151 eP **P** **22 59 00.3 +0.8**
SKR pmax pmax
comp=Z,66nm,0.9s
SKR pmax pmax
comp=Z,400nm,7.6s
SKR pmax pmax
comp=Z,1µm,6.7s
SKR MLR MLR
comp=Z,500nm,16.0s
SKR MLR MLR
comp=Z,700nm,15.0s
UGL Uglegorsk 18.62 181 eP **P** **22 58 59.7 -3.2**
UGL pmax pmax
comp=Z,90nm,1.3s
UGL pmax pmax
comp=Z,1µm,5.2s
UGL pmax pmax
comp=N,900nm,4.3s
UGL MLR MLR
comp=N,2µm,11.0s
UGL MLR MLR
comp=Z,2µm,11.0s
UGL MLR MLR
comp=E,3µm,9.5s
GAMB Gambell 18.89 80 P **P** **22 59 05.6 0.0**
KLR Kul'dur 19.25 202 P **Pn** **22 59 11.2 +0.5**
comp=E,0.6nm,0.3s,baz=353,slow=8.5,SNR=26
KLR Lg Lg 23 04 52.7
comp=E,0.1nm,0.3s,baz=0.9,slow=6.5,SNR=7.8
KLR LR LR 23 06 41.5
comp=E,2µm,19.1s,baz=12,slow=37
KLR Kul'dur 19.25 202*ce*P **Pn** **22 59 10.5 -0.2**
KLR pmax pmax
comp=Z,51nm,1.6s
KLR MLR MLR
comp=Z,965nm,10.0s
NRIK Noril'sk 19.64 300 P **Pn** **22 59 15.6 +0.3**
comp=Z,0.4nm,0.3s,baz=76,slow=10,SNR=14
NRIK S **S** **23 02 48.3 -6.8**
comp=Z,0.2nm,0.3s,baz=295,slow=15,SNR=1.1
NRIK Lg Lg 23 05 06.5
comp=Z,0.8nm,0.3s,baz=188,slow=4.9,SNR=4.0
RDOG Red Dog Mine 20.05 63 P **P** **22 59 18.6 +0.2**
RDOG IAmb IAmb 22 59 29.6
comp=Z,103nm,1.3s
YSS Yuzh-Sakhalins 20.75 179 eP Pn 22 59 30.0 +1.5
YSS *e* 22 59 56.0
YSS eS **S** **23 03 19.5 +2.0**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS pmax pmax
comp=Z,400nm,3.6s
YSS smax smax
comp=N,600nm,12.0s
YSS smax smax
comp=E,600nm,9.0s
YSS MLR MLR
comp=Z,1µm,15.0s
YSS MLR MLR
comp=N,1µm,11.0s
YSS MLR MLR
comp=E,500nm,10.0s
ANM Nome 20.82 74 P **P** **22 59 26.3 -0.5**
ANM pmax pmax
comp=Z,39nm,1.0s
ANM Nome 20.82 74 P **P** **22 59 26.3 -0.5**
ANM IAmb IAmb 22 59 34.9
comp=Z,39nm,1.0s
CIT Chita 21.04 236 eP **P** **22 59 30.9 +1.6**
CIT *e* 22 59 51.7
CIT *e* 23 00 10.6
CIT pmax pmax
comp=Z,148nm,3.4s
HIA Hailar 21.68 223*c i*P **P** **22 59 37.0 +0.8**
HIA pmax pmax
comp=Z,43nm,1.0s
HIA Hailar 21.68 223 P **P** **22 59 36.9 +0.8**
HIA IAmb IAmb 22 59 43.4
comp=Z,44nm,0.8s
KUR Kuril'sk 22.65 170 eP **P** **22 59 46.5 0.0**
KUR eS **S** **23 03 45.3 -9.0**
KUR pmax pmax
comp=Z,138nm,1.1s
KUR MLR MLR
comp=Z,500nm,14.0s
TEY Ternei 22.88 191‖ eP **P** **22 59 48.0 -0.9**
TEY pmax pmax
comp=Z,20nm,1.1s
TEY pmax pmax
comp=N,10.0nm,1.1s
TEY pmax pmax
comp=E,10.0nm,1.1s
TEY MLR MLR
comp=N,300nm,17.0s
TEY MLR MLR
comp=Z,200nm,16.0s
ASAJ Asahikawa 23.59 180 P **P** **22 59 55.8 -0.4**
comp=Z,16nm,0.7s,baz=60,slow=9.9,SNR=6.9
ASAJ LR LR 23 09 22.6
comp=Z,1µm,20.0s,baz=16,slow=37
ASAJ Asahikawa 23.59 180 P **P** **22 59 55.1 -1.0**
ASAJ pmax pmax
comp=Z,36nm,1.0s
JKA Kamikawa-asahi 23.59 180 P **P** **22 59 55.1 -1.0**
JKA IAmb IAmb 23 00 02.3
comp=Z,36nm,1.0s
IRK Irkutsk 24.01 249 eP **P** **22 59 59.8 -0.3**
MDJ Mudanjiang 24.07 203 P **P** **23 00 00.4 -0.3**
USA0B Ussuriysk Arra 24.15 199 P **P** **23 00 01.0 -0.5**
USA0B pmax pmax
comp=Z,55nm,1.2s
USA0B Ussuriysk Arra 24.15 199 P **P** **23 00 01.0 -0.5**
USRK Ussuriysk Ar. 24.15 199 P **P** **23 00 01.5 0.0**
comp=Z,17nm,0.5s,baz=8.7,slow=10.0,SNR=40
USRK Lg Lg 23 07 30.2
comp=Z,2.3nm,0.9s,baz=353,slow=28,SNR=4.5
USRK LR LR 23 09 57.3
comp=Z,2µm,20.6s,baz=3.4,slow=38
TOLK Toolik Lake Re 24.18 56 P **P** **23 00 01.6 0.0**
TOLK IAmb IAmb 23 00 14.8
comp=Z,23nm,0.8s
IMAR Indian Mountai 24.19 64 P **P** **23 00 01.6 -0.1**
TLY Talaya 24.69 249 P **P** **23 00 07.7 +1.3**
comp=Z,7.3nm,0.8s,baz=29,slow=11,SNR=5.7
TLY LR LR 23 09 11.1
comp=Z,420nm,18.4s,baz=29,slow=35
TLY Talaya 24.69 249*c i*P **P** **23 00 05.5 -0.9**
TLY eS **S** **23 04 33.3 +5.4**
TLY MLR MLR
comp=Z,6µm,11.0s
TLY Talaya 24.69 249 P **P** **23 00 07.5 +1.1**
TLY IAmb IAmb 23 00 23.7
comp=Z,35nm,1.1s
COLD Coldfoot 24.71 59 P **P** **23 00 06.5 +0.2**
TTA Tatalina 25.18 71 P **P** **23 00 10.7 0.0**
TTA pmax pmax
comp=Z,8.0nm,0.8s
TTA Tatalina 25.18 71 P **P** **23 00 10.7 0.0**
VLA Vladivostok 25.23 198 *i* P **P** **23 00 12.8 +1.6**
VLA pmax pmax
comp=Z,57nm,1.0s
VLA MLR MLR
comp=Z,2µm,18.0s
ADK Adak 25.26 108 P **P** **23 00 11.2 -0.3**
ADK pmax pmax
comp=Z,30nm,0.8s
ADK Adak 25.26 108 P **P** **23 00 11.2 -0.3**
ADK IAmb IAmb 23 00 17.1
comp=Z,30nm,0.8s
KRAR Krasnoyarsk 25.34 267 *i* P **P** **23 00 12.5 +0.3**
CN2 Changchun 25.56 209 eP **P** **23 00 14.0 -0.3**
CN2 eS **S** **23 04 40.8 -1.0**
CN2 sS sS 23 04 49.5 +3.1
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,350nm,5.8s
CN2 LR LR
comp=Z,6µm,10.0s
CN2 LR LR
comp=Z,4µm,10.0s
CN2 LR LR
comp=Z,10µm,10.0s
MOY Mondy 25.66 252 eP **P** **23 00 17.0 +1.8**
MOY pmax pmax
comp=Z,165nm,2.1s
ERM Erimo 25.69 179 P **P** **23 00 14.2 -1.2**
ERM pmax pmax
comp=Z,11nm,0.8s
ERM Erimo 25.69 179 P **P** **23 00 14.2 -1.2**
ZAK Zakamensk 25.89 248 eP **P** **23 00 18.3 +0.9**
ZAK pmax pmax
comp=Z,22nm,1.2s
ATKA Atka Island 25.91 105 P **P** **23 00 17.0 -0.4**
ATKA IAmb IAmb 23 00 23.3
comp=Z,45nm,1.2s
BPAW Bear Paw Mtn. 26.24 66 P **P** **23 00 20.1 -0.3**
BPAW IAmb IAmb 23 00 30.6
comp=Z,24nm,1.3s
BMAR Burnt Mountain 26.41 56 P **P** **23 00 21.7 -0.1**
SVW2 Sparrevohn 26.50 74 P **P** **23 00 22.2 -0.4**
PPLA Purkeypile 26.57 69 P **P** **23 00 23.6 +0.2**
PPLA IAmb IAmb 23 00 41.3
comp=Z,19nm,1.2s
KTH Kantishna Hill 26.60 67 P **P** **23 00 23.6 -0.1**
KTH IAmb IAmb 23 00 33.4
comp=Z,41nm,1.4s
MDM Murphy Dome 26.67 63 P **P** **23 00 23.9 -0.3**
MDM IAmb IAmb 23 00 33.5
comp=Z,18nm,0.8s
BWN Browne 26.73 65 P **P** **23 00 24.9 +0.2**
BWN IAmb IAmb 23 00 34.5
comp=Z,27nm,1.1s
ULN Ulaanbaatar 26.75 240*ce*P **P** **23 00 26.6 +1.4**
ULN pmax pmax
comp=Z,24nm,2.5s
COLA College 26.85 62 *i* P **P** **23 00 26.7 +1.0**
COLA pmax pmax
comp=Z,10.0nm,0.9s
TRF Thorofare Moun 26.89 66 P **P** **23 00 26.4 +0.1**
TRF IAmb IAmb 23 00 28.5
comp=Z,18nm,1.0s
SONM Songino Array 26.99 241 P **P** **23 00 28.0 +0.7**
comp=Z,2.1nm,0.5s,baz=31,slow=6.4,SNR=15
SONM Lg Lg 23 08 56.6
comp=Z,0.4nm,0.4s,baz=154,slow=39,SNR=2.3
SONM Songino Array 26.99 241 eP **P** **23 00 29.3 +2.0**
SONM pmax pmax
comp=Z,9.0nm,0.9s
WRH Wood River Hil 27.02 63 P **P** **23 00 27.2 -0.1**
MCK McKinley 27.18 65 P **P** **23 00 28.9 +0.1**
MCK pmax pmax
comp=Z,12nm,0.7s
MCK McKinley 27.18 65 P **P** **23 00 28.9 +0.1**
MCK IAmb IAmb 23 00 38.1
comp=Z,12nm,0.7s
IL31 27.24 62 P **P** **23 00 28.7 -0.5**
IL31 IAmb IAmb 23 00 38.5
comp=Z,17nm,0.9s
ILAR Eielson Array 27.24 62 P **P** **23 00 29.2 0.0**
comp=Z,6.5nm,0.7s,baz=299,slow=8.2,SNR=53
ILAR LR LR 23 11 41.7
comp=Z,526nm,19.1s,baz=323,slow=37
NIKH Nikolski High 27.31 98 P **P** **23 00 29.6 -0.4**
HDA Harding Lake 27.44 63 P **P** **23 00 31.2 +0.1**
UNV Unalaska Valle 27.52 94 P **P** **23 00 32.0 +0.1**
DHY Denali Highway 28.15 65 P **P** **23 00 37.0 -0.5**
DHY IAmb IAmb 23 00 46.2
comp=Z,16nm,1.3s
DOT Dot Lake 28.91 62 P **P** **23 00 43.0 -1.3**
EGAK Eagle 29.14 59 P **P** **23 00 45.1 -1.0**
INK Inuvik 29.24 49 P **P** **23 00 47.6 +0.6**
comp=Z,1.6nm,0.8s,baz=322,slow=6.0,SNR=5.5
INK LR LR 23 14 20.0
comp=Z,888nm,20.1s,baz=294,slow=40
INK Inuvik 29.24 49 P **P** **23 00 46.8 -0.2**
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 29.24 49 P **P** **23 00 46.8 -0.2**
KDAK Kodiak Island 29.89 77 P **P** **23 00 53.0 +0.1**
comp=Z,8.7nm,0.8s,baz=157,slow=3.8,SNR=5.6
KDAK LR LR 23 14 02.3
comp=Z,2µm,20.9s,baz=328,slow=39
KDAK Kodiak Island 29.89 77 P **P** **23 00 51.4 -1.5**
KDAK pmax pmax
comp=Z,10.0nm,0.9s
KDAK Kodiak Island 29.89 77 P **P** **23 00 51.4 -1.5**
KDAK IAmb IAmb 23 00 58.7
comp=Z,10nm,0.9s
ZAA0 Zalesovo Array 29.97 272 P **P** **23 00 54.0 +0.3**
ZALV Zalesovo Beam 29.97 272 P **P** **23 00 54.2 +0.6**
comp=Z,4.5nm,0.6s,baz=48,slow=7.6,SNR=12
ZALV LR LR 23 13 31.7
comp=Z,581nm,19.1s,baz=40,slow=38
EUNU Eureka 29.99 15 P **P** **23 00 54.0 +0.4**
BCAR Beaver Creek A 30.07 62 P **P** **23 00 54.4 -0.1**
GLB Gilahina Butte 30.48 65 P **P** **23 00 57.7 -0.4**
KBS Kingsbay 30.85 343*ce*P **P** **23 01 02.5 +1.3**
KBS pmax pmax
comp=Z,22nm,1.7s
SPA0 Spitsbergen Ar 30.95 341 P **P** **23 01 02.5 +0.4**
SPITS Spitsbergen Ar 30.95 341 LR LR 23 14 26.1
comp=Z,325nm,19.8s,baz=30,slow=38
BJI Beijing 31.20 221 P **P** **23 01 05.3 +0.7**
BJI pmax pmax
comp=Z,13nm,0.9s
BJI LR LR
comp=Z,2µm,10.0s
BJI LR LR
comp=Z,2µm,9.6s
BJI LR LR
comp=Z,1µm,17.7s
BJT Baijiatuau 31.22 221 P **P** **23 01 05.3 +0.5**
BJT pmax pmax
comp=Z,16nm,1.0s
BJT Baijiatuau 31.22 221 P **P** **23 01 05.3 +0.5**
BJT IAmb IAmb 23 01 10.1
comp=Z,16nm,1.0s
MJA0 Matsu Arr-Jizo 31.25 187 eP **P** **23 01 05.6 +0.5**
MJA0 pmax pmax
comp=Z,4.0nm,0.9s
MJAR Matsushiro Arr 31.25 187 P **P** **23 01 04.1 -1.0**
comp=Z,4.6nm,0.9s,baz=346,slow=8.8,SNR=7.5
MJAR LR LR 23 14 47.7
comp=Z,357nm,18.1s,baz=40,slow=38
KSRS Korea Array 31.33 203 P **P** **23 01 04.6 -1.2**
comp=Z,2.6nm,0.7s,baz=16,slow=8.7,SNR=7.0
KSRS LR LR 23 14 08.3
comp=Z,1µm,18.6s,baz=22,slow=37
KSRS Korea Array 31.33 203 eP **P** **23 01 06.5 +0.7**
KSRS pmax pmax
comp=Z,4.0nm,0.9s
BARN Barnard Glacie 31.49 65 P **P** **23 01 07.3 0.0**
HHC Hu-ho-hao-te 31.68 228 eP **P** **23 01 11.0 +2.0**
HHC S **S** **23 06 15.8 -2.4**
HHC SS **SnSn** **23 08 04.8 +0.7**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,200nm,5.3s
HHC LR LR
comp=Z,4µm,9.6s
HHC LR LR
comp=Z,3µm,11.7s
HHC LR LR
comp=Z,5µm,11.0s
HSPB Hornsund (broa 32.01 340 eP **P** **23 01 11.4 0.0**
DGZ Jazzator, Alta 32.32 264*c i*P **P** **23 01 15.7 +1.1**
DGZ pmax pmax
comp=Z,10.0nm,0.9s
TJN Taejon 32.47 203*ce*P **P** **23 01 15.2 -0.6**
RES Resolute Bay 33.29 24 P **P** **23 01 22.7 +0.1**
comp=Z,4.5nm,0.6s,baz=309,slow=2.4,SNR=4.8
RES Resolute Bay 33.29 24 P **P** **23 01 22.9 +0.3**
RES pmax pmax
comp=Z,12nm,1.0s
RES Resolute Bay 33.29 24 P **P** **23 01 22.9 +0.3**
RES IAmb IAmb 23 01 23.6
comp=Z,12nm,1.0s
TIY Taiyuan 34.37 225 eP **P** **23 01 35.8 +3.4**
TIY S **S** **23 07 04.0 +4.1**
TIY pmax pmax
comp=Z,18nm,0.4s
TIY pmax pmax
comp=Z,240nm,7.5s
TIY LR LR
comp=Z,5µm,11.1s
TIY LR LR
comp=Z,3µm,8.3s
TIY LR LR
comp=Z,7µm,9.8s
KURK Kurchatov 34.87 274*ce*P **P** **23 01 37.1 +0.5**
KURK pmax pmax
comp=Z,87nm,2.5s
KURK Kurchatov 34.87 274 P **P** **23 01 36.6 +0.1**
KURK IAmb IAmb 23 01 43.0
comp=Z,12nm,0.7s
KURBB Kurchatov Arra 34.98 274 P **P** **23 01 38.1 +0.6**
comp=Z,8.7nm,0.5s,baz=36,slow=8.6,SNR=84
KURBB PP **PnPn** **23 02 54.2 +0.1**
comp=Z,9.8nm,0.9s,baz=42,slow=12,SNR=4.8
DAG Danmarks Havn 35.34 353 *i* P **P** **23 01 39.7 -0.6**
comp=Z,18nm,0.9s
DAG Danmarks Havn 35.34 353 *i* P **P** **23 01 39.7 -0.6**
DAG pmax pmax
comp=Z,18nm,0.9s
LVZ Lovozero 35.81 322*ce*P **P** **23 01 45.0 +0.5**
LVZ pmax pmax
comp=Z,39nm,1.7s
LVZ Lovozero 35.81 322 P **P** **23 01 44.0 -0.5**
LVZ IAmb IAmb 23 01 45.4
comp=Z,20nm,0.9s
KEV Kevo 36.01 328 P **P** **23 01 46.2 +0.1**
KEV pmax pmax
comp=Z,5.0nm,1.1s
KEV Kevo 36.01 328 P **P** **23 01 46.2 +0.1**
BVAR Borovoye Array 36.15 283 P **P** **23 01 47.9 +0.3**
comp=Z,6.9nm,0.5s,baz=50,slow=7.9,SNR=51
BVAR PP **PP** **23 03 12.3 +2.8**
comp=Z,5.1nm,0.7s,baz=64,slow=15,SNR=4.7

BVAR PcP **PcP** **23 04 13.2 +0.3**
comp=Z,1.7nm,0.5s,baz=58,slow=3.6,SNR=5.8
BVAR LR LR 23 17 49.2
comp=Z,354nm,20.9s,baz=103,slow=38
BRVK Borovoye **36.16 283** *ce*P **P** **23 01 48.3 +0.7**
BRVK pmax pmax
comp=Z,18nm,1.0s
BRVK Borovoye **36.16 283** P **P** **23 01 47.5 -0.1**
BRVK IAmb IAmb 23 01 53.0
comp=Z,22nm,1.2s
APA Apatity **36.36 322** ⇓*i*P **P** **23 01 47.7 -1.5**
APA *i*S **S** **23 07 25.0 -4.9**
APA pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B **36.49 328** P **P** **23 01 50.6 +0.3**
comp=Z,2.8nm,0.8s,baz=36,slow=6.4,SNR=11
ARCES PcP **PcP** **23 04 13.5 -0.1**
comp=Z,1.9nm,0.6s,baz=36,slow=3.4,SNR=7.6
ARCES LR LR 23 20 21.6
comp=Z,362nm,19.1s,baz=27,slow=42
ARE0 ARCESS Array S **36.49 328** P **P** **23 01 50.6 +0.3**
GTA Gaotai **36.66 242** *e*P **P** **23 01 53.5 +1.3**
GTA pP sP 23 01 59.0 +2.8
GTA sP pP 23 02 02.0 +7.0
GTA PP **PP** **23 03 18.0 +2.6**
GTA PcP **PcP** **23 04 17.5 +2.7**
GTA S **S** **23 07 34.8 -0.4**
GTA sS sS 23 07 44.8 +4.9
GTA pmax pmax
comp=Z,8.0nm,1.4s
GTA pmax pmax
comp=Z,190nm,7.0s
GTA LR LR
comp=Z,2μm,14.3s
GTA LR LR
comp=Z,2μm,16.5s
GTA LR LR
comp=Z,2μm,16.2s
MK31 Makanchi Array **36.67 266** P **P** **23 01 52.2 +0.1**
MK31 pmax pmax
comp=Z,22nm,0.8s
MK31 Makanchi Array **36.67 266** P **P** **23 01 52.2 +0.1**
MK31 IAmb IAmb 23 01 57.1
comp=Z,22nm,0.8s
MKAR Makanchi Array **36.67 266** P **P** **23 01 52.2 +0.1**
comp=Z,25nm,0.6s,baz=36,slow=6.8,SNR=87
MKAR PP **PP** **23 03 16.1 +0.8**
comp=Z,22nm,0.9s,baz=56,slow=11,SNR=6.2
SVE Sverdlovsk **36.71 294** *de*P **P** **23 01 53.5 +1.3**
SVE *e*S **S** **23 07 34.1 -1.2**
SVE pmax pmax
comp=Z,16nm,1.3s
SVE MLR MLR
comp=Z,458nm,13.0s
MAKZ Makanchi **36.78 267** P **P** **23 01 53.2 +0.2**
MAKZ pmax pmax
comp=Z,18nm,0.9s
MAKZ Makanchi **36.78 267** P **P** **23 01 53.2 +0.2**
MAKZ IAmb IAmb 23 01 58.1
comp=Z,18nm,0.8s
WMQ Urumqi **37.13 258** *e*P P 23 02 07.3 +11
WMQ pmax pmax
comp=Z,42nm,4.3s
WMQ Urumqi **37.13 258** *e*P **P** **23 01 58.3 +2.2**
WMQ pP sP 23 02 01.8 +1.7
WMQ pmax pmax
comp=Z,15nm,1.3s
WMQ pmax pmax
comp=Z,100nm,3.7s
WMQ LR LR
comp=Z,710nm,16.5s
WMQ LR LR
comp=Z,300nm,14.9s
WMQ Urumqi **37.13 258** P **P** **23 01 57.0 +0.9**
WMQ pmax pmax
comp=Z,32nm,1.2s
WMQ Urumqi **37.13 258** P **P** **23 01 57.0 +0.9**
WMQ IAmb IAmb 23 02 02.9
comp=Z,32nm,1.2s
DLBC Dease Lake **37.39 60** P **P** **23 01 58.0 -0.1**
comp=Z,4.0nm,0.8s,baz=332,slow=16,SNR=4.6
DLBC Dease Lake **37.39 60** P **P** **23 01 58.2 +0.1**
ARU Arti **37.74 296** P **P** **23 02 01.1 +0.2**
comp=Z,2.1nm,0.8s,baz=201,slow=1.4,SNR=7.0
ARU LR LR 23 19 14.2
comp=Z,289nm,21.1s,baz=32,slow=39
ARU Arti **37.74 296** *c i*P **P** **23 02 00.0 -0.9**
ARU 23 03 26.3
ARU 23 04 17.5
ARU S **S** **23 07 51.9 +0.9**
ARU SS **SnSn** **23 10 31.1 +1.0**
ARU SSS SSS 23 10 50.7
ARU pmax pmax
comp=Z,26nm,2.2s
ARU MLR MLR
comp=Z,426nm,14.0s
ARU Arti **37.74 296** P **P** **23 02 01.0 0.0**
PRGR Permogore **37.81 309** *e*P **P** **23 02 01.1 -0.4**
PRGR pmax pmax
comp=Z,15nm,1.0s
TMCR Tamitsa **37.93 316** *e*P **P** **23 02 00.2 -2.2**
NJ2 Nanjing **38.23 213** *e*P **P** **23 02 06.3 +1.0**
NJ2 pP **sP** **23 02 09.0 -0.2**
NJ2 PP **PnPn** **23 03 36.0 +1.9**
NJ2 pmax pmax
comp=Z,11nm,0.6s
NJ2 LR LR
comp=Z,2μm,12.8s
NJ2 LR LR
comp=Z,1μm,10.2s
NJ2 LR LR
comp=Z,2μm,14.2s
LZH Lanzhou **38.38 235** ⇑P **P** **23 02 08.5 +1.7**
LZH pP sP 23 02 12.5 +1.7
LZH PP **PnPn** **23 03 37.3 +1.2**
LZH *e*S **S** **23 08 08.8 +7.3**
LZH sS ScP 23 08 16.0 +8.3
LZH SS **SnSn** **23 10 42.0 -4.5**
LZH pmax pmax
comp=Z,59nm,1.2s
LZH pmax pmax
comp=Z,440nm,4.9s
LZH LR LR
comp=Z,2μm,13.0s
LZH LR LR
comp=Z,1μm,11.4s
LZH LR LR
comp=Z,2μm,15.7s
SSE Sheshan **38.68 210** P **P** **23 02 12.5 +3.4**
SSE S **S** **23 08 10.0 +4.3**
SSE pmax pmax
comp=Z,20nm,0.8s
SSE pmax pmax
comp=Z,97nm,3.7s
SSE LR LR
comp=Z,1μm,11.2s
SSE LR LR
comp=Z,480nm,14.8s
XAN Xi'an **38.78 227** P **P** **23 02 12.0 +2.0**
XAN PP **PnPn** **23 03 46.3 +5.5**
XAN PcP **PcP** **23 04 25.0 +3.8**
XAN S **S** **23 08 10.5 +3.2**
XAN pmax pmax
comp=Z,15nm,2.1s
XAN pmax pmax
comp=Z,300nm,7.3s
XAN LR LR
comp=Z,3μm,12.8s
XAN LR LR
comp=Z,2μm,9.8s
XAN LR LR
comp=Z,3μm,10.8s
XAN Xi'an **38.78 227** P **P** **23 02 11.4 +1.4**
XAN pmax pmax
comp=Z,12nm,1.2s
XAN Xi'an **38.78 227** P **P** **23 02 11.4 +1.4**
YKA Yellowknife Ar **38.87 46** P **P** **23 02 10.7 +0.3**
comp=Z,1.9nm,0.8s,baz=322,slow=6.6,SNR=3.6
YKA LR LR 23 22 16.1
comp=Z,199nm,18.0s,baz=0.0,slow=42
SUMG Summit **40.02 0** *i*P **P** **23 02 21.4 +1.0**
comp=Z,12nm,0.8s
SUMG Summit **40.02 0** *i*P **P** **23 02 21.4 +1.0**
SUMG pmax pmax
comp=Z,12nm,0.8s
SUMG Summit **40.02 0** P **P** **23 02 20.9 +0.5**
KLMR Klimovskoe **40.20 312** *e*P **P** **23 02 19.8 -1.7**
KLMR pmax pmax
comp=Z,28nm,1.3s
KLMR Klimovskoe **40.20 312** *e*P **P** **23 02 19.8 -1.7**
KLMR AMP 23 02 27.1
comp=Z,28nm,1.3s
KLMR LQ LQ 23 16 09.8
KLMR LQ LQ 23 16 09.8
KLMR LR LR 23 19 37.0
JMIC Jan Mayen **40.24 346** LR LR 23 19 49.6
comp=Z,96nm,18.4s,baz=50,slow=37
JCJ Chichijima **40.57 180** P **P** **23 02 23.6 -1.3**
JCJ IAmb IAmb 23 02 32.7
comp=Z,20nm,0.7s
WHN Wuhan **40.69 219** ⇑P **P** **23 02 27.5 +1.7**
WHN S S 23 08 44.8 +9.0
WHN LR LR
comp=Z,2μm,9.8s
WHN LR LR
comp=Z,1μm,9.4s
WHN LR LR
comp=Z,3μm,9.6s
PRZ Przheval'sk **41.80 266** P **P** **23 02 36.1 +1.0**
PRZ pmax pmax
comp=Z,21nm,1.0s
PRZ Przheval'sk **41.80 266** P **P** **23 02 36.1 +1.0**
PRZ IAmb IAmb 23 02 42.3
comp=Z,21nm,0.9s
SUF Sumiainen **42.11 322** P **P** **23 02 37.4 +0.3**
SUF pmax pmax
comp=Z,24nm,0.8s
ENH Enshi **42.18 225** P **P** **23 02 38.3 +0.1**
TKM2 Tokmak 2 **42.50 269** P **P** **23 02 42.2 +1.4**
SNR=15
KDJ Kajisay **42.57 267** P **P** **23 02 41.7 +0.3**
KDJ pmax pmax
comp=Z,7.0nm,0.7s
KDJ Kajisay **42.57 267** P **P** **23 02 41.7 +0.3**
USP Ospenovka **42.62 271** P **P** **23 02 43.0 +1.3**
SNR=14
TARG Taragay, Kyrgy **42.67 266** P **P** **23 02 43.2 +0.7**
TARG IAmb IAmb 23 02 48.8
comp=Z,17nm,0.7s
CHMS Chumysh **42.75 270** P **P** **23 02 44.7 +2.0**
SNR=15
AKTO Aktyubinsk **42.78 290** LR LR 23 22 58.6
comp=Z,782nm,18.3s,baz=29,slow=40
AKTO Aktyubinsk **42.78 290** *i*P **P** **23 02 42.2 -0.6**
AKTO pmax pmax
comp=Z,24nm,1.2s
FRU1 Bishkek **42.96 270** P **P** **23 02 45.8 +1.4**
FRU1 pmax pmax
comp=Z,32nm,1.0s
FRU1 Bishkek **42.96 270** P **P** **23 02 45.8 +1.4**
FRU1 IAmb IAmb 23 02 51.5
comp=Z,32nm,0.9s
KBK Karagaybulak **42.97 270** P **P** **23 02 46.6 +2.0**
SNR=14
AAK Ala-Archa **43.16 270** P **P** **23 02 47.5 +1.3**
SNR=17
AAK Ala-Archa **43.16 270** *i*P **P** **23 02 48.2 +2.1**
SNR=21
AAK Ala-Archa **43.16 270** P **P** **23 02 47.1 +0.9**
AAK pmax pmax
comp=Z,24nm,0.6s
AAK Ala-Archa **43.16 270** P **P** **23 02 47.1 +0.9**
CD2 Chengdu **43.21 232** *e*P **P** **23 02 49.3 +2.8**
FIA1 FINESS Array S **43.23 321** P **P** **23 02 45.9 -0.3**
FIA1 IAmb IAmb 23 02 48.7
comp=Z,16nm,0.9s
FINES FINESS Array B **43.23 321** P **P** **23 02 46.6 +0.3**
comp=Z,6.3nm,0.6s,baz=26,slow=7.7,SNR=32
FINES LR LR 23 23 40.8
comp=Z,429nm,19.3s,baz=35,slow=40
KZA Kyzart **43.35 269** P **P** **23 02 49.6 +1.6**
SNR=21
EKS2 Erkin-Say **43.41 271** P **P** **23 02 49.9 +1.7**
SNR=11
UCH Uchtor **43.50 270** P **P** **23 02 51.2 +1.9**
SNR=14
PUL Pulkovo **43.61 317** *i*P **P** **23 02 50.4 +1.0**
PUL pmax pmax
comp=Z,33nm,0.8s
AML Almayashu **43.90 271** P **P** **23 02 54.4 +2.0**
SNR=17
KK31 Karatay Array **44.28 274** P **P** **23 02 55.7 +0.7**
KK31 pmax pmax
comp=Z,16nm,1.1s
KK31 Karatay Array **44.28 274** P **P** **23 02 55.7 +0.7**
KK31 IAmb IAmb 23 03 00.5
comp=Z,16nm,1.1s
KKAR Karatay Array **44.28 274** P **P** **23 02 56.1 +1.1**
KKAR pmax pmax
comp=Z,16nm,1.1s
KKAR Karatay Array **44.28 274** P **P** **23 02 56.1 +1.1**
KKAR IAmb IAmb 23 03 00.5
comp=Z,16nm,1.1s
MOS Moscow **45.04 309** *e*P **P** **23 03 00.6 -0.2**
MOS *e* 23 04 51.4
QZH Quanzhou **45.17 211** ⇑*i*P **P** **23 03 01.5 -0.7**
QZH S **S** **23 09 38.5 -3.1**
QZH ScS **ScS** **23 12 55.5 -3.5**
QZH pmax pmax
comp=Z,160nm,7.2s
QZH LR LR
comp=Z,2μm,12.4s
QZH LR LR
comp=Z,930nm,11.5s
QZH LR LR
comp=Z,2μm,12.7s
KSH Kashi **45.28 267** P P 23 03 08.8 +5.6
KSH sP sP 23 03 12.0 +4.8
KSH S **S** **23 09 48.0 +4.6**
KSH pmax pmax
comp=Z,10.0nm,0.9s
KSH pmax pmax
comp=Z,230nm,5.6s
KSH LR LR
comp=Z,430nm,12.6s
KSH LR LR
comp=Z,460nm,9.6s
KSH LR LR
comp=Z,1μm,10.6s
NACB Ninganchiao **45.36 207** P **P** **23 03 03.6 -0.1**
NACB IAmb IAmb 23 03 05.4
comp=Z,16nm,0.9s
SSLB Suanglung **45.85 208** P **P** **23 03 08.0 +0.4**
OBN Obninsk **45.89 310** LR LR 23 23 53.7
comp=Z,55nm,19.3s,baz=0.5,slow=38
OBN Obninsk **45.89 310** *d i*P **P** **23 03 08.2 +0.7**
OBN *e* 23 04 45.6
OBN *e* 23 04 55.5
OBN *e*S **S** **23 09 43.2 -8.2**
OBN pmax pmax
comp=Z,55nm,2.5s
OBN MLR MLR
comp=Z,270nm,16.0s
OBN Obninsk **45.89 310** P **P** **23 03 07.3 -0.3**
TAS Tashkent **46.27 274** P **P** **23 03 11.4 +0.6**
TAS pmax pmax
comp=Z,34nm,0.5s
TAS Tashkent **46.27 274** P **P** **23 03 11.4 +0.6**
GYA Guiyang **46.56 226** ⇓P **P** **23 03 15.0 +1.7**
GYA PP **PP** **23 05 03.0 +0.4**
GYA S **S** **23 10 00.3 -1.7**
GYA pmax pmax
comp=Z,7.0nm,0.9s
GYA pmax pmax
comp=Z,280nm,5.7s
GYA LR LR
comp=Z,2μm,14.3s
GYA LR LR
comp=Z,930nm,13.4s
GYA LR LR
comp=Z,2μm,14.1s
NC303 NORSAR Array S **46.61 330** P **P** **23 03 12.6 -0.6**
BTK Batken **46.78 272** P **P** **23 03 15.8 +0.9**
BTK pmax pmax
comp=Z,28nm,0.8s
BTK Batken **46.78 272** P **P** **23 03 15.8 +0.9**
NB201 NORSAR Array S **46.79 330** P **P** **23 03 14.5 -0.1**
NB2 NORSAR Subarra **46.81 330** P **P** **23 03 14.4 -0.4**
comp=Z,23nm,1.1s,baz=24,slow=7.9
NOA NORSAR Array B **46.81 330** P **P** **23 03 14.7 -0.2**
comp=Z,8.9nm,0.8s,baz=24,slow=7.8,SNR=27
NOA LR LR 23 26 02.1
comp=Z,250nm,19.8s,baz=5.0,slow=40
HFS Hagfors **47.15 328** LR LR 23 26 47.1
comp=Z,304nm,18.3s,baz=20,slow=41
LPSR Galich'ya Gora **47.34 306** *e*P **P** **23 03 18.7 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR MLR MLR
comp=Z,640nm,15.0s
VRH Novokhopyorsk **47.67 303** *e*P **P** **23 03 20.4 -1.2**
VRH pmax pmax
comp=Z,10.0nm,0.9s
VRH MLR MLR
comp=Z,520nm,15.0s
GAR Garm **47.90 271** P **P** **23 03 24.7 +1.0**
KONO Kongsberg **48.41 330** *ce*P **P** **23 03 28.3 +1.1**
KONO pmax pmax
comp=Z,40nm,2.5s
KONO Kongsberg **48.41 330** P **P** **23 03 26.8 -0.4**
KONO IAmb IAmb 23 03 28.6
comp=Z,12nm,0.9s
LSA Lhasa **48.43 245** *i*P **P** **23 03 31.0 +2.7**
SNR=8.1
LSA Lhasa **48.43 245** P **P** **23 03 28.8 +0.5**
LSA pmax pmax
comp=Z,18nm,1.0s
LSA Lhasa **48.43 245** P **P** **23 03 28.8 +0.5**
VSR Storozhevoye **48.47 305** *e*P **P** **23 03 27.6 -0.1**
VSR pmax pmax
comp=Z,30nm,1.2s
VSR MLR MLR
comp=Z,510nm,13.0s
CHGR Chuyangaron **48.64 272** P **P** **23 03 29.2 -0.1**
VORD Divnogorie **48.65 305** *e*P **P** **23 03 29.4 +0.3**
VORD pmax pmax
comp=Z,10.0nm,0.8s
FFC Flin Flon **48.94 44** P **P** **23 03 30.9 -0.4**
FFC pmax pmax
comp=Z,12nm,0.9s
FFC Flin Flon **48.94 44** P **P** **23 03 30.9 -0.4**
FFC IAmb IAmb 23 03 37.1
comp=Z,12nm,0.8s
KMI Kunming **48.94 230** ⇓P **P** **23 03 33.3 +1.4**
KMI pP sP 23 03 36.5 +0.5
KMI sP pP 23 03 38.0 +3.1
KMI S **S** **23 10 36.3 +0.3**
KMI pmax pmax
comp=Z,18nm,1.9s
KMI pmax pmax
comp=Z,350nm,3.8s
KMI LR LR
comp=Z,1μm,11.6s
KMI LR LR
comp=Z,1μm,11.6s
KMI LR LR
comp=Z,2μm,13.4s
KMI Kunming **48.94 230** P **P** **23 03 31.8 -0.1**
KMI pmax pmax
comp=Z,17nm,0.7s
KMI Kunming **48.94 230** P **P** **23 03 31.8 -0.1**
B08A Colville Reser **49.31 61** P **P** **23 03 34.4 +0.1**
SUW Suwalki **50.55 318** *e*P **P** **23 03 43.3 -0.3**
SUW Suwalki **50.55 318** P **P** **23 03 43.2 -0.3**
SUW pmax pmax
comp=Z,25nm,0.8s
SUW Suwalki **50.55 318** P **P** **23 03 43.2 -0.3**
NIL Nilore **51.48 265** P **P** **23 03 51.7 +0.9**
NIL pmax pmax
comp=Z,27nm,1.1s
NIL Nilore **51.48 265** P **P** **23 03 51.7 +0.9**
TAPN Taplejung **51.79 248** *e*P **P** **23 03 55.6 +2.1**
comp=Z,52nm,0.9s
AKASG Malin Array Be **51.90 312** P **P** **23 03 53.5 -0.2**
comp=Z,11nm,0.9s,baz=27,slow=8.1,SNR=26
AKASG LR LR 23 28 35.8
comp=Z,183nm,19.6s,baz=10.0,slow=39
AKASG Malin Array Be **51.90 312** *e*P **P** **23 03 53.4 -0.2**
AKASG pmax pmax
comp=Z,12nm,0.9s
AKBB Malin Array Si **51.90 312** P **P** **23 03 53.3 -0.4**
AKBB pmax pmax
comp=Z,13nm,1.0s
AKBB Malin Array Si **51.90 312** P **P** **23 03 53.3 -0.4**
AKBB IAmb IAmb 23 03 54.6
comp=Z,13nm,1.0s
SHL Shillong **51.98 242** P **P** **23 03 53.8 -1.0**
SHL pmax pmax
comp=Z,27nm,1.2s
SHL Shillong **51.98 242** P **P** **23 03 53.8 -1.0**
JIRN Jiri **52.04 249** *e*P **P** **23 03 56.7 +1.2**
comp=Z,180nm,0.9s
G08A Pilot Rock **52.11 62** P **P** **23 03 55.0 -0.5**
SLVN Son La **52.19 227** P **P** **23 03 56.5 +0.2**
SLVN IAmb IAmb 23 04 03.0
comp=Z,12nm,1.0s
KKN Kakani **52.25 250** *e*P **P** **23 03 58.4 +1.5**
comp=Z,156nm,1.1s
GKN Gorkha **52.29 251** *e*P **P** **23 03 58.6 +1.5**
comp=Z,220nm,0.9s
KBL Kabul **52.30 270** P **P** **23 03 56.1 -1.0**
KBL pmax pmax
comp=Z,13nm,1.0s
KBL Kabul **52.30 270** P **P** **23 03 56.1 -1.0**
KBL IAmb IAmb 23 04 02.2
comp=Z,13nm,1.0s
ODAN Odare **52.35 248** *e*P **P** **23 03 58.7 +1.1**
comp=Z,105nm,1.3s
PKI Pulchoki **52.41 250** *e*P **P** **23 03 59.2 +1.0**
comp=Z,97nm,1.2s
DMN Daman **52.48 250** *e*P **P** **23 04 00.1 +1.4**
RAMN Ramite **52.55 249** *e*P **P** **23 03 59.7 +0.6**
comp=Z,59nm,0.9s
GOF Gofitskoye **52.60 298** ⇑*e*P **P** **23 03 59.6 +0.6**
GKP Gorka Klasztor **52.68 322** *e*P **P** **23 03 59.8 +0.3**
PINE Pine Mountain **52.75 65** P **P** **23 04 00.1 -0.2**
PINE IAmb IAmb 23 04 03.3
comp=Z,11nm,1.2s
PYUN Piuthan **52.80 253** *e*P **P** **23 04 01.9 +0.9**
comp=Z,154nm,1.0s
QIZ Qiongzhong **52.83 220** P **P** **23 04 01.3 +0.3**
QIZ S **S** **23 11 32.8 +3.4**
QIZ pmax pmax
comp=Z,160nm,5.7s
QIZ LR LR
comp=Z,540nm,14.7s
QIZ LR LR
comp=Z,450nm,10.4s
QIZ LR LR
comp=Z,720nm,12.1s
KOLN Koldanda **52.88 252** *e*P **P** **23 04 02.8 +1.3**
comp=Z,144nm,1.1s
MAK Makhachkala **52.90 294** *e*P P 23 03 54.4 -6.9
MAK pmax pmax
comp=Z,138nm,1.6s
MAK MLR MLR
comp=Z,508nm,15.0s
GROC Groznyy **53.29 295** *e*P **P** **23 04 04.4 +0.3**
GROC *e* 23 05 09.9
GROC pmax pmax
comp=Z,27nm,1.4s
GEYT Alibeck **53.46 282** P **P** **23 04 06.9 +1.4**
comp=Z,3.7nm,0.4s,baz=350,slow=4.5,SNR=27
GEYT LR LR 23 30 13.1
comp=Z,311nm,21.7s,baz=70,slow=40
GYA0 ALIBECK ARRAY **53.46 282** P **P** **23 04 07.1 +1.6**
GYA0B ALIBECK ARRAY **53.46 282** P **P** **23 04 05.8 +0.3**
GYA0B IAmb IAmb 23 04 15.5
comp=Z,14nm,0.9s
GNBR Gunib **53.60 294** *i*P **P** **23 04 07.3 +0.8**
KIV Kislovodsk **53.69 298** ⇓P **P** **23 04 08.8 +1.6**
KIV Kislovodsk **53.69 298** *i*P **P** **23 04 08.5 +1.4**
SNR=8.0
KIV Kislovodsk **53.69 298** *e*P **P** **23 04 08.1 +0.9**
KIV *e*S **S** **23 11 42.5 +1.6**
KIV pmax pmax
comp=Z,89nm,1.1s
KIV pmax pmax
comp=Z,79nm,4.2s
KIV Kislovodsk **53.69 298** P **P** **23 04 07.5 +0.4**
LRM Limekiln Ridge **53.78 57** P **P** **23 04 08.5 +0.4**
KBZ Khabaz **53.82 298** P **P** **23 04 09.4 +1.4**
comp=Z,14nm,0.8s,baz=36,slow=4.8,SNR=22
KBZ LR LR 23 32 49.2
comp=Z,178nm,20.0s,baz=20,slow=42
AKT Akhty **54.13 292** *i*P **P** **23 04 11.1 +0.7**

LVV	**L'vov**	**54.13**	**315**	*eP*	**P**	**23 04 10.1**	**-0.1**
LVV				*eS*	**S**	**23 11 43.3**	**-3.2**
LVV				MLR	MLR		
	comp=N,200nm,14.0s						
LVV				MLR	MLR		
	comp=Z,200nm,14.0s						
ZEI	**Tsey**	**54.31**	**296**	*eP*	**P**	**23 04 11.8**	**0.0**
ZEI				pmax	pmax		
	comp=Z,15nm,1.1s						
LGD	**Lagodekhi**	**54.34**	**294**	P	**P**	**23 04 13.2**	**+1.4**
ZKTA	**Zakatala**	**54.38**	**293**	P	**P**	**23 04 12.9**	**+0.7**
SORM	**Soroca**	**54.45**	**311**	⇓P	**P**	**23 04 12.3**	**-0.2**
SORM	**Soroca**	**54.45**	**311**	⇓P	**P**	**23 04 12.3**	**-0.2**
MCMT	**McKenzie Canyo**	**54.54**	**58**	P	**P**	**23 04 13.8**	**+0.3**
SEKA	**Sheki**	**54.55**	**293**	P	**P**	**23 04 14.0**	**+0.5**
ULM	**Lac du Bonnet**	**54.58**	**42**	LR	LR	23 30 47.6	
	comp=Z,474nm,19.1s,baz=335,slow=40						
KWP	**Kalwaria Pacla**	**54.65**	**316**	*eP*	**P**	**23 04 14.9**	**+0.9**
KWP	**Kalwaria Pacla**	**54.65**	**316**	P	**P**	**23 04 14.4**	**+0.4**
KWP				pmax	pmax		
	comp=Z,39nm,1.1s						
KWP	**Kalwaria Pacla**	**54.65**	**316**	P	**P**	**23 04 14.4**	**+0.4**
ANN	**Anapa**	**54.67**	**303**	*eP*	**P**	**23 04 12.2**	**-2.0**
ANN				pmax	pmax		
	comp=Z,36nm,1.0s						
ANN				MLR	MLR		
	comp=Z,298nm,11.0s						
GCMT	**Greycliff**	**54.69**	**55**	P	**P**	**23 04 14.9**	**+0.4**
ESK	**Eskdalemuir**	**54.72**	**337**	P	**P**	**23 04 14.9**	**+0.5**
ESK				pmax	pmax		
	comp=Z,37nm,1.2s						
ESK	**Eskdalemuir**	**54.72**	**337**	P	**P**	**23 04 14.9**	**+0.5**
DDFL	**Dedoflistskaro**	**54.73**	**294**	P	**P**	**23 04 18.9**	**+4.2**
OJC	**Ojcow**	**54.87**	**319**	*eP*	**P**	**23 04 16.1**	**+0.5**
OJC	**Ojcow**	**54.87**	**319**	P	**P**	**23 04 15.8**	**+0.2**
OJC				pmax	pmax		
	comp=Z,26nm,1.1s						
OJC	**Ojcow**	**54.87**	**319**	P	**P**	**23 04 15.8**	**+0.2**
TBLG	**Delisi**	**54.95**	**295**	P	**P**	**23 04 16.7**	**+0.4**
TBLG				pmax	pmax		
	comp=Z,15nm,1.0s						
TBLG	**Delisi**	**54.95**	**295**	P	**P**	**23 04 16.7**	**+0.4**
TBLG				IAmb	IAmb	23 04 22.4	
	comp=Z,15nm,1.0s						
MNGR	**Mingechevir, A**	**54.98**	**293**	P	**P**	**23 04 17.3**	**+0.8**
NRDL	**Niedersach Rie**	**55.00**	**327**	*eP*	**P**	**23 04 17.4**	**+1.1**
	comp=Z,15nm,1.0s,baz=21,slow=7.1						
NRDL				*epP*	**sP**	**23 04 21.1**	**+0.7**
	baz=21,slow=7.1						
SOC	**Sochi**	**55.01**	**300**	*eP*	**P**	**23 04 15.7**	**-1.0**
SOC				*eS*	**S**	**23 11 58.7**	**+0.2**
SOC				pmax	pmax		
	comp=Z,20nm,1.1s						
SOC				MLR	MLR		
	comp=Z,452nm,13.0s						
HRA	**Herat**	**55.03**	**276**	P	**P**	**23 04 17.7**	**+0.5**
HRA				IAmb	IAmb	23 04 23.7	
	comp=Z,18nm,1.1s						
KSP	**Ksiaz**	**55.15**	**321**	*eP*	**P**	**23 04 18.0**	**+0.4**
YHH	**Holmes Hill**	**55.22**	**56**	P	**P**	**23 04 18.6**	**+0.1**
ASSE	**Asse, Remlinge**	**55.22**	**326**	*eP*	**P**	**23 04 19.0**	**+1.0**
	comp=Z,12nm,1.0s,baz=21,slow=7.1						
ASSE				*epP*	**sP**	**23 04 22.9**	**+0.9**
	baz=21,slow=7.1						
GANJ	**Ganja**	**55.36**	**293**	P	**P**	**23 04 19.8**	**+0.5**
KOLS	**Kolonicke sedl**	**55.41**	**316**	*eP*	**P**	**23 04 19.0**	**-0.5**
KOLS				pmax	pmax		
	comp=Z,15nm,1.3s						
KOLS	**Kolonicke sedl**	**55.41**	**316**	*eP*	**P**	**23 04 19.0**	**-0.5**
RLMT	**Red Lodge**	**55.41**	**55**	P	**P**	**23 04 20.6**	**+0.7**
RLMT				IAmb	IAmb	23 04 37.4	
	comp=Z,16nm,1.0s						
MILM	**Milestii Mici**	**55.42**	**310**	⇑P	**P**	**23 04 19.5**	**-0.1**
OSTC	**Ostas**	**55.44**	**321**	*eP*	**P**	**23 04 19.8**	**+0.1**
OSTC				*ex*	x	23 04 23.6	
OSTC				AMS	AMS	23 32 20.0	
	comp=Z,400nm,16.0s						
CHVC	**Chvalec**	**55.45**	**321**	AMS	AMS	23 32 30.0	
	comp=Z,400nm,14.6s						
NIE	**Niedzica**	**55.48**	**318**	*eP*	**P**	**23 04 21.0**	**+1.0**
CLL	**Collm**	**55.48**	**324**	*i* P	**P**	**23 04 19.4**	**-0.6**
	comp=Z,25nm,0.9s						
CLL				*i* pP	**pP**	**23 04 23.6**	**+0.8**
	comp=Z,27nm,1.1s						
CLL				*eS*	**S**	**23 12 06.0**	**+1.4**
CLL				*e*		23 16 48.0	
CLL	**Collm**	**55.48**	**324**	*i* P	**P**	**23 04 19.4**	**-0.6**
CLL				*i*		23 04 23.6	
CLL				pmax	pmax		
	comp=Z,25nm,0.9s						
CLL	**Collm**	**55.48**	**324**	*eP*	**P**	**23 04 20.2**	**+0.3**
	comp=Z,25nm,0.9s,baz=21,slow=7.1						
CLL				*epP*	**sP**	**23 04 24.0**	**0.0**
	baz=21,slow=7.1						
CLL	**Collm**	**55.48**	**324**	P	**P**	**23 04 19.4**	**-0.6**
UPC	**Upice**	**55.53**	**321**	AMS	AMS	23 32 30.0	
	comp=Z,400nm,14.1s						
CLZ	**Clausthal**	**55.56**	**326**	*eP*	**P**	**23 04 21.8**	**+1.3**
	comp=Z,21nm,1.1s,baz=21,slow=7.1						
DPC	**Dobruska-Polom**	**55.60**	**321**	*eP*	**P**	**23 04 21.8**	**+0.9**
DPC				*e*		23 04 25.6	
DPC				MLR	MLR		
	comp=Z,400nm,18.2s						
DPC	**Dobruska-Polom**	**55.60**	**321**	*eP*	**P**	**23 04 21.8**	**+0.9**
DPC				*epP*	**sP**	**23 04 25.6**	**+0.6**
DPC				AMS	AMS	23 31 10.0	
	comp=Z,400nm,18.2s						
OKC	**Ostrava-Krasne**	**55.63**	**320**	*eP*	**P**	**23 04 21.9**	**+0.8**
OKC				*e*		23 04 26.3	
OKC	**Ostrava-Krasne**	**55.63**	**320**	*eP*	**P**	**23 04 21.9**	**+0.8**
OKC				*epP*	**sP**	**23 04 26.3**	**+1.2**
CRVS	**Cervenica-Dubn**	**55.65**	**317**	*eP*	**P**	**23 04 21.6**	**+0.4**
CRVS				pmax	pmax		
	comp=Z,17nm,1.1s						
CRVS	**Cervenica-Dubn**	**55.65**	**317**	*eP*	**P**	**23 04 21.6**	**+0.4**
AKH	**Akhalkalaki**	**55.67**	**296**	⇑P	**P**	**23 04 23.1**	**+1.4**
AKH	**Akhalkalaki**	**55.67**	**296**	P	**P**	**23 04 21.7**	**0.0**
AKH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AKH	**Akhalkalaki**	**55.67**	**296**	P	**P**	**23 04 21.7**	**0.0**
AKH				IAmb	IAmb	23 04 28.0	
	comp=Z,8.2nm,0.8s						
BRG	**Berggiesshubel**	**55.67**	**323**	*i* P	**P**	**23 04 21.6**	**+0.2**
	comp=Z,6.9nm,1.0s						
BRG				*e*		23 04 36.0	
	comp=Z,4.3nm,0.9s						
BRG	**Berggiesshubel**	**55.67**	**323**	*eP*	**P**	**23 04 21.8**	**+0.5**
	comp=Z,8.2nm,1.2s,baz=21,slow=7.1						
BRG				*epP*	**sP**	**23 04 25.4**	**0.0**
	baz=21,slow=7.1						
UZH	**Uzhgorod**	**55.68**	**316**	*eP*	**P**	**23 04 21.8**	**+0.4**
UZH				*i*		23 04 24.6	
UZH				*i*		23 04 30.6	
KRLC	**Kraliky**	**55.75**	**321**	*eP*	**P**	**23 04 22.4**	**+0.4**
KRLC				*e*		23 04 26.5	
KRLC				MLR	MLR		
	comp=Z,500nm,16.8s						
KRLC	**Kraliky**	**55.75**	**321**	*eP*	**P**	**23 04 22.4**	**+0.4**
KRLC				*epP*	**sP**	**23 04 26.5**	**+0.5**
KRLC				AMS	AMS	23 31 10.0	
	comp=Z,500nm,16.8s						
PRAR	**RASCA**	**55.76**	**312**	P	**P**	**23 04 23.1**	**+1.0**
FBE	**Freiberg**	**55.76**	**324**	*eP*	**P**	**23 04 22.6**	**+0.6**
	comp=Z,13nm,1.1s,baz=21,slow=7.1						
FBE				*epP*	**sP**	**23 04 26.1**	**+0.1**
	baz=21,slow=7.1						
BUR08	**Bucovina Ar. S**	**55.79**	**313**	P	**P**	**23 04 22.0**	**-0.3**
BUR08				IAmb	IAmb	23 04 23.8	
	comp=Z,7.0nm,0.9s						
BURAR	**Bucovina Array**	**55.81**	**313**	⇑P	**P**	**23 04 22.4**	**-0.1**
BURAR	**Bucovina Array**	**55.81**	**313**	⇑P	**P**	**23 04 22.4**	**-0.1**
MORC	**Moravsky Berou**	**55.84**	**320**	⇑P	**P**	**23 04 23.5**	**+0.9**
MORC	**Moravsky Berou**	**55.84**	**320**	*eP*	**P**	**23 04 22.8**	**+0.2**
MORC	**Moravsky Berou**	**55.84**	**320**	P	**P**	**23 04 23.0**	**+0.4**
MORC				pmax	pmax		
	comp=Z,17nm,1.1s						
MORC	**Moravsky Berou**	**55.84**	**320**	P	**P**	**23 04 23.0**	**+0.4**
MORC				IAmb	IAmb	23 04 28.1	
	comp=Z,17nm,1.1s						
NEUB	**Neuenburg**	**55.85**	**325**	*eP*	**P**	**23 04 23.0**	**+0.4**
	comp=Z,17nm,0.9s,baz=21,slow=7.1						
NEUB				*epP*	**sP**	**23 04 26.9**	**+0.2**
	baz=21,slow=7.1						
PVCC	**Panska Ves**	**55.85**	**323**	*eP*	**P**	**23 04 24.0**	**+1.4**
PVCC				MLR	MLR		
	comp=Z,500nm,14.3s						
PVCC	**Panska Ves**	**55.85**	**323**	*eP*	**P**	**23 04 24.0**	**+1.4**
PVCC				AMS	AMS	23 32 00.0	
	comp=Z,500nm,14.3s						
FLWY	**Flagg Ranch**	**55.90**	**56**	P	**P**	**23 04 24.4**	**+1.0**
FLWY				IAmb	IAmb	23 04 36.8	
	comp=Z,9.2nm,0.8s						
SCHQ	**Schefferville**	**55.90**	**20**	P	**P**	**23 04 22.2**	**-0.8**
	comp=Z,5.5nm,0.6s,baz=15,slow=7.2,SNR=5.7						
SCHQ				LR	LR	23 29 14.4	
	comp=Z,321nm,19.9s,baz=330,slow=37						
SCHQ	**Schefferville**	**55.90**	**20**	P	**P**	**23 04 22.0**	**-0.9**
SCHQ				IAmb	IAmb	23 04 22.9	
	comp=Z,7.6nm,0.8s						
GTTG	**Gottingen**	**55.92**	**326**	*eP*	**P**	**23 04 24.1**	**+1.0**
	comp=Z,17nm,1.3s,baz=21,slow=7.1						
LANS	**Liptovska Anna**	**55.94**	**318**	*eP*	P	23 04 29.1	+5.8
LANS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LANS	**Liptovska Anna**	**55.94**	**318**	*eP*	P	23 04 29.1	+5.8
IMW	**Indian Meadow**	**55.98**	**57**	P	**P**	**23 04 25.1**	**+1.0**
CHTO	**Chiang Mai**	**56.02**	**232**	P	**P**	**23 04 24.3**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CHTO	**Chiang Mai**	**56.02**	**232**	P	**P**	**23 04 24.3**	**+0.1**
GIRR	**Girov**	**56.05**	**312**	P	**P**	**23 04 24.6**	**+0.5**
FXWY	**Fox Creek**	**56.19**	**57**	P	**P**	**23 04 26.1**	**+0.7**
PRA	**Prague**	**56.31**	**322**	AMS	AMS	23 33 30.0	
	comp=Z,300nm,11.5s						
TPAW	**Teton Pass**	**56.35**	**57**	P	**P**	**23 04 26.3**	**-0.3**
TPAW				IAmb	IAmb	23 04 42.8	
	comp=Z,9.8nm,1.1s						
LOHW	**Long Hollow**	**56.35**	**57**	P	**P**	**23 04 27.4**	**+0.8**
CM31	**Chiang Mai Arr**	**56.35**	**232**	P	**P**	**23 04 27.3**	**+0.7**
CM31				IAmb	IAmb	23 04 33.5	
	comp=Z,23nm,1.4s						
CMAR	**Chiang Mai Arr**	**56.35**	**232**	P	**P**	**23 04 26.8**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=8.1,slow=8.3,SNR=12						
CMAR				PP	**PP**	**23 06 32.2**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=12,slow=10,SNR=5.1						
CMAR				LR	LR	23 31 30.0	
	comp=Z,459nm,18.8s,baz=66,slow=39						
CMAR	**Chiang Mai Arr**	**56.35**	**232**	*eP*	**P**	**23 04 27.3**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PRU	**Pruhonice**	**56.36**	**322**	*eP*	**P**	**23 04 26.4**	**+0.1**
PRU				*e*		23 04 30.7	
PRU				MLR	MLR		
	comp=Z,600nm,12.6s						
PRU	**Pruhonice**	**56.36**	**322**	*eP*	**P**	**23 04 26.4**	**+0.1**
PRU				*epP*	**sP**	**23 04 30.7**	**+0.4**
PRU				AMS	AMS	23 33 40.0	
	comp=Z,600nm,12.6s						
GOPC	**GO Pecny, Ondr**	**56.37**	**322**	*eP*	**P**	**23 04 27.4**	**+1.0**
GOPC				*e*		23 04 30.7	
GOPC				MLR	MLR		
	comp=Z,500nm,11.8s						
GOPC	**GO Pecny, Ondr**	**56.37**	**322**	*eP*	**P**	**23 04 27.4**	**+1.0**
GOPC				*epP*	**sP**	**23 04 30.7**	**+0.2**
GOPC				AMS	AMS	23 33 40.0	
	comp=Z,500nm,11.8s						
MOX	**Moxa**	**56.41**	**325**	P	**P**	**23 04 27.3**	**+0.6**
MOX				pmax	pmax		
	comp=Z,21nm,1.0s						
MOX	**Moxa**	**56.41**	**325**	*eP*	**P**	**23 04 27.5**	**+0.9**
	comp=Z,15nm,0.9s,baz=21,slow=7.1						
MOX				*epP*	**sP**	**23 04 31.2**	**+0.5**
	baz=21,slow=7.1						
MOX				*eL*	L	23 30 30.8	
	comp=Z,171nm,19.7s						
TESR	**Tescani**	**56.41**	**312**	⇑P	**P**	**23 04 26.8**	**+0.1**
TANN	**Tannenbergstha**	**56.44**	**324**	*eP*	**P**	**23 04 27.8**	**+0.9**
	comp=Z,20nm,0.9s,baz=21,slow=7.1						
TANN				*epP*	**sP**	**23 04 31.6**	**+0.6**
	baz=21,slow=7.1						
PLN	**Plauen**	**56.44**	**324**	*eP*	**P**	**23 04 27.7**	**+0.9**
	comp=Z,22nm,0.9s,baz=21,slow=7.1						
PLN				*epP*	**sP**	**23 04 31.6**	**+0.7**
	baz=21,slow=7.1						
WERD	**Werda**	**56.44**	**324**	*eP*	**P**	**23 04 27.8**	**+0.9**
	comp=Z,27nm,0.9s,baz=21,slow=7.1						
WERD				*epP*	**sP**	**23 04 31.7**	**+0.7**
	baz=21,slow=7.1						
REDW	**Red Top Meadow**	**56.49**	**57**	P	**P**	**23 04 28.8**	**+1.2**
REDW				IAmb	IAmb	23 04 44.7	
	comp=Z,6.3nm,0.9s						
VRAC	**Vranov**	**56.50**	**321**	⇑P	**P**	**23 04 28.2**	**+0.9**
VRAC	**Vranov**	**56.50**	**321**	*eP*	**P**	**23 04 27.7**	**+0.4**
VRAC	**Vranov**	**56.50**	**321**	⇑P	**P**	**23 04 28.2**	**+0.9**
KARS	**Kars**	**56.51**	**296**	P	**P**	**23 04 30.3**	**+2.7**
GUNZ	**Gunzen**	**56.52**	**324**	*eP*	**P**	**23 04 28.4**	**+1.0**
	comp=Z,19nm,0.9s,baz=21,slow=7.1						
GUNZ				*epP*	**sP**	**23 04 32.3**	**+0.8**
	baz=21,slow=7.1						
ARCR	**ARCALIA**	**56.53**	**314**	⇓P	**P**	**23 04 28.9**	**+1.3**
WERN	**Wernitzgruen**	**56.58**	**324**	*eP*	**P**	**23 04 28.9**	**+1.0**
	comp=Z,18nm,1.0s,baz=21,slow=7.1						
WERN				*epP*	**sP**	**23 04 32.6**	**+0.7**
	baz=21,slow=7.1						
UBBA	**Unterbreizbach**	**56.60**	**326**	*eP*	**P**	**23 04 28.7**	**+0.9**
	comp=Z,26nm,1.8s,baz=21,slow=7.1						
UBBA				*epP*	**sP**	**23 04 32.0**	**+0.1**
	baz=21,slow=7.1						
NKC	**Novy Kostel**	**56.61**	**324**	*eP*	**P**	**23 04 28.8**	**+0.7**
NKC				*e*		23 04 32.5	
NKC				MLR	MLR		
	comp=Z,500nm,12.6s						
NKC	**Novy Kostel**	**56.61**	**324**	*eP*	**P**	**23 04 28.8**	**+0.7**
NKC				*epP*	**sP**	**23 04 32.5**	**+0.3**
NKC				AMS	AMS	23 34 00.0	
	comp=Z,500nm,12.6s						
JAVC	**Velka Javorina**	**56.66**	**320**	*eP*	**P**	**23 04 30.2**	**+1.7**
VYHS	**Vyhne**	**56.70**	**318**	*eP*	**P**	**23 04 29.6**	**+0.8**
VYHS				pmax	pmax		
	comp=Z,16nm,1.1s						
VYHS	**Vyhne**	**56.70**	**318**	*eP*	**P**	**23 04 29.5**	**+0.8**
KRUC	**Moravsky**	**56.78**	**321**	*eP*	**P**	**23 04 29.6**	**+0.3**
TREC	**Trest**	**56.78**	**321**	*eP*	**P**	**23 04 29.4**	**+0.1**
TREC				*e*		23 04 33.2	
TREC				MLR	MLR		
	comp=Z,500nm,15.7s						
TREC	**Trest**	**56.78**	**321**	*eP*	**P**	**23 04 29.4**	**+0.1**
TREC				*epP*	**pP**	**23 04 33.2**	**+1.0**
TREC				AMS	AMS	23 33 20.0	
	comp=Z,500nm,15.7s						
MANZ	**Manzenberg**	**56.92**	**324**	*eP*	**P**	**23 04 31.0**	**+0.7**
	comp=Z,4.5nm,0.9s,baz=21,slow=7.1						
MANZ				*epP*	**sP**	**23 04 34.4**	**0.0**
	baz=21,slow=7.1						
AHID	**Auburn Hatcher**	**56.95**	**57**	P	**P**	**23 04 30.2**	**-0.7**
NAX	**Nakhchivan**	**56.96**	**293**	P	**P**	**23 04 31.5**	**+0.7**
PSZ	**Piszkesteto**	**56.96**	**317**	⇑P	**P**	**23 04 31.8**	**+1.1**
PSZ	**Piszkesteto**	**56.96**	**317**	P	**P**	**23 04 31.3**	**+0.6**
PSZ				pmax	pmax		
	comp=Z,20nm,0.9s						
PSZ	**Piszkesteto**	**56.96**	**317**	P	**P**	**23 04 31.2**	**+0.6**
VRI	**Vrincioaia**	**56.98**	**311**	⇑P	**P**	**23 04 31.1**	**+0.3**
VRI	**Vrincioaia**	**56.98**	**311**	⇑P	**P**	**23 04 31.1**	**+0.3**
PLOR	**Plostina**	**57.02**	**311**	⇑P	**P**	**23 04 31.6**	**+0.5**
PLOR	**Plostina**	**57.02**	**311**	⇑P	**P**	**23 04 31.6**	**+0.5**
SMOL	**Smolenice**	**57.04**	**320**	*eP*	**P**	**23 04 32.1**	**+1.0**
SMOL				pmax	pmax		
	comp=Z,10.0nm,1.2s						
SMOL	**Smolenice**	**57.04**	**320**	*eP*	**P**	**23 04 32.1**	**+1.0**
OZUR		**57.04**	**312**	⇑P	**P**	**23 04 32.2**	**+1.0**
ROTZ	**Rotzenmuhle**	**57.10**	**324**	*eP*	**P**	**23 04 32.6**	**+1.0**
	comp=Z,14nm,1.2s,baz=21,slow=7.1						
CFR	**Carcaliu**	**57.20**	**310**	⇑P	**P**	**23 04 32.7**	**+0.4**
CFR	**Carcaliu**	**57.20**	**310**	⇑P	**P**	**23 04 32.7**	**+0.4**
MODS	**Modra-Piesok**	**57.20**	**320**	*eP*	**P**	**23 04 32.6**	**+0.3**
MODS				pmax	pmax		
	comp=Z,16nm,1.0s						
MODS	**Modra-Piesok**	**57.20**	**320**	*eP*	**P**	**23 04 32.6**	**+0.3**
DOPR	**Dopca**	**57.27**	**312**	⇑P	**P**	**23 04 34.2**	**+1.3**
JURR	**Jurilovca**	**57.35**	**309**	⇑P	**P**	**23 04 34.1**	**+0.7**
KHC	**Kasperske Hory**	**57.39**	**323**	*ceP*	**P**	**23 04 34.6**	**+1.0**
KHC				pmax	pmax		
	comp=Z,28nm,1.7s						
KHC	**Kasperske Hory**	**57.39**	**323**	*eP*	**P**	**23 04 33.9**	**+0.3**
KHC				*epP*	**pP**	**23 04 37.2**	**+0.7**
KHC				AMS	AMS	23 34 10.0	
	comp=Z,700nm,10.5s						
KHC	**Kasperske Hory**	**57.39**	**323**	P	**P**	**23 04 33.3**	**-0.4**
GRA1	**Grafenberg Arr**	**57.39**	**325**	P	**P**	**23 04 33.7**	**+0.1**
GRA1				IAmb	IAmb	23 04 35.7	
	comp=Z,9.1nm,0.9s						
GRF	**Grafenberg Arr**	**57.39**	**325**	P	**P**	**23 04 33.7**	**+0.1**
GRF				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GRF	**Grafenberg Arr**	**57.39**	**325**	*eP*	**P**	**23 04 34.5**	**+0.8**
	comp=Z,26nm,1.4s,baz=21,slow=7.1						
GRF				*epP*	**sP**	**23 04 38.4**	**+0.7**
	baz=21,slow=7.1						
GRF				*eL*	L	23 31 58.1	
	comp=Z,196nm,21.5s						
TOPG	**Topolog**	**57.40**	**310**	⇓P	**P**	**23 04 33.9**	**+0.2**
BW06	**Boulder Array**	**57.44**	**56**	P	**P**	**23 04 33.8**	**-0.5**
PD31	**Pinedale Array**	**57.44**	**56**	P	**P**	**23 04 33.7**	**-0.6**
PDAR	**Pinedale Array**	**57.44**	**56**	P	**P**	**23 04 34.6**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=16,slow=2.7,SNR=16						
AHRW	**Bad Neuenahr-A**	**57.47**	**328**	*eP*	**P**	**23 04 35.2**	**+1.0**
	comp=Z,37nm,1.7s,baz=21,slow=7.1						
SRO2	**Moca**	**57.49**	**318**	*eP*	**P**	**23 04 34.6**	**+0.3**
SRO2				pmax	pmax		
	comp=Z,17nm,0.8s						
SRO2	**Moca**	**57.49**	**318**	*eP*	**P**	**23 04 34.6**	**+0.3**
NEHR	**Nehoiu**	**57.51**	**311**	⇑P	**P**	**23 04 36.0**	**+1.5**
UBPT	**Khong Chiam**	**57.53**	**223**	P	**P**	**23 04 35.6**	**+0.7**
UBPT				IAmb	IAmb	23 04 39.9	
	comp=Z,10nm,1.0s						
WET	**Wettzell**	**57.53**	**323**	*eP*	**P**	**23 04 35.7**	**+1.0**
	comp=Z,36nm,2.0s,baz=21,slow=7.1						
PBKT	**Sadao Pong**	**57.55**	**229**	P	**P**	**23 04 35.5**	**+0.5**
PBKT				IAmb	IAmb	23 04 42.0	
	comp=Z,12nm,0.8s						
MLR	**Muntele Rosu**	**57.55**	**312**	⇓P	**P**	**23 04 36.5**	**+1.6**
MLR	**Muntele Rosu**	**57.55**	**312**	P	**P**	**23 04 35.8**	**+0.9**
MLR				pmax	pmax		
	comp=Z,13nm,0.9s						
MLR	**Muntele Rosu**	**57.55**	**312**	P	**P**	**23 04 35.8**	**+0.9**
MLR				IAmb	IAmb	23 04 41.8	
	comp=Z,13nm,0.9s						
MEM	**Membach**	**57.62**	**329**	P	**P**	**23 04 35.8**	**+0.6**
GEC2	**GERESS Array S**	**57.62**	**322**	*eP*	**P**	**23 04 36.2**	**+0.8**
	comp=Z,11nm,1.0s,baz=21,slow=7.1						
GEC2				*epP*	**sP**	**23 04 39.8**	**+0.4**
	baz=21,slow=7.1						
GEC2	**GERESS Array S**	**57.62**	**322**	P	**P**	**23 04 35.6**	**+0.2**
GEC2				IAmb	IAmb	23 04 40.7	
	comp=Z,14nm,1.1s						
GERES	**GERESS Array B**	**57.62**	**322**	P	**P**	**23 04 36.0**	**+0.6**
	comp=Z,5.4nm,0.8s,baz=36,slow=7.0,SNR=38						
GERES				LR	LR	23 32 51.1	
	comp=Z,206nm,18.7s,baz=28,slow=40						
ISR	**Istrita**	**57.72**	**311**	⇑P	**P**	**23 04 37.2**	**+1.2**
ISR	**Istrita**	**57.72**	**311**	⇑P	**P**	**23 04 37.2**	**+1.2**
BSTI	**Sart Tilman**	**57.73**	**329**	P	**P**	**23 04 36.8**	**+0.8**
TIRR	**Tirgusor**	**57.77**	**309**	⇑P	**P**	**23 04 37.6**	**+1.3**
TIRR	**Tirgusor**	**57.77**	**309**	P	**P**	**23 04 36.4**	**+0.1**
TIRR				pmax	pmax		
	comp=Z,37nm,1.0s						
TIRR	**Tirgusor**	**57.77**	**309**	P	**P**	**23 04 36.4**	**+0.1**
HWUT	**Hardware Ranch**	**57.84**	**58**	P	**P**	**23 04 36.8**	**-0.3**
HWUT				IAmb	IAmb	23 04 50.9	
	comp=Z,7.6nm,0.9s						
VOIR		**57.85**	**312**	⇑P	**P**	**23 04 38.9**	**+1.9**
VOIR		**57.85**	**312**	⇑P	**P**	**23 04 38.9**	**+1.9**
KOPT	**Kop Dagi**	**57.93**	**298**	P	**P**	**23 04 38.4**	**+0.5**
KOPT				IAmb	IAmb	23 04 42.2	
	comp=Z,5.8nm,0.8s						
BCLA	**Clavier**	**57.94**	**329**	P	**P**	**23 04 36.1**	**-1.4**
WAKR	**Walker**	**57.96**	**66**	P	**P**	**23 04 38.2**	**+0.2**
CONA	**Conrad Observa**	**57.97**	**320**	*i* pP	**P**	**23 04 39.4**	**+1.6**
	comp=Z,8.9nm,1.3s						
SIRR	**Siria**	**58.02**	**315**	⇑P	**P**	**23 04 39.1**	**+1.0**
ARR	**Arges**	**58.03**	**313**	⇑P	**P**	**23 04 39.9**	**+1.6**
DEV	**Deva**	**58.04**	**314**	⇑P	**P**	**23 04 39.5**	**+1.3**
DEV	**Deva**	**58.04**	**314**	⇑P	**P**	**23 04 39.5**	**+1.3**
TCUT	**Toone Canyon**	**58.33**	**59**	P	**P**	**23 04 40.9**	**+0.3**
DOU	**Dourbes**	**58.39**	**330**	P	**P**	**23 04 40.1**	**-0.5**
DOU				pP	**sP**	**23 04 44.5**	**-0.2**
NVAR	**Mina Array Bea**	**58.42**	**66**	P	**P**	**23 04 42.0**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=316,slow=5.0,SNR=14						
NVAR				LR	LR	23 29 37.1	
	comp=Z,269nm,20.1s,baz=338,slow=36						
NV11	**Mina Array Sit**	**58.47**	**65**	P	**P**	**23 04 41.7**	**+0.2**
BZS	**Buzias**	**58.63**	**315**	⇑P	**P**	**23 04 42.8**	**+0.5**
BZS	**Buzias**	**58.63**	**315**	⇑P	**P**	**23 04 42.8**	**+0.5**
ARSA	**Arz

CTI	**Castel Tesino**	**60.73**	**323**	P	**P**	**23 04 56.8**	**-0.1**
CTI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CTI	**Castel Tesino**	**60.73**	**323**	P	**P**	**23 04 56.8**	**-0.1**
CTI				IAmb	IAmb	23 04 57.9	
	comp=Z,7.4nm,0.9s						
TUE	**Stuetta**	**60.85**	**325**	P	**P**	**23 04 57.9**	**0.0**
SHPR	**Sheep Range**	**61.24**	**64**	P	**P**	**23 05 01.4**	**+0.9**
SENIN	**Lac Senin/Sane**	**61.40**	**326**	P	**P**	**23 05 01.2**	**-0.4**
SSF	**Saint Saulge**	**61.51**	**329**	*eP*	**P**	**23 05 02.0**	**0.0**
SSF				pmax	pmax		
	comp=Z,27nm,1.6s						
KNB	**Kanab**	**61.57**	**62**	P	**P**	**23 05 02.4**	**-0.4**
KNB				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KNB	**Kanab**	**61.57**	**62**	P	**P**	**23 05 02.4**	**-0.4**
GAZ	**Gaziantep**	**61.61**	**299**	P	**P**	**23 05 02.9**	**0.0**
PV01	**Paradox Valley**	**61.96**	**58**	P	**P**	**23 05 05.6**	**+0.1**
PV01				IAmb	IAmb	23 05 11.5	
	comp=Z,4.3nm,0.8s						
LPL	**La Plagne**	**62.33**	**326**	*eP*	**P**	**23 05 08.6**	**+0.8**
LPL				pmax	pmax		
	comp=Z,17nm,1.1s						
ZCCA	**Zocca**	**62.49**	**323**	P	**P**	**23 05 08.4**	**-0.3**
MFF	**Saint Martin d**	**62.63**	**332**	*eP*	**P**	**23 05 09.9**	**+0.3**
MFF				pmax	pmax		
	comp=Z,21nm,1.3s						
BNI	**Bardonecchia**	**62.78**	**326**	P	**P**	**23 05 10.6**	**-0.2**
BNI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BNI	**Bardonecchia**	**62.78**	**326**	P	**P**	**23 05 10.6**	**-0.2**
BNI				IAmb	IAmb	23 05 12.6	
	comp=Z,6.5nm,0.9s						
MURB	**Monte Urbino**	**63.15**	**321**	P	**P**	**23 05 13.6**	**+0.4**
OSSC	**Osservatorio P**	**63.21**	**322**	P	**P**	**23 05 13.5**	**0.0**
SDCO	**Great Sand Dun**	**63.29**	**55**	P	**P**	**23 05 14.6**	**+0.1**
NRCA	**Norcia**	**63.42**	**320**	P	**P**	**23 05 15.3**	**+0.3**
WUAZ	**Wupatki**	**63.42**	**61**	P	**P**	**23 05 15.2**	**+0.1**
WUAZ				IAmb	IAmb	23 05 22.3	
	comp=Z,4.1nm,0.9s						
LIT	**Litokhoron**	**63.50**	**312**	P	**P**	**23 05 15.1**	**-0.4**
LIT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LIT	**Litokhoron**	**63.50**	**312**	P	**P**	**23 05 15.1**	**-0.4**
LIT				IAmb	IAmb	23 05 17.7	
	comp=Z,5.1nm,0.8s						
E62A	**Clayton Lake**	**63.53**	**24**	P	**P**	**23 05 15.2**	**-0.4**
E62A				IAmb	IAmb	23 05 28.7	
	comp=Z,7.0nm,0.9s						
SADO	**Sadowa**	**63.59**	**32**	P	**P**	**23 05 14.4**	**-1.6**
SADO				IAmb	IAmb	23 05 18.5	
	comp=Z,6.8nm,1.1s						
SGRT	**San Giovanni R**	**63.77**	**318**	P	**P**	**23 05 16.6**	**-0.7**
AQU	**L'Aquila**	**63.80**	**320**	P	**P**	**23 05 17.4**	**0.0**
AQU				pmax	pmax		
	comp=Z,18nm,1.1s						
AQU	**L'Aquila**	**63.80**	**320**	P	**P**	**23 05 17.4**	**0.0**
CAF	**Calviac**	**63.84**	**330**	*eP*	**P**	**23 05 17.4**	**-0.3**
CAF				pmax	pmax		
	comp=Z,23nm,1.2s						
LATE	**Laterza**	**63.94**	**321**	P	**P**	**23 05 18.2**	**-0.1**
INTR	**Introdacqua**	**64.00**	**320**	P	**P**	**23 05 17.8**	**-1.0**
KKM	**Kota Kinabalu**	**64.03**	**209**	P	**P**	**23 05 19.0**	**-0.3**
KKM				IAmb	IAmb	23 05 32.3	
	comp=Z,8.8nm,0.8s						
LFF	**La Frestale**	**64.08**	**331**	*eP*	**P**	**23 05 19.7**	**+0.5**
LFF				pmax	pmax		
	comp=Z,28nm,1.5s						
F62A	**Pittston Farm,**	**64.16**	**25**	P	**P**	**23 05 19.4**	**-0.3**
MOQ	**Mont Orford**	**64.35**	**26**	P	**P**	**23 05 20.5**	**-0.6**
ELL	**Elmali**	**64.37**	**305**	P	**P**	**23 05 20.6**	**-0.8**
ELL				pmax	pmax		
	comp=Z,23nm,0.9s						
ELL	**Elmali**	**64.37**	**305**	P	**P**	**23 05 20.6**	**-0.8**
F64A	**Sherman**	**64.44**	**23**	P	**P**	**23 05 21.4**	**-0.2**
F64A				IAmb	IAmb	23 05 24.5	
	comp=Z,8.9nm,0.9s						
LONY	**Lake Ozonia**	**64.61**	**28**	P	**P**	**23 05 22.0**	**-0.7**
LONY				IAmb	IAmb	23 05 22.7	
	comp=Z,4.6nm,0.8s						
G62A	**West of Eustis**	**64.73**	**25**	P	**P**	**23 05 24.0**	**+0.5**
G62A				IAmb	IAmb	23 05 26.4	
	comp=Z,5.5nm,0.8s						
SHME	**Shamm**	**64.81**	**277**	P	**P**	**23 05 24.3**	**0.0**
CSS	**Mathiatis**	**64.91**	**301**	P	**P**	**23 05 24.9**	**+0.1**
CSS				IAmb	IAmb	23 05 29.8	
	comp=Z,5.4nm,0.9s						
NCB	**Newcomb**	**65.31**	**28**	P	**P**	**23 05 26.8**	**-0.5**
NCB				IAmb	IAmb	23 05 44.0	
	comp=Z,6.1nm,1.1s						
J56A	**Wolcott**	**65.48**	**31**	P	**P**	**23 05 27.6**	**-0.7**
J56A				IAmb	IAmb	23 05 29.7	
	comp=Z,10nm,0.9s						
UOSS	**Minazif**	**65.78**	**277**	P	**P**	**23 05 30.4**	**-0.1**
UOSS	**Minazif**	**65.78**	**277**	P	**P**	**23 05 30.4**	**-0.1**
HATD	**Hatta, Dubai**	**65.92**	**277**	P	**P**	**23 05 31.6**	**+0.2**
TIP	**Timpagrande**	**65.93**	**316**	P	**P**	**23 05 31.6**	**+0.2**
T35A	**Sooner Cattle**	**66.76**	**48**	P	**P**	**23 05 35.1**	**-1.6**
S39A	**Bolivar**	**66.93**	**45**	P	**P**	**23 05 36.1**	**-1.6**
S39A				IAmb	IAmb	23 05 41.0	
	comp=Z,6.4nm,0.8s						
WMOK	**Wichita Mounta**	**68.13**	**51**	P	**P**	**23 05 44.3**	**-1.1**
WMOK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WMOK	**Wichita Mounta**	**68.13**	**51**	P	**P**	**23 05 44.3**	**-1.1**
SBUM	**Sibu**	**68.32**	**213**	P	**P**	**23 05 47.2**	**+0.5**
MNTX	**Cornudas Mount**	**68.89**	**58**	P	**P**	**23 05 50.6**	**+0.4**
ESBB	**Sonseca Array**	**70.03**	**333**	P	**P**	**23 05 56.5**	**-0.6**
ESBB				IAmb	IAmb	23 06 02.1	
	comp=Z,10nm,1.1s						
ESDC	**Sonseca Array**	**70.03**	**333**	P	**P**	**23 05 57.3**	**+0.2**
	comp=Z,5.6nm,0.8s,baz=5.1,slow=6.0,SNR=35						
ESDC				LR	LR	23 41 15.6	
	comp=Z,144nm,19.7s,baz=65,slow=40						
KEST	**Kesra**		**71.06**	**321**	P	**P**	**23 06 03.7**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=293,slow=4.5,SNR=7.2						
KEST				LR	LR	23 41 25.8	
	comp=Z,155nm,18.1s,baz=350,slow=39						
KEST	**Kesra**		**71.06**	**321**	P	**P**	**23 06 03.3**	**-0.2**
KEST				IAmb	IAmb	23 06 18.3	
	comp=Z,8.5nm,0.9s						
PSI	**Prapat**	**71.23**	**227**	P	**P**	**23 06 04.4**	**-0.4**
PSI				pmax	pmax		
	comp=Z,14nm,1.1s						
RPSI	**Rantau Prapat**	**71.33**	**227**	P	**P**	**23 06 04.4**	**-0.9**
RPSI				IAmb	IAmb	23 06 08.8	
	comp=Z,14nm,1.1s						
TX31	**Lajitas Ar. Si**	**71.63**	**57**	P	**P**	**23 06 07.5**	**+0.5**
TX32	**Lajitas Array**	**71.63**	**57**	P	**P**	**23 06 06.8**	**-0.2**
TXAR	**Lajitas Array**	**71.63**	**57**	P	**P**	**23 06 06.8**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=358,slow=2.8,SNR=9.9						
TXAR				LR	LR	23 39 58.2	
	comp=Z,309nm,21.4s,baz=0.0,slow=38						
TAM	**Tamanrasset**	**84.38**	**321**	P	**P**	**23 07 17.4**	**-0.6**
TAM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TAM	**Tamanrasset**	**84.38**	**321**	P	**P**	**23 07 17.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**86.39**	**196**	P	**P**	**23 07 27.8**	**+0.2**
FITZ				IAmb	IAmb	23 07 29.1	
	comp=Z,9.0nm,1.0s						
FURI	**Furi**	**87.02**	**286**	P	**P**	**23 07 31.7**	**+0.2**
WB2	**Warramunga Arr**	**87.54**	**188**	P	**P**	**23 07 32.4**	**-0.9**
WB2				IAmb	IAmb	23 07 34.7	
	comp=Z,5.6nm,0.9s						
WRA	**Warramunga Arr**	**87.54**	**188**	P	**P**	**23 07 33.0**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=4.4,slow=5.6,SNR=11						
ASAR	**Alice Springs**	**91.26**	**188**	P	**P**	**23 07 49.2**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=359,slow=4.3,SNR=12						
ASAR				LR	LR	23 48 36.9	
	comp=Z,63nm,19.1s,baz=330,slow=35						
TORD	**Torodi Ar. Bea**	**94.58**	**322**	P	**P**	**23 08 05.1**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=343,slow=5.2,SNR=13						
TORD				LR	LR	23 55 56.5	
	comp=Z,93nm,18.6s,baz=250,slow=39						
STKA	**Stephens Creek**	**99.22**	**181**	LR	LR	23 54 02.9	
	comp=Z,58nm,20.5s,baz=17,slow=36						
CPUP	**Villa Florida**	**136.94**	**26**	PKP	**PKPdf**	**23 14 08.5**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=30,slow=13,SNR=3.3						
VNDA	**Vanda**	**145.42**	**173**	PKPbc	**PKPdf**	**23 14 21.1**	**-0.4**
	comp=Z,3.8nm,0.9s,baz=306,slow=3.0,SNR=14						
MAW	**Mawson**	**145.79**	**222**	PKPbc	**PKPab**	**23 14 23.4**	**0.0**
	comp=Z,5.9nm,0.7s,baz=41,slow=3.8,SNR=9.5						
PLCA	**Paso Flores**	**147.60**	**51**	PKPbc	**PKPbc**	**23 14 29.1**	**-0.1**
	comp=Z,7.3nm,0.8s,baz=311,slow=3.0,SNR=9.9						

*ISN **25** 23:06:05.7±3.8, 32.°70N×47.°40E, h15km±176km, ML2.8*
*TEH **25** 23:06:07.7, 32.°64N×47.°62E, h10km, ML2.9*
ISC 25 23:06:07.1±1.2, **32.°44N**±0.°05×**47.°53E**±0.°05, **h23**km, **n13,**
σ2ᵗ**94**/16, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.32**	**320**	*e*Pg		**Pb**	**23 06 13.2**	**-1.1**
DHL1				*e*Sg		**Sb**	**23 06 18.5**	**-0.8**
IKMR	**Ikmar-syah**	**1.29**	**33**	*e*		**Pb**	**23 06 32.9**	**+2.1**
IDOB	**Doab**	**1.45**	**22**	*e*Pg		**Pb**	**23 06 31.4**	**-2.3**
IDOB				*e*			23 06 35.5	
BMDN	**Meydan**	**1.65**	**41**	*e*Pg		**Pb**	**23 06 35.5**	**-1.4**
BMDN				*e*			23 07 04.8	
IKOM	**Komasi**	**1.73**	**360**	*e*Pg		**Pb**	**23 06 37.0**	**-1.4**
IKOM				*e*			23 06 37.9	
NSR	**Nassriya**	**1.85**	**220**	*e*Pg		**Pn**	**23 06 38.0**	**+0.6**
NSR				*e*Sg		**Sb**	**23 07 08.0**	**+5.1**
HSAM	**Samen**	**1.99**	**27**	*e*Pn		**Pb**	**23 06 40.5**	**-2.3**
HSAM				*e*			23 06 46.7	
IBZA	**Bozab**	**2.05**	**8**	*e*Pn		**Pb**	**23 06 41.9**	**-1.9**
IBZA				*e*			23 06 46.1	
IGHG	**Ghaleghazi**	**2.05**	**337**	*e*Pn		**Pb**	**23 06 42.6**	**-1.3**
IDHR	**Dehrash**	**2.45**	**337**	*e*		**Sb**	**23 07 26.4**	**+6.0**
JHBN	**Jahan bin**	**2.67**	**94**	*e*Pn		**Pb**	**23 06 52.2**	**-2.1**
JHBN				*e*			23 07 38.8	
BHD	**Baghdad**	**2.78**	**288**	*e*Pg		**Pb**	**23 06 53.0**	**-3.0**
	baz=102							
BHD				*e*Sg		**Sb**	**23 07 28.0**	**-1.6**
BHD					AML	AML	23 07 30.2	
	comp=E,63nm,0.3s							
IPIR	**Pirpir**	**2.85**	**84**	*e*Pn		**Pb**	**23 06 54.6**	**-2.9**
IPIR				*e*			23 07 39.0	

*NEIC **25** 23:43:58.3±1.2, 14.°87S±0.°10×167.°5E±0.°2, h108km±6km, mb4.1/9, Error ellipse: s-maj=28.0km s-min=13.5km az=101.0*
*IDC **25** 23:43:58.7±4.7, 14.°87S×167.°42E, h115km±41km, mb3.6/8, mb1 3.7/9, mb1mx3.5/37, mbtmp4.0/9, MS3.0/1, Ms1 3.0/1, ms1mx2.5/20, Error ellipse: s-maj=29.2km s-min=27.7km az=42.0*
ISC 25 23:43:59.9±0.8, **14.°89S**±0.°08×**167.°4E**±0.°1, **h129**km, **n22,**
σ1ᵗ**82**/23, **mb3.7/8, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.58**	**199**			**Pn**	**23 44 15.7**	**-3.7**
SANVU				Sn		**Sn**	**23 44 28.7**	**-5.5**
DZM	**Mont Dzumac**	**7.20**	**187**	P		**Pn**	**23 45 43.1**	**+0.5**
	5.3nm,0.3s,baz=329,slow=12,SNR=29							
DZM				S		**Sn**	**23 47 00.7**	**-2.3**
	3.9nm,0.3s,baz=346,slow=22,SNR=2.9							
DZM	**Mont Dzumac**	**7.20**	**187**			**Pn**	**23 45 43.1**	**+0.5**
DZM				Sn		**Sn**	**23 47 01.1**	**-1.9**
HNR	**Honiara**	**9.08**	**306**	LR		LR	23 49 14.6	
	comp=Z,103nm,20.2s,baz=148,slow=35							
TARA	**Tarawa**	**17.04**	**19**	P		**P**	**23 47 50.2**	**0.0**
EIDS	**Eidsvold**	**18.51**	**233**			**Pn**	**23 48 08.1**	**+0.1**
EIDS				IAmb		IAmb	23 48 08.7	
	comp=Z,9.2nm,1.1s							
CTA	**Charters Tower**	**20.81**	**253**	P		**P**	**23 48 32.4**	**+1.2**
	comp=Z,3.3nm,0.7s,baz=85,slow=12,SNR=2.3							
CTAO	**Charters Tower**	**20.81**	**253**	P		**P**	**23 48 32.4**	**+1.2**
CTAO				IAmb		IAmb	23 48 42.2	
	comp=Z,7.1nm,1.0s							
BKZ	**Black Stump Fm**	**25.47**	**163**	P		**P**	**23 49 16.9**	**+0.9**
STKA	**Stephens Creek**	**28.98**	**230**	P		**P**	**23 49 48.4**	**+1.0**
	comp=Z,2.6nm,0.5s,baz=13,slow=9.7,SNR=6.7							
STKA	**Stephens Creek**	**28.98**	**230**	P		**P**	**23 49 48.5**	**+1.0**
LBZ	**Lake Benmore**	**29.49**	**176**	P		**P**	**23 49 53.1**	**+1.3**
WRA	**Warramunga Arr**	**31.91**	**256**	P		**P**	**23 50 12.7**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=85,slow=8.6,SNR=1.7							
ASAR	**Alice Springs**	**32.73**	**249**	P		**P**	**23 50 19.9**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=79,slow=9.0,SNR=8.0							
BBOO	**Buckleboo**	**33.58**	**232**	P		**P**	**23 50 28.4**	**+0.6**
BBOO				IAmb		IAmb	23 50 34.3	
	comp=Z,5.1nm,0.9s							
VNDA	**Vanda**	**62.70**	**181**	P		**P**	**23 54 11.5**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=357,slow=7.2,SNR=9.6							
VNDA	**Vanda**	**62.70**	**181**	P		**P**	**23 54 11.2**	**+0.7**
QSPA	**South Pole Qui**	**75.14**	**180**	P		**P**	**23 55 28.6**	**+0.8**
QSPA				IAmb		IAmb	23 55 29.3	
	comp=Z,3.1nm,0.8s							
SONM	**Songino Array**	**82.70**	**324**	P		**P**	**23 56 10.6**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=144,slow=5.1,SNR=2.8							
ILAR	**Eielson Array**	**86.64**	**18**	P		**P**	**23 56 27.8**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=237,slow=4.1,SNR=6.5							
MKAR	**Makanchi Array**	**97.40**	**316**	P		Pdif	23 57 19.8	+0.9
	comp=Z,0.4nm,0.6s,baz=84,slow=6.6,SNR=6.8							
ARCES	**ARCESS Array B**	**120.44**	**345**	PKP		**PKPdf**	**00 02 35.3**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=76,slow=1.5,SNR=11							

*IDC **25** 23:58:59.9±0.9, 19.°75N×76.°41W, h0km, mb3.9/11, mb1 4.2/14, mb1mx4.0/41, mbtmp4.0/14, ML3.9/3, MS3.4/4, Ms1 3.4/4, ms1mx2.9/40, Error ellipse: s-maj=24.8km s-min=17.5km az=21.0*
*NEIC **25** 23:59:02.1±1.7, 19.°74N±0.°06×76.°37W±0.°04, h16km±4km, mb4.1/29, Error ellipse: s-maj=8.4km s-min=5.6km az=161.0*
*OSPL **25** 23:59:02.2±0.3, 20.°10N×76.°48W, h19km±114km, ML4.1*
*SSNC **25** 23:59:04.2±1.9, 19.°83N×76.°35W, h7km±5km, MD3.9, ML4.0, MW4.1*
ISC 25 23:59:01.9±1.2, **19.°78N**±0.°05×**76.°39W**±0.°03, **h14**km±7km,
n88, σ1ᵗ**21**/98, **mb4.1**/21, **Cuba region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.65**	**296**	*e*Pg		**Pg**	**23 59 14.8**	**+0.2**
LMGC				*e*Sg		**Sg**	**23 59 23.7**	**+0.6**
LMGC				IAML			23 59 24.2	
	comp=N,14μm,0.2s							
LMGC				IAML			23 59 24.9	
	comp=E,8μm,0.1s							
RCC	**Rio Carpintero**	**0.68**	**71**	*e*Pg		**Pg**	**23 59 15.0**	**-0.2**
RCC				*e*Sg		**Sg**	**23 59 24.1**	**-0.2**
RCC				IAML			23 59 25.6	
	comp=N,9μm,0.3s							
RCC				IAML			23 59 25.8	
	comp=E,3μm,0.3s							
GTBY	**Guantanamo Bay**	**1.21**	**83**	*i* P		**Pn**	**23 59 23.7**	**-0.7**
GTBY				*e*S		**Sb**	**23 59 39.6**	**-0.5**
GTBY				IAML			23 59 43.2	
	comp=Z,11μm,0.3s							
GTBY	**Guantanamo Bay**	**1.21**	**83**			**Pn**	**23 59 23.1**	**-1.3**
GTBY				Sg		**Sn**	**23 59 41.2**	**+0.5**
GTMO	**Guantanamo**	**1.21**	**75**	*e*P		**Pn**	**23 59 24.1**	**-0.3**
GTMO				*e*S		**Sb**	**23 59 39.8**	**-0.3**
GTMO				IAML			23 59 44.4	
	comp=N,14μm,0.2s							
GTMO				IAML			23 59 44.5	
	comp=E,13μm,0.4s							
MOAC	**Moa**	**1.60**	**56**	*e*P		**Pn**	**23 59 28.1**	**-1.7**
MOAC				*e*S		**Sn**	**23 59 47.8**	**-2.5**
MOAC				IAML			23 59 54.5	
	comp=E,971nm,0.4s							
MOAC				IAML			23 59 54.5	
	comp=N,1μm,0.6s							
MTDJ	**Mount Denham**	**1.89**	**215**			**Pn**	**23 59 32.8**	**-1.1**
MTDJ				Sn		**Sn**	**23 59 54.5**	**-3.0**
CCCC	**Cccc**	**1.92**	**318**	*e*P		**Pn**	**23 59 31.1**	**-3.1**
CCCC				*e*S		**Sn**	**23 59 51.5**	**-6.7**
CCCC				IAML			23 59 60.0	
	comp=N,1μm,0.4s							
CCCC				IAML			00 00 00.1	
	comp=E,2μm,0.4s							
CBCY	**The Bluff, Cay**	**3.18**	**270**	Pn		**Pn**	**23 59 51.3**	**-0.2**
LCCY	**Blossom Villag**	**3.48**	**269**	Pn		**Pn**	**23 59 55.7**	**0.0**
LGNH	**Logne**	**3.79**	**109**			**Pn**	**23 59 58.2**	**-1.7**
PAPH	**Port-au-Prince**	**4.06**	**107**	*i* P		**Pn**	**00 00 04.3**	**+0.6**
PAPH				IAML			00 01 07.0	
	comp=Z,209nm,0.5s							
PAPH	**Port-au-Prince**	**4.06**	**107**			**Pn**	**00 00 02.5**	**-1.2**
MGV	**Manicaragua**	**4.08**	**305**	*e*P		**Pn**	**00 00 05.3**	**+1.3**
MGV				*e*S		**Sn**	**00 00 50.7**	**-0.9**
MGV				IAML			00 00 58.7	
	comp=N,66nm,0.2s							
MGV				IAML			00 01 01.2	
	comp=E,56nm,0.0s							
FSCY	**Frank Sound, G**	**4.55**	**265**	Pn		**Pn**	**00 00 09.0**	**-1.4**

SDDR	**Presa de Saban**	**4.88**	**98**	*i* P		**Pn**	**00 00 14.7**	**-0.3**
SDDR				IAML			00 01 28.9	
	comp=Z,94nm,1.2s							
SDDR	**Presa de Saban**	**4.88**	**98**	Pn		**Pn**	**00 00 14.7**	**-0.3**
GRTK	**Grand Turk**	**5.21**	**70**	Pn		**Pn**	**00 00 18.9**	**-0.6**
SC01	**Santiago de lo**	**5.34**	**93**	Pn		**Pn**	**00 00 20.7**	**-0.7**
BANI	**BANI**	**5.86**	**103**			**Pn**	**00 00 27.2**	**-1.4**
DR12	**Loma Pena Alta**	**6.69**	**97**			**Pn**	**00 00 39.5**	**-0.4**
SOR	**Soroa**	**6.87**	**297**	*eP*		**Pn**	**00 00 43.8**	**+1.6**
SOR				*eS*		**Sn**	**00 00 00.2**	**0.0**
061Z	**Ochoppi**	**7.36**	**326**	Pn		**Pn**	**00 00 48.7**	**-0.2**
URIC	**Uribia, Colomb**	**9.07**	**152**	Pn		**Pn**	**00 01 13.0**	**+0.4**
HUMP	**Col San Antoni**	**10.10**	**98**	Pn		**Pn**	**00 01 25.7**	**-0.9**
BCIP	**Isla Barro Col**	**11.06**	**198**	Pn		**Pn**	**00 01 39.4**	**-0.4**
TEIG	**Tepich**	**11.19**	**274**	Pn		**Pn**	**00 01 40.3**	**-1.2**
	comp=Z,2.1nm,0.3s,baz=88,slow=8.7,SNR=12							
TEIG				Sn		Sn	00 03 38.1	-8.4
	comp=Z,0.4nm,0.3s,baz=329,slow=17,SNR=1.1							
TEIG	**Tepich**	**11.19**	**274**	Pn		**Pn**	**00 01 41.3**	**-0.2**
MATN	**Matagalpa**	**11.41**	**235**	Pn		**Pn**	**00 01 45.4**	**+0.7**
BOAB	**BOACO BROADBAN**	**11.51**	**232**	Pn		**Pn**	**00 01 46.0**	**0.0**
JTS	**Las Juntas de**	**12.54**	**222**	LR		LR	00 06 59.2	
	comp=Z,92nm,18.8s,baz=110,slow=38							
RUSC	**La Rusia**	**14.17**	**166**	Pn		**Pn**	**00 02 19.9**	**-2.9**
PCRV	**Puerto La Cruz**	**14.82**	**128**	Pn		**Pn**	**00 02 33.0**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=110,slow=22,SNR=1.5							
PLCV	**Puerto La Cruz**	**14.86**	**128**			**Pn**	**00 02 33.0**	**+1.2**
ROSC	**El Rosal**	**14.98**	**172**	LR		LR	00 08 44.8	
	comp=Z,122nm,19.7s,baz=52,slow=39							
W57A	**Gilead**	**15.64**	**349**	Pn		**Pn**	**00 02 42.9**	**+0.8**
W57A				IAmb		IAmb	00 02 56.6	
	comp=Z,9.3nm,0.9s							
BG3	**Lake Jocassee**	**16.23**	**340**	Pn		**Pn**	**00 02 49.5**	**0.0**
V53A	**Saluda**	**16.82**	**342**	Pn		**Pn**	**00 02 56.3**	**-0.8**
TKL	**Tuckaleechee C**	**17.11**	**339**	P		**Pn**	**00 02 60.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=169,slow=12,SNR=2.1							
TKL				S		**Sn**	**00 06 11.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=4.3,slow=13,SNR=1.5							
TKL				LR		LR	00 10 08.9	
	comp=Z,80nm,18.4s,baz=154,slow=39							
TKL	**Tuckaleechee C**	**17.11**	**339**			**Pn**	**00 02 59.1**	**-1.6**
CPCT	**Cooper Cave**	**17.18**	**337**	Pn		**Pn**	**00 03 01.3**	**-0.3**
CPCT				IAmb		IAmb	00 03 13.4	
	comp=Z,11nm,1.1s							
S57A	**Dark Hollow, R**	**18.06**	**353**			**Pn**	**00 03 12.4**	**-0.1**
SSPA	**Standing Stone**	**20.83**	**357**			Pn	00 03 46.5	+0.9
SSPA				IAmb		IAmb	00 03 49.8	
	comp=Z,12nm,0.9s							
FCAR	**Ozark Folk Cen**	**21.20**	**322**	P		**P**	**00 03 47.8**	**+0.7**
FCAR				IAmb		IAmb	00 04 00.5	
	comp=Z,4.5nm,0.9s							
T42A	**Van Buren**	**21.47**	**326**	P		**P**	**00 03 51.0**	**+1.0**
T42A				IAmb		IAmb	00 03 54.6	
	comp=Z,7.6nm,0.9s							
Q44A	**Meyer Farm, Va**	**21.97**	**333**	P		**P**	**00 03 56.3**	**+1.0**
435B	**Jarrell**	**22.04**	**304**	P		**P**	**00 03 57.5**	**+1.2**
CCM	**Cathedral Cave**	**22.33**	**328**	P		**P**	**00 03 59.2**	**-0.1**
CCM				IAmb		IAmb	00 04 03.3	
	comp=Z,8.1nm,0.8s							
Z35A	**Perchaven, San**	**22.98**	**310**	P		**P**	**00 04 06.3**	**+0.1**
Z35A				IAmb		IAmb	00 04 10.1	
	comp=Z,11nm,0.9s							
JCT	**Junction City**	**23.68**	**301**	P		**P**	**00 04 14.3**	**+0.9**
JCT				IAmb		IAmb	00 04 26.2	
	comp=Z,6.5nm,1.0s							
LBNH	**Lisbon**	**24.68**	**8**	P		**P**	**00 04 23.0**	**+0.6**
LBNH				IAmb		IAmb	00 04 35.7	
	comp=Z,6.3nm,0.9s							
P38A	**Dawn**	**24.68**	**327**	P		**P**	**00 04 22.5**	**0.0**
WMOK	**Wichita Mounta**	**24.79**	**312**	P		**P**	**00 04 23.3**	**-0.2**
WMOK				IAmb		IAmb	00 04 25.9	
	comp=Z,2.4nm,0.8s							
SADO	**Sadowa**	**25.03**	**355**	P		**P**	**00 04 26.1**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=190,slow=9.2,SNR=4.7							
SADO	**Sadowa**	**25.03**	**355**	P		**P**	**00 04 25.8**	**+0.2**
SADO				IAmb		IAmb	00

*TEH **26** 01:01:42.8, 32°.63N×47°.73E, h11km, ML2.8*
ISC 26 01:01:46.0±1.1, 32°.60N±0°.05×47°.64E±0°.05, h23km, n12, σ3$01/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.31**	**285**	*e*Pg	**Pb**	**01 01 50.7**	**-2.4**
DHL1				*e*		01 01 59.7	
IKFM	**Kafar-mosalman**	**0.94**	**11**	*e*	**Sn**	**01 02 19.4**	**+2.9**
IKMR	**Kamar-syah**	**1.11**	**34**	*e*	**Sn**	**01 02 26.2**	**+5.6**
IDOB	**Doab**	**1.27**	**21**	*e*		01 02 10.2	
IDOB				*e*Pg	**Pb**	**01 02 07.0**	**-2.3**
BMDN	**Meydan**	**1.46**	**43**	*e*		01 02 33.4	
BMDN				*e*Pg	**Pb**	**01 02 09.4**	**-3.2**
IKOM	**Komasi**	**1.58**	**356**	*e*Pg	**Pb**	**01 02 12.6**	**-1.9**
IKOM				*e*		01 02 39.3	
HSAM	**Samen**	**1.80**	**26**	*e*Pg	**Pb**	**01 02 15.7**	**-2.7**
HSAM				*e*		01 02 19.5	
IGHG	**Ghaleghazi**	**1.94**	**333**	*e*Pn	**Pb**	**01 02 18.3**	**-2.6**
IGHG				*e*		01 02 55.7	
NSR	**Nassriya**	**2.03**	**219**	*e*Pg	**Pb**	**01 02 20.0**	**-2.2**
NSR				*e*Sg	**Sb**	**01 02 50.0**	**+2.9**
IDHR	**Dehrash**	**2.34**	**334**	*e*Pn	**Pn**	**01 02 23.3**	**0.0**
IDHR				*e*		01 02 27.4	
IPIR	**Pirpir**	**2.75**	**87**	*e*Pn	**Pn**	**01 02 28.1**	**-0.8**
IPIR				*e*		01 03 16.7	
BHD	**Baghdad** baz=98	**2.82**	**285**	*e*Pg	**Pb**	**01 02 33.0**	**-2.6**
BHD				*e*Sg	**Sb**	**01 03 10.0**	**+0.2**
BHD	comp=E,40nm,0.6s			AML	AML	01 03 15.7	

*SOME **26** 01:03:46.3, 41°.73N×82°.17E, h15km*
*IDC **26** 01:03:48.8±3.3, 42°.05N×81°.56E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.2/51, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=73.7km s-min=20.9km az=113.0*
*NNC **26** 01:03:49.8±1.6, 41°.97N×82°.16E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=12.0km s-min=7.7km az=163.0*
ISC 26 01:03:48.7±1.4, 41°.91N±0°.07×82°.07E±0°.05, h10km, n45, σ2$06/72, 5C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 5.8nm,0.2s	**1.99**	**321**	*e*P	**Pg**	**01 04 26.3**	**-0.4**
KTMS	177nm,0.3s			*e*S	**Sg**	**01 04 53.7**	**+1.2**
KTMS	**Ketmen** 5.8nm,0.2s	**1.99**	**321**	Pg	**Pg**	**01 04 26.4**	**-0.4**
KTMS	177nm,0.3s			Lg	Lg	01 04 53.7	
SHLS	**Shalkode** 97nm,0.4s	**2.29**	**304**	*e*P	**Pn**	**01 04 27.1**	**+0.4**
SHLS	390nm,0.4s			*e*S	**Sb**	**01 04 57.1**	**-1.5**
SHLS	**Shalkode** 90nm,0.4s	**2.29**	**304**	Pg	**Pb**	**01 04 29.1**	**-1.0**
SHLS	390nm,0.4s			Lg	Lg	01 04 57.7	
PDGK	**Podgornoye** 14nm,0.3s	**2.37**	**308**	Pg	**Pg**	**01 04 33.7**	**-0.4**
PDGK	62nm,0.5s			Lg	Lg	01 05 05.6	
PDGK	**Podgornoye** 22nm,0.6s	**2.37**	**308**	⇑Pg	**Pb**	**01 04 31.0**	**-0.5**
PDGK	86nm,0.5s			⇑Lg	Lg	01 05 06.5	
UZB	**Uzynbulak** 20nm,0.4s	**2.57**	**300**	*e*P	**Pg**	**01 04 36.5**	**-1.3**
UZB	113nm,0.6s			*e*S	**Sg**	**01 05 12.9**	**+1.8**
UZB	**Uzynbulak** 20nm,0.4s	**2.57**	**300**	Pg	**Pg**	**01 04 38.3**	**+0.4**
UZB	113nm,0.6s			Lg	Lg	01 05 13.3	
DJR	**Jarkent** 18nm,0.5s	**2.94**	**326**	*e*P	**Pb**	**01 04 42.2**	**+1.1**
DJR	26nm,0.3s			*e*S	**Sg**	**01 05 22.3**	**-0.7**
SATY	**Saty** 15nm,0.4s	**2.94**	**294**	*e*P	**Pb**	**01 04 42.3**	**+1.0**
SATY	84nm,0.5s			*e*S	**Sg**	**01 05 23.3**	**+0.2**
SATY	**Saty** 19nm,0.3s	**2.94**	**294**	Pg	**Pg**	**01 04 44.4**	**-0.6**
SATY	84nm,0.5s			Lg	Lg	01 05 23.9	
KURS	**Kuram** 7.4nm,0.6s	**3.27**	**300**	*e*P	**Pb**	**01 04 47.7**	**+0.8**
KURS	25nm,0.7s			*e*S	**Sg**	**01 05 32.0**	**-1.8**
MNBS	**Baschi** 18nm,0.3s	**3.45**	**310**	*e*P	**Pb**	**01 04 51.9**	**+2.0**
MNBS	46nm,0.4s			*e*S	**Sg**	**01 05 39.0**	**-0.5**
MNBS	**Baschi** 18nm,0.3s	**3.45**	**310**	Pg	**Pg**	**01 04 52.6**	**-2.2**
MNBS	46nm,0.4s			Lg	Lg	01 05 38.7	
ARXS	**Arharly** 33nm,0.4s	**3.86**	**308**	*e*P	**Pb**	**01 04 59.6**	**+2.6**
ARXS	30nm,0.6s			*e*S	**Sg**	**01 05 53.0**	**+0.3**
ARXS	**Arharly** 33nm,0.4s	**3.86**	**308**	Pg	**Pb**	**01 04 59.5**	**+2.6**
ARXS	30nm,0.6s			Lg	Lg	01 05 50.3	
KOTS	**Kotyrbulak** 18nm,0.2s	**3.89**	**291**	*e*P	**Pb**	**01 04 58.9**	**+1.5**
KOTS	30nm,0.5s			*e*S	**Sg**	**01 05 51.1**	**-2.5**
KOTS	**Kotyrbulak** 18nm,0.2s	**3.89**	**291**	Pg	**Pb**	**01 05 00.1**	**+2.7**
KOTS	30nm,0.5s			Lg	Lg	01 05 51.4	
KAPS	**Kapalarasan** 29nm,0.3s	**3.90**	**331**	*e*P	**Pb**	**01 04 60.0**	**+2.4**
KAPS	25nm,0.4s			*e*S	**Sg**	**01 05 52.9**	**-1.1**
KAPS	**Kapalarasan** 29nm,0.4s	**3.90**	**331**	Pg	**Pg**	**01 05 01.6**	**-1.8**
KAPS	16nm,0.3s			Lg	Lg	01 05 53.7	
MDOK	**Medeo** 9.5nm,0.7s	**3.91**	**290**	*e*P	**Pb**	**01 04 59.7**	**+1.9**
MDOK	28nm,0.7s			*e*S	**Sg**	**01 05 52.1**	**-2.2**
MDOK	**Medeo** 5.5nm,0.6s	**3.91**	**290**	Pn	**Pn**	**01 04 53.0**	**+4.1**
MDOK	11nm,0.7s			Pg	**Pg**	**01 05 03.4**	**-0.3**
MDOK	31nm,1.0s			Lg	Lg	01 05 53.1	
TNSS	**Tian-Shan** 24nm,0.8s	**3.95**	**288**	*e*P	**Pb**	**01 05 00.9**	**+2.3**
TNSS	30nm,0.6s			*e*S	**Sg**	**01 05 54.3**	**-1.2**
TDK	**Taldyqorghan** 42nm,0.4s	**4.08**	**320**	*e*P	**Pg**	**01 05 04.4**	**-2.3**
TDK	57nm,0.5s			*e*S	**Sg**	**01 06 00.6**	**+1.0**
IZV	**Izvestkoviy** 11nm,0.5s	**4.19**	**287**	*e*P	**Pb**	**01 05 05.0**	**+2.4**
IZV	34nm,0.5s			*e*S	**Sg**	**01 06 00.7**	**-2.4**
IZV	**Izvestkoviy** 11nm,0.5s	**4.19**	**287**	Pg	**Pg**	**01 05 06.0**	**-2.9**
IZV	34nm,0.5s			Lg	Lg	01 06 01.4	
CHKK	**Chushkaly** 5.3nm,0.3s	**4.21**	**299**	*e*P	**Pb**	**01 05 05.0**	**+2.3**
CHKK	19nm,0.3s			*e*S	**Sg**	**01 06 01.9**	**-1.7**
CHKK	**Chushkaly** 5.3nm,0.3s	**4.21**	**299**	Pg	**Pg**	**01 05 06.3**	**-2.9**
CHKK	19nm,0.3s			Lg	Lg	01 06 02.0	
MTBS	**Maitube** 7.8nm,0.3s	**4.34**	**288**	*e*P	**Pb**	**01 05 07.9**	**+2.9**
MTBS	19nm,0.3s			*e*S	**Sg**	**01 06 06.7**	**-1.3**
MTBS	**Maitube** 7.8nm,0.3s	**4.34**	**288**	Pg	**Pg**	**01 05 09.4**	**-2.4**
MTBS	19nm,0.3s			Lg	Lg	01 06 06.7	
KTBS	**Karatobe**	**4.35**	**296**	*e*P	**Pb**	**01 05 08.3**	**+3.1**
KTBS	6.1nm,0.3s			*e*S	**Sg**	**01 06 08.1**	**-0.2**
KTBS	**Karatobe** 21nm,0.5s	**4.35**	**296**	Pg	**Pg**	**01 05 10.1**	**-1.9**
KTBS	6.1nm,0.3s			Lg	Lg	01 06 08.1	
KUU	**Kurty** 21nm,0.5s	**4.65**	**297**	*e*P	**Pg**	**01 05 14.2**	**-3.4**
KUU	6.5nm,0.7s			*e*S	**Sg**	**01 06 18.0**	**+0.1**
KUU	**Kurty** 25nm,0.6s	**4.65**	**297**	Pg	**Pg**	**01 05 16.2**	**-1.5**
KUU	6.5nm,0.7s			Lg	Lg	01 06 18.4	
KST	**Kastek** 25nm,0.6s	**4.65**	**286**	*e*P	**Pb**	**01 05 12.8**	**+2.3**
KST	15nm,0.4s			*e*S	**Sg**	**01 06 15.8**	**-2.3**
KST	**Kastek** 9.3nm,0.9s	**4.65**	**286**	Pg	**Pg**	**01 05 15.6**	**-2.2**
KST	15nm,0.4s			Lg	Lg	01 06 17.5	
MK31	**Makanchi Array** 9.3nm,0.9s	**4.88**	**2**	Pn	**Pn**	**01 05 02.8**	**+0.7**
MK31	0.6nm,0.3s,baz=185,slow=12,SNR=43			⇑Pg	**Pb**	**01 05 16.0**	**+1.8**
MK31	1.9nm,0.5s,baz=176,slow=14,SNR=9.4			⇓Sn	**Sn**	**01 05 56.3**	**-2.4**
MK31	1.9nm,0.4s,baz=169,slow=23,SNR=3.6			⇑Lg	Lg	01 06 19.9	
MKAR	**Makanchi Array** 7.6nm,0.5s	**4.88**	**2**	Pn	**Pn**	**01 05 03.1**	**+0.9**
MKAR	1.0nm,0.3s,baz=189,slow=13,SNR=28			Pg	**Pb**	**01 05 16.2**	**+2.0**
MKAR	1.4nm,0.3s,baz=172,slow=13,SNR=13			Sn	**Sn**	**01 05 59.8**	**+1.1**
MKAR	0.8nm,0.3s,baz=189,slow=26,SNR=2.8			Lg	Lg	01 06 20.5	
MAKZ	**Makanchi** 2.7nm,0.4s	**4.89**	**359**	⇑Pn	**Pn**	**01 05 02.8**	**+0.5**
MAKZ	4.4nm,0.6s			⇓Sn	**Sn**	**01 06 03.4**	**+4.4**
KRBS	**Karabastau** 4.2nm,0.5s	**5.03**	**293**	*e*P	**Pg**	**01 05 21.3**	**-3.7**
KRBS	6.8nm,0.6s			*e*S	**Sg**	**01 06 30.1**	**0.0**
ZSN	**Zaisan** 5.6nm,0.4s	**5.88**	**19**	*e*P	**Pb**	**01 05 34.4**	**+3.1**
ZSN	19nm,0.9s			*e*S	**Sg**	**01 06 52.0**	**-5.5**
ZSN	**Zaisan** 5.4nm,0.3s	**5.88**	**19**	Pg	**Pb**	**01 05 33.5**	**+2.2**
ZSN	19nm,0.9s			Lg	Lg	01 06 48.0	
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=198,slow=13,SNR=2.2	**12.18**	**8**	Pn	**Pn**	**01 06 42.0**	**-0.1**
ARCES	**ARCESS Array B** 0.5nm,0.7s,baz=90,slow=11,SNR=1.4	**39.86**	**333**	P	**P**	**01 11 21.5**	**-0.4**
TORD	**Torodi Ar. Bea** 0.6nm,1.0s,baz=38,slow=5.5,SNR=5.3	**74.22**	**274**	P	**P**	**01 15 25.5**	**-0.4**

*BJI **26** 01:10:11.6±0.0, 39°.07N×101°.15E, h31km, ML4.2/12, Ms3.5/5, Ms7 3.3/3*
*IDC **26** 01:10:11.4±1.3, 39°.29N×100°.83E, h0km, mb3.5/3, mb1 3.8/6, mb1mx3.5/59, mbtmp3.8/6, ML3.5/3, MS2.7/1, Ms1 2.9/1, ms1mx2.3/40, Error ellipse: s-maj=35.0km s-min=19.9km az=76.0*
ISC 26 01:10:13.9±0.7, 39°.54N±0°.07×100°.96E±0°.05, h10km, n12, σ3$06/16, mb3.6/3, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**0.89**	**262**	Pg	**Pg**	**01 10 30.5**	**-0.6**
GTA				Sg	**Sn**	**01 10 45.8**	**+0.1**
GTA	comp=N,2μm,0.5s			smax	smax		
GTA	comp=E,2μm,0.8s			smax	smax		
LZH	**Lanzhou**	**4.13**	**146**	Pg	**Pn**	**01 11 18.8**	**+1.6**
LZH				Sg	**Sn**	**01 12 05.8**	**+0.1**
LZH	comp=N,2μm,1.0s			smax	smax		
LZH	comp=E,1μm,1.0s			smax	smax		
LZH	comp=N,1μm,4.9s			LR	LR		
LZH	comp=E,2μm,4.9s			LR	LR		
LZH	comp=Z,1μm,7.6s			LR	LR		
BTO	**Baotou**	**7.04**	**78**	*e*Pn	**Pn**	**01 11 59.5**	**+2.5**
BTO				*e*Pg	**Pb**	**01 12 15.8**	**-0.4**
BTO				Sn	**Sn**	**01 13 09.5**	**-7.6**
BTO				Sg	**Sb**	**01 13 45.0**	**+4.8**
XAN	**Xi'an**	**8.42**	**128**	Pg	**Pb**	**01 12 41.5**	**+1.8**
XAN				Sg	Sb	01 14 28.5	+8.5
XAN	comp=N,40nm,1.0s			smax	smax		
XAN	comp=E,34nm,0.8s			smax	smax		
XAN	comp=N,200nm,9.8s			LR	LR		
XAN	comp=E,260nm,11.3s			LR	LR		
XAN	comp=Z,280nm,11.3s			LR	LR		
SONM	**Songino Array** comp=Z,1.6nm,0.3s,baz=205,slow=15,SNR=13	**9.18**	**24**	Pn	**Pn**	**01 12 28.8**	**+2.4**
SONM	comp=Z,1.9nm,0.3s,baz=215,slow=31,SNR=6.9			Lg	Lg	01 15 10.4	
WHN	**Wuhan**	**14.16**	**125**	P	Pn	01 13 25.5	-9.0
MKAR	**Makanchi Array** comp=Z,0.1nm,0.3s,baz=101,slow=15,SNR=6.0	**15.41**	**304**	Pn	**Pn**	**01 13 51.5**	**+0.2**
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.3s,baz=134,slow=12,SNR=5.7	**18.10**	**328**	P	**P**	**01 14 25.5**	**-0.1**
KURBB	**Kurchatov Arra** comp=Z,0.1nm,0.3s,baz=118,slow=12,SNR=10.0	**19.25**	**313**	P	**P**	**01 14 38.5**	**+0.2**
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.4s,baz=353,slow=9.9,SNR=7.3	**21.08**	**185**	P	**P**	**01 14 53.8**	**-4.6**
CMAR	comp=Z,19nm,18.6s,baz=230,slow=41			LR	LR	01 24 33.8	
BVAR	**Borovoye Array** comp=Z,0.6nm,0.4s,baz=117,slow=8.8,SNR=8.1	**24.84**	**313**	P	**P**	**01 15 36.7**	**+0.5**
ASAR	**Alice Springs** comp=Z,0.4nm,0.6s,baz=340,slow=6.0,SNR=6.2	**70.01**	**148**	P	**P**	**01 21 24.2**	**-1.5**

*THR **26** 01:12:19.2±10.0, 32°.70N×47°.20E, h15km±74km, ML4.2*
*ISN **26** 01:12:22.9±1.2, 32°.86N×47°.57E, h15km±999km, ML3.9*
*IDC **26** 01:12:23.7±1.7, 32°.79N×47°.68E, h0km, mb4.1/16, mb1 4.1/22, mb1mx3.9/53, mbtmp4.1/22, ML3.7/6, MS3.5/2, Ms1 3.5/2, ms1mx2.9/44, Error ellipse: s-maj=34.8km s-min=14.4km az=162.0*
*MOS **26** 01:12:24.3±1.2, 32°.64N×47°.70E, h22km, mb4.5/25, Error ellipse: s-maj=8.7km s-min=4.2km az=104.9*
*TEH **26** 01:12:25.7, 32°.77N×47°.77E, h15km, ML4.2*
*OMAN **26** 01:12:28.0, 32°.20N×47°.65E, h14km, mb5.0/16, ms3.0/4*
*NEIC **26** 01:12:29.5±1.4, 32°.78N±0°.05×47°.78E±0°.07, h45km±10km, Error ellipse: s-maj=8.5km s-min=7.1km az=73.0*
*ISK **26** 01:13:08.6, 34°.82N×44°.83E, h33km, ML3.6/14*
ISC 26 01:12:26.8±1.1, 32°.69N±0°.03×47°.74E±0°.03, h26km±8km, n270, σ1$56/281, mb4.2/56, 13C-12D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.39**	**269**	*e*Pg	**Pb**	**01 12 34.7**	**-0.5**
IKFM	**Kafar-mosalman**	**0.84**	**6**	*e*Pg	**Pb**	**01 12 40.0**	**-2.8**
IKFM	**Kafar-mosalman**	**0.84**	**6**	Pg	**Pb**	**01 12 40.3**	**-2.5**
IKMR	**Kamar-syah**	**0.99**	**33**	*e*Pg	**Pn**	**01 12 42.5**	**-2.4**
IKMR	**Kamar-syah**	**0.99**	**33**	Pg	**Pn**	**01 12 42.6**	**-2.4**
SHGR	**Shooshtar-Gavs**	**1.07**	**122**	*e*Pg	**Pb**	**01 12 46.3**	**-0.3**
SHGR				*e*Sg	**Sn**	**01 13 03.0**	**+3.0**
SHGR	**Shooshtar-Gavs**	**1.07**	**122**	*e*Pn	**Pb**	**01 12 46.3**	**-0.3**
IDOB	**Doab**	**1.16**	**18**	*e*Pg	**Pn**	**01 12 45.8**	**-1.7**
BMDN	**Meydan**	**1.34**	**42**	*e*Pg	**Pn**	**01 12 49.6**	**-0.4**
BMDN	**Meydan**	**1.34**	**42**		**Pn**	**01 12 49.7**	**-0.3**
IKOM	**Komasi**	**1.50**	**353**	*e*Pg	**Pn**	**01 12 52.9**	**+0.7**
IKOM				*e*		01 13 19.4	
AHWZ	**Ahwaz**	**1.55**	**150**	*e*Pg	**Pb**	**01 12 55.7**	**+0.8**
AHWZ				*e*Sg	**Sb**	**01 13 18.7**	**+4.6**
AHWZ	**Ahwaz**	**1.55**	**150**	Pg	**Pb**	**01 12 56.4**	**+1.5**
HSAM	**Samen**	**1.68**	**25**	*e*Pg	**Pb**	**01 12 56.3**	**-1.0**
HSAM				*e*		01 12 57.6	
HSAM	**Samen**	**1.68**	**25**	Pg	**Pn**	**01 12 56.0**	**+1.2**
KCHF	**Cheshme Sefid,**	**1.69**	**340**	*e*Pg	**Pn**	**01 12 55.8**	**+1.0**
KCHF				*e*		01 13 19.9	
KER	**Kermanshah**	**1.77**	**343**	P	**Pn**	**01 12 57.6**	**+1.7**
KER	**Kermanshah**	**1.77**	**343**	*e*Pg	**Pn**	**01 12 57.2**	**+1.3**
IBZA	**Bozab**	**1.78**	**3**	*e*Pg	**Pn**	**01 12 57.7**	**+1.5**
IBZA				*e*		01 13 23.6	
IBZA	**Bozab**	**1.78**	**3**	Pg	**Pn**	**01 12 57.6**	**+1.4**
IGHG	**Ghaleghazi**	**1.91**	**329**	*e*Pg	**Pb**	**01 13 00.6**	**-0.5**
IGHG				*e*		01 13 33.2	
IGHG	**Ghaleghazi**	**1.91**	**329**	Pn	**Pn**	**01 12 59.6**	**+1.7**
IVIS	**Veis**	**1.98**	**338**	*e*Pn	**Pn**	**01 13 00.0**	**+1.2**
IVIS				*e*		01 13 33.9	
KHMZ	**Khomeyn**	**2.13**	**60**	*e*Pn	**Pb**	**01 13 02.7**	**-2.2**
KHMZ	**Khomeyn**	**2.13**	**60**	*e*Pn	**Pb**	**01 13 02.7**	**-2.2**
NSR	**Nassriya**	**2.16**	**220**	*e*Pg	**Pn**	**01 13 01.0**	**0.0**
NSR				*e*Sg	**Sb**	**01 13 30.0**	**-1.4**
IALM	**Almabolaq**	**2.20**	**9**	*e*Pn	**Pn**	**01 13 03.1**	**+1.2**
IDHR	**Dehrash**	**2.30**	**331**	*e*Pn	**Pn**	**01 13 04.6**	**+1.3**
IDHR				*e*		01 13 43.2	
IDHR	**Dehrash**	**2.30**	**331**	Pn	**Pn**	**01 13 04.4**	**+1.1**
ILIN	**Lien**	**2.32**	**344**	*e*Pn	**Pn**	**01 13 04.8**	**+1.3**
ILIN				*e*		01 13 42.9	
ILIN	**Lien**	**2.32**	**344**	Pn	**Pn**	**01 13 04.9**	**+1.4**
SNGE	**Sanandaj**	**2.42**	**352**	*e*Pn	**Pn**	**01 13 03.5**	**-1.4**
SNGE	**Sanandaj**	**2.42**	**352**	*e*Pn	**Pn**	**01 13 03.5**	**-1.4**
HAGD	**Aghdareh**	**2.43**	**28**	*e*		01 13 48.6	
HAGD				*e*Pn	**Pn**	**01 13 06.8**	**+1.8**
JHBN	**Jahan bin**	**2.51**	**100**	*e*Pn	**Pn**	**01 13 07.6**	**+1.3**
JHBN				*e*		01 14 36.2	
JHBN	**Jahan bin**	**2.51**	**100**	Pn	**Pb**	**01 13 07.9**	**-3.5**
HSRG	**Sareghieh**	**2.59**	**10**	*e*		01 13 53.9	
HSRG				*e*Pn	**Pn**	**01 13 08.8**	**+1.5**
IPIR	**Pirpir**	**2.66**	**89**	*e*Pn	**Pn**	**01 13 09.6**	**+1.4**
IPIR				*e*		01 14 27.7	
IPIR	**Pirpir**	**2.66**	**89**	Pn	**Pn**	**01 13 10.1**	**+1.9**
ASAO	**Ashtian**	**2.66**	**45**	*e*Pn	**Pn**	**01 13 10.1**	**+1.8**
ASAO				*e*Sg	**Sb**	**01 13 51.4**	**+5.2**
ASAO	**Ashtian**	**2.66**	**45**	*e*Pn	**Pn**	**01 13 10.1**	**+1.8**
ROKH	**ROKH**	**2.80**	**96**	*e*Pn	**Pn**	**01 13 12.2**	**+2.0**
ROKH				*e*		01 13 57.2	
ROKH	**ROKH**	**2.80**	**96**	Pn	**Pn**	**01 13 12.0**	**+1.8**
BHD	**Baghdad** baz=98	**2.88**	**283**	*e*Pg	**Pn**	**01 13 12.0**	**+0.9**
BHD				*e*Sg	**Sn**	**01 13 48.0**	**+3.1**
BHD	comp=E,666nm,0.5s			AML	AML	01 14 03.0	
IBRJ	**Brojen**	**3.08**	**104**	*e*Pn	**Pn**	**01 13 15.6**	**+1.6**
IRAZ	**Razeghan**	**3.26**	**33**	*e*Pn	**Pn**	**01 13 18.9**	**+2.4**
IKLH	**Kolahrood**	**3.29**	**78**	*e*Pn	**Pn**	**01 13 19.5**	**+2.7**
GHVR	**GHOM**	**3.46**	**58**	*e*Pg	Pb	01 13 33.7	+6.2
GHVR				IAML		01 14 43.5	
IGAR	**Gharneh**	**3.64**	**93**	*e*Pn	**Pn**	**01 13 23.2**	**+1.5**
KLNJ	**Kolanjah**	**3.68**	**116**	*e*Pn	**Pn**	**01 13 24.0**	**+1.7**
KLNJ				*e*		01 14 47.4	
KLNJ	**Kolanjah**	**3.68**	**116**	Pn	**Pn**	**01 13 23.8**	**+1.5**
IMHD	**Mahdasht**	**3.85**	**38**	*e*Pn	**Pn**	**01 13 26.0**	**+1.5**
IZEF	**Zefreh**	**3.87**	**86**	*e*Pn	**Pn**	**01 13 26.5**	**+1.6**
IHSS	**Hasanabad**	**4.02**	**46**	*e*Pn	**Pn**	**01 13 28.3**	**+1.6**
IRAM	**Ramesheh**	**4.03**	**101**	*e*Pn	**Pn**	**01 13 27.2**	**+0.2**
IGZV	**Ghazvin**	**4.22**	**28**	*e*Pn	**Pn**	**01 13 31.4**	**+1.8**
CHTH	**Charan**	**4.26**	**40**	*e*Pn	**Pn**	**01 13 31.1**	**+0.8**
CHTH	**Charan**	**4.26**	**40**	*e*Pn	**Pn**	**01 13 31.1**	**+0.8**
MAHB	**Mahabad**	**4.40**	**338**	*e*Pn	**Pn**	**01 13 32.7**	**+0.6**
IDMV	**Damavand**	**4.58**	**50**	*e*Pn	**Pn**	**01 13 35.8**	**+1.1**
ANAR	**Anarak**	**5.06**	**83**	*e*Pn	**Pn**	**01 13 42.1**	**+1.0**
ISAD	**Sadrabad**	**5.09**	**97**	*e*Pn	**Pn**	**01 13 43.0**	**+1.3**
IFIR	**Firoozkooh**	**5.09**	**53**	*e*Pn	**Pn**	**01 13 42.7**	**+1.0**
ILAS	**Lasjerd**	**5.10**	**57**	*e*Pn	**Pn**	**01 13 42.9**	**+1.2**
ISRB	**Sarab**	**5.13**	**359**	*e*Pn	**Pn**	**01 13 43.8**	**+1.7**
IAZR	**Azarshahr**	**5.18**	**344**	*e*Pn	**Pn**	**01 13 44.6**	**+1.7**
IPRN	**Peran**	**5.20**	**46**	*e*Pn	**Pn**	**01 13 45.0**	**+2.0**
IALA	**Alasht**	**5.39**	**50**	*e*Pn	**Pn**	**01 13 47.3**	**+1.5**
ISHM	**Shahmirzad**	**5.55**	**54**	*e*Pn	**Pn**	**01 13 49.3**	**+1.3**
IHRS	**Heris**	**5.65**	**354**	*e*Pn	**Pn**	**01 13 51.8**	**+2.5**
ICHK	**Chekchek**	**5.65**	**93**	*e*Pn	**Pn**	**01 13 49.6**	**+0.3**
CUKT	**Cukurca**	**5.68**	**324**	PN	**Pn**	**01 13 49.6**	**0.0**
AHAR	**Ahar**	**5.82**	**355**	*e*Pn	**Pn**	**01 13 52.8**	**+1.3**
IANJ	**Anjilo**	**5.82**	**60**	*e*Pn	**Pn**	**01 13 52.5**	**+0.8**
HAKT	**HAKKARI**	**5.88**	**327**	*e*Pn	**Pn**	**01 13 52.7**	**+0.3**
IMEH	**Mehriz**	**5.98**	**101**	*e*Pn	**Pn**	**01 13 55.0**	**+1.2**
LKRN	**Lenkeran, Azer**	**6.07**	**8**	P	**Pn**	**01 13 56.1**	**+1.3**
GRMI	**Germi**	**6.11**	**1**	*e*Pg	**Pn**	**01 13 54.6**	**-0.9**
IGLO	**Ghaloghah**	**6.30**	**51**	*e*Pn	**Pn**	**01 14 00.4**	**+2.2**
SIRT	**Sirnak**	**6.48**	**319**	PN	**Pn**	**01 13 59.5**	**-1.0**
NAX	**Nakhchivan**	**6.72**	**345**	P	**Pn**	**01 14 06.5**	**+2.6**
GEVA	**Gevas**	**6.79**	**327**	Pn	**Pn**	**01 14 06.0**	**+1.1**
GEVA				Sn	**Sn**	**01 15 23.4**	**+2.0**
AKDM	**Akdamar-Van**	**6.84**	**327**	PN	**Pn**	**01 14 06.7**	**+1.1**
VANB	**Van**	**6.88**	**330**	PN	**Pn**	**01 14 07.3**	**+1.2**
CLDR	**Caldiran**	**7.15**	**335**	PN	Pn	01 14 14.8	+4.9
GURO	**Guroymak-BITLI**	**7.47**	**323**	PN	**Pn**	**01 14 14.2**	**0.0**
TPRV	**Parvadeh(Tabas**	**7.53**	**85**	*e*Pn	**Pn**	**01 14 16.2**	**+1.1**
SVAN	**Sivan-Diyarba**	**7.63**	**317**	PN	**Pn**	**01 14 15.3**	**-1.0**
MAZI	**Mazidag**	**7.64**	**311**	PN	**Pn**	**01 14 15.3**	**-1.3**
MLAZ	**Malazgirt-MUS**	**7.69**	**328**	PN	**Pn**	**01 14 19.1**	**+1.8**
TKDS	**Koohdasht(Taba**	**7.92**	**81**	*e*Pn	**Pn**	**01 14 21.2**	**+0.8**
GANJ	**Ganja**	**8.03**	**352**	P	**Pn**	**01 14 24.1**	**+2.4**
MNGR	**Mingechevir, A**	**8.09**	**356**	P	**Pn**	**01 14 24.8**	**+2.3**
VRTB	**Varto-Mus**	**8.23**	**323**	PN	**Pn**	**01 14 25.1**	**+0.5**
NGRK	**Negar Kerman**	**8.28**	**109**	*e*Pn	**Pn**	**01 14 26.2**	**+0.7**
BNGB	**Bingl**	**8.51**	**320**	PN	**Pn**	**01 14 28.1**	**-0.3**
SEKA	**Sheki**	**8.52**	**357**	P	**Pn**	**01 14 30.6**	**+2.1**
BINT	**Bingol**	**8.53**	**318**	P	**Pn**	**01 14 28.1**	**-0.7**
URFA	**Urfa**	**8.71**	**305**	PN	**Pn**	**01 14 31.1**	**-0.1**
AKT	**Akhty**	**8.78**	**360**	*e*P	**Pn**	**01 14 35.2**	**+3.1**
AKT	comp=Z,6.0nm,0.5s			pmax	pmax		
SVRC	**Sivrice-ELAZID**	**8.91**	**312**	PN	**Pn**	**01 14 33.8**	**-0.3**
ZKTA	**Zakatala**	**8.98**	**355**	P	**Pn**	**01 14 37.1**	**+2.3**
GENO	**Geno**	**9.01**	**124**	*e*Pn	**Pn**	**01 14 35.7**	**+0.4**
ASF	**Jabal al Asfar** comp=Z,0.9nm,0.3s,baz=54,slow=9.9,SNR=10	**9.18**	**270**	Pn	**Pn**	**01 14 36.8**	**-0.9**
ASF	comp=Z,1.2nm,0.3s,baz=358,slow=21,SNR=2.3			Sn	**Sn**	**01 16 16.8**	**-3.4**
ASF	comp=Z,0.9nm,0.3s,baz=216,

	comp=Z,7.0nm,0.9s							
KIV					MLR	MLR		
	comp=Z,115nm,11.0s							
ARQ	**Araqi**	**12.11**	**138**		P	**Pn**	**01 15 17.6**	**-0.2**
	SNR=11							
HOQ	**Hoqain**	**12.38**	**135**		P	**Pn**	**01 15 21.5**	**0.0**
HOQ					P	**Pn**	**01 15 21.5**	**0.0**
SOC	**Sochi**	**12.57**	**332**	*eP*		**Pn**	**01 15 20.7**	**-3.2**
SOC				*e*			01 17 41.6	
SOC					pmax	pmax		
	comp=Z,9.0nm,0.8s							
SOC					MLR	MLR		
	comp=Z,163nm,14.0s							
BSY	**Bisya**	**12.96**	**137**		P	**Pn**	**01 15 28.5**	**-0.9**
BRTR	**Keskin Array B**	**13.37**	**306**		Pn	**Pn**	**01 15 37.5**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=123,slow=9.0,SNR=4.7							
WSAR	**Wadi Sarin**	**13.45**	**132**		Pn	**Pn**	**01 15 33.6**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=322,slow=2.6,SNR=13							
WSAR	**Wadi Sarin**	**13.45**	**132**		P	**Pn**	**01 15 33.5**	**-2.4**
	SNR=7.1							
JMDO	**Jabal Madar**	**13.78**	**136**		P	**Pn**	**01 15 38.8**	**-1.7**
WBK	**Wadi Bani Khal**	**14.12**	**132**		P	**Pn**	**01 15 43.1**	**-2.2**
MHTO	**MHTO**	**14.79**	**139**		P	**Pn**	**01 15 51.5**	**-2.8**
ELL	**Elmali**	**15.21**	**290**		P	**Pn**	**01 16 00.2**	**+0.2**
ELL					pmax	pmax		
	comp=Z,8.0nm,0.7s							
ELL	**Elmali**	**15.21**	**290**			**Pn**	**01 16 00.2**	**+0.2**
ELL					IAmb	IAmb	01 16 08.9	
	comp=Z,8.3nm,0.7s							
DQM	**DQM**	**15.43**	**143**		P	**Pn**	**01 16 01.3**	**-1.5**
WHFO	**Wadi Hawf**	**15.68**	**158**		P	**Pn**	**01 16 03.0**	**-3.1**
	SNR=35							
ABTO	**Aybut**	**16.07**	**160**		P	**Pn**	**01 16 07.8**	**-3.3**
RBK	**Rabkut**	**16.20**	**157**		P	**Pn**	**01 16 10.1**	**-2.6**
SHAO	**Shalim**	**16.24**	**152**		P	**Pn**	**01 16 11.3**	**-1.9**
DMTO	**DMTO**	**16.26**	**155**		P	**Pn**	**01 16 11.0**	**-2.5**
	SNR=22							
JURR	**Jurilovca**	**18.98**	**315**	⇓	P	**P**	**01 16 46.8**	**+0.7**
VRH	**Novokhopyorsk**	**19.02**	**348**	*eP*		**P**	**01 16 45.7**	**-0.9**
VRH					pmax	pmax		
	comp=Z,8.0nm,0.5s							
IDI	**Anoyia**	**19.12**	**284**		P	**Pn**	**01 16 49.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=226,slow=14,SNR=2.9							
IDI	**Anoyia**	**19.12**	**284**	⇑	P	**Pn**	**01 16 49.7**	**+0.9**
IDI	**Anoyia**	**19.12**	**284**		P	**P**	**01 16 48.0**	**+0.1**
IDI					IAmb	IAmb	01 16 56.9	
	comp=Z,12nm,0.8s							
AKTO	**Aktyubinsk**	**19.30**	**20**		P	**P**	**01 16 49.1**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=208,slow=11,SNR=15							
VORD	**Divnogorie**	**19.30**	**344**	*eP*		**P**	**01 16 47.9**	**-1.7**
VORD					pmax	pmax		
	comp=Z,7.0nm,0.8s							
GAR	**Garm**	**19.33**	**65**		P	**P**	**01 16 50.4**	**+0.2**
GAR					IAmb	IAmb	01 16 55.3	
	comp=Z,14nm,1.0s							
TOPG	**Topolog**	**19.33**	**315**	⇑	P	**P**	**01 16 50.5**	**+0.4**
HARR	**Harsova**	**19.51**	**314**	⇓	P	**P**	**01 16 53.0**	**+1.1**
VSR	**Storozhevoye**	**19.56**	**344**	*eP*		**P**	**01 16 51.2**	**-1.2**
VSR					pmax	pmax		
	comp=Z,10.0nm,1.0s							
CFR	**Carcaliu**	**19.64**	**315**	⇓	P	**P**	**01 16 54.2**	**+0.8**
VRI	**Vrincioaia**	**20.85**	**315**	⇓	P	**P**	**01 17 06.6**	**+0.1**
VRI	**Vrincioaia**	**20.85**	**315**		P	**P**	**01 17 08.1**	**+1.6**
VRI					pmax	pmax		
	comp=Z,8.0nm,1.0s							
PLOR	**Plostina**	**20.88**	**315**		P	**P**	**01 17 08.6**	**+1.6**
PLOR	**Plostina**	**20.89**	**315**	⇑	P	Pb	01 17 08.6	+0.5
LPSR	**Galich'ya Gora**	**20.90**	**345**	*eP*		**P**	**01 17 05.6**	**-1.4**
LPSR					pmax	pmax		
	comp=Z,40nm,0.8s							
MLR	**Muntele Rosu**	**21.13**	**314**		P	**P**	**01 17 12.4**	**+2.7**
	comp=Z,10nm,0.8s,baz=142,slow=2.0,SNR=24							
MLR	**Muntele Rosu**	**21.13**	**314**	⇓	P	**P**	**01 17 11.1**	**+1.4**
MLR	**Muntele Rosu**	**21.13**	**314**		P	**P**	**01 17 10.3**	**+0.6**
MLR					pmax	pmax		
	comp=Z,12nm,0.8s							
MLR	**Muntele Rosu**	**21.13**	**314**		P	**P**	**01 17 10.3**	**+0.6**
MLR					IAmb	IAmb	01 17 16.7	
	comp=Z,12nm,0.8s							
TESR	**Tescani**	**21.24**	**317**	⇑	P	**P**	**01 17 10.7**	**-0.1**
SORM	**Soroca**	**21.27**	**322**	⇑	P	**P**	**01 17 11.2**	**+0.2**
AGG	**Agios Georgios**	**21.51**	**294**		P	**P**	**01 17 14.5**	**+0.8**
AGG					pmax	pmax		
	comp=Z,15nm,1.1s							
AGG	**Agios Georgios**	**21.51**	**294**		P	**P**	**01 17 14.5**	**+0.8**
AGG					IAmb	IAmb	01 17 19.1	
	comp=Z,15nm,1.1s							
VOIR		**21.65**	**313**	⇓	P	**P**	**01 17 17.1**	**+1.9**
VOIR		**21.65**	**313**		P	**P**	**01 17 17.0**	**+1.7**
VOIR					pmax	pmax		
	comp=Z,24nm,0.9s							
DOPR	**Dopca**	**21.70**	**314**	⇓	P	**P**	**01 17 16.6**	**+0.8**
LOT	**Lotru**	**22.46**	**312**	⇓	P	**P**	**01 17 24.5**	**+0.6**
AKASG	**Malin Array Be**	**22.59**	**328**		P	**P**	**01 17 23.8**	**-1.3**
	comp=Z,4.3nm,0.7s,baz=134,slow=9.4,SNR=11							
AKBB	**Malin Array Si**	**22.59**	**328**		P	**P**	**01 17 25.6**	**+0.5**
AKBB					pmax	pmax		
	comp=Z,6.0nm,0.7s							
AKBB	**Malin Array Si**	**22.59**	**328**		P	**P**	**01 17 25.6**	**+0.5**
AKBB					IAmb	IAmb	01 17 30.0	
	comp=Z,5.7nm,0.7s							
BURAR	**Bucovina Array**	**22.66**	**318**	⇑	P	**P**	**01 17 26.5**	**+0.4**
BURAR	**Bucovina Array**	**22.66**	**318**		P	**P**	**01 17 26.1**	**0.0**
BUR08	**Bucovina Ar. S**	**22.69**	**318**		P	**P**	**01 17 27.1**	**+0.7**
HERR	**Herculane**	**23.09**	**309**	⇓	P	**P**	**01 17 31.2**	**+0.8**
AAK	**Ala-Archa**	**23.31**	**57**	*i*	P	**P**	**01 17 34.3**	**+1.5**
AAK					pmax	pmax		
	comp=Z,2.0nm,1.1s							
MDVR	**Moldovita**	**23.52**	**308**	⇓	P	**P**	**01 17 35.6**	**+0.8**
OBN	**Obninsk**	**23.76**	**344**	*i*	P	**P**	**01 17 37.8**	**+0.9**
OBN				*i*			01 17 42.5	
OBN				*i*			01 18 06.6	
OBN					pmax	pmax		
	comp=Z,10.0nm,1.0s							
OBN					MLR	MLR		
	comp=Z,47nm,17.0s							
BZS	**Buzias**	**23.90**	**310**	⇑	P	**P**	**01 17 38.2**	**-0.2**
MOS	**Moscow**	**24.11**	**346**	*eP*		**P**	**01 17 38.8**	**-1.4**
MOS				*e*			01 23 08.0	
SIRR	**Siria**	**24.14**	**312**	⇓	P	**P**	**01 17 41.3**	**+0.7**
DIVS	**Divibare**	**24.44**	**306**		P	**P**	**01 17 43.7**	**+0.3**
DIVS					IAmb	IAmb	01 17 49.6	
	comp=Z,6.4nm,1.1s							
PDG	**Podgorica**	**24.49**	**302**	⇓	P	**P**	**01 17 44.0**	**+0.2**
PDG	**Podgorica**	**24.49**	**302**		P	**P**	**01 17 44.3**	**+0.6**
PDG					IAmb	IAmb	01 17 48.8	
	comp=Z,4.8nm,0.8s							
ARU	**Arti**	**24.90**	**14**		P	**P**	**01 17 47.3**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=221,slow=9.5,SNR=10							
ARU	**Arti**	**24.90**	**14**	*c iP*		**P**	**01 17 47.3**	**-0.1**
ARU					PPP	PPP	01 18 29.0	
ARU							01 21 22.1	
ARU					S	**S**	**01 22 12.2**	**+3.4**
ARU					pmax	pmax		
	comp=Z,13nm,1.0s							
ARU	**Arti**	**24.90**	**14**		P	**P**	**01 17 47.4**	**0.0**
ARU					IAmb	IAmb	01 17 49.5	
	comp=Z,11nm,1.0s							
KOLS	**Kolonicke sedl**	**25.03**	**318**	*eP*		**P**	**01 17 49.4**	**+0.8**
KOLS					pmax	pmax		
	comp=Z,11nm,1.1s							
KOLS	**Kolonicke sedl**	**25.03**	**318**	*eP*		**P**	**01 17 49.4**	**+0.8**
DBRK	**Dubrovnik**	**25.34**	**302**	*i*	P	**P**	**01 17 51.3**	**-0.2**
CRVS	**Cervenica-Dubn**	**25.47**	**317**	*eP*		**P**	**01 17 54.3**	**+1.6**
CRVS					pmax	pmax		
	comp=Z,16nm,1.0s							
CRVS	**Cervenica-Dubn**	**25.47**	**317**	*eP*		**P**	**01 17 54.3**	**+1.6**
TARG	**Taragay, Kyrgy**	**25.48**	**61**		P	**P**	**01 17 53.0**	**-0.3**
TARG					IAmb	IAmb	01 17 56.7	
	comp=Z,4.7nm,0.9s							
SVE	**Sverdlovsk**	**25.73**	**16**	*eP*		**P**	**01 17 55.6**	**+0.7**
TIP	**Timpagrande**	**25.83**	**293**		P	**P**	**01 17 57.0**	**+0.9**
TIP					IAmb	IAmb	01 18 03.1	
	comp=Z,4.3nm,0.9s							
KIRV	**Kirov**	**25.93**	**2**		P	**P**	**01 17 58.0**	**+1.4**
	comp=Z,13nm,0.5s,baz=210,slow=6.5,SNR=4.2							
PSZ	**Piszkesteto**	**25.94**	**314**	⇑	P	**P**	**01 17 57.7**	**+0.8**
PSZ	**Piszkesteto**	**25.94**	**314**		P	**P**	**01 17 57.5**	**+0.5**
PSZ					pmax	pmax		
	comp=Z,15nm,1.0s							
PSZ	**Piszkesteto**	**25.94**	**314**		P	**P**	**01 17 57.5**	**+0.5**
BRVK	**Borovoye**	**26.02**	**32**	*ceP*		**P**	**01 17 58.4**	**+0.8**
BRVK					pmax	pmax		
	comp=Z,7.0nm,1.7s							
BRVK	**Borovoye**	**26.02**	**32**		P	**P**	**01 17 58.2**	**+0.6**
BVAR	**Borovoye Array**	**26.05**	**32**		P	**P**	**01 17 58.2**	**+0.4**
	comp=Z,4.2nm,0.7s,baz=232,slow=7.2,SNR=29							
RICI	**Ricice**	**26.26**	**303**		P	**P**	**01 18 00.1**	**+0.2**
LANS	**Liptovska Anna**	**26.75**	**316**	*eP*		**P**	**01 18 10.5**	**+6.3**
LANS					pmax	pmax		
	comp=Z,7.0nm,1.5s							
LANS	**Liptovska Anna**	**26.75**	**316**	*eP*		**P**	**01 18 10.5**	**+6.3**
VYHS	**Vyhne**	**26.83**	**315**	*eP*		**P**	**01 18 06.3**	**+1.3**
VYHS					pmax	pmax		
	comp=Z,5.0nm,1.2s							
VYHS	**Vyhne**	**26.83**	**315**	*eP*		**P**	**01 18 06.2**	**+1.3**
KIJV	**Kijevo**	**26.89**	**304**	*i*	P	**P**	**01 18 05.9**	**+0.3**
SGRT	**San Giovanni R**	**26.91**	**299**		P	**P**	**01 18 06.3**	**+0.4**
SGRT					IAmb	IAmb	01 18 11.0	
	comp=Z,6.1nm,0.8s							
OJC	**Ojcow**	**27.07**	**319**		P	**P**	**01 18 07.8**	**+0.7**
OJC					pmax	pmax		
	comp=Z,7.0nm,0.6s							
OJC	**Ojcow**	**27.07**	**319**		P	**P**	**01 18 07.8**	**+0.7**
ZIRJ	**Zirje**	**27.35**	**303**	*i*	P	**P**	**01 18 09.7**	**0.0**
MORI	**Morici**	**27.35**	**303**	*i*	P	**P**	**01 18 08.2**	**-1.4**
DUGI	**Dugi Otok**	**27.84**	**303**	*i*	P	**P**	**01 18 14.3**	**+0.3**
CONA	**Conrad Observa**	**28.44**	**312**	*i*	P	**P**	**01 18 20.9**	**+1.5**
	comp=Z,0.3nm,0.2s							
KLMR	**Klimovskoe**	**28.69**	**352**	*eP*		**P**	**01 18 19.6**	**-1.8**
KLMR					pmax	pmax		
	comp=Z,7.0nm,0.7s							
KLMR	**Klimovskoe**	**28.69**	**352**	*eP*		**P**	**01 18 19.7**	**-1.7**
KLMR					AMP		01 18 21.2	
	comp=Z,7.0nm,0.7s							
KURBB	**Kurchatov Arra**	**28.86**	**42**		P	**P**	**01 18 23.6**	**+0.5**
	comp=Z,0.6nm,0.2s,baz=248,slow=9.6,SNR=4.7							
KURK	**Kurchatov**	**28.96**	**42**	*ceP*		**P**	**01 18 24.8**	**+0.9**
KURK					pmax	pmax		
	comp=Z,4.0nm,0.9s							
KURK	**Kurchatov**	**28.96**	**42**		P	**P**	**01 18 24.5**	**+0.6**
MOA	**Molln**	**29.42**	**311**	*i*	P	**P**	**01 18 29.0**	**+1.0**
	comp=Z,1.5nm,0.5s							
MURB	**Monte Urbino**	**29.50**	**301**		P	**P**	**01 18 30.2**	**+1.2**
KBA	**Koelnbreinsper**	**29.78**	**309**	*i*	P	**P**	**01 18 32.3**	**+0.8**
	comp=Z,2.1nm,0.6s							
MKAR	**Makanchi Array**	**29.80**	**52**		P	**P**	**01 18 32.2**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=248,slow=7.3,SNR=7.2							
GERES	**GERESS Array B**	**30.10**	**313**		P	**P**	**01 18 34.4**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=105,slow=8.4,SNR=2.7							
CIMO	**Cimolais**	**30.18**	**307**		P	**P**	**01 18 35.2**	**+0.3**
CTI	**Castel Tesino**	**30.65**	**306**		P	**P**	**01 18 39.2**	**+0.1**
CTI					pmax	pmax		
	comp=Z,4.0nm,0.6s							
CTI	**Castel Tesino**	**30.65**	**306**		P	**P**	**01 18 39.2**	**+0.1**
CTI					IAmb	IAmb	01 18 45.0	
	comp=Z,3.9nm,0.6s							
ZCCA	**Zocca**	**30.79**	**303**		P	**P**	**01 18 41.6**	**+1.4**
WTTA	**Wattenberg**	**30.95**	**309**	*i*	P	**P**	**01 18 42.4**	**+0.6**
	comp=Z,1.4nm,0.4s							
WATA	**Walderalm**	**31.01**	**309**	*i*	P	**P**	**01 18 42.9**	**+0.6**
	comp=Z,1.2nm,0.3s							
VLC	**Villacollemand**	**31.18**	**302**		P	**P**	**01 18 44.0**	**+0.3**
SQTA	**Sankt Quirin**	**31.23**	**308**	*i*	P	**P**	**01 18 44.6**	**+0.4**
	comp=Z,2.6nm,0.4s							
CLL	**Collm**	**31.42**	**317**	*eP*		**P**	**01 18 46.0**	**+0.3**
	comp=Z,6.0nm,1.3s							
CLL	**Collm**	**31.42**	**317**	*eP*		**P**	**01 18 46.0**	**+0.3**
CLL					pmax	pmax		
	comp=Z,6.0nm,1.3s							
FETA	**Feichten**	**31.50**	**308**	*i*	P	**P**	**01 18 47.2**	**+0.6**
	comp=Z,1.7nm,0.6s							
RETA	**Reutte**	**31.59**	**309**	*i*	P	**P**	**01 18 47.8**	**+0.5**
	comp=Z,0.8nm,0.4s							
MSSA	**Maissana**	**31.82**	**303**		P	**P**	**01 18 49.7**	**+0.3**
DAVOX	**Davos/Dischmat**	**32.01**	**307**		P	**P**	**01 18 50.9**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=150,slow=20,SNR=2.4							
FINES	**FINESS Array B**	**32.01**	**340**		P	**P**	**01 18 50.4**	**-0.4**
	comp=Z,1.8nm,0.4s,baz=146,slow=9.4,SNR=16							
DAVA	**Damuels**	**32.12**	**308**	*i*	P	**P**	**01 18 52.2**	**+0.1**
	comp=Z,3.0nm,0.4s							
SENIN	**Lac Senin/Sane**	**33.68**	**306**		P	**P**	**01 19 05.9**	**+0.1**
SENIN					IAmb	IAmb	01 19 08.6	
	comp=Z,4.5nm,1.0s							
ZALV	**Zalesovo Beam**	**33.78**	**40**		P	**P**	**01 19 06.2**	**0.0**
	comp=Z,0.5nm,0.3s,baz=230,slow=8.7,SNR=5.5							
ZALV	**Zalesovo Beam**	**33.78**	**40**	*i*	P	**P**	**01 19 06.1**	**-0.2**
ZALV					pmax	pmax		
	comp=Z,2.0nm,0.7s							
DGZ	**Jazzator, Alta**	**33.89**	**48**	*i*	P	**P**	**01 19 08.7**	**+1.2**
DGZ					pmax	pmax		
	comp=Z,2.0nm,0.7s							
BNI	**Bardonecchia**	**33.92**	**303**		P	**P**	**01 19 07.8**	**0.0**
BNI					pmax	pmax		
	comp=Z,16nm,0.7s							
BNI	**Bardonecchia**	**33.92**	**303**		P	**P**	**01 19 07.8**	**0.0**
HFS	**Hagfors**	**35.41**	**331**		P	**P**	**01 19 20.2**	**-0.1**
	comp=Z,4.0nm,0.4s,baz=123,slow=10,SNR=4.5							
LVZ	**Lovozero**	**36.07**	**352**	*i*	P	**P**	**01 19 26.7**	**+0.8**
LVZ					pmax	pmax		
	comp=Z,6.0nm,1.0s							
NC405	**NORSAR Array S**	**36.77**	**332**		P	**P**	**01 19 31.4**	**-0.6**
NC405					IAmb	IAmb	01 19 37.6	
	comp=Z,7.6nm,1.0s							
NB2	**NORSAR Subarra**	**36.93**	**331**		P	**P**	**01 19 32.6**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=123,slow=8.6							
NOA	**NORSAR Array B**	**36.93**	**331**		P	**P**	**01 19 32.4**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=124,slow=8.5,SNR=6.8							
KEV	**Kevo**	**38.89**	**349**		P	**P**	**01 19 49.3**	**-0.3**
KEV					pmax	pmax		
	comp=Z,3.0nm,0.7s							
KEV	**Kevo**	**38.89**	**349**		P	**P**	**01 19 49.3**	**-0.3**
ARCES	**ARCESS Array B**	**38.95**	**348**		P	**P**	**01 19 50.0**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=156,slow=9.0,SNR=24							
ARCES	**ARCESS Array B**	**38.95**	**348**		P	**P**	**01 19 50.0**	**-0.3**
ARE0	**ARCESS Array S**	**38.95**	**348**		P	**P**	**01 19 50.4**	**+0.1**
ESDC	**Sonseca Array**	**41.83**	**295**		P	**P**	**01 20 14.6**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=71,slow=7.8,SNR=6.1							
EKA	**Eskdalemuir Ar**	**41.84**	**318**		P	**P**	**01 20 12.6**	**-1.7**
	comp=Z,1.2nm,0.6s,baz=101,slow=9.7,SNR=3.3							
TORD	**Torodi Ar. Bea**	**46.24**	**256**		P	**P**	**01 20 50.6**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=68,slow=8.1,SNR=4.1							
ULN	**Ulaanbaatar**	**46.59**	**53**	*ceP*		**P**	**01 20 53.6**	**+0.9**
ULN					pmax	pmax		
	comp=Z,2.0nm,0.8s							
BOD	**Bodaibo**	**50.53**	**39**	*eP*		**P**	**01 21 22.3**	**-0.3**
BOD					pmax	pmax		
	comp=Z,5.0nm,1.8s							
KLR	**Kul'dur**	**62.38**	**47**	*i*	P	**P**	**01 22 45.6**	**-1.5**
KLR					pmax	pmax		
	comp=Z,10.0nm,2.8s							
SEY	**Seymchan**	**67.64**	**29**	*i*	P	**P**	**01 23 21.7**	**+0.6**
JAY	**Jayapura**	**93.84**	**91**		LR	LR	02 08 14.8	
	comp=Z,37nm,21.4s,baz=0.0,slon=36							
EFI	**East Falkland**	**124.30**	**226**	*c iP*	KIKP	**PKPdf**	**01 31 22.1**	**-0.7**

*NEIC **26** 01:13:01.9±0.8,32.7°N±0.1°×47.7°E±0.7,h10km±1km, mb4.3/11,Error ellipse: s-maj=18.7km s-min=6.4km az=334.0*

*IDC **26** 01:13:01.3±2.0,32.8°N×47.7°E,h0km,mb4.0/9, mb1 4.0/12,mb1mx3.7/51,mbtmp4.0/12,ML4.0/3,MS3.0/1, Ms1 3.0/1,ms1mx2.6/43,Error ellipse: s-maj=45.3km s-min=19.2km az=156.0*

ISC 26 01:13:02.7±0.8,32.7N±0.1°×47.78E±0.08,h15km,n25, σ057/24,mb4.2/16,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASF	**Jabal al Asfar**	**9.21**	**270**			Pn	**Pn**	**01 15 15.1**	**-0.1**
	1.2nm,0.3s,baz=20,slow=7.2,SNR=2.9								
MMAI	**Mount Meron Ar**	**10.41**	**275**			LR	LR	01 20 34.2	
	comp=Z,82nm,18.8s,baz=85,slow=44								
UOSS	**Minazif**	**10.70**	**134**			Pn	**Pn**	**01 15 35.2**	**-0.2**
EIL	**Elat**	**11.39**	**258**			Pn	**Pn**	**01 15 44.7**	**-0.3**
	0.9nm,0.3s,baz=72,slow=3.6,SNR=4.7								
AKTO	**Aktyubinsk**	**19.26**	**20**			P	**Pn**	**01 17 28.1**	**+0.5**
	0.5nm,0.3s,baz=202,slow=14,SNR=5.1								
NIL	**Nilore**	**21.33**	**81**			P	**P**	**01 17 49.2**	**0.0**
NIL						IAmb	IAmb	01 17 53.1	
	comp=Z,11nm,0.8s								
TARG	**Taragay, Kyrgy**	**25.45**	**61**			P	**P**	**01 18 29.8**	**-0.7**
TARG						IAmb	IAmb	01 18 31.8	
	comp=Z,3.4nm,0.6s								
BVAR	**Borovoye Array**	**26.01**	**32**			P	**P**	**01 18 35.6**	**+0.6**
	comp=Z,3.6nm,0.6s,baz=229,slow=8.4,SNR=7.5								
OJC	**Ojcow**	**27.07**	**319**			P	**P**	**01 18 43.8**	**-0.8**
OJC						IAmb	IAmb	01 18 48.4	
	comp=Z,2.8nm,0.5s								
SUW	**Suwalki**	**27.55**	**328**			P	**P**	**01 18 47.8**	**-1.0**
MK31	**Makanchi Array**	**29.76**	**52**			P	**P**	**01 19 08.2**	**-0.5**
MKAR	**Makanchi Array**	**29.76**	**52**			P	**P**	**01 19 09.4**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=260,slow=4.9,SNR=4.4								
ZCCA	**Zocca**	**30.80**	**303**			P	**P**	**01 19 17.7**	**-0.1**
ZCCA						IAmb	IAmb	01 19 25.0	
	comp=Z,3.9nm,0.7s								
VLC	**Villacollemand**	**31.19**	**302**			P	**P**	**01 19 21.3**	**+0.1**
VLC						IAmb	IAmb	01 19 25.3	
	comp=Z,4.3nm,0.9s								
MSSA	**Maissana**	**31.83**	**303**			P	**P**	**01 19 26.3**	**-0.7**
FINES	**FINESS Array B**	**32.00**	**340**			P	**P**	**01 19 27.9**	**-0.2**
	comp=Z,1.7nm,0.4s,baz=154,slow=8.9,SNR=6.8								
ZAA0	**Zalesovo Array**	**33.74**	**40**			P	**P**	**01 19 43.1**	**-0.2**
ZALV	**Zalesovo Beam**	**33.74**	**40**			P	**P**	**01 19 43.5**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=264,slow=9.9,SNR=4.1								
BNI	**Bardonecchia**	**33.93**	**303**			P	**P**	**01 19 45.4**	**0.0**
BNI						IAmb	IAmb	01 19 46.4	
	comp=Z,5.0nm,0.6s								
HFS	**Hagfors**	**35.40**	**331**			P	**P**	**01 19 57.7**	**-0.1**
	comp=Z,3.1nm,0.4s,baz=120,slow=8.8,SNR=4.8								
NC405	**NORSAR Array S**	**36.76**	**331**			P	**P**	**01 20 08.3**	**-1.1**
NC405						IAmb	IAmb	01 20 13.9	
	comp=Z,4.8nm,0.8s								
NOA	**NORSAR Array B**	**36.93**	**331**			P	**P**	**01 20 10.1**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=122,slow=8.3,SNR=3.6								
ARCES	**ARCESS Array B**	**38.93**	**348**			P	**P**	**01 20 27.5**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=159,slow=9.8,SNR=7.6								
ESDC	**Sonseca Array**	**41.85**	**295**			P	**P**	**01 20 52.9**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=82,slow=8.5,SNR=1.4								
TORD	**Torodi Ar. Bea**	**46.28**	**256**			P	**P**	**01 21 28.5**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=58,slow=7.6,SNR=2.1								

DDA 26 01:14:47.2,42.18N×36.83E,h13km±3km,ML1.5,Black Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAMS	**Samsun-Alacam**	**0.95**	**211**	*i*	P	Pg	01 15 04.9		-0.6
SAMS				*i*	S	Sg	01 15 17.2		-0.6
SINO	**SINOP_Merkez**	**1.22**	**263**	*i*	P	Pn	01 15 04.5		-5.6
SINO				*i*	S	Sb	01 15 19.0		-6.9
SINO					IAML		01 15 21.0		
	comp=N,10nm,0.2s								
HAVZ	**Havza**	**1.38**	**218**	*i*	P	Pn	01 15 10.8		-1.5
HAVZ				*i*	S	Sn	01 15 29.9		-0.6
HAVZ					IAML		01 15 33.0		
	comp=E,7.2nm,0.4s								
HAVZ					IAML		01 15 33.0		
	comp=N,8.4nm,0.5s								
ORDU	**Ordu-Boztepe**	**1.41**	**147**	*i*	P	Pn	01 15 11.9		-0.8
ORDU				*i*	S	Sn	01 15 30.6		-0.6
ERBA	**Erbaa**	**1.49**	**182**	*i*	P	Pn	01 15 11.8		-2.1
ERBA				*i*	S	Sn	01 15 32.6		-0.7

*IDC **26** 01:19:43.2±1.1,38.08N×14.62E,h0km,mb3.6/4, mb1 3.7/6,mb1mx3.4/47,mbtmp3.7/6,ML2.9/2,MS4.5/1, Ms1 4.5/1,ms1mx2.7/45,Error ellipse: s-maj=34.7km s-min=12.6km az=113.0*

*ROM **26** 01:19:45.3±0.1,37.935N±0.007°×14.327E±0.006, h27km±1km,ML3.7/1,Mw3.7,Error ellipse: s-maj=0.7km s-min=0.5km az=346.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=2.08; $M_{\theta\theta}$2.36; $M_{\phi\phi}$-0.28; $M_{r\theta}$-3.06; $M_{\theta\phi}$0.11; $M_{\phi r}$0.88; Fault plane solution: $M_0$3.88407×10^{14} NP1:ϕ_{s1}251.00000°,δ20.00000°, λ-121.00000°. NP2:$\phi

	comp=E,11700µm,0.7s									
ESLN					AML	AML				
	comp=N,9900µm,0.9s									
IACL	**Alicudi**	**0.57**	**360**	⇑P		**Pn**	**01 19 57.4**	**-0.6**		
IACL				AML		AML				
	comp=N,5070µm,1.5s									
IACL				AML		AML				
	comp=E,6105µm,0.5s									
NOV	**Novara**	**0.62**	**84**	P		**Pb**	**01 19 57.8**	**+0.1**		
NOV				AML		AML				
	comp=E,7800µm,0.4s									
NOV				AML		AML				
	comp=N,7045µm,0.8s									
IFIL	**Filicudi I Eol**	**0.62**	**15**	P		**Pn**	**01 19 58.2**	**-0.4**		
IFIL				AML		AML				
	comp=E,15950µm,0.9s									
IFIL				AML		AML				
	comp=N,5165µm,0.5s									
VPL	**Vulcano Piano**	**0.64**	**50**	⇑P		**Pn**	**01 19 58.6**	**-0.4**		
VPL				AML		AML				
	comp=N,13900µm,0.4s									
VPL				AML		AML				
	comp=E,17050µm,1.1s									
LLI	**Lipari**	**0.67**	**44**	P		**Pn**	**01 19 59.0**	**-0.3**		
LLI				AML		AML				
	comp=E,32350µm,0.5s									
LLI				AML		AML				
	comp=N,50450µm,0.8s									
LLI				AML		AML				
	comp=N,50450µm,0.8s									
LLI				AML		AML				
	comp=E,32350µm,0.5s									
SOLUN	**Solunto**	**0.67**	**281**	P		**Pb**	**01 19 57.9**	**-0.6**		
SOLUN				S		**Sb**	**01 20 08.0**	**+0.6**		
SOLUN				AML		AML				
	comp=E,1245µm,0.9s									
SOLUN				AML		AML				
	comp=N,1285µm,1.0s									
SOLUN				AML		AML				
	comp=E,1250µm,0.9s									
AIO	**Antillo**	**0.69**	**89**	P		**Pb**	**01 19 59.1**	**+0.1**		
AIO				AML		AML				
	comp=N,7910µm,0.5s									
AIO				AML		AML				
	comp=E,15350µm,0.8s									
MCSR	**Castroreale**	**0.71**	**82**	P		**Pb**	**01 19 58.9**	**-0.4**		
MCSR				AML		AML				
	comp=N,13250µm,0.3s									
MCSR				AML		AML				
	comp=E,12900µm,0.4s									
HLNI	**Lentini**	**0.74**	**147**	P		**Pb**	**01 19 58.8**	**-0.9**		
HLNI				AML		AML				
	comp=E,3915µm,1.3s									
HLNI				AML		AML				
	comp=N,5165µm,1.0s									
MILZ	**Milazzo**	**0.75**	**66**	P		**Pn**	**01 20 00.1**	**-0.4**		
MILZ				AML		AML				
	comp=E,6410µm,0.5s									
MILZ				AML		AML				
	comp=N,5100µm,0.6s									
MILZ				AML		AML				
	comp=E,6405µm,0.5s									
MILZ				AML		AML				
	comp=N,5105µm,0.6s									
MPNC	**Port Mandanici**	**0.80**	**77**	P		**Pb**	**01 20 00.7**	**-0.1**		
MPNC				AML		AML				
	comp=E,9495µm,1.5s									
MPNC				AML		AML				
	comp=N,14850µm,0.6s									
MPNC				AML		AML				
	comp=N,14850µm,0.6s									
MPG	**Monte Pellegri**	**0.81**	**284**	P		**Pb**	**01 20 00.3**	**-0.8**		
MPG				AML		AML				
	comp=E,736µm,0.9s									
MPG				AML		AML				
	comp=N,900µm,1.0s									
MPG				AML		AML				
	comp=N,898µm,1.0s									
MPG				AML		AML				
	comp=E,738µm,0.9s									
CORL	**Corleone**	**0.84**	**265**	P		**Pb**	**01 20 01.6**	**+0.2**		
CORL				AML		AML				
	comp=N,4325µm,0.5s									
CORL				AML		AML				
	comp=E,5715µm,0.6s									
HCRL	**Carlentini**	**0.86**	**142**	AML		AML				
HCRL				AML		AML				
	comp=N,4470µm,0.4s									
HCRL				AML		AML				
	comp=E,5490µm,0.6s									
CLTA	**Licata**	**0.87**	**202**	P		**Pb**	**01 20 01.5**	**-0.4**		
CLTA				AML		AML				
	comp=E,8055µm,0.7s									
CLTA				AML		AML				
	comp=N,8920µm,1.4s									
FAVR	**Favara**	**0.89**	**219**	AML		AML				
FAVR				AML		AML				
	comp=E,2905µm,0.5s									
FAVR				AML		AML				
	comp=N,2875µm,0.8s									
ATN	**Antennamare**	**0.89**	**77**	P		**Pn**	**01 20 02.8**	**+0.2**		
ATN				AML		AML				
	comp=E,3µm,1.2s									
ATN				AML		AML				
	comp=N,5145µm,0.6s									
ATN				AML		AML				
	comp=E,3µm,1.2s									
HAGA	**Augusta**	**0.93**	**137**	AML		AML				
HAGA	comp=E,11020µm,1.2s			AML		AML				
	comp=N,5315µm,0.5s									
MSRU	**Castanea**	**0.95**	**72**	AML		AML				
MSRU	comp=N,6145µm,0.9s			AML		AML				
	comp=E,9275µm,0.9s									
MEU	**Monte Lauro**	**0.97**	**152**	AML		AML				
MEU	comp=N,9060µm,1.4s			AML		AML				
	comp=N,9055µm,1.4s									
MEU				AML		AML				
	comp=E,9540µm,0.6s									
CLTB	**Caltabellotta**	**0.99**	**247**	AML		AML				
	comp=N,9315µm,0.7s									
CLTB				AML		AML				
	comp=E,5215µm,0.5s									
SSY	**Sortino**	**0.99**	**145**	AML		AML				
	comp=E,15100µm,0.8s									
SSY				AML		AML				
	comp=N,16600µm,0.6s									
SSY				AML		AML				
	comp=E,15100µm,0.8s									
ISTR	**Stromboli Gino**	**1.05**	**38**	P		**Pb**	**01 20 04.9**	**-0.1**		
MTTG	**Motta San Giov**	**1.05**	**88**	P		**Pb**	**01 20 05.5**	**+0.5**		
MTTG				AML		AML				
	comp=E,3825µm,0.6s									
MTTG				AML		AML				
	comp=N,3750µm,0.7s									
HMDC	**Modica**	**1.06**	**161**	AML		AML				
	comp=N,11550µm,0.4s									
HMDC				AML		AML				
	comp=E,5545µm,0.5s									
HAVL	**Avola**	**1.17**	**149**	AML		AML				
	comp=E,13650µm,1.0s									
HAVL				AML		AML				
	comp=N,8485µm,0.8s									
GMB	**Gambarie**	**1.18**	**80**	P		**Pb**	**01 20 07.2**	**0.0**		
GMB				AML		AML				
	comp=N,12650µm,0.8s									
GMB				AML		AML				
	comp=E,6335µm,0.9s									
USI	**Ustica**	**1.19**	**309**	P		**Pn**	**01 20 05.5**	**-1.0**		
USI				AML		AML				
	comp=E,1750µm,1.3s									
USI				AML		AML				
	comp=N,1590µm,0.9s									
MTGR	**Montagna Grand**	**1.27**	**267**	P		**Pn**	**01 20 07.9**	**+0.3**		
MPAZ	**Palizzi**	**1.30**	**90**	P		**Pb**	**01 20 09.8**	**+0.6**		
MPAZ				AML		AML				
	comp=N,1875µm,0.7s									
MPAZ				AML		AML				
	comp=E,1980µm,0.6s									
SOI	**Samo**	**1.34**	**85**	⇑P		**Pb**	**01 20 10.2**	**+0.2**		
SOI				AML		AML				
	comp=E,1745µm,0.7s									
SOI				AML		AML				
	comp=N,2720µm,0.8s									
JOPP	**Joppolo**	**1.36**	**61**	AML		AML				
	comp=E,668µm,0.8s									
JOPP				AML		AML				
	comp=N,579µm,0.4s									
HPAC	**Pachino**	**1.40**	**155**	AML		AML				
	comp=E,7045µm,0.3s									
HPAC				AML		AML				
	comp=N,6405µm,0.9s									
PLAC	**Placanica**	**1.71**	**73**	AML		AML				
	comp=N,842µm,0.7s									
PLAC				AML		AML				
	comp=E,826µm,0.7s									
PLAC				AML		AML				
	comp=E,868µm,0.8s									
PLAC				AML		AML				
	comp=N,850µm,0.8s									
GRI	**Girifalco**	**1.83**	**62**	AML		AML				
	comp=N,571µm,1.0s									
GRI				AML		AML				
	comp=E,531µm,0.5s									
CAR1	**CAROLEI**	**1.94**	**48**	AML		AML				
	comp=N,797µm,0.9s									
CAR1				AML		AML				
	comp=E,874µm,0.5s									
CAR1				AML		AML				
	comp=N,976µm,0.8s									
CAR1				AML		AML				
	comp=E,812µm,0.6s									
CAR1				AML		AML				
	comp=E,874µm,0.5s									
CAR1				AML		AML				
	comp=N,978µm,0.8s									
CET2	**Cetraro**	**2.00**	**38**	P		**Pn**	**01 20 18.4**	**+0.8**		
CET2				AML		AML				
	comp=E,498µm,0.7s									
CET2				AML		AML				
	comp=N,584µm,0.4s									
SERS	**Sersale**	**2.12**	**59**	AML		AML				
	comp=E,206µm,1.6s									
SERS				AML		AML				
	comp=N,174µm,0.8s									
T0702	**Acquaformosa (**	**2.21**	**37**	AML		AML				
	comp=N,179µm,1.0s									
T0702				AML		AML				
	comp=E,22µm,1.6s									
CELI	**Celico**	**2.21**	**49**	AML		AML				
	comp=N,668µm,0.8s									
CELI				AML		AML				
	comp=E,444µm,1.2s									
TIP	**Timpagrande**	**2.23**	**56**	AML		AML				
	comp=E,162µm,0.7s									
TIP				AML		AML				
	comp=N,144µm,0.7s									
TIP				AML		AML				
	comp=E,135µm,0.8s									
TIP				AML		AML				
	comp=N,186µm,0.7s									
BULG	**Bulgheria - Ca**	**2.25**	**20**	AML		AML				
	comp=E,78µm,0.5s									
BULG				AML		AML				
	comp=N,180µm,0.5s									
MGR	**Morigerati**	**2.36**	**23**	AML		AML				
	comp=E,82µm,0.6s									
MGR				AML		AML				
	comp=N,91µm,0.5s									
SIRI	**Monte Sirino -**	**2.50**	**27**	AML		AML				
	comp=E,170µm,0.5s									
SIRI				AML		AML				
	comp=N,109µm,0.4s									
MTSN	**Montesano sull**	**2.54**	**25**	AML		AML				
	comp=E,85µm,1.1s									
MTSN				AML		AML				
	comp=N,77µm,1.0s									
CDRU	**Civita di Ruta**	**2.62**	**16**	AML		AML				
	comp=E,33µm,1.1s									
CDRU				AML		AML				
	comp=N,26µm,1.6s									
VSL	**Villasalto**	**4.19**	**293**	AML		AML				
	comp=N,39µm,0.3s									
VSL				AML		AML				
	comp=E,41µm,0.5s									
TAMR	**Tamra**	**4.28**	**259**	AML		AML				
	comp=E,65µm,0.5s									
TAMR				AML		AML				
	comp=N,75µm,0.6s									
KEST	**Kesra**	**4.60**	**243**	Pn		**Pn**	**01 20 56.2**	**+2.8**		
	comp=N,0.8nm,0.3s,baz=42,slow=6.7,SNR=18									
KEST				Sn		**Sn**	**01 21 48.3**	**+2.2**		
	comp=N,1.0nm,0.3s,baz=25,slow=22,SNR=10									
IDI	**Anoyia**	**8.88**	**104**	Pn		**Pn**	**01 21 49.4**	**-2.8**		
	comp=N,0.1nm,0.3s,baz=229,slow=20,SNR=1.6									
IDI				Sn		**Sn**	**01 23 25.9**	**-5.4**		
	comp=N,0.3nm,0.3s,baz=304,slow=17,SNR=2.9									
MLR	**Muntele Rosu**	**11.46**	**45**	LR		LR	01 28 16.9			
	comp=N,76nm,18.2s,baz=103,slow=46									
HFS	**Hagfors**	**22.19**	**359**	P		**P**	**01 24 40.4**	**+0.9**		
	comp=N,1.5nm,0.7s,baz=160,slow=14,SNR=2.0									
FINES	**FINESS Array B**	**24.61**	**14**	P		**P**	**01 25 03.7**	**+0.2**		
	comp=N,2.5nm,0.5s,baz=183,slow=8.4,SNR=19									
TORD	**Torodi Ar. Bea**	**27.17**	**208**	P		**P**	**01 25 28.2**	**+1.2**		
	comp=N,0.4nm,0.9s,baz=18,slow=8.7,SNR=2.1									
MKAR	**Makanchi Array**	**49.52**	**57**	P		**P**	**01 28 34.0**	**+0.1**		
	comp=N,0.5nm,0.6s,baz=271,slow=9.6,SNR=4.7									
MJAR	**Matsushiro Arr**	**89.50**	**42**	LR		LR	02 15 45.0			
	comp=N,272nm,21.0s,baz=285,slow=38									

*LDG **26** 01:20:12.3±0.3, 43.59°N×13.94°E, h7km, Ml2.5/7, Error ellipse: s-maj=6.7km s-min=4.3km az=133.0*
*ROM **26** 01:20:13.9±0.2, 43.512°N±0.009°×13.83°E±0.01, h8km, ML2.4/27, Error ellipse: s-maj=1.3km s-min=0.6km az=229.0*
*VIE **26** 01:20:16.7±0.7, 43.53°N×13.84°E, h14km, mb2.4/8, ml2.4/12, Error ellipse: s-maj=12.2km s-min=4.2km az=93.0 118 km ESE of San Marino*

ISC 26 01:20:15.5±0.8, 43.44°N±0.02°×13.74°E±0.02°, h18km±5km, n71, σ1s93/89, 4C-2D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PP3	**Marolino**	**0.11**	**235**	⇓P			**Pg**	**01 20 18.5**	**-0.7**
PP3				S			**Sg**	**01 20 22.4**	**+0.6**
PP3				AML			AML		
	comp=E,7020µm,0.2s								
PP3				AML			AML		
	comp=N,4410µm,0.2s								
PP3				AML			AML		
	comp=E,7275µm,0.2s								
PP3				AML			AML		
	comp=N,5630µm,0.2s								
PP3				AML			AML		
	comp=E,7015µm,0.2s								
AOI	**Ancona**	**0.14**	**318**	⇑P			**Pg**	**01 20 18.0**	**-1.7**
AOI				S			**Sg**	**01 20 20.9**	**-1.7**
AOI				AML			AML		
	comp=E,2760µm,1.2s								
AOI				AML			AML		
	comp=N,3045µm,0.2s								
CIMA	**Civitanova Mar**	**0.14**	**199**	P			**Pb**	**01 20 19.5**	**+0.2**
CIMA				S			**Sg**	**01 20 24.6**	**+2.1**
PCRO	**Pietralacroce**	**0.22**	**318**	P			**Pg**	**01 20 19.4**	**-1.4**
PCRO				S			**Sg**	**01 20 24.0**	**-0.4**
CING	**Cingoli**	**0.40**	**260**	⇓P			**Pg**	**01 20 23.4**	**-0.4**
CING				S			**Sb**	**01 20 30.9**	**+1.0**
CING				AML			AML		
	comp=E,363µm,0.5s								
CING				AML			AML		
	comp=E,364µm,0.5s								
CING				AML			AML		
	comp=N,358µm,0.4s								
GUMA	**Gualdo di Mace**	**0.41**	**159**	P			**Pn**	**01 20 25.2**	**-1.4**
GUMA				S			**Sb**	**01 20 34.9**	**+4.8**
GUMA				AML			AML		
	comp=E,896µm,0.6s								
GUMA				AML			AML		
	comp=N,1165µm,0.4s								
GUMA				AML			AML		
	comp=N,920µm,0.4s								
GUMA				AML			AML		
	comp=N,1165µm,0.4s								
GUMA				AML			AML		
	comp=N,920µm,0.4s								
GUMA				AML			AML		
	comp=E,1225µm,0.3s								
GUMA				AML			AML		
	comp=E,896µm,0.5s								
SENI	**Senigallia**	**0.45**	**306**	⇑P			**Pg**	**01 20 24.3**	**-0.3**
SENI				AML			AML		
	comp=E,2145µm,0.3s								
SENI				AML			AML		
	comp=N,2550µm,0.5s								
EL6	**Elcito**	**0.48**	**256**	P			**Pg**	**01 20 25.0**	**-0.2**
EL6				S			**Sb**	**01 20 33.8**	**+1.7**
CSP1	**Cessapalombo**	**0.52**	**228**	AML			AML		
	comp=N,300µm,0.4s								
CSP1				AML			AML		
	comp=E,265µm,0.9s								
COR1	**Corinaldo**	**0.57**	**290**	⇑P			**Pg**	**01 20 26.9**	**0.0**
COR1				AML			AML		
	comp=E,216µm,1.0s								
COR1				AML			AML		
	comp=N,322µm,0.5s								
ARVD	**Arcevia**	**0.58**	**276**	⇑P			**Pg**	**01 20 26.5**	**-0.5**
ARVD				S			**Sb**	**01 20 36.2**	**+1.2**
ARVD				AML			AML		
	comp=N,104µm,0.5s								
ARVD				AML			AML		
	comp=E,109µm,0.8s								
ARVD				AML			AML		
	comp=N,103µm,0.5s								
FDMO	**Fiordimonte**	**0.62**	**230**	P			**Pg**	**01 20 27.2**	**-0.7**
FDMO				AML			AML		
	comp=E,460µm,0.2s								
FDMO				AML			AML		
	comp=N,232µm,0.2s								
TRTR	**Tortoreto Alta**	**0.65**	**168**	P			**Pb**	**01 20 27.8**	**-0.4**
TRTR				AML			AML		
	comp=E,942µm,0.4s								
TRTR				AML			AML		
	comp=N,1154µm,0.8s								
TRTR				AML			AML		
	comp=E,942µm,0.4s								
FOSV	**Fossato di Vic**	**0.73**	**259**	P			**Pg**	**01 20 29.0**	**-0.7**
FOSV				S			**Sn**	**01 20 41.3**	**-0.3**
FOSV				AML			AML		
	comp=N,138µm,1.2s								
FOSV				AML			AML		
	comp=E,148µm,1.0s								
FOSV				AML			AML		
	comp=N,137µm,1.2s								
CESI	**CESI - Serrava**	**0.75**	**235**	P			**Pb**	**01 20 29.9**	**-0.2**
CESI				AML			AML		
	comp=E,136µm,0.5s								
CESI				AML			AML		
	comp=N,101µm,0.4s								
CESI				AML			AML		
	comp=E,137µm,0.5s								
NRCA	**Norcia**	**0.76**	**217**	P			**Pb**	**01 20 29.6**	**-0.7**
NRCA				AML			AML		
	comp=N,418µm,0.4s								
NRCA				AML			AML		
	comp=E,494µm,1.1s								
PESA	**Pesaro**	**0.82**	**308**	AML			AML		
	comp=N,656µm,0.4s								
PESA				AML			AML		
	comp=E,446µm,0.4s								
PESA				AML			AML		
	comp=E,446µm,0.4s								
TERO	**Teramo**	**0.83**	**187**	P			**Pb**	**01 20 31.0**	**-0.3**
TERO				AML			AML		
	comp=E,112µm,1.3s								
TERO				AML			AML		
	comp=N,107µm,0.4s								
ATCC	**AVT- Casa Cast**	**0.84**	**253**	P			**Pb**	**01 20 32.0**	**+0.4**
ATCC				S			**Sn**	**01 20 44.3**	**-0.1**
ATCC				AML			AML		
	comp=E,253µm,0.5s								
ATCC				AML			AML		
	comp=N,342µm,0.4s								
ATCC				AML			AML		
	comp=E,254µm,0.5s								
NARO	**Abbazia di Nar**	**0.86**	**282**	P			**Pg**	**01 20 31.1**	**-1.1**
NARO				AML			AML		
	comp=N,59µm,0.7s								
NARO				AML			AML		
	comp=E,82µm,0.9s								
PIEI	**Pieia**	**0.88**	**276**	P			**Pg**	**01 20 31.6**	**-1.0**
PIEI				S			**Sb**	**01 20 45.5**	**+1.8**
PIEI				AML			AML		
	comp=N,86µm,1.2s								
PIEI				AML			AML		
	comp=N,86µm,1.2s								
PIEI				AML			AML		
	comp=E,108µm,0.3s								
ASSB	**Assisi San Ben**	**0.88**	**243**	P			**Pg**	**01 20 32.0**	**-0.7**
ASSB				AML			AML		
	comp=E,173µm,0.3s								
ASSB				AML			AML		
	comp=N,218µm,0.2s								
PE3	**Peglio**	**0.94**	**286**	P			**Pg**	**01 20 33.3**	**-0.4**
PE3				AML			AML		
	comp=E,428µm,0.5s								
PE3				AML			AML		
	comp=N,512µm,0.5s								
PE3				AML			AML		
	comp=E,428µm,0.5s								
PE3				AML			AML		
	comp=N,513µm,0.5s								
CAMP	**Campotosto**	**0.94**	**195**	P			**Pb**	**01 20 33.1**	**-0.2**
CAMP				AML			AML		
	comp=E,121µm,1.0s								
CAMP				AML			AML		
	comp=N,143µm,0.8s								
APEC	**Apecchio**	**0.96**	**277**	P			**Pg**	**01 20 33.5**	**-0.7**
APEC				AML			AML		
	comp=N,209µm,0.4s								
APEC				AML			AML		
	comp=N,208µm,0.4s								
APEC				AML			AML		
	comp=E,160µm,0.5s								
LNSS	**Leonessa**	**0.98**	**212**	P			**Pb**	**01 20 33.6**	**-0.4**
LNSS				AML			AML		
	comp=N,228µm,1.2s								
LNSS				AML			AML		
	comp=E,289µm,0.5s								
LNSS				AML			AML		
	comp=N,228µm,1.2s								
RM33	**Pellescritta (**	**1.01**	**202**	P			**Pb**	**01 20 34.1**	**-0.5**
RM33				AML			AML		
	comp=E,308µm,0.6s								
RM33				AML			AML		
	comp=N,281µm,1.4s								
RM33				AML			AML		
	comp=N,282µm,1.4s								
ATTE	**AVT- Monte Tez**	**1.04**	**257**	P			**Pn**	**01 20 36.0**	**+0.7**
ATTE				AML			AML		
	comp=N,128µm,1.4s								
ATTE				AML			AML		
	comp=E,103µm,0.4s								
DUGI	**Dugi Otok**	**1.10**	**60**	*e*Pg			**Pb**	**01 20 35.2**	**-0.9**
DUGI				Sg			**Sg**	**01 20 51.4**	**0.0**
ARRO	**Arrone**	**1.12**	**220**	P			**Pg**	**01 20 36.1**	**-1.0**
ARRO				AML			AML		
	comp=E,80µm,0.7s								
ARRO				AML			AML		
	comp=N,78µm,1.2s								
ARRO				AML			AML		
	comp=N,79µm,1.2s								
ARRO				AML			AML		
	comp=E,80µm,0.7s								
FAGN	**Fagnano**	**1.18**	**185**	P			**Pn**	**01 20 38.1**	**+0.9**
FAGN				AML			AML		
	comp=N,251µm,0.4s								
FAGN				AML			AML		
	comp=N,250µm,0.4s								
FAGN				AML			AML		
	comp=E,500µm,0.7s								
FIAM	**Fiamignano**	**1.26**	**201**	P			**Pg**	**01 20 38.4**	**-1.5**
FIAM				AML			AML		
	comp=E,110µm,0.5s								
FIAM				AML			AML		
	comp=E,110µm,0.5s								
FIAM				AML			AML		
	comp=N,72µm,0.6s								
CAFI	**Castiglion Fio**	**1.29**	**266**	AML			AML		
	comp=E,55µm,0.8s								
CAFI				AML			AML		
	comp=N,63µm,0.4s								
CAFR	**Castel Frentan**	**1.29**	**159**	P			**Pg**	**01 20 39.6**	**-0.9**
MGAB	**Montegabbione**	**1.30**	**247**	P			**Pg**	**01 20 40.2**	**-0.5**
MGAB				AML			AML		
	comp=E,138µm,1.0s								
MGAB				AML			AML		
	comp=N,200µm,1.3s								
NVLJ	**Novalja**	**1.39**	**36**	*e*Pn			**Pn**	**01 20 39.3**	**-0.7**
NVLJ				Sn			**Sn**	**01 20 58.0**	**+0.2**

ZIRJ	**Zirje**	**1.40**	**81**	*i* Pn		**Pn**	**01 20 39.8**	**-0.4**
ZIRJ				Sn		**Sb**	**01 20 59.3**	**+0.6**
INTR	**Introdacqua**	**1.44**	**175**	P		**Pg**	**01 20 41.6**	**-1.6**
INTR				AML	AML			
	comp=E,198μm,0.5s							
INTR				AML	AML			
	comp=N,198μm,0.6s							
SACS	**San Casciano d**	**1.46**	**247**	P		**Pg**	**01 20 43.1**	**-0.6**
SACS				AML	AML			
	comp=E,47μm,0.8s							
SACS				AML	AML			
	comp=N,60μm,1.4s							
MORI	**Morici**	**1.49**	**73**	*e*Pn		**Pn**	**01 20 41.1**	**-0.3**
HVAR	**Hvar**	**2.00**	**97**	*e*Pn		**Pn**	**01 20 48.2**	**-0.2**
HVAR				Sn		**Sn**	**01 21 14.1**	**+1.1**
KIJV	**Kijevo**	**2.02**	**73**	*e*Pn		**Pn**	**01 20 49.8**	**+1.2**
KIJV				Sn		**Sb**	**01 21 16.2**	**-0.2**
TRI	**Trieste**	**2.27**	**0**	AML	AML			
	comp=N,13μm,0.3s							
TRI				AML	AML			
	comp=E,18μm,0.5s							
RICI	**Ricice**	**2.47**	**88**	*e*Pn		**Pn**	**01 20 55.8**	**+0.9**
STON	**Ston**	**2.96**	**100**	*e*Pn		**Pn**	**01 21 01.4**	**-0.1**
OBKA	**Obir**	**3.12**	**10**	*i* Pn		**Pn**	**01 21 05.1**	**+1.2**
	comp=E,0.4nm,0.1s							
OBKA				*i* Sg		**Sg**	**01 21 54.8**	**-1.0**
ABTA	**Abfaltersbach**	**3.42**	**346**	*i* Pn		**Pn**	**01 21 09.0**	**+1.0**
	comp=E,0.8nm,0.2s,SNR=4.5							
KOSI	**Kohlern**	**3.45**	**332**	AML	AML			
	comp=E,34μm,0.8s							
KOSI				AML	AML			
	comp=N,32μm,0.3s							
PGF	**Pioggiola**	**3.59**	**257**	*e*P		**Pn**	**01 21 12.4**	**+2.1**
PGF				*e*Sn		**Sn**	**01 21 51.3**	**-1.0**
KBA	**Koelnbreinsper**	**3.65**	**356**	*e*Pn		**Pn**	**01 21 12.2**	**+1.0**
	comp=N,0.6nm,0.2s							
RISI	**Rein**	**3.70**	**342**	AML	AML			
	comp=N,39μm,0.3s							
RISI				AML	AML			
	comp=E,27μm,0.6s							
ABSI	**Aberstueckl**	**3.70**	**333**	AML	AML			
	comp=E,49μm,0.3s							
ABSI				AML	AML			
	comp=N,40μm,0.6s							
ROSI	**Rosskopf**	**3.85**	**336**	AML	AML			
	comp=N,31μm,0.7s							
ROSI				AML	AML			
	comp=E,27μm,1.1s							
WTTA	**Wattenberg**	**4.10**	**340**	*i* Pn		**Pn**	**01 21 19.4**	**+2.0**
	comp=E,0.8nm,0.2s,SNR=5.3							
WTTA				*i* Sn		**Sn**	**01 22 09.0**	**+4.1**
	comp=E,3.5nm,0.6s							
FETA	**Feichten**	**4.16**	**330**	*i* Pn		**Pn**	**01 21 20.1**	**+1.9**
	comp=E,0.3nm,0.2s							
SQTA	**Sankt Quirin**	**4.18**	**336**	*e*Pn		**Pn**	**01 21 20.7**	**+2.2**
	comp=E,1.1nm,0.1s							
WATA	**Walderalm**	**4.18**	**339**	*i* Pn		**Pn**	**01 21 20.6**	**+2.1**
	comp=E,1.8nm,0.2s,SNR=7.2							
WATA				*i* Sn		**Sn**	**01 22 09.4**	**+2.5**
	comp=E,1.2nm,0.2s							
MOTA	**Moosalm**	**4.32**	**336**	*i* Pn		**Pn**	**01 21 22.3**	**+1.9**
	comp=E,1.6nm,0.2s							
RETA	**Reutte**	**4.55**	**334**	*e*Pn		**Pn**	**01 21 26.0**	**+2.4**
	comp=E,0.8nm,0.2s,SNR=4.8							
SBF	**Sospel**	**4.59**	**277**	*e*P		**Pn**	**01 21 25.5**	**+1.4**
SBF				*e*Sn		**Sn**	**01 22 14.7**	**-2.3**
	comp=E,1.3nm,0.3s							
FRF	**La Foret Royal**	**5.16**	**274**	*e*P		**Pn**	**01 21 33.8**	**+2.0**
FRF				*e*Sg		**Sb**	**01 22 54.2**	**+7.4**
	comp=E,1.3nm,0.4s							
MBDF	**Montbardon**	**5.18**	**287**	*e*P		**Pn**	**01 21 33.4**	**+1.2**
MBDF				*e*Sg		**Sg**	**01 22 56.8**	**-4.9**
	comp=E,1.5nm,0.4s							
LMR	**La Mourre**	**5.27**	**271**	*e*P		**Pn**	**01 21 35.4**	**+2.1**
LMR				*e*Sn		**Sn**	**01 22 29.2**	**-4.3**
	comp=E,2.4nm,0.5s							
LPG	**La Plagne**	**5.40**	**295**	*e*P		**Pn**	**01 21 35.6**	**+0.2**
LPL	**La Plagne**	**5.42**	**295**	*e*P		**Pn**	**01 21 37.3**	**+1.7**
LPL				*e*Sg		**Sg**	**01 23 04.1**	**-5.4**
	comp=E,1.7nm,0.3s							
ORIF	**Oris-en-Rattie**	**5.84**	**287**	*e*P		**Pn**	**01 21 43.0**	**+1.8**
ORIF				*e*Sn		**Sn**	**01 22 42.5**	**-5.3**
	comp=E,1.1nm,0.4s							
HINF	**Hinteralfeld**	**6.51**	**315**	*e*P		**Pn**	**01 21 51.5**	**+1.1**
CDF	**Champ du Feu**	**6.71**	**320**	*e*P		**Pn**	**01 21 54.0**	**+0.9**
HAU	**Haudompre**	**6.89**	**314**	*e*P		**Pn**	**01 21 56.0**	**+0.3**
AVF	**Avril sur Loir**	**8.07**	**298**	*e*P		**Pn**	**01 22 13.8**	**+2.1**
TCF	**Toulx Ste Croi**	**8.67**	**293**	*e*Pn		**Pn**	**01 22 17.1**	**-2.9**

REY **26** *01:26:06.0, 64°.67N × 17°.46W, h7km*

MOS **26** *01:26:06.5± 1.0, 64°.63N × 17°.57W, h7km, mb5.4/103, MS4.8/34, Error ellipse: s-maj=6.6km s-min=4.3km az=105.0*

BGS **26** *01:26:07.2± 2.0, 64°.64N × 17°.52W, h5km, MS4.8*

NEIC **26** *01:26:07.6, 64°.65N × 17°.55W, h2km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=1.02; Mθθ=0.70; Mφφ=0.33; Mrθ=-2.81; Mθφ=-0.02; Mφr=1.49; Fault plane solution: M0=3.31000×10^17 NP1:φ=63.07000°, δ=82.79000°, λ=-92.90000°. NP2:φ=265.03000°, δ=7.76000°, λ=-68.22000°. Principal axes: T 3.0767, Plg=38.0000°, Azm=156.0000°; N 0.4187, Plg=3.0000°, Azm=63.0000°; P -3.4954, Plg=52.0000°, Azm=330.0000°;*

BJI **26** *01:26:07.7± 0.0, 64°.95N × 17°.45W, h10km, mB5.7/63, mb5.0/59, Ms5.2/69, Ms7 4.9/64*

NEIC **26** *01:26:08.3± 0.9, 64°.64N ± 0°.07 × 17°.5W ± 0°.1, h10km ± 1km, mb5.2/339, Mwb5.6/81, Mww5.3, Mwc5.4(GCMT), Error ellipse: s-maj=11.3km s-min=8.3km az=175.0*

IDC **26** *01:26:08.1± 0.4, 64°.63N × 17°.55W, h0km, mb4.6/33, mb1 4.7/39, mb1mx4.6/57, mbtmp4.6/39, ML3.4/4, MS4.7/34, Ms1 4.7/34, ms1mx4.7/44, Error ellipse: s-maj=11.8km s-min=7.3km az=19.0*

NAO **26** *01:26:09.6± 4.4, 64°.61N × 16°.87W, ML4.8*

DNK **26** *01:26:10.6± 4.1, 64°.55N × 17°.36W, h22km ± 128km, mb5.2, Ms4.9*

IEPN **26** *01:26:10.0, 64°.58N × 17°.13W, h10km*

GCMT **26** *01:26:12.3± 0.1, 64°.63N ± 0°.01 × 17°.12W ± 0°.01, h12km, MW5.4/151, Moment Tensor Solution. s115,c195; s151,c292; Duration: 1±2 Moment tensor: Scale 10^17 Nm; Mrr=1.66±.01; Mθθ=0.88±.01; Mφφ=0.77±.01; Mrθ=0.19±.04; Mφφ=0.03±.01; Mφr=0.75±.04; Best double couple: M0=1.45600×10^17 NP1:φ=217.00000°, δ=30.00000°, λ=-81.00000°. NP2:φ=27.00000°, δ=61.00000°, λ=-95.00000°. Principal axes: T 1.0300, Plg=15.0000°, Azm=121.0000°; N 0.8500, Plg=5.0000°, Azm=29.0000°; P -1.8820, Plg=74.0000°, Azm=283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC **26** *01:26:13, 64°.67N × 17°.27W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=1.43; Mθθ=0.77; Mφφ=0.66; Mrθ=-0.17; Mφφ=0.01; Mφr=0.48; Fault plane solution: M0=1.34000×10^17 NP1:φ=242.00000°, δ=35.00000°, λ=-77.00000°. NP2:φ=47.00000°, δ=56.00000°, λ=-98.00000°. Principal axes: T 0.8160, Plg=11.0000°, Azm=143.0000°; N 0.7284, Plg=7.0000°, Azm=52.0000°; P -1.5444, Plg=77.0000°, Azm=289.0000°;*

NEIC **26** *01:26:13, 64°.62N × 17°.20W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=1.71; Mθθ=0.94; Mφφ=0.77; Mrθ=-0.46; Mφφ=-0.04; Mφr=0.64; Fault plane solution: M0=1.68000×10^17 NP1:φ=254.00000°, δ=32.00000°, λ=-75.00000°. NP2:φ=57.00000°, δ=60.00000°, λ=-99.00000°. Principal axes: T 1.0503, Plg=14.0000°, Azm=154.0000°; N 0.8870, Plg=8.0000°, Azm=62.0000°; P -1.9373, Plg=74.0000°, Azm=304.0000°;*

ISC 26 01:26:08.3± 0.3, 64°.67N ± 0°.02 × 17°.53W ± 0°.02, h5km ± 1km, h5km:pP-P, n1513, σ1=80/1675, mb5.2/317, MS4.8/92, 45C-77D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.10**	**270**	P	**Pg**	**01 26 08.7**	**-1.8**
	baz=270						
IVON				S	**Sg**	**01 26 11.3**	**-0.6**
	baz=270						
IDYN	**Dyngjuhals**	**0.14**	**30**	P	**Pg**	**01 26 08.9**	**-2.3**
	baz=19						
IDYN				S	**Sg**	**01 26 10.7**	**-2.4**
	baz=19						
IDJK	**Dyngjujokull**	**0.21**	**143**	P	**Pg**	**01 26 09.9**	**-2.6**
	baz=150						
IDJK				S	**Sg**	**01 26 13.4**	**-1.9**
	baz=150						
IGRF	**Grimsfjall**	**0.29**	**157**	P	**Pg**	**01 26 11.5**	**-2.5**
	baz=162						
IKVE	**Kverkfjoll**	**0.37**	**89**	P	**Pg**	**01 26 12.7**	**-2.8**
	baz=89						
IHUS	**Husbondi**	**0.38**	**188**	P	**Pg**	**01 26 13.5**	**-2.2**
	baz=193						
IHUS				S	**Sg**	**01 26 19.2**	**-1.6**
	baz=193						
ISKR	**Skrokkalda**	**0.39**	**253**	P	**Pg**	**01 26 13.6**	**-2.2**
	baz=255						
ISKR				S	**Sg**	**01 26 19.6**	**-1.3**
	baz=255						
IBJK	**Bruarjokull**	**0.39**	**121**	P	**Pg**	**01 26 12.7**	**-3.3**
	baz=123						
IBJK				S	**Sg**	**01 26 18.1**	**-3.0**
	baz=123						
IVOT	**Vottur**	**0.43**	**159**	P	**Pg**	**01 26 13.9**	**-2.7**
	baz=163						
IJOK	**Jokulheimar**	**0.47**	**220**	P	**Pg**	**01 26 14.7**	**-2.6**
	baz=223						
IJOK				S	**Sg**	**01 26 21.0**	**-2.4**
	baz=223						
IKRE	**Kreppuhraun**	**0.50**	**77**	P	**Pg**	**01 26 14.6**	**-3.5**
	baz=76						
IASK	**Askja**	**0.54**	**44**	P	**Pg**	**01 26 15.3**	**-3.3**
	baz=42						
IASK				S	**Sg**	**01 26 22.2**	**-3.4**
	baz=42						
IMKO	**Mokollar**	**0.59**	**58**	P	**Pg**	**01 26 16.3**	**-3.4**
	baz=57						
IMKO				S	**Sg**	**01 26 24.6**	**-2.9**
	baz=57						
IIEY	**Innrieyrar**	**0.64**	**204**	P	**Pg**	**01 26 17.4**	**-3.1**
	baz=207						
IIEY				S	**Sg**	**01 26 25.9**	**-2.8**
	baz=207						
ISVA	**Svartarkot**	**0.68**	**10**	P	**Pg**	**01 26 18.1**	**-3.3**
	baz=7.5						
ISVA				S	**Sg**	**01 26 26.5**	**-3.6**
	baz=7.5						
IKSK	**Karasker**	**0.69**	**138**	P	**Pg**	**01 26 17.4**	**-4.2**
	baz=140						
IKSK				S	**Sg**	**01 26 26.9**	**-3.5**
	baz=140						
IKAL	**Kalfafell**	**0.73**	**185**	P	**Pg**	**01 26 19.1**	**-3.3**
	baz=188						
IKAL				S	**Sg**	**01 26 30.9**	**-0.9**
	baz=188						
IVAT	**Vatnsfell**	**0.78**	**232**	P	**Pg**	**01 26 20.2**	**-3.0**
	baz=233						
IVAT				S	**Sg**	**01 26 31.3**	**-1.9**
	baz=233						
IVSH	**V-Sauoahnukur**	**0.78**	**79**	P	**Pg**	**01 26 19.2**	**-4.2**
	baz=79						
IVSH				S	**Sg**	**01 26 30.0**	**-3.5**
	baz=79						
IFAG	**Fagurholsmyri**	**0.89**	**154**	P	**Pg**	**01 26 21.4**	**-3.9**
	baz=156						
IHVE	**Hveravellir**	**0.90**	**284**	P	**Pg**	**01 26 21.9**	**-3.6**
	baz=283						
IHVE				S	**Sg**	**01 26 34.2**	**-2.9**
	baz=283						
IADA	**Aoalbol**	**0.90**	**67**	P	**Pg**	**01 26 21.2**	**-4.5**
	baz=66						
IADA				S	**Sg**	**01 26 33.1**	**-4.3**
	baz=66						
IMEL	**Melhnausar**	**0.97**	**22**	P	**Pg**	**01 26 22.8**	**-4.2**
	baz=20						
IREN	**Reynihlio**	**1.01**	**15**	P	**Pg**	**01 26 23.6**	**-4.2**
	baz=13						
IREN				S	**Sg**	**01 26 36.3**	**-4.6**
	baz=13						
ISNB	**Snabyli**	**1.06**	**208**	P	**Pg**	**01 26 24.8**	**-3.7**
	baz=209						
IKVO	**Krokottuvotn**	**1.08**	**14**	P	**Pg**	**01 26 24.6**	**-4.4**
	baz=13						
ISLY	**Slysaalda**	**1.10**	**220**	S	**Sg**	**01 26 40.0**	**-3.6**
	baz=221						
ISLY				P	**Pg**	**01 26 25.7**	**-3.6**
	baz=221						
IGRS	**Grimsstaoir**	**1.14**	**31**	P	**Pg**	**01 26 25.5**	**-4.6**
	baz=30						
IFED	**Fedgar**	**1.14**	**236**	P	**Pg**	**01 26 27.1**	**-3.2**
	baz=237						
IFED				S	**Sg**	**01 26 41.6**	**-3.5**
	baz=237						
IRJU	**Rjupnafell**	**1.17**	**206**	P	**Pg**	**01 26 26.9**	**-3.8**
	baz=207						
IRJU				S	**Sg**	**01 26 43.3**	**-2.6**
	baz=207						
IMJO	**Mjoaskard**	**1.19**	**232**	P	**Pg**	**01 26 27.3**	**-3.9**
	baz=233						
IMJO				S	**Sg**	**01 26 44.0**	**-2.6**
	baz=233						
ISKI	**Skildingahlsh**	**1.22**	**10**	P	**Pg**	**01 26 27.0**	**-4.7**
	baz=8.5						
IGYG	**Gygjarholskot**	**1.23**	**253**	P	**Pg**	**01 26 27.7**	**-4.1**
	baz=253						
IGHA	**Grjothals**	**1.23**	**17**	P	Pg	01 26 26.9	-5.0
	baz=16						
IHAU	**Haukadalur**	**1.27**	**237**	P	**Pg**	**01 26 28.4**	**-4.3**
	baz=238						
IHAU				S	**Sg**	**01 26 44.9**	**-4.4**
	baz=238						
IGOD	**Go??abunga**	**1.28**	**219**	P	**Pg**	**01 26 29.3**	**-3.7**
	baz=220						
IGOD				S	**Sg**	**01 26 43.0**	**-6.6**
	baz=220						
IHVO	**Lagu-Hvolar**	**1.29**	**207**	P	**Pg**	**01 26 28.8**	**-4.2**
	baz=208						
IDIM	**Dimmadalss**	**1.32**	**11**	P	Pn	01 26 28.5	-4.9
	baz=9.5						
IHLA	**Hella**	**1.33**	**345**	P	**Pn**	**01 26 29.0**	**-4.4**
	baz=344						
IALF	**Alftagrof**	**1.39**	**212**	P	**Pn**	**01 26 30.4**	**-3.9**
	baz=213						
IALF				S	**Sb**	**01 26 47.2**	**-5.6**
	baz=213						
IHED	**Heoinshofoi**	**1.42**	**4**	P	**Pn**	**01 26 30.0**	**-4.7**
	baz=2.5						
IESK	**Eystri-Skogar**	**1.43**	**217**	P	**Pn**	**01 26 31.0**	**-3.8**
	baz=218						
ISAU	**Saurbar**	**1.43**	**243**	P	**Pn**	**01 26 30.6**	**-4.3**
	baz=243						
IMID	**Miomork**	**1.45**	**226**	P	**Pn**	**01 26 31.6**	**-3.5**
	baz=227						
IBRE	**Brettingsstaoi**	**1.47**	**354**	P	**Pn**	**01 26 30.9**	**-4.4**
	baz=353						
IGIL	**Gilhagi**	**1.49**	**19**	P	**Pn**	**01 26 30.9**	**-4.8**
	baz=18						
IASM	**Asmuli**	**1.59**	**239**	P	**Pn**	**01 26 33.9**	**-3.1**
	baz=240						
IASB	**`sbjarnarst**	**1.63**	**274**	P	**Pn**	**01 26 33.8**	**-3.8**
	baz=274						
BORG	**Borgarnes**	**1.63**	**274**	Pg	**Pn**	**01 26 35.7**	**-2.0**
	25nm,0.3s,baz=88,slow=7.5,SNR=150						
BORG				Lg	Lg	01 26 58.8	
	55nm,0.3s,baz=277,slow=21,SNR=5.6						
BORG	**Borgarnes**	**1.63**	**274**	P	**Pn**	**01 26 34.0**	**-3.6**
BORG						01 27 00.0	
BORG	**Borgarnes**	**1.63**	**274**	Pn	**Pn**	**01 26 34.0**	**-3.6**
BORG				Sn	**Sb**	**01 26 60.0**	**+0.3**
IKRO	**Krokur**	**1.66**	**251**	P	**Pn**	**01 26 34.4**	**-3.7**
	baz=252						
ISOL	**Solvholt**	**1.67**	**245**	P	**Pn**	**01 26 34.5**	**-3.5**
	baz=245						
IHEI	**Heioarbar**	**1.68**	**255**	P	**Pn**	**01 26 34.7**	**-3.6**
	baz=256						
IVME	**Vestmannaeyjar**	**1.75**	**225**	P	**Pn**	**01 26 36.9**	**-2.3**
	baz=226						
ILEI	**Leirhofn**	**1.79**	**13**	P	**Pn**	**01 26 35.8**	**-4.1**
	baz=13						
IBJA	**Bjarnastaoir**	**1.80**	**248**	P	**Pn**	**01 26 38.0**	**-2.0**
	baz=248						
IHRN	**Hraun**	**1.81**	**324**	P	**Pn**	**01 26 36.1**	**-3.9**
	baz=324						
ISAN	**Sandskeio**	**1.86**	**252**	P	**Pn**	**01 26 38.3**	**-2.5**
	baz=253						
IGRI	**Grimsey**	**1.89**	**354**	P	**Pn**	**01 26 36.8**	**-4.3**
	baz=353						
IKUD	**Kuludalsa**	**1.91**	**261**	P	**Pn**	**01 26 38.3**	**-3.2**
	baz=262						
IKAS	**Kald??rsel**	**1.99**	**253**	P	**Pn**	**01 26 39.9**	**-2.6**
	baz=253						
IVOS	**Vogsosar**	**2.00**	**248**	P	**Pn**	**01 26 41.1**	**-1.6**
	baz=248						
IKRI	**Krysuvik**	**2.14**	**250**	P	**Pn**	**01 26 43.1**	**-1.5**
	baz=250						
SCO	**Scoresbysund**	**6.08**	**346**	*i* P	**Pn**	**01 27 38.6**	**0.0**
SCO	**Scoresbysund**	**6.08**	**346**	P	**Pn**	**01 27 36.8**	**-1.8**
SCO						01 28 49.4	
SCO	**Scoresbysund**	**6.08**	**346**		**Pn**	**01 27 36.8**	**-1.8**
SCO				Sn	**Sn**	**01 28 49.4**	**+1.0**
SCO	**Scoresbysund**	**6.08**	**346**	*i* P	**Pn**	**01 27 38.7**	**0.0**
SCO				IAMs_20	IAMs_20	01 31 25.6	
	comp=Z,34μm,6.0s						
JMIC	**Jan Mayen**	**7.19**	**24**	Pn	**Pn**	**01 27 55.3**	**+1.4**
JMIC	**Jan Mayen**	**7.19**	**24**	Pn	**Pn**	**01 27 53.9**	**-0.1**
	baz=316,slow=2.2,SNR=5.5						
JMIC				LR	LR	01 30 13.2	
	comp=Z,6μm,18.9s,baz=266,slow=34						
LEWI	**Lewis, Hebride**	**8.30**	**137**	*e*P	**Pn**	**01 28 07.4**	**-1.7**
LEWI				IAMs_20	IAMs_20	01 32 40.5	
	comp=Z,10μm,11.3s						
ANGG	**Ammassalik, Gr**	**8.52**	**285**	Pn	**Pn**	**01 28 09.7**	**-2.3**
ANGG	**Ammassalik, Gr**	**8.52**	**285**	*e*	Pn	01 28 18.8	+6.8
ANGG				IAMs_20	IAMs_20	01 31 55.5	
	comp=Z,62μm,7.6s						
LRW	**Lerwick**	**8.83**	**113**	*e*P	**Pn**	**01 28 14.8**	**-1.7**
LRW				IAMs_20	IAMs_20	01 32 53.3	
	comp=Z,10μm,10.5s						
LRW	**Lerwick**	**8.83**	**113**	*e*P	**Pn**	**01 28 16.6**	**+0.2**
BIGH	**Upper Bighouse**	**8.96**	**127**	*e*P	**Pn**	**01 28 16.2**	**-1.9**
BIGH	**Upper Bighouse**	**8.96**	**127**	*e*P	**Pn**	**01 28 18.9**	**+0.7**
ISOG	**Isortog, Green**	**9.07**	**285**	IAMs_20	IAMs_20	01 32 09.5	
	comp=Z,47μm,8.5s						
MLA1	**Latheron**	**9.29**	**127**	*e*P	**Pn**	**01 28 22.1**	**-0.6**
KAC	**Achnashellach**	**9.30**	**135**	*e*P	**Pn**	**01 28 21.4**	**-1.5**
KPL	**Plockton**	**9.33**	**137**	*e*P	**Pn**	**01 28 21.3**	**-1.9**
KPL	**Plockton**	**9.33**	**137**	*e*P	**Pn**	**01 28 22.1**	**-1.2**
ICESG	**Greenland Ices**	**9.72**	**307**	*i* P	**Pn**	**01 28 32.2**	**+3.3**
ICESG				IAMs_20	IAMs_20	01 33 03.9	
	comp=Z,50μm,6.1s						
DBG	**Daneborg**	**9.73**	**356**	*i* P	**Pn**	**01 28 33.1**	**+4.5**
DBG				IAmb	IAmb	01 28 37.5	
	comp=Z,82nm,1.2s						
DBG				IAMs_20	IAMs_20	01 34 03.3	
	comp=Z,11μm,7.1s						
MCD	**Coleburn Disti**	**9.89**	**129**	*e*P	**Pn**	**01 28 29.2**	**-1.6**
LAWE	**Loch Awe, Argy**	**10.32**	**139**	*e*P	**Pn**	**01 28 35.8**	**-1.0**
INVG	**Invergeldie, C**	**10.58**	**135**	*e*P	**Pn**	**01 28 38.9**	**-1.5**
INVG				IAMs_20	IAMs_20	01 33 29.4	
	comp=Z,7μm,14.6s						
ELO	**Logie Almond**	**10.64**	**134**	*e*P	**Pn**	**01 28 39.5**	**-1.8**
FOO	**Floro**	**10.64**	**96**	*e*P	**Pn**	**01 28 45.5**	**+4.4**
FOO				IAmb	IAmb	01 28 50.1	
	comp=Z,55nm,1.0s						
EAB	**Aberfoyle**	**10.69**	**137**	*e*P	**Pn**	**01 28 41.4**	**-0.5**
SUE	**Sulen**	**10.78**	**99**	*e*P	**Pn**	**01 28 41.9**	**-1.1**
SUMG	**Summit**	**10.93**	**325**	*i* P	**Pn**	**01 28 47.2**	**+1.8**
SUMG	**Summit**	**10.93**	**325**	*e*P	**Pn**	**01 28 47.2**	**+1.8**
SUMG	**Summit**	**10.93**	**325**	Pn	**Pn**	**01 28 44.8**	**-0.7**
SUMG	**Summit**	**10.93**	**325**	*e*P	**Pn**	**01 28 47.2**	**+1.8**
SUMG				IAMs_20	IAMs_20	01 34 28.0	
	comp=Z,66μm,6.3s						
PGBU	**Glenifferbraes**	**10.97**	**138**	*e*P	**Pn**	**01 28 44.9**	**-0.8**
AKN	**Aaknes**	**11.23**	**92**	Pn	**Pn**	**01 28 47.4**	**-1.9**
AKN	**Aaknes**	**11.23**	**92**	Pn	**Pn**	**01 28 47.4**	**-1.9**
ASK	**Askoy**	**11.25**	**101**	*e*P	Pn	01 28 43.6	-5.9
EDI	**Edinburgh**	**11.26**	**134**	*e*P	**Pn**	**01 28 48.5**	**-1.2**
EDI				IAMs_20	IAMs_20	01 33 40.3	
	comp=Z,8μm,10.4s						
EDI	**Edinburgh**	**11.26**	**134**	*e*P	**Pn**	**01 28 49.9**	**+0.2**
MOL	**Molde**	**11.32**	**89**	*e*P	Pn	01 28 45.1	-5.3
HYA	**Hoyanger**	**11.33**	**97**	*e*P	**Pn**	**01 28 51.6**	**+1.0**
HYA				IAmb	IAmb	01 29 08.0	
	comp=Z,60nm,1.0s						
BER	**Bergen**	**11.36**	**102**	*e*P	**Pn**	**01 28 50.9**	**-0.1**
BER				IAmb	IAmb	01 29 00.2	
	comp=Z,55nm,1.0s						
EBL	**Broad Law**	**11.43**	**135**	*e*P	**Pn**	**01 28 51.7**	**-0.3**
NEWG	**New Galloway**	**11.65**	**139**	*e*P	**Pn**	**01 28 54.0**	**-1.0**
NEWG				IAMs_20	IAMs_20	01 35 01.1	
	comp=Z,5μm,11.3s						
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**01 28 53.6**	**-3.0**
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**01 28 55.7**	**-0.9**
	baz=323,slow=13,SNR=58						
EKA				LR	LR	01 33 14.4	
	comp=Z,6μm,20.2s,baz=300,slow=36						
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**01 28 53.6**	**-3.0**
ESK	**Eskdalemuir**	**11.77**	**136**	*e*P	**Pn**	**01 28 56.0**	**-0.7**
ESK				IAMs_20	IAMs_20	01 33 24.7	
	comp=Z,10μm,17.3s						
ESK	**Eskdalemuir**	**11.77**	**136**	P	**Pn**	**01 28 55.5**	**-1.2**
ESK	**Eskdalemuir**	**11.77**	**136**	Pn	**Pn**	**01 28 55.5**	**-1.2**
KMY	**Karmoy**	**11.99**	**107**	*e*P	**Pn**	**01 28 57.9**	**-1.7**
KMY				IAmb	IAmb	01 29 01.8	
	comp=Z,105nm,1.0s						
ODD1	**Odda**	**12.16**	**102**	*e*P	**Pn**	**01 29 05.2**	**+3.2**
DAG	**Danmarks Havn**	**12.17**	**359**	*i* P	**Pn**	**01 29 04.3**	**+2.4**
	comp=Z,784nm,2.2s						
DAG	**Danmarks Havn**	**12.17**	**359**	*i* P	**Pn**	**01 29 04.3**	**+2.4**
DAG				pmax	pmax		
	comp=Z,780nm,2.2s						
DAG	**Danmarks Havn**	**12.17**	**359**	*i* P	**Pn**	**01 29 04.3**	**+2.4**
DAG				IAmb	IAmb	01 29 09.1	
	comp=Z,785nm,2.2s						
DAG				IAMs_20	IAMs_20	01 35 24.7	
	comp=Z,6μm,7.0s						
DOMB	**Dombas**	**12.18**	**90**	*e*P	**Pn**	**01 28 59.9**	**-2.4**
DOMB				IAmb	IAmb	01 29 03.5	
	comp=Z,33nm,0.8s						
BLS5	**Blasjo**	**12.37**	**104**	*e*P	**Pn**	**01 29 02.4**	**-2.4**
BLS5				IAmb	IAmb	01 29 09.9	
	comp=Z,32nm,0.8s						
SKAR	**Skarslia**	**12.47**	**97**	*e*P	**Pn**	**01 29 05.7**	**-0.5**
SKAR				IAmb	IAmb	01 29 14.9	
	comp=Z,66nm,1.1s						
EDMD	**Edmundbyers**	**12.56**	**134**

baz=300,slow=14
NRA0 NORESS Array S 13.83 93 Pn **Pn 01 29 21.8 -2.9**
baz=300,slow=14
OSL Oslo 13.89 97 *e*P **Pn 01 29 24.8 -0.7**
HOMB Homborsund 13.91 105 *i* P **Pn 01 29 23.9 -1.9**
IVI Ivigtut 14.29 270 Pn **Pn 01 29 34.1 +3.2**
TRO Tromso 14.82 54 *e*P **Pn 01 29 36.0 -2.1**
TRO lAmb lAmb 01 29 47.2
comp=Z,107nm,1.2s
HFS Hagfors 15.06 93 P **Pn 01 29 38.8 -2.7**
baz=342,slow=6.2
HFS Hagfors 15.06 93 Pn **Pn 01 29 39.5 -1.9**
comp=Z,0.3nm,0.3s,baz=330,slow=8.6,SNR=7.6
HFS Hagfors 15.06 93 P **Pn 01 29 38.8 -2.7**
baz=342,slow=6.2
MUD Monsted U'grnd 15.38 110 *i* P **Pn 01 29 43.3 -2.3**
MUD *i* 01 29 52.1
comp=Z,4μm,10.0s
MUD Monsted U'grnd 15.38 110 *e*P **Pn 01 29 43.3 -2.3**
MUD MLR MLR
comp=Z,4μm,10.0s
MUD Monsted U'grnd 15.38 110 *e*P **P 01 29 52.1 +1.7**
MUD Monsted U'grnd 15.38 110 *e*P **Pn 01 29 43.4 -2.3**
MUD *i* 01 29 52.1
MUD lAMs_20 lAMs_20 01 38 12.8
comp=Z,4μm,10.4s
BJO1 Bjornoya 15.75 36 P **Pn 01 29 51.3 +0.9**
BJO1 Bjornoya 15.75 36 *e*P **Pn 01 29 51.5 +1.1**
UPNV Upernavik 15.87 317 *i* P **P 01 29 57.6 +1.9**
UPNV *i* 01 33 16.8
UPNV lAMs_20 lAMs_20 01 37 34.1
comp=Z,7μm,6.3s
HSPB Hornsund (broa 16.07 26 P **P 01 29 56.4 -1.6**
HSPB Hornsund (broa 16.07 26 *e*P **P 01 29 56.9 -1.0**
HSPB Hornsund (broa 16.07 26⇓*i*P **P 01 29 56.8 -1.2**
HSPB *i* S **Sn 01 32 56.8 +4.1**
HSPB Hornsund (broa 16.07 26 *e*P **Pn 01 29 55.1 +0.6**
KTK1 Kautokeino 16.36 57 *e*P **Pn 01 29 57.1 -1.2**
KTK1 lAmb lAmb 01 30 03.1
comp=Z,409nm,2.0s
BRBA Barentsburg A 16.43 23 P **P 01 30 02.2 +0.2**
BRBA Barentsburg A 16.43 23 P **P 01 30 02.2 +0.2**
HAMF Hammerfest 16.46 51 P **Pn 01 29 57.8 -1.8**
HAMF Hammerfest 16.46 51 *e*P **Pn 01 29 57.4 -2.2**
HAMF lAmb lAmb 01 30 05.4
comp=Z,142nm,1.4s
HLG Helgoland 16.52 117 *e*P **P 01 30 01.5 -1.5**
comp=Z,846nm,1.7s,baz=327,slow=11
KULLO Kullorsuaq 16.58 323 *i* P **P 01 30 02.5 -1.2**
comp=Z,161nm,1.6s
KULLO Kullorsuaq 16.58 323 *i* P **P 01 30 02.5 -1.2**
KULLO pmax pmax
comp=Z,160nm,1.6s
KULLO Kullorsuaq 16.58 323 *i* P **P 01 30 02.5 -1.2**
KULLO lAmb lAmb 01 30 11.0
comp=Z,162nm,1.6s
KULLO lAMs_20 lAMs_20 01 36 38.9
comp=Z,12μm,8.4s
KBS Kingsbay 16.64 19 P **P 01 30 04.8 +0.6**
KBS Kingsbay 16.64 19⇓*i*P **P 01 30 04.9 +0.6**
KBS *i* S **S 01 33 12.1 -6.0**
KBS Kingsbay 16.64 19*de*P **P 01 30 03.6 -0.7**
KBS pmax pmax
comp=Z,201nm,2.5s
KBS Kingsbay 16.64 19 Pn **Pn 01 30 01.6 -0.2**
KBS Kingsbay 16.64 19 *e*P **P 01 30 03.5 -0.8**
KBS lAmb lAmb 01 30 07.2
comp=Z,2μm,3.5s
KBS Kingsbay 16.64 19⇓*i*P **P 01 30 04.8 +0.6**
KBS lAmb lAmb 01 30 12.7
comp=Z,310nm,1.6s
KBS lAMs_20 lAMs_20 01 33 38.8
comp=Z,6μm,10.8s
SPA0 Spitsbergen Ar 16.87 23 P **P 01 30 06.6 -0.2**
baz=185,slow=12
SPA0 Spitsbergen Ar 16.87 23⇓*i*P **P 01 30 07.6 +0.7**
SPA0 *e*S **S 01 33 18.1 -4.7**
SPA0 Spitsbergen Ar 16.87 23 P **P 01 30 06.5 -0.2**
SPA0 Spitsbergen Ar 16.87 23 P **P 01 30 06.6 -0.2**
baz=185,slow=12
SPITS Spitsbergen Ar 16.87 23 Pn **P 01 30 08.8 +2.0**
baz=205,slow=12,SNR=3.4
SPITS LR LR 01 34 49.6
comp=Z,3μm,21.4s,baz=220,slow=31
NOR Nord 17.02 0 P **P 01 30 07.5 -0.9**
NOR Nord 17.02 0⇓*i*P **Pn 01 30 06.6 0.0**
comp=Z,495nm,1.8s
NOR Nord 17.02 0⇓*i*P **Pn 01 30 06.6 0.0**
NOR pmax pmax
comp=Z,500nm,1.8s
NOR Nord 17.02 0 P **P 01 30 07.5 -0.9**
NOR Nord 17.02 0⇓*i*P **Pn 01 30 06.7 0.0**
NOR lAmb lAmb 01 30 14.2
comp=Z,495nm,1.8s
NOR lAMs_20 lAMs_20 01 38 13.4
comp=Z,5μm,7.0s
ARA0 ARCESS Array S 17.12 55 P **Pn 01 30 05.9 -2.1**
baz=265,slow=11
ARA0 ARCESS Array S 17.12 55 P **Pn 01 30 05.9 -2.1**
baz=265,slow=11
ARCES ARCESS Array B 17.12 55 P **Pn 01 30 08.1 +0.2**
comp=Z,0.2nm,0.3s,baz=266,slow=12,SNR=24
ARE0 ARCESS Array S 17.12 55 Pn **Pn 01 30 07.2 -0.8**
KEV Kevo 17.63 54 P **Pn 01 30 14.3 +0.1**
KEV pmax pmax
comp=Z,25nm,0.9s
KEV Kevo 17.63 54 **Pn 01 30 14.3 +0.1**
HOPEN Hopen 17.84 31 P **P 01 30 17.7 +0.2**
HOPEN Hopen 17.84 31⇓*i*P **Pn 01 30 16.7 0.0**
HOPEN *i* S **Sn 01 33 34.7 -0.7**
HOPEN Hopen 17.84 31 *e*P **Pn 01 30 16.7 0.0**
HOPEN lAmb lAmb 01 30 22.7
comp=Z,667nm,2.1s
UCC Uccle 18.01 130 P **Pn 01 30 16.0 -3.1**
UCC Uccle 18.01 130 P **Pn 01 30 17.7 -1.4**
UCC pmax pmax
comp=Z,209nm,1.9s
UCC Uccle 18.01 130 **Pn 01 30 17.7 -1.4**
SNF Seneffe 18.24 131 P **Pn 01 30 20.3 -1.5**
comp=Z,66nm,2.1s
RGN Rugen 18.40 109 *e*P **P 01 30 23.7 -0.2**
RGN Rugen 18.40 109 P **P 01 30 24.9 +1.1**
BEBN Eben Emael 18.46 128 P **P 01 30 22.2 -2.3**
BMRD Maredsous 18.57 130 P **P 01 30 20.8 -5.0**
comp=Z,89nm,2.3s
BSTI Sart Tilman 18.60 128 P **P 01 30 25.3 -0.8**
comp=Z,31nm,2.8s
BGES Gesves 18.61 130 P **P 01 30 24.1 -2.1**
comp=Z,88nm,2.2s
BCLA Clavier 18.65 129⇑P **P 01 30 24.1 -2.6**
comp=Z,117nm,2.9s
NRDL Niedersach Rie 18.67 118 *e*P **P 01 30 25.2 -1.6**
comp=Z,956nm,2.1s,baz=327,slow=11
MEM Membach 18.73 128 P **P 01 30 25.5 -2.0**
BHOU Houvegnez 18.94 128⇑P **P 01 30 29.0 -0.8**
comp=Z,196nm,3.0s
SUF Sumiainen 19.17 76 P **P 01 30 32.1 -0.1**
SUF pmax pmax
comp=Z,67nm,1.7s
CLZ Clausthal 19.29 118 *e*P **P 01 30 32.7 -0.9**
comp=Z,668nm,2.0s,baz=327,slow=11
GTTG Gottingen 19.37 120 *e*P **P 01 30 33.9 -0.6**
comp=Z,784nm,2.0s,baz=327,slow=11
WLF Walferdange 19.58 129 P **P 01 30 36.5 -0.3**
comp=Z,87nm,2.5s
WLF Walferdange 19.58 129 P **P 01 30 37.0 +0.2**
WLF pmax pmax
comp=Z,323nm,2.0s
WLF Walferdange 19.58 129 *e*P **P 01 30 36.7 -0.1**
comp=Z,355nm,2.0s,baz=327,slow=11
WLF Walferdange 19.58 129 **P 01 30 37.0 +0.2**
WLF lAmb lAmb 01 30 41.5
comp=Z,323nm,2.0s
FIA0 FINESS Array S 19.72 79 P **Pn 01 30 38.9 -0.7**
baz=304,slow=10
FIA0 FINESS Array S 19.72 79 P **Pn 01 30 38.9 -0.7**
baz=304,slow=10
FIA1 FINESS Array S 19.72 79 P **P 01 30 37.9 -0.3**
FINES FINESS Array B 19.72 79 P **Pn 01 30 38.9 -0.7**
comp=Z,0.2nm,0.3s,baz=311,slow=7.0,SNR=21
FINES LR LR 01 37 49.5
comp=Z,4μm,21.6s,baz=293,slow=36
CLF Chambon-Foret 19.81 138 P **P 01 30 38.6 -0.7**
TULEG Thule 19.84 327 P **P 01 30 38.3 -1.1**
TULEG Thule 19.84 327 *i* P **Pn 01 30 41.2 +0.2**
TULEG lAmb lAmb 01 30 48.7
comp=Z,237nm,1.6s
TULEG lAMs_20 lAMs_20 01 39 27.8
comp=Z,13μm,7.1s
TNS Taunus Mts 19.90 124 *e*P **Pn 01 30 41.5 -0.5**
comp=Z,2μm,3.2s,baz=327,slow=11
RUE Ruedersdorf 20.12 112 *e*P **P 01 30 43.0 +0.4**
APA0 Apatity Array 20.17 59 P **P 01 30 42.1 -1.1**
APA0 Apatity Array 20.17 59 P **P 01 30 42.1 -1.1**
NEUB Neuenburg 20.33 118 *e*P **Pn 01 30 45.7 -1.2**
comp=Z,482nm,1.7s,baz=327,slow=11
APA Apatity 20.34 59⇑*i*P **P 01 30 44.8 -0.1**
APA *i* 01 31 01.0
APA *i* S **S 01 34 30.0 -2.8**
APA pmax pmax
comp=Z,29nm,1.0s
LVZ Lovozero 20.70 58*de*P **P 01 30 48.0 -0.9**
LVZ pmax pmax
comp=Z,147nm,2.5s
LVZ Lovozero 20.70 58 P **P 01 30 48.3 -0.7**
MOX Moxa 20.72 119 P **P 01 30 49.0 -0.2**
MOX Moxa 20.72 119 *e*P **P 01 30 50.0 +0.8**
comp=Z,954nm,2.4s,baz=327,slow=11
MOX *e*L L 01 39 22.4
comp=Z,5μm,20.1s
CLL Collm 20.72 116 *i* P **P 01 30 49.1 -0.1**
comp=Z,261nm,1.6s
CLL *e*Pmax 01 30 52.0
CLL *i* sP **sP 01 30 54.0 +1.9**
CLL *e*PP **PnPn 01 31 10.0 +3.2**
CLL *e* 01 32 39.0
CLL *e*S Sn 01 34 46.0 +0.7
CLL Lm MLR 01 39 00.0
comp=N,3μm,20.4s
CLL Lm MLR 01 39 00.0
comp=E,3μm,19.1s
CLL Lmax 01 40 00.0
CLL Collm 20.72 116 *i* P **P 01 30 49.1 -0.1**
CLL *i* 01 30 54.0
CLL *e*S Sn 01 34 46.0 +0.7
CLL pmax pmax
comp=Z,261nm,1.6s
CLL Collm 20.72 116 *e*P **P 01 30 49.8 +0.6**
comp=Z,261nm,1.6s,baz=327,slow=11
CLL Collm 20.72 116 P **P 01 30 48.9 -0.3**
CLL lAmb lAmb 01 30 52.2
comp=Z,304nm,1.7s
GKP Gorka Klasztor 20.93 107 *e*P **P 01 30 52.1 +0.7**
GKP *e*S Sn 01 34 47.9 -2.4
PBUR Paburge 21.01 96 *e*P **P 01 30 52.4 +0.1**
PLN Plauen 21.05 118 *e*P **P 01 30 53.4 +0.6**
comp=Z,539nm,1.6s,baz=327,slow=11
WERD Werda 21.14 118 *e*P **P 01 30 54.3 +0.6**
comp=Z,950nm,2.1s,baz=327,slow=11
FBE Freiberg 21.16 116 *e*P **P 01 30 54.6 +0.7**
comp=Z,964nm,2.0s,baz=327,slow=11
ECH Echery 21.17 129 P **P 01 30 53.7 -0.4**
ECH pmax pmax
comp=Z,256nm,1.7s
ECH Echery 21.17 129 P **P 01 30 53.7 -0.4**
ECH lAmb lAmb 01 30 59.5
comp=Z,256nm,1.7s
GUNZ Gunzen 21.21 118 *e*P **P 01 30 55.2 +0.7**
comp=Z,1μm,2.0s,baz=327,slow=11
TANN Tannenbergstha 21.22 118 *e*P **P 01 30 55.4 +0.7**
comp=Z,2μm,2.3s,baz=327,slow=11
WERN Wernitzgruen 21.29 118 *e*P **P 01 30 56.1 +0.7**
comp=Z,1μm,2.0s,baz=327,slow=11
GRA1 Grafenberg Arr 21.35 121 P **P 01 30 54.6 -1.4**
GRF Grafenberg Arr 21.35 121 P **P 01 30 54.6 -1.4**
GRF pmax pmax
comp=Z,690nm,2.0s
GRF Grafenberg Arr 21.35 121 *e*P **P 01 30 57.1 +1.1**
comp=Z,3μm,3.1s,baz=327,slow=11
GRF *e*L L 01 40 25.7
comp=Z,4μm,18.2s
NKC Novy Kostel 21.36 118 *e*P **P 01 30 56.9 +0.7**
NKC *e* 01 31 02.8
NKC *e*S Sn 01 35 00.8 0.0
NKC MLR MLR
comp=Z,5μm,18.3s
NKC Novy Kostel 21.36 118 *e*P **P 01 30 56.9 +0.7**
NKC *e*pP **sP 01 31 02.8 +3.7**
NKC *e*S Sn 01 35 00.8 0.0
NKC AMS AMS 01 39 50.0
comp=Z,5μm,18.3s
STU Stuttgart 21.39 125 P **P 01 30 56.2 -0.2**
STU pmax pmax
comp=Z,222nm,1.2s
STU Stuttgart 21.39 125 *e*P **P 01 30 57.8 +1.4**
comp=Z,3μm,3.2s,baz=327,slow=11
STU Stuttgart 21.39 125 P **P 01 30 56.1 -0.2**
BRG Berggiesshubel 21.43 115 *i* P **P 01 30 56.5 -0.3**
comp=Z,2μm,2.9s
BRG *i* 01 31 06.0
comp=Z,202nm,1.8s
BRG S Sn 01 35 02.0 -0.3
comp=Z,6μm,19.1s
comp=N,4μm,16.0s
comp=E,2μm,16.0s
BRG Berggiesshubel 21.43 115 *e*P **P 01 30 57.4 +0.6**
comp=E,2μm,2.9s,baz=327,slow=11
MANZ Manzenberg 21.44 119 *e*P **P 01 30 57.3 +0.4**
comp=E,6μm,4.8s,baz=327,slow=11
BFO Black Forest 21.46 127 P **P 01 30 56.5 -0.8**
BFO pmax pmax
comp=Z,450nm,2.0s
BFO Black Forest 21.46 127 *e*P **P 01 30 58.4 +1.2**
comp=Z,2μm,3.4s,baz=327,slow=11
BFO Black Forest 21.46 127 P **P 01 30 56.5 -0.8**
VSU Vasula 21.58 86 *e*P **P 01 30 57.1 -1.2**
VSU Vasula 21.58 86*d*P **P 01 30 56.7 -1.7**
VSU pmax pmax
comp=Z,184nm,0.9s
ROTZ Rotzenmuhle 21.65 119 *e*P **P 01 30 59.9 +0.6**
comp=Z,367nm,2.0s,baz=327,slow=11
FRB Frobisher Bay 21.73 291 P **P 01 31 01.4 +1.4**
comp=Z,14nm,0.9s,baz=73,slow=8.3,SNR=4.6
FRB LR LR 01 39 09.5
comp=Z,3μm,18.3s,baz=66,slow=36
PVCC Panska Ves 21.94 115 *e*P **P 01 31 02.7 +0.3**
PVCC *e* 01 31 08.3
PVCC MLR MLR
comp=Z,4μm,17.6s
PVCC Panska Ves 21.94 115 *e*P **P 01 31 02.7 +0.3**
PVCC *e*pP **sP 01 31 08.3 +3.0**
PVCC *e*S Sn 01 35 11.0 -3.7
PVCC AMS AMS 01 40 20.0
comp=Z,4μm,17.6s
SLVR Solovky 22.08 65⇓*i*P **P 01 30 02.8 -0.8**
comp=Z,105nm,1.1s
SLVR *e*S **S 01 35 04.9 -2.1**
PABE Paberze 22.22 95 *e*P **P 01 31 04.1 -1.2**
PRA Prague 22.26 116 *e*P **P 01 31 06.0 +0.3**
PRA *e*S **S 01 35 15.0 +4.3**
PRA MLR MLR
comp=Z,2μm,17.3s
PRA Prague 22.26 116 *e*P **P 01 31 06.0 +0.3**
PRA *e*S **S 01 35 15.0 +4.3**
PRA AMS AMS 01 40 40.0
comp=Z,2μm,17.3s
PRU Pruhonice 22.36 116 *e*P **P 01 31 06.7 -0.2**
PRU *e* 01 31 13.7
PRU MLR MLR
comp=Z,4μm,16.8s
PRU Pruhonice 22.36 116 *e*P **P 01 31 06.7 -0.2**
PRU *e*pP **sP 01 31 13.7 +3.9**
PRU *e*S **S 01 35 17.8 +5.0**
PRU AMS AMS 01 40 40.0
comp=Z,4μm,16.8s
PUL Pulkovo 22.37 80 *i* P **P 01 31 07.4 +0.5**
PUL pmax pmax
comp=Z,98nm,0.8s
KSP Ksiaz 22.38 112 *e*P **P 01 31 06.5 -0.5**
KSP *e*S **S 01 35 16.9 +3.9**
PBCC Pribram 22.40 117 *e*P **P 01 31 12.0 +4.8**
PBCC *e*S **S 01 35 18.7 +5.3**
WET Wettzell 22.41 119 *e*P **P 01 31 08.1 +0.7**
comp=Z,285nm,2.1s,baz=327,slow=11
CHVC Chvalec 22.48 113 *e*P **P 01 31 07.8 -0.4**
CHVC *ex* x 01 31 18.1
CHVC *e*S **S 01 35 19.6 +4.5**
CHVC AMS AMS 01 39 50.0
comp=Z,4μm,18.9s
GOPC GO Pecny, Ondr 22.52 116 *e*P **P 01 31 08.1 -0.5**
GOPC *e* 01 31 15.2
GOPC *e*S **S 01 35 19.2 +3.5**
GOPC MLR MLR
comp=Z,5μm,17.3s
GOPC GO Pecny, Ondr 22.52 116 *e*P **P 01 31 08.1 -0.5**
GOPC *e*pP **sP 01 31 15.2 +3.7**
GOPC *e*S **S 01 35 19.2 +3.5**
GOPC AMS AMS 01 40 50.0
comp=Z,5μm,17.3s
UPC Upice 22.53 113 *e*P **P 01 31 08.7 +0.1**
UPC *e*S **S 01 35 19.2 +3.3**
UPC MLR MLR
comp=Z,4μm,18.7s
UPC Upice 22.53 113 *e*P **P 01 31 08.7 +0.1**
UPC *e*S **S 01 35 19.2 +3.3**
UPC AMS AMS 01 40 00.0
comp=Z,4μm,18.7s
OSTC Ostas 22.57 113 *e*P **P 01 31 08.7 -0.4**
OSTC *ex* x 01 31 15.3
OSTC *e*S **S 01 35 20.6 +3.9**
OSTC AMS AMS 01 39 50.0
comp=Z,4μm,21.9s
UBR Ueberruh 22.64 125 *e*P **P 01 31 11.7 +1.8**
comp=Z,2μm,2.6s,baz=327,slow=11
FUR Furstenfeldbru 22.64 123 *e*P **P 01 31 11.0 +1.1**
comp=Z,2μm,2.4s,baz=327,slow=11
KHC Kasperske Hory 22.69 118 *e*P **P 01 31 10.1 -0.3**
KHC *e* 01 31 16.6
KHC *e*S **S 01 35 22.9 +4.0**
KHC MLR MLR
comp=Z,5μm,21.2s
KHC Kasperske Hory 22.69 118 *e*P **P 01 31 10.1 -0.3**
KHC *e*pP **sP 01 31 16.6 +3.3**
KHC *e*S **S 01 35 22.9 +4.0**
KHC AMS AMS 01 39 40.0
comp=Z,5μm,21.2s
KHC Kasperske Hory 22.69 118 P **P 01 31 10.0 -0.3**
DPC Dobruska-Polom 22.77 113 *e*P **P 01 31 10.6 -0.7**
DPC *e* 01 31 17.9
DPC *e*S **S 01 35 23.6 +3.2**
DPC MLR MLR
comp=Z,4μm,18.9s
DPC Dobruska-Polom 22.77 113 *e*P **P 01 31 10.6 -0.7**
DPC *ex* x 01 31 17.9
DPC *e*S **S 01 35 23.6 +3.2**
DPC AMS AMS 01 40 30.0
comp=Z,4μm,18.9s
SENIN Lac Senin/Sane 22.84 131 P **P 01 31 10.9 -1.3**
DAVA Damuels 22.89 126 *i* pP pP 01 31 14.0 -0.7
comp=Z,91nm,2.1s,SNR=20
SUW Suwalki 22.90 98 *e*P **P 01 31 11.4 -1.1**
SUW Suwalki 22.90 98 P **P 01 31 10.2 -2.3**
SUW pmax pmax
comp=Z,167nm,1.1s
SUW Suwalki 22.90 98 P **P 01 31 10.2 -2.3**
SSB Saint Sauveur 22.96 137 P **P 01 31 12.2 -1.1**
SSB pmax pmax
comp=Z,160nm,1.9s
SSB Saint Sauveur 22.96 137 P **P 01 31 12.2 -1.1**
SSB lAmb lAmb 01 31 19.7
comp=Z,160nm,1.9s
GEC2 GERESS Array S 22.97 119 *e*P **P 01 31 14.0 +0.6**
comp=Z,703nm,2.2s,baz=327,slow=11
GEC2 GERESS Array S 22.97 119 P **P 01 31 12.0 -1.4**
GERES GERESS Array B 22.97 119 P **P 01 31 13.7 +0.3**
comp=Z,12nm,1.0s,baz=326,slow=8.5,SNR=31
GERES LR LR 01 40 40.4
comp=Z,5μm,20.8s,baz=328,slow=38
RETA Reutte 23.03 125 *i* pP pP 01 31 15.3 -0.8
comp=Z,104nm,2.4s,SNR=18
IZAR Zarasai 23.04 92 *e*P **P 01 31 13.5 -0.4**
ZFI2 Zemlya Franca- 23.07 22⇓*i*P **P 01 31 15.2 +1.2**
comp=Z,44nm,1.4s
ZFI2 *e*S **S 01 35 26.6 +1.6**
ISAL Salakas 23.11 92 *e*P **P 01 31 14.8 +0.2**
KRLC Kraliky 23.17 113 *e*P **P 01 31 16.1 +0.7**
KRLC *e* 01 31 22.9
KRLC MLR MLR
comp=Z,4μm,19.7s
KRLC Kraliky 23.17 113 *e*P **P 01 31 16.1 +0.7**
KRLC *ex* x 01 31 22.9
KRLC *e*S **S 01 35 33.6 +6.2**
KRLC AMS AMS 01 40 10.0
comp=Z,4μm,19.7s
MOTA Moosalm 23.27 124 *i* pP pP 01 31 17.3 -1.3
comp=Z,104nm,1.8s,SNR=37
TREC Trest 23.29 116 *e*P **P 01 31 17.1 +0.5**
TREC MLR MLR
comp=Z,4μm,17.8s
TREC Trest 23.29 116 *e*P **P 01 31 17.1 +0.5**
TREC *e*S **S 01 35 37.3 +8.1**
TREC AMS AMS 01 41 10.0
comp=Z,4μm,17.8s
DAVOX Davos/Dischmat 23.33 127 P **P 01 31 18.0 +0.8**
comp=Z,18nm,0.9s,baz=323,slow=12,SNR=20
DAVOX LR LR 01 41 17.7
comp=Z,4μm,18.3s,baz=330,slow=39
DAVOX Davos/Dischmat 23.33 127 P **P 01 31 18.0 +0.8**
TMCR Tamitsa 23.36 66 *e*P **P 01 31 14.2 -2.9**
TMCR *e*S **S 01 35 24.9 -5.1**
TMCR Tamitsa 23.36 66 *e*P **P 01 31 14.2 -2.9**
TMCR *e*S **S 01 35 27.0 -3.0**
PGAV Gavieira, Arco 23.36 162 *e*P **P 01 31 17.4 -0.1**
comp=Z,134nm,2.1s
PGAV *e*S **S 01 35 35.7 +5.1**
SQTA Sankt Quirin 23.42 124 *i* pP **P 01 31 18.9 +0.9**
comp=Z,76nm,1.5s,SNR=41
FETA Feichten 23.42 125 *e*pP **P 01 31 18.4 +0.3**
comp=Z,98nm,1.6s,SNR=11
TUE Stuetta 23.42 128 P **P 01 31 17.6 -0.5**
TUE lAmb lAmb 01 31 30.3
comp=Z,73nm,1.0s
WATA Walderalm 23.45 124 *i* pP **P 01 31 18.5 +0.2**
comp=Z,106nm,2.1s,SNR=34
BEL Belsk 23.46 105 *e*P **P 01 31 18.5 +0.3**
WTTA Wattenberg 23.53 124 *i* pP **P 01 31 19.9 +0.7**
comp=Z,96nm,1.6s,SNR=50
IDID Didziasalis 23.54 92 *e*P **P 01 31 18.6 -0.4**
RJOB Jochberg 23.55 121 *e*P **P 01 31 19.2 -0.1**
comp=Z,615nm,2.4s,baz=327,slow=11
FUORN Ofenpass-Fuorn 23.60 127 P **P 01 31 19.5 -0.5**
FUORN lAmb lAmb 01 31 36.2
comp=Z,93nm,1.4s
PCAB Cabril 23.64 162 *e*P **P 01 31 20.4 +0.2**
comp=Z,99nm,2.0s
EUNU Eureka 23.66 336 P **P 01 31 20.0 0.0**
VRAC Vranov 23.71 114 P **P 01 31 20.7 -0.1**
comp=Z,9.5nm,0.9s,baz=326,slow=10,SNR=52
VRAC LR LR 01 41 53.8
comp=Z,5μm,18.2s,baz=334,slow=40
VRAC Vranov 23.71 114⇑P **P 01 31 21.1 +0.3**
VRAC Vranov 23.71 114 *e*P **P 01 31 20.4 -0.3**
VRAC *e*S **S 01 35 40.4 +4.4**
MORC Moravsky Berou 23.71 112⇑P **P 01 31 21.1 +0.3**
MORC Moravsky Berou 23.71 112 *e*P **P 01 31 20.7 -0.1**
MORC *e*S **S 01 35 40.8 +4.7**
MORC Moravsky Berou 23.71 112 P **P 01 31 20.4 -0.4**
MORC pmax pmax
comp=Z,313nm,1.8s
MORC Moravsky Berou 23.71 112 P **P 01 31 20.4 -0.4**
PBRG Braganca 23.73 160 *e*P **P 01 31 20.6 -0.5**
comp=Z,89nm,1.8s
PBRG *e*S **S 01 35 39.1 +2.6**
BNI Bardonecchia 23.81 134 P **P 01 31 21.4 -0.5**
BNI pmax pmax
comp=Z,117nm,1.6s
BNI Bardonecchia 23.81 134 P **P 01 31 21.4 -0.5**
BNI lAmb lAmb 01 31 33.3
comp=Z,117nm,1.6s
KRUC Moravsky 23.83 115 *e*P **P 01 31 21.3 -0.6**
KRUC *e*S **S 01 35 42.8 +5.0**
NACGM Naroch 23.83 93 *e*P **P 01 31 22.0 +0.2**
NACGM *e*PP PnPn 01 32 04.0 +15
NACGM *e*PPP PPP 01 32 26.0
NACGM *e*S **S 01 35 40.0 +2.2**
NACGM *e*SS Sn 01 36 36.0 +36
NACGM *e*SSS SSS 01 37 14.0
NACGM *e*LQ LQ 01 39 32.0
NACGM *e*LR LR 01 40 52.0
OKC Ostrava-Krasne 23.91 111 *e*P **P 01 31 21.3 -1.3**
OKC *e* 01 31 29.0
OKC Ostrava-Krasne 23.91 111 *e*P **P 01 31 21.3 -1.3**
OKC *e*pP **sP 01 31 29.0 +3.4**
MOA Molln 24.00 119 *e*pP **P 01 31 24.5 +0.8**

comp=Z,46nm,1.9s,SNR=18
PVRL Vila Real 24.11 162 *e*P P **01 31 23.1 -1.6**
comp=Z,86nm,1.8s
OJC Ojcow 24.27 109 *e*P P **01 31 25.3 -0.8**
OJC *e*S **S 01 35 47.6 +2.7**
OJC Ojcow 24.27 109 P **P 01 31 25.2 -0.8**
OJC pmax pmax
comp=Z,42nm,1.6s
OJC Ojcow 24.27 109 P P **01 31 25.2 -0.8**
ABTA Abfaltersbach 24.29 123 *i* pP pP 01 31 27.8 -0.7
comp=Z,45nm,1.8s,SNR=20
KBA Koelnbreinsper 24.31 122 *i* pP pP 01 31 27.5 -1.3
comp=Z,57nm,1.5s,SNR=27
MVO Moncorvo 24.32 160 *e*P **P 01 31 26.7 +0.1**
comp=Z,100nm,1.9s
MVO *e*S **S 01 35 52.8 +6.9**
JAVC Velka Javorina 24.49 113 *e*P **P 01 31 28.5 +0.4**
JAVC *e*S **S 01 35 55.3 +6.7**
CONA Conrad Observa 24.55 117 *i* pP pP 01 31 29.3 -1.5
comp=Z,23nm,1.0s,SNR=24
SALO Salr 24.56 127 P **P 01 31 28.5 -0.2**
MICGM Minsk 24.57 93⇓ *i*P **P 01 31 26.0 -2.7**
MICGM ⇓ *i*P **pP 01 31 27.0 -3.7**
MICGM PM 01 31 28.0
comp=Z,4.3nm,3.0s
MICGM PM 01 31 29.0
comp=N,1.2nm,3.0s
MICGM PM 01 31 30.0
comp=E,1.5nm,3.0s
MICGM PM 01 31 30.0
comp=Z,0.6nm,1.5s
MICGM PM 01 31 31.0
comp=N,0.5nm,1.5s
MICGM *e*PP sP 01 31 42.0 +10
MICGM *e*PPP PPP 01 32 10.0
MICGM *e*S **S 01 35 42.0 -7.7**
MICGM SM 01 36 06.0
comp=E,7.5nm,8.0s
MICGM SM 01 36 08.0
comp=N,9.6nm,8.0s
MICGM *e*SS SnSn 01 36 12.0 -22
MICGM *e*SSS SSS 01 36 40.0
MICGM eLR LR 01 39 10.0
MICGM LRM MLR 01 40 48.0
comp=N,2.5nm,16.0s
MICGM LRM MLR 01 41 20.0
comp=Z,2.6nm,16.0s
MICGM LRM MLR 01 41 24.0
comp=E,1.5nm,16.0s
MNK Minsk 24.57 93⇓ *i*P **P 01 31 26.0 -2.7**
MNK *e*S **S 01 35 42.0 -7.7**
MNK pmax pmax
comp=Z,620nm,1.5s
MNK smax smax
comp=E,8µm,8.0s
MNK MLR MLR
comp=Z,3µm,16.0s
CTI Castel Tesino 24.58 125 P **P 01 31 29.0 0.0**
CTI pmax pmax
comp=Z,164nm,1.4s
CTI Castel Tesino 24.58 125 P **P 01 31 29.0 0.0**
ZOU Zoufplan 24.62 123 P **P 01 31 28.5 -1.0**
ZOU IAmb IAmb 01 31 40.9
comp=Z,105nm,1.3s
CIMO Cimolais 24.64 124 P **P 01 31 28.5 -0.9**
CIMO IAmb IAmb 01 31 33.9
comp=Z,67nm,1.3s
PVIS Viseu 24.64 162 *e*P **P 01 31 31.1 +1.6**
comp=Z,83nm,1.7s
SMOL Smolenice 24.68 114 *e*P **P 01 31 30.7 +1.0**
SMOL Smolenice 24.68 114 *e*P **P 01 31 30.7 +1.0**
MODS Modra-Piesok 24.73 115 *e*P **P 01 31 29.9 -0.3**
MODS *e*S **S 01 35 58.2 +5.8**
MODS Modra-Piesok 24.73 115 *e*P **P 01 31 29.9 -0.3**
MYKA Terra Mystica 24.80 122 *i* pP **P 01 31 32.7 +1.7**
comp=Z,57nm,1.5s,SNR=19
PRED Cave del Predi 24.93 122 P **P 01 31 31.4 -0.6**
ARSA Arzberg 24.98 118 *i* P **P 01 31 32.0 -0.5**
comp=Z,31nm,1.0s,SNR=20
LANS Liptovska Anna 24.98 111 *e*P P 01 31 40.2 +7.7
LANS pmax pmax
comp=Z,20nm,1.0s
LANS Liptovska Anna 24.98 111 *e*P P 01 31 40.2 +7.7
MTE Manteigas 25.00 162 *e*P **P 01 31 35.0 +2.3**
comp=Z,96nm,1.5s
MTE *e*S **S 01 36 03.2 +6.4**
MTE Manteigas 25.00 162 P **P 01 31 31.8 -0.9**
MTE IAmb IAmb 01 31 46.2
comp=Z,74nm,1.3s
ROBS Robic 25.08 122 *e*P **P 01 31 32.7 -0.6**
ROBS *e*S **S 01 36 01.1 +3.1**
NIE Niedzica 25.10 109 *e*P **P 01 31 33.7 +0.1**
NIE *e*S **S 01 36 00.3 +1.9**
PCAS Casmilo, Conde 25.22 164 *e*S **S 01 36 07.3 +7.1**
OBKA Obir 25.23 121 *i* pP **P 01 31 36.7 +1.8**
comp=Z,32nm,1.2s
PRMA PARMA 25.24 129 P **P 01 31 34.2 -0.6**
VYHS Vyhne 25.25 112 *e*P **P 01 31 35.1 +0.2**
VYHS pmax pmax
comp=Z,219nm,1.7s
VYHS Vyhne 25.25 112 *e*P **P 01 31 35.1 +0.2**
VYHS *e*S **S 01 36 03.4 +2.8**
SOKA Soboth 25.27 120 *i* P **P 01 31 35.6 +0.4**
comp=Z,45nm,1.5s,SNR=26
PERS Pernice 25.34 120 *e*P **P 01 31 35.4 -0.3**
PERS *e*S **S 01 36 05.8 +3.6**
MOZS Mozjanca 25.38 121 *e*P **P 01 31 36.3 +0.2**
MSSA Maissana 25.38 130 P **P 01 31 35.2 -0.9**
MSSA IAmb IAmb 01 31 50.8
comp=Z,68nm,1.3s
PCBR Castelo Branco 25.56 162 *e*P **P 01 31 38.7 +1.0**
comp=Z,75nm,1.7s
KLMR Klimovskoe 25.61 72⇓ *i*P **P 01 31 37.3 -0.8**
comp=Z,86nm,1.5s
KLMR *e*S **S 01 36 05.1 -1.1**
KLMR Klimovskoe 25.61 72*c i*P **P 01 31 37.3 -0.8**
KLMR *e* 01 35 07.6
KLMR *e*S **S 01 36 06.8 +0.6**
KLMR pmax pmax
comp=Z,80nm,1.4s
KLMR MLR MLR
comp=Z,2µm,16.0s
KLMR Klimovskoe 25.61 72⇑ *i*P **P 01 31 37.3 -0.8**
KLMR *i* P **P 01 31 37.3 -0.8**
KLMR *i* P **P 01 31 37.3 -0.8**
KLMR AMP 01 31 41.6
comp=Z,80nm,1.4s
KLMR *e*PcP **PcP 01 35 07.7 -0.7**
KLMR *e*S **S 01 36 06.9 +0.7**
KLMR *e*S **S 01 36 06.9 +0.7**
KLMR LQ LQ 01 38 39.4
KLMR LQ LQ 01 38 39.4
KLMR LR LR 01 39 42.7
KLMR AMP 01 41 27.6
comp=Z,2µm,16.3s
LJU Ljubljana 25.62 121 *e*P **P 01 31 38.2 0.0**
LJU Ljubljana 25.62 121 ⇓ *i*P **P 01 31 37.9 -0.4**
SRO2 Moca 25.66 114 *e*P **P 01 31 39.0 +0.4**
SRO2 pmax pmax
comp=Z,40nm,1.2s
SRO2 Moca 25.66 114 *e*P **P 01 31 39.0 +0.4**
PSBE So Bento 25.71 164 *e*P **P 01 31 39.7 +0.5**
comp=Z,74nm,1.9s
PSBE *e*S **S 01 36 13.2 +5.1**
UCM Universidad Co 25.78 154⇑ *i*P **P 01 31 38.1 -1.7**
UCM *e*S S 01 36 23.8 +15
VLC Villacollemand 25.80 129 P **P 01 31 39.2 -0.7**
ZCCA Zocca 25.83 128 P **P 01 31 40.0 -0.2**
ZCCA IAmb IAmb 01 31 52.1
comp=Z,61nm,1.0s
CEY Cerknica 25.84 122⇓ *i*P **P 01 31 40.0 -0.3**
KECS Kecovo 25.92 110 *e*P **P 01 31 41.8 +0.9**
KECS pmax pmax
comp=Z,27nm,1.3s
KECS Kecovo 25.92 110 *e*P **P 01 31 41.8 +0.9**
KWP Kalwaria Pacla 25.92 106 *e*P **P 01 31 41.3 +0.3**
KWP *e*S **S 01 36 16.6 +5.3**
KWP Kalwaria Pacla 25.92 106 P **P 01 31 40.6 -0.4**
KWP pmax pmax
comp=Z,274nm,1.4s
KWP Kalwaria Pacla 25.92 106 P **P 01 31 40.6 -0.4**
VISS Visnje 25.94 121 *e*P **P 01 31 40.6 -0.5**
VISS *e*S **S 01 36 13.2 +1.6**
PMRV Marv??o 25.97 162 *e*P **P 01 31 41.8 +0.3**
comp=Z,88nm,1.7s
PMRV *e*S **S 01 36 21.2 +9.0**
LSH Leshukonskoye 25.98 61⇓ *i*P **P 01 31 39.2 -2.0**
comp=Z,82nm,1.0s
LSH *i* S **S 01 36 08.1 -3.7**
CRVS Cervenica-Dubn 25.98 109 *e*P **P 01 31 41.3 -0.3**
CRVS pmax pmax
comp=Z,174nm,1.6s
CRVS Cervenica-Dubn 25.98 109 *e*P **P 01 31 41.2 -0.3**
CRVS *e*S **S 01 36 18.0 +5.7**
SCHQ Schefferville 26.03 271 P **P 01 31 42.2 +0.3**
comp=Z,25nm,0.8s,baz=48,slow=6.5,SNR=13
SCHQ LR LR 01 40 42.6
comp=Z,2µm,19.5s,baz=49,slow=34
SCHQ Schefferville 26.03 271 P **P 01 31 41.8 -0.1**
SCHQ IAmb IAmb 01 31 47.9
comp=Z,38nm,0.9s
BEHE Becsehely 26.10 118⇓ *i*P **P 01 31 45.0 +2.4**
PSZ Piszkesteto 26.13 112⇑ P **P 01 31 43.7 +0.7**
PSZ Piszkesteto 26.13 112 P **P 01 31 42.8 -0.2**
PSZ pmax pmax
comp=Z,348nm,1.9s
PSZ Piszkesteto 26.13 112 P **P 01 31 42.8 -0.2**
CRES Cresnjev 26.15 120⇓ *i*P **P 01 31 41.6 -1.5**
PMAFR Mafra 26.21 165 *e*P **P 01 31 43.2 -0.5**
comp=Z,131nm,1.3s
PMAFR *e*S **S 01 36 16.2 +0.2**
PMTG Montargil 26.22 163 *e*P **P 01 31 39.9 -3.8**
comp=Z,71nm,1.8s
PMTG *e*S **S 01 36 19.8 +3.7**
ESBB Sonseca Array 26.26 156 P **P 01 31 43.4 -0.8**
ESBB IAmb IAmb 01 31 52.6
comp=Z,116nm,1.9s
ESDC Sonseca Array 26.26 156 P **P 01 31 44.4 +0.2**
comp=Z,11nm,1.2s,baz=347,slow=9.0,SNR=18
ESDC LR LR 01 41 44.6
comp=Z,1µm,18.1s,baz=340,slow=36
KOLS Kolonicke sedl 26.29 108 *e*P **P 01 31 43.6 -0.8**
KOLS pmax pmax
comp=Z,85nm,1.4s
KOLS Kolonicke sedl 26.29 108 *e*P **P 01 31 43.5 -0.8**
PAB San Pablo 26.32 157 P **P 01 31 44.0 -0.8**
PAB pmax pmax
comp=Z,44nm,1.3s
PAB San Pablo 26.32 157 P **P 01 31 44.0 -0.8**
PAB IAmb IAmb 01 31 59.9
comp=Z,44nm,1.2s
LVV L'vov 26.33 104 *e*P **P 01 31 44.6 -0.1**
LVV *e* 01 32 29.1
LVV *e*S **S 01 36 19.9 +2.2**
LVV *e*SS **SnSn 01 37 28.5 +12**
LVV pmax pmax
comp=Z,700nm,2.1s
LVV smax smax
comp=E,4µm,7.1s
LVV smax smax
comp=N,6µm,7.4s
LVV MLR MLR
comp=E,2µm,15.0s
LVV MLR MLR
comp=Z,2µm,15.0s
LVV MLR MLR
comp=N,1µm,14.0s
BOJS Bojanci 26.34 121 *e*P **P 01 31 44.4 -0.4**
RES Resolute Bay 26.45 324 P **P 01 31 47.3 +1.7**
comp=N,9.8nm,0.9s,baz=80,slow=8.1,SNR=5.5
RES LR LR 01 42 08.9
comp=N,2µm,19.6s,baz=66,slow=36
RES Resolute Bay 26.45 324 P **P 01 31 45.3 -0.2**
RES pmax pmax
comp=Z,40nm,1.4s
RES Resolute Bay 26.45 324 P **P 01 31 45.3 -0.2**
LIS Lisbon 26.46 165 *e*P **P 01 31 46.2 +0.4**
LIS AMb AMB 01 31 53.3
comp=Z,80nm,1.9s
LIS *e*S **S 01 36 21.4 +1.5**
LIS Lisbon 26.46 165 *e*P **P 01 31 46.3 +0.4**
LIS *e*S **S 01 36 21.4 +1.5**
UZH Uzhgorod 26.53 108 *e*P **P 01 31 44.7 -1.8**
UZH *i* 01 31 46.4
UZH *e*S **S 01 36 13.7 -7.2**
UZH MLR MLR
comp=Z,160nm,16.0s
MORH Mrgy, Hungar 27.03 116⇓ *i*P **P 01 31 50.5 -0.5**
PNCL Nicolau / Gran 27.13 164 *e*P **P 01 31 52.2 +0.3**
PNCL *e*S **S 01 36 34.9 +4.5**
PBEJ Beja 27.29 163 *e*P **P 01 31 55.0 +1.6**
comp=Z,38nm,1.9s
PRGR Permogore 27.63 67⇑ *i*P **P 01 31 55.9 -0.4**
comp=Z,125nm,2.5s
PRGR *e*S **S 01 36 38.0 0.0**
PRGR Permogore 27.63 67⇑ *i*P **P 01 31 55.9 -0.4**
PRGR pmax pmax
comp=Z,41nm,1.4s
PTEO Sao Teotonio 27.66 165 *e*P **P 01 32 00.5 +3.8**
comp=Z,80nm,1.7s
BLY Banja Luka 27.71 119⇓ *i*P **P 01 31 56.5 -0.6**
HORN Hornachuelos 27.83 159 P **P 01 32 02.1 +3.9**
SNR=5.8
AKASG Malin Array Be 27.86 98 P **P 01 31 57.9 -0.5**
comp=Z,12nm,0.9s,baz=322,slow=9.9,SNR=36
AKASG LR LR 01 42 43.1
comp=Z,3µm,21.9s,baz=320,slow=36
AKBB Malin Array Si 27.86 98 P **P 01 31 57.1 -1.2**
AKBB pmax pmax
comp=Z,108nm,1.6s
AKBB Malin Array Si 27.86 98 P **P 01 31 57.1 -1.2**
AKBB IAmb IAmb 01 32 04.0
comp=Z,108nm,1.6s
MAHO Mahon 27.87 142⇑ *i*P **P 01 31 59.8 +1.2**
MAHO *e*S **S 01 36 39.0 -3.1**
OBN Obninsk 27.89 84 P **P 01 31 57.9 -0.7**
comp=Z,3.3nm,0.4s,baz=1.0,slow=2.4,SNR=22
OBN LR LR 01 43 20.8
comp=Z,283nm,18.5s,baz=320,slow=37
OBN Obninsk 27.89 84*d i*P **P 01 31 58.4 -0.2**
OBN *i* 01 32 04.1
OBN *i* 01 32 45.2
OBN *i* 01 35 14.5
OBN *i* S **S 01 36 42.4 +0.2**
OBN pmax pmax
comp=Z,45nm,1.1s
OBN MLR MLR
comp=Z,1µm,16.0s
OBN Obninsk 27.89 84 P **P 01 31 57.3 -1.3**
MORF Marmelete 27.91 165 *e*P **P 01 31 59.4 +0.4**
MORF AMb AMB 01 32 12.4
comp=Z,35nm,1.5s
MORF *e*S **S 01 36 44.3 +1.4**
MORF Marmelete 27.91 165 *e*P **P 01 31 59.4 +0.4**
MORF *e*S **S 01 36 44.3 +1.4**
MORF Marmelete 27.91 165 *e*S **S 01 36 47.6 +4.7**
MOS Moscow 27.93 82 *e*P **P 01 31 57.0 -2.0**
MOS *e* 01 32 49.0
MOS *e*S **S 01 36 40.2 -2.6**
MOS *e*SS **SnSn 01 38 02.6 +6.7**
MOS pmax pmax
comp=Z,77nm,1.5s
MOS MLR MLR
comp=Z,1µm,15.0s
SESP Santiago Espad 28.03 154 P **P 01 32 01.9 +1.7**
SNR=5.6
PBDV Barranco-do-Ve 28.06 164 *e*S **S 01 36 36.6 -8.5**
PFVI Vila Bisbo 28.06 165 *e*S **S 01 36 50.1 +5.0**
SIRR Siria 28.18 112⇓ P **P 01 32 01.4 +0.1**
FRGS Fruska Gora 28.37 115⇓ *i*P **P 01 32 03.1 +0.1**
AQU L'Aquila 28.42 127⇓ *i*P **P 01 32 03.4 -0.2**
BUR08 Bucovina Ar. S 28.51 106 P **P 01 32 03.1 -1.2**
BURAR Bucovina Array 28.54 106⇑ P **P 01 32 04.7 +0.1**
CJR Cluj-Napoca 28.60 109⇑ P **P 01 32 05.3 +0.2**
BZS Buzias 28.69 113⇓ P **P 01 32 06.0 +0.1**
TEKS Tekeris 28.77 116⇓ *i*P **P 01 32 05.8 -0.8**
CART Cartagena 28.85 152⇑ *i*P **P 01 32 08.9 +1.7**
CART *i* S **S 01 37 00.9 +3.5**
EMAL Malaga-Limoner 29.03 158⇑ *i*P **P 01 32 10.7 +1.9**
EMAL *i* S **S 01 37 08.5 +8.2**
SFS San Fernando 29.05 161⇑ *i*P **P 01 32 11.7 +2.7**
SFS *e*S S 01 37 09.7 +9.1
BBLS Lazići 29.30 117⇓ *i*P **P 01 32 11.3 0.0**
DIVS Divibare 29.33 116⇓ *i*P **P 01 32 11.3 -0.3**
DIVS Divibare 29.33 116 P **P 01 32 10.2 -1.4**
MDVR Moldovita 29.43 114⇑ P **P 01 32 12.2 -0.3**
SORM Soroca 29.44 102⇑ P **P 01 32 13.0 +0.5**
HERR Herculane 29.62 113⇑ P **P 01 32 14.8 +0.7**
UPM Unac-Piva 29.67 119⇓ *i*P P 01 32 06.6 -8.2
LOT Lotru 29.70 110⇓ P **P 01 32 15.4 +0.5**
VSL Villasalto 29.70 135 P **P 01 32 13.8 -1.0**
VSL IAmb IAmb 01 32 16.7
comp=Z,71nm,1.9s
CEU Ceuta 29.73 160 *e*P **P 01 32 17.9 +2.9**
CEU *e*S **S 01 37 07.9 -3.4**
DOPR Dopca 29.93 108⇑ P **P 01 32 17.2 +0.3**
SMIR Smir Dam 29.94 160 P P 01 32 23.0 +6.0
SNR=6.5
PAOL Paolisi 30.00 126 P **P 01 32 16.1 -1.4**
PAOL IAmb IAmb 01 32 26.9
comp=Z,45nm,1.4s
TESR Tescani 30.01 106⇑ P **P 01 32 18.1 +0.6**
ARR Arges 30.11 109⇑ P **P 01 32 19.6 +1.1**
VOIR 30.22 109⇑ P **P 01 32 20.2 +0.7**
PUNG Punghina 30.33 113⇓ P **P 01 32 21.7 +1.4**
VASR Vaslui 30.38 104⇓ P **P 01 32 21.8 +1.0**
PDG Podgorica 30.47 119⇓ P **P 01 32 21.6 0.0**
PDG Podgorica 30.47 119⇓ *i*P **P 01 32 20.3 -1.3**
PDG Podgorica 30.47 119 P **P 01 32 20.3 -1.3**
KIS Kishinev 30.53 103⇓ *i*P **P 01 32 21.0 -1.1**
comp=Z,350nm,4.6s
KIS Kishinev 30.53 103 *e*PcP **PcP 01 35 27.0 +6.3**
KIS *e*S **S 01 37 19.0 -4.7**
comp=Z,1µm,10.0s
KIS *e*LR LR 01 44 05.0
comp=Z,440nm,13.0s
KIS Kishinev 30.53 103*d i*P **P 01 32 21.0 -1.1**
KIS *e* 01 35 27.0
KIS *e*S **S 01 37 19.0 -4.7**
KIS pmax pmax
comp=Z,350nm,4.6s
KIS smax smax
comp=N,1µm,10.0s
KIS smax smax
comp=E,720nm,8.0s
KIS MLR MLR
comp=Z,440nm,13.0s
KIS MLR MLR
comp=N,580nm,16.0s
PLOR Plostina 30.54 107⇓ P **P 01 32 23.5 +1.2**
MLR Muntele Rosu 30.54 108 P **P 01 32 22.6 +0.2**
comp=N,4.3nm,0.9s,baz=340,slow=10,SNR=15
MLR Muntele Rosu 30.54 108⇑ P **P 01 32 23.4 +1.0**
MLR Muntele Rosu 30.54 108 P **P 01 32 21.9 -0.6**
MLR pmax pmax
comp=Z,53nm,1.3s
MLR Muntele Rosu 30.54 108 P **P 01 32 21.9 -0.6**
MLR IAmb IAmb 01 32 40.3
comp=Z,53nm,1.3s
VRI Vrincioaia 30.56 106⇓ P **P 01 32 23.2 +0.7**
MILM Milestii Mici 30.59 103⇑ P **P 01 32 23.7 +1.1**
PVLZ Peæn de 30.60 158 *e*P **P 01 32 22.1 -0.7**
PVLZ *e*S **S 01 37 24.5 -0.5**
LPSR Galich'ya Gora 30.64 86 *e*P **P 01 32 22.6 -0.4**
LPSR *e*S **S 01 37 28.1 +2.7**
LPSR pmax pmax
comp=Z,40nm,1.2s
LPSR smax smax
comp=E,1µm,9.7s
LPSR MLR MLR
comp=Z,2µm,26.0s
DRME Dracevica, Mon 30.65 119⇓ *i*P **P 01 32 22.1 -1.1**
GHRR 30.69 105⇓ P **P 01 32 24.7 +1.1**
MELI Melilla 30.71 156⇑ *i*P **P 01 32 25.7 +2.0**
MELI *e*S **S 01 37 25.9 -0.8**
NEHR Nehoiu 30.74 107⇓ P **P 01 32 25.5 +1.5**
SECR 30.97 108⇑ P **P 01 32 27.3 +1.3**
MATE Matera 31.09 124⇓ P **P 01 32 27.8 +0.7**
ISR Istrita 31.09 108⇑ P **P 01 32 28.1 +0.9**
BATG Bathurst New B 31.23 260 P **P 01 32 27.6 -0.7**
TAF Taforalt 31.27 156 P **P 01 32 33.0 +4.1**
SNR=5.2
VORR Voronezh 31.43 87 *e*P **P 01 32 28.0 -2.0**
VORR pmax pmax
comp=Z,250nm,2.0s
TIR Tirane 31.63 119⇓ P **P 01 32 33.4 +1.5**
CFR Carcaliu 31.70 106⇑ P **P 01 32 32.4 0.0**
JBK JBK 31.71 156 P P 01 32 38.0 +5.1
SNR=6.6
JBK P P 01 32 38.0 +5.1
SNR=6.6
VSR Storozhevoye 31.74 88 *e*P **P 01 32 31.7 -1.1**
VSR *e*S **S 01 37 38.6 -4.1**
VSR pmax pmax
comp=Z,60nm,1.3s
VSR smax smax
comp=N,1µm,10.7s
VSR MLR MLR
comp=Z,3µm,21.0s
VTS Vitosha 31.84 114 *i* P **P 01 32 32.7 -1.2**
VORD Divnogorie 31.98 88 *e*P **P 01 32 34.6 -0.2**
VORD *e*S **S 01 37 50.9 +4.5**
VORD smax smax
comp=N,490nm,8.0s
AVE Averroes 32.01 164 *i* P **P 01 32 36.9 +1.6**
AVE *i* S **S 01 37 52.7 +5.5**
HARR Harsova 32.01 106⇓ P **P 01 32 35.4 +0.2**
TOPG Topolog 32.05 106⇓ P **P 01 32 36.2 +0.7**
IFR Ifrane 32.10 160 *i* P **P 01 32 36.1 -0.2**
IFR *i* S **S 01 37 51.7 +2.9**
D63A Stockholm 32.28 262 P **P 01 32 38.1 +0.6**
baz=38
RAZG Razgrad 32.35 109⇓ P **P 01 32 38.9 +0.7**
SZH Strazhica 32.37 110 *i* P **P 01 32 37.8 -0.6**
CORL Corleone 32.40 131 P **P 01 32 37.7 -1.0**
TIRR Tirgusor 32.40 106⇑ P **P 01 32 39.1 +0.5**
TIRR Tirgusor 32.40 106⇑ P **P 01 32 39.1 +0.5**
TIRR Tirgusor 32.40 106 P **P 01 32 36.9 -1.7**
TIRR pmax pmax
comp=Z,81nm,1.3s
TIRR Tirgusor 32.40 106 P **P 01 32 36.9 -1.7**
KKB Krupnik 32.42 115 *i* P **P 01 32 39.2 +0.4**
CZD Col de Zad 32.59 160 P P 01 32 47.0 +6.3
SNR=6.1
D62A Allapoint, All 32.65 263 P **P 01 32 41.9 +1.1**
baz=38
E64A Bridgewater 32.65 261 P **P 01 32 41.1 +0.3**
baz=38
CLTB Caltabellotta 32.66 131 P **P 01 32 39.5 -1.5**
VAY Valandovo 32.69 116 *i* P **P 01 32 42.2 +1.1**
CHGQ Chibougamau 32.77 271 P **P 01 32 42.1 +0.2**
baz=42
VRH Novokhopyorsk 32.85 85 *e*P **P 01 32 41.8 -0.7**
VRH *e*S **S 01 38 01.4 +1.5**
VRH pmax pmax
comp=Z,60nm,1.2s
VRH smax smax
comp=N,2µm,10.4s
VRH MLR MLR
comp=Z,2µm,22.0s
MDT Midelt 32.87 160 P **P 01 32 43.8 +0.9**
MMB Musomiste 32.91 114 *i* P **P 01 32 43.2 +0.1**
PRD Provadia 33.02 109 *i* P **P 01 32 42.8 -1.2**
D61A St Aubert, Com 33.04 264 P **P 01 32 43.7 -0.5**
baz=39
KEST Kesra 33.17 138 P **P 01 32 46.8 +1.2**
comp=Z,7.6nm,0.9s,baz=282,slow=5.8,SNR=14
KEST LR LR 01 45 05.0
comp=Z,1µm,21.5s,baz=300,slow=34
KEST Kesra 33.17 138 P **P 01 32 44.4 -1.1**
RZN Rozhen 33.21 113 *i* P **P 01 32 45.2 -0.8**
E62A Clayton Lake 33.22 262 P **P 01 32 46.1 +0.4**
baz=38
JMB Yambol 33.30 110 *i* P **P 01 32 44.6 -1.9**
F64A Sherman 33.31 260 P **P 01 32 46.8 +0.2**
baz=37
G65A Princeton 33.51 259 P **P 01 32 48.7 +0.5**
baz=37
KDZ Kurdzhali 33.52 112 *i* P **P 01 32 47.2 -1.3**
D60A Saint Jean D'O 33.58 264 P **P 01 32 48.7 -0.2**
baz=38
LIT Litokhoron 33.71 117 P **P 01 32 49.1 -1.0**
LIT pmax pmax
comp=Z,21nm,1.1s
LIT Litokhoron 33.71 117 P **P 01 32 49.1 -1.0**
F63A Nahmakanta, Br 33.76 261 P **P 01 32 51.5 +1.0**
baz=37
F63A Nahmakanta, Br 33.76 261 P **P 01 32 50.7 +0.2**
F63A IAmb IAmb 01 32 58.8
comp=Z,37nm,1.3s
E61A Lac Etchemin 33.78 263 P **P 01 32 51.0 +0.3**
baz=38

G64A Maxfield 33.97 260 P P 01 32 53.1 +0.8
baz=37
F62A Pittston Farm, 33.98 262 P P 01 32 52.8 +0.5
baz=38,SNR=7.2
F62A Pittston Farm, 33.98 262 P P 01 32 52.3 -0.1
LATQ La Tuque 34.02 267 P P 01 32 53.1 +0.5
baz=39
PKME Peaks-Kenny Pk 34.19 261 P P 01 32 54.6 +0.4
baz=37
H65A Eastbrook 34.21 259 P P 01 32 54.9 +0.6
baz=36
E60A Ste Agathe de 34.23 264 P P 01 32 55.2 +0.6
baz=38
D58A Chemin du LacG 34.28 266 P P 01 32 55.1 +0.1
baz=39
MATQ Matagami 34.29 274 P P 01 32 55.5 +0.5
baz=41
F61A St Evariste 34.35 263 P P 01 32 55.7 +0.1
baz=38
ALN Alexandroupoli 34.41 112 P P 01 32 55.5 -0.6
ALN pmax pmax
comp=Z,104nm,1.6s
ALN Alexandroupoli 34.41 112 P P 01 32 55.5 -0.6
G63A Kingsbury 34.45 261 P P 01 32 57.3 +0.8
baz=37
LSQQ Lebel-sur-Quev 34.54 272 P P 01 32 57.3 +0.2
baz=41
AGG Agios Georgios 34.58 118 P P 01 32 57.2 -0.5
AGG pmax pmax
comp=Z,87nm,1.2s
AGG Agios Georgios 34.58 118 P P 01 32 57.2 -0.5
E59A St. Maurice 34.60 265 P P 01 32 57.8 0.0
baz=38
H64A Troy 34.66 260 P P 01 32 59.3 +1.0
baz=36
G62A West of Eustis 34.76 262 P P 01 32 59.8 +0.7
baz=37
G62A West of Eustis 34.76 262 P P 01 32 58.5 -0.7
G62A IAmb IAmb 01 33 09.3
comp=Z,56nm,1.7s
F60A Warwick 34.77 264 P P 01 32 59.5 +0.4
baz=38
D57A Chemin Vers le 34.77 267 P P 01 33 00.4 +1.1
baz=39,SNR=10
H63A New Sharon 34.99 261 P P 01 33 01.9 +0.7
baz=36
E58A La Victoria 35.02 266 P P 01 33 01.7 +0.3
baz=38
D56A ZEC Mazanza, M 35.12 268 P P 01 33 02.9 +0.6
baz=39
G61A St-Isidore-de- 35.13 263 P P 01 33 03.5 +1.1
baz=37
A36M Sachs Harbour 35.19 329 P P 01 33 04.0 +1.4
baz=45
E57A Chemin Saint G 35.36 267 P P 01 33 05.3 +0.9
baz=38
MOQ Mont Orford 35.42 264 P P 01 33 04.3 -0.6
I64A Boothbay 35.42 260 P P 01 33 06.0 +1.2
baz=36
D55A Sainte-Anne-du 35.45 269 P P 01 33 05.2 +0.1
baz=39
VLDQ Val d'Or 35.46 272 P P 01 33 04.9 -0.2
H62A Milan 35.54 262 P P 01 33 06.8 +0.9
baz=36
G60A Masonville 35.62 264 P P 01 33 07.8 +1.2
baz=37
E56A St. Veronique 35.64 268 P P 01 33 07.2 +0.5
baz=38
F58A St-Lin Laurent 35.65 266 P P 01 33 07.0 +0.2
baz=38
I63A Otisfield 35.72 261 P P 01 33 07.8 +0.5
baz=36
D54A Lac Fusel, La 35.86 270 P P 01 33 09.2 +0.6
baz=39
H61A Lyndonville 35.90 263 P P 01 33 09.7 +0.8
baz=36
ANN Anapa 35.93 97 eP P 01 33 08.8 -0.3
ANN e*PP sP 01 33 12.1 +0.1
ANN e 01 34 25.8
ANN eS S 01 38 51.1 +3.7
ANN pmax pmax
comp=Z,94nm,1.9s
ANN MLR MLR
comp=Z,1µm,7.0s
G59A Clarenceville 36.00 264 P P 01 33 10.9 +1.2
baz=37
F57A Harrington 36.06 267 P P 01 33 10.6 +0.3
baz=38
ARU Arti 36.09 66d iP P 01 33 09.3 -1.1
ARU 01 34 28.8
ARU S S 01 38 49.6 -0.2
ARU SS SnSn 01 41 07.7 -6.3
ARU pmax pmax
comp=Z,96nm,2.4s
ARU MLR MLR
comp=Z,3µm,20.0s
ARU Arti 36.09 66 P P 01 33 09.7 -0.8
ARU IAmb IAmb 01 33 12.6
comp=Z,74nm,1.5s
LBNH Lisbon 36.13 262 P P 01 33 11.3 +0.3
baz=36
E55A Montcerf-Lytto 36.15 269 P P 01 33 11.3 +0.3
baz=38
I62A Tamworth 36.18 261 P P 01 33 12.1 +0.8
baz=36
H60A Morristown 36.21 263 P P 01 33 11.9 +0.3
baz=37
G58A Ormstown 36.32 265 P P 01 33 13.2 +0.7
baz=37
D53A Lac Vacive, Po 36.37 271 P P 01 33 13.4 +0.5
baz=39
D53A Lac Vacive, Po 36.37 271 P P 01 33 13.8 +0.8
D53A IAmb IAmb 01 33 20.4
comp=Z,39nm,1.2s
FRNY Flat Rock 36.37 265 P P 01 33 13.3 +0.3
FRNY IAmb IAmb 01 33 21.6
comp=Z,82nm,1.6s
NRIK Noril'sk 36.46 35 P P 01 33 14.8 +1.4
comp=Z,10.0nm,0.9s,baz=311,slow=6.0,SNR=10
NRIK LR LR 01 50 08.0
comp=Z,802nm,18.4s,baz=352,slow=39
I61A Oroboro, Fairl 36.50 262 P P 01 33 15.0 +0.9
baz=36
J63A Strafford 36.55 261 P P 01 33 15.5 +0.9
baz=35
H59A Cadyville 36.56 264 P P 01 33 15.5 +0.9
baz=37
SVE Sverdlovsk 36.62 64⇑ eP P 01 33 14.5 -0.5
SVE eS S 01 38 58.8 +0.9
SVE MLR MLR
comp=Z,3µm,19.0s
E54A Lac Daplat, Po 36.65 270 P P 01 33 15.5 +0.1
baz=38
ORIO Orleans, Innes 36.70 267 P P 01 33 16.6 +0.9
baz=38
ORIO Orleans, Innes 36.70 267 P P 01 33 16.9 +1.1
D52A ZEK Kipawa Sen 36.75 271 P P 01 33 16.0 -0.2
baz=39
G57A Newington 36.75 266 P P 01 33 17.2 +1.0
baz=37,SNR=9.8
F55A Otter Lake 36.76 268 P P 01 33 16.9 +0.6
baz=38
C36M Paulatuk 36.81 325 P P 01 33 17.2 +0.8
baz=44
C36M Paulatuk 36.81 325 P P 01 33 17.5 +1.1
C36M IAmb IAmb 01 33 26.8
comp=Z,100nm,1.6s
E53A Dumoine, Ponti 36.90 270 P P 01 33 18.5 +1.0
baz=38,SNR=11
J62A Henniker 36.91 261 P P 01 33 17.7 +0.1
baz=36
H58A Gabriels 36.95 265 P P 01 33 18.3 +0.3
baz=37
LONY Lake Ozonia 36.97 265 P P 01 33 18.7 +0.6
baz=37
LONY Lake Ozonia 36.97 265 P P 01 33 17.3 -0.8
I60A Shoreham 37.04 263 P P 01 33 19.9 +1.3
baz=36
J61A Chester 37.12 262 P P 01 33 20.1 +0.7
baz=36
K63A Dunstable 37.22 260 P P 01 33 20.7 +0.5
baz=35
I59A Olmsteadville 37.32 264 P P 01 33 21.6 +0.5
baz=36
G55A Calabogie 37.38 268 P P 01 33 22.4 +0.8
baz=37,SNR=8.6
HRV Adam Dziewonsk 37.39 260 P P 01 33 22.2 +0.6
baz=35
ALGO Algonquin Park 37.40 270 P P 01 33 22.2 +0.5
baz=38
ILGA Ilgaz 37.41 104 P P 01 33 20.7 -1.4
H57A Richville 37.44 266 P P 01 33 23.0 +1.0
baz=37
K62A Royalston 37.54 261 P P 01 33 23.9 +0.9
baz=35
L64A Middleborough 37.55 259 P P 01 33 24.1 +1.1
baz=34
J60A Lant Hill Farm 37.58 263 P P 01 33 23.8 +0.5
baz=36
PLVO Plevna 37.70 268 P P 01 33 23.3 -1.0
H56A Elgin 37.71 267 P P 01 33 25.2 +0.9
baz=37
M65A Busby, Falmout 37.78 258 P P 01 33 25.8 +0.9
baz=34
D49A Beulah Townshi 37.79 274 P P 01 33 25.5 +0.5
baz=39
M66A Nantucket 37.81 258 P P 01 33 26.3 +1.1
baz=34
G54A Lake Saint Pet 37.85 269 P P 01 33 26.2 +0.7
baz=38
J59A Piesco 37.86 264 P P 01 33 26.5 +0.8
baz=36
I58A Old Forge 37.88 265 P P 01 33 26.9 +1.0
baz=36
SOC Sochi 37.88 96 eP P 01 33 26.1 +0.3
SOC e 01 34 49.9
SOC eS S 01 39 19.3 +2.0
SOC eSS SnSn 01 41 53.5 -4.1
SOC pmax pmax
comp=Z,16nm,1.0s
SOC MLR MLR
comp=Z,913nm,17.0s
L61B Northampton 37.91 261 P P 01 33 26.5 +0.5
baz=35
L63A North Scituate 37.94 260 P P 01 33 24.9 -1.3
baz=34
I57A Carthage 37.98 266 P P 01 33 24.7 -1.9
baz=36
K61A Williamstown 37.98 262 P P 01 33 27.4 +0.8
baz=35
M64A Tiverton 38.02 259 P P 01 33 26.6 -0.4
baz=34
D48A Paudash Townsh 38.06 274 P P 01 33 25.9 -1.3
baz=39
GOF Gofitskoye 38.13 91⇑ eP P 01 33 29.1 +1.2
GOF pmax pmax
comp=Z,134nm,1.1s
H55A Tweed 38.14 268 P P 01 33 28.6 +0.6
baz=37,SNR=9.5
L62A Suffield 38.24 261 P P 01 33 30.1 +1.3
baz=35
J58A Remsen 38.28 265 P P 01 33 30.6 +1.4
baz=36
J58A Remsen 38.28 265 P P 01 33 29.5 +0.3
K60A Five Rivers En 38.29 263 P P 01 33 30.2 +1.0
baz=35
DELO Deloro Mine 38.35 268 P P 01 33 31.2 +1.5
DELO IAmb IAmb 01 33 42.2
comp=Z,85nm,2.0s
L61A Hillsdale 1, H 38.49 262 P P 01 33 30.4 -0.5
baz=35
BR131 Keskin Array S 38.49 105 pP pP 01 33 32.1 -1.1
SNR=14
BR131 Keskin Array S 38.49 105 P pP 01 33 32.1 -1.1
BR131 P pP 01 33 32.1 -1.1
SNR=14
BR131 Keskin Array S 38.49 105 P P 01 33 30.1 -1.1
BR131 pmax pmax
comp=Z,24nm,1.0s
BR131 Keskin Array S 38.49 105 P P 01 33 30.1 -1.1
BRTR Keskin Array B 38.49 105 P P 01 33 31.9 +0.7
comp=Z,5.9nm,0.8s,baz=339,slow=7.9,SNR=21
BRTR LR LR 01 51 46.0
comp=Z,382nm,18.3s,baz=283,slow=40
M63A Gales Ferry 38.50 260 P P 01 33 31.4 +0.4
baz=34
J57A Williamstown 38.55 265 P P 01 33 30.6 -0.8
baz=36
PECO Prince Edward 38.55 267 P P 01 33 30.8 -0.6
K59A Cooperstown 38.57 264 P P 01 33 32.2 +0.5
baz=35
I55A Frankford 38.62 268 P P 01 33 32.7 +0.7
baz=37
D47A Chapleau 38.70 275 P P 01 33 32.7 -0.1
baz=39
H53A Bobcaygeon 38.72 269 P P 01 33 33.1 +0.3
baz=37
E48A Lockeyer 38.75 274 P P 01 33 33.1 0.0
baz=38
SADO Sadowa 38.80 270 P P 01 33 33.0 -0.6
M62A Hamden 38.83 261 P P 01 33 34.4 +0.6
baz=34
KIV Kislovodsk 38.85 92 iP P 01 33 34.5 +0.4
SNR=27
KIV Kislovodsk 38.85 92 pP P 01 33 34.8 +0.7
KIV Kislovodsk 38.85 92 P P 01 33 34.8 +0.7
KIV P P 01 33 34.8 +0.7
KIV P P 01 33 34.8 +0.7
KIV Kislovodsk 38.85 92 eP P 01 33 34.3 +0.2
KIV e 01 35 03.9
KIV eS S 01 39 32.8 +0.6
KIV pmax pmax
comp=Z,57nm,1.0s
KIV pmax pmax
comp=Z,380nm,3.2s
KIV MLR MLR
comp=Z,4µm,16.0s
KIV Kislovodsk 38.85 92 P P 01 33 34.1 0.0
KIV IAmb IAmb 01 33 36.9
comp=Z,55nm,1.4s
K58A Earlville 38.92 265 P P 01 33 35.7 +1.1
baz=36
L60A Shokan 38.94 262 P P 01 33 35.5 +0.8
baz=35
J56A Wolcott 39.02 266 P P 01 33 36.1 +0.8
baz=36
J56A Wolcott 39.02 266 P P 01 33 34.5 -0.9
KBZ Khabaz 39.13 92 P P 01 33 37.7 +1.5
comp=Z,15nm,0.9s,baz=314,slow=11,SNR=37
KBZ LR LR 01 49 53.8
comp=Z,2µm,21.6s,baz=331,slow=36
L59A Walton 39.13 263 P P 01 33 37.3 +0.9
baz=35
YKA Yellowknife Ar 39.20 313 P P 01 33 37.0 +0.4
comp=Z,8.5nm,1.0s,baz=42,slow=8.8,SNR=11
YKA PcP PcP 01 35 45.9 +0.3
comp=Z,1.3nm,0.9s,baz=49,slow=3.5,SNR=2.8
YKA LR LR 01 49 17.2
comp=Z,1µm,20.4s,baz=0.0,slow=35
D46A Sault St. Mari 39.23 276 P P 01 33 37.5 +0.4
baz=38
E47A Iron Bridge 39.25 275 P P 01 33 35.5 -1.8
baz=38
F49A Sandfield 39.26 273 P P 01 33 35.6 -1.8
baz=38
M61A Granite Spring 39.31 261 P P 01 33 37.1 -0.7
baz=34
K57A Scipio Center 39.32 265 P P 01 33 38.2 +0.3
baz=36
J55A Hilton 39.44 267 P P 01 33 38.1 -0.8
baz=36
F48A Evansville 39.46 274 P P 01 33 39.0 0.0
baz=38
N62A Caumsett State 39.49 261 P P 01 33 38.6 -0.7
baz=34
BINY Binghamton 39.52 264 P P 01 33 39.9 +0.3
baz=35
L58A Harry Jones Me 39.59 264 P P 01 33 39.6 -0.6
baz=35
CHVG Ch'k'valeri 39.60 94 ⇑P P 01 33 41.6 +1.4
PAL Palisades 39.62 261 P P 01 33 39.4 -0.9
baz=34
M60A Port Jervis 39.66 262 P P 01 33 40.0 -0.8
baz=34
K56A Middlesex 39.69 266 P P 01 33 41.1 0.0
baz=36
J54A Appleton 39.79 268 P P 01 33 42.5 +0.7
baz=36
M59A Waymart 39.83 263 P P 01 33 42.9 +0.7
baz=35
INK Inuvik 39.83 329 P P 01 33 41.5 -0.3
INK pmax pmax
comp=Z,17nm,1.1s
INK Inuvik 39.83 329 P P 01 33 41.5 -0.3
MMNY Mt. Morris Dam 39.91 267 P P 01 33 42.2 -0.6
K55A Perry 39.99 267 P P 01 33 43.9 +0.5
baz=36
N61A South Mountain 39.99 261 P P 01 33 43.2 -0.3
baz=34
L57A Andrews Acres 40.06 265 P P 01 33 43.9 -0.2
baz=35
N60A Cedar Hill Far 40.24 262 P P 01 33 45.0 -0.5
baz=34
L56A Greenwood 40.25 266 P P 01 33 46.1 +0.4
baz=35
L56A Greenwood 40.25 266 P P 01 33 44.7 -1.0
L56A IAmb IAmb 01 33 52.9
comp=Z,84nm,1.6s
ZEI Tsey 40.32 92 eP P 01 33 46.6 +0.1
ZEI pmax pmax
comp=Z,40nm,1.7s
K54A Basiliko Farm, 40.35 267 P P 01 33 47.2 +0.7
baz=36
I51A Listowel 40.39 270 P P 01 33 47.0 +0.2
baz=36
M58A Price's Panora 40.41 264 P P 01 33 48.3 +1.4
baz=34
WVNY West Valley, N 40.48 267 P P 01 33 46.9 -0.7
WVNY IAmb IAmb 01 33 56.5
comp=Z,107nm,1.6s
N59A State Game Lan 40.48 263 P P 01 33 49.2 +1.6
baz=34
L55A Hinsdale 40.59 267 P P 01 33 48.7 +0.2
baz=35
O61A Allentown 40.65 261 P P 01 33 49.7 +0.8
baz=34
M57A Sunshine Farm, 40.72 265 P P 01 33 49.8 +0.3
baz=35
GROC Groznyy 40.80 90 eP P 01 33 50.2 0.0
GROC e 01 35 25.6
GROC eS S 01 39 58.5 -2.6
GROC pmax pmax
comp=Z,90nm,1.4s
O60A Telford 40.83 262 P P 01 33 51.0 +0.6
baz=34
L54A Sinclairville 40.92 267 P P 01 33 51.0 -0.2
baz=35
N58A Sunbury 40.95 264 P P 01 33 51.3 -0.1
baz=34
M56A Emporium 41.05 266 P P 01 33 51.7 -0.6
baz=35
M56A Emporium 41.05 266 P P 01 33 51.9 -0.4
M56A IAmb IAmb 01 34 01.3
comp=Z,55nm,1.4s
P61A Hammonton 41.10 261 P P 01 33 53.7 +1.0
baz=33
KOPT Kop Dagi 41.14 98 P P 01 33 52.2 -1.1
O59A Robesonia 41.16 263 P P 01 33 53.7 +0.5
baz=34
AKH Akhalkalaki 41.27 94 ⇓P P 01 33 55.3 +1.1
AKH Akhalkalaki 41.27 94 P P 01 33 53.2 -1.1
AKH pmax pmax
comp=Z,128nm,1.6s
AKH Akhalkalaki 41.27 94 P P 01 33 53.2 -1.1
ERPA Erie 41.31 268 P P 01 33 54.0 -0.4
baz=35
M55A Ridgway 41.31 266 P P 01 33 54.7 +0.2
baz=35
M55A Ridgway 41.31 266 P P 01 33 53.9 -0.5
M55A IAmb IAmb 01 34 03.5
comp=Z,46nm,1.4s
P60A Greenville 41.34 262 P P 01 33 54.6 -0.1
baz=34
N57A Milroy 41.38 265 P P 01 33 55.3 +0.3
baz=34
DBC Dubki 41.39 89c iP P 01 33 56.1 +1.0
DBC pmax pmax
comp=Z,12nm,1.1s
A21K Barrow 41.42 341 P P 01 33 55.0 0.0
baz=25
TBLG Delisi 41.54 93 P P 01 33 56.0 -0.3
TBLG pmax pmax
comp=Z,188nm,1.7s
TBLG Delisi 41.54 93 P P 01 33 56.0 -0.3
L53A Girard 41.56 268 P P 01 33 57.1 +0.7
baz=35
N56A West Decatur 41.56 265 P P 01 33 55.5 -1.1
baz=34
EYMN Ely 41.57 283 P P 01 33 56.5 0.0
baz=38
SSPA Standing Stone 41.62 265 P P 01 33 56.8 -0.1
baz=34
O58A Lewisberry 41.63 263 P P 01 33 57.2 +0.1
baz=34
M54A Oil Creek Stat 41.67 267 P P 01 33 58.5 +1.1
baz=35
M54A Oil Creek Stat 41.67 267 P P 01 33 57.0 -0.4
M54A IAmb IAmb 01 34 04.4
comp=Z,64nm,1.5s
KZRT Kazreti 41.68 93 P P 01 34 01.1 +3.6
MALT Malatya 41.69 101 P P 01 33 59.7 +2.1
MAK Makhachkala 41.73 89 eP P 01 33 58.3 +0.5
MAK eS S 01 40 16.6 +1.7
MAK eSS SS 01 43 17.2 -2.7
MAK pmax pmax
comp=Z,117nm,1.7s
MAK MLR MLR
comp=Z,2µm,20.0s
P59A Jarrettsville 41.85 263 P P 01 34 00.7 +1.9
baz=33
O57A Amberson 41.87 264 P P 01 33 59.3 +0.3
baz=34
N55A Marion Center 41.97 266 P P 01 34 00.6 +0.7
baz=34
Q61A Milford 41.99 261 P P 01 34 00.6 +0.6
baz=33
AB31 Akbulak array 42.00 73 iP P 01 33 59.4 -0.6
Q60A Greensboro 42.11 261 P P 01 34 01.5 +0.6
baz=33
GAZ Gaziantep 42.14 104 P P 01 34 00.5 -0.9
GAZ IAmb IAmb 01 34 04.5
comp=Z,61nm,1.4s
M53A WI Miller and 42.16 268 P P 01 34 02.2 +0.9
baz=35
M53A WI Miller and 42.16 268 P P 01 34 01.2 -0.1
M53A IAmb IAmb 01 34 10.3
comp=Z,49nm,1.3s
O56A Blue Knob Stat 42.22 265 P P 01 34 01.0 -0.9
baz=34
O56A Blue Knob Stat 42.22 265 P P 01 34 00.9 -1.0
O56A IAmb IAmb 01 34 11.2
comp=Z,52nm,1.5s
N54A Moraine State 42.26 267 P P 01 34 01.3 -0.8
baz=34
N54A Moraine State 42.26 267 P P 01 34 01.6 -0.5
N54A IAmb IAmb 01 34 10.4
comp=Z,49nm,1.4s
P58A Pank, Wackersv 42.32 263 P P 01 34 03.0 +0.3
baz=33
DDFL Dedoflistskaro 42.37 91 P P 01 34 07.9 +4.8
M52A Chesterland 42.37 269 P P 01 34 04.2 +1.1
baz=35
ZKTA Zakatala 42.43 91 P P 01 34 03.2 -0.4
CSS Mathiatis 42.44 109 P P 01 34 02.5 -1.2
CSS IAmb IAmb 01 34 15.3
comp=Z,42nm,1.3s
Q59A Harwood 42.57 262 P P 01 34 04.6 -0.1
baz=33
O55A Ligonier 42.58 266 P P 01 34 06.0 +1.1
baz=34
P57A Homestead Farm 42.63 264 P P 01 34 06.2 +1.0
baz=34
AAM Ann Arbor 42.74 271 P P 01 34 07.1 +1.1
baz=35
TOLK Toolik Lake Re 42.74 336 P P 01 34 08.0 +2.2
baz=28,SNR=26
TOLK Toolik Lake Re 42.74 336 P P 01 34 06.0 +0.2
TOLK IAmb IAmb 01 34 12.4
comp=Z,76nm,1.1s
N53A Lisbon 42.75 268 P P 01 34 06.2 0.0
baz=34
N53A Lisbon 42.75 268 P P 01 34 06.0 -0.1
N53A IAmb IAmb 01 34 15.2
comp=Z,69nm,1.4s
M51A Elyria 42.89 269 P P 01 34 07.6 +0.2
baz=35
Q58A Fox Den Farm, 42.94 263 P P 01 34 08.3 +0.6
baz=33
P56A Dayton Farm, R 42.97 265 P P 01 34 06.9 -1.0
baz=34

SEKA Sheki 43.03 91 P P 01 34 07.9 -0.6
AKT Akhty 43.03 90 *e*P P 01 34 09.6 +1.0
AKT *e* 01 35 47.4
AKT *e* 01 35 58.8
AKT pmax pmax
comp=Z,38nm,1.3s
R60A Leonardtown, M 43.04 262 P P 01 34 09.1 +0.6
baz=33
O54A Avella 43.06 267 P P 01 34 07.5 -1.3
baz=34
O54A Avella 43.06 267 P P 01 34 07.8 -0.9
O54A IAmb IAmb 01 34 15.8
comp=Z,43nm,1.3s
AGMN Agassiz Nation 43.11 287 P P 01 34 09.6 +0.7
baz=38
AGMN Agassiz Nation 43.11 287 P P 01 34 08.6 -0.4
AGMN IAmb IAmb 01 34 15.7
comp=Z,41nm,1.3s
N52A McGinn's Farm, 43.11 268 P P 01 34 08.9 -0.2
baz=34
GANJ Ganja 43.11 92 P P 01 34 08.3 -0.8
BRVK Borovoye 43.14 62 pP P 01 34 09.0 -0.2
BRVK Borovoye 43.14 62 P P 01 34 09.0 -0.2
BRVK Borovoye 43.14 62 *ce*P P 01 34 09.4 +0.2
BRVK pmax pmax
comp=Z,83nm,2.5s
BRVK Borovoye 43.14 62 P P 01 34 07.0 -2.1
BRVK IAmb IAmb 01 34 11.9
comp=Z,58nm,1.4s
G40A Rib Lake 43.14 280 P P 01 34 08.2 -1.1
Q57A Strasburg 43.17 264 P P 01 34 10.6 +1.0
baz=33
BVA0 Borovoye Array 43.21 62 *i* P P 01 34 09.5 -0.2
M50A Fremont 43.21 270 P P 01 34 09.3 -0.5
M50A IAmb IAmb 01 34 16.9
comp=Z,85nm,1.4s
MCWV Mont Chateau 43.27 266 P P 01 34 10.2 -0.1
baz=34
N51A Ashland 43.32 269 P P 01 34 10.5 -0.2
baz=34
R59A King George, V 43.32 262 P P 01 34 10.3 -0.5
baz=33
MNGR Mingechevir, A 43.34 91 P P 01 34 11.1 +0.2
L48A N Adams 43.36 272 P P 01 34 10.2 -0.9
O53A New Philadelph 43.37 268 P P 01 34 10.1 -1.1
baz=34
O53A New Philadelph 43.37 268 P P 01 34 10.3 -0.9
O53A IAmb IAmb 01 34 18.4
comp=Z,91nm,1.6s
P55A Reedsville 43.39 266 P P 01 34 11.2 -0.2
baz=34
CBN Corbin Frederi 43.43 262 P P 01 34 12.4 +0.8
baz=33
S60A Water View 43.54 261 P P 01 34 12.9 +0.4
baz=32
P54A Burton 43.59 266 P P 01 34 13.0 0.0
baz=34
R58A Rapidan 43.62 263 P P 01 34 13.1 -0.1
baz=33
GEVA Gevas 43.65 97 P P 01 34 12.6 -1.1
GEVA IAmb IAmb 01 34 21.7
comp=Z,71nm,1.7s
I42A Draeger Farm, 43.70 277 P P 01 34 13.8 0.0
I42A IAmb IAmb 01 34 20.8
comp=Z,34nm,1.2s
O52A Adamsville 43.75 268 P P 01 34 14.3 0.0
baz=34
O52A Adamsville 43.75 268 P P 01 34 13.3 -0.9
S59A Mechanicsville 43.77 262 P P 01 34 14.7 +0.4
baz=32
R57A Stanardsville 43.84 263 P P 01 34 15.1 +0.1
baz=33
R58B Mineral 43.84 263 P P 01 34 15.6 +0.6
baz=33
Q55A Buckhannon 43.92 265 P P 01 34 16.2 +0.5
baz=33
NAX Nakhchivan 43.98 94 P P 01 34 17.1 +0.9
O51A Pataskala 44.05 269 P P 01 34 15.8 -0.9
baz=34
T60A Surry 44.05 261 P P 01 34 16.0 -0.7
baz=32
F36A Milaca 44.07 283 P P 01 34 15.9 -0.8
F36A IAmb IAmb 01 34 23.5
comp=Z,42nm,1.5s
P53A Whipple 44.08 267 P P 01 34 16.7 -0.2
baz=34
P53A Whipple 44.08 267 P P 01 34 15.8 -1.0
P53A IAmb IAmb 01 34 24.2
comp=Z,79nm,1.4s
N49A Columbus Grove 44.09 271 P P 01 34 15.7 -1.3
N49A IAmb IAmb 01 34 23.9
comp=Z,49nm,1.1s
L46A Eue Claire 44.10 274 P P 01 34 16.6 -0.5
L46A IAmb IAmb 01 34 24.1
comp=Z,64nm,1.4s
COLD Coldfoot 44.11 336 P P 01 34 18.5 +1.7
baz=27,SNR=5.8
COLD Coldfoot 44.11 336 P P 01 34 16.5 -0.3
COLD IAmb IAmb 01 34 22.2
comp=Z,73nm,1.8s
R56A Bull Pasture M 44.12 264 P P 01 34 17.1 -0.2
baz=33
ACSO Alum Creek Sta 44.14 269 P P 01 34 17.6 +0.2
baz=34
ACSO Alum Creek Sta 44.14 269 P P 01 34 16.4 -1.0
ACSO IAmb IAmb 01 34 24.2
comp=Z,46nm,1.4s
S58A Poland Farm, P 44.21 262 P P 01 34 18.8 +0.8
baz=32
Q54A Coxs Mills 44.26 266 P P 01 34 17.9 -0.4
baz=33
P52A Corning 44.27 268 P P 01 34 18.5 0.0
baz=34
P52A Corning 44.27 268 P P 01 34 17.8 -0.6
SPMN Marine on St. 44.28 282 P P 01 34 18.5 +0.1
baz=36
SPMN Marine on St. 44.28 282 P P 01 34 17.6 -0.8
SPMN IAmb IAmb 01 34 25.3
comp=Z,38nm,1.4s
BHL Bhannes 44.31 108 *e*P P 01 34 18.5 -0.4
DQRL Deir Qamar 44.44 108 *e*P P 01 34 19.7 -0.3
EGAK Eagle 44.47 329 P P 01 34 19.5 -0.2
S57A Dark Hollow, R 44.48 263 P P 01 34 21.3 +1.2
baz=32
TAM Tamanrasset 44.52 149 P P 01 34 19.3 -1.5
TAM pmax pmax
comp=Z,71nm,1.9s
TAM Tamanrasset 44.52 149 P P 01 34 19.3 -1.5
TAM IAmb IAmb 01 34 23.7
comp=Z,70nm,1.9s
R55A Marlinton 44.54 265 P P 01 34 20.0 -0.7
baz=33
T59A Double "B" Far 44.54 262 P P 01 34 19.7 -0.9
baz=32
U61A Possum Corner 44.62 260 P P 01 34 21.0 -0.2
baz=32
QRWL Qaraoun 44.63 108 *e*P P 01 34 21.2 -0.2
Q53A Leroy 44.66 267 P P 01 34 21.4 -0.2
baz=33
L44A Lake County Fo 44.66 275 P P 01 34 22.3 +0.8
baz=35
O49A Covington 44.76 270 P P 01 34 21.7 -0.6
O49A IAmb IAmb 01 34 29.1
comp=Z,35nm,1.1s
P51A Williamsport 44.80 269 P P 01 34 22.7 0.0
baz=34
U60A Pendleton 44.80 261 P P 01 34 23.5 +0.9
baz=32
S56A Natural Bridge 44.81 264 P P 01 34 22.6 -0.1
baz=32
SHBL Chebaa 44.83 108 *e*P P 01 34 23.4 +0.2
Q52A Bidwell 44.89 267 P P 01 34 20.6 -2.8
baz=33
MMAI Mount Meron Ar 44.98 108 P P 01 34 25.4 +1.2
comp=Z,8.0nm,1.0s,baz=355,slow=8.4,SNR=8.8
T58A Grand View Acr 44.98 262 P P 01 34 24.3 +0.1
baz=32
MDND Maddock 44.99 289 P P 01 34 23.8 -0.3
baz=37
R54A Victor 44.99 266 P P 01 34 23.4 -0.9
baz=33
JFWS Jewell Farm 45.06 278 P P 01 34 23.3 -1.4
baz=35
S55A Lewisburg 45.13 265 P P 01 34 24.7 -0.6
baz=33
V61A Roper 45.13 260 P P 01 34 26.2 +0.9
baz=31
U59A Littleton 45.17 261 P P 01 34 24.9 -0.7
baz=32
F33A 5 Mile Ranch, 45.24 285 P P 01 34 25.7 -0.4
F33A IAmb IAmb 01 34 33.2
comp=Z,50nm,1.5s
T57A Hurt 45.24 263 P P 01 34 25.9 -0.3
baz=32
R53A Hurricane 45.28 267 P P 01 34 26.6 +0.1
baz=33
Q51A Peebles 45.30 269 P P 01 34 26.0 -0.7
Q51A IAmb IAmb 01 34 33.4
comp=Z,32nm,1.1s
K27K Chicken 45.32 329 P P 01 34 26.9 +0.4
baz=30
V60A Jim Taylor Roa 45.44 260 P P 01 34 29.1 +1.3
baz=31
S54A Dingess, Beckl 45.45 266 P P 01 34 28.8 +0.9
baz=33
U58A Oxford 45.46 262 P P 01 34 28.5 +0.6
baz=32
P49A Miami Univ. Ec 45.47 270 P P 01 34 28.2 +0.2
baz=34
P49A Miami Univ. Ec 45.47 270 P P 01 34 26.8 -1.2
P49A IAmb IAmb 01 34 34.5
comp=Z,47nm,1.4s
POKR Poker Plat Res 45.47 333 P P 01 34 28.3 +0.5
baz=28
I37A Lemond, Waseca 45.51 281 P P 01 34 27.6 -0.6
T56A Rocky Mt 45.55 264 P P 01 34 29.2 +0.5
baz=32
BLA Blacksburg 45.56 264 P P 01 34 29.9 +1.1
baz=32
IL31 45.67 332 P P 01 34 28.7 -0.5
ILAR Eielson Array 45.67 332 P P 01 34 30.5 +1.2
comp=Z,7.2nm,1.0s,baz=21,slow=6.1,SNR=23
ILAR PcP PcP 01 36 07.7 +0.6
comp=Z,4.1nm,0.9s,baz=351,slow=3.0,SNR=8.7
ILAR LR LR 01 56 07.3
comp=Z,888nm,20.4s,baz=33,slow=39
ILAR Eielson Array 45.67 332 P P 01 34 30.0 +0.7
ILAR PcP 01 36 07.8 +0.6
U57A Blanch 45.76 263 P P 01 34 31.3 +1.0
baz=32
MDM Murphy Dome 45.77 333 P P 01 34 30.0 -0.1
MDM IAmb IAmb 01 34 37.6
comp=Z,45nm,1.2s
COLA College 45.77 333 *i* P P 01 34 31.8 +1.8
COLA pmax pmax
comp=Z,41nm,1.1s
COLA College 45.77 333 P P 01 34 29.9 -0.1
COLA IAmb IAmb 01 34 36.3
comp=Z,27nm,0.8s
LKRN Lenkeran, Azer 45.77 91 P P 01 34 30.6 +0.2
TCOL CIGO, UAF Yank 45.77 333 P P 01 34 30.9 +0.8
baz=27
SCRK Sand Creek 45.78 330 P P 01 34 32.1 +1.8
baz=29,SNR=11
SFIN Lafayette 45.79 273 P P 01 34 31.4 +0.9
baz=34
SFIN Lafayette 45.79 273 P P 01 34 30.0 -0.5
T55A Pulaski 45.80 265 P P 01 34 30.3 -0.4
baz=32
W61A Ground Anchor 45.83 260 P P 01 34 31.7 +0.9
baz=31
P48A Milroy 45.83 271 P P 01 34 30.4 -0.5
S53A Williamson 45.90 266 P P 01 34 31.9 +0.5
baz=33
CCB Clear Creek Bu 45.97 333 P P 01 34 30.6 -0.9
HDA Harding Lake 46.01 332 P P 01 34 33.6 +1.7
baz=28,SNR=6.7
HDA Harding Lake 46.01 332 P P 01 34 31.6 -0.3
HDA IAmb IAmb 01 34 38.0
comp=Z,41nm,1.3s
DOT Dot Lake 46.08 330 P P 01 34 31.8 -0.7
DOT IAmb IAmb 01 34 39.0
comp=Z,25nm,1.2s
CNNC Cliffs of the 46.16 261 P P 01 34 33.2 -0.2
baz=31
RIDG Independent Ri 46.17 331 P P 01 34 33.4 +0.1
L40A Anamosa 46.17 278 P P 01 34 32.6 -0.9
L40A IAmb IAmb 01 34 40.2
comp=Z,27nm,1.1s
WRH Wood River Hil 46.18 333 P P 01 34 33.2 0.0
WRH IAmb IAmb 01 34 50.8
comp=Z,50nm,1.9s
T54A Tazewell 46.19 265 P P 01 34 33.1 -0.6
baz=32
V58A Windy Hill, Pi 46.21 262 P P 01 34 34.9 +1.0
baz=32
W60A Pink Hill 46.24 260 P P 01 34 34.5 +0.4
baz=31
NEA2 Nenana 46.26 333 P P 01 34 35.4 +1.5
baz=26,SNR=11
U56A King 46.28 264 P P 01 34 33.9 -0.5
baz=32
ASF Jabal al Asfar 46.32 107 P P 01 34 36.6 +1.7
comp=Z,9.9nm,1.2s,baz=359,slow=2.6,SNR=16
DGMT Dagmar 46.33 293 P P 01 34 34.6 -0.1
baz=36
DGMT Dagmar 46.33 293 P P 01 34 34.5 -0.3
V57A Coltrane Farms 46.41 263 P P 01 34 35.6 +0.1
baz=32
U55A TA2, Sparta 46.43 264 P P 01 34 35.9 +0.2
baz=32
W59A Clinton 46.45 261 P P 01 34 37.2 +1.4
baz=31,SNR=11
P46A Rosedale 46.47 272 P P 01 34 35.0 -0.9
BRZS Berezniki 46.49 63 ǁ *i*P P 01 34 36.1 +0.1
comp=Z,239nm,2.5s,baz=63
BRZS *i* PP PP 01 36 24.1 -0.6
baz=63
BRZS *e*S S 01 41 24.7 +0.4
baz=63
BRZS Berezniki 46.49 63 *d i*P P 01 34 36.0 +0.1
BRZS *i* 01 36 24.9
BRZS *e*S S 01 41 24.6 +0.4
BRZS pmax pmax
comp=Z,239nm,2.5s
O44A Mansfield 46.57 274 P P 01 34 36.1 -0.5
HDIL Hopedale 46.59 275 P P 01 34 36.3 -0.5
baz=34
HDIL Hopedale 46.59 275 P P 01 34 35.9 -0.9
T53A Wise 46.66 266 P P 01 34 37.5 0.0
baz=32
R49A Shelbyville 46.70 270 P P 01 34 37.0 -0.6
U54A Nelsons Funny 46.75 265 P P 01 34 37.7 -0.4
baz=32
X60A Albert Glenn T 46.76 260 P P 01 34 38.8 +0.7
baz=31
V56A Mocksville 46.78 263 P P 01 34 38.9 +0.6
baz=32
W58A Raeford 46.91 262 P P 01 34 40.4 +1.1
baz=31
HYT Haines Junctio 47.03 325 P P 01 34 39.6 -0.5
X59A McDuffie Farm, 47.03 261 P P 01 34 40.7 +0.4
baz=31
V55A Taylorsville 47.05 264 P P 01 34 40.2 -0.3
baz=32
DLBC Dease Lake 47.06 318 P P 01 34 39.4 -1.0
BPAW Bear Paw Mtn. 47.07 334 P P 01 34 40.0 -0.3
BPAW IAmb IAmb 01 34 46.3
comp=Z,26nm,1.1s
ECSD EROS Data Cent 47.08 284 P P 01 34 39.8 -0.9
baz=35
ECSD EROS Data Cent 47.08 284 P P 01 34 39.8 -0.9
ECSD IAmb IAmb 01 34 47.7
comp=Z,20nm,1.4s
W57A Gilead 47.13 263 P P 01 34 41.9 +0.8
baz=31
SCIA State Center 47.15 279 P P 01 34 42.1 +1.0
baz=34
WCI Wyandotte Cave 47.23 271 P P 01 34 43.0 +1.1
baz=33
WCI Wyandotte Cave 47.23 271 P P 01 34 40.8 -1.0
WCI pmax pmax
comp=Z,25nm,1.0s
WCI Wyandotte Cave 47.23 271 P P 01 34 40.8 -1.0
WCI IAmb IAmb 01 34 47.8
comp=Z,25nm,0.9s
DHY Denali Highway 47.29 332 P P 01 34 42.2 0.0
RND Reindeer 47.29 333 P P 01 34 42.6 +0.5
RND pmax pmax
comp=Z,18nm,1.3s
RND Reindeer 47.29 333 P P 01 34 42.6 +0.5
RND IAmb IAmb 01 34 49.6
comp=Z,18nm,1.3s
Y60A Bolivia 47.35 260 P P 01 34 42.8 0.0
baz=31
X58A Rowland 47.36 261 P P 01 34 42.2 -0.7
baz=31
W56A Indian Trail 47.39 263 P P 01 34 41.1 -2.0
baz=31
V54A Nebo 47.43 265 P P 01 34 43.1 -0.3
baz=32
P43A Skaggs, Pawnee 47.44 275 P P 01 34 42.3 -1.1
TZTN Tazewell 47.47 267 P P 01 34 44.9 +1.2
baz=32
SUSD Miller 47.48 286 P P 01 34 42.2 -1.5
baz=35
TRF Thorofare Moun 47.53 333 P P 01 34 43.1 -0.9
KTH Kantishna Hill 47.55 334 P P 01 34 42.8 -1.3
T50A Nancy 47.62 268 P P 01 34 43.7 -1.2
T50A IAmb IAmb 01 34 47.4
comp=Z,24nm,1.4s
ZAA0 Zalesovo Array 47.64 51 P P 01 34 44.0 -0.8
ZAA0 IAmb IAmb 01 34 47.3
comp=Z,25nm,1.3s
ZALV Zalesovo Beam 47.64 51 P P 01 34 45.0 +0.2
comp=Z,9.0nm,1.0s,baz=334,slow=9.9,SNR=14
ZALV PcP PcP 01 36 14.8 +0.6
comp=Z,0.6nm,0.3s,baz=305,slow=5.1,SNR=2.0
ZALV LR LR 01 57 27.0
comp=Z,597nm,18.3s,baz=320,slow=39
ZALV Zalesovo Beam 47.64 51 P P 01 34 45.0 +0.2
EIL Elat 47.73 111 P P 01 34 45.7 -0.1
comp=Z,7.4nm,1.1s,baz=338,slow=5.8,SNR=11
M24K Tolsona, Glenn 47.90 330 P P 01 34 45.8 -1.1
baz=27
USIN University of 48.04 272 P P 01 34 47.0 -1.2
KURK Kurchatov 48.12 58 pP P 01 34 48.5 0.0
KURK Kurchatov 48.12 58 P P 01 34 48.5 0.0
KURK P P 01 34 48.5 0.0
KURK P P 01 34 48.5 0.0
KURK Kurchatov 48.12 58 *de*P P 01 34 48.2 -0.4
KURK pmax pmax
comp=Z,96nm,2.5s
KURK Kurchatov 48.12 58 P P 01 34 47.5 -1.0
W54A Cherokee Point 48.12 265 P P 01 34 50.6 +1.9
baz=31
X56A White Oak 48.13 263 P P 01 34 49.3 +0.4
baz=31
PAULI Pauline 48.19 264 P P 01 34 48.6 -0.7
Y57A Sumter 48.27 262 P P 01 34 50.3 +0.4
baz=31
PPLA Purkeypile 48.39 334 P P 01 34 50.5 -0.2
PPLA IAmb IAmb 01 34 59.0
comp=Z,34nm,1.2s
SCM Sheep Creek Mo 48.39 331 P P 01 34 49.8 -0.8
SCM pmax pmax
comp=Z,111nm,1.8s
SCM Sheep Creek Mo 48.39 331 P P 01 34 49.8 -0.8
X55A Gracelyn & Ava 48.41 264 P P 01 34 50.5 -0.5
baz=31
JSC Jenkinsville 48.41 263 P P 01 34 49.6 -1.4
JSC pmax pmax
comp=Z,33nm,1.6s
JSC Jenkinsville 48.41 263 P P 01 34 49.6 -1.4
JSC IAmb IAmb 01 34 60.0
comp=Z,33nm,1.6s
CRQM Cirque 48.44 328 P P 01 34 50.5 -0.6
CRQM IAmb IAmb 01 34 56.6
comp=Z,42nm,1.2s
U49A Red Boiling Sp 48.45 269 P P 01 34 50.7 -0.7
U49A IAmb IAmb 01 34 54.3
comp=Z,40nm,1.6s
CUT Chulitna 48.47 333 P P 01 34 50.4 -0.8
baz=25
LAO LASA Array 48.58 293 P P 01 34 53.2 +0.9
baz=35
LAO LASA Array 48.58 293 P P 01 34 51.4 -0.9
LAO IAmb IAmb 01 35 06.4
comp=Z,22nm,1.4s
Z58A St. Stephen 48.60 261 P P 01 34 52.5 0.0
baz=30
T47A Sharon Grove 48.62 270 P P 01 34 52.0 -0.7
GHO Glory Hole Cre 48.78 332 P P 01 34 53.2 -0.4
CPCT Cooper Cave 48.81 267 P P 01 34 53.6 -0.5
Y56A Pelion 48.85 263 P P 01 34 55.2 +0.8
baz=31
EGMT Eagleton 48.86 297 P P 01 34 55.8 +1.3
baz=35,SNR=27
EGMT Eagleton 48.86 297 P P 01 34 54.4 -0.1
HODGE Hodges 48.88 264 P P 01 34 53.5 -1.1
S44A Carbondale 48.95 273 P P 01 34 54.5 -0.6
S44A IAmb IAmb 01 34 58.1
comp=Z,40nm,1.4s
NHSC New Hope 48.96 261 P P 01 34 54.8 -0.4
baz=30
Y55A Saluda 48.96 263 P P 01 34 54.5 -0.7
baz=31
PMR Palmer 48.98 332 P P 01 34 54.9 -0.1
PMR pmax pmax
comp=Z,27nm,1.3s
PMR Palmer 48.98 332 P P 01 34 54.9 -0.1
PMR IAmb IAmb 01 35 02.0
comp=Z,27nm,1.3s
Z57A Bowman 49.02 262 P P 01 34 55.9 +0.2
baz=30
CLTN Cedars of Leba 49.05 269 P P 01 34 55.4 -0.5
CLTN IAmb IAmb 01 34 59.1
comp=Z,62nm,1.7s
TTA Tatalina 49.05 336 P P 01 34 55.5 -0.2
TTA pmax pmax
comp=Z,25nm,1.3s
TTA Tatalina 49.05 336 P P 01 34 55.5 -0.2
TTA IAmb IAmb 01 35 03.8
comp=Z,25nm,1.3s
SKT Skwentna 49.11 333 P P 01 34 55.3 -0.8
SKT IAmb IAmb 01 35 01.1
comp=Z,20nm,1.0s
Z56A Williston 49.28 263 P P 01 34 57.2 -0.4
baz=30
W50A Signal Mountai 49.36 268 P P 01 34 57.6 -0.7
W50A IAmb IAmb 01 35 05.2
comp=Z,40nm,1.2s
CCM Cathedral Cave 49.51 275 P P 01 34 58.0 -1.3
baz=33
CCM Cathedral Cave 49.51 275 P P 01 34 59.5 +0.1
CCM pmax pmax
comp=Z,33nm,2.0s
CCM Cathedral Cave 49.51 275 P P 01 34 59.5 +0.1
CCM IAmb IAmb 01 35 09.1
comp=Z,34nm,1.9s
V48A Smith Brothers 49.56 269 P P 01 34 59.2 -0.5
WALA Waterton Lakes 49.57 301 P P 01 34 59.3 -0.6
WALA IAmb IAmb 01 35 18.2
comp=Z,40nm,1.5s
BGNE Belgrade 49.64 283 P P 01 34 58.7 -1.7
baz=34
R40A Maddies Statio 49.75 276 P P 01 35 00.8 -0.3
RSSD Black Hills 49.82 290 P P 01 35 01.7 -0.3
baz=34
RSSD Black Hills 49.82 290 P P 01 35 00.5 -1.5
RSSD pmax pmax
comp=Z,13nm,1.1s
RSSD Black Hills 49.82 290 P P 01 35 00.5 -1.5
SPU Mount Spurr 49.94 333 P P 01 35 02.6 +0.2
GOGA Godfrey 50.10 265 P P 01 35 03.5 -0.5
baz=31
CAPN Captain Cook N 50.14 332 P P 01 35 03.6 -0.3
baz=24
T42A Van Buren 50.30 274 P P 01 35 04.8 -0.6
T42A IAmb IAmb 01 35 06.8
comp=Z,42nm,1.8s
Q23K Middleton Isla 50.35 329 P P 01 35 04.9 -0.5
baz=26
GEYT Alibeck 50.44 84 P P 01 35 07.0 +0.5
comp=Z,6.9nm,0.9s,baz=312,slow=7.8,SNR=24
GEYT PP PP 01 37 01.5 -0.3
comp=Z,4.7nm,0.9s,baz=302,slow=8.5,SNR=4.1
GEYT LR LR 01 58 50.7
comp=Z,1µm,20.2s,baz=345,slow=39
GYA0B ALIBECK ARRAY 50.44 84 P P 01 35 05.3 -1.1
GYA0B IAmb IAmb 01 35 09.5
comp=Z,48nm,1.4s
GCMT Greycliff 50.67 295 P P 01 35 07.9 -0.4
SVW2 Sparrevohn 50.68 335 P P 01 35 08.4 +0.4
S39A Bolivar 50.70 276 P P 01 35 08.0 -0.5
PLAL Pickwick Lake 50.74 270 P P 01 35 08.6 -0.1
X48A Hartselle 50.75 269 P P 01 35 07.7 -1.1
X48A IAmb IAmb 01 35 09.8

JTMT **Jette** 50.80 300 P **P** 01 35 08.6 -0.7
KSU1 **Kansas State U** 50.92 280 P **P** 01 35 09.7 -0.3
baz=33
KSU1 **Kansas State U** 50.92 280 P **P** 01 35 09.2 -0.9
KSU1 IAmb IAmb 01 35 15.9
comp=Z,25nm,1.2s
RLMT **Red Lodge** 51.07 295 P **P** 01 35 12.8 +1.3
baz=34,SNR=12
RLMT **Red Lodge** 51.07 295 P **P** 01 35 10.2 -1.2
BTLS **Baital** 51.08 66⇓*i*P **P** 01 35 11.8 +0.6
comp=Z,180nm,3.7s,baz=66
BTLS *e*S **S** 01 42 29.7 +0.8
baz=66
BTLS **Baital** 51.08 66*d i*P **P** 01 35 11.8 +0.6
BTLS *e*S **S** 01 42 29.6 +0.8
BTLS pmax pmax
comp=Z,179nm,3.7s
LCAR **Lake Charles** 51.14 273 P **P** 01 35 11.1 -0.6
HOM **Homer** 51.26 332 P **P** 01 35 10.7 -1.6
baz=23
YAK **Yakutsk** 51.27 19 *i*P **P** 01 35 12.1 -0.3
YAK pmax pmax
comp=Z,14nm,0.8s
KK31 **Karatay Array** 51.29 70 P **P** 01 35 12.0 -0.8
KK31 pmax pmax
comp=Z,65nm,1.5s
KK31 **Karatay Array** 51.29 70 P **P** 01 35 12.0 -0.8
KK31 IAmb IAmb 01 35 15.9
comp=Z,66nm,1.4s
KKAR **Karatay Array** 51.29 70 P **P** 01 35 12.0 -0.8
KKAR pmax pmax
comp=Z,65nm,1.5s
KKAR **Karatay Array** 51.29 70 P **P** 01 35 12.0 -0.8
KKAR IAmb IAmb 01 35 15.9
comp=Z,66nm,1.4s
NEW **Newport** 51.41 303 P **P** 01 35 12.4 -1.3
baz=33
NEW **Newport** 51.41 303 P **P** 01 35 13.2 -0.5
NEW pmax pmax
comp=Z,5.0nm,1.1s
NEW **Newport** 51.41 303 P **P** 01 35 13.2 -0.5
MSO **Missoula** 51.44 299 P **P** 01 35 14.4 +0.4
baz=33
MSO **Missoula** 51.44 299 P **P** 01 35 12.8 -1.2
YNE **Yellowstone No** 51.46 295 P **P** 01 35 13.7 -0.7
BOZ **Bozeman (W)** 51.59 297 P **P** 01 35 16.4 +1.2
baz=33,SNR=43
BOZ **Bozeman (W)** 51.59 297 P **P** 01 35 14.5 -0.7
BOZ pmax pmax
comp=Z,43nm,1.2s
BOZ **Bozeman (W)** 51.59 297 P **P** 01 35 14.5 -0.7
BOZ IAmb IAmb 01 35 22.4
comp=Z,43nm,1.2s
U40A **Yellville** 51.63 275 P **P** 01 35 15.9 +0.5
baz=32,SNR=7.6
U40A **Yellville** 51.63 275 P **P** 01 35 14.5 -0.9
OGNE **Ogallala** 51.64 286 P **P** 01 35 14.4 -1.2
baz=33
FCAR **Ozark Folk Cen** 51.71 274 P **P** 01 35 15.4 -0.6
OXF **Oxford** 51.71 271 P **P** 01 35 15.7 -0.3
baz=31
LRM **Limekiln Ridge** 51.72 297 P **P** 01 35 15.6 -0.7
YMP **Mirror Lake Pl** 51.74 295 P **P** 01 35 15.6 -0.9
DZA **Taraz** 51.79 69⇓*i*P **P** 01 35 17.3 +0.7
baz=69
DZA *e*PP **PP** 01 37 14.6 +0.6
baz=69
DZA LR LR 01 56 10.3
comp=Z,537nm,16.8s,baz=69
DZA **Taraz** 51.79 69*d i*P **P** 01 35 17.3 +0.7
DZA *e* 01 37 14.5
DZA MLR MLR
comp=Z,537nm,17.0s
IUG **luzhnay** 51.89 71⇓*i*P **P** 01 35 18.4 +1.0
comp=Z,176nm,2.6s,baz=71
IUG *e*PP **PP** 01 37 15.9 +1.0
baz=71
IUG **luzhnay** 51.89 71*d i*P **P** 01 35 18.4 +1.0
IUG *e* 01 37 15.9
IUG pmax pmax
comp=Z,176nm,2.6s
LRAL **Lakeview Retre** 51.94 268 P **P** 01 35 18.1 +0.4
baz=31
YHH **Holmes Hill** 51.97 296 P **P** 01 35 17.5 -0.8
YHL **Hebgen Lake** 52.05 296 P **P** 01 35 19.1 +0.3
K22A **Casper** 52.05 291 P **P** 01 35 18.9 +0.2
baz=33,SNR=6.0
K22A **Casper** 52.05 291 P **P** 01 35 18.1 -0.6
K22A IAmb IAmb 01 35 24.6
comp=Z,21nm,0.9s
DGZ **Jazzator, Alta** 52.09 53*d i*P **P** 01 35 19.7 +0.8
DGZ pmax pmax
comp=Z,47nm,1.5s
B08A **Colville Reser** 52.12 304 P **P** 01 35 18.5 -0.5
QLMT **Earthquake Lak** 52.16 296 P **P** 01 35 19.3 -0.3
DLMT **Dillon** 52.16 297 P **P** 01 35 19.3 -0.2
DLMT IAmb IAmb 01 35 29.8
comp=Z,44nm,1.8s
H17A **Grant Village** 52.19 295 P **P** 01 35 22.2 +2.3
baz=33,SNR=8.3
H17A **Grant Village** 52.19 295 P **P** 01 35 19.4 -0.5
H17A IAmb IAmb 01 35 28.1
comp=Z,26nm,1.1s
WHAR **Wooly Hollow** 52.29 274 P **P** 01 35 19.4 -0.9
WHAR IAmb IAmb 01 35 26.5
comp=Z,71nm,1.7s
X43A **Marvell** 52.34 272 P **P** 01 35 20.6 -0.1
baz=31
W41B **Gary Mavity, V** 52.37 274 P **P** 01 35 21.0 +0.1
baz=32
W41B **Gary Mavity, V** 52.37 274 P **P** 01 35 20.6 -0.4
W41B IAmb IAmb 01 35 26.2
comp=Z,83nm,1.9s
YPP **Pitchstone Pla** 52.39 295 P **P** 01 35 21.0 -0.4
BOD **Bodaibo** 52.41 30 *e*P **P** 01 35 19.1 -1.9
BOD pmax pmax
comp=Z,19nm,2.7s
CBKS **Cedar Bluff** 52.48 283 P **P** 01 35 21.8 0.0
baz=32
SEY **Seymchan** 52.48 6 P **P** 01 35 21.6 +0.2
comp=Z,9.1nm,1.0s,baz=345,slow=3.4,SNR=10
SEY **Seymchan** 52.48 6 *i*P **P** 01 35 22.3 +0.9
FLWY **Flagg Ranch** 52.50 295 P **P** 01 35 22.1 0.0
FLWY IAmb IAmb 01 35 29.6
comp=Z,23nm,1.1s
MAKZ **Makanchi** 52.60 59 P **P** 01 35 21.9 -0.7
MAKZ pmax pmax
comp=Z,83nm,1.8s
MAKZ **Makanchi** 52.60 59 P **P** 01 35 21.9 -0.7
MAKZ IAmb IAmb 01 35 25.0
comp=Z,83nm,1.8s
SGDS **Sogindy** 52.64 66⇓*i*P **P** 01 35 23.7 +0.8
comp=Z,259nm,3.8s,baz=66
SGDS **Sogindy** 52.64 66*d i*P **P** 01 35 23.7 +0.8
SGDS pmax pmax
comp=Z,259nm,3.8s
MCMT **McKenzie Canyo** 52.71 297 P **P** 01 35 22.8 -0.8
T35A **Sooner Cattle** 52.72 279 P **P** 01 35 22.7 -0.8
T35A IAmb IAmb 01 35 28.9
comp=Z,32nm,1.5s
MK31 **Makanchi Array** 52.73 58 P **P** 01 35 22.8 -0.7
MK31 pmax pmax
comp=Z,28nm,1.4s
MK31 **Makanchi Array** 52.73 58 P **P** 01 35 22.8 -0.7
MK31 IAmb IAmb 01 35 25.8
comp=Z,28nm,1.4s
MKAR **Makanchi Array** 52.73 58 P **P** 01 35 23.7 +0.1
comp=Z,8.9nm,1.0s,baz=326,slow=6.0,SNR=32
MKAR LR LR 01 58 04.8
comp=Z,511nm,20.2s,baz=312,slow=36
MKAR **Makanchi Array** 52.73 58 *i*P **P** 01 35 23.3 -0.2
MKAR pmax pmax
comp=Z,9.0nm,1.0s
PHWY **Pilot Hill** 52.75 289 P **P** 01 35 23.7 -0.4
IMW **Indian Meadow** 52.75 295 P **P** 01 35 23.1 -0.9
TDK **Taldyqorghan** 52.80 62 *e*P **P** 01 35 25.0 +1.0
comp=Z,618nm,3.9s,baz=62
TDK *e*S **S** 01 42 53.8 +1.3
baz=62
TDK LR LR 01 56 24.3
comp=Z,605nm,15.8s,baz=62
TDK **Taldyqorghan** 52.80 62 *e*P **P** 01 35 25.0 +1.0
TDK *e*S **S** 01 42 53.7 +1.3
TDK pmax pmax
comp=Z,618nm,3.9s
TDK MLR MLR
comp=Z,605nm,16.0s
LOHW **Long Hollow** 52.86 295 P **P** 01 35 23.8 -1.0
KUU **Kurty** 52.93 65 *e*P **P** 01 35 25.5 +0.4
comp=Z,508nm,3.6s,baz=65
KUU *e*PP **PP** 01 37 24.8 +0.6
baz=65
KUU LR LR 01 56 51.4
comp=Z,1μm,17.2s,baz=65
KUU **Kurty** 52.93 65 *e*P **P** 01 35 25.5 +0.4
KUU *e* 01 37 24.8
KUU pmax pmax
comp=Z,508nm,3.6s
KUU MLR MLR
comp=Z,1μm,17.0s
EKS2 **Erkin-Say** 52.96 67 P **P** 01 35 26.8 +1.3
SNR=15
A04D **Lummi Island** 53.00 307 P **P** 01 35 24.1 -1.2
baz=31
FXWY **Fox Creek** 53.01 295 P **P** 01 35 25.1 -0.7
W39A **Magazine** 53.01 275 P **P** 01 35 25.1 -0.6
baz=31
W39A **Magazine** 53.01 275 P **P** 01 35 24.5 -1.2
W39A IAmb IAmb 01 35 31.6
comp=Z,48nm,1.6s
KAN13 **South Haven SW** 53.04 279 P **P** 01 35 25.3 -0.6
C06D **Leavenworth** 53.05 305 P **P** 01 35 23.4 -2.4
baz=32
SNOW **Snow King Moun** 53.05 295 P **P** 01 35 25.3 -0.9
SNOW IAmb IAmb 01 35 34.6
comp=Z,71nm,1.9s
CHMS **Chumysh** 53.07 67 P **P** 01 35 27.6 +1.6
SNR=6.3
D08A **Wollman Farm,** 53.08 303 P **P** 01 35 24.5 -1.6
D08A IAmb IAmb 01 35 32.2
comp=Z,50nm,2.0s
TPAW **Teton Pass** 53.10 295 P **P** 01 35 25.9 -0.8
TPAW IAmb IAmb 01 35 35.0
comp=Z,42nm,1.6s
ZSN **Zaisan** 53.10 56 *i*P **P** 01 35 26.7 +0.4
comp=Z,277nm,3.8s,baz=56
ZSN *e*PP **PP** 01 37 25.9 +0.2
baz=56
ZSN **Zaisan** 53.10 56 *i*P **P** 01 35 26.6 +0.4
ZSN *e* 01 37 25.8
ZSN pmax pmax
comp=Z,277nm,3.8s
RWWY **Rawlins** 53.13 291 P **P** 01 35 26.0 -0.9
RWWY IAmb IAmb 01 35 36.3
comp=Z,55nm,1.6s
TOA0 **Torodi Ar. Sit** 53.15 156 pP pP 01 35 31.1 +2.0
SNR=5.3
TOA0 **Torodi Ar. Sit** 53.15 156 P **pP** 01 35 31.1 +2.0
SNR=5.3
TOA0 P pP 01 35 31.1 +2.0
SNR=5.3
TOA0 **Torodi Ar. Sit** 53.15 156 P **P** 01 35 25.9 -1.0
TOA0 IAmb IAmb 01 35 33.3
comp=Z,73nm,1.7s
TORD **Torodi Ar. Bea** 53.15 156 P **P** 01 35 25.8 -1.1
comp=Z,12nm,1.1s,baz=342,slow=5.9,SNR=20
TORD LR LR 02 00 06.5
comp=Z,483nm,18.2s,baz=335,slow=38
PD31 **Pinedale Array** 53.16 293 P **P** 01 35 26.7 -0.3
PD31 IAmb IAmb 01 35 33.0
comp=Z,29nm,1.2s
PDAR **Pinedale Array** 53.16 293 P **P** 01 35 27.6 +0.6
comp=Z,14nm,0.9s,baz=57,slow=5.6,SNR=42
PDAR LR LR 01 57 56.0
comp=Z,2μm,18.0s,baz=30,slow=36
PDAR **Pinedale Array** 53.16 293 P **P** 01 35 26.3 -0.7
BW06 **Boulder Array** 53.16 293 P **P** 01 35 27.5 +0.4
baz=32,SNR=17
BW06 **Boulder Array** 53.16 293 P **P** 01 35 26.2 -0.8
BW06 IAmb IAmb 01 35 33.0
comp=Z,31nm,1.2s
REDW **Red Top Meadow** 53.17 295 P **P** 01 35 26.2 -0.8
REDW IAmb IAmb 01 35 40.5
comp=Z,34nm,1.5s
B05A **Bryant** 53.18 306 P **P** 01 35 24.8 -1.9
baz=31
X40A **Basin Creek Fa** 53.20 274 P **P** 01 35 26.1 -1.0
baz=31
X40A **Basin Creek Fa** 53.20 274 P **P** 01 35 26.5 -0.6
X40A IAmb IAmb 01 35 29.5
comp=Z,50nm,1.9s
TUL1 **Leonard** 53.26 277 P **P** 01 35 26.6 -0.9
baz=32
AAK **Ala-Archa** 53.27 67 P **P** 01 35 31.0 +3.3
SNR=8.0
AAK **Ala-Archa** 53.27 67 *i*P **P** 01 35 28.9 +1.2
SNR=22
AAK **Ala-Archa** 53.27 67 pP **P** 01 35 29.1 +1.4
AAK **Ala-Archa** 53.27 67 P **P** 01 35 29.1 +1.4
AAK P **P** 01 35 29.1 +1.4
AAK P **P** 01 35 29.1 +1.4
AAK **Ala-Archa** 53.27 67*de*P **P** 01 35 28.9 +1.2
AAK pmax pmax
comp=Z,84nm,2.5s
AAK **Ala-Archa** 53.27 67 P **P** 01 35 26.6 -1.1
AAK IAmb IAmb 01 35 35.6
comp=Z,45nm,1.2s
N23A **Red Feather La** 53.29 289 P **P** 01 35 29.4 +1.4
baz=32,SNR=17
N23A **Red Feather La** 53.29 289 P **P** 01 35 27.4 -0.6
N23A IAmb IAmb 01 35 35.1
comp=Z,46nm,1.2s
BCYI **Bear Canyon** 53.36 297 P **P** 01 35 28.3 -0.1
AML **Almayashu** 53.38 68 P **P** 01 35 29.2 +0.4
SNR=18
F10A **Beach Ranch, E** 53.38 301 P **P** 01 35 27.8 -0.6
TKM2 **Tokmak 2** 53.46 66 P **P** 01 35 32.5 +3.3
SNR=12
MIAR **Mount Ida** 53.47 275 P **P** 01 35 28.1 -1.0
baz=31
MIAR **Mount Ida** 53.47 275 P **P** 01 35 29.0 -0.1
MIAR pmax pmax
comp=Z,29nm,1.5s
MIAR **Mount Ida** 53.47 275 P **P** 01 35 29.0 -0.1
MIAR IAmb IAmb 01 35 34.4
comp=Z,29nm,1.4s
KSCO **Kaye Shedlock'** 53.52 285 P **P** 01 35 29.0 -0.5
baz=32
BRAL **Brewton** 53.56 266 P **P** 01 35 30.7 +0.9
baz=30
UCH **Uchtor** 53.62 67 P **P** 01 35 32.2 +1.5
SNR=23
ECR **Eagle Creek** 53.63 295 P **P** 01 35 29.8 -0.7
AAA **Alma-Ata** 53.74 65 *i*P **P** 01 35 31.9 +0.9
baz=65
AAA *i*PP **PP** 01 37 32.7 +1.2
baz=65
AAA *i*S **S** 01 43 06.3 +0.9
baz=65
AAA *e*S S 01 43 06.6 +1.2
baz=65
AAA LR LR 01 57 14.8
comp=Z,933nm,17.9s,baz=65
AAA **Alma-Ata** 53.74 65 *i*P **P** 01 35 31.9 +0.9
AAA *e*S **S** 01 43 06.6 +1.2
AAA MLR MLR
comp=Z,933nm,18.0s
DWPF **Disney Wildern** 53.82 259 P **P** 01 35 31.0 -0.7
baz=28
MDOK **Medeo** 53.83 65 *i*P **P** 01 35 32.6 +0.8
baz=65
MDOK LR LR 01 57 25.1
comp=Z,800nm,18.2s,baz=65
MDOK **Medeo** 53.83 65 *i*P **P** 01 35 32.6 +0.8
MDOK MLR MLR
comp=Z,800nm,18.0s
TNSS **Tian-Shan** 53.89 65 *e*P **P** 01 35 33.5 +0.9
baz=65
TNSS **Tian-Shan** 53.89 65 *e*P **P** 01 35 33.5 +0.9
BTK **Batken** 53.97 72 P **P** 01 35 31.6 -1.2
BTK pmax pmax
comp=Z,71nm,1.2s
BTK **Batken** 53.97 72 P **P** 01 35 31.6 -1.2
ISCO **Idaho Springs** 54.08 288 P **P** 01 35 32.4 -1.4
baz=32
ISCO **Idaho Springs** 54.08 288 P **P** 01 35 33.0 -0.9
ISCO pmax pmax
comp=Z,15nm,1.4s
ISCO **Idaho Springs** 54.08 288 P **P** 01 35 33.0 -0.9
D03D **Eldon** 54.15 306 P **P** 01 35 33.5 -0.4
baz=31
VBMS **Vicksburg** 54.15 270 P **P** 01 35 34.0 0.0
baz=30
Z41A **Richland Creek** 54.24 273 P **P** 01 35 34.2 -0.5
baz=31
D04E **Lakebay** 54.34 306 P **P** 01 35 35.1 -0.1
baz=31
BMO **Blue Mountains** 54.37 300 P **P** 01 35 34.2 -1.5
BMO pmax pmax
comp=Z,14nm,1.4s
BMO **Blue Mountains** 54.37 300 P **P** 01 35 34.2 -1.5
HLID **Hailey** 54.38 297 P **P** 01 35 36.3 +0.5
baz=32,SNR=8.2
HLID **Hailey** 54.38 297 P **P** 01 35 34.7 -1.2
SATY **Saty** 54.44 64⇓*i*P **P** 01 35 36.9 +0.7
comp=Z,185nm,4.0s,baz=64
SATY *e*PP **PP** 01 37 38.5 +0.6
baz=64
SATY **Saty** 54.44 64*d i*P **P** 01 35 36.9 +0.7
SATY *e* 01 37 38.5
SATY **Saty** 54.44 64*d i*P **P** 01 35 36.9 +0.7
SATY *e* 01 37 38.5
CHGR **Chuyangaron** 54.47 74 P **P** 01 35 35.6 -0.9
Q24A **Divide** 54.60 287 P **P** 01 35 37.8 +0.1
baz=32
Q24A **Divide** 54.60 287 P **P** 01 35 36.0 -1.7
G08A **Pilot Rock** 54.60 302 P **P** 01 35 37.0 -0.4
UZB **Uzynbulak** 54.60 63⇓*i*P **P** 01 35 38.2 +0.8
comp=Z,119nm,2.5s,baz=63
UZB *e*S **S** 01 43 18.2 +0.9
baz=63
UZB **Uzynbulak** 54.60 63*d i*P **P** 01 35 38.2 +0.8
UZB *e*S **S** 01 43 18.2 +0.9
UZB pmax pmax
comp=Z,119nm,2.5s
GAR **Garm** 54.66 73 P **P** 01 35 37.1 -0.8
MOY **Mondy** 54.66 42 *e*P **P** 01 35 39.1 +1.4
MOY pmax pmax
comp=Z,274nm,3.4s
KDJ **Kajisay** 54.75 65 P **P** 01 35 37.7 -0.9
KDJ pmax pmax
comp=Z,30nm,1.2s
KDJ **Kajisay** 54.75 65 P **P** 01 35 37.7 -0.9
KDJ IAmb IAmb 01 35 41.7
comp=Z,30nm,1.1s
SHLS **Shalkode** 54.76 63 *i*P **P** 01 35 40.9 +2.3
comp=Z,170nm,2.5s,baz=63
SHLS *e*S **S** 01 43 22.8 +3.4
baz=63
SHLS **Shalkode** 54.76 63 *i*P **P** 01 35 40.8 +2.3
SHLS *e*S **S** 01 43 22.7 +3.4
SHLS pmax pmax
comp=Z,170nm,2.5s
E04D **Cinebar** 54.81 305 P **P** 01 35 37.2 -1.5
baz=30
O20A **White River Ci** 54.86 290 P **P** 01 35 38.3 -1.1
baz=32
O20A **White River Ci** 54.86 290 P **P** 01 35 39.1 -0.3
HWUT **Hardware Ranch** 54.94 294 P **P** 01 35 39.0 -0.9
HWUT IAmb IAmb 01 35 46.6
comp=Z,27nm,1.0s
F05D **White Salmon** 54.99 304 P **P** 01 35 38.8 -1.3
baz=31
RDMU **Red Mountain** 55.03 292 P **P** 01 35 39.8 -0.9
IRK **Irkutsk** 55.07 40 *e*P **P** 01 35 39.7 -0.8
IRK *e* 01 36 38.0
IRK pmax pmax
comp=Z,265nm,2.0s
HRA **Herat** 55.20 82 P **P** 01 35 40.2 -1.8
TCUT **Toone Canyon** 55.29 294 P **P** 01 35 41.7 -0.9
TARG **Taragay, Kyrgy** 55.34 65 P **P** 01 35 41.9 -1.2
F04D **Rainier, OR** 55.37 305 P **P** 01 35 41.3 -1.5
baz=30
TLY **Talaya** 55.40 40 P **P** 01 35 43.6 +0.6
comp=Z,5.7nm,0.8s,baz=335,slow=7.1,SNR=2.8
TLY **Talaya** 55.40 40*d i*P **P** 01 35 43.0 +0.1
TLY *e* 01 37 48.4
TLY *e*PPP PPP 01 39 01.6
TLY *e*S **S** 01 43 34.5 +7.0
TLY pmax pmax
comp=Z,70nm,2.3s
TLY MLR MLR
comp=Z,2μm,15.0s
TLY **Talaya** 55.40 40 P **P** 01 35 42.5 -0.4
G05D **Wamic, OR** 55.49 304 P **P** 01 35 43.5 -0.2
baz=30
WMOK **Wichita Mounta** 55.53 279 P **P** 01 35 44.9 +0.8
baz=31,SNR=16
WMOK **Wichita Mounta** 55.53 279 P **P** 01 35 44.1 0.0
WMOK pmax pmax
comp=Z,23nm,1.4s
WMOK **Wichita Mounta** 55.53 279 P **P** 01 35 44.1 0.0
WMOK IAmb IAmb 01 35 52.6
comp=Z,23nm,1.4s
JLU **Jordanelle** 55.75 293 P **P** 01 35 45.0 -0.9
MA2 **Magadan** 55.76 7*de*P **P** 01 35 45.6 +0.3
MA2 pmax pmax
comp=Z,23nm,1.1s
MA2 **Magadan** 55.76 7 P **P** 01 35 45.4 +0.1
MA2 IAmb IAmb 01 35 49.9
comp=Z,32nm,1.2s
SDCO **Great Sand Dun** 55.78 287 P **P** 01 35 47.4 +1.2
baz=31,SNR=6.4
SDCO **Great Sand Dun** 55.78 287 P **P** 01 35 45.7 -0.4
I07A **Izee** 55.84 302 P **P** 01 35 46.2 -0.1
T25A **Trinidad** 55.85 285 P **P** 01 35 45.3 -1.3
baz=31
T25A **Trinidad** 55.85 285 P **P** 01 35 46.0 -0.6
T25A IAmb IAmb 01 35 50.1
comp=Z,63nm,1.9s
BGU **Big Grassy Mou** 56.09 295 P **P** 01 35 48.0 -0.2
G03D **McMinnville, O** 56.21 305 P **P** 01 35 47.8 -1.0
baz=30
I05D **Terrebonne, OR** 56.28 303 P **P** 01 35 49.4 0.0
baz=30
S22A **4UR Ranch, Cre** 56.33 288 P **P** 01 35 51.4 +1.3
baz=31,SNR=10.0
S22A **4UR Ranch, Cre** 56.33 288 P **P** 01 35 50.0 0.0
NATX **Nacogdoches** 56.33 274 P **P** 01 35 49.5 -0.3
baz=30
P17A **Butcher Ranch,** 56.43 292 P **P** 01 35 49.9 -0.8
PV22 **Blue Mesa, Par** 56.45 290 P **P** 01 35 50.1 -0.7
PV22 IAmb IAmb 01 35 59.5
comp=Z,53nm,1.9s
ZAK **Zakamensk** 56.46 41 *e*P **P** 01 35 51.0 +0.3
ZAK pmax pmax
comp=Z,16nm,1.0s
PV07 **Paradox Valley** 56.47 290 P **P** 01 35 50.3 -0.8
PV15 **Paradox Valley** 56.49 289 P **P** 01 35 49.6 -1.6
PV15 IAmb IAmb 01 35 57.8
comp=Z,23nm,1.3s
PV21 **Cone Mtn., Par** 56.50 290 P **P** 01 35 50.4 -0.9
PV21 IAmb IAmb 01 35 57.6
comp=Z,22nm,1.0s
KSH **Kashi** 56.51 68 P **P** 01 35 54.0 +2.8
KSH S **S** 01 43 49.5 +6.7
KSH pmax pmax
comp=Z,100nm,1.5s
KSH pmax pmax
comp=Z,840nm,7.6s
KSH LR LR
comp=Z,3μm,18.9s
KSH LR LR
comp=Z,1μm,17.1s
KSH LR LR
comp=Z,2μm,19.6s
NLU **North Lily Min** 56.55 293 P **P** 01 35 50.7 -0.9
PV23 **Carpenter Ridg** 56.61 290 P **P** 01 35 51.1 -0.9
PV23 IAmb IAmb 01 36 00.9
comp=Z,34nm,1.2s
PV04 **Paradox Valley** 56.62 290 P **P** 01 35 50.8 -1.2
PV04 IAmb IAmb 01 36 00.7
comp=Z,22nm,1.2s
H04D **Lebanon** 56.62 304 P **P** 01 35 51.6 -0.1
baz=30
AMTX **Amarillo** 56.63 282 P **P** 01 35 52.1 +0.1
baz=31
DUG **Dugway, Tooele** 56.63 294 P **P** 01 35 53.3 +1.3
baz=31,SNR=7.7
DUG **Dugway, Tooele** 56.63 294 P **P** 01 35 51.3 -0.8
DUG pmax pmax
comp=Z,50nm,1.6s
DUG **Dugway, Tooele** 56.63 294 P **P** 01 35 51.3 -0.8
DUG IAmb IAmb 01 35 59.5
comp=Z,50nm,1.6s
SRU **San Rafael Swe** 56.65 292 P **P** 01 35 52.1 -0.2

SRU pmax pmax
comp=Z,15nm,0.9s
SRU San Rafael Swe 56.65 292 P **P** **01 35 52.1 -0.2**
PV14 Lion Creek, Pa 56.68 290 P **P** **01 35 51.0 -1.6**
PV14 IAmb IAmb 01 35 55.2
comp=Z,20nm,1.0s
PV11 David Mesa, Pa 56.69 290 P **P** **01 35 51.1 -1.4**
PV11 IAmb IAmb 01 35 59.1
comp=Z,28nm,1.0s
PV10 Paradox Valley 56.69 290 P **P** **01 35 52.8 +0.1**
PV10 IAmb IAmb 01 35 59.7
comp=Z,26nm,1.0s
PV20 West Nyswonger 56.69 290 P **P** **01 35 52.2 -0.3**
PV16 Nyswonger Mesa 56.69 290 P **P** **01 35 52.0 -0.6**
PV01 Paradox Valley 56.70 289 P **P** **01 35 52.3 -0.4**
PV01 IAmb IAmb 01 35 59.5
comp=Z,30nm,1.1s
PV02 Paradox Valley 56.71 290 P **P** **01 35 52.1 -0.6**
PV02 IAmb IAmb 01 35 59.4
comp=Z,33nm,1.0s
PV03 Paradox Valley 56.71 290 P **P** **01 35 52.4 -0.3**
PV03 IAmb IAmb 01 35 59.3
comp=Z,34nm,1.1s
PV17 East Wray Mesa 56.74 290 P **P** **01 35 52.7 -0.2**
PV17 IAmb IAmb 01 35 59.5
comp=Z,22nm,1.0s
PV18 Skein Mesa, Pa 56.74 290 P **P** **01 35 52.6 -0.3**
PV18 IAmb IAmb 01 35 59.5
comp=Z,28nm,0.9s
TMUT Trail Mountain 56.77 292 P **P** **01 35 52.4 -0.8**
PV13 Radium Mtn., P 56.78 290 P **P** **01 35 52.4 -0.9**
WVOR Wild Horse Val 56.94 300 P **P** **01 35 53.2 -1.0**
WVOR pmax pmax
comp=Z,4.0nm,1.3s
WVOR Wild Horse Val 56.94 300 P **P** **01 35 53.2 -1.0**
PV05 Paradox Valley 56.97 290 P **P** **01 35 53.4 -1.2**
PV05 IAmb IAmb 01 35 59.0
comp=Z,30nm,0.9s
Q16A Castle Valley 57.08 292 P **P** **01 35 54.5 -0.9**
I04A Tendick Farm, 57.14 304 P **P** **01 35 54.0 -1.5**
baz=30
J05D Fort Rock, OR 57.16 302 P **P** **01 35 56.1 +0.3**
baz=30
WMQ Urumqi 57.24 56 P **P** **01 35 57.5 +1.3**
WMQ pP sP 01 36 00.3 +1.1
WMQ S **S** **01 43 52.8 +0.6**
WMQ pmax pmax
comp=Z,23nm,1.3s
WMQ pmax pmax
comp=Z,540nm,3.9s
WMQ LR LR
comp=Z,470nm,21.5s
WMQ LR LR
comp=Z,590nm,18.5s
WMQ LR LR
comp=Z,360nm,20.7s
WHTX Lake Whitney, 57.32 276 P **P** **01 35 56.7 -0.1**
baz=30
WHTX Lake Whitney, 57.32 276 P **P** **01 35 55.9 -1.0**
WHTX IAmb IAmb 01 36 05.0
comp=Z,44nm,1.5s
MVCO Mesa Verde 57.47 289 P **P** **01 35 57.7 -0.4**
baz=31
MVCO Mesa Verde 57.47 289 P **P** **01 35 56.9 -1.2**
K05A Summer Lake 57.52 302 P **P** **01 35 57.7 -0.7**
I03D Drain, OR 57.56 304 P **P** **01 35 58.0 -0.3**
baz=29
ABTX Abilene, Hawle 57.71 279 P **P** **01 35 59.7 0.0**
baz=30
MSU Marysvale 57.83 293 P **P** **01 36 00.6 -0.1**
MSU Marysvale 57.83 293 P **P** **01 36 00.6 -0.1**
MSTX Muleshoe 57.88 282 P **P** **01 36 00.3 -0.6**
baz=30
K04D Chiloquin, OR 57.92 302 P **P** **01 36 01.7 +0.6**
baz=29
KBL Kabul 57.94 76 pP **P** **01 36 01.9 +0.5**
SNR=9.3
KBL Kabul 57.94 76 P **P** **01 36 01.9 +0.5**
SNR=9.3
KBL P **P** **01 36 01.9 +0.5**
SNR=9.3
KBL Kabul 57.94 76 P **P** **01 36 00.2 -1.2**
KBL pmax pmax
comp=Z,21nm,1.2s
KBL Kabul 57.94 76 P **P** **01 36 00.2 -1.2**
KBL IAmb IAmb 01 36 03.9
comp=Z,21nm,1.2s
MOD Modoc Plateau 58.02 301 P **P** **01 36 00.5 -1.3**
J01E Myrtle Point 58.23 304 P **P** **01 36 03.0 -0.1**
baz=29
MTPU Mount Pierson 58.24 292 P **P** **01 36 02.6 -1.1**
435B Jarrell 58.42 276 P **P** **01 36 04.1 -0.5**
baz=30
PSUT Pine Spring 58.47 294 P **P** **01 36 04.8 -0.3**
L04D Klamath Falls 58.47 303 P **P** **01 36 03.4 -1.6**
baz=29
K02D Willamette Mer 58.55 304 P **P** **01 36 05.0 -0.4**
baz=29
ANMO Albuquerque 58.58 286 P **P** **01 36 06.4 +0.6**
baz=30
ANMO Albuquerque 58.58 286 *de*P **P** **01 36 07.2 +1.3**
ANMO pmax pmax
comp=Z,39nm,3.1s
ANMO Albuquerque 58.58 286 P **P** **01 36 05.1 -0.8**
DBIC Dimbokro 58.60 165 P **P** **01 36 06.1 +0.2**
comp=Z,12nm,0.9s,baz=354,slow=6.5,SNR=6.9
DBIC LR LR 02 01 31.7
comp=Z,348nm,18.6s,baz=348,slow=36
DBIC Dimbokro 58.60 165 P **P** **01 36 06.1 +0.2**
DBIC pmax pmax
comp=Z,28nm,1.3s
DBIC Dimbokro 58.60 165 IAmb IAmb 01 36 06.9
comp=Z,28nm,1.3s
TIC Toumodi 58.61 165 *e*P **P** **01 36 05.7 -0.3**
M04C Macdoel 58.69 302 P **P** **01 36 04.9 -1.6**
baz=29
ZEA Zeya 58.84 24 *e*P **P** **01 36 08.6 +1.4**
ZEA *e* 01 38 22.0
ZEA *e*PPP PPP 01 39 39.0
ZEA *e*S S 01 44 23.0 +10
ZEA *e*SSS SSS 01 50 38.0
ZEA pmax pmax
comp=Z,190nm,2.5s
ZEA pmax pmax
comp=N,200nm,7.0s
ZEA pmax pmax
comp=Z,800nm,7.0s
ZEA pmax pmax
comp=Z,300nm,9.0s
ZEA smax smax
comp=N,600nm,14.0s
ZEA MLR MLR
comp=Z,500nm,15.0s
KIC Kosan Boka 58.92 165 *e*P **P** **01 36 07.9 -0.2**
comp=Z,60nm,1.1s
LIC Lamto 59.02 165 *e*P **P** **01 36 07.8 -1.0**
comp=Z,82nm,1.1s
CCUT Cedar City 59.13 293 P **P** **01 36 08.9 -0.8**
R11A Troy Canyon, C 59.31 295 P **P** **01 36 11.5 +0.6**
baz=30,SNR=17
R11A Troy Canyon, C 59.31 295 P **P** **01 36 10.6 -0.3**
BNM Barren Site 59.33 285 P **P** **01 36 10.8 -0.4**
KNB Kanab 59.38 292 P **P** **01 36 10.5 -0.9**
KNB pmax pmax
comp=Z,22nm,1.3s
KNB Kanab 59.38 292 P **P** **01 36 10.5 -0.9**
M02C Callahan 59.40 303 P **P** **01 36 11.1 -0.2**
baz=29
Y22D IRIS PASSCAL I 59.52 286 P **P** **01 36 10.4 -2.0**
baz=30
LCMT Little Creek M 59.55 292 P **P** **01 36 12.0 -0.5**
PAHR Pah Rah Range 59.58 299 P **P** **01 36 12.5 -0.2**
PAHR IAmb IAmb 01 36 26.8
comp=Z,22nm,1.5s
JCT Junction City 59.63 277 P **P** **01 36 12.7 -0.4**
baz=30
JCT Junction City 59.63 277 P **P** **01 36 12.3 -0.8**
JCT pmax pmax
comp=Z,70nm,1.6s
JCT Junction City 59.63 277 P **P** **01 36 12.3 -0.8**
SONM Songino Array 59.64 40 P **P** **01 36 13.8 +0.8**
comp=Z,3.8nm,0.9s,baz=322,slow=5.0,SNR=17
SONM LR LR 02 04 21.6
comp=Z,905nm,20.6s,baz=326,slow=38
KVN Kaiserville 59.67 298 P **P** **01 36 12.2 -1.2**
KVN pmax pmax
comp=Z,17nm,1.0s
KVN Kaiserville 59.67 298 P **P** **01 36 12.2 -1.2**
KVN IAmb IAmb 01 36 20.1
comp=Z,17nm,1.0s
U15A North Rim 59.67 291 P **P** **01 36 12.3 -1.2**
U15A IAmb IAmb 01 36 19.6
comp=Z,16nm,1.1s
N02D Trinity Center 59.71 302 P **P** **01 36 11.6 -1.9**
baz=29
W18A Petrified Fore 59.77 289 P **P** **01 36 13.6 -0.5**
baz=30
W18A Petrified Fore 59.77 289 P **P** **01 36 13.0 -1.1**
W18A IAmb IAmb 01 36 24.3
comp=Z,37nm,1.8s
SHME Shamm 59.80 93 P **P** **01 36 13.5 -0.7**
ULN Ulaanbaatar 59.80 40 *ce*P **P** **01 36 14.7 +0.6**
ULN pmax pmax
comp=Z,56nm,2.5s
ULN Ulaanbaatar 59.80 40 P **P** **01 36 13.7 -0.4**
PRN Pahroc Range 59.92 294 P **P** **01 36 13.9 -1.2**
O03E Paynes Creek 59.97 301 P **P** **01 36 13.4 -1.9**
baz=29
BANOM Banah 59.97 93 P **P** **01 36 15.1 -0.4**
BANOM Banah 59.97 93 P **P** **01 36 15.0 -0.4**
BANOM Banah 59.97 93 P **P** **01 36 15.0 -0.4**
WUAZ Wupatki 60.09 290 P **P** **01 36 15.4 -1.0**
baz=30
WUAZ Wupatki 60.09 290 P **P** **01 36 15.2 -1.1**
YERR Yerington 60.16 298 P **P** **01 36 15.3 -1.5**
YERR IAmb IAmb 01 36 24.0
comp=Z,21nm,1.1s
NV11 Mina Array Sit 60.23 297 P **P** **01 36 16.4 -0.8**
NVAR Mina Array Bea 60.29 297 P **P** **01 36 18.7 +1.0**
comp=Z,2.7nm,0.9s,baz=36,slow=3.6,SNR=14
NVAR LR LR 02 02 39.5
comp=Z,3μm,18.7s,baz=28,slow=36
NVAR Mina Array Bea 60.29 297 P **P** **01 36 19.4 +1.7**
MSFE Esma-Masafi 60.41 93 *i*P **P** **01 36 18.0 -0.4**
SNR=7.9
O02D Mt. Diablo Mer 60.44 302 P **P** **01 36 18.3 -0.2**
baz=28
NIL Nilore 60.46 73 P **P** **01 36 17.9 -0.8**
NIL pmax pmax
comp=Z,55nm,1.2s
NIL Nilore 60.46 73 P **P** **01 36 17.9 -0.8**
ORV Oroville 60.51 300 P **P** **01 36 18.3 -0.6**
ORV pmax pmax
comp=Z,7.0nm,1.3s
ORV Oroville 60.51 300 P **P** **01 36 18.3 -0.6**
NAZ Nazwa, Dubai 60.52 94 *i*P **P** **01 36 19.0 -0.1**
SNR=7.9
LHV Little Huntoon 60.52 297 P **P** **01 36 18.4 -0.5**
LHV IAmb IAmb 01 36 23.6
comp=Z,35nm,2.0s
MDH Madha 60.52 93 *i*P **P** **01 36 18.3 -0.9**
SNR=9.5
WAKR Walker 60.65 298 P **P** **01 36 19.3 -0.8**
WAKR IAmb IAmb 01 36 33.8
comp=Z,24nm,1.8s
SHPR Sheep Range 60.74 294 P **P** **01 36 20.1 -0.7**
SHPR IAmb IAmb 01 36 28.3
comp=Z,34nm,1.4s
TPNV Topopah Spring 60.79 295 P **P** **01 36 20.7 -0.4**
baz=29
TPNV Topopah Spring 60.79 295 P **P** **01 36 19.7 -1.3**
TPNV pmax pmax
comp=Z,10.0nm,1.2s
TPNV Topopah Spring 60.79 295 P **P** **01 36 19.7 -1.3**
UOSS Minazif 60.79 93 *i*P **P** **01 36 20.7 -0.4**
SNR=6.0
UOSS Minazif 60.79 93 P **P** **01 36 20.6 -0.4**
UOSS IAmb IAmb 01 36 23.6
comp=Z,30nm,1.2s
AFDM Forest Hills D 60.84 300 P **P** **01 36 20.2 -1.0**
HATD Hata, Dubai 60.86 93 *i*P **P** **01 36 21.5 0.0**
SNR=8.0
HATD Hatta, Dubai 60.86 93 P **P** **01 36 21.3 -0.2**
SNR=6.8
HATD Hatta, Dubai 60.86 93 P **P** **01 36 21.3 -0.2**
SNR=6.8
HATD P **P** **01 36 21.3 -0.2**
SNR=6.8
MNTX Cornudas Mount 60.94 283 P **P** **01 36 20.9 -1.0**
baz=29
MNTX Cornudas Mount 60.94 283 P **P** **01 36 21.0 -1.0**
ASHO Ashiyiah 60.96 94 *i*P **P** **01 36 21.4 -0.7**
SNR=9.6
ASHO Ashiyiah 60.96 94 P **P** **01 36 21.9 -0.3**
SNR=6.4
ASHO Ashiyiah 60.96 94 P **P** **01 36 21.9 -0.3**
SNR=6.4
X16A Lo Mia Camp, P 61.08 290 P **P** **01 36 21.5 -1.6**
X16A IAmb IAmb 01 36 30.3
comp=Z,14nm,1.0s
GRAC Grapevine Rang 61.18 296 P **P** **01 36 23.1 -0.5**
baz=29
MLAC Mammoth, Mammo 61.19 297 P **P** **01 36 24.7 +0.8**
baz=29
121A Cookes Peak, D 61.21 285 P **P** **01 36 24.9 +0.9**
baz=29
121A Cookes Peak, D 61.21 285 P **P** **01 36 23.1 -0.9**
121A IAmb IAmb 01 36 31.4
comp=Z,16nm,1.2s
OMMB Old Mammoth Mi 61.27 297 P **P** **01 36 24.3 -0.2**
MDPB Devils Postpil 61.28 298 P **P** **01 36 23.2 -1.3**
833A Chaparral WMA, 61.33 276 P **P** **01 36 25.0 +0.4**
baz=29
ALNE Al Ain 61.38 94 *i*P **P** **01 36 24.8 -0.2**
SNR=8.3
CMB Columbia Colle 61.42 299 P **P** **01 36 24.5 -0.7**
CMB pmax pmax
comp=Z,15nm,1.5s
CMB Columbia Colle 61.42 299 P **P** **01 36 24.5 -0.7**
FURC Furnace Creek, 61.45 295 P **P** **01 36 25.1 -0.1**
baz=29
TIN Tinemaha, Big 61.46 297 P **P** **01 36 25.4 -0.1**
baz=29
W13A Hualapai Mount 61.47 292 P **P** **01 36 24.7 -1.0**
HIA Hailar 61.63 30 *i*P **P** **01 36 27.2 +0.8**
HIA pmax pmax
comp=Z,6.0nm,1.2s
SOHO SOHO 61.64 93 *i*P **P** **01 36 25.7 -1.0**
SNR=8.5
SHOC Shoshone, Teco 61.71 294 P **P** **01 36 28.5 +1.4**
baz=29
CWC Cottonwood Cre 61.94 296 P **P** **01 36 29.1 +0.3**
baz=28
TUQ Turquoise Moun 61.98 294 P **P** **01 36 28.4 -0.7**
baz=29
MPMC Manual Prospec 62.05 295 P **P** **01 36 29.0 -0.6**
baz=29
PDMCI Parker Dam,Lak 62.26 292 P **P** **01 36 29.7 -1.1**
baz=29
TX31 Lajitas Ar. Si 62.27 280 P **P** **01 36 30.2 -0.8**
TX31 IAmb IAmb 01 36 37.5
comp=Z,22nm,1.1s
TXAR Lajitas Array 62.27 280 LR LR 02 03 03.9
comp=Z,2μm,19.0s,baz=0.0,slow=36
TX32 Lajitas Array 62.27 280 P **P** **01 36 30.2 -0.8**
ARQ Araqi 62.34 94 P **P** **01 36 30.8 -0.7**
ARQ Araqi 62.34 94 P **P** **01 36 30.8 -0.7**
GSC Goldstone, Bar 62.44 294 P **P** **01 36 31.9 -0.2**
baz=28
GSC Goldstone, Bar 62.44 294 P **P** **01 36 31.5 -0.6**
GSC pmax pmax
comp=Z,16nm,1.7s
GSC Goldstone, Bar 62.44 294 P **P** **01 36 31.5 -0.6**
GMRC Granite Mounta 62.45 293 P **P** **01 36 33.5 +1.3**
baz=29,SNR=9.6
PETK Petropavlovsk- 62.49 3 P **P** **01 36 33.9 +1.9**
comp=Z,6.6nm,1.1s,baz=46,slow=8.5,SNR=8.0
PETK Petropavlovsk- 62.49 3 P **P** **01 36 34.0 +1.9**
VOG Valley Oaks Go 62.55 297 P **P** **01 36 32.1 -0.6**
baz=28
PET Petropavlovsk 62.60 3 *d*/*i*P **P** **01 36 32.7 -0.1**
PET *e* 01 38 50.4
PET *e*S **S** **01 45 01.6 +0.9**
PET *e*SS **SS** **01 49 07.3 +3.6**
PET pmax pmax
comp=Z,200nm,10.8s
TUC Tucson 62.64 288 P **P** **01 36 31.9 -1.6**
baz=29
TUC Tucson 62.64 288 P **P** **01 36 32.7 -0.8**
TUC pmax pmax
comp=Z,14nm,1.2s
TUC Tucson 62.64 288 P **P** **01 36 32.7 -0.8**
TUC IAmb IAmb 01 36 41.1
comp=Z,14nm,1.2s
HEC Hector,Ludlow 62.67 294 P **P** **01 36 32.4 -1.3**
baz=28
ISA Isabella, Lake 62.77 296 P **P** **01 36 34.3 0.0**
baz=28
ISA Isabella, Lake 62.77 296 P **P** **01 36 33.6 -0.7**
ISA pmax pmax
comp=Z,12nm,1.1s
ISA Isabella, Lake 62.77 296 P **P** **01 36 33.6 -0.7**
ISA IAmb IAmb 01 36 42.4
comp=Z,12nm,1.1s
IRM Iron Mountain 62.79 292 P **P** **01 36 35.1 +0.7**
baz=28
319A Douglas 62.84 286 P **P** **01 36 33.8 -1.1**
319A IAmb IAmb 01 36 52.0
comp=Z,18nm,0.9s
VES Vestal, Richgr 62.85 297 P **P** **01 36 35.3 +0.5**
baz=28
BIDO Bidbid 62.87 92 P **P** **01 36 33.4 -1.5**
SNR=7.2
BIDO Bidbid 62.87 92 P **P** **01 36 33.4 -1.5**
SNR=7.2
BIDO P **P** **01 36 33.4 -1.5**
SNR=7.2
RRX Edison Barstow 62.89 294 P **P** **01 36 35.3 +0.3**
baz=28
DHRM DHARAMSHALA 62.93 72 *e*P **P** **01 36 35.0 -0.6**
DHRM IAmb IAmb 01 36 40.6
comp=Z,143nm,2.2s
SMDO Samad 63.24 93 P **P** **01 36 36.0 -1.6**
SNR=5.3
SMDO Samad 63.24 93 P **P** **01 36 36.0 -1.6**
SNR=5.3
SMDO P **P** **01 36 36.0 -1.6**
SNR=5.3
BELC Belle Mtn. Jos 63.27 293 P **P** **01 36 38.1 +0.4**
baz=28
EDW2 Edwards Air Fo 63.28 295 P **P** **01 36 37.9 +0.2**
baz=28
BC3 Big Chuckawall 63.35 292 P **P** **01 36 39.1 +0.9**
baz=28
ARVC Arvin 63.38 296 P **P** **01 36 38.6 +0.3**
baz=28
BBRC Big Bear Solar 63.40 294 P **P** **01 36 38.5 -0.2**
baz=28
113A Mohawk Valley, 63.45 291 P **P** **01 36 38.1 -0.6**
113A IAmb IAmb 01 36 40.8
comp=Z,35nm,1.9s
GLA Glamis 63.63 292 P **P** **01 36 40.6 +0.6**
baz=28
GLA Glamis 63.63 292 P **P** **01 36 39.6 -0.4**
GLA pmax pmax
comp=Z,20nm,1.2s
GLA Glamis 63.63 292 P **P** **01 36 39.6 -0.4**
GLA IAmb IAmb 01 36 47.3
comp=Z,20nm,1.2s
SMMC Simmler 63.67 297 P **P** **01 36 40.0 -0.2**
baz=28
BFSC Mount Baldy Ra 63.71 295 P **P** **01 36 40.6 0.0**
baz=28
214A Organ Pipe Nat 63.78 289 P **P** **01 36 40.5 -0.5**
baz=28
PFO Pinyon Flats O 63.79 293 P **P** **01 36 40.7 -0.4**
baz=28
PFO Pinyon Flats O 63.79 293 P **P** **01 36 40.9 -0.3**
PFO pmax pmax
comp=Z,27nm,1.9s
PFO Pinyon Flats O 63.79 293 P **P** **01 36 40.9 -0.3**
PFO IAmb IAmb 01 36 47.8
comp=Z,27nm,1.9s
OSI Osito Audit: C 63.79 296 P **P** **01 36 41.5 +0.5**
baz=28
KLR Kul'dur 63.94 22 P **P** **01 36 43.0 +1.3**
comp=Z,2.0nm,0.8s,baz=337,slow=12,SNR=4.6
KLR Kul'dur 63.94 22 *ce*P **P** **01 36 41.5 -0.2**
KLR pmax pmax
comp=Z,20nm,3.0s
DECC Green Verdugo 63.96 295 P **P** **01 36 41.6 -0.6**
baz=28
PKM Mcpherson Peak 63.97 297 P **P** **01 36 42.3 -0.1**
baz=28
MURC Murrieta 64.09 294 P **P** **01 36 42.0 -1.0**
baz=28
SMLA Simla 64.27 72 *e*P **P** **01 36 43.7 -0.4**
SBC Santa Barbara 64.33 296 P **P** **01 36 45.9 +1.5**
baz=28
MONP2 Monument Peak 64.41 293 P **P** **01 36 43.7 -1.6**
baz=28
IKP In-Ko-Pah, Jac 64.50 292 P **P** **01 36 43.6 -2.1**
baz=28
109C Camp Elliot, M 64.68 293 P **P** **01 36 48.1 +1.3**
baz=28
URIC Uribia, Colomb 64.74 242 *e*P **P** **01 36 46.7 -0.6**
SCI2 San Clemente I 65.17 295 P **P** **01 36 47.3 -2.7**
baz=28
GTA Gaotai 65.31 49 *e*P **P** **01 36 51.3 +0.3**
GTA pP sP 01 36 55.5 +1.7
GTA sP pP 01 36 59.0 +6.0
GTA pmax pmax
comp=Z,23nm,2.3s
GTA pmax pmax
comp=Z,670nm,6.5s
GTA LR LR
comp=Z,600nm,17.5s
GTA LR LR
comp=Z,450nm,17.9s
GTA LR LR
comp=Z,800nm,18.5s
SNCC San Nicolas Is 65.31 296 P **P** **01 36 48.9 -2.0**
baz=28
SDV Santo Domingo 66.81 239 *e*P **P** **01 37 01.5 +0.5**
ARGC Ariguani, Magd 67.28 243 *e*P P 01 36 56.8 -6.9
BTO Baotou 67.31 41 *e*P P 01 36 55.5 -8.3
HHC Hu-ho-hao-te 67.52 40 *e*P **P** **01 37 05.8 +0.7**
HHC PP **PP** **01 39 34.5 +1.3**
HHC S **S** **01 46 06.8 +5.1**
HHC pmax pmax
comp=Z,28nm,1.1s
HHC pmax pmax
comp=Z,560nm,5.4s
HHC LR LR
comp=Z,560nm,16.8s
HHC LR LR
comp=Z,490nm,14.3s
HHC LR LR
comp=Z,490nm,17.8s
SJCC San Jacinto, C 67.61 244 *e*P **P** **01 37 07.0 +1.1**
YSS Yuzh-Sakhalins 67.65 14 *de*P **P** **01 37 06.4 +0.8**
YSS *e**SP **sP** **01 37 11.7 +3.2**
YSS *e* 01 39 34.1
YSS *e*S **S** **01 46 07.0 +4.2**
YSS *e*PS **PnS** **01 46 26.9 +3.2**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS pmax pmax
comp=Z,500nm,4.6s
YSS MLR MLR
comp=Z,300nm,15.0s
CN2 Changchun 68.04 28 *e*P **P** **01 37 08.8 +0.6**
CN2 PP **PP** **01 39 38.0 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,20.0s
CN2 LR LR
comp=Z,400nm,20.0s
CN2 LR LR
comp=Z,500nm,19.0s
SMLC San Martn de 68.19 243 *e*P **P** **01 37 09.7 +0.3**
MOTC Monteria, Cord 68.82 244 *e*P **P** **01 37 11.1 -2.3**
PAMC Pamplona, Colo 69.01 241 *e*P **P** **01 37 15.4 +0.2**
PYUN Piuthan 69.29 68 *e*P **P** **01 37 15.8 -0.7**
comp=Z,156nm,1.3s
BJI Beijing 69.49 36 P **P** **01 37 18.8 +1.5**
BJI PP **PP** **01 39 49.0 -1.2**
BJI pmax pmax
comp=Z,16nm,2.6s
BJI pmax pmax
comp=Z,590nm,5.6s
BJI LR LR
comp=Z,610nm,19.0s
BJI LR LR
comp=Z,320nm,19.4s

BJI LR LR
comp=Z,600nm,19.8s
SNY Shenyang 69.54 30 ⇑P **P 01 37 15.0 -2.5**
SNY S **S 01 46 31.5 +6.1**
SNY pmax pmax
comp=Z,30nm,1.0s
SNY pmax pmax
comp=Z,560nm,7.0s
SNY LR LR
comp=Z,380nm,19.0s
SNY LR LR
comp=Z,250nm,18.0s
SNY LR LR
comp=Z,610nm,24.5s
LZH Lanzhou 69.63 48 *e*P **P 01 37 18.3 -0.1**
LZH *e*S **S 01 46 31.0 +3.9**
LZH sS sS 01 46 36.5 +5.8
LZH pmax pmax
comp=Z,31nm,1.3s
LZH pmax pmax
comp=Z,850nm,7.4s
LZH LR LR
comp=Z,500nm,15.0s
LZH LR LR
comp=Z,410nm,15.2s
LZH LR LR
comp=Z,730nm,18.0s
ZARC Zaragoza, Cauc 69.69 243 *e*P **P 01 37 19.3 +0.6**
UREC San Jos de Ur 69.71 244 *e*P **P 01 37 16.9 -2.0**
KOLN Koldanda 69.83 68 *e*P **P 01 37 19.1 -0.7**
comp=Z,104nm,1.2s
KUR Kuril'sk 69.84 11 *c i*P **P 01 37 19.5 +0.2**
KUR *e* 01 37 42.0
KUR *e*PPP PPP 01 41 37.7
KUR *e*S **S 01 46 31.4 +2.6**
GKN Gorkha 70.03 67 *e*P **P 01 37 19.8 -1.2**
PTBC PUERTO BERRIO, 70.41 242 *e*P **P 01 37 21.1 -2.1**
KKN Kakani 70.48 66 *e*P **P 01 37 23.3 -0.5**
RUSC La Rusia 70.48 241 *e*P **P 01 37 22.1 -2.1**
RUSC La Rusia 70.48 241 P **P 01 37 22.7 -1.5**
DMN Daman 70.57 67 *e*P **P 01 37 23.4 -1.0**
comp=Z,283nm,2.1s
DBBC Dabeiba 70.64 244 *e*P P 01 37 18.7 -6.0
TIY Taiyuan 70.68 40 *e*P **P 01 37 25.5 +0.8**
TIY pmax pmax
comp=Z,380nm,4.4s
TIY LR LR
comp=Z,380nm,10.7s
TIY LR LR
comp=Z,220nm,15.0s
TIY LR LR
comp=Z,510nm,12.9s
PKI Pulchoki 70.72 66 *e*P **P 01 37 24.3 -1.1**
YUK Yuzh-Kuril'sk 70.85 13 *e*P **P 01 37 23.5 -2.0**
YUK *e* 01 37 45.5
YUK *e* 01 40 02.8
YUK *e*PPP PPP 01 41 46.2
YUK *e*S **S 01 46 41.9 +1.2**
YUK *e*SS **SS 01 51 16.0 +4.2**
YUK pmax pmax
comp=Z,336nm,1.2s
YUK MLR MLR
comp=Z,89nm,14.0s
JIRN Jiri 70.95 66 *e*P **P 01 37 26.3 -0.6**
comp=Z,219nm,1.6s
LSA Lhasa 71.03 61 P **P 01 37 29.0 +1.5**
SPBC San Pablo de B 71.08 241 *e*P **P 01 37 26.3 -1.0**
HELC Santa Helena 71.14 243 *e*P **P 01 37 26.8 -1.3**
BHPL Bhopal 71.33 75 *e*P **P 01 37 26.9 -1.9**
BHPL IAmb IAmb 01 37 35.3
comp=Z,13nm,1.1s
NORC Norcasia 71.46 242 *e*P **P 01 37 27.3 -2.4**
CBOC Ciudad Bolivar 71.62 243 *e*P P 01 37 25.6 -5.2
RAMN Ramite 71.75 66 *e*P **P 01 37 30.6 -0.9**
comp=Z,35nm,1.0s
TAPN Taplejung 71.82 65 *e*P **P 01 37 32.2 +0.2**
comp=Z,96nm,1.5s
CHIC Chingaza 71.89 241 *e*P P 01 37 26.9 -5.7
DL2 Dalian 71.89 32 P **P 01 37 32.5 +0.6**
DL2 PP **PP 01 40 12.3 +1.5**
DL2 S **S 01 46 58.3 +5.4**
DL2 pmax pmax
comp=Z,24nm,1.1s
DL2 pmax pmax
comp=Z,750nm,5.9s
DL2 LR LR
comp=Z,380nm,15.5s
DL2 LR LR
comp=Z,640nm,15.2s
DL2 LR LR
comp=Z,790nm,19.9s
ROSC El Rosal 71.92 241 P **P 01 37 33.7 +0.9**
comp=Z,11nm,0.7s,baz=36,slow=5.4,SNR=10.0
ROSC El Rosal 71.92 241 *e*P **P 01 37 31.5 -1.2**
ROSC El Rosal 71.92 241 P **P 01 37 31.6 -1.2**
GUY2C Guyana, Caldas 71.96 242 *e*P **P 01 37 31.1 -2.1**
ODAN Odare 72.14 65 *e*P **P 01 37 33.6 -0.3**
comp=Z,99nm,1.3s
TOLC Tolima 72.53 242 *e*P **P 01 37 38.2 +1.8**
PLMC San Jos del P 72.60 243 *e*P **P 01 37 36.3 -0.2**
ANIL Santa Ana 72.65 242 *e*P **P 01 37 32.4 -4.6**
XAN Xi'an 73.09 44 P **P 01 37 38.5 -0.7**
XAN pP PcP 01 37 49.8 -6.2
XAN PP **PP 01 40 18.8 -2.5**
XAN S **SKiKP 01 47 09.5 -2.1**
XAN SKS **SKSac 01 47 40.5 -4.9**
XAN pmax pmax
comp=Z,23nm,3.1s
XAN pmax pmax
comp=Z,710nm,4.5s
XAN LR LR
comp=Z,830nm,25.0s
XAN LR LR
comp=Z,690nm,12.8s
XAN LR LR
comp=Z,1µm,23.0s
ORTC Ortega, Tolima 73.12 242 *e*P P 01 37 29.6 -10
PRAC Prado 73.17 241 *e*P **P 01 37 38.7 -1.1**
TIA Tai'an 73.35 37 P **P 01 37 41.0 +0.3**
TIA S **SKiKP 01 47 13.8 +1.9**
TIA pmax pmax
comp=Z,16nm,2.7s
TIA LR LR
comp=Z,440nm,21.8s
TIA LR LR
comp=Z,370nm,17.9s
TIA LR LR
comp=Z,730nm,23.5s
YOTC Yotoco, Valle 73.47 243 *e*P **P 01 37 40.6 -1.1**
MACC Macarena, Meta 74.22 240 *e*P **P 01 37 41.5 -4.4**
BOK Bokaro 74.29 68 *e*P **P 01 37 44.0 -2.4**
BOK IAmb IAmb 01 37 50.5
comp=Z,21nm,1.1s
BETC Betania 74.32 242 *e*P P 01 37 35.1 -11
CD2 Chengdu 74.37 50 P **P 01 37 48.5 +1.7**
CD2 PcP **PcP 01 38 00.5 -1.0**
CD2 S **S 01 47 27.5 +6.1**
CD2 SS **SS 01 52 03.8 -2.5**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,650nm,6.7s
CD2 LR LR
comp=Z,730nm,12.9s
CD2 LR LR
comp=Z,870nm,15.1s
CD2 LR LR
comp=Z,1µm,17.3s
MARP Paez Belalcaza 74.37 242 *e*P **P 01 37 44.4 -2.8**
GUWA GUWAHATI 74.39 62 *e*P **P 01 37 46.1 -0.8**
GUWA IAmb IAmb 01 37 48.6
comp=Z,23nm,1.1s
GARC Garzon, Huila 74.80 241 *e*P P 01 37 37.9 -12
POPC Popayan, Colom 74.92 243 *e*P **P 01 37 45.9 -4.4**
PCON Cinco Dias 75.01 242 *e*P **P 01 37 47.2 -4.0**
PCON *e*P **sP 01 37 53.9 -0.2**
SHL Shillong 75.03 62 *e*P **P 01 37 49.0 -1.8**
SHL Shillong 75.03 62 *ex* x 01 37 52.0
SHL Shillong 75.03 62 pP **P 01 37 52.9 +2.1**
SNR=7.5
SHL Shillong 75.03 62 P **P 01 37 52.9 +2.1**
SNR=7.5
FLOC Florencia 75.41 241 *e*P P 01 37 46.1 -6.8
GCUF Volcan Galeras 76.39 243 *e*P P 01 37 52.9 -6.1

PTLC Puerto Leguiza 76.39 240 *e*P **P 01 37 56.9 -1.6**
KMBO Kilima Mbogo 76.68 123 LR LR 02 14 39.6
comp=Z,377nm,19.4s,baz=294,slow=38
BELO BELONIA 76.96 63 *e*P **P 01 38 03.9 +2.3**
HYB Hyderabad 76.99 77 *e*P **P 01 37 59.8 -2.1**
OTAV Otavalo 77.72 243 *e*P **P 01 38 02.9 -3.5**
NJ2 Nanjing 77.74 37 ⇓ *i*P **P 01 38 06.3 +0.4**
NJ2 sP **PcP 01 38 12.5 -3.4**
NJ2 PP **PP 01 41 02.3 +1.8**
NJ2 S **S 01 47 59.3 +1.0**
NJ2 sS **sS 01 48 07.0 +5.0**
NJ2 SKS **SKSac 01 48 17.0 -2.8**
NJ2 ScS **ScS 01 48 23.0 -2.0**
NJ2 pmax pmax
comp=Z,120nm,0.8s
NJ2 pmax pmax
comp=Z,690nm,5.7s
NJ2 LR LR
comp=Z,660nm,19.2s
NJ2 LR LR
comp=Z,520nm,18.4s
NJ2 LR LR
comp=Z,760nm,22.6s
WHN Wuhan 77.95 41 ⇓ *i*P **P 01 38 06.0 -1.0**
WHN PP **PP 01 41 06.8 +4.5**
WHN S **S 01 48 01.3 +0.7**
WHN pmax pmax
comp=Z,830nm,3.8s
WHN LR LR
comp=Z,320nm,10.6s
WHN LR LR
comp=Z,990nm,16.7s
WHN LR LR
comp=Z,1µm,23.5s
SSE Sheshan 79.24 35 P **P 01 38 15.5 +1.4**
SSE S **S 01 48 14.5 +0.1**
SSE pmax pmax
comp=Z,17nm,0.7s
SSE pmax pmax
comp=Z,310nm,7.2s
SSE LR LR
comp=Z,120nm,12.6s
SSE LR LR
comp=Z,220nm,23.2s
KMI Kunming 79.36 53 ⇑ *e*P **P 01 38 15.5 +0.3**
KMI S **S 01 48 14.0 -2.4**
KMI pmax pmax
comp=Z,21nm,2.4s
KMI pmax pmax
comp=Z,550nm,7.9s
KMI LR LR
comp=Z,230nm,17.7s
KMI LR LR
comp=Z,270nm,14.6s
KMI LR LR
comp=Z,400nm,44.4s
GYA Guiyang 79.43 49 ⇑P **P 01 38 15.5 0.0**
GYA PP **PP 01 41 19.8 +4.8**
GYA S **S 01 48 21.0 +4.1**
GYA pmax pmax
comp=Z,21nm,1.3s
GYA pmax pmax
comp=Z,590nm,3.5s
GYA LR LR
comp=Z,260nm,20.3s
GYA LR LR
comp=Z,270nm,20.9s
GYA LR LR
comp=Z,350nm,23.8s
SLVN Son La 83.26 53 P **P 01 38 34.8 -0.9**
SLVN IAmb IAmb 01 38 37.8
comp=Z,28nm,1.5s
BDFB Brasilia 83.38 209 LR LR 02 10 15.9
comp=Z,186nm,20.8s,baz=323,slow=32
CMAR Chiang Mai Arr 84.14 59 P **P 01 38 40.1 -0.1**
comp=Z,2.3nm,0.7s,baz=319,slow=6.5,SNR=14
CMAR PP **PP 01 41 47.8 -6.0**
comp=Z,1.0nm,0.3s,baz=337,slow=8.9,SNR=2.2
CMAR LR LR 02 19 01.8
comp=Z,401nm,19.6s,baz=351,slow=38
QZH Quanzhou 84.42 39 ⇑ *i*P **P 01 38 38.0 -3.5**
QZH PP **PP 01 41 54.3 -1.5**
QZH S **S 01 49 07.0 -1.1**
QZH pmax pmax
comp=Z,360nm,6.7s
QZH LR LR
comp=Z,520nm,13.6s
QZH LR LR
comp=Z,210nm,12.3s
QZH LR LR
comp=Z,640nm,18.7s
PBKT Sadao Pong 86.61 58 P **P 01 38 51.7 -0.8**
PBKT IAmb IAmb 01 38 54.6
comp=Z,19nm,1.3s
QIZ Qiongzhong 87.39 49 P **P 01 38 56.0 -0.3**
QIZ PP **PP 01 42 21.8 +1.8**
QIZ S **S 01 49 37.0 -0.3**
QIZ pmax pmax
comp=Z,16nm,2.4s
QIZ pmax pmax
comp=Z,380nm,5.3s
QIZ LR LR
comp=Z,340nm,18.0s
QIZ LR LR
comp=Z,270nm,16.1s
QIZ LR LR
comp=Z,300nm,19.1s
LPAZ La Paz 89.39 228 LR LR 02 16 21.9
comp=Z,121nm,20.4s,baz=358,slow=34
CPUP Villa Florida 95.84 215 LR LR 02 16 53.8
comp=Z,119nm,20.8s,baz=18,slow=32
BOSA Boshof 98.77 143 LR LR 02 25 28.5
comp=Z,257nm,20.8s,baz=348,slow=36
TAOE Nuku Hiva Isla 111.54 297 *e*LR LR 02 17 54.4
comp=Z,412nm,23.6s
RKT Rikitea 122.34 285 *e*LR LR 02 22 52.6
comp=Z,422nm,25.2s
PPT2 Papeete2 123.09 302 *e*LR LR 02 23 15.5
comp=Z,456nm,21.8s
TBI Tubuai 128.31 299 *e*LR LR 02 25 42.3
comp=Z,422nm,24.8s
WRA Warramunga Arr 131.53 36 PKP **PKiKP 01 45 22.5 -0.1**
comp=Z,1.1nm,1.1s,baz=330,slow=2.5,SNR=3.7
ASAR Alice Springs 134.97 38 PKP **PKiKP 01 45 28.7 -0.7**
comp=Z,1.7nm,1.0s,baz=334,slow=1.9,SNR=7.9
DZM Mont Dzumac 137.33 355 *e*LR LR 02 29 46.5
comp=Z,388nm,26.8s
MAW Mawson 143.74 140 PKIKP **PKiKP 01 45 44.0 -1.8**
MAW Mawson 143.74 140 PKPdf **PKiKP 01 45 44.0 -1.8**
STKA Stephens Creek 144.72 32 PKP **PKPab 01 45 43.7 -0.4**
comp=Z,3.1nm,0.7s,baz=310,slow=7.3,SNR=6.8
STKA Stephens Creek 144.72 32 PKIKP PKPbc 01 45 44.1 -0.1
STKA Stephens Creek 144.72 32 PKPdf PKPbc 01 45 44.1 -0.1
QSPA South Pole Qui 154.59 180 **PKiKP 01 46 08.3 -0.1**

ROM ***26*** *01:30:19.4±0.2, 43.˚523N±0.˚006×13.˚85E±0.˚01, h8km, ML2.6, Error ellipse: s-maj=1.2km s-min=0.5km az=249.0*
ISC 26 01:30:20.1±0.9**, 43.˚50N**±0.˚03×**13.˚81E**±0.˚02**, h14**km±7km**, n57, σ0.˚85/47, 2C, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AOI	**Ancona**	**0.16**	**289**	⇑P	**Pg**	**ISC**	**01 30 23.8**	**-0.3**
AOI				S	**Sg**	**ISC**	**01 30 27.0**	**+0.2**
AOI				AML	AML			
	comp=N,3070µm,0.4s							
AOI				AML	AML			
	comp=E,3040µm,1.2s							
PP3	**Marolino**	**0.19**	**231**	P	**Pg**	**ISC**	**01 30 24.3**	**-0.1**
PP3				S	**Sb**	**ISC**	**01 30 28.1**	**-0.7**
PP3				AML	AML			
	comp=N,5945µm,0.2s							
PP3				AML	AML			
	comp=E,7055µm,0.2s							
PP3				AML	AML			
	comp=N,5040µm,0.2s							
PP3				AML	AML			
	comp=N,5950µm,0.2s							
PP3				AML	AML			
	comp=E,7060µm,0.2s							
PP3				AML	AML			
	comp=E,7140µm,0.2s							
CIMA	**Civitanova Mar**	**0.22**	**208**	P	**Pg**	**ISC**	**01 30 25.3**	**+0.4**
CIMA				S	**Sb**	**ISC**	**01 30 30.1**	**+0.4**
PCRO	**Pietralacroce**	**0.23**	**299**	P	**Pg**	**ISC**	**01 30 25.2**	**+0.1**

PCRO S **Sb 01 30 29.5 -0.6**
CADA Capodarco di F 0.30 187 P **Pb 01 30 26.9 -0.5**
CADA S **Sb 01 30 32.8 +0.6**
MNTP Montappone 0.44 215 P **Pg 01 30 29.1 +0.3**
MNTP S **Sb 01 30 36.7 +0.7**
GUMA Gualdo di Mace 0.44 168 P **Pn 01 30 31.0 -1.1**
GUMA S **Sn 01 30 40.2 +0.3**
GUMA AML AML
comp=E,1060µm,0.6s
GUMA AML AML
comp=N,1123µm,0.3s
GUMA AML AML
comp=E,1065µm,0.6s
GUMA AML AML
comp=N,1078µm,0.3s
GUMA AML AML
comp=N,1124µm,0.3s
GUMA AML AML
comp=E,1395µm,0.3s
CING Cingoli 0.46 255 P **Pg 01 30 29.2 -0.1**
CING S **Sb 01 30 36.7 -0.2**
CING AML AML
comp=N,438µm,0.3s
CING AML AML
comp=E,435µm,0.5s
SENI Senigallia 0.47 297 P **Pg 01 30 29.6 +0.3**
SENI S **Sb 01 30 37.0 +0.1**
SENI AML AML
comp=E,1965µm,0.3s
SENI AML AML
comp=N,2565µm,0.5s
SENI AML AML
comp=E,1965µm,0.2s
SENI AML AML
comp=N,2565µm,0.5s
EL6 Elcito 0.54 252 P **Pg 01 30 30.9 0.0**
EL6 S **Sb 01 30 39.3 +0.1**
EL6 AML AML
comp=E,538µm,0.5s
EL6 AML AML
comp=N,568µm,1.2s
EL6 AML AML
comp=E,539µm,0.5s
EL6 AML AML
comp=N,566µm,1.2s
OFFI Offida 0.57 189 P **Pb 01 30 32.2 +0.4**
OFFI AML AML
comp=E,764µm,0.7s
OFFI AML AML
comp=N,868µm,0.5s
CSP1 Cessapalombo 0.60 228 P **Pg 01 30 31.8 -0.1**
CSP1 S **Sb 01 30 41.3 +0.5**
COR1 Corinaldo 0.60 283 P **Pb 01 30 32.5 0.0**
COR1 AML AML
comp=E,238µm,1.0s
COR1 AML AML
comp=N,318µm,0.5s
ARVD Arcevia 0.63 270 P **Pg 01 30 32.1 -0.4**
ARVD AML AML
comp=E,108µm,0.8s
ARVD AML AML
comp=E,108µm,0.8s
ARVD AML AML
comp=E,108µm,0.8s
ARVD AML AML
comp=N,112µm,0.5s
TRTR Tortoreto Alta 0.69 174 AML AML
comp=N,1118µm,0.8s
TRTR AML AML
comp=N,1118µm,0.8s
TRTR AML AML
comp=E,938µm,0.4s
FDMO Fiordimonte 0.70 229 P **Pg 01 30 33.2 -0.6**
FDMO S **Sb 01 30 44.6 +1.0**
FDMO AML AML
comp=N,246µm,0.2s
FDMO AML AML
comp=E,406µm,0.2s
FDMO AML AML
comp=N,247µm,0.2s
FSSB Fossombrone 0.78 285 AML AML
comp=N,540µm,0.4s
FSSB AML AML
comp=E,368µm,0.3s
MPAG Monte Paganucc 0.78 280 AML AML
comp=N,141µm,0.4s
MPAG AML AML
comp=E,152µm,0.5s
CESI CESI - Serrava 0.82 234 AML AML
comp=N,119µm,1.5s
CESI AML AML
comp=E,160µm,0.5s
PESA Pesaro 0.83 303 AML AML
comp=N,630µm,0.4s
PESA AML AML
comp=E,517µm,0.4s
PESA AML AML
comp=N,630µm,0.4s
NRCA Norcia 0.84 218 ⇑P **Pg 01 30 35.6 -0.7**
NRCA S **Sn 01 30 48.8 -0.9**
NRCA AML AML
comp=N,397µm,1.1s
NRCA AML AML
comp=E,508µm,1.1s
NARO Abbazia di Nar 0.90 278 AML AML
comp=N,60µm,0.7s
NARO AML AML
comp=E,85µm,0.9s
NARO AML AML
comp=N,60µm,0.7s
NARO AML AML
comp=E,85µm,0.9s
ATCC AVT- Casa Cast 0.91 250 AML AML
comp=E,295µm,1.0s
ATCC AML AML
comp=N,378µm,0.4s
ATFO Monte Foce - G 0.91 262 AML AML
comp=N,295µm,0.5s
ATFO AML AML
comp=N,296µm,0.5s
ATFO AML AML
comp=E,216µm,1.2s
ASSB Assisi San Ben 0.96 242 AML AML
comp=N,258µm,0.8s
ASSB AML AML
comp=E,201µm,0.4s
CAMP Campotosto 1.00 197 AML AML
comp=N,178µm,0.8s
CAMP AML AML
comp=E,141µm,0.8s
APEC Apecchio 1.01 274 AML AML
comp=N,200µm,0.4s
APEC AML AML
comp=E,183µm,0.5s
DUGI Dugi Otok 1.03 61 *i* Pg **Pn 01 30 41.0 +0.8**
DUGI Sg **Sn 01 30 57.4 +3.0**
LNSS Leonessa 1.06 213 AML AML
comp=N,268µm,1.3s
LNSS AML AML
comp=E,329µm,0.3s
RM33 Pellescritta (1.08 204 AML AML
comp=N,330µm,0.4s
RM33 AML AML
comp=N,330µm,0.4s
RM33 AML AML
comp=E,350µm,0.3s
ATTE AVT- Monte Tez 1.10 255 AML AML
comp=N,146µm,0.7s
ATTE AML AML
comp=E,128µm,0.4s
FAGN Fagnano 1.24 188 AML AML
comp=E,547µm,0.7s
FAGN AML AML
comp=N,294µm,0.4s
CESX Cesi 1.26 226 AML AML
comp=N,169µm,0.5s
CESX AML AML
comp=E,200µm,0.6s
NVLJ Novalja 1.31 35 *e*Pn **Pg 01 30 45.0 -0.4**
NVLJ Sn **Sg 01 31 03.5 +1.0**
CAFR Castel Frentan 1.33 163 AML AML
comp=N,146µm,0.5s
CAFR AML AML
comp=E,1µm,0.4s
FIAM Fiamignano 1.33 203 AML AML
comp=E,138µm,0.5s
FIAM AML AML

	comp=E,138μm,0.5s							
FIAM					AML	AML		
	comp=N,89μm,0.6s							
ZIRJ	**Zirje**	**1.34**	**83**	*e*Pn	**Pg**	**01 30 45.7**	**-0.3**	
ZIRJ				Sn	**Sg**	**01 31 04.6**	**+1.2**	
CAFI	**Castiglion Fio**	**1.35**	**264**	AML	AML			
	comp=E,66μm,0.8s							
CAFI				AML	AML			
	comp=N,66μm,0.7s							
MGAB	**Montegabbione**	**1.37**	**245**	AML	AML			
	comp=N,219μm,1.3s							
MGAB				AML	AML			
	comp=E,156μm,1.2s							
MGAB				AML	AML			
	comp=N,230μm,1.2s							
MGAB				AML	AML			
	comp=E,166μm,1.1s							
MORI	**Morici**	**1.43**	**74**	*i* Pn	**Pg**	**01 30 47.3**	**-0.2**	
MORI				Sn	**Sg**	**01 31 06.2**	**+0.1**	
INTR	**Introdacqua**	**1.49**	**177**	AML	AML			
	comp=N,222μm,0.5s							
INTR				AML	AML			
	comp=E,197μm,0.4s							
INTR				AML	AML			
	comp=E,198μm,0.4s							
ASQU	**Asqua**	**1.50**	**282**	AML	AML			
	comp=E,81μm,0.8s							
ASQU				AML	AML			
	comp=N,68μm,1.1s							
SACS	**San Casciano d**	**1.53**	**246**	AML	AML			
	comp=N,70μm,1.1s							
SACS				AML	AML			
	comp=E,64μm,0.7s							
CERT	**Cerreto**	**1.66**	**202**	AML	AML			
	comp=E,95μm,0.4s							
CERT				AML	AML			
	comp=N,53μm,1.2s							
TRIV	**Trivento**	**1.81**	**162**	AML	AML			
	comp=E,58μm,0.6s							
TRIV				AML	AML			
	comp=N,65μm,1.1s							
MIDA	**Miranda**	**1.88**	**170**	AML	AML			
	comp=N,67μm,1.6s							
MIDA				AML	AML			
	comp=E,62μm,1.6s							
RIY	**Rijeka**	**1.89**	**15**	*e*Pn	**Pb**	**01 30 53.5**	**-0.9**	
RIY				Sn	**Sg**	**01 31 19.3**	**-1.6**	
KIJV	**Kijevo**	**1.95**	**74**	*e*Pn	**Pb**	**01 30 55.4**	**0.0**	
KIJV				Sn	**Sg**	**01 31 21.8**	**-0.9**	
HVAR	**Hvar**	**1.95**	**99**	*e*Pn	**Pn**	**01 30 54.1**	**+1.3**	
HVAR				Sn	**Sb**	**01 31 19.3**	**-0.3**	
MAKA	**Makarska**	**2.35**	**94**	*e*Pn	**Pb**	**01 31 00.7**	**-1.5**	
MAKA				Sn	**Sb**	**01 31 30.5**	**-0.5**	
MSAG	**Monte S. Angel**	**2.36**	**138**	AML	AML			
	comp=E,61μm,0.4s							
MSAG				AML	AML			
	comp=N,118μm,0.4s							
RICI	**Ricice**	**2.42**	**89**	*e*Pn	**Pb**	**01 31 01.7**	**-1.7**	
RICI				Sn	**Sb**	**01 31 33.0**	**0.0**	
LJU	**Ljubljana**	**2.60**	**11**	AML	AML			
	comp=N,157μm,1.5s							
LJU				AML	AML			
	comp=E,151μm,1.5s							
KOSI	**Kohlern**	**3.43**	**331**	AML	AML			
	comp=E,242μm,1.6s							
KOSI				AML	AML			
	comp=N,384μm,1.6s							
RISI	**Rein**	**3.66**	**341**	AML	AML			
	comp=N,226μm,1.6s							
RISI				AML	AML			
	comp=E,107μm,1.6s							
ABSI	**Aberstueckl**	**3.68**	**332**	AML	AML			
	comp=E,326μm,1.6s							
ABSI				AML	AML			
	comp=N,389μm,1.6s							
ROSI	**Rosskopf**	**3.83**	**335**	AML	AML			
	comp=N,612μm,1.6s							
ROSI				AML	AML			
	comp=E,380μm,1.6s							

NIED ***26*** *01:34:52.5, 41.81N×143.43E, h29km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.19; $M_{\theta\theta}$-1.02; $M_{\phi\phi}$-2.17; $M_{r\theta}$1.40; $M_{\theta\phi}$-1.26; $M_{\phi r}$3.03; Fault plane solution: $M_0$4.55000×10^{14} NP1:ϕ_s27.00000°, δ69.00000°,λ,86.00000°. NP2:ϕ_s217.00000°,δ22.00000°, λ,100.00000°.*

JMA ***26*** *01:34:52.4±0.1, 41.81N×143.43E, h29km±1km, M3.8*

JMA Felt I J1.

IDC ***26*** *01:34:52.5±3.3, 41.75N×143.63E, h54km±23km, mb3.6/8, mb1 3.7/11, mb1mx3.5/47, mbtmp3.8/11, ML3.4/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/42, Error ellipse: s-maj=31.4km s-min=18.4km az=109.0*

ISC 26 01:34:50.7±1.8, 41.77N±0.07×143.59E±0.09, h28km±10km, n29, σ1°40/25, mb3.9/8, 5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.41**	**307**	⇓P	**Pb**	**01 34 59.3**	**-0.3**
JEM				*e*S	**Sb**	**01 35 04.6**	**-1.0**
JTHR	**Tokachihiroo**	**0.57**	**337**	⇓P	**Pb**	**01 35 02.4**	**+0.3**
JTHR				*e*S	**Sb**	**01 35 09.8**	**-0.1**
JNBK	**Urakawa-nobuka**	**0.81**	**310**	⇓P	**Pb**	**01 35 05.6**	**-0.6**
JCH	**Churui**	**0.86**	**349**	⇓P	**Pb**	**01 35 07.2**	**+0.1**
JCH				*e*S	**Sn**	**01 35 19.7**	**+1.1**
JSHD	**Hidakashinhida**	**1.05**	**308**	⇓P	**Pn**	**01 35 09.9**	**+0.3**
JOB	**Onbets**	**1.15**	**9**	P	**Pb**	**01 35 12.2**	**+0.3**
JOB				*e*S	**Sn**	**01 35 28.0**	**+2.3**
JBT2	**Biratori 2**	**1.36**	**318**	P	**Pn**	**01 35 14.4**	**+0.6**
JIAM	**Iburiatsuma**	**1.51**	**305**	P	**Pb**	**01 35 17.9**	**-0.1**
ASAJ	**Asahikawa**	**2.46**	**343**	P	**Pn**	**01 35 30.6**	**+1.7**
	13nm,0.3s,baz=189,slow=14,SNR=39						
ASAJ				S	**Sn**	**01 36 00.5**	**+2.5**
	9.4nm,0.3s,baz=84,slow=26,SNR=7.4						
ASAJ				LR	LR	01 36 45.9	
	comp=Z,133nm,21.7s,baz=312,slow=46						
MJAR	**Matsushiro Arr**	**6.69**	**220**	P	**Pn**	**01 36 27.3**	**+0.2**
	0.1nm,0.3s,baz=36,slow=15,SNR=2.2						
USRK	**Ussuriysk Ar.**	**8.85**	**290**	P	**Pn**	**01 37 00.1**	**+3.5**
	baz=79,slow=16,SNR=5.2						
USRK				LR	LR	01 40 07.6	
	comp=Z,111nm,18.6s,baz=98,slow=36						
SEY	**Seymchan**	**21.83**	**11**	P	**P**	**01 39 38.2**	**-2.3**
	4.0nm,0.8s,baz=198,slow=6.7,SNR=12						
SONM	**Songino Array**	**26.89**	**296**	P	**P**	**01 40 28.6**	**-0.6**
	0.8nm,0.6s,baz=97,slow=8.7,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**29.55**	**131**	T	T	02 12 20.7	
	baz=324,slow=75,SNR=442						
H11N1	**WAKE ISLAND Hy**	**29.56**	**131**	T	T	02 12 14.6	
	baz=324,slow=75,SNR=414						
H11N3	**WAKE ISLAND Hy**	**29.57**	**131**	T	T	02 12 19.7	
	baz=324,slow=75,SNR=339						
H11S1	**WAKE ISLAND Hy**	**30.43**	**133**	T	T	02 13 26.4	
	baz=325,slow=76,SNR=490						
H11S3	**WAKE ISLAND Hy**	**30.43**	**133**	T	T	02 13 20.2	
	baz=325,slow=76,SNR=454						
H11S2	**WAKE ISLAND Hy**	**30.44**	**133**	T	T	02 13 25.8	
	baz=325,slow=76,SNR=345						
ZALV	**Zalesovo Beam**	**40.13**	**308**	P	**P**	**01 42 23.1**	**-0.7**
	2.1nm,0.6s,baz=83,slow=8.0,SNR=6.8						
MKAR	**Makanchi Array**	**43.20**	**298**	P	**P**	**01 42 47.8**	**-1.2**
	1.2nm,0.8s,baz=83,slow=10,SNR=8.6						
ILAR	**Eielson Array**	**44.62**	**35**	P	**P**	**01 43 00.6**	**+0.5**
	0.5nm,0.7s,baz=272,slow=7.8,SNR=1.4						
ARCES	**ARCESS Array B**	**60.17**	**339**	P	**P**	**01 44 54.3**	**-1.1**
	0.7nm,0.8s,baz=49,slow=8.4,SNR=1.7						
FINES	**FINESS Array B**	**65.42**	**332**	P	**P**	**01 45 29.4**	**-0.9**
	2.4nm,0.6s,baz=51,slow=7.7,SNR=13						
NB2	**NORSAR Subarra**	**70.47**	**338**	P	**P**	**01 46 01.4**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=34,slow=6.5						
NOA	**NORSAR Array B**	**70.47**	**338**	P	**P**	**01 46 01.4**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=36,slow=6.1,SNR=3.8						
H03N2	**Juan Fernandez**	**145.59**	**90**	T	T	04 37 26.0	
	baz=300,slow=77,SNR=28						
H03N3	**Juan Fernandez**	**145.60**	**90**	T	T	04 37 28.4	
	baz=300,slow=77,SNR=34						
H03N1	**Juan Fernandez**	**145.60**	**90**	T	T	04 37 27.0	
	baz=300,slow=77,SNR=38						

IDC ***26*** *01:36:18.0±1.1, 11.61N×142.79E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/43, mbtmp3.6/6, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/31, Error ellipse: s-maj=44.1km s-min=20.9km az=114.0*

ISC 26 01:36:22.8±1.0, 11.16N±0.2×142.8E±0.2, h32km, n7, σ0°43/7, mb3.4/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.83**	**45**	Pn	**Pn**	**01 37 06.0**	**+0.2**
	14nm,0.3s,baz=178,slow=5.9,SNR=6.3						
GUMO				Sn	**Sn**	**01 37 38.7**	**-0.1**
	4.8nm,0.3s,baz=144,slow=23,SNR=1.5						
MJAR	**Matsushiro Arr**	**25.20**	**351**	LR	LR	01 50 12.3	
	comp=Z,38nm,18.9s,baz=295,slow=33						
WRA	**Warramunga Arr**	**32.42**	**195**	P	**P**	**01 42 49.7**	**-0.3**
	0.7nm,0.7s,baz=18,slow=9.6,SNR=4.9						
ASAR	**Alice Springs**	**36.10**	**194**	P	**P**	**01 43 22.3**	**+0.3**
	0.2nm,0.6s,baz=23,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**61.56**	**317**	P	**P**	**01 46 36.9**	**-0.1**
	0.2nm,0.7s,baz=102,slow=10,SNR=2.6						
ILAR	**Eielson Array**	**71.23**	**25**	P	**P**	**01 47 38.1**	**-0.5**
	0.2nm,0.5s,baz=252,slow=5.7,SNR=2.5						
ARCES	**ARCESS Array B**	**88.36**	**342**	P	**P**	**01 49 11.6**	**+0.5**
	0.4nm,0.7s,baz=52,slow=6.2,SNR=3.8						

NEIC ***26*** *01:56:15.5±0.5, 18.98N±0.07×146.3E±0.2, h193km±10km, mb4.3/6, Error ellipse: s-maj=27.5km s-min=9.1km az=82.0*

IDC ***26*** *01:56:15.9±4.7, 18.94N×146.16E, h193km±26km, mb3.3/4, mb1 3.4/6, mb1mx3.1/42, mbtmp3.9/6, MS2.6/1, Ms1 2.6/1, ms1mx2.4/22, Error ellipse: s-maj=122.0km s-min=15.9km az=86.0*

ISC 26 01:56:16.1±0.9, 18.96N±0.06×146.1E±0.2, h200km, n14, σ1°52/18, mb3.8/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.47**	**192**	P	**Pn**	**01 57 38.0**	**+1.5**
	7.7nm,0.3s,baz=102,slow=15,SNR=1.7						
GUMO				S	**Sn**	**01 58 37.1**	**-3.0**
	6.4nm,0.3s,baz=331,slow=14,SNR=1.4						
GUMO				LR	LR	01 59 08.2	
	comp=Z,54nm,18.4s,baz=112,slow=32						
GUMO	**Guam**	**5.47**	**192**		**Pn**	**01 57 36.6**	**0.0**
GUMO					**Sn**	**01 58 38.0**	**-2.1**
JCJ	**Chichijima**	**8.86**	**337**	P	**Pn**	**01 58 22.2**	**+1.8**
	1.6nm,0.3s,baz=301,slow=23,SNR=2.1						
JCJ				S	**Sn**	**01 59 57.3**	**-2.6**
	4.6nm,0.3s,baz=249,slow=21,SNR=7.9						
JCJ	**Chichijima**	**8.86**	**337**		**Pn**	**01 58 20.9**	**+0.4**
JCJ					**Sn**	**01 59 58.0**	**-1.8**
MYLDM	**Lahad Datu**	**30.18**	**247**	P	**P**	**02 02 08.6**	**+0.7**
MYLDM				IAmb	IAmb	02 02 12.2	
	comp=Z,6.8nm,0.7s						
WB0	**Warramunga Arr**	**40.16**	**197**	P	**P**	**02 03 33.7**	**+0.8**
WB2	**Warramunga Arr**	**40.34**	**197**	P	**P**	**02 03 35.1**	**+0.8**
WB2				IAmb	IAmb	02 03 35.5	
	comp=Z,5.0nm,1.0s						
WRA	**Warramunga Arr**	**40.34**	**197**	P	**P**	**02 03 35.4**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=20,slow=8.5,SNR=20						
WRA	**Warramunga Arr**	**40.34**	**197**	P	**P**	**02 03 35.1**	**+0.7**
ASAR	**Alice Springs**	**44.00**	**196**	P	**P**	**02 04 04.7**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=13,slow=8.6,SNR=7.1						
MKAR	**Makanchi Array**	**58.55**	**314**	P	**P**	**02 05 52.8**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=98,slow=7.4,SNR=2.6						
KDAK	**Kodiak Island**	**58.94**	**33**	P	**P**	**02 05 53.3**	**-0.8**
KDAK				IAmb	IAmb	02 05 53.4	
	comp=Z,6.5nm,1.0s						
OUZ	**Omahuta**	**59.88**	**154**	P	**P**	**02 06 00.6**	**-0.2**
FINES	**FINESS Array B**	**86.80**	**335**	P	**P**	**02 08 37.1**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=64,slow=4.4,SNR=7.9						

KRNET ***26*** *01:57:41.5±0.1, 39.88N×72.13E, h14km, mb3.6*

ISU ***26*** *01:57:42.0, 39.90N×72.10E, h5km*

SOME ***26*** *01:57:42.4, 40.13N×72.17E, h0km*

NNC ***26*** *01:57:48.3±3.2, 40.15N×72.35E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=25.6km s-min=10.8km az=0.0*

ISC 26 01:57:39.3±0.8, 39.79N±0.04×72.18E±0.03, h10km, n57, σ2°28/93, 24C-19D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.87**	**32**	⇑*i*P	**Pn**	**01 57 56.9**	**-0.8**
OHH	baz=37			⇑*i*S	**Sb**	**01 58 08.1**	**-0.1**
OHH	**Osh**	**0.87**	**32**	*e*P	**Pn**	**01 57 57.3**	**-0.4**
OHH	baz=37			*e*S	**Sb**	**01 58 08.2**	**0.0**
FRG	**Fergana**	**0.99**	**342**	*e*P	**Pg**	**01 57 54.1**	**-4.2**
FRG				*e*S	**Sg**	**01 58 05.7**	**-5.5**
BTK	**Batken**	**1.08**	**285**	⇓*i*P	**Pn**	**01 58 01.0**	**+0.4**
BTK	baz=81			⇓*i*S	**Sn**	**01 58 15.3**	**-0.4**
BTK	**Batken**	**1.08**	**285**	*e*P	**Pn**	**01 58 01.4**	**+0.8**
BTK	baz=39			*e*S	**Sn**	**01 58 15.7**	**0.0**
GAR	**Garm**	**1.65**	**242**	⇑*i*P	**Pg**	**01 58 12.2**	**+1.3**
GAR	baz=39			⇑*i*S	**Sg**	**01 58 34.5**	**+2.3**
ARK	**Arkit**	**2.01**	**355**	⇑*i*P	**Pg**	**01 58 16.7**	**-1.2**
ARK	baz=57			⇑*i*S	**Sb**	**01 58 42.5**	**+1.3**
ARK	**Arkit**	**2.01**	**355**	*e*P	**Pg**	**01 58 18.3**	**+0.4**
ARK				*e*S	**Sg**	**01 58 43.6**	**-0.3**
AML	**Almayashu**	**2.60**	**26**	⇓*i*P	**Pb**	**01 58 26.1**	**-0.2**
AML	baz=27			⇓*i*S	**Sb**	**01 58 57.8**	**-0.7**
CHGR	**Chuyangaron**	**2.61**	**245**	⇑*i*P	**Pg**	**01 58 26.3**	**-3.0**
CHGR	baz=43			⇑*i*S	**Sg**	**01 58 58.9**	**-4.1**
ARLS	**Aral**	**2.63**	**38**	⇑*i*P	**Pb**	**01 58 26.2**	**-0.4**
ARLS	baz=39			⇑*i*S	**Sb**	**01 58 58.7**	**-0.3**
TAS	**Tashkent**	**2.68**	**306**	⇓*i*P	**Pb**	**01 58 26.4**	**-0.9**
TAS	baz=5.0			⇓*e*S	**Sb**	**01 58 59.1**	**-1.2**
IUG	**Iuzhnay**	**2.86**	**326**	*e*P	**Pg**	**01 58 33.6**	**-0.5**
IUG	77nm,0.3s 139nm,0.3s			*e*S	**Sg**	**01 59 11.2**	**+0.1**
IUG	**Iuzhnay**	**2.86**	**326**	Pg	**Pg**	**01 58 33.6**	**-0.5**
IUG	77nm,0.3s 96nm,0.3s			Lg	Lg	01 59 11.2	
UCH	**Uchtor**	**3.01**	**35**	⇑*i*P	**Pb**	**01 58 31.3**	**-1.9**
UCH	baz=37			⇑*i*S	**Sb**	**01 59 08.0**	**-2.2**
MRKS	**Merke**	**3.05**	**15**	*e*P	**Pb**	**01 58 33.2**	**-0.6**
MRKS	12nm,0.4s 52nm,0.4s			*e*S	**Sb**	**01 59 10.6**	**-0.6**
MRKS	**Merke**	**3.05**	**15**	Pg	**Pb**	**01 58 33.1**	**-0.6**
MRKS	7.2nm,0.3s 52nm,0.4s			Lg	Lg	01 59 10.7	
EKS2	**Erkin-Say**	**3.11**	**22**	⇓*e*P	**Pb**	**01 58 32.4**	**-2.4**
EKS2	baz=23			⇓*i*S	**Sb**	**01 59 09.8**	**-3.0**
DZA	**Taraz**	**3.16**	**349**	*e*P	**Pb**	**01 58 36.7**	**+1.1**
DZA	75nm,0.1s 204nm,0.3s			*e*S	**Sb**	**01 59 16.8**	**+2.6**
DZA	**Taraz**	**3.16**	**349**	Pg	**Pg**	**01 58 38.1**	**-1.8**
DZA	202nm,0.1s 342nm,0.3s			Lg	Lg	01 59 18.0	
KZA	**Kyzart**	**3.26**	**45**	⇓*i*P	**Pb**	**01 58 35.2**	**-2.3**
KZA	baz=46			⇓*i*S	**Sb**	**01 59 14.5**	**-2.9**
AAK	**Ala-Archa**	**3.34**	**31**	⇓*i*P	**Pb**	**01 58 35.8**	**-2.9**
AAK	baz=32			⇓*i*S	**Sb**	**01 59 15.3**	**-4.1**
AAK	**Ala-Archa**	**3.34**	**31**	⇓Pg	**Pg**	**01 58 43.2**	**0.0**
AAK	14nm,0.3s 27nm,0.5s			⇑Lg	Lg	01 59 23.6	
FRU1	**Bishkek**	**3.54**	**31**	⇑*i*P	**Pb**	**01 58 38.4**	**-3.6**
FRU1	baz=32			⇑*i*S	**Sn**	**01 59 20.1**	**+3.9**
KK31	**Karatay Array**	**3.54**	**340**	Pn	**Pg**	**01 58 46.1**	**-1.0**
KK31	2.0nm,0.2s,baz=150,slow=11,SNR=30 3.1nm,0.3s,baz=164,slow=14,SNR=9.6			⇓Pg	Pb	01 58 51.4	+9.4
KK31	8.4nm,0.3s,baz=155,slow=30,SNR=5.7			⇓Lg	Lg	01 59 31.0	
KBK	**Karagaybulak**	**3.54**	**35**	⇑*e*P	**Pb**	**01 58 38.6**	**-3.6**
KBK	baz=36			⇑*i*S	**Sn**	**01 59 20.4**	**+3.8**
BRLS	**Borolday**	**3.68**	**332**	*e*P	**Pb**	**01 58 44.9**	**+0.4**
BRLS	13nm,0.2s 37nm,0.2s			*e*S	**Sb**	**01 59 30.7**	**+1.5**
BRLS	**Borolday**	**3.68**	**332**	Pg	**Pb**	**01 58 45.9**	**+1.5**
BRLS	137nm,0.7s 37nm,0.2s			Lg	Lg	01 59 31.5	
CHMS	**Chumysh**	**3.74**	**30**	⇓*i*P	**Pb**	**01 58 41.1**	**-4.4**
CHMS	baz=31			⇓*i*S	**Sn**	**01 59 25.0**	**+3.7**
USP	**Ospenovka**	**3.88**	**26**	⇑*i*P	**Pn**	**01 58 42.7**	**+3.6**
USP	baz=27			⇑*i*S	**Sn**	**01 59 28.4**	**+3.6**
ULHL	**Ulahol**	**3.93**	**50**	⇑*e*P	**Pb**	**01 58 44.5**	**-4.3**
ULHL	baz=51			⇑*i*S	**Sn**	**01 59 30.4**	**+4.2**
TKM2	**Tokmak 2**	**4.05**	**38**	⇓*e*P	Pb	01 58 45.9	-4.9
TKM2	baz=39			⇓*i*S	**Sn**	**01 59 33.1**	**+4.0**
SGDS	**Sogindy**	**4.09**	**26**	Pg	**Pg**	**01 58 55.0**	**-2.7**
SGDS	13nm,0.6s 19nm,0.4s			Lg	Lg	01 59 47.1	
KST	**Kastek**	**4.32**	**40**	*e*P	**Pb**	**01 58 54.2**	**-1.2**
KST	5.4nm,0.5s 10nm,0.7s			*e*S	**Sb**	**01 59 46.6**	**-1.0**
KST	**Kastek**	**4.32**	**40**	Pg	**Pg**	**01 58 59.7**	**-2.3**
KST	6.5nm,0.3s 11nm,0.5s			Lg	Lg	01 59 55.5	
MTBS	**Maitube**	**4.62**	**42**	*e*P	**Pb**	**01 58 59.9**	**-0.5**
MTBS	4.4nm,0.3s 12nm,0.3s			*e*S	**Sb**	**01 59 56.5**	**+0.3**
MTBS	**Maitube**	**4.62**	**42**	Pg	**Pg**	**01 59 05.6**	**-2.2**
MTBS	4.3nm,0.2s 12nm,0.3s			Lg	Lg	02 00 05.2	
IZV	**Izvestkoviy**	**4.65**	**44**	*e*P	**Pb**	**01 59 00.5**	**-0.5**
IZV	13nm,0.6s 17nm,0.8s			*e*S	**Sb**	**01 59 57.3**	**+0.2**
IZV	**Izvestkoviy**	**4.65**	**44**	Pg	**Pg**	**01 59 07.0**	**-1.4**
IZV	13nm,0.6s 17nm,0.8s			Lg	Lg	02 00 08.4	
PKMR	**Pachkamar**	**4.67**	**256**	*e*P	**Pb**	**01 59 00.3**	**-1.0**
TARG	**Taragay, Kyrgy**	**4.69**	**64**	⇑*e*P	Pb	01 58 55.6	-6.3
TARG	baz=65			⇑*i*S	**Sn**	**01 59 49.5**	**+4.3**
KRBS	**Karabastau**	**4.70**	**33**	*e*P	**Pb**	**01 59 01.5**	**-0.3**
KRBS	6.8nm,0.7s 31nm,0.7s			*e*S	**Sb**	**01 59 58.3**	**0.0**
KRBS	**Karabastau**	**4.70**	**33**	Pg	**Pg**	**01 59 05.8**	**-3.5**
KRBS	10.0nm,0.6s 31nm,0.7s			Lg	Lg	02 00 06.1	
TNSS	**Tian-Shan**	**4.83**	**46**	*e*P	**Pb**	**01 59 03.5**	**-0.8**
TNSS	11nm,0.4s 12nm,0.6s			*e*S	**Sb**	**02 00 01.9**	**-0.8**
TNSS	**Tian-Shan**	**4.83**	**46**	Pg	**Pg**	**01 59 10.8**	**-1.1**
TNSS	11nm,0.4s 12nm,0.6s			Lg	Lg	02 00 14.2	
MDOK	**Medeo**	**4.97**	**46**	*e*P	**Pb**	**01 59 06.6**	**+0.1**
MDOK	3.5nm,0.3s 7.4nm,0.4s			*e*S	**Sb**	**02 00 06.9**	**+0.6**
MDOK	**Medeo**	**4.97**	**46**	Pg	**Pg**	**01 59 12.7**	**-1.8**
MDOK	3.5nm,0.3s 7.4nm,0.4s			Lg	Lg	02 00 17.5	
KOTS	**Kotyrbulak**	**5.05**	**46**	*e*P	**Pb**	**01 59 07.3**	**-0.6**
KOTS	6.8nm,0.3s 14nm,0.5s			*e*S	**Sb**	**02 00 08.4**	**-0.3**
KUU	**Kurty**	**5.14**	**36**	*e*P	**Pb**	**01 59 09.5**	**+0.1**
KUU	3.8nm,0.4s 16nm,0.4s			*e*S	**Sb**	**02 00 12.2**	**+1.1**
KUU	**Kurty**	**5.14**	**36**	Pg	**Pg**	**01 59 15.0**	**-2.7**
KUU	3.8nm,0.4s 16nm,0.4s			Lg	Lg	02 00 21.0	
KTBS	**Karatobe**	**5.17**	**39**	*e*P	**Pb**	**01 59 09.9**	**+0.2**
KTBS	2.1nm,0.3s 24nm,0.8s			*e*S	**Sb**	**02 00 12.5**	**+0.7**
KTBS	**Karatobe**	**5.17**	**39**	Pg	**Pg**	**01 59 16.2**	**-2.0**
KTBS	2.1nm,0.3s 24nm,0.8s			Lg	Lg	02 00 23.8	
BTLS	**Baital**	**5.42**	**14**	*e*P	**Pb**	**01 59 16.0**	**+1.9**
BTLS	1.2nm,0.1s 6.1nm,0.3s			*e*S	**Sb**	**02 00 23.1**	**+3.8**
ARXS	**Arharly**	**6.10**	**42**	*e*P	**Pb**	**01 59 27.4**	**+1.8**
ARXS	3.8nm,0.3s 8.3nm,0.6s			*e*S	**Sb**	**02 00 43.0**	**+4.2**
ARXS	**Arharly**	**6.10**	**42**	Pg	Pg	01 59 31.0	-5.1
ARXS	3.8nm,0.3s 8.3nm,0.6s			Lg	Lg	02 00 48.7	
UZB	**Uzynbulak**	**6.13**	**55**	*e*P	**Pb**	**01 59 28.4**	**+2.1**
UZB	3.1nm,0.4s 4.3nm,0.5s			*e*S	**Sb**	**02 00 43.7**	**+3.8**
AB31	**Akbulak array**	**12.86**	**321**	⇑P	**Pn**	**02 00 41.2**	**-0.8**
	0.1nm,0.3s						

JMA ***26*** *01:58:27.2±0.2, 28.08N×128.15E, h8km±3km, M3.7*

NIED ***26*** *01:58:27.2, 28.08N×128.15E, h8km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.47; $M_{\theta\theta}$1.72; $M_{\phi\phi}$-1.25; $M_{r\theta}$-0.58; $M_{\theta\phi}$-0.35; $M_{\phi r}$1.18; Fault plane solution: $M_0$2.05000×10^{15} NP1: ϕ_s137.00000°, δ79.00000°, λ-41.00000°. NP2: ϕ_s237.00000°, δ50.00000°, λ-166.00000°.*

IDC ***26*** *01:58:28.0±1.4, 27.80N×128.02E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/39, mbtmp3.8/5, ML3.5/1, MS3.3/3, Ms1 3.4/3, ms1mx3.0/35 Error ellipse: s-maj=52.6km s-min=23.1km az=73.0*

ISC 26 01:58:27.8±1.8, 27.97N±0.04×128.22E±0.06, h6km±11km, n19, σ1°00/24, mb3.6/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.67**	**106**	P	**Pb**	**01 58 41.7**	**-0.3**
JTK				*e*S	**Sb**	**01 58 52.5**	**+0.9**
JOKE	**Okinoerabujima**	**0.69**	**153**	P	**Pn**	**01 58 42.7**	**-1.3**
JOKE				*e*S	**Sb**	**01 58 53.0**	**+1.1**
JAMN	**Amaminishikomi**	**0.89**	**72**	P	**Pg**	**01 58 44.7**	**-0.1**
JAMN				*e*S	**Sg**	**01 58 57.0**	**+0.7**
JIH	**Iheya**	**0.96**	**194**	P	**Pn**	**01 58 46.9**	**-0.9**
JIH				*e*S	**Sn**	**01 59 01.1**	**-0.7**
JYRO	**Yoronjima**	**0.97**	**168**	P	**Pn**	**01 58 47.7**	**-0.2**
JYRO				*e*S	**Sn**	**01 59 01.0**	**-1.0**
JOW	**Kunigami**	**1.14**	**178**	P	**Pn**	**01 58 50.1**	**-0.2**
JOW				*e*S	**Sn**	**01 59 06.3**	**+0.1**
JAM	**Amami Oshima**	**1.30**	**70**	P	**Pn**	**01 58 51.9**	**-0

JTAJ				*e*S		**Sn**	**01 59 11.6**	**-2.6**
JZK	**Kikaishima**	**1.58**	**77**	P		**Pg**	**01 58 58.2**	**0.0**
JYAK	**Yakushimahirau**	**3.02**	**41**	P		**Pn**	**01 59 16.7**	**+0.6**
JYAK				*e*S		**Sn**	**01 59 52.5**	**-0.1**
JNU	**Nakatsue**	**5.62**	**23**	Pn		Pn	01 59 56.2	+4.2
	1.4nm,0.3s,baz=190,slow=7.7,SNR=13							
JCJ	**Chichijima**	**12.43**	**91**	LR		LR	02 05 20.0	
	comp=Z,116nm,21.0s,baz=360,slow=33							
DAV	**Davao City (W)**	**20.94**	**187**	LR		LR	02 10 42.8	
	comp=Z,77nm,21.6s,baz=34,slow=35							
SONM	**Songino Array**	**26.10**	**325**	P		**P**	**02 04 03.8**	**+1.3**
	1.8nm,0.7s,baz=141,slow=10,SNR=7.1							
MKAR	**Makanchi Array**	**40.38**	**310**	P		**P**	**02 06 07.5**	**+0.9**
	0.5nm,0.4s,baz=116,slow=6.6,SNR=5.5							
WRA	**Warramunga Arr**	**48.00**	**172**	P		**P**	**02 07 07.7**	**-0.1**
	0.4nm,0.7s,baz=354,slow=8.3,SNR=2.5							
ASAR	**Alice Springs**	**51.63**	**173**	P		**P**	**02 07 35.3**	**-0.1**
	0.5nm,0.6s,baz=354,slow=7.8,SNR=3.6							
ILAR	**Eielson Array**	**62.91**	**29**	LR		LR	02 36 55.5	
	comp=Z,35nm,19.9s,baz=47,slow=36							

*IDC **26** 02:15:05.7±1.6,32.°77N×47.°78E,h0km,mb3.5/6,*
mb1 3.7/9,mb1mx3.5/52,mbtmp3.6/9,ML3.6/3,Error
ellipse: s-maj=34.4km s-min=24.6km az=167.0
*THR **26** 02:15:06.3±0.5,32.°74N×47.°53E,h18km±3km,ML3.5*
*TEH **26** 02:15:08.0,32.°79N×47.°82E,h9km,ML3.5*
ISC 26 02:15:07.9±0.6,**32.°76N**±0.°03×**47.°73E**±0.°04,**h15**km,**n57,**
σ1°39/58,mb3.5/6,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.39**	**259**	*e*Pg			**Pb**	**02 15 17.0**	**+0.5**
IKFM	**Kafar-mosalman**	**0.77**	**7**	*e*Pg			**Pg**	**02 15 22.2**	**-0.8**
IKMR	**Kamar-syah**	**0.93**	**35**	*e*Pg			**Pb**	**02 15 24.6**	**-1.2**
IKMR				*e*				02 15 45.6	
IDOB	**Doab**	**1.09**	**20**	*e*Pg			**Pb**	**02 15 27.7**	**-1.0**
SHGR	**Shooshtar-Gavs**	**1.11**	**125**	*e*Pg			**Pn**	**02 15 29.6**	**+0.7**
SHGR				*e*Sg			**Sn**	**02 15 46.2**	**+2.2**
SHGR				IAML				02 15 50.1	
	comp=E,791nm,0.4s								
SHGR	**Shooshtar-Gavs**	**1.11**	**125**	*e*Pg			**Pn**	**02 15 29.6**	**+0.7**
BMDN	**Meydan**	**1.29**	**45**	*e*Pg			**Pn**	**02 15 31.1**	**-0.6**
BMDN				*e*				02 15 54.6	
IKOM	**Komasi**	**1.43**	**353**	*e*Pg			**Pb**	**02 15 35.0**	**+0.6**
IKOM				*e*				02 15 37.3	
AHWZ	**Ahwaz**	**1.62**	**151**	*e*Pg			**Pg**	**02 15 39.0**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.62**	**339**	*e*Pn			**Pb**	**02 15 38.5**	**+0.8**
HSAM	**Samen**	**1.62**	**26**	*e*Pg			**Pb**	**02 15 38.4**	**+0.6**
KER	**Kermanshah**	**1.70**	**343**	*e*Pg			**Pb**	**02 15 39.5**	**+0.5**
IBZA	**Bozab**	**1.71**	**4**	*e*Pg			**Pg**	**02 15 40.5**	**-0.4**
IBZA				*e*				02 16 08.9	
IGHG	**Ghaleghazi**	**1.84**	**329**	*e*Pn			**Pb**	**02 15 42.7**	**+1.2**
IGHG				*e*				02 16 27.2	
IVIS	**Veis**	**1.91**	**338**	*e*Pn			**Pb**	**02 15 42.3**	**-0.3**
IVIS				*e*				02 16 14.5	
KHMZ	**Khomeyn**	**2.11**	**62**	*e*Pn			**Pb**	**02 15 45.0**	**-1.0**
KHMZ	**Khomeyn**	**2.11**	**62**	*e*Pn			**Pb**	**02 15 45.0**	**-1.0**
IALM	**Almabolaq**	**2.13**	**10**	*e*Pn			**Pb**	**02 15 45.8**	**-0.6**
IDHR	**Dehrash**	**2.24**	**330**	*e*Pn			**Pb**	**02 15 47.0**	**-1.2**
IDHR				*e*				02 16 22.7	
ILIN	**Lien**	**2.25**	**344**	*e*Pn			**Pb**	**02 15 47.4**	**-1.0**
ILIN				*e*				02 16 26.4	
SNGE	**Sanandaj**	**2.35**	**352**	*e*Pn			**Pn**	**02 15 46.2**	**-0.1**
SNGE				*e*Sg			**Sb**	**02 16 20.3**	**+1.2**
HAGD	**Aghdareh**	**2.37**	**29**	*e*Pn			**Pb**	**02 15 49.0**	**-1.5**
HAGD				*e*				02 16 22.8	
HSG	**Sareghieh**	**2.52**	**10**	*e*			Sb	02 16 33.8	+10
JHBN	**Jahan bin**	**2.53**	**101**	*e*Pn			**Pn**	**02 15 50.3**	**+1.5**
JHBN				*e*				02 16 40.7	
ASAO	**Ashtian**	**2.62**	**46**	*e*Pn			**Pn**	**02 15 52.0**	**+2.1**
ASAO	**Ashtian**	**2.62**	**46**	*e*Pn			**Pn**	**02 15 52.0**	**+2.1**
IPIR	**Pirpir**	**2.66**	**91**	*e*Pn			**Pn**	**02 15 52.3**	**+1.7**
IPIR				*e*				02 16 32.3	
ROKH	**ROKH**	**2.82**	**97**	*e*Pn			**Pn**	**02 15 54.1**	**+1.4**
ROKH				*e*				02 16 01.6	
IKLH	**Kolahrood**	**3.28**	**79**	*e*Pn			**Pn**	**02 16 01.1**	**+2.1**
IKLH				*e*				02 16 12.6	
IGAR	**Gharneh**	**3.66**	**94**	*e*Pn			**Pn**	**02 16 05.0**	**+0.8**
KLNJ	**Kolanjah**	**3.72**	**117**	*e*				02 16 56.8	
KLNJ				*e*Pn			**Pn**	**02 16 06.0**	**+0.8**
IMHD	**Mahdasht**	**3.80**	**39**	*e*Pn			**Pn**	**02 16 07.4**	**+1.3**
IZEF	**Zefreh**	**3.87**	**87**	*e*Pn			**Pn**	**02 16 09.0**	**+1.8**
IRAM	**Ramesheh**	**4.05**	**102**	*e*Pn			**Pn**	**02 16 09.6**	**0.0**
IDMV	**Damavand**	**4.54**	**51**	*e*Pn			**Pn**	**02 16 18.0**	**+1.6**
IDMV				*e*				02 16 18.8	
ANAR	**Anarak**	**5.06**	**83**	*e*Pn			**Pn**	**02 16 24.3**	**+0.9**
IFIR	**Firoozkooh**	**5.06**	**54**	*e*Pn			**Pn**	**02 16 25.2**	**+1.7**
ILAS	**Lasjerd**	**5.07**	**57**	*e*Pn			**Pn**	**02 16 24.9**	**+1.3**
ISAD	**Sadrabad**	**5.11**	**98**	*e*Pn			**Pn**	**02 16 24.9**	**+0.7**
IPRN	**Peran**	**5.15**	**46**	*e*Pn			**Pn**	**02 16 27.2**	**+2.5**
IALA	**Alasht**	**5.35**	**50**	*e*Pn			**Pn**	**02 16 29.8**	**+2.3**
ISHM	**Shahmirzad**	**5.52**	**55**	*e*Pn			**Pn**	**02 16 31.2**	**+1.4**
IHRS	**Heris**	**5.58**	**354**	*e*Pn			**Pn**	**02 16 33.6**	**+3.0**
ICHK	**Chekchek**	**5.66**	**93**	*e*Pn			**Pn**	**02 16 31.8**	**0.0**
IANJ	**Anjilo**	**5.80**	**61**	*e*Pn			**Pn**	**02 16 34.6**	**+1.0**
IMEH	**Mehriz**	**6.00**	**101**	*e*Pn			**Pn**	**02 16 36.6**	**+0.2**
TPRV	**Parvadeh(Tabas**	**7.54**	**86**	*e*Pn			**Pn**	**02 16 58.5**	**+1.1**
ASF	**Jabal al Asfar**	**9.17**	**269**	Pn			**Pn**	**02 17 20.1**	**+0.3**
	comp=E,0.5nm,0.3s,baz=52,slow=6.8,SNR=2.9								
ASF				Sn			**Sn**	**02 18 58.2**	**-4.7**
	comp=E,0.2nm,0.3s,baz=94,slow=17,SNR=1.8								
ASF				Lg			Lg	02 20 03.0	
	comp=E,0.3nm,0.3s,baz=230,slow=22,SNR=1.5								
EIL	**Elat**	**11.37**	**258**	Lg			Lg	02 21 21.2	
	comp=E,0.2nm,0.3s,baz=235,slow=23,SNR=2.4								
WSAR	**Wadi Sarin**	**13.50**	**132**	Pn			**Pn**	**02 18 17.9**	**-1.2**
	comp=E,0.3nm,0.3s,baz=187,slow=6.6,SNR=1.9								
WSAR				Sn			Sn	02 20 36.7	-12
	comp=E,0.1nm,0.3s,baz=139,slow=11,SNR=2.3								
IDI	**Anoyia**	**19.10**	**284**	P			**Pn**	**02 19 32.2**	**+1.1**
	comp=E,0.3nm,0.3s,baz=214,slow=20,SNR=1.5								
MKAR	**Makanchi Array**	**29.77**	**52**	P			**P**	**02 21 14.1**	**+0.2**
	comp=E,0.3nm,0.4s,baz=251,slow=7.5,SNR=4.7								
FINES	**FINESS Array B**	**31.94**	**340**	P			**P**	**02 21 32.6**	**-0.2**
	comp=E,0.9nm,0.5s,baz=148,slow=9.0,SNR=6.9								
NOA	**NORSAR Array B**	**36.87**	**331**	P			**P**	**02 22 14.8**	**-0.7**
	comp=E,0.3nm,0.5s,baz=121,slow=8.2,SNR=1.7								
ARCES	**ARCESS Array B**	**38.88**	**348**	P			**P**	**02 22 32.3**	**-0.1**
	comp=E,0.4nm,0.4s,baz=157,slow=9.4,SNR=8.9								
ESDC	**Sonseca Array**	**41.80**	**295**	P			**P**	**02 22 57.2**	**+0.2**
	comp=E,0.2nm,0.6s,baz=84,slow=6.7,SNR=1.4								
TORD	**Torodi Ar. Bea**	**46.25**	**256**	P			**P**	**02 23 32.8**	**-0.1**
	comp=E,0.5nm,0.9s,baz=72,slow=7.7,SNR=2.2								

*JMA **26** 02:22:43.7±0.1,23.°72N×122.°00E,h26km±3km,M2.7*
*TAP **26** 02:22:44.7,23.°71N×121.°98E,h35km,ML3.1,C*
ISC 26 02:22:44.1±1.0,**23.°70N**±0.°02×**121.°99E**±0.°02,**h29**km±10km,
n82,σ0°61/155,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.45**	**309**	P			**Pb**	**02 22 54.0**	**+0.4**
	baz=305								
HWA				*e*S			**Sn**	**02 23 00.9**	**-0.7**
	baz=305								
EGFH	**Guangfu**	**0.51**	**267**	*i* P			**Pb**	**02 22 54.9**	**+0.2**
	baz=265								
EGFH				*e*S			**Sb**	**02 23 02.5**	**+0.6**
	baz=265								
ESL	**Shilin**	**0.52**	**283**	*i* P			**Pb**	**02 22 54.6**	**-0.2**
	baz=276								
ESL				*i* S			**Sb**	**02 23 01.8**	**-0.3**
	baz=276								
TWD	**Chiawan**	**0.52**	**317**	*i* P			**Pb**	**02 22 54.7**	**-0.1**
	baz=317								
TWD				S			**Sb**	**02 23 02.2**	**+0.1**
	baz=317								
HGSD	**Ruisui**	**0.56**	**249**	P			**Pb**	**02 22 55.4**	**+0.1**
	baz=246								
HGSD				S			**Sn**	**02 23 03.8**	**-0.5**
	baz=246								
NACB	**Ninganchiao**	**0.59**	**323**	P			**Pb**	**02 22 55.6**	**-0.4**
	baz=318								
NACB				S			**Sb**	**02 23 03.5**	**-0.6**
	baz=318								
EHY	**Hungye**	**0.64**	**253**	*i* P			**Pb**	**02 22 56.9**	**+0.1**
	baz=265								
EHY				*i* S			**Sn**	**02 23 06.1**	**-0.3**
	baz=265								
ETLH	**Xiulin Townshi**	**0.69**	**318**	*i* P			**Pb**	**02 22 57.0**	**-0.5**
	baz=317								
ETLH				S			**Sb**	**02 23 06.5**	**-0.3**
	baz=317								
YULB	**Yu-li**	**0.70**	**244**	P			**Pb**	**02 22 57.9**	**+0.1**
	baz=257								
YULB				S			**Sn**	**02 23 07.8**	**-0.1**
	baz=257								
TWF1	**Yuli**	**0.72**	**242**	*i* P			**Pb**	**02 22 58.2**	**+0.1**
	baz=232								
TWF1				S			**Sn**	**02 23 08.4**	**0.0**
	baz=232								
ENA	**Nanau**	**0.76**	**343**	*i* P			**Pn**	**02 22 58.3**	**-0.6**
	baz=336								
ENA				*i* S			**Sb**	**02 23 08.8**	**0.0**
	baz=336								
ENAH	**Nanao**	**0.77**	**348**	*i* P			**Pn**	**02 22 58.6**	**-0.3**
	baz=340								
ENAH				*i* S			**Sn**	**02 23 09.2**	**-0.3**
	baz=340								
VWDT	**VWDT**	**0.78**	**274**	P			**Pb**	**02 22 59.1**	**+0.1**
	baz=273								
VWDT				*e*S			**Sb**	**02 23 09.1**	**-0.2**
	baz=273								
OWD	**Renai**	**0.79**	**289**	P			**Pb**	**02 22 59.5**	**+0.2**
	baz=288								
OWD				S			**Sb**	**02 23 09.0**	**-0.7**
	baz=288								
WHF	**Hehuan Shan**	**0.80**	**304**	*i* P			**Pn**	**02 22 59.0**	**-0.7**
	baz=304								
WHF				*i* S			**Sb**	**02 23 10.1**	**-0.2**
	baz=304								
FULB	**Fuli**	**0.81**	**232**	*i* P			**Pn**	**02 22 59.6**	**+0.1**
	baz=221								
FULB				*i* S			**Sb**	**02 23 10.0**	**-0.2**
	baz=221								
CHKT	**Chengkung**	**0.83**	**224**	*e*P			**Pn**	**02 22 58.7**	**-1.0**
	baz=214								
CHKT				*i* S			**Sb**	**02 23 09.2**	**-1.4**
	baz=214								
CHGB	**Renai**	**0.83**	**296**	P			**Pn**	**02 22 59.8**	**-0.1**
	baz=301								
CHGB				S			**Sn**	**02 23 11.2**	**-0.1**
	baz=301								
NNSB	**Datong**	**0.91**	**323**	P			**Pn**	**02 23 00.9**	**-0.2**
	baz=323								
NNSB				S			**Sn**	**02 23 12.6**	**-0.7**
	baz=323								
NNSH	**Datong**	**0.91**	**323**	*i* P			**Pn**	**02 23 00.8**	**-0.3**
	baz=322								
NNSH				*i* S			**Sn**	**02 23 12.5**	**-0.8**
	baz=322								
TWC	**Suao**	**0.92**	**352**	*i* P			**Pn**	**02 23 01.1**	**+0.1**
	baz=353								
TWC				*i* S			**Sb**	**02 23 13.2**	**0.0**
	baz=353								
TWT	**Tachien**	**0.93**	**307**	*i* P			**Pn**	**02 23 01.3**	**+0.1**
	baz=306								
TWT				*i* S			**Sn**	**02 23 13.0**	**-0.7**
	baz=306								
NNS	**Nan Shan**	**0.93**	**323**	*i* P			**Pn**	**02 23 01.2**	**-0.1**
	baz=323								
NNS				*i* S			**Sn**	**02 23 12.9**	**-0.7**
	baz=323								
TDCB	**Techi**	**0.94**	**306**	P			**Pn**	**02 23 01.5**	**+0.1**
	baz=306								
TDCB				S			**Sn**	**02 23 12.9**	**-1.1**
	baz=306								
SSLB	**Suanglung**	**0.95**	**276**	P			**Pn**	**02 23 01.3**	**-0.2**
	baz=275								
SSLB				*e*S			**Sb**	**02 23 15.0**	**+0.7**
	baz=275								
EDH	**Donghe**	**0.96**	**221**	P			**Pn**	**02 23 00.8**	**-0.7**
	baz=214								
EDH				S			**Sn**	**02 23 12.8**	**-1.4**
	baz=214								
NDT	**Datong Townshi**	**1.00**	**334**	*i* P			**Pn**	**02 23 02.2**	**+0.1**
	baz=340								
NDT				S			**Sn**	**02 23 15.2**	**-0.1**
	baz=340								
SMLT	**Sun Moon Lake**	**1.01**	**281**	*i* P			**Pn**	**02 23 02.6**	**+0.2**
	baz=287								
SMLT				S			**Sn**	**02 23 15.8**	**0.0**
	baz=287								
ENTT	**Nioudou**	**1.01**	**338**	*i* P			**Pn**	**02 23 02.4**	**0.0**
	baz=338								
ENTT				S			**Sb**	**02 23 15.8**	**-0.2**
	baz=338								
ELDTW	**Lidau**	**1.02**	**241**	*i* P			**Pn**	**02 23 02.1**	**-0.5**
	baz=239								
ELDTW				S			**Sn**	**02 23 14.7**	**-1.4**
	baz=239								
TWE	**Neicheng**	**1.06**	**344**	*i* P			**Pn**	**02 23 03.0**	**+0.1**
	baz=345								
TWE				*e*S			**Sb**	**02 23 17.9**	**+0.6**
	baz=345								
ALS	**Alishan**	**1.10**	**260**	*i* P			**Pb**	**02 23 04.7**	**+0.1**
	baz=270								
ALS				S			**Sb**	**02 23 19.1**	**+0.3**
	baz=270								
WHP	**Taichung City**	**1.11**	**301**	*i* P			**Pb**	**02 23 05.1**	**+0.4**
	baz=309								
WHP				*i* S			**Sn**	**02 23 18.5**	**+0.3**
	baz=309								
YHNB	**Yeheng**	**1.12**	**330**	P			**Pn**	**02 23 03.9**	**+0.1**
	baz=330								
YHNB				S			**Sn**	**02 23 17.5**	**-0.8**
	baz=330								
LDUT	**Ludao**	**1.13**	**205**	P			**Pn**	**02 23 03.0**	**-0.9**
	baz=204								
LDUT				S			**Sn**	**02 23 16.5**	**-1.9**
	baz=204								
JYNG	**Yonagunijimaku**	**1.15**	**49**	*e*S			**Sn**	**02 23 19.0**	**0.0**
NTC	**Toucheng**	**1.16**	**353**	P			**Pn**	**02 23 04.8**	**+0.5**
	baz=5.0								
NTC				S			**Sb**	**02 23 20.3**	**+0.1**
	baz=5.0								
WJS	**Zhushan**	**1.16**	**276**	*e*P			**Pb**	**02 23 06.8**	**+1.3**
	baz=274								
NWLT	**Wulai**	**1.16**	**338**	*i* P			**Pn**	**02 23 04.8**	**+0.4**
	baz=327								
NWLT				*i* S			**Sn**	**02 23 19.2**	**-0.1**
	baz=327								
CHN5	**Tsauling**	**1.21**	**265**	*i* P			**Pb**	**02 23 06.4**	**+0.1**
	baz=265								
CHN5				*e*S			**Sb**	**02 23 22.1**	**+0.5**
	baz=265								
YOJ	**Yonaguni jima**	**1.21**	**51**	P			**Pn**	**02 23 05.3**	**+0.4**
	baz=51								
YOJ				S			**Sn**	**02 23 20.4**	**+0.1**
	baz=51								
YOJ	**Yonaguni jima**	**1.21**	**51**	P			**Pn**	**02 23 05.3**	**+0.4**
YOJ				*e*S			**Sn**	**02 23 20.4**	**+0.1**
WNT	**Mingjian**	**1.21**	**279**	*e*P			**Pb**	**02 23 06.5**	**+0.2**
	baz=278								
WNT				*e*S			**Sb**	**02 23 21.8**	**+0.3**
	baz=278								
TWGBT	**Beinan**	**1.21**	**224**	*e*P			**Pn**	**02 23 04.1**	**-1.0**
	baz=234								
TWGBT				S			**Sn**	**02 23 19.4**	**-1.0**
	baz=234								
TWG	**Pinlang**	**1.21**	**224**	*i* P			**Pn**	**02 23 05.0**	**0.0**
	baz=234								
TWG				*i* S			**Sn**	**02 23 19.5**	**-1.0**
	baz=234								
TIPB	**Shuangxi**	**1.28**	**353**	*i* P			**Pb**	**02 23 06.9**	**-0.6**
	baz=6.0								
TIPB				*i* S			**Sb**	**02 23 22.9**	**-0.7**
	baz=6.0								
TCU	**Taichung**	**1.28**	**291**	*e*S			**Sb**	**02 23 24.4**	**+0.8**
	baz=290								
NSTT	**Nanjuang**	**1.29**	**316**	*i* P			**Pb**	**02 23 07.9**	**+0.1**
	baz=316								
NSTT				*i* S			**Sb**	**02 23 23.9**	**-0.1**
	baz=316								
LIOB	**Emei**	**1.29**	**317**	*i* P			**Pb**	**02 23 07.8**	**0.0**
	baz=317								
LIOB				S			**Sb**	**02 23 24.1**	**0.0**
	baz=317								
TWB1	**Santiao Chiao**	**1.30**	**0**	P			**Pn**	**02 23 06.7**	**+0.4**
	baz=1.0								
TWB1				*e*S			**Sn**	**02 23 23.0**	**+0.2**
	baz=1.0								
TPUB	**Ta-pu**	**1.31**	**253**	P			**Pb**	**02 23 08.0**	**0.0**
	baz=243								
TPUB				S			**Sb**	**02 23 25.1**	**+0.7**
	baz=243								
TWA	**Mucha**	**1.33**	**344**	*e*P			**Pb**	**02 23 08.3**	**-0.1**
	baz=334								
TWA				S			**Sb**	**02 23 24.4**	**-0.6**
	baz=334								
WDLH	**Douliu**	**1.33**	**270**	P			**Pb**	**02 23 08.7**	**+0.3**
	baz=269								
WDLH				*e*S			**Sb**	**02 23 25.4**	**+0.4**
	baz=269								
NSY	**Sanyi**	**1.33**	**303**	*e*P			**Pb**	**02 23 09.0**	**+0.6**
	baz=302								
NSY				*e*S			**Sb**	**02 23 25.3**	**+0.2**
	baz=302								
WTP	**Ta-pu**	**1.34**	**251**	*i* P			**Pb**	**02 23 08.4**	**-0.1**
	baz=241								
WTP				*e*S			**Sb**	**02 23 25.6**	**+0.2**
	baz=241								
TATO	**Taipei**	**1.35**	**340**	*e*P			**Pn**	**02 23 07.0**	**+0.1**
	baz=340								
TATO				S			**Sn**	**02 23 23.8**	**-0.1**
	baz=340								
WCHH	**Zhanghua**	**1.36**	**286**	*e*P			**Pb**	**02 23 09.4**	**+0.5**
	baz=285								
WCHH				*e*S			**Sb**	**02 23 26.9**	**+1.0**
	baz=285								
NWF	**Wu-fen Shan**	**1.38**	**352**	*e*P			**Pb**	**02 23 09.1**	**-0.1**
	baz=352								
NWF				S			**Sb**	**02 23 26.5**	**0.0**
	baz=352								
WFSB	**Wu-fen Shan**	**1.38**	**352**	*e*S			**Sb**	**02 23 25.9**	**-0.6**
	baz=352								
WDJ	**Daijia District**	**1.39**	**298**	P			**Pb**	**02 23 09.2**	**-0.2**
	baz=297								
SLGT	**Liugui**	**1.42**	**241**	*i* P			**Pb**	**02 23 09.6**	**-0.3**
	baz=233								
SLGT				S			**Sb**	**02 23 27.9**	**+0.3**
	baz=233								
CHN1	**Nanshi**	**1.43**	**249**	*i* P			**Pb**	**02 23 10.3**	**+0.1**
	baz=249								
CHN1				*i* S			**Sb**	**02 23 29.4**	**+1.3**
	baz=249								
TWK	**Hsinying**	**1.44**	**253**	*i* P			**Pb**	**02 23 10.3**	**0.0**
	baz=252								
TWK				S			**Sb**	**02 23 28.7**	**+0.4**
	baz=252								
SNST	**Tainan City**	**1.45**	**251**	*e*P			**Pb**	**02 23 10.9**	**+0.5**
	baz=250								
SNST				S			**Sb**	**02 23 29.3**	**+0.9**
	baz=250								
ECL	**Taimali**	**1.45**	**221**	P			**Pn**	**02 23 07.6**	**-0.7**
	baz=220								
ECL				S			**Sn**	**02 23 24.7**	**-1.7**
	baz=220								
TWS1	**Kuangyinshan**	**1.49**	**340**	*e*P			**Pn**	**02 23 09.5**	**+0.6**
	baz=340								
TWS1				S			**Sb**	**02 23 29.0**	**-0.7**
	baz=340								
YM01	**YM01**	**1.49**	**345**	*e*P			**Pn**	**02 23 09.4**	**+0.4**
	baz=329								
YM10	**YM10**	**1.50**	**345**	P			**Pn**	**02 23 09.5**	**+0.4**
	baz=330								
YM10				S			**Sn**	**02 23 28.6**	**+0.8**
	baz=330								
SSD	**Sandimen**	**1.57**	**233**	P			**Pn**	**02 23 11.0**	**+1.1**
	baz=229								
SSD				S			**Sn**	**02 23 30.3**	**+1.1**
	baz=229								
MASBT	**Mashibuluo**	**1.65**	**229**	P			**Pn**	**02 23 11.8**	**+0.7**
	baz=227								
MASBT				*e*S			**Sn**	**02 23 32.2**	**+0.9**
	baz=227								
EAST	**Anshuo**	**1.68**	**219**	P			**Pn**	**02 23 11.9**	**+0.4**
	baz=218								
HATJ	**Hateruma jima**	**1.70**	**78**	P			**Pn**	**02 23 12.0**	**+0.2**
HATJ				*e*S			**Sn**	**02 23 32.1**	**-0.5**
IRIF	**Iriomote-Funau**	**1.71**	**68**	P			**Pn**	**02 23 12.7**	**+0.7**
IRIF				S			**Sn**	**02 23 33.5**	**+0.6**
JKRS	**Kuro-shima**	**1.93**	**73**	P			**Pn**	**02 23 15.7**	**+0.8**
JKRS				S			**Sn**	**02 23 38.9**	**+0.8**
TWKBT	**Hengchun**	**2.06**	**212**	*e*P			**Pn**	**02 23 17.4**	**+0.7**
	baz=211								
TWKBT				S			**Sn**	**02 23 41.8**	**+0.4**
	baz=211								
TWK1	**Hengchun**	**2.06**	**212**	*e*S			**Sn**	**02 23 41.3**	**-0.1**
	baz=211								
JIJ	**Ishigaki jima**	**2.08**	**71**	P			**Pn**	**02 23 16.9**	**-0.1**
JIJ				*e*S			**Sn**	**02 23 41.9**	**0.0**
WDGT	**Dungji**	**2.18**	**259**	*i* P			**Pn**	**02 23 19.5**	**+1.1**
	baz=258								
WDGT				S			**Sn**	**02 23 45.2**	**+0.8**
	baz=258								
PHUB	**P'eng-hu**	**2.22**	**266**	S			**Sn**	**02 23 46.2**	**+0.7**
	baz=254								
JISG	**Ishigakijimahi**	**2.30**	**67**	P			**Pn**	**02 23 20.0**	**0.0**
JISG				*e*S			**Sn**	**02 23 45.8**	**-1.5**
VWUC	**VWUC**	**2.65**	**300**	P			**Pn**	**02 23 25.1**	**+0.3**
	baz=299								
VWUC				S			**Sn**	**02 23 54.5**	**-1.5**
	baz=299								
PTMZ	**Houxiangcun**	**2.94**	**298**	*e*P			**Pn**	**02 23 29.0**	**+0.3**
	baz=296								
PTMZ				*e*S			**Sn**	**02 24 01.7**	**-1.3**
	baz=296								

*BJI **26** 02:22:47.7±0.0,36.°37N×140.°24E,h102km,mB4.9/17,*
*

516nm,0.3s,baz=304,slow=1.5,SNR=130
JHJ S Sn 02 24 20.2 +0.2
704nm,0.3s,baz=306,slow=24,SNR=18
JHJ2 Mitsune 3.32 188 Pn Pn 02 23 42.1 +0.7
JHJ2 Sn Sn 02 24 19.7 -0.4
ERM Erimo 6.00 20 *ce*P Pn 02 24 16.7 -0.7
ERM pmax pmax
comp=Z,241nm,0.7s
ERM Erimo 6.00 20 Pn Pn 02 24 17.0 -0.4
ERM Sn Sn 02 25 23.4 -1.3
ASAJ Asahikawa 7.88 12 P Pn 02 24 42.5 -0.4
comp=Z,21nm,0.3s,baz=228,slow=10,SNR=46
ASAJ S Sn 02 26 02.5 -7.8
comp=Z,2.1nm,0.3s,baz=131,slow=27,SNR=1.1
JKA Kamikawa-asahi 7.88 12 Pn Pn 02 24 42.4 -0.5
JKA Sn 02 26 10.6 +0.2
NMR Nemuro--Hokkai 8.08 29⇓ *i*P Pn 02 24 43.9 -1.6
NMR *i* S Sn 02 26 08.3 -6.9
GLVR Golovnino 8.32 27 P Pn 02 24 45.8 -2.9
JNU Nakatsue 8.45 250 P Pn 02 24 51.0 +0.3
comp=Z,4.3nm,0.3s,baz=54,slow=10,SNR=28
JNU Nakatsue 8.45 250 Pn 02 24 50.6 -0.1
GRPR Tuman 8.63 27 *e*P Pn 02 24 51.3 -1.7
GRPR *e*S Sn 02 26 21.6 -6.9
GRPR pmax pmax
comp=Z,375nm,0.2s
GRPR pmax pmax
comp=N,134nm,0.3s
GRPR pmax pmax
comp=E,163nm,0.3s
YUK Yuzh-Kuril'sk 8.70 27 *i*P Pn 02 24 53.0 -0.9
YUK *i*S Sn 02 26 23.1 -7.0
YUK pmax pmax
comp=N,94nm,0.2s
YUK pmax pmax
comp=Z,322nm,0.2s
YUK pmax pmax
comp=E,49nm,0.1s
TEY Ternei 9.07 343⇑ *e*P Pn 02 24 58.6 -0.3
TEY pmax pmax
comp=Z,30nm,0.7s
TEY pmax pmax
comp=E,20nm,0.8s
TEY pmax pmax
comp=N,30nm,0.7s
JCJ Chichijima 9.42 170 P Pn 02 25 00.9 -2.9
comp=N,62nm,0.3s,baz=315,slow=2.5,SNR=104
JCJ S Sn 02 26 37.5 -10
comp=N,46nm,0.3s,baz=336,slow=22,SNR=5.5
JCJ Chichijima 9.42 170 Pn Pn 02 25 00.8 -3.0
JCJ Sn Sn 02 26 44.5 -3.3
KSRS Korea Array 10.00 280 P Pn 02 25 13.2 +1.6
comp=N,2.0nm,0.3s,baz=93,slow=13,SNR=36
KS19 Wonju Array Si 10.05 280 Pn 02 25 12.0 -0.2
USA0B Ussuriysk Arra 10.06 323 P Pn 02 25 12.2 -0.1
USA0B Ussuriysk Arra 10.06 323 Pn Pn 02 25 12.2 -0.1
USRK Ussuriysk Ar. 10.06 323 P Pn 02 25 12.4 +0.1
baz=145,slow=12,SNR=19
TJN Taejon 10.47 274 *i*P Pn 02 25 17.7 -0.2
KUR Kuril'sk 10.49 31 *e*P Pn 02 25 17.8 -0.3
KUR *e*S Sn 02 27 08.6 -4.9
KUR pmax pmax
comp=Z,119nm,0.6s
KUR pmax pmax
comp=N,21nm,0.4s
KUR pmax pmax
comp=E,24nm,0.4s
KUR smax smax
comp=E,110nm,0.6s
KUR smax smax
comp=N,60nm,0.5s
YSS Yuzh-Sakhalins 10.69 9 *e*P Pn 02 25 19.4 -1.4
YSS pmax pmax
comp=Z,130μm,0.5s
YSS MLR MLR
comp=Z,200nm,16.0s
YSS Yuzh-Sakhalins 10.69 9 Pn Pn 02 25 19.0 -1.7
CN2 Changchun 13.57 307 *e*P Pn 02 25 58.0 -0.9
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KLR Kul'dur 14.27 337 P Pn 02 26 06.6 -1.2
comp=Z,0.6nm,0.3s,baz=184,slow=3.6,SNR=7.1
KLR Kul'dur 14.27 337 *ce*P Pn 02 26 07.5 -0.3
KLR pmax pmax
comp=Z,6.0nm,1.4s
TYV Tymovskoe 14.54 6 *e*P Pn 02 26 09.8 -1.5
TYV *e*S Sn 02 28 49.4 -2.2
TYV pmax pmax
comp=Z,18nm,0.9s
TYV pmax pmax
comp=Z,100nm,4.4s
TYV smax smax
comp=E,200nm,4.7s
GRNR Gornyy 14.63 350 *e*P Pn 02 26 06.9 -5.5
GRNR pmax pmax
comp=Z,2.0nm,0.5s
GRNR MLR MLR
comp=E,110nm,12.0s
GRNR MLR MLR
comp=N,70nm,16.0s
GRNR MLR MLR
comp=Z,80nm,13.0s
TIA Tai'an 18.71 276 P P 02 26 59.0 -1.9
TIA pmax pmax
comp=Z,22nm,1.0s
BJT Baijiatuan 19.32 288 P P 02 27 07.3 -0.1
BJT pmax pmax
comp=Z,16nm,0.7s
BJT Baijiatuan 19.32 288 P P 02 27 07.3 -0.1
ZEA Zeya 19.58 336 *e*P P 02 27 08.6 -1.5
ZEA pmax pmax
comp=Z,46nm,1.0s
HIA Hailar 19.75 317 *i*P P 02 27 10.6 -1.5
HIA pmax pmax
comp=Z,5.0nm,0.8s
PETK Petropavlovsk- 20.66 31 P P 02 27 24.4 +2.6
comp=Z,3.3nm,0.7s,baz=224,slow=10,SNR=3.9
WHN Wuhan 22.43 262 P P 02 27 38.0 -2.7
WHN pmax pmax
comp=Z,28nm,0.8s
GUMO Guam 23.09 169 P P 02 27 52.9 +5.7
comp=Z,27nm,0.4s,baz=353,slow=7.6,SNR=2.1
GUMO Guam 23.09 169 P P 02 27 47.9 +0.7
GUMO pmax pmax
comp=Z,71nm,0.9s
GUMO Guam 23.09 169 P P 02 27 47.9 +0.7
MA2 Magadan 24.14 13 *i*P P 02 27 57.2 +0.7
MA2 pmax pmax
comp=Z,6.0nm,1.0s
XAN Xi'an 25.73 274 P P 02 28 09.8 -1.4
XAN pmax pmax
comp=Z,16nm,0.8s
XAN pmax pmax
comp=Z,150nm,3.9s
XAN Xi'an 25.73 274 P P 02 28 10.7 -0.5
XAN pmax pmax
comp=Z,12nm,1.0s
XAN Xi'an 25.73 274 P P 02 28 10.7 -0.5
ENH Enshi 26.43 266 P P 02 28 15.6 -1.9
YAK Yakutsk 26.50 349 *i*P P 02 28 17.8 +0.1
YAK pmax pmax
comp=Z,13nm,0.5s
ULN Ulaanbaatar 27.01 306 *ce*P P 02 28 22.1 -0.6
ULN pmax pmax
comp=Z,29nm,1.3s
ULN Ulaanbaatar 27.01 306 P P 02 28 21.8 -0.9
SONM Songino Array 27.43 305 P P 02 28 25.4 -1.0
comp=Z,10.0nm,0.6s,baz=109,slow=9.0,SNR=41
BOD Bodaibo 27.61 329 *e*P P 02 28 27.6 -0.1
BOD pmax pmax
comp=Z,15nm,0.7s
H11N2 WAKE ISLAND Hy 28.59 118 T T 02 59 01.8
baz=313,slow=75,SNR=32
H11N1 WAKE ISLAND Hy 28.59 118 T T 02 59 03.1
baz=313,slow=75,SNR=80
H11N3 WAKE ISLAND Hy 28.61 118 T T 02 59 02.9
baz=313,slow=75,SNR=107
H11S1 WAKE ISLAND Hy 29.26 120 T T 02 59 52.5
baz=314,slow=76,SNR=475
H11S3 WAKE ISLAND Hy 29.26 121 T T 02 59 49.9
baz=314,slow=76,SNR=435
H11S2 WAKE ISLAND Hy 29.28 121 T T 02 59 54.6
baz=314,slow=76,SNR=219
ZAK Zakamensk 29.99 309 *e*P P 02 28 47.7 -1.4
ZAK pmax pmax
comp=Z,3.0nm,1.2s

TLY Talaya 30.10 312 P P 02 28 49.5 -0.4
comp=Z,4.9nm,0.6s,baz=92,slow=4.4,SNR=7.0
TLY Talaya 30.10 312 *e*P P 02 28 49.9 0.0
TLY pmax pmax
comp=Z,20nm,0.9s
TLY Talaya 30.10 312 ⇑P P 02 28 49.7 -0.2
GYA Guiyang 30.27 260 ⇑P P 02 28 50.3 -1.5
GYA pP pP 02 29 13.0 -3.2
GYA sP sP 02 29 31.5 +2.5
GYA pmax pmax
comp=Z,15nm,0.5s
GYA LR LR
comp=Z,48nm,3.9s
GYA LR LR
comp=Z,50nm,4.1s
GYA LR LR
comp=Z,140nm,7.5s
GTA Gaotai 31.93 288 *e*P P 02 29 06.0 -0.3
GTA pmax pmax
comp=Z,5.0nm,0.6s
DGZ Jazzator, Alta 40.06 306 *i*P P 02 30 15.9 +0.4
DGZ pmax pmax
comp=Z,42nm,0.8s
CMAR Chiang Mai Arr 40.51 255 P P 02 30 18.9 -0.4
comp=Z,1.9nm,0.6s,baz=51,slow=6.2,SNR=9.5
CMAR Chiang Mai Arr 40.51 255 *ce*P P 02 30 18.8 -0.5
CMAR pmax pmax
comp=Z,2.0nm,0.6s
ZAA0 Zalesovo Array 41.70 313 P P 02 30 28.4 -0.3
ZAA0 lAmb lAmb 02 30 30.2
comp=Z,17nm,0.9s
ZALV Zalesovo Beam 41.70 313 P P 02 30 28.8 +0.1
comp=Z,8.1nm,0.4s,baz=93,slow=6.6,SNR=34
ZALV PcP PcP 02 32 21.9 -1.2
comp=Z,0.9nm,0.3s,baz=89,slow=5.2,SNR=2.1
ZSN Zaisan 41.90 303 *e*P P 02 30 31.0 +0.6
comp=Z,19nm,0.8s,baz=303
ZSN Zaisan 41.90 303 *e*P P 02 30 31.0 +0.6
ZSN pmax pmax
comp=Z,19nm,0.8s
SHL Shillong 42.54 269 P P 02 30 36.0 -0.1
SHL pmax pmax
comp=Z,11nm,0.6s
SHL Shillong 42.54 269 P P 02 30 36.0 -0.1
SHL lAmb lAmb 02 30 38.9
comp=Z,11nm,0.6s
SBUM Sibu 42.62 224 P P 02 30 36.8 +0.2
SBUM lAmb lAmb 02 30 42.6
comp=Z,20nm,0.8s
SBUM **PcP 02 32 26.8 +0.1**
MK31 Makanchi Array 43.73 302 P P 02 30 45.2 +0.1
MK31 pmax pmax
comp=Z,17nm,0.9s
MK31 Makanchi Array 43.73 302 P P 02 30 45.2 +0.1
MK31 lAmb lAmb 02 30 46.1
comp=Z,17nm,0.8s
MKAR Makanchi Array 43.73 302 P P 02 30 45.1 0.0
comp=Z,12nm,0.7s,baz=90,slow=9.7,SNR=127
MKAR Makanchi Array 43.73 302 *ce*P P 02 30 45.0 -0.2
MKAR pmax pmax
comp=Z,12nm,0.7s
MAKZ Makanchi 43.94 303 P P 02 30 47.0 +0.2
MAKZ pmax pmax
comp=Z,19nm,0.9s
MAKZ Makanchi 43.94 303 P P 02 30 47.0 +0.2
MAKZ lAmb lAmb 02 30 48.0
comp=Z,19nm,0.9s
TAPN Taplejung 45.13 274 *e*P P 02 30 56.4 -0.5
comp=Z,17nm,0.4s
ODAN Odare 45.60 274 *e*P P 02 30 59.5 -1.0
comp=Z,21nm,0.6s
KURK Kurchatov 45.64 308 P P 02 31 00.0 -0.2
KURK pmax pmax
comp=Z,48nm,0.8s
KURK Kurchatov 45.64 308 P P 02 31 00.0 -0.2
KURBB Kurchatov Arra 45.71 308 P P 02 31 00.3 -0.5
RAMN Ramite 46.19 274 *e*P P 02 31 04.7 -0.5
comp=Z,91nm,0.9s
JIRN Jiri 46.22 275 *e*P P 02 31 05.6 0.0
comp=Z,126nm,0.8s
SHLS Shalkode 46.37 298 *e*P P 02 31 03.7 -2.5
comp=Z,10nm,0.7s,baz=298
SHLS Shalkode 46.37 298 *e*P P 02 31 03.7 -2.5
SHLS pmax pmax
comp=Z,10.0nm,0.7s
UZB Uzunbulak 46.68 298 ⇑*i*P P 02 31 08.7 -0.1
comp=Z,7.6nm,0.7s,baz=298
UZB Uzunbulak 46.68 298 *c i*P P 02 31 08.6 -0.1
UZB pmax pmax
comp=Z,8.0nm,0.7s
PKI Pulchoki 46.88 276 *e*P P 02 31 10.1 -0.6
comp=Z,43nm,0.9s
KKN Kakani 46.90 276 *e*P P 02 31 10.4 -0.2
comp=Z,72nm,1.0s
DMN Daman 47.11 276 *e*P P 02 31 12.1 -0.3
comp=Z,29nm,0.8s
SATY Saty 47.14 298 ⇑*i*P P 02 31 12.5 +0.2
comp=Z,21nm,2.4s,baz=298
SATY Saty 47.14 298 *c i*P P 02 31 12.5 +0.2
SATY pmax pmax
comp=Z,21nm,2.4s
SATY Saty 47.14 298 *c i*P P 02 31 12.5 +0.2
SATY pmax pmax
comp=Z,21nm,2.4s
GKN Gorkha 47.32 276 *e*P P 02 31 13.7 -0.2
comp=Z,147nm,0.8s
MDOK Medeo 48.08 299 *i*P P 02 31 20.1 +0.6
baz=298
MDOK Medeo 48.08 299 *i*P P 02 31 20.1 +0.6
AAA Alma-Ata 48.16 299 ⇑*i*P P 02 31 20.7 +0.6
comp=Z,8.8nm,0.4s,baz=298
AAA Alma-Ata 48.16 299 *c i*P P 02 31 20.7 +0.6
AAA pmax pmax
comp=Z,9.0nm,0.4s
KOLN Koldanda 48.25 277 *e*P P 02 31 20.9 -0.2
comp=Z,74nm,1.1s
KDJ Kajisay 48.25 297 P P 02 31 20.9 0.0
KDJ pmax pmax
comp=Z,19nm,0.7s
KDJ Kajisay 48.25 297 P P 02 31 20.9 0.0
KDJ lAmb lAmb 02 31 22.3
comp=Z,19nm,0.7s
JOHN Johnston Islan 48.34 100 P P 02 31 20.5 -1.1
KUU Kurly 48.40 300 ⇑*i*P P 02 31 21.6 -0.2
comp=Z,15nm,0.7s,baz=300
KUU Kurly 48.40 300 *c i*P P 02 31 21.6 -0.2
KUU pmax pmax
comp=Z,15nm,0.7s
PYUN Piuthan 48.60 277 *e*P P 02 31 24.1 +0.3
BRZS Berezniki 49.52 308 *e*P P 02 31 31.2 +0.9
comp=Z,6.9nm,0.6s,baz=308
BRZS Berezniki 49.52 308 *e*P P 02 31 31.1 +0.9
BRZS pmax pmax
comp=Z,7.0nm,0.6s
KZA Kyzart 49.65 298 P P 02 31 33.3 +1.5
SNR=8.5
KBK Karagaybulak 49.70 298 P P 02 31 32.7 +0.8
SNR=15
BTLS Baital 49.71 302 ⇑*i*P P 02 31 31.6 -0.2
comp=Z,8.9nm,0.5s,baz=302
BTLS Baital 49.71 302 *c i*P P 02 31 31.5 -0.2
BTLS pmax pmax
comp=Z,9.0nm,0.5s
SGDS Sogindy 49.71 300 ⇑*i*P P 02 31 32.0 +0.1
comp=Z,12nm,1.1s,baz=299
SGDS Sogindy 49.71 300 *c i*P P 02 31 32.0 +0.1
SGDS pmax pmax
comp=Z,12nm,1.1s
AAK Ala-Archa 50.03 299 *ce*P P 02 31 34.8 +0.4
AAK pmax pmax
comp=Z,12nm,0.8s
AAK Ala-Archa 50.03 299 P P 02 31 34.2 -0.2
AAK lAmb lAmb 02 31 35.7
comp=Z,14nm,1.0s
UCH Uchtor 50.13 298 P P 02 31 36.0 +0.5
SNR=12
BVA0 Borovoye Array 50.36 313 *i*P P 02 31 36.2 -0.3
BRVK Borovoye 50.41 313 *ce*P P 02 31 37.5 +0.6
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 50.41 313 P P 02 31 37.1 +0.2
BRVK lAmb lAmb 02 31 41.6
comp=Z,16nm,1.1s
ILAR Eielson Array 50.48 32 P P 02 31 40.0 +2.8
comp=Z,1.8nm,0.9s,baz=269,slow=6.4,SNR=14
ILAR pP **pP** 02 32 05.2 +1.7
comp=Z,1.9nm,0.8s,baz=271,slow=6.6,SNR=4.8
ILAR Eielson Array 50.48 32 P P 02 31 38.0 +0.8
EKS2 Erkin-Say 50.53 299 P P 02 31 38.5 +0.3
SNR=9.3
AML Almayashu 50.74 298 P P 02 31 40.9 +0.8
SNR=52
DZA Taraz 52.19 300 ⇑*i*P P 02 31 50.6 +0.2
baz=300
DZA Taraz 52.19 300 *c i*P P 02 31 50.6 +0.2
KK31 Karatay Array 52.70 300 P P 02 31 54.2 +0.1
KK31 pmax pmax
comp=Z,16nm,0.9s
KK31 Karatay Array 52.70 300 P P 02 31 54.2 +0.1
KK31 lAmb lAmb 02 31 55.2
comp=Z,16nm,0.8s
KKAR Karatay Array 52.70 300 P P 02 31 54.2 +0.1
KKAR pmax pmax
comp=Z,16nm,0.9s
KKAR Karatay Array 52.70 300 P P 02 31 54.2 +0.1
KKAR lAmb lAmb 02 31 55.2
comp=Z,16nm,0.8s
GSI Gunungsitoli 52.75 239 P P 02 31 55.3 +0.5
comp=Z,36nm,1.0s
IUG luzhnay 53.33 299 ⇑*i*P P 02 31 59.5 +0.6
comp=Z,24nm,1.4s,baz=299
IUG luzhnay 53.33 299 *c i*P P 02 31 59.5 +0.6
IUG pmax pmax
comp=Z,24nm,1.4s
NIL Nilore 54.00 288 P P 02 32 03.7 -0.1
NIL pmax pmax
comp=Z,8.0nm,0.6s
NIL Nilore 54.00 288 P P 02 32 03.7 -0.1
NIL lAmb lAmb 02 32 07.8
comp=Z,8.0nm,0.6s
GAR Garm 54.19 295 P P 02 32 05.2 -0.1
SVE Sverdlovsk 55.05 319 *e*P P 02 32 11.8 +0.9
SVE pmax pmax
comp=Z,24nm,0.9s
CHGR Chuyangaron 55.16 295 P P 02 32 12.2 0.0
INK Inuvik 55.33 27 P P 02 32 14.9 +2.2
comp=Z,1.2nm,0.8s,baz=19,slow=13,SNR=4.9
INK Inuvik 55.33 27 P P 02 32 13.6 +0.9
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 55.33 27 P P 02 32 13.6 +0.9
WB0 Warramunga Arr 56.16 187 P P 02 32 19.8 +0.6
ARU Arti 56.26 319 *c i*P P 02 32 19.4 -0.2
ARU 02 34 22.3
ARU S S 02 40 03.7 +3.0
ARU SS SS 02 43 47.4 -0.9
ARU pmax pmax
comp=Z,22nm,0.8s
ARU Arti 56.26 319 P P 02 32 19.8 +0.2
WRAB Tennant Creek 56.33 187 *ce*P P 02 32 19.5 -0.9
WRAB pmax pmax
comp=Z,8.0nm,1.3s
WR0 Warramunga Arr 56.33 187 P P 02 32 21.0 +0.5
WR0 lAmb lAmb 02 32 21.5
comp=Z,11nm,0.7s
WB2 Warramunga Arr 56.34 187 P P 02 32 21.0 +0.5
WRA Warramunga Arr 56.34 187 P P 02 32 21.0 +0.5
comp=Z,8.7nm,0.6s,baz=2.0,slow=7.4,SNR=91
WRA Warramunga Arr 56.34 187 P P 02 32 20.2 -0.3
AB31 Akbulak array 57.68 310 *i*P P 02 32 29.7 -0.1
AKTO Aktyubinsk 58.45 312 P P 02 32 34.9 -0.2
AS31 Alice Springs 60.06 187 P P 02 32 46.8 +0.3
ASAR Alice Springs 60.06 187 P P 02 32 47.4 +0.9
comp=Z,5.2nm,0.8s,baz=9.8,slow=6.5,SNR=36
ASAR Alice Springs 60.06 187 P P 02 32 46.8 +0.4
KBS Kingsbay 61.12 350 *ce*P P 02 32 52.5 -0.4
KBS pmax pmax
comp=Z,16nm,1.7s
GEYT Alibeck 63.38 299 P P 02 33 09.1 +0.3
comp=Z,4.8nm,0.8s,baz=41,slow=4.7,SNR=16
GYA0 ALIBECK ARRAY 63.38 299 P P 02 33 09.8 +1.0
GYA0B ALIBECK ARRAY 63.38 299 P P 02 33 08.8 +0.1
GYA0B lAmb lAmb 02 33 10.0
comp=Z,6.9nm,0.9s
KLMR Klimovskoe 63.82 328 *e*P P 02 33 09.9 -1.2
KLMR pmax pmax
comp=Z,14nm,1.0s
KLMR Klimovskoe 63.82 328 *e*P P 02 33 09.9 -1.2
KLMR AMP 02 33 12.1
comp=Z,14nm,1.0s
ARCES ARCESS Array B 64.27 339 P P 02 33 14.8 +0.8
comp=Z,3.3nm,0.8s,baz=53,slow=8.1,SNR=14
VRH Novokhopyorsk 67.46 318 *e*P P 02 33 33.4 -1.3
VRH pmax pmax
comp=Z,10.0nm,0.6s
STKA Stephens Creek 67.94 179 P P 02 33 39.0 +1.2
comp=Z,1.6nm,0.4s,baz=356,slow=8.7,SNR=6.3
STKA Stephens Creek 67.94 179 P P 02 33 39.0 +1.2
STKA Stephens Creek 67.94 179 P P 02 33 38.5 +0.7
OBN Obninsk 68.08 323 ⇑*i*P P 02 33 37.8 -0.7
OBN pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 68.23 320 *e*P P 02 33 38.5 -1.0
LPSR pmax pmax
comp=Z,20nm,0.8s
AKT Akhty 68.76 306 *e*P P 02 33 43.1 -0.1
AKT *e* 02 34 06.0
AKT *e**PP **pP** 02 34 09.4 -1.4
AKT pmax pmax
comp=Z,16nm,0.6s
VSR Storozhevoye 68.83 319 *e*P P 02 33 42.6 -0.7
VSR pmax pmax
comp=Z,20nm,0.7s
VORD Divnogorie 68.90 318 *e*P P 02 33 43.1 -0.6
VORD pmax pmax
comp=Z,10.0nm,0.8s
FINES FINESS Array B 68.96 332 P P 02 33 44.0 +0.1
comp=Z,6.2nm,0.7s,baz=53,slow=6.9,SNR=19
SEKA Sheki 69.24 306 P P 02 33 45.4 -0.7
ZKTA Zakatala 69.39 307 P P 02 33 46.7 -0.3
LKRN Lenkeran, Azer 69.46 303 P P 02 33 47.3 -0.1
MNGR Mingechevir, A 69.54 306 P P 02 33 47.6 -0.2
LGD Lagodekhi 69.54 307 P P 02 33 47.9 +0.1
DDFL Dedoflistskaro 69.82 307 P P 02 33 53.1 +3.5
GANJ Ganja 70.10 306 P P 02 33 51.1 -0.2
ZEI Tsey 70.53 309 *e*P P 02 33 52.9 -1.2
ZEI pmax pmax
comp=Z,8.0nm,0.9s
TBLG Delisi 70.55 308 P P 02 33 54.4 +0.3
TBLG pmax pmax
comp=Z,9.0nm,0.6s
TBLG Delisi 70.55 308 P P 02 33 54.4 +0.3
TBLG lAmb lAmb 02 33 54.9
comp=Z,8.9nm,0.6s
KBZ Khabaz 70.65 310 P P 02 33 55.4 +0.9
comp=Z,10nm,0.9s,baz=71,slow=3.2,SNR=22
KIV Kislovodsk 70.66 311 ⇑P P 02 33 56.5 +1.7
KIV Kislovodsk 70.66 311 *e*P P 02 33 55.1 +0.3
KIV pmax pmax
comp=Z,81nm,1.1s
KIV Kislovodsk 70.66 311 P P 02 33 54.8 0.0
KIV lAmb lAmb 02 33 56.9
comp=Z,19nm,0.8s
SUMG Summit 71.30 360 P P 02 33 58.8 +0.3
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG Summit 71.30 360 P P 02 33 58.8 +0.3
SUMG lAmb lAmb 02 34 01.3
comp=Z,9.2nm,0.9s
NAX Nakhchivan 71.41 305 P P 02 33 59.1 -0.3
AKH Akhalkalaki 71.52 308 ⇑P P 02 34 01.2 +1.1
AKH Akhalkalaki 71.52 308 P P 02 34 00.1 0.0
AKH pmax pmax
comp=Z,9.0nm,0.7s
AKH Akhalkalaki 71.52 308 P P 02 34 00.1 0.0
AKH lAmb lAmb 02 34 01.9
comp=Z,8.7nm,0.7s
CHVG Ch'k'valeri 71.70 310 P P 02 34 02.6 +1.7
NC405 NORSAR Array S 74.21 337 P P 02 34 15.9 +0.5
NC405 lAmb lAmb 02 34 16.6
comp=Z,18nm,0.7s
AKASG Malin Array Be 74.26 322 P P 02 34 15.8 -0.1
comp=Z,9.2nm,0.5s,baz=47,slow=6.1,SNR=60
AKASG pP **pP** 02 34 44.0 +0.3
comp=Z,3.5nm,0.7s,baz=50,slow=6.2,SNR=3.2
AKBB Malin Array Si 74.26 322 P P 02 34 15.8 0.0
AKBB pmax pmax
comp=Z,15nm,0.7s
AKBB Malin Array Si 74.26 322 P P 02 34 15.8 0.0
AKBB lAmb lAmb 02 34 16.6
comp=Z,15nm,0.7s

NC204	NORSAR Array S	74.39	337	P	P	02 34 16.9	+0.5	
NB201	NORSAR Array S	74.39	337	IAmb	IAmb	02 34 18.0		
	comp=Z,26nm,0.9s							
NB2	NORSAR Subarra	74.42	337	P	P	02 34 16.8	+0.1	
	comp=Z,8.0nm,0.7s,baz=41,slow=5.9							
NOA	NORSAR Array B	74.42	337	P	P	02 34 17.1	+0.4	
	comp=Z,6.9nm,0.7s,baz=39,slow=5.8,SNR=37							
NB000	NORSAR Array S	74.57	337	IAmb	IAmb	02 34 19.0		
	comp=Z,15nm,0.8s							
NVAR	Mina Array Bea	76.05	53	P	P	02 34 29.9	+3.3	
	comp=Z,0.6nm,0.7s,baz=275,slow=3.3,SNR=2.3							
NVAR				pP	pP	02 34 57.3	+2.7	
	comp=Z,0.8nm,0.7s,baz=294,slow=7.5,SNR=3.3							
NVAR	Mina Array Bea	76.05	53	P	P	02 34 25.4	-1.2	
SORM	Soroca	76.32	320	⇑P	P	02 34 27.6	0.0	
MALT	Malatya	76.48	308	P	P	02 34 30.5	+1.6	
IAS	Iasi	77.34	320	P	P	02 34 34.2	+0.8	
GAZ	Gaziantep	77.93	307	P	P	02 34 37.1	+0.1	
GAZ				IAmb	IAmb	02 34 39.2		
	comp=Z,16nm,0.8s							
TLCR		77.97	318	P	P	02 34 37.5	+0.6	
GIRR	Girov	78.04	320	P	P	02 34 38.0	+0.6	
JURR	Jurilovca	78.20	317	P	P	02 34 38.9	+0.7	
BUR08	Bucovina Ar. S	78.25	321	P	P	02 34 38.7	+0.1	
TESR	Tescani	78.26	320	⇑P	P	02 34 38.9	+0.3	
BURAR	Bucovina Array	78.26	321	⇓P	P	02 34 39.5	+0.8	
BURAR	Bucovina Array	78.26	321	P	P	02 34 38.9	+0.2	
CFR	Carcaliu	78.34	318	⇑P	P	02 34 39.7	+0.8	
TOPG	Topolog	78.40	318	⇓P	P	02 34 39.9	+0.6	
BR131	Keskin Array S	78.62	311	P	P	02 34 40.9	0.0	
BR131				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BR131	Keskin Array S	78.62	311	P	P	02 34 40.9	0.0	
BRTR	Keskin Array B	78.62	311	P	P	02 34 41.5	+0.7	
	comp=Z,2.6nm,0.7s,baz=123,slow=4.6,SNR=9.7							
VRI	Vrincioaia	78.64	319	⇑P	P	02 34 42.1	+1.4	
VRI	Vrincioaia	78.64	319	P	P	02 34 41.7	+1.0	
VRI				pmax	pmax			
	comp=Z,9.0nm,0.9s							
PLOR	Plostina	78.69	319	⇑P	P	02 34 42.4	+1.4	
PDAR	Pinedale Array	78.71	45	P	P	02 34 44.0	+2.6	
	comp=Z,0.2nm,0.3s,baz=353,slow=6.4,SNR=4.7							
PDAR				pP	pP	02 35 12.7	+3.1	
	comp=Z,0.6nm,0.6s,baz=252,slow=3.1,SNR=4.2							
PDAR	Pinedale Array	78.71	45	P	P	02 34 41.6	+0.2	
HARR	Harsova	78.77	318	⇑P	P	02 34 42.3	+0.9	
TLBR	Topalu	78.80	318	⇑P	P	02 34 42.5	+1.0	
KOLS	Kolonicke sedl	78.82	324	*e*P	P	02 34 41.1	-0.5	
KOLS				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KOLS	Kolonicke sedl	78.82	324	*e*P	P	02 34 41.1	-0.5	
OZUR		78.98	320	⇑P	P	02 34 43.9	+1.3	
UZH	Uzhgorod	79.02	323	*e*P	P	02 34 40.0	-2.6	
OJC	Ojcow	79.07	326	P	P	02 34 43.2	+0.3	
OJC				pmax	pmax			
	comp=Z,8.0nm,0.8s							
OJC	Ojcow	79.07	326	P	P	02 34 43.2	+0.3	
OJC				IAmb	IAmb	02 34 44.7		
	comp=Z,7.8nm,0.8s							
CRVS	Cervenica-Dubn	79.22	324	*e*P	P	02 34 44.9	+1.1	
CRVS	Cervenica-Dubn	79.22	324	*e*P	P	02 34 44.9	+1.1	
DOPR	Dopca	79.27	320	⇑P	P	02 34 45.2	+1.1	
MLR	Muntele Rosu	79.30	319	P	P	02 34 46.0	+1.5	
LANS	Liptovska Anna	79.98	325	*e*P	P	02 34 55.8	+7.8	
LANS				pmax	pmax			
	comp=Z,3.0nm,1.1s							
LANS	Liptovska Anna	79.98	325	*e*P	P	02 34 55.8	+7.8	
ARR	Arges	80.07	320	⇑P	P	02 34 50.3	+1.8	
MORC	Moravsky Berou	80.41	326	*e*P	P	02 34 50.8	+0.6	
MORC	Moravsky Berou	80.41	326	P	P	02 34 51.5	+1.3	
MORC				pmax	pmax			
	comp=Z,8.0nm,2.2s							
DPC	Dobruska-Polom	80.52	327	*e*P	P	02 34 52.2	+1.4	
DPC	Dobruska-Polom	80.52	327	*e*P	P	02 34 52.2	+1.4	
KRLC	Kraliky	80.53	327	*e*P	P	02 34 51.4	+0.5	
KRLC	Kraliky	80.53	327	*e*P	P	02 34 51.4	+0.5	
KRLC				*ex*	x	02 35 01.6		
VYHS	Vyhne	80.74	325	*e*P	P	02 34 52.3	+0.3	
VYHS				pmax	pmax			
	comp=Z,6.0nm,1.2s							
VYHS	Vyhne	80.74	325	*e*P	P	02 34 52.3	+0.3	
SIRR	Siria	80.96	322	P	P	02 34 53.8	+0.6	
JAVC	Velka Javorina	81.02	326	*e*P	P	02 34 55.2	+1.7	
BRG	Berggiesshubel	81.14	329	*i* P	P	02 34 54.9	+0.8	
	comp=Z,3.7nm,1.0s							
VRAC	Vranov	81.17	327	*e*P	P	02 34 55.4	+1.1	
CLL	Collm	81.20	330	*i* P	P	02 34 54.6	+0.3	
	comp=Z,9.0nm,1.0s							
CLL	Collm	81.20	330	*i* P	P	02 34 54.6	+0.3	
CLL				pmax	pmax			
	comp=Z,9.0nm,1.0s							
CLL	Collm	81.20	330	P	P	02 34 54.7	+0.4	
BZS	Buzias	81.44	322	P	P	02 34 56.1	+0.3	
KRUC	Moravsky	81.44	327	*e*P	P	02 34 56.0	+0.3	
GOPC	GO Pecny, Ondr	81.51	328	*e*P	P	02 34 56.5	+0.5	
GOPC	GO Pecny, Ondr	81.51	328	*e*P	P	02 34 56.5	+0.5	
HERR	Herculane	81.55	321	P	P	02 34 57.2	+0.9	
PRU	Pruhonice	81.56	328	*e*P	P	02 34 56.9	+0.6	
PRU	Pruhonice	81.56	328	*e*P	P	02 34 56.9	+0.6	
CSS	Mathiatis	81.76	307	P	P	02 34 57.7	0.0	
CSS				IAmb	IAmb	02 35 00.4		
	comp=Z,6.3nm,0.6s							
MDVR	Moldovita	81.97	321	⇑P	P	02 34 58.9	+0.3	
KHC	Kasperske Hory	82.62	328	*ce*P	P	02 35 02.0	+0.1	
KHC				pmax	pmax			
	comp=Z,8.0nm,0.8s							
KHC	Kasperske Hory	82.62	328	*e*P	P	02 35 02.3	+0.4	
KHC				*e*PCP	PcP	02 35 07.3	+0.7	
KHC	Kasperske Hory	82.62	328	P	P	02 35 02.1	+0.2	
GERES	GERESS Array B	82.78	328	P	P	02 35 02.6	-0.2	
	comp=Z,1.4nm,0.8s,baz=31,slow=6.2,SNR=9.9							
DIVS	Divibare	83.33	321	P	P	02 35 05.8	+0.1	
EKA	Eskdalemuir Ar	83.43	340	P	P	02 35 07.3	+1.5	
GROS	Grobnik	83.77	325	*i* P	P	02 35 08.1	+0.2	
BISS	Bistriski jare	83.81	326	*e*P	P	02 35 08.3	+0.3	
PERS	Pernice	83.82	326	*e*P	P	02 35 08.6	+0.5	
DOBS	Dobrina	84.02	325	*e*P	P	02 35 09.1	0.0	
LIT	Litokhoron	84.83	317	IAmb	IAmb	02 35 14.6		
	comp=Z,14nm,0.8s							
PDG	Podgorica	84.90	320	⇑P	P	02 35 14.1	+0.6	
PDG	Podgorica	84.90	320	P	P	02 35 13.9	+0.3	
PDG				IAmb	IAmb	02 35 14.9		
	comp=Z,13nm,1.0s							
TORD	Torodi Ar. Bea	117.15	314	PKP	PKPdf	02 41 23.6	-0.1	
	comp=Z,0.4nm,0.6s,baz=32,slow=1.7,SNR=6.3							
H03N2	Juan Fernandez	147.81	96	T	T	05 27 57.9		
	baz=292,slow=76,SNR=104							
H03N3	Juan Fernandez	147.82	96	T	T	05 27 59.0		
	baz=292,slow=76,SNR=96							
H03N1	Juan Fernandez	147.82	96	T	T	05 27 59.1		
	baz=292,slow=76,SNR=138							

IDC ***26*** *03:35:54.4±1.4, 18°.42S×177°.78W, h552km±16km, mb3.7/17, mb1 3.8/18, mb1mx3.6/39, mbtmp4.6/18, Error ellipse: s-maj=15.3km s-min=9.4km az=131.0*

NEIC ***26*** *03:35:55.1±1.7, 18°.3S±0°.1×177°.7W±0°.1, h580km±16km, mb4.5/30, Error ellipse: s-maj=24.7km s-min=9.1km az=127.0*

ISC 26 03:35:53.8±0.4, 18°.51S±0°.09×177°.68W±0°.08, h550km, n130, σ0§90/133, mb4.3/33, 6C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.14	280	P	P	03 37 20.5	+3.6
AFI	Afiamalu	7.28	52	P	P	03 37 44.9	+0.2
	6.9nm,0.3s,baz=191,slow=0.9,SNR=4.9						
AFI				S	S	03 39 13.9	-1.6
	12nm,0.3s,baz=345,slow=16,SNR=6.2						
AFI	Afiamalu	7.28	52	P	P	03 37 45.4	+0.7
AFI				S	S	03 39 15.3	-0.1
DZM	Mont Dzumac	15.31	254	P	P	03 39 07.2	+0.5
URZ	Urewera	20.20	192	P	P	03 39 49.3	-2.2
	33nm,0.5s,baz=42,slow=1.5,SNR=38						
QRZ	Quartz Range	23.78	199	P	P	03 40 23.8	+0.2
NNZ	Nelson	23.89	197	P	P	03 40 23.7	-0.9
NNZ				IAmb	IAmb	03 40 25.8	
	comp=Z,12nm,0.5s						
BSWZ	Blackbirch Sta	24.23	196	P	P	03 40 28.6	+1.0
THZ	Tophouse	24.53	197	P	P	03 40 29.6	-0.7
KHZ	Kahutara	24.97	196	P	P	03 40 32.5	-1.7
KHZ				IAmb	IAmb	03 40 35.1	
	comp=Z,15nm,0.6s						
LTZ	Lake Taylor	25.65	197	P	P	03 40 38.7	-1.6
OXZ	Oxford	26.22	197	P	P	03 40 43.7	-1.5
MQZ	McQueen's Vall	26.41	196	P	P	03 40 44.9	-1.9
MQZ				IAmb	IAmb	03 40 51.3	
	comp=Z,5.2nm,0.6s						
RPZ	Rata Peaks	26.86	198	P	P	03 40 50.9	0.0
	comp=Z,7.0nm,0.3s,baz=15,slow=2.6,SNR=17						
RPZ	Rata Peaks	26.86	198	P	P	03 40 49.5	-1.3
RPZ				IAmb	IAmb	03 40 53.3	
	comp=Z,9.1nm,0.6s						
FOZ	Fox Glacier	27.09	200	P	P	03 40 52.0	-0.7
WKZ	Wanaka	28.50	200	P	P	03 41 04.1	-1.0
WKZ				IAmb	IAmb	03 41 14.1	
	comp=Z,16nm,0.7s						
MLZ	Mavora Lakes	29.27	201	P	P	03 41 11.2	-0.7
DCZ	Deep Cove	29.69	202	P	P	03 41 15.5	+0.1
DCZ				IAmb	IAmb	03 41 17.0	
	comp=Z,16nm,0.8s						
WHZ	Wether Hill Ro	29.79	200	P	P	03 41 16.4	+0.1
CTAO	Charters Tower	34.04	261	P	P	03 41 53.4	+0.5
CTAO				IAmb	IAmb	03 41 54.2	
	comp=Z,9.8nm,0.7s						
TOO	Toolangi	37.34	232	P	P	03 42 20.9	+0.9
TOO				IAmb	IAmb	03 42 21.8	
	comp=Z,5.8nm,0.8s						
COEN	Coen	37.81	271	P	P	03 42 24.4	+0.3
COEN				IAmb	IAmb	03 42 25.9	
	comp=Z,18nm,1.1s						
STKA	Stephens Creek	38.96	242	P	P	03 42 34.1	+1.0
	comp=Z,1.0nm,0.3s,baz=86,slow=12,SNR=5.3						
BBOO	Buckleboo	43.73	242	P	P	03 43 10.9	0.0
WR0	Warramunga Arr	45.02	260	P	P	03 43 19.7	-1.3
WB0	Warramunga Arr	45.18	260	P	P	03 43 21.7	-0.5
WB0				IAmb	IAmb	03 43 22.7	
	comp=Z,9.2nm,0.5s						
WB2	Warramunga Arr	45.20	260	P	P	03 43 21.7	-0.7
WB2				IAmb	IAmb	03 43 22.6	
	comp=Z,7.1nm,0.7s						
WRA	Warramunga Arr	45.21	260	P	P	03 43 22.4	-0.1
	comp=Z,4.6nm,0.4s,baz=98,slow=6.8,SNR=81						
WRA				PcP	PcP	03 44 50.0	-0.9
	comp=Z,0.8nm,0.6s,baz=85,slow=3.0,SNR=4.5						
WRA	Warramunga Arr	45.21	260	P	P	03 43 21.0	-1.5
AS31	Alice Springs	45.30	255	P	P	03 43 22.0	-1.1
ASAR	Alice Springs	45.30	255	P	P	03 43 23.4	+0.2
	comp=Z,8.3nm,0.6s,baz=85,slow=8.6,SNR=72						
ASAR				PcP	PcP	03 44 50.6	-0.6
	comp=Z,1.0nm,0.8s,baz=108,slow=3.5,SNR=5.1						
ASAR				S	S	03 49 21.3	-2.8
	comp=Z,2.3nm,0.9s,baz=88,slow=16,SNR=12						
ASAR	Alice Springs	45.30	255	P	P	03 43 21.6	-1.5
GUMO	Guam	48.79	308	P	P	03 43 49.6	+0.2
	comp=Z,43nm,0.6s,baz=212,slow=14,SNR=2.3						
MTN	Manton Dam	49.48	269	P	P	03 43 53.4	-1.2
MTN				IAmb	IAmb	03 43 54.8	
	comp=Z,12nm,0.9s						
FORT	Forrest	50.38	245	P	P	03 44 00.7	-0.3
FORT				IAmb	IAmb	03 44 14.5	
	comp=Z,10nm,1.1s						
KNRA	Kununurra	51.12	265	P	P	03 44 05.8	-0.7
KNRA				IAmb	IAmb	03 44 07.5	
	comp=Z,16nm,0.8s						
FITZ	Fitzroy Crossi	53.62	261	P	P	03 44 24.3	0.0
PSA00	Pilbara Seismi	58.43	256	P	P	03 44 56.9	-0.7
VNDA	Vanda	59.91	185	P	P	03 45 08.0	+1.5
	comp=Z,1.5nm,0.5s,baz=358,slow=7.7,SNR=30						
VNDA	Vanda	59.91	185	P	P	03 45 07.5	+1.1
MJAR	Matsushiro Arr	68.80	323	P	P	03 46 03.0	-0.4
	comp=Z,3.6nm,0.6s,baz=156,slow=5.7,SNR=12						
MAT	Matsushiro	68.80	323	P	P	03 46 03.2	-0.2
QSPA	South Pole Qui	71.55	180	P	P	03 46 19.8	+0.4
QSPA				IAmb	IAmb	03 46 21.1	
	comp=Z,8.7nm,0.8s						
PETK	Petropavlovsk-	74.44	345	P	P	03 46 35.8	-0.1
	comp=Z,7.5nm,0.6s,baz=128,slow=7.3,SNR=18						
KDAK	Kodiak Island	78.82	13	P	P	03 46 59.5	-0.1
	comp=Z,3.1nm,0.6s,baz=218,slow=4.4,SNR=4.5						
NVAR	Mina Array Bea	79.38	43	P	P	03 47 04.0	+0.6
	comp=Z,1.5nm,0.6s,baz=223,slow=8.8,SNR=7.5						
MAW	Mawson	83.53	200	P	P	03 47 24.3	+0.5
	comp=Z,0.9nm,0.5s,baz=204,slow=2.2,SNR=6.1						
SEY	Seymchan	84.52	347	P	P	03 47 28.8	+0.2
	comp=Z,6.5nm,0.6s,baz=147,slow=5.9,SNR=21						
TXAR	Lajitas Array	85.73	57	P	P	03 47 37.2	+1.8
	comp=Z,2.4nm,0.8s,baz=214,slow=6.9,SNR=21						
GYA	Guiyang	85.94	299	*e*P	P	03 47 36.0	-0.5
GYA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ILAR	Eielson Array	86.32	13	P	P	03 47 36.5	-0.8
	comp=Z,1.1nm,0.4s,baz=215,slow=5.0,SNR=15						
XAN	Xi'an	87.18	307	P	P	03 47 44.0	+1.9
XAN				pP	pP	03 49 35.5	-6.1
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PDAR	Pinedale Array	87.31	43	P	P	03 47 42.5	-0.3
	comp=Z,0.9nm,0.8s,baz=240,slow=2.9,SNR=8.0						
CMAR	Chiang Mai Arr	89.74	289	P	P	03 47 53.5	-0.8
	comp=Z,1.6nm,0.6s,baz=119,slow=3.6,SNR=8.2						
INK	Inuvik	92.28	15	P	P	03 48 04.0	-0.8
	comp=Z,1.5nm,0.8s,baz=241,slow=7.1,SNR=3.3						
MKAR	Makanchi Array	110.05	314	PKiKP	PKiKP	03 53 21.7	-1.4
	comp=Z,0.3nm,0.5s,baz=79,slow=2.1,SNR=4.4						
KURBB	Kurchatov Arra	112.79	318	PKiKP	PKiKP	03 53 26.7	-1.4
	comp=Z,0.5nm,0.7s,baz=107,slow=1.3,SNR=5.1						
ARCES	ARCESS Array B	127.03	350	PKP	PKPdf	03 53 53.9	-1.1
	comp=Z,1.1nm,0.4s,baz=12,slow=2.0,SNR=21						
FINES	FINESS Array B	133.95	344	PKP	PKPdf	03 54 07.8	-0.5
	comp=Z,1.8nm,0.6s,baz=101,slow=1.9,SNR=9.6						
AKASG	Malin Array Be	141.41	333	PKhKP	PKPpre	03 54 16.1		
	comp=Z,2.0nm,0.5s,baz=43,slow=4.1,SNR=11						
EKA	Eskdalemuir Ar	143.00	5	PKhKP	PKPpre	03 54 22.1		
	comp=Z,0.6nm,0.4s,baz=343,slow=2.6,SNR=4.8							
SORM	Soroca	143.66	330	⇑P	PKPbc	03 54 24.2	-1.0	
BSEG	Bad Segeberg	144.11	352	*e*PKPbc	PKPab	03 54 26.6	0.0	
	baz=16,slow=2.6							
KWP	Kalwaria Pacla	144.90	337	*e*PKP	PKPbc	03 54 29.2	+0.2	
OJC	Ojcow	145.41	340	*e*PKP	PKPbc	03 54 30.3	-0.3	
BURAR	Bucovina Array	145.47	332	⇓P	PKPab	03 54 31.8	-0.5	
NRDL	Niedersach Rie	145.54	352	*e*PKPbc	PKPbc	03 54 31.1	+0.3	
	baz=16,slow=2.6							
KOLS	Kolonicke sedl	145.63	337	*e*PKP	PKPbc	03 54 30.7	-0.5	
BRTR	Keskin Array B	145.70	315	PKPbc	PKPbc	03 54 31.1	-0.8	
	comp=Z,2.9nm,0.8s,baz=133,slow=1.6,SNR=7.5							
CFR	Carcaliu	145.82	327	⇑P	PKPbc	03 54 32.1	+0.3	
KSP	Ksiaz	145.88	344	*e*PKP	PKPbc	03 54 32.3	+0.4	
TOPG	Topolog	145.89	326	⇓P	PKPdf	03 54 27.5	-2.7	
NIE	Niedzica	145.94	339	*e*PKP	PKPbc	03 54 32.6	+0.5	
OSTC	Ostas	146.16	344	*e*PKP	PKPbc	03 54 32.9	+0.2	
OSTC				*ex*	x	03 54 35.2		
CHVC	Chvalec	146.17	344	*e*PKP	PKPbc	03 54 32.5	-0.2	
CLL	Collm	146.20	348	⇓*i* PKPbc	PKPbc	03 54 32.8	+0.1	
	comp=Z,21nm,0.8s							
CLL				*i* PKiKP	PKPab	03 54 35.7	+0.8	
CLL	Collm	146.20	348	*e*PKPbc	PKPbc	03 54 33.0	+0.2	
	baz=16,slow=2.6							
UPC	Upice	146.26	344	*e*PKP	PKPbc	03 54 33.2	+0.3	
DPC	Dobruska-Polom	146.32	344	*e*PKP	PKPbc	03 54 33.7	+0.5	
DPC				*ex*	x	03 54 36.0		
BRG	Berggiesshubel	146.41	347	*i* PKP	PKPbc	03 54 33.4	+0.1	
	comp=Z,8.4nm,1.0s							
BRG	Berggiesshubel	146.41	347	*e*PKPbc	PKPbc	03 54 33.7	+0.4	
	baz=16,slow=2.6							
KRLC	Kraliky	146.44	343	*e*PKP	PKPbc	03 54 33.6	+0.1	
KRLC				*ex*	x	03 54 36.0		
FBE	Freiberg	146.49	347	*e*PKPbc	PKPbc	03 54 34.4	+0.8	
	baz=16,slow=2.6							
MORC	Moravsky Berou	146.50	342	⇓P	PKPbc	03 54 32.4	-1.3	
MORC	Moravsky Berou	146.50	342	*e*PKP	PKPbc	03 54 33.9	+0.2	
NEUB	Neuenburg	146.52	349	*e*PKPbc	PKPbc	03 54 33.9	+0.3	
	baz=16,slow=2.6							
PVCC	Panska Ves	146.59	346	*e*PKP	PKPbc	03 54 34.3	+0.5	
DOPR	Dopca	146.62	330	⇓P	PKPbc	03 54 34.3	+0.2	
MLR	Muntele Rosu	146.70	329	PKPbc	PKPbc	03 54 33.9	-0.5	
	comp=Z,4.4nm,0.8s,baz=104,slow=6.9,SNR=5.7							
MLR	Muntele Rosu	146.70	329	⇓P	PKPbc	03 54 35.0	+0.5	
MMAI	Mount Meron Ar	147.05	303	PKPbc	PKPbc	03 54 36.0	+0.2	
MOX	Moxa	147.09	349	*e*PKPbc	PKPbc	03 54 35.4	+0.2	
	baz=16,slow=2.6							
PRU	Pruhonice	147.10	345	*e*PKP	PKPbc	03 54 35.4	+0.2	
GOPC	GO Pecny, Ondr	147.11	345	*e*PKP	PKPbc	03 54 35.4	+0.1	
TANN	Tannenbergstha	147.15	348	*e*PKPbc	PKPbc	03 54 35.7	+0.3	
	baz=16,slow=2.6							
VOIR		147.17	330	⇑P	PKPbc	03 54 35.3	-0.4	
VRAC	Vranov	147.19	343	PKPbc	PKPbc	03 54 35.5	0.0	
	comp=Z,3.3nm,0.6s,baz=20,slow=4.0,SNR=2.7							
VRAC	Vranov	147.19	343	⇓P	PKPab	03 54 39.7	+0.7	
VRAC	Vranov	147.19	343	*e*PKP	PKPbc	03 54 35.4	-0.1	
VRAC				*e*		03 54 39.4		
VYHS	Vyhne	147.22	340	*e*PKP	PKPbc	03 54 35.9	+0.3	
VYHS				*e*		03 54 39.7		
GUNZ	Gunzen	147.23	348	*e*PKPbc	PKPbc	03 54 36.1	+0.5	
	baz=16,slow=2.6							
JAVC	Velka Javorina	147.28	341	*e*PKP	PKiKP	03 54 37.3	-0.2	
NKC	Novy Kostel	147.33	348	*e*PKP	PKPbc	03 54 36.2	+0.4	
ARR	Arges	147.42	330	⇓P	PKPbc	03 54 37.0	+0.7	
KRUC	Moravsky	147.47	343	*e*PKP	PKPbc	03 54 36.4	+0.2	
KRUC				*e*		03 54 40.2		
ROTZ	Rotzenmuhle	147.82	348	*e*PKPbc	PKPbc	03 54 37.6	+0.5	
	baz=16,slow=2.6							
MODS	Modra-Piesok	147.83	341	*e*PKP	PKPbc	03 54 37.1	-0.1	
KHC	Kasperske Hory	148.13	346	*e*PKP	PKPbc	03 54 37.8	-0.1	
KHC				*ex*	x	03 54 42.9		
GEC2	GERESS Array S	148.37	346	*e*PKPbc	PKPbc	03 54 38.7	+0.1	
	baz=16,slow=2.6							
GERES	GERESS Array B	148.37	346	PKPbc	PKPbc	03 54 38.3	-0.3	
	comp=Z,3.1nm,0.7s,baz=27,slow=3.0,SNR=28							
BZS	Buzias	148.58	334	⇑P	PKPbc	03 54 38.2	-0.9	
CONA	Conrad Observa	148.65	342	*i* PKPbc	PKPdf	03 54 36.0	+1.2	
	comp=Z,11nm,1.2s							
HERR	Herculane	148.81	332	⇑P	PKPbc	03 54 39.1	-0.6	
MDVR	Moldovita	149.20	332	⇑P	PKPbc	03 54 38.6	-2.1	
SOKA	Soboth	150.02	342	*e*PKiKP	PKPbc	03 54 41.9	-0.7	
	comp=Z,5.0nm,1.0s							
KBA	Koelnbreinsper	150.10	345	*i* PKiKP	PKPbc	03 54 42.3	-0.7	
	comp=Z,4.8nm,0.8s							
UBR	Ueberruh	150.22	349	*e*PKPbc	PKPbc	03 54 43.2	+0.1	
	baz=16,slow=2.6							
WATA	Walderalm	150.26	347	*i* PKiKP	PKPbc	03 54 43.1	-0.2	
	comp=Z,5.8nm,0.6s							
RETA	Reutte	150.28	348	*i* PKiKP	PKPbc	03 54 43.2	-0.1	
	comp=Z,7.2nm,1.1s							
WTTA	Wattenberg	150.32	347	*i* PKiKP	PKPbc	03 54 43.5	+0.1	
	comp=Z,11nm,0.6s,SNR=8.7							
MOTA	Moosalm	150.35	348	*i* PKiKP	PKPbc	03 54 43.3	-0.2	
	comp=Z,7.8nm,1.0s							
MYKA	Terra Mystica	150.44	344	*i* PKiKP	PKPbc	03 54 42.9	-0.7	
	comp=Z,4.9nm,0.7s							
SQTA	Sankt Quirin	150.45	348	*i* PKiKP	PKPbc	03 54 43.7	0.0	
	comp=Z,6.3nm,0.6s,SNR=4.7							
ABTA	Abfaltersbach	150.61	346	*i* PKiKP	PKPbc	03 54 43.5	-0.5	
	comp=Z,8.8nm,0.6s							
DAVA	Damuels	150.64	349	*i* PKiKP	PKiKP	03 54 44.7	+0.1	
	comp=Z,4.0nm,0.6s							
FETA	Feichten	150.74	348	*i* PKiKP	PKiKP	03 54 44.6	-0.3	
	comp=Z,5.5nm,0.8s,SNR=6.6							
DAVOX	Davos/Dischmat	151.13	349	PKPbc	PKPbc	03 54 45.4	0.0	
	comp=Z,8.6nm,0.5s,baz=263,slow=2.6,SNR=22							
ESDC	Sonseca Array	158.22	13	PKPab	PKPab	03 55 25.9	-0.1	
	comp=Z,0.6nm,0.9s,baz=5.4,slow=4.8,SNR=4.1							
TORD	Torodi Ar. Bea	174.63	173	PKPab	PKPab	03 56 38.9	+0.1	
	comp=Z,0.5nm,0.8s,baz=178,slow=4.7,SNR=1.6							

MOS ***26*** *03:36:19.3±0.9, 39°.19N×142°.33E, h57km, mb4.6/13, Error ellipse: s-maj=10.4km s-min=6.5km az=90.5*

JMA ***26*** *03:36:20.6±0.1, 39°.

comp=Z,102nm,21.4s,baz=46,slow=34
KSRS Korea Array 11.62 267 P Pn 03 39 04.0 +2.0
JCJ Chichijima 11.93 182 LR LR 03 45 02.6
comp=Z,12nm,20.7s,baz=137,slow=44
KLR Kul'dur 12.78 326 P Pn 03 39 17.4 -0.3
comp=Z,0.1nm,0.3s,baz=136,slow=15,SNR=2.7
KLR LR LR 03 44 13.9
comp=Z,48nm,19.3s,baz=132,slow=37
PETK Petropavlovsk- 17.49 32 LR LR 03 47 15.3
comp=Z,40nm,18.1s,baz=226,slow=37
MA2 Magadan 21.19 12 P P 03 41 00.8 +0.5
comp=Z,8.5nm,0.6s,baz=186,slow=9.3,SNR=9.6
MA2 LR LR 03 49 38.7
comp=Z,32nm,18.3s,baz=168,slow=38
MA2 Magadan 21.19 12 P P 03 41 01.6 +1.3
MA2 IAmb IAmb 03 41 02.5
comp=Z,13nm,0.8s
SEY Seymchan 24.64 11 P P 03 41 35.8 +0.9
comp=Z,4.2nm,0.7s,baz=203,slow=7.4,SNR=17
BOD Bodaibo 26.35 325 *eP* **P 03 41 49.1 -1.4**
BOD pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 27.47 300 P P 03 41 59.9 -0.9
comp=Z,1.3nm,0.6s,baz=98,slow=9.3,SNR=5.7
SONM LR LR 03 52 52.0
comp=Z,38nm,20.7s,baz=126,slow=36
AMKA Amchitka 28.36 52 P P 03 42 08.4 -0.1
H11N2 WAKE ISLAND Hy 28.50 126 T T 04 12 44.4
baz=318,slow=76,SNR=1309
H11N1 WAKE ISLAND Hy 28.51 126 T T 04 12 42.3
baz=318,slow=76,SNR=1978
H11N3 WAKE ISLAND Hy 28.52 126 T T 04 12 45.7
baz=318,slow=76,SNR=1597
H11S1 WAKE ISLAND Hy 29.29 127 T T 04 13 40.0
baz=319,slow=76,SNR=205
H11S3 WAKE ISLAND Hy 29.29 128 T T 04 13 41.2
baz=319,slow=76,SNR=227
H11S2 WAKE ISLAND Hy 29.30 128 T T 04 13 42.4
baz=319,slow=76,SNR=189
TLY Talaya 29.74 308 P P 03 42 18.9 -1.9
comp=Z,1.4nm,0.4s,baz=233,slow=2.1,SNR=4.4
TLY LR LR 03 54 28.8
comp=Z,42nm,18.6s,baz=92,slow=37
ZAK Zakamensk 29.78 305 *eP* **P 03 42 19.5 -1.8**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
ZALV Zalesovo Beam 41.25 311 P P 03 43 58.9 -0.5
comp=Z,1.8nm,0.4s,baz=75,slow=8.5,SNR=5.2
SVW2 Sparrevohn 43.37 39 P P 03 44 17.3 +0.7
SVW2 IAmb IAmb 03 44 21.0
comp=Z,8.9nm,0.9s
MK31 Makanchi Array 43.84 301 P P 03 44 19.7 -0.9
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 43.84 301 P P 03 44 19.7 -0.9
MKAR Makanchi Array 43.84 301 P P 03 44 20.0 -0.5
comp=Z,2.4nm,0.7s,baz=85,slow=9.7,SNR=25
MKAR Makanchi Array 43.84 301 P P 03 44 20.0 -0.5
MAKZ Makanchi 44.05 301 P P 03 44 21.6 -0.6
MAKZ pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi 44.05 301 P P 03 44 21.6 -0.6
KDAK Kodiak Island 45.00 43 P P 03 44 31.4 +1.8
comp=Z,9.8nm,0.8s,baz=279,slow=3.9,SNR=14
KDAK Kodiak Island 45.00 43 P P 03 44 31.6 +2.0
KDAK pmax pmax
comp=Z,8.0nm,0.6s
KDAK Kodiak Island 45.00 43 P P 03 44 31.6 +2.0
KURK Kurchatov 45.42 307 P P 03 44 32.0 -1.0
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 45.42 307 P P 03 44 32.0 -1.0
KURK IAmb IAmb 03 44 46.2
comp=Z,5.2nm,0.8s
KURBB Kurchatov Arra 45.49 307 P P 03 44 32.8 -0.8
comp=Z,2.4nm,0.4s,baz=80,slow=8.4,SNR=20
KTH Kantishna Hill 45.57 35 P P 03 44 35.6 +1.4
KTH IAmb IAmb 03 44 38.1
comp=Z,8.6nm,0.9s
MCK McKinley 46.45 35 P P 03 44 42.7 +1.7
MCK pmax pmax
comp=Z,6.0nm,0.9s
MCK McKinley 46.45 35 P P 03 44 42.7 +1.7
MCK IAmb IAmb 03 44 44.2
comp=Z,5.8nm,0.9s
PMR Palmer 46.47 38 P P 03 44 43.2 +2.1
PMR pmax pmax
comp=Z,6.0nm,0.7s
PMR Palmer 46.47 38 P P 03 44 43.2 +2.1
PMR IAmb IAmb 03 44 43.9
comp=Z,6.1nm,0.7s
RND Reindeer 46.50 35 P P 03 44 43.3 +1.8
RND pmax pmax
comp=Z,6.0nm,0.8s
RND Reindeer 46.50 35 P P 03 44 43.3 +1.8
RND IAmb IAmb 03 44 44.4
comp=Z,6.0nm,0.8s
GHO Glory Hole Cre 46.56 38 P P 03 44 43.8 +1.8
MDM Murphy Dome 46.73 33 P P 03 44 44.7 +1.6
DHY Denali Highway 47.19 36 P P 03 44 47.9 +0.9
DHY IAmb IAmb 03 44 50.0
comp=Z,4.8nm,0.8s
HDA Harding Lake 47.30 34 P P 03 44 49.1 +1.5
HDA IAmb IAmb 03 44 50.2
comp=Z,5.3nm,0.7s
IL31 47.31 33 P P 03 44 49.6 +2.0
ILAR Eielson Array 47.31 33 P P 03 44 49.5 +1.9
comp=Z,4.7nm,0.6s,baz=264,slow=6.3,SNR=61
ILAR Eielson Array 47.31 33 P P 03 44 49.1 +1.4
KLU Klutina 48.01 38 P P 03 44 54.5 +1.2
BVAR Borovoye Array 49.90 311 P P 03 45 06.4 -1.3
comp=Z,1.4nm,0.6s,baz=230,slow=44,SNR=3.7
INK Inuvik 52.18 28 P P 03 45 25.3 +0.8
comp=Z,2.6nm,0.7s,baz=298,slow=5.6,SNR=7.4
INK Inuvik 52.18 28 P P 03 45 25.0 +0.5
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 52.18 28 P P 03 45 25.0 +0.5
ARU Arti 55.45 318 P P 03 45 47.1 -1.6
comp=Z,2.1nm,0.2s,baz=106,slow=3.6,SNR=6.2
ARU Arti 55.45 318 P P 03 45 47.7 -1.0
ARU Arti 55.45 318 P P 03 45 48.2 -0.5
AKTO Aktyubinsk 58.01 311 P P 03 46 07.3 +0.4
comp=Z,0.9nm,0.5s,baz=88,slow=13,SNR=2.7
WRA Warramunga Arr 59.19 189 P P 03 46 15.2 -0.1
comp=Z,2.5nm,0.6s,baz=5.8,slow=7.0,SNR=15
WRA Warramunga Arr 59.19 189 P P 03 46 15.2 -0.1
ARCES ARCESS Array B 62.42 339 P P 03 46 36.6 -0.2
comp=Z,0.5nm,0.5s,baz=222,slow=25,SNR=5.5
ASAR Alice Springs 62.92 189 P P 03 46 40.5 -0.1
comp=Z,1.4nm,0.7s,baz=12,slow=6.1,SNR=12
ASAR Alice Springs 62.92 189 P P 03 46 40.9 +0.3
ASAR Alice Springs 62.92 189 P P 03 46 40.9 +0.3
GEYT Alibeck 63.65 299 P P 03 46 46.6 +1.1
comp=Z,1.3nm,0.6s,baz=346,slow=3.1,SNR=4.3
FINES FINESS Array B 67.45 332 P P 03 47 08.9 -0.6
comp=Z,1.7nm,0.6s,baz=30,slow=9.2,SNR=9.0
STKA Stephens Creek 70.58 181 LR LR 04 21 46.8
comp=Z,31nm,19.3s,baz=211,slow=39
HRY Holter Researc 71.87 44 P P 03 47 37.9 +0.6
HFS Hagfors 72.61 336 P P 03 47 40.8 -0.4
comp=Z,1.1nm,0.4s,baz=38,slow=7.5,SNR=9.1
NB2 NORSAR Subarra 72.67 337 P P 03 47 41.3 -0.4
comp=Z,1.1nm,0.5s,baz=37,slow=6.5
NOA NORSAR Array B 72.67 337 P P 03 47 41.2 -0.4
comp=Z,1.1nm,0.6s,baz=38,slow=6.1,SNR=6.8
KVN Kaiserville 72.82 54 P P 03 47 43.8 +0.7
KVN pmax pmax
comp=Z,3.0nm,1.0s
KVN Kaiserville 72.82 54 P P 03 47 43.8 +0.7
NVAR Mina Array Bea 73.06 54 P P 03 47 46.6 +2.0
comp=Z,1.6nm,0.8s,baz=283,slow=6.9,SNR=5.9
NVAR Mina Array Bea 73.06 54 P P 03 47 45.4 +0.8
AKASG Malin Array Be 73.25 322 P P 03 47 44.4 -0.8
comp=Z,1.6nm,0.4s,baz=45,slow=6.3,SNR=5.9
AKBB Malin Array Si 73.25 322 P P 03 47 44.2 -0.9
AKBB pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 73.25 322 P P 03 47 44.2 -0.9
AKBB IAmb IAmb 03 47 45.2
comp=Z,3.9nm,0.7s
PDAR Pinedale Array 75.61 46 P P 03 48 01.1 +1.7
comp=Z,1.0nm,0.6s,baz=279,slow=1.4,SNR=11
PDAR Pinedale Array 75.61 46 P P 03 48 00.4 +1.0
LCMT Little Creek M 77.10 53 P P 03 48 08.6 +0.8
BUR08 Bucovina Ar. S 77.27 322 P P 03 48 07.3 -1.2
BURAR Bucovina Array 77.28 322 P P 03 48 08.1 -0.5
SRU San Rafael Swe 77.41 50 P P 03 48 10.3 +0.7
SRU pmax pmax
comp=Z,3.0nm,0.8s
SRU San Rafael Swe 77.41 50 P P 03 48 10.3 +0.7
PV17 East Wray Mesa 78.88 50 P P 03 48 18.2 +0.4
PV17 IAmb IAmb 03 48 20.9
comp=Z,5.0nm,0.8s
PV13 Radium Mtn., P 79.04 50 P P 03 48 19.2 +0.5
PV13 IAmb IAmb 03 48 21.9
comp=Z,6.5nm,1.0s
CLL Collm 79.79 331 *eP* **P 03 48 21.0 -1.1**
KHC Kasperske Hory 81.28 329 *eP* **P 03 48 30.5 +0.2**
KHC Kasperske Hory 81.28 329 *eP* **P 03 48 30.5 +0.2**
GERES GERESS Array B 81.46 329 P P 03 48 30.9 -0.4
comp=Z,0.5nm,0.5s,baz=38,slow=6.8,SNR=5.8
ECSD EROS Data Cent 81.78 39 P P 03 48 34.0 +1.0
DAVOX Davos/Dischmat 84.65 330 P P 03 48 47.7 -0.3
comp=Z,1.7nm,0.8s,baz=148,slow=22,SNR=3.5
TXAR Lajitas Array 88.18 53 P P 03 49 06.7 +1.2
comp=Z,0.4nm,0.6s,baz=265,slow=2.6,SNR=5.2
TXAR Lajitas Array 88.18 53 P P 03 49 05.6 +0.2
TORD Torodi Ar. Bea 116.51 317 PKP **PKPdf 03 54 57.3 -1.1**
comp=Z,0.7nm,1.1s,baz=316,slow=1.8,SNR=1.9
LPAZ La Paz 144.88 58 PKPbc PKPbc 03 55 51.5 +0.1
comp=Z,0.7nm,0.6s,baz=172,slow=9.0,SNR=2.9
LPAZ La Paz 144.88 58 PKPab 03 55 50.6 -0.7

IDC ***26*** *03:43:39.3±0.9, 85°.31N×86°.34E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.5/63, mbtmp3.7/10, ML3.1/2, MS3.3/8, Ms1 3.3/8, ms1mx2.9/46, Error ellipse: s-maj=24.6km s-min=20.4km az=146.0*
IEPN ***26*** *03:43:42.0, 84°.68N×89°.67E, h20km*
ISC 26 03:43:40.7±0.8, 85°.4N±0°.1×84°.28E±0°.08, h10km, n20, σ2=31/18, mb3.8/8, MS3.2/7, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZFI2	**Zemlya Franca-**	**6.17**	**243**	*eP*	**Pn**	**03 45 14.4**	**+2.7**
ZFI2				*eS*	**Sn**	**03 46 21.1**	**-1.1**
	10nm,0.7s						
KBS	**Kingsbay**	**10.69**	**277**	P	**Pn**	**03 46 16.3**	**+2.8**
KBS				*eS*	**Sn**	**03 48 10.3**	**-2.6**
SPA0	**Spitsbergen Ar**	**11.02**	**271**	P	**Pn**	**03 46 19.0**	**+1.0**
SPA0				*eS*	**Sn**	**03 48 15.3**	**-5.7**
SPITS	**Spitsbergen Ar**	**11.02**	**271**	Pn	**Pn**	**03 46 20.4**	**+2.4**
	baz=170,slow=14,SNR=2.2						
SPITS				Sn	Sn	03 47 58.9	-22
	baz=164,slow=24,SNR=7.1						
SPITS	**Spitsbergen Ar**	**11.02**	**271**	P	**Pn**	**03 46 20.4**	**+2.4**
NRIK	**Noril'sk**	**16.14**	**176**	Pn	**P**	**03 47 29.8**	**-0.7**
	0.6nm,0.3s,baz=17,slow=4.5,SNR=4.0						
NRIK				LR	LR	03 54 16.4	
	comp=Z,112nm,19.3s,baz=14,slow=40						
ARCES	**ARCESS Array B**	**18.59**	**251**	P	**P**	**03 47 57.7**	**+0.1**
	0.0nm,0.3s,baz=26,slow=11,SNR=1.1						
INK	**Inuvik**	**25.66**	**32**	P	**P**	**03 49 11.0**	**+1.1**
	3.5nm,0.9s,baz=8.4,slow=6.8,SNR=3.8						
SEY	**Seymchan**	**25.82**	**103**	P	**P**	**03 49 10.0**	**-1.5**
	1.3nm,0.2s,baz=3.6,slow=16,SNR=4.0						
SFJD	**Kangerlussuaq**	**26.62**	**322**	LR	LR	03 59 39.7	
	comp=Z,40nm,18.6s,baz=9.5,slow=36						
ZALV	**Zalesovo Beam**	**31.58**	**179**	LR	LR	04 03 50.2	
	comp=Z,48nm,18.2s,baz=92,slow=38						
YKA	**Yellowknife Ar**	**32.10**	**16**	LR	LR	04 02 29.8	
	comp=Z,31nm,21.3s,baz=0.0,slow=35						
BVAR	**Borovoye Array**	**32.66**	**196**	P	**P**	**03 50 12.5**	**+0.2**
	0.4nm,0.5s,baz=18,slow=6.1,SNR=1.7						
BVAR				LR	LR	04 06 10.8	
	comp=Z,33nm,18.7s,baz=122,slow=41						
AKTO	**Aktyubinsk**	**35.63**	**209**	LR	LR	04 05 19.0	
	comp=Z,46nm,19.3s,baz=5.7,slow=36						
AKASG	**Malin Array Be**	**36.99**	**240**	P	**P**	**03 50 51.4**	**+1.7**
	1.1nm,0.5s,baz=5.3,slow=8.6,SNR=5.1						
SONM	**Songino Array**	**38.08**	**156**	P	**P**	**03 50 58.1**	**-1.0**
	0.5nm,0.5s,baz=122,slow=44,SNR=3.0						
MKAR	**Makanchi Array**	**38.75**	**182**	P	**P**	**03 51 03.6**	**-1.0**
	0.5nm,0.8s,baz=357,slow=7.3,SNR=4.1						
PDAR	**Pinedale Array**	**51.95**	**13**	LR	LR	04 14 56.6	
	comp=Z,44nm,18.8s,baz=153,slow=36						
TXAR	**Lajitas Array**	**65.44**	**8**	P	**P**	**03 54 22.4**	**-0.9**
	0.2nm,0.5s,baz=3.4,slow=5.0,SNR=2.8						
TXAR				LR	LR	04 22 52.1	
	comp=Z,40nm,18.3s,baz=0.0,slow=36						
TORD	**Torodi Ar. Bea**	**76.38**	**264**	P	**P**	**03 55 31.0**	**+1.2**
	0.9nm,0.7s,baz=355,slow=5.9,SNR=5.0						

IDC ***26*** *03:57:51.5±1.4, 32°.76N×47°.74E, h0km, mb4.1/13, mb1 4.1/18, mb1mx3.9/42, mbtmp4.0/18, ML3.7/5, MS3.2/1, Ms1 3.2/1, ms1mx2.4/38, Error ellipse: s-maj=28.4km s-min=15.5km az=166.0*
NEIC ***26*** *03:57:52.4±1.4, 32°.71N±0°.04×47°.78E±0°.06, h10km±1km, Error ellipse: s-maj=8.2km s-min=6.2km az=98.0*
TEH ***26*** *03:57:53.4, 32°.75N×47°.81E, h16km, ML4.0*
THR ***26*** *03:57:56.7±0.4, 32°.72N×47°.80E, h46km±2km, ML4.0*
OMAN ***26*** *03:57:58.9, 31°.60N×47°.37E, h10km, mb5.0/8, ms2.8/1*
ISC 26 03:57:53.3±1.1, 32°.72N±0°.03×47°.80E±0°.03, h17km±8km, n152, σ1=90/158, mb4.2/29, 10C-3D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.44**	**266**	*e*Sg	**Sb**	**03 58 10.0**	**+1.1**
DHL1				*e*Pg	**Pb**	**03 58 02.4**	**-0.2**
IKFM	**Kafar-mosalman**	**0.81**	**3**	*e*Pg	**Pg**	**03 58 08.4**	**-0.6**
IKFM	**Kafar-mosalman**	**0.81**	**3**	Pg	**Pg**	**03 58 08.5**	**-0.6**
IKMR	**Kamar-syah**	**0.94**	**31**	*e*Pg	**Pg**	**03 58 10.4**	**-1.0**
IKMR				*e*		03 58 28.5	
IKMR	**Kamar-syah**	**0.94**	**31**	Pg	**Pg**	**03 58 10.5**	**-1.0**
SHGR	**Shooshtar-Gavs**	**1.04**	**125**	*e*Pg	**Pn**	**03 58 16.6**	**+3.5**
SHGR				*e*Sg	**Sn**	**03 58 31.2**	**+3.8**
SHGR				IAML		03 58 33.0	
	comp=N,3μm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.04**	**125**	*e*Pg	**Pn**	**03 58 16.7**	**+3.5**
IDOB	**Doab**	**1.11**	**16**	*e*Pg	**Pg**	**03 58 13.8**	**-1.2**
IDOB	**Doab**	**1.11**	**16**	Pg	**Pg**	**03 58 13.7**	**-1.2**
BMDN	**Meydan**	**1.28**	**42**	*e*Pg	**Pn**	**03 58 17.0**	**+0.3**
BMDN				*e*		03 58 39.9	
IKOM	**Komasi**	**1.47**	**351**	*e*Pg	**Pb**	**03 58 21.0**	**+0.6**
IKOM				*e*		03 58 46.2	
IKOM	**Komasi**	**1.47**	**351**		**Pg**	**03 58 21.4**	**-0.3**
AHWZ	**Ahwaz**	**1.56**	**152**	*e*Pg	**Pg**	**03 58 23.2**	**-0.1**
AHWZ				*e*Sg	**Sg**	**03 58 44.7**	**+1.2**
AHWZ	**Ahwaz**	**1.56**	**152**		**Pb**	**03 58 22.3**	**+0.6**
HSAM	**Samen**	**1.64**	**24**	*e*Pg	**Pn**	**03 58 22.9**	**+1.3**
HSAM				*e*		03 58 51.3	
KCHF	**Cheshme Sefid,**	**1.68**	**338**	*e*Pg	**Pb**	**03 58 24.2**	**+0.3**
KCHF				*e*		03 58 49.8	
IBZA	**Bozab**	**1.75**	**2**	*e*Pg	**Pb**	**03 58 26.0**	**+0.8**
IBZA				*e*		03 58 53.1	
KER	**Kermanshah**	**1.75**	**342**	*e*Pg	**Pb**	**03 58 25.5**	**+0.3**
IGHG	**Ghaleghazi**	**1.91**	**328**	*e*Pg	**Pb**	**03 58 27.9**	**0.0**
IGHG				*e*		03 59 08.5	
IGHG	**Ghaleghazi**	**1.91**	**328**	Pg	**Pb**	**03 58 27.6**	**-0.3**
IVIS	**Veis**	**1.97**	**337**	*e*Pn	**Pn**	**03 58 28.1**	**+2.0**
IVIS				*e*		03 59 03.4	
IVIS	**Veis**	**1.97**	**337**	Pn	**Pb**	**03 58 28.4**	**-0.4**
KHMZ	**Khomeyn**	**2.08**	**60**	*e*Pn	**Pb**	**03 58 30.2**	**-0.5**
KHMZ	**Khomeyn**	**2.08**	**60**	*e*Pn	**Pb**	**03 58 30.2**	**-0.5**
IALM	**Almabolaq**	**2.16**	**8**	*e*Pn	**Pb**	**03 58 31.7**	**-0.5**
IDHR	**Dehrash**	**2.30**	**330**	*e*Pn	**Pn**	**03 58 32.8**	**+2.1**
IDHR				*e*		03 58 37.4	
ILIN	**Lien**	**2.31**	**343**	*e*Pn	**Pn**	**03 58 33.1**	**+2.3**
ILIN				*e*		03 59 14.9	
ILIN	**Lien**	**2.31**	**343**	Pn	**Pb**	**03 58 33.3**	**+2.5**
HAGD	**Aghdareh**	**2.38**	**28**	*e*Pn	**Pb**	**03 58 34.8**	**-1.1**
HAGD				*e*		03 59 15.8	
SNGE	**Sanandaj**	**2.40**	**351**	*e*Pn	**Pn**	**03 58 34.7**	**+2.6**
SNGE				*e*Sg	**Sg**	**03 59 11.0**	**+0.5**
SNGE	**Sanandaj**	**2.40**	**351**	*e*Pn	**Pn**	**03 58 34.7**	**+2.6**
JHBN	**Jahan bin**	**2.47**	**101**	*e*Pn	**Pn**	**03 58 35.3**	**+2.2**
JHBN				*e*		03 59 12.8	
HSRG	**Sareghieh**	**2.55**	**9**	*e*Pn	**Pb**	**03 58 37.5**	**-1.3**
HSRG				*e*		03 59 16.0	
ASAO	**Ashtian**	**2.60**	**45**	*e*Pn	**Pn**	**03 58 37.7**	**+2.8**
ASAO				*e*Sg	**Sg**	**03 59 16.9**	**-0.2**
ASAO	**Ashtian**	**2.60**	**45**	*e*Pn	**Pn**	**03 58 37.7**	**+2.8**
IPIR	**Pirpir**	**2.61**	**90**	*e*Pn	**Pn**	**03 58 37.2**	**+2.2**
IPIR				*e*		03 59 25.3	
ROKH	**ROKH**	**2.76**	**97**	*e*Pn	**Pn**	**03 58 39.3**	**+2.3**
ROKH				*e*		03 59 29.6	
IBRJ	**Brojen**	**3.04**	**104**	*e*Pn	**Pn**	**03 58 42.3**	**+1.4**
IRAZ	**Razeghan**	**3.21**	**33**	*e*Pn	**Pn**	**03 58 46.8**	**+3.6**
IKLH	**Kolahrood**	**3.23**	**78**	*e*Pn	**Pn**	**03 58 46.1**	**+2.6**
IKLH				*e*		03 59 41.5	
QABG	**Abgarm-Qazvin**	**3.33**	**26**	*e*Pn	**Pn**	**03 58 47.2**	**+2.3**
IGAR	**Gharneh**	**3.60**	**94**	*e*Pn	**Pn**	**03 58 50.6**	**+2.1**
IGAR				*e*		03 59 36.7	
KLNJ	**Kolanjah**	**3.65**	**117**	*e*Pn	**Pn**	**03 58 50.8**	**+1.4**
KLNJ				*e*		04 00 01.1	
IMHD	**Mahdasht**	**3.80**	**38**	*e*Pn	**Pn**	**03 58 53.5**	**+2.3**
IZEF	**Zefreh**	**3.82**	**86**	*e*Pn	**Pn**	**03 58 53.6**	**+2.0**
QSDN	**Sirdan**	**3.94**	**16**	*e*Pn	**Pn**	**03 58 56.7**	**+3.4**
IHSB	**Hasanabad**	**3.96**	**46**	*e*Pn	**Pn**	**03 58 56.1**	**+2.7**
IRAM	**Ramesheh**	**3.99**	**102**	*e*Pn	**Pn**	**03 58 55.5**	**+1.6**
ZNJK	**Zanjan**	**4.01**	**10**	*e*Pn	**Pn**	**03 58 57.2**	**+2.9**
ZNJK	**Zanjan**	**4.01**	**10**	*e*Pn	**Pn**	**03 58 57.2**	**+2.9**
IGZV	**Ghazvin**	**4.17**	**28**	*e*Pn	**Pn**	**03 58 58.9**	**+2.5**
CHTH	**Charan**	**4.21**	**40**	*e*Pn	**Pn**	**03 58 59.6**	**+2.6**
CHTH	**Charan**	**4.21**	**40**	*e*Pn	**Pn**	**03 58 59.6**	**+2.6**
QALM	**Alamut, Qazvin**	**4.39**	**32**	*e*Pn	**Pn**	**03 59 01.9**	**+2.5**
MAHB	**Mahabad**	**4.39**	**337**	*e*Pn	**Pn**	**03 59 01.5**	**+2.1**
IDMV	**Damavand**	**4.52**	**50**	*e*Pn	**Pn**	**03 59 03.4**	**+2.1**
ANAR	**Anarak**	**5.01**	**83**	*e*Pn	**Pn**	**03 59 09.9**	**+2.1**
IFIR	**Firoozkooh**	**5.04**	**53**	*e*Pn	**Pn**	**03 59 10.7**	**+2.3**
ILAS	**Lasjerd**	**5.04**	**57**	*e*Pn	**Pn**	**03 59 10.5**	**+2.1**
ISAD	**Sadrabad**	**5.05**	**98**	*e*Pn	**Pn**	**03 59 09.9**	**+1.4**
IPRN	**Peran**	**5.14**	**46**	*e*Pn	**Pn**	**03 59 12.6**	**+2.9**
IAZR	**Azarshahr**	**5.17**	**344**	*e*Pn	**Pn**	**03 59 13.6**	**+3.4**
IALA	**Alasht**	**5.33**	**50**	*e*Pn	**Pn**	**03 59 15.6**	**+3.2**
ISHM	**Shahmirzad**	**5.49**	**54**	*e*Pn	**Pn**	**03 59 17.1**	**+2.4**
ICHK	**Chekchek**	**5.60**	**93**	*e*Pn	**Pn**	**03 59 16.7**	**+0.6**
IHRS	**Haris**	**5.62**	**354**	*e*Pn	**Pn**	**03 59 20.4**	**+4.0**
IANJ	**Anjilo**	**5.77**	**60**	*e*Pn	**Pn**	**03 59 20.3**	**+1.9**
HAKT	**HAKKARI**	**5.88**	**326**	*e*Pn	**Pn**	**03 59 21.0**	**+1.1**
IMEH	**Mehriz**	**5.93**	**101**	*e*Pn	**Pn**	**03 59 21.5**	**+0.8**
IGLO	**Ghalooghah**	**6.24**	**51**	*e*Pn	**Pn**	**03 59 28.1**	**+3.2**
IBAF	**Bafgh**	**6.68**	**98**	*e*Pn	**Pn**	**03 59 32.2**	**+1.3**
GEVA	**Gevas**	**6.79**	**327**	Pn	**Pn**	**03 59 33.6**	**+1.3**
TPRV	**Parvadeh(Tabas**	**7.48**	**85**	*e*Pn	**Pn**	**03 59 42.5**	**+0.7**
TKDS	**Koohdasht(Taba**	**7.87**	**81**	*e*Pn	**Pn**	**03 59 48.7**	**+1.6**
ASF	**Jabal al Asfar**	**9.23**	**270**	Pn	**Pn**	**04 00 06.2**	**+0.4**
	comp=N,0.5nm,0.3s,baz=160,slow=1.2,SNR=5.4						
ASF				Sn	**Sn**	**04 01 45.0**	**-4.3**
	comp=N,0.2nm,0.3s,baz=134,slow=14,SNR=1.7						
ASF				Lg	Lg	04 02 55.0	
	comp=N,0.3nm,0.3s,baz=243,slow=16,SNR=3.2						
GEYT	**Alibeck**	**9.90**	**55**	Pn	**Pn**	**04 00 16.1**	**+1.2**
	comp=N,0.1nm,0.3s,baz=221,slow=18,SNR=4.2						
GEYT				LR	LR	04 04 36.0	
	comp=N,137nm,18.1s,baz=260,slow=41						
GYA0B	**ALIBECK ARRAY**	**9.90**	**55**	Pn	**Pn**	**04 00 14.3**	**-0.6**
UOSS	**Minazif**	**10.68**	**134**	Pn	**Pn**	**04 00 25.9**	**+0.3**
UOSS					**Sn**	**04 02 20.5**	**-4.4**
ARQ	**Araqi**	**12.10**	**138**	P	**Pn**	**04 00 44.6**	**-0.5**
CSS	**Mathiatis**	**12.24**	**285**	Pn	**Pn**	**04 00 44.9**	**-2.0**
HOQ	**Hoqain**	**12.37**	**135**	P	**Pn**	**04 00 48.8**	**+0.1**
HOQ				P	**Pn**	**04 00 48.8**	**+0.1**
BSY	**Bisya**	**12.95**	**138**	P	**Pn**	**04 00 55.6**	**-1.1**
WSAR	**Wadi Sarin**	**13.43**	**132**	Pn	**Pn**	**04 01 02.5**	**-0.8**
	comp=N,0.8nm,0.3s,baz=354,slow=12,SNR=5.6						
MHTO	**MHTO**	**14.78**	**140**	P	**Pn**	**04 01 20.5**	**-1.1**
DQM	**DQM**	**15.43**	**143**	P	**Pn**	**04 01 27.1**	**-3.2**
WHFO	**Wadi Hawf**	**15.69**	**159**	P	**Pn**	**04 01 28.8**	**-4.9**
	SNR=10.0						
ABTO	**Aybut**	**16.08**	**161**	P	**Pn**	**04 01 34.7**	**-4.0**
ABTO				S	Sn	04 04 23.6	-13
RBK	**Rabkut**	**16.21**	**158**	P	**Pn**	**04 01 37.4**	**-3.1**
DMTO	**DMTO**	**16.27**	**155**	P	**Pn**	**04 01 37.7**	**-3.4**
	SNR=12						
DMTO				S	Sn	04 04 28.8	-12
IDI	**Anoyia**	**19.16**	**284**	P	**Pn**	**04 02 17.8**	**+0.9**
	comp=N,0.3nm,0.3s,baz=327,slow=2.4,SNR=3.2						
IDI	**Anoyia**	**19.16**	**284**	P	**P**	**04 02 15.8**	**-0.2**
IDI				IAmb	IAmb	04 02 22.5	
	comp=Z,13nm,1.0s						
AKTO	**Aktyubinsk**	**19.25**	**20**	P	**P**	**04 02 17.5**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=200,slow=9.1,SNR=11						
TOPG	**Topolog**	**19.35**	**314**	⇓P	**Pn**	**04 02 19.4**	**+0.4**
CFR	**Carcaliu**	**19.65**	**315**	⇑P	**Pn**	**04 02 23.3**	**+0.7**
RAZG	**Razgrad**	**19.89**	**309**	⇑P	**Pn**	**04 02 25.9**	**+0.5**
BTK	**Batken**	**19.89**	**62**	P	**P**	**04 02 22.5**	**-1.5**
BTK				IAmb	IAmb	04 02 33.4	
	comp=Z,4.8nm,0.6s						
KK31	**Karatay Array**	**20.64**	**53**	P	**P**	**04 02 32.3**	**+0.3**
KKAR	**Karatay Array**	**20.64**	**53**	P	**P**	**04 02 31.8**	**-0.3**
VRI	**Vrincioaia**	**20.86**	**315**	⇑P	**P**	**04 02 36.1**	**+1.8**
PLOR	**Plostina**	**20.90**	**315**	⇑P	Pn	04 02 37.1	-0.2
MLR	**Muntele Rosu**	**21.14**	**313**	P	**P**	**04 02 41.4**	**+3.9**
	comp=Z,9.8nm,0.7s,baz=196,slow=6.7,SNR=20						
MLR	**Muntele Rosu**	**21.14**	**313**	P	**P**	**04 02 37.4**	**-0.1**
MLR				IAmb	IAmb	04 02 44.7	
	comp=Z,11nm,0.8s						
TESR	**Tescani**	**21.25**	**317**	⇑P	**P**	**04 02 40.9**	**+2.3**
SORM	**Soroca**	**21.27**	**322**	⇑P	**P**	**04 02 41.7**	**+3.0**
OZUR		**21.54**	**315**	⇓P	**P**	**04 02 44.2**	**+2.5**
AGG	**Agios Georgios**	**21.54**	**294**	P

FINES	**FINESS Array B**	**32.00**	**340**	P		**P**	**04 04 18.5**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=146,slow=9.9,SNR=17							
FIA1	**FINESS Array S**	**32.00**	**340**	P		**P**	**04 04 18.5**	**+0.1**
DAVA	**Damuels**	**32.14**	**308**	*i* P		**P**	**04 04 19.3**	**-0.7**
	comp=Z,10.0nm,1.1s							
ZALV	**Zalesovo Beam**	**33.72**	**40**	P		**P**	**04 04 35.3**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=277,slow=12,SNR=5.2							
BNI	**Bardonecchia**	**33.95**	**303**	P		**P**	**04 04 36.4**	**+0.6**
NC602	**NORSAR Array S**	**36.63**	**331**	P		**P**	**04 04 58.1**	**-0.5**
NC405	**NORSAR Array S**	**36.77**	**331**	P		**P**	**04 04 59.0**	**-0.8**
NB2	**NORSAR Subarra**	**36.93**	**331**	P		**P**	**04 05 00.3**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=124,slow=8.6							
NOA	**NORSAR Array B**	**36.93**	**331**	P		**P**	**04 05 00.7**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=123,slow=8.4,SNR=7.9							
ARCES	**ARCESS Array B**	**38.93**	**348**	P		**P**	**04 05 17.8**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=158,slow=8.7,SNR=16							
ESDC	**Sonseca Array**	**41.86**	**295**	P		**P**	**04 05 43.0**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=78,slow=8.5,SNR=4.5							
TORD	**Torodi Ar. Bea**	**46.30**	**256**	P		**P**	**04 06 18.6**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=67,slow=6.8,SNR=6.0							

*WEL **26** 03:59:40.2,41˚S±1˚×17˚4E±˚, h54km±2km, M3.5/17, ML3.8/17, MLv3.5/17, Error ellipse: s-maj=0.0km s-min=0.0km az=128.0*
*IDC **26** 03:59:41.6±2.6, 41˚.44S×174˚.00E, h60km±25km, mb3.4/2, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, ML3.0/2, Error ellipse: s-maj=43.0km s-min=17.8km az=129.0*
ISC 26 03:59:39.7±1.0, 41˚.41S±0˚.03×174˚.36E±0˚.03, h64km±6km, n94, σ1§26/104, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TCW	**Tory Channel**	**0.20**	**343**	P		**Pn**	**03 59 49.2**	**-0.4**
TCW				S		**Sn**	**03 59 55.0**	**-1.8**
TUWZ	**Tuamarina**	**0.31**	**265**	P		**Pn**	**03 59 50.1**	**-0.2**
TUWZ				S		**Sn**	**03 59 56.5**	**-1.5**
CMWZ	**Cape Campbell**	**0.36**	**197**	P		**Pn**	**03 59 52.6**	**+1.9**
BHW	**Baring Head**	**0.39**	**91**	P		**Pn**	**03 59 51.4**	**+0.6**
BHW				S		**Sn**	**03 59 59.1**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.48**	**229**	P		**Pn**	**03 59 52.4**	**+0.6**
CAW	**Cannon Point**	**0.61**	**61**	P		**Pn**	**03 59 53.6**	**+0.4**
CAW				S		**Sn**	**04 00 03.5**	**+0.4**
MSWZ	**Moikau Station**	**0.67**	**91**	P		**Pn**	**03 59 54.5**	**+0.7**
KIW	**Kapiti Island**	**0.69**	**38**	P		**Pn**	**03 59 54.3**	**+0.3**
KIW				S		**Sn**	**04 00 04.4**	**-0.1**
DUWZ	**D'Urville Isla**	**0.69**	**331**	P		**Pn**	**03 59 53.5**	**-0.5**
DUWZ				S		**Sn**	**04 00 03.2**	**-1.4**
PLWZ	**Palliser**	**0.69**	**104**	P		**Pn**	**03 59 55.0**	**+0.8**
PLWZ				S		**Sn**	**04 00 05.3**	**+0.5**
NNZ	**Nelson**	**0.76**	**284**	P		**Pn**	**03 59 54.6**	**-0.2**
OGWZ	**Otaki Gorge**	**0.85**	**47**	P		**Pn**	**03 59 56.4**	**+0.4**
TRWZ	**Traveller**	**1.00**	**90**	P		**Pn**	**03 59 58.4**	**+0.5**
TRWZ				S		**Sn**	**04 00 12.1**	**+0.6**
HOWZ	**Holdsworth Sta**	**1.01**	**60**	P		**Pn**	**03 59 58.2**	**+0.1**
THZ	**Tophouse**	**1.15**	**251**	P		**Pn**	**04 00 00.3**	**+0.4**
KHZ	**Kahutara**	**1.18**	**211**	P		**Pn**	**04 00 01.5**	**+1.3**
MRZ	**Mangatainoka R**	**1.19**	**52**	P		**Pn**	**04 00 00.5**	**+0.2**
TMWZ	**Te Maipa**	**1.19**	**76**	P		**Pn**	**04 00 00.6**	**+0.1**
TIWZ	**Tintock**	**1.31**	**62**	P		**Pn**	**04 00 02.0**	**0.0**
POWZ	**Post Office Ro**	**1.47**	**47**	P		**Pn**	**04 00 04.4**	**+0.2**
PRWZ	**Pori Road**	**1.49**	**56**	P		**Pn**	**04 00 04.5**	**+0.1**
QRZ	**Quartz Range**	**1.50**	**292**	P		**Pn**	**04 00 05.1**	**+0.6**
BFZ	**Birch Farm**	**1.60**	**64**	P		**Pn**	**04 00 05.4**	**-0.5**
WAZ	**Wanganui**	**1.72**	**16**	P		**Pn**	**04 00 08.8**	**+1.4**
DVHZ	**Dannevirke**	**1.76**	**52**	P		**Pn**	**04 00 07.7**	**-0.4**
TSZ	**Takapari Road**	**1.81**	**43**	P		**Pn**	**04 00 08.5**	**-0.3**
GVZ	**Greta Valley S**	**1.84**	**212**	P		**Pn**	**04 00 09.9**	**+0.7**
LREZ	**Lake Rotokare**	**1.94**	**1**	P		**Pn**	**04 00 12.2**	**+1.7**
DSZ	**Denniston Nort**	**1.94**	**259**	P		**Pn**	**04 00 11.1**	**+0.5**
NMEZ	**Namu Road**	**2.02**	**349**	P		**Pn**	**04 00 13.3**	**+1.7**
PNHZ	**Pukenui**	**2.05**	**44**	P		**Pn**	**04 00 11.3**	**-0.6**
PREZ	**Palmer Road**	**2.07**	**356**	P		**Pn**	**04 00 14.0**	**+1.8**
PRHZ	**Porangahau**	**2.07**	**57**	P		**Pn**	**04 00 11.7**	**-0.5**
LTZ	**Lake Taylor**	**2.08**	**228**	P		**Pn**	**04 00 12.9**	**+0.6**
KHEZ	**Kahui Hut**	**2.12**	**353**	P		**Pn**	**04 00 14.4**	**+1.4**
NEZ	**North Egmont**	**2.14**	**355**	P		**Pn**	**04 00 14.8**	**+1.6**
NBEZ	**Newall Road No**	**2.17**	**350**	P		**Pn**	**04 00 14.8**	**+1.2**
AMCZ	**Amberley**	**2.18**	**215**	P		**Pn**	**04 00 13.9**	**+0.3**
MTVZ	**Mangateitei**	**2.19**	**23**	P		**Pn**	**04 00 14.8**	**+0.9**
PKE	**Pukeiti**	**2.23**	**353**	P		**Pn**	**04 00 15.7**	**+1.3**
PKVZ	**Pokaka**	**2.24**	**20**	P		**Pn**	**04 00 15.5**	**+0.9**
MOVZ	**Moawhango**	**2.26**	**29**	P		**Pn**	**04 00 14.8**	**0.0**
WNVZ	**Wahianoa**	**2.28**	**25**	P		**Pn**	**04 00 16.4**	**+1.1**
VRZ	**Vera Road**	**2.30**	**8**	P		**Pn**	**04 00 16.7**	**+1.4**
BHHZ	**Black Hill Sta**	**2.31**	**35**	P		**Pn**	**04 00 15.6**	**+0.1**
DRZ	**Dome Shelter**	**2.32**	**24**	P		**Pn**	**04 00 17.4**	**+1.6**
WHVZ	**Whangaehu Hut**	**2.32**	**24**	P		**Pn**	**04 00 16.6**	**+0.8**
MHEZ	**Mangahewa**	**2.33**	**359**	P		**Pn**	**04 00 17.3**	**+1.6**
FWKZ	**Far West T-bar**	**2.33**	**23**	P		**Pn**	**04 00 16.6**	**+0.6**
KRHZ	**Kereru**	**2.33**	**42**	P		**Pn**	**04 00 15.1**	**-0.8**
PXZ	**Pawanui**	**2.35**	**55**	P		**Pn**	**04 00 15.9**	**-0.1**
TUVZ	**Tukino**	**2.35**	**25**	P		**Pn**	**04 00 16.8**	**+0.6**
NGZ	**Ngauruhoe**	**2.42**	**24**	P		**Pn**	**04 00 17.8**	**+0.7**
OTVZ	**Oturere**	**2.45**	**24**	P		**Pn**	**04 00 18.2**	**+0.6**
TWVZ	**Taurewa**	**2.47**	**20**	P		**Pn**	**04 00 18.2**	**+0.4**
WTVZ	**West Tongariro**	**2.47**	**23**	P		**Pn**	**04 00 18.4**	**+0.6**
ETVZ	**East Tongariro**	**2.49**	**25**	P		**Pn**	**04 00 18.7**	**+0.6**
KAHZ	**Kahuranaki**	**2.50**	**51**	P		**Pn**	**04 00 18.3**	**+0.2**
OKCZ	**Okains Bay**	**2.51**	**202**	P		**Pn**	**04 00 18.2**	**+0.1**
KRVZ	**Karewarewa**	**2.51**	**23**	P		**Pn**	**04 00 18.8**	**+0.5**
TMVZ	**Te Maari**	**2.51**	**25**	P		**Pn**	**04 00 18.7**	**+0.4**
KWHZ	**Kaweka Forest**	**2.53**	**39**	P		**Pn**	**04 00 18.0**	**-0.5**
INZ	**Inchbonnie**	**2.54**	**238**	P		**Pn**	**04 00 19.0**	**+0.4**
OXZ	**Oxford**	**2.58**	**221**	P		**Pn**	**04 00 18.5**	**-0.6**
MQZ	**McQueen's Vall**	**2.62**	**208**	P		**Pn**	**04 00 18.8**	**-0.9**
KATZ	**Kakaramea**	**2.63**	**25**	P		**Pn**	**04 00 18.8**	**+0.8**
AKCZ	**Akaroa Harbour**	**2.69**	**203**	P		**Pn**	**04 00 20.3**	**+0.3**
RATZ	**Rangitukua**	**2.76**	**24**	P		**Pn**	**04 00 24.9**	**+3.3**
BKZ	**Black Stump Fm**	**2.77**	**37**	P		**Pn**	**04 00 20.7**	**-1.1**
HIZ	**Hauiti**	**2.91**	**8**	P		**Pn**	**04 00 24.7**	**+1.1**
MTHZ	**Maungataniwha**	**3.18**	**38**	P		**Pn**	**04 00 26.3**	**-1.1**
TLZ	**Tolley Road**	**3.20**	**17**	P		**Pn**	**04 00 28.0**	**+0.3**
RPZ	**Rata Peaks**	**3.36**	**225**	P		**Pn**	**04 00 29.7**	**-0.1**
	1.0nm,0.3s,baz=127,slow=17,SNR=2.0							
RPZ				S		**Sn**	**04 01 05.4**	**-3.0**
	4.6nm,0.3s,baz=344,slow=23,SNR=18							
RPZ	**Rata Peaks**	**3.36**	**225**	P		**Pn**	**04 00 30.0**	**+0.3**
RTZ	**Ruatahuna**	**3.44**	**37**	P		**Pn**	**04 00 29.3**	**-1.7**
GCSZ	**Gaunt Creek Bo**	**3.54**	**236**	P		**Pn**	**04 00 35.1**	**+2.8**
URZ	**Urewera**	**3.79**	**35**	P		**Pn**	**04 00 39.8**	**+4.2**
	1.8nm,0.3s,baz=243,slow=6.5,SNR=3.0							
URZ				S		**Sn**	**04 01 14.5**	**-4.5**
	4.5nm,0.3s,baz=212,slow=6.3,SNR=4.4							
URZ	**Urewera**	**3.79**	**35**	P		**Pn**	**04 00 39.8**	**+4.2**
MWZ	**Matawai**	**3.92**	**40**	P		**Pn**	**04 00 35.5**	**-1.9**
FOZ	**Fox Glacier**	**3.98**	**236**	P		**Pn**	**04 00 39.1**	**+1.0**
RUGZ	**Raukumara Rang**	**4.29**	**38**	P		**Pn**	**04 00 41.0**	**-1.5**
MKAZ	**Moumakai**	**4.34**	**9**	P		**Pn**	**04 00 43.6**	**+0.4**
AWAZ	**Awhitu Peninsu**	**4.34**	**3**	P		**Pn**	**04 00 44.2**	**+1.0**
ETAZ	**East Tamaki Re**	**4.47**	**6**	P		**Pn**	**04 00 46.2**	**+1.3**
HAZ	**Te Kaha**	**4.50**	**37**	P		**Pn**	**04 00 43.8**	**-1.6**
ODZ	**Otahua Downs**	**4.54**	**215**	P		**Pn**	**04 00 45.0**	**-0.8**
WIAZ	**Waiheke Island**	**4.64**	**8**	P		**Pn**	**04 00 47.9**	**+0.5**
KUZ	**Kuaotunu**	**4.77**	**13**	P		**Pn**	**04 00 49.2**	**+0.1**
JCZ	**Jackson Bay**	**4.89**	**235**	P		**Pn**	**04 00 50.7**	**-0.1**
WCZ	**Waipu Caves**	**5.46**	**360**	P		**Pn**	**04 00 59.2**	**+0.8**
CTZ	**Chatham Island**	**7.06**	**112**	P		**Pn**	**04 01 20.4**	**+0.1**
ASAR	**Alice Springs**	**38.02**	**285**	P		**P**	**04 06 51.9**	**0.0**
	0.5nm,0.4s,baz=126,slow=7.2,SNR=7.2							
WRA	**Warramunga Arr**	**40.06**	**290**	P		**P**	**04 07 09.0**	**+0.1**
	0.6nm,0.5s,baz=127,slow=8.2,SNR=6.1							
TORD	**Torodi Ar. Bea**	**151.13**	**195**	PKPbc		**PKPbc**	**04 19 27.8**	**+1.8**
	0.5nm,0.9s,baz=166,slow=3.3,SNR=4.1							

*THR **26** 04:11:24.9±0.2, 32˚.72N×47˚.52E, h16km±1km, ML4.6*
*BJI **26** 04:11:24.0±0.0, 32˚.80N×47˚.90E, h10km, mB4.9/14, mb4.9/23, Ms4.3/8, Ms7 4.1/7*
*NEIC **26** 04:11:25.7±0.8, 32˚.72N±0˚.04×47˚.87E±0˚.07, h10km±1km, Error ellipse: s-maj=9.9km s-min=7.0km az=247.0*
*ISN **26** 04:11:25.9±2.3, 32˚.86N×47˚.53E, h17km±147km, ML4.5*
*MOS **26** 04:11:25.7±1.0, 32˚.72N×47˚.80E, h23km, mb5.0/46, Error ellipse: s-maj=5.9km s-min=4.2km az=110.5*
*TEH **26** 04:11:26.6, 32˚.80N×47˚.78E, h20km, ML4.8*
*IDC **26** 04:11:28.6±1.5, 32˚.80N×47˚.80E, h28km±9km, mb4.3/35, mb1 4.4/42, mb1mx4.3/47, mbtmp4.4/42, ML4.1/7, MS3.6/31, Ms1 3.7/31, ms1mx3.6/44, Error ellipse: s-maj=11.7km s-min=9.0km az=157.0*

*OMAN **26** 04:11:28.6, 32˚.25N×47˚.88E, h10km, mb5.7/19, ms3.7/5*
*GII **26** 04:11:29.8±0.0, 32˚.78N×47˚.87E, h10km*
*DSN **26** 04:11:30.0±1.1, 32˚.43N×48˚.17E, h10km, mb5.2/3, ML4.9/1, Error ellipse: s-maj=15.0km s-min=9.1km az=67.0*
*ISK **26** 04:11:56.5, 34˚.03N×45˚.54E, h35km, ML4.3/7*
ISC 26 04:11:26.9±0.6, 32˚.69N±0˚.03×47˚.81E±0˚.03, h20km±3km, h20km:pP-P, n545, σ1§50/558, mb4.7/130, MS3.8/26, 43C-8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DHL1	**Dehloran**	**0.45**	**269**	*e*Pg		**Pg**	**04 11 35.8**	**-0.4**
DHL1				*e*Sg		**Sb**	**04 11 43.1**	**+0.6**
IKFM	**Kafar-mosalman**	**0.83**	**2**	*e*Pg		**Pb**	**04 11 41.2**	**-1.5**
IKFM	**Kafar-mosalman**	**0.83**	**2**	Pg		**Pb**	**04 11 41.5**	**-1.2**
IKMR	**Kamar-syah**	**0.95**	**30**	*e*Pg		**Pb**	**04 11 43.5**	**-1.2**
IKMR				*e*			04 12 04.9	
IKMR	**Kamar-syah**	**0.95**	**30**	Pg		**Pb**	**04 11 43.6**	**-1.2**
SHGR	**Shooshtar-Gavs**	**1.02**	**125**	*e*Pg		**Pg**	**04 11 47.9**	**+1.1**
SHGR				*e*Sg		**Sg**	**04 12 04.7**	**+4.4**
SHGR				IAML			04 12 15.9	
	comp=N,11μm,0.4s							
SHGR	**Shooshtar-Gavs**	**1.02**	**125**	*e*Pg		**Pg**	**04 11 47.9**	**+1.1**
IDOB	**Doab**	**1.13**	**16**	*e*Pg		**Pb**	**04 11 46.4**	**-1.6**
IDOB	**Doab**	**1.13**	**16**	Pg		**Pb**	**04 11 46.6**	**-1.4**
BMDN	**Meydan**	**1.29**	**41**	*e*Pg		**Pn**	**04 11 49.4**	**-0.7**
BMDN				*e*			04 12 17.3	
BMDN	**Meydan**	**1.29**	**41**			**Pb**	**04 11 49.9**	**-0.8**
IKOM	**Komasi**	**1.50**	**350**	*e*Pg		**Pb**	**04 11 53.0**	**-1.2**
IKOM				*e*			04 12 18.0	
IKOM	**Komasi**	**1.50**	**350**			**Pb**	**04 11 53.9**	**-0.3**
AHWZ	**Ahwaz**	**1.53**	**152**	*e*Pg		**Pg**	**04 11 56.8**	**+0.3**
AHWZ				*e*Sg		**Sg**	**04 12 19.5**	**+3.0**
AHWZ	**Ahwaz**	**1.53**	**152**	Pg		**Pg**	**04 11 56.7**	**+0.3**
HSAM	**Samen**	**1.65**	**23**	*e*Pg		**Pb**	**04 11 55.7**	**-1.2**
HSAM				*e*			04 11 58.6	
KCHF	**Cheshme Sefid,**	**1.70**	**338**	*e*Pg		**Pb**	**04 11 56.7**	**-1.0**
KCHF				*e*			04 12 21.1	
IBZA	**Bozab**	**1.77**	**1**	*e*Pg		**Pb**	**04 11 58.6**	**-0.3**
IBZA				*e*			04 12 31.1	
IBZA	**Bozab**	**1.77**	**1**	Pg		**Pb**	**04 11 58.7**	**-0.2**
KER	**Kermanshah**	**1.78**	**342**	*e*Pg		**Pb**	**04 11 58.0**	**-1.0**
IGHG	**Ghaleghazi**	**1.94**	**328**	*e*Pg		**Pb**	**04 12 00.7**	**-1.0**
IGHG	**Ghaleghazi**	**1.94**	**328**	Pg		**Pb**	**04 12 00.5**	**-1.2**
IVIS	**Veis**	**2.00**	**336**	*e*Pn		**Pb**	**04 12 00.9**	**-1.7**
IVIS				*e*			04 12 35.1	
IVIS	**Veis**	**2.00**	**336**	Pn		**Pb**	**04 12 01.0**	**-1.7**
KHMZ	**Khomeyn**	**2.08**	**59**	*e*Pn		**Pb**	**04 12 04.2**	**+0.1**
KHMZ	**Khomeyn**	**2.08**	**59**	*e*Pn		**Pb**	**04 12 04.2**	**+0.1**
IALM	**Almabolaq**	**2.18**	**8**	*e*Pn		**Pb**	**04 12 04.4**	**-1.5**
NSR	**Nassriya**	**2.20**	**221**	*e*Pg		**Pn**	**04 12 03.0**	**+0.6**
NSR				*e*Sg		**Sb**	**04 12 34.0**	**+1.1**
NSR				AML	AML		04 12 47.2	
	comp=E,5μm,0.4s							
IDHR	**Dehrash**	**2.33**	**330**	*e*Pn		**Pn**	**04 12 05.4**	**+1.1**
IDHR				*e*			04 12 56.7	
IDHR	**Dehrash**	**2.33**	**330**	Pn		**Pb**	**04 12 05.8**	**-2.6**
ILIN	**Lien**	**2.33**	**343**	*e*			04 12 52.7	
ILIN				*e*Pn		**Pb**	**04 12 06.1**	**-2.3**
HAGD	**Aghdareh**	**2.39**	**27**	*e*			04 12 13.9	
HAGD				*e*Pn		**Pb**	**04 12 07.8**	**-1.7**
SNGE	**Sanandaj**	**2.42**	**351**	*e*Pn		**Pn**	**04 12 05.9**	**-0.4**
SNGE				*e*Sg		**Sb**	**04 12 39.4**	**-0.1**
SNGE	**Sanandaj**	**2.42**	**351**	*e*Pn		**Pn**	**04 12 05.3**	**-0.4**
JHBN	**Jahan bin**	**2.45**	**100**	*e*			04 12 58.5	
JHBN				*e*Pn		**Pb**	**04 12 08.9**	**-1.7**
HSRG	**Sareghieh**	**2.57**	**9**	*e*			04 12 53.1	
HSRG				*e*Pn		**Pb**	**04 12 09.9**	**-2.7**
IPIR	**Pirpir**	**2.59**	**89**	*e*Pn		**Pb**	**04 12 11.0**	**-2.0**
IPIR				*e*			04 12 53.5	
ASAO	**Ashtian**	**2.61**	**44**	*e*Pn		**Pb**	**04 12 11.0**	**-2.2**
ASAO	**Ashtian**	**2.61**	**44**	*e*Pn		**Pb**	**04 12 11.0**	**-2.2**
ROKH	**ROKH**	**2.74**	**96**	*e*Pn		**Pn**	**04 12 12.7**	**+2.6**
ROKH				*e*			04 13 05.7	
BHD	**Baghdad**	**2.94**	**282**	*e*Pg		**Pn**	**04 12 14.0**	**+1.4**
	baz=98							
BHD				*e*Sg		**Sn**	**04 12 50.0**	**+2.7**
BHD				AML	AML		04 13 10.6	
	comp=E,3μm,0.7s							
IBRJ	**Brojen**	**3.02**	**104**	*e*Pn		**Pn**	**04 12 16.6**	**+2.7**
IKLH	**Kolahrood**	**3.22**	**78**	*e*Pn		**Pn**	**04 12 19.4**	**+2.7**
IKLH				*e*			04 13 18.0	
IRAZ	**Razeghan**	**3.22**	**32**	*e*Pn		**Pb**	**04 12 20.0**	**-3.7**
QABG	**Abgarm-Qazvin**	**3.34**	**25**	*e*Pn		**Pn**	**04 12 20.0**	**+1.7**
IGAR	**Gharneh**	**3.58**	**93**	*e*Pn		**Pn**	**04 12 23.9**	**+2.3**
KLNJ	**Kolanjah**	**3.63**	**117**	*e*Pn		**Pn**	**04 12 25.0**	**+2.7**
KLNJ				*e*			04 13 38.7	
IMHD	**Mahdasht**	**3.81**	**38**	*e*Pn		**Pn**	**04 12 26.5**	**+1.9**
IZEF	**Zefreh**	**3.81**	**86**	*e*Pn		**Pn**	**04 12 27.3**	**+2.6**
IZEF				*e*			04 13 34.5	
QSDN	**Sirdan**	**3.96**	**16**	*e*Pn		**Pn**	**04 12 29.5**	**+2.7**
IHSB	**Hasanabad**	**3.97**	**45**	*e*Pn		**Pn**	**04 12 29.3**	**+2.5**
IRAM	**Ramesheh**	**3.97**	**102**	*e*Pn		**Pn**	**04 12 28.3**	**+1.1**
ZNJK	**Zanjan**	**4.03**	**10**	*e*Pn		**Pn**	**04 12 28.7**	**+0.9**
ZNJK	**Zanjan**	**4.03**	**10**	*e*Pn		**Pn**	**04 12 28.7**	**+0.9**
IGZV	**Ghazvin**	**4.18**	**28**	*e*Pn		**Pn**	**04 12 31.6**	**+1.7**
CHTH	**Charan**	**4.22**	**40**	*e*Pn		**Pn**	**04 12 32.8**	**+2.5**
CHTH	**Charan**	**4.22**	**40**	*e*Pn		**Pn**	**04 12 32.8**	**+2.5**
TEH	**Tehran**	**4.24**	**43**	*e*Pn		**Pn**	**04 12 32.8**	**+2.3**
QALM	**Alamut, Qazvin**	**4.40**	**31**	*e*Pn		**Pn**	**04 12 34.8**	**+1.9**
MAHB	**Mahabad**	**4.42**	**337**	*e*Pn		**Pn**	**04 12 34.5**	**+1.5**
KAZ1	**Kazerun**	**4.48**	**132**	*e*Pn		**Pn**	**04 12 36.2**	**+2.3**
IDMV	**Damavand**	**4.53**	**49**	*e*Pn		**Pn**	**04 12 36.8**	**+2.1**
AHBU	**AHRAM**	**4.85**	**141**	*e*Pn		**Pn**	**04 12 41.9**	**+3.1**
ANAR	**Anarak**	**5.00**	**83**	*e*Pn		**Pn**	**04 12 42.8**	**+1.8**
ISAD	**Sadrabad**	**5.03**	**97**	*e*Pn		**Pn**	**04 12 44.3**	**+2.7**
IFIR	**Firoozkooh**	**5.04**	**53**	*e*Pn		**Pn**	**04 12 43.8**	**+2.1**
ILAS	**Lasjerd**	**5.04**	**56**	*e*Pn		**Pn**	**04 12 43.3**	**+1.6**
SHI	**Shiraz**	**5.05**	**126**	*e*Pn		**Pn**	**04 12 44.1**	**+2.4**
ISRB	**Sarab**	**5.12**	**359**	*e*Pn		**Pn**	**04 12 45.5**	**+2.8**
IPRN	**Peran**	**5.15**	**45**	*e*Pn		**Pn**	**04 12 46.1**	**+3.1**
IALA	**Alasht**	**5.34**	**49**	*e*Pn		**Pn**	**04 12 48.0**	**+2.2**
ISHM	**Shahmirzad**	**5.50**	**54**	*e*Pn		**Pn**	**04 12 50.2**	**+2.2**
ICHK	**Chekchek**	**5.59**	**93**	*e*Pn		**Pn**	**04 12 50.8**	**+1.6**
IHRS	**Heris**	**5.65**	**354**	*e*Pn		**Pn**	**04 12 52.6**	**+2.6**
CUKT	**Cukurca**	**5.71**	**324**	PN		**Pn**	**04 12 51.2**	**+0.5**
CUKT	**Cukurca**	**5.71**	**324**	*e*Pn		**Pn**	**04 12 51.2**	**+0.5**
YZKH	**Yazd**	**5.73**	**91**	*e*Pn		**Pn**	**04 12 55.3**	**+4.3**
YZKH	**Yazd**	**5.73**	**91**	*e*Pn		**Pn**	**04 12 55.3**	**+4.3**
IANJ	**Anjilo**	**5.77**	**60**	*e*Pn		**Pn**	**04 12 53.0**	**+1.4**
AHAR	**Ahar**	**5.82**	**354**	*e*Pn		**Pn**	**04 12 54.5**	**+2.3**
HAKT	**HAKKARI**	**5.91**	**326**	*e*Pn		**Pn**	**04 12 53.6**	**+0.1**
IMEH	**Mehriz**	**5.92**	**101**	*e*Pn		**Pn**	**04 12 55.1**	**+1.4**
IGLO	**Ghaloghah**	**6.25**	**51**	*e*Pn		**Pn**	**04 13 00.7**	**+2.5**
SIRT	**Sirnak**	**6.51**	**319**	PN		**Pn**	**04 13 01.6**	**-0.1**
SIRT	**Sirnak**	**6.51**	**319**	*e*Pn		**Pn**	**04 13 01.6**	**-0.1**
IBAF	**Bafgh**	**6.67**	**97**	*e*Pn		**Pn**	**04 13 06.0**	**+2.1**
GEVA	**Gevas**	**6.81**	**327**	Pn		**Pn**	**04 13 04.9**	**-0.1**
AKDM	**Akdamar-Van**	**6.87**	**326**	PN		**Pn**	**04 13 08.1**	**+1.5**
VANB	**Van**	**6.90**	**330**	PN		**Pn**	**04 13 08.6**	**+1.5**
MAKU	**Maku**	**7.11**	**340**	*e*Pn		**Pn**	**04 13 09.4**	**-0.7**
MAKU	**Maku**	**7.11**	**340**	*e*Pn		**Pn**	**04 13 09.4**	**-0.7**
CLDR	**Caldiran**	**7.17**	**335**	PN		Pn	04 13 15.6	+4.7
TNSJ	**Nastanj**	**7.47**	**78**	*e*Pn		**Pn**	**04 13 17.1**	**+2.2**
TPRV	**Parvadeh(Tabas**	**7.47**	**85**	*e*Pn		**Pn**	**04 13 16.9**	**+2.0**
GURO	**Guroymak-BITLI**	**7.50**	**323**	PN		**Pn**	**04 13 16.4**	**+1.0**
SVAN	**Silvan-Diyarba**	**7.67**	**317**	PN		**Pn**	**04 13 17.8**	**+0.3**
MAZI	**Mazidag**	**7.68**	**310**	PN		**Pn**	**04 13 16.9**	**-0.9**
TKDS	**Koohdasht(Taba**	**7.86**	**81**	*e*Pn		**Pn**	**04 13 21.5**	**+1.2**
DYBB	**Diyarbakir**	**8.18**	**312**	PN		**Pn**	**04 13 24.1**	**-0.4**
NGRK	**Negar Kerman**	**8.22**	**109**	*e*Pn		**Pn**	**04 13 27.3**	**+1.8**
BNGB	**Bingl**	**8.54**	**319**	PN		**Pn**	**04 13 29.4**	**-0.2**
BINT	**Bingol**	**8.57**	**318**	P		**Pn**	**04 13 29.8**	**-0.2**
KOPR	**Koprukoy-ERZUR**	**8.72**	**328**	PN		**Pn**	**04 13 34.5**	**+2.3**
URFA	**Urfa**	**8.76**	**305**	PN		**Pn**	**04 13 31.9**	**-0.7**
CHMN	**Cheshme madani**	**8.79**	**106**	*e*Pn		**Pn**	**04 13 35.7**	**+2.5**
SBZV	**Sabzevar**	**8.88**	**63**	*e*Pn		**Pn**	**04 13 35.8**	**+1.4**
YEDI	**Yedisu-Bingol**	**8.94**	**321**	PN		**Pn**	**04 13 35.6**	**+0.5**
SVRC	**Sivrice-ELAZID**	**8.96**	**312**	PN		**Pn**	**04 13 34.5**	**-0.8**
PTK	**Pertek**	**9.22**	**314**	PN		**Pn**	**04 13 38.6**	**-0.4**
ASF	**Jabal al Asfar**	**9.24**	**270**	Pn		**Pn**	**04 13 38.2**	**-1.0**
	comp=E,3.0nm,0.3s,baz=45,slow=11,SNR=20							
ASF				Lg	Lg		04 16 21.0	
	comp=E,1.2nm,0.3s,baz=254,slow=21,SNR=5.1							
AKH	**Akhalkalaki**	**9.36**	**340**	P		**Pn**	**04 13 42.5**	**+1.6**
AKH	**Akhalkalaki**	**9.36**	**340**	P		**Pn**	**04 13 42.4**	**+1.6**
KOPT	**Kop Dagi**	**9.39**	**323**	Pn		**Pn**	**04 13 41.1**	**-0.2**
AFRZ	**Afriz**	**9.43**	**83**	*e*Pn		**Pn**	**04 13 43.6**	**+1.8**
ISFR	**Sfrayin**	**9.43**	**60**	*e*Pn		**Pn**	**04 13 43.8**	**+1.9**
MALT	**Malatya**	**9.48**	**309**	PN		**Pn**	**04 13 41.6**	**-0.9**
MALT	**Malatya**	**9.48**	**309**	P		**Pn**	**04 13 41.6**	**-0.9**
IAKL	**Akhelmad**	**9.82**	**64**	*e*Pn		**Pn**	**04 13 49.2**	**+1.9**
SHME	**Shamm**	**9.82**	**130**	P		**Pn**	**04 13 47.0**	**-0.2**
SHME				S		**Sn**	**04 15 32.0**	**-4.9**
GEYT	**Alibeck**	**9.90**	**55**	Pn		**Pn**	**04 13 49.0**	**+0.8**
	comp=E,1.1nm,0.3s,baz=241,slow=14,SNR=18							
GEYT				Lg	Lg		04 16 46.3	
	comp=E,0.2nm,0.3s,baz=262,slow=32,SNR=1.6							
GEYT				LR	LR		04 18 39.0	
	comp=E,244nm,19.9s,baz=250,slow=44							
GYA0B	**ALIBECK ARRAY**	**9.90**	**55**	Pn		**Pn**	**04 13 47.3**	**-0.9**
IPAY	**Payeh**	**9.95**	**65**	*e*Pn		**Pn**	**04 13 51.1**	**+2.1**
KEMA	**Kemaliye**	**10.00**	**314**	*e*Pn		**Pn**	**04 13 49.5**	**-0.1**
BANOM

comp=Z,63nm,1.0s
JURR Jurilovca 19.01 315 ⇑P **Pn** **04 15 48.8 +0.6**
VRH Novokhopyorsk 19.03 348 *e*P **P** **04 15 47.2 -0.3**
VRH pmax pmax
comp=Z,40nm,0.6s
TIRR Tirgusor 19.13 313 ⇑P **Pn** **04 15 49.3 -0.3**
TIRR Tirgusor 19.13 313 ⇑P **Pn** **04 15 49.3 -0.3**
TIRR Tirgusor 19.13 313 P **Pn** **04 15 49.1 -0.5**
TIRR pmax pmax
comp=Z,44nm,0.9s
TIRR Tirgusor 19.13 313 P **Pn** **04 15 49.1 -0.5**
TIRR lAmb lAmb 04 15 56.3
comp=Z,44nm,0.9s
IDI Anoyia 19.18 284 P **Pn** **04 15 50.7 +0.3**
comp=Z,2.1nm,0.3s,baz=74,slow=12,SNR=13
IDI LR LR 04 25 54.7
comp=Z,60nm,19.1s,baz=94,slow=45
IDI Anoyia 19.18 284 ⇑P **Pn** **04 15 51.2 +0.9**
IDI Anoyia 19.18 284 **Pn** **04 15 50.1 -0.2**
IDI lAmb lAmb 04 15 58.0
comp=Z,38nm,0.7s
ALN Alexandroupoli 19.23 301 P **Pn** **04 15 50.4 -0.4**
ALN pmax pmax
comp=Z,22nm,1.0s
ALN Alexandroupoli 19.23 301 P **Pn** **04 15 50.4 -0.4**
AKTO Aktyubinsk 19.27 20 P **Pn** **04 15 50.3 -0.9**
comp=Z,3.1nm,0.3s,baz=204,slow=11,SNR=79
AKTO LR LR 04 25 21.9
comp=Z,138nm,18.9s,baz=191,slow=44
GAR Garm 19.27 65 P **P** **04 15 49.8 -0.7**
GAR lAmb lAmb 04 15 54.5
comp=Z,58nm,0.8s
TOPG Topolog 19.37 315 ⇑P **Pn** **04 15 52.4 -0.2**
TLBR Topalu 19.40 313 ⇓P **Pn** **04 15 53.1 +0.3**
HARR Harsova 19.55 314 ⇓P **Pn** **04 15 54.2 -0.4**
VSR Storozhevoye 19.57 344 *e*P **P** **04 15 52.2 -1.2**
VSR *e*S **S** **04 19 25.8 -7.6**
VSR pmax pmax
comp=Z,80nm,1.1s
VSR smax smax
comp=N,40nm,1.2s
CFR Carcaliu 19.68 315 ⇑P **Pn** **04 15 55.2 -1.0**
BTK Batken 19.89 62 P **P** **04 15 56.6 -0.6**
BTK pmax pmax
comp=Z,18nm,0.9s
BTK Batken 19.89 62 P **P** **04 15 56.6 -0.6**
RAZG Razgrad 19.91 309 ⇑P **Pn** **04 15 59.0 0.0**
ISR Istrita 20.61 313 ⇑P Pn 04 16 07.2 0.0
KK31 Karatay Array 20.65 53 P **P** **04 16 04.7 -0.6**
KK31 pmax pmax
comp=Z,24nm,1.0s
KK31 Karatay Array 20.65 53 P **P** **04 16 04.7 -0.6**
KK31 lAmb lAmb 04 16 11.1
comp=Z,24nm,1.0s
KKAR Karatay Array 20.65 53 P **P** **04 16 04.8 -0.5**
KKAR pmax pmax
comp=Z,24nm,1.0s
KKAR Karatay Array 20.65 53 P **P** **04 16 04.8 -0.5**
VRI Vrincioaia 20.88 315 ⇑P Pn 04 16 09.5 -0.9
VRI Vrincioaia 20.88 315 P Pn 04 16 09.3 -1.1
VRI pmax pmax
comp=Z,28nm,1.1s
LPSR Galich'ya Gora 20.91 345 *e*P **P** **04 16 06.8 -1.2**
LPSR *e*S **S** **04 19 54.0 -6.1**
LPSR pmax pmax
comp=Z,130nm,0.7s
LPSR smax smax
comp=E,130nm,1.3s
NEHR Nehoiu 20.92 314 ⇑P Pn 04 16 10.4 -0.4
PLOR Plostina 20.92 315 ⇑P Pn 04 16 09.9 -0.9
PLOR Plostina 20.92 315 P Pn 04 16 09.8 -1.0
MLR Muntele Rosu 21.16 313 P **P** **04 16 10.3 -0.7**
comp=E,3.7nm,0.7s,baz=90,slow=15,SNR=5.3
MLR LR LR 04 26 38.5
comp=E,170nm,18.1s,baz=122,slow=43
MLR Muntele Rosu 21.16 313 ⇑P **P** **04 16 13.3 +2.3**
MLR Muntele Rosu 21.16 313 P **P** **04 16 11.4 +0.4**
MLR pmax pmax
comp=Z,45nm,0.8s
MLR Muntele Rosu 21.16 313 P **P** **04 16 11.4 +0.4**
MLR lAmb lAmb 04 16 17.9
comp=Z,45nm,0.8s
SOCY Socotra 21.18 163 **P** **04 16 08.1 -3.2**
TESR Tescani 21.27 317 ⇑P **P** **04 16 12.6 +0.6**
NIL Nilore 21.30 80 P **P** **04 16 12.1 -0.4**
NIL pmax pmax
comp=Z,60nm,1.1s
NIL Nilore 21.30 80 P **P** **04 16 12.1 -0.4**
NIL lAmb lAmb 04 16 17.2
comp=Z,60nm,1.1s
VLAD Vladila 21.48 308 ⇑P **P** **04 16 15.5 +1.3**
ATD Arta Tunnel 21.55 193 P **P** **04 16 17.9 +2.7**
comp=Z,24nm,0.7s,baz=1.0,slow=7.7,SNR=6.8
ATD LR LR 04 25 23.6
comp=Z,362nm,18.1s,baz=14,slow=39
ATD Arta Tunnel 21.55 193 P **P** **04 16 16.0 +0.7**
ATD lAmb lAmb 04 16 25.6
comp=Z,35nm,0.8s
AGG Agios Georgios 21.56 294 P **P** **04 16 15.8 +0.6**
AGG pmax pmax
comp=Z,24nm,0.9s
AGG Agios Georgios 21.56 294 P **P** **04 16 15.8 +0.6**
AGG lAmb lAmb 04 16 20.3
comp=Z,24nm,0.9s
OZUR 21.56 315 ⇑P **P** **04 16 16.6 +1.4**
MTUR Matau 21.58 312 ⇑P **P** **04 16 17.4 +1.9**
ITM Ithomi 21.66 289 lAmb lAmb 04 16 21.2
comp=Z,38nm,0.6s
VOIR 21.69 313 ⇓P **P** **04 16 18.4 +1.8**
VOIR 21.69 313 P **P** **04 16 18.1 +1.5**
VOIR pmax pmax
comp=Z,92nm,1.1s
DOPR Dopca 21.74 314 ⇑P **P** **04 16 18.4 +1.4**
ARR Arges 21.92 312 ⇑P **P** **04 16 20.8 +1.8**
LOT Lotru 22.50 311 ⇑P **P** **04 16 26.1 +0.8**
SRE Strehaia 22.53 309 ⇑P **P** **04 16 27.4 +1.9**
AML Almayashu 22.54 58 P **P** **04 16 27.0 +1.0**
SNR=21
AKASG Malin Array Be 22.61 328 P **P** **04 16 24.5 -1.8**
comp=Z,19nm,0.8s,baz=136,slow=9.1,SNR=30
AKASG PcP **PcP** **04 20 18.9 +0.1**
comp=Z,0.5nm,0.4s,baz=95,slow=1.8,SNR=4.6
AKBB Malin Array Si 22.61 328 lAmb lAmb 04 16 28.1
comp=Z,22nm,0.7s
BURAR Bucovina Array 22.70 318 ⇑P **P** **04 16 28.2 +0.8**
EKS2 Erkin-Say 22.75 57 P **P** **04 16 29.4 +1.4**
SNR=9.3
ARCR ARCALIA 22.92 316 ⇓P **P** **04 16 31.4 +1.8**
HERR Herculane 23.13 309 ⇑P **P** **04 16 32.1 +0.3**
UCH Uchtor 23.15 58 P **P** **04 16 33.3 +0.7**
SNR=11
CJR Cluj-Napoca 23.19 314 ⇓P **P** **04 16 34.3 +1.9**
AAK Ala-Archa 23.25 57 P **P** **04 16 33.8 +0.6**
comp=Z,3.7nm,0.6s,baz=226,slow=8.9,SNR=7.5
AAK LR LR 04 26 58.9
comp=Z,332nm,19.0s,baz=240,slow=40
AAK Ala-Archa 23.25 57 P **P** **04 16 35.9 +2.7**
AAK Ala-Archa 23.25 57 *i* P **P** **04 16 33.8 +0.6**
AAK pmax pmax
comp=Z,13nm,1.3s
AAK Ala-Archa 23.25 57 P **P** **04 16 32.6 -0.5**
USP Ospenovka 23.44 56 P **P** **04 16 37.8 +2.8**
SNR=5.9
CHMS Chumysh 23.54 56 P **P** **04 16 38.0 +2.1**
SNR=6.2
MDVR Moldovita 23.56 308 ⇓P **P** **04 16 36.8 +0.7**
OBN Obninsk 23.77 344 P **P** **04 16 38.0 +0.1**
comp=Z,6.5nm,0.4s,baz=156,slow=9.0,SNR=8.9
OBN LR LR 04 27 41.9
comp=Z,19nm,19.6s,baz=186,slow=41
OBN Obninsk 23.77 344 *d* iP **P** **04 16 37.9 0.0**
OBN *i* 04 16 41.9
OBN *i* 04 17 07.8
OBN pmax pmax
comp=Z,31nm,1.1s
OBN MLR MLR
comp=Z,156nm,15.0s
OBN Obninsk 23.77 344 P **P** **04 16 38.3 +0.4**
TIR Tirane 23.85 299 ⇑P **P** **04 16 40.4 +1.6**
BZS Buzias 23.94 310 ⇑P **P** **04 16 39.5 -0.2**
TKM2 Tokmak 2 24.11 57 P **P** **04 16 43.6 +2.1**
SNR=15
TKM2 Tokmak 2 24.11 57 P **P** **04 16 42.3 +0.8**
MOS Moscow 24.12 346 *e*P **P** **04 16 40.2 -1.0**
MOS *e* 04 17 09.4
MOS *e*S **S** **04 20 56.4 -1.3**
MOS pmax pmax
comp=Z,65nm,0.7s
SIRR Siria 24.18 312 ⇑P **P** **04 16 43.3 +1.4**
DIVS Divibare 24.48 306 ⇑ *i* P **P** **04 16 44.9 +0.1**
DIVS Divibare 24.48 306 lAmb lAmb 04 16 51.2
comp=Z,12nm,0.8s
DRME Dracevica, Mon 24.53 301 ⇑ *i* P **P** **04 16 45.0 -0.2**
PDG Podgorica 24.54 302 ⇑P **P** **04 16 45.8 +0.6**
PDG Podgorica 24.54 302 *e*P **P** **04 16 44.9 -0.3**
PDG Podgorica 24.54 302 P **P** **04 16 45.7 +0.6**
PDG lAmb lAmb 04 16 48.6
comp=Z,14nm,0.6s
RUDO Rudo 24.77 304 *e*P **P** **04 16 47.2 -0.1**
BBLS Lazići 24.82 305 ⇑ *i* P **P** **04 16 48.4 +0.6**
ARU Arti 24.88 14 P **P** **04 16 48.1 +0.1**
comp=Z,4.7nm,0.2s,baz=193,slow=8.6,SNR=40
ARU Arti 24.88 14 *d* iP **P** **04 16 48.1 +0.1**
ARU 04 17 18.5
ARU S **S** **04 21 12.4 +2.4**
ARU pmax pmax
comp=Z,73nm,1.1s
ARU Arti 24.88 14 P **P** **04 16 48.2 +0.1**
UZH Uzhgorod 24.90 317 *e*P **P** **04 16 48.7 +0.3**
UZH *i* 04 16 56.2
TEKS Tekeris 24.94 307 *e*P **P** **04 16 47.0 -1.8**
FRGS Fruska Gora 24.95 308 ⇑ *i* P **P** **04 16 49.4 +0.4**
UPM Unac-Piva 24.98 303 *e*P **P** **04 16 49.4 0.0**
KDJ Kajisay 25.05 59 lAmb lAmb 04 16 53.2
comp=Z,13nm,0.7s
KOLS Kolonicke sedl 25.06 318 *e*P **P** **04 16 50.5 +0.6**
KOLS pmax pmax
comp=Z,35nm,1.2s
KOLS Kolonicke sedl 25.06 318 *e*P **P** **04 16 50.5 +0.6**
HCY Herceg Novi 25.09 301 *e*P **P** **04 16 50.0 -0.2**
BRY Bratogost 25.16 302 ⇑ *i* P **P** **04 16 50.8 -0.2**
KWP Kalwaria Pacla 25.19 320 *e*P **P** **04 16 51.9 +0.8**
TREB Trebinje 25.25 302 *e*P **P** **04 16 51.5 -0.2**
TARG Taragay, Kyrgy 25.43 61 lAmb lAmb 04 16 57.7
comp=Z,28nm,0.9s
CRVS Cervenica-Dubn 25.51 317 *e*P **P** **04 16 55.1 +1.2**
CRVS pmax pmax
comp=Z,58nm,1.0s
CRVS Cervenica-Dubn 25.51 317 *e*P **P** **04 16 55.1 +1.2**
SVE Sverdlovsk 25.70 16 *e*P **P** **04 16 55.6 0.0**
SVE pmax pmax
comp=Z,44nm,1.2s
KECS Kecovo 25.88 316 *e*P **P** **04 16 58.9 +1.6**
KECS pmax pmax
comp=Z,25nm,1.1s
KECS Kecovo 25.88 316 *e*P **P** **04 16 58.9 +1.6**
TIP Timpagrande 25.88 293 lAmb lAmb 04 17 04.1
comp=Z,15nm,0.8s
KIRV Kirov 25.92 2 P **P** **04 16 57.6 +0.1**
comp=Z,69nm,0.6s,baz=199,slow=3.0,SNR=22
KIRV LR LR 04 29 31.0
comp=Z,239nm,18.2s,baz=189,slow=42
MICGM Minsk 25.97 333 *e* **P** **04 16 56.0 -2.0**
MNK Minsk 25.97 333 *e*P **P** **04 16 56.0 -2.0**
BRVK Borovoye 25.98 32 *ce*P **P** **04 16 58.9 +0.7**
BRVK pmax pmax
comp=Z,24nm,1.0s
BRVK Borovoye 25.98 32 P **P** **04 16 58.1 -0.1**
BRVK lAmb lAmb 04 16 59.7
comp=Z,17nm,0.8s
BVAR Borovoye Array 26.01 32 P **P** **04 16 59.0 +0.6**
comp=Z,23nm,0.6s,baz=226,slow=8.0,SNR=127
BVAR PcP **PcP** **04 20 26.1 0.0**
comp=Z,2.4nm,0.4s,baz=184,slow=2.8,SNR=6.1
BVAR ScP **ScP** **04 24 03.7 -1.0**
comp=Z,4.7nm,0.7s,baz=240,slow=2.9,SNR=19
BVAR LR LR 04 29 05.4
comp=Z,147nm,18.2s,baz=120,slow=41
MATE Matera 26.09 297 ⇑P **P** **04 17 00.7 +1.5**
MORH Mrgy, Hungar 26.09 310 ⇑ *i* P **P** **04 17 00.2 +1.0**
RICI Ricice 26.30 303 P **P** **04 17 00.8 -0.4**
NIE Niedzica 26.43 317 *e*P **P** **04 17 03.5 +1.2**
MGRS Mrkonjic Grad 26.57 305 *e*P **P** **04 17 10.2 +6.5**
BLY Banja Luka 26.60 306 ⇑ *i* P **P** **04 17 04.3 +0.5**
NACGM Naroch 26.70 333 *e* **P** **04 17 04.0 -0.6**
LANS Liptovska Anna 26.78 316 *e*P P 04 17 13.2 +7.7
LANS pmax pmax
comp=Z,14nm,1.2s
LANS Liptovska Anna 26.78 316 *e*P P 04 17 13.2 +7.7
VYHS Vyhne 26.86 315 *e*P **P** **04 17 06.8 +0.6**
VYHS pmax pmax
comp=Z,17nm,1.1s
VYHS Vyhne 26.86 315 *e*P **P** **04 17 06.8 +0.6**
KIJV Kijevo 26.94 304 *i* P **P** **04 17 07.0 +0.1**
SGRT San Giovanni R 26.96 299 lAmb lAmb 04 17 12.1
comp=Z,13nm,0.7s
OJC Ojcow 27.10 319 *e*P **P** **04 17 08.8 +0.5**
OJC Ojcow 27.10 319 lAmb lAmb 04 17 12.8
comp=Z,33nm,1.0s
ZIRJ Zirje 27.39 303 *i* P **P** **04 17 10.6 -0.4**
MORI Morici 27.40 303 *i* P **P** **04 17 10.1 -0.9**
ISAL Salakas 27.44 333 *e*P **P** **04 17 11.6 +0.4**
IZAR Zarasai 27.53 333 *e*P **P** **04 17 12.5 +0.5**
SUW Suwalki 27.58 328 *e*P **P** **04 17 12.3 -0.3**
JAVC Velka Javorina 27.72 315 *e*P **P** **04 17 15.1 +1.2**
PAOL Paolisi 27.74 297 lAmb lAmb 04 17 17.8
comp=Z,10nm,0.7s
MODS Modra-Piesok 27.76 313 *e*P **P** **04 17 14.3 0.0**
MODS pmax pmax
comp=Z,27nm,1.5s
MODS Modra-Piesok 27.76 313 *e*P **P** **04 17 14.3 0.0**
DUGI Dugi Otok 27.88 303 *i* P **P** **04 17 15.1 -0.3**
GOLS Golise 28.01 308 *i* P **P** **04 17 17.5 +1.0**
CRES Cresnjev 28.07 307 *e*P **P** **04 17 17.7 +0.6**
BOJS Bojanci 28.12 307 *i* P **P** **04 17 18.3 +0.9**
MORC Moravsky Berou 28.19 316 *e*P **P** **04 17 17.5 -0.6**
PABE Paberze 28.25 331 *e*P **P** **04 17 18.6 +0.1**
INTR Introdacqua 28.36 299 lAmb lAmb 04 17 26.1
comp=Z,11nm,0.9s
CONA Conrad Observa 28.48 312 *e*P **P** **04 17 21.5 +0.7**
comp=Z,2.7nm,0.7s
VISS Visnje 28.48 307 *i* P **P** **04 17 21.6 +0.9**
VRAC Vranov 28.55 315 P **P** **04 17 22.1 +0.8**
comp=Z,4.1nm,0.7s,baz=118,slow=8.9,SNR=6.3
VRAC LR LR 04 30 44.6
comp=Z,78nm,19.6s,baz=110,slow=41
VRAC Vranov 28.55 315 *e*P **P** **04 17 21.6 +0.3**
KRUC Moravsky 28.57 314 *e*P **P** **04 17 21.4 0.0**
KLMR Klimovskoe 28.69 352 *e*P **P** **04 17 20.3 -2.0**
KLMR pmax pmax
comp=Z,32nm,0.8s
KLMR Klimovskoe 28.69 352 *e*P **P** **04 17 20.3 -2.0**
KLMR AMP 04 17 22.4
comp=Z,32nm,0.8s
CEY Cerknica 28.74 307 *e*P **P** **04 17 20.5 -2.5**
LJU Ljubljana 28.75 307 *e*P **P** **04 17 24.4 +1.2**
KRLC Kraliky 28.76 316 *e*P **P** **04 17 23.6 +0.4**
KRLC *e* 04 17 27.4
KRLC Kraliky 28.76 316 *e*P **P** **04 17 23.6 +0.4**
KRLC *ep*P **pP** **04 17 27.4 -2.1**
AQU L'Aquila 28.78 300 *e*P **P** **04 17 25.1 +1.7**
KURBB Kurchatov Arra 28.82 42 P **P** **04 17 24.8 +1.2**
comp=Z,5.6nm,0.7s,baz=248,slow=9.3,SNR=30
KURBB PcP **PcP** **04 20 33.0 0.0**
comp=Z,0.8nm,0.6s,baz=245,slow=2.8,SNR=4.7
KURBB ScP **ScP** **04 24 12.1 -1.1**
comp=Z,3.2nm,0.9s,baz=243,slow=4.1,SNR=18
KURBB Kurchatov Arra 28.82 42 P **P** **04 17 22.2 -1.4**
KURK Kurchatov 28.91 42 *ce*P **P** **04 17 26.2 +1.8**
KURK pmax pmax
comp=Z,20nm,1.7s
KURK Kurchatov 28.91 42 **P** **04 17 24.3 -0.1**
KURK **PcP** **04 20 33.6 +0.5**
KURK Kurchatov 28.91 42 P **P** **04 17 23.2 -1.3**
KURK lAmb lAmb 04 17 26.8
comp=Z,12nm,0.9s
PRGR Permogore 28.99 358 *e*P **P** **04 17 23.9 -1.1**
PRGR pmax pmax
comp=Z,27nm,0.9s
NRCA Norcia 29.06 300 P **P** **04 17 26.6 +0.7**
NRCA lAmb lAmb 04 17 32.4
comp=Z,12nm,0.7s
DPC Dobruska-Polom 29.14 317 *e*P **P** **04 17 26.3 -0.3**
DPC Dobruska-Polom 29.14 317 *e*P **P** **04 17 26.3 -0.3**
VOJS Vojsko 29.18 307 *e*P **P** **04 17 27.6 +0.6**
OSTC Ostas 29.29 317 *e*P **P** **04 17 28.6 +0.7**
OSTC *ep*P **pP** **04 17 32.0 -2.2**
KSP Ksiaz 29.37 317 *e*P **P** **04 17 29.0 +0.4**
UPC Upice 29.39 317 *e*P **P** **04 17 29.9 +1.2**
UPC Upice 29.39 317 *e*P **P** **04 17 29.9 +1.2**
CHVC Chvalec 29.40 317 *e*P **P** **04 17 28.7 -0.1**
CHVC *ep*P **pP** **04 17 32.7 -2.4**
VSU Vasula 29.44 337 *e*P **P** **04 17 29.0 0.0**
VSU Vasula 29.44 337 *i* P **P** **04 17 29.0 0.0**
VSU pmax pmax
comp=Z,42nm,0.8s
PBUR Paburge 29.45 330 *e*P **P** **04 17 29.0 -0.2**
MOA Molln 29.46 311 *i* P **P** **04 17 30.1 +0.7**
comp=Z,5.5nm,0.5s,SNR=5.9
MAKZ Makanchi 29.55 51 P **P** **04 17 29.8 -0.4**
MAKZ pmax pmax
comp=Z,5.0nm,1.0s
MAKZ Makanchi 29.55 51 P **P** **04 17 29.8 -0.4**
MK31 Makanchi Array 29.75 52 P **P** **04 17 32.3 +0.3**
MK31 Makanchi Array 29.75 52 lAmb lAmb 04 17 34.1
comp=Z,11nm,0.8s
MKAR Makanchi Array 29.75 52 P **P** **04 17 33.1 +1.1**
comp=Z,11nm,0.8s,baz=250,slow=7.2,SNR=79
MKAR ScP **ScP** **04 24 14.1 -2.3**
comp=Z,0.9nm,0.8s,baz=251,slow=3.7,SNR=5.7
MKAR LR LR 04 30 45.2
comp=Z,59nm,20.9s,baz=245,slow=39
KBA Koelnbreinsper 29.82 309 *i* P **P** **04 17 33.5 +0.6**
comp=Z,7.7nm,0.6s,SNR=9.6
GOPC GO Pecny, Ondr 29.87 315 *e*P **P** **04 17 33.7 +0.7**
GOPC GO Pecny, Ondr 29.87 315 *e*P **P** **04 17 33.7 +0.7**
ZOU Zoufplan 29.93 308 P **P** **04 17 34.3 +0.5**
LATE Laterza 29.98 300 lAmb lAmb 04 17 36.4
comp=Z,10.0nm,0.9s
STAL STALIGIAL 30.03 307 P **P** **04 17 35.0 +0.5**
STAL lAmb lAmb 04 17 35.6
comp=Z,9.7nm,1.0s
PRU Pruhonice 30.04 315 *e*P **P** **04 17 34.2 -0.3**
PRU Pruhonice 30.04 315 *e*P **P** **04 17 34.2 -0.3**
GERES GERESS Array B 30.14 312 P **P** **04 17 35.7 +0.1**
comp=Z,1.6nm,0.6s,baz=111,slow=8.6,SNR=14
GERES PcP **PcP** **04 20 37.1 +0.6**
comp=Z,0.9nm,0.7s,baz=98,slow=2.7,SNR=5.9
GERES ScP **ScP** **04 24 17.3 -0.4**
comp=Z,0.7nm,0.7s,baz=134,slow=3.9,SNR=3.7
GERES LR LR 04 31 07.7
comp=Z,58nm,19.4s,baz=104,slow=39
CIMO Cimolais 30.22 307 P **P** **04 17 36.8 +0.6**
PVCC Panska Ves 30.24 316 *e*P **P** **04 17 36.7 +0.5**
PVCC Panska Ves 30.24 316 *e*P **P** **04 17 36.7 +0.5**
ABTA Abfaltersbach 30.29 308 *i* pP **P** **04 17 38.0 +1.2**
comp=Z,5.7nm,1.0s
KHC Kasperske Hory 30.32 313 *ce*P **P** **04 17 37.4 +0.4**
KHC pmax pmax
comp=Z,29nm,2.5s
KHC Kasperske Hory 30.32 313 *e*P **P** **04 17 37.3 +0.3**
KHC Kasperske Hory 30.32 313 P **P** **04 17 37.6 +0.6**
OSSC Osservatorio P 30.51 301 P **P** **04 17 39.4 +0.6**
OSSC lAmb lAmb 04 17 42.0
comp=Z,6.9nm,0.8s
PYUN Piuthan 30.60 89 *e*P **P** **04 17 40.5 +0.6**
CTI Castel Tesino 30.70 306 lAmb lAmb 04 17 46.5
comp=Z,13nm,0.7s
BRG Berggiesshubel 30.74 316 *e*P **P** **04 17 40.5 -0.1**
comp=Z,8.0nm,1.1s
ZCCA Zocca 30.83 303 P **P** **04 17 42.3 +0.6**
WTTA Wattenberg 31.00 309 *i* P **P** **04 17 43.5 +0.3**
comp=Z,3.3nm,0.4s,SNR=5.4
WATA Walderalm 31.06 309 *i* P **P** **04 17 43.8 +0.1**
comp=Z,5.2nm,0.6s,SNR=4.5
SQTA Sankt Quirin 31.27 308 *i* P **P** **04 17 45.7 +0.2**
comp=Z,7.2nm,0.4s,SNR=7.7
MOTA Moosalm 31.37 309 *i* P **P** **04 17 46.3 -0.1**
comp=Z,5.9nm,0.4s,SNR=10.0
SALO Salr 31.38 305 P **P** **04 17 47.0 +0.6**
NKC Novy Kostel 31.39 314 *e*P **P** **04 17 46.8 +0.4**
NKC *e* 04 17 51.3
NKC Novy Kostel 31.39 314 *e*P **P** **04 17 46.8 +0.4**
NKC *ep*P **pP** **04 17 51.3 -1.4**
CLL Collm 31.46 317 *i* P **P** **04 17 47.4 +0.5**
comp=Z,9.0nm,1.1s
CLL *i* sP **pP** **04 17 51.0 -2.2**
CLL Lm MLR 04 32 00.0
comp=Z,100nm,18.6s
CLL Collm 31.46 317 *i* P **P** **04 17 47.4 +0.5**
CLL *i* 04 17 51.0
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 31.46 317 lAmb lAmb 04 17 48.6
comp=Z,8.3nm,1.0s
FETA Feichten 31.54 308 *i* P **P** **04 17 48.1 +0.2**
comp=Z,6.7nm,0.6s,SNR=12
VSL Villasalto 31.61 293 P **P** **04 17 49.2 +0.7**
VSL lAmb lAmb 04 17 59.0
comp=Z,9.4nm,0.9s
RETA Reutte 31.63 309 *i* P **P** **04 17 48.2 -0.4**
comp=Z,2.9nm,0.4s
FUORN Ofenpass-Fuorn 31.76 307 P **P** **04 17 50.3 +0.4**
GKN Gorkha 32.01 89 *e*P **P** **04 17 52.8 +0.5**
comp=Z,12nm,0.3s
FINES FINESS Array B 32.03 340 P **P** **04 17 51.5 -0.3**
comp=Z,14nm,0.6s,baz=146,slow=10,SNR=83
FINES ScP **ScP** **04 24 22.8 -0.7**
comp=Z,1.5nm,0.7s,baz=128,slow=5.3,SNR=4.2
FINES LR LR 04 31 34.6
comp=Z,112nm,21.9s,baz=164,slow=38
DAVOX Davos/Dischmat 32.05 307 P **P** **04 17 52.7 +0.3**
comp=Z,4.4nm,0.5s,baz=131,slow=5.1,SNR=7.8
DAVA Damuels 32.16 308 *i* P **P** **04 17 53.4 -0.1**
comp=Z,12nm,0.4s,SNR=8.3
TUE Stuetta 32.35 307 lAmb lAmb 04 18 00.9
comp=Z,7.5nm,0.6s
DMN Daman 32.53 89 *e*P **P** **04 17 57.8 +0.8**
comp=Z,24nm,0.8s
KKN Kakani 32.62 89 *e*P **P** **04 17 58.2 +0.5**
comp=Z,25nm,0.5s
PKI Pulchoki 32.80 89 *e*P **P** **04 18 00.1 +0.7**
comp=Z,18nm,0.6s
GUN Gumba 33.09 88 *e*P **P** **04 18 03.0 +1.1**
comp=Z,20nm,0.4s
JIRN Jiri 33.43 88 *e*P **P** **04 18 06.0 +1.1**
comp=Z,32nm,0.4s
SENIN Lac Senin/Sane 33.72 306 lAmb lAmb 04 18 14.0
comp=Z,9.0nm,0.7s
ZAA0 Zalesovo Array 33.73 40 P **P** **04 18 06.7 -0.1**
ZAA0 lAmb lAmb 04 18 08.0
comp=Z,13nm,1.1s
ZALV Zalesovo Beam 33.73 40 P **P** **04 18 07.3 +0.5**
comp=Z,5.5nm,0.4s,baz=258,slow=11,SNR=22
ZALV PcP **PcP** **04 20 45.5 -0.5**
comp=Z,1.0nm,0.4s,baz=235,slow=3.8,SNR=2.3
ZALV ScP **ScP** **04 24 26.9 -2.7**
comp=Z,1.5nm,0.7s,baz=275,slow=3.0,SNR=4.4
ZALV LR LR 04 32 30.7
comp=Z,56nm,20.9s,baz=244,slow=38
DGZ Jazzator, Alta 33.84 48 *c* iP **P** **04 18 09.0 +1.0**
DGZ pmax pmax
comp=Z,21nm,1.8s
LPL La Plagne 33.99 304 *e*P **P** **04 18 09.0 -0.4**
LPL pmax pmax
comp=Z,29nm,0.6s
RAMN Ramite 34.00 89 *e*P **P** **04 18 10.2 +0.4**
comp=Z,20nm,0.7s
TAPN Taplejung 34.81 88 *e*P **P** **04 18 18.0 +1.2**
comp=Z,29nm,0.8s
KMBO Kilima Mbogo 35.09 199 P **P** **04 18 22.3 +3.1**
comp=Z,0.9nm,0.5s,baz=13,slow=11,SNR=1.9
KMBO Kilima Mbogo 35.09 199 P **P** **04 18 19.7 +0.5**
KMBO pmax pmax
comp=Z,7.0nm,1.2s
KMBO Kilima Mbogo 35.09 199 P **P** **04 18 19.6 +0.5**
SSF Saint Saulge 36.41 306 *e*P **P** **04 18 29.2 -0.8**
SSF pmax pmax
comp=Z,20nm,1.2s
NC405 NORSAR Array S 36.80 331 lAmb lAmb 04 18 33.2
comp=Z,28nm,1.1s
NB2 NORSAR Subarra 36.96 331 P **P** **04 18 33.7 -0.8**
comp=Z,2.8nm,0.5s,baz=123,slow=8.6
NB2 NORSAR Subarra 36.96 331 P **P** **04 18 33.7 -0.8**
baz=123,slow=8.6
NOA NORSAR Array B 36.96 331 P **P** **04 18 33.5 -1.0**
comp=Z,3.7nm,0.6s,baz=122,slow=8.4,SNR=23
NOA ScP **ScP** **04 24 40.6 -0.6**
comp=Z,0.5nm,0.8s,baz=129,slow=4.7,SNR=4.9
NOA LR LR 04 35 35.9
comp=Z,130nm,18.8s,baz=130,slow=39
NAO01 NORSAR Array S 36.98 331 *e*P **P** **04 18 33.9 -0.9**
NC303 NORSAR Array S 37.00 331 lAmb lAmb 04 18 35.7
comp=Z,8.1nm,0.6s

NBO00	**NORSAR Array S**	**37.13**	**331**	IAmb	IAmb	04 18 35.6			
	comp=Z,7.5nm,0.7s								
CAF	**Calviac**	**37.22**	**303**	*e*P	**P**	**04 18 37.6**	**+0.6**		
CAF				pmax	pmax				
	comp=Z,10.0nm,1.1s								
NC204	**NORSAR Array S**	**37.27**	**331**	P	**P**	**04 18 37.6**	**+0.4**		
SKAR	**Skarslia**	**37.99**	**329**	*e*P	**P**	**04 18 43.9**	**+0.6**		
DOMB	**Dombas**	**38.37**	**332**	*e*P	**P**	**04 18 46.3**	**-0.1**		
TAM	**Tamanrasset**	**38.49**	**266**	P	**P**	**04 18 48.6**	**+0.5**		
TAM				pmax	pmax				
	comp=Z,4.0nm,0.8s								
TAM	**Tamanrasset**	**38.49**	**266**	P	**P**	**04 18 48.6**	**+0.5**		
NSS	**Namsos**	**38.72**	**336**	*e*P	**P**	**04 18 49.2**	**0.0**		
KEV	**Kevo**	**38.89**	**349**	P	**P**	**04 18 50.9**	**+0.2**		
KEV				pmax	pmax				
	comp=Z,10.0nm,0.7s								
KEV	**Kevo**	**38.89**	**349**	P	**P**	**04 18 50.9**	**+0.2**		
KEV				IAmb	IAmb	04 18 52.4			
	comp=Z,9.5nm,0.7s								
SHL	**Shillong**	**38.93**	**89**	P	**P**	**04 18 53.5**	**+1.7**		
	SNR=6.3								
SHL	**Shillong**	**38.93**	**89**	P	**P**	**04 18 51.0**	**-0.8**		
SHL				pmax	pmax				
	comp=Z,12nm,0.7s								
SHL	**Shillong**	**38.93**	**89**	P	**P**	**04 18 51.0**	**-0.8**		
SHL				IAmb	IAmb	04 18 57.8			
	comp=Z,12nm,0.7s								
KTK1	**Kautokeino**	**38.95**	**346**	*e*P	**P**	**04 18 50.8**	**-0.4**		
ARCES	**ARCESS Array B**	**38.96**	**348**	P	**P**	**04 18 51.1**	**-0.2**		
	comp=Z,5.8nm,0.4s,baz=157,slow=9.2,SNR=112								
ARCES				PP	**PnPn**				
	comp=Z,1.7nm,0.6s,baz=154,slow=9.4,SNR=4.0								
ARCES				PcP	**PcP**	**04 21 01.4**	**0.0**		
	comp=Z,1.9nm,0.5s,baz=144,slow=2.5,SNR=6.1								
ARCES				ScP	**S**	**04 24 48.2**	**-0.3**		
	comp=Z,3.2nm,0.7s,baz=182,slow=3.6,SNR=12								
ARCES				LR	LR	04 36 07.2			
	comp=Z,158nm,19.8s,baz=154,slow=38								
ARE0	**ARCESS Array S**	**38.96**	**348**	P	**P**	**04 18 51.6**	**+0.4**		
ARE0	**ARCESS Array S**	**38.96**	**348**	*e*P	**P**	**04 18 51.0**	**-0.3**		
MOR8	**Moi Rana**	**38.99**	**339**	*e*P	**P**	**04 18 51.0**	**-0.5**		
MOL	**Molde**	**39.25**	**332**	*e*P	**P**	**04 18 54.0**	**+0.3**		
FAUS	**Fauske**	**39.58**	**341**	*e*P	**P**	**04 18 56.3**	**-0.2**		
KONS	**Konsvik**	**39.60**	**339**	*e*P	**P**	**04 18 56.2**	**-0.4**		
NBB40	**Tonnes**	**39.65**	**339**	*e*P	**P**	**04 18 56.7**	**-0.2**		
NBB28	**Valnes**	**39.68**	**340**	*e*P	**P**	**04 18 56.9**	**-0.4**		
NBB05	**Inndyr**	**39.70**	**340**	*e*P	**P**	**04 18 57.2**	**-0.2**		
NBB30	**Finnes**	**39.74**	**340**	*e*P	**P**	**04 18 57.5**	**-0.2**		
N2TV	**TYrnvik**	**39.76**	**341**	*e*P	**P**	**04 18 57.7**	**-0.2**		
NBB08	**Skaug oppvekst**	**39.77**	**341**	*e*P	**P**	**04 18 57.8**	**-0.1**		
N2IH	**Innhavet**	**39.82**	**342**	*e*P	**P**	**04 18 58.1**	**-0.3**		
STEI	**Steigen**	**39.98**	**342**	*e*P	**P**	**04 18 59.3**	**-0.5**		
HAMF	**Hammerfest**	**40.23**	**348**	*e*P	**P**	**04 19 01.9**	**+0.1**		
TRO	**Tromso**	**40.36**	**345**	*e*P	**P**	**04 19 02.5**	**-0.4**		
N2VA	**Vr¸y**	**40.50**	**340**	*e*P	**P**	**04 19 02.3**	**-1.8**		
N2SV	**S¸rv¥gen**	**40.56**	**341**	*e*P	**P**	**04 19 03.5**	**-1.1**		
N2RO	**R¸st**	**40.57**	**340**	*e*P	**P**	**04 19 03.6**	**-1.0**		
EKA	**Eskdalemuir Ar**	**41.88**	**318**	P	**P**	**04 19 14.6**	**-1.0**		
ESBB	**Sonseca Array**	**41.88**	**295**	P	**P**	**04 19 16.5**	**+0.5**		
ESDC	**Sonseca Array**	**41.88**	**295**	P	**P**	**04 19 16.8**	**+0.8**		
	comp=Z,3.9nm,0.7s,baz=78,slow=8.3,SNR=20								
ESDC				ScP	**ScP**	**04 25 01.1**	**+0.4**		
	comp=Z,0.3nm,0.5s,baz=50,slow=4.1,SNR=4.3								
GTA	**Gaotai**	**42.09**	**66**	*e*P	**P**	**04 19 19.0**	**+1.3**		
GTA				pP	pP	04 19 23.0	-1.0		
GTA				sP	sP	04 19 26.5	-0.1		
GTA				pmax	pmax				
	comp=Z,8.0nm,1.0s								
GTA				pmax	pmax				
	comp=Z,30nm,5.5s								
GTA				LR	LR				
	comp=Z,140nm,13.1s								
GTA				LR	LR				
	comp=Z,140nm,17.2s								
GTA				LR	LR				
	comp=Z,160nm,13.7s								
PAB	**San Pablo**	**42.20**	**295**	P	**P**	**04 19 19.2**	**+0.7**		
PAB				pmax	pmax				
	comp=Z,9.0nm,1.1s								
PAB	**San Pablo**	**42.20**	**295**	P	**P**	**04 19 19.2**	**+0.7**		
NRIK	**Norif'sk**	**42.89**	**19**	P	**P**	**04 19 24.1**	**+0.5**		
	comp=Z,6.6nm,0.6s,baz=225,slow=5.8,SNR=5.3								
NRIK				LR	LR	04 41 28.4			
	comp=Z,153nm,18.5s,baz=190,slow=42								
MDT	**Midelt**	**43.70**	**285**	P	**P**	**04 19 31.6**	**+0.8**		
	comp=Z,2.9nm,0.7s,baz=305,slow=1.3,SNR=7.2								
PBRG	**Braganca**	**43.73**	**298**	*e*P	**P**	**04 19 31.7**	**+0.8**		
PBRG				*ep*P	**pP**	**04 19 35.4**	**-1.8**		
ZAK	**Zakamensk**	**44.03**	**49**	*e*P	**P**	**04 19 34.1**	**+0.9**		
ZAK				pmax	pmax				
	comp=Z,5.0nm,1.3s								
TLY	**Talaya**	**44.31**	**48**	*i* P	**P**	**04 19 36.5**	**+1.1**		
TLY				pmax	pmax				
	comp=Z,6.0nm,1.3s								
MTE	**Manteigas**	**44.51**	**296**	*e*P	**P**	**04 19 38.1**	**+0.9**		
	comp=Z,20nm,1.3s								
MTE	**Manteigas**	**44.51**	**296**	P	**P**	**04 19 37.7**	**+0.5**		
MTE				IAmb	IAmb	04 19 44.2			
	comp=Z,21nm,1.1s								
PMRV	**Marv??o**	**44.54**	**295**	*e*P	**P**	**04 19 37.9**	**+0.5**		
	comp=Z,22nm,1.9s								
PCBR	**Castelo Branco**	**44.54**	**296**	*e*P	**P**	**04 19 38.4**	**+1.0**		
	comp=Z,32nm,1.1s								
PCAB	**Cabril**	**44.70**	**298**	*e*P	**P**	**04 19 38.0**	**-0.6**		
	comp=Z,29nm,2.0s								
PVIS	**Viseu**	**44.73**	**297**	*e*P	**P**	**04 19 40.3**	**+1.4**		
PGAV	**Gavieira, Arco**	**44.84**	**299**	*e*P	**P**	**04 19 40.5**	**+0.6**		
	comp=Z,43nm,1.6s								
PBEJ	**Beja**	**45.15**	**293**	*e*P	**P**	**04 19 43.2**	**+1.0**		
	comp=Z,16nm,1.3s								
PMTG	**Montargil**	**45.24**	**295**	*e*P	**P**	**04 19 44.6**	**+1.7**		
	comp=Z,14nm,1.5s								
PSBE	**S¸o Bento**	**45.60**	**295**	*e*P	**P**	**04 19 46.6**	**+0.8**		
	comp=Z,31nm,2.0s								
PNCL	**Nicolau / Gran**	**45.65**	**293**	*e*P	**P**	**04 19 47.4**	**+1.2**		
	comp=Z,21nm,1.3s								
PMAFR	**Mafra**	**46.07**	**295**	*e*P	**P**	**04 19 50.8**	**+1.3**		
SONM	**Songino Array**	**46.10**	**53**	P	**P**	**04 19 50.5**	**+0.7**		
	comp=Z,2.7nm,0.8s,baz=279,slow=10,SNR=16								
SONM				LR	LR	04 42 33.4			
	comp=Z,57nm,20.6s,baz=262,slow=40								
TORD	**Torodi Ar. Bea**	**46.30**	**256**	P	**P**	**04 19 51.8**	**+0.3**		
	comp=Z,1.8nm,0.5s,baz=65,slow=6.8,SNR=34								
TORD				LR	LR	04 42 18.2			
	comp=Z,153nm,20.2s,baz=175,slow=40								
ULN	**Ulaanbaatar**	**46.54**	**53**	*ce*P	**P**	**04 19 54.4**	**+1.1**		
ULN				pmax	pmax				
	comp=Z,19nm,1.0s								
ULN	**Ulaanbaatar**	**46.54**	**53**	P	**P**	**04 19 53.0**	**-0.3**		
SPA0	**Spitsbergen Ar**	**47.59**	**352**	P	**P**	**04 20 01.5**	**+0.6**		
CMAR	**Chiang Mai Arr**	**47.82**	**94**	P	**P**	**04 20 03.5**	**+0.1**		
	comp=Z,1.2nm,0.4s,baz=311,slow=6.9,SNR=1.4								
CMAR				LR	LR	04 44 34.6			
	comp=Z,59nm,19.6s,baz=318,slow=42								
XAN	**Xi'an**	**50.37**	**71**	P	**P**	**04 20 23.0**	**+0.2**		
XAN				pmax	pmax				
	comp=Z,10.0nm,1.3s								
XAN				LR	LR				
	comp=Z,96nm,15.2s								
XAN				LR	LR				
	comp=Z,120nm,13.7s								
XAN				LR	LR				
	comp=Z,170nm,19.3s								
XAN	**Xi'an**	**50.37**	**71**	P	**P**	**04 20 22.5**	**-0.3**		
XAN				pmax	pmax				
	comp=Z,6.0nm,0.7s								
XAN	**Xi'an**	**50.37**	**71**	P	**P**	**04 20 22.5**	**-0.3**		
XAN				IAmb	IAmb	04 20 25.3			
	comp=Z,5.9nm,0.7s								
BOD	**Bodaibo**	**50.48**	**39**	*e*P	**P**	**04 20 23.5**	**+0.2**		
BOD				pmax	pmax				
	comp=Z,18nm,1.8s								
OPO	**Ambohidratompo**	**50.98**	**181**	P	**P**	**04 20 29.0**	**+1.5**		
	comp=Z,4.5nm,0.9s,baz=319,slow=18,SNR=3.0								
GYA	**Guiyang**	**51.01**	**81**	⇑P	**P**	**04 20 27.5**	**-0.3**		
GYA				SS	**SS**	**04 31 16.0**	**-3.2**		
GYA				pmax	pmax				
	comp=Z,11nm,0.6s								
GYA				pmax	pmax				
	comp=Z,65nm,6.1s								
GYA				LR	LR				
	comp=Z,65nm,7.6s								
GYA				LR	LR				
	comp=Z,89nm,8.4s								
GYA				LR	LR				
	comp=Z,84nm,9.5s								
DBIC	**Dimbokro**	**55.25**	**254**	P	**P**	**04 20 58.9**	**-0.2**		
	comp=Z,3.9nm,0.7s,baz=39,slow=6.7,SNR=5.3								
DBIC				LR	LR	04 47 41.0			
	comp=Z,130nm,18.0s,slow=39								
DBIC	**Dimbokro**	**55.25**	**254**	P	**P**	**04 20 59.6**	**+0.6**		
DBIC				pmax	pmax				
	comp=Z,11nm,1.1s								
DBIC	**Dimbokro**	**55.25**	**254**	P	**P**	**04 20 59.6**	**+0.6**		
DBIC				IAmb	IAmb	04 21 12.3			
	comp=Z,11nm,1.1s								
KIC	**Kosan Boka**	**55.34**	**254**	*e*P	**P**	**04 20 59.8**	**+0.1**		
	comp=Z,15nm,0.7s								
TIC	**Toumodi**	**55.40**	**254**	*e*P	**P**	**04 21 01.1**	**+0.9**		
LIC	**Lamto**	**55.65**	**254**	*e*P	**P**	**04 21 02.0**	**+0.1**		
	comp=Z,23nm,0.7s								
KULM	**Kulim**	**56.19**	**107**	P	**P**	**04 21 05.4**	**-0.4**		
IPM	**Ipoh**	**56.97**	**108**	P	**P**	**04 21 11.0**	**-0.4**		
YAK	**Yakutsk**	**57.97**	**33**	*e*P	**P**	**04 21 19.0**	**+1.3**		
YAK				pmax	pmax				
	comp=Z,8.0nm,0.4s								
SUMG	**Summit**	**58.05**	**339**	*i* P	**P**	**04 21 19.0**	**+0.4**		
	comp=Z,32nm,0.8s								
SUMG	**Summit**	**58.05**	**339**	*i* P	**P**	**04 21 19.0**	**+0.4**		
SUMG				pmax	pmax				
	comp=Z,32nm,0.8s								
SUMG	**Summit**	**58.05**	**339**	P	**P**	**04 21 19.0**	**+0.4**		
SUMG				IAmb	IAmb	04 21 19.6			
	comp=Z,12nm,0.8s								
ZEA	**Zeya**	**58.38**	**43**	*e*P	**P**	**04 21 22.2**	**+1.5**		
ZEA				pmax	pmax				
	comp=Z,29nm,1.0s								
CN2	**Changchun**	**59.90**	**55**	*e*P	**P**	**04 21 32.5**	**+1.1**		
CN2				*ep*P	pP	04 21 37.8	-0.1		
CN2				pmax	pmax				
	comp=Z,10.0nm,1.0s								
CN2				pmax	pmax				
	comp=Z,100nm,3.0s								
SDSI	**Sungai Dareh**	**60.56**	**112**	P	**P**	**04 21 35.6**	**-0.7**		
LBTB	**Lobatse**	**61.17**	**203**	P	**P**	**04 21 41.0**	**+0.7**		
LBTB				pmax	pmax				
	comp=Z,8.0nm,0.8s								
LBTB	**Lobatse**	**61.17**	**203**	P	**P**	**04 21 41.0**	**+0.7**		
LBTB				IAmb	IAmb	04 21 47.1			
	comp=Z,7.7nm,0.8s								
KLR	**Kul'dur**	**62.33**	**47**	*ce*P	**P**	**04 21 47.6**	**-0.2**		
KLR				pmax	pmax				
	comp=Z,14nm,1.4s								
KSRS	**Korea Array**	**63.84**	**61**	P	**P**	**04 21 57.4**	**-0.7**		
	comp=Z,4.0nm,0.7s,baz=284,slow=7.7,SNR=8.7								
KSRS				LR	LR	04 53 41.4			
	comp=Z,56nm,19.1s,baz=155,slow=40								
USRK	**Ussuriysk Ar.**	**64.21**	**53**	P	**P**	**04 21 59.7**	**-0.7**		
	comp=Z,3.5nm,0.6s,baz=296,slow=5.5,SNR=12								
USRK				LR	LR	04 52 45.0			
	comp=Z,52nm,18.7s,baz=297,slow=39								
BOSA	**Boshof**	**64.63**	**202**	P	**P**	**04 22 04.7**	**+1.4**		
	comp=Z,7.6nm,0.7s,baz=5.9,slow=5.6,SNR=12								
BOSA				LR	LR	04 51 49.6			
	comp=Z,333nm,19.3s,baz=32,slow=37								
BOSA	**Boshof**	**64.63**	**202**	P	**P**	**04 22 03.9**	**+0.7**		
BOSA				pmax	pmax				
	comp=Z,15nm,1.0s								
BOSA	**Boshof**	**64.63**	**202**	P	**P**	**04 22 03.9**	**+0.7**		
SEY	**Seymchan**	**67.60**	**29**	*i* P	**P**	**04 22 22.7**	**+0.8**		
TYV	**Tymovskoe**	**68.24**	**43**	*e*P	**P**	**04 22 26.7**	**+0.6**		
TYV				pmax	pmax				
	comp=Z,12nm,1.0s								
TYV				pmax	pmax				
	comp=Z,200nm,3.7s								
MA2	**Magadan**	**68.50**	**32**	*ce*P	**P**	**04 22 28.4**	**+0.9**		
MA2				pmax	pmax				
	comp=Z,10.0nm,1.7s								
YSS	**Yuzh-Sakhalins**	**70.01**	**47**	*e*P	**P**	**04 22 36.8**	**-0.3**		
MJAR	**Matsushiro Arr**	**71.70**	**58**	P	**P**	**04 22 46.4**	**-1.2**		
	comp=Z,0.8nm,0.3s,baz=283,slow=11,SNR=2.2								
PETK	**Petropavlovsk-**	**75.17**	**36**	P	**P**	**04 23 06.0**	**-1.7**		
	comp=Z,5.0nm,1.1s,baz=256,slow=3.7,SNR=4.3								
PETK				LR	LR	04 59 30.9			
	comp=Z,69nm,18.0s,baz=268,slow=38								
SCHQ	**Schefferville**	**76.41**	**327**	P	**P**	**04 23 14.0**	**-0.8**		
	comp=Z,3.8nm,0.7s,baz=0.9,slow=3.8,SNR=6.3								
COLD	**Coldfoot**	**79.45**	**7**	P	**P**	**04 23 32.2**	**+0.7**		
IMAR	**Indian Mountai**	**80.24**	**9**	P	**P**	**04 23 36.2**	**+0.5**		
MDM	**Murphy Dome**	**81.86**	**7**	IAmb	IAmb	04 23 45.9			
	comp=Z,8.4nm,1.1s								
ILAR	**Eielson Array**	**82.17**	**6**	P	**P**	**04 23 45.5**	**-0.6**		
	comp=Z,1.1nm,0.8s,baz=326,slow=3.7,SNR=11								
ILAR				PP	**PP**	**04 26 54.9**	**+1.3**		
	comp=Z,1.7nm,1.1s,baz=345,slow=8.7,SNR=6.1								
ILAR				LR	LR	05 04 22.4			
	comp=Z,31nm,20.7s,baz=290,slow=39								
ILAR	**Eielson Array**	**82.17**	**6**	P	**P**	**04 23 46.7**	**+0.6**		
ILAR	**Eielson Array**	**82.17**	**6**	P	**P**	**04 23 46.7**	**+0.6**		
BPAW	**Bear Paw Mtn.**	**82.39**	**8**	P	**P**	**04 23 47.8**	**+0.5**		
BPAW				IAmb	IAmb	04 23 48.2			
	comp=Z,11nm,1.1s								
D62A	**Allapoint, All**	**82.41**	**322**	P	**P**	**04 23 48.2**	**+0.6**		
D62A				IAmb	IAmb	04 23 48.6			
	comp=Z,7.9nm,0.7s								
EGAK	**Eagle**	**82.60**	**4**	P	**P**	**04 23 48.8**	**+0.5**		
EGAK				IAmb	IAmb	04 23 50.7			
	comp=Z,6.9nm,1.1s								
DOT	**Dot Lake**	**83.52**	**5**	IAmb	IAmb	04 23 54.5			
	comp=Z,5.3nm,0.9s								
YKA	**Yellowknife Ar**	**84.09**	**352**	P	**P**	**04 23 55.0**	**-1.0**		
	comp=Z,1.3nm,0.6s,baz=4.9,slow=5.4,SNR=6.7								
LONY	**Lake Ozonia**	**86.92**	**323**	P	**P**	**04 24 11.0**	**+0.5**		
LONY				IAmb	IAmb	04 24 12.1			
	comp=Z,10nm,1.1s								
E28A	**Huff**	**96.13**	**339**	P	**P**	**04 24 53.7**	**+0.4**		
WRA	**Warramunga Arr**	**97.71**	**109**	P	**P**	**04 25 00.7**	**-0.1**		
	comp=Z,0.4nm,0.7s,baz=314,slow=4.1,SNR=2.5								
WRA	**Warramunga Arr**	**97.71**	**109**	P	**P**	**04 25 00.7**	**-0.1**		
ASAR	**Alice Springs**	**99.31**	**112**	P	**Pdif**	**04 25 07.3**	**-0.6**		
	comp=Z,0.3nm,0.4s,baz=300,slow=4.6,SNR=4.9								
ASAR	**Alice Springs**	**99.31**	**112**	P	**Pdif**	**04 25 07.9**	**-0.1**		
ASAR	**Alice Springs**	**99.31**	**112**	P	**Pdif**	**04 25 07.9**	**-0.1**		

*ISN **26** 04:44:12.3±2.2, 32.°86N×47.°56E, h15km±999km, ML3.5*
*TEH **26** 04:44:16.2, 32.°74N×47.°63E, h20km, ML3.4*
*THR **26** 04:44:16.1±0.4, 32.°72N×47.°52E, h33km±2km, ML4.0*

ISC 26 04:44:18.1±1.0, **32.°70N**±0.°03×**47.°65E**±0.°03, **h23km**, **n47**, σ**1°02**/51, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.31**	**267**	*e*Pg	**Pb**	**04 44 23.3**	**-1.9**
IKFM	**Kafar-mosalman**	**0.84**	**11**	*e*Pg	**Pb**	**04 44 32.2**	**-1.9**
IKMR	**Kamar-syah**	**1.02**	**37**	*e*Pg	**Pn**	**04 44 34.9**	**-2.2**
IKMR				*e*		04 44 38.2	
SHGR	**Shooshtar-Gavs**	**1.14**	**121**	*e*Pg	**Pb**	**04 44 39.1**	**0.0**
SHGR				*e*Sg	**Sn**	**04 44 55.5**	**+2.0**
SHGR	**Shooshtar-Gavs**	**1.14**	**121**	*e*Pg	**Pb**	**04 44 39.1**	**0.0**
IDOB	**Doab**	**1.18**	**22**	*e*Pg	**Pn**	**04 44 38.0**	**-1.4**
BMDN	**Meydan**	**1.39**	**45**	*e*Pg	**Pn**	**04 44 41.7**	**-0.6**
BMDN				*e*		04 45 06.8	
IKOM	**Komasi**	**1.48**	**356**	*e*Pg	**Pn**	**04 44 43.7**	**+0.2**
IKOM				*e*		04 45 08.8	
AHWZ	**Ahwaz**	**1.60**	**148**	*e*Pg	**Pb**	**04 44 46.8**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.66**	**342**	*e*Pg	**Pn**	**04 44 46.3**	**+0.3**
KCHF				*e*		04 45 11.9	
HSAM	**Samen**	**1.71**	**28**	*e*Pg	**Pb**	**04 44 47.9**	**-1.2**
HSAM				*e*		04 45 15.4	
KER	**Kermanshah**	**1.74**	**346**	*e*Pg	**Pn**	**04 44 47.9**	**+0.8**
IBZA	**Bozab**	**1.78**	**6**	*e*Pg	**Pb**	**04 44 49.0**	**-1.2**
IBZA				*e*		04 45 19.9	
IVIS	**Veis**	**1.94**	**340**	*e*Pn	**Pn**	**04 44 49.6**	**-0.3**
IVIS				*e*		04 45 27.3	
NSR	**Nassriya**	**2.11**	**218**	*e*Pg	**Pn**	**04 44 51.0**	**-1.1**
NSR				*e*Sg	**Sn**	**04 45 18.0**	**+0.4**
KHMZ	**Khomeyn**	**2.20**	**61**	*e*Pn	**Pn**	**04 44 54.0**	**+0.5**
KHMZ	**Khomeyn**	**2.20**	**61**	*e*Pn	**Pn**	**04 44 54.0**	**+0.5**
IALM	**Almabolaq**	**2.20**	**11**	*e*Pn	**Pn**	**04 44 54.8**	**+1.2**
IDHR	**Dehrash**	**2.26**	**333**	*e*	**Pb**	**04 44 59.1**	**+0.7**
SNGE	**Sanandaj**	**2.40**	**354**	*e*Pn	**Pn**	**04 44 54.9**	**-1.4**
SNGE				*e*Sg	**Sb**	**04 45 29.1**	**-1.0**
SNGE				IAML		04 45 37.2	
	comp=N,653nm,0.5s						
SNGE	**Sanandaj**	**2.40**	**354**	*e*Pn	**Pn**	**04 44 54.9**	**-1.4**
HAGD	**Aghdareh**	**2.46**	**30**	*e*Pn	**Pn**	**04 44 58.5**	**+1.4**
HAGD				*e*		04 45 05.8	
JHBN	**Jahan bin**	**2.59**	**99**	*e*Pn	**Pn**	**04 44 58.3**	**-0.7**
JHBN				*e*		04 45 45.0	
HSRG	**Sareghieh**	**2.59**	**11**	*e*Pn	**Pn**	**04 44 59.9**	**+0.9**
HSRG				*e*		04 45 42.2	
ASAO	**Ashtian**	**2.71**	**46**	*e*Pn	**Pn**	**04 45 00.5**	**-0.1**
ASAO	**Ashtian**	**2.71**	**46**	*e*Pn	**Pn**	**04 45 00.5**	**-0.1**
IPIR	**Pirpir**	**2.73**	**89**	*e*Pn	**Pn**	**04 45 00.6**	**-0.3**
IPIR				*e*		04 45 55.3	
BHD	**Baghdad**	**2.81**	**283**	*e*Pg	**Pn**	**04 45 02.0**	**+0.4**
	baz=98						
BHD				*e*Sg	**Sn**	**04 45 37.0**	**+2.3**
BHD				AML	AML	04 45 41.8	
	comp=E,274nm,0.2s						
ROKH	**ROKH**	**2.88**	**96**	*e*Pn	**Pn**	**04 45 03.3**	**+0.4**
ROKH				*e*		04 45 52.2	
IKLH	**Kolahrood**	**3.36**	**78**	*e*Pn	**Pn**	**04 45 09.3**	**-0.2**
IKLH				*e*		04 46 08.2	
GHVR	**GHOM**	**3.53**	**59**	*e*Pn	**Pn**	**04 45 11.6**	**0.0**
GHVR	**GHOM**	**3.53**	**59**	*e*Pn	**Pn**	**04 45 11.6**	**0.0**
IGAR	**Gharneh**	**3.72**	**93**	*e*Pn	**Pn**	**04 45 13.5**	**-0.9**
IGAR				*e*		04 46 03.7	
KLNJ	**Kolanjah**	**3.75**	**116**	*e*Pn	**Pn**	**04 45 14.5**	**-0.5**
KLNJ				*e*		04 46 27.8	
IZEF	**Zefreh**	**3.95**	**86**	*e*Pn	**Pn**	**04 45 17.8**	**+0.2**
QSDN	**Sirdan**	**4.00**	**18**	*e*Pn	**Pn**	**04 45 19.2**	**+0.9**
IVRN	**Varamin**	**4.10**	**55**	*e*Pn	**Pn**	**04 45 19.9**	**+0.5**
IRAM	**Ramesheh**	**4.11**	**101**	*e*Pn	**Pn**	**04 45 19.4**	**-0.3**
QALM	**Alamut, Qazvin**	**4.47**	**33**	*e*Pn	**Pn**	**04 45 24.1**	**-0.7**
IDMV	**Damavand**	**4.63**	**50**	*e*Pn	**Pn**	**04 45 27.3**	**+0.3**
ANAR	**Anarak**	**5.14**	**83**	*e*Pn	**Pn**	**04 45 33.7**	**-0.1**
IFIR	**Firoozkooh**	**5.15**	**54**	*e*Pn	**Pn**	**04 45 33.7**	**-0.4**
ILAS	**Lasjerd**	**5.16**	**57**	*e*Pn	**Pn**	**04 45 34.6**	**+0.4**
ISAD	**Sadrabad**	**5.17**	**97**	*e*Pn	**Pn**	**04 45 34.0**	**-0.4**
IALA	**Alasht**	**5.44**	**50**	*e*Pn	**Pn**	**04 45 38.8**	**+0.7**
IHRS	**Heris**	**5.63**	**355**	*e*Pn	**Pn**	**04 45 43.2**	**+2.5**
IANJ	**Anjilo**	**5.89**	**60**	*e*Pn	**Pn**	**04 45 44.3**	**+0.1**

*IDC **26** 05:01:54.7±0.8, 36.°40N×138.°80E, h169km±5km, mb2.9/3, mb1 3.3/6, mb1mx3.1/56, mbtmp3.7/6, Error ellipse: s-maj=29.7km s-min=10.8km az=73.0*
*JMA **26** 05:01:56.3±0.2, 36.°38N×138.°75E, h172km±2km, M3.1*

ISC 26 05:01:55.2±0.8, **36.°41N**±0.°05×**138.°74E**±0.°07, **h178km**±6km, **n20**, σ0**°79**/30, **mb3.0**/3, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGK	**Kuni**	**0.18**	**332**	P	**Pn**	**05 02 19.6**	**+0.7**
JRY	**Ryogami san**	**0.41**	**161**	P	**Pn**	**05 02 20.0**	**+0.5**
JRY				*e*S	**Sn**	**05 02 37.8**	**-0.2**
MJAR	**Matsushiro Arr**	**0.45**	**288**	P	**Pn**	**05 02 19.2**	**-0.3**
	2.2nm,0.3s,baz=311,slow=20,SNR=21						
MJAR				S	**Sn**	**05 02 37.2**	**-1.1**
	1.2nm,0.3s,baz=74,slow=32,SNR=16						
MAT	**Matsushiro**	**0.45**	**288**	P	**Pn**	**05 02 19.7**	**+0.2**
MAT				S	**Sn**	**05 02 38.4**	**+0.2**
MAT	**Matsushiro**	**0.45**	**288**	P	**Pn**	**05 02 20.1**	**+0.6**
MAT				*e*S	**Sn**	**05 02 38.5**	**+0.2**
JKT	**Katashina**	**0.55**	**48**	P	**Pn**	**05 02 20.6**	**+0.6**
JAG	**Ashikaga**	**0.57**	**88**	P	**Pn**	**05 02 20.6**	**+0.6**
JAG				S	**Sn**	**05 02 39.2**	**+0.1**
JYN	**Shimob**	**0.92**	**190**	P	**Pn**	**05 02 22.5**	**+0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.44**	**51**	*eP*	**Pb**	**05 37 51.2**	**-0.6**
EDDO				*eS*	**Sb**	**05 37 58.3**	**-0.1**
PEZE	**Perez Zeledon,**	**0.66**	**53**	*eP*	**Pg**	**05 37 54.9**	**-0.1**
PEZE				*eS*	**Sb**	**05 38 05.3**	**+0.3**
EDLM	**Las Mercedes**	**0.68**	**64**	*eP*	**Pg**	**05 37 55.4**	**+0.1**
EDLM				*eS*	**Sb**	**05 38 06.0**	**+0.5**
CDM	**Cerro de Muert**	**0.72**	**38**	*eP*	**Pb**	**05 37 56.2**	**-0.8**
RIOS	**Rincon, Osa**	**0.74**	**112**	*eP*	**Pg**	**05 37 55.9**	**-0.5**
EDPN	**Palmar Norte**	**0.74**	**91**	*eP*	**Pg**	**05 37 56.4**	**0.0**
EDPN				*eS*	**Sb**	**05 38 07.5**	**+0.3**
LCR2	**La Lucha 2**	**0.79**	**15**	*eP*	**Pb**	**05 37 57.5**	**-0.4**
LCR2				*eS*	**Sn**	**05 38 10.0**	**-1.2**
RIMA	**Rio Macho**	**0.85**	**24**	*eP*	**Pb**	**05 37 58.4**	**-0.7**
SJS	**Escuela Geolog**	**0.97**	**9**	*eP*	**Pb**	**05 38 00.7**	**-0.2**
DRK0	**Durika**	**0.99**	**73**	*eP*	**Pg**	**05 38 00.4**	**-0.8**
PTJ1	**Puerto Jimnez**	**1.00**	**116**	*eP*	**Pg**	**05 38 00.8**	**-0.6**
HDC	**Heredia**	**1.02**	**5**	*eP*	**Pn**	**05 38 01.9**	**-0.6**
PIRO	**Carate, Puerto**	**1.03**	**123**	*eP*	**Pg**	**05 38 01.3**	**-0.7**
PIRO				*eS*	**Sg**	**05 38 15.7**	**+0.2**
LAFE	**Finca La Fe, P**	**1.07**	**320**	*eP*	**Pb**	**05 38 02.4**	**-0.3**
CVTR	**Volcan Turrial**	**1.13**	**23**	*eP*	**Pb**	**05 38 03.6**	**-0.3**
SRA1	**San Ramn**	**1.13**	**346**	*eP*	**Pn**	**05 38 03.8**	**-0.2**
EDSV	**San Vito**	**1.23**	**97**	*eP*	**Pn**	**05 38 04.9**	**-0.5**
EDSV				*eS*	**Sg**	**05 38 22.6**	**+0.7**
BRU2	**Volcan**	**1.51**	**97**	*eP*	**Pn**	**05 38 09.1**	**-0.2**
BRU2				*eS*	**Sn**	**05 38 28.7**	**-0.4**
BRU2	**Volcan**	**1.51**	**97**	*eP*	**Pn**	**05 38 09.1**	**-0.2**
CASO	**Castillo**	**1.54**	**340**	*i* P	**Pg**	**05 38 11.4**	**-0.2**
CASO				*i* S	**Sg**	**05 38 33.1**	**+1.6**
FORC	**Fortuna**	**1.55**	**343**	*i* S	**Sg**	**05 38 32.8**	**+1.0**
ARE1	**Arenal 1**	**1.56**	**341**	*eP*	**Pg**	**05 38 11.9**	**0.0**
CEDE	**Laguna Cedeo**	**1.57**	**342**	*i* P	**Pb**	**05 38 10.7**	**-0.6**
BC3P	**Paso Ancho**	**1.59**	**96**	*eP*	**Pn**	**05 38 10.4**	**0.0**
BC3P				*eS*	**Sn**	**05 38 31.1**	**0.0**
BCO2	**Palmira**	**1.68**	**99**	*eP*	**Pn**	**05 38 11.2**	**-0.4**
BCO2				*eS*	**Sn**	**05 38 34.6**	**+1.4**
PTAR3	**Potrerillos Ar**	**1.72**	**99**	*eP*	**Pn**	**05 38 12.5**	**+0.4**
PTAR3				*eS*	**Sn**	**05 38 34.4**	**+0.3**
BAGA3	**Bagala, Chiriq**	**1.74**	**107**	*eP*	**Pn**	**05 38 12.0**	**-0.3**
COVE	**Coope Vega, Sa**	**1.74**	**354**	*eP*	**Pb**	**05 38 12.8**	**-1.3**
DVD	**David**	**1.82**	**107**	*eP*	**Pn**	**05 38 13.6**	**+0.2**
DVD				*eS*	**Sn**	**05 38 37.3**	**+0.8**
ACAL	**Aguas Claras**	**1.83**	**334**	*i* P	**Pb**	**05 38 14.5**	**-1.2**
ORTG	**Ortega, Santa**	**1.85**	**318**	*eP*	**Pb**	**05 38 15.0**	**-1.0**
PEDE3	**Pedregal, Chir**	**1.86**	**108**	*eP*	**Pn**	**05 38 14.1**	**+0.1**
PEDE3				*eS*	**Sn**	**05 38 38.5**	**+1.0**
PTEN	**Parque Tenorio**	**1.89**	**336**	*i* P	**Pb**	**05 38 16.6**	**-0.1**
CUI	**Cuipilapa**	**1.92**	**331**	*i* P	**Pb**	**05 38 17.2**	**+0.1**
COLC	**Colonia**	**1.94**	**330**	*i* P	**Pb**	**05 38 17.2**	**-0.3**
GUAL3	**Gualaca, Chiri**	**1.94**	**103**	*eP*	**Pn**	**05 38 14.8**	**-0.3**
CHIR3	**Chiriqui UPA,**	**1.95**	**107**	*eP*	**Pn**	**05 38 15.4**	**+0.3**
CHIR3				*eS*	**Sn**	**05 38 40.6**	**+1.0**
GUAB	**Guayabo de Bag**	**1.99**	**330**	*i* P	**Pb**	**05 38 18.2**	**-0.2**
CHGR2	**Aguacate**	**2.04**	**91**	*eP*	**Pn**	**05 38 16.3**	**-0.1**
CHGR2				*eS*	**Sn**	**05 38 42.2**	**+0.3**
GPS2	**Hotel Rincn d**	**2.09**	**328**	*i* P	**Pb**	**05 38 20.0**	**-0.1**
GMAL	**Guarumal, Vera**	**3.18**	**112**	*eP*	**Pn**	**05 38 32.4**	**+0.2**
GMAL				*eS*	**Sn**	**05 39 10.2**	**0.0**

IDC 26 06:07:23.6±4.0, 27.55S×178.28W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.6/19, mbtmp3.5/4, ML3.2/1, MS3.2/1, Ms1 3.1/1, ms1mx2.6/14, Error ellipse: s-maj=81.5km s-min=28.5km az=57.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.72**	**169**	Pn	Pn	06 07 54.3	-0.5
	94nn,0.3s,baz=254,slow=20,SNR=3.0						
RAO				Sn	Sg	06 08 21.5	+2.5
	71nn,0.3s,baz=90,slow=22,SNR=2.0						
URZ	**Urewera**	**11.36**	**199**	Pn	Pn	06 10 05.1	-1.9
	0.2nn,0.3s,baz=38,slow=17,SNR=1.5						
URZ				Sn	Sn	06 12 16.7	+2.1
	0.2nn,0.3s,baz=223,slow=23,SNR=2.3						
STKA	**Stephens Creek**	**34.98**	**253**	LR	LR	06 25 30.8	
	comp=Z,34nm,20.1s,baz=203,slow=31						
ASAR	**Alice Springs**	**43.09**	**264**	P	P	06 15 25.8	+0.1
	0.4nn,0.8s,baz=91,slow=6.9,SNR=4.7						
WRA	**Warramunga Arr**	**43.81**	**269**	P	P	06 15 31.4	-0.1
	0.5nn,0.6s,baz=104,slow=9.5,SNR=5.3						
VNDA	**Vanda**	**50.90**	**185**	P	P	06 16 26.3	+0.4
	0.3nn,0.7s,baz=353,slow=5.9,SNR=2.3						

DJA 26 06:16:25.5±0.7, 2.7°N×4.7°, 99.8°E±*, h12km±9km, M3.5/7, MLv3.5/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.87**	**200**	P	Pg	06 16 42.0	-0.4
TPTI		**1.32**	**328**	P	Pn	06 16 49.2	-0.5
TPTI				S	Sb	06 17 06.1	-1.0
KCSI	**Kotacane, Aceh**	**1.39**	**356**	P	Pn	06 16 50.1	-0.6
KCSI				S	Sn	06 17 07.5	-1.5
MNSI	**Mandailing Nat**	**2.16**	**128**	P	Pn	06 17 00.4	-1.0
MLSI	**Meulaboh, Aceh**	**2.58**	**325**	P	Pn	06 17 08.9	+1.8

*IDC **26** 06:34:34.6±1.4, 37.16S×51.95E, h0km, mb4.2/5, mb1 4.3/6, mb1mx3.8/34, mbtmp4.2/6, ML4.4/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/31, Error ellipse: s-maj=39.7km s-min=33.6km az=86.0*

ISC 26 06:34:36.2±1.2, 37.2S±0.2×52.0E±0.3, h10km, n12, σ0.852/6, mb4.3/5, MS3.4/3, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**18.98**	**346**	P	**P**	**06 38 58.1**	**+0.1**
	1.1nn,0.3s,baz=205,slow=5.8,SNR=3.7						
MAW	**Mawson**	**31.12**	**172**	LR	LR	06 49 57.6	
	comp=Z,90nn,20.5s,baz=344,slow=30						
H08S1	**Diego Carcia H**	**34.79**	**37**	T	T	07 20 03.3	
	baz=212,slow=75,SNR=327						
H08S2	**Diego Garcia H**	**34.80**	**38**	T	T	07 20 01.9	
	baz=212,slow=75,SNR=126						
H08S3	**Diego Garcia H**	**34.81**	**37**	T	T	07 20 02.6	
	baz=212,slow=75,SNR=282						
VNDA	**Vanda**	**58.14**	**166**	LR	LR	07 06 29.2	
	comp=Z,57nn,20.8s,baz=252,slow=33						
PMSA	**Palmer Station**	**66.85**	**205**	P	**P**	**06 45 27.8**	**0.0**
	7.8nn,0.8s,baz=99,slow=4.1,SNR=3.8						
ASAR	**Alice Springs**	**69.95**	**105**	P	**P**	**06 45 48.8**	**+0.8**
	0.6nn,0.5s,baz=229,slow=6.0,SNR=16						
CMAR	**Chiang Mai Arr**	**70.84**	**47**	P	**P**	**06 45 53.1**	**-0.2**
	0.9nn,0.3s,baz=224,slow=5.0,SNR=1.5						
STKA	**Stephens Creek**	**71.31**	**116**	P	**P**	**06 45 55.7**	**-0.4**
	1.3nn,0.5s,baz=260,slow=3.1,SNR=5.7						
WRA	**Warramunga Arr**	**72.32**	**102**	P	**P**	**06 46 02.5**	**+0.1**
	0.8nn,0.6s,baz=233,slow=5.2,SNR=8.1						
BRTR	**Keskin Array B**	**78.34**	**346**	LR	LR	07 20 17.6	
	comp=Z,16nm,18.2s,baz=149,slow=35						

RSNC 26 06:37:24.0±1.2, 6.81N×73.16W, h144km±5km, ML3.2, Mw3.6, 3C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**186**	*i* P	Pn	06 37 43.6	-0.4
BARC				*eS*	Sn	06 37 58.4	-0.7
BARC				*i*		06 37 59.6	
	comp=Z,1μm,0.2s						
BRRC	**Barranca, Sant**	**0.62**	**298**	*i* P	Pn	06 37 45.4	0.0
BRRC				*eS*	Sn	06 38 02.2	+0.6
BRRC				*i*		06 38 03.1	
	comp=Z,431nm,0.3s						
PAMC	**Pamplona, Colo**	**0.69**	**41**	*i* P	Pn	06 37 46.3	-0.1
PAMC				*eS*	Sn	06 38 03.2	-0.2
PAMC				*i*		06 38 08.0	
	comp=Z,291nm,0.5s						
RUSC	**La Rusia**	**0.92**	**175**	*eP*	Pn	06 37 47.5	-0.6
RUSC				*eS*	Sn	06 38 05.7	-0.7
RUSC				*i*		06 38 07.1	
	comp=Z,200nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	*eP*	Pn	06 37 50.0	-1.3
PTBC				*eS*	Sn	06 38 11.0	-1.0
PTBC				*i*		06 38 14.2	
	comp=Z,287nm,0.2s						
TAMC	**Tame, Arauca**	**1.41**	**105**	*i* P	Pn	06 37 51.9	-0.3
TAMC				*eS*	Sn	06 38 13.0	-0.8
TAMC				*i*		06 38 20.0	
	comp=Z,65nm,0.5s						
OCAC	**Ocana**	**1.43**	**354**	*eP*	Pn	06 37 51.7	-0.9
OCAC				*eS*	Sn	06 38 13.3	-1.0
OCAC				*i*		06 38 16.9	
	comp=Z,224nm,0.2s						
SPBC	**San Pablo de B**	**1.47**	**218**	*i* P	Pn	06 37 52.4	-0.5
SPBC				*eS*	Sn	06 38 14.4	-0.6
SPBC				*i*		06 38 19.5	
	comp=Z,312nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*eP*	Pn	06 37 56.2	-0.4
ZARC				*eS*	Sn	06 38 21.7	0.0
ZARC				*i*		06 38 29.7	
	comp=Z,222nm,0.3s						
NORC	**Norcasia**	**2.11**	**234**	*eP*	Pn	06 37 59.4	-0.7
NORC				*eS*	Sn	06 38 27.2	-0.6
NORC				*i*		06 38 29.4	
	comp=Z,178nm,0.2s						
SMLC	**San Martn de**	**2.17**	**335**	*eP*	Pn	06 37 59.9	-0.9
SMLC				*eS*	Sn	06 38 28.6	-0.6
SMLC				*i*		06 38 33.0	
	comp=Z,159nm,0.1s						
CHIC	**Chingaza**	**2.24**	**195**	*eP*	Pn	06 38 01.9	-0.2
CHIC				*eS*	Sn	06 38 31.0	-0.4
CHIC				*i*		06 38 38.4	
	comp=Z,78nm,0.5s						
ROSC	**El Rosal**	**2.28**	**211**	*eP*	Pn	06 38 03.3	+0.8
ROSC				*eS*	Sn	06 38 33.0	+0.9
ROSC				*i*		06 38 39.1	
	comp=Z,164nm,0.4s						
HELC	**Santa Helena**	**2.44**	**255**	*eP*	Pn	06 38 05.2	+0.8
HELC				*eS*	Sn	06 38 34.3	-1.1
HELC				*i*		06 38 43.2	
	comp=Z,99nm,0.3s						
UREC	**San Jos de Ur**	**2.53**	**292**	*eP*	Pn	06 38 03.5	-1.8
UREC				*eS*	Sn	06 38 34.4	-2.7
UREC				*i*		06 38 45.1	
	comp=Z,146nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.70**	**234**	*eP*	Pn	06 38 08.1	+0.2
GUY2C				*eS*	Sn	06 38 42.4	+0.8
GUY2C				*i*		06 38 50.0	
	comp=Z,122nm,0.7s						
VILC	**Villavicencio,**	**2.74**	**191**	*eP*	Pn	06 38 07.5	-0.5
VILC				*eS*	Sn	06 38 40.3	-1.6
VILC				*i*		06 38 46.1	
	comp=Z,77nm,0.4s						
CBOC	**Ciudad Bolivar**	**2.99**	**252**	*eP*	Pn	06 38 11.5	+0.3
CBOC				*eS*	Sn	06 38 46.1	-1.5
CBOC				*i*		06 38 49.1	
	comp=Z,40nm,0.4s						
DBBC	**Dabeiba**	**3.04**	**274**	*eP*	Pn	06 38 11.2	-0.5
DBBC				*eS*	Sn	06 38 47.1	-1.4
MOTC	**Monteria, Cord**	**3.16**	**308**	*eP*	Pn	06 38 10.9	-2.2
MOTC				*eS*	Sn	06 38 49.6	-1.7
MOTC				*i*		06 38 53.7	
	comp=Z,33nm,0.7s						
ARGC	**Ariguani, Magd**	**3.21**	**340**	*eP*	Pn	06 38 14.1	+0.3
ARGC				*eS*	Sn	06 38 52.8	+0.3
ARGC				*i*		06 38 60.0	
	comp=Z,32nn,0.6s						
ANIL	**Santa Ana**	**3.21**	**224**	*eP*	Pn	06 38 15.4	+1.2
ANIL				*eS*	Sn	06 38 53.6	+0.7
ANIL				*i*		06 39 02.8	
	comp=Z,21nm,0.3s						
PRAC	**Prado**	**3.53**	**209**	*eP*	Pn	06 38 17.6	-0.4
PRAC				*eS*	Sn	06 38 59.2	-0.7
PRAC				*i*		06 39 06.5	
	comp=Z,75nm,0.5s						
ORTC	**Ortega, Tolima**	**3.56**	**216**	*eP*	Pn	06 38 18.0	-0.4
ORTC				*eS*	Sn	06 39 00.3	-0.2
ORTC				*i*		06 39 05.0	
	comp=Z,65nn,0.4s						
SJCC	**San Jacinto, C**	**3.66**	**327**	*eP*	Pn	06 38 17.5	-2.2
SJCC				*eS*	Sn	06 38 58.8	-4.2
SJCC				*i*		06 39 03.4	
	comp=Z,29nm,0.2s						
LCBC	**Los crdobas,**	**3.77**	**303**	*eS*	Sn	06 39 05.3	-0.1
LCBC				*i*		06 39 08.8	
	comp=Z,49nm,0.2s						
YOTC	**Yotoco, Valle**	**4.24**	**229**	*eP*	Pn	06 38 25.9	-1.5
YOTC				*eS*	Sn	06 39 06.5	-10
GUVC	**San Jose del G**	**4.27**	**173**	*eP*	Pn	06 38 24.9	-2.9
GUVC				*eS*	Sn	06 39 15.8	-1.6
GUVC				*i*		06 39 19.7	
	comp=Z,50nn,0.2s						
MACC	**Macarena, Meta**	**4.69**	**188**	*eP*	Pn	06 38 30.6	-2.7
MACC				*eS*	Sn	06 39 22.7	-4.5
MACC				*i*		06 39 27.4	
	comp=Z,14nm,0.3s						
GARC	**Garzon, Huila**	**5.15**	**207**	*eP*	Pn	06 38 37.7	-2.0
GARC				*eS*	Sn	06 39 35.1	-3.5
GARC				*i*		06 39 40.3	
	comp=Z,22nm,0.2s						
FLOC	**Florencia**	**5.76**	**206**	*eP*	Pn	06 38 46.6	-1.0
FLOC				*i*		06 39 55.0	
	comp=Z,3.9nm,0.7s						
BBAC	**Balboa, Cauca**	**6.27**	**221**	*eP*	Pn	06 38 54.9	+0.4
BBAC				*eS*	Sn	06 40 02.1	-3.1
BBAC				*i*		06 40 10.4	
	comp=Z,4.1nm,0.3s						

*JMA **26** 06:46:20.7±0.2, 23.13N×123.43E, h55km, M3.9*
*NIED **26** 06:46:20.8, 23.13N×123.43E, h55km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr-0.44; Mθθ4.56; Mφφ-4.13; Mrθ1.40; Mθφ3.05; Mφr4.18; Fault plane solution: M06.90000×10^14 NP1: φs208.00000°, δ86.00000°, λ-141.00000°. NP2: φs115.00000°, δ51.00000°, λ-5.00000°.*
*IDC **26** 06:46:25.6±1.0, 23.66N×122.43E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/33, mbtmp3.7/7, MS2.8/4, Ms1 2.8/4, ms1mx2.6/38 Error ellipse: s-maj=50.3km s-min=20.0km az=74.0*

ISC 26 06:46:21.5±2.6, 23.3N±0.1×123.49E±0.06, h12km±13km, n23, σ0.996/28, mb3.6/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.83**	**21**	P	**Pn**	**06 46 38.7**	**-0.3**
HATJ				S	**Sn**	**06 46 51.3**	**+0.2**
JKRS	**Kuro-shima**	**1.07**	**27**	P	**Pn**	**06 46 42.6**	**+0.3**
JKRS				S	**Sn**	**06 46 57.1**	**+0.1**
IRIF	**Iriomote-Funau**	**1.07**	**12**	P	**Pg**	**06 46 42.4**	**+0.2**
IRIF				S	**Sn**	**06 46 57.4**	**+0.2**
JIJ	**Ishigaki jima**	**1.23**	**29**	P	**Pn**	**06 46 44.2**	**-0.4**
JIJ				S	**Sb**	**06 47 00.3**	**-0.4**
YOJ	**Yonaguni jima**	**1.25**	**340**	P	**Pn**	**06 46 44.5**	**-0.3**
YOJ				S	**Sb**	**06 47 01.2**	**0.0**
JYNG	**Yonagunijimaku**	**1.27**	**337**	P	**Pn**	**06 46 44.6**	**-0.4**
JYNG				S	**Sb**	**06 47 01.7**	**+0.1**
JISG	**Ishigakijimahi**	**1.50**	**30**	P	**Pn**	**06 46 48.0**	**-0.3**
JISG				S	**Sn**	**06 47 07.1**	**-0.7**
JTJ	**Tarama**	**1.75**	**39**	P	**Pn**	**06 46 51.5**	**-0.2**
JTJ				S	**Sn**	**06 47 13.9**	**0.0**
JIRB	**Irabujima**	**2.18**	**45**	P	**Pn**	**06 46 56.9**	**-0.7**
JIRB				S	**Sn**	**06 47 23.4**	**-1.1**
JMJ2	**Miyako jima3**	**2.23**	**49**	P	**Pn**	**06 46 57.5**	**-0.7**
JMJ2				S	**Sn**	**06 47 25.7**	**+0.1**
JOGS	**Gusukube**	**2.29**	**50**	P	**Pn**	**06 46 58.9**	**-0.2**
JOGS				S	**Sn**	**06 47 27.4**	**+0.1**
JIKM	**Ikemajima**	**2.29**	**44**	P	**Pn**	**06 46 58.6**	**-0.6**
JIKM				S	**Sn**	**06 47 27.3**	**0.0**
JNU	**Nakatsue**	**11.77**	**32**	LR	LR	06 53 51.3	
	comp=Z,64nm,19.6s,baz=176,slow=37						
DAV	**Davao City (W)**	**16.24**	**173**	LR	LR	06 56 16.0	
	comp=Z,26nm,18.7s,baz=323,slow=35						
JCJ	**Chichijima**	**17.34**	**73**	LR	LR	06 55 24.5	
	comp=Z,35nm,21.5s,baz=116,slow=30						
CMAR	**Chiang Mai Arr**	**23.42**	**263**	LR	LR	07 00 05.9	
	comp=Z,15nm,20.7s,baz=195,slow=36						
KLR	**Kul'dur**	**26.71**	**12**	P	**P**	**06 52 03.3**	**+2.7**
	0.3nn,0.3s,baz=222,slow=4.2,SNR=3.7						
SONM	**Songino Array**	**28.05**	**335**	P	**P**	**06 52 11.0**	**-1.8**
	1.5nn,0.7s,baz=153,slow=9.4,SNR=6.7						
MKAR	**Makanchi Array**	**40.45**	**316**	P	**P**	**06 53 58.2**	**-1.7**
	0.4nn,0.5s,baz=103,slow=8.4,SNR=4.1						
WRA	**Warramunga Arr**	**44.25**	**165**	P	P	06 54 41.0	+10
	0.5nn,0.5s,baz=345,slow=8.7,SNR=3.7						
ASAR	**Alice Springs**	**47.75**	**167**	P	P	06 55 09.2	+11
	0.4nn,0.4s,baz=352,slow=7.5,SNR=11						
ILAR	**Eielson Array**	**69.05**	**27**	P	P	06 57 35.5	+8.7
	0.2nn,0.5s,baz=224,slow=2.5,SNR=1.6						
FINES	**FINESS Array B**	**73.28**	**330**	P	**P**	**06 57 54.6**	**+2.2**
	1.8nn,0.9s,baz=76,slow=7.3,SNR=4.0						

IDC 26 06:53:04.6±378.0, 52.39N×137.58E, h0km, Error ellipse: s-maj=201.0km s-min=156.0km az=40.0, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**9.00**	**207**	*i*		07 48 40.0	
	baz=22,slow=327,SNR=1.7						
I44RU	**PETROPAVLOVSK**	**12.22**	**79**	*i*		08 07 50.0	
	baz=276,slow=328,SNR=2.4						
I34MN	**SONGINO INFRAS**	**20.42**	**269**	*i*		09 00 50.0	
	baz=68,slow=324,SNR=0.7						

*IDC **26** 07:05:28.6±3.1, 31.64S×178.57W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/29, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=69.2km s-min=46.1km az=113.0*
*NEIC **26** 07:05:33.8±2.0, 31.91S±0.08×178.5W±0.2, h36km±11km, mb4.4/6, Error ellipse: s-maj=21.7km s-min=7.8km az=117.0*

ISC 26 07:05:36.0±0.9, 31.87S±0.08×178.9W±0.2, h35km, n37, σ1.957/41, mb4.2/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.75**	**19**	P	**Pn**	**07 06 16.3**	**-1.2**
GLKZ				S	**Sn**	**07 06 46.6**	**-2.9**
RAO	**Raoul Island**	**2.75**	**19**	Pn	**Pn**	**07 06 18.5**	**+0.8**
RIZ	**Raoul Island**	**2.76**	**19**	P	**Pn**	**07 06 18.4**	**+0.7**
RIZ				S	**Sn**	**07 06 49.3**	**-0.5**
MXZ	**Matakaoa Point**	**6.11**	**201**	Pn	**Pn**	**07 07 05.8**	**+2.0**
WMGZ	**Waiomatatini S**	**6.32**	**199**	P	**Pn**	**07 07 07.8**	**+1.2**
WMGZ				S	**Sn**	**07 08 18.2**	**+0.7**
HAZ	**Te Kaha**	**6.46**	**204**	P	**Pn**	**07 07 07.8**	**-0.7**
PUZ	**Puketiti**	**6.60**	**200**	P	**Pn**	**07 07 08.1**	**-2.4**
PUZ				S	**Sn**	**07 08 23.2**	**-1.3**
RUGZ	**Raukumara Rang**	**6.69**	**204**	P	**Pn**	**07 07 10.2**	**-1.6**
WCZ	**Waipu Caves**	**6.91**	**232**	P	Pn	07 07 22.1	+7.4
TKGZ	**Te Karaka**	**7.06**	**201**	P	**Pn**	**07 07 17.5**	**+0.7**
MWZ	**Matawai**	**7.07**	**203**	P	**Pn**	**07 07 14.2**	**-2.7**
MWZ				S	**Sn**	**07 08 34.9**	**-1.2**
OUZ	**Omahuta**	**7.08**	**240**	P	Pn	07 07 25.1	+8.2
OUZ	**Omahuta**	**7.08**	**240**	Pn	Pn	07 07 24.0	+7.0
URZ	**Urewera**	**7.15**	**206**	Pn	**Pn**	**07 07 18.2**	**+0.2**
	1.1nn,0.3s,baz=256,slow=4.7,SNR=10						
URZ				Sn	**Sn**	**07 08 35.1**	**-2.8**
	0.9nn,0.3s,baz=279,slow=22,SNR=1.8						
URZ	**Urewera**	**7.15**	**206**	P	**Pn**	**07 07 16.9**	**-1.0**
URZ				S	**Sn**	**07 08 37.6**	**-0.3**
URZ	**Urewera**	**7.15**	**206**	Pn	**Pn**	**07 07 17.7**	**-0.3**
RAGZ	**Rawiri**	**7.25**	**203**	P	**Pn**	**07 07 18.6**	**-0.9**
RIGZ	**Rimuhau**	**7.33**	**201**	P	**Pn**	**07 07 19.8**	**-0.8**
RTZ	**Ruatahuna**	**7.51**	**205**	P	**Pn**	**07 07 19.3**	**-3.7**
SNGZ	**Shannon Statio**	**7.54**	**203**	P	**Pn**	**07 07 21.5**	**-1.8**
SNGZ				S	**Sn**	**07 08 47.4**	**-0.1**
MTHZ	**Maungataniwha**	**7.77**	**205**	P	**Pn**	**07 07 27.8**	**+1.2**
BKZ	**Black Stump Fm**	**8.18**	**206**	Pn	**Pn**	**07 07 31.2**	**-1.0**
MCHZ	**McNeill Hill**	**8.35**	**204**	P	**Pn**	**07 07 32.2**	**-2.3**
OTVZ	**Oturere**	**8.50**	**210**	P	**Pn**	**07 07 37.0**	**+0.3**
BFZ	**Birch Farm**	**9.61**	**203**	Pn	**Pn**	**07 07 49.2**	**-2.6**
KHZ	**Kahutara**	**12.11**	**208**	Pn	Pn	07 08 20.8	-5.1
BBOO	**Buckleboo**	**37.82**	**256**	P	**P**	**07 12 49.7**	**+0.5**
BBOO				IAmb	IAmb	07 12 55.5	
	comp=Z,8.9nm,1.2s						
ASAR	**Alice Springs**	**42.26**	**269**	P	**P**	**07 13 26.8**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=105,slow=7.2,SNR=11						
ASAR	**Alice Springs**	**42.26**	**269**	P	**P**	**07 13 26.9**	**+0.7**
WR0	**Warramunga Arr**	**43.20**	**274**	P	**P**	**07 13 34.6**	**+0.8**
WR0				IAmb	IAmb	07 13 40.1	
	comp=Z,6.2nm,1.3s						
WB2	**Warramunga Arr**	**43.37**	**274**	P	**P**	**07 13 35.3**	**+0.1**
WRA	**Warramunga Arr**	**43.38**	**274**	P	**P**	**07 13 35.1**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=112,slow=8.0,SNR=16						
WRA	**Warramunga Arr**	**43.38**	**274**	P	**P**	**07 13 35.3**	**0.0**
WB0	**Warramunga Arr**	**43.41**	**274**	P	**P**	**07 13 35.6**	**+0.1**
WB0				IAmb	IAmb	07 13 38.9	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**58.24**	**180**	P	**P**	**07 15 29.1**	**+2.4**
FINES	**FINESS Array B**	**146.24**	**339**	PKPbc	**PKPdf**	**07 25 09.1**	**-1.7**
	comp=Z,2.3nm,0.8s,baz=90,slow=0.6,SNR=4.7						
CLL	**Collm**	**158.68**	**339**	*e*(PKPab)	**PKPab**	**07 26 07.0**	**+2.1**

*TEH **

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIHU	**Itakohorinouch**	**0.28**	**84**	⇑P	**Pn**	**07 39 40.0**	**+0.7**
JIHU				*e*S	**Sn**	**07 39 48.6**	**+1.6**
JYT	**Yasato**	**0.29**	**2**	P	**Pn**	**07 39 39.2**	**-0.2**
JYT				S	**Sn**	**07 39 46.3**	**-0.8**
JAG	**Ashikaga**	**0.76**	**310**	⇓P	**Pn**	**07 39 44.1**	**0.0**
JRY	**Ryogami san**	**1.04**	**275**	⇓P	**Pn**	**07 39 47.9**	**+0.4**
JOD2	**Odawara 2**	**1.11**	**233**	⇓P	**Pn**	**07 39 48.8**	**+0.3**
JOD2				S	**Sn**	**07 40 02.6**	**-0.6**
JKT	**Katashina**	**1.12**	**318**	⇓P	**Pn**	**07 39 48.6**	**0.0**
JKT				S	**Sn**	**07 40 03.5**	**+0.1**
BSO3	**Boso 3**	**1.16**	**166**	P	**Pn**	**07 39 49.5**	**+0.7**
JYN	**Shimob**	**1.40**	**252**	P	**Pn**	**07 39 53.0**	**+0.7**
JYN				S	**Sn**	**07 40 10.5**	**+0.5**
JFNN	**Fujinakano**	**1.43**	**239**	⇓P	**Pn**	**07 39 53.2**	**+0.7**
JFNN				S	**Sn**	**07 40 10.7**	**+0.3**
BSO1	**Boso 1**	**1.44**	**153**	P	**Pn**	**07 39 53.3**	**+1.2**
JFY	**Yanaizu**	**1.52**	**346**	P	**Pn**	**07 39 54.3**	**+0.5**
JFK	**Kawauchi**	**1.53**	**21**	P	**Pn**	**07 39 54.3**	**+0.3**
JFK				S	**Sn**	**07 40 13.4**	**+0.3**
MJAR	**Matsushiro Arr**	**1.70**	**291**	P	**Pn**	**07 39 56.0**	**-0.3**
	6.7nm,0.3s,baz=90,slow=12,SNR=203						
MJAR				LR	LR	07 40 46.7	
	comp=Z,126nm,18.2s,baz=120,slow=44						
MAJO	**Matsushiro**	**1.71**	**291**	Pn	**Pn**	**07 39 57.3**	**+1.0**
MAT	**Matsushiro**	**1.71**	**291**	P	**Pn**	**07 39 57.2**	**+0.9**
MAT				S	**Sn**	**07 40 17.5**	**+0.3**
JHJ	**Hachijo jima 2**	**2.83**	**187**	P	**Pn**	**07 40 12.0**	**+0.5**
	20nm,0.3s,baz=143,slow=24,SNR=11						
JHJ				S	**Sn**	**07 40 45.6**	**+1.2**
	72nm,0.3s,baz=89,slow=22,SNR=9.0						
JHJ2	**Mitsune**	**2.83**	**186**	Pn	**Pn**	**07 40 12.4**	**+0.9**
ERM	**Erimo**	**6.50**	**20**	Pn	**Pn**	**07 41 01.0**	**-0.6**
JNU	**Nakatsue**	**8.17**	**253**	LR	LR	07 44 46.6	
	comp=Z,85nm,19.1s,baz=8.0,slow=38						
ASAJ	**Asahikawa**	**8.38**	**12**	LR	LR	07 45 30.6	
	comp=Z,20nm,19.5s,baz=343,slow=44						
JKA	**Kamikawa-asahi**	**8.38**	**12**	Pn	**Pn**	**07 41 28.6**	**+1.3**
JCJ	**Chichijima**	**8.98**	**168**	P	**Pn**	**07 41 32.9**	**-2.7**
	1.6nm,0.3s,baz=150,slow=18,SNR=3.5						
JCJ				S	Sn	07 43 05.3	-10
	3.9nm,0.3s,baz=284,slow=21,SNR=2.9						
JCJ	**Chichijima**	**8.98**	**168**	Pn	**Pn**	**07 41 32.7**	**-2.8**
KSRS	**Korea Array**	**9.96**	**282**	LR	LR	07 45 23.5	
	comp=Z,48nm,21.8s,baz=114,slow=35						
PETK	**Petropavlovsk-**	**21.13**	**30**	LR	LR	07 51 13.1	
	comp=Z,21nm,19.3s,baz=235,slow=34						
SONM	**Songino Array**	**27.50**	**306**	P	**P**	**07 45 09.2**	**-0.5**
	0.5nm,0.3s,baz=101,slow=7.5,SNR=2.1						
MK31	**Makanchi Array**	**43.87**	**303**	P	**P**	**07 47 29.4**	**+1.0**
MK31				IAmb	IAmb	07 47 43.7	
	comp=Z,4.1nm,1.3s						
MKAR	**Makanchi Array**	**43.87**	**303**	P	**P**	**07 47 27.8**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=98,slow=6.3,SNR=3.8						
KURK	**Kurchatov**	**45.84**	**309**	P	**P**	**07 47 44.7**	**+0.8**
KURK				IAmb	IAmb	07 47 45.7	
	comp=Z,3.5nm,0.9s						
ILAR	**Eielson Array**	**50.95**	**32**	P	**P**	**07 48 21.4**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=250,slow=6.6,SNR=6.7						
ILAR	**Eielson Array**	**50.95**	**32**	P	**P**	**07 48 24.2**	**+1.1**

*IDC **26** 07:43:34.4±1.1,3˚.03S×139˚.59E, h0km, mb3.8/5, mb1 4.2/7, mb1mx3.8/33, mbtmp4.0/7, ML4.5/1, MS3.4/4, Ms1 3.3/4, ms1mx2.8/31, Error ellipse: s-maj=31.1km s-min=20.2km az=116.0*

*NEIC **26** 07:43:40.0±2.3, 3˚.11S±0˚.07×139˚.76E±0˚.08, h40km±9km, mb4.3/14, Error ellipse: s-maj=11.2km s-min=10.2km az=102.0*

*DJA **26** 07:43:41.1±0.4, 3˚.5S±5˚×14˚.0E±˚, h60km±6km, M4.5/7, mb4.6/7, MLv4.4/4*

ISC 26 07:43:41.7±0.6, 3˚.22S±0˚.06×139˚.95E±0˚.06, h54km, n36, σ2s07/38, mb4.1/9, MS3.5/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.66**	**19**	P	**Pn**	**07 43 55.1**	**0.0**
GENI				S	**Sn**	**07 44 05.6**	**+0.8**
JAY	**Jayapura**	**1.03**	**47**	Pn	**Pn**	**07 43 59.2**	**-0.8**
	129nm,0.3s,baz=224,slow=10,SNR=320						
JAY				Sn	**Sn**	**07 44 12.5**	**-0.9**
	615nm,0.3s,baz=192,slow=18,SNR=20						
JAY	**Jayapura**	**1.03**	**47**	P	**Pn**	**07 43 59.1**	**-0.8**
WAMI	**Wamena**	**1.40**	**242**	P	**Pn**	**07 44 06.2**	**+1.3**
WAMI				S	**Sn**	**07 44 23.5**	**+1.1**
SMPI	**Sarmi**	**1.74**	**315**	P	**Pn**	**07 44 10.2**	**+0.7**
PMG	**Port Moresby**	**9.44**	**131**	Pn	**Pn**	**07 45 58.4**	**+3.4**
	1.9nm,0.3s,baz=304,slow=17,SNR=2.2						
PMG	**Port Moresby**	**9.44**	**131**	Pn	**Pn**	**07 45 58.1**	**+3.1**
COEN	**Coen**	**11.13**	**164**	Pn	**Pn**	**07 46 19.2**	**+0.9**
MTN	**Manton Dam**	**12.94**	**222**	Pn	**Pn**	**07 46 41.0**	**-2.0**
KNRA	**Kununurra**	**16.57**	**221**	P	**Pn**	**07 47 29.2**	**-1.3**
KNRA				IAmb	IAmb	07 47 40.3	
	comp=Z,27nm,0.8s						
SOEI	**Soe**	**16.88**	**247**	P	**P**	**07 47 37.2**	**+1.4**
	comp=Z,43nm,0.8s						
SOEI	**Soe**	**16.88**	**247**	P	**P**	**07 47 37.4**	**+1.6**
WB0	**Warramunga Arr**	**17.32**	**198**	P	**Pn**	**07 47 37.4**	**-2.4**
WR0	**Warramunga Arr**	**17.46**	**197**	P	**Pn**	**07 47 39.0**	**-2.5**
WR0				IAmb	IAmb	07 47 55.6	
	comp=Z,13nm,0.8s						
WB2	**Warramunga Arr**	**17.50**	**198**	P	**Pn**	**07 47 40.1**	**-1.9**
WB2				IAmb	IAmb	07 47 57.0	
	comp=Z,17nm,0.7s						
WRA	**Warramunga Arr**	**17.50**	**198**	P	**Pn**	**07 47 39.5**	**-2.5**
	comp=Z,1.6nm,0.3s,baz=16,slow=12,SNR=24						
WRA				S	**Sn**	**07 50 50.9**	**-5.3**
	comp=Z,0.3nm,0.3s,baz=359,slow=23,SNR=1.9						
WRA	**Warramunga Arr**	**17.50**	**198**	P	**Pn**	**07 47 38.7**	**-3.4**
DAV	**Davao City (W)**	**17.61**	**305**	LR	LR	07 53 58.2	
	comp=Z,25nm,20.0s,baz=162,slow=36						
FITZ	**Fitzroy Crossi**	**20.38**	**222**	P	**P**	**07 48 13.0**	**-1.1**
AS31	**Alice Springs**	**21.15**	**196**	P	**P**	**07 48 22.5**	**+0.1**
AS31				IAmb	IAmb	07 48 33.4	
	comp=Z,4.5nm,0.5s						
ASAR	**Alice Springs**	**21.15**	**196**	P	**P**	**07 48 22.0**	**-0.4**
	comp=Z,5.8nm,0.6s,baz=27,slow=9.8,SNR=38						
ASAR				S	**S**	**07 52 10.4**	**-4.5**
	comp=Z,0.5nm,0.4s,baz=18,slow=27,SNR=2.1						
ASAR	**Alice Springs**	**21.15**	**196**	P	**P**	**07 48 22.1**	**-0.3**
EIDS	**Eidsvold**	**24.49**	**155**	P	**P**	**07 48 58.7**	**+2.8**
STKA	**Stephens Creek**	**28.55**	**177**	P	**P**	**07 49 35.5**	**+3.1**
	comp=Z,1.7nm,0.7s,baz=6.1,slow=11,SNR=3.0						
STKA				LR	LR	08 02 16.4	
	comp=Z,95nm,19.1s,baz=29,slow=39						
STKA	**Stephens Creek**	**28.55**	**177**	P	**P**	**07 49 32.7**	**+0.2**
FORT	**Forrest**	**29.63**	**201**	P	**P**	**07 49 42.7**	**+0.7**
FORT				IAmb	IAmb	07 49 55.5	
	comp=Z,8.7nm,1.0s						
BBOO	**Buckleboo**	**29.66**	**187**	P	**P**	**07 49 40.8**	**-1.5**
BBOO				IAmb	IAmb	07 49 57.9	
	comp=Z,11nm,1.4s						
MAJO	**Matsushiro**	**39.59**	**358**	P	**P**	**07 51 06.3**	**-1.6**
MAJO				IAmb	IAmb	07 51 21.0	
	comp=Z,8.8nm,1.1s						
AFI	**Afiamalu**	**48.80**	**106**	LR	LR	08 10 46.1	
	comp=Z,120nm,21.2s,baz=160,slow=33						
LBZ	**Lake Benmore**	**48.90**	**151**	P	**P**	**07 52 24.1**	**+1.9**
MKAR	**Makanchi Array**	**70.95**	**322**	P	**P**	**07 54 53.1**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=100,slow=7.5,SNR=2.6						
VNDA	**Vanda**	**75.17**	**175**	P	**P**	**07 55 18.4**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=331,slow=5.9,SNR=2.0						
VNDA	**Vanda**	**75.17**	**175**	P	**P**	**07 55 18.3**	**+0.5**
ILAR	**Eielson Array**	**85.78**	**24**	P	**P**	**07 56 13.9**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=240,slow=4.7,SNR=5.6						
ILAR	**Eielson Array**	**85.78**	**24**	P	**P**	**07 56 15.0**	**+0.1**
YKA	**Yellowknife Ar**	**99.95**	**27**	LR	LR	08 39 29.2	
	comp=Z,14nm,20.1s,baz=0.0,slow=34						

*IDC **26** 08:03:28.2±2.5, 6˚.48S×146˚.24E, h127km±24km, mb3.5/7, mb1 3.6/9, mb1mx3.4/34, mbtmp3.9/9, Error ellipse: s-maj=33.2km s-min=21.8km az=82.0*

ISC 26 08:03:27.9±1.0, 6˚.4S±0˚.1×146˚.2E±0˚.2, h122km, n10, σ1s16/11, mb3.7/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.11**	**162**	P	**Pn**	**08 04 17.2**	**+1.5**
	32nm,0.3s,baz=326,slow=5.8,SNR=49						
PMG				S	**Sn**	**08 04 51.7**	**-1.0**
	68nm,0.3s,baz=351,slow=8.8,SNR=5.0						
WRA	**Warramunga Arr**	**17.67**	**219**	P	**P**	**08 07 25.2**	**-0.6**
	0.2nm,0.3s,baz=46,slow=11,SNR=12						
ASAR	**Alice Springs**	**20.80**	**213**	P	**P**	**08 07 59.1**	**-0.5**
	1.1nm,0.6s,baz=45,slow=8.1,SNR=13						
STKA	**Stephens Creek**	**25.67**	**189**	P	**P**	**08 08 45.4**	**-1.1**
	1.1nm,0.4s,baz=11,slow=11,SNR=4.3						
CMAR	**Chiang Mai Arr**	**52.73**	**299**	P	**P**	**08 12 31.9**	**+1.3**
	1.1nm,0.4s,baz=118,slow=6.9,SNR=5.0						
VNDA	**Vanda**	**71.53**	**176**	P	**P**	**08 14 35.7**	**+0.6**
	0.5nm,0.7s,baz=317,slow=5.1,SNR=7.4						
MKAR	**Makanchi Array**	**77.31**	**321**	P	**P**	**08 15 09.8**	**+0.7**
	1.9nm,0.9s,baz=98,slow=8.7,SNR=6.1						
KURBB	**Kurchatov Arra**	**81.08**	**323**	P	**P**	**08 15 27.8**	**-1.7**
	0.6nm,0.5s,baz=116,slow=4.0,SNR=4.6						
ILAR	**Eielson Array**	**86.20**	**23**	P	**P**	**08 15 54.7**	**-0.6**
	0.5nm,0.8s,baz=254,slow=5.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**144.39**	**284**	PKP	**PKPab**	**08 22 49.0**	**-0.3**
	0.7nm,0.7s,baz=71,slow=3.2,SNR=5.2						

*TEH **26** 08:04:28.5, 32˚.73N×47˚.50E, h10km, ML3.2*
*ISN **26** 08:04:32.0±3.1, 32˚.79N×47˚.43E, h84km±73km, ML3.0*

ISC 26 08:04:28.9±1.4, 32.76N±0.05×47.47E±0.03, h5km±13km, n26, σ1s03/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.18**	**245**	*e*Pg	**Pg**	**08 04 32.7**	**+0.3**
IKFM	**Kafar-mosalman**	**0.83**	**22**	*e*Pg	**Pg**	**08 04 45.0**	**+0.2**
IKFM				*e*		08 04 59.7	
IKMR	**Kamar-syah**	**1.07**	**45**	*e*Pg	**Pg**	**08 04 48.7**	**-0.8**
IKMR				*e*		08 05 09.5	
IDOB	**Doab**	**1.19**	**30**	*e*Pg	**Pg**	**08 04 52.0**	**+0.4**
IBDR	**Badra**	**1.34**	**286**	*e*Pg	**Pn**	**08 04 54.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**08 05 13.0**	**+0.9**
IBDR				AML	AML	08 05 18.5	
	comp=N,287nm,0.6s						
IBDR				AML	AML	08 05 18.9	
	comp=E,177nm,0.4s						
IKOM	**Komasi**	**1.42**	**1**	*e*Pg	**Pg**	**08 04 56.4**	**+0.4**
IKOM				*e*		08 04 58.0	
BMDN	**Meydan**	**1.46**	**51**	*e*Pg	**Pg**	**08 04 56.3**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.56**	**347**	*e*Pg	**Pg**	**08 04 58.9**	**+0.1**
KCHF				*e*		08 05 23.4	
KER	**Kermanshah**	**1.65**	**350**	*e*Pg	**Pg**	**08 05 01.2**	**+0.7**
HSAM	**Samen**	**1.73**	**33**	*e*Pg	**Pb**	**08 05 01.3**	**0.0**
HSAM				*e*		08 05 29.1	
IBZA	**Bozab**	**1.74**	**11**	*e*		08 05 05.9	
IBZA				*e*Pg	**Pg**	**08 05 01.8**	**-0.4**
IGHG	**Ghaleghazi**	**1.74**	**335**	*e*Pn	**Pb**	**08 05 01.5**	**0.0**
IGHG				*e*		08 05 42.4	
IVIS	**Veis**	**1.84**	**344**	*e*Pn	**Pb**	**08 05 02.4**	**-0.7**
IDHR	**Dehrash**	**2.14**	**335**	*e*		08 05 46.9	
IDHR				*e*Pn	**Pb**	**08 05 06.8**	**-1.5**
IALM	**Almabolaq**	**2.18**	**15**	*e*Pn	**Pb**	**08 05 07.9**	**-1.0**
ILIN	**Lien**	**2.20**	**349**	*e*		08 05 47.9	
ILIN				*e*Pn	**Pb**	**08 05 07.6**	**-1.7**
HAGD	**Aghdareh**	**2.48**	**34**	*e*Pn	**Pb**	**08 05 11.8**	**-2.4**
HAGD				*e*		08 05 20.5	
HSRG	**Sareghieh**	**2.57**	**15**	*e*Pn	**Pb**	**08 05 14.2**	**-1.4**
HSRG				*e*		08 05 57.0	
BHD	**Baghdad**	**2.65**	**282**	*e*Pg	**Pn**	**08 05 12.0**	**-0.2**
	baz=100						
BHD				*e*Sg	**Sn**	**08 05 45.0**	**+0.3**
JHBN	**Jahan bin**	**2.75**	**100**	*e*Pn	**Pn**	**08 05 14.4**	**+0.5**
JHBN				*e*		08 06 01.4	
IPIR	**Pirpir**	**2.88**	**91**	*e*Pn	**Pn**	**08 05 16.8**	**+1.0**
IPIR				*e*		08 05 57.6	
IRAZ	**Razeghan**	**3.34**	**37**	*e*Pn	**Pn**	**08 05 23.4**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.42**	**30**	*e*Pn	**Pn**	**08 05 24.1**	**+1.0**
IKLH	**Kolahrood**	**3.49**	**80**	*e*Pn	**Pn**	**08 05 25.6**	**+1.5**
IKLH				*e*		08 05 27.5	
KLNJ	**Kolanjah**	**3.91**	**115**	*e*Pn	**Pn**	**08 05 30.2**	**+0.2**
KLNJ				*e*		08 07 07.9	
IZEF	**Zefreh**	**4.09**	**87**	*e*Pn	**Pn**	**08 05 33.7**	**+1.4**

*IDC **26** 08:07:39.5±2.5, 53˚.55N×87˚.67E, h0km, mb1 3.6/3, mb1mx3.3/36, mbtmp3.6/3, ML3.4/3, Error ellipse: s-maj=22.3km s-min=12.8km az=58.0*

*NNC **26** 08:07:41.0±2.6, 53˚.44N×87˚.56E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=24.9km s-min=16.6km az=179.0, Suspected Mining explosion.*

ISC 26 08:07:38.6±4.0, 53.7N±0˚.1×87.6E±0˚.2, h0km, n8, σ1s52/13, 9C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**282**	*i*		08 19 10.0	
	baz=97,slow=302,SNR=3.8						
ZALV	**Zalesovo Beam**	**1.67**	**282**	Pg	**Pg**	**08 08 10.2**	**-0.3**
	12nm,0.3s,baz=102,slow=14,SNR=76						
ZALV				Lg	Lg	08 08 34.6	
	6.7nm,0.3s,baz=115,slow=29,SNR=9.1						
KURK	**Kurchatov**	**6.24**	**246**	⇑Pn	**Pn**	**08 09 12.5**	**+0.6**
	1.8nm,0.6s						
KURK				⇑Sn	**Sn**	**08 10 26.4**	**+2.5**
	2.4nm,0.6s						
KURK				⇑Lg	Lg	08 10 55.8	
	10nm,0.8s						
KURBB	**Kurchatov Arra**	**6.34**	**245**	Pn	**Pn**	**08 09 15.0**	**+1.7**
	0.4nm,0.3s,baz=62,slow=14,SNR=45						
KURBB				Sn	**Sn**	**08 10 26.1**	**-0.2**
	0.0nm,0.3s,baz=50,slow=30,SNR=1.2						
KURBB				Lg	Lg	08 11 01.6	
	0.1nm,0.3s,baz=64,slow=32,SNR=12						
KURBB	**Kurchatov Arra**	**6.34**	**245**	⇑Pn	**Pn**	**08 09 14.0**	**+0.7**
	5.3nm,0.4s						
KURBB				⇑Sn	**Sn**	**08 10 26.9**	**+0.6**
	8.8nm,0.6s						
KURBB				⇑Lg	Lg	08 10 58.5	
	16nm,0.7s						
MK31	**Makanchi Array**	**7.65**	**208**	⇑Pn	**Pn**	**08 09 31.9**	**+0.6**
	0.4nm,0.3s,baz=28,slow=13,SNR=40						
MK31				⇑Sn	**Sn**	**08 10 57.4**	**-1.2**
	3.3nm,0.8s,baz=30,slow=28,SNR=4.4						
MK31				⇑Lg	Lg	08 11 36.9	
	3.1nm,0.7s,baz=34,slow=29,SNR=4.3						
MKAR	**Makanchi Array**	**7.65**	**208**	Pn	**Pn**	**08 09 32.6**	**+1.3**
	0.7nm,0.3s,baz=27,slow=13,SNR=38						
MKAR				Sn	**Sn**	**08 10 57.3**	**-1.3**
	0.2nm,0.3s,baz=28,slow=29,SNR=5.7						
MKAR				Lg	Lg	08 11 39.5	
	0.3nm,0.3s,baz=36,slow=31,SNR=7.8						
BVAR	**Borovoye Array**	**10.30**	**273**	Pn	**Pn**	**08 10 08.3**	**+0.8**
	0.4nm,0.3s,baz=62,slow=17,SNR=6.3						
BVAR				Sn	**Sn**	**08 12 01.1**	**-2.6**
	0.3nm,0.3s,baz=203,slow=32,SNR=3.9						

*IDC **26** 08:19:13.5±1.0, 16˚.67S×178˚.21W, h0km, mb3.8/9, mb1 4.1/9, mb1mx3.9/40, mbtmp3.8/9, Error ellipse: s-maj=41.9km s-min=20.1km az=143.0*

ISC 26 08:19:18.8±0.9, 16.7S±0˚.2×178.2W±0˚.2, h35km, n9, σ0s80/9, mb3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**21.85**	**190**	P	**P**	**08 24 09.0**	**+0.7**
	4.2nm,1.0s,baz=305,slow=9.0,SNR=1.7						
STKA	**Stephens Creek**	**39.37**	**240**	P	**P**	**08 26 44.8**	**-0.4**
	1.0nm,0.6s,baz=65,slow=8.9,SNR=4.0						
WRA	**Warramunga Arr**	**45.04**	**258**	P	**P**	**08 27 31.4**	**-0.1**
	0.6nm,0.5s,baz=96,slow=7.2,SNR=19						
ASAR	**Alice Springs**	**45.30**	**253**	P	**P**	**08 27 33.2**	**-0.3**
	4.7nm,0.4s,baz=89,slow=8.1,SNR=115						
USRK	**Ussuriysk Ar.**	**75.74**	**325**	P	**P**	**08 31 02.0**	**+1.2**
	1.1nm,0.7s,baz=139,slow=36,SNR=2.4						
NVAR	**Mina Array Bea**	**78.44**	**44**	P	**P**	**08 31 17.3**	**+0.8**
	0.5nm,0.7s,baz=225,slow=9.5,SNR=4.1						
ILAR	**Eielson Array**	**84.69**	**13**	P	**P**	**08 31 48.0**	**-0.7**
	0.1nm,0.5s,baz=317,slow=36,SNR=1.4						
TXAR	**Lajitas Array**	**85.21**	**58**	P	**P**	**08 31 51.9**	**-0.2**
	0.4nm,0.7s,baz=217,slow=6.5,SNR=6.5						
PDAR	**Pinedale Array**	**86.36**	**43**	P	**P**	**08 31 57.0**	**-0.8**
	0.1nm,0.5s,baz=191,slow=7.1,SNR=2.3						

IDC 26 08:21:47.9±59.0, 16.73S×177.75W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/42, mbtmp4.0/3, Error ellipse: s-maj=1095.0km s-min=170.8km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.76**	**240**	P	**P**	**08 29 23.7**	**+1.1**
	0.7nm,0.7s,baz=106,slow=18,SNR=3.2						
WRA	**Warramunga Arr**	**45.48**	**258**	P	**P**	**08 30 08.4**	**-0.9**
	0.5nm,0.6s,baz=97,slow=8.2,SNR=9.2						
ASAR	**Alice Springs**	**45.73**	**253**	P	**P**	**08 30 11.1**	**-0.2**
	2.8nm,0.4s,baz=88,slow=7.9,SNR=36						

IDC 26 08:27:55.8±1.9, 2.95N×128.88E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/38, mbtmp3.5/5, Error ellipse: s-maj=158.3km s-min=20.2km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.37**	**167**	P	**P**	**08 33 06.5**	**+0.2**
	0.2nm,0.3s,baz=344,slow=10.0,SNR=9.0						
ASAR	**Alice Springs**	**26.91**	**170**	P	**P**	**08 33 38.1**	**-0.6**
	0.3nm,0.5s,baz=355,slow=7.9,SNR=10						
STKA	**Stephens Creek**	**36.68**	**162**	P	**P**	**08 35 03.5**	**-1.0**
	0.8nm,0.5s,baz=0.0,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**59.42**	**325**	P	**P**	**08 38 01.3**	**+1.0**
	0.8nm,0.9s,baz=134,slow=4.2,SNR=2.2						
KURBB	**Kurchatov Arra**	**63.55**	**327**	P	**P**	**08 38 28.5**	**+0.4**
	0.5nm,0.6s,baz=119,slow=6.4,SNR=4.5						

WEL 26 08:36:08.3, 40˚S±4˚×17˚4E±˚, h264km±6km, M2.2/18, MLv2.2/18, Error ellipse: s-maj=0.0km s-min=0.0km az=78.1, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LREZ	**Lake Rotokare**	**0.17**	**37**	P	Pn	08 36 42.0	-0.2
LREZ				S	S	08 37 08.1	-0.9
NEZ	**North Egmont**	**0.35**	**338**	P	Pn	08 36 42.5	-0.2
PKE	**Pukeiti**	**0.46**	**331**	P	Pn	08 36 42.8	0.0
WAZ	**Wanganui**	**0.57**	**106**	P	Pn	08 36 43.5	+0.4
WAZ				S	S	08 37 09.6	-0.8
VRZ	**Vera Road**	**0.61**	**39**	P	Pn	08 36 42.3	-0.9
VRZ				S	S	08 37 08.6	-2.1
MTVZ	**Mangateitei**	**0.95**	**77**	P	Pn	08 36 44.5	-0.2
MTVZ				S	S	08 37 11.0	-2.4
FWVZ	**Far West T-bar**	**1.05**	**71**	P	Pn	08 36 45.2	-0.3
FWVZ				S	S	08 37 11.3	-3.4
WNVZ	**Wahianoa**	**1.06**	**76**	P	Pn	08 36 45.1	-0.3
WNVZ				S	S	08 37 11.7	-3.0
TUVZ	**Tukino**	**1.12**	**73**	P	Pn	08 36 45.6	-0.1
TUVZ				S	S	08 37 12.4	-2.9
WTVZ	**West Tongariro**	**1.13**	**65**	P	Pn	08 36 45.3	-0.4
WTVZ				S	S	08 37 13.0	-2.3
DUWZ	**D'Urville Isla**	**1.23**	**192**	P	Pn	08 36 46.3	+0.2
DUWZ				S	S	08 37 14.2	-1.9
KIW	**Kapiti Island**	**1.35**	**159**	P	Pn	08 36 47.3	+0.4
KIW				S	S	08 37 15.2	-2.3
BHHZ	**Black Hill Sta**	**1.39**	**86**	P	Pn	08 36 46.8	-0.5
POWZ	**Post Office Ro**	**1.40**	**125**	S	S	08 37 16.7	-1.3
OGWZ	**Otaki Gorge**	**1.40**	**151**	P	Pn	08 36 47.6	+0.4
OGWZ				S	S	08 37 15.9	-2.1
MRZ	**Mangatainoka R**	**1.46**	**137**	P	Pn	08 36 47.7	+0.1
PNHZ	**Pukenui**	**1.52**	**103**	P	Pn	08 36 48.5	+0.4
KRHZ	**Kereru**	**1.62**	**92**	S	S	08 37 18.3	-2.7
CAW	**Cannon Point**	**1.62**	**158**	P	Pn	08 36 49.5	+0.6
KWHZ	**Kaweka Forest**	**1.67**	**85**	P	Pn	08 36 49.7	+0.3
TIWZ	**Tintock**	**1.71**	**134**	P	Pn	08 36 49.9	+0.4
NNZ	**Nelson**	**1.75**	**203**	P	Pn	08 36 49.9	+0.1
BKZ	**Black Stump Fm**	**1.78**	**77**	P	Pn	08 36 50.5	+0.3
QRZ	**Quartz Range**	**1.81**	**227**	P	Pn	08 36 49.7	-0.6
MTW	**Mount Morrison**	**1.82**	**149**	P	Pn	08 36 50.7	+0.3
TUWZ	**Tuamarina**	**1.84**	**188**	P	Pn	08 36 50.8	+0.2
PLWZ	**Palliser**	**2.11**	**159**	P	Pn	08 36 53.2	+0.3
RTZ	**Ruatahuna**	**2.33**	**66**	P	Pn	08 36 54.1	-0.9
THZ	**Tophouse**	**2.40**	**205**	P	Pn	08 36 55.5	-0.1
SNGZ	**Shannon Statio**	**2.52**	**72**	P	Pn	08 36 56.9	+0.1
URZ	**Urewera**	**2.59**	**60**	P	Pn	08 36 55.9	-1.5

MK31	**Makanchi Array**	**8.87**	**222**	⇑Pn		**Pn**	**08 53 33.6**	**+1.6**
	3.5nm,0.8s,baz=41,slow=14,SNR=13							
MK31				⇑Sn		**Sn**	**08 55 12.0**	**-0.5**
	6.2nm,0.7s,baz=39,slow=21,SNR=4.1							
MK31				⇑Lg		Lg	08 56 01.2	
	48nm,1.0s,baz=31,slow=26,SNR=3.9							
MKAR	**Makanchi Array**	**8.87**	**222**	Pn		**Pn**	**08 53 34.1**	**+2.2**
	0.5nm,0.3s,baz=42,slow=14,SNR=16							
MKAR				Sn		**Sn**	**08 55 13.8**	**+1.3**
	0.5nm,0.3s,baz=40,slow=25,SNR=6.5							
MKAR				Lg		Lg	08 55 59.1	
	0.4nm,0.3s,baz=26,slow=23,SNR=5.8							
SONM	**Songino Array**	**11.42**	**115**	Pg		Pn	08 54 39.0	+32
	0.2nm,0.3s,baz=155,slow=39,SNR=1.5							
SONM				Lg		Lg	08 57 16.8	
	0.3nm,0.3s,baz=294,slow=26,SNR=9.2							
BVAR	**Borovoye Array**	**12.28**	**275**	Pn		**Pn**	**08 54 22.7**	**+4.1**
	0.5nm,0.3s,baz=266,slow=36,SNR=2.5							
BVAR				Sn		**Sn**	**08 56 31.9**	**-4.2**
	baz=228,slow=42,SNR=2.2							

KRNET 26 09:05:56.2±0.1, 41°.86N×76°.51E, h11km, mb1.7, 8C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ULHL	**Ulahol**	**0.43**	**332**	⇑*i*	P	Pg	09 06 04.4	-0.5
	baz=32							
ULHL				⇑*i*	S	Sg	09 06 10.8	+0.1
	baz=32							
KDJ	**Kajisay**	**0.56**	**61**	⇓*i*	P	Pg	09 06 07.6	+0.3
	baz=62							
KDJ				⇓*i*	S	Sg	09 06 15.0	+0.2
	baz=62							
KZA	**Kyzart**	**0.97**	**283**	⇑*i*	P	Pg	09 06 14.9	0.0
	baz=83							
KZA				⇑*i*	S	Sg	09 06 27.8	+0.2
	baz=83							
TARG	**Taragay, Kyrgy**	**0.97**	**97**	⇑*e*P		Pg	09 06 14.7	-0.3
	baz=97							
TARG				⇑*i*	S	Sg	09 06 27.9	+0.1
	baz=97							
ANVS	**Anan'yevo**	**1.26**	**42**	⇑*i*	P	Pb	09 06 20.2	+0.1
	baz=42							
ANVS				⇑*i*	S	Sn	09 06 37.2	+0.3
	baz=42							
ARLS	**Aral**	**1.64**	**271**	⇓*i*	P	Pb	09 06 26.0	-0.5
	baz=71							
ARLS				⇓*i*	S	Sg	09 06 48.8	-0.1
	baz=71							

SOME 26 09:06:45.0, 42°.87N×78°.15E, h15km, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SATY	**Saty**	**0.27**	**44**	*e*P		Pg	09 06 51.0	+0.1
	1.2nm,0.1s							
SATY				*e*S		Sg	09 06 55.3	+0.4
	7.0nm,0.1s							
UZB	**Uzynbulak**	**0.70**	**66**	*e*P		Pg	09 06 58.1	-0.6
	0.3nm,0.1s							
UZB				*e*S		Sg	09 07 07.5	-0.4
	2.8nm,0.3s							

*IDC **26** 09:13:54.0±1.4, 7°.48S×154°.75E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/32, mbtmp3.8/9, ML4.2/1, Error ellipse: s-maj=44.1km s-min=25.0km az=125.0*
*NEIC **26** 09:13:58.9±2.0, 7°.51S±0°.09×154°.68E±0°.06, h35km±2km, mb4.2/2, Error ellipse: s-maj=15.9km s-min=10.2km az=193.0*
ISC 26 09:13:58.0±0.7, 7°.44S±0°.08×154°.70E±0°.07, h27km, n17, σ1s46/20, mb3.9/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**4.10**	**319**	Pn		**Pn**	**09 14 58.2**	**-0.7**
	16nm,0.3s,baz=96,slow=1.1,SNR=14							
KRVT				Sn		**Sn**	**09 15 43.9**	**-2.1**
	14nm,0.3s,baz=99,slow=21,SNR=12							
RABL	**Rabaul**	**4.10**	**322**	Pn		**Pn**	**09 14 59.7**	**+0.8**
RABL				Sn		**Sn**	**09 15 45.4**	**-0.7**
HNR	**Honiara**	**5.55**	**111**	Pn		**Pn**	**09 15 19.1**	**+0.2**
PMG	**Port Moresby**	**7.71**	**255**	Pn		**Pn**	**09 15 50.6**	**+2.0**
PMG				Sn		**Sn**	**09 17 13.4**	**-1.8**
SANVU	**Saraoutou**	**14.60**	**124**	Pn		**Pn**	**09 17 20.8**	**-2.1**
WB0	**Warramunga Arr**	**23.20**	**236**	P		**P**	**09 19 02.3**	**-0.6**
WB0				IAmb		IAmb	09 19 05.3	
	comp=Z,5.3nm,1.1s							
WRA	**Warramunga Arr**	**23.33**	**236**	P		**P**	**09 19 04.4**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=57,slow=8.9,SNR=6.4							
ASAR	**Alice Springs**	**25.66**	**229**	P		**P**	**09 19 25.1**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=59,slow=9.7,SNR=2.9							
KNRA	**Kununurra**	**26.68**	**250**	P		**P**	**09 19 32.1**	**-2.9**
KNRA				IAmb		IAmb	09 19 35.9	
	comp=Z,16nm,1.2s							
PETK	**Petropavlovsk-**	**60.37**	**2**	P		**P**	**09 24 04.3**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=180,slow=7.2,SNR=1.7							
SONM	**Songino Array**	**69.56**	**328**	P		**P**	**09 25 06.2**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=126,slow=5.9,SNR=2.1							
IMAR	**Indian Mountai**	**82.24**	**19**	P		**P**	**09 26 17.3**	**+0.8**
MKAR	**Makanchi Array**	**83.55**	**319**	P		**P**	**09 26 25.7**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=119,slow=5.1,SNR=1.4							
ILAR	**Eielson Array**	**83.89**	**22**	P		**P**	**09 26 24.6**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=239,slow=5.7,SNR=4.9							
ZALV	**Zelesovo Beam**	**84.39**	**326**	P		**P**	**09 26 27.7**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=127,slow=6.2,SNR=1.5							
NVAR	**Mina Array Bea**	**92.22**	**52**	P		**P**	**09 27 07.5**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=254,slow=6.5,SNR=3.1							
TORD	**Torodi Ar. Bea**	**152.86**	**284**	PKPbc		**PKiKP**	**09 33 54.0**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=45,slow=0.4,SNR=1.7							

*ISK **26** 09:20:38.9, 37°.33N×42°.58E, h7km, ML2.6/11*
*DDA **26** 09:20:39.0, 37°.41N×42°.66E, h8km±4km, ML1.9*
ISC 26 09:20:39.1±1.3, 37°.35N±0°.07×42°.62E±0°.04, h7km±10km, n16, σ0s92/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIRT	**Sirnak**	**0.20**	**316**	PG		**Pg**	**09 20 42.9**	**-0.4**
SIRT				SG		**Sg**	**09 20 47.3**	**+1.2**
SIRN	**Sırnak**	**0.22**	**311**	*i* P		**Pg**	**09 20 43.1**	**-0.4**
SIRN				*i* S		**Sg**	**09 20 48.0**	**+1.6**
SIRN				IAML			09 20 48.0	
	comp=N,514nm,0.5s							
SIRN				IAML			09 20 55.0	
	comp=E,633nm,0.6s							
CUKT	**Cukurca**	**0.80**	**97**	PG		**Pb**	**09 20 55.3**	**-0.1**
CUKT				SG		**Sb**	**09 21 07.4**	**+0.9**
SRTM	**Siirt_Merkez**	**0.84**	**319**	*i* P		**Pg**	**09 20 55.3**	**0.0**
SRTM				*i* S		**Sg**	**09 21 03.5**	**-2.7**
SRTM				IAML			09 21 15.0	
	comp=N,53nm,0.6s							
HAKT	**HAKKARI**	**0.89**	**76**	*i* P		**Pg**	**09 20 55.7**	**-0.6**
HAKT				*i* S		**Sg**	**09 21 07.3**	**-0.5**
HAKT				IAML			09 21 12.0	
	comp=N,18nm,0.4s							
HAKT				IAML			09 21 17.0	
	comp=E,27nm,0.3s							
AKDM	**Akdamar-Van**	**1.02**	**16**	PG		**Pg**	**09 20 58.4**	**-0.2**
AKDM				SG		**Sn**	**09 21 14.4**	**-0.3**
GURO	**Guroymak-BITLI**	**1.28**	**339**	PN		**Pg**	**09 21 03.8**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.38**	**306**	PN		**Pb**	**09 21 05.0**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.38**	**306**	*i* P		**Pb**	**09 21 05.0**	**-0.3**
MUSM	**Mu-Merkez**	**1.62**	**328**	*i* P		**Pb**	**09 21 09.0**	**-0.5**
MUSM				IAML			09 21 30.0	
	comp=E,27nm,0.7s							
MUSM				IAML			09 21 30.0	
	comp=N,20nm,1.4s							
MUSM				*i* S		**Sg**	**09 21 30.7**	**-0.6**
MAZI	**Mazidag**	**1.73**	**274**	PN		**Pn**	**09 21 09.8**	**0.0**
DYBB	**Diyarbakir**	**2.06**	**288**	PN		**Pn**	**09 21 14.5**	**+0.3**
BNGB	**Bingl**	**2.24**	**318**	PN		**Pn**	**09 21 17.4**	**+0.6**
AGRB	**Hanur-Agry**	**2.24**	**7**	PN		**Pn**	**09 21 17.6**	**+0.8**
KARO	**Karliova-Bingo**	**2.31**	**328**	PN		**Pn**	**09 21 18.7**	**+0.9**
SVRC	**Sivrice-ELAZIĞ**	**2.81**	**292**	PN		**Pn**	**09 21 25.1**	**+0.4**

*IDC **26** 09:30:11.0±0.4, 15°.34S×173°.29W, h0km, mb4.8/26, mb1 5.0/26, mb1mx4.9/37, mbtmp4.8/26, MS4.6/25,*
Ms1 4.7/25, ms1mx4.7/26, Error ellipse: s-maj=17.5km s-min=12.6km az=125.0
*BJI **26** 09:30:11.0±0.0, 15°.30S×173°.20W, h10km, mB5.4/33, mb5.0/38, Ms4.9/20, Ms7 4.7/17*
*NEIC **26** 09:30:11.7, 15°.25S×173°.02W, h20km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.41; $M_{\theta\theta}$=0.29; $M_{\phi\phi}$=0.70; $M_{r\theta}$=-0.46; $M_{r\phi}$=0.53; $M_{\theta\phi}$=0.41; Fault plane solution: $M_0$1.01000×10^{17} NP1:ϕ_s166.49000°, δ68.67000°, λ-140.34000°. NP2:ϕ_s59.70000°, δ53.52000°, λ-26.90000°. Principal axes: T 0.9646, Plg9.0000°, Azm290.0000°; N 0.0935, Plg46.0000°, Azm190.0000°; P -1.0581, Plg43.0000°, Azm29.0000°;*
*MOS **26** 09:30:12.4±1.1, 15°.00S×173°.01W, h10km, mb5.6/55, MS4.6/11 Error ellipse: s-maj=10.4km s-min=7.0km az=65.2*
*NEIC **26** 09:30:12.6±2.2, 15°.26S±0°.06×172°.97W±0°.09, h11km±3km, mb5.5/346, Ms_20 5.2/519, Mwb5.3/33, Mwc5.4(GCMT), Error ellipse: s-maj=12.9km s-min=8.7km az=98.0*
*INMG **26** 09:30:12.6, 15°.26S×172°.97W, h11km, MW5.3*
*NEIC **26** 09:30:19, 15°.35S×172°.62W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.43; $M_{\theta\theta}$=0.01; $M_{\phi\phi}$=0.44; $M_{r\theta}$=1.01; $M_{r\phi}$=-0.17; $M_{\theta\phi}$=1.30; Fault plane solution: $M_0$1.71000×10^{17} NP1:ϕ_s1.00000°, δ9.00000°, λ-53.00000°. NP2:ϕ_s143.00000°, δ83.00000°, λ-96.00000°. Principal axes: T 1.7179, Plg37.0000°, Azm238.0000°; N -0.0110, Plg6.0000°, Azm144.0000°; P -1.7069, Plg52.0000°, Azm46.0000°;*
*GCMT **26** 09:30:19.6±0.1, 15°.33S±0°.01×172°.66W±0°.01, h12km, MW5.4/106, Moment Tensor Solution. s77,c108; s106,c165; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.40±.01; $M_{\theta\theta}$=0.04±.01; $M_{\phi\phi}$=0.36±.01; $M_{r\theta}$=1.05±.04; $M_{r\phi}$=-0.14±.01; $M_{\theta\phi}$=1.23±.03; Best double couple: $M_0$1.66700×10^{17} NP1:ϕ_s356.00000°, δ8.00000°, λ-55.00000°. NP2:ϕ_s140.00000°, δ83.00000°, λ-95.00000°. Principal axes: T 1.6490, Plg38.0000°, Azm234.0000°; N 0.0360, Plg5.0000°, Azm141.0000°; P -1.6840, Plg51.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 09:30:14.8±0.2, 15°.30S±0°.04×173°.02W±0°.04, h29km, h29km:pP-P,n1157,σ1s60/992,mb5.5/215,MS5.2/301, 37C-25D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**1.83**	**41**	Pn		**Pn**	**09 30 42.6**	**-1.8**
	542nm,0.3s,baz=200,slow=2.2,SNR=242							
AFI				Sn		**Sn**	**09 31 01.3**	**-5.3**
	5µm,0.3s,baz=113,slow=20,SNR=28							
AFI	**Afiamalu**	**1.83**	**41**	P		**Pn**	**09 30 42.6**	**-1.8**
AFI							09 31 01.7	
AFI	**Afiamalu**	**1.83**	**41**	Pn		**Pn**	**09 30 42.6**	**-1.8**
AFI				Sn		**Sn**	**09 31 01.7**	**-4.9**
NIUE	**Niue**	**4.78**	**142**	P		**Pn**	**09 31 24.5**	**-0.4**
	baz=4.9,SNR=49							
NIUE	**Niue**	**4.78**	**142**			**Pn**	**09 31 24.4**	**-0.6**
NIUE				Sn		**Sn**	**09 32 14.7**	**-4.7**
MSVF	**Nonsavu**	**8.90**	**253**	P		**Pn**	**09 32 26.2**	**+4.5**
MSVF	**Nonsavu**	**8.90**	**253**	Pn		**Pn**	**09 32 26.1**	**+4.5**
KNTN	**Kanton**	**12.51**	**6**	Pn		**Pn**	**09 33 10.6**	**-0.4**
RAR	**Rarotonga**	**13.88**	**117**	Pn		**Pn**	**09 33 29.5**	**-0.2**
	6.4nm,0.3s,baz=248,slow=9.0,SNR=13							
RAR				Sn		Sn	09 35 50.4	-13
	2.1nm,0.3s,baz=315,slow=19,SNR=1.7							
RAR				LR		LR	09 37 34.2	
	comp=Z,1µm,22.0s,baz=282,slow=31							
RAR	**Rarotonga**	**13.88**	**117**	P		**Pn**	**09 33 28.6**	**-1.1**
RAR	**Rarotonga**	**13.88**	**117**	Pn		**Pn**	**09 33 28.6**	**-1.1**
RAO	**Raoul Island**	**14.61**	**197**	LR		LR	09 38 40.2	
	comp=Z,4µm,20.2s,baz=16,slow=35							
SANVU	**Saraoutou**	**19.07**	**267**	P		**P**	**09 34 34.0**	**-1.2**
DZM	**Mont Dzumac**	**20.58**	**248**	P		**P**	**09 34 49.5**	**-2.2**
	9.4nm,0.7s,baz=148,slow=22,SNR=11							
DZM				LR		LR	09 41 37.0	
	comp=Z,4µm,20.6s,baz=88,slow=34							
DZM	**Mont Dzumac**	**20.58**	**248**	*e*P		Pn	09 34 56.1	+2.1
	414nm,1.5s							
DZM				*e*S		**S**	**09 38 39.5**	**-1.0**
	759nm,26.1s							
DZM				*e*LQ		LQ	09 38 56.9	
	3µm,26.7s							
DZM				*e*LR		LR	09 39 52.8	
	comp=Z,10µm,25.9s							
DZM	**Mont Dzumac**	**20.58**	**248**	P		**P**	**09 34 49.7**	**-2.0**
DZM				IAmb		IAmb	09 34 58.1	
	comp=Z,243nm,1.3s							
TARA	**Tarawa**	**21.61**	**319**	P		**P**	**09 34 58.9**	**-3.8**
PAE	**Paea**	**22.59**	**99**	*e*T		T	09 58 28.0	
	comp=Z,8.6nm,0.3s							
PPT	**Papeete**	**22.59**	**99**	LR		LR	09 41 34.6	
	comp=Z,1µm,21.0s,baz=270,slow=30							
PPT2	**Papeete2**	**22.59**	**99**	*e*S		**S**	**09 39 15.6**	**-3.8**
	comp=Z,531nm,23.0s							
PPT2				*e*LQ		LQ	09 39 42.0	
	comp=Z,3µm,26.8s							
PPT2				*e*LR		LR	09 40 30.6	
	comp=Z,4µm,26.0s,baz=267							
PPT2	**Papeete2**	**22.59**	**99**	*e*T		T	09 58 28.5	
	comp=Z,11nm,0.3s							
TIAR	**Tiarei**	**22.81**	**99**	*e*T		T	09 58 43.6	
	comp=Z,6.0nm,0.3s							
TVO	**Taravao**	**22.91**	**100**	*e*T		T	09 58 51.6	
	comp=Z,4.7nm,0.3s							
XMAS	**Kiritimati**	**23.11**	**43**	P		**P**	**09 35 15.3**	**-3.3**
XMAS				IAmb		IAmb	09 35 23.8	
	comp=Z,246nm,1.4s							
OUZ	**Omahuta**	**23.19**	**209**	P		**P**	**09 35 18.2**	**-1.1**
OUZ	**Omahuta**	**23.19**	**209**	P		**P**	**09 35 21.0**	**+1.7**
WCZ	**Waipu Caves**	**23.46**	**206**	P		**P**	**09 35 24.5**	**+2.6**
MXZ	**Matakaoa Point**	**23.47**	**198**	P		**P**	**09 35 23.6**	**+1.5**
MXZ	**Matakaoa Point**	**23.47**	**198**	P		**P**	**09 35 21.2**	**-0.8**
KUZ	**Kuaotunu**	**23.60**	**203**	P		**P**	**09 35 20.3**	**-3.0**
TBI	**Tubuai**	**23.60**	**113**	*e*S		**S**	**09 39 35.3**	**-0.9**
	comp=Z,606nm,28.0s							
TBI				*e*LQ		LQ	09 40 08.6	
	comp=Z,3µm,31.2s							
TBI				*e*LR		LR	09 41 02.3	
	comp=Z,3µm,26.8s,baz=293							
TBI	**Tubuai**	**23.60**	**113**	*e*T		T	09 59 42.0	
	comp=Z,25nm,0.3s							
WMGZ	**Waiomatatini S**	**23.68**	**197**	P		**P**	**09 35 29.5**	**+5.5**
HAZ	**Te Kaha**	**23.81**	**198**	P		**P**	**09 35 25.8**	**+0.6**
HAZ				S		**S**	**09 39 42.5**	**+3.4**
WIAZ	**Waiheke Island**	**23.87**	**204**	P		**P**	**09 35 24.7**	**-1.1**
PUZ	**Puketiti**	**23.96**	**197**	P		**P**	**09 35 27.0**	**+0.3**
PUZ				S		**S**	**09 39 40.4**	**-1.3**
RUGZ	**Raukumara Rang**	**24.03**	**198**	P		**P**	**09 35 28.5**	**+1.0**
RUGZ				S		**S**	**09 39 44.8**	**+1.8**
PMOR	**Pomariorio Ree**	**24.25**	**93**	*e*P		**P**	**09 35 31.0**	**+1.5**
	comp=Z,428nm,1.4s							
PMOR	**Pomariorio Ree**	**24.25**	**93**	*e*T		T	10 00 30.5	
	comp=Z,9.0nm,0.2s							
MWZ	**Matawai**	**24.42**	**198**	P		**P**	**09 35 32.1**	**+1.2**
MWZ				S		**S**	**09 39 57.1**	**+8.0**
URZ	**Urewera**	**24.48**	**199**	P		**P**	**09 35 29.8**	**-1.6**
	comp=Z,16nm,0.7s,baz=270,slow=1.4,SNR=17							
URZ				S		**S**	**09 39 49.9**	**0.0**
	comp=Z,10nm,1.0s,baz=106,slow=19,SNR=2.8							
URZ				LR		LR	09 43 48.5	
	comp=Z,3µm,19.6s,baz=22,slow=34							
URZ	**Urewera**	**24.48**	**199**	P		**P**	**09 35 31.3**	**-0.1**
URZ				S		**S**	**09 39 53.8**	**+3.9**
URZ	**Urewera**	**24.48**	**199**	P		**P**	**09 35 29.9**	**-1.6**
VAH	**Vaihoa**	**24.49**	**93**	*e*P		**P**	**09 35 32.9**	**+1.1**
	comp=Z,180nm,1.3s							
VAH	**Vaihoa**	**24.49**	**93**	*e*T		T	10 00 48.1	
	comp=Z,18nm,0.3s							
RAGZ	**Rawiri**	**24.60**	**198**	P		**P**	**09 35 36.8**	**+4.1**
RIGZ	**Rimuhau**	**24.69**	**197**	P		**P**	**09 35 35.0**	**+1.6**
RIGZ				S		**S**	**09 39 60.0**	**+6.5**
MUGZ	**Murupara**	**24.79**	**199**	P		**P**	**09 35 37.2**	**+3.0**
SNGZ	**Shannon Statio**	**24.89**	**198**	P		**P**	**09 35 36.4**	**+1.2**
SNGZ				S		**S**	**09 40 01.3**	**+4.8**
TLZ	**Tolley Road**	**25.07**	**202**	P		**P**	**09 35 38.3**	**+1.5**
RAHZ	**Arahi**	**25.09**	**198**	P		**P**	**09 35 39.9**	**+2.9**
BKZ	**Black Stump Fm**	**25.50**	**199**	P		**P**	**09 35 39.4**	**-1.4**
BFZ	**Birch Farm**	**26.96**	**198**	P		**P**	**09 35 53.1**	**-0.8**
MSWZ	**Moikau Station**	**27.94**	**199**	P		**P**	**09 36 01.8**	**-0.9**
SNZO	**South Karori**	**28.02**	**200**	P		**P**	**09 36 02.3**	**-1.0**
BHW	**Baring Head**	**28.06**	**200**	P		**P**	**09 36 02.4**	**-1.3**
PLWZ	**Palliser**	**28.08**	**199**	P		**P**	**09 36 01.6**	**-2.3**
QRZ	**Quartz Range**	**28.37**	**203**	P		**P**	**09 36 04.7**	**-1.8**
NNZ	**Nelson**	**28.40**	**202**	P		**P**	**09 36 04.8**	**-1.9**
CMWZ	**Cape Campbell**	**28.58**	**200**	P		**P**	**09 36 06.2**	**-2.2**
BSWZ	**Blackbirch Sta**	**28.66**	**201**	P		**P**	**09 36 08.0**	**-1.1**
THZ	**Tophouse**	**29.05**	**202**	P		**P**	**09 36 11.8**	**-0.8**
KHZ	**Kahutara**	**29.40**	**201**	P		**P**	**09 36 13.8**	**-1.8**
LTZ	**Lake Taylor**	**30.16**	**202**	P		**P**	**09 36 21.0**	**-1.4**
OXZ	**Oxford**	**30.72**	**202**	P		**P**	**09 36 24.5**	**-2.8**
MQZ	**McQueen's Vall**	**30.84**	**200**	P		**P**	**09 36 27.1**	**-1.3**
RPZ	**Rata Peaks**	**31.41**	**202**	P		**P**	**09 36 32.9**	**-0.5**
	comp=Z,3.4nm,0.4s,baz=31,slow=5.9,SNR=2.1							
RPZ	**Rata Peaks**	**31.41**	**202**	P		**P**	**09 36 32.3**	**-1.1**
FOZ	**Fox Glacier**	**31.73**	**204**	P		**P**	**09 36 33.2**	**-3.0**
JOHN	**Johnston Islan**	**32.01**	**6**	P		**P**	**09 36 35.7**	**-3.2**
JOHN				IAmb		IAmb	09 36 40.8	
	comp=Z,71nm,0.9s							
LBZ	**Lake Benmore**	**32.31**	**203**	P		**P**	**09 36 40.5**	**-0.8**
TAOE	**Nuku Hiva Isla**	**32.74**	**83**	*e*LR		LR	09 45 21.8	
	comp=Z,4µm,25.1s,baz=252							
WKZ	**Wanaka**	**33.13**	**204**	P		**P**	**09 36 48.2**	**-0.3**
MLZ	**Mavora Lakes**	**33.93**	**204**	P		**P**	**09 36 55.7**	**+0.2**
DCZ	**Deep Cove**	**34.40**	**205**	P		**P**	**09 36 59.5**	**0.0**
WHZ	**Wether Hill Ro**	**34.44**	**204**	P		**P**	**09 36 59.5**	**-0.2**
WHZ				IAmb		IAmb	09 37 03.5	
	comp=Z,43nm,0.9s							
EIDS	**Eidsvold**	**35.03**	**248**	P		**P**	**09 37 02.9**	**-2.2**
	baz=35,SNR=4.4							
EIDS	**Eidsvold**	**35.03**	**248**	P		**P**	**09 37 02.2**	**-3.0**
ARMA	**Armidale**	**35.71**	**239**	P		**P**	**09 37 08.7**	**-2.5**
	baz=36,SNR=10							
ARMA	**Armidale**	**35.71**	**239**	P		**P**	**09 37 08.3**	**-2.8**
KRVT	**Keravat (AS076**	**36.07**	**284**	P		**P**	**09 37 13.0**	**-1.3**
	comp=Z,50nm,0.8s,baz=9.1,slow=9.4,SNR=4.8							
RKT	**Rikitea**	**36.67**	**108**	*e*S		**S**	**09 43 03.4**	**+2.4**
	comp=Z,429nm,27.5s							
RKT				*e*LQ		LQ	09 45 46.0	
	comp=Z,561nm,28.5s							
RKT				*e*LR		LR	09 47 09.8	
	comp=Z,2µm,26.0s							
RMQ	**Roma**	**37.27**	**246**	P		**P**	**09 37 22.6**	**-1.8**
	baz=37,SNR=6.5							
CTAO	**Charters Tower**	**39.03**	**257**	P		**P**	**09 37 37.0**	**-2.3**
CTAO				pmax		pmax		
	comp=Z,10.0nm,0.9s							
CTAO	**Charters Tower**	**39.03**	**257**	P		**P**	**09 37 37.0**	**-2.3**
H11S2	**WAKE ISLAND Hy**	**39.07**	**329**	T		T	10 19 10.2	
	baz=149,slow=76,SNR=16							
H11S3	**WAKE ISLAND Hy**	**39.08**	**329**	T		T	10 19 11.6	
	baz=149,slow=76,SNR=17							
H11S1	**WAKE ISLAND Hy**	**39.08**	**329**	T		T	10 19 20.0	
	baz=149,slow=76,SNR=64							
CNB	**Canberra Magne**	**39.11**	**232**	P		**P**	**09 37 37.5**	**-2.3**
	baz=39,SNR=11							
H11N3	**WAKE ISLAND Hy**	**40.01**	**330**	T		T	10 20 27.1	
	baz=150,slow=76,SNR=87							
H11N1	**WAKE ISLAND Hy**	**40.01**	**330**	T		T	10 20 29.4	
	baz=150,slow=76,SNR=51							
H11N2	**WAKE ISLAND Hy**	**40.02**	**330**	T		T	10 20 30.5	
	baz=150,slow=76,SNR=82							
MTSU	**Mount Surprise**	**40.90**	**260**	P		**P**	**09 37 52.9**	**-1.9**
	baz=41,SNR=14							
CMSA	**Cobar Meteorol**	**40.92**	**239**	P		**P**	**09 37 51.7**	**-3.1**
	baz=41,SNR=15							
COEN	**Coen**	**42.36**	**266**	P		**P**	**09 38 04.1**	**-2.7**
	baz=42,SNR=16							
COEN	**Coen**	**42.36**	**266**	P		**P**	**09 38 05.4**	**-1.4**
TOO	**Toolangi**	**42.82**	**231**	P		**P**	**09 38 08.4**	**-1.9**
	baz=43,SNR=6.8							
TOO	**Toolangi**	**42.82**	**231**	P		**P**	**09 38 09.5**	**-0.8**
TOO				pmax		pmax		
	comp=Z,18nm,1.1s							
TOO	**Toolangi**	**42.82**	**231**	P		**P**	**09 38 09.5**	**-0.8**
STKA	**Stephens Creek**	**44.41**	**240**	P		**P**	**09 38 20.9**	**-2.2**
	comp=Z,31nm,0.9s,baz=92,slow=10,SNR=64							
STKA				LR		LR	09 55 46.3	
	comp=Z,678nm,18.1s,baz=74,slow=35							
STKA	**Stephens Creek**	**44.41**	**240**	P		**P**	**09 38 20.9**	**-2.2**
	baz=44,SNR=66							
STKA	**Stephens Creek**	**44.41**	**240**	P		**P**	**09 38 21.0**	**-2.2**
STKA				pmax		pmax		
	comp=Z,9.0nm,1.1s							
STKA	**Stephens Creek**	**44.41**	**240**	P		**P**	**09 38 20.9**	**-2.2**
ARPS	**Mount Arapiles**	**45.35**	**233**	P		**P**	**09 38 28.5**	**-2.0**
	baz=45,SNR=11							
HTT	**Hallett**	**46.91**	**238**	P		**P**

NWAO IAmb IAmb 09 40 54.3
comp=Z,26nm,1.0s
BLDU Ballidu 65.57 243 P **P** **09 40 54.6 -1.6**
baz=65,SNR=8.9
MUN Mundaring 65.91 242 P **P** **09 40 58.6 +0.2**
baz=66,SNR=3.4
MORW Morawa 66.26 245 P **P** **09 40 59.9 -0.8**
baz=66,SNR=4.2
MORW Morawa 66.26 245 P **P** **09 41 00.0 -0.8**
GSTR Great Sitkin T 67.16 358 P **P** **09 41 05.9 +0.1**
ATKA Atka Island 67.22 359 P **P** **09 41 07.3 +1.2**
GIRL Giralia 68.61 251 P **P** **09 41 15.0 -0.6**
MJAR Matsushiro Arr 69.10 320 P **P** **09 41 18.8 +0.5**
comp=Z,2.2nm,0.9s,baz=123,slow=8.4,SNR=2.2
MJAR LR LR 10 05 51.0
comp=Z,130nm,21.5s,baz=120,slow=31
MJAR Matsushiro Arr 69.10 320 P **P** **09 41 18.8 +0.5**
MJAR Matsushiro Arr 69.10 320 P **P** **09 41 18.8 +0.5**
MAT Matsushiro 69.10 320 P **P** **09 41 18.8 +0.4**
MAT S **S** **09 50 22.8 +0.8**
ERM Erimo 69.88 327⇑ *e*P **P** **09 41 23.4 +0.4**
ERM pmax pmax
comp=Z,52nm,1.6s
ERM MLR MLR
comp=Z,155nm,17.0s
KUR Kuril'sk 69.91 332 P **P** **09 41 23.3 +0.2**
KUR *e* 09 41 45.3
KUR MLR MLR
comp=Z,342nm,17.0s
YUK Yuzh-Kuril'sk 69.96 330 *e*P **P** **09 41 23.2 -0.2**
YUK *e* 09 41 45.6
YUK *e* 09 43 57.0
YUK *e*PPP PPP 09 45 38.3
YUK *e*S **S** **09 50 33.0 +1.3**
YUK *e* 09 51 24.5
YUK *e*SS **SS** **09 55 02.5 +0.8**
YUK pmax pmax
comp=Z,267nm,1.3s
YUK pmax pmax
comp=E,211nm,1.2s
YUK pmax pmax
comp=N,100nm,1.4s
YUK pmax pmax
comp=Z,378nm,1.8s
YUK MLR MLR
comp=Z,48nm,16.0s
YUK MLR MLR
comp=N,85nm,15.0s
YUK MLR MLR
comp=E,73nm,12.0s
SNCC San Nicolas Is 70.24 46 P **P** **09 41 28.1 +2.7**
baz=236
SCZ2 Santa Cruz Isl 70.59 45 P **P** **09 41 29.7 +2.1**
baz=235
CASY Casey 70.66 205 P **P** **09 41 27.8 +0.3**
CNBA Chernabura Isl 70.77 8 IAMs_20 IAMs_20 10 04 33.4
comp=Z,1μm,21.0s
SCI2 San Clemente I 70.77 46 P **P** **09 41 30.8 +2.1**
baz=236
SBC Santa Barbara 70.79 45 P **P** **09 41 31.2 +2.4**
baz=235
MCCM Marconi Confer 70.95 40 IAMs_20 IAMs_20 10 06 09.8
comp=Z,1μm,19.0s
PKM Mcpherson Peak 70.98 44 P **P** **09 41 32.3 +2.2**
baz=235
SAO San Andreas Ge 71.01 42 P **P** **09 41 29.8 -0.3**
SAO pmax pmax
comp=Z,38nm,1.5s
SAO San Andreas Ge 71.01 42 P **P** **09 41 29.8 -0.3**
SAO IAmb IAmb 09 41 33.2
comp=Z,38nm,1.5s
SAO IAMs_20 IAMs_20 10 05 13.4
comp=Z,2μm,21.0s
SKR Severo-Kuril's 71.05 340 *e*P P 09 41 38.9 +9.0
SKR pmax pmax
comp=Z,200nm,3.5s
SKR MLR MLR
comp=Z,200nm,16.0s
CIS Catalina Islan 71.10 46 P **P** **09 41 32.9 +2.2**
baz=236
PMPB Monarch Peak 71.10 42 P **P** **09 41 32.4 +1.7**
SMMC Simmler 71.10 44 P **P** **09 41 33.3 +2.6**
baz=235,SNR=6.8
PAGB Antelope Grade 71.18 43 P **P** **09 41 31.6 +0.5**
FMP Fort Macarthur 71.35 46 P **P** **09 41 34.4 +2.3**
baz=236
HOPS Hopland Field 71.36 39 P **P** **09 41 34.8 +2.6**
HOPS IAmb IAmb 09 41 36.1
comp=Z,50nm,1.4s
GDXM Geysers 71.41 39 IAMs_20 IAMs_20 10 05 37.1
comp=Z,2μm,21.0s
KCPM Cahto Peak 71.49 38 P **P** **09 41 33.1 0.0**
KCPM IAmb IAmb 09 41 37.0
comp=Z,99nm,1.5s
OSI Osito Audit: C 71.56 45 P **P** **09 41 35.8 +2.3**
baz=236
OSI Osito Audit: C 71.56 45 IAMs_20 IAMs_20 10 06 20.2
comp=Z,2μm,20.0s
TJX Tijuana 71.57 48 IAMs_20 IAMs_20 10 04 10.4
comp=Z,1μm,20.0s
DECC Green Verdugo 71.63 45 P **P** **09 41 35.9 +2.0**
baz=236
PASC Pasadena Art C 71.68 46 P **P** **09 41 34.0 -0.2**
PASC IAmb IAmb 09 41 37.7
comp=Z,51nm,1.4s
109C Camp Elliot, M 71.74 47 P **P** **09 41 36.5 +2.0**
baz=237
109C Camp Elliot, M 71.74 47 P **P** **09 41 35.3 +0.8**
109C IAMs_20 IAMs_20 10 05 20.9
comp=Z,2μm,20.0s
CBX Cerro Bola 71.74 48 P **P** **09 41 35.2 +0.5**
KMRM Mail Ridge 71.75 38 P **P** **09 41 36.2 +1.7**
ARVC Arvin 71.78 44 P **P** **09 41 36.5 +1.8**
baz=236
MWC Mount Wilson 71.80 46 P **P** **09 41 35.6 +0.5**
MWC pmax pmax
comp=Z,47nm,1.3s
MWC Mount Wilson 71.80 46 P **P** **09 41 35.6 +0.5**
MWC IAmb IAmb 09 41 38.5
comp=Z,47nm,1.2s
TKX Tecate 71.92 48 IAMs_20 IAMs_20 10 05 37.7
comp=Z,1μm,21.0s
BAR Barrett 71.93 48 P **P** **09 41 36.5 +0.8**
SPX San Pedro Mart 71.94 50 IAMs_20 IAMs_20 10 05 22.5
comp=Z,1μm,19.0s
VES Vestal, Richgr 72.01 44 P **P** **09 41 38.0 +1.9**
baz=235,SNR=17
MURC Murrieta 72.06 47 P **P** **09 41 38.6 +2.1**
baz=237,SNR=5.6
BFSC Mount Baldy Ra 72.08 46 P **P** **09 41 38.5 +1.7**
baz=237,SNR=7.7
VOG Valley Oaks Go 72.09 43 P **P** **09 41 38.8 +2.2**
baz=235
ESJX Sierra Juarez 72.09 49 P **P** **09 41 34.9 -2.0**
EDW2 Edwards Air Fo 72.21 45 P **P** **09 41 39.6 +2.2**
baz=236,SNR=21
MONP2 Monument Peak 72.22 48 P **P** **09 41 39.8 +2.1**
baz=238,SNR=9.4
O02D Mt. Diablo Mer 72.27 38 P **P** **09 41 40.8 +3.1**
baz=231,SNR=13
PET Petropavlovsk 72.29 342 *e*P **P** **09 41 39.5 +2.2**
PET *e*S **SKiKP** **09 51 04.5 -6.9**
PET *e*SS **SS** **09 55 42.1 +4.9**
PET pmax pmax
comp=Z,200nm,11.1s
PET MLR MLR
comp=Z,200nm,18.0s
IKP In-Ko-Pah, Jac 72.32 48 P **P** **09 41 40.4 +2.3**
baz=238,SNR=8.4
ISA Isabella, Lake 72.32 44 P **P** **09 41 40.2 +2.1**
baz=236,SNR=18
ISA Isabella, Lake 72.32 44 P **P** **09 41 39.8 +1.7**
ISA pmax pmax
comp=Z,68nm,1.5s
ISA Isabella, Lake 72.32 44 P **P** **09 41 39.8 +1.7**
ISA IAmb IAmb 09 41 42.0
comp=Z,68nm,1.4s
ISA IAMs_20 IAMs_20 10 06 05.3
comp=Z,2μm,20.0s
SFX San Felipe 72.40 50 IAMs_20 IAMs_20 10 05 33.4
comp=Z,1μm,22.0s
CMB Columbia Colle 72.44 41 P **P** **09 41 39.6 +0.9**
CMB pmax pmax
comp=Z,21nm,1.4s
CMB Columbia Colle 72.44 41 P **P** **09 41 39.6 +0.9**
CMB IAMs_20 IAMs_20 10 06 08.4
comp=Z,1μm,20.0s
PFO Pinyon Flats O 72.58 47 LR LR 10 07 18.8
comp=Z,1μm,19.2s,baz=272,slow=31
PFO Pinyon Flats O 72.58 47 P **P** **09 41 41.7 +2.0**
baz=238,SNR=8.4
PFO Pinyon Flats O 72.58 47 P **P** **09 41 40.2 +0.4**
PFO pmax pmax
comp=Z,38nm,1.4s
PFO Pinyon Flats O 72.58 47 P **P** **09 41 40.1 +0.4**
PFO IAmb IAmb 09 41 43.4
comp=Z,38nm,1.4s
BBRC Big Bear Solar 72.61 46 P **P** **09 41 41.8 +1.8**
baz=237
AFDM Forest Hills D 72.62 40 P **P** **09 41 40.8 +1.1**
AFDM IAMs_20 IAMs_20 10 07 22.1
comp=Z,955nm,19.0s
PEA0B Petropavlovsk- 72.65 342 P **P** **09 41 39.9 +0.4**
PEA0B pmax pmax
comp=Z,46nm,1.2s
PEA0B Petropavlovsk- 72.65 342 P **P** **09 41 39.9 +0.4**
PEA0B IAmb IAmb 09 41 41.8
comp=Z,46nm,1.1s
PETK Petropavlovsk- 72.65 342 P **P** **09 41 40.6 +1.1**
comp=Z,12nm,0.9s,baz=120,slow=8.7,SNR=14
PETK LR LR 10 09 14.7
comp=Z,145nm,20.7s,baz=144,slow=32
PETK Petropavlovsk- 72.65 342 P **P** **09 41 40.6 +1.1**
PETK Petropavlovsk- 72.65 342 P **P** **09 41 40.6 +1.1**
ORV Oroville 72.66 39 P **P** **09 41 41.6 +1.7**
ORV pmax pmax
comp=Z,43nm,1.5s
ORV Oroville 72.66 39 P **P** **09 41 41.6 +1.7**
ORV IAmb IAmb 09 41 43.5
comp=Z,43nm,1.5s
WDC Whiskeytown Da 72.67 38 P **P** **09 41 39.3 -0.6**
WDC pmax pmax
comp=Z,49nm,1.3s
WDC Whiskeytown Da 72.67 38 P **P** **09 41 39.3 -0.6**
WDC IAmb IAmb 09 41 44.0
comp=Z,49nm,1.3s
WDC IAMs_20 IAMs_20 10 06 37.4
comp=Z,2μm,21.0s
SWSC Sam W. Stewart 72.69 48 P **P** **09 41 42.3 +2.1**
baz=238
LRMC Laurel Mtn Rad 72.75 45 P **P** **09 41 42.7 +2.0**
baz=236,SNR=6.6
N02D Trinity Center 72.82 38 P **P** **09 41 43.4 +2.5**
baz=231
RRX Edison Barstow 72.89 46 P **P** **09 41 43.5 +2.1**
baz=237
O03E Paynes Creek 72.93 39 P **P** **09 41 43.6 +2.0**
baz=232,SNR=17
M02C Callahan 73.00 37 P **P** **09 41 44.8 +2.8**
baz=231,SNR=5.7
CWC Cottonwood Cre 73.02 44 P **P** **09 41 44.3 +2.0**
baz=236
MDPB Devils Postpil 73.05 42 P **P** **09 41 43.8 +1.2**
MDPB IAMs_20 IAMs_20 10 05 46.4
comp=Z,1μm,21.0s
L02E Cave Junction 73.05 36 P **P** **09 41 44.8 +2.6**
baz=230
OMMB Old Mammoth Mi 73.09 42 P **P** **09 41 44.4 +1.5**
OMMB IAMs_20 IAMs_20 10 06 29.5
comp=Z,2μm,21.0s
BELC Belle Mtn. Jos 73.11 47 P **P** **09 41 44.9 +1.9**
baz=238,SNR=12
RUBR Rubicon Trail 73.19 40 IAMs_20 IAMs_20 10 07 01.3
comp=Z,1μm,20.0s
MLAC Mammoth, Mammo 73.20 42 P **P** **09 41 45.5 +2.0**
baz=235
MPMC Manual Prospec 73.20 44 P **P** **09 41 45.6 +2.1**
baz=236,SNR=53
GSC Goldstone, Bar 73.25 45 P **P** **09 41 45.5 +1.9**
baz=237,SNR=25
GSC Goldstone, Bar 73.25 45 IAmb IAmb 09 41 47.2
comp=Z,62nm,1.4s
TIN Tinemaha, Big 73.27 43 P **P** **09 41 45.8 +2.0**
baz=235
YBH Yreka Blue Hor 73.29 37 P **P** **09 41 44.0 +0.2**
YBH pmax pmax
comp=Z,76nm,1.4s
YBH Yreka Blue Hor 73.29 37 P **P** **09 41 44.0 +0.2**
YBH IAmb IAmb 09 41 47.9
comp=Z,76nm,1.4s
YBH IAMs_20 IAMs_20 10 07 35.9
comp=Z,1μm,20.0s
SII Sitkinak Islan 73.30 11 IAMs_20 IAMs_20 10 07 33.2
comp=Z,1μm,20.0s
BC3 Big Chuckawall 73.31 47 P **P** **09 41 46.5 +2.5**
baz=238,SNR=9.2
HEC Hector,Ludlow 73.32 46 P **P** **09 41 46.0 +1.9**
baz=237,SNR=20
WAKR Walker 73.32 41 IAMs_20 IAMs_20 10 05 43.7
comp=Z,2μm,22.0s
K02D Willamette Mer 73.36 36 P **P** **09 41 46.4 +2.3**
baz=230
GLA Glamis 73.45 48 P **P** **09 41 47.2 +2.4**
baz=239
GLA Glamis 73.45 48 P **P** **09 41 46.7 +1.9**
GLA pmax pmax
comp=Z,62nm,1.3s
GLA Glamis 73.45 48 P **P** **09 41 46.7 +1.9**
GLA IAmb IAmb 09 41 48.7
comp=Z,62nm,1.3s
J01E Myrtle Point 73.52 35 P **P** **09 41 47.1 +2.3**
baz=230
PNTR Pine Nut 73.56 41 IAmb IAmb 09 41 49.4
comp=Z,79nm,1.4s
PNTR IAMs_20 IAMs_20 10 07 24.1
comp=Z,1μm,20.0s
YSS Yuzh-Sakhalins 73.58 330 *e*P **P** **09 41 45.5 +0.4**
YSS *e**SP **pP** **09 41 50.7 -2.4**
YSS *e* 09 42 00.1
YSS *e* 09 44 28.1
YSS *e*S **SKiKP** **09 51 13.0 -0.5**
YSS *e*SS **SS** **09 55 56.3 -0.8**
YSS pmax pmax
comp=Z,20nm,1.2s
VCNR Virginia City 73.65 40 P **P** **09 41 47.6 +1.6**
VCNR IAmb IAmb 09 41 49.8
comp=Z,41nm,1.3s
VCNR IAMs_20 IAMs_20 10 07 36.4
comp=Z,1μm,20.0s
HUMO Hull Mountain 73.71 36 P **P** **09 41 47.5 +1.4**
HUMO IAmb IAmb 09 41 50.3
comp=Z,62nm,1.4s
HUMO IAMs_20 IAMs_20 10 07 19.8
comp=Z,1μm,20.0s
YERR Yerington 73.73 41 IAmb IAmb 09 41 50.1
comp=Z,66nm,1.5s
YERR IAMs_20 IAMs_20 10 07 09.5
comp=Z,1μm,20.0s
GMRC Granite Mounta 73.77 46 P **P** **09 41 48.7 +2.0**
baz=238,SNR=19
LHV Little Huntoon 73.77 42 IAmb IAmb 09 41 49.8
comp=Z,45nm,1.5s
LHV IAMs_20 IAMs_20 10 07 03.7
comp=Z,2μm,21.0s
IRM Iron Mountain 73.80 47 P **P** **09 41 49.1 +2.3**
baz=238,SNR=18
GRAC Grapevine Rang 73.81 43 P **P** **09 41 49.5 +2.7**
baz=236,SNR=14
M04C Macdoel 73.83 37 P **P** **09 41 49.4 +2.5**
baz=232,SNR=9.8
L04D Klamath Falls 73.83 37 P **P** **09 41 49.6 +2.6**
baz=231,SNR=7.9
FURC Furnace Creek, 73.85 44 P **P** **09 41 49.2 +2.2**
baz=237,SNR=8.6
TUQ Turquoise Moun 73.93 46 P **P** **09 41 49.7 +2.0**
baz=238,SNR=22
SHOC Shoshone, Teco 73.94 45 P **P** **09 41 49.8 +2.2**
baz=237,SNR=11
RYN Ryan 73.98 42 P **P** **09 41 48.2 +0.2**
RYN IAMs_20 IAMs_20 10 06 28.1
comp=Z,1μm,21.0s
NVAR Mina Array Bea 74.00 42 P **P** **09 41 50.2 +2.1**
comp=Z,6.9nm,0.9s,baz=228,slow=8.3,SNR=51
NVAR LR LR 10 07 25.2
comp=Z,1μm,20.8s,baz=256,slow=30
NVAR Mina Array Bea 74.00 42 P **P** **09 41 50.2 +2.1**
PAHR Pah Rah Range 74.06 40 P **P** **09 41 48.9 +0.5**
PAHR IAmb IAmb 09 41 52.1
comp=Z,62nm,1.4s
PAHR IAMs_20 IAMs_20 10 08 18.3
comp=Z,981nm,20.0s
113A Mohawk Valley, 74.07 49 IAmb IAmb 09 41 52.0
comp=Z,50nm,1.3s
113A IAMs_20 IAMs_20 10 06 11.7
comp=Z,1μm,21.0s
OHAK Old Harbor 74.09 11 P **P** **09 41 47.7 -0.2**
OHAK IAmb IAmb 09 41 50.3
comp=Z,91nm,1.4s
OHAK IAMs_20 IAMs_20 10 07 27.2
comp=Z,1μm,21.0s
NV11 Mina Array Sit 74.10 42 IAmb IAmb 09 41 52.4
comp=Z,89nm,1.4s
NV11 IAMs_20 IAMs_20 10 07 13.4
comp=Z,1μm,20.0s
I02D Swisshome 74.17 35 P **P** **09 41 51.6 +2.9**
baz=229
I03D Drain, OR 74.19 35 P **P** **09 41 51.2 +2.5**
baz=230,SNR=5.8
214A Organ Pipe Nat 74.36 50 P **P** **09 41 52.3 +2.2**
baz=240
214A Organ Pipe Nat 74.36 50 IAmb IAmb 09 41 53.9
comp=Z,60nm,1.4s
214A IAMs_20 IAMs_20 10 06 43.5
comp=Z,1μm,20.0s
K04D Chiloquin, OR 74.41 37 P **P** **09 41 52.3 +2.1**
baz=231
NEE2 Needles Airpor 74.48 47 P **P** **09 41 53.2 +2.4**
baz=239
KVN Kaiserville 74.49 41 IAmb IAmb 09 41 54.5
comp=Z,53nm,1.3s
KVN IAMs_20 IAMs_20 10 07 15.6
comp=Z,1μm,20.0s
TPNV Topopah Spring 74.53 44 P **P** **09 41 53.5 +2.3**
baz=237,SNR=24
TPNV Topopah Spring 74.53 44 P **P** **09 41 52.8 +1.6**
TPNV pmax pmax
comp=Z,38nm,1.5s
TPNV Topopah Spring 74.53 44 P **P** **09 41 52.8 +1.6**
PDMCI Parker Dam,Lak 74.58 47 P **P** **09 41 53.4 +2.1**
baz=239,SNR=8.2
J04D Umpqua Nationa 74.59 36 P **P** **09 41 53.9 +2.5**
baz=231,SNR=16
QSPA South Pole Qui 74.75 180 P **P** **09 41 53.3 +1.3**
QSPA IAmb IAmb 09 42 06.8
comp=Z,53nm,1.1s
KDAK Kodiak Island 74.75 11 P **P** **09 41 52.6 +0.9**
KDAK pmax pmax
comp=Z,123nm,1.4s
KDAK Kodiak Island 74.75 11 P **P** **09 41 52.6 +0.9**
KDAK Kodiak Island 74.75 11 IAMs_20 IAMs_20 10 06 42.6
comp=Z,1μm,22.0s
I04A Tendick Farm, 74.77 35 P **P** **09 41 54.5 +2.2**
baz=231,SNR=11
COR Corvallis 74.78 34 IAMs_20 IAMs_20 10 06 58.2
comp=Z,1μm,20.0s
MOD Modoc Plateau 74.81 38 P **P** **09 41 54.1 +1.4**
MOD IAmb IAmb 09 41 56.4
comp=Z,104nm,1.4s
MOD IAMs_20 IAMs_20 10 07 59.1
comp=Z,1μm,21.0s
K05A Summer Lake 74.97 37 **P** **09 41 55.6 +2.0**
K05A IAMs_20 IAMs_20 10 08 35.2
comp=Z,1μm,20.0s
SHPR Sheep Range 75.03 45 IAmb IAmb 09 41 58.0
comp=Z,73nm,1.3s
H04D Lebanon 75.05 35 P **P** **09 41 56.4 +2.6**
baz=230,SNR=7.5
J05D Fort Rock, OR 75.12 36 P **P** **09 41 57.0 +2.6**
baz=232,SNR=45
W13A Hualapai Mount 75.17 47 IAmb IAmb 09 41 58.8
comp=Z,50nm,1.4s
W13A IAMs_20 IAMs_20 10 08 20.8
comp=Z,1μm,20.0s
Y14A Wickenburg 75.21 48 IAmb IAmb 09 41 58.7
comp=Z,54nm,1.3s
Y14A IAMs_20 IAMs_20 10 07 18.8
comp=Z,1μm,20.0s
G03D McMinnville, O 75.21 34 P **P** **09 41 56.7 +2.1**
baz=230
PRN Pahroc Range 75.58 44 IAmb IAmb 09 42 01.4
comp=Z,82nm,1.4s
PINE Pine Mountain 75.60 36 IAMs_20 IAMs_20 10 09 11.8
comp=Z,951nm,20.0s
I05D Terrebonne, OR 75.71 36 P **P** **09 42 00.1 +2.4**
baz=231,SNR=20
R11A Troy Canyon, C 75.73 43 P **P** **09 42 00.2 +2.1**
baz=237,SNR=37
R11A Troy Canyon, C 75.73 43 IAmb IAmb 09 42 01.8
comp=Z,55nm,1.5s
R11A IAMs_20 IAMs_20 10 07 44.5
comp=Z,1μm,21.0s
F04D Rainier, OR 75.91 33 P **P** **09 42 01.2 +2.5**
baz=230
TUC Tucson 76.04 51 P **P** **09 42 02.2 +2.3**
baz=242
TUC Tucson 76.04 51 P **P** **09 42 01.7 +1.9**
TUC pmax pmax
comp=Z,66nm,1.3s
TUC Tucson 76.04 51 P **P** **09 42 01.7 +1.9**
TUC IAmb IAmb 09 42 03.9
comp=Z,66nm,1.2s
TUC Tucson 76.04 51 IAMs_20 IAMs_20 10 07 43.9
comp=Z,1μm,19.0s
WVOR Wild Horse Val 76.12 38 P **P** **09 42 01.9 +1.7**
WVOR pmax pmax
comp=Z,97nm,1.4s
WVOR Wild Horse Val 76.12 38 P **P** **09 42 01.9 +1.7**
WVOR IAMs_20 IAMs_20 10 09 20.8
comp=Z,2μm,20.0s
F04A Amboy 76.13 34 P **P** **09 42 01.2 +1.2**
F04A IAmb IAmb 09 42 03.3
comp=Z,73nm,1.3s
G05D Wamic, OR 76.29 35 P **P** **09 42 03.0 +2.1**
baz=231,SNR=11
NLWA Neilton Lookou 76.32 32 P **P** **09 42 01.2 +0.2**
NLWA IAmb IAmb 09 42 04.9
comp=Z,76nm,1.5s
KSRS Korea Array 76.34 315 P **P** **09 42 02.5 +1.3**
comp=Z,1.2nm,0.6s,baz=163,slow=6.2,SNR=4.2
KSRS LR LR 10 09 48.1
comp=Z,91nm,22.0s,baz=114,slow=31
KSRS Korea Array 76.34 315 P **P** **09 42 02.6 +1.3**
TYV Tymovskoe 76.43 333 *e*P **P** **09 42 02.6 +1.1**
TYV pmax pmax
comp=Z,22nm,1.3s
TYV pmax pmax
comp=Z,100nm,2.8s
E04D Cinebar 76.45 33 P **P** **09 42 04.3 +2.5**
baz=230,SNR=22
X16A Lo Mia Camp, P 76.57 48 **P** **09 42 04.8 +1.8**
X16A IAMs_20 IAMs_20 10 08 42.9
comp=Z,999nm,20.0s
I07A Izee 76.60 37 P **P** **09 42 04.2 +1.4**
I07A IAmb IAmb 09 42 06.6
comp=Z,86nm,1.3s
I07A IAMs_20 IAMs_20 10 08 54.3
comp=Z,1μm,19.0s
LCMT Little Creek M 76.60 45 **P** **09 42 04.9 +1.9**
F05D White Salmon 76.61 34 P **P** **09 42 04.7 +2.0**
baz=231,SNR=12
CNPM China Poot 76.63 11 P **P** **09 42 03.6 +1.1**
CNPM IAMs_20 IAMs_20 10 09 30.4
comp=Z,1μm,20.0s
HOM Homer 76.68 11 P **P** **09 42 04.4 +1.6**
baz=201
319A Douglas 76.74 52 P **P** **09 42 06.4 +2.5**
319A IAmb IAmb 09 42 07.9
comp=Z,57nm,1.1s
319A IAMs_20 IAMs_20 10 07 25.4
comp=Z,1μm,21.0s
D04E Lakebay 76.74 33 P **P** **09 42 06.5 +3.1**
baz=230,SNR=10.0
J08A Circle Bar Ran 76.76 38 P **P** **09 42 05.1 +1.3**
J08A IAMs_20 IAMs_20 10 09 33.7
comp=Z,1μm,20.0s
CCUT Cedar City 76.80 45 P **P** **09 42 06.1 +1.9**
D03D Eldon 76.81 32 P **P** **09 42 06.1 +2.3**
baz=229,SNR=14
KNB Kanab 76.89 45 P **P** **09 42 05.6 +0.9**
KNB pmax pmax
comp=Z,54nm,1.3s
KNB Kanab 76.89 45 P **P** **09 42 05.6 +0.9**
BRLK Bradley Lake 76.92 11 P **P** **09 42 05.3 +1.2**
BRLK IAMs_20 IAMs_20 10 09 36.6
comp=Z,1μm,20.0s
U15A North Rim 76.96 46 P **P** **09 42 07.0 +1.7**
U15A IAMs_20 IAMs_20 10 09 38.2
comp=Z,1μm,21.0s
LON Longmire 76.97 33 P **P** **09 42 05.8 +1.0**
LON pmax pmax

comp=Z,440nm,1.4s
LON Longmire 76.97 33 P P 09 42 05.8 +1.0
LON IAmb IAmb 09 42 08.0
comp=Z,440nm,1.4s
PSUT Pine Spring 76.98 44 P P 09 42 06.4 +1.2
SZCU Shurtz Canyon 77.01 45 P P 09 42 06.9 +1.5
WUAZ Wupatki 77.16 47 P P 09 42 08.9 +2.7
baz=241,SNR=26
WUAZ Wupatki 77.16 47 P P 09 42 07.0 +0.8
WUAZ IAmb IAmb 09 42 10.3
comp=Z,799nm,1.4s
WUAZ IAMs_20 IAMs_20 10 08 53.4
comp=Z,961nm,20.0s
D05A Enumclaw 77.16 33 P P 09 42 08.2 +2.5
RSO Redoubt South 77.24 10 P P 09 42 06.0 -0.2
PGC Sidney 77.36 31 P P 09 42 06.8 +0.1
PGC IAmb IAmb 09 42 10.2
comp=Z,100nm,1.5s
SVW2 Sparrevohn 77.40 9 P P 09 42 06.7 -0.1
F07A Phinny Hill Vi 77.46 35 IAMs_20 IAMs_20 10 09 17.1
comp=Z,1000nm,20.0s
PKCU Pink Cliffs 77.46 45 P P 09 42 10.6 +2.5
SEW Seward 77.51 12 P P 09 42 07.4 0.0
SEW IAmb IAmb 09 42 09.5
comp=Z,47nm,1.2s
USA0B Ussuriysk Arra 77.52 323 P P 09 42 06.5 -1.3
USA0B pmax pmax
comp=Z,20nm,1.3s
USA0B Ussuriysk Arra 77.52 323 P P 09 42 06.5 -1.3
USRK Ussuriysk Ar. 77.52 323 P P 09 42 09.1 +1.2
comp=Z,4.1nm,1.0s,baz=123,slow=10,SNR=8.3
USRK LR LR 10 09 40.6
comp=Z,254nm,21.5s,baz=117,slow=31
USRK Ussuriysk Ar. 77.52 323 P P 09 42 09.1 +1.2
USRK Ussuriysk Ar. 77.52 323 P P 09 42 09.8 +1.2
G08A Pilot Rock 77.63 36 P P 09 42 09.8 +1.2
A04D Lummi Island 77.78 31 P P 09 42 11.3 +2.2
baz=230,SNR=14
B05A Bryant 77.79 32 P P 09 42 11.3 +2.0
baz=230,SNR=33
O22K Cooper Landing 77.81 12 P P 09 42 09.9 +0.9
baz=203
MTPU Mount Pierson 77.85 45 P P 09 42 11.0 +0.8
LTY Liberty 77.90 33 P P 09 42 10.2 +0.2
E07A Sunnyside 77.91 34 P P 09 42 09.9 0.0
E07A IAMs_20 IAMs_20 10 08 36.9
comp=Z,863nm,20.0s
HAWA Hanford 77.98 35 IAMs_20 IAMs_20 10 09 41.8
comp=Z,842nm,20.0s
LEM Lembang 78.01 266 P P 09 42 21.2 +10
SPU Mount Spurr 78.04 10 P P 09 42 10.5 +0.1
MSU Marysvale 78.09 44 P P 09 42 12.7 +1.2
MSU Marysvale 78.09 44 P P 09 42 12.7 +1.2
W18A Petrified Fore 78.14 48 P P 09 42 14.2 +2.5
baz=242,SNR=6.9
W18A Petrified Fore 78.14 48 P P 09 42 13.5 +1.8
W18A IAmb IAmb 09 42 15.7
comp=Z,67nm,1.4s
W18A IAMs_20 IAMs_20 10 09 30.4
comp=Z,1µm,20.0s
C06D Leavenworth 78.20 33 P P 09 42 12.6 +1.1
baz=231
B06A Marblemount 78.27 32 P P 09 42 13.6 +1.7
BMO Blue Mountains 78.32 37 P P 09 42 13.1 +0.7
BMO pmax pmax
comp=Z,90nm,1.4s
BMO Blue Mountains 78.32 37 P P 09 42 13.1 +0.7
BMO IAmb IAmb 09 42 15.6
comp=Z,90nm,1.4s
BMO IAMs_20 IAMs_20 10 09 40.9
comp=Z,906nm,21.0s
MFID Camas Ranch 78.38 39 P P 09 42 13.5 +0.8
MFID IAmb IAmb 09 42 16.1
comp=Z,83nm,1.3s
121A Cookes Peak, D 78.39 52 P P 09 42 16.0 +2.8
baz=244,SNR=24
121A Cookes Peak, D 78.39 52 P P 09 42 13.9 +0.7
121A IAmb IAmb 09 42 17.4
comp=Z,81nm,1.3s
121A IAMs_20 IAMs_20 10 10 01.2
comp=Z,1µm,19.0s
HIN Hinchinbrook I 78.39 13 IAMs_20 IAMs_20 10 09 10.4
comp=Z,1µm,22.0s
KAIM Kayak Island 78.45 14 IAMs_20 IAMs_20 10 09 59.9
comp=Z,1µm,20.0s
SUA Susitna One 78.53 11 P P 09 42 13.5 +0.4
SUA IAmb IAmb 09 42 15.2
comp=Z,34nm,1.1s
SUA IAMs_20 IAMs_20 10 10 14.0
comp=Z,1µm,21.0s
DUG Dugway, Tooele 78.53 43 P P 09 42 15.8 +2.1
baz=239
DUG Dugway, Tooele 78.53 43 P P 09 42 14.6 +0.8
DUG pmax pmax
comp=Z,71nm,1.3s
DUG Dugway, Tooele 78.53 43 P P 09 42 14.6 +0.8
DUG IAmb IAmb 09 42 17.3
comp=Z,70nm,1.3s
DUG IAMs_20 IAMs_20 10 09 45.7
comp=Z,1µm,21.0s
ZAIG Zacatecas 78.63 63 P P 09 42 15.4 +0.6
ZAIG IAmb IAmb 09 42 19.1
comp=Z,54nm,1.4s
ZAIG IAMs_20 IAMs_20 10 08 18.8
comp=Z,1µm,21.0s
EYAK Cordova Ski Ar 78.70 13 P P 09 42 14.9 +1.0
EYAK IAmb IAmb 09 42 16.3
comp=Z,89nm,1.4s
EYAK IAMs_20 IAMs_20 10 09 19.1
comp=Z,1µm,21.0s
GLI Glacier Island 78.70 13 P P 09 42 14.4 +0.4
GLI IAmb IAmb 09 42 16.0
comp=Z,73nm,1.1s
GLI IAMs_20 IAMs_20 10 09 42.6
comp=Z,1µm,20.0s
FID Port Fidalgo 78.72 13 IAMs_20 IAMs_20 10 09 19.4
comp=Z,1µm,22.0s
D08A Wollman Farm, 78.72 34 P P 09 42 16.2 +1.8
SUCK Suckling Hills 78.73 14 IAMs_20 IAMs_20 10 09 59.1
comp=Z,1µm,20.0s
BGU Big Grassy Mou 78.77 42 P P 09 42 13.7 -1.4
RAGM Ragged Mountai 78.80 14 IAMs_20 IAMs_20 10 09 08.8
comp=Z,1µm,21.0s
E09A Wood Farm, Sta 78.82 35 P P 09 42 15.7 +0.7
E09A IAmb IAmb 09 42 18.1
comp=Z,100nm,1.4s
HMT Hamilton 78.85 14 P P 09 42 13.8 -1.0
HMT IAmb IAmb 09 42 17.5
comp=Z,102nm,1.4s
HMT IAMs_20 IAMs_20 10 09 53.1
comp=Z,1µm,20.0s
SKT Skwentna 78.87 10 P P 09 42 14.5 -0.5
SKT IAmb IAmb 09 42 16.3
comp=Z,49nm,1.3s
SKT IAMs_20 IAMs_20 10 09 29.6
comp=Z,1µm,22.0s
KNK Knik Glacier 78.91 12 IAmb IAmb 09 42 16.8
comp=Z,44nm,1.3s
PMR Palmer 78.95 11 IAmb IAmb 09 42 17.6
comp=Z,108nm,1.4s
F10A Beach Ranch, E 79.02 36 P P 09 42 16.2 0.0
EPT El Paso 79.03 53 IAMs_20 IAMs_20 10 09 26.2
comp=Z,1µm,18.0s
TTA Tatalina 79.10 8 P P 09 42 17.8 +1.6
TTA pmax pmax
comp=Z,62nm,1.2s
TTA Tatalina 79.10 8 P P 09 42 17.8 +1.6
TTA IAmb IAmb 09 42 19.4
comp=Z,62nm,1.2s
TMUT Trail Mountain 79.14 44 P P 09 42 19.3 +2.0
GHO Glory Hole Cre 79.15 11 P P 09 42 17.0 +0.4
GHO IAmb IAmb 09 42 18.8
comp=Z,44nm,1.0s
MDJ Mudanjiang 79.17 322 P P 09 42 18.3 +1.4
MDJ S S **09 52 21.0 +6.2**
MDJ pmax pmax
comp=Z,3.0nm,0.5s
MDJ pmax pmax
comp=Z,160nm,3.6s
MDJ LR LR
comp=Z,150nm,5.2s
MDJ LR LR
comp=Z,190nm,4.2s
MDJ LR LR
comp=Z,370nm,19.0s
GRNR Gornyy 79.24 330 ⇑ *i*P P 09 42 16.5 -0.7
GRNR pmax pmax
comp=Z,8.0nm,1.3s
GRNR MLR MLR
comp=Z,120nm,12.0s
B08A Colville Reser 79.29 33 P P 09 42 18.6 +1.0
B08A IAmb IAmb 09 42 20.2
comp=Z,86nm,1.5s
SML Sawmill 79.30 12 P P 09 42 18.2 +0.9
SML IAmb IAmb 09 42 19.6
comp=Z,70nm,1.4s
HLID Hailey 79.31 39 P P 09 42 20.3 +2.3
baz=237
HLID Hailey 79.31 39 P P 09 42 19.4 +1.4
HLID IAmb IAmb 09 42 21.8
comp=Z,98nm,1.2s
HVU Hansel Valley 79.38 41 P P 09 42 19.9 +1.5
HVU pmax pmax
comp=Z,110nm,1.4s
HVU Hansel Valley 79.38 41 P P 09 42 19.9 +1.5
CRQM Cirque 79.49 14 P P 09 42 18.6 +0.1
CRQM IAmb IAmb 09 42 21.1
comp=Z,94nm,1.2s
CRQM IAMs_20 IAMs_20 10 10 02.2
comp=Z,1µm,21.0s
YAH Yahtse 79.49 15 P P 09 42 18.7 +0.1
YAH IAMs_20 IAMs_20 10 09 30.2
comp=Z,1µm,21.0s
CUT Chulitna 79.49 11 P P 09 42 18.7 +0.5
baz=202
KLU Klutina 79.50 13 P P 09 42 18.4 -0.1
KLU IAmb IAmb 09 42 20.9
comp=Z,63nm,1.3s
KLU IAMs_20 IAMs_20 10 09 34.4
comp=Z,1µm,22.0s
C09A Chrisman Ranch 79.52 34 P P 09 42 19.9 +1.1
C09A IAmb IAmb 09 42 21.9
comp=Z,108nm,1.5s
SCM Sheep Creek Mo 79.52 12 P P 09 42 19.0 +0.4
SCM pmax pmax
comp=Z,36nm,0.9s
SCM Sheep Creek Mo 79.52 12 P P 09 42 19.0 +0.4
SCM IAmb IAmb 09 42 20.9
comp=Z,36nm,0.9s
P17A Butcher Ranch, 79.54 44 P P 09 42 21.1 +1.7
ISLE Juniper Island 79.55 15 P P 09 42 19.3 +0.5
ISLE IAmb IAmb 09 42 21.4
comp=Z,92nm,1.3s
ISLE IAMs_20 IAMs_20 10 09 32.6
comp=Z,1µm,22.0s
TGL Tana Glacier 79.56 15 IAMs_20 IAMs_20 10 10 37.0
comp=Z,1µm,20.0s
PCA Pinnacle 79.64 16 IAmb IAmb 09 42 21.8
comp=Z,87nm,1.4s
BCPM Bancas Point 79.69 16 IAmb IAmb 09 42 22.2
comp=Z,114nm,1.4s
Y22D IRIS PASSCAL I 79.72 50 P P 09 42 23.4 +3.0
baz=244,SNR=14
Y22D IRIS PASSCAL I 79.72 50 IAMs_20 IAMs_20 10 10 25.5
comp=Z,823nm,20.0s
LENM Lemitar 79.73 50 P P 09 42 21.1 +0.7
VRDI Verde Repeater 79.83 14 IAMs_20 IAMs_20 10 10 24.2
comp=Z,892nm,21.0s
MNTX Cornudas Mount 79.87 53 P P 09 42 23.4 +2.4
baz=245,SNR=52
MNTX Cornudas Mount 79.87 53 IAmb IAmb 09 42 25.0
comp=Z,86nm,1.4s
JIS Juneau Island 79.88 20 P P 09 42 21.8 +1.4
JIS IAMs_20 IAMs_20 10 10 01.8
comp=Z,807nm,20.0s
BALM Baldy 79.92 15 IAMs_20 IAMs_20 10 10 16.5
comp=Z,1µm,21.0s
GLB Gilahina Butte 79.93 14 IAmb IAmb 09 42 23.2
comp=Z,92nm,1.4s
BESE Bessie Mountai 79.97 19 P P 09 42 20.8 -0.2
BESE IAmb IAmb 09 42 24.1
comp=Z,79nm,1.4s
BESE IAMs_20 IAMs_20 10 10 14.1
comp=Z,866nm,20.0s
BNM Barren Site 79.98 51 P P 09 42 23.6 +1.7
MVCO Mesa Verde 80.00 47 P P 09 42 24.2 +2.2
baz=242,SNR=11
MVCO Mesa Verde 80.00 47 P P 09 42 23.4 +1.5
MVCO IAMs_20 IAMs_20 10 11 03.7
comp=Z,1µm,20.0s
M24K Tolsona, Glenn 80.00 12 P P 09 42 22.9 +1.7
baz=206,SNR=16
HWUT Hardware Ranch 80.07 42 IAmb IAmb 09 42 25.4
comp=Z,56nm,1.4s
HWUT IAMs_20 IAMs_20 10 11 25.4
comp=Z,1µm,20.0s
BARN Barnard Glacie 80.11 15 IAMs_20 IAMs_20 10 09 38.5
comp=Z,1µm,21.0s
CTGM Chitina Glacie 80.11 15 IAMs_20 IAMs_20 10 10 12.5
comp=Z,1µm,21.0s
PV10 Paradox Valley 80.17 46 IAmb IAmb 09 42 26.3
comp=Z,99nm,1.2s
MA2 Magadan 80.18 342 *d i*P P 09 42 22.2 +0.1
MA2 pmax pmax
comp=Z,18nm,1.2s
PV19 Morning Glory 80.18 46 IAMs_20 IAMs_20 10 12 30.4
comp=Z,1µm,20.0s
PV14 Lion Creek, Pa 80.18 46 IAmb IAmb 09 42 26.6
comp=Z,100nm,1.2s
PV14 IAMs_20 IAMs_20 10 11 22.9
comp=Z,1µm,22.0s
PV17 East Wray Mesa 80.18 46 P P 09 42 23.9 +1.0
PV17 IAmb IAmb 09 42 26.6
comp=Z,115nm,1.3s
PV18 Skein Mesa, Pa 80.20 46 IAmb IAmb 09 42 26.7
comp=Z,93nm,1.3s
PV20 West Nyswonger 80.21 46 IAmb IAmb 09 42 26.6
comp=Z,94nm,1.2s
PV13 Radium Mtn., P 80.22 46 IAmb IAmb 09 42 26.8
comp=Z,102nm,1.3s
PV16 Nyswonger Mesa 80.23 46 IAmb IAmb 09 42 26.9
comp=Z,97nm,1.3s
PV16 IAMs_20 IAMs_20 10 12 26.6
comp=Z,1µm,21.0s
PV23 Carpenter Ridg 80.23 46 IAmb IAmb 09 42 27.0
comp=Z,94nm,1.1s
PV03 Paradox Valley 80.25 46 IAmb IAmb 09 42 26.9
comp=Z,96nm,1.3s
TX31 Lajitas Ar. Si 80.25 56 P P 09 42 25.4 +2.1
TX32 Lajitas Array 80.25 56 P P 09 42 24.8 +1.5
TX32 IAmb IAmb 09 42 27.5
comp=Z,111nm,1.4s
TXAR Lajitas Array 80.25 56 P P 09 42 25.8 +2.5
comp=Z,34nm,1.1s,baz=224,slow=5.2,SNR=144
TXAR LR LR 10 11 28.1
comp=Z,769nm,19.4s,baz=0.0,slow=31
TXAR Lajitas Array 80.25 56 P P 09 42 25.8 +2.5
TXAR Lajitas Array 80.25 56 P P 09 42 25.8 +2.5
PV11 David Mesa, Pa 80.25 46 P P 09 42 24.1 +0.9
PV04 Paradox Valley 80.27 46 P P 09 42 23.9 +0.6
PV04 IAmb IAmb 09 42 27.2
comp=Z,87nm,1.2s
PV02 Paradox Valley 80.30 46 P P 09 42 25.2 +1.6
PV02 IAmb IAmb 09 42 27.3
comp=Z,95nm,1.3s
PV12 Saucer Basin, 80.31 46 P P 09 42 24.7 +1.1
BCYI Bear Canyon 80.33 39 P P 09 42 24.6 +1.0
PV01 Paradox Valley 80.38 46 IAmb IAmb 09 42 27.7
comp=Z,117nm,1.4s
NJ2 Nanjing 80.40 307 *e*P P 09 42 24.0 +0.1
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
NEW Newport 80.42 34 P P 09 42 24.8 +1.1
baz=234,SNR=17
NEW Newport 80.42 34 P P 09 42 24.5 +0.8
NEW pmax pmax
comp=Z,45nm,1.5s
NEW Newport 80.42 34 P P 09 42 24.5 +0.8
KTH Kantishna Hill 80.45 10 P P 09 42 23.7 +0.2
KTH IAmb IAmb 09 42 25.9
comp=Z,84nm,1.3s
KTH IAMs_20 IAMs_20 10 11 14.1
comp=Z,855nm,21.0s
ANMO Albuquerque 80.45 50 P P 09 42 26.5 +2.1
baz=244
ANMO Albuquerque 80.45 50 P P 09 42 26.0 +1.6
ANMO pmax pmax
comp=Z,60nm,1.3s
ANMO Albuquerque 80.45 50 P P 09 42 26.0 +1.6
ANMO IAmb IAmb 09 42 28.4
comp=Z,60nm,1.2s
ANMO Albuquerque 80.45 50 IAMs_20 IAMs_20 10 09 55.7
comp=Z,923nm,22.0s
TRF Thorofare Moun 80.46 10 P P 09 42 23.8 0.0
TRF IAmb IAmb 09 42 27.5
comp=Z,65nm,1.4s
TRF IAMs_20 IAMs_20 10 11 46.4
comp=Z,1µm,21.0s
SKAG Skagway 80.53 18 P P 09 42 24.9 +1.0
SKAG IAmb IAmb 09 42 27.5
comp=Z,82nm,1.4s
SKAG IAMs_20 IAMs_20 10 11 42.8
comp=Z,827nm,20.0s
PV15 Paradox Valley 80.54 46 IAMs_20 IAMs_20 10 11 54.0
comp=Z,1µm,22.0s
KLR Kul'dur 80.63 327 P P 09 42 25.2 +0.4
comp=Z,1.6nm,0.7s,baz=152,slow=2.1,SNR=10
KLR Kul'dur 80.63 327 ‖ *e*P P 09 42 25.2 +0.4
KLR pmax pmax
comp=Z,12nm,1.5s
KLR MLR MLR
comp=Z,109nm,17.0s
DHY Denali Highway 80.64 12 P P 09 42 24.4 -0.3
DHY IAmb IAmb 09 42 26.9
comp=Z,53nm,1.4s
RND Reindeer 80.67 11 P P 09 42 25.6 +0.9
RND pmax pmax
comp=Z,125nm,1.4s
RND Reindeer 80.67 11 P P 09 42 25.6 +0.9
RND IAMs_20 IAMs_20 10 12 11.0
comp=Z,1µm,20.0s
GDL2 Guadalupe Moun 80.86 53 P P 09 42 28.7 +2.1
RDMU Red Mountain 80.86 44 P P 09 42 27.8 +1.3
PAX Paxson 80.93 12 P P 09 42 26.4 +0.3
PAX pmax pmax
comp=Z,52nm,1.4s
PAX Paxson 80.93 12 P P 09 42 26.4 +0.3
PAX IAmb IAmb 09 42 28.2
comp=Z,52nm,1.4s
PAX IAMs_20 IAMs_20 10 10 33.0
comp=Z,964nm,22.0s
ECR Eagle Creek 80.93 41 P P 09 42 28.0 +1.2
MCMT McKenzie Canyo 80.94 39 P P 09 42 27.9 +1.0
BPAW Bear Paw Mtn. 80.95 10 P P 09 42 24.9 -1.3
MCK McKinley 80.95 11 P P 09 42 26.4 +0.2
MCK pmax pmax
comp=Z,83nm,1.1s
MCK McKinley 80.95 11 P P 09 42 26.4 +0.2
MCK IAmb IAmb 09 42 28.4
comp=Z,83nm,1.1s
MCK IAMs_20 IAMs_20 10 11 38.5
comp=Z,1µm,21.0s
AHID Auburn Hatcher 80.96 41 P P 09 42 26.9 0.0
AHID IAmb IAmb 09 42 30.3
comp=Z,77nm,1.2s
HYT Haines Junctio 81.00 17 P P 09 42 27.7 +1.1
HYT IAmb IAmb 09 42 29.9
comp=Z,77nm,1.3s
CN2 Changchun 81.25 320 *e*P P 09 42 30.0 +1.9
CN2 *e*S S **09 52 40.8 +4.1**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,16.0s
CN2 LR LR
comp=Z,100nm,16.0s
CLNB Carlsbad 81.26 53 P P 09 42 30.9 +2.3
BWN Browne 81.27 10 P P 09 42 28.4 +0.6
MENT Mentasta 81.27 13 P P 09 42 28.9 +1.1
DLMT Dillon 81.38 38 IAmb IAmb 09 42 32.6
comp=Z,102nm,1.4s
MSO Missoula 81.38 37 P P 09 42 30.2 +1.3
baz=237,SNR=71
MSO Missoula 81.38 37 P P 09 42 29.8 +0.8
MSO IAmb IAmb 09 42 32.3
comp=Z,100nm,1.3s
MSO IAMs_20 IAMs_20 10 11 03.8
comp=Z,1µm,22.0s
TPAW Teton Pass 81.42 41 P P 09 42 30.1 +0.7
S22A 4UR Ranch, Cre 81.43 47 P P 09 42 32.5 +2.8
baz=243,SNR=105
S22A 4UR Ranch, Cre 81.43 47 IAMs_20 IAMs_20 10 11 01.5
comp=Z,1µm,21.0s
FXWY Fox Creek 81.44 40 P P 09 42 31.5 +2.0
FXWY IAmb IAmb 09 42 33.3
comp=Z,92nm,1.4s
DLBC Dease Lake 81.47 21 P P 09 42 30.8 +1.7
DLBC IAmb IAmb 09 42 32.2
comp=Z,50nm,1.4s
SNOW Snow King Moun 81.53 41 P P 09 42 29.9 -0.1
O20A White River Ci 81.55 45 P P 09 42 32.1 +2.0
baz=242,SNR=16
O20A White River Ci 81.55 45 P P 09 42 32.6 +2.5
O20A IAmb IAmb 09 42 32.9
comp=Z,56nm,1.4s
JTMT Jette 81.69 36 P P 09 42 31.0 +0.4
JTMT IAmb IAmb 09 42 32.9
comp=Z,46nm,1.3s
LOHW Long Hollow 81.70 41 P P 09 42 32.0 +1.2
LOHW IAmb IAmb 09 42 34.4
comp=Z,100nm,1.4s
NEA2 Nenana 81.72 10 P P 09 42 29.9 -0.3
baz=203
RIDG Independent Ri 81.74 12 P P 09 42 30.8 +0.4
RIDG IAmb IAmb 09 42 32.8
comp=Z,67nm,1.3s
RIDG IAMs_20 IAMs_20 10 11 19.5
comp=Z,1µm,22.0s
WRH Wood River Hil 81.78 11 IAMs_20 IAMs_20 10 12 47.5
comp=Z,896nm,20.0s
QLMT Earthquake Lak 81.81 39 P P 09 42 33.4 +2.0
DOT Dot Lake 81.82 13 IAmb IAmb 09 42 33.3
comp=Z,50nm,1.1s
DOT IAMs_20 IAMs_20 10 11 00.7
comp=Z,923nm,22.0s
HDA Harding Lake 81.93 11 P P 09 42 32.1 +0.7
baz=206,SNR=26
HDA Harding Lake 81.93 11 P P 09 42 31.9 +0.6
HDA IAmb IAmb 09 42 33.5
comp=Z,31nm,1.0s
BW06 Boulder Array 81.94 42 P P 09 42 33.7 +1.5
baz=241,SNR=50
BW06 Boulder Array 81.94 42 P P 09 42 33.0 +0.9
BW06 IAmb IAmb 09 42 35.2
comp=Z,98nm,1.4s
BW06 IAMs_20 IAMs_20 10 14 02.9
comp=Z,1µm,20.0s
PD31 Pinedale Array 81.94 42 P P 09 42 33.3 +1.1
PD31 IAmb IAmb 09 42 35.3
comp=Z,90nm,1.4s
PDAR Pinedale Array 81.94 42 P P 09 42 33.6 +1.5
comp=Z,36nm,1.2s,baz=222,slow=2.0,SNR=109
PDAR LR LR 10 13 54.8
comp=Z,907nm,19.1s,baz=232,slow=32
PDAR Pinedale Array 81.94 42 P P 09 42 33.6 +1.5
YHL Hebgen Lake 81.97 39 P P 09 42 34.8 +2.5
CCB Clear Creek Bu 81.99 11 IAmb IAmb 09 42 33.7
comp=Z,61nm,1.1s
CCB IAMs_20 IAMs_20 10 12 00.0
comp=Z,923nm,21.0s
BOZ Bozeman (W) 82.08 38 P P 09 42 34.9 +2.1
baz=239,SNR=91
BOZ Bozeman (W) 82.08 38 P P 09 42 34.3 +1.6
BOZ pmax pmax
comp=Z,129nm,1.4s
BOZ Bozeman (W) 82.08 38 P P 09 42 34.3 +1.6
BOZ IAMs_20 IAMs_20 10 13 04.4
comp=Z,997nm,18.0s
H17A Grant Village 82.11 40 P P 09 42 36.3 +3.2
baz=240,SNR=22
SCRK Sand Creek 82.13 12 P P 09 42 33.6 +1.1
baz=208
YHH Holmes Hill 82.14 39 P P 09 42 33.4 +0.1
TCOL CIGO, UAF Yank 82.19 11 P P 09 42 33.4 +0.8
baz=205,SNR=18
COLA College 82.19 11 P P 09 42 32.3 -0.3
COLA pmax pmax
comp=Z,77nm,1.1s
COLA College 82.19 11 P P 09 42 32.3 -0.3
COLA College 82.19 11 IAMs_20 IAMs_20 10 12 17.3
comp=Z,985nm,21.0s
MDM Murphy Dome 82.20 10 P P 09 42 32.8 0.0
MDM IAMs_20 IAMs_20 10 11 56.6
comp=Z,1µm,21.0s
IL31 82.27 11 P P 09 42 33.0 -0.1
IL31 IAmb IAmb 09 42 36.1

comp=Z,66nm,1.5s
ILAR Eielson Array 82.27 11 P **P** **09 42 33.6 +0.5**
comp=Z,8.1nm,0.9s,baz=210,slow=4.9,SNR=58
ILAR LR LR 10 12 29.7
comp=Z,320nm,21.6s,baz=212,slow=31
ILAR Eielson Array 82.27 11 P **P** **09 42 33.6 +0.5**
ILAR Eielson Array 82.27 11 P **P** **09 42 33.0 -0.1**
SDCO Great Sand Dun 82.37 48 P **P** **09 42 36.7 +2.1**
baz=244,SNR=58
SDCO Great Sand Dun 82.37 48 P **P** **09 42 35.4 +0.7**
SDCO IAmb IAmb 09 42 38.3
comp=Z,63nm,1.3s
SDCO IAMs_20 IAMs_20 10 12 31.5
comp=Z,766nm,20.0s
POKR Poker Plat Res 82.49 11 P **P** **09 42 35.1 +0.9**
baz=205,SNR=12
SEY Seymchan 82.52 345*d i* P **P** **09 42 35.0 +0.6**
HRY Holter Researc 82.54 37 P **P** **09 42 35.9 +0.8**
YMP Mirror Lake Pl 82.54 40 P **P** **09 42 37.5 +2.2**
K27K Chicken 82.59 13 P **P** **09 42 36.6 +1.8**
baz=210
WALA Waterton Lakes 82.62 35 P **P** **09 42 36.4 +1.0**
WALA IAmb IAmb 09 42 38.4
comp=Z,79nm,1.4s
YNE Yellowstone No 82.77 40 P **P** **09 42 38.4 +2.0**
T25A Trinidad 82.89 49 P **P** **09 42 39.1 +1.9**
baz=245,SNR=31
T25A Trinidad 82.89 49 P **P** **09 42 37.9 +0.7**
T25A IAmb IAmb 09 42 40.6
comp=Z,56nm,1.1s
Q24A Divide 83.15 47 P **P** **09 42 41.0 +2.3**
baz=244,SNR=40
Q24A Divide 83.15 47 P **P** **09 42 40.1 +1.4**
ISCO Idaho Springs 83.19 46 P **P** **09 42 41.2 +2.4**
baz=244,SNR=26
ISCO Idaho Springs 83.19 46 P **P** **09 42 39.5 +0.6**
ISCO pmax pmax
comp=Z,25nm,1.2s
ISCO Idaho Springs 83.19 46 P **P** **09 42 39.5 +0.6**
ISCO IAMs_20 IAMs_20 10 14 00.1
comp=Z,1µm,19.0s
QIZ Qiongzhong 83.21 292 P **P** **09 42 38.0 -1.0**
QIZ S **S** **09 52 58.5 +0.7**
QIZ LR LR
comp=Z,160nm,27.3s
QIZ LR LR
comp=Z,140nm,10.0s
RLMT Red Lodge 83.28 40 P **P** **09 42 41.4 +2.4**
baz=241,SNR=43
RLMT Red Lodge 83.28 40 P **P** **09 42 39.9 +0.8**
833A Chaparral WMA, 83.33 58 P **P** **09 42 40.9 +1.5**
baz=249
833A Chaparral WMA, 83.33 58 IAmb IAmb 09 42 42.7
comp=Z,37nm,1.1s
833A IAMs_20 IAMs_20 10 11 06.2
comp=Z,1µm,20.0s
GCMT Greycliff 83.36 39 P **P** **09 42 41.6 +2.2**
EGAK Eagle 83.44 13 P **P** **09 42 39.7 +0.6**
EGAK IAmb IAmb 09 42 41.9
comp=Z,60nm,1.4s
EGAK IAMs_20 IAMs_20 10 12 01.3
comp=Z,949nm,22.0s
RDOG Red Dog Mine 83.44 4 P **P** **09 42 39.8 +0.7**
RDOG IAmb IAmb 09 42 42.3
comp=Z,30nm,1.3s
N23A Red Feather La 83.45 45 P **P** **09 42 42.3 +2.2**
baz=244,SNR=44
N23A Red Feather La 83.45 45 P **P** **09 42 40.2 +0.1**
N23A IAMs_20 IAMs_20 10 13 17.0
comp=Z,1µm,20.0s
JCT Junction City 83.78 56 P **P** **09 42 42.8 +1.1**
baz=248
JCT Junction City 83.78 56 IAmb IAmb 09 42 44.5
comp=Z,23nm,1.1s
JCT IAMs_20 IAMs_20 10 13 30.2
comp=Z,1µm,21.0s
K22A Casper 83.86 43 P **P** **09 42 43.6 +1.6**
baz=243,SNR=29
K22A Casper 83.86 43 IAMs_20 IAMs_20 10 14 14.6
comp=Z,939nm,19.0s
PHWY Pilot Hill 83.96 44 IAmb IAmb 09 42 45.9
comp=Z,75nm,1.4s
PHWY IAMs_20 IAMs_20 10 12 32.4
comp=Z,830nm,22.0s
COLD Coldfoot 83.98 9 P **P** **09 42 43.7 +1.8**
baz=202,SNR=21
COLD Coldfoot 83.98 9 IAmb IAmb 09 42 45.3
comp=Z,54nm,1.3s
AMTX Amarillo 83.99 52 P **P** **09 42 44.4 +1.6**
baz=247
AMTX Amarillo 83.99 52 P **P** **09 42 43.3 +0.5**
AMTX IAMs_20 IAMs_20 10 14 07.6
comp=Z,986nm,18.0s
BELA Belgrano 2 84.05 172 P **P** **09 42 42.5 +0.2**
PMSA Palmer Station 84.12 156 P **P** **09 42 44.5 +1.7**
comp=Z,11nm,1.0s,baz=252,slow=6.4,SNR=3.3
PMSA Palmer Station 84.12 156 P **P** **09 42 44.1 +1.4**
PMSA IAmb IAmb 09 42 45.8
comp=Z,32nm,1.2s
EGMT Eagleton 84.42 37 P **P** **09 42 46.3 +1.6**
baz=240,SNR=23
EGMT Eagleton 84.42 37 P **P** **09 42 45.7 +1.0**
EGMT IAMs_20 IAMs_20 10 13 53.4
comp=Z,911nm,20.0s
ABTX Abilene, Hawle 84.70 54 P **P** **09 42 48.3 +1.9**
baz=248,SNR=55
ABTX Abilene, Hawle 84.70 54 P **P** **09 42 47.5 +1.1**
735A Kenedy 84.82 58 IAMs_20 IAMs_20 10 12 39.7
comp=Z,1µm,18.0s
H03S2 Juan Fernandez 84.95 124 T T 11 16 39.4
baz=251,slow=75,SNR=8.0
KSCO Kaye Shedlock' 84.95 47 P **P** **09 42 49.1 +1.5**
baz=246
KSCO Kaye Shedlock' 84.95 47 P **P** **09 42 48.4 +0.8**
H03S1 Juan Fernandez 84.97 124 T T 11 16 36.9
baz=251,slow=75,SNR=7.1
H03S3 Juan Fernandez 84.97 124 T T 11 16 37.7
baz=251,slow=75,SNR=15
TOLK Toolik Lake Re 85.39 8 P **P** **09 42 50.6 +1.5**
baz=203,SNR=9.2
TOLK Toolik Lake Re 85.39 8 P **P** **09 42 49.2 +0.1**
TOLK IAmb IAmb 09 42 52.0
comp=Z,59nm,1.5s
ZEA Zeya 85.52 329 *e*P **P** **09 42 50.9 +1.0**
ZEA *e*S **S** **09 53 22.0 +2.5**
ZEA pmax pmax
comp=Z,37nm,1.4s
ZEA smax smax
comp=N,200nm,12.0s
BJI Beijing 85.67 313 P P 09 42 56.0 +5.1
BJI S **S** **09 53 27.5 +6.0**
BJI pmax pmax
comp=N,6.0nm,0.9s
BJI pmax pmax
comp=N,150nm,4.2s
435B Jarrell 85.68 57 P **P** **09 42 53.4 +2.2**
baz=250
435B Jarrell 85.68 57 IAMs_20 IAMs_20 10 13 58.3
comp=Z,840nm,20.0s
CCIG Comitan 85.76 72 IAmb IAmb 09 42 56.5
comp=Z,47nm,1.3s
CCIG IAMs_20 IAMs_20 10 11 52.1
comp=Z,1µm,20.0s
LAO LASA Array 85.89 39 P **P** **09 42 54.2 +2.2**
baz=243
HUEH Huehuetenango 86.07 73 IAMs_20 IAMs_20 10 11 14.2
comp=Z,860nm,22.0s
RSSD Black Hills 86.14 42 P **P** **09 42 54.4 +0.9**
baz=245
RSSD Black Hills 86.14 42 P **P** **09 42 53.7 +0.2**
RSSD pmax pmax
comp=Z,68nm,1.4s
RSSD Black Hills 86.14 42 P **P** **09 42 53.7 +0.2**
RSSD IAmb IAmb 09 42 56.9
comp=Z,68nm,1.4s
WMOK Wichita Mounta 86.15 53 P **P** **09 42 54.5 +1.0**
baz=249
WMOK Wichita Mounta 86.15 53 P **P** **09 42 54.0 +0.5**
WMOK pmax pmax
comp=Z,42nm,1.5s
WMOK Wichita Mounta 86.15 53 P **P** **09 42 54.0 +0.5**
WMOK IAmb IAmb 09 42 56.8
comp=Z,42nm,1.4s
OGNE Ogallala 86.16 46 P **P** **09 42 53.7 +0.2**
baz=246
WHTX Lake Whitney, 86.20 56 P **P** **09 42 55.6 +1.8**
baz=250,SNR=16
WHTX Lake Whitney, 86.20 56 P **P** **09 42 54.1 +0.3**
WHTX IAMs_20 IAMs_20 10 14 58.2
comp=Z,1µm,19.0s
U32A Winter Ranch, 86.58 51 P **P** **09 42 55.1 -0.5**
U32A IAmb IAmb 09 42 59.7
comp=Z,46nm,1.3s
U32A IAMs_20 IAMs_20 10 13 55.0
comp=Z,885nm,21.0s
Z35A Perchaven, San 86.83 54 IAMs_20 IAMs_20 10 15 37.7
comp=Z,1µm,20.0s
CBKS Cedar Bluff 86.95 49 P **P** **09 42 58.4 +1.1**
baz=248
CBKS Cedar Bluff 86.95 49 IAmb IAmb 09 43 01.2
comp=Z,33nm,1.1s
237A Washetta, Mont 87.52 56 IAMs_20 IAMs_20 10 14 37.1
comp=Z,778nm,20.0s
KAN10 Anthony SW Sta 87.53 51 P **P** **09 43 00.8 +0.6**
OK029 Liberty Lake 87.54 52 P **P** **09 43 02.0 +1.7**
R32A Long Quarter, 87.55 49 P **P** **09 43 00.1 -0.2**
R32A IAMs_20 IAMs_20 10 14 55.5
comp=Z,1µm,20.0s
OK025 Westminster Rd 87.55 52 IAMs_20 IAMs_20 10 17 30.8
comp=Z,838nm,20.0s
SNET Serv Nac Est T 87.71 75 IAMs_20 IAMs_20 10 12 15.8
comp=Z,951nm,21.0s
DGMT Dagmar 87.92 38 P **P** **09 43 03.1 +1.3**
baz=244
KAN13 South Haven SW 87.95 51 P **P** **09 43 02.2 0.0**
MAW Mawson 88.01 199 P **P** **09 43 03.0 +1.1**
comp=Z,11nm,0.6s,baz=131,slow=6.6,SNR=8.0
MAW LR LR 10 22 23.3
comp=Z,716nm,18.0s,baz=88,slow=36
MAW Mawson 88.01 199 P **P** **09 43 02.9 +1.0**
baz=88,SNR=22
MAW Mawson 88.01 199 P **P** **09 43 03.0 +1.1**
PETF Flores 88.03 72 P **P** **09 43 02.8 -0.2**
PETF IAmb IAmb 09 43 06.4
comp=Z,15nm,0.8s
PETF IAMs_20 IAMs_20 10 13 04.2
comp=Z,786nm,21.0s
INK Inuvik 88.08 14 P **P** **09 43 02.5 +0.5**
comp=Z,10nm,1.1s,baz=221,slow=7.8,SNR=12
INK Inuvik 88.08 14 P **P** **09 43 02.2 +0.2**
INK pmax pmax
comp=Z,34nm,1.4s
INK Inuvik 88.08 14 P **P** **09 43 02.2 +0.2**
INK IAmb IAmb 09 43 04.3
comp=Z,34nm,1.4s
INK IAMs_20 IAMs_20 10 14 57.2
comp=Z,845nm,22.0s
GYA Guiyang 88.32 298 P **P** **09 43 05.3 +0.9**
GYA SKS **SKSac** **09 53 33.3 +1.6**
GYA S **SKKSac** **09 53 44.5 +2.2**
GYA pmax pmax
comp=Z,16nm,0.5s
GYA LR LR
comp=Z,98nm,6.7s
GYA LR LR
comp=Z,84nm,10.0s
GYA LR LR
comp=Z,110nm,7.8s
NATX Nacogdoches 88.36 57 P **P** **09 43 06.6 +2.3**
baz=251,SNR=6.2
NATX Nacogdoches 88.36 57 IAMs_20 IAMs_20 10 16 43.4
comp=Z,767nm,19.0s
T35A Sooner Cattle 88.64 51 P **P** **09 43 06.1 +0.6**
T35A IAmb IAmb 09 43 08.6
comp=Z,25nm,1.1s
T35A IAMs_20 IAMs_20 10 14 55.6
comp=Z,1µm,21.0s
X37A Clayton 88.73 54 IAMs_20 IAMs_20 10 17 36.0
comp=Z,798nm,19.0s
TUL1 Leonard 88.85 52 P **P** **09 43 07.7 +1.2**
baz=250
TUL1 Leonard 88.85 52 P **P** **09 43 06.8 +0.4**
TUL1 IAmb IAmb 09 43 10.9
comp=Z,39nm,1.4s
XAN Xi'an 88.87 306 P **P** **09 43 09.5 +2.8**
XAN SKS **SKSac** **09 53 34.3 -0.2**
XAN S **ScS** **09 53 56.8 -1.2**
XAN SS **SS** **09 59 47.8 +1.9**
XAN pmax pmax
comp=Z,8.0nm,1.8s
XAN pmax pmax
comp=Z,190nm,5.3s
XAN LR LR
comp=Z,190nm,20.3s
XAN LR LR
comp=Z,140nm,18.4s
XAN LR LR
comp=Z,190nm,24.5s
BGNE Belgrade 89.04 47 P **P** **09 43 08.5 +1.2**
baz=249
BGNE Belgrade 89.04 47 IAMs_20 IAMs_20 10 17 35.9
comp=Z,1µm,20.0s
K31A O'Neill 89.06 45 P **P** **09 43 07.8 +0.4**
YAK Yakutsk 89.17 337 P **P** **09 43 06.7 -0.5**
comp=Z,9.6nm,0.4s,baz=87,slow=4.0,SNR=1.3
YAK Yakutsk 89.17 337 *e*P **P** **09 43 07.2 -0.1**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK Yakutsk 89.17 337 P **P** **09 43 06.8 -0.5**
YAK Yakutsk 89.17 337 IAmb IAmb 09 43 11.3
comp=Z,19nm,0.5s
HHC Hu-ho-hao-te 89.23 313 *e*P **P** **09 43 05.8 -2.5**
HHC sP pwP 09 43 21.3 -0.3
HHC S **S** **09 54 01.3 +5.3**
HHC pmax pmax
comp=Z,31nm,1.2s
HHC pmax pmax
comp=Z,100nm,6.2s
HHC LR LR
comp=Z,140nm,17.5s
HHC LR LR
comp=Z,120nm,18.2s
HHC LR LR
comp=Z,130nm,18.7s
E28A Huff 89.29 41 P **P** **09 43 08.8 +0.5**
E28A IAmb IAmb 09 43 10.6
comp=Z,28nm,1.4s
E28A IAMs_20 IAMs_20 10 18 54.4
comp=Z,1µm,19.0s
PLCA Paso Flores 89.31 132 P **P** **09 43 09.8 +1.0**
comp=Z,2.2nm,1.0s,baz=191,slow=2.9,SNR=3.3
PLCA LR LR 10 14 39.2
comp=Z,134nm,19.7s,baz=218,slow=30
PLCA Paso Flores 89.31 132 P **P** **09 43 09.8 +1.0**
KSU1 Kansas State U 89.32 49 IAMs_20 IAMs_20 10 15 48.5
comp=Z,1µm,21.0s
SUSD Miller 89.61 44 P **P** **09 43 10.2 +0.3**
baz=248
TGUH Tegucigalpa,Un 89.64 75 P **P** **09 43 11.4 +0.7**
TGUH IAmb IAmb 09 43 14.4
comp=Z,44nm,1.4s
YKA Yellowknife Ar 89.86 23 P **P** **09 43 11.9 +1.4**
comp=Z,9.6nm,1.1s,baz=239,slow=4.3,SNR=14
YKA LR LR 10 16 46.3
comp=Z,742nm,20.7s,baz=0.0,slow=31
YKA Yellowknife Ar 89.86 23 P **P** **09 43 12.0 +1.4**
YKA Yellowknife Ar 89.86 23 P **P** **09 43 11.9 +1.4**
U38A Gravette 90.09 52 P **P** **09 43 12.7 +0.4**
MIAR Mount Ida 90.11 54 P **P** **09 43 13.8 +1.4**
MIAR Mount Ida 90.11 54 P **P** **09 43 11.4 -1.0**
MIAR pmax pmax
comp=Z,26nm,1.5s
MIAR Mount Ida 90.11 54 P **P** **09 43 11.4 -1.0**
MIAR IAMs_20 IAMs_20 10 18 46.7
comp=Z,858nm,19.0s
BI02 San Fabin de 90.12 128 P **P** **09 43 12.7 0.0**
W39A Magazine 90.16 54 P **P** **09 43 14.0 +1.4**
baz=252
WLAR White Oak Lake 90.21 55 P **P** **09 43 10.9 -1.9**
Z41A Richland Creek 90.32 56 P **P** **09 43 15.3 +1.9**
baz=252
Z41A Richland Creek 90.32 56 IAMs_20 IAMs_20 10 17 17.3
comp=Z,1µm,20.0s
MDND Maddock 90.47 40 P **P** **09 43 14.5 +0.8**
baz=248
MDND Maddock 90.47 40 P **P** **09 43 13.2 -0.6**
MDND IAmb IAmb 09 43 15.8
comp=Z,64nm,1.4s
L34A Svendsen Farm, 90.48 47 IAMs_20 IAMs_20 10 16 09.0
comp=Z,880nm,22.0s
MATN Matagalpa 90.60 77 P **P** **09 43 13.5 -1.8**
MATN IAmb IAmb 09 43 18.8
comp=Z,40nm,1.5s
N35A Tabor 90.62 48 IAMs_20 IAMs_20 10 17 19.9
comp=Z,875nm,21.0s
X40A Basin Creek Fa 90.68 54 P **P** **09 43 16.3 +1.2**
baz=252
X40A Basin Creek Fa 90.68 54 IAMs_20 IAMs_20 10 18 54.7
comp=Z,702nm,19.0s
JTS Las Juntas de 90.83 80*de*P **P** **09 43 17.9 +1.7**
JTS pmax pmax
comp=Z,27nm,1.2s
JTS Las Juntas de 90.83 80 P **P** **09 43 15.1 -1.2**
JTS IAmb IAmb 09 43 20.6
comp=Z,47nm,1.3s
JTS Las Juntas de 90.83 80 IAMs_20 IAMs_20 10 14 13.5
comp=Z,825nm,20.0s
ECSD EROS Data Cent 90.92 45 P **P** **09 43 16.8 +0.7**
baz=250
ECSD EROS Data Cent 90.92 45 P **P** **09 43 15.4 -0.6**
UALR University of 91.15 54 IAmb IAmb 09 43 20.6
comp=Z,37nm,1.2s
C36M Paulatuk 91.16 16 IAMs_20 IAMs_20 10 17 57.7
comp=Z,1µm,20.0s
U40A Yellville 91.24 53 P **P** **09 43 18.8 +1.1**
baz=252
U40A Yellville 91.24 53 IAmb IAmb 09 43 21.0
comp=Z,41nm,1.5s
KMI Kunming 91.31 296⇓ *e*P **P** **09 43 17.8 -0.7**
KMI pmax pmax
comp=Z,7.0nm,1.0s
CCAR Cane Creek 91.34 55 P **P** **09 43 19.1 +0.9**
W41B Gary Mavity, V 91.35 54 P **P** **09 43 20.1 +1.9**
baz=252
W41B Gary Mavity, V 91.35 54 IAmb IAmb 09 43 22.2
comp=Z,58nm,1.4s
WHAR Wooly Hollow 91.35 54 P **P** **09 43 17.0 -1.2**
WHAR IAmb IAmb 09 43 21.2
comp=Z,45nm,1.4s
FCAR Ozark Folk Cen 91.66 53 P **P** **09 43 20.1 +0.6**
FCAR IAmb IAmb 09 43 23.1
comp=Z,47nm,1.4s
FCAR IAMs_20 IAMs_20 10 17 52.6
comp=Z,892nm,20.0s
PEL Peldehue 91.73 125 P **P** **09 43 20.6 +0.4**
PEL pmax pmax
comp=Z,43nm,1.4s
PEL Peldehue 91.73 125 P **P** **09 43 20.6 +0.4**
PEL IAmb IAmb 09 43 26.0
comp=Z,43nm,1.4s
P38A Dawn 91.75 49 P **P** **09 43 19.0 -0.9**
P38A IAMs_20 IAMs_20 10 17 45.7
comp=Z,992nm,20.0s
FFC Flin Flon 91.81 33 P **P** **09 43 20.5 +0.7**
FFC pmax pmax
comp=Z,26nm,1.4s
FFC Flin Flon 91.81 33 P **P** **09 43 20.5 +0.7**
FFC IAmb IAmb 09 43 21.9
comp=Z,26nm,1.4s
D32A Dogwood Acres, 91.84 42 IAMs_20 IAMs_20 10 20 07.9
comp=Z,814nm,19.0s
F33A 5 Mile Ranch, 91.86 43 P **P** **09 43 20.1 -0.2**
F33A IAmb IAmb 09 43 22.1
comp=Z,20nm,1.2s
MGMO Mountain Grove 91.93 52 P **P** **09 43 20.9 0.0**
MGMO IAMs_20 IAMs_20 10 17 17.7
comp=Z,812nm,22.0s
VA03 San Esteban 91.97 125 IAMs_20 IAMs_20 10 13 20.5
comp=Z,998nm,20.0s
CIT Chita 92.07 324 *e*P **P** **09 43 22.2 +1.0**
CIT *e* 09 43 29.6
CIT pmax pmax
comp=Z,41nm,1.6s
CD2 Chengdu 92.07 301 P **P** **09 43 21.0 -0.7**
CD2 SKS **SKSac** **09 53 57.5 +4.3**
CD2 S **ScS** **09 54 25.5 +0.8**
CD2 SS **SS** **10 00 30.3 -2.1**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,150nm,6.7s
CD2 LR LR
comp=Z,220nm,8.6s
CD2 LR LR
comp=Z,190nm,10.1s
CD2 LR LR
comp=Z,210nm,7.9s
X43A Marvell 92.23 55 P **P** **09 43 22.4 +0.2**
baz=253
X43A Marvell 92.23 55 P **P** **09 43 21.2 -1.0**
R40A Maddies Statio 92.28 51 IAMs_20 IAMs_20 10 20 03.8
comp=Z,985nm,19.0s
LCAR Lake Charles 92.47 53 IAmb IAmb 09 43 25.8
comp=Z,32nm,1.2s
LCAR IAMs_20 IAMs_20 10 17 44.9
comp=Z,963nm,21.0s
SCIA State Center 92.69 47 P **P** **09 43 25.2 +1.0**
baz=252
SCIA State Center 92.69 47 IAMs_20 IAMs_20 10 18 00.5
comp=Z,1µm,21.0s
A36M Sachs Harbour 92.72 13 P **P** **09 43 24.3 +0.7**
baz=226
NNA Nana 92.72 103⇑ *e*P **P** **09 43 23.9 -1.2**
NNA pmax pmax
comp=Z,19nm,1.3s
SYO Syowa Base 92.77 191⇓ *e*P **P** **09 43 23.0 -1.1**
SYO Syowa Base 92.77 191⇓ *e*PcP **PcP** **09 43 24.6 -0.2**
SYO Syowa Base 92.77 191⇑ *e*pP **P** **09 43 26.5 +2.4**
SYO Syowa Base 92.77 191⇑ *es*P sP 09 43 30.1 -6.0
T42A Van Buren 92.79 52 P **P** **09 43 25.7 +0.9**
T42A IAmb IAmb 09 43 27.0
comp=Z,40nm,1.4s
P40A Paris 92.81 50 P **P** **09 43 25.6 +0.8**
P40A IAmb IAmb 09 43 26.9
comp=Z,40nm,1.3s
P40A IAMs_20 IAMs_20 10 18 09.9
comp=Z,1µm,20.0s
VNA3 Neumayer Olymp 92.92 175 P **P** **09 43 26.8 +2.0**
CMAR Chiang Mai Arr 92.93 288 P **P** **09 43 26.2 +0.3**
comp=Z,0.7nm,0.3s,baz=97,slow=4.6,SNR=1.4
CMAR LR LR 10 19 38.7
comp=Z,70nm,20.2s,baz=163,slow=32
CMAR Chiang Mai Arr 92.93 288 P **P** **09 43 26.2 +0.3**
CMAR Chiang Mai Arr 92.93 288 P **P** **09 43 26.2 +0.3**
AGMN Agassiz Nation 92.97 41 P **P** **09 43 25.5 +0.1**
baz=250
AGMN Agassiz Nation 92.97 41 P **P** **09 43 25.2 -0.1**
AGMN IAmb IAmb 09 43 26.9
comp=Z,44nm,1.5s
CCM Cathedral Cave 92.97 51 P **P** **09 43 25.7 +0.1**
baz=253
CCM Cathedral Cave 92.97 51 P **P** **09 43 25.4 -0.2**
CCM pmax pmax
comp=Z,35nm,1.5s
CCM Cathedral Cave 92.97 51 P **P** **09 43 25.4 -0.2**
CCM IAmb IAmb 09 43 28.1
comp=Z,35nm,1.4s
CCM Cathedral Cave 92.97 51 IAMs_20 IAMs_20 10 18 22.3
comp=Z,743nm,20.0s
LPAR Lepanto 92.99 54 P **P** **09 43 25.6 -0.1**
MET Memphis--Engin 93.15 55 IAMs_20 IAMs_20 10 19 47.0
comp=Z,781nm,20.0s
I37A Lemond, Waseca 93.21 45 P **P** **09 43 25.7 -0.9**
I37A IAMs_20 IAMs_20 10 17 38.3
comp=Z,894nm,22.0s
K38A Parkersburg 93.23 47 P **P** **09 43 26.3 -0.4**
K38A IAMs_20 IAMs_20 10 19 58.8
comp=Z,936nm,20.0s
GNAR Gosnell 93.32 54 IAMs_20 IAMs_20 10 18 51.5
comp=Z,1µm,20.0s
OXF Oxford 93.39 55 P **P** **09 43 28.7 +1.1**
baz=254
OXF Oxford 93.39 55 P **P** **09 43 28.8 +1.1**
OXF pmax pmax
comp=Z,104nm,1.5s
OXF Oxford 93.39 55 P **P** **09 43 28.8 +1.1**
OXF IAMs_20 IAMs_20 10 19 50.5
comp=Z,890nm,20.0s
VNA2 Neumayer--Watz 93.42 175 P **P** **09 43 29.0 +1.8**
LZH Lanzhou 93.46 306 *e*P **P** **09 43 27.8 -0.3**
LZH sS sS 09 54 43.3 -5.6
LZH SS **SS** **10 00 52.0 -0.3**
LZH pmax pmax
comp=Z,36nm,1.3s
LZH pmax pmax
comp=Z,89nm,7.0s
LZH LR LR
comp=Z,180nm,17.0s

LZH LR LR
comp=Z,180nm,17.2s
LZH LR LR
comp=Z,380nm,19.5s
PEBM Pemiscott Bayo 93.48 54 IAMs_20 IAMs_20 10 19 35.8
comp=Z,1µm,20.0s
FVM French Village 93.57 52 IAMs_20 IAMs_20 10 20 27.1
comp=Z,873nm,19.0s
ULM Lac du Bonnet 93.62 39 P **P** **09 43 29.2 +0.9**
comp=Z,9.8nm,1.1s,baz=244,slow=5.9,SNR=5.9
ULM LR LR 10 20 43.1
comp=Z,1µm,19.3s,baz=264,slow=32
ULM Lac du Bonnet 93.62 39 P **P** **09 43 28.5 +0.2**
ULM pmax pmax
comp=Z,30nm,1.4s
ULM Lac du Bonnet 93.62 39 P **P** **09 43 28.5 +0.2**
ULM IAmb IAmb 09 43 30.0
comp=Z,30nm,1.4s
VNA1 Neumayer--Stat 93.62 175 P **P** **09 43 29.9 +1.9**
F36A Milaca 93.70 44 P **P** **09 43 30.0 +1.2**
F36A IAMs_20 IAMs_20 10 19 27.1
comp=Z,1µm,20.0s
PARMO Parma 93.72 53 IAMs_20 IAMs_20 10 20 31.1
comp=Z,887nm,20.0s
W45A Hickory Valley 93.74 55 IAMs_20 IAMs_20 10 20 14.8
comp=Z,840nm,20.0s
LNXT Lenox 93.77 54 IAMs_20 IAMs_20 10 21 08.3
comp=Z,983nm,20.0s
HALT Halls 93.83 54 IAMs_20 IAMs_20 10 20 53.1
comp=Z,895nm,19.0s
HENM Henderson Moun 93.95 53 IAMs_20 IAMs_20 10 20 39.2
comp=Z,837nm,20.0s
SPMN Marine on St. 93.99 44 P **P** **09 43 30.9 +0.8**
baz=252
SPMN Marine on St. 93.99 44 P **P** **09 43 30.4 +0.3**
SPMN IAmb IAmb 09 43 33.2
comp=Z,39nm,1.4s
N41A Harden Midland 94.03 49 P **P** **09 43 31.1 +0.7**
N41A IAMs_20 IAMs_20 10 20 26.1
comp=Z,1µm,20.0s
NVL N'lazarevskaya 94.09 182 *e*P **P** **09 43 31.4 +1.2**
NVL *e*S **SKSac** **09 54 04.4 +1.6**
NVL pmax pmax
comp=Z,4.0nm,0.6s
HICK Hickman 94.09 53 P **P** **09 43 30.9 +0.1**
L40A Anamosa 94.15 48 P **P** **09 43 30.7 -0.2**
L40A IAMs_20 IAMs_20 10 20 45.3
comp=Z,780nm,20.0s
UTMT University of 94.32 54 P **P** **09 43 31.3 -0.5**
S44A Carbondale 94.38 52 IAmb IAmb 09 43 34.8
comp=Z,34nm,1.4s
PLAL Pickwick Lake 94.57 55 IAmb IAmb 09 43 36.6
comp=Z,29nm,1.4s
T45A Paducah 94.67 53 IAMs_20 IAMs_20 10 18 31.2
comp=Z,871nm,20.0s
Q44A Meyer Farm, Va 94.89 51 IAMs_20 IAMs_20 10 19 54.0
comp=Z,792nm,20.0s
SONM Songino Array 95.02 318 P **P** **09 43 34.0 -0.9**
comp=Z,0.4nm,0.5s,baz=153,slow=2.3,SNR=1.5
SONM LR LR 10 28 04.2
comp=Z,26nm,19.3s,baz=101,slow=37
SONM Songino Array 95.02 318 P **P** **09 43 34.0 -0.9**
SONM Songino Array 95.02 318 P **P** **09 43 34.0 -0.9**
JFWS Jewell Farm 95.08 47 P **P** **09 43 35.5 +0.3**
baz=254
JFWS Jewell Farm 95.08 47 P **P** **09 43 35.9 +0.7**
JFWS pmax pmax
comp=Z,53nm,1.4s
JFWS Jewell Farm 95.08 47 P **P** **09 43 35.9 +0.7**
I40A Norwalk 95.10 46 P **P** **09 43 35.0 -0.2**
HDIL Hopedale 95.13 50 P **P** **09 43 36.2 +0.8**
baz=254
HDIL Hopedale 95.13 50 IAMs_20 IAMs_20 10 20 52.2
comp=Z,1µm,21.0s
L42A Oliver, Polo 95.25 48 P **P** **09 43 36.7 +0.7**
X48A Hartselle 95.26 56 IAMs_20 IAMs_20 10 20 38.9
comp=Z,914nm,20.0s
EYMN Ely 95.65 42 P **P** **09 43 37.9 +0.2**
baz=254
EYMN Ely 95.65 42 IAMs_20 IAMs_20 10 21 00.5
comp=Z,772nm,20.0s
G40A Rib Lake 95.76 45 P **P** **09 43 38.8 +0.5**
T47A Sharon Grove 95.85 53 IAMs_20 IAMs_20 10 22 13.6
comp=Z,941nm,20.0s
CLTN Cedars of Leba 96.23 54 IAMs_20 IAMs_20 10 21 39.7
comp=Z,842nm,20.0s
I42A Draeger Farm, 96.28 46 P **P** **09 43 40.7 +0.1**
SWET Sewanee 96.33 55 IAMs_20 IAMs_20 10 21 23.4
comp=Z,788nm,20.0s
K43A Burlington 96.39 48 P **P** **09 43 41.9 +0.7**
K43A IAMs_20 IAMs_20 10 20 15.4
comp=Z,830nm,21.0s
P46A Rosedale 96.43 51 IAMs_20 IAMs_20 10 22 15.8
comp=Z,1µm,20.0s
L44A Lake County Fo 96.56 48 P **P** **09 43 42.6 +0.6**
baz=256
COWI Conover 96.70 44 P **P** **09 43 42.3 -0.2**
SFIN Lafayette 96.70 50 P **P** **09 43 43.8 +1.2**
baz=256
SFIN Lafayette 96.70 50 IAMs_20 IAMs_20 10 21 40.9
comp=Z,912nm,20.0s
WCI Wyandotte Cave 96.78 52 P **P** **09 43 44.3 +1.2**
baz=256
H43A Windswept, Lux 97.22 46 IAMs_20 IAMs_20 10 22 19.5
comp=Z,770nm,20.0s
FCC Fort Churchill 97.31 31 IAMs_20 IAMs_20 10 23 29.8
comp=Z,767nm,21.0s
CPCT Cooper Cave 97.51 55 IAMs_20 IAMs_20 10 22 29.5
comp=Z,760nm,20.0s
R49A Shelbyville 97.66 53 IAMs_20 IAMs_20 10 21 28.3
comp=Z,919nm,20.0s
V51A Loudon 97.72 55 IAMs_20 IAMs_20 10 23 41.3
comp=Z,927nm,20.0s
P48A Milroy 97.73 51 IAMs_20 IAMs_20 10 22 36.2
comp=Z,737nm,20.0s
TKL Tuckaleechee C 98.15 55 IAMs_20 IAMs_20 10 24 04.5
comp=Z,845nm,19.0s
P49A Miami Univ. Ec 98.28 51 IAMs_20 IAMs_20 10 20 56.8
comp=Z,972nm,22.0s
R50A Paris 98.30 53 IAMs_20 IAMs_20 10 23 24.4
comp=Z,859nm,19.0s
V52A Sevierville 98.33 55 IAMs_20 IAMs_20 10 22 45.3
comp=Z,848nm,20.0s
G45A Suttons Bay 98.82 46 IAMs_20 IAMs_20 10 25 37.7
comp=Z,738nm,19.0s
L48A N Adams 99.02 49 IAMs_20 IAMs_20 10 24 06.2
comp=Z,849nm,19.0s
Q51A Peebles 99.21 52 IAMs_20 IAMs_20 10 22 47.4
comp=Z,727nm,20.0s
T53A Wise 99.41 54 P **Pdif** **09 43 56.1 +1.1**
baz=258
LPAZ La Paz 99.50 110 LR LR 10 19 22.3
comp=Z,104nm,21.2s,baz=276,slow=30
P51A Williamsport 99.52 52 IAMs_20 IAMs_20 10 21 46.7
comp=Z,935nm,22.0s
ROSC El Rosal 99.64 88 LR LR 10 19 36.7
comp=Z,346nm,21.4s,baz=250,slow=30
ACSO Alum Creek Sta 99.74 51 IAMs_20 IAMs_20 10 24 43.2
comp=Z,842nm,20.0s
R53A Hurricane 100.14 53 P **Pdif** **09 43 59.7 +1.6**
baz=259
V55A Taylorsville 100.22 56 IAMs_20 IAMs_20 10 22 47.5
comp=Z,798nm,19.0s
P52A Corning 100.26 52 IAMs_20 IAMs_20 10 22 20.1
comp=Z,1µm,22.0s
D46A Sault St. Mari 100.31 44 P **Pdif** **09 44 00.3 +1.7**
baz=259
K50A Casco 100.50 48 IAMs_20 IAMs_20 10 24 18.4
comp=Z,615nm,21.0s
S54A Dingess, Beckl 100.53 54 IAMs_20 IAMs_20 10 23 47.4
comp=Z,853nm,20.0s
Q53A Leroy 100.57 53 P **Pdif** **09 44 01.2 +1.2**
baz=259
O52A Adamsville 100.57 51 IAMs_20 IAMs_20 10 22 49.4
comp=Z,835nm,20.0s
E47A Iron Bridge 100.74 45 P **Pdif** **09 44 02.2 +1.7**
baz=259
D47A Chapleau 100.97 44 P **Pdif** **09 44 02.9 +1.3**
baz=260
U56A King 100.98 55 IAMs_20 IAMs_20 10 23 00.5
comp=Z,926nm,20.0s
O53A New Philadelph 101.07 51 IAMs_20 IAMs_20 10 23 36.5
comp=Z,827nm,21.0s
D48A Paudash Townsh 101.86 44 P **Pdif** **09 44 07.0 +1.4**
baz=260
N54A Moraine State 102.11 51 IAMs_20 IAMs_20 10 24 46.1
comp=Z,936nm,21.0s

S57A Dark Hollow, R 102.36 54 IAMs_20 IAMs_20 10 24 51.9
comp=Z,812nm,20.0s
Q56A Snyder Ridge, 102.39 53 IAMs_20 IAMs_20 10 24 55.7
comp=Z,786nm,19.0s
O55A Ligonier 102.50 52 P **Pdif** **09 44 10.3 +1.7**
baz=261
O56A Blue Knob Stat 103.07 52 IAMs_20 IAMs_20 10 24 29.4
comp=Z,845nm,21.0s
SADO Sadowa 103.32 47 IAMs_20 IAMs_20 10 25 16.9
comp=Z,797nm,20.0s
WVNY West Valley, N 103.36 49 IAMs_20 IAMs_20 10 24 04.2
comp=Z,868nm,20.0s
P57A Homestead Farm 103.37 52 IAMs_20 IAMs_20 10 26 33.4
comp=Z,893nm,21.0s
J54A Appleton 103.47 48 IAMs_20 IAMs_20 10 24 11.8
comp=Z,793nm,22.0s
SSPA Standing Stone 103.64 51 IAMs_20 IAMs_20 10 24 24.4
comp=Z,817nm,21.0s
CBN Corbin Frederi 103.66 54 IAMs_20 IAMs_20 10 26 59.4
comp=Z,860nm,19.0s
T60A Surry 104.00 55 IAMs_20 IAMs_20 10 25 22.5
comp=Z,850nm,20.0s
J55A Hilton 104.06 49 IAMs_20 IAMs_20 10 24 06.5
comp=Z,841nm,22.0s
D52A ZEK Kipawa Sen 104.13 45 P **Pdif** **09 44 16.8 +1.1**
baz=263
SDMD Soldier's Deli 104.25 53 IAMs_20 IAMs_20 10 26 41.9
comp=Z,567nm,20.0s
I55A Frankford 104.28 48 P **Pdif** **09 44 17.2 +0.9**
baz=263
PAGS Pennsylvania G 104.46 52 IAMs_20 IAMs_20 10 25 32.3
comp=Z,820nm,20.0s
J56A Wolcott 104.75 49 IAMs_20 IAMs_20 10 25 01.9
comp=Z,678nm,22.0s
R61A Willards 105.27 54 P **PKiKP** **09 48 36.3 +1.3**
baz=263
LUPA Lehigh Univers 105.53 52 IAMs_20 IAMs_20 10 25 55.6
comp=Z,838nm,20.0s
J58A Remsen 105.91 49 IAMs_20 IAMs_20 10 25 23.4
comp=Z,939nm,22.0s
L59A Walton 105.96 50 IAMs_20 IAMs_20 10 27 23.8
comp=Z,835nm,20.0s
J59A Piesco 106.48 49 IAMs_20 IAMs_20 10 26 14.6
comp=Z,873nm,21.0s
LONY Lake Ozonia 106.53 47 IAMs_20 IAMs_20 10 27 55.9
comp=Z,845nm,20.0s
NCB Newcomb 106.73 48 IAMs_20 IAMs_20 10 26 09.2
comp=Z,916nm,22.0s
YLE Yale 107.44 51 IAMs_20 IAMs_20 10 25 32.1
comp=Z,725nm,20.0s
LBNH Lisbon 108.40 48 P **PKiKP** **09 48 41.4 +0.7**
baz=266
BRYW Bryant College 108.53 50 IAMs_20 IAMs_20 10 28 25.0
comp=Z,738nm,20.0s
G62A West of Eustis 109.45 47 IAMs_20 IAMs_20 10 30 57.9
comp=Z,693nm,20.0s
F62A Pittston Farm, 109.87 46 IAMs_20 IAMs_20 10 30 44.0
comp=Z,654nm,20.0s
PKME Peaks-Kenny Pk 110.32 47 IAMs_20 IAMs_20 10 30 21.1
comp=Z,723nm,21.0s
F63A Nahmakanta, Br 110.47 47 IAMs_20 IAMs_20 10 30 13.9
comp=Z,528nm,20.0s
F64A Sherman 111.00 46 IAMs_20 IAMs_20 10 27 39.9
comp=Z,832nm,22.0s
MKAR Makanchi Array 111.02 315 PKiKP **PKiKP** **09 48 46.0 +0.5**
comp=Z,0.7nm,0.6s,baz=197,slow=2.3,SNR=4.3
MKAR Makanchi Array 111.02 315 *i* PKiKP **PKiKP** **09 48 46.0 +0.5**
G65A Princeton 111.54 47 IAMs_20 IAMs_20 10 30 28.4
comp=Z,785nm,21.0s
SEUS St. Eustatius 113.19 77 IAMs_20 IAMs_20 10 27 42.1
comp=Z,497nm,21.0s
KURK Kurchatov 113.31 319 *i* PKiKP **PKiKP** **09 48 49.8 +0.1**
KURBB Kurchatov Arra 113.37 319 PKiKP **PKiKP** **09 48 49.8 0.0**
comp=Z,0.5nm,0.3s,baz=90,slow=2.8,SNR=5.0
LMN Caledonia Moun 113.47 46 IAMs_20 IAMs_20 10 29 59.4
comp=Z,822nm,22.0s
ILULI Ilulissat 115.28 20 IAMs_20 IAMs_20 10 29 02.3
comp=Z,668nm,22.0s
SFJD Kangerlussuaq 116.38 22 IAMs_20 IAMs_20 10 29 32.5
comp=Z,781nm,21.0s
BVAR Borovoye Array 118.03 322 PKP **PKiKP** **09 48 59.1 +0.3**
comp=Z,1.3nm,0.7s,baz=96,slow=1.5,SNR=5.7
BVAR Borovoye Array 118.03 322 PKiKP **PKiKP** **09 48 59.1 +0.3**
BRVK Borovoye 118.08 322 ⇑*i* PKiKP **PKiKP** **09 48 59.1 +0.3**
BRVK MLR MLR
comp=Z,126nm,19.0s
ARU Arti 123.45 329 PKP **PKiKP** **09 49 09.1 -0.2**
comp=Z,2.6nm,0.2s,baz=5.8,slow=2.9,SNR=7.1
ARU Arti 123.45 329 *i* PKiKP **PKPdf** **09 49 06.2 -2.8**
ARU 09 56 16.5
ARU Arti 123.45 329 **PKiKP** **09 49 09.1 -0.2**
KEV Kevo 124.15 352 PKiKP **PKiKP** **09 49 10.6 +0.3**
KEV MLR MLR
comp=Z,200nm,21.0s
KEV Kevo 124.15 352 **PKiKP** **09 49 10.6 +0.3**
ARCES ARCESS Array B 124.56 352 PKP **PKiKP** **09 49 11.7 +0.5**
comp=Z,6.2nm,0.7s,baz=30,slow=1.1,SNR=26
ARCES ARCESS Array B 124.56 352 PKiKP **PKiKP** **09 49 11.7 +0.5**
ARCES ARCESS Array B 124.56 352 **PKiKP** **09 49 11.7 +0.5**
APA Apatity 125.01 348 ⇓*i* PKiKP **PKiKP** **09 49 14.0 +2.0**
APA pmax pmax
comp=Z,7.0nm,1.0s
AKTO Aktyubinsk 126.13 322 PKP **PKiKP** **09 49 14.3 -0.4**
comp=Z,0.7nm,0.3s,baz=41,slow=4.2,SNR=7.0
AKTO Aktyubinsk 126.13 322 PKiKP **PKiKP** **09 49 14.4 -0.4**
PRGR Permogore 126.18 338 *e*PKiKP **PKPdf** **09 49 10.5 -3.6**
PRGR pmax pmax
comp=Z,10.0nm,0.6s
KIRV Kirov 126.61 334 PKP **PKiKP** **09 49 15.8 +0.4**
comp=Z,8.5nm,0.5s,baz=62,slow=3.6,SNR=7.4
KIRV Kirov 126.61 334 PKiKP **PKiKP** **09 49 15.8 +0.4**
TMCR Tamitsa 126.72 344 *e*PKiKP **PKPdf** **09 49 12.7 -2.3**
KLMR Klimovskoe 128.82 340 *e*PKiKP **PKPdf** **09 49 16.5 -2.6**
KLMR pmax pmax
comp=Z,34nm,1.5s
KLMR Klimovskoe 128.82 340 *e*PKPdf **PKPdf** **09 49 16.6 -2.6**
KLMR AMP 09 49 21.1
comp=Z,34nm,1.5s
GEYT Alibeck 129.74 307 PKP **PKiKP** **09 49 22.2 -0.2**
comp=Z,1.3nm,0.5s,baz=301,slow=6.1,SNR=2.0
GEYT Alibeck 129.74 307 **PKiKP** **09 49 22.2 -0.2**
FINES FINESS Array B 131.92 348 PKP **PKiKP** **09 49 25.8 -0.2**
comp=Z,2.9nm,0.6s,baz=180,slow=0.2,SNR=7.0
FINES FINESS Array B 131.92 348 PKiKP **PKiKP** **09 49 25.8 -0.2**
FINES FINESS Array B 131.92 348 **PKiKP** **09 49 25.8 -0.2**
OBN Obninsk 134.16 337 PKP **PKiKP** **09 49 30.3 -0.4**
comp=Z,6.1nm,0.4s,baz=184,slow=23,SNR=3.8
OBN Obninsk 134.16 337 *i* PKiKP **PKPdf** **09 49 29.2 -0.2**
OBN pmax pmax
comp=Z,8.0nm,0.8s
OBN MLR MLR
comp=Z,159nm,21.0s
OBN Obninsk 134.16 337 **PKiKP** **09 49 30.2 -0.5**
NOA NORSAR Array B 134.22 357 PKP **PKPdf** **09 49 29.4 -0.1**
comp=Z,1.2nm,0.9s,baz=14,slow=4.2,SNR=4.1
NOA NORSAR Array B 134.22 357 PKiKP **PKPdf** **09 49 29.4 -0.1**
HFS Hagfors 134.96 355 PKP **PKPdf** **09 49 30.4 -0.4**
comp=Z,4.3nm,0.7s,baz=201,slow=7.9,SNR=4.5
HFS Hagfors 134.96 355 PKiKP **PKPdf** **09 49 30.4 -0.4**
KIV Kislovodsk 138.36 321 *i* PKiKP **PKiKP** **09 49 40.2 +0.4**
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,365nm,24.0s
AKASG Malin Array Be 140.38 338 PKP **PKPdf** **09 49 41.6 +0.6**
comp=Z,0.7nm,0.3s,baz=21,slow=1.3,SNR=13
AKASG Malin Array Be 140.38 338 PKiKP **PKPdf** **09 49 41.7 +0.6**
AKASG Malin Array Si 140.38 338 PKiKP **PKPdf** **09 49 41.6 +0.6**
AKBB Malin Array Si 140.38 338 PKiKP **PKPdf** **09 49 41.1 +0.1**
AKBB Malin Array Si 140.38 338 PKPdf **PKPdf** **09 49 41.1 +0.1**
MLAZ Malazgirt-MUS 140.83 314 *e*P PKiKP 09 49 58.4 +13
ANN Anapa 140.93 325 *i* PKiKP **PKPdf** **09 49 43.0 +0.8**
ANN pmax pmax
comp=Z,76nm,1.7s
MAZI Mazidag 143.07 313 *e*P PKiKP 09 49 57.6 +7.9
OJC Ojcow 143.65 346 *e*PKP PKPbc 09 49 45.1 +0.8
OJC Ojcow 143.65 346 PKIKP PKPbc 09 49 44.7 +0.3
OJC Ojcow 143.65 346 PKPdf PKPbc 09 49 44.6 +0.3
CLL Collm 143.75 354 *e*PKPpre PKPpre 09 49 45.0
comp=Z,5.0nm,0.6s
CLL *i* PKPdf **PKPdf** **09 49 47.3 +0.2**
comp=Z,13nm,1.2s
CLL *e*PP **PP** **09 52 57.0 -2.1**
CLL *e*SKKSac SKKSac 09 59 51.0 +0.5
CLL *e*PSKS 10 03 10.0
CLL *e*PPS PPS 10 05 30.0

CLL *e* 10 06 54.0
CLL *e*SS SS 10 11 24.0 -15
CLL *e*SSS SSS 10 17 18.0
CLL *e* 10 18 29.0
CLL *e* 10 26 06.0
CLL Lm MLR 10 57 00.0
comp=N,100nm,20.2s
CLL Lm MLR 10 57 00.0
comp=E,200nm,20.5s
CLL Lm MLR 10 57 00.0
comp=Z,300nm,19.9s
CLL Collm 143.75 354 *e*PKIKP PKPbc 09 49 45.0 +0.4
CLL *i* 09 49 47.3
CLL pmax pmax
comp=Z,5.0nm,0.6s
CLL MLR MLR
comp=Z,300nm,19.9s
CLL Collm 143.75 354 PKPdf **PKPdf** **09 49 45.9 -1.2**
CLL IAMs_20 IAMs_20 10 57 40.5
comp=Z,332nm,19.0s
KSP Ksiaz 143.76 350 *e*PKP **PKPdf** **09 49 45.9 -1.2**
KVT Kavak 144.03 321 *e*P **PKPdf** **09 49 48.5 +0.6**
CHVC Chvalec 144.04 350 *e*PKP **PKPdf** **09 49 47.0 -0.7**
OSTC Ostas 144.04 350 *e*PKP **PKPdf** **09 49 47.0 -0.7**
MALT Malatya 144.05 316 *e*P **PKPdf** **09 49 48.4 +0.2**
BRG Berggiesshubel 144.07 352 *e*PKP PKPbc 09 49 46.1 +0.5
comp=Z,24nm,1.7s
BRG *e* 09 49 46.1
comp=Z,10nm,1.4s
SVSK Karacayir 144.12 319 *e*P **PKPdf** **09 49 48.3 +0.3**
UPC Upice 144.13 350 *e*PKIKP **PKPdf** **09 49 47.2 -0.6**
UPC Upice 144.13 350 *e*PKP **PKPdf** **09 49 47.2 -0.6**
TSUM Tsumeb 144.17 197 **PKPdf** **09 49 48.0 -1.0**
URFA Urfa 144.22 314 *e*P **PKiKP** **09 49 55.3 +3.3**
DPC Dobruska-Polom 144.23 350 *e*PKIKP **PKPdf** **09 49 47.8 -0.2**
DPC *e* 09 49 54.8
DPC Dobruska-Polom 144.23 350 *e*PKP **PKPdf** **09 49 47.8 -0.2**
DPC *ep*PKP **pPKPdf** **09 49 54.8 -2.0**
NIE Niedzica 144.27 345 *e*PKP **PKPdf** **09 49 47.5 -0.6**
OKC Ostrava-Krasne 144.37 348 *e*PKIKP **PKPdf** **09 49 47.5 -0.7**
OKC Ostrava-Krasne 144.37 348 *e*PKP **PKPdf** **09 49 47.5 -0.7**
BUR08 Bucovina Ar. S 144.39 339 **PKPdf** **09 49 47.6 -0.9**
BURAR Bucovina Array 144.41 339 ⇑P **PKPdf** **09 49 48.9 +0.4**
BURAR Bucovina Array 144.41 339 ⇑PKIKP **PKPdf** **09 49 48.9 +0.4**
KRLC Kraliky 144.41 349 *e*PKIKP **PKPdf** **09 49 47.3 -1.0**
KRLC *e* 09 49 53.6
KRLC Kraliky 144.41 349 *e*PKP **PKPdf** **09 49 47.3 -1.0**
KRLC *ep*PKP **PKiKP** **09 49 53.6 +1.6**
CRVS Cervenica-Dubn 144.44 344 *e*PKIKP **PKPdf** **09 49 48.1 -0.3**
CRVS Cervenica-Dubn 144.44 344 *e*PKP **PKPdf** **09 49 48.0 -0.3**
UZH Uzhgorod 144.45 342 *e*PKIKP **PKPab** **09 49 45.9 -0.7**
UZH *i* 09 49 48.0
UBBA Unterbreizbach 144.49 357 *e*PKPbc **PKPdf** **09 49 47.8 -0.4**
baz=7.6,slow=3.1
MOX Moxa 144.54 355 *e*PKPbc **PKPdf** **09 49 47.9 -0.6**
baz=7.6,slow=3.1
MORC Moravsky Berou 144.55 348 ⇑P **PKPdf** **09 49 48.7 +0.1**
MORC Moravsky Berou 144.55 348 *e*PKP **PKPdf** **09 49 48.1 -0.5**
MORC Moravsky Berou 144.55 348 ⇑PKIKP **PKPdf** **09 49 48.7 +0.1**
MORC Moravsky Berou 144.55 348 PKPdf **PKPdf** **09 49 48.5 -0.1**
PLN Plauen 144.65 354 *e*PKPbc **PKPdf** **09 49 48.3 -0.3**
baz=7.6,slow=3.1
TANN Tannenbergstha 144.69 354 *e*PKPbc **PKPdf** **09 49 48.7 -0.2**
baz=7.6,slow=3.1
GUNZ Gunzen 144.76 354 *e*PKPbc **PKPdf** **09 49 49.1 +0.2**
baz=7.6,slow=3.1
MEM Membach 144.77 1 PKPdf **PKPdf** **09 49 49.0 +0.1**
BSTI Sart Tilman 144.78 2 PKPdf **PKPdf** **09 49 49.2 +0.3**
TESR Tescani 144.81 336 ⇓P **PKPdf** **09 49 49.1 0.0**
SNF Seneffe 144.81 3 PKPdf **PKPdf** **09 49 49.2 +0.3**
WERN Wernitzgruen 144.83 354 *e*PKPbc **PKPdf** **09 49 49.4 +0.4**
baz=7.6,slow=3.1
AHRW Bad Neuenahr-A 144.85 360 *e*PKPbc **PKPdf** **09 49 49.2 +0.2**
baz=7.6,slow=3.1
PRU Pruhonice 144.86 352 *e*PKIKP **PKPdf** **09 49 48.9 -0.1**
PRU Pruhonice 144.86 352 *e*PKP **PKPdf** **09 49 48.9 -0.1**
PRU *ex* x 09 49 57.6
NKC Novy Kostel 144.87 354 *e*PKIKP **PKPdf** **09 49 49.5 +0.4**
NKC Novy Kostel 144.87 354 *e*PKP **PKPdf** **09 49 49.5 +0.4**
NKC *ex* x 09 50 03.1
GOPC GO Pecny, Ondr 144.89 351 *e*PKIKP **PKPdf** **09 49 48.7 -0.4**
GOPC GO Pecny, Ondr 144.89 351 *e*PKP **PKPdf** **09 49 48.7 -0.4**
GOPC *ex* x 09 49 58.5
BMR Baia Mare 144.94 340 ⇓P **PKPdf** **09 49 50.3 +1.0**
BMR Baia Mare 144.94 340 ⇓PKIKP **PKPdf** **09 49 50.3 +1.0**
BCLA Clavier 144.94 2 PKPdf **PKPdf** **09 49 49.4 +0.3**
BGES Gesves 144.97 2 PKPdf **PKPdf** **09 49 49.2 0.0**
TLCR 144.97 333 ⇑P **PKPdf** **09 49 50.2 +0.9**
TLCR 144.97 333 ⇑PKIKP **PKPdf** **09 49 50.2 +0.9**
BHOU Houvegnez 145.03 1 PKPdf **PKPdf** **09 49 50.2 +0.8**
BMRD Maredsous 145.04 2 PKPdf **PKPdf** **09 49 49.8 +0.5**
KECS Kecovo 145.09 344 *e*PKIKP **PKPdf** **09 49 50.3 +0.8**
KECS Kecovo 145.09 344 *e*PKP **PKPdf** **09 49 50.3 +0.8**
TNS Taunus Mts 145.15 358 *e*PKPbc **PKPdf** **09 49 50.3 +0.7**
baz=7.6,slow=3.1
MANZ Manzenberg 145.15 354 *e*PKPbc **PKPdf** **09 49 50.4 +0.8**
baz=7.6,slow=3.1
ARCR ARCALIA 145.16 339 ⇑P **PKPdf** **09 49 50.8 +1.1**
VRAC Vranov 145.18 349 ⇑P **PKPdf** **09 49 50.8 +1.2**
VRAC Vranov 145.18 349 *e*PKP **PKPdf** **09 49 50.2 +0.5**
VRAC Vranov 145.18 349 ⇑PKIKP **PKPdf** **09 49 50.8 +1.2**
PBCC Pribram 145.23 352 *e*PKP **PKPdf** **09 49 50.6 +0.9**
DOU Dourbes 145.24 3 PKPdf **PKPdf** **09 49 50.6 +0.9**
VRI Vrincioaia 145.31 335 ⇑P **PKPdf** **09 49 50.8 +0.8**
VRI Vrincioaia 145.31 335 ⇑PKIKP **PKPdf** **09 49 50.8 +0.8**
YOZ Yozgat 145.33 320 *e*P **PKiKP** **09 49 52.3 -2.0**
SARI SarD1z-Kayseri 145.34 317 *e*P **PKiKP** **09 49 52.9 -1.5**
PLOR Plostina 145.35 336 ⇑P **PKPdf** **09 49 51.0 +0.9**
PLOR Plostina 145.35 336 ⇑PKIKP **PKPdf** **09 49 51.0 +0.9**
ROTZ Rotzenmuhle 145.36 354 *e*PKPbc **PKPdf** **09 49 51.2 +1.3**
baz=7.6,slow=3.1
TREC Trest 145.39 350 *e*PKIKP **PKPdf** **09 49 51.1 +1.1**
TREC Trest 145.39 350 *e*PKP **PKPdf** **09 49 51.1 +1.1**
JAVC Velka Javorina 145.40 348 *e*PKP **PKiKP** **09 49 52.0 -2.1**
TOPG Topolog 145.41 333 ⇑P **PKPab** **09 49 51.6 +1.4**
CORM Corum 145.43 321 *e*P **PKiKP** **09 49 53.4 -1.1**
KRUC Moravsky 145.45 349 *e*PKP **PKPab** **09 49 50.8 +0.5**
BNN Bunyan 145.46 318 *e*P **PKiKP** **09 49 52.9 -1.7**
GAZ Gaziantep 145.46 315 *e*P **PKiKP** **09 49 52.8 -1.8**
GAZ Gaziantep 145.46 315 **PKPab** **09 49 51.1 +0.3**
VYHS Vyhne 145.49 346 *e*PKIKP **PKPab** **09 49 51.7 +1.2**
VYHS Vyhne 145.49 346 *e*PKP **PKPab** **09 49 51.6 +1.1**
KMRS Kahramanmaras 145.50 316 *e*P **PKiKP** **09 49 52.6 -2.0**
GRA1 Grafenberg Arr 145.52 355 **PKPab** **09 49 51.2 +0.7**
GRF Grafenberg Arr 145.52 355 PKIKP **PKPab** **09 49 51.2 +0.7**
GRF Grafenberg Arr 145.52 355 *e*PKPbc **PKiKP** **09 49 52.0 -2.3**
baz=7.6,slow=3.1
WLF Walferdange 145.72 1 PKPdf **PKiKP** **09 49 52.7 -1.9**
WLF Walferdange 145.72 1 PKIKP **PKPab** **09 49 52.4 +1.2**
WLF Walferdange 145.72 1 *e*PKPbc **PKiKP** **09 49 52.8 -1.8**
baz=7.6,slow=3.1
WLF Walferdange 145.72 1 **PKPab** **09 49 52.4 +1.2**
TIRR Tirgusor 145.72 332 ⇑P **PKPab** **09 49 52.2 +0.9**
TIRR Tirgusor 145.72 332 PKIKP **PKPab** **09 49 52.3 +0.9**
TIRR Tirgusor 145.72 332 **PKPab** **09 49 52.3 +0.9**
DOPR Dopca 145.74 337 ⇑P **PKPab** **09 49 52.8 -2.0**
HARR Harsova 145.75 333 ⇓P **PKPab** **09 49 52.2 +0.7**
HARR Harsova 145.75 333 ⇓PKIKP **PKPab** **09 49 52.2 +0.7**
CANT Cankiri 145.76 323 *e*P **PKiKP** **09 49 53.4 -1.7**
PSZ Piszkesteto 145.76 345 ⇑P **PKPab** **09 49 52.6 +1.0**
PSZ Piszkesteto 145.76 345 ⇑PKIKP **PKPab** **09 49 52.6 +1.0**
PSZ Piszkesteto 145.76 345 **PKPab** **09 49 52.4 +0.8**
SMOL Smolenice 145.78 348 *e*PKIKP **PKiKP** **09 49 53.2 -1.6**
SMOL Smolenice 145.78 348 *e*PKP **PKiKP** **09 49 53.2 -1.6**
TLBR Topalu 145.81 333 ⇑P **PKPab** **09 49 52.8 +1.1**
KHC Kasperske Hory 145.83 352 *d i* PKIKP **PKPab** **09 49 52.1 +0.4**
KHC Kasperske Hory 145.83 352 *e*PKP **PKPab** **09 49 51.8 +0.1**
KHC *ex* x 09 50 06.7
KHC Kasperske Hory 145.83 352 **PKPdf** **09 49 50.4 -0.4**
WET Wettzell 145.90 353 *e*PKPbc **PKPab** **09 49 53.0 +1.0**
baz=7.6,slow=3.1
KMBO Kilima Mbogo 145.91 244 PKPbc **PKiKP** **09 49 55.5 -0.9**
comp=Z,8.3nm,0.9s,baz=58,slow=3.4,SNR=13
KMBO Kilima Mbogo 145.91 244 PKIKP **PKPab** **09 49 53.3 -0.1**
KMBO Kilima Mbogo 145.91 244 **PKPab** **09 49 53.3 -0.1**
MLR Muntele Rosu 145.93 336 ⇑P **PKPab** **09 49 52.6 +0.2**
MLR ⇑P **PKPab** **09 49 52.9 +0.6**
MLR Muntele Rosu 145.93 336 ⇑PKIKP **PKPab** **09 49 52.9 +0.6**
MLR Muntele Rosu 145.93 336 **PKPdf** **09 49 49.7 -1.5**
MODS Modra-Piesok 145.94 348 *e*PKIKP **PKPab** **09 49 52.6 +0.4**
MODS Modra-Piesok 145.94 348 *e*PKP **PKPab** **09 49 52.6 +0.4**
ISR Istrita 145.99 335 ⇑P **PKPab** **09 49 53.3 +0.8**

ISR	Istrita	145.99	335	⇑PKP2	PKPab	09 49 53.3	+0.8		
GEC2	GERESS Array S	146.09	352	*e*PKPbc	PKPab	09 49 53.5	+0.7		
	baz=7.6,slow=3.1								
GEC2	GERESS Array S	146.09	352		PKPbc	09 49 52.0	-0.3		
GEC2				IAMs_20	IAMs_20	10 58 53.3			
	comp=Z,452nm,19.0s								
GERES	GERESS Array B	146.09	352	PKPbc	PKPab	09 49 52.4	-0.4		
	comp=Z,12nm,0.9s,baz=38,slow=2.4,SNR=64								
GERES	GERESS Array B	146.09	352	PKP2	PKPab	09 49 52.4	-0.4		
GERES	GERESS Array B	146.09	352		PKPab	09 49 52.4	-0.4		
KOZT	Kozan	146.23	316	*e*P	PKPab	09 49 53.0	-0.6		
SECR		146.25	335	⇑P	PKPab	09 49 54.1	+0.7		
BR131	Keskin Array S	146.31	321	PKP2	PKPab	09 49 54.5	+0.5		
BR131	Keskin Array S	146.31	321	PKPbc	PKPab	09 49 54.5	+0.5		
BRTR	Keskin Array B	146.31	321	PKPbc	PKPab	09 49 54.3	+0.2		
	comp=Z,49nm,1.1s,baz=103,slow=2.7,SNR=52								
BRTR	Keskin Array B	146.31	321	*e*P	PKPab	09 49 54.2	+0.2		
BRTR	Keskin Array B	146.31	321	PKP2	PKPab	09 49 54.3	+0.2		
BRTR	Keskin Array B	146.31	321		PKPab	09 49 54.3	+0.2		
VOIR		146.32	337	⇑P	PKPab	09 49 53.9	+0.1		
VOIR		146.32	337	⇑PKP2	PKPab	09 49 53.9	+0.1		
ARR	Arges	146.53	337	⇑P	PKPab	09 49 54.6	0.0		
STU	Stuttgart	146.57	357	*e*PKPbc	PKPab	09 49 54.8	+0.2		
	baz=7.6,slow=3.1								
CONA	Conrad Observa	146.64	349	*i* PKPab	PKPab	09 49 54.1	-0.8		
	comp=Z,58nm,1.4s,SNR=21								
CMRD	Camardi-Nigde	146.69	317	*e*P	PKPab	09 49 55.8	+0.3		
LOD	Lodumlu	146.72	322	*e*P	PKPab	09 49 55.8	+0.3		
GULA	Gulagac	146.78	319	*e*P	PKPab	09 49 55.7	-0.1		
AFSR	Afar-Bala (An	146.82	322	*e*P	PKiKP	09 49 56.4	-0.9		
SERE	Sereflikochisa	146.84	320	*e*P	PKPab	09 49 55.8	-0.3		
KARA	Karaisali	146.87	317	*e*P	PKPbc	09 49 54.3	-0.5		
MOA	Molln	146.99	351	*i* PKPab	PKPab	09 49 55.9	-0.3		
	comp=Z,52nm,1.4s,SNR=15								
FUR	Furstenfeldbru	147.03	355	*e*PKPbc	PKPab	09 49 56.2	-0.1		
	baz=7.6,slow=3.1								
BFO	Black Forest	147.04	358	*e*PKPbc	PKPab	09 49 56.3	-0.1		
	baz=7.6,slow=3.1								
CLF	Chambon-Foret	147.13	6		PKPab	09 49 56.0	-0.7		
PRD	Provadia	147.16	332	P	PKPab	09 49 56.6	-0.4		
ECH	Echery	147.17	360	PKP2	PKPbc	09 49 55.5	+0.2		
ECH	Echery	147.17	360		PKPbc	09 49 55.5	+0.2		
RJOB	Jochberg	147.30	353	*e*PKPbc	PKPbc	09 49 56.0	+0.4		
	baz=7.6,slow=3.1								
ARSA	Arzberg	147.36	349	*i* pPKPdf	PKPab	09 49 56.6	-1.1		
	comp=Z,33nm,1.3s,SNR=12								
BZS	Buzias	147.36	341	⇓P	PKPbc	09 49 55.6	-0.2		
BZS	Buzias	147.36	341	⇓PKP2	PKPbc	09 49 55.6	-0.2		
MERS	Mersin	147.44	316	*e*P	PKPab	09 49 57.8	-0.6		
CHBY	Cihanbeyli	147.47	320	*e*P	PKPab	09 49 57.6	-1.0		
UBR	Ueberruh	147.61	356	*e*PKPbc	PKPab	09 49 57.8	-0.9		
	baz=7.6,slow=3.1								
MORH	Mrgy, Hungar	147.66	345	*e*P	PKPdf	09 49 54.6	+0.7		
HERR	Herculane	147.75	339	⇓P	PKPbc	09 49 57.2	+0.3		
RETA	Reutte	147.75	355	*i* PKPab	PKiKP	09 49 58.4	-0.6		
	comp=Z,44nm,1.3s,SNR=11								
SZH	Strazhica	147.75	334	P	PKiKP	09 49 57.6	-1.4		
WATA	Walderalm	147.83	354	*i* sPKPdf	PKPbc	09 49 58.4	+1.2		
	comp=Z,47nm,1.4s,SNR=10.0								
BEHE	Becsehely	147.86	347	*e*P	PKPab	09 50 00.0	+0.4		
MOTA	Moosalm	147.86	355	*i* sPKPdf	PKiKP	09 49 58.3	-1.0		
	comp=Z,38nm,1.2s,SNR=12								
KBA	Koelnbreinsper	147.87	352	*i* pPKPdf	PKiKP	09 49 58.0	-1.4		
	comp=Z,8.0nm,0.6s,SNR=7.2								
WTTA	Wattenberg	147.89	354	*i* sPKPdf	PKPbc	09 49 58.8	+1.3		
	comp=Z,24nm,0.7s,SNR=10								
KIZK	Mersin	147.91	316	*e*P	PKiKP	09 49 59.0	-0.5		
SQTA	Sankt Quirin	147.98	355	*i* PKPbc	PKPbc	09 49 56.1	-1.5		
	comp=Z,2.6nm,0.7s								
SQTA				*i* sPKPdf	PKPbc	09 49 59.0	+1.4		
	comp=Z,44nm,1.7s,SNR=8.9								
KOGS	Kog	147.99	348	*i* PKPbc	PKPbc	09 49 57.9	+0.4		
SOKA	Soboth	148.00	350	*i* PKPbc	PKPbc	09 49 56.4	-1.3		
	comp=Z,45nm,1.3s,SNR=15								
BISS	Bistriski jare	148.01	349	*i* PKPbc	PKPbc	09 49 57.8	+0.2		
DAVA	Damuels	148.01	356	*i* sPKPdf	PKPbc	09 49 59.3	+1.5		
	comp=Z,62nm,1.4s,SNR=8.1								
PERS	Pernice	148.02	349	*i* PKPbc	PKPbc	09 49 57.9	+0.2		
LADK	Ladik-KONYA	148.03	320	*e*P	PKiKP	09 49 59.0	-0.9		
MDVR	Moldovita	148.07	340	⇑P	PKPbc	09 49 57.1	-0.7		
JMB	Yambol	148.11	332	P	PKiKP	09 49 58.8	-0.9		
KONT	Konya--Tatoy	148.20	320	*e*P	PKiKP	09 49 59.3	-0.8		
FETA	Feichten	148.22	355	*i* PKPdf	PKPdf	09 49 56.0	+1.0		
	comp=Z,9.2nm,1.1s								
FETA				*i* sPKPdf	PKPbc	09 49 59.8	+1.5		
	comp=Z,31nm,1.2s,SNR=6.5								
OBKA	Obir	148.24	350	*i* pPKPdf	PKPbc	09 49 58.7	+0.3		
	comp=Z,16nm,0.8s								
MYKA	Terra Mystica	148.27	351	*i* pPKPdf	PKiKP	09 49 58.8	-1.2		
	comp=Z,55nm,1.6s,SNR=9.8								
ABTA	Abfaltersbach	148.31	353	*i* PKPdf	PKPdf	09 49 56.0	+0.9		
	SNR=12								
ABTA				*i* sPKPdf	PKPbc	09 49 59.3	+0.8		
	comp=Z,63nm,1.5s								
FRGS	Fruska Gora	148.32	343	⇓*i*P	PKiKP	09 49 59.0	-1.1		
IKL	Isikli	148.35	316	*e*P	PKiKP	09 49 59.9	-0.5		
EREN	Erenkoy	148.41	315	*e*P	PKiKP	09 50 00.5	-0.1		
PRED	Cave del Predi	148.46	351	IAMs_20	IAMs_20	10 55 30.1			
	comp=Z,419nm,20.0s								
AKKU	Akkuyu-Mersin	148.49	316	*e*P	PKiKP	09 49 59.9	-0.8		
LJU	Ljubljana	148.70	350	*e*PKPdf	PKPdf	09 49 56.4	+0.8		
LJU				*e*PKPbc	PKiKP	09 50 00.2	-0.7		
LJU	Ljubljana	148.70	350	⇓*i*P	PKiKP	09 49 59.9	-1.0		
CRES	Cresnjev	148.74	349	⇓*i*P	PKiKP	09 50 00.0	-1.0		
CIMO	Cimolais	148.74	353		PKPbc	09 49 59.6	0.0		
CIMO				IAMs_20	IAMs_20	10 55 20.5			
	comp=Z,495nm,22.0s								
TEKE	Tekeli-Mersin	148.78	317	*e*P	PKiKP	09 50 00.6	-0.7		
TEKS	Tekeris	148.96	342	*e*P	PKiKP	09 50 00.9	-0.6		
LFK	Lefkose	148.99	315	*e*P	PKiKP	09 50 01.1	-0.8		
CEY	Cerknica	149.01	350	⇓*i*P	PKiKP	09 50 00.6	-1.0		
BOJS	Bojanci	149.09	349	*e*PKPdf	PKPdf	09 49 57.2	+1.0		
BOJS				*i* PKPbc	PKiKP	09 50 01.3	-0.4		
CTI	Castel Tesino	149.09	354	PKP2	PKPbc	09 50 00.1	-0.5		
CTI	Castel Tesino	149.09	354		PKPbc	09 50 00.1	-0.5		
CTI				IAMs_20	IAMs_20	10 59 35.7			
	comp=Z,330nm,20.0s								
DIVS	Divibare	149.23	342	⇓*i*P	PKPbc	09 50 01.1	+0.2		
DIVS	Divibare	149.23	342	PKPbc	PKiKP	09 50 02.3	+0.2		
GAZI	Gazipasa	149.26	317	*e*P	PKiKP	09 50 01.7	-0.7		
KDZ	Kurdzhali	149.28	332	P	PKiKP	09 50 01.6	-0.6		
CSS	Mathiatis	149.30	314	*e*P	PKiKP	09 50 02.6	+0.1		
CSS	Mathiatis	149.30	314		PKiKP	09 50 02.6	+0.1		
BLY	Banja Luka	149.40	346	⇓*i*P	PKiKP	09 50 02.1	-0.2		
VTS	Vitosha	149.40	336	P	PKiKP	09 50 02.4	-0.2		
LEF	Lefka	149.51	315	*e*P	PKiKP	09 50 02.9	0.0		
RZN	Rozhen	149.56	333	P	PKiKP	09 50 02.3	-0.7		
BBLS	Lazići	149.62	342	⇓*i*P	PKiKP	09 50 02.6	-0.3		
SALO	Salr	149.63	355		PKiKP	09 50 02.7	-0.1		
SALO				IAMs_20	IAMs_20	10 51 20.9			
	comp=Z,393nm,20.0s								
RUDO	Rudo	149.86	342	*e*P	PKiKP	09 50 03.2	-0.1		
MMB	Musomiste	150.06	334	P	PKiKP	09 50 03.5	-0.4		
KKB	Krupnik	150.09	335	P	PKiKP	09 50 03.7	-0.2		
BNI	Bardonecchia	150.34	0	PKIKP	PKiKP	09 50 05.9	+1.5		
BNI	Bardonecchia	150.34	0		PKiKP	09 50 05.9	+1.5		
PGAV	Gavieira, Arco	150.34	23	eLR	LR	10 45 42.4			
	comp=Z,546nm,20.0s								
STIP	Stip	150.59	336	*i* P	PKiKP	09 50 04.6	-0.4		
SKO	Skopje	150.63	338	*i* P	PKiKP	09 50 05.5	+0.5		
PCAB	Cabril	150.65	23	*e*PKPbc	PKiKP	09 50 05.6	+0.5		
BRY	Bratogost	150.76	342	⇑*i*P	PKiKP	09 50 05.2	-0.2		
VAY	Valandovo	150.76	336	*i* P	PKiKP	09 50 05.3	0.0		
PDG	Podgorica	150.97	341	⇓P	PKPbc	09 50 04.5	-0.6		
PDG	Podgorica	150.97	341	*e*P	PKiKP	09 50 05.7	+0.1		
PDG	Podgorica	150.97	341		PKiKP	09 50 06.0	+0.4		
PDG					pPKPbc	09 50 13.0	-0.8		
AKAS	Kas	150.98	320		PKiKP	09 50 06.5	+0.4		
MSSA	Maissana	151.00	356	IAMs_20	IAMs_20	10 52 36.1			
	comp=Z,406nm,21.0s								
PBRG	Braganca	151.04	21	*e*PKPbc	PKiKP	09 50 06.3	+0.4		
PBRG	Braganca	151.04	21	*e*PKPab	PKPab	09 50 13.8	+1.0		
VLC	Villacollemand	151.09	355	IAMs_20	IAMs_20	10 54 28.5			
	comp=Z,479nm,22.0s								
PVRL	Vila Real	151.15	23	*e*PKPbc	PKiKP	09 50 06.8	+0.7		
DRME	Dracevica, Mon	151.21	341	*e*P	PKiKP	09 50 05.8	-0.4		
MVO	Moncorvo	151.50	23	*e*PKPbc	PKiKP	09 50 07.8	+0.9		
MVO	Moncorvo	151.50	23	*e*PKPab	PKPab	09 50 16.6	+1.8		
MVO	Moncorvo	151.50	23	eLR	LR	10 46 10.4			
	comp=Z,461nm,20.0s								
PVIS	Viseu	151.56	24	*e*PKPbc	PKiKP	09 50 07.8	+0.8		
PVIS	Viseu	151.56	24	*e*PKPab	PKPab	09 50 15.4	+0.4		
OHR	Ohrid	151.62	338	*i* P	PKiKP	09 50 07.8	+0.7		
OSSC	Osservatorio P	151.63	353		PKiKP	09 50 06.4	-0.6		
OSSC				IAMs_20	IAMs_20	10 57 03.9			
	comp=Z,400nm,21.0s								
MURB	Monte Urbino	151.73	351	PKPdf	PKPdf	09 49 57.2	-3.4		
MURB					pPKPdf	09 50 07.7	-1.6		
MURB				PKPab	pPKPbc	09 50 13.8	-1.8		
LIT	Litokhoron	151.82	334	IAMs_20	IAMs_20	11 01 10.1			
	comp=Z,294nm,20.0s								
MTE	Manteigas	151.97	24	*e*PKPbc	PKiKP	09 50 08.8	+0.9		
MTE	Manteigas	151.97	24	*e*PKPab	PKPab	09 50 22.6	+5.9		
MTE	Manteigas	151.97	24	eLR	LR	10 46 47.5			
	comp=Z,576nm,20.0s								
NRCA	Norcia	152.06	350	PKPbc	PKiKP	09 50 08.1	+0.1		
NRCA				PKPab	sPKPbc	09 50 18.0	-1.4		
PSBE	So Bento	152.19	27	*e*PKPbc	PKiKP	09 50 09.4	+1.1		
PCBR	Castelo Branco	152.47	25	*e*PKPbc	PKiKP	09 50 09.7	+0.9		
INTR	Introdacqua	152.72	349		PKiKP	09 50 08.9	-0.5		
AGG	Agios Georgios	152.79	333	PKIKP	PKiKP	09 50 09.6	0.0		
AGG				PKP	pPKPbc	09 50 17.4	-0.7		
AGG	Agios Georgios	152.79	333		PKiKP	09 50 09.6	0.0		
AGG				PKPab	pPKPbc	09 50 17.4	-0.7		
AGG				IAMs_20	IAMs_20	11 01 43.8			
	comp=Z,299nm,21.0s								
PMTG	Montargil	152.81	27	*e*PKPbc	PKiKP	09 50 10.2	+0.7		
PMTG	Montargil	152.81	27	*e*PKPab	PKPab	09 50 21.9	+1.7		
PMRV	Marv??o	152.85	25	*e*PKPbc	PKiKP	09 50 10.6	+0.9		
PMRV	Marv??o	152.85	25	*e*PKPab	PKPab	09 50 21.7	+1.3		
PMRV	Marv??o	152.85	25	eLR	LR	10 46 11.5			
	comp=Z,401nm,22.0s								
PAOL	Paolisi	153.53	347	IAMs_20	IAMs_20	10 58 08.1			
	comp=Z,366nm,19.0s								
ES17	SONSECA Array	153.86	19	IAMs_20	IAMs_20	10 52 05.6			
	comp=Z,445nm,22.0s								
ES07	SONSECA Array	153.88	19	IAMs_20	IAMs_20	10 52 06.1			
	comp=Z,380nm,21.0s								
ESBB	Sonseca Array	153.89	19	PKPbc	PKiKP	09 50 12.9	+1.0		
ESBB				PKPab	PKPab	09 50 26.3	+1.4		
ESDC	Sonseca Array	153.89	19	PKP	PKPdf	09 50 04.3	+0.5		
	comp=Z,0.6nm,0.6s,baz=320,slow=25,SNR=4.9								
ESDC				PKPbc	sPKPdf	09 50 13.5	-2.1		
	comp=Z,1.7nm,0.8s,baz=341,slow=2.5,SNR=8.5								
ESDC				PKPab	PKPab	09 50 25.8	+1.0		
	comp=Z,6.5nm,1.1s,baz=331,slow=4.5,SNR=15								
ESDC	Sonseca Array	153.89	19		PKPdf	09 50 04.3	+0.5		
ESDC					sPKPdf	09 50 13.5	-2.1		
ESDC					PKPab	09 50 25.8	+1.0		
ES06	SONSECA Array	153.89	19	IAMs_20	IAMs_20	10 51 41.4			
	comp=Z,365nm,20.0s								
ES01	SONSECA Array	153.90	19	IAMs_20	IAMs_20	10 51 41.6			
	comp=Z,351nm,21.0s								
ES14	SONSECA Array	153.90	20	IAMs_20	IAMs_20	10 51 42.7			
	comp=Z,356nm,22.0s								
ES03	SONSECA Array	153.91	19	IAMs_20	IAMs_20	10 52 25.8			
	comp=Z,370nm,21.0s								
ES13	SONSECA Array	153.91	19	IAMs_20	IAMs_20	10 52 08.9			
	comp=Z,385nm,22.0s								
ES04	SONSECA Array	153.91	19	IAMs_20	IAMs_20	10 51 45.0			
	comp=Z,422nm,22.0s								
IDI	Anoyia	154.42	324	PKP	PKPdf	09 50 04.5	-0.2		
	comp=Z,2.1nm,0.4s,baz=149,slow=5.9,SNR=1.6								
IDI				PKPbc	PKiKP	09 50 13.4	+0.3		
	comp=Z,5.0nm,0.4s,baz=180,slow=3.0,SNR=2.1								
VSL	Villasalto	155.80	355	IAMs_20	IAMs_20	10 55 49.3			
	comp=Z,350nm,20.0s								
SFS	San Fernando	155.86	27	IAMs_20	IAMs_20	10 57 28.1			
	comp=Z,366nm,21.0s								
CART	Cartagena	156.70	16	IAMs_20	IAMs_20	10 54 11.3			
	comp=Z,429nm,20.0s								
KEST	Kesra	159.54	354	PKP	PKPdf	09 50 10.7	-0.6		
	comp=Z,1.3nm,0.5s,baz=79,slow=5.2,SNR=2.5								
KEST				PKPab	PKPab	09 50 50.6	+1.4		
	comp=Z,1.8nm,0.5s,baz=121,slow=6.2,SNR=4.1								
KEST	Kesra	159.54	354		PKPdf	09 50 08.7	-2.5		
KEST					PKPab	09 50 50.4	+1.2		
MDT	Midelt	159.63	29	PKP	PKPdf	09 50 12.5	+1.0		
	comp=Z,2.8nm,0.9s,baz=33,slow=1.6,SNR=5.5								
MDT				PKPab	PKPab	09 50 51.9	+2.2		
	comp=Z,6.1nm,1.1s,baz=352,slow=4.2,SNR=5.9								
MDT	Midelt	159.63	29		PKPab	09 50 51.9	+2.2		
TORD	Torodi Ar. Bea	174.44	112	PKP	PKPdf	09 50 22.4	-0.3		
	comp=Z,5.1nm,1.2s,baz=316,slow=2.2,SNR=11								
TORD				PKPab	PKPab	09 51 55.7	0.0		
	comp=Z,2.2nm,1.0s,baz=281,slow=2.5,SNR=3.9								
TORD				PP	PP	09 55 47.1	-0.9		
	comp=Z,1.2nm,1.1s,baz=294,slow=1.4,SNR=4.4								
TORD	Torodi Ar. Bea	174.44	112		PKPdf	09 50 22.4	-0.3		
TORD					PKPab	09 51 55.7	0.0		
TORD					PP	09 55 47.1	-0.9		

*ISN **26** 09:33:50.8±6.5, 32.°73N×47.°77E, h272^{km}±99^{km}, ML3.3*
*TEH **26** 09:33:56.4, 32.°56N×47.°85E, h8^{km}, ML3.6*
*IDC **26** 09:33:56.0±2.4, 32.°67N×47.°61E, h0^{km}, mb3.7/7, mb1 3.8/8, mb1mx3.6/48, mbtmp3.7/8, ML3.5/1, MS2.9/2, Ms1 2.9/2, ms1mx2.3/35, Error ellipse: s-maj=46.5km s-min=30.0km az=155.0*

ISC 26 09:33:57.9±0.8, 32.°53N±0.°05×47.°84E±0.°04, h15^{km}, n51, σ1°73/49, mb3.6/7, 2C-1D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
DHL1	Dehloran	0.49	288	*e*Pg	Pg	09 34 06.5	-1.2
IKFM	Kafar-mosalman	0.99	0	*e*Pg	Pb	09 34 14.8	-2.0
IKFM				*e*		09 34 34.5	
IKMR	Kamar-syah	1.09	25	*e*Pg	Pb	09 34 17.0	-1.4
IKMR				*e*		09 34 39.7	
IDOB	Doab	1.29	13	*e*Pg	Pb	09 34 19.5	-2.4
AHWZ	Ahwaz	1.38	150	*e*Pg	Pn	09 34 23.4	+0.9
BMDN	Meydan	1.41	36	*e*Pg	Pn	09 34 23.0	-0.2
BMDN				*e*		09 34 55.1	
IKOM	Komasi	1.66	351	*e*Pg	Pb	09 34 28.0	-0.3
IKOM				*e*		09 34 58.6	
IBDR	Badra	1.71	290	*e*Pg	Pg	09 34 35.0	+4.3
IBDR				AML	AML	09 35 05.2	
	comp=E,276nm,0.4s						
IBDR				*e*Sg	Sg	09 35 06.0	+13
IBDR				AML	AML	09 35 07.7	
	comp=N,77nm,0.6s						
HSAM	Samen	1.80	21	*e*Pg	Pb	09 34 30.1	-0.5
HSAM				*e*		09 35 04.9	
KCHF	Cheshme Sefid,	1.86	339	*e*Pg	Pb	09 34 30.8	-1.0
KCHF				*e*		09 35 07.1	
IBZA	Bozab	1.94	1	*e*Pg	Pb	09 34 32.3	-0.7
IBZA				*e*		09 35 06.5	
KER	Kermanshah	1.94	343	*e*Pn	Pb	09 34 31.6	-1.5
IGHG	Ghaleghazi	2.09	330	*e*Pn	Pb	09 34 33.9	-1.7
IGHG				*e*		09 35 16.5	
IVIS	Veis	2.16	338	*e*Pn	Pn	09 34 34.1	+0.7
IVIS				*e*		09 35 09.5	
IALM	Almabolaq	2.34	7	*e*Pn	Pb	09 34 37.7	-2.2
JHBN	Jahan bin	2.41	96	*e*Pn	Pn	09 34 37.5	+0.4
JHBN				*e*		09 35 28.1	
IDHR	Dehrash	2.48	331	*e*Pn	Pn	09 34 39.0	+1.1
IDHR				*e*		09 35 22.0	
ILIN	Lien	2.49	343	*e*Pn	Pn	09 34 39.3	+1.2
ILIN				*e*		09 35 26.4	
HAGD	Aghdareh	2.53	25	*e*Pn	Pn	09 34 38.8	+0.1
HAGD				*e*		09 35 21.9	
IPIR	Pirpir	2.58	86	*e*Pn	Pn	09 34 40.5	+1.1
IPIR				*e*		09 35 27.4	
ROKH	ROKH	2.71	93	*e*Pn	Pn	09 34 41.8	+0.7
ROKH				*e*		09 35 34.1	
HSRG	Sareghieh	2.73	8	*e*Pn	Pn	09 34 43.3	+1.9
HSRG				*e*		09 35 32.4	
BHD	Baghdad	3.00	285	*e*Pg	Pn	09 34 46.0	+1.1
	baz=100						
BHD				*e*Sg	Sn	09 35 20.0	-0.6
IKLH	Kolahrood	3.24	75	*e*Pn	Pn	09 34 50.7	+2.2
IKLH				*e*		09 35 53.9	
QABG	Abgarm-Qazvin	3.49	24	*e*Pn	Pn	09 34 52.9	+1.1
KLNJ	Kolanjah	3.54	114	*e*Pn	Pn	09 34 54.0	+1.4
KLNJ				*e*		09 36 04.1	
IZEF	Zefreh	3.80	83	*e*Pn	Pn	09 34 57.9	+1.7
IRAM	Ramesheh	3.92	99	*e*Pn	Pn	09 34 58.3	+0.6
IVRN	Varamin	4.07	52	*e*Pn	Pn	09 35 01.6	+2.0
QSDN	Sirdan	4.12	15	*e*Pn	Pn	09 35 02.6	+2.2
IDMV	Damavand	4.62	48	*e*Pn	Pn	09 35 08.3	+0.9
ANAR	Anarak	5.00	81	*e*Pn	Pn	09 35 13.9	+1.4
IPRN	Peran	5.25	44	*e*Pn	Pn	09 35 18.1	+2.2
IALA	Alasht	5.43	48	*e*Pn	Pn	09 35 20.8	+2.2
ISHM	Shahmirzad	5.58	53	*e*Pn	Pn	09 35 22.7	+2.1
IANJ	Anjilo	5.83	58	*e*Pn	Pn	09 35 25.0	+0.9
IGLO	Ghaloghah	6.34	50	*e*Pn	Pn	09 35 33.6	+2.7
WSAR	Wadi Sarin	13.29	131	Pn	Pn	09 37 01.6	-4.4
	comp=N,0.2nm,0.3s,baz=197,slow=15,SNR=1.6						
WSAR				Sn	Sn	09 39 20.6	-13
	comp=N,0.1nm,0.3s,baz=325,slow=23,SNR=1.5						
AKTO	Aktyubinsk	19.41	20	P	P	09 38 23.9	+0.5
	comp=N,0.1nm,0.3s,baz=228,slow=14,SNR=1.3						
MLR	Muntele Rosu	21.29	314	⇑P	P	09 38 48.1	+4.2
TESR	Tescani	21.41	317	⇓P	P	09 38 47.9	+2.9
VOIR		21.82	313	⇑P	P	09 38 49.8	+0.3
AKASG	Malin Array Be	22.76	328	P	P	09 38 57.5	-2.0
	comp=N,1.0nm,0.5s,baz=134,slow=8.3,SNR=4.5						
ARU	Arti	25.03	14	LR	LR	09 51 46.9	
	comp=N,28nm,18.5s,baz=116,slow=43						
KIRV	Kirov	26.08	2	LR	LR	09 51 24.1	
	comp=N,24nm,20.7s,baz=200,slow=40						
MKAR	Makanchi Array	29.84	51	P	P	09 40 05.1	+0.7
	comp=N,0.8nm,0.7s,baz=263,slow=6.0,SNR=4.3						
FINES	FINESS Array B	32.19	340	P	P	09 40 23.7	-1.2
	comp=N,1.5nm,0.6s,baz=143,slow=8.7,SNR=9.3						
HFS	Hagfors	35.59	331	P	P	09 40 52.9	-1.6
	comp=N,1.4nm,0.5s,baz=129,slow=5.9,SNR=1.8						
ARCES	ARCESS Array B	39.12	348	P	P	09 41 23.4	-0.9
	comp=N,0.4nm,0.5s,baz=160,slow=8.6,SNR=5.1						
EKA	Eskdalemuir Ar	42.01	318	P	P	09 41 46.4	-2.0
	comp=N,0.8nm,0.4s,baz=101,slow=8.7,SNR=3.7						
TORD	Torodi Ar. Bea	46.28	256	P	P	09 42 22.6	-0.5
	comp=N,0.4nm,0.6s,baz=56,slow=9.1,SNR=1.9						

*HLW **26** 09:34:13.0, 34.°81N×25.°25E, h11^{km}±10^{km}, Md4.1, Ml3.9*
*IDC **26** 09:34:19.9±2.9, 34.°62N×25.°41E, h24^{km}±19^{km}, mb3.7/7, mb1 3.8/12, mb1mx3.5/53, mbtmp3.8/12, ML3.9/6, MS2.9/5, Ms1 2.9/5, ms1mx2.6/40, Error ellipse: s-maj=21.9km s-min=17.7km az=4.0*
*ISK **26** 09:34:19.9, 34.°61N×25.°37E, h14^{km}, ML3.6/16*
*THE **26** 09:34:21.3, 34.°66N×25.°34E, h0^{km}±1^{km}, ML3.3/11, Error ellipse: s-maj=1.8km s-min=0.7km az=161.0*
*ATH **26** 09:34

BODT	**Bodrum**	**2.94**	**31**	PN	**Pn**	**09 35 06.9**	**+2.2**	
SLUM	**Salum**	**3.04**	**184**	AMP		09 35 00.0		
	baz=181							
TURN	**Turunc**	**3.19**	**45**	PN	**Pn**	**09 35 10.1**	**-1.8**	
TURN	**Turunc**	**3.19**	**45**	*i* P	Pn	09 35 07.5	-4.4	
TURN				IAML		09 36 29.0		
	comp=Z,24nm,0.9s							
DALY	**Dalyan (Mula)**	**3.47**	**48**	PN	**Pn**	**09 35 14.2**	**+2.4**	
YER	**Yerkesik**	**3.47**	**41**	PN	**Pn**	**09 35 14.2**	**+2.2**	
FETY	**Fethiye**	**3.63**	**54**	PN	**Pn**	**09 35 17.2**	**+3.0**	
AYDN	**Tasoluk**	**3.69**	**32**	*i* P	**Pn**	**09 35 16.0**	**+1.0**	
AYDN				IAML		09 36 27.0		
	comp=Z,13nm,1.7s							
DGB	**zmir**	**3.70**	**18**	*i* P	**Pn**	**09 35 17.4**	**+2.5**	
DGB				IAML		09 36 38.0		
	comp=Z,17nm,1.2s							
AKAS	**Kas**	**3.80**	**62**	PN	**Pn**	**09 35 19.8**	**+3.2**	
AKAS	**Kas**	**3.80**	**62**	*i* P	**Pn**	**09 35 17.6**	**+1.0**	
AKAS				IAML		09 36 07.0		
	comp=Z,14nm,0.4s							
CHOS	**Chios island**	**3.87**	**7**	PN	**Pn**	**09 35 20.2**	**+2.7**	
URLA	**Izmir**	**3.93**	**13**	PN	**Pn**	**09 35 21.1**	**+2.9**	
TAVA	**DENIZLI_Tavas**	**4.06**	**43**	*i* P	**Pn**	**09 35 21.1**	**+1.0**	
TAVA				IAML		09 37 07.0		
	comp=Z,13nm,1.8s							
KRBN	**Karaburun**	**4.15**	**12**	PN	**Pn**	**09 35 24.2**	**+3.0**	
GOLH	**Golhisar**	**4.29**	**50**	*i* P	**Pn**	**09 35 24.4**	**+1.1**	
GOLH				IAML		09 36 50.0		
	comp=Z,21nm,0.7s							
AKUM	**Antalya-Kumluc**	**4.38**	**65**	*i* P	**Pn**	**09 35 24.0**	**-0.4**	
AKUM				*i* S	**Sn**	**09 36 15.2**	**+0.2**	
AKUM				IAML		09 36 41.0		
	comp=Z,8.7nm,0.4s							
USAK	**Uak-Merkez**	**5.07**	**34**	*i* P	**Pn**	**09 35 34.1**	**+0.3**	
USAK				IAML		09 37 35.0		
	comp=Z,16nm,0.0s							
AGG	**Agios Georgios**	**5.12**	**332**	*i* P	**Pn**	**09 35 35.4**	**+0.7**	
SWA2		**5.28**	**180**	AMP		09 36 00.0		
	baz=178							
KEPZ	**Antalya-Kepez**	**5.54**	**63**	*i* P	Pn	09 35 34.7	-5.7	
BRTR	**Keskin Array B**	**8.35**	**49**	LR	LR	09 40 32.3		
	comp=Z,43nm,20.7s,baz=196,slow=45							
MMAI	**Mount Meron Ar**	**8.43**	**98**	Pn	**Pn**	**09 36 20.6**	**+0.5**	
	comp=Z,3.6nm,0.3s,baz=311,slow=13,SNR=2.3							
MMAI				Sn	**Sn**	**09 37 53.8**	**-1.2**	
	comp=Z,4.4nm,0.3s,baz=274,slow=22,SNR=2.5							
VAE	**Valguarnera**	**9.40**	**291**	Pn	**Pn**	**09 36 34.0**	**+0.5**	
	comp=Z,16nm,0.3s,baz=204,slow=12,SNR=4.6							
EIL	**Elat**	**9.41**	**118**	Pn	**Pn**	**09 36 33.9**	**+0.4**	
	comp=Z,0.4nm,0.3s,baz=8.1,slow=14,SNR=2.0							
EIL				Sn	**Sn**	**09 38 15.7**	**-3.3**	
	comp=Z,2.0nm,0.3s,baz=323,slow=5.6,SNR=7.1							
ASF	**Jabal al Asfar**	**9.87**	**101**	Sn	**Sn**	**09 38 27.8**	**-2.5**	
	comp=Z,0.0nm,0.3s,baz=203,slow=21,SNR=1.5							
MLR	**Muntele Rosu**	**10.95**	**2**	LR	LR	09 41 55.5		
	comp=Z,88nm,18.3s,baz=122,slow=42							
VRAC	**Vranov**	**16.14**	**339**	LR	LR	09 44 26.9		
	comp=Z,47nm,18.5s,baz=162,slow=38							
KBZ	**Khabaz**	**16.34**	**51**	Pn	**P**	**09 38 10.3**	**+0.3**	
	comp=Z,0.2nm,0.3s,baz=243,slow=7.8,SNR=9.3							
AKASG	**Malin Array Be**	**16.39**	**9**	Pn	**Pn**	**09 38 04.5**	**-3.3**	
	comp=Z,0.7nm,0.3s,baz=203,slow=12,SNR=4.7							
GERES	**GERESS Array B**	**16.74**	**332**	Pn	**Pn**	**09 38 12.9**	**+0.6**	
	comp=Z,0.1nm,0.3s,baz=131,slow=12,SNR=1.5							
DAVOX	**Davos/Dischmat**	**16.96**	**321**	LR	LR	09 46 36.8		
	comp=Z,33nm,19.6s,baz=90,slow=44							
ESDC	**Sonseca Array**	**23.95**	**291**	P	**P**	**09 39 31.4**	**-0.6**	
	comp=Z,0.6nm,0.8s,baz=85,slow=10,SNR=2.5							
FINES	**FINESS Array B**	**26.93**	**1**	P	**P**	**09 39 57.6**	**-1.2**	
	comp=Z,3.8nm,1.1s,baz=162,slow=10,SNR=4.6							
FINES				LR	LR	09 50 42.9		
	comp=Z,40nm,18.1s,baz=142,slow=37							
TORD	**Torodi Ar. Bea**	**30.27**	**231**	P	**P**	**09 40 29.3**	**+0.3**	
	comp=Z,0.6nm,0.6s,baz=33,slow=8.8,SNR=5.6							
KURBB	**Kurchatov Arra**	**41.34**	**50**	P	**P**	**09 42 02.6**	**-0.8**	
	comp=Z,1.4nm,0.2s,baz=280,slow=8.9,SNR=4.4							
MKAR	**Makanchi Array**	**43.93**	**56**	P	**P**	**09 42 24.2**	**-0.3**	
	comp=Z,0.4nm,0.5s,baz=264,slow=6.8,SNR=3.0							
ZALV	**Zalesovo Beam**	**45.27**	**46**	P	**P**	**09 42 36.3**	**+1.2**	
	comp=Z,0.9nm,0.4s,baz=273,slow=10,SNR=2.8							
SONM	**Songino Array**	**59.70**	**50**	P	**P**	**09 44 22.3**	**-0.1**	
	comp=Z,0.3nm,0.3s,baz=264,slow=2.9,SNR=1.7							

ISC 26 09:48:44.4±1.1, 48°.95N±0°.06×18°.06E±0°.05, h10km, n7, σ0.45/11, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.27**	**251**	*e*PG	**Pg**	**09 48 50.5**	**+0.6**
KOLL	**Kolacno**	**0.43**	**148**	*e*PG	**Pg**	**09 48 53.3**	**+0.4**
VYHS	**Vyhne**	**0.69**	**131**	*e*PG	**Pg**	**09 48 57.5**	**-0.2**
VYHS				*e*SG	**Sn**	**09 49 10.9**	**-0.1**
MODS	**Modra-Piesok**	**0.77**	**222**	*e*PG	**Pg**	**09 48 58.6**	**-0.7**
MODS				*e*SG	**Sn**	**09 49 13.5**	**+0.4**
MORC	**Moravsky Berou**	**0.89**	**338**	*e*PG	**Pb**	**09 49 02.2**	**+0.2**
MORC				*e*SG	**Sg**	**09 49 12.8**	**-0.5**
VRAC	**Vranov**	**1.03**	**291**	*e*PG	**Pg**	**09 49 04.0**	**-0.1**
VRAC				*e*SG	**Sb**	**09 49 18.0**	**+0.2**
KRUC	**Moravsky**	**1.10**	**277**	*e*PG	**Pb**	**09 49 05.3**	**-0.2**

*NORS **26** 10:02:14.8±0.0, 42°.64N×46°.31E, h6km, MPVA3.8, FELT I=III MSK at Botlikh*
*DRS **26** 10:02:15.6±0.0, 42°.64N×46°.21E, h11km, ML2.9/6*
ISC 26 10:02:16.8±0.8, 42°.62N±0°.03×46°.33E±0°.02, h11km±6km, n29, σ1.9s64/55, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.09**	**299**	*i* Pg	**Pg**	**10 02 17.9**	**-1.5**
	1μm,0.4s						
BTLR				*e*Sg	**Sg**	**10 02 18.9**	**-2.4**
	8μm,0.6s						
XNZR	**Khunzakh**	**0.29**	**106**	*e*Pg	**Pb**	**10 02 23.6**	**-0.4**
XNZR				*e*Sg	**Sb**	**10 02 29.4**	**+0.5**
UNCR	**Uncukul**	**0.35**	**74**	*i* Pg	**Pb**	**10 02 24.5**	**-0.6**
UNCR				*i* Sg	**Sb**	**10 02 31.0**	**+0.2**
	2μm,0.2s						
KRNR	**Karanay**	**0.47**	**64**	*i* Pg	**Pb**	**10 02 26.0**	**-1.2**
	103nm,0.2s						
KRNR				*e*Sg	**Sb**	**10 02 34.0**	**-0.2**
	262nm,0.3s						
ARKR	**Arakani**	**0.49**	**92**	*i* Pg	**Pn**	**10 02 28.0**	**-1.8**
	233nm,0.1s						
ARKR				*i* Sg	**Sn**	**10 02 37.0**	**+4.2**
	416nm,0.2s						
DLMR	**Dylym**	**0.50**	**26**	*i* Pg	**Pb**	**10 02 26.5**	**-1.1**
	267nm,0.2s						
DLMR				*i* Sg	**Sb**	**10 02 34.5**	**-0.5**
	1μm,0.3s						
GNBR	**Gunib**	**0.52**	**116**	*e*Pg	**Pn**	**10 02 28.5**	**-1.7**
	150nm,0.4s						
GNBR				*e*Sg	**Sn**	**10 02 37.6**	**-1.5**
	894nm,0.6s						
DBC	**Dubki**	**0.54**	**42**	*e*Pg	**Pb**	**10 02 27.3**	**-1.0**
	74nm,0.5s						
DBC				*e*Sg	**Sb**	**10 02 35.7**	**-0.5**
	283nm,0.7s						
BUJR	**Buynaksk**	**0.61**	**70**	*e*Pg	**Pn**	**10 02 29.7**	**-1.7**
	134nm,0.5s						
BUJR				*e*Sg	**Sn**	**10 02 39.7**	**-1.6**
	727nm,0.4s						
KMKR	**Kumukh**	**0.75**	**130**	*i* Pg	**Pn**	**10 02 33.0**	**-0.5**
	59nm,0.2s						
KMKR				*i* Sg	**Sn**	**10 02 44.5**	**-0.5**
	476nm,0.3s						
LGD	**Lagodekhi**	**0.79**	**185**	P	**Pn**	**10 02 33.2**	**-0.6**
LGD				S	**Sn**	**10 02 44.7**	**-0.9**
KMGR	**Komgaron**	**1.16**	**293**	*e*Pg	**Pn**	**10 02 41.1**	**+2.0**
KMGR				*e*Sg	**Sn**	**10 02 57.4**	**+2.4**
DDFL	**Dedoflistskaro**	**1.18**	**188**	P	Pn	10 02 44.9	+5.5
PNSH	**Pansheti**	**1.27**	**271**	P	**Pn**	**10 02 40.5**	**-0.1**
PNSH				S	**Sn**	**10 02 58.2**	**+0.4**
VLKR	**Vladikavkaz**	**1.29**	**290**	*e*Pg	**Pb**	**10 02 42.8**	**+1.7**
VLKR				*e*Sg	**Sn**	**10 03 00.8**	**+2.7**
BTKR	**Batakoyurt**	**1.51**	**300**	*e*Pg	**Pg**	**10 02 46.4**	**+0.6**
BTKR				*e*Sg	**Sg**	**10 03 08.1**	**+2.6**
LACR	**Lac**	**1.51**	**279**	*e*Pg	**Pg**	**10 02 45.1**	**-0.7**
LACR				*e*Sg	**Sg**	**10 03 06.3**	**+0.9**
AKT	**Akhty**	**1.54**	**137**	*e*Pg	**Pg**	**10 02 47.2**	**+0.8**
	44nm,0.4s						
AKT				*e*Sg	**Sg**	**10 03 09.6**	**+3.2**
	91nm,0.3s						
DRN	**Derbent**	**1.59**	**111**	*e*Pg	**Pg**	**10 02 47.5**	**+0.2**
DRN				*e*Sg	**Sg**	**10 03 13.0**	**+5.0**
ARNR	**Ardon**	**1.61**	**291**	*e*Pg	**Pg**	**10 02 47.8**	**+0.2**
ARNR				*e*Sg	**Sg**	**10 03 10.1**	**+1.7**
TRKR	**Terskaya**	**1.61**	**314**	*e*Pg	**Pg**	**10 02 47.1**	**-0.5**
TRKR				*e*Sg	**Sg**	**10 03 10.1**	**+1.6**
ZEI	**Tsey**	**1.80**	**276**	*e*Pg	**Pg**	**10 02 50.7**	**-0.6**
ZEI				*e*Sg	**Sg**	**10 03 14.3**	**-0.4**
STDR	**Stavd-Durt**	**1.83**	**295**	*e*Pg	**Pg**	**10 02 52.4**	**+0.6**
STDR				*e*Sg	**Sg**	**10 03 17.3**	**+1.9**
PRTR	**Priterechnaya**	**1.88**	**308**	*e*Pg	**Pg**	**10 02 51.9**	**-0.9**
PRTR				*e*Sg	**Sg**	**10 03 16.1**	**-1.1**
LSNR	**Lesken**	**1.95**	**291**	*e*Pg	**Pg**	**10 02 53.3**	**-1.0**
LSNR				*e*Sg	**Sg**	**10 03 18.1**	**-1.4**
TRLG	**Trialeti**	**1.98**	**238**	P	**Pg**	**10 02 53.4**	**-1.3**
TRLG				S	**Sg**	**10 03 20.1**	**-0.3**
DMNI	**Dmanisi**	**2.05**	**232**	P	**Pg**	**10 02 54.3**	**-1.8**
DMNI				S	**Sg**	**10 03 22.5**	**-0.3**
ONI	**Oni**	**2.13**	**270**	P	**Pg**	**10 02 56.3**	**-1.2**
ONI				S	**Sg**	**10 03 26.2**	**+1.2**
BKRG	**Bakuriani**	**2.26**	**249**	P	**Pg**	**10 02 58.5**	**-1.6**

*SOME **26** 10:38:24.1, 43°.53N×69°.67E*
NNC 26 10:38:24.7±2.5, 43°.50N×69°.63E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=16.7km s-min=5.6km az=125.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Boroldoy**	**0.49**	**162**	P	Pn	10 38 38.3	-0.8
	6.2nm,0.1s						
BRLS				S	Sb	10 38 48.5	+4.4
	7.3nm,0.2s						
KK31	**Karatay Array**	**0.76**	**121**	P	Pg	10 38 39.1	-0.1
	2.1nm,0.4s,baz=292,slow=16,SNR=27						
KK31				S	Sg	10 38 50.2	+1.2
	17nm,0.6s,baz=305,slow=30,SNR=69						
IUG	**luzhnay**	**1.38**	**167**	P	Pg	10 38 50.7	-0.5
	8.7nm,0.2s						
IUG				S	Sb	10 39 09.5	-0.2
	7.2nm,0.5s						
MRKS	**Merke**	**2.74**	**105**	Pg	Pb	10 39 15.2	+0.5
	4.7nm,0.5s						
MRKS				Lg	Lg	10 39 52.3	
	6.3nm,0.6s						
KST	**Kastek**	**4.65**	**93**	Pg	Pb	10 39 50.1	+2.9
	1.5nm,0.4s						
KUU	**Kurty**	**4.88**	**83**	Pg	Pb	10 39 53.3	+2.2
	0.9nm,0.1s						
KUU				Lg	Lg	10 40 57.6	

SOME 26 10:39:09.0, 40°.02N×77°.08E, h5km, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KST	**Kastek**	**3.14**	**345**	*e*P	Pg	10 40 07.3	-1.9
	0.3nm,0.1s						
KST				*e*S	Sg	10 40 49.3	-0.5
	5.1nm,0.8s						
SATY	**Saty**	**3.20**	**18**	*e*P	Pg	10 40 08.4	-1.9
	0.6nm,0.1s						
SATY				*e*S	Sg	10 40 51.2	-0.5
	2.4nm,0.1s						
KOTS	**Kotyrbulak**	**3.21**	**0**	*e*P	Pb	10 40 08.3	+1.6
	3.4nm,0.3s						
KOTS				*e*S	Sg	10 40 50.7	-1.5
	3.1nm,0.5s						
KOTS	**Kotyrbulak**	**3.21**	**0**	Pg	Pb	10 40 08.3	+1.6
	3.4nm,0.3s						
KTBS	**Karatobe**	**3.70**	**355**	*e*P	Pb	10 40 16.9	+2.0
	1.5nm,0.6s						
KTBS				*e*S	Sg	10 41 05.9	-2.1
	7.3nm,0.6s						

GUC 26 10:39:40.7±0.4, 23°.94S×67°.35W, h237km±6km, ML3.6, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.95**	**312**	*e*P	Pn	10 40 21.3	-0.9
LVC				*e*S	S	10 40 53.1	-1.5
PB15	**IPOC Station P**	**2.08**	**290**	⇑*i*P	Pn	10 40 22.9	-0.2
PB15				*i* S	S	10 40 55.4	-0.9
GO02	**Mina Guanaco**	**2.38**	**239**	⇑*e*P	Pn	10 40 24.9	-1.2
GO02				*i* S	S	10 40 59.9	-1.8
GO02				IAML		10 41 00.6	
	comp=N,119nm,0.3s						
PB06	**IPOC Station P**	**2.38**	**301**	⇑*i*P	Pn	10 40 26.1	0.0
PB06				*e*S	S	10 41 00.7	-1.0
PB06				IAML		10 41 04.3	
	comp=E,161nm,0.1s						
PB09	**IPOC Station P**	**2.76**	**320**	⇑*i*P	Pn	10 40 30.5	+0.5
PB09				*e*S	S	10 41 08.1	-0.7
PB09				IAML		10 41 10.8	
	comp=N,76nm,0.2s						
PB03	**IPOC Station P**	**2.91**	**310**	*e*P	Pn	10 40 31.8	+0.1
PB03				*e*S	S	10 41 10.4	-1.2
PB10	**IPOC Station P**	**2.97**	**278**	*e*P	Pn	10 40 32.4	+0.3
PB10				*e*S	S	10 41 11.3	-1.2
PB04	**IPOC Station P**	**3.03**	**301**	*e*P	Pn	10 40 33.6	+0.6
PB04				*e*S	S	10 41 13.3	-0.8
PB07	**IPOC Station P**	**3.21**	**313**	⇓*e*P	Pn	10 40 35.1	+0.1
PB07				*i* S	S	10 41 16.6	-1.2
PB01	**IPOC Station P**	**3.50**	**325**	*e*P	Pn	10 40 38.0	-0.2
PB01				*e*S	S	10 41 22.0	-1.6
AC01	**Pan de Azucar**	**3.67**	**233**	*e*P	Pn	10 40 38.7	-1.4
AC01				*e*S	S	10 41 23.5	-3.5
PB08	**IPOC Station P**	**4.14**	**336**	*e*P	Pn	10 40 46.6	+0.6
PB08				*e*S	S	10 41 37.0	-0.6
MNMC	**Minye Minye**	**5.22**	**336**	*e*P	Pn	10 40 59.2	-0.1

*KRNET **26** 10:43:45.1±0.1, 41°.76N×79°.34E, h19km, mb2.1*
*SOME **26** 10:43:46.8, 41°.87N×79°.23E, h10km*
*NNC **26** 10:43:48.1±1.2, 41°.95N×79°.33E, h0km, mb2.7, mpv2.9, Error ellipse: s-maj=7.8km s-min=5.8km az=147.0*
ISC 26 10:43:46.7±2.5, 41°.73N±0°.10×79°.34E±0°.08, h26km±15km, n17, σ0.89/32, 8C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.03**	**317**	⇑*i*P	**Pn**	**10 44 04.1**	**-1.5**
	baz=17						
PRZ				⇑*i*S	**Sb**	**10 44 18.0**	**-1.1**
	baz=17						
TARG	**Taragay, Kyrgy**	**1.15**	**270**	⇓*i*P	**Pn**	**10 44 06.9**	**-0.6**
	baz=69						
TARG				⇓*i*S	**Sn**	**10 44 22.6**	**-0.1**
	baz=69						
SHLS	**Shalkode**	**1.43**	**3**	*e*P	**Pb**	**10 44 12.8**	**+0.1**
	9.0nm,0.1s						
SHLS				*e*S	**Sb**	**10 44 30.9**	**+0.4**
	34nm,0.2s						
UZB	**Uzynbulak**	**1.43**	**351**	*e*P	**Pn**	**10 44 11.1**	**-0.1**
	0.9nm,0.3s						
UZB				*e*S	**Sn**	**10 44 28.0**	**-1.3**
	1.8nm,0.1s						
UZB	**Uzynbulak**	**1.43**	**351**	P	**Pn**	**10 44 11.1**	**-0.1**
	0.9nm,0.3s						
UZB				S	**Sn**	**10 44 28.0**	**-1.3**
	1.8nm,0.1s						
SATY	**Saty**	**1.50**	**333**	*e*P	**Pn**	**10 44 12.8**	**+0.8**
	3.0nm,0.1s						
SATY				*e*S	**Sn**	**10 44 31.1**	**+0.3**
	13nm,0.1s						
SATY	**Saty**	**1.50**	**333**	P	**Pn**	**10 44 12.8**	**+0.8**
	3.0nm,0.1s						
SATY				S	**Sn**	**10 44 31.1**	**+0.3**
	13nm,0.1s						
PDGK	**Podgornoye**	**1.60**	**4**	⇑P	**Pn**	**10 44 14.0**	**+0.6**
	1.0nm,0.3s						
PDGK				⇑S	**Sn**	**10 44 32.6**	**-0.7**
	1.9nm,0.4s						
ANVS	**Anan'yevo**	**1.63**	**311**	⇓*i*P	**Pn**	**10 44 15.0**	**+1.1**
	baz=10.0						
ANVS				⇓*i*S	**Sb**	**10 44 36.6**	**+0.3**
	baz=10.0						
KDJ	**Kajisay**	**1.66**	**285**	⇑*i*P	**Pn**	**10 44 15.2**	**+0.8**
	baz=84						
KDJ				⇑*i*S	**Sb**	**10 44 37.6**	**+0.3**
	baz=84						
MDOK	**Medeo**	**2.22**	**311**	*e*P	**Pb**	**10 44 26.1**	**-0.1**
	3.7nm,0.2s						
MDOK				*e*S	**Sb**	**10 44 54.1**	**+0.8**
	13nm,0.5s						
MDOK	**Medeo**	**2.22**	**311**	Pg	**Pb**	**10 44 26.1**	**-0.1**
	3.7nm,0.2s						
MDOK				Lg	Lg	10 44 54.1	
	13nm,0.5s						
KOTS	**Kotyrbulak**	**2.23**	**313**	*e*P	**Pb**	**10 44 25.7**	**-0.7**
	10nm,0.3s						
KOTS				*e*S	**Sb**	**10 44 53.2**	**-0.4**
	17nm,0.4s						
KOTS	**Kotyrbulak**	**2.23**	**313**	Pg	**Pb**	**10 44 25.7**	**-0.7**
	10nm,0.3s						
KOTS				Lg	Lg	10 44 53.2	
	17nm,0.4s						
ULHL	**Ulahol**	**2.37**	**284**	⇑*i*P	**Pn**	**10 44 25.8**	**+1.7**
	baz=83						
ULHL				⇑*i*S	**Sb**	**10 44 56.1**	**-1.6**
	baz=83						
DJR	**Jarkent**	**2.62**	**7**	*e*P	**Pb**	**10 44 32.7**	**-0.3**
	1.1nm,0.1s						
DJR				*e*S	**Sb**	**10 45 05.0**	**+0.3**
	14nm,0.3s						
KTBS	**Karatobe**	**2.79**	**316**	*e*P	**Pb**	**10 44 36.3**	**+0.5**
	1.7nm,0.1s						
KTBS				*e*S	**Sb**	**10 45 11.2**	**+1.8**
	6.9nm,0.8s						

*IDC **26** 11:56:45.9±0.7, 64°.68N×17°.24W, h0km, mb3.7/13, mb1 4.0/17, mb1mx3.9/39, mbtmp3.8/17, ML3.9/4, MS3.4/27, Ms1 3.5/27, ms1mx3.3/47, Error ellipse: s-maj=20.9km s-min=12.6km az=23.0*
*REY **26** 11:56:45.7, 64°.80N×16°.90W, h8km*
*NEIC **26** 11:56:46.9±2.9, 64°.66N±0°.06×17°.2W±0°.1, h10km±1km, mb4.2/10, Error ellipse: s-maj=11.6km s-min=6.4km az=218.0*
ISC 26 11:56:46.3±0.4, 64°.80N±0°.02×16°.94W±0°.02, h10km, n108, σ1.9s94/129, mb3.9/19, MS3.4/20, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDYN	**Dyngjuhals**	**0.18**	**266**	P	**Pg**	**11 56 49.7**	**-0.6**
	baz=268						
IDYN				S	**Sg**	**11 56 52.9**	**-0.2**
	baz=268						
IKRE	**Kreppuhraun**	**0.24**	**94**	P	**Pg**	**11 56 50.1**	**-1.1**
	baz=94						
IKRE				S	**Sg**	**11 56 53.5**	**-1.0**
	baz=94						
IASK	**Askja**	**0.28**	**26**	P	**Pg**	**11 56 50.9**	**-1.1**
	baz=23						
IASK				S	**Sg**	**11 56 55.0**	**-0.8**
	baz=23						
IMKO	**Mokollar**	**0.31**	**55**	P	**Pg**	**11 56 51.4**	**-1.1**
	baz=53						
IMKO				S	**Sg**	**11 56 55.9**	**-0.8**
	baz=53						
IDJK	**Dyngjujokull**	**0.33**	**203**	P	**Pg**	**11 56 51.9**	**-1.0**
	baz=206						
IDJK				S	**Sg**	**11 56 56.8**	**-0.4**
	baz=206						
IBJK	**Bruarjokull**	**0.34**	**166**	P	**Pg**	**11 56 52.0**	**-1.2**
	baz=169						
IBJK				S	**Sg**	**11 56 56.9**	**-0.9**
	baz=169						
IVON	**Vonarskard**	**0.37**	**250**	P	**Pg**	**11 56 52.7**	**-1.0**
	baz=251						
IVON				S	**Sg**	**11 56 58.3**	**-0.4**
	baz=251						
IGRF	**Grimsfjall**	**0.42**	**200**	P	**Pg**	**11 56 53.4**	**-1.3**
	baz=202						
IGRF				S	**Sg**	**11 56 59.5**	**-0.7**
	baz=202						
IVSH	**V-Sauoahnukur**	**0.52**	**89**	P	**Pg**	**11 56 54.7**	**-1.7**
	baz=89						
IVSH				S	**Sg**	**11 57 01.7**	**-1.5**
	baz=89						
IVOT	**Vottur**	**0.55**	**191**	P	**Pg**	**11 56 55.5**	**-1.4**
	baz=193						
IVOT				S	**Sg**	**11 57 03.0**	**-1.0**
	baz=193						
ISVA	**Svartarkot**	**0.55**	**346**	P	**Pg**	**11 56 55.5**	**-1.5**
	baz=344						
ISVA				S	**Sg**	**11 57 03.2**	**-1.1**
	baz=344						
IHUS	**Husbondi**	**0.60**	**212**	P	**Pg**	**11 56 56.6**	**-1.3**
	baz=213						
IHUS				S	**Sg**	**11 57 04.9**	**-0.9**
	baz=213						
IADA	**Aoalbol**	**0.62**	**69**	P	**Pg**	**11 56 56.4**	**-2.0**
	baz=68						
IADA				S	**Sg**	**11 57 04.5**	**-1.9**
	baz=68						
ISKR	**Skrokkalda**	**0.67**	**249**	P	**Pg**	**11 56 57.7**	**-1.5**
	baz=250						
ISKR				S	**Sg**	**11 57 07.2**	**-0.8**
	baz=250						
IKSK	**Karasker**	**0.68**	**162**	P	**Pg**	**11 56 56.9**	**-2.4**
	baz=164						
IKSK				S	**Sg**	**11 57 05.9**	**-2.3**
	baz=164						
IJOK	**Jokulheimar**	**0.74**	**229**	P	**Pg**	**11 56 58.9**	**-1.7**
	baz=230						
IJOK				S	**Sg**	**11 57 09.2**	**-1.1**
	baz=230						
IMEL	**Melhnausar**	**0.78**	**9**	P	**Pg**	**11 56 59.3**	**-2.0**
	baz=7.3						
IMEL				S	**Sg**	**11 57 10.3**	**-1.2**
	baz=7.3						
IREN	**Reynihlio**	**0.85**	**1**	P	**Pg**	**11 57 00.3**	**-2.3**
	baz=360						
IREN				S	**Sg**	**11 57 11.6**	**-2.0**
	baz=360						
IIEY	**Innrieyrar**	**0.88**	**216**	P	**Pg**	**11 57 01.1**	**-2.0**
	baz=218						
IIEY				S	**Sg**	**11 57 13.0**	**-1.6**
	baz=218						
IGRS	**Grimsstaoir**	**0.91**	**22**	P	**Pg**	**11 57 01.4**	**-2.4**
	baz=21						
IGRS				S	**Sg**	**11 57 13.7**	**-1.9**
	baz=21						
IKVO	**Krokottuvotn**	**0.92**	**1**	P	**Pg**	**11 57 01.4**	**-2.6**
	baz=0.4						
IKAL	**Kalfafell**	**0.92**	**201**	P

SCO	**Scoresbysund**	**6.02**	**344**	*i* S		**Sn**	**11 59 26.8**	**+2.8**
SCO				*e*		**Pn**	**11 58 14.8**	**-0.4**
	baz=165,slow=5.9							
SCO				*i* P		**Pn**	**11 58 15.0**	**-0.2**
SCO				*i* P		**Pn**	**11 58 15.6**	**+0.3**
JMIC	**Jan Mayen**	**6.97**	**23**	Pn		**Pn**	**11 58 31.6**	**+3.3**
	baz=223,slow=5.5,SNR=1.8							
JMIC				LR		LR	12 00 21.6	
	comp=Z,130nm,19.1s,baz=160,slow=30							
LRW	**Lerwick**	**8.66**	**115**	*eP*		**Pn**	**11 58 50.0**	**-1.5**
BIGH	**Upper Bighouse**	**8.84**	**130**	*eP*		**Pn**	**11 58 54.3**	**+0.3**
BIGH				*eS*		**Sn**	**12 00 28.7**	**-4.8**
KPL	**Plockton**	**9.26**	**139**	*eP*		**Pn**	**11 58 59.5**	**-0.1**
KPL				*eS*		**Sn**	**12 00 38.2**	**-5.5**
SUE	**Sulen**	**10.55**	**101**	*e*		**Pn**	**11 59 16.5**	**-0.9**
SUMG	**Summit**	**10.97**	**324**	*i* P		**Pn**	**11 59 25.0**	**+1.6**
SUMG	**Summit**	**10.97**	**324**	Pn		**Pn**	**11 59 25.0**	**+1.6**
AKN	**Aaknes**	**10.99**	**93**	*eP*		**Pn**	**11 59 22.4**	**-1.0**
AKN				IAmb		IAmb	11 59 25.2	
	comp=Z,25nm,0.6s							
ASK	**Askoy**	**11.03**	**103**	*eP*		Pn	11 59 18.4	-5.6
ASK				IAmb		IAmb	11 59 26.4	
	comp=Z,13nm,0.6s							
MOL	**Molde**	**11.07**	**90**	*eP*		**Pn**	**11 59 26.3**	**+1.9**
HYA	**Hoyanger**	**11.10**	**99**	*eP*		**Pn**	**11 59 23.8**	**-1.0**
HYA				IAmb		IAmb	11 59 29.2	
	comp=Z,9.4nm,0.8s							
EKA	**Eskdalemuir Ar**	**11.70**	**138**	Pn		**Pn**	**11 59 32.6**	**-0.4**
	baz=328,slow=13,SNR=24							
EKA				Sn		**Sn**	**12 01 41.9**	**-1.5**
	baz=336,slow=27,SNR=2.6							
ESK	**Eskdalemuir**	**11.70**	**138**	Pn		**Pn**	**11 59 33.3**	**+0.2**
KMY	**Karmoy**	**11.79**	**108**	*eP*		**Pn**	**11 59 32.5**	**-1.8**
KMY				IAmb		IAmb	11 59 36.0	
	comp=Z,18nm,0.6s							
DOMB	**Dombas**	**11.93**	**91**	*eP*		**Pn**	**11 59 35.2**	**-1.1**
DOMB				IAmb		IAmb	11 59 39.2	
	comp=Z,14nm,0.6s							
ODD1	**Odda**	**11.95**	**103**	*eP*		**Pn**	**11 59 38.2**	**+1.7**
ODD1				IAmb		IAmb	11 59 48.0	
	comp=Z,13nm,0.6s							
BLS5	**Blasjo**	**12.16**	**105**	*eP*		**Pn**	**11 59 38.1**	**-1.3**
BLS5				IAmb		IAmb	11 59 45.9	
	comp=Z,9.6nm,0.7s							
SKAR	**Skarslia**	**12.24**	**98**	*eP*		**Pn**	**11 59 39.3**	**-1.2**
SKAR				IAmb		IAmb	11 59 41.1	
	comp=Z,9.0nm,0.7s							
NC204	**NORSAR Array S**	**12.99**	**93**			**Pn**	**11 59 49.2**	**-1.6**
NC204	**NORSAR Array S**	**12.99**	**93**	*eP*		**Pn**	**11 59 48.8**	**-2.0**
NBO00	**NORSAR Array S**	**13.12**	**94**			**Pn**	**11 59 50.9**	**-1.6**
SNART	**Snartemo**	**13.13**	**108**	*eP*		**Pn**	**11 59 52.9**	**+0.3**
NAO01	**NORSAR Array S**	**13.26**	**95**	Pn		**Pn**	**11 59 52.7**	**-1.6**
NOA	**NORSAR Array B**	**13.30**	**93**	Pn		**Pn**	**11 59 52.5**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=299,slow=13,SNR=11							
NOA				LR		LR	12 05 17.8	
	comp=Z,107nm,18.0s,baz=290,slow=38							
NB201	**NORSAR Array S**	**13.33**	**93**			**Pn**	**11 59 53.3**	**-2.0**
NB201	**NORSAR Array S**	**13.33**	**93**	*eP*		**Pn**	**11 59 53.0**	**-2.3**
NC405	**NORSAR Array S**	**13.48**	**93**	Pn		**Pn**	**11 59 55.8**	**-1.5**
NC602	**NORSAR Array S**	**13.59**	**94**	Pn		**Pn**	**11 59 58.8**	**-0.1**
SFJD	**Kangerlussuaq**	**13.83**	**294**	LR		LR	12 04 51.3	
	comp=Z,399nm,19.3s,baz=86,slow=35							
HFS	**Hagfors**	**14.81**	**94**	Pn		**Pn**	**12 00 14.3**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=341,slow=13,SNR=6.8							
HFS				LR		LR	12 05 55.4	
	comp=Z,117nm,19.0s,baz=312,slow=37							
SPITS	**Spitsbergen Ar**	**16.65**	**23**	LR		LR	12 05 04.9	
	comp=Z,92nm,21.2s,baz=120,slow=30							
ARCES	**ARCESS Array B**	**16.84**	**55**	P		**Pn**	**12 00 41.8**	**0.0**
	comp=Z,0.3nm,0.3s,baz=270,slow=9.7,SNR=14							
ARCES				LR		LR	12 05 56.6	
	comp=Z,120nm,18.3s,baz=278,slow=32							
ARE0	**ARCESS Array S**	**16.84**	**55**	Pn		**Pn**	**12 00 42.5**	**+0.6**
KEV	**Kevo**	**17.35**	**54**			**P**	**12 00 51.8**	**+2.3**
KEV				IAmb		IAmb	12 00 56.0	
	comp=Z,15nm,1.5s							
FINES	**FINESS Array B**	**19.44**	**80**	P		**Pn**	**12 01 13.7**	**0.0**
	comp=Z,0.2nm,0.3s,baz=300,slow=8.6,SNR=5.5							
FINES				LR		LR	12 08 07.0	
	comp=Z,133nm,21.5s,baz=330,slow=35							
CLL	**Collm**	**20.55**	**117**	*eP*		Pn	12 01 27.0	+0.1
	comp=Z,14nm,1.7s							
CLL				*eS*		Sn	12 05 17.0	-1.3
ECH	**Echery**	**21.06**	**131**	P		**P**	**12 01 28.5**	**-1.7**
ECH				IAmb		IAmb	12 01 35.8	
	comp=Z,7.3nm,0.9s							
BRG	**Berggiesshubel**	**21.25**	**116**	*eP*		**P**	**12 01 33.2**	**+0.9**
	comp=Z,5.7nm,0.8s							
BRG				*e*			12 01 47.0	
	comp=Z,9.8nm,1.1s							
BFO	**Black Forest**	**21.34**	**128**	P		**P**	**12 01 33.9**	**+0.6**
BFO				IAmb		IAmb	12 01 38.5	
	comp=Z,8.9nm,0.9s							
FRB	**Frobisher Bay**	**21.92**	**291**	LR		LR	12 09 43.2	
	comp=Z,200nm,18.4s,baz=60,slow=36							
PRU	**Pruhonice**	**22.19**	**117**	*eP*		P	12 01 51.9	+10
KHC	**Kasperske Hory**	**22.53**	**119**	*eP*		**P**	**12 01 49.4**	**+3.4**
KHC	**Kasperske Hory**	**22.53**	**119**	P		**P**	**12 01 45.4**	**-0.6**
DPC	**Dobruska-Polom**	**22.59**	**114**	*eP*		**P**	**12 01 53.2**	**+6.5**
GEC2	**GERESS Array S**	**22.81**	**120**	P		**P**	**12 01 48.0**	**-1.1**
GEC2				IAmb		IAmb	12 02 00.2	
	comp=Z,13nm,1.4s							
GERES	**GERESS Array B**	**22.81**	**120**	P		**P**	**12 01 50.4**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=316,slow=9.2,SNR=7.8							
GERES				LR		LR	12 11 12.3	
	comp=Z,130nm,19.6s,baz=279,slow=38							
DAVOX	**Davos/Dischmat**	**23.21**	**128**	P		**P**	**12 01 56.5**	**+3.2**
	comp=Z,1.9nm,0.5s,baz=12,slow=8.4,SNR=3.1							
DAVOX				LR		LR	12 11 02.1	
	comp=Z,62nm,20.4s,baz=338,slow=37							
TUE	**Stuetta**	**23.30**	**129**	P		**P**	**12 01 52.5**	**-1.7**
TUE				IAmb		IAmb	12 02 00.6	
	comp=Z,7.4nm,0.8s							
VRAC	**Vranov**	**23.53**	**115**	LR		LR	12 12 34.2	
	comp=Z,118nm,18.3s,baz=322,slow=40							
SALO	**Salr**	**24.45**	**129**	P		**P**	**12 02 05.9**	**+1.0**
CTI	**Castel Tesino**	**24.45**	**126**	P		**P**	**12 02 05.2**	**+0.1**
CTI				IAmb		IAmb	12 02 11.1	
	comp=Z,9.4nm,0.8s							
KWP	**Kalwaria Pacla**	**25.72**	**107**	P		**P**	**12 02 17.9**	**+1.5**
SCHQ	**Schefferville**	**26.28**	**272**	LR		LR	12 11 29.5	
	comp=Z,76nm,18.1s,baz=324,slow=34							
ESDC	**Sonseca Array**	**26.28**	**157**	P		**P**	**12 02 22.7**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=346,slow=7.9,SNR=3.5							
ESDC				LR		LR	12 12 33.1	
	comp=Z,114nm,18.2s,baz=270,slow=36							
RES	**Resolute Bay**	**26.50**	**324**	LR		LR	12 12 34.4	
	comp=Z,58nm,20.8s,baz=276,slow=36							
AKASG	**Malin Array Be**	**27.62**	**98**	P		**P**	**12 02 32.6**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=320,slow=9.7,SNR=1.7							
AKASG				LR		LR	12 13 13.3	
	comp=Z,68nm,21.0s,baz=350,slow=36							
OBN	**Obninsk**	**27.63**	**85**	LR		LR	12 13 48.6	
	comp=Z,16nm,20.4s,baz=356,slow=37							
KEST	**Kesra**	**33.10**	**139**	LR		LR	12 18 35.0	
	comp=Z,51nm,18.3s,baz=302,slow=40							
BRTR	**Keskin Array B**	**38.28**	**106**	P		**P**	**12 04 09.8**	**+3.1**
	comp=Z,1.3nm,0.8s,baz=302,slow=6.6,SNR=3.0							
BRTR				LR		LR	12 21 00.6	
	comp=Z,36nm,19.4s,baz=349,slow=38							
KBZ	**Khabaz**	**38.88**	**93**	P		**P**	**12 04 13.6**	**+2.2**
	comp=Z,0.9nm,0.4s,baz=346,slow=8.3,SNR=2.1							
KBZ				LR		LR	12 20 12.4	
	comp=Z,83nm,21.0s,baz=0.0,slow=36							
YKA	**Yellowknife Ar**	**39.29**	**313**	P		**P**	**12 04 15.9**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=49,slow=9.4,SNR=1.8							
YKA				LR		LR	12 19 38.1	
	comp=Z,72nm,19.2s,baz=0.0,slow=35							
ULM	**Lac du Bonnet**	**41.78**	**289**	LR		LR	12 21 24.0	
	comp=Z,56nm,18.7s,baz=83,slow=35							
ILAR	**Eielson Array**	**45.67**	**333**	P		**P**	**12 05 08.4**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=27,slow=4.5,SNR=5.5							
ILAR				LR		LR	12 26 22.2	
	comp=Z,53nm,19.1s,baz=34,slow=39							
ZALV	**Zalesovo Beam**	**47.36**	**52**	P		**P**	**12 05 23.1**	**+3.2**
	comp=Z,0.5nm,0.4s,baz=324,slow=9.6,SNR=1.5							
ZALV				LR		LR	12 25 20.3	
	comp=Z,18nm,19.6s,baz=104,slow=36							
GEYT	**Alibeck**	**50.17**	**84**	LR		LR	12 27 44.0	
	comp=Z,56nm,18.9s,baz=185,slow=37							
TORD	**Torodi Ar. Bea**	**53.17**	**157**	P		**P**	**12 06 04.0**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=336,slow=5.6,SNR=4.8							
PDAR	**Pinedale Array**	**53.34**	**294**	P		**P**	**12 06 05.8**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=71,slow=6.4,SNR=10							
PDAR				LR		LR	12 28 55.2	
	comp=Z,111nm,18.7s,baz=44,slow=36							
PDAR	**Pinedale Array**	**53.34**	**294**	P		**P**	**12 06 06.6**	**+1.0**
SONM	**Songino Array**	**59.38**	**41**	P		**P**	**12 06 51.4**	**+2.9**
	comp=Z,0.4nm,0.4s,baz=311,slow=7.5,SNR=2.2							
NVAR	**Mina Array Bea**	**60.45**	**298**	LR		LR	12 33 20.0	
	comp=Z,78nm,20.1s,baz=131,slow=36							
TXAR	**Lajitas Array**	**62.50**	**281**	P		**P**	**12 07 10.3**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=86,slow=5.3,SNR=3.5							
TXAR				LR		LR	12 33 48.0	
	comp=Z,83nm,18.2s,baz=0.0,slow=36							
MJAR	**Matsushiro Arr**	**77.12**	**20**	P		**P**	**12 08 40.6**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=354,slow=9.9,SNR=2.0							

*NEIC **26** 12:11:35.8±2.7,24.2°S±0.1°×179.7°W±0.1,h498km±3km, mb4.7/27, Error ellipse: s-maj=18.6km s-min=13.8km az=118.0*

*IDC **26** 12:11:36.5±2.5,24.2°S8S×179.79W,h494km±29km,mb3.3/8, mb1 3.6/11,mb1mx3.3/43,mbtmp4.3/11, Error ellipse: s-maj=21.4km s-min=17.9km az=130.0*

ISC 26 12:11:37.1±0.5,24.43S±0.06×179.84W±0.07,h505km, n94,σ2s15/110,mb4.6/17,2C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.11**	**161**	P	**P**	**P**	**12 13 05.3**	**+0.1**
GLKZ				S	**S**	**S**	**12 14 18.9**	**+1.6**
MSVF	**Nonsavu**	**6.94**	**343**	P	**P**	**P**	**12 13 24.0**	**+0.9**
NIUE	**Niue**	**10.64**	**62**	P	**P**	**P**	**12 14 05.7**	**+4.4**
NIUE				S	**S**	**S**	**12 15 55.1**	**-4.9**
OUZ	**Omahuta**	**12.17**	**206**	P	**P**	**P**	**12 14 18.8**	**+1.5**
DZM	**Mont Dzumac**	**12.82**	**278**	P	**P**	**P**	**12 14 26.3**	**+1.8**
	1.5nm,0.3s,baz=89,slow=16,SNR=23							
DZM	**Mont Dzumac**	**12.82**	**278**	P	**P**	**P**	**12 14 23.4**	**-1.1**
AFI	**Afiamalu**	**12.94**	**37**	P	**P**	**P**	**12 14 25.1**	**-0.7**
	2.8nm,0.3s,baz=225,slow=17,SNR=2.5							
AFI	**Afiamalu**	**12.94**	**37**	P	**P**	**P**	**12 14 25.4**	**-0.4**
WIAZ	**Waiheke Island**	**13.06**	**198**	P	**P**	**P**	**12 14 27.8**	**+1.1**
MXZ	**Matakaoa Point**	**13.19**	**186**	P	**P**	**P**	**12 14 29.5**	**+1.5**
WMGZ	**Waiomatatini S**	**13.43**	**186**	P	**P**	**P**	**12 14 35.0**	**+4.4**
HAZ	**Te Kaha**	**13.44**	**188**	P	**P**	**P**	**12 14 32.3**	**+1.7**
HAZ				S	**S**	**S**	**12 16 52.6**	**-1.2**
RUGZ	**Raukumara Rang**	**13.66**	**188**	P	**P**	**P**	**12 14 35.0**	**+1.9**
RUGZ				S	**S**	**S**	**12 16 57.9**	**-0.4**
PUZ	**Puketiti**	**13.70**	**186**	P	**P**	**P**	**12 14 36.1**	**+2.7**
PUZ				S	**S**	**S**	**12 16 59.9**	**+1.1**
TOZ	**Tahuroa Road**	**13.85**	**196**	P	P	P	12 14 39.6	+4.7
KMRZ	**Kaimai**	**13.85**	**194**	P	P	P	12 14 39.1	+4.0
URZ	**Urewera**	**14.03**	**190**	P	**P**	**P**	**12 14 34.2**	**-2.7**
	3.5nm,0.3s,baz=279,slow=3.4,SNR=22							
URZ				S		**S**	**12 17 04.3**	**-0.9**
	0.9nm,0.3s,baz=69,slow=22,SNR=10							
URZ	**Urewera**	**14.03**	**190**	P	**P**	**P**	**12 14 34.0**	**-2.9**
URZ				S	**S**	**S**	**12 17 01.4**	**-3.7**
URZ	**Urewera**	**14.03**	**190**	P	**P**	**P**	**12 14 33.5**	**-3.4**
URZ				S	**S**	**S**	**12 17 02.7**	**-2.4**
MWZ	**Matawai**	**14.04**	**189**	P	**P**	**P**	**12 14 36.8**	**-0.3**
MWZ				S	**S**	**S**	**12 17 06.6**	**+1.1**
RAGZ	**Rawiri**	**14.22**	**189**	P	**P**	**P**	**12 14 38.9**	**-0.1**
MUGZ	**Murupara**	**14.30**	**191**	P	**P**	**P**	**12 14 40.5**	**+0.7**
RIGZ	**Rimuhau**	**14.38**	**188**	P	**P**	**P**	**12 14 41.8**	**+1.2**
RIGZ				S	**S**	**S**	**12 17 10.7**	**-1.2**
TLZ	**Tolley Road**	**14.41**	**195**	P	P	P	12 14 45.9	+5.0
SNGZ	**Shannon Statio**	**14.51**	**189**	P	**P**	**P**	**12 14 44.5**	**+2.6**
SNGZ				S	**S**	**S**	**12 17 14.7**	**+0.4**
MTHZ	**Maungataniwha**	**14.66**	**190**	P	**P**	**P**	**12 14 44.2**	**+0.7**
MTHZ				S	**S**	**S**	**12 17 19.7**	**+2.5**
RAHZ	**Arahi**	**14.68**	**189**	P	**P**	**P**	**12 14 45.6**	**+1.9**
RAHZ				S	**S**	**S**	**12 17 18.0**	**+0.4**
HIZ	**Hauiti**	**14.75**	**197**	P	**P**	**P**	**12 14 46.7**	**+2.2**
HIZ	**Hauiti**	**14.75**	**197**	P	**P**	**P**	**12 14 44.0**	**-0.4**
BKZ	**Black Stump Fm**	**15.02**	**191**	P	**P**	**P**	**12 14 45.4**	**-1.9**
BKZ				S	**S**	**S**	**12 17 20.5**	**-3.7**
WTVZ	**West Tongariro**	**15.15**	**194**	P	**P**	**P**	**12 14 50.7**	**+1.9**
NGZ	**Ngauruhoe**	**15.20**	**194**	P	**P**	**P**	**12 14 50.8**	**+1.5**
MCHZ	**McNeill Hill**	**15.26**	**190**	P	**P**	**P**	**12 14 50.5**	**+0.7**
TUVZ	**Tukino**	**15.28**	**193**	P	**P**	**P**	**12 14 49.4**	**-0.7**
KWHZ	**Kaweka Forest**	**15.28**	**191**	P	**P**	**P**	**12 14 49.2**	**-0.9**
KWHZ				S	**S**	**S**	**12 17 23.7**	**-5.5**
FWVZ	**Far West T-bar**	**15.29**	**194**	P	**P**	**P**	**12 14 50.4**	**+0.1**
WNVZ	**Wahianoa**	**15.35**	**193**	P	**P**	**P**	**12 14 50.5**	**-0.4**
WNVZ				S	**S**	**S**	**12 17 24.6**	**-6.0**
MOVZ	**Moawhango**	**15.39**	**193**	P	**P**	**P**	**12 14 52.3**	**+1.1**
BHHZ	**Black Hill Sta**	**15.41**	**192**	P	**P**	**P**	**12 14 50.0**	**-1.4**
BHHZ				S	**S**	**S**	**12 17 25.0**	**-6.7**
KRHZ	**Kereru**	**15.51**	**191**	P	**P**	**P**	**12 14 52.0**	**-0.4**
KRHZ				S	**S**	**S**	**12 17 30.4**	**-2.9**
NEZ	**North Egmont**	**15.66**	**198**	P	**P**	**P**	**12 14 58.7**	**+4.6**
PNHZ	**Pukenui**	**15.80**	**191**	P	**P**	**P**	**12 14 53.3**	**-0.1**
PXZ	**Pawanui**	**15.80**	**189**	P	**P**	**P**	**12 14 56.2**	**+0.8**
PXZ				S	**S**	**S**	**12 17 36.4**	**-2.5**
BFZ	**Birch Farm**	**16.54**	**190**	P	**P**	**P**	**12 15 00.3**	**-2.7**
MSWZ	**Moikau Station**	**17.43**	**192**	P	**P**	**P**	**12 15 09.7**	**-2.1**
SNZO	**South Karori**	**17.44**	**194**	P	**P**	**P**	**12 15 11.3**	**-0.6**
BHW	**Baring Head**	**17.50**	**193**	P	**P**	**P**	**12 15 10.0**	**-2.4**
QRZ	**Quartz Range**	**17.56**	**200**	P	**P**	**P**	**12 15 12.3**	**-0.7**
PLWZ	**Palliser**	**17.58**	**192**	P	**P**	**P**	**12 15 08.7**	**-4.5**
NNZ	**Nelson**	**17.68**	**197**	P	**P**	**P**	**12 15 12.6**	**-1.4**
NNZ				IAmb	IAmb	IAmb	12 15 14.8	
	comp=Z,12nm,0.5s							
TUWZ	**Tuamarina**	**17.73**	**196**	P	**P**	**P**	**12 15 11.1**	**-3.5**
BSWZ	**Blackbirch Sta**	**18.02**	**195**	P	**P**	**P**	**12 15 16.6**	**-0.6**
THZ	**Tophouse**	**18.31**	**197**	P	**P**	**P**	**12 15 18.5**	**-1.5**
THZ				IAmb	IAmb	IAmb	12 15 21.2	
	comp=Z,13nm,1.0s							
KHZ	**Kahutara**	**18.76**	**195**	P	**P**	**P**	**12 15 20.3**	**-3.6**
KHZ				IAmb	IAmb	IAmb	12 15 23.3	
	comp=Z,13nm,0.8s							
LTZ	**Lake Taylor**	**19.43**	**198**	P	**P**	**P**	**12 15 28.4**	**-1.7**
LTZ				IAmb	IAmb	IAmb	12 15 32.2	
	comp=Z,16nm,0.6s							
OXZ	**Oxford**	**20.00**	**198**	P	**P**	**P**	**12 15 33.3**	**-2.0**
MQZ	**McQueen's Vall**	**20.19**	**196**	P	**P**	**P**	**12 15 33.9**	**-3.1**
RPZ	**Rata Peaks**	**20.64**	**199**	P	**P**	**P**	**12 15 39.4**	**-1.7**
	comp=Z,17nm,0.5s,baz=50,slow=0.6,SNR=25							
RPZ	**Rata Peaks**	**20.64**	**199**	P	**P**	**P**	**12 15 39.4**	**-1.7**
FOZ	**Fox Glacier**	**20.87**	**202**	P	**P**	**P**	**12 15 40.0**	**-3.1**
FOZ				IAmb	IAmb	IAmb	12 15 45.0	
	comp=Z,30nm,1.3s							
LBZ	**Lake Benmore**	**21.51**	**200**	P	**P**	**P**	**12 15 46.2**	**-2.7**
LBZ				IAmb	IAmb	IAmb	12 15 48.5	
	comp=Z,29nm,1.5s							
ODZ	**Otahua Downs**	**21.97**	**198**	P	**P**	**P**	**12 15 52.0**	**-1.1**
ODZ				IAmb	IAmb	IAmb	12 15 58.9	
	comp=Z,19nm,1.4s							
WKZ	**Wanaka**	**22.28**	**201**	P	**P**	**P**	**12 15 54.2**	**-1.7**
MLZ	**Mavora Lakes**	**23.06**	**202**	P	**P**	**P**	**12 16 01.9**	**-1.0**
MLZ				IAmb	IAmb	IAmb	12 16 12.5	
	comp=Z,35nm,1.5s							
DCZ	**Deep Cove**	**23.48**	**203**	P	**P**	**P**	**12 16 05.8**	**-0.8**
DCZ				IAmb	IAmb	IAmb	12 16 15.0	
	comp=Z,28nm,1.4s							
WHZ	**Wether Hill Ro**	**23.58**	**202**	P	**P**	**P**	**12 16 05.3**	**-2.1**
WHZ				IAmb	IAmb	IAmb	12 16 19.1	
	comp=Z,29nm,1.4s							
EIDS	**Eidsvold**	**26.37**	**262**	P	**P**	**P**	**12 16 30.6**	**-1.9**
CTAO	**Charters Tower**	**31.62**	**271**	P	**P**	**P**	**12 17 19.4**	**+1.1**
CTAO				IAmb	IAmb	IAmb	12 17 20.2	
	comp=Z,12nm,0.6s							
TOO	**Toolangi**	**32.29**	**238**	P	**P**	**P**	**12 17 25.2**	**+1.4**
TAU	**Tasmania Unive**	**32.68**	**228**	P	**P**	**P**	**12 17 27.5**	**+0.5**
STKA	**Stephens Creek**	**34.66**	**249**	P	**P**	**P**	**12 17 44.3**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=97,slow=11,SNR=5.2							
STKA	**Stephens Creek**	**34.66**	**249**	P	**P**	**P**	**12 17 45.1**	**+1.2**
PMG	**Port Moresby**	**34.80**	**290**	P	**P**	**P**	**12 17 45.7**	**+0.5**
	comp=Z,12nm,0.7s,baz=128,slow=13,SNR=1.9							
PMG	**Port Moresby**	**34.80**	**290**	P	**P**	**P**	**12 17 45.3**	**+0.1**
PMG				IAmb	IAmb	IAmb	12 17 51.6	
	comp=Z,17nm,0.8s							
AS31	**Alice Springs**	**42.09**	**261**	P	**P**	**P**	**12 18 44.0**	**-0.6**
AS31				IAmb	IAmb	IAmb	12 18 59.6	
	comp=Z,44nm,1.1s							
ASAR	**Alice Springs**	**42.09**	**261**	P	**P**	**P**	**12 18 44.9**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=95,slow=7.2,SNR=28							
ASAR	**Alice Springs**	**42.09**	**261**	P	**P**	**P**	**12 18 43.5**	**-1.0**
VNDA	**Vanda**	**53.87**	**185**	P	**P**	**P**	**12 20 13.6**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=3.3,slow=8.8,SNR=12							
VNDA	**Vanda**	**53.87**	**185**	P	**P**	**P**	**12 20 14.0**	**+2.2**
QSPA	**South Pole Qui**	**65.66**	**180**	P	**P**	**P**	**12 21 32.2**	**+1.5**
QSPA				IAmb	IAmb	IAmb	12 21 33.2	
	comp=Z,13nm,0.8s							
QIZ	**Qiongzhong**	**80.95**	**296**	P	**P**	**P**	**12 22 59.8**	**+0.9**
QIZ				IAmb	IAmb	IAmb	12 23 07.8	
	comp=Z,35nm,1.4s							
SYO	**Syowa Base**	**82.54**	**193**	*ePcP*	**PcP**	**PcP**	**12 23 04.6**	**-1.5**
SYO	**Syowa Base**	**82.54**	**193**	*ePcP*	**PcP**	**PcP**	**12 23 07.8**	**-1.9**
SYO	**Syowa Base**	**82.54**	**193**	*epP*	pP	pP	12 24 52.6	-2.6
NVAR	**Mina Array Bea**	**85.03**	**44**	P	**P**	**P**	**12 23 19.9**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=212,slow=8.4,SNR=3.6							
NVAR	**Mina Array Bea**	**85.03**	**44**	P	**P**	**P**	**12 23 16.3**	**-3.0**
TXAR	**Lajitas Array**	**90.59**	**58**	P	**P**	**P**	**12 23 47.2**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=221,slow=6.6,SNR=10							
ILAR	**Eielson Array**	**92.51**	**13**	P	**P**	**P**	**12 23 53.0**	**-0.3**
	comp=Z,0.1nm,0.6s,baz=223,slow=6.1,SNR=1.8							
PDAR	**Pinedale Array**	**92.97**	**44**	P	**P**	**P**	**12 23 57.6**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=122,slow=1.9,SNR=3.7							
MKAR	**Makanchi Array**	**112.61**	**312**	PKiKP	**PKiKP**	**PKiKP**	**12 29 15.7**	**0.0**
	comp=Z,0.2nm,0.5s,baz=102,slow=1.5,SNR=1.2							
ARCES	**ARCESS Array B**	**132.43**	**348**	PKP	**PKPdf**	**PKPdf**	**12 29 52.5**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=150,slow=2.7,SNR=4.1							
AKASG	**Malin Array Be**	**145.49**	**327**	PKPbc	**PKPdf**	**PKPdf**	**12 30 17.9**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=40,slow=3.8,SNR=4.3							
CLL	**Collm**	**151.40**	**343**	*i* PKPbc	**PKPbc**	**PKPbc**	**12 30 33.2**	**0.0**
CLL				*e*PKPab	**PKPab**	**PKPab**	**12 30 41.0**	**-2.7**
CLL				LH			17 15 00.0	
	comp=N,300nm,21.1s							
CLL				LH			17 15 00.0	
	comp=E,200nm,22.0s							
TORD	**Torodi Ar. Bea**	**168.69**	**188**	PKP	**PKPdf**	**PKPdf**	**12 30 45.6**	**-0.9**
	comp=E,0.6nm,0.8s,baz=29,slow=3.3,SNR=3.5							
TORD				PKPab	**PKPab**	**PKPab**	**12 31 59.7**	**-0.1**
	comp=E,1.8nm,0.8s,baz=178,slow=3.9,SNR=7.4							

*BJI **26** 12:14:51.9±0.0,9.45S×124.87E,h113km,mB4.9/33, mb5.0/53*

*NEIC **26** 12:14:56.6±2.6,8.69S±0.04×124.26E±0.06,h86km±4km, mb4.8/67, Error ellipse: s-maj=8.6km s-min=5.3km az=112.0*

*IDC **26** 12:14:59.4±0.6,8.70S×124.18E,h105km±5km,mb4.4/27, mb1 4.4/29,mb1mx4.3/41,mbtmp4.7/29,MS3.3/9, Ms1 3.3/9,ms1mx3.0/30,Error ellipse: s-maj=12.8km s-min=7.0km az=97.0

AS31 Alice Springs 17.45 149 P P 12 18 54.5 -0.5
ASAR Alice Springs 17.45 149 P Pn 12 18 54.6 -0.6
comp=Z,4.2nm,0.3s,baz=325,slow=12,SNR=230
ASAR S Sn 12 21 53.9 -16
comp=Z,1.7nm,0.3s,baz=315,slow=20,SNR=5.4
ASAR Alice Springs 17.45 149 P Pn 12 18 55.2 -0.1
XMIS Christmas Isla 18.50 263 P P 12 19 04.7 -1.9
XMIS IAmb IAmb 12 19 07.8
comp=Z,79nm,1.0s
MEEK Meekatharra 18.61 196 P Pn 12 19 08.0 -1.2
baz=18,SNR=8.5
QIS Mount Isa 18.86 130 P Pn 12 19 10.9 -1.3
baz=19,SNR=86
COEN Coen 19.18 107 P P 12 19 13.4 -0.7
baz=19,SNR=41
COEN Coen 19.18 107 Pn 12 19 15.8 -0.2
COEN IAmb IAmb 12 19 17.8
comp=Z,45nm,0.8s
MORW Morawa 21.68 200 P P 12 19 40.1 -0.7
baz=22,SNR=8.3
MORW Morawa 21.68 200 P P 12 19 39.6 -1.2
MORW IAmb IAmb 12 19 42.5
comp=Z,36nm,1.1s
FORT Forrest 22.21 171 P P 12 19 46.3 0.0
baz=22,SNR=13
FORT Forrest 22.21 171 P P 12 19 43.8 -2.6
PMG Port Moresby 22.55 93 P P 12 19 51.4 +1.2
comp=Z,21nm,0.9s,baz=286,slow=7.1,SNR=2.8
PMG Port Moresby 22.55 93 P P 12 19 50.3 +0.1
PMG IAmb IAmb 12 20 01.8
comp=Z,35nm,0.7s
KMBL Kambalda 22.63 185 P P 12 19 50.4 -0.4
baz=22,SNR=6.9
BLDU Ballidu 22.90 197 P P 12 19 52.8 -0.7
baz=23,SNR=30
MYKOM Kota Tinggi 22.94 296 P P 12 19 54.0 0.0
MYKOM IAmb IAmb 12 19 55.3
comp=Z,41nm,1.2s
MYKOM Kota Tinggi 22.94 296 P P 12 19 55.0 +1.0
KLBR Kellerberrin 23.55 194 P P 12 19 59.3 -0.3
baz=23,SNR=9.0
CTAO Charters Tower 24.01 120 P P 12 20 06.6 +2.8
CTAO IAmb IAmb 12 20 08.4
comp=Z,55nm,0.9s
MUN Mundaring 24.33 197 P P 12 20 06.0 -0.5
baz=24,SNR=4.3
NWAO Narrogin (SRO) 24.95 194 P P 12 20 11.8 -0.4
comp=Z,4.5nm,0.3s,baz=36,slow=7.1,SNR=11
NWAO Narrogin (SRO) 24.95 194 P P 12 20 11.8 -0.4
NWAO IAmb IAmb 12 20 13.9
comp=Z,69nm,1.5s
NWAO Narrogin (SRO) 24.95 194 P P 12 20 11.3 -0.9
NWAO IAmb IAmb 12 20 13.9
comp=Z,85nm,1.5s
QLP Quilpie 25.90 136 P P 12 20 20.8 -0.1
baz=26,SNR=12
BBOO Buckleboo 26.30 157 P P 12 20 25.3 +1.0
baz=26,SNR=26
BBOO Buckleboo 26.30 157 P P 12 20 25.4 +1.0
BBOO IAmb IAmb 12 20 25.9
comp=Z,24nm,0.7s
RPSI Rantau Prapat 27.76 293 P P 12 20 36.6 -1.1
RPSI IAmb IAmb 12 20 38.3
comp=Z,20nm,1.0s
RPSI Rantau Prapat 27.76 293 P P 12 20 37.1 -0.6
PSI Prapat 27.80 293 P P 12 20 37.1 -1.2
comp=Z,16nm,1.0s,baz=180,slow=3.6,SNR=6.7
HTT Hallett 28.02 153 P P 12 20 41.7 +1.8
baz=28,SNR=18
STKA Stephens Creek 28.06 148 P P 12 20 42.0 +1.8
comp=Z,18nm,0.8s,baz=314,slow=9.5,SNR=30
STKA pP pP 12 21 06.0 +3.3
comp=Z,13nm,0.8s,baz=316,slow=11,SNR=6.4
STKA LR LR 12 33 38.8
comp=Z,102nm,19.9s,baz=349,slow=40
STKA Stephens Creek 28.06 148 P P 12 20 42.0 +1.8
baz=28,SNR=14
STKA Stephens Creek 28.06 148 P P 12 20 41.3 +1.1
ARPS Mount Arapiles 32.12 153 P P 12 21 18.0 +2.1
baz=32,SNR=49
ARMA Armidale 33.40 134 P P 12 21 26.5 -0.9
baz=33,SNR=9.9
ARMA Armidale 33.40 134 P P 12 21 30.2 +2.9
ARMA IAmb IAmb 12 21 31.6
comp=Z,17nm,0.8s
YNG Young 33.70 143 P P 12 21 28.8 -1.1
baz=34,SNR=11
PBKT Sadao Pong 34.16 317 P P 12 21 32.6 -1.3
TOO Toolangi 34.50 150 P P 12 21 35.7 -1.0
baz=34,SNR=5.4
TOO Toolangi 34.50 150 P P 12 21 38.3 +1.6
CNB Canberra Magne 34.98 143 P P 12 21 41.1 +0.1
baz=35,SNR=7.6
SLVN Son La 35.99 326 P P 12 21 50.3 +0.6
CM31 Chiang Mai Arr 36.85 317 P P 12 21 57.3 +0.4
CM31 IAmb IAmb 12 22 00.3
comp=Z,18nm,1.3s
CMAR Chiang Mai Arr 36.85 317 P P 12 21 57.9 +0.9
comp=Z,5.6nm,0.7s,baz=145,slow=6.9,SNR=28
CMAR pP pP 12 22 22.1 +2.3
comp=Z,2.5nm,0.9s,baz=153,slow=7.1,SNR=2.1
CMAR PcP PcP 12 24 18.0 +1.1
comp=Z,0.9nm,0.4s,baz=176,slow=3.6,SNR=2.8
CMAR ScP ScP 12 27 52.4 -2.5
comp=Z,0.5nm,0.3s,baz=195,slow=1.4,SNR=1.9
CMAR LR LR 12 41 01.5
comp=Z,49nm,18.9s,baz=184,slow=42
CHTO Chiang Mai 37.10 318 P P 12 21 57.5 -1.6
CHTO IAmb IAmb 12 22 05.1
comp=Z,11nm,1.1s
GYA Guiyang 38.97 334 ⇓P P 12 22 16.8 +2.0
GYA pmax pmax
comp=Z,12nm,0.8s
TAU Tasmania Unive 39.56 153 P P 12 22 19.6 +0.3
TAU IAmb IAmb 12 22 22.9
comp=Z,12nm,0.8s
JCJ Chichijima 39.60 25 P P 12 22 20.6 +0.6
comp=Z,10nm,0.3s,baz=95,slow=20,SNR=5.5
JCJ Chichijima 39.60 25 P P 12 22 18.3 -1.6
NJ2 Nanjing 40.89 353 *eP* **P 12 22 31.8 +1.3**
NJ2 pmax pmax
comp=Z,22nm,0.8s
ENH Enshi 41.33 340 P P 12 22 34.3 +0.2
ENH IAmb IAmb 12 22 35.4
comp=Z,14nm,0.8s
JNU Nakatsue 42.09 8 P P 12 22 40.7 +0.4
comp=Z,6.6nm,0.8s,baz=190,slow=6.1,SNR=1.7
DZM Mont Dzumac 42.56 113 P P 12 22 46.5 +2.1
comp=Z,11nm,0.9s,baz=288,slow=16,SNR=3.1
CD2 Chengdu 44.08 334 P P 12 22 58.3 +1.9
CD2 pmax pmax
comp=Z,20nm,0.6s
XAN Xi'an 44.98 342 P P 12 23 03.0 -0.5
XAN pmax pmax
comp=Z,27nm,0.9s
XAN Xi'an 44.98 342 P P 12 23 03.0 -0.5
XAN IAmb IAmb 12 23 03.9
comp=Z,19nm,0.9s
KSRS Korea Array 46.07 4 P P 12 23 10.8 -1.2
comp=Z,4.4nm,0.9s,baz=186,slow=8.4,SNR=9.6
KSRS LR LR 12 41 25.0
comp=Z,16nm,21.0s,baz=216,slow=34
SHL Shillong 46.47 318 P P 12 23 15.4 -0.2
SHL IAmb IAmb 12 23 18.5
comp=Z,19nm,1.1s
MAJO Matsushiro 46.89 15 P P 12 23 18.1 -0.3
MAJO IAmb IAmb 12 23 19.6
comp=Z,14nm,0.8s
MAT Matsushiro 46.89 15 P P 12 23 18.9 +0.5
MJAR Matsushiro Arr 46.89 15 P P 12 23 18.9 +0.4
comp=Z,15nm,0.7s,baz=193,slow=8.5,SNR=35
DL2 Dalian 47.46 357 P P 12 23 23.0 +0.2
DL2 pmax pmax
comp=Z,32nm,0.8s
LZH Lanzhou 48.58 338 ⇑P P 12 23 33.5 +1.8
LZH pP sP 12 23 59.0 -7.5
LZH sP pP 12 24 11.3 +16
LZH pmax pmax
comp=Z,26nm,1.3s
LZH pmax pmax
comp=Z,120nm,6.3s
BJT Baijiatuau 49.09 352 P P 12 23 34.5 -0.8
BJT IAmb IAmb 12 23 38.9
comp=Z,9.9nm,1.0s
LSA Lhasa 49.80 321 P P 12 23 40.3 -1.1
ODAN Odare 50.36 316 *eP* **P 12 23 45.6 +0.1**
comp=Z,30nm,0.7s
TAPN Taplejung 50.45 317 *eP* **P 12 23 45.8 -0.4**
comp=Z,29nm,0.4s
HHC Hu-ho-hao-te 50.72 347 *eP* **P 12 23 49.0 +1.2**
HHC PP PP 12 25 44.3 -0.7
HHC S S 12 30 54.0 -1.7
HHC pmax pmax
comp=Z,20nm,1.1s
HHC pmax pmax
comp=Z,95nm,6.5s
HHC LR LR
comp=Z,150nm,17.6s
HHC LR LR
comp=Z,140nm,16.8s
HHC LR LR
comp=Z,94nm,17.4s
RAMN Ramite 50.96 315 *eP* **P 12 23 50.4 +0.4**
comp=Z,41nm,0.5s
JIRN Jiri 51.69 316 *eP* **P 12 23 55.3 -0.3**
comp=Z,30nm,0.5s
GUN Gumba 52.06 316 *eP* **P 12 23 58.0 -0.3**
comp=Z,55nm,0.7s
PKI Pulchoki 52.18 315 *eP* **P 12 23 58.5 -0.7**
comp=Z,37nm,0.6s
CN2 Changchun 52.30 1 *eP* **P 12 23 59.5 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
DMN Daman 52.41 315 *eP* **P 12 24 00.4 -0.4**
GKN Gorkha 52.98 315 *eP* **P 12 24 04.9 0.0**
comp=Z,26nm,0.2s
GTA Gaotai 53.03 336 *eP* **P 12 24 05.0 0.0**
GTA pmax pmax
comp=Z,4.0nm,0.8s
USA0B Ussuriysk Arra 53.14 7 P P 12 24 06.3 +0.8
USRK Ussuriysk Ar. 53.14 7 P P 12 24 06.3 +0.8
comp=Z,17nm,0.8s,baz=187,slow=6.6,SNR=29
QRZ Quartz Range 53.25 135 P P 12 24 09.6 +3.1
MDJ Mudanjiang 53.32 5 P P 12 24 08.0 +1.2
MDJ pmax pmax
comp=Z,84nm,1.0s
MDJ pmax pmax
comp=Z,62nm,3.9s
MDJ Mudanjiang 53.32 5 P P 12 24 05.2 -1.6
ERM Erimo 53.37 17 P P 12 24 09.7 +2.4
RPZ Rata Peaks 53.47 139 P P 12 24 07.8 -0.3
KOLN Koldanda 53.57 314 *eP* **P 12 24 09.0 -0.3**
comp=Z,54nm,0.9s
THZ Tophouse 53.88 136 P P 12 24 11.0 -0.2
THZ IAmb IAmb 12 24 14.5
comp=Z,8.1nm,0.7s
PYUN Piuthan 54.20 314 *eP* **P 12 24 13.8 -0.1**
comp=Z,63nm,0.6s
TUWZ Tuamarina 54.47 135 P P 12 24 16.4 +1.0
KHZ Kahutara 54.57 137 P P 12 24 17.2 +1.1
KHZ IAmb IAmb 12 24 34.5
comp=Z,11nm,1.0s
BHW Baring Head 55.11 135 P P 12 24 20.3 +0.3
ASAJ Asahikawa 55.15 16 P P 12 24 21.6 +1.5
comp=Z,12nm,0.8s,baz=202,slow=8.2,SNR=7.0
JKA Kamikawa-asahi 55.15 16 P P 12 24 20.2 +0.1
BKZ Black Stump Fm 55.50 132 P P 12 24 22.4 -0.6
BKZ IAmb IAmb 12 24 26.0
comp=Z,11nm,0.9s
URZ Urewera 55.68 131 P P 12 24 22.4 -1.7
HIA Hailar 57.90 356 P P 12 24 39.0 -0.5
HIA IAmb IAmb 12 24 41.1
comp=Z,12nm,1.0s
KLR Kul'dur 58.09 6 P P 12 24 41.3 +0.4
comp=Z,6.4nm,0.8s,baz=237,slow=2.6,SNR=16
ULN Ulaanbaatar 58.40 346 P P 12 24 43.1 -0.2
ULN IAmb IAmb 12 24 46.4
comp=Z,8.4nm,1.0s
SONM Songino Array 58.52 346 P P 12 24 44.2 +0.1
comp=Z,4.6nm,0.9s,baz=163,slow=8.2,SNR=20
SONM pP pP 12 25 09.5 +0.8
comp=Z,3.0nm,0.9s,baz=168,slow=9.0,SNR=3.8
WMQ Urumqi 61.96 331 *eP* **P 12 25 09.8 +2.2**
TLY Talaya 62.76 346 P P 12 25 11.7 -0.9
NIL Nilore 64.23 314 P P 12 25 21.9 -0.8
KSH Kashi 65.64 321 *eP* **P 12 25 32.3 +0.4**
TARG Taragay, Kyrgy 65.86 323 P P 12 25 31.8 -1.8
PRZ Przheval'sk 65.98 324 P P 12 25 35.2 +1.1
PRZ IAmb IAmb 12 25 35.7
comp=Z,14nm,1.1s
KDJ Kajisay 66.47 323 P P 12 25 34.4 -2.8
MK31 Makanchi Array 66.75 330 P P 12 25 38.1 -0.6
MK31 IAmb IAmb 12 25 39.6
comp=Z,11nm,0.9s
MKAR Makanchi Array 66.75 330 P P 12 25 38.2 -0.5
comp=Z,9.5nm,0.8s,baz=133,slow=6.8,SNR=23
MAKZ Makanchi 66.91 330 P P 12 25 39.6 -0.1
MAKZ IAmb IAmb 12 25 40.4
comp=Z,9.2nm,0.9s
KBL Kabul 67.70 313 P P 12 25 44.6 -0.6
PEA0B Petropavlovsk- 67.83 21 P P 12 25 44.8 -0.5
PETK Petropavlovsk- 67.83 21 P P 12 25 46.9 +1.5
comp=Z,13nm,0.9s,baz=228,slow=1.0,SNR=19
AAK Ala-Archa 68.37 323 P P 12 25 49.4 +0.2
AAK IAmb IAmb 12 25 50.3
comp=Z,9.3nm,0.7s
GAR Garm 69.02 318 P P 12 25 52.7 -0.6
GAR IAmb IAmb 12 26 00.9
comp=Z,12nm,0.8s
BTK Batken 69.24 319 P P 12 25 54.4 -0.1
YAK Yakutsk 70.67 3 P P 12 26 02.9 +0.3
comp=Z,12nm,0.5s,baz=244,slow=1.3,SNR=9.7
YAK Yakutsk 70.67 3 P P 12 26 02.7 +0.1
ZAA0 Zalesovo Array 70.79 337 P P 12 26 02.4 -1.1
ZAA0 IAmb IAmb 12 26 03.4
comp=Z,11nm,0.9s
ZALV Zalesovo Beam 70.79 337 P P 12 26 02.4 -1.1
comp=Z,6.5nm,0.6s,baz=135,slow=4.5,SNR=25
ZALV LR LR 13 00 39.3
comp=Z,13nm,19.0s,baz=244,slow=39
KK31 Karatay Array 71.06 321 P P 12 26 04.9 -0.6
KKAR Karatay Array 71.06 321 P P 12 26 05.0 -0.5
MA2 Magadan 71.30 14 P P 12 26 07.3 +0.8
comp=Z,19nm,1.0s,baz=183,slow=5.9,SNR=15
MA2 Magadan 71.30 14 P P 12 26 07.1 +0.6
MA2 IAmb IAmb 12 26 09.3
comp=Z,18nm,0.9s
MAW Mawson 71.32 201 P P 12 26 07.3 +0.8
comp=Z,3.3nm,0.8s,baz=52,slow=6.9,SNR=8.4
MAW LR LR 12 52 55.2
comp=Z,31nm,21.5s,baz=54,slow=32
MAW Mawson 71.32 201 P P 12 26 07.9 +1.4
baz=71,SNR=5.1
MAW Mawson 71.32 201 P P 12 26 06.8 +0.3
VNDA Vanda 71.47 172 P P 12 26 08.3 +1.0
comp=Z,1.5nm,0.8s,baz=305,slow=7.7,SNR=6.8
VNDA LR LR 12 57 38.1
comp=Z,50nm,18.7s,baz=321,slow=36
WSAR Wadi Sarin 71.64 298 P P 12 26 09.1 -0.3
comp=Z,14nm,1.1s,baz=109,slow=6.3,SNR=4.1
SEY Seymchan 74.64 13 P P 12 26 27.1 +1.0
comp=Z,13nm,0.6s,baz=207,slow=4.7,SNR=82
BRVK Borovoye 76.70 330 P P 12 26 36.6 -1.6
GEYT Alibeck 77.12 312 P P 12 26 40.9 -0.1
comp=Z,2.1nm,0.6s,baz=0.0,slow=0.4,SNR=7.4
GYA0B ALIBECK ARRAY 77.12 312 P P 12 26 40.9 0.0
SYO Syowa Base 80.01 201⇓ *eP* **P 12 26 55.6 -0.5**
SYO Syowa Base 80.01 201⇓ *eP* **PcP PcP 12 27 05.0 +1.7**
QSPA South Pole Qui 81.25 180 P P 12 27 03.7 +0.7
NRIK Noril'sk 81.96 348 P P 12 27 07.3 +1.0
comp=Z,3.9nm,0.5s,baz=172,slow=3.5,SNR=5.0
KMBO Kilima Mbogo 86.94 269 P P 12 27 34.5 +1.4
comp=Z,1.1nm,0.3s,baz=23,slow=3.7,SNR=4.1
GEVA Gevas 88.58 309 P P 12 27 41.0 +0.7
GEVA IAmb IAmb 12 27 41.4
comp=Z,8.1nm,1.0s
KBZ Khabaz 89.84 314 P P 12 27 45.4 -0.3
comp=Z,2.8nm,0.8s,baz=92,slow=7.1,SNR=6.8
BELA Belgrano 2 92.73 184 P P 12 27 59.9 +1.3
VNA3 Neumayer Olymp 94.55 194 P P 12 28 08.5 +1.4
BRTR Keskin Array B 96.04 309 LR LR 13 16 22.4
comp=Z,8.0nm,20.1s,baz=148,slow=38
PDAR Pinedale Array 122.08 45 PKP PKiKP 12 33 42.3 +0.5
comp=Z,0.4nm,0.8s,baz=90,slow=3.0,SNR=4.1
PDAR Pinedale Array 122.08 45 PKiKP 12 33 41.5 -0.3
TORD Torodi Ar. Bea 123.61 280 PKP PKiKP 12 33 45.2 0.0
comp=Z,2.4nm,0.7s,baz=64,slow=2.0,SNR=11
TORD pPKP pPKPdf 12 34 12.7 +1.3
comp=Z,1.2nm,0.7s,baz=56,slow=2.9,SNR=3.2
ESDC Sonseca Array 124.66 313 PKP PKiKP 12 33 47.0 +0.2
comp=Z,0.5nm,0.6s,baz=39,slow=2.3,SNR=3.9
TXAR Lajitas Array 130.63 59 PKP PKiKP 12 34 01.1 +2.0
comp=Z,0.1nm,0.4s,baz=306,slow=4.5,SNR=1.9
TXAR SKPbc SKPab 12 37 12.7 -0.5
comp=Z,1.7nm,0.8s,baz=271,slow=3.6,SNR=17
TXAR SKP 12 37 28.6
comp=Z,2.1nm,1.0s,baz=286,slow=9.0,SNR=7.9
TXAR Lajitas Array 130.63 59 PKiKP 12 34 00.3 +1.3
SCHQ Schefferville 133.17 9 SKPbc SKPbc 12 37 19.4 -1.7
comp=Z,4.5nm,0.9s,baz=110,slow=4.6,SNR=4.3
CPUP Villa Florida 145.11 177 PKPbc PKiKP 12 34 25.4 -3.2
comp=Z,7.4nm,0.9s,baz=204,slow=3.4,SNR=9.9
CPUP Villa Florida 145.11 177 PKPdf 12 34 25.0 +0.3
LPAZ La Paz 152.24 154 PKPab PKPab 12 34 55.9 +2.0
comp=Z,5.3nm,0.9s,baz=190,slow=2.9,SNR=12
LPAZ La Paz 152.24 154 PKPab 12 34 55.4 +1.5

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*ANF **26** 12:33:15.6±1.2,37.99N×122.53W,h5km±11km, ML3.8/19, Error ellipse: s-maj=16.9km s-min=4.1km az=63.0*
*NEIC **26** 12:33:16.7±0.8,38.183N±0.008×122.30W±0.01, h18km±1km, Error ellipse: s-maj=1.2km s-min=1.1km az=205.0*
*NEIC **26** 12:33:16.8,38.18N×122.30W,h11km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.28; $M_{\theta\theta}$=-2.31; $M_{\phi\phi}$2.59; $M_{r\theta}$=-1.00; $M_{\theta\phi}$8.33; $M_{\phi r}$-0.49; Fault plane solution: M_o8.75000×10^{14} NP1:ϕ_s261.91000°, δ88.14000°, λ6.88000°. NP2:ϕ_s171.69000°, δ83.12000°, λ178.12000°. Principal axes: T 8.9285, Plg6.0000°, Azm127.0000°; N -0.3610, Plg83.0000°, Azm277.0000°; P -8.5674, Plg4.0000°, Azm37.0000°;*
*NCEDC **26** 12:33:16.8±1.1,38.179N±0.007×122.30W±0.01, h13km±2km, Mwr3.9/7 Error ellipse: s-maj=1.2km s-min=1.0km az=57.0*

ISC 26 12:33:16.7±0.9,38.17N±0.01×122.27W±0.02,h18km±3km, n284,σ1§14/295,Northern California

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time h m s	Res ISC
NLHM	**Lake Herman**	**0.11**	**120**		**Pg**	**12 33 20.0**	**-0.5**
NLHM					**Sg**	**12 33 22.5**	**-0.4**
NGVM		**0.12**	**22**		**Pg**	**12 33 20.1**	**-0.4**
SNT	**Sears Point**	**0.14**	**273**		**Pg**	**12 33 20.4**	**-0.5**
HERB	**Hercules**	**0.16**	**178**		**Sg**	**12 33 24.0**	**0.0**
CPIM	**Pinole Ridge**	**0.19**	**167**		**Pg**	**12 33 21.6**	**+0.2**
CSPM	**San Pablo Ridg**	**0.22**	**189**		**Pg**	**12 33 22.2**	**+0.3**
CVS	**Carmenet Viney**	**0.23**	**319**		**Pg**	**12 33 21.6**	**-0.5**
CVS					**Sg**	**12 33 25.1**	**-0.6**
CPMM	**Point Molate**	**0.25**	**206**		**Pg**	**12 33 22.3**	**-0.1**
RFSB	**Richmond Field**	**0.26**	**192**		**Pg**	**12 33 22.5**	**0.0**
RFSB					**Sg**	**12 33 26.7**	**+0.1**
NAPC	**Atlas Peak**	**0.27**	**3**		**Pg**	**12 33 22.7**	**0.0**
BRIB	**Briones**	**0.27**	**160**		**Pg**	**12 33 22.9**	**+0.2**
BRIB					**Sg**	**12 33 27.6**	**+0.7**
CVPM	**Vollmer Peak**	**0.29**	**173**		**Pb**	**12 33 23.4**	**0.0**
VAK	**Adit at Lawren**	**0.30**	**177**		**Pb**	**12 33 23.4**	**0.0**
BL88	**Building 88, L**	**0.30**	**178**		**Pb**	**12 33 23.4**	**-0.1**
BKS	**Berkeley--Byer**	**0.30**	**175**		**Pb**	**12 33 23.4**	**-0.1**
BL67	**Building 67, L**	**0.30**	**178**		**Pb**	**12 33 23.5**	**-0.1**
BRK	**Berkeley--Havi**	**0.30**	**179**		**Pb**	**12 33 23.4**	**-0.2**
BRK					**Sb**	**12 33 28.0**	**-0.1**
SMCB	**Saint Mary's C**	**0.36**	**160**		**Pb**	**12 33 24.4**	**-0.1**
CYBM	**Yerba Buena Is**	**0.37**	**191**		**Pb**	**12 33 24.5**	**-0.2**
NADM	**Allendale**	**0.37**	**39**		**Pb**	**12 33 26.1**	**+1.4**
NTYM	**Taylor**	**0.38**	**305**		**Pg**	**12 33 24.2**	**-0.3**
CRHM	**Round Hill Res**	**0.38**	**145**		**Pb**	**12 33 25.3**	**+0.3**
BDM	**Black Diamond**	**0.39**	**124**		**Pb**	**12 33 25.4**	**+0.4**
CRPB	**Russellman Par**	**0.39**	**132**		**Pb**	**12 33 24.8**	**-0.3**
BGC	**Bolinger Road**	**0.39**	**155**		**Pb**	**12 33 25.2**	**0.0**
CMCM	**Mills College**	**0.40**	**169**		**Pb**	**12 33 25.1**	**-0.2**
JPRM	**Presidio of Sa**	**0.41**	**203**		**Pb**	**12 33 25.4**	**-0.1**
NOLM	**Olema**	**0.43**	**252**		**Pg**	**12 33 25.3**	**-0.2**
J061	**Lakeshore Driv**	**0.48**	**202**		**Pb**	**12 33 26.5**	**-0.1**
MCCM	**Marconi Confer**	**0.48**	**267**	Pg	**Pg**	**12 33 26.1**	**-0.3**
NBPM	**Berryessa Peak**	**0.50**	**7**		**Pb**	**12 33 27.8**	**+0.9**
CMOB	**Morgan Territo**	**0.52**	**134**		**Pb**	**12 33 27.4**	**+0.1**
C055	**Cottonwood Ave**	**0.53**	**166**		**Pb**	**12 33 27.5**	**+0.1**
NHSM	**Mount Saint He**	**0.55**	**331**		**Pg**	**12 33 27.5**	**-0.3**
JMGM	**Milagra Ridge**	**0.56**	**197**		**Pb**	**12 33 28.0**	**+0.1**
JCPM	**Coyote Point**	**0.59**	**184**		**Pb**	**12 33 28.5**	**+0.1**
CBSNC	**Byron Hot Spri**	**0.61**	**125**		**Pb**	**12 33 29.1**	**+0.4**
CNIC	**Niles Canyon**	**0.61**	**157**		**Pb**	**12 33 29.0**	**+0.2**
NPRM	**Point Reyes**	**0.61**	**253**		**Pg**	**12 33 28.4**	**-0.5**
CYD1	**Coyote D'meter**	**0.62**	**167**		**Pb**	**12 33 29.0**	**-0.1**
CVLM	**Vallecito**	**0.65**	**148**		**Pn**	**12 33 30.1**	**-0.8**
NMTM	**Middletown**	**0.65**	**348**		**Pg**	**12 33 29.5**	**0.0**
NDHM	**Dunnigan Hills**	**0.65**	**25**		**Pn**	**12 33 31.0**	**0.0**
NMCNC	**Mill Creek, So**	**0.66**	**310**		**Pg**	**12 33 29.0**	**-0.6**
GAXM	**Alexander Vall**	**0.66**	**325**		**Pg**	**12 33 29.2**	**-0.5**
JCHM	**Cahill Ridge**	**0.66**	**187**		**Pb**	**12 33 29.8**	**+0.1**
WENL	**Wente Vineyard**	**0.68**	**144**		**Pn**	**12 33 30.7**	**-0.7**
GCRM	**Castle Rock Sp**	**0.69**	**330**		**Pg**	**12 33 29.7**	**-0.6**
GBGM	**Boggs Mountain**	**0.71**	**333**		**Pg**	**12 33 30.5**	**-0.3**
MNRC	**McLaughlin Min**	**0.72**	**349**		**Pb**	**12 33 31.1**	**+0.4**
CMJM	**Mission San Jo**	**0.72**	**154**		**Pb**	**12 33 31.0**	**+0.2**
JHHM	**Huddart Park**	**0.73**	**182**		**Pg**	**12 33 31.1**	**+0.3**
GGPM	**Geyser Peak**	**0.74**	**323**		**Pg**	**12 33 30.8**	**-0.5**
FARB	**Farallon Islan**	**0.75**	**231**		**Pg**	**12 33 30.9**	**-0.4**
GDXM	**Geysers**	**0.76**	**327**		**Pg**	**12 33 31.0**	**-0.5**
JRSC	**Jasper Ridge**	**0.77**	**178**		**Pb**	**12 33 31.6**	**0.0**
GSGM	**Seigler Mounta**	**0.77**	**334**		**Pg**	**12 33 31.8**	**0.0**
JSFB	**Stanford Teles**	**0.77**	**174**		**Pb**	**12 33 32.0**	**+0.4**
FTR	**Fort Ross**	**0.78**	**297**		**Pg**	**12 33 31.4**	**-0.6**
GSSM	**Skaggs Springs**	**0.79**	**312**		**Pg**	**12 33 31.3**	**-0.8**
JFP	**Foothills Park**	**0.81**	**176**		**Pb**	**12 33 32.2**	**-0.1**
GRTM	**Round Top Moun**	**0.83**	**338**		**Pg**	**12 33 32.2**	**-0.6**
JJRM	**Joaquin Road**	**0.83**	**176**		**Pb**	**12 33 32.6**	**0.0**
BGH	**Bear Gulch**	**0.83**	**184**		**Pb**	**12 33 32.5**	**-0.1**
GCVM	**Cloverdale**	**0.83**	**316**		**Pg**	**12 33 32.1**	**-0.9**
GACM	**Adobe Creek**	**0.84**	**326**		**Pg**	**12 33 32.6**	**-0.5**
GHCM	**House Creek**	**0.85**	**301**		**Pg**	**12 33 32.3**	**-0.9**
CMLM	**Mount Lewis**	**0.85**	**145**		**Pn**	**12 33 33.2**	**-0.7**
GPMM	**Pine Mountain**	**0.86**	**322**		**Pg**	**12 33 33.0**	**-0.4**
SCCB	**Santa Clara Co**	**0.94**	**160**		**Pn**	**12 33 34.7**	**-0.3**
CMMM	**Mount Mocho**	**0.94**	**139**		**Pg**	**12 33 34.5**	**-0.1**
AASM	**Arroyo Seco**	**0.95**	**74**		**Pg**	**12 33 33.7**	**-1.4**
GDCM	**Dry Creek**	**0.96**	**308**		**Pg**	**12 33 33.9**	**-1.6**
MHC	**Mount Hamilton**	**0.97**	**149**		**Pb**	**12 33 34.8**	**-0.2**
JPSM		**0.97**	**184**		**Pg**	**12 33 34.4**	**-1.2**
GBMM	**Baldy Mountain**	**0.98**	**350**		**Pg**	**12 33 35.5**	**-0.3**
JJOM	**Saint Joseph's**	**0.99**	**166**		**Pb**	**12 33 34.9**	**-0.5**
ARN	**Arnold Ranch**	**1.01**	**144**		**Pb**	**12 33 35.3**	**-0.4**
CCOB	**Coe Ranch Numb**	**1.03**	**152**		**Pn**	**12 33 36.1**	**-0.2**
HOPS	**Hopland Field**	**1.03**	**323**		**Pg**	**12 33 36.0**	**-0.8**
HOPS	**Hopland Field**	**1.03**	**323**	Pg	**Pg**	**12 33 35.6**	**-1.1**
JSTM	**Santa Teresa H**	**1.04**	**159**		**Pb**	**12 33 35.8**	**-0.3**
GHLM	**Highland Sprin**	**1.05**	**326**		**Pg**	**12 33 35.2**	**-1.8**
GSNM	**Snow Mountain**	**1.05**	**317**		**Pg**	**12 33 35.2**	**-1.9**
JBNB	**Ben Lomond Mou**	**1.05**	**175**		**Pg**	**12 33 35.5**	**-1.6**
JUMM	**Mount Umunhum**	**1.05**	**164**		**Pg**	**12 33 35.8**	**-1.4**
AMC	**Almaden**	**1.07**	**162**		**Pg**	**12 33 36.0**	**-1.4**
JLAB	**Laurel Hill**	**1.10**	**157**		**Pb**	**12 33 36.8**	**-0.4**
CMPM	**Mikes Peak**	**1.11**	**137**		**Pn**	**12 33 37.2**	**-0.2**
JHLM	**Holstrom Ranch**	**1.12**	**162**		**Pg**	**12 33 36.7**	**-1.6**
SUTB	**Sutter Butte**	**1.12**	**20**		**Pg**	**12 33 35.6**	**-2.8**
CADM	**Anderson Res.**	**1.13**	**153**		**Pn**	**12 33 37.4**	**-0.2**
MNHB	**New Hogan Dam**	**1.15**	**91**		**Pg**	**12 33 36.8**	**-2.1**
GFC	**Funks Creek**	**1.15**	**359**		**Pb**	**12 33 37.7**	**-0.4**
JRGM	**Rodeo Gulch Ro**	**1.16**	**168**		**Pg**	**12 33 37.1**	**-2.0**
GTSM	**Trough Springs**	**1.17**	**347**		**Pb**	**12 33 38.1**	**-0.2**
GGUM	**Gualala**	**1.18**	**306**		**Pb**	**12 33 36.9**	**-1.7**
HLPM	**Lions Peak**	**1.24**	**156**		**Pb**	**12 33 38.6**	**-1.0**
GHS	**Gilroy Hot Spr**	**1.26**	**149**		**Pb**	**12 33 39.0**	**-0.9**
AFDM	**Forest Hills D**	**1.28**	**52**		**Pn**	**12 33 39.2**	**-0.5**
JELB	**Ellicott, Sant**	**1.29**	**164**		**Pn**	**12 33 39.2**	**-0.6**
CDC	**Canada Road**	**1.30**	**151**		**Pn**	**12 33 40.0**	**-0.1**
GWRM	**Wonder Ranch**	**1.31**	**322**		**Pn**	**12 33 40.0**	**-0.1**
OHCM	**Honcut**	**1.31**	**28**		**Pn**	**12 33 38.5**	**-1.6**
MCUB	**Coppercopolis B**	**1.32**	**98**		**Pn**	**12 33 39.6**	**-0.6**
GHOM	**Hamilton Openi**	**1.32**	**312**		**Pn**	**12 33 38.7**	**-1.6**
CBC	**Chamberlain**	**1.33**	**159**		**Pn**	**12 33 39.7**	**-0.6

HBTM	San Juan Bauti	1.44	156			Pn	12 33 41.8	-0.1
HERM	Elkhorn Road	1.44	162			Pn	12 33 41.2	-0.7
GNAM	Navarro Ridge	1.48	314			Pn	12 33 41.0	-1.4
HJGM	San Juan Grade	1.48	158			Pn	12 33 41.5	-0.9
CMB	Columbia Colle	1.49	95			Pn	12 33 42.6	-0.1
CMB	Columbia Colle	1.49	95			Pn	12 33 42.7	+0.1
ORV	Oroville	1.50	23			Pn	12 33 41.6	-1.2
ORV	Oroville	1.50	23			Pn	12 33 41.4	-1.4
ORV	Oroville	1.50	23	Pn		Pn	12 33 41.1	-1.6
GASB	Alder Springs	1.52	347			Pn	12 33 44.1	+1.0
FRP	Fremont Peak	1.55	156			Pn	12 33 42.4	-1.0
SAO	San Andreas Ge	1.55	155			Pn	12 33 42.7	-0.8
SAO	San Andreas Ge	1.55	155	Pn		Pn	12 33 42.6	-0.9
HJSM	John Smith Roa	1.56	150			Pn	12 33 43.6	+0.1
BSLM	Silva Ranch	1.58	152			Pn	12 33 43.8	+0.1
BVYM	Vineyard	1.58	154			Pn	12 33 43.2	-0.6
GTC	Three Chop Rid	1.58	321			Pn	12 33 44.3	+0.4
HMOM	Monterey	1.59	170			Pn	12 33 43.2	-0.8
BSRM	Salinas Radio	1.62	158			Pn	12 33 43.3	-1.1
GVV	Valley View	1.63	349			Pn	12 33 44.4	-0.3
BCGM	Cienega Road	1.64	153			Pn	12 33 44.1	-0.5
BHRM	Hodges Ranch	1.65	151			Pn	12 33 44.7	0.0
MYLM	Yosemite Lake	1.66	118			Pn	12 33 44.4	-0.6
BPCNC	Pine Canyon	1.68	162			Pn	12 33 44.3	-0.9
BLRM	Lewis Ranch	1.70	152			Pn	12 33 45.7	+0.2
KFPM	Farley Peak	1.72	329			Pn	12 33 46.5	+0.7
SCZ	Santa Cruz	1.72	156			Pn	12 33 44.7	-1.0
BJOM	Mount Johnson	1.72	153			Pn	12 33 45.2	-0.5
BEHM	Elkhorn Ranch	1.74	150			Pn	12 33 45.5	-0.5
BRMM	Rolling Bench	1.76	139			Pn	12 33 46.6	+0.2
BJCM	Johnson Can.	1.77	156			Pn	12 33 45.5	-0.9
GRGM	Round Mountain	1.77	350			Pn	12 33 46.0	+0.2
BEMM	Emmet	1.78	148			Pn	12 33 46.0	-0.5
BVL	Bear Valley	1.81	151			Pn	12 33 46.7	-0.4
BAVM	Antelope Valle	1.82	147			Pn	12 33 47.1	0.0
KCPM	Cahto Peak	1.82	326			Pn	12 33 48.6	+1.3
KBNM	Bluenose Ridge	1.86	338			Pn	12 33 43.8	-4.0
BBGB	Big Mountain B	1.87	148			Pn	12 33 48.2	+0.3
HAST	Hastings Reser	1.87	162			Pn	12 33 47.0	-0.9
RUBR	Rubicon Trail	1.87	61			Pn	12 33 49.2	+1.1
KIPM	Iron Peak	1.89	330			Pn	12 33 50.1	+2.0
BPIM	Pinnacles	1.90	152			Pn	12 33 47.3	-0.9
BSMM	Soledad Missio	1.91	159			Pn	12 33 47.7	-0.8
BMSM	Mercy Hot Spri	1.92	142			Pn	12 33 48.5	+0.1
TAHR	Tahoe	1.92	59			Pb	12 33 50.3	-1.0
DONR	Donner Summit	1.92	52			Pn	12 33 49.7	+0.9
TNK	Tinkers Knob	1.93	55			Pb	12 33 50.3	-1.2
BSGM	Shirttail Gulc	1.94	155			Pn	12 33 48.2	-0.5
BCWM	Chews Ridge	1.95	163			Pn	12 33 48.1	-0.9
IND	Independence	1.99	50			Pn	12 33 51.2	+1.5
LRV	Little Rabbit	2.01	150			Pn	12 33 50.1	+0.4
KBSM	Bell Springs	2.02	330			Pn	12 33 52.1	+2.1
LTCM	Tuscan Springs	2.04	3			Pn	12 33 49.4	-0.6
GNO	Genoa	2.04	68			Pb	12 33 52.1	-1.2
O02D	Mt. Diablo Mer baz=169,SNR=11	2.04	349	P		Pn	12 33 50.8	+0.6
O02D	 baz=169			S		Sb	12 34 19.8	+1.5
O02D	Mt. Diablo Mer	2.04	349			Pn	12 33 50.2	0.0
LCMM	Colby Mountain	2.05	16			Pn	12 33 50.2	-0.4
BAPM	Anderson Peak	2.06	166			Pn	12 33 49.7	-0.8
MPK	Martis Peak	2.08	57			Pn	12 33 52.4	+1.5
KBF	Kyburz Flat	2.09	50			Pn	12 33 52.4	+1.4
MMIM	Miami Mountain	2.14	110			Pn	12 33 52.6	+1.0
PHRM	Hernandez Vall	2.14	147			Pn	12 33 51.7	+0.2
PBWM	Bitterwater Cr	2.14	150			Pn	12 33 52.0	+0.5
O03E	Paynes Creek baz=190,SNR=123	2.15	10	P		Pn	12 33 50.9	-0.8
O03E	Paynes Creek	2.15	10			Pn	12 33 50.9	-0.8
LRC	Lone Oak Road	2.16	153			Pn	12 33 51.4	-0.4
MHDM	Hidden Dam	2.16	119			Pn	12 33 51.9	+0.1
LOY	Loyalton	2.17	46			Pn	12 33 53.9	+1.8
VPK	Verdi Peak	2.17	53			Pb	12 33 54.1	-1.6
BFC	Buffalo Canyon	2.21	70			Pb	12 33 54.5	-1.7
BABR	Babbit Peak	2.21	49			Pn	12 33 54.5	+1.7
WAKR	Walker	2.25	81			Pb	12 33 55.7	-1.2
PCCM	Crazy Canyon	2.26	157			Pn	12 33 52.8	-0.4
PMPB	Monarch Peak	2.28	149			Pn	12 33 53.4	-0.1
PNTR	Pine Nut	2.28	66			Pn	12 33 55.6	+1.9
LDBM	Digger Butte	2.29	9			Pn	12 33 53.8	+0.2
PEAR	Peavine Mounta	2.30	51			Pn	12 33 55.4	+1.4
KMRM	Mail Ridge	2.33	332	Pn		Pn	12 33 55.0	+0.8
VCNR	Virginia City	2.33	61			Pn	12 33 55.8	+1.4
PAPM	Alder Peak	2.37	162			Pn	12 33 54.2	-0.6
PDRM	Domengine Ranc	2.38	140			Pn	12 33 55.4	+0.5
PWMM	Westland Maint	2.39	136			Pn	12 33 56.0	+1.0
WDC	Whiskeytown Da	2.41	355	Pn		Pn	12 33 54.2	-1.1
LMEM	Manzanita Entr	2.42	13			Pn	12 33 56.2	+0.6
LUL	Lundy Lake	2.44	92			Pb	12 33 58.9	-1.2
PARM	Anticline Ridg	2.46	141			Pn	12 33 56.4	+0.5
PSMM	Smith Mountain	2.49	147			Pn	12 33 57.1	+0.6
KSMM	Slide Mountain	2.50	324			Pn	12 33 56.9	+0.4
YERR	Yerington	2.51	70			Pn	12 33 58.8	+2.0
KCSM	Cold Springs	2.55	338			Pb	12 34 01.0	-1.0
PHPM	Hope Ranch	2.56	148			Pn	12 33 57.2	-0.1
MDPB	Devils Postpil	2.58	101			Pb	12 34 00.1	-2.5
MINS	Minaret Summit	2.59	101			Pb	12 34 00.3	-2.5
MDCM	Deadman Creek	2.59	99			Pn	12 34 00.1	+2.1
MRDM	Red Cones	2.60	102			Pb	12 34 00.7	-2.3
MMSM	Mammoth Summit	2.62	101			Pb	12 34 00.8	-2.5
PKD	Bear Valley Ra	2.62	148			Pn	12 33 58.1	-0.1
MMPM	Mammoth Pass	2.62	101			Pb	12 34 00.9	-2.5
MDYM	Dry Creek	2.63	100			Pb	12 34 01.7	-1.7
PANM	San Antonio Re	2.63	155			Pn	12 33 58.0	-0.3
PVCM	Vineyard Canyo	2.64	148			Pn	12 33 58.6	+0.1
PHCM	Hearst Castle	2.64	160			Pn	12 33 57.7	-0.7
OMMB	Old Mammoth Mi	2.65	101			Pn	12 34 00.8	+2.0
PSTM	Stockdale Moun	2.65	147			Pn	12 33 58.5	0.0
MMLB	Mammoth Lakes	2.65	100			Pb	12 34 02.0	-1.8
PPO	Portuguese Can	2.66	150			Pn	12 33 58.9	+0.2
LMCR	Lookout Mounta	2.66	99			Pb	12 34 02.4	-1.6
PAHR	Pah Rah Range	2.72	55	Pn		Pn	12 34 00.4	+0.8
MLAC	Mammoth, Mammo baz=282,SNR=18	2.77	100	P		Pb	12 34 03.1	-2.7
RAMR	Ramage Ranch	2.77	156			Pn	12 34 00.1	-0.2
N02D	Trinity Center baz=174	2.82	353	P		Pn	12 34 03.4	+2.5
KHMM	Horse Mountain	2.92	338	Pn		Pn	12 34 03.2	+0.7
PAGB	Antelope Grade	2.93	146	Pn		Pn	12 34 02.1	-0.2
VOG	Valley Oaks Go baz=310	2.95	128	P		Pn	12 34 03.2	+0.5
LHV	Little Huntoon	2.97	87			Pn	12 34 05.4	+2.6
JCC	Jacoby Creek,	2.97	333	Pn		Pn	12 34 05.0	+2.1
RYN	Ryan	2.98	80			Pn	12 34 04.7	+1.5
HELL	Mitchell Peak,	2.98	119			Pn	12 34 04.7	+1.5
NVAR	Mina Array Bea	3.13	84	Pn		Pn	12 34 07.6	+2.2
M02C	Callahan baz=172,SNR=9.8	3.25	352	P		Pn	12 34 09.4	+2.6
M02C	 baz=172			S		Sb	12 34 51.3	-1.7
NV11	Mina Array Sit	3.25	84			Pn	12 34 08.6	+1.7
KVN	Kaiserville	3.38	74	Pn		Pn	12 34 09.6	+0.8
SMMC	Simmler baz=328	3.39	147	P		Pn	12 34 08.7	0.0
SMMC	 baz=328			S		Sn	12 34 48.8	+0.3
VES	Vestal, Richgr baz=313	3.45	131	P		Pn	12 34 10.7	+1.1
VES	 baz=313			S		Sn	12 34 53.4	+3.4
YBH	Yreka Blue Hor	3.57	355	Pn		Pn	12 34 10.1	-1.1
M04C	Macdoel baz=186	3.62	5	P		Pn	12 34 14.7	+2.7
CWC	Cottonwood Cre baz=299	3.76	116	P		Pn	12 34 16.2	+2.2
PKM	Mcpherson Peak baz=330	3.83	148	P		Pn	12 34 15.2	+0.3
PKM	 baz=330			S		Sn	12 35 00.4	+0.8
ISA	Isabella, Lake baz=311,SNR=30	3.94	128	P		Pn	12 34 17.6	+1.3
ISA	 baz=311			S		Sn	12 35 04.9	+2.7
ISA	Isabella, Lake	3.94	128	Pn		Pn	12 34 17.7	+1.3
MOD	Modoc Plateau	4.02	21			Pn	12 34 18.8	+1.3
GRAC	Grapevine Rang baz=288	4.07	105	Sb		Sg	12 35 26.7	-0.6
L02E	Cave Junction baz=166	4.11	346	P		Pn	12 34 22.3	+3.7
ARVC	Arvin baz=319,SNR=12	4.11	137	P		Pn	12 34 19.6	+1.0
ARVC	 baz=319			S		Sn	12 35 08.6	+2.4
TEJ	El Tejon	4.11	135			Pn	12 34 19.9	+1.2
KBO	Bosley Butte	4.30	340	Pn		Pn	12 34 22.9	+1.6
HUMO	Hull Mountain	4.46	353	Pn		Pn	12 34 24.9	+1.4
OSI	Osito Audit: C baz=322	4.56	140	P		Pn	12 34 26.8	+1.9
K02D	Willamette Mer baz=167,SNR=8.8	4.64	347	P		Pn	12 34 30.2	+4.3
K05A	Summer Lake	4.67	13	Pn		Pn	12 34 27.5	+1.1
EDW2	Edwards Air Fo baz=315,SNR=20	4.76	132	P		Pn	12 34 28.2	+0.6
TPNV	Topopah Spring baz=286	4.94	103	Sb		Sg	12 35 54.7	-0.5
TPNV	Topopah Spring	4.94	103	Pn		Pn	12 34 31.2	+1.1
WVOR	Wild Horse Val	5.08	32	Pn		Pn	12 34 32.9	+0.9
MWC	Mount Wilson	5.21	138			Pn	12 34 34.8	+0.9
GSC	Goldstone, Bar baz=305,SNR=16	5.24	122	P		Pn	12 34 35.8	+1.6
GSC	Goldstone, Bar	5.24	122	Pn		Pn	12 34 35.2	+1.0
R11A	Troy Canyon, C	5.26	86	Pn		Pn	12 34 35.8	+1.1
BFSC	Mount Baldy Ra baz=318	5.41	135	P		Pn	12 34 37.4	+0.8
PINE	Pine Mountain	5.70	10	Pn		Pn	12 34 41.4	+0.8
PRN	Pahroc Range	5.77	95	Pn		Pn	12 34 44.9	+3.4
BBRC	Big Bear Solar baz=314	5.82	130	P		Pn	12 34 42.6	+0.2
HEC	Hector,Ludlow baz=307,SNR=16	5.83	123	P		Pn	12 34 43.6	+1.3
SHPR	Sheep Range	5.90	104	Pn		Pn	12 34 42.9	-0.5
I07A	Izee	6.26	19	Pn		Pn	12 34 48.5	+0.2
PFO	Pinyon Flats O	6.55	132	Pn		Pn	12 34 53.0	+0.7
TPFO	Pinon Flats baz=316	6.56	132	P		Pn	12 34 52.9	+0.5
BELC	Belle Mtn. Jos baz=311	6.57	127	P		Pn	12 34 53.5	+1.0
PSUT	Pine Spring	6.62	84	Pn		Pn	12 34 53.6	+0.3
CCUT	Cedar City	7.07	92	Pn		Pn	12 34 59.9	+0.4
MONP2	Monument Peak baz=320	7.10	136	P		Pn	12 35 00.6	+0.7
BAR	Barrett	7.13	139	Pn		Pn	12 35 01.5	+1.3
CBX	Cerro Bola	7.43	140	Pn		Pn	12 35 04.9	+0.6
BGU	Big Grassy Mou	7.65	66	Pn		Pn	12 35 10.5	+3.2
GLA	Glamis	7.93	128	Pn		Pn	12 35 11.7	+0.6
MSU	Marysvale	7.94	84	Pn		Pn	12 35 11.9	+0.5
ESJX	Sierra Juarez	8.04	138	Pn		Pn	12 35 13.9	+1.1

NEIC ***26*** *12:51:40.0±2.7, 14°.79S±0°.08×177°.6W±0°.1, h322km±9km, mb4.2/6, Error ellipse: s-maj=14.2km s-min=11.1km az=72.0*
IDC ***26*** *12:51:41.9±2.8, 14°.43S×177°.60W, h333km±36km, mb3.0/6, mb1 3.4/8, mb1mx3.2/34, mbtmp3.8/8, Error ellipse: s-maj=91.0km s-min=15.7km az=153.0*
ISC 26 12:51:38.6±0.7, 14°.5S±0°.2×177°.7W±0°.1, h300km, n18, σ1°.57/18, mb3.4/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	5.20	231	Pn	Pn	12 52 58.8	+0.3
AFI	Afiamalu	5.77	85	P	Pn	12 53 07.9	+2.7
	9.6nm,0.3s,baz=77,slow=1.8,SNR=12						
AFI	Afiamalu	5.77	85		Pn	12 53 06.8	+1.6
DZM	Mont Dzumac	16.82	241	P	Pn	12 55 20.3	+1.9
	0.3nm,0.3s,baz=347,slow=19,SNR=1.6						
DZM	Mont Dzumac comp=Z,15nm,1.1s	16.82	241	IAmb	IAmb	12 55 34.5	
OUZ	Omahuta	22.06	199	P	P	12 56 08.5	-0.5
OUZ	 comp=Z,28nm,1.4s			IAmb	IAmb	12 56 27.2	
WRA	Warramunga Arr comp=Z,0.2nm,0.3s,baz=99,slow=6.1,SNR=5.5	46.02	256	P	P	12 59 34.5	+1.4
WRA	Warramunga Arr	46.02	256	P	P	12 59 34.2	+1.1
AS31	Alice Springs	46.45	251	P	P	12 59 38.8	+2.3
ASAR	Alice Springs comp=Z,1.4nm,0.4s,baz=86,slow=8.5,SNR=29	46.45	251	P	P	12 59 37.3	+0.8
ASAR				PcP	PcP	13 01 04.0	-1.8
	comp=Z,0.2nm,0.7s,baz=90,slow=3.7,SNR=1.7						
ASAR	Alice Springs	46.45	251	P	P	12 59 37.5	+1.0
MAJO	Matsushiro	65.64	322	P	P	13 01 51.2	0.0
QSPA	South Pole Qui	75.52	180	P	P	13 02 47.4	-2.8
QSPA	 comp=Z,3.3nm,1.4s			IAmb	IAmb	13 03 05.7	
NVAR	Mina Array Bea comp=Z,0.2nm,0.7s,baz=252,slow=8.4,SNR=2.4	76.52	44	P	P	13 02 56.2	-0.1
ILAR	Eielson Array comp=Z,0.5nm,0.6s,baz=217,slow=6.1,SNR=6.8	82.44	13	P	P	13 03 26.1	-1.1
TXAR	Lajitas Array comp=Z,0.3nm,0.6s,baz=218,slow=6.5,SNR=5.4	83.61	58	P	P	13 03 33.9	-0.2
PDAR	Pinedale Array comp=Z,0.2nm,0.5s,baz=228,slow=3.5,SNR=2.4	84.43	43	P	P	13 03 37.4	-0.7
GERES	GERESS Array B 144.50	347		PKP	PKPab	13 10 38.7	0.0
	comp=Z,0.5nm,0.6s,baz=49,slow=9.2,SNR=2.9						

NEIC ***26*** *13:45:52.6, 38°.24N×122°.34W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}0.86; $M_{\theta\theta}$-0.60; $M_{\phi\phi}$-0.26; $M_{r\theta}$-1.96; $M_{\theta\phi}$3.12; $M_{\phi r}$-0.86; Fault plane solution: M_o3.86000×10^{13} NP1:ϕ_s272.48000°, δ76.11000°, λ33.08000°. NP2:ϕ_s173.59000°, δ58.01000°, λ163.55000°. Principal axes: T 3.9861, Plg33.0000°, Azm138.0000°; N -0.2553, Plg54.0000°, Azm293.0000°; P -3.7308, Plg12.0000°, Azm40.0000°;*
NCEDC 26 13:45:52.6±1.3, 38°.242N±0°.008×122°.34W±0°.01, h9km±2km, Mwr3.0/4 Error ellipse: s-maj=1.3km s-min=1.1km az=27.0, Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGVM		0.11	68		Pg	13 45 55.1	-0.1
NGVM					Sg	13 45 57.2	+0.3
SNT	Sears Point	0.11	236		Pg	13 45 55.5	+0.3
SNT					Sg	13 45 57.8	+0.8
CVS	Carmenet Viney	0.14	318		Pg	13 45 56.0	+0.3
CVS					Sg	13 45 58.7	+0.8
NLHM	Lake Herman	0.19	129		Pg	13 45 56.6	-0.1
NLHM					Sg	13 45 60.0	+0.6
NAPC	Atlas Peak	0.21	19		Pg	13 45 57.1	+0.1
CPIM	Pinole Ridge	0.27	159		Pg	13 45 58.6	+0.6
CSPM	San Pablo Ridg	0.28	175		Pg	13 45 59.0	+0.7
NTYM	Taylor	0.29	300		Pg	13 45 58.9	+0.4
CPMM	Point Molate	0.30	190		Pg	13 45 58.9	+0.3
RFSB	Richmond Field	0.33	179		Pg	13 45 59.5	+0.5
CTAM	Taylor	0.33	130		Pb	13 46 00.2	-0.6
BRIB	Briones	0.35	155		Pg	13 45 59.9	+0.3
NADM	Allendale	0.36	53		Pb	13 46 01.1	-0.1
CVPM	Vollmer Peak	0.37	165		Pg	13 46 00.4	+0.5
BL88	Building 88, L	0.37	169		Pg	13 46 00.3	+0.4
VAK	Adit at Lawren	0.37	169		Pg	13 46 00.4	+0.5
VAK					Sb	13 46 06.2	-1.1
BL67	Building 67, L	0.37	169		Pg	13 46 00.5	+0.5
BL67					Sb	13 46 06.3	-1.1
BRK	Berkeley--Havi	0.37	170		Pg	13 46 00.3	+0.3
BKS	Berkeley--Byer	0.37	167		Pg	13 46 00.4	+0.4
NOLM	Olema	0.41	241		Pg	13 46 01.1	+0.4
CYBM	Yerba Buena Is	0.43	182		Pg	13 46 01.4	+0.3
MAC	Mark West Spri	0.43	316		Pg	13 46 01.7	+0.6
NBPM	Berryessa Peak	0.44	15		Pb	13 46 02.2	-0.4
SMCB	Saint Mary's C	0.44	156		Pg	13 46 01.4	+0.2
JPRM	Presidio of Sa	0.46	193		Pg	13 46 02.0	+0.4
NHSM	Mount Saint He	0.47	333		Pg	13 46 01.9	+0.1
CRHM	Round Hill Res	0.47	144		Pg	13 46 02.3	+0.5
BDM	Black Diamond	0.47	127		Pg	13 46 02.2	+0.4
CRPB	Russellman Par	0.47	134		Pg	13 46 01.4	-0.5
BGC	Bolinger Road	0.48	153		Pg	13 46 02.2	+0.2
CMCM	Mills College	0.48	164		Pg	13 46 02.1	+0.1
J061	Lakeshore Driv	0.53	194		Pg	13 46 03.1	+0.3
NMCNC	Mill Creek, So	0.57	308		Pg	13 46 03.8	+0.1
NMTM	Middletown	0.57	352		Pg	13 46 03.9	+0.2
GAXM	Alexander Vall	0.57	325		Pg	13 46 03.7	0.0
NPRM	Point Reyes	0.59	246		Pg	13 46 04.2	+0.2
CMOB	Morgan Territo	0.60	135		Pg	13 46 04.3	0.0
GCRM	Castle Rock Sp	0.61	331		Pg	13 46 04.3	-0.2
JMGM	Milagra Ridge	0.61	190		Pg	13 46 04.8	+0.3
NDHM	Dunnigan Hills	0.62	33		Pb	13 46 06.1	+0.4
GBGM	Boggs Mountain	0.63	335		Pg	13 46 05.0	+0.1
MNRC	McLaughlin Min	0.64	353		Pg	13 46 05.6	+0.5
JCPM	Coyote Point	0.65	179		Pg	13 46 05.4	+0.1
GSGM	Seigler Mounta	0.69	335		Pg	13 46 06.4	+0.4
CBSNC	Byron Hot Spri	0.70	127		Pg	13 46 05.8	-0.2
CNIC	Niles Canyon	0.70	155		Pg	13 46 06.0	-0.2
GSSM	Skaggs Springs	0.70	311		Pg	13 46 06.3	+0.1
FTR	Fort Ross	0.70	294		Pg	13 46 06.3	+0.1
CYD1	Coyote D'meter	0.70	164		Pg	13 46 06.0	-0.3
JCHM	Cahill Ridge	0.72	182		Pg	13 46 06.5	-0.1
CVLM	Vallecito	0.73	147		Pb	13 46 07.2	-0.4
GRTM	Round Top Moun	0.74	340		Pg	13 46 07.1	+0.2
GCVM	Cloverdale	0.75	315		Pg	13 46 07.4	+0.3
GACM	Adobe Creek	0.75	327		Pg	13 46 07.5	+0.3
FARB	Farallon Islan	0.75	224		Pg	13 46 07.1	0.0
GHCM	House Creek	0.77	299		Pg	13 46 07.3	-0.1
GPMM	Pine Mountain	0.77	322		Pb	13 46 08.1	-0.2
WENL	Wente Vineyard	0.77	143		Pb	13 46 08.1	-0.1
JHPM	Huddart Park	0.80	178		Pg	13 46 08.0	0.0
CMJM	Mission San Jo	0.81	153		Pg	13 46 08.0	-0.3
JRSC	Jasper Ridge	0.84	174		Pg	13 46 08.4	-0.4
JSFB	Stanford Teles	0.85	171		Pg	13 46 08.7	-0.3
GDCM	Dry Creek	0.88	307		Pb	13 46 10.0	-0.2
JFP	Foothills Park	0.89	172		Pg	13 46 09.1	-0.6
BGH	Bear Gulch	0.90	180		Pg	13 46 09.3	-0.6
JJRM	Joaquin Road	0.90	173		Pg	13 46 09.6	-0.4
GBMM	Baldy Mountain	0.91	352		Pg	13 46 10.1	0.0
CMLM	Mount Lewis	0.94	144		Pg	13 46 10.1	-0.6
HOPS	Hopland Field	0.94	323		Pg	13 46 10.9	+0.1
GHLM	Highland Sprin	0.96	327		Pg	13 46 10.2	-0.9
GSNM	Snow Mountain	0.97	317		Pb	13 46 11.6	-0.1
AASM	Arroyo Seco	0.99	79		Pg	13 46 09.9	-1.7
CMMM	Mount Mocho	1.03	139		Pg	13 46 11.5	-1.0
JPSM		1.04	180		Pg	13 46 11.4	-1.2
MHC	Mount Hamilton	1.05	148		Pg	13 46 11.9	-1.0
JJOM	Saint Joseph's	1.07	164		Pg	13 46 11.7	-1.6
SUTB	Sutter Butte	1.08	24		Pg	13 46 10.7	-2.7
GFC	Funks Creek	1.08	2		Pg	13 46 12.6	-0.9
GTSM	Trough Springs	1.09	349		Pg	13 46 13.2	-0.3
GGUM	Gualala	1.10	304		Pg	13 46 12.8	-0.9
ARN	Arnold Ranch	1.10	144		Pg	13 46 12.1	-1.6
CCOB	Coe Ranch Numb	1.11	151		Pg	13 46 13.2	-0.8
JSTM	Santa Teresa H	1.12	157		Pg	13 46 12.7	-1.5
JBNB	Ben Lomond Mou	1.13	173		Pg	13 46 12.3	-2.0
JUMM	Mount Umunhum	1.14	162		Pg	13 46 12.8	-1.6
AMC	Almaden	1.15	160		Pb	13 46 12.8	-1.9
JLAB	Laurel Hill	1.19	156		Pb	13 46 13.7	-1.7
CMPM	Mikes Peak	1.20	137		Pb	13 46 14.3	-1.3
JHLM	Holstrom Ranch	1.20	160		Pb	13 46 13.4	-2.2
MNHB	New Hogan Dam	1.21	94		Pb	13 46 13.3	-2.4
CADM	Anderson Res.	1.22	152		Pb	13 46 14.6	-1.2
GWRM	Wonder Ranch	1.22	322		Pg	13 46 16.7	+0.6
GHOM	Hamilton Openi	1.23	311		Pn	13 46 15.5	-0.7
JRGM	Rodeo Gulch Ro	1.24	166		Pn	13 46 14.5	-1.7
OHCM	Honcut	1.28	31		Pn	13 46 13.9	-2.9
AFDM	Forest Hills D	1.28	56	Pn	Pn	13 46 14.4	-2.4
GCK	Clark Valley	1.30	357		Pn	13 46 15.8	-1.3
HLPM	Lions Peak	1.32	155		Pn	13 46 15.6	-1.7
GHMM	Hull Mountain	1.33	340		Pn	13 46 16.9	-0.7
GHS	Gilroy Hot Spr	1.35	148		Pn	13 46 15.8	-1.9
MCUB	Copperopolis B	1.38	101		Pn	13 46 16.1	-2.1
GNAM	Navarro Ridge	1.39	314		Pn	13 46 17.2	-1.0
CDC	Canada Road	1.39	151		Pn	13 46 16.8	-1.5
CBC	Chamberlain	1.42	157		Pn	13 46 16.9	-1.7
GASB	Alder Springs	1.44	348		Pn	13 46 18.7	-0.4
HCOM	Corn Cob Canyo	1.44	159		Pn	13 46 16.9	-2.0
HPCM	Pacheco Lake	1.45	144		Pn	13 46 17.6	-1.5
HFEM	San Felipe	1.46	149		Pn	13 46 17.5	-1.7
SLD	San Luis Dam	1.47	142		Pn	13 46 17.8	-1.5
ORV	Oroville	1.47	26	Pn	Pn	13 46 16.4	-2.

LVC	**Limon Verde**	**2.00**	**287**	Pn		**Pn**	**14 00 12.1**	**+1.2**
PB15	**IPOC Station P**	**2.42**	**269**	⇑*i*P		**Pn**	**14 00 16.4**	**+1.0**
PB15				*e*S		**Sn**	**14 00 47.7**	**-0.7**
PB15	**IPOC Station P**	**2.42**	**269**	Pn		**Pn**	**14 00 16.4**	**+1.0**
PB06	**IPOC Station P**	**2.56**	**281**	⇑*i*P		**Pn**	**14 00 17.9**	**+1.0**
PB06				*e*S		**Sn**	**14 00 50.1**	**-1.2**
PB06				IAML			14 00 53.0	
	comp=N,2μm,0.1s							
PB06	**IPOC Station P**	**2.56**	**281**			**Pn**	**14 00 18.0**	**+1.0**
PB09	**IPOC Station P**	**2.62**	**302**	⇑*i*P		**Pn**	**14 00 19.3**	**+1.6**
PB09				*e*S		**Sn**	**14 00 53.2**	**+0.6**
PB09	**IPOC Station P**	**2.62**	**302**			**Pn**	**14 00 19.3**	**+1.6**
PB04	**IPOC Station P**	**3.17**	**285**	⇑*i*P		**Pn**	**14 00 24.6**	**+0.4**
PB04				*i* S		**Sn**	**14 01 01.9**	**-2.3**
PB04	**IPOC Station P**	**3.17**	**285**			**Pn**	**14 00 24.6**	**+0.4**
PB07	**IPOC Station P**	**3.17**	**297**	*e*P		**Pn**	**14 00 24.7**	**+0.5**
PB07				*e*S		**Sn**	**14 01 02.3**	**-2.1**
PB07				IAML			14 01 04.1	
	comp=E,2μm,0.3s							
PB07	**IPOC Station P**	**3.17**	**297**	Pn		**Pn**	**14 00 24.7**	**+0.5**
GO02	**Mina Guanaco**	**3.18**	**232**	⇑*i*P		**Pn**	**14 00 25.1**	**+0.7**
GO02				*i* S		**Sn**	**14 01 04.3**	**-0.4**
GO02	**Mina Guanaco**	**3.18**	**232**	Pn		**Pn**	**14 00 25.1**	**+0.7**
PB01	**IPOC Station P**	**3.26**	**311**	*e*P		**Pn**	**14 00 26.1**	**+0.9**
PB01				*e*S		**Sn**	**14 01 05.1**	**-1.0**
PB01	**IPOC Station P**	**3.26**	**311**	Pn		**Pn**	**14 00 26.0**	**+0.9**
PB02	**IPOC Station P**	**3.39**	**303**	*e*P		**Pn**	**14 00 27.5**	**+0.7**
PB02				*e*S		**Sn**	**14 01 06.4**	**-2.6**
PB10	**IPOC Station P**	**3.43**	**264**	⇑*i*P		**Pn**	**14 00 27.3**	**+0.2**
PB10				*i* S		**Sn**	**14 01 06.2**	**-3.3**
PB10	**IPOC Station P**	**3.43**	**264**	Pn		**Pn**	**14 00 27.4**	**+0.2**
PB14	**IPOC Station P**	**3.56**	**246**	⇑*i*P		**Pn**	**14 00 29.1**	**+0.1**
PB14				*e*S		**Sn**	**14 01 10.4**	**-2.5**
PB14	**IPOC Station P**	**3.56**	**246**			**Pn**	**14 00 28.9**	**-0.1**
PB08	**IPOC Station P**	**3.73**	**324**	*e*P		**Pn**	**14 00 33.3**	**+2.1**
PB08				*e*S		**Sn**	**14 01 17.8**	**+0.9**
PB08	**IPOC Station P**	**3.73**	**324**			**Pn**	**14 00 33.2**	**+1.9**
PATCX	**Punta Patache**	**3.88**	**307**	*e*P		**Pn**	**14 00 32.9**	**0.0**
PATCX				*e*S		**Sn**	**14 01 17.2**	**-2.6**
PATCX	**Punta Patache**	**3.88**	**307**	Pn		**Pn**	**14 00 32.7**	**-0.1**
TA01	**Diego Aracena**	**4.06**	**310**	*e*P		**Pn**	**14 00 35.0**	**-0.1**
TA01				*e*S		**Sn**	**14 01 19.8**	**-3.9**
TA01	**Diego Aracena**	**4.06**	**310**			**Pn**	**14 00 35.3**	**+0.3**
GO01	**Chusmiza**	**4.14**	**328**	‖*e*P		**Pn**	**14 00 38.4**	**+1.9**
GO01				*e*S		**Sn**	**14 01 27.1**	**+0.7**
GO01	**Chusmiza**	**4.14**	**328**	Pn		**Pn**	**14 00 37.4**	**+0.8**
AC02	**Maricunga**	**4.17**	**209**	⇑*i*P		**Pn**	**14 00 37.8**	**+0.9**
AC02				*e*S		**Sn**	**14 01 27.0**	**-0.1**
AC02	**Maricunga**	**4.17**	**209**			**Pn**	**14 00 37.4**	**+0.6**
TA02	**Huaiquique**	**4.22**	**313**	*e*S		**Sn**	**14 01 25.6**	**-1.9**
PB11	**IPOC Station P**	**4.31**	**322**	*e*P		**Pn**	**14 00 38.5**	**+0.1**
PB11				*e*S		**Sn**	**14 01 27.2**	**-2.5**
PB11	**IPOC Station P**	**4.31**	**322**	Pn		**Pn**	**14 00 38.3**	**-0.1**
AC01	**Pan de Azucar**	**4.50**	**229**	⇑*i*P		**Pn**	**14 00 39.5**	**-1.2**
AC01				*e*S		**Sn**	**14 01 29.7**	**-4.2**
AC01	**Pan de Azucar**	**4.50**	**229**	Pn		**Pn**	**14 00 39.2**	**-1.4**
PSGC	**Pisagua**	**4.71**	**319**	*e*P		**Pn**	**14 00 42.5**	**-1.0**
PSGC				*e*S		**Sn**	**14 01 34.1**	**-4.8**
PSGCX	**Pisagua**	**4.71**	**319**			**Pn**	**14 00 42.3**	**-1.2**
MNMC	**Minye Minye**	**4.79**	**327**	*e*P		**Pn**	**14 00 45.3**	**+0.6**
MNMC				*e*S		**Sn**	**14 01 38.8**	**-2.3**
MNMC	**Minye Minye**	**4.79**	**327**	Pn		**Pn**	**14 00 44.9**	**+0.2**
GO03	**Copiap**	**5.34**	**214**	⇑*e*P		**Pn**	**14 00 49.8**	**-1.6**
GO03	**Copiap**	**5.34**	**214**			**Pn**	**14 00 49.8**	**-1.6**
PB16	**IPOC Station P**	**5.45**	**332**			**Pn**	**14 00 53.8**	**+0.4**
PB12	**IPOC Station P**	**5.61**	**324**			**Pn**	**14 00 54.4**	**-0.6**
AC04	**Llanos de Chal**	**6.28**	**217**	Pn		**Pn**	**14 01 00.8**	**-2.8**
AC05	**El Transito**	**6.41**	**208**	Pn		**Pn**	**14 01 03.4**	**-1.9**
LCO	**Las Campanas**	**6.75**	**210**			**Pn**	**14 01 07.5**	**-2.4**
LPAZ	**La Paz**	**6.98**	**350**	P		**Pn**	**14 01 15.1**	**+1.6**
	comp=E,2.1nm,0.3s,baz=140,slow=4.8,SNR=15							
LPAZ				S		**Sn**	**14 02 32.1**	**-0.8**
	baz=260,slow=21,SNR=2.7							
LPAZ	**La Paz**	**6.98**	**350**	Pn		**Pn**	**14 01 14.8**	**+1.4**
LPAZ	**La Paz**	**6.98**	**350**	*e*P		**Pn**	**14 01 15.2**	**+1.8**
CO01	**Juntas del Tor**	**7.35**	**203**	Pn		**Pn**	**14 01 17.3**	**-0.5**
GO04	**Tololo Observa**	**7.79**	**206**			**Pn**	**14 01 20.9**	**-2.7**
CO03	**El Pedregal**	**8.35**	**203**	Pn		**Pn**	**14 01 24.1**	**-2.6**
CO02	**Combarbal**	**8.79**	**204**	Pn		**Pn**	**14 01 33.5**	**-3.0**
SIV	**San Ignacio**	**9.00**	**38**	P		**Pn**	**14 01 38.5**	**-0.7**
	comp=E,6.0nm,0.3s,baz=224,slow=12,SNR=52							
SIV				S		Sn	14 03 05.4	-15
	baz=232,slow=19,SNR=3.5							
CPUP	**Villa Florida**	**9.19**	**112**	P		**Pn**	**14 01 38.7**	**-2.9**
	comp=E,0.2nm,0.3s,baz=153,slow=11,SNR=1.9							
PTLB	**Pontes e Lacer**	**10.60**	**45**	*e*P		**Pn**	**14 01 59.9**	**-0.1**
PTLB				*e*S		**Sn**	**14 03 53.1**	**-5.0**
MT02	**Curacav**	**10.71**	**200**	Pn		**Pn**	**14 01 58.6**	**-2.8**
VILB	**Vilhena**	**11.99**	**33**	*e*P		**Pn**	**14 02 18.9**	**+0.9**
VILB				*e*S		**Sn**	**14 04 26.0**	**-5.5**
BO02	**Sierra Bellavi**	**12.05**	**196**	Pn		**Pn**	**14 02 17.2**	**-1.5**
SALV	**Santo Antonio**	**12.77**	**57**	*e*P		**Pn**	**14 02 27.7**	**-0.1**
TRCB	**Terra Rica**	**13.09**	**91**	*e*P		**P**	**14 02 37.5**	**+2.2**
ETMB	**Extrema**	**13.32**	**3**	*e*P		**Pn**	**14 02 35.8**	**+1.0**
PTGB	**Pitanga**	**13.60**	**99**	*e*P		**P**	**14 02 44.0**	**+3.0**
BI02	**San Fabin de**	**13.95**	**195**			**Pn**	**14 02 42.4**	**-0.1**
PCMB	**Pacaembu**	**14.50**	**87**	*e*P		**P**	**14 02 50.4**	**-0.5**
SAML	**Samuel**	**14.60**	**14**	P		**Pn**	**14 02 51.0**	**+0.3**
ITRB	**Iturama**	**15.73**	**80**	*e*P		**P**	**14 03 06.6**	**+2.0**
ARAG	**Araguaiana, MT**	**16.01**	**65**	*e*P		**Pn**	**14 03 08.8**	**+1.0**
CLDB	**Colider**	**16.17**	**43**	*e*P		**P**	**14 03 07.9**	**-1.5**
PLCA	**Paso Flores**	**17.76**	**189**	P		**Pn**	**14 03 27.8**	**-0.7**
	comp=E,0.6nm,0.3s,baz=4.8,slow=12,SNR=18							
PLCA	**Paso Flores**	**17.76**	**189**			**P**	**14 03 27.4**	**+0.7**
PLCA				IAmb		IAmb	14 03 52.1	
	comp=Z,20nm,1.5s							
VAO	**Valinhos**	**18.29**	**93**	*e*P		**Pn**	**14 03 35.1**	**+0.1**
BDFB	**Brasilia**	**19.27**	**70**	P		**P**	**14 03 44.4**	**+1.0**
	comp=Z,2.1nm,0.3s,baz=247,slow=10,SNR=33							
BDFB	**Brasilia**	**19.27**	**70**	P		**P**	**14 03 44.1**	**+0.8**
NPGB	**Novo Progresso**	**19.49**	**36**	*e*P		**P**	**14 03 44.5**	**-1.1**
MACA	**Manacapuru-AM**	**20.79**	**18**	*e*P		**P**	**14 03 58.5**	**-1.0**
PEXB	**Peixe**	**20.80**	**61**	*e*P		**P**	**14 03 59.8**	**+0.2**
MC01	**Montes Claros**	**22.46**	**77**	*e*P		**P**	**14 04 16.4**	**0.0**
PTGA	**Pitinga**	**23.31**	**18**	P		**P**	**14 04 24.1**	**0.0**
	comp=Z,7.6nm,0.5s,baz=201,slow=12,SNR=20							
SDBA	**SAO DESIDERIO**	**23.45**	**67**	*e*P		**P**	**14 04 25.6**	**+0.2**
GDU01	**Guandu, BA**	**27.48**	**75**	*e*P		**P**	**14 05 01.2**	**-0.5**
EFI	**East Falkland**	**29.22**	**169**	P		**P**	**14 05 17.5**	**+0.8**
TOSP	**Speyside**	**34.84**	**11**	P		**P**	**14 06 06.4**	**+0.5**
GRGR	**Grenville**	**35.48**	**9**	P		**P**	**14 06 12.5**	**+1.1**
TXAR	**Lajitas Array**	**63.12**	**324**	P		**P**	**14 09 42.2**	**+1.7**
	comp=Z,0.2nm,0.7s,baz=165,slow=4.5,SNR=2.4							
DBIC	**Dimbokro**	**67.41**	**72**	P		**P**	**14 10 07.8**	**-0.5**
	comp=Z,2.0nm,0.5s							
DBIC	**Dimbokro**	**67.41**	**72**	P		**P**	**14 10 07.6**	**-0.8**
DBIC				IAmb		IAmb	14 12 11.1	
	comp=Z,26nm,1.3s							
VNDA	**Vanda**	**75.51**	**190**	P		**P**	**14 10 57.8**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=201,slow=1.6,SNR=3.6							
TOA0	**Torodi Ar. Sit**	**76.15**	**69**	P		**P**	**14 11 00.3**	**-0.1**
TOA0				IAmb		IAmb	14 11 01.0	
	comp=Z,11nm,1.2s							
TORD	**Torodi Ar. Bea**	**76.15**	**69**	P		**P**	**14 11 00.5**	**+0.1**
	comp=Z,1.7nm,0.4s,baz=256,slow=5.6,SNR=56							
PDAR	**Pinedale Array**	**76.54**	**329**	P		**P**	**14 11 05.2**	**+2.9**
	comp=Z,0.2nm,0.6s,baz=170,slow=5.5,SNR=1.8							
NVAR	**Mina Array Bea**	**78.01**	**321**	P		**P**	**14 11 10.6**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=148,slow=5.2,SNR=2.1							
ASAR	**Alice Springs**	**129.24**	**205**	PKP		**PKiKP**	**14 18 19.9**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=137,slow=1.7,SNR=6.3							
WRA	**Warramunga Arr**	**132.40**	**207**	PKP		**PKiKP**	**14 18 26.4**	**0.0**
	comp=Z,0.4nm,0.5s,baz=156,slow=1.7,SNR=11							
MKAR	**Makanchi Array**	**145.82**	**39**	PKPbc		**PKPab**	**14 18 51.4**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=318,slow=3.7,SNR=10							
LZH	**Lanzhou**	**164.83**	**30**	⇑PKP		**PKPdf**	**14 19 12.0**	**-2.5**
LZH				pPKP		PKPab	14 20 11.0	-0.5
LZH				PKP		**pPKPdf**	**14 20 13.3**	**+7.6**
LZH				sPKP			14 20 34.5	
CMAR	**Chiang Mai Arr**	**165.90**	**107**	PKPab		**PKPab**	**14 20 17.6**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=240,slow=5.0,SNR=4.5							

KRSC 26 14:20:04.1±1.9, 49.76N×156.92E, h98km±31km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.06**	**331**	*e*P	Pn	14 20 25.3	+0.3
SKR				*e*S	Sn	14 20 40.8	0.0
KDTR	**Khodutka, Kamc**	**2.18**	**19**	*e*S	Sn	14 21 09.0	+3.5
ASAK	**Asacha**	**2.70**	**13**	*e*P	Pn	14 20 48.2	+2.4
ASAK				*e*S	Sn	14 21 20.8	+2.9
MTVR	**Mutnovka**	**2.84**	**16**	*e*P	Pn	14 20 50.4	+2.6
MTVR				*e*S	Sn	14 21 25.0	+3.6
RUS	**Russkaya**	**2.86**	**20**	*e*P	Pn	14 20 50.1	+2.2
RUS				*e*S	Sn	14 21 23.4	+1.8
GRL	**Gorelyy**	**2.89**	**14**	*e*P	Pn	14 20 51.2	+2.8
GRL				*e*S	Sn	14 21 25.7	+3.2
KRMR	**Karymshinskiy**	**3.17**	**13**	*e*P	Pn	14 20 55.2	+3.2
PET	**Petropavlovsk**	**3.45**	**18**	*e*P	Pn	14 20 57.2	+1.5
PET				*e*S	Sn	14 21 36.9	+1.3
DALK	**Dalny**	**3.48**	**19**	*e*P	Pn	14 20 58.3	+2.3
DALK				*e*S	Sn	14 21 37.2	+1.0
AVH	**Avacha**	**3.69**	**17**	*e*P	Pn	14 21 02.6	+3.5
AVH				*e*S	Sn	14 21 45.1	+3.4
KOK	**Koryaka**	**3.70**	**16**	*e*P	Pn	14 21 02.2	+3.0
KOK				*e*S	Sn	14 21 43.9	+2.1
KRER	**Koryakskii**	**3.73**	**17**	*e*P	Pn	14 21 02.5	+2.8
KRER				*e*S	Sn	14 21 45.1	+2.3
SDLR	**Sedlovina**	**3.73**	**18**	*e*P	Pn	14 21 02.1	+2.4
SDLR				*e*S	Sn	14 21 43.9	+1.2
KRX	**Arik**	**3.77**	**16**	*e*P	Pn	14 21 02.7	+2.6
SPN	**Mys Shipunski**	**3.87**	**29**	*e*S	Sn	14 21 47.0	+1.2
KZV	**Kizimen**	**5.75**	**20**	*e*P	Pn	14 21 28.3	+1.3
KZV				*e*S	Sn	14 22 32.6	+1.0
TUMD	**Tumrok D**	**5.86**	**20**	*e*S	Sn	14 22 33.8	-0.2
TUMR	**Tumrok**	**5.88**	**18**	*e*P	Pn	14 21 31.4	+2.8
BKI	**Bering**	**7.76**	**42**	*e*P	Pn	14 21 57.5	+3.4
BKI				*e*S	Sn	14 23 17.7	-2.6

IDC 26 14:21:56.9±4.0, 25.40N×142.64E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/33, mbtmp3.8/4, Error ellipse: s-maj=306.4km s-min=24.5km az=87.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.79**	**191**	P	P	14 30 20.9	+0.4
	1.4nm,0.5s,baz=12,slow=8.5,SNR=28						
ASAR	**Alice Springs**	**49.51**	**191**	P	P	14 30 48.8	-0.7
	0.1nm,0.3s,baz=7.0,slow=5.9,SNR=8.1						
ARCES	**ARCESS Array B**	**75.27**	**341**	P	P	14 33 42.0	+0.6
	1.0nm,0.9s,baz=66,slow=5.9,SNR=6.6						
FINES	**FINESS Array B**	**79.64**	**334**	P	P	14 34 05.4	-0.6
	1.0nm,0.5s,baz=57,slow=5.3,SNR=6.3						

*TEH **26** 14:29:57.9, 32.80N×47.59E, h11km, ML3.0*
*ISN **26** 14:29:57.5±3.4, 32.69N×47.68E, h17km±999km, ML2.6*
*THR **26** 14:30:00.2±0.6, 32.88N×47.66E, h18km±8km, ML3.0*
ISC 26 14:29:58.8±1.3, 32.84N±0.03×47.58E±0.03, h4km±12km, n30, σ2.801/34, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.30**	**237**	*e*Pg	**Pg**	**14 30 03.3**	**-1.2**
IKFM	**Kafar-mosalman**	**0.72**	**18**	*e*Pg	**Pb**	**14 30 13.0**	**-0.9**
IKMR	**Kamar-syah**	**0.95**	**45**	*e*Pg	**Pb**	**14 30 15.8**	**-2.1**
IKMR				*e*		14 30 21.3	
IKMR				*e*Sg	**Sn**	**14 30 32.1**	**-0.9**
IDOB	**Doab**	**1.07**	**28**	*e*Pg	**Pb**	**14 30 18.4**	**-1.6**
SHGR	**Shooshtar-Gavs**	**1.27**	**125**	*e*Pg	**Pb**	**14 30 23.0**	**-0.2**
SHGR				*e*Sg	**Sg**	**14 30 39.8**	**+0.3**
SHGR				IAML		14 30 40.8	
	comp=E,166nm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.27**	**125**	*e*Pg	**Pb**	**14 30 23.0**	**-0.2**
IKOM	**Komasi**	**1.33**	**358**	*e*Pg	**Pb**	**14 30 24.7**	**+0.3**
IKOM				*e*		14 30 26.7	
BMDN	**Meydan**	**1.33**	**51**	*e*Pg	**Pb**	**14 30 23.3**	**-1.2**
BMDN				*e*		14 30 49.4	
IBDR	**Badra**	**1.41**	**281**	*e*Pg	**Pn**	**14 30 25.0**	**-0.2**
IBDR				*e*Sg	**Sb**	**14 30 45.0**	**+1.0**
IBDR				AML	AML	14 30 49.1	
	comp=N,100nm,0.4s						
IBDR				AML	AML	14 30 49.9	
	comp=E,108nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.50**	**343**	*e*Pg	**Pb**	**14 30 27.7**	**+0.4**
KCHF				*e*		14 30 29.1	
KER	**Kermanshah**	**1.58**	**347**	*e*Pn	**Pb**	**14 30 28.7**	**0.0**
HSAM	**Samen**	**1.61**	**32**	*e*Pg	**Pg**	**14 30 29.5**	**-0.2**
HSAM				*e*		14 30 32.7	
IBZA	**Bozab**	**1.64**	**8**	*e*Pg	**Pg**	**14 30 30.9**	**+0.6**
IBZA				*e*		14 30 33.2	
IGHG	**Ghaleghazi**	**1.71**	**331**	*e*	Sg	14 31 04.7	+11
IVIS	**Veis**	**1.79**	**340**	*e*Pn	**Pb**	**14 30 31.5**	**-0.7**
IVIS				*e*		14 30 36.4	
IALM	**Almabolaq**	**2.07**	**14**	*e*Pn	**Pb**	**14 30 35.6**	**-1.6**
IDHR	**Dehrash**	**2.10**	**332**	*e*Pn	**Pb**	**14 30 36.8**	**-0.8**
IDHR				*e*		14 30 40.3	
ILIN	**Lien**	**2.13**	**346**	*e*Pn	**Pn**	**14 30 36.5**	**+1.0**
ILIN				*e*		14 30 44.7	
KHMZ	**Khomeyn**	**2.19**	**65**	*e*Pn	**Pb**	**14 30 36.5**	**-2.6**
KHMZ	**Khomeyn**	**2.19**	**65**	*e*Pn	**Pb**	**14 30 36.5**	**-2.6**
NSR	**Nassriya**	**2.20**	**214**	*e*Pg	**Pn**	**14 30 34.0**	**-2.0**
	baz=36						
NSR				*e*Sg	**Sn**	**14 31 05.0**	**+1.3**
HAGD	**Aghdareh**	**2.37**	**33**	*e*Pn	**Pb**	**14 30 39.6**	**-2.5**
HAGD				*e*		14 30 46.1	
HSRG	**Sareghieh**	**2.46**	**13**	*e*Pn	**Pb**	**14 30 42.3**	**-1.5**
HSRG				*e*		14 30 47.4	
ASAO	**Ashtian**	**2.66**	**50**	*e*Pn	**Pn**	**14 30 43.4**	**+0.7**
ASAO				*e*Sg	**Sg**	**14 31 21.1**	**-3.1**
ASAO	**Ashtian**	**2.66**	**50**	*e*Pn	**Pn**	**14 30 43.4**	**+0.7**
JHBN	**Jahan bin**	**2.68**	**102**	*e*	**Sg**	**14 31 32.8**	**+7.9**
IPIR	**Pirpir**	**2.80**	**92**	*e*Pn	**Pn**	**14 30 43.8**	**-0.8**
IPIR				*e*		14 31 26.7	
QABG	**Abgarm-Qazvin**	**3.31**	**30**	*e*Pn	**Pn**	**14 30 52.7**	**+1.1**
GHVR	**GHOM**	**3.51**	**61**	*e*Pn	**Pn**	**14 30 54.6**	**+0.5**
GHVR	**GHOM**	**3.51**	**61**	*e*Pn	**Pn**	**14 30 54.7**	**+0.5**

*SFS **26** 14:33:15.0, 35.95N×9.65W, ML2.6, CABO DE SAN VICENTE*
*MDD **26** 14:33:17.1±1.5, 35.99N×9.50W, h0km, mbLg2.6/13, Error ellipse: s-maj=12.5km s-min=11.1km az=53.0, PRXIMO*
*INMG **26** 14:33:18.1±1.4, 35.81N×9.64W, h30km±37km, ML2.2, Error ellipse: s-maj=26.6km s-min=6.2km az=44.0*
*CNRM **26** 14:33:18.4±1.8, 35.90N×9.33W, h18km±15km, Error ellipse: s-maj=14.0km s-min=4.7km az=86.0*
*IGIL **26** 14:33:18.2, 35.80N×9.60W, h31km, ML2.3*
ISC 26 14:33:17.6±1.5, 35.88N±0.04×9.53W±0.07, h35km, n50, σ1.844/86, 1C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.37**	**24**	P	**Pn**	**14 33 40.3**	**+0.1**
	2.2nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**14 33 56.8**	**-0.4**
	27nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**1.37**	**24**	P	**Pn**	**14 33 40.4**	**+0.1**
PFVI				S	**Sn**	**14 33 58.9**	**+1.7**
PFVI	**Vila Bisbo**	**1.37**	**24**	*e*Pn	**Pn**	**14 33 40.6**	**+0.3**
PFVI				*e*Sn	**Sn**	**14 33 57.3**	**+0.1**
PFVI				A	A	14 34 09.4	
	12nm,0.6s						
MORF	**Marmelete**	**1.59**	**26**	*e*P	**Pn**	**14 33 43.5**	**+0.2**
MORF				*e*S	**Sn**	**14 34 02.2**	**-0.5**
MORF				AML	AML	14 34 05.1	
	comp=E,26nm,0.3s						
MORF	**Marmelete**	**1.59**	**26**	P	**Pn**	**14 33 43.5**	**+0.2**
MORF				S	**Sn**	**14 34 02.8**	**+0.2**
	comp=E,15nm,0.2s						
MORF	**Marmelete**	**1.59**	**26**	⇑*i*Pn	**Pn**	**14 33 43.5**	**+0.2**
MORF				*e*Sn	**Sn**	**14 34 02.8**	**+0.2**
MORF				A	A	14 34 09.0	
	comp=E,15nm,0.2s						
PTEO	**Sao Teotonio**	**1.78**	**21**	P	**Pn**	**14 33 46.1**	**+0.2**
PTEO				S	**Sn**	**14 34 08.1**	**+0.8**
	comp=E,7.3nm,0.1s						
PTEO	**Sao Teotonio**	**1.78**	**21**	*e*Pn	**Pn**	**14 33 46.1**	**+0.2**
PTEO				*e*Sn	**Sn**	**14 34 08.1**	**+0.8**
PTEO				A	A	14 34 25.4	
	comp=E,15nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.87**	**43**	P	**Pn**	**14 33 48.1**	**+0.9**
PBDV				S	**Sn**	**14 34 10.5**	**+0.9**
	comp=E,8.3nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.87**	**43**	*e*Pn	**Pn**	**14 33 48.1**	**+0.9**
PBDV				*e*Sn	**Sn**	**14 34 10.5**	**+0.9**
PBDV				A	A	14 34 16.9	
	comp=E,8.3nm,0.3s						
PCVE	**Castro Verde**	**2.12**	**34**	P	**Pn**	**14 33 51.6**	**+1.1**
PCVE				S	**Sn**	**14 34 16.3**	**+0.7**
	comp=E,6.5nm,0.3s						
PCVE	**Castro Verde**	**2.12**	**34**	*e*Pn	**Pn**	**14 33 51.6**	**+1.1**
PCVE				*e*Sn	**Sn**	**14 34 16.3**	**+0.7**
PCVE				A	A	14 34 26.2	
	comp=E,6.5nm,0.3s						
EGRO	**El Granado**	**2.33**	**44**	P	**Pn**	**14 33 54.3**	**+0.9**
	comp=E,0.2nm,0.1s,SNR=6.9						
EGRO				S	**Sn**	**14 34 22.9**	**+2.0**
	comp=E,6.7nm,0.2s						
PNCL	**Nicolau / Gran**	**2.37**	**20**	P	**Pn**	**14 33 54.6**	**+0.7**
PNCL				S	**Sn**	**14 34 22.2**	**+0.5**
	comp=E,6.2nm,0.2s						
PNCL	**Nicolau / Gran**	**2.37**	**20**	*e*Pn	**Pn**	**14 33 54.6**	**+0.7**
PNCL				*e*Sn	**Sn**	**14 34 22.2**	**+0.5**
PNCL				A	A	14 34 29.2	
	comp=E,6.2nm,0.2s						
EVO	**Evora**	**2.91**	**24**	P	**Pn**	**14 34 02.5**	**+1.1**
EVO				S	**Sn**	**14 34 34.3**	**-0.8**
EVO	**Evora**	**2.91**	**24**	*e*P	**Pn**	**14 34 02.5**	**+1.1**
EVO				*e*S	**Sn**	**14 34 34.3**	**-0.8**
EVO	**Evora**	**2.91**	**24**	*e*Pn	**Pn**	**14 34 02.5**	**+1.1**
EMIN	**Mina Concepcio**	**2.97**	**50**	P	**Pn**	**14 34 02.6**	**+0.4**
	comp=E,0.1nm,0.1s,SNR=7.1						
EMIN				S	**Sn**	**14 34 37.1**	**+0.5**
	comp=E,4.2nm,0.2s						
PBAR	**Barrancos**	**3.04**	**40**	S	**Sn**	**14 34 39.8**	**+1.6**
PBAR	**Barrancos**	**3.04**	**40**	*e*Sn	**Sn**	**14 34 39.8**	**+1.6**
PMAFR	**Mafra**	**3.08**	**4**	P	**Pn**	**14 34 03.5**	**-0.2**
	comp=E,1.9nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**14 34 38.1**	**-1.2**
	comp=E,27nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.08**	**4**	*e*Pn	**Pn**	**14 34 03.8**	**+0.1**
PMAFR				*e*Sn	**Sn**	**14 34 38.4**	**-0.8**
PMAFR				A	A	14 34 45.5	
	comp=E,14nm,0.3s						
ESPR	**Espera**	**3.12**	**71**	P	**Pn**	**14 34 04.7**	**+0.4**
	comp=E,3.4nm,0.2s,SNR=5.4						
ESPR				S	**Sn**	**14 34 40.4**	**0.0**
	comp=E,12nm,0.3s,SNR=7.9						
PMTG	**Montargil**	**3.35**	**18**	P	**Pn**	**14 34 08.3**	**+0.9**
PMTG				S	**Sn**	**14 34 44.9**	**-1.0**
	comp=E,3.7nm,0.6s						
PMTG	**Montargil**	**3.35**	**18**	*e*Pn	**Pn**	**14 34 08.3**	**+0.9**
PMTG				*e*Sn	**Sn**	**14 34 44.9**	**-1.0**
PMTG				A	A	14 34 48.1	
	comp=E,3.7nm,0.6s						
ZHG	**ZHG**	**3.40**	**135**	P	**Pn**	**14 34 09.1**	**+0.9**
ZHG				S	**Sn**	**14 34 50.4**	**+3.0**
PSBE	**So Bento**	**3.67**	**9**	*e*Pn	**Pn**	**14 34 12.4**	**+0.5**
PSBE			

	baz=356								
TWT	**Tachien**	**0.62**	**251**	*e*P		Pn	15 21 35.9	+0.3	
	baz=250								
TWT				*e*S		Sn	15 21 46.0	+0.5	
	baz=250								
TDCB	**Techi**	**0.64**	**251**	*e*P		Pn	15 21 35.4	-0.4	
	baz=250								
TDCB				*e*S		Sn	15 21 47.0	+1.2	
	baz=250								

TAP 26 15:21:23.8, 23°.61N × 122°.45E, h65km ± 1km, ML2.0, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.94**	**274**	P	Pn	15 21 40.6	-0.7
	baz=274						
EGFH				S	Sn	15 21 53.2	-1.0
	baz=274						
HGSD	**Ruisui**	**0.95**	**263**	P	Pn	15 21 40.6	-0.7
	baz=263						
HGSD				*e*S	Sn	15 21 52.1	-2.3
	baz=263						
ESL	**Shilin**	**0.95**	**283**	P	Pn	15 21 40.9	-0.6
	baz=278						
ESL				*i* S	Sn	15 21 53.7	-0.8
	baz=278						
NACB	**Ninganchiao**	**0.96**	**306**	*e*P	Pn	15 21 40.6	-1.0
	baz=301						
NACB				*e*S	Sn	15 21 53.5	-1.3
	baz=301						
NACB	**Ninganchiao**	**0.96**	**306**	*e*S	Pn	15 21 40.8	-0.8
	baz=215						
YOJ	**Yonaguni jima**	**1.00**	**31**	*e*P	Pn	15 21 42.1	+0.1
	baz=30						
YOJ				*e*S	Sn	15 21 55.9	+0.3
	baz=30						
ENAH	**Nanao**	**1.02**	**325**	*e*S	Sn	15 21 56.3	+0.1
	baz=332						
EHY	**Hungye**	**1.04**	**265**	*i* P	Pn	15 21 42.5	-0.1
	baz=264						
EHY				*i* S	Sn	15 21 55.8	-0.7
	baz=264						
ENA	**Nanau**	**1.04**	**322**	*e*P	Pn	15 21 43.3	+0.7
	baz=328						
ENA				*e*S	Sn	15 21 57.0	+0.4
	baz=328						
ETLH	**Xiulin Townshi**	**1.07**	**304**	*e*P	Pn	15 21 42.9	-0.1
	baz=296						
ETLH				*e*S	Sn	15 21 56.5	-0.9
	baz=296						
EYUL	**Yuli**	**1.07**	**256**	*e*S	Sn	15 21 55.3	-1.9
	baz=253						
YULB	**Yu-li**	**1.08**	**259**	*e*P	Pn	15 21 42.3	-0.7
	baz=256						
YULB				*e*S	Sn	15 21 56.2	-1.2
	baz=256						
TWF1	**Yuli**	**1.08**	**257**	P	Pn	15 21 42.9	-0.3
	baz=253						
TWF1				*e*S	Sn	15 21 57.4	-0.2
	baz=253						
CHKT	**Chengkung**	**1.11**	**243**	*e*S	Sn	15 21 55.9	-2.4
	baz=239						
FULB	**Fuli**	**1.13**	**249**	*e*P	Pn	15 21 43.7	-0.1
	baz=244						
FULB				*e*S	Sn	15 21 56.8	-1.9
	baz=244						
VWDT	**VWDT**	**1.21**	**277**	*e*P	Pn	15 21 45.0	+0.3
	baz=284						
VWDT				*e*S	Sn	15 21 59.5	-0.8
	baz=284						
WHF	**Hehuan Shan**	**1.21**	**297**	P	Pn	15 21 45.3	+0.1
	baz=288						
WHF				S	Sn	15 22 00.8	-0.3
	baz=288						
WHF	**Hehuan Shan**	**1.21**	**297**	*e*S	Pn	15 21 45.5	+0.3
	baz=237						
EDH	**Donghe**	**1.23**	**239**	*e*P	Pn	15 21 46.2	+1.2
	baz=236						
EDH				*e*S	Sn	15 21 58.6	-2.2
	baz=236						
CHGB	**Renai**	**1.25**	**291**	*e*P	Pn	15 21 45.6	+0.1
	baz=291						
CHGB				*e*S	Sn	15 22 01.2	-0.5
	baz=291						
NNSB	**Datong**	**1.27**	**310**	*e*S	Sn	15 22 01.5	-0.6
	baz=303						
NNSH	**Datong**	**1.27**	**310**	*e*S	Sn	15 22 02.4	+0.3
	baz=310						
FUSS	**Fushou**	**1.27**	**300**	P	Pn	15 21 45.8	-0.1
	baz=293						
FUSS				S	Sn	15 22 02.5	+0.1
	baz=293						
NNS	**Nan Shan**	**1.29**	**310**	*e*S	Sn	15 22 02.1	-0.4
	baz=304						
ENTT	**Nioudou**	**1.31**	**322**	*e*S	Sn	15 22 03.2	+0.4
	baz=322						
NDT	**Datong Townshi**	**1.31**	**320**	*e*S	Sn	15 22 03.4	+0.6
	baz=326						
TWT	**Tachien**	**1.33**	**299**	*e*S	Sn	15 22 04.0	+0.4
	baz=299						
TDCB	**Techi**	**1.34**	**299**	P	Pn	15 21 47.5	+0.9
	baz=299						
TDCB				*e*S	Sn	15 22 03.8	0.0
	baz=299						
ELDTW	**Lidau**	**1.38**	**253**	*e*S	Sn	15 22 03.0	-1.6
	baz=252						
SSLB	**Suanglung**	**1.38**	**278**	*e*P	Pn	15 21 46.6	-0.5
	baz=277						
SSLB				*e*S	Sn	15 22 03.8	-0.7
	baz=277						
LONT	**Longtian**	**1.40**	**240**	*e*S	Sn	15 22 03.8	-1.1
	baz=237						
YHNB	**Yeheng**	**1.44**	**317**	*e*S	Sn	15 22 06.1	0.0
	baz=309						
NWLT	**Wulai**	**1.45**	**324**	*e*S	Sn	15 22 06.7	+0.5
	baz=324						
TIPB	**Shuangxi**	**1.47**	**338**	*e*S	Sn	15 22 06.7	-0.1
	baz=347						
WHP	**Taichung City**	**1.53**	**296**	*e*S	Sn	15 22 08.4	+0.3
	baz=296						

*ISN **26** 15:29:22.3±2.3, 32°.55N × 47°.33E, h0km ± 999km, ML2.9*
*TEH **26** 15:29:26.4, 32°.74N × 47°.30E, h8km, ML3.0*
*THR **26** 15:29:27.3±0.7, 32°.74N × 47°.23E, h18km ± 11km, ML3.5*

ISC 26 15:29:27.3±0.9, 32°.73N ± 0°.03 × 47°.26E ± 0°.03, h10km, n35, σ1§05/38, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.05**	**163**	*e*Pg	**Pg**	**15 29 27.8**	**-1.5**
IKFM	**Kafar-mosalman**	**0.93**	**32**	*e*Pg	**Pg**	**15 29 43.7**	**-1.5**
IKFM				*e*		15 30 03.7	
IBDR	**Badra**	**1.18**	**289**	*e*Pg	**Pb**	**15 29 49.0**	**-0.8**
IBDR				*e*Sg	**Sg**	**15 30 07.0**	**+1.6**
IBDR				AML	AML	15 30 12.6	
	comp=E,288nm,0.4s						
IBDR				AML	AML	15 30 13.3	
	comp=N,115nm,0.4s						
IKMR	**Kamar-syah**	**1.22**	**50**	*e*Pg	**Pn**	**15 29 49.2**	**-1.2**
IKMR				*e*		15 30 08.7	
IDOB	**Doab**	**1.30**	**36**	*e*Pg	**Pn**	**15 29 50.9**	**-0.9**
SHGR	**Shooshtar-Gavs**	**1.44**	**115**	*e*Pg	**Pb**	**15 29 54.9**	**+0.7**
SHGR				*e*Sg	**Sg**	**15 30 14.0**	**+0.3**
SHGR	**Shooshtar-Gavs**	**1.44**	**115**	*e*Pg	**Pb**	**15 29 54.9**	**+0.7**
IKOM	**Komasi**	**1.46**	**8**	*e*Pg	**Pn**	**15 29 54.3**	**+0.5**
IKOM				*e*		15 30 19.9	
KCHF	**Cheshme Sefid,**	**1.55**	**353**	*e*Pg	**Pn**	**15 29 55.7**	**+0.5**
KCHF				*e*		15 30 24.6	
BMDN	**Meydan**	**1.61**	**54**	*e*Pg	**Pn**	**15 29 56.3**	**+0.3**
BMDN				*e*		15 30 25.5	
KER	**Kermanshah**	**1.65**	**356**	*e*Pg	**Pb**	**15 29 58.4**	**+0.5**
IGHG	**Ghaleghazi**	**1.70**	**340**	*e*Pn	**Pn**	**15 29 58.6**	**+1.4**
IGHG				*e*		15 30 41.9	
IBZA	**Bozab**	**1.81**	**16**	*e*Pg	**Pn**	**15 29 59.5**	**+0.8**
IBZA				*e*		15 30 32.3	
AHWZ	**Ahwaz**	**1.82**	**140**	*e*Pg	**Pb**	**15 30 01.4**	**+0.7**
IVIS	**Veis**	**1.82**	**349**	*e*Pn	**Pb**	**15 30 00.8**	**0.0**
IVIS				*e*		15 30 31.6	
HSAM	**Samen**	**1.85**	**37**	*e*Pg	**Pn**	**15 30 00.2**	**+0.8**
HSAM				*e*		15 30 30.0	
NSR	**Nassriya**	**1.96**	**209**	*e*Pg	**Pn**	**15 30 00.0**	**-0.6**
	baz=31						
NSR				*e*Sg	**Sn**	**15 30 26.0**	**+0.7**
NSR				AML	AML	15 30 28.2	
	comp=E,298nm,0.4s						
IDHR	**Dehrash**	**2.10**	**340**	*e*		15 30 43.1	
IDHR				*e*Pn	**Pb**	**15 30 05.2**	**-0.3**
ILIN	**Lien**	**2.20**	**354**	*e*Pn	**Pn**	**15 30 04.9**	**+0.8**
ILIN				*e*		15 30 42.7	
IALM	**Almabolaq**	**2.25**	**19**	*e*Pn	**Pn**	**15 30 05.8**	**+0.9**
KHMZ	**Khomeyn**	**2.47**	**65**	*e*Pn	**Pn**	**15 30 09.5**	**+1.6**
KHMZ	**Khomeyn**	**2.47**	**65**	*e*Pn	**Pn**	**15 30 09.5**	**+1.6**
HSRG	**Sareghieh**	**2.64**	**18**	*e*	Sb	15 31 00.6	+13
JHBN	**Jahan bin**	**2.92**	**99**	*e*Pn	**Pn**	**15 30 13.9**	**-0.2**
JHBN				*e*		15 31 09.5	
ASAO	**Ashtian**	**2.93**	**51**	*e*Pn	**Pn**	**15 30 15.3**	**+1.1**
ASAO				*e*Sg	**Sg**	**15 30 59.8**	**-1.7**
ASAO	**Ashtian**	**2.93**	**51**	*e*Pn	**Pn**	**15 30 15.3**	**+1.1**
IPIR	**Pirpir**	**3.06**	**90**	*e*Pn	**Pn**	**15 30 16.0**	**0.0**
IPIR				*e*		15 31 11.9	
ROKH	**ROKH**	**3.21**	**96**	*e*Pn	**Pn**	**15 30 18.0**	**0.0**
ROKH				*e*		15 31 20.4	
QABG	**Abgarm-Qazvin**	**3.54**	**32**	*e*Pn	**Pn**	**15 30 22.5**	**0.0**
IKLH	**Kolahrood**	**3.67**	**80**	*e*Pn	**Pn**	**15 30 25.3**	**+0.9**
GHVR	**GHOM**	**3.79**	**61**	*e*Pn	**Pn**	**15 30 26.8**	**+1.0**
GHVR	**GHOM**	**3.79**	**61**	*e*Pn	**Pn**	**15 30 26.8**	**+1.0**
KLNJ	**Kolanjah**	**4.06**	**114**	*e*Pn	**Pn**	**15 30 30.8**	**+1.0**
QSDN	**Sirdan**	**4.08**	**22**	*e*Pn	**Pn**	**15 30 31.5**	**+1.5**
QALM	**Alamut, Qazvin**	**4.63**	**36**	*e*Pn	**Pn**	**15 30 39.6**	**+2.1**

*IDC **26** 15:31:23.9±1.2, 0°.44N × 124°.70E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/37, mbtmp3.7/5, MS3.4/2, Ms1 3.4/2, ms1mx2.6/36, Error ellipse: s-maj=172.1km s-min=20.4km az=65.0*
*DJA **26** 15:31:31.6±0.8, 1°.N ± 4° × 12°.5E ± °, h25km ± 8km, M4.0/8, MLv4.0/8*
*NEIC **26** 15:31:32.5±1.2, 0°.5N ± 0°.1 × 125°.22E ± 0°.07, h71km ± 13km, mb4.1/6, Error ellipse: s-maj=21.0km s-min=8.1km az=165.0*

ISC 26 15:31:33.6±0.8, 0°.57N ± 0°.09 × 125°.19E ± 0°.04, h87km, n21, σ1§73/22, mb4.0/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.21**	**270**	P	**Pn**	**15 31 51.9**	**-3.6**
KMSI				S	**Sn**	**15 32 08.3**	**-3.7**
GTOI	**Gorontalo**	**2.18**	**272**	P	**Pn**	**15 32 08.0**	**0.0**
GTOI				S	**Sn**	**15 32 36.4**	**+2.0**
TNTI	**Ternate**	**2.19**	**85**	P	**Pn**	**15 32 06.2**	**-2.0**
TNTI				S	**Sn**	**15 32 33.8**	**-0.9**
TNTI	**Ternate**	**2.19**	**85**		**Pn**	**15 32 06.1**	**-2.0**
SANI	**Sanana**	**2.72**	**163**	P	**Pn**	**15 32 14.6**	**-0.7**
LUWI	**Luwuk**	**2.90**	**237**	P	**Pn**	**15 32 17.2**	**-0.5**
LUWI	**Luwuk**	**2.90**	**237**		**Pn**	**15 32 15.4**	**-2.3**
KKM	**Kota Kinabalu**	**10.48**	**301**	Pn	**Pn**	**15 34 02.1**	**+1.1**
WB0	**Warramunga Arr**	**22.13**	**156**	P	**P**	**15 36 22.1**	**-0.2**
WB0				IAmb	IAmb	15 36 36.2	
	comp=Z,7.5nm,1.2s						
WRAB	**Tennant Creek**	**22.26**	**157**	P	**P**	**15 36 23.6**	**-0.1**
WRAB				IAmb	IAmb	15 36 56.8	
	comp=Z,19nm,1.7s						
WRA	**Warramunga Arr**	**22.27**	**157**	P	**P**	**15 36 23.0**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=334,slow=10,SNR=8.7						
WB2	**Warramunga Arr**	**22.27**	**157**	P	**P**	**15 36 23.1**	**-0.6**
WB2				IAmb	IAmb	15 36 56.7	
	comp=Z,11nm,1.4s						
WR0	**Warramunga Arr**	**22.36**	**156**	P	**P**	**15 36 23.8**	**-0.9**
AS31	**Alice Springs**	**25.53**	**161**	P	**P**	**15 36 53.8**	**-0.5**
ASAR	**Alice Springs**	**25.53**	**161**	P	**P**	**15 36 55.2**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=344,slow=8.9,SNR=14						
ASAR	**Alice Springs**	**25.53**	**161**	P	**P**	**15 36 53.4**	**-0.9**
KLR	**Kul'dur**	**48.81**	**6**	LR	LR	16 03 08.4	
	comp=Z,24nm,18.9s,baz=91,slow=39						
MKAR	**Makanchi Array**	**59.31**	**327**	P	**P**	**15 41 26.0**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=122,slow=7.9,SNR=16						
ZALV	**Zalesovo Beam**	**62.73**	**334**	P	**P**	**15 41 50.5**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=139,slow=7.1,SNR=3.3						
ARCES	**ARCESS Array B**	**92.86**	**340**	P	**P**	**15 44 38.6**	**+2.2**
	comp=Z,0.7nm,0.8s,baz=83,slow=7.4,SNR=4.1						
DLBC	**Dease Lake**	**97.23**	**31**	LR	LR	16 27 33.7	
	comp=Z,23nm,21.4s,baz=152,slow=34						

*IDC **26** 16:06:45.3±2.8, 15°.24S × 173°.55W, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.6/36, mbtmp3.8/5, ML4.3/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/36, Error ellipse: s-maj=168.7km s-min=21.1km az=149.0*
*NEIC **26** 16:06:46.4±1.6, 15°.1S ± 0°.1 × 173°.56W ± 0°.09, h10km ± 1km, mb4.2/5, Error ellipse: s-maj=19.8km s-min=12.0km az=147.0*

ISC 26 16:06:48.8±0.8, 15°.07S ± 0°.10 × 173°.47W ± 0°.10, h30km, n15, σ1§92/15, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.00**	**55**	P	**Pn**	**16 07 20.7**	**0.0**
	90nm,0.3s,baz=212,slow=15,SNR=63						
AFI				Sn	**Sn**	**16 07 40.8**	**-4.0**
	242nm,0.3s,baz=58,slow=18,SNR=23						
AFI				LR	LR	16 08 04.1	
	comp=Z,267nm,20.6s,baz=164,slow=36						
AFI	**Afiamalu**	**2.00**	**55**		**Pn**	**16 07 20.4**	**-0.4**
NIUE	**Niue**	**5.24**	**140**	Pn	**Pn**	**16 08 04.9**	**-0.2**
MSVF	**Nonsavu**	**8.56**	**251**	Pn	**Pn**	**16 08 48.3**	**-2.5**
KNTN	**Kanton**	**12.34**	**8**	Pn	**Pn**	**16 09 42.1**	**-0.5**
DZM	**Mont Dzumac**	**20.26**	**247**	LR	LR	16 17 55.2	
	comp=Z,111nm,19.3s,baz=11,slow=33						
WR0	**Warramunga Arr**	**49.66**	**256**	P	**P**	**16 15 38.2**	**-0.1**
WR0				IAmb	IAmb	16 17 00.5	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**49.81**	**257**	P	**P**	**16 15 39.7**	**+0.3**
WB2	**Warramunga Arr**	**49.84**	**256**	P	**P**	**16 15 39.5**	**-0.1**
WRA	**Warramunga Arr**	**49.85**	**256**	P	**P**	**16 15 39.8**	**0.0**
	comp=Z,0.3nm,0.5s,baz=91,slow=7.1,SNR=14						
AS31	**Alice Springs**	**50.15**	**252**	P	**P**	**16 15 42.4**	**+0.5**
AS31				IAmb	IAmb	16 16 22.7	
	comp=Z,1.3nm,1.2s						
ASAR	**Alice Springs**	**50.15**	**252**	P	**P**	**16 15 41.3**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=89,slow=7.7,SNR=24						
NVAR	**Mina Array Bea**	**74.13**	**42**	P	**P**	**16 18 26.2**	**+3.4**
	comp=Z,0.8nm,0.7s,baz=221,slow=6.8,SNR=6.3						
NVAR	**Mina Array Bea**	**74.13**	**42**	P	**P**	**16 18 24.6**	**+1.8**
ILAR	**Eielson Array**	**82.13**	**11**	P	**P**	**16 19 08.6**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=188,slow=5.5,SNR=4.4						

WEL 26 16:15:37.5, 45°.5S ± 15° × 166°.8E ± 2°.7, h69km ± 24km, M2.5/7, ML2.6/6, MLv2.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=62.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.30**	**24**	P	Pn	16 15 48.9	+0.4
MLZ	**Mavora Lakes**	**0.49**	**149**	P	Pn	16 15 51.0	+0.9
DCZ	**Deep Cove**	**0.67**	**219**	P	Pn	16 15 52.4	+0.5
WKZ	**Wanaka**	**0.90**	**83**	P	Pn	16 15 56.1	+1.4
WHZ	**Wether Hill Ro**	**0.95**	**172**	P	Pn	16 15 54.5	-0.8
JCZ	**Jackson Bay**	**1.14**	**40**	P	Pn	16 15 58.2	+0.4
LBZ	**Lake Benmore**	**1.82**	**73**	P	Pn	16 16 06.7	+0.1
SYZ	**Scrubby Hill**	**1.86**	**149**	P	Pn	16 16 08.3	+1.1
ODZ	**Otahua Downs**	**2.05**	**94**	P	Pn	16 16 10.2	+0.4

*NEIC **26** 16:23:51±1.5, 15°.49S ± 0°.09 × 167°.8E ± 0°.1, h164km ± 3km, mb4.6/23, Error ellipse: s-maj=19.5km s-min=11.0km az=66.0*
*IDC **26** 16:23:52.6±2.9, 15°.53S × 167°.70E, h174km ± 22km, mb3.6/8, mb1 3.8/10, mb1mx3.6/38, mbtmp4.2/10, Error ellipse: s-maj=28.9km s-min=14.4km az=63.0*

ISC 26 16:23:49.6±0.9, 15°.44S ± 0°.08 × 167°.8E ± 0°.1, h150km, n43, σ1§82/46, mb4.4/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.60**	**269**		**Pn**	**16 24 14.3**	**+2.9**
DZM	**Mont Dzumac**	**6.73**	**191**	P	**Pn**	**16 25 27.1**	**+1.0**
	5.3nm,0.3s,baz=288,slow=18,SNR=184						
DZM				S	**Sn**	**16 26 43.2**	**+1.5**
	2.6nm,0.3s,baz=271,slow=22,SNR=4.9						
DZM	**Mont Dzumac**	**6.73**	**191**		**Pn**	**16 25 26.8**	**+0.7**
HNR	**Honiara**	**9.73**	**307**	P	**Pn**	**16 26 08.8**	**+2.7**
	2.2nm,0.3s,baz=198,slow=6.4,SNR=3.5						
HNR				S	**Sn**	**16 27 56.3**	**+2.3**
	7.3nm,0.3s,baz=225,slow=14,SNR=1.1						
RABL	**Rabaul**	**19.03**	**304**	P	**P**	**16 27 59.9**	**-0.3**
RABL				IAmb	IAmb	16 28 28.4	
	comp=Z,15nm,0.6s						
KRVT	**Keravat (AS076**	**19.07**	**304**	S	**S**	**16 31 19.9**	**-9.4**
	comp=Z,3.4nm,0.3s,baz=25,slow=20,SNR=13						
CTAO	**Charters Tower**	**21.05**	**254**	P	**P**	**16 28 23.3**	**+1.4**
URZ	**Urewera**	**24.17**	**162**	P	**P**	**16 28 52.7**	**+0.9**
	comp=Z,2.7nm,0.4s,baz=342,slow=6.4,SNR=1.9						
URZ	**Urewera**	**24.17**	**162**	IAmb	IAmb	16 29 44.2	
	comp=Z,24nm,1.4s						
BKZ	**Black Stump Fm**	**24.84**	**164**	P	**P**	**16 28 58.1**	**+0.1**
BKZ				IAmb	IAmb	16 29 49.5	
	comp=Z,35nm,1.8s						
TUWZ	**Tuamarina**	**26.44**	**170**	P	**P**	**16 29 12.6**	**+0.2**
MSWZ	**Moikau Station**	**26.68**	**167**	P	**P**	**16 29 12.4**	**-2.1**
CMWZ	**Cape Campbell**	**26.80**	**169**	P	**P**	**16 29 13.8**	**-1.8**
LTZ	**Lake Taylor**	**27.52**	**173**	P	**P**	**16 29 22.2**	**+0.1**
LTZ				IAmb	IAmb	16 29 24.0	
	comp=Z,31nm,1.7s						
OXZ	**Oxford**	**28.03**	**173**	P	**P**	**16 29 26.6**	**0.0**
RPZ	**Rata Peaks**	**28.32**	**175**	P	**P**	**16 29 28.9**	**-0.2**
LBZ	**Lake Benmore**	**28.93**	**177**	P	**P**	**16 29 34.8**	**+0.3**
STKA	**Stephens Creek**	**28.96**	**231**	P	**P**	**16 29 35.2**	**+0.2**
	comp=Z,2.0nm,0.4s,baz=61,slow=12,SNR=13						
STKA				PcP	**PcP**	**16 32 39.7**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=90,slow=3.3,SNR=4.7						
STKA	**Stephens Creek**	**28.96**	**231**	IAmb	IAmb	16 29 38.6	
	comp=Z,4.7nm,1.8s						
TOO	**Toolangi**	**29.61**	**218**	P	**P**	**16 29 41.4**	**+0.6**
TOO				IAmb	IAmb	16 30 32.0	
	comp=Z,25nm,1.6s						
WR0	**Warramunga Arr**	**32.00**	**257**	P	**P**	**16 30 00.5**	**-1.3**
WR0				IAmb	IAmb	16 30 32.1	
	comp=Z,15nm,1.7s						
WB0	**Warramunga Arr**	**32.12**	**257**	P	**P**	**16 30 01.6**	**-1.4**
WB0				IAmb	IAmb	16 31 16.1	
	comp=Z,22nm,1.8s						
WB2	**Warramunga Arr**	**32.17**	**257**	P	**P**	**16 30 02.3**	**-1.1**
WB2				IAmb	IAmb	16 30 37.8	
	comp=Z,27nm,1.9s						
WRA	**Warramunga Arr**	**32.18**	**257**	P	**P**	**16 30 02.3**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=84,slow=7.9,SNR=16						
WRA				PcP	**PcP**	**16 32 48.0**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=88,slow=3.3,SNR=5.1						
WRA	**Warramunga Arr**	**32.18**	**257**	P	**P**	**16 30 02.0**	**-1.5**
AS31	**Alice Springs**	**32.93**	**250**	P	**P**	**16 30 09.2**	**-0.8**
ASAR	**Alice Springs**	**32.93**	**250**	P	**P**	**16 30 09.3**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=80,slow=8.8,SNR=74						
ASAR				PcP	**PcP**	**16 32 50.2**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=77,slow=3.0,SNR=8.5						
BBOO	**Buckleboo**	**33.58**	**233**	P	**P**	**16 30 15.4**	**-0.1**
MTN	**Manton Dam**	**35.65**	**269**	P	**P**	**16 30 33.8**	**+0.4**
KNRA	**Kununurra**	**37.60**	**264**	P	**P**	**16 30 49.2**	**-0.8**
FORT	**Forrest**	**39.41**	**240**	P	**P**	**16 31 05.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**40.42**	**260**	P	**P**	**16 31 13.2**	**-0.1**
JAGI	**Jajag, Banyuwa**	**52.85**	**271**	P	**P**	**16 32 48.8**	**-1.5**
UGM	**Wanagama**	**56.48**	**271**	P	**P**	**16 33 15.7**	**-0.8**
VNDA	**Vanda**	**62.17**	**181**	P	**P**	**16 33 54.2**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=4.9,slow=7.1,SNR=11						
VNDA	**Vanda**	**62.17**	**181**	P	**P**	**16 33 54.0**	**-0.4**
VNDA				IAmb	IAmb	16 35 47.2	
	comp=Z,10nm,1.9s						
CASY	**Casey**	**63.08**	**202**	P	**P**	**16 34 00.1**	**-0.5**
CASY				IAmb	IAmb	16 34 01.1	
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**74.60**	**180**	P	**P**	**16 35 11.3**	**-0.7**
QSPA				IAmb	IAmb	16 37 16.2	
	comp=Z,26nm,1.9s						
CMAR	**Chiang Mai Arr**	**75.73**	**294**	P	**P**	**16 35 20.2**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=143,slow=4.7,SNR=4.3						
MAW	**Mawson**	**81.44**	**202**	P	**P**	**16 35 49.2**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=99,slow=7.3,SNR=3.7						
SONM	**Songino Array**	**83.38**	**323**	P	**P**	**16 36 00.7**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=144,slow=5.5,SNR=4.6						
ARCES	**ARCESS Array B**	**121.07**	**345**	PKP	**PKPdf**	**16 42 23.4**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=18,slow=0.5,SNR=5.6						
KEST	**Kesra**	**152.09**	**320**	PKPbc	**PKPbc**	**16 43 27.5**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=65,slow=2.9,SNR=5.7						

*NIED **26** 16:29:46.8, 28°.07N × 128°.16E, h11km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr-0.23; Mθθ 0.97; Mϕϕ -0.74; Mrθ -0.55; Mθϕ 0.69; Mϕr 0.17; Fault plane solution: Mo 1.24000 × 10^16 NP1: ϕs 114.00000°, δ 86.00000°, λ -29.00000°. NP2: ϕs 206.00000°, δ 61.00000°, λ -175.00000°.*
*JMA **26** 16:29:46.7±0.2, 28°.07N × 128°.15E, h11km ± 3km, M4.4*
*GCMT **26** 16:29:47.8±0.3, 27°.96N ± 0°.02 × 128°.17E ± 0°.02, h20km ± 1km, MW4.8/81, Moment Tensor Solution. s9,c10; s81,c115; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.02±.11; Mθθ 1.25±.09; Mϕϕ -1.23±.08; Mrθ 0.03±.15; Mθϕ 1.48±.07; Mϕr-0.08±.16; Best double couple: Mo 1.93300 × 10^16 NP1: ϕs 290.00000°, δ 88.00000°, λ -2.00000°. NP2: ϕs 20.00000°, δ 88.00000°, λ -178.00000°. Principal axes: T 1.9410, Plg 0.0000°, Azm 155.0000°; N -0.0140, Plg 87.0000°, Azm 57.0000°; P -1.9250, Plg 3.0000°, Azm 245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **26** 16:29:47.6±0.9, 27°.88N × 127°.64E, h0km, mb3.8/8, mb1 4.0/12, mb1mx3.8/40, mbtmp3.9/12, ML3.3/4, MS3.9/30, Ms1 3.9/30, ms1mx3.9/37 Error ellipse: s-maj=28.1km s-min=16.4km az=82.0*
*B

NJ2					LR	LR			
	comp=E,2μm,17.7s								
QZH	**Quanzhou**	**9.15**	**253**		P	**Pn**	**16 32 01.0**	**+0.6**	
QZH					S	**Sn**	**16 33 44.8**	**+1.2**	
QZH					LR	LR			
	comp=N,730nm,9.0s								
QZH					LR	LR			
	comp=E,1μm,10.7s								
KSRS	**Korea Array**	**9.49**	**358**		Pn	**Pn**	**16 32 05.9**	**+0.9**	
	0.2nm,0.3s,baz=184,slow=14,SNR=3.2								
KSRS					LR	LR	16 35 44.2		
	comp=Z,1μm,19.4s,baz=178,slow=37								
JHJ	**Hachijo jima 2**	**11.21**	**60**		LR	LR	16 36 41.7		
	comp=Z,515nm,20.8s,baz=298,slow=35								
MJAR	**Matsushiro Arr**	**12.02**	**42**		Pn	Pn	16 32 47.2	+7.5	
	0.0nm,0.3s,baz=237,slow=13,SNR=4.6								
MJAR					LR	LR	16 38 03.8		
	comp=Z,395nm,20.0s,baz=220,slow=40								
JCJ	**Chichijima**	**12.40**	**91**		LR	LR	16 36 53.3		
	comp=Z,430nm,21.6s,baz=259,slow=33								
BJT	**Baijiatuan**	**15.64**	**323**		P	**P**	**16 33 31.7**	**-1.3**	
CN2	**Changchun**	**15.98**	**353**	*e*P		**P**	**16 33 38.0**	**+1.2**	
CN2				*e*S		**Sn**	**16 36 34.8**	**+4.2**	
CN2					pmax	pmax			
	comp=Z,20nm,1.0s								
CN2					pmax	pmax			
	comp=Z,100nm,3.0s								
CN2					LR	LR			
	comp=N,1μm,13.0s								
CN2					LR	LR			
	comp=E,1μm,13.0s								
CN2					LR	LR			
	comp=Z,1μm,12.0s								
USA0B	**Ussuriysk Arra**	**16.50**	**10**		P	**P**	**16 33 43.5**	**+1.0**	
USRK	**Ussuriysk Ar.**	**16.50**	**10**		Pn	**P**	**16 33 43.3**	**+0.8**	
	baz=198,slow=12,SNR=9.0								
ENH	**Enshi**	**16.56**	**283**		P	**P**	**16 33 42.1**	**-1.1**	
ENH					IAmb	IAmb	16 33 47.2		
	comp=Z,71nm,1.9s								
MDJ	**Mudanjiang**	**16.68**	**3**		P	**P**	**16 33 45.8**	**+1.4**	
MDJ					pmax	pmax			
	comp=Z,3.0nm,0.5s								
MDJ					pmax	pmax			
	comp=Z,270nm,3.5s								
MDJ					LR	LR			
	comp=Z,910nm,14.5s								
MDJ					LR	LR			
	comp=Z,1μm,12.3s								
MDJ					LR	LR			
	comp=Z,1μm,14.7s								
XAN	**Xi'an**	**17.64**	**295**		P	**P**	**16 33 55.0**	**-0.2**	
XAN					S	**Sn**	**16 37 13.0**	**+2.1**	
XAN					pmax	pmax			
	comp=Z,15nm,1.9s								
XAN					LR	LR			
	comp=Z,3μm,16.3s								
XAN					LR	LR			
	comp=Z,1μm,16.1s								
XAN					LR	LR			
	comp=Z,1μm,14.9s								
XAN	**Xi'an**	**17.64**	**295**			**Pn**	**16 33 51.8**	**-2.4**	
GYA	**Guiyang**	**19.25**	**271**	‖P		**Pn**	**16 34 14.5**	**+0.4**	
GYA					S	**Sn**	**16 37 47.3**	**-2.9**	
GYA					SS	**SnSn**	**16 38 09.8**	**+5.6**	
GYA					pmax	pmax			
	comp=Z,9.0nm,0.9s								
GYA					pmax	pmax			
	comp=Z,82nm,3.5s								
GYA					LR	LR			
	comp=Z,1μm,11.2s								
GYA					LR	LR			
	comp=Z,620nm,10.0s								
GYA					LR	LR			
	comp=Z,920nm,13.0s								
BTO	**Baotou**	**19.61**	**315**	*e*P		**Pn**	**16 34 19.5**	**+1.3**	
KLR	**Kul'dur**	**21.43**	**6**	P		**P**	**16 34 38.7**	**+2.3**	
	comp=Z,1.8nm,0.8s,baz=180,slow=12,SNR=4.7								
KMI	**Kunming**	**22.98**	**269**	‖*e*P		P	16 35 02.5	+9.1	
KMI					pP	sP	16 35 05.0	+8.9	
KMI					sP	pP	16 35 06.3	+11	
KMI					S	**S**	**16 39 00.0**	**-4.4**	
KMI					pmax	pmax			
	comp=Z,8.0nm,1.1s								
KMI					pmax	pmax			
	comp=Z,99nm,3.8s								
KMI					LR	LR			
	comp=N,510nm,13.1s								
KMI					LR	LR			
	comp=E,620nm,13.8s								
KMI					LR	LR			
	comp=E,560nm,16.0s								
ULN	**Ulaanbaatar**	**25.83**	**326**		P	**P**	**16 35 18.1**	**-1.9**	
SONM	**Songino Array**	**26.14**	**325**		P	**P**	**16 35 21.7**	**-1.1**	
	comp=Z,3.9nm,0.8s,baz=138,slow=10,SNR=20								
SONM					LR	LR	16 46 42.3		
	comp=Z,390nm,18.8s,baz=134,slow=39								
GTA	**Gaotai**	**26.17**	**303**	*e*P		**P**	**16 35 20.5**	**-2.6**	
GTA					pmax	pmax			
	comp=Z,2.0nm,0.8s								
GTA					pmax	pmax			
	comp=Z,28nm,6.2s								
GTA					LR	LR			
	comp=Z,1μm,17.2s								
GTA					LR	LR			
	comp=Z,600nm,16.5s								
GTA					LR	LR			
	comp=Z,560nm,17.5s								
CMAR	**Chiang Mai Arr**	**28.47**	**257**		LR	LR	16 48 36.9		
	comp=Z,309nm,18.4s,baz=98,slow=40								
PETK	**Petropavlovsk-**	**33.25**	**33**		LR	LR	16 50 52.6		
	comp=Z,121nm,18.8s,baz=227,slow=38								
MKAR	**Makanchi Array**	**40.42**	**310**		P	**P**	**16 37 24.5**	**-2.3**	
	comp=Z,1.5nm,0.7s,baz=104,slow=9.4,SNR=12								
MKAR					LR	LR	16 53 10.5		
	comp=Z,150nm,21.7s,baz=107,slow=35								
ZALV	**Zalesovo Beam**	**40.91**	**322**		P	**P**	**16 37 28.3**	**-2.3**	
	comp=Z,0.9nm,0.6s,baz=99,slow=9.2,SNR=3.8								
ZALV					LR	LR	16 55 30.8		
	comp=Z,186nm,18.4s,baz=86,slow=38								
KNRA	**Kununurra**	**43.36**	**179**		P	**P**	**16 37 52.5**	**+1.5**	
KNRA					IAmb	IAmb	16 38 45.3		
	comp=Z,12nm,1.0s								
KURK	**Kurchatov**	**43.60**	**315**		P	**P**	**16 37 51.2**	**-1.4**	
KURK	**Kurchatov**	**43.60**	**315**		IAmb	IAmb	16 38 02.1		
	comp=Z,6.7nm,0.8s								
KURBB	**Kurchatov Arra**	**43.64**	**315**		P	**P**	**16 37 51.2**	**-1.7**	
	comp=Z,1.1nm,0.5s,baz=104,slow=8.8,SNR=5.5								
FITZ	**Fitzroy Crossi**	**45.84**	**183**		P	**P**	**16 38 11.5**	**+0.7**	
NRIK	**Norif'sk**	**47.63**	**342**		LR	LR	17 00 07.1		
	comp=Z,501nm,18.9s,baz=186,slow=38								
WB0	**Warramunga Arr**	**47.80**	**172**		P	**P**	**16 38 27.1**	**+0.9**	
WRA	**Warramunga Arr**	**47.97**	**172**		P	**P**	**16 38 27.6**	**+0.2**	
	comp=Z,1.6nm,0.7s,baz=353,slow=8.3,SNR=14								
WRA	**Warramunga Arr**	**47.97**	**172**		P	**P**	**16 38 27.8**	**+0.4**	
WB2	**Warramunga Arr**	**47.97**	**172**		P	**P**	**16 38 27.5**	**+0.1**	
WR0	**Warramunga Arr**	**48.01**	**172**		P	**P**	**16 38 29.2**	**+1.5**	
KK31	**Karatay Array**	**48.45**	**304**		P	**P**	**16 38 29.6**	**-1.4**	
KK31					IAmb	IAmb	16 38 49.0		
	comp=Z,5.4nm,1.4s								
KKAR	**Karatay Array**	**48.45**	**304**		P	**P**	**16 38 29.6**	**-1.4**	
KKAR					IAmb	IAmb	16 38 49.0		
	comp=Z,5.4nm,1.4s								
BRVK	**Borovoye**	**49.08**	**317**		P	**P**	**16 38 33.2**	**-2.6**	
BRVK					IAmb	IAmb	16 38 46.1		
	comp=Z,6.6nm,1.0s								
ASAR	**Alice Springs**	**51.60**	**173**		P	**P**	**16 38 56.5**	**+1.5**	
	comp=Z,1.1nm,0.9s,baz=7.0,slow=8.4,SNR=13								
ASAR					LR	LR	16 59 41.4		
	comp=Z,85nm,21.4s,baz=342,slow=35								
ASAR	**Alice Springs**	**51.60**	**173**		P	**P**	**16 38 56.3**	**+1.2**	
PPLA	**Purkeypile**	**60.81**	**31**		P	**P**	**16 40 01.9**	**+1.3**	
STKA	**Stephens Creek**	**60.83**	**167**		LR	LR	17 06 13.3		
	comp=Z,68nm,21.0s,baz=14,slow=36								
DZM	**Mont Dzumac**	**61.92**	**139**		LR	LR	17 03 18.4		
	comp=Z,140nm,21.8s,baz=357,slow=32								
ILAR	**Eielson Array**	**62.93**	**29**		P	**P**	**16 40 17.1**	**+2.4**	
	comp=Z,0.4nm,0.7s,baz=300,slow=6.5,SNR=4.4								
ILAR					LR	LR	17 09 50.2		
	comp=Z,37nm,18.3s,baz=268,slow=38								
ILAR	**Eielson Array**	**62.93**	**29**		P	**P**	**16 40 16.3**	**+1.6**	
BMAR	**Burnt Mountain**	**63.46**	**26**		P	**P**	**16 40 19.5**	**+1.3**	
KBZ	**Khabaz**	**68.09**	**309**		LR	LR	17 15 28.4		
	comp=Z,82nm,19.2s,baz=50,slow=40								
ARCES	**ARCESS Array B**	**68.42**	**338**		LR	LR	17 18 03.5		
	comp=Z,120nm,18.7s,baz=76,slow=42								
FINES	**FINESS Array B**	**71.39**	**330**		LR	LR	17 15 38.0		
	comp=Z,189nm,20.4s,baz=68,slow=39								
AKASG	**Malin Array Be**	**74.24**	**319**		LR	LR	17 16 07.2		
	comp=Z,310nm,18.4s,baz=70,slow=38								
BRTR	**Keskin Array B**	**76.00**	**308**		LR	LR	17 19 36.3		
	comp=Z,51nm,20.2s,baz=20,slow=40								
YKA	**Yellowknife Ar**	**76.97**	**25**		LR	LR	17 16 53.5		
	comp=Z,34nm,22.0s,baz=0.0,slow=37								
NOA	**NORSAR Array B**	**77.79**	**334**		LR	LR	17 19 13.3		
	comp=Z,144nm,19.9s,baz=55,slow=38								
URZ	**Urewera**	**80.17**	**143**		LR	LR	17 14 15.8		
	comp=Z,62nm,18.8s,baz=10.0,slow=33								
RPZ	**Rata Peaks**	**81.40**	**150**		LR	LR	17 16 17.6		
	comp=Z,33nm,18.0s,baz=296,slow=34								
GERES	**GERESS Array B**	**83.85**	**323**		LR	LR	17 22 19.1		
	comp=Z,208nm,18.6s,baz=87,slow=38								
NVAR	**Mina Array Bea**	**89.31**	**46**		LR	LR	17 17 11.9		
	comp=Z,27nm,20.4s,baz=273,slow=32								
PDAR	**Pinedale Array**	**91.82**	**39**		LR	LR	17 25 27.3		
	comp=Z,26nm,19.9s,baz=325,slow=36								
ULM	**Lac du Bonnet**	**92.89**	**27**		LR	LR	17 28 56.2		
	comp=Z,33nm,18.1s,baz=310,slow=38								
KEST	**Kesra**	**94.41**	**314**		LR	LR	17 33 18.0		
	comp=Z,68nm,20.2s,baz=263,slow=40								
SCHQ	**Schefferville**	**96.55**	**9**		LR	LR	17 30 30.2		
	comp=Z,43nm,18.9s,baz=325,slow=38								
ESDC	**Sonseca Array**	**99.34**	**325**		LR	LR	17 33 27.9		
	comp=Z,103nm,18.3s,baz=65,slow=39								

*IDC **26** 16:58:15.1±1.1,59.˚78S×26.˚22W,h0km,mb4.0/3, mb1 4.1/3,mb1mx3.8/27,mbtmp4.0/3,Error ellipse: s-maj=48.7km s-min=40.8km az=14.0*
*NEIC **26** 16:58:25.3±2.7,59.˚9S±0.˚2×27.˚2W±0.˚4,h86km±6km, mb4.5/4, Error ellipse: s-maj=35.0km s-min=21.8km az=208.0*
ISC 26 16:58:18.7±0.9,**59.˚8S**±0.˚2×**26.˚6W**±0.˚2,**h26**km,**n12**, σ1°**27**/11,**mb4.2/4,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.22**	**153**	P	**Pn**	**17 01 25.6**	**+1.1**
VNA3	**Neumayer Olymp**	**13.36**	**156**	P	**Pn**	**17 01 27.4**	**+1.1**
VNA2	**Neumayer--Watz**	**13.62**	**153**	P	**Pn**	**17 01 29.9**	**0.0**
QSPA	**South Pole Qui**	**30.43**	**180**	P	**P**	**17 04 27.3**	**-1.4**
QSPA				IAmb	IAmb	17 04 58.3	
	comp=Z,12nm,1.5s						
PLCA	**Paso Flores**	**33.16**	**285**	P	**P**	**17 04 54.6**	**+1.9**
	comp=Z,0.7nm,0.5s,baz=139,slow=9.3,SNR=3.8						
PLCA	**Paso Flores**	**33.16**	**285**	P	**P**	**17 04 52.2**	**-0.6**
PLCA				IAmb	IAmb	17 05 24.5	
	comp=Z,17nm,1.7s						
LC01	**Cunco**	**35.22**	**286**	P	P	17 05 04.8	-5.8
TOA0	**Torodi Ar. Sit**	**76.19**	**28**	P	**P**	**17 10 04.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**76.19**	**28**	P	**P**	**17 10 04.6**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=193,slow=6.3,SNR=5.8						
ASAR	**Alice Springs**	**95.30**	**162**	P	**P**	**17 11 40.7**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=181,slow=4.2,SNR=13						
ARCES	**ARCESS Array B**	**134.30**	**23**	PKP	**PKPdf**	**17 17 30.3**	**-1.9**
	comp=Z,1.0nm,0.9s,baz=198,slow=2.6,SNR=4.6						
SONM	**Songino Array**	**150.41**	**93**	PKPbc	**PKiKP**	**17 18 07.2**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=231,slow=3.0,SNR=9.1						

*NEIC **26** 17:48:08.9±2.5,51.˚46N±0.˚04×178.˚76W±0.˚04,h17km±7km, Error ellipse: s-maj=6.2km s-min=1.6km az=146.0*
AEIC 26 17:48:09.8±2.5,**51.˚58N**±0.˚06×**178.˚80W**±0.˚04,**h18**km±5km, **ML3.9**/46,**mb4.0**/14(NEIC),**Error ellipse: s-maj=9.5km s-min=2.0km az=163.0,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**0.19**	**5**		Pb	17 48 15.4	+0.8
GAEA	**Gareloi East**	**0.21**	**8**		Pb	17 48 15.7	+0.6
TASE	**Tanaga Southea**	**0.54**	**61**		Pg	17 48 20.7	+0.1
TANO	**Tanaga North**	**0.54**	**51**		Pb	17 48 20.9	+0.1
TAFP	**Tanaga Falls P**	**0.60**	**57**		Pg	17 48 21.4	-0.3
TAFP					Sg	17 48 29.9	+0.1
KIMD	**Kanaga Island**	**0.99**	**79**		Pb	17 48 27.5	-0.9
CERAA	**Semis' Rag'd T**	**1.00**	**290**		Pb	17 48 28.2	-0.4
CERB	**Semis' Cerberu**	**1.04**	**291**		Pb	17 48 28.8	-0.5
CERB					Sn	17 48 43.4	-0.2
KICM	**Kanaga Island**	**1.05**	**70**		Pb	17 48 29.1	-0.4
KIKV	**Kanaga Island**	**1.06**	**73**		Pb	17 48 28.9	-0.7
KIKV					Sb	17 48 42.9	-0.2
CESW	**Semis' Southwe**	**1.07**	**288**		Pb	17 48 29.2	-0.6
CEAP	**Semis' Anvil P**	**1.10**	**294**		Pb	17 48 29.9	-0.4
CEAP					Sb	17 48 43.9	-0.4
KIRH	**Kanaga Island**	**1.11**	**72**		Pb	17 48 29.7	-0.7
AMKA	**Amchitka**	**1.21**	**261**		Pn	17 48 31.2	-0.6
AMKA					Sb	17 48 46.9	-0.5
ADK	**Adak**	**1.35**	**76**		Pn	17 48 33.1	-0.6
ADK	**Adak**	**1.35**	**76**	Sn	Sn	17 48 50.8	-0.4
ADAG	**Mount Adagdak**	**1.42**	**73**		Pn	17 48 34.9	+0.1
ETKA	**Kagalaska Isla**	**1.51**	**78**		Pn	17 48 35.4	-0.6
ETKA					Sb	17 48 56.9	+0.6
LSSE	**Little Sitkin**	**1.68**	**283**		Pn	17 48 39.1	+0.8
LSIN	**Little Sitkin**	**1.68**	**284**		Pn	17 48 39.1	+0.8
GSSP	**Great Sitkin S**	**1.71**	**71**		Pn	17 48 38.9	+0.2
LSSA	**Little Sitkin**	**1.71**	**284**		Pn	17 48 39.3	+0.5
GSTD	**Great Sitkin T**	**1.71**	**73**		Pn	17 48 39.0	+0.1
GSTD					Sb	17 49 02.6	+0.5
LSNW	**Little Sitkin**	**1.72**	**284**		Pn	17 48 39.5	+0.7
LSNW					Sb	17 49 02.4	+0.3
GSMY	**Great Sitkin M**	**1.76**	**74**		Pn	17 48 39.7	+0.2
GSTR	**Great Sitkin T**	**1.78**	**72**		Pn	17 48 39.9	+0.3
ATKA	**Atka Island**	**2.92**	**76**		Pn	17 48 55.7	+0.4
ATKA					Sn	17 49 32.3	+2.4
KOKL	**Mount Kliuchef**	**2.94**	**73**		Pn	17 48 55.7	+0.1
KOFP	**Korovin Flat P**	**2.99**	**75**		Pn	17 48 57.3	+0.9
KOSE	**Korovin Southe**	**3.04**	**73**		Pn	17 48 57.5	+0.5
SMY	**Shemya**	**4.53**	**288**	Pn	Pn	17 49 20.5	+3.2
NIKH	**Nikolski High**	**6.26**	**73**	Pn	Pn	17 49 44.5	+3.2
MAPS	**Pakushin South**	**7.54**	**68**		Pn	17 50 00.6	+1.8
MGOD	**Makushin Gods**	**7.58**	**68**		Pn	17 50 01.1	+1.8
MREP	**Makushin Rep't**	**7.66**	**68**		Pn	17 50 02.8	+2.3
MSW	**Makushin Switc**	**7.67**	**68**		Pn	17 50 02.0	+1.6
MNAT	**Makushin Natee**	**7.71**	**68**		Pn	17 50 03.2	+2.1
UNV	**Unalaska Valle**	**7.80**	**68**		Pn	17 50 01.6	-0.8
AKGG	**Akutan Green G**	**8.18**	**66**		Pn	17 50 09.4	+1.9
FALS	**False Pass**	**9.79**	**64**	Pn	Pn	17 50 31.8	+2.3
SDPT	**Sand Point**	**11.55**	**64**	Pn	Pn	17 50 55.4	+1.8
CNBA	**Chernabura Isl**	**11.96**	**67**	Pn	Pn	17 51 00.2	+1.0
OHAK	**Old Harbor**	**15.84**	**59**	Pn	Pn	17 51 49.3	-2.3
OHAK				IAmb	IAmb	17 52 25.9	
	comp=Z,13nm,1.2s						
SVW2	**Sparrevohn**	**15.93**	**44**		P	17 51 57.8	+1.5
SVW2				IAmb	IAmb	17 51 58.5	
	comp=Z,9.5nm,1.4s						
KDAK	**Kodiak Island**	**16.32**	**57**	Pn	Pn	17 51 55.6	-2.1
KDAK				IAmb	IAmb	17 52 14.5	
	comp=Z,19nm,1.3s						
SKT	**Skwentna**	**18.06**	**44**	P	P	17 52 22.4	+2.5
PPLA	**Purkeypile**	**18.16**	**41**	P	P	17 52 25.1	+3.9
PPLA				IAmb	IAmb	17 52 53.4	
	comp=Z,11nm,1.2s						
KTH	**Kantishna Hill**	**18.97**	**40**	P	Pn	17 52 32.5	+1.9
BPAW	**Bear Paw Mtn.**	**19.19**	**39**	P	Pn	17 52 34.0	+0.7
SML	**Sawmill**	**19.42**	**46**	P	P	17 52 33.8	-1.1
SML				IAmb	IAmb	17 52 55.0	
	comp=Z,14nm,1.3s						
GLI	**Glacier Island**	**19.74**	**50**	P	P	17 52 36.2	-2.1
FID	**Port Fidalgo**	**20.00**	**50**	P	P	17 52 38.6	-2.6
FID				IAmb	IAmb	17 53 07.6	
	comp=Z,11nm,1.1s						
DHY	**Denali Highway**	**20.26**	**43**	P	P	17 52 43.9	-0.1
MDM	**Murphy Dome**	**20.65**	**38**	P	Pn	17 52 49.6	-0.8
MDM				IAmb	IAmb	17 52 50.9	
	comp=Z,5.1nm,0.9s						
RIDG	**Independent Ri**	**21.55**	**43**	P	P	17 52 58.6	+0.6
RIDG				IAmb	IAmb	17 53 20.8	
	comp=Z,6.7nm,1.4s						
CTGM	**Chitina Glacie**	**22.52**	**51**	P	P	17 53 06.5	-1.9
BCAR	**Beaver Creek A**	**22.69**	**45**	P	P	17 53 10.6	+0.4

*DRS **26** 17:51:40.5±0.0,42.˚96N×45.˚57E,h14km*
*NORS **26** 17:51:41.9±0.0,42.˚79N×45.˚85E,h16km,MPVA3.6*
*MOS **26** 17:51:41.3±0.0,42.˚87N×45.˚78E,h7km,MPVA3.4*
*TIF **26** 17:51:41.8,42.˚89N×45.˚78E,h3km±3km*
ISC 26 17:51:43.6±1.1,**42.˚91N**±0.˚03×**45.˚78E**±0.˚02,**h18**km±3km, **n28,σ1°45/55,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GROC	**Groznyy**	**0.29**	**2**	*e*Pg	**Pb**	**17 51 49.9**	**-0.4**
GROC				*e*Sg	**Sn**	**17 51 56.5**	**-2.2**
BTLR	**Botlikh**	**0.41**	**127**	*e*Pg	**Pg**	**17 51 50.6**	**-1.5**
BTLR				*e*Sg	**Sg**	**17 51 57.2**	**-0.7**
UNCR	**Uncukul**	**0.77**	**105**	*i* Pg	**Pb**	**17 51 58.0**	**-0.5**
UNCR				*e*Sg	**Sn**	**17 52 11.0**	**+0.2**
XNZR	**Khunzakh**	**0.78**	**118**	*e*Pg	**Pb**	**17 51 58.7**	**0.0**
XNZR				*i* Sg	**Sb**	**17 52 09.6**	**+0.7**
DBC	**Dubki**	**0.78**	**82**	*e*Pg	**Pb**	**17 51 58.5**	**-0.1**
DBC				*e*Sg	**Sn**	**17 52 10.2**	**-0.7**
KRNR	**Karanay**	**0.83**	**96**	*i* Pg	**Pb**	**17 51 58.5**	**-1.1**
KRNR				*e*Sg	**Sn**	**17 52 11.5**	**-0.9**
PNSH	**Pansheti**	**0.90**	**252**	P	**Pb**	**17 51 59.2**	**-1.5**
PNSH				S	**Sg**	**17 52 12.7**	**-0.4**
BUJR	**Buynaksk**	**0.98**	**95**	*e*Pg	**Pn**	**17 52 02.3**	**-0.2**
BUJR				*e*Sg	**Sn**	**17 52 17.1**	**+1.2**
GNBR	**Gunib**	**1.02**	**121**	*e*Pg	**Pb**	**17 52 02.4**	**-0.3**
GNBR				*e*Sg	**Sn**	**17 52 18.3**	**+1.5**
LACR	**Lac**	**1.09**	**266**	*e*Pg	**Pb**	**17 52 03.6**	**-0.5**
LACR				*e*Sg	**Sn**	**17 52 20.4**	**+1.6**
TRKR	**Terskaya**	**1.11**	**317**	*e*Pg	**Pg**	**17 52 05.2**	**+0.1**
TRKR				*e*Sg	**Sg**	**17 52 23.1**	**+3.3**
ARNR	**Ardon**	**1.13**	**284**	*e*Pg	**Pg**	**17 52 05.0**	**-0.5**
ARNR				*e*Sg	**Sg**	**17 52 23.0**	**+2.8**
LGD	**Lagodekhi**	**1.13**	**162**	P	**Pn**	**17 52 03.9**	**-0.6**
LGD				S	**Sg**	**17 52 19.8**	**-0.6**
KORR	**Kora**	**1.27**	**278**	*e*Pg	**Pg**	**17 52 07.6**	**-0.5**
KORR				*e*Sg	**Sg**	**17 52 26.9**	**+2.1**
MAK	**Makhachkala**	**1.27**	**87**	*e*Pg	**Pg**	**17 52 08.1**	**0.0**
MAK				*e*Sg	**Sg**	**17 52 26.2**	**+1.5**
PRTR	**Priterechnaya**	**1.38**	**308**	*e*Pg	**Pg**	**17 52 09.8**	**-0.4**
PRTR				*e*Sg	**Sg**	**17 52 30.8**	**+2.6**
ZEI	**Tsey**	**1.39**	**265**	*e*Pg	**Pg**	**17 52 09.5**	**-0.9**
ZEI				*i* Sg	**Sg**	**17 52 29.6**	**+1.1**
TBLG	**Delisi**	**1.41**	**214**	*e*Pg	**Pb**	**17 52 09.7**	**+0.2**
TBLG				*e*Sg	**Sg**	**17 52 29.3**	**0.0**
TBLG	**Delisi**	**1.41**	**214**	P	**Pb**	**17 52 09.7**	**+0.2**
TBLG				S	**Sg**	**17 52 29.3**	**0.0**
DDFL	**Dedoflistskaro**	**1.49**	**170**	P	**Pg**	**17 52 15.0**	**+2.6**
DDFL				S	**Sg**	**17 52 37.4**	**+5.6**
ONI	**Oni**	**1.75**	**260**	P	**Pb**	**17 52 15.0**	**-0.1**
ONI				S	**Sg**	**17 52 39.8**	**-0.1**
TRLG	**Trialeti**	**1.85**	**223**	P	**Pb**	**17 52 16.8**	**-0.2**
TRLG				S	**Sg**	**17 52 42.2**	**-1.2**
DMNI	**Dmanisi**	**1.98**	**217**	P	**Pb**	**17 52 18.3**	**-0.8**
DMNI				S	**Sg**	**17 52 45.6**	**-1.7**
BKRG	**Bakuriani**	**2.03**	**236**	P	**Pb**	**17 52 19.6**	**-0.5**
BKRG				S	**Sg**	**17 52 47.1**	**-1.4**
AKT	**Akhty**	**2.04**	**134**	*e*Pg	**Pb**	**17 52 20.2**	**+0.1**
AKT				*e*Sg	**Sg**	**17 52 47.7**	**-1.5**
DRN	**Derbent**	**2.08**	**114**	*e*Pg	**Pb**	**17 52 20.8**	**0.0**
DRN				*i* Sg	**Sg**	**17 52 49.8**	**-0.8**
TKB	**Tkibuli**	**2.13**	**256**	P	**Pb**	**17 52 21.6**	**0.0**
KIV	**Kislovodsk**	**2.48**	**296**	*i* Pn	**Pg**	**17 52 29.9**	**-1.3**
KIV				*e*Sn	**Sg**	**17 53 03.3**	**-0.1**

*ATH **26** 17:53:19.5,37.˚78N×27.˚20E,h14km±4km,ML2.6/2, Error ellipse: s-maj=5.4km s-min=1.8km az=255.0*
*ISK **26** 17:53:19.7,37.˚80N×27.˚24E,h7km,ML2.5/7*
*DDA **26** 17:53:19.6,37.˚80N×27.˚18E,h5km±2km,ML2.2*
*THE **26** 17:53:20.4,37.˚74N×27.˚14E,h8km±2km,ML2.4/4,Error ellipse: s-maj=3.4km s-min=0.5km az=217.0*
ISC 26 17:53:19.5±0.8,**37.79N**±0.˚02×**27.˚21E**±0.˚02,**h12**km±5km, **n39,σ0°80/59,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.10**	**170**	PG	**Pg**	**17 53 22.6**	**+0.3**
GCAM				SG	**Sg**	**17 53 24.6**	**+0.2**
GCAM	**G?zelcaml?**	**0.10**	**170**	*i* P	**Pg**	**17 53 22.3**	**-0.1**
GCAM				IAML		17 53 24.0	
	comp=N,2μm,0.6s						
GCAM				IAML		17 53 24.0	
	comp=E,2μm,0.3s						
GCAM				*i* S	**Sg**	**17 53 24.1**	**-0.3**
SMG	**Samos**	**0.31**	**254**	P	**Pg**	**17 53 25.4**	**-0.5**
SMG				S	**

SIGR	SIGRI	1.77	323	PN	Pb	17 53 52.2	+0.3
BALY	Balya	1.97	9	*i* P	Pb	17 53 56.2	+0.8
BAYC	CANAKKALE_Bayr	2.01	345	*i* P	Pn	17 53 52.6	-0.7
DURS	Dursunbey	2.06	28	*i* P	Pb	17 53 56.3	-0.5

*IDC **26** 18:04:57.9±1.3, 8.26N×91.69E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/40, mbtmp3.7/8, ML4.0/1, Error ellipse: s-maj=48.6km s-min=21.0km az=60.0*
*NEIC **26** 18:05:02.7±1.9, 8.27N±0.09×91.9E±0.1, h30km±6km, mb4.6/6, Error ellipse: s-maj=22.0km s-min=9.1km az=60.0*

ISC 26 18:05:02.2±1.0, 8.33N±0.10×91.8E±0.1, h24km, n24, σ1s24/20, mb3.9/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**3.42**	**15**	Pn	Pn	18 05 54.3	+0.1
SRIT	**Nakonsritamara**	**7.68**	**87**	Pn	**Pn**	**18 06 52.4**	**-0.2**
RPSI	**Rantau Prapat**	**9.00**	**128**	Pn	**Pn**	**18 07 09.3**	**-1.4**
GSI	**Gunungsitoli**	**9.02**	**140**	Pn	**Pn**	**18 07 10.8**	**-0.2**
KULM	**Kulim**	**9.25**	**108**	Pn	**Pn**	**18 07 13.1**	**-1.2**
BKNI	**Bangkinang**	**12.13**	**130**	Pn	**Pn**	**18 07 57.0**	**+3.3**
CMAR	**Chiang Mai Arr**	**12.21**	**34**	Pn	**Pn**	**18 07 54.8**	**+0.1**
	0.3nm,0.3s,baz=233,slow=15,SNR=5.5						
CHTO	**Chiang Mai**	**12.50**	**33**	Pn	**Pn**	**18 07 59.4**	**+0.6**
LSA	**Lhasa**	**21.27**	**358**	P	**P**	**18 09 49.9**	**+2.4**
H08S3	**Diego Garcia H**	**24.97**	**231**	T	T	18 36 48.5	
	baz=51,slow=75,SNR=50						
H08S2	**Diego Garcia H**	**24.98**	**231**	T	T	18 36 52.4	
	baz=51,slow=75,SNR=35						
H08S1	**Diego Carcia H**	**24.99**	**231**	T	T	18 36 50.0	
	baz=51,slow=75,SNR=21						
MKAR	**Makanchi Array**	**39.19**	**350**	P	**P**	**18 12 28.4**	**+0.1**
	1.0nm,0.6s,baz=172,slow=8.1,SNR=8.7						
SONM	**Songino Array**	**41.26**	**15**	P	**P**	**18 12 45.7**	**+0.1**
	0.9nm,0.7s,baz=210,slow=8.6,SNR=6.5						
FITZ	**Fitzroy Crossi**	**42.46**	**128**	P	**P**	**18 12 55.6**	**0.0**
FITZ				IAmb	IAmb	18 13 31.9	
	comp=Z,20nm,1.8s						
ZALV	**Zalesovo Beam**	**45.84**	**354**	P	**P**	**18 13 22.0**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=165,slow=6.2,SNR=3.9						
WB0	**Warramunga Arr**	**50.34**	**124**	P	**P**	**18 13 57.3**	**-0.4**
WB0				IAmb	IAmb	18 14 23.6	
	comp=Z,11nm,1.6s						
WRA	**Warramunga Arr**	**50.38**	**124**	P	**P**	**18 13 57.7**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=302,slow=8.4,SNR=10						
WRA	**Warramunga Arr**	**50.38**	**124**	P	**P**	**18 13 56.6**	**-1.4**
WB2	**Warramunga Arr**	**50.39**	**124**	P	**P**	**18 13 58.2**	**+0.2**
WB2				IAmb	IAmb	18 14 14.4	
	comp=Z,8.0nm,1.2s						
WR0	**Warramunga Arr**	**50.56**	**124**	P	**P**	**18 13 59.4**	**+0.1**
ASAR	**Alice Springs**	**51.96**	**129**	P	**P**	**18 14 09.8**	**0.0**
	comp=Z,0.4nm,0.7s,baz=299,slow=8.4,SNR=6.4						
FINES	**FINESS Array B**	**71.25**	**332**	P	**P**	**18 16 17.5**	**-1.8**
	comp=Z,2.4nm,0.9s,baz=116,slow=6.3,SNR=3.7						
ESDC	**Sonseca Array**	**89.18**	**310**	P	**P**	**18 17 56.3**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=57,slow=4.7,SNR=1.4						

*TAP **26** 18:10:40.9, 25.01N×122.21E, h13km, ML2.5, C*
*JMA **26** 18:10:41.0, 24.99N×122.23E, h27km±4km, M2.3*

ISC 26 18:10:40.3±1.0, 25.01N±0.03×122.27E±0.02, h14km±7km, n63, σ0s54/114, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.25**	**270**	*i* P	**Pg**	**18 10 45.9**	**+0.2**
TWB1	baz=269			*i* S	**Sg**	**18 10 48.9**	**-0.5**
TIPB	**Shuangxi**	**0.40**	**265**	P	**Pg**	**18 10 47.9**	**-0.5**
TIPB	baz=263			S	**Sg**	**18 10 53.6**	**-0.2**
NTC	**Toucheng**	**0.42**	**249**	P	**Pb**	**18 10 49.4**	**-0.2**
NTC	baz=253			S	**Sg**	**18 10 54.5**	**0.0**
NWF	**Wu-fen Shan**	**0.44**	**278**	*e*P	**Pb**	**18 10 49.9**	**0.0**
NWF	baz=278			*e*S	**Sg**	**18 10 55.4**	**+0.2**
WFSB	**Wu-fen Shan**	**0.44**	**278**	P	**Pb**	**18 10 49.9**	**0.0**
WFSB	baz=288			*e*S	**Sg**	**18 10 55.5**	**+0.4**
TWC	**Suao**	**0.55**	**224**	*e*P	**Pg**	**18 10 51.1**	**0.0**
TWC	baz=215			S	**Sg**	**18 10 58.8**	**+0.3**
TWE	**Neicheng**	**0.61**	**242**	P	**Pg**	**18 10 52.1**	**-0.2**
TWE	baz=238			S	**Sg**	**18 11 00.9**	**+0.4**
TWA	**Mucha**	**0.62**	**267**	*e*P	**Pg**	**18 10 52.4**	**-0.1**
TWA	baz=266			*e*S	**Sg**	**18 11 00.2**	**-0.4**
YM08	**YM08**	**0.64**	**286**	*e*P	**Pg**	**18 10 52.6**	**-0.1**
YM08	baz=287			*e*S	**Sg**	**18 11 01.4**	**+0.2**
PCYT	**Pengchaiyu**	**0.64**	**344**	*e*P	**Pn**	**18 10 54.1**	**-0.8**
PCYT	baz=348			*e*S	**Sn**	**18 11 05.3**	**+0.4**
YM01	**YM01**	**0.65**	**282**	*i* P	**Pg**	**18 10 53.1**	**+0.2**
YM01	baz=269			S	**Sb**	**18 11 02.5**	**+0.3**
YM11	**YM11**	**0.65**	**284**	P	**Pn**	**18 10 54.2**	**-0.9**
YM11	baz=284			S	**Sb**	**18 11 03.2**	**+0.9**
YM05	**YM05**	**0.65**	**284**	P	**Pb**	**18 10 53.5**	**0.0**
YM05	baz=270			*e*S	**Sb**	**18 11 03.3**	**+0.8**
YM10	**YM10**	**0.66**	**283**	P	**Pb**	**18 10 54.1**	**+0.6**
YM10	baz=270			S	**Sb**	**18 11 03.7**	**+1.2**
TWY	**Chenhua**	**0.66**	**294**	P	**Pb**	**18 10 53.5**	**0.0**
TWY	baz=295			*e*S	**Sn**	**18 11 04.1**	**-1.3**
NSM	**Shimen**	**0.67**	**294**	*e*S	**Sn**	**18 11 05.3**	**-0.3**
YM04	**YM04**	**0.68**	**282**	*e*P	**Pb**	**18 10 54.3**	**+0.5**
YM04	baz=269			S	**Sb**	**18 11 04.1**	**+1.0**
YM03	**YM03**	**0.68**	**284**	*e*P	**Pb**	**18 10 54.0**	**+0.1**
YM03	baz=272			*e*S	**Sn**	**18 11 04.6**	**-1.3**
TAP	**Taipei**	**0.69**	**273**	P	**Pb**	**18 10 54.3**	**+0.2**
TAP	baz=272			S	**Sb**	**18 11 03.9**	**+0.4**
ENAH	**Nanao**	**0.69**	**217**	*e*P	**Pb**	**18 10 54.4**	**+0.2**
ENAH	baz=206			*e*S	**Sb**	**18 11 03.8**	**+0.2**
ANP	**Anpu**	**0.70**	**285**	P	**Pb**	**18 10 54.8**	**+0.5**
ANP	baz=272			*e*S	**Sb**	**18 11 04.5**	**+0.8**
TATO	**Taipei**	**0.71**	**267**	P	**Pb**	**18 10 54.7**	**+0.3**
TATO	baz=267			*e*S	**Sg**	**18 11 03.0**	**-0.3**
NWLT	**Wulai**	**0.73**	**252**	P	**Pg**	**18 10 54.4**	**-0.1**
NWLT	baz=250			S	**Sg**	**18 11 04.5**	**+0.4**
ENTT	**Nioudou**	**0.73**	**240**	P	**Pg**	**18 10 54.5**	**-0.1**
ENTT	baz=238			*e*S	**Sg**	**18 11 03.3**	**-1.0**
ENA	**Nanau**	**0.75**	**220**	P	**Pg**	**18 10 55.2**	**+0.3**
ENA	baz=209			S	**Sg**	**18 11 03.9**	**-0.9**
NTST	**Danshui**	**0.76**	**282**	*e*P	**Pn**	**18 10 56.7**	**+0.2**
	baz=282						
NTST				S	**Sb**	**18 11 05.7**	**+0.4**
	baz=282						
TWS1	**Kuangyinshan**	**0.77**	**277**	*e*P	**Pg**	**18 10 55.2**	**-0.1**
	baz=277						
TWS1				*e*S	**Sn**	**18 11 07.2**	**-1.0**
	baz=277						
NDT	**Datong Townshi**	**0.80**	**239**	*e*P	**Pg**	**18 10 56.0**	**+0.3**
	baz=238						
NDT				*e*S	**Sb**	**18 11 06.5**	**0.0**
	baz=238						
JYNG	**Yonaguni jima**	**0.83**	**132**	P	**Pg**	**18 10 56.7**	**+0.3**
JYNG				*e*S	**Sg**	**18 11 07.8**	**+0.5**
YOJ	**Yonaguni jima**	**0.87**	**129**	*e*P	**Pn**	**18 10 58.2**	**+0.2**
	baz=116						
YOJ				*e*S	**Sn**	**18 11 10.1**	**-0.5**
	baz=116						
YOJ	**Yonaguni jima**	**0.87**	**129**	P	**Pb**	**18 10 57.2**	**+0.1**
YOJ				S	**Sg**	**18 11 08.8**	**+0.2**
YHNB	**Yeheng**	**0.88**	**247**	P	**Pb**	**18 10 57.2**	**-0.1**
	baz=261						
YHNB				*e*S	**Sb**	**18 11 08.0**	**-0.9**
	baz=261						
NCUH	**Zhongli**	**0.98**	**268**	*e*S	**Sn**	**18 11 14.2**	**+0.9**
	baz=267						
NNS	**Nan Shan**	**0.99**	**235**	P	**Pn**	**18 11 00.1**	**+0.2**
	baz=233						
NNS				S	**Sg**	**18 11 12.9**	**+0.5**
	baz=233						
NNSB	**Datong**	**0.99**	**234**	*e*P	**Pb**	**18 10 58.2**	**-1.0**
	baz=233						
NNSB				*e*S	**Sb**	**18 11 12.6**	**+0.4**
	baz=233						
NNSH	**Datong**	**0.99**	**234**	*e*P	**Pb**	**18 10 59.2**	**0.0**
	baz=233						
NNSH				*e*S	**Sg**	**18 11 12.9**	**+0.5**
	baz=233						
NACB	**Ninganchiao**	**1.03**	**216**	*e*P	**Pb**	**18 10 59.6**	**-0.3**
	baz=205						
NACB				*e*S	**Sb**	**18 11 13.3**	**0.0**
	baz=205						
ETLH	**Xiulin Townshi**	**1.07**	**222**	*e*P	**Pb**	**18 11 00.6**	**-0.1**
	baz=221						
ETLH				*e*S	**Sb**	**18 11 14.7**	**+0.2**
	baz=221						
TWD	**Chiawan**	**1.11**	**213**	P	**Pb**	**18 11 01.1**	**-0.1**
	baz=204						
TWD				*e*S	**Sb**	**18 11 15.0**	**-0.5**
	baz=204						
LIOB	**Emei**	**1.19**	**253**	*e*P	**Pn**	**18 11 02.4**	**-0.1**
	baz=251						
LIOB				*e*S	**Sn**	**18 11 18.5**	**-0.1**
	baz=251						
FUSS	**Fushou**	**1.20**	**231**	P	**Pb**	**18 11 03.1**	**+0.1**
	baz=220						
FUSS				*e*S	**Sb**	**18 11 18.7**	**+0.3**
	baz=220						
NSTT	**Nanjuang**	**1.21**	**252**	P	**Pn**	**18 11 02.5**	**-0.2**
	baz=250						
NSTT				S	**Sb**	**18 11 18.2**	**-0.2**
	baz=250						
TWT	**Tachien**	**1.25**	**233**	*e*P	**Pb**	**18 11 03.9**	**+0.2**
	baz=232						
TWT				S	**Sg**	**18 11 22.2**	**+1.6**
	baz=232						
WHF	**Hehuan Shan**	**1.25**	**227**	*e*P	**Pn**	**18 11 03.9**	**+0.1**
	baz=225						
WHF				*e*S	**Sg**	**18 11 21.1**	**+0.2**
	baz=225						
TDCB	**Techi**	**1.26**	**233**	P	**Pb**	**18 11 04.1**	**+0.2**
	baz=246						
TDCB				*e*S	**Sg**	**18 11 21.9**	**+0.9**
	baz=246						
CHGB	**Renai**	**1.37**	**227**	*e*P	**Pb**	**18 11 06.2**	**+0.3**
	baz=211						
CHGB				*e*S	**Sg**	**18 11 25.1**	**+0.5**
	baz=211						
WHP	**Taichung City**	**1.41**	**239**	*e*P	**Pg**	**18 11 07.2**	**-0.1**
	baz=251						
WHP				*e*S	**Sg**	**18 11 25.2**	**-0.5**
	baz=251						
IRIF	**Iriomote-Funau**	**1.49**	**116**	P	**Pn**	**18 11 06.6**	**0.0**
VWDT	**VWDT**	**1.62**	**220**	*e*P	**Pb**	**18 11 09.7**	**-0.2**
	baz=219						
VWDT				*e*S	**Sb**	**18 11 31.5**	**+1.4**
	baz=219						
SMLT	**Sun Moon Lake**	**1.68**	**228**	*e*P	**Pg**	**18 11 12.0**	**-0.5**
	baz=215						
TCU	**Taichung**	**1.68**	**240**	*e*P	**Pg**	**18 11 12.5**	**-0.1**
	baz=254						
TYC	**Yuchr**	**1.69**	**230**	*e*P	**Pb**	**18 11 11.8**	**+0.7**
	baz=216						
HGSD	**Ruisui**	**1.69**	**207**	*e*P	**Pb**	**18 11 10.7**	**-0.5**
	baz=187						
HGSD				*e*S	**Sb**	**18 11 32.0**	**-0.4**
	baz=187						
SSLB	**Suanglung**	**1.71**	**225**	*e*P	**Pb**	**18 11 11.3**	**-0.1**
	baz=224						
SSLB				*e*S	**Sb**	**18 11 33.6**	**+0.8**
	baz=224						
EHY	**Hungye**	**1.73**	**210**	*e*P	**Pn**	**18 11 10.2**	**+0.4**
	baz=210						
EHY				*e*S	**Sb**	**18 11 32.9**	**-0.4**
	baz=210						
JKRS	**Kuro-shima**	**1.76**	**115**	P	**Pb**	**18 11 11.9**	**-0.5**
YULB	**Yu-li**	**1.84**	**209**	*e*P	**Pn**	**18 11 10.6**	**-0.8**
	baz=209						
YULB				*e*S	**Sn**	**18 11 34.4**	**-0.1**
	baz=209						
EYUL	**Yuli**	**1.87**	**208**	*e*P	**Pn**	**18 11 12.1**	**+0.3**
	baz=209						
ALS	**Alishan**	**2.00**	**222**	*e*P	**Pb**	**18 11 16.4**	**-0.3**
	baz=206						
FULB	**Fuli**	**2.01**	**206**	*e*P	**Pb**	**18 11 15.4**	**-1.2**
	baz=192						
CHN5	**Tsauling**	**2.02**	**226**	P	**Pb**	**18 11 16.8**	**0.0**
	baz=223						
ELDTW	**Lidau**	**2.14**	**212**	P	**Pn**	**18 11 16.8**	**+1.2**
	baz=198						
EDH	**Donghe**	**2.21**	**204**	*e*P	**Pn**	**18 11 16.4**	**-0.1**
	baz=188						
EDH				*e*S	**Sn**	**18 11 43.7**	**+0.1**
	baz=188						

IDC 26 18:13:52.0±4.9, 5.31S×131.87E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.3/34, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=331.2km s-min=33.1km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.74**	**171**	Pn	**Pn**	18 17 21.3	-0.7
	0.2nm,0.3s,baz=352,slow=13,SNR=11						
WRA				Sn	Sn	18 19 55.3	-11
	0.1nm,0.3s,baz=351,slow=24,SNR=2.0						
ASAR	**Alice Springs**	**18.36**	**174**	P	P	18 18 08.4	0.0
	0.1nm,0.3s,baz=347,slow=11,SNR=8.0						
MKAR	**Makanchi Array**	**67.86**	**326**	P	P	18 24 52.4	0.0
	0.2nm,0.4s,baz=121,slow=7.3,SNR=1.9						

*NEIC **26** 18:16:28.7±1.6, 6.57S±0.08×155.04E±0.06, h59km±5km, mb4.8/67, Error ellipse: s-maj=11.5km s-min=8.6km az=207.0*
*IDC **26** 18:16:31.1±1.4, 6.53S×155.00E, h79km±12km, mb4.0/19, mb1 4.2/23, mb1mx4.1/39, mbtmp4.3/23, MS3.3/12, Ms1 3.3/12, ms1mx3.1/33, Error ellipse: s-maj=13.9km s-min=8.9km az=46.0*
*DJA **26** 18:16:32.0±1.3, 7.5±5.5×15.5E±1.0, h86km±8km, M5.0/16, mb4.4/16, mB5.6/2, MLv5.4/1, Mw(mB)5.1/2*

ISC 26 18:16:28.6±0.3, 6.53S±0.05×155.07E±0.05, h56km, n122, σ1s23/123, mb4.7/57, MS3.5/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.71**	**309**	Pn	**Pn**	**18 17 24.2**	**+0.7**
KRVT	**Keravat (AS076**	**3.75**	**306**	P	**Pn**	**18 17 25.2**	**+1.3**
	8.6nm,0.3s,baz=26,slow=2.8,SNR=16						
KRVT				S	**Sn**	**18 18 08.8**	**+2.0**
	38nm,0.3s,baz=178,slow=21,SNR=5.2						
KRVT				LR	LR	18 19 13.0	
	comp=Z,493nm,19.9s,baz=96,slow=44						
HNR	**Honiara**	**5.63**	**121**	P	**Pn**	**18 17 53.3**	**+3.5**
	12nm,0.3s,baz=275,slow=1.9,SNR=8.7						
HNR				S	**Sn**	**18 18 58.8**	**+5.6**
	baz=306,slow=23,SNR=1.7						
HNR				LR	LR	18 20 02.9	
	comp=Z,331nm,19.6s,baz=300,slow=37						
HNR	**Honiara**	**5.63**	**121**	Pn	**Pn**	**18 17 49.6**	**-0.1**
PMG	**Port Moresby**	**8.34**	**249**	P	**Pn**	**18 18 28.6**	**+1.7**
	6.4nm,0.3s,baz=72,slow=6.0,SNR=23						
PMG				S	**Sn**	**18 20 03.1**	**+3.5**
	1.9nm,0.3s,baz=84,slow=20,SNR=3.2						
PMG				LR	LR	18 21 52.1	
	comp=Z,231nm,18.3s,baz=54,slow=39						
PMG	**Port Moresby**	**8.34**	**249**	Pn	**Pn**	**18 18 26.1**	**-0.8**
PATS	**Pohnpei**	**13.67**	**14**		**Pn**	**18 19 38.7**	**-1.1**
COEN	**Coen**	**13.83**	**237**	Pn	**Pn**	**18 19 43.9**	**+2.0**
SANVU	**Saraoutou**	**14.84**	**128**	Pn	**Pn**	**18 19 53.5**	**-1.7**
CTAO	**Charters Tower**	**15.96**	**212**	P	**Pn**	**18 20 10.9**	**+1.2**
SMPI	**Sarmi**	**16.92**	**285**	P	**P**	**18 20 23.5**	**+0.5**
	6.9nm,1.1s						
DZM	**Mont Dzumac**	**18.96**	**146**	P	**Pn**	**18 20 46.9**	**+0.3**
	1.1nm,0.3s,baz=184,slow=19,SNR=12						
DZM	**Mont Dzumac**	**18.96**	**146**	P	**Pn**	**18 20 47.0**	**+0.3**
EIDS	**Eidsvold**	**19.12**	**191**	P	**P**	**18 20 45.2**	**-1.9**
GUMO	**Guam**	**22.41**	**333**	LR	LR	18 31 14.6	
	comp=Z,14nm,18.4s,baz=150,slow=40						
GUMO	**Guam**	**22.41**	**333**	P	**P**	**18 21 24.9**	**+2.2**
FAKI	**Fak Fak**	**23.02**	**278**	P	**P**	**18 21 29.0**	**-0.1**
ARMA	**Armidale**	**23.98**	**187**	P	**P**	**18 21 39.0**	**+0.9**
ARMA					IAmb	IAmb	18 21 59.1
	comp=Z,97nm,1.6s						
WR0	**Warramunga Arr**	**23.99**	**234**	P	**P**	**18 21 38.1**	**-0.1**
WR0					IAmb	IAmb	18 21 40.0
	comp=Z,35nm,1.6s						
WB0	**Warramunga Arr**	**24.01**	**235**	P	**P**	**18 21 38.4**	**0.0**
WC3	**Warramunga Arr**	**24.12**	**234**	P	**P**	**18 21 39.8**	**+0.3**
WB2	**Warramunga Arr**	**24.13**	**234**	P	**P**	**18 21 39.6**	**+0.1**
WB2					IAmb	IAmb	18 21 40.6
	comp=Z,45nm,1.8s						
WRA	**Warramunga Arr**	**24.14**	**234**	P	**P**	**18 21 39.8**	**+0.2**
	comp=Z,5.8nm,0.5s,baz=57,slow=9.7,SNR=37						
WRA				PcP	**PcP**	**18 25 19.6**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=61,slow=2.3,SNR=10.0						
WRA	**Warramunga Arr**	**24.14**	**234**	P	**P**	**18 21 38.4**	**-1.2**
SIJI	**Sorong**	**24.40**	**282**	P	**P**	**18 21 42.3**	**+0.3**
	comp=Z,18nm,0.8s,baz=360,slow=15,SNR=6.0						
MTN	**Manton Dam**	**24.40**	**253**	P	**P**	**18 21 42.3**	**+0.4**
AS31	**Alice Springs**	**26.53**	**228**	P	**P**	**18 21 59.8**	**-1.5**
ASAR	**Alice Springs**	**26.53**	**228**	P	**P**	**18 22 00.7**	**-0.6**
	comp=Z,4.2nm,0.6s,baz=60,slow=8.7,SNR=79						
ASAR				PcP	**PcP**	**18 25 25.2**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=60,slow=2.6,SNR=13						
KNRA	**Kununurra**	**27.33**	**248**	P	**P**	**18 22 08.5**	**-0.1**
KNRA					IAmb	IAmb	18 22 44.8
	comp=Z,26nm,1.3s						
H11S3	**WAKE ISLAND Hy**	**27.38**	**25**	T	T	18 50 40.9	
	baz=203,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy**	**27.39**	**25**	T	T	18 50 34.9	
	baz=203,slow=76,SNR=41						
H11S1	**WAKE ISLAND Hy**	**27.40**	**25**	T	T	18 50 18.5	
	baz=203,slow=76,SNR=29						
STKA	**Stephens Creek**	**28.18**	**205**	P	**P**	**18 22 14.8**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=27,slow=14,SNR=8.2						
STKA				PcP	**PcP**	**18 25 28.3**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=7.3,slow=5.8,SNR=4.6						
STKA				LR	LR	18 33 09.2	
	comp=Z,119nm,20.1s,baz=25,slow=35						
STKA	**Stephens Creek**	**28.18**	**205**	P	**P**	**18 22 15.2**	**-0.8**
H11N1	**WAKE ISLAND Hy**	**28.56**	**24**	T	T	18 51 52.1	
	baz=205,slow=76,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**28.57**	**24**	T	T	18 51 47.7	
	baz=205,slow=76,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**28.58**	**24**	T	T	18 52 01.8	
	baz=205,slow=76,SNR=3.9						
SOEI	**Soe**	**30.65**	**262**	P	**P**	**18 22 39.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**30.91**	**245**	P	**P**	**18 22 39.6**	**-0.6**
BBOO	**Buckleboo**	**31.57**	**212**	P	**P**	**18 22 45.0**	**-0.9**
BBOO					IAmb	IAmb	18 22 45.4
	comp=Z,28nm,1.7s						
KMSI	**Cibinong**	**31.82**	**282**	P	**P**	**18 22 49.1**	**+0.8**
	comp=Z,38nm,0.6s						
MMRI	**Maumere**	**32.60**	**264**	P	**P**	**18 22 55.0**	**-0.2**
GTOI	**Gorontalo**	**32.77**	**281**	P	**P**	**18 22 57.9**	**+1.2**
	comp=Z,13nm,1.0s						
EDFI	**Ende, Flores**	**33.15**	**264**	P	**P**	**18 22 59.3**	**-0.8**
	comp=Z,15nm,0.9s						
FORT	**Forrest**	**34.97**	**223**	P	**P**	**18 23 14.5**	**-1.1**
FORT					IAmb	IAmb	18 23 15.5
	comp=Z,18nm,0.8s						
PSAD2	**Pilbara Seismi**	**37.08**	**243**	P	**P**	**18 23 32.3**	**-1.5**
PSAC2	**Pilbara Seismi**	**37.12**	**243**	P	**P**	**18 23 33.5**	**-0.6**
PSAC2					IAmb	IAmb	18 23 51.7
	comp=Z,33nm,1.8s						
PSAD1	**Pilbara Seismi**	**37.15**	**243**	P	**P**	**18 23 34.0**	**-0.4**
PSAD1					IAmb	IAmb	18 23 42.6
	comp=Z,9.3nm,0.8s						
PSAB2	**Pilbara Seismi**	**37.15**	**243**	P	**P**	**18 23 33.6**	**-0.8**
PSAB2					IAmb	IAmb	18 23 35.5
	comp=Z,29nm,1.6s						
PSAA3	**Pilbara Seismi**	**37.16**	**243**	P	**P**	**18 23 34.1**	**-0.4**
PSA00	**Pilbara Seismi**	**37.17**	**243**	P	**P**	**18 23 33.5**	**-1.1**
PSA00					IAmb	IAmb	18 23 35.6
	comp=Z,32nm,1.8s						
PSAA1	**Pilbara Seismi**	**37.18**	**243**	P	**P**	**18 23 33.5**	**-1.2**
PSAA1					IAmb	IAmb	18 23 35.6
	comp=Z,29nm,1.7s						
PSAC1	**Pilbara Seismi**	**37.19**	**243**	P	**P**	**18 23 34.2**	**-0.5**
PSAC1					IAmb	IAmb	18 23 38.8
	comp=Z,8.1nm,1.0s						
PSAC3	**Pilbara Seismi**	**37.20**	**243**	P	**P**	**18 23 33.7**	**-1.1**
PSAC3					IAmb	IAmb	18 23 48.7
	comp=Z,29nm,1.7s						
PSAD3	**Pilbara Seismi**	**37.25**	**243**	P	**P**	**18 23 34.0**	**-1.2**
URZ	**Urewera**	**37.38**	**151**	P	**P**	**18 23 35.4**	**-0.7**
	comp=Z,16nm,1.1s,baz=323,slow=5.1,SNR=2.8						
URZ				LR	LR	18 38 21.4	
	comp=Z,96nm,18.3s,baz=186,slow=35						
URZ	**Urewera**	**37.38**	**151**	P	**P**	**18 23 35.3**	**-0.7**
URZ					IAmb	IAmb	18 23 39.1
	comp=Z,20nm,1.3s						
QRZ	**Quartz Range**	**37.55**	**158**	P	**P**	**18 23 37.5**	**0.0**
BKZ	**Black Stump Fm**	**37.81**	**152**	P	**P**	**18 23 39.7**	**-0.1**
BKZ					IAmb	IAmb	18 23 46.3
	comp=Z,32nm,1.7s						
MYLDM	**Lahad Datu**	**38.31**	**287**	P	**P**	**18 23 44.8**	**+0.6**
THZ	**Tophouse**	**38.51**	**158**	P	**P**	**18 23 44.9**	**-0.7**
THZ					IAmb	IAmb	18 23 46.5
	comp=Z,11nm,0.8s						
TUWZ	**Tuamarina**	**38.61**	**157**	P	**P**	**18 23 45.4**	**-0.9**
BSWZ	**Blackbirch Sta**	**38.83**	**157**	P	**P**	**18 23 48.3**	**+0.1**
BFZ	**Birch Farm**	**38.93**	**154**	P	**P**	**18 23 48.8**	**-0.3**
MSWZ	**Moikau Station**	**39.12**	**156**	P	**P**	**18 23 49.1**	**-1.5**
LTZ	**Lake Taylor**	**39.18**	**160**	P	**P**	**18 23 49.3**	**-1.8**
LTZ					IAmb	IAmb	18 23 52.1
	comp=Z,41nm,1.8s						
PLWZ	**Palliser**	**39.25**	**156**	P	**P**	**18 23 50.4**	**-1.3**
KHZ	**Kahutara**	**39.31**	**158**	P	**P**	**18 23 51.0**	**-1.1**
KHZ					IAmb	IAmb	18 23 52.2
	comp=Z,12nm,0.8s						
OXZ	**Oxford**	**39.58**	**160**	P	**P**	**18 23 53.1**	**-1.3**
OXZ					IAmb	IAmb	18 23 56.9
	comp=Z,24nm,1.5s						
RPZ	**Rata Peaks**	**39.61**	**162**	P	**P**	**18 23 54.5

comp=Z,1.0nm,0.6s,baz=143,slow=7.1,SNR=5.2
KSRS LR LR 18 43 39.3
comp=Z,11nm,21.4s,baz=265,slow=32
NJ2 Nanjing 51.60 320 *eP* **P 18 25 31.0 +1.5**
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
KULM Kulim 55.57 281 P **P 18 25 58.2 -0.7**
GSI Gunungsitoli 57.91 276 P **P 18 26 14.3 -1.3**
PBKT Sadao Pong 58.21 294 P **P 18 26 17.4 -0.2**
PBKT IAmb IAmb 18 26 19.2
comp=Z,14nm,1.5s
PHIT Phitsanulok 58.91 294 P **P 18 26 23.0 +0.6**
UTTA Uttaradit 58.97 295 P **P 18 26 21.9 -0.9**
CM31 Chiang Mai Arr 60.65 295 P **P 18 26 35.1 +0.7**
CMAR Chiang Mai Arr 60.65 295 P **P 18 26 35.6 +1.2**
comp=Z,8.5nm,0.7s,baz=124,slow=5.3,SNR=55
CMAR LR LR 18 53 29.8
comp=Z,8.9nm,18.9s,baz=245,slow=37
HHC Hu-ho-hao-te 61.76 324 *eP* **P 18 26 40.8 -0.9**
HHC sS sS 18 35 33.0 +6.7
HHC ScS **ScS 18 36 32.8 +4.0**
HHC pmax pmax
comp=Z,21nm,1.2s
HHC pmax pmax
comp=Z,97nm,6.1s
HHC LR LR
comp=N,110nm,18.4s
HHC LR LR
comp=E,120nm,16.6s
HHC LR LR
comp=Z,81nm,17.2s
LZH Lanzhou 64.03 315 *eP* **P 18 26 59.8 +2.9**
LZH pP pP 18 27 15.0 +2.8
LZH sP sP 18 27 21.0 +2.5
LZH pmax pmax
comp=Z,24nm,1.3s
LZH pmax pmax
comp=Z,90nm,5.1s
LZH LR LR
comp=N,250nm,15.3s
LZH LR LR
comp=E,230nm,15.2s
LZH LR LR
comp=Z,380nm,18.0s
MA2 Magadan 65.98 358 P **P 18 27 08.6 -0.2**
MA2 IAmb IAmb 18 27 12.2
comp=Z,5.3nm,0.7s
SONM Songino Array 68.98 327 P **P 18 27 28.4 +0.2**
comp=Z,1.8nm,0.8s,baz=132,slow=6.1,SNR=12
SONM LR LR 18 58 22.8
comp=Z,17nm,18.6s,baz=72,slow=36
SHL Shillong 69.12 300 **P 18 27 29.5 -0.1**
SHL IAmb IAmb 18 27 42.1
comp=Z,7.9nm,0.9s
VNDA Vanda 71.04 178 P **P 18 27 40.0 -0.2**
comp=Z,0.9nm,0.7s,baz=333,slow=6.6,SNR=8.8
VNDA Vanda 71.04 178 P **P 18 27 40.1 -0.1**
CNPM China Poot 78.31 25 P **P 18 28 22.9 +0.3**
CNPM IAmb IAmb 18 28 25.7
comp=Z,13nm,0.7s
WMQ Urumqi 78.53 317 *eP* **P 18 28 25.5 +1.3**
SUA Susitna One 79.62 23 P **P 18 28 29.0 -0.8**
SUA IAmb IAmb 18 28 32.7
comp=Z,6.4nm,0.6s
GHO Glory Hole Cre 80.52 24 P **P 18 28 34.4 -0.2**
GHO IAmb IAmb 18 28 37.0
comp=Z,5.6nm,0.8s
RND Reindeer 81.45 22 P **P 18 28 39.1 -0.4**
KLU Klutina 81.59 25 P **P 18 28 40.9 +0.6**
KLU IAmb IAmb 18 28 45.8
comp=Z,5.5nm,0.8s
MCK McKinley 81.60 22 P **P 18 28 39.9 -0.4**
MCK IAmb IAmb 18 28 42.5
comp=Z,5.6nm,0.8s
DHY Denali Highway 81.83 23 P **P 18 28 41.6 0.0**
ILAR Eielson Array 82.92 21 P **P 18 28 46.2 -0.9**
comp=Z,0.9nm,0.8s,baz=256,slow=4.8,SNR=8.3
ILAR LR LR 19 00 33.6
comp=Z,38nm,21.0s,baz=250,slow=32
MK31 Makanchi Array 83.10 319 P **P 18 28 48.0 -0.5**
MKAR Makanchi Array 83.10 319 P **P 18 28 47.9 -0.6**
comp=Z,1.9nm,0.8s,baz=97,slow=6.2,SNR=11
DOT Dot Lake 83.41 23 P **P 18 28 49.3 -0.4**
QSPA South Pole Qui 83.44 180 P **P 18 28 49.8 -0.3**
QSPA IAmb IAmb 18 28 50.4
comp=Z,7.3nm,0.8s
ZALV Zalesovo Beam 83.83 326 P **P 18 28 50.6 -1.4**
comp=Z,1.1nm,0.3s,baz=122,slow=5.2,SNR=1.8
MAW Mawson 84.85 203 P **P 18 28 56.6 -0.4**
comp=Z,2.9nm,0.6s,baz=112,slow=5.5,SNR=15
HYT Haines Junctio 84.93 27 P **P 18 28 58.1 +0.6**
HYT IAmb IAmb 18 29 01.4
comp=Z,8.4nm,0.7s
EGAK Eagle 85.06 23 P **P 18 28 58.5 +0.5**
NVAR Mina Array Bea 91.38 52 P **P 18 29 29.9 +0.8**
comp=Z,1.0nm,0.7s,baz=240,slow=6.6,SNR=7.4
BVAR Borovoye Array 91.97 323 P **P 18 29 29.0 -2.2**
comp=Z,0.2nm,0.5s,baz=67,slow=8.0,SNR=2.4
YKA Yellowknife Ar 95.89 28 P **P 18 29 49.3 +0.3**
comp=Z,2.6nm,0.8s,baz=267,slow=4.4,SNR=7.6
PDAR Pinedale Array 98.34 48 P **P 18 30 00.3 -0.5**
comp=Z,0.1nm,0.4s,baz=231,slow=5.7,SNR=2.1
PDAR LR LR 19 08 28.1
comp=Z,19nm,19.9s,baz=250,slow=32
PV17 East Wray Mesa 98.69 52 P **P 18 30 01.9 -0.6**
BOSA Boshof 120.36 232 PKP **PKPdf 18 35 13.8 -0.7**
comp=Z,2.4nm,0.9s,baz=140,slow=5.3,SNR=3.7
GERES GERESS Array B 126.69 329 PKP **PKPdf 18 35 24.6 -1.5**
comp=Z,0.3nm,0.4s,baz=225,slow=0.4,SNR=4.3
BDFB Brasilia 148.25 134 PKPbc **PKiKP 18 36 11.2 -0.2**
comp=Z,3.3nm,0.6s,baz=289,slow=1.5,SNR=5.0
TORD Torodi Ar. Bea 152.97 286 PKPbc **PKPbc 18 36 19.6 -1.2**
comp=Z,3.3nm,0.7s,baz=63,slow=0.5,SNR=19
TORD PKPab **PKPab 18 36 32.3 +0.1**
comp=Z,1.5nm,0.6s,baz=78,slow=3.4,SNR=5.5
DBIC Dimbokro 160.05 272 PKPab **PKPab 18 37 01.5 -1.2**
comp=Z,5.7nm,0.9s,baz=252,slow=21,SNR=4.9

*JMA **26** 18:33:00.3, 23.04N×121.41E, h0km, M2.8*
TAP 26 18:33:02.6, 23.10N×121.16E, h16km, ML3.1, 13C-5D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ELDTW	**Lidau** baz=306	**0.16**	**305**	⇑*iP*			Pg	18 33 06.8	0.0
ELDTW				*e*S			Sg	18 33 09.3	-0.3
FULB	**Fuli** baz=40	**0.16**	**50**	⇑*iP*			Pb	18 33 07.2	-0.1
FULB				*e*S			Sb	18 33 11.5	+1.1
EDH	**Donghe** baz=133	**0.18**	**133**	⇓*iP*			Pb	18 33 07.5	-0.1
EDH				*e*S			Sb	18 33 11.2	+0.4
CHKT	**Chengkung** baz=103	**0.19**	**89**	⇑*iP*			Pb	18 33 07.8	0.0
CHKT				S			Sb	18 33 12.0	+0.8
LONT	**Longtian** baz=196	**0.19**	**188**	⇓*iP*			Pg	18 33 07.3	+0.2
LONT				S			Sb	18 33 11.2	0.0
TWF1	**Yuli** baz=18	**0.28**	**26**	⇑*iP*			Pg	18 33 08.5	-0.2
TWF1				*e*S			Sg	18 33 12.9	+0.1
TWG	**Pinlang** baz=205	**0.28**	**197**	⇓*iP*			Pg	18 33 08.6	0.0
TWG				*e*S			Sb	18 33 13.6	-0.3
TWGBT	**Beinan** baz=205	**0.29**	**195**	⇓*iP*			Pg	18 33 08.6	-0.1
TWGBT				S			Sb	18 33 13.5	-0.4
EYUL	**Yuli** baz=20	**0.29**	**30**	*eP*			Pg	18 33 08.5	-0.3
EYUL				*e*S			Sg	18 33 13.2	+0.2
YULB	**Yu-li** baz=22	**0.32**	**23**	⇑*iP*			Pg	18 33 08.9	-0.4
YULB				*e*S			Sg	18 33 13.6	-0.4
TTN	**Taitung** baz=193	**0.34**	**182**	*eP*			Pb	18 33 10.6	+0.3
TTN				*e*S			Sb	18 33 17.1	+1.6
STYT	**Tauyuan** baz=284	**0.38**	**280**	⇑*iP*			Pg	18 33 10.6	+0.3
STYT				S			Sb	18 33 16.2	-0.4
EHY	**Hungye** baz=19	**0.43**	**20**	P			Pg	18 33 10.7	-0.6
EHY				*e*S			Sg	18 33 17.4	+0.1
YUS	**Yu-Shan** baz=327	**0.44**	**334**	P			Pg	18 33 11.8	+0.2
HGSD	**Ruisui** baz=21	**0.46**	**31**	⇑*iP*			Pg	18 33 11.8	0.0
HGSD				*e*S			Sb	18 33 20.4	+1.3
SLGT	**Liugui** baz=262	**0.48**	**258**	⇑*iP*			Pb	18 33 12.8	0.0
SLGT				*e*S			Sb	18 33 19.3	-0.3
LDUT	**Ludao** baz=134	**0.51**	**146**	*eP*			Pg	18 33 12.3	-0.4
LDUT				*e*S			Sb	18 33 20.0	-0.3
WTP	**Ta-pu** baz=287	**0.52**	**287**	⇑*iP*			Pb	18 33 13.7	+0.2
WTP				*e*S			Sb	18 33 21.9	+1.0
ALS	**Alishan** baz=321	**0.53**	**322**	*eP*			Pn	18 33 14.8	-1.0
ALS				*e*S			Sb	18 33 21.2	0.0
TPUB	**Ta-pu** baz=301	**0.53**	**293**	⇑*iP*			Pb	18 33 13.8	+0.2
TPUB				S			Sb	18 33 21.7	+0.7
ECL	**Taimali** baz=191	**0.53**	**201**	*eP*			Pg	18 33 12.8	-0.3
ECL				*e*S			Sg	18 33 19.8	-0.4
SGST	**Jiashian** baz=270	**0.53**	**269**	⇑*iP*			Pg	18 33 13.0	-0.1
SGST				*e*S			Sb	18 33 20.9	-0.1
CHN1	**Nanshi** baz=277	**0.59**	**279**	⇑*iP*			Pb	18 33 15.3	+0.7
CHN1				*e*S			Sn	18 33 24.7	-1.0
EGFH	**Guangfu** baz=21	**0.62**	**23**	P			Pg	18 33 14.7	-0.1
EGFH				*e*S			Sg	18 33 22.9	-0.2
SNST	**Tainan City** baz=282	**0.62**	**282**	*eP*			Pb	18 33 15.9	+0.8
SNST				*e*S			Sn	18 33 25.5	-1.0
TWK	**Hsinying** baz=286	**0.64**	**286**	*eP*			Pb	18 33 15.9	+0.4
TWK				*e*S			Sg	18 33 23.9	+0.1
SCST	**Cishan** baz=252	**0.65**	**251**	*eP*			Pb	18 33 16.3	+0.8
SCST				*e*S			Sn	18 33 26.4	-0.7
VWDT	**VWDT** baz=352	**0.66**	**358**	⇓*iP*			Pg	18 33 15.5	0.0
VWDT				*e*S			Sb	18 33 24.7	+0.1
WHYT	**Xinyi Township** baz=334	**0.66**	**335**	*eP*			Pg	18 33 15.1	-0.5
WHYT				*e*S			Sb	18 33 25.8	+1.0
CHN5	**Tsauling** baz=318	**0.67**	**319**	*eP*			Pb	18 33 16.6	+0.7
CHN5				*e*S			Sb	18 33 25.9	+0.8
MASBT	**Mashibuluo** baz=224	**0.68**	**225**	⇑*iP*			Pg	18 33 15.6	-0.3
MASBT				*e*S			Sg	18 33 24.8	-0.2
SSLB	**Suanglung** baz=343	**0.71**	**345**	*eP*			Pn	18 33 17.8	-0.3
SSLB				*e*S			Sb	18 33 26.2	-0.1
SSLB	**Suanglung** baz=49	**0.71**	**345**	*eS*			Pn	18 33 18.0	-0.1
SGLT	**Jiouru** baz=240	**0.72**	**239**	*eP*			Pn	18 33 17.8	-0.3
SGLT				*e*S			Sn	18 33 29.2	+0.4
TWM1	**Shoushan** baz=249	**0.73**	**248**	*eP*			Pn	18 33 18.6	+0.2
CHN3	**Shinhua** baz=279	**0.73**	**269**	*eP*			Pn	18 33 19.2	+0.9
CHN3				*e*S			Sn	18 33 31.4	+2.2
ESL	**Shilin** baz=26	**0.76**	**19**	*eP*			Pg	18 33 17.1	-0.2
ESL				*e*S			Sg	18 33 26.7	-0.7
EAST	**Anshuo** baz=193	**0.77**	**202**	*eP*			Pg	18 33 16.4	-1.1
EAST				*e*S			Sb	18 33 27.7	-0.1
TAW	**Tawu** baz=191	**0.77**	**198**	*eP*			Pg	18 33 16.1	-1.5
TAW				*e*S			Sg	18 33 27.8	-0.1
CHY	**Chiayi** baz=301	**0.79**	**301**	*eP*			Pn	18 33 18.8	-0.3
CHY				*e*S			Sn	18 33 30.8	+0.2
WGK	**Gukeng** baz=317	**0.81**	**317**	*eP*			Pn	18 33 20.2	+0.9
WGK				*e*S			Sn	18 33 32.1	+1.1
SSPT	**Xinbi** baz=217	**0.82**	**222**	*eP*			Pg	18 33 18.9	+0.4
SSPT				*e*S			Sn	18 33 30.5	-0.8
SMLT	**Sun Moon Lake** baz=348	**0.82**	**343**	*eP*			Pn	18 33 20.2	+0.5
SMLT				*e*S			Sn	18 33 31.9	+0.4
SMLT	**Sun Moon Lake** baz=32	**0.82**	**343**	*eS*			Pn	18 33 20.0	+0.3
WDLH	**Douliu** baz=315	**0.82**	**316**	*eP*			Pn	18 33 19.2	-0.3
WDLH				*e*S			Sn	18 33 32.5	+1.1
WJS	**Zhushan** baz=334	**0.82**	**331**	*eP*			Pn	18 33 19.9	+0.3
WJS				*e*S			Sn	18 33 32.8	+1.3
SNJT	**Kaohsiung City** baz=247	**0.83**	**246**	*eP*			Pn	18 33 21.4	+1.7
SNJT				*e*S			Sn	18 33 35.7	+4.1
ICHU	**Yijhu** baz=289	**0.85**	**288**	*eP*			Pn	18 33 20.3	+0.3
ICHU				*e*S			Sn	18 33 33.2	+1.1
TYC	**Yuchr** baz=344	**0.85**	**341**	*eS*			Sn	18 33 32.9	+0.7
SCZT	**Fangliau** baz=219	**0.88**	**215**	*eP*			Pb	18 33 18.6	-0.8
SCZT				*e*S			Sb	18 33 30.4	-0.5
SCLT	**Jiali** baz=288	**0.89**	**275**	*eS*			Sn	18 33 35.9	+2.8
WNT	**Mingjian** baz=330	**0.89**	**331**	*eS*			Sn	18 33 34.7	+1.5
CHN8	**Yiju** baz=287	**0.91**	**286**	*eP*			Pn	18 33 20.8	+0.1
CHN8				*e*S			Sn	18 33 34.9	+1.4
SLIU	**Shizi** baz=196	**0.94**	**201**	*eP*			Pb	18 33 20.0	-0.5
CHGB	**Renai** baz=359	**0.96**	**1**	*eP*			Pb	18 33 20.5	-0.6
CHGB				*e*S			Sg	18 33 34.5	+0.6
HWA	**Hwalien** baz=23	**0.97**	**25**	*eP*			Pn	18 33 22.7	+1.1
WSF	**Szhu** baz=303	**1.02**	**302**	*eP*			Pg	18 33 23.1	+0.8
WSF				*e*S			Sn	18 33 37.5	+1.3
WLCH	**Liuqiu** baz=227	**1.03**	**224**	*eP*			Pg	18 33 26.0	+3.4
TWP	**Hsiaoliuchiu** baz=221	**1.05**	**225**	*eP*			Pg	18 33 25.4	+2.5
TWP				*e*S			Sn	18 33 41.5	+4.5
WHF	**Hehuan Shan** baz=3.0	**1.05**	**5**	*eP*			Pb	18 33 21.7	-1.0
WHF				*e*S			Sb	18 33 36.5	+0.1
TWD	**Chiawan** baz=20	**1.06**	**22**	P			Pb	18 33 22.7	+0.1
TWD				*e*S			Sb	18 33 36.1	-0.1
RLNB	**Erlin** baz=306	**1.08**	**317**	*eP*			Pb	18 33 22.3	-0.6
LAY	**Lan-yu** baz=175	**1.11**	**161**	*eP*			Pb	18 33 21.2	-2.3
WCHH	**Zhanghua** baz=320	**1.12**	**331**	*eP*			Pg	18 33 26.6	+2.3
ETLH	**Xiulin Townshi** baz=26	**1.15**	**15**	*eP*			Pn	18 33 23.9	-0.2
ETLH				*e*S			Sb	18 33 38.6	-0.3
NACB	**Ninganchiao** baz=30	**1.15**	**20**	*eP*			Pn	18 33 23.3	-0.7
FUSS	**Fushou** baz=14	**1.15**	**4**	*eP*			Pb	18 33 23.9	-0.4
FUSS				*e*S			Sn	18 33 39.7	-0.2
TDCB	**Techi** baz=358	**1.15**	**360**	*eP*			Pn	18 33 22.8	-1.5
TWT	**Tachien** baz=358	**1.15**	**1**	*eP*			Pn	18 33 23.3	-1.0
TWK1	**Hengchun** baz=188	**1.19**	**196**	*eP*			Pg	18 33 25.2	-0.4
TWKBT	**Hengchun** baz=188	**1.19**	**196**	*eP*			Pg	18 33 26.0	+0.4
WHP	**Taichung City** baz=356	**1.19**	**351**	*eP*			Pg	18 33 26.5	+0.9
WHP				*e*S			Sg	18 33 43.2	+2.0
TWQ1	**Liyutan** baz=329	**1.30**	**344**	*eP*			Pg	18 33 28.1	+0.6
TWQ1				*e*S			Sg	18 33 46.3	+1.8
WDJ	**Dajia District** baz=337	**1.33**	**339**	*eP*			Pg	18 33 29.1	+0.8
NNSB	**Datong** baz=6.0	**1.34**	**9**	*eP*			Pb	18 33 27.7	+0.2
NNSB				*e*S			Sb	18 33 45.1	+0.5
NNSH	**Datong** baz=6.0	**1.34**	**9**	*eP*			Pb	18 33 27.9	+0.4
NNSH				*e*S			Sn	18 33 44.1	-0.4
NNS	**Nan Shan** baz=6.0	**1.35**	**8**	*eP*			Pg	18 33 28.4	-0.3
NNS				*e*S			Sg	18 33 46.6	+0.3
NSY	**Sanyi** baz=331	**1.36**	**345**	*eP*			Pg	18 33 29.4	+0.6
NSY				*e*S			Sg	18 33 49.4	+2.7
WDGT	**Dungji** baz=279	**1.39**	**277**	*eP*			Pn	18 33 27.5	+0.2
WDGT				*e*S			Sb	18 33 46.0	+0.2
PTSB	**Yuanli** baz=341	**1.41**	**343**	*eP*			Pg	18 33 29.8	+0.1
PTSB				*e*S			Sg	18 33 50.2	+2.1
NMLH	**Miaoli** baz=342	**1.48**	**347**	*eP*			Pg	18 33 30.6	-0.4
PHUB	**P'eng-hu** baz=287	**1.52**	**286**	*eP*			Pn	18 33 28.9	-0.2
NDT	**Datong Townshi** baz=20	**1.54**	**12**	*eP*			Pb	18 33 30.9	+0.2
NDT				*e*S			Sb	18 33 50.8	+0.8
NSTT	**Nanjuang** baz=349	**1.54**	**355**	*eP*			Pg	18 33 31.5	-0.7
PNG	**Penghu** baz=289	**1.55**	**288**	*eP*			Pn	18 33 30.2	+0.6
LIOB	**Emei** baz=349	**1.55**	**355**	*eP*			Pg	18 33 31.7	-0.7
YHNB	**Yeheng** baz=3.0	**1.58**	**7**	*eP*			Pn	18 33 30.2	+0.2
ENTT	**Nioudou** baz=23	**1.58**	**14**	*eP*			Pb	18 33 31.1	-0.4
VCHM	**Qimei** baz=275	**1.60**	**274**	*eP*			Pn	18 33 30.3	+0.1
TWE	**Neicheng** baz=26	**1.68**	**16**	*eP*			Pb	18 33 33.4	+0.2
NWLT	**Wulai** baz=21	**1.70**	**11**	*eP*			Pn	18 33 32.5	+0.8
TATO	**Taipei** baz=20	**1.90**	**9**	*eP*			Pb	18 33 37.7	+0.8
TIPB	**Shuangxi** baz=25	**1.96**	**18**	*eP*			Pn	18 33 34.9	-0.4
YM01	**YM01** baz=20	**2.08**	**10**	*eP*			Pb	18 33 39.7	-0.3
YM04	**YM04** baz=19	**2.08**	**9**	*eP*			Pb	18 33 39.6	-0.4
YM10	**YM10** baz=20	**2.08**	**10**	*eP*			Pb	18 33 39.9	-0.2
YM05	**YM05** baz=20	**2.09**	**10**	*eP*			Pb	18 33 39.6	-0.7
JYNG	**Yonaguni jima**	**2.12**	**50**	P			Pn	18 33 36.6	-0.8
YOJ	**Yonaguni jima** baz=51	**2.17**	**51**	*eP*			Pn	18 33 37.3	-0.9
YOJ	**Yonaguni jima**	**2.17**	**51**	P			Pn	18 33 37.5	-0.7
VWUC	**VWUC** baz=319	**2.45**	**321**	*eP*			Pn	18 33 42.5	+0.6
IRIF	**Iriomote-Funau**	**2.66**	**62**	P			Pn	18 33 44.1	-0.7
PTMZ	**Houxiangcun** baz=315	**2.69**	**316**	*eP*			Pn	18 33 46.2	+1.0
PTTC	**Pingtan** baz=330	**2.71**	**332**	*eP*			Pn	18 33 46.4	+0.9
JKRS	**Kuro-shima**	**2.85**	**66**	P			Pn	18 33 46.9	-0.5
JIJ	**Ishigaki jima**	**3.01**	**65**	P			Pn	18 33 48.4	-1.3
JISG	**Ishigakijimahi**	**3.25**	**62**	P			Pn	18 33 51.5	-1.4
JISG							S	Sn	18 34 28.9	-2.3
AXDP	**Jialang** baz=303	**3.43**	**302**	*eP*			Pn	18 33 56.0	+0.6
JTJ	**Tarama**	**3.59**	**64**	P			Pn	18 33 56.8	-0.8
JIRB	**Irabujima**	**4.06**	**64**	P			Pn	18 34 02.8	-1.2
JMJ2	**Miyako jima3**	**4.15**	**66**	P			Pn	18 34 04.5	-0.8
JIKM	**Ikemajima**	**4.16**	**63**	P			Pn	18 34 04.2	-1.2

TAP 26 18:33:07.5, 23.59N×120.70E, h14km, ML2.1, 3D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHN5	**Tsauling** baz=287	**0.03**	**286**	⇓*iP*			Pg	18 33 10.6	+0.3
CHN5				S			Sg	18 33 12.7	+0.7
ALS	**Alishan** baz=129	**0.12**	**131**	⇓*iP*			Pb	18 33 12.0	+0.2
ALS				*i* S			Sg	18 33 14.1	+0.2
WGK	**Gukeng** baz=308	**0.16**	**306**	⇓*iP*			Pb	18 33 12.3	0.0
WGK				*i* S			Sb	18 33 16.0	+0.5
WHYT	**Xinyi Township** baz=51	**0.17**	**52**	*i* P			Pb	18 33 12.4	-0.2
WHYT				S			Sb	18 33 15.8	0.0
WDLH	**Douliu** baz=302	**0.18**	**303**	*i* P			Pb	18 33 12.6	-0.1
WDLH				*i* S			Sb	18 33 16.3	+0.3
WJS	**Zhushan** baz=355	**0.23**	**5**	P			Pb	18 33 13.3	-0.2
WJS				S			Sb	18 33 17.5	0.0
CHY	**Chiayi** baz=250	**0.27**	**250**	*i* P			Pb	18 33 14.0	-0.2
WNT	**Mingjian** baz=357	**0.29**	**356**	*i* P			Pb	18 33 14.5	0.0
WNT				S			Sb	18 33 19.6	+0.4
SSLB	**Suanglung** baz=49	**0.30**	**49**	P			Pb	18 33 14.4	-0.3

SMLT	**Sun Moon Lake**	**0.34**	**32**	P		Pb	18 33 15.5	0.0
	baz=32							
TYC	**Yuchr**	**0.34**	**24**	P		Pb	18 33 15.5	+0.1
	baz=25							
TYC				*e*S		Sb	18 33 21.0	+0.3
	baz=25							

*MAN **26** 18:43:58.8, 6.01N×126.16E, h145km, mb4.6, ML3.5, MS3.4*
*IDC **26** 18:44:00.4±1.6, 6.26N×126.49E, h153km±11km, mb3.4/5, mb1 3.7/7, mb1mx3.3/36, mbtmp4.1/7, Error ellipse: s-maj=71.5km s-min=13.8km az=63.0*
*NEIC **26** 18:44:00.4±1.2, 6.21N±0.09×126.4E±0.1, h156km±7km, mb4.6/23, Error ellipse: s-maj=19.4km s-min=10.8km az=65.0*

ISC 26 18:44:00.1±0.7, **6.18N**±0.06×**126.29E**±0.08, **h149**km±6km, **n47**, σ1$15/56, **mb4.4**/13, **1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.58**	**263**	*e*P			**Pn**	**18 44 20.6**	**-1.1**
DDMP				*e*S			**Sn**	**18 44 37.9**	**-0.3**
MATI	**Mati**	**0.77**	**358**	*e*P			**Pn**	**18 44 23.2**	**+0.2**
MATI				*e*S			**Sn**	**18 44 41.2**	**+0.7**
DAV	**Davao City (W)**	**1.13**	**322**	P			**Pn**	**18 44 27.5**	**+1.5**
	139nm,0.3s,baz=89,slow=4.8,SNR=7.3								
DAV				S			**Sn**	**18 44 48.0**	**+2.2**
	186nm,0.3s,baz=93,slow=23,SNR=5.6								
DAV	**Davao City (W)**	**1.13**	**322**				**Pn**	**18 44 27.3**	**+1.3**
DAV							**Sn**	**18 44 44.5**	**-1.3**
KCP	**Kidapawan**	**1.45**	**305**	⇓*i*P			**Pn**	**18 44 29.0**	**-0.2**
KCP				*i* S			**Sn**	**18 44 50.6**	**-0.7**
SKMP	**Bagumbayan, Su**	**1.77**	**281**	*e*P			**Pn**	**18 44 30.8**	**-1.7**
SKMP				*e*S			**Sn**	**18 44 54.1**	**-3.2**
BUKP	**Musuan**	**2.08**	**324**	*e*P			**Pn**	**18 44 36.6**	**+0.4**
BUKP				*e*S			**Sn**	**18 45 05.2**	**+1.1**
PAGZ	**Pagadian**	**3.33**	**300**	*e*P			**Pn**	**18 44 51.0**	**-0.6**
MSLP	**Maasin**	**4.18**	**340**	*e*P			**Pn**	**18 45 02.9**	**+0.2**
CNOP	**Candoni, Negro**	**5.12**	**315**	*e*P			**Pn**	**18 45 15.1**	**0.0**
OCLP	**Ormoc**	**5.12**	**341**	*e*P			**Pn**	**18 45 15.7**	**+0.5**
TNTI	**Ternate**	**5.47**	**169**				**Pn**	**18 45 18.4**	**-1.5**
MYLDM	**Lahad Datu**	**7.81**	**263**	Pn			**Pn**	**18 45 54.7**	**+3.7**
LUWI	**Luwuk**	**7.98**	**206**	P			**Pn**	**18 45 51.7**	**-1.6**
SIJI	**Sorong**	**8.58**	**144**	P			**Pn**	**18 46 00.9**	**-0.4**
	2.4nm,0.3s,baz=172,slow=23,SNR=6.8								
KKM	**Kota Kinabalu**	**10.02**	**270**	Pn			**Pn**	**18 46 18.9**	**-1.6**
SBUM	**Sibu**	**14.50**	**256**	P			**P**	**18 47 22.6**	**+1.6**
SOEI	**Soe**	**15.95**	**187**				**Pn**	**18 47 36.6**	**+0.1**
SOEI				IAmb		IAmb		18 47 59.1	
	comp=Z,52nm,1.2s								
BATI	**Baumata**	**16.48**	**189**	P			**Pn**	**18 47 44.9**	**+2.0**
	comp=Z,3.8nm,0.3s,baz=22,slow=2.0,SNR=6.5								
TPUB	**Ta-pu**	**17.88**	**343**				**P**	**18 47 57.2**	**-0.9**
TPUB				IAmb		IAmb		18 48 16.5	
	comp=Z,20nm,1.3s								
JAGI	**Jajag, Banyuwa**	**18.92**	**220**	P			**Pn**	**18 48 10.9**	**-0.9**
JAGI				IAmb		IAmb		18 48 21.6	
	comp=Z,40nm,1.1s								
MTN	**Manton Dam**	**19.50**	**166**	P			**P**	**18 48 16.4**	**+0.6**
MTN				IAmb		IAmb		18 48 31.3	
	comp=Z,45nm,1.5s								
UGM	**Wanagama**	**21.05**	**229**	P			**P**	**18 48 34.2**	**+1.7**
KNRA	**Kununurra**	**21.85**	**174**	P			**P**	**18 48 41.0**	**+0.1**
KNRA				IAmb		IAmb		18 48 42.9	
	comp=Z,14nm,0.7s								
FITZ	**Fitzroy Crossi**	**24.13**	**182**	P			**P**	**18 49 02.2**	**-0.1**
SSE	**Sheshan**	**25.25**	**350**	P			**P**	**18 49 11.2**	**-1.1**
COEN	**Coen**	**26.10**	**140**	P			**P**	**18 49 19.8**	**-0.4**
COEN				IAmb		IAmb		18 49 29.8	
	comp=Z,34nm,1.4s								
WB0	**Warramunga Arr**	**26.98**	**163**	P			**P**	**18 49 27.5**	**-0.6**
WRA	**Warramunga Arr**	**27.14**	**163**	P			**P**	**18 49 28.9**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=342,slow=9.0,SNR=9.3								
WRA				PcP			**PcP**	**18 52 46.5**	**0.0**
	comp=Z,0.3nm,0.8s,baz=336,slow=2.4,SNR=1.5								
WRA	**Warramunga Arr**	**27.14**	**163**	P			**P**	**18 49 28.0**	**-1.5**
WB2	**Warramunga Arr**	**27.14**	**163**	P			**P**	**18 49 29.7**	**+0.2**
WB2				IAmb		IAmb		18 49 36.8	
	comp=Z,15nm,1.6s								
JNU	**Nakatsue**	**27.15**	**8**	P			**P**	**18 49 28.4**	**-1.1**
WR0	**Warramunga Arr**	**27.21**	**163**	P			**P**	**18 49 29.6**	**-0.5**
PSA00	**Pilbara Seismi**	**28.29**	**193**	P			**P**	**18 49 39.3**	**-0.4**
PSA00				IAmb		IAmb		18 49 44.2	
	comp=Z,22nm,1.3s								
AS31	**Alice Springs**	**30.58**	**166**	P			**P**	**18 50 00.0**	**+0.1**
ASAR	**Alice Springs**	**30.58**	**166**	P			**P**	**18 49 59.9**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=341,slow=7.4,SNR=45								
ASAR				PcP			**PcP**	**18 52 55.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=344,slow=2.5,SNR=6.3								
MORW	**Morawa**	**36.40**	**195**	P			**P**	**18 50 49.5**	**-0.8**
MORW				IAmb		IAmb		18 51 15.2	
	comp=Z,12nm,1.2s								
FORT	**Forrest**	**36.78**	**177**	P			**P**	**18 50 53.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**39.83**	**192**	P			**P**	**18 51 19.1**	**+0.2**
NWAO	**Narrogin (SRO)**	**39.83**	**192**	P			**P**	**18 51 19.1**	**+0.2**
NWAO				IAmb		IAmb		18 51 53.8	
	comp=Z,24nm,1.2s								
BBOO	**Buckleboo**	**39.87**	**167**	P			**P**	**18 51 19.9**	**+0.7**
BBOO				IAmb		IAmb		18 51 53.2	
	comp=Z,32nm,1.8s								
STKA	**Stephens Creek**	**40.56**	**160**	P			**P**	**18 51 25.4**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=336,slow=11,SNR=6.0								
STKA	**Stephens Creek**	**40.56**	**160**	P			**P**	**18 51 25.6**	**+0.6**
MK31	**Makanchi Array**	**55.31**	**325**	P			**P**	**18 53 17.8**	**-0.5**
MK31				IAmb		IAmb		18 53 51.6	
	comp=Z,9.1nm,1.8s								
MKAR	**Makanchi Array**	**55.31**	**325**	P			**P**	**18 53 18.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=120,slow=6.9,SNR=6.9								
ARCES	**ARCESS Array B**	**88.02**	**340**	P			**P**	**18 56 32.6**	**-0.4**
	comp=Z,2.9nm,1.1s,baz=77,slow=5.2,SNR=3.9								
TORD	**Torodi Ar. Bea**	**121.72**	**289**	PKP			**PKPdf**	**19 02 36.9**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=103,slow=1.9,SNR=2.2								

*SKHL **26** 19:04:06.8±0.5, 43.33N×145.56E, h97km±5km, mb3.7/1, msh4.6/1*

JMA 26 19:04:05.5±0.4, **43.29N×146.77E, h54**km, **M1.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.75**	**276**	P			**Pn**	19 04 20.2	+0.1
NEM2				*e*S			Sn	19 04 31.0	+0.3
NMR	**Nemuro--Hokkai**	**0.76**	**276**	*i* P			Pn	19 04 20.2	0.0
NMR				*i* S			Sn	19 04 30.6	-0.4
YUK	**Yuzh-Kuril'sk**	**0.99**	**319**	*i* P			Pn	19 04 23.8	+0.6
YUK				AMB			AMB	19 04 24.6	
	20nm,0.2s								
YUK				*i* S			Sn	19 04 36.2	-0.1
YUK				A			A	19 04 37.9	
	70nm,0.2s								
YUK				A			A	19 04 37.9	
	60nm,0.2s								
GRPR	**Tuman**	**1.01**	**314**	*e*S			Sn	19 04 36.0	-0.7
JNK	**Nakash**	**1.52**	**282**	P			Pn	19 04 31.0	+0.6
JNK				*e*S			Sn	19 04 49.1	0.0
JAK	**Akkeshi**	**1.55**	**260**	P			Pn	19 04 31.2	+0.6

*DJA **26** 19:11:35.1±1.3, 8.7N±17.2×125.5E±., h12km±12km, M4.5/7, mB4.9/4, mb4.7/7, MLv4.6/6, Mw(mB)4.2/4*
*IDC **26** 19:11:36.5±1.1, 7.12N×124.59E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/33, mbtmp4.0/5, MS3.2/7, Ms1 3.2/7, ms1mx2.9/42, Error ellipse: s-maj=22.2km s-min=12.0km az=6.0*
*MAN **26** 19:11:38.3, 7.31N×124.75E, h1km, mb4.9, ML3.8, MS3.8*
*NEIC **26** 19:11:38.8±1.2, 7.3N±0.1×124.75E±0.07, h13km±7km, mb4.7/12, Error ellipse: s-maj=17.1km s-min=7.5km az=205.0*

ISC 26 19:11:38.8±1.2, **7.33N**±0.03×**124.77E**±0.04, **h12**km±8km, **n49**, σ1$57/51, **mb4.6**/12, **MS3.3**/6, **2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.45**	**135**	⇑*i*P			**Pg**	**19 11 47.7**	**+0.1**
KCP				*i* S			**Sg**	**19 11 54.3**	**+0.7**
BUKP	**Musuan**	**0.62**	**28**	*e*P			**Pg**	**19 11 50.6**	**-0.2**
BUKP				*e*S			**Sb**	**19 12 00.2**	**-0.1**
SKMP	**Bagumbayan, Su**	**0.83**	**196**	*e*P			**Pg**	**19 11 54.1**	**-0.8**
SKMP				*e*S			**Sn**	**19 12 10.4**	**+1.8**
DAV	**Davao City (W)**	**0.84**	**108**	Pg			**Pb**	**19 11 55.3**	**0.0**
	538nm,0.3s,baz=299,slow=2.5,SNR=24								
DAV				Lg			Lg	19 12 08.7	
	774nm,0.3s,baz=145,slow=23,SNR=16								
DAV	**Davao City (W)**	**0.84**	**108**				**Pg**	**19 11 55.2**	**+0.2**
PAGZ	**Pagadian**	**1.47**	**291**	*e*P			**Pn**	**19 12 04.9**	**-0.2**
PAGZ				*e*S			**Sb**	**19 12 25.5**	**+0.7**
MATI	**Mati**	**1.52**	**104**	*e*P			**Pn**	**19 12 05.5**	**-0.4**
MATI				*e*S			**Sg**	**19 12 28.6**	**+0.7**
DDMP	**Don Marcelino,**	**1.53**	**142**	*e*P			**Pn**	**19 12 05.7**	**-0.3**
DDMP				*e*S			**Sg**	**19 12 27.8**	**-0.4**
TBP	**Tagbilaran**	**2.52**	**339**	*e*P			**Pn**	**19 12 21.2**	**+1.7**
ZCP	**Zamboanga City**	**2.70**	**262**	⇑*e*P			**Pn**	**19 12 23.8**	**+1.6**
ZCP				*e*S			Sn	19 12 34.5	-20
MSLP	**Maasin**	**2.79**	**2**	*e*P			**Pn**	**19 12 25.6**	**+2.3**
LLP	**Lapu-Lapu**	**3.08**	**345**	*e*P			**Pn**	**19 12 29.5**	**+2.3**
LLP				*e*S			**Sb**	**19 13 10.0**	**-1.0**
CNOP	**Candoni, Negro**	**3.26**	**320**	*e*P			**Pn**	**19 12 32.7**	**+3.0**
CNOP				*e*S			**Sg**	**19 13 21.2**	**-2.3**
OCLP	**Ormoc**	**3.70**	**358**	*e*P			**Pn**	**19 12 38.2**	**+2.3**
GUIM	**Jordan**	**3.92**	**327**	*e*P			**Pn**	**19 12 42.6**	**+3.7**
CNP	**Catarman**	**5.15**	**359**	*e*P			**Pn**	**19 12 59.9**	**+4.0**
MYLDM	**Lahad Datu**	**6.59**	**251**	Pn			**Pn**	**19 13 15.0**	**-0.5**
KMSI	**Cibinong**	**6.75**	**187**	P			**Pn**	**19 13 19.2**	**+1.4**
	0.3nm90nm,0.6s								
GTOI	**Gorontalo**	**6.87**	**195**	P			**Pn**	**19 13 19.4**	**-0.1**
	0.2nm387nm43nm,0.7s								
TNTI	**Ternate**	**7.01**	**158**	P			**Pn**	**19 13 22.1**	**+0.8**
	0.1nm490nm24nm,1.0s								
TNTI	**Ternate**	**7.01**	**158**				**Pn**	**19 13 20.6**	**-0.7**
TGY	**Tagaytay City**	**7.71**	**331**	LR			LR	19 17 09.6	
	comp=Z,210nm,18.1s,baz=310,slow=43								
LUWI	**Luwuk**	**8.55**	**194**	P			**Pn**	**19 13 44.4**	**+1.9**
	946nm125nm,1.1s								
LUWI	**Luwuk**	**8.55**	**194**	Pn			**Pn**	**19 13 45.0**	**+2.5**
KKM	**Kota Kinabalu**	**8.59**	**262**	Pn			**Pn**	**19 13 42.5**	**-0.6**
MTKI	**Muara Teweh, K**	**12.83**	**231**	P			Pn	19 14 25.2	-16
GUMO	**Guam**	**20.71**	**71**	LR			LR	19 22 32.2	
	comp=Z,40nm,21.5s,baz=214,slow=31								
MTN	**Manton Dam**	**21.01**	**162**	P			**P**	**19 16 22.0**	**-0.5**
MTN				IAmb		IAmb		19 16 45.5	
	comp=Z,65nm,1.8s								
KNRA	**Kununurra**	**23.20**	**170**	P			**P**	**19 16 44.1**	**-1.6**
KNRA				IAmb		IAmb		19 17 09.2	
	comp=Z,21nm,1.0s								
FITZ	**Fitzroy Crossi**	**25.28**	**178**	P			**P**	**19 17 04.8**	**-0.4**
JCJ	**Chichijima**	**25.69**	**38**	LR			LR	19 28 29.8	
	comp=Z,16nm,18.5s,baz=240,slow=39								
COEN	**Coen**	**27.94**	**139**				**P**	**19 17 31.2**	**+1.9**
COEN				IAmb		IAmb		19 17 45.0	
	comp=Z,44nm,1.6s								
WB0	**Warramunga Arr**	**28.54**	**161**	P			**P**	**19 17 33.1**	**-1.5**
WB0				IAmb		IAmb		19 18 20.9	
	comp=Z,22nm,1.6s								
WRA	**Warramunga Arr**	**28.69**	**161**	P			**P**	**19 17 34.2**	**-1.7**
	comp=Z,1.7nm,0.7s,baz=330,slow=11,SNR=11								
WRA	**Warramunga Arr**	**28.69**	**161**	P			**P**	**19 17 34.8**	**-1.2**
WB2	**Warramunga Arr**	**28.69**	**161**	P			**P**	**19 17 34.2**	**-1.8**
WB2				IAmb		IAmb		19 17 57.4	
	comp=Z,17nm,1.4s								
WR0	**Warramunga Arr**	**28.77**	**161**	P			**P**	**19 17 34.9**	**-1.8**
ASAR	**Alice Springs**	**32.07**	**164**	P			**P**	**19 18 03.7**	**-2.2**
	comp=Z,0.9nm,0.5s,baz=341,slow=7.0,SNR=14								
ASAR	**Alice Springs**	**32.07**	**164**	P			**P**	**19 18 04.2**	**-1.6**
FORT	**Forrest**	**38.02**	**175**	P			**P**	**19 18 56.6**	**-0.4**
FORT				IAmb		IAmb		19 19 15.6	
	comp=Z,20nm,1.0s								
NWAO	**Narrogin (SRO)**	**40.67**	**190**	P			**P**	**19 19 18.0**	**-1.1**
NWAO	**Narrogin (SRO)**	**40.67**	**190**	P			**P**	**19 19 18.0**	**-1.1**
NWAO				IAmb		IAmb		19 20 45.8	
	comp=Z,65nm,1.6s								
BBOO	**Buckleboo**	**41.34**	**166**	P			**P**	**19 19 24.3**	**-0.3**
BBOO				IAmb		IAmb		19 19 28.7	
	comp=Z,8.6nm,0.7s								
STKA	**Stephens Creek**	**42.16**	**158**	P			**P**	**19 19 30.7**	**-0.8**
	comp=Z,3.9nm,0.7s,baz=345,slow=9.9,SNR=7.7								
STKA				LR			LR	19 37 42.1	
	comp=Z,73nm,19.0s,baz=212,slow=37								
STKA	**Stephens Creek**	**42.16**	**158**	P			**P**	**19 19 31.4**	**-0.1**
SONM	**Songino Array**	**43.29**	**342**	P			**P**	**19 19 40.5**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=155,slow=7.9,SNR=2.6								
SONM				LR			LR	19 39 27.9	
	comp=Z,29nm,18.3s,baz=169,slow=38								
MKAR	**Makanchi Array**	**53.51**	**325**	P			**P**	**19 20 59.8**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=111,slow=6.6,SNR=5.0								
AAK	**Ala-Archa**	**56.41**	**317**	LR			LR	19 47 17.9	
	comp=Z,33nm,18.2s,baz=210,slow=38								
NOA	**NORSAR Array B**	**94.72**	**333**	LR			LR	20 10 46.6	
	comp=Z,11nm,18.4s,baz=265,slow=37								

*IDC **26** 19:43:17.5±4.2, 36.02N×70.96E, h62km±35km, mb3.2/5, mb1 3.4/10, mb1mx3.1/57, mbtmp3.5/10, ML3.4/5, Error ellipse: s-maj=38.2km s-min=25.4km az=157.0*
*NNC **26** 19:43:23.9±3.9, 36.81N×70.73E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=39.1km s-min=24.1km az=146.0*

ISC 26 19:43:20.2±0.8, **36.15N**±0.07×**70.95E**±0.07, **h100**km, **n32**, σ1$82/37, **mb3.3**/4, **4C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.34**	**19**	P			**Pn**	**19 44 51.5**	**+0.1**
	SNR=45								
UCH	**Uchtor**	**6.67**	**23**	P			**Pn**	**19 44 56.3**	**+0.4**
	SNR=14								
KZA	**Kyzart**	**6.80**	**28**	P			**Pn**	**19 44 58.0**	**+0.4**
	SNR=5.5								
EKS2	**Erkin-Say**	**6.86**	**18**	P			**Pn**	**19 44 58.9**	**+0.7**
	SNR=13								
KK31	**Karatay Array**	**6.95**	**357**	⇑P			**Pn**	**19 44 59.9**	**+0.5**
	7.5nm,0.3s,baz=184,slow=14,SNR=123								
KK31				⇑S			**Sn**	**19 46 11.9**	**-5.0**
	8.9nm,0.4s,baz=190,slow=25,SNR=10								
AAK	**Ala-Archa**	**7.04**	**22**	P			**Pn**	**19 45 01.1**	**+0.5**
	11nm,0.3s,baz=171,slow=6.1,SNR=33								
AAK				S			**Sn**	**19 46 17.1**	**-2.0**
	1.0nm,0.3s,baz=334,slow=19,SNR=8.4								
AAK	**Ala-Archa**	**7.04**	**22**	P			**Pn**	**19 45 01.4**	**+0.8**
	SNR=18								
AAK	**Ala-Archa**	**7.04**	**22**	⇓P			**Pn**	**19 45 01.3**	**+0.8**
	12nm,0.3s								
AAK				⇓S			**Sn**	**19 46 16.4**	**-2.7**
	7.2nm,0.5s								
KBK	**Karagabulak**	**7.20**	**24**	P			**Pn**	**19 45 04.0**	**+1.2**
	SNR=5.9								
CHMS	**Chumysh**	**7.44**	**22**	P			**Pn**	**19 45 06.6**	**+0.6**
	SNR=29								
USP	**Ospenovka**	**7.62**	**20**	P			**Pn**	**19 45 08.9**	**+0.5**
	SNR=45								
TKM2	**Tokmak 2**	**7.65**	**27**	P			**Pn**	**19 45 09.7**	**+0.6**
	SNR=9.1								
TKM2	**Tokmak 2**	**7.65**	**27**	⇓P			**Pn**	**19 45 09.1**	**0.0**
	5.8nm,0.6s								
TKM2				⇑S			**Sn**	**19 46 33.7**	**-0.5**
	3.0nm,0.8s								
GEYT	**Alibeck**	**10.41**	**284**	P			**Pn**	**19 45 45.0**	**-1.4**
	0.8nm,0.3s,baz=96,slow=14,SNR=5.4								
GEYT				S			**Sn**	**19 47 38.2**	**-2.9**
	1.4nm,0.3s,baz=94,slow=22,SNR=7.3								
PYUN	**Piuthan**	**12.97**	**125**	*e*P			**Pn**	**19 46 18.7**	**-2.2**
	6.2nm,0.2s								
MKAR	**Makanchi Array**	**13.60**	**35**	P			**Pn**	**19 46 28.2**	**-0.6**
	0.1nm,0.3s,baz=225,slow=12,SNR=4.5								
GKN	**Gorkha**	**14.15**	**121**	*e*P			**Pn**	**19 46 34.7**	**-1.5**
DMN	**Daman**	**14.72**	**121**	*e*P			**Pn**	**19 46 41.4**	**-2.2**
KKN	**Kakani**	**14.73**	**120**	*e*P			**Pn**	**19 46 41.5**	**-2.2**
PKI	**Pulchoki**	**14.96**	**121**	*e*P			**Pn**	**19 46 44.4**	**-2.3**
AB31	**Akbulak array**	**15.37**	**332**	⇓P			**Pn**	**19 46 50.9**	**-0.5**
	0.4nm,0.4s								
JIRN	**Jiri**	**15.45**	**119**	*e*P			**Pn**	**19 46 51.0**	**-1.9**
KURBB	**Kurchatov Arra**	**15.47**	**18**	P			**Pn**	**19 46 52.0**	**-0.6**
	0.1nm,0.3s,baz=208,slow=11,SNR=7.1								
TAPN	**Taplejung**	**16.72**	**117**	*e*P			**P**	**19 47 07.8**	**-1.5**
BVAR	**Borovoye Array**	**16.88**	**359**	P			**P**	**19 47 10.4**	**+0.4**
	0.2nm,0.3s,baz=165,slow=11,SNR=5.0								
AKTO	**Aktyubinsk**	**17.06**	**331**	P			**P**	**19 47 13.7**	**+1.2**
	0.2nm,0.3s,baz=159,slow=8.6,SNR=4.4								
AKTO				S			Sn	19 50 12.0	-10
	0.1nm,0.3s,baz=179,slow=18,SNR=6.7								
AKTO	**Aktyubinsk**	**17.06**	**331**	⇑P			**P**	**19 47 15.2**	**+2.7**
ZALV	**Zalesovo Beam**	**20.25**	**24**	P			**P**	**19 47 47.3**	**0.0**
	1.3nm,0.4s,baz=216,slow=10.0,SNR=7.7								
ARCES	**ARCESS Array B**	**41.45**	**338**	P			**P**	**19 50 57.7**	**+1.2**
	0.6nm,0.7s,baz=118,slow=9.3,SNR=1.5								
TORD	**Torodi Ar. Bea**	**65.67**	**269**	P			**P**	**19 53 55.4**	**+1.2**
	0.2nm,0.5s,baz=55,slow=6.1,SNR=1.9								
ILAR	**Eielson Array**	**75.12**	**16**	P			**P**	**19 54 55.3**	**+4.3**
	0.2nm,0.5s,baz=314,slow=6.3,SNR=1.5								
WRA	**Warramunga Arr**	**81.84**	**122**	P			**P**	**19 55 29.5**	**+1.0**
	0.3nm,0.8s,baz=322,slow=5.2,SNR=1.2								

*NEIC **26** 19:49:33.7±2.3, 38.21N±0.02×142.1E±0.1, h37km±8km, mb4.6/10, Error ellipse: s-maj=12.6km s-min=1.5km az=78.0*
*IDC **26** 19:49:36.0±2.1, 38.20N×141.90E, h56km±20km, mb3.4/9, mb1 3.7/14, mb1mx3.4/52, mbtmp3.8/14, ML3.3/5, MS2.5/2, Ms1 2.5/2, ms1mx2.1/35, Error ellipse: s-maj=22.2km s-min=15.0km az=91.0*
*JMA **26** 19:49:36.1, 38.24N×141.82E, h56km±1km, M3.8*
JMA Felt II J1.
*NIED **26** 19:49:36.2, 38.24N×141.82E, h56km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}1.72; $M_{\theta\theta}$8.64; $M_{\phi\phi}$-10.36; $M_{r\theta}$0.33; $M_{\theta\phi}$1.58; $M_{\phi r}$-1.34; Fault plane solution: $M_0$9.71000×10^{14} NP1: ϕ_s310.00000°, δ87.00000°, λ-6.00000°. NP2:ϕ_s40.00000°, δ84.00000°, λ-177.00000°.*

ISC 26 19:49:35.1±1.0, **38.23N**±0.04×**141.93E**±0.07, **h49**km±8km, **n63**, σ1$16/69, **mb4.0**/14, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.38**	**283**	P			**Pn**	**19 49 45.8**	**+0.9**
JIKH				*e*S			**Sn**	**19 49 52.6**	**+0.7**
JIO	**Ouri**	**0.51**	**297**	P			**Pn**	**19 49 47.1**	**+0.7**
JIO				S			**Sn**	**19 49 54.8**	**+0.3**
JKMT	**Kesennumamotoy**	**0.68**	**329**	P			**Pn**	**19 49 49.4**	**+0.8**
JKMT				S			**Sn**	**19 49 58.7**	**+0.3**
OFUJ	**Ofunato**	**0.88**	**347**	P			**Pn**	**19 49 52.0**	**+0.8**
OFUJ				S			**Sn**	**19 50 03.3**	**+0.4**
JMK	**Ichinoseki**	**0.91**	**323**	P			**Pn**	**19 49 52.3**	**+0.7**
JMK				*e*S			**Sn**	**19 50 04.1**	**+0.4**
JMM	**Marumori**	**0.97**	**248**	P			**Pn**	**19 49 52.3**	**0.0**
JMM				S			**Sn**	**19 50 04.3**	**-0.7**
JOU	**Okura**	**1.00**	**278**	P			**Pn**	**19 49 53.2**	**+0.3**
JOU				S			**Sn**	**19 50 05.7**	**-0.3**
JFK	**Kawauchi**	**1.20**	**225**	P			**Pn**	**19 49 55.8**	**+0.3**
JFK				S			**Sn**	**19 50 10.2**	**-0.5**
JOM	**Ohasama**	**1.34**	**338**	P			**Pn**	**19 49 58.3**	**+0.9**
JOM				S			**Sn**	**19 50 14.9**	**+0.8**
JYK	**Kaneyama**	**1.41**	**300**	P			**Pn**	**19 49 58.7**	**+0.3**
JFT	**Otama**	**1.45**	**241**	P			**Pn**	**19 49 59.6**	**+0.7**
JFT				S			**Sn**	**19 50 16.8**	**+0.1**
JYS	**Shirataka**	**1.47**	**270**	P			**Pn**	**19 49 59.5**	**+0.3**
JYS				S			**Sn**	**19 50 16.8**	**-0.4**
JRG	**Rokugo**	**1.54**	**319**	P			**Pn**	**19 50 01.0**	**+0.8**
JYA	**Atsumi**	**1.78**	**283**	P			**Pn**	**19 50 03.8**	**+0.4**
MJAR	**Matsushiro Arr**	**3.41**	**242**	P			**Pn**	**19 50 27.5**	**+1.8**
	0.6nm,0.3s,baz=50,slow=11,SNR=31								
MJAR				LR			LR	19 51 53.7	
	comp=Z,67nm,19.4s,baz=260,slow=41								
MAJO	**Matsushiro**	**3.41**	**242**				**Pn**	**19 50 27.9**	**+2.1**
MAT	**Matsushiro**	**3.41**	**242**	P			**Pn**	**19 50 27.8**	**+2.0**
MAT				*e*S			**Sn**	**19 51 09.2**	**+4.3**
MJB9	**Matsu-Tunnel**	**3.41**	**242**	Pn			Pn	19 50 30.7	+4.9
**JHJ2

0.8nm2µm140nn,0.5s
TPTI 6.85 84 P Pn 20 55 14.1 +0.3
0.1nm38nn,0.9s
LHMI Lhok Sumawe 7.10 68 Pn Pn 20 55 19.1 +1.8
GSI Gunungsitoli 7.32 99 P Pn 20 55 20.0 -0.2
0.4nm78nn,0.9s
GSI Gunungsitoli 7.32 99 Pn Pn 20 55 19.7 -0.4
TSI Tuntungan 8.25 83 P Pn 20 55 33.1 0.0
66nm,0.5s
RPSI Rantau Prapat 8.56 89 Pn Pn 20 55 37.7 +0.4
RPSI Rantau Prapat 8.56 89 Pn 20 55 37.8 +0.4
RPSI Sn 20 57 10.8 -3.2
PSI Prapat 8.56 88 Pn Pn 20 55 37.8 +0.3
1.1nm,0.3s,baz=358,slow=2.8,SNR=10
PSI Sn 20 57 10.8 -3.4
0.8nm,0.3s,baz=358,slow=1.6,SNR=1.0
PSI LR LR 20 58 47.0
comp=Z,247nm,21.0s,baz=264,slow=37
MNSI Mandailing Nat 9.38 100 P Pn 20 55 49.7 +1.2
1µm34nm,0.7s
PBA Port Blair 9.38 14 Pn Pn 20 55 49.1 +0.6
KULM Kulim 10.63 75 Pn Pn 20 56 05.6 -0.1
PDSI Padang 10.66 109 P Pn 20 56 05.8 -0.3
12nm,0.5s
IPM Ipoh 10.82 79 Pn Pn 20 56 08.8 +0.4
SDSI Sungai Dareh 11.59 107 P Pn 20 56 19.6 +0.8
8.4nm,0.8s
KRJI Kerinci 12.01 112 P Pn 20 56 26.7 +2.0
143nm,1.0s
SKHT Srikalahasti 15.33 317 eP Pn 20 57 08.8 -1.0
SKHT e 20 59 47.5
KLSI 16.05 116 P Pn 20 57 20.9 +1.7
17nm,0.9s
ADKI Addanki 16.73 323 eP Pn 20 57 27.1 -0.8
ADKI e 21 00 18.0
PVM Polavaram 16.97 330 eP Pn 20 57 30.1 -0.7
PVM e 21 00 24.1
CHLP Challavanipeta 17.04 339 eP Pn 20 57 31.7 -0.1
CHLP e 21 00 27.3
MYLAV Mylavaram 17.07 327 eP Pn 20 57 31.1 -1.0
MYLAV e 21 00 26.2
PBKT Sadao Pong 17.43 36 P 20 57 38.7 +0.8
SRLM Srisailam 17.59 321 eP Pn 20 57 37.8 -0.9
SRLM e 21 00 40.7
URV Uravakonda 17.87 314 eP Pn 20 57 42.3 +0.1
URV e 21 00 50.8
CM31 Chiang Mai Arr 17.93 27 P P 20 57 43.6 +0.2
CMAR Chiang Mai Arr 17.93 27 P Pn 20 57 41.4 -1.4
0.1nm,0.3s,baz=223,slow=11,SNR=1.7
HYBB Hyderabad (bro 18.80 323 eP P 20 57 52.2 -0.8
HYBB e 21 01 12.2
UBPT Khong Chiam 19.56 49 P Pn 20 58 03.5 +0.8
KSM Kuching 19.97 93 Pn 20 58 07.2 -0.3
CISI Cisompet, Garu 20.09 120 Pn 20 58 08.6 -0.5
SRSP Sriramsagar 20.11 325 eP P 20 58 07.5 +0.1
SRSP e 21 01 42.8
H08S2 Diego Garcia H 20.48 240 T T 21 19 12.0
baz=60,slow=75,SNR=149
H08S3 Diego Garcia H 20.48 240 T T 21 19 14.0
baz=60,slow=75,SNR=113
H08S1 Diego Garcia H 20.50 240 T T 21 19 13.0
baz=60,slow=75,SNR=135
KLRI Killari 20.52 320 eP P 20 58 11.2 -0.6
KLRI e 21 01 52.0
MTKI Muara Teweh, K 24.77 98 P P 20 58 56.6 +1.1
KKM Kota Kinabalu 26.02 81 P P 20 59 08.2 +1.3
KKM IAmb IAmb 20 59 20.3
comp=Z,24nm,1.1s
LSA Lhasa 27.04 2 P P 20 59 17.0 +0.7
LSA IAmb IAmb 20 59 33.9
comp=Z,8.3nm,0.9s
NIL Nilore 34.86 335 P P 21 00 24.6 -0.1
NIL IAmb IAmb 21 00 30.8
comp=Z,6.2nm,1.0s
KBL Kabul 37.54 330 P P 21 00 47.3 -0.6
NJ2 Nanjing 39.77 39 eP P 21 01 08.5 +2.1
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
FITZ Fitzroy Crossi 40.34 122 P P 21 01 10.3 -1.1
FITZ IAmb IAmb 21 01 33.5
comp=Z,18nm,1.6s
GAR Garm 40.65 336 P P 21 01 12.4 -1.4
GAR IAmb IAmb 21 01 44.5
comp=Z,5.7nm,1.0s
HRA Herat 41.12 324 P P 21 01 18.0 +0.2
WMQ Urumqi 41.19 357 eP P 21 01 19.0 +0.9
WMQ pP pwP 21 01 24.0 +0.5
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,56nm,5.9s
HHC Hu-ho-hao-te 42.69 24 eP P 21 01 30.8 +0.3
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,66nm,4.8s
HHC LR LR
comp=N,96nm,14.4s
HHC LR LR
comp=E,110nm,14.7s
HHC LR LR
comp=Z,250nm,14.3s
H01W3 Cape Leeuwin H 43.39 151 T T 21 47 53.1
baz=326,slow=75,SNR=32
H01W2 Cape Leeuwin H 43.40 151 T T 21 47 57.2
baz=326,slow=75,SNR=27
H01W1 Cape Leeuwin H 43.40 151 T T 21 47 56.6
baz=326,slow=75,SNR=27
NWAO Narrogin (SRO) 43.46 146 P P 21 01 36.1 -0.6
KK31 Karatay Array 44.11 339 P P 21 01 41.8 0.0
KK31 IAmb IAmb 21 01 55.9
comp=Z,3.5nm,1.0s
KKAR Karatay Array 44.11 339 P P 21 01 41.7 -0.1
KKAR IAmb IAmb 21 01 55.8
comp=Z,3.5nm,1.0s
MK31 Makanchi Array 44.65 352 P P 21 01 45.5 -0.5
MK31 IAmb IAmb 21 01 56.3
comp=Z,3.2nm,1.1s
MKAR Makanchi Array 44.65 352 P P 21 01 45.8 -0.3
comp=Z,2.6nm,0.7s,baz=172,slow=8.8,SNR=18
GEYT Alibeck 45.98 324 P P 21 01 56.9 +0.2
comp=Z,4.0nm,0.6s,baz=153,slow=10.0,SNR=11
GEYT LR LR 21 21 23.2
comp=Z,48nm,19.9s,baz=25,slow=36
GYA0B ALIBECK ARRAY 45.98 324 P P 21 01 57.2 +0.5
GYA0B IAmb IAmb 21 01 58.1
comp=Z,4.9nm,0.7s
SONM Songino Array 47.22 15 P P 21 02 07.1 +0.6
comp=Z,3.7nm,0.5s,baz=194,slow=9.5,SNR=46
ULN Ulaanbaatar 47.42 15 P P 21 02 07.8 -0.2
ULN IAmb IAmb 21 02 38.2
comp=Z,5.9nm,1.4s
WB0 Warramunga Arr 48.57 119 P P 21 02 16.5 -0.7
WB0 IAmb IAmb 21 02 41.0
comp=Z,14nm,1.4s
WRA Warramunga Arr 48.59 119 P P 21 02 17.6 +0.2
comp=Z,4.7nm,1.0s,baz=297,slow=8.6,SNR=21
WRA PcP PcP 21 03 42.3 -0.8
comp=Z,0.9nm,0.8s,baz=302,slow=2.7,SNR=3.0
WRA Warramunga Arr 48.59 119 P P 21 02 17.5 +0.2
WB2 Warramunga Arr 48.60 119 P P 21 02 17.6 +0.2
WB2 IAmb IAmb 21 02 34.6
comp=Z,11nm,1.3s
WR0 Warramunga Arr 48.77 119 P P 21 02 18.6 -0.1
WR0 IAmb IAmb 21 02 20.1
comp=Z,6.6nm,1.0s
FORT Forrest 48.85 136 P P 21 02 20.6 +1.4
KSRS Korea Array 48.95 40 LR LR 21 25 09.6
comp=Z,28nm,18.1s,baz=198,slow=39
AS31 Alice Springs 49.72 124 P P 21 02 25.7 -0.4
ASAR Alice Springs 49.72 124 P P 21 02 26.1 +0.1
ASAR PcP PcP 21 03 47.2 0.0
comp=Z,2.0nm,1.1s,baz=304,slow=6.9,SNR=7.7
comp=Z,0.9nm,0.8s,baz=309,slow=3.8,SNR=6.6
ZAA0 Zalesovo Array 51.46 356 P P 21 02 38.1 -0.5
ZAA0 IAmb IAmb 21 02 38.5
comp=Z,3.3nm,0.6s
ZALV Zalesovo Beam 51.46 356 P P 21 02 38.0 -0.6
comp=Z,3.7nm,0.5s,baz=176,slow=6.6,SNR=20
ZALV LR LR 21 26 41.9
comp=Z,29nm,18.1s,baz=32,slow=39
BBOO Buckleboo 55.67 133 P P 21 03 08.4 -1.5
BBOO IAmb IAmb 21 03 14.9
comp=Z,11nm,1.4s
KBZ Khabaz 58.68 321 P P 21 03 30.9 0.0
comp=Z,1.7nm,0.8s,baz=221,slow=4.6,SNR=4.1
KIV Kislovodsk 58.93 321 P P 21 03 32.7 -0.2
KIV IAmb IAmb 21 03 37.9
comp=Z,4.1nm,1.0s
CTAO Charters Tower 59.23 115 P P 21 03 35.8 +0.5
STKA Stephens Creek 59.39 130 P P 21 03 36.5 +0.3
comp=Z,2.8nm,0.7s,baz=313,slow=6.7,SNR=11
STKA Stephens Creek 59.39 130 P P 21 03 36.4 +0.3
BRTR Keskin Array B 59.22 314 P P 21 04 01.4 -0.7
comp=Z,0.7nm,0.5s,baz=135,slow=4.5,SNR=1.8
EIDS Eidsvold 64.95 119 P P 21 04 14.6 +1.0
ELL Elmali 65.05 310 P P 21 04 14.0 -0.2
ARMA Armidale 66.87 125 P P 21 04 27.6 +1.6
MLR Muntele Rosu 70.45 318 P P 21 04 48.3 +0.1
MLR IAmb IAmb 21 04 57.3
comp=Z,4.1nm,0.8s
BURAR Bucovina Array 71.56 320 P P 21 04 54.1 -0.6
BUR08 Bucovina Ar. S 71.58 320 P P 21 04 55.0 +0.1
BUR08 IAmb IAmb 21 05 04.8
comp=Z,4.9nm,1.4s
FINES FINESS Array B 75.72 333 P P 21 05 18.2 -0.5
comp=Z,2.6nm,0.9s,baz=242,slow=4.1,SNR=5.5
ARCES ARCESS Array B 79.03 341 P P 21 05 37.1 -0.1
comp=Z,0.9nm,0.8s,baz=96,slow=3.8,SNR=4.2
GERES GERESS Array B 79.33 319 P P 21 05 39.6 +0.2
comp=Z,0.7nm,0.7s,baz=97,slow=6.9,SNR=7.1
KONO Kongsberg 83.16 330 P P 21 05 58.6 -0.7
VNDA Vanda 88.49 168 LR LR 21 42 10.9
comp=Z,22nm,18.1s,baz=292,slow=33
TXAR Lajitas Array 145.59 22 PKPbc PKPdf 21 13 12.5 -0.2
comp=Z,0.8nm,0.7s,baz=278,slow=1.8,SNR=8.3

*ISK **26** 21:06:21.6,35˚.30N×.31˚.44E,h7km,ML3.1/23*
*NIC **26** 21:06:22.9±0.0,35˚.32N×.31˚.38E,h22km±2km,Ml3.6/4*
*DDA **26** 21:06:22.6,35˚.35N×.31˚.52E,h12km±2km,ML3.0*
*GII **26** 21:06:25.7±0.0,35˚.10N×.31˚.63E,h10km,MD2.8/2*

ISC 26 21:06:22.1±1.4,**35˚.28N**±0˚.03×**31˚.45E**±0˚.03,**h12**km±11km,
n87,σ1§**38**/110,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKMS	**Akamas**	**0.77**	**110**	P		**Pb**	**21 06 38.3**	**+0.9**
AKMS				S		**Sn**	**21 06 51.5**	**+1.2**
AKMS				AML		AML	21 06 52.8	
	12nm,0.6s							
AKMS				AML		AML	21 06 52.8	
	12nm,0.6s							
AKMS				AML		AML	21 06 53.9	
	29nm,0.4s							
AKMS				AML		AML	21 06 53.9	
	29nm,0.4s							
ALFC	**Alefka**	**0.95**	**97**	P		**Pb**	**21 06 40.8**	**+0.4**
ALFC				S		**Sn**	**21 06 55.8**	**+1.1**
ALFC				AML		AML	21 06 58.7	
	6.1nm,0.4s							
ALFC				AML		AML	21 06 58.7	
	6.1nm,0.4s							
ALFC				AML		AML	21 06 59.5	
	6.0nm,0.5s							
ALFC				AML		AML	21 06 59.5	
	6.0nm,0.5s							
NATA	**Nata**	**1.05**	**118**	P		**Pn**	**21 06 43.6**	**+1.1**
GAZI	**Gazipasa**	**1.18**	**36**	PN		**Pb**	**21 06 43.8**	**-0.6**
GAZI	**Gazipasa**	**1.18**	**36**	*i* P		**Pb**	**21 06 43.2**	**-1.2**
GAZI				*i* S		**Sb**	**21 06 58.4**	**-1.3**
GAZI				IAML			21 07 03.0	
	comp=E,229nm,0.5s							
GAZI				IAML			21 07 03.0	
	comp=N,333nm,0.6s							
LEF	**Lefka**	**1.19**	**98**	PN		**Pb**	**21 06 44.5**	**0.0**
LEF				SN		**Sn**	**21 07 01.2**	**+0.6**
LEF	**Lefka**	**1.19**	**98**	*i* P		**Pb**	**21 06 44.5**	**0.0**
LEF				*i* S		**Sb**	**21 06 59.4**	**-0.5**
LEF				IAML			21 07 04.0	
	comp=E,378nm,0.4s							
LEF				IAML			21 07 08.0	
	comp=N,461nm,0.5s							
AKDN	**Akdeniz- Kıbrı**	**1.24**	**89**	PN		**Pg**	**21 06 46.3**	**+0.4**
SZAC	**Souni**	**1.29**	**114**	P		**Pg**	**21 06 46.8**	**0.0**
SZAC				AML		AML	21 07 11.7	
	comp=N,3.6nm,0.7s							
SZAC				AML		AML	21 07 12.5	
	comp=N,4.0nm,0.5s							
ALAN	**Alanya-ANTALYA**	**1.36**	**20**	PN		**Pb**	**21 06 47.4**	**0.0**
AKUM	**Antalya-Kumluc**	**1.37**	**319**	*i* P		**Pb**	**21 06 48.5**	**+0.9**
BOZY	**Bozyazi-Mersin**	**1.49**	**56**	PN		**Pb**	**21 06 49.2**	**-0.4**
ASGA	**Asgata**	**1.56**	**108**	P		**Pb**	**21 06 50.4**	**-0.4**
ASGA				AML		AML	21 07 18.6	
	comp=N,1.7nm,0.4s							
ASGA				AML		AML	21 07 20.0	
	comp=N,1.5nm,0.6s							
CSS	**Mathiatis**	**1.57**	**101**	PN		**Pb**	**21 06 50.7**	**-0.4**
CSS	**Mathiatis**	**1.57**	**101**	Pn		**Pb**	**21 06 50.7**	**-0.4**
CSS	**Mathiatis**	**1.57**	**101**	P		**Pn**	**21 06 50.5**	**+0.8**
TEKE	**Tekeli-Mersin**	**1.60**	**57**	PN		**Pn**	**21 06 49.8**	**-0.4**
KEPZ	**Antalya-Kepez**	**1.62**	**4**	*i* P		**Pn**	**21 06 50.0**	**-0.5**
KEPZ				*i* S		**Sn**	**21 07 08.8**	**-2.5**
KEPZ				IAML			21 07 17.0	
	comp=N,119nm,0.7s							
AKIN	**Akıncılar- Kıb**	**1.67**	**99**	PN		**Pb**	**21 06 52.3**	**-0.5**
LFK	**Lefkose**	**1.70**	**90**	PN		**Pn**	**21 06 52.0**	**+0.4**
ANTB	**Antalya**	**1.74**	**338**	PN		**Pn**	**21 06 52.9**	**+0.9**
AKAS	**Kas**	**1.77**	**303**	PN		**Pn**	**21 06 53.6**	**+0.9**
OSC1	**CSNet OBS 1**	**1.79**	**185**	P		**Pn**	**21 06 53.7**	**+1.0**
OSC1				S		**Sn**	**21 07 14.6**	**-0.6**
ERMK	**Ermenek**	**1.80**	**41**	*i* P		**Pb**	**21 06 55.0**	**-0.1**
ERMK				*i* S		**Sg**	**21 07 19.2**	**-0.9**
ERMK				IAML			21 07 23.0	
	comp=N,152nm,0.3s							
ERMK				IAML			21 07 23.0	
	comp=E,148nm,0.3s							
MVOU	**Mavrovouni**	**1.81**	**98**	P		**Pn**	**21 06 52.7**	**-0.3**
YORU	**Yoruktepe-Mers**	**1.81**	**61**	PN		**Pn**	**21 06 53.8**	**+0.7**
AKK1	**Akkuyu-Mersin**	**1.91**	**63**	PN		**Pb**	**21 06 55.9**	**-0.8**
AKK2	**Akkuyu-Mersin**	**1.91**	**63**	PN		**Pb**	**21 06 55.8**	**-1.0**
AKKU	**Akkuyu-Mersin**	**1.92**	**62**	PN		**Pb**	**21 06 55.6**	**-1.4**
ELL	**Elmali**	**1.92**	**320**	PN		**Pn**	**21 06 55.6**	**+0.9**
GULN	**MERSIN_Gulnar**	**1.93**	**62**	*i* P		**Pn**	**21 06 55.6**	**+1.0**
GULN				*i* S		**Sn**	**21 07 18.8**	**+0.1**
KORT	**Korkueli**	**1.93**	**333**	PN		**Pn**	**21 06 55.7**	**+0.9**
KORT	**Korkueli**	**1.93**	**333**	*i* P		**Pb**	**21 06 58.1**	**+0.8**
TEVE	**Tevekalti-Mers**	**1.98**	**54**	PN		**Pb**	**21 06 56.9**	**-1.2**
YESI	**Yesilovacik-Me**	**2.00**	**62**	PN		**Pb**	**21 06 57.1**	**-1.3**
TISA	**Tisan-Mersin**	**2.01**	**64**	PN		**Pn**	**21 06 56.7**	**+0.9**
IKL	**Isikli**	**2.05**	**62**	PN		**Pn**	**21 06 57.3**	**+1.0**
EREN	**Erenkoy**	**2.23**	**83**	PN		**Pn**	**21 07 00.2**	**+1.4**
EREN	**Erenkoy**	**2.23**	**83**	*i* P		**Pn**	**21 07 00.4**	**+1.6**
BCK	**Bucak**	**2.28**	**343**	PN		**Pn**	**21 07 00.6**	**+1.0**
SILI	**Silifke-Mersin**	**2.28**	**61**	PN		**Pn**	**21 07 01.0**	**+1.5**
OSC2	**CSNet OBS 4**	**2.31**	**163**	P		**Pn**	**21 07 00.8**	**+1.0**
OSC2				S		**Sn**	**21 07 28.5**	**+0.4**
FETY	**Fethiye**	**2.35**	**306**	PN		**Pn**	**21 07 01.0**	**+0.6**
FETY	**Fethiye**	**2.35**	**306**	*i* P		**Pn**	**21 07 00.6**	**+0.2**
FETY				*i* S		**Sn**	**21 07 27.0**	**-2.2**
KRMN	**Karaman**	**2.39**	**37**	PN		**Pn**	**21 07 02.6**	**+1.5**
GOLH	**Golhisar**	**2.48**	**322**	*i* P		**Pn**	**21 07 03.5**	**+1.2**
KIZK	**Mersin**	**2.49**	**61**	PN		**Pn**	**21 07 04.1**	**+1.7**
KMER	**Konya-Meram**	**2.59**	**16**	*i* P		**Pb**	**21 07 07.9**	**-0.5**
KMER				*i* S		**Sb**	**21 07 39.8**	**-0.4**
ISP	**Isparta**	**2.64**	**344**	PN		**Pn**	**21 07 05.9**	**+1.3**
BRDR	**BÜRDUR-Merkez**	**2.66**	**335**	*i* P		**Pn**	**21 07 06.9**	**+2.2**
DALY	**Dalyan (Mula)**	**2.73**	**305**	PN		**Pn**	**21 07 06.9**	**+1.2**
DALY	**Dalyan (Mula)**	**2.73**	**305**	*i* P		**Pn**	**21 07 06.2**	**+0.6**
DALY				*i* S		**Sn**	**21 07 35.6**	**-3.0**
BAGO	**Egridir - ISPA**	**2.75**	**349**	*i* P		**Pb**	**21 07 09.8**	**-1.4**
KONT	**Konya--Tatoy**	**2.75**	**15**	PN		**Pn**	**21 07 07.9**	**+1.8**
KONT	**Konya--Tatoy**	**2.75**	**15**	*i* P		**Pb**	**21 07 09.3**	**-2.0**
DOGA	**KONYA_Doganhis**	**2.82**	**3**	*i* P		**Pn**	**21 07 09.6**	**+2.5**
ARG	**Arkhangelos**	**2.86**	**290**	PN		**Pn**	**21 07 08.7**	**+1.3**
BASM	**Basmaki-Afyon**	**2.86**	**337**	PN		**Pn**	**21 07 08.5**	**+0.9**
MERS	**Mersin**	**2.95**	**57**	PN		**Pn**	**21 07 10.4**	**+1.7**
TAVA	**DENIZLI_Tavas**	**2.99**	**318**	*i* P		**Pn**	**21 07 09.8**	**+0.5**
TURN	**Turunc**	**2.99**	**301**	PN		**Pn**	**21 07 10.4**	**+3.8**
LADK	**Ladik-KONYA**	**3.00**	**14**	PN		**Pn**	**21 07 10.4**	**+0.9**
KERG	**Konya-Eregli**	**3.03**	**45**	*i* P		**Pn**	**21 07 12.6**	**+2.7**
KERG				*i* S		**Sn**	**21 07 48.6**	**+2.4**
KERG				IAML			21 07 56.0	
	comp=E,54nm,0.4s							
KERG				IAML			21 08 07.0	
	comp=N,66nm,1.0s							
YESY	**Yesilyurt**	**3.10**	**36**	PN		**Pn**	**21 07 12.8**	**+1.9**
KZIL	**AFYON_Kizioren**	**3.15**	**341**	*i* P		**Pn**	**21 07 13.1**	**+1.6**
KZIL				*i* S		**Sn**	**21 07 52.3**	**+3.2**
YER	**Yerkesik**	**3.16**	**307**	PN		**Pn**	**21 07 13.2**	**+1.6**
KDHN	**Kadinhani**	**3.27**	**9**	*i* P		**Pn**	**21 07 16.1**	**+2.9**
GULE	**Gulek**	**3.35**	**52**	*i* P		**Pn**	**21 07 16.1**	**+1.8**
DAT	**Datca**	**3.46**	**296**	PN		**Pn**	**21 07 16.9**	**+1.2**
KARP	**Karpathos**	**3.51**	**276**	PN		**Pn**	**21 07 18.1**	**+1.6**
KARA	**Karaisali**	**3.52**	**55**	PN		**Pn**	**21 07 18.3**	**+1.8**
CMRD	**Camardi-Nigde**	**3.71**	**49**	PN		**Pn**	**21 07 20.9**	**+1.6**
YURE	**YUREGİR**	**3.72**	**64**	*i* P		**Pn**	**21 07 20.4**	**+1.1**
HNTI	**Hanita**	**3.79**	**124**	Pn		**Pn**	**21 07 20.9**	**+0.7**
HNTI				Sn		**Sn**	**21 08 03.4**	**-1.3**
BODT	**Bodrum**	**3.79**	**299**	PN		**Pn**	**21 07 20.5**	**+0.2**
HWQ	**Hawqa**	**3.83**	**104**	eP		**Pn**	**21 07 22.2**	**+1.2**
OFRI	**ʿOfer**	**3.96**	**131**	Pn		**Pn**	**21 07 23.9**	**+1.3**
OFRI				Sn		**Sn**	**21 08 08.2**	**-0.8**
MMA0B	**Mount Meron ar**	**3.98**	**123**	Pn		**Pn**	**21 07 24.4**	**+1.4**
MMA0B				Sn		**Sn**	**21 08 08.9**	**-0.7**
SHBL	**Chebaa**	**4.04**	**117**	eP		**Pn**	**21 07 24.7**	**+0.8**
GEM	**Giv'at Ha'Em**	**4.06**	**119**	Pn		**Pn**	**21 07 24.4**	**+0.5**
GEM				Sn		**Sn**	**21 08 09.9**	**-1.4**
NATI	**Neve Ativ**	**4.08**	**118**	Pn		**Pn**	**21 07 25.3**	**+1.1**
NATI				Sn		**Sn**	**21 08 10.4**	**-1.5**
GCAM	**G?zelcaml?**	**4.17**	**307**	PN		**Pn**	**21 07 26.9**	**+1.5**
MMLI	**Mount Malkishu**	**4.36**	**130**	Pn		**Pn**	**21 07 30.9**	**+2.8**
MMLI				Sn		**Sn**	**21 08 18.2**	**-0.6**
QRNJ	**Al-Qirein**	**4.52**	**129**	Pn		**Pn**	**21 07 31.0**	**+0.8**
HMDT	**Nahal Hemdat**	**4.54**	**131**	Pn		**Pn**	**21 07 32.5**	**+1.9**
KZIT	**Kziot**	**5.02**	**150**	Pn		**Pn**	**21 07 38.3**	**+1.2**
KZIT				Sn		**Sn**	**21 08 33.2**	**-1.8**
PRNI	**Paran**	**5.76**	**148**	Pn		**Pn**	**21 07 48.0**	**+0.7**
PRNI				Sn		**Sn**	**21 08 51.2**	**-2.1**

*VAO **26** 21:31:55.1±0.7,3˚.37S×.81˚.26W,h20km±1km,mb4.7*
*IGQ **26** 21:31:57.1±0.6,3˚.5±3˚×8˚.1W±˚,h10km,M4.6*
*NEIC **26** 21:31:58.6±1.3,3˚.19S±0˚.07×80˚.9W±0˚.1,h24km±3km,*
mb4.4/19,Error ellipse: s-maj=15.6km s-min=9.0km
az=65.0
*IDC **26** 21:32:01.2±3.8,3˚.19S×80˚.85W,h44km±40km,mb3.8/8,*
mb1 4.1/11,mb1mx3.8/37,mbtmp4.2/11,ML4.5/3,MS3.4/12,
Ms1 3.4/12,ms1mx3.2/32,Error ellipse: s-maj=37.5km
s-min=26.4km az=55.0

ISC 26 21:31:58.2±1.8,**3˚.28S**±0˚.04×**81˚.04W**±0˚.07,**h29**km±12km,
n115,σ1§**21**/116,**mb3.9**/8,**MS3.4**/8,**Near coast of**
northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ISPG	**Isla Puna-Puer**	**0.92**	**70**	P		**Pb**	**21 32 16.2**	**+0.6**
ISPG				S		**Sn**	**21 32 29.9**	**+2.2**
MORR	**Playas El Morr**	**0.95**	**48**	P		**Pn**	**21 32 14.9**	**-0.7**
MORR				S		**Sb**	**21 32 27.5**	**-0.7**
ARNL	**Arenillas**	**1.01**	**105**	P		**Pn**	**21 32 16.1**	**-0.3**
ARNL				S		**Sb**	**21 32 28.6**	**-1.3**
SALI	**Salinas**	**1.09**	**3**	P		**Pn**	**21 32 16.5**	**-1.0**
SALI				S		**Sn**	**21 32 29.1**	**-2.6**
MCRA	**Macar, Loja**	**1.53**	**135**	P		**Pn**	**21 32 23.2**	**-0.4**
MCRA				S		**Sn**	**21 32 40.9**	**-1.7**
AGUAY	**Guayaquil**	**1.63**	**42**	P		**Pn**	**21 32 23.5**	**-1.5**
AGUAY				S		**Sn**	**21 32 42.6**	**-2.5**
PPLP	**Puerto Lpez**	**1.75**	**9**	P		**Pn**	**21 32 25.5**	**-1.0**
AMIL	**Milagro (Trans**	**1.84**	**52**	P		**Pn**	**21 32 27.4**	**-0.4**
GONZ	**Gonzanam**	**1.90**	**120**	P		**Pn**	**21 32 29.3**	**+0.3**
BOSC	**San Juan Bosco**	**2.54**	**87**	P		**Pn**	**21 32 39.4**	**+1.8**
SANGA	**Volcan Sangay**	**2.93**	**65**	P		**Pn**	**21 32 44.3**	**+1.0**
CAB1	**Cabo Pasado-Ma**	**2.94**	**12**	P		**Pn**	**21 32 43.0**	**-0.1**
CABP	**Cabo Pasado**	**2.94**	**12**	P		**Pn**	**21 32 43.2**	**+0.1**
BMAS	**Trigal station**	**3.11**	**55**	P		**Pn**	**21 32 45.8**	**+0.1**
BBIL	**Ulba Tungurahu**	**3.13**	**55**	P		**Pn**	**21 32 45.9**	**-0.1**
FLFR	**Flavio Alfaro**	**3.14**	**22**	P		**Pn**	**21 32 45.5**	**-0.3**
BPAT	**Tungurahua Vol**	**3.15**	**56**	P		**Pn**	**21 32 47.5**	**+1.2**
JUI6	**Juive**	**3.16**	**54**	P		**Pn**	**21 32 47.0**	**+0.6**
RETU	**Refugio**	**3.17**	**55**	P		**Pn**	**21 32 47.5**	**+0.9**
SAGO	**Sagoatoa**	**3.18**	**48**	P		**Pn**	**21 32 47.2**	**+0.4**
BULB	**Ulba Tungurahu**	**3.20**	**55**	P		**Pn**	**21 32 47.5**	**+0.6**
BRUN	**Tungurahua Vol**	**3.21**	**55**	P		**Pn**	**21 32 47.8**	**+0.8**
ILLI	**Illinizas Sur**	**3.44**	**42**	P		**Pn**	**21 32 50.0**	**0.0**
PIS1	**Pisayambo**	**3.45**	**50**	P		**Pn**	**21 32 51.7**	**+1.2**
PUYO	**Puyo Santa Ro**	**3.50**	**60**	P		**Pn**	**21 32 52.6**	**+1.8**
VCES	**Cotopaxi**	**3.62**	**47**	P		**Pn**	**21 32 54.5**	**+1.7**
BREF	**Cotopaxi Volca**	**3.67**	**45**	P		**Pn**	**21 32 55.4**	**+1.8**
BTAM	**Cotopaxi Volca**	**3.70**	**46**	P		**Pn**	**21 32 55.6**	**+1.6**
TAMB	**Tambo**	**3.71**	**46**	P		**Pn**	**21 32 55.6**	**+1.6**
VC1	**Cotopaxi 1**	**3.72**	**45**	P		**Pn**	**21 32 55.8**	**+1.6**
PKYU	**Pakayacu**	**3.81**	**65**	P		**Pn**	**21 32 56.3**	**+1.4**
BV15	**Puerto Quito-O**	**3.87**	**28**	P		**Pn**	**21 32 54.9**	**-0.9**
ANTM	**Antisana-La Mi**	**3.92**	**46**	P		**Pn**	**21 32 58.0**	**+1.0**
ANTG	**Antisana-Guama**	**3.92**	**45**	P		**Pn**	**21 32 58.1**	**+1.1**
GGPC	**Guagua Pichinc**	**3.93**	**38**	P		**Pn**	**21 32 57.8**	**+0.6**
PINO	**Pino**	**3.94**	**38**	P		**Pn**	**21 32 57.5**	**+0.2**
ARDO	**Archidona, Ten**	**3.96**	**55**	P		**Pn**	**21 32 57.9**	**+0.8**
ANTS	**Antisana-Sarah**	**3.98**	**46**	P		**Pn**	**21 32 59.0**	**+1.1**
YANA	**Yana**	**4.00**	**38**	P		**Pn**	**21 32 58.2**	**+0.2**
OTAV	**Otavalo**	**4.35**	**37**			**Pn**	**21 33 02.8**	**0.0**
OTAV	**Otavalo**	**4.35**	**37**	eP		**Pn**	**21 33 03.0**	**+0.2**
COTA	**Cotacachi**	**4.50**	**37**	P		**Pn**	**21 33 06.3**	**+1.4**
ATAH	**Atahualpa**	**4.65**	**146**	P		**Pn**	**21 33 10.2**	**+3.4**
	12nm,0.3s,baz=332,slow=12,SNR=35							
ATAH				S		**Sn**	**21 33 57.6**	**-2.5**
	7.1nm,0.3s,baz=334,slow=24,SNR=3.7							
ATAH				LR		LR	21 35 16.7	
	comp=Z,520nm,19.4s,baz=330,slow=42							
CHL1	**Volcn Chiles**	**5.09**	**37**	P		**Pn**	**21 33 13.6**	**+0.4**
ECEN	**Cerro Negro**	**5.10**	**37**	P		**Pn**	**21 33 13.7**	**+0.4**
FLOC	**Florencia**	**7.24**	**48**	Pn		**Pn**	**21 33 40.0**	**-2.1**
CZSB	**Cruzeiro do Su**	**9.40**	**118**	eP		**Pn**	**21

LVC					IAmb	IAmb	21 36 59.8		
	comp=Z,16nm,0.9s								
LVC	**Limon Verde**	**22.53**	**150**	*eP*	**P**	**P**	**21 36 54.4**	**-1.9**	
VILB	**Vilhena**	**22.73**	**116**	*eP*	**P**	**P**	**21 36 58.7**	**+0.4**	
SIV	**San Ignacio**	**23.35**	**124**	P	**P**	**P**	**21 37 05.2**	**+0.7**	
	comp=Z,8.5nm,0.8s,baz=310,slow=9.0,SNR=32								
SIV					LR	LR	21 47 44.5		
	comp=Z,89nm,18.1s,baz=298,slow=41								
GO02	**Mina Guanaco**	**24.39**	**154**	P	**P**		**21 37 15.9**	**+1.4**	
CMIG	**Matias Romero**	**24.43**	**326**	LR	LR	LR	21 44 55.6		
	comp=Z,45nm,21.0s,baz=194,slow=32								
PTLB	**Pontes e Lacer**	**24.73**	**121**	*eP*	**P**	**P**	**21 37 16.6**	**-0.6**	
ITTB	**Itaituba**	**25.27**	**93**	*eP*	**P**	**P**	**21 37 22.3**	**0.0**	
NPGB	**Novo Progresso**	**25.84**	**99**	*eP*	**P**	**P**	**21 37 27.7**	**+0.2**	
AC02	**Maricunga**	**26.05**	**155**	P	**P**	**P**	**21 37 31.1**	**+1.3**	
CLDB	**Colider**	**26.14**	**108**	*eP*	**P**	**P**	**21 37 28.9**	**-1.3**	
MALB	**Monte Alegre**	**26.79**	**88**	*eP*	**P**	**P**	**21 37 36.4**	**+0.4**	
AQDB	**Aquidauana**	**30.03**	**127**	*eP*	**P**	**P**	**21 38 04.0**	**-0.9**	
ARAG	**Araguaiana, MT**	**31.30**	**115**	*eP*	**P**	**P**	**21 38 15.4**	**-0.7**	
CPUP	**Villa Florida**	**32.28**	**137**	LR	LR	LR	21 54 22.8		
	comp=Z,100nm,19.1s,slow=42								
CPUP	**Villa Florida**	**32.28**	**137**	*eP*	**P**	**P**	**21 38 22.9**	**-1.7**	
TRCB	**Terra Rica**	**33.66**	**128**	*eP*	**P**	**P**	**21 38 36.2**	**-0.7**	
PCMB	**Pacaembu**	**34.19**	**125**	*eP*	**P**	**P**	**21 38 41.3**	**0.0**	
PTGB	**Pitanga**	**35.12**	**130**	*eP*	**P**	**P**	**21 38 48.9**	**-0.6**	
PTGB				*ep*	P	pP	21 38 54.5	-3.4	
IPMB	**Ipameri, GO**	**35.32**	**117**	*eP*	**P**	**P**	**21 38 50.6**	**-0.7**	
IPMB				*ep*	P	pP	21 38 56.2	-3.5	
BB19B	**Bebedouro**	**36.23**	**122**	*eP*	**P**	**P**	**21 38 57.8**	**-1.2**	
BB19B				*ep*	P	pP	21 39 04.0	-3.4	
ROSB	**Rosrio**	**36.86**	**90**	*eP*	**P**	**P**	**21 39 04.5**	**0.0**	
ROSB				*ep*	P	pP	21 39 09.8	-3.2	
SDBA	**SAO DESIDERIO**	**36.88**	**106**	*eP*	**P**	**P**	**21 39 04.2**	**-0.4**	
TIJ01	**Guaruva-PR**	**37.80**	**128**	*eP*	**P**	**P**	**21 39 11.3**	**-1.0**	
JANB	**Januaria**	**38.02**	**110**	*eP*	**P**	**P**	**21 39 14.1**	**-0.3**	
SPB	**Sao Paulo**	**38.24**	**125**	*eP*	**P**	**P**	**21 39 14.8**	**-1.1**	
VAO	**Valinhos**	**38.36**	**124**	*eP*	**P**	**P**	**21 39 16.3**	**-0.8**	
MC01	**Montes Claros**	**38.80**	**113**	*eP*	**P**	**P**	**21 39 20.2**	**-0.7**	
BSCB	**Bom Sucesso**	**39.43**	**120**	*eP*	**P**	**P**	**21 39 25.7**	**-0.4**	
PARB	**Paraibuna**	**39.62**	**122**	*eP*	**P**	**P**	**21 39 26.9**	**-0.8**	
SJMB	**Sao Joao De Ma**	**41.88**	**115**	*eP*	**P**	**P**	**21 39 46.2**	**0.0**	
RIB01	**Linhares ES**	**42.77**	**115**	*eP*	**P**	**P**	**21 39 53.6**	**+0.1**	
R11A	**Troy Canyon, C**	**52.31**	**326**			pP	21 41 15.8	-0.3	
PD31	**Pinedale Array**	**52.59**	**334**	P	**P**	**P**	**21 41 10.2**	**+0.6**	
PDAR	**Pinedale Array**	**52.59**	**334**	P	**P**	**P**	**21 41 10.1**	**+0.4**	
	comp=Z,0.4nm,0.8s,baz=134,slow=8.5,SNR=3.6								
PDAR					LR	LR	22 03 21.0		
	comp=Z,28nm,20.0s,baz=168,slow=36								
NV11	**Mina Array Sit**	**53.84**	**324**	P	**P**	**P**	**21 41 20.8**	**+1.9**	
RYN	**Ryan**	**54.19**	**324**	P	**P**	**P**	**21 41 21.5**	**+0.1**	
YKA	**Yellowknife Ar**	**70.38**	**344**	P	**P**	**P**	**21 43 10.6**	**+1.5**	
	comp=Z,0.4nm,0.6s,baz=129,slow=6.1,SNR=2.5								
DBIC	**Dimbokro**	**76.69**	**82**	LR	LR	LR	22 17 47.0		
	comp=Z,28nm,18.2s,baz=130,slow=36								
ESDC	**Sonseca Array**	**82.17**	**49**	P	**P**	**P**	**21 44 16.8**	**0.0**	
	comp=Z,0.8nm,0.9s,baz=292,slow=6.8,SNR=4.7								
TORD	**Torodi Ar. Bea**	**83.68**	**76**	P	**P**	**P**	**21 44 24.8**	**-0.2**	
	comp=Z,0.6nm,0.7s,baz=279,slow=6.5,SNR=7.6								
URZ	**Urewera**	**97.26**	**231**	LR	LR	LR	22 20 06.5		
	comp=Z,226nm,18.6s,baz=30,slow=30								

*IDC **26** 21:33:46.3±2.9, 36°.20N×70°.90E, h161km±25km, mb3.4/10, mb1 3.4/16, mb1mx3.2/51, mbtmp3.9/16, Error ellipse: s-maj=21.4km s-min=16.4km az=176.0*
*NEIC **26** 21:33:51.5±2.2, 36°.54N±0°.07×71°.03E±0°.09, h202km±4km, mb4.0/6, Error ellipse: s-maj=11.0km s-min=9.4km az=47.0*
*NNC **26** 21:33:56.9±4.7, 36°.97N×70°.95E, h197km±68km, mb2.9, mpv3.8, Error ellipse: s-maj=45.6km s-min=32.1km az=9.0*
ISC 26 21:33:50.5±0.7, 36°.54N±0°.07×70°.91E±0°.06, h200km, n47, σ1§69/50, mb3.7/9, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
GAR	**Garm**	**2.50**	**349**	Pn		**Pn**	**21 34 35.4**	**+0.9**	
KBL	**Kabul**	**2.51**	**218**	Pn		**Pn**	**21 34 36.5**	**+1.7**	
CHGR	**Chuyangaron**	**2.53**	**327**	Pn		**Pn**	**21 34 36.1**	**+1.3**	
NIL	**Nilore**	**3.46**	**146**	Pn		**Pn**	**21 34 46.5**	**+0.7**	
BTK	**Batken**	**3.51**	**359**			**Pn**	**21 34 48.1**	**+1.8**	
TAS	**Tashkent**	**4.94**	**346**	Pn		**Pn**	**21 35 04.4**	**+0.3**	
THN	**Thein Dam**	**5.70**	**135**	*eP*		Pn	21 35 19.0	+5.1	
THN				*eS*		**Sn**	**21 36 17.5**	**-2.3**	
AML	**Almayashu**	**5.99**	**20**	P		**Pn**	**21 35 18.6**	**+0.7**	
	SNR=18								
UCH	**Uchtor**	**6.33**	**25**	P		**Pn**	**21 35 23.1**	**+0.8**	
	SNR=16								
EKS2	**Erkin-Say**	**6.50**	**19**	P		**Pn**	**21 35 25.3**	**+1.0**	
	SNR=23								
KK31	**Karatay Array**	**6.56**	**357**	⇓P		**Pn**	**21 35 26.7**	**+1.7**	
	0.8nm,0.2s,baz=178,slow=13,SNR=34								
KK31				⇓S		**Sn**	**21 36 35.6**	**-4.4**	
	4.7nm,0.4s,baz=186,slow=23,SNR=9.9								
KK31	**Karatay Array**	**6.56**	**357**	Pn		**Pn**	**21 35 26.0**	**+1.0**	
KKAR	**Karatay Array**	**6.56**	**357**			**Pn**	**21 35 26.5**	**+1.5**	
AAK	**Ala-Archa**	**6.69**	**23**	P		**Pn**	**21 35 26.5**	**-0.3**	
	2.7nm,0.3s,baz=211,slow=5.7,SNR=10								
AAK				S		**Sn**	**21 36 39.8**	**-3.3**	
	1.6nm,0.3s,baz=134,slow=22,SNR=14								
AAK	**Ala-Archa**	**6.69**	**23**	P		**Pn**	**21 35 27.8**	**+1.0**	
	SNR=5.8								
AAK	**Ala-Archa**	**6.69**	**23**	⇓P		**Pn**	**21 35 27.4**	**+0.7**	
	2.6nm,0.3s								
AAK				⇑S		**Sn**	**21 36 41.5**	**-1.6**	
	10nm,0.5s								
AAK	**Ala-Archa**	**6.69**	**23**	Pn		**Pn**	**21 35 27.4**	**+0.7**	
KBK	**Karagaybulak**	**6.86**	**26**	P		**Pn**	**21 35 30.7**	**+1.7**	
	SNR=5.2								
ULHL	**Ulahol**	**7.03**	**34**	P		**Pn**	**21 35 32.4**	**+1.1**	
	SNR=6.5								
USP	**Ospenovka**	**7.26**	**21**	P		**Pn**	**21 35 34.8**	**+0.7**	
	SNR=14								
TKM2	**Tokmak 2**	**7.32**	**28**	P		**Pn**	**21 35 35.7**	**+0.6**	
	SNR=9.6								
TKM2	**Tokmak 2**	**7.32**	**28**	⇓P		**Pn**	**21 35 35.7**	**+0.6**	
	14nm,0.6s								
TKM2				⇓S		**Sn**	**21 36 55.2**	**-2.9**	
	2.6nm,0.5s								
GEYT	**Alibeck**	**10.30**	**282**	P		**Pn**	**21 36 11.4**	**-2.2**	
	0.8nm,0.3s,baz=102,slow=13,SNR=2.5								
GEYT				S		**Sn**	**21 38 04.4**	**-4.2**	
	0.3nm,0.3s,baz=26,slow=38,SNR=1.8								
MAKZ	**Makanchi**	**13.16**	**35**	Pn		**Pn**	**21 36 49.5**	**-0.4**	
MK31	**Makanchi Array**	**13.30**	**36**	Pn		**Pn**	**21 36 52.3**	**+0.7**	
MKAR	**Makanchi Array**	**13.30**	**36**	P		**Pn**	**21 36 52.4**	**+0.7**	
	0.2nm,0.3s,baz=213,slow=13,SNR=12								
AB31	**Akbulak array**	**15.02**	**331**	⇑P		**P**	**21 37 15.9**	**+2.5**	
	0.7nm,0.5s								
KURBB	**Kurchatov Arra**	**15.11**	**19**	P		**P**	**21 37 14.3**	**-0.1**	
	0.1nm,0.3s,baz=203,slow=11,SNR=5.6								
BVAR	**Borovoye Array**	**16.49**	**359**	P		**Pn**	**21 37 31.3**	**+0.9**	
	0.7nm,0.3s,baz=154,slow=9.5,SNR=9.3								
BRVK	**Borovoye**	**16.52**	**359**	P		**P**	**21 37 30.0**	**+0.1**	
AKTO	**Aktyubinsk**	**16.71**	**330**	P		**Pn**	**21 37 34.4**	**+1.2**	
	0.7nm,0.3s,baz=144,slow=11,SNR=14								
AKTO	**Aktyubinsk**	**16.71**	**330**	⇑P		**Pn**	**21 37 34.2**	**+1.0**	
	2.8nm,0.6s								
LSA	**Lhasa**	**18.25**	**106**	P		**P**	**21 37 48.6**	**-1.0**	
LSA					IAmb	IAmb	21 37 54.5		
	comp=Z,3.9nm,0.6s								
ZAA0	**Zalesovo Array**	**19.91**	**25**	P		**P**	**21 38 05.8**	**-0.9**	
ZALV	**Zalesovo Beam**	**19.91**	**25**	P		**Pn**	**21 38 08.4**	**-2.5**	
	comp=Z,1.3nm,0.4s,baz=218,slow=11,SNR=6.3								
ARU	**Arti**	**21.57**	**341**	P		**P**	**21 38 26.0**	**+1.8**	
	comp=Z,0.6nm,0.3s,baz=176,slow=16,SNR=3.9								
ARU	**Arti**	**21.57**	**341**	IAmb		IAmb	21 38 28.4		
	comp=Z,3.1nm,0.9s								
FINES	**FINESS Array B**	**37.41**	**326**	P		**P**	**21 40 46.0**	**+2.1**	
	comp=Z,1.6nm,0.7s,baz=122,slow=8.6,SNR=10								
ARCES	**ARCESS Array B**	**41.08**	**338**	P		**P**	**21 41 16.4**	**+2.2**	
	comp=Z,1.6nm,0.5s,baz=112,slow=8.0,SNR=24								
NB2	**NORSAR Subarra**	**44.31**	**323**	P		**P**	**21 41 41.4**	**+1.2**	
	comp=Z,1.5nm,0.7s,baz=98,slow=7.9								
NOA	**NORSAR Array B**	**44.31**	**323**	P		**P**	**21 41 41.6**	**+1.4**	
	comp=Z,1.4nm,0.8s,baz=97,slow=7.8,SNR=6.2								
TORD	**Torodi Ar. Bea**	**65.65**	**269**	P		**P**	**21 44 13.2**	**-0.4**	
	comp=Z,0.6nm,0.4s,baz=49,slow=6.0,SNR=18								
INK	**Inuvik**	**73.88**	**9**	P		**P**	**21 45 04.7**	**+1.8**	
	comp=Z,0.9nm,0.4s,baz=332,slow=5.3,SNR=6.6								
INK	**Inuvik**	**73.88**	**9**	IAmb		IAmb	21 45 48.1		
	comp=Z,8.7nm,1.4s								
YKA	**Yellowknife Ar**	**81.21**	**3**	P		**P**	**21 45 44.7**	**+1.2**	
	comp=Z,0.5nm,0.5s,baz=355,slow=5.6,SNR=4.6								
WRA	**Warramunga Arr**	**82.07**	**122**	P		**P**	**21 45 47.9**	**-0.8**	
	comp=Z,0.2nm,0.6s,baz=322,slow=5.1,SNR=1.7								
ASAR	**Alice Springs**	**84.33**	**125**	P		**P**	**21 45 59.8**	**-0.4**	
	comp=Z,0.5nm,0.6s,baz=313,slow=4.8,SNR=8.5								

*IDC **26** 21:42:13.4±2.5, 7°.06S×154°.72E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.6/29, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=67.7km s-min=26.7km az=97.0*
ISC 26 21:42:20.5±1.8, 7°.0S±0°.1×154°.4E±0°.3, h39km, n7, σ0§68/8, mb3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
KRVT	**Keravat (AS076**	**3.60**	**319**	Pn		**Pn**	**21 43 14.2**	**+0.4**	
	6.6nm,0.3s,baz=193,slow=3.9,SNR=5.3								
KRVT				Sn		**Sn**	**21 43 54.5**	**-0.5**	
	7.4nm,0.3s,baz=321,slow=23,SNR=1.6								
WRA	**Warramunga Arr**	**23.32**	**235**	P		**P**	**21 47 25.8**	**+0.4**	
	0.8nm,0.7s,baz=56,slow=9.3,SNR=8.7								
ASAR	**Alice Springs**	**25.72**	**228**	P		**P**	**21 47 47.0**	**-0.5**	
	0.5nm,0.7s,baz=62,slow=9.4,SNR=6.1								
STKA	**Stephens Creek**	**27.46**	**204**	P		**P**	**21 48 03.1**	**+0.1**	
	0.9nm,0.7s,baz=35,slow=12,SNR=2.1								
SONM	**Songino Array**	**69.05**	**328**	P		**P**	**21 53 22.2**	**-0.2**	
	0.3nm,0.6s,baz=126,slow=2.5,SNR=3.0								
MKAR	**Makanchi Array**	**83.05**	**319**	P		**P**	**21 54 42.8**	**+0.7**	
	0.5nm,0.7s,baz=131,slow=5.5,SNR=3.7								
TORD	**Torodi Ar. Bea**	**152.47**	**285**	PKPbc		**PKPbc**	**22 02 12.7**	**-1.0**	
	0.3nm,0.7s,baz=89,slow=2.5,SNR=1.5								

*ISN **26** 21:59:00.0±1.5, 32°.59N×47°.45E, h0km±999km, ML2.8*
*TEH **26** 21:59:02.2, 32°.80N×47°.51E, h9km, ML3.1*
*THR **26** 21:59:04.2±0.9, 32°.90N×47°.51E, h14km±14km, ML3.3*
ISC 26 21:59:02.9±1.1, 32°.81N±0°.03×47°.50E±0°.03, h6km±13km, n35, σ1§39/40, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
DHL1	**Dehloran**	**0.23**	**235**	*eSg*		**Sg**	**21 59 11.2**	**+0.9**	
DHL1				*ePg*		**Pg**	**21 59 06.7**	**-0.6**	
IKFM	**Kafar-mosalman**	**0.77**	**22**	*ePg*		**Pg**	**21 59 16.9**	**-0.8**	
IKFM				*e*			21 59 32.2		
IKMR	**Kamar-syah**	**1.02**	**46**	*ePg*		**Pg**	**21 59 21.5**	**-1.0**	
IKMR				*e*			21 59 39.1		
IDOB	**Doab**	**1.13**	**30**	*ePg*		**Pg**	**21 59 23.6**	**-1.0**	
SHGR	**Shooshtar-Gavs**	**1.30**	**122**	*ePg*		**Pg**	**21 59 28.4**	**+0.4**	
SHGR				*eSg*		**Sg**	**21 59 47.4**	**+2.6**	
SHGR	**Shooshtar-Gavs**	**1.30**	**122**	*ePg*		**Pg**	**21 59 28.4**	**+0.4**	
IBDR	**Badra**	**1.35**	**283**	*ePg*		**Pb**	**21 59 28.0**	**-0.6**	
IBDR				*eSg*		**Sg**	**21 59 48.0**	**+1.6**	
IBDR					AML	AML	21 59 52.7		
	comp=N,152nm,0.7s								
IBDR					AML	AML	21 59 53.2		
	comp=E,147nm,0.5s								
IKOM	**Komasi**	**1.36**	**0**	*ePg*		**Pg**	**21 59 28.7**	**-0.3**	
IKOM				*e*			21 59 30.8		
BMDN	**Meydan**	**1.40**	**52**	*ePg*		**Pg**	**21 59 29.2**	**-0.7**	
BMDN				*e*			21 59 57.1		
KCHF	**Cheshme Sefid,**	**1.51**	**345**	*ePg*		**Pg**	**21 59 31.3**	**-0.6**	
KCHF				*e*			21 59 57.1		
KER	**Kermanshah**	**1.60**	**349**	*ePg*		**Pg**	**21 59 32.9**	**-0.7**	
HSAM	**Samen**	**1.67**	**33**	*ePg*		**Pg**	**21 59 34.1**	**-0.9**	
HSAM				*e*			22 00 01.2		
IBZA	**Bozab**	**1.68**	**10**	*ePg*		**Pg**	**21 59 34.9**	**-0.3**	
IBZA				*e*			22 00 03.5		
IGHG	**Ghaleghazi**	**1.70**	**333**	*ePn*		**Pb**	**21 59 34.0**	**-0.7**	
IGHG				*e*			22 00 09.6		
AHWZ	**Ahwaz**	**1.77**	**146**	*ePg*		**Pb**	**21 59 34.7**	**-1.0**	
IVIS	**Veis**	**1.79**	**343**	*ePn*		**Pb**	**21 59 36.0**	**-0.2**	
IVIS				*e*			22 00 08.0		
IDHR	**Dehrash**	**2.10**	**334**	*ePn*		**Pb**	**21 59 40.7**	**-0.8**	
IDHR				*e*			22 00 17.3		
IALM	**Almabolaq**	**2.12**	**15**	*ePn*		**Pb**	**21 59 41.2**	**-0.7**	
NSR	**Nassriya**	**2.13**	**213**	*ePg*		**Pn**	**21 59 39.0**	**0.0**	
	baz=33								
NSR				*eSg*		**Sb**	**22 00 07.0**	**-1.7**	
NSR					AML	AML	22 00 10.0		
	comp=E,113nm,0.4s								
ILIN	**Lien**	**2.15**	**348**	*ePn*		**Pb**	**21 59 40.5**	**-1.9**	
ILIN				*e*			22 00 21.5		
KHMZ	**Khomeyn**	**2.26**	**65**	*ePn*		**Pb**	**21 59 43.1**	**-1.1**	
KHMZ	**Khomeyn**	**2.26**	**65**	*ePn*		**Pb**	**21 59 43.1**	**-1.1**	
HAGD	**Aghdareh**	**2.43**	**34**	*ePn*		**Pb**	**21 59 44.6**	**-2.5**	
HAGD				*e*			22 00 23.4		
ASAO	**Ashtian**	**2.73**	**50**	*ePn*		**Pb**	**21 59 49.1**	**-3.1**	
ASAO				*eSg*		**Sb**	**22 00 27.4**	**+1.4**	
ASAO	**Ashtian**	**2.73**	**50**	*ePn*		**Pb**	**21 59 49.1**	**-3.1**	
JHBN	**Jahan bin**	**2.74**	**101**	*ePn*		**Pn**	**21 59 48.1**	**+0.5**	
JHBN				*e*			22 00 43.0		
IPIR	**Pirpir**	**2.86**	**92**	*ePn*		**Pn**	**21 59 50.3**	**+1.0**	
IPIR				*e*			22 00 00.2		
ROKH	**ROKH**	**3.02**	**98**	*ePn*		**Pn**	**21 59 52.2**	**+0.7**	
QABG	**Abgarm-Qazvin**	**3.37**	**30**	*ePn*		**Pn**	**21 59 57.5**	**+1.3**	
IKLH	**Kolahrood**	**3.46**	**80**	*ePn*		**Pn**	**21 59 58.5**	**+0.9**	
IKLH				*e*			22 00 00.5		
GHVR	**GHOM**	**3.58**	**61**	*ePn*		**Pn**	**22 00 00.0**	**+1.0**	
GHVR	**GHOM**	**3.58**	**61**	*ePn*		**Pn**	**22 00 00.0**	**+1.0**	
KLNJ	**Kolanjah**	**3.92**	**116**	*ePn*		**Pn**	**22 00 03.8**	**-0.1**	
QSDN	**Sirdan**	**3.93**	**20**	*ePn*		**Pn**	**22 00 06.2**	**+2.2**	
QALM	**Alamut, Qazvin**	**4.45**	**35**	*ePn*		**Pn**	**22 00 12.8**	**+1.7**	

WEL 26 21:59:25.9, 40°S±4°×17°5E±°, h12km, M3.3/28, ML3.6/28, MLv3.3/28, Error ellipse: s-maj=0.0km s-min=0.0km az=0.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
OHWZ	**Ohakea**	**0.31**	**38**	P		Pb	21 59 32.8	-0.5	
OHWZ				S		Sb	21 59 38.1	-0.3	
OGWZ	**Otaki Gorge**	**0.37**	**167**	P		Pb	21 59 34.4	0.0	
OGWZ				S		Sb	21 59 39.9	-0.3	
KIW	**Kapiti Island**	**0.42**	**196**	P		Pb	21 59 35.1	-0.2	
KIW				S		Sb	21 59 40.9	-0.8	
MRZ	**Mangatainoka R**	**0.45**	**118**	P		Pb	21 59 35.4	-0.2	
MRZ				S		Sg	21 59 41.4	+0.8	
POWZ	**Post Office Ro**	**0.54**	**84**	P		Pb	21 59 37.0	-0.3	
POWZ				S		Sg	21 59 43.9	+0.2	
HOWZ	**Holdsworth Sta**	**0.56**	**142**	P		Pb	21 59 37.9	+0.2	
HOWZ				S		Sb	21 59 45.7	0.0	
CAW	**Cannon Point**	**0.66**	**180**	P		Pb	21 59 39.6	+0.3	
CAW				S		Sb	21 59 48.5	+0.2	
WAZ	**Wanganui**	**0.70**	**355**	P		Pb	21 59 40.2	+0.3	
PRWZ	**Pori Road**	**0.70**	**99**	P		Pb	21 59 40.5	+0.5	
PRWZ				S		Sb	21 59 50.6	+1.0	
TIWZ	**Tintock**	**0.71**	**118**	P		Pb	21 59 40.7	+0.6	
TIWZ				S		Sb	21 59 50.8	+1.0	
MTW	**Mount Morrison**	**0.78**	**155**	P		Pn	21 59 42.4	-0.3	
MTW				S		Sn	21 59 53.3	-1.0	
TSZ	**Takapari Road**	**0.79**	**61**	P		Pg	21 59 41.3	+0.1	
DVHZ	**Dannevirke**	**0.86**	**80**	P		Pb	21 59 42.9	+0.3	
DVHZ				S		Sb	21 59 54.4	+0.2	
TMWZ	**Te Maipa**	**0.91**	**136**	P		Pn	21 59 44.8	+0.3	
BFZ	**Birch Farm**	**0.93**	**105**	P		Pn	21 59 44.9	+0.2	
DUWZ	**D'Urville Isla**	**0.94**	**248**	P		Pb	21 59 44.0	0.0	
TCW	**Tory Channel**	**0.96**	**218**	P		Pg	21 59 43.9	-0.5	
BHW	**Baring Head**	**0.97**	**189**	P		Pn	21 59 44.9	-0.3	
PAWZ	**Paruwai Farm**	**0.97**	**163**	P		Pn	21 59 45.9	+0.6	
MSWZ	**Moikau Station**	**0.97**	**172**	P		Pn	21 59 46.0	+0.6	
MSWZ				S		Sn	21 59 59.4	+0.3	
CPWZ	**Castlepoint**	**0.98**	**118**	P		Pn	21 59 47.1	+1.7	
PNHZ	**Pukenui**	**1.02**	**59**	P		Pb	21 59 45.3	-0.2	
PNHZ				S		Sb	21 59 58.2	-0.8	
TRWZ	**Traveller**	**1.06**	**154**	P		Pn	21 59 47.4	+0.9	
ANWZ	**Angora Road**	**1.08**	**91**	P		Pn	21 59 47.9	+1.1	
LREZ	**Lake Rotokare**	**1.11**	**333**	P		Pg	21 59 48.5	+1.2	
MTVZ	**Mangateitei**	**1.11**	**17**	P		Pb	21 59 46.8	-0.2	
WPHZ	**Waipukurau**	**1.12**	**70**	P		Pg	21 59 48.2	+0.7	
PLWZ	**Palliser**	**1.13**	**173**	P		Pg	21 59 48.7	+1.2	
MOVZ	**Moawhango**	**1.17**	**27**	P		Pb	21 59 47.1	-1.0	
MOVZ				S		Sb	22 00 02.3	-1.0	
PKVZ	**Pokaka**	**1.18**	**11**	P		Pb	21 59 47.9	-0.3	
WNVZ	**Wahianoa**	**1.20**	**20**	P		Pn	21 59 47.9	-0.6	
TRVZ	**Turoa**	**1.21**	**18**	P		Pn	21 59 48.3	-0.5	
PRHZ	**Porangahau**	**1.22**	**82**	P		Pn	21 59 48.3	-0.4	
BHHZ	**Black Hill Sta**	**1.23**	**39**	P		Pn	21 59 48.2	-0.7	
DRZ	**Dome Shelter**	**1.24**	**18**	P		Pn	21 59 49.1	-0.1	
WHVZ	**Whangaehu Hut**	**1.24**	**19**	P		Pn	21 59 48.7	-0.4	
FWVZ	**Far West T-bar**	**1.25**	**18**	P		Pn	21 59 49.1	-0.2	
TUVZ	**Tukino**	**1.27**	**21**	P		Pn	21 59 49.2	-0.3	
KRHZ	**Kereru**	**1.29**	**52**	P		Pb	21 59 49.9	-0.2	
TUWZ	**Tuamarina**	**1.29**	**221**	P		Pn	21 59 49.8	+0.1	
PREZ	**Palmer Road**	**1.31**	**328**	P		Pg	21 59 51.8	+0.9	
NGZ	**Ngauruhoe**	**1.34**	**18**	P		Pn	21 59 50.6	+0.1	
VRZ	**Vera Road**	**1.35**	**350**	P		Pg	21 59 51.6	-0.1	
OTVZ	**Oturere**	**1.37**	**20**	P		Pn	21 59 50.9	0.0	
NMEZ	**Namu Road**	**1.38**	**318**	P		Pg	21 59 52.2	-0.1	
NEZ	**North Egmont**	**1.40**	**327**	P		Pg	21 59 53.6	+0.9	
WTVZ	**West Tongariro**	**1.40**	**17**	P		Pn	21 59 51.5	+0.3	
ETVZ	**East Tongariro**	**1.41**	**21**	P		Pn	21 59 51.5	+0.1	
KHEZ	**Kahui Hut**	**1.41**	**325**	P		Pg	21 59 53.5	+0.6	
TWVZ	**Taurewa**	**1.41**	**12**	P		Pn	21 59 51.5	+0.1	
TMVZ	**Te Maari**	**1.42**	**21**	P		Pn	21 59 51.7	+0.1	
DREZ	**Durham Road**	**1.43**	**332**	P		Pg	21 59 53.6	+0.4	
KRVZ	**Karewarewa**	**1.43**	**18**	P		Pn	21 59 52.0	+0.4	
PXZ	**Pawanui**	**1.44**	**74**	P		Pb	21 59 53.0	+0.4	
CMWZ	**Cape Campbell**	**1.45**	**206**	P		Pg	21 59 54.9	+1.3	
KWHZ	**Kaweka Forest**	**1.47**	**46**	P		Pb	21 59 53.0	0.0	
MHEZ	**Mangahewa**	**1.49**	**337**	P		Pg	21 59 55.4	+1.0	
NNZ	**Nelson**	**1.49**	**239**	P		Pb	21 59 53.6	+0.2	
NBEZ	**Newall Road No**	**1.50**	**322**	P		Pg	21 59 55.5	+0.9	
PKE	**Pukeiti**	**1.50**	**326**	P		Pg	21 59 55.0	+0.3	
KAHZ	**Kahuranaki**	**1.54**	**65**	P		Pb	21 59 54.8	+0.5	
BSWZ	**Blackbirch Sta**	**1.55**	**215**	P		Pb	21 59 54.9	+0.5	
KATZ	**Kakaramea**	**1.55**	**19**	P		Pb	21 59 54.5	-0.1	
RITZ	**Rihia Road**	**1.60**	**23**	P		Pb	21 59 55.0	-0.3	
MCHZ	**McNeill Hill**	**1.61**	**52**	P		Pg	21 59 57.0	+0

*NEIC **26** 22:26:11.6±2.1, 13°.24N±0°.08×51°.07E±0°.07, h10km±1km, mb4.7/49, Error ellipse: s-maj=14.3km s-min=11.2km az=176.0*
*OMAN **26** 22:26:14.8±1.1, 13°.82N×50°.69E, h22km±10km, mb5.4/1, ml4.2/3, Error ellipse: s-maj=16.0km s-min=6.4km az=7.0*
ISC 26 22:26:12.0±0.5, 13°.33N±0°.07×50°.99E±0°.06, h12km, n144, σ1§42/139, mb4.6/66, MS3.8/23, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**3.14**	**111**	Pn	**Pn**	22 26 54.9	-6.4
ABTO	**Aybut**	**4.58**	**29**	P	**Pn**	**22 27 19.4**	**-1.7**
	SNR=16						
ABTO				S	**Sn**	**22 28 09.2**	**-5.1**
RBK	**Rabkut**	**5.18**	**36**	P	**Pn**	**22 27 28.7**	**-0.7**
	SNR=12						
RBK				S	**Sn**	**22 28 26.8**	**-2.4**
WHFO	**Wadi Hawf**	**5.29**	**30**	P	**Pn**	**22 27 29.3**	**-1.7**
	SNR=147						
WHFO				S	**Sn**	**22 28 27.9**	**-4.0**
DMTO	**DMTO**	**5.79**	**41**	P	**Pn**	**22 27 37.1**	**-0.7**
	SNR=65						
DMTO				S	**Sn**	**22 28 41.9**	**-2.3**
ATD	**Arta Tunnel**	**8.15**	**258**	Pn	**Pn**	**22 28 08.8**	**-1.4**
	9.8nm,0.3s,baz=346,slow=7.2,SNR=35						
ATD				Sn	**Sn**	**22 29 38.8**	**-3.7**
	baz=291,slow=21,SNR=1.5						
ATD				LR	LR	22 30 20.4	
	comp=Z,924nm,18.9s,baz=62,slow=31						
ATD	**Arta Tunnel**	**8.15**	**258**	P	**Pn**	**22 28 09.5**	**-0.8**
	SNR=42						
ATD	**Arta Tunnel**	**8.15**	**258**	Pn	**Pn**	**22 28 08.1**	**-2.2**
SOHO	**SOHO**	**11.96**	**25**	P	**Pn**	**22 29 00.6**	**-1.8**
WSAR	**Wadi Sarin**	**12.23**	**35**	Pn	**Pn**	**22 29 08.0**	**+1.8**
	0.4nm,0.3s,baz=191,slow=17,SNR=1.7						
WSAR				Sn	Sn	22 31 13.0	-10
	0.1nm,0.3s,baz=4.6,slow=20,SNR=1.1						
WSAR				LR	LR	22 33 36.7	
	comp=Z,1μm,20.5s,baz=232,slow=36						
ASHO	**Ashiyiah**	**12.26**	**22**	P	**Pn**	**22 29 04.3**	**-2.3**
NAZ	**Nazwa, Dubai**	**12.40**	**20**	P	**Pn**	**22 29 07.4**	**-1.0**
HATD	**Hatta, Dubai**	**12.42**	**22**	P	**Pn**	**22 29 07.3**	**-1.4**
UOSS	**Minazif**	**12.56**	**22**	P	**Pn**	**22 29 10.2**	**-0.4**
UOSS	**Minazif**	**12.56**	**22**	Pn	**Pn**	**22 29 12.7**	**+2.2**
MDH	**Madha**	**12.91**	**22**	P	**Pn**	**22 29 14.7**	**-0.7**
MSFE	**Esma-Masafi**	**12.92**	**21**	P	**Pn**	**22 29 13.4**	**-2.1**
BANOM	**Banah**	**13.48**	**21**	P	**Pn**	**22 29 21.4**	**-1.9**
SHME	**Shamm**	**13.55**	**20**	*i* P	**Pn**	**22 29 22.4**	**-1.7**
	SNR=6.5						
KMBO	**Kilima Mbogo**	**19.80**	**225**	P	**P**	**22 30 43.6**	**+0.9**
	0.2nm,0.3s,baz=32,slow=8.7,SNR=6.4						
KMBO	**Kilima Mbogo**	**19.80**	**225**	*i* P	**P**	**22 30 43.3**	**+0.6**
	SNR=5.0						
KMBO	**Kilima Mbogo**	**19.80**	**225**	P	**P**	**22 30 41.6**	**-1.1**
KMBO				IAmb	IAmb	22 30 45.5	
	comp=Z,59nm,2.0s						
EIL	**Elat**	**22.02**	**320**	LR	LR	22 39 06.1	
	comp=Z,205nm,19.4s,baz=144,slow=35						
ASF	**Jabal al Asfar**	**22.77**	**328**	P	**P**	**22 31 15.1**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=102,slow=1.5,SNR=5.0						
HRA	**Herat**	**23.32**	**24**	P	**P**	**22 31 21.7**	**+1.5**
MMAI	**Mount Meron Ar**	**24.21**	**327**	P	**P**	**22 31 29.4**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=127,slow=11,SNR=5.4						
MMAI				LR	LR	22 41 40.3	
	comp=Z,267nm,21.9s,baz=145,slow=38						
MBAR	**Mbarara**	**24.39**	**237**	P	**P**	**22 31 29.8**	**-0.8**
MBAR				IAmb	IAmb	22 31 37.8	
	comp=Z,24nm,1.8s						
GEYT	**Alibeck**	**25.31**	**13**	P	**P**	**22 31 39.8**	**+1.3**
	comp=Z,19nm,0.8s,baz=202,slow=7.5,SNR=36						
GEYT				LR	LR	22 43 33.8	
	comp=Z,766nm,19.2s,baz=185,slow=41						
GYA0B	**ALIBECK ARRAY**	**25.31**	**13**	P	**P**	**22 31 39.8**	**+1.3**
GYA0B				IAmb	IAmb	22 31 42.1	
	comp=Z,22nm,0.8s						
GEVA	**Gevas**	**25.86**	**346**	P	**P**	**22 31 45.8**	**+2.1**
GEVA				IAmb	IAmb	22 31 48.5	
	comp=Z,21nm,0.8s						
KBL	**Kabul**	**26.71**	**35**	P	**P**	**22 31 53.0**	**+1.5**
KBL				IAmb	IAmb	22 31 59.9	
	comp=Z,13nm,1.0s						
GAZ	**Gaziantep**	**26.75**	**335**	P	**P**	**22 31 54.7**	**+3.1**
GAZ				IAmb	IAmb	22 31 59.6	
	comp=Z,33nm,1.7s						
KOPT	**Kop Dagi**	**28.14**	**343**	P	**P**	**22 32 06.2**	**+1.9**
KOPT				IAmb	IAmb	22 32 47.8	
	comp=Z,11nm,1.2s						
AKH	**Akhalkalaki**	**28.73**	**348**	P	**P**	**22 32 10.2**	**+0.7**
AKH				IAmb	IAmb	22 32 19.4	
	comp=Z,18nm,1.5s						
TBLG	**Delisi**	**28.81**	**350**	P	**P**	**22 32 11.2**	**+1.2**
CHGR	**Chuyangaron**	**29.93**	**29**	P	**P**	**22 32 20.5**	**+0.5**
ELL	**Elmali**	**30.00**	**325**	P	**P**	**22 32 21.7**	**+0.9**
BRTR	**Keskin Array B**	**30.41**	**333**	P	**P**	**22 32 25.4**	**+1.1**
	comp=Z,4.4nm,1.2s,baz=169,slow=9.7,SNR=4.1						
BRTR				LR	LR	22 44 34.1	
	comp=Z,88nm,19.9s,baz=116,slow=36						
GAR	**Garm**	**30.76**	**30**	P	**P**	**22 32 26.8**	**-0.6**
BR231	**Keskin MP Arra**	**30.89**	**332**	P	**P**	**22 32 28.9**	**+0.3**
BR231				IAmb	IAmb	22 32 31.0	
	comp=Z,10nm,0.8s						
BOLV	**Bolvadin**	**30.90**	**329**	P	**P**	**22 32 28.4**	**-0.3**
BOLV				IAmb	IAmb	22 32 43.9	
	comp=Z,10nm,0.6s						
KBZ	**Khabaz**	**31.08**	**349**	P	**P**	**22 32 31.6**	**+1.6**
	comp=Z,5.5nm,0.8s,baz=173,slow=6.9,SNR=15						
KBZ				LR	LR	22 47 11.6	
	comp=Z,430nm,20.1s,baz=163,slow=41						
KIV	**Kislovodsk**	**31.34**	**348**	*i* P	**P**	**22 32 33.7**	**+1.3**
	SNR=6.4						
KIV	**Kislovodsk**	**31.34**	**348**	P	**P**	**22 32 32.0**	**-0.4**
ILGA	**Ilgaz**	**31.48**	**335**	P	**P**	**22 32 33.5**	**-0.3**
KOLN	**Koldanda**	**33.62**	**60**	*eP*	**P**	**22 32 53.8**	**+1.0**
	comp=Z,61nm,1.0s						
KK31	**Karatay Array**	**34.11**	**26**	P	**P**	**22 32 57.3**	**+0.7**
KKAR	**Karatay Array**	**34.11**	**26**	P	**P**	**22 32 57.6**	**+0.9**
GKN	**Gorkha**	**34.56**	**60**	*eP*	**P**	**22 33 01.4**	**+0.5**
DMN	**Daman**	**34.84**	**61**	*eP*	**P**	**22 33 03.8**	**+0.4**
	comp=Z,45nm,1.2s						
KKN	**Kakani**	**35.04**	**60**	*eP*	**P**	**22 33 05.7**	**+0.6**
	comp=Z,37nm,0.6s						
ALN	**Alexandroupoli**	**35.07**	**326**	P	**P**	**22 33 06.9**	**+2.0**
ALN				IAmb	IAmb	22 33 46.8	
	comp=Z,9.1nm,1.1s						
PKI	**Pulchoki**	**35.08**	**61**	*eP*	**P**	**22 33 05.8**	**+0.2**
	comp=Z,23nm,0.7s						
AAK	**Ala-Archa**	**35.58**	**30**	P	**P**	**22 33 10.9**	**+1.4**
AAK				IAmb	IAmb	22 33 13.2	
	comp=Z,28nm,1.7s						
GUN	**Gumba**	**35.58**	**60**	*eP*	**P**	**22 33 10.4**	**+0.5**
JIRN	**Jiri**	**35.77**	**61**	*eP*	**P**	**22 33 11.7**	**+0.1**
RAMN	**Ramite**	**35.93**	**62**	*eP*	**P**	**22 33 13.1**	**+0.2**
LSZ	**Lusaka**	**36.29**	**219**	P	**P**	**22 33 15.2**	**-0.6**
	comp=Z,1.1nm,0.2s,baz=28,slow=15,SNR=1.4						
LSZ	**Lusaka**	**36.29**	**219**	IAmb	IAmb	22 33 34.3	
	comp=Z,26nm,2.0s						
ODAN	**Odare**	**36.59**	**63**	*eP*	**P**	**22 33 18.5**	**0.0**
	comp=Z,14nm,0.8s						
TAPN	**Taplejung**	**36.99**	**62**	*eP*	**P**	**22 33 21.9**	**-0.1**
MLR	**Muntele Rosu**	**38.45**	**331**	IAmb	IAmb	22 33 46.9	
	comp=Z,31nm,2.0s						
MATP	**Matopo**	**40.18**	**214**	P	**P**	**22 33 47.4**	**-1.1**
	comp=Z,2.6nm,0.6s,baz=34,slow=9.2,SNR=9.6						
SHL	**Shillong**	**40.28**	**66**	P	**P**	**22 33 48.4**	**-1.0**
BUR08	**Bucovina Ar. S**	**40.41**	**333**	P	**P**	**22 33 51.5**	**+1.4**
DIVS	**Divibare**	**40.53**	**325**	P	**P**	**22 33 50.9**	**-0.3**
AKASG	**Malin Array Be**	**41.26**	**339**	P	**P**	**22 33 56.6**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=149,slow=7.4,SNR=9.0						
AKASG				LR	LR	22 52 08.5	
	comp=Z,82nm,21.8s,baz=135,slow=38						
AKBB	**Malin Array Si**	**41.26**	**339**	P	**P**	**22 33 56.5**	**-0.4**
AKBB				IAmb	IAmb	22 33 58.2	
	comp=Z,41nm,1.9s						
CORL	**Corleone**	**41.45**	**313**	P	**P**	**22 34 00.3**	**+1.5**
MAKZ	**Makanchi**	**42.29**	**32**	P	**P**	**22 34 07.2**	**+1.7**
MK31	**Makanchi Array**	**42.44**	**32**	P	**P**	**22 34 06.6**	**-0.2**
MK31				IAmb	IAmb	22 34 08.7	
	comp=Z,17nm,1.6s						
MKAR	**Makanchi Array**	**42.44**	**32**	P	**P**	**22 34 07.7**	**+0.9**
	comp=Z,3.6nm,0.5s,baz=221,slow=8.1,SNR=54						
MKAR				LR	LR	22 54 14.6	
	comp=Z,86nm,20.8s,baz=241,slow=40						
BRVK	**Borovoye**	**42.51**	**17**	P	**P**	**22 34 07.7**	**+0.6**
BRVK				IAmb	IAmb	22 34 09.1	
	comp=Z,27nm,1.8s						
KOLS	**Kolonicke sedl**	**42.68**	**332**	*eP*	**P**	**22 34 09.7**	**+1.1**
CRVS	**Cervenica-Dubn**	**43.03**	**332**	*eP*	**P**	**22 34 11.7**	**+0.3**
ARU	**Arti**	**43.40**	**6**	P	**P**	**22 34 15.3**	**+1.0**
KURK	**Kurchatov**	**43.52**	**25**	P	**P**	**22 34 16.6**	**+1.2**
KEST	**Kesra**	**43.53**	**308**	LR	LR	22 52 48.9	
	comp=Z,55nm,18.6s,baz=304,slow=37						
WMQ	**Urumqi**	**43.70**	**39**	*eP*	**P**	**22 34 18.3**	**+1.3**
WMQ				sP	pwP	22 34 23.5	+0.6
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,88nm,5.3s						
VYHS	**Vyhne**	**44.01**	**329**	*eP*	**P**	**22 34 18.0**	**-1.3**
TAM	**Tamanrasset**	**44.09**	**289**	P	**P**	**22 34 21.1**	**+0.5**
TAM				IAmb	IAmb	22 34 23.8	
	comp=Z,6.7nm,0.8s						
ARSA	**Arzberg**	**44.94**	**326**	*i* P	**P**	**22 34 27.3**	**+0.5**
	comp=Z,5.2nm,1.0s						
CONA	**Conrad Observa**	**45.17**	**327**	*i* P	**P**	**22 34 28.8**	**0.0**
	comp=Z,13nm,1.9s						
LBTB	**Lobatse**	**45.45**	**213**	P	**P**	**22 34 31.0**	**-0.3**
	comp=Z,4.6nm,0.7s,baz=24,slow=11,SNR=6.3						
LBTB	**Lobatse**	**45.45**	**213**	IAmb	IAmb	22 34 31.5	
	comp=Z,40nm,1.9s						
MYKA	**Terra Mystica**	**45.63**	**324**	*i* P	**P**	**22 34 31.8**	**-0.6**
	comp=Z,10nm,1.1s						
ZOU	**Zoufplan**	**45.97**	**324**	P	**P**	**22 34 35.9**	**+0.7**
ZOU				IAmb	IAmb	22 34 38.2	
	comp=Z,10nm,1.1s						
MOA	**Molln**	**45.98**	**326**	*i* P	**P**	**22 34 35.1**	**-0.1**
	comp=Z,5.4nm,1.1s						
KRLC	**Kraliky**	**46.06**	**330**	*eP*	**P**	22 34 43.0	+7.3
CIMO	**Cimolais**	**46.15**	**323**	P	**P**	**22 34 37.4**	**+1.0**
CIMO				IAmb	IAmb	22 34 42.8	
	comp=Z,13nm,1.2s						
CM31	**Chiang Mai Arr**	**46.30**	**77**	P	**P**	**22 34 37.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**46.30**	**77**	P	**P**	**22 34 38.1**	**+0.2**
	comp=Z,6.0nm,0.8s,baz=276,slow=8.7,SNR=34						
CMAR				LR	LR	22 52 06.8	
	comp=Z,33nm,21.8s,baz=300,slow=34						
ABTA	**Abfaltersbach**	**46.34**	**324**	*i* P	**P**	**22 34 39.3**	**+1.3**
	comp=Z,6.7nm,1.2s						
DPC	**Dobruska-Polom**	**46.46**	**330**	*eP*	**P**	**22 34 39.0**	**+0.1**
CTI	**Castel Tesino**	**46.47**	**322**	P	**P**	**22 34 39.8**	**+0.7**
CTI				IAmb	IAmb	22 34 41.8	
	comp=Z,13nm,1.3s						
OSTC	**Ostas**	**46.65**	**330**	*eP*	**P**	**22 34 39.6**	**-0.7**
CHVC	**Chvalec**	**46.75**	**330**	*eP*	**P**	**22 34 40.0**	**-1.1**
KSP	**Ksiaz**	**46.80**	**330**	*eP*	**P**	**22 34 41.3**	**-0.1**
GERES	**GERESS Array B**	**46.87**	**327**	P	**P**	**22 34 41.1**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=126,slow=6.8,SNR=5.2						
KHC	**Kasperske Hory**	**47.11**	**327**	*eP*	**P**	**22 34 44.2**	**+0.3**
KHC				epP	**pwP**	**22 34 49.2**	**-0.9**
WTTA	**Wattenberg**	**47.12**	**324**	*es*P	sP	22 34 49.6	+1.0
	comp=Z,12nm,1.2s						
WATA	**Walderalm**	**47.20**	**324**	*eP*	**P**	**22 34 46.4**	**+1.7**
	comp=Z,10nm,1.2s						
SQTA	**Sankt Quirin**	**47.35**	**324**	P	**P**	**22 34 47.3**	**+1.4**
	comp=Z,3.3nm,0.8s						
MOTA	**Moosalm**	**47.48**	**324**	*i* P	**P**	**22 34 46.2**	**-0.7**
	comp=Z,4.9nm,0.8s						
FETA	**Feichten**	**47.52**	**323**	*i* P	**P**	**22 34 48.7**	**+1.4**
	comp=Z,3.7nm,0.9s						
RETA	**Rette**	**47.75**	**324**	*eP*	**P**	**22 34 48.0**	**-0.9**
	comp=Z,5.2nm,1.2s						
TOA0	**Torodi Ar. Sit**	**47.92**	**276**	P	**P**	**22 34 50.7**	**0.0**
TORD	**Torodi Ar. Bea**	**47.92**	**276**	P	**P**	**22 34 49.9**	**-0.8**
	comp=Z,2.7nm,0.7s,baz=88,slow=6.8,SNR=12						
KLMR	**Klimovskoe**	**48.18**	**352**	*e*	**P**	**22 34 50.6**	**-1.4**
KLMR				AMP		22 34 53.4	
	comp=Z,18nm,1.3s						
PBKT	**Sadao Pong**	**48.30**	**80**	P	**P**	**22 34 52.9**	**-0.7**
PBKT				IAmb	IAmb	22 34 54.7	
	comp=Z,7.1nm,1.1s						
ZAA0	**Zalesovo Array**	**48.49**	**26**	P	**P**	**22 34 53.0**	**-1.4**
ZALV	**Zalesovo Beam**	**48.49**	**26**	P	**P**	**22 34 54.1**	**-0.4**
	comp=Z,4.5nm,0.5s,baz=232,slow=8.2,SNR=28						
ZALV				LR	LR	22 58 17.6	
	comp=Z,87nm,19.1s,baz=244,slow=40						
BOSA	**Boshof**	**48.56**	**211**	P	**P**	**22 34 54.8**	**-0.7**
	comp=Z,3.3nm,0.7s,baz=31,slow=8.0,SNR=9.0						
BOSA				LR	LR	22 57 14.2	
	comp=Z,190nm,19.2s,baz=43,slow=38						
CLL	**Collm**	**48.71**	**329**	*eP*	**P**	**22 34 55.0**	**-1.2**
	comp=Z,12nm,1.6s						
CLL				*eS*	**S**	**22 42 05.0**	**+6.5**
CLL				*eSS*	SS	22 45 42.0	+13
CLL				*eSSS*	SSS	22 46 54.0	
FINES	**FINESS Array B**	**51.31**	**345**	P	**P**	**22 35 15.6**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=141,slow=9.8,SNR=6.5						
FINES				LR	LR	23 00 43.7	
	comp=Z,62nm,20.4s,baz=147,slow=40						
LZH	**Lanzhou**	**52.38**	**55**	*eP*	**P**	**22 35 24.3**	**-0.1**
LZH				pP	sP	22 35 27.5	-1.4
LZH				sP	pwP	22 35 29.3	-1.0
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
LZH				pmax	pmax		
	comp=Z,85nm,5.2s						
LZH				LR	LR		
	comp=N,230nm,14.9s						
LZH				LR	LR		
	comp=E,240nm,15.1s						
LZH				LR	LR		
	comp=Z,380nm,17.6s						
GYA	**Guiyang**	**53.59**	**67**	*eP*	**P**	**22 35 34.0**	**+0.5**
GYA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ESDC	**Sonseca Array**	**54.75**	**309**	P	**P**	**22 35 41.5**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=98,slow=6.5,SNR=32						
DBIC	**Dimbokro**	**55.30**	**269**	LR	LR	22 57 43.0	
	comp=Z,75nm,18.6s,baz=79,slow=34						
NB2	**NORSAR Subarra**	**55.65**	**338**	P	**P**	**22 35 46.2**	**-1.6**
	comp=Z,5.2nm,1.2s,baz=124,slow=7.4						
NOA	**NORSAR Array B**	**55.65**	**338**	P	**P**	**22 35 46.8**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=126,slow=7.3,SNR=4.0						
NOA				LR	LR	23 03 25.7	
	comp=Z,69nm,18.8s,baz=120,slow=40						
XAN	**Xi'an**	**56.16**	**58**	P	**P**	**22 35 52.8**	**+0.9**
XAN				pP	pwP	22 35 59.3	+1.5
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SONM	**Songino Array**	**57.20**	**41**	P	**P**	**22 36 00.3**	**+1.1**
	comp=Z,3.7nm,0.9s,baz=242,slow=7.3,SNR=24						
SONM				LR	LR	23 03 54.5	
	comp=Z,66nm,21.5s,baz=266,slow=40						
ULN	**Ulaanbaatar**	**57.63**	**41**	P	**P**	**22 36 02.5**	**+0.3**
ULN				IAmb	IAmb	22 36 10.3	
	comp=Z,14nm,1.6s						
ARCES	**ARCESS Array B**	**58.43**	**350**	P	**P**	**22 36 06.8**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=142,slow=6.1,SNR=7.5						
ARCES				LR	LR	23 04 19.3	
	comp=Z,163nm,19.9s,baz=156,slow=39						
ESK	**Eskdalemuir**	**59.10**	**327**	P	**P**	**22 36 14.1**	**+1.9**
HHC	**Hu-ho-hao-te**	**59.20**	**50**	*eP*	**P**	**22 36 14.0**	**+0.7**
HHC				S	**S**	**22 44 20.0**	**-1.0**
HHC	**Hu-ho-hao-te**	**59.20**	**50**	SS	SS	22 48 18.5	+3.1
HHC				pmax	pmax		
	comp=Z,22nm,1.1s						
HHC				pmax	pmax		
	comp=Z,100nm,4.6s						
HHC				LR	LR		
	comp=N,100nm,17.2s						
HHC				LR	LR		
	comp=E,160nm,16.5s						
HHC				LR	LR		
	comp=Z,160nm,17.4s						
NRIK	**Noril'sk**	**60.55**	**14**	LR	LR	23 07 29.9	
	comp=Z,137nm,19.4s,baz=194,slow=41						
BJI	**Beijing**	**62.58**	**52**	P	**P**	**22 36 38.5**	**+2.4**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BJI				LR	LR		
	comp=N,80nm,16.5s						
BJI				LR	LR		
	comp=E,83nm,17.5s						
NJ2	**Nanjing**	**64.38**	**61**	*eP*	**P**	**22 36 48.0**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KSRS	**Korea Array**	**71.71**	**55**	P	**P**	**22 37 32.2**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=273,slow=6.0,SNR=2.6						
KLR	**Kul'dur**	**74.01**	**42**	P	**P**	**22 37 47.1**	**-0.5**
	comp=Z,3.5nm,0.9s,baz=278,slow=5.3,SNR=5.5						
USRK	**Ussuriysk Ar.**	**74.41**	**48**	LR	LR	23 14 16.4	
	comp=Z,45nm,18.8s,baz=254,slow=39						
MAW	**Mawson**	**81.18**	**175**	P	**P**	**22 38 28.9**	**+1.8**
	comp=Z,2.7nm,0.8s,baz=349,slow=4.7,SNR=5.6						
MAW				LR	LR	23 10 14.1	
	comp=Z,95nm,18.0s,baz=56,slow=33						
SEY	**Seymchan**	**83.35**	**27**	P	**P**	**22 38 39.2**	**+0.5**
	comp=Z,1.7nm,0.2s,baz=303,slow=3.2,SNR=6.0						
WRA	**Warramunga Arr**	**88.37**	**111**	P	**P**	**22 39 04.5**	**0.0**
	comp=Z,6.3nm,1.1s,baz=295,slow=3.9,SNR=11						
WRA	**Warramunga Arr**	**88.37**	**111**	P	**P**	**22 39 03.7**	**-0.7**
WB2	**Warramunga Arr**	**88.39**	**111**	P	**P**	**22 39 04.3**	**-0.2**
ASAR	**Alice Springs**	**88.93**	**114**	P	**P**	**22 39 07.0**	**0.0**
	comp=Z,3.5nm,0.9s,baz=291,slow=4.3,SNR=16						
PETK	**Petropavlovsk-**	**89.19**	**35**	LR	LR	23 22 52.6	
	comp=Z,59nm,20.1s,baz=243,slow=38						
NVAR	**Mina Array Bea**	**127.54**	**349**	PKP	**PKiKP**	**22 45 18.2**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=39,slow=1.4,SNR=5.3						
NVAR	**Mina Array Bea**	**127.54**	**349**		**PKiKP**	**22 45 20.2**	**+1.9**
TXAR	**Lajitas Array**	**131.03**	**330**	PKP	**PKPdf**	**22 45 24.8**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=0.0,slow=0.9,SNR=6.9						

*MEX **26** 22:59:56.2±1.1, 14°.86N×91°.82W, h210km±9km, MD4.2*
*NEIC **26** 22:59:58.7±1.7, 14°.96N±0°.06×91°.63W±0°.06, h171km±4km, mb4.2/17, Md4.2/24(MEX), Error ellipse: s-maj=9.9km s-min=7.8km az=215.0*
*UCR **26** 23:00:00.6±1.1, 15°.05N×91°.51W, h152km±7km, ML3.8, mb4.2(NEIC)*
*SNET **26** 23:00:00.6±1.1, 15°.05N×91°.51W, h152km±7km, ML4.0*
*IDC **26** 23:00:03.6±1.4, 15°.15N×91°.16W, h206km±16km, mb3.4/10, mb1 3.6/13, mb1mx3.4/41, mbtmp3.9/13, Error ellipse: s-maj=24.8km s-min=10.4km az=53.0*
*GCG **26** 23:00:07.7±0.3, 14°.57N×91°.40W, h113km±135km, MD4.4*
ISC 26 22:59:58.9±0.6, 14°.96N±0°.05×91°.68W±0°.04, h174km±5km, n68, σ1§74/87, mb3.8/13, 2C, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUEH	**Huehuetenango**	**0.40**	**25**	⇑ *i* P	**Pn**	**23 00 22.3**	**-0.6**
HUEH				*eS*	**Sn**	**23 00 39.0**	**-2.3**
HUEH				IAML		23 00 42.5	
	comp=Z,3μm,0.5s						
HUEH	**Huehuetenango**	**0.40**	**25**		**Pn**	**23 00 22.5**	**-0.4**
RTAL	**Retalhuleu**	**0.43**	**182**	⇑ *i* P	**Pn**	**23 00 22.2**	**-0.6**
RTAL				*eS*	**Sn**	**23 00 40.0**	**-1.1**
RTAL	**Retalhuleu**	**0.43**	**182**	Pn	**Pn**	**23 00 22.2**	**-0.6**
THIG		**0.57**	**265**	*i* P	**Pn**	**23 00 23.0**	**-0.3**
THIG				*i* S	**Sn**	**23 00 44.1**	**+2.2**
THIG		**0.57**	**265**		**Pn**	**23 00 23.0**	**-0.3**
THIG					**Sn**	**23 00 42.8**	**+0.8**
FUG	**Fuego 3**	**0.95**	**122**	*eP*	**Pn**	**23 00 25.9**	**0.0**
PCG	**Pacaya**	**1.18**	**118**	*eP*	**Pn**	**23 00 28.1**	**+0.4**
NBG	**Las Nubes**	**1.34**	**106**	*eP*	**Pn**	**23 00 30.4**	**+1.3**
CCIG	**Comitan**	**1.39**	**341**	*eP*	**Pn**	**23 00 29.7**	**+0.2**
CCIG				*eS*	**Sn**	**23 00 53.4**	**+0.1**
CCIG	**Comitan**	**1.39**	**341**		**Pn**	**23 00 29.7**	**+0.2**
CCIG					**Sn**	**23 00 52.5**	**-0.8**
IXG	**Ixpaco**	**1.43**	**123**	*eP*	**Pn**	**23 00 30.0**	**+0.1**
PCIG		**1.66**	**297**	*eP*	**Pn**	**23 00 30.7**	**-1.2**
PCIG				*eS*	**Sn**	**23 00 56.5**	**-1.0**
PCIG		**1.66**	**297**		**Pn**	**23 00 31.9**	**0.0**
PCIG					**Sn**	**23 00 56.5**	**-1.0**
NUBE	**Las Nubes**	**2.12**	**120**	*eP*	**Pn**	**23 00 36.5**	**-0.6**
NUBE				*eS*	**Sn**	**23 01 04.5**	**-2.0**
NUBE	**Las Nubes**	**2.12**	**120**	*eP*	**Pn**	**23 00 36.5**	**-0.6**
NUBE				*eS*	**Sn**	**23 01 04.5**	**-2.0**
TGIG		**2.28**	**323**	*i* P	**Pn**	**23 00 37.5**	**-1.3**
TGIG				*i* S	**Sn**	**23 01 08.6**	**-1.2**
TGIG		**2.28**	**323**		**Pn**	**23 00 38.3**	**-0.5**
TGIG					**Sn**	**23 01 07.1**	**-2.6**
CEVE	**Cerro Verde**	**2.29**	**119**	*eP*	**Pn**	**23 00 40.5**	**+1.5**
CEVE				*eS*	**Sn**	**23 01 09.8**	**-0.3**
CEVE				IAML		23 01 18.9	
	comp=Z,486nm,0.2s						
CEVE	**Cerro Verde**	**2.29**	**119**	*eP*	**Pn**	**23 00 40.5**	**+1.5**
CEVE				*eS*	**Sn**	**23 01 09.8**	**-0.3**
CEVE				IAML		23 01 18.9	
	comp=Z,486nm,0.2s						
ESQI	**Esquipulas**	**2.29**	**100**	*eP*	**Pn**	**23 00 38.7**	**-0.3**
ESQI		

comp=Z,0.5nm,0.3s,baz=346,slow=2.2,SNR=1.8

*NEIC **26** 23:08:39.7±1.3,38.8°N±0.1°×30.21°W±0.10,h10km±2km, mb4.1/2, Error ellipse: s-maj=21.9km s-min=8.2km az=209.0*
*IDC **26** 23:08:41.6±1.1,39.51°N×30.30°W,h0km, mb3.9/6, mb1 4.0/6,mb1mx3.6/44,mbtmp4.0/6,MS3.5/15, Ms1 3.5/15,ms1mx3.3/37, Error ellipse: s-maj=46.9km s-min=14.1km az=157.0*
ISC 26 23:08:41.0±0.6,39.2N±0.1°×29.88W±0.05,h10km,n35, σ2$40/27,mb3.9/6,MS3.5/15,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H07S1	**FLORES T-PHASE**	**1.05**	**281**	Pn	**Pg**	**23 08 58.8**	**-2.3**
H07S1				Sn	**Sg**	**23 09 11.3**	**-3.5**
H07S1				T	T	23 10 04.8	
	SNR=74						
H07S1	**FLORES T-PHASE**	**1.05**	**281**	*eP*	**Pg**	**23 08 59.3**	**-1.8**
PCED	**Cedros**	**1.07**	**121**	*eS*	Sn	23 09 40.5	+23
PCED				A	A	23 09 42.6	
	306nm,0.4s						
PCED	**Cedros**	**1.07**	**121**	*eP*	**Pn**	**23 09 01.4**	**-0.7**
PCED				*eS*	**Sn**	**23 09 15.7**	**-1.3**
PCED				A	A	23 09 17.5	
	646nm,0.3s						
H07N1	**FLORES T-PHASE**	**1.08**	**298**	*eP*	**Pb**	**23 08 58.4**	**-3.4**
PCAN	**Candelaria**	**1.31**	**123**	*eS*	Sg	23 09 46.3	+23
PCAN				A	A	23 09 50.8	
	321nm,0.2s						
PCAN	**Candelaria**	**1.31**	**123**	*eP*	**Pg**	**23 09 05.1**	**-0.9**
PCAN				*eS*	**Sg**	**23 09 21.6**	**-1.4**
PCAN				A	A	23 09 26.1	
	804nm,0.4s						
PICO	**Pico**	**1.33**	**121**	*eS*	Sg	23 09 46.6	+23
PICO				A	A	23 09 50.4	
	426nm,0.2s						
PICO	**Pico**	**1.33**	**121**	*eP*	**Pg**	**23 09 05.5**	**-0.9**
PICO				*eS*	**Sg**	**23 09 21.9**	**-1.7**
PICO				A	A	23 09 24.6	
	2µm,0.3s						
ROSA	**Rosais**	**1.36**	**110**	*eS*	Sg	23 09 46.2	+22
ROSA				A	A	23 09 46.8	
	113nm,0.3s						
ROSA	**Rosais**	**1.36**	**110**	*eP*	**Pg**	**23 09 05.4**	**-1.6**
ROSA				*eS*	**Sb**	**23 09 21.3**	**-2.6**
ROSA				A	A	23 09 23.8	
	234nm,0.4s						
ROSA	**Rosais**	**1.36**	**110**	Pn	**Pb**	**23 09 04.5**	**-2.0**
PGRA	**Graciosa**	**1.48**	**95**	*eP*	**Pn**	**23 09 05.7**	**-2.0**
PGRA				*eS*	**Sn**	**23 09 22.5**	**-4.7**
PGRA				A	A	23 09 26.1	
	132nm,0.4s						
PMAN	**Manadas**	**1.50**	**111**	*eP*	**Pb**	**23 09 07.1**	**-1.8**
PMAN				*eS*	**Sn**	**23 09 24.6**	**-3.0**
PMAN				A	A	23 09 27.1	
	167nm,0.3s						
CMLA	**Cha da Macela**	**3.70**	**111**	Pn	**Pn**	**23 09 38.5**	**+0.3**
ESDC	**Sonseca Array**	**20.01**	**80**	P	**Pn**	**23 13 17.7**	**+2.2**
	2.2nm,1.1s,baz=296,slow=8.2,SNR=2.5						
ESDC				LR	LR	23 19 40.1	
	comp=Z,131nm,19.3s,baz=285,slow=32						
ESBB	**Sonseca Array**	**20.01**	**80**	P	**Pn**	**23 13 14.4**	**-1.1**
ESBB				IAmb	IAmb	23 13 44.5	
	comp=Z,16nm,1.6s						
SCHQ	**Schefferville**	**29.24**	**315**	LR	LR	23 24 29.6	
	comp=Z,88nm,21.8s,baz=74,slow=33						
NOA	**NORSAR Array B**	**33.41**	**36**	P	**P**	**23 15 21.4**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=247,slow=11,SNR=2.8						
NOA				LR	LR	23 27 17.8	
	comp=Z,35nm,18.6s,baz=250,slow=34						
TORD	**Torodi Ar. Bea**	**38.07**	**124**	LR	LR	23 31 24.3	
	comp=Z,75nm,18.2s,baz=285,slow=35						
DBIC	**Dimbokro**	**39.45**	**139**	LR	LR	23 31 04.7	
	comp=Z,82nm,20.9s,baz=322,slow=34						
MDP	**Montagnes des**	**39.70**	**217**	P	**P**	**23 16 16.4**	**+2.9**
	comp=Z,13nm,0.8s,baz=24,slow=8.4,SNR=3.9						
FINES	**FINESS Array B**	**40.45**	**38**	LR	LR	23 31 46.9	
	comp=Z,39nm,18.5s,baz=306,slow=34						
AKASG	**Malin Array Be**	**42.32**	**54**	LR	LR	23 32 41.0	
	comp=Z,65nm,21.8s,baz=20,slow=34						
ULM	**Lac du Bonnet**	**46.73**	**306**	LR	LR	23 35 34.0	
	comp=Z,84nm,19.3s,baz=30,slow=35						
BRTR	**Keskin Array B**	**48.10**	**68**	LR	LR	23 37 36.9	
	comp=Z,23nm,18.9s,baz=253,slow=36						
ROSC	**El Rosal**	**52.72**	**241**	LR	LR	23 37 53.3	
	comp=Z,69nm,20.0s,baz=107,slow=33						
YKA	**Yellowknife Ar**	**53.81**	**325**	LR	LR	23 38 01.3	
	comp=Z,39nm,20.1s,baz=0.0,slow=33						
TXAR	**Lajitas Array**	**60.25**	**285**	P	**P**	**23 18 53.3**	**+3.6**
	comp=Z,0.3nm,0.7s,baz=71,slow=8.7,SNR=3.5						
TXAR				LR	LR	23 42 53.6	
	comp=Z,53nm,20.6s,baz=0.0,slow=34						
LPAZ	**La Paz**	**65.75**	**221**	LR	LR	23 45 24.1	
	comp=Z,40nm,18.1s,baz=62,slow=34						
ZAA0	**Zalesovo Array**	**71.60**	**34**	P	**P**	**23 20 04.1**	**+1.9**
ZALV	**Zalesovo Beam**	**71.60**	**34**	P	**P**	**23 20 03.9**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=269,slow=6.8,SNR=3.8						
MKAR	**Makanchi Array**	**75.18**	**41**	P	**P**	**23 20 25.5**	**+2.0**
	comp=Z,1.5nm,0.9s,baz=316,slow=4.0,SNR=4.8						
MKAR				LR	LR	23 53 23.0	
	comp=Z,38nm,18.8s,baz=320,slow=36						
BOSA	**Boshof**	**84.79**	**134**	LR	LR	23 56 40.0	
	comp=Z,44nm,19.3s,baz=318,slow=34						
SONM	**Songino Array**	**85.03**	**28**	P	**P**	**23 21 18.7**	**+1.9**
	comp=Z,0.3nm,0.4s,baz=316,slow=4.0,SNR=4.1						

*JMA **26** 23:10:59.2±0.2,23.54°N×121.70°E,h7km±4km, M2.8*
*TAP **26** 23:11:00.2,23.59°N×121.51°E,h31km,ML3.0,C*
ISC 26 23:11:00.5±0.9,23.59N±0.02°×121.53E±0.03,h31km±6km, n73,σ0$64/108,2C-11D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGFH	**Guangfu**	**0.12**	**310**	P	**Pn**	**23 11 06.2**	**-0.2**
	baz=314						
EGFH				*eS*	**Sb**	**23 11 10.6**	**+0.7**
	baz=314						
HGSD	**Ruisui**	**0.14**	**225**	*eP*	**Pn**	**23 11 06.6**	**+0.1**
	baz=219						
EHY	**Hungye**	**0.21**	**247**	P	**Pb**	**23 11 06.8**	**-0.1**
	baz=242						
EHY				*eS*	**Sb**	**23 11 11.0**	**-0.2**
	baz=242						
ESL	**Shilin**	**0.24**	**338**	P	**Pb**	**23 11 07.0**	**-0.3**
	baz=343						
ESL				*eS*	**Sn**	**23 11 12.7**	**0.0**
	baz=343						
YULB	**Yu-li**	**0.29**	**228**	P	**Pb**	**23 11 07.8**	**0.0**
	baz=225						
YULB				*eS*	**Sb**	**23 11 12.9**	**0.0**
	baz=225						
EYUL	**Yuli**	**0.31**	**219**	P	**Pn**	**23 11 08.3**	**-0.6**
	baz=216						
EYUL				*eS*	**Sn**	**23 11 13.8**	**-0.7**
	baz=216						
TWF1	**Yuli**	**0.32**	**222**	P	**Pn**	**23 11 08.3**	**-0.7**
	baz=218						
TWF1				S	**Sn**	**23 11 14.1**	**-0.6**
	baz=218						
HWA	**Hwalien**	**0.39**	**10**	*eP*	**Pn**	**23 11 09.8**	**-0.2**
	baz=13						
HWA				*eS*	**Sn**	**23 11 16.9**	**+0.5**
	baz=13						
VWDT	**VWDT**	**0.39**	**295**	P	**Pn**	**23 11 09.7**	**-0.3**
	baz=295						
VWDT				S	**Sn**	**23 11 16.0**	**-0.5**
	baz=295						
FULB	**Fuli**	**0.45**	**209**	*eP*	**Pn**	**23 11 10.9**	**0.0**
	baz=207						
FULB				S	**Sn**	**23 11 17.8**	**0.0**
	baz=207						
OWD	**Renai**	**0.49**	**318**	*iP*	**Pn**	**23 11 10.9**	**-0.6**
	baz=319						
TWD	**Chiawan**	**0.49**	**7**	P	**Pb**	**23 11 10.8**	**0.0**
	baz=9.0						
TWD				*eS*	**Sn**	**23 11 19.6**	**+0.6**
	baz=9.0						
CHKT	**Chengkung**	**0.51**	**197**	*eP*	**Pn**	**23 11 11.6**	**0.0**
	baz=194						
CHKT				S	**Sn**	**23 11 19.4**	**0.0**
	baz=194						
SSLB	**Suanglung**	**0.56**	**291**	P	**Pn**	**23 11 11.9**	**-0.6**
	baz=290						
SSLB				S	**Sn**	**23 11 20.6**	**-0.2**
	baz=290						
CHGB	**Renai**	**0.57**	**325**	P	**Pn**	**23 11 12.3**	**-0.4**
	baz=326						
CHGB				*eS*	**Sn**	**23 11 20.7**	**-0.6**
	baz=326						
NACB	**Ninganchiao**	**0.58**	**6**	*eP*	**Pb**	**23 11 11.7**	**-0.7**
	baz=7.0						
NACB				S	**Sn**	**23 11 21.5**	**+0.2**
	baz=7.0						
WHF	**Hehuan Shan**	**0.60**	**336**	P	**Pb**	**23 11 12.4**	**-0.5**
	baz=338						
WHF				*eS*	**Sn**	**23 11 21.9**	**-0.5**
	baz=338						
ETLH	**Xiulin Townshi**	**0.62**	**356**	*eP*	**Pb**	**23 11 12.2**	**-0.7**
	baz=357						
ELDTW	**Lidau**	**0.62**	**230**	*eP*	**Pb**	**23 11 12.5**	**-0.4**
	baz=228						
WHYT	**Xinyi Township**	**0.63**	**280**	*eP*	**Pn**	**23 11 13.7**	**+0.3**
	baz=279						
SMLT	**Sun Moon Lake**	**0.65**	**297**	P	**Pn**	**23 11 13.5**	**-0.1**
	baz=297						
SMLT				S	**Sn**	**23 11 22.6**	**-0.3**
	baz=297						
EDH	**Donghe**	**0.65**	**199**	*eP*	**Pn**	**23 11 13.3**	**-0.3**
	baz=197						
EDH				S	**Sn**	**23 11 23.2**	**+0.4**
	baz=197						
ALS	**Alishan**	**0.67**	**263**	*eP*	**Pn**	**23 11 14.4**	**+0.3**
	baz=262						
ALS				*eS*	**Sn**	**23 11 23.2**	**-0.6**
	baz=262						
FUSS	**Fushou**	**0.71**	**338**	*eP*	**Pn**	**23 11 14.3**	**-0.3**
	baz=339						
FUSS				*eS*	**Sb**	**23 11 23.7**	**-0.4**
	baz=339						
TDCB	**Techi**	**0.74**	**333**	P	**Pb**	**23 11 15.2**	**+0.1**
	baz=333						
TDCB				*eS*	**Sn**	**23 11 24.9**	**-0.5**
	baz=333						
WJS	**Zhushan**	**0.77**	**288**	*eP*	**Pb**	**23 11 16.6**	**+1.2**
	baz=287						
WJS				*eS*	**Sn**	**23 11 27.8**	**+1.9**
	baz=287						
LONT	**Longtian**	**0.77**	**209**	*eP*	**Pn**	**23 11 14.5**	**-0.8**
	baz=207						
CHN5	**Tsauling**	**0.78**	**271**	*eP*	**Pb**	**23 11 16.5**	**+0.8**
	baz=270						
WNT	**Mingjian**	**0.83**	**290**	*eP*	**Pb**	**23 11 17.1**	**+0.8**
	baz=290						
STYT	**Tauyuan**	**0.83**	**239**	*eP*	**Pb**	**23 11 16.7**	**+0.3**
	baz=238						
STYT				*eS*	**Sn**	**23 11 27.2**	**-0.1**
	baz=238						
NNSB	**Datong**	**0.85**	**351**	*eP*	**Pb**	**23 11 16.3**	**-0.5**
	baz=351						
NNSB				*eS*	**Sn**	**23 11 27.1**	**-0.8**
	baz=351						
NNSH	**Datong**	**0.85**	**351**	*eP*	**Pb**	**23 11 16.3**	**-0.5**
	baz=351						
NNSH				*eS*	**Sn**	**23 11 27.0**	**-0.9**
	baz=351						
ENA	**Nanau**	**0.86**	**13**	*eP*	**Pb**	**23 11 16.9**	**0.0**
	baz=14						
ENA				*eS*	**Sn**	**23 11 27.3**	**-0.6**
	baz=14						
NNS	**Nan Shan**	**0.86**	**350**	*eP*	**Pb**	**23 11 16.6**	**-0.4**
	baz=351						
NNS				*eS*	**Sn**	**23 11 27.6**	**-0.6**
	baz=351						
WHP	**Taichung City**	**0.87**	**322**	*eP*	**Pb**	**23 11 17.6**	**+0.5**
	baz=322						
WHP				*eS*	**Sb**	**23 11 28.3**	**-0.2**
	baz=322						
TWGBT	**Beinan**	**0.87**	**208**	*eP*	**Pn**	**23 11 15.9**	**-0.7**
	baz=207						
TWG	**Pinlang**	**0.87**	**209**	*eP*	**Pn**	**23 11 16.5**	**-0.2**
	baz=207						
TPUB	**Ta-pu**	**0.88**	**251**	*eP*	**Pb**	**23 11 18.0**	**+0.8**
	baz=250						
WGK	**Gukeng**	**0.89**	**276**	*eP*	**Pb**	**23 11 16.8**	**-0.7**
	baz=276						
WTP	**Ta-pu**	**0.91**	**248**	*eP*	**Pb**	**23 11 18.1**	**+0.4**
	baz=247						
LDUT	**Ludao**	**0.91**	**184**	*eP*	**Pn**	**23 11 16.2**	**-1.0**
	baz=182						
WDLH	**Douliu**	**0.92**	**276**	*eP*	**Pb**	**23 11 18.6**	**+0.7**
	baz=276						
CHN1	**Nanshi**	**1.00**	**247**	*eP*	**Pb**	**23 11 20.5**	**+1.1**
	baz=245						
SGST	**Jiashian**	**1.01**	**240**	*eP*	**Pb**	**23 11 19.9**	**+0.5**
	baz=239						
SLGT	**Liugui**	**1.01**	**234**	*eP*	**Pb**	**23 11 19.9**	**+0.5**
	baz=233						
SLGT				*eS*	**Sb**	**23 11 33.0**	**+0.7**
	baz=233						
NDT	**Datong Townshi**	**1.01**	**359**	*eP*	**Pb**	**23 11 19.3**	**-0.1**
	baz=359						
TWK	**Hsinying**	**1.01**	**252**	*eP*	**Pb**	**23 11 20.2**	**+0.7**
	baz=250						
WCHH	**Zhanghua**	**1.01**	**299**	*eP*	**Pb**	**23 11 20.5**	**+1.0**
	baz=299						
SNST	**Tainan City**	**1.02**	**249**	*eP*	**Pb**	**23 11 20.0**	**+0.4**
	baz=248						
CHY	**Chiayi**	**1.02**	**265**	*eP*	**Pb**	**23 11 18.7**	**-0.9**
	baz=264						
ENTT	**Nioudou**	**1.05**	**2**	*eP*	**Pb**	**23 11 19.5**	**-0.5**
	baz=3.0						
TWC	**Suao**	**1.06**	**16**	*eP*	**Pb**	**23 11 21.2**	**+1.0**
	baz=17						
TWC				*eS*	**Sb**	**23 11 33.4**	**-0.3**
	baz=17						
YHNB	**Yeheng**	**1.08**	**353**	*eP*	**Pb**	**23 11 20.1**	**-0.6**
	baz=353						
YHNB				*eS*	**Sn**	**23 11 33.8**	**+0.1**
	baz=353						
WDJ	**Dajia District**	**1.11**	**313**	*eP*	**Pb**	**23 11 20.9**	**-0.2**
	baz=313						
ECL	**Taimali**	**1.12**	**208**	*eP*	**Pn**	**23 11 20.3**	**+0.2**
	baz=207						
TWE	**Neicheng**	**1.13**	**6**	*eP*	**Pb**	**23 11 22.5**	**+1.0**
	baz=7.0						
NSTT	**Nanjuang**	**1.14**	**335**	*eP*	**Pb**	**23 11 22.3**	**+0.6**
	baz=335						
NSTT				*eS*	**Sb**	**23 11 36.3**	**+0.1**
	baz=335						
LIOB	**Emei**	**1.15**	**336**	*eP*	**Pb**	**23 11 22.5**	**+0.7**
	baz=336						
SSD	**Sandimen**	**1.18**	**225**	*eP*	**Pb**	**23 11 22.4**	**+0.1**
	baz=223						
NWLT	**Wulai**	**1.18**	**359**	*eP*	**Pb**	**23 11 23.2**	**+0.8**
	baz=359						
SCST	**Cishan**	**1.18**	**234**	*eP*	**Pb**	**23 11 23.7**	**+1.4**
	baz=233						
MASBT	**Mashibuluo**	**1.28**	**221**	*eP*	**Pb**	**23 11 24.1**	**+0.1**
	baz=219						
EAST	**Anshun**	**1.36**	**208**	*eP*	**Pb**	**23 11 24.1**	**-1.1**
	baz=206						
TAW	**Tawu**	**1.36**	**206**	*eP*	**Pn**	**23 11 23.9**	**+0.6**
	baz=204						
TIPB	**Shuangxi**	**1.40**	**11**	*eP*	**Pb**	**23 11 26.1**	**+0.1**
	baz=11						
SLIU	**Shizi**	**1.52**	**206**	*eP*	**Pb**	**23 11 27.4**	**-0.7**
	baz=205						
LAY	**Lan-yu**	**1.54**	**179**	*eP*	**Pn**	**23 11 25.0**	**-0.9**
	baz=178						
YM05	**YM05**	**1.57**	**1**	*eP*	**Pb**	**23 11 27.4**	**-1.5**
	baz=1.0						
YOJ	**Yonaguni jima**	**1.61**	**57**	P	**Pn**	**23 11 27.3**	**+0.5**
IRIF	**Iriomote-Funau**	**2.14**	**69**	P	**Pn**	**23 11 34.6**	**+0.5**
IRIF				*eS*	**Sn**	**23 12 00.2**	**+0.5**
JKRS	**Kuro-shima**	**2.36**	**74**	P	**Pn**	**23 11 38.5**	**+1.4**
JKRS				*eS*	**Sn**	**23 12 06.2**	**+1.2**
JIJ	**Ishigaki jima**	**2.51**	**72**	P	**Pn**	**23 11 39.5**	**+0.3**
JIJ				*eS*	**Sn**	**23 12 08.3**	**-0.5**
JISG	**Ishigakijimahi**	**2.73**	**68**	P	**Pn**	**23 11 42.5**	**+0.3**
JISG				*eS*	**Sn**	**23 12 13.4**	**-0.7**

*ISN **26** 23:23:33.2±3.3,32.55°N×47.50°E,h0km±999km, ML2.2*
*TEH **26** 23:23:37.9,32.70°N×47.53°E,h8km, ML2.8*
ISC 26 23:23:37.6±1.4,32.62N±0.05°×47.55E±0.04,h23km,n14, σ1$25/16,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.24**	**286**	*ePg*	**Pb**	**23 23 42.5**	**-1.0**
IKFM	**Kafar-mosalman**	**0.94**	**15**	*ePg*	**Pb**	**23 23 53.8**	**-1.4**
IKMR	**Kamar-syah**	**1.14**	**38**	*ePg*	**Pb**	**23 23 59.4**	**+0.8**
IDOB	**Doab**	**1.28**	**24**	*ePg*	**Pb**	**23 24 01.1**	**-0.1**
IBDR	**Badra**	**1.45**	**290**	*ePg*	**Pb**	**23 24 03.0**	**-0.9**
IBDR				*eSg*	**Sb**	**23 24 22.0**	**+0.1**
IBDR				AML	AML	23 24 28.7	
	comp=E,35nm,0.5s						
IBDR				AML	AML	23 24 33.7	
	comp=N,21nm,0.6s						
BMDN	**Meydan**	**1.50**	**45**	*e*		23 24 30.9	
BMDN				*ePg*	**Pb**	**23 24 06.3**	**+1.4**
IKOM	**Komasi**	**1.56**	**359**	*e*		23 24 31.9	
IKOM				*ePg*	**Pb**	**23 24 06.1**	**+0.3**
HSAM	**Samen**	**1.82**	**29**	*ePg*	**Pb**	**23 24 11.1**	**+0.7**
HSAM				*e*		23 24 39.5	
NSR	**Nassriya**	**2.00**	**217**	*ePg*	**Pb**	**23 24 13.0**	**-0.2**
	baz=35						
NSR				*eSg*	**Sb**	**23 24 40.0**	**+2.3**
NSR				AML	AML	23 24 46.1	
	comp=E,90nm,0.2s						
IDHR	**Dehrash**	**2.29**	**335**	*ePn*	**Pb**	**23 24 18.3**	**-0.1**
IDHR				*e*		23 25 00.1	
IALM	**Almabolaq**	**2.30**	**13**	*ePn*	**Pb**	**23 24 17.5**	**-1.0**
IALM				*e*		23 24 22.1	
HAGD	**Aghdareh**	**2.57**	**31**	*ePn*	**Pb**	**23 24 21.4**	**-1.7**
HAGD				*e*		23 25 02.5	
JHBN	**Jahan bin**	**2.66**	**97**	*ePn*	**Pb**	**23 24 23.1**	**-1.6**
JHBN				*e*		23 25 16.3	
IPIR	**Pirpir**	**2.82**	**88**	*ePn*	**Pb**	**23 24 26.3**	**-1.1**
IPIR				*e*		23 25 15.0	

*IDC **26** 23:34:39.7±1.1,26.20°N×103.03°E,h0km,mb3.6/6, mb1 3.7/7,mb1mx3.5/43,mbtmp3.5/7,ML3.4/1,MS4.5/1, Ms1 4.5/1,ms1mx2.5/50, Error ellipse: s-maj=42.9km s-min=21.9km az=68.0*
ISC 26 23:34:40.4±1.0,26.2N±0.1°×103.0E±0.2,h6km,n7,σ1$00/7, mb3.7/6,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.53**	**207**	Pn	**Pn**	**23 36 43.8**	**-0.7**
	0.1nm,0.3s,baz=20,slow=12,SNR=1.2						
SONM	**Songino Array**	**21.80**	**6**	P	**P**	**23 39 32.8**	**-0.5**
	0.3nm,0.5s,baz=191,slow=15,SNR=2.1						
ZALV	**Zalesovo Beam**	**30.86**	**339**	P	**P**	**23 40 57.1**	**-0.2**
	0.8nm,0.6s,baz=150,slow=12,SNR=2.6						
GEYT	**Alibeck**	**39.46**	**299**	P	**P**	**23 42 13.0**	**+1.3**
	0.7nm,0.4s,baz=99,slow=4.7,SNR=3.6						
WRA	**Warramunga Arr**	**55.01**	**143**	P	**P**	**23 44 13.2**	**+0.2**
	0.7nm,0.7s,baz=324,slow=8.5,SNR=3.0						
ASAR	**Alice Springs**	**57.86**	**146**	P	**P**	**23 44 34.0**	**+0.8**
	0.4nm,0.9s,baz=323,slow=5.8,SNR=2.2						
ASAR				LR	LR	00 10 50.7	
	comp=Z,359nm,18.3s,baz=332,slow=38						
NOA	**NORSAR Array B**	**68.32**	**328**	P	**P**	**23 45 41.5**	**-0.8**
	0.6nm,0.7s,baz=76,slow=6.0,SNR=2.4						

IDC 26 23:34:54.6±3.5,31.63S×177.53W,h0km,mb3.9/2, mb1 4.0/3,mb1mx3.6/29,mbtmp3.8/3,ML3.1/1,MS3.0/1, Ms1 3.0/1,ms1mx2.4/32,Error ellipse: s-maj=77.9km s-min=38.5km az=114.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.95**	**212**	Pn	Pn	23 36 51.9	+0.6
	0.3nm,0.3s,baz=192,slow=21,SNR=0.9						
URZ				Sn	Sn	23 38 21.4	-0.6
	1.4nm,0.3s,baz=277,slow=19,SNR=7.0						
RAR	**Rarotonga**	**18.96**	**61**	LR	LR	23 44 39.9	
	comp=Z,54nm,21.2s,baz=259,slow=31						
ASAR	**Alice Springs**	**43.46**	**268**	P	P	23 43 00.4	+0.7
	0.9nm,0.6s,baz=104,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**44.56**	**273**	P	P	23 43 07.6	-0.9
	0.8nm,0.4s,baz=115,slow=7.5,SNR=9.7						
FINES	**FINESS Array B**	**146.43**	**340**	PKPbc	PKPdf	23 54 35.9	+0.4
	1.3nm,0.7s,baz=22,slow=1.5,SNR=1.4						

*IDC **26** 23:58:25.9±0.5,9.04S×125.54E,h0km,mb4.6/18, mb1 4.7/19,mb1mx4.6/28,mbtmp4.6/19,ML3.8/1,MS3.8/10, Ms1 3.8/10,ms1mx3.5/28,Error ellipse: s-maj=14.7km s-min=11.4km az=116.0*
*NEIC **26** 23:58:26.3±2.3,9.10S±0.06×125.78E±0.06,h10km±1km, mb4.7/46, Error ellipse: s-maj=10.1km s-min=9.9km az=61.0*
*DJA **26** 23:58:32.3±0.2,9.5S±2.1×12.6E±°,h46km±3km,M4.9/43, mb5.0/43,mB5.4/19,MLv4.9/17,Mw(mB)4.8/19*
*KLM **26** 23:58:33.0,9.68S×125.88E,h50km,mb4.8*
ISC 26 23:58:30.2±0.3,9.19S±0.05×125.76E±0.05,h35km,n163, σ1$89/155,mb4.7/47,MS3.9/8,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.58**	**249**	P	**Pn**	**23 58 57.7**	**+1.8**
SOEI				S	**Sn**	**23 59 17.5**	**+2.4**
SOEI	**Soe**	**1.58**	**249**		**Pn**	**23 58 57.3**	**+1.4**
BATI	**Baumata**	**2.30**	**244**	Pg	**Pn**	**23 59 06.9**	**+1.2**
	110nm,0.3s,baz=112,slow=0.6,SNR=41						
BATI				Lg	Lg	23 59 35.6	
	113nm,0.3s,baz=339,slow=17,SNR=6.9						
BATI	**Baumata**	**2.30**	**244**	P	**Pn**	**23 59 07.9**	**+2.2**
BATI				S	**Sn**	**23 59 35.0**	**+2.1**
MMRI	**Maumere**	**3.53**	**279**	P	**Pn**	**23 59 25.1**	**+2.5**
MMRI				S	**Sn**	**00 00 05.2**	**+2.1**
MMRI	**Maumere**	**3.53**	**279**	Pn	**Pn**	**23 59 23.0**	**+0.4**
EDFI	**Ende, Flores**	**4.05**	**276**	P	**Pn**	**23 59 31.7**	**+1.9**
EDFI				S	**Sn**	**00 00 18.0**	**+1.9**
BASI	**Baing, Sumba**	**5.21**	**258**	P	**Pn**	**23 59 46.8**	**+1.0**
	1.2nm3µm386nm,0.7s						
NLAI	**Namlea**	**6.06**	**13**	P	Pn	00 00 02.4	+5.0
	0.3nm90nm,0.6s						
WBSI	**Waikabubak, Su**	**6.30**	**265**	P	**Pn**	**00 00 00.4**	**-0.4**
	0.6nm139nm,0.7s						
MTN	**Manton Dam**	**6.40**	**125**	Pn	**Pn**	**00 00 02.4**	**+0.3**
MSAI	**Masohi**	**6.61**	**29**	P	**Pn**	**00 00 08.7**	**+3.8**
	0.2nm4µm55nm,0.7s						
BKSI	**Bulukumba**	**6.79**	**304**	P	**Pn**	**00 00 10.4**	**+3.0**
	0.2nm632nm77nm,0.8s						
KNRA	**Kununurra**	**7.08**	**156**	Pn	**Pn**	**00 00 10.6**	**-0.9**
SANI	**Sanana**	**7.10**	**2**	P	Pn	00 00 16.5	+4.8
	0.4nm1µm144nm,1.0s						
KAPI	**Kappang**	**7.27**	**304**	Pn	**Pn**	**00 00 18.3**	**+4.3**
	3.6nm,0.3s,baz=160,slow=9.6,SNR=7.9						
KAPI				LR	LR	00 03 13.5	
	comp=Z,1µm,18.8s,baz=124,slow=41						
KAPI	**Kappang**	**7.27**	**304**	Pn	**Pn**	**00 00

WRA				Sn	Sn	00 03 59.9	-9.1		
	6.3nm,0.3s,baz=323,slow=23,SNR=15								
WRA	**Warramunga Arr**	**13.53**	**143**	Pn	**Pn**	**00 01 37.4**	**-2.4**		
WRAB	**Tennant Creek**	**13.53**	**143**	Pn	**Pn**	**00 01 36.0**	**-3.7**		
WB2	**Warramunga Arr**	**13.53**	**143**	Pn	Pn	00 01 35.0	-4.9		
PSA00	**Pilbara Seismi**	**13.56**	**204**	Pn	**Pn**	**00 01 37.7**	**-2.5**		
MTKI	**Muara Teweh, K**	**13.57**	**307**	P	**P**	**00 01 50.8**	**+1.9**		
WR0	**Warramunga Arr**	**13.66**	**143**	Pn	Pn	00 01 36.3	-5.3		
MMPI	**Merauke**	**14.47**	**88**	P	**P**	**00 02 00.3**	**+1.4**		
SMPI	**Sarmi**	**14.73**	**62**	P	**Pn**	**00 01 57.3**	**+1.1**		
GENI	**Genyem**	**15.75**	**66**	P	**P**	**00 02 12.0**	**-1.2**		
	2um80nm,0.9s								
DAV	**Davao City (W)**	**16.16**	**359**	LR	LR	00 09 14.5			
	comp=Z,176nm,18.8s,baz=158,slow=40								
JAY	**Jayapura**	**16.27**	**67**	Pn	**Pn**	**00 02 14.6**	**-1.7**		
	0.5nm,0.3s,baz=314,slow=22,SNR=1.9								
JAY	**Jayapura**	**16.27**	**67**	P	**P**	**00 02 20.2**	**+1.2**		
	24nm,1.1s								
AS31	**Alice Springs**	**16.36**	**153**	Pn	**Pn**	**00 02 14.4**	**-3.0**		
ASAR	**Alice Springs**	**16.36**	**153**	Pn	**Pn**	**00 02 13.8**	**-3.7**		
	7.6nm,0.3s,baz=316,slow=10,SNR=309								
ASAR				Sn	Sn	00 05 03.7	-14		
	0.6nm,0.3s,baz=313,slow=11,SNR=4.0								
ASAR	**Alice Springs**	**16.36**	**153**	P	**Pn**	**00 02 14.9**	**-2.5**		
SPMM	**Sapulut**	**16.63**	**326**	P	**P**	**00 02 29.0**	**+6.0**		
SBUM	**Sibu**	**17.77**	**310**	P	P	00 02 46.0	+10		
KSM	**Kuching**	**18.69**	**304**	P	**P**	**00 02 43.6**	**-2.1**		
CBJI	**Citeko**	**18.94**	**277**	P	**Pn**	**00 02 49.8**	**+0.5**		
	186nm,0.7s								
DBJI	**Dramaga**	**19.01**	**277**	P	**Pn**	**00 02 51.3**	**+1.1**		
	18µm120nm,0.9s								
PPBI	**Pangkal Pinang**	**20.73**	**289**	P	Pn	00 03 09.3	-1.2		
	88nm,0.9s								
PMG	**Port Moresby**	**21.12**	**92**	P	**P**	**00 03 16.3**	**+4.2**		
	41nm,0.8s,baz=289,slow=4.5,SNR=6.1								
PMG				LR	LR	00 13 48.6			
	comp=Z,285nm,18.7s,baz=241,slow=43								
PMG	**Port Moresby**	**21.12**	**92**	P	**P**	**00 03 18.4**	**+6.2**		
PMG				IAmb	IAmb	00 03 20.0			
	comp=Z,35nm,0.8s								
FORT	**Forrest**	**21.59**	**175**	P	**P**	**00 03 16.8**	**-0.2**		
MORW	**Morawa**	**21.78**	**203**	P	**P**	**00 03 18.4**	**-0.7**		
CTAO	**Charters Tower**	**22.56**	**121**	P	**P**	**00 03 28.1**	**+0.4**		
NWAO	**Narrogin (SRO)**	**24.90**	**197**	P	**P**	**00 03 50.8**	**+0.8**		
	comp=Z,14nm,0.8s,baz=43,slow=6.4,SNR=6.7								
NWAO	**Narrogin (SRO)**	**24.90**	**197**	IAmb	IAmb	00 04 30.4			
	comp=Z,27nm,1.0s								
BBOO	**Buckleboo**	**25.36**	**159**	P	**P**	**00 03 55.1**	**+1.0**		
BBOO				IAmb	IAmb	00 04 17.2			
	comp=Z,18nm,0.8s								
SDSI	**Sungai Dareh**	**25.57**	**287**	P	**P**	**00 03 55.5**	**-0.7**		
	comp=Z,15nm,0.8s								
STKA	**Stephens Creek**	**26.93**	**149**	P	**P**	**00 04 09.7**	**+1.2**		
	comp=Z,5.2nm,0.6s,baz=320,slow=10,SNR=20								
STKA				LR	LR	00 17 15.3			
	comp=Z,387nm,19.3s,baz=323,slow=42								
STKA	**Stephens Creek**	**26.93**	**149**	P	**P**	**00 04 08.7**	**+0.3**		
RPSI	**Rantau Prapat**	**29.24**	**293**	P	**P**	**00 04 27.4**	**-1.8**		
RPSI				IAmb	IAmb	00 04 36.9			
	comp=Z,11nm,1.0s								
RPSI	**Rantau Prapat**	**29.24**	**293**	P	**P**	**00 04 27.8**	**-1.3**		
PSI	**Prapat**	**29.28**	**293**	P	**P**	**00 04 27.8**	**-1.9**		
	comp=Z,7.9nm,1.0s,baz=179,slow=2.0,SNR=4.2								
TPUB	**Ta-pu**	**32.68**	**351**	P	**P**	**00 04 56.7**	**-2.7**		
SLVN	**Son La**	**37.16**	**325**	P	**P**	**00 05 34.4**	**-3.7**		
CMAR	**Chiang Mai Arr**	**38.15**	**316**	P	**P**	**00 05 44.8**	**-1.6**		
	comp=Z,1.5nm,0.3s,baz=144,slow=6.8,SNR=16								
CMAR				PcP	**PcP**	**00 08 01.7**	**+0.8**		
	comp=Z,1.2nm,0.4s,baz=163,slow=2.8,SNR=6.8								
CMAR				LR	LR	00 22 57.5			
	comp=Z,94nm,20.0s,baz=194,slow=39								
GYA	**Guiyang**	**40.00**	**333**	*eP*	**P**	**00 06 03.5**	**+1.5**		
GYA				pmax	pmax				
	comp=Z,7.0nm,0.7s								
WHN	**Wuhan**	**41.00**	**345**	P	**P**	**00 06 10.3**	**+0.3**		
JNU	**Nakatsue**	**42.36**	**6**	P	**P**	**00 06 19.4**	**-1.8**		
XAN	**Xi'an**	**45.87**	**340**	P	**P**	**00 06 47.3**	**-2.0**		
XAN				pP	pP	00 06 53.0	-6.8		
XAN				pmax	pmax				
	comp=Z,15nm,0.7s								
XAN				LR	LR				
	comp=N,110nm,15.0s								
XAN				LR	LR				
	comp=E,110nm,15.0s								
XAN				LR	LR				
	comp=Z,110nm,17.1s								
XAN	**Xi'an**	**45.87**	**340**	P	**P**	**00 06 47.6**	**-1.7**		
XAN				IAmb	IAmb	00 06 50.5			
	comp=Z,9.4nm,0.7s								
INCN	**Inchon**	**46.44**	**1**	P	**P**	**00 06 52.4**	**-1.2**		
KSRS	**Korea Array**	**46.44**	**2**	P	**P**	**00 06 54.0**	**+0.3**		
	comp=Z,17nm,0.5s,baz=178,slow=9.6,SNR=61								
KS19	**Wonju Array Si**	**46.49**	**2**	P	**P**	**00 06 52.9**	**-1.2**		
MJAR	**Matsushiro Arr**	**46.97**	**14**	P	**P**	**00 06 56.8**	**-1.1**		
	comp=Z,18nm,0.7s,baz=194,slow=9.0,SNR=32								
MAJO	**Matsushiro**	**46.97**	**14**	P	**P**	**00 06 56.9**	**-1.0**		
MAT	**Matsushiro**	**46.97**	**14**	P	**P**	**00 06 56.6**	**-1.3**		
SHL	**Shillong**	**47.76**	**317**	P	**P**	**00 07 02.4**	**-2.0**		
LZH	**Lanzhou**	**49.54**	**337**	*eP*	**P**	**00 07 20.3**	**+2.4**		
LZH				pP	pP	00 07 28.8	+0.3		
LZH				sP	sP	00 07 33.8	+1.1		
LZH				PP	PP	00 09 20.5	+7.9		
LZH				pmax	pmax				
	comp=Z,24nm,1.2s								
LZH				pmax	pmax				
	comp=Z,79nm,4.9s								
BJI	**Beijing**	**49.78**	**350**	P	**P**	**00 07 17.8**	**-1.6**		
BJI				pmax	pmax				
	comp=Z,7.0nm,0.7s								
LSA	**Lhasa**	**51.04**	**321**	P	**P**	**00 07 29.5**	**-0.2**		
LSA				IAmb	IAmb	00 09 14.2			
	comp=Z,7.4nm,0.5s								
HHC	**Hu-ho-hao-te**	**51.49**	**346**	*eP*	**P**	**00 07 32.3**	**-0.2**		
HHC				pmax	pmax				
	comp=Z,28nm,1.1s								
HHC				pmax	pmax				
	comp=Z,82nm,5.8s								
HHC				LR	LR				
	comp=N,280nm,17.3s								
HHC				LR	LR				
	comp=E,240nm,16.5s								
HHC				LR	LR				
	comp=Z,190nm,17.8s								
ODAN	**Odare**	**51.67**	**315**	*eP*	**P**	**00 07 33.1**	**-1.2**		
	comp=Z,21nm,0.7s								
TAPN	**Taplejung**	**51.76**	**316**	*eP*	**P**	**00 07 33.6**	**-1.4**		
	comp=Z,25nm,0.7s								
RAMN	**Ramite**	**52.28**	**315**	*eP*	**P**	**00 07 37.8**	**-1.0**		
	comp=Z,19nm,0.7s								
JIRN	**Jiri**	**53.00**	**315**	*eP*	**P**	**00 07 43.1**	**-1.2**		
	comp=Z,31nm,0.7s								
TUWZ	**Tuamarina**	**53.15**	**136**	P	**P**	**00 07 45.5**	**+0.7**		
USA0B	**Ussuriysk Arra**	**53.44**	**6**	P	**P**	**00 07 45.7**	**-1.0**		
USRK	**Ussuriysk Ar.**	**53.44**	**6**	P	**P**	**00 07 46.4**	**-0.3**		
	comp=Z,12nm,0.7s,baz=188,slow=7.1,SNR=29								
PKI	**Pulchoki**	**53.50**	**314**	*eP*	**P**	**00 07 46.2**	**-1.7**		
	comp=Z,8.0nm,0.6s								
MDJ	**Mudanjiang**	**53.67**	**3**	P	**P**	**00 07 49.0**	**+0.6**		
MDJ				pmax	pmax				
	comp=Z,47nm,0.9s								
MDJ				pmax	pmax				
	comp=Z,140nm,5.3s								
MDJ	**Mudanjiang**	**53.67**	**3**	P	**P**	**00 07 48.4**	**0.0**		
KKN	**Kakani**	**53.72**	**314**	*eP*	**P**	**00 07 48.1**	**-1.3**		
DMN	**Daman**	**53.73**	**314**	*eP*	**P**	**00 07 48.2**	**-1.3**		
	comp=Z,14nm,0.9s								
GTA	**Gaotai**	**54.03**	**335**	*eP*	**P**	**00 07 53.0**	**+1.7**		
GTA				pP	pP	00 08 02.3	+0.3		
GTA				sP	sP	00 08 06.5	+0.4		
GTA				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KOLN	**Koldanda**	**54.90**	**313**	*eP*	**P**	**00 07 57.1**	**-0.9**		
	comp=Z,28nm,0.8s								
PYUN	**Piuthan**	**55.53**	**313**	*eP*	**P**	**00 08 01.7**	**-0.8**		
	comp=Z,27nm,0.6s								
HIA	**Hailar**	**58.45**	**355**	P	**P**	**00 08 22.1**	**-0.4**		
ULN	**Ulaanbaatar**	**59.18**	**345**	P	**P**	**00 08 28.0**	**+0.2**		
ULN				IAmb	IAmb	00 08 30.2			
	comp=Z,7.4nm,0.9s								
SONM	**Songino Array**	**59.32**	**345**	P	**P**	**00 08 28.7**	**-0.1**		
	comp=Z,3.8nm,0.9s,baz=163,slow=8.1,SNR=13								
WMQ	**Urumqi**	**63.05**	**330**	*eP*	**P**	**00 08 56.5**	**+2.4**		
WMQ				pP	pP	00 09 06.5	+1.6		
WMQ				pmax	pmax				
	comp=Z,8.0nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,56nm,4.3s								
NIL	**Nilore**	**65.56**	**313**	P	**P**	**00 09 09.0**	**-1.7**		
KSH	**Kashi**	**66.89**	**320**	P	**P**	**00 09 18.5**	**-0.7**		
KSH				pmax	pmax				
	comp=Z,14nm,0.7s								
KSH				pmax	pmax				
	comp=Z,59nm,4.1s								
SHLS	**Shalkode**	**66.98**	**325**	*i* P	**P**	**00 09 17.5**	**-2.3**		
	comp=Z,28nm,2.0s,baz=325								
UZB	**Uzynbulak**	**67.23**	**325**	*eP*	**P**	**00 09 19.9**	**-1.4**		
	comp=Z,4.9nm,1.2s,baz=325								
PEA0B	**Petropavlovsk-**	**67.76**	**20**	P	**P**	**00 09 24.1**	**-0.1**		
PETK	**Petropavlovsk-**	**67.76**	**20**	P	**P**	**00 09 25.4**	**+1.2**		
	comp=Z,15nm,0.6s,baz=188,slow=5.4,SNR=23								
MK31	**Makanchi Array**	**67.85**	**329**	P	**P**	**00 09 23.5**	**-1.5**		
MK31				IAmb	IAmb	00 09 27.2			
	comp=Z,3.4nm,0.8s								
MKAR	**Makanchi Array**	**67.85**	**329**	P	**P**	**00 09 24.1**	**-0.9**		
	comp=Z,5.2nm,0.5s,baz=127,slow=7.3,SNR=66								
MAKZ	**Makanchi**	**68.02**	**329**	P	**P**	**00 09 24.6**	**-1.4**		
MAKZ				IAmb	IAmb	00 11 07.7			
	comp=Z,6.6nm,1.2s								
TNSS	**Tian-Shan**	**68.36**	**324**	*eP*	**P**	**00 09 28.2**	**-0.6**		
	baz=324								
CHKK	**Chushkaly**	**68.83**	**324**	*eP*	**P**	**00 09 29.4**	**-1.7**		
	baz=324								
KBL	**Kabul**	**69.04**	**312**	P	**P**	**00 09 32.1**	**-0.9**		
KUU	**Kurty**	**69.23**	**324**	*eP*	**P**	**00 09 32.5**	**-1.2**		
	comp=Z,9.6nm,0.7s,baz=324								
AAK	**Ala-Archa**	**69.59**	**322**	P	**P**	**00 09 35.9**	**-0.2**		
	comp=Z,8.7nm,0.7s,baz=132,slow=6.4,SNR=17								
AAK	**Ala-Archa**	**69.59**	**322**	P	**P**	**00 09 35.5**	**-0.6**		
SGDS	**Sogindy**	**69.97**	**323**	*eP*	**P**	**00 09 36.7**	**-1.6**		
	comp=Z,6.0nm,1.1s,baz=323								
BTK	**Batken**	**70.52**	**318**	IAmb	IAmb	00 09 42.6			
	comp=Z,3.7nm,0.7s								
VNDA	**Vanda**	**70.82**	**172**	P	**P**	**00 09 45.1**	**+2.2**		
	comp=Z,0.8nm,0.6s,baz=322,slow=6.2,SNR=8.3								
VNDA				LR	LR	00 40 21.2			
	comp=Z,67nm,19.1s,baz=290,slow=35								
VNDA	**Vanda**	**70.82**	**172**	P	**P**	**00 09 43.9**	**+1.0**		
VNDA				IAmb	IAmb	00 09 46.2			
	comp=Z,14nm,1.9s								
CHGR	**Chuyangaron**	**70.93**	**316**	P	**P**	**00 09 43.3**	**-1.0**		
BTLS	**Baital**	**71.23**	**324**	*eP*	**P**	**00 09 44.4**	**-1.4**		
	baz=324								
MAW	**Mawson**	**71.40**	**201**	P	**P**	**00 09 48.1**	**+1.6**		
	comp=Z,1.7nm,0.8s,baz=85,slow=11,SNR=5.3								
MA2	**Magadan**	**71.41**	**13**	P	**P**	**00 09 46.4**	**-0.2**		
ZAA0	**Zalesovo Array**	**71.77**	**336**	IAmb	IAmb	00 09 49.9			
	comp=Z,4.6nm,0.9s								
ZALV	**Zalesovo Beam**	**71.77**	**336**	P	**P**	**00 09 47.2**	**-1.7**		
	comp=Z,2.7nm,0.5s,baz=139,slow=4.9,SNR=14								
IUG	**Iuzhnay**	**72.10**	**320**	*eP*	**P**	**00 09 49.9**	**-1.4**		
	comp=Z,7.3nm,0.8s,baz=320								
KURK	**Kurchatov**	**72.28**	**331**	P	**P**	**00 09 51.2**	**-0.7**		
KURK				IAmb	IAmb	00 10 03.8			
	comp=Z,7.7nm,0.8s								
KKAR	**Karatay Array**	**72.30**	**321**	P	**P**	**00 09 52.2**	**-0.1**		
RAR	**Rarotonga**	**72.31**	**109**	LR	LR	00 39 16.7			
	comp=Z,51nm,18.3s,baz=308,slow=34								
BRZS	**Berezniki**	**74.83**	**328**	*eP*	**P**	**00 10 05.8**	**-1.3**		
	comp=Z,3.2nm,0.3s,baz=328								
BRVK	**Borovoye**	**77.81**	**329**	P	**P**	**00 10 23.3**	**-0.6**		
BRVK				IAmb	IAmb	00 10 25.2			
	comp=Z,5.6nm,0.9s								
GEYT	**Alibeck**	**78.47**	**312**	P	**P**	**00 10 27.6**	**-0.4**		
	comp=Z,1.9nm,0.6s,baz=144,slow=2.7,SNR=6.2								
GEYT				LR	LR	00 52 55.7			
	comp=Z,229nm,19.0s,baz=305,slow=42								
QSPA	**South Pole Qui**	**80.80**	**180**	P	**P**	**00 10 41.1**	**+0.9**		
QSPA				IAmb	IAmb	00 10 46.4			
	comp=Z,8.0nm,1.0s								
ARU	**Arti**	**85.38**	**329**	P	**P**	**00 11 02.9**	**-0.9**		
KMBO	**Kilima Mbogo**	**88.35**	**269**	P	**P**	**00 11 19.3**	**-0.3**		
	comp=Z,1.5nm,0.5s,baz=98,slow=5.9,SNR=4.7								
KMBO	**Kilima Mbogo**	**88.35**	**269**	P	**P**	**00 11 20.3**	**+0.7**		
KMBO				IAmb	IAmb	00 11 22.0			
	comp=Z,4.7nm,1.0s								
TBLG	**Delisi**	**89.42**	**312**	P	**P**	**00 11 23.3**	**-0.4**		
KBZ	**Khabaz**	**91.17**	**314**	P	**P**	**00 11 30.9**	**-0.8**		
	comp=Z,2.6nm,0.8s,baz=143,slow=2.4,SNR=6.2								
BELA	**Belgrano 2**	**92.38**	**184**	P	**P**	**00 11 37.1**	**+0.4**		
MBAR	**Mbarara**	**94.86**	**269**	P	**P**	**00 11 50.2**	**+0.6**		
MBAR				IAmb	IAmb	00 11 52.5			
	comp=Z,3.2nm,0.8s								
KLMR	**Klimovskoe**	**96.13**	**331**	*eP*	**P**	**00 11 50.4**	**-3.7**		
KLMR				AMP		00 11 58.4			
	comp=Z,7.0nm,1.5s								
ILAR	**Eielson Array**	**97.11**	**26**	P	**P**	**00 11 56.5**	**-2.0**		
	comp=Z,0.6nm,0.8s,baz=304,slow=4.2,SNR=6.8								
BCAR	**Beaver Creek A**	**99.24**	**27**	P	**Pdif**	**00 12 08.1**	**-0.1**		
GERES	**GERESS Array B**	**111.35**	**319**	PKiKP	**PKiKP**	**00 17 01.6**	**+0.8**		
	comp=Z,0.4nm,0.5s,baz=46,slow=2.8,SNR=5.0								
YKA	**Yellowknife Ar**	**111.54**	**26**	PKiKP	**PKiKP**	**00 17 01.6**	**+1.1**		
	comp=Z,1.0nm,0.6s,baz=305,slow=1.3,SNR=7.5								
NVAR	**Mina Array Bea**	**115.94**	**52**	PKP	**PKiKP**	**00 17 12.3**	**+2.3**		
	comp=Z,1.5nm,0.9s,baz=262,slow=3.9,SNR=6.8								
NVAR	**Mina Array Bea**	**115.94**	**52**		**PKiKP**	**00 17 12.5**	**+2.5**		
PDAR	**Pinedale Array**	**121.40**	**45**	PKP	**PKiKP**	**00 17 22.1**	**+1.5**		
	comp=Z,1.6nm,0.8s,baz=257,slow=1.2,SNR=5.1								
TOA0	**Torodi Ar. Sit**	**125.07**	**280**	PKPdf	**PKPdf**	**00 17 28.0**	**+0.1**		
TORD	**Torodi Ar. Bea**	**125.07**	**280**	PKP	**PKiKP**	**00 17 29.6**	**+1.3**		
	comp=Z,8.7nm,0.8s,baz=60,slow=1.9,SNR=42								
ULM	**Lac du Bonnet**	**126.54**	**32**	PKP	**PKiKP**	**00 17 30.7**	**+0.5**		
	comp=Z,3.7nm,0.6s,baz=302,slow=6.4,SNR=4.2								
TXAR	**Lajitas Array**	**129.65**	**59**	PKP	**PKiKP**	**00 17 37.6**	**+0.4**		
	comp=Z,0.4nm,0.7s,baz=162,slow=1.2,SNR=5.1								
CPUP	**Villa Florida**	**144.56**	**175**	PKP	**PKPdf**	**00 18 03.2**	**-0.7**		
	comp=Z,4.9nm,0.8s,baz=153,slow=3.1,SNR=8.8								
LPAZ	**La Paz**	**151.19**	**151**	PKPbc	**PKiKP**	**00 18 24.2**	**+2.0**		
	comp=Z,7.2nm,1.0s,baz=188,slow=2.1,SNR=17								
LPAZ	**La Paz**	**151.19**	**151**		**PKiKP**	**00 18 24.4**	**+2.1**		

TIR **27** *00:05:40.9,41.°88N×19.°57E,h7km,Md2.7/4*
BEO **27** *00:05:40.8±0.7,41.°90N×19.°50E,h24km±8km,ML1.8/3*
RHSSO **27** *00:05:41.0±1.0,41.°91N×19.°57E,h17km±3km,ML1.8/3*
SKO **27** *00:05:41.2,41.°95N×19.°72E,h15km*
PDG **27** *00:05:42.9±0.5,42.°06N×19.°49E,h20km±1km,ML1.6/13,*
Error ellipse: s-maj=1.4km s-min=1.6km az=0.0

ISC 27 00:05:40.6±1.0, 41°92N±0.03×19°53E±0.02, h16km±7km, n38, σ0°96/73, 11C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.22**	**281**	↑*i*Pg	**Pb**	**00 05 47.7**	**+1.4**
ULC				*i* Sg	**Sg**	**00 05 50.7**	**+1.7**
PUK	**Puka**	**0.29**	**65**	*i* PG	**Pb**	**00 05 47.6**	**0.0**
PUK				*i* SG	**Sb**	**00 05 52.3**	**0.0**
DRME	**Dracevica, Mon**	**0.37**	**316**	↑*i*Pg	**Pb**	**00 05 49.6**	**+0.7**
DRME				*i* Sg	**Sg**	**00 05 53.1**	**-0.3**
DRME	**Dracevica, Mon**	**0.37**	**316**	*eP*g	**Pb**	**00 05 49.5**	**+0.7**
DRME				*eS*g	**Sb**	**00 05 56.9**	**+2.4**
PDG	**Podgorica**	**0.55**	**338**	*eP*g	**Pb**	**00 05 52.0**	**+0.2**
PDG				*eS*g	**Sn**	**00 06 01.7**	**-1.0**
PDG	**Podgorica**	**0.55**	**338**	↑*i*Pg	**Pb**	**00 05 52.1**	**+0.2**
PDG				*eS*g	**Sb**	**00 06 01.1**	**+1.5**
TTG	**Podgorica**	**0.55**	**338**	↑*i*Pg	**Pb**	**00 05 52.2**	**+0.3**
TTG				*i* Sg	**Sg**	**00 05 58.0**	**-0.8**
BCI	**Bajram Curri**	**0.60**	**42**	*i* PG	**Pb**	**00 05 52.7**	**0.0**
BCI				*i* SG	**Sb**	**00 06 01.9**	**+0.9**
BUM	**Brajici-Budva**	**0.61**	**309**	↑*i*Pg	**Pb**	**00 05 53.1**	**+0.1**
BUM				*i* Sg	**Sg**	**00 06 01.0**	**+0.3**
TIR	**Tirane**	**0.62**	**156**	*i* PG	**Pg**	**00 05 52.3**	**-0.6**
TIR				*i* SG	**Sb**	**00 06 01.9**	**+0.2**
TIR	**Tirane**	**0.62**	**156**	*eP*g	**Pg**	**00 05 52.5**	**-0.4**
TIR				*eS*g	**Sb**	**00 06 02.7**	**+1.0**
PHP	**Peshkopia**	**0.72**	**109**	*i* PG	**Pg**	**00 05 53.7**	**-0.9**
PHP				*i* SG	**Sb**	**00 06 04.2**	**-0.2**
PVY	**Plav**	**0.74**	**25**	↓*i*Pg	**Pg**	**00 05 54.9**	**-0.2**
PVY				*i* Sg	**Sg**	**00 06 04.7**	**-0.3**
CEME	**Cevo**	**0.78**	**324**	↑*i*Pg	**Pg**	**00 05 55.2**	**-0.5**
CEME				*i* Sg	**Sg**	**00 06 05.7**	**-0.3**
KOME	**Kolasin**	**0.93**	**359**	↑*i*Pg	**Pg**	**00 05 58.3**	**-0.3**
KOME				*i* Sg	**Sg**	**00 06 10.1**	**-0.7**
HCY	**Herceg Novi**	**0.94**	**305**	↓*i*Pg	**Pg**	**00 05 58.1**	**-0.6**
HCY				*i* Sg	**Sb**	**00 06 11.7**	**+1.0**
HCY	**Herceg Novi**	**0.94**	**305**	*eP*g	**Pg**	**00 05 57.9**	**-0.8**
HCY				*eS*g	**Sn**	**00 06 12.1**	**-0.1**
NKME	**Niksic**	**0.95**	**333**	↑*i*Pg	**Pg**	**00 05 58.1**	**-0.9**
NKME				*i* Sg	**Sg**	**00 06 11.0**	**-0.5**
NKY	**Niksic**	**0.98**	**336**	↓*i*Pg	**Pg**	**00 05 58.7**	**-0.8**
NKY				*i* Sg	**Sg**	**00 06 11.8**	**-0.6**
IVA	**Berane**	**0.99**	**16**	↑*i*Pg	**Pg**	**00 05 59.0**	**-0.7**
IVA				*i* Sg	**Sg**	**00 06 12.1**	**-0.6**
TREB	**Trebinje**	**1.19**	**313**	*eP*g	**Pn**	**00 06 02.1**	**-0.5**
TREB				*eS*g	**Sg**	**00 06 18.6**	**-0.3**
TREB	**Trebinje**	**1.19**	**313**	*eP*g	**Pn**	**00 06 02.1**	**-0.5**
TREB				*eS*g	**Sn**	**00 06 19.2**	**+0.8**
BRY	**Bratogost**	**1.23**	**323**	↑*i*Pg	**Pn**	**00 06 03.0**	**-0.3**
BRY				*i* Sg	**Sn**	**00 06 20.2**	**+0.6**
BRY	**Bratogost**	**1.23**	**323**	*eP*g	**Pn**	**00 06 02.8**	**-0.5**
BRY				*eS*g	**Sn**	**00 06 21.7**	**+2.1**
DBRK	**Dubrovnik**	**1.27**	**306**	*i* Pn	**Pn**	**00 06 02.6**	**-1.1**
DBRK				*i* Sn	**Sn**	**00 06 21.2**	**+0.6**
UPM	**Unac-Piva**	**1.36**	**340**	↓*i*Pg	**Pn**	**00 06 05.3**	**+0.1**
UPM				*i* Sg	**Sg**	**00 06 24.2**	**-0.5**
UPM	**Unac-Piva**	**1.36**	**340**	*eP*g	**Pn**	**00 06 05.6**	**+0.4**
UPM				*eS*g	**Sg**	**00 06 24.2**	**-0.5**
SJES	**Sjenica**	**1.38**	**13**	*eP*g	**Pg**	**00 06 06.6**	**-0.6**
SJES				*eS*g	**Sg**	**00 06 25.0**	**-0.1**
PLE	**Pljevlja**	**1.41**	**356**	↑*i*Pg	**Pn**	**00 06 06.0**	**+0.2**
PLE				*i* Sg	**Sg**	**00 06 27.0**	**+0.8**
STON	**Ston**	**1.66**	**306**	*i* Pn	**Pn**	**00 06 07.4**	**-1.6**
STON				Sn	**Sn**	**00 06 29.0**	**-1.0**
RUDO	**Rudo**	**1.70**	**356**	*ePn*	**Pn**	**00 06 10.7**	**+1.0**
RUDO				*eSn*	**Sn**	**00 06 32.0**	**+0.9**
SELS	**Selova**	**1.75**	**42**	*eP*g	**Pg**	**00 06 13.3**	**-0.9**
SELS				*eS*g	**Sg**	**00 06 37.6**	**+0.7**
BBLS	**Lazići**	**1.95**	**357**	*eS*n	**Sn**	**00 06 38.1**	**+0.8**
STIP	**Stip**	**2.00**	**96**	*i* Pn	**Pn**	**00 06 14.9**	**+1.2**
MAKA	**Makarska**	**2.31**	**307**	*ePn*	**Pn**	**00 06 16.8**	**-1.1**
MAKA				Sn	**Sn**	**00 06 41.9**	**-4.0**
RICI	**Ricice**	**2.37**	**312**	*ePn*	**Pn**	**00 06 18.8**	**-0.1**
RICI				Sn	**Sn**	**00 06 46.6**	**-1.0**
KIJV	**Kijevo**	**3.10**	**313**	*ePn*	**Pn**	**00 06 28.4**	**-0.6**
KIJV				Sn	**Sn**	**00 07 04.7**	**-0.9**
MORI	**Morici**	**3.42**	**306**	*i* Pn	**Pn**	**00 06 33.1**	**-0.2**

IDC **27** *00:07:59.1±8.0,32.°63N×47.°27E,h0km,mb3.8/7,*
mb1 3.9/7,mb1mx3.6/34,mbtmp3.8/7,MS4.3/1,Ms1 4.3/1,
ms1mx2.7/46,Error ellipse: s-maj=162.0km s-min=31.9km
az=9.0
ISN **27** *00:08:00.1±1.3,32.°75N×47.°32E,h1km±10km,ML3.4*
TEH **27** *00:08:01.7,32.°74N×47.°46E,h8km,ML3.4*
THR **27** *00:08:01.3±0.4,32.°67N×47.°26E,h15km±5km,ML3.7*

**ISC 27 00:08:01.9±0.7, 32°67N±0.04×47°40E±0.03,

λ-100.00000°. NP2:ϕ_e308.00000°,δ54.00000°, λ-83.00000°. Principal axes: T 0.6790, Plg9.0000°, Azm32.0000°; N 0.1700, Plg6.0000°, Azm123.0000°; P -0.8490, Plg79.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function

NEIC **27** 00:16:33,64°.53N×17°.66W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-5.93; $M_{\theta\theta}$4.73; $M_{\phi\phi}$1.20; $M_{r\theta}$5.78; $M_{\theta\phi}$-0.93; $M_{\phi r}$5.77; Fault plane solution: M_o9.85000×10^{16} NP1:ϕ_s103.00000°, δ21.00000°,λ-46.00000°. NP2:ϕ_s238.00000°,δ75.00000°, λ-104.00000°. Principal axes: T 7.7327, Plg29.0000°, Azm340.0000°; N 3.3610, Plg14.0000°, Azm242.0000°; P -11.0938, Plg58.0000°, Azm128.0000°;

DNK **27** 00:16:34.3±3.7,64°.55N×17°.19W,h46km±45km,Ms4.9

ISC 27 00:16:30.9±0.2,64°.58N±0°.02×17°.51W±0°.02,h10km, h10km:pP-P,n1429,σ2s27/1519,mb5.2/312,MS4.7/94, 56C-51D,Iceland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
IDJK	**Dyngjujokull**	**0.14**	**121**	P	**Pg**		**00 16 31.5**	**-2.7**
	baz=140							
IVON	**Vonarskard**	**0.14**	**313**	P	**Pg**		**00 16 31.0**	**-3.2**
	baz=293							
IVON				S	**Sg**		**00 16 33.4**	**-3.1**
	baz=293							
IGRF	**Grimsfjall**	**0.20**	**148**	P	**Pg**		**00 16 32.7**	**-2.5**
	baz=158							
IDYN	**Dyngjuhals**	**0.22**	**16**	P	**Pg**		**00 16 31.8**	**-3.8**
	baz=14							
IHUS	**Husbondi**	**0.29**	**192**	P	**Pg**		**00 16 34.7**	**-2.1**
	baz=194							
IVOT	**Vottur**	**0.34**	**155**	P	**Pg**		**00 16 35.2**	**-2.5**
	baz=161							
IBJK	**Bruarjokull**	**0.35**	**108**	P	**Pg**		**00 16 34.8**	**-3.0**
	baz=116							
IBJK				S	**Sg**		**00 16 40.0**	**-2.5**
	baz=116							
ISKR	**Skrokkalda**	**0.38**	**268**	P	**Pg**		**00 16 35.8**	**-2.6**
	baz=262							
IJOK	**Jokulheimar**	**0.41**	**230**	P	**Pg**		**00 16 36.4**	**-2.5**
	baz=227							
IKRE	**Kreppuhraun**	**0.53**	**66**	P	**Pg**		**00 16 37.1**	**-4.1**
	baz=70							
IIEY	**Innrieyrar**	**0.55**	**209**	P	**Pg**		**00 16 39.0**	**-2.7**
	baz=209							
IIEY				S	**Sg**		**00 16 47.5**	**-1.4**
	baz=209							
IASK	**Askja**	**0.60**	**37**	P	**Pg**		**00 16 38.4**	**-4.2**
	baz=38							
IASK				S	**Sg**		**00 16 46.0**	**-4.6**
	baz=38							
IKSK	**Karasker**	**0.62**	**132**	P	**Pg**		**00 16 39.0**	**-3.8**
	baz=137							
IKAL	**Kalfafell**	**0.64**	**187**	P	**Pg**		**00 16 40.3**	**-2.9**
	baz=188							
IKAL				S	**Sg**		**00 16 50.4**	**-1.2**
	baz=188							
IMKO	**Mokollar**	**0.64**	**51**	P	**Pg**		**00 16 39.0**	**-4.4**
	baz=53							
IMKO				S	**Sg**		**00 16 47.6**	**-4.2**
	baz=53							
IVAT	**Vatnsfell**	**0.73**	**238**	P	**Pg**		**00 16 41.9**	**-3.1**
	baz=236							
ISVA	**Svartarkot**	**0.77**	**8**	P	**Pg**		**00 16 41.1**	**-4.7**
	baz=7.0							
ISVA				S	**Sg**		**00 16 51.0**	**-4.8**
	baz=7.0							
IFAG	**Fagurholsmyri**	**0.80**	**152**	P	**Pg**		**00 16 42.7**	**-3.5**
	baz=154							
IVSH	**V-Sauoahnukur**	**0.80**	**72**	P	**Pg**		**00 16 41.8**	**-4.6**
	baz=75							
IHVE	**Hveravellir**	**0.93**	**289**	P	**Pg**		**00 16 44.3**	**-4.5**
	baz=286							
IADA	**Aoalbol**	**0.94**	**61**	P	Pg		00 16 43.3	-5.7
	baz=63							
ISNB	**Snabyli**	**0.98**	**211**	P	**Pg**		**00 16 46.2**	**-3.5**
	baz=210							
ISLY	**Slysaalda**	**1.03**	**224**	P	**Pg**		**00 16 47.1**	**-3.6**
	baz=223							
IMEL	**Melhnausar**	**1.06**	**20**	P	Pg		00 16 45.6	-5.7
	baz=19							
IRJU	**Rjupnafell**	**1.09**	**208**	P	**Pg**		**00 16 48.3**	**-3.5**
	baz=208							
IFED	**Fedgar**	**1.10**	**241**	P	**Pg**		**00 16 48.1**	**-3.9**
	baz=239							
IREN	**Reynihlio**	**1.10**	**13**	P	Pb		00 16 46.5	-5.6
	baz=13							
IMJO	**Mjoaskard**	**1.14**	**236**	P	**Pb**		**00 16 49.0**	**-3.7**
	baz=235							
IKVO	**Krokottuvotn**	**1.17**	**13**	P	Pb		00 16 47.5	-5.7
	baz=12							
IHVO	**Lagu-Hvolar**	**1.21**	**210**	P	**Pb**		**00 16 50.3**	**-3.6**
	baz=210							
IGYG	**Gygjarholskot**	**1.21**	**257**	P	**Pb**		**00 16 49.6**	**-4.3**
	baz=255							
IGOD	**Go??abunga**	**1.22**	**222**	P	**Pb**		**00 16 50.5**	**-3.6**
	baz=221							
IGRS	**Grimsstaoir**	**1.22**	**28**	P	Pn		00 16 48.3	-5.6
	baz=28							
IHAU	**Haukadalur**	**1.23**	**241**	P	**Pn**		**00 16 50.2**	**-4.0**
	baz=240							
ISKI	**Skildingahlsh**	**1.31**	**9**	P	Pn		00 16 49.9	-5.4
	baz=8.2							
IALF	**Alftagrof**	**1.32**	**215**	P	**Pn**		**00 16 51.9**	**-3.4**
	baz=214							
IGHA	**Grjothals**	**1.32**	**15**	P	Pn		00 16 50.0	-5.4
	baz=15							
IGRA	**Granastaoir**	**1.35**	**359**	P	Pn		00 16 50.7	-5.0
	baz=358							
IESK	**Eystri-Skogar**	**1.36**	**220**	P	**Pn**		**00 16 52.5**	**-3.4**
	baz=219							
IMID	**Miomork**	**1.39**	**229**	P	**Pn**		**00 16 53.0**	**-3.4**
	baz=229							
ISAU	**Saurbar**	**1.40**	**246**	P	**Pn**		**00 16 52.4**	**-4.0**
	baz=245							
IDIM	**Dimmadalss**	**1.41**	**10**	P	Pn		00 16 51.8	-4.9
	baz=9.2							
IHLA	**Hella**	**1.42**	**345**	P	**Pn**		**00 16 51.9**	**-4.8**
	baz=344							
IHED	**Heoinshofoi**	**1.51**	**3**	P	Pn		00 16 52.8	-5.2
	baz=2.5							
IASM	**Asmuli**	**1.55**	**243**	P	**Pn**		**00 16 55.1**	**-3.4**
	baz=242							
IBRE	**Brettingsstaoi**	**1.56**	**354**	P	**Pn**		**00 16 53.9**	**-4.8**
	baz=353							
IGIL	**Gilhagi**	**1.58**	**17**	P	**Pn**		**00 16 54.2**	**-4.7**
	baz=17							
ISOL	**Solvholt**	**1.63**	**248**	P	**Pn**		**00 16 55.9**	**-3.7**
	baz=247							
IKRO	**Krokur**	**1.64**	**255**	P	**Pn**		**00 16 56.1**	**-3.7**
	baz=253							
BORG	**Borgarnes**	**1.65**	**278**	Pg	**Pn**		**00 16 56.7**	**-3.2**
	81nm,0.3s,baz=97,slow=9.8,SNR=275							
BORG				Lg	Lg		00 17 19.6	
	165nm,0.3s,baz=258,slow=20,SNR=15							
BORG	**Borgarnes**	**1.65**	**278**		**Pn**		**00 16 55.9**	**-4.0**
IASB	**`sbjarnarst**	**1.65**	**278**	P	**Pn**		**00 16 56.0**	**-3.9**
	baz=276							
IHEI	**Heioarbar**	**1.66**	**258**	P	**Pn**		**00 16 56.1**	**-3.9**
	baz=257							
IVME	**Vestmannaeyjar**	**1.68**	**228**	P	**Pn**		**00 16 57.7**	**-2.6**
	baz=227							
IBJA	**Bjarnastaoir**	**1.77**	**251**	P	**Pn**		**00 16 58.2**	**-3.3**
	baz=250							
ILEI	**Leirhofn**	**1.89**	**13**	P	**Pn**		**00 16 58.6**	**-4.5**
	baz=12							
SCO	**Scoresbysund**	**6.17**	**346**	*i* P	**Pn**		**00 18 01.6**	**-0.3**
SCO	**Scoresbysund**	**6.17**	**346**	*i* P	**Pn**		**00 18 01.6**	**-0.3**
SCO	**Scoresbysund**	**6.17**	**346**	Pn	**Pn**		**00 17 59.5**	**-2.4**
SCO	**Scoresbysund**	**6.17**	**346**	*i* P	**Pn**		**00 18 01.7**	**-0.3**
SCO					IAMs_20	IAMs_20	00 22 05.9	
	comp=Z,30μm,5.7s							
JMIC	**Jan Mayen**	**7.28**	**24**	Pn	**Pn**		**00 18 16.2**	**-0.8**
	baz=240,slow=2.5,SNR=2.2							
LEWI	**Lewis, Hebride**	**8.22**	**137**	*e*P	**Pn**		**00 18 27.3**	**-2.8**
ANGG	**Ammassalik, Gr**	**8.55**	**286**	Pn	**Pn**		**00 18 31.5**	**-3.0**
ANGG	**Ammassalik, Gr**	**8.55**	**286**	*i* P	**Pn**		**00 18 37.4**	**+2.9**
ANGG					IAMs_20	IAMs_20	00 22 15.3	
	comp=Z,29μm,7.6s							
LRW	**Lerwick**	**8.79**	**113**	*e*P	**Pn**		**00 18 35.4**	**-2.5**
LRW	**Lerwick**	**8.79**	**113**	*e*P	**Pn**		**00 18 36.9**	**-1.0**
BIGH	**Upper Bighouse**	**8.90**	**127**	*e*P	**Pn**		**00 18 36.5**	**-2.8**
BIGH					IAMs_20	IAMs_20	00 24 15.8	
	comp=Z,5μm,10.1s							
BIGH	**Upper Bighouse**	**8.90**	**127**	*e*P	**Pn**		**00 18 37.5**	**-1.9**
ISOG	**Isortoq, Green**	**9.11**	**286**	IAMs_20	IAMs_20		00 23 05.0	
	comp=Z,22μm,6.4s							
MLA1	**Latheron**	**9.23**	**126**	*e*P	**Pn**		**00 18 41.9**	**-2.0**
KAC	**Achnashellach**	**9.23**	**135**	*e*P	**Pn**		**00 18 41.1**	**-2.8**
KPL	**Plockton**	**9.26**	**136**	*e*P	**Pn**		**00 18 41.5**	**-2.8**
KPL	**Plockton**	**9.26**	**136**	*e*P	**Pn**		**00 18 42.4**	**-1.9**
KPL				*e*S	**Sn**		**00 20 23.7**	**-4.6**
ICESG	**Greenland Ices**	**9.79**	**307**	*i* P	**Pn**		**00 18 54.8**	**+3.0**
ICESG					IAMs_20	IAMs_20	00 23 24.2	
	comp=Z,36μm,6.0s							
DBG	**Daneborg**	**9.82**	**356**	*e*P	**Pn**		**00 18 51.6**	**-0.3**
DBG					IAMs_20	IAMs_20	00 24 07.3	
	comp=Z,7μm,7.8s							
MCD	**Coleburn Disti**	**9.82**	**129**	*e*P	**Pn**		**00 18 50.2**	**-1.8**
INVG	**Invergeldie, C**	**10.51**	**135**	*e*P	**Pn**		**00 18 58.5**	**-2.8**
EAB	**Aberfoyle**	**10.62**	**136**	*e*P	**Pn**		**00 19 00.8**	**-2.1**
SUE	**Sulen**	**10.76**	**99**	*e*P	**Pn**		**00 19 04.6**	**-0.1**
SUE					IAmb	IAmb	00 19 17.6	
	comp=Z,221nm,1.5s							
PGBU	**Glenifferbraes**	**10.90**	**138**	*e*P	**Pn**		**00 19 04.5**	**-2.2**
SUMG	**Summit**	**11.01**	**326**	*i* P	**Pn**		**00 19 12.4**	**+3.8**
SUMG	**Summit**	**11.01**	**326**	P	**Pn**		**00 19 09.5**	**+0.9**
SUMG	**Summit**	**11.01**	**326**	Pn	**Pn**		**00 19 09.5**	**+0.9**
SUMG	**Summit**	**11.01**	**326**	*i* P	**Pn**		**00 19 12.4**	**+3.8**
SUMG					IAMs_20	IAMs_20	00 24 48.6	
	comp=Z,56μm,6.1s							
EDI	**Edinburgh**	**11.19**	**134**	*e*P	**Pn**		**00 19 07.6**	**-3.1**
EDI	**Edinburgh**	**11.19**	**134**	*e*P	**Pn**		**00 19 08.0**	**-2.7**
AKN	**Aaknes**	**11.23**	**91**	Pn	**Pn**		**00 19 09.5**	**-1.7**
ASK	**Askoy**	**11.23**	**101**	*e*P	Pn		00 19 03.0	-8.2
ASK					IAmb	IAmb	00 19 10.1	
	comp=Z,118nm,1.4s							
HYA	**Hoyanger**	**11.31**	**97**	*e*P	**Pn**		**00 19 12.8**	**+0.4**
HYA					IAmb	IAmb	00 19 21.5	
	comp=Z,183nm,1.7s							
MOL	**Molde**	**11.32**	**89**	Pn	**Pn**		**00 19 10.4**	**-2.0**
MOL	**Molde**	**11.32**	**89**	*e*P	**Pn**		**00 19 12.6**	**+0.2**
MOL				*e*S	**Sn**		**00 21 21.6**	**+2.9**
BER	**Bergen**	**11.34**	**101**	*e*P	**Pn**		**00 19 11.2**	**-1.5**
EBL	**Broad Law**	**11.36**	**134**	*e*P	**Pn**		**00 19 11.4**	**-1.7**
ESY	**Stoneypath**	**11.38**	**133**	*e*P	**Pn**		**00 19 11.7**	**-1.6**
NEWG	**New Galloway**	**11.57**	**139**	*e*P	**Pn**		**00 19 13.9**	**-2.0**
GAL1	**Galloway**	**11.66**	**141**	*e*P	**Pn**		**00 19 14.3**	**-2.7**
GAL1					IAMs_20	IAMs_20	00 24 13.8	
	comp=Z,7μm,11.1s							
EKA	**Eskdalemuir Ar**	**11.70**	**136**	Pn	**Pn**		**00 19 15.7**	**-2.0**
EKA	**Eskdalemuir Ar**	**11.70**	**136**	Pn	**Pn**		**00 19 16.0**	**-1.6**
	baz=324,slow=13,SNR=87							
EKA					Sn	**Sn**	**00 21 30.8**	**+2.7**
	baz=332,slow=22,SNR=1.9							
EKA					LR	LR	00 23 14.4	
	comp=Z,1μm,21.1s,baz=30,slow=35							
EKA	**Eskdalemuir Ar**	**11.70**	**136**	Pn	**Pn**		**00 19 15.7**	**-2.0**
ESK	**Eskdalemuir**	**11.70**	**136**	*e*P	**Pn**		**00 19 15.1**	**-2.6**
ESK					IAMs_20	IAMs_20	00 25 23.9	
	comp=Z,5μm,12.5s							
ESK	**Eskdalemuir**	**11.70**	**136**	P	**Pn**		**00 19 16.2**	**-1.5**
ESK	**Eskdalemuir**	**11.70**	**136**	Pn	**Pn**		**00 19 16.2**	**-1.5**
KMY	**Karmoy**	**11.96**	**106**	*e*P	**Pn**		**00 19 18.3**	**-2.9**
KMY					IAmb	IAmb	00 19 21.3	
	comp=Z,125nm,0.9s							
ODD1	**Odda**	**12.14**	**101**	*e*P	**Pn**		**00 19 24.8**	**+1.1**
ODD1					IAmb	IAmb	00 19 39.3	
	comp=Z,32nm,0.8s							
DOMB	**Dombas**	**12.17**	**90**	*e*P	**Pn**		**00 19 22.1**	**-2.1**
DOMB					IAmb	IAmb	00 19 26.6	
	comp=Z,35nm,0.9s							
DAG	**Danmarks Havn**	**12.26**	**359**	*i* P	**Pn**		**00 19 28.1**	**+2.9**
DAG	**Danmarks Havn**	**12.26**	**359**	*e*P	**Pn**		**00 19 28.1**	**+2.9**
DAG	**Danmarks Havn**	**12.26**	**359**	*e*P	**Pn**		**00 19 28.2**	**+2.9**
DAG					IAMs_20	IAMs_20	00 25 09.0	
	comp=Z,4μm,8.4s							
BLS5	**Blasjo**	**12.34**	**104**	*e*P	**Pn**		**00 19 23.5**	**-3.0**
BLS5					IAmb	IAmb	00 19 29.3	
	comp=Z,49nm,1.0s							
SKAR	**Skarslia**	**12.46**	**96**	*e*P	**Pn**		**00 19 27.6**	**-0.4**
SKAR					IAmb	IAmb	00 19 37.3	
	comp=Z,71nm,1.1s							
EDMD	**Edmundbyers**	**12.49**	**134**	*e*P	**Pn**		**00 19 26.9**	**-1.6**
EDMD					IAMs_20	IAMs_20	00 25 47.5	
	comp=Z,4μm,11.8s							
EDMD	**Edmundbyers**	**12.49**	**134**	*e*P	**Pn**		**00 19 27.8**	**-0.7**
DSB	**Dublin**	**12.71**	**148**	Pn	**Pn**		**00 19 30.2**	**-1.3**
LOF	**Lofoten**	**12.87**	**60**	*e*P	**Pn**		**00 19 35.3**	**+1.8**
LOF					IAmb	IAmb	00 19 48.4	
	comp=Z,61nm,1.1s							
NRS	**Narsarsuaq**	**13.13**	**268**	*i* P	**Pn**		**00 19 40.0**	**+3.0**
NRS	**Narsarsuaq**	**13.13**	**268**	P	**Pn**		**00 19 34.1**	**-3.0**
NRS	**Narsarsuaq**	**13.13**	**268**	Pn	**Pn**		**00 19 32.4**	**-4.7**
NRS	**Narsarsuaq**	**13.13**	**268**	*e*P	**Pn**		**00 19 40.1**	**+3.0**
NRS					IAMs_20	IAMs_20	00 26 03.3	
	comp=Z,11μm,7.2s							
NC204	**NORSAR Array S**	**13.23**	**91**		**Pn**		**00 19 35.0**	**-3.7**
SNART	**Snartemo**	**13.30**	**107**	*e*P	**Pn**		**00 19 38.9**	**-0.6**
SNART					IAmb	IAmb	00 19 39.5	
	comp=Z,120nm,1.1s							
SNART	**Snartemo**	**13.30**	**107**	*i* P	**Pn**		**00 19 38.0**	**-1.5**
SNART				*i* P	P		00 19 38.4	-11
NBO00	**NORSAR Array S**	**13.35**	**92**	Pn	**Pn**		**00 19 36.0**	**-4.2**
NAO01	**NORSAR Array S**	**13.49**	**93**		**Pn**		**00 19 40.1**	**-2.0**
NC303	**NORSAR Array S**	**13.52**	**91**	Pn	**Pn**		**00 19 39.9**	**-2.6**
NB2	**NORSAR Subarra**	**13.54**	**92**	Pn	**Pn**		**00 19 39.0**	**-3.7**
	baz=299,slow=14							
NB2	**NORSAR Subarra**	**13.54**	**92**	Pn	**Pn**		**00 19 38.8**	**-4.0**
	comp=Z,119nm,2.5s,baz=297,slow=14							
NB2	**NORSAR Subarra**	**13.54**	**92**	Pn	**Pn**		**00 19 39.0**	**-3.7**
	baz=299,slow=14							
NOA	**NORSAR Array B**	**13.54**	**92**	Pn	**Pn**		**00 19 38.7**	**-4.0**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=14							
NOA					Sn	Sn	00 22 03.5	-10
	baz=298,slow=22,SNR=1.7							
NOA					LR	LR	00 24 51.2	
	comp=Z,469nm,18.5s,baz=295,slow=37							
KONO	**Kongsberg**	**13.54**	**99**	P	**Pn**		**00 19 42.1**	**-0.7**
KONO	**Kongsberg**	**13.54**	**99**		**Pn**		**00 19 38.1**	**-4.8**
NB201	**NORSAR Array S**	**13.57**	**92**		**Pn**		**00 19 40.8**	**-2.3**
SFJD	**Kangerlussuaq**	**13.70**	**295**	Pn	**Pn**		**00 19 44.6**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=98,slow=8.8,SNR=2.1							
SFJD					Lg	Lg	00 23 23.7	
	comp=Z,0.7nm,0.3s,baz=17,slow=21,SNR=6.3							
SFJD					LR	LR	00 24 30.2	
	comp=Z,3μm,18.6s,baz=93,slow=35							
SFJD	**Kangerlussuaq**	**13.70**	**295**	*i* P	**Pn**		**00 19 47.8**	**+3.0**
SFJD	**Kangerlussuaq**	**13.70**	**295**	Pn	**Pn**		**00 19 41.4**	**-3.5**
SFJD	**Kangerlussuaq**	**13.70**	**295**	*e*P	**Pn**		**00 19 47.9**	**+3.0**
SFJD					IAMs_20	IAMs_20	00 25 29.7	
	comp=Z,1μm,7.0s							
NC405	**NORSAR Array S**	**13.72**	**91**	Pn	**Pn**		**00 19 42.4**	**-2.8**
LBWR	**Ladybower, Pea**	**13.79**	**137**	*e*P	**Pn**		**00 19 43.6**	**-2.6**
NC602	**NORSAR Array S**	**13.82**	**93**		**Pn**		**00 19 41.9**	**-4.7**
NC602	**NORSAR Array S**	**13.82**	**93**	*e*P	**Pn**		**00 19 47.8**	**+1.2**
NRA0	**NORESS Array S**	**13.82**	**93**	Pn	**Pn**		**00 19 43.6**	**-3.0**
NRA0	**NORESS Array S**	**13.82**	**93**	Pn	**Pn**		**00 19 43.6**	**-3.0**
ILULI	**Ilulissat**	**13.84**	**304**	IAMs_20	IAMs_20		00 25 39.0	
	comp=Z,19μm,6.5s							
OSL	**Oslo**	**13.87**	**97**	*e*P	**Pn**		**00 19 47.5**	**+0.2**
OSL					IAmb	IAmb	00 19 58.2	
	comp=Z,55nm,1.2s							
HOMB	**Homborsund**	**13.88**	**105**	*e*P	**Pn**		**00 19 46.4**	**-1.0**
IVI	**Ivigtut**	**14.29**	**270**	Pn	**Pn**		**00 19 48.6**	**-4.4**
STRU	**Stroemstad**	**14.56**	**99**	*e*P	**Pn**		**00 19 57.0**	**+0.3**
TRO	**Tromso**	**14.87**	**54**	*e*P	**Pn**		**00 20 00.2**	**-0.6**
TRO					IAmb	IAmb	00 20 13.0	
	comp=Z,253nm,1.5s							
HFS	**Hagfors**	**15.05**	**93**	P	**Pn**		**00 20 02.3**	**-1.0**
	baz=301,slow=14							
HFS	**Hagfors**	**15.05**	**93**	Pn	**Pn**		**00 20 01.0**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=316,slow=8.3,SNR=3.8							
HFS					LR	LR	00 25 38.4	
	comp=Z,698nm,19.2s,baz=296,slow=36							
HFS	**Hagfors**	**15.05**	**93**	P	**Pn**		**00 20 02.3**	**-1.0**
	baz=301,slow=14							
MUD	**Monsted U'grnd**	**15.34**	**110**	*i* P	**Pn**		**00 20 03.1**	**-4.0**
MUD				*i*			00 23 14.3	
MUD	**Monsted U'grnd**	**15.34**	**110**	*i* P	**Pn**		**00 20 03.1**	**-4.0**
MUD	**Monsted U'grnd**	**15.34**	**110**	*e*P	**Pn**		**00 20 04.1**	**-3.0**
MUD	**Monsted U'grnd**	**15.34**	**110**	*i* P	**Pn**		**00 20 03.2**	**-4.0**
MUD				*i*			00 23 14.4	
MUD					IAMs_20	IAMs_20	00 28 38.2	
	comp=Z,4μm,9.2s							
KIF	**Kilpisjarvi**	**15.53**	**57**	P	**Pn**		**00 20 09.2**	**-0.4**
KIF	**Kilpisjarvi**	**15.53**	**57**	P	**Pn**		**00 20 09.2**	**-0.4**
BJO1	**Bjornoya**	**15.82**	**36**	P	**Pn**		**00 20 12.1**	**-1.3**
BJO1	**Bjornoya**	**15.82**	**36**	*e*P	**Pn**		**00 20 12.0**	**-1.3**
BJO1					IAmb	IAmb	00 20 23.4	
	comp=Z,119nm,1.3s							
UPNV	**Upernavik**	**15.94**	**317**	IAMs_20	IAMs_20		00 27 00.6	
	comp=Z,9μm,6.8s							
HSPB	**Hornsund (broa**	**16.15**	**26**	P	**Pn**		**00 20 18.4**	**+0.9**
HSPB	**Hornsund (broa**	**16.15**	**26**	*e*P	**Pn**		**00 20 18.5**	**+0.9**
HSPB				*e*S	**S**		**00 23 30.8**	**+1.1**
HSPB	**Hornsund (broa**	**16.15**	**26**	⇑*i*P	**Pn**		**00 20 18.6**	**+1.1**
HSPB				*e*S	**Sn**		**00 23 20.7**	**+4.3**
HSPB	**Hornsund (broa**	**16.15**	**26**	*e*P	**Pn**		**00 20 18.4**	**+0.9**
HSPB					IAmb	IAmb	00 20 24.8	
	comp=Z,835nm,3.0s							
KTK1	**Kautokeino**	**16.41**	**56**	*e*P	**Pn**		**00 20 21.7**	**+0.8**
KTK1					IAmb	IAmb	00 20 26.2	
	comp=Z,75nm,0.9s							
BRBA	**Barentsburg A**	**16.52**	**23**	P	**P**		**00 20 24.1**	**-0.8**
BRBA	**Barentsburg A**	**16.52**	**23**	P	**P**		**00 20 24.1**	**-0.8**
HAMF	**Hammerfest**	**16.52**	**51**	P	**Pn**		**00 20 22.6**	**+0.3**
HAMF	**Hammerfest**	**16.52**	**51**	*e*P	**Pn**		**00 20 22.8**	**+0.5**
HAMF					IAmb	IAmb	00 20 31.3	
	comp=Z,113nm,1.3s							
KULLO	**Kullorsuaq**	**16.66**	**323**	IAMs_20	IAMs_20		00 26 59.6	
	comp=Z,8μm,7.8s							
KBS	**Kingsbay**	**16.73**	**19**	P	**P**		**00 20 27.1**	**0.0**
KBS	**Kingsbay**	**16.73**	**19**	⇑*i*P	**P**		**00 20 27.0**	**-0.2**
KBS				*i* S	**S**		**00 23 39.2**	**-2.2**
KBS	**Kingsbay**	**16.73**	**19**	*c i*P	**P**		**00 20 26.6**	**-0.5**
KBS				pmax	pmax			
	comp=Z,16nm,1.6s							
KBS	**Kingsbay**	**16.73**	**19**	⇑*i*P	**P**		**00 20 26.5**	**-0.7**
KBS					IAmb	IAmb	00 20 33.6	
	comp=Z,643nm,2.3s							
KBS	**Kingsbay**	**16.73**	**19**	⇑*i*P	**P**		**00 20 26.6**	**-0.5**
KBS					IAMs_20	IAMs_20	00 25 04.3	
	comp=Z,5μm,14.9s							
SPA0	**Spitsbergen Ar**	**16.95**	**23**	P	**P**		**00 20 28.8**	**-0.9**
SPA0	**Spitsbergen Ar**	**16.95**	**23**	*e*P	**P**		**00 20 29.9**	**+0.2**
SPA0				*e*S	**S**		**00 23 41.9**	**-4.2**
SPA0	**Spitsbergen Ar**	**16.95**	**23**	Pn	**Pn**		**00 20 26.9**	**-0.9**
SPA0	**Spitsbergen Ar**	**16.95**	**23**	P	**P**		**00 20 28.8**	**-0.9**
SPITS	**Spitsbergen Ar**	**16.95**	**23**	Pn	**Pn**		**00 20 26.3**	**-1.5**
	baz=259,slow=14,SNR=1.6							
SPITS					LR	LR	00 25 20.6	
	comp=Z,2μm,19.3s,baz=220,slow=31							
NOR	**Nord**	**17.12**	**0**	P	**Pn**		**00 20 30.2**	**+0.5**
NOR	**Nord**	**17.12**	**0**	*i* P	**Pn**		**00 20 29.5**	**-0.3**
NOR	**Nord**	**17.12**	**0**	*e*P	**Pn**		**00 20 29.5**	**-0.3**
NOR	**Nord**	**17.12**	**0**	P	**Pn**		**00 20 30.2**	**+0.5**
NOR	**Nord**	**17.12**	**0**	*e*P	**Pn**		**00 20 29.5**	**-0.3**
NOR					IAMs_20	IAMs_20	00 28 44.0	
	comp=Z,3μm,7.3s							
ARA0	**ARCESS Array S**	**17.18**	**54**	P	**Pn**		**00 20 30.6**	**+0.1**
	baz=276,slow=11							
ARA0	**ARCESS Array S**	**17.18**	**54**	P	**Pn**		**00 20 30.6**	**+0.1**
	baz=276,slow=11							
ARCES	**ARCESS Array B**	**17.18**	**54**	P	**Pn**		**00 20 30.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=279,slow=8.5,SNR=27							
ARCES					LR	LR	00 25 51.1	
	comp=Z,3μm,19.3s,baz=274,slow=33							
ARE0	**ARCESS Array S**	**17.18**	**54**		**Pn**		**00 20 29.9**	**-0.7**
KEV	**Kevo**	**17.68**	**53**	P	**Pn**		**00 20 34.4**	**-2.4**
KEV				pmax	pmax			
	comp=Z,63nm,1.0s							
KEV	**Kevo

PBUR **Paburge** 21.00 95 *eP* **P** **00 21 13.0 -1.0**
PLN **Plauen** 21.00 118 *eP* Pn 00 21 14.3 -2.4
baz=325,slow=11
ECH **Echery** 21.10 129 P **P** **00 21 14.3 -1.0**
ECH pmax pmax
comp=Z,92nm,1.2s
ECH **Echery** 21.10 129 P **P** **00 21 14.3 -1.0**
FBE **Freiberg** 21.11 116 *eP* **P** **00 21 15.5 +0.1**
baz=325,slow=11
GUNZ **Gunzen** 21.16 118 *eP* **P** **00 21 16.0 0.0**
baz=325,slow=11
TANN **Tannenbergstha** 21.17 118 *eP* **P** **00 21 16.1 0.0**
baz=325,slow=11
WERN **Wernitzgruen** 21.24 118 *eP* **P** **00 21 17.0 +0.2**
baz=325,slow=11
GRA1 **Grafenberg Arr** 21.29 121 **P** **00 21 16.3 -1.0**
GRA1 IAmb IAmb 00 21 30.2
comp=Z,201nm,1.4s
GRF **Grafenberg Arr** 21.29 121 P **P** **00 21 16.3 -1.0**
GRF pmax pmax
comp=Z,201nm,1.4s
GRF **Grafenberg Arr** 21.29 121 *eP* **P** **00 21 17.8 +0.5**
baz=325,slow=11
GRF *eL* L 00 29 44.1
comp=Z,1µm,19.7s
NKC **Novy Kostel** 21.31 118 *eP* **P** **00 21 16.6 -1.0**
NKC *eS* **S** **00 25 12.5 -1.5**
NKC MLR MLR
comp=Z,2µm,11.7s
NKC **Novy Kostel** 21.31 118 *eP* **P** **00 21 16.6 -1.0**
NKC *eS* **S** **00 25 12.5 -1.5**
NKC AMS AMS 00 31 50.0
comp=Z,2µm,11.7s
STU **Stuttgart** 21.33 125 P **P** **00 21 16.8 -0.9**
STU pmax pmax
comp=Z,133nm,1.1s
STU **Stuttgart** 21.33 125 *eP* **P** **00 21 18.6 +1.0**
baz=325,slow=11
STU **Stuttgart** 21.33 125 P **P** **00 21 16.8 -0.9**
STU IAmb IAmb 00 21 21.9
comp=Z,133nm,1.1s
BRG **Berggiesshubel** 21.38 115 *i* P **P** **00 21 17.6 -0.7**
comp=Z,478nm,2.0s
BRG S Sn 00 25 21.0 -1.9
comp=Z,2µm,9.6s
comp=N,1µm,9.6s
comp=E,1µm,9.6s
BRG **Berggiesshubel** 21.38 115 *eP* **P** **00 21 18.1 -0.1**
baz=325,slow=11
MANZ **Manzenberg** 21.38 119 *eP* **P** **00 21 18.1 -0.2**
baz=325,slow=11
BFO **Black Forest** 21.40 127 P **P** **00 21 17.6 -0.9**
BFO pmax pmax
comp=Z,520nm,2.0s
BFO **Black Forest** 21.40 127 *eP* **P** **00 21 19.2 +0.7**
baz=325,slow=11
BFO **Black Forest** 21.40 127 P **P** **00 21 17.6 -0.9**
VSU **Vasula** 21.58 86 *eP* **P** **00 21 20.1 -0.2**
VSU **Vasula** 21.58 86 *d iP* **P** **00 21 18.6 -1.7**
VSU pmax pmax
comp=Z,207nm,0.9s
ROTZ **Rotzenmuhle** 21.60 119 *eP* **P** **00 21 20.5 -0.1**
baz=325,slow=11
FRB **Frobisher Bay** 21.77 291 P **P** **00 21 20.4 -1.9**
comp=Z,9.4nm,0.7s,baz=70,slow=11,SNR=2.0
FRB LR LR 00 29 11.6
comp=Z,517nm,21.8s,baz=74,slow=35
PVCC **Panska Ves** 21.90 115 *eP* **P** **00 21 23.0 -0.8**
PVCC *eS* **S** **00 25 27.3 +1.9**
PVCC MLR MLR
comp=Z,1µm,12.6s
PVCC **Panska Ves** 21.90 115 *eP* **P** **00 21 23.0 -0.8**
PVCC *eS* **S** **00 25 27.3 +1.9**
PVCC AMS AMS 00 32 20.0
comp=Z,1µm,12.6s
SLVR **Solovky** 22.11 65 *eP* **P** **00 21 23.3 -2.6**
comp=Z,314nm,2.0s
SLVR *eS* **S** **00 25 25.3 -3.9**
PABE **Paberze** 22.21 94 *eP* **P** **00 21 26.0 -1.0**
PRA **Prague** 22.21 116 *eP* **P** **00 21 26.3 -0.8**
PRA *e* 00 21 32.7
PRA *eS* **S** **00 25 27.2 -4.1**
PRA MLR MLR
comp=Z,900nm,9.3s
PRA **Prague** 22.21 116 *eP* **P** **00 21 26.3 -0.8**
PRA *ex* x 00 21 32.7
PRA *eS* **S** **00 25 27.2 -4.1**
PRA AMS AMS 00 34 30.0
comp=Z,900nm,9.3s
PRU **Pruhonice** 22.32 116 *eP* **P** **00 21 27.4 -0.9**
PRU *e* 00 21 35.9
PRU *eS* **S** **00 25 32.4 -1.0**
PRU MLR MLR
comp=Z,2µm,11.9s
PRU **Pruhonice** 22.32 116 *eP* **P** **00 21 27.4 -0.9**
PRU *ex* x 00 21 35.9
PRU *eS* **S** **00 25 32.4 -1.0**
PRU AMS AMS 00 32 50.0
comp=Z,2µm,11.9s
KSP **Ksiaz** 22.34 112 *eP* **P** **00 21 27.6 -0.9**
KSP *eS* **S** **00 25 37.3 +3.6**
PBCC **Pribram** 22.35 117 *eP* **P** **00 21 28.3 -0.3**
PBCC *eS* Sn 00 25 41.0 -5.1
WET **Wettzell** 22.36 119 *eP* **P** **00 21 28.8 0.0**
baz=325,slow=11
PUL **Pulkovo** 22.38 80 *eP* **P** **00 21 28.2 -0.7**
PUL **Pulkovo** 22.38 80‖ *eP* **P** **00 21 28.8 -0.1**
PUL pmax pmax
comp=Z,305nm,1.7s
CHVC **Chvalec** 22.44 113 *eP* **P** **00 21 28.6 -1.0**
CHVC *ex* x 00 21 33.1
CHVC *eS* **S** **00 25 35.5 -0.2**
CHVC AMS AMS 00 34 20.0
comp=Z,2µm,10.8s
GOPC **GO Pecny, Ondr** 22.47 115 *eP* **P** **00 21 28.7 -1.3**
GOPC *e* 00 21 33.1
GOPC *eS* **S** **00 25 36.8 +0.5**
GOPC MLR MLR
comp=Z,2µm,12.6s
GOPC **GO Pecny, Ondr** 22.47 115 *eP* **P** **00 21 28.7 -1.3**
GOPC *epP* **pP** **00 21 33.1 -0.2**
GOPC *eS* **S** **00 25 36.8 +0.5**
GOPC AMS AMS 00 33 00.0
comp=Z,2µm,12.6s
UPC **Upice** 22.48 113 *eP* **P** **00 21 28.9 -1.2**
UPC *e* 00 21 33.7
UPC *eS* **S** **00 25 26.2 -10**
UPC MLR MLR
comp=Z,2µm,10.2s
UPC **Upice** 22.48 113 *eP* **P** **00 21 28.9 -1.2**
UPC *epP* **pP** **00 21 33.7 +0.3**
UPC *eS* **S** **00 25 26.2 -10**
UPC AMS AMS 00 34 10.0
comp=Z,2µm,10.2s
OSTC **Ostas** 22.53 112 *eP* **P** **00 21 29.6 -1.0**
OSTC *ex* x 00 21 44.9
OSTC *eS* **S** **00 25 34.1 -3.3**
OSTC AMS AMS 00 33 50.0
comp=Z,2µm,10.1s
UBR **Ueberruh** 22.58 125 *eP* **P** **00 21 31.9 +0.7**
baz=325,slow=11
KHC **Kasperske Hory** 22.64 118 *eP* **P** **00 21 30.6 -1.2**
KHC *e* 00 21 35.2
KHC *eS* **S** **00 25 36.8 -2.6**
KHC MLR MLR
comp=Z,2µm,9.6s
KHC **Kasperske Hory** 22.64 118 *eP* **P** **00 21 30.6 -1.2**
KHC *epP* **pP** **00 21 35.2 +0.1**
KHC *eS* **S** **00 25 36.8 -2.6**
KHC AMS AMS 00 34 00.0
comp=Z,2µm,9.6s
KHC **Kasperske Hory** 22.64 118 P **P** **00 21 29.9 -1.9**
DPC **Dobruska-Polom** 22.73 113 *eP* **P** **00 21 31.8 -1.0**
DPC *e* 00 21 35.5
DPC *eS* **S** **00 25 39.5 -1.6**
DPC MLR MLR
comp=Z,2µm,10.6s
DPC **Dobruska-Polom** 22.73 113 *eP* **P** **00 21 31.8 -1.0**
DPC *epP* **pP** **00 21 35.5 -0.6**
DPC *eS* **S** **00 25 39.5 -1.6**
DPC AMS AMS 00 34 10.0
comp=Z,2µm,10.6s
DAVA **Damuels** 22.83 126 *i* pP **P** **00 21 34.1 +0.2**
comp=Z,107nm,1.4s,SNR=26

SUW **Suwalki** 22.88 98 *eP* **P** **00 21 32.5 -1.7**
SUW *eS* **S** **00 25 46.1 +2.6**
SSB **Saint Sauveur** 22.89 137 IAmb IAmb 00 21 49.4
comp=Z,93nm,1.3s
GEC2 **GERESS Array S** 22.92 118 *eP* **P** **00 21 34.7 0.0**
baz=325,slow=11
GEC2 **GERESS Array S** 22.92 118 P **P** **00 21 33.7 -1.1**
GERES **GERESS Array B** 22.92 118 P **P** **00 21 34.2 -0.6**
comp=Z,14nm,0.9s,baz=330,slow=7.7,SNR=31
GERES LR LR 00 31 23.2
comp=Z,782nm,18.2s,baz=334,slow=39
RETA **Reutte** 22.97 125 *i* P **P** **00 21 34.2 -1.1**
comp=Z,128nm,1.8s,SNR=27
IZAR **Zarasai** 23.03 92 *eP* **P** **00 21 35.2 -0.6**
ISAL **Salakas** 23.10 92 *eP* **P** **00 21 36.1 -0.3**
KRLC **Kraliky** 23.13 112 *eP* **P** **00 21 35.9 -1.0**
KRLC *eS* **S** **00 25 47.7 -0.4**
KRLC MLR MLR
comp=Z,1µm,11.2s
KRLC **Kraliky** 23.13 112 *eP* **P** **00 21 35.9 -1.0**
KRLC *eS* **S** **00 25 47.7 -0.4**
KRLC AMS AMS 00 37 00.0
comp=Z,1µm,11.2s
ZFI2 **Zemlya Franca-** 23.15 22 *eP* **P** **00 21 38.0 +1.2**
comp=Z,36nm,1.5s
ZFI2 *eS* **S** **00 25 52.6 +4.7**
MOTA **Moosalm** 23.21 124 *i* P **P** **00 21 37.4 -0.5**
comp=Z,119nm,1.9s,SNR=32
TREC **Trest** 23.24 115 *eP* **P** **00 21 37.3 -0.7**
TREC *e* 00 21 41.0
TREC *eS* **S** **00 25 51.7 +1.9**
TREC MLR MLR
comp=Z,2µm,11.9s
TREC **Trest** 23.24 115 *eP* **P** **00 21 37.3 -0.7**
TREC *epP* **pP** **00 21 41.0 -0.4**
TREC *eS* **S** **00 25 51.7 +1.9**
TREC AMS AMS 00 33 40.0
comp=Z,2µm,11.9s
PGAV **Gavieira, Arco** 23.27 162 *eP* **P** **00 21 38.0 -0.4**
comp=Z,176nm,1.8s
PGAV *eS* Sn 00 25 59.0 -9.3
PGAV *eLR* LR 00 27 50.2
comp=Z,2µm,22.0s
DAVOX **Davos/Dischmat** 23.27 127 P **P** **00 21 37.2 -1.3**
comp=Z,15nm,0.9s,baz=332,slow=10,SNR=19
DAVOX LR LR 00 31 43.1
comp=Z,851nm,19.1s,baz=315,slow=39
TUE **Stuetta** 23.36 128 P **P** **00 21 39.2 -0.2**
FETA **Feichten** 23.36 125 *i* sP **P** **00 21 40.2 +0.9**
comp=Z,75nm,2.1s,SNR=8.7
SQTA **Sankt Quirin** 23.36 124 *i* P **P** **00 21 39.1 -0.2**
comp=Z,176nm,1.7s,SNR=22
TMCR **Tamitsa** 23.39 66 *eP* **P** **00 21 37.8 -1.5**
comp=Z,2.3nm,1.1s
TMCR *eS* **S** **00 25 51.2 -0.6**
TMCR **Tamitsa** 23.39 66 *eP* **P** **00 21 37.8 -1.5**
TMCR *eS* **S** **00 25 51.3 -0.6**
WATA **Walderalm** 23.39 124 *i* pP **P** **00 21 39.8 +0.1**
comp=Z,89nm,1.6s,SNR=23
BEL **Belsk** 23.43 105 *eP* **P** **00 21 38.9 -0.9**
BEL *eS* **S** **00 25 55.4 +2.7**
WTTA **Wattenberg** 23.48 124 *i* pP **P** **00 21 40.4 -0.1**
comp=Z,114nm,1.7s,SNR=26
RJOB **Jochberg** 23.50 121 *eP* **P** **00 21 39.8 -0.8**
baz=325,slow=11
IDID **Didziasalis** 23.53 92 *eP* **P** **00 21 39.5 -1.2**
PCAB **Cabril** 23.55 162 *eP* **P** **00 21 41.3 +0.1**
comp=Z,181nm,1.8s
PBRG **Braganca** 23.64 160 *eP* **P** **00 21 42.1 0.0**
comp=Z,142nm,1.9s
PBRG *eS* **S** **00 26 04.1 +7.7**
VRAC **Vranov** 23.66 114 P **P** **00 21 41.9 -0.3**
comp=Z,22nm,0.9s,baz=324,slow=10,SNR=51
VRAC S **S** **00 25 59.1 +2.5**
comp=Z,1.1nm,0.5s,baz=151,slow=15,SNR=0.6
VRAC LR LR 00 31 27.6
comp=Z,565nm,19.8s,baz=334,slow=38
VRAC **Vranov** 23.66 114 ⇑P **P** **00 21 41.8 -0.3**
VRAC **Vranov** 23.66 114 ⇓*i*P **P** **00 21 41.1 -1.1**
VRAC *eS* **S** **00 26 01.2 +4.5**
MORC **Moravsky Berou** 23.67 112 ⇑P **P** **00 21 41.1 -1.2**
MORC **Moravsky Berou** 23.67 112 ⇓*i*P **P** **00 21 41.5 -0.8**
MORC *eS* **S** **00 26 03.6 +6.8**
MORC **Moravsky Berou** 23.67 112 P **P** **00 21 41.4 -0.8**
MORC pmax pmax
comp=Z,90nm,2.3s
BNI **Bardonecchia** 23.74 134 P **P** **00 21 41.8 -1.3**
BNI pmax pmax
comp=Z,211nm,1.7s
BNI **Bardonecchia** 23.74 134 P **P** **00 21 41.8 -1.3**
EUNU **Eureka** 23.75 336 P **P** **00 21 42.5 -0.3**
KRUC **Moravsky** 23.78 115 ⇓*i*P **P** **00 21 42.3 -1.0**
KRUC *eS* **S** **00 26 02.4 +3.9**
NACGM **Naroch** 23.82 93 *eP* **P** **00 21 40.0 -3.6**
NACGM *ePP* PnPn 00 22 22.0 +11
NACGM *eS* **S** **00 26 02.0 +3.0**
NACGM *eSS* **SnSn** **00 26 46.0 +8.8**
NACGM *eLR* LR 00 31 00.0
NACGM LRM MLR 00 33 00.0
comp=Z,3.4nm,12.0s
OKC **Ostrava-Krasne** 23.86 111 *eP* **P** **00 21 43.1 -1.0**
OKC **Ostrava-Krasne** 23.86 111 *eP* **P** **00 21 43.1 -1.0**
MOA **Molln** 23.95 119 *i* P **P** **00 21 44.1 -0.9**
comp=Z,81nm,1.5s,SNR=17
PVRL **Vila Real** 24.02 162 *eP* **P** **00 21 45.9 +0.2**
comp=Z,184nm,2.2s
PTO **Porto** 24.04 163 *eP* **P** **00 21 46.3 +0.5**
comp=Z,214nm,2.1s
MVO **Moncorvo** 24.23 160 *eP* **P** **00 21 47.3 -0.3**
comp=Z,207nm,2.4s
MVO *eS* **S** **00 26 14.5 +8.7**
MVO *eLR* LR 00 28 22.9
comp=Z,1µm,18.0s
ABTA **Abfaltersbach** 24.23 123 *i* sP **P** **00 21 48.4 +0.8**
comp=Z,52nm,1.6s,SNR=11
OJC **Ojcow** 24.24 108 *eP* **P** **00 21 46.2 -1.4**
OJC *eS* **S** **00 26 08.8 +3.0**
OJC **Ojcow** 24.24 108 IAmb IAmb 00 21 52.3
comp=Z,108nm,1.5s
KBA **Koelnbreinsper** 24.25 121 *i* pP **P** **00 21 49.0 +1.0**
comp=Z,123nm,2.2s
JAVC **Velka Javorina** 24.45 113 ⇓*i*P **P** **00 21 49.9 +0.3**
JAVC *eS* **S** **00 26 18.1 +8.8**
CONA **Conrad Observa** 24.50 117 *i* P **P** **00 21 49.5 -0.5**
comp=Z,49nm,1.2s,SNR=32
PVIS **Viseu** 24.55 162 *eP* **P** **00 21 50.9 +0.4**
comp=Z,179nm,1.8s
MICGM **Minsk** 24.56 93 ⇓*eP* **P** **00 21 48.0 -2.5**
MICGM ⇓*eP* **P** **00 21 48.0 -2.5**
MICGM PM 00 21 49.0
comp=Z,1.7nm,6.0s
MICGM PM 00 21 51.0
comp=N,0.5nm,2.0s
MICGM PM 00 21 51.0
comp=Z,0.4nm,2.0s
MICGM *ePP* sP 00 22 30.0 +35
MICGM *eS* **S** **00 26 08.0 -2.9**
MICGM SM 00 26 12.0
comp=E,3.0nm,7.0s
MICGM SM 00 26 14.0
comp=N,4.8nm,10.0s
MICGM *eSS* SnSn 00 27 14.0 +19
MICGM *eLQ* LQ 00 30 20.0
MICGM *eLR* LR 00 32 06.0
MICGM LRM MLR 00 33 30.0
comp=Z,2.6nm,12.0s
MNK **Minsk** 24.56 93 *eP* **P** **00 21 48.0 -2.5**
MNK *e* 00 22 30.0
MNK *eS* **S** **00 26 08.0 -2.9**
MNK *eSS* SnSn 00 27 14.0 +19
MNK pmax pmax
comp=Z,370nm,2.0s
MNK smax smax
comp=N,5µm,10.0s
MNK MLR MLR
comp=Z,2µm,12.0s
CIMO **Cimolais** 24.58 124 IAmb IAmb 00 22 04.6
comp=Z,54nm,1.2s
SMOL **Smolenice** 24.63 114 *eP* **P** **00 21 51.2 0.0**
SMOL pmax pmax
comp=Z,195nm,2.2s
SMOL **Smolenice** 24.63 114 *eP* **P** **00 21 51.2 0.0**
MODS **Modra-Piesok** 24.68 114 *eP* **P** **00 21 50.4 -1.3**
MODS pmax pmax
comp=Z,267nm,1.9s

MODS **Modra-Piesok** 24.68 114 *eS* **S** **00 26 18.7 +5.7**
MODS **Modra-Piesok** 24.68 114 *eP* **P** **00 21 50.4 -1.3**
MYKA **Terra Mystica** 24.74 122 *i* sP **P** **00 21 53.1 +0.8**
comp=Z,86nm,2.3s,SNR=7.2
MTE **Manteigas** 24.90 162 *eP* **P** **00 21 53.2 -0.6**
comp=Z,180nm,1.4s
MTE *eS* S 00 26 33.3 +17
MTE *eLR* LR 00 28 42.3
comp=Z,2µm,20.0s
MTE **Manteigas** 24.90 162 P **P** **00 21 53.6 -0.1**
ARSA **Arzberg** 24.93 118 *i* pP **P** **00 21 54.0 +0.1**
comp=Z,28nm,1.2s,SNR=7.9
KOLL **Kolacno** 24.96 113 *eP* **P** **00 21 54.0 -0.2**
COI **Coimbra** 24.98 163 P **P** **00 21 54.7 +0.3**
COI pmax pmax
comp=Z,250nm,1.6s
COI **Coimbra** 24.98 163 *eP* **P** **00 21 54.2 -0.2**
comp=Z,182nm,1.9s
COI *eS* S 00 26 28.5 +11
COI **Coimbra** 24.98 163 P **P** **00 21 54.7 +0.3**
NIE **Niedzica** 25.07 109 *eP* **P** **00 21 54.8 -0.4**
NIE *eS* **S** **00 26 21.6 +2.4**
PCAS **Casmilo, Conde** 25.12 164 *eS* S 00 26 35.4 +15
GORS **Gorjuse** 25.14 121 *eP* **P** **00 21 55.1 -0.7**
VYHS **Vyhne** 25.20 112 *eP* **P** **00 21 56.1 -0.3**
VYHS pmax pmax
comp=Z,103nm,1.5s
VYHS **Vyhne** 25.20 112 *eP* **P** **00 21 56.1 -0.3**
VYHS *eS* S 00 26 34.6 +13
PERS **Pernice** 25.29 120 *eP* **P** **00 21 56.0 -1.2**
PCBR **Castelo Branco** 25.46 162 *eP* **P** **00 21 58.5 -0.2**
comp=Z,129nm,1.5s
JAVS **Javornik** 25.52 122 *eP* **P** **00 21 58.4 -0.9**
LJU **Ljubljana** 25.57 121 *eP* **P** **00 21 59.0 -0.7**
LJU **Ljubljana** 25.57 121 ⇓*i*P **P** **00 21 58.1 -1.5**
PSBE **So Bento** 25.62 164 *eP* **P** **00 22 00.7 +0.5**
comp=Z,191nm,2.0s
PSBE *eS* **S** **00 26 35.9 +7.8**
SRO2 **Moca** 25.62 114 *eP* **P** **00 21 59.2 -0.9**
SRO2 pmax pmax
comp=Z,59nm,1.3s
SRO2 **Moca** 25.62 114 *eP* **P** **00 21 59.1 -1.0**
KLMR **Klimovskoe** 25.64 72 ⇑*i*P **P** **00 21 58.5 -1.6**
comp=Z,124nm,1.6s
KLMR *ePcP* **PcP** **00 25 28.9 -1.4**
KLMR *i* S **S** **00 26 27.9 -0.1**
KLMR LQ LQ 00 29 15.3
KLMR LR LR 00 30 12.8
KLMR **Klimovskoe** 25.64 72 *d iP* **P** **00 21 58.6 -1.6**
KLMR *e* 00 25 28.9
KLMR *eS* **S** **00 26 27.9 -0.1**
KLMR pmax pmax
comp=Z,111nm,1.5s
KLMR MLR MLR
comp=Z,1µm,15.0s
KLMR **Klimovskoe** 25.64 72 ⇓*i*P **P** **00 21 58.7 -1.4**
KLMR *i* P **P** **00 21 58.7 -1.4**
KLMR *i* P **P** **00 21 58.7 -1.4**
KLMR AMP 00 22 05.4
comp=Z,111nm,1.5s
KLMR *ePcP* **PcP** **00 25 28.9 -1.4**
KLMR *eS* **S** **00 26 27.9 -0.1**
KLMR *eS* **S** **00 26 27.9 -0.1**
KLMR LQ LQ 00 29 15.4
KLMR LQ LQ 00 29 15.4
KLMR LR LR 00 30 12.9
KLMR AMP 00 31 40.0
comp=Z,1µm,14.7s
UCM **Universidad Co** 25.69 154 *i* P **P** **00 22 01.1 +0.3**
UCM *eS* S 00 26 46.0 +17
CEY **Cerknica** 25.79 122 ⇓*i*P **P** **00 22 00.1 -1.6**
KOGS **Kog** 25.87 118 *i* P **P** **00 22 01.5 -0.9**
KECS **Kecovo** 25.88 110 *eP* **P** **00 22 02.2 -0.3**
KECS pmax pmax
comp=Z,16nm,1.2s
KECS **Kecovo** 25.88 110 *eP* **P** **00 22 02.2 -0.3**
PMRV **Marv??o** 25.88 162 *eP* **P** **00 22 02.5 -0.1**
comp=Z,212nm,1.9s
PMRV *eS* S 00 26 53.0 +21
PMRV *eLR* LR 00 29 06.1
comp=Z,2µm,22.0s
KWP **Kalwaria Pacla** 25.89 106 *eP* **P** **00 22 01.9 -0.7**
KWP *eS* **S** **00 26 35.1 +2.9**
CRVS **Cervenica-Dubn** 25.95 108 *eP* **P** **00 22 02.9 -0.2**
CRVS pmax pmax
comp=Z,356nm,1.9s
CRVS **Cervenica-Dubn** 25.95 108 *eP* **P** **00 22 02.9 -0.2**
CRVS *eS* **S** **00 26 38.3 +5.2**
LSH **Leshukonskoye** 26.02 60 *eP* **P** **00 22 02.1 -1.5**
comp=Z,166nm,1.7s
LSH *eS* **S** **00 26 32.8 -1.0**
SCHQ **Schefferville** 26.04 272 P **P** **00 22 02.9 -1.0**
comp=Z,26nm,0.7s,baz=38,slow=4.1,SNR=19
SCHQ LR LR 00 30 41.3
comp=Z,937nm,20.5s,baz=66,slow=33
SCHQ **Schefferville** 26.04 272 P **P** **00 22 02.2 -1.6**
BEHE **Becsehely** 26.05 118 ⇓*i*P **P** **00 22 05.8 +1.7**
PSZ **Piszkesteto** 26.09 112 ⇑*i*P **P** **00 22 04.9 +0.4**
CRES **Cresnjev** 26.09 120 ⇓*i*P **P** **00 22 02.8 -1.7**
PMAFR **Mafra** 26.12 165 *eP* **P** **00 22 04.4 -0.3**
comp=Z,295nm,1.7s
PMAFR *eS* **S** **00 26 42.7 +6.8**
PMTG **Montargil** 26.13 163 *eP* **P** **00 22 04.5 -0.3**
comp=Z,135nm,2.1s
PMTG *eS* **S** **00 26 45.9 +10**
ESBB **Sonseca Array** 26.17 156 IAmb IAmb 00 22 07.9
comp=Z,51nm,1.3s
ESDC **Sonseca Array** 26.17 156 P **P** **00 22 04.8 -0.5**
comp=Z,10.0nm,0.8s,baz=350,slow=8.4,SNR=32
ESDC LR LR 00 32 32.0
comp=Z,2µm,18.1s,baz=330,slow=37
PAB **San Pablo** 26.23 157 P **P** **00 22 05.1 -0.7**
PAB pmax pmax
comp=Z,189nm,1.9s
PAB **San Pablo** 26.23 157 P **P** **00 22 05.1 -0.7**
KOLS **Kolonicke sedl** 26.25 107 *eP* **P** **00 22 04.9 -1.0**
KOLS pmax pmax
comp=Z,104nm,1.5s
KOLS **Kolonicke sedl** 26.25 107 *eP* **P** **00 22 04.9 -1.0**
KOLS *eS* **S** **00 26 43.6 +5.6**
LVV **L'vov** 26.30 104 *eP* **P** **00 22 05.5 -0.8**
LVV *eS* **S** **00 26 33.0 -5.6**
LVV *eSSS* SSS 00 27 57.6
LVV pmax pmax
comp=Z,580nm,1.8s
LVV smax smax
comp=N,2µm,6.0s
LVV smax smax
comp=E,2µm,6.0s
LVV MLR MLR
comp=E,900nm,12.0s
LVV MLR MLR
comp=Z,1µm,12.0s
LVV MLR MLR
comp=N,1µm,13.0s
LIS **Lisbon** 26.37 165 *eP* **P** **00 22 07.0 +0.1**
LIS AMb AMB 00 22 20.4
comp=Z,118nm,1.9s
LIS *eS* **S** **00 26 41.0 +1.2**
LIS **Lisbon** 26.37 165 *eP* **P** **00 22 07.0 +0.1**
LIS *eS* **S** **00 26 41.0 +1.2**
LIS **Lisbon** 26.37 165 *eP* **P** **00 22 05.9 -1.0**
comp=Z,146nm,1.7s
RES **Resolute Bay** 26.54 325 P **P** **00 22 06.2 -1.9**
comp=Z,4.5nm,0.9s,baz=53,slow=6.5,SNR=5.4
RES LR LR 00 32 29.7
comp=Z,551nm,20.3s,baz=74,slow=36
RES **Resolute Bay** 26.54 325 P **P** **00 22 08.2 0.0**
RES pmax pmax
comp=Z,49nm,1.6s
RES **Resolute Bay** 26.54 325 P **P** **00 22 08.2 0.0**
OSSC **Osservatorio P** 26.59 129 IAmb IAmb 00 22 31.5
comp=Z,80nm,1.1s
EVO **Evora** 26.68 163 *i* P **P** **00 22 08.1 -1.7**
EVO *eS* **S** **00 26 51.3 +6.5**
EVO **Evora** 26.68 163 *eP* **P** **00 22 07.4 -2.4**
comp=Z,46nm,1.8s
MORH **Mrgy, Hungar** 26.99 115 ⇓*i*P **P** **00 22 11.2 -1.3**
PNCL **Nicolau / Gran** 27.04 164 *eP* **P** **00 22 12.7 -0.3**
comp=Z,71nm,2.2s
PNCL *eS* S 00 27 04.1 +14
PBEJ **Beja** 27.20 163 *eP* **P** **00 22 13.2 -1.3**
comp=Z,79nm,1.8s
PCVE **Castro Verde** 27.57 164 *eP* **P** **00 22 17.4 -0.3**

comp=Z,88nm,1.8s
PCVE eS S 00 27 06.7 +7.9
PTEO Sao Teotonio 27.57 165 eP P 00 22 17.7 -0.1
comp=Z,115nm,2.0s
BLY Banja Luka 27.66 119⇓ iP P 00 22 16.8 -1.7
PRGR Permogore 27.67 67 eP P 00 22 17.4 -1.0
comp=Z,97nm,1.8s
PRGR eS S 00 26 59.2 -0.7
PRGR Permogore 27.67 67⇑ iP P 00 22 17.4 -1.0
MAHO Mahon 27.79 142 iP P 00 22 10.6 -9.1
MAHO eS S 00 27 06.0 +3.8
MORF Marmelete 27.82 165 eP P 00 22 20.0 -0.1
MORF AMb AMB 00 22 27.5
comp=Z,43nm,2.2s
MORF eS S 00 27 04.0 +1.2
MORF Marmelete 27.82 165 eP P 00 22 20.0 -0.1
MORF eS S 00 27 04.0 +1.2
MORF Marmelete 27.82 165 eP P 00 22 19.7 -0.3
comp=Z,62nm,1.7s
MORF eS S 00 27 12.5 +10
AKASG Malin Array Be 27.84 97 P P 00 22 18.6 -1.5
comp=Z,5.6nm,0.8s,baz=321,slow=9.8,SNR=20
AKASG LR LR 00 33 04.3
comp=Z,324nm,20.4s,baz=340,slow=36
AKBB Malin Array Si 27.84 97 IAmb IAmb 00 22 32.1
comp=Z,75nm,1.4s
OBN Obninsk 27.90 84 P P 00 22 19.4 -1.0
comp=Z,8.2nm,0.9s,baz=318,slow=2.2,SNR=21
OBN LR LR 00 32 56.2
comp=Z,131nm,20.8s,baz=341,slow=35
OBN Obninsk 27.90 84 P P 00 22 19.8 -0.7
OBN Obninsk 27.90 84 *d* iP P 00 22 19.2 -1.3
OBN *i* *PP pP 00 22 23.0 -1.1
OBN *e* 00 23 08.2
OBN *i* S S 00 27 07.3 +3.7
OBN SSS SSS 00 28 37.0
OBN pmax pmax
comp=Z,190nm,1.7s
OBN MLR MLR
comp=Z,818nm,16.0s
OBN Obninsk 27.90 84 P P 00 22 19.5 -1.0
MOS Moscow 27.94 82 eP P 00 22 19.3 -1.6
MOS *e* 00 23 09.1
MOS eSS S 00 27 04.2 -0.1
MOS eSS SnSn 00 28 21.0 +3.3
MOS pmax pmax
comp=Z,108nm,1.6s
MOS MLR MLR
comp=Z,500nm,14.0s
MOS MLR MLR
comp=N,700nm,16.0s
PBDV Barranco-do-Ve 27.96 164 eP P 00 22 18.7 -2.6
comp=N,77nm,1.8s
PBDV eS S 00 27 15.1 +10
PFVI Vila Bisbo 27.97 165 eP P 00 22 21.3 0.0
PFVI eS S 00 27 16.9 +12
FRGS Fruska Gora 28.32 115⇓ iP P 00 22 23.8 -0.6
AQU L'Aquila 28.36 127 P P 00 22 24.3 -0.6
AQU pmax pmax
comp=Z,55nm,1.3s
AQU L'Aquila 28.36 127⇓ iP P 00 22 24.4 -0.5
AQU L'Aquila 28.36 127 P P 00 22 24.3 -0.6
AQU IAmb IAmb 00 22 37.5
comp=Z,54nm,1.3s
BUR08 Bucovina Ar. S 28.48 106 IAmb IAmb 00 22 33.3
comp=Z,70nm,1.6s
BURAR Bucovina Array 28.51 106⇑ P P 00 22 26.0 -0.2
BURAR Bucovina Array 28.51 106 P P 00 22 25.1 -1.0
BZS Buzias 28.65 113⇓ P P 00 22 27.5 +0.1
BANR Banloc 28.65 113⇑ P P 00 22 27.5 +0.2
TEKS Tekeris 28.72 116 eP P 00 22 26.2 -1.8
CART Cartagena 28.76 152 *i* P P 00 22 28.0 -0.4
CART *i* S S 00 27 27.9 +10
INTR Introdacqua 28.84 126 IAmb IAmb 00 22 30.2
comp=Z,79nm,1.7s
EMAL Malaga-Limoner 28.93 158 *i* P P 00 22 29.9 0.0
EMAL *i* S S 00 27 31.0 +11
DEV Deva 28.95 111⇓ P P 00 22 29.8 -0.2
SFS San Fernando 28.96 161 *i* P P 00 22 30.1 0.0
SFS eS S 00 27 32.4 +12
BBLS Lazići 29.25 117⇓ iP P 00 22 32.1 -0.7
DIVS Divibare 29.28 116⇓ iP P 00 22 31.4 -1.7
MDVR Moldovita 29.38 113⇑ iP P 00 22 34.0 +0.1
RUDO Rudo 29.45 118 eP P 00 22 32.5 -1.9
HERR Herculane 29.58 112⇑ P P 00 22 35.9 +0.3
CEU Ceuta 29.63 160⇓ iP P 00 22 35.0 -1.1
CEU eS S 00 27 40.7 +9.5
LOT Lotru 29.66 110⇑ P P 00 22 35.5 -1.0
BRY Bratogost 29.74 119 eP P 00 22 38.6 +1.4
PAOL Paolisi 29.94 126 IAmb IAmb 00 22 39.6
comp=Z,110nm,1.9s
OZUR 29.95 107⇑ P P 00 22 39.0 0.0
TESR Tescani 29.98 106⇑ P P 00 22 39.3 +0.2
ARR Arges 30.07 109⇑ P P 00 22 40.6 +0.5
VOIR 30.19 109⇑ P P 00 22 41.5 +0.5
PUNG Punghina 30.28 112⇑ P P 00 22 41.8 0.0
MTUR Matau 30.36 109⇓ P P 00 22 42.9 +0.3
ABA Alger-Bouzarea 30.41 146 P P 00 22 44.2 +1.2
PDG Podgorica 30.42 119⇓ iP P 00 22 41.4 -1.6
PDG Podgorica 30.42 119 IAmb IAmb 00 22 48.9
comp=Z,33nm,1.2s
KIS Kishinev 30.50 103⇓ iP P 00 22 42.0 -1.7
comp=Z,180nm,4.0s
KIS Kishinev 30.50 103 *d* iP P 00 22 42.0 -1.7
KIS eS S 00 27 38.0 -6.7
KIS pmax pmax
comp=Z,180nm,4.0s
KIS smax smax
comp=E,350nm,9.0s
MLR Muntele Rosu 30.51 108 P P 00 22 43.8 -0.2
comp=E,7.1nm,0.9s,baz=331,slow=8.1,SNR=13
MLR LR LR 00 35 42.6
comp=E,364nm,19.3s,baz=302,slow=38
MLR Muntele Rosu 30.51 108⇑ P P 00 22 44.5 +0.5
MLR Muntele Rosu 30.51 108 IAmb IAmb 00 23 07.8
comp=Z,82nm,1.6s
PLOR Plostina 30.51 106⇑ P P 00 22 43.7 -0.2
PVLZ Peæn de 30.51 158 *i* P P 00 22 42.0 -1.8
PVLZ eS S 00 27 50.2 +5.3
VRI Vrincioaia 30.53 106⇑ P P 00 22 44.3 +0.2
VRI Vrincioaia 30.53 106 P P 00 22 43.9 -0.1
VRI pmax pmax
comp=Z,37nm,1.3s
MILM Milestii Mici 30.56 103⇑ P P 00 22 42.9 -1.3
DRME Dracevica, Mon 30.60 119⇓ iP P 00 22 42.9 -1.8
MELI Melilla 30.62 156 *i* P P 00 22 43.0 -1.9
MELI *i* S S 00 27 54.7 +8.0
LPSR Galich'ya Gora 30.64 86 eP P 00 22 45.3 +0.4
LPSR eS S 00 27 50.9 +4.1
LPSR pmax pmax
comp=Z,40nm,1.0s
LPSR smax smax
comp=E,800nm,4.9s
LPSR MLR MLR
comp=Z,580nm,12.0s
GHRR 30.66 105⇑ P P 00 22 45.3 +0.2
NEHR Nehoiu 30.70 107⇑ P P 00 22 46.5 +0.9
GBN Guysborough 30.80 253 P P 00 22 46.2 -0.2
HUMR Humele 30.90 110⇑ P P 00 22 46.9 -0.4
KIRV Kirov 31.02 69 P P 00 22 47.0 -1.1
comp=Z,30nm,0.9s,baz=309,slow=7.2,SNR=17
KIRV LR LR 00 34 41.8
comp=Z,2µm,18.8s,baz=310,slow=35
MATE Matera 31.03 124⇑ P P 00 22 48.3 -0.1
ADJB Djebel Djouab 31.12 146 P P 00 22 49.7 +0.3
PMPST Porto Santo, M 31.53 178 eP P 00 22 52.3 -0.6
PMPS Porto Santo 31.55 178 eP P 00 22 54.7 +1.6
TIR Tirane 31.58 119 P P 00 22 52.9 -0.4
TIR pmax pmax
comp=Z,24nm,0.9s
TIR Tirane 31.58 119 P P 00 22 52.9 -0.4
TIR IAmb IAmb 00 22 56.4
comp=Z,24nm,0.9s
SKO Skopje 31.64 117 *i* P P 00 22 52.8 -1.0
CFR Carcaliu 31.67 106⇓ P P 00 22 52.7 -1.3
VSR Storozhevoye 31.74 87 eP P 00 22 53.3 -1.3
VSR eS S 00 28 05.2 +1.2
VSR pmax pmax
comp=Z,70nm,1.2s
VSR smax smax
comp=E,230nm,4.3s
VSR MLR MLR
comp=Z,1µm,18.0s

PMOZ Porto Moniz, M 31.78 179 eP P 00 22 54.8 -0.4
VTS Vitosha 31.80 114 eP P 00 22 53.8 -1.6
CASM Ain Smara 31.80 141 P P 00 22 54.5 -0.8
PMAR Madeira 31.88 179 eP P 00 22 56.4 +0.2
comp=Z,178nm,1.8s
AVE Averroes 31.92 164 eP P 00 22 53.0 -3.3
AVE *i* S 00 28 15.7 +8.6
VORD Divnogorie 31.98 88 eP P 00 22 54.8 -1.9
VORD eS S 00 28 09.0 +1.3
VORD pmax pmax
comp=Z,70nm,1.6s
VORD smax smax
comp=E,50nm,4.4s
HARR Harsova 31.98 106⇑ P P 00 22 55.5 -1.2
IFR Ifrane 32.01 160 *i* P P 00 22 56.0 -1.3
IFR *i* S S 00 28 16.0 +7.2
TOPG Topolog 32.01 106⇑ P P 00 22 56.6 -0.5
TLBR Topalu 32.15 106⇑ P P 00 22 56.7 -1.5
STIP Stip 32.17 116 *i* P P 00 22 57.7 -0.8
PGB Panagyurishte 32.22 113 eP P 00 22 58.1 -0.9
D63A Stockholm 32.28 262 P P 00 22 58.7 -0.7
baz=39
RAZG Razgrad 32.32 109⇑ P P 00 22 58.8 -1.0
SZH Strazhica 32.33 110 eP P 00 22 58.2 -1.7
TIP Timpagrande 32.35 125 IAmb IAmb 00 23 33.4
comp=Z,64nm,1.7s
KKB Krupnik 32.37 115 eP P 00 22 59.8 -0.5
VAY Valandovo 32.64 116 *i* P P 00 23 02.5 -0.1
E64A Bridgewater 32.65 261 P P 00 23 02.5 -0.1
baz=38
D62A Allapoint, All 32.65 263 P P 00 23 02.3 -0.2
baz=39
MDT Midelt 32.77 160 P P 00 23 03.0 -1.0
comp=Z,23nm,1.0s,baz=8.9,slow=9.2,SNR=45
CHGQ Chibougamau 32.78 271 P P 00 23 02.7 -1.1
baz=42
PLD Plovdiv 32.81 113 eP P 00 23 01.9 -2.2
NEST Nestorio 32.84 119 P P 00 23 03.9 -0.5
VRH Novokhopyorsk 32.85 85 eP P 00 23 03.1 -1.2
VRH eS S 00 28 21.4 +0.1
VRH pmax pmax
comp=Z,40nm,1.1s
VRH smax smax
comp=E,730nm,6.3s
MMB Musomiste 32.86 114 eP P 00 23 03.9 -0.7
PSN Preselentsi 32.91 107 eP P 00 23 02.9 -2.0
KEK Kerkira 32.98 121 P P 00 23 04.9 -0.7
PRD Provadia 32.98 108 eP P 00 23 03.8 -1.8
D61A St Aubert, Com 33.04 264 S S 00 28 31.4 +7.1
baz=39
PENT Pentalofos 33.06 119 P P 00 23 06.2 -0.2
VAE Valguarnera 33.07 130 LR LR 00 36 52.5
comp=E,636nm,18.1s,baz=100,slow=37
KEST Kesra 33.10 138 P P 00 23 04.8 -1.9
comp=E,8.3nm,0.9s,baz=279,slow=4.6,SNR=18
KEST LR LR 00 36 27.4
comp=E,650nm,18.0s,baz=308,slow=36
NVR Nevrokopi 33.12 114 P P 00 23 06.0 -0.8
RZN Rozhen 33.17 113 eP P 00 23 06.3 -1.1
KZN Kozani 33.20 118 P P 00 23 06.3 -1.3
E62A Clayton Lake 33.21 263 P P 00 23 07.0 -0.5
baz=38
SRS Serrai 33.21 115 P P 00 23 06.1 -1.5
JMB Yambol 33.26 110 eP P 00 23 05.8 -2.2
F64A Sherman 33.30 261 P P 00 23 07.8 -0.6
baz=38
KPRO Kipourio 33.35 119 P P 00 23 07.9 -1.0
SOH Sokhos 33.37 115 P P 00 23 08.4 -0.6
THE Thessaloniki 33.38 116 P P 00 23 08.5 -0.6
JAN Janina 33.42 120 P P 00 23 09.0 -0.5
HORT Hortiatis 33.46 116 P P 00 23 09.1 -0.8
HORT Hortiatis 33.46 116 eP P 00 23 09.1 -0.8
KDZ Kurdzhali 33.48 112 eP P 00 23 08.9 -1.0
KDZ Kurdzhali 33.48 112 eP P 00 23 08.5 -1.4
G65A Princeton 33.50 259 S S 00 28 36.0 +4.5
baz=37
LIT Litokhoron 33.66 117 P P 00 23 09.7 -1.8
KAVA Kavala 33.68 114 P P 00 23 11.3 -0.3
H66A Whiting 33.73 258 P P 00 23 11.4 -0.6
baz=36
H66A S S 00 28 40.7 +5.7
baz=36
F63A Nahmakanta, Br 33.75 261 P P 00 23 12.0 -0.3
baz=38
F63A Nahmakanta, Br 33.75 261 P P 00 23 11.1 -1.2
F63A IAmb IAmb 00 23 21.2
comp=Z,81nm,1.7s
E61A Lac Etchemin 33.77 263 P P 00 23 12.0 -0.4
baz=38
PLG Polygyros 33.79 116 P P 00 23 11.8 -0.9
EDRB Edirne 33.85 111 eP P 00 23 11.9 -1.2
THL Klokotos Trika 33.94 118 P P 00 23 12.0 -1.9
RDO Rodhopi 33.95 113 P P 00 23 12.7 -1.3
RDO Rodhopi 33.95 113 eP P 00 23 13.2 -0.8
G64A Maxfield 33.96 260 P P 00 23 13.5 -0.6
baz=37
G64A S S 00 28 46.1 +7.4
baz=37
F62A Pittston Farm, 33.97 262 P P 00 23 13.6 -0.5
baz=38
LATQ La Tuque 34.02 267 P P 00 23 13.9 -0.6
baz=39
OUR Ouranopolis 34.03 115 eP P 00 23 13.6 -1.1
THAS Thassos island 34.09 114 P P 00 23 13.9 -1.3
LKD2 Lefkada island 34.11 121 P P 00 23 14.8 -0.6
PKME Peaks-Kenny Pk 34.18 261 P P 00 23 15.3 -0.7
baz=37
H65A Eastbrook 34.19 259 P P 00 23 15.6 -0.5
baz=36
E60A Ste Agathe de 34.23 264 P P 00 23 15.7 -0.7
baz=38
PAIG Paliouri 34.27 116 P P 00 23 15.6 -1.2
D58A Chemin du LacG 34.28 266 P P 00 23 16.2 -0.7
baz=39
D58A S S 00 28 51.0 +7.4
baz=39
MATQ Matagami 34.30 274 P P 00 23 16.1 -0.9
baz=42
F61A St Evariste 34.35 263 P P 00 23 17.2 -0.2
baz=38
ALN Alexandroupoli 34.37 112 eP P 00 23 17.0 -0.6
ALN Alexandroupoli 34.37 112 P P 00 23 17.2 -0.4
ALN pmax pmax
comp=Z,38nm,1.4s
ALN Alexandroupoli 34.37 112 IAmb IAmb 00 23 21.6
comp=Z,64nm,1.3s
UKOP Uzunkopru-Edir 34.41 111 eP P 00 23 16.8 -1.2
EVR Evrytania 34.43 119 P P 00 23 18.0 -0.3
G63A Kingsbury 34.44 261 S S 00 28 51.8 +5.7
baz=37
SMTH Samothraki Isl 34.53 113 P P 00 23 17.2 -1.8
AGG Agios Georgios 34.53 118 P P 00 23 18.1 -1.0
AGG Agios Georgios 34.53 118 eP P 00 23 18.5 -0.6
LSQQ Lebel-sur-Quev 34.55 272 P P 00 23 18.9 -0.2
baz=41
XOR Xorichti 34.56 117 P P 00 23 17.8 -1.6
NEO Neokhori 34.63 117 P P 00 23 18.6 -1.3
H64A Troy 34.65 260 P P 00 23 19.9 -0.2
baz=37
H64A S S 00 28 55.9 +6.6
baz=37
G62A West of Eustis 34.75 262 P P 00 23 20.6 -0.3
baz=37
G62A S S 00 28 57.8 +6.9
baz=37
F60A Warwick 34.76 264 P P 00 23 20.0 -1.0
baz=38
F60A S S 00 28 59.0 +8.0
baz=38
D57A Chemin Vers le 34.78 267 P P 00 23 20.7 -0.5
baz=39,SNR=7.3
LIA Limnos Island 34.88 114 P P 00 23 21.3 -0.7
GADA Gvkgeada 34.91 113 eP P 00 23 22.3 0.0
H63A New Sharon 34.98 261 P P 00 23 22.4 -0.5
baz=37
AOS Alonnisos 35.00 116 P P 00 23 22.0 -1.1
AOS Alonnisos 35.00 116 eP P 00 23 22.3 -0.8
E58A La Victoria 35.02 266 P P 00 23 22.8 -0.4
baz=38
RLS Riolos of Patr 35.05 120 P P 00 23 22.9 -0.7
LKR Lokris 35.11 118 P P 00 23 22.3 -1.8
G61A St-Isidore-de- P P 00 23 23.9 -0.2
baz=37
D56A ZEC Mazanza, M 35.13 268 P P 00 23 23.3 -0.8
baz=39

D56A S S 00 29 02.6 +6.0
baz=39
BOZC Bozcaada 35.27 113 eP P 00 23 24.9 -0.5
A36M Sachs Harbour 35.28 329 S S 00 29 07.4 +9.0
baz=45
KLV Kalavryta, Ach 35.32 119 P P 00 23 25.4 -0.6
E57A Chemin Saint G 35.36 267 P P 00 23 25.6 -0.6
baz=38
I64A Boothbay 35.41 260 P P 00 23 26.2 -0.4
baz=36
I64A S S 00 29 08.4 +7.5
baz=36
D55A Sainte-Anne-du 35.46 269 P P 00 23 26.8 -0.2
baz=39,SNR=5.1
D55A S S 00 29 08.2 +6.5
baz=39
VLDQ Val d'Or 35.47 272 P P 00 23 26.9 -0.1
VLDQ pP 00 23 27.6 -3.0
VLDQ IAmb IAmb 00 23 36.8
comp=Z,43nm,1.4s
H62A Milan 35.53 262 P P 00 23 27.5 -0.1
baz=37
H62A S S 00 29 10.6 +7.7
baz=37
KYMI Kymi, Euboea I 35.55 117 P P 00 23 26.3 -1.6
G60A Masonville 35.62 264 P P 00 23 28.2 -0.2
baz=37
G60A S S 00 29 12.4 +8.2
baz=37
E56A St. Veronique 35.64 268 P P 00 23 28.0 -0.6
baz=39
I63A Otisfield 35.71 261 P P 00 23 28.5 -0.6
baz=36
I63A S S 00 29 13.7 +8.2
baz=36
SIGR SIGRI 35.73 114 P P 00 23 28.6 -0.8
SIGR SIGRI 35.73 114 eP P 00 23 28.9 -0.5
ARMT Armutlu 35.79 109 eP P 00 23 29.4 -0.5
TSVK Tesvikiye-Yalo 35.83 109 eP P 00 23 29.4 -0.8
D54A Lac Fusel, La 35.87 270 P P 00 23 30.1 -0.4
baz=39,SNR=6.0
D54A S S 00 29 15.0 +7.1
baz=39
PRK Paraskevi 35.87 114 P P 00 23 30.7 +0.1
H61A Lyndonville 35.89 263 P P 00 23 30.1 -0.7
baz=37
H61A S S 00 29 16.4 +8.0
baz=37
HRT Hereke 35.90 108 eP P 00 23 29.9 -1.0
ANN Anapa 35.91 96 eP P 00 23 29.0 -1.8
ANN eS S 00 29 11.0 +2.4
ANN pmax pmax
comp=Z,89nm,1.7s
ANN MLR MLR
comp=Z,992nm,14.0s
DION Dionisos Attik 35.97 117 P P 00 23 29.5 -2.0
ATH Athens Observa 35.98 118 P P 00 23 30.1 -1.4
G59A Clarenceville 35.99 265 P P 00 23 30.8 -0.8
baz=37
ITM Ithomi 36.00 120 P P 00 23 30.3 -1.4
ITM Ithomi 36.00 120 eP P 00 23 30.5 -1.2
ITM Ithomi 36.00 120 IAmb IAmb 00 23 38.2
comp=Z,49nm,1.2s
F57A Harrington 36.07 267 P P 00 23 31.1 -1.1
baz=38
VLY Voula,Athens 36.11 118 P P 00 23 30.8 -1.9
ARU Arti 36.12 66 P P 00 23 32.2 -0.4
comp=Z,4.1nm,1.0s,baz=309,slow=6.7,SNR=19
ARU LR LR 00 37 40.9
comp=Z,2µm,19.1s,baz=310,slow=35
ARU Arti 36.12 66 *c* iP P 00 23 33.0 +0.4
ARU 00 24 54.5
ARU PPP PPP 00 25 11.1
ARU 00 25 54.0
ARU S S 00 29 15.4 +3.7
ARU SS SnSn 00 31 31.0 -5.5
ARU SSS SSS 00 32 01.4
ARU pmax pmax
comp=Z,83nm,1.9s
ARU MLR MLR
comp=Z,2µm,17.0s
ARU Arti 36.12 66 P P 00 23 33.3 +0.7
LBNH Lisbon 36.13 262 P P 00 23 31.9 -0.9
baz=36
E55A Montcerf-Lytto 36.15 269 P P 00 23 32.3 -0.6
baz=39
I62A Tamworth 36.17 262 P P 00 23 33.1 0.0
baz=36
BALB Balikesir 36.17 111 eP P 00 23 32.6 -0.6
H60A Morristown 36.20 264 P P 00 23 32.0 -1.4
baz=37
H60A S S 00 29 21.8 +8.6
baz=37
SAUV Serdivan-Sakar 36.24 108 eP P 00 23 33.9 +0.2
SPNC Sapaivca-Adapaz 36.28 108 eP P 00 23 34.3 +0.3
G58A Ormstown 36.31 265 P P 00 23 33.1 -1.2
baz=37
FRNY Flat Rock 36.37 265 IAmb IAmb 00 23 36.3
comp=Z,101nm,1.9s
D53A Lac Vacive, Po 36.37 271 P P 00 23 34.6 -0.3
baz=39,SNR=5.4
D53A Lac Vacive, Po 36.37 271 P P 00 23 34.0 -0.8
D53A pP 00 23 34.9 -3.5
D53A IAmb IAmb 00 23 43.6
comp=Z,58nm,1.4s
I61A Oroboro, Fairl 36.50 262 P P 00 23 35.8 -0.1
baz=36
CHOS Chios island 36.52 114 P P 00 23 34.3 -2.0
NRIK Noril'sk 36.53 35 P P 00 23 35.6 -0.4
comp=Z,15nm,1.1s,baz=311,slow=7.1,SNR=18
NRIK LR LR 00 40 28.2
comp=Z,1µm,18.3s,baz=4.5,slow=39
J63A Strafford 36.54 261 P P 00 23 35.1 -1.2
baz=36
J63A S S 00 29 27.5 +9.2
baz=36
H59A Cadyville 36.56 265 P P 00 23 35.5 -0.9
baz=37
H59A S S 00 29 24.9 +6.3
baz=37
GULT Gulveren 36.57 108 eP P 00 23 36.6 -0.1
E54A Lac Daplat, Po 36.65 270 P P 00 23 36.9 -0.4
baz=39
E54A S S 00 29 25.6 +5.6
baz=39
SVE Sverdlovsk 36.66 64 eP P 00 23 37.0 -0.1
SVE eS S 00 29 23.5 +3.7
SVE pmax pmax
comp=Z,53nm,2.0s
SVE MLR MLR
comp=Z,2µm,18.0s
ORIO Orleans, Innes 36.70 267 P P 00 23 37.2 -0.4
baz=38
G57A Newington 36.75 266 P P 00 23 38.1 0.0
baz=37,SNR=8.4
G57A S S 00 29 28.7 +7.2
baz=37
URLA Izmir 36.76 114 eP P 00 23 38.9 +0.7
F55A Otter Lake 36.76 268 P P 00 23 37.5 -0.7
baz=38
AUBOZ BOZOYUK 36.82 109 eP P 00 23 39.1 +0.3
MDUB Mudurnu 36.82 107 eP P 00 23 39.3 +0.4
C36M Paulatuk 36.90 325 P P 00 23 38.6 -0.4
baz=44
C36M S S 00 29 30.0 +6.9
baz=44
J62A Henniker 36.90 261 S S 00 29 32.2 +8.4
baz=36
E53A Dumoine, Ponti 36.90 270 P P 00 23 39.2 -0.2
baz=38,SNR=7.3
E53A S S 00 29 31.0 +7.2
baz=38
BLCB Balcova 36.91 113 eP P 00 23 39.6 +0.1
SRCK Saricakaya, Es 36.95 108 eP P 00 23 39.8 0.0
H58A Gabriels 36.95 265 P P 00 23 39.2 -0.6
baz=37
H58A S S 00 29 32.6 +8.0
baz=37
LONY Lake Ozonia 36.96 265 P P 00 23 39.3 -0.6
baz=37,SNR=5.3
TVSB Tavsanli 36.98 110 eP P 00 23 40.5 +0.3
BORA Eskisehir 37.02 108 eP P 00 23 40.7 +0.2
I60A Shoreham 37.03 263 P P 00 23 39.4 -1.0
baz=36
SIMA Simav-Kutahya 37.09 111 eP P 00 23 41.9 +0.8
J61A Chester 37.12 262 P P 00 23 40.3 -0.9

baz=36
K63A Dunstable 37.21 261 S S 00 29 37.1 +8.5
baz=35
KTHA Kythira Island 37.24 120 P **P** **00 23 41.5 -0.8**
KTHA Kythira Island 37.24 120 *eP* **P** **00 23 42.3 0.0**
I59A Olmsteadville 37.32 264 P **P** **00 23 42.6 -0.4**
baz=36
I59A S **S** **00 29 35.2 +5.0**
baz=36
HRV Adam Dziewonsk 37.38 260 P **P** **00 23 42.7 -0.7**
baz=35
G55A Calabogie 37.38 268 P **P** **00 23 42.5 -0.9**
baz=38
G55A S **S** **00 29 38.4 +7.3**
baz=38
ILGA Ilgaz 37.39 104 P **P** **00 23 43.4 -0.3**
ILGA IAmb IAmb 00 23 49.8
comp=Z,73nm,1.4s
ALGO Algonquin Park 37.40 270 P **P** **00 23 43.1 -0.5**
baz=38
SMG Samos 37.42 114 P **P** **00 23 43.1 -0.7**
H57A Richville 37.44 266 P **P** **00 23 43.3 -0.6**
baz=37
KULA Kula-Manisa 37.45 111 *eP* **P** **00 23 44.2 0.0**
K62A Royalston 37.53 261 P **P** **00 23 44.0 -0.8**
baz=35
L64A Middleborough 37.54 259 P **P** **00 23 43.7 -1.1**
baz=35
L64A S S 00 29 42.0 +8.6
baz=35
J60A Lant Hill Farm 37.57 263 P **P** **00 23 44.7 -0.3**
baz=36
J60A S S 00 29 43.4 +9.4
baz=36
GCAM G?zelcaml? 37.58 114 *eP* **P** **00 23 44.6 -0.6**
CIFT Cifteler, Eski 37.70 108 *eP* **P** **00 23 46.5 +0.2**
H56A Elgin 37.71 267 P **P** **00 23 45.8 -0.4**
baz=37
CANT Cankiri 37.72 104 *eP* **P** **00 23 47.3 +0.9**
D49A Beulah Townshi 37.80 274 P **P** **00 23 46.7 -0.2**
baz=39
SVRH Sivrihisar-ESK 37.82 108 *eP* **P** **00 23 47.7 +0.4**
AUSIV SIVRIHISAR 37.83 108 *eP* **P** **00 23 47.7 +0.3**
G54A Lake Saint Pet 37.86 269 P **P** **00 23 47.3 -0.2**
baz=38
G54A S **S** **00 29 45.7 +7.4**
baz=38
J59A Piesco 37.86 264 P **P** **00 23 47.1 -0.4**
baz=36
SOC Sochi 37.87 95 *eP* **P** **00 23 47.9 +0.4**
SOC *e* 00 25 10.4
SOC *eS* **S** **00 29 38.3 -0.1**
SOC *eSS* **SnSn** **00 32 16.3 -2.6**
SOC pmax pmax
comp=Z,14nm,0.9s
SOC MLR MLR
comp=Z,498nm,14.0s
I58A Old Forge 37.88 265 P **P** **00 23 47.4 -0.3**
baz=36
L61B Northampton 37.90 261 P **P** **00 23 46.9 -0.9**
baz=35
L63A North Scituate 37.92 260 P **P** **00 23 46.7 -1.3**
baz=35
L63A S S 00 29 48.6 +9.3
baz=35
LOD Lodumlu 37.96 106 *eP* **P** **00 23 48.2 -0.3**
K61A Williamstown 37.97 262 P **P** **00 23 48.7 +0.2**
baz=35
I57A Carthage 37.97 266 P **P** **00 23 48.5 +0.1**
baz=36
I57A S **S** **00 29 47.8 +7.7**
baz=36
BR231 Keskin MP Arra 38.01 106 P **P** **00 23 50.1 +1.2**
M64A Tiverton 38.01 259 P **P** **00 23 48.4 -0.4**
baz=34
M64A S S 00 29 49.9 +9.2
baz=34
D48A Paudash Townsh 38.07 275 P **P** **00 23 48.6 -0.7**
baz=39
D48A S **S** **00 29 49.1 +7.6**
baz=39
GOF Gofitskoye 38.12 91⇑ *eP* **P** **00 23 50.1 +0.4**
GOF pmax pmax
comp=Z,146nm,1.4s
H55A Tweed 38.14 268 P **P** **00 23 49.7 -0.1**
baz=37,SNR=6.7
H55A S **S** **00 29 50.3 +7.8**
baz=37
BODT Bodrum 38.17 114 *eP* **P** **00 23 49.2 -1.0**
SHUT Suhut-Afyon 38.18 109 *eP* **P** **00 23 51.0 +0.6**
L62A Suffield 38.23 261 P **P** **00 23 50.7 0.0**
baz=35
J58A Remsen 38.28 265 P **P** **00 23 50.8 -0.3**
baz=36
K60A Five Rivers En 38.28 263 P **P** **00 23 50.5 -0.6**
baz=35
IMMV Iera Moni Meta 38.29 119 P **P** **00 23 48.8 -2.4**
IMMV Iera Moni Meta 38.29 119 *eP* **P** **00 23 51.9 +0.7**
KVT Kavak 38.34 101 *eP* **P** **00 23 52.6 +1.0**
KIZT Kizilcal 38.45 108 *eP* **P** **00 23 53.1 +0.5**
AFSR Afar-Bala (An 38.46 106 *eP* **P** **00 23 53.9 +1.2**
BR131 Keskin Array S 38.46 105 P **P** **00 23 53.2 +0.4**
SNR=15
BRTR Keskin Array B 38.46 105 P **P** **00 23 53.0 +0.3**
comp=Z,14nm,0.8s,baz=326,slow=6.2,SNR=21
BRTR LR LR 00 40 35.8
comp=Z,312nm,20.5s,baz=294,slow=38
BRTR Keskin Array B 38.46 105 *eP* **P** **00 23 52.8 0.0**
BRTR Keskin Array B 38.46 105 *ceP* **P** **00 23 53.2 +0.4**
BRTR pmax pmax
comp=Z,14nm,0.9s
L61A Hillsdale 1, H 38.48 262 P **P** **00 23 52.3 -0.5**
baz=35
L61A S S 00 29 57.1 +9.3
baz=35
YER Yerkesik 38.49 113 *eP* **P** **00 23 52.8 -0.1**
M63A Gales Ferry 38.49 260 P **P** **00 23 52.9 +0.2**
baz=34
M63A S S 00 29 57.2 +9.3
baz=34
CORM Corum 38.50 104 *eP* **P** **00 23 54.3 +1.3**
J57A Williamstown 38.54 266 P **P** **00 23 53.2 0.0**
baz=36
DAT Datca 38.56 114 *eP* **P** **00 23 52.5 -1.1**
K59A Cooperstown 38.57 264 P **P** **00 23 53.5 0.0**
baz=36
K59A S **S** **00 29 57.3 +8.1**
baz=36
I55A Frankford 38.62 268 P **P** **00 23 53.7 -0.1**
baz=37
I55A S **S** **00 29 56.6 +6.7**
baz=37
D47A Chapleau 38.72 276 P **P** **00 23 54.1 -0.6**
baz=39
D47A S **S** **00 29 56.8 +5.4**
baz=39
H53A Bobcaygeon 38.73 269 P **P** **00 23 54.4 -0.4**
baz=37
H53A S **S** **00 29 57.4 +6.0**
baz=37
E48A Lockeyer 38.77 274 P **P** **00 23 54.3 -0.8**
baz=38
IDI Anoyia 38.78 118 P **P** **00 23 51.4 -4.0**
comp=Z,10.0nm,0.8s,baz=326,slow=14,SNR=3.3
IDI Anoyia 38.78 118 IAmb IAmb 00 23 59.1
comp=Z,37nm,1.1s
ISP Isparta 38.80 110 *eP* **P** **00 23 55.1 -0.4**
M62A Hamden 38.82 261 P **P** **00 23 54.9 -0.6**
baz=34
M62A S S 00 30 02.7 +10
baz=34
KSCT Kent School, K 38.84 262 IAmb IAmb 00 23 58.0
comp=Z,88nm,1.9s
KIV Kislovodsk 38.84 92 ⇑P **P** **00 23 55.1 -0.8**
KIV Kislovodsk 38.84 92 *i* P **P** **00 23 56.2 +0.3**
SNR=15
KIV Kislovodsk 38.84 92 *eP* **P** **00 23 56.2 +0.3**
KIV Kislovodsk 38.84 92 *eP* **P** **00 23 55.6 -0.3**
KIV *e* 00 25 21.1
KIV *eS* **S** **00 29 54.0 +0.6**
KIV pmax pmax
comp=Z,299nm,3.8s
KIV pmax pmax
comp=Z,89nm,1.1s
KIV MLR MLR
comp=Z,930nm,16.0s

KIV Kislovodsk 38.84 92 P **P** **00 23 55.6 -0.3**
KIV IAmb IAmb 00 24 10.4
comp=Z,60nm,1.3s
KVAR Kislovodsk Arr 38.85 92 P **P** **00 23 55.5 -0.4**
comp=Z,14nm,1.2s,baz=70,slow=20,SNR=11
K58A Earlville 38.92 265 P **P** **00 23 55.9 -0.5**
baz=36
K58A S S 00 30 03.5 +9.1
baz=36
L60A Shokan 38.94 263 P **P** **00 23 56.0 -0.6**
baz=35
L60A S **S** **00 30 00.4 +5.7**
baz=35
SIVA Sivas 38.99 119 P **P** **00 23 56.8 -0.3**
J56A Wolcott 39.02 266 P **P** **00 23 57.0 -0.2**
baz=36
SERE Sereflikochisa 39.09 106 *eP* **P** **00 23 58.1 +0.1**
CHBY Cihanbeyli 39.12 107 *eP* **P** **00 23 57.8 -0.4**
KBZ Khabaz 39.12 92 P **P** **00 23 57.5 -0.6**
comp=Z,12nm,0.8s,baz=324,slow=12,SNR=25
KBZ LR LR 00 40 36.9
comp=Z,417nm,19.4s,baz=323,slow=37
L59A Walton 39.12 264 P **P** **00 23 57.9 -0.3**
baz=35
L59A S S 00 30 07.4 +10
baz=35
BCK Bucak 39.13 110 *eP* **P** **00 23 58.7 +0.4**
LADK Ladik-KONYA 39.23 108 *eP* **P** **00 23 59.5 +0.4**
YOZ Yozgat 39.24 103 *eP* **P** **00 24 00.0 +0.7**
D46A Sault St. Mari 39.25 276 P **P** **00 23 58.9 -0.2**
baz=39
E47A Iron Bridge 39.26 275 P **P** **00 23 59.0 -0.2**
baz=38
YKA Yellowknife Ar 39.27 313 P **P** **00 23 57.8 -1.3**
comp=Z,4.4nm,0.9s,baz=42,slow=9.1,SNR=21
YKA PcP **PcP** **00 26 05.7 -1.9**
comp=Z,2.8nm,1.0s,baz=37,slow=3.7,SNR=7.4
YKA LR LR 00 39 28.4
comp=Z,343nm,20.6s,baz=0.0,slow=35
F49A Sandfield 39.28 273 P **P** **00 23 59.0 -0.3**
baz=38
F49A S **S** **00 30 07.0 +7.3**
baz=38
M61A Granite Spring 39.30 261 P **P** **00 23 59.0 -0.6**
baz=34
K57A Scipio Center 39.32 265 P **P** **00 23 59.1 -0.6**
baz=36
K57A S S 00 30 09.6 +9.2
baz=36
KORT Korkueli 39.43 111 *eP* **P** **00 24 01.2 +0.3**
KONT Konya--Tatoy 39.44 108 *eP* **P** **00 24 01.4 +0.6**
J55A Hilton 39.44 267 P **P** **00 24 00.2 -0.6**
baz=36
J55A S S 00 30 11.2 +9.0
baz=36
RSDY Resadiye-TOKAT 39.45 101 *eP* **P** **00 24 02.1 +1.2**
ELL Elmali 39.47 112 *eP* **P** **00 24 02.2 +1.0**
F48A Evansville 39.47 274 P **P** **00 24 00.3 -0.7**
baz=38
N62A Caumsett State 39.48 261 P **P** **00 24 00.1 -1.0**
baz=34
BINY Binghamton 39.52 264 P **P** **00 24 01.3 -0.2**
baz=35
L58A Harry Jones Me 39.59 264 P **P** **00 24 01.7 -0.3**
baz=35
PAL Palisades 39.61 261 P **P** **00 24 01.9 -0.2**
baz=34
ESPY Espiye-Giresun 39.62 99 *eP* **P** **00 24 02.7 +0.4**
ANTB Antalya 39.64 111 *eP* **P** **00 24 02.7 +0.2**
M60A Port Jervis 39.65 262 P **P** **00 24 02.3 -0.2**
baz=35
SEYD Seydisehir-KON 39.69 109 *eP* **P** **00 23 58.5 -4.5**
K56A Middlesex 39.69 266 P **P** **00 24 02.8 -0.1**
baz=36
SULT Sultanhani-AKS 39.70 106 *eP* **P** **00 24 04.2 +1.1**
SVSK Karacayir 39.71 101 *eP* **P** **00 24 04.0 +1.0**
J54A Appleton 39.79 268 P **P** **00 24 02.9 -0.7**
baz=36
AKAS Kas 39.80 112 *eP* **P** **00 24 02.7 -1.2**
M59A Waymart 39.82 263 P **P** **00 24 03.3 -0.6**
baz=35
M59A S S 00 30 17.7 +10
baz=35
KSL Kastellorizon 39.86 112 P **P** **00 24 03.9 -0.4**
INK Inuvik 39.91 329 P **P** **00 24 03.2 -1.1**
comp=Z,5.0nm,0.9s,baz=16,slow=12,SNR=7.6
INK PcP **PcP** **00 26 08.3 -1.2**
comp=Z,4.8nm,1.0s,baz=54,slow=2.4,SNR=3.5
INK LR LR 00 42 37.0
comp=Z,282nm,18.9s,baz=6.5,slow=39
INK Inuvik 39.91 329 P **P** **00 24 03.8 -0.5**
N61A South Mountain 39.98 262 P **P** **00 24 04.8 -0.4**
baz=34
K55A Perry 39.99 267 P **P** **00 24 04.8 -0.5**
baz=36
KTUT Trabzon 40.00 98 ⇓P **P** **00 24 04.8 -0.7**
KTUT Trabzon 40.00 98 *eP* **P** **00 24 05.4 0.0**
L57A Andrews Acres 40.05 265 P **P** **00 24 05.6 -0.3**
baz=35
L57A S S 00 30 20.7 +9.2
baz=35
BNN Bunyan 40.12 104 *eP* **P** **00 24 07.3 +0.7**
N60A Cedar Hill Far 40.23 262 P **P** **00 24 06.8 -0.6**
baz=34
N60A S **S** **00 30 21.6 +7.6**
baz=34
L56A Greenwood 40.25 266 P **P** **00 24 07.3 -0.2**
baz=35
L56A S S 00 30 23.4 +9.0
baz=35
ONI Oni 40.28 93 P **P** **00 24 10.2 +2.4**
ZEI Tsey 40.31 92 *eP* **P** **00 24 07.8 -0.4**
ZEI pmax pmax
comp=Z,69nm,1.9s
AKTO Aktyubinsk 40.32 73 P **P** **00 24 07.5 -0.5**
comp=Z,14nm,0.9s,baz=324,slow=8.8,SNR=32
CHOM Cayeli-Rize 40.34 97 *eP* **P** **00 24 08.2 -0.1**
K54A Basiliko Farm, 40.35 267 P **P** **00 24 08.0 -0.3**
baz=36
K54A S **S** **00 30 24.2 +8.3**
baz=36
I51A Listowel 40.40 271 P **P** **00 24 08.2 -0.4**
baz=37
I51A S **S** **00 30 24.5 +8.0**
baz=37
M58A Price's Panora 40.40 264 P **P** **00 24 08.3 -0.5**
baz=35
WVNY West Valley, N 40.48 267 IAmb IAmb 00 24 18.9
comp=Z,86nm,1.6s
N59A State Game Lan 40.48 263 P **P** **00 24 09.4 -0.1**
baz=34
L55A Hinsdale 40.59 267 P **P** **00 24 09.9 -0.5**
baz=35
FFC Flin Flon 40.63 298 P **P** **00 24 10.2 -0.3**
FFC pmax pmax
comp=Z,142nm,1.9s
FFC Flin Flon 40.63 298 P **P** **00 24 10.2 -0.3**
FFC IAmb IAmb 00 24 15.4
comp=Z,142nm,1.9s
O61A Allentown 40.64 261 P **P** **00 24 10.3 -0.4**
baz=34
M57A Sunshine Farm, 40.72 265 P **P** **00 24 11.1 -0.3**
baz=35
M57A S S 00 30 31.7 +10
baz=35
SARI SarD1z-Kayseri 40.73 103 *eP* **P** **00 24 12.5 +0.7**
CMRD Camardi-Nigde 40.77 105 *eP* **P** **00 24 11.1 -0.9**
GROC Groznyy 40.79 90 *eP* **P** **00 24 12.0 +0.1**
GROC *e* 00 26 14.4
GROC pmax pmax
comp=Z,144nm,1.8s
O60A Telford 40.82 262 P **P** **00 24 11.6 -0.6**
baz=34
E43A Lone Tree Farm 40.92 278 P **P** **00 24 11.8 -1.2**
E43A IAmb IAmb 00 24 16.8
comp=Z,79nm,1.8s
L54A Sinclairville 40.93 268 P **P** **00 24 13.1 0.0**
baz=36,SNR=5.1
N58A Sunbury 40.95 264 P **P** **00 24 12.8 -0.5**
baz=34
M56A Emporium 41.05 266 P **P** **00 24 13.5 -0.7**
baz=35
P61A Hammonton 41.09 261 P **P** **00 24 14.1 -0.3**
baz=34
O59A Robesonia 41.16 263 P **P** **00 24 14.7 -0.3**
baz=34
AKH Akhalkalaki 41.26 94 *eP* **P** **00 24 16.6 +0.6**

AKH Akhalkalaki 41.26 94 P **P** **00 24 16.2 +0.2**
AKH pmax pmax
comp=Z,121nm,1.5s
AKH Akhalkalaki 41.26 94 P **P** **00 24 16.2 +0.2**
KOZT Kozan 41.27 105 *eP* **P** **00 24 16.1 +0.1**
ERPA Erie 41.31 268 P **P** **00 24 15.8 -0.4**
baz=35
M55A Ridgway 41.31 266 P **P** **00 24 14.8 -1.5**
baz=35
P60A Greenville 41.34 262 P **P** **00 24 15.6 -0.9**
baz=34
N57A Milroy 41.38 265 P **P** **00 24 16.6 -0.2**
baz=34
N57A S **S** **00 30 39.3 +8.2**
baz=34
KIZK Mersin 41.43 107 *eP* **P** **00 24 16.3 -0.9**
PAGS Pennsylvania G 41.46 263 IAmb IAmb 00 24 19.1
comp=Z,69nm,1.6s
SENK Senkaya-Erzuru 41.46 96 *eP* **P** **00 24 18.9 +1.1**
A21K Barrow 41.51 341 S S 00 30 41.9 +9.5
baz=25
TBLG Delisi 41.53 92 *eP* **P** **00 24 18.1 0.0**
TBLG Delisi 41.53 92 P **P** **00 24 18.7 +0.6**
TBLG pmax pmax
comp=Z,109nm,1.4s
TBLG Delisi 41.53 92 P **P** **00 24 18.7 +0.6**
TBLG IAmb IAmb 00 24 25.1
comp=Z,108nm,1.4s
L53A Girard 41.56 268 P **P** **00 24 18.0 -0.3**
baz=35
N56A West Decatur 41.56 265 P **P** **00 24 18.4 0.0**
baz=35
EYMN Ely 41.60 283 P **P** **00 24 17.7 -0.9**
baz=39
SSPA Standing Stone 41.62 265 P **P** **00 24 18.5 -0.3**
baz=34
SSPA Standing Stone 41.62 265 P **P** **00 24 18.5 -0.3**
SSPA IAmb IAmb 00 24 20.7
comp=Z,90nm,1.9s
YEDI Yedisu-Bingol 41.62 98 *eP* **P** **00 24 20.6 +1.6**
ULM Lac du Bonnet 41.62 289 P **P** **00 24 17.8 -0.9**
comp=Z,2.6nm,0.6s,baz=49,slow=9.7,SNR=4.5
ULM LR LR 00 40 17.4
comp=Z,506nm,18.1s,baz=43,slow=34
O58A Lewisberry 41.63 264 P **P** **00 24 18.8 0.0**
baz=34
O58A S **S** **00 30 43.1 +8.1**
baz=34
MALT Malatya 41.66 101 *eP* **P** **00 24 20.2 +0.9**
MALT Malatya 41.66 101 P **P** **00 24 20.2 +0.9**
KZRT Kazreti 41.67 93 P **P** **00 24 23.1 +3.9**
M54A Oil Creek Stat 41.67 267 P **P** **00 24 19.1 -0.1**
baz=35,SNR=6.4
KMRS Kahramanmaras 41.70 104 *eP* **P** **00 24 20.2 +0.7**
KARS Kars 41.72 95 *eP* **P** **00 24 21.2 +1.4**
KARS Kars 41.72 95 P **P** **00 24 22.6 +2.8**
MAK Makhachkala 41.73 89 *eP* **P** **00 24 18.6 -1.0**
MAK *eS* **S** **00 30 36.9 +0.7**
MAK *eSS* **SS** **00 33 38.2 -3.2**
MAK pmax pmax
comp=Z,228nm,1.5s
P59A Jarrettsville 41.84 263 P **P** **00 24 19.7 -0.9**
baz=34
O57A Amberson 41.86 264 P **P** **00 24 20.4 -0.4**
baz=34
O57A S **S** **00 30 45.0 +6.6**
baz=34
N55A Marion Center 41.97 266 P **P** **00 24 21.1 -0.7**
baz=34
SVRC Sivrice-ELAZID 41.98 100 *eP* **P** **00 24 23.8 +1.8**
ABKAR Akbulak array 42.02 73 P **P** **00 24 23.7 +1.7**
BNGB Bingl 42.05 99 *eP* **P** **00 24 23.3 +0.8**
COWI Conover 42.05 280 IAmb IAmb 00 24 25.6
comp=Z,98nm,1.9s
Q60A Greensboro 42.10 262 P **P** **00 24 22.4 -0.3**
baz=33
GAZ Gaziantep 42.11 103 *eP* **P** **00 24 23.7 +0.7**
M53A WI Miller and 42.16 268 P **P** **00 24 22.9 -0.3**
baz=35
O56A Blue Knob Stat 42.22 265 P **P** **00 24 23.2 -0.6**
baz=34
O56A Blue Knob Stat 42.22 265 IAmb IAmb 00 24 33.4
comp=Z,58nm,1.6s
EREN Erenkoy 42.26 108 *eP* **P** **00 24 22.1 -1.9**
N54A Moraine State 42.26 267 P **P** **00 24 23.0 -1.0**
baz=35
N54A S S 00 30 54.8 +11
baz=35
N54A Moraine State 42.26 267 IAmb IAmb 00 24 33.5
comp=Z,57nm,1.3s
P58A Pank, Wackersv 42.32 263 P **P** **00 24 24.5 0.0**
baz=34
DDFL Dedoflistskaro 42.36 91 P **P** **00 24 27.7 +2.8**
M52A Chesterland 42.37 269 P **P** **00 24 24.8 -0.1**
baz=35
M52A Chesterland 42.37 269 P **P** **00 24 24.1 -0.8**
M52A IAmb IAmb 00 24 26.6
comp=Z,49nm,1.1s
CSS Mathiatis 42.40 109 *eP* **P** **00 24 24.4 -0.9**
CSS Mathiatis 42.40 109 P **P** **00 24 23.8 -1.5**
R61A Willards 42.45 261 P **P** **00 24 24.7 -0.9**
baz=33
AGRB Hanur-Agry 42.55 96 *eP* **P** **00 24 27.5 +0.8**
URFA Urfa 42.56 102 *eP* **P** **00 24 27.3 +0.7**
O55A Ligonier 42.58 266 P **P** **00 24 25.8 -0.9**
baz=34
O55A S **S** **00 30 52.5 +3.4**
baz=34
P57A Homestead Farm 42.63 264 P **P** **00 24 27.0 0.0**
baz=34
AAM Ann Arbor 42.74 272 P **P** **00 24 28.0 0.0**
baz=36
N53A Lisbon 42.75 268 P **P** **00 24 27.8 -0.2**
baz=35
N53A Lisbon 42.75 268 IAmb IAmb 00 24 29.9
comp=Z,88nm,1.5s
TASB TASBURUN-IGDIR 42.75 94 *eP* **P** **00 24 28.8 +0.7**
TOLK Toolik Lake Re 42.83 336 P **P** **00 24 29.0 +0.7**
baz=28,SNR=15
TOLK S **S** **00 30 58.2 +6.1**
baz=28
TOLK Toolik Lake Re 42.83 336 P **P** **00 24 28.8 +0.4**
M51A Elyria 42.90 269 P **P** **00 24 29.2 0.0**
baz=35
Q58A Fox Den Farm, 42.94 263 P **P** **00 24 29.1 -0.5**
baz=33
Q58A S **S** **00 31 02.6 +8.4**
baz=33
P56A Dayton Farm, R 42.97 265 P **P** **00 24 29.0 -0.7**
baz=34
BMAR Burnt Mountain 42.97 333 P **P** **00 24 29.1 -0.4**
AKT Akhty 43.03 90 *eP* **P** **00 24 30.1 -0.3**
AKT *e* 00 26 06.5
AKT *e* 00 26 17.7
AKT pmax pmax
comp=Z,44nm,1.4s
R60A Leonardtown, M 43.03 262 P **P** **00 24 30.2 -0.1**
baz=33
O54A Avella 43.07 267 P **P** **00 24 30.7 +0.2**
baz=34
O54A Avella 43.07 267 IAmb IAmb 00 24 40.0
comp=Z,53nm,1.4s
N52A McGinn's Farm, 43.11 269 P **P** **00 24 31.0 0.0**
baz=35
S61A Accomac 43.14 260 P **P** **00 24 30.5 -0.6**
baz=32
AGMN Agassiz Nation 43.14 287 P **P** **00 24 30.7 -0.3**
baz=38,SNR=6.1
Q57A Strasburg 43.17 264 P **P** **00 24 30.3 -1.2**
baz=33
BRVK Borovoye 43.18 62 *deP* **P** **00 24 30.8 -0.5**
BRVK pmax pmax
comp=Z,68nm,1.7s
BRVK Borovoye 43.18 62 P **P** **00 24 31.2 -0.1**
BRVK IAmb IAmb 00 24 36.4
comp=Z,72nm,1.4s
MAZI Mazidag 43.24 100 *eP* **P** **00 24 32.2 +0.1**
MCWV Mont Chateau 43.27 266 P **P** **00 24 31.2 -1.1**
baz=34
CLDR Caldiran 43.31 95 *eP* **P** **00 24 33.9 +1.1**
R59A King George, V 43.31 262 P **P** **00 24 32.1 -0.4**
baz=33
N51A Ashland 43.32 269 P **P** **00 24 31.9 -0.8**
baz=35
N51A Ashland 43.32 269 IAmb IAmb 00 24 34.3
comp=Z,55nm,1.2s

O53A **New Philadelph** 43.37 268 P P 00 24 33.2 +0.2
baz=34,SNR=5.5
O53A **New Philadelph** 43.37 268 IAmb IAmb 00 24 35.1
comp=Z,77nm,1.4s
P55A **Reedsville** 43.39 266 P P 00 24 32.3 -0.9
baz=34
Q56A **Snyder Ridge,** 43.50 265 P P 00 24 33.4 -0.7
baz=34
VANB **Van** 43.54 96 *e*P P 00 24 36.6 +2.0
P54A **Burton** 43.59 266 S S 00 31 12.8 +8.9
baz=34
R58A **Rapidan** 43.61 263 P P 00 24 34.5 -0.5
baz=33
GEVA **Gevas** 43.64 97 IAmb IAmb 00 24 41.8
comp=Z,75nm,1.7s
O52A **Adamsville** 43.75 268 P P 00 24 36.2 +0.1
baz=34
O52A S S 00 31 12.4 +6.3
baz=34
S59A **Mechanicsville** 43.76 262 P P 00 24 36.1 -0.1
baz=33
R57A **Stanardsville** 43.84 264 P P 00 24 36.9 +0.1
baz=33
R57A S S 00 31 12.0 +4.6
baz=33
R58B **Mineral** 43.84 263 P P 00 24 36.7 -0.1
baz=33
R58B S S 00 31 12.6 +5.2
baz=33
Q55A **Buckhannon** 43.92 266 P P 00 24 37.1 -0.4
baz=34
T60A **Surry** 44.04 261 P P 00 24 38.5 0.0
baz=32
O51A **Pataskala** 44.06 269 P P 00 24 38.1 -0.4
baz=34,SNR=10.0
O51A S S 00 31 17.6 +7.0
baz=34
P53A **Whipple** 44.08 267 P P 00 24 39.6 +0.8
baz=34,SNR=6.2
P53A S S 00 31 16.7 +5.8
baz=34
P53A **Whipple** 44.08 267 IAmb IAmb 00 24 43.3
comp=Z,43nm,1.1s
R56A **Bull Pasture M** 44.12 264 P P 00 24 39.3 +0.1
baz=33
ACSO **Alum Creek Sta** 44.15 269 P P 00 24 39.2 -0.1
baz=34,SNR=5.5
ACSO **Alum Creek Sta** 44.15 269 IAmb IAmb 00 24 40.9
comp=Z,35nm,1.1s
COLD **Coldfoot** 44.20 336 P P 00 24 39.4 0.0
baz=27,SNR=7.0
S58A **Poland Farm, P** 44.21 263 P P 00 24 39.7 -0.1
baz=33
Q54A **Coxs Mills** 44.26 266 P P 00 24 40.1 0.0
baz=34
Q54A **Coxs Mills** 44.26 266 IAmb IAmb 00 24 42.2
comp=Z,70nm,1.6s
BHL **Bhannes** 44.27 108 *e*P P 00 24 38.5 -1.9
P52A **Corning** 44.28 268 P P 00 24 40.4 0.0
baz=34
SPMN **Marine on St.** 44.30 282 P P 00 24 39.8 -0.7
baz=37
K43A **Burlington** 44.43 276 IAmb IAmb 00 24 43.1
comp=Z,39nm,1.0s
TAM **Tamanrasset** 44.44 149 P P 00 24 41.4 -0.5
TAM pmax pmax
comp=Z,47nm,1.6s
TAM **Tamanrasset** 44.44 149 P P 00 24 41.4 -0.5
TAM IAmb IAmb 00 24 46.2
comp=Z,47nm,1.6s
I40A **Norwalk** 44.45 279 IAmb IAmb 00 24 45.8
comp=Z,77nm,1.8s
S57A **Dark Hollow, R** 44.47 264 P P 00 24 41.5 -0.4
baz=33
R55A **Marlinton** 44.53 265 P P 00 24 42.8 +0.3
baz=33
T59A **Double "B" Far** 44.54 262 P P 00 24 42.1 -0.3
baz=32
T59A S S 00 31 25.9 +8.4
baz=32
EGAK **Eagle** 44.55 329 P P 00 24 42.3 0.0
EGAK IAmb IAmb 00 24 47.5
comp=Z,71nm,1.9s
U61A **Possum Corner** 44.60 260 P P 00 24 42.8 -0.2
baz=32
Q53A **Leroy** 44.66 267 P P 00 24 43.1 -0.3
baz=34
L44A **Lake County Fo** 44.68 275 P P 00 24 43.0 -0.5
baz=35
CUKT **Cukurca** 44.77 97 *e*P P 00 24 45.0 +0.6
O49A **Covington** 44.77 270 IAmb IAmb 00 24 47.0
comp=Z,37nm,0.9s
N47A **Urbana** 44.78 272 IAmb IAmb 00 24 44.9
comp=Z,45nm,1.4s
SHBL **Chebaa** 44.79 108 *e*P P 00 24 43.5 -1.1
P51A **Williamsport** 44.80 269 P P 00 24 43.6 -0.9
baz=34
S56A **Natural Bridge** 44.80 264 P P 00 24 44.7 +0.2
baz=33
Q52A **Bidwell** 44.89 268 P P 00 24 44.8 -0.4
baz=34
Q52A S S 00 31 30.3 +7.6
baz=34
T58A **Grand View Acr** 44.98 263 P P 00 24 45.1 -0.8
baz=32
R54A **Victor** 44.99 266 P P 00 24 45.3 -0.8
baz=33
MDND **Maddock** 45.03 289 P P 00 24 45.3 -1.0
baz=37
JFWS **Jewell Farm** 45.08 278 P P 00 24 46.5 -0.2
baz=36
JFWS **Jewell Farm** 45.08 278 IAmb IAmb 00 24 51.5
comp=Z,56nm,1.9s
S55A **Lewisburg** 45.12 265 P P 00 24 46.4 -0.8
baz=33
S55A S S 00 31 31.7 +5.5
baz=33
U59A **Littleton** 45.16 261 P P 00 24 47.0 -0.4
baz=32
T57A **Hurt** 45.24 263 P P 00 24 47.9 -0.1
baz=32
F33A **5 Mile Ranch,** 45.27 285 IAmb IAmb 00 24 49.8
comp=Z,41nm,1.4s
R53A **Hurricane** 45.28 267 P P 00 24 47.5 -0.8
baz=33
Q51A **Peebles** 45.30 269 IAmb IAmb 00 24 49.9
comp=Z,33nm,1.0s
K27K **Chicken** 45.41 329 P P 00 24 49.2 +0.2
baz=30,SNR=10
K27K S S 00 31 34.3 +4.7
baz=30
V60A **Jim Taylor Roa** 45.43 260 P P 00 24 49.5 -0.1
baz=32
U58A **Oxford** 45.45 262 P P 00 24 49.3 -0.3
baz=32
S54A **Dingess, Beckl** 45.45 266 P P 00 24 48.7 -1.0
baz=33
P49A **Miami Univ. Ec** 45.47 270 P P 00 24 49.4 -0.4
baz=34,SNR=5.8
P49A S S 00 31 38.8 +7.7
baz=34
P49A **Miami Univ. Ec** 45.47 270 IAmb IAmb 00 24 54.1
comp=Z,56nm,1.4s
T56A **Rocky Mt** 45.55 264 P P 00 24 49.8 -0.7
baz=32
BLA **Blacksburg** 45.56 265 P P 00 24 50.8 +0.1
baz=32
POKR **Poker Plat Res** 45.56 333 P P 00 24 50.6 +0.3
baz=28
L42A **Oliver, Polo** 45.57 277 IAmb IAmb 00 24 52.1
comp=Z,20nm,1.0s
U57A **Blanch** 45.75 263 P P 00 24 51.6 -0.4
baz=32
IL31 45.76 332 IAmb IAmb 00 25 00.2
comp=Z,39nm,1.4s
ILAR **Eielson Array** 45.76 332 P P 00 24 50.2 -1.6
comp=Z,9.2nm,1.2s,baz=25,slow=5.3,SNR=42
PcP PcP 00 26 28.4 -0.8
ILAR comp=Z,4.5nm,1.0s,baz=358,slow=2.2,SNR=12
LR LR 00 46 47.5
comp=Z,379nm,18.4s,baz=28,slow=40
ILAR **Eielson Array** 45.76 332 P P 00 24 51.9 +0.1
T55A **Pulaski** 45.80 265 P P 00 24 52.5 0.0
baz=32
SFIN **Lafayette** 45.80 273 P P 00 24 52.7 +0.2
baz=34
W61A **Ground Anchor** 45.82 260 P P 00 24 52.3 -0.3
baz=31

P48A **Milroy** 45.84 271 IAmb IAmb 00 24 55.0
comp=Z,50nm,1.2s
V59A **Middlesex** 45.85 261 P P 00 24 52.8 -0.1
baz=32
COLA **College** 45.86 333 P P 00 24 53.1 +0.6
COLA pmax pmax
comp=Z,22nm,1.0s
COLA **College** 45.86 333 P P 00 24 53.1 +0.6
COLA IAmb IAmb 00 24 54.5
comp=Z,22nm,0.9s
TCOL **CIGO, UAF Yank** 45.86 333 P P 00 24 51.9 -0.7
baz=27
SCRK **Sand Creek** 45.87 330 P P 00 24 52.6 -0.2
baz=29
S53A **Williamson** 45.90 266 P P 00 24 52.5 -0.8
baz=33
IMAR **Indian Mountai** 45.94 337 P P 00 24 53.9 +0.7
HDA **Harding Lake** 46.10 332 P P 00 24 54.1 -0.4
baz=28,SNR=9.6
HDA S S 00 31 48.0 +8.4
baz=28
CNNC **Cliffs of the** 46.15 261 P P 00 24 55.7 +0.5
baz=31
BCAR **Beaver Creek A** 46.18 329 P P 00 24 55.9 +0.7
T54A **Tazewell** 46.19 266 P P 00 24 54.7 -0.9
baz=32
T54A S S 00 31 49.4 +7.9
baz=32
V58A **Windy Hill, Pi** 46.20 262 P P 00 24 55.7 +0.1
baz=32
U56A **King** 46.27 264 P P 00 24 56.3 +0.1
baz=32
R50A **Paris** 46.35 269 IAmb IAmb 00 25 06.0
comp=Z,51nm,1.6s
NEA2 **Nenana** 46.35 334 P P 00 24 56.3 -0.2
baz=26,SNR=7.4
K38A **Parkersburg** 46.38 280 IAmb IAmb 00 24 59.3
comp=Z,19nm,0.8s
DGMT **Dagmar** 46.38 293 P P 00 24 56.5 -0.5
baz=36
DGMT **Dagmar** 46.38 293 IAmb IAmb 00 24 59.1
comp=Z,39nm,1.2s
KZIT **Kziot** 46.38 111 *e*P P 00 24 56.2 -0.9
V57A **Coltrane Farms** 46.40 263 S S 00 31 51.2 +6.7
baz=32
U55A **TA2, Sparta** 46.43 265 P P 00 24 57.3 -0.2
baz=32
U55A S S 00 31 51.4 +6.3
baz=32
W59A **Clinton** 46.45 261 P P 00 24 57.2 -0.3
baz=31
BRZS **Berezniki** 46.53 63 ⇓ *i*P P 00 24 57.4 -0.8
comp=Z,20nm,1.2s,baz=63
BRZS *e*PP PP 00 26 46.8 -0.2
baz=63
BRZS **Berezniki** 46.53 63 *d i*P P 00 24 57.3 -0.8
BRZS *e* 00 26 46.8
BRZS pmax pmax
comp=Z,20nm,1.2s
S51A **Beattyville** 46.57 268 IAmb IAmb 00 25 08.5
comp=Z,32nm,1.2s
HDIL **Hopedale** 46.60 275 P P 00 24 58.9 +0.2
baz=34
T53A **Wise** 46.66 266 P P 00 24 59.0 -0.3
baz=32
T53A S S 00 31 52.7 +4.2
baz=32
U54A **Nelsons Funny** 46.74 265 P P 00 24 59.6 -0.3
baz=32
U54A S S 00 31 57.7 +8.1
baz=32
X60A **Albert Glenn T** 46.75 260 P P 00 24 59.5 -0.4
baz=31
V56A **Mocksville** 46.78 264 P P 00 24 59.9 -0.2
baz=32
W58A **Raford** 46.91 262 P P 00 25 00.9 -0.3
baz=31
X59A **McDuffie Farm,** 47.02 261 P P 00 25 01.4 -0.6
baz=31
V55A **Taylorsville** 47.05 264 P P 00 25 02.5 +0.2
baz=32
V55A **Taylorsville** 47.05 264 IAmb IAmb 00 25 10.2
comp=Z,31nm,1.2s
ECSD **EROS Data Cent** 47.11 284 P P 00 25 02.6 -0.1
baz=35,SNR=7.1
ECSD **EROS Data Cent** 47.11 284 IAmb IAmb 00 25 04.3
comp=Z,28nm,1.4s
W57A **Gilead** 47.12 263 P P 00 25 02.2 -0.6
baz=31
DLBC **Dease Lake** 47.14 318 LR LR 00 43 16.4
comp=Z,225nm,21.4s,baz=286,slow=34
DLBC **Dease Lake** 47.14 318 P P 00 25 03.0 +0.2
SCIA **State Center** 47.17 279 P P 00 25 03.2 +0.1
baz=35
WCI **Wyandotte Cave** 47.24 271 P P 00 25 03.4 -0.3
baz=33
WCI **Wyandotte Cave** 47.24 271 P P 00 25 03.0 -0.7
WCI pmax pmax
comp=Z,32nm,0.9s
WCI **Wyandotte Cave** 47.24 271 P P 00 25 03.0 -0.7
Y60A **Bolivia** 47.34 260 P P 00 25 04.0 -0.6
baz=31
X58A **Rowland** 47.35 262 P P 00 25 04.6 0.0
baz=31
W56A **Indian Trail** 47.39 263 P P 00 25 04.9 0.0
baz=32
V54A **Nebo** 47.43 265 P P 00 25 05.3 +0.1
baz=32
TZTN **Tazewell** 47.47 267 P P 00 25 05.5 -0.1
baz=32
OLIL **Olney** 47.60 273 IAmb IAmb 00 25 07.8
comp=Z,35nm,1.1s
T50A **Nancy** 47.62 268 IAmb IAmb 00 25 09.6
comp=Z,15nm,1.1s
ZAA0 **Zalesovo Array** 47.69 51 P P 00 25 07.1 +0.1
ZAA0 IAmb IAmb 00 25 11.7
comp=Z,39nm,1.4s
ZALV **Zalesovo Beam** 47.69 51 P P 00 25 06.6 -0.5
comp=Z,9.1nm,1.0s,baz=330,slow=7.9,SNR=18
ZALV PcP PcP 00 26 35.3 -0.9
comp=Z,1.7nm,0.8s,baz=343,slow=4.5,SNR=2.2
ZALV LR LR 00 47 56.5
comp=Z,420nm,19.4s,baz=272,slow=40
ZALV **Zalesovo Beam** 47.69 51 *i* P P 00 25 09.1 +2.0
ZALV pmax pmax
comp=Z,9.0nm,1.0s
X57A **Johnson Farm,** 47.75 262 P P 00 25 07.1 -0.6
baz=31
M24K **Tolsona, Glenn** 47.99 330 P P 00 25 08.9 -0.5
baz=27
W54A **Cherokee Point** 48.12 265 P P 00 25 09.8 -0.8
baz=32
X56A **White Oak** 48.13 263 P P 00 25 10.5 -0.2
baz=31
KURK **Kurchatov** 48.16 58 *de*P P 00 25 09.6 -1.1
KURK pmax pmax
comp=Z,64nm,1.7s
KURK **Kurchatov** 48.16 58 P P 00 25 10.4 -0.4
KURK IAmb IAmb 00 25 14.3
comp=Z,33nm,1.0s
X55A **Gracelyn & Ava** 48.41 264 P P 00 25 12.7 -0.1
baz=31
Z59A **Georgetown, SC** 48.45 261 P P 00 25 12.4 -0.7
baz=30
U49A **Red Boiling Sp** 48.46 269 IAmb IAmb 00 25 17.0
comp=Z,28nm,1.2s
ISLE **Juniper Island** 48.47 327 P P 00 25 13.9 +0.8
ISLE IAmb IAmb 00 25 57.7
comp=Z,39nm,1.5s
SCM **Sheep Creek Mo** 48.48 331 IAmb IAmb 00 25 21.4
comp=Z,34nm,1.2s
PPLA **Purkeypile** 48.48 334 P P 00 25 13.7 +0.5
BG3 **Lake Jocassee** 48.52 265 IAmb IAmb 00 25 14.7
comp=Z,41nm,1.5s
CUT **Chulitna** 48.56 333 P P 00 25 13.0 -0.6
baz=25
LAO **LASA Array** 48.63 293 P P 00 25 15.2 +0.7
baz=35,SNR=9.8
P40A **Paris** 48.63 277 IAmb IAmb 00 26 40.6
comp=Z,31nm,1.4s
X54A **Belton** 48.66 264 P P 00 25 14.8 0.0
baz=31
CPCT **Cooper Cave** 48.81 267 IAmb IAmb 00 25 28.1
comp=Z,46nm,1.5s
EGMT **Eagleton** 48.91 297 P P 00 25 16.7 0.0
baz=35,SNR=26
Y55A **Saluda** 48.96 264 P P 00 25 16.9 -0.2
baz=31

Z57A **Bowman** 49.01 262 P P 00 25 17.4 0.0
baz=31
CLTN **Cedars of Leba** 49.05 269 IAmb IAmb 00 25 20.4
comp=Z,41nm,1.4s
PMR **Palmer** 49.07 332 P P 00 25 17.6 0.0
PMR pmax pmax
comp=Z,46nm,1.5s
PMR **Palmer** 49.07 332 P P 00 25 17.6 0.0
PMR IAmb IAmb 00 25 30.1
comp=Z,46nm,1.5s
TTA **Tatalina** 49.14 336 P P 00 25 18.4 +0.2
TTA pmax pmax
comp=Z,24nm,1.4s
TTA **Tatalina** 49.14 336 P P 00 25 18.4 +0.2
158A **Hollywood** 49.27 261 P P 00 25 19.0 -0.5
baz=30
W50A **Signal Mountai** 49.37 268 IAmb IAmb 00 25 24.4
comp=Z,36nm,1.1s
CCM **Cathedral Cave** 49.52 275 P P 00 25 20.2 -1.1
baz=33
CCM **Cathedral Cave** 49.52 275 P P 00 25 20.3 -1.0
CCM pmax pmax
comp=Z,13nm,1.2s
CCM **Cathedral Cave** 49.52 275 P P 00 25 20.3 -1.0
SWET **Sewanee** 49.62 268 IAmb IAmb 00 25 33.4
comp=Z,57nm,1.7s
WALA **Waterton Lakes** 49.63 301 P P 00 25 21.0 -1.1
WALA IAmb IAmb 00 25 27.2
comp=Z,31nm,1.4s
157A **Early Branch** 49.67 262 P P 00 25 22.0 -0.5
baz=30
RSSD **Black Hills** 49.86 290 P P 00 25 23.6 -0.5
RSSD pmax pmax
comp=Z,43nm,1.9s
RSSD **Black Hills** 49.86 290 P P 00 25 23.6 -0.5
RSSD IAmb IAmb 00 25 28.1
comp=Z,43nm,1.9s
Y52A **Lilburn** 49.97 266 IAmb IAmb 00 25 36.4
comp=Z,55nm,1.4s
FPAL **Fort Paine** 50.06 267 IAmb IAmb 00 25 36.9
comp=Z,39nm,1.5s
GOGA **Godfrey** 50.10 265 P P 00 25 25.2 -0.5
baz=31
T42A **Van Buren** 50.31 274 IAmb IAmb 00 25 27.2
comp=Z,35nm,1.6s
Q23K **Middleton Isla** 50.44 329 P P 00 25 27.9 0.0
baz=26
GEYT **Alibeck** 50.44 84 P P 00 25 27.7 -0.7
comp=Z,6.3nm,0.9s,baz=318,slow=10.0,SNR=18
GEYT PP PP 00 27 23.5 -0.2
comp=Z,2.8nm,0.8s,baz=302,slow=8.5,SNR=6.2
GYA0B **ALIBECK ARRAY** 50.44 84 P P 00 25 28.2 -0.1
GYA0B IAmb IAmb 00 25 34.0
comp=Z,67nm,1.4s
X48A **Hartselle** 50.75 269 IAmb IAmb 00 25 33.7
comp=Z,42nm,1.4s
SVW2 **Sparrevohn** 50.77 335 P P 00 25 31.1 +0.6
KSU1 **Kansas State U** 50.94 280 P P 00 25 30.8 -1.3
baz=33
KSU1 **Kansas State U** 50.94 280 IAmb IAmb 00 25 32.5
comp=Z,26nm,1.0s
BTLS **Baital** 51.11 66 ⇓ *i*P P 00 25 33.2 0.0
comp=Z,19nm,2.0s,baz=66
BTLS *e*S S 00 32 51.9 +1.2
baz=66
BTLS **Baital** 51.11 66 *d i*P P 00 25 33.2 0.0
BTLS *e*S S 00 32 51.9 +1.2
BTLS pmax pmax
comp=Z,19nm,2.0s
RLMT **Red Lodge** 51.12 295 P P 00 25 33.8 +0.2
baz=34,SNR=15
RLMT **Red Lodge** 51.12 295 IAmb IAmb 00 25 38.6
comp=Z,43nm,1.4s
152A **Waverly Hall** 51.27 265 IAmb IAmb 00 25 37.4
comp=Z,72nm,1.8s
KK31 **Karatay Array** 51.31 70 P P 00 25 35.4 +0.6
KK31 pmax pmax
comp=Z,111nm,1.7s
KK31 **Karatay Array** 51.31 70 P P 00 25 35.4 +0.6
KKAR **Karatay Array** 51.31 70 P P 00 25 35.4 +0.6
KKAR pmax pmax
comp=Z,111nm,1.7s
KKAR **Karatay Array** 51.31 70 P P 00 25 35.4 +0.6
NEW **Newport** 51.47 303 P P 00 25 35.0 -1.0
baz=33
MSO **Missoula** 51.49 299 P P 00 25 35.9 -0.4
baz=33
MSO **Missoula** 51.49 299 P P 00 25 35.8 -0.4
U40A **Yellville** 51.64 275 P P 00 25 36.7 -0.7
baz=32,SNR=8.4
U40A **Yellville** 51.64 275 P P 00 25 36.2 -1.2
BOZ **Bozeman (W)** 51.64 297 P P 00 25 37.3 -0.2
baz=33,SNR=34
BOZ **Bozeman (W)** 51.64 297 IAmb IAmb 00 25 42.2
comp=Z,56nm,1.4s
OGNE **Ogallala** 51.68 286 P P 00 25 37.1 -0.6
baz=33
DZA **Taraz** 51.82 69 *i* P P 00 25 38.7 0.0
baz=69
DZA **Taraz** 51.82 69 *i* P P 00 25 38.6 0.0
TIGA **Tifton** 51.84 264 P P 00 25 37.3 -1.6
baz=30
BBB **Bella Bella** 51.88 313 LR LR 00 48 25.0
comp=Z,164nm,18.8s,baz=44,slow=37
IUG **Iuzhnay** 51.92 71 ⇓ *i*P P 00 25 39.7 +0.2
comp=Z,44nm,2.1s,baz=71
IUG **Iuzhnay** 51.92 71 *d i*P P 00 25 39.7 +0.2
IUG pmax pmax
comp=Z,44nm,2.1s
LRAL **Lakeview Retre** 51.94 268 P P 00 25 38.0 -1.5
baz=31
K22A **Casper** 52.09 291 P P 00 25 39.3 -1.5
baz=33,SNR=8.1
K22A **Casper** 52.09 291 IAmb IAmb 00 25 41.2
comp=Z,29nm,1.2s
DGZ **Jazzator, Alta** 52.14 53 *de*P P 00 25 41.4 +0.3
DGZ pmax pmax
comp=Z,47nm,1.6s
HHAR **Hobbs** 52.17 276 P P 00 25 39.6 -1.8
B08A **Colville Reser** 52.18 304 IAmb IAmb 00 25 45.5
comp=Z,44nm,1.9s
DLMT **Dillon** 52.21 297 IAmb IAmb 00 25 46.3
comp=Z,79nm,2.0s
H17A **Grant Village** 52.24 295 P P 00 25 43.0 +1.0
baz=33,SNR=8.6
H17A **Grant Village** 52.24 295 IAmb IAmb 00 25 48.0
comp=Z,31nm,1.3s
WHAR **Wooly Hollow** 52.30 274 IAmb IAmb 00 25 45.5
comp=Z,72nm,1.6s
TAS **Tashkent** 52.30 72 P P 00 25 42.0 -0.3
TAS pmax pmax
comp=Z,158nm,1.6s
TAS **Tashkent** 52.30 72 P P 00 25 42.0 -0.3
W41B **Gary Mavity, V** 52.38 274 P P 00 25 42.3 -0.6
baz=32
W41B **Gary Mavity, V** 52.38 274 IAmb IAmb 00 25 54.2
comp=Z,70nm,1.9s
BOD **Bodaibo** 52.49 30 *e*P P 00 25 42.1 -1.3
BOD pmax pmax
comp=Z,17nm,1.8s
CBKS **Cedar Bluff** 52.50 283 P P 00 25 42.9 -0.9
baz=33
SEY **Seymchan** 52.58 6 ⇓ *i*P P 00 25 44.7 +0.8
MAKZ **Makanchi** 52.65 58 P P 00 25 44.9 +0.1
MAKZ pmax pmax
comp=Z,66nm,1.6s
MAKZ **Makanchi** 52.65 58 P P 00 25 44.9 +0.1
MAKZ IAmb IAmb 00 25 49.5
comp=Z,66nm,1.6s
SGDS **Sogindy** 52.67 66 ⇓ *i*P P 00 25 45.1 0.0
comp=Z,28nm,2.0s,baz=66
SGDS *e*PP PP 00 27 44.3 +0.5
baz=66
SGDS *e*S S 00 33 13.5 +1.3
baz=66
SGDS **Sogindy** 52.67 66 *d i*P P 00 25 45.0 0.0
SGDS *e* 00 27 44.2
SGDS *e*S S 00 33 13.5 +1.3
SGDS pmax pmax
comp=Z,28nm,2.0s
T35A **Sooner Cattle** 52.73 279 P P 00 25 44.4 -1.1
T35A IAmb IAmb 00 26 55.5
comp=Z,40nm,1.6s
MK31 **Makanchi Array** 52.78 58 P P 00 25 45.6 -0.1
MK31 **Makanchi Array** 52.78 58 P P 00 25 45.6 -0.1
MK31 IAmb IAmb 00 25 50.3

comp=Z,32nm,1.4s
MKAR Makanchi Array 52.78 58 P **P** **00 25 45.1 -0.6**
comp=Z,14nm,1.1s,baz=320,slow=5.5,SNR=19
MKAR PP **PP** **00 27 45.0 +0.4**
comp=Z,0.8nm,0.9s,baz=330,slow=7.5,SNR=1.5
MKAR LR LR 00 48 25.0
comp=Z,476nm,20.8s,baz=320,slow=36
MKAR Makanchi Array 52.78 58 *i* P **P** **00 25 47.9 +2.2**
MKAR pmax pmax
comp=Z,15nm,1.1s
TDK Taldyqorghan 52.83 62 *i* P **P** **00 25 46.2 +0.1**
baz=62
TDK *e*S **S** **00 33 15.8 +1.4**
baz=62
TDK LR LR 00 47 15.8
comp=Z,485nm,14.8s,baz=62
TDK Taldyqorghan 52.83 62 *i* P **P** **00 25 46.2 +0.1**
TDK *e*S **S** **00 33 15.7 +1.4**
TDK MLR MLR
comp=Z,485nm,15.0s
KUU Kurty 52.97 65 *e*P **P** **00 25 47.1 0.0**
comp=Z,55nm,2.1s,baz=65
KUU *e*S **S** **00 33 17.5 +1.3**
baz=65
KUU LR LR 00 47 29.9
comp=Z,978nm,16.1s,baz=65
KUU Kurty 52.97 65 *e*P **P** **00 25 47.1 0.0**
KUU *e*S **S** **00 33 17.5 +1.3**
KUU pmax pmax
comp=Z,55nm,2.1s
KUU MLR MLR
comp=Z,978nm,16.0s
W39A Magazine 53.02 275 P **P** **00 25 47.1 -0.5**
baz=32
W39A Magazine 53.02 275 IAmb IAmb 00 25 49.5
comp=Z,58nm,1.8s
TOA0 Torodi Ar. Sit 53.06 156 P **P** **00 25 47.1 -0.9**
SNR=7.4
TOA0 S **S** **00 33 20.4 +2.5**
TOA0 Torodi Ar. Sit 53.06 156 P **P** **00 25 46.5 -1.6**
TOA0 IAmb IAmb 00 25 49.8
comp=Z,30nm,1.1s
TORD Torodi Ar. Bea 53.06 156 P **P** **00 25 46.8 -1.3**
comp=Z,18nm,0.9s,baz=346,slow=5.2,SNR=44
TORD LR LR 00 48 29.2
comp=Z,451nm,18.5s,baz=325,slow=36
ZSN Zaisan 53.15 56 *e*P **P** **00 25 48.0 -0.5**
comp=Z,33nm,1.9s,baz=56
ZSN Zaisan 53.15 56 *e*P **P** **00 25 48.0 -0.5**
ZSN pmax pmax
comp=Z,33nm,1.9s
RWWY Rawlins 53.17 291 IAmb IAmb 00 25 49.9
comp=Z,53nm,1.6s
BW06 Boulder Array 53.21 293 P **P** **00 25 47.8 -1.4**
baz=32,SNR=41
BW06 Boulder Array 53.21 293 IAmb IAmb 00 25 52.9
comp=Z,26nm,0.9s
PD31 Pinedale Array 53.21 293 IAmb IAmb 00 25 52.9
comp=Z,24nm,0.9s
PDAR Pinedale Array 53.21 293 P **P** **00 25 48.5 -0.6**
comp=Z,12nm,0.7s,baz=56,slow=5.8,SNR=107
PDAR PP **PP** **00 27 46.5 -2.3**
comp=Z,0.6nm,0.8s,baz=57,slow=8.9,SNR=2.1
PDAR LR LR 00 47 36.4
comp=Z,504nm,18.6s,baz=37,slow=35
PDAR Pinedale Array 53.21 293 P **P** **00 25 47.9 -1.2**
REDW Red Top Meadow 53.22 295 IAmb IAmb 00 25 58.7
comp=Z,35nm,1.5s
X40A Basin Creek Fa 53.22 274 P **P** **00 25 48.1 -0.9**
baz=31
TUL1 Leonard 53.28 277 P **P** **00 25 47.9 -1.6**
baz=32
AAK Ala-Archa 53.30 67 LR LR 00 48 16.1
comp=Z,874nm,20.3s,baz=328,slow=36
AAK Ala-Archa 53.30 67 *i* P **P** **00 25 50.5 +0.8**
SNR=15
AAK Ala-Archa 53.30 67 *d* *i* P **P** **00 25 49.9 +0.1**
AAK pmax pmax
comp=Z,72nm,1.7s
AAK Ala-Archa 53.30 67 P **P** **00 25 49.9 +0.1**
AAK **pP** **00 25 50.7 -2.8**
AAK IAmb IAmb 00 25 54.8
comp=Z,58nm,1.3s
N23A Red Feather La 53.33 289 P **P** **00 25 50.0 -0.1**
baz=32,SNR=13
N23A Red Feather La 53.33 289 IAmb IAmb 00 25 55.1
comp=Z,40nm,1.1s
MIAR Mount Ida 53.49 275 P **P** **00 25 50.3 -0.7**
baz=31
MIAR Mount Ida 53.49 275 P **P** **00 25 49.9 -1.2**
MIAR pmax pmax
comp=Z,63nm,1.9s
MIAR Mount Ida 53.49 275 P **P** **00 25 49.9 -1.2**
MIAR IAmb IAmb 00 25 59.5
comp=Z,63nm,1.9s
KSCO Kaye Shedlock' 53.55 285 P **P** **00 25 51.3 -0.4**
baz=32
AAA Alma-Ata 53.77 65 *e*P **P** **00 25 54.0 +0.9**
baz=65
AAA *i* LR LR 00 47 44.6
comp=Z,749nm,14.9s,baz=65
AAA Alma-Ata 53.77 65 *e*P **P** **00 25 54.0 +0.9**
AAA MLR MLR
comp=Z,749nm,15.0s
DWPF Disney Wildern 53.81 259 P **P** **00 25 52.8 -0.7**
baz=29
AHID Auburn Hatcher 53.82 294 IAmb IAmb 00 25 59.6
comp=Z,38nm,1.5s
MDOK Medeo 53.86 65 *i* P **P** **00 25 53.8 -0.1**
baz=65
MDOK LR LR 00 47 45.2
comp=Z,766nm,14.8s,baz=65
MDOK Medeo 53.86 65 *i* P **P** **00 25 53.8 -0.1**
MDOK MLR MLR
comp=Z,766nm,15.0s
ISCO Idaho Springs 54.12 288 P **P** **00 25 55.7 -0.3**
baz=32,SNR=6.1
ISCO Idaho Springs 54.12 288 P **P** **00 25 55.4 -0.6**
ISCO pmax pmax
comp=Z,27nm,1.9s
ISCO Idaho Springs 54.12 288 P **P** **00 25 55.4 -0.6**
Z41A Richland Creek 54.25 273 P **P** **00 25 55.4 -1.2**
baz=31
D04E Lakebay 54.40 306 P **P** **00 25 55.9 -1.6**
baz=31
BMO Blue Mountains 54.42 300 IAmb IAmb 00 26 08.8
comp=Z,44nm,1.8s
HLID Hailey 54.43 297 P **P** **00 25 57.7 -0.3**
baz=32,SNR=12
HLID Hailey 54.43 297 IAmb IAmb 00 26 02.7
comp=Z,55nm,1.9s
NLWA Neilton Lookou 54.60 307 IAmb IAmb 00 26 40.2
comp=Z,36nm,1.6s
Q24A Divide 54.63 287 P **P** **00 25 58.9 -0.8**
baz=32
UZB Uzynbulak 54.64 63 *i* P **P** **00 25 59.3 -0.2**
comp=Z,19nm,1.7s,baz=63
UZB *e*S **S** **00 33 40.1 +1.0**
baz=63
UZB Uzynbulak 54.64 63 *i* P **P** **00 25 59.3 -0.2**
UZB *e*S **S** **00 33 40.1 +1.0**
UZB pmax pmax
comp=Z,19nm,1.7s
G08A Pilot Rock 54.66 302 P **P** **00 25 58.7 -0.9**
MOY Mondy 54.73 42 *e*P **P** **00 26 01.0 +1.0**
MOY pmax pmax
comp=Z,135nm,2.3s
SHLS Shalkode 54.80 63 *i* P **P** **00 26 02.3 +1.6**
comp=Z,36nm,2.0s,baz=62
SHLS Shalkode 54.80 63 *i* P **P** **00 26 02.2 +1.6**
SHLS pmax pmax
comp=Z,36nm,2.0s
E04D Cinebar 54.87 305 P **P** **00 25 59.5 -1.4**
baz=31
O20A White River Ci 54.90 290 P **P** **00 26 01.0 -0.6**
baz=32,SNR=9.1
O20A White River Ci 54.90 290 IAmb IAmb 00 26 06.0
comp=Z,41nm,1.4s
IRK Irkutsk 55.14 40 *e*P **P** **00 26 01.6 -1.3**
IRK pmax pmax
comp=Z,103nm,2.6s
HRA Herat 55.21 82 P **P** **00 26 03.9 +0.1**
TLY Talaya 55.47 40 LR LR 00 52 31.3
comp=Z,846nm,18.1s,baz=334,slow=39
TLY Talaya 55.47 40 *c* *i* P **P** **00 26 06.8 +1.5**
TLY *e* 00 27 06.4
TLY *e* 00 28 12.2
TLY *e*S **S** **00 33 54.2 +4.4**
TLY *e* 00 35 59.3
TLY *e*SS **SS** **00 37 38.3 +4.7**
TLY pmax pmax
comp=Z,52nm,1.5s
TLY MLR MLR
comp=Z,3μm,16.0s
G05D Wamic, OR 55.55 304 P **P** **00 26 05.4 -0.5**
baz=30
WMOK Wichita Mounta 55.55 279 P **P** **00 26 05.4 -0.7**
baz=31
SDCO Great Sand Dun 55.81 287 P **P** **00 26 08.1 -0.2**
baz=31,SNR=6.2
SDCO Great Sand Dun 55.81 287 IAmb IAmb 00 26 13.0
comp=Z,42nm,2.0s
MA2 Magadan 55.85 7 ⇑ *i* P **P** **00 26 07.9 +0.1**
MA2 pmax pmax
comp=Z,13nm,1.2s
MA2 Magadan 55.85 7 P **P** **00 26 07.8 -0.1**
MA2 IAmb IAmb 00 26 11.8
comp=Z,20nm,1.1s
T25A Trinidad 55.88 285 P **P** **00 26 08.3 -0.3**
baz=31,SNR=7.9
T25A Trinidad 55.88 285 IAmb IAmb 00 26 10.4
comp=Z,46nm,1.6s
STVI Saint Thomas 55.97 238 P **P** **00 26 09.0 -0.2**
G03D McMinnville, O 56.27 305 P **P** **00 26 10.5 -0.6**
baz=30
NATX Nacogdoches 56.34 274 P **P** **00 26 10.7 -1.0**
baz=30
S22A 4UR Ranch, Cre 56.36 288 P **P** **00 26 12.1 -0.1**
baz=31,SNR=6.5
MTP Monte Pirata 56.43 238 P **P** **00 26 10.9 -1.5**
PV15 Paradox Valley 56.53 290 IAmb IAmb 00 26 17.8
comp=Z,34nm,1.5s
ZAK Zakamensk 56.53 41 *e*P **P** **00 26 13.1 +0.1**
ZAK pmax pmax
comp=Z,19nm,1.4s
AMTX Amarillo 56.66 282 P **P** **00 26 13.4 -0.7**
baz=31
DUG Dugway, Tooele 56.68 294 P **P** **00 26 14.4 +0.2**
baz=31,SNR=6.8
DUG Dugway, Tooele 56.68 294 IAmb IAmb 00 26 24.9
comp=Z,58nm,1.7s
H04D Lebanon 56.68 304 P **P** **00 26 14.3 +0.3**
baz=30
PV03 Paradox Valley 56.75 290 IAmb IAmb 00 26 19.2
comp=Z,39nm,1.3s
MLPR Magueyes Islan 57.09 240 P **P** **00 26 15.4 -1.7**
J05D Fort Rock, OR 57.22 302 P **P** **00 26 16.9 -1.1**
baz=30
WMQ Urumqi 57.29 56 *e*P **P** **00 26 21.8 +3.4**
WMQ pP sP 00 26 24.5 +0.9
WMQ S **S** **00 34 19.0 +4.8**
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ pmax pmax
comp=Z,120nm,4.9s
WMQ LR LR
comp=Z,230nm,9.1s
WMQ LR LR
comp=Z,340nm,19.9s
WMQ LR LR
comp=Z,140nm,21.7s
WMQ Urumqi 57.29 56 P **P** **00 26 18.5 +0.1**
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ Urumqi 57.29 56 P **P** **00 26 18.5 +0.1**
WMQ IAmb IAmb 00 26 23.1
comp=Z,23nm,0.9s
WHTX Lake Whitney, 57.34 276 P **P** **00 26 18.1 -0.7**
baz=30
MVCO Mesa Verde 57.50 289 P **P** **00 26 19.7 -0.5**
baz=31
MVCO Mesa Verde 57.50 289 IAmb IAmb 00 26 29.4
comp=Z,62nm,1.9s
J04D Umpqua Nationa 57.57 303 P **P** **00 26 19.7 -0.8**
baz=30
ABTX Abilene, Hawle 57.73 279 P **P** **00 26 21.2 -0.4**
baz=30
ABTX Abilene, Hawle 57.73 279 IAmb IAmb 00 26 22.6
comp=Z,25nm,1.3s
KBL Kabul 57.96 76 P **P** **00 26 23.5 +0.1**
KBL pmax pmax
comp=Z,22nm,1.4s
KBL Kabul 57.96 76 P **P** **00 26 23.5 +0.1**
J01E Myrtle Point 58.29 304 P **P** **00 26 24.1 -1.2**
baz=29
DBIC Dimbokro 58.51 165 P **P** **00 26 24.5 -2.5**
comp=Z,15nm,0.9s,baz=326,slow=3.0,SNR=9.9
DBIC LR LR 00 52 13.3
comp=Z,694nm,18.6s,baz=342,slow=37
DBIC Dimbokro 58.51 165 P **P** **00 26 26.1 -1.0**
DBIC pmax pmax
comp=Z,34nm,1.2s
DBIC Dimbokro 58.51 165 P **P** **00 26 26.1 -1.0**
DBIC IAmb IAmb 00 26 26.4
comp=Z,34nm,1.2s
TIC Toumodi 58.51 165 *e*P **P** **00 26 26.1 -1.1**
L04D Klamath Falls 58.53 303 P **P** **00 26 26.3 -1.0**
baz=29
K02D Willamette Mer 58.60 304 P **P** **00 26 26.5 -1.1**
baz=29
ANMO Albuquerque 58.61 286 P **P** **00 26 26.8 -1.2**
baz=30
ANMO Albuquerque 58.61 286 ⇑ *i* P **P** **00 26 28.8 +0.9**
ANMO pmax pmax
comp=Z,26nm,2.5s
ANMO Albuquerque 58.61 286 P **P** **00 26 27.7 -0.2**
KIC Kosan Boka 58.82 165 *e*P **P** **00 26 27.6 -1.7**
comp=Z,121nm,1.3s
ZEA Zeya 58.92 24 *e*P **P** **00 26 32.8 +3.2**
ZEA *e*S **S** **00 34 41.0 +5.9**
ZEA pmax pmax
comp=Z,28nm,1.4s
ZEA pmax pmax
comp=Z,400nm,5.0s
ZEA smax smax
comp=N,300nm,8.0s
ZEA smax smax
comp=E,300nm,8.0s
ZEA MLR MLR
comp=Z,500nm,17.0s
LIC Lamto 58.93 165 *e*P **P** **00 26 28.0 -2.0**
comp=Z,146nm,1.5s
L02E Cave Junction 59.05 304 P **P** **00 26 30.0 -0.7**
baz=29
R11A Troy Canyon, C 59.36 295 P **P** **00 26 33.2 +0.1**
baz=30,SNR=18
R11A Troy Canyon, C 59.36 295 IAmb IAmb 00 26 34.1
comp=Z,30nm,1.5s
JCT Junction City 59.65 278 P **P** **00 26 34.8 -0.2**
baz=30,SNR=7.8
JCT Junction City 59.65 278 IAmb IAmb 00 26 36.1
comp=Z,31nm,1.1s
SONM Songino Array 59.71 40 P **P** **00 26 34.9 -0.5**
comp=Z,8.4nm,1.2s,baz=328,slow=4.6,SNR=20
SONM LR LR 00 54 42.2
comp=Z,924nm,20.0s,baz=338,slow=38
KVN Kaiserville 59.72 298 P **P** **00 26 35.3 -0.3**
KVN pmax pmax
comp=Z,38nm,1.5s
KVN Kaiserville 59.72 298 P **P** **00 26 35.3 -0.3**
KVN IAmb IAmb 00 26 40.0
comp=Z,38nm,1.5s
N02D Trinity Center 59.76 302 P **P** **00 26 35.4 -0.3**
baz=29
SHME Shamm 59.78 93 P **P** **00 26 34.4 -1.5**
W18A Petrified Fore 59.81 289 P **P** **00 26 35.9 -0.4**
baz=30
ULN Ulaanbaatar 59.87 40 *d* *i* P **P** **00 26 35.9 -0.5**
ULN pmax pmax
comp=Z,33nm,1.7s
ULN Ulaanbaatar 59.87 40 P **P** **00 26 36.7 +0.3**
ULN IAmb IAmb 00 26 40.7
comp=Z,49nm,1.6s
BANOM Banah 59.96 93 P **P** **00 26 36.0 -1.2**
BANOM Banah 59.96 93 P **P** **00 26 35.8 -1.4**
BANOM P **P** **00 26 35.8 -1.4**
BANOM S **S** **00 34 51.9 +2.6**
BANOM S **S** **00 34 51.9 +2.6**
PRN Pahroc Range 59.96 294 IAmb IAmb 00 26 43.8
comp=Z,33nm,1.5s
O03E Paynes Creek 60.03 301 P **P** **00 26 36.5 -1.0**
baz=29
WUAZ Wupatki 60.13 290 P **P** **00 26 38.4 0.0**
baz=30,SNR=18
NVAR Mina Array Bea 60.34 297 P **P** **00 26 39.2 -0.6**
comp=Z,2.5nm,0.9s,baz=43,slow=5.1,SNR=12
NVAR LR LR 00 52 41.3
comp=Z,995nm,18.6s,baz=40,slow=36
MSFE Esma-Masafi 60.40 93 *i* P **P** **00 26 39.0 -1.2**
SNR=7.8
NIL Nilore 60.48 73 P **P** **00 26 40.1 -0.6**
NIL Nilore 60.48 73 P **P** **00 26 40.6 -0.1**
NIL pmax pmax
comp=Z,48nm,1.1s
NIL Nilore 60.48 73 P **P** **00 26 40.6 -0.1**
NAZ Nazwa, Dubai 60.51 94 P **P** **00 26 39.0 -1.9**
NAZ Nazwa, Dubai 60.51 94 P **P** **00 26 39.5 -1.4**
SNR=5.7
MDH Madha 60.51 93 P **P** **00 26 39.6 -1.3**
MDH Madha 60.51 93 P **P** **00 26 39.8 -1.1**
ORV Oroville 60.56 301 P **P** **00 26 39.7 -1.4**
ORV pmax pmax
comp=Z,17nm,1.6s
ORV Oroville 60.56 301 P **P** **00 26 39.7 -1.4**
LHV Little Huntoon 60.57 297 IAmb IAmb 00 26 46.6
comp=Z,30nm,1.6s
WAKR Walker 60.70 298 P **P** **00 26 41.8 -0.6**
WAKR IAmb IAmb 00 26 44.0
comp=Z,25nm,1.4s
UOSS Minazif 60.78 93 *i* P **P** **00 26 41.4 -1.3**
SNR=6.1
UOSS Minazif 60.78 93 P **P** **00 26 42.6 -0.2**
UOSS IAmb IAmb 00 26 45.2
comp=Z,24nm,1.1s
SHPR Sheep Range 60.79 294 IAmb IAmb 00 26 48.1
comp=Z,42nm,1.4s
TPNV Topopah Spring 60.83 295 P **P** **00 26 42.9 -0.3**
baz=29,SNR=11
TPNV Topopah Spring 60.83 295 P **P** **00 26 42.3 -0.9**
TPNV pmax pmax
comp=Z,66nm,1.9s
TPNV Topopah Spring 60.83 295 P **P** **00 26 42.3 -0.9**
HATD Hatta, Dubai 60.85 93 *i* P **P** **00 26 42.3 -1.0**
SNR=8.1
HATD Hatta, Dubai 60.85 93 P **P** **00 26 42.3 -1.0**
SNR=12
HATD P **P** **00 26 42.3 -1.0**
SNR=12
HATD S **S** **00 35 02.6 +1.9**
HATD S **S** **00 35 02.6 +1.9**
ASHO Ashiyiah 60.94 93 *i* P **P** **00 26 41.3 -2.6**
SNR=10
ASHO Ashiyiah 60.94 93 P **P** **00 26 42.2 -1.7**
SNR=9.7
ASHO P **P** **00 26 42.2 -1.7**
SNR=9.7
ASHO S **S** **00 35 04.5 +2.6**
ASHO S **S** **00 35 04.5 +2.6**
MNTX Cornudas Mount 60.96 283 P **P** **00 26 43.2 -0.7**
baz=30,SNR=6.2
MNTX Cornudas Mount 60.96 283 P **P** **00 26 43.5 -0.4**
MNTX IAmb IAmb 00 27 40.8
comp=Z,37nm,2.0s
X16A Lo Mia Camp, P 61.11 290 IAmb IAmb 00 26 47.0
comp=Z,21nm,1.1s
GRAC Grapevine Rang 61.23 296 P **P** **00 26 45.5 -0.2**
baz=29
121A Cookes Peak, D 61.25 286 P **P** **00 26 46.6 +0.5**
baz=29,SNR=5.4
121A Cookes Peak, D 61.25 286 IAmb IAmb 00 26 49.2
comp=Z,20nm,1.2s
OMMB Old Mammoth Mi 61.32 297 IAmb IAmb 00 26 48.7
comp=Z,20nm,1.4s
MDPB Devils Postpil 61.33 298 IAmb IAmb 00 26 51.7
comp=Z,17nm,1.3s
833A Chaparral WMA, 61.35 276 P **P** **00 26 45.6 -0.9**
baz=29
ALNE Al Ain 61.36 94 P **P** **00 26 44.8 -1.9**
FURC Furnace Creek, 61.49 295 P **P** **00 26 46.9 -0.5**
baz=29
W13A Hualapai Mount 61.51 292 IAmb IAmb 00 26 51.4
comp=Z,29nm,1.9s
SOHO SOHO 61.63 93 P **P** **00 26 47.1 -1.5**
SOHO SOHO 61.63 93 P **P** **00 26 47.0 -1.5**
HIA Hailar 61.71 30 P **P** **00 26 50.2 +1.4**
HIA pmax pmax
comp=Z,34nm,1.6s
HIA Hailar 61.71 30 P **P** **00 26 50.2 +1.4**
HIA IAmb IAmb 00 26 59.5
comp=Z,34nm,1.6s
SHOC Shoshone, Teco 61.76 294 P **P** **00 26 49.3 0.0**
baz=29
CWC Cottonwood Cre 61.99 296 P **P** **00 26 50.4 -0.6**
baz=29
TUQ Turquoise Moun 62.02 294 P **P** **00 26 50.6 -0.6**
baz=29
NEE2 Needles Airpor 62.09 292 P **P** **00 26 51.5 0.0**
baz=29
MPMC Manual Prospec 62.09 295 P **P** **00 26 51.3 -0.4**
baz=29
TX32 Lajitas Array 62.29 280 IAmb IAmb 00 27 32.9
comp=Z,36nm,1.9s
TXAR Lajitas Array 62.29 280 P **P** **00 26 52.6 -0.4**
comp=Z,4.1nm,0.9s,baz=54,slow=4.1,SNR=35
TXAR LR LR 00 53 11.9
comp=Z,556nm,18.2s,baz=0.0,slow=35
TXAR Lajitas Array 62.29 280 P **P** **00 26 52.4 -0.6**
PDMCI Parker Dam,Lak 62.30 292 P **P** **00 26 52.8 -0.1**
baz=29
ARQ Araqi 62.33 94 P **P** **00 26 52.0 -1.3**
ARQ P **P** **00 26 52.0 -1.3**
ARQ S **S** **00 35 21.6 +2.2**
ARQ S **S** **00 35 21.6 +2.2**
HOQ Hoqain 62.45 93 P **P** **00 26 54.7 +0.7**
SNR=5.6
HOQ P **P** **00 26 54.7 +0.7**
SNR=5.6
GMRC Granite Mounta 62.49 293 P **P** **00 26 54.8 +0.5**
baz=29,SNR=12
GSC Goldstone, Bar 62.49 294 P **P** **00 26 54.0 -0.3**
baz=29
GSC Goldstone, Bar 62.49 294 IAmb IAmb 00 26 57.5
comp=Z,38nm,1.8s
TUC Tucson 62.68 288 P **P** **00 26 56.4 +0.9**
baz=29
TUC Tucson 62.68 288 P **P** **00 26 55.2 -0.4**
TUC pmax pmax
comp=Z,55nm,1.8s
TUC Tucson 62.68 288 P **P** **00 26 55.2 -0.4**
PET Petropavlovsk 62.70 3 *e*P **P** **00 26 57.7 +2.5**
PET *e*S **S** **00 35 26.4 +3.2**
PET *e*SS **SS** **00 39 32.0 +5.4**
PET Petropavlovsk 62.70 3 P **P** **00 26 54.8 -0.4**
HEC Hector,Ludlow 62.72 294 P **P** **00 26 56.2 +0.4**
baz=29
ISA Isabella, Lake 62.82 296 P **P** **00 26 56.5 +0.1**
baz=28,SNR=6.2
ISA Isabella, Lake 62.82 296 IAmb IAmb 00 27 02.6
comp=Z,15nm,1.1s
IRM Iron Mountain 62.83 293 P **P** **00 26 56.6 +0.1**
baz=29,SNR=5.8
BIDO Bidbid 62.86 92 P **P** **00 26 54.9 -1.8**
SNR=8.3
RRX Edison Barstow 62.94 294 P **P** **00 26 57.4 +0.3**
baz=28
DHRM DHARAMSHALA 62.95 72 ⇓ *e*P **P** **00 26 57.1 -0.4**
DHRM IAmb IAmb 00 27 02.0
comp=Z,41nm,1.2s
BSY Bisya 63.14 93 P **P** **00 26 56.0 -2.7**
SMDO Samad 63.23 93 P **P** **00 26 57.4 -2.0**
SMDO P **P** **00 26 57.4 -2.0**
BELC Belle Mtn. Jos 63.31 293 P **P** **00 26 60.0 +0.2**
baz=28
EDW2 Edwards Air Fo 63.32 295 P **P** **00 27 00.0 +0.2**
baz=28
BC3 Big Chuckawall 63.39 292 P **P** **00 27 00.9 +0.5**
baz=28
113A Mohawk Valley, 63.49 291 IAmb IAmb 00 27 05.4
comp=Z,27nm,1.4s
TEIG Tepich 63.67 262 P **P** **00 27 00.2 -1.9**
GLA Glamis 63.67 292 P **P** **00 27 02.6 +0.5**
baz=28
BFSC Mount Baldy Ra 63.76 295 P **P** **00 27 02.9 +0.2**
baz=28
214A Organ Pipe Nat 63.82 289 P **P** **00 27 03.5 +0.5**
baz=28
PFO Pinyon Flats O 63.83 293 P **P** **00 27 02.9 -0.4**
baz=28
TYV Tymovskoe 63.87 14 *e*P **P** **00 27 00.3 -2.7**
TYV pmax pmax

	comp=Z,400nm,5.6s								
KLR	**Kul'dur**	**64.03**	**22**	⇓	*e*P		**P**	**00 27 04.1**	**0.0**
KLR					pmax		pmax		
	comp=Z,17nm,2.4s								
SWSC	**Sam W. Stewart**	**64.16**	**292**		P		**P**	**00 27 05.5**	**+0.3**
	baz=28								
SMLA	**Simla**	**64.29**	**72**		*e*P		**P**	**00 27 06.0**	**-0.1**
MONP2	**Monument Peak**	**64.45**	**293**		P		**P**	**00 27 07.1**	**-0.4**
	baz=28								
IKP	**In-Ko-Pah, Jac**	**64.54**	**292**		P		**P**	**00 27 07.9**	**0.0**
	baz=28								
GTA	**Gaotai**	**65.36**	**49**		*e*P		**P**	**00 27 13.3**	**+0.1**
GTA					pP		sP	00 27 17.8	-0.6
GTA					sP		pP	00 27 21.0	+4.0
GTA					S		**S**	**00 36 03.8**	**+6.8**
GTA					SS		**SS**	**00 40 12.0**	**+2.9**
GTA					pmax		pmax		
	comp=Z,8.0nm,1.8s								
GTA					pmax		pmax		
	comp=Z,360nm,5.8s								
GTA					LR		LR		
	comp=Z,360nm,18.2s								
GTA					LR		LR		
	comp=Z,580nm,17.5s								
GTA					LR		LR		
	comp=Z,730nm,17.5s								
HSIG		**65.63**	**286**		P		**P**	**00 27 14.0**	**-0.8**
HSIG					IAmb		IAmb	00 27 19.3	
	comp=Z,29nm,1.4s								
SPX	**San Pedro Mart**	**65.70**	**291**		IAmb		IAmb	00 27 20.8	
	comp=Z,23nm,1.3s								
SDV	**Santo Domingo**	**66.77**	**239**		P		**P**	**00 27 21.9**	**-0.6**
ARGC	**Ariguani, Magd**	**67.25**	**243**		*e*P		**P**	**00 27 25.9**	**+0.6**
PETF	**Flores**	**67.29**	**261**		P		**P**	**00 27 24.7**	**-0.8**
BTO	**Baotou**	**67.38**	**41**		P		**P**	**00 27 25.5**	**-0.5**
SJCC	**San Jacinto, C**	**67.57**	**244**		*e*P		**P**	**00 27 27.1**	**-0.4**
ZAIG	**Zacatecas**	**67.58**	**276**		IAmb		IAmb	00 27 33.3	
	comp=Z,19nm,1.3s								
HHC	**Hu-ho-hao-te**	**67.58**	**40**		*e*P		**P**	**00 27 29.8**	**+2.5**
HHC					S		**S**	**00 36 28.5**	**+4.7**
HHC					pmax		pmax		
	comp=Z,33nm,1.3s								
HHC					pmax		pmax		
	comp=Z,220nm,5.7s								
HHC					LR		LR		
	comp=Z,200nm,18.0s								
HHC					LR		LR		
	comp=Z,380nm,18.3s								
HHC					LR		LR		
	comp=Z,310nm,21.8s								
SRIG	**Santa Rosalia**	**67.66**	**287**		P		**P**	**00 27 29.1**	**+1.3**
YSS	**Yuzh-Sakhalins**	**67.74**	**14**	*c*	*i*P		**P**	**00 27 30.5**	**+2.5**
YSS					*e*S		**S**	**00 36 28.4**	**+3.2**
YSS					*e*PPS		PPS	00 36 56.3	
YSS					pmax		pmax		
	comp=Z,20nm,0.9s								
YSS					smax		smax		
	comp=N,400nm,10.0s								
YSS					smax		smax		
	comp=E,200nm,9.6s								
YSS					MLR		MLR		
	comp=N,300nm,16.0s								
YSS					MLR		MLR		
	comp=Z,300nm,16.0s								
YSS	**Yuzh-Sakhalins**	**67.74**	**14**		P		**P**	**00 27 28.6**	**+0.6**
CN2	**Changchun**	**68.12**	**28**		*e*P		**P**	**00 27 31.5**	**+1.0**
CN2					*e*S		**S**	**00 36 29.8**	**-0.1**
CN2					SS		**SS**	**00 40 51.8**	**+0.6**
CN2					pmax		pmax		
	comp=Z,10.0nm,0.8s								
CN2					pmax		pmax		
	comp=Z,300nm,5.0s								
CN2					LR		LR		
	comp=Z,300nm,14.0s								
CN2					LR		LR		
	comp=Z,300nm,14.0s								
CN2					LR		LR		
	comp=Z,600nm,17.0s								
MDJ	**Mudanjiang**	**68.13**	**25**		P		**P**	**00 27 31.6**	**+1.1**
MDJ					IAmb		IAmb	00 27 35.2	
	comp=Z,34nm,1.7s								
TGUH	**Tegucigalpa,Un**	**68.74**	**258**		P		**P**	**00 27 34.1**	**-0.7**
TGUH					IAmb		IAmb	00 28 31.9	
	comp=Z,11nm,0.7s								
MOTC	**Monteria, Cord**	**68.78**	**244**		*e*P		**P**	**00 27 35.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**68.95**	**23**		LR		LR	00 58 56.0	
	comp=Z,195nm,19.2s,baz=330,slow=37								
ESTN	**Estel**	**69.21**	**256**		P		**P**	**00 27 35.5**	**-2.3**
BOAB	**BOACO BROADBAND**	**69.51**	**255**		P		**P**	**00 27 38.1**	**-1.4**
BRRC	**Barranca, Sant**	**69.56**	**242**		*e*P		**P**	**00 27 38.5**	**-1.3**
BJI	**Beijing**	**69.57**	**36**		P		**P**	**00 27 41.0**	**+1.5**
BJI					S		**S**	**00 36 51.5**	**+4.4**
BJI					SS		**SS**	**00 41 09.8**	**-3.9**
BJI					pmax		pmax		
	comp=Z,14nm,1.7s								
BJI					pmax		pmax		
	comp=Z,230nm,3.5s								
BJI					LR		LR		
	comp=Z,860nm,16.1s								
BJI					LR		LR		
	comp=Z,440nm,17.0s								
BJI					LR		LR		
	comp=Z,750nm,18.0s								
BJT	**Baijiatuan**	**69.58**	**36**		P		**P**	**00 27 40.8**	**+1.1**
BJT					pmax		pmax		
	comp=Z,50nm,1.7s								
BJT	**Baijiatuan**	**69.58**	**36**		P		**P**	**00 27 40.8**	**+1.1**
BJT					IAmb		IAmb	00 27 44.0	
	comp=Z,50nm,1.7s								
LZH	**Lanzhou**	**69.69**	**48**	⇑	P		**P**	**00 27 41.3**	**+0.7**
LZH					pP		pP	00 27 44.8	+0.3
LZH					sP		sP	00 27 47.3	+1.4
LZH					pmax		pmax		
	comp=Z,20nm,1.1s								
LZH					pmax		pmax		
	comp=Z,130nm,5.3s								
LZH					LR		LR		
	comp=Z,430nm,16.3s								
LZH					LR		LR		
	comp=Z,580nm,14.1s								
LZH					LR		LR		
	comp=Z,710nm,17.4s								
BARC	**Barichara**	**69.83**	**241**		*e*P		**P**	**00 27 39.8**	**-2.0**
BCIP	**Isla Barro Col**	**70.08**	**248**		P		**P**	**00 27 41.1**	**-1.9**
BCIP					pmax		pmax		
	comp=Z,21nm,1.2s								
BCIP	**Isla Barro Col**	**70.08**	**248**		P		**P**	**00 27 41.1**	**-1.9**
BCIP					IAmb		IAmb	00 27 53.5	
	comp=Z,21nm,1.1s								
PTBC	**PUERTO BERRIO,**	**70.37**	**242**		*e*P		**P**	**00 27 43.8**	**-1.0**
RUSC	**La Rusia**	**70.44**	**241**		*e*P		**P**	**00 27 44.0**	**-1.8**
RUSC	**La Rusia**	**70.44**	**241**		P		**P**	**00 27 44.1**	**-1.7**
TLIG	**Tlapa**	**70.45**	**270**		P		**P**	**00 27 44.3**	**-1.2**
ASAJ	**Asahikawa**	**70.52**	**15**		LR		LR	01 01 49.4	
	comp=Z,201nm,18.6s,baz=340,slow=39								
DBBC	**Dabeiba**	**70.60**	**244**		*e*P		**P**	**00 27 46.3**	**0.0**
TIY	**Taiyuan**	**70.75**	**40**		*e*P		**P**	**00 27 49.3**	**+2.3**
TIY					pmax		pmax		
	comp=Z,170nm,3.5s								
TIY					LR		LR		
	comp=Z,570nm,15.0s								
TIY					LR		LR		
	comp=Z,210nm,14.4s								
TIY					LR		LR		
	comp=Z,540nm,14.4s								
SPBC	**San Pablo de B**	**71.04**	**241**		*e*P		**P**	**00 27 48.5**	**-0.4**
LSA	**Lhasa**	**71.07**	**61**		P		**P**	**00 27 49.2**	**-0.3**
LSA					pmax		pmax		
	comp=Z,75nm,1.9s								
LSA	**Lhasa**	**71.07**	**61**		P		**P**	**00 27 49.2**	**-0.3**
HELC	**Santa Helena**	**71.10**	**243**		*e*P		**P**	**00 27 49.8**	**+0.2**
NORC	**Norcasia**	**71.42**	**242**		*e*P		**P**	**00 27 50.2**	**-1.0**
CBOC	**Ciudad Bolivar**	**71.58**	**243**		*e*P		**P**	**00 27 52.3**	**0.0**
ROSC	**El Rosal**	**71.88**	**241**		P		**P**	**00 27 54.2**	**-0.2**
	comp=Z,10nm,0.6s,baz=19,slow=5.0,SNR=18								
ROSC					LR		LR	00 55 44.2	
	comp=Z,569nm,21.9s,baz=10.0,slow=33								
ROSC	**El Rosal**	**71.88**	**241**		*e*P		**P**	**00 27 52.5**	**-1.8**
GUY2C	**Guyana, Caldas**	**71.92**	**242**		*e*P		**P**	**00 27 54.6**	**-0.1**
DL2	**Dalian**	**71.97**	**32**		P		**P**	**00 27 55.5**	**+1.3**
DL2					PP		**PP**	**00 30 37.5**	**+4.2**
DL2					S		**S**	**00 37 18.8**	**+3.7**
DL2					pmax		pmax		
	comp=Z,390nm,5.3s								
DL2					LR		LR		
	comp=Z,790nm,17.3s								
DL2					LR		LR		
	comp=Z,290nm,13.7s								
DL2					LR		LR		
	comp=Z,870nm,18.4s								
GTK	**Tadong**	**72.23**	**64**		*e*P		**P**	**00 27 56.3**	**+0.2**
VILC	**Villavicencio,**	**72.31**	**240**		*e*P		**P**	**00 27 55.5**	**-1.1**
TOLC	**Tolima**	**72.49**	**242**		*e*P		**P**	**00 27 58.3**	**+0.3**
ANIL	**Santa Ana**	**72.61**	**242**		*e*P		**P**	**00 27 59.0**	**+0.4**
ORTC	**Ortega, Tolima**	**73.08**	**242**		*e*P		**P**	**00 27 59.9**	**-1.2**
PRAC	**Prado**	**73.12**	**241**		*e*P		**P**	**00 27 58.2**	**-3.2**
XAN	**Xi'an**	**73.16**	**44**		P		**P**	**00 28 01.3**	**-0.1**
XAN					PcP		**PcP**	**00 28 20.3**	**+2.3**
XAN					PP		**PP**	**00 30 42.8**	**-0.9**
XAN					S		**SKiKP**	**00 37 32.0**	**-0.9**
XAN					pmax		pmax		
	comp=Z,21nm,1.8s								
XAN					pmax		pmax		
	comp=Z,330nm,3.9s								
XAN					LR		LR		
	comp=Z,710nm,23.9s								
XAN					LR		LR		
	comp=Z,500nm,19.2s								
XAN					LR		LR		
	comp=Z,1μm,23.5s								
XAN	**Xi'an**	**73.16**	**44**		P		**P**	**00 28 01.1**	**-0.3**
XAN					pmax		pmax		
	comp=Z,43nm,1.5s								
XAN	**Xi'an**	**73.16**	**44**		P		**P**	**00 28 01.1**	**-0.3**
XAN					IAmb		IAmb	00 28 04.8	
	comp=Z,43nm,1.5s								
YOTC	**Yotoco, Valle**	**73.43**	**243**		*e*P		**P**	**00 28 00.3**	**-3.0**
MBAR	**Mbarara**	**73.86**	**129**		P		**P**	**00 28 06.2**	**+0.4**
MBAR					pmax		pmax		
	comp=Z,18nm,1.7s								
MBAR	**Mbarara**	**73.86**	**129**		P		**P**	**00 28 06.2**	**+0.4**
MACC	**Macarena, Meta**	**74.18**	**240**		*e*P		**P**	**00 28 06.6**	**-1.0**
BETC	**Betania**	**74.28**	**242**		*e*P		**P**	**00 28 07.4**	**-0.8**
BOK	**Bokaro**	**74.32**	**68**		*e*P		**P**	**00 28 08.3**	**0.0**
CD2	**Chengdu**	**74.42**	**50**		P		**P**	**00 28 07.0**	**-1.9**
CD2					S		**S**	**00 37 45.8**	**+2.5**
CD2					pmax		pmax		
	comp=Z,30nm,1.1s								
CD2					LR		LR		
	comp=Z,590nm,15.8s								
CD2					LR		LR		
	comp=Z,740nm,22.3s								
CD2					LR		LR		
	comp=Z,880nm,22.3s								
GUWA	**GUWAHATI**	**74.43**	**62**		*ex*		x	00 28 05.3	
TEZP	**TEZPUR**	**74.47**	**61**		*e*P		**P**	**00 28 06.1**	**-3.0**
TEZP					IAmb		IAmb	00 28 13.6	
	comp=Z,73nm,1.7s								
KSRS	**Korea Array**	**74.73**	**28**		LR		LR	01 04 48.3	
	comp=Z,249nm,19.2s,baz=334,slow=39								
POPC	**Popayan, Colom**	**74.89**	**243**		*e*P		**P**	**00 28 09.0**	**-2.9**
PCON	**Cinco Dias**	**74.97**	**242**		*e*P		**P**	**00 28 12.0**	**-0.8**
SHL	**Shillong**	**75.07**	**62**		*e*P		**P**	**00 28 11.8**	**-1.1**
SHL					IAmb		IAmb	00 28 16.9	
	comp=Z,8.5nm,0.7s								
SHL	**Shillong**	**75.07**	**62**		P		**P**	**00 28 12.6**	**-0.2**
SHL					pmax		pmax		
	comp=Z,78nm,1.8s								
SHL	**Shillong**	**75.07**	**62**		P		**P**	**00 28 12.6**	**-0.2**
FLOC	**Florencia**	**75.37**	**241**		*e*P		**P**	**00 28 11.6**	**-2.9**
FLOC	**Florencia**	**75.37**	**241**		P		**P**	**00 28 12.8**	**-1.7**
BBAC	**Balboa, Cauca**	**75.58**	**243**		*e*P		P	00 28 04.5	-11
TJN	**Taejon**	**75.66**	**29**	⇑	*e*P		**P**	**00 28 15.4**	**-0.4**
PTLC	**Puerto Leguiza**	**76.35**	**240**		*e*P		**P**	**00 28 20.3**	**+0.3**
ENH	**Enshi**	**76.84**	**45**		P		**P**	**00 28 22.5**	**-0.2**
OTAV	**Otavalo**	**77.68**	**243**		*e*P		**P**	**00 28 26.3**	**-1.8**
OTAV	**Otavalo**	**77.68**	**243**		P		**P**	**00 28 25.6**	**-2.4**
OTAV					pmax		pmax		
	comp=Z,28nm,1.5s								
OTAV	**Otavalo**	**77.68**	**243**		P		**P**	**00 28 25.6**	**-2.4**
OTAV					IAmb		IAmb	00 28 29.0	
	comp=Z,28nm,1.4s								
NJ2	**Nanjing**	**77.81**	**37**		*e*P		**P**	**00 28 28.0**	**-0.1**
NJ2					sP		**sP**	**00 28 34.3**	**+1.0**
NJ2					S		**S**	**00 38 26.0**	**+5.6**
NJ2					sS		**sS**	**00 38 27.8**	**+1.0**
NJ2					pmax		pmax		
	comp=Z,7.0nm,0.5s								
NJ2					pmax		pmax		
	comp=Z,450nm,4.8s								
NJ2					LR		LR		
	comp=Z,390nm,18.2s								
NJ2					LR		LR		
	comp=Z,290nm,14.4s								
NJ2					LR		LR		
	comp=Z,910nm,22.7s								
WHN	**Wuhan**	**78.02**	**41**	⇑	P		**P**	**00 28 29.5**	**+0.3**
WHN					S		**S**	**00 38 25.5**	**+2.8**
WHN					pmax		pmax		
	comp=Z,420nm,5.7s								
WHN					LR		LR		
	comp=Z,1μm,16.4s								
WHN					LR		LR		
	comp=Z,590nm,16.1s								
WHN					LR		LR		
	comp=Z,1μm,21.4s								
SAIH	**SAIHA**	**78.27**	**62**		*e*P		**P**	**00 28 31.1**	**+0.1**
SSE	**Sheshan**	**79.31**	**35**		P		**P**	**00 28 38.3**	**+1.9**
SSE					S		**S**	**00 38 40.5**	**+4.0**
SSE					pmax		pmax		
	comp=Z,21nm,0.6s								
SSE					pmax		pmax		
	comp=Z,170nm,4.7s								
SSE					LR		LR		
	comp=Z,280nm,18.6s								
SSE					LR		LR		
	comp=Z,160nm,19.7s								
KMI	**Kunming**	**79.41**	**53**	⇑	*e*P		**P**	**00 28 37.0**	**-0.3**
KMI					pP		pP	00 28 40.0	-1.2
KMI					S		**S**	**00 38 35.0**	**-3.2**
KMI					pmax		pmax		
	comp=Z,14nm,1.1s								
KMI					pmax		pmax		
	comp=Z,270nm,5.7s								
KMI					LR		LR		
	comp=Z,230nm,19.0s								
KMI					LR		LR		
	comp=Z,180nm,12.8s								
KMI					LR		LR		
	comp=Z,320nm,23.8s								
KMI	**Kunming**	**79.41**	**53**		P		**P**	**00 28 37.3**	**0.0**
KMI					pmax		pmax		
	comp=Z,13nm,0.9s								
KMI	**Kunming**	**79.41**	**53**		P		**P**	**00 28 37.3**	**0.0**
GYA	**Guiyang**	**79.49**	**49**	⇑	P		**P**	**00 28 37.0**	**-0.6**
GYA					PP		**PP**	**00 31 41.5**	**+4.2**
GYA					S		**S**	**00 38 40.5**	**+1.7**
GYA					SKS		**SKSac**	**00 38 49.3**	**-4.7**
GYA					pmax		pmax		
	comp=Z,15nm,1.4s								
GYA					pmax		pmax		
	comp=Z,230nm,5.9s								
GYA					LR		LR		
	comp=Z,280nm,18.0s								
GYA					LR		LR		
	comp=Z,270nm,20.6s								
GYA					LR		LR		
	comp=Z,320nm,14.3s								
JNU	**Nakatsue**	**79.51**	**27**		LR		LR	01 05 16.3	
	comp=Z,245nm,20.4s,baz=332,slow=37								
SAML	**Samuel**	**80.87**	**226**		P		**P**	**00 28 44.2**	**-0.6**
SAML					pmax		pmax		
	comp=Z,37nm,1.7s								
SAML	**Samuel**	**80.87**	**226**		P		**P**	**00 28 44.2**	**-0.6**
SAML					IAmb		IAmb	00 28 44.8	
	comp=Z,37nm,1.6s								
BDFB	**Brasilia**	**83.30**	**209**		P		**P**	**00 28 56.5**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=30,slow=14,SNR=3.8								
BDFB					LR		LR	00 59 37.4	
	comp=Z,629nm,21.1s,baz=323,slow=31								
SLVN	**Son La**	**83.31**	**53**		P		**P**	**00 28 58.9**	**+1.1**
SLVN					IAmb		IAmb	00 29 01.3	
	comp=Z,30nm,1.7s								
CHTO	**Chiang Mai**	**83.86**	**59**		P		**P**	**00 29 00.0**	**-0.6**
CHTO					pmax		pmax		
	comp=Z,32nm,1.4s								
CHTO	**Chiang Mai**	**83.86**	**59**		P		**P**	**00 28 60.0**	**-0.6**
CHTO					IAmb		IAmb	00 29 04.0	
	comp=Z,32nm,1.4s								
CM31	**Chiang Mai Arr**	**84.18**	**59**		P		**P**	**00 29 01.4**	**-0.9**
CM31					IAmb		IAmb	00 29 06.0	
	comp=Z,37nm,1.6s								
CMAR	**Chiang Mai Arr**	**84.18**	**59**		P		**P**	**00 29 00.9**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=322,slow=6.0,SNR=11								
CMAR					LR		LR	01 09 12.2	
	comp=Z,241nm,19.5s,baz=345,slow=38								
CMAR	**Chiang Mai Arr**	**84.18**	**59**	*c*	*e*P		**P**	**00 29 01.9**	**-0.3**
CMAR					pmax		pmax		
	comp=Z,3.0nm,0.9s								
QZH	**Quanzhou**	**84.50**	**39**	⇑	*i*P		**P**	**00 29 04.0**	**+0.3**
QZH					S		**S**	**00 39 31.5**	**+1.4**
QZH					pmax		pmax		
	comp=Z,170nm,6.1s								
QZH					LR		LR		
	comp=Z,510nm,17.2s								
QZH					LR		LR		
	comp=Z,150nm,14.2s								
QZH					LR		LR		
	comp=Z,750nm,18.2s								
PBKT	**Sadao Pong**	**86.66**	**58**		P		**P**	**00 29 14.5**	**-0.1**
PBKT					IAmb		IAmb	00 29 18.1	
	comp=Z,17nm,1.3s								
LSZ	**Lusaka**	**86.86**	**136**		P		**P**	**00 29 15.3**	**-0.2**
LSZ					pmax		pmax		
	comp=Z,19nm,1.7s								
LSZ	**Lusaka**	**86.86**	**136**		P		**P**	**00 29 15.3**	**-0.2**
LSZ					IAmb		IAmb	00 29 22.6	
	comp=Z,19nm,1.6s								
JCJ	**Chichijima**	**87.26**	**18**		LR		LR	01 09 10.1	
	comp=Z,81nm,21.2s,baz=18,slow=36								
QIZ	**Qiongzhong**	**87.44**	**49**		P		**P**	**00 29 18.3**	**-0.1**
QIZ					S		**S**	**00 39 59.5**	**+0.4**
QIZ					pmax		pmax		
	comp=Z,8.0nm,1.3s								
QIZ					pmax		pmax		
	comp=Z,220nm,5.9s								
QIZ					LR		LR		
	comp=Z,340nm,15.4s								
QIZ					LR		LR		
	comp=Z,370nm,16.2s								
QIZ					LR		LR		
	comp=Z,410nm,19.4s								
LPAZ	**La Paz**	**89.34**	**228**		P		**P**	**00 29 26.7**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=356,slow=0.8,SNR=4.4								
LPAZ					LR		LR	01 06 54.0	
	comp=Z,144nm,19.4s,baz=3.5,slow=34								
PB16	**IPOC Station P**	**91.70**	**228**		P		**P**	**00 29 37.9**	**-1.0**
CPUP	**Villa Florida**	**95.76**	**215**		LR		LR	01 09 10.4	
	comp=Z,358nm,18.2s,baz=18,slow=33								
PSI	**Prapat**	**98.52**	**65**		LR		LR	01 18 46.8	
	comp=Z,169nm,19.7s,baz=271,slow=38								
BOSA	**Boshof**	**98.69**	**143**		LR		LR	01 17 10.2	
	comp=Z,552nm,18.2s,baz=347,slow=37								
PPT2	**Papeete2**	**123.14**	**302**		*e*LR		LR	01 13 40.2	
	comp=Z,199nm,22.8s								
TBI	**Tubuai**	**128.37**	**299**		*e*LR		LR	01 16 06.2	
	comp=Z,236nm,29.2s								
WRA	**Warramunga Arr**	**131.60**	**36**		PKP		**PKPdf**	**00 35 41.7**	**-1.7**
	comp=Z,1.4nm,1.0s,baz=350,slow=2.2,SNR=4.8								
WRA	**Warramunga Arr**	**131.60**	**36**	*c*	*i*PKIKP		**PKPdf**	**00 35 42.5**	**-1.0**
WRA					pmax		pmax		
	comp=Z,1.0nm,1.0s								
WRA	**Warramunga Arr**	**131.60**	**36**				**PKPdf**	**00 35 42.3**	**-1.2**
ASAR	**Alice Springs**	**135.04**	**38**		PKP		**PKPdf**	**00 35 48.1**	**-1.7**
	comp=Z,2.0nm,1.1s,baz=352,slow=2.2,SNR=6.9								
DZM	**Mont Dzumac**	**137.43**	**355**		*e*LR		LR	01 20 15.9	
	comp=Z,358nm,25.1s								
BELA	**Belgrano 2**	**142.60**	**186**				**PKPdf**	**00 36 00.3**	**-1.7**
MAW	**Mawson**	**143.66**	**140**		PKP		**PKPdf**	**00 36 02.7**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=310,slow=8.4,SNR=5.9								
BBOO	**Buckleboo**	**144.29**	**40**				PKPbc	00 36 04.8	+0.1
STKA	**Stephens Creek**	**144.80**	**32**		PKP		**PKPab**	**00 36 04.9**	**-1.3**
	comp=Z,7.2nm,0.9s,baz=331,slow=6.8,SNR=12								
STKA	**Stephens Creek**	**144.80**	**32**				PKPbc	00 36 06.2	-0.1
QSPA	**South Pole Qui**	**154.50**	**180**		PKPdf		**PKPdf**	**00 36 19.4**	**-2.1**
VNDA	**Vanda**	**166.99**	**179**		PKIKP		**PKPdf**	**00 36 36.9**	**+2.2**
VNDA	**Vanda**	**166.99**	**179**		PKPdf		**PKPdf**	**00 36 36.9**	**+2.2**
VNDA							**PKPab**	**00 37 39.5**	**+0.8**

ATH 27 00:19:35.6, 39°.94N × 23°.47E, h24$^{km}_{\pm}$1km, ML1.8/13, Error ellipse: s-maj=1.6km s-min=0.8km az=282.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.16**	**94**	P	Pb		00 19 40.3	-0.4
PAIG				S	Sb		00 19 43.0	-1.1
PAIG				AML	AML		00 19 43.4	
	comp=E,1479μm,0.2s							
PAIG				AML	AML		00 19 43.5	
	comp=N,1631μm,0.2s							
PLG	**Polygyros**	**0.44**	**357**	P	Pb		00 19 44.8	0.0
PLG				S	Sb		00 19 50.9	-0.1
PLG				AML	AML		00 19 51.2	
	comp=E,496μm,0.3s							
PLG				AML	AML		00 19 51.5	
	comp=N,174μm,0.1s							
OUR	**Ouranopolis**	**0.56**	**44**	P	Pb		00 19 47.3	+0.5
OUR				AML	AML		00 19 56.4	
	comp=E,428μm,0.3s							
OUR				AML	AML		00 19 57.0	
	comp=N,438μm,0.2s							
XOR	**Xorichti**	**0.61**	**201**	P	Pb		00 19 48.2	+0.5
XOR				S	Sb		00 19 56.8	+0.9
XOR				AML	AML		00 19 59.6	
	comp=N,202μm,0.3s							
XOR				AML	AML		00 20 02.3	
	comp=E,95μm,0.7s							
NEO	**Neokhori**	**0.66**	**197**	P	Pb		00 19 48.9	+0.4
NEO				S	Sb		00 19 58.1	+0.9
NEO				AML	AML		00 19 59.9	
	comp=E,245μm,0.4s							
NEO				AML	AML		00 20 03.5	
	comp=N,181μm,0.2s							
HORT	**Hortiatis**	**0.72**	**337**	P	Pn		00 19 50.1	-0.2
HORT				S	Sn		00 20 00.5	-0.2
SKIA	**Skiathos**	**0.77**	**180**	P	Pn		00 19 51.3	+0.3
SKIA				S	Sn		00 20 01.6	-0.1
SKIA				AML	AML		00 20 02.7	
	comp=E,148μm,0.4s							
SKIA				AML	AML		00 20 05.2	
	comp=N,122μm,0.3s							
LIT	**Litokhoron**	**0.77**	**283**	P	Pn		00 19 50.8	-0.2
LIT				S	Sn		00 20 01.6	-0.3
LIT				AML	AML		00 20 04.7	
	comp=E,122μm,0.3s							
LIT				AML	AML		00 20 05.3	
	comp=N,239μm,0.3s							
**TH

comp=E,34µm,0.3s

MMB	**Musomiste**	**1.66**	**7**	*e*P	Pb	00 20 05.7	+0.2
MMB				*e*S	Sn	00 20 24.7	+0.9
SMTH	**Samothraki Isl**	**1.66**	**71**	P	Pb	00 20 05.3	-0.2
KKB	**Krupnik**	**1.95**	**351**	*e*P	Pb	00 20 10.8	+0.3
STIP	**Stip**	**2.01**	**331**	*i* Pn	Pb	00 20 10.9	-0.5

VIE ***27*** *00:21:19.4±0.4, 46°.39N×15°.08E, h0km, ml1.1/2, Error ellipse: s-maj=2.9km s-min=1.4km az=5.0 23 km NW of Celje Suspected Mining induced.*

LJU 27 00:21:19.1, 46°.39N×15°.07E, h0km, ML0.5 Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.25**	**7**	*e*Pg	Pg	00 21 24.0	+0.2
PERS				*i* Sg	Sg	00 21 27.8	+0.7
	comp=Z,7.0nm,0.2s						
SOKA	**Soboth**	**0.29**	**355**	*i* Pg	Pg	00 21 24.5	-0.2
	comp=Z,1.2nm,0.2s						
SOKA				*e*Sg	Sg	00 21 29.0	+0.6
	comp=Z,1.9nm,0.2s						
GROS	**Grobnik**	**0.31**	**76**	*i* Pg	Pg	00 21 24.7	-0.3
GROS				*i* Sg	Sg	00 21 29.7	+0.8
	comp=Z,2.0nm,0.1s						
PDKS	**Podkum**	**0.33**	**189**	*i* Pg	Pg	00 21 25.3	-0.1
	comp=Z,1.0nm,0.1s						
OBKA	**Obir**	**0.38**	**288**	*e*Pg	Pg	00 21 26.9	+0.5
	comp=Z,2.8nm,0.3s						
OBKA				*i* Sg	Sg	00 21 32.7	+1.5
	comp=Z,12nm,0.3s						

PRU 27 00:24:14.9±0.0, 50°.26N×18°.82E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.61**	**226**	*e*PG	Pg	00 24 26.4	-0.1
OKC				*e*SG	Sg	00 24 35.0	+0.7
	comp=Z,223nm,0.7s						
OJC	**Ojcow**	**0.63**	**93**	*e*Pg	Pg	00 24 26.3	-0.6
OJC				*e*Sg	Sg	00 24 34.4	-0.7
MORC	**Moravsky Berou**	**0.96**	**240**	*e*PG	Pg	00 24 33.1	-0.1
MORC				*e*SG	Sg	00 24 45.9	+0.3
NIE	**Niedzica**	**1.28**	**131**	*e*Pg	Pg	00 24 38.5	-0.8
NIE				*e*Sg	Sg	00 24 55.7	-0.1
KRLC	**Kraliky**	**1.32**	**263**	*e*PG	Pg	00 24 39.2	-1.1
KRLC				*e*SG	Sg	00 24 57.5	+0.1
	comp=Z,9.7nm,0.6s						
JAVC	**Velka Javorina**	**1.59**	**209**	*e*PN	Pn	00 24 44.2	-0.1
DPC	**Dobruska-Polom**	**1.60**	**274**	*e*PG	Pn	00 24 44.5	0.0
DPC				*e*SG	Sg	00 25 06.7	+0.3
	comp=Z,12nm,0.7s						
OSTC	**Ostas**	**1.69**	**281**	*e*PG	Pn	00 24 45.0	-0.7
OSTC				*e*SG	Sg	00 25 09.2	0.0
KSP	**Ksiaz**	**1.71**	**291**	*e*Pg	Pg	00 24 48.2	+0.5
KSP				*e*Sg	Sg	00 25 10.4	+0.5
VRAC	**Vranov**	**1.73**	**237**	*e*PN	Pn	00 24 46.2	0.0
VRAC				*e*SG	Sn	00 25 09.1	+0.1
VYHS	**Vyhne**	**1.77**	**180**	*e*PN	Pn	00 24 45.5	-1.3
VYHS				*e*SN	Sn	00 25 10.1	+0.2
CHVC	**Chvalec**	**1.80**	**282**	*e*PG	Pb	00 24 48.2	-0.5
CHVC				*e*SG	Sb	00 25 12.0	+0.2
UPC	**Upice**	**1.81**	**279**	*e*SG	Sg	00 25 13.9	+0.7
KRUC	**Moravsky**	**1.98**	**234**	*e*PN	Pn	00 24 49.6	-0.1
KRUC				*e*SG	Sb	00 25 14.4	-0.6
TREC	**Trest**	**2.37**	**247**	*e*SG	Sg	00 25 29.8	-1.1
GOPC	**GO Pecny, Ondr**	**2.62**	**264**	*e*SG	Sg	00 25 37.5	-1.5
PVCC	**Panska Ves**	**2.73**	**277**	*e*SG	Sg	00 25 42.8	+0.1
	comp=Z,9.4nm,0.4s						
PRU	**Pruhonice**	**2.77**	**266**	*e*SG	Sg	00 25 42.3	-1.4
PBCC	**Pribram**	**3.17**	**261**	*e*SG	Sg	00 25 55.5	-1.1
KHC	**Kasperske Hory**	**3.59**	**254**	*e*SG	Sg	00 26 08.8	-1.2

WEL ***27*** *00:32:41.9±0.7, 37°.5S×17°.8E±°, h204km±6km, M3.2/34, MLv3.2/34, Error ellipse: s-maj=0.0km s-min=0.0km az=81.7*

IDC ***27*** *00:32:43.8±1.2, 37°.05S×177°.06E, h225km±12km, mb3.6/3, mb1 3.6/4, mb1mx3.3/31, mbtmp4.1/4, Error ellipse: s-maj=35.2km s-min=27.3km az=116.0*

ISC 27 00:32:41.0±1.1, 36°.77S±0°.07×177°.57E±0°.07, h225km±7km, n93, σ1§30/114, mb3.6/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.99**	**144**	P	**Pn**	**00 33 12.2**	**-1.0**
MXZ				S	**S**	**00 33 35.8**	**-2.7**
HAZ	**Te Kaha**	**1.00**	**170**	P	**Pn**	**00 33 12.6**	**-0.6**
HAZ				S	**S**	**00 33 37.3**	**-1.3**
RUGZ	**Raukumara Rang**	**1.20**	**176**	P	**Pn**	**00 33 13.9**	**-0.8**
WMGZ	**Waiomatatini S**	**1.25**	**148**	P	**Pn**	**00 33 14.6**	**-0.3**
WMGZ				S	**S**	**00 33 40.0**	**-1.4**
PUZ	**Puketiti**	**1.41**	**157**	P	**Pn**	**00 33 16.0**	**-0.1**
PUZ				S	**S**	**00 33 42.2**	**-1.5**
KUZ	**Kuaotunu**	**1.49**	**270**	P	**Pn**	**00 33 15.5**	**-1.3**
URZ	**Urewera**	**1.53**	**194**	P	**Pn**	**00 33 17.1**	**0.0**
	5.4nm,0.3s,baz=357,slow=3.4,SNR=42						
URZ				S	**S**	**00 33 44.1**	**-1.3**
	7.3nm,0.3s,baz=173,slow=22,SNR=8.6						
URZ	**Urewera**	**1.53**	**194**	P	**Pn**	**00 33 17.3**	**+0.2**
URZ				S	**S**	**00 33 44.7**	**-0.7**
MWZ	**Matawai**	**1.56**	**181**	P	**Pn**	**00 33 17.7**	**+0.2**
MWZ				S	**S**	**00 33 45.6**	**-0.4**
TKGZ	**Te Karaka**	**1.68**	**173**	P	**Pn**	**00 33 18.8**	**+0.4**
TKGZ				S	**S**	**00 33 46.8**	**-0.9**
GRZ	**Great Barrier**	**1.78**	**286**	P	**Pn**	**00 33 17.6**	**-1.8**
MUGZ	**Murupara**	**1.82**	**200**	P	**Pn**	**00 33 20.0**	**+0.3**
RTZ	**Ruatahuna**	**1.90**	**194**	P	**Pn**	**00 33 20.5**	**0.0**
RTZ				S	**S**	**00 33 50.7**	**-0.8**
TOZ	**Tahuroa Road**	**1.91**	**239**	P	**Pn**	**00 33 20.6**	**+0.1**
RIGZ	**Rimuhau**	**1.94**	**176**	P	**Pn**	**00 33 21.3**	**+0.5**
RIGZ				S	**S**	**00 33 52.2**	**+0.2**
WIAZ	**Waiheke Island**	**1.96**	**269**	P	**Pn**	**00 33 20.4**	**-0.6**
MKAZ	**Moumakai**	**1.96**	**259**	P	**Pn**	**00 33 21.0**	**0.0**
ETAZ	**East Tamaki Re**	**2.13**	**264**	P	**Pn**	**00 33 22.7**	**+0.1**
MTHZ	**Maungataniwha**	**2.16**	**195**	P	**Pn**	**00 33 23.4**	**+0.4**
MTHZ				S	**S**	**00 33 56.5**	**+0.7**
RAHZ	**Arahi**	**2.18**	**190**	P	**Pn**	**00 33 23.9**	**+0.7**
RAHZ				S	**S**	**00 33 56.8**	**+0.6**
TLZ	**Tolley Road**	**2.25**	**225**	P	**Pn**	**00 33 24.8**	**+0.9**
KNZ	**Kokohu**	**2.25**	**178**	P	**Pn**	**00 33 24.1**	**+0.3**
KNZ				S	**S**	**00 33 57.1**	**-0.2**
WHHZ	**Waihua**	**2.32**	**187**	P	**Pn**	**00 33 25.3**	**+0.8**
WHHZ				S	**S**	**00 33 59.3**	**+0.7**
AWAZ	**Awhitu Peninsu**	**2.37**	**262**	P	**Pn**	**00 33 24.5**	**-0.5**
ARHZ	**Aropaoanui**	**2.53**	**190**	P	**Pn**	**00 33 27.5**	**+0.7**
ARHZ				S	**S**	**00 34 03.1**	**+0.5**
BKZ	**Black Stump Fm**	**2.54**	**199**	P	**Pn**	**00 33 27.0**	**+0.1**
BKZ				S	**S**	**00 34 02.4**	**-0.5**
WCZ	**Waipu Caves**	**2.73**	**287**	P	**Pn**	**00 33 27.7**	**-1.3**
MCHZ	**McNeill Hill**	**2.76**	**194**	P	**Pn**	**00 33 30.0**	**+0.8**
MCHZ				S	**S**	**00 34 08.8**	**+1.8**
HIZ	**Hauiti**	**2.77**	**230**	P	**Pn**	**00 33 31.5**	**+2.1**
KWHZ	**Kaweka Forest**	**2.80**	**199**	P	**Pn**	**00 33 30.1**	**+0.3**
KWHZ				S	**S**	**00 34 07.7**	**-0.3**
WTVZ	**West Tongariro**	**2.82**	**213**	P	**Pn**	**00 33 30.7**	**+0.7**
OTVZ	**Oturere**	**2.83**	**212**	P	**Pn**	**00 33 30.7**	**+0.6**
OTVZ				S	**S**	**00 34 08.6**	**-0.1**
TWVZ	**Taurewa**	**2.85**	**216**	P	**Pn**	**00 33 31.0**	**+0.6**
NGZ	**Ngauruhoe**	**2.86**	**212**	P	**Pn**	**00 33 31.3**	**+0.8**
CKHZ	**Cape Kidnapper**	**2.91**	**188**	P	**Pn**	**00 33 31.5**	**+0.6**
CKHZ				S	**S**	**00 34 10.4**	**+0.3**
TUVZ	**Tukino**	**2.92**	**211**	P	**Pn**	**00 33 31.6**	**+0.4**
WHVZ	**Whangaehu Hut**	**2.96**	**211**	P	**Pn**	**00 33 31.9**	**+0.2**
BHHZ	**Black Hill Sta**	**2.96**	**203**	P	**Pn**	**00 33 31.5**	**-0.1**
BHHZ				S	**S**	**00 34 10.4**	**-0.9**
WNVZ	**Wahianoa**	**2.99**	**211**	P	**Pn**	**00 33 32.2**	**+0.2**
MOVZ	**Moawhango**	**3.00**	**208**	P	**Pn**	**00 33 31.8**	**-0.2**
KRHZ	**Kereru**	**3.02**	**198**	P	**Pn**	**00 33 32.1**	**0.0**
PKVZ	**Pokaka**	**3.07**	**214**	P	**Pn**	**00 33 33.4**	**+0.6**
KAHZ	**Kahuranaki**	**3.07**	**190**	P	**Pn**	**00 33 33.3**	**+0.5**
PXZ	**Pawanui**	**3.30**	**190**	P	**Pn**	**00 33 35.2**	**-0.1**
PNHZ	**Pukenui**	**3.32**	**199**	P	**Pn**	**00 33 35.3**	**-0.3**
WPHZ	**Waipukurau**	**3.41**	**195**	P	**Pn**	**00 33 36.4**	**-0.2**
TSZ	**Takapari Road**	**3.52**	**201**	P	**Pn**	**00 33 37.5**	**-0.5**
PRHZ	**Porangahau**	**3.57**	**192**	P	**Pn**	**00 33 38.4**	**-0.1**
OUZ	**Omahuta**	**3.58**	**294**	P	**Pn**	**00 33 37.0**	**-1.6**
DVHZ	**Dannevirke**	**3.69**	**197**	P	**Pn**	**00 33 39.2**	**-0.8**
NEZ	**North Egmont**	**3.71**	**227**	P	**Pn**	**00 33 42.3**	**+2.0**
PKE	**Pukeiti**	**3.73**	**228**	P	**Pn**	**00 33 42.2**	**+1.8**
KHEZ	**Kahui Hut**	**3.77**	**227**	P	**Pn**	**00 33 42.9**	**+1.9**
ANWZ	**Angora Road**	**3.78**	**193**	P	**Pn**	**00 33 41.0**	**0.0**
POWZ	**Post Office Ro**	**3.88**	**201**	P	**Pn**	**00 33 41.8**	**-0.5**
PRWZ	**Pori Road**	**3.98**	**198**	P	**Pn**	**00 33 43.0**	**-0.4**
BFZ	**Birch Farm**	**4.04**	**194**	P	**Pn**	**00 33 43.5**	**-0.6**
MRZ	**Mangatainoka R**	**4.19**	**201**	P	**Pn**	**00 33 44.9**	**-1.1**
TIWZ	**Tintock**	**4.21**	**198**	P	**Pn**	**00 33 45.6**	**-0.7**
HOWZ	**Holdsworth Sta**	**4.42**	**201**	P	**Pn**	**00 33 47.5**	**-1.4**
OGWZ	**Otaki Gorge**	**4.46**	**204**	P	**Pn**	**00 33 48.1**	**-1.1**
TMWZ	**Te Maipa**	**4.53**	**196**	P	**Pn**	**00 33 49.0**	**-1.1**
KIW	**Kapiti Island**	**4.58**	**206**	P	**Pn**	**00 33 49.5**	**-1.3**
CAW	**Cannon Point**	**4.75**	**204**	P	**Pn**	**00 33 51.3**	**-1.6**
TRWZ	**Traveller**	**4.85**	**197**	P	**Pn**	**00 33 52.8**	**-1.2**
PAWZ	**Paruwai Farm**	**4.90**	**199**	P	**Pn**	**00 33 52.8**	**-1.9**
DUWZ	**D'Urville Isla**	**4.93**	**214**	P	**Pn**	**00 33 53.6**	**-1.5**
MSWZ	**Moikau Station**	**4.98**	**201**	P	**Pn**	**00 33 53.9**	**-1.8**
BHW	**Baring Head**	**5.09**	**204**	P	**Pn**	**00 33 55.2**	**-1.8**
PLWZ	**Palliser**	**5.12**	**200**	P	**Pn**	**00 33 55.6**	**-1.9**
TCW	**Tory Channel**	**5.12**	**209**	P	**Pn**	**00 33 55.4**	**-2.1**
TUWZ	**Tuamarina**	**5.44**	**210**	P	**Pn**	**00 33 59.5**	**-2.0**
NNZ	**Nelson**	**5.51**	**215**	P	**Pn**	**00 33 59.2**	**-3.1**
QRZ	**Quartz Range**	**5.65**	**223**	P	**Pn**	**00 34 02.4**	**-1.7**
BSWZ	**Blackbirch Sta**	**5.71**	**209**	P	**Pn**	**00 34 03.2**	**-1.7**
THZ	**Tophouse**	**6.16**	**215**	P	**Pn**	**00 34 09.5**	**-1.2**
KHZ	**Kahutara**	**6.44**	**208**	P	**Pn**	**00 34 12.0**	**-2.1**
GVZ	**Greta Valley S**	**7.11**	**208**	P	**Pn**	**00 34 20.6**	**-2.0**
LTZ	**Lake Taylor**	**7.26**	**213**	P	**Pn**	**00 34 22.1**	**-2.6**
INZ	**Inchbonnie**	**7.59**	**217**	P	**Pn**	**00 34 27.2**	**-1.7**
OKCZ	**Okains Bay**	**7.75**	**205**	P	**Pn**	**00 34 29.1**	**-1.9**
OXZ	**Oxford**	**7.80**	**211**	P	**Pn**	**00 34 28.8**	**-2.8**
MOZ	**McQueen's Vall**	**7.88**	**207**	P	**Pn**	**00 34 29.8**	**-2.8**
RPZ	**Rata Peaks**	**8.54**	**214**	P	**Pn**	**00 34 38.6**	**-2.4**
	0.6nm,0.3s,baz=50,slow=7.9,SNR=1.7						
RPZ				S	S	00 36 10.3	-7.3
	1.0nm,0.3s,baz=143,slow=21,SNR=7.5						
RPZ	**Rata Peaks**	**8.54**	**214**	P	**Pn**	**00 34 39.0**	**-2.1**
ARCZ	**Arundel**	**8.67**	**212**	P	**Pn**	**00 34 40.5**	**-2.2**
ODZ	**Otahua Downs**	**9.79**	**210**	P	**Pn**	**00 34 55.6**	**-1.5**
JCZ	**Jackson Bay**	**9.90**	**220**	P	**Pn**	**00 34 56.3**	**-2.3**
SYZ	**Scrubby Hill**	**11.61**	**210**	P	**Pn**	**00 35 21.4**	**+1.2**
ASAR	**Alice Springs**	**39.60**	**277**	P	**P**	**00 39 49.9**	**-1.1**
	1.2nm,0.6s,baz=118,slow=8.1,SNR=11						
WRA	**Warramunga Arr**	**41.20**	**282**	P	**P**	**00 40 04.0**	**0.0**
	0.8nm,0.6s,baz=120,slow=7.8,SNR=5.7						
JNU	**Nakatsue**	**82.06**	**322**	P	**P**	**00 44 39.2**	**+3.0**
	2.6nm,0.4s,baz=122,slow=9.5,SNR=11						
TORD	**Torodi Ar. Bea**	**156.19**	**190**	PKPab	**PKPab**	**00 52 38.2**	**+0.3**
	0.3nm,0.9s,baz=163,slow=4.5,SNR=5.0						

MAN ***27*** *01:10:23.9, 11°.05N×124°.85E, h1km, MS3.9*

MAN Intensity IV - Burauen and Dagami, Leyte; Intensity III - Tacloban City; Pastrana, Leyte.

IDC ***27*** *01:10:30.7±2.6, 11°.07N×124°.92E, h53km±25km, mb4.0/20, mb1 4.1/21, mb1mx4.0/34, mbtmp4.3/21, ML4.8/2, MS3.5/13, Ms1 3.6/13, ms1mx3.3/38, Error ellipse: s-maj=22.4km s-min=11.9km az=73.0*

NEIC ***27*** *01:10:30.9±0.8, 11°.01N±0°.08×124°.9E±0°.1, h57km±7km, mb4.6/29, Error ellipse: s-maj=16.6km s-min=10.0km az=61.0*

BJI ***27*** *01:10:31.0±0.0, 11°.10N×125°.00E, h64km, mB4.9/12, mb4.6/16, Ms4.0/3, Ms7 3.7/3*

DJA ***27*** *01:10:33.4±0.9, 11°.N±6°×12°.5E±°, h66km±9km, M5.0/13, mB5.5/5, mb4.7/13, MLv5.0/2, Mw(mB)5.0/5*

ISC 27 01:10:29.7±1.1, 11°.04N±0°.03×124°.86E±0°.05, h42km±11km, n85, σ1§45/90, mb4.5/31, MS3.4/14, 1C-4D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.90**	**180**	*e*P	**Pn**	**01 10 42.3**	**-3.6**
MSLP				*e*S	**Sn**	**01 10 58.8**	**+1.0**
LLP	**Lapu-Lapu**	**1.14**	**231**	*i*/*e*P	Pn	01 10 44.1	-5.1
LLP				*i* S	**Sn**	**01 10 58.8**	**-4.7**
CNP	**Catarman**	**1.48**	**352**	*e*P	**Pn**	**01 10 51.1**	**-2.7**
CNP				*e*S	**Sn**	**01 11 12.0**	**+0.1**
TBP	**Tagbilaran**	**1.66**	**216**	*e*P	**Pn**	**01 10 54.0**	**-2.4**
TBP				*e*S	**Sn**	**01 11 15.1**	**-1.5**
GUIM	**Jordan**	**2.27**	**260**	*e*P	**Pn**	**01 11 01.4**	**-3.3**
GUIM				*e*S	**Sn**	**01 11 32.5**	**+1.0**
CNOP	**Candoni, Negro**	**2.50**	**241**	*e*P	**Pn**	**01 11 04.9**	**-3.0**
CNOP				*e*S	**Sn**	**01 11 38.7**	**+1.6**
PVCP	**Virac**	**2.63**	**345**	*e*P	**Pn**	**01 11 08.1**	**-1.6**
PVCP				*e*S	Sn	01 11 55.6	+15
JAP	**San Jose, Anti**	**2.88**	**264**	*e*P	**Pn**	**01 11 12.3**	**-0.8**
BUKP	**Musuan**	**3.15**	**176**	*e*P	**Pn**	**01 11 16.9**	**+0.1**
BUKP				*e*S	**Sn**	**01 11 54.3**	**+1.1**
PAGZ	**Pagadian**	**3.49**	**205**	*e*P	**Pn**	**01 11 20.2**	**-1.3**
PAGZ				*e*S	**Sn**	**01 12 06.2**	**+4.5**
DAV	**Davao City (W)**	**4.01**	**170**	P	**Pn**	**01 11 29.7**	**+1.1**
	60nm,0.3s,baz=38,slow=11,SNR=1.8						
DAV				LR	LR	01 13 32.1	
	comp=Z,2µm,19.0s,baz=343,slow=45						
DAV	**Davao City (W)**	**4.01**	**170**		**Pn**	**01 11 28.8**	**+0.2**
KCP	**Kidapawan**	**4.01**	**177**	*i*/*e*P	**Pn**	**01 11 28.5**	**-0.2**
MATI	**Mati**	**4.29**	**161**	*e*P	**Pn**	**01 11 34.1**	**+1.6**
MATI				*e*S	Sn	01 12 05.0	-16
LQP	**Lukban**	**4.46**	**314**	*i*/*i*P	**Pn**	**01 11 36.1**	**+1.1**
SKMP	**Bagumbayan, Su**	**4.50**	**184**	*e*P	**Pn**	**01 11 38.4**	**+3.0**
TGY	**Tagaytay City**	**4.89**	**309**	P	**Pn**	**01 11 42.6**	**+1.8**
	45nm,0.3s,baz=82,slow=3.8,SNR=4.5						
TGY	**Tagaytay City**	**4.89**	**309**	*i*/*e*P	Pn	01 11 26.1	-15
DDMP	**Don Marcelino,**	**4.97**	**170**	*e*P	**Pn**	**01 11 41.4**	**-0.6**
GTOI	**Gorontalo**	**10.50**	**190**	P	**Pn**	**01 13 00.4**	**+2.7**
	13nm,0.8s						
TNTI	**Ternate**	**10.50**	**166**	P	**Pn**	**01 12 59.4**	**+1.7**
SBUM	**Sibu**	**15.17**	**237**	Pn	**Pn**	**01 14 01.8**	**+0.5**
SPSI	**Sidrap Palu**	**15.74**	**199**	P	**P**	**01 14 10.6**	**-1.4**
	27nm,0.7s						
SMPI	**Sarmi**	**18.90**	**132**	P	**Pn**	**01 14 49.1**	**+1.3**
	2µm23nm,1.5s						
UBPT	**Khong Chiam**	**19.34**	**285**	P	**Pn**	**01 14 52.7**	**-0.5**
UBPT				IAmb	IAmb	01 14 54.8	
	comp=Z,34nm,1.1s						
BATI	**Baumata**	**21.14**	**183**	LR	LR	01 24 08.8	
	comp=Z,201nm,21.2s,baz=92,slow=39						
SLVN	**Son La**	**22.55**	**300**	P	**P**	**01 15 26.7**	**+0.2**
JNU	**Nakatsue**	**22.66**	**13**	LR	LR	01 23 41.1	
	comp=Z,104nm,19.7s,baz=136,slow=35						
JCJ	**Chichijima**	**22.82**	**43**	P	**P**	**01 15 27.2**	**-2.0**
	comp=Z,17nm,0.8s,baz=307,slow=18,SNR=3.6						
JCJ				LR	LR	01 22 19.3	
	comp=Z,71nm,20.5s,baz=324,slow=31						
JCJ	**Chichijima**	**22.82**	**43**	P	**P**	**01 15 28.4**	**-0.9**
JCJ				IAmb	IAmb	01 15 36.2	
	comp=Z,25nm,0.8s						
GYA	**Guiyang**	**23.02**	**314**	*e*P	**P**	**01 15 33.8**	**+2.4**
GYA				S	**S**	**01 19 42.3**	**+3.0**
GYA				pmax	pmax		
	comp=Z,130nm,5.9s						
GYA				LR	LR		
	comp=Z,130nm,14.9s						
GYA				LR	LR		
	comp=Z,71nm,8.0s						
UGM	**Wanagama**	**23.62**	**218**	P	**P**	**01 15 39.7**	**+2.5**
	comp=Z,130nm,1.9s						
JHJ	**Hachijo jima 2**	**25.90**	**30**	LR	LR	01 24 00.4	
	comp=Z,105nm,19.8s,baz=182,slow=31						
CMAR	**Chiang Mai Arr**	**26.11**	**289**	P	**P**	**01 15 59.9**	**+0.1**
	comp=Z,6.6nm,0.3s,baz=102,slow=8.4,SNR=4.9						
CMAR				LR	LR	01 27 03.0	
	comp=Z,58nm,19.9s,baz=95,slow=38						
KSRS	**Korea Array**	**26.45**	**5**	P	**P**	**01 16 02.7**	**0.0**
	comp=Z,2.7nm,0.8s,baz=181,slow=9.8,SNR=7.9						
KSRS				LR	LR	01 27 20.8	
	comp=Z,84nm,20.4s,baz=202,slow=38						
XAN	**Xi'an**	**27.14**	**330**	P	**P**	**01 16 08.8**	**-0.3**
XAN				pmax	pmax		
	comp=Z,14nm,1.3s						
XAN				LR	LR		
	comp=Z,160nm,17.1s						
XAN				LR	LR		
	comp=Z,200nm,15.0s						
XAN				LR	LR		
	comp=Z,170nm,18.2s						
XAN	**Xi'an**	**27.14**	**330**	P	**P**	**01 16 09.0**	**-0.1**
XAN				IAmb	IAmb	01 16 12.8	
	comp=Z,13nm,1.1s						
WRA	**Warramunga Arr**	**32.17**	**163**	P	**P**	**01 16 52.5**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=339,slow=9.2,SNR=6.9						
WRA	**Warramunga Arr**	**32.17**	**163**	P	**P**	**01 16 52.8**	**-0.9**
USRK	**Ussuriysk Ar.**	**33.61**	**9**	P	**P**	**01 17 06.3**	**+0.3**
	comp=Z,5.5nm,0.8s,baz=205,slow=9.1,SNR=13						
USRK				LR	LR	01 30 03.4	
	comp=Z,59nm,21.8s,baz=194,slow=35						
SHL	**Shillong**	**34.36**	**299**	P	**P**	**01 17 13.0**	**-0.1**
AS31	**Alice Springs**	**35.61**	**166**	P	**P**	**01 17 23.1**	**-0.5**
ASAR	**Alice Springs**	**35.61**	**166**	P	**P**	**01 17 23.8**	**+0.2**
	comp=Z,2.8nm,0.5s,baz=348,slow=7.8,SNR=20						
ASAR				PP	**PP**	**01 18 47.9**	**+2.8**
	comp=Z,0.5nm,0.6s,baz=350,slow=10,SNR=4.1						
ASAR	**Alice Springs**	**35.61**	**166**	P	**P**	**01 17 23.1**	**-0.4**
ASAR					**PnPn**	**01 18 44.0**	**0.0**
GTA	**Gaotai**	**35.97**	**326**	*e*P	**P**	**01 17 27.8**	**+1.1**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ULN	**Ulaanbaatar**	**39.64**	**341**	P	**P**	**01 17 57.5**	**-0.1**
ULN				IAmb	IAmb	01 18 01.9	
	comp=Z,6.7nm,0.7s						
SONM	**Songino Array**	**39.83**	**341**	P	**P**	**01 17 59.2**	**+0.1**
	comp=Z,3.9nm,1.0s,baz=161,slow=9.3,SNR=15						
SONM				LR	LR	01 36 01.0	
	comp=Z,90nm,18.4s,baz=150,slow=38						
FORT	**Forrest**	**41.69**	**176**	P	**P**	**01 18 14.0**	**-0.4**
BBOO	**Buckleboo**	**44.89**	**167**	P	**P**	**01 18 40.0**	**-0.2**
BBOO				IAmb	IAmb	01 18 43.1	
	comp=Z,8.7nm,0.8s						
STKA	**Stephens Creek**	**45.58**	**160**	P	**P**	**01 18 46.2**	**+0.4**
	comp=Z,4.4nm,0.8s,baz=349,slow=8.3,SNR=7.5						
STKA	**Stephens Creek**	**45.58**	**160**	P	**P**	**01 18 45.5**	**-0.2**
PETK	**Petropavlovsk-**	**49.53**	**25**	LR	LR	01 38 49.8	
	comp=Z,38nm,21.5s,baz=235,slow=34						
MK31	**Makanchi Array**	**50.58**	**323**	P	**P**	**01 19 24.4**	**0.0**
MK31				IAmb	IAmb	01 19 28.4	
	comp=Z,4.7nm,0.9s						
MKAR	**Makanchi Array**	**50.58**	**323**	P	**P**	**01 19 24.5**	**+0.2**
	comp=Z,4.8nm,0.8s,baz=120,slow=7.2,SNR=22						
MAKZ	**Makanchi**	**50.77**	**323**	P	**P**	**01 19 25.5**	**-0.2**
MAKZ				IAmb	IAmb	01 19 29.3	
	comp=Z,5.5nm,0.8s						
NIL	**Nilore**	**52.16**	**304**	P	**P**	**01 19 36.4**	**0.0**
ZAA0	**Zalesovo Array**	**53.29**	**332**	P	**P**	**01 19 44.0**	**-0.3**
ZALV	**Zalesovo Beam**	**53.29**	**332**	P	**P**	**01 19 43.7**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=117,slow=8.5,SNR=8.4						
ZALV				LR	LR	01 42 45.1	
	comp=Z,78nm,20.3s,baz=82,slow=36						
KURK	**Kurchatov**	**54.66**	**326**	P	**P**	**01 19 54.5**	**+0.2**
GAR	**Garm**	**55.74**	**310**	P	**P**	**01 20 02.4**	**-0.1**
CHGR	**Chuyangaron**	**56.53**	**309**	P	**P**	**01 20 08.0**	**-0.1**
CHGR				IAmb	IAmb	01 20 10.7	
	comp=Z,13nm,1.0s						
KK31	**Karatay Array**	**56.73**	**315**	P	**P**	**01 20 09.4**	**0.0**
KK31				IAmb	IAmb	01 20 12.8	
	comp=Z,10nm,1.0s						
KKAR	**Karatay Array**	**56.73**	**315**	P	**P**	**01 20 09.4**	**0.0**
KKAR				IAmb	IAmb	01 20 12.8	
	comp=Z,10nm,1.0s						
BRVK	**Borovoye**	**60.32**	**326**	P	**P**	**01 20 34.4**	**+0.2**
NRIK	**Noril'sk**	**62.94**	**346**	P	**P**	**01 20 51.4**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=137,slow=6.3,SNR=2.0						
NRIK				LR	LR	01 50 39.6	
	comp=Z,87nm,18.4s,baz=191,slow=38						
GEYT	**Alibeck**	**64.98**	**307**

BKI	**Bering**	**2.87**	**31**	PN	**Pn**	**01 17 13.9**	**-2.0**
PET	**Petropavlovsk**	**2.88**	**277**	*e*P	**Pn**	**01 17 15.4**	**-0.6**
PET				*e*S	**Sn**	**01 17 46.5**	**-2.9**
PET	**Petropavlovsk**	**2.88**	**277**	*e*PN	**Pn**	**01 17 14.4**	**-1.6**
PET				*e*S	**Sn**	**01 17 50.1**	**+0.7**
PET				pmax	pmax		
	comp=Z,130nm,0.4s						
PET				smax	smax		
	comp=N,318nm,0.5s						
PET				smax	smax		
	comp=E,607nm,0.8s						
PET	**Petropavlovsk**	**2.88**	**277**	Pn	**Pn**	**01 17 16.0**	**0.0**
PET					**Sn**	**01 17 47.8**	**-1.5**
KOK	**Koryaka**	**2.91**	**282**	*e*P	**Pn**	**01 17 16.2**	**-0.4**
KOK				*e*S	**Sn**	**01 17 48.4**	**-2.1**
KOK	**Koryaka**	**2.91**	**282**	PN	**Pn**	**01 17 16.2**	**-0.4**
KOK				S	**Sn**	**01 17 48.4**	**-2.1**
KRX	**Arik**	**2.92**	**283**	*e*P	**Pn**	**01 17 16.1**	**-0.6**
KRX				*e*S	**Sn**	**01 17 48.1**	**-2.5**
KRX	**Arik**	**2.92**	**283**	PN	**Pn**	**01 17 16.1**	**-0.6**
KRX				S	**Sn**	**01 17 47.8**	**-2.8**
KZV	**Kizimen**	**2.97**	**323**	*e*P	**Pn**	**01 17 16.5**	**-0.9**
KZV				*e*S	**Sn**	**01 17 49.1**	**-2.8**
KZV	**Kizimen**	**2.97**	**323**	PN	**Pn**	**01 17 16.5**	**-0.9**
KZV				S	**Sn**	**01 17 49.1**	**-2.8**
RUS	**Russkaya**	**2.99**	**265**	*e*P	**Pn**	**01 17 17.1**	**-0.5**
RUS				*e*S	**Sn**	**01 17 49.3**	**-2.9**
RUS	**Russkaya**	**2.99**	**265**	PN	**Pn**	**01 17 17.8**	**+0.2**
RUS				S	**Sn**	**01 17 49.2**	**-2.9**
TUMD	**Tumrok D**	**3.00**	**325**	*e*P	**Pn**	**01 17 17.0**	**-0.8**
TUMD				*e*S	**Sn**	**01 17 48.9**	**-3.6**
TUMR	**Tumrok**	**3.15**	**324**	*e*P	**Pn**	**01 17 19.1**	**-0.9**
TUMR	**Tumrok**	**3.15**	**324**	PN	**Pn**	**01 17 19.1**	**-0.9**
TUMR				S	**Sn**	**01 17 55.4**	**-1.0**
MTVR	**Mutnovka**	**3.19**	**267**	*e*P	**Pn**	**01 17 20.0**	**-0.4**
MTVR				*e*S	**Sn**	**01 17 54.5**	**-2.7**
MTVR	**Mutnovka**	**3.19**	**267**	PN	**Pn**	**01 17 20.0**	**-0.4**
MTVR				S	**Sn**	**01 17 54.5**	**-2.7**
KRMR	**Karymshinskiy**	**3.19**	**273**	*e*P	**Pn**	**01 17 20.1**	**-0.2**
KRMR				*e*S	**Sn**	**01 17 54.8**	**-2.3**
KRMR	**Karymshinskiy**	**3.19**	**273**	PN	**Pn**	**01 17 19.5**	**-0.8**
KRMR				S	**Sn**	**01 17 54.8**	**-2.3**
GRL	**Gorelyy**	**3.24**	**268**	*e*P	**Pn**	**01 17 21.1**	**-0.1**
GRL				*e*S	**Sn**	**01 17 57.4**	**-1.2**
GRL	**Gorelyy**	**3.24**	**268**	PN	**Pn**	**01 17 21.1**	**-0.1**
GRL				S	**Sn**	**01 17 57.4**	**-1.2**
ASAK	**Asacha**	**3.37**	**265**	*e*P	**Pn**	**01 17 22.8**	**-0.1**
ASAK				*e*S	**Sn**	**01 17 59.5**	**-2.2**
ASAK	**Asacha**	**3.37**	**265**	PN	**Pn**	**01 17 22.8**	**-0.1**
ASAK				S	**Sn**	**01 17 59.5**	**-2.2**
KDTR	**Khodutka, Kamc**	**3.40**	**256**	*e*P	**Pn**	**01 17 22.4**	**-0.8**
KDTR				*e*S	**Sn**	**01 17 58.6**	**-3.7**
KDTR	**Khodutka, Kamc**	**3.40**	**256**	PN	**Pn**	**01 17 22.4**	**-0.8**
KBTR	**Krutoberegovo**	**3.45**	**355**	*e*P	**Pn**	**01 17 21.6**	**-2.3**
KBTR				S	**Sn**	**01 17 59.4**	**-4.1**
KBTR	**Krutoberegovo**	**3.45**	**355**	PN	**Pn**	**01 17 22.0**	**-1.9**
KBTR				S	**Sn**	**01 18 00.2**	**-3.3**
PEA0B	**Petropavlovsk-**	**3.46**	**278**	PN	**Pn**	**01 17 23.8**	**-0.2**
PEA0B						01 18 02.8	
PEA0B	**Petropavlovsk-**	**3.46**	**278**		**Pn**	**01 17 23.8**	**-0.2**
PEA0B				Sn	**Sn**	**01 18 02.8**	**-1.0**
PETK	**Petropavlovsk-**	**3.46**	**278**	Pn	**Pn**	**01 17 24.3**	**+0.2**
	comp=E,4.9nm,0.3s,baz=103,slow=18,SNR=26						
PETK				Sn	**Sn**	**01 18 02.0**	**-1.7**
	comp=E,13nm,0.3s,baz=282,slow=27,SNR=4.5						
KMNR	**Kamenistaya**	**3.51**	**329**	P	**Pn**	**01 17 24.6**	**-0.2**
KMNR				S	**Sn**	**01 18 04.9**	**-0.2**
KMNR	**Kamenistaya**	**3.51**	**329**	PN	**Pn**	**01 17 24.1**	**-0.7**
KMNR				S	**Sn**	**01 18 05.4**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**3.54**	**335**	*e*P	**Pn**	**01 17 24.5**	**-0.7**
BZGR				S	**Sn**	**01 18 05.9**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**3.54**	**335**	PN	**Pn**	**01 17 24.5**	**-0.7**
BZGR				S	**Sn**	**01 18 05.6**	**-0.2**
BZWR	**Bezymyannyi-We**	**3.61**	**333**	PN	**Pn**	**01 17 26.1**	**-0.2**
KIRR	**Kirishev**	**3.64**	**332**	*e*P	**Pn**	**01 17 26.6**	**-0.1**
KIRR				*e*S	**Sn**	**01 18 06.8**	**-1.7**
KIRR	**Kirishev**	**3.64**	**332**	PN	**Pn**	**01 17 26.6**	**-0.1**
KIRR				S	**Sn**	**01 18 06.8**	**-1.7**
KPT	**Kopyto**	**3.69**	**331**	*e*P	**Pn**	**01 17 27.4**	**+0.1**
KPT	**Kopyto**	**3.69**	**331**	PN	**Pn**	**01 17 27.4**	**+0.1**
APC	**Apacha**	**3.78**	**275**	P	**Pn**	**01 17 28.8**	**+0.4**
APC				*e*S	**Sn**	**01 18 11.8**	**+0.2**
KRSR	**Krestovskiy**	**3.82**	**336**	PN	**Pn**	**01 17 28.2**	**-0.9**
KRSR				S	**Sn**	**01 18 11.0**	**-1.7**
KOZ	**Kozyrevsk**	**3.87**	**329**	*e*P	**Pn**	**01 17 29.7**	**0.0**
KOZ				S	**Sn**	**01 18 15.0**	**+1.0**
KOZ	**Kozyrevsk**	**3.87**	**329**	PN	**Pn**	**01 17 29.7**	**0.0**
KOZ				S	**Sn**	**01 18 13.4**	**-0.6**
KLY	**Klyuchi**	**3.88**	**337**	*e*S	**Sn**	**01 18 12.4**	**-1.7**
KLY	**Klyuchi**	**3.88**	**337**	PN	**Pn**	**01 17 29.3**	**-0.5**
KLY				S	**Sn**	**01 18 12.9**	**-1.2**
SMKR	**Semkarok**	**3.97**	**344**	*e*P	**Pn**	**01 17 30.1**	**-1.0**
SMKR				*e*S	**Sn**	**01 18 15.5**	**-0.9**
SMKR	**Semkarok**	**3.97**	**344**	PN	**Pn**	**01 17 29.9**	**-1.2**
SMKR				S	**Sn**	**01 18 16.3**	**-0.1**
BDR	**Baidarnaya**	**4.00**	**342**	*e*P	**Pn**	**01 17 31.3**	**-0.3**
BDR	**Baidarnaya**	**4.00**	**342**	PN	**Pn**	**01 17 31.3**	**-0.3**
BDR				S	**Sn**	**01 18 16.3**	**-0.9**
SRKR	**Sorokina**	**4.09**	**343**	*e*P	**Pn**	**01 17 32.3**	**-0.5**
SRKR				*e*S	**Sn**	**01 18 19.6**	**+0.2**
SRKR	**Sorokina**	**4.09**	**343**	PN	**Pn**	**01 17 32.3**	**-0.5**
SRKR				S	**Sn**	**01 18 19.6**	**+0.2**
SRDR	**Sredinnyy**	**4.14**	**330**	*e*P	**Pn**	**01 17 32.4**	**-1.0**
SRDR				*e*S	**Sn**	**01 18 19.6**	**-1.0**
SRDR	**Sredinnyy**	**4.14**	**330**	PN	**Pn**	**01 17 32.4**	**-1.0**
ESO	**Esso**	**4.18**	**321**	*e*P	**Pn**	**01 17 33.4**	**-0.5**
ESO				*e*S	**Sn**	**01 18 20.2**	**-1.3**
ESO	**Esso**	**4.18**	**321**	PN	**Pn**	**01 17 33.4**	**-0.5**
ESO				S	**Sn**	**01 18 20.2**	**-1.3**
ERM	**Erimo**	**17.36**	**240**	P	**P**	**01 20 32.5**	**-0.6**
ERM				pmax	pmax		
	comp=Z,31nm,1.2s						
ERM	**Erimo**	**17.36**	**240**		**P**	**01 20 32.5**	**-0.6**
ERM				IAmb	IAmb	01 20 50.0	
	comp=Z,31nm,1.1s						
ANM	**Nome**	**19.82**	**41**	P	**Pn**	**01 21 01.3**	**-0.4**
ANM				pmax	pmax		
	comp=Z,12nm,1.0s						
ANM	**Nome**	**19.82**	**41**	P	**Pn**	**01 21 01.3**	**-0.4**
ANM				IAmb	IAmb	01 21 12.2	
	comp=Z,12nm,1.0s						
MAJO	**Matsushiro**	**23.99**	**237**	P	**P**	**01 21 44.0**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
MAJO	**Matsushiro**	**23.99**	**237**	P	**P**	**01 21 44.0**	**+0.1**
MAJO				IAmb	IAmb	01 21 49.4	
	comp=Z,7.1nm,1.1s						
IMAR	**Indian Mountai**	**24.91**	**41**	P	**P**	**01 21 53.5**	**+1.5**
IL31		**27.63**	**45**	P	**P**	**01 22 17.5**	**+1.1**
ILAR	**Eielson Array**	**27.63**	**45**	P	**P**	**01 22 17.9**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=256,slow=9.2,SNR=2.1						
ILAR	**Eielson Array**	**27.63**	**45**	P	**P**	**01 22 17.5**	**+1.0**
PAX	**Paxson**	**28.27**	**49**	P	**P**	**01 22 23.3**	**+0.9**
PAX	**Paxson**	**28.27**	**49**	P	**P**	**01 22 23.2**	**+0.9**
PAX				IAmb	IAmb	01 22 25.8	
	comp=Z,4.4nm,0.7s						
KS19	**Wonju Array Si**	**28.98**	**252**	P	**P**	**01 22 29.0**	**+0.2**
MKAR	**Makanchi Array**	**50.08**	**298**	P	**P**	**01 25 25.2**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=54,slow=7.1,SNR=1.9						
MAKZ	**Makanchi**	**50.24**	**298**	P	**P**	**01 25 25.6**	**+0.6**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MAKZ	**Makanchi**	**50.24**	**298**	P	**P**	**01 25 25.6**	**+0.6**
MAKZ				IAmb	IAmb	01 25 27.0	
	comp=Z,3.9nm,1.1s						
FINES	**FINES Array B**	**61.18**	**338**	P	P	01 26 48.2	+5.0
	comp=Z,6.2nm,1.2s,baz=43,slow=8.6,SNR=4.2						
TXAR	**Lajitas Array**	**68.91**	**69**	P	**P**	**01 27 36.4**	**+2.4**
	comp=Z,0.1nm,0.5s,baz=309,slow=5.7,SNR=2.1						
TXAR	**Lajitas Array**	**68.91**	**69**	P	**P**	**01 27 36.1**	**+2.1**

TEH ***27*** *01:30:54.6, 32°.55N×47°.78E, h8km, ML3.2*
THR ***27*** *01:30:55.3±0.4, 32°.54N×47°.67E, h14km±6km, ML3.5*
ISN ***27*** *01:30:56.8±2.1, 32°.58N×47°.64E, h15km±25km, ML3.2*

ISC 27 01:30:56.8±1.0, 32°.46N±0°.03×47°.68E±0°.04, h23km, n39, σ1s77/43, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.40**	**303**	*e*Pg	**Pb**	**01 31 03.7**	**-1.7**
SHGR	**Shooshtar-Gavs**	**1.01**	**110**	*e*Pg	**Pn**	**01 31 14.8**	**-0.8**
SHGR				*e*Sg	**Sn**	**01 31 29.1**	**0.0**
SHGR	**Shooshtar-Gavs**	**1.01**	**110**	*e*Pg	**Pn**	**01 31 14.8**	**-0.8**
IKFM	**Kafar-mosalman**	**1.07**	**7**	*e*Pg	**Pn**	**01 31 13.0**	**-3.4**
IKMR	**Kamar-syah**	**1.21**	**29**	*e*Pg	**Pn**	**01 31 14.6**	**-3.7**
IDOB	**Doab**	**1.39**	**17**	*e*Pg	**Pn**	**01 31 19.0**	**-2.0**
AHWZ	**Ahwaz**	**1.39**	**144**	*e*Pg	**Pn**	**01 31 20.7**	**-0.1**
BMDN	**Meydan**	**1.54**	**38**	*e*Pg	**Pn**	**01 31 21.6**	**-1.5**
BMDN				*e*		01 31 48.7	
IBDR	**Badra**	**1.61**	**294**	*e*Pg	**Pn**	**01 31 24.0**	**+0.2**
	baz=110						
IBDR				*e*Sg	**Sb**	**01 31 47.0**	**+1.2**
IKOM	**Komasi**	**1.72**	**355**	*e*Pg	**Pb**	**01 31 26.5**	**-1.3**
IKOM				*e*		01 31 59.5	
KCHF	**Cheshme Sefid,**	**1.89**	**344**	*e*Pg	**Pb**	**01 31 29.5**	**-1.2**
KCHF				*e*		01 32 00.5	
HSAM	**Samen**	**1.91**	**24**	*e*Pg	**Pb**	**01 31 28.9**	**-2.2**
HSAM				*e*		01 32 03.7	
NSR	**Nassriya**	**1.95**	**223**	*e*Pn	**Pb**	**01 31 31.0**	**-0.7**
NSR				*e*Sn	**Sb**	**01 31 56.0**	**+0.4**
NSR				AML	AML	01 32 05.5	
	comp=E,248nm,0.1s						
KER	**Kermanshah**	**1.98**	**347**	*e*Pn	**Pb**	**01 31 30.2**	**-2.0**
IBZA	**Bozab**	**2.01**	**4**	*e*Pg	**Pb**	**01 31 31.0**	**-1.8**
IBZA				*e*		01 32 04.1	
IGHG	**Ghaleghazi**	**2.08**	**334**	*e*Pn	**Pb**	**01 31 31.7**	**-2.4**
IGHG				*e*		01 32 13.5	
IVIS	**Veis**	**2.17**	**342**	*e*Pn	**Pb**	**01 31 33.4**	**-2.2**
IVIS				*e*		01 32 08.5	
KHMZ	**Khomeyn**	**2.30**	**56**	*e*Pn	**Pn**	**01 31 34.3**	**+0.8**
KHMZ	**Khomeyn**	**2.30**	**56**	*e*Pn	**Pn**	**01 31 34.3**	**+0.8**
IALM	**Almabolaq**	**2.43**	**9**	*e*Pn	**Pn**	**01 31 36.1**	**+0.7**
IDHR	**Dehrash**	**2.48**	**335**	*e*Pn	**Pn**	**01 31 37.2**	**+1.2**
IDHR				*e*		01 32 21.7	
ILIN	**Lien**	**2.52**	**346**	*e*Pn	**Pn**	**01 31 37.7**	**+1.0**
ILIN				*e*		01 32 27.3	
JHBN	**Jahan bin**	**2.54**	**94**	*e*Pn	**Pn**	**01 31 37.1**	**+0.2**
JHBN				*e*		01 32 23.1	
HAGD	**Aghdareh**	**2.65**	**27**	*e*Pn	**Pn**	**01 31 38.7**	**+0.3**
HAGD				*e*		01 32 28.5	
IPIR	**Pirpir**	**2.72**	**84**	*e*Pn	**Pn**	**01 31 39.2**	**-0.2**
IPIR				*e*		01 32 28.4	
HSRG	**Sareghieh**	**2.82**	**10**	*e*	**Sb**	**01 32 28.0**	**+7.2**
ROKH	**ROKH**	**2.84**	**91**	*e*Pn	**Pn**	**01 31 41.3**	**+0.3**
ROKH				*e*		01 32 33.9	
ASAO	**Ashtian**	**2.86**	**43**	*e*Pn	**Pn**	**01 31 42.2**	**+0.9**
ASAO				*e*Sg	**Sb**	**01 32 23.1**	**+1.2**
ASAO	**Ashtian**	**2.86**	**43**	*e*Pn	**Pn**	**01 31 42.2**	**+0.9**
IKLH	**Kolahrood**	**3.39**	**74**	*e*Pn	**Pn**	**01 31 48.7**	**+0.2**
IKLH				*e*		01 32 51.2	
IRAZ	**Razeghan**	**3.48**	**32**	*e*Pn	**Pn**	**01 31 50.3**	**+0.5**
QABG	**Abgarm-Qazvin**	**3.60**	**25**	*e*Pn	**Pn**	**01 31 51.2**	**-0.3**
GHVR	**GHOM**	**3.63**	**55**	*e*Pn	**Pn**	**01 31 52.0**	**+0.3**
GHVR	**GHOM**	**3.63**	**55**	*e*Pn	**Pn**	**01 31 52.0**	**+0.3**
IZEF	**Zefreh**	**3.94**	**82**	*e*Pn	**Pn**	**01 31 56.4**	**+0.2**
IRAM	**Ramesheh**	**4.04**	**98**	*e*Pn	**Pn**	**01 31 57.2**	**-0.3**
QSDN	**Sirdan**	**4.22**	**17**	*e*Pn	**Pn**	**01 31 59.9**	**0.0**
QALM	**Alamut, Qazvin**	**4.66**	**31**	*e*Pn	**Pn**	**01 32 06.8**	**+0.8**
IDMV	**Damavand**	**4.77**	**48**	*e*Pn	**Pn**	**01 32 06.4**	**-1.1**

WEL 27 01:32:23.6, 39°S±2°×17°E±°, h178km±4km, M2.6/36, MLv2.6/36, Error ellipse: s-maj=0.0km s-min=0.0km az=76.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WATZ	**Wairara**	**0.17**	**126**	P	Pn	01 32 47.5	+0.2
KUTZ	**Kaahu Road**	**0.24**	**59**	P	Pn	01 32 47.7	+0.3
TLZ	**Tolley Road**	**0.28**	**356**	P	Pn	01 32 47.6	+0.1
RATZ	**Rangitukua**	**0.30**	**147**	P	Pn	01 32 47.5	0.0
KATZ	**Kakaramea**	**0.38**	**164**	P	Pn	01 32 47.8	0.0
RITZ	**Rihia Road**	**0.43**	**148**	P	Pn	01 32 48.2	+0.3
TWVZ	**Taurewa**	**0.47**	**192**	P	Pn	01 32 48.1	-0.1
WPRZ	**Whakapapatarin**	**0.48**	**79**	P	Pn	01 32 48.1	0.0
HATZ	**Hinemaiaia**	**0.50**	**124**	P	Pn	01 32 47.4	-0.8
WTVZ	**West Tongariro**	**0.51**	**178**	P	Pn	01 32 48.4	+0.1
WTVZ				S	Sn	01 33 07.8	+0.4
OTVZ	**Oturere**	**0.56**	**172**	P	Pn	01 32 48.7	+0.1
HIZ	**Hauiti**	**0.56**	**280**	P	Pn	01 32 48.5	+0.1
NGZ	**Ngauruhoe**	**0.56**	**177**	P	Pn	01 32 48.6	0.0
NGZ				S	Sn	01 33 07.2	-0.9
HSRZ	**Hossack Road**	**0.61**	**61**	P	Pn	01 32 48.9	+0.2
ALRZ	**Allen Road**	**0.61**	**86**	P	Pn	01 32 48.7	0.0
TUVZ	**Tukino**	**0.66**	**174**	P	Pn	01 32 49.2	+0.1
WHVZ	**Whangaehu Hut**	**0.67**	**178**	P	Pn	01 32 49.2	0.0
PKVZ	**Pokaka**	**0.70**	**194**	P	Pn	01 32 49.1	0.0
PKVZ				S	Sn	01 33 08.7	-0.4
WNVZ	**Wahianoa**	**0.72**	**178**	P	Pn	01 32 49.5	+0.1
MTVZ	**Mangateitei**	**0.78**	**185**	P	Pn	01 32 49.7	0.0
RRRZ	**Republican Roa**	**0.80**	**78**	P	Pn	01 32 49.7	0.0
MOVZ	**Moawhango**	**0.81**	**169**	P	Pn	01 32 49.6	-0.3
MOVZ				S	Sn	01 33 08.0	-2.2
TARZ	**Mount Tarawera**	**0.83**	**64**	P	Pn	01 32 50.2	+0.2
TOZ	**Tahuroa Road**	**0.88**	**357**	P	Pn	01 32 50.6	+0.4
BKZ	**Black Stump Fm**	**0.91**	**128**	P	Pn	01 32 50.4	-0.1
BKZ				S	Sn	01 33 10.0	-1.4
MUGZ	**Murupara**	**0.96**	**82**	P	Pn	01 32 50.9	+0.1
BHHZ	**Black Hill Sta**	**0.96**	**156**	P	Pn	01 32 50.6	-0.2
MTHZ	**Maungataniwha**	**1.03**	**104**	P	Pn	01 32 51.4	0.0
MTHZ				S	Sn	01 33 10.9	-1.8
KWHZ	**Kaweka Forest**	**1.05**	**141**	P	Pn	01 32 51.7	+0.2
KWHZ				S	Sn	01 33 12.8	-0.5
NMHZ	**Naumai**	**1.09**	**117**	P	Pn	01 32 52.7	+0.9
RTZ	**Ruatahuna**	**1.11**	**91**	P	Pn	01 32 51.9	-0.2
RTZ				S	Sn	01 33 12.6	-1.4
KRHZ	**Kereru**	**1.21**	**149**	P	Pn	01 32 52.8	+0.1
MCHZ	**McNeill Hill**	**1.21**	**134**	P	Pn	01 32 53.6	+0.8
WAZ	**Wanganui**	**1.23**	**201**	P	Pn	01 32 52.9	0.0
WAZ				S	Sn	01 33 14.8	-0.9
RAHZ	**Arahi**	**1.23**	**105**	P	Pn	01 32 53.5	+0.6
RAHZ				S	Sn	01 33 14.9	-0.7
URZ	**Urewera**	**1.27**	**74**	P	Pn	01 32 52.7	-0.6
ARHZ	**Aropaoanui**	**1.29**	**121**	P	Pn	01 32 54.1	+0.6
PKE	**Pukeiti**	**1.36**	**244**	P	Pn	01 32 54.1	0.0
WHHZ	**Waihua**	**1.39**	**110**	P	Pn	01 32 54.7	+0.4
PNHZ	**Pukenui**	**1.39**	**159**	P	Pn	01 32 54.3	-0.1
TSZ	**Takapari Road**	**1.48**	**168**	P	Pn	01 32 54.9	-0.3
MKAZ	**Moumakai**	**1.54**	**348**	P	Pn	01 32 56.1	+0.4
KAHZ	**Kahuranaki**	**1.56**	**140**	P	Pn	01 32 56.3	+0.3
MWZ	**Matawai**	**1.57**	**80**	P	Pn	01 32 55.8	-0.3
MWZ				S	Sn	01 33 18.8	-2.4
CKHZ	**Cape Kidnapper**	**1.58**	**132**	P	Pn	01 32 56.5	+0.5
CKHZ				S	Sn	01 33 20.4	-0.9
WPHZ	**Waipukurau**	**1.60**	**155**	P	Pn	01 32 56.3	-0.1
WPHZ				S	Sn	01 33 19.9	-2.0
OHWZ	**Ohakea**	**1.60**	**187**	P	Pn	01 32 57.4	+0.1
KNZ	**Kokohu**	**1.70**	**105**	P	Pn	01 32 57.4	+0.1
AWAZ	**Awhitu Peninsu**	**1.71**	**334**	P	Pn	01 32 57.2	-0.3
RIGZ	**Rimuhau**	**1.73**	**94**	P	Pn	01 32 58.0	+0.3
PXZ	**Pawanui**	**1.74**	**145**	P	Pn	01 32 57.6	-0.1
DVHZ	**Dannevirke**	**1.75**	**165**	P	Pn	01 32 57.3	-0.5
RUGZ	**Raukumara Rang**	**1.79**	**69**	P	Pn	01 32 57.2	-1.2
TKGZ	**Te Karaka**	**1.80**	**85**	P	Pn	01 32 59.3	+0.9
PRGZ	**Paritu Road**	**1.84**	**100**	P	Pn	01 32 59.0	+0.1
PRHZ	**Porangahau**	**1.85**	**154**	P	Pn	01 32 59.0	+0.1
HAZ	**Te Kaha**	**1.95**	**65**	P	Pn	01 32 59.0	-0.9
PRWZ	**Pori Road**	**1.97**	**171**	P	Pn	01 32 59.6	-0.5
ANWZ	**Angora Road**	**1.98**	**159**	P	Pn	01 32 59.9	-0.3
MRZ	**Mangatainoka R**	**2.05**	**180**	P	Pn	01 32 60.0	-1.0
BFZ	**Birch Farm**	**2.13**	**166**	P	Pn	01 33 01.0	-1.0
TIWZ	**Tintock**	**2.18**	**174**	P	Pn	01 33 01.6	-0.9
PUZ	**Puketiti**	**2.19**	**77**	P	Pn	01 33 02.0	-0.6
OGWZ	**Otaki Gorge**	**2.22**	**188**	P	Pn	01 33 01.9	-1.1
HOWZ	**Holdsworth Sta**	**2.28**	**181**	P	Pn	01 33 02.2	-1.4
KIW	**Kapiti Island**	**2.30**	**192**	P	Pn	01 33 02.3	-1.6
WMGZ	**Waiomatatini S**	**2.38**	**72**	P	Pn	01 33 04.1	-0.7
MXZ	**Matakaoa Point**	**2.41**	**65**	P	Pn	01 33 04.7	-0.4
TMWZ	**Te Maipa**	**2.51**	**174**	P	Pn	01 33 04.6	-1.6
CAW	**Cannon Point**	**2.52**	**189**	P	Pn	01 33 04.9	-1.5
DUWZ	**D'Urville Isla**	**2.53**	**210**	P	Pn	01 33 04.6	-1.8
MTW	**Mount Morrison**	**2.54**	**181**	P	Pn	01 33 04.8	-1.8
WEL	**Wellington**	**2.74**	**193**	P	Pn	01 33 07.2	-1.7
PAWZ	**Paruwai Farm**	**2.77**	**182**	P	Pn	01 33 07.3	-2.1
TCW	**Tory Channel**	**2.78**	**200**	P	Pn	01 33 07.6	-1.8
TRWZ	**Traveller**	**2.79**	**178**	P	Pn	01 33 07.6	-1.9
MSWZ	**Moikau Station**	**2.81**	**185**	P	Pn	01 33 07.8	-2.1
BHW	**Baring Head**	**2.84**	**191**	P	Pn	01 33 08.1	-2.1
PLWZ	**Palliser**	**2.96**	**184**	P	Pn	01 33 09.4	-2.3
TUWZ	**Tuamarina**	**3.08**	**203**	P	Pn	01 33 10.7	-2.3
NNZ	**Nelson**	**3.10**	**212**	P	Pn	01 33 10.8	-2.5
QRZ	**Quartz Range**	**3.22**	**226**	P	Pn	01 33 11.7	-3.1
CMWZ	**Cape Campbell**	**3.30**	**198**	P	Pn	01 33 15.0	-0.8
BSWZ	**Blackbirch Sta**	**3.36**	**202**	P	Pn	01 33 14.4	-2.1
THZ	**Tophouse**	**3.75**	**212**	P	Pn	01 33 19.1	-2.4
KHZ	**Kahutara**	**4.10**	**201**	P	Pn	01 33 23.4	-2.4
DSZ	**Denniston Nort**	**4.25**	**221**	P	Pn	01 33 25.3	-2.6
GVZ	**Greta Valley S**	**4.76**	**203**	P	Pn	01 33 31.2	-3.1
LTZ	**Lake Taylor**	**4.86**	**210**	P	Pn	01 33 32.1	-3.5
INZ	**Inchbonnie**	**5.17**	**216**	P	Pn	01 33 35.7	-3.9
OXZ	**Oxford**	**5.41**	**208**	P	Pn	01 33 38.5	-4.3
OKCZ	**Okains Bay**	**5.45**	**199**	P	Pn	01 33 39.5	-3.8
MQZ	**McQueen's Vall**	**5.54**	**202**	P	Pn	01 33 40.0	-4.5
AKCZ	**Akaroa Harbour**	**5.62**	**200**	P	Pn	01 33 41.6	-3.9
WACZ	**Wakanui South**	**6.02**	**207**	P	Pn	01 33 46.9	-3.8
RPZ	**Rata Peaks**	**6.13**	**212**	P	Pn	01 33 48.4	-3.8
GCSZ	**Gaunt Creek Bo**	**6.15**	**218**	P	Pn	01 33 48.9	-3.6
ARCZ	**Arundel**	**6.27**	**210**	P	Pn	01 33 50.3	-3.7
FOZ	**Fox Glacier**	**6.56**	**220**	P	Pn	01 33 54.0	-3.8
LBZ	**Lake Benmore**	**7.04**	**213**	P	Pn	01 34 00.0	-4.2
ODZ	**Otahua Downs**	**7.40**	**208**	P	Pn	01 34 05.2	-3.8
JCZ	**Jackson Bay**	**7.47**	**221**	P	Pn	01 34 05.6	-4.3

IDC 27 01:44:12.2±5.0, 36°.18N×72°.17E, h0km, mb3.5/2, mb1 3.4/4, mb1mx3.2/45, mbtmp3.4/4, ML2.8/1, Error ellipse: s-maj=123.3km s-min=33.4km az=138.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.03**	**32**	Pn	Pn	01 47 19.8	+1.2
	0.1nm,0.3s,baz=217,slow=11,SNR=1.7						
ZALV	**Zalesovo Beam**	**19.84**	**22**	P	P	01 48 44.5	+0.1
	baz=219,slow=11,SNR=1.8						
ARCES	**ARCESS Array B**	**41.80**	**337**	P	P	01 52 03.1	-0.1
	0.9nm,0.7s,baz=110,slow=7.9,SNR=6.3						
TORD	**Torodi Ar. Bea**	**66.66**	**269**	P	P	01 55 05.0	0.0
	0.2nm,0.6s,baz=38,slow=7.4,SNR=1.9						

IDC ***27*** *01:52:01.4±0.5, 65°.02N×17°.01W, h0km, mb4.0/19, mb

comp=Z,4.4nm,0.4s
SCO e Pn 01 53 25.9 -3.9
baz=152,slow=7.9
SCO i P Pn 01 53 28.3 -1.5
JMIC Jan Mayen 6.73 24 Pn Pn 01 53 38.1 -4.1
baz=152,slow=20,SNR=1.6
JMIC Sn Sn 01 55 03.2 +4.1
baz=142,slow=20,SNR=1.0
JMIC LR LR 01 55 43.0
comp=Z,411nm,19.1s,baz=258,slow=33
LEWI Lewis, Hebride 8.35 141 eP Pn 01 54 03.0 -1.5
LEWI IAMs_20 IAMs_20 01 57 39.3
comp=Z,1μm,12.1s
LRW Lerwick 8.69 117 eP Pn 01 54 08.4 -0.6
LRW IAMs_20 IAMs_20 01 57 53.5
comp=Z,1μm,14.3s
LRW Lerwick 8.69 117 eP Pn 01 54 09.1 +0.1
BIGH Upper Bighouse 8.93 131 eP Pn 01 54 11.2 -1.1
BIGH IAMs_20 IAMs_20 01 57 49.0
comp=Z,970nm,11.6s
KAC Achnashellach 9.34 139 eP Pn 01 54 16.8 -1.2
KPL Plockton 9.38 140 eP Pn 01 54 17.1 -1.4
KPL IAMs_20 IAMs_20 01 58 03.1
comp=Z,1μm,12.4s
KPL Plockton 9.38 140 eP Pn 01 54 17.2 -1.3
MCD Coleburn Disti 9.87 133 eP Pn 01 54 23.7 -1.6
INVG Invergeldie, C 10.61 138 eP Pn 01 54 34.2 -1.2
INVG IAMs_20 IAMs_20 01 58 41.0
comp=Z,1μm,15.7s
EAB Aberfoyle 10.74 140 eP Pn 01 54 36.3 -0.9
SUMG Summit 10.83 324 i P Pn 01 54 41.6 +2.8
SUMG Summit 10.83 324 i P Pn 01 54 41.6 +2.8
SUMG Summit 10.83 324 Pn 01 54 37.4 -1.4
AKN Aaknes 10.92 94 eP Pn 01 54 38.2 -1.5
MOL Molde 10.99 92 eP Pn 01 54 40.9 +0.3
MOL eS Sn 01 56 41.1 -2.5
PGBU Glenifferbraes 11.03 141 eP Pn 01 54 39.2 -1.9
PGBU IAMs_20 IAMs_20 01 59 03.7
comp=Z,1μm,14.7s
HYA Hoyanger 11.06 100 eP Pn 01 54 41.8 +0.3
CLGH Cloghs, Cushen 11.28 147 eP Pn 01 54 43.2 -1.4
CLGH IAMs_20 IAMs_20 02 00 19.3
comp=Z,1μm,10.2s
EDI Edinburgh 11.29 138 eP Pn 01 54 44.3 -0.4
ESY Stoneypath 11.46 136 eP Pn 01 54 46.0 -1.0
NEWG New Galloway 11.71 142 eP Pn 01 54 48.9 -1.6
NEWG IAMs_20 IAMs_20 01 59 34.0
comp=Z,1μm,12.5s
KMY Karmoy 11.79 109 eP Pn 01 54 49.1 -2.3
EKA Eskdalemuir Ar 11.81 139 Pn Pn 01 54 51.5 -0.4
baz=328,slow=14,SNR=40
EKA Sn Sn 01 57 06.5 +2.8
baz=325,slow=33,SNR=1.8
ESK Eskdalemuir 11.81 139 eP Pn 01 54 51.5 -0.3
ESK IAMs_20 IAMs_20 01 59 27.4
comp=Z,1μm,15.4s
ESK Eskdalemuir 11.81 139 P Pn 01 54 51.5 -0.3
ESK Eskdalemuir 11.81 139 Pn 01 54 51.5 -0.3
DOMB Dombas 11.86 93 eP Pn 01 54 52.5 0.0
BLS5 Blasjo 12.14 107 eP Pn 01 54 54.4 -2.0
SKAR Skarslia 12.19 99 eP Pn 01 54 54.9 -2.2
SKAR IAmb IAmb 01 55 00.6
comp=Z,14nm,1.2s
SKAR eS Sn 01 57 05.1 -8.1
NSS Namsos 12.21 79 eP Pn 01 54 56.2 -1.0
NSS IAmb IAmb 01 55 04.8
comp=Z,10nm,0.6s
NSS eS Sn 01 57 06.9 -6.5
KONS Konsvik 12.30 70 eP Pn 01 54 56.2 -2.2
KONS IAmb IAmb 01 55 01.6
comp=Z,17nm,0.9s
LOF Lofoten 12.37 62 eP Pn 01 54 58.1 -1.2
EDMD Edmundbyers 12.59 137 eP Pn 01 55 02.0 -0.5
NC204 NORSAR Array S 12.93 94 Pn 01 55 05.4 -1.8
STEI Steigen 13.01 63 eP Pn 01 55 05.4 -2.7
STEI IAmb IAmb 01 55 11.3
comp=Z,9.6nm,0.7s
NOA NORSAR Array B 13.24 95 Pn Pn 01 55 07.7 -3.6
comp=Z,0.1nm,0.3s,baz=300,slow=13,SNR=6.7
NOA Sn Sn 01 57 32.9 -5.7
comp=Z,0.0nm,0.3s,baz=314,slow=25,SNR=3.1
NB201 NORSAR Array S 13.27 94 Pn Pn 01 55 11.5 -0.2
NB201 Sn 01 57 40.7 +1.4
NB201 NORSAR Array S 13.27 94 eP Pn 01 55 10.1 -1.6
KONO Kongsberg 13.30 102‖ eP Pn 01 55 11.5 -0.7
KONO pmax pmax
comp=Z,21nm,1.4s
NOD Norderasen 13.76 82 eP Pn 01 55 19.3 +0.9
NOD e 01 57 48.9
SFJD Kangerlussuaq 13.81 293 Pn Pn 01 55 16.2 -2.8
comp=Z,0.6nm,0.3s,baz=168,slow=13,SNR=1.9
SFJD Lg Lg 01 59 03.9
comp=Z,0.7nm,0.3s,baz=172,slow=19,SNR=2.8
SFJD Kangerlussuaq 13.81 293 P Pn 01 55 17.4 -1.6
SFJD Kangerlussuaq 13.81 293 Pn 01 55 17.4 -1.6
HFS Hagfors 14.75 95 Pn Pn 01 55 30.2 -1.8
comp=Z,0.3nm,0.3s,baz=316,slow=6.2,SNR=6.7
HFS LR LR 02 01 54.5
comp=Z,278nm,18.0s,baz=284,slow=40
KBS Kingsbay 16.19 19‖ eP Pn 01 55 52.0 +1.3
KBS pmax pmax
comp=Z,8.0nm,1.1s
SPITS Spitsbergen Ar 16.41 24 Pn Pn 01 55 53.8 +0.3
baz=216,slow=14,SNR=1.3
SPITS LR LR 02 00 28.1
comp=Z,216nm,20.1s,baz=215,slow=31
ARCES ARCESS Array B 16.65 56 Pn Pn 01 55 56.2 -0.4
comp=Z,0.4nm,0.3s,baz=270,slow=8.5,SNR=16
ARCES LR LR 02 01 08.1
comp=Z,235nm,19.6s,baz=304,slow=33
ARE0 ARCESS Array S 16.65 56 P P 01 55 58.2 -0.9
KEV Kevo 17.15 55 P P 01 56 04.4 -0.2
KEV pmax pmax
comp=Z,17nm,1.1s
KEV Kevo 17.15 55 P P 01 56 04.4 -0.2
FINES FINESS Array B 19.33 81 P P 01 56 28.6 0.0
comp=Z,0.3nm,0.3s,baz=286,slow=10.0,SNR=21
FIA1 FINESS Array S 19.33 81 P Pn 01 56 29.7 +0.1
CLL Collm 20.58 118 eP P 01 56 42.0 -0.3
comp=Z,16nm,1.5s
CLL i sP sP 01 56 45.5 +0.1
CLL eS S 02 00 28.0 -4.4
CLL Lm MLR 02 05 00.0
comp=N,200nm,18.9s
CLL Lm MLR 02 05 00.0
comp=E,100nm,19.1s
CLL Lm MLR 02 05 00.0
comp=Z,300nm,18.1s
CLL Collm 20.58 118 eP P 01 56 42.0 -0.3
CLL i 01 56 45.5
CLL eS S 02 00 28.0 -4.4
CLL pmax pmax
comp=Z,16nm,1.5s
CLL MLR MLR
comp=Z,300nm,18.1s
CLL Collm 20.58 118 P P 01 56 43.0 +0.7
MOX Moxa 20.61 121 P Pn 01 56 43.7 -1.1
MOX pmax pmax
comp=Z,12nm,1.1s
GKP Gorka Klasztor 20.72 108 eP Pn 01 56 47.0 +0.9
ECH Echery 21.14 131 P P 01 56 48.9 +0.5
ECH pmax pmax
comp=Z,15nm,1.3s
ECH Echery 21.14 131 P P 01 56 48.9 +0.5
VSU Vasula 21.23 87 eP P 01 56 49.6 +0.4
VSU Vasula 21.23 87‖ eP P 01 56 49.1 -0.1
VSU pmax pmax
comp=Z,82nm,0.9s
NKC Novy Kostel 21.25 120 eP P 01 56 50.4 +0.8
NKC MLR MLR
comp=Z,400nm,20.6s
NKC Novy Kostel 21.25 120 eP P 01 56 50.4 +0.8
NKC AMS AMS 02 05 00.0
comp=Z,400nm,20.6s
BRG Berggiesshubel 21.29 117 i P P 01 56 50.9 +0.9
comp=Z,18nm,1.1s
BFO Black Forest 21.42 129 P P 01 56 52.0 +0.6
BFO pmax pmax
comp=Z,14nm,1.1s
BFO Black Forest 21.42 129 P P 01 56 52.0 +0.6
BFO IAmb IAmb 01 56 54.0
comp=Z,14nm,1.1s
PVCC Panska Ves 21.80 117 eP P 01 57 01.3 +5.9
PVCC MLR MLR
comp=Z,300nm,19.4s
PVCC Panska Ves 21.80 117 eP P 01 57 01.3 +5.9
PVCC AMS AMS 02 05 40.0
comp=Z,300nm,19.4s
FRB Frobisher Bay 21.92 291 LR LR 02 05 10.4
comp=Z,380nm,19.2s,baz=48,slow=36
PABE Paberze 21.93 96 eP P 01 56 57.2 +0.5
PRA Prague 22.12 118 AMS AMS 02 07 50.0
comp=Z,100nm,11.3s
KSP Ksiaz 22.21 114 eP P 01 57 00.7 +0.8
PRU Pruhonice 22.23 118 eP P 01 57 00.8 +0.8
PRU MLR MLR
comp=Z,300nm,11.7s
PRU Pruhonice 22.23 118 eP P 01 57 00.8 +0.8
PRU AMS AMS 02 07 30.0
comp=Z,300nm,11.7s
CHVC Chvalec 22.32 115 eP P 01 57 01.4 +0.3
CHVC AMS AMS 02 07 10.0
comp=Z,300nm,16.7s
UPC Upice 22.37 115 AMS AMS 02 07 20.0
comp=Z,300nm,15.5s
GOPC GO Pecny, Ondr 22.38 117 eP P 01 57 02.5 +0.8
GOPC e 01 57 10.1
GOPC MLR MLR
comp=Z,300nm,14.0s
GOPC GO Pecny, Ondr 22.38 117 eP P 01 57 02.5 +0.8
GOPC ex x 01 57 10.1
GOPC AMS AMS 02 07 50.0
comp=Z,300nm,14.0s
OSTC Ostas 22.41 114 eP P 01 57 03.2 +1.2
OSTC ex x 01 57 15.7
OSTC AMS AMS 02 07 00.0
comp=Z,300nm,13.3s
KHC Kasperske Hory 22.57 120ce P P 01 57 05.0 +1.2
KHC pmax pmax
comp=Z,31nm,1.7s
KHC Kasperske Hory 22.57 120 eP P 01 57 04.8 +1.0
KHC epP sP 01 57 10.9 +4.0
KHC AMS AMS 02 08 10.0
comp=Z,400nm,14.5s
KHC Kasperske Hory 22.57 120 P P 01 57 04.4 +0.6
DPC Dobruska-Polom 22.61 115 eP P 01 57 05.0 +0.8
DPC MLR MLR
comp=Z,300nm,17.1s
DPC Dobruska-Polom 22.61 115 eP P 01 57 05.0 +0.8
DPC AMS AMS 02 07 10.0
comp=Z,300nm,17.1s
SUW Suwalki 22.63 100 P P 01 57 05.3 +1.0
SUW pmax pmax
comp=Z,34nm,1.1s
SUW Suwalki 22.63 100 P P 01 57 05.3 +1.0
IZAR Zarasai 22.73 94 eP P 01 57 06.2 +0.9
ISAL Salakas 22.80 94 eP P 01 57 07.0 +0.9
DAVA Damuels 22.85 128 i pP P 01 57 10.4 +3.6
comp=Z,7.3nm,0.9s
GEC2 GERESS Array S 22.86 120 P P 01 57 07.4 +0.6
GEC2 IAmb IAmb 01 57 15.3
comp=Z,25nm,1.1s
GERES GERESS Array B 22.86 120 P P 01 57 07.3 +0.4
comp=Z,0.4nm,0.4s,baz=329,slow=9.9,SNR=10
TMCR Tamitsa 22.91 67 eP P 01 57 08.0 +0.9
KRLC Kraliky 23.01 114 eP P 01 57 09.7 +1.3
KRLC e 01 57 13.1
KRLC MLR MLR
comp=Z,300nm,13.5s
KRLC Kraliky 23.01 114 eP P 01 57 09.7 +1.3
KRLC epP sP 01 57 13.1 +1.6
KRLC AMS AMS 02 07 40.0
comp=Z,300nm,13.5s
TREC Trest 23.15 117 eP P 01 57 11.7 +1.9
TREC MLR MLR
comp=Z,300nm,16.4s
TREC Trest 23.15 117 eP P 01 57 11.7 +1.9
TREC AMS AMS 02 07 00.0
comp=Z,300nm,16.4s
IDID Didziasalis 23.23 94 eP P 01 57 10.6 +0.1
DAVOX Davos/Dischmat 23.29 129 P P 01 57 10.9 -0.5
comp=Z,3.8nm,0.9s,baz=299,slow=16,SNR=4.7
DAVOX LR LR 02 07 29.4
comp=Z,146nm,18.4s,baz=338,slow=40
TUE Stuetta 23.39 130 P P 01 57 12.8 +0.4
TUE IAmb IAmb 01 57 19.9
comp=Z,12nm,1.1s
WTTA Wattenberg 23.46 126 i pP P 01 57 14.5 +1.4
comp=Z,8.0nm,1.3s
MORC Moravsky Berou 23.55 114 eP P 01 57 14.4 +0.6
MORC Moravsky Berou 23.55 114 P P 01 57 14.8 +1.0
MORC pmax pmax
comp=Z,11nm,1.3s
MORC Moravsky Berou 23.55 114 P P 01 57 14.8 +1.0
VRAC Vranov 23.56 116 P P 01 57 13.8 -0.1
comp=Z,2.3nm,0.7s,baz=324,slow=14,SNR=3.2
VRAC Vranov 23.56 116 eP P 01 57 15.2 +1.3
OJC Ojcow 24.08 110 eP P 01 57 19.2 +0.4
ABTA Abfaltersbach 24.21 125 i pP P 01 57 23.2 +2.9
comp=Z,6.5nm,1.1s
CTI Castel Tesino 24.52 127 IAmb IAmb 01 57 27.1
comp=Z,17nm,1.1s
SMOL Smolenice 24.52 116 eP P 01 57 24.8 +1.8
SMOL pmax pmax
comp=Z,6.0nm,1.3s
SMOL Smolenice 24.52 116 eP P 01 57 24.8 +1.8
MVO Moncorvo 24.55 162 eP P 01 57 20.1 -3.2
comp=Z,22nm,1.5s
MVO eLR LR 02 05 31.9
comp=Z,125nm,18.0s
MODS Modra-Piesok 24.58 116 eP P 01 57 24.5 +1.0
MODS pmax pmax
comp=Z,11nm,1.3s
MODS Modra-Piesok 24.58 116 eP P 01 57 24.5 +1.0
PVIS Viseu 24.88 164 eP P 01 57 27.2 +0.9
comp=Z,14nm,1.5s
NIE Niedzica 24.91 111 eP P 01 57 27.2 +0.7
VYHS Vyhne 25.08 114 eP P 01 57 29.1 +1.1
VYHS pmax pmax
comp=Z,15nm,1.5s
VYHS Vyhne 25.08 114 eP P 01 57 29.1 +1.1
KLMR Klimovskoe 25.19 73 eP P 01 57 27.4 -1.4
comp=Z,24nm,1.3s
KLMR Klimovskoe 25.19 73 eP P 01 57 27.4 -1.4
KLMR pmax pmax
comp=Z,24nm,1.3s
KLMR Klimovskoe 25.19 73 eP P 01 57 27.4 -1.4
KLMR AMP 01 57 30.9
comp=Z,24nm,1.3s
MTE Manteigas 25.24 163 eP P 01 57 30.3 +0.8
comp=Z,30nm,2.3s
MTE eLR LR 02 05 55.4
comp=Z,140nm,18.0s
MTE Manteigas 25.24 163 P P 01 57 29.5 0.0
SRO2 Moca 25.51 116 eP P 01 57 32.4 +0.6
SRO2 pmax pmax
comp=Z,8.0nm,0.8s
SRO2 Moca 25.51 116 eP P 01 57 32.4 +0.6
LSH Leshukonskoye 25.51 62 eP P 01 57 30.4 -1.4
comp=Z,25nm,1.3s
KWP Kalwaria Pacla 25.71 108 eP P 01 57 34.6 +0.9
CRVS Cervenica-Dubn 25.79 110 eP P 01 57 35.5 +1.1
CRVS pmax pmax
comp=Z,18nm,1.5s
CRVS Cervenica-Dubn 25.79 110 eP P 01 57 35.5 +1.1
PCBR Castelo Branco 25.80 163 eP P 01 57 36.3 +1.8
PSZ Piszkesteto 25.96 113 P P 01 57 36.8 +0.7
PSZ pmax pmax
comp=Z,16nm,1.1s
PSZ Piszkesteto 25.96 113 P P 01 57 36.8 +0.7
PSZ IAmb IAmb 01 57 40.9
comp=Z,16nm,1.1s
KOLS Kolonicke sedl 26.09 109 eP P 01 57 38.6 +1.5
KOLS pmax pmax
comp=Z,10.0nm,1.4s
KOLS Kolonicke sedl 26.09 109 eP P 01 57 38.6 +1.5
LVV L'vov 26.10 106 P P 01 57 38.1 +0.9
PMRV Marv??o 26.21 163 eP P 01 57 35.4 -2.9
comp=Z,17nm,1.4s
PMRV eLR LR 02 06 10.9
comp=Z,155nm,18.0s
UZH Uzhgorod 26.34 110 eP P 01 57 37.5 -1.8
UZH e 01 58 16.5
SCHQ Schefferville 26.35 271 LR LR 02 06 28.8
comp=Z,113nm,21.2s,baz=118,slow=33
RES Resolute Bay 26.36 324 LR LR 02 07 59.3
comp=Z,195nm,19.2s,baz=37,slow=36
ESBB Sonseca Array 26.46 157 P P 01 57 40.7 +0.1
ESBB IAmb IAmb 01 57 44.9
comp=Z,15nm,1.4s
ESDC Sonseca Array 26.46 157 P P 01 57 40.2 -0.3
comp=Z,5.7nm,1.0s,baz=348,slow=9.2,SNR=26
ESDC LR LR 02 07 56.9
comp=Z,95nm,19.0s,baz=320,slow=36
PRGR Permogore 27.19 68 eP P 01 57 38.7 -8.2
comp=Z,12nm,1.2s
PRGR Permogore 27.19 68 eP P 01 57 38.8 -8.1
PRGR pmax pmax
comp=Z,12nm,1.3s
OBN Obninsk 27.53 85 P P 01 57 50.3 +0.3
comp=Z,1.8nm,0.4s,baz=339,slow=7.5,SNR=4.3
OBN LR LR 02 09 08.4
comp=Z,14nm,20.5s,baz=344,slow=37
OBN Obninsk 27.53 85de P P 01 57 50.3 +0.3
OBN e*PP sP 01 57 53.8 +0.6
OBN 01 58 37.0
OBN eS S 02 02 33.2 +2.2
OBN e 02 04 12.7
OBN pmax pmax
comp=Z,31nm,1.7s
OBN MLR MLR
comp=Z,73nm,20.0s
OBN Obninsk 27.53 85 P P 01 57 50.9 +0.9
AKASG Malin Array Be 27.58 99 P P 01 57 49.8 -0.7
comp=Z,1.2nm,0.7s,baz=320,slow=10,SNR=6.6
AKASG LR LR 02 08 27.8
comp=Z,163nm,20.8s,baz=325,slow=36
CLTB Caltabellotta 32.65 133 IAmb IAmb 01 58 37.9
comp=Z,7.2nm,0.9s
KEST Kesra 33.22 139 P P 01 58 41.4 +0.9
comp=Z,5.1nm,0.9s,baz=268,slow=5.4,SNR=5.3
KEST LR LR 02 11 53.2
comp=Z,170nm,20.0s,baz=280,slow=36
KEST Kesra 33.22 139 IAmb IAmb 01 58 42.8
comp=Z,9.0nm,1.1s
ARU Arti 35.65 67d i P P 01 59 02.2 +1.0
ARU 02 00 20.4
ARU S S 02 04 42.7 +5.2
ARU SS SnSn 02 07 02.9 +5.1
ARU pmax pmax
comp=Z,15nm,1.8s
ARU MLR MLR
comp=Z,139nm,17.0s
ARU Arti 35.65 67 P P 01 59 02.4 +1.2
ARU IAmb IAmb 01 59 05.3
comp=Z,5.4nm,1.0s
NRIK Noril'sk 35.98 36 LR LR 02 15 36.0
comp=Z,59nm,18.1s,baz=12,slow=39
BR131 Keskin Array S 38.27 106 P P 01 59 24.5 +0.6
BR131 pmax pmax
comp=Z,7.0nm,0.9s
BR131 Keskin Array S 38.27 106 P P 01 59 24.5 +0.6
BR131 IAmb IAmb 01 59 27.0
comp=Z,6.9nm,0.9s
BRTR Keskin Array B 38.27 106 P P 01 59 24.5 +0.6
comp=Z,4.3nm,0.8s,baz=317,slow=5.2,SNR=19
BRTR LR LR 02 18 19.9
comp=Z,54nm,18.3s,baz=316,slow=41
BRTR Keskin Array B 38.27 106ce P P 01 59 26.0 +2.1
BRTR pmax pmax
comp=Z,5.0nm,0.8s
KIV Kislovodsk 38.54 94 eP P 01 59 27.9 +1.8
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,231nm,16.0s
KBZ Khabaz 38.82 94 P P 01 59 29.5 +1.3
comp=Z,1.7nm,0.8s,baz=332,slow=11,SNR=4.4
KBZ LR LR 02 15 38.7
comp=Z,133nm,21.5s,baz=320,slow=36
YKA Yellowknife Ar 39.20 313 P P 01 59 29.9 -1.3
comp=Z,2.8nm,0.9s,baz=42,slow=8.7,SNR=14
YKA LR LR 02 15 31.3
comp=Z,175nm,18.9s,baz=0.0,slow=36
KOPT Kop Dagi 40.86 99 P P 01 59 46.2 +0.5
KOPT IAmb IAmb 01 59 50.9
comp=Z,13nm,1.3s
AKH Akhalkalaki 40.97 95 P P 01 59 47.2 +0.8
AKH pmax pmax
comp=Z,10.0nm,1.2s
AKH Akhalkalaki 40.97 95 P P 01 59 47.2 +0.8
AKH IAmb IAmb 01 59 49.7
comp=Z,10nm,1.2s
MALT Malatya 41.44 103 P P 01 59 48.1 -2.1
ULM Lac du Bonnet 41.79 289 LR LR 02 16 31.7
comp=Z,213nm,19.6s,baz=22,slow=35
GAZ Gaziantep 41.91 105 P P 01 59 54.8 +0.7
GAZ IAmb IAmb 01 59 57.7
comp=Z,7.4nm,0.8s
BRVK Borovoye 42.68 63c i P P 02 00 00.6 +0.5
BRVK pmax pmax
comp=Z,12nm,1.7s
BRVK Borovoye 42.68 63 P P 02 00 01.3 +1.3
BMAR Burnt Mountain 42.72 333 P P 02 00 00.9 +0.7
ILAR Eielson Array 45.51 333 P P 02 00 21.2 -1.4
comp=Z,0.8nm,0.9s,baz=14,slow=6.4,SNR=7.6
ILAR PcP PcP 02 02 00.4 -0.8
comp=Z,0.6nm,0.9s,baz=34,slow=2.6,SNR=4.2
ILAR LR LR 02 20 35.7
comp=Z,51nm,20.7s,baz=26,slow=38
ILAR Eielson Array 45.51 333 P P 02 00 23.4 +0.7
COLA College 45.61 333‖ eP P 02 00 25.1 +1.8
COLA pmax pmax
comp=Z,2.0nm,0.8s
BCAR Beaver Creek A 45.97 329 P P 02 00 26.9 +0.6
ZALV Zalesovo Beam 47.16 52 P P 02 00 34.9 -0.7
comp=Z,1.0nm,0.6s,baz=320,slow=16,SNR=5.0
ZALV PcP PcP 02 02 06.0 -1.1
comp=Z,0.4nm,0.3s,baz=324,slow=3.9,SNR=3.7
ZALV LR LR 02 22 30.2
comp=Z,38nm,18.4s,baz=40,slow=39
GEYT Alibeck 50.07 85 P P 02 00 58.1 -0.2
comp=Z,1.5nm,0.7s,baz=313,slow=14,SNR=4.7
GEYT LR LR 02 22 52.7
comp=Z,61nm,19.4s,baz=15,slow=37
KK31 Karatay Array 50.85 71 P P 02 01 05.3 +1.1
KK31 pmax pmax
comp=Z,5.0nm,1.2s
KK31 Karatay Array 50.85 71 P P 02 01 05.3 +1.1
KK31 IAmb IAmb 02 01 07.3
comp=Z,4.8nm,1.2s
KKAR Karatay Array 50.85 71 P P 02 01 05.3 +1.1
KKAR pmax pmax
comp=Z,5.0nm,1.2s
KKAR Karatay Array 50.85 71 P P 02 01 05.3 +1.1
KKAR IAmb IAmb 02 01 07.3
comp=Z,4.8nm,1.2s
DGZ Jazzator, Alta 51.61 53‖ i P P 02 01 11.8 +1.9
DGZ pmax pmax
comp=Z,6.0nm,1.2s
SEY Seymchan 52.09 6‖ eP P 02 01 15.0 +1.9
MK31 Makanchi Array 52.26 59 P P 02 01 15.8 +1.1
MK31 pmax pmax
comp=Z,7.0nm,1.2s
MK31 Makanchi Array 52.26 59 P P 02 01 15.8 +1.1
MK31 IAmb IAmb 02 01 17.6
comp=Z,6.9nm,1.1s
MKAR Makanchi Array 52.26 59 P P 02 01 14.6 -0.1
comp=Z,4.0nm,1.0s,baz=319,slow=4.8,SNR=14
AAK Ala-Archa 52.83 68‖ eP P 02 01 20.4 +1.3
AAK pmax pmax
comp=Z,9.0nm,1.3s
AAK Ala-Archa 52.83 68 P P 02 01 20.0 +0.9
AAK IAmb IAmb 02 01 22.5
comp=Z,7.4nm,1.0s
PD31 Pinedale Array 53.33 294 P P 02 01 22.7 -0.2
PDAR Pinedale Array 53.33 294 P P 02 01 21.0 -1.8
comp=Z,0.6nm,0.6s,baz=40,slow=5.5,SNR=6.3
PDAR LR LR 02 23 56.3
comp=Z,327nm,18.0s,baz=32,slow=36
PDAR Pinedale Array 53.33 294 P P 02 01 22.6 -0.2
TORD Torodi Ar. Bea 53.35 157 P P 02 01 21.7 -1.3
comp=Z,2.4nm,1.0s,baz=350,slow=8.5,SNR=9.6
TORD LR LR 02 26 04.7
comp=Z,36nm,18.6s,baz=165,slow=38
N23A Red Feather La 53.49 289 P P 02 01 23.8 -0.3
GAR Garm 54.24 74 P P 02 01 30.3 +0.9
PV13 Radium Mtn., P 56.98 290 P P 02 01 48.9 -0.3
PV13 IAmb IAmb 02 02 02.1
comp=Z,4.3nm,0.9s
ANMO Albuquerque 58.80 286‖ eP P 02 02 03.2 +1.2
ANMO pmax pmax
comp=Z,1.0nm,1.3s
ULN Ulaanbaatar 59.31 41‖ eP P 02 02 07.7 +2.3
ULN pmax pmax
comp=Z,7.0nm,2.5s

NIL	**Nilore**	**60.04**	**74**	P	**P**	**02 02 11.4**	**+1.0**
NIL				pmax	pmax		
	comp=Z,14nm,1.1s						
NIL	**Nilore**	**60.04**	**74**	P	**P**	**02 02 11.4**	**+1.0**
NVAR	**Mina Argay Bea**	**60.42**	**298**	LR	LR	02 28 36.5	
	comp=Z,180nm,20.2s,baz=52,slow=36						
HIA	**Hailar**	**61.16**	**31‖** *eP*	**P**	**P**	**02 02 19.5**	**+1.7**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TXAR	**Lajitas Array**	**62.53**	**281**	P	**P**	**02 02 25.5**	**-1.9**
	comp=Z,0.6nm,1.0s,baz=61,slow=6.3,SNR=3.2						
TXAR				LR	LR	02 29 07.5	
	comp=Z,148nm,18.9s,baz=0.0,slow=36						
KLR	**Kul'dur**	**63.48**	**23**	P	**P**	**02 02 33.2**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=272,slow=7.2,SNR=4.1						
KLR	**Kul'dur**	**63.48**	**23‖** *eP*		**P**	**02 02 35.3**	**+2.0**
KLR				pmax	pmax		
	comp=Z,6.0nm,2.1s						
XAN	**Xi'an**	**72.61**	**45**	P	**P**	**02 03 32.3**	**+1.4**
XAN				pP	sP	02 03 39.0	+4.7
XAN				pmax	pmax		
	comp=Z,7.0nm,1.4s						
XAN				pmax	pmax		
	comp=Z,99nm,5.4s						
XAN				LR	LR		
	comp=N,140nm,18.6s						
XAN				LR	LR		
	comp=E,96nm,18.6s						
XAN				LR	LR		
	comp=Z,190nm,18.1s						
KSRS	**Korea Array**	**74.18**	**29**	LR	LR	02 37 37.9	
	comp=Z,38nm,20.7s,baz=273,slow=37						
TJN	**Taejon**	**75.10**	**29‖** *eP*		**P**	**02 03 47.0**	**+1.6**
CMAR	**Chiang Mai Arr**	**83.67**	**59**	P	**P**	**02 04 32.2**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=321,slow=6.0,SNR=8.3						
CMAR	**Chiang Mai Arr**	**83.67**	**59** *ceP*		**P**	**02 04 34.0**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						

IDC ***27*** *01:54:47.7±1.5,8˚13N×91˚74E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.7/49, mbtmp3.8/9, ML4.1/2, Error ellipse: s-maj=54.1km s-min=19.3km az=59.0*

NEIC ***27*** *01:54:51.2±1.9,8˚07N±0˚06×91˚84E±0˚08, h33km±6km, mb4.3/11, Error ellipse: s-maj=14.9km s-min=1.7km az=52.0*

ISC 27 01:54:50.5±0.7, 8˚08N±0˚08×91˚83E±0˚09, h25km, n30, σ1§21/29, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PBA	**Port Blair**	**3.67**	**14**	Pn		Pn	01 55 45.7	+0.1
PSI	**Prapat**	**8.79**	**126**	Pn		**Pn**	**01 56 57.6**	**+1.4**
	0.8nm,0.3s,baz=180,slow=24,SNR=6.7							
PSI				Sn		**Sn**	**01 58 34.1**	**-0.5**
	1.9nm,0.3s,baz=180,slow=12,SNR=2.4							
GSI	**Gunungsitoli**	**8.83**	**139**	Pn		**Pn**	**01 56 58.0**	**+1.4**
GSI						**Sn**	**01 58 34.6**	**-0.9**
RPSI	**Rantau Prapat**	**8.86**	**127**			**Pn**	**01 56 55.8**	**-1.1**
RPSI	**Rantau Prapat**	**8.86**	**127**			**Pn**	**01 56 57.6**	**+0.6**
RPSI						**Sn**	**01 58 34.1**	**-1.9**
PALK	**Pallekele**	**11.06**	**267**	Pn		**Pn**	**01 57 27.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**12.42**	**33**	Pn		**Pn**	**01 57 45.6**	**-0.2**
	0.5nm,0.3s,baz=230,slow=27,SNR=1.1							
CHTO	**Chiang Mai**	**12.71**	**32**	Pn		**Pn**	**01 57 50.4**	**+0.6**
SLVN	**Son La**	**17.59**	**40**	P		**P**	**01 58 54.9**	**-0.2**
SBUM	**Sibu**	**21.05**	**104**	P		**P**	**01 59 33.5**	**+0.6**
SBUM				IAmb		IAmb	01 59 37.8	
	comp=Z,7.2nm,0.8s							
UGM	**Wanagama**	**24.48**	**130**	P		**P**	**02 00 07.5**	**-0.4**
H08S3	**Diego Garcia H**	**24.81**	**232**	T		T	02 26 49.5	
	baz=51,slow=75,SNR=75							
H08S2	**Diego Garcia H**	**24.81**	**231**	T		T	02 26 24.8	
	baz=51,slow=75,SNR=58							
H08S1	**Diego Carcia H**	**24.82**	**231**	T		T	02 26 35.1	
	baz=51,slow=75,SNR=70							
GAR	**Garm**	**36.36**	**331**	P		**P**	**02 01 52.0**	**-0.7**
GAR				IAmb		IAmb	02 02 01.0	
	comp=Z,9.8nm,1.0s							
MKAR	**Makanchi Array**	**39.44**	**350**	P		**P**	**02 02 17.8**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=157,slow=7.8,SNR=2.3							
SONM	**Songino Array**	**41.51**	**15**	P		**P**	**02 02 37.4**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=207,slow=9.1,SNR=1.6							
FITZ	**Fitzroy Crossi**	**42.31**	**128**	P		**P**	**02 02 41.6**	**-0.9**
FITZ				IAmb		IAmb	02 02 52.8	
	comp=Z,4.6nm,1.1s							
GEYT	**Alibeck**	**42.54**	**320**	P		**P**	**02 02 44.7**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=121,slow=11,SNR=2.5							
GYA0B	**ALIBECK ARRAY**	**42.54**	**320**	P		**P**	**02 02 42.6**	**-1.7**
GYA0B				IAmb		IAmb	02 03 01.8	
	comp=Z,3.2nm,0.7s							
KURK	**Kurchatov**	**43.90**	**348**	P		**P**	**02 02 53.4**	**-1.5**
KURK				IAmb		IAmb	02 03 07.6	
	comp=Z,3.8nm,1.1s							
MTN	**Manton Dam**	**44.23**	**118**	P		**P**	**02 02 56.5**	**-1.7**
ZALV	**Zalesovo Beam**	**46.09**	**354**	P		**P**	**02 03 12.7**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=169,slow=8.5,SNR=1.9							
WB0	**Warramunga Arr**	**50.21**	**124**	P		**P**	**02 03 43.3**	**-1.5**
WB0				IAmb		IAmb	02 03 56.9	
	comp=Z,6.7nm,1.1s							
WRA	**Warramunga Arr**	**50.25**	**124**	P		**P**	**02 03 47.3**	**+2.3**
	comp=Z,0.8nm,0.6s,baz=306,slow=8.5,SNR=5.0							
WRA	**Warramunga Arr**	**50.25**	**124**	P		**P**	**02 03 45.4**	**+0.4**
ASAR	**Alice Springs**	**51.81**	**129**	P		**P**	**02 03 58.2**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=310,slow=7.2,SNR=2.5							
ASAR	**Alice Springs**	**51.81**	**129**	P		**P**	**02 03 56.4**	**-0.3**
STKA	**Stephens Creek**	**61.91**	**133**	P		**P**	**02 05 10.2**	**+1.9**
	comp=Z,1.0nm,0.5s,baz=315,slow=7.1,SNR=3.1							
STKA	**Stephens Creek**	**61.91**	**133**	P		**P**	**02 05 07.4**	**-0.9**

DJA ***27*** *02:09:43.5±0.6,8˚N±4˚×9˚1E±˚, h10km, M4.8/13, mb4.7/13, mB5.2/5, MLv5.0/4, Mw(mB)4.6/5*

IDC ***27*** *02:09:44.2±0.7,8˚11N×91˚70E, h0km, mb4.1/14, mb1 4.2/16, mb1mx4.0/41, mbtmp4.1/16, ML4.6/2, MS3.3/3, Ms1 3.4/3, ms1mx3.0/42, Error ellipse: s-maj=29.5km s-min=15.1km az=50.0*

NEIC ***27*** *02:09:47.9±1.7,8˚13N±0˚07×91˚72E±0˚08, h28km±5km, mb4.4/22, Error ellipse: s-maj=12.6km s-min=8.5km az=62.0*

ISC 27 02:09:48.9±0.5, 8˚12N±0˚07×91˚73E±0˚07, h35km, n71, σ1§13/70, mb4.3/25, MS3.5/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PBA	**Port Blair**	**3.66**	**16**	Pn		Pn	02 10 42.1	-0.9
PBA						Sn	02 11 23.8	-1.1
LHMI	**Lhok Sumawe**	**5.93**	**119**	P		**Pn**	**02 11 15.3**	**+1.1**
	1.0nm248nm,1.0s							
MLSI	**Meulaboh, Aceh**	**6.02**	**129**	P		**Pn**	**02 11 15.9**	**+0.4**
	0.9nm106nm,0.8s							
TPTI		**7.26**	**131**	P		**Pn**	**02 11 32.3**	**-0.2**
	0.2nm574nm50nm,0.6s							
PSI	**Prapat**	**8.90**	**126**	Pn		**Pn**	**02 11 55.8**	**+0.7**
	5.3nm,0.3s,baz=360,slow=7.5,SNR=26							
PSI						**Sn**	**02 13 33.2**	**-1.1**
	0.4nm,0.3s,baz=180,slow=13,SNR=1.5							
GSI	**Gunungsitoli**	**8.93**	**139**	P		**Pn**	**02 11 54.7**	**-0.8**
	12μm23nm,0.9s							
GSI	**Gunungsitoli**	**8.93**	**139**	Pn		**Pn**	**02 11 55.4**	**-0.1**
GSI						**Sn**	**02 13 35.9**	**+1.0**
RPSI	**Rantau Prapat**	**8.96**	**127**	Pn		**Pn**	**02 11 55.9**	**-0.1**
RPSI	**Rantau Prapat**	**8.96**	**127**			**Pn**	**02 11 55.8**	**-0.1**
RPSI						**Sn**	**02 13 33.2**	**-2.5**
MNSI	**Mandailing Nat**	**10.68**	**133**	P		**Pn**	**02 12 18.9**	**-0.6**
	17nm,0.6s							
PALK	**Pallekele**	**10.96**	**266**	Pn		**Pn**	**02 12 22.4**	**-1.0**
CMAR	**Chiang Mai Arr**	**12.44**	**34**	Pn		**Pn**	**02 12 43.2**	**-0.4**
	1.4nm,0.3s,baz=226,slow=14,SNR=16							
CMAR				LR		LR	02 18 07.4	
	comp=Z,168nm,18.2s,baz=226,slow=40							
CHTO	**Chiang Mai**	**12.73**	**33**			**Pn**	**02 12 48.9**	**+1.3**
CHLP	**Challavanipeta**	**12.74**	**325**	*eP*		**Pn**	**02 12 46.0**	**-1.6**
CHLP				*e*			02 14 54.3	
PVM	**Polavaram**	**13.39**	**314**	*eP*		**Pn**	**02 12 54.8**	**-1.8**
PVM				*e*			02 15 11.7	
MYLAV	**Mylavaram**	**13.81**	**309**	*eP*		**Pn**	**02 13 00.7**	**-1.5**
MYLAV				*e*			02 15 19.4	
ADKI	**Addanki**	**13.82**	**305**	*eP*		**Pn**	**02 13 01.3**	**-1.1**
ADKI				*e*			02 15 17.7	
NJS	**Nagarjunasagar**	**14.74**	**306**	*eP*		**Pn**	**02 13 14.1**	**-0.9**
NJS				*e*			02 15 42.0	
SRLM	**Srisailam**	**14.84**	**304**	*eP*		**Pn**	**02 13 14.6**	**-1.8**
SRLM				*e*			02 15 45.0	
UBPT	**Khong Chiam**	**15.22**	**61**	Pn		**Pn**	**02 13 22.4**	**+1.1**
UBPT				IAmb		IAmb	02 13 27.9	
	comp=Z,22nm,0.9s							
URV	**Uravakonda**	**15.71**	**297**	*eP*		**Pn**	**02 13 26.8**	**-0.9**
URV				*e*			02 16 04.3	
HYB	**Hyderabad**	**15.82**	**307**	*i P*		**P**	**02 13 34.0**	**+1.4**
HYB				*eS*		**Sn**	**02 16 24.0**	**+0.6**
HYBB	**Hyderabad (bro**	**15.82**	**307**	*eP*		**Pn**	**02 13 30.1**	**+0.9**
HYBB				*e*			02 16 07.5	
RPR	**Rampur**	**16.12**	**313**	*eP*		**Pn**	**02 13 32.2**	**-0.7**
RPR				*e*			02 16 16.5	
SRSP	**Sriramsagar**	**16.86**	**311**	*eP*		**Pn**	**02 13 40.1**	**-2.3**
SRSP				*e*			02 16 33.8	
SLVN	**Son La**	**17.63**	**40**	Pn		**Pn**	**02 13 50.4**	**-1.5**
SLVN				IAmb		IAmb	02 13 55.7	
	comp=Z,24nm,0.9s							
KLRI	**Killari**	**17.73**	**305**	*eP*		**Pn**	**02 13 52.7**	**-0.6**
KLRI				*e*			02 16 53.2	
KLSI		**18.17**	**134**	P		**Pn**	**02 13 59.1**	**+0.6**
	comp=Z,12nm,1.1s							
SBUM	**Sibu**	**21.16**	**104**	P		**P**	**02 14 29.8**	**-1.5**
	baz=51,slow=75,SNR=245							
GYA	**Guiyang**	**23.11**	**36**	P		**P**	**02 14 52.8**	**+0.8**
GYA				pmax	pmax			
	comp=Z,14nm,1.0s							
GYA				LR	LR			
	comp=Z,100nm,13.1s							
GYA				LR	LR			
	comp=Z,120nm,18.0s							
H08S3	**Diego Garcia H**	**24.75**	**231**	T		T	02 41 35.3	
	baz=51,slow=75,SNR=172							
H08S2	**Diego Garcia H**	**24.75**	**231**	T		T	02 41 44.0	
	baz=51,slow=75,SNR=72							
H08S1	**Diego Carcia H**	**24.77**	**231**	T		T	02 41 28.5	
	baz=51,slow=75,SNR=133							
MYLDM	**Lahad Datu**	**26.75**	**95**	P		**P**	**02 15 24.9**	**-0.6**
XAN	**Xi'an**	**30.28**	**29**	P		**P**	**02 15 52.5**	**-4.3**
XAN				pP		sP	02 16 09.0	-0.6
XAN				S		S	02 21 04.0	+9.5
XAN				pmax	pmax			
	comp=Z,6.0nm,0.7s							
XAN				pmax	pmax			
	comp=Z,130nm,5.7s							
XAN				LR	LR			
	comp=N,120nm,13.9s							
XAN				LR	LR			
	comp=E,110nm,16.0s							
XAN				LR	LR			
	comp=Z,180nm,15.7s							
NIL	**Nilore**	**30.61**	**329**	P		**P**	**02 15 59.2**	**-0.5**
GTA	**Gaotai**	**31.99**	**12**	*eP*		**P**	**02 16 14.0**	**+2.0**
GTA				pP		pP	02 16 18.3	-2.6
GTA				sP		sP	02 16 21.5	-3.2
GTA				pmax	pmax			
	comp=Z,5.0nm,0.8s							
DAV	**Davao City (W)**	**33.57**	**89**	LR		LR	02 30 36.3	
	comp=Z,34nm,18.6s,baz=152,slow=37							
MK31	**Makanchi Array**	**39.38**	**350**	P		**P**	**02 17 15.2**	**+0.1**
MKAR	**Makanchi Array**	**39.38**	**350**	P		**P**	**02 17 15.7**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=184,slow=8.1,SNR=7.4							
KK31	**Karatay Array**	**39.51**	**335**	P		**P**	**02 17 16.5**	**+0.3**
KKAR	**Karatay Array**	**39.51**	**335**	P		**P**	**02 17 16.6**	**+0.3**
SONM	**Songino Array**	**41.50**	**15**	P		**P**	**02 17 33.5**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=194,slow=11,SNR=8.1							
FITZ	**Fitzroy Crossi**	**42.42**	**128**	P		**P**	**02 17 40.3**	**-0.2**
GEYT	**Alibeck**	**42.45**	**320**	P		**P**	**02 17 41.6**	**+1.0**
	comp=Z,5.4nm,0.8s,baz=147,slow=8.5,SNR=13							
GYA0B	**ALIBECK ARRAY**	**42.45**	**320**	P		**P**	**02 17 39.8**	**-0.7**
GYA0B				IAmb		IAmb	02 17 59.0	
	comp=Z,8.8nm,1.1s							
KURK	**Kurchatov**	**43.84**	**348**	P		**P**	**02 17 50.8**	**-0.7**
KURK				IAmb		IAmb	02 18 02.7	
	comp=Z,4.2nm,0.7s							
ZAA0	**Zalesovo Array**	**46.04**	**354**	P		**P**	**02 18 09.9**	**+0.9**
ZAA0				IAmb		IAmb	02 18 21.7	
	comp=Z,3.1nm,0.8s							
ZALV	**Zalesovo Beam**	**46.04**	**354**	P		**P**	**02 18 10.0**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=183,slow=7.4,SNR=6.5							
ZALV				LR		LR	02 39 49.7	
	comp=Z,43nm,19.9s,baz=52,slow=39							
WB0	**Warramunga Arr**	**50.32**	**124**	P		**P**	**02 18 42.9**	**+0.3**
WB0				IAmb		IAmb	02 18 56.5	
	comp=Z,2.2nm,0.7s							
WRA	**Warramunga Arr**	**50.36**	**124**	P		**P**	**02 18 42.9**	**0.0**
	comp=Z,1.5nm,0.7s,baz=306,slow=8.6,SNR=12							
WRA	**Warramunga Arr**	**50.36**	**124**	P		**P**	**02 18 43.4**	**+0.5**
WB2	**Warramunga Arr**	**50.37**	**124**	P		**P**	**02 18 42.2**	**-0.8**
WB2				IAmb		IAmb	02 18 45.2	
	comp=Z,4.0nm,0.7s							
ASAR	**Alice Springs**	**51.92**	**129**	P		**P**	**02 18 54.6**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=304,slow=7.2,SNR=4.3							
ASAR	**Alice Springs**	**51.92**	**129**	P		**P**	**02 18 55.0**	**+0.4**
TBLG	**Delisi**	**53.23**	**317**	P		**P**	**02 19 02.1**	**-1.9**
TBLG				IAmb		IAmb	02 19 06.3	
	comp=Z,5.1nm,0.8s							
ARU	**Arti**	**54.76**	**338**	P		**P**	**02 19 13.9**	**-0.9**
ARU				IAmb		IAmb	02 19 16.4	
	comp=Z,3.8nm,0.8s							
BRTR	**Keskin Array B**	**60.47**	**311**	P		**P**	**02 19 55.1**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=132,slow=7.3,SNR=8.5							
STKA	**Stephens Creek**	**62.02**	**133**	P		**P**	**02 20 07.4**	**+1.4**
	comp=Z,1.6nm,0.6s,baz=305,slow=8.0,SNR=6.9							
STKA	**Stephens Creek**	**62.02**	**133**	P		**P**	**02 20 06.5**	**+0.5**
ELL	**Elmali**	**62.67**	**307**	P		**P**	**02 20 10.2**	**-0.3**
MLR	**Muntele Rosu**	**67.33**	**316**	P		**P**	**02 20 40.6**	**0.0**
FINES	**FINESS Array B**	**71.39**	**332**	P		**P**	**02 21 05.7**	**+0.6**
	comp=Z,4.2nm,0.9s,baz=121,slow=14,SNR=5.3							
ARCES	**ARCESS Array B**	**74.23**	**340**	P		**P**	**02 21 21.9**	**0.0**
	comp=Z,2.4nm,0.9s,baz=97,slow=6.2,SNR=4.0							
GERES	**GERESS Array B**	**76.05**	**319**	P		**P**	**02 21 33.9**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=93,slow=5.6,SNR=5.4							
TAM	**Tamanrasset**	**83.42**	**292**	P		**P**	**02 22 12.9**	**-0.7**
TAM				IAmb		IAmb	02 22 17.4	
	comp=Z,3.7nm,1.0s							
TORD	**Torodi Ar. Bea**	**88.22**	**283**	P		**P**	**02 22 38.6**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=111,slow=5.8,SNR=4.6							
ESDC	**Sonseca Array**	**89.23**	**310**	P		**P**	**02 22 42.0**	**+0.4**
	comp=Z,1.1nm,1.0s,baz=35,slow=4.0,SNR=5.2							
ILAR	**Eielson Array**	**95.41**	**22**	P		**P**	**02 23 10.1**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=328,slow=3.2,SNR=2.1							
ILAR	**Eielson Array**	**95.41**	**22**	P		**P**	**02 23 10.7**	**+1.1**
CPUP	**Villa Florida**	**145.48**	**235**	PKPbc		**PKPab**	**02 29 24.9**	**+0.6**
	comp=Z,3.9nm,0.9s,baz=85,slow=9.3,SNR=5.5							

IDC ***27*** *02:41:53.0±1.6,14˚68S×73˚65W, h73km±15km, mb3.8/11, mb1 4.1/18, mb1mx4.0/44, mbtmp4.3/18, MS3.2/3, Ms1 3.2/3, ms1mx3.0/31, Error ellipse: s-maj=18.9km s-min=11.0km az=45.0*

NEIC ***27*** *02:41:52.9±1.0, 14˚73S±0˚08×73˚66W±0˚09, h79km±5km, mb4.4/30, Error ellipse: s-maj=14.6km s-min=7.6km az=49.0*

VAO ***27*** *02:41:54.2±0.4, 14˚72S×73˚40W, h54km±2km, mb4.6*

ISC 27 02:41:50.9±0.4, 14˚76S±0˚04×73˚66W±0˚06, h50km, n141, σ1§77/152, mb4.2/18, 3C-2D, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**4.14**	**311**	P		**Pn**	**02 42 54.0**	**+2.2**
	78nm,0.3s,baz=141,slow=10,SNR=47							
NNA				S		**Sn**	**02 43 40.0**	**+1.0**
	88nm,0.3s,baz=232,slow=22,SNR=11							
NNA				LR		LR	02 44 27.6	
	comp=Z,264nm,20.3s,baz=209,slow=38							
NNA	**Nana**	**4.14**	**311**	Pn		**Pn**	**02 42 54.2**	**+2.4**
NNA				Sn		**Sn**	**02 43 40.9**	**+1.9**
AP01	**Chacalluta**	**4.80**	**139**	*eP*		**Pn**	**02 43 03.8**	**+3.2**
AP01				*eS*		**Sn**	**02 43 54.8**	**-0.2**
AP01	**Chacalluta**	**4.80**	**139**	Pn		**Pn**	**02 43 03.5**	**+2.8**
PB12	**IPOC Station P**	**4.99**	**141‖** *eP*			**Pn**	**02 43 06.2**	**+2.8**
PB12				*eS*		**Sn**	**02 43 58.7**	**-1.1**
PB12	**IPOC Station P**	**4.99**	**141**	Pn		**Pn**	**02 43 06.0**	**+2.7**
PB12				Sn		**Sn**	**02 44 00.1**	**+0.3**
PB16	**IPOC Station P**	**5.34**	**132**	*eP*		**Pn**	**02 43 11.3**	**+2.8**
PB16				*i* S		**Sn**	**02 44 11.0**	**+1.9**
PB16	**IPOC Station P**	**5.34**	**132**			**Pn**	**02 43 10.8**	**+2.2**
PB16				Sn		**Sn**	**02 44 11.8**	**+2.7**
LPAZ	**La Paz**	**5.54**	**107**	P		Pn	02 43 17.9	+6.5
	14nm,0.3s,baz=266,slow=8.9,SNR=370							
LPAZ	**La Paz**	**5.54**	**107‖** *iP*			Pn	02 43 18.0	+6.5
LPAZ	**La Paz**	**5.54**	**107**	Pn		Pn	02 43 17.1	+5.6
MNMC	**Minye Minye**	**5.83**	**139**	*eP*		**Pn**	**02 43 17.8**	**+2.7**
MNMC				*eS*		**Sn**	**02 44 20.0**	**-0.9**
MNMC	**Minye Minye**	**5.83**	**139**	Pn		**Pn**	**02 43 17.7**	**+2.6**
PSGC	**Pisagua**	**5.88**	**145‖** *eP*			**Pn**	**02 43 17.7**	**+2.1**
PSGC				*eS*		**Sn**	**02 44 19.0**	**-2.7**
PSGCX	**Pisagua**	**5.88**	**145**			**Pn**	**02 43 17.9**	**+2.4**
PB11	**IPOC Station P**	**6.27**	**143‖** *eP*			**Pn**	**02 43 23.2**	**+2.2**
PB11				*eS*		**Sn**	**02 44 29.0**	**-2.6**
PB11	**IPOC Station P**	**6.27**	**143**	Pn		**Pn**	**02 43 23.4**	**+2.4**
TA02	**Huaiquique**	**6.43**	**149**	*eP*		**Pn**	**02 43 25.4**	**+2.4**
TA02				*eS*		**Sn**	**02 44 31.5**	**-3.7**
GO01	**Chusmiza**	**6.48**	**139**	*eP*		**Pn**	**02 43 27.0**	**+2.8**
GO01				*eS*		**Sn**	**02 44 36.6**	**-0.5**
GO01	**Chusmiza**	**6.48**	**139**			**Pn**	**02 43 26.5**	**+2.3**
TA01	**Diego Aracena**	**6.66**	**151**	*eP*		**Pn**	**02 43 28.2**	**+2.1**
TA01				*eS*		**Sn**	**02 44 36.2**	**-4.5**
TA01	**Diego Aracena**	**6.66**	**151**	Pn		**Pn**	**02 43 28.4**	**+2.3**
PB08	**IPOC Station P**	**6.87**	**142**	*eP*		**Pn**	**02 43 31.7**	**+2.4**
PB08				*eS*		**Sn**	**02 44 44.1**	**-2.2**
PB08	**IPOC Station P**	**6.87**	**142**			**Pn**	**02 43 31.9**	**+2.5**
PATCX	**Punta Patache**	**6.89**	**151**	*eP*		**Pn**	**02 43 31.9**	**+2.4**
PATCX				*eS*		**Sn**	**02 44 41.8**	**-4.8**
PATCX	**Punta Patache**	**6.89**	**151**			**Pn**	**02 43 31.5**	**+2.1**
CZSB	**Cruzeiro do Su**	**7.05**	**8**	*eP*		**Pn**	**02 43 33.8**	**+2.2**
ETMB	**Extrema**	**8.78**	**57**	*eP*		**Pn**	**02 43 55.2**	**-0.1**
ETMB				*eS*		**Sn**	**02 45 30.5**	**-2.5**
ATAH	**Atahualpa**	**8.89**	**328**	P		**Pn**	**02 43 58.8**	**+1.6**
	0.5nm,0.3s,baz=145,slow=14,SNR=3.5							
ATAH				S		**Sn**	**02 45 33.8**	**-2.4**
	0.4nm,0.3s,baz=105,slow=20,SNR=2.2							
LVC	**Limon Verde**	**9.01**	**151**	P		**Pn**	**02 44 01.3**	**+2.5**
	5.3nm,0.3s,baz=301,slow=11,SNR=4.0							
LVC				S		**Sn**	**02 45 38.9**	**-0.1**
	9.3nm,0.3s,baz=202,slow=21,SNR=14							
LVC	**Limon Verde**	**9.01**	**151**	Pn		**Pn**	**02 44 00.9**	**+2.2**
LVC	**Limon Verde**	**9.01**	**151**	*eP*		**Pn**	**02 44 01.6**	**+2.8**
SAML	**Samuel**	**11.77**	**62**	Pn		**Pn**	**02 44 37.0**	**+0.8**
SAML	**Samuel**	**11.77**	**62**	*eP*		**Pn**	**02 44 36.6**	**+0.4**
SIV	**San Ignacio**	**12.21**	**97**	P		**Pn**	**02 44 42.9**	**+0.7**
	8.0nm,0.3s,baz=286,slow=13,SNR=87							
VILB	**Vilhena**	**13.20**	**84**	*eP*		**Pn**	**02 44 55.5**	**-0.2**
PTLB	**Pontes e Lacer**	**14.04**	**95**	*eP*		**Pn**	**02 45 06.1**	**-1.1**
PTLC	**Puerto Leguiza**	**14.88**	**356**	*eP*		**Pn**	**02 45 14.6**	**-3.7**
PUAC	**Puerto Asis, P**	**15.48**	**349**	*eP*		**Pn**	**02 45 26.7**	**+0.5**
GO04	**Tololo Observa**	**15.56**	**171**	Pn		**Pn**	**02 45 28.7**	**+1.4**
GO04				IAmb		IAmb	02 45 34.4	
	comp=Z,42nm,1.1s							
OTAV	**Otavalo**	**15.64**	**342**	*eP*		**Pn**	**02 45 31.1**	**+2.6**
OTAV	**Otavalo**	**15.64**	**342**	Pn		**Pn**	**02 45 28.2**	**-0.4**
OTAV						**P**	**02 45 28.6**	**-3.3**
OTAV	**Otavalo**	**15.64**	**342**	*eP*		**Pn**	**02 45 31.6**	**+3.0**
GCUF	**Volcan Galeras**	**16.30**	**347**	*eP*		**Pn**	**02 45 39.8**	**+2.9**
FLOC	**Florencia**	**16.36**	**353**	Pn		**Pn**	**02 45 37.6**	**+0.3**
CO02	**Combarbal**	**16.55**	**172**			**Pn**	**02 45 41.0**	**+1.4**
MACC	**Macarena, Meta**	**16.80**	**359**	*eP*		**Pn**	**02 45 43.6**	**+0.8**
BBAC	**Balboa, Cauca**	**17.05**	**348**	*eP*		**Pn**	**02 45 47.9**	**+1.8**
PCON	**Cinco Dias**	**17.19**	**351**	*eP*		**Pn**	**02 45 51.3**	**+3.0**
MACA	**Manacapuru-AM**	**17.22**	**49**	*eP*		**Pn**	**02 45 49.3**	**+1.2**
ZON	**Zonda**	**17.32**	**166**	P		**Pn**	**02 45 48.4**	**-0.8**
SALV	**Santo Antonio**	**17.37**	**96**	*eP*		**Pn**	**02 45 49.2**	**-0.6**
POPC	**Popayan, Colom**	**17.45**	**350**	*eP*		**Pn**	**02 45 53.3**	**+2.3**
CLDB	**Colider**	**17.84**	**80**	*eP*		**Pn**

comp=Z,6.0nm,0.7s,baz=238,slow=8.9,SNR=7.1
DBIC Dimbokro 71.45 78 P **P** **02 53 05.2 -1.5**
QSPA South Pole Qui 75.39 180 P **P** **02 53 28.9 -0.2**
TOA0 Torodi Ar. Sit 79.57 73 P **P** **02 53 51.7 -1.5**
TOA0 IAmb IAmb 02 53 53.1
comp=Z,7.4nm,1.0s
TORD Torodi Ar. Bea 79.57 73 P **P** **02 53 52.2 -1.1**
comp=Z,3.9nm,0.8s,baz=268,slow=5.8,SNR=16
VNDA Vanda 82.65 190 P **P** **02 54 08.6 +0.1**
comp=Z,1.6nm,0.9s,baz=130,slow=4.7,SNR=9.2
YKA Yellowknife Ar 83.39 342 P **P** **02 54 11.6 -0.8**
comp=Z,1.6nm,1.0s,baz=140,slow=4.7,SNR=8.7
SYO Syowa Base 84.34 161⇑ *eP* **P** **02 54 15.8 -1.5**
ESDC Sonseca Array 84.37 47 P **P** **02 54 17.7 -0.3**
comp=Z,1.3nm,0.9s,baz=256,slow=6.1,SNR=7.1
MAW Mawson 92.02 165 P **P** **02 54 54.3 +0.2**
comp=Z,4.5nm,0.9s,baz=216,slow=5.6,SNR=10.0
MAW Mawson 92.02 165 P **P** **02 54 53.7 -0.4**
MAW IAmb IAmb 02 54 55.3
comp=Z,1.4nm,1.1s
JMIC Jan Mayen 96.09 17 P **P** **02 55 11.5 -1.0**
comp=Z,25nm,0.5s,baz=235,slow=10.0,SNR=1.6
ASAR Alice Springs 133.25 216 PKP **PKPdf** **03 01 00.9 -1.3**
comp=Z,0.7nm,0.7s,baz=115,slow=1.7,SNR=9.9
ASAR Alice Springs 133.25 216 **PKPdf** **03 01 00.3 -1.8**
WRA Warramunga Arr 135.87 219 PKP **PKPdf** **03 01 05.4 -1.7**
comp=Z,1.7nm,0.8s,baz=136,slow=1.7,SNR=7.1
WRA Warramunga Arr 135.87 219 **PKPdf** **03 01 05.1 -2.0**
ZALV Zalesovo Beam 137.41 19 PKP **PKPdf** **03 01 07.3 -1.5**
comp=Z,2.3nm,0.6s,baz=336,slow=3.2,SNR=5.2
KLR Kul'dur 139.82 334 PKP **PKPdf** **03 01 12.1 -1.3**
comp=Z,1.2nm,0.7s,baz=310,slow=7.2,SNR=5.3
MJAR Matsushiro Arr 144.27 313 PKP **PKPab** **03 01 19.5 -0.2**
comp=Z,1.3nm,0.6s,baz=75,slow=1.4,SNR=2.5
SONM Songino Array 147.02 360 PKPbc **PKPdf** **03 01 26.1 -0.2**
comp=Z,2.1nm,0.7s,baz=328,slow=3.0,SNR=6.0

NEIC ***27*** *02:50:36.4,64˚.45N×17˚.65W,h9km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=7.38; Mθθ=6.72; Mθφ=0.66; Mrθ=-4.48; Mφφ=0.34; Mφr=-3.47; Fault plane solution: M₀=9.07000×10¹⁶ NP1:φs=67.71000°, δ=64.28000°, λ=-105.18000°. NP2:φs=279.72000°, δ=29.60000°, λ=-61.47000°. Principal axes: T 8.2614, Plg18.0000°, Azm169.0000°; N 1.4392, Plg14.0000°, Azm74.0000°; P -9.7006, Plg67.0000°, Azm309.0000°;*

INMG ***27*** *02:50:36.4,64˚.45N×17˚.65W,h9km,MW5.3*

MOS ***27*** *02:50:36.6±1.5,64˚.55N×17˚.60W,h10km,mb5.4/81, MS4.9/31,Error ellipse: s-maj=7.4km s-min=4.5km az=103.0*

NEIC ***27*** *02:50:36.4±0.6,64˚.45N±0˚.07×17˚.7W±0˚.1,h9km±1km, mb5.2/185,Mwb5.2/58,Mww5.3,Mwc5.4(GCMT),Error ellipse: s-maj=11.4km s-min=8.2km az=196.0*

BJI ***27*** *02:50:36.3±0.0,64˚.72N×17˚.89W,h11km,mB5.6/61, mb5.0/63,Ms5.2/66,Ms7.4.9/52*

REY ***27*** *02:50:36.6,64˚.65N×17˚.37W,h6km*

BGS ***27*** *02:50:37.6±2.0,64˚.45N×17˚.65W,h5km,MS5.1*

IDC ***27*** *02:50:37.4±0.4,64˚.63N×17˚.55W,h0km,mb4.5/35, mb1 4.5/43,mb1mx4.4/59,mbtmp4.4/43,ML3.2/6,MS4.7/46, Ms1 4.7/46,ms1mx4.7/54,Error ellipse: s-maj=11.7km s-min=7.0km az=17.0*

NAO ***27*** *02:50:38.8±4.5,64˚.60N×17˚.18W,ML4.7*

DNK ***27*** *02:50:40.5±3.9,64˚.65N×16˚.98W,h0km±191km,Ms5.0*

IEPN ***27*** *02:50:40.0,64˚.55N×17˚.26W,h10km*

GCMT ***27*** *02:50:43.4±0.1,64˚.66N±0˚.01×17˚.26W±0˚.01,h12km, MW5.4/147,Moment Tensor Solution. s116,c199; s147,c287; Duration: 1ˢ2 Moment tensor: Scale 10¹⁷ Nm; Mrr=1.46±.01; Mθθ=0.34±.02; Mφφ=1.12±.01; Mrθ=-0.25±.05; Mθφ=-0.23±.01; Mφr=0.40±.04; Best double couple: M₀=1.39400×10¹⁷ NP1:φs=156.00000°,δ39.00000°, λ=-106.00000°. NP2:φs=357.00000°,δ53.00000°, λ=-77.00000°. Principal axes: T 1.2230, Plg7.0000°, Azm77.0000°; N 0.3400, Plg10.0000°, Azm169.0000°; P -1.5640, Plg77.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***27*** *02:50:44,64˚.58N×17˚.28W,h12km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=1.32; Mθθ=0.47; Mθφ=0.86; Mrθ=-0.41; Mφφ=-0.08; Mφr=0.08; Fault plane solution: M₀=1.24000×10¹⁷ NP1:φs=357.00000°, δ=41.00000°,λ=-72.00000°. NP2:φs=154.00000°,δ=51.00000°, λ=-104.00000°. Principal axes: T 0.8845, Plg5.0000°, Azm255.0000°; N 0.5297, Plg11.0000°, Azm164.0000°; P -1.4142, Plg78.0000°, Azm7.0000°;*

NEIC ***27*** *02:50:44,64˚.62N×17˚.32W,h12km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=1.43; Mθθ=0.40; Mθφ=1.04; Mrθ=-0.62; Mφφ=-0.26; Mφr=-0.35; Fault plane solution: M₀=1.49000×10¹⁷ NP1:φs=144.00000°, δ=45.00000°,λ=-118.00000°. NP2:φs=1.00000°,δ=52.00000°, λ=-65.00000°. Principal axes: T 1.1358, Plg4.0000°, Azm74.0000°; N 0.5491, Plg19.0000°, Azm165.0000°; P -1.6849, Plg70.0000°, Azm334.0000°;*

BGR ***27*** *02:50:49.9±0.0,64˚.55N×15˚.76W,h33km,mb5.4, mB_BB5.7,Ms4.8*

ISC 27 02:50:38.8±0.2,**64˚.67N**±0˚.02×**17˚.50W**±0˚.02,**h10**km, **n1230**,**σ2ˢ18**/1251,**mb5.2**/251,**MS4.9**/96,**22C-38D, Iceland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.11**	**274**	P	**Pg**	**02 50 40.1**	**-1.5**
	baz=277						
IVON				S	**Sg**	**02 50 43.0**	**-0.6**
	baz=277						
IDYN	**Dyngjuhals**	**0.14**	**25**	P	**Pg**	**02 50 39.6**	**-2.5**
	baz=1.1						
IDYN				S	**Sg**	**02 50 42.2**	**-2.2**
	baz=1.1						
IDJK	**Dyngjujokull**	**0.20**	**145**	P	**Pg**	**02 50 40.0**	**-3.1**
	baz=158						
IGRF	**Grimsfjall**	**0.28**	**158**	P	**Pg**	**02 50 41.5**	**-3.0**
	baz=170						
IGRF				S	**Sg**	**02 50 45.7**	**-2.6**
	baz=170						
IKVE	**Kverkfjoll**	**0.36**	**88**	P	**Pg**	**02 50 42.8**	**-3.2**
	baz=85						
IHUS	**Husbondi**	**0.38**	**190**	P	**Pg**	**02 50 43.8**	**-2.5**
	baz=199						
IHUS				S	**Sg**	**02 50 49.5**	**-1.8**
	baz=199						
IBJK	**Bruarjokull**	**0.38**	**121**	P	**Pg**	**02 50 42.9**	**-3.5**
	baz=124						
ISKR	**Skrokkalda**	**0.40**	**255**	P	**Pg**	**02 50 45.0**	**-1.6**
	baz=258						
ISKR				S	**Sb**	**02 50 51.3**	**-2.7**
	baz=258						
IVOT	**Vottur**	**0.42**	**161**	P	**Pg**	**02 50 44.0**	**-3.1**
	baz=168						
IJOK	**Jokulheimar**	**0.47**	**222**	P	**Pg**	**02 50 46.0**	**-2.1**
	baz=228						
IJOK				S	**Sg**	**02 50 53.2**	**-1.0**
	baz=228						
IKRE	**Kreppuhraun**	**0.50**	**76**	P	**Pg**	**02 50 45.0**	**-3.5**
	baz=72						
IMKO	**Mokollar**	**0.59**	**57**	P	**Pg**	**02 50 46.8**	**-3.4**
	baz=53						
IMKO				S	**Sg**	**02 50 54.1**	**-3.8**
	baz=53						
IIEY	**Innrieyrar**	**0.63**	**205**	P	**Pg**	**02 50 48.4**	**-2.7**
	baz=211						
IKSK	**Karasker**	**0.68**	**138**	P	**Pg**	**02 50 47.5**	**-4.4**
	baz=141						
ISVA	**Svartarkot**	**0.68**	**9**	P	**Pg**	**02 50 48.8**	**-3.2**
	baz=4.1						
IKAL	**Kalfafell**	**0.73**	**186**	P	**Pg**	**02 50 49.3**	**-3.5**
	baz=191						
IKAL				S	**Sg**	**02 50 59.6**	**-2.6**
	baz=191						
IVSH	**V-Sauoahnukur**	**0.78**	**79**	P	**Pg**	**02 50 49.6**	**-4.2**
	baz=77						
IVAT	**Vatnsfell**	**0.78**	**232**	P	**Pg**	**02 50 51.5**	**-2.4**
	baz=236						
IFAG	**Fagurholsmyri**	**0.88**	**155**	P	**Pg**	**02 50 51.4**	**-4.2**
	baz=158						
IADA	**Aoalbol**	**0.90**	**66**	P	**Pg**	**02 50 51.7**	**-4.4**
	baz=64						
IHVE	**Hveravellir**	**0.91**	**284**	P	**Pg**	**02 50 53.2**	**-3.1**
	baz=284						
IMEL	**Melhnausar**	**0.97**	**21**	P	**Pg**	**02 50 53.5**	**-4.1**
	baz=18						
IREN	**Reynihlio**	**1.02**	**14**	P	**Pg**	**02 50 54.3**	**-4.1**
	baz=11						
ISNB	**Snabyli**	**1.06**	**208**	P	**Pg**	**02 50 55.6**	**-3.4**
	baz=212						
ISNB				S	**Sg**	**02 51 09.8**	**-3.0**
	baz=212						
IKVO	**Krokottuvotn**	**1.08**	**14**	P	**Pg**	**02 50 55.3**	**-4.3**
	baz=11						
ISLY	**Slysaalda**	**1.10**	**221**	P	**Pg**	**02 50 56.5**	**-3.4**
	baz=223						
IGRS	**Grimsstaoir**	**1.14**	**30**	P	**Pb**	**02 50 56.1**	**-4.4**
	baz=28						
IGRS				S	**Sb**	**02 51 12.5**	**-2.8**
	baz=28						
IFED	**Fedgar**	**1.15**	**237**	P	**Pb**	**02 50 57.7**	**-3.1**
	baz=239						
IFED				S	**Sg**	**02 51 13.7**	**-2.0**
	baz=239						
IRJU	**Rjupnafell**	**1.17**	**206**	P	**Pb**	**02 50 57.8**	**-3.3**
	baz=209						
IMJO	**Mjoaskard**	**1.20**	**233**	P	**Pb**	**02 50 58.3**	**-3.3**
	baz=235						
ISKI	**Skildingahlsh**	**1.23**	**9**	P	**Pb**	**02 50 57.8**	**-4.3**
	baz=6.6						
IGHA	**Grjothals**	**1.23**	**16**	P	**Pn**	**02 50 57.7**	**-4.5**
	baz=14						
IGYG	**Gygjarholskot**	**1.24**	**253**	P	**Pn**	**02 50 58.9**	**-3.2**
	baz=254						
IGRA	**Granastaoir**	**1.26**	**359**	P	**Pn**	**02 50 58.2**	**-4.2**
	baz=356						
IHAU	**Haukadalur**	**1.28**	**238**	P	**Pn**	**02 50 59.6**	**-3.1**
	baz=240						
IGOD	**Go??abunga**	**1.29**	**219**	P	**Pn**	**02 50 59.9**	**-3.1**
	baz=222						
IHVO	**Lagu-Hvolar**	**1.29**	**208**	P	**Pn**	**02 50 59.6**	**-3.2**
	baz=210						
IDIM	**Dimmadalss**	**1.32**	**10**	P	**Pn**	**02 50 59.2**	**-4.1**
	baz=7.8						
IHLA	**Hella**	**1.33**	**344**	P	**Pn**	**02 50 60.0**	**-3.5**
	baz=342						
ISMJ	**Smjorgil**	**1.37**	**224**	P	**Pn**	**02 51 01.1**	**-2.9**
	baz=227						
IALF	**Alftagrof**	**1.39**	**213**	P	**Pn**	**02 51 01.2**	**-3.0**
	baz=215						
IHED	**Heoinshofoi**	**1.42**	**3**	P	**Pn**	**02 51 00.8**	**-3.9**
	baz=1.0						
IESK	**Eystri-Skogar**	**1.43**	**218**	P	**Pn**	**02 51 01.7**	**-3.0**
	baz=220						
ISAU	**Saurbar**	**1.44**	**243**	P	**Pn**	**02 51 01.7**	**-3.2**
	baz=245						
IMID	**Miomork**	**1.45**	**227**	P	**Pn**	**02 51 02.5**	**-2.6**
	baz=229						
IBRE	**Brettingsstaoi**	**1.47**	**354**	P	**Pn**	**02 51 01.8**	**-3.6**
	baz=352						
IGIL	**Gilhagi**	**1.50**	**18**	P	**Pn**	**02 51 01.8**	**-3.9**
	baz=16						
IGIL				S	**Sn**	**02 51 21.8**	**-3.5**
	baz=16						
BORG	**Borgarnes**	**1.64**	**275**	Pg	**Pn**	**02 51 05.3**	**-2.4**
	101nm,0.3s,baz=100,slow=10,SNR=134						
BORG				Lg	Lg	02 51 29.2	
	119nm,0.3s,baz=264,slow=20,SNR=10						
BORG	**Borgarnes**	**1.64**	**275**	Pn	**Pn**	**02 51 04.5**	**-3.2**
BORG				Sn	**Sn**	**02 51 25.7**	**-3.1**
SCO	**Scoresbysund**	**6.08**	**346**	*i* P	**Pn**	**02 52 10.7**	**+2.1**
SCO	**Scoresbysund**	**6.08**	**346**	P	**Pn**	**02 52 08.3**	**-0.3**
SCO				SN	**Sn**	**02 53 20.7**	**+2.5**
SCO	**Scoresbysund**	**6.08**	**346**	Pn	**Pn**	**02 52 08.3**	**-0.3**
SCO				Sn	**Sn**	**02 53 20.7**	**+2.5**
SCO	**Scoresbysund**	**6.08**	**346**	*i* P	**Pn**	**02 52 10.8**	**+2.1**
SCO				IAMs_20	IAMs_20	02 56 07.5	
	comp=Z,36μm,5.8s						
JMIC	**Jan Mayen**	**7.19**	**24**	Pn	**Pn**	**02 52 23.9**	**0.0**
JMIC	**Jan Mayen**	**7.19**	**24**	Pn	**Pn**	**02 52 23.6**	**-0.3**
	baz=157,slow=5.3,SNR=2.1						
JMIC	**Jan Mayen**	**7.19**	**24**	Pn	**Pn**	**02 52 23.9**	**0.0**
LEWI	**Lewis, Hebride**	**8.29**	**137**	*eP*	**Pn**	**02 52 36.3**	**-2.6**
ANGG	**Ammassalik, Gr**	**8.53**	**285**	Pn	**Pn**	**02 52 39.4**	**-2.7**
ANGG	**Ammassalik, Gr**	**8.53**	**285**	IAMs_20	IAMs_20	02 56 22.3	
	comp=Z,67μm,8.0s						
LRW	**Lerwick**	**8.82**	**113**	*eP*	**Pn**	**02 52 46.3**	**+0.1**
LRW				IAMs_20	IAMs_20	02 56 53.6	
	comp=Z,12μm,11.7s						
LRW	**Lerwick**	**8.82**	**113**	*eP*	**Pn**	**02 52 44.5**	**-1.7**
BIGH	**Upper Bighouse**	**8.95**	**127**	*eP*	**Pn**	**02 52 45.9**	**-2.0**
BIGH	**Upper Bighouse**	**8.95**	**127**	*eP*	**Pn**	**02 52 46.8**	**-1.1**
ISOG	**Isortoq, Green**	**9.09**	**285**	IAMs_20	IAMs_20	02 56 40.6	
	comp=Z,50μm,8.5s						
KAC	**Achnashellach**	**9.29**	**135**	*eP*	**Pn**	**02 52 50.4**	**-2.2**
KPL	**Plockton**	**9.32**	**137**	*eP*	**Pn**	**02 52 50.5**	**-2.5**
KPL				IAMs_20	IAMs_20	02 57 25.7	
	comp=Z,14μm,12.2s						
KPL	**Plockton**	**9.32**	**137**	*eP*	**Pn**	**02 52 51.1**	**-1.9**
DBG	**Daneborg**	**9.73**	**356**	IAMs_20	IAMs_20	02 56 32.5	
	comp=Z,14μm,10.6s						
ICESG	**Greenland Ices**	**9.73**	**307**	IAMs_20	IAMs_20	02 56 54.3	
	comp=Z,40μm,7.9s						
MCD	**Coleburn Disti**	**9.88**	**129**	*eP*	**Pn**	**02 52 59.3**	**-1.4**
INVG	**Invergeldie, C**	**10.57**	**135**	*eP*	**Pn**	**02 53 07.8**	**-2.3**
INVG				IAMs_20	IAMs_20	02 58 00.8	
	comp=Z,19μm,10.4s						
ELO	**Logie Almond**	**10.63**	**134**	*eP*	**Pn**	**02 53 09.5**	**-1.5**
FOO	**Floro**	**10.63**	**96**	*eP*	**Pn**	**02 53 14.3**	**+3.3**
FOO				IAmb	IAmb	02 53 19.6	
	comp=Z,42nm,1.0s						
EAB	**Aberfoyle**	**10.68**	**137**	*eP*	**Pn**	**02 53 09.9**	**-1.8**
SUE	**Sulen**	**10.77**	**99**	*eP*	**Pn**	**02 53 14.5**	**+1.7**
SUMG	**Summit**	**10.94**	**325**	*i* P	Pn	02 53 22.5	+7.0
SUMG	**Summit**	**10.94**	**325**	P	**Pn**	**02 53 14.3**	**-1.2**
SUMG	**Summit**	**10.94**	**325**	Pn	**Pn**	**02 53 14.3**	**-1.2**
SUMG	**Summit**	**10.94**	**325**	*i* P	Pn	02 53 22.6	+7.0
SUMG				IAMs_20	IAMs_20	02 57 36.0	
	comp=Z,70μm,8.9s						
PGBU	**Glenifferbraes**	**10.96**	**138**	*eP*	**Pn**	**02 53 13.4**	**-2.1**
PGBU				IAMs_20	IAMs_20	02 58 25.7	
	comp=Z,14μm,13.5s						
CLGH	**Cloghs, Cushen**	**11.16**	**144**	*eP*	**Pn**	**02 53 16.1**	**-2.1**
CLGH				IAMs_20	IAMs_20	02 59 15.0	
	comp=Z,24μm,10.6s						
AKN	**Aaknes**	**11.22**	**92**	Pn	**Pn**	**02 53 17.0**	**-2.1**
AKN	**Aaknes**	**11.22**	**92**	Pn	**Pn**	**02 53 17.0**	**-2.1**
AKN				IAmb	IAmb	02 53 28.5	
	comp=Z,88nm,1.0s						
ASK	**Askoy**	**11.24**	**101**	*eP*	**Pn**	**02 53 15.0**	**-4.3**
ASK				IAmb	IAmb	02 53 19.4	
	comp=Z,108nm,1.5s						
EDI	**Edinburgh**	**11.25**	**134**	*eP*	**Pn**	**02 53 18.1**	**-1.4**
EDI				IAMs_20	IAMs_20	02 58 18.5	
	comp=Z,11μm,12.8s						
EDI	**Edinburgh**	**11.25**	**134**	*eP*	**Pn**	**02 53 20.5**	**+1.1**
MOL	**Molde**	**11.31**	**89**	Pn	**Pn**	**02 53 18.4**	**-1.8**
MOL	**Molde**	**11.31**	**89**	*eP*	**Pn**	**02 53 17.7**	**-2.5**
MOL				IAmb	IAmb	02 53 28.8	
	comp=Z,153nm,1.8s						
NEWG	**New Galloway**	**11.64**	**139**	*eP*	**Pn**	**02 53 22.1**	**-2.6**
NEWG				IAMs_20	IAMs_20	02 59 00.4	
	comp=Z,18μm,10.5s						
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**02 53 24.8**	**-1.6**
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**02 53 24.9**	**-1.4**
	baz=329,slow=12,SNR=25						
EKA				Sn	**Sn**	**02 55 30.7**	**-6.8**
	baz=321,slow=20,SNR=1.5						
EKA				LR	LR	02 57 33.2	
	comp=Z,3μm,20.6s,baz=220,slow=35						
EKA	**Eskdalemuir Ar**	**11.76**	**136**	P	**Pn**	**02 53 25.0**	**-1.4**
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**02 53 24.8**	**-1.6**
ESK	**Eskdalemuir**	**11.76**	**136**	*eP*	**Pn**	**02 53 25.1**	**-1.3**
ESK				IAMs_20	IAMs_20	02 58 52.2	
	comp=Z,15μm,10.6s						
ESK	**Eskdalemuir**	**11.76**	**136**	P	**Pn**	**02 53 25.5**	**-0.9**
ESK	**Eskdalemuir**	**11.76**	**136**	Pn	**Pn**	**02 53 22.4**	**-4.1**
KMY	**Karmoy**	**11.98**	**107**	*eP*	**Pn**	**02 53 29.1**	**-0.2**
KMY				IAmb	IAmb	02 53 32.1	
	comp=Z,145nm,1.4s						
ODD1	**Odda**	**12.15**	**102**	*eP*	Pn	02 53 36.4	+4.6
DOMB	**Dombas**	**12.17**	**90**	*eP*	**Pn**	**02 53 30.1**	**-1.9**
DOMB				IAmb	IAmb	02 53 37.1	
	comp=Z,32nm,0.9s						
DAG	**Danmarks Havn**	**12.17**	**359**	*i* P	Pn	02 53 35.3	+3.4
	comp=Z,7μm,10.0s						
DAG	**Danmarks Havn**	**12.17**	**359**	*eP*	Pn	02 53 35.3	+3.4
DAG				MLR	MLR		
	comp=Z,7μm,10.0s						
DAG	**Danmarks Havn**	**12.17**	**359**	*eP*	Pn	02 53 35.3	+3.4
DAG				IAMs_20	IAMs_20	02 58 14.9	
	comp=Z,7μm,10.0s						
BLS5	**Blasjo**	**12.36**	**104**	*eP*	**Pn**	**02 53 34.5**	**-0.1**
BLS5				IAmb	IAmb	02 53 46.9	
	comp=Z,46nm,1.1s						
SKAR	**Skarslia**	**12.46**	**97**	*eP*	**Pn**	**02 53 35.9**	**-0.1**
EDMD	**Edmundbyers**	**12.55**	**134**	*eP*	**Pn**	**02 53 37.1**	**-0.1**
EDMD				*e*		02 55 10.3	
DSB	**Dublin**	**12.78**	**148**	Pn	**Pn**	**02 53 35.8**	**-4.6**
NRS	**Narsarsuaq**	**13.13**	**267**	*i* P	**P**	**02 53 52.3**	**-3.0**
NRS	**Narsarsuaq**	**13.13**	**267**	*eP*	**P**	**02 53 52.3**	**-3.0**
NRS	**Narsarsuaq**	**13.13**	**267**	*eP*	**P**	**02 53 52.3**	**-3.0**
NRS				IAMs_20	IAMs_20	03 00 13.1	
	comp=Z,24μm,8.2s						
NC204	**NORSAR Array S**	**13.23**	**92**		**Pn**	**02 53 44.5**	**-2.1**
SNART	**Snartemo**	**13.32**	**107**	*eP*	**Pn**	**02 53 49.3**	**+1.6**
NBO00	**NORSAR Array S**	**13.35**	**93**	Pn	**Pn**	**02 53 46.1**	**-2.0**
NC303	**NORSAR Array S**	**13.52**	**91**	Pn	**Pn**	**02 53 48.4**	**-2.0**
NB2	**NORSAR Subarra**	**13.54**	**92**	Pn	**Pn**	**02 53 49.8**	**-0.9**
NB2	**NORSAR Subarra**	**13.54**	**92**	Pn	**Pn**	**02 53 47.4**	**-3.2**
	comp=Z,380nm,3.3s,baz=298,slow=14						
NB2	**NORSAR Subarra**	**13.54**	**92**	Pn	**Pn**	**02 53 49.8**	**-0.9**
NOA	**NORSAR Array B**	**13.54**	**92**	Pn	**Pn**	**02 53 47.5**	**-3.2**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=8.4						
NOA				Sn	**Sn**	**02 56 23.8**	**+2.8**
	comp=Z,0.0nm,0.3s,baz=299,slow=22,SNR=1.5						
KONO	**Kongsberg**	**13.55**	**99**	*ce*	**Pn**	**02 53 50.5**	**-0.4**
KONO				pmax	pmax		
	comp=Z,11nm,1.6s						
KONO				MLR	MLR		
	comp=Z,2μm,15.0s						
KONO	**Kongsberg**	**13.55**	**99**	*eP*	**Pn**	**02 53 53.1**	**+2.3**
SFJD	**Kangerlussuaq**	**13.66**	**295**	Pn	**Pn**	**02 53 52.2**	**0.0**
	comp=Z,0.7nm,0.3s,baz=135,slow=7.1,SNR=2.3						
SFJD				Lg	Lg	02 57 29.4	
	comp=Z,0.6nm,0.3s,baz=356,slow=12,SNR=3.8						
SFJD				LR	LR	02 58 39.8	
	comp=Z,8μm,20.1s,baz=86,slow=35						
SFJD	**Kangerlussuaq**	**13.66**	**295**	*i* P	**P**	**02 53 57.6**	**-3.6**
SFJD	**Kangerlussuaq**	**13.66**	**295**		**Pn**	**02 53 50.1**	**-2.2**
SFJD	**Kangerlussuaq**	**13.66**	**295**	*eP*	**P**	**02 53 57.6**	**-3.6**
SFJD				IAMs_20	IAMs_20	02 58 58.4	
	comp=Z,2μm,9.6s						
NC405	**NORSAR Array S**	**13.72**	**92**	Pn	**Pn**	**02 53 51.1**	**-2.0**
ILULI	**Ilulissat**	**13.79**	**304**	IAMs_20	IAMs_20	02 59 49.5	
	comp=Z,33μm,6.5s						
NC602	**NORSAR Array S**	**13.82**	**93**		**Pn**	**02 53 52.4**	**-2.1**
NC602	**NORSAR Array S**	**13.82**	**93**	*eP*	**P**	**02 53 59.4**	**-3.6**
NRA0	**NORESS Array S**	**13.82**	**93**	Pn	**Pn**	**02 53 55.0**	**+0.5**
NRA0	**NORESS Array S**	**13.82**	**93**	Pn	**Pn**	**02 53 55.0**	**+0.5**
IVI	**Ivigtut**	**14.30**	**270**	Pn	**Pn**	**02 53 57.5**	**-3.4**
HFS	**Hagfors**	**15.05**	**93**	P	**Pn**	**02 54 12.0**	**+0.8**
	baz=315,slow=5.6						
HFS	**Hagfors**	**15.05**	**93**	Pn	**Pn**	**02 54 10.4**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=274,slow=8.8,SNR=2.2						
HFS				LR	LR	02 59 36.6	
	comp=Z,5μm,21.7s,baz=282,slow=36						
HFS	**Hagfors**	**15.05**	**93**	P	**Pn**	**02 54 12.0**	**+0.8**
	baz=315,slow=5.6						
MUD	**Monsted U'grnd**	**15.37**	**110**	*i* P	**Pn**	**02 54 15.1**	**-0.3**
MUD	**Monsted U'grnd**	**15.37**	**110**	*i* P	**Pn**	**02 54 15.1**	**-0.3**
MUD	**Monsted U'grnd**	**15.37**	**110**	*eP*	**Pn**	**02 54 13.1**	**-2.3**
MUD	**Monsted U'grnd**	**15.37**	**110**	*i* P	**Pn**	**02 54 15.2**	**-0.3**
MUD				IAMs_20	IAMs_20	03 03 10.4	
	comp=Z,6μm,9.6s						
KIF	**Kilpisjarvi**	**15.48**	**57**	P	**Pn**	**02 54 16.8**	**0.0**
KIF	**Kilpisjarvi**	**15.48**	**57**	P	**Pn**	**02 54 16.8**	**0.0**
BJO1	**Bjornoya**	**15.75**	**36**	P	**P**	**02 54 21.2**	**-3.1**
BJO1	**Bjornoya**	**15.75**	**36**	P	**P**	**02 54 21.2**	**-3.1**
UPNV	**Upernavik**	**15.88**	**317**	IAMs_20	IAMs_20	03 01 03.9	
	comp=Z,24μm,7.5s						
HSPB	**Hornsund (broa**	**16.07**	**26**	*eP*	**P**	**02 54 24.6**	**-3.2**
HSPB				*eS*	**S**	**02 57 35.8**	**-0.2**
HSPB	**Hornsund (broa**	**16.07**	**26**	‖ *iP*	**Pn**	**02 54 24.3**	**-0.1**
HSPB				*i* S	**Sn**	**02 57 21.6**	**-0.7**
BRBA	**Barentsburg A**	**16.44**	**23**	P	**P**	**02 54 31.3**	**-0.6**
BRBA	**Barentsburg A**	**16.44**	**23**	P	**P**	**02 54 31.3**	**-0.6**
HAMF	**Hammerfest**	**16.46**	**51**	P	**Pn**	**02 54 28.8**	**-0.7**
HAMF	**Hammerfest**	**16.46**	**51**	P	**Pn**	**02 54 28.8**	**-0.7**
KULLO	**Kullorsuaq**	**16.59**	**323**	*i* P	**P**	**02 54 34.8**	**+1.2**
KULLO	**Kullorsuaq**	**16.59**	**323**	*eP*	**P**	**02 54 34.8**	**+1.2**
KULLO	**Kullorsuaq**	**16.59**	**323**	*eP*	**P**	**02 54 34.8**	**+1.2**
KULLO				IAMs_20	IAMs_20	03 01 10.6	
	comp=Z,19μm,8.5s						
KBS	**Kingsbay**	**16.64**	**19**	P	**P**	**02 54 34.4**	**+0.3**
KBS	**Kingsbay**	**16.64**	**19**	‖ *iP*	**P**	**02 54 34.8**	**+0.6**
KBS				*eS*	**S**	**02 57 42.5**	**-5.1**
KBS	**Kingsbay**	**16.64**	**19**	*d iP*	**P**	**02 54 34.2**	**+0.1**
KBS				pmax	pmax		
	comp=Z,33nm,2.3s						
KBS	**Kingsbay**	**16.64

comp=Z,188nm,1.8s
FIA0 FINESS Array S 19.71 79 P **Pn** **02 55 08.3 -1.1**
FIA0 FINESS Array S 19.71 79 P **Pn** **02 55 08.3 -1.1**
FIA1 FINESS Array S 19.71 79 P **P** **02 55 06.7 -1.3**
FIA1 IAmb IAmb 02 55 14.3
comp=Z,234nm,1.8s
FINES FINESS Array B 19.71 79 P **Pn** **02 55 08.8 -0.6**
comp=Z,0.1nm,0.3s,baz=318,slow=7.7,SNR=12
FINES LR LR 03 02 19.7
comp=Z,4µm,21.3s,baz=294,slow=36
CLF Chambon-Foret 19.80 138 P **P** **02 55 05.4 -3.6**
TULEG Thule 19.85 327 *e*P **Pn** **02 55 14.2 +3.2**
TULEG IAMs_20 IAMs_20 03 03 22.8
comp=Z,17µm,9.3s
TNS Taunus Mts 19.89 124 *e*P **Pn** **02 55 11.5 -0.2**
comp=Z,2µm,3.8s,baz=326,slow=11
UBBA Unterbreizbach 19.96 121 *e*P Pn 02 55 12.8 +0.5
comp=Z,292nm,1.9s,baz=326,slow=11
RUE Ruedersdorf 20.10 112 *e*P Pn 02 55 12.4 -1.7
RUE Ruedersdorf 20.10 112 *e*P Pn 02 55 14.0 -0.2
comp=Z,227nm,1.6s,baz=326,slow=11
SLIT Slitere, Latvi 20.15 92 *e*P Pn 02 55 12.6 -2.0
NEUB Neuenburg 20.31 118 *e*P Pn 02 55 16.3 -0.3
comp=Z,299nm,1.5s,baz=326,slow=11
APA Apatity 20.33 59⇓ *i*P **P** **02 55 09.8 -4.9**
APA *i* 02 55 32.0
APA pmax pmax
comp=Z,26nm,1.0s
MFF Saint Martin d 20.45 144 *e*P Pn 02 55 17.4 -0.9
MFF pmax pmax
comp=Z,69nm,1.4s
MOX Moxa 20.70 119 P Pn 02 55 19.6 -1.6
MOX pmax pmax
comp=Z,83nm,1.6s
MOX Moxa 20.70 119 *e*P Pn 02 55 20.6 -0.6
comp=Z,225nm,1.6s,baz=326,slow=11
MOX *e*L L 03 04 03.6
comp=Z,4µm,19.4s
CLL Collm 20.71 116 *i*P **P** **02 55 18.9 0.0**
comp=Z,232nm,1.6s
CLL *i*sP **sP** **02 55 24.3 +0.6**
CLL *e*Pmax 02 55 31.0
CLL *e*PPP PPP 02 55 43.0
CLL *e* 02 57 03.0
CLL *e*S **S** **02 59 11.0 +1.2**
CLL Lm MLR 03 03 00.0
comp=N,2µm,22.0s
CLL Lm MLR 03 03 00.0
comp=E,5µm,18.6s
CLL Lm MLR 03 03 00.0
comp=Z,4µm,19.4s
CLL Lmax 03 07 00.0
CLL Collm 20.71 116 *i*P **P** **02 55 18.9 0.0**
CLL *i* 02 55 24.3
CLL *e*S **S** **02 59 11.0 +1.2**
CLL pmax pmax
comp=Z,232nm,1.6s
CLL MLR MLR
comp=Z,4µm,19.4s
CLL Collm 20.71 116 *e*P Pn 02 55 20.2 -1.0
comp=Z,232nm,1.6s,baz=326,slow=11
CLL Collm 20.71 116 P **P** **02 55 16.2 -2.6**
CLL IAmb IAmb 02 55 22.1
comp=Z,208nm,1.5s
GKP Gorka Klasztor 20.92 107 *e*P Pn 02 55 22.7 -0.9
GKP *e*S **S** **02 59 12.4 -1.6**
PBUR Paburge 21.00 96 *e*P **P** **02 55 22.1 +0.1**
SSF Saint Saulge 21.03 137 *e*P **P** **02 55 22.1 -0.3**
SSF pmax pmax
comp=Z,213nm,1.6s
PLN Plauen 21.04 118 *e*P **P** **02 55 24.0 +1.5**
comp=Z,414nm,1.8s,baz=326,slow=11
FBE Freiberg 21.15 116 *e*P **P** **02 55 25.1 +1.5**
comp=Z,735nm,2.1s,baz=326,slow=11
ECH Echery 21.16 129 P **P** **02 55 20.4 -3.4**
ECH pmax pmax
comp=Z,194nm,1.8s
ECH Echery 21.16 129 P **P** **02 55 20.4 -3.4**
ECH IAmb IAmb 02 55 33.2
comp=Z,194nm,1.8s
GUNZ Gunzen 21.20 118 *e*P **P** **02 55 25.7 +1.4**
comp=Z,490nm,1.9s,baz=326,slow=11
TANN Tannenbergstha 21.21 118 *e*P **P** **02 55 25.7 +1.3**
comp=Z,1µm,2.1s,baz=326,slow=11
WERN Wernitzgruen 21.28 118 *e*P **P** **02 55 26.6 +1.5**
comp=Z,361nm,1.7s,baz=326,slow=11
GRA1 Grafenberg Arr 21.34 121 P **P** **02 55 22.7 -3.0**
GRF Grafenberg Arr 21.34 121 P **P** **02 55 22.7 -3.0**
GRF pmax pmax
comp=Z,359nm,1.8s
GRF Grafenberg Arr 21.34 121 *e*P **P** **02 55 27.5 +1.8**
comp=Z,415nm,1.9s,baz=326,slow=11
GRF *e*L L 03 05 14.7
comp=Z,4µm,18.4s
NKC Novy Kostel 21.35 118 *e*P **P** **02 55 26.2 +0.3**
NKC *e* 02 55 34.9
NKC *e*S Sn 02 59 31.2 +1.1
NKC MLR MLR
comp=Z,4µm,17.0s
NKC Novy Kostel 21.35 118 *e*P **P** **02 55 26.2 +0.3**
NKC *ex* x 02 55 34.9
NKC *e*S Sn 02 59 31.2 +1.1
NKC AMS AMS 03 04 20.0
comp=Z,4µm,17.0s
STU Stuttgart 21.37 125 P **P** **02 55 22.9 -3.2**
STU pmax pmax
comp=Z,148nm,1.4s
STU Stuttgart 21.37 125 *e*P **P** **02 55 28.3 +2.2**
comp=Z,221nm,1.7s,baz=326,slow=11
STU Stuttgart 21.37 125 **P** **02 55 22.9 -3.2**
STU IAmb IAmb 02 55 37.2
comp=Z,148nm,1.4s
BRG Berggiesshubel 21.41 115 *i*P **P** **02 55 26.5 0.0**
comp=Z,286nm,1.7s
BRG S Sn 02 59 32.0 +0.4
comp=Z,5µm,16.5s
comp=N,4µm,12.7s
comp=E,2µm,12.7s
BRG Berggiesshubel 21.41 115 *e*P **P** **02 55 27.7 +1.2**
comp=E,286nm,1.7s,baz=326,slow=11
MANZ Manzenberg 21.42 119 *e*P **P** **02 55 27.8 +1.1**
comp=E,122nm,1.6s,baz=326,slow=11
BFO Black Forest 21.45 127 P **P** **02 55 23.7 -3.2**
BFO pmax pmax
comp=Z,179nm,1.6s
BFO Black Forest 21.45 127 *e*P **P** **02 55 28.9 +2.0**
comp=Z,210nm,1.7s,baz=326,slow=11
BFO Black Forest 21.45 127 P **P** **02 55 23.7 -3.2**
BFO IAmb IAmb 02 55 30.0
comp=Z,179nm,1.6s
VSU Vasula 21.57 86 *e*P **P** **02 55 26.9 -1.2**
VSU Vasula 21.57 86*d* *i*P **P** **02 55 27.9 -0.2**
VSU pmax pmax
comp=Z,331nm,1.0s
VSU MLR MLR
comp=Z,3µm,13.0s
ROTZ Rotzenmuhle 21.64 119 *e*P **P** **02 55 30.4 +1.4**
comp=Z,254nm,2.0s,baz=326,slow=11
FRB Frobisher Bay 21.75 291 P **P** **02 55 30.2 +0.3**
comp=Z,11nm,0.9s,baz=64,slow=4.8,SNR=3.2
FRB LR LR 03 03 21.0
comp=Z,3µm,19.3s,baz=56,slow=35
PVCC Panska Ves 21.93 115 *e*P **P** **02 55 33.1 +1.0**
PVCC MLR MLR
comp=Z,4µm,14.2s
PVCC Panska Ves 21.93 115 *e*P **P** **02 55 33.1 +1.0**
PVCC *e*S Sn 02 59 41.4 -2.6
PVCC AMS AMS 03 05 40.0
comp=Z,4µm,14.2s
SLVR Solovky 22.07 65⇓ *i*P **P** **02 55 32.1 -1.2**
comp=Z,200nm,2.2s
SLVR *e*S **S** **02 59 35.2 -1.1**
PABE Paberze 22.21 95 *e*P **P** **02 55 35.1 +0.2**
PRA Prague 22.24 116 *e*P **P** **02 55 36.6 +1.2**
PRA MLR MLR
comp=Z,2µm,10.9s
PRA Prague 22.24 116 *e*P **P** **02 55 36.6 +1.2**
PRA *e*S **S** **02 59 44.2 +4.3**
PRA AMS AMS 03 08 10.0
comp=Z,2µm,10.9s
PRU Pruhonice 22.35 116 *e*P **P** **02 55 36.7 +0.1**
PRU MLR MLR
comp=Z,4µm,15.7s
PRU Pruhonice 22.35 116 *e*P **P** **02 55 36.7 +0.1**
PRU *e*S Sn 02 59 50.3 -3.7
PRU AMS AMS 03 05 20.0
comp=Z,4µm,15.7s
PUL Pulkovo 22.36 80 *e*P **P** **02 55 36.2 -0.3**
PUL Pulkovo 22.36 80⇓ *e*P **P** **02 55 36.6 0.0**
PUL pmax pmax
comp=Z,80nm,0.5s
PUL MLR MLR
comp=Z,3µm,22.0s
KSP Ksiaz 22.37 112 *e*P **P** **02 55 36.5 -0.2**
KSP *e*S **S** **02 59 41.8 -0.4**
PBCC Pribram 22.39 117 *e*S Sn 02 59 50.9 -4.0
WET Wettzell 22.40 119 *e*P **P** **02 55 38.3 +1.2**
comp=Z,543nm,2.5s,baz=326,slow=11
CHVC Chvalec 22.47 113 *e*P **P** **02 55 37.9 0.0**
CHVC *ex* x 02 55 46.0
CHVC *e*S Sn 02 59 51.6 -5.3
CHVC AMS AMS 03 04 30.0
comp=Z,3µm,17.0s
GOPC GO Pecny, Ondr 22.51 116 *e*P **P** **02 55 38.8 +0.6**
GOPC *e* 02 55 43.6
GOPC *e*S **S** **02 59 48.3 +3.4**
GOPC MLR MLR
comp=Z,4µm,16.3s
GOPC GO Pecny, Ondr 22.51 116 *e*P **P** **02 55 38.8 +0.6**
GOPC *ex* x 02 55 43.6
GOPC *e*S **S** **02 59 48.3 +3.4**
GOPC AMS AMS 03 05 20.0
comp=Z,4µm,16.3s
UPC Upice 22.52 113 *e*P **P** **02 55 38.4 +0.1**
UPC *e* 02 55 43.3
UPC *e*S **S** **02 59 47.4 +2.4**
UPC MLR MLR
comp=Z,4µm,17.5s
UPC Upice 22.52 113 *e*P **P** **02 55 38.4 +0.1**
UPC *ex* x 02 55 43.3
UPC *e*S **S** **02 59 47.4 +2.4**
UPC AMS AMS 03 05 10.0
comp=Z,4µm,17.5s
OSTC Ostas 22.56 113 *e*P **P** **02 55 39.4 +0.6**
OSTC *ex* x 02 55 50.0
OSTC *e*S **S** **02 59 50.9 +5.1**
OSTC AMS AMS 03 04 20.0
comp=Z,4µm,20.0s
UBR Ueberruh 22.62 125 *e*P **P** **02 55 41.5 +1.9**
comp=Z,581nm,1.9s,baz=326,slow=11
KHC Kasperske Hory 22.68 118 *e*P **P** **02 55 40.7 +0.6**
KHC *e* 02 55 46.8
KHC MLR MLR
comp=Z,4µm,12.9s
KHC Kasperske Hory 22.68 118 *e*P **P** **02 55 40.7 +0.6**
KHC *ex* x 02 55 46.8
KHC *e*S Sn 02 59 54.7 -7.2
KHC AMS AMS 03 06 10.0
comp=Z,4µm,12.9s
KHC Kasperske Hory 22.68 118 P **P** **02 55 37.1 -3.0**
DPC Dobruska-Polom 22.76 113 *e*P **P** **02 55 41.0 0.0**
DPC *e* 02 55 46.7
DPC MLR MLR
comp=Z,4µm,19.0s
DPC Dobruska-Polom 22.76 113 *e*P **P** **02 55 41.0 0.0**
DPC *ex* x 02 55 46.7
DPC *e*S **S** **02 59 55.0 +5.4**
DPC AMS AMS 03 05 00.0
comp=Z,4µm,19.0s
SENIN Lac Senin/Sane 22.83 132 P **P** **02 55 38.2 -3.7**
DAVA Damuels 22.88 126 *i*sP sP 02 55 45.0 -2.3
comp=Z,51nm,1.4s,SNR=9.0
SUW Suwalki 22.89 98 *e*P **P** **02 55 40.7 -1.5**
SUW Suwalki 22.89 98 P **P** **02 55 40.0 -2.2**
SUW pmax pmax
comp=Z,381nm,1.8s
SUW Suwalki 22.89 98 P **P** **02 55 40.0 -2.2**
SSB Saint Sauveur 22.95 137 P **P** **02 55 39.3 -3.7**
SSB pmax pmax
comp=Z,232nm,2.0s
SSB Saint Sauveur 22.95 137 P **P** **02 55 39.3 -3.7**
SSB IAmb IAmb 02 55 54.6
comp=Z,232nm,2.0s
GEC2 GERESS Array S 22.96 119 *e*P **P** **02 55 44.3 +1.2**
comp=Z,2µm,3.3s,baz=326,slow=11
GEC2 GERESS Array S 22.96 119 P **P** **02 55 40.1 -3.0**
GERES GERESS Array B 22.96 119 P **P** **02 55 43.8 +0.7**
comp=Z,7.6nm,1.1s,baz=330,slow=7.7,SNR=28
GERES LR LR 03 05 10.9
comp=Z,5µm,20.3s,baz=330,slow=38
RETA Reutte 23.02 125 *i*sP sP 02 55 45.2 -3.4
comp=Z,45nm,1.8s,SNR=9.7
IZAR Zarasai 23.03 92 *e*P **P** **02 55 43.4 -0.2**
ZFI2 Zemlya Franca- 23.07 22⇑ *i*P **P** **02 55 45.6 +1.7**
comp=Z,35nm,1.9s
ZFI2 *e*S **S** **02 59 56.8 +2.4**
ISAL Salakas 23.09 92 *e*P **P** **02 55 44.2 -0.1**
KRLC Kraliky 23.16 113 *e*P **P** **02 55 46.0 +0.9**
KRLC MLR MLR
comp=Z,3µm,16.2s
KRLC Kraliky 23.16 113 *e*P **P** **02 55 46.0 +0.9**
KRLC *e*S **S** **03 00 03.3 +6.8**
KRLC AMS AMS 03 05 40.0
comp=Z,3µm,16.2s
MOTA Moosalm 23.26 124 *i*sP **P** **02 55 47.3 +1.0**
comp=Z,80nm,1.8s,SNR=19
TREC Trest 23.27 116 *e*P **P** **02 55 47.0 +0.7**
TREC *e* 02 55 51.5
TREC *e*S **S** **03 00 02.2 +3.9**
TREC MLR MLR
comp=Z,4µm,17.1s
TREC Trest 23.27 116 *e*P **P** **02 55 47.0 +0.7**
TREC *ex* x 02 55 51.5
TREC *e*S **S** **03 00 02.2 +3.9**
TREC AMS AMS 03 05 30.0
comp=Z,4µm,17.1s
DAVOX Davos/Dischmat 23.32 127 P **P** **02 55 47.5 +0.6**
comp=Z,8.8nm,1.0s,baz=333,slow=9.1,SNR=14
DAVOX LR LR 03 05 38.7
comp=Z,2µm,19.7s,baz=330,slow=39
TMCR Tamitsa 23.35 66 *e*P **P** **02 55 45.3 -1.6**
comp=Z,1.1nm,0.5s
TMCR Tamitsa 23.35 66 *e*P **P** **02 55 45.2 -1.6**
TMCR *e*S **S** **02 59 57.0 -2.2**
PGAV Gavieira, Arco 23.35 162 *e*P **P** **02 55 51.7 +4.5**
comp=Z,134nm,1.8s
PGAV *e*S Sn 03 00 09.0 -9.2
PGAV *e*LR LR 03 03 17.1
comp=Z,4µm,16.0s
SQTA Sankt Quirin 23.41 124 *i*sP sP 02 55 49.4 -3.2
comp=Z,83nm,1.5s,SNR=14
TUE Stuetta 23.41 128 P **P** **02 55 44.5 -3.3**
TUE IAmb IAmb 02 55 52.2
comp=Z,177nm,1.8s
FETA Feichten 23.41 125 *i*sP sP 02 55 50.3 -2.4
comp=Z,66nm,1.5s,SNR=10
WATA Walderalm 23.44 124 *i*sP sP 02 55 49.6 -3.4
comp=Z,77nm,1.9s,SNR=16
BEL Belsk 23.44 105 *e*P **P** **02 55 48.0 +0.1**
WTTA Wattenberg 23.52 124 *i*sP sP 02 55 50.5 -3.3
comp=Z,92nm,1.8s,SNR=15
IDID Didziasalis 23.53 92 *e*P **P** **02 55 49.0 +0.4**
RJOB Jochberg 23.54 121 *e*P **P** **02 55 49.4 +0.5**
comp=Z,260nm,2.2s,baz=326,slow=11
FUORN Ofenpass-Fuorn 23.59 127 P **P** **02 55 46.5 -3.2**
FUORN IAmb IAmb 02 56 00.5
comp=Z,177nm,1.9s
PCAB Cabril 23.64 162 *e*P **P** **02 55 55.8 +5.9**
comp=Z,96nm,1.8s
EUNU Eureka 23.67 336 P **P** **02 55 49.5 -0.5**
VRAC Vranov 23.70 114 P **P** **02 55 50.7 +0.3**
comp=Z,9.8nm,0.8s,baz=328,slow=10,SNR=39
VRAC LR LR 03 06 24.4
comp=Z,4µm,18.9s,baz=329,slow=40
VRAC Vranov 23.70 114⇓ *i*P **P** **02 55 49.6 -0.8**
VRAC *e*S **S** **03 00 10.1 +5.0**
MORC Moravsky Berou 23.70 112⇓ *i*P **P** **02 55 49.7 -0.8**
MORC *e*S **S** **03 00 09.6 +4.4**
PBRG Braganca 23.72 160 *e*P **P** **02 55 52.8 +2.0**
comp=Z,78nm,1.6s
PBRG *e*S Sn 03 00 15.9 -11
BNI Bardonecchia 23.80 134 P **P** **02 55 48.3 -3.3**
BNI pmax pmax
comp=Z,231nm,1.9s
BNI Bardonecchia 23.80 134 P **P** **02 55 48.3 -3.3**
KRUC Moravsky 23.82 115⇓ *i*P **P** **02 55 50.6 -1.0**
KRUC *e*S **S** **03 00 11.7 +4.7**
NACGM Naroch 23.82 93 *e*P **P** **02 55 50.0 -1.5**
NACGM *e*PP PnPn 02 56 32.0 +13
NACGM *e*S **S** **03 00 06.0 -0.9**
NACGM *e*SS Sn 03 00 36.0 +7.0
NACGM *e*LQ LQ 03 02 20.0
NACGM *e*LR LR 03 03 55.0
NACGM LRM MLR 03 05 23.0
comp=Z,4.4nm,16.0s
OKC Ostrava-Krasne 23.89 111 *e*P **P** **02 55 53.5 +1.2**
OKC Ostrava-Krasne 23.89 111 *e*P **P** **02 55 53.5 +1.2**
MOA Molln 23.99 119 *i*sP **P** **02 55 54.4 +1.1**
comp=Z,57nm,1.6s,SNR=12
PVRL Vila Real 24.10 162 *e*P P 02 56 00.4 +6.0
PTO Porto 24.12 163 *e*P **P** **02 55 57.0 +2.5**
comp=Z,126nm,1.7s
OJC Ojcow 24.26 109 *e*P **P** **02 55 54.9 -0.8**
OJC *e*S **S** **03 00 15.4 +1.4**
OJC Ojcow 24.26 109 P **P** **02 55 53.3 -2.4**
OJC pmax pmax
comp=Z,246nm,2.0s
OJC Ojcow 24.26 109 P **P** **02 55 53.3 -2.4**
ABTA Abfaltersbach 24.27 123 *i*sP sP 02 55 58.4 -2.6
comp=Z,31nm,1.5s,SNR=7.1
KBA Koelnbreinsper 24.30 122 *i*sP sP 02 55 58.5 -2.8
comp=Z,36nm,1.7s,SNR=8.2
MVO Moncorvo 24.31 161 *e*P **P** **02 55 58.8 +2.5**
comp=Z,100nm,1.5s
MVO *e*S **S** **03 00 24.8 +10**
MVO *e*LR LR 03 03 58.6
comp=Z,2µm,16.0s
JAVC Velka Javorina 24.48 113⇓ *i*P **P** **02 55 57.8 0.0**
JAVC *e*S **S** **03 00 25.7 +8.0**
CONA Conrad Observa 24.53 117 *i*sP **P** **02 55 59.1 +0.8**
comp=Z,32nm,1.2s,SNR=13
MICGM Minsk 24.56 93⇓ *e*P **P** **02 55 58.0 -0.4**
MICGM ⇓ *e*P **P** **02 55 58.0 -0.4**
MICGM PM 02 55 59.0
comp=N,0.9nm,2.0s
MICGM PM 02 55 59.0
comp=Z,0.7nm,2.0s
MICGM *e*PP sP 02 56 38.0 +35
MICGM *e*S **S** **03 00 18.0 -0.8**
MICGM SM 03 00 24.0
comp=E,6.1nm,12.0s
MICGM *e*SS **SnSn** **03 01 04.0 +0.7**
MICGM *e*LQ LQ 03 04 34.0
MICGM *e*LR LR 03 06 56.0
MICGM LRM MLR 03 08 24.0
comp=Z,1.7nm,10.0s
MICGM LRM MLR 03 08 56.0
comp=N,2.4nm,10.0s
MICGM LRM MLR 03 08 56.0
comp=E,2.3nm,11.0s
MNK Minsk 24.56 93 *e*P **P** **02 55 58.0 -0.4**
MNK *e* 02 56 38.0
MNK *e*S **S** **03 00 18.0 -0.8**
MNK pmax pmax
comp=Z,740nm,2.0s
MNK MLR MLR
comp=Z,2µm,10.0s
CTI Castel Tesino 24.57 125 P **P** **02 55 55.6 -3.1**
CTI pmax pmax
comp=Z,333nm,1.9s
CTI Castel Tesino 24.57 125 P **P** **02 55 55.6 -3.1**
ZOU Zoufplan 24.60 123 P **P** **02 55 55.9 -3.2**
ZOU IAmb IAmb 02 56 04.8
comp=Z,145nm,1.8s
CIMO Cimolais 24.62 124 P **P** **02 55 56.0 -3.1**
PVIS Viseu 24.63 162 *e*P **P** **02 56 02.1 +2.9**
comp=Z,82nm,1.7s
SMOL Smolenice 24.66 114 *e*P **P** **02 56 00.6 +1.2**
SMOL pmax pmax
comp=Z,85nm,1.8s
SMOL Smolenice 24.66 114 *e*P **P** **02 56 00.6 +1.2**
MODS Modra-Piesok 24.72 115 *e*P **P** **02 56 00.8 +0.9**
MODS pmax pmax
comp=Z,166nm,1.8s
MODS Modra-Piesok 24.72 115 *e*P **P** **02 56 00.8 +0.9**
MODS *e*S **S** **03 00 30.8 +9.3**
STAL STALIGIAL 24.76 124 P **P** **02 55 57.3 -3.0**
MYKA Terra Mystica 24.79 122 *i*sP sP 02 56 05.0 -0.6
comp=Z,45nm,1.8s,SNR=7.0
PRED Cave del Predi 24.92 122 P **P** **02 55 58.8 -3.0**
PRED IAmb IAmb 02 56 06.4
comp=Z,111nm,1.8s
ARSA Arzberg 24.96 118 *i*pP pP 02 56 03.4 -2.3
comp=Z,24nm,1.1s,SNR=12
MTE Manteigas 24.99 162 *e*P **P** **02 56 05.9 +3.5**
comp=Z,150nm,1.6s
MTE *e*S **S** **03 00 34.3 +8.3**
MTE *e*LR LR 03 03 30.9
comp=Z,3µm,16.0s
MTE Manteigas 24.99 162 P **P** **02 55 58.4 -4.0**
COI Coimbra 25.07 163 P **P** **02 56 03.3 +0.3**
COI pmax pmax
comp=Z,102nm,1.4s
COI Coimbra 25.07 163 *e*P **P** **02 56 06.0 +3.0**
comp=Z,154nm,1.6s
COI *e*S **S** **03 00 36.5 +9.4**
COI Coimbra 25.07 163 P **P** **02 56 03.3 +0.3**
COI IAmb IAmb 02 56 09.5
comp=Z,102nm,1.4s
NIE Niedzica 25.09 109 *e*P **P** **02 56 04.1 +0.8**
NIE *e*S **S** **03 00 25.8 -1.7**
GORS Gorjuse 25.18 122 *e*P **P** **02 56 04.7 +0.6**
GORS *e*S **S** **03 00 34.5 +5.5**
PCAS Casmilo, Conde 25.21 164 *e*S **S** **03 00 36.7 +7.3**
OBKA Obir 25.22 121 *i*pP pP 02 56 06.2 -1.9
comp=Z,34nm,1.6s
VYHS Vyhne 25.24 112 *e*P **P** **02 56 05.6 +1.0**
VYHS pmax pmax
comp=Z,171nm,1.9s
VYHS Vyhne 25.24 112 *e*P **P** **02 56 05.6 +1.0**
VYHS *e*S **S** **03 00 36.1 +6.3**
SOKA Soboth 25.26 120 *i*pP pP 02 56 06.3 -2.1
comp=Z,46nm,1.7s,SNR=14
PERS Pernice 25.33 120 *e*P **P** **02 56 06.2 +0.7**
PCBR Castelo Branco 25.55 162 *e*P **P** **02 56 10.9 +3.5**
comp=Z,77nm,1.7s
KLMR Klimovskoe 25.61 72⇓ *i*P **P** **02 56 07.8 +0.1**
comp=Z,101nm,1.3s
KLMR *i*S **S** **03 00 36.3 +0.9**
KLMR Klimovskoe 25.61 72*d* *i*P **P** **02 56 07.8 +0.1**
KLMR *e* 02 59 39.1
KLMR *e*S **S** **03 00 36.2 +0.9**
KLMR pmax pmax
comp=Z,101nm,1.3s
KLMR MLR MLR
comp=Z,2µm,16.0s
KLMR Klimovskoe 25.61 72⇓ *i*P **P** **02 56 07.9 +0.1**
KLMR *i*P **P** **02 56 07.9 +0.1**
KLMR *i*P **P** **02 56 07.9 +0.1**
KLMR AMP 02 56 10.2
comp=Z,101nm,1.3s
KLMR *e*PcP **PcP** **02 59 39.1 +1.0**
KLMR *e*S **S** **03 00 36.2 +0.9**
KLMR *e*S **S** **03 00 36.2 +0.9**
KLMR LQ LQ 03 03 12.8
KLMR LQ LQ 03 03 12.8
KLMR LR LR 03 04 16.1
KLMR AMP 03 05 39.7
comp=Z,2µm,15.5s
LJU Ljubljana 25.61 121 *i*P **P** **02 56 08.7 +0.8**
LJU *e*S **S** **03 00 42.8 +7.1**
LJU Ljubljana 25.61 121 *e*P **P** **02 56 05.2 -2.7**
GROS Grobnik 25.62 119 *e*P **P** **02 56 08.6 +0.5**
GROS *e*S **S** **03 00 38.6 +2.6**
SRO2 Moca 25.65 114 *e*P **P** **02 56 08.6 +0.3**
SRO2 pmax pmax
comp=Z,42nm,1.4s
SRO2 Moca 25.65 114 *e*P **P** **02 56 08.6 +0.3**
PSBE So Bento 25.70 164 *e*P **P** **02 56 11.8 +2.9**
comp=Z,75nm,2.1s
PSBE *e*S **S** **03 00 42.3 +5.0**
UCM Universidad Co 25.77 154 *i*P P 02 56 20.9 +11
UCM *e*S **S** **03 00 44.5 +6.2**
CEY Cerknica 25.83 122 *e*P **P** **02 56 08.5 -1.5**
KECS Kecovo 25.91 110 *e*P **P** **02 56 11.5 +0.9**
KECS pmax pmax
comp=Z,39nm,1.7s
KECS Kecovo 25.91 110 *e*P **P** **02 56 11.5 +0.9**
KWP Kalwaria Pacla 25.91 106 P **P** **02 56 08.3 -2.4**
KWP pmax pmax
comp=Z,395nm,1.5s
KWP Kalwaria Pacla 25.91 106 P **P** **02 56 08.3 -2.4**
PMRV Marv??o 25.96 162 *e*P **P** **02 56 12.9 +1.7**
comp=Z,83nm,1.7s

PMRV eS S 03 00 48.3 +6.9
PMRV eLR LR 03 03 37.6
comp=Z,3µm,18.0s
CRVS Cervenica-Dubn 25.97 109 eP P **02 56 12.4 +1.2**
CRVS pmax pmax
comp=Z,210nm,1.7s
CRVS Cervenica-Dubn 25.97 109 eP P **02 56 12.4 +1.2**
CRVS eS S **03 00 45.3 +3.9**
LSH Leshukonskoye 25.97 61 eP P **02 56 10.1 -1.0**
comp=Z,124nm,1.5s
LSH eS S **03 00 41.3 +0.3**
SCHQ Schefferville 26.04 271 P P **02 56 11.8 0.0**
comp=Z,24nm,0.8s,baz=44,slow=6.0,SNR=12
SCHQ LR LR 03 05 05.4
comp=Z,2µm,19.0s,baz=56,slow=33
SCHQ Schefferville 26.04 271 P P **02 56 09.1 -2.7**
PSZ Piszkesteto 26.12 112 ⇑P P **02 56 14.3 +1.6**
PSZ Piszkesteto 26.12 112 P P **02 56 10.1 -2.6**
PSZ pmax pmax
comp=Z,244nm,1.7s
PSZ Piszkesteto 26.12 112 P P **02 56 10.1 -2.6**
CRES Cresnjev 26.14 120 eP P **02 56 10.8 -1.9**
PMAFR Mafra 26.20 165 eP P **02 56 15.9 +2.5**
comp=Z,148nm,1.6s
PMAFR eS S **03 00 50.4 +5.3**
PMTG Montargil 26.21 163 eP P **02 56 17.8 +4.4**
comp=Z,69nm,1.7s
PMTG eS S **03 00 54.4 +9.1**
ESBB Sonseca Array 26.25 156 P P **02 56 10.0 -3.9**
ESDC Sonseca Array 26.25 156 P P **02 56 13.7 -0.2**
comp=Z,4.4nm,0.7s,baz=348,slow=7.6,SNR=20
KOLS Kolonicke sedl 26.28 108 eP P **02 56 14.3 +0.3**
KOLS pmax pmax
comp=Z,100nm,1.5s
KOLS Kolonicke sedl 26.28 108 eP P **02 56 14.3 +0.3**
KOLS eS S **03 00 52.5 +6.3**
PAB San Pablo 26.31 157 P P **02 56 10.6 -3.9**
PAB pmax pmax
comp=Z,127nm,1.9s
PAB San Pablo 26.31 157 P P **02 56 10.6 -3.9**
PAB IAmb IAmb 02 56 23.2
comp=Z,127nm,1.9s
LVV L'vov 26.32 104 eP P **02 56 15.0 +0.7**
LVV e 02 56 56.9
LVV eS S **03 00 43.7 -3.1**
LVV pmax pmax
comp=Z,500nm,1.5s
LVV smax smax
comp=E,4µm,7.5s
LVV smax smax
comp=N,3µm,6.5s
LVV MLR MLR
comp=E,3µm,15.0s
LVV MLR MLR
comp=Z,2µm,15.0s
LVV MLR MLR
comp=N,2µm,14.0s
PGRA Graciosa 26.41 199 eP P **02 56 15.9 +0.7**
comp=N,153nm,1.5s
PGRA eLQ LQ 03 03 32.2
LIS Lisbon 26.45 165 eP P **02 56 17.1 +1.5**
LIS AMb AMB 02 56 27.7
comp=Z,65nm,2.3s
LIS eS S **03 00 52.2 +3.2**
LIS Lisbon 26.45 165 eP P **02 56 17.1 +1.5**
LIS eS S **03 00 52.2 +3.2**
RES Resolute Bay 26.46 324 P P **02 56 16.1 +0.7**
comp=Z,10nm,1.2s,baz=101,slow=9.7,SNR=4.7
RES LR LR 03 06 56.1
comp=Z,664nm,21.1s,baz=66,slow=37
RES Resolute Bay 26.46 324 P P **02 56 14.5 -0.9**
RES pmax pmax
comp=Z,41nm,1.6s
RES Resolute Bay 26.46 324 P P **02 56 14.5 -0.9**
UZH Uzhgorod 26.52 108 eP P **02 56 15.5 -0.7**
UZH e 02 56 56.1
UZH eS S **03 00 43.5 -6.5**
UZH MLR MLR
comp=Z,300nm,16.0s
OSSC Osservatorio P 26.64 129 P P **02 56 14.3 -3.1**
OSSC IAmb IAmb 02 56 28.3
comp=Z,114nm,1.5s
ROSA Rosais 26.75 199 eP P **02 56 18.8 +0.5**
comp=Z,136nm,1.7s
ROSA eLQ LQ 03 03 39.4
EVO Evora 26.77 163 eP P 02 56 24.4 +6.0
EVO i S S **03 01 01.7 +7.6**
MORH Mrgy, Hungar 27.02 116 eP P **02 56 20.0 -0.7**
PNCL Nicolau / Gran 27.12 164 eS S **03 01 06.1 +6.5**
PBEJ Beja 27.28 163 eP P **02 56 25.7 +2.6**
comp=Z,41nm,1.7s
MURB Monte Urbino 27.31 127 P P **02 56 20.2 -3.1**
PSET Sete Cidades 27.32 194 eP P **02 56 23.7 +0.2**
comp=Z,294nm,2.1s
PSET eLQ LQ 03 03 39.4
CMLA Cha da Macela 27.36 194 eLQ LQ 03 03 44.5
PRGR Permogore 27.63 67 eP P **02 56 25.6 -0.3**
comp=Z,54nm,1.2s
PRGR eS S **03 01 05.4 -1.8**
PRGR Permogore 27.63 67⇑i P P **02 56 25.6 -0.3**
PRGR pmax pmax
comp=Z,54nm,1.3s
PCVE Castro Verde 27.65 164 eS S **03 01 13.8 +5.8**
PTEO Sao Teotonio 27.66 165 eP P **02 56 28.9 +2.5**
comp=Z,80nm,1.5s
BLY Banja Luka 27.70 119 eP P **02 56 26.9 +0.2**
AKASG Malín Array Be 27.84 98 P P **02 56 28.1 0.0**
comp=Z,3.4nm,0.8s,baz=323,slow=9.8,SNR=30
AKASG LR LR 03 07 13.6
comp=Z,3µm,21.7s,baz=320,slow=36
AKBB Malín Array Si 27.84 98 P P **02 56 26.0 -2.0**
AKBB pmax pmax
comp=Z,69nm,1.6s
AKBB Malín Array Si 27.84 98 P P **02 56 26.0 -2.0**
AKBB IAmb IAmb 02 56 29.5
comp=Z,69nm,1.6s
MAHO Mahon 27.86 142 eP P **02 56 33.0 +4.8**
MAHO i S S **03 01 18.4 +7.2**
OBN Obninsk 27.88 84 P P **02 56 28.1 -0.2**
comp=Z,5.1nm,0.6s,baz=303,slow=4.5,SNR=23
OBN LR LR 03 07 25.3
comp=Z,341nm,19.3s,baz=344,slow=36
OBN Obninsk 27.88 84d iP P **02 56 28.8 +0.5**
OBN e*PP sP **02 56 32.8 -0.4**
OBN i S S **03 01 16.2 +4.9**
OBN pmax pmax
comp=Z,126nm,1.7s
MORF Marmelete 27.90 165 eP P **02 56 30.1 +1.4**
MORF AMb AMB 02 56 48.5
comp=Z,37nm,2.7s
MORF eS S **03 01 15.1 +3.0**
MORF Marmelete 27.90 165 eP P **02 56 30.1 +1.4**
MORF eS S **03 01 15.1 +3.0**
MORF Marmelete 27.90 165 eP P **02 56 31.2 +2.5**
MORF eS S **03 01 17.3 +5.3**
MOS Moscow 27.92 82 eP P **02 56 28.6 -0.1**
MOS e 02 57 15.0
MOS eS S **03 01 15.5 +3.6**
MOS pmax pmax
comp=Z,59nm,1.5s
PBDV Barranco-do-Ve 28.05 164 eP P **02 56 27.8 -2.2**
PBDV eS S 03 01 22.9 +8.6
PFVI Vila Bisbo 28.05 165 eS S 03 01 24.4 +10
PSMN Pico do Norte, 28.07 193 eP P **02 56 30.2 +0.1**
comp=Z,77nm,1.3s
PSMN eLQ LQ 03 03 53.6
AQU L'Aquila 28.41 127 eP P **02 56 33.3 +0.1**
BUR08 Bucovina Ar. S 28.50 106 P P **02 56 31.6 -2.5**
BUR08 IAmb IAmb 02 56 49.9
comp=Z,101nm,1.9s
BZS Buzias 28.68 113 ⇓P P **02 56 37.2 +1.7**
CART Cartagena 28.84 152 i P P **02 56 36.7 -0.2**
CART i S S 03 01 37.9 +11
INTR Introdacqua 28.89 126 P P **02 56 34.4 -3.1**
EMAL Malaga-Limoner 29.02 158 i P P 02 56 42.9 +4.4
EMAL i S S 03 01 40.0 +11
SFS San Fernando 29.04 161 i P P 02 56 43.8 +5.0
SFS i S S 03 01 44.4 +15
BBLS Lazići 29.29 117⇓i P P **02 56 39.6 -1.4**
DIVS Divibare 29.31 116⇓i P P **02 56 40.7 -0.6**
DIVS Divibare 29.31 116 P P **02 56 38.5 -2.8**
SORM Soroca 29.43 102⇑P P **02 56 44.4 +2.3**
CEU Ceuta 29.72 160 i P P **02 56 45.3 +0.6**
CEU i S S **03 01 48.3 +7.8**

PAOL Paolisi 29.99 127 P P **02 56 44.2 -3.0**
PAOL IAmb IAmb 02 56 56.8
comp=Z,52nm,1.6s
TESR Tescani 30.00 106⇑P P **02 56 49.0 +1.8**
PDG Podgorica 30.46 119 eP P **02 56 50.3 -1.0**
PDG Podgorica 30.46 119 P P **02 56 48.6 -2.6**
PDG IAmb IAmb 02 56 52.7
comp=Z,48nm,1.8s
KIS Kishinev 30.52 103⇓i P P **02 56 52.0 +0.2**
comp=Z,180nm,5.5s
KIS eS S **03 01 47.0 -5.8**
comp=Z,420nm,6.0s
KIS eLQ LQ 03 09 12.0
comp=Z,980nm,13.0s
KIS Kishinev 30.52 103d iP P **02 56 52.0 +0.2**
KIS eS S **03 01 47.0 -5.8**
KIS pmax pmax
comp=Z,180nm,5.5s
KIS smax smax
comp=E,420nm,6.0s
KIS smax smax
comp=N,550nm,11.0s
PLOR Plostina 30.53 107⇓P P **02 56 54.1 +2.2**
MLR Muntele Rosu 30.53 108 P P **02 56 52.8 +0.7**
comp=N,11nm,1.1s,baz=326,slow=6.3,SNR=9.0
MLR Muntele Rosu 30.53 108 P P **02 56 49.6 -2.5**
MLR pmax pmax
comp=Z,87nm,1.8s
MLR Muntele Rosu 30.53 108 P P **02 56 49.5 -2.5**
MLR IAmb IAmb 02 56 56.1
comp=Z,87nm,1.8s
VRI Vrincioaia 30.55 106⇑P P **02 56 53.6 +1.5**
PVLZ Peæn de 30.59 158 eP P **02 56 55.3 +2.8**
PVLZ eS S **03 01 56.7 +2.6**
LPSR Galich'ya Gora 30.63 86 eP P **02 56 52.7 0.0**
LPSR eS S **03 01 56.4 +1.8**
LPSR pmax pmax
comp=Z,40nm,1.6s
LPSR smax smax
comp=E,1µm,13.2s
LPSR MLR MLR
comp=Z,2µm,11.0s
DRME Dracevica, Mon 30.64 119 eP P **02 56 51.6 -1.3**
MELI Melilla 30.70 156 i P P **02 56 56.9 +3.4**
MELI i S S **03 02 03.6 +7.7**
KIRV Kirov 30.98 69 P P **02 56 55.2 -0.5**
comp=Z,15nm,0.8s,baz=309,slow=12,SNR=26
MATE Matera 31.07 124⇑P P **02 56 57.2 +0.5**
ISR Istrita 31.08 108⇓P P **02 56 59.4 +2.6**
VORR Voronezh 31.42 87 P P **02 56 59.0 -0.7**
VORR pmax pmax
comp=Z,250nm,1.8s
PHP Peshkopia 31.55 118 P P **02 57 01.9 +0.9**
TIR Tirane 31.62 119 P P **02 57 02.6 +1.1**
PMPST Porto Santo, M 31.62 178 eS S 03 02 27.2 +17
VSR Storozhevoye 31.73 88 eP P **02 57 02.1 -0.3**
VSR eS S **03 02 17.3 +5.5**
VSR pmax pmax
comp=Z,50nm,1.3s
VSR smax smax
comp=N,1µm,10.8s
VSR MLR MLR
comp=Z,3µm,20.0s
VTS Vitosha 31.83 114 eP P **02 57 03.4 -0.2**
PMOZ Porto Moniz, M 31.87 180 eLR LR 03 06 21.2
comp=Z,1µm,18.0s
VORD Divnogorie 31.97 88 eP P **02 57 04.3 -0.2**
VORD pmax pmax
comp=Z,60nm,1.8s
AVE Averroes 32.00 164 i P P 02 57 08.9 +3.9
AVE i S S **03 02 23.1 +6.8**
TOPG Topolog 32.03 106⇓P P **02 57 05.9 +0.8**
IFR Ifrane 32.09 160 i P P 02 57 10.0 +4.1
IFR i S S **03 02 23.1 +5.1**
PGB Panagyurishte 32.25 113 eP P **02 57 07.8 +0.6**
D63A Stockholm 32.30 262 P P **02 57 08.5 +1.1**
baz=38
D63A S S 03 02 31.2 +11
baz=38
SZH Strazhica 32.36 110 eP P **02 57 08.2 +0.2**
CORL Corleone 32.38 131 P P **02 57 05.2 -3.1**
TIRR Tirgusor 32.39 106 eP P **02 57 07.4 -0.8**
KKB Krupnik 32.41 115 eP P **02 57 09.6 +1.1**
CLTB Caltabellotta 32.64 131 P P **02 57 07.4 -3.2**
CLTB IAmb IAmb 02 57 14.7
comp=Z,53nm,1.2s
D62A Allapoint, All 32.66 263 P P **02 57 11.5 +0.9**
baz=39
D62A S S 03 02 35.0 +8.6
baz=39
E64A Bridgewater 32.66 261 P P **02 57 12.2 +1.6**
baz=38
E64A S S 03 02 33.9 +7.5
baz=38
CHGQ Chibougamau 32.78 271 P P 02 57 14.5 +2.8
baz=42,SNR=6.4
VRH Novokhopyorsk 32.84 85 eP P **02 57 12.2 +0.1**
VRH eS S **03 02 35.4 +6.4**
VRH pmax pmax
comp=Z,60nm,1.3s
VRH smax smax
comp=N,3µm,13.3s
PLD Plovdiv 32.84 113 eP P **02 57 12.1 -0.1**
MDT Midelt 32.86 160 P P **02 57 11.8 -0.8**
comp=N,12nm,1.0s,baz=15,slow=9.0,SNR=22
NEST Nestorio 32.88 119 P P **02 57 14.0 +1.3**
MMB Musomiste 32.90 114 eP P **02 57 14.0 +1.2**
E63A Oxbow 32.91 261 P P **02 57 12.9 +0.1**
baz=38
E63A S S 03 02 41.0 +11
baz=38
PSN Preselentsi 32.93 107 eP P **02 57 13.5 +0.5**
SRN Sarande 32.95 121 P P **02 57 14.5 +1.3**
PRD Provadia 33.01 109 eP P **02 57 14.0 +0.3**
KEK Kerkira 33.02 121 P P **02 57 15.3 +1.5**
D61A St Aubert, Com 33.05 264 P P **02 57 14.6 +0.6**
baz=39
PENT Pentalofos 33.10 119 P P **02 57 16.1 +1.5**
VAE Valguarnera 33.13 130 LR LR 03 11 22.3
comp=N,2µm,20.6s,baz=144,slow=38
NVR Nevrokopi 33.15 115 P P **02 57 16.1 +1.1**
KEST Kesra 33.16 138 P P **02 57 15.5 +0.3**
comp=N,22nm,1.4s,baz=256,slow=20,SNR=11
KEST LR LR 03 09 36.2
comp=N,1µm,18.8s,baz=342,slow=34
RZN Rozhen 33.20 113 eP P **02 57 15.9 +0.3**
E62A Clayton Lake 33.23 263 P P **02 57 16.9 +1.3**
baz=38
SRS Serrai 33.24 115 P P **02 57 15.8 0.0**
F64A Sherman 33.32 261 P P **02 57 17.5 +1.1**
baz=37
F64A S S 03 02 45.2 +8.5
baz=37
KPRO Kipourio 33.39 119 P P **02 57 18.1 +0.9**
SOH Sokhos 33.41 116 P P **02 57 18.9 +1.6**
JAN Janina 33.46 120 P P **02 57 18.9 +1.2**
HORT Hortiatis 33.50 116 P P **02 57 19.5 +1.4**
KDZ Kurdzhali 33.51 112 eP P **02 57 18.3 +0.2**
G65A Princeton 33.52 259 P P **02 57 18.5 +0.4**
baz=37
G65A S S 03 02 48.0 +8.3
baz=37
D60A Saint Jean D'O 33.59 264 P P **02 57 19.6 +0.8**
baz=39
D60A S S 03 02 50.8 +10
baz=39
LIT Litokhoron 33.70 117 P P **02 57 19.7 0.0**
LIT Litokhoron 33.70 117 P P **02 57 17.1 -2.7**
LIT pmax pmax
comp=Z,24nm,1.4s
LIT Litokhoron 33.70 117 P P **02 57 17.1 -2.7**
H66A Whiting 33.75 258 P P **02 57 20.5 +0.4**
baz=36
H66A S S 03 02 50.5 +7.3
baz=36
F63A Nahmakanta, Br 33.77 261 P P **02 57 19.2 -1.2**
baz=37
F63A Nahmakanta, Br 33.77 261 P P **02 57 17.4 -3.0**
F63A IAmb IAmb 02 57 26.7
comp=Z,35nm,1.3s
E61A Lac Etchemin 33.79 263 P P **02 57 20.5 0.0**
baz=38
E61A S S 03 02 51.3 +7.4
baz=38
PLG Polygyros 33.83 116 P P **02 57 22.0 +1.1**

THL Klokotos Trika 33.98 118 P P **02 57 22.5 +0.3**
G64A Maxfield 33.98 260 P P **02 57 22.3 +0.1**
baz=37
G64A S S 03 02 56.9 +10
baz=37
F62A Pittston Farm, 33.98 262 P P **02 57 24.7 +2.5**
baz=38,SNR=6.6
F62A S S **03 02 53.1 +6.1**
baz=38
RDO Rodhopi 33.99 113 P P **02 57 22.9 +0.7**
LATQ La Tuque 34.02 267 P P **02 57 23.5 +1.0**
baz=39
THAS Thassos island 34.12 114 P P **02 57 24.0 +0.6**
LKD2 Lefkada island 34.15 121 P P **02 57 25.0 +1.3**
PKME Peaks-Kenny Pk 34.20 261 P P **02 57 23.9 -0.1**
baz=37
H65A Eastbrook 34.22 259 P P **02 57 24.8 +0.6**
baz=36
H65A S S 03 03 00.6 +10
baz=36
E60A Ste Agathe de 34.24 264 P P **02 57 25.7 +1.3**
baz=38,SNR=6.7
D58A Chemin du LacG 34.29 266 P P **02 57 23.4 -1.5**
baz=39
D58A S S 03 03 03.4 +12
baz=39
MATQ Matagami 34.30 274 P P **02 57 24.1 -0.8**
baz=41
PAIG Paliouri 34.30 116 P P **02 57 25.6 +0.6**
F61A St Evariste 34.36 263 P P **02 57 24.5 -0.9**
baz=38
F61A S S 03 03 02.4 +10
baz=38
ALN Alexandroupoli 34.40 112 P P **02 57 26.4 +0.6**
ALN Alexandroupoli 34.40 112 P P **02 57 23.3 -2.5**
ALN pmax pmax
comp=Z,106nm,1.7s
ALN Alexandroupoli 34.40 112 P P **02 57 23.3 -2.5**
FSK Fiskardo 34.41 121 P P **02 57 27.1 +1.2**
G63A Kingsbury 34.46 261 P P **02 57 24.9 -1.4**
baz=37
G63A S S 03 03 02.7 +8.4
baz=37
EVR Evrytania 34.47 119 P P **02 57 27.8 +1.3**
LSQQ Lebel-sur-Quev 34.55 272 P P **02 57 26.7 -0.3**
baz=41
SMTH Samothraki Isl 34.56 113 P P **02 57 28.2 +1.0**
AGG Agios Georgios 34.57 118 P P **02 57 28.0 +0.6**
AGG Agios Georgios 34.57 118 P P **02 57 24.7 -2.7**
AGG pmax pmax
comp=Z,156nm,1.6s
AGG Agios Georgios 34.57 118 P P **02 57 24.7 -2.7**
XOR Xorichti 34.60 117 P P **02 57 28.2 +0.6**
E59A St. Maurice 34.61 265 P P **02 57 25.9 -1.7**
baz=38
PVO Paravola 34.62 120 P P **02 57 29.5 +1.7**
NEO Neokhori 34.66 117 P P **02 57 28.8 +0.6**
VLS Valsamata 34.66 121 P P **02 57 29.3 +1.1**
H64A Troy 34.67 260 P P **02 57 26.5 -1.6**
baz=36
H64A S S 03 03 06.7 +9.2
baz=36
G62A West of Eustis 34.77 262 P P **02 57 28.0 -1.0**
baz=37
G62A S S 03 03 08.1 +9.1
baz=37
F60A Warwick 34.78 264 P P **02 57 28.1 -0.9**
baz=38
F60A S S **03 03 04.3 +5.2**
baz=38
D57A Chemin Vers le 34.78 267 P P **02 57 30.7 +1.6**
baz=39,SNR=10
D57A S S 03 03 09.8 +11
baz=39
ANX Ano Chora 34.79 119 P P **02 57 28.3 -1.1**
SKIA Skiathos 34.88 117 P P **02 57 30.2 +0.2**
LIA Limnos Island 34.91 114 P P **02 57 31.7 +1.5**
AXAR Agios Charalam 34.92 118 P P **02 57 31.3 +0.9**
EFP Efpalio 34.93 119 P P **02 57 31.9 +1.5**
SERG Sergoula 35.00 119 P P **02 57 32.9 +1.8**
E58A La Victoria 35.03 266 S S 03 03 13.6 +11
baz=38
AOS Alonnisos 35.03 116 P P **02 57 31.8 +0.5**
TRIZ Trizonia 35.05 119 P P **02 57 33.1 +1.7**
RLS Riolos of Patr 35.09 120 P P **02 57 33.7 +1.9**
D56A ZEC Mazanza, M 35.13 268 P P **02 57 33.3 +1.2**
baz=39,SNR=6.7
G61A St-Isidore-de- 35.14 263 P P **02 57 31.7 -0.5**
baz=37
G61A S S 03 03 14.0 +9.3
baz=37
LKR Lokris 35.15 118 P P **02 57 32.5 +0.2**
DSF Desfina 35.18 119 P P **02 57 33.3 +0.6**
A36M Sachs Harbour 35.20 329 P P **02 57 30.5 -1.9**
baz=45
A36M S S 03 03 18.0 +13
baz=45
F59A Saint Guilaume 35.23 265 P P **02 57 31.9 -0.9**
baz=38
DRO Drossia 35.28 120 P P **02 57 35.1 +1.7**
KLV Kalavryta, Ach 35.36 119 P P **02 57 34.1 -0.1**
E57A Chemin Saint G 35.37 267 P P **02 57 32.9 -1.3**
baz=38,SNR=7.7
E57A S S 03 03 18.7 +10
baz=38
I64A Boothbay 35.43 260 P P **02 57 34.7 +0.1**
baz=36
I64A S S 03 03 17.7 +8.5
baz=36
D55A Sainte-Anne-du 35.47 269 P P **02 57 35.6 +0.6**
baz=39,SNR=6.9
D55A S S 03 03 19.5 +10
baz=39
VLDQ Val d'Or 35.47 272 IAmb IAmb 02 57 41.8
comp=Z,36nm,1.2s
GUR Goura 35.53 119 P P **02 57 36.8 +1.1**
H62A Milan 35.55 262 P P **02 57 35.7 0.0**
baz=36
H62A S S 03 03 20.8 +10
baz=36
KYMI Kymi, Euboea I 35.59 117 P P **02 57 37.1 +1.0**
G60A Masonville 35.63 264 P P **02 57 36.2 -0.3**
baz=37
G60A S S 03 03 22.1 +10
baz=37
AMT Artemida-Makis 35.65 120 P P **02 57 38.2 +1.6**
E56A St. Veronique 35.65 268 P P **02 57 35.7 -0.8**
baz=38,SNR=7.3
E56A S S 03 03 23.3 +11
baz=38
F58A St-Lin Laurent 35.66 266 P P **02 57 35.1 -1.5**
baz=38
LTK Loutraki 35.69 119 P P **02 57 36.9 -0.1**
VILL Villia 35.69 118 P P **02 57 37.4 +0.3**
LOUT Loutraki 35.72 119 P P **02 57 37.6 +0.4**
I63A Otisfield 35.72 261 P P **02 57 35.5 -1.7**
baz=36
I63A S S 03 03 22.4 +8.7
baz=36
SIGR SIGRI 35.77 114 P P **02 57 39.3 +1.7**
TRIP Tripoli 35.86 120 P P **02 57 40.5 +2.0**
D54A Lac Fusel, La 35.87 270 P P **02 57 39.0 +0.6**
baz=39,SNR=7.3
D54A S S 03 03 24.0 +8.1
baz=39
PRK Paraskevi 35.90 114 P P **02 57 41.6 +2.9**
H61A Lyndonville 35.91 263 P P **02 57 37.6 -1.2**
baz=37
H61A S S 03 03 25.6 +9.0
baz=37
ANN Anapa 35.91 97 eP P **02 57 37.6 -1.2**
ANN pmax pmax
comp=Z,50nm,1.3s
ANN MLR MLR
comp=Z,3µm,16.0s
DION Dionisos Attik 36.01 117 P P **02 57 39.8 +0.1**
G59A Clarenceville 36.01 264 P P **02 57 37.9 -1.7**
baz=37
ATH Athens Observa 36.02 118 P P **02 57 40.7 +1.0**
ITM Ithomi 36.04 120 P P **02 57 39.7 -0.3**
ITM Ithomi 36.04 120 P P **02 57 37.2 -2.8**
VLX Vlachokerasia 36.04 120 P P **02 57 42.2 +2.1**
ATHU Athens Univers 36.05 118 P P **02 57 40.4 +0.4**
F57A Harrington 36.08 267 P P **02 57 38.9 -1.2**
baz=38
ARU Arti 36.08 66d iP P **02 57 40.5 +0.3**

ARU 02 58 57.5
ARU 03 00 03.1
ARU S **S** **03 03 20.1 +1.1**
ARU SS **SnSn** **03 05 36.8 -6.6**
ARU pmax pmax
comp=Z,73nm,1.9s
ARU MLR MLR
comp=Z,3µm,19.0s
ARU Arti **36.08 66** P **P** **02 57 39.1 -1.0**
LBNH Lisbon **36.14 262** P **P** **02 57 38.9 -2.0**
baz=36
E55A Montcerf-Lytto **36.16 269** P **P** **02 57 38.1 -2.7**
baz=38
E55A S S 03 03 30.9 +11
baz=38
I62A Tamworth **36.19 261** P **P** **02 57 39.0 -2.2**
baz=36
I62A S S 03 03 32.4 +12
baz=36
H60A Morristown **36.22 263** P **P** **02 57 39.5 -2.0**
baz=37
DID Didima **36.24 119** P **P** **02 57 42.1 +0.4**
G58A Ormstown **36.33 265** P **P** **02 57 39.6 -2.7**
baz=37
G58A S S 03 03 34.6 +12
baz=37
D53A Lac Vacive, Po **36.38 271** P **P** **02 57 42.9 +0.2**
baz=39,SNR=9.4
D53A S S 03 03 34.4 +11
baz=39
D53A Lac Vacive, Po **36.38 271** P **P** **02 57 40.0 -2.7**
D53A IAmb IAmb 02 57 49.7
comp=Z,39nm,1.1s
NRIK Noril'sk **36.46 35** P **P** **02 57 43.8 +0.6**
comp=Z,10nm,1.1s,baz=327,slow=5.4,SNR=16
NRIK LR LR 03 16 25.3
comp=Z,560nm,18.4s,baz=344,slow=42
I61A Oroboro, Fairl **36.51 262** P **P** **02 57 43.0 -1.0**
baz=36
I61A S S 03 03 35.2 +9.4
baz=36
CHOS Chios island **36.56 115** P **P** **02 57 45.9 +1.4**
J63A Strafford **36.56 261** P **P** **02 57 43.4 -0.9**
baz=36
J63A S S 03 03 36.1 +10
baz=36
H59A Cadyville **36.57 264** P **P** **02 57 44.7 +0.3**
baz=37,SNR=5.7
H59A S S 03 03 38.4 +12
baz=37
SVE Sverdlovsk **36.61 64** *e*P **P** **02 57 45.0 +0.3**
SVE *e*S **S** **03 03 32.2 +5.1**
SVE pmax pmax
comp=Z,45nm,1.8s
SVE MLR MLR
comp=Z,3µm,19.0s
E54A Lac Daplat, Po **36.66 270** P **P** **02 57 43.6 -1.6**
baz=38
E54A S S 03 03 38.5 +11
baz=38
ORIO Orleans, Innes **36.71 267** P **P** **02 57 44.4 -1.3**
baz=38
ORIO Orleans, Innes **36.71 267** P **P** **02 57 42.8 -2.8**
G57A Newington **36.76 266** P **P** **02 57 46.5 +0.5**
baz=37,SNR=8.7
G57A S S 03 03 37.2 +7.7
baz=37
F55A Otter Lake **36.77 268** P **P** **02 57 44.6 -1.5**
baz=38
F55A S S 03 03 39.5 +10
baz=38
C36M Paulatuk **36.82 325** P **P** **02 57 43.2 -3.1**
baz=43
VLI Veliai **36.82 120** P P 02 57 52.3 +5.6
MDUB Mudurnu **36.84 107** P **P** **02 57 44.5 -2.5**
E53A Dumoine, Ponti **36.91 270** P **P** **02 57 47.3 0.0**
baz=38,SNR=11
E53A S S 03 03 40.0 +8.3
baz=38
J62A Henniker **36.92 261** P **P** **02 57 47.1 -0.2**
baz=36
H58A Gabriels **36.97 265** P **P** **02 57 46.8 -1.1**
baz=37
H58A S S 03 03 45.0 +12
baz=37
LONY Lake Ozonia **36.98 265** P **P** **02 57 47.9 0.0**
baz=37,SNR=7.6
LONY Lake Ozonia **36.98 265** P **P** **02 57 45.0 -2.9**
I60A Shoreham **37.05 263** P **P** **02 57 47.7 -0.7**
baz=36
J61A Chester **37.13 262** P **P** **02 57 47.3 -2.0**
baz=36
K63A Dunstable **37.23 260** P **P** **02 57 47.9 -2.2**
baz=35
K63A S S 03 03 47.9 +11
baz=35
I59A Olmsteadville **37.33 264** P **P** **02 57 49.4 -1.5**
baz=36
I59A S S 03 03 49.8 +12
baz=36
G55A Calabogie **37.39 268** P **P** **02 57 50.6 -0.8**
baz=37,SNR=7.4
G55A S S 03 03 50.8 +12
baz=37
HRV Adam Dziewonsk **37.40 260** P **P** **02 57 50.7 -0.7**
baz=35
ILGA Ilgaz **37.40 104** P **P** **02 57 49.4 -2.5**
ALGO Algonquin Park **37.41 270** P **P** **02 57 52.3 +0.8**
baz=38,SNR=5.3
H57A Richville **37.45 266** P **P** **02 57 50.6 -1.3**
baz=37
H57A S S 03 03 51.8 +12
baz=37
SMG Samos **37.45 114** P **P** **02 57 53.5 +1.5**
K62A Royalston **37.55 261** P **P** **02 57 51.1 -1.7**
baz=35
K62A S S 03 03 53.4 +12
baz=35
L64A Middleborough **37.56 259** P **P** **02 57 50.9 -1.9**
baz=34
L64A S S 03 03 52.9 +11
baz=34
J60A Lant Hill Farm **37.59 263** P **P** **02 57 52.1 -1.0**
baz=36
H56A Elgin **37.72 267** P **P** **02 57 53.1 -1.0**
baz=37,SNR=5.2
M65A Busby, Falmout **37.79 259** P **P** **02 57 55.3 +0.5**
baz=34
D49A Beulah Townshi **37.80 274** P **P** **02 57 54.1 -0.7**
baz=39
G54A Lake Saint Pet **37.86 269** P **P** **02 57 54.8 -0.6**
baz=38
G54A S S 03 03 55.3 +9.0
baz=38
SOC Sochi **37.87 96** *c i*P **P** **02 57 56.8 +1.3**
SOC *e* 02 59 21.0
SOC *e*S **S** **03 03 49.3 +2.9**
SOC *e*SS **SnSn** **03 06 24.8 -2.1**
SOC pmax pmax
comp=Z,22nm,1.1s
SOC MLR MLR
comp=Z,2µm,16.0s
J59A Piesco **37.87 264** P **P** **02 57 54.9 -0.6**
baz=36
J59A S S 03 03 57.7 +11
baz=36
I58A Old Forge **37.89 265** P **P** **02 57 54.8 -0.8**
baz=36
I58A S **S** **03 03 52.8 +6.0**
baz=36
L61B Northampton **37.92 261** P **P** **02 57 54.9 -1.0**
baz=35
L61B S S 03 03 55.3 +8.2
baz=35
L63A North Scituate **37.95 260** P **P** **02 57 54.9 -1.2**
baz=34
L63A S S 03 03 58.3 +11
baz=34
I57A Carthage **37.98 266** P **P** **02 57 54.4 -2.0**
baz=36,SNR=7.2
I57A S S 03 04 00.2 +12
baz=36
K61A Williamstown **37.99 262** P **P** **02 57 54.5 -2.0**
baz=35
K61A S S 03 04 00.3 +12
baz=35
M64A Tiverton **38.03 259** P **P** **02 57 55.9 -0.9**
baz=34
M64A S S 03 03 55.8 +6.9
baz=34
D48A Paudash Townsh **38.07 274** P **P** **02 57 54.9 -2.2**
baz=39
D48A S S 03 03 57.5 +8.1
baz=39
H55A Tweed **38.15 268** P **P** **02 57 56.2 -1.6**
baz=37,SNR=7.2
H55A S S 03 04 01.0 +10
baz=37
L62A Suffield **38.25 261** P **P** **02 57 58.0 -0.7**
baz=35
J58A Remsen **38.29 265** P **P** **02 57 57.5 -1.6**
baz=36
J58A S S 03 04 05.0 +12
baz=36
K60A Five Rivers En **38.30 263** P **P** **02 57 58.3 -0.7**
baz=35
BR131 Keskin Array S **38.48 105** P **P** **02 58 02.7 +1.9**
SNR=11
BR131 S S 03 04 06.0 +10
BR131 Keskin Array S **38.48 105** IAmb IAmb 02 58 04.4
comp=Z,78nm,1.7s
BRTR Keskin Array B **38.48 105** P **P** **02 58 01.4 +0.5**
comp=Z,2.6nm,0.8s,baz=316,slow=5.2,SNR=19
BRTR LR LR 03 16 15.9
comp=Z,421nm,19.1s,baz=294,slow=40
BRTR Keskin Array B **38.48 105** *ce*P **P** **02 58 03.0 +2.2**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
L61A Hillsdale 1, H **38.50 262** P **P** **02 57 59.8 -1.0**
baz=35
M63A Gales Ferry **38.51 260** P **P** **02 58 00.1 -0.7**
baz=34
M63A S S 03 04 04.2 +8.1
baz=34
YER Yerkesik **38.52 113** P **P** **02 58 01.9 +0.8**
J57A Williamstown **38.55 265** P **P** **02 58 00.2 -1.0**
baz=36
J57A S S 03 04 04.5 +7.7
baz=36
K59A Cooperstown **38.58 264** P **P** **02 58 00.4 -1.1**
baz=35
I55A Frankford **38.63 268** P **P** **02 58 00.3 -1.6**
baz=37
I55A S S 03 04 05.6 +7.8
baz=37
D47A Chapleau **38.72 275** P **P** **02 58 01.6 -1.0**
baz=39
D47A S S 03 04 08.4 +9.2
baz=39
H53A Bobcaygeon **38.73 269** P **P** **02 58 01.4 -1.4**
baz=37,SNR=5.7
H53A S S 03 04 08.1 +8.7
baz=37
E48A Lockeyer **38.76 274** P **P** **02 58 01.8 -1.2**
baz=38
E48A S S 03 04 09.9 +10
baz=38
IDI Anoyia **38.82 118** LR LR 03 15 05.5
comp=Z,1µm,21.2s,baz=321,slow=38
M62A Hamden **38.84 261** P **P** **02 58 02.6 -1.0**
baz=34
M62A S S 03 04 13.5 +13
baz=34
KIV Kislovodsk **38.84 92** ‖P **P** **02 58 06.2 +2.4**
KIV Kislovodsk **38.84 92** *i*P **P** **02 58 05.1 +1.3**
SNR=7.1
KIV Kislovodsk **38.84 92** *e*P **P** **02 58 03.8 0.0**
KIV *e* 02 59 31.2
KIV *e*S **S** **03 04 01.3 0.0**
KIV pmax pmax
comp=Z,277nm,4.0s
KIV pmax pmax
comp=Z,71nm,1.1s
KIV MLR MLR
comp=Z,4µm,16.0s
KIV Kislovodsk **38.84 92** P **P** **02 58 01.8 -2.0**
KIV IAmb IAmb 02 58 06.8
comp=Z,110nm,1.8s
K58A Earlville **38.93 265** P **P** **02 58 03.6 -0.8**
baz=36
K58A S S 03 04 15.3 +13
baz=36
L60A Shokan **38.95 262** P **P** **02 58 03.3 -1.3**
baz=35
L60A S S 03 04 16.7 +14
baz=35
J56A Wolcott **39.03 266** P **P** **02 58 04.9 -0.3**
baz=36
J56A S S 03 04 11.2 +7.3
baz=36
KBZ Khabaz **39.12 92** P **P** **02 58 07.1 +1.2**
comp=Z,13nm,0.9s,baz=319,slow=8.8,SNR=39
KBZ LR LR 03 14 35.0
comp=Z,2µm,21.0s,baz=335,slow=37
L59A Walton **39.14 263** P **P** **02 58 06.3 +0.1**
baz=35
L59A S S 03 04 14.4 +8.7
baz=35
YKA Yellowknife Ar **39.21 313** P **P** **02 58 06.8 +0.3**
comp=Z,4.1nm,1.1s,baz=41,slow=8.5,SNR=11
YKA PcP **PcP** **03 00 15.4 +0.1**
comp=Z,0.4nm,0.7s,baz=39,slow=3.1,SNR=3.5
YKA LR LR 03 13 47.0
comp=Z,921nm,19.5s,baz=0.0,slow=35
D46A Sault St. Mari **39.24 276** P **P** **02 58 06.0 -1.0**
baz=38
D46A S S 03 04 16.1 +9.0
baz=38
E47A Iron Bridge **39.26 275** P **P** **02 58 06.4 -0.7**
baz=38
E47A S S 03 04 16.8 +9.5
baz=38
F49A Sandfield **39.27 273** P **P** **02 58 07.5 +0.3**
baz=38
F49A S S 03 04 16.4 +8.9
baz=38
M61A Granite Spring **39.32 261** P **P** **02 58 08.1 +0.5**
baz=34
M61A S S 03 04 19.7 +11
baz=34
K57A Scipio Center **39.33 265** P **P** **02 58 07.4 -0.4**
baz=36
K57A S S 03 04 21.4 +13
baz=36
J55A Hilton **39.45 267** P **P** **02 58 08.1 -0.6**
baz=36
J55A S S 03 04 21.9 +12
baz=36
F48A Evansville **39.47 274** P **P** **02 58 07.7 -1.2**
baz=38
F48A S S 03 04 20.2 +10
baz=38
N62A Caumsett State **39.50 261** P **P** **02 58 08.2 -1.0**
baz=34
BINY Binghamton **39.53 264** P **P** **02 58 09.1 -0.4**
baz=35
L58A Harry Jones Me **39.60 264** P **P** **02 58 09.7 -0.4**
baz=35
PAL Palisades **39.63 261** P **P** **02 58 09.9 -0.3**
baz=34
M60A Port Jervis **39.67 262** P **P** **02 58 09.8 -0.8**
baz=34
K56A Middlesex **39.70 266** P **P** **02 58 10.2 -0.6**
baz=36
J54A Appleton **39.80 268** P **P** **02 58 11.3 -0.4**
baz=36
AKAS Kas **39.83 112** IAmb IAmb 02 58 14.1
comp=Z,91nm,1.7s
M59A Waymart **39.84 263** P **P** **02 58 10.9 -1.1**
baz=35
INK Inuvik **39.84 329** P **P** **02 58 12.1 +0.4**
comp=Z,6.2nm,1.0s,baz=55,slow=14,SNR=7.8
INK PcP **PcP** **03 00 17.8 +0.6**
comp=Z,1.8nm,0.8s,baz=22,slow=5.4,SNR=2.9
INK Inuvik **39.84 329** P **P** **02 58 10.9 -0.8**
INK pmax pmax
comp=Z,20nm,1.3s
INK Inuvik **39.84 329** P **P** **02 58 10.9 -0.8**
K55A Perry **40.00 267** P **P** **02 58 12.2 -1.1**
baz=36
K55A S S 03 04 29.2 +11
baz=36
N61A South Mountain **40.00 261** P **P** **02 58 12.6 -0.8**
baz=34
L57A Andrews Acres **40.07 265** P **P** **02 58 12.8 -1.1**
baz=35
L57A S S 03 04 33.1 +13
baz=35
N60A Cedar Hill Far **40.25 262** P **P** **02 58 14.6 -0.8**
baz=34
N60A S S 03 04 33.5 +11
baz=34
L56A Greenwood **40.26 266** P **P** **02 58 15.6 +0.1**
baz=35,SNR=6.6
L56A S S 03 04 34.1 +12
baz=35
K54A Basiliko Farm, **40.36 267** P **P** **02 58 15.2 -1.1**
baz=36
K54A S S 03 04 36.6 +13
baz=36
I51A Listowel **40.40 270** P **P** **02 58 15.7 -0.9**
baz=36
I51A S S 03 04 35.7 +11
baz=36
M58A Price's Panora **40.41 264** P **P** **02 58 15.5 -1.4**
baz=35
M58A S S 03 04 35.4 +11
baz=35
WVNY West Valley, N **40.49 267** P **P** **02 58 14.6 -2.8**
WVNY IAmb IAmb 02 58 24.4
comp=Z,60nm,1.1s
N59A State Game Lan **40.49 263** P **P** **02 58 15.9 -1.6**
baz=34
FFC Flin Flon **40.59 297** P **P** **02 58 16.4 -1.7**
FFC pmax pmax
comp=Z,48nm,1.4s
FFC Flin Flon **40.59 297** P **P** **02 58 16.4 -1.7**
L55A Hinsdale **40.60 267** P **P** **02 58 18.6 +0.3**
baz=35,SNR=5.6
L55A S S 03 04 39.6 +12
baz=35
O61A Allentown **40.66 261** P **P** **02 58 18.2 -0.5**
baz=34
M57A Sunshine Farm, **40.73 265** P **P** **02 58 18.8 -0.6**
baz=35
M57A S S 03 04 40.2 +11
baz=35
GROC Groznyy **40.79 90** *e*P **P** **02 58 20.3 +0.5**
GROC *e* 02 59 53.3
GROC pmax pmax
comp=Z,99nm,1.4s
O60A Telford **40.83 262** P **P** **02 58 19.9 -0.3**
baz=34
O60A S S 03 04 42.2 +11
baz=34
L54A Sinclairville **40.93 268** P **P** **02 58 20.2 -0.8**
baz=35,SNR=7.0
N58A Sunbury **40.96 264** P **P** **02 58 19.7 -1.5**
baz=34
N58A S S 03 04 43.3 +10
baz=34
M56A Emporium **41.06 266** P **P** **02 58 21.5 -0.6**
baz=35
M56A S S 03 04 46.2 +12
baz=35
KOPT Kop Dagi **41.13 98** P **P** **02 58 20.6 -2.4**
O59A Robesonia **41.17 263** P **P** **02 58 22.5 -0.6**
baz=34
AKH Akhalkalaki **41.26 94** ⇑P **P** **02 58 26.5 +2.6**
AKH Akhalkalaki **41.26 94** P **P** **02 58 21.8 -2.1**
AKH pmax pmax
comp=Z,142nm,1.6s
AKH Akhalkalaki **41.26 94** P **P** **02 58 21.8 -2.1**
ERPA Erie **41.32 268** P **P** **02 58 24.0 -0.2**
baz=35
M55A Ridgway **41.32 266** P **P** **02 58 24.1 -0.2**
baz=35
M55A S S 03 04 49.5 +11
baz=35
P60A Greenville **41.35 262** P **P** **02 58 23.7 -0.8**
baz=34
P60A S S 03 04 48.2 +9.5
baz=34
N57A Milroy **41.39 265** P **P** **02 58 24.2 -0.6**
baz=34
A21K Barrow **41.43 341** P **P** **02 58 22.7 -2.0**
baz=25
A21K S S 03 04 54.4 +15
baz=25
L53A Girard **41.57 268** P **P** **02 58 25.6 -0.7**
baz=35
N56A West Decatur **41.58 265** P **P** **02 58 26.0 -0.4**
baz=34
N56A S S 03 04 53.2 +11
baz=34
EYMN Ely **41.58 283** P **P** **02 58 26.7 +0.4**
baz=38,SNR=5.2
ULM Lac du Bonnet **41.60 289** P **P** **02 58 26.7 +0.3**
comp=Z,3.3nm,0.8s,baz=41,slow=9.2,SNR=4.9
ULM LR LR 03 15 00.9
comp=Z,1µm,18.7s,baz=32,slow=35
SSPA Standing Stone **41.63 265** P **P** **02 58 26.2 -0.6**
baz=34
O58A Lewisberry **41.64 263** P **P** **02 58 25.8 -1.1**
baz=34
O58A S S 03 04 54.4 +11
baz=34
M54A Oil Creek Stat **41.68 267** P **P** **02 58 28.1 +0.9**
baz=35,SNR=6.3
M54A S S 03 04 55.1 +12
baz=35
MAK Makhachkala **41.72 89** *e*P **P** **02 58 26.6 -0.8**
MAK *e* 03 00 01.8
MAK *e*S **S** **03 04 43.2 -0.8**
MAK *e*SS **SS** **03 07 49.3 +0.2**
MAK pmax pmax
comp=Z,159nm,1.0s
MAK MLR MLR
comp=Z,2µm,17.0s
P59A Jarrettsville **41.86 263** P **P** **02 58 26.9 -1.8**
baz=33
P59A S S 03 04 57.8 +12
baz=33
O57A Amberson **41.88 264** P **P** **02 58 27.4 -1.4**
baz=34,SNR=5.8
O57A S S 03 04 55.7 +9.2
baz=34
N55A Marion Center **41.98 266** P **P** **02 58 28.8 -0.9**
baz=34
N55A S S 03 04 59.3 +11
baz=34
Q61A Milford **42.00 261** P **P** **02 58 28.0 -1.7**
baz=33
Q60A Greensboro **42.12 261** P **P** **02 58 30.2 -0.5**
baz=33
M53A WI Miller and **42.17 268** P **P** **02 58 29.8 -1.4**
baz=35
M53A S S 03 05 03.0 +12
baz=35
O56A Blue Knob Stat **42.23 265** P **P** **02 58 28.8 -2.9**
baz=34
O56A S S 03 05 01.9 +10
baz=34
N54A Moraine State **42.27 267** P **P** **02 58 31.8 -0.2**
baz=34,SNR=7.7
P58A Pank, Wackersv **42.33 263** P **P** **02 58 31.4 -1.1**
baz=33
P58A S S 03 05 06.0 +13
baz=33
M52A Chesterland **42.38 269** P **P** **02 58 32.4 -0.5**
baz=35
M52A S S 03 05 05.2 +11
baz=35
CSS Mathiatis **42.43 109** IAmb IAmb 02 58 50.3
comp=Z,102nm,1.7s
R61A Willards **42.47 260** P **P** **02 58 32.6 -1.0**
baz=33
Q59A Harwood **42.58 262** P **P** **02 58 33.7 -0.8**
baz=33
O55A Ligonier **42.59 266** P **P** **02 58 34.0 -0.7**
baz=34
O55A S S 03 05 08.1 +11
baz=34
P57A Homestead Farm **42.64 264** P **P** **02 58 34.4 -0.6**
baz=34
AAM Ann Arbor **42.75 271** P **P** **02 58 34.4 -1.4**
baz=35
TOLK Toolik Lake Re **42.75 336** P **P** **02 58 33.6 -2.0**
baz=28,SNR=21
TOLK S S 03 05 10.2 +11
baz=28
TOLK Toolik Lake Re **42.75 336** IAmb IAmb 02 58 43.9
comp=Z,50nm,1.1s

N53A	**Lisbon**	**42.76**	**268**	P	**P**	**02 58 37.3**	**+1.3**
	baz=34,SNR=6.8							
BMAR	**Burnt Mountain**	**42.89**	**333**	P	**P**	**02 58 36.2**	**-0.7**
M51A	**Elyria**	**42.91**	**269**	P	**P**	**02 58 36.9**	**-0.2**
	baz=35							
Q58A	**Fox Den Farm,**	**42.95**	**263**	P	**P**	**02 58 37.0**	**-0.6**
	baz=33							
Q58A				S	S	03 05 14.4	+12	
	baz=33							
P56A	**Dayton Farm, R**	**42.98**	**265**	P	**P**	**02 58 36.7**	**-1.1**
	baz=34							
P56A				S	S	03 05 15.7	+13	
	baz=34							
AKT	**Akhty**	**43.02**	**90**	*e*P	**P**	**02 58 39.2**	**+1.0**
AKT				*e*		03 00 18.6		
AKT				*e*		03 00 30.4		
AKT				pmax	pmax			
	comp=Z,27nm,1.3s							
O54A	**Avella**	**43.08**	**267**	P	**P**	**02 58 36.9**	**-1.6**
	baz=34,SNR=5.8							
O54A				S	S	03 05 15.3	+11	
	baz=34							
AGMN	**Agassiz Nation**	**43.12**	**287**	P	**P**	**02 58 36.6**	**-2.3**
	baz=38							
N52A	**McGinn's Farm,**	**43.12**	**268**	P	**P**	**02 58 37.2**	**-1.7**
	baz=34							
BRVK	**Borovoye**	**43.13**	**62**	*d i*P	**P**	**02 58 38.9**	**0.0**
BRVK				pmax	pmax			
	comp=Z,57nm,1.8s							
BRVK	**Borovoye**	**43.13**	**62**	P	**P**	**02 58 37.9**	**-1.0**
BRVK				IAmb	IAmb	02 58 41.8		
	comp=Z,136nm,2.0s							
G40A	**Rib Lake**	**43.15**	**280**	IAmb	IAmb	02 58 45.8		
	comp=Z,43nm,1.1s							
Q57A	**Strasburg**	**43.19**	**264**	P	**P**	**02 58 38.8**	**-0.6**
	baz=33							
Q57A				S	S	03 05 19.0	+13	
	baz=33							
MCWV	**Mont Chateau**	**43.28**	**266**	P	**P**	**02 58 39.6**	**-0.6**
	baz=34							
N51A	**Ashland**	**43.33**	**269**	P	**P**	**02 58 39.4**	**-1.2**
	baz=34							
N51A				S	S	03 05 20.6	+13	
	baz=34							
R59A	**King George, V**	**43.33**	**262**	P	**P**	**02 58 39.1**	**-1.5**
	baz=33							
O53A	**New Philadelph**	**43.38**	**268**	P	**P**	**02 58 40.7**	**-0.3**
	baz=34,SNR=7.1							
O53A				S	S	03 05 19.4	+11	
	baz=34							
P55A	**Reedsville**	**43.40**	**266**	P	**P**	**02 58 39.5**	**-1.7**
	baz=34							
P55A				S	S	03 05 21.8	+13	
	baz=34							
CBN	**Corbin Frederi**	**43.44**	**262**	P	**P**	**02 58 39.7**	**-1.8**
	baz=33							
Q56A	**Snyder Ridge,**	**43.51**	**265**	P	**P**	**02 58 40.5**	**-1.6**
	baz=33							
Q56A				S	S	03 05 23.3	+13	
	baz=33							
S60A	**Water View**	**43.55**	**261**	P	**P**	**02 58 40.9**	**-1.5**
	baz=32							
P54A	**Burton**	**43.60**	**266**	P	**P**	**02 58 40.7**	**-2.1**
	baz=34							
R58A	**Rapidan**	**43.63**	**263**	P	**P**	**02 58 40.7**	**-2.3**
	baz=33							
R58A				S	S	03 05 20.4	+8.2	
	baz=33							
O52A	**Adamsville**	**43.76**	**268**	P	**P**	**02 58 42.8**	**-1.3**
	baz=34,SNR=5.9							
O52A				S	S	03 05 23.5	+9.4	
	baz=34							
S59A	**Mechanicsville**	**43.77**	**262**	P	**P**	**02 58 41.9**	**-2.2**
	baz=32							
R57A	**Stanardsville**	**43.85**	**263**	P	**P**	**02 58 42.0**	**-2.8**
	baz=33							
R57A				S	S	03 05 29.3	+14	
	baz=33							
R58B	**Mineral**	**43.85**	**263**	P	**P**	**02 58 41.8**	**-3.0**
	baz=33							
R58B				S	S	03 05 28.3	+13	
	baz=33							
Q55A	**Buckhannon**	**43.93**	**266**	P	**P**	**02 58 45.6**	**0.0**
	baz=33							
Q55A				S	S	03 05 29.4	+13	
	baz=33							
O51A	**Pataskala**	**44.06**	**269**	P	**P**	**02 58 46.0**	**-0.5**
	baz=34,SNR=7.1							
O51A				S	S	03 05 32.6	+14	
	baz=34							
T60A	**Surry**	**44.06**	**261**	P	**P**	**02 58 45.7**	**-0.8**
	baz=32							
P53A	**Whipple**	**44.09**	**267**	P	**P**	**02 58 45.5**	**-1.2**
	baz=34,SNR=8.7							
P53A				S	S	03 05 31.7	+13	
	baz=34							
N49A	**Columbus Grove**	**44.10**	**271**	P	**P**	**02 58 44.1**	**-2.7**
N49A				IAmb	IAmb	02 58 54.4		
	comp=Z,66nm,1.1s							
COLD	**Coldfoot**	**44.12**	**336**	P	**P**	**02 58 43.2**	**-3.5**
	baz=27,SNR=10							
COLD				S	S	03 05 33.4	+15	
	baz=27							
R56A	**Bull Pasture M**	**44.13**	**264**	P	**P**	**02 58 45.3**	**-1.9**
	baz=33							
R56A				S	S	03 05 32.2	+12	
	baz=33							
ACSO	**Alum Creek Sta**	**44.15**	**269**	P	**P**	**02 58 46.2**	**-1.1**
	baz=34,SNR=6.6							
S58A	**Poland Farm, P**	**44.22**	**263**	P	**P**	**02 58 46.0**	**-1.8**
	baz=32							
S58A				S	S	03 05 32.9	+12	
	baz=32							
Q54A	**Coxs Mills**	**44.27**	**266**	P	**P**	**02 58 46.3**	**-1.9**
	baz=33							
Q54A				S	S	03 05 32.1	+11	
	baz=33							
P52A	**Corning**	**44.28**	**268**	P	**P**	**02 58 47.1**	**-1.2**
	baz=34							
P52A				S	S	03 05 34.9	+13	
	baz=34							
SPMN	**Marine on St.**	**44.29**	**282**	P	**P**	**02 58 46.1**	**-2.2**
	baz=36							
SPMN				S	S	03 05 33.5	+12	
	baz=36							
S57A	**Dark Hollow, R**	**44.48**	**263**	P	**P**	**02 58 48.1**	**-1.8**
	baz=32							
TAM	**Tamanrasset**	**44.51**	**149**	IAmb	IAmb	02 59 07.3		
	comp=Z,56nm,1.9s							
R55A	**Marlinton**	**44.55**	**265**	P	**P**	**02 58 48.5**	**-1.9**
	baz=33							
R55A				S	S	03 05 40.4	+15	
	baz=33							
T59A	**Double "B" Far**	**44.55**	**262**	P	**P**	**02 58 48.7**	**-1.8**
	baz=32							
U61A	**Possum Corner**	**44.62**	**260**	P	**P**	**02 58 49.5**	**-1.5**
	baz=32							
Q53A	**Leroy**	**44.67**	**267**	P	**P**	**02 58 50.7**	**-0.7**
	baz=33,SNR=5.3							
L44A	**Lake County Fo**	**44.67**	**275**	P	**P**	**02 58 49.3**	**-2.0**
	baz=35							
O49A	**Covington**	**44.77**	**270**	IAmb	IAmb	02 58 59.0		
	comp=Z,54nm,1.1s							
U60A	**Pendleton**	**44.81**	**261**	P	**P**	**02 58 49.7**	**-2.7**
	baz=32							
P51A	**Williamsport**	**44.81**	**269**	P	**P**	**02 58 51.0**	**-1.4**
	baz=34							
P51A				S	S	03 05 40.2	+11	
	baz=34							
S56A	**Natural Bridge**	**44.82**	**264**	P	**P**	**02 58 50.5**	**-2.1**
	baz=32							
S56A				S	S	03 05 43.1	+14	
	baz=32							
Q52A	**Bidwell**	**44.90**	**268**	P	**P**	**02 58 50.8**	**-2.4**
	baz=33							
Q52A				S	S	03 05 42.6	+12	
	baz=33							
MMAI	**Mount Meron Ar**	**44.97**	**108**	LR	LR	03 20 17.0		
	comp=Z,472nm,19.8s,baz=325,slow=40							
T58A	**Grand View Acr**	**44.99**	**262**	P	**P**	**02 58 51.2**	**-2.8**
	baz=32							
T58A				S	S	03 05 44.0	+12	
	baz=32							
MDND	**Maddock**	**45.00**	**289**	P	**P**	**02 58 51.6**	**-2.4**
	baz=37							
R54A	**Victor**	**45.00**	**266**	P	**P**	**02 58 51.6**	**-2.5**
	baz=33							
R54A				S	S	03 05 45.1	+13	
	baz=33							
JFWS	**Jewell Farm**	**45.07**	**278**	P	**P**	**02 58 51.7**	**-2.8**
	baz=35							
S55A	**Lewisburg**	**45.14**	**265**	P	**P**	**02 58 53.5**	**-1.7**
	baz=33							
S55A				S	S	03 05 52.3	+18	
	baz=33							
U59A	**Littleton**	**45.18**	**261**	P	**P**	**02 58 53.4**	**-2.0**
	baz=32							
T57A	**Hurt**	**45.26**	**263**	P	**P**	**02 58 55.4**	**-0.6**
	baz=32							
T57A				S	S	03 05 51.6	+16	
	baz=32							
R53A	**Hurricane**	**45.29**	**267**	P	**P**	**02 58 54.9**	**-1.4**
	baz=33							
R53A				S	S	03 05 48.0	+12	
	baz=33							
RDOG	**Red Dog Mine**	**45.30**	**343**	IAmb	IAmb	02 59 04.1		
	comp=Z,36nm,1.2s							
K27K	**Chicken**	**45.33**	**329**	P	**P**	**02 58 53.3**	**-3.1**
	baz=30							
K27K				S	S	03 05 51.5	+15	
	baz=30							
V60A	**Jim Taylor Roa**	**45.45**	**260**	P	**P**	**02 58 56.3**	**-1.2**
	baz=31							
S54A	**Dingess, Beckl**	**45.46**	**266**	P	**P**	**02 58 55.8**	**-1.9**
	baz=33							
S54A				S	S	03 05 51.0	+12	
	baz=33							
U58A	**Oxford**	**45.47**	**262**	P	**P**	**02 58 56.2**	**-1.5**
	baz=32							
P49A	**Miami Univ. Ec**	**45.48**	**270**	P	**P**	**02 58 56.3**	**-1.5**
	baz=34							
POKR	**Poker Plat Res**	**45.48**	**333**	P	**P**	**02 58 54.4**	**-3.2**
	baz=27							
POKR				S	S	03 05 53.7	+15	
	baz=27							
T56A	**Rocky Mt**	**45.56**	**264**	P	**P**	**02 58 58.6**	**+0.1**
	baz=32							
T56A				S	S	03 05 54.6	+14	
	baz=32							
BLA	**Blacksburg**	**45.57**	**264**	P	**P**	**02 58 59.2**	**+0.5**
	baz=32							
IL31		**45.68**	**332**	IAmb	IAmb	02 59 05.2		
	comp=Z,52nm,1.7s							
ILAR	**Eielson Array**	**45.68**	**332**	P	**P**	**02 58 59.2**	**+0.1**
	comp=Z,6.5nm,1.0s,baz=27,slow=6.3,SNR=29							
ILAR				PcP	**PcP**	**03 00 37.1**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=5.6,slow=3.6,SNR=6.4							
ILAR				LR	LR	03 20 31.9		
	comp=Z,466nm,18.9s,baz=20,slow=39							
ILAR	**Eielson Array**	**45.68**	**332**	P	**P**	**02 58 58.3**	**-0.8**
ILAR					**PcP**	**03 00 35.5**	**-1.3**
U57A	**Blanch**	**45.77**	**263**	P	**P**	**02 58 59.0**	**-1.1**
	baz=32							
MDM	**Murphy Dome**	**45.78**	**333**	IAmb	IAmb	02 59 09.8		
	comp=Z,42nm,1.2s							
COLA	**College**	**45.78**	**333**	*d i*P	**P**	**02 59 01.3**	**+1.5**
COLA				pmax	pmax			
	comp=Z,25nm,1.2s							
COLA	**College**	**45.78**	**333**	P	**P**	**02 58 59.2**	**-0.7**
COLA				IAmb	IAmb	02 59 08.9		
	comp=Z,42nm,1.3s							
TCOL	**CIGO, UAF Yank**	**45.78**	**333**	S	S	03 05 59.9	+17	
	baz=27							
SCRK	**Sand Creek**	**45.79**	**330**	P	**P**	**02 58 58.1**	**-2.0**
	baz=29							
SCRK				S	S	03 05 54.5	+11	
	baz=29							
SFIN	**Lafayette**	**45.80**	**273**	P	**P**	**02 58 58.8**	**-1.5**
	baz=34							
T55A	**Pulaski**	**45.81**	**265**	P	**P**	**02 58 59.3**	**-1.2**
	baz=32							
IMAR	**Indian Mountai**	**45.86**	**337**	P	**P**	**02 58 59.8**	**-0.7**
V59A	**Middlesex**	**45.87**	**261**	P	**P**	**02 58 59.4**	**-1.5**
	baz=31							
S53A	**Williamson**	**45.91**	**266**	P	**P**	**02 58 59.1**	**-2.2**
	baz=33							
HDA	**Harding Lake**	**46.02**	**332**	P	**P**	**02 58 59.3**	**-2.4**
	baz=27							
HDA				S	S	03 05 54.6	+8.3	
	baz=27							
DOT	**Dot Lake**	**46.09**	**330**	IAmb	IAmb	02 59 07.8		
	comp=Z,26nm,1.4s							
CNNC	**Cliffs of the**	**46.17**	**261**	P	**P**	**02 59 02.2**	**-1.0**
	baz=31							
RIDG	**Independent Ri**	**46.18**	**331**	IAmb	IAmb	02 59 08.7		
	comp=Z,36nm,1.4s							
T54A	**Tazewell**	**46.20**	**265**	P	**P**	**02 59 01.6**	**-2.0**
	baz=32							
V58A	**Windy Hill, Pi**	**46.22**	**262**	P	**P**	**02 59 01.6**	**-2.0**
	baz=32							
W60A	**Pink Hill**	**46.25**	**260**	P	**P**	**02 59 01.2**	**-2.7**
	baz=31							
NEA2	**Nenana**	**46.27**	**333**	P	**P**	**02 59 02.7**	**-1.1**
	baz=26,SNR=22							
NEA2				S	S	03 06 05.4	+15	
	baz=26							
U56A	**King**	**46.29**	**264**	P	**P**	**02 59 01.9**	**-2.3**
	baz=32							
U56A				S	S	03 06 01.4	+11	
	baz=32							
DGMT	**Dagmar**	**46.34**	**293**	P	**P**	**02 59 01.6**	**-3.0**
	baz=36							
K38A	**Parkersburg**	**46.36**	**280**	IAmb	IAmb	02 59 11.3		
	comp=Z,26nm,1.0s							
V57A	**Coltrane Farms**	**46.42**	**263**	P	**P**	**02 59 02.5**	**-2.8**
	baz=32							
U55A	**TA2, Sparta**	**46.44**	**265**	P	**P**	**02 59 03.1**	**-2.4**
	baz=32							
U55A				S	S	03 06 05.9	+13	
	baz=32							
BRZS	**Berezniki**	**46.49**	**63**	*e*P	**P**	**02 59 06.8**	**+1.2**
	comp=Z,170nm,2.5s,baz=63							
BRZS				*e*PP	**PP**	**03 00 55.7**	**+1.2**
	baz=63							
BRZS	**Berezniki**	**46.49**	**63**	*e*P	**P**	**02 59 06.8**	**+1.2**
BRZS				*e*		03 00 55.6		
BRZS				pmax	pmax			
	comp=Z,171nm,2.5s							
HDIL	**Hopedale**	**46.60**	**275**	P	**P**	**02 59 06.2**	**-0.4**
	baz=34,SNR=5.7							
T53A	**Wise**	**46.67**	**266**	P	**P**	**02 59 06.3**	**-1.0**
	baz=32							
U54A	**Nelsons Funny**	**46.76**	**265**	P	**P**	**02 59 05.8**	**-2.2**
	baz=32							
X60A	**Albert Glenn T**	**46.77**	**260**	P	**P**	**02 59 06.2**	**-1.7**
	baz=31							
V56A	**Mocksville**	**46.79**	**263**	P	**P**	**02 59 05.6**	**-2.6**
	baz=32							
W58A	**Raeford**	**46.92**	**262**	P	**P**	**02 59 06.7**	**-2.5**
	baz=31							
V55A	**Taylorsville**	**47.06**	**264**	P	**P**	**02 59 08.5**	**-1.8**
	baz=32							
ECSD	**EROS Data Cent**	**47.09**	**284**	P	**P**	**02 59 08.3**	**-2.2**
	baz=35,SNR=6.5							
SCIA	**State Center**	**47.16**	**279**	P	**P**	**02 59 09.1**	**-1.9**
	baz=34							
WCI	**Wyandotte Cave**	**47.24**	**271**	P	**P**	**02 59 10.2**	**-1.5**
	baz=33							
WCI	**Wyandotte Cave**	**47.24**	**271**	P	**P**	**02 59 09.0**	**-2.6**
WCI				pmax	pmax			
	comp=Z,38nm,0.9s							
WCI	**Wyandotte Cave**	**47.24**	**271**	P	**P**	**02 59 09.0**	**-2.6**
Y60A	**Bolivia**	**47.36**	**260**	P	**P**	**02 59 12.1**	**-0.5**
	baz=31							
X58A	**Rowland**	**47.37**	**261**	P	**P**	**02 59 11.4**	**-1.3**
	baz=31							
W56A	**Indian Trail**	**47.40**	**263**	P	**P**	**02 59 12.3**	**-0.6**
	baz=31							
V54A	**Nebo**	**47.44**	**265**	P	**P**	**02 59 12.6**	**-0.7**
	baz=32							
V54A				S	S	03 06 23.1	+16	
	baz=32							
TZTN	**Tazewell**	**47.48**	**267**	P	**P**	**02 59 13.8**	**+0.3**
	baz=32							
SUSD	**Miller**	**47.49**	**286**	P	**P**	**02 59 12.7**	**-0.9**
	baz=35							
SUSD				S	S	03 06 18.5	+11	
	baz=35							
ZAA0	**Zalesovo Array**	**47.63**	**51**	IAmb	IAmb	02 59 17.1		
	comp=Z,49nm,1.6s							
ZALV	**Zalesovo Beam**	**47.63**	**51**	P	**P**	**02 59 15.1**	**+0.6**
	comp=Z,3.3nm,0.6s,baz=330,slow=8.6,SNR=16							
ZALV				PcP	**PcP**	**03 00 44.0**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=350,slow=6.0,SNR=3.7							
ZALV				LR	LR	03 21 58.3		
	comp=Z,343nm,18.3s,baz=318,slow=40							
Y59A	**Loris**	**47.65**	**261**	P	**P**	**02 59 12.6**	**-2.2**
	baz=31							
EIL	**Elat**	**47.72**	**111**	LR	LR	03 24 05.2		
	comp=Z,304nm,18.7s,baz=321,slow=42							
X57A	**Johnson Farm,**	**47.77**	**262**	P	**P**	**02 59 15.2**	**-0.6**
	baz=31							
M24K	**Tolsona, Glenn**	**47.91**	**330**	P	**P**	**02 59 12.0**	**-4.7**
	baz=27							
M24K				S	S	03 06 29.9	+16	
	baz=27							
KURK	**Kurchatov**	**48.11**	**58**	*de*P	**P**	**02 59 18.9**	**+0.6**
KURK				pmax	pmax			
	comp=Z,19nm,0.8s							
KURK	**Kurchatov**	**48.11**	**58**	P	**P**	**02 59 17.8**	**-0.4**
KURK				IAmb	IAmb	02 59 20.5		
	comp=Z,36nm,1.2s							
W54A	**Cherokee Point**	**48.13**	**265**	P	**P**	**02 59 17.2**	**-1.4**
	baz=31							
X56A	**White Oak**	**48.14**	**263**	P	**P**	**02 59 17.4**	**-1.3**
	baz=31							
Y57A	**Sumter**	**48.28**	**262**	P	**P**	**02 59 18.4**	**-1.3**
	baz=31							
PPLA	**Purkeypile**	**48.40**	**334**	P	**P**	**02 59 19.6**	**-0.9**
SCM	**Sheep Creek Mo**	**48.40**	**331**	IAmb	IAmb	02 59 25.7		
	comp=Z,47nm,1.4s							
X55A	**Gracelyn & Ava**	**48.42**	**264**	P	**P**	**02 59 19.0**	**-1.8**
	baz=31							
LAO	**LASA Array**	**48.59**	**293**	P	**P**	**02 59 22.3**	**+0.2**
	baz=35,SNR=5.9							
SML	**Sawmill**	**48.64**	**331**	IAmb	IAmb	02 59 28.2		
	comp=Z,61nm,1.7s							
GHO	**Glory Hole Cre**	**48.79**	**332**	IAmb	IAmb	02 59 28.6		
	comp=Z,30nm,1.4s							
EGMT	**Eagleton**	**48.87**	**297**	P	**P**	**02 59 23.2**	**-1.0**
	baz=35,SNR=40							
NHSC	**New Hope**	**48.97**	**261**	P	**P**	**02 59 24.7**	**-0.3**
	baz=30							
Y55A	**Saluda**	**48.97**	**263**	P	**P**	**02 59 24.7**	**-0.3**
	baz=31							
PMR	**Palmer**	**48.99**	**332**	IAmb	IAmb	02 59 34.3		
	comp=Z,36nm,1.4s							
Z57A	**Bowman**	**49.03**	**262**	P	**P**	**02 59 24.9**	**-0.5**
	baz=30							
TTA	**Tatalina**	**49.06**	**336**	IAmb	IAmb	02 59 30.8		
	comp=Z,55nm,1.8s							
Z56A	**Williston**	**49.28**	**263**	P	**P**	**02 59 27.9**	**+0.4**
	baz=30							
SUA	**Susitna One**	**49.44**	**333**	IAmb	IAmb	02 59 38.0		
	comp=Z,40nm,1.4s							
CCM	**Cathedral Cave**	**49.52**	**275**	P	**P**	**02 59 28.4**	**-0.8**
	baz=33							
BGNE	**Belgrade**	**49.65**	**283**	P	**P**	**02 59 28.9**	**-1.3**
	baz=34							
RSSD	**Black Hills**	**49.83**	**290**	P	**P**	**02 59 30.6**	**-1.2**
	baz=34							
RSSD	**Black Hills**	**49.83**	**290**	P	**P**	**02 59 29.5**	**-2.3**
RSSD				pmax	pmax			
	comp=Z,11nm,1.0s							
RSSD	**Black Hills**	**49.83**	**290**	P	**P**	**02 59 29.5**	**-2.3**
GOGA	**Godfrey**	**50.11**	**265**	P	**P**	**02 59 33.4**	**-0.4**
	baz=31							
T42A	**Van Buren**	**50.31**	**274**	IAmb	IAmb	02 59 42.4		
	comp=Z,50nm,1.6s							
GEYT	**Alibeck**	**50.43**	**84**	P	**P**	**02 59 36.7**	**+0.5**
	comp=Z,5.0nm,0.8s,baz=330,slow=8.7,SNR=16							
GEYT				PP	**PP**	**03 01 32.4**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=311,slow=12,SNR=4.9							
GEYT				LR	LR	03 23 10.5		
	comp=Z,1μm,18.9s,baz=345,slow=39							
GYA0B	**ALIBECK ARRAY**	**50.43**	**84**	P	**P**	**02 59 34.5**	**-1.7**
SVW2	**Sparrevohn**	**50.69**	**335**	P	**P**	**02 59 37.1**	**-0.8**
KSU1	**Kansas State U**	**50.93**	**280**	P	**P**	**02 59 39.4**	**-0.5**
	baz=33							
BTLS	**Baital**	**51.07**	**66**	*i*P	**P**	**02 59 42.7**	**+1.8**
	comp=Z,61nm,2.5s,baz=66							
BTLS				*e*S	**S**	**03 07 00.4**	**+2.4**
	baz=66							
BTLS				*e*SS	**SS**	**03 10 36.5**	**+4.1**
	baz=66							
BTLS	**Baital**	**51.07**	**66**	*i*P	**P**	**02 59 42.6**	**+1.8**
BTLS				*e*S	**S**	**03 07 00.4**	**+2.4**
BTLS				*e*SS	**SS**	**03 10 36.5**	**+4.1**
BTLS				pmax	pmax			
	comp=Z,61nm,2.5s							
RLMT	**Red Lodge**	**51.09**	**295**	P	**P**	**02 59 42.2**	**+1.0**
	baz=33,SNR=11							
YAK	**Yakutsk**	**51.27**	**19**	*e*P	**P**	**02 59 40.7**	**-1.4**
YAK				*e*		03 00 56.7		
YAK				*e*		03 01 35.4		
YAK				*e*S	**S**	**03 07 01.0**	**+0.7**
YAK				*e*		03 09 32.8		
YAK				*e*SS	**SS**	**03 10 40.3**	**+5.4**
YAK				*e*SSS	SSS	03 12 09.7		
YAK				pmax	pmax			
	comp=Z,9.0nm,0.8s							
YAK				pmax	pmax			
	comp=N,3.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,2.0nm,0.8s							
YAK				pmax	pmax			
	comp=Z,123nm,3.7s							
YAK				pmax	pmax			
	comp=N,59nm,3.0s							
YAK				pmax	pmax			
	comp=E,55nm,3.6s							
YAK				smax	smax			
	comp=N,85nm,4.8s							
YAK				smax	smax			
	comp=E,125nm,4.1s							
YAK				MLR	MLR			
	comp=Z,195nm,18.0s							
YAK				MLR	MLR			
	comp=N,92nm,18.0s							
YAK				MLR	MLR			
	comp=E,128nm,19.0s							
HOM	**Homer**	**51.27**	**332**	P	**P**	**02 59 40.4**	**-1.7**
	baz=23							
KK31	**Karatay Array**	**51.28**	**70**	P	**P**	**02 59 41.8**	**-0.7**
KK31				pmax	pmax			
	comp=Z,112nm,1.8s							
KK31	**Karatay Array**	**51.28**	**70**	P	**P**	**02 59 41.8**	**-0.7**
NEW	**Newport**	**51.42**	**303**	P	**P**	**02 59 41.5**	**-2.0**
	baz=33							
MSO	**Missoula**	**51.45**	**299**	P	**P**	**02 59 43.1**	**-0.8**
	baz=33,SNR=5.1							
BOZ	**Bozeman (W)**	**51.60**	**297**	P	**P**	**02 59 45.1**	**0.0**
	baz=33,SNR=58							
BOZ	**Bozeman (W)**	**51.60**	**297**	IAmb	IAmb	02 59 52.8		
	comp=Z,40nm,1.1s							
U40A	**Yellville**	**51.64**	**275**	P	**P**	**02 59 45.2**	**-0.1**
	baz=32,SNR=6.8							
U40A	**Yellville**	**51.64**	**275**	IAmb	IAmb	02 59 51.3		
	comp=Z,41nm,1.4s							
OGNE	**Ogallala**	**51.66**	**286**	P	**P**	**02 59 44.2**	**-1.2**
	baz=33							
DZA	**Taraz**	**51.78**	**69**	*e*P	**P**	**02 59 48.4**	**+2.1**
	baz=69							
DZA	**Taraz**	**51.78**	**69**	*e*P	**P**	**02 59 48.4**	**+2.1**
TIGA	**Tifton**	**51.86**	**263**	P	**P**	**02 59 46.1**	**-0.8**
	baz=30							
IUG	**Iuzhnay**	**51.88**	**71**	*e*P	**P**	**02 59 49.1**	**+1.9**
	comp=Z,105nm,2.3s,baz=71							
IUG	**Iuzhnay**	**51.88**	**71**	*e*P	**P**	**02 59 49.0**	**+1.9**
IUG				pmax	pmax			
	comp=Z,105nm,2.3s							
LRAL	**Lakeview Retre**	**51.95**	**268**	P	**P**	**02 59 45.7**	**-1.9**
	baz=31							
K22A	**Casper**	**52.06**	**291**	P	**P**	**02 59 47.9**	**-0.6**
	baz=33,SNR=5.6							
DGZ	**Jazzator, Alta**	**52.08**	**53**	*de*P	**P**	**02 59 49.9**	**+1.3**
DGZ				pmax	pmax			
	comp=Z,53nm,1.8s							
H17A	**Grant Village**	**52.20**	**295**	P	**P**	**02 59 48.5**	**-1.2**
	baz=33,SNR=8.2							
X43A	**Marvell**	**52.35**	**272**	P	**P**	**02 59 50.3**	**-0.2**
	baz=31							
BOD	**Bodaibo**	**52.41**	**30**	*e*P	**P**	**02 59 51.2**	**+0.5**
BOD				pmax	pmax			
	comp=Z,23nm,1.8s							
SEY	**Seymchan**	**52.48**	**6**	P	**P**	**02 59 50.9**	**-0.

comp=Z,103nm,2.5s,baz=66
SGDS Sogindy 52.63 66 *e*P **P 02 59 54.3 +1.7**
SGDS pmax pmax
comp=Z,103nm,2.5s
MK31 Makanchi Array 52.73 58 IAmb IAmb 02 59 55.7
comp=Z,54nm,1.8s
MKAR Makanchi Array 52.73 58 P **P 02 59 53.3 +0.1**
comp=Z,5.4nm,0.9s,baz=319,slow=5.3,SNR=26
MKAR LR LR 03 22 02.9
comp=Z,399nm,18.9s,baz=308,slow=36
MKAR Makanchi Array 52.73 58 *ce*P **P 02 59 53.2 0.0**
MKAR pmax pmax
comp=Z,6.0nm,0.9s
T35A Sooner Cattle 52.73 279 IAmb IAmb 02 59 58.7
comp=Z,32nm,1.2s
USP Ospenovka 52.73 67 P **P 02 59 55.1 +1.8**
SNR=7.4
KUU Kurty 52.93 65 *i* P **P 02 59 56.4 +1.6**
comp=Z,40nm,1.9s,baz=65
KUU LR LR 03 21 24.2
comp=Z,890nm,15.2s,baz=65
KUU Kurty 52.93 65 *i* P **P 02 59 56.3 +1.6**
KUU pmax pmax
comp=Z,40nm,1.9s
KUU MLR MLR
comp=Z,889nm,15.0s
EKS2 Erkin-Say 52.96 68 P P 02 59 58.8 +3.6
SNR=16
W39A Magazine 53.02 275 P **P 02 59 54.4 -1.0**
baz=31
ZSN Zaisan 53.10 56 *e*P **P 02 59 57.5 +1.5**
comp=Z,114nm,2.7s,baz=56
ZSN Zaisan 53.10 56 *e*P **P 02 59 57.4 +1.5**
ZSN pmax pmax
comp=Z,114nm,2.7s
TPAW Teton Pass 53.11 295 IAmb IAmb 03 00 03.8
comp=Z,38nm,1.4s
TOA0 Torodi Ar. Sit 53.14 156 P **P 02 59 53.5 -3.0**
TOA0 IAmb IAmb 03 00 03.2
comp=Z,36nm,1.5s
TORD Torodi Ar. Bea 53.14 156 P **P 02 59 55.5 -1.1**
comp=Z,9.5nm,1.1s,baz=341,slow=8.7,SNR=19
TORD LR LR 03 22 41.5
comp=Z,552nm,18.1s,baz=35,slow=36
RWWY Rawlins 53.15 291 IAmb IAmb 03 00 03.1
comp=Z,33nm,1.3s
BW06 Boulder Array 53.17 293 P **P 02 59 55.9 -1.0**
baz=32,SNR=41
BW06 Boulder Array 53.17 293 IAmb IAmb 03 00 02.9
comp=Z,28nm,1.0s
PD31 Pinedale Array 53.17 293 IAmb IAmb 03 00 03.0
comp=Z,26nm,1.0s
PDAR Pinedale Array 53.17 293 P **P 02 59 56.6 -0.2**
comp=Z,6.2nm,0.7s,baz=58,slow=6.5,SNR=25
PDAR PP **PP 03 01 56.9 +0.4**
comp=Z,2.5nm,1.2s,baz=49,slow=8.4,SNR=2.7
PDAR LR LR 03 22 26.6
comp=Z,2µm,18.4s,baz=33,slow=36
PDAR Pinedale Array 53.17 293 P **P 02 59 54.6 -2.3**
REDW Red Top Meadow 53.18 295 IAmb IAmb 03 00 05.2
comp=Z,39nm,1.4s
B05A Bryant 53.19 306 P **P 02 59 55.0 -1.6**
baz=31
KDAK Kodiak Island 53.20 332 LR LR 03 26 26.3
comp=Z,472nm,18.4s,baz=32,slow=40
CHKK Chushkaly 53.21 64 *e*P **P 02 59 58.1 +1.3**
baz=64
CHKK Chushkaly 53.21 64 *e*P **P 02 59 58.1 +1.3**
X40A Basin Creek Fa 53.22 274 P **P 02 59 55.4 -1.5**
baz=31
AAK Ala-Archa 53.26 67 LR LR 03 22 25.6
comp=Z,2µm,20.7s,baz=316,slow=36
AAK Ala-Archa 53.26 67 *i* P **P 02 59 59.1 +1.7**
SNR=8.0
AAK Ala-Archa 53.26 67 *d i* P **P 02 59 59.4 +2.0**
AAK pmax pmax
comp=Z,55nm,1.7s
AAK Ala-Archa 53.26 67 P **P 02 59 56.0 -1.4**
TUL1 Leonard 53.27 277 P **P 02 59 56.5 -0.9**
baz=32
N23A Red Feather La 53.30 289 P **P 02 59 57.0 -0.9**
baz=32,SNR=20
N23A Red Feather La 53.30 289 IAmb IAmb 03 00 05.0
comp=Z,36nm,1.1s
AML Almayashu 53.37 68 P **P 03 00 01.6 +3.1**
SNR=11
TKM2 Tokmak 2 53.46 66 P **P 03 00 01.4 +2.5**
SNR=7.1
MIAR Mount Ida 53.48 275 P **P 02 59 58.1 -0.8**
baz=31
KSCO Kaye Shedlock' 53.53 285 P **P 02 59 59.1 -0.3**
baz=32
BRAL Brewton 53.57 267 P **P 02 59 58.8 -0.8**
baz=30
MTBS Maitube 53.61 65 *i* P **P 03 00 01.5 +1.7**
baz=65
MTBS Maitube 53.61 65 *i* P **P 03 00 01.5 +1.7**
UCH Uchtor 53.62 67 P **P 03 00 03.7 +3.3**
SNR=10
AAA Alma-Ata 53.73 65 *i* P **P 03 00 02.3 +1.6**
AAA baz=65 *e*S **S 03 07 36.3 +1.7**
AAA LR LR 03 21 29.3
comp=Z,774nm,14.6s,baz=65
AAA Alma-Ata 53.73 65 *i* P **P 03 00 02.3 +1.6**
AAA *e*S **S 03 07 36.2 +1.7**
AAA MLR MLR
comp=Z,774nm,15.0s
MDOK Medeo 53.82 65 *i* P **P 03 00 02.0 +0.5**
baz=65
MDOK LR LR 03 21 49.0
comp=Z,882nm,18.0s,baz=65
MDOK Medeo 53.82 65 *i* P **P 03 00 02.0 +0.5**
MDOK MLR MLR
comp=Z,882nm,18.0s
TNSS Tian-Shan 53.89 65 *e*P **P 03 00 03.1 +0.8**
baz=65
TNSS Tian-Shan 53.89 65 *e*P **P 03 00 03.9 +1.6**
ISCO Idaho Springs 54.09 288 P **P 03 00 02.7 -1.0**
baz=32
D03D Eldon 54.16 306 P **P 03 00 02.6 -1.1**
baz=30
HLID Hailey 54.39 297 P **P 03 00 04.8 -0.9**
baz=32
UZB Uzynbulak 54.60 63 *e*P **P 03 00 08.9 +1.8**
comp=Z,104nm,3.0s,baz=63
UZB Uzynbulak 54.60 63 *e*P **P 03 00 08.8 +1.7**
UZB pmax pmax
comp=Z,104nm,3.0s
Q24A Divide 54.61 287 P **P 03 00 06.0 -1.5**
baz=32
MOY Mondy 54.66 42 *e*P **P 03 00 09.3 +1.9**
MOY pmax pmax
comp=Z,179nm,2.6s
SHLS Shalkode 54.76 63 *e*P P 03 00 11.8 +3.5
comp=Z,152nm,3.3s,baz=63
SHLS Shalkode 54.76 63 *e*P P 03 00 11.8 +3.5
SHLS pmax pmax
comp=Z,152nm,3.3s
E04D Cinebar 54.82 305 P **P 03 00 07.7 -0.8**
baz=30
O20A White River Ci 54.88 290 P **P 03 00 09.0 -0.3**
baz=32,SNR=6.9
O20A White River Ci 54.88 290 IAmb IAmb 03 00 18.3
comp=Z,47nm,1.4s
HWUT Hardware Ranch 54.95 294 IAmb IAmb 03 00 17.1
comp=Z,26nm,0.9s
F05D White Salmon 55.00 304 P **P 03 00 08.6 -1.3**
baz=30
HRA Herat 55.19 82 P **P 03 00 09.7 -1.9**
TARG Taragay, Kyrgy 55.33 65 IAmb IAmb 03 00 18.3
comp=Z,33nm,1.2s
F04D Rainier, OR 55.38 305 P **P 03 00 11.2 -1.3**
baz=30
TLY Talaya 55.40 40 LR LR 03 25 11.8
comp=Z,449nm,21.1s,baz=343,slow=37
TLY Talaya 55.40 40 *d i* P **P 03 00 12.1 -0.6**
TLY *e* 03 01 10.0
TLY *e* 03 02 16.5
TLY *e*S **S 03 08 00.0 +3.3**
TLY pmax pmax
comp=Z,34nm,1.1s
TLY MLR MLR
comp=Z,2µm,18.0s
G05D Wamic, OR 55.51 304 P **P 03 00 12.2 -1.3**
baz=30

WMOK Wichita Mounta 55.54 279 P **P 03 00 14.3 +0.4**
baz=31,SNR=11
WMOK Wichita Mounta 55.54 279 IAmb IAmb 03 00 21.5
comp=Z,33nm,1.3s
MA2 Magadan 55.76 7 P **P 03 00 15.3 +0.2**
comp=Z,4.2nm,0.3s,baz=327,slow=6.6,SNR=7.9
MA2 Magadan 55.76 7 *e*P **P 03 00 17.3 +2.2**
MA2 pmax pmax
comp=Z,29nm,1.4s
MA2 Magadan 55.76 7 IAmb IAmb 03 00 18.1
comp=Z,42nm,1.4s
SDCO Great Sand Dun 55.79 287 P **P 03 00 15.3 -0.7**
baz=31
T25A Trinidad 55.86 285 P **P 03 00 18.2 +1.8**
baz=31,SNR=6.4
I05D Terrebonne, OR 56.30 303 P **P 03 00 18.6 -0.6**
baz=30
NATX Nacogdoches 56.34 274 P **P 03 00 19.3 -0.3**
baz=30
S22A 4UR Ranch, Cre 56.34 288 P **P 03 00 19.4 -0.5**
baz=31
ZAK Zakamensk 56.46 41 *e*P **P 03 00 20.6 +0.2**
ZAK pmax pmax
comp=Z,18nm,1.5s
KSH Kashi 56.50 68 P **P 03 00 23.3 +2.5**
KSH S **S 03 08 13.5 +1.6**
KSH pmax pmax
comp=Z,74nm,1.3s
KSH pmax pmax
comp=Z,560nm,5.2s
KSH LR LR
comp=Z,790nm,14.2s
KSH LR LR
comp=Z,690nm,12.0s
KSH LR LR
comp=Z,3µm,19.3s
PV23 Carpenter Ridg 56.62 290 IAmb IAmb 03 00 28.4
comp=Z,22nm,0.9s
PV04 Paradox Valley 56.63 290 IAmb IAmb 03 00 28.5
comp=Z,20nm,1.0s
H04D Lebanon 56.64 304 P **P 03 00 20.3 -1.3**
baz=30
AMTX Amarillo 56.65 282 P **P 03 00 21.3 -0.6**
baz=31
DUG Dugway, Tooele 56.65 294 P **P 03 00 22.2 +0.3**
baz=31,SNR=8.3
PV14 Lion Creek, Pa 56.69 290 IAmb IAmb 03 00 28.8
comp=Z,21nm,0.9s
PV11 David Mesa, Pa 56.70 290 IAmb IAmb 03 00 29.1
comp=Z,44nm,1.3s
PV10 Paradox Valley 56.70 290 IAmb IAmb 03 00 29.6
comp=Z,29nm,1.0s
PV16 Nyswonger Mesa 56.70 290 IAmb IAmb 03 00 29.1
comp=Z,44nm,1.5s
PV01 Paradox Valley 56.72 289 IAmb IAmb 03 00 29.4
comp=Z,29nm,1.1s
PV02 Paradox Valley 56.72 290 IAmb IAmb 03 00 29.3
comp=Z,33nm,1.0s
PV03 Paradox Valley 56.73 290 IAmb IAmb 03 00 29.2
comp=Z,32nm,1.2s
PV17 East Wray Mesa 56.75 290 IAmb IAmb 03 00 29.4
comp=Z,42nm,1.2s
PV18 Skein Mesa, Pa 56.76 290 IAmb IAmb 03 00 29.5
comp=Z,31nm,1.1s
J05D Fort Rock, OR 57.17 302 P **P 03 00 25.6 0.0**
baz=30
WMQ Urumqi 57.23 56 P **P 03 00 28.0 +2.1**
WMQ pP sP 03 00 34.5 +3.6
WMQ S **S 03 08 26.8 +5.4**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,290nm,3.6s
WMQ LR LR
comp=Z,390nm,14.1s
WMQ LR LR
comp=Z,660nm,16.5s
WHTX Lake Whitney, 57.34 276 P **P 03 00 26.1 -0.6**
baz=30
MVCO Mesa Verde 57.48 289 P **P 03 00 27.0 -0.9**
baz=30
J04D Umpqua Nationa 57.52 303 P **P 03 00 26.9 -1.3**
baz=29
I03D Drain, OR 57.57 304 P **P 03 00 26.9 -1.3**
baz=29
ABTX Abilene, Hawle 57.72 279 P **P 03 00 28.8 -0.7**
baz=30
K04D Chiloquin, OR 57.93 302 P **P 03 00 29.5 -1.4**
baz=29
435B Jarrell 58.43 276 P **P 03 00 33.4 -1.0**
baz=30
L04D Klamath Falls 58.49 303 P **P 03 00 33.1 -1.7**
baz=29
K02D Willamette Mer 58.56 304 P **P 03 00 33.6 -1.6**
baz=29
ANMO Albuquerque 58.59 286 P **P 03 00 34.4 -1.3**
baz=30
ANMO Albuquerque 58.59 286 *e*P **P 03 00 38.1 +2.4**
ANMO pmax pmax
comp=Z,49nm,3.8s
DBIC Dimbokro 58.59 165 P **P 03 00 35.6 0.0**
comp=Z,8.4nm,0.9s,baz=339,slow=8.2,SNR=4.3
DBIC LR LR 03 26 25.7
comp=Z,898nm,18.2s,baz=350,slow=37
DBIC Dimbokro 58.59 165 P **P 03 00 35.6 0.0**
DBIC pmax pmax
comp=Z,41nm,1.6s
DBIC Dimbokro 58.59 165 IAmb IAmb 03 00 40.4
comp=Z,41nm,1.6s
TIC Toumodi 58.60 165 *e*P **P 03 00 34.3 -1.4**
M04C Macdoel 58.70 302 P **P 03 00 34.1 -2.1**
baz=29
ZEA Zeya 58.84 24 *e*P **P 03 00 39.0 +2.1**
ZEA *e*S S 03 08 54.0 +12
ZEA pmax pmax
comp=Z,130nm,3.0s
ZEA pmax pmax
comp=Z,500nm,9.0s
ZEA smax smax
comp=E,200nm,10.0s
ZEA smax smax
comp=N,500nm,12.0s
KIC Kosan Boka 58.91 165 *e*P **P 03 00 37.0 -0.8**
comp=N,31nm,1.0s
L02E Cave Junction 59.01 304 P **P 03 00 35.8 -2.5**
baz=29
LIC Lamto 59.01 165 *e*P **P 03 00 37.8 -0.7**
comp=N,52nm,1.1s
R11A Troy Canyon, C 59.32 295 P **P 03 00 40.0 -0.7**
baz=30,SNR=7.8
R11A Troy Canyon, C 59.32 295 IAmb IAmb 03 00 48.0
comp=Z,30nm,1.4s
M02C Callahan 59.41 303 P **P 03 00 39.8 -1.3**
baz=29
Y22D IRIS PASSCAL I 59.53 286 P **P 03 00 41.9 -0.2**
baz=30
PAHR Pah Rah Range 59.60 299 IAmb IAmb 03 00 49.8
comp=Z,42nm,1.5s
SONM Songino Array 59.64 40 P **P 03 00 43.1 +0.4**
comp=Z,3.3nm,0.8s,baz=318,slow=5.4,SNR=21
SONM LR LR 03 28 47.7
comp=Z,791nm,20.0s,baz=340,slow=38
JCT Junction City 59.64 278 P **P 03 00 43.5 +0.7**
baz=29,SNR=7.3
KVN Kaiserville 59.68 298 IAmb IAmb 03 00 50.0
comp=Z,18nm,1.2s
U15A North Rim 59.69 291 IAmb IAmb 03 00 49.6
comp=Z,19nm,1.1s
SHME Shamm 59.78 93 P **P 03 00 41.5 -2.3**
W18A Petrified Fore 59.79 289 P **P 03 00 42.6 -1.3**
baz=30
ULN Ulaanbaatar 59.80 40 *d i* P **P 03 00 44.4 +0.6**
ULN pmax pmax
comp=Z,53nm,2.5s
ULN Ulaanbaatar 59.80 40 P **P 03 00 42.9 -1.0**
ULN IAmb IAmb 03 00 55.9
comp=Z,52nm,1.9s
BANOM Banah 59.96 93 P **P 03 00 45.8 +0.8**
BANOM Banah 59.96 93 P **P 03 00 45.5 +0.4**
BANOM P **P 03 00 45.5 +0.4**
O03E Paynes Creek 59.98 301 P **P 03 00 43.3 -1.8**
baz=29
WUAZ Wupatki 60.10 290 P **P 03 00 44.8 -1.3**
baz=30,SNR=6.9
WUAZ Wupatki 60.10 290 IAmb IAmb 03 00 53.1
comp=Z,35nm,1.1s
NVAR Mina Array Bea 60.30 297 P **P 03 00 47.9 +0.4**
comp=Z,1.7nm,1.0s,baz=67,slow=5.0,SNR=12
NVAR LR LR 03 26 39.5
comp=Z,2µm,19.6s,baz=27,slow=36
NVAR Mina Array Bea 60.30 297 P **P 03 00 45.3 -2.2**
MSFE Esma-Masafi 60.40 93 *i* P **P 03 00 48.3 +0.2**
SNR=10
O02D Mt. Diablo Mer 60.45 302 P **P 03 00 47.2 -1.1**
baz=28
NIL Nilore 60.45 73 P **P 03 00 47.3 -1.0**
NIL pmax pmax
comp=Z,64nm,1.3s
NIL Nilore 60.45 73 P **P 03 00 47.3 -1.0**
MDH Madha 60.51 93 *i* P **P 03 00 47.9 -0.8**
SNR=8.8
MDH Madha 60.51 93 P **P 03 00 49.7 +0.9**
SNR=5.2
MDH P **P 03 00 49.7 +0.9**
SNR=5.2
SHPR Sheep Range 60.76 294 P **P 03 00 48.4 -2.2**
SHPR IAmb IAmb 03 00 58.1
comp=Z,25nm,1.3s
UOSS Minazif 60.78 93 *i* P **P 03 00 50.5 -0.1**
SNR=7.2
UOSS Minazif 60.78 93 P **P 03 00 49.1 -1.5**
UOSS IAmb IAmb 03 01 08.3
comp=Z,42nm,1.4s
TPNV Topopah Spring 60.80 295 P **P 03 00 49.9 -1.0**
baz=29
HATD Hatta, Dubai 60.85 93 *i* P **P 03 00 51.2 0.0**
SNR=7.5
HATD Hatta, Dubai 60.85 93 P **P 03 00 52.3 +1.2**
SNR=10
ASHO Ashiyiah 60.95 94 *i* P **P 03 00 51.3 -0.6**
SNR=6.3
ASHO Ashiyiah 60.95 94 P **P 03 00 52.6 +0.7**
SNR=7.4
ASHO P **P 03 00 52.6 +0.7**
SNR=7.4
MNTX Cornudas Mount 60.95 283 P **P 03 00 52.0 +0.2**
baz=29,SNR=14
X16A Lo Mia Camp, P 61.09 290 IAmb IAmb 03 01 00.2
comp=Z,21nm,1.1s
GRAC Grapevine Rang 61.19 296 P **P 03 00 52.5 -0.9**
baz=29
MLAC Mammoth, Mammo 61.20 297 P **P 03 00 51.8 -1.9**
baz=29
121A Cookes Peak, D 61.23 285 P **P 03 00 52.6 -1.2**
baz=29
833A Chaparral WMA, 61.34 276 P **P 03 00 54.2 -0.2**
baz=29
ALNE Al Ain 61.37 94 P **P 03 00 54.1 -0.5**
FURC Furnace Creek, 61.46 295 P **P 03 00 55.1 0.0**
baz=29
SOHO SOHO 61.63 93 *i* P **P 03 00 55.8 -0.6**
SNR=7.0
CWC Cottonwood Cre 61.95 296 P **P 03 00 57.7 -1.0**
baz=28
TUQ Turquoise Moun 61.99 294 P **P 03 00 58.5 -0.4**
baz=29
NEE2 Needles Airpor 62.06 292 P **P 03 00 59.5 +0.3**
baz=29
MPMC Manual Prospec 62.06 295 P **P 03 00 59.4 -0.1**
baz=28
PDMCI Parker Dam,Lak 62.27 292 P **P 03 01 00.7 +0.1**
baz=29
TXAR Lajitas Array 62.28 280 P **P 03 01 01.5 +0.6**
comp=Z,2.6nm,0.9s,baz=93,slow=2.5,SNR=9.6
TXAR PP **PP 03 03 15.0 -2.6**
comp=Z,1.1nm,1.1s,baz=23,slow=7.2,SNR=2.7
TXAR LR LR 03 27 35.4
comp=Z,2µm,19.3s,baz=0.0,slow=36
TXAR Lajitas Array 62.28 280 P **P 03 00 58.3 -2.6**
TXAR 03 03 15.1
TXAR Lajitas Array 62.28 280 P **P 03 00 58.3 -2.6**
TXAR **PP 03 03 15.1 -2.4**
ARQ Araqi 62.33 94 P **P 03 01 01.0 -0.1**
ARQ P **P 03 01 01.0 -0.1**
GSC Goldstone, Bar 62.45 294 P **P 03 01 00.8 -1.1**
baz=28
GMRC Granite Mounta 62.46 293 P **P 03 01 00.6 -1.4**
baz=28,SNR=5.5
PETK Petropavlovsk- 62.50 3 P **P 03 01 02.9 +1.0**
comp=Z,3.3nm,0.9s,baz=59,slow=0.9,SNR=3.7
PETK LR LR 03 29 10.5
comp=Z,216nm,18.1s,baz=8.6,slow=37
PET Petropavlovsk 62.61 3 *ce*P P 03 01 07.7 +5.2
PET *e* 03 03 23.1
PET *e*S **S 03 09 35.8 +5.8**
PET pmax pmax
comp=Z,300nm,7.4s
PET pmax pmax
comp=Z,200nm,10.6s
PET MLR MLR
comp=Z,500nm,15.0s
PET MLR MLR
comp=Z,300nm,15.0s
LRMC Laurel Mtn Rad 62.64 295 P **P 03 01 03.0 -0.2**
baz=28
TUC Tucson 62.66 288 P **P 03 01 03.4 +0.1**
baz=29
HEC Hector,Ludlow 62.68 294 P **P 03 01 03.1 -0.3**
baz=28
ISA Isabella, Lake 62.79 296 P **P 03 01 06.1 +1.9**
baz=28,SNR=5.9
IRM Iron Mountain 62.80 292 P **P 03 01 04.2 0.0**
baz=28
BIDO Bidbid 62.86 92 P **P 03 01 05.2 +0.5**
SNR=7.2
DHRM DHARAMSHALA 62.92 72 *e*P **P 03 01 07.3 +2.0**
DHRM IAmb IAmb 03 01 13.2
comp=Z,65nm,1.4s
GRNR Gornyy 63.13 18 *e*P P 03 00 58.9 -7.2
SMDO Samad 63.23 93 P **P 03 01 07.4 +0.2**
SNR=5.1
SMDO P **P 03 01 07.4 +0.2**
SNR=5.1
BELC Belle Mtn. Jos 63.28 293 P **P 03 01 07.8 +0.3**
baz=28
EDW2 Edwards Air Fo 63.29 295 P **P 03 01 06.1 -1.3**
baz=28
WSAR Wadi Sarin 63.32 92 LR LR 03 33 19.7
comp=Z,268nm,19.3s,baz=334,slow=40
WSAR Wadi Sarin 63.32 92 P **P 03 01 07.2 -0.6**
BC3 Big Chuckawall 63.36 292 P **P 03 01 07.5 -0.6**
baz=28
ARVC Arvin 63.40 296 P **P 03 01 08.0 0.0**
baz=28
GLA Glamis 63.64 292 P **P 03 01 09.1 -0.7**
baz=28
BFSC Mount Baldy Ra 63.72 295 P **P 03 01 09.5 -0.9**
baz=28
TYV Tymovskoe 63.78 14 *e*P **P 03 01 07.2 -3.1**
TYV pmax pmax
comp=Z,500nm,7.3s
214A Organ Pipe Nat 63.79 289 P **P 03 01 09.2 -1.6**
baz=28
PFO Pinyon Flats O 63.80 293 P **P 03 01 11.1 +0.2**
comp=Z,3.8nm,1.2s,baz=55,slow=4.9,SNR=2.4
PFO Pinyon Flats O 63.80 293 P **P 03 01 09.8 -1.1**
baz=28
PFO Pinyon Flats O 63.80 293 P **P 03 01 08.7 -2.2**
baz=28
PFO pmax pmax
comp=Z,13nm,1.7s
PFO Pinyon Flats O 63.80 293 P **P 03 01 08.7 -2.2**
JMDO Jabal Madar 63.86 93 P **P 03 01 11.3 0.0**
JMDO P **P 03 01 11.3 0.0**
KLR Kul'dur 63.94 22 *e*P **P 03 01 12.8 +1.3**
KLR pmax pmax
comp=Z,14nm,2.1s
WBK Wadi Bani Khal 64.02 92 P **P 03 01 12.5 +0.1**
MURC Murrieta 64.10 294 P **P 03 01 11.6 -1.2**
baz=28
SWSC Sam W. Stewart 64.12 292 P **P 03 01 11.8 -1.1**
baz=28
SMLA Simla 64.26 72 *e*P **P 03 01 14.7 +0.9**
MONP2 Monument Peak 64.42 293 P **P 03 01 12.7 -2.4**
baz=28
IKP In-Ko-Pah, Jac 64.51 292 P **P 03 01 13.8 -1.7**
baz=28
URIC Uribia, Colomb 64.74 242 *e*P **P 03 01 17.9 +0.8**
CIS Catalina Islan 64.75 295 P **P 03 01 16.8 -0.3**
baz=28
GTA Gaotai 65.30 49 *e*P **P 03 01 21.8 +1.1**
GTA pP sP 03 01 26.3 +0.6
GTA sP pP 03 01 29.5 +5.2
GTA SS SS 03 14 16.8 +0.8
GTA pmax pmax

	comp=Z,19nm,1.7s									
GTA						pmax	pmax			
	comp=Z,430nm,8.9s									
GTA						LR	LR			
	comp=Z,690nm,16.5s									
GTA						LR	LR			
	comp=Z,630nm,16.5s									
GTA						LR	LR			
	comp=Z,740nm,17.5s									
SMRC	**Santa Marta, M**	**66.09**	**244**	*e*P		P		03 01 29.0	+3.2	
SHAO	**Shalim**	**66.65**	**97**	P		**P**		**03 01 29.5**	**+0.1**	
SDV	**Santo Domingo**	**66.82**	**239**	*e*P		**P**		**03 01 32.5**	**+1.8**	
ARGC	**Ariguani, Magd**	**67.29**	**243**	*e*P		P		03 01 36.6	+3.1	
BTO	**Baotou**	**67.31**	**41**	P		**P**		**03 01 30.3**	**-3.2**	
BTO				S		**S**		**03 10 31.0**	**+2.6**	
HHC	**Hu-ho-hao-te**	**67.51**	**40**	*e*P		P		03 01 40.5	+5.7	
HHC	**Hu-ho-hao-te**	**67.51**	**40**	*e*P		**P**		**03 01 37.0**	**+2.2**	
HHC				SS		SS		03 14 52.5	+2.3	
HHC				pmax		pmax				
	comp=Z,38nm,1.4s									
HHC				pmax		pmax				
	comp=Z,320nm,7.6s									
HHC				LR		LR				
	comp=Z,210nm,14.2s									
HHC				LR		LR				
	comp=Z,930nm,22.6s									
SJCC	**San Jacinto, C**	**67.62**	**244**	*e*P		**P**		**03 01 38.6**	**+3.0**	
YSS	**Yuzh-Sakhalins**	**67.65**	**14**	*d i*P		**P**		**03 01 37.1**	**+1.7**	
YSS				*e*				03 04 12.9		
YSS				*e*S		**S**		**03 10 32.7**	**+0.6**	
YSS				*e*PPS		PPS		03 11 09.3		
YSS				pmax		pmax				
	comp=Z,20nm,0.9s									
CN2	**Changchun**	**68.04**	**28**	*e*P		**P**		**03 01 39.3**	**+1.4**	
CN2				*e*S		**S**		**03 10 35.8**	**-1.0**	
CN2				SS		**SS**		**03 14 58.0**	**+0.1**	
CN2				pmax		pmax				
	comp=Z,20nm,1.5s									
CN2				pmax		pmax				
	comp=Z,600nm,8.0s									
CN2				LR		LR				
	comp=Z,300nm,14.0s									
CN2				LR		LR				
	comp=Z,300nm,14.0s									
CN2				LR		LR				
	comp=Z,500nm,17.0s									
SMLC	**San Martn de**	**68.19**	**243**	*e*P		**P**		**03 01 40.8**	**+1.6**	
MOTC	**Monteria, Cord**	**68.83**	**244**	*e*P		**P**		**03 01 41.5**	**-1.6**	
LCBC	**Los crdobas,**	**69.03**	**245**	*e*P		**P**		**03 01 44.2**	**-0.2**	
BJI	**Beijing**	**69.49**	**36**	P		**P**		**03 01 49.0**	**+2.0**	
BJI				S		S		03 11 03.0	+8.9	
BJI				SS		**SS**		**03 15 19.5**	**-0.9**	
BJI				pmax		pmax				
	comp=Z,17nm,2.1s									
BJI				LR		LR				
	comp=Z,200nm,16.2s									
BJI				LR		LR				
	comp=Z,710nm,21.0s									
BRRC	**Barranca, Sant**	**69.61**	**242**	*e*P		P		03 01 40.8	-7.2	
CAPC	**Capurgana**	**69.61**	**246**	*e*P		**P**		**03 01 49.5**	**+1.5**	
LZH	**Lanzhou**	**69.63**	**48**	*e*PKP		**P**		**03 01 46.3**	**-1.8**	
LZH				pPKP		sP		03 01 56.5	+3.3	
LZH				sPKP				03 02 01.0		
LZH	**Lanzhou**	**69.63**	**48**	⇑P		**P**		**03 01 47.3**	**-0.8**	
LZH				S		S		03 11 04.3	+8.0	
LZH				SS		**SS**		**03 15 26.8**	**+3.6**	
LZH				pmax		pmax				
	comp=Z,23nm,1.1s									
LZH				pmax		pmax				
	comp=Z,150nm,5.0s									
LZH				LR		LR				
	comp=Z,510nm,16.3s									
LZH				LR		LR				
	comp=Z,600nm,15.2s									
LZH				LR		LR				
	comp=Z,670nm,16.5s									
ZARC	**Zaragoza, Cauc**	**69.69**	**243**	*e*P		P		03 01 42.5	-6.0	
PTBC	**PUERTO BERRIO,**	**70.41**	**242**	*e*P		**P**		**03 01 54.3**	**+1.4**	
RUSC	**La Rusia**	**70.49**	**241**	*e*P		**P**		**03 01 54.3**	**+0.3**	
TIY	**Taiyuan**	**70.68**	**40**	*e*P		P		03 01 57.8	+3.4	
TIY				S		S		03 11 16.3	+8.0	
TIY				SKS		**ScS**		**03 11 56.3**	**-1.4**	
TIY				SS		**SS**		**03 15 45.0**	**+6.0**	
TIY				pmax		pmax				
	comp=Z,320nm,4.5s									
TIY				LR		LR				
	comp=Z,410nm,14.7s									
TIY				LR		LR				
	comp=Z,180nm,10.8s									
TIY				LR		LR				
	comp=Z,470nm,16.3s									
LSA	**Lhasa**	**71.02**	**61**	P		**P**		**03 01 58.0**	**+0.9**	
SPBC	**San Pablo de B**	**71.08**	**241**	*e*P		**P**		**03 01 55.1**	**-2.0**	
HELC	**Santa Helena**	**71.14**	**243**	*e*P		**P**		**03 01 54.8**	**-3.0**	
BHPL	**Bhopal**	**71.33**	**75**	*e*P		**P**		**03 01 58.2**	**-0.3**	
BHPL				IAmb		IAmb		03 02 00.9		
	comp=Z,31nm,1.2s									
NORC	**Norcasia**	**71.47**	**242**	*e*P		**P**		**03 01 57.5**	**-1.9**	
CBOC	**Ciudad Bolivar**	**71.63**	**243**	*e*P		**P**		**03 02 00.1**	**-0.4**	
DL2	**Dalian**	**71.89**	**32**	P		**P**		**03 02 02.0**	**+0.4**	
DL2				PP		PP		03 04 48.3	+7.7	
DL2				pmax		pmax				
	comp=Z,16nm,0.9s									
DL2				pmax		pmax				
	comp=Z,410nm,6.1s									
DL2				LR		LR				
	comp=Z,520nm,13.7s									
DL2				LR		LR				
	comp=Z,380nm,13.1s									
DL2				LR		LR				
	comp=Z,740nm,15.5s									
CHIC	**Chingaza**	**71.89**	**241**	*e*P		**P**		**03 02 02.8**	**+0.4**	
ROSC	**El Rosal**	**71.92**	**241**	P		**P**		**03 02 03.4**	**+0.9**	
	comp=Z,9.2nm,0.7s,baz=45,slow=24,SNR=2.3									
ROSC				LR		LR		03 28 46.4		
	comp=Z,199nm,21.9s,baz=15,slow=32									
ROSC	**El Rosal**	**71.92**	**241**	*e*P		**P**		**03 02 04.3**	**+1.8**	
ROSC	**El Rosal**	**71.92**	**241**	P		**P**		**03 01 58.8**	**-3.8**	
GUY2C	**Guyana, Caldas**	**71.97**	**242**	*e*P		**P**		**03 02 02.8**	**-0.1**	
GTK	**Tadong**	**72.19**	**64**	*e*P		**P**		**03 02 05.7**	**+2.0**	
GTK				IAmb		IAmb		03 02 07.5		
	comp=Z,40nm,1.1s									
XAN	**Xi'an**	**73.09**	**44**	P		**P**		**03 02 10.3**	**+1.4**	
XAN				PP		**PP**		**03 04 51.3**	**+0.3**	
XAN				S		**SKiKP**		**03 11 42.0**	**+1.3**	
XAN				pmax		pmax				
	comp=Z,20nm,2.0s									
XAN				pmax		pmax				
	comp=Z,410nm,6.1s									
XAN				LR		LR				
	comp=Z,720nm,21.6s									
XAN				LR		LR				
	comp=Z,690nm,16.7s									
XAN				LR		LR				
	comp=Z,1μm,23.5s									
ORTC	**Ortega, Tolima**	**73.13**	**242**	*e*P		**P**		**03 02 09.0**	**-0.3**	
PRAC	**Prado**	**73.17**	**241**	*e*P		**P**		**03 02 07.4**	**-2.2**	
YOTC	**Yotoco, Valle**	**73.48**	**243**	*e*P		P		03 02 04.7	-6.7	
MBAR	**Mbarara**	**73.91**	**129**	⇓P		**P**		**03 02 15.2**	**+1.1**	
MBAR				pmax		pmax				
	comp=Z,9.0nm,1.6s									
MACC	**Macarena, Meta**	**74.23**	**240**	*e*P		P		03 02 02.8	-13	
BOK	**Bokaro**	**74.28**	**68**	*e*P		**P**		**03 02 13.4**	**-2.6**	
BOK				IAmb		IAmb		03 02 18.8		
	comp=Z,64nm,1.6s									
BETC	**Betania**	**74.33**	**242**	*e*P		**P**		**03 02 17.0**	**+0.7**	
CD2	**Chengdu**	**74.36**	**50**	P		**P**		**03 02 18.0**	**+1.6**	
CD2				PP		**PP**		**03 05 00.0**	**-2.0**	
CD2				S		**S**		**03 11 57.0**	**+6.4**	
CD2				SS		**SS**		**03 16 40.8**	**+5.2**	
CD2				pmax		pmax				
	comp=Z,30nm,1.4s									
CD2				pmax		pmax				
	comp=Z,480nm,6.7s									
CD2				LR		LR				
	comp=Z,520nm,15.8s									
CD2				LR		LR				
	comp=Z,820nm,16.5s									
CD2				LR		LR				
	comp=Z,660nm,15.8s									
MARP	**Paez Belalcaza**	**74.38**	**242**	*e*P		**P**		**03 02 16.1**	**-0.9**	
GUWA	**GUWAHATI**	**74.38**	**62**	*e*P		**P**		**03 02 15.8**	**-0.7**	
GUWA				IAmb		IAmb		03 02 20.1		
	comp=Z,47nm,1.5s									
TEZP	**TEZPUR**	**74.42**	**61**	*e*P		**P**		**03 02 18.4**	**+1.6**	
TEZP				IAmb		IAmb		03 02 21.1		
	comp=Z,173nm,2.3s									
KSRS	**Korea Array**	**74.65**	**28**	LR		LR		03 38 06.1		
	comp=Z,279nm,18.1s,baz=339,slow=38									
GARC	**Garzon, Huila**	**74.80**	**241**	*e*P		**P**		**03 02 20.2**	**+0.9**	
POPC	**Popayan, Colom**	**74.93**	**243**	*e*P		P		03 02 14.4	-5.7	
PCON	**Cinco Dias**	**75.02**	**242**	*e*P		**P**		**03 02 18.7**	**-2.3**	
SHL	**Shillong**	**75.02**	**62**	*e*P		**P**		**03 02 20.8**	**+0.4**	
SHL				IAmb		IAmb		03 02 22.0		
	comp=Z,15nm,1.1s									
SHL	**Shillong**	**75.02**	**62**	P		**P**		**03 02 18.7**	**-1.8**	
SHL				pmax		pmax				
	comp=Z,77nm,1.7s									
SHL	**Shillong**	**75.02**	**62**	P		**P**		**03 02 18.7**	**-1.8**	
FLOC	**Florencia**	**75.42**	**241**	*e*P		**P**		**03 02 22.5**	**-0.1**	
BBAC	**Balboa, Cauca**	**75.62**	**243**	*e*P		**P**		**03 02 24.8**	**+0.8**	
AGT	**Agartala**	**76.30**	**63**	*e*P		**P**		**03 02 27.4**	**-0.2**	
PTLC	**Puerto Leguiza**	**76.40**	**240**	*e*P		**P**		**03 02 27.9**	**-0.3**	
PUAC	**Puerto Asis, P**	**76.72**	**242**	*e*P		**P**		**03 02 29.6**	**-0.4**	
OTAV	**Otavalo**	**77.72**	**243**	*e*P		P		03 02 31.1	-5.1	
NJ2	**Nanjing**	**77.74**	**37**	⇑*i*P		**P**		**03 02 37.0**	**+1.4**	
NJ2				S		S		03 12 35.3	+7.8	
NJ2				pmax		pmax				
	comp=Z,19nm,1.8s									
NJ2				pmax		pmax				
	comp=Z,500nm,5.6s									
NJ2				LR		LR				
	comp=Z,430nm,14.7s									
NJ2				LR		LR				
	comp=Z,440nm,13.3s									
NJ2				LR		LR				
	comp=Z,740nm,19.9s									
WHN	**Wuhan**	**77.95**	**41**	P		**P**		**03 02 34.8**	**-1.9**	
WHN				pP		**PcP**		**03 02 43.8**	**-2.7**	
WHN				PP		**PP**		**03 05 35.3**	**+3.3**	
WHN				S		**S**		**03 12 34.0**	**+4.2**	
WHN				pmax		pmax				
	comp=Z,510nm,3.4s									
WHN				LR		LR				
	comp=Z,640nm,10.3s									
WHN				LR		LR				
	comp=Z,340nm,6.0s									
WHN				LR		LR				
	comp=Z,840nm,17.9s									
SAIH	**SAIHA**	**78.23**	**62**	*e*P		**P**		**03 02 39.5**	**+0.9**	
SAIH				IAmb		IAmb		03 02 42.1		
	comp=Z,50nm,1.3s									
SSE	**Sheshan**	**79.24**	**35**	P		**P**		**03 02 43.8**	**-0.1**	
SSE				S		**S**		**03 12 49.8**	**+6.2**	
SSE				pmax		pmax				
	comp=Z,14nm,0.7s									
SSE				pmax		pmax				
	comp=Z,200nm,9.0s									
SSE				LR		LR				
	comp=Z,240nm,20.7s									
SSE				LR		LR				
	comp=Z,160nm,19.3s									
KMI	**Kunming**	**79.36**	**53**	⇑*e*P		**P**		**03 02 45.8**	**+0.9**	
KMI				pP		pP		03 02 47.3	-1.3	
KMI				PP		**PP**		**03 05 41.8**	**-2.4**	
KMI				S		**S**		**03 12 45.0**	**-0.5**	
KMI				pmax		pmax				
	comp=Z,15nm,0.7s									
KMI				pmax		pmax				
	comp=Z,270nm,5.1s									
KMI				LR		LR				
	comp=Z,280nm,16.8s									
KMI				LR		LR				
	comp=Z,470nm,20.0s									
GYA	**Guiyang**	**79.43**	**49**	⇑P		**P**		**03 02 46.5**	**+1.4**	
GYA				S		**S**		**03 12 50.0**	**+3.9**	
GYA				pmax		pmax				
	comp=Z,16nm,2.0s									
GYA				pmax		pmax				
	comp=Z,340nm,5.3s									
GYA				LR		LR				
	comp=Z,350nm,16.4s									
GYA				LR		LR				
	comp=Z,260nm,13.6s									
GYA				LR		LR				
	comp=Z,520nm,16.0s									
BDFB	**Brasilia**	**83.38**	**209**	LR		LR		03 34 06.2		
	comp=Z,398nm,19.9s,baz=349,slow=31									
CHTO	**Chiang Mai**	**83.81**	**59**	P		**P**		**03 03 07.0**	**-1.2**	
CHTO				pmax		pmax				
	comp=Z,31nm,1.5s									
CHTO	**Chiang Mai**	**83.81**	**59**	P		**P**		**03 03 07.0**	**-1.2**	
CHTO				IAmb		IAmb		03 03 10.3		
	comp=Z,31nm,1.5s									
CMAR	**Chiang Mai Arr**	**84.13**	**59**	P		**P**		**03 03 09.8**	**0.0**	
	comp=Z,1.4nm,0.4s,baz=319,slow=5.3,SNR=8.7									
CMAR				LR		LR		03 43 22.9		
	comp=Z,290nm,21.7s,baz=350,slow=38									
CMAR	**Chiang Mai Arr**	**84.13**	**59**	*i* P		**P**		**03 03 09.3**	**-0.6**	
CMAR				pmax		pmax				
	comp=Z,1.0nm,0.4s									
QZH	**Quanzhou**	**84.42**	**39**	⇓*i*P		**P**		**03 03 11.0**	**-0.2**	
QZH				S		**S**		**03 13 39.0**	**+1.8**	
QZH				pmax		pmax				
	comp=Z,320nm,5.8s									
QZH				LR		LR				
	comp=Z,470nm,14.5s									
QZH				LR		LR				
	comp=Z,310nm,15.3s									
QZH				LR		LR				
	comp=Z,440nm,18.2s									
QIZ	**Qiongzhong**	**87.38**	**49**	P		**P**		**03 03 26.3**	**+0.3**	
QIZ				PP		**PP**		**03 06 54.5**	**+4.7**	
QIZ				pmax		pmax				
	comp=Z,13nm,2.0s									
QIZ				pmax		pmax				
	comp=Z,210nm,2.8s									
QIZ				LR		LR				
	comp=Z,300nm,12.8s									
QIZ				LR		LR				
	comp=Z,300nm,12.7s									
QIZ				LR		LR				
	comp=Z,370nm,14.1s									
LPAZ	**La Paz**	**89.40**	**228**	LR		LR		03 42 32.1		
	comp=Z,144nm,18.3s,baz=1.5,slow=35									
CPUP	**Villa Florida**	**95.84**	**215**	LR		LR		03 43 20.9		
	comp=Z,195nm,18.1s,baz=14,slow=33									
BOSA	**Boshof**	**98.76**	**143**	LR		LR		03 51 22.5		
	comp=Z,1μm,18.1s,baz=346,slow=37									
RKT	**Rikitea**	**122.35**	**285**	*e*LR		LR		03 47 29.3		
	comp=Z,682nm,29.5s									
PPT2	**Papeete2**	**123.10**	**302**	*e*LR		LR		03 47 48.7		
	comp=Z,370nm,22.5s									
TBI	**Tubuai**	**128.32**	**299**	*e*LR		LR		03 50 01.5		
	comp=Z,259nm,25.5s									
WRA	**Warramunga Arr**	**131.52**	**36**	PKP		**PKiKP**		**03 09 51.4**	**-0.8**	
	comp=Z,1.4nm,1.1s,baz=335,slow=2.2,SNR=4.7									
WRA	**Warramunga Arr**	**131.52**	**36**	*e i*PKIKP		**PKiKP**		**03 09 53.0**	**+0.8**	
WRA				pmax		pmax				
	comp=Z,4.0nm,1.2s									
WRA	**Warramunga Arr**	**131.52**	**36**			**PKPdf**		**03 09 49.5**	**-1.7**	
ASAR	**Alice Springs**	**134.97**	**38**	PKP		**PKiKP**		**03 09 57.3**	**-1.8**	
	comp=Z,1.5nm,0.9s,baz=355,slow=2.1,SNR=8.2									
ASAR	**Alice Springs**	**134.97**	**38**			**PKPdf**		**03 09 55.9**	**-1.7**	
DZM	**Mont Dzumac**	**137.34**	**355**	*e*LR		LR		03 54 20.3		
	comp=Z,263nm,22.8s									
MAW	**Mawson**	**143.73**	**140**	PKP		**PKPdf**		**03 10 12.0**	**-0.1**	
	comp=Z,1.0nm,0.7s,baz=349,slow=7.3,SNR=4.2									
MAW	**Mawson**	**143.73**	**140**	PKIKP		**PKPdf**		**03 10 11.4**	**-0.7**	
MAW	**Mawson**	**143.73**	**140**			**PKPdf**		**03 10 11.4**	**-0.7**	
BBOO	**Buckleboo**	**144.22**	**40**			**PKPdf**		**03 10 12.8**	**-1.3**	
STKA	**Stephens Creek**	**144.72**	**32**	PKP		**PKPdf**		**03 10 13.0**	**-2.0**	
	comp=Z,3.8nm,0.8s,baz=350,slow=6.2,SNR=8.5									
STKA	**Stephens Creek**	**144.72**	**32**	PKIKP		**PKPdf**		**03 10 13.7**	**-1.3**	
STKA	**Stephens Creek**	**144.72**	**32**			**PKPdf**		**03 10 13.7**	**-1.3**	

IDC ***27*** *02:58:24.8±2.6,5.°10S×145.°23E, h74km±23km, mb3.5/4, mb1 3.9/7, mb1mx3.6/31, mbtmp4.0/7, MS3.5/1, Ms1 3.4/1, ms1mx2.9/22, Error ellipse: s-maj=30.7km s-min=17.5km az=63.0*

NEIC ***27*** *02:58:25.1±1.0,5.°18S±0.°05×145.°3E±0.°1, h84km±11km, mb4.1/11, Error ellipse: s-maj=16.2km s-min=6.2km az=72.0*

ISC 27 02:58:25.8±1.1,5.°2S±0.°1×145.°2E±0.°1, h100km, n22, σ1§49/24, mb4.1/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.63**	**155**	P	**Pn**	**02 59 33.0**	**-0.5**
	7.4nm,0.3s,baz=147,slow=6.8,SNR=6.0						
PMG				S	**Sn**	**03 00 26.7**	**+0.6**
	14nm,0.3s,baz=118,slow=22,SNR=14						
PMG	**Port Moresby**	**4.63**	**155**		**Pn**	**02 59 32.6**	**-0.9**
PMG					**Sn**	**03 00 24.9**	**-1.1**
JAY	**Jayapura**	**5.21**	**300**	P	**Pn**	**02 59 40.9**	**-0.6**
	3.3nm,0.3s,baz=90,slow=2.6,SNR=9.9						
JAY				S	**Sn**	**03 00 41.6**	**+1.2**
	0.8nm,0.3s,baz=349,slow=14,SNR=1.3						
MTN	**Manton Dam**	**15.84**	**240**	Pn	**P**	**03 02 02.7**	**-2.3**
MTN				IAmb	IAmb	03 02 05.1	
	comp=Z,12nm,0.9s						
WB0	**Warramunga Arr**	**17.92**	**215**	P	**Pn**	**03 02 27.1**	**-1.5**
WB0				IAmb	IAmb	03 02 36.6	
	comp=Z,5.2nm,0.8s						
WR0	**Warramunga Arr**	**17.99**	**214**	P	**Pn**	**03 02 29.7**	**+0.2**
WR0				IAmb	IAmb	03 02 31.6	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**18.08**	**215**	P	**Pn**	**03 02 30.6**	**0.0**
WRA	**Warramunga Arr**	**18.09**	**215**	P	**Pn**	**03 02 30.9**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=40,slow=12,SNR=53						
WRA	**Warramunga Arr**	**18.09**	**215**	P	**Pn**	**03 02 30.4**	**-0.3**
KNRA	**Kununurra**	**19.23**	**236**	P	**Pn**	**03 02 42.4**	**-1.9**
AS31	**Alice Springs**	**21.37**	**210**	P	**P**	**03 03 06.1**	**+0.8**
ASAR	**Alice Springs**	**21.37**	**210**	P	**P**	**03 03 07.0**	**+1.7**
	comp=Z,8.1nm,0.9s,baz=32,slow=14,SNR=31						
ASAR	**Alice Springs**	**21.37**	**210**	P	**P**	**03 03 06.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**23.03**	**235**	P	**P**	**03 03 23.5**	**+0.9**
FITZ				IAmb	IAmb	03 03 25.7	
	comp=Z,6.6nm,0.6s						
STKA	**Stephens Creek**	**26.78**	**187**	P	**P**	**03 03 58.0**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=351,slow=7.3,SNR=6.8						
STKA				LR	LR	03 14 34.0	
	comp=Z,112nm,21.1s,baz=204,slow=36						
STKA	**Stephens Creek**	**26.78**	**187**	P	**P**	**03 03 57.3**	**+0.9**
BBOO	**Buckleboo**	**28.79**	**196**	P	**P**	**03 04 16.1**	**+1.7**
BBOO				IAmb	IAmb	03 04 26.5	
	comp=Z,6.3nm,1.1s						
MORW	**Morawa**	**36.42**	**226**	P	**P**	**03 05 21.7**	**+0.7**
MORW				IAmb	IAmb	03 05 28.4	
	comp=Z,2.3nm,0.9s						
VNDA	**Vanda**	**72.84**	**176**	P	P	03 09 46.8	+3.6
	comp=Z,0.7nm,0.7s,baz=335,slow=6.2,SNR=9.4						
ILAR	**Eielson Array**	**85.44**	**23**	P	**P**	**03 10 53.3**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=255,slow=4.9,SNR=9.9						
ILAR	**Eielson Array**	**85.44**	**23**	P	**P**	**03 10 52.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**143.16**	**285**	PKP	**PKiKP**	**03 17 48.4**	**-4.1**
	comp=Z,0.3nm,0.5s,baz=70,slow=3.2,SNR=5.9						

ISK ***27*** *03:15:34.7, 38.°46N×22.°04E, h15km, ML3.5/12*

IDC ***27*** *03:15:35.5±0.9, 38.°50N×22.°28E, h0km, mb3.6/8, mb1 3.7/12, mb1mx3.5/53, mbtmp3.6/12, ML3.2/4, Error ellipse: s-maj=18.8km s-min=15.7km az=147.0*

ATH ***27*** *03:15:35.8, 38.°47N×22.°16E, h18km±1km, ML3.6/38, Error ellipse: s-maj=1.0km s-min=0.5km az=255.0*

THE ***27*** *03:15:36.5, 38.°46N×22.°18E, h2km±1km, ML3.6/24, Error ellipse: s-maj=1.2km s-min=0.4km az=272.0*

ISC 27 03:15:36.7±0.7, 38.°48N±0.°01×22.°16E±0.°01, h11km±3km, n181, σ1§14/241, mb3.6/7, 9C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SERG	**Sergoula**	**0.10**	**234**	P	**Pg**	**03 15 38.8**	**-0.7**
SERG				S	**Sg**	**03 15 40.6**	**-0.8**
	317μm,0.4s						
SERG	**Sergoula**	**0.10**	**234**	P	**Pg**	**03 15 38.8**	**-0.7**
SERG				S	**Sg**	**03 15 40.7**	**-0.7**
TRIZ	**Trizonia**	**0.13**	**213**	P	**Pg**	**03 15 39.3**	**-0.5**
TRIZ				S	**Sg**	**03 15 41.6**	**-0.4**
	126μm,0.3s						
TRIZ	**Trizonia**	**0.13**	**213**	P	**Pg**	**03 15 39.2**	**-0.5**
TRIZ				S	**Sg**	**03 15 41.8**	**-0.2**
EFP	**Efpalio**	**0.21**	**257**	P	**Pg**	**03 15 40.8**	**-0.3**
EFP				S	**Sb**	**03 15 44.4**	**+0.3**
	73μm,0.3s						
EFP	**Efpalio**	**0.21**	**257**	P	**Pg**	**03 15 40.7**	**-0.3**
EFP				S	**Sb**	**03 15 44.3**	**+0.3**
EFP				AML	AML	03 15 44.6	
EFP				AML	AML	03 15 45.5	
	comp=E,98951μm,0.2s						
ALIK	**Aliki, Aigiali**	**0.22**	**191**	P	**Pg**	**03 15 41.2**	**0.0**
ANX	**Ano Chora**	**0.22**	**302**	P	**Pb**	**03 15 41.1**	**-1.8**
ANX				S	**Sb**	**03 15 44.9**	**+0.3**
	comp=E,26μm,0.2s						
ANX	**Ano Chora**	**0.22**	**302**	P	**Pb**	**03 15 41.2**	**-1.8**
ANX				S	**Sb**	**03 15 45.1**	**+0.4**
ANX				AML	AML	03 15 45.5	
	comp=N,50704μm,0.3s						
ANX				AML	AML	03 15 47.6	
	comp=E,54698μm,0.2s						
DLFA	**Delphi**	**0.26**	**89**	P	**Pg**	**03 15 41.7**	**-0.4**
DLFA				S	**Sg**	**03 15 46.1**	**+0.4**
DLFA				AML	AML	03 15 46.8	
	comp=E,72087μm,0.4s						
DLFA				AML	AML	03 15 46.8	
	comp=N,81165μm,0.4s						
LAKA	**Lakka**	**0.28**	**212**	P	**Pg**	**03 15 42.0**	**-0.3**
LAKA				S	**Sg**	**03 15 45.8**	**-0.3**
DSF	**Desfina**	**0.29**	**102**	P	**Pg**	**03 15 42.2**	**-0.5**
DSF				S	**Sg**	**03 15 46.9**	**+0.3**
	comp=N,57μm,0.2s						
DSF	**Desfina**	**0.29**	**102**	P	**Pg**	**03 15 42.2**	**-0.5**
DSF				S	**Sg**	**03 15 46.9**	**+0.3**
DSF				AML	AML	03 15 47.3	
DSF				AML	AML	03 15 48.8	
	comp=E,62576μm,0.3s						
KLV	**Kalavryta, Ach**	**0.43**	**181**	P	**Pg**	**03 15 44.5**	**-0.7**
KLV				S	**Sg**	**03 15 50.7**	**-0.2**
KLV	**Kalavryta, Ach**	**0.43**	**181**	P	**Pg**	**03 15 44.5**	**-0.7**
KLV				S	**Sg**	**03 15 50.

AGG AML AML 03 16 00.5
comp=N,6157µm,0.3s
AGG Agios Georgios 0.56 13 PG **Pg** **03 15 47.0 -0.7**
AGG SG **Sb** **03 15 56.1 -0.6**
DRO Drossia 0.63 214 P **Pg** **03 15 48.1 -0.9**
DRO S **Sb** **03 15 58.4 -0.3**
comp=N,5µm,0.3s
DRO Drossia 0.63 214 P **Pg** **03 15 48.1 -0.9**
DRO S **Sg** **03 15 56.5 -0.8**
DRO AML AML 03 16 02.4
comp=N,11822µm,0.3s
DRO AML AML 03 16 02.9
comp=E,8967µm,0.3s
AXS Araxos 0.68 246 P **Pb** **03 15 49.3 -1.2**
AXS S **Sb** **03 15 59.0 -1.0**
AXS AML AML 03 16 01.0
comp=N,10106µm,0.5s
AXS AML AML 03 16 02.4
comp=E,3011µm,0.2s
LKR Lokris 0.68 75 P **Pg** **03 15 48.7 -1.1**
LKR S **Sg** **03 15 59.6 +0.8**
comp=E,9µm,0.2s
LKR Lokris 0.68 75 P **Pg** **03 15 48.9 -1.0**
LKR S **Sg** **03 15 59.0 +0.2**
LKR AML AML 03 16 00.9
comp=N,21700µm,0.3s
LKR AML AML 03 16 01.1
comp=E,15809µm,0.2s
RLS Riolos of Patr 0.69 233 P **Pg** **03 15 49.4 -0.6**
RLS S **Sb** **03 16 00.0 -0.3**
comp=E,3µm,0.5s
RLS Riolos of Patr 0.69 233 P **Pg** **03 15 49.5 -0.6**
RLS S **Sb** **03 15 59.3 -0.9**
RLS AML AML 03 16 02.3
comp=E,7542µm,0.5s
RLS AML AML 03 16 02.5
comp=N,4434µm,0.4s
LTK Loutraki 0.78 125 P **Pg** **03 15 50.8 -0.9**
LTK Loutraki 0.78 125 P **Pg** **03 15 50.9 -0.9**
LTK S **Sg** **03 16 01.8 -0.1**
LTK AML AML 03 16 07.1
comp=E,4773µm,0.5s
LTK AML AML 03 16 10.4
comp=N,6234µm,0.4s
LOUT Loutraki 0.80 127 P **Pg** **03 15 51.4 -0.8**
LOUT Loutraki 0.80 127 P **Pg** **03 15 51.4 -0.8**
AST1 Astakos 0.84 275 P **Pn** **03 15 52.8 -1.8**
AST1 S **Sn** **03 16 06.5 -0.5**
VIL2 Platees 0.91 106 P **Pb** **03 15 54.0 -0.5**
VIL2 AML AML 03 16 11.0
comp=N,12718µm,0.7s
VIL2 AML AML 03 16 18.9
comp=E,13301µm,0.6s
TRIP Tripoli 0.95 175 P **Pb** **03 15 53.6 -1.6**
TRIP S **Sb** **03 16 07.3 -0.6**
comp=E,3µm,0.5s
TRIP Tripoli 0.95 175 P **Pb** **03 15 53.8 -1.4**
TRIP S **Sb** **03 16 06.6 -1.3**
TRIP AML AML 03 16 16.7
comp=N,6418µm,0.6s
TRIP AML AML 03 16 18.9
comp=E,5402µm,0.6s
VTN Vitineika 0.95 234 P **Pg** **03 15 54.7 -0.3**
VTN Vitineika 0.95 234 P **Pg** **03 15 54.5 -0.5**
VILL Villia 0.96 109 P **Pb** **03 15 53.8 -1.5**
AMT Artemida-Makis 1.01 201 P **Pb** **03 15 55.1 -1.1**
AMT Artemida-Makis 1.01 201 P **Pb** **03 15 55.0 -1.1**
AMT AML AML 03 16 13.4
comp=N,6332µm,0.4s
AMT AML AML 03 16 24.4
comp=E,5494µm,0.5s
VOL3 Nea Ionia, Vol 1.08 34 P **Pb** **03 15 53.6 -3.8**
THL Klokotos Trika 1.09 354 P **Pb** **03 15 56.6 -1.1**
THL Klokotos Trika 1.09 354 P **Pn** **03 15 57.4 -0.6**
THL AML AML 03 16 15.6
comp=E,7149µm,0.8s
THL AML AML 03 16 16.1
comp=N,4053µm,0.7s
VLX Vlachokerasia 1.12 171 P **Pb** **03 15 56.7 -1.4**
VLX S **Sb** **03 16 13.0 +0.3**
comp=N,4µm,0.6s
VLX Vlachokerasia 1.12 171 P **Pb** **03 15 56.5 -1.6**
VLX S **Sb** **03 16 12.4 -0.3**
VLX AML AML 03 16 18.1
comp=E,6700µm,0.6s
VLX AML AML 03 16 21.7
comp=N,6621µm,0.7s
NEO Neokhori 1.17 45 P **Pn** **03 15 57.5 -1.6**
NEO S **Sg** **03 16 16.1 +1.6**
comp=N,2µm,0.5s
NEO Neokhori 1.17 45 P **Pn** **03 15 57.7 -1.5**
NEO AML AML 03 16 18.6
comp=E,3401µm,0.4s
NEO AML AML 03 16 18.9
comp=N,4799µm,0.5s
XOR Xorichti 1.20 42 P **Pn** **03 15 57.9 -1.6**
XOR S **Sn** **03 16 15.3 -0.5**
comp=N,1µm,0.5s
XOR Xorichti 1.20 42 P **Pn** **03 15 57.9 -1.6**
XOR AML AML 03 16 19.4
comp=E,2266µm,0.7s
XOR AML AML 03 16 22.1
comp=N,2682µm,0.8s
LKD2 Lefkada island 1.22 285 P **Pg** **03 15 59.0 -1.2**
LKD2 Lefkada island 1.22 285 P **Pg** **03 15 58.9 -1.2**
SKIA Skiathos 1.23 55 P **Pn** **03 15 58.9 -1.0**
SKIA Skiathos 1.23 55 P **Pn** **03 15 59.2 -0.7**
SKIA S **Sn** **03 16 16.7 +0.2**
SKIA AML AML 03 16 17.6
comp=E,2315µm,0.6s
SKIA AML AML 03 16 20.3
comp=N,2470µm,0.5s
FSK Fiskardo 1.26 270 P **Pg** **03 15 59.7 -1.1**
FSK S **Sg** **03 16 19.1 +1.9**
comp=N,2µm,0.6s
FSK Fiskardo 1.26 270 P **Pg** **03 15 59.5 -1.3**
FSK AML AML 03 16 23.7
comp=E,3821µm,0.6s
FSK AML AML 03 16 28.2
comp=N,2597µm,0.6s
VSK1 VASILIKIADES 1.26 267 P **Pn** **03 15 58.2 -2.1**
VLS Valsamata 1.27 257 P **Pn** **03 15 59.4 -1.1**
VLS S **Sg** **03 16 19.3 +1.6**
VLS Valsamata 1.27 257 P **Pb** **03 15 59.7 -1.0**
VLS AML AML 03 16 27.9
comp=N,3162µm,0.8s
VLS AML AML 03 16 28.0
comp=E,2203µm,0.9s
DID Didima 1.29 138 P **Pn** **03 15 59.7 -1.0**
DID S **Sg** **03 16 19.6 +1.5**
comp=E,2µm,0.6s
DID Didima 1.29 138 P **Pn** **03 15 59.7 -1.0**
DID AML AML 03 16 22.8
comp=N,4576µm,0.6s
DID AML AML 03 16 23.6
comp=E,4570µm,0.5s
ITM Ithomi 1.31 188 P **Pn** **03 16 00.0 -0.9**
ITM Ithomi 1.31 188 P **Pn** **03 16 00.2 -0.7**
ITM AML AML 03 16 25.6
comp=N,2679µm,0.6s
ITM AML AML 03 16 25.7
comp=E,2567µm,0.7s
ATH Athens Observa 1.32 112 P **Pn** **03 16 01.2 +0.1**
ATH S **Sn** **03 16 19.4 +0.6**
comp=E,4µm,0.8s
ATH Athens Observa 1.32 112 P **Pn** **03 16 01.2 +0.1**
ATH AML AML 03 16 24.2
comp=E,6628µm,0.5s
ATH AML AML 03 16 24.7
comp=N,6640µm,0.4s
VLMS Volimes, Zakyn 1.32 244 P **Pb** **03 16 00.6 -1.0**
VLMS AML AML 03 16 27.7
comp=E,2968µm,0.6s
VLMS AML AML 03 16 32.5
comp=N,4179µm,0.5s
KRI1 kERI 1.34 233 P **Pb** **03 16 00.8 -1.0**
KEF5 Kardakata, Kep 1.35 262 P **Pb** **03 16 00.9 -1.0**
ATHU Athens Univers 1.37 111 P **Pn** **03 16 01.7 -0.2**
ATHU S **Sb** **03 16 21.8 +1.8**
comp=N,785nm,0.6s
ATHU Athens Univers 1.37 111 P **Pn** **03 16 01.8 0.0**
ATHU S **Sn** **03 16 20.8 +0.7**
ATHU AML AML 03 16 25.3
comp=N,1755µm,0.5s
ATHU AML AML 03 16 25.6
comp=E,1328µm,0.7s
KEF4 Livadi, Kephal 1.38 262 P **Pb** **03 16 01.4 -1.2**
PTL Penteli 1.41 107 P **Pn** **03 16 02.3 0.0**
PTL S **Sb** **03 16 22.7 +1.7**
PTL Penteli 1.41 107 P **Pn** **03 16 02.2 0.0**
PTL S **Sn** **03 16 21.2 +0.4**
PTL AML AML 03 16 26.0
comp=E,5899µm,0.5s
PTL AML AML 03 16 27.3
comp=N,4663µm,1.0s
VLY Voula,Athens 1.43 115 P **Pn** **03 16 02.5 -0.1**
VLY Voula,Athens 1.43 115 P **Pn** **03 16 02.5 -0.1**
VLY AML AML 03 16 27.4
comp=E,5026µm,0.4s
VLY AML AML 03 16 30.7
comp=N,3067µm,0.6s
DION Dionisos Attik 1.45 105 P **Pn** **03 16 03.0 +0.1**
DION S **Sn** **03 16 22.1 +0.2**
comp=N,7µm,0.6s
DION Dionisos Attik 1.45 105 P **Pn** **03 16 03.0 +0.1**
DION S **Sn** **03 16 23.1 +1.2**
DION AML AML 03 16 29.4
comp=N,15328µm,0.7s
DION AML AML 03 16 29.8
comp=E,13358µm,0.5s
KEF3 Kipouria, Keph 1.45 260 P **Pg** **03 16 03.7 -0.9**
AOS Alonnisos 1.51 62 P **Pn** **03 16 03.2 -0.5**
AOS S **Sn** **03 16 23.2 -0.2**
comp=E,835nm,0.5s
AOS Alonnisos 1.51 62 P **Pn** **03 16 03.2 -0.5**
AOS AML AML 03 16 31.3
comp=E,1667µm,0.5s
AOS AML AML 03 16 31.6
comp=N,1688µm,0.5s
AOS Alonnisos 1.51 62 PN **Pn** **03 16 03.3 -0.5**
AOS SN **Sn** **03 16 23.9 +0.5**
YDRA Hydra 1.52 137 P **Pn** **03 16 04.6 +0.7**
KYMI Kymi, Euboea I 1.53 83 P **Pn** **03 16 03.0 -1.0**
KYMI S **Sn** **03 16 24.9 +1.1**
comp=N,1µm,0.6s
KYMI Kymi, Euboea I 1.53 83 P **Pn** **03 16 03.3 -0.6**
KYMI AML AML 03 16 29.6
comp=E,2852µm,0.6s
KYMI AML AML 03 16 31.8
comp=N,3076µm,0.5s
JAN Janina 1.56 320 P **Pg** **03 16 05.9 -0.8**
JAN Janina 1.56 320 P **Pg** **03 16 05.3 -1.4**
KPRO Kipourio 1.60 337 P **Pg** **03 16 06.1 -1.4**
KPRO Kipourio 1.60 337 P **Pg** **03 16 06.0 -1.5**
PYL PYLOS 1.61 192 P **Pn** **03 16 05.4 +0.3**
PYL PYLOS 1.61 192 P **Pn** **03 16 05.4 +0.3**
LIT Litokhoron 1.64 9 P **Pb** **03 16 05.7 -1.4**
LIT Litokhoron 1.64 9 P **Pb** **03 16 05.8 -1.2**
KARY Karystos 1.84 103 P **Pn** **03 16 08.6 +0.3**
KARY Karystos 1.84 103 P **Pn** **03 16 08.6 +0.3**
KARY S **Sn** **03 16 33.2 +1.5**
KARY AML AML 03 16 41.3
comp=E,1328µm,0.4s
KARY AML AML 03 16 43.8
comp=N,1494µm,0.7s
VLI Velíai 1.86 160 P **Pn** **03 16 08.6 +0.1**
VLI Velíai 1.86 160 P **Pn** **03 16 08.5 0.0**
VLI AML AML 03 16 42.3
comp=N,2374µm,0.5s
VLI AML AML 03 16 44.4
comp=E,2483µm,1.0s
PAIG Paliouri 1.87 39 P **Pn** **03 16 08.0 -0.6**
PAIG Paliouri 1.87 39 P **Pn** **03 16 08.1 -0.6**
PENT Pentalofos 1.89 336 P **Pg** **03 16 13.6 +0.6**
NEST Nestorio 2.12 336 P **Pb** **03 16 14.5 -0.7**
PLG Polygyros 2.14 27 P **Pn** **03 16 12.1 -0.4**
PLG Polygyros 2.14 27 P **Pn** **03 16 12.2 -0.2**
SRN Sarande 2.19 311 P **Pg** **03 16 16.2 -2.5**
KEK Kerkira 2.22 305 P **Pb** **03 16 16.4 -0.4**
HORT Hortiatis 2.24 19 P **Pn** **03 16 13.6 -0.2**
HORT Hortiatis 2.24 19 P **Pn** **03 16 13.6 -0.2**
HORT Hortiatis 2.24 19 PN **Pn** **03 16 13.3 -0.6**
SERI Serifos 2.26 125 P **Pn** **03 16 14.2 +0.1**
SERI Serifos 2.26 125 P **Pn** **03 16 14.0 0.0**
KTHA Kythira Island 2.33 162 P **Pn** **03 16 16.1 +1.1**
KTHA Kythira Island 2.33 162 P **Pn** **03 16 16.1 +1.1**
OUR Ouranopolis 2.33 37 P **Pn** **03 16 15.0 0.0**
OUR Ouranopolis 2.33 37 P **Pn** **03 16 14.9 0.0**
OUR Ouranopolis 2.33 37 PN **Pn** **03 16 15.0 0.0**
SOH Sokhos 2.52 21 P **Pn** **03 16 18.2 +0.6**
LIA Limnos Island 2.74 58 P **Pn** **03 16 20.5 -0.2**
ANKY Antikythira Is 2.76 160 P **Pn** **03 16 22.1 +1.2**
VAY Valadovo 2.86 6 *i* Pn **Pn** **03 16 23.2 +0.9**
THAS Thassos island 2.91 42 P **Pn** **03 16 22.2 -0.7**
SIGR SIGRI 2.98 75 PN **Pn** **03 16 23.9 0.0**
APE Apeiranthos 3.02 117 ⇑P **Pn** **03 16 26.2 +1.7**
CHOS Chios island 3.06 90 P **Pn** **03 16 25.8 +0.7**
CHOS Chios island 3.06 90 PN **Pn** **03 16 25.9 +0.8**
NVR Nevrokopi 3.15 24 P **Pn** **03 16 26.3 -0.1**
STIP Stip 3.22 0 *i* Pn **Pn** **03 16 28.9 +1.7**
BOZC Bozcaada 3.32 64 PN **Pn** **03 16 28.8 +0.2**
IMMV Iera Moni Meta 3.34 154 P **Pn** **03 16 29.1 +0.2**
SANT Santorini 3.36 128 ⇑P **Pn** **03 16 31.0 +1.8**
GADA Gvkgeada 3.37 58 PN **Pn** **03 16 28.9 -0.3**
URLA Izmir 3.48 91 PN **Pn** **03 16 31.9 +1.0**
EZN Ezine 3.51 66 PN **Pn** **03 16 31.9 +0.8**
RDO Rodhopi 3.72 43 PN **Pn** **03 16 34.3 +0.1**
DKL Dikili 3.75 79 PN **Pn** **03 16 34.9 +0.3**
ALN Alexandroupoli 3.85 50 PN **Pn** **03 16 36.6 +0.7**
GELI Tayfur-Gelibol 3.85 59 PN **Pn** **03 16 35.9 0.0**
IDI Anoyia 3.86 145 Pn **Pn** **03 16 36.5 +0.4**
comp=E,2.4nm,0.3s,baz=324,slow=13,SNR=19
IDI Sn **Sn** **03 17 20.9 -0.6**
comp=E,3.1nm,0.3s,baz=313,slow=15,SNR=3.8
IDI Anoyia 3.86 145 P **Pn** **03 16 36.9 +0.8**
IDI Anoyia 3.86 145 ⇓P **Pn** **03 16 37.5 +1.4**
LPK Lapseki 4.03 61 PN **Pn** **03 16 39.0 +0.6**
KDZ Kurdzhali 4.04 37 PN **Pn** **03 16 38.1 -0.4**
GCAM G?zelcaml? 4.08 99 PN **Pn** **03 16 40.0 +1.0**
TIP Timpagrande 4.28 281 ⇑P **Pn** **03 16 44.8 +2.9**
TIP ⇓S **Sn** **03 17 34.9 +3.1**
UKOP Uzunkopru-Edir 4.34 51 PN **Pn** **03 16 43.1 +0.4**
RKY Sarkoy-Tekirda 4.46 59 PN **Pn** **03 16 45.1 +0.8**
PDG Podgorica 4.53 332 ⇑P **Pn** **03 16 47.9 +2.7**
PDG ⇑S **Sn** **03 17 41.5 +3.6**
MATE Matera 4.74 299 ⇓P **Pn** **03 16 51.0 +2.8**
DBRK Dubrovnik 5.19 325 *e*Pn **Pn** **03 16 55.0 +0.8**
STON Ston 5.55 324 *e*Pn **Pn** **03 17 00.1 +0.9**
STON Sn **Sn** **03 18 01.9 -1.0**
MAKA Makarska 6.19 323 *e*Pn **Pn** **03 17 08.8 +0.8**
MAKA Sn **Sn** **03 18 16.1 -2.6**
VAE Valguarnera 6.20 263 Pn Pn 03 17 12.4 +4.1
comp=E,0.5nm,0.3s,baz=51,slow=13,SNR=1.2
VAE Sn **Sn** **03 18 23.1 +3.8**
comp=E,0.5nm,0.3s,baz=0.0,slow=8.1,SNR=1.4
RICI Ricice 6.29 324 *e*Pn **Pn** **03 17 10.7 +1.2**
HVAR Hvar 6.39 319 *e*Pn **Pn** **03 17 11.3 +0.5**
KIJV Kijevo 7.02 324 *e*Pn **Pn** **03 17 20.8 +1.3**
KIJV Sn **Sn** **03 18 38.2 -1.1**
ZIRJ Zirje 7.14 318 *e*Pn **Pn** **03 17 22.2 +1.1**
BZS Buzias 7.15 357 ⇑P **Pn** **03 17 23.2 +2.0**
MORI Morici 7.26 320 *e*Pn **Pn** **03 17 23.6 +0.9**
MORI Sn **Sn** **03 18 43.7 -1.4**
VOIR 7.28 16 ⇑P **Pn** **03 17 24.5 +1.4**
MLR Muntele Rosu 7.55 21 Pn **Pn** **03 17 27.7 +0.8**
comp=E,0.3nm,0.3s,baz=202,slow=7.0,SNR=8.3
MLR Muntele Rosu 7.55 21 ⇑P **Pn** **03 17 29.1 +2.3**
DUGI Dugi Otok 7.68 318 *e*Pn **Pn** **03 17 30.3 +1.8**
PLOR Plostina 8.09 23 ⇑P **Pn** **03 17 36.5 +2.4**
VRI Vrincioaia 8.12 23 ⇓P **Pn** **03 17 37.3 +2.6**
NVLJ Novalja 8.18 320 *e*Pn **Pn** **03 17 35.8 +0.5**
BRTR Keskin Array B 9.01 78 Pn **Pn** **03 17 48.0 +1.1**
comp=E,0.2nm,0.3s,baz=249,slow=12,SNR=2.5
VYHS Vyhne 10.30 348 *e*PN Pn 03 18 08.9 +4.5
ESDC Sonseca Array 20.30 282 P Pn 03 20 15.0 +0.3
comp=E,2.9nm,0.9s,baz=77,slow=9.4,SNR=17
HFS Hagfors 22.33 349 P **P** **03 20 34.7 +0.5**
comp=E,1.4nm,0.6s,baz=163,slow=10,SNR=2.7
NB2 NORSAR Subarra 23.60 347 P **P** **03 20 49.7 +2.3**
comp=Z,2.4nm,1.1s,baz=158,slow=9.3
NOA NORSAR Array B 23.60 347 P **P** **03 20 47.2 -0.2**
comp=Z,0.5nm,0.7s,baz=154,slow=8.0,SNR=3.7
EKA Eskdalemuir Ar 23.95 323 P **P** **03 20 49.8 -1.0**
comp=Z,1.2nm,0.7s,baz=124,slow=9.9,SNR=2.2
TORD Torodi Ar. Bea 31.09 221 P **P** **03 21 55.9 +0.8**
comp=Z,0.9nm,0.6s,baz=37,slow=9.1,SNR=15
KURBB Kurchatov Arra 41.01 54 P **P** **03 23 17.6 -2.1**
comp=Z,0.4nm,0.6s,baz=276,slow=8.6,SNR=7.6
MKAR Makanchi Array 44.04 59 P **P** **03 23 44.8 +0.3**
comp=Z,0.9nm,0.5s,baz=270,slow=6.7,SNR=10
ZALV Zalesovo Beam 44.53 48 P **P** **03 23 49.5 +1.3**
comp=Z,0.8nm,0.4s,baz=280,slow=10,SNR=2.7

TAP ***27*** *03:19:52.9, 23.93N×122.12E, h26km, ML2.7, D*
JMA ***27*** *03:19:52.6±0.1, 23.90N×122.16E, h31km±3km, M2.2*
ISC 27 03:19:52.6±1.1**, 23.91N**±0.02×**122.15E**±0.02**, h29**km±11km**,**
n67,σ0s45/97,1C-7D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res ISC
HWA	**Hwalien**	**0.51**	**278**	*e*P		**Pb**	**03 20 03.1**	**0.0**
	baz=275							
TWD	**Chiawan**	**0.54**	**289**	⇓*e*P		**Pb**	**03 20 03.8**	**+0.2**
	baz=288							
TWD					S	**Sn**	**03 20 11.6**	**-0.8**
	baz=288							
NACB	**Ninganchiao**	**0.57**	**298**	⇓P		**Pb**	**03 20 04.2**	**0.0**
	baz=297							
NACB					S	**Sn**	**03 20 12.6**	**-0.7**
	baz=297							
ENAH	**Nanao**	**0.62**	**330**	*e*P		**Pn**	**03 20 05.5**	**0.0**
	baz=331							
ENA	**Nanau**	**0.64**	**324**	*i* P		**Pb**	**03 20 05.4**	**+0.1**
	baz=325							
ENA				*e*S		**Sn**	**03 20 15.0**	**+0.1**
	baz=325							
ESL	**Shilin**	**0.67**	**262**	*e*P		**Pb**	**03 20 05.6**	**-0.1**
	baz=259							
ESL				S		**Sn**	**03 20 15.2**	**-0.3**
	baz=259							
ETLH	**Xiulin Townshi**	**0.68**	**296**	⇓P		**Pb**	**03 20 06.0**	**-0.1**
	baz=295							
ETLH				S		**Sn**	**03 20 15.6**	**-0.5**
	baz=295							
EGFH	**Guangfu**	**0.70**	**250**	*i* P		**Pb**	**03 20 06.6**	**0.0**
	baz=247							
TWC	**Suao**	**0.75**	**338**	*i* P		**Pb**	**03 20 07.2**	**0.0**
	baz=340							
TWC				*e*S		**Sb**	**03 20 17.3**	**+0.1**
	baz=340							
HGSD	**Ruisui**	**0.79**	**238**	*e*P		**Pn**	**03 20 07.8**	**+0.1**
	baz=235							
HGSD				*e*S		**Sn**	**03 20 19.2**	**+0.8**
	baz=235							
WHF	**Hehuan Shan**	**0.84**	**286**	⇓P		**Pb**	**03 20 08.6**	**-0.4**
	baz=285							
WHF				*e*S		**Sn**	**03 20 20.2**	**-0.3**
	baz=285							
EHY	**Hungye**	**0.86**	**242**	*e*P		**Pn**	**03 20 08.8**	**+0.1**
	baz=239							
NNSB	**Datong**	**0.87**	**307**	*i* P		**Pn**	**03 20 08.9**	**-0.1**
	baz=306							
NNSB				S		**Sn**	**03 20 20.7**	**-0.1**
	baz=306							
NNSH	**Datong**	**0.87**	**307**	P		**Pn**	**03 20 08.8**	**-0.2**
	baz=306							
NNSH				*e*S		**Sb**	**03 20 20.5**	**-0.2**
	baz=306							
NNS	**Nan Shan**	**0.89**	**307**	P		**Pn**	**03 20 09.2**	**0.0**
	baz=307							
NNS				*e*S		**Sn**	**03 20 21.2**	**0.0**
	baz=307							
FUSS	**Fushou**	**0.90**	**292**	P		**Pn**	**03 20 09.5**	**0.0**
	baz=291							
FUSS				*e*S		**Sn**	**03 20 22.0**	**+0.4**
	baz=291							
ENTT	**Nioudou**	**0.91**	**324**	P		**Pn**	**03 20 09.5**	**+0.2**
	baz=324							
JYNG	**Yonagunijimaku**	**0.91**	**53**	P		**Pn**	**03 20 09.2**	**-0.1**
JYNG				*e*S		**Sb**	**03 20 21.2**	**-0.3**
NDT	**Datong Townshi**	**0.91**	**320**	P		**Pn**	**03 20 09.4**	**0.0**
	baz=320							
NDT				*e*S		**Sn**	**03 20 21.4**	**0.0**
	baz=320							
CHGB	**Renai**	**0.91**	**280**	⇓P		**Pn**	**03 20 09.7**	**+0.1**
	baz=278							
CHGB				*e*S		**Sn**	**03 20 22.0**	**+0.2**
	baz=278							
TWE	**Neicheng**	**0.92**	**331**	P		**Pn**	**03 20 09.8**	**+0.2**
	baz=333							
ILA	**Ilan**	**0.93**	**337**	*e*P		**Pn**	**03 20 09.9**	**+0.2**
	baz=338							
YULB	**Yu-li**	**0.94**	**237**	⇓*e*P		**Pn**	**03 20 10.0**	**+0.2**
	baz=234							
YULB				*e*S		**Sn**	**03 20 22.4**	**+0.2**
	baz=234							
VWDT	**VWDT**	**0.94**	**261**	⇓P		**Pb**	**03 20 10.5**	**+0.2**
	baz=259							
VWDT				*e*S		**Sn**	**03 20 23.2**	**+1.0**
	baz=259							
EYUL	**Yuli**	**0.94**	**234**	P		**Pb**	**03 20 10.6**	**+0.1**
	baz=231							
TWT	**Tachien**	**0.96**	**291**	*e*P		**Pb**	**03 20 11.1**	**+0.3**
	baz=290							
TWF1	**Yuli**	**0.96**	**235**	⇑P		**Pb**	**03 20 10.6**	**-0.1**
	baz=232							
YOJ	**Yonaguni jima**	**0.96**	**55**	*e*P		**Pn**	**03 20 10.1**	**0.0**
	baz=56							
YOJ				*e*S		**Sn**	**03 20 22.8**	**0.0**
	baz=56							
YOJ	**Yonaguni jima**	**0.96**	**55**	P		**Pn**	**03 20 10.1**	**0.0**
YOJ				*e*S		**Sn**	**03 20 22.5**	**-0.3**
TDCB	**Techi**	**0.97**	**291**	*e*P		**Pb**	**03 20 10.8**	**-0.1**
	baz=290							
NTC	**Toucheng**	**0.99**	**343**	*e*P		**Pb**	**03 20 10.9**	**-0.2**
	baz=344							
YHNB	**Yeheng**	**1.04**	**317**	P		**Pn**	**03 20 11.5**	**+0.3**
	baz=317							
YHNB				*e*S		**Sn**	**03 20 24.4**	**-0.5**
	baz=317							
NWLT	**Wulai**	**1.05**	**326**	*e*P		**Pb**	**03 20 12.3**	**+0.1**
	baz=326							
NWLT				*e*S		**Sn**	**03 20 24.7**	**-0.4**
	baz=326							
FULB	**Fuli**	**1.06**	**228**	*e*P		**Pb**	**03 20 12.4**	**+0.1**
	baz=226							
FULB				*e*S		**Sb**	**03 20 25.9**	**0.0**
	baz=226							
CHKT	**Chengkung**	**1.08**	**222**	*e*P		**Pn**	**03 20 11.6**	**-0.2**
	baz=219							
TIPB	**Shuangxi**	**1.10**	**344**	P		**Pb**	**03 20 12.7**	**-0.4**
	baz=345							
TIPB				*e*S		**Sn**	**03 20 26.2**	**-0.1**
	baz=345							
SSLB	**Suanglung**	**1.10**	**264**	P		**Pb**	**03 20 12.9**	**-0.2**
	baz=262							
SMLT	**Sun Moon Lake**	**1.15**	**269**	*e*P		**Pb**	**03 20 13.5**	**-0.4**
	baz=267							
WHP	**Taichung City**	**1.16**	**289**	*e*P		**Pb**	**03 20 14.4**	**+0.2**
	baz=288							
TYC	**Yuchr**	**1.19**	**270**	*e*P		**Pb**	**03 20 14.1**	**-0.4**
	baz=268							
TWA	**Mucha**	**1.19**	**334**	*e*P		**Pn**	**03 20 13.7**	**+0.5**
	baz=335							
EDH	**Donghe**	**1.21**	**220**	*e*P		**Pn**	**03 20 13.4**	**-0.2**
	baz=218							
ELDTW	**Lidau**	**1.26**	**236**	*e*P		**Pn**	**03 20 14.5**	**+0.1**
	baz=233							
ELDTW				*e*S		**Sn**	**03 20 29.3**	**-1.2**
	baz=233							
LIOB	**Emei**	**1.27**	**306**	*e*P		**Pb**	**03 20 16.0**	**0.0**
	baz=305							
NSTT	**Nanjuang**	**1.27**	**305**	*e*P		**Pb**	**03 20 15.9**	**0.0**
	baz=304							
ALS	**Alishan**	**1.30**	**253**	*e*P		**Pb**	**03 20 16.3**	**-0.2**
	baz=250							
YM01	**YM01**	**1.34**	**337**	*e*P		**Pn**	**03 20 16.2**	**+0.8**
	baz=337							
YM01				*e*S		**Sn**	**03 20 32.9**	**+0.5**
	baz=337							
YM04	**YM04**	**1.36**	**336**	*e*S		**Sn**	**03 20 33.2**	**+0.4**
	baz=336							
LONT	**Longtian**	**1.37**	**224**	*e*S		**Sb**	**03 20 34.1**	**-0.6**
	baz=221							
LDUT	**Ludao**	**1.38**	**207**	*e*P		**Pn**	**03 20 16.1**	**+0.2**
	baz=205							
CHN5	**Tsauling**	**1.39**	**257**	*e*P		**Pb**	**03 20 17.7**	**-0.2**
	baz=256							
IRIF	**Iriomote-Funau**	**1.50**	**73**	P		**Pn**	**03 20 17.8**	**+0.2**
IRIF				*e*S		**Sn**	**03 20 36.6**	**+0.4**
HATJ	**Hateruma jima**	**1.52**	**84**	P		**Pn**	**03 20 18.2**	**+0.4**
HATJ				*e*S		**Sn**	**03 20 36.8**	**+0.2**
TPUB	**Ta-pu**	**1.52**	**247**	*e*P		**Pb**	**03 20 19.9**	**-0.2**
	baz=245							
WTP	**Ta-pu**	**1.56**	**245**	*e*P		**Pb**	**03 20 20.5**	**-0.4**

	baz=243								
CHN1	**Nanshi**	**1.65**	**245**	*eP*		**Pb**	03 20 22.1	**-0.4**	
	baz=243								
TWK	**Hsinying**	**1.65**	**248**	*eP*		**Pb**	03 20 22.1	**-0.4**	
	baz=246								
SLGT	**Liugui**	**1.66**	**237**	*eP*		**Pb**	03 20 21.8	**-0.7**	
	baz=235								
JKRS	**Kuro-shima**	**1.73**	**79**	P		**Pn**	03 20 21.6	**+0.9**	
JKRS				*eS*		**Sn**	03 20 42.8	**+1.0**	
JIJ	**Ishigaki jima**	**1.88**	**76**	P		**Pn**	03 20 22.6	**-0.1**	
JIJ				*eS*		**Sn**	03 20 44.5	**-0.9**	
MASBT	**Mashibuluo**	**1.90**	**228**	*eP*		**Pn**	03 20 24.5	**+1.5**	
	baz=226								
JISG	**Ishigakijimahi**	**2.08**	**71**	P		**Pn**	03 20 25.5	**-0.1**	
JISG				*eS*		**Sn**	03 20 49.3	**-1.2**	
WDGT	**Dungji**	**2.38**	**255**	*eP*		**Pn**	03 20 30.8	**+1.2**	
	baz=253								
JTJ	**Tarama**	**2.44**	**72**	P		**Pn**	03 20 30.9	**+0.5**	
VWUC	**VWUC**	**2.69**	**294**	*eP*		**Pn**	03 20 33.7	**-0.2**	
	baz=293								
PTMZ	**Houxiangcun**	**2.98**	**293**	*eP*		**Pn**	03 20 37.9	**-0.1**	
	baz=292								
MATB	**Ma-tsu**	**3.00**	**319**	*eP*		**Pn**	03 20 38.9	**+0.8**	
	baz=317								

IDC ***27*** *03:20:17.3±4.1,34°.72N×75°.18E,h0km,mb3.9/5, mb1 3.8/8,mb1mx3.5/67,mbtmp3.8/8,ML3.4/3,MS3.8/2, Ms1 3.8/2,ms1mx3.0/35,Error ellipse: s-maj=85.5km s-min=28.9km az=120.0*

NNC ***27*** *03:20:33.4±4.6,35°.34N×74°.53E,h71km±51km,mb3.5, mpv3.7,Error ellipse: s-maj=38.9km s-min=30.8km az=89.0*

ISC 27 03:20:28.2±0.9,35°.09N±0°.08×75°.7E±0°.1,h100km,n27, σ1s19/27,mb3.8/4,4C-3D,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**2.65**	**179**	*eP*	**Pn**	**03 21 10.5**	**+1.3**
THN				*eS*	Sn	03 21 20.5	-20
AAK	**Ala-Archa**	**7.60**	**353**	Pn	**Pn**	**03 22 17.5**	**+1.2**
AAK	0.8nm,0.3s,baz=174,slow=10,SNR=2.4				Sn	**03 23 39.5**	**-1.3**
AAK	0.6nm,0.3s,baz=49,slow=17,SNR=6.0 **Ala-Archa**	**7.60**	**353**	⇓S	**Sn**	**03 23 40.9**	**+0.1**
TKM2	7.1nm,0.7s **Tokmak 2**	**7.83**	**360**	⇑P	**Pn**	**03 22 21.3**	**+1.9**
TKM2	3.0nm,0.4s			⇑S	**Sn**	**03 23 46.2**	**-0.2**
KK31	7.1nm,0.8s **Karatay Array**	**8.96**	**335**	⇓P	**Pn**	**03 22 32.3**	**-2.4**
KK31	0.6nm,0.3s,baz=144,slow=11,SNR=11			⇓S	Sn	03 24 05.5	-8.2
PYUN	9.5nm,0.5s,baz=151,slow=22,SNR=23 **Piuthan**	**9.34**	**136**	*eP*	**Pn**	**03 22 40.2**	**0.0**
KOLN	17nm,0.2s **Koldanda**	**9.94**	**135**	*eP*	**Pn**	**03 22 48.3**	**0.0**
GKN	9.1nm,0.3s **Gorkha**	**10.40**	**130**	*eP*	**Pn**	**03 22 54.4**	**-0.1**
DMN	33nm,0.2s **Daman**	**10.97**	**130**	*eP*	**Pn**	**03 23 01.8**	**-0.5**
PKI	**Pulchoki**	**11.19**	**129**	*eP*	**Pn**	**03 23 04.5**	**-0.8**
GUN	8.2nm,0.2s **Gumba**	**11.26**	**127**	*eP*	**Pn**	**03 23 05.1**	**-1.2**
JIRN	15nm,0.3s **Jiri**	**11.63**	**127**	*eP*	**Pn**	**03 23 10.3**	**-1.0**
RAMN	52nm,0.4s **Ramite**	**12.38**	**128**	*eP*	**Pn**	**03 23 20.0**	**-1.2**
MKAR	4.5nm,0.3s **Makanchi Array**	**12.71**	**21**	Pn	**Pn**	**03 23 26.5**	**+1.3**
TAPN	0.2nm,0.3s,baz=194,slow=11,SNR=6.8 **Taplejung**	**12.85**	**124**	*eP*	**Pn**	**03 23 25.5**	**-2.0**
ODAN	5.0nm,0.2s **Odare**	**12.96**	**126**	*eP*	**Pn**	**03 23 27.2**	**-1.6**
KURBB	7.6nm,0.4s **Kurchatov Arra**	**15.67**	**7**	Pn	**P**	**03 24 04.6**	**-0.6**
AB01	0.1nm,0.3s,baz=195,slow=10,SNR=4.7 **Akbulak array**	**18.29**	**326**	⇑P	**P**	**03 24 32.7**	**-1.3**
AB31	0.5nm,0.6s **Akbulak array**	**18.29**	**326**	S	S	03 27 46.6	-11
AKTO	1.5nm,0.5s,baz=134,slow=24,SNR=4.7 **Aktyubinsk**	**20.01**	**325**	P	**P**	**03 24 52.4**	**-0.3**
AKTO	4.0nm,0.4s,baz=118,slow=11,SNR=15 **Aktyubinsk**	**20.01**	**325**	⇑P	**P**	**03 24 52.5**	**-0.2**
FINES	4.2nm,0.5s **FINESS Array B**	**40.78**	**326**	P	**P**	**03 28 00.6**	**+1.3**
HFS	2.2nm,0.7s,baz=128,slow=9.8,SNR=7.4 **Hagfors**	**46.52**	**322**	P	**P**	**03 28 46.2**	**+1.0**
NB2	0.6nm,0.3s,baz=81,slow=8.9,SNR=6.0 **NORSAR Subarra**	**47.78**	**324**	P	**P**	**03 28 56.2**	**+1.1**
NOA	comp=Z,0.3nm,0.5s,baz=92,slow=7.9 **NORSAR Array B**	**47.78**	**324**	P	**P**	**03 28 56.0**	**+0.9**
NOA	comp=Z,0.3nm,0.4s,baz=111,slow=7.6,SNR=5.4			LR	LR	03 50 19.6	
TORD	comp=Z,56nm,18.9s,baz=120,slow=38 **Torodi Ar. Bea**	**69.53**	**272**	P	**P**	**03 31 25.9**	**-0.6**
STKA	comp=Z,0.9nm,0.6s,baz=48,slow=5.0,SNR=16 **Stephens Creek**	**90.92**	**129**	LR	LR	04 20 20.3	
	comp=Z,85nm,18.9s,baz=238,slow=40						

WEL 27 03:31:19.6±0.8,37°.S±8°×17°.7E±°,h257km±6km,M3.3/33, MLv3.3/33,Error ellipse: s-maj=0.0km s-min=0.0km az=126.9,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.12**	**159**	P	Pn	03 31 56.4	+0.4
HAZ				S	S	03 32 25.2	+0.6
MXZ	**Matakaoa Point**	**1.18**	**136**	P	Pn	03 31 57.2	+0.8
MXZ				S	S	03 32 26.7	+1.3
KUZ	**Kuaotunu**	**1.25**	**268**	P	Pn	03 31 56.0	-0.8
RUGZ	**Raukumara Rang**	**1.29**	**166**	P	Pn	03 31 57.3	0.0
RUGZ				S	S	03 32 25.4	-1.6
WMGZ	**Waiomatatini S**	**1.43**	**141**	P	Pn	03 31 54.8	-3.2
WMGZ				S	S	03 32 29.3	+0.9
URZ	**Urewera**	**1.55**	**185**	P	Pn	03 31 59.3	+0.4
URZ				S	S	03 32 30.2	+0.2
PUZ	**Puketiti**	**1.57**	**150**	P	Pn	03 32 00.1	+1.0
PUZ				S	S	03 32 30.3	+0.1
MWZ	**Matawai**	**1.63**	**173**	P	Pn	03 32 00.6	+1.0
MWZ				S	S	03 32 31.8	+0.5
WIAZ	**Waiheke Island**	**1.72**	**267**	P	Pn	03 31 59.9	-0.4
TKGZ	**Te Karaka**	**1.78**	**165**	P	Pn	03 32 01.2	+0.4
TKGZ				S	S	03 32 33.3	0.0
MUGZ	**Murupara**	**1.81**	**193**	P	Pn	03 32 01.3	+0.3
MUGZ				S	S	03 32 34.2	+0.5
RTZ	**Ruatahuna**	**1.92**	**187**	P	Pn	03 32 02.2	+0.3
RTZ				S	S	03 32 35.4	-0.1
RIGZ	**Rimuhau**	**2.03**	**169**	P	Pn	03 32 04.2	+1.3
RIGZ				S	S	03 32 38.1	+0.9
SNGZ	**Shannon Statio**	**2.07**	**179**	P	Pn	03 32 03.8	+0.6
SNGZ				S	S	03 32 38.3	+0.5
TLZ	**Tolley Road**	**2.13**	**220**	P	Pn	03 32 04.4	+0.6
MTHZ	**Maungataniwha**	**2.17**	**189**	S	S	03 32 39.4	-0.1
RAHZ	**Arahi**	**2.21**	**184**	S	S	03 32 40.3	+0.3
KNZ	**Kokohu**	**2.33**	**172**	P	Pn	03 32 06.3	+0.7
WHHZ	**Waihua**	**2.36**	**181**	P	Pn	03 32 07.0	+1.0
NMHZ	**Naumai**	**2.41**	**189**	P	Pn	03 32 07.3	+0.8
NMHZ				S	S	03 32 44.5	+0.8
BKZ	**Black Stump Fm**	**2.53**	**194**	P	Pn	03 32 07.4	-0.2
ARHZ	**Aropaoanui**	**2.56**	**185**	P	Pn	03 32 08.5	+0.6
WTVZ	**West Tongariro**	**2.75**	**209**	P	Pn	03 32 10.2	+0.3
OTVZ	**Oturere**	**2.76**	**207**	P	Pn	03 32 10.3	+0.1
MCHZ	**McNeill Hill**	**2.77**	**189**	P	Pn	03 32 10.6	+0.6
KWHZ	**Kaweka Forest**	**2.79**	**194**	P	Pn	03 32 10.4	+0.1
NGZ	**Ngauruhoe**	**2.79**	**208**	P	Pn	03 32 11.0	+0.5
TUVZ	**Tukino**	**2.86**	**206**	P	Pn	03 32 11.1	0.0
WHVZ	**Whangaehu Hut**	**2.89**	**207**	P	Pn	03 32 11.4	-0.1
WNVZ	**Wahianoa**	**2.93**	**206**	P	Pn	03 32 11.7	-0.2
BHHZ	**Black Hill Sta**	**2.93**	**199**	P	Pn	03 32 11.6	-0.3
MOVZ	**Moawhango**	**2.95**	**204**	P	Pn	03 32 11.3	-0.6
PKVZ	**Pokaka**	**2.99**	**210**	P	Pn	03 32 12.4	0.0
KRHZ	**Kereru**	**3.01**	**193**	P	Pn	03 32 12.3	-0.4
MTVZ	**Mangateitei**	**3.02**	**208**	P	Pn	03 32 12.8	0.0
KAHZ	**Kahuranaki**	**3.09**	**186**	P	Pn	03 32 13.6	+0.1
VRZ	**Vera Road**	**3.12**	**219**	P	Pn	03 32 14.8	+1.0
PNHZ	**Pukenui**	**3.31**	**195**	P	Pn	03 32 15.1	-0.8
PXZ	**Pawanui**	**3.33**	**185**	P	Pn	03 32 15.7	-0.3
TSZ	**Takapari Road**	**3.50**	**197**	P	Pn	03 32 17.0	-1.0
PRHZ	**Porangahau**	**3.58**	**188**	P	Pn	03 32 18.3	-0.6
PKE	**Pukeiti**	**3.59**	**225**	P	Pn	03 32 20.3	+1.3
ANWZ	**Angora Road**	**3.79**	**189**	P	Pn	03 32 20.7	-0.6
POWZ	**Post Office Ro**	**3.86**	**197**	P	Pn	03 32 20.7	-1.4
BFZ	**Birch Farm**	**4.04**	**191**	P	Pn	03 32 22.8	-1.4
MRZ	**Mangatainoka R**	**4.16**	**198**	P	Pn	03 32 23.7	-1.8
TIWZ	**Tintock**	**4.20**	**195**	P	Pn	03 32 24.9	-1.2
HOWZ	**Holdsworth Sta**	**4.40**	**198**	P	Pn	03 32 26.4	-2.0
OGWZ	**Otaki Gorge**	**4.42**	**201**	P	Pn	03 32 26.6	-1.9
TMWZ	**Te Maipa**	**4.52**	**193**	P	Pn	03 32 28.3	-1.4
KIW	**Kapiti Island**	**4.54**	**203**	P	Pn	03 32 27.7	-2.3
MTW	**Mount Morrison**	**4.65**	**197**	P	Pn	03 32 29.2	-2.1
CAW	**Cannon Point**	**4.71**	**201**	P	Pn	03 32 29.8	-2.3
TRWZ	**Traveller**	**4.84**	**194**	P	Pn	03 32 32.1	-1.5
DUWZ	**D'Urville Isla**	**4.85**	**212**	P	Pn	03 32 31.4	-2.4
PAWZ	**Paruwai Farm**	**4.88**	**197**	P	Pn	03 32 32.3	-1.8
MSWZ	**Moikau Station**	**4.96**	**198**	P	Pn	03 32 32.6	-2.4
BHW	**Baring Head**	**5.05**	**201**	P	Pn	03 32 33.5	-2.6
TCW	**Tory Channel**	**5.06**	**207**	P	Pn	03 32 33.9	-2.4
PLWZ	**Palliser**	**5.10**	**197**	P	Pn	03 32 34.3	-2.5
TUWZ	**Tuamarina**	**5.38**	**208**	P	Pn	03 32 37.7	-2.4
NNZ	**Nelson**	**5.43**	**213**	P	Pn	03 32 37.9	-2.9
QRZ	**Quartz Range**	**5.53**	**221**	P	Pn	03 32 38.9	-3.1
BSWZ	**Blackbirch Sta**	**5.65**	**207**	P	Pn	03 32 41.2	-2.3
THZ	**Tophouse**	**6.08**	**213**	P	Pn	03 32 47.1	-1.8
KHZ	**Kahutara**	**6.39**	**206**	P	Pn	03 32 49.9	-2.6
DSZ	**Denniston Nort**	**6.58**	**219**	P	Pn	03 32 51.3	-3.7
GVZ	**Greta Valley S**	**7.05**	**206**	P	Pn	03 32 58.0	-2.8
LTZ	**Lake Taylor**	**7.18**	**211**	P	Pn	03 32 59.3	-3.3
INZ	**Inchbonnie**	**7.50**	**215**	P	Pn	03 33 03.5	-3.0
OKCZ	**Okains Bay**	**7.71**	**203**	P	Pn	03 33 06.8	-2.4
MQZ	**McQueen's Vall**	**7.83**	**205**	P	Pn	03 33 07.1	-3.5
RPZ	**Rata Peaks**	**8.46**	**212**	P	Pn	03 33 15.3	-3.3
ARCZ	**Arundel**	**8.60**	**211**	P	Pn	03 33 16.7	-3.6
ODZ	**Otahua Downs**	**9.72**	**209**	P	Pn	03 33 32.0	-2.4
JCZ	**Jackson Bay**	**9.79**	**219**	P	Pn	03 33 28.2	-7.4

IDC ***27*** *04:14:58.6±1.1,7°.06S×147°.25E,h0km,mb4.0/6, mb1 4.1/7,mb1mx3.8/36,mbtmp4.0/7,ML2.5/1,Error ellipse: s-maj=51.7km s-min=19.9km az=92.0*

NEIC ***27*** *04:15:05.5±1.9,7°.34S±0°.10×146°.9E±0°.1,h53km±7km, mb4.1/12,Error ellipse: s-maj=20.8km s-min=13.9km az=90.0*

ISC 27 04:15:03.3±0.8,7°.21S±0°.07×147°.0E±0°.2,h33km,n27, σ0s97/28,mb4.1/9,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.19**	**176**	Pn	**Pn**	**04 15 36.8**	**-0.6**
PMG	116nm,0.3s,baz=20,slow=7.8,SNR=56			Sn	**Sn**	**04 16 04.9**	**+1.7**
PMG	45nm,0.3s,baz=250,slow=1.4,SNR=3.7 **Port Moresby**	**2.19**	**176**		**Pn**	**04 15 37.0**	**-0.3**
PMG					**Sn**	**04 16 03.9**	**+0.7**
COEN	**Coen**	**7.69**	**209**	Pn	**Pn**	**04 16 52.4**	**-0.7**
CTAO	**Charters Tower**	**12.82**	**183**	Pn	**Pn**	**04 18 04.1**	**+0.7**
WB0	**Warramunga Arr**	**17.48**	**223**		**Pn**	**04 19 04.2**	**-0.5**
WB0	comp=Z,9.6nm,1.1s			IAmb	IAmb	04 19 04.8	
WB2	**Warramunga Arr**	**17.63**	**223**		**Pn**	**04 19 07.1**	**+0.6**
WB2	comp=Z,4.9nm,0.7s			IAmb	IAmb	04 19 13.6	
WRA	**Warramunga Arr**	**17.64**	**223**	P	**Pn**	**04 19 05.9**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=51,slow=12,SNR=14						
WRA	**Warramunga Arr**	**17.64**	**223**	P	**Pn**	**04 19 06.1**	**-0.6**
KNRA	**Kununurra**	**19.75**	**243**	P	**P**	**04 19 30.2**	**-0.3**
KNRA	comp=Z,12nm,0.9s			IAmb	IAmb	04 19 39.3	
AS31	**Alice Springs**	**20.64**	**216**	P	**P**	**04 19 40.0**	**-0.2**
ASAR	**Alice Springs**	**20.64**	**216**	P	Pn	04 19 43.3	+0.6
	comp=Z,4.2nm,0.8s,baz=33,slow=13,SNR=28						
ASAR	**Alice Springs**	**20.64**	**216**	P	**P**	**04 19 39.9**	**-0.3**
STKA	**Stephens Creek**	**25.05**	**191**	P	**P**	**04 20 26.9**	**+2.2**
	comp=Z,1.2nm,0.7s,baz=344,slow=18,SNR=2.7						
STKA	**Stephens Creek**	**25.05**	**191**	P	**P**	**04 20 23.7**	**-1.0**
CAN	**Canberra**	**28.04**	**177**	P	**P**	**04 20 49.7**	**-1.9**
CAN	comp=Z,9.9nm,1.1s			IAmb	IAmb	04 21 02.2	
TPUB	**Ta-pu**	**39.81**	**320**	P	**P**	**04 22 34.4**	**+0.8**
KSRS	**Korea Array**	**47.88**	**339**	P	**P**	**04 23 39.1**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=158,slow=8.1,SNR=4.8						
MK31	**Makanchi Array**	**78.43**	**321**	P	**P**	**04 27 00.7**	**-0.2**
MK31	comp=Z,4.1nm,1.1s			IAmb	IAmb	04 27 05.7	
MKAR	**Makanchi Array**	**78.43**	**321**	P	**P**	**04 27 01.2**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=99,slow=7.1,SNR=12						
MAKZ	**Makanchi**	**78.63**	**321**	P	**P**	**04 27 01.1**	**-0.9**
MAKZ	comp=Z,5.2nm,0.9s			IAmb	IAmb	04 27 06.7	
ZAA0	**Zalesovo Array**	**80.03**	**328**	P	**P**	**04 27 09.6**	**+0.2**
ZAA0	comp=Z,2.3nm,1.1s			IAmb	IAmb	04 27 13.7	
ZALV	**Zalesovo Beam**	**80.03**	**328**	P	**P**	**04 27 09.0**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=101,slow=6.0,SNR=4.4						
NIL	**Nilore**	**80.63**	**306**	P	**P**	**04 27 12.4**	**-0.7**
ILAR	**Eielson Array**	**86.59**	**23**	P	**P**	**04 27 42.0**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=252,slow=4.6,SNR=7.2						
ILAR	**Eielson Array**	**86.59**	**23**	P	**P**	**04 27 42.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**145.38**	**283**	PKPbc	**PKPbc**	**04 34 39.3**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=77,slow=3.3,SNR=22						
BDFB	**Brasilia**	**152.85**	**147**	PKPbc	**PKPbc**	**04 35 00.0**	**+1.8**
	comp=Z,1.9nm,0.7s,baz=124,slow=5.8,SNR=3.7						

IDC ***27*** *04:21:08.0±2.0,11°.20N×123°.68E,h0km,mb3.9/5, mb1 4.1/6,mb1mx3.7/41,mbtmp4.0/6,ML4.6/1,MS2.7/2, Ms1 2.8/2,ms1mx2.4/59,Error ellipse: s-maj=120.4km s-min=21.5km az=62.0*

MAN ***27*** *04:21:09.7,10°.72N×121°.57E,h25km,MS3.7*

MAN Intensity III - San Jose, Antique; Intensity II - Sibalom, Antique.

ISC 27 04:21:08.8±1.4,10°.69N±0°.05×121°.62E±0°.04,h15km±10km, n19,σ1s57/24,mb3.8/4,1D,Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAP	**San Jose, Anti**	**0.33**	**80**	*i*P	**Pg**	**04 21 13.9**	**-1.6**
CUYO	**Cuyo Island**	**0.61**	**285**	*e*P	**Pn**	**04 21 22.5**	**-0.5**
CUYO				*e*S	**Sb**	**04 21 30.9**	**+1.3**
GUIM	**Jordan**	**0.96**	**94**	*e*P	**Pb**	**04 21 26.6**	**-0.4**
GUIM				*e*S	**Sg**	**04 21 40.3**	**+0.4**
OTRP	**Odiongan**	**1.71**	**13**	*e*P	**Pn**	**04 21 36.6**	**-1.5**
OTRP				*e*S	**Sn**	**04 21 59.9**	**+0.2**
BUSP	**Coron**	**1.91**	**313**	*e*P	**Pn**	**04 21 40.1**	**-0.8**
BUSP				*e*S	**Sn**	**04 22 02.9**	**-1.8**
ENPP	**El Nido**	**2.21**	**284**	*e*P	**Pn**	**04 21 45.4**	**+0.4**
ENPP				*e*S	**Sn**	**04 22 11.4**	**-0.7**
LLP	**Lapu-Lapu**	**2.34**	**99**	*e*P	**Pn**	**04 21 48.6**	**+1.9**
LLP				*e*S	**Sb**	**04 22 17.9**	**-1.5**
TBP	**Tagbilaran**	**2.42**	**114**	*e*P	**Pn**	**04 21 49.2**	**+1.3**
TBP				*e*S	Sn	04 22 04.0	-13
BOAC	**Boac**	**2.76**	**5**	*e*P	**Pn**	**04 21 52.5**	**0.0**
BOAC				*e*S	**Sn**	**04 22 22.4**	**-3.4**
MSLP	**Maasin**	**3.24**	**100**	*e*P	**Pn**	**04 22 00.7**	**+1.6**
MSLP				*e*S	**Sn**	**04 22 39.2**	**+1.8**
LQP	**Lukban**	**3.40**	**359**	*e*P	**Pg**	**04 22 17.2**	**+3.2**
TGY	**Tagaytay City**	**3.46**	**349**	Pn	**Pb**	**04 22 10.5**	**+0.7**
TGY	39nm,0.3s,baz=322,slow=4.4,SNR=5.7			Sn	**Sn**	**04 22 44.0**	**+1.0**
DAV	36nm,0.3s,baz=151,slow=10,SNR=1.5 **Davao City (W)**	**5.31**	**132**	LR	LR	04 24 19.1	
BATI	comp=Z,55nm,21.3s,baz=245,slow=42 **Baumata**	**20.86**	**174**	P	Pn	04 25 56.7	+3.8
CMAR	19nm,0.4s,baz=60,slow=14,SNR=2.0 **Chiang Mai Arr**	**23.25**	**292**	LR	LR	04 35 35.9	
WRA	comp=Z,23nm,19.7s,baz=185,slow=35 **Warramunga Arr**	**32.91**	**158**	P	**P**	**04 27 42.4**	**-0.4**
	0.7nm,0.5s,baz=339,slow=9.4,SNR=5.4						
ASAR	**Alice Springs**	**36.20**	**161**	P	**P**	**04 28 11.2**	**0.0**
	0.8nm,0.6s,baz=344,slow=7.1,SNR=8.7						
STKA	**Stephens Creek**	**46.45**	**156**	P	**P**	**04 29 34.2**	**-1.0**
	1.4nm,0.7s,baz=341,slow=18,SNR=2.4						
MKAR	**Makanchi Array**	**48.98**	**325**	P	P	04 30 01.9	+7.1
	0.4nm,0.7s,baz=139,slow=9.0,SNR=3.6						

MAN 27 04:36:34.3,6°.92N×126°.27E,h24km,mb3.9,ML2.7,MS2.3, Mindanao

IDC ***27*** *04:48:54.4±0.4,41°.13N×143°.21E,h0km,mb4.9/39, mb1 4.9/44,mb1mx4.8/58,mbtmp4.9/44,ML4.1/5,MS5.0/41, Ms1 5.0/41,ms1mx4.9/46,Error ellipse: s-maj=12.5km s-min=10.8km az=88.0*

BJI ***27*** *04:48:56.6±0.0,41°.03N×143°.10E,h31km,mB5.4/70, mb5.3/91,Ms5.3/92,Ms7 5.1/89*

NIED ***27*** *04:48:58.8,41°.04N×143°.19E,h42km,MW5.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁷Nm; Mrr1.00; Mθθ-0.33; Mφφ-0.67; Mrθ0.27; Mrφ-0.85; Mθφ1.31; Fault plane solution: M₀1.81000×10¹⁷ NP1:φs17.00000°, δ71.00000°,λ70.00000°. NP2:φs245.00000°,δ27.00000°, λ134.00000°.*

JMA ***27*** *04:48:58.7±0.1,41°.04N×143°.19E,h42km,M5.4 Broadband fault plane solution: P waves. NP1: φs168.00000°,δ14.00000°,λ51.00000°. NP2:φs27.00000°, δ79.00000°,λ99.00000°. Principal axes: T Plg55.0000°, Azm308.0000°; N Plg8.0000°, Azm206.0000°; P Plg34.0000°, Azm110.0000°;*

JMA Felt II J1.

NEIC ***27*** *04:48:58.4±0.9,41°.07N±0°.04×143°.2E±0°.1,h26km±1km, mb5.4/383,Mwb5.4/64,Mwc5.4(GCMT) Error ellipse: s-maj=13.8km s-min=7.2km az=101.0*

NEIC ***27*** *04:48:58.9,41°.10N×143°.11E,h25km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.98; Mθθ0.02; Mφφ-0.99; Mrθ0.41; Mrφ-0.17; Mθφ1.06; Fault plane solution: M₀1.51000×10¹⁷ NP1:φs179.88000°, δ21.50000°,λ72.86000°. NP2:φs18.23000°,δ69.50000°, λ96.62000°. Principal axes: T 1.5050, Plg65.0000°, Azm299.0000°; N 0.0171, Plg6.0000°, Azm196.0000°; P -1.5221, Plg24.0000°, Azm103.0000°;*

BGR ***27*** *04:48:58.9±0.0,41°.27N×143°.69E,h36km±2km,mb5.5, mB_BB5.8,Ms5.5*

MOS ***27*** *04:48:58.6±0.9,41°.14N×143°.09E,h38km,mb5.7/67, MS5.2/35,Error ellipse: s-maj=6.1km s-min=3.7km az=113.5*

GCMT ***27*** *04:49:01.4±0.1,41°.10N±0°.01×143°.28E±0°.01,h30km, MW5.4/146,Moment Tensor Solution. s122,c226; s146,c280; Duration: 1s3 Moment tensor: Scale 10¹⁷ Nm; Mrr1.27±.02; Mθθ-0.10±.01; Mφφ-1.17±.02; Mrθ0.62±.03; Mrφ-0.38±.01; Mθφ1.17±.03; Best double couple: M₀1.84400×10¹⁷ NP1:φs190.00000°,δ23.00000°, λ76.00000°. NP2:φs25.00000°,δ68.00000°,λ96.00000°. Principal axes: T 1.8430, Plg66.0000°, Azm305.0000°; N 0.0010, Plg5.0000°, Azm203.0000°; P -1.8450, Plg23.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***27*** *04:49:02,41°.06N×143°.39E,h33km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.21; Mθθ-0.01; Mφφ-1.20; Mrθ0.65; Mrφ-0.48; Mθφ1.14; Fault plane solution: M₀1.85000×10¹⁷ NP1:φs190.00000°, δ23.00000°,λ74.00000°. NP2:φs27.00000°,δ68.00000°, λ97.00000°. Principal axes: T 1.7759, Plg66.0000°, Azm309.0000°; N 0.1327, Plg6.0000°, Azm205.0000°; P -1.9086, Plg23.0000°, Azm112.0000°;*

ISC 27 04:48:58.3±0.4,41°.10N±0°.03×143°.24E±0°.03,h28km±2km, h28km:pP-P,n1399,σ1s50/1427,mb5.4/350,MS5.3/108, 128C-31D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**0.92**	**356**	P	**Pb**	**04 49 16.2**	**+0.5**
ERM						04 49 28.7	
ERM	**Erimo**	**0.92**	**356**		**Pb**	**04 49 16.2**	**+0.5**
ERM				Sn	**Sn**	**04 49 28.7**	**+1.0**
JEM	**Erimo**	**0.92**	**356**	⇑P	**Pb**	**04 49 16.2**	**+0.5**
JEM				*e*S	**Sn**	**04 49 28.9**	**+1.1**
JTHR	**Tokachihiroo**	**1.20**	**2**	⇑P	**Pb**	**04 49 20.2**	**-0.1**
JTHR				*e*S	**Sb**	**04 49 36.1**	**+0.7**
JNBK	**Urakawa-nobuka**	**1.24**	**343**	⇑P	**Pb**	**04 49 21.0**	**-0.1**
JNBK				*e*S	**Sb**	**04 49 36.3**	**-0.3**
JARK	**Aomorirokkasho**	**1.42**	**267**	⇓P	**Pn**	**04 49 21.9**	**-0.4**
JAHD	**Aomorihigashid**	**1.44**	**277**	⇓P	**Pn**	**04 49 22.6**	**0.0**
JKEN	**Kujiedanarisaw**	**1.46**	**233**	⇓P	**Pn**	**04 49 22.1**	**-0.8**
JANG	**Nango**	**1.50**	**242**	⇓P	**Pn**	**04 49 22.9**	**-0.4**
JANG				*e*S	**Sn**	**04 49 40.2**	**-1.7**
JCH	**Churui**	**1.52**	**3**	⇑P	**Pn**	**04 49 24.4**	**+0.7**
JCH				*e*S	**Sb**	**04 49 44.1**	**-0.6**
JTM	**Tenmabayashi**	**1.67**	**260**	⇓P	**Pn**	**04 49 26.0**	**+0.2**
JOT	**Ohata**	**1.68**	**281**	⇓P	**Pn**	**04 49 26.1**	**+0.3**
JBT2	**Biratori 2**	**1.80**	**339**	⇑P	**Pb**	**04 49 29.1**	**-1.6**
JIAM	**Iburiatsuma**	**1.81**	**328**	⇑P	**Pb**	**04 49 30.2**	**-0.7**
JKZ	**Kuzumaki**	**1.83**	**233**	P	**Pn**	**04 49 28.2**	**+0.2**
JKB	**Kayabe**	**1.84**	**296**	P	**

JFFD	**Fukushimafurud**	**4.51 208**	P	**Pn**	**04 50 04.8**	**0.0**
JFY	**Yanaizu**	**4.59 218**	⇑P	**Pn**	**04 50 07.5**	**+1.5**
JSD	**Sado**	**4.91 233**	⇑P	**Pn**	**04 50 11.7**	**+1.4**
JHO	**Hitachi**	**4.94 206**	P	**Pn**	**04 50 10.0**	**-0.7**
JIZZ	**Izumozaki**	**5.00 226**	⇑P	**Pn**	**04 50 13.9**	**+2.4**
JHK	**Hiroka**	**5.05 222**	⇑P	**Pn**	**04 50 13.6**	**+1.4**
JKT	**Katashina**	**5.33 217**	⇑P	**Pn**	**04 50 17.8**	**+1.7**
KUR	**Kuril'sk**	**5.34 38***d*	*i*P	**Pn**	**04 50 17.6**	**+1.4**
KUR			*i*S	**Sn**	**04 51 16.4**	**-0.4**
KUR			pmax	pmax		
	comp=E,201nm,0.5s					
KUR			pmax	pmax		
	comp=Z,972nm,0.5s					
KUR			pmax	pmax		
	comp=N,249nm,0.3s					
KUR			smax	smax		
	comp=E,11μm,2.6s					
KUR			smax	smax		
	comp=N,8μm,2.5s					
KUR			smax	smax		
	comp=E,1μm,0.6s					
KUR			smax	smax		
	comp=N,854nm,0.5s					
KUR			MLR	MLR		
	comp=Z,10μm,14.0s					
KUR			MLR	MLR		
	comp=N,9μm,10.0s					
JAG	**Ashikaga**	**5.52 214**	⇑P	**Pn**	**04 50 19.4**	**+0.7**
JJN	**Nakama**	**5.61 226**	⇑P	**Pn**	**04 50 21.9**	**+2.0**
JSZ	**Suzu**	**5.83 233**	P	**Pn**	**04 50 24.6**	**+1.6**
JHG	**Hegura jima**	**5.87 238**	⇑P	**Pn**	**04 50 25.4**	**+2.0**
YSS	**Yuzh-Sakhalins**	**5.87 357***c*	*i*P	**Pn**	**04 50 25.1**	**+1.7**
YSS			*e*S	**Sn**	**04 51 30.4**	**+0.7**
YSS			pmax	pmax		
	comp=Z,1μm,5.7s					
YSS			MLR	MLR		
	comp=Z,12μm,17.0s					
YSS			MLR	MLR		
	comp=N,9μm,18.0s					
YSS			MLR	MLR		
	comp=E,5μm,18.0s					
YSS	**Yuzh-Sakhalins**	**5.87 357**	Pn	**Pn**	**04 50 24.0**	**+0.6**
MAJO	**Matsushiro**	**6.01 222***c*	*i*P	**Pn**	**04 50 26.7**	**+1.3**
MAJO	**Matsushiro**	**6.01 222**	P	**Pn**	**04 50 24.9**	**-0.5**
MAT	**Matsushiro**	**6.01 222**	P	**Pn**	**04 50 26.8**	**+1.4**
MAT			*e*S	**Sn**	**04 51 33.0**	**-0.3**
MAT	**Matsushiro**	**6.01 222**	P	**Pn**	**04 50 26.9**	**+1.5**
MJAR	**Matsushiro Arr**	**6.01 222**	Pn	**Pn**	**04 50 26.6**	**+1.2**
	comp=E,2.7nm,0.3s,baz=22,slow=12,SNR=186					
MJAR			LR	LR	04 53 07.1	
	comp=E,13μm,20.1s,baz=55,slow=42					
JRY	**Ryogami san**	**6.10 215**	P	**Pn**	**04 50 27.1**	**+0.4**
JNG	**Nsakai**	**6.17 222**	P	**Pn**	**04 50 29.3**	**+1.6**
TEY	**Ternei**	**6.25 311**⇓	*e*P	**Pn**	**04 50 29.4**	**+0.7**
TEY			pmax	pmax		
	comp=E,70nm,1.5s					
TEY			pmax	pmax		
	comp=Z,70nm,1.5s					
TEY			pmax	pmax		
	comp=N,50nm,1.6s					
JJH	**Hakui**	**6.53 232**	P	**Pn**	**04 50 35.0**	**+2.5**
BSO1	**Boso 1**	**6.67 196**	P	**Pn**	**04 50 33.0**	**-1.0**
JGN	**Niukaw**	**6.72 225**	P	**Pn**	**04 50 37.2**	**+2.0**
JYTA	**Yamagatataniai**	**7.50 225**	P	**Pn**	**04 50 47.4**	**+1.5**
UGL	**Uglegorsk**	**8.03 354**	*e*P	Pn	04 50 44.1	-8.9
UGL			pmax	pmax		
	comp=Z,67nm,0.4s					
UGL			MLR	MLR		
	comp=N,6μm,15.0s					
UGL			MLR	MLR		
	comp=Z,7μm,17.0s					
UGL			MLR	MLR		
	comp=E,5μm,16.0s					
JHJ2	**Mitsune**	**8.42 200**	Pn	**Pn**	**04 50 58.4**	**-0.1**
JHJ	**Hachijo jima 2**	**8.43 200**	Pn	**Pn**	**04 50 58.2**	**-0.4**
	comp=E,52nm,0.3s,baz=335,slow=21,SNR=14					
JHJ			Sn	**Sn**	**04 52 25.4**	**-7.4**
	comp=E,106nm,0.3s,baz=104,slow=22,SNR=8.2					
VLA	**Vladivostok**	**8.68 287***ce*	P	**Pn**	**04 51 04.7**	**+2.7**
VLA			pmax	pmax		
	comp=Z,124nm,1.2s					
USA0B	**Ussuriysk Arra**	**8.85 294**	P	**Pn**	**04 51 05.4**	**+1.0**
USA0B	**Ussuriysk Arra**	**8.85 294**	Pn	**Pn**	**04 51 05.3**	**+1.0**
USRK	**Ussuriysk Ar.**	**8.85 294**	Pn	**Pn**	**04 51 05.6**	**+1.2**
	baz=101,slow=14,SNR=52					
USRK			LR	LR	04 54 47.6	
	comp=Z,17μm,18.3s,baz=84,slow=40					
TYV	**Tymovskoe**	**9.78 358**	*e*P	**Pn**	**04 51 19.4**	**+2.4**
TYV			*e*S	**Sn**	**04 53 11.2**	**+5.4**
TYV			pmax	pmax		
	comp=Z,800nm,4.1s					
TYV			pmax	pmax		
	comp=Z,29nm,0.8s					
TYV			smax	smax		
	comp=E,37nm,1.1s					
TYV			smax	smax		
	comp=E,2μm,7.0s					
MDJ	**Mudanjiang**	**10.62 294**	P	**Pn**	**04 51 31.5**	**+2.9**
MDJ			pP		04 51 37.8	
MDJ			sP		04 51 42.3	
MDJ			pmax	pmax		
	comp=E,33nm,1.3s					
MDJ			pmax	pmax		
	comp=E,2μm,4.4s					
MDJ			LR	LR		
	comp=E,5μm,13.4s					
MDJ			LR	LR		
	comp=E,11μm,16.0s					
MDJ			LR	LR		
	comp=E,15μm,16.1s					
MDJ	**Mudanjiang**	**10.62 294**	Pn	**Pn**	**04 51 28.1**	**-0.5**
GRNR	**Gornyy**	**10.77 336**⇑	*i*P	**Pn**	**04 51 31.9**	**+1.3**
GRNR			*e*S	**Sn**	**04 53 33.8**	**+3.6**
GRNR			pmax	pmax		
	comp=N,8.0nm,0.6s					
GRNR			pmax	pmax		
	comp=Z,10.0nm,0.6s					
GRNR			smax	smax		
	comp=N,4.0nm,0.5s					
GRNR			MLR	MLR		
	comp=E,5μm,15.0s					
GRNR			MLR	MLR		
	comp=Z,6μm,15.0s					
GRNR			MLR	MLR		
	comp=N,6μm,14.0s					
KLR	**Kul'dur**	**11.47 319**	Pn	**Pn**	**04 51 41.4**	**+1.1**
	comp=N,0.4nm,0.3s,baz=130,slow=13,SNR=57					
KLR			LR	LR	04 56 39.0	
	comp=N,9μm,18.5s,baz=140,slow=41					
KLR	**Kul'dur**	**11.47 319***c*	*i*P	**Pn**	**04 51 41.1**	**+0.9**
KSRS	**Korea Array**	**12.41 258**	Pn	**Pn**	**04 51 55.4**	**+2.3**
	comp=N,0.7nm,0.3s,baz=72,slow=13,SNR=27					
KSRS			Sn	**Sn**	**04 54 18.7**	**+8.3**
	comp=N,1.2nm,0.3s,baz=70,slow=24,SNR=8.4					
KSRS			LR	LR	04 56 30.9	
	comp=N,11μm,18.6s,baz=66,slow=37					
KS19	**Wonju Array Si**	**12.44 258**		**Pn**	**04 51 52.7**	**-0.8**
OKH	**Okha**	**12.46 359***d*	*i*P	**Pn**	**04 51 50.4**	**-3.3**
OKH			*e*S	**Sn**	**04 54 17.6**	**+6.1**
OKH			pmax	pmax		
	comp=Z,300nm,12.2s					
OKH			smax	smax		
	comp=N,1μm,11.1s					
OKH			MLR	MLR		
	comp=E,6μm,15.0s					
OKH			MLR	MLR		
	comp=Z,9μm,18.0s					
OKH			MLR	MLR		
	comp=N,10μm,18.0s					
JNU	**Nakatsue**	**12.66 235**	Pn	**Pn**	**04 51 56.2**	**-0.5**
	comp=N,1.2nm,0.3s,baz=74,slow=8.1,SNR=8.6					
JNU			LR	LR	04 57 08.9	
	comp=N,5μm,18.8s,baz=66,slow=39					
SKR	**Severo-Kuril's**	**13.11 39**	*e*P	**Pn**	**04 51 57.8**	**-4.8**
SKR			*e*S	**Sn**	**04 54 23.2**	**-4.1**
SKR			pmax	pmax		
	comp=Z,600nm,3.9s					
SKR			MLR	MLR		
	comp=Z,2μm,18.0s					
SKR			MLR	MLR		
	comp=Z,3μm,16.0s					
TJN	**Taejon**	**13.25 254***c*	*i*P	**Pn**	**04 52 06.5**	**+1.9**
INCN	**Inchon**	**13.36 260**	P	**Pn**	**04 52 04.0**	**-2.1**
INCN	**Inchon**	**13.36 260**		**Pn**	**04 52 04.0**	**-2.1**
CN2	**Changchun**	**13.41 288**	*e*P	**Pn**	**04 52 07.0**	**+0.2**
CN2			*e*S	**Sn**	**04 54 34.5**	**-0.3**
CN2			pmax	pmax		
	comp=Z,50nm,1.1s					
CN2			pmax	pmax		
	comp=Z,800nm,5.0s					
CN2			LR	LR		
	comp=Z,8μm,19.0s					
CN2			LR	LR		
	comp=Z,8μm,19.0s					
CN2			LR	LR		
	comp=Z,9μm,20.0s					
JCJ	**Chichijima**	**13.99 184**	Pn	**Pn**	**04 52 11.6**	**-3.2**
	comp=Z,11nm,0.3s,baz=305,slow=19,SNR=8.3					
JCJ			Sn	Sn	04 54 36.8	-12
	comp=Z,16nm,0.3s,baz=310,slow=22,SNR=4.8					
JCJ	**Chichijima**	**13.99 184**	Pn	**Pn**	**04 52 11.0**	**-3.8**
SNY	**Shenyang**	**14.76 279**	⇑P	**Pn**	**04 52 25.3**	**+0.2**
SNY			S	**Sn**	**04 55 15.8**	**+8.1**
SNY			pmax	pmax		
	comp=Z,51nm,1.9s					
SNY			pmax	pmax		
	comp=Z,1μm,7.7s					
SNY			LR	LR		
	comp=Z,2μm,14.6s					
SNY			LR	LR		
	comp=Z,6μm,17.4s					
SNY			LR	LR		
	comp=Z,8μm,17.7s					
PETK	**Petropavlovsk-**	**15.50 34**	Pn	**Pn**	**04 52 32.0**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=202,slow=7.5,SNR=5.5					
PETK			LR	LR	04 59 03.6	
	comp=Z,3μm,18.6s,baz=217,slow=39					
PET	**Petropavlovsk**	**15.85 36**	*e*P	P	04 52 54.9	+12
PET			*e*S	**S**	**04 55 44.7**	**-3.2**
PET			pmax	pmax		
	comp=Z,300nm,8.3s					
PET			MLR	MLR		
	comp=Z,4μm,16.0s					
PET			MLR	MLR		
	comp=Z,4μm,15.0s					
ZEA	**Zeya**	**16.59 325***ce*	P	**Pn**	**04 52 46.8**	**-2.0**
ZEA			*e*S	**Sn**	**04 55 51.0**	**-1.0**
ZEA			pmax	pmax		
	comp=N,150nm,1.4s					
ZEA			pmax	pmax		
	comp=E,130nm,1.4s					
ZEA			pmax	pmax		
	comp=Z,330nm,1.6s					
ZEA			pmax	pmax		
	comp=Z,600nm,6.0s					
ZEA			smax	smax		
	comp=N,500nm,9.0s					
ZEA			MLR	MLR		
	comp=N,9μm,16.0s					
ZEA			MLR	MLR		
	comp=E,11μm,16.0s					
ZEA			MLR	MLR		
	comp=E,18μm,16.0s					
DL2	**Dalian**	**16.70 270**	P	**Pn**	**04 52 50.0**	**-0.3**
DL2			S	**Sn**	**04 55 54.8**	**0.0**
DL2			pmax	pmax		
	comp=E,350nm,1.2s					
DL2			pmax	pmax		
	comp=Z,2μm,3.8s					
DL2			LR	LR		
	comp=Z,2μm,14.5s					
DL2			LR	LR		
	comp=Z,1μm,16.3s					
DL2			LR	LR		
	comp=Z,3μm,22.6s					
HIA	**Hailar**	**18.41 304**	P	**P**	**04 53 09.8**	**-1.5**
HIA			pmax	pmax		
	comp=Z,60nm,0.8s					
HIA	**Hailar**	**18.41 304**	P	**P**	**04 53 09.8**	**-1.5**
MA2	**Magadan**	**19.09 12***c*	*i*P	**P**	**04 53 17.3**	**-1.3**
MA2			pmax	pmax		
	comp=Z,14nm,0.7s					
MA2	**Magadan**	**19.09 12**	P	**P**	**04 53 18.1**	**-0.5**
SSE	**Sheshan**	**20.37 248**	P	**P**	**04 53 30.8**	**-2.0**
SSE			S	**S**	**04 57 17.8**	**-1.8**
SSE			pmax	pmax		
	comp=Z,39nm,0.7s					
SSE			pmax	pmax		
	comp=Z,290nm,5.7s					
SSE			LR	LR		
	comp=Z,1μm,16.9s					
SSE			LR	LR		
	comp=Z,2μm,18.4s					
BJI	**Beijing**	**20.56 276**	P	**P**	**04 53 32.5**	**-2.2**
BJI			S	S	04 57 12.3	-11
BJI			pmax	pmax		
	comp=Z,82nm,1.6s					
BJI			pmax	pmax		
	comp=Z,590nm,3.5s					
BJI			LR	LR		
	comp=Z,2μm,15.0s					
BJI			LR	LR		
	comp=Z,5μm,17.0s					
BJI			LR	LR		
	comp=Z,4μm,20.6s					
BJT	**Baijiatuau**	**20.57 276**	P	**P**	**04 53 33.1**	**-1.8**
BJT			pmax	pmax		
	comp=Z,143nm,1.2s					
BJT	**Baijiatuau**	**20.57 276**	P	**P**	**04 53 33.1**	**-1.8**
BJT			IAmb	IAmb	04 53 49.6	
	comp=Z,143nm,1.2s					
TIA	**Tai'an**	**20.93 265**	P	**P**	**04 53 36.5**	**-2.4**
TIA			pP	**sP**	**04 53 48.5**	**-0.5**
TIA			S	**S**	**04 57 21.3**	**-9.4**
TIA			pmax	pmax		
	comp=Z,49nm,1.0s					
TIA			LR	LR		
	comp=Z,2μm,15.7s					
TIA			LR	LR		
	comp=Z,2μm,22.1s					
TIA			LR	LR		
	comp=Z,4μm,19.9s					
NJ2	**Nanjing**	**21.51 253**⇑	*i*P	**P**	**04 53 42.8**	**-2.2**
NJ2			pP	**pP**	**04 53 49.0**	**-3.0**
NJ2			sP	**pwP**	**04 53 53.3**	**-1.2**
NJ2			S	**S**	**04 57 33.8**	**-6.3**
NJ2			sS	Sn	04 57 44.3	-6.6
NJ2			SS	**SnSn**	**04 58 12.0**	**+6.0**
NJ2			pmax	pmax		
	comp=Z,230nm,1.2s					
NJ2			pmax	pmax		
	comp=Z,590nm,4.4s					
NJ2			LR	LR		
	comp=Z,9μm,17.1s					
NJ2			LR	LR		
	comp=Z,9μm,18.0s					
NJ2			LR	LR		
	comp=Z,9μm,18.5s					
YAK	**Yakutsk**	**22.50 343**	P	**P**	**04 53 52.1**	**-3.3**
	comp=Z,69nm,0.6s,baz=349,slow=2.2,SNR=22					
YAK			LR	LR	05 03 40.0	
	comp=Z,4μm,18.3s,baz=154,slow=39					
YAK	**Yakutsk**	**22.50 343***c*	*i*P	**P**	**04 53 52.0**	**-3.3**
YAK			*e*		04 54 17.7	
YAK			*e*		04 57 43.2	
YAK			*e*S	**S**	**04 57 54.7**	**-5.7**
YAK			*e*SS	**SnSn**	**04 58 31.6**	**+1.6**
YAK			pmax	pmax		
	comp=Z,128nm,0.9s					
YAK			pmax	pmax		
	comp=N,43nm,0.9s					
YAK			pmax	pmax		
	comp=E,28nm,1.3s					
YAK			pmax	pmax		
	comp=Z,45nm,1.1s					
YAK			pmax	pmax		
	comp=N,152nm,1.2s					
YAK			pmax	pmax		
	comp=E,130nm,1.5s					
YAK			smax	smax		
	comp=N,557nm,2.3s					
YAK			smax	smax		
	comp=E,292nm,2.0s					
YAK			MLR	MLR		
	comp=Z,3μm,19.0s					
YAK			MLR	MLR		
	comp=N,3μm,16.0s					
YAK			MLR	MLR		
	comp=E,2μm,17.0s					
YAK	**Yakutsk**	**22.50 343**	P	**P**	**04 53 52.3**	**-3.1**
YAK			IAmb	IAmb	04 53 55.1	
	comp=Z,140nm,0.8s					
SEY	**Seymchan**	**22.54 11**	P	**P**	**04 53 52.9**	**-2.9**
	comp=Z,17nm,0.7s,baz=188,slow=7.2,SNR=37					
SEY			LR	LR	05 02 42.1	
	comp=Z,3μm,21.8s,baz=195,slow=37					
SEY	**Seymchan**	**22.54 11**⇓	*e*P	**P**	**04 53 53.7**	**-2.1**
CIT	**Chita**	**22.99 308**	*e*P	**P**	**04 53 57.8**	**-2.9**
CIT			*e*		04 54 10.9	
CIT			*e*		04 54 33.8	
CIT			*e*		04 54 44.8	
CIT			*e*		04 58 52.8	
CIT			pmax	pmax		
	comp=Z,310nm,2.4s					
HHC	**Hu-ho-hao-te**	**23.85 280**	*e*P	**P**	**04 54 05.5**	**-3.8**
HHC			sP	pwP	04 54 19.0	-0.3
HHC			pmax	pmax		
	comp=Z,51nm,1.4s					
HHC			pmax	pmax		
	comp=Z,270nm,6.6s					
HHC			LR	LR		
	comp=Z,2μm,15.5s					
HHC			LR	LR		
	comp=Z,5μm,18.8s					
HHC			LR	LR		
	comp=Z,7μm,18.4s					
SMY	**Shemya**	**23.89 50**	P	**P**	**04 54 10.1**	**+0.7**
SMY			pmax	pmax		
	comp=Z,109nm,1.1s					
SMY	**Shemya**	**23.89 50**	P	**P**	**04 54 10.1**	**+0.7**
SMY			IAmb	IAmb	04 54 25.3	
	comp=Z,109nm,1.1s					
TIY	**Taiyuan**	**23.98 272**	*e*P	**P**	**04 54 08.5**	**-2.0**
TIY			S	**S**	**04 58 21.0**	**-4.6**
TIY			pmax	pmax		
	comp=Z,300nm,5.1s					
TIY			LR	LR		
	comp=Z,720nm,12.2s					
TIY			LR	LR		
	comp=Z,2μm,15.1s					
TIY			LR	LR		
	comp=Z,2μm,16.9s					
TATO	**Taipei**	**24.21 235**	P	**P**	**04 54 11.5**	**-1.1**
TATO			IAmb	IAmb	04 54 29.1	
	comp=Z,128nm,0.9s					
YHNB	**Yeheng**	**24.50 235**	P	**P**	**04 54 13.3**	**-2.1**
YHNB			IAmb	IAmb	04 54 20.6	
	comp=Z,103nm,1.1s					
NACB	**Ninganchiao**	**24.73 234**	P	**P**	**04 54 16.4**	**-1.0**
BOD	**Bodaibo**	**25.03 322**	*e*P	**P**	**04 54 18.8**	**-1.0**
BOD			pmax	pmax		
	comp=Z,93nm,1.4s					
BTO	**Baotou**	**25.05 280**	*e*P	**P**	**04 54 18.5**	**-1.8**
BTO			S	**S**	**04 58 35.5**	**-7.4**
SSLB	**Suanglung**	**25.41 234**	P	**P**	**04 54 23.4**	**-0.2**
YULB	**Yu-li**	**25.50 233**	P	**P**	**04 54 23.9**	**-0.5**
WHN	**Wuhan**	**25.57 255**	⇑P	**P**	**04 54 23.0**	**-2.0**
WHN			S	**S**	**04 58 44.8**	**-6.3**
WHN			pmax	pmax		
	comp=Z,400nm,1.1s					
WHN			LR	LR		
	comp=Z,9μm,15.2s					
WHN			LR	LR		
	comp=Z,15μm,18.0s					
WHN			LR	LR		
	comp=Z,21μm,17.4s					
TPUB	**Ta-pu**	**25.97 234**	IAmb	IAmb	04 54 43.4	
	comp=Z,70nm,1.0s					
TWG	**Pinlang**	**26.06 232**	P	**P**	**04 54 29.2**	**-0.2**
QZH	**Quanzhou**	**26.07 239**⇑	*i*P	**P**	**04 54 29.5**	**0.0**
QZH			S	**S**	**04 58 59.3**	**+0.3**
QZH			pmax	pmax		
	comp=Z,100nm,1.2s					
QZH			pmax	pmax		
	comp=Z,560nm,4.9s					
QZH			LR	LR		
	comp=Z,2μm,20.2s					
QZH			LR	LR		
	comp=Z,3μm,18.4s					
QZH			LR	LR		
	comp=Z,4μm,18.2s					
ULN	**Ulaanbaatar**	**26.51 297**	P	**P**	**04 54 32.4**	**-1.1**
ULN			pmax	pmax		
	comp=Z,53nm,1.0s					
ULN	**Ulaanbaatar**	**26.51 297**	P	**P**	**04 54 32.4**	**-1.1**
SONM	**Songino Array**	**26.95 297**	P	**P**	**04 54 37.3**	**-0.1**
	comp=Z,23nm,0.6s,baz=81,slow=7.1,SNR=102					
SONM			LR	LR	05 06 14.9	
	comp=Z,9μm,18.2s,baz=87,slow=39					
XAN	**Xi'an**	**27.97 267**	P	**P**	**04 54 45.0**	**-1.6**
XAN			pP	sP	04 54 59.5	+2.3
XAN			S	**S**	**04 59 32.3**	**+3.3**
XAN			pmax	pmax		
	comp=Z,57nm,2.0s					
XAN			pmax	pmax		
	comp=Z,690nm,3.2s					
XAN			LR	LR		
	comp=Z,2μm,19.1s					
XAN			LR	LR		
	comp=Z,3μm,17.7s					
XAN			LR	LR		
	comp=Z,4μm,18.6s					
IRK	**Irkutsk**	**28.63 306**	*e*P	**P**	**04 54 51.3**	**-1.0**
IRK			pmax	pmax		
	comp=Z,246nm,2.6s					
TLY	**Talaya**	**28.95 305**	P	**P**	**04 54 53.6**	**-1.6**
	comp=Z,18nm,0.7s,baz=95,slow=7.6,SNR=7.1					
TLY			LR	LR	05 07 28.4	
	comp=Z,4μm,18.8s,baz=98,slow=38					
TLY	**Talaya**	**28.95 305***c*	*i*P	**P**	**04 54 55.4**	**+0.2**
TLY			*e*S	**S**	**04 59 46.4**	**+2.3**
TLY			pmax	pmax		
	comp=Z,99nm,1.3s					
TLY			MLR	MLR		
	comp=Z,12μm,16.0s					
TLY	**Talaya**	**28.95 305**	P	**P**	**04 54 55.2**	**+0.1**
ZAK	**Zakamensk**	**29.08 302**	*e*P	**P**	**04 54 56.4**	**0.0**
ZAK			pmax	pmax		
	comp=Z,42nm,1.3s					
ENH	**Enshi**	**29.30 259**	P	**P**	**04 54 58.0**	**-0.5**
ENH			IAmb	IAmb	04 55 01.6	
	comp=Z,37nm,0.7s					
H11N2	**WAKE ISLAND Hy**	**29.32 129**	T	T	05 25 40.7	
	baz=322,slow=75					
H11N1	**WAKE ISLAND Hy**	**29.33 130**	T	T	05 25 46.9	
	baz=322,slow=75					
H11N3	**WAKE ISLAND Hy**	**29.34 129**	T	T	05 25 42.7	
	baz=322,slow=75					
H11S1	**WAKE ISLAND Hy**	**30.18 131**	T	T	05 27 21.0	
	baz=324,slow=76					
H11S3	**WAKE ISLAND Hy**	**30.18 131**	T	T	05 27 28.3	
	baz=324,slow=76					
H11S2	**WAKE ISLAND Hy**	**30.19 131**	T	T	05 27 32.4	
	baz=324,slow=76					
MOY	**Mondy**	**30.60 305**	*e*P	**P**	**04 55 09.6**	**-0.2**
MOY			pmax	pmax		
	comp=Z,176nm,2.2s					
LZH	**Lanzhou**	**31.01 274**	⇑P	**P**	**04 55 13.5**	**-0.2**
LZH			pP	pwP	04 55 22.8	-1.0
LZH			sP	sP	04 55 26.5	+2.2
LZH			PP	**PnPn**	**04 56 16.8**	**+1.8**
LZH			S	**S**	**05 00 18.5**	**+1.6**
LZH			sS	sS	05 00 31.5	+2.2
LZH			SS	**SnSn**	**05 02 01.0**	**+2.7**
LZH			pmax	pmax		
	comp=Z,41nm,1.4s					
LZH			pmax	pmax		
	comp=Z,290nm,4.8s					
LZH			LR	LR		
	comp=Z,2μm,13.6s					
LZH			LR	LR		
	comp=Z,2μm,14.1s					
LZH			LR	LR		
	comp=Z,3μm,16.5s					
GTA	**Gaotai**	**32.93 282**	*e*P	**P**	**04 55 30.0**	**-0.5**
GTA			pP	pP	04 55 37.3	-0.7
GTA			sP	pwP	04 55 40.3	-0.3
GTA			PcP	**PcP**	**04 58 16.0**	**+1.7**
GTA			S	**S**	**05 00 45.3**	**-1.5**
GTA			sS	pS	05 00 55.5	+0.2
GTA			PcS	**PcS**	**05 02 00.5**	**+0.7**
GTA			SS	**SnSn**	**05 02 43.5**	**-1.4**
GTA			pmax	pmax		
	comp=Z,41nm,1.3s					
GTA			pmax	pmax		
	comp=Z,340nm,10.3s					

GTA LR LR
comp=Z,2µm,16.8s
GTA LR LR
comp=Z,5µm,19.6s
GTA LR LR
comp=Z,6µm,18.9s
CD2 Chengdu 33.27 265 P **P** **04 55 32.8 -0.6**
CD2 sP sP 04 55 46.8 +2.7
CD2 S **S** **05 00 45.5 -6.5**
CD2 sS sS 05 01 09.5 +5.0
CD2 pmax pmax
comp=Z,100nm,1.0s
CD2 pmax pmax
comp=Z,460nm,5.2s
CD2 LR LR
comp=Z,3µm,14.4s
CD2 LR LR
comp=Z,2µm,15.8s
CD2 LR LR
comp=Z,3µm,15.8s
GYA Guiyang 33.46 256 ⇑P **P** **04 55 34.8 -0.4**
GYA pP sP 04 55 47.5 +1.6
GYA PcP **PcP** **04 58 17.0 +1.0**
GYA S **S** **05 00 47.3 -7.8**
GYA pmax pmax
comp=Z,150nm,1.1s
GYA pmax pmax
comp=Z,420nm,3.5s
GYA LR LR
comp=Z,2µm,20.5s
GYA LR LR
comp=Z,3µm,18.4s
GYA LR LR
comp=Z,6µm,18.0s
QIZ Qiongzhong 35.98 242 P **P** **04 55 58.5 +1.6**
QIZ PP **PP** **04 57 19.8 +0.9**
QIZ S **S** **05 01 36.8 +2.9**
QIZ ScS **ScS** **05 06 14.0 +0.9**
QIZ pmax pmax
comp=Z,24nm,1.6s
QIZ LR LR
comp=Z,2µm,17.9s
QIZ LR LR
comp=Z,2µm,18.8s
QIZ LR LR
comp=Z,2µm,15.7s
KMI Kunming 37.11 257⇑ *e*P **P** **04 56 07.0 +0.2**
KMI pP pP 04 56 15.3 +0.9
KMI sP sP 04 56 18.5 +1.0
KMI PP **PnPn** **04 57 32.0 0.0**
KMI S **S** **05 01 52.3 +0.8**
KMI sS sS 05 02 06.3 +2.2
KMI pmax pmax
comp=Z,140nm,1.4s
KMI pmax pmax
comp=Z,910nm,4.2s
KMI LR LR
comp=Z,3µm,17.3s
KMI LR LR
comp=Z,3µm,18.3s
KMI LR LR
comp=Z,5µm,20.1s
DAV Davao City (W) 37.36 210 LR LR 05 10 06.3
comp=Z,896nm,21.4s,baz=42,slow=34
SLVN Son La 38.57 251 P **P** **04 56 18.5 -0.4**
SLVN IAmb IAmb 04 56 20.9
comp=Z,52nm,1.1s
DGZ Jazzator, Alta 39.30 302*c i*P **P** **04 56 25.8 +0.9**
DGZ pmax pmax
comp=Z,100nm,1.1s
NRIK Noril'sk 40.23 333 P **P** **04 56 31.4 -0.8**
comp=Z,20nm,0.9s,baz=111,slow=8.2,SNR=33
NRIK LR LR 05 14 44.6
comp=Z,8µm,18.9s,baz=106,slow=39
ZAA0 Zalesovo Array 40.35 309 IAmb IAmb 04 56 52.3
comp=Z,68nm,0.8s
ZALV Zalesovo Beam 40.35 309 P **P** **04 56 33.5 +0.2**
comp=Z,34nm,0.5s,baz=88,slow=8.6,SNR=36
ZALV PcP **PcP** **04 58 36.7 +0.6**
comp=Z,15nm,0.9s,baz=111,slow=3.5,SNR=3.7
ZALV LR LR 05 14 29.6
comp=Z,3µm,18.6s,baz=78,slow=38
WMQ Urumqi 40.42 293 P **P** **04 56 34.8 +0.7**
WMQ sP sP 04 56 51.5 +6.6
WMQ S **S** **05 02 45.0 +4.3**
WMQ ScS **ScS** **05 06 38.0 -0.1**
WMQ pmax pmax
comp=Z,39nm,1.1s
WMQ pmax pmax
comp=Z,410nm,3.8s
WMQ LR LR
comp=Z,2µm,16.1s
WMQ LR LR
comp=Z,3µm,18.5s
WMQ LR LR
comp=Z,2µm,21.1s
LKP Lekhapani 41.04 266 *e*P **P** **04 56 38.9 -0.4**
ZSN Zaisan 41.42 299 *e*P **P** **04 56 42.8 +0.5**
comp=Z,168nm,3.1s,baz=299
ZSN LR LR 05 14 24.3
comp=Z,824nm,12.5s,baz=299
ZSN Zaisan 41.42 299 *e*P **P** **04 56 42.7 +0.5**
ZSN pmax pmax
comp=Z,168nm,3.1s
ZSN MLR MLR
comp=Z,825nm,13.0s
DLV T Lat 42.07 236 IAmb IAmb 04 56 50.6
comp=Z,79nm,1.0s
A21K Barrow 42.17 25 P **P** **04 56 47.5 -0.5**
baz=258
JORH JORHAT 42.56 266 *e*P **P** **04 56 48.5 -3.2**
OHAK Old Harbor 42.86 46 P **P** **04 56 55.2 +1.4**
OHAK IAmb IAmb 04 57 08.4
comp=Z,52nm,0.9s
SMPI Sarmi 43.08 187 P **P** **04 56 58.1 +2.1**
comp=Z,2µmcomp=Z,44nm,1.5s
KDAK Kodiak Island 43.17 45 P **P** **04 56 57.7 +1.4**
KDAK pmax pmax
comp=Z,95nm,1.0s
KDAK Kodiak Island 43.17 45 P **P** **04 56 57.7 +1.4**
KDAK IAmb IAmb 04 57 11.0
comp=Z,95nm,1.0s
MK31 Makanchi Array 43.28 299 IAmb IAmb 04 57 14.3
comp=Z,45nm,0.9s
MKAR Makanchi Array 43.28 299 P **P** **04 56 57.1 -0.4**
comp=Z,20nm,0.6s,baz=85,slow=9.8,SNR=142
MKAR LR LR 05 16 30.1
comp=Z,4µm,18.0s,baz=78,slow=38
LSA Lhasa 43.38 272 P **P** **04 56 59.3 +0.4**
LSA pmax pmax
comp=Z,89nm,1.6s
LSA Lhasa 43.38 272 P **P** **04 56 59.7 +0.8**
SPMM Sapulut 43.45 221 P **P** **04 56 59.0 -0.1**
JAY Jayapura 43.47 184 P **P** **04 57 00.8 +1.7**
comp=Z,251nmcomp=Z,14nm,1.1s
HOM Homer 43.48 42 P **P** **04 56 58.5 -0.3**
baz=275
MAKZ Makanchi 43.49 299 P **P** **04 56 59.1 0.0**
MAKZ pmax pmax
comp=Z,70nm,1.0s
MAKZ Makanchi 43.49 299 P **P** **04 56 59.1 0.0**
MAKZ IAmb IAmb 04 57 18.4
comp=Z,70nm,0.9s
CAPN Captain Cook N 43.64 40 P **P** **04 57 00.4 +0.3**
baz=274
TEZP TEZPUR 43.72 267 *e*P **P** **04 56 57.9 -3.3**
CHTO Chiang Mai 43.75 253 P **P** **04 57 01.2 -0.3**
CHTO pmax pmax
comp=Z,64nm,1.1s
CHTO Chiang Mai 43.75 253 P **P** **04 57 01.2 -0.3**
CHTO IAmb IAmb 04 57 06.0
comp=Z,64nm,1.1s
COLD Coldfoot 43.93 31 P **P** **04 57 04.1 +1.8**
baz=268
COLD S **S** **05 03 32.4 +0.6**
baz=268
KMSI Cibinong 43.95 208 P **P** **04 57 04.0 +1.0**
comp=Z,8µmcomp=Z,137nm,0.7s
CUT Chulitna 43.96 38 S **S** **05 03 32.8 +0.5**
baz=273
CM31 Chiang Mai Arr 43.98 253 P **P** **04 57 05.0 +1.7**
SNR=11
CMAR Chiang Mai Arr 43.98 253 P **P** **04 57 04.1 +0.8**
comp=Z,13nm,0.9s,baz=48,slow=6.4,SNR=52
CMAR LR LR 05 16 18.6
comp=Z,1µm,19.1s,baz=92,slow=37

TOLK Toolik Lake Re 44.22 29 P **P** **04 57 04.6 -0.1**
baz=267
TOLK S **S** **05 03 36.0 -0.1**
baz=267
GTOI Gorontalo 44.25 210 P **P** **04 57 05.6 +0.2**
comp=Z,616nmcomp=Z,43nm,1.3s
NEA2 Nenana 44.40 35 P **P** **04 57 08.5 +2.3**
baz=272,SNR=5.1
NEA2 S **S** **05 03 39.6 +0.9**
baz=272
MCK McKinley 44.49 36 IAmb IAmb 04 57 22.3
comp=Z,59nm,1.2s
RND Reindeer 44.55 36 IAmb IAmb 04 57 24.5
comp=Z,54nm,1.1s
GHO Glory Hole Cre 44.63 39 IAmb IAmb 04 57 25.0
comp=Z,54nm,0.9s
KURK Kurchatov 44.65 305 P **P** **04 57 08.4 +0.1**
KURK pmax pmax
comp=Z,131nm,1.2s
KURK Kurchatov 44.65 305 P **P** **04 57 08.4 +0.1**
KURBB Kurchatov Arra 44.73 305 P **P** **04 57 08.9 0.0**
comp=Z,28nm,0.5s,baz=79,slow=8.7,SNR=75
KURBB Kurchatov Arra 44.73 305 P **P** **04 57 08.1 -0.8**
MDM Murphy Dome 44.74 34 IAmb IAmb 04 57 24.9
comp=Z,70nm,1.2s
GUWA GUWAHATI 44.78 267 *e*P **P** **04 57 08.4 -1.3**
GUWA IAmb IAmb 04 57 13.0
comp=Z,143nm,1.4s
KNK Knik Glacier 44.89 39 IAmb IAmb 04 57 25.4
comp=Z,61nm,1.2s
TCOL CIGO, UAF Yank 44.90 34 P **P** **04 57 11.0 +0.9**
baz=273
TCOL S **S** **05 03 48.5 +2.6**
baz=273
COLA College 44.91 34*c i*P **P** **04 57 12.3 +2.2**
COLA pmax pmax
comp=Z,17nm,1.0s
SML Sawmill 44.91 39 IAmb IAmb 04 57 32.4
comp=Z,34nm,1.0s
FAKI Fak Fak 44.94 196 P **P** **04 57 12.1 +1.2**
comp=Z,1µmcomp=Z,114nm,1.3s
FAKI Fak Fak 44.94 196 P **P** **04 57 11.2 +0.2**
FAKI IAmb IAmb 04 57 28.8
comp=Z,58nm,0.9s
SHL Shillong 44.98 266 *e*P **P** **04 57 09.5 -1.9**
SHL *i* P pP 04 57 11.0 -8.2
SHL *i* S **S** **05 03 51.0 +2.6**
SHL Shillong 44.98 266 P **P** **04 57 11.1 -0.3**
SNR=20
SHL Shillong 44.98 266 P **P** **04 57 10.9 -0.6**
SHL pmax pmax
comp=Z,56nm,1.1s
SHL Shillong 44.98 266 P **P** **04 57 10.9 -0.6**
SHL IAmb IAmb 04 57 13.7
comp=Z,56nm,1.1s
POKR Poker Flat Res 45.07 34 P **P** **04 57 14.3 +2.8**
baz=273,SNR=9.9
POKR S **S** **05 03 49.9 +1.4**
baz=273
DHY Denali Highway 45.24 37 IAmb IAmb 04 57 28.2
comp=Z,67nm,1.2s
HDA Harding Lake 45.32 35 P **P** **04 57 13.4 -0.1**
baz=274
HDA Harding Lake 45.32 35 IAmb IAmb 04 57 29.0
comp=Z,36nm,0.9s
IL31 45.33 34 IAmb IAmb 04 57 30.0
comp=Z,38nm,1.0s
ILAR Eielson Array 45.33 34 P **P** **04 57 14.2 +0.7**
comp=Z,8.4nm,0.9s,baz=264,slow=6.0,SNR=36
ILAR LR LR 05 19 29.1
comp=Z,610nm,18.1s,baz=292,slow=40
ILAR Eielson Array 45.33 34 P **P** **04 57 14.8 +1.3**
ILAR Eielson Array 45.33 34 P **P** **04 57 14.8 +1.3**
SCM Sheep Creek Mo 45.38 39 IAmb IAmb 04 57 30.2
comp=Z,34nm,0.8s
SANI Sanana 45.73 204 P **P** **04 57 17.5 +0.3**
comp=Z,1µmcomp=Z,114nm,1.2s
MPSI Mapaga 45.75 214 P **P** **04 57 18.2 +0.8**
comp=Z,733nmcomp=Z,20nm,0.9s
M24K Tolsona, Glenn 45.89 38 P **P** **04 57 17.6 -0.5**
baz=277
M24K S **S** **05 04 03.1 +2.7**
baz=277
SAIH SAIHA 45.89 262 *e*P **P** **04 57 17.3 -1.3**
KLU Klutina 46.09 39 IAmb IAmb 04 57 40.6
comp=Z,62nm,1.2s
BMAR Burnt Mountain 46.10 31 P **P** **04 57 21.0 +1.3**
Q23K Middleton Isla 46.19 42 P **P** **04 57 18.1 -2.2**
baz=279
EYAK Cordova Ski Ar 46.31 40 IAmb IAmb 04 57 37.2
comp=Z,30nm,0.8s
SHLS Shalkode 46.32 295 *e*P **P** **04 57 19.4 -2.4**
comp=Z,98nm,2.3s,baz=295
SHLS *e*S **S** **05 04 02.9 -4.3**
baz=295
SHLS LR LR 05 16 39.1
comp=Z,3µm,16.9s,baz=295
SHLS Shalkode 46.32 295 *e*P **P** **04 57 19.3 -2.4**
SHLS *e*S **S** **05 04 02.8 -4.3**
SHLS pmax pmax
comp=Z,98nm,2.3s
SHLS MLR MLR
comp=Z,3µm,17.0s
TDK Taldyqorghan 46.41 298 *i* P **P** **04 57 22.7 +0.4**
comp=Z,93nm,1.5s,baz=298
TDK *e*S **S** **05 04 09.1 +0.8**
baz=298
TDK LR LR 05 16 58.4
comp=Z,3µm,17.1s,baz=298
TDK Taldyqorghan 46.41 298 *i* P **P** **04 57 22.7 +0.4**
TDK *e*S **S** **05 04 09.0 +0.8**
TDK pmax pmax
comp=Z,93nm,1.5s
TDK MLR MLR
comp=Z,3µm,17.0s
UZB Uzynbulak 46.62 295⇑ *i*P **P** **04 57 23.9 -0.3**
baz=295
UZB *e*S **S** **05 04 11.1 -0.5**
baz=295
UZB LR LR 05 17 26.2
comp=Z,3µm,19.1s,baz=295
UZB Uzynbulak 46.62 295*c i*P **P** **04 57 23.9 -0.3**
UZB *e*S **S** **05 04 11.1 -0.5**
UZB MLR MLR
comp=Z,3µm,19.0s
SCRK Sand Creek 46.66 35 P **P** **04 57 24.5 +0.3**
baz=277
SCRK S **S** **05 04 10.9 -0.6**
baz=277
MENT Mentasta 46.91 37 IAmb IAmb 04 57 47.6
comp=Z,48nm,1.1s
TAPN Taplejung 47.18 271 *e*P **P** **04 57 29.1 +0.2**
comp=Z,449nm,1.2s
VRDI Verde Repeater 47.30 39 IAmb IAmb 04 57 45.2
comp=Z,38nm,1.0s
K27K Chicken 47.48 35 P **P** **04 57 31.8 +1.4**
baz=279
K27K S **S** **05 04 25.4 +2.4**
baz=279
SBUM Sibu 47.55 224 P **P** **04 57 32.0 +0.5**
ODAN Odare 47.68 271 *e*P **P** **04 57 33.1 +0.4**
comp=Z,176nm,0.9s
CHKK Chushkaly 47.76 297 *i* P **P** **04 57 32.5 -0.4**
baz=296
CHKK Chushkaly 47.76 297 *i* P **P** **04 57 32.4 -0.4**
ISLE Juniper Island 47.96 40 IAmb IAmb 04 57 50.0
comp=Z,52nm,1.0s
MDOK Medeo 47.96 296 *i* P **P** **04 57 34.9 +0.3**
baz=296
MDOK *e*S **S** **05 04 31.1 +0.4**
baz=296
MDOK LR LR 05 17 22.6
comp=Z,2µm,18.0s,baz=296
MDOK Medeo 47.96 296 *i* P **P** **04 57 34.9 +0.3**
MDOK *e*S **S** **05 04 31.1 +0.4**
MDOK MLR MLR
comp=Z,2µm,18.0s
AAA Alma-Ata 48.04 296 *e*P **P** **04 57 35.8 +0.7**
baz=296
AAA *e*S **S** **05 04 32.2 +0.6**
baz=296
AAA LR LR 05 17 24.0
comp=Z,2µm,19.8s,baz=296
AAA Alma-Ata 48.04 296 *e*P **P** **04 57 35.8 +0.7**
AAA *e*S **S** **05 04 32.1 +0.6**
AAA MLR MLR
comp=Z,2µm,20.0s

TNSS Tian-Shan 48.08 296 *e*P **P** **04 57 36.0 +0.2**
baz=296
TNSS Tian-Shan 48.08 296 *e*P **P** **04 57 36.0 +0.2**
JIRN Jiri 48.16 273 *e*P **P** **04 57 36.9 +0.3**
comp=Z,103nm,0.5s
KUU Kurty 48.18 297⇑ *i*P **P** **04 57 35.7 -0.4**
comp=Z,234nm,2.9s,baz=297
KUU *e*S **S** **05 04 33.2 -0.3**
baz=297
KUU LR LR 05 18 02.7
comp=Z,2µm,14.9s,baz=297
KUU Kurty 48.18 297*c i*P **P** **04 57 35.7 -0.4**
KUU *e*S **S** **05 04 33.1 -0.4**
KUU pmax pmax
comp=Z,234nm,2.9s
KUU MLR MLR
comp=Z,2µm,15.0s
RAMN Ramite 48.23 271 *e*P **P** **04 57 38.0 +1.0**
comp=Z,286nm,1.1s
KDJ Kajisay 48.26 294 IAmb IAmb 04 57 55.9
comp=Z,26nm,0.8s
GUN Gumba 48.27 273 *e*P **P** **04 57 37.5 +0.1**
comp=Z,201nm,0.4s
CTGM Chitina Glacie 48.37 39 IAmb IAmb 04 57 53.4
comp=Z,29nm,0.8s
MTBS Maitube 48.40 296 *e*P **P** **04 57 38.0 +0.1**
baz=296
MTBS Maitube 48.40 296 *e*P **P** **04 57 38.0 +0.1**
BRZS Berezniki 48.51 306⇑ *i*P **P** **04 57 38.6 -0.1**
comp=Z,162nm,2.4s,baz=306
BRZS *e*S **S** **05 04 38.0 0.0**
baz=306
BRZS *i* LR LR 05 18 40.7
comp=Z,582nm,14.2s,baz=306
BRZS Berezniki 48.51 306*c i*P **P** **04 57 38.5 -0.1**
BRZS *e*S **S** **05 04 38.0 0.0**
BRZS pmax pmax
comp=Z,162nm,2.4s
BRZS MLR MLR
comp=Z,582nm,14.0s
KKN Kakani 48.78 273 *e*P **P** **04 57 41.2 0.0**
PKI Pulchoki 48.80 273 *e*P **P** **04 57 41.2 -0.3**
comp=Z,193nm,1.1s
BVA0 Borovoye Array 48.97 310 *i* P **P** **04 57 41.6 -0.4**
BVAR Borovoye Array 48.97 310 P **P** **04 57 41.9 -0.1**
comp=Z,10nm,0.4s,baz=74,slow=8.3,SNR=44
DMN Daman 49.01 273 *e*P **P** **04 57 43.0 0.0**
comp=Z,407nm,1.3s
BRVK Borovoye 49.02 310*c i*P **P** **04 57 42.1 -0.3**
BRVK pmax pmax
comp=Z,83nm,2.0s
BRVK Borovoye 49.02 310 P **P** **04 57 42.7 +0.2**
BRVK IAmb IAmb 04 57 50.5
comp=Z,37nm,1.1s
TKM2 Tokmak 2 49.04 296 P **P** **04 57 43.2 +0.2**
SNR=34
MTKI Muara Teweh, K 49.12 219 P **P** **04 57 45.0 +1.4**
comp=Z,87nm,1.2s
GKN Gorkha 49.16 274 *e*P **P** **04 57 43.8 -0.2**
BTLS Baital 49.30 299⇑ *i*P **P** **04 57 44.2 -0.5**
comp=Z,54nm,2.6s,baz=299
BTLS *e*S **S** **05 04 48.7 -0.4**
baz=299
BTLS LR LR 05 18 46.2
comp=Z,841nm,14.0s,baz=299
BTLS Baital 49.30 299*c i*P **P** **04 57 44.2 -0.5**
BTLS *e*S **S** **05 04 48.7 -0.4**
BTLS pmax pmax
comp=Z,54nm,2.6s
BTLS MLR MLR
comp=Z,841nm,14.0s
KSM Kuching 49.39 226 IAmb IAmb 04 57 48.2
comp=Z,64nm,1.1s
KSM Kuching 49.39 226 P **P** **04 57 47.0 +1.3**
SGDS Sogindy 49.49 297⇑ *i*P **P** **04 57 46.4 0.0**
comp=Z,98nm,2.5s,baz=297
SGDS *e*S **S** **05 04 52.2 0.0**
baz=297
SGDS LR LR 05 19 27.7
comp=Z,1µm,15.4s,baz=297
SGDS Sogindy 49.49 297*c i*P **P** **04 57 46.3 0.0**
SGDS *e*S **S** **05 04 52.1 0.0**
SGDS pmax pmax
comp=Z,98nm,2.5s
SGDS MLR MLR
comp=Z,1µm,15.0s
KBK Karagaybulak 49.58 296 P **P** **04 57 47.7 +0.5**
SNR=13
KZA Kyzart 49.60 295 P **P** **04 57 48.8 +1.2**
SNR=7.3
USP Ospenovka 49.65 297 P **P** **04 57 47.7 +0.2**
SNR=9.1
SPSI Sidrap Palu 49.71 211 P **P** **04 57 49.6 +1.6**
comp=Z,27nm,1.2s
AAK Ala-Archa 49.90 296 P **P** **04 57 49.4 -0.2**
comp=Z,8.0nm,0.5s,baz=86,slow=7.2,SNR=16
AAK LR LR 05 20 56.1
comp=Z,3µm,18.8s,baz=71,slow=38
AAK Ala-Archa 49.90 296 P **P** **04 57 49.4 -0.2**
AAK Ala-Archa 49.90 296*c i*P **P** **04 57 49.1 -0.4**
AAK pmax pmax
comp=Z,15nm,1.1s
AAK Ala-Archa 49.90 296 P **P** **04 57 49.3 -0.2**
AAK IAmb IAmb 04 58 07.6
comp=Z,40nm,0.9s
BNSI Bone 49.98 211 P **P** **04 57 51.7 +1.6**
comp=Z,1µmcomp=Z,107nm,1.2s
KOLN Koldanda 50.06 274 *e*P **P** **04 57 51.0 +0.1**
comp=Z,472nm,1.3s
INK Inuvik 50.14 29 P **P** **04 57 52.1 +1.4**
INK pmax pmax
comp=Z,53nm,1.0s
INK Inuvik 50.14 29 P **P** **04 57 52.1 +1.4**
INK IAmb IAmb 04 58 07.1
comp=Z,53nm,0.9s
KSH Kashi 50.14 292 P **P** **04 57 55.3 +4.0**
KSH sP sP 04 58 08.0 +5.8
KSH S **S** **05 05 07.8 +6.5**
KSH pmax pmax
comp=Z,58nm,1.1s
KSH pmax pmax
comp=Z,330nm,4.8s
KSH LR LR
comp=Z,2µm,12.8s
KSH LR LR
comp=Z,1µm,12.2s
KSH LR LR
comp=Z,4µm,15.4s
PYUN Piuthan 50.34 275 *e*P **P** **04 57 53.2 +0.1**
comp=Z,760nm,1.3s
EKS2 Erkin-Say 50.38 296 P **P** **04 57 53.3 +0.2**
SNR=9.0
BOK Bokaro 50.49 268 *e*P **P** **04 57 54.2 +0.1**
BOK IAmb IAmb 04 58 09.2
comp=Z,14nm,0.7s
AML Almayashu 50.65 296 P **P** **04 57 55.9 +0.4**
SNR=12
KAPI Kappang 50.68 211 LR LR 05 19 09.8
comp=Z,286nm,21.7s,baz=350,slow=36
KAPI Kappang 50.68 211 P **P** **04 57 55.6 +0.2**
KAPI pmax pmax
comp=Z,77nm,1.2s
KAPI Kappang 50.68 211 P **P** **04 57 55.6 +0.2**
KAPI IAmb IAmb 04 57 58.4
comp=Z,78nm,1.1s
BKSI Bulukumba 50.81 210 P **P** **04 57 58.0 +1.6**
comp=Z,737nmcomp=Z,40nm,1.3s
BBKI Banjar Baru 51.36 217 P **P** **04 58 01.8 +1.2**
comp=Z,39nm,1.1s
DZA Taraz 51.93 297⇑ *i*P **P** **04 58 04.9 +0.2**
comp=Z,31nm,1.3s,baz=297
DZA LR LR 05 20 30.6
comp=Z,666nm,15.6s,baz=297
DZA Taraz 51.93 297*c i*P **P** **04 58 04.8 +0.2**
DZA pmax pmax
comp=Z,31nm,1.3s
DZA MLR MLR
comp=Z,666nm,16.0s
A36M Sachs Harbour 51.97 23 P **P** **04 58 04.8 +0.4**
baz=286
A36M S **S** **05 05 26.7 +1.3**
baz=286
KULM Kulim 52.12 239 P **P** **04 58 06.0 -0.2**
KULM IAmb IAmb 04 58 09.3
comp=Z,38nm,0.9s
KULM Kulim 52.12 239 P **P** **04 58 07.0 +0.8**
KK31 Karatay Array 52.40 298 *i* P **P** **04 58 07.3 -0.8**

KK31 Karatay Array 52.40 298 IAmb IAmb 04 58 23.4
comp=Z,44nm,0.9s
KKAR Karatay Array 52.40 298 IAmb IAmb 04 58 23.4
comp=Z,44nm,0.9s
IPM Ipoh 52.49 238 P **P** **04 58 08.8 -0.3**
IPM Ipoh 52.49 238 P **P** **04 58 10.0 +1.0**
MYKOM **Kota Tinggi 52.83 233** P **P** **04 58 13.0 +1.5**
SVE Sverdlovsk 53.09 317 *deP* **P** **04 58 13.8 +0.8**
SVE *eS* **S** **05 05 43.1 +1.9**
SVE pmax pmax
comp=Z,141nm,1.5s
SVE MLR MLR
comp=Z,4μm,18.0s
IUG luzhnay 53.12 297⇑ *iP* **P** **04 58 13.9 +0.3**
comp=Z,68nm,1.9s,baz=297
IUG LR LR 05 21 42.4
comp=Z,1μm,17.6s,baz=297
IUG luzhnay 53.12 297 *c iP* **P** **04 58 13.8 +0.3**
IUG pmax pmax
comp=Z,68nm,1.9s
IUG MLR MLR
comp=Z,1μm,18.0s
SMLA Simla 53.15 282 *eP* **P** **04 58 13.6 -0.1**
C36M Paulatuk 53.16 26 P **P** **04 58 15.2 +1.9**
baz=290,SNR=5.7
C36M S **S** **05 05 43.1 +1.5**
baz=290
C36M Paulatuk 53.16 26 IAmb IAmb 04 58 28.9
comp=Z,58nm,0.8s
DHRM DHARAMSHALA 53.23 283 *eP* **P** **04 58 13.5 -1.1**
DHRM IAmb IAmb 04 58 29.6
comp=Z,244nm,1.2s
EDFI Ende, Flores 53.42 207 P **P** **04 58 15.7 -0.2**
comp=Z,409nmcomp=Z,24nm,1.5s
SOEI Soe 53.54 203 P P 04 58 28.9 +12
SOEI Soe 53.54 203 IAmb IAmb 04 58 36.8
comp=Z,70nm,1.0s
BATI Baumata 54.15 204 LR LR 05 20 49.2
comp=Z,472nm,21.3s,baz=352,slow=35
ARU Arti 54.31 317 P **P** **04 58 21.7 -0.1**
comp=Z,3.5nm,0.3s,baz=59,slow=4.1,SNR=74
ARU Arti 54.31 317 *diP* **P** **04 58 22.2 +0.4**
ARU 04 59 23.9
ARU 05 00 18.7
ARU S **S** **05 06 00.8 +3.2**
ARU 05 08 04.3
ARU pmax pmax
comp=Z,171nm,1.3s
ARU MLR MLR
comp=Z,4μm,18.0s
ARU Arti 54.31 317 P **P** **04 58 22.2 +0.4**
ARU IAmb IAmb 04 58 26.8
comp=Z,30nm,0.9s
TPI Tanjungpandan 54.36 226 P **P** **04 58 24.7 +2.0**
comp=Z,56nm,1.0s
NDI New Delhi 54.37 279 *eP* **P** **04 58 22.0 -0.7**
DLBC Dease Lake 54.58 40 P **P** **04 58 25.1 +1.2**
PPBI Pangkal Pinang 54.70 228 P **P** **04 58 26.4 +1.2**
comp=Z,12μmcomp=Z,84nm,1.2s
NIL Nilore 54.77 286 P **P** **04 58 26.5 +0.9**
NIL P **P** **04 58 26.5 +0.9**
NIL Nilore 54.77 286 P **P** **04 58 25.3 -0.3**
NIL pmax pmax
comp=Z,119nm,1.0s
NIL Nilore 54.77 286 P **P** **04 58 25.3 -0.3**
COEN Coen 54.77 180 P **P** **04 58 26.0 +0.4**
COEN IAmb IAmb 04 58 28.2
comp=Z,28nm,1.1s
MTN Manton Dam 54.82 194 IAmb IAmb 04 58 44.2
comp=Z,28nm,0.8s
PSI Prapat 55.12 238 LR LR 05 23 22.6
comp=Z,536nm,19.2s,baz=89,slow=38
RPSI Rantau Prapat 55.20 238 IAmb IAmb 04 58 30.2
comp=Z,49nm,1.1s
TWSI Taliwang, Sumb 55.20 212 P P 04 58 41.7 +13
KCSI Kotacane, Aceh 55.32 240 P **P** **04 58 32.6 +2.9**
comp=Z,17nm,0.7s
MLSI Meulaboh, Aceh 55.66 242 P **P** **04 58 32.7 +0.5**
comp=Z,69nm,1.1s
BKNI Bangkinang 55.69 234 P **P** **04 58 33.9 +1.5**
comp=Z,152nm,1.0s
EUNU Eureka 55.96 9 IAmb IAmb 04 58 54.0
comp=Z,44nm,0.9s
SDSI Sungai Dareh 56.45 233 P **P** **04 58 38.9 +1.2**
comp=Z,2μmcomp=Z,142nm,1.4s
AB31 Akbulak array 56.46 309 P **P** **04 58 37.2 -0.3**
SPA0 Spitsbergen Ar 56.82 349 *eP* **P** **04 58 41.0 +1.4**
SPITS Spitsbergen Ar 56.82 349 P **P** **04 58 39.6 0.0**
comp=Z,6.4nm,0.6s,baz=107,slow=11,SNR=9.9
KBS Kingsbay 56.91 350 *c iP* **P** **04 58 41.0 +0.8**
KBS pmax pmax
comp=Z,66nm,1.3s
KBS Kingsbay 56.91 350 *eP* **P** **04 58 41.3 +1.1**
AKTO Aktyubinsk 57.06 311 P **P** **04 58 41.7 -0.1**
comp=Z,18nm,0.7s,baz=36,slow=8.2,SNR=52
GSI Gunungsitoli 57.12 238 P **P** **04 58 43.5 +1.0**
comp=Z,3μmcomp=Z,137nm,2.1s
GSI Gunungsitoli 57.12 238 IAmb IAmb 04 58 58.4
comp=Z,38nm,0.8s
BHPL Bhopal 57.20 273 *eP* **P** **04 58 39.5 -3.6**
BHPL IVmBBB 04 58 43.8
comp=Z,712nm,1.5s
KBL Kabul 57.35 289 P **P** **04 58 43.6 -0.7**
KBL pmax pmax
comp=Z,99nm,1.2s
KBL Kabul 57.35 289 P **P** **04 58 43.6 -0.7**
LHSI Lahat 57.54 229 P **P** **04 58 46.6 +1.1**
comp=Z,171nm,1.1s
KLSI 57.57 227 P **P** **04 58 46.4 +0.7**
comp=Z,536nmcomp=Z,32nm,1.5s
MASI Maura Aman, Be 57.73 231 P **P** **04 58 47.8 +0.9**
comp=Z,282nm,1.3s
HSPB Hornsund (broa 57.78 348 *eP* **P** **04 58 47.3 +0.9**
HSPB *eL* L 05 25 58.0
comp=Z,2μm,20.7s
HSPB Hornsund (broa 57.78 348 *eP* **P** **04 58 47.5 +1.1**
KIRV Kirov 57.90 322 P **P** **04 58 47.5 0.0**
comp=Z,52nm,0.7s,baz=82,slow=3.8,SNR=52
KNRA Kununurra 58.06 196 P **P** **04 58 49.3 +0.4**
KNRA IAmb IAmb 04 59 03.4
comp=Z,40nm,1.1s
PRGR Permogore 58.16 326⇑ *iP* **P** **04 58 49.2 0.0**
PRGR pmax pmax
comp=Z,128nm,1.3s
RES Resolute Bay 58.32 15 P **P** **04 58 51.4 +1.3**
RES pmax pmax
comp=Z,26nm,0.8s
RES Resolute Bay 58.32 15 P **P** **04 58 51.4 +1.3**
RES IAmb IAmb 04 59 07.2
comp=Z,26nm,0.8s
APA Apatity 59.58 335⇑ *iP* **P** **04 58 57.2 -1.8**
APA *i* S **S** **05 07 01.0 -5.9**
APA pmax pmax
comp=Z,11nm,1.0s
APA MLR MLR
comp=Z,3μm,16.0s
YKA Yellowknife Ar 59.60 32 P **P** **04 58 59.2 0.0**
comp=Z,1.9nm,0.8s,baz=302,slow=6.7,SNR=15
YKA LR LR 05 26 36.1
comp=Z,756nm,21.4s,baz=0.0,slow=38
HYB Hyderabad 59.78 267 *i* P **P** **04 59 01.0 -0.1**
HYB *es*P **sP** **04 59 13.0 +0.9**
HYB *e*PcP **PcP** **04 59 47.0 -0.7**
HYB Hyderabad 59.78 267 *eP* **P** **04 59 01.1 -0.1**
TMCR Tamitsa 59.88 331 *eP* **P** **04 59 00.4 -0.7**
TMCR *eS* **S** **05 07 11.2 +0.4**
KEV Kevo 60.16 339 P **P** **04 59 03.5 +0.6**
KEV pmax pmax
comp=Z,24nm,0.9s
KEV Kevo 60.16 339 P **P** **04 59 03.5 +0.6**
KEV IAmb IAmb 04 59 04.9
comp=Z,24nm,0.9s
HAMF Hammerfest 60.46 341 *eP* **P** **04 59 05.7 +0.7**
ARCES **ARCESS Array B 60.71 339** P **P** **04 59 06.5 -0.3**
comp=Z,3.7nm,0.6s,baz=43,slow=6.7,SNR=27
ARCES LR LR 05 30 18.9
comp=Z,2μm,19.2s,baz=38,slow=41
ARE0 ARCESS Array S 60.71 339⇑ *iP* **P** **04 59 07.1 +0.3**
CTAO Charters Tower 60.94 177 P **P** **04 59 09.3 +0.5**
CTAO pmax pmax
comp=Z,5.0nm,0.8s
CTAO Charters Tower 60.94 177 P **P** **04 59 09.3 +0.5**
KLMR Klimovskoe 61.10 327 *eP* **P** **04 59 08.9 -0.6**
KLMR *e* 05 01 21.9
KLMR *eS* **S** **05 07 29.9 +3.4**
KLMR pmax pmax
comp=Z,156nm,1.5s
KLMR MLR MLR
comp=Z,2μm,17.0s
KLMR Klimovskoe 61.10 327 *eP* **P** **04 59 09.0 -0.6**
KLMR AMP 04 59 12.0
comp=Z,156nm,1.5s
KLMR *e*PP **PP** **05 01 21.9 -1.8**
KLMR *eS* **S** **05 07 29.9 +3.4**
KLMR *eS* **S** **05 07 29.9 +3.4**
KLMR LQ LQ 05 21 26.3
KLMR LQ LQ 05 21 26.3
KLMR LR LR 05 26 08.3
KLMR AMP 05 28 28.2
comp=Z,2μm,16.9s
WB0 Warramunga Arr 61.11 190 IAmb IAmb 04 59 11.0
comp=Z,38nm,0.9s
FITZ Fitzroy Crossi 61.12 199 IAmb IAmb 04 59 12.1
comp=Z,26nm,1.1s
WRAB Tennant Creek 61.27 190 P **P** **04 59 11.1 0.0**
WRAB pmax pmax
comp=Z,49nm,1.1s
WRAB Tennant Creek 61.27 190 P **P** **04 59 11.1 0.0**
WRAB IAmb IAmb 04 59 12.2
comp=Z,49nm,1.1s
WR0 Warramunga Arr 61.28 189 IAmb IAmb 04 59 12.2
comp=Z,27nm,0.9s
WB2 Warramunga Arr 61.28 190 IAmb IAmb 04 59 12.2
comp=Z,39nm,1.0s
WRA Warramunga Arr 61.29 190 P **P** **04 59 10.7 -0.5**
comp=Z,20nm,0.8s,baz=7.0,slow=6.9,SNR=102
WRA LR LR 05 25 05.6
comp=Z,431nm,21.4s,baz=15,slow=35
WRA Warramunga Arr 61.29 190 *i P* **P** **04 59 11.0 -0.2**
WRA pmax pmax
comp=Z,20nm,0.8s
WRA Warramunga Arr 61.29 190 P **P** **04 59 10.0 -1.2**
KTK1 Kautokeino 61.66 339 *eP* **P** **04 59 13.5 +0.3**
HRA Herat 62.23 293 IAmb IAmb 04 59 19.7
comp=Z,49nm,1.1s
TRO Tromso 62.34 341 *eP* **P** **04 59 18.2 +0.5**
POO Poona 62.66 271 *eP* **P** **04 59 20.0 -0.7**
KAD Karad 63.15 270⇑ *iP* **P** **04 59 23.5 -0.4**
GEYT Alibeck 63.15 298 P **P** **04 59 23.6 -0.1**
comp=Z,26nm,1.0s,baz=45,slow=2.3,SNR=35
GEYT LR LR 05 29 15.2
comp=Z,4μm,18.6s,baz=55,slow=38
GYA0B ALIBECK ARRAY 63.15 298 P **P** **04 59 23.7 0.0**
GYA0B IAmb IAmb 04 59 25.2
comp=Z,36nm,0.9s
D03D Eldon 63.34 49 P **P** **04 59 22.6 -2.1**
baz=303
B05A Bryant 63.51 48 P **P** **04 59 24.6 -1.2**
baz=303
B05A S **S** **05 07 58.8 +1.6**
baz=303
D04E Lakebay 63.71 49 P **P** **04 59 27.2 +0.1**
baz=303
D04E S **S** **05 08 01.1 +1.4**
baz=303
E04D Cinebar 64.17 50 P **P** **04 59 31.5 +1.3**
baz=303
G03D McMinnville, O 64.50 51 P **P** **04 59 33.0 +0.7**
baz=303
STEI Steigen 64.50 341 *eP* **P** **04 59 33.3 +1.3**
PALK Pallekele 64.65 257 P **P** **04 59 33.4 -0.4**
PALK pmax pmax
comp=Z,49nm,1.2s
PALK Pallekele 64.65 257 P **P** **04 59 33.4 -0.4**
PALK IAmb IAmb 04 59 35.4
comp=Z,49nm,1.1s
LOF Lofoten 64.77 341 *eP* **P** **04 59 35.1 +1.4**
MOS Moscow 64.85 323 *eP* **P** **04 59 32.5 -2.0**
MOS *e* 05 01 54.4
MOS *e*PPP PPP 05 03 26.6
MOS *eS* **S** **05 08 10.7 -2.8**
MOS pmax pmax
comp=Z,168nm,1.5s
MOS MLR MLR
comp=Z,4μm,17.0s
MOS MLR MLR
comp=N,2μm,16.0s
FAUS Fauske 64.91 340⇑ *iP* **P** **04 59 35.0 +0.4**
B08A Colville Reser 64.99 47 IAmb IAmb 04 59 56.5
comp=Z,21nm,1.1s
ASAR Alice Springs 65.01 189 P **P** **04 59 36.2 +0.4**
comp=Z,18nm,0.9s,baz=5.4,slow=5.1,SNR=70
ASAR LR LR 05 27 09.0
comp=Z,462nm,20.9s,baz=358,slow=35
ASAR Alice Springs 65.01 189 P **P** **04 59 36.4 +0.6**
ASAR Alice Springs 65.01 189 P **P** **04 59 36.4 +0.6**
F05D White Salmon 65.18 50 P **P** **04 59 37.5 +0.6**
baz=304
H04D Lebanon 65.19 52 P **P** **04 59 38.2 +1.3**
baz=304
J01E Myrtle Point 65.23 54 P **P** **04 59 36.3 -0.8**
baz=304
PUL Pulkovo 65.42 329 *eP* **P** **04 59 38.2 +0.1**
H04A Detroit Lake 65.42 51 IAmb IAmb 04 59 54.2
comp=Z,51nm,0.9s
VRH Novokhopyorsk 65.54 317 *eP* **P** **04 59 38.8 -0.2**
VRH *e**SP **sP** **04 59 51.7 +1.6**
VRH pmax pmax
comp=Z,100nm,0.8s
VRH MLR MLR
comp=Z,4μm,16.0s
G05D Wamic, OR 65.62 51 P **P** **04 59 38.5 -1.2**
baz=304
K02D Willamette Mer 65.65 54 P **P** **04 59 41.2 +1.1**
baz=304,SNR=5.6
K02D S **S** **05 08 24.9 +0.9**
baz=304
OBN Obninsk 65.71 323 P **P** **04 59 39.8 -0.2**
comp=Z,8.1nm,0.6s,baz=37,slow=3.5,SNR=21
OBN Obninsk 65.71 323 *c iP* **P** **04 59 40.1 +0.1**
OBN *i* *PP **sP** **04 59 53.3 +2.2**
OBN *e**SP pwP 04 59 58.4 +7.7
OBN *e* 05 00 10.7
OBN *eS* **S** **05 08 22.8 -1.2**
OBN *e* 05 09 24.7
OBN *eSS* **SS** **05 12 31.7 -6.0**
OBN pmax pmax
comp=Z,141nm,1.3s
OBN MLR MLR
comp=Z,4μm,16.0s
OBN Obninsk 65.71 323 P **P** **04 59 40.4 +0.4**
I04A Tendick Farm, 65.79 52 P **P** **04 59 42.2 +1.3**
baz=304,SNR=7.6
FIA1 FINESS Array S 65.89 332 IAmb IAmb 04 59 42.8
comp=Z,52nm,0.9s
FINES FINESS Array B 65.89 332 P **P** **04 59 41.2 +0.1**
comp=Z,19nm,0.6s,baz=48,slow=7.8,SNR=77
FINES LR LR 05 31 32.3
comp=Z,4μm,18.0s,baz=42,slow=39
D08A Wollman Farm, 65.96 48 IAmb IAmb 04 59 57.3
comp=Z,41nm,0.9s
L02E Cave Junction 65.99 54 P **P** **04 59 43.1 +1.0**
baz=304
PSA00 Pilbara Seismi 66.03 204 P **P** **04 59 42.8 +0.4**
MOR8 Moi Rana 66.05 340⇑ *iP* **P** **04 59 41.0 -1.1**
F07A Phinny Hill Vi 66.06 49 IAmb IAmb 04 59 58.5
comp=Z,46nm,0.9s
LPSR Galich'ya Gora 66.11 320 *eP* **P** **04 59 42.7 0.0**
LPSR *e**SP **sP** **04 59 55.5 +1.8**
LPSR pmax pmax
comp=Z,180nm,1.6s
LPSR MLR MLR
comp=Z,2μm,17.0s
I05D Terrebonne, OR 66.12 51 P **P** **04 59 45.5 +2.5**
baz=305,SNR=6.5
KONS Konsvik 66.14 340 *eP* **P** **04 59 44.2 +1.6**
NEW Newport 66.26 46 P **P** **04 59 45.0 +1.1**
baz=306
NEW S **S** **05 08 33.0 +1.8**
baz=306
J04D Umpqua Nationa 66.28 53 P **P** **04 59 45.9 +1.6**
baz=305,SNR=7.2
DZM Mont Dzumac 66.44 156 *eSS* SS 05 12 56.0 +4.6
comp=Z,383nm,25.4s
DZM *eLR* LR 05 19 45.3
comp=Z,2μm,22.7s
VORR Voronezh 66.53 319 P **P** **04 59 44.0 -1.4**
VORR pmax pmax
comp=Z,300nm,2.0s
SUMG Summit 66.62 1 *i* P **P** **04 59 47.2 +1.0**
comp=Z,101nm,0.8s
SUMG Summit 66.62 1 *i* P **P** **04 59 47.2 +1.0**
SUMG pmax pmax
comp=Z,100nm,0.8s
SUMG Summit 66.62 1 IAmb IAmb 05 00 01.7
comp=Z,46nm,0.9s
L04D Klamath Falls 66.75 54 P **P** **04 59 49.1 +2.0**
baz=305,SNR=7.4
J05D Fort Rock, OR 66.78 52 P **P** **04 59 49.3 +1.9**
baz=305,SNR=9.0
VSR Storozhevoye 66.83 318 *eP* **P** **04 59 47.1 -0.2**
VSR *e**SP **sP** **04 59 59.8 +1.5**
VSR pmax pmax
comp=Z,100nm,0.9s
VSR MLR MLR
comp=Z,4μm,16.0s
K04D Chiloquin, OR 66.85 53 P **P** **04 59 49.5 +1.7**
baz=305,SNR=5.6
M02C Callahan 66.89 55 P **P** **04 59 50.6 +2.6**
baz=305,SNR=5.6
VORD Divnogorie 66.91 318 *eP* **P** **04 59 47.7 -0.1**
VORD *e**SP **sP** **05 00 00.2 +1.3**
VORD pmax pmax
comp=Z,90nm,1.1s
VORD MLR MLR
comp=Z,3μm,17.0s
MAK Makhachkala 67.09 308 *eP* **P** **04 59 50.0 +0.9**
MAK *e* 05 02 17.7
MAK *eS* **S** **05 08 42.6 +1.3**
MAK pmax pmax
comp=Z,207nm,1.4s
MAK MLR MLR
comp=Z,1μm,15.0s
N02D Trinity Center 67.22 55 P **P** **04 59 52.2 +2.1**
baz=305
M04C Macdoel 67.28 54 P **P** **04 59 52.3 +1.7**
baz=305,SNR=7.0
K05A Summer Lake 67.31 53 IAmb IAmb 05 00 09.2
comp=Z,39nm,1.1s
WALA Waterton Lakes 67.50 44 IAmb IAmb 05 00 07.3
comp=Z,39nm,1.1s
O02D Mt. Diablo Mer 67.62 56 P **P** **04 59 54.5 +1.8**
baz=306,SNR=6.3
VSU Vasula 67.68 329 *eP* **P** **04 59 51.4 -1.1**
VSU Vasula 67.68 329 *c iP* **P** **04 59 52.7 +0.1**
VSU pmax pmax
comp=Z,105nm,1.0s
AKT Akhty 67.82 306 *eP* **P** **04 59 54.3 +0.4**
AKT *e* 05 00 20.1
AKT pmax pmax
comp=Z,125nm,1.1s
NSS Namsos 67.98 339⇑ *iP* **P** **04 59 54.4 0.0**
MOD Modoc Plateau 68.15 53 IAmb IAmb 05 00 11.8
comp=Z,40nm,1.0s
BMO Blue Mountains 68.16 49 IAmb IAmb 05 00 11.7
comp=Z,36nm,1.1s
O03E Paynes Creek 68.17 55 P **P** **04 59 57.6 +1.5**
baz=306
GOF Gofitskoye 68.46 311⇑ *eP* **P** **04 59 58.9 +1.2**
GOF pmax pmax
comp=Z,279nm,0.9s
ORV Oroville 68.79 56 IAmb IAmb 05 00 15.0
comp=Z,30nm,1.1s
MSO Missoula 68.84 46 P **P** **05 00 01.2 +1.0**
baz=308,SNR=7.7
MSO Missoula 68.84 46 IAmb IAmb 05 00 15.6
comp=Z,48nm,1.1s
KVAR Kislovodsk Arr 69.33 311 P **P** **05 00 04.9 +1.6**
comp=Z,198nm,1.2s,baz=90,slow=23,SNR=22
KIV Kislovodsk 69.33 311⇑ P **P** **05 00 04.6 +1.3**
KIV Kislovodsk 69.33 311 P **P** **05 00 04.4 +1.0**
KIV Kislovodsk 69.33 311 *i* P **P** **05 00 04.9 +1.6**
KIV Kislovodsk 69.33 311 *eP* **P** **05 00 04.9 +1.6**
KIV Kislovodsk 69.33 311 *eP* **P** **05 00 04.3 +1.0**
KIV *eS* **S** **05 09 11.6 +3.4**
KIV *eSS* **SS** **05 13 39.6 +5.1**
KIV pmax pmax
comp=Z,321nm,3.3s
KIV Kislovodsk 69.33 311 P **P** **05 00 03.4 +0.1**
KBZ Khabaz 69.35 310 P **P** **05 00 04.0 +0.8**
comp=Z,91nm,1.1s,baz=56,slow=4.9,SNR=110
KBZ LR LR 05 33 36.3
comp=Z,2μm,21.2s,baz=33,slow=39
TBLU Trondheim 69.46 339⇑ *iP* **P** **05 00 02.8 -0.8**
TBLG Delisi 69.47 308 *eP* **P** **05 00 05.6 +1.5**
TBLG Delisi 69.47 308 *eP* **P** **05 00 05.6 +1.5**
FFC Flin Flon 69.54 34 P **P** **05 00 05.4 +1.2**
FFC pmax pmax
comp=Z,61nm,1.2s
FFC Flin Flon 69.54 34 P **P** **05 00 05.4 +1.2**
FFC IAmb IAmb 05 00 19.4
comp=Z,61nm,1.1s
IZAR Zarasai 69.75 328 *eP* **P** **05 00 05.9 +0.4**
IDID Didziasalis 69.85 327 *eP* **P** **05 00 06.5 +0.3**
ISAL Salakas 69.92 327 *eP* **P** **05 00 07.2 +0.6**
MICGM **Minsk 69.93 326**⇓ *eP* **P** **05 00 07.0 +0.3**
MICGM PM 05 00 08.0
comp=Z,0.3nm,2.0s
MICGM *e*LR LR 05 28 05.0
MICGM LRM MLR 05 33 48.0
comp=Z,6.0nm,18.0s
MNK Minsk 69.93 326 *eP* **P** **05 00 07.0 +0.3**
MNK pmax pmax
comp=Z,310nm,2.0s
MNK MLR MLR
comp=Z,6μm,18.0s
VCNR Virginia City 70.10 55 IAmb IAmb 05 00 25.7
comp=Z,19nm,1.0s
NACGM **Naroch 70.12 327** *e* **P** **05 00 09.0 +1.2**
NACGM *e*LQ LQ 05 27 32.0
NACGM *e*LR LR 05 31 54.0
EGMT Eagleton 70.31 43 P **P** **05 00 09.0 -0.2**
baz=310
EGMT Eagleton 70.31 43 IAmb IAmb 05 00 28.0
comp=Z,20nm,1.0s
AKH Akhalkalaki 70.41 308⇑ P **P** **05 00 11.9 +1.8**
AKH Akhalkalaki 70.41 308 *eP* **P** **05 00 11.6 +1.5**
AKH Akhalkalaki 70.41 308 *eP* **P** **05 00 11.6 +1.5**
AKH Akhalkalaki 70.41 308 P **P** **05 00 11.9 +1.8**
AKH Akhalkalaki 70.41 308 IAmb IAmb 05 00 13.3
comp=Z,5nm,1.0s
CHVG Ch'k'valeri 70.44 310⇑ P **P** **05 00 12.2 +2.2**
HLID Hailey 70.60 49 P **P** **05 00 13.2 +1.9**
baz=309,SNR=6.7
HLID S **S** **05 09 24.2 +0.9**
baz=309
WAKR Walker 70.71 56 IAmb IAmb 05 00 28.0
comp=Z,44nm,1.2s
DOMB Dombas 70.77 339⇑ *iP* **P** **05 00 12.2 +0.5**
NC405 NORSAR Array S 70.78 337 IAmb IAmb 05 00 23.5
comp=Z,42nm,1.1s
PABE Paberze 70.83 328 *eP* **P** **05 00 12.4 +0.3**
BOZ Bozeman (W) 70.87 46 P **P** **05 00 13.6 +0.8**
baz=310,SNR=18
BOZ S **S** **05 09 27.9 +1.7**
baz=310
HFS Hagfors 70.97 336 P **P** **05 00 12.8 -0.1**
comp=Z,15nm,0.8s,baz=53,slow=5.7,SNR=18
NB2 NORSAR Subarra 70.99 338 P **P** **05 00 13.2 +0.1**
comp=Z,129nm,1.7s,baz=38,slow=6.2
NB2 NORSAR Subarra 70.99 338 P **P** **05 00 13.2 +0.1**
baz=38,slow=6.2
NOA NORSAR Array B 70.99 338 P **P** **05 00 12.9 -0.2**
comp=Z,11nm,0.8s,baz=37,slow=6.1,SNR=38
NOA LR LR 05 35 06.7
comp=Z,2μm,20.4s,baz=30,slow=39
NBO00 NORSAR Array S 71.12 338 IAmb IAmb 05 00 15.8
comp=Z,59nm,1.1s
NC602 NORSAR Array S 71.14 337 *eP* **P** **05 00 14.1 +0.2**
RYN Ryan 71.20 55 IAmb IAmb 05 00 30.8
comp=Z,54nm,1.1s
AKN Aaknes 71.21 340 *eP* **P** **05 00 15.4 +1.0**
NAO01 NORSAR Array S 71.24 338 IAmb IAmb 05 00 28.7
comp=Z,36nm,1.1s
SOC Sochi 71.25 312 *c iP* **P** **05 00 15.6 +0.7**
SOC *e* 05 02 47.7
SOC *e*PPP PPP 05 04 35.0
SOC *eS* **S** **05 09 32.1 +1.7**
SOC *eSS* **SS** **05 14 02.8 -1.0**
SOC pmax pmax
comp=Z,83nm,0.9s
SOC MLR MLR
comp=Z,959nm,16.0s
BANOM **Banah 71.27 288** P **P** **05 00 15.6 +0.2**
BANOM **Banah 71.27 288** P **P** **05 00 15.9 +0.6**
SNR=9.7

BANOM P P 05 00 15.9 +0.6
SNR=9.7
SHME Shamm 71.31 288 P P 05 00 15.7 +0.1
WBK Wadi Bani Khal 71.33 284 P P 05 00 16.8 +1.1
WBK P P 05 00 16.8 +1.1
BATM Batumi 71.35 309 ⇓P P 05 00 16.7 +1.0
BATM Batumi 71.35 309 *e*P P 05 00 17.1 +1.5
BATM Batumi 71.35 309 *e*P P 05 00 17.1 +1.5
BATM Batumi 71.35 309 P P 05 00 16.6 +1.0
BIDO Bidbid 71.40 285 P P 05 00 17.5 +1.3
SNR=9.4
BIDO P P 05 00 17.5 +1.3
SNR=9.4
NVAR Mina Array Bea 71.46 55 P P 05 00 17.3 +0.7
comp=Z,1.6nm,0.6s,baz=295,slow=6.0,SNR=13
NVAR LR LR 05 25 40.1
comp=Z,420nm,20.9s,baz=301,slow=31
MDPB Devils Postpil 71.46 56 IAmb IAmb 05 00 32.4
comp=Z,34nm,1.2s
NV11 Mina Array Sit 71.55 55 IAmb IAmb 05 00 37.9
comp=Z,25nm,1.1s
CLDR Caldiran 71.55 306 *e*P P 05 00 19.0 +1.9
CLDR Caldiran 71.55 306 *e*P P 05 00 19.0 +1.9
SENK Senkaya-Erzuru 71.61 308 *e*P P 05 00 18.9 +1.5
SENK Senkaya-Erzuru 71.61 308 *e*P P 05 00 18.9 +1.5
MLAC Mammoth, Mammo 71.62 56 P P 05 00 18.9 +1.3
baz=308
MDH Madha 71.65 288 P P 05 00 16.9 -0.7
MSFE Esma-Masafi 71.71 288 P P 05 00 18.3 +0.3
SMDO Samad 71.73 285 P P 05 00 19.4 +1.1
SNR=6.8
SMDO P P 05 00 19.4 +1.1
SNR=6.8
ANN Anapa 71.74 314 *e*P P 05 00 17.9 +0.1
ANN pmax pmax
comp=Z,109nm,1.0s
ANN MLR MLR
comp=N,1µm,17.0s
ANN MLR MLR
comp=Z,1µm,20.0s
AGRB Hanur-Agry 71.84 307 *e*P P 05 00 20.5 +1.7
AGRB Hanur-Agry 71.84 307 *e*P P 05 00 20.5 +1.7
UOSS Minazif 71.93 288 *i*P P 05 00 19.5 +0.1
SNR=22
UOSS Minazif 71.93 288 P P 05 00 19.3 -0.1
UOSS IAmb IAmb 05 00 21.2
comp=Z,53nm,0.9s
AKASG Malin Array Be 71.95 322 P P 05 00 18.9 -0.2
comp=Z,13nm,0.6s,baz=45,slow=6.3,SNR=94
AKASG LR LR 05 35 12.0
comp=Z,3µm,18.2s,baz=55,slow=39
AKASG Malin Array Be 71.95 322 *i*P P 05 00 19.2 +0.2
AKASG pmax pmax
comp=Z,22nm,0.7s
AKBB Malin Array Si 71.95 322 IAmb IAmb 05 00 33.6
comp=Z,46nm,0.9s
HOQ Hoqain 71.96 286 P P 05 00 20.0 +0.5
SNR=9.3
HOQ P P 05 00 20.0 +0.5
SNR=9.3
HATD Hatta, Dubai 72.06 287 *i*P P 05 00 20.5 +0.5
SNR=25
HATD Hatta, Dubai 72.06 287 P P 05 00 20.8 +0.8
SNR=18
HATD P P 05 00 20.8 +0.8
SNR=18
VOG Valley Oaks Go 72.08 57 P P 05 00 20.1 +0.1
baz=308
SKAR Skarslia 72.10 339 ⇑*i*P P 05 00 20.7 +0.9
JMDO Jabal Madar 72.11 284 P P 05 00 20.9 +0.4
JMDO P P 05 00 20.9 +0.4
SOHO SOHO 72.19 287 *i*P P 05 00 20.7 -0.2
SNR=16
SOHO SOHO 72.19 287 P P 05 00 21.1 +0.3
SOHO P P 05 00 21.1 +0.3
ASHO Ashiyiah 72.19 287 *i*P P 05 00 21.1 +0.2
SNR=26
ASHO Ashiyiah 72.19 287 P P 05 00 21.4 +0.5
SNR=18
ASHO P P 05 00 21.4 +0.5
SNR=18
H17A Grant Village 72.21 46 P P 05 00 23.5 +2.5
baz=310,SNR=16
CHOM Cayeli-Rize 72.22 309 *e*P P 05 00 22.2 +1.4
CHOM Cayeli-Rize 72.22 309 *e*P P 05 00 22.2 +1.4
SUW Suwalki 72.23 328 *e*P P 05 00 20.6 0.0
SUW *e*L L 05 35 06.4
comp=Z,3µm,17.2s
HYA Hoyanger 72.27 340 *e*P P 05 00 21.4 +0.8
KOPR Koprukoy-ERZUR 72.27 308 *e*P P 05 00 23.1 +1.8
KOPR Koprukoy-ERZUR 72.27 308 *e*P P 05 00 23.1 +1.8
NAZ Nazwa, Dubai 72.30 288 *i*P P 05 00 21.5 0.0
SNR=5.7
NAZ Nazwa, Dubai 72.30 288 P P 05 00 22.0 +0.5
SNR=11
NAZ P P 05 00 22.0 +0.5
SNR=11
SMMC Simmler 72.30 58 P P 05 00 22.1 +0.7
baz=308
IMW Indian Meadow 72.33 47 IAmb IAmb 05 00 38.3
comp=Z,43nm,0.9s
RLMT Red Lodge 72.45 45 P P 05 00 23.9 +1.5
baz=311,SNR=6.9
RLMT Red Lodge 72.45 45 IAmb IAmb 05 00 38.3
comp=Z,55nm,1.1s
FXWY Fox Creek 72.45 47 IAmb IAmb 05 00 38.8
comp=Z,44nm,1.0s
BSY Bisya 72.55 285 P P 05 00 23.7 +0.6
SNR=8.1
BSY P P 05 00 23.7 +0.6
SNR=8.1
VES Vestal, Richgr 72.56 58 P P 05 00 25.1 +2.2
baz=308,SNR=6.4
KONO Kongsberg 72.59 337 *de*P P 05 00 24.0 +1.4
KONO pmax pmax
comp=Z,26nm,1.7s
KONO Kongsberg 72.59 337 *e*P P 05 00 22.9 +0.3
GEVA Gevas 72.59 306 IAmb IAmb 05 00 26.0
comp=Z,44nm,1.2s
TPAW Teton Pass 72.59 47 IAmb IAmb 05 00 38.7
comp=Z,60nm,1.1s
STKA Stephens Creek 72.63 181 P P 05 00 24.1 +1.1
comp=Z,1.5nm,0.5s,baz=338,slow=6.8,SNR=7.6
STKA LR LR 05 32 34.5
comp=Z,362nm,21.3s,baz=14,slow=36
ARQ Araqi 72.68 286 P P 05 00 24.5 +0.6
SNR=10.0
ARQ P P 05 00 24.5 +0.6
SNR=10.0
PKM Mcpherson Peak 72.68 59 P P 05 00 25.1 +1.2
baz=308,SNR=5.4
PKM S S 05 09 49.3 +1.8
baz=308
SNOW Snow King Moun 72.72 47 IAmb IAmb 05 00 40.4
comp=Z,36nm,0.9s
REDW Red Top Meadow 72.73 47 IAmb IAmb 05 00 40.3
comp=Z,54nm,1.1s
SUE Sulen 72.73 340 ⇑*i*P P 05 00 23.5 +0.1
ALNE Al Ain 72.80 287 *i*P P 05 00 24.7 +0.2
SNR=6.0
DGMT Dagmar 72.80 40 P P 05 00 20.0 -4.2
baz=313
DGMT Dagmar 72.80 40 IAmb IAmb 05 00 39.3
comp=Z,68nm,1.1s
CWC Cottonwood Cre 72.83 57 P P 05 00 23.7 -1.0
baz=309
KTUT Trabzon 72.87 310 *e*P P 05 00 25.2 +0.6
KTUT Trabzon 72.87 310 *e*P P 05 00 25.2 +0.6
CUKT Cukurca 72.92 305 *i*P P 05 00 26.1 +0.9
CUKT Cukurca 72.92 305 *e*P P 05 00 26.1 +0.9
GRAC Grapevine Rang 72.93 56 P P 05 00 26.3 +1.2
baz=309,SNR=5.6
LAO LASA Array 73.00 42 P P 05 00 25.5 +0.1
baz=312
SBC Santa Barbara 73.02 59 P P 05 00 25.2 -0.4
baz=308
KOPT Kop Dagi 73.06 308 IAmb IAmb 05 00 43.2
comp=Z,73nm,1.1s
MHTO MHTO 73.06 283 P P 05 00 26.8 +0.8
SNR=19
MHTO P P 05 00 26.8 +0.8
SNR=19
ISA Isabella, Lake 73.06 57 P P 05 00 26.8 +0.8
baz=309,SNR=7.2
GURO Guroymak-BITLI 73.07 306 *e*P P 05 00 27.9 +1.8
GURO Guroymak-BITLI 73.07 306 *e*P P 05 00 27.9 +1.8

BER Bergen 73.16 340 *e*P P 05 00 27.0 +1.1
ARVC Arvin 73.17 58 P P 05 00 26.7 +0.1
baz=309
R11A Troy Canyon, C 73.18 54 P P 05 00 28.1 +1.3
baz=309,SNR=15
R11A Troy Canyon, C 73.18 54 IAmb IAmb 05 00 42.5
comp=Z,44nm,0.9s
YEDI Yedisu-Bingol 73.40 308 P P 05 00 29.8 +1.8
YEDI Yedisu-Bingol 73.40 308 *e*P P 05 00 29.8 +1.8
SIM Simferopol 73.43 316 P P 05 00 28.2 +0.3
SIM pmax pmax
comp=Z,93nm,1.0s
MPMC Manual Prospec 73.44 57 P P 05 00 29.7 +1.4
baz=309,SNR=5.8
SIRT Sirnak 73.48 305 P P 05 00 29.8 +1.3
SIRT Sirnak 73.48 305 *e*P P 05 00 29.8 +1.3
ESPY Espiye-Giresun 73.52 310 *e*P P 05 00 29.1 +0.6
ESPY Espiye-Giresun 73.52 310 *e*P P 05 00 29.1 +0.6
OSI Osito Audit: C 73.56 58 P P 05 00 29.3 +0.4
baz=309
FURC Furnace Creek, 73.58 56 P P 05 00 30.4 +1.5
baz=309,SNR=8.7
BNGB Bingl 73.60 308 *i*P P 05 00 31.0 +1.8
BNGB Bingl 73.60 308 *e*P P 05 00 31.0 +1.8
TPNV Topopah Spring 73.65 55 P P 05 00 28.5 -1.1
baz=309,SNR=6.6
TPNV Topopah Spring 73.65 55 IAmb IAmb 05 00 51.0
comp=Z,28nm,0.9s
DUG Dugway, Tooele 73.66 51 P P 05 00 31.2 +1.7
baz=310,SNR=7.0
DUG Dugway, Tooele 73.66 51 IAmb IAmb 05 00 45.5
comp=Z,63nm,0.9s
ERZN Erzincan 73.79 309 *e*P P 05 00 32.5 +2.2
ERZN Erzincan 73.79 309 *e*P P 05 00 32.5 +2.2
SVAN Silvan-Diyarba 73.83 307 *e*P P 05 00 32.2 +1.8
SVAN Silvan-Diyarba 73.83 307 *e*P P 05 00 32.2 +1.8
BW06 Boulder Array 73.83 47 P P 05 00 31.8 +1.2
baz=311,SNR=47
BW06 Boulder Array 73.83 47 IAmb IAmb 05 00 45.8
comp=Z,31nm,0.8s
PD31 Pinedale Array 73.84 47 IAmb IAmb 05 00 45.8
comp=Z,29nm,0.8s
PDAR Pinedale Array 73.84 47 P P 05 00 31.9 +1.3
comp=Z,1.9nm,0.5s,baz=260,slow=0.3,SNR=24
PDAR LR LR 05 30 35.6
comp=Z,313nm,21.8s,baz=336,slow=34
PDAR Pinedale Array 73.84 47 P P 05 00 31.4 +0.8
EDW2 Edwards Air Fo 73.86 58 P P 05 00 31.6 +1.0
baz=309,SNR=6.5
SNCC San Nicolas Is 73.89 60 P P 05 00 30.3 -0.5
baz=309
SORM Soroca 74.15 321 ⇑P P 05 00 32.8 +0.8
MORW Morawa 74.22 205 P P 05 00 33.0 +0.5
GSC Goldstone, Bar 74.35 57 P P 05 00 34.4 +0.8
baz=310,SNR=5.6
BFSC Mount Baldy Ra 74.47 58 P P 05 00 36.1 +1.7
baz=309,SNR=6.7
RRX Edison Barstow 74.50 57 P P 05 00 32.6 -1.8
baz=310
CIS Catalina Islan 74.51 59 P P 05 00 33.7 -0.8
baz=309
CIS S S 05 10 08.4 +0.5
baz=309
DYBB Diyarbakir 74.59 307 *e*P P 05 00 36.4 +1.5
DYBB Diyarbakir 74.59 307 *e*P P 05 00 36.4 +1.5
RSDY Resadiye-TOKAT 74.66 310 P P 05 00 36.8 +1.6
RSDY Resadiye-TOKAT 74.66 310 *e*P P 05 00 36.8 +1.6
KIS Kishinev 74.72 320 ⇑*i*P P 05 00 35.6 +0.2
comp=Z,240nm,2.0s
KIS Kishinev 74.72 320 *e*PcP PcP 05 00 49.0 -0.5
KIS Kishinev 74.72 320 *e*PP PP 05 03 23.0 +1.0
KIS *e*S S 05 10 05.0 -4.7
KIS Kishinev 74.72 320 *c i*P P 05 00 35.6 +0.2
KIS *e* 05 00 49.0
KIS *e* 05 03 23.0
KIS *e*S S 05 10 05.0 -4.7
KIS pmax pmax
comp=Z,240nm,2.0s
KIS MLR MLR
comp=E,620nm,17.0s
KIS MLR MLR
comp=Z,1µm,17.0s
KIS MLR MLR
comp=N,800nm,18.0s
MAZI Mazidag 74.73 306 *i*P P 05 00 37.1 +1.3
MAZI Mazidag 74.73 306 *e*P P 05 00 37.1 +1.3
BEL Belsk 74.82 327 *e*P P 05 00 37.1 +1.2
BEL *e*L L 05 36 22.3
comp=N,3µm,19.8s
TUQ Turquoise Moun 74.82 56 P P 05 00 38.1 +1.8
baz=310,SNR=6.6
SVRC Sivrice-ELAZID 74.82 308 P P 05 00 38.5 +2.1
SVRC Sivrice-ELAZID 74.82 308 *e*P P 05 00 38.5 +2.1
LVV L'vov 74.93 324 *e*P P 05 00 37.1 +0.5
LVV *e*PPP PPP 05 05 10.6
LVV *e*S S 05 10 15.2 +3.2
LVV *e*PS PnS 05 11 01.8 +13
LVV MLR MLR
comp=N,2µm,16.0s
LVV MLR MLR
comp=E,3µm,16.0s
LVV MLR MLR
comp=Z,4µm,16.0s
KVT Kavak 74.94 312 *e*P P 05 00 38.4 +1.5
KVT Kavak 74.94 312 *e*P P 05 00 38.4 +1.5
HEC Hector,Ludlow 74.94 57 P P 05 00 38.4 +1.4
baz=310,SNR=5.7
DIKM Dikmen 75.01 312 ⇑P P 05 00 38.7 +1.5
DIKM Dikmen 75.01 312 *e*P P 05 00 38.9 +1.7
DIKM Dikmen 75.01 312 *e*P P 05 00 38.9 +1.7
GKP Gorka Klasztor 75.12 330 *e*P P 05 00 37.9 +0.3
GKP *e*L L 05 36 15.9
comp=Z,2µm,19.4s
TOKT Tokat 75.16 311 *e*P P 05 00 39.7 +1.5
TOKT Tokat 75.16 311 *e*P P 05 00 39.7 +1.5
SVSK Karacayir 75.17 310 *i*P P 05 00 39.9 +1.8
SVSK Karacayir 75.17 310 *e*P P 05 00 39.9 +1.8
MURC Murrieta 75.18 58 P P 05 00 39.4 +1.0
baz=310,SNR=6.8
ULM Lac du Bonnet 75.35 35 P P 05 00 38.9 0.0
comp=Z,5.1nm,0.7s,baz=337,slow=5.3,SNR=3.9
ULM LR LR 05 37 23.8
comp=Z,474nm,18.5s,baz=325,slow=39
MALT Malatya 75.39 308 *e*P P 05 00 41.4 +1.9
MALT Malatya 75.39 308 *e*P P 05 00 41.4 +1.9
GMRC Granite Mounta 75.40 57 P P 05 00 40.9 +1.2
baz=310,SNR=6.2
GMRC S S 05 10 19.3 +1.4
baz=310
MDND Maddock 75.43 38 P P 05 00 40.7 +1.2
baz=316,SNR=6.4
RGN Rugen 75.54 333 *e*P P 05 00 40.3 +0.4
K22A Casper 75.57 46 P P 05 00 41.5 +0.9
baz=313,SNR=7.6
K22A S S 05 10 19.1 -0.6
baz=313
TPFO Pinon Flats 75.65 58 P P 05 00 41.9 +0.8
baz=310,SNR=5.4
KWP Kalwaria Pacla 75.65 325 *e*P P 05 00 41.9 +1.2
KWP *e*L L 05 37 31.0
comp=Z,5µm,17.3s
BELC Belle Mtn. Jos 75.69 57 P P 05 00 40.7 -0.7
baz=310
URFA Urfa 75.72 307 *e*P P 05 00 43.7 +2.3
URFA Urfa 75.72 307 *e*P P 05 00 43.7 +2.3
DARE Darende-Malaty 75.78 309 *e*P P 05 00 43.9 +2.1
DARE Darende-Malaty 75.78 309 *e*P P 05 00 43.9 +2.1
E28A Huff 75.82 40 IAmb IAmb 05 00 56.9
comp=Z,49nm,0.9s
RSSD Black Hills 75.88 43 P P 05 00 42.9 +0.5
baz=314
RSSD S S 05 10 22.9 -0.2
baz=314
RSSD Black Hills 75.88 43 P P 05 00 43.1 +0.7
RSSD pmax pmax
comp=Z,68nm,1.2s
RSSD Black Hills 75.88 43 P P 05 00 43.1 +0.7
RSSD IAmb IAmb 05 00 57.4
comp=Z,68nm,1.1s
BUR08 Bucovina Ar. S 75.98 322 IAmb IAmb 05 00 58.2
comp=Z,36nm,1.1s
BURAR Bucovina Array 76.00 322 ⇑P P 05 00 43.6 +0.8
BURAR Bucovina Array 76.00 322 P P 05 00 43.2 +0.4
TESR Tescani 76.12 320 ⇑P P 05 00 44.2 +0.8
MONP2 Monument Peak 76.13 58 P P 05 00 44.8 +0.8
baz=310
IRM Iron Mountain 76.13 57 P P 05 00 43.8 +0.1
baz=310,SNR=7.5
JURR Jurilovca 76.26 318 ⇑P P 05 00 46.0 +1.8
O20A White River Ci 76.33 48 P P 05 00 44.4 -0.6
baz=313,SNR=6.8
O20A White River Ci 76.33 48 IAmb IAmb 05 01 00.2
comp=Z,40nm,0.9s
CFR Carcaliu 76.34 319 ⇑P P 05 00 45.3 +0.6
CORM Corum 76.35 312 *i*P P 05 00 46.8 +1.8
CORM Corum 76.35 312 *e*P P 05 00 46.8 +1.8
KOLS Kolonicke sedl 76.36 324 *e*P P 05 00 44.7 -0.1
KOLS pmax pmax
comp=Z,28nm,1.3s
KOLS Kolonicke sedl 76.36 324 *e*P P 05 00 44.7 -0.1
KOLS *e*L L 05 38 23.2
TOPG Topolog 76.43 318 ⇓P P 05 00 46.4 +1.2
OJC Ojcow 76.45 327 *e*P P 05 00 46.0 +0.8
OJC *e*S S 05 10 26.3 -2.5
OJC *e*L L 05 37 34.3
comp=Z,3µm,19.4s
OJC Ojcow 76.45 327 IAmb IAmb 05 01 02.3
comp=Z,75nm,1.1s
IKP In-Ko-Pah, Jac 76.48 59 P P 05 00 45.3 -0.6
baz=310
SWSC Sam W. Stewart 76.49 58 P P 05 00 45.0 -0.8
baz=310
SARI SarD1z-Kayseri 76.51 309 P P 05 00 47.8 +1.8
SARI SarD1z-Kayseri 76.51 309 *e*P P 05 00 47.8 +1.8
VRI Vrincioaia 76.54 320 ⇑P P 05 00 47.1 +1.2
VRI Vrincioaia 76.54 320 *e*P P 05 00 46.9 +1.0
VRI Vrincioaia 76.54 320 *e*P P 05 00 46.9 +1.0
BNN Bunyan 76.54 310 P P 05 00 47.6 +1.4
BNN Bunyan 76.54 310 *e*P P 05 00 47.6 +1.4
UZH Uzhgorod 76.58 324 *e*P P 05 00 44.9 -1.1
UZH *e* 05 00 58.9
UZH *e* 05 03 35.1
UZH *e*S S 05 10 25.9 -4.2
UZH MLR MLR
comp=Z,500nm,17.0s
PLOR Plostina 76.59 320 ⇑P P 05 00 47.2 +1.0
CANT Cankiri 76.62 313 *e*P P 05 00 48.1 +1.6
CANT Cankiri 76.62 313 *e*P P 05 00 48.1 +1.6
SHAO Shalim 76.62 282 P P 05 00 47.2 +0.4
PDMCI Parker Dam,Lak 76.67 56 P P 05 00 48.8 +2.1
baz=311,SNR=6.5
TIRR Tirgusor 76.71 318 IAmb IAmb 05 01 02.7
comp=Z,37nm,0.9s
TIRR Tirgusor 76.71 318 *i*P P 05 00 47.4 +0.6
CRVS Cervenica-Dubn 76.74 325 *e*P P 05 00 47.9 +1.0
CRVS pmax pmax
comp=Z,122nm,1.7s
CRVS Cervenica-Dubn 76.74 325 *e*P P 05 00 47.9 +1.0
CRVS *e*L L 05 38 22.4
HARR Harsova 76.79 319 ⇓P P 05 00 48.2 +1.0
AGMN Agassiz Nation 76.81 36 P P 05 00 48.6 +1.3
baz=318,SNR=6.8
AGMN S S 05 10 31.4 -1.3
baz=318
AGMN Agassiz Nation 76.81 36 IAmb IAmb 05 01 01.6
comp=Z,38nm,1.1s
KMRS Kahramanmaras 76.83 308 P P 05 00 49.1 +1.4
KMRS Kahramanmaras 76.83 308 *e*P P 05 00 49.1 +1.4
OZUR 76.83 321 ⇓P P 05 00 49.4 +1.9
NIE Niedzica 76.85 326 *e*P P 05 00 48.9 +1.3
NIE *e*L L 05 38 09.9
comp=Z,3µm,18.2s
GAZ Gaziantep 76.86 308 *i*P P 05 00 49.9 +2.0
GAZ Gaziantep 76.86 308 *e*P P 05 00 49.9 +2.0
RUE Ruedersdorf 77.04 331 *e*P P 05 00 49.0 +0.5
GLA Glamis 77.05 57 P P 05 00 51.2 +2.3
baz=311,SNR=6.7
BSEG Bad Segeberg 77.07 334 *e*P P 05 00 49.4 +0.7
comp=Z,102nm,1.8s,baz=34,slow=5.4
N23A Red Feather La 77.09 47 P P 05 00 49.6 +0.2
baz=314,SNR=6.7
N23A Red Feather La 77.09 47 IAmb IAmb 05 01 08.7
comp=Z,34nm,1.1s
PV22 Blue Mesa, Par 77.09 50 IAmb IAmb 05 01 05.7
comp=Z,55nm,1.1s
DOPR Dopca 77.11 321 ⇑P P 05 00 50.4 +1.3
PV20 West Nyswonger 77.12 50 IAmb IAmb 05 01 02.5
comp=Z,39nm,1.2s
PV04 Paradox Valley 77.12 50 IAmb IAmb 05 01 08.9
comp=Z,30nm,1.1s
PV19 Morning Glory 77.13 50 IAmb IAmb 05 01 04.5
comp=Z,51nm,1.2s
ISR Istrita 77.17 320 ⇓P P 05 00 51.0 +1.6
PV16 Nyswonger Mesa 77.17 50 IAmb IAmb 05 01 02.9
comp=Z,37nm,1.2s
MLR Muntele Rosu 77.19 320 P P 05 00 50.5 +0.8
comp=Z,31nm,1.3s,baz=18,slow=4.3,SNR=26
MLR Muntele Rosu 77.19 320 ⇑P P 05 00 50.7 +1.0
BR131 Keskin Array S 77.21 312 P P 05 00 51.4 +1.5
SNR=13
BR131 P P 05 00 51.4 +1.5
SNR=13
BRTR Keskin Array B 77.21 312 P P 05 00 50.5 +0.6
comp=Z,12nm,1.1s,baz=93,slow=2.5,SNR=31
BRTR LR LR 05 39 39.3
comp=Z,694nm,18.5s,baz=32,slow=40
BRTR Keskin Array B 77.21 312 *i*P P 05 00 50.9 +1.0
BRTR Keskin Array B 77.21 312 *e*P P 05 00 50.9 +1.0
BRTR Keskin Array B 77.21 312 *i*P P 05 00 50.5 +0.6
BRTR pmax pmax
comp=Z,13nm,1.1s
PV03 Paradox Valley 77.25 50 IAmb IAmb 05 01 05.1
comp=Z,42nm,1.2s
PSN Preselentsi 77.38 318 *i*P P 05 00 51.8 +1.2
KSP Ksiaz 77.39 329 *e*P P 05 00 51.4 +0.9
KSP *e*L L 05 38 39.1
comp=Z,3µm,17.3s
CJR Cluj-Napoca 77.41 322 ⇓P P 05 00 52.3 +1.5
NWAO Narrogin (SRO) 77.47 202 P P 05 00 51.7 +0.7
comp=Z,24nm,1.1s,baz=41,slow=6.0,SNR=4.0
NWAO LR LR 05 34 50.4
comp=Z,207nm,21.0s,baz=73,slow=36
NWAO Narrogin (SRO) 77.47 202 P P 05 00 51.6 +0.7
NWAO pmax pmax
comp=Z,21nm,1.1s
NWAO Narrogin (SRO) 77.47 202 P P 05 00 51.6 +0.7
KOZT Kozan 77.48 309 *i*P P 05 00 52.6 +1.3
KOZT Kozan 77.48 309 *e*P P 05 00 52.6 +1.3
KECS Kecovo 77.48 325 *e*P P 05 00 52.3 +1.2
KECS pmax pmax
comp=Z,10.0nm,1.4s
KECS Kecovo 77.48 325 *e*P P 05 00 52.3 +1.2
WUAZ Wupatki 77.58 54 P P 05 00 53.3 +1.2
baz=312,SNR=7.2
WUAZ Wupatki 77.58 54 IAmb IAmb 05 01 08.8
comp=Z,62nm,1.1s
OSTC Ostas 77.64 329 *e*P P 05 00 54.0 +2.0
OSTC *e*S S 05 10 57.7 +16
OSTC AMS AMS 05 38 30.0
comp=Z,3µm,16.9s
VOIR 77.67 321 ⇑P P 05 00 53.4 +1.1
CHVC Chvalec 77.68 329 *e*P P 05 00 51.8 -0.4
CHVC AMS AMS 05 38 40.0
comp=Z,3µm,17.0s
MORC Moravsky Berou 77.72 327 ⇑P P 05 00 53.6 +1.1
MORC Moravsky Berou 77.72 327 *e*P P 05 00 53.1 +0.6
MORC Moravsky Berou 77.72 327 P P 05 00 53.5 +1.1
AFSR Afar-Bala (An 77.72 312 P P 05 00 54.2 +1.5
AFSR Afar-Bala (An 77.72 312 *e*P P 05 00 54.2 +1.5
UPC Upice 77.76 329 *e*P P 05 00 53.5 +0.9
UPC *e* 05 01 07.1
UPC *e*S S 05 10 41.3 -1.7
UPC MLR MLR
comp=Z,3µm,16.5s
UPC Upice 77.76 329 *e*P P 05 00 53.5 +0.9
UPC *ex* x 05 01 07.1
UPC *e*S S 05 10 41.3 -1.7
UPC AMS AMS 05 38 40.0
comp=Z,3µm,16.5s
DPC Dobruska-Polom 77.76 328 *e*P P 05 00 54.0 +1.3
DPC *e* 05 01 06.8
DPC *e*S S 05 10 38.3 -4.8
DPC MLR MLR
comp=Z,3µm,16.5s
DPC Dobruska-Polom 77.76 328 *e*P P 05 00 54.0 +1.3
DPC *ex* x 05 01 06.8
DPC *e*S S 05 10 38.3 -4.8
DPC AMS AMS 05 38 40.0
comp=Z,3µm,16.5s

SERE Sereflikochisa 77.79 311 eP P 05 00 54.2 +1.1
SERE Sereflikochisa 77.79 311 eP P 05 00 54.2 +1.1
KRLC Kraliky 77.79 328 eP P 05 00 53.3 +0.4
KRLC e 05 01 06.5
KRLC eS S 05 10 42.5 -1.0
KRLC MLR MLR
comp=Z,2µm,18.0s
KRLC Kraliky 77.79 328 eP P 05 00 53.3 +0.4
KRLC ex x 05 01 06.5
KRLC eS S 05 10 42.5 -1.0
KRLC AMS AMS 05 38 50.0
comp=Z,2µm,18.0s
GULA Gulagac 77.82 310 eP P 05 00 54.4 +1.1
GULA Gulagac 77.82 310 eP P 05 00 54.4 +1.1
YUVA Yuva-Kibriscik 77.84 313 eP P 05 00 54.8 +1.4
YUVA Yuva-Kibriscik 77.84 313 eP P 05 00 54.8 +1.4
CMRD Camardi-Nigde 77.84 310 eP P 05 00 55.8 +2.3
CMRD Camardi-Nigde 77.84 310 eP P 05 00 55.8 +2.3
113A Mohawk Valley, 77.91 57 IAmb IAmb 05 01 09.1
comp=Z,38nm,1.1s
ARR Arges 77.92 321 ⇑P P 05 00 55.6 +2.0
ISCO Idaho Springs 78.03 47 P P 05 00 56.3 +1.6
baz=314,SNR=5.7
YURE YUREGIR 78.03 309 eP P 05 00 56.5 +2.1
YURE YUREGIR 78.03 309 eP P 05 00 56.5 +2.1
KULU Kulu 78.04 312 eP P 05 00 56.5 +2.0
KULU Kulu 78.04 312 eP P 05 00 56.5 +2.0
MDUB Mudurnu 78.05 314 eP P 05 00 55.7 +1.1
MDUB Mudurnu 78.05 314 eP P 05 00 55.7 +1.1
KARA Karaisali 78.08 309 eP P 05 00 56.3 +1.7
KARA Karaisali 78.08 309 eP P 05 00 56.3 +1.7
PRD Provadia 78.12 318 iP P 05 00 56.0 +1.3
NEF NEVSHA 78.14 318 iP P 05 00 55.5 +0.6
MVCO Mesa Verde 78.16 51 P P 05 00 55.5 +0.1
baz=313,SNR=6.1
MVCO Mesa Verde 78.16 51 IAmb IAmb 05 01 11.0
comp=Z,44nm,1.1s
PSZ Piszkesteto 78.17 325 ⇑P P 05 00 56.3 +1.3
PSZ Piszkesteto 78.17 325 IAmb IAmb 05 01 00.8
comp=Z,26nm,1.1s
VYHS Vyhne 78.18 326 eP P 05 00 55.9 +0.9
VYHS pmax pmax
comp=Z,74nm,1.7s
VYHS Vyhne 78.18 326 eP P 05 00 55.9 +0.9
VYHS Vyhne 78.18 326 eS S 05 11 00.9 +13
VYHS eL L 05 38 54.7
SUSD Miller 78.21 40 P P 05 00 54.8 -0.5
baz=317
BRG Berggiesshubel 78.27 330 iP P 05 00 55.7 +0.3
comp=Z,241nm,2.7s
BRG S S 05 10 49.0 +0.6
BRG SS SS 05 15 52.0 +2.3
comp=Z,2µm,16.4s
comp=N,980nm,16.9s
comp=E,1µm,16.9s
BRG Berggiesshubel 78.27 330 iP P 05 00 55.7 +0.3
comp=E,241nm,2.7s
BRG Berggiesshubel 78.27 330 eP P 05 00 55.9 +0.5
comp=E,242nm,2.7s,baz=34,slow=5.4
LOT Lotru 78.27 321 ⇑P P 05 00 56.5 +0.9
CLL Collm 78.27 331⇑iP P 05 00 55.8 +0.4
comp=Z,41nm,1.2s
CLL epP pP 05 01 03.0 -0.5
CLL iSP sP 05 01 06.8 +0.3
CLL i 05 01 24.5
CLL e 05 03 38.0
CLL ePP PP 05 03 50.0 -1.7
CLL epPP 05 04 02.0
CLL e(PPP) 05 05 48.0
CLL eS S 05 10 45.0 -3.4
CLL e(SS) 05 16 30.0
CLL e 05 20 30.0
CLL LmH 05 34 00.0
comp=N,2µm,20.8s
CLL LmH 05 34 00.0
comp=E,2µm,20.4s
CLL Lm MLR 05 38 00.0
comp=N,3µm,19.6s
CLL Lm MLR 05 38 00.0
comp=E,800nm,19.2s
CLL Lm MLR 05 38 00.0
comp=Z,2µm,20.0s
CLL Collm 78.27 331⇑iP P 05 00 55.8 +0.4
CLL e 05 01 03.0
CLL eS S 05 10 45.0 -3.4
CLL pmax pmax
comp=Z,41nm,1.2s
CLL MLR MLR
comp=Z,2µm,20.0s
CLL Collm 78.27 331 eP P 05 00 55.6 +0.2
comp=Z,40nm,1.2s,baz=34,slow=5.4
PVCC Panska Ves 78.31 329 eP P 05 00 57.1 +1.5
PVCC MLR MLR
comp=Z,2µm,16.0s
PVCC Panska Ves 78.31 329 eP P 05 00 57.1 +1.5
PVCC AMS AMS 05 39 40.0
comp=Z,2µm,16.0s
SULT Sultanhani-AKS 78.33 311 eP P 05 00 57.4 +1.3
SULT Sultanhani-AKS 78.33 311 eP P 05 00 57.4 +1.3
NRDL Niedersach Rie 78.33 333 eP P 05 00 56.3 +0.7
comp=Z,72nm,1.8s,baz=34,slow=5.4
KRTS Karatas 78.35 309 eP P 05 00 57.9 +1.8
KRTS Karatas 78.35 309 eP P 05 00 57.9 +1.8
JAVC Velka Javorina 78.38 327 eP P 05 00 58.0 +1.8
ORH Orhaniye 78.39 315 P P 05 01 04.4 +8.1
ASSE Asse, Remlinge 78.44 332 eP P 05 00 56.9 +0.7
comp=Z,212nm,2.5s,baz=34,slow=5.4
ASSE epP pwP 05 01 06.9 -0.1
F33A 5 Mile Ranch, 78.44 38 IAmb IAmb 05 01 11.2
comp=Z,54nm,1.0s
FBE Freiberg 78.45 330 eP P 05 00 57.1 +0.7
comp=Z,111nm,1.9s,baz=34,slow=5.4
GULT Gulveren 78.45 314 eP P 05 00 57.2 +0.5
GULT Gulveren 78.45 314 eP P 05 00 57.2 +0.5
VRAC Vranov 78.47 328 P P 05 00 56.4 -0.2
comp=Z,9.0nm,0.8s,baz=45,slow=5.1,SNR=30
VRAC Vranov 78.47 328 ⇑P P 05 00 58.0 +1.4
VRAC Vranov 78.47 328 eP P 05 00 57.6 +1.0
SVRH Sivrihisar-ESK 78.59 313 P P 05 00 57.7 +0.2
SVRH Sivrihisar-ESK 78.59 313 eP P 05 00 57.7 +0.2
HRT Hereke 78.64 315 eP P 05 00 58.3 +0.6
HRT Hereke 78.64 315 eP P 05 00 58.3 +0.6
MERS Mersin 78.66 309 eP P 05 00 58.7 +0.8
MERS Mersin 78.66 309 eP P 05 00 58.7 +0.8
KLYT Kilyos 78.66 315 P P 05 00 58.1 +0.4
KLYT Kilyos 78.66 315 eP P 05 00 58.1 +0.4
SRCK Saricakaya, Es 78.67 314 eP P 05 00 58.6 +0.8
SRCK Saricakaya, Es 78.67 314 eP P 05 00 58.6 +0.8
GOPC GO Pecny, Ondr 78.71 329 eP P 05 00 58.7 +0.8
GOPC e 05 01 18.5
GOPC eS S 05 10 54.5 +1.2
GOPC MLR MLR
comp=Z,2µm,16.2s
GOPC GO Pecny, Ondr 78.71 329 eP P 05 00 58.7 +0.8
GOPC ex x 05 01 18.5
GOPC eS S 05 10 54.5 +1.2
GOPC AMS AMS 05 39 20.0
comp=Z,2µm,16.2s
PRA Prague 78.72 329 eP P 05 00 56.3 -1.6
PRA eS S 05 11 06.7 +13
PRA MLR MLR
comp=Z,1µm,15.4s
PRA Prague 78.72 329 eP P 05 00 56.3 -1.6
PRA ex x 05 11 06.7
PRA AMS AMS 05 40 40.0
comp=Z,1µm,15.4s
KRUC Moravsky 78.75 328 eP P 05 00 58.9 +0.8
PRU Pruhonice 78.75 329 eP P 05 00 59.0 +0.9
PRU e 05 01 07.4
PRU eS S 05 10 52.8 -0.8
PRU MLR MLR
comp=Z,2µm,15.2s
PRU Pruhonice 78.75 329 eP P 05 00 59.0 +0.9
PRU epP PcP 05 01 07.4 +0.5
PRU eS S 05 10 52.8 -0.8
PRU AMS AMS 05 40 40.0
comp=Z,2µm,15.2s
SMOL Smolenice 78.75 327 eP P 05 00 59.8 +1.7
SMOL pmax pmax
comp=Z,39nm,1.6s
SMOL Smolenice 78.75 327 eP P 05 00 59.8 +1.7
S22A 4UR Ranch, Cre 78.76 49 P P 05 01 00.4 +1.7
baz=314,SNR=6.2

S22A 4UR Ranch, Cre 78.76 49 IAmb IAmb 05 01 14.9
comp=Z,36nm,1.1s
CLZ Clausthal 78.78 332 eP P 05 00 59.0 +0.7
comp=Z,115nm,1.8s,baz=34,slow=5.4
KIZT Kizilcal 78.78 312 eP P 05 00 59.5 +0.9
KIZT Kizilcal 78.78 312 eP P 05 00 59.5 +0.9
ISK Istanbul-Kandi 78.79 315 eP P 05 00 58.7 +0.3
ISK Istanbul-Kandi 78.79 315 eP P 05 00 58.7 +0.3
KAVV Kandilli-Istan 78.79 315 P P 05 00 59.3 +0.9
KAVV Kandilli-Istan 78.79 315 eP P 05 00 59.3 +0.9
NEUB Neuenburg 78.80 331 eP P 05 00 58.6 +0.3
comp=Z,64nm,1.3s,baz=34,slow=5.4
SZH Strazhica 78.82 319 iP P 05 00 59.3 +0.7
W18A Petrified Fore 78.84 53 P P 05 00 58.3 -0.8
baz=313
ADVT Abdulvahap 78.87 314 iP P 05 00 59.8 +0.9
ADVT Abdulvahap 78.87 314 eP P 05 00 59.8 +0.9
BORA Eskisehir 78.87 314 eP P 05 00 59.3 +0.2
BORA Eskisehir 78.87 314 eP P 05 00 59.3 +0.2
CIFT Cifteler, Eski 78.90 313 eP P 05 00 59.6 +0.4
CIFT Cifteler, Eski 78.90 313 eP P 05 00 59.6 +0.4
MODS Modra-Piesok 78.92 327 eP P 05 00 59.4 +0.3
MODS pmax pmax
comp=Z,75nm,1.6s
MODS Modra-Piesok 78.92 327 eP P 05 00 59.4 +0.3
TREC Trest 78.93 328 eP P 05 01 00.7 +1.6
TREC e 05 01 14.2
TREC eS S 05 11 13.6 +18
TREC MLR MLR
comp=Z,2µm,17.1s
TREC Trest 78.93 328 eP P 05 01 00.7 +1.6
TREC ex x 05 01 14.2
TREC eSKS S 05 11 13.6 +18
TREC AMS AMS 05 39 40.0
comp=Z,2µm,17.1s
SRO2 Moca 78.93 326 eP P 05 01 00.2 +1.1
SRO2 pmax pmax
comp=Z,54nm,1.5s
SRO2 Moca 78.93 326 eP P 05 01 00.2 +1.1
CTKS Kestanelik-??a 78.96 316 eP P 05 01 00.4 +1.0
CTKS Kestanelik-??a 78.96 316 eP P 05 01 00.4 +1.0
EYMN Ely 78.97 34 P P 05 00 59.6 +0.3
baz=321,SNR=7.5
EYMN Ely 78.97 34 IAmb IAmb 05 01 13.8
comp=Z,43nm,0.9s
CAVI Cavuskoy 78.98 314 eP P 05 01 00.5 +0.9
CAVI Cavuskoy 78.98 314 eP P 05 01 00.5 +0.9
LADK Ladik-KONYA 78.98 311 iP P 05 01 00.1 +0.4
LADK Ladik-KONYA 78.98 311 eP P 05 01 00.1 +0.4
214A Organ Pipe Nat 79.05 57 P P 05 01 01.5 +1.4
baz=312,SNR=6.3
JMB Yambol 79.07 318 iP P 05 01 00.9 +0.9
AUBOZ BOZOYUK 79.08 314 eP P 05 01 01.1 +0.9
AUBOZ BOZOYUK 79.08 314 eP P 05 01 01.1 +0.9
KIZK Mersin 79.14 309 eP P 05 01 01.2 +0.7
KIZK Mersin 79.14 309 eP P 05 01 01.2 +0.7
BZS Buzias 79.14 323 ⇑P P 05 01 00.7 +0.4
KONT Konya--Tatoy 79.16 311 eP P 05 01 01.1 +0.5
KONT Konya--Tatoy 79.16 311 eP P 05 01 01.1 +0.5
GEMT Gemlik 79.17 315 eP P 05 01 00.9 +0.4
GEMT Gemlik 79.17 315 eP P 05 01 00.9 +0.4
OGNE Ogallala 79.17 44 P P 05 01 01.7 +1.1
baz=316,SNR=5.4
GTTG Gottingen 79.17 332 eP P 05 01 01.2 +0.9
comp=Z,50nm,1.4s,baz=34,slow=5.4
TANN Tannenbergstha 79.19 330 eP P 05 01 01.2 +0.6
comp=Z,233nm,2.5s,baz=34,slow=5.4
TANN epP sP 05 01 11.4 -0.4
PBCC Pribram 79.20 329 eP P 05 01 02.7 +2.1
ARMT Armutlu 79.25 315 eP P 05 01 01.8 +0.8
ARMT Armutlu 79.25 315 eP P 05 01 01.8 +0.8
PLN Plauen 79.25 331 eP P 05 01 01.4 +0.6
comp=Z,140nm,2.4s,baz=34,slow=5.4
PLN epP sP 05 01 12.0 0.0
IBBN Ibbenburen 79.28 334 eP P 05 01 01.6 +0.6
comp=Z,36nm,1.0s,baz=34,slow=5.4
GUNZ Gunzen 79.28 330 eP P 05 01 01.7 +0.6
comp=Z,50nm,1.8s,baz=34,slow=5.4
MOX Moxa 79.32 331 eP P 05 01 01.8 +0.6
comp=Z,102nm,2.1s,baz=34,slow=5.4
MOX epP pwP 05 01 11.9 -0.1
MOX eL L 05 39 37.3
comp=Z,2µm,18.9s
HERR Herculane 79.33 322 ⇓P P 05 01 01.6 +0.3
WERN Wernitzgruen 79.33 330 eP P 05 01 02.0 +0.7
comp=Z,148nm,2.5s,baz=34,slow=5.4
NKC Novy Kostel 79.35 330 eP P 05 01 02.1 +0.7
NKC MLR MLR
comp=Z,2µm,19.3s
NKC Novy Kostel 79.35 330 eP P 05 01 02.1 +0.7
NKC AMS AMS 05 38 50.0
comp=Z,2µm,19.3s
SILI Silifke-Mersin 79.35 309 eP P 05 01 01.7 +0.1
SILI Silifke-Mersin 79.35 309 eP P 05 01 01.7 +0.1
MDNY Mudanya-Bursa 79.38 315 eP P 05 01 02.3 +0.6
MDNY Mudanya-Bursa 79.38 315 eP P 05 01 02.3 +0.6
BOLV Bolvadin 79.42 313 IAmb IAmb 05 01 17.6
comp=Z,53nm,1.1s
EDRB Edirne 79.44 317 eP P 05 01 02.9 +0.9
EDRB Edirne 79.44 317 eP P 05 01 02.9 +0.9
SDCO Great Sand Dun 79.52 49 P P 05 01 04.6 +1.7
baz=314,SNR=5.9
IKL Isikli 79.58 309 iP P 05 01 03.5 +0.7
IKL Isikli 79.58 309 eP P 05 01 03.5 +0.7
MANZ Manzenberg 79.68 330 eP P 05 01 03.8 +0.6
comp=Z,246nm,2.9s,baz=34,slow=5.4
TVSB Tavsanli 79.72 314 eP P 05 01 04.6 +0.9
TVSB Tavsanli 79.72 314 eP P 05 01 04.6 +0.9
MDVR Moldovita 79.73 322 ⇓P P 05 01 04.3 +0.7
SHUT Suhut-Afyon 79.75 313 eP P 05 01 05.3 +1.4
SHUT Suhut-Afyon 79.75 313 eP P 05 01 05.3 +1.4
UBBA Unterbreizbach 79.76 332 eP P 05 01 03.9 +0.5
comp=Z,72nm,2.0s,baz=34,slow=5.4
UBBA epP pwP 05 01 14.1 -0.1
EKA Eskdalemuir Ar 79.76 341 P P 05 01 03.1 -0.4
comp=Z,5.4nm,0.8s,baz=26,slow=4.8,SNR=10
EREN Erenkoy 79.78 308 eP P 05 01 04.7 +0.8
EREN Erenkoy 79.78 308 eP P 05 01 04.7 +0.8
KHC Kasperske Hory 79.81 329 eP P 05 01 04.9 +1.0
KHC e 05 01 20.3
KHC eS S 05 11 05.0 0.0
KHC MLR MLR
comp=Z,2µm,15.5s
KHC Kasperske Hory 79.81 329 eP P 05 01 04.9 +1.0
KHC ex x 05 01 20.3
KHC ex x 05 03 53.0
KHC eS S 05 11 05.0 0.0
KHC AMS AMS 05 42 10.0
comp=Z,2µm,15.5s
ROTZ Rotzenmuhle 79.82 330 eP P 05 01 04.8 +0.9
comp=Z,140nm,2.1s,baz=34,slow=5.4
SEYD Seydisehir-KON 79.83 311 eP P 05 01 00.7 -3.7
SEYD Seydisehir-KON 79.83 311 eP P 05 01 00.7 -3.7
CONA Conrad Observa 79.86 327 iP P 05 01 05.6 +1.3
comp=Z,38nm,1.3s,SNR=21
ECSD EROS Data Cent 79.87 40 P P 05 01 04.9 +0.5
baz=319,SNR=12
ECSD EROS Data Cent 79.87 40 IAmb IAmb 05 01 19.1
comp=Z,56nm,1.0s
MRMT Marmara Adasi 79.89 316 eP P 05 01 04.3 -0.3
MRMT Marmara Adasi 79.89 316 eP P 05 01 04.3 -0.3
DIM Dimitrovgrad 79.91 318 iP P 05 01 05.8 +1.3
MAR4 Marsite Statio 79.92 316 eP P 05 01 06.5 +1.8
MAR4 Marsite Statio 79.92 316 eP P 05 01 06.5 +1.8
TEKE Tekeli-Mersin 79.98 309 eP P 05 01 05.4 +0.4
TEKE Tekeli-Mersin 79.98 309 eP P 05 01 05.4 +0.4
E38A The Farm, Brul 79.99 35 IAmb IAmb 05 01 19.1
comp=Z,38nm,0.9s
GEC2 GERESS Array S 79.99 329 eP P 05 01 05.4 +0.4
comp=Z,44nm,1.7s,baz=34,slow=5.4
GEC2 epP sP 05 01 15.9 -0.3
GERES GERESS Array B 79.99 329 P P 05 01 04.8 -0.2
comp=Z,3.1nm,0.8s,baz=46,slow=5.8,SNR=13
GERES LR LR 05 38 14.7
comp=Z,852nm,20.9s,baz=26,slow=37
UKOP Uzunkopru-Edir 80.02 317 eP P 05 01 06.9 +1.8
UKOP Uzunkopru-Edir 80.02 317 eP P 05 01 06.9 +1.8
GEDZ Gediz 80.03 314 eP P 05 01 06.5 +1.1
GEDZ Gediz 80.03 314 eP P 05 01 06.5 +1.1
RKY Sarkoy-Tekirda 80.05 316 eP P 05 01 06.4 +1.0
RKY Sarkoy-Tekirda 80.05 316 eP P 05 01 06.4 +1.0
WET Wettzell 80.07 329 eP P 05 01 06.2 +0.9
comp=Z,55nm,1.4s,baz=34,slow=5.4

WET epP sP 05 01 16.5 0.0
TUC Tucson 80.09 56 P P 05 01 05.8 0.0
baz=313
TUC Tucson 80.09 56 P P 05 01 06.6 +0.8
TUC pmax pmax
comp=Z,33nm,1.2s
TUC Tucson 80.09 56 P P 05 01 06.6 +0.8
TUC IAmb IAmb 05 01 21.5
comp=Z,33nm,1.1s
BUG Bochum--Univer 80.18 334 eP P 05 01 06.0 +0.2
comp=Z,48nm,1.3s,baz=34,slow=5.4
BUG epP sP 05 01 16.8 -0.1
PGB Panagyurishte 80.22 319 iP P 05 01 07.1 +0.8
KSCO Kaye Shedlock' 80.23 46 P P 05 01 07.7 +1.2
baz=316,SNR=7.2
KSCO Kaye Shedlock' 80.23 46 IAmb IAmb 05 01 23.8
comp=Z,33nm,1.1s
GRF Grafenberg Arr 80.25 331 eP P 05 01 07.6 +1.3
comp=Z,358nm,2.1s,baz=34,slow=5.4
GRF epP sP 05 01 17.3 -0.1
GRF eL L 05 39 56.4
comp=Z,2µm,19.8s
KDZ Kurdzhali 80.26 318 eP P 05 01 08.3 +1.8
KDZ Kurdzhali 80.26 318 eP P 05 01 08.3 +1.8
KDZ Kurdzhali 80.26 318 iP P 05 01 07.7 +1.2
PLD Plovdiv 80.28 318 eP P 05 01 07.3 +0.7
PLD Plovdiv 80.28 318 eP P 05 01 07.3 +0.7
PLD Plovdiv 80.28 318 iP P 05 01 07.4 +0.8
ISP Isparta 80.28 312 P P 05 01 07.6 +0.8
ISP Isparta 80.28 312 eP P 05 01 07.6 +0.8
LFK Lefkose 80.33 309 P P 05 01 07.8 +0.8
LFK Lefkose 80.33 309 eP P 05 01 07.8 +0.8
BALB Balikesir 80.44 315 P P 05 01 07.4 0.0
BALB Balikesir 80.44 315 eP P 05 01 07.4 0.0
ALN Alexandroupoli 80.49 317 P P 05 01 07.9 +0.2
ALN Alexandroupoli 80.49 317 eP P 05 01 08.6 +0.9
ALN Alexandroupoli 80.49 317 eP P 05 01 08.6 +0.9
SPMN Marine on St. 80.51 36 P P 05 01 08.2 +0.4
baz=321
SPMN Marine on St. 80.51 36 IAmb IAmb 05 01 22.1
comp=Z,32nm,1.1s
ARSA Arzberg 80.54 327 iP P 05 01 08.0 +0.1
comp=Z,22nm,1.2s,SNR=7.4
T25A Trinidad 80.56 49 P P 05 01 09.8 +1.3
baz=315,SNR=6.8
T25A Trinidad 80.56 49 IAmb IAmb 05 01 24.0
comp=Z,55nm,1.1s
RDO Rodhopi 80.57 317 P P 05 01 09.1 +1.0
RDO Rodhopi 80.57 317 eP P 05 01 09.4 +1.3
RDO Rodhopi 80.57 317 eP P 05 01 09.4 +1.3
MOA Molln 80.57 328 iP P 05 01 08.9 +0.8
comp=Z,28nm,1.8s,SNR=5.2
RZN Rozhen 80.59 318 iP P 05 01 09.5 +1.0
GELI Tayfur-Gelibol 80.63 316 eP P 05 01 09.1 +0.7
GELI Tayfur-Gelibol 80.63 316 eP P 05 01 09.1 +0.7
VTS Vitosha 80.63 320 iP P 05 01 09.6 +1.0
CSS Mathiatis 80.67 308 eP P 05 01 09.2 +0.4
CSS Mathiatis 80.67 308 eP P 05 01 09.2 +0.4
CSS Mathiatis 80.67 308 IAmb IAmb 05 01 25.0
comp=Z,21nm,0.9s
TNS Taunus Mts 80.80 332 eP P 05 01 09.7 +0.4
comp=Z,34nm,1.3s,baz=34,slow=5.4
LEF Lefka 80.82 309 ⇑P P 05 01 09.7 +0.2
LEF Lefka 80.82 309 eP P 05 01 10.0 +0.4
LEF Lefka 80.82 309 eP P 05 01 10.0 +0.4
KULA Kula-Manisa 80.82 314 eP P 05 01 10.4 +0.8
KULA Kula-Manisa 80.82 314 eP P 05 01 10.4 +0.8
BGNE Belgrade 80.84 42 P P 05 01 09.9 +0.3
baz=318,SNR=5.6
KOGS Kog 80.87 326 iP P 05 01 09.9 +0.2
ANMO Albuquerque 80.91 51 P P 05 01 11.9 +1.6
baz=314
ANMO Albuquerque 80.91 51c iP P 05 01 11.9 +1.6
ANMO pmax pmax
comp=Z,15nm,1.7s
ANMO Albuquerque 80.91 51 P P 05 01 11.0 +0.7
ANMO IAmb IAmb 05 01 26.4
comp=Z,47nm,1.1s
KORT Korkueli 80.96 312 eP P 05 01 09.8 -0.7
KORT Korkueli 80.96 312 eP P 05 01 09.8 -0.7
AHRW Bad Neuenahr-A 81.00 333 eP P 05 01 10.7 +0.5
comp=Z,33nm,1.2s,baz=34,slow=5.4
AHRW epP sP 05 01 21.2 -0.2
SCHQ Schefferville 81.04 17 P P 05 01 10.9 +0.4
comp=Z,6.2nm,0.7s,baz=271,slow=14,SNR=5.9
SCHQ LR LR 05 42 10.8
comp=Z,566nm,18.1s,baz=328,slow=40
SCHQ Schefferville 81.04 17 IAmb IAmb 05 01 25.3
comp=Z,34nm,1.0s
SMTH Samothraki Isl 81.07 317 P P 05 01 10.8 0.0
GADA Gvkgeada 81.08 316 eP P 05 01 11.9 +1.0
GADA Gvkgeada 81.08 316 eP P 05 01 11.9 +1.0
EZN Ezine 81.12 316 eP P 05 01 11.5 +0.4
EZN Ezine 81.12 316 eP P 05 01 11.5 +0.4
MMLI Mount Malkishu 81.14 305 eP P 05 01 11.8 +0.4
MMLI Mount Malkishu 81.14 305 eP P 05 01 11.8 +0.4
MMB Musomiste 81.16 319 iP P 05 01 12.3 +1.0
GROS Grobnik 81.18 326 eP P 05 01 11.9 +0.5
SOKA Soboth 81.20 327 iP P 05 01 12.4 +0.9
comp=Z,53nm,1.1s,SNR=15
KAVA Kavala 81.20 318 P P 05 01 12.3 +0.8
Y22D IRIS PASSCAL I 81.24 52 P P 05 01 11.6 -0.5
baz=314
RJOB Jochberg 81.25 329 eP P 05 01 11.7 0.0
comp=Z,66nm,1.6s,baz=34,slow=5.4
RJOB epP pwP 05 01 22.2 -0.4
BEBN Eben Emael 81.25 334 P P 05 01 12.2 +0.6
BOZC Bozcaada 81.26 316 eP P 05 01 12.2 +0.4
BOZC Bozcaada 81.26 316 eP P 05 01 12.2 +0.4
NVR Nevrokopi 81.27 318 P P 05 01 12.8 +0.9
KKB Krupnik 81.27 319 iP P 05 01 12.9 +1.0
MEM Membach 81.30 334 P P 05 01 12.2 +0.4
L34A Svendsen Farm, 81.31 41 IAmb IAmb 05 01 26.6
comp=Z,45nm,0.8s
DKL Dikili 81.37 315 eP P 05 01 13.2 +0.8
DKL Dikili 81.37 315 eP P 05 01 13.2 +0.8
THAS Thassos island 81.38 317 P P 05 01 12.9 +0.4
ELL Elmali 81.39 312 eP P 05 01 13.7 +0.9
ELL Elmali 81.39 312 eP P 05 01 13.7 +0.9
BSTI Sat Tilman 81.47 334 P P 05 01 13.2 +0.5
FUR Furstenfeldbru 81.48 330 eP P 05 01 13.9 +1.0
comp=Z,72nm,1.2s,baz=34,slow=5.4
BHOU Houvegnez 81.52 334 P P 05 01 14.3 +1.2
OBKA Obir 81.53 327 eP P 05 01 13.9 +0.6
comp=Z,14nm,0.8s
SOCY Socotra 81.55 279 P P 05 01 12.4 -1.4
SOCY IAmb IAmb 05 01 27.9
comp=Z,34nm,1.0s
KBA Koelnbreinsper 81.56 328 iPcP P 05 01 15.0 +1.5
comp=Z,32nm,1.2s,SNR=9.3
SRS Serrai 81.58 318 P P 05 01 13.3 -0.2
PRK Paraskevi 81.58 316 P P 05 01 14.8 +1.3
G40A Rib Lake 81.62 35 IAmb IAmb 05 01 28.1
comp=Z,34nm,1.1s
319A Douglas 81.66 56 IAmb IAmb 05 01 30.0
comp=Z,54nm,1.1s
LIA Limnos Island 81.67 317 P P 05 01 14.1 +0.1
BCLA Clavier 81.70 334 P P 05 01 12.2 -1.7
STU Stuttgart 81.75 331 eP P 05 01 14.7 +0.4
comp=Z,55nm,1.3s,baz=34,slow=5.4
121A Cookes Peak, D 81.79 54 P P 05 01 16.3 +1.3
baz=314,SNR=6.6
121A Cookes Peak, D 81.79 54 IAmb IAmb 05 01 31.1
comp=Z,47nm,1.1s
BLCB Balcova 81.79 315 eP P 05 01 15.0 +0.3
BLCB Balcova 81.79 315 eP P 05 01 15.0 +0.3
BGES Gesves 81.80 334 P P 05 01 14.7 +0.2
MYKA Terra Mystica 81.81 328 iP P 05 01 15.1 +0.4
comp=Z,28nm,1.3s,SNR=7.1
SIGR SIGRI 81.82 316 P P 05 01 15.2 +0.4
SIGR SIGRI 81.82 316 P P 05 01 15.5 +0.7
SIGR SIGRI 81.82 316 eP P 05 01 15.5 +0.7
STIP Stip 81.84 320 iP P 05 01 14.7 -0.2
LJU Ljubljana 81.92 327 eP P 05 01 15.3 +0.1
SOH Sokhos 81.92 318 P P 05 01 15.5 +0.1
PLE Pljevlja 81.92 322 ⇓iP P 05 01 17.0 +1.6
CBKS Cedar Bluff 81.92 45 P P 05 01 15.0 -0.5
baz=317
CBKS Cedar Bluff 81.92 45 IAmb IAmb 05 01 31.6
comp=Z,35nm,1.1s
VAY Valandovo 81.93 319 iP P 05 01 16.8 +1.5
FETY Fethiye 81.94 312 eP P 05 01 16.2 +0.7
FETY Fethiye 81.94 312 eP P 05 01 16.2 +0.7
SNF Seneffe 81.95 335 P P 05 01 15.9 +0.6

OUR	Ouranopolis	81.96	318	P		P		05 01 15.9	+0.4
OUR	Ouranopolis	81.96	318	eP		P		05 01 15.9	+0.4
BMRD	Maredsous	81.97	335	P		P		05 01 15.6	+0.2
	comp=Z,24nm,1.4s								
SKO	Skopje	81.99	320	iP		P		05 01 17.4	+1.7
YER	Yerkesik	82.02	313	P		P		05 01 17.0	+1.0
IVA	Berane	82.04	322	⇓iP		P		05 01 17.4	+1.4
DALY	Dalyan (Mula)	82.05	313	eP		P		05 01 16.8	+0.8
DALY	Dalyan (Mula)	82.05	313	eP		P		05 01 16.8	+0.8
WATA	Walderalm	82.05	329	iP		P		05 01 17.2	+1.1
	comp=Z,36nm,1.2s,SNR=7.3								
WLF	Walferdange	82.06	333	P		P		05 01 15.1	-0.8
WTTA	Wattenberg	82.09	329	iP		P		05 01 17.1	+0.8
	comp=Z,27nm,1.1s,SNR=9.2								
ABTA	Abfaltersbach	82.16	328	iP		P		05 01 16.6	0.0
	comp=Z,22nm,1.6s,SNR=5.1								
DOU	Dourbes	82.21	335	P		P		05 01 17.4	+0.7
HORT	Hortiatis	82.21	318	P		P		05 01 16.9	-0.1
HORT	Hortiatis	82.21	318	eP		P		05 01 17.4	+0.4
HORT	Hortiatis	82.21	318	eP		P		05 01 17.4	+0.4
PVY	Plav	82.22	321	⇓iP		P		05 01 18.3	+1.3
MOTA	Moosalm	82.22	329	iP		P		05 01 17.8	+0.9
	comp=Z,42nm,1.0s,SNR=11								
JAVS	Javornik	82.23	327	eP		P		05 01 16.7	-0.3
KOME	Kolasin	82.23	322	⇑iP		P		05 01 17.7	+0.7
RETA	Reutte	82.24	330	iP		P		05 01 17.9	+1.0
	comp=Z,34nm,1.1s,SNR=9.4								
UPM	Unac-Piva	82.24	322	⇓iP		P		05 01 18.2	+1.0
SQTA	Sankt Quirin	82.29	329	iP		P		05 01 18.1	+0.8
	comp=Z,27nm,1.1s,SNR=7.6								
CHOS	Chios island	82.32	315	P		P		05 01 17.8	+0.2
CHOS	Chios island	82.32	315	eP		P		05 01 18.4	+0.8
CHOS	Chios island	82.32	315	eP		P		05 01 18.4	+0.8
UBR	Ueberruh	82.33	330	eP		P		05 01 17.9	+0.5
	comp=Z,201nm,2.8s,baz=34,slow=5.4								
PAIG	Paliouri	82.40	318	P		P		05 01 18.0	+0.1
BFO	Black Forest	82.44	332	P		P		05 01 18.4	+0.5
BFO				pmax		pmax			
	comp=Z,12nm,1.1s								
BFO	Black Forest	82.44	332	eP		P		05 01 18.3	+0.5
	comp=Z,54nm,1.5s,baz=34,slow=5.4								
BFO	Black Forest	82.44	332	P		P		05 01 18.4	+0.5
NKY	Niksic	82.50	322	⇓iP		P		05 01 19.3	+0.8
NKME	Niksic	82.56	322	⇓iP		P		05 01 19.2	+0.5
BODT	Bodrum	82.61	313	eP		P		05 01 18.9	-0.1
BODT	Bodrum	82.61	313	eP		P		05 01 18.9	-0.1
FETA	Feichten	82.64	329	iP		P		05 01 20.1	+1.0
	comp=Z,14nm,1.0s								
BRY	Bratogost	82.64	322	⇑iP		P		05 01 19.0	-0.3
MATQ	Matagami	82.66	25	P		P		05 01 19.0	0.0
	baz=330								
PDG	Podgorica	82.68	322	⇑P		P		05 01 19.7	+0.4
PDG	Podgorica	82.68	322	IAmb		IAmb		05 01 21.2	
	comp=Z,53nm,1.0s								
TTG	Podgorica	82.68	322	⇑iP		P		05 01 19.6	+0.4
PHP	Peshkopia	82.69	321	P		P		05 01 19.6	+0.2
DAVA	Damuels	82.74	330	iP		P		05 01 20.4	+0.8
	comp=Z,29nm,1.1s,SNR=7.6								
CEME	Cevo	82.75	322	⇑iP		P		05 01 19.7	0.0
D46A	Sault St. Mari	82.83	31	P		P		05 01 20.3	+0.3
	baz=326								
SCIA	State Center	82.88	39	P		P		05 01 21.3	+1.0
	baz=321,SNR=5.2								
SCIA	State Center	82.88	39	IAmb		IAmb		05 01 36.8	
	comp=Z,34nm,1.0s								
AOS	Alonnisos	82.88	317	P		P		05 01 20.4	0.0
AOS	Alonnisos	82.88	317	eP		P		05 01 20.7	+0.3
AOS	Alonnisos	82.88	317	eP		P		05 01 20.7	+0.3
LIT	Litokhoron	82.89	318	P		P		05 01 20.3	-0.1
LIT	Litokhoron	82.89	318	IAmb		IAmb		05 01 34.4	
	comp=Z,31nm,1.1s								
DRME	Dracevica, Mon	82.90	322	⇑iP		P		05 01 20.9	+0.5
BUM	Brajici-Budva	82.95	322	⇑iP		P		05 01 22.5	+1.8
OHR	Ohrid	82.96	320	iP		P		05 01 21.6	+0.8
HCY	Herceg Novi	83.02	322	⇑iP		P		05 01 21.6	+0.6
HRFI	Mount Harif	83.03	304	iP		P		05 01 22.6	+1.3
HRFI	Mount Harif	83.03	304	eP		P		05 01 22.6	+1.3
ULC	Ulcinj	83.05	321	⇑iP		P		05 01 21.2	0.0
CTI	Castel Tesino	83.08	328	IAmb		IAmb		05 01 22.4	
	comp=Z,21nm,1.1s								
XOR	Xorichti	83.09	317	P		P		05 01 21.3	-0.2
KZN	Kozani	83.09	319	P		P		05 01 21.3	-0.3
SKIA	Skiathos	83.10	317	P		P		05 01 21.3	-0.2
NEO	Neokhori	83.12	317	P		P		05 01 21.4	-0.2
FUORN	Ofenpass-Fuorn	83.15	329	IAmb		IAmb		05 01 24.5	
	comp=Z,56nm,1.1s								
DAVOX	Davos/Dischmat	83.16	330	P		P		05 01 22.7	+0.8
	comp=Z,6.1nm,0.9s,baz=64,slow=3.6,SNR=10								
KYMI	Kymi, Euboea I	83.17	316	P		P		05 01 21.9	0.0
TIR	Tirane	83.23	321	P		P		05 01 22.8	+0.7
I42A	Draeger Farm,	83.28	35	IAmb		IAmb		05 01 36.9	
	comp=Z,41nm,1.1s								
EIL	Elat	83.33	304	iP		P		05 01 24.1	+1.2
EIL	Elat	83.33	304	eP		P		05 01 24.1	+1.2
KSU1	Kansas State U	83.34	43	P		P		05 01 24.1	+1.4
	baz=319,SNR=5.6								
JFWS	Jewell Farm	83.46	36	P		P		05 01 23.1	-0.2
	baz=322								
LSQQ	Lebel-sur-Quev	83.48	25	P		P		05 01 22.9	-0.3
	baz=331								
E47A	Iron Bridge	83.48	30	P		P		05 01 23.7	+0.4
	baz=327								
D49A	Beulah Townshi	83.51	29	P		P		05 01 23.5	0.0
	baz=328								
THL	Klokotos Trika	83.54	318	P		P		05 01 22.5	-1.2
CHGQ	Chibougamau	83.54	23	P		P		05 01 24.1	+0.6
	baz=332								
KPRO	Kipourio	83.56	319	P		P		05 01 23.7	-0.3
TUE	Stuetta	83.62	330	IAmb		IAmb		05 01 40.8	
	comp=Z,20nm,0.9s								
DION	Dionisos Attik	83.67	316	P		P		05 01 23.8	-0.7
L40A	Anamosa	83.69	38	IAmb		IAmb		05 01 38.8	
	comp=Z,47nm,1.1s								
AMTX	Amarillo	83.72	49	P		P		05 01 23.2	-1.7
	baz=317								
LKR	Lokris	83.73	317	P		P		05 01 24.2	-0.5
AGG	Agios Georgios	83.79	318	P		P		05 01 24.3	-0.8
AGG	Agios Georgios	83.79	318	IAmb		IAmb		05 01 25.8	
	comp=Z,26nm,1.1s								
AXAR	Agios Charalam	83.81	317	P		P		05 01 24.7	-0.5
MNTX	Cornudas Mount	83.83	53	P		P		05 01 26.3	+0.9
	baz=315								
MNTX				S		S		05 11 50.3	+3.3
	baz=315								
MNTX	Cornudas Mount	83.83	53	IAmb		IAmb		05 01 40.9	
	comp=Z,36nm,1.1s								
ATHU	Athens Univers	83.83	316	P		P		05 01 24.3	-1.0
E48A	Lockeyer	83.88	30	P		P		05 01 24.5	-0.9
	baz=327								
VILL	Villia	83.93	317	P		P		05 01 24.9	-0.9
JAN	Janina	84.05	319	P		P		05 01 27.0	+0.6
EVR	Evrytania	84.13	318	P		P		05 01 26.5	-0.4
DSF	Desfina	84.15	317	P		P		05 01 25.7	-1.3
F48A	Evansville	84.26	30	P		P		05 01 23.3	-4.0
	baz=327								
ANX	Ano Chora	84.32	318	P		P		05 01 27.5	-0.4
SERG	Sergoula	84.39	318	P		P		05 01 27.4	-0.7
TRIZ	Trizonia	84.42	317	P		P		05 01 27.5	-0.7
EFP	Efpalio	84.45	318	P		P		05 01 28.1	-0.3
DID	Didima	84.46	316	P		P		05 01 26.3	-2.2
P38A	Dawn	84.49	40	IAmb		IAmb		05 01 43.5	
	comp=Z,38nm,0.8s								
PVO	Paravola	84.50	318	P		P		05 01 28.3	-0.4
KEK	Kerkira	84.52	320	P		P		05 01 28.6	-0.2
F49A	Sandfield	84.53	30	P		P		05 01 27.5	-1.2
	baz=328								
PMOR	Pomariorio Ree	84.56	115	eT		T		06 34 32.7	
	comp=Z,8.4nm,0.2s								
GUR	Goura	84.60	317	P		P		05 01 28.5	-0.8
KLV	Kalavryta, Ach	84.62	317	P		P		05 01 28.6	-0.8
LKD2	Lefkada island	84.81	319	P		P		05 01 30.3	0.0
DRO	Drossia	84.92	317	P		P		05 01 31.1	+0.3
TRIP	Tripoli	84.95	317	P		P		05 01 30.4	-0.7
RLS	Riolos of Patr	84.96	318	P		P		05 01 31.1	+0.1
D53A	Lac Vacive, Po	84.96	27	P		P		05 01 30.5	-0.3
	baz=330								
D53A	Lac Vacive, Po	84.96	27			P		05 01 31.7	+0.9
D53A				IAmb		IAmb		05 01 45.0	
	comp=Z,24nm,1.0s								
LAST	Lasithi	85.01	313	P		P		05 01 31.7	+0.3
NRCA	Norcia	85.11	326	IAmb		IAmb		05 01 34.7	
	comp=Z,22nm,0.8s								
FSK	Fiskardo	85.11	318	P		P		05 01 31.3	-0.4
SSF	Saint Saulge	85.20	334	eP		P		05 01 32.4	+0.4
SSF				pmax		pmax			
	comp=Z,52nm,1.6s								
PPT	Papeete	85.23	118	LR		LR		05 33 55.1	
	comp=Z,2μm,20.1s,baz=330,slow=32								
IDI	Anoyia	85.24	314	P		P		05 01 31.6	-0.9
IDI	Anoyia	85.24	314	IAmb		IAmb		05 01 49.3	
	comp=Z,19nm,0.8s								
PPT2	Papeete2	85.25	118	eS		S		05 12 02.0	+0.7
	comp=Z,2μm,40.8s								
PPT2	Papeete2	85.25	118	eLR		LR		05 28 31.9	
	comp=Z,2μm,21.0s,baz=316								
D54A	Lac Fusel, La	85.25	26	P		P		05 01 31.3	-1.0
	baz=331								
VLS	Valsamata	85.31	318	P		P		05 01 32.3	-0.5
ITM	Ithomi	85.39	317	P		P		05 01 32.7	-0.5
INTR	Introdacqua	85.43	325	IAmb		IAmb		05 01 36.1	
	comp=Z,36nm,1.1s								
WMOK	Wichita Mounta	85.45	47	P		P		05 01 34.7	+1.2
	baz=318,SNR=6.5								
WMOK				S		S		05 12 02.9	-0.1
	baz=318								
WMOK	Wichita Mounta	85.45	47	IAmb		IAmb		05 01 48.6	
	comp=Z,27nm,0.9s								
KTHA	Kythira Island	85.50	316	P		P		05 01 32.5	-1.2
VAM	Vamos	85.53	314	P		P		05 01 33.4	-0.5
E53A	Dumoine, Ponti	85.58	27	P		P		05 01 33.3	-0.6
	baz=330								
IMMV	Iera Moni Meta	85.60	314	P		P		05 01 34.3	0.0
E54A	Lac Daplat, Po	85.70	27	P		P		05 01 33.6	-0.9
	baz=331								
PYL	PYLOS	85.70	317	P		P		05 01 34.5	-0.2
D55A	Sainte-Anne-du	85.75	25	P		P		05 01 34.8	0.0
	baz=332								
HDIL	Hopedale	85.77	37	P		P		05 01 35.6	+0.6
	baz=323,SNR=5.2								
ALGO	Algonquin Park	85.82	27	P		P		05 01 34.2	-0.9
	baz=330								
BNI	Bardonecchia	85.82	331	IAmb		IAmb		05 01 39.4	
	comp=Z,17nm,1.1s								
TAOE	Nuku Hiva Isla	85.83	105	eLR		LR		05 28 48.7	
	comp=Z,2μm,21.7s,baz=312								
D56A	ZEC Mazanza, M	85.96	25	P		P		05 01 35.9	+0.1
	baz=332,SNR=9.1								
E55A	Montcerf-Lytto	86.06	26	P		P		05 01 34.7	-1.5
	baz=332								
S39A	Bolivar	86.08	42	IAmb		IAmb		05 01 51.3	
	comp=Z,22nm,0.9s								
TUL1	Leonard	86.18	44	P		P		05 01 38.1	+1.0
	baz=320,SNR=5.9								
TUL1	Leonard	86.18	44	IAmb		IAmb		05 01 52.2	
	comp=Z,35nm,0.8s								
D57A	Chemin Vers le	86.26	24	P		P		05 01 37.9	+0.6
	baz=333,SNR=6.4								
G54A	Lake Saint Pet	86.28	28	P		P		05 01 37.1	-0.3
	baz=330								
E56A	St. Veronique	86.32	25	P		P		05 01 36.9	-0.7
	baz=332								
SSB	Saint Sauveur	86.40	332	IAmb		IAmb		05 01 57.3	
	comp=Z,19nm,1.1s								
TIP	Timpagrande	86.40	321	⇑P		P		05 01 38.7	+0.4
TIP	Timpagrande	86.40	321	IAmb		IAmb		05 01 57.8	
	comp=Z,18nm,1.1s								
D58A	Chemin du LacG	86.50	24	P		P		05 01 38.7	+0.2
	baz=334								
U38A	Gravette	86.51	43	IAmb		IAmb		05 01 53.4	
	comp=Z,33nm,1.1s								
ABTX	Abilene, Hawle	86.53	49	P		P		05 01 40.0	+1.1
	baz=318,SNR=5.3								
TX32	Lajitas Array	86.54	54	IAmb		IAmb		05 01 55.2	
	comp=Z,31nm,1.1s								
TXAR	Lajitas Array	86.54	54	P		P		05 01 39.9	+0.8
	comp=Z,2.6nm,0.9s,baz=295,slow=3.0,SNR=20								
TXAR				LR		LR		05 40 26.3	
	comp=Z,266nm,18.8s,baz=0.0,slow=36								
TXAR	Lajitas Array	86.54	54	P		P		05 01 39.8	+0.7
E57A	Chemin Saint G	86.72	25	P		P		05 01 40.5	+0.9
	baz=333,SNR=7.5								
MFF	Saint Martin d	86.79	336	eP		P		05 01 40.7	+0.8
MFF				pmax		pmax			
	comp=Z,58nm,1.1s								
AAM	Ann Arbor	86.79	33	P		P		05 01 40.0	+0.1
	baz=327								
H53A	Bobcaygeon	86.82	29	P		P		05 01 39.5	-0.6
	baz=330								
CCM	Cathedral Cave	86.83	40	P		P		05 01 39.8	-0.5
	baz=322								
CCM				S		S		05 12 15.8	-0.6
	baz=322								
CCM	Cathedral Cave	86.83	40	P		P		05 01 41.1	+0.9
CCM				pmax		pmax			
	comp=Z,46nm,1.1s								
CCM	Cathedral Cave	86.83	40	P		P		05 01 41.1	+0.9
CCM				IAmb		IAmb		05 01 55.0	
	comp=Z,46nm,1.1s								
HHAR	Hobbs	86.86	43	IAmb		IAmb		05 01 54.9	
	comp=Z,26nm,1.1s								
G55A	Calabogie	86.89	27	P		P		05 01 39.5	-0.9
	baz=331								
D59A	Saint-Raymond	86.90	23	P		P		05 01 40.3	0.0
	baz=334								
SFIN	Lafayette	86.90	36	P		P		05 01 40.0	-0.5
	baz=324								
E58A	La Victoria	87.03	24	P		P		05 01 40.7	-0.3
	baz=333								
MGMO	Montain Grove	87.03	41	IAmb		IAmb		05 01 56.3	
	comp=Z,15nm,0.9s								
F57A	Harrington	87.07	25	P		P		05 01 40.3	-0.9
	baz=332								
ORIO	Orleans, Innes	87.12	26	P		P		05 01 40.3	-1.2
	baz=332								
D60A	Saint Jean D'O	87.25	23	P		P		05 01 40.8	-1.2
	baz=335								
FVM	French Village	87.28	40	IAmb		IAmb		05 01 57.3	
	comp=Z,34nm,1.1s								
H55A	Tweed	87.34	28	P		P		05 01 42.3	-0.3
	baz=331								
U40A	Yellville	87.36	42	P		P		05 01 43.4	+0.5
	baz=321,SNR=6.6								
U40A				S		S		05 12 19.3	-2.2
	baz=321								
CAF	Calviac	87.56	334	eP		P		05 01 43.8	+0.1
CAF				pmax		pmax			
	comp=Z,56nm,1.2s								
E60A	Ste Agathe de	87.59	23	P		P		05 01 43.4	-0.3
	baz=335								
G57A	Newington	87.60	26	P		P		05 01 43.8	0.0
	baz=332								
H56A	Elgin	87.62	27	P		P		05 01 43.0	-0.9
	baz=331								
D62A	Allapoint, All	87.63	21	P		P		05 01 43.9	0.0
	baz=336								
F59A	Saint Guilaume	87.65	24	P		P		05 01 44.3	+0.3
	baz=334								
W39A	Magazine	87.78	43	P		P		05 01 45.7	+0.8
	baz=321								
W39A				S		S		05 12 25.4	-0.2
	baz=321								
E61A	Lac Etchemin	87.81	23	P		P		05 01 45.4	+0.5
	baz=335								
G58A	Ormstown	87.87	25	P		P		05 01 45.4	+0.3
	baz=333								
E62A	Clayton Lake	87.92	22	P		P		05 01 45.9	+0.5
	baz=336								
J54A	Appleton	87.92	29	P		P		05 01 45.4	0.0
	baz=330								
D63A	Stockholm	87.93	21	P		P		05 01 46.2	+0.9
	baz=337								
JCT	Junction City	88.01	50	P		P		05 01 47.6	+1.4
	baz=318								
JCT				S		S		05 12 28.8	+0.7
	baz=318								
JCT	Junction City	88.01	50	IAmb		IAmb		05 02 03.7	
	comp=Z,23nm,1.1s								
H57A	Richville	88.03	27	P		P		05 01 46.5	+0.6
	baz=332								
F61A	St Evariste	88.08	23	P		P		05 01 47.3	+1.2
	baz=335								
FCAR	Ozark Folk Cen	88.09	42	IAmb		IAmb		05 02 00.8	
	comp=Z,26nm,0.9s								
WHTX	Lake Whitney,	88.23	48	P		P		05 01 48.2	+1.2
	baz=319								
WHTX				S		S		05 12 30.4	+0.4
	baz=319								
J55A	Hilton	88.23	29	P		P		05 01 47.5	+0.6
	baz=330								
M52A	Chesterland	88.36	32	P		P		05 01 47.6	0.0
	baz=328								
MIAR	Mount Ida	88.39	44	P		P		05 01 48.8	+1.0
	baz=321,SNR=5.4								
MIAR				S		S		05 12 31.3	0.0
	baz=321								
P48A	Milroy	88.39	36	IAmb		IAmb		05 02 02.4	
	comp=Z,30nm,1.1s								
E63A	Oxbow	88.41	21	P		P		05 01 47.9	+0.2
	baz=337								
I57A	Carthage	88.41	27	P		P		05 01 47.7	0.0
	baz=332								
ERPA	Erie	88.41	31	P		P		05 01 47.7	0.0
	baz=329								
H59A	Cadyville	88.44	25	P		P		05 01 47.8	-0.1
	baz=333								
L53A	Girard	88.44	31	P		P		05 01 48.2	+0.3
	baz=329								
L53A				S		S		05 12 29.5	-2.2
	baz=329								
F62A	Pittston Farm,	88.45	22	P		P		05 01 48.1	+0.2
	baz=336								
G60A	Masonville	88.46	24	S		S		05 12 30.3	-1.4
	baz=334								
K54A	Basiliko Farm,	88.48	30	P		P		05 01 48.4	+0.3
	baz=330								
H58A	Gabriels	88.48	26	P		P		05 01 47.4	-0.7
	baz=333								
G61A	St-Isidore-de-	88.54	24	P		P		05 01 49.1	+0.8
	baz=335,SNR=5.6								
L54A	Sinclairville	88.56	30	P		P		05 01 48.5	0.0
	baz=329								
J56A	Wolcott	88.57	28	P		P		05 01 47.8	-0.6
	baz=331								
E64A	Bridgewater	88.57	21	P		P		05 01 47.7	-0.7
	baz=337								
W41B	Gary Mavity, V	88.58	42	P		P		05 01 47.9	-0.8
	baz=322								
W41B				S		S		05 12 33.2	0.0
	baz=322								
W41B	Gary Mavity, V	88.58	42	IAmb		IAmb		05 02 03.4	
	comp=Z,35nm,1.1s								
K55A	Perry	88.61	29	P		P		05 01 49.3	+0.6
	baz=330								
P49A	Miami Univ. Ec	88.64	35	P		P		05 01 49.2	+0.3
	baz=326,SNR=5.6								
M53A	Wl Miller and	88.72	31	P		P		05 01 49.2	0.0
	baz=328								
J57A	Williamstown	88.75	27	P		P		05 01 49.3	0.0
	baz=332								
ACSO	Alum Creek Sta	88.80	34	P		P		05 01 49.7	0.0
	baz=327								
X40A	Basin Creek Fa	88.82	43	P		P		05 01 50.6	+0.8
	baz=321								
X40A				S		S		05 12 34.6	-0.9
	baz=321								
H60A	Morristown	88.83	25	P		P		05 01 50.2	+0.5
	baz=334								
H60A				S		S		05 12 33.9	-1.3
	baz=334								
I58A	Old Forge	88.86	27	P		P		05 01 49.2	-0.7
	baz=332								
NCB	Newcomb	88.86	26	IAmb		IAmb		05 02 04.6	
	comp=Z,20nm,1.1s								
F63A	Nahmakanta, Br	88.87	22	P		P		05 01 48.9	-1.0
	baz=336								
G62A	West of Eustis	88.90	23	P		P		05 01 50.2	+0.2
	baz=335								
K56A	Middlesex	88.90	29	P		P		05 01 51.6	+1.5
	baz=331								
L55A	Hinsdale	88.94	30	P		P		05 01 49.9	-0.4
	baz=330								
WCI	Wyandotte Cave	89.01	37	P		P		05 01 51.4	+0.7
	baz=325								
VT1	Waterbury	89.02	25	IAmb		IAmb		05 02 05.6	
	comp=Z,27nm,1.1s								
O51A	Pataskala	89.03	33	P		P		05 01 50.7	0.0
	baz=327								
J58A	Remsen	89.04	27	P		P		05 01 51.0	+0.2
	baz=332								
J58A				S		S		05 12 33.7	-3.6
	baz=332								
J58A	Remsen	89.04	27	IAmb		IAmb		05 02 05.3	
	comp=Z,26nm,1.1s								
M54A	Oil Creek Stat	89.05	31	P		P		05 01 51.4	+0.6
	baz=329								
H61A	Lyndonville	89.09	24	P		P		05 01 51.8	+0.8
	baz=334								
I59A	Olmsteadville	89.13	26	P		P		05 01 51.4	+0.2
	baz=333								
K57A	Scipio Center	89.16	28	P		P		05 01 51.6	+0.3
	baz=331								
N53A	Lisbon	89.19	32	P		P		05 01 52.6	+1.1
	baz=328,SNR=5.8								
N53A				S		S		05 12 37.9	-0.9
	baz=328								
J59A	Piesco	89.22	26	P		P		05 01 52.1	+0.5
	baz=333								
J59A	Piesco	89.22	26	IAmb		IAmb		05 02 06.2	
	comp=Z,28nm,1.1s								
PKME	Peaks-Kenny Pk	89.22	22	P		P		05 01 52.0	+0.6
	baz=336								
G63A	Kingsbury	89.26	23	P		P		05 01 51.0	-0.7
	baz=336								
I60A	Shoreham	89.28	26	P		P		05 01 51.1	-0.6
	baz=333								
I60A				S		S		05 12 37.6	-1.8
	baz=333								
H62A	Milan	89.30	24	P		P		05 01 52.1	+0.2
	baz=335								
L56A	Greenwood	89.31	29	P		P		05 01 51.0	-1.0
	baz=331								
L56A				S		S		05 12 37.8	-2.1
	baz=331								
L56A	Greenwood	89.31	29	IAmb		IAmb		05 02 06.8	
	comp=Z,28nm,1.0s								
O52A	Adamsville	89.37	33	P		P		05 01 52.3	0.0
	baz=328								
G64A	Maxfield	89.39	22	P		P		05 01 51.9	-0.4
	baz=336								
N54A	Moraine State	89.39	31	P		P		05 01 52.1	-0.3
	baz=329								
P51A	Williamsport	89.39	34	P		P	

N55A				S	**S**	**05 12 44.5**	**-1.3**
	baz=330						
I63A	**Otisfield**	**89.95**	**24**	P	**P**	**05 01 56.4**	**+1.5**
	baz=335						
I63A	**Otisfield**	**89.95**	**24**	IAmb	IAmb	05 01 58.1	
	comp=Z,32nm,1.1s						
J61A	**Chester**	**89.96**	**25**	P	**P**	**05 01 55.3**	**+0.2**
	baz=334						
L58A	**Harry Jones Me**	**90.00**	**28**	P	**P**	**05 01 55.8**	**+0.5**
	baz=332						
N56A	**West Decatur**	**90.09**	**30**	P	**P**	**05 01 57.2**	**+1.5**
	baz=330						
N56A				S	**S**	**05 12 43.9**	**-3.2**
	baz=330						
L59A	**Walton**	**90.16**	**27**	P	**P**	**05 01 57.8**	**+1.7**
	baz=332						
L59A				S	**S**	**05 12 45.4**	**-2.4**
	baz=332						
M57A	**Sunshine Farm,**	**90.16**	**29**	P	**P**	**05 01 56.6**	**+0.6**
	baz=331						
M57A				S	**S**	**05 12 45.5**	**-2.3**
	baz=331						
K60A	**Five Rivers En**	**90.17**	**26**	P	**P**	**05 01 56.6**	**+0.6**
	baz=333						
ATD	**Arta Tunnel**	**90.20**	**285**	IAmb	IAmb	05 02 00.9	
	comp=Z,22nm,1.1s						
H66A	**Whiting**	**90.22**	**21**	P	**P**	**05 01 56.4**	**+0.2**
	baz=338						
H66A				S	**S**	**05 12 46.2**	**-1.9**
	baz=338						
J62A	**Henniker**	**90.31**	**25**	P	**P**	**05 01 57.5**	**+0.8**
	baz=334						
O55A	**Ligonier**	**90.31**	**31**	P	**P**	**05 01 58.2**	**+1.5**
	baz=329						
K61A	**Williamstown**	**90.34**	**26**	P	**P**	**05 01 57.6**	**+0.8**
	baz=333						
P54A	**Burton**	**90.36**	**32**	P	**P**	**05 01 58.5**	**+1.5**
	baz=329						
P54A				S	**S**	**05 12 48.3**	**-1.4**
	baz=329						
M58A	**Price's Panora**	**90.37**	**29**	P	**P**	**05 01 57.9**	**+0.8**
	baz=331						
SSPA	**Standing Stone**	**90.48**	**30**	P	**P**	**05 01 58.7**	**+1.2**
	baz=330						
SSPA				S	**S**	**05 12 48.9**	**-1.9**
	baz=330						
SSPA	**Standing Stone**	**90.48**	**30**	P	**P**	**05 01 58.4**	**+0.8**
J63A	**Strafford**	**90.49**	**24**	P	**P**	**05 01 58.3**	**+0.9**
	baz=335						
J63A				S	**S**	**05 12 50.3**	**-0.4**
	baz=335						
N57A	**Milroy**	**90.51**	**30**	P	**P**	**05 01 58.5**	**+0.9**
	baz=331						
N57A				S	**S**	**05 12 47.4**	**-3.6**
	baz=331						
O56A	**Blue Knob Stat**	**90.54**	**31**	P	**P**	**05 01 58.7**	**+0.8**
	baz=330						
Q53A	**Leroy**	**90.56**	**33**	P	**P**	**05 01 57.9**	**0.0**
	baz=328						
MCWV	**Mont Chateau**	**90.57**	**32**	P	**P**	**05 01 59.1**	**+1.2**
	baz=329						
M59A	**Waymart**	**90.59**	**28**	P	**P**	**05 01 58.9**	**+0.8**
	baz=332						
L60A	**Shokan**	**90.62**	**27**	P	**P**	**05 01 59.0**	**+0.8**
	baz=333						
U49A	**Red Boiling Sp**	**90.65**	**37**	IAmb	IAmb	05 02 14.0	
	comp=Z,20nm,0.9s						
L61A	**Hillsdale 1, H**	**90.67**	**26**	P	**P**	**05 01 59.2**	**+0.9**
	baz=333						
K62A	**Royalston**	**90.68**	**25**	P	**P**	**05 01 59.2**	**+0.8**
	baz=334						
P55A	**Reedsville**	**90.70**	**32**	P	**P**	**05 01 59.5**	**+0.9**
	baz=329						
Q54A	**Coxs Mills**	**90.74**	**33**	P	**P**	**05 01 59.3**	**+0.6**
	baz=328						
N58A	**Sunbury**	**90.75**	**29**	P	**P**	**05 01 59.3**	**+0.6**
	baz=331						
N58A	**Sunbury**	**90.75**	**29**	IAmb	IAmb	05 02 13.8	
	comp=Z,33nm,0.9s						
R53A	**Hurricane**	**90.83**	**34**	S	**S**	**05 12 52.7**	**-1.3**
	baz=328						
K63A	**Dunstable**	**90.88**	**25**	P	**P**	**05 01 59.2**	**-0.1**
	baz=335						
O57A	**Amberson**	**90.95**	**30**	P	**P**	**05 01 59.9**	**+0.3**
	baz=330						
N59A	**State Game Lan**	**91.02**	**28**	P	**P**	**05 02 00.9**	**+0.8**
	baz=332						
N59A				S	**S**	**05 12 55.6**	**-0.1**
	baz=332						
HRV	**Adam Dziewonsk**	**91.04**	**25**	P	**P**	**05 02 01.2**	**+1.2**
	baz=335						
Q55A	**Buckhannon**	**91.04**	**32**	P	**P**	**05 02 00.4**	**+0.2**
	baz=329						
M60A	**Port Jervis**	**91.07**	**28**	P	**P**	**05 02 00.4**	**+0.2**
	baz=332						
N60A	**Cedar Hill Far**	**91.30**	**28**	P	**P**	**05 02 01.9**	**+0.6**
	baz=332						
R54A	**Victor**	**91.36**	**33**	S	**S**	**05 12 57.6**	**-1.3**
	baz=328						
M61A	**Granite Spring**	**91.38**	**27**	P	**P**	**05 02 01.6**	**-0.1**
	baz=333						
R55A	**Marlinton**	**91.63**	**33**	S	**S**	**05 13 02.2**	**+0.8**
	baz=329						
Q57A	**Strasburg**	**91.67**	**31**	S	**S**	**05 13 01.1**	**-0.5**
	baz=330						
N61A	**South Mountain**	**91.69**	**28**	P	**P**	**05 02 00.9**	**-2.2**
	baz=333						
P58A	**Pank, Wackersv**	**91.70**	**30**	P	**P**	**05 02 03.1**	**0.0**
	baz=331						
T54A	**Tazewell**	**92.06**	**34**	S	**S**	**05 13 06.7**	**+1.4**
	baz=328						
R57A	**Stanardsville**	**92.26**	**32**	S	**S**	**05 13 07.3**	**+0.3**
	baz=330						
KEST	**Kesra**	**92.61**	**324**	P	**P**	**05 02 06.8**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=214,slow=1.4,SNR=3.8						
KEST				LR	LR	05 48 50.7	
	comp=Z,3μm,19.3s,baz=337,slow=39						
PGAV	**Gavieira, Arco**	**93.39**	**339**	*e*LR	LR	05 38 29.6	
	comp=Z,840nm,20.0s						
MVO	**Moncorvo**	**93.79**	**338**	*e*LR	LR	05 37 49.1	
	comp=Z,1μm,20.0s						
ESDC	**Sonseca Array**	**94.24**	**335**	P	**P**	**05 02 14.7**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=22,slow=3.4,SNR=11						
ESDC				PP	**PP**	**05 05 53.5**	**-7.4**
	comp=Z,1.1nm,0.9s,baz=41,slow=7.4,SNR=4.7						
ESDC				LR	LR	05 50 53.3	
	comp=Z,1μm,18.4s,baz=20,slow=40						
MTE	**Manteigas**	**94.65**	**338**	*e*LR	LR	05 38 42.5	
	comp=Z,1μm,18.0s						
PMRV	**Marv??o**	**95.50**	**338**	*e*LR	LR	05 39 15.7	
	comp=Z,445nm,18.0s						
RKT	**Rikitea**	**98.99**	**113**	*e*LR	LR	05 34 52.5	
	comp=Z,965nm,23.2s						
KMBO	**Kilima Mbogo**	**102.76**	**280**	Pdiff	**Pdif**	**05 02 54.4**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=355,slow=4.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**115.37**	**318**	PKP	**PKiKP**	**05 07 37.0**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=24,slow=1.8,SNR=10						
TORD				PKKPbc	**PKKPbc**	**05 18 11.4**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=146,slow=1.4,SNR=4.7						
VNDA	**Vanda**	**118.90**	**175**	PKP	**PKiKP**	**05 07 43.1**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=320,slow=3.1,SNR=3.6						
MAW	**Mawson**	**123.81**	**207**	PKP	**PKiKP**	**05 07 52.8**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=318,slow=16,SNR=3.7						
MAW	**Mawson**	**123.81**	**207**	PKIKP	**PKiKP**	**05 07 54.2**	**+1.6**
MAW	**Mawson**	**123.81**	**207**		**PKiKP**	**05 07 54.1**	**+1.6**
DBIC	**Dimbokro**	**124.18**	**321**	PKP	**PKPdf**	**05 07 54.7**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=288,slow=6.4,SNR=2.2						
DBIC	**Dimbokro**	**124.18**	**321**	PKIKP	**PKPdf**	**05 07 54.9**	**+0.1**
DBIC	**Dimbokro**	**124.18**	**321**		**PKPdf**	**05 07 54.9**	**+0.1**
LBTB	**Lobatse**	**126.40**	**267**	PKIKP	**PKPdf**	**05 07 59.0**	**+0.2**
LBTB	**Lobatse**	**126.40**	**267**	PKPdf	**PKPdf**	**05 07 59.0**	**+0.2**
SYO	**Syowa Base**	**132.46**	**208**	*e*PKiKP	**PKiKP**	**05 08 12.6**	**+2.7**
SYO	**Syowa Base**	**132.46**	**208**	*e*PKiKP	**PKPdf**	**05 08 06.0**	**-2.8**
LPAZ	**La Paz**	**143.35**	**57**	PKhKP	PKPpre	05 08 28.6	
	comp=Z,3.9nm,1.1s,baz=29,slow=5.8,SNR=6.0						
H03N2	**Juan Fernandez**	**145.85**	**91**	T	T	07 51 54.4	
	baz=300,slow=77						
H03N3	**Juan Fernandez**	**145.86**	**91**	T	T	07 51 54.0	
	baz=300,slow=77						
H03N1	**Juan Fernandez**	**145.86**	**91**	T	T	07 51 55.7	
	baz=300,slow=77						
VNA2	**Neumayer--Watz**	**146.61**	**197**	PKPdf	**PKPab**	**05 08 36.7**	**-0.5**
VNA3	**Neumayer Olymp**	**146.85**	**196**	PKPdf	**PKPbc**	**05 08 36.6**	**-0.2**
VNA1	**Neumayer--Stat**	**147.01**	**197**	PKPdf	**PKPbc**	**05 08 37.0**	**-0.1**
LVC	**Limon Verde**	**147.31**	**66**	PKP2	**PKPbc**	**05 08 40.2**	**+0.3**
LVC	**Limon Verde**	**147.31**	**66**		**PKPbc**	**05 08 40.2**	**+0.3**
AC05	**El Transito**	**150.12**	**76**		**PKiKP**	**05 08 47.3**	**-0.3**
CO01	**Juntas del Tor**	**150.86**	**78**		**PKiKP**	**05 08 49.0**	**-0.2**
MT02	**Curacav**	**151.65**	**85**		**PKiKP**	**05 08 50.7**	**+0.3**
BO02	**Sierra Bellavi**	**152.56**	**88**		**PKiKP**	**05 08 52.6**	**+0.3**
BDFB	**Brasilia**	**152.82**	**24**	PKPbc	**PKiKP**	**05 08 53.4**	**0.0**
	comp=Z,4.2nm,0.7s,baz=357,slow=1.8,SNR=6.6						
BI02	**San Fabin de**	**152.88**	**92**	PKPdf	**PKPdf**	**05 08 45.8**	**+0.2**
PLCA	**Paso Flores**	**154.55**	**100**	PKPbc	**PKiKP**	**05 08 57.3**	**+1.0**
	comp=Z,3.2nm,1.1s,baz=196,slow=1.4,SNR=3.6						

*IDC **27** 05:00:51.1±0.8, 40˚.92N×143˚.05E, h0km, mb3.9/14, mb1 4.1/19, mb1mx3.9/55, mbtmp3.9/19, ML3.2/4, Error ellipse: s-maj=19.9km s-min=15.6km az=88.0*
*JMA **27** 05:00:55.6±0.1, 41˚.04N×143˚.18E, h39km, M3.7*
ISC 27 05:00:53.2±1.7, **40˚.98N**±0˚.04×**143˚.12E**±0˚.07, **h14**km±11km, **n35**, σ0**s96**/41, **mb4.0**/14, **5C**, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.03**	**1**	⇑P	**Pn**	**05 01 13.1**	**-0.1**
JEM				*e*S	**Sb**	**05 01 25.6**	**-0.6**
JTHR	**Tokachihiroo**	**1.31**	**6**	P	**Pb**	**05 01 17.6**	**0.0**
JNBK	**Urakawa-nobuka**	**1.32**	**348**	⇑P	**Pb**	**05 01 17.9**	**+0.1**
JNBK				*e*S	**Sn**	**05 01 33.9**	**-0.7**
JKEN	**Kujiedanarisaw**	**1.33**	**235**	P	**Pg**	**05 01 18.9**	**+0.2**
JKEN				*e*S	**Sg**	**05 01 36.5**	**+0.6**
JARK	**Aomorirokkasho**	**1.33**	**272**	P	**Pg**	**05 01 19.0**	**+0.3**
JANG	**Nango**	**1.37**	**244**	P	**Pg**	**05 01 19.8**	**+0.4**
JTM	**Tenmabayashi**	**1.57**	**263**	⇑P	**Pg**	**05 01 22.9**	**-0.4**
JOT	**Ohata**	**1.61**	**285**	⇑P	**Pb**	**05 01 22.9**	**+0.2**
JCH	**Churui**	**1.64**	**6**	P	**Pn**	**05 01 21.6**	**+0.1**
JKB	**Kayabe**	**1.81**	**301**	P	**Pb**	**05 01 25.3**	**-0.8**
JBT2	**Biratori 2**	**1.88**	**343**	P	**Pb**	**05 01 26.1**	**-1.2**
JOB	**Onbets**	**1.99**	**15**	P	**Pn**	**05 01 26.4**	**0.0**
JOB				*e*S	**Sn**	**05 01 50.2**	**-0.9**
JOM	**Ohasama**	**2.06**	**223**	P	**Pb**	**05 01 30.4**	**+0.1**
JAK	**Akkeshi**	**2.33**	**30**	P	**Pn**	**05 01 30.3**	**-0.7**
JAR	**Ashorobuto**	**2.36**	**12**	⇑P	**Pn**	**05 01 31.1**	**-0.4**
JAR				*e*S	**Sn**	**05 01 57.3**	**-2.9**
JOMM	**Oshimamatsumae**	**2.41**	**284**	P	**Pb**	**05 01 35.7**	**-0.6**
ASAJ	**Asahikawa**	**3.15**	**353**	Pn	**Pn**	**05 01 42.7**	**+0.3**
	3.0nm,0.3s,baz=176,slow=15,SNR=4.0						
ASAJ				Sn	**Sn**	**05 02 21.8**	**+2.0**
	3.6nm,0.3s,baz=165,slow=5.7,SNR=5.8						
MJAR	**Matsushiro Arr**	**5.87**	**222**	Pn	**Pn**	**05 02 17.8**	**-1.8**
	0.1nm,0.3s,baz=28,slow=13,SNR=1.3						
JHJ	**Hachijo jima 2**	**8.29**	**200**	Pn	**Pn**	**05 02 50.9**	**-2.1**
	7.2nm,0.3s,baz=47,slow=19,SNR=1.6						
USRK	**Ussuriysk Ar.**	**8.82**	**295**	Pn	**Pn**	**05 03 00.5**	**+0.4**
	baz=119,slow=44,SNR=1.8						
KLR	**Kul'dur**	**11.50**	**320**	Pn	**Pn**	**05 03 37.9**	**+1.0**
	0.1nm,0.3s,baz=78,slow=9.3,SNR=3.4						
SONM	**Songino Array**	**26.92**	**297**	P	**P**	**05 06 34.2**	**+0.3**
	1.3nm,0.6s,baz=89,slow=9.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**40.35**	**309**	P	**P**	**05 08 30.4**	**+0.3**
	2.2nm,0.6s,baz=84,slow=8.3,SNR=8.7						
MKAR	**Makanchi Array**	**43.26**	**299**	P	**P**	**05 08 54.0**	**0.0**
	1.3nm,0.7s,baz=80,slow=9.3,SNR=8.0						
KURBB	**Kurchatov Arra**	**44.72**	**305**	P	**P**	**05 09 05.2**	**-0.4**
	1.8nm,0.5s,baz=78,slow=8.7,SNR=11						
ILAR	**Eielson Array**	**45.47**	**34**	P	**P**	**05 09 12.4**	**+1.0**
	0.5nm,0.7s,baz=272,slow=7.7,SNR=6.1						
INK	**Inuvik**	**50.28**	**29**	P	**P**	**05 09 49.4**	**+0.9**
	1.1nm,0.6s,baz=280,slow=7.5,SNR=5.4						
AKTO	**Aktyubinsk**	**57.07**	**311**	P	**P**	**05 10 38.7**	**+0.1**
	1.4nm,0.5s,baz=60,slow=14,SNR=5.0						
WRA	**Warramunga Arr**	**61.16**	**189**	P	**P**	**05 11 07.5**	**+0.3**
	0.6nm,0.5s,baz=6.8,slow=6.9,SNR=13						
ASAR	**Alice Springs**	**64.89**	**189**	P	**P**	**05 11 30.9**	**-1.0**
	0.6nm,0.8s,baz=7.9,slow=8.0,SNR=4.8						
FINES	**FINESS Array B**	**65.95**	**332**	P	**P**	**05 11 37.9**	**-0.5**
	2.2nm,0.7s,baz=29,slow=8.7,SNR=4.2						
KBZ	**Khabaz**	**69.35**	**310**	P	**P**	**05 12 01.2**	**+1.1**
	2.8nm,0.7s,baz=65,slow=4.3,SNR=7.1						
AKASG	**Malin Array Be**	**71.99**	**322**	P	**P**	**05 12 15.1**	**-1.0**
	0.5nm,0.4s,baz=45,slow=6.2,SNR=4.4						
PDAR	**Pinedale Array**	**73.98**	**47**	P	**P**	**05 12 29.4**	**+1.0**
	0.1nm,0.4s,baz=358,slow=4.5,SNR=1.9						
TXAR	**Lajitas Array**	**86.68**	**54**	P	**P**	**05 13 37.4**	**+0.7**
	0.1nm,0.6s,baz=345,slow=5.7,SNR=1.5						

*THR **27** 05:17:00.6±0.6, 32˚.49N×47˚.41E, h16km±9km, ML3.1*
*TEH **27** 05:17:05.2, 32˚.62N×47˚.79E, h10km, ML3.1*
*ISN **27** 05:17:05.2±0.6, 32˚.71N×47˚.46E, h0km±5km, ML2.8*
ISC 27 05:17:05.7±0.8, **32˚.58N**±0˚.04×**47˚.75E**±0˚.03, **h10**km, **n28**, σ1**s12**/33, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.41**	**284**	*e*Pg	**Pg**	**05 17 13.2**	**-0.6**
DHL1				*e*Sg	**Sb**	**05 17 20.9**	**-0.4**
IKFM	**Kafar-mosalman**	**0.95**	**5**	*e*Pg	**Pg**	**05 17 23.0**	**-0.9**
IKFM				*e*		05 17 42.3	
SHGR	**Shooshtar-Gavs**	**1.01**	**118**	*e*Pg	**Pg**	**05 17 23.7**	**-1.4**
SHGR				*e*Sg	**Sb**	**05 17 40.3**	**+1.8**
SHGR				IAML		05 17 50.8	
	comp=E,303nm,0.7s						
SHGR				IAML		05 17 51.8	
	comp=N,352nm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.01**	**118**	*e*Pg	**Pg**	**05 17 23.7**	**-1.4**
IKMR	**Kamar-syah**	**1.07**	**29**	*e*Pg	**Pb**	**05 17 25.2**	**-1.2**
IKMR				*e*		05 17 45.4	
IDOB	**Doab**	**1.26**	**16**	*e*Pg	**Pn**	**05 17 28.7**	**-0.9**
BMDN	**Meydan**	**1.41**	**39**	*e*Pg	**Pn**	**05 17 31.8**	**+0.1**
BMDN				*e*		05 18 01.0	
AHWZ	**Ahwaz**	**1.46**	**148**	*e*Pg	**Pg**	**05 17 34.4**	**+0.7**
IKOM	**Komasi**	**1.60**	**353**	*e*Pg	**Pb**	**05 17 35.4**	**-0.1**
IKOM				*e*		05 18 01.4	
IBDR	**Badra**	**1.62**	**290**	*e*Pg	**Pb**	**05 17 35.0**	**-0.7**
	baz=107						
IBDR				*e*Sg	**Sb**	**05 17 56.0**	**-0.2**
IBDR				AML	AML	05 18 01.1	
	comp=N,163nm,0.1s						
IBDR				AML	AML	05 18 03.0	
	comp=E,165nm,0.6s						
HSAM	**Samen**	**1.78**	**23**	*e*Pg	**Pb**	**05 17 38.4**	**-0.2**
HSAM				*e*		05 18 07.3	
KCHF	**Cheshme Sefid,**	**1.79**	**341**	*e*Pg	**Pb**	**05 17 38.8**	**0.0**
KCHF				*e*		05 18 11.1	
IBZA	**Bozab**	**1.89**	**3**	*e*Pg	**Pb**	**05 17 40.5**	**0.0**
IBZA				*e*		05 18 13.5	
IGHG	**Ghaleghazi**	**2.00**	**331**	*e*Pn	**Pn**	**05 17 41.1**	**+1.2**
IGHG				*e*		05 18 16.2	
NSR	**Nassriya**	**2.08**	**222**	*e*Pn	**Pn**	**05 17 41.0**	**+0.3**
NSR				*e*Sn	**Sn**	**05 18 06.0**	**-0.6**
IVIS	**Veis**	**2.08**	**339**	*e*Pn	**Pn**	**05 17 40.6**	**-0.2**
IVIS				*e*		05 18 18.8	
KHMZ	**Khomeyn**	**2.19**	**57**	*e*Pn	**Pn**	**05 17 43.0**	**+0.6**
KHMZ	**Khomeyn**	**2.19**	**57**	*e*Pn	**Pn**	**05 17 43.0**	**+0.6**
IDHR	**Dehrash**	**2.40**	**332**	*e*Pn	**Pn**	**05 17 46.5**	**+1.2**
IDHR				*e*		05 18 26.6	
ILIN	**Lien**	**2.42**	**345**	*e*Pn	**Pn**	**05 17 46.9**	**+1.3**
ILIN				*e*		05 18 33.1	
HAGD	**Aghdareh**	**2.52**	**27**	*e*Pn	**Pn**	**05 17 48.9**	**+1.9**
HAGD				*e*		05 18 31.2	
HSRG	**Sareghieh**	**2.69**	**9**	*e*	**Sg**	**05 18 34.0**	**+1.7**
ASAO	**Ashtian**	**2.73**	**43**	*e*Pn	**Pn**	**05 17 49.4**	**-0.5**
ASAO	**Ashtian**	**2.73**	**43**	*e*Pn	**Pn**	**05 17 49.4**	**-0.5**
IRAZ	**Razeghan**	**3.35**	**32**	*e*Pn	**Pn**	**05 18 00.5**	**+2.2**
GHVR	**GHOM**	**3.52**	**56**	*e*Pn	**Pn**	**05 18 00.2**	**-0.3**
GHVR				*e*Sg	**Sg**	**05 18 57.8**	**-0.9**
GHVR	**GHOM**	**3.52**	**56**	*e*Pn	**Pn**	**05 18 00.2**	**-0.3**
IVRN	**Varamin**	**4.10**	**53**	*e*Pn	**Pn**	**05 18 11.1**	**+2.6**

*IDC **27** 06:10:18.5±0.5, 59˚.43N×145˚.64W, h0km, mb4.8/28, mb1 4.9/33, mb1mx4.8/40, mbtmp4.7/33, ML4.2/5, MS4.6/40, Ms1 4.6/40, ms1mx4.5/49, Error ellipse: s-maj=12.9km s-min=9.2km az=24.0*
*MOS **27** 06:10:18.4±0.9, 59˚.43N×145˚.68W, h11km, mb5.4/54, MS4.7/29, Error ellipse: s-maj=11.3km s-min=4.4km az=97.3*
*NEIC **27** 06:10:18.3±2.0, 59˚.31N±0˚.04×145˚.56W±0˚.06, h5km±2km, Error ellipse: s-maj=5.0km s-min=4.7km az=179.0*
*NEIC **27** 06:10:19, 59˚.32N×145˚.38W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=5.31; $M_{\theta\theta}$=5.10; $M_{\phi\phi}$=0.21; $M_{r\theta}$=2.81; $M_{\theta\phi}$=0.75; $M_{\phi r}$=1.27; Fault plane solution: M_o6.10000×10^{16} NP1:ϕ_s68.00000°, δ33.00000°, λ-114.00000°. NP2:ϕ_s276.00000°, δ60.00000°, λ-75.00000°. Principal axes: T 5.8440, Plg14.0000°, Azm356.0000°; N 0.4850, Plg13.0000°, Azm89.0000°; P -6.3290, Plg71.0000°, Azm221.0000°;*
*AEIC **27** 06:10:19±2.0, 59˚.22N±0˚.04×145˚.57W±0˚.07, h12km±3km, ML4.8/120, mb5.0/389(NEIC), Ms_20 4.7/196(NEIC), Mww5.1(NEIC) Error ellipse: s-maj=5.6km s-min=4.9km az=207.0*
*BGR **27** 06:10:22.6±0.0, 59˚.08N×146˚.85W, h33km, mb5.2, Ms4.4*
*GCMT **27** 06:10:24.0±0.2, 59˚.43N±0˚.01×145˚.36W±0˚.03, h12km, MW5.1/137, Moment Tensor Solution. s74,c95; s137,c217; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.22±.09; $M_{\theta\theta}$=4.97±.08; $M_{\phi\phi}$=0.24±.08; $M_{r\theta}$=-2.69±.27; $M_{\theta\phi}$=0.84±.08; $M_{\phi r}$=1.58±.34; Best double couple: M_o6.03200×10^{16} NP1:ϕ_s270.00000°, δ31.00000°, λ-73.00000°. NP2:ϕ_s70.00000°, δ61.00000°, λ-100.00000°. Principal axes: T 5.8960, Plg15.0000°, Azm167.0000°; N 0.2680, Plg9.0000°, Azm75.0000°; P -6.1680, Plg73.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 06:10:19.8±0.5, **59˚.27N**±0˚.04×**145˚.47W**±0˚.02, **h14**km±2km, **h14**km:**pP-P, n1111**, σ1**s42**/901, **mb5.0**/317, **MS4.7**/191, **21C-9D, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MID	**Middleton Isla**	**0.47**	**290**	P	**Pg**	**06 10 29.6**	**+0.4**
MID						06 10 36.3	
MID	**Middleton Isla**	**0.47**	**290**	Pg	**Pg**	**06 10 29.6**	**+0.4**
Q23K	**Middleton Isla**	**0.48**	**290**	P	**Pg**	**06 10 29.1**	**-0.2**
	baz=117,SNR=659						
Q23K	**Middleton Isla**	**0.48**	**290**		**Pg**	**06 10 29.1**	**-0.2**
KAIM	**Kayak Island**	**0.85**	**39**		**Pg**	**06 10 36.0**	**-0.3**
KAIM					**Sn**	**06 10 48.6**	**-1.0**
SUCK	**Suckling Hills**	**1.18**	**46**		**Pb**	**06 10 40.7**	**-1.2**
SUCK					**Sg**	**06 10 57.3**	**-0.5**
RAGM	**Ragged Mountai**	**1.19**	**19**		**Sb**	**06 10 56.3**	**-1.2**
RAGM	**Ragged Mountai**	**1.19**	**19**		**Pn**	**06 10 40.8**	**-1.3**
HMT	**Hamilton**	**1.23**	**29**		**Pn**	**06 10 41.5**	**-1.2**
HIN	**Hinchinbrook I**	**1.25**	**336**		**Pn**	**06 10 40.7**	**-2.2**
HIN					**Sb**	**06 10 57.8**	**-1.2**
EYAK	**Cordova Ski Ar**	**1.29**	**354**		**Pn**	**06 10 41.6**	**-1.8**
GOAT	**Goat Mountain**	**1.37**	**16**		**Pn**	**06 10 43.4**	**-1.2**
GOAT					**Sb**	**06 11 01.7**	**-0.9**
BGLC	**Bering Glacier**	**1.40**	**51**		**Pn**	**06 10 44.4**	**-0.5**
BGLC					**Sn**	**06 11 02.5**	**-0.6**
BERG	**Berg Lake**	**1.44**	**38**		**Pn**	**06 10 44.2**	**-1.2**
GRIN	**Grindle Hills**	**1.49**	**46**		**Pn**	**06 10 45.5**	**-0.7**
FID	**Port Fidalgo**	**1.57**	**342**		**Pn**	**06 10 45.5**	**-1.8**
SNH	**Sunshine Point**	**1.61**	**54**		**Pn**	**06 10 47.1**	**-0.8**
KULT	**Kultieth River**	**1.70**	**54**		**Pn**	**06 10 48.2**	**-0.9**
CYK	**Cape Yakataga**	**1.72**	**60**		**Pn**	**06 10 48.5**	**-0.8**
GLI	**Glacier Island**	**1.81**	**334**		**Pn**	**06 10 48.5**	**-2.1**
VMT	**TAPS TI Valdez**	**1.87**	**347**		**Pn**	**06 10 50.2**	**-1.2**
BARK	**Barkley Ridge**	**1.89**	**52**		**Pn**	**06 10 50.9**	**-0.8**
CRQM	**Cirque**	**1.90**	**37**		**Pn**	**06 10 51.0**	**-0.9**
TGL	**Tana Glacier**	**1.99**	**41**		**Pn**	**06 10 52.5**	**-0.7**
MESA	**MESA**	**2.00**	**61**		**Pn**	**06 10 52.2**	**-1.1**
ISLE	**Juniper Island**	**2.07**	**48**		**Pn**	**06 10 53.3**	**-0.9**
BAGL	**Bagley Icefiel**	**2.10**	**53**		**Pn**	**06 10 53.7**	**-0.8**
PWL	**Port Wells**	**2.15**	**319**		**Pn**	**06 10 52.5**	**-2.7**
YAH	**Yahtse**	**2.18**	**58**		**Pn**	**06 10 54.8**	**-1.0**
SEW	**Seward**	**2.19**	**294**		**Pn**	**06 10 52.8**	**-2.9**
VRDI	**Verde Repeater**	**2.21**	**26**		**Pn**	**06 10 55.1**	**-1.1**
KLU	**Klutina**	**2.24**	**354**		**Pn**	**06 10 55.1**	**-1.5**
KIAG	**Kiagna River**	**2.28**	**42**		**Pn**	**06 10 56.1**	**-1.0**
RKAV	**Rock Avalanche**	**2.33**	**62**		**Pn**	**06 10 57.4**	**-0.4**
GLB	**Gilahina Butte**	**2.33**	**20**		**Pn**	**06 10 56.6**	**-1.2**
CHX	**Chaix Hills**	**2.35**	**68**		**Pn**	**06 10 57.5**	**-0.5**
BALM	**Baldy**	**2.36

comp=Z,13µm,18.6s,baz=151,slow=43
ILAR Eielson Array 5.56 354 P **Pn 06 11 38.7 -3.4**
ILAR Eielson Array 5.56 354 Pn **Pn 06 11 38.7 -3.4**
NEA2 Nenana 5.61 344 P **Pn 06 11 40.4 -2.3**
baz=161,SNR=118
NEA2 Nenana 5.61 344 Pn 06 11 41.1 -1.6
COLA College 5.73 350 P **Pn 06 11 42.8 -1.6**
COLA College 5.73 350 Pn 06 11 42.8 -1.6
TCOL CIGO, UAF Yank 5.74 350 P **Pn 06 11 42.2 -2.2**
baz=168,SNR=26
TCOL CIGO, UAF Yank 5.74 350 Pn 06 11 43.5 -0.9
SIT Sitka 5.81 108 P **Pn 06 11 43.6 -1.9**
SIT Sitka 5.81 108 Pn 06 11 43.5 -1.9
MDM Murphy Dome 5.85 348 Pn 06 11 44.5 -1.6
EGAK Eagle 5.89 18 Pn 06 11 46.1 -0.4
POKR Poker Plat Res 5.94 352 P **Pn 06 11 44.9 -2.4**
baz=171,SNR=68
POKR Poker Plat Res 5.94 352 Pn 06 11 45.5 -1.7
PS07 TAPS Pump Stn7 6.20 349 Pn 06 11 49.4 -1.4
TT01 Tatalina 6.28 310 Pn 06 11 49.0 -3.0
MLY Manley 6.28 339 Pn 06 11 51.0 -1.0
TTA Tatalina 6.29 310 P **Pn 06 11 49.8 -2.3**
TTA Tatalina 6.29 310 Pn **Pn 06 11 49.8 -2.3**
IM03 7.74 334 Pn 06 12 10.7 -1.1
PS05 TAPS Pump Stn5 7.92 345 Pn 06 12 14.2 -0.3
VNNF Veniaminof 3 7.98 254 Pn 06 12 13.6 -1.8
DLBC Dease Lake 8.05 89 Pn **Pn 06 12 16.8 +0.4**
6.9nm,0.3s,baz=226,slow=12,SNR=60
DLBC Sn **Sn 06 13 44.4 -2.7**
1.9nm,0.3s,baz=288,slow=19,SNR=2.3
DLBC LR LR 06 15 47.8
comp=Z,1µm,19.9s,baz=285,slow=40
DLBC Dease Lake 8.05 89 Pn 06 12 15.9 -0.4
VNFG Fog Glacier, M 8.10 254 Pn 06 12 14.5 -2.5
BM03 Burnt Mountain 8.19 2 Pn 06 12 17.1 -1.1
BMAR Burnt Mountain 8.20 2 Pn **Pn 06 12 15.9 -2.4**
COLD Coldfoot 8.27 347 P **Pn 06 12 17.3 -1.8**
baz=163,SNR=67
COLD Coldfoot 8.27 347 Pn 06 12 17.7 -1.4
SDPT Sand Point 9.02 251 Pn **Pn 06 12 28.5 -0.9**
H02N1 VAN INLET T-PH 9.38 124 Pn **Pn 06 12 32.1 -2.3**
H02N1 Sn **Sn 06 14 12.7 -7.0**
H02N1 T T 06 22 18.9
SNR=28
H02S1 DAWSON INLET T 9.44 124 Pn **Pn 06 12 33.0 -2.3**
H02S1 Sn **Sn 06 14 14.7 -6.3**
H02S1 T T 06 22 19.6
SNR=46
TOLK Toolik Lake Re 9.58 351 P **Pn 06 12 35.3 -1.8**
baz=168,SNR=16
TOLK Toolik Lake Re 9.58 351 Pn 06 12 36.0 -1.1
INK Inuvik 10.47 25 Pn **Pn 06 12 47.9 -1.4**
0.4nm,0.3s,baz=203,slow=14,SNR=27
INK LR LR 06 17 27.3
comp=Z,5µm,21.9s,baz=208,slow=41
INK Inuvik 10.47 25 P **Pn 06 12 48.2 -1.0**
INK Inuvik 10.47 25 Pn **Pn 06 12 48.2 -1.0**
FALS False Pass 10.71 253 Pn **Pn 06 12 52.2 -0.5**
ANM Nome 10.75 308 P **Pn 06 12 51.8 -1.3**
ANM Nome 10.75 308 Pn 06 12 51.8 -1.3
BBB Bella Bella 12.06 118 Pn **Pn 06 13 10.3 -0.8**
0.3nm,0.3s,baz=300,slow=6.3,SNR=8.1
BBB Sn **Sn 06 15 19.6 -5.5**
0.2nm,0.3s,baz=294,slow=19,SNR=1.3
BBB LR LR 06 17 07.3
comp=Z,4µm,18.1s,baz=314,slow=34
BBB Bella Bella 12.06 118 Pn 06 13 12.0 +1.0
UNV Unalaska Valle 12.78 254 Pn **Pn 06 13 19.1 -1.8**
A21K Barrow 12.93 344 P **Pn 06 13 19.9 -2.9**
baz=154
C36M Paulatuk 13.62 33 P **Pn 06 13 29.5 -2.7**
baz=233
C36M Paulatuk 13.62 33 Pn **Pn 06 13 29.2 -3.0**
NIKH Nikolski High 14.44 254 Pn **Pn 06 13 41.4 -2.1**
A36M Sachs Harbour 15.11 24 P **Pn 06 13 48.8 -3.8**
baz=223,SNR=11
YKA Yellowknife Ar 15.28 65 Pn **Pn 06 13 53.9 -1.0**
0.2nm,0.3s,baz=271,slow=12,SNR=24
PGC Sidney 16.67 120 Pn 06 14 13.3 +0.5
A04D Lummi Island 16.95 119 P **Pn 06 14 16.4 +0.1**
baz=317
NLWA Neilton Lookou 17.45 123 P **P 06 14 25.1 +1.4**
B05A Bryant 17.57 119 P **Pn 06 14 23.9 -0.1**
baz=317,SNR=9.9
D03D Eldon 17.67 122 P **Pn 06 14 25.0 -0.3**
baz=320
J28D J28D 18.06 134 P P 06 14 38.0 +7.9
J28D S S 06 18 17.5 +21
D04E Lakebay 18.09 122 P **Pn 06 14 29.6 -0.7**
baz=320
E03A Lebam 18.24 125 P **P 06 14 33.5 +1.1**
C06D Leavenworth 18.36 117 P **Pn 06 14 33.3 -0.6**
baz=317
D05A Enumclaw 18.42 121 P **Pn 06 14 37.0 +2.5**
D05A **sP 06 14 39.8 +1.1**
D05A IAmb IAmb 06 14 59.0
comp=Z,117nm,1.3s
J27D J27D 18.53 133 P **Pn 06 14 42.0 +6.5**
J27D S S 06 18 31.2 +25
J20D J20D 18.65 135 P **Pn 06 14 43.1 +6.2**
J20D S S 06 18 34.0 +26
E04D Cinebar 18.66 123 P **P 06 14 37.1 +0.1**
baz=321,SNR=6.5
F04D Rainier, OR 18.84 125 P **P 06 14 39.2 +0.1**
baz=322
LTY Liberty 18.96 118 IAmb IAmb 06 15 21.2
comp=Z,184nm,1.8s
J19D J19D 19.12 134 P Pn 06 14 51.1 +8.6
J19D S S 06 18 44.4 +27
G03D McMinnville, O 19.43 127 P **P 06 14 46.0 +0.5**
baz=324
J11D J11D 19.63 135 P **Pn 06 14 55.6 +7.0**
J11D S Sn 06 18 46.0 +18
F05D White Salmon 19.66 122 P **P 06 14 48.4 +0.4**
baz=322
E07A Sunnyside 19.85 119 IAmb IAmb 06 15 10.8
comp=Z,154nm,2.0s
NEW Newport 19.88 111 P **P 06 14 51.0 +0.5**
baz=314,SNR=27
D08A Wollman Farm, 19.90 116 IAmb IAmb 06 15 10.0
comp=Z,159nm,1.9s
G37D G37D 20.10 138 P Pn 06 15 00.2 +5.9
G37D S Sn 06 18 59.2 +19
I02D Swisshome 20.11 129 P Pn 06 14 54.4 -0.4
baz=326
H04D Lebanon 20.21 127 P **P 06 14 54.1 +0.1**
baz=325
G05D Wamic, OR 20.23 123 P **P 06 14 54.6 +0.4**
baz=322
E08A Dider Farm, El 20.26 117 IAmb IAmb 06 15 15.1
comp=Z,130nm,1.8s
F07A Phinny Hill Vi 20.33 120 IAmb IAmb 06 15 15.5
comp=Z,179nm,2.0s
G29D G29D 20.36 139 P Pn 06 15 04.2 +6.9
G29D S Sn 06 19 06.3 +20
G36D G36D 20.39 137 P Pn 06 15 04.7 +7.3
G36D S Sn 06 19 06.9 +20
G35D G35D 20.48 136 P Pn 06 15 06.5 +7.8
G35D S Sn 06 19 04.1 +15
I03D Drain, OR 20.65 129 P **P 06 14 57.9 -0.8**
baz=327
E09A Wood Farm, Sta 20.66 116 IAmb IAmb 06 15 32.2
comp=Z,120nm,1.7s
J01E Myrtle Point 20.87 131 P **P 06 14 59.7 -1.5**
baz=328
I05D Terrebonne, OR 20.94 125 P **P 06 15 00.5 -1.6**
baz=324,SNR=7.4
I04A Tendick Farm, 20.95 127 P **P 06 14 59.9 -2.2**
baz=326,SNR=7.8
KEBM Edson Butte 20.96 132 IAmb IAmb 06 15 38.1
comp=Z,126nm,1.2s
G08A Pilot Rock 21.23 120 P **P 06 15 08.4 +3.3**
K02D Willamette Mer 21.37 131 P **P 06 15 05.7 -0.9**
baz=328,SNR=12
F10A Beach Ranch, E 21.49 116 IAmb IAmb 06 15 49.1
comp=Z,57nm,1.1s
J04D Umpqua Nationa 21.53 128 P **P 06 15 07.0 -1.5**
baz=326,SNR=27
PINE Pine Mountain 21.55 125 IAmb IAmb 06 15 14.1
comp=Z,76nm,1.2s
KBO Bosley Butte 21.57 133 IAmb IAmb 06 15 50.4
comp=Z,113nm,1.3s
JTMT Jette 21.61 108 IAmb IAmb 06 15 13.4
comp=Z,61nm,1.2s
HUMO Hull Mountain 21.72 130 IAMs_20 IAMs_20 06 21 27.8
comp=Z,2µm,20.0s
J05D Fort Rock, OR 21.85 126 P **P 06 15 11.4 -0.5**
baz=325,SNR=26
L02E Cave Junction 21.85 132 P **P 06 15 10.7 -1.1**
baz=329,SNR=11
I07A Izee 21.93 122 IAmb IAmb 06 15 17.7
comp=Z,52nm,1.0s
K04D Chiloquin, OR 22.18 128 P **P 06 15 15.0 -0.4**
baz=327,SNR=6.3
KRMB Red Mountain 22.29 133 IAmb IAmb 06 15 44.9
comp=Z,119nm,1.7s
L04D Klamath Falls 22.31 130 P **P 06 15 15.5 -1.3**
baz=328,SNR=8.9
BMO Blue Mountains 22.31 118 IAmb IAmb 06 15 34.5
comp=Z,47nm,1.1s
MSO Missoula 22.43 110 P **P 06 15 17.7 -0.3**
baz=315,SNR=23
MSO Missoula 22.43 110 IAmb IAmb 06 15 43.9
comp=Z,100nm,1.5s
MSO IAMs_20 IAMs_20 06 23 38.0
comp=Z,3µm,18.0s
K05A Summer Lake 22.45 127 IAmb IAmb 06 16 06.0
comp=Z,131nm,1.5s
YBH Yreka Blue Hor 22.56 131 P **P 06 15 23.7 +4.3**
comp=Z,16nm,1.0s,baz=147,slow=3.8,SNR=9.8
YBH LR LR 06 22 16.7
comp=Z,1µm,21.5s,baz=324,slow=32
YBH Yreka Blue Hor 22.56 131 IAmb IAmb 06 15 48.2
comp=Z,79nm,1.6s
M02C Callahan 22.80 132 P **P 06 15 22.2 +0.3**
baz=329,SNR=9.9
M04C Macdoel 22.86 129 P **P 06 15 22.6 0.0**
baz=328,SNR=14
KHMM Horse Mountain 22.91 134 P **P 06 15 25.5 +2.3**
KHMM IAmb IAmb 06 15 49.7
comp=Z,89nm,1.3s
N02D Trinity Center 23.21 132 P **P 06 15 27.8 +1.5**
baz=330,SNR=15
MOD Modoc Plateau 23.38 127 IAmb IAmb 06 15 38.2
comp=Z,63nm,1.3s
KMRM Mail Ridge 23.49 135 IAmb IAmb 06 15 35.0
comp=Z,34nm,0.9s
WDC Whiskeytown Da 23.62 132 IAmb IAmb 06 15 39.6
comp=Z,38nm,1.1s
WVOR Wild Horse Val 23.64 124 IAmb IAmb 06 15 50.1
comp=Z,85nm,1.6s
EGMT Eagleton 23.67 103 P **P 06 15 31.3 +0.6**
baz=312,SNR=18
EGMT Eagleton 23.67 103 IAmb IAmb 06 15 42.6
comp=Z,37nm,0.8s
FFC Flin Flon 23.79 82 P **P 06 15 33.5 +1.8**
FFC pmax pmax
comp=Z,71nm,1.3s
FFC MLR MLR
comp=Z,2µm,21.0s
FFC Flin Flon 23.79 82 P **P 06 15 33.5 +1.8**
FFC IAmb IAmb 06 15 51.3
comp=Z,71nm,1.2s
O02D Mt. Diablo Mer 23.87 133 P **P 06 15 32.7 0.0**
baz=331,SNR=8.4
RES Resolute Bay 23.95 30 P **P 06 15 33.5 +0.5**
comp=Z,10nm,0.7s,baz=256,slow=12,SNR=20
RES LR LR 06 25 49.0
comp=Z,3µm,18.2s,baz=251,slow=39
RES Resolute Bay 23.95 30 P **P 06 15 33.3 +0.2**
RES pmax pmax
comp=Z,34nm,1.0s
RES Resolute Bay 23.95 30 P **P 06 15 33.3 +0.2**
RES IAmb IAmb 06 16 22.6
comp=Z,34nm,0.9s
KCPM Cahto Peak 24.01 135 IAmb IAmb 06 15 41.0
comp=Z,35nm,1.0s
DLMT Dillon 24.13 111 IAmb IAmb 06 15 39.7
comp=Z,66nm,1.1s
O03E Paynes Creek 24.15 131 P **P 06 15 35.9 +0.6**
baz=330,SNR=22
BOZ Bozeman (W) 24.43 109 P **P 06 15 37.0 -0.9**
baz=316,SNR=17
BOZ Bozeman (W) 24.43 109 IAmb IAmb 06 15 48.2
comp=Z,94nm,1.9s
BOZ IAMs_20 IAMs_20 06 24 54.0
comp=Z,2µm,18.0s
HLID Hailey 24.63 116 P **P 06 15 41.6 +1.8**
baz=320,SNR=31
HOPS Hopland Field 24.81 135 IAmb IAmb 06 16 00.2
comp=Z,34nm,1.2s
HOPS IAMs_20 IAMs_20 06 23 04.3
comp=Z,1µm,18.0s
PAHR Pah Rah Range 25.60 128 IAmb IAmb 06 16 01.1
comp=Z,33nm,1.3s
MCCM Marconi Confer 25.63 136 IAMs_20 IAMs_20 06 23 07.1
comp=Z,2µm,20.0s
LKWY Lake 25.78 109 IAmb IAmb 06 16 25.5
comp=Z,53nm,1.3s
LKWY IAMs_20 IAMs_20 06 25 48.7
comp=Z,2µm,18.0s
H17A Grant Village 25.82 110 P **P 06 15 50.4 -0.2**
baz=318,SNR=13
RLMT Red Lodge 25.92 107 P **P 06 15 51.4 -0.2**
baz=316,SNR=34
RLMT Red Lodge 25.92 107 IAmb IAmb 06 15 56.2
comp=Z,47nm,1.1s
FLWY Flagg Ranch 25.99 110 IAmb IAmb 06 16 37.6
comp=Z,65nm,1.3s
IMW Indian Meadow 26.01 111 IAmb IAmb 06 15 57.3
comp=Z,39nm,0.8s
DGMT Dagmar 26.19 96 P **P 06 15 52.7 -1.0**
baz=310
DGMT Dagmar 26.19 96 IAMs_20 IAMs_20 06 26 13.0
comp=Z,2µm,20.0s
TPAW Teton Pass 26.31 111 IAmb IAmb 06 15 58.8
comp=Z,23nm,0.8s
LAO LASA Array 26.34 101 P **P 06 15 53.6 -1.6**
baz=313,SNR=8.9
LAO LASA Array 26.34 101 IAmb IAmb 06 15 59.1
comp=Z,31nm,0.8s
LAO IAMs_20 IAMs_20 06 26 14.8
comp=Z,2µm,19.0s
LOHW Long Hollow 26.39 111 IAMs_20 IAMs_20 06 25 55.7
comp=Z,1µm,18.0s
SNOW Snow King Moun 26.43 111 IAmb IAmb 06 16 00.9
comp=Z,24nm,0.8s
SNOW IAMs_20 IAMs_20 06 26 05.8
comp=Z,1µm,19.0s
REDW Red Top Meadow 26.45 112 IAmb IAmb 06 16 23.3
comp=Z,34nm,1.2s
REDW IAMs_20 IAMs_20 06 26 05.6
comp=Z,1µm,18.0s
CMB Columbia Colle 26.65 132 IAMs_20 IAMs_20 06 24 03.3
comp=Z,1µm,18.0s
NVAR Mina Array Bea 27.13 128 P **P 06 16 05.7 +3.2**
comp=Z,3.5nm,0.8s,baz=309,slow=9.1,SNR=27
NVAR PcP **PcP 06 19 23.6 +0.8**
comp=Z,2.1nm,0.8s,baz=282,slow=1.1,SNR=5.1
NVAR LR LR 06 25 11.6
comp=Z,2µm,20.0s,baz=326,slow=33
SAO San Andreas Ge 27.38 135 IAMs_20 IAMs_20 06 24 37.3
comp=Z,1µm,18.0s
BW06 Boulder Array 27.52 111 P **P 06 16 05.2 -0.8**
baz=319,SNR=11
BW06 Boulder Array 27.52 111 IAMs_20 IAMs_20 06 26 24.9
comp=Z,1µm,18.0s
PDAR Pinedale Array 27.52 111 P **P 06 16 08.6 +2.6**
comp=Z,4.4nm,0.7s,baz=322,slow=4.6,SNR=44
PDAR LR LR 06 26 53.6
comp=Z,827nm,18.9s,baz=332,slow=36
MLAC Mammoth, Mammc 27.61 130 P **P 06 16 06.8 0.0**
baz=330
DUG Dugway, Tooele 28.02 118 P **P 06 16 10.4 0.0**
baz=324
R11A Troy Canyon, C 28.32 124 P **P 06 16 12.3 -0.8**
baz=327,SNR=9.7
GRAC Grapevine Rang 28.74 128 P **P 06 16 15.5 -1.2**
baz=330
CWC Cottonwood Cre 28.94 130 P **P 06 16 18.3 -0.3**
baz=331
MDND Maddock 28.95 93 P **P 06 16 18.2 -0.2**
baz=310
K22A Casper 29.08 107 P **P 06 16 17.8 -2.0**
baz=318
SMMC Simmler 29.20 134 P **P 06 16 19.7 -1.0**
baz=333
SEY Seymchan 29.22 304 P **P 06 16 19.6 -1.0**
comp=Z,12nm,1.1s,baz=77,slow=9.1,SNR=12
SEY LR LR 06 27 49.0
comp=Z,996nm,18.2s,baz=84,slow=36
SEY Seymchan 29.22 304 *eP* **P 06 16 19.7 -0.9**
TPNV Topopah Spring 29.24 127 P **P 06 16 18.8 -2.4**
baz=329
TPNV Topopah Spring 29.24 127 IAMs_20 IAMs_20 06 26 08.8
comp=Z,2µm,18.0s
RSSD Black Hills 29.24 103 P **P 06 16 19.9 -1.3**
baz=316
RSSD Black Hills 29.24 103 IAMs_20 IAMs_20 06 29 46.5
comp=Z,2µm,18.0s
ULM Lac du Bonnet 29.36 86 P **P 06 16 22.5 +0.5**
comp=Z,7.2nm,0.8s,baz=300,slow=6.9,SNR=5.2
ULM PcP **PcP 06 19 28.6 +0.9**
comp=Z,4.2nm,0.7s,baz=353,slow=3.2,SNR=3.7
ULM LR LR 06 27 56.4
comp=Z,291nm,18.1s,baz=308,slow=36
FURC Furnace Creek, 29.40 128 P **P 06 16 21.1 -1.3**
baz=330,SNR=11
ISA Isabella, Lake 29.46 131 P **P 06 16 22.0 -1.1**
baz=332
RWWY Rawlins 29.48 110 IAMs_20 IAMs_20 06 27 59.6
comp=Z,1µm,18.0s
MPMC Manual Prospec 29.50 129 P **P 06 16 23.6 -0.1**
baz=331,SNR=7.2
PKM Mcpherson Peak 29.64 134 P **P 06 16 24.8 0.0**
baz=333,SNR=8.7
ARVC Arvin 29.80 132 P **P 06 16 25.6 -0.5**
baz=332
LRMC Laurel Mtn Rad 29.93 130 P **P 06 16 27.4 0.0**
baz=331
SHOC Shoshone, Teco 30.13 128 P **P 06 16 29.1 +0.1**
baz=330
O20A White River Ci 30.18 113 P **P 06 16 30.3 +0.7**
baz=322,SNR=14
O20A White River Ci 30.18 113 IAmb IAmb 06 16 33.9
comp=Z,18nm,0.8s
EDW2 Edwards Air Fo 30.34 131 P **P 06 16 32.0 +1.1**
baz=332
GSC Goldstone, Bar 30.43 129 P **P 06 16 32.6 +0.8**
baz=331,SNR=6.7
TULEG Thule 30.46 27 IAMs_20 IAMs_20 06 29 49.7
comp=Z,2µm,22.0s
SCZ2 Santa Cruz Isl 30.51 135 P **P 06 16 32.5 +0.2**
baz=334
AGMN Agassiz Nation 30.58 89 P **P 06 16 33.2 +0.4**
baz=310,SNR=5.1
TUQ Turquoise Moun 30.67 128 P **P 06 16 33.4 -0.5**
baz=330
N23A Red Feather La 30.70 109 P **P 06 16 33.3 -0.9**
baz=320,SNR=6.6
RRX Edison Barstow 30.73 130 P **P 06 16 33.0 -1.2**
baz=331
ALE Alert 30.83 15 IAMs_20 IAMs_20 06 29 11.2
comp=Z,1µm,21.0s
PASC Pasadena Art C 30.89 132 IAMs_20 IAMs_20 06 26 46.5
comp=Z,2µm,20.0s
PET Petropavlovsk 30.93 283 *i* P **P 06 16 36.7 +0.9**
PET pmax pmax
comp=Z,304nm,1.3s
BFSC Mount Baldy Ra 31.03 131 P **P 06 16 36.1 -1.0**
baz=332
PV21 Cone Mtn., Par 31.09 115 IAmb IAmb 06 16 56.2
comp=Z,31nm,1.3s
PV23 Carpenter Ridg 31.16 116 IAmb IAmb 06 16 42.6
comp=Z,25nm,1.0s
PV22 Blue Mesa, Par 31.20 115 IAmb IAmb 06 16 42.9
comp=Z,27nm,1.0s
SNCC San Nicolas Is 31.22 135 P **P 06 16 38.1 -0.5**
baz=334
PV14 Lion Creek, Pa 31.22 116 IAmb IAmb 06 16 43.1
comp=Z,22nm,1.0s
PV04 Paradox Valley 31.26 116 IAmb IAmb 06 16 43.4
comp=Z,24nm,0.9s
PV20 West Nyswonger 31.27 116 IAmb IAmb 06 16 50.6
comp=Z,14nm,0.8s
BBRC Big Bear Solar 31.30 130 P **P 06 16 39.7 +0.1**
baz=332
PV16 Nyswonger Mesa 31.32 116 IAmb IAmb 06 16 51.2
comp=Z,19nm,0.9s
PV17 East Wray Mesa 31.33 116 IAmb IAmb 06 16 43.9
comp=Z,22nm,0.8s
MA2 Magadan 31.33 299 *ceP* **P 06 16 39.1 -0.2**
MA2 pmax pmax
comp=Z,39nm,1.3s
MA2 Magadan 31.33 299 P **P 06 16 38.9 -0.4**
GMRC Granite Mounta 31.34 128 P **P 06 16 40.7 +0.9**
baz=331,SNR=5.2
PV07 Paradox Valley 31.34 115 IAmb IAmb 06 16 44.0
comp=Z,24nm,1.2s
PV11 David Mesa, Pa 31.35 116 IAmb IAmb 06 16 45.5
comp=Z,27nm,0.9s
PETK Petropavlovsk- 31.35 284 P **P 06 16 39.0 -0.5**
comp=Z,16nm,0.9s,baz=67,slow=11,SNR=13
PETK LR LR 06 29 42.2
comp=Z,372nm,19.6s,baz=71,slow=37
PV12 Saucer Basin, 31.37 116 IAmb IAmb 06 16 51.5
comp=Z,18nm,1.0s
PV18 Skein Mesa, Pa 31.38 116 IAmb IAmb 06 16 44.4
comp=Z,25nm,0.9s
PV03 Paradox Valley 31.40 116 IAmb IAmb 06 16 44.5
comp=Z,18nm,0.9s
PV02 Paradox Valley 31.49 116 IAmb IAmb 06 17 44.0
comp=Z,23nm,1.2s
CIS Catalina Islan 31.49 133 P **P 06 16 40.7 -0.3**
baz=333
PV15 Paradox Valley 31.50 115 IAmb IAmb 06 16 45.3
comp=Z,18nm,0.9s
PV01 Paradox Valley 31.62 115 IAmb IAmb 06 16 46.7
comp=Z,25nm,0.9s
ISCO Idaho Springs 31.70 110 P **P 06 16 43.7 +0.6**
baz=321,SNR=5.8
ISCO Idaho Springs 31.70 110 IAMs_20 IAMs_20 06 29 13.5
comp=Z,2µm,18.0s
MURC Murrieta 31.78 131 P **P 06 16 43.6 +0.1**
baz=332
NEE2 Needles Airpor 31.78 127 P **P 06 16 44.3 +0.8**
baz=330
SCI2 San Clemente I 31.82 134 P **P 06 16 44.5 +0.6**
baz=334
BELC Belle Mtn. Jos 31.89 129 P **P 06 16 45.8 +1.1**
baz=331,SNR=5.3
PFO Pinyon Flats O 32.05 130 P **P 06 16 45.9 -0.1**
baz=332
IRM Iron Mountain 32.10 128 P **P 06 16 46.3 0.0**
baz=331
PDMCI Parker Dam,Lak 32.38 127 P **P 06 16 49.4 +0.6**
baz=330
MVCO Mesa Verde 32.41 116 P **P 06 16 48.6 -0.7**
baz=325,SNR=7.6
BC3 Big Chuckawall 32.41 129 P **P 06 16 50.1 +0.9**
baz=331,SNR=5.3
109C Camp Elliot, M 32.44 132 P **P 06 16 49.9 +0.6**
baz=333
WUAZ Wupatki 32.52 122 P **P 06 16 49.5 -0.7**
baz=328,SNR=25
WUAZ Wupatki 32.52 122 IAmb IAmb 06 16 55.3
comp=Z,27nm,1.0s
WUAZ IAMs_20 IAMs_20 06 28 42.9
comp=Z,1µm,20.0s
OGNE Ogallala 32.58 105 P **P 06 16 49.7 -0.8**
baz=319,SNR=6.2
OGNE Ogallala 32.58 105 IAmb IAmb 06 16 54.5
comp=Z,18nm,0.8s
Q24A Divide 32.58 110 P **P 06 16 49.5 -1.3**
baz=322
MONP2 Monument Peak 32.70 131 P **P 06 16 52.4 +0.6**
baz=332,SNR=7.3
S22A 4UR Ranch, Cre 32.75 114 P **P 06 16 52.6 +0.3**
baz=324,SNR=7.7
SWSC Sam W. Stewart 32.90 130 P **P 06 16 54.2 +0.9**
baz=332
IKP In-Ko-Pah, Jac 33.04 131 P **P 06 16 54.0 -0.6**
baz=332
EYMN Ely 33.04 86 P **P 06 16 54.2 -0.2**
baz=310,SNR=21
CBX Cerro Bola 33.12 132 IAmb IAmb 06 17 00.6
comp=Z,13nm,0.9s
GLA Glamis 33.19 129 P **P 06 16 56.9 +1.0**
baz=331
GLA Glamis 33.19 129 IAmb IAmb 06 17 00.8
comp=Z,20nm,1.0s
ECSD EROS Data Cent 33.28 96 P **P 06 16 56.0 -0.5**
baz=315,SNR=11
ECSD EROS Data Cent 33.28 96 IAmb IAmb 06 16 59.3
comp=Z,26nm,1.3s
SDCO Great Sand Dun 33.38 112 P **P 06 16 56.9 -0.9**
baz=323,SNR=9.4
F36A Milaca 33.38 90 IAmb IAmb 06 17 00.7
comp=Z,18nm,1.1s
KSCO Kaye Shedlock' 33.77 108 P **P 06 16 59.9 -1.1**
baz=321,SNR=9.3

BGNE	**Belgrade**		**34.18**	**100**	P		**P**	**06 17 03.8**	**-0.6**
	baz=318,SNR=16								
SPMN	**Marine on St.**		**34.19**	**90**	P		**P**	**06 17 03.9**	**-0.5**
	baz=313,SNR=7.2								
SPMN	**Marine on St.**		**34.19**	**90**	IAmb		IAmb	06 17 07.8	
	comp=Z,24nm,1.0s								
T25A	**Trinidad**		**34.38**	**112**	P		**P**	**06 17 05.1**	**-1.4**
	baz=323								
T25A	**Trinidad**		**34.38**	**112**	IAmb		IAmb	06 17 49.0	
	comp=Z,34nm,1.8s								
214A	**Organ Pipe Nat**		**34.97**	**127**	P		**P**	**06 17 11.2**	**-0.1**
	baz=331,SNR=6.7								
PIX	**Pinacate**		**35.05**	**128**	IAmb		IAmb	06 17 17.1	
	comp=Z,19nm,1.0s								
D41A	**Chassel**		**35.12**	**85**	IAmb		IAmb	06 17 34.0	
	comp=Z,37nm,1.2s								
ANMO	**Albuquerque**		**35.21**	**116**	*ce*P		**P**	**06 17 16.2**	**+2.6**
	baz=326								
ANMO					pmax		pmax		
	comp=Z,14nm,1.7s								
ANMO	**Albuquerque**		**35.21**	**116**	IAMs_20		IAMs_20	06 30 47.1	
	comp=Z,890nm,20.0s								
CBKS	**Cedar Bluff**		**35.35**	**105**	P		**P**	**06 17 13.2**	**-1.4**
	baz=320								
COWI	**Conover**		**35.47**	**86**	IAmb		IAmb	06 17 18.3	
	comp=Z,16nm,1.0s								
G40A	**Rib Lake**		**35.50**	**88**	IAmb		IAmb	06 17 18.7	
	comp=Z,16nm,0.8s								
TUC	**Tucson**		**35.51**	**124**	P		**P**	**06 17 16.1**	**+0.1**
	baz=330								
K38A	**Parkersburg**		**36.02**	**94**	IAmb		IAmb	06 17 23.5	
	comp=Z,43nm,1.2s								
SCIA	**State Center**		**36.33**	**95**	P		**P**	**06 17 22.2**	**-0.7**
	baz=317								
SCIA	**State Center**		**36.33**	**95**	IAmb		IAmb	06 17 26.1	
	comp=Z,30nm,1.1s								
SCIA					IAMs_20		IAMs_20	06 32 46.1	
	comp=Z,1μm,19.0s								
E43A	**Lone Tree Farm**		**36.38**	**84**	IAmb		IAmb	06 17 26.4	
	comp=Z,24nm,0.8s								
121A	**Cookes Peak, D**		**36.63**	**120**	P		**P**	**06 17 25.2**	**-0.5**
	baz=328,SNR=6.9								
KSU1	**Kansas State U**		**36.69**	**101**	P		**P**	**06 17 26.0**	**0.0**
	baz=320,SNR=19								
I42A	**Draeger Farm,**		**37.12**	**89**	IAmb		IAmb	06 17 32.9	
	comp=Z,20nm,0.9s								
JFWS	**Jewell Farm**		**37.12**	**91**	P		**P**	**06 17 29.1**	**-0.6**
	baz=316,SNR=16								
JFWS	**Jewell Farm**		**37.12**	**91**	IAMs_20		IAMs_20	06 32 08.2	
	comp=Z,776nm,19.0s								
H43A	**Windswept, Lux**		**37.30**	**87**	IAmb		IAmb	06 17 34.1	
	comp=Z,28nm,0.9s								
AMTX	**Amarillo**		**37.51**	**111**	P		**P**	**06 17 31.4**	**-1.7**
	baz=324								
AMTX	**Amarillo**		**37.51**	**111**	IAmb		IAmb	06 17 37.6	
	comp=Z,36nm,0.8s								
AMTX					IAMs_20		IAMs_20	06 33 20.1	
	comp=Z,951nm,20.0s								
D46A	**Sault St. Mari**		**37.54**	**81**	P		**P**	**06 17 32.7**	**-0.5**
	baz=312								
U32A	**Winter Ranch,**		**37.61**	**107**	IAmb		IAmb	06 17 37.9	
	comp=Z,28nm,0.9s								
U32A					IAMs_20		IAMs_20	06 30 34.0	
	comp=Z,874nm,20.0s								
EPT	**El Paso**		**37.84**	**119**	IAMs_20		IAMs_20	06 32 18.8	
	comp=Z,1μm,21.0s								
P38A	**Dawn**		**37.85**	**98**	IAmb		IAmb	06 17 38.2	
	comp=Z,18nm,0.8s								
D47A	**Chapleau**		**37.91**	**80**	P		**P**	**06 17 35.4**	**-0.9**
	baz=312								
ILULI	**Ilulissat**		**38.04**	**35**	IAMs_20		IAMs_20	06 31 18.2	
	comp=Z,1μm,20.0s								
E47A	**Iron Bridge**		**38.22**	**81**	P		**P**	**06 17 37.1**	**-1.8**
	baz=313								
K43A	**Burlington**		**38.26**	**90**	IAmb		IAmb	06 17 42.0	
	comp=Z,37nm,0.8s								
MNTX	**Cornudas Mount**		**38.41**	**118**	P		**P**	**06 17 40.0**	**-0.6**
	baz=328,SNR=9.4								
T35A	**Sooner Cattle**		**38.42**	**103**	IAmb		IAmb	06 17 44.0	
	comp=Z,31nm,1.0s								
D48A	**Paudash Townsh**		**38.48**	**79**	P		**P**	**06 17 40.5**	**-0.6**
	baz=312,SNR=5.3								
D49A	**Beulah Townshi**		**38.64**	**79**	P		**P**	**06 17 41.8**	**-0.6**
	baz=312								
P40A	**Paris**		**38.68**	**96**	IAmb		IAmb	06 17 45.5	
	comp=Z,35nm,0.9s								
E48A	**Lockeyer**		**38.77**	**80**	P		**P**	**06 17 43.1**	**-0.4**
	baz=313								
OK029	**Liberty Lake**		**38.84**	**106**	IAmb		IAmb	06 17 47.5	
	comp=Z,30nm,0.9s								
MATQ	**Matagami**		**38.85**	**73**	P		**P**	**06 17 42.8**	**-1.3**
	baz=311								
L44A	**Lake County Fo**		**38.85**	**90**	P		**P**	**06 17 43.7**	**-0.5**
	baz=316								
YAK	**Yakutsk**		**38.88**	**312**	LR		LR	06 35 18.1	
	comp=Z,1μm,18.9s,baz=64,slow=39								
YAK	**Yakutsk**		**38.88**	**312**	*eP*		**P**	**06 17 43.9**	**-0.3**
YAK					*e**PP		**pwP**	**06 17 53.1**	**+2.5**
YAK					*e*			06 19 13.3	
YAK					*e*PPP		PPP	06 19 33.6	
YAK					*e*			06 19 58.1	
YAK					*e*S		**S**	**06 23 39.1**	**-2.3**
YAK					*e*SSS		SSS	06 26 48.3	
YAK					*e*			06 27 54.4	
YAK					pmax		pmax		
	comp=Z,62nm,0.9s								
YAK					pmax		pmax		
	comp=N,9.0nm,0.8s								
YAK					pmax		pmax		
	comp=E,12nm,1.0s								
YAK					pmax		pmax		
	comp=Z,313nm,4.5s								
YAK					pmax		pmax		
	comp=N,116nm,4.7s								
YAK					pmax		pmax		
	comp=E,124nm,4.7s								
YAK					smax		smax		
	comp=N,36nm,2.0s								
YAK					smax		smax		
	comp=E,71nm,2.0s								
YAK					MLR		MLR		
	comp=Z,2μm,16.0s								
YAK					MLR		MLR		
	comp=N,1μm,19.0s								
YAK					MLR		MLR		
	comp=E,941nm,17.0s								
YAK	**Yakutsk**		**38.88**	**312**	P		**P**	**06 17 44.2**	**0.0**
F48A	**Evansville**		**38.99**	**81**	P		**P**	**06 17 43.3**	**-2.0**
	baz=313								
WMOK	**Wichita Mounta**		**39.03**	**108**	P		**P**	**06 17 44.9**	**-0.9**
	baz=324,SNR=12								
OK025	**Westminster Rd**		**39.06**	**106**	IAmb		IAmb	06 17 49.4	
	comp=Z,30nm,1.0s								
HQIL	**Hanson Quary C**		**39.16**	**90**	IAMs_20		IAMs_20	06 33 32.0	
	comp=Z,868nm,18.0s								
F49A	**Sandfield**		**39.32**	**81**	P		**P**	**06 17 45.9**	**-2.2**
	baz=314								
HDIL	**Hopedale**		**39.33**	**93**	P		**P**	**06 17 46.5**	**-1.7**
	baz=318,SNR=11								
HDIL	**Hopedale**		**39.33**	**93**	IAmb		IAmb	06 17 50.8	
	comp=Z,55nm,1.0s								
HDIL					IAMs_20		IAMs_20	06 35 20.5	
	comp=Z,1μm,20.0s								
SUMG	**Summit**		**39.38**	**27**	*i* P		**P**	**06 17 49.8**	**+1.0**
	comp=Z,107nm,1.0s								
SUMG	**Summit**		**39.38**	**27**	P		**P**	**06 17 49.3**	**+0.5**
SUMG					pmax		pmax		
	comp=Z,42nm,1.0s								
SUMG					MLR		MLR		
	comp=Z,1μm,21.0s								
SUMG	**Summit**		**39.38**	**27**	P		**P**	**06 17 49.3**	**+0.5**
SUMG					IAmb		IAmb	06 17 52.5	
	comp=Z,42nm,1.0s								
SUMG					IAMs_20		IAMs_20	06 35 09.4	
	comp=Z,1μm,21.0s								
SFJD	**Kangerlussuaq**		**39.47**	**38**	*i* P		**P**	**06 17 50.3**	**+1.2**
SFJD	**Kangerlussuaq**		**39.47**	**38**	P		**P**	**06 17 50.4**	**+1.4**
SFJD					pmax		pmax		
	comp=Z,27nm,0.9s								
SFJD					MLR		MLR		
	comp=Z,1μm,21.0s								
SFJD	**Kangerlussuaq**		**39.47**	**38**	P		**P**	**06 17 50.4**	**+1.4**
SFJD					IAmb		IAmb	06 17 51.4	
	comp=Z,27nm,0.9s								
SFJD	**Kangerlussuaq**		**39.47**	**38**	IAMs_20		IAMs_20	06 33 50.0	
	comp=Z,1μm,21.0s								
R40A	**Maddies Statio**		**39.51**	**98**	IAmb		IAmb	06 17 52.1	
	comp=Z,44nm,1.1s								
TUL1	**Leonard**		**39.57**	**104**	P		**P**	**06 17 49.4**	**-0.9**
	baz=322,SNR=5.1								
LSQQ	**Lebel-sur-Quev**		**39.63**	**74**	P		**P**	**06 17 49.2**	**-1.4**
	baz=312								
L46A	**Eue Claire**		**39.80**	**89**	IAmb		IAmb	06 18 16.2	
	comp=Z,59nm,1.5s								
P43A	**Skaggs, Pawnee**		**39.89**	**94**	IAmb		IAmb	06 17 55.5	
	comp=Z,47nm,0.9s								
TYV	**Tymovskoe**		**40.09**	**291**	*eP*		**P**	**06 17 55.1**	**+0.7**
TYV					*eS*		**S**	**06 24 02.7**	**+2.9**
TYV					pmax		pmax		
	comp=Z,300nm,4.2s								
TYV					pmax		pmax		
	comp=Z,40nm,0.7s								
TYV					smax		smax		
	comp=E,8.0nm,0.7s								
TYV					smax		smax		
	comp=N,400nm,6.7s								
CCM	**Cathedral Cave**		**40.21**	**97**	P		**P**	**06 17 55.8**	**+0.3**
	baz=320								
CCM	**Cathedral Cave**		**40.21**	**97**	P		**P**	**06 17 56.3**	**+0.8**
CCM					pmax		pmax		
	comp=Z,23nm,0.9s								
CCM					MLR		MLR		
	comp=Z,2μm,20.0s								
CCM	**Cathedral Cave**		**40.21**	**97**	P		**P**	**06 17 56.3**	**+0.8**
CCM					IAmb		IAmb	06 17 57.7	
	comp=Z,23nm,0.9s								
ABTX	**Abilene, Hawle**		**40.33**	**111**	P		**P**	**06 17 56.0**	**-0.7**
	baz=325,SNR=5.8								
ABTX	**Abilene, Hawle**		**40.33**	**111**	IAmb		IAmb	06 18 00.2	
	comp=Z,56nm,1.7s								
CHGQ	**Chibougamau**		**40.34**	**71**	P		**P**	**06 17 55.9**	**-0.7**
	baz=311								
MGMO	**Mountain Grove**		**40.38**	**99**	IAmb		IAmb	06 17 59.0	
	comp=Z,45nm,1.0s								
SFIN	**Lafayette**		**40.59**	**91**	P		**P**	**06 17 57.5**	**-1.1**
	baz=318								
D53A	**Lac Vacive, Po**		**40.61**	**76**	P		**P**	**06 17 57.9**	**-0.9**
	baz=313								
D53A	**Lac Vacive, Po**		**40.61**	**76**	P		**P**	**06 17 59.8**	**+1.0**
SCHQ	**Schefferville**		**40.67**	**60**	P		**P**	**06 17 59.4**	**+0.1**
	comp=Z,13nm,0.9s,baz=290,slow=5.8,SNR=9.6								
SCHQ					LR		LR	06 35 32.8	
	comp=Z,2μm,21.7s,baz=296,slow=37								
SCHQ	**Schefferville**		**40.67**	**60**	P		**P**	**06 18 00.5**	**+1.3**
SCHQ					IAmb		IAmb	06 18 29.9	
	comp=Z,72nm,1.9s								
FVM	**French Village**		**40.68**	**96**	IAmb		IAmb	06 18 02.0	
	comp=Z,44nm,1.1s								
U40A	**Yellville**		**40.70**	**100**	P		**P**	**06 17 59.2**	**-0.5**
	baz=321,SNR=13								
U40A	**Yellville**		**40.70**	**100**	IAMs_20		IAMs_20	06 35 08.8	
	comp=Z,891nm,20.0s								
Q44A	**Meyer Farm, Va**		**40.70**	**94**	IAmb		IAmb	06 18 02.2	
	comp=Z,38nm,1.0s								
L48A	**N Adams**		**40.81**	**87**	IAmb		IAmb	06 18 03.5	
	comp=Z,46nm,1.2s								
N47A	**Urbana**		**40.94**	**89**	IAmb		IAmb	06 18 03.8	
	comp=Z,34nm,1.0s								
T42A	**Van Buren**		**41.07**	**98**	IAmb		IAmb	06 18 04.3	
	comp=Z,23nm,1.0s								
P46A	**Rosedale**		**41.09**	**92**	IAmb		IAmb	06 18 05.7	
	comp=Z,36nm,1.0s								
E53A	**Dune, Ponti**		**41.11**	**77**	P		**P**	**06 18 00.4**	**-2.5**
	baz=314								
W39A	**Magazine**		**41.14**	**102**	P		**P**	**06 18 02.4**	**-0.9**
	baz=322,SNR=14								
W39A	**Magazine**		**41.14**	**102**	IAmb		IAmb	06 18 06.1	
	comp=Z,28nm,0.9s								
W39A					IAMs_20		IAMs_20	06 36 21.4	
	comp=Z,1μm,18.0s								
TX31	**Lajitas Ar. Si**		**41.19**	**118**	IAmb		IAmb	06 18 45.8	
	comp=Z,65nm,1.4s								
TXAR	**Lajitas Array**		**41.19**	**118**	P		**P**	**06 18 07.0**	**+3.1**
	comp=Z,4.9nm,0.8s,baz=333,slow=6.3,SNR=57								
TXAR					PcP		**PcP**	**06 20 03.9**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=249,slow=2.4,SNR=3.7								
TXAR					ScP		**ScP**	**06 23 54.6**	**+2.8**
	comp=Z,0.5nm,1.0s,baz=336,slow=2.0,SNR=2.6								
TXAR					LR		LR	06 34 40.8	
	comp=Z,665nm,19.6s,baz=0.0,slow=35								
ALGO	**Algonquin Park**		**41.21**	**78**	P		**P**	**06 18 02.1**	**-1.6**
	baz=314								
I51A	**Listowel**		**41.21**	**82**	P		**P**	**06 18 02.9**	**-0.9**
	baz=315								
E54A	**Lac Daplat, Po**		**41.31**	**77**	P		**P**	**06 18 04.3**	**-0.3**
	baz=314								
KBS	**Kingsbay**		**41.39**	**6**	*ce*P		**P**	**06 18 06.6**	**+1.8**
KBS					pmax		pmax		
	comp=Z,14nm,1.0s								
KBS	**Kingsbay**		**41.39**	**6**	IAMs_20		IAMs_20	06 34 10.3	
	comp=Z,804nm,20.0s								
S44A	**Carbondale**		**41.50**	**96**	IAmb		IAmb	06 18 08.7	
	comp=Z,36nm,1.2s								
G54A	**Lake Saint Pet**		**41.58**	**79**	P		**P**	**06 18 05.7**	**-1.1**
	baz=314								
N49A	**Columbus Grove**		**41.68**	**88**	IAmb		IAmb	06 18 10.2	
	comp=Z,29nm,0.9s								
D55A	**Sainte-Anne-du**		**41.76**	**75**	P		**P**	**06 18 07.3**	**-0.9**
	baz=314,SNR=5.4								
MIAR	**Mount Ida**		**41.76**	**103**	P		**P**	**06 18 07.4**	**-1.0**
	baz=323,SNR=17								
MIAR	**Mount Ida**		**41.76**	**103**	P		**P**	**06 18 10.1**	**+1.7**
MIAR					pmax		pmax		
	comp=Z,36nm,1.0s								
MIAR					MLR		MLR		
	comp=Z,900nm,18.0s								
MIAR	**Mount Ida**		**41.76**	**103**	P		**P**	**06 18 10.1**	**+1.7**
MIAR					IAmb		IAmb	06 18 11.5	
	comp=Z,36nm,1.0s								
MIAR					IAMs_20		IAMs_20	06 37 18.8	
	comp=Z,908nm,18.0s								
BLO	**Bloomington**		**41.78**	**92**	IAmb		IAmb	06 18 15.8	
	comp=Z,43nm,1.5s								
WHTX	**Lake Whitney,**		**41.90**	**109**	P		**P**	**06 18 09.2**	**-0.4**
	baz=325								
WHTX	**Lake Whitney,**		**41.90**	**109**	IAmb		IAmb	06 18 13.2	
	comp=Z,33nm,1.3s								
H53A	**Bobcaygeon**		**41.91**	**80**	P		**P**	**06 18 08.4**	**-1.0**
	baz=315								
W41B	**Gary Mavity, V**		**41.93**	**101**	P		**P**	**06 18 09.2**	**-0.5**
	baz=322								
JCT	**Junction City**		**42.02**	**113**	P		**P**	**06 18 10.7**	**+0.1**
	baz=327,SNR=11								
JCT	**Junction City**		**42.02**	**113**	IAmb		IAmb	06 18 14.1	
	comp=Z,21nm,0.8s								
JCT					IAMs_20		IAMs_20	06 35 01.7	
	comp=Z,1μm,19.0s								
D56A	**ZEC Mazanza, M**		**42.09**	**74**	P		**P**	**06 18 09.6**	**-1.3**
	baz=314,SNR=10								
P48A	**Milroy**		**42.13**	**91**	IAmb		IAmb	06 18 29.3	
	comp=Z,59nm,1.8s								
O49A	**Covington**		**42.14**	**89**	IAmb		IAmb	06 18 34.6	
	comp=Z,70nm,1.7s								
X40A	**Basin Creek Fa**		**42.18**	**102**	P		**P**	**06 18 12.0**	**+0.3**
	baz=323								
E56A	**St. Veronique**		**42.30**	**75**	P		**P**	**06 18 12.1**	**-0.6**
	baz=314								
PLVO	**Plevna**		**42.34**	**78**	IAmb		IAmb	06 18 15.7	
	comp=Z,61nm,1.8s								
G55A	**Calabogie**		**42.37**	**78**	P		**P**	**06 18 13.0**	**-0.2**
	baz=315								
D57A	**Chemin Vers le**		**42.54**	**74**	P		**P**	**06 18 14.5**	**-0.2**
	baz=314,SNR=9.0								
WCI	**Wyandotte Cave**		**42.61**	**93**	P		**P**	**06 18 15.1**	**-0.1**
	baz=319								
N51A	**Ashland**		**42.61**	**87**	P		**P**	**06 18 14.2**	**-1.1**
	baz=318								
I55A	**Frankford**		**42.62**	**79**	P		**P**	**06 18 14.7**	**-0.5**
	baz=315								
H55A	**Tweed**		**42.63**	**79**	P		**P**	**06 18 14.6**	**-0.8**
	baz=315								
WLAR	**White Oak Lake**		**42.67**	**103**	IAmb		IAmb	06 18 19.1	
	comp=Z,29nm,0.9s								
M52A	**Chesterland**		**42.68**	**85**	P		**P**	**06 18 15.7**	**-0.1**
	baz=317								
YSS	**Yuzh-Sakhalins**		**42.68**	**286**	*eP*		**P**	**06 18 14.5**	**-1.2**
YSS					*e*			06 18 20.0	
YSS					*e**SP		**pwP**	**06 18 21.9**	**+0.1**
YSS					*e*			06 20 03.3	
YSS					*e*S		**S**	**06 24 35.6**	**-2.7**
YSS					*e*SS		**ScS**	**06 28 17.9**	**+1.9**
YSS					pmax		pmax		
	comp=Z,300nm,3.6s								
YSS					pmax		pmax		
	comp=Z,30nm,1.8s								
YSS					MLR		MLR		
	comp=E,300nm,16.0s								
YSS					MLR		MLR		
	comp=Z,1μm,16.0s								
YSS					MLR		MLR		
	comp=N,600nm,14.0s								
J54A	**Appleton**		**42.80**	**81**	P		**P**	**06 18 16.6**	**-0.1**
	baz=316								
J54A	**Appleton**		**42.80**	**81**	IAmb		IAmb	06 18 19.8	
	comp=Z,29nm,0.9s								
ACSO	**Alum Creek Sta**		**42.81**	**88**	P		**P**	**06 18 17.1**	**+0.3**
	baz=318								
435B	**Jarrell**		**42.83**	**110**	P		**P**	**06 18 16.9**	**-0.2**
	baz=326								
435B	**Jarrell**		**42.83**	**110**	IAmb		IAmb	06 18 21.1	
	comp=Z,26nm,0.9s								
435B					IAMs_20		IAMs_20	06 36 18.1	
	comp=Z,1μm,18.0s								
LATQ	**La Tuque**		**42.83**	**73**	P		**P**	**06 18 17.1**	**+0.2**
	baz=314								
ORIO	**Orleans, Innes**		**42.83**	**77**	P		**P**	**06 18 16.7**	**-0.2**
	baz=315								
E57A	**Chemin Saint G**		**42.84**	**75**	P		**P**	**06 18 16.2**	**-0.8**
	baz=314,SNR=10								
L53A	**Girard**		**42.94**	**84**	P		**P**	**06 18 16.8**	**-1.1**
	baz=317								
ERPA	**Erie**		**42.95**	**83**	P		**P**	**06 18 17.1**	**-0.9**
	baz=317								
MEDO	**Medina**		**42.98**	**81**	IAmb		IAmb	06 18 21.1	
	comp=Z,31nm,0.9s								
D58A	**Chemin du LacG**		**42.98**	**73**	P		**P**	**06 18 17.7**	**-0.5**
	baz=314,SNR=11								
N52A	**McGinn's Farm,**		**43.04**	**86**	P		**P**	**06 18 18.3**	**-0.4**
	baz=318								
O51A	**Pataskala**		**43.06**	**87**	P		**P**	**06 18 19.0**	**+0.1**
	baz=318								
H56A	**Elgin**		**43.06**	**78**	P		**P**	**06 18 18.2**	**-0.7**
	baz=315								
M53A	**WI Miller and**		**43.10**	**85**	P		**P**	**06 18 19.4**	**+0.2**
	baz=317,SNR=5.1								
M53A	**WI Miller and**		**43.10**	**85**	IAmb		IAmb	06 18 22.1	
	comp=Z,33nm,0.9s								
GRNR	**Gornyy**		**43.11**	**295**	*i* P		**P**	**06 18 18.7**	**-0.5**
GRNR					*e*S		**S**	**06 24 45.7**	**+1.2**
GRNR					pmax		pmax		
	comp=Z,50nm,0.9s								
GRNR					smax		smax		
	comp=E,3.0nm,0.9s								
GRNR					MLR		MLR		
	comp=E,400nm,10.0s								
GRNR					MLR		MLR		
	comp=N,800nm,11.0s								
GRNR					MLR		MLR		
	comp=Z,860nm,12.0s								
X43A	**Marvell**		**43.14**	**100**	P		**P**	**06 18 19.4**	**-0.2**
	baz=322								
CCAR	**Cane Creek**		**43.16**	**102**	IAmb		IAmb	06 18 23.2	
	comp=Z,38nm,1.0s								
L54A	**Sinclairville**		**43.21**	**83**	P		**P**	**06 18 20.0**	**-0.1**
	baz=317								
J55A	**Hilton**		**43.23**	**81**	P		**P**	**06 18 19.8**	**-0.4**
	baz=316								
K54A	**Basiliko Farm,**		**43.26**	**82**	P		**P**	**06 18 21.2**	**+0.7**
	baz=316								
E58A	**La Victoria**		**43.29**	**74**	P		**P**	**06 18 21.1**	**+0.4**
	baz=315,SNR=5.9								
P51A	**Williamsport**		**43.33**	**89**	P		**P**	**06 18 20.9**	**-0.1**
	baz=318								
P51A	**Williamsport**		**43.33**	**89**	IAmb		IAmb	06 18 23.3	
	comp=Z,19nm,0.8s								
G57A	**Newington**		**43.34**	**77**	P		**P**	**06 18 21.5**	**+0.5**
	baz=315								
WVNY	**West Valley, N**		**43.45**	**82**	IAmb		IAmb	06 18 24.9	
	comp=Z,22nm,0.9s								
O52A	**Adamsville**		**43.48**	**87**	P		**P**	**06 18 21.1**	**-1.2**
	baz=318								
O52A	**Adamsville**		**43.48**	**87**	IAmb		IAmb	06 18 24.7	
	comp=Z,23nm,1.0s								
N53A	**Lisbon**		**43.48**	**85**	P		**P**	**06 18 22.5**	**+0.2**
	baz=318								
N53A	**Lisbon**		**43.48**	**85**	IAmb		IAmb	06 18 24.8	
	comp=Z,20nm,0.9s								
K55A	**Perry**		**43.49**	**81**	P		**P**	**06 18 21.8**	**-0.6**
	baz=316								
Q51A	**Peebles**		**43.52**	**89**	IAmb		IAmb	06 18 25.1	
	comp=Z,27nm,0.9s								
D59A	**Saint-Raymond**		**43.56**	**72**	P		**P**	**06 18 22.7**	**-0.1**
	baz=314								
M54A	**Oil Creek Stat**		**43.56**	**84**	P		**P**	**06 18 22.9**	**-0.1**
	baz=317,SNR=5.7								
M54A	**Oil Creek Stat**		**43.56**	**84**	IAMs_20		IAMs_20	06 35 12.7	
	comp=Z,628nm,19.0s								
R50A	**Paris**		**43.58**	**91**	IAmb		IAmb	06 18 25.3	
	comp=Z,23nm,0.8s								
H57A	**Richville**		**43.59**	**78**	P		**P**	**06 18 22.6**	**-0.6**
	baz=316								
P52A	**Corning**		**43.69**	**88**	P		**P**	**06 18 23.5**	**-0.5**
	baz=318								
L55A	**Hinsdale**		**43.70**	**82**	P		**P**	**06 18 24.0**	**-0.1**
	baz=317,SNR=6.6								
O53A	**New Philadelph**		**43.70**	**86**	P		**P**	**06 18 24.9**	**+0.8**
	baz=318								
J56A	**Wolcott**		**43.70**	**80**	P		**P**	**06 18 24.4**	**+0.4**
	baz=316								
G58A	**Ormstown**		**43.77**	**76**	P		**P**	**06 18 24.4**	**-0.1**
	baz=315,SNR=5.5								
N54A	**Moraine State**		**43.80**	**85**	P		**P**	**06 18 25.2**	**+0.3**
	baz=318,SNR=6.7								
N54A	**Moraine State**		**43.80**	**85**	IAmb		IAmb	06 18 27.6	
	comp=Z,24nm,0.9s								
I57A	**Carthage**		**43.83**	**78**	P		**P**	**06 18 24.6**	**-0.5**
	baz=316								
LONY	**Lake Ozonia**		**43.88**	**77**	P		**P**	**06 18 23.3**	**-2.3**
	baz=316								
K56A	**Middlesex**		**43.89**	**81**	P		**P**	**06 18 23.7**	**-1.9**
	baz=317								
OXF	**Oxford**		**43.89**	**99**	P		**P**	**06 18 24.9**	**-0.7**
	baz=322,SNR=24								
OXF	**Oxford**		**43.89**	**99**	IAMs_20		IAMs_20	06 36 06.2	
	comp=Z,669nm,21.0s								
F59A	**Saint Guilaume**		**43.90**	**74**	P		**P**	**06 18 25.0**	**-0.6**
	baz=315								
IVI	**Ivigtut**		**44.01**	**44**	IAMs_20		IAMs_20	06 34 45.1	
	comp=Z,971nm,19.0s								
833A	**Chaparral WMA,**		**44.02**	**114**	P		**P**	**06 18 26.6**	**-0.1**
	baz=328,SNR=6.4								

P54A	**Burton**	44.56	86	P		P		06 18 30.1	-0.9
	baz=318								
Q53A	**Leroy**	44.58	88	P		P		06 18 30.0	-1.1
	baz=319								
E61A	**Lac Etchemin**	44.62	72	P		P		06 18 30.0	-1.4
	baz=315,SNR=5.5								
L57A	**Andrews Acres**	44.64	81	P		P		06 18 30.9	-0.7
	baz=317,SNR=9.6								
G60A	**Masonville**	44.66	75	P		P		06 18 31.1	-0.6
	baz=316								
K58A	**Earlville**	44.69	79	P		P		06 18 32.3	+0.3
	baz=317								
K58A	**Earlville**	44.69	79	IAMs_20		IAMs_20		06 36 37.5	
	comp=Z,796nm,19.0s								
N56A	**West Decatur**	44.70	83	P		P		06 18 31.8	-0.3
	baz=318,SNR=6.0								
F61A	**St Evariste**	44.70	73	P		P		06 18 32.4	+0.4
	baz=315								
O55A	**Ligonier**	44.71	85	P		P		06 18 31.4	-0.8
	baz=318								
J59A	**Piesco**	44.76	78	P		P		06 18 31.3	-1.2
	baz=316								
R53A	**Hurricane**	44.76	89	P		P		06 18 32.6	+0.1
	baz=319								
JKA	**Kamikawa-asahi**	44.77	284	IAmb		IAmb		06 18 34.9	
	comp=Z,19nm,0.8s								
MCWV	**Mont Chateau**	44.84	86	P		P		06 18 33.2	-0.1
	baz=318								
Q54A	**Coxs Mills**	44.84	87	P		P		06 18 32.9	-0.3
	baz=319								
D62A	**Allapoint, All**	44.86	70	P		P		06 18 32.7	-0.5
	baz=315,SNR=8.5								
D62A	**Allapoint, All**	44.86	70	IAmb		IAmb		06 18 35.9	
	comp=Z,27nm,0.9s								
H60A	**Morristown**	44.87	75	P		P		06 18 32.5	-0.9
	baz=316								
BINY	**Binghamton**	44.93	80	P		P		06 18 33.2	-0.7
	baz=317,SNR=5.1								
BINY	**Binghamton**	44.93	80	IAmb		IAmb		06 18 36.8	
	comp=Z,32nm,1.1s								
G61A	**St-Isidore-de-**	44.93	74	P		P		06 18 33.2	-0.7
	baz=316								
E62A	**Clayton Lake**	44.96	71	P		P		06 18 34.5	+0.5
	baz=315,SNR=6.6								
E62A	**Clayton Lake**	44.96	71	IAmb		IAmb		06 18 36.4	
	comp=Z,18nm,0.8s								
P55A	**Reedsville**	44.96	86	P		P		06 18 34.7	+0.5
	baz=319								
M57A	**Sunshine Farm,**	44.98	82	P		P		06 18 34.7	+0.3
	baz=318								
M57A	**Sunshine Farm,**	44.98	82	IAmb		IAmb		06 18 36.5	
	comp=Z,12nm,0.8s								
NRS	**Narsarsuaq**	45.01	42	IAMs_20		IAMs_20		06 35 20.5	
	comp=Z,971nm,19.0s								
O56A	**Blue Knob Stat**	45.04	84	P		P		06 18 33.8	-1.0
	baz=318								
I60A	**Shoreham**	45.09	77	P		P		06 18 35.1	0.0
	baz=316								
SWET	**Sewanee**	45.11	95	IAmb		IAmb		06 18 53.3	
	comp=Z,21nm,1.1s								
L58A	**Harry Jones Me**	45.11	80	P		P		06 18 35.0	-0.4
	baz=317,SNR=6.0								
SSPA	**Standing Stone**	45.11	83	P		P		06 18 34.7	-0.7
	baz=318								
SSPA	**Standing Stone**	45.11	83	IAmb		IAmb		06 18 38.1	
	comp=Z,24nm,0.9s								
X48A	**Hartselle**	45.14	97	IAmb		IAmb		06 18 37.8	
	comp=Z,14nm,0.8s								
VBMS	**Vicksburg**	45.15	102	P		P		06 18 36.2	+0.5
	baz=324								
S53A	**Williamson**	45.16	89	P		P		06 18 35.6	-0.3
	baz=320								
ZEA	**Zeya**	45.19	303	*e*P		P		06 18 35.0	-0.8
ZEA				*e*S		S		06 25 20.0	+5.2
ZEA				pmax		pmax			
	comp=Z,300nm,8.0s								
ZEA				smax		smax			
	comp=N,400nm,12.0s								
ZEA				MLR		MLR			
	comp=E,2μm,14.0s								
ZEA				MLR		MLR			
	comp=Z,6μm,14.0s								
ZEA				MLR		MLR			
	comp=N,3μm,13.0s								
N57A	**Milroy**	45.20	83	P		P		06 18 36.9	+0.9
	baz=318,SNR=6.6								
Q55A	**Buckhannon**	45.22	86	P		P		06 18 36.3	0.0
	baz=319								
F62A	**Pittston Farm,**	45.26	72	P		P		06 18 36.6	+0.2
	baz=316								
H61A	**Lyndonville**	45.27	75	P		P		06 18 36.2	-0.4
	baz=316								
M58A	**Price's Panora**	45.30	81	P		P		06 18 36.2	-0.6
	baz=318,SNR=5.2								
TZTN	**Tazewell**	45.30	92	P		P		06 18 37.3	+0.4
	baz=320								
TZTN	**Tazewell**	45.30	92	IAMs_20		IAMs_20		06 36 11.7	
	comp=Z,1μm,20.0s								
D63A	**Stockholm**	45.35	70	P		P		06 18 37.2	+0.1
	baz=315								
R54A	**Victor**	45.37	88	P		P		06 18 36.8	-0.6
	baz=319								
KVTX	**Kingsville**	45.39	113	IAMs_20		IAMs_20		06 40 13.7	
	comp=Z,713nm,20.0s								
L59A	**Walton**	45.41	79	P		P		06 18 37.2	-0.5
	baz=317								
L59A	**Walton**	45.41	79	IAmb		IAmb		06 18 40.0	
	comp=Z,14nm,0.9s								
J60A	**Lant Hill Farm**	45.46	77	P		P		06 18 38.2	+0.2
	baz=317								
G62A	**West of Eustis**	45.47	73	P		P		06 18 38.0	-0.1
	baz=316								
P56A	**Dayton Farm, R**	45.47	85	P		P		06 18 38.8	+0.6
	baz=319								
LBNH	**Lisbon**	45.48	75	P		P		06 18 38.2	-0.1
	baz=316								
LBNH	**Lisbon**	45.48	75	P		P		06 18 39.6	+1.4
LBNH				pmax		pmax			
	comp=Z,15nm,1.0s								
LBNH	**Lisbon**	45.48	75	P		P		06 18 39.6	+1.4
LBNH				IAmb		IAmb		06 18 40.2	
	comp=Z,15nm,0.9s								
T53A	**Wise**	45.49	90	P		P		06 18 39.1	+0.7
	baz=320,SNR=9.3								
S54A	**Dingess, Beckl**	45.49	89	P		P		06 18 38.7	+0.3
	baz=320								
O57A	**Amberson**	45.56	83	P		P		06 18 38.9	0.0
	baz=318,SNR=7.5								
N58A	**Sunbury**	45.56	82	P		P		06 18 39.2	+0.3
	baz=318,SNR=5.5								
N58A	**Sunbury**	45.56	82	IAmb		IAmb		06 18 40.9	
	comp=Z,14nm,0.8s								
I61A	**Oroboro, Fairl**	45.56	76	P		P		06 18 39.1	+0.2
	baz=316,SNR=8.2								
H62A	**Milan**	45.62	74	P		P		06 18 39.2	-0.2
	baz=316								
H62A	**Milan**	45.62	74	IAmb		IAmb		06 19 19.0	
	comp=Z,37nm,1.4s								
E63A	**Oxbow**	45.63	71	P		P		06 18 38.4	-1.0
	baz=316								
Q56A	**Snyder Ridge,**	45.64	86	P		P		06 18 39.8	+0.2
	baz=319								
M59A	**Waymart**	45.69	80	P		P		06 18 39.7	-0.2
	baz=318								
F63A	**Nahmakanta, Br**	45.82	72	P		P		06 18 40.3	-0.6
	baz=316								
J61A	**Chester**	45.82	77	P		P		06 18 41.2	+0.3
	baz=317								
V52A	**Sevierville**	45.82	92	IAmb		IAmb		06 18 54.4	
	comp=Z,29nm,1.2s								
P57A	**Homestead Farm**	45.91	84	P		P		06 18 42.0	+0.4
	baz=319,SNR=5.8								
P57A	**Homestead Farm**	45.91	84	IAmb		IAmb		06 18 44.2	
	comp=Z,20nm,0.8s								
P57A				IAMs_20		IAMs_20		06 36 39.8	
	comp=Z,1μm,20.0s								
T54A	**Tazewell**	45.92	90	P		P		06 18 42.7	+0.8
	baz=320								
E64A	**Bridgewater**	45.92	70	P		P		06 18 41.8	+0.1
	baz=316								
S55A	**Lewisburg**	45.93	88	P		P		06 18 41.9	0.0
	baz=320								
Y49A	**Blount Mountai**	45.93	97	IAmb		IAmb		06 18 44.8	
	comp=Z,23nm,1.1s								
L60A	**Shokan**	45.97	79	P		P		06 18 41.9	-0.3
	baz=318								
N59A	**State Game Lan**	45.98	81	P		P		06 18 42.2	0.0
	baz=318								
N59A	**State Game Lan**	45.98	81	IAmb		IAmb		06 18 44.9	
	comp=Z,13nm,0.8s								
G63A	**Kingsbury**	45.99	73	P		P		06 18 42.4	+0.2
	baz=316								
O58A	**Lewisberry**	45.99	83	P		P		06 18 42.2	-0.1
	baz=318,SNR=8.1								
PAGS	**Pennsylvania G**	46.01	83	IAmb		IAmb		06 18 45.0	
	comp=Z,22nm,1.0s								
ERM	**Erimo**	46.02	281	*ce*P		P		06 18 43.7	+1.2
ERM				pmax		pmax			
	comp=Z,35nm,1.3s								
PKME	**Peaks-Kenny Pk**	46.04	72	P		P		06 18 42.2	-0.4
	baz=316								
PKME	**Peaks-Kenny Pk**	46.04	72	IAmb		IAmb		06 18 45.0	
	comp=Z,17nm,0.9s								
Q57A	**Strasburg**	46.04	85	P		P		06 18 43.5	+0.8
	baz=319								
F64A	**Sherman**	46.07	71	P		P		06 18 42.8	0.0
	baz=316,SNR=5.3								
H63A	**New Sharon**	46.11	73	P		P		06 18 43.7	+0.5
	baz=316								
L61A	**Hillsdale 1, H**	46.16	78	P		P		06 18 43.8	+0.2
	baz=318								
NRIK	**Noril'sk**	46.16	337	P		P		06 18 42.2	-1.1
	comp=Z,9.7nm,0.7s,baz=47,slow=5.8,SNR=8.8								
NRIK				LR		LR		06 39 53.9	
	comp=Z,1μm,20.5s,baz=24,slow=39								
X51A	**Calhoun**	46.17	95	IAmb		IAmb		06 18 46.1	
	comp=Z,27nm,1.1s								
U54A	**Nelsons Funny**	46.21	90	P		P		06 18 43.9	-0.2
	baz=320								
O59A	**Robesonia**	46.22	82	P		P		06 18 43.9	-0.2
	baz=318								
M60A	**Port Jervis**	46.26	80	P		P		06 18 44.3	-0.1
	baz=318,SNR=6.1								
P58A	**Pank, Wackersv**	46.27	84	P		P		06 18 45.2	+0.7
	baz=319								
J62A	**Henniker**	46.27	76	P		P		06 18 45.0	+0.5
	baz=317								
LRAL	**Lakeview Retre**	46.28	98	P		P		06 18 45.5	+0.9
	baz=323								
T55A	**Pulaski**	46.28	89	P		P		06 18 45.1	+0.4
	baz=320								
I63A	**Otisfield**	46.28	74	P		P		06 18 45.1	+0.5
	baz=317								
KLR	**Kul'dur**	46.35	296	LR		LR		06 38 41.6	
	comp=Z,498nm,18.8s,baz=50,slow=37								
KLR	**Kul'dur**	46.35	296	*ce*P		P		06 18 44.5	-0.5
KLR				pmax		pmax			
	comp=Z,37nm,0.9s								
N60A	**Cedar Hill Far**	46.36	81	P		P		06 18 45.9	+0.7
	baz=318								
MVL	**Millersville**	46.37	83	IAmb		IAmb		06 18 47.9	
	comp=Z,13nm,1.0s								
BLA	**Blacksburg**	46.40	88	P		P		06 18 45.3	-0.3
	baz=320								
L61B	**Northampton**	46.41	77	P		P		06 18 45.3	-0.3
	baz=317								
LUPA	**Lehigh Univers**	46.42	81	IAmb		IAmb		06 18 48.4	
	comp=Z,23nm,1.0s								
K62A	**Royalston**	46.48	77	P		P		06 18 46.6	+0.6
	baz=317								
K62A	**Royalston**	46.48	77	IAmb		IAmb		06 18 48.3	
	comp=Z,17nm,0.8s								
S56A	**Natural Bridge**	46.48	87	P		P		06 18 45.7	-0.5
	baz=320								
Q58A	**Fox Den Farm,**	46.49	85	P		P		06 18 46.4	+0.2
	baz=319								
KSCT	**Kent School, K**	46.54	79	IAmb		IAmb		06 18 49.4	
	comp=Z,19nm,1.0s								
R57A	**Stanardsville**	46.54	86	P		P		06 18 46.6	-0.1
	baz=319								
J63A	**Strafford**	46.60	75	P		P		06 18 46.9	-0.1
	baz=317								
O60A	**Telford**	46.61	82	P		P		06 18 47.0	-0.2
	baz=318,SNR=7.2								
U55A	**TA2, Sparta**	46.62	90	P		P		06 18 47.2	-0.2
	baz=320,SNR=7.1								
M61A	**Granite Spring**	46.70	79	P		P		06 18 48.3	+0.5
	baz=318								
V54A	**Nebo**	46.72	91	P		P		06 18 49.0	+0.9
	baz=321								
T56A	**Rocky Mt**	46.74	88	P		P		06 18 49.3	+1.1
	baz=320								
K63A	**Dunstable**	46.81	76	P		P		06 18 49.0	+0.3
	baz=318								
BG3	**Lake Jocassee**	46.82	92	IAmb		IAmb		06 18 52.1	
	comp=Z,18nm,0.8s								
I64A	**Boothbay**	46.85	74	P		P		06 18 49.1	+0.2
	baz=317								
N61A	**South Mountain**	46.85	80	P		P		06 18 49.1	+0.1
	baz=318								
PAL	**Palisades**	46.86	80	IAMs_20		IAMs_20		06 36 42.9	
	comp=Z,783nm,20.0s								
P60A	**Greenville**	46.88	82	P		P		06 18 49.5	+0.3
	baz=319								
HRV	**Adam Dziewonsk**	46.93	77	P		P		06 18 49.6	0.0
	baz=318								
V55A	**Taylorsville**	47.03	90	P		P		06 18 51.8	+1.2
	baz=321								
M62A	**Hamden**	47.05	79	P		P		06 18 51.2	+0.6
	baz=318								
U56A	**King**	47.08	89	P		P		06 18 51.5	+0.7
	baz=321								
U56A	**King**	47.08	89	IAmb		IAmb		06 18 53.2	
	comp=Z,19nm,0.9s								
R58B	**Mineral**	47.13	86	P		P		06 18 50.1	-1.1
	baz=320								
R58B	**Mineral**	47.13	86	IAMs_20		IAMs_20		06 37 28.0	
	comp=Z,966nm,18.0s								
W54A	**Cherokee Point**	47.13	92	P		P		06 18 50.7	-0.6
	baz=321,SNR=6.5								
WES	**Weston**	47.14	76	IAmb		IAmb		06 19 05.8	
	comp=Z,20nm,1.1s								
BCX	**Boston College**	47.25	76	IAMs_20		IAMs_20		06 40 23.2	
	comp=Z,854nm,18.0s								
S58A	**Poland Farm, P**	47.31	86	P		P		06 18 52.0	-0.6
	baz=320								
S58A	**Poland Farm, P**	47.31	86	IAMs_20		IAMs_20		06 39 19.7	
	comp=Z,1μm,18.0s								
ZAIG	**Zacatecas**	47.36	121	IAmb		IAmb		06 18 57.8	
	comp=Z,8.6nm,0.7s								
Q60A	**Greensboro**	47.38	83	P		P		06 18 52.4	-0.7
	baz=319								
V56A	**Mocksville**	47.44	90	P		P		06 18 53.5	-0.1
	baz=321								
X54A	**Belton**	47.45	92	P		P		06 18 54.7	+0.9
	baz=322,SNR=12								
M63A	**Gales Ferry**	47.50	78	P		P		06 18 54.0	-0.1
	baz=318								
U57A	**Blanch**	47.55	88	P		P		06 18 55.1	+0.6
	baz=320								
T58A	**Grand View Acr**	47.57	87	P		P		06 18 54.5	-0.1
	baz=320								
BOD	**Bodaibo**	47.57	315	*e*P		P		06 18 53.4	-1.0
BOD				pmax		pmax			
	comp=Z,43nm,1.6s								
BRAL	**Brixton**	47.74	99	P		P		06 18 56.0	-0.1
	baz=324								
GOGA	**Godfrey**	47.78	94	P		P		06 18 56.1	-0.3
	baz=322								
M64A	**Tiverton**	47.81	77	P		P		06 18 56.5	0.0
	baz=318								
X55A	**Gracelyn & Ava**	47.89	92	P		P		06 18 57.3	0.0
	baz=322,SNR=7.3								
W56A	**Indian Trail**	47.91	90	P		P		06 18 57.3	-0.1
	baz=321								
S60A	**Water View**	47.95	85	P		P		06 18 57.3	-0.3
	baz=320								
U58A	**Oxford**	47.98	88	P		P		06 18 56.8	-1.1
	baz=321								
T59A	**Double "B" Far**	48.05	86	IAMs_20		IAMs_20		06 38 05.5	
	comp=Z,830nm,19.0s								
X56A	**White Oak**	48.19	91	P		P		06 19 00.2	+0.7
	baz=322								
Y55A	**Saluda**	48.20	92	P		P		06 18 59.7	+0.2
	baz=322,SNR=6.2								
W57A	**Gilead**	48.20	90	P		P		06 18 59.9	+0.3
	baz=321								
JSC	**Jenkinsville**	48.23	92	IAmb		IAmb		06 19 02.7	
	comp=Z,16nm,0.9s								
T60A	**Surry**	48.34	85	P		P		06 19 00.6	0.0
	baz=320								
T60A	**Surry**	48.34	85	IAMs_20		IAMs_20		06 38 22.2	
	comp=Z,858nm,19.0s								
U59A	**Littleton**	48.40	87	P		P		06 19 00.6	-0.6
	baz=321								
Y56A	**Pelion**	48.59	92	P		P		06 19 02.8	+0.2
	baz=322								
U60A	**Pendleton**	48.64	86	P		P		06 19 02.1	-0.8
	baz=321								
X57A	**Johnson Farm,**	48.69	90	P		P		06 19 03.5	+0.1
	baz=322								
W58A	**Raeford**	48.70	89	P		P		06 19 03.4	0.0
	baz=321								
Y57A	**Sumter**	48.89	91	P		P		06 19 05.3	+0.4
	baz=322								
Z56A	**Williston**	48.93	93	P		P		06 19 04.6	-0.6
	baz=322								
Z57A	**Bowman**	49.29	92	P		P		06 19 07.6	-0.4
	baz=322								
Y59A	**Loris**	49.69	90	P		P		06 19 11.4	+0.4
	baz=322								
NHSC	**New Hope**	49.71	92	P		P		06 19 12.2	+1.0
	baz=322								
W61A	**Ground Anchor**	49.73	87	P		P		06 19 12.2	+0.9
	baz=321								
USRK	**Ussuriysk Ar.**	49.90	291	P		P		06 19 11.0	-1.5
	comp=Z,7.9nm,0.8s,baz=51,slow=8.9,SNR=23								
USRK				LR		LR		06 42 20.3	
	comp=Z,637nm,18.1s,baz=34,slow=39								
USRK	**Ussuriysk Ar.**	49.90	291	P		P		06 19 11.0	-1.5
MDJ	**Mudanjiang**	50.73	293	IAMs_20		IAMs_20		06 40 24.6	
	comp=Z,590nm,21.0s								
KEV	**Kevo**	51.16	3	IAMs_20		IAMs_20		06 41 48.0	
	comp=Z,773nm,20.0s								
ARCES	**ARCESS Array B**	51.33	4	P		P		06 19 21.8	-1.2
	comp=Z,2.3nm,0.7s,baz=12,slow=6.4,SNR=8.3								
ARCES				PcP		PcP		06 20 37.6	0.0
	comp=Z,10.0nm,0.8s,baz=346,slow=3.9,SNR=11								
ARCES				LR		LR		06 42 12.2	
	comp=Z,245nm,18.8s,baz=344,slow=37								
ARE0	**ARCESS Array S**	51.33	4			PcP		06 20 38.1	+0.6
HIA	**Hailar**	51.66	304	IAMs_20		IAMs_20		06 42 17.4	
	comp=Z,948nm,21.0s								
MJAR	**Matsushiro Arr**	52.66	280	P		P		06 19 33.6	+0.2
	comp=Z,1.6nm,0.3s,baz=88,slow=30,SNR=2.4								
MAJO	**Matsushiro**	52.66	280	*i* P		P		06 19 33.8	+0.4
MAJO				pmax		pmax			
	comp=Z,25nm,1.2s								
MAJO	**Matsushiro**	52.66	280	IAmb		IAmb		06 19 51.3	
	comp=Z,37nm,1.4s								
MAT	**Matsushiro**	52.66	280	P		P		06 19 33.9	+0.5
MAT				S		S		06 27 03.2	+2.9
CN2	**Changchun**	53.29	295	*e*P		P		06 19 37.5	-0.3
CN2				*e*pP		pP		06 19 41.8	+0.1
CN2				*e*S		S		06 27 05.0	-3.5
CN2				pmax		pmax			
	comp=Z,30nm,0.9s								
CN2				pmax		pmax			
	comp=Z,300nm,7.0s								
CN2				LR		LR			
	comp=Z,800nm,11.0s								
CN2				LR		LR			
	comp=Z,1μm,11.0s								
CN2				LR		LR			
	comp=Z,1μm,14.0s								
TLIG	**Tlapa**	53.70	120	IAmb		IAmb		06 19 46.0	
	comp=Z,16nm,0.8s								
TLY	**Talaya**	56.12	316	*d i* P		P		06 19 58.3	0.0
TLY				*e*				06 21 03.3	
TLY				*e*				06 22 06.0	
TLY				*e*S		S		06 27 50.4	+4.0
TLY				pmax		pmax			
	comp=Z,86nm,1.1s								
TLY				MLR		MLR			
	comp=Z,3μm,11.0s								
TMCR	**Tamitsa**	56.86	358	*e*P		P		06 20 01.2	-2.1
KSRS	**Korea Array**	57.06	289	P		P		06 20 05.8	+0.7
	comp=Z,8.5nm,0.8s,baz=35,slow=6.2,SNR=26								
KSRS				LR		LR		06 46 34.2	
	comp=Z,260nm,18.1s,baz=38,slow=38								
MOY	**Mondy**	57.07	317	*e*P		P		06 20 06.1	+0.9
MOY				pmax		pmax			
	comp=Z,89nm,1.9s								
ZAK	**Zakamensk**	57.31	315	*e*P		P		06 20 07.2	+0.3
ZAK				pmax		pmax			
	comp=Z,12nm,1.2s								
LRW	**Lerwick**	57.71	20	*e*P		P		06 20 09.1	-0.3
LRW				IAmb		IAmb		06 20 11.1	
	comp=Z,38nm,1.2s								
CCIG	**Comitan**	57.75	114	IAmb		IAmb		06 20 25.9	
	comp=Z,12nm,0.9s								
ULN	**Ulaanbaatar**	57.96	311	P		P		06 20 11.9	+0.4
ULN				pmax		pmax			
	comp=Z,23nm,0.9s								
ULN				MLR		MLR			
	comp=Z,2μm,18.0s								
ULN	**Ulaanbaatar**	57.96	311	P		P		06 20 11.9	+0.4
JCJ	**Chichijima**	58.16	270	P		P		06 20 13.0	0.0
TJN	**Taejon**	58.18	288	*ce*P		P		06 20 13.8	+0.8
SONM	**Songino Array**	58.24	311	P		P		06 20 14.6	+1.1
	comp=Z,29nm,0.8s,baz=37,slow=6.8,SNR=93								
SONM				LR		LR		06 46 44.7	
	comp=Z,1μm,19.5s,baz=28,slow=38								
LEWI	**Lewis, Hebride**	58.45	24	*e*P		P		06 20 14.7	+0.1
LEWI				IAmb		IAmb		06 20 15.8	
	comp=Z,32nm,0.8s								
LEWI				IAMs_20		IAMs_20		06 45 41.5	
	comp=Z,984nm,26.5s								
NC303	**NORSAR Array S**	58.50	13	P		P		06 20 15.2	+0.3
NC405	**NORSAR Array S**	58.65	13	P		P		06 20 16.3	+0.3
NB2	**NORSAR Subarra**	58.66	13	P		P		06 20 15.5	-0.6
	comp=Z,13nm,0.8s,baz=348,slow=6.9								
NOA	**NORSAR Array B**	58.66	13	P		P		06 20 15.9	-0.2
	comp=Z,6.7nm,0.8s,baz=348,slow=6.8,SNR=28								
NOA				LR		LR		06 48 03.3	
	comp=Z,300nm,18.9s,baz=335,slow=39								
BIGH	**Upper Bighouse**	58.73	22	*e*P		P		06 20 16.8	+0.3
BIGH				IAmb		IAmb		06 20 18.1	
	comp=Z,55nm,1.4s								
BIGH				IAMs_20		IAMs_20		06 47 42.1	
	comp=Z,943nm,15.2s								
JNU	**Nakatsue**	59.05	283	LR		LR		06 46 48.0	
	comp=Z,412nm,20.1s,baz=40,slow=37								
PRGR	**Permogore**	59.12	354	*e*P		P		06 20 19.9	+0.8
PRGR				pmax		pmax			
	comp=Z,115nm,0.9s								
KAC	**Achnashellach**	59.38	24	*e*P		P		06 20 21.5	+0.5
FINES	**FINESS Array B**	59.44	5	P		P		06 20 20.9	-0.5
	comp=Z,8.3nm,0.6s,baz=3.1,slow=8.5,SNR=49								
FINES				LR		LR		06 46 27.5	
	comp=Z,351nm,19.9s,baz=9.5,slow=37								
KPL	**Plockton**	59.45	24	*e*P		P		06 20 22.0	+0.5
KPL				IAmb		IAmb		06

ELO Logie Almond 60.66 23 *eP* **P 06 20 30.0 +0.1**
EAB Aberfoyle 60.79 24 *eP* **P 06 20 31.2 +0.5**
PGBU Glenifferbraes 61.12 24 *eP* **P 06 20 33.2 +0.3**
PGBU IAmb IAmb 06 20 34.5
comp=Z,45nm,0.9s
EDI Edinburgh 61.28 23 *eP* **P 06 20 34.0 0.0**
EDI IAmb IAmb 06 20 35.6
comp=Z,53nm,1.0s
EDI IAMs_20 IAMs_20 06 49 11.6
comp=Z,1µm,15.4s
EBL Broad Law 61.45 23 *eP* **P 06 20 35.8 +0.6**
NEWG New Galloway 61.82 24 *eP* **P 06 20 38.0 +0.3**
NEWG IAmb IAmb 06 20 38.9
comp=Z,27nm,0.9s
NEWG IAMs_20 IAMs_20 06 48 56.3
comp=Z,1µm,17.7s
ESK Eskdalemuir 61.84 23 *eP* **P 06 20 38.3 +0.5**
ESK IAmb IAmb 06 20 39.6
comp=Z,46nm,0.9s
ESK IAMs_20 IAMs_20 06 48 15.9
comp=Z,865nm,20.0s
ESK Eskdalemuir 61.84 23 P **P 06 20 38.4 +0.5**
ESK pmax pmax
comp=Z,44nm,0.9s
ESK MLR MLR
comp=Z,900nm,20.0s
ESK Eskdalemuir 61.84 23 P **P 06 20 38.4 +0.5**
HHC Hu-ho-hao-te 61.86 303 *eP* **P 06 20 39.5 +1.2**
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,250nm,6.6s
HHC LR LR
comp=Z,2µm,12.2s
HHC LR LR
comp=Z,2µm,14.1s
HHC LR LR
comp=Z,4µm,12.9s
GAL1 Galloway 61.95 24 *eP* **P 06 20 39.3 +0.7**
GAL1 IAmb IAmb 06 20 40.5
comp=Z,53nm,0.8s
GAL1 IAMs_20 IAMs_20 06 49 45.6
comp=Z,823nm,14.9s
SVE Sverdlovsk 62.40 344 *eP* **P 06 20 41.2 -0.4**
SVE *eS* **S 06 29 03.4 -4.0**
SVE pmax pmax
comp=Z,49nm,0.9s
SVE MLR MLR
comp=Z,807nm,22.0s
VSU Vasula 62.45 5 *i* P **P 06 20 41.9 +0.1**
VSU pmax pmax
comp=Z,69nm,1.0s
KESW Keswick, Cumbr 62.54 24 *eP* **P 06 20 42.6 0.0**
KESW IAmb IAmb 06 20 43.8
comp=Z,32nm,0.8s
KESW IAMs_20 IAMs_20 06 48 03.5
comp=Z,961nm,21.9s
ARU Arti 63.07 345 *d i* P **P 06 20 45.3 -0.7**
ARU 06 21 19.8
ARU S **S 06 29 16.2 +0.4**
ARU 06 30 35.6
ARU SS **SS 06 33 17.3 -3.1**
ARU pmax pmax
comp=Z,48nm,0.7s
ARU MLR MLR
comp=Z,867nm,23.0s
ARU Arti 63.07 345 P **P 06 20 45.5 -0.5**
DSB Dublin 63.09 26 IAMs_20 IAMs_20 06 50 58.1
comp=Z,694nm,21.0s
DGZ Jazzator, Alta 63.16 325 *i* P **P 06 20 46.8 -0.2**
DGZ pmax pmax
comp=Z,27nm,1.9s
TIA Tai'an 63.18 296 P **P 06 20 47.8 +0.7**
TIA S **S 06 29 20.5 +2.7**
TIA pmax pmax
comp=Z,3.0nm,0.4s
TIA pmax pmax
comp=Z,110nm,3.7s
TIA LR LR
comp=Z,710nm,19.2s
TIA LR LR
comp=Z,1µm,17.1s
TIA LR LR
comp=Z,160nm,8.5s
MTDJ Mount Denham 63.25 99 IAMs_20 IAMs_20 06 50 45.1
comp=Z,537nm,18.0s
LBWR Ladybower, Pea 63.94 23 *eP* **P 06 20 52.4 +0.5**
LBWR IAmb IAmb 06 20 53.6
comp=Z,34nm,0.9s
LBWR IAMs_20 IAMs_20 06 50 22.2
comp=Z,875nm,14.0s
BRVK Borovoye 64.37 337 P **P 06 20 54.5 -0.1**
BRVK pmax pmax
comp=Z,28nm,1.0s
BRVK MLR MLR
comp=Z,900nm,19.0s
BRVK Borovoye 64.37 337 P **P 06 20 54.5 -0.1**
RSBS Rosebush, Pemb 64.66 26 *eP* **P 06 20 56.6 0.0**
RSBS IAmb IAmb 06 20 57.4
comp=Z,68nm,1.2s
KURK Kurchatov 64.67 331 P **P 06 20 56.2 -0.4**
KURK pmax pmax
comp=Z,16nm,0.8s
KURK MLR MLR
comp=Z,900nm,18.0s
KURK Kurchatov 64.67 331 P **P 06 20 56.2 -0.4**
KURBB Kurchatov Arra 64.77 331 P **P 06 20 55.2 -2.1**
ESPN Las Esperanzas 65.03 109 IAMs_20 IAMs_20 06 52 50.1
comp=Z,367nm,19.0s
RGN Rugen 65.26 13 IAMs_20 IAMs_20 06 50 38.2
comp=Z,365nm,19.0s
MOS Moscow 65.31 358 *eP* **P 06 21 01.1 +0.4**
MOS *e* 06 21 35.6
MOS *eS* **S 06 29 40.8 -2.8**
MOS pmax pmax
comp=Z,47nm,0.7s
SSE Sheshan 65.46 290 IAMs_20 IAMs_20 06 48 48.6
comp=Z,402nm,20.0s
BSEG Bad Segeberg 65.47 15 *eP* **P 06 21 03.6 +1.8**
comp=Z,115nm,2.2s,baz=348,slow=6.2
NJ2 Nanjing 65.79 292 *eP* **P 06 21 03.5 -0.7**
NJ2 pP **pP 06 21 07.5 -0.7**
NJ2 sP **pwP 06 21 12.0 +1.5**
NJ2 S **S 06 29 53.0 +2.9**
NJ2 pmax pmax
comp=Z,19nm,0.9s
NJ2 pmax pmax
comp=Z,310nm,9.2s
NJ2 LR LR
comp=Z,970nm,15.6s
NJ2 LR LR
comp=Z,2µm,15.6s
NJ2 LR LR
comp=Z,740nm,21.8s
ZSN Zaisan 65.94 325 *eP* **P 06 21 03.7 -1.3**
comp=Z,8.1nm,0.7s,baz=325
ZSN *eS* **S 06 29 50.3 -1.3**
baz=325
ZSN Zaisan 65.94 325 *eP* **P 06 21 03.7 -1.3**
ZSN *eS* **S 06 29 50.2 -1.3**
ZSN pmax pmax
comp=Z,8.0nm,0.7s
OBN Obninsk 65.95 359 *d i* P **P 06 21 04.6 -0.3**
OBN *i* *PP **pP 06 21 08.7 0.0**
OBN *i* *SP **sP 06 21 10.1 -0.1**
OBN *e* 06 21 33.3
OBN PPP PPP 06 25 09.0
OBN *i* S **S 06 29 56.0 +4.6**
OBN pmax pmax
comp=Z,65nm,0.7s
OBN MLR MLR
comp=Z,426nm,19.0s
OBN Obninsk 65.95 359 P **P 06 21 05.1 +0.3**
OBN Obninsk 65.95 359 IAMs_20 IAMs_20 06 50 27.1
comp=Z,480nm,20.0s
MICGM Minsk 66.45 4 *e* **P 06 21 10.0 +1.9**
MNK Minsk 66.45 4 *eP* **P 06 21 10.0 +1.9**
IBBN Ibbenburen 66.69 18 *eP* **P 06 21 11.2 +1.6**
comp=Z,25nm,0.9s,baz=348,slow=6.2
SUW Suwalki 66.70 7 IAMs_20 IAMs_20 06 49 41.0
comp=Z,515nm,22.0s
BRZS Berezniki 66.76 334 *eP* **P 06 21 08.7 -1.5**
comp=Z,22nm,1.0s,baz=334
BRZS Berezniki 66.76 334 *eP* **P 06 21 08.6 -1.5**
BRZS pmax pmax
comp=Z,22nm,1.0s

NRDL Niedersach Rie 66.85 16 *eP* **P 06 21 12.2 +1.6**
comp=Z,54nm,2.0s,baz=348,slow=6.2
MKAR Makanchi Array 67.28 327 P **P 06 21 12.4 -1.2**
comp=Z,7.7nm,0.9s,baz=39,slow=5.5,SNR=36
MKAR PP **PP 06 23 40.0 -1.2**
comp=Z,2.7nm,0.8s,baz=46,slow=11,SNR=4.3
MKAR LR LR 06 52 13.6
comp=Z,927nm,21.5s,baz=18,slow=38
MKAR Makanchi Array 67.28 327 *i* P **P 06 21 12.5 -1.1**
MKAR pmax pmax
comp=Z,8.0nm,0.9s
BUG Bochum--Univer 67.45 18 *eP* **P 06 21 15.7 +1.2**
comp=Z,22nm,0.9s,baz=348,slow=6.2
CLZ Clausthal 67.53 16 *eP* **P 06 21 16.9 +1.8**
comp=Z,14nm,0.9s,baz=348,slow=6.2
GTTG Gottingen 67.76 16 *eP* **P 06 21 18.2 +1.8**
comp=Z,23nm,1.1s,baz=348,slow=6.2
GTA Gaotai 67.90 311 *eP* **P 06 21 17.5 -0.2**
GTA pP pP 06 21 21.8 +0.2
GTA sP pwP 06 21 24.8 +0.6
GTA S **S 06 30 17.0 +1.3**
GTA sS sS 06 30 24.5 +2.6
GTA SS **SS 06 34 35.0 -1.5**
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,230nm,7.6s
GTA LR LR
comp=Z,1µm,14.8s
GTA LR LR
comp=Z,890nm,15.8s
GTA LR LR
comp=Z,2µm,13.4s
BSTI Sart Tilman 68.00 19 P **P 06 21 18.8 +0.8**
TAOE Nuku Hiva Isla 68.03 174 *eT* T 07 35 33.6
comp=Z,76nm,0.2s
BGES Gesves 68.10 20 P **P 06 21 18.9 +0.2**
BMRD Maredsous 68.13 20 P **P 06 21 19.3 +0.5**
AHRW Bad Neuenahr-A 68.29 18 *eP* **P 06 21 21.4 +1.6**
comp=Z,8.5nm,0.9s,baz=348,slow=6.2
WMQ Urumqi 68.33 321 *eP* **P 06 21 24.3 +4.0**
WMQ pP sP 06 21 25.3 -0.4
WMQ pmax pmax
comp=Z,13nm,1.3s
WMQ pmax pmax
comp=Z,120nm,3.6s
WMQ LR LR
comp=Z,520nm,15.5s
WMQ LR LR
comp=Z,430nm,20.7s
WMQ LR LR
comp=Z,420nm,17.3s
NEUB Neuenburg 68.34 15 *eP* **P 06 21 21.5 +1.4**
comp=Z,27nm,1.2s,baz=348,slow=6.2
CLL Collm 68.40 14 *i* P **P 06 21 20.4 -0.1**
comp=Z,8.0nm,0.8s
CLL *e* 06 21 36.0
CLL *eSS SS 06 34 42.0 -1.3
CLL *e* 06 38 36.0
CLL Collm 68.40 14 *i* P **P 06 21 20.4 -0.1**
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 68.40 14 *eP* **P 06 21 21.5 +1.0**
comp=Z,7.7nm,0.8s,baz=348,slow=6.2
CLL Collm 68.40 14 IAmb IAmb 06 21 41.1
comp=Z,11nm,1.1s
CLL IAMs_20 IAMs_20 06 51 12.2
comp=Z,304nm,20.0s
LPSR Galich'ya Gora 68.43 357 *eP* **P 06 21 20.2 -0.4**
LPSR pmax pmax
comp=Z,50nm,0.8s
UBBA Unterbreizbach 68.47 16 *eP* **P 06 21 22.1 +1.3**
comp=Z,54nm,2.1s,baz=348,slow=6.2
XAN Xi'an 68.69 301 P **P 06 21 22.5 -0.2**
XAN pP pwP 06 21 35.3 +6.2
XAN PP **PP 06 23 58.8 +4.9**
XAN S **S 06 30 23.5 -1.6**
XAN SS **SS 06 34 47.8 -1.1**
XAN pmax pmax
comp=Z,10.0nm,1.4s
XAN pmax pmax
comp=Z,170nm,6.2s
XAN LR LR
comp=Z,2µm,14.2s
XAN LR LR
comp=Z,3µm,15.2s
XAN LR LR
comp=Z,3µm,12.8s
TNS Taunus Mts 68.81 18 *eP* **P 06 21 24.4 +1.2**
comp=Z,11nm,1.0s,baz=348,slow=6.2
FBE Freiberg 68.82 14 *eP* **P 06 21 24.7 +1.5**
comp=Z,15nm,1.3s,baz=348,slow=6.2
MOX Moxa 68.87 15 *eP* **P 06 21 24.8 +1.4**
comp=Z,14nm,0.9s,baz=348,slow=6.2
MOX *eL* L 06 53 13.1
comp=Z,218nm,21.3s
BRG Berggiesshubel 68.94 14 *eP* **P 06 21 24.5 +0.6**
comp=Z,13nm,1.2s
BRG *e* 06 21 41.0
comp=Z,24nm,1.4s
BRG Berggiesshubel 68.94 14 *eP* **P 06 21 25.1 +1.2**
comp=Z,13nm,1.2s,baz=348,slow=6.2
WLF Walferdange 68.98 19 *eP* **P 06 21 25.9 +1.7**
comp=Z,27nm,1.4s,baz=348,slow=6.2
WLF Walferdange 68.98 19 IAMs_20 IAMs_20 06 52 08.8
comp=Z,573nm,19.0s
AKTO Aktyubinsk 68.99 344 P **P 06 21 23.0 -1.2**
PLN Plauen 69.10 15 *eP* **P 06 21 26.2 +1.3**
comp=Z,9.1nm,0.8s,baz=348,slow=6.2
LZH Lanzhou 69.13 306 ⇑P **P 06 21 25.5 0.0**
LZH pP sP 06 21 30.5 -0.4
LZH sP pwP 06 21 31.8 -0.1
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,100nm,5.4s
LZH LR LR
comp=Z,2µm,13.6s
LZH LR LR
comp=Z,2µm,15.2s
LZH LR LR
comp=Z,3µm,14.1s
WHN Wuhan 69.17 295 ⇑P **P 06 21 26.5 +0.9**
WHN S **S 06 30 23.5 -7.2**
WHN pmax pmax
comp=Z,450nm,4.0s
WHN LR LR
comp=Z,1µm,16.2s
WHN LR LR
comp=Z,2µm,12.4s
WHN LR LR
comp=Z,2µm,12.8s
TANN Tannenbergstha 69.20 15 *eP* **P 06 21 26.9 +1.3**
comp=Z,14nm,1.0s,baz=348,slow=6.2
KSP Ksiaz 69.25 12 *eP* **P 06 21 26.7 +1.0**
WERN Wernitzgruen 69.32 15 *eP* **P 06 21 27.8 +1.5**
comp=Z,116nm,2.6s,baz=348,slow=6.2
PVCC Panska Ves 69.36 13 *eP* **P 06 21 27.6 +1.1**
PVCC Panska Ves 69.36 13 *eP* **P 06 21 27.6 +1.1**
PVCC AMS AMS 06 48 50.0
comp=Z,500nm,31.4s
NKC Novy Kostel 69.38 15 *eP* **P 06 21 27.3 +0.6**
NKC MLR MLR
comp=Z,600nm,14.7s
NKC Novy Kostel 69.38 15 *eP* **P 06 21 27.3 +0.6**
NKC AMS AMS 06 57 00.0
comp=Z,600nm,14.7s
CHVC Chvalec 69.47 12 AMS AMS 06 57 50.0
comp=Z,300nm,15.1s
OSTC Ostas 69.52 12 *eP* **P 06 21 29.7 +2.2**
OSTC AMS AMS 06 46 40.0
comp=Z,400nm,27.2s
UPC Upice 69.55 12 *eP* P 06 21 22.8 -4.8
UPC Upice 69.55 12 *eP* P 06 21 22.8 -4.8
UPC AMS AMS 06 46 30.0
comp=Z,500nm,36.6s
VRH Novokhopyorsk 69.73 355 *eP* **P 06 21 27.2 -1.5**
VRH pmax pmax
comp=Z,20nm,1.1s
DPC Dobruska-Polom 69.73 12 *eP* **P 06 21 29.6 +0.7**
DPC *e* 06 21 37.8
DPC *eS* **S 06 30 41.0 +4.0**
DPC MLR MLR
comp=Z,400nm,14.3s
DPC Dobruska-Polom 69.73 12 *eP* **P 06 21 29.6 +0.7**
DPC *ex* x 06 21 37.8
DPC *eS* **S 06 30 41.0 +4.0**
DPC AMS AMS 06 58 00.0
comp=Z,400nm,14.3s
GRA1 Grafenberg Arr 69.74 16 IAMs_20 IAMs_20 06 56 20.8
comp=Z,315nm,20.0s
GRF Grafenberg Arr 69.74 16 *eL* L 06 51 52.0
comp=Z,267nm,21.5s
PRA Prague 69.79 14 AMS AMS 06 49 20.0
comp=Z,200nm,27.0s
ROTZ Rotzenmuhle 69.81 15 *eP* **P 06 21 30.5 +1.3**
comp=Z,78nm,2.5s,baz=348,slow=6.2
VSR Storozhevoye 69.81 357 *eP* **P 06 21 28.7 -0.5**
VSR pmax pmax
comp=Z,50nm,0.9s
PRU Pruhonice 69.89 14 *eP* P 06 21 21.1 -8.6
PRU *eS* **S 06 30 36.4 -2.2**
PRU MLR MLR
comp=Z,400nm,26.4s
PRU Pruhonice 69.89 14 *eS* **S 06 30 36.4 -2.2**
PRU AMS AMS 06 49 20.0
comp=Z,400nm,26.4s
GOPC GO Pecny, Ondr 69.99 13 *eS* **S 06 30 38.8 -1.1**
GOPC AMS AMS 06 49 20.0
comp=Z,500nm,30.1s
TDK Taldyqorghan 69.99 328 *eP* **P 06 21 28.9 -1.6**
baz=328
TDK *eS* **S 06 30 38.2 -1.9**
baz=328
TDK LR LR 06 53 29.6
comp=Z,667nm,13.7s,baz=328
TDK Taldyqorghan 69.99 328 *eP* **P 06 21 28.9 -1.6**
TDK *eS* **S 06 30 38.2 -1.9**
TDK MLR MLR
comp=Z,667nm,14.0s
VORD Divnogorie 70.05 357 *eP* **P 06 21 30.0 -0.7**
VORD pmax pmax
comp=Z,30nm,0.7s
KRLC Kraliky 70.06 12 *eP* **P 06 21 30.9 0.0**
KRLC *e* 06 21 38.0
KRLC MLR MLR
comp=Z,400nm,14.0s
KRLC Kraliky 70.06 12 *eP* **P 06 21 30.9 0.0**
KRLC *ex* x 06 21 38.0
KRLC AMS AMS 06 58 30.0
comp=Z,400nm,14.0s
OJC Ojcow 70.21 10 *eP* **P 06 21 31.6 -0.2**
AKASG Malin Array Be 70.30 4 P **P 06 21 31.2 -1.0**
comp=Z,24nm,0.7s,baz=358,slow=6.1,SNR=23
AKASG LR LR 06 52 59.0
comp=Z,445nm,19.6s,baz=5.0,slow=36
TATO Taipei 70.39 286 IAMs_20 IAMs_20 06 58 18.2
comp=Z,406nm,18.0s
MORC Moravsky Berou 70.43 12 ⇓P **P 06 21 32.7 -0.5**
MORC Moravsky Berou 70.43 12 *eP* **P 06 21 34.5 +1.3**
WET Wettzell 70.50 15 *eP* **P 06 21 35.2 +1.6**
comp=Z,11nm,1.0s,baz=348,slow=6.2
ECH Echery 70.55 19 IAmb IAmb 06 22 00.1
comp=Z,13nm,1.1s
ECH IAMs_20 IAMs_20 06 53 17.3
comp=Z,488nm,20.0s
KHC Kasperske Hory 70.61 14 *eP* **P 06 21 36.0 +1.8**
KHC *e* 06 21 49.5
KHC *eS* **S 06 30 42.1 -5.1**
KHC MLR MLR
comp=Z,400nm,23.3s
KHC Kasperske Hory 70.61 14 *eP* **P 06 21 36.0 +1.8**
KHC *ex* x 06 21 49.5
KHC *eS* **S 06 30 42.1 -5.1**
KHC AMS AMS 06 49 30.0
comp=Z,400nm,23.3s
BFO Black Forest 70.64 18 *eP* **P 06 21 35.5 +1.1**
comp=Z,10nm,1.1s,baz=348,slow=6.2
TREC Trest 70.68 13 AMS AMS 06 49 40.0
comp=Z,400nm,25.3s
YHNB Yeheng 70.70 286 IAMs_20 IAMs_20 06 58 27.5
comp=Z,448nm,18.0s
MFF Saint Martin d 70.71 25 *eP* **P 06 21 35.3 +0.5**
MFF pmax pmax
comp=Z,29nm,1.0s
VRAC Vranov 70.79 12 *eP* **P 06 21 36.8 +1.5**
GEC2 GERESS Array S 70.91 14 *eP* **P 06 21 37.1 +0.9**
comp=Z,14nm,1.6s,baz=348,slow=6.2
GERES GERESS Array B 70.91 14 P **P 06 21 36.5 +0.4**
comp=Z,1.6nm,0.6s,baz=343,slow=4.2,SNR=10
GERES LR LR 06 56 44.4
comp=Z,179nm,18.5s,baz=345,slow=39
KRUC Moravsky 71.01 13 *eP* **P 06 21 36.9 +0.3**
NIE Niedzica 71.05 10 *eP* **P 06 21 37.1 +0.2**
BTLS Baital 71.08 332 *eP* **P 06 21 36.1 -1.1**
comp=Z,4.6nm,0.6s,baz=331
BTLS Baital 71.08 332 *eP* **P 06 21 36.0 -1.1**
BTLS pmax pmax
comp=Z,5.0nm,0.6s
JAVC Velka Javorina 71.35 12 *eP* **P 06 21 40.8 +2.0**
SHLS Shalkode 71.41 327 *eP* **P 06 21 37.6 -1.8**
comp=Z,21nm,1.0s,baz=326
SHLS Shalkode 71.41 327 *eP* **P 06 21 37.5 -1.8**
SHLS pmax pmax
comp=Z,21nm,1.0s
CHKK Chushkaly 71.44 329 *eP* **P 06 21 37.5 -1.9**
baz=329
CHKK Chushkaly 71.44 329 *eP* **P 06 21 37.4 -1.9**
SJCC San Jacinto, C 71.51 102 *eP* **P 06 21 37.7 -2.4**
UZB Uzynbulak 71.54 327 *eP* **P 06 21 39.0 -1.2**
comp=Z,2.7nm,1.0s,baz=327
UZB Uzynbulak 71.54 327 *eP* **P 06 21 38.9 -1.2**
UZB pmax pmax
comp=Z,3.0nm,1.0s
UBR Ueberruh 71.54 17 *eP* **P 06 21 41.5 +1.5**
comp=Z,21nm,1.2s,baz=348,slow=6.2
KUU Kurty 71.57 329 *eP* **P 06 21 39.1 -1.0**
comp=Z,4.1nm,0.8s,baz=329
KUU Kurty 71.57 329 *eP* **P 06 21 39.1 -1.0**
KUU pmax pmax
comp=Z,4.0nm,0.8s
ENH Enshi 71.63 298 IAMs_20 IAMs_20 06 55 57.8
comp=Z,391nm,18.0s
KOLS Kolonicke sedl 71.69 8 *eP* **P 06 21 41.3 +0.5**
KOLS Kolonicke sedl 71.69 8 *eP* **P 06 21 41.2 +0.5**
VYHS Vyhne 71.83 11 *eP* **P 06 21 40.9 -0.7**
VYHS Vyhne 71.83 11 *eP* **P 06 21 40.9 -0.7**
RETA Reutte 71.83 17 *esP* **P 06 21 45.8 +4.1**
comp=Z,3.8nm,0.8s
QZH Quanzhou 71.84 288 *eP* **P 06 21 43.8 +1.8**
QZH S **S 06 31 04.0 +2.0**
QZH LR LR
comp=Z,530nm,13.2s
QZH LR LR
comp=Z,530nm,11.5s
QZH LR LR
comp=Z,700nm,13.1s
RJOB Jochberg 71.87 15 *eP* **P 06 21 42.2 +0.2**
comp=Z,8.4nm,1.3s,baz=348,slow=6.2
KECS Kecovo 71.99 10 *eP* **P 06 21 42.7 +0.1**
KECS Kecovo 71.99 10 *eP* **P 06 21 42.7 +0.1**
UZH Uzhgorod 71.99 9 P **P 06 21 42.8 +0.3**
MOTA Moosalm 72.02 17 *i* pP pP 06 21 45.6 -1.2
comp=Z,7.7nm,1.1s
AAA Alma-Ata 72.06 329 *eP* **P 06 21 42.5 -0.7**
baz=328
AAA LR LR 06 55 10.6
comp=Z,341nm,13.2s,baz=328
AAA Alma-Ata 72.06 329 *eP* **P 06 21 42.4 -0.7**
AAA MLR MLR
comp=Z,341nm,13.0s
MDOK Medeo 72.06 329 *eP* **P 06 21 42.1 -1.3**
baz=328
MDOK LR LR 06 55 06.8
comp=Z,474nm,14.8s,baz=328
MDOK Medeo 72.06 329 *eP* **P 06 21 42.0 -1.3**
MDOK MLR MLR
comp=Z,474nm,15.0s
CONA Conrad Observa 72.07 13 *i* pP pP 06 21 45.3 -1.8
comp=Z,12nm,1.7s
WATA Walderalm 72.10 16 *i* pP **P 06 21 45.1 +1.7**
comp=Z,12nm,0.9s
SQTA Sankt Quirin 72.16 16 *i* pP pP 06 21 46.1 -1.6
comp=Z,11nm,0.9s
WTTA Wattenberg 72.18 16 *i* pP **P 06 21 45.7 +1.8**
comp=Z,15nm,1.0s
TNSS Tian-Shan 72.21 329 *eP* **P 06 21 42.9 -1.6**
baz=328
TNSS Tian-Shan 72.21 329 *eP* **P 06 21 42.8 -1.6**
MOTC Monteria, Cord 72.22 103 *eP* **P 06 21 42.4 -1.9**
MTBS Maitube 72.26 329 *eP* **P 06 21 43.4 -1.0**
baz=329

MTBS	**Maitube**	72.26	329	*e*P		P		06 21 43.4	-1.0
FETA	**Feichten**	72.28	17	*i* pP		P		06 21 45.4	+0.9
	comp=Z,11nm,0.9s								
KNMB	**Chin-men Tao**	72.34	288		IAMs_20	IAMs_20		06 54 01.9	
	comp=Z,376nm,19.0s								
SENIN	**Lac Senin/Sane**	72.37	19		IAmb	IAmb		06 21 47.6	
	comp=Z,16nm,1.0s								
SGDS	**Sogindy**	72.42	331	*e*P		P		06 21 44.5	-0.9
	baz=330								
SGDS	**Sogindy**	72.42	331	*e*P		P		06 21 44.4	-0.9
LFF	**La Frestale**	72.48	24	*e*P		P		06 21 45.9	+0.4
LFF				pmax		pmax			
	comp=Z,35nm,0.8s								
PSZ	**Piszkesteto**	72.50	10	⇑P		P		06 21 45.7	0.0
PSZ	**Piszkesteto**	72.50	10	IAmb		IAmb		06 21 48.2	
	comp=Z,13nm,1.0s								
PSZ					IAMs_20	IAMs_20		06 54 01.5	
	comp=Z,330nm,20.0s								
KBA	**Koelnbreinsper**	72.59	15	*i* pP		P		06 21 46.9	+0.5
	comp=Z,16nm,0.8s								
FUORN	**Ofenpass-Fuorn**	72.60	17		IAMs_20	IAMs_20		06 56 02.5	
	comp=Z,426nm,19.0s								
TUE	**Stuetta**	72.60	18	IAmb		IAmb		06 21 50.6	
	comp=Z,16nm,0.9s								
USP	**Ospenovka**	72.63	331	P		P		06 21 46.8	+0.3
	SNR=5.5								
TKM2	**Tokmak 2**	72.67	330	P		P		06 21 46.3	-0.7
	SNR=6.6								
CAF	**Calviac**	72.77	24	*e*P		P		06 21 47.5	+0.2
CAF				pmax		pmax			
	comp=Z,17nm,1.1s								
SMLC	**San Martn de**	73.00	102	*e*P		P		06 21 48.1	-0.9
KBK	**Karagaybulak**	73.09	330	P		P		06 21 49.9	+0.5
	SNR=5.2								
PGAV	**Gavieira, Arco**	73.10	32	*e*P		P		06 21 50.6	+1.2
	comp=Z,60nm,1.5s								
PGAV	**Gavieira, Arco**	73.10	32	*e*LQ		LQ		06 40 37.9	
PGAV				*e*LR		LR		06 46 18.4	
	comp=Z,487nm,20.0s								
BURAR	**Bucovina Array**	73.20	7	⇑P		P		06 21 50.1	+0.2
BURAR	**Bucovina Array**	73.20	7	P		P		06 21 49.8	-0.2
SOKA	**Soboth**	73.20	14	*i* pP		pP		06 21 51.9	-1.9
	comp=Z,9.6nm,1.3s								
AAK	**Ala-Archa**	73.22	330	P		P		06 21 50.5	+0.3
AAK				pmax		pmax			
	comp=Z,10.0nm,0.9s								
AAK				MLR		MLR			
	comp=Z,300nm,20.0s								
AAK	**Ala-Archa**	73.22	330	P		P		06 21 50.5	+0.3
AAK				IAmb		IAmb		06 21 51.4	
	comp=Z,9.7nm,0.8s								
AAK	**Ala-Archa**	73.22	330		IAMs_20	IAMs_20		06 55 47.9	
	comp=Z,321nm,20.0s								
OBKA	**Obir**	73.31	14	*i* pP		P		06 21 50.7	+0.2
	comp=Z,9.3nm,0.8s								
EKS2	**Erkin-Say**	73.38	331	P		P		06 21 51.3	+0.3
	SNR=12								
PCAB	**Cabril**	73.41	32	*e*P		P		06 21 52.4	+1.3
	comp=Z,35nm,1.7s								
CD2	**Chengdu**	73.62	303	P		P		06 21 50.3	-2.2
CD2				sP		sP		06 21 58.0	0.0
CD2				PP		**PP**		**06 24 36.3**	**+0.1**
CD2				S		**S**		**06 31 24.5**	**+2.2**
CD2				SS		**SS**		**06 36 02.0**	**-2.4**
CD2				pmax		pmax			
	comp=Z,20nm,0.6s								
CD2				pmax		pmax			
	comp=Z,190nm,6.3s								
CD2				LR		LR			
	comp=Z,2μm,15.8s								
CD2				LR		LR			
	comp=Z,3μm,15.1s								
CD2				LR		LR			
	comp=Z,2μm,12.2s								
PBRG	**Braganca**	73.66	31	*e*P		P		06 21 53.7	+1.1
	comp=Z,28nm,1.4s								
ZARC	**Zaragoza, Cauc**	73.73	103	*e*P		P		06 21 53.3	0.0
KK31	**Karatay Array**	73.75	333	*i* P		P		06 21 52.0	-1.1
DZA	**Taraz**	73.76	333	*e*P		P		06 21 52.5	-0.7
	baz=332								
DZA	**Taraz**	73.76	333	*e*P		P		06 21 52.5	-0.7
OCAC	**Ocana**	73.86	101	*e*P		P		06 21 55.2	+0.9
PVRL	**Vila Real**	73.90	32	*e*P		P		06 21 55.4	+1.4
	comp=Z,50nm,1.5s								
AML	**Almayashu**	73.90	331	P		P		06 21 55.3	+0.8
	SNR=8.1								
KIS	**Kishinev**	73.99	4	⇓*e*P		P		06 21 53.8	-0.6
KIS	**Kishinev**	73.99	4	*e*PcP		**PcP**		**06 22 12.0**	**+2.4**
KIS				*e*LR		LR		06 54 19.0	
	comp=Z,80nm,20.0s								
KIS	**Kishinev**	73.99	4	*d i*P		P		06 21 53.8	-0.6
KIS				*e*				06 22 12.0	
PMOR	**Pomariorio Ree**	74.03	182	*e*T		T		07 43 02.5	
	comp=Z,171nm,0.2s								
MILM	**Milestii Mici**	74.07	4	⇑P		P		06 21 54.9	+0.1
MVO	**Moncorvo**	74.19	31	*e*P		P		06 21 56.8	+1.1
	comp=Z,45nm,0.9s								
MVO	**Moncorvo**	74.19	31	*e*LR		LR		06 47 05.4	
	comp=Z,472nm,20.0s								
PVIS	**Viseu**	74.37	32	*e*P		P		06 21 57.6	+0.8
	comp=Z,41nm,1.2s								
HELC	**Santa Helena**	74.51	104	*e*P		P		06 21 56.4	-1.9
CBOC	**Ciudad Bolivar**	74.55	105	*e*P		P		06 21 58.8	+0.5
SDV	**Santo Domingo**	74.67	99		IAMs_20	IAMs_20		06 54 55.7	
	comp=Z,352nm,20.0s								
COI	**Coimbra**	74.70	33	*e*P		P		06 22 00.2	+1.6
	comp=Z,52nm,1.1s								
PTBC	**PUERTO BERRIO,**	74.75	103	*e*P		P		06 21 57.6	-1.6
MTE	**Manteigas**	74.76	32	*e*P		P		06 22 00.0	+0.9
	comp=Z,49nm,1.1s								
MTE	**Manteigas**	74.76	32	*e*LQ		LQ		06 47 12.9	
MTE				*e*LR		LR		06 49 48.1	
	comp=Z,448nm,22.0s								
IUG	**Iuzhnay**	74.77	333	*e*P		P		06 21 58.5	-0.6
	comp=Z,14nm,1.2s,baz=333								
IUG	**Iuzhnay**	74.77	333	*e*P		P		06 21 58.5	-0.6
IUG				pmax		pmax			
	comp=Z,14nm,1.2s								
PLOR	**Plostina**	75.04	6	⇑P		P		06 22 01.0	+0.4
PSBE	**So Bento**	75.24	33	*e*P		P		06 22 02.7	+0.9
	comp=Z,29nm,1.5s								
PCBR	**Castelo Branco**	75.30	32	*e*P		P		06 22 02.9	+0.8
	comp=Z,24nm,2.1s								
BARC	**Barichara**	75.34	102	*e*P		P		06 22 03.3	+0.3
NORC	**Norcasia**	75.38	104	*e*P		P		06 22 02.2	-0.8
ARR	**Arges**	75.41	7	⇑P		P		06 22 02.8	+0.1
GUY2C	**Guyana, Caldas**	75.42	105	*e*P		P		06 22 02.8	-0.9
PMAFR	**Mafra**	75.62	34	*e*P		P		06 22 05.0	+1.0
	comp=Z,99nm,1.5s								
SPBC	**San Pablo de B**	75.70	103	*e*P		P		06 22 04.6	-0.2
PMRV	**Marv??o**	75.71	32	*e*P		P		06 22 03.9	-0.6
	comp=Z,20nm,1.7s								
PMRV	**Marv??o**	75.71	32	*e*LQ		LQ		06 47 37.2	
PMRV				*e*LR		LR		06 50 12.1	
	comp=Z,391nm,20.0s								
KSH	**Kashi**	75.76	328	P		P		06 22 07.5	+2.6
KSH				sP		pwP		06 22 13.5	+2.0
KSH				S		**S**		**06 31 49.5**	**+3.4**
KSH				pmax		pmax			
	comp=Z,11nm,1.1s								
KSH				pmax		pmax			
	comp=Z,160nm,6.9s								
KSH				LR		LR			
	comp=Z,500nm,11.2s								
KSH				LR		LR			
	comp=Z,730nm,13.1s								
KSH				LR		LR			
	comp=Z,620nm,14.3s								
MDVR	**Moldovita**	75.77	9	⇑P		P		06 22 05.1	+0.3
CFR	**Carcaliu**	75.78	5	⇑P		P		06 22 04.7	-0.1
GOF	**Gofitskoye**	75.80	354	⇑*e*P		P		06 22 05.1	+0.2
PMTG	**Montargil**	75.81	33	*e*P		P		06 22 05.4	+0.3
	comp=Z,27nm,1.1s								
LIS	**Lisbon**	75.88	34	*e*P		P		06 22 05.7	+0.3
LIS				AMS		AMS		06 52 21.0	
	comp=Z,497nm,15.6s								
LIS	**Lisbon**	75.88	34	*e*P		P		06 22 05.7	+0.3
RUSC	**La Rusia**	75.99	102	*e*P		P		06 22 04.8	-2.2
AFI	**Afiamalu**	75.99	206	LR		LR		06 48 39.2	
	comp=Z,416nm,20.7s,baz=94,slow=30								
YOTC	**Yotoco, Valle**	76.01	106	*e*P		P		06 22 06.8	+0.2
GYA	**Guiyang**	76.17	299	P		P		06 22 08.0	+0.5
GYA				S		**S**		**06 31 59.0**	**+8.0**
GYA				SS		**SS**		**06 36 43.8**	**+0.2**
GYA				pmax		pmax			
	comp=Z,16nm,0.8s								
GYA				pmax		pmax			
	comp=Z,250nm,3.8s								
GYA				LR		LR			
	comp=Z,480nm,9.0s								
GYA				LR		LR			
	comp=Z,610nm,12.4s								
GYA				LR		LR			
	comp=Z,730nm,13.1s								
HARR	**Harsova**	76.26	5	⇑P		P		06 22 07.5	0.0
ANN	**Anapa**	76.26	358	*e*P		P		06 22 06.3	-1.2
ANN				*e*S		**S**		**06 31 50.1**	**-1.1**
ANN				pmax		pmax			
	comp=Z,22nm,0.7s								
ROSC	**El Rosal**	76.28	104	P		P		06 22 09.5	+1.0
	comp=Z,5.2nm,0.6s,baz=324,slow=12,SNR=4.0								
ROSC				LR		LR		06 58 44.8	
	comp=Z,214nm,20.7s,baz=26,slow=38								
DIVS	**Divibare**	76.30	11		IAMs_20	IAMs_20		07 01 35.0	
	comp=Z,261nm,18.0s								
EVO	**Evora**	76.37	33	*e*P		P		06 22 09.0	+0.7
	comp=Z,26nm,1.3s								
ESDC	**Sonseca Array**	76.38	30	P		P		06 22 09.3	+0.9
	comp=Z,33nm,0.8s,baz=339,slow=5.7,SNR=165								
ESDC				LR		LR		06 57 55.4	
	comp=Z,361nm,18.5s,baz=315,slow=38								
PAB	**San Pablo**	76.41	30	P		P		06 22 09.7	+1.2
PAB				pmax		pmax			
	comp=Z,23nm,1.0s								
PAB				MLR		MLR			
	comp=Z,500nm,20.0s								
PAB	**San Pablo**	76.41	30	P		P		06 22 09.7	+1.2
TIAR	**Tiarei**	76.61	184	*e*T		T		07 46 16.5	
	comp=Z,19nm,0.2s								
ORTC	**Ortega, Tolima**	76.62	105	*e*P		P		06 22 09.2	-0.8
PNCL	**Nicolau / Gran**	76.62	34	*e*P		P		06 22 10.8	+1.2
	comp=Z,48nm,2.1s								
PPT	**Papeete**	76.63	184	LR		LR		06 48 43.1	
	comp=Z,497nm,18.5s,baz=344,slow=30								
PPT2	**Pape2**	76.65	184	*e*LR		LR		06 45 42.4	
	comp=Z,1μm,26.8s,baz=355								
PPT2	**Papeete2**	76.65	184	*e*T		T		07 46 18.8	
	comp=Z,8.3nm,0.3s								
TVO	**Taravao**	76.83	184	*e*T		T		07 46 32.2	
	comp=Z,4.5nm,0.3s								
PBEJ	**Beja**	76.89	33	*e*P		P		06 22 12.3	+1.1
	comp=Z,16nm,2.5s								
KIV	**Kislovodsk**	76.92	354	⇑P		P		06 22 11.9	+0.5
KIV	**Kislovodsk**	76.92	354	*e*P		P		06 22 11.4	0.0
KIV				pmax		pmax			
	comp=Z,97nm,1.0s								
KIV				MLR		MLR			
	comp=Z,631nm,18.0s								
KIV	**Kislovodsk**	76.92	354	P		P		06 22 11.8	+0.4
KIV				IAMs_20		IAMs_20		06 55 36.9	
	comp=Z,256nm,20.0s								
PRAC	**Prado**	76.96	105	*e*P		P		06 22 11.1	-0.8
PTEO	**Sao Teotonio**	77.09	34	*e*P		P		06 22 14.0	+1.7
	comp=Z,62nm,1.7s								
POPC	**Popayan, Colom**	77.09	107	*e*P		P		06 22 11.9	-1.0
KBZ	**Khabar**	77.13	354	P		P		06 22 13.2	+0.7
	comp=Z,24nm,0.9s,baz=341,slow=4.2,SNR=47								
KBZ				LR		LR		07 00 39.2	
	comp=Z,333nm,18.9s,baz=360,slow=39								
PCVE	**Castro Verde**	77.20	33	*e*P		P		06 22 13.9	+0.9
	comp=Z,22nm,1.0s								
AQU	**L'Aquila**	77.24	16		IAMs_20	IAMs_20		06 58 33.1	
	comp=Z,365nm,20.0s								
BBAC	**Balboa, Cauca**	77.26	108	*e*P		P		06 22 14.3	+0.5
MORF	**Marmelete**	77.33	34	*e*P		P		06 22 14.2	+0.4
MORF				*e*S		**S**		**06 32 05.4**	**+2.2**
MORF				AMS		AMS		06 57 38.6	
	comp=Z,370nm,16.5s								
MORF	**Marmelete**	77.33	34	*e*P		P		06 22 14.2	+0.4
MORF				*e*S		**S**		**06 32 05.4**	**+2.2**
MORF	**Marmelete**	77.33	34	*e*P		P		06 22 14.0	+0.2
	comp=Z,37nm,2.4s								
PCON	**Cinco Dias**	77.41	107	*e*P		P		06 22 15.6	+0.5
SOC	**Sochi**	77.42	356	*e*P		P		06 22 14.2	+0.1
SOC				*e*				06 25 09.4	
SOC				pmax		pmax			
	comp=Z,21nm,0.7s								
SOC				MLR		MLR			
	comp=Z,408nm,21.0s								
PFVI	**Vila Bisbo**	77.44	34	*e*P		P		06 22 15.3	+1.0
	comp=Z,54nm,1.4s								
PBDV	**Barranco-do-Ve**	77.60	33	*e*P		P		06 22 16.7	+1.5
	comp=Z,55nm,1.8s								
PDG	**Podgorica**	77.87	12	⇑P		P		06 22 16.3	-0.3
PDG	**Podgorica**	77.87	12	IAmb		IAmb		06 22 17.8	
	comp=Z,12nm,1.0s								
PDG					IAMs_20	IAMs_20		06 57 26.8	
	comp=Z,290nm,20.0s								
GARC	**Garzon, Huila**	77.98	106	*e*P		P		06 22 18.8	+0.9
ZEI	**Tsey**	78.01	353	*e*P		P		06 22 16.9	-0.7
ZEI				pmax		pmax			
	comp=Z,13nm,1.0s								
OTAV	**Otavalo**	78.23	110	*e*P		P		06 22 18.8	-0.7
OTAV	**Otavalo**	78.23	110	IAmb		IAmb		06 22 32.6	
	comp=Z,42nm,1.9s								
FLOC	**Florencia**	78.42	107	*e*P		P		06 22 20.5	+0.4
PUAC	**Puerto Asis, P**	78.87	108	*e*P		P		06 22 21.9	-0.6
TIR	**Tirane**	79.01	11		IAMs_20	IAMs_20		06 57 41.8	
	comp=Z,479nm,20.0s								
AKT	**Akhty**	79.02	350	*e*P		P		06 22 22.5	-0.6
AKT				*e*				06 22 33.0	
AKT				*e*				06 25 21.3	
AKT				pmax		pmax			
	comp=Z,34nm,1.3s								
CART	**Cartagena**	79.09	28		IAMs_20	IAMs_20		06 58 41.7	
	comp=Z,523nm,22.0s								
BATM	**Batumi**	79.31	355	⇑P		P		06 22 25.1	+0.5
BATM	**Batumi**	79.31	355	P		P		06 22 25.1	+0.5
VSL	**Villasalto**	79.40	20		IAMs_20	IAMs_20		06 57 54.5	
	comp=Z,355nm,19.0s								
DIKM	**Dikmen**	79.44	359	⇓P		P		06 22 25.3	+0.1
LSA	**Lhasa**	79.80	312	IAmb		IAmb		06 22 37.1	
	comp=Z,18nm,1.0s								
ALN	**Alexandroupoli**	79.94	7	IAmb		IAmb		06 22 29.8	
	comp=Z,15nm,1.0s								
ILGA	**Ilgaz**	80.03	1	IAmb		IAmb		06 22 38.1	
	comp=Z,16nm,0.9s								
LIT	**Litokhoron**	80.48	9	IAmb		IAmb		06 22 31.8	
	comp=Z,14nm,0.8s								
TIP	**Timpagrande**	80.81	14		IAMs_20	IAMs_20		07 00 36.4	
	comp=Z,288nm,21.0s								
KOPT	**Kop Dagi**	80.95	355	IAmb		IAmb		06 22 43.4	
	comp=Z,12nm,0.8s								
RAR	**Rarotonga**	81.05	193	LR		LR		06 50 27.5	
	comp=Z,266nm,21.8s,baz=334,slow=30								
QIZ	**Qiongzhong**	81.09	292	P		P		06 22 32.5	-2.0
QIZ				S		**S**		**06 32 42.3**	**-1.2**
QIZ				pmax		pmax			
	comp=Z,10.0nm,1.2s								
QIZ				LR		LR			
	comp=Z,450nm,14.3s								
QIZ				LR		LR			
	comp=Z,800nm,16.5s								
QIZ				LR		LR			
	comp=Z,630nm,13.3s								
QIZ	**Qiongzhong**	81.09	292		IAMs_20	IAMs_20		07 00 06.5	
	comp=Z,417nm,18.0s								
HNR	**Honiara**	81.14	234	LR		LR		06 59 38.2	
	comp=Z,94nm,18.1s,baz=358,slow=36								
GEYT	**Alibeck**	81.19	341	P		P		06 22 35.5	+0.7
	comp=Z,11nm,0.8s,baz=323,slow=4.4,SNR=16								
GEYT				LR		LR		07 05 10.4	
	comp=Z,531nm,18.1s,baz=35,slow=41								
GYA0B	**ALIBECK ARRAY**	81.19	341	IAmb		IAmb		06 22 37.0	
	comp=Z,14nm,0.8s								
BR131	**Keskin Array S**	81.36	1	IAmb		IAmb		06 22 37.7	
	comp=Z,17nm,0.9s								
BRTR	**Keskin Array B**	81.36	1	P		P		06 22 36.0	+0.2
	comp=Z,12nm,0.8s,baz=18,slow=2.8,SNR=34								
BRTR				LR		LR		06 59 25.0	
	comp=Z,231nm,21.5s,baz=342,slow=36								
BRTR	**Keskin Array B**	81.36	1	*i* P		P		06 22 36.2	+0.4
BRTR				pmax		pmax			
	comp=Z,12nm,0.8s								
CEL	**Celeste**	81.60	15		IAMs_20	IAMs_20		07 02 09.5	
	comp=Z,266nm,20.0s								
SLVN	**Son La**	81.85	298	P		P		06 22 38.9	+0.3
SLVN				IAmb		IAmb		06 22 40.4	
	comp=Z,12nm,0.9s								
SLVN					IAMs_20	IAMs_20		07 01 00.9	
	comp=Z,380nm,18.0s								
TBI	**Tubuai**	82.38	184	*e*LR		LR		06 48 21.3	
	comp=Z,910nm,30.0s,baz=353								
TBI	**Tubuai**	82.38	184	*e*T		T		07 53 32.0	
	comp=Z,54nm,0.3s								
DHRM	**DHARAMSHALA**	82.46	325	*ex*		P		06 22 41.6	-0.3
RKT	**Rikitea**	82.54	170	*e*LR		LR		06 48 28.7	
	comp=Z,842nm,30.2s								
KEST	**Kesra**	83.06	20	P		P		06 22 45.6	+0.9
	comp=Z,3.1nm,0.7s,baz=267,slow=1.2,SNR=4.6								
KEST				LR		LR		07 02 48.6	
	comp=Z,251nm,18.3s,baz=320,slow=38								
KEST	**Kesra**	83.06	20	IAmb		IAmb		06 23 11.5	
	comp=Z,7.7nm,0.9s								
TAPN	**Taplejung**	83.20	314	*e*P		P		06 22 46.0	+0.2
	comp=Z,76nm,0.9s								
ISP	**Isparta**	83.20	3		IAMs_20	IAMs_20		07 00 42.1	
	comp=Z,299nm,21.0s								
SHL	**Shillong**	83.22	310	*ex*		P		06 22 40.3	-5.5
SHL	**Shillong**	83.22	310	P		P		06 22 45.4	-0.4
SHL				pmax		pmax			
	comp=Z,23nm,1.0s								
SHL	**Shillong**	83.22	310	P		P		06 22 45.4	-0.4
SMLA	**Simla**	83.26	324	*ex*		P		06 22 43.6	-2.1
GUN	**Gumba**	83.36	316	*e*P		P		06 22 46.7	0.0
	comp=Z,61nm,0.9s								
DAV	**Davao City (W)**	83.44	273	⇓*i*P		P		06 22 46.6	-0.3
JIRN	**Jiri**	83.47	316	*e*P		P		06 22 47.4	+0.1
	comp=Z,136nm,0.9s								
KKN	**Kakani**	83.68	316	*e*P		P		06 22 48.2	0.0
	comp=Z,34nm,0.7s								
GKN	**Gorkha**	83.71	317	*e*P		P		06 22 48.2	-0.1
	comp=Z,40nm,0.8s								
ODAN	**Odare**	83.76	314	*e*P		P		06 22 48.4	-0.3
	comp=Z,36nm,0.9s								
PKI	**Pulchoki**	83.83	316	*e*P		P		06 22 48.8	-0.3
	comp=Z,29nm,0.9s								
DMN	**Daman**	83.91	316	*e*P		P		06 22 49.1	-0.3
	comp=Z,30nm,0.8s								
RAMN	**Ramite**	83.97	315	*e*P		P		06 22 49.1	-0.6
	comp=Z,29nm,0.7s								
PYUN	**Piuthan**	84.19	318	*e*P		P		06 22 50.6	-0.2
	comp=Z,98nm,0.9s								
KOLN	**Koldanda**	84.28	318	*e*P		P		06 22 51.2	-0.1
	comp=Z,43nm,0.9s								
SANT	**Santorini**	84.41	7		IAMs_20	IAMs_20		07 01 55.7	
	comp=Z,275nm,18.0s								
IDI	**Anoyia**	85.45	8		IAMs_20	IAMs_20		07 01 19.2	
	comp=Z,293nm,22.0s								
SAIH	**SAIHA**	85.53	308	*ex*		P		06 22 53.3	-4.2
LEF	**Lefka**	85.95	1	⇓P		P		06 22 59.7	+0.5
CSS	**Mathiatis**	86.11	1	IAmb		IAmb		06 23 04.9	
	comp=Z,13nm,0.8s								
CSS					IAMs_20	IAMs_20		07 06 40.6	
	comp=Z,250nm,20.0s								
UBPT	**Khong Chiam**	86.39	294	P		P		06 23 02.1	+0.5
UBPT				IAmb		IAmb		06 23 03.2	
	comp=Z,12nm,0.9s								
CMAR	**Chiang Mai Arr**	86.59	301	P		P		06 23 02.8	+0.1
	comp=Z,8.4nm,0.8s,baz=9.1,slow=5.2,SNR=36								
CMAR				LR		LR		07 06 01.5	
	comp=Z,384nm,18.8s,baz=66,slow=39								
DLV	**T Lat**	87.85	290		IAMs_20	IAMs_20		07 08 13.6	
	comp=Z,291nm,19.0s								
DZM	**Mont Dzumac**	90.14	224	*e*LR		LR		06 52 00.5	
	comp=Z,391nm,26.6s								
RPN	**Rapa Nui**	91.12	148	LR		LR		06 54 50.3	
	comp=Z,404nm,19.9s,baz=336,slow=29								
SAML	**Samuel**	93.70	101	P		P		06 23 35.5	-0.4
SAML				pmax		pmax			
	comp=Z,20nm,1.9s								
SAML	**Samuel**	93.70	101	P		P		06 23 35.5	-0.4
SAML				IAmb		IAmb		06 23 59.7	
	comp=Z,20nm,1.9s								
SAML					IAMs_20	IAMs_20		07 02 35.0	
	comp=Z,310nm,21.0s								
UOSS	**Minazif**	94.20	340		IAMs_20	IAMs_20		07 14 11.5	
	comp=Z,341nm,19.0s								
KSM	**Kuching**	95.98	283		IAMs_20	IAMs_20		07 13 21.4	
	comp=Z,244nm,18.0s								
LPAZ	**La Paz**	97.53	109	P		P		06 23 53.5	-0.5
	comp=Z,1.1nm,1.0s,baz=312,slow=4.5,SNR=4.6								
LPAZ				LR		LR		07 12 38.5	
	comp=Z,157nm,19.6s,baz=350,slow=38								
LPAZ	**La Paz**	97.53	109	IAmb		IAmb		06 24 14.0	
	comp=Z,7.5nm,1.6s								
ASAR	**Alice Springs**	105.42	250	Pdiff		**Pdif**		**06 24 33.2**	**+4.9**
	comp=Z,0.4nm,0.8s,baz=24,slow=5.1,SNR=2.8								
ASAR				PKiKP		**PKiKP**		**06 28 43.6**	**+1.7**
	comp=Z,1.2nm,1.0s,baz=38,slow=4.7,SNR=4.9								
VNDA	**Vanda**	140.34	196	PKhKP		PKPpre		06 29 38.6	
	comp=Z,1.3nm,1.0s,baz=8.6,slow=2.3,SNR=5.7								
LBTB	**Lobatse**	145.19	14	PKIKP		**PKPdf**		**06 29 56.7**	**0.0**
LBTB	**Lobatse**	145.19	14			**PKPdf**		**06 29 56.7**	**0.0**
QSPA	**South Pole Qui**	149.08	180			**PKPbc**		**06 30 06.0**	**+

JFY	**Yanaizu**	**1.37**	**300**	P		**Pn**	**06 44 40.3**	**-0.6**
JFY				S		**Sb**	**06 44 57.2**	**-1.9**
JAG	**Ashikaga**	**1.43**	**258**	P		**Pn**	**06 44 40.3**	**-1.4**
MJAR	**Matsushiro Arr**	**2.41**	**267**	Pn		**Pn**	**06 44 55.4**	**+0.3**
	2.7nm,0.3s,baz=85,slow=17,SNR=30							
MJAR				Lg		Lg	06 45 27.7	
	24nm,0.3s,baz=83,slow=30,SNR=6.9							
MAJO	**Matsushiro**	**2.41**	**267**			**Pn**	**06 44 55.3**	**+0.1**
MAT	**Matsushiro**	**2.41**	**267**	P		**Pn**	**06 44 55.6**	**+0.4**
MAT				S		**Sb**	**06 45 26.4**	**-2.5**
JHJ2	**Mitsune**	**3.78**	**198**	Pn		**Pn**	**06 45 15.7**	**+1.7**
JHJ	**Hachijo jima 2**	**3.78**	**198**	Pn		**Pn**	**06 45 15.5**	**+1.5**
	12nm,0.3s,baz=54,slow=19,SNR=1.8							
JHJ				Sn		**Sn**	**06 45 58.5**	**-0.2**
	40nm,0.3s,baz=7.3,slow=12,SNR=5.8							
ERM	**Erimo**	**5.50**	**15**	Pn		**Pn**	**06 45 37.8**	**+0.2**
ASAJ	**Asahikawa**	**7.46**	**8**	Pn		**Pn**	**06 46 04.3**	**-0.2**
	0.9nm,0.3s,baz=197,slow=17,SNR=2.3							
JCJ	**Chichijima**	**9.64**	**175**	Pn		**Pn**	**06 46 32.5**	**-2.0**
	3.7nm,0.3s,baz=0.0,slow=20,SNR=2.4							
USA0B	**Ussuriysk Arra**	**10.24**	**320**	Pn		**Pn**	**06 46 44.9**	**+2.3**
USRK	**Ussuriysk Ar.**	**10.24**	**320**	Pn		**Pn**	**06 46 44.1**	**+1.5**
	baz=123,slow=13,SNR=6.5							
KSRS	**Korea Array**	**10.63**	**278**	Pn		**Pn**	**06 46 49.0**	**+1.1**
	0.4nm,0.3s,baz=93,slow=15,SNR=2.3							
PETK	**Petropavlovsk-**	**20.04**	**30**	P		Pn	06 48 50.5	0.0
	1.8nm,0.7s,baz=221,slow=15,SNR=2.3							
MA2	**Magadan**	**23.69**	**12**	P		**P**	**06 49 26.7**	**-0.7**
	7.6nm,0.6s,baz=297,slow=4.9,SNR=4.7							
MA2	**Magadan**	**23.69**	**12**	P		**P**	**06 49 26.8**	**-0.7**
MA2				IAmb		IAmb	06 49 29.4	
	comp=Z,11nm,0.8s							
SEY	**Seymchan**	**27.13**	**11**	P		**P**	**06 49 58.9**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=205,slow=5.2,SNR=7.0							
SONM	**Songino Array**	**27.81**	**305**	P		**P**	**06 50 05.4**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=108,slow=9.3,SNR=7.0							
H11N2	**WAKE ISLAND Hy**	**28.14**	**120**	T		T	07 19 39.9	
	baz=313,slow=75,SNR=1167							
H11N1	**WAKE ISLAND Hy**	**28.15**	**120**	T		T	07 19 40.5	
	baz=313,slow=75,SNR=528							
H11N3	**WAKE ISLAND Hy**	**28.16**	**120**	T		T	07 19 41.3	
	baz=313,slow=75,SNR=652							
H11S1	**WAKE ISLAND Hy**	**28.84**	**122**	T		T	07 20 32.6	
	baz=314,slow=76,SNR=358							
H11S3	**WAKE ISLAND Hy**	**28.84**	**122**	T		T	07 20 31.0	
	baz=314,slow=76,SNR=620							
H11S2	**WAKE ISLAND Hy**	**28.86**	**122**	T		T	07 20 33.9	
	baz=314,slow=76,SNR=18							
ZALV	**Zalesovo Beam**	**41.99**	**313**	P		**P**	**06 52 06.5**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=97,slow=7.6,SNR=11							
ZALV				PcP		**PcP**	**06 54 01.8**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=77,slow=2.8,SNR=4.8							
KURK	**Kurchatov**	**45.98**	**308**	P		**P**	**06 52 39.7**	**+0.7**
KURK				IAmb		IAmb	06 52 44.9	
	comp=Z,10.0nm,0.8s							
ILAR	**Eielson Array**	**49.85**	**32**	P		**P**	**06 53 07.0**	**-1.8**
	comp=Z,1.2nm,0.9s,baz=273,slow=6.5,SNR=12							
INK	**Inuvik**	**54.74**	**27**	P		**P**	**06 53 44.2**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=278,slow=4.4,SNR=5.8							
INK	**Inuvik**	**54.74**	**27**	IAmb		IAmb	06 53 49.2	
	comp=Z,3.1nm,0.9s							
WR0	**Warramunga Arr**	**56.73**	**187**	P		**P**	**06 53 59.7**	**0.0**
WR0				IAmb		IAmb	06 54 05.3	
	comp=Z,5.6nm,0.7s							
WB2	**Warramunga Arr**	**56.73**	**188**	P		**P**	**06 53 59.9**	**+0.1**
WB2				IAmb		IAmb	06 54 05.6	
	comp=Z,3.9nm,0.8s							
WRA	**Warramunga Arr**	**56.73**	**188**	P		**P**	**06 53 59.7**	**0.0**
	comp=Z,2.4nm,0.6s,baz=36,slow=7.3,SNR=34							
WRA	**Warramunga Arr**	**56.73**	**188**	P		**P**	**06 53 60.0**	**+0.2**
ASAR	**Alice Springs**	**60.46**	**188**	P		**P**	**06 54 26.0**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=14,slow=7.0,SNR=11							
ASAR	**Alice Springs**	**60.46**	**188**	P		**P**	**06 54 26.2**	**+0.5**
YKA	**Yellowknife Ar**	**64.16**	**30**	P		**P**	**06 54 51.2**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=309,slow=5.7,SNR=4.5							
STKA	**Stephens Creek**	**68.25**	**180**	P		**P**	**06 55 16.4**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=338,slow=19,SNR=1.8							
STKA	**Stephens Creek**	**68.25**	**180**	IAmb		IAmb	06 55 23.2	
	comp=Z,0.7nm,0.8s							
FINES	**FINESS Array B**	**69.00**	**332**	P		**P**	**06 55 21.1**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=79,slow=9.9,SNR=6.2							
KBZ	**Khabaz**	**70.97**	**311**	P		**P**	**06 55 34.0**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=46,slow=6.8,SNR=3.7							
NB2	**NORSAR Subarra**	**74.40**	**337**	P		**P**	**06 55 53.0**	**-0.6**
	comp=Z,7.3nm,1.4s,baz=41,slow=6.2							
NOA	**NORSAR Array B**	**74.40**	**337**	P		**P**	**06 55 53.1**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=39,slow=5.8,SNR=3.7							
AKASG	**Malin Array Be**	**74.43**	**322**	P		**P**	**06 55 53.6**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=45,slow=5.9,SNR=6.1							
DLMT	**Dillon**	**74.69**	**45**	P		**P**	**06 55 56.6**	**+0.9**
DLMT				IAmb		IAmb	06 55 58.5	
	comp=Z,2.8nm,0.7s							
NVAR	**Mina Array Bea**	**75.32**	**53**	P		**P**	**06 56 00.8**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=284,slow=5.7,SNR=11							
PDAR	**Pinedale Array**	**78.01**	**45**	P		**P**	**06 56 14.8**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=289,slow=1.2,SNR=11							
GERES	**GERESS Array B**	**82.88**	**328**	P		**P**	**06 56 40.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=19,slow=4.2,SNR=2.3							
TXAR	**Lajitas Array**	**90.45**	**52**	P		**P**	**06 57 18.9**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=307,slow=2.7,SNR=7.2							
LPAZ	**La Paz**	**147.00**	**60**	PKPbc		**PKPbc**	**07 04 00.9**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=13,slow=2.3,SNR=15							

NNC ***27*** *06:50:15.7±0.3,45°.34N×80°.27E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=2.8km s-min=1.9km az=136.0*
SOME ***27*** *06:50:15.9,45°.27N×80°.25E,h5km*
ISC 27 06:50:13.2±0.9,45°39N±0'.03×80°33E±0'.03,h10km,n50,
σ1s56/75,12C-4D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KAPS	**Kapalarasan**	**0.69**	**262**	***e*P**	**Pn**	**06 50 28.3**		**-0.8**
	18nm,0.1s							
KAPS				*e*S	**Sb**	**06 50 37.0**		**0.0**
	75nm,0.5s							
KAPS	**Kapalarasan**	**0.69**	**262**	P	**Pn**	**06 50 28.3**		**-0.8**
	18nm,0.1s							
KAPS				S	**Sb**	**06 50 37.0**		**0.0**
	75nm,0.5s							
DJR	**Jarkent**	**1.12**	**200**	***e*P**	**Pn**	**06 50 35.3**		**+0.2**
	12nm,0.2s							
DJR				*e*S	**Sb**	**06 50 49.3**		**-0.1**
	38nm,0.3s							
DJR	**Jarkent**	**1.12**	**200**	P	**Pn**	**06 50 35.2**		**+0.2**
	15nm,0.5s							
DJR				S	**Sb**	**06 50 49.3**		**-0.1**
	51nm,0.3s							
TDK	**Taldyqorghan**	**1.41**	**255**	***e*P**	**Pg**	**06 50 41.4**		**+1.2**
	198nm,0.5s							
TDK				*e*S	**Sg**	**06 50 59.9**		**+1.3**
	251nm,0.4s							
TDK	**Taldyqorghan**	**1.41**	**255**	P	**Pg**	**06 50 41.4**		**+1.2**
	198nm,0.5s							
TDK				S	**Sg**	**06 50 59.9**		**+1.3**
	251nm,0.4s							
MAKZ	**Makanchi**	**1.83**	**38**	⇑Pn	**Pg**	**06 50 49.2**		**+0.9**
	2.6nm,0.2s							
MAKZ				⇑Lg	Lg	06 51 14.4		
	40nm,0.7s							
KTMS	**Ketmen**	**1.94**	**179**	***e*P**	**Pg**	**06 50 50.2**		**-0.2**
	19nm,0.3s							
KTMS				*e*S	**Sg**	**06 51 15.0**		**-0.6**
	78nm,0.4s							
KTMS	**Ketmen**	**1.94**	**179**	P	**Pg**	**06 50 50.2**		**-0.2**
	19nm,0.3s							
KTMS				S	**Sg**	**06 51 15.0**		**-0.6**
	78nm,0.4s							
MK31	**Makanchi Array**	**1.96**	**43**	⇓Pn	**Pg**	**06 50 50.8**		**-0.1**
	2.2nm,0.2s,baz=226,slow=17,SNR=179							
MK31				⇑Lg	Lg	06 51 17.8		
	15nm,0.2s,baz=223,slow=30,SNR=55							
ARXS	**Arharly**	**2.13**	**237**	***e*P**	**Pg**	**06 50 54.2**		**+0.2**
	61nm,0.2s							
ARXS				*e*S	**Sg**	**06 51 22.2**		**+0.5**
	72nm,0.3s							
ARXS	**Arharly**	**2.13**	**237**	Pg	**Pg**	**06 50 54.2**		**+0.2**
	61nm,0.2s							
ARXS				Lg	Lg	06 51 22.2		
	72nm,0.3s							
PDGK	**Podgornoye**	**2.14**	**197**	⇑Pn	**Pb**	**06 50 52.8**		**+0.7**
	19nm,1.0s							
PDGK				⇓Lg	Lg	06 51 22.3		
	114nm,1.0s							
SHLS	**Shalkode**	**2.31**	**196**	***e*P**	**Pb**	**06 50 56.0**		**+0.9**
	40nm,0.3s							
SHLS				*e*S	**Sb**	**06 51 24.6**		**+0.9**
	70nm,0.3s							
SHLS	**Shalkode**	**2.31**	**196**	Pg	**Pb**	**06 50 56.0**		**+0.9**
	40nm,0.3s							
SHLS				Lg	Lg	06 51 24.6		
	70nm,0.3s							
UZB	**Uzynbulak**	**2.42**	**203**	***e*P**	**Pg**	**06 50 59.4**		**-0.3**
	18nm,0.3s							
UZB				*e*S	**Sg**	**06 51 30.5**		**-0.7**
	44nm,0.3s							
UZB	**Uzynbulak**	**2.42**	**203**	Pg	**Pg**	**06 50 59.4**		**-0.3**
	18nm,0.3s							
UZB				Lg	Lg	06 51 30.5		
	44nm,0.3s							
KURS	**Kuram**	**2.44**	**220**	***e*P**	**Pg**	**06 51 00.1**		**+0.1**
	18nm,0.5s							
KURS				*e*S	**Sg**	**06 51 32.3**		**+0.6**
	55nm,0.3s							
KURS	**Kuram**	**2.44**	**220**	Pg	**Pg**	**06 51 00.2**		**+0.1**
	18nm,0.5s							
KURS				Lg	Lg	06 51 32.3		
	55nm,0.3s							
SATY	**Saty**	**2.70**	**211**	***e*P**	**Pg**	**06 51 04.1**		**-1.0**
	12nm,0.2s							
SATY				*e*S	**Sg**	**06 51 38.8**		**-1.3**
	94nm,0.2s							
SATY	**Saty**	**2.70**	**211**	Pg	**Pg**	**06 51 04.1**		**-1.0**
	12nm,0.2s							
SATY				Lg	Lg	06 51 38.8		
	94nm,0.2s							
CHKK	**Chushkaly**	**2.83**	**238**	***e*P**	**Pg**	**06 51 06.6**		**-0.8**
	4.4nm,0.2s							
CHKK				*e*S	**Sg**	**06 51 43.1**		**-1.0**
	46nm,0.2s							
CHKK	**Chushkaly**	**2.83**	**238**	Pg	**Pg**	**06 51 06.6**		**-0.8**
	4.4nm,0.2s							
CHKK				Lg	Lg	06 51 43.2		
	46nm,0.2s							
KTBS	**Karatobe**	**3.10**	**239**	***e*P**	**Pg**	**06 51 11.1**		**-1.5**
	6.6nm,0.5s							
KTBS				*e*S	**Sg**	**06 51 50.6**		**-2.0**
	41nm,0.5s							
KTBS	**Karatobe**	**3.10**	**239**	Pg	**Pg**	**06 51 11.0**		**-1.5**
	6.6nm,0.5s							
KTBS				Lg	Lg	06 51 50.6		
	41nm,0.5s							
KOTS	**Kotyrbulak**	**3.15**	**228**	***e*P**	**Pg**	**06 51 12.5**		**-1.1**
	20nm,0.4s							
KOTS				*e*S	**Sg**	**06 51 53.0**		**-1.5**
	92nm,0.3s							
KOTS	**Kotyrbulak**	**3.15**	**228**	Pg	**Pg**	**06 51 12.5**		**-1.1**
	20nm,0.4s							
KOTS				Lg	Lg	06 51 53.0		
	92nm,0.3s							
KUU	**Kurty**	**3.21**	**244**	***e*P**	**Pg**	**06 51 14.2**		**-0.5**
	8.6nm,0.4s							
KUU				*e*S	**Sg**	**06 51 56.3**		**0.0**
	28nm,0.4s							
KUU	**Kurty**	**3.21**	**244**	Pg	**Pg**	**06 51 14.2**		**-0.5**
	8.6nm,0.4s							
KUU				Lg	Lg	06 51 56.3		
	28nm,0.4s							
MDOK	**Medeo**	**3.24**	**228**	***e*P**	**Pg**	**06 51 14.2**		**-1.0**
	5.9nm,0.3s							
MDOK				*e*S	**Sg**	**06 51 56.0**		**-1.2**
	24nm,0.4s							
MDOK	**Medeo**	**3.24**	**228**	⇑Pg	**Pg**	**06 51 13.6**		**-1.7**
	3.5nm,0.4s							
MDOK				⇓Lg	Lg	06 51 56.2		
	24nm,0.7s							
MDOK	**Medeo**	**3.24**	**228**	Pg	**Pg**	**06 51 14.2**		**-1.0**
	5.9nm,0.3s							
MDOK				Lg	Lg	06 51 56.0		
	24nm,0.4s							
TNSS	**Tian-Shan**	**3.38**	**227**	***e*P**	**Pg**	**06 51 16.4**		**-1.5**
	4.8nm,0.5s							
TNSS				*e*S	**Sg**	**06 51 59.8**		**-1.9**
	54nm,0.5s							
TNSS	**Tian-Shan**	**3.38**	**227**	Pg	**Pg**	**06 51 16.4**		**-1.5**
	4.8nm,0.5s							
TNSS				Lg	Lg	06 51 59.8		
	54nm,0.5s							
IZV	**Izvestkoviy**	**3.56**	**230**	***e*P**	**Pg**	**06 51 20.0**		**-1.4**
	5.7nm,0.4s							
IZV				*e*S	**Sg**	**06 52 05.8**		**-1.6**
	21nm,0.3s							
IZV	**Izvestkoviy**	**3.56**	**230**	Pg	**Pg**	**06 51 20.0**		**-1.4**
	5.7nm,0.4s							
IZV				Lg	Lg	06 52 05.8		
	21nm,0.3s							
MTBS	**Maitube**	**3.59**	**233**	***e*P**	**Pg**	**06 51 19.7**		**-2.3**
	4.2nm,0.2s							
MTBS				*e*S	**Sg**	**06 52 05.7**		**-2.9**
	33nm,0.4s							
MTBS	**Maitube**	**3.59**	**233**	Pg	**Pg**	**06 51 19.7**		**-2.3**
	4.2nm,0.2s							
MTBS				Lg	Lg	06 52 05.7		
	33nm,0.4s							
ZSN	**Zaisan**	**3.76**	**55**	***e*P**	**Pg**	**06 51 22.4**		**-2.8**
	5.4nm,0.3s							
ZSN				*e*S	**Sg**	**06 52 10.4**		**-3.5**
	16nm,0.5s							
ZSN	**Zaisan**	**3.76**	**55**	Pg	**Pg**	**06 51 22.4**		**-2.8**
	5.4nm,0.3s							
ZSN				Lg	Lg	06 52 10.4		
	16nm,0.5s							
KST	**Kastek**	**3.91**	**235**	***e*P**	**Pg**	**06 51 26.3**		**-1.9**
	15nm,1.7s							
KST				⇑*i*S	**Sg**	**06 52 17.2**		**-1.6**
	16nm,0.7s							
KST	**Kastek**	**3.91**	**235**	Pg	**Pg**	**06 51 26.3**		**-1.9**
	15nm,1.7s							
KST				Lg	Lg	06 52 17.2		
	16nm,0.7s							
TKM2	**Tokmak 2**	**4.20**	**236**	⇑Pg	**Pg**	**06 51 31.5**		**-2.2**
	6.5nm,0.7s							
TKM2				⇑Lg	Lg	06 52 27.6		
	5.3nm,0.6s							
BTLS	**Baital**	**4.45**	**268**	***e*P**	**Pg**	**06 51 36.9**		**-1.6**
	3.2nm,0.3s							
BTLS				*e*S	**Sg**	**06 52 35.0**		**-1.1**
	6.2nm,0.4s							
BTLS	**Baital**	**4.45**	**268**	Pg	**Pg**	**06 51 36.9**		**-1.6**
	3.2nm,0.3s							
BTLS				Lg	Lg	06 52 35.0		
	6.2nm,0.4s							
AAK	**Ala-Archa**	**5.02**	**239**	⇓Lg	Lg	06 52 53.1		
	6.7nm,0.6s							
KURBB	**Kurchatov Arra**	**5.38**	**348**	⇑Pg	**Pg**	**06 51 54.5**		**-1.7**
	3.1nm,0.7s							
KURBB				⇑Lg	Lg	06 53 08.3		
	16nm,0.5s							
MRKS	**Merke**	**5.75**	**245**	***e*P**	**Pg**	**06 52 01.7**		**-1.7**
	3.5nm,0.2s							
MRKS				*e*S	**Sg**	**06 53 17.4**		**-0.5**
	3.9nm,0.5s							
MRKS	**Merke**	**5.75**	**245**	Pg	**Pg**	**06 52 01.7**		**-1.7**
	3.5nm,0.2s							
MRKS				Lg	Lg	06 53 17.4		
	3.9nm,0.5s							
KK31	**Karatay Array**	**7.41**	**256**	Pg	**Pg**	**06 52 30.5**		**-4.5**
	0.4nm,0.5s,baz=69,slow=15,SNR=4.6							
KK31				⇑Sn	**Sn**	**06 53 30.3**		**+4.9**
	1.2nm,0.6s,baz=9.0,slow=6.2,SNR=4.7							
KK31				⇑Lg	Lg	06 54 11.4		
	2.8nm,0.8s,baz=66,slow=29,SNR=3.6							

PGC ***27*** *06:53:30.8±1.4,66°.20N×141°.39W,h1km,ML3.4/5,ML3.2, 255km northwest of Dawson, Yt Northern Alaska*
AEIC ***27*** *06:53:31.2±0.7,66°.19N±0°.05×141°.5W±0°.1,h21km±8km, ML3.2/41,Error ellipse: s-maj=6.7km s-min=6.4km az=199.0*
NEIC ***27*** *06:53:31.1±0.7,66°.19N±0°.05×141°.6W±0°.1,h15km±6km, Error ellipse: s-maj=7.5km s-min=6.5km az=65.0*
ISC 27 06:53:27.9±1.4,66°17N±0'.03×141°40W±0'.04,
h12km±11km,n73,σ2s98/84,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
EGAK	**Eagle**	**1.41**	**176**		**Pg**	**06 53 55.6**		**+0.8**
EGAK					**Sg**	**06 54 15.4**		**+2.4**
BMAR	**Burnt Mountain**	**1.78**	**316**		**Pb**	**06 54 00.8**		**+0.3**
BM03	**Burnt Mountain**	**1.78**	**316**		**Pb**	**06 54 00.6**		**+0.1**
BM03					**Sg**	**06 54 23.8**		**-1.4**
K27K	**Chicken**	**2.17**	**188**		**Pb**	**06 54 06.6**		**-0.5**
K27K					**Sb**	**06 54 33.7**		**-0.2**
SCRK	**Sand Creek**	**2.46**	**208**		**Pb**	**06 54 10.5**		**-1.6**
SCRK					**Sb**	**06 54 42.9**		**+0.5**
IL31		**2.69**	**241**		**Pn**	**06 54 12.9**		**+2.1**
ILAR	**Eielson Array**	**2.69**	**241**		**Pn**	**06 54 12.8**		**+1.9**
POKR	**Poker Plat Res**	**2.72**	**250**		**Pb**	**06 54 13.5**		**-2.9**
DOT	**Dot Lake**	**2.78**	**205**	Pn	**Pb**	**06 54 15.2**		**-2.2**
DOT				Sg	**Sg**	**06 54 54.9**		**-2.1**
DOT	**Dot Lake**	**2.78**	**205**		**Pb**	**06 54 14.9**		**-2.5**
RIDG	**Independent Ri**	**2.85**	**213**		**Pn**	**06 54 15.7**		**+2.5**
HDA	**Harding Lake**	**2.93**	**235**		**Pn**	**06 54 16.4**		**+2.2**
COLA	**College**	**2.99**	**247**		**Pn**	**06 54 17.1**		**+2.1**
TCOL	**CIGO, UAF Yank**	**2.99**	**247**		**Pn**	**06 54 16.9**		**+1.9**
CCB	**Clear Creek Bu**	**3.09**	**243**		**Pn**	**06 54 18.3**		**+1.9**
MDM	**Murphy Dome**	**3.09**	**250**		**Pn**	**06 54 18.2**		**+1.8**
BC03		**3.12**	**183**		**Pn**	**06 54 19.8**		**+2.9**
WRH	**Wood River Hil**	**3.29**	**242**		**Pn**	**06 54 21.1**		**+2.0**
MENT	**Mentasta**	**3.40**	**198**		**Pn**	**06 54 23.0**		**+2.3**
PS06	**TAPS Pump Stn6**	**3.42**	**268**		**Pn**	**06 54 22.8**		**+1.9**
NEA2	**Nenana**	**3.58**	**247**		**Pn**	**06 54 24.8**		**+1.6**
COLD	**Coldfoot**	**3.66**	**291**		**Pn**	**06 54 25.9**		**+1.7**
PAX	**Paxson**	**3.66**	**211**	Pn	**Pn**	**06 54 28.0**		**+3.6**
PAX				Sn	**Sn**	**06 55 10.7**		**+3.2**
PAX	**Paxson**	**3.66**	**211**		**Pn**	**06 54 26.9**		**+2.5**
INK	**Inuvik**	**3.73**	**51**	Pn	**Pn**	**06 54 28.2**		**+3.0**
INK				Sn	**Sn**	**06 55 11.8**		**+2.8**
INK	**Inuvik**	**3.73**	**51**		**Pn**	**06 54 28.2**		**+3.0**
BVCY	**Beaver Creek**	**3.78**	**176**	Pn	**Pn**	**06 54 29.1**		**+3.2**
BVCY				Sg	**Sg**	**06 55 28.6**		**-0.6**
BVCY	**Beaver Creek**	**3.78**	**176**		**Pn**	**06 54 29.1**		**+3.2**
BWN	**Browne**	**3.95**	**243**	Pn	**Pn**	**06 54 29.5**		**+1.3**
TOLK	**Toolik Lake Re**	**4.01**	**312**		**Pn**	**06 54 30.8**		**+1.7**
MCK	**McKinley**	**4.03**	**236**		LR	06 55 35.4		
MCK	**McKinley**	**4.03**	**236**		**Pn**	**06 54 31.5**		**+2.1**
DHY	**Denali Highway**	**4.04**	**222**		**Pn**	**06 54 29.4**		**-0.2**
RND	**Reindeer**	**4.23**	**232**	Pn	**Pn**	**06 54 33.6**		**+1.5**
YUK2	**White River**	**4.41**	**177**	Pn	**Pn**	**06 54 38.0**		**+3.3**
YUK2				Sg	**Sg**	**06 55 49.2**		**-0.2**
YUK2	**White River**	**4.41**	**177**		**Pn**	**06 54 38.0**		**+3.3**
YUK3	**Moose Creek**	**4.43**	**174**	Pn	**Pn**	**06 54 38.2**		**+3.1**
YUK3				Sg	**Sg**	**06 55 49.3**		**-0.9**
YUK3	**Moose Creek**	**4.43**	**174**		**Pn**	**06 54 38.0**		**+2.9**
BPAW	**Bear Paw Mtn.**	**4.55**	**247**		**Pn**	**06 54 38.3**		**+1.8**
KTH	**Kantishna Hill**	**4.84**	**241**		**Sg**	**06 56 00.1**		**-2.9**
GLB	**Gilahina Butte**	**4.87**	**194**		**Pn**	**06 54 43.8**		**+2.9**
YUK4	**Talbot Arm**	**5.00**	**165**	Pn	**Pn**	**06 54 45.1**		**+2.3**
YUK4	**Talbot Arm**	**5.00**	**165**		**Pn**	**06 54 44.8**		**+2.0**
PTPK	**Patty Peak**	**5.03**	**186**	Pn	**Pn**	**06 54 47.5**		**+4.3**
PTPK				Sg	**Sg**	**06 56 08.6**		**-0.6**
PTPK	**Patty Peak**	**5.03**	**186**		**Pn**	**06 54 46.5**		**+3.3**
VRDI	**Verde Repeater**	**5.05**	**191**	Pn	**Pn**	**06 54 48.2**		**+4.7**
SCM	**Sheep Creek Mo**	**5.08**	**214**	Pn	**Pn**	**06 54 47.6**		**+3.8**
KLU	**Klutina**	**5.11**	**205**	Pn	**Pn**	**06 54 48.2**		**+4.0**
BALM	**Baldy**	**5.17**	**185**	Pn	**Pn**	**06 54 49.4**		**+4.2**
CTGM	**Chitina Glacie**	**5.23**	**180**	Pn	**Pn**	**06 54 50.0**		**+4.1**
CTGM	**Chitina Glacie**	**5.23**	**180**		**Pn**	**06 54 49.0**		**+3.1**
KIAG	**Kiagna River**	**5.29**	**185**	Pn	**Pn**	**06 54 50.6**		**+3.8**
KIAG	**Kiagna River**	**5.29**	**185**		**Pn**	**06 54 49.8**		**+3.0**
YUK5	**Granite Creek**	**5.30**	**161**	Pn	**Pn**	**06 54 50.5**		**+3.5**
YUK5	**Granite Creek**	**5.30**	**161**		**Pn**	**06 54 50.0**		**+3.1**
SML	**Sawmill**	**5.34**	**218**		**Pn**	**06 54 49.0**		**+1.7**
YUK6	**Outpost Mounta**	**5.42**	**164**	Sg	**Sg**	**06 56 19.6**		**-2.2**
GRNC	**Granite Creek**	**5.46**	**182**	Pn	**Pn**	**06 54 53.6**		**+4.4**
GRNC	**Granite Creek**	**5.46**	**182**		**Pn**	**06 54 51.9**		**+2.7**
HYT	**Haines Junctio**	**5.64**	**160**	Pn	**Pn**	**06 54 55.6**		**+4.0**
HYT				Sg	**Sg**	**06 56 26.2**		**-2.6**
HYT	**Haines Junctio**	**5.64**	**160**	Pn	**Pn**	**06 54 55.2**		**+3.6**
PPLA	**Purkeypile**	**5.70**	**240**	Pn	**Pn**	**06 54 55.0**		**+2.6**
YAH	**Yahtse**	**5.83**	**182**		**Pn**	**06 54 59.4**		**+5.1**
YUK7	**Dusty Glacier**	**5.85**	**164**	Pn	**Pn**	**06 54 58.3**		**+3.8**
YUK7				Sg	**Sg**	**06 56 33.7**		**-1.8**
YUK7	**Dusty Glacier**	**5.85**

PMG	**Port Moresby**	**19.36**	**110**	LR	LR	07 13 38.4	
	comp=Z,245nm,21.5s,baz=336,slow=45						
PSAD1	**Pilbara Seismi**	**20.40**	**205**	P	**P**	**07 03 42.4**	**-0.6**
PSAC2	**Pilbara Seismi**	**20.47**	**204**	P	**P**	**07 03 43.3**	**-0.4**
PSAC2				IAmb	IAmb	07 03 59.3	
	comp=Z,23nm,1.0s						
PSAB2	**Pilbara Seismi**	**20.48**	**204**	P	**P**	**07 03 42.3**	**-1.5**
PSAB2				IAmb	IAmb	07 03 43.6	
	comp=Z,17nm,0.8s						
PSAC1	**Pilbara Seismi**	**20.48**	**205**	P	**P**	**07 03 42.2**	**-1.6**
PSAA2	**Pilbara Seismi**	**20.49**	**204**	P	**P**	**07 03 43.2**	**-0.8**
PSAA2				IAmb	IAmb	07 03 43.7	
	comp=Z,18nm,0.9s						
PSAD2	**Pilbara Seismi**	**20.49**	**204**	P	**P**	**07 03 43.9**	**-0.1**
PSAD2				IAmb	IAmb	07 03 59.5	
	comp=Z,19nm,0.8s						
PSA00	**Pilbara Seismi**	**20.50**	**204**	P	**P**	**07 03 43.0**	**-1.0**
PSAA3	**Pilbara Seismi**	**20.50**	**204**	P	**P**	**07 03 43.7**	**-0.4**
PSAA3				IAmb	IAmb	07 03 43.8	
	comp=Z,14nm,0.8s						
PSAB1	**Pilbara Seismi**	**20.51**	**204**	P	**P**	**07 03 42.8**	**-1.3**
PSAB1				IAmb	IAmb	07 03 59.7	
	comp=Z,17nm,0.9s						
PSAA1	**Pilbara Seismi**	**20.51**	**204**	P	**P**	**07 03 43.2**	**-0.9**
PSAA1				IAmb	IAmb	07 03 43.9	
	comp=Z,14nm,0.8s						
PSAB3	**Pilbara Seismi**	**20.51**	**204**	P	**P**	**07 03 43.4**	**-0.8**
PSAB3				IAmb	IAmb	07 03 44.0	
	comp=Z,26nm,1.1s						
PSAC3	**Pilbara Seismi**	**20.55**	**204**	P	**P**	**07 03 43.7**	**-0.9**
PSAC3				IAmb	IAmb	07 03 44.4	
	comp=Z,18nm,0.9s						
AS31	**Alice Springs**	**21.23**	**167**	P	**P**	**07 03 52.0**	**+0.2**
ASAR	**Alice Springs**	**21.23**	**167**	P	**P**	**07 03 52.6**	**+0.7**
	comp=Z,344nm,0.9s,baz=351,slow=12,SNR=212						
ASAR				S	**S**	**07 07 43.4**	**-1.8**
	comp=Z,1.9nm,0.8s,baz=350,slow=27,SNR=5.3						
ASAR				PcP	**PcP**	**07 07 56.8**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=354,slow=1.3,SNR=5.7						
ASAR				LR	LR	07 12 21.6	
	comp=Z,382nm,19.0s,baz=345,slow=38						
ASAR	**Alice Springs**	**21.23**	**167**	P	**P**	**07 03 50.8**	**-1.1**
KRVT	**Keravat (AS076**	**23.23**	**94**	LR	LR	07 13 25.4	
	comp=Z,418nm,20.0s,baz=281,slow=37						
CTAO	**Charters Tower**	**24.13**	**136**	P	**P**	**07 04 20.9**	**-0.5**
MYKOM	**Kota Tinggi**	**25.37**	**280**	P	**P**	**07 04 33.1**	**+0.3**
FORT	**Forrest**	**27.74**	**181**	P	**P**	**07 04 51.5**	**-2.4**
FORT				IAmb	IAmb	07 04 56.6	
	comp=Z,9.9nm,0.8s						
BBOO	**Buckleboo**	**30.52**	**168**	P	**P**	**07 05 17.9**	**-0.8**
STKA	**Stephens Creek**	**31.24**	**159**	P	**P**	**07 05 25.0**	**0.0**
	comp=Z,0.9nm,0.6s,baz=316,slow=13,SNR=2.9						
STKA				LR	LR	07 18 42.5	
	comp=Z,280nm,18.7s,baz=320,slow=38						
CMAR	**Chiang Mai Arr**	**36.26**	**307**	LR	LR	07 21 46.9	
	comp=Z,119nm,21.4s,baz=174,slow=38						
KSRS	**Korea Array**	**40.16**	**359**	LR	LR	07 22 12.8	
	comp=Z,111nm,20.8s,baz=198,slow=35						
MJAR	**Matsushiro Arr**	**40.21**	**12**	LR	LR	07 21 23.4	
	comp=Z,141nm,21.4s,baz=200,slow=33						
LZH	**Lanzhou**	**45.25**	**331**	*eP*	**P**	**07 07 22.3**	**-0.5**
LZH				pP	sP	07 07 40.0	-1.9
LZH				PP	**PP**	**07 09 09.0**	**-0.5**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				pmax	pmax		
	comp=Z,94nm,5.4s						
LZH				LR	LR		
	comp=N,200nm,13.6s						
LZH				LR	LR		
	comp=E,190nm,15.2s						
LZH				LR	LR		
	comp=Z,240nm,16.4s						
HHC	**Hu-ho-hao-te**	**46.30**	**342**	*eP*	**P**	**07 07 30.5**	**-0.5**
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,78nm,6.6s						
USRK	**Ussuriysk Ar.**	**46.98**	**3**	LR	LR	07 27 36.7	
	comp=Z,78nm,20.1s,baz=188,slow=36						
ASAJ	**Asahikawa**	**48.42**	**13**	LR	LR	07 28 14.2	
	comp=Z,102nm,20.8s,baz=150,slow=36						
SONM	**Songino Array**	**54.20**	**342**	P	**P**	**07 08 32.0**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=143,slow=7.9,SNR=5.7						
SONM				LR	LR	07 32 15.3	
	comp=Z,85nm,19.9s,baz=186,slow=37						
WMQ	**Urumqi**	**59.33**	**326**	*eP*	**P**	**07 09 08.8**	**+1.7**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,68nm,5.3s						
WMQ				LR	LR		
	comp=N,160nm,22.1s						
WMQ				LR	LR		
	comp=E,370nm,18.5s						
WMQ				LR	LR		
	comp=Z,27nm,27.1s						
MKAR	**Makanchi Array**	**64.17**	**326**	P	**P**	**07 09 38.8**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=110,slow=6.6,SNR=4.1						
SEY	**Seymchan**	**68.04**	**11**	P	**P**	**07 10 04.0**	**0.0**
	comp=Z,2.5nm,0.7s,baz=142,slow=13,SNR=2.2						
RAR	**Rarotonga**	**71.65**	**111**	LR	LR	07 40 13.3	
	comp=Z,62nm,20.9s,baz=212,slow=34						
VNDA	**Vanda**	**76.63**	**173**	P	**P**	**07 10 55.2**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=319,slow=6.3,SNR=10						
ILAR	**Eielson Array**	**90.17**	**25**	P	**P**	**07 12 06.6**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=254,slow=5.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**126.75**	**284**	PKP	**PKiKP**	**07 18 10.0**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=85,slow=2.7,SNR=3.7						
PLCA	**Paso Flores**	**133.11**	**160**	PKP	**PKiKP**	**07 18 23.4**	**+1.6**
	comp=Z,3.0nm,1.1s,baz=218,slow=5.7,SNR=3.7						
CPUP	**Villa Florida**	**150.34**	**169**	PKPbc	**PKiKP**	**07 18 57.4**	**-0.1**
	comp=Z,6.4nm,1.0s,baz=170,slow=19,SNR=4.0						
LPAZ	**La Paz**	**154.63**	**139**	PKPbc	**PKiKP**	**07 19 10.2**	**+2.9**
	comp=Z,0.7nm,0.6s,baz=213,slow=14,SNR=6.3						

*MEX **27** 07:04:03.8±0.4, 14.6°N×92.5°W, h84km±10km, MD3.6*
*GCG **27** 07:04:06.2±0.7, 14.6°N×92.5°W, h35km±999km, MD3.7*

ISC 27 07:04:04.7±4.8, 14.7°N±0.3×92.7°W±0.3, h62km, n4, σ0s62/8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.44**	**66**	*eP*	**Pn**	**07 04 15.8**	**-0.3**
THIG				*i* S	**Sn**	**07 04 25.1**	**+0.5**
FUG	**Fuego 3**	**1.80**	**99**	*eP*	**Pn**	**07 04 33.5**	**-0.1**
FUG				*eS*	**Sn**	**07 04 54.8**	**-0.8**
PCG	**Pacaya**	**2.04**	**99**	*eP*	**Pn**	**07 04 37.4**	**+0.5**
PCG				*eS*	**Sn**	**07 05 02.0**	**+0.6**
IXG	**Ixpaco**	**2.24**	**104**	*eP*	**Pn**	**07 04 39.7**	**+0.1**
IXG				*eS*	**Sn**	**07 05 05.8**	**-0.5**

NNC 27 07:22:03.2±0.3, 50.03°N×78.53°E, h0km, mb3.8, mpv3.5, 15C-13D, Error ellipse: s-maj=5.6km s-min=1.6km az=87.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.56**	**359**	⇑P	Pg	07 22 14.2	+0.3
KUR07				⇓S	Sb	07 22 23.0	-1.4
KUR06	**Kurchatov Arra**	**0.58**	**360**	⇑P	Pg	07 22 14.4	+0.2
KUR06				⇑S	Sg	07 22 23.1	+1.4
KUR14	**Kurchatov Arra**	**0.59**	**4**	⇓P	Pg	07 22 14.3	-0.3
KUR14				⇑S	Sg	07 22 23.1	+0.9
KUR15	**Kurchatov Arra**	**0.59**	**2**	⇑P	Pg	07 22 14.5	-0.1
KUR15				⇑S	Sg	07 22 23.2	+1.0
KURBB	**Kurchatov Arra**	**0.60**	**0**	⇓P	Pg	07 22 14.5	-0.1
	32nm,0.4s						
KURBB				⇑S	Sb	07 22 24.2	-1.3
	73nm,0.5s						
KUR16	**Kurchatov Arra**	**0.60**	**358**	⇓P	Pg	07 22 14.6	-0.1
KUR16				⇓S	Sg	07 22 23.4	+0.9
KUR17	**Kurchatov Arra**	**0.61**	**357**	⇓P	Pg	07 22 15.1	+0.3
KUR17				⇓S	Sg	07 22 23.8	+1.1
KUR05	**Kurchatov Arra**	**0.62**	**1**	⇑P	Pg	07 22 15.1	+0.1
KUR05				⇓S	Sg	07 22 23.9	+0.9
KUR04	**Kurchatov Arra**	**0.64**	**1**	⇑P	Pg	07 22 15.3	-0.1
KUR04				⇑S	Sg	07 22 24.2	+0.6
BRZS	**Berezniki**	**3.77**	**272**	Pg	Pg	07 23 14.9	-0.6
MAKZ	**Makanchi**	**3.96**	**143**	⇑Pn	Pn	07 23 06.0	+0.8
	5.0nm,0.8s						
MAKZ				⇓Pg	Pb	07 23 15.0	+1.2
	6.8nm,0.6s						
MAKZ				⇑Lg	Lg	07 24 08.7	
	14nm,0.6s						
MK31	**Makanchi Array**	**4.09**	**141**	⇑Pn	Pn	07 23 06.9	-0.2
	0.2nm,0.2s,baz=325,slow=10,SNR=29						
MK31				⇑Pg	Pb	07 23 16.2	+0.1
	1.3nm,0.4s,baz=321,slow=14,SNR=7.2						
MK31				⇓Lg	Lg	07 24 13.3	
	14nm,0.6s,baz=329,slow=30,SNR=16						
ZSN	**Zaisan**	**4.92**	**119**	Pg	Pb	07 23 28.8	-1.5
ARXS	**Arharly**	**5.84**	**185**	Pg	Pb	07 23 48.6	+2.7
	2.6nm,0.4s						
ARXS				Lg	Lg	07 25 05.9	
	12nm,0.7s						
BTLS	**Baital**	**5.84**	**213**	Pg	Pb	07 23 48.6	+2.8
	2.0nm,0.3s						
BTLS				Lg	Lg	07 25 05.7	
	4.0nm,0.9s						
BVA0	**Borovoye Array**	**5.90**	**304**	⇓Sn	Sn	07 24 38.7	-1.4
	1.7nm,0.6s,baz=121,slow=14,SNR=4.1						
BVA0				⇑Lg	Lg	07 25 09.0	
	1.1nm,0.5s,baz=105,slow=15,SNR=3.5						
CHKK	**Chushkaly**	**6.26**	**190**	Pg	Pb	07 23 57.6	+4.5
	1.3nm,0.2s						
CHKK				Lg	Lg	07 25 21.4	
	9.2nm,0.9s						
KUU	**Kurty**	**6.32**	**195**	Pg	Pb	07 23 58.8	+4.8
	1.1nm,0.2s						
KUU				Lg	Lg	07 25 23.2	
	12nm,0.6s						
KTBS	**Karatobe**	**6.44**	**192**	Pg	Pg	07 24 02.0	-4.6
	1.3nm,0.4s						
KTBS				Lg	Lg	07 25 28.9	
	28nm,0.7s						
KURS	**Kuram**	**6.55**	**182**	Pg	Pg	07 24 03.4	-5.2
	2.5nm,0.5s						
KURS				Lg	Lg	07 25 31.1	
	9.9nm,0.5s						
PDGK	**Podgornoye**	**6.73**	**174**	Pg	Pg	07 24 07.7	-4.5
	0.8nm,0.5s						
PDGK				Lg	Lg	07 25 38.6	
	4.4nm,0.7s						
PDGK	**Podgornoye**	**6.73**	**174**	⇓Lg	Lg	07 25 36.9	
	10nm,0.8s						
UZB	**Uzynbulak**	**6.89**	**177**	Pg	Pg	07 24 09.9	-5.3
	2.4nm,0.6s						
UZB				Lg	Lg	07 25 42.1	
	5.6nm,0.6s						
TNSS	**Tian-Shan**	**7.08**	**189**	Pg	Pg	07 24 14.6	-4.2
	1.9nm,0.3s						
TNSS				Lg	Lg	07 25 50.3	
	5.7nm,0.6s						
SGDS	**Sogindy**	**7.10**	**204**	Pg	Pg	07 24 15.2	-4.0
	2.5nm,0.6s						
SGDS				Lg	Lg	07 25 51.7	
	2.7nm,0.5s						
IZV	**Izvestkoviy**	**7.12**	**191**	Pg	Pg	07 24 14.7	-4.8
	1.8nm,0.2s						
IZV				Lg	Lg	07 25 50.8	
	11nm,0.4s						
KST	**Kastek**	**7.21**	**195**	Pg	Pb	07 24 15.1	+5.8
	2.2nm,0.4s						
KST				Lg	Lg	07 25 51.3	
	6.4nm,0.8s						
TKM2	**Tokmak 2**	**7.39**	**197**	⇑Lg	Lg	07 25 56.6	
	5.5nm,0.7s						
MRKS	**Merke**	**8.15**	**209**	Pg	Pg	07 24 32.9	-6.4
	1.3nm,0.2s						
MRKS				Lg	Lg	07 26 21.4	
	2.7nm,0.3s						

*IDC **27** 07:26:41.5±3.3, 53.64°N×87.92°E, h0km, mb1 3.2/2, mb1mx3.0/50, mbtmp3.2/2, ML2.4/2, Error ellipse: s-maj=28.6km s-min=17.5km az=55.0*
*NNC **27** 07:26:42.9±2.0, 53.58°N×87.79°E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=17.3km s-min=10.3km az=49.0, Suspected Mining explosion.*

ISC 27 07:26:42.4±3.4, 53.7°N±0.1×87.8°E±0.2, h0km, n7, σ0s68/9, 5C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**280**	*i*		07 38 30.0	
	baz=94,slow=322,SNR=3.0						
ZAA0	**Zalesovo Array**	**1.78**	**280**	⇓P	**Pn**	**07 27 14.5**	**+0.2**
	1.2nm,0.8s						
ZAA0				⇓S	**Sg**	**07 27 39.6**	**+0.2**
	5.2nm,0.8s						
ZALV	**Zalesovo Beam**	**1.78**	**280**	Pg	**Pb**	**07 27 15.2**	**-0.6**
	1.7nm,0.3s,baz=95,slow=14,SNR=26						
ZALV				Lg	Lg	07 27 40.2	
	4.3nm,0.3s,baz=100,slow=27,SNR=20						
KURBB	**Kurchatov Arra**	**6.46**	**245**	Pn	**Pn**	**07 28 19.8**	**+1.1**
	0.1nm,0.3s,baz=63,slow=14,SNR=5.0						
KURBB				Lg	Lg	07 30 08.3	
	0.0nm,0.3s,baz=63,slow=32,SNR=14						
KURBB	**Kurchatov Arra**	**6.46**	**245**	⇑Pn	**Pn**	**07 28 19.3**	**+0.7**
	1.7nm,0.6s						
KURBB				⇓Sn	**Sn**	**07 29 32.8**	**-0.2**
	4.5nm,0.7s						
KURBB				⇑Lg	Lg	07 30 06.1	
	12nm,0.8s						
MK31	**Makanchi Array**	**7.74**	**209**	⇑Pn	**Pn**	**07 28 36.7**	**+0.5**
	1.0nm,0.7s,baz=0.0,slow=0.1,SNR=5.1						
MK31				⇑Sn	**Sn**	**07 30 03.9**	**-0.6**
	0.1nm,0.2s,baz=31,slow=12,SNR=4.0						
MK31				⇑Lg	Lg	07 30 45.8	
	7.3nm,1.2s,baz=37,slow=33,SNR=4.2						
MKAR	**Makanchi Array**	**7.74**	**209**	Pn	**Pn**	**07 28 36.3**	**+0.1**
	0.0nm,0.3s,baz=30,slow=9.8,SNR=3.5						
MKAR				Lg	Lg	07 30 44.5	
	0.1nm,0.3s,baz=24,slow=32,SNR=5.1						

IDC 27 07:36:18.0±2.0, 19.58S×177.37W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.8/44, mbtmp4.0/5, MS3.3/2, Ms1 3.3/2, ms1mx2.8/33, Error ellipse: s-maj=73.6km s-min=31.7km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**25.95**	**199**	LR	LR	07 52 10.1	
	comp=Z,93nm,18.1s,baz=280,slow=37						
STKA	**Stephens Creek**	**38.73**	**243**	P	P	07 43 45.0	+1.0
	1.6nm,1.0s,baz=104,slow=17,SNR=2.4						
ASAR	**Alice Springs**	**45.31**	**256**	P	P	07 44 37.6	-0.4
	3.5nm,0.8s,baz=96,slow=7.6,SNR=41						
WRA	**Warramunga Arr**	**45.32**	**261**	P	P	07 44 37.5	-0.6
	1.8nm,0.6s,baz=98,slow=7.8,SNR=18						
MJAR	**Matsushiro Arr**	**69.83**	**323**	P	P	07 47 30.6	+0.1
	1.5nm,0.5s,baz=145,slow=5.2,SNR=4.3						
JNU	**Nakatsue**	**72.02**	**316**	LR	LR	08 11 49.5	
	comp=Z,14nm,21.9s,baz=342,slow=30						
TXAR	**Lajitas Array**	**86.06**	**57**	P	P	07 49 00.9	-0.2
	0.2nm,0.9s,baz=243,slow=8.0,SNR=2.4						

*DDA **27** 07:44:10.9, 39.13°N×37.25°E, h8km±6km, MW3.0*
*ISK **27** 07:44:11.8, 39.04°N×37.38°E, h5km, ML2.0/5, Suspected Mining explosion.*

ISC 27 07:44:13.2±0.8, 39.05°N±0.03×37.35°E±0.03, h0km, n13, σ1s62/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUKAN	**kangal_SIVAS**	**0.28**	**18**	*i* P	**Pg**	**07 44 16.6**	**-2.1**
CUKAN				*i* S	**Sb**	**07 44 32.2**	**+5.5**
CUGUR	**Gurin_SVAS**	**0.33**	**191**	*i* P	**Pg**	**07 44 19.4**	**-0.2**
CUGUR				*i* S	**Sg**	**07 44 25.7**	**+1.9**
CUGUR				IAML		07 44 27.0	
	comp=N,470nm,0.3s						
CUGUR				IAML		07 44 29.0	
	comp=E,842nm,0.4s						
HEKM	**Malatya_Hekimh**	**0.50**	**109**	*i* P	**Pg**	**07 44 21.2**	**-1.7**
HEKM				*i* S	**Sb**	**07 44 32.4**	**-0.6**
HEKM				IAML		07 44 36.0	
	comp=N,87nm,0.5s						
HEKM				IAML		07 44 43.0	
	comp=E,99nm,0.8s						
SVSK	**Karacayir**	**0.91**	**343**	PG	**Pb**	**07 44 30.9**	**-1.0**
KEMA	**Kemaliye**	**0.92**	**76**	*i* P	**Pg**	**07 44 29.6**	**-1.2**
KEMA				*i* S	**Sg**	**07 44 43.4**	**+0.8**
KEMA				IAML		07 44 51.0	
	comp=N,41nm,0.4s						
SARI	**SarD1z-Kayseri**	**0.97**	**229**	PG	**Pg**	**07 44 30.9**	**-0.9**
SARI				SG	**Sb**	**07 44 46.5**	**0.0**
MALT	**Malatya**	**1.12**	**131**	PN	**Pg**	**07 44 33.8**	**-0.8**
BNN	**Bunyan**	**1.19**	**261**	PN	**Pb**	**07 44 36.1**	**-0.7**
BNN				SN	**Sn**	**07 44 53.9**	**-0.3**
SUSE	**Susehri**	**1.33**	**29**	*i* P	**Pn**	**07 44 39.7**	**+0.4**
SUSE				*i* S	**Sn**	**07 44 58.4**	**+0.5**
TOKT	**Tokat**	**1.42**	**334**	PN	**Pb**	**07 44 40.1**	**-0.5**
YOZ	**Yozgat**	**1.68**	**291**	PN	**Pn**	**07 44 43.9**	**-0.2**
YOZ				SN	**Sg**	**07 45 07.2**	**-0.1**
KOZT	**Kozan**	**1.97**	**218**	PN	**Pn**	**07 44 47.9**	**0.0**
CMRD	**Camardi-Nigde**	**2.31**	**234**	PN	**Pn**	**07 44 53.2**	**+0.5**

IDC 27 08:00:33.7±3.7, 52.42N×35.44E, h0km, mb1 3.7/2, mb1mx3.1/51, mbtmp3.7/2, ML3.0/3, Error ellipse: s-maj=39.6km s-min=14.6km az=117.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OBN	**Obninsk**	**2.78**	**13**	Lg	Lg	08 02 00.9	
	1.6nm,0.3s,baz=5.6,slow=23,SNR=20						
AKASG	**Malin Array Be**	**4.25**	**249**	Pn	Pn	08 01 37.5	-2.2
	1.4nm,0.3s,baz=64,slow=15,SNR=2.1						
AKASG				Sn	Sn	08 02 29.5	-0.3
	2.9nm,0.3s,baz=60,slow=20,SNR=5.9						
AKASG				Lg	Lg	08 02 44.4	
	3.4nm,0.3s,baz=69,slow=29,SNR=4.5						
FINES	**FINESS Array B**	**10.38**	**334**	Pn	Pn	08 03 00.2	-3.5
	0.1nm,0.3s,baz=147,slow=13,SNR=1.9						
FINES				Sn	Sn	08 04 49.5	-11
	0.2nm,0.3s,baz=153,slow=24,SNR=1.4						
I26DE	**FREYUNG INFRAS**	**14.23**	**264**	*i*		09 29 40.0	
	baz=67,slow=328,SNR=2.6						
ARCES	**ARCESS Array B**	**17.79**	**349**	P	Pn	08 04 41.0	-1.4
	0.2nm,0.3s,baz=156,slow=11,SNR=2.4						

IDC 27 08:01:01.4±2.4, 6.58S×129.27E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.2/43, mbtmp3.2/3, ML3.4/2, Error ellipse: s-maj=153.9km s-min=33.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.17**	**160**	Pn	Pn	08 04 22.9	-0.6
	0.2nm,0.3s,baz=342,slow=12,SNR=15						
WRA				Sn	Sn	08 06 49.6	-12
	0.4nm,0.3s,baz=342,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**17.57**	**166**	P	Pn	08 05 08.3	+0.5
	0.1nm,0.3s,baz=346,slow=8.4,SNR=6.3						
ASAR				S	Sn	08 08 14.2	-10
	0.1nm,0.3s,baz=353,slow=29,SNR=2.2						
MKAR	**Makanchi Array**	**67.48**	**327**	P	P	08 11 59.2	0.0
	0.3nm,0.7s,baz=142,slow=7.3,SNR=2.8						

*IDC **27** 08:01:43.8±4.1, 31.56N×72.20E, h0km, mb3.6/3, mb1 3.6/6, mb1mx3.4/64, mbtmp3.6/6, ML3.4/3, Error ellipse: s-maj=109.1km s-min=27.5km az=126.0*

ISC 27 08:01:49.5±2.4, 31.7°N±0.2×72.2°E±0.4, h35km, n6, σ1s22/7, mb3.8/3, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**11.08**	**9**	Pn	**Pn**	**08 04 27.1**	**+1.5**
	0.9nm,0.3s,baz=198,slow=7.9,SNR=3.8						
AAK				Sn	**Sn**	**08 06 26.8**	**-1.6**
	0.4nm,0.3s,baz=219,slow=13,SNR=1.6						
MKAR	**Makanchi Array**	**16.96**	**24**	Pn	**Pn**	**08 05 44.3**	**+0.3**
	0.1nm,0.3s,baz=196,slow=13,SNR=3.6						
KURBB	**Kurchatov Arra**	**19.49**	**12**	P	**P**	**08 06 13.5**	**+0.1**
	0.1nm,0.3s,baz=202,slow=10,SNR=5.3						
BVAR	**Borovoye Array**	**21.37**	**357**	P	**P**	**08 06 34.3**	**+0.6**
	0.8nm,0.5s,baz=161,slow=9.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**24.02**	**18**	P	**P**	**08 07 00.2**	**-0.7**
	1.3nm,0.4s,baz=208,slow=8.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**66.74**	**271**	P	**P**	**08 12 37.1**	**-0.5**
	0.4nm,0.5s,baz=52,slow=6.0,SNR=4.9						

IDC 27 08:01:55.4±2.6, 54.14N×86.27E, h0km, mb1 2.8/2, mb1mx2.7/60, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=19.4km s-min=12.6km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.88**	**258**	*i*		08 07 20.3	
	baz=75,slow=334,SNR=6.8						
ZALV	**Zalesovo Beam**	**0.88**	**258**	Pg	Pg	08 02 11.5	-0.7
	2.6nm,0.3s,baz=76,slow=17,SNR=19						
ZALV				Lg	Lg	08 02 24.7	
	4.0nm,0.3s,baz=78,slow=30,SNR=17						
KURBB	**Kurchatov Arra**	**5.91**	**236**	Pn	Pn	08 03 25.5	+1.4
	0.1nm,0.3s,baz=55,slow=14,SNR=4.7						
KURBB				Lg	Lg	08 05 03.2	
	0.0nm,0.3s,baz=182,slow=13,SNR=2.0						
MKAR	**Makanchi Array**	**7.78**	**201**	Pn	Pn	08 03 50.6	+0.7
	0.2nm,0.3s,baz=24,slow=12,SNR=6.4						
MKAR				Lg	Lg	08 06 00.7	
	0.1nm,0.3s,baz=192,slow=11,SNR=3.4						

*MAN **27** 08:06:45.1, 17.15N×121.00E, h68km, mb4.2, ML3.0, MS2.7*
*IDC **27** 08:06:46.8±9.9, 17.09N×121.22E, h220km±105km, mb3.2/8, mb1 3.4/8, mb1mx3.1/48, mbtmp3.8/8, Error ellipse: s-maj=34.3km s-min=13.3km az=69.0*

ISC 27 08:06:39.2±0.9, 16.93N±0.09×121.2E±0.2, h150km, n10, σ2s79/12, mb3.7/8, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCP	**Baguio City**	**0.79**	**230**	⇑*i* P	**Pn**	**08 07 03.6**	**+0.9**
BCP				*i* S	**Sn**	**08 07 15.5**	**-4.9**
SIPP	**Brgy, Tapao**	**1.24**	**323**	⇑*i* P	**Pn**	**08 07 03.7**	**-2.5**
SIPP				*eS*	**Sn**	**08 07 31.8**	**+5.0**
CMAR	**Chiang Mai Arr**	**21.30**	**277**	P	**P**	**08 11 16.1**	**+1.8**

HSAM				*e*			08 22 13.0		
KER	**Kermanshah**	**1.86**	**347**	*e*Pn	**Pn**		**08 22 12.7**	**-0.1**	
IBZA	**Bozab**	**1.91**	**5**	*e*Pn	**Pn**		**08 22 13.7**	**+0.2**	
IBZA				*e*			08 22 46.4		
IGHG	**Ghaleghazi**	**1.98**	**333**	*e*Pn	**Pn**		**08 22 13.5**	**-0.9**	
IGHG				*e*			08 22 49.4		
NSR	**Nassriya**	**2.01**	**220**	*e*Pn	**Pn**		**08 22 14.0**	**-0.7**	
NSR				*e*Sn	**Sn**		**08 22 40.0**	**-0.5**	
IVIS	**Veis**	**2.06**	**342**	*e*Pn	**Pn**		**08 22 15.6**	**+0.1**	
IVIS				*e*			08 22 52.1		
KHMZ	**Khomeyn**	**2.27**	**58**	*e*Pn	**Pn**		**08 22 18.6**	**+0.1**	
KHMZ	**Khomeyn**	**2.27**	**58**	*e*Pn	**Pn**		**08 22 18.6**	**+0.1**	
IALM	**Almabolaq**	**2.33**	**11**	*e*Pn	**Pn**		**08 22 18.8**	**-0.5**	
IDHR	**Dehrash**	**2.37**	**334**	*e*Pn	**Pn**		**08 22 19.4**	**-0.5**	
IDHR				*e*			08 22 59.9		
ILIN	**Lien**	**2.41**	**347**	*e*Pn	**Pn**		**08 22 20.1**	**-0.4**	
ILIN				*e*			08 23 06.4		
HAGD	**Aghdareh**	**2.57**	**29**	*e*Pn	**Pn**		**08 22 21.9**	**-0.8**	
HAGD				*e*			08 23 04.5		
JHBN	**Jahan bin**	**2.58**	**97**	*e*Pn	**Pn**		**08 22 21.9**	**-0.9**	
JHBN				*e*			08 23 05.8		
HSRG	**Sareghieh**	**2.72**	**11**	*e*Pn	**Pn**		**08 22 25.5**	**+0.8**	
HSRG				*e*			08 23 07.3		
ASAO	**Ashtian**	**2.81**	**45**	*e*Pn	**Pn**		**08 22 25.0**	**-0.9**	
ASAO				*e*Sg	**Sg**		**08 23 09.5**	**-0.2**	
ASAO	**Ashtian**	**2.81**	**45**	*e*Pn	**Pn**		**08 22 25.0**	**-0.9**	
BHD	**Baghdad**	**2.83**	**285**	*e*Pn	**Pn**		**08 22 26.0**	**0.0**	
BHD				*e*Sn	**Sn**		**08 23 01.0**	**+0.3**	
BHD				AML	AML		08 23 21.2		
	comp=E,349nm,0.5s								
ROKH	**ROKH**	**2.88**	**93**	*e*Pn	**Pn**		**08 22 25.3**	**-1.5**	
ROKH				*e*			08 23 20.7		
IRAZ	**Razeghan**	**3.41**	**33**	*e*Pn	**Pn**		**08 22 33.9**	**-0.2**	
GHVR	**GHOM**	**3.60**	**57**	*e*Pn	**Pn**		**08 22 36.3**	**-0.3**	
GHVR				*e*Sg	**Sg**		**08 23 33.2**	**-2.1**	
GHVR	**GHOM**	**3.60**	**57**	*e*Pn	**Pn**		**08 22 36.3**	**-0.3**	

*IDC **27** 09:00:11.3±1.7,5.°17N×126.°30E,h0km,mb3.9/5, mb1 4.0/5,mb1mx3.6/53,mbtmp3.9/5,MS3.5/1,Ms1 3.5/1, ms1mx2.3/47,Error ellipse: s-maj=165.7km s-min=20.1km az=65.0*

*MAN **27** 09:00:18.5,5.°22N×126.°89E,h115km,MS3.5*

ISC 27 09:00:20.7±1.0,5.°28N±0.°10×126.°9E±0.°1,h76km,n11, σ1°58/14,mb3.9/5,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.43**	**305**	*e*P	**Pn**	**09 00 45.0**	**+0.1**
DDMP				*e*S	**Sn**	**09 01 03.8**	**+0.5**
MATI	**Mati**	**1.77**	**339**	*e*P	**Pn**	**09 00 50.0**	**+0.6**
MATI				*e*S	**Sn**	**09 01 14.6**	**+3.3**
KCP	**Kidapawan**	**2.48**	**314**	⇑*i*P	**Pn**	**09 00 59.4**	**+0.4**
KCP				*i* S	Sn	09 01 37.0	+8.6
SKMP	**Bagumbayan, Su**	**2.64**	**298**	*e*P	**Pn**	**09 01 02.2**	**+1.1**
SKMP				*e*S	**Sn**	**09 01 33.3**	**+1.1**
BUKP	**Musuan**	**3.16**	**325**	*e*P	**Pn**	**09 01 08.4**	**+0.2**
BUKP				*e*S	**Sn**	**09 01 41.8**	**-3.0**
BATI	**Baumata**	**15.72**	**192**	LR	LR	09 11 18.9	
	comp=Z,191nm,19.5s,baz=148,slow=43						
WRA	**Warramunga Arr**	**26.11**	**164**	P	**P**	**09 05 47.5**	**-0.2**
	2.3nm,0.6s,baz=342,slow=10.0,SNR=26						
ASAR	**Alice Springs**	**29.57**	**167**	P	**P**	**09 06 18.6**	**0.0**
	0.3nm,0.5s,baz=349,slow=8.4,SNR=7.0						
STKA	**Stephens Creek**	**39.52**	**160**	P	**P**	**09 07 44.8**	**+0.6**
	1.9nm,0.6s,baz=327,slow=8.7,SNR=7.5						
MKAR	**Makanchi Array**	**56.39**	**325**	P	**P**	**09 09 52.9**	**-1.4**
	0.2nm,0.3s,baz=118,slow=6.7,SNR=5.3						
KURBB	**Kurchatov Arra**	**60.53**	**327**	P	**P**	**09 10 21.6**	**-1.3**
	1.4nm,0.2s,baz=124,slow=6.6,SNR=4.4						

*IDC **27** 09:01:55.7±6.1,35.°75N×70.°68E,h76km±40km,mb3.4/3, mb1 3.6/6,mb1mx3.2/53,mbtmp3.9/6,ML3.9/3,MS3.4/1, Ms1 3.4/1,ms1mx2.3/43,Error ellipse: s-maj=74.2km s-min=23.9km az=141.0*

*NNC **27** 09:02:03.4±4.4,36.°38N×70.°18E,h87km±93km,mb3.8, mpv4.0,Error ellipse: s-maj=35.6km s-min=31.7km az=80.0*

ISC 27 09:02:01.9±1.5,36.°3N±0.°1×70.°3E±0.°1,h100km,n18, σ1°29/21,1C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.43**	**23**	P	**Pn**	**09 03 34.3**	**-0.1**
	SNR=53						
UCH	**Uchtor**	**6.80**	**28**	P	**Pn**	**09 03 39.0**	**-0.5**
	SNR=8.6						
KK31	**Karatay Array**	**6.83**	**2**	⇓P	**Pn**	**09 03 40.0**	**+0.6**
	4.1nm,0.3s,baz=200,slow=14,SNR=66						
KK31				⇓S	**Sn**	**09 04 55.8**	**+0.2**
	6.3nm,0.5s,baz=193,slow=25,SNR=6.0						
EKS2	**Erkin-Say**	**6.94**	**22**	P	**Pn**	**09 03 41.8**	**+0.8**
	SNR=7.3						
AAK	**Ala-Archa**	**7.15**	**26**	P	**Pn**	**09 03 43.9**	**-0.2**
	2.6nm,0.3s,baz=186,slow=5.4,SNR=10.0						
AAK				S	**Sn**	**09 05 03.0**	**-0.8**
	1.8nm,0.3s,baz=270,slow=3.4,SNR=7.0						
AAK	**Ala-Archa**	**7.15**	**26**	P	**Pn**	**09 03 43.8**	**-0.2**
	SNR=5.6						
AAK	**Ala-Archa**	**7.15**	**26**	⇓P	**Pn**	**09 03 43.6**	**-0.4**
	4.4nm,0.4s						
AAK				S	**Sn**	**09 05 03.7**	**0.0**
	7.0nm,0.5s						
CHMS	**Chumysh**	**7.56**	**26**	P	**Pn**	**09 03 49.2**	**-0.2**
	SNR=6.0						
USP	**Ospenovka**	**7.71**	**24**	P	**Pn**	**09 03 51.4**	**0.0**
	SNR=5.6						
GEYT	**Alibeck**	**9.84**	**283**	P	**Pn**	**09 04 21.0**	**+0.6**
	1.5nm,0.3s,baz=104,slow=13,SNR=5.7						
AB01	**Akbulak array**	**15.01**	**333**	⇓P	**Pn**	**09 05 28.6**	**0.0**
	4.0nm,0.5s						
AB31	**Akbulak array**	**15.01**	**333**	⇓S	**Sn**	**09 08 11.9**	**-2.2**
	1.9nm,0.6s						
AKTO	**Aktyubinsk**	**16.69**	**332**	P	**P**	**09 05 52.5**	**+2.3**
	0.3nm,0.3s,baz=141,slow=14,SNR=6.5						
AKTO	**Aktyubinsk**	**16.69**	**332**	⇓P	**P**	**09 05 52.0**	**+1.8**
	4.0nm,0.8s						
AKTO				⇑S	**Sn**	**09 08 52.6**	**-2.1**
	3.6nm,0.8s						
ZALV	**Zalesovo Beam**	**20.38**	**25**	P	**P**	**09 06 30.4**	**0.0**
	1.9nm,0.5s,baz=215,slow=11,SNR=7.2						
ARCES	**ARCESS Array B**	**41.13**	**338**	P	**P**	**09 09 37.5**	**+1.7**
	1.1nm,0.7s,baz=101,slow=6.3,SNR=5.2						
KSRS	**Korea Array**	**45.52**	**70**	LR	LR	09 32 28.1	
	comp=Z,44nm,18.0s,baz=210,slow=40						
TORD	**Torodi Ar. Bea**	**65.11**	**268**	P	**P**	**09 12 29.7**	**-2.6**
	0.2nm,0.4s,baz=48,slow=5.7,SNR=4.9						

*IDC **27** 09:02:52.7±6.9,0.°13N×123.°38E,h140km±65km,mb3.5/7, mb1 3.6/8,mb1mx3.3/51,mbtmp3.9/8,Error ellipse: s-maj=90.9km s-min=15.4km az=67.0*

*NEIC **27** 09:02:53.4±1.3,0.°13N±0.°08×123.°45E±0.°07,h146km±8km, mb4.4/14,Error ellipse: s-maj=13.0km s-min=9.3km az=144.0*

*DJA **27** 09:02:55.8±0.4,0.°S±5.°×12.°4E±.°,h112km±6km,M4.3/8, mb4.4/1,MLv4.2/8*

ISC 27 09:02:54.4±0.6,0.°04N±0.°06×123.°51E±0.°06,h157km,n36, σ1°68/43,mb4.1/14,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.71**	**42**	P	**Pn**	**09 03 16.4**	**-1.4**
KMSI				S	**Sn**	**09 03 31.3**	**-4.3**
GTOI	**Gorontalo**	**0.78**	**320**	P	**Pn**	**09 03 19.0**	**+0.8**
GTOI				S	**Sn**	**09 03 36.5**	**+0.2**
LUWI	**Luwuk**	**1.30**	**214**	P	**Pn**	**09 03 20.4**	**-2.1**
LUWI	**Luwuk**	**1.30**	**214**	Pn	**Pn**	**09 03 21.4**	**-1.1**
LUWI				Sn	**Sn**	**09 03 41.0**	**-3.2**
SANI	**Sanana**	**3.23**	**130**	P	**Pn**	**09 03 42.5**	**-2.5**
SANI				S	**Sn**	**09 04 20.0**	**-4.2**
MPSI	**Mapaga**	**3.62**	**275**	P	**Pn**	**09 03 50.8**	**+0.8**
TNTI	**Ternate**	**3.93**	**79**	P	**Pn**	**09 03 53.5**	**-0.4**
TNTI	**Ternate**	**3.93**	**79**		**Pn**	**09 03 53.3**	**-0.6**
TNTI				Sn	**Sn**	**09 04 39.5**	**-0.7**
NLAI	**Namlea**	**4.84**	**132**	P	**Pn**	**09 04 05.5**	**-0.4**
KAPI	**Kappang**	**6.26**	**217**	Pn	**Pn**	**09 04 23.8**	**-1.0**
MYLDM	**Lahad Datu**	**7.15**	**316**		**Pn**	**09 04 35.2**	**-1.3**
SIJI	**Sorong**	**7.81**	**97**	P	**Pn**	**09 04 45.9**	**+0.5**
	2.0nm,0.3s,baz=331,slow=19,SNR=3.0						
FAKI	**Fak Fak**	**9.22**	**109**	Pn	**Pn**	**09 05 03.3**	**-0.8**
KKM	**Kota Kinabalu**	**9.41**	**309**	Pn	**Pn**	09 05 12.1	+5.4
WB0	**Warramunga Arr**	**22.39**	**152**	P	**P**	**09 07 40.6**	**+0.6**
WB0				IAmb	IAmb	09 07 42.4	
	comp=Z,4.9nm,1.1s						
WRAB	**Tennant Creek**	**22.51**	**152**	P	**P**	**09 07 40.4**	**-0.8**
WRAB				IAmb	IAmb	09 08 04.0	
	comp=Z,17nm,1.5s						
WRA	**Warramunga Arr**	**22.51**	**153**	P	**P**	**09 07 41.6**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=325,slow=8.1,SNR=15						
WRA				PcP	**PcP**	**09 11 29.9**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=333,slow=2.2,SNR=4.8						
WRA	**Warramunga Arr**	**22.51**	**153**	P	**P**	**09 07 41.6**	**+0.4**
WB2	**Warramunga Arr**	**22.52**	**152**	P	**P**	**09 07 42.1**	**+0.8**
WR0	**Warramunga Arr**	**22.62**	**152**	P	**P**	**09 07 42.9**	**+0.7**
WR0				IAmb	IAmb	09 07 59.7	
	comp=Z,12nm,1.4s						
COEN	**Coen**	**23.93**	**126**	P	**P**	**09 07 55.8**	**+1.6**
COEN				IAmb	IAmb	09 08 22.6	
	comp=Z,9.0nm,1.2s						
GIRL	**Giralia**	**24.28**	**201**	P	**P**	**09 08 00.2**	**+2.9**
ASAR	**Alice Springs**	**25.63**	**158**	P	**P**	**09 08 10.6**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=349,slow=9.0,SNR=5.0						
ASAR				PcP	**PcP**	**09 11 36.9**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=348,slow=2.3,SNR=11						
ASAR	**Alice Springs**	**25.63**	**158**	P	**P**	**09 08 10.2**	**+0.6**
FORT	**Forrest**	**30.95**	**172**	P	**P**	**09 08 57.6**	**+0.9**
FORT				IAmb	IAmb	09 08 59.1	
	comp=Z,10nm,0.8s						
JCJ	**Chichijima**	**32.35**	**32**	P	**P**	**09 09 08.3**	**-0.7**
STKA	**Stephens Creek**	**36.06**	**153**	P	**P**	**09 09 42.2**	**+1.3**
	comp=Z,1.5nm,0.5s,baz=330,slow=9.7,SNR=5.0						
STKA	**Stephens Creek**	**36.06**	**153**	P	**P**	**09 09 42.6**	**+1.7**
ARMA	**Armidale**	**40.40**	**141**	P	**P**	**09 10 20.4**	**+3.0**
ARMA				IAmb	IAmb	09 10 33.4	
	comp=Z,38nm,1.4s						
CAN	**Canberra**	**42.46**	**149**	P	**P**	**09 10 36.9**	**+2.8**
CAN				IAmb	IAmb	09 11 04.0	
	comp=Z,27nm,1.5s						
SONM	**Songino Array**	**49.88**	**345**	P	**P**	**09 11 30.2**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=152,slow=8.5,SNR=2.8						
MKAR	**Makanchi Array**	**58.85**	**328**	P	**P**	**09 12 36.1**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=126,slow=7.9,SNR=8.7						
MKAR				PcP	**PcP**	**09 13 23.1**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=146,slow=3.4,SNR=4.4						
ZALV	**Zalesovo Beam**	**62.49**	**335**	P	**P**	**09 13 00.0**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=114,slow=5.1,SNR=1.0						
KURBB	**Kurchatov Arra**	**63.19**	**330**	P	**P**	**09 13 04.7**	**-1.0**
	comp=Z,0.7nm,0.2s,baz=144,slow=5.7,SNR=2.5						
VNDA	**Vanda**	**80.21**	**172**	P	**P**	**09 14 47.9**	**+1.0**
SDPT	**Sand Point**	**82.04**	**34**	P	**P**	**09 14 57.2**	**+0.3**

*TEH **27** 09:03:24.4,33.°66N×45.°97E,h10km,ML2.6*

*ISN **27** 09:03:25.1±1.1,33.°69N×45.°95E,h15km±7km,ML2.0*

ISC 27 09:03:25.5±1.0,33.°67N±0.°04×46.°00E±0.°06,h19km,n13, σ0°98/16,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.57**	**186**	*e*Pg	**Pg**	**09 03 37.0**	**+0.2**
IBDR				*e*Sg	**Sb**	**09 03 44.0**	**-0.3**
IGHG	**Ghaleghazi**	**0.80**	**35**	*e*Pg	**Pb**	**09 03 40.8**	**-0.2**
IGHG				*e*		09 03 58.0	
KCHF	**Cheshme Sefid,**	**1.05**	**55**	*e*Pg	**Pb**	**09 03 44.9**	**-0.2**
KCHF				*e*		09 04 06.3	
IDHR	**Dehrash**	**1.07**	**17**	*e*Pg	**Pb**	**09 03 45.5**	**0.0**
IDHR				*e*		09 04 06.7	
IVIS	**Veis**	**1.10**	**39**	*e*Pg	**Pb**	**09 03 46.3**	**+0.3**
IVIS				*e*		09 04 05.7	
KER	**Kermanshah**	**1.18**	**53**	*e*Pg	**Pb**	**09 03 47.8**	**+0.6**
KER				*e*		09 04 08.3	
IKOM	**Komasi**	**1.35**	**68**	*e*Pg	**Pg**	**09 03 51.4**	**-0.1**
IKOM				*e*		09 04 12.9	
BHD	**Baghdad**	**1.42**	**254**	*e*Pg	**Pn**	**09 03 50.0**	**-0.2**
BHD				*e*Sg	**Sb**	**09 04 09.0**	**+0.1**
BHD				AML	AML	09 04 09.0	
	comp=E,28nm,0.7s						
DHL1	**Dehloran**	**1.46**	**132**	*e*Pg	**Pb**	**09 03 51.9**	**-0.1**
DHL1				*e*		09 03 56.4	
ILIN	**Lien**	**1.47**	**32**	*e*Pg	**Pg**	**09 03 53.5**	**-0.4**
ILIN				*e*		09 04 17.9	
IBZA	**Bozab**	**1.73**	**62**	*e*Pg	**Pb**	**09 03 57.9**	**+1.1**
IBZA				*e*		09 04 24.2	
BMDN	**Meydan**	**2.35**	**89**	*e*		09 04 48.3	
BMDN				*e*Pn	**Pb**	**09 04 06.8**	**-0.5**
NSR	**Nassriya**	**2.66**	**177**	*e*Pn	**Pn**	**09 04 09.0**	**+1.7**
NSR				*e*Sn	**Sb**	**09 04 42.0**	**-2.7**

DDA 27 09:28:14.9,39.°29N×25.°93E,h7km±4km,ML1.4,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.56**	**9**	*i* P	Pn	09 28 33.9	+4.6
BOZC				*i* S	Sb	09 28 34.4	-1.0
BOZC				IAML		09 28 37.0	
	comp=N,22nm,0.3s						
BOZC				IAML		09 28 37.0	
	comp=E,26nm,0.2s						
BAYC	**CANAKKALE_Bayr**	**0.66**	**46**	*i* P	Pg	09 28 27.7	+0.1
BAYC				*i* S	Sg	09 28 36.8	+0.7
GOKA	**anakkale-Gk**	**0.90**	**359**	*i* P	Pg	09 28 27.6	-4.6
GOKA				*i* S	Sb	09 28 44.9	-0.3
ZEDA	**zmir-Bergama**	**0.94**	**109**	*i* P	Pg	09 28 33.2	+0.2
ZEDA				*i* S	Sb	09 28 46.4	+0.1
ZEDA				IAML		09 28 49.0	
	comp=N,12nm,0.3s						
ZEDA				IAML		09 28 49.0	
	comp=E,11nm,0.5s						
BALY	**Balya**	**1.38**	**70**	*i* P	Pg	09 28 41.4	0.0
BALY				*i* S	Sg	09 29 00.6	+1.3

BEO 27 09:29:40.8±0.3,44.°61N×21.°74E,h0km,ML1.4/8,5C-5D, Mining explosion.,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDVR	**Moldovita**	**0.17**	**353**	⇑P	Pg	09 29 42.8	-1.3
MDVR				⇓S	Sg	09 29 47.0	+0.7
KUBS	**Kucevo**	**0.21**	**194**	*e*Pg	Pg	09 29 44.1	-0.7
KUBS				*e*Sg	Sg	09 29 47.9	+0.5
HERR	**Herculane**	**0.55**	**61**	⇑P	Pg	09 29 50.4	-0.9
HERR				⇓S	Sg	09 29 58.0	-0.4
ZAGS	**Zajecar**	**0.88**	**156**	*e*Pg	Pg	09 29 56.4	-1.2
ZAGS				*e*Sg	Sg	09 30 09.4	+0.5
BOVS	**Bovan**	**0.98**	**182**	*e*Pg	Pg	09 29 58.7	-0.8
BOVS				*e*Sg	Sg	09 30 12.1	-0.1
BZS	**Buzias**	**1.01**	**355**	*e*Pg	Pg	09 29 58.2	-1.9
BZS				*e*Sg	Sg	09 30 13.2	0.0
BZS	**Buzias**	**1.01**	**355**	⇓P	Pg	09 29 58.3	-1.8
BZS				⇑S	Sg	09 30 13.2	0.0
GRUS	**Gruza**	**1.03**	**226**	*e*Pg	Pg	09 30 00.0	-0.6
GRUS				*e*Sg	Sg	09 30 14.0	0.0
BLKB	**Belogradchik**	**1.20**	**146**	⇑S	Sg	09 30 19.5	+0.3
DIVS	**Divibare**	**1.36**	**248**	*e*Pg	Pg	09 30 05.5	-1.3
DIVS				*e*Sg	Sg	09 30 23.8	-0.6
SELS	**Selova**	**1.47**	**198**	*e*Sg	Pn	09 30 07.3	-1.2
SELS	**Selova**	**1.47**	**198**	*e*Pg	Sg	09 30 26.5	-1.3
ZAPS	**Zavoj**	**1.49**	**154**	*e*Pg	Pn	09 30 08.1	-0.7
ZAPS				*e*Sg	Sg	09 30 28.0	-0.5
LOT	**Lotru**	**1.66**	**59**	⇑P	Pn	09 30 09.0	-2.3
LOT				⇓S	Sn	09 30 30.5	-2.9
BARS	**Barje**	**1.80**	**178**	*e*Pg	Pn	09 30 12.1	-1.0
BARS				*e*Sg	Sb	09 30 37.3	-0.4
VOIR		**2.48**	**69**	⇓S	Sn	09 30 51.7	-2.0

IDC 27 09:39:19.6±3.1,30.°02S×177.°41W,h0km,mb3.7/2, mb1 3.9/2,mb1mx3.5/36,mbtmp3.7/2,MS3.7/2,Ms1 3.7/2, ms1mx2.8/27,Error ellipse: s-maj=64.8km s-min=25.3km az=81.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.88**	**330**	Pn	Pn	09 39 40.1	+0.9
	257nm,0.3s,baz=90,slow=20,SNR=19						
RAO				Sn	Sn	09 39 51.7	-1.0
	432nm,0.3s,baz=90,slow=20,SNR=12						
URZ	**Urewera**	**9.39**	**207**	Sn	Sn	09 43 15.8	-6.5
	0.6nm,0.3s,baz=74,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**43.64**	**266**	P	P	09 47 25.0	-1.1
	0.2nm,0.5s,baz=103,slow=7.2,SNR=1.8						
WRA	**Warramunga Arr**	**44.59**	**271**	P	P	09 47 34.2	+0.5
	0.7nm,0.3s,baz=110,slow=8.1,SNR=58						
BATI	**Baumata**	**58.11**	**277**	LR	LR	10 15 57.5	
	comp=Z,102nm,18.6s,baz=186,slow=38						
ATAH	**Atahualpa**	**94.21**	**101**	LR	LR	10 26 13.8	
	comp=Z,24nm,21.8s,baz=350,slow=30						
FINES	**FINESS Array B**	**144.96**	**341**	PKP	PKPab	09 58 56.5	-0.7
	1.1nm,0.5s,baz=29,slow=3.2,SNR=5.6						

*SOME **27** 09:47:11.8,40.°13N×77.°07E,h5km*

*KRNET **27** 09:47:11.9±0.1,39.°91N×77.°56E,mb3.0*

*NNC **27** 09:47:13.4±0.7,40.°20N×77.°14E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=4.8km s-min=3.9km az=171.0*

ISC 27 09:47:13.7±2.4,40.°1N±0.°1×77.°35E±0.°05,h11km±13km, n41,σ1°71/64,18C-8D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.71**	**11**	⇓*i*P	**Pn**	**09 47 42.3**	**-1.6**
	baz=6.0						
TARG				⇓*i*S	**Sn**	**09 48 04.5**	**-1.5**
	baz=6.0						
KDJ	**Kajisay**	**2.08**	**356**	⇑*i*P	**Pn**	**09 47 47.9**	**-0.9**
	baz=53						
KDJ				⇑*i*S	**Sn**	**09 48 14.2**	**-0.6**
	baz=53						
ULHL	**Ulahol**	**2.35**	**339**	⇑*i*P	**Pn**	**09 47 52.3**	**-0.2**
	baz=37						
ULHL				⇑*i*S	**Sn**	**09 48 21.3**	**-0.1**
	baz=37						
PRZ	**Przheval'sk**	**2.56**	**18**	⇑*i*P	**Pn**	**09 47 53.3**	**-2.0**
	baz=14						
PRZ				⇑*i*S	**Sn**	**09 48 23.8**	**-2.7**
	baz=14						
KZA	**Kyzart**	**2.58**	**323**	⇑*i*P	**Pn**	**09 47 55.7**	**-0.1**
	baz=22						
KZA				⇑*i*S	**Sn**	**09 48 27.9**	**+0.6**
	baz=22						
ANVS	**Anan'yevo**	**2.74**	**5**	⇓*i*P	**Pn**	**09 47 56.3**	**-1.5**
	baz=2.0						
ANVS				⇓*i*S	**Sn**	**09 48 29.4**	**-1.7**
	baz=2.0						
ARLS	**Aral**	**2.92**	**309**	⇓*i*P	**Pn**	**09 48 00.9**	**+0.6**
	baz=10.0						
ARLS				⇓*i*S	**Sn**	**09 48 36.0**	**+0.5**
	baz=10.0						
TNSS	**Tian-Shan**	**3.00**	**354**	*e*P	**Pb**	**09 48 05.8**	**-1.6**
	8.6nm,0.6s						
TNSS				*e*S	**Sb**	**09 48 44.8**	**+0.5**
	29nm,0.5s						
TNSS	**Tian-Shan**	**3.00**	**354**	Pg	**Pb**	**09 48 05.8**	**-1.6**
	8.8nm,0.6s						
TNSS				Lg	Lg	09 48 44.8	
	29nm,0.5s						
IZV	**Izvestkoviy**	**3.04**	**350**	*e*P	**Pb**	**09 48 05.8**	**-2.0**
	4.1nm,0.2s						
IZV				*e*S	**Sb**	**09 48 45.0**	**0.0**
	37nm,0.5s						
IZV	**Izvestkoviy**	**3.04**	**350**	Pg	**Pb**	**09 48 05.8**	**-2.0**
	4.1nm,0.2s						
IZV				Lg	Lg	09 48 45.0	
	37nm,0.5s						
UCH	**Uchtor**	**3.06**	**316**	⇑*i*P	**Pn**	**09 48 02.5**	**+0.1**
	baz=16						
UCH				⇑*e*S	**Sn**	**09 48 39.5**	**+0.3**
	baz=16						
MDOK	**Medeo**	**3.12**	**356**	*e*P	**Pb**	**09 48 07.6**	**-1.7**
	4.9nm,0.5s						
MDOK				*e*S	**Sb**	**09 48 47.7**	**+0.3**
	44nm,0.5s						
MDOK	**Medeo**	**3.12**	**356**	⇑Pn	**Pn**	**09 48 02.3**	**-0.7**
	8.8nm,1.0s						
MDOK				⇑Lg	Lg	09 48 47.5	
	40nm,0.6s						
MDOK	**Medeo**	**3.12**	**356**	Pg	**Pb**	**09 48 07.6**	**-1.7**
	4.9nm,0.5s						
MDOK				Lg	Lg	09 48 47.7	
	44nm,0.5s						
MTBS	**Maitube**	**3.16**	**348**	*e*P	**Pb**	**09 48 07.4**	**-2.5**
	2.5nm,0.1s						
MTBS				*e*S	**Sb**	**09 48 47.3**	**-1.0**
	9.0nm,0.4s						
MTBS	**Maitube**	**3.16**	**348**	Pg	**Pb**	**09 48 07.4**	**-2.5**
	2.5nm,0.1s						
MTBS				Lg	Lg	09 48 47.3	
	9.0nm,0.4s						
TKM2	**Tokmak 2**	**3.16**	**336**	⇑*e*P	**Pn**	**09 48 03.5**	**-0.1**
	baz=34						
TKM2				⇑*i*S	**Sn**	**09 48 41.1**	**-0.3**
	baz=34						
TKM2	**Tokmak 2**	**3.16**	**336**	⇓Pn	**Pn**	**09 48 01.9**	**-1.6**
	2.5nm,0.6s						
TKM2				⇑Lg	Lg	09 48 47.8	
	19nm,0.6s						
KST	**Kastek**	**3.17**	**341**	*e*P	**Pb**	**09 48 08.4**	**-1.7**
	4.2nm,0.4s						
KST				*e*S	**Sb**	**09 48 49.4**	**+0.6**
	17nm,0.7s						
KST	**Kastek**	**3.17**	**341**	Pg	**Pb**	**

MRKS	**Merke**	**4.11**	**312**	Pg	**Pb**	**09 48 24.6**	**-1.6**
	1.5nm,0.3s							
MRKS				Lg	Lg	09 49 16.6		
	4.6nm,0.6s							
DJR	**Jarkent**	**4.65**	**22**	*e*P	**Pb**	**09 48 36.1**	**+0.8**
	1.2nm,0.4s							
DJR				*e*S	**Sb**	**09 49 36.3**	**+5.0**
	4.1nm,0.4s							
BTLS	**Baital**	**5.55**	**335**	*e*P	**Pb**	**09 48 50.9**	**+0.2**
	2.0nm,0.8s							
BTLS				*e*S	**Sb**	**09 50 02.1**	**+4.8**
	2.7nm,0.5s							
BTLS	**Baital**	**5.55**	**335**	Pg	**Pb**	**09 48 50.9**	**+0.2**
	2.0nm,0.8s							
BTLS				Lg	Lg	09 50 02.1		
	2.7nm,0.5s							

ISN ***27*** *10:02:29.0±1.4,36°.09N×40°.60E, h0km±74km, ML4.4*
GRAL ***27*** *10:02:29.5±0.8,35°.91N×41°.22E, h0km±53km, MD4.5*
DDA ***27*** *10:02:30.7,35°.97N×40°.62E, h8km±4km, MW4.3*
ISK ***27*** *10:02:31.7,35°.84N×40°.60E, h20km±1km, ML4.7/17*
GII ***27*** *10:02:36.1±0.0,35°.85N×40°.64E, h10km, mb4.4/2, MD4.4/2, Mm4.3/2*

ISC 27 10:02:32.9±1.4, 36°.03N±0°.03×40°.67E±0°.03, h2km±11km, n77, σ1$07/103, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAZI	**Mazidag**	**1.44**	**353**	PN	**Pn**	**10 02 59.9**	**-0.3**
MAZI				SN	**Sn**	**10 03 20.2**	**+0.4**
SURC	**SANLIURFA_SURC**	**1.86**	**298**	*i* P	**Pn**	**10 03 05.8**	**-0.1**
SURC				*i* S	**Sb**	**10 03 31.9**	**+0.4**
SURC				IAML		10 03 33.0	
	comp=E,2μm,1.0s						
SURC				IAML		10 03 34.0	
	comp=N,3μm,0.7s						
BTMN	**Batman**	**1.92**	**14**	*i* P	**Pn**	**10 03 07.3**	**+0.6**
BTMN				*i* S	**Sg**	**10 03 34.2**	**-0.4**
BTMN				IAML		10 03 35.0	
	comp=E,2μm,0.4s						
BTMN				IAML		10 03 44.0	
	comp=N,2μm,0.5s						
DIYA	**Diyarbakir**	**1.94**	**347**	*i* P	**Pb**	**10 03 08.2**	**-0.9**
DIYA				*i* S	**Sb**	**10 03 34.2**	**+0.3**
DIYA				IAML		10 03 41.0	
	comp=N,6μm,0.8s						
DIYA				IAML		10 03 45.0	
	comp=E,6μm,0.8s						
DYBB	**Diyarbakir**	**1.97**	**348**	PN	**Pn**	**10 03 08.3**	**+0.9**
DYBB				SN	**Sb**	**10 03 34.3**	**-0.3**
MSL	**Mosul**	**2.01**	**79**	*e*Pn	**Pn**	**10 03 07.5**	**-0.4**
MSL				*e*Sn	**Sn**	**10 03 34.0**	**+0.4**
MSL				AML	AML	10 03 36.6	
	comp=E,4μm,0.4s						
MSL				AML	AML	10 03 40.6	
	comp=N,8μm,0.6s						
SIRN	**Sirnak**	**2.03**	**43**	*i* P	**Pn**	**10 03 08.4**	**+0.1**
SIRN				*i* S	**Sb**	**10 03 35.9**	**-0.4**
SIRN				IAML		10 03 39.0	
	comp=E,3μm,0.6s						
SIRN				IAML		10 03 42.0	
	comp=N,6μm,0.6s						
SIRT	**Sirnak**	**2.04**	**44**	PN	**Pn**	**10 03 08.6**	**+0.1**
URFA	**Urfa**	**2.05**	**314**	PN	**Pn**	**10 03 07.6**	**-0.9**
SVAN	**Silvan-Diyarba**	**2.16**	**11**	PN	**Pn**	**10 03 10.4**	**+0.3**
SVAN	**Silvan-Diyarba**	**2.16**	**11**	*i* P	**Pn**	**10 03 09.3**	**-0.7**
SVAN				IAML		10 03 53.0	
	comp=E,800nm,0.7s						
SVAN				IAML		10 03 54.0	
	comp=N,743nm,0.5s						
SRTM	**Siirt_Merkez**	**2.20**	**27**	*i* P	**Pn**	**10 03 11.3**	**+0.6**
SRTM				*i* S	**Sg**	**10 03 43.2**	**-0.5**
SRTM				IAML		10 03 52.0	
	comp=N,2μm,0.5s						
SRTM				IAML		10 03 55.0	
	comp=E,2μm,0.5s						
ATAB	**Bozova**	**2.39**	**308**	*i* P	**Pn**	**10 03 12.7**	**-0.5**
ATAB				*i* S	**Sn**	**10 03 43.7**	**+0.6**
ATAB				IAML		10 03 59.0	
	comp=E,919nm,0.7s						
HANI	**Diyarbakir_Han**	**2.39**	**355**	*i* P	**Pn**	**10 03 14.0**	**+0.7**
HANI				*i* S	**Sb**	**10 03 46.0**	**-0.8**
HANI				IAML		10 03 58.0	
	comp=E,1μm,0.7s						
HANI				IAML		10 04 09.0	
	comp=N,2μm,0.8s						
SVRC	**Sivrice-ELAZID**	**2.59**	**336**	PN	**Pn**	**10 03 15.9**	**-0.1**
BLIS	**Bitlis-Merkez**	**2.65**	**25**	*i* P	**Pn**	**10 03 17.3**	**+0.5**
BLIS				*i* S	**Sg**	**10 03 58.6**	**+0.6**
BLIS				IAML		10 04 11.0	
	comp=N,1μm,0.6s						
BLIS				IAML		10 04 13.0	
	comp=E,781nm,1.1s						
CUKT	**Cukurca**	**2.66**	**62**	PN	**Pn**	**10 03 16.9**	**-0.1**
CUKT	**Cukurca**	**2.66**	**62**	*i* P	**Pn**	**10 03 16.8**	**-0.1**
CUKT				*i* S	**Sb**	**10 03 55.1**	**+0.5**
CUKT				IAML		10 04 06.0	
	comp=N,3μm,0.7s						
CUKT				IAML		10 04 12.0	
	comp=E,3μm,0.9s						
GURO	**Guroymak-BITLI**	**2.74**	**23**	PN	**Pn**	**10 03 18.6**	**+0.5**
MUSM	**Mu-Merkez**	**2.77**	**14**	*i* P	**Pn**	**10 03 18.8**	**+0.2**
MUSM				*i* S	**Sg**	**10 04 03.4**	**+1.3**
MUSM				IAML		10 04 10.0	
	comp=N,638nm,0.7s						
MUSM				IAML		10 04 19.0	
	comp=E,438nm,0.8s						
ELZG	**Elazig**	**2.81**	**332**	*i* P	**Pn**	**10 03 19.1**	**0.0**
ELZG				*i* S	**Sg**	**10 04 00.9**	**-2.2**
ELZG				IAML		10 04 11.0	
	comp=N,2μm,0.5s						
ELZG				IAML		10 04 12.0	
	comp=E,3μm,1.1s						
HAKT	**HAKKARI**	**2.88**	**57**	*i* P	**Pn**	**10 03 20.0**	**-0.1**
HAKT				*i* S	**Sn**	**10 03 54.5**	**-0.9**
HAKT				IAML		10 04 16.0	
	comp=E,680nm,0.5s						
HAKT				IAML		10 04 20.0	
	comp=N,454nm,0.5s						
MALT	**Malatya**	**2.90**	**323**	PN	**Pn**	**10 03 20.4**	**+0.1**
AKDM	**Akdamar-Van**	**2.95**	**38**	PN	**Pn**	**10 03 22.4**	**+1.4**
BNGB	**Bingl**	**2.96**	**0**	PN	**Pn**	**10 03 21.9**	**+0.8**
KUZU	**Kuzuini**	**2.99**	**285**	*i* P	Pn	10 03 12.0	-10
KUZU				*i* S	**Sg**	**10 04 07.9**	**-1.2**
PTK	**Pertek**	**3.03**	**341**	PN	**Pn**	**10 03 23.1**	**+0.9**
VRTB	**Varto-Mus**	**3.19**	**11**	PN	**Pn**	**10 03 24.5**	**+0.2**
VRTB	**Varto-Mus**	**3.19**	**11**	*i* P	**Pn**	**10 03 23.4**	**-0.8**
VRTB				IAML		10 04 32.0	
	comp=E,1μm,2.0s						
VRTB				IAML		10 04 36.0	
	comp=N,1μm,1.6s						
TNCL	**Tunceli-Merkez**	**3.21**	**344**	*i* P	**Pn**	**10 03 24.4**	**-0.1**
TNCL				*i* S	**Sg**	**10 04 17.2**	**+1.1**
TNCL				IAML		10 04 28.0	
	comp=N,1μm,0.8s						
TNCL				IAML		10 04 30.0	
	comp=E,790nm,0.8s						
ADCV	**BITLIS_Adilcev**	**3.22**	**30**	*i* P	**Pn**	**10 03 26.4**	**+1.6**
ADCV				*i* S	**Sg**	**10 04 18.8**	**+2.3**
ADCV				IAML		10 04 23.0	
	comp=E,527nm,0.6s						
ADCV				IAML		10 04 26.0	
	comp=N,450nm,1.2s						
TVAN	**Van**	**3.32**	**40**	*i* P	**Pn**	**10 03 27.6**	**+1.5**
TVAN				*i* S	**Sg**	**10 04 20.3**	**+0.8**
TVAN				IAML		10 04 34.0	
	comp=E,448nm,0.9s						
TVAN				IAML		10 04 35.0	
	comp=N,444nm,0.7s						
BASK	**Baskale_VAN**	**3.35**	**52**	*i* P	**Pn**	**10 03 28.4**	**+1.9**
BASK				IAML		10 04 29.0	
	comp=E,274nm,0.8s						
BASK				IAML		10 04 36.0	
	comp=N,247nm,1.2s						
KMRS	**Kahramanmaras**	**3.37**	**297**	PN	**Pn**	**10 03 24.7**	**-1.9**
YEDI	**Yedisu-Bingol**	**3.41**	**358**	PN	**Pn**	**10 03 27.7**	**+0.4**
EKAR	**Karacoban**	**3.41**	**19**	*i* P	**Pn**	**10 03 27.5**	**+0.1**
EKAR				IAML		10 04 31.0	
	comp=N,1μm,0.7s						
EKAR				IAML		10 04 36.0	
	comp=E,1μm,0.7s						
KAMA	**Osmaniye**	**3.42**	**291**	*i* P	**Pn**	**10 03 26.3**	**-1.1**
KAMA				*i* S	**Sg**	**10 04 22.2**	**-0.6**
KAMA				IAML		10 04 31.0	
	comp=N,484nm,0.8s						
KAMA				IAML		10 04 37.0	
	comp=E,251nm,1.3s						
HEKM	**Malatya_Hekimh**	**3.57**	**324**	*i* P	**Pn**	**10 03 29.4**	**-0.2**
HEKM				IAML		10 04 36.0	
	comp=N,1μm,0.8s						
HEKM				IAML		10 04 38.0	
	comp=E,1μm,0.7s						
ERZN	**Erzincan**	**3.63**	**348**	PN	**Pn**	**10 03 31.4**	**+1.1**
KEMA	**Kemaliye**	**3.67**	**333**	*i* P	**Pn**	**10 03 31.9**	**+1.1**
KEMA				IAML		10 04 38.0	
	comp=N,431nm,0.7s						
KEMA				IAML		10 04 42.0	
	comp=E,409nm,1.0s						
REFA	**Refahiye_ERZN**	**3.69**	**336**	*i* P	**Pb**	**10 03 38.8**	**-0.1**
REFA				IAML		10 05 04.0	
	comp=N,134nm,1.4s						
REFA				IAML		10 05 05.0	
	comp=E,134nm,1.9s						
YAYL	**Yayladag**	**3.70**	**271**	*i* P	**Pb**	**10 03 39.4**	**+0.3**
YAYL				IAML		10 04 45.0	
	comp=E,494nm,1.0s						
YAYL				IAML		10 04 49.0	
	comp=N,874nm,0.7s						
VMUR	**Van-Muradiye**	**3.75**	**37**	*i* P	**Pn**	**10 03 32.9**	**+0.9**
VMUR				IAML		10 04 45.0	
	comp=E,291nm,1.1s						
VMUR				IAML		10 04 47.0	
	comp=N,280nm,1.3s						
EUZM	**Uzumlu**	**3.75**	**348**	*i* P	**Pg**	**10 03 43.1**	**-1.7**
EUZM				IAML		10 04 46.0	
	comp=E,147nm,0.7s						
EUZM				IAML		10 04 48.0	
	comp=N,142nm,0.9s						
TUTA	**Tutak**	**3.77**	**26**	*i* P	**Pn**	**10 03 34.1**	**+1.7**
TUTA				IAML		10 04 56.0	
	comp=N,244nm,0.8s						
ANDN	**Andirin**	**3.80**	**295**	*i* P	**Pn**	**10 03 32.2**	**-0.5**
ANDN				IAML		10 04 48.0	
	comp=N,738nm,0.7s						
ANDN				IAML		10 04 53.0	
	comp=E,559nm,0.9s						
EJDE	**Erzurum, Palan**	**3.83**	**7**	*i* P	**Pn**	**10 03 34.8**	**+1.5**
EJDE				IAML		10 04 53.0	
	comp=N,284nm,0.6s						
EJDE				IAML		10 04 56.0	
	comp=E,883nm,0.9s						
AGRB	**Hanur-Agry**	**3.99**	**27**	PN	**Pn**	**10 03 36.0**	**+0.7**
EMRE	**Erzurum,Aziziy**	**4.00**	**3**	*i* P	**Pn**	**10 03 37.8**	**+2.3**
EMRE				IAML		10 05 00.0	
	comp=N,359nm,0.7s						
EMRE				IAML		10 05 01.0	
	comp=E,400nm,0.9s						
CLDR	**Caldiran**	**4.04**	**39**	PN	**Pn**	**10 03 36.1**	**0.0**
CLDR	**Caldiran**	**4.04**	**39**	*i* P	**Pn**	**10 03 38.2**	**+2.2**
CLDR				IAML		10 05 04.0	
	comp=E,93nm,1.4s						
CLDR				IAML		10 05 06.0	
	comp=N,70nm,0.8s						
EATA	**Eleskirt**	**4.09**	**20**	*i* P	**Pn**	**10 03 38.7**	**+1.9**
EATA				IAML		10 04 49.0	
	comp=N,156nm,0.5s						
EATA				IAML		10 04 59.0	
	comp=E,153nm,0.9s						
AKDA	**Akdag**	**4.11**	**7**	*i* P	**Pn**	**10 03 40.3**	**+3.4**
BHD	**Baghdad**	**4.11**	**131**	*e*P	**Pn**	**10 03 36.0**	**-0.8**
BHD				*e*Sn	**Sn**	**10 04 25.0**	**-0.5**
BHD				AML	AML	10 04 52.9	
	comp=E,2μm,0.7s						
HOMI	**Horasan**	**4.13**	**13**	*i* P	**Pn**	**10 03 39.4**	**+2.1**
HOMI				IAML		10 04 58.0	
	comp=N,258nm,0.7s						
HOMI				IAML		10 05 12.0	
	comp=E,331nm,1.1s						
YURE	**YUREGIR**	**4.14**	**283**	*i* P	**Pg**	**10 03 55.0**	**+2.8**
CUKAN	**kangal_SIVAS**	**4.15**	**323**	*i* P	**Pn**	**10 03 38.1**	**+0.6**
CUKAN				IAML		10 04 55.0	
	comp=E,250nm,1.5s						
CUKAN				IAML		10 05 00.0	
	comp=N,205nm,0.8s						
SAIM	**ADANA**	**4.15**	**299**	*i* P	**Pb**	**10 03 48.8**	**+1.9**
SAIM				IAML		10 05 07.0	
	comp=N,308nm,0.7s						
SAIM				IAML		10 05 15.0	
	comp=E,224nm,0.5s						
HWQ	**Hawqa**	**4.25**	**247**	*e*P	**Pn**	**10 03 39.3**	**+0.5**
HWQ				*e*S	**Sn**	**10 04 30.2**	**+1.3**
KRIK	**Erzurum-spir**	**4.31**	**3**	*i* P	**Pn**	**10 03 41.6**	**+1.8**
CUALT	**Altinyayla-SIV**	**4.49**	**317**	*i* P	**Pn**	**10 03 41.9**	**-0.3**
CUALT				IAML		10 05 19.0	
	comp=N,197nm,1.2s						
CUALT				IAML		10 05 19.0	
	comp=E,241nm,0.9s						
BHL	**Bhannes**	**4.63**	**244**	*e*P	**Pn**	**10 03 43.7**	**-0.3**
IGDI	**IGDIR**	**4.69**	**34**	*i* P	**Pn**	**10 03 45.0**	**+0.2**
IGDI				IAML		10 05 10.0	
	comp=N,38nm,1.1s						
IGDI				IAML		10 05 33.0	
	comp=E,49nm,0.9s						
RCY	**Rachaya**	**4.71**	**239**	*e*P	**Pn**	**10 03 45.1**	**-0.1**
RCY				*e*S	**Sn**	**10 04 41.0**	**+0.4**
YAHY	**KAYSERI_Yahyal**	**4.72**	**298**	*i* P	**Pg**	**10 04 01.6**	**-1.8**
DQRL	**Deir Qamar**	**4.79**	**243**	*e*P	**Pn**	**10 03 45.7**	**-0.5**
NATI	**Neve Ativ**	**4.91**	**237**	Pn	**Pn**	**10 03 48.1**	**+0.3**
GEM	**Giv'at Ha'Em**	**4.99**	**237**	Pn	**Pn**	**10 03 48.2**	**-0.1**
GEM				Sn	**Sn**	**10 04 46.2**	**-1.1**
IBDR	**Badra**	**5.23**	**122**	*e*Pn	**Pn**	**10 03 52.0**	**-0.1**
IBDR				*e*Sn	**Sn**	**10 04 52.0**	**-1.0**
IBDR				AML	AML	10 05 30.3	
	comp=E,353nm,0.5s						
IBDR				AML	AML	10 05 45.7	
	comp=N,245nm,0.8s						
MMA0B	**Mount Meron ar**	**5.28**	**237**	Pn	**Pn**	**10 03 53.9**	**+0.9**
MMA0B				Sn	**Sn**	**10 04 53.7**	**-0.8**
MMLI	**Mount Malkishu**	**5.63**	**232**	Pn	**Pn**	**10 03 58.9**	**+1.2**
HMDT	**Nahal Hemdat**	**5.69**	**230**	Pn	**Pn**	**10 04 00.0**	**+1.5**
DSI	**Dead Sea**	**6.26**	**226**	Pn	**Pn**	**10 04 06.9**	**+0.6**
GHAJ	**Ghor Haditha**	**6.35**	**224**	Pn	**Pn**	**10 04 07.2**	**-0.3**
NSR	**Nassriya**	**6.78**	**136**	*e*Pn	**Pn**	**10 04 13.0**	**-0.4**
NSR				*e*Sn	**Sn**	**10 05 31.0**	**-0.1**
PRNI	**Paran**	**7.39**	**222**	Pn	**Pn**	**10 04 22.2**	**+0.4**
EIL	**Elat**	**7.96**	**219**	Pn	**Pn**	**10 04 29.6**	**0.0**

IDC ***27*** *10:07:28.8±2.7,2°.77S×101°.78E, h150km±22km, mb3.6/8, mb1 3.8/10, mb1mx3.5/37, mbtmp4.2/10, Error ellipse: s-maj=47.5km s-min=12.5km az=58.0*
NEIC ***27*** *10:07:29.6±1.6,2°.59S±0°.07×101°.91E±0°.08, h150km±6km, mb4.3/19, Error ellipse: s-maj=12.7km s-min=8.3km az=53.0*
DJA ***27*** *10:07:31.1±0.3,2°.S±3°×10°.2E±°, h124km±3km, M4.5/19, mB5.4/4, mb4.7/6, MLv4.3/19, Mw(mB)4.8/4*

ISC 27 10:07:29.5±0.5, 2°.50S±0°.05×101°.96E±0°.07, h150km, n59, σ1$37/67, mb4.2/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**0.64**	**309**	P	**Pn**	**10 07 51.8**	**0.0**
KRJI				S	**Sn**	**10 08 07.3**	**-1.4**
MASI	**Maura Aman, Be**	**0.70**	**156**	P	**Pn**	**10 07 51.8**	**-0.3**
MASI				S	**Sn**	**10 08 07.5**	**-1.9**
KSI	**Kapahiang**	**1.31**	**151**	P	**Pn**	**10 07 58.1**	**+0.8**
KSI				S	**Sn**	**10 08 18.3**	**-0.2**
SDSI	**Sungai Dareh**	**1.64**	**341**	P	**Pn**	**10 08 01.0**	**+0.4**
PPSI	**Pulau Pagai**	**1.96**	**262**	P	**Pn**	**10 08 05.7**	**+1.5**
LHSI	**Lahat**	**2.05**	**130**	P	**Pn**	**10 08 05.4**	**+0.2**
MNAI	**Manna**	**2.10**	**152**	P	**Pn**	**10 08 06.7**	**+0.8**
MNAI	**Manna**	**2.10**	**152**		**Pn**	**10 08 05.8**	**-0.1**
MNAI				Sn	**Sn**	**10 08 33.4**	**-0.5**
PDSI	**Padang**	**2.17**	**316**	P	**Pn**	**10 08 07.0**	**+0.3**
BKNI	**Bangkinang**	**2.95**	**342**	P	**Pn**	**10 08 16.7**	**+0.4**
BKNI	**Bangkinang**	**2.95**	**342**		**Pn**	**10 08 18.2**	**+1.9**
SISI	**Saibi**	**3.09**	**292**	P	**Pn**	**10 08 20.1**	**+2.0**
LWLI	**Liwa**	**3.27**	**140**	P	**Pn**	**10 08 21.5**	**+1.0**
DSRI	**Dabo**	**3.30**	**53**	P	**Pn**	**10 08 20.4**	**-0.3**
KLSI		**3.52**	**128**	P	**Pn**	**10 08 23.8**	**+0.2**
KASI	**Kota Agung**	**3.93**	**140**	P	**Pn**	**10 08 27.5**	**-1.4**
MNSI	**Mandailing Nat**	**4.04**	**324**	P	**Pn**	**10 08 32.0**	**+1.6**
GSI	**Gunungsitoli**	**5.78**	**311**	P	**Pn**	**10 08 54.2**	**+0.8**
	2.4nm9μm469nm,0.5s						
GSI	**Gunungsitoli**	**5.78**	**311**		**Pn**	**10 08 54.7**	**+1.3**
GSI				Sn	**Sn**	**10 09 57.6**	**-1.4**
RPSI	**Rantau Prapat**	**5.98**	**330**		**Pn**	**10 08 56.7**	**+0.7**
RPSI	**Rantau Prapat**	**5.98**	**330**		**Pn**	**10 08 58.2**	**+2.2**
PSI	**Prapat**	**6.07**	**330**	P	**Pn**	**10 08 58.2**	**+0.8**
	4.7nm,0.3s,baz=180,slow=10.0,SNR=10						
PSI				S	**Sn**	**10 10 00.1**	**-6.0**
	baz=360,slow=17,SNR=1.0						
IPM	**Ipoh**	**6.99**	**352**	Pn	**Pn**	**10 09 12.5**	**+2.9**
KCSI	**Kotacane, Aceh**	**7.29**	**325**	P	**Pn**	**10 09 13.8**	**+0.2**
	0.2nm2μm25nm,0.6s						
TPTI		**7.45**	**320**	P	**Pn**	**10 09 16.6**	**+1.0**
	0.3nm1μm45nm,0.6s						
CISI	**Cisompet, Garu**	**7.70**	**131**	Pn	**Pn**	**10 09 16.1**	**-3.0**
KULM	**Kulim**	**7.84**	**350**		**Pn**	**10 09 22.4**	**+1.5**
MLSI	**Meulaboh, Aceh**	**8.71**	**320**	P	**Pn**	**10 09 32.9**	**+0.4**
LHMI	**Lhok Sumawe**	**9.16**	**327**	Pn	**Pn**	**10 09 38.4**	**0.0**
KAPI	**Kappang**	**17.93**	**99**	P	**Pn**	**10 11 30.3**	**+0.6**
	1.9nm,0.3s,baz=236,slow=20,SNR=5.1						
KAPI	**Kappang**	**17.93**	**99**	P	**P**	**10 11 28.5**	**+0.3**
KAPI				IAmb	IAmb	10 11 32.6	
	comp=Z,15nm,0.6s						
CMAR	**Chiang Mai Arr**	**21.03**	**352**	P	**P**	**10 12 03.5**	**+1.9**
	comp=Z,1.7nm,0.5s,baz=186,slow=8.8,SNR=10						
QIZ	**Qiongzhong**	**22.75**	**20**	P	**P**	**10 12 18.6**	**-0.6**
QIZ				IAmb	IAmb	10 12 28.8	
	comp=Z,17nm,1.1s						
FITZ	**Fitzroy Crossi**	**27.93**	**125**	P	**P**	**10 13 06.0**	**+0.1**
FITZ				IAmb	IAmb	10 13 24.1	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**36.04**	**121**	P	**P**	**10 14 16.3**	**-0.4**
WB0				IAmb	IAmb	10 14 21.2	
	comp=Z,6.4nm,1.2s						
WRA	**Warramunga Arr**	**36.06**	**121**	P	**P**	**10 14 16.4**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=320,slow=11,SNR=53						
WRA				PcP	**PcP**	**10 16 39.8**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=312,slow=2.2,SNR=1.8						
WRA	**Warramunga Arr**	**36.06**	**121**	P	**P**	**10 14 16.2**	**-0.8**
WRAB	**Tennant Creek**	**36.07**	**121**	P	**P**	**10 14 16.5**	**-0.5**
WB2	**Warramunga Arr**	**36.07**	**121**	P	**P**	**10 14 16.3**	**-0.8**
WB2				IAmb	IAmb	10 14 17.9	
	comp=Z,6.0nm,1.1s						
WR0	**Warramunga Arr**	**36.24**	**121**	P	**P**	**10 14 18.1**	**-0.3**
WR0				IAmb	IAmb	10 14 37.1	
	comp=Z,4.1nm,1.2s						
AS31	**Alice Springs**	**37.39**	**127**	P	**P**	**10 14 28.1**	**-0.1**
ASAR	**Alice Springs**	**37.39**	**127**	P	**P**	**10 14 26.6**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=301,slow=7.8,SNR=16						
ASAR				PcP	**PcP**	**10 16 44.5**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=305,slow=2.7,SNR=5.5						
ASAR				ScP	**ScP**	**10 20 16.5**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=291,slow=3.3,SNR=1.9						
ASAR	**Alice Springs**	**37.39**	**127**	P	**P**	**10 14 27.5**	**-0.7**
FORT	**Forrest**	**37.42**	**141**	P	**P**	**10 14 29.1**	**+0.8**
BBOO	**Buckleboo**	**43.95**	**137**	P	**P**	**10 15 21.4**	**-0.4**
BBOO				IAmb	IAmb	10 15 23.9	
	comp=Z,7.3nm,1.2s						
NIL	**Nilore**	**45.00**	**325**	P	**P**	**10 15 30.5**	**+0.4**
NIL				IAmb	IAmb	10 15 31.5	
	comp=Z,9.4nm,0.8s						
STKA	**Stephens Creek**	**47.37**	**132**	P	**P**	**10 15 47.0**	**-1.7**
	comp=Z,1.7nm,0.4s,baz=315,slow=9.2,SNR=12						
STKA	**Stephens Creek**	**47.37**	**132**	P	**P**	**10 15 48.2**	**-0.5**
KDJ	**Kajisay**	**49.77**	**336**	P	**P**	**10 16 07.5**	**+0.5**
KDJ				IAmb	IAmb	10 16 09.3	
	comp=Z,4.8nm,0.7s						
SONM	**Songino Array**	**50.27**	**4**	P	**P**	**10 16 12.6**	**+1.9**
	comp=Z,0.8nm,0.6s,baz=182,slow=8.2,SNR=3.7						
MK31	**Makanchi Array**	**52.05**	**343**	P	**P**	**10 16 24.6**	**+0.8**
MKAR	**Makanchi Array**	**52.05**	**343**	P	**P**	**10 16 24.3**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=149,slow=7.7,SNR=13						
EIDS	**Eidsvold**	**52.42**	**120**	P	**P**	**10 16 27.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**53.70**	**27**	P	**P**	**10 16 37.2**	**+1.3**
	comp=Z,3.9nm,0.6s,baz=216,slow=4.7,SNR=8.9						
ZALV	**Zalesovo Beam**	**58.03**	**348**	P	**P**	**10 17 07.1**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=155,slow=8.2,SNR=3.6						
BKZ	**Black Stump Fm**	**76.45**	**130**	P	**P**	**10 19 02.8**	**-0.3**
VNDA	**Vanda**	**81.30**	**169**	P	**P**	**10 19 26.1**	**-2.6**
QSPA	**South Pole Qui**	**87.47**	**180**	P	**P**	**10 20 01.5**	**+1.5**
QSPA				IAmb	IAmb	10 20 10.5	
	comp=Z,6.0nm,1.5s						
TXAR	**Lajitas Array**	**143.87**	**40**	PKP	PKPbc	10 26 46.2	+0.3
	comp=Z,0.6nm,0.4s,baz=231,slow=0.6,SNR=20						

NEIC ***27*** *10:25:54.9±1.3,35°.37N±0°.03×141°.27E±0°.08, h31km±6km, mb4.6/16, Error ellipse: s-maj=9.8km s-min=4.1km az=76.0*
NIED ***27*** *10:25:55.2,35°.48N×141°.14E, h33km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.67; Mθθ0.05; Mϕϕ-0.72; Mrθ-0.51; Mθϕ-0.01; Mϕr1.02; Fault plane solution: M₀1.33000×10¹⁵ NP1: ϕs338.00000°,δ75.00000°,λ78.00000°. NP2: ϕs199.00000°,δ19.00000°,λ129.00000°.*
JMA ***27*** *10:25:55.1±0.1,35°.48N×141°.14E, h33km±1km, M3.5*
IDC ***27*** *10:25:58.5±2.6,35°.39N×141°.00E, h52km±23km, mb3.6/10, mb1 3.8/13, mb1mx3.6/42, mbtmp3.8/13, ML2.8/3, MS2.9/6, Ms1 2.9/6, ms1mx2.7/48, Error ellipse: s-maj=29.1km s-min=12.0km az=84.0*

ISC 27 10:25:52.9±2.0, 35°.41N±0°.04×141°.24E±0°.05, h14km±12km, n66, σ1$68/68, mb4.3/17, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.42**	**313**	∫∫P	**Pn**	**10 26 03.0**	**-1.6**
CHOJ				*e*S	**Sb**	**10 26 08.7**	**+0.3**
JSMT	**S

	comp=Z,56nm,0.7s						
NACB	**Ninganchiao**	**20.36**	**242**	P	**P**	**10 30 29.4**	**+0.4**
NACB				IAmb	IAmb	10 30 33.5	
	comp=Z,14nm,0.8s						
SSLB	**Suanglung**	**21.06**	**242**	P	**P**	**10 30 36.4**	**-0.2**
PETK	**Petropavlovsk-**	**21.17**	**28**	LR	LR	10 39 45.7	
	comp=Z,20nm,20.6s,baz=239,slow=39						
TWG	**Pinlang**	**21.58**	**240**	P	**P**	**10 30 42.7**	**+0.5**
TWG				IAmb	IAmb	10 30 48.6	
	comp=Z,38nm,0.5s						
KNMB	**Chin-men Tao**	**22.56**	**247**	P	**P**	**10 30 52.4**	**-0.3**
KNMB				IAmb	IAmb	10 31 08.7	
	comp=Z,41nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**27.48**	**118**	T	T	11 00 38.5	
	baz=310,slow=75,SNR=116						
H11N1	**WAKE ISLAND Hy**	**27.49**	**118**	T	T	11 00 42.6	
	baz=310,slow=75,SNR=92						
H11N3	**WAKE ISLAND Hy**	**27.50**	**118**	T	T	11 00 39.1	
	baz=310,slow=75,SNR=78						
H11S1	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	11 01 23.3	
	baz=312,slow=75,SNR=261						
H11S3	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	11 01 23.3	
	baz=312,slow=75,SNR=287						
H11S2	**WAKE ISLAND Hy**	**28.15**	**120**	T	T	11 01 28.1	
	baz=312,slow=75,SNR=226						
SONM	**Songino Array**	**28.60**	**306**	P	**P**	**10 31 49.1**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=97,slow=7.4,SNR=2.4						
AMKA	**Amchitka**	**31.51**	**49**	P	**P**	**10 32 14.9**	**+0.7**
DAV	**Davao City (W)**	**31.66**	**211**	P	**P**	**10 32 16.5**	**+0.6**
ATKA	**Atka Island**	**35.63**	**48**	P	**P**	**10 32 50.0**	**0.0**
ZAA0	**Zalesovo Array**	**42.91**	**314**	P	**P**	**10 33 50.8**	**-0.1**
ZAA0				IAmb	IAmb	10 34 03.3	
	comp=Z,2.4nm,0.4s						
ZALV	**Zalesovo Beam**	**42.91**	**314**	P	**P**	**10 33 50.6**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=94,slow=6.2,SNR=4.2						
MK31	**Makanchi Array**	**44.88**	**303**	P	**P**	**10 34 06.5**	**-0.3**
MKAR	**Makanchi Array**	**44.88**	**303**	P	**P**	**10 34 06.1**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=95,slow=6.6,SNR=6.3						
KURK	**Kurchatov**	**46.83**	**309**	P	**P**	**10 34 21.6**	**-0.6**
KURK				IAmb	IAmb	10 34 35.6	
	comp=Z,4.3nm,0.7s						
IL31		**50.94**	**32**	P	**P**	**10 34 53.9**	**+0.5**
ILAR	**Eielson Array**	**50.94**	**32**	P	**P**	**10 34 54.6**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=272,slow=5.7,SNR=7.1						
ILAR	**Eielson Array**	**50.94**	**32**	P	**P**	**10 34 53.2**	**-0.3**
BRVK	**Borovoye**	**51.62**	**313**	P	**P**	**10 34 59.9**	**+1.1**
BRVK				IAmb	IAmb	10 35 04.3	
	comp=Z,2.0nm,0.4s						
WRA	**Warramunga Arr**	**55.44**	**188**	P	**P**	**10 35 26.9**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=1.4,slow=7.6,SNR=24						
WRA	**Warramunga Arr**	**55.44**	**188**	P	**P**	**10 35 26.9**	**-0.2**
HYT	**Haines Junctio**	**55.69**	**36**	P	**P**	**10 35 29.5**	**+0.9**
HYT				IAmb	IAmb	10 35 36.9	
	comp=Z,9.5nm,1.3s						
ARU	**Arti**	**57.48**	**319**	P	**P**	**10 35 41.0**	**-0.2**
ARU				IAmb	IAmb	10 35 41.5	
	comp=Z,5.4nm,1.0s						
ASAR	**Alice Springs**	**59.17**	**188**	P	**P**	**10 35 53.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=360,slow=6.2,SNR=8.3						
ASAR				PcP	**PcP**	**10 36 43.2**	**+1.4**
	comp=Z,0.6nm,0.9s,baz=2.5,slow=4.2,SNR=2.4						
FINES	**FINESS Array B**	**70.18**	**332**	P	**P**	**10 37 04.8**	**0.0**
	comp=Z,3.1nm,0.8s,baz=32,slow=4.7,SNR=4.3						
AKASG	**Malin Array Be**	**75.49**	**322**	P	**P**	**10 37 36.1**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=50,slow=5.5,SNR=1.3						
NB2	**NORSAR Subarra**	**75.62**	**337**	P	**P**	**10 37 37.6**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=43,slow=6.2						
NOA	**NORSAR Array B**	**75.62**	**337**	P	**P**	**10 37 37.7**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=43,slow=5.4,SNR=4.6						
NVAR	**Mina Array Bea**	**76.08**	**53**	P	**P**	**10 37 42.8**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=273,slow=22,SNR=2.3						
BG3	**Lake Jocassee**	**98.72**	**35**	P	**P**	**10 39 32.2**	**+0.1**
H03N2	**Juan Fernandez**	**146.96**	**98**	T	T	13 30 05.8	
	baz=290,slow=76,SNR=26						
H03N3	**Juan Fernandez**	**146.97**	**98**	T	T	13 30 15.5	
	baz=290,slow=76,SNR=32						
H03N1	**Juan Fernandez**	**146.98**	**98**	T	T	13 30 11.6	
	baz=290,slow=76,SNR=26						

WEL 27 10:32:14.6,38.3S±0.9×177.4E±0.9, **h51**km±1km, **M3.8**/54, **ML4.0**/54, **MLv3.8**/54, **Error ellipse: s-maj=0.0km s-min=0.0km az=155.3, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.12**	**118**	P	Pn	10 32 22.6	-0.2
MWZ				S	Sn	10 32 28.8	+0.3
URZ	**Urewera**	**0.23**	**275**	P	Pn	10 32 23.1	-0.2
URZ				S	Sn	10 32 29.8	+0.4
RUGZ	**Raukumara Rang**	**0.38**	**35**	P	Pn	10 32 24.9	0.0
TKGZ	**Te Karaka**	**0.39**	**114**	P	Pn	10 32 25.2	+0.5
TKGZ				S	Sn	10 32 34.2	+2.2
RTZ	**Ruatahuna**	**0.47**	**224**	P	Pn	10 32 25.7	0.0
SNGZ	**Shannon Statio**	**0.50**	**185**	P	Pn	10 32 26.7	+0.7
SNGZ				S	Sn	10 32 35.6	+1.3
RIGZ	**Rimuhau**	**0.51**	**146**	P	Pn	10 32 26.9	+0.7
RIGZ				S	Sn	10 32 36.9	+2.4
MUGZ	**Murupara**	**0.53**	**248**	P	Pn	10 32 26.5	+0.1
MUGZ				S	Sn	10 32 35.2	+0.4
WHRZ	**Whale Island**	**0.54**	**322**	P	Pn	10 32 26.8	+0.3
EDRZ	**Edgecumbe**	**0.55**	**288**	P	Pn	10 32 26.9	+0.4
HAZ	**Te Kaha**	**0.60**	**30**	P	Pn	10 32 27.0	-0.2
HAZ				S	Sn	10 32 37.8	+1.6
MARZ	**Manawahe**	**0.64**	**297**	P	Pn	10 32 27.9	+0.2
RAHZ	**Arahi**	**0.68**	**201**	P	Pn	10 32 29.1	+0.9
RAHZ				S	Sn	10 32 40.5	+2.4
RRRZ	**Republican Roa**	**0.70**	**265**	P	Pn	10 32 28.8	+0.4
TARZ	**Mount Tarawera**	**0.70**	**273**	P	Pn	10 32 29.2	+0.6
PUZ	**Puketiti**	**0.71**	**73**	P	Pn	10 32 28.9	+0.3
MTHZ	**Maungataniwha**	**0.72**	**217**	P	Pn	10 32 29.1	+0.3
MTHZ				S	Sn	10 32 40.0	+1.0
MKRZ	**Makatiti**	**0.74**	**281**	P	Pn	10 32 29.9	+0.8
PRGZ	**Paritu Road**	**0.75**	**149**	P	Pn	10 32 29.3	+0.2
WIZ	**White Island**	**0.77**	**348**	P	Pn	10 32 29.1	-0.2
KNZ	**Kokohu**	**0.77**	**164**	P	Pn	10 32 29.3	0.0
KNZ				S	Sn	10 32 40.7	+0.6
OPRZ	**Ohinepanea**	**0.79**	**303**	P	Pn	10 32 29.5	-0.1
OPRZ				S	Sn	10 32 40.9	+0.3
WHHZ	**Waihua**	**0.81**	**189**	P	Pn	10 32 30.5	+0.7
PRRZ	**Plateau Road**	**0.82**	**254**	P	Pn	10 32 30.3	+0.3
HLRZ	**Highlands Stat**	**0.82**	**272**	P	Pn	10 32 30.6	+0.5
OMRZ	**Omania**	**0.82**	**282**	P	Pn	10 32 30.4	+0.3
LIRZ	**Lichensteins R**	**0.84**	**289**	P	Pn	10 32 30.7	+0.3
ALRZ	**Allen Road**	**0.87**	**251**	P	Pn	10 32 31.1	+0.4
HRRZ	**Handcock Road**	**0.88**	**262**	P	Pn	10 32 31.2	+0.3
HSRZ	**Hossack Road**	**0.91**	**268**	P	Pn	10 32 31.8	+0.7
WMGZ	**Waiomatatini S**	**0.93**	**61**	P	Pn	10 32 32.0	+0.6
NMHZ	**Naumai**	**0.94**	**209**	P	Pn	10 32 32.9	+1.3
KARZ	**Kaharoa**	**0.94**	**286**	P	Pn	10 32 31.9	+0.2
UTU	**Utuhina**	**0.95**	**276**	P	Pn	10 32 32.7	+0.9
NGRZ	**Ngongotaha**	**0.97**	**280**	P	Pn	10 32 32.9	+0.9
WPRZ	**Whakapapatarin**	**1.00**	**256**	P	Pn	10 32 32.8	+0.4
GRRZ	**Galatos Road**	**1.01**	**266**	P	Pn	10 32 33.3	+0.7
MXZ	**Matakaoa Point**	**1.01**	**45**	P	Pn	10 32 33.6	+1.0
ARHZ	**Aropaoanui**	**1.03**	**198**	P	Pn	10 32 33.5	+0.7
TGRZ	**Tauranga**	**1.05**	**301**	P	Pn	10 32 32.9	-0.2
BKZ	**Black Stump Fm**	**1.13**	**218**	P	Pn	10 32 34.7	+0.5
HATZ	**Hinemaiaia**	**1.19**	**239**	P	Pn	10 32 35.3	+0.3
WHTZ	**Whakaora**	**1.19**	**251**	P	Pn	10 32 35.9	+0.9
KMRZ	**Kaimai**	**1.23**	**290**	P	Pn	10 32 35.5	0.0
KUTZ	**Kaahu Road**	**1.25**	**260**	P	Pn	10 32 36.4	+0.5
MCHZ	**McNeill Hill**	**1.28**	**205**	P	Pn	10 32 36.8	+0.5
MYRZ	**Mayor Island**	**1.35**	**317**	P	Pn	10 32 37.1	-0.1
KWHZ	**Kaweka Forest**	**1.37**	**213**	P	Pn	10 32 37.9	+0.4
WATZ	**Wairara**	**1.37**	**251**	P	Pn	10 32 38.0	+0.5
RITZ	**Rihia Road**	**1.39**	**239**	P	Pn	10 32 38.5	+0.8
CKHZ	**Cape Kidnapper**	**1.40**	**190**	P	Pn	10 32 37.2	-0.6
RATZ	**Rangitukua**	**1.40**	**245**	P	Pn	10 32 38.7	+0.8
TLZ	**Tolley Road**	**1.46**	**267**	P	Pn	10 32 38.9	+0.3
KATZ	**Kakaramea**	**1.50**	**242**	P	Pn	10 32 39.9	+0.6
TMVZ	**Te Maari**	**1.56**	**237**	P	Pn	10 32 40.7	+0.6
KAHZ	**Kahuranaki**	**1.57**	**195**	P	Pn	10 32 39.7	-0.4
ETVZ	**East Tongariro**	**1.57**	**237**	P	Pn	10 32 40.8	+0.5
KRHZ	**Kereru**	**1.58**	**210**	P	Pn	10 32 40.0	-0.3
TOZ	**Tahuroa Road**	**1.59**	**290**	P	Pn	10 32 40.6	+0.2
BHHZ	**Black Hill Sta**	**1.59**	**220**	P	Pn	10 32 41.0	+0.5
KRVZ	**Karewarewa**	**1.60**	**239**	P	Pn	10 32 41.2	+0.6
OTVZ	**Oturere**	**1.62**	**236**	P	Pn	10 32 41.5	+0.6
WTVZ	**West Tongariro**	**1.64**	**239**	P	Pn	10 32 41.8	+0.6
NGZ	**Ngauruhoe**	**1.67**	**237**	P	Pn	10 32 42.1	+0.6
TUVZ	**Tukino**	**1.68**	**234**	P	Pn	10 32 42.3	+0.6
MOVZ	**Moawhango**	**1.71**	**228**	P	Pn	10 32 42.4	+0.4
TWVZ	**Taurewa**	**1.73**	**242**	P	Pn	10 32 42.8	+0.4
WHVZ	**Whangaehu Hut**	**1.73**	**234**	P	Pn	10 32 43.0	+0.5
FWVZ	**Far West T-bar**	**1.74**	**235**	P	Pn	10 32 43.1	+0.5
DRZ	**Dome Shelter**	**1.74**	**235**	P	Pn	10 32 43.3	+0.6
WNVZ	**Wahianoa**	**1.75**	**233**	P	Pn	10 32 43.2	+0.5
TRVZ	**Turoa**	**1.77**	**234**	P	Pn	10 32 43.5	+0.5
PXZ	**Pawanui**	**1.80**	**193**	P	Pn	10 32 41.7	-1.5
MTVZ	**Mangateitei**	**1.86**	**233**	P	Pn	10 32 44.7	+0.5
PNHZ	**Pukenui**	**1.88**	**209**	P	Pn	10 32 43.5	-0.9
PKVZ	**Pokaka**	**1.89**	**237**	P	Pn	10 32 45.3	+0.7
WPHZ	**Waipukurau**	**1.93**	**202**	P	Pn	10 32 44.1	-0.9
HIZ	**Hauiti**	**2.01**	**263**	P	Pn	10 32 47.3	+1.2
KUZ	**Kuaotunu**	**2.03**	**318**	P	Pn	10 32 45.9	-0.4
PRHZ	**Porangahau**	**2.07**	**196**	P	Pn	10 32 45.4	-1.6
TSZ	**Takapari Road**	**2.10**	**212**	P	Pn	10 32 46.6	-0.8
MKAZ	**Moumakai**	**2.13**	**303**	P	Pn	10 32 47.8	+0.1
VRZ	**Vera Road**	**2.23**	**247**	P	Pn	10 32 50.4	+1.3
DVHZ	**Dannevirke**	**2.23**	**205**	P	Pn	10 32 47.3	-1.9
ANWZ	**Angora Road**	**2.29**	**198**	P	Pn	10 32 48.4	-1.5
WIAZ	**Waiheke Island**	**2.33**	**309**	P	Pn	10 32 50.9	+0.4
ETAZ	**East Tamaki Re**	**2.37**	**303**	P	Pn	10 32 51.7	+0.7
WAZ	**Wanganui**	**2.39**	**231**	P	Pn	10 32 52.5	+1.2
POWZ	**Post Office Ro**	**2.46**	**210**	P	Pn	10 32 50.7	-1.6
MBAZ	**Motutapu North**	**2.49**	**306**	P	Pn	10 32 53.6	+0.8
AWAZ	**Awhitu Peninsu**	**2.50**	**298**	P	Pn	10 32 53.8	+1.0
OHWZ	**Ohakea**	**2.51**	**219**	P	Pn	10 32 53.1	+0.2
PRWZ	**Pori Road**	**2.53**	**205**	P	Pn	10 32 51.4	-1.8
EPAZ	**Eden Park BICE**	**2.53**	**303**	P	Pn	10 32 54.3	+1.0
MHEZ	**Mangahewa**	**2.53**	**251**	P	Pn	10 32 56.3	+3.1
GRZ	**Great Barrier**	**2.55**	**322**	P	Pn	10 32 54.3	+0.8
HBAZ	**Herne Bay Bore**	**2.55**	**303**	P	Pn	10 32 54.5	+1.0
BFZ	**Birch Farm**	**2.56**	**200**	P	Pn	10 32 51.9	-1.8
WTAZ	**Waiatarua**	**2.61**	**300**	P	Pn	10 32 55.5	+1.1
LREZ	**Lake Rotokare**	**2.62**	**242**	P	Pn	10 32 56.6	+2.1
DREZ	**Durham Road**	**2.66**	**249**	P	Pn	10 32 57.8	+2.8
RVAZ	**Riverhead Bore**	**2.70**	**303**	P	Pn	10 32 56.3	+0.8
PREZ	**Palmer Road**	**2.74**	**246**	P	Pn	10 32 59.1	+2.9
TIWZ	**Tintock**	**2.75**	**205**	P	Pn	10 32 54.1	-2.2
MRZ	**Mangatainoka R**	**2.76**	**210**	P	Pn	10 32 54.1	-2.4
NEZ	**North Egmont**	**2.76**	**248**	P	Pn	10 32 59.0	+2.5
CPWZ	**Castlepoint**	**2.79**	**199**	P	Pn	10 32 55.1	-1.6
PKE	**Pukeiti**	**2.82**	**250**	P	Pn	10 32 59.6	+2.4
KHEZ	**Kahui Hut**	**2.83**	**248**	P	Pn	10 32 59.9	+2.5
NBEZ	**Newall Road No**	**2.93**	**249**	P	Pn	10 33 01.3	+2.7
NMEZ	**Namu Road**	**2.97**	**247**	P	Pn	10 33 01.8	+2.5
HOWZ	**Holdsworth Sta**	**2.99**	**208**	P	Pn	10 32 56.7	-2.9
TMWZ	**Te Maipa**	**3.05**	**202**	P	Pn	10 32 57.6	-2.9
OGWZ	**Otaki Gorge**	**3.06**	**213**	P	Pn	10 32 58.1	-2.4
KIW	**Kapiti Island**	**3.21**	**216**	P	Pn	10 33 00.3	-2.3
WCZ	**Waipu Caves**	**3.38**	**313**	P	Pn	10 33 05.6	+0.8
DUWZ	**D'Urville Isla**	**3.68**	**226**	P	Pn	10 33 07.3	-1.8
NNZ	**Nelson**	**4.26**	**225**	P	Pn	10 33 14.4	-2.6
OUZ	**Omahuta**	**4.32**	**314**	P	Pn	10 33 19.0	+1.3
QRZ	**Quartz Range**	**4.54**	**234**	P	Pn	10 33 18.4	-2.4
WVZ	**Waitaha Valley**	**6.97**	**224**	P	Pn	10 33 52.3	-1.7
CTZ	**Chatham Island**	**7.08**	**142**	P	Pn	10 33 54.5	-1.1
GCSZ	**Gaunt Creek Bo**	**7.35**	**225**	P	Pn	10 33 57.4	-1.9
FOZ	**Fox Glacier**	**7.78**	**225**	P	Pn	10 34 03.0	-2.1

TIR ***27*** *10:38:21.4, 40.08N×19.94E, h17km, Md2.9/8*
ATH ***27*** *10:38:21.7, 40.10N×19.91E, h21km±1km, ML2.6/17, Error ellipse: s-maj=2.1km s-min=1.2km az=210.0*
THE ***27*** *10:38:22.6, 40.11N×19.91E, h0km±3km, MLz2.6/5, Error ellipse: s-maj=3.6km s-min=1.2km az=303.0*

ISC 27 10:38:22.0±0.9, **40.09N**±0.02×**19.93E**±0.02, **h17**km±7km, **n65**, σ0.88/87, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.22**	**165**	P	**Pg**	**10 38 26.7**	**-0.3**
SRN				S	**Sb**	**10 38 31.0**	**-0.2**
	11μm,0.3s						
SRN	**Sarande**	**0.22**	**165**	*i* PG	**Pg**	**10 38 26.6**	**-0.3**
SRN				*i* SG	**Sg**	**10 38 30.4**	**0.0**
KASA	**Kassiopi**	**0.34**	**179**	P	**Pg**	**10 38 29.0**	**-0.2**
KASA				S	**Sb**	**10 38 34.8**	**0.0**
KASA				AML	AML	10 38 35.6	
	comp=N,4936μm,0.4s						
KASA				AML	AML	10 38 36.9	
	comp=E,4403μm,0.3s						
KEK	**Kerkira**	**0.39**	**195**	P	**Pg**	**10 38 29.6**	**-0.3**
KEK				S	**Sb**	**10 38 36.3**	**+0.2**
	comp=E,2μm,0.2s						
KEK	**Kerkira**	**0.39**	**195**	P	**Pg**	**10 38 29.7**	**-0.3**
KEK				S	**Sb**	**10 38 36.3**	**+0.2**
KEK				AML	AML	10 38 38.2	
	comp=N,3018μm,0.4s						
KEK				AML	AML	10 38 38.9	
	comp=E,2821μm,0.2s						
VLO	**Vlora**	**0.50**	**319**	P	**Pb**	**10 38 32.9**	**+0.6**
VLO	**Vlora**	**0.50**	**319**	*i* PG	**Pb**	**10 38 32.1**	**-0.2**
VLO				*i* SG	**Sb**	**10 38 40.0**	**+0.6**
LSK	**Leskovik**	**0.52**	**83**	*i* PG	**Pg**	**10 38 31.8**	**-0.6**
LSK				*i* SG	**Sb**	**10 38 40.1**	**+0.2**
JAN	**Janina**	**0.83**	**121**	P	**Pn**	**10 38 39.0**	**+0.1**
JAN				S	**Sn**	**10 38 52.1**	**+1.3**
	comp=E,398nm,0.5s						
JAN	**Janina**	**0.83**	**121**	P	**Pb**	**10 38 37.8**	**-0.1**
JAN				S	**Sn**	**10 38 50.2**	**-0.7**
JAN				AML	AML	10 38 55.4	
	comp=N,859μm,0.5s						
JAN				AML	AML	10 38 58.7	
	comp=E,797μm,0.3s						
NEST	**Nestorio**	**0.92**	**69**	P	**Pn**	**10 38 40.0**	**-0.2**
NEST	**Nestorio**	**0.92**	**69**	P	**Pb**	**10 38 39.3**	**-0.1**
NEST				AML	AML	10 38 58.5	
	comp=E,295μm,0.4s						
NEST				AML	AML	10 38 59.9	
	comp=N,295μm,0.6s						
PENT	**Pentalofos**	**0.93**	**83**	P	**Pb**	**10 38 39.8**	**0.0**
PENT	**Pentalofos**	**0.93**	**83**	P	**Pb**	**10 38 39.8**	**0.0**
PENT				AML	AML	10 39 02.3	
	comp=N,327μm,0.5s						
PENT				AML	AML	10 39 02.9	
	comp=E,623μm,0.4s						
KPRO	**Kipourio**	**1.11**	**97**	P	**Pn**	**10 38 43.1**	**+0.3**
KPRO	**Kipourio**	**1.11**	**97**	P	**Pn**	**10 38 43.1**	**+0.3**
KPRO				AML	AML	10 39 05.6	
	comp=E,523μm,0.4s						
KPRO				AML	AML	10 39 06.4	
	comp=N,538μm,0.5s						
SCTE	**Santa Cesarea**	**1.12**	**270**	*i* PG	**Pg**	**10 38 44.0**	**+0.4**
SCTE				*i* SG	**Sg**	**10 38 59.5**	**+1.2**
SCTE	**Santa Cesarea**	**1.12**	**270**	P	**Pg**	**10 38 43.6**	**0.0**
SCTE				S	**Sg**	**10 38 58.6**	**+0.3**
SCTE				AML	AML	10 39 00.6	
	comp=E,482μm,0.2s						
SCTE				AML	AML	10 39 01.3	
	comp=N,337μm,0.4s						
TIR	**Tirane**	**1.26**	**358**	P	**Pb**	**10 38 45.0**	**-0.2**
TIR	**Tirane**	**1.26**	**358**	*i* PN	**Pn**	**10 38 44.6**	**-0.2**
TIR				*i* SN	**Sg**	**10 39 04.3**	**+1.7**
TIR	**Tirane**	**1.26**	**358**	P	**Pn**	**10 38 44.4**	**-0.4**
TSLK	**Tsoukalades, L**	**1.38**	**156**	P	**Pg**	**10 38 48.3**	**-0.3**
TSLK	**Tsoukalades, L**	**1.38**	**156**	P	**Pb**	**10 38 47.9**	**+0.5**
TSLK				AML	AML	10 39 10.5	
	comp=N,675μm,0.3s						
TSLK				AML	AML	10 39 10.8	
	comp=E,441μm,0.3s						
LKD2	**Lefkada island**	**1.42**	**156**	P	**Pg**	**10 38 48.7**	**-0.6**
LKD2	**Lefkada island**	**1.42**	**156**	P	**Pb**	**10 38 48.6**	**+0.6**
LKD2				AML	AML	10 39 14.8	
	comp=N,348μm,0.3s						
LKD2				AML	AML	10 39 17.3	
	comp=E,393μm,0.4s						
KZN	**Kozani**	**1.43**	**81**	P	**Pg**	**10 38 51.0**	**+1.6**
KZN				S	**Sg**	**10 39 09.0**	**+0.9**
	comp=E,112nm,0.5s						
KZN	**Kozani**	**1.43**	**81**	P	**Pb**	**10 38 48.7**	**+0.5**
KZN				AML	AML	10 39 15.8	
	comp=N,290μm,0.6s						
KZN				AML	AML	10 39 16.1	
	comp=E,431μm,0.6s						
EVGI	**Lefkada island**	**1.57**	**159**	P	**Pg**	**10 38 52.4**	**+0.2**
EVGI	**Lefkada island**	**1.57**	**159**	P	**Pb**	**10 38 50.2**	**-0.4**
PHP	**Peshkopia**	**1.64**	**14**	*i* PN	**Pg**	**10 38 52.9**	**-0.6**
PHP				*i* SN	**Sg**	**10 39 16.1**	**+1.2**
THL	**Klokotos Trika**	**1.69**	**107**	P	**Pg**	**10 38 53.8**	**-0.6**
THL				S	**Sg**	**10 39 17.2**	**+0.8**
	comp=E,60nm,0.6s						
THL	**Klokotos Trika**	**1.69**	**107**	P	**Pb**	**10 38 52.6**	**0.0**
THL				AML	AML	10 39 24.1	
	comp=N,120μm,0.5s						
THL				AML	AML	10 39 25.0	
	comp=E,147μm,0.5s						
KEF5	**Kardakata, Kep**	**1.86**	**167**	P	**Pn**	**10 38 54.0**	**+0.9**
PVO	**Paravola**	**1.92**	**139**	P	**Pb**	**10 38 55.7**	**-0.8**
PVO	**Paravola**	**1.92**	**139**	P	**Pb**	**10 38 55.7**	**-0.8**
PVO				AML	AML	10 39 32.8	
	comp=N,103μm,0.5s						
PVO				AML	AML	10 39 36.0	
	comp=E,111μm,0.6s						
PUK	**Puka**	**1.95**	**359**	*i* PN	**Pb**	**10 38 56.6**	**-0.4**
PUK				*i* SN	**Sg**	**10 39 23.7**	**-1.1**
LIT	**Litokhoron**	**1.96**	**89**	P	**Pn**	**10 38 55.5**	**+1.0**
LIT	**Litokhoron**	**1.96**	**89**	P	**Pn**	**10 38 55.5**	**+1.0**
VLS	**Valsamata**	**1.98**	**165**	P	**Pn**	**10 38 55.6**	**+0.9**
VLS	**Valsamata**	**1.98**	**165**	P	**Pn**	**10 38 55.6**	**+0.9**
VLS				AML	AML	10 39 29.8	
	comp=E,152μm,0.2s						
VLS				AML	AML	10 39 30.8	
	comp=N,173μm,0.3s						
MAKR	**Makrakomi, Fth**	**2.01**	**122**	P	**Pb**	**10 38 59.3**	**+1.2**
MAKR	**Makrakomi, Fth**	**2.01**	**122**	P	**Pb**	**10 38 58.1**	**0.0**
MAKR				AML	AML	10 39 31.7	
	comp=N,175μm,0.4s						
MAKR				AML	AML	10 39 37.9	
	comp=E,328μm,0.5s						
AGG	**Agios Georgios**	**2.14**	**119**	P	**Pb**	**10 39 00.0**	**-0.3**
AGG	**Agios Georgios**	**2.14**	**119**	P	**Pb**	**10 38 59.8**	**-0.6**
AGG				AML	AML	10 39 36.5	
	comp=N,97μm,0.6s						
AGG				AML	AML	10 39 45.2	
	comp=E,116μm,0.7s						
ANX	**Ano Chora**	**2.15**	**133**	P	**Pb**	**10 38 59.7**	**-0.8**
ANX	**Ano Chora**	**2.15**	**133**	P	**Pb**	**10 38 59.7**	**-0.8**
ANX				AML	AML	10 39 48.8	
	comp=E,111μm,0.6s						
ANX				AML	AML	10 39 50.1	
	comp=N,132μm,0.4s						
AXS	**Araxos**	**2.20**	**149**	P	**Pn**	**10 38 58.7**	**+1.0**
EFP	**Efpalio**	**2.26**	**137**	P	**Pb**	**10 39 01.5**	**-0.8**
EFP	**Efpalio**	**2.26**	**137**	P	**Pb**	**10 39 01.5**	**-0.8**
VLMS	**Volimes, Zakyn**	**2.28**	**165**	P	**Pn**	**10 38 59.6**	**+0.7**
NOCI	**Noci**	**2.29**	**289**	P	**Pn**	**10 38 59.5**	**+0.5**
NOCI				AML	AML	10 39 41.6	
	comp=E,280μm,0.2s						
NOCI				AML	AML	10 39 43.8	
	comp=N,355μm,0.3s						
STIP	**Stip**	**2.34**	**46**	*i* Pn	**Pg**	**10 39 05.8**	**-1.1**
TIP	**Timpagrande**	**2.61**	**251**	P	**Pn**	**10 39 03.7**	**+0.2**
DSF	**Desfina**	**2.62**	**129**	P	**Pb**	**10 39 06.3**	**-2.2**
DSF	**Desfina**	**2.62**	**129**	P	**Pb**	**10 39 06.3**	**-2.2**
KLV	**Kalavryta, Ach**	**2.68**	**139**	P	**Pb**	**10 39 07.0**	**-2.5**
KLV	**Kalavryta, Ach**	**2.68**	**139**	P	**Pb**	**10 39 07.0**	**-2.5**
DBRK	**Dubrovnik**	**2.90**	**333**	*e*Pn	**Pn**	**10 39 07.7**	**+0.2**
DBRK					Sn	**10 39 40.3**	**-1.6**
MAKA	**Makarska**	**3.87**	**327**	*e*Pn	**Pn**	**10 39 22.3**	**+1.7**
MAKA					Sn	**10 40 05.2**	**-0.4**
RICI

comp=E,690nm,8.8s
UBPT Khong Chiam 8.65 150 Pn **Pn** **10 47 20.4 +1.6**
UBPT Sn **Sn** **10 48 57.9 +1.4**
SHL Shillong 8.78 289 Pn **Pn** **10 47 20.9 +0.1**
LSA Lhasa 11.17 309 Pn **Pn** **10 47 54.0 +0.1**
XAN Xi'an 13.08 30 P **Pn** **10 48 20.0 +0.5**
XAN pP P 10 48 29.8 -0.1
XAN S **Sn** **10 50 49.5 +4.4**
XAN pmax pmax
comp=E,7.0nm,1.1s
XAN pmax pmax
comp=E,160nm,4.9s
XAN LR LR
comp=E,520nm,11.4s
XAN LR LR
comp=E,520nm,12.6s
XAN LR LR
comp=E,480nm,13.9s
LZH Lanzhou 13.37 10 *e*P **Pn** **10 48 21.5 -2.1**
LZH pP P 10 48 24.3 -8.9
LZH sP 10 48 26.5
LZH PP **PnPn** **10 48 33.3 +1.7**
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,62nm,5.4s
LZH LR LR
comp=N,270nm,8.7s
LZH LR LR
comp=E,220nm,9.2s
LZH LR LR
comp=Z,170nm,8.1s
KNMB Chin-men Tao 15.96 81 Pn **Pn** **10 48 56.5 -1.8**
TGY Tagaytay City 20.77 111 LR LR 10 57 36.4
comp=Z,36nm,18.7s,baz=342,slow=36
BJI Beijing 21.36 33 P **P** **10 50 02.5 +1.5**
BJI S **S** **10 54 00.5 +2.3**
BJI pmax pmax
comp=Z,4.0nm,0.6s
BJI LR LR
comp=Z,150nm,7.6s
BJI LR LR
comp=Z,230nm,15.1s
WMQ Urumqi 23.61 335 *e*P **P** **10 50 23.0 -1.7**
WMQ pmax pmax
comp=Z,11nm,0.6s
WMQ pmax pmax
comp=Z,40nm,3.8s
WMQ LR LR
comp=Z,390nm,29.1s
WMQ LR LR
comp=Z,400nm,29.1s
SONM Songino Array 25.25 8 P **P** **10 50 39.9 -0.1**
comp=Z,1.1nm,0.6s,baz=188,slow=9.4,SNR=6.4
ULN Ulaanbaatar 25.38 9 P **P** **10 50 40.4 -0.7**
ULN IAmb IAmb 10 50 45.8
comp=Z,6.0nm,1.3s
NIL Nilore 26.65 300 P **P** **10 50 52.9 +0.2**
NIL IAmb IAmb 10 50 55.6
comp=Z,11nm,1.0s
KSRS Korea Array 27.27 52 LR LR 11 03 27.1
comp=Z,51nm,20.5s,baz=239,slow=40
MK31 Makanchi Array 28.24 332 P **P** **10 51 06.2 -0.6**
MKAR Makanchi Array 28.24 332 P **P** **10 51 07.2 +0.4**
comp=Z,3.0nm,0.8s,baz=138,slow=10,SNR=22
DAV Davao City (W) 28.36 120 LR LR 11 02 16.8
comp=Z,47nm,20.2s,baz=104,slow=36
TLY Talaya 28.81 3 P **P** **10 51 10.8 -1.0**
TLY IAmb IAmb 10 51 17.4
comp=Z,3.3nm,0.9s
AAK Ala-Archa 29.57 318 P **P** **10 51 18.5 -0.3**
AAK IAmb IAmb 10 51 30.9
comp=Z,2.0nm,0.4s
KK31 Karatay Array 32.32 316 P **P** **10 51 42.5 -0.4**
KK31 IAmb IAmb 10 51 45.7
comp=Z,3.7nm,1.4s
KKAR Karatay Array 32.32 316 P **P** **10 51 42.5 -0.4**
KKAR IAmb IAmb 10 51 45.7
comp=Z,3.7nm,1.4s
KURK Kurchatov 32.81 333 P **P** **10 51 47.6 +0.5**
KURK IAmb IAmb 10 51 49.3
comp=Z,2.8nm,0.8s
KURK PP **PP** **10 53 00.7 -0.4**
ZAA0 Zalesovo Array 33.35 343 P **P** **10 51 51.6 -0.1**
ZAA0 PP **PP** **10 53 07.0 -0.1**
ZALV Zalesovo Beam 33.35 343 P **P** **10 51 52.3 +0.6**
comp=Z,1.7nm,0.8s,baz=134,slow=8.4,SNR=4.5
JHJ2 Mitsune 35.53 65 P **P** **10 52 09.3 -1.6**
KLR Kul'dur 35.72 35 LR LR 11 08 22.1
comp=Z,71nm,19.5s,baz=184,slow=39
BVAR Borovoye Array 38.06 330 P **P** **10 52 33.7 +1.6**
comp=Z,2.2nm,0.6s,baz=126,slow=9.9,SNR=10
BVAR LR LR 11 09 25.1
comp=Z,38nm,19.4s,baz=196,slow=38
BRVK Borovoye 38.13 330 P **P** **10 52 31.6 -1.1**
BRVK IAmb IAmb 10 52 34.9
comp=Z,4.1nm,0.7s
GEYT Alibeck 39.59 302 P **P** **10 52 47.6 +2.4**
comp=Z,1.4nm,0.5s,baz=99,slow=9.2,SNR=2.0
ASAJ Asahikawa 40.05 48 P **P** **10 52 48.7 -0.2**
comp=Z,12nm,0.8s,baz=250,slow=10,SNR=11
JKA Kamikawa-asahi 40.05 48 P **P** **10 52 48.9 -0.1**
AKTO Aktyubinsk 43.25 320 P **P** **10 53 16.9 +1.8**
comp=Z,1.6nm,0.8s,baz=126,slow=8.7,SNR=1.9
AKTO LR LR 11 13 02.2
comp=Z,36nm,20.2s,baz=120,slow=38
PETK Petropavlovsk- 52.10 40 LR LR 11 17 45.7
comp=Z,34nm,19.2s,baz=258,slow=38
WRA Warramunga Arr 53.55 140 P **P** **10 54 34.3 -0.6**
comp=Z,1.9nm,0.7s,baz=330,slow=8.0,SNR=26
WRA Warramunga Arr 53.55 140 P **P** **10 54 34.1 -0.8**
WRAB Tennant Creek 53.55 140 P **P** **10 54 34.7 -0.2**
WRAB IAmb IAmb 10 54 35.1
comp=Z,6.1nm,0.9s
WRAB PcP **PcP** **10 55 42.4 +0.8**
WB2 Warramunga Arr 53.56 140 P **P** **10 54 34.3 -0.6**
WR0 Warramunga Arr 53.69 140 P **P** **10 54 35.4 -0.5**
WR0 IAmb IAmb 10 54 35.8
comp=Z,4.7nm,0.8s
AS31 Alice Springs 56.23 143 P **P** **10 54 53.4 -0.9**
ASAR Alice Springs 56.23 143 P **P** **10 54 53.9 -0.4**
comp=Z,2.1nm,0.7s,baz=326,slow=6.6,SNR=35
ASAR PcP **PcP** **10 55 51.0 -0.8**
comp=Z,0.7nm,0.7s,baz=329,slow=3.7,SNR=6.0
ASAR Alice Springs 56.23 143 P **P** **10 54 54.2 0.0**
AKBB Malin Array Si 61.22 316 P **P** **10 55 28.7 +0.1**
AKBB IAmb IAmb 10 55 33.0
comp=Z,2.2nm,0.8s
BURAR Bucovina Array 64.06 313 P **P** **10 55 47.8 0.0**
TXAR Lajitas Array 122.88 26 PKP **PKPdf** **11 04 09.2 -1.5**
comp=Z,0.1nm,0.4s,baz=359,slow=3.6,SNR=1.8

*IDC **27** 11:08:53.9±1.8,50.°11N×153.°19E, h279km±20km, mb3.0/11, mb1 3.2/17, mb1mx3.1/47, mbtmp3.7/17, Error ellipse: s-maj=35.5km s-min=10.4km az=137.0*
*KRSC **27** 11:08:53.1±1.8, 49.°87N×154.°14E, h317km±14km, ML3.8*
ISC 27 11:08:54.7±0.6,**50.°1N**±0.°1×**153.°33E**±0.°09,**h300**km,**n33,**
σ1§81/35,mb3.2/11,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.89**	**70**	*e*P		**Pn**	**11 09 38.9**	**-1.6**
PAU	**Pauzhetka**	**2.61**	**56**	*e*P		**Pn**	**11 09 44.8**	**-1.9**
KDTR	**Khodutka, Kamc**	**3.47**	**58**	*e*P		**Pn**	**11 09 53.0**	**-2.1**
KDTR				*e*S		**S**	**11 10 38.3**	**-5.1**
ASAK	**Asacha**	**3.69**	**49**	*e*P		**Pn**	**11 09 55.3**	**-2.2**
RUS	**Russkaya**	**4.02**	**52**	P		**Pn**	**11 09 59.8**	**-1.2**
RUS				S		**S**	**11 10 50.4**	**-3.8**
PETK	**Petropavlovsk-**	**4.08**	**40**	P		**Pn**	**11 10 00.2**	**-1.5**
	0.8nm,0.3s,baz=220,slow=7.6,SNR=24							
KOK	**Koryaka**	**4.61**	**44**	*e*P		**Pn**	**11 10 06.7**	**-1.1**
SPN	**Mys Shipunski**	**5.16**	**51**	*e*P		**Pn**	**11 10 12.4**	**-1.5**
SPN				*e*S		S	11 11 08.6	-9.0
KZV	**Kizimen**	**6.59**	**37**	*e*P		**Pn**	**11 10 30.8**	**-0.3**
TUMR	**Tumrok**	**6.66**	**36**	*e*P		**Pn**	**11 10 32.2**	**+0.3**
SRDR	**Sredinnyy**	**7.33**	**29**	*e*P		**Pn**	**11 10 40.1**	**+0.1**
BDR	**Baidarnaya**	**8.03**	**33**	*e*P		**Pn**	**11 10 48.1**	**-0.5**
SRKR	**Sorokina**	**8.08**	**32**	*e*P		**Pn**	**11 10 49.0**	**-0.2**
KBG	**Krutoberegovo**	**8.37**	**39**	*e*P		**Pn**	**11 10 50.5**	**-2.0**
KBTR	**Krutoberegovo**	**8.38**	**39**	*e*P		**Pn**	**11 10 51.5**	**-1.2**
BKI	**Bering**	**9.24**	**51**	*e*P		**Pn**	**11 11 01.8**	**-1.5**
ASAJ	**Asahikawa**	**9.43**	**235**	P		**Pn**	**11 11 04.1**	**-1.7**
	1.4nm,0.3s,baz=68,slow=14,SNR=11							
SEY	**Seymchan**	**12.90**	**358**	P		**P**	**11 11 47.9**	**-0.4**
	0.2nm,0.3s,baz=180,slow=9.5,SNR=6.0							
KLR	**Kul'dur**	**14.00**	**275**	P		**P**	**11 11 58.5**	**-2.1**
	0.2nm,0.3s,baz=66,slow=14,SNR=5.3							
USRK	**Ussuriysk Ar.**	**15.64**	**256**	P		**Pn**	**11 12 19.1**	**-1.4**
	baz=60,slow=15,SNR=1.3							
MAT	**Matsushiro**	**17.39**	**225**	P		**P**	**11 12 36.8**	**-1.0**
MJAR	**Matsushiro Arr**	**17.39**	**225**	P		**P**	**11 12 38.4**	**+0.6**
	0.1nm,0.3s,baz=16,slow=11,SNR=16							
KSRS	**Korea Array**	**22.14**	**245**	P		**P**	**11 13 26.2**	**+0.3**
	1.0nm,0.6s,baz=52,slow=9.3,SNR=5.2							
KDAK	**Kodiak Island**	**31.98**	**55**	P		**P**	**11 14 53.8**	**+0.7**
	1.7nm,0.6s,baz=342,slow=6.5,SNR=1.8							
ILAR	**Eielson Array**	**33.91**	**42**	P		**P**	**11 15 10.1**	**+0.5**
	0.5nm,0.5s,baz=264,slow=5.4,SNR=8.6							
INK	**Inuvik**	**38.80**	**35**	P		**P**	**11 15 51.8**	**+1.2**
	0.9nm,0.4s,baz=303,slow=8.4,SNR=14							
YKA	**Yellowknife Ar**	**48.20**	**38**	P		**P**	**11 17 06.4**	**+1.4**
	1.0nm,0.8s,baz=294,slow=8.5,SNR=1.7							
YBH	**Yreka Blue Hor**	**56.09**	**64**	P		**P**	**11 18 04.4**	**+1.2**
	0.8nm,0.5s,baz=255,slow=12,SNR=1.8							
NVAR	**Mina Array Bea**	**60.81**	**64**	P		**P**	**11 18 38.5**	**+2.7**
	0.3nm,0.8s,baz=298,slow=6.0,SNR=3.3							
PDAR	**Pinedale Array**	**62.70**	**55**	P		**P**	**11 18 49.5**	**+1.3**
	0.3nm,0.5s,baz=349,slow=3.0,SNR=4.8							
WRA	**Warramunga Arr**	**71.71**	**199**	P		**P**	**11 19 44.7**	**+0.4**
	0.4nm,0.9s,baz=22,slow=9.0,SNR=2.3							
ASAR	**Alice Springs**	**75.41**	**198**	P		**P**	**11 20 07.7**	**+2.0**
	0.2nm,0.6s,baz=24,slow=7.1,SNR=2.5							
TXAR	**Lajitas Array**	**75.75**	**61**	P		**P**	**11 20 09.9**	**+2.1**
	0.3nm,0.6s,baz=298,slow=5.2,SNR=7.8							

*SKHL **27** 11:45:52.8±0.9, 46.°27N×153.°76E, h55km±5km, mb4.4/6*
*JMA **27** 11:45:53.9±0.6, 46.°84N×153.°24E, h30km, M4.3*
*NIED **27** 11:45:54.0, 46.°84N×153.°24E, h30km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.78; $M_{\theta\theta}$0.46; $M_{\phi\phi}$-2.25; $M_{r\theta}$-0.62; $M_{r\phi}$-1.09; $M_{\theta\phi}$3.25; Fault plane solution: $M_0$4.04000×10^{14} NP1: ϕ_s354.00000°, δ75.00000°, λ70.00000°. NP2: ϕ_s229.00000°, δ25.00000°, λ143.00000°.*
*MOS **27** 11:45:56.0±1.7, 46.°82N×153.°16E, h49km, mb4.3/1 Error ellipse: s-maj=16.4km s-min=9.5km az=48.6*
*IDC **27** 11:46:00.2±2.8, 46.°93N×153.°02E, h69km±25km, mb3.3/11, mb1 3.6/16, mb1mx3.4/67, mbtmp3.7/16, MS2.8/4, Ms1 2.8/4, ms1mx2.5/31, Error ellipse: s-maj=26.8km s-min=16.4km az=145.0*
ISC 27 11:45:56.5±0.8,**46.°49N**±0.°10×**153.°28E**±0.°08,**h50**km,**n55,**
σ2§13/55,mb3.5/10,1C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.98**	**254**	*e*P		**Pn**	**11 46 55.4**	**+0.4**
KUR				AMB		AMB	11 46 57.0	
	30nm,0.4s							
KUR				AMB		AMB	11 46 57.0	
	40nm,0.4s							
KUR				*e*S		**Sn**	**11 47 41.7**	**+1.3**
KUR				A		A	11 47 54.0	
	150nm,0.3s							
KUR				A		A	11 47 54.0	
	50nm,0.3s							
KUR	**Kuril'sk**	**3.98**	**254**	*e*PN		**Pn**	**11 46 57.2**	**+2.2**
KUR				*e*S		**Sn**	**11 47 42.9**	**+2.5**
KUR				pmax		pmax		
	comp=Z,88nm,0.4s							
KUR				pmax		pmax		
	comp=N,42nm,0.2s							
KUR				smax		smax		
	comp=N,154nm,0.4s							
KUR				smax		smax		
	comp=E,65nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**5.78**	**248**	*i* P		**Pn**	**11 47 20.5**	**+0.8**
YUK				AMB		AMB	11 47 27.0	
	comp=E,10.0nm,0.4s							
YUK				*e*S		**Sn**	**11 48 26.9**	**+2.3**
YUK				A		A	11 48 47.0	
	comp=E,20nm,0.5s							
YUK				A		A	11 48 47.0	
	comp=E,140nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.78**	**248**	*d i* PN		**Pn**	**11 47 21.0**	**+1.3**
YUK				pmax		pmax		
	comp=Z,101nm,0.5s							
YUK				pmax		pmax		
	comp=N,75nm,0.3s							
YUK				pmax		pmax		
	comp=E,36nm,0.2s							
YUK				pmax		pmax		
	comp=Z,303nm,1.3s							
GRPR	**Tuman**	**5.86**	**247**	*e*P		**Pn**	**11 47 21.6**	**+0.9**
GRPR				AMB		AMB	11 47 32.0	
	comp=Z,20nm,0.3s							
GRPR				*e*S		**Sn**	**11 48 28.7**	**+2.2**
GRPR				A		A	11 48 44.0	
	comp=Z,70nm,0.5s							
GRPR				A		A	11 48 44.0	
	comp=Z,100nm,0.5s							
GRPR	**Tuman**	**5.86**	**247**	*e*PN		**Pn**	**11 47 21.6**	**+0.9**
GRPR				pmax		pmax		
	comp=Z,83nm,0.2s							
NEM2	**Nemuro 2**	**6.20**	**242**	P		**Pn**	**11 47 24.3**	**-1.0**
NEM2				*e*S		**Sn**	**11 48 31.2**	**-3.6**
NMR	**Nemuro--Hokkai**	**6.20**	**242**	*i* P		**Pn**	**11 47 24.8**	**-0.6**
NMR				*i* S		**Sn**	**11 48 32.9**	**-2.0**
NMR	**Nemuro--Hokkai**	**6.20**	**242**	*i* PN		**Pn**	**11 47 24.8**	**-0.6**
JRA	**Rausu**	**6.30**	**249**	P		**Pn**	**11 47 28.9**	**+2.1**
JNK	**Nakash**	**6.72**	**247**	P		**Pn**	**11 47 33.4**	**+0.8**
JNK				*e*S		**Sn**	**11 48 47.5**	**-0.3**
JAK	**Akkeshi**	**7.04**	**243**	P		**Pn**	**11 47 36.0**	**-0.9**
JAK				*e*S		**Sn**	**11 48 52.2**	**-3.3**
JTKR	**Abashiri--Toko**	**7.08**	**252**	P		**Pn**	**11 47 39.1**	**+1.7**
PETK	**Petropavlovsk-**	**7.21**	**22**	P		**Pn**	**11 47 37.2**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=224,slow=20,SNR=10.0							
YSS	**Yuzh-Sakhalins**	**7.25**	**277**	*e*P		**Pn**	**11 47 42.7**	**+3.0**
YSS				AMB		AMB	11 47 43.7	
	comp=Z,10.0nm,0.4s							
YSS	**Yuzh-Sakhalins**	**7.25**	**277**	*e*PN		**Pn**	**11 47 43.1**	**+3.4**
JMP	**Maruseppu**	**7.43**	**254**	P		**Pn**	**11 47 44.4**	**+2.1**
JAR	**Ashorobuto**	**7.47**	**248**	*e*S		**Sn**	**11 49 04.7**	**-1.4**
JKK2	**Kamakawa 2**	**7.89**	**254**	P		**Pn**	**11 47 50.4**	**+1.9**
JKA	**Kamikawa-asahi**	**7.89**	**256**	*e*P		**Pn**	**11 47 51.3**	**+2.7**
ASAJ	**Asahikawa**	**7.90**	**256**	P		**Pn**	**11 47 51.3**	**+2.6**
	comp=Z,1.0nm,0.3s,baz=79,slow=19,SNR=16							
ASAJ	**Asahikawa**	**7.90**	**256**	P		**Pn**	**11 47 51.3**	**+2.6**
JCH	**Churui**	**8.07**	**245**	*e*S		**Sn**	**11 49 16.5**	**-4.4**
TYV	**Tymovskoe**	**8.28**	**306**	*e*P		**Pn**	**11 47 56.8**	**+3.0**
TYV				AMB		AMB	11 47 57.5	
	comp=Z,10.0nm,0.5s							
JEM	**Erimo**	**8.53**	**242**	*e*S		Sn	11 49 25.0	-7.1
JNBK	**Urakawa-nobuka**	**8.63**	**245**	P		**Pn**	**11 47 57.0**	**-1.7**
JKB	**Kayabe**	**9.92**	**247**	P		**Pn**	**11 48 14.7**	**-1.7**
JKB				*e*S		**Sn**	**11 50 00.5**	**-5.8**
EKMR	**Ekimchan**	**14.66**	**304**	*e*P		**Pn**	**11 49 20.2**	**-0.5**
EKMR				AMB		AMB	11 49 29.0	
	comp=Z,4.0nm,0.6s							
KLR	**Kul'dur**	**14.70**	**289**	LR		LR	11 55 26.1	
	comp=Z,49nm,18.4s,baz=90,slow=39							
MJAR	**Matsushiro Arr**	**15.02**	**234**	P		**P**	**11 49 31.7**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=30,slow=9.4,SNR=5.7							
MJAR				LR		LR	11 54 59.9	
	comp=Z,18nm,19.8s,baz=40,slow=36							
USRK	**Ussuriysk Ar.**	**15.14**	**269**	P		**Pn**	**11 49 27.9**	**+0.9**
	baz=68,slow=11,SNR=3.3							
SEY	**Seymchan**	**16.48**	**359**	P		**Pn**	**11 49 41.5**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=183,slow=8.3,SNR=5.5							
BMKR	**Bomnak**	**17.48**	**307**	*e*P		**Pn**	**11 49 55.1**	**-1.4**
BMKR				AMB		AMB	11 49 59.1	
	comp=Z,10.0nm,0.6s							
KROS	**Kirovskiy**	**18.45**	**305**	*e*P		**Pn**	**11 50 08.9**	**+0.6**
KROS				AMB		AMB	11 50 09.7	
	comp=Z,4.0nm,0.7s							
KSRS	**Korea Array**	**20.83**	**253**	P		**P**	**11 50 36.4**	**+2.6**
	comp=Z,1.1nm,0.7s,baz=56,slow=8.7,SNR=3.9							
KSRS				LR		LR	11 59 04.8	
	comp=Z,30nm,19.2s,baz=122,slow=38							
H11N2	**WAKE ISLAND Hy**	**28.94**	**153**	T		T	12 23 23.9	
	baz=340,slow=75,SNR=128							
H11N1	**WAKE ISLAND Hy**	**28.95**	**153**	T		T	12 23 19.0	
	baz=340,slow=75,SNR=84							
H11N3	**WAKE ISLAND Hy**	**28.96**	**153**	T		T	12 23 21.6	
	baz=340,slow=75,SNR=74							
H11S1	**WAKE ISLAND Hy**	**30.03**	**154**	T		T	12 24 35.1	
	baz=341,slow=76,SNR=165							
H11S3	**WAKE ISLAND Hy**	**30.04**	**154**	T		T	12 24 45.4	
	baz=341,slow=76,SNR=152							
H11S2	**WAKE ISLAND Hy**	**30.05**	**154**	T		T	12 24 37.1	
	baz=341,slow=76,SNR=119							
TLY	**Talaya**	**32.40**	**298**	LR		LR	12 06 12.0	
	comp=Z,26nm,18.5s,baz=96,slow=38							
ILAR	**Eielson Array**	**36.68**	**38**	P		**P**	**11 52 58.2**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=270,slow=7.2,SNR=2.9							
INK	**Inuvik**	**41.81**	**32**	P		**P**	**11 53 41.3**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=314,slow=4.1,SNR=4.4							
KURK	**Kurchatov**	**47.60**	**304**	*e*P		**P**	**11 54 25.7**	**-1.4**
KURK	**Kurchatov**	**47.60**	**304**	P		**P**	**11 54 25.7**	**-1.4**
KURBB	**Kurchatov Arra**	**47.69**	**304**	P		**P**	**11 54 25.7**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=72,slow=8.8,SNR=3.0							
NVAR	**Mina Array Bea**	**62.45**	**62**	P		**P**	**11 56 16.0**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=294,slow=9.8,SNR=1.6							
FINES	**FINESS Array B**	**64.32**	**335**	P		**P**	**11 56 24.8**	**-1.6**
	comp=Z,1.4nm,0.5s,baz=34,slow=7.8,SNR=8.3							
PDAR	**Pinedale Array**	**64.81**	**54**	P		**P**	**11 56 30.9**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=342,slow=5.1,SNR=2.6							
NB2	**NORSAR Subarra**	**68.51**	**341**	P		**P**	**11 56 52.1**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**68.51**	**341**	P		**P**	**11 56 52.1**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=27,slow=6.4,SNR=5.3							
HFS	**Hagfors**	**68.74**	**340**	P		**P**	**11 56 53.2**	**-1.3**
	comp=Z,2.3nm,0.5s,baz=74,slow=11,SNR=7.0							
ASAR	**Alice Springs**	**72.00**	**199**	P		**P**	**11 57 18.2**	**+3.4**
	comp=Z,0.2nm,0.5s,baz=7.0,slow=6.2,SNR=2.1							
TXAR	**Lajitas Array**	**77.52**	**61**	P		**P**	**11 57 48.1**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=296,slow=4.8,SNR=12							

*JMA **27** 11:50:35.3±0.1, 44.°35N×142.°67E, h224km±1km, M3.1*
*IDC **27** 11:50:36.6±0.9, 44.°05N×142.°45E, h217km±8km, mb3.1/4, mb1 3.3/6, mb1mx2.9/59, mbtmp3.7/6, Error ellipse: s-maj=38.0km s-min=20.4km az=50.0*
ISC 27 11:50:35.5±0.8,**44.°30N**±0.°06×**142.°69E**±0.°05,**h223**km±6km,
n27,σ1§19/43,mb3.4/4,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**0.20**	**200**	P		**Pn**	**11 51 04.8**	**+0.2**
	17nm,0.3s,baz=223,slow=9.3,SNR=146							
ASAJ				S		**S**	**11 51 27.7**	**+0.4**
	3.0nm,0.3s,baz=207,slow=32,SNR=10							
ASAJ	**Asahikawa**	**0.20**	**200**	P		**Pn**	**11 51 04.8**	**+0.2**
ASAJ				*e*S		**S**	**11 51 27.7**	**+0.4**
JKK2	**Kamakawa 2**	**0.43**	**175**	P		**Pn**	**11 51 05.3**	**+0.2**
JMP	**Maruseppu**	**0.56**	**121**	P		**Pn**	**11 51 05.7**	**+0.2**
JMP				*e*S		**S**	**11 51 29.4**	**+0.5**
JSS	**Shosan**	**0.61**	**280**	P		**Pn**	**11 51 05.8**	**+0.2**
JSS				*e*S		**S**	**11 51 29.2**	**+0.1**
JSE	**Soyaes**	**0.66**	**353**	P		**Pn**	**11 51 05.5**	**-0.3**
JSE				*e*S		**S**	**11 51 28.5**	**-1.1**
JHR	**Hokuryu**	**0.89**	**232**	P		**Pn**	**11 51 07.4**	**+0.4**
JHR				*e*S		**S**	**11 51 32.1**	**+0.5**
JYG	**Yagishiri**	**0.92**	**278**	P		**Pn**	**11 51 06.8**	**-0.3**
JYG				*e*S		**S**	**11 51 30.9**	**-0.8**
JTKR	**Abashiri--Toko**	**0.94**	**110**	P		**Pn**	**11 51 07.7**	**+0.5**
JTKR				*e*S		**S**	**11 51 32.2**	**+0.3**
JFR	**Furan**	**1.14**	**184**	P		**Pn**	**11 51 09.1**	**+0.5**
JWK2	**Keihoku**	**1.16**	**331**	P		**Pn**	**11 51 08.4**	**-0.2**
JWK2				*e*S		**S**	**11 51 33.7**	**-0.9**
JAR	**Ashorobuto**	**1.27**	**142**	P		**Pn**	**11 51 10.1**	**+0.6**
JAR				*e*S		**S**	**11 51 36.4**	**+0.5**
JRBN	**Rebuntou**	**1.61**	**315**	P		**Pn**	**11 51 10.8**	**-1.3**
JRBN				*e*S		**S**	**11 51 38.1**	**-2.6**
JEW	**Eniwo**	**1.72**	**212**	*e*S		**S**	**11 51 42.4**	**0.0**
JRA	**Rausu**	**1.79**	**101**	P		**Pn**	**11 51 14.5**	**+0.8**
JSK	**Shakotan**	**1.86**	**240**	P		**Pn**	**11 51 14.6**	**+0.2**
JSK				*e*S		**S**	**11 51 44.3**	**-0.3**
JAK	**Akkeshi**	**1.95**	**131**	P		**Pn**	**11 51 14.2**	**-1.1**
JAK				*e*S		**S**	**11 51 44.1**	**-2.1**
JNBK	**Urakawa-nobuka**	**2.02**	**179**	P		**Pn**	**11 51 16.3**	**+0.3**
JNBK				*e*S		**S**	**11 51 47.4**	**0.0**
NEM2	**Nemuro 2**	**2.40**	**112**	P		**Pn**	**11 51 18.4**	**-1.3**
NEM2				*e*S		**S**	**11 51 51.4**	**-2.8**
JKB	**Kayabe**	**2.70**	**207**	P		**Pn**	**11 51 22.9**	**-0.1**
JKB				*e*S		**S**	**11 51 57.5**	**-2.6**
USRK	**Ussuriysk Ar.**	**7.69**	**273**	P		**Pn**	**11 52 24.8**	**+0.2**
	baz=88,slow=13,SNR=19							
MJAR	**Matsushiro Arr**	**8.47**	**205**	P		**Pn**	**11 52 30.7**	**-4.1**
	baz=7.3,slow=14,SNR=2.4							
SEY	**Seymchan**	**19.49**	**13**	P		**P**	**11 54 44.9**	**-0.6**
	0.2nm,0.3s,baz=358,slow=22,SNR=5.9							
SONM	**Songino Array**	**25.28**	**291**	P		**P**	**11 55 42.2**	**+0.8**
	0.4nm,0.3s,baz=83,slow=8.4,SNR=4.6							
KURBB	**Kurchatov Arra**	**42.62**	**302**	P		**P**	**11 58 10.7**	**+1.2**
	0.3nm,0.5s,baz=73,slow=8.7,SNR=2.3							
WRA	**Warramunga Arr**	**64.38**	**189**	P		**P**	**12 00 47.6**	**0.0**
	0.7nm,0.7s,baz=7.7,slow=6.7,SNR=7.0							
ASAR	**Alice Springs**	**68.11**	**189**	P		**P**	**12 01 11.9**	**+0.7**
	0.2nm,0.3s,baz=4.1,slow=5.3,SNR=5.3							

*IDC **27** 11:51:11.7±0.8, 29.°48N×52.°09E, h0km, mb4.0/24, mb1 4.1/32, mb1mx4.0/65, mbtmp4.0/32, ML3.9/8, MS3.3/19, Ms1 3.3/19, ms1mx3.1/50, Error ellipse: s-maj=17.1km s-min=12.2km az=178.0*
*NEIC **27** 11:51:11.7±2.7, 29.°46N±0.°06×52.°14E±0.°06, h10km±1km, Error ellipse: s-maj=11.5km s-min=7.7km az=212.0*
*TEH **27** 11:51:11.2, 29.°55N×52.°14E, h10km, ML4.2*
*DSN **27** 11:51:13.9±0.9, 29.°46N×52.°27E, h10km, ML4.7/10, Error ellipse: s-maj=11.8km s-min=4.5km az=21.0*
*THR **27** 11:51:13.2±0.3, 29.°59N×52.°14E, h14km±9km, ML4.3*
*OMAN **27** 11:51:17.3, 29.°38N×52.°30E, h29km, mb5.6/10, ml4.5/2, ms2.8/4*
ISC 27 11:51:12.7±0.4,**29.°53N**±0.°04×**52.°15E**±0.°03,**h10**km,**n185,**
σ1§52/198,mb4.1/35,MS3.3/13,5C-3D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.33**	**71**	*e*Pg		**Pg**	**11 51 17.6**	**-1.8**
KAZ1

BANOM	**Banah**		**5.14**	**133**	*i* P		**Pn**	**11 52 29.8**	**0.0**
	SNR=60								
BANOM					S		**Sn**	**11 53 28.1**	**-1.1**
BANOM	**Banah**		**5.14**	**133**	P		**Pn**	**11 52 30.3**	**+0.5**
	SNR=16								
BANOM					S		**Sn**	**11 53 27.6**	**-1.7**
DHL1	**Dehloran**		**5.22**	**308**	*e*Pn		**Pn**	**11 52 30.6**	**-0.3**
SLWR	**Sila**		**5.46**	**184**	*e*Pn		**Pn**	**11 52 35.3**	**+1.2**
MSFE	**Esma-Masafi**		**5.47**	**138**	*i* P		**Pn**	**11 52 34.5**	**+0.1**
	SNR=20								
MSFE					S		**Sn**	**11 53 36.9**	**-0.5**
MSFE	**Esma-Masafi**		**5.47**	**138**	*e*Pn		**Pn**	**11 52 35.0**	**+0.6**
NAZ	**Nazwa, Dubai**		**5.50**	**145**	*i* P		**Pn**	**11 52 33.3**	**-1.4**
	SNR=13								
NAZ	**Nazwa, Dubai**		**5.50**	**145**	P		**Pn**	**11 52 34.0**	**-0.7**
	SNR=13								
NAZ	**Nazwa, Dubai**		**5.50**	**145**	*e*Pn		**Pn**	**11 52 33.8**	**-0.9**
HSAM	**Samen**		**5.56**	**328**	*e*Pn		**Pn**	**11 52 36.2**	**+0.5**
GHWR	**Ruwais**		**5.58**	**173**	*e*Pn		**Pn**	**11 52 37.3**	**+1.5**
MDH	**Madha**		**5.60**	**138**	*i* P		**Pn**	**11 52 36.0**	**0.0**
	SNR=19								
MDH	**Madha**		**5.60**	**138**	P		**Pn**	**11 52 36.5**	**+0.4**
	SNR=19								
MDH					S		**Sn**	**11 53 39.2**	**-1.3**
MDH	**Madha**		**5.60**	**138**	*e*Pn		**Pn**	**11 52 36.5**	**+0.4**
UOSS	**Minazif**		**5.82**	**141**	*i* P		**Pn**	**11 52 38.7**	**-0.4**
	SNR=14								
UOSS	**Minazif**		**5.82**	**141**	*e*Pn		**Pn**	**11 52 39.7**	**+0.6**
UOSS	**Minazif**		**5.82**	**141**			**Pn**	**11 52 38.6**	**-0.5**
UOSS					Sn		**Sn**	**11 53 43.8**	**-2.2**
TNSJ	**Nastanj**		**5.82**	**40**	*e*Pn		**Pn**	**11 52 40.8**	**+1.6**
HAGD	**Aghdareh**		**5.86**	**335**	*e*Pn		**Pn**	**11 52 40.0**	**+0.2**
HATD	**Hatta, Dubai**		**5.88**	**142**	*i* P		**Pn**	**11 52 40.3**	**+0.4**
	SNR=10								
HATD	**Hatta, Dubai**		**5.88**	**142**	P		**Pn**	**11 52 41.1**	**+1.2**
	SNR=11								
HATD					S		**Sn**	**11 53 46.6**	**-0.7**
HATD	**Hatta, Dubai**		**5.88**	**142**	*e*Pn		**Pn**	**11 52 40.7**	**+0.8**
TKDS	**Koohdasht(Taba**		**5.88**	**45**	*e*Pn		**Pn**	**11 52 41.2**	**+1.2**
IHSB	**Hasanabad**		**5.94**	**353**	*e*Pn		**Pn**	**11 52 41.5**	**+0.7**
ASHO	**Ashiyiah**		**5.95**	**143**	*i* P		**Pn**	**11 52 40.7**	**-0.2**
	SNR=25								
ASHO	**Ashiyiah**		**5.95**	**143**	P		**Pn**	**11 52 41.2**	**+0.3**
	SNR=25								
ASHO					S		**Sn**	**11 53 47.3**	**-1.9**
ASHO	**Ashiyiah**		**5.95**	**143**	*e*Pn		**Pn**	**11 52 41.2**	**+0.3**
IDMV	**Damavand**		**6.03**	**359**	*e*Pn		**Pn**	**11 52 43.2**	**+1.0**
IKOM	**Komasi**		**6.08**	**321**	*e*Pn		**Pn**	**11 52 42.9**	**+0.1**
IANJ	**Anjilo**		**6.10**	**14**	*e*Pn		**Pn**	**11 52 44.6**	**+1.4**
IRAZ	**Razeghan**		**6.15**	**343**	*e*Pn		**Pn**	**11 52 44.3**	**+0.5**
IMHD	**Mahdasht**		**6.26**	**349**	*e*Pn		**Pn**	**11 52 45.8**	**+0.5**
IALM	**Almabolaq**		**6.29**	**329**	*e*Pn		**Pn**	**11 52 46.1**	**+0.3**
ALNE	**Al Ain**		**6.33**	**149**	*e*Pn		**Pn**	**11 52 46.2**	**+0.1**
QABG	**Abgarm-Qazvin**		**6.53**	**341**	*e*Pn		**Pn**	**11 52 48.9**	**-0.1**
HSRG	**Sareghieh**		**6.57**	**331**	*e*Pn		**Pn**	**11 52 50.0**	**+0.4**
SOHO	**SOHO**		**6.65**	**143**	*i* P		**Pn**	**11 52 49.9**	**-0.5**
	SNR=16								
SOHO	**SOHO**		**6.65**	**143**	P		**Pn**	**11 52 50.4**	**-0.1**
SOHO					S		**Sn**	**11 54 04.0**	**-2.4**
SOHO	**SOHO**		**6.65**	**143**	*e*Pn		**Pn**	**11 52 50.6**	**+0.1**
IVIS	**Veis**		**6.71**	**319**	*e*Pn		**Pn**	**11 52 52.0**	**+0.8**
IGHG	**Ghaleghazi**		**6.74**	**317**	*e*Pn		**Pn**	**11 52 52.4**	**+0.5**
ILIN	**Lien**		**6.94**	**322**	*e*Pn		**Pn**	**11 52 54.7**	**0.0**
QALM	**Alamut, Qazvin**		**7.00**	**350**	*e*Pn		**Pn**	**11 52 56.7**	**+1.2**
AFRZ	**Afriz**		**7.03**	**55**	*e*Pn		**Pn**	**11 52 57.3**	**+1.5**
IDHR	**Dehrash**		**7.10**	**318**	*e*Pn		**Pn**	**11 52 56.8**	**-0.1**
ARQ	**Araqi**		**7.31**	**147**	P		**Pn**	**11 52 59.8**	**+0.2**
	SNR=20								
ARQ					S		**Sn**	**11 54 20.4**	**-2.2**
UMZA	**Um Al Zommool**		**7.31**	**158**	*e*Pn		**Pn**	**11 52 59.5**	**0.0**
QSDN	**Sirdan**		**7.39**	**341**	*e*Pn		**Pn**	**11 53 01.8**	**+1.0**
HOQ	**Hoqain**		**7.51**	**141**	P		**Pn**	**11 53 03.6**	**+1.2**
HOQ					P		**Pn**	**11 53 03.6**	**+1.2**
BIDO	**Bidbid**		**8.03**	**137**	*e*Pn		**Pn**	**11 53 10.0**	**+0.6**
BSY	**Bisya**		**8.14**	**145**	P		**Pn**	**11 53 11.0**	**0.0**
	SNR=8.3								
BSY					P		**Pn**	**11 53 11.0**	**0.0**
	SNR=8.3								
SBZV	**Sabzevar**		**8.23**	**32**	*e*Pn		**Pn**	**11 53 13.1**	**+0.7**
SMDO	**Samad**		**8.34**	**139**	P		**Pn**	**11 53 14.1**	**+0.3**
	SNR=12								
SMDO					P		**Pn**	**11 53 14.1**	**+0.3**
	SNR=12								
WSAR	**Wadi Sarin**		**8.54**	**136**	Pn		**Pn**	**11 53 15.9**	**-0.6**
	comp=E,5.0nm,0.3s,baz=320,slow=10.0,SNR=23								
WSAR					Sn		**Sn**	**11 54 47.3**	**-5.7**
	comp=E,7.3nm,0.3s,baz=55,slow=14,SNR=7.9								
WSAR					LR		LR	11 57 11.6	
	comp=E,172nm,21.3s,baz=349,slow=42								
WSAR	**Wadi Sarin**		**8.54**	**136**	P		**Pn**	**11 53 16.2**	**-0.3**
	SNR=12								
WSAR					S		**Sn**	**11 54 49.0**	**-4.0**
WBK	**Wadi Bani Khal**		**9.22**	**137**	P		**Pn**	**11 53 24.7**	**-1.2**
	SNR=5.8								
WBK					P		**Pn**	**11 53 24.7**	**-1.2**
	SNR=5.8								
GEYT	**Alibeck**		**9.73**	**29**	Pn		**Pn**	**11 53 34.7**	**+1.8**
	comp=E,0.6nm,0.3s,baz=224,slow=6.0,SNR=2.0								
GEYT					Lg		Lg	11 56 23.4	
	comp=E,0.4nm,0.3s,baz=211,slow=34,SNR=1.5								
GEYT					LR		LR	11 58 00.6	
	comp=E,82nm,19.8s,baz=220,slow=42								
GYA0B	**ALIBECK ARRAY**		**9.73**	**29**	Pn		**Pn**	**11 53 31.2**	**-1.6**
GYA0B					Sn		**Sn**	**11 55 22.3**	**0.0**
HRA	**Herat**		**9.84**	**58**	Pn		**Pn**	**11 53 33.1**	**-1.4**
HRA					Sn		**Sn**	**11 55 23.3**	**-1.9**
MHTO	**MHTO**		**10.00**	**147**	P		**Pn**	**11 53 36.1**	**-0.4**
	SNR=13								
ASF	**Jabal al Asfar**		**13.37**	**285**	Pn		**Pn**	**11 54 22.2**	**-0.4**
	comp=E,0.5nm,0.3s,baz=42,slow=14,SNR=2.8								
ASF					Sn		Sn	11 56 43.4	-8.0
	comp=E,0.5nm,0.3s,baz=70,slow=5.4,SNR=3.4								
ASF					Lg		Lg	11 58 24.1	
	comp=E,0.0nm,0.3s,baz=195,slow=20,SNR=1.8								
KOPT	**Kop Dagi**		**14.17**	**321**	Pn		Pn	11 54 29.3	-4.4
KOPT					Sn		**Sn**	**11 57 12.0**	**+0.9**
MMAI	**Mount Meron Ar**		**14.74**	**288**	Pn		**Pn**	**11 54 40.5**	**-0.8**
	comp=E,2.0nm,0.3s,baz=98,slow=18,SNR=2.8								
MMAI					Sn		**Sn**	**11 57 21.6**	**-3.1**
	comp=E,1.6nm,0.3s,baz=87,slow=28,SNR=1.8								
MMAI					LR		LR	12 01 18.9	
	comp=E,71nm,18.6s,baz=105,slow=41								
EIL	**Elat**		**14.97**	**275**	Pn		**Pn**	**11 54 44.2**	**-0.1**
	comp=E,0.7nm,0.3s,baz=174,slow=19,SNR=2.7								
EIL					Sn		**Sn**	**11 57 33.7**	**+3.5**
	comp=E,0.4nm,0.3s,baz=76,slow=12,SNR=2.2								
EIL					Lg		Lg	11 59 15.6	
	comp=E,0.4nm,0.3s,baz=55,slow=11,SNR=3.9								
EIL					LR		LR	12 01 20.6	
	comp=E,62nm,18.2s,baz=80,slow=41								
KBL	**Kabul**		**15.17**	**66**			**Pn**	**11 54 47.6**	**+0.4**
KBL					IAmb		IAmb	11 54 55.2	
	comp=E,6.9nm,0.7s								
KBL					Sn		**Sn**	**11 57 36.6**	**+1.2**
KBZ	**Khabaz**		**15.98**	**335**	Pn		**Pn**	**11 54 59.2**	**+1.7**
	comp=E,0.1nm,0.3s,baz=134,slow=8.0,SNR=12								
KBZ					LR		LR	12 01 50.4	
	comp=E,164nm,20.3s,baz=141,slow=40								
KVAR	**Kislovodsk Arr**		**16.25**	**335**	Pn		**Pn**	**11 55 02.7**	**+1.5**
	baz=253,slow=19,SNR=1.0								
KIV	**Kislovodsk**		**16.25**	**335**	Pn		**Pn**	**11 54 60.0**	**-1.2**
KIV					IAmb		IAmb	11 55 10.1	
	comp=E,11nm,0.7s								
CHGR	**Chuyangaron**		**16.75**	**53**	Pn		**Pn**	**11 55 04.6**	**-2.9**
CHGR					IAmb		IAmb	11 55 09.8	
	comp=E,13nm,1.0s								
CSS	**Mathiatis**		**16.81**	**294**	Pn		**Pn**	**11 55 04.8**	**-3.5**
CSS					IAmb		IAmb	11 55 21.3	
	comp=E,16nm,0.9s								
GAR	**Garm**		**17.71**	**53**			**Pn**	**11 55 18.0**	**-1.6**
GAR					IAmb		IAmb	11 55 21.1	
	comp=E,13nm,0.8s								
BR131	**Keskin Array S**		**18.28**	**309**	P		**Pn**	**11 55 27.1**	**+0.5**
BRTR	**Keskin Array B**		**18.28**	**309**	P		**Pn**	**11 55 26.6**	**-0.1**
	comp=E,0.7nm,0.3s,baz=126,slow=13,SNR=16								
BRTR					LR		LR	12 03 01.3	
	comp=E,65nm,20.4s,baz=104,slow=39								
NIL	**Nilore**		**18.43**	**72**	P		**P**	**11 55 27.3**	**-1.1**
ILGA	**Ilgaz**		**18.89**	**312**	P		**P**	**11 55 33.7**	**+0.1**
ILGA					IAmb		IAmb	11 55 41.5	
	comp=E,16nm,1.1s								
BOLV	**Bolvadin**		**19.76**	**303**	P		**P**	**11 55 43.2**	**+0.2**
BOLV					IAmb		IAmb	11 55 49.3	
	comp=E,29nm,1.0s								
KK31	**Karatay Array**		**20.00**	**42**	P		**P**	**11 55 45.8**	**+0.4**
KKAR	**Karatay Array**		**20.00**	**42**	P		**P**	**11 55 45.6**	**+0.2**
AKTO	**Aktyubinsk**		**21.34**	**10**	P		**P**	**11 56 01.8**	**+1.9**
	comp=Z,3.5nm,0.7s,baz=213,slow=12,SNR=8.7								
AKTO					LR		LR	12 05 27.0	
	comp=Z,51nm,19.0s,baz=177,slow=40								
AAK	**Ala-Archa**		**22.21**	**48**	P		**P**	**11 56 10.7**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=231,slow=13,SNR=1.6								
AAK	**Ala-Archa**		**22.21**	**48**	P		**P**	**11 56 10.1**	**+0.6**
SANT	**Santorini**		**23.37**	**294**	P		**P**	**11 56 20.0**	**-1.5**
IDI	**Anoyia**		**23.68**	**291**	P		**P**	**11 56 25.5**	**+0.9**
	comp=Z,2.2nm,0.3s,baz=83,slow=12,SNR=1.3								
IDI	**Anoyia**		**23.68**	**291**	P		**P**	**11 56 23.5**	**-1.1**
IDI					IAmb		IAmb	11 56 35.0	
	comp=Z,11nm,0.8s								
KDJ	**Kajisay**		**23.77**	**51**	P		**P**	**11 56 24.8**	**-0.8**
KDJ					IAmb		IAmb	11 56 39.8	
	comp=Z,3.0nm,0.7s								
TIRR	**Tirgusor**		**24.00**	**315**	P		**P**	**11 56 26.4**	**-1.0**
ALN	**Alexandroupoli**		**24.07**	**305**	P		**P**	**11 56 25.0**	**-3.1**
ALN					IAmb		IAmb	11 56 32.5	
	comp=Z,6.2nm,0.8s								
TOPG	**Topolog**		**24.23**	**316**	⇑P		P	11 56 37.9	+8.3
VRI	**Vrincioaia**		**25.74**	**316**	⇑P		**P**	**11 56 49.7**	**+6.4**
MLR	**Muntele Rosu**		**26.03**	**315**	P		**P**	**11 56 47.5**	**+1.4**
	comp=Z,2.1nm,0.7s,baz=185,slow=23,SNR=1.7								
MLR	**Muntele Rosu**		**26.03**	**315**	⇓P		**P**	**11 56 51.3**	**+5.2**
MLR	**Muntele Rosu**		**26.03**	**315**	P		**P**	**11 56 45.8**	**-0.3**
MLR					IAmb		IAmb	11 56 54.1	
	comp=Z,9.9nm,1.0s								
TESR	**Tescani**		**26.12**	**318**	⇑P		**P**	**11 56 49.8**	**+3.1**
AGG	**Agios Georgios**		**26.30**	**299**	P		**P**	**11 56 46.5**	**-2.0**
AGG					IAmb		IAmb	11 56 55.0	
	comp=Z,8.5nm,1.1s								
LIT	**Litokhoron**		**26.43**	**301**	P		**P**	**11 56 46.8**	**-2.9**
LIT					IAmb		IAmb	11 57 05.6	
	comp=Z,5.2nm,0.7s								
VOIR			**26.56**	**314**	⇓P		**P**	**11 56 53.4**	**+2.6**
BIZ	**Bicaz**		**26.66**	**318**	⇑P		**P**	**11 56 54.1**	**+2.5**
BRVK	**Borovoye**		**27.01**	**24**	P		**P**	**11 56 52.9**	**-1.8**
BVAR	**Borovoye Array**		**27.02**	**25**	P		**P**	**11 56 56.8**	**+1.9**
	comp=Z,1.3nm,0.6s,baz=218,slow=9.4,SNR=7.5								
ARU	**Arti**		**27.27**	**8**	LR		LR	12 11 27.3	
	comp=Z,35nm,19.1s,baz=175,slow=44								
ARU	**Arti**		**27.27**	**8**	P		**P**	**11 56 55.8**	**-1.1**
AKASG	**Malin Array Be**		**27.27**	**327**	P		**P**	**11 56 58.2**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=135,slow=9.2,SNR=2.7								
AKASG					LR		LR	12 08 53.2	
	comp=Z,61nm,21.7s,baz=100,slow=39								
AKBB	**Malin Array Si**		**27.27**	**327**	P		**P**	**11 56 56.2**	**-0.8**
AKBB					IAmb		IAmb	11 57 12.7	
	comp=Z,5.9nm,1.2s								
BURAR	**Bucovina Array**		**27.53**	**318**	⇓P		P	11 56 54.2	-5.4
BURAR	**Bucovina Array**		**27.53**	**318**	P		**P**	**11 56 59.9**	**+0.4**
MDVR	**Moldovita**		**28.43**	**311**	⇑P		P	11 56 56.7	-11
TIR	**Tirane**		**28.66**	**303**	P		**P**	**11 57 08.3**	**-1.3**
KURBB	**Kurchatov Arra**		**28.91**	**36**	P		**P**	**11 57 13.1**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=236,slow=9.1,SNR=7.1								
KURK	**Kurchatov**		**29.01**	**36**	P		**P**	**11 57 11.8**	**-0.8**
KURK					PP		**PP**	**11 58 19.2**	**+1.2**
MK31	**Makanchi Array**		**29.05**	**45**	P		**P**	**11 57 10.6**	**-2.5**
MK31					IAmb		IAmb	11 57 16.0	
	comp=Z,3.1nm,1.1s								
MKAR	**Makanchi Array**		**29.05**	**45**	P		**P**	**11 57 14.1**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=240,slow=7.5,SNR=6.9								
KIRV	**Kirov**		**29.11**	**357**	LR		LR	12 10 40.2	
	comp=Z,43nm,21.4s,baz=213,slow=40								
PDG	**Podgorica**		**29.38**	**305**	P		**P**	**11 57 15.2**	**-0.7**
PDG					IAmb		IAmb	11 57 27.7	
	comp=Z,14nm,1.2s								
KWP	**Kalwaria Pacla**		**30.00**	**320**	P		**P**	**11 57 20.4**	**-1.0**
KLMR	**Klimovskoe**		**32.44**	**348**	*e*		**P**	**11 57 41.4**	**-1.3**
KLMR					AMP			11 57 45.9	
	comp=Z,8.0nm,0.7s								
ZAA0	**Zalesovo Array**		**33.98**	**35**	P		**P**	**11 57 57.3**	**+1.0**
ZAA0					IAmb		IAmb	11 57 59.2	
	comp=Z,4.1nm,1.1s								
ZALV	**Zalesovo Beam**		**33.98**	**35**	P		**P**	**11 57 57.9**	**+1.6**
	comp=Z,1.8nm,0.5s,baz=242,slow=10.0,SNR=7.4								
KHC	**Kasperske Hory**		**35.18**	**315**	*e*P		**P**	**11 58 10.5**	**+3.7**
KHC	**Kasperske Hory**		**35.18**	**315**	P		**P**	**11 58 05.4**	**-1.4**
FINES	**FINESS Array B**		**36.27**	**339**	P		**P**	**11 58 15.5**	**-0.4**
	comp=Z,2.8nm,0.6s,baz=151,slow=9.0,SNR=6.3								
BFO	**Black Forest**		**38.30**	**312**	P		**P**	**11 58 31.1**	**-2.2**
BFO					IAmb		IAmb	11 58 38.1	
	comp=Z,6.5nm,1.3s								
HFS	**Hagfors**		**39.99**	**331**	P		**P**	**11 58 47.6**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=138,slow=12,SNR=2.2								
HFS					LR		LR	12 16 29.8	
	comp=Z,48nm,21.4s,baz=128,slow=38								
GTA	**Gaotai**		**40.11**	**63**	*e*P		**P**	**11 58 52.0**	**+3.3**
GTA					pP		sP	11 58 56.0	+2.0
GTA					sP		pP	11 58 59.0	+6.5
GTA					pmax		pmax		
	comp=Z,14nm,0.7s								
NB201	**NORSAR Array S**		**41.48**	**331**	P		**P**	**11 58 59.0**	**-0.6**
NB2	**NORSAR Subarra**		**41.51**	**331**	P		P	11 58 57.1	-2.8
	comp=Z,2.9nm,1.1s,baz=124,slow=8.6								
NOA	**NORSAR Array B**		**41.51**	**331**	P		**P**	**11 58 59.1**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=123,slow=8.4,SNR=4.0								
NOA					LR		LR	12 17 37.7	
	comp=Z,41nm,20.8s,baz=120,slow=38								
ARCES	**ARCESS Array B**		**42.86**	**347**	P		**P**	**11 59 11.9**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=141,slow=7.8,SNR=5.5								
ARCES					LR		LR	12 17 45.8	
	comp=Z,40nm,21.2s,baz=354,slow=37								
CMAR	**Chiang Mai Arr**		**43.89**	**94**	P		**P**	**11 59 20.6**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=289,slow=8.5,SNR=2.5								
CMAR					LR		LR	12 22 32.5	
	comp=Z,52nm,18.8s,baz=224,slow=43								
NRIK	**Noril'sk**		**44.72**	**17**	LR		LR	12 19 42.0	
	comp=Z,48nm,19.3s,baz=188,slow=38								
SONM	**Songino Array**		**45.13**	**50**	P		**P**	**11 59 31.9**	**+2.5**
	comp=Z,1.4nm,0.7s,baz=267,slow=8.8,SNR=9.4								
ULN	**Ulaanbaatar**		**45.57**	**50**	P		**P**	**11 59 31.8**	**-1.2**
ULN					IAmb		IAmb	11 59 36.0	
	comp=Z,3.2nm,0.8s								
ESDC	**Sonseca Array**		**46.62**	**298**	P		**P**	**11 59 41.6**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=85,slow=7.9,SNR=2.1								
EKA	**Eskdalemuir Ar**		**46.70**	**320**	P		**P**	**11 59 41.5**	**0.0**
	comp=Z,0.8nm,0.5s,baz=99,slow=8.7,SNR=3.6								
TOA0	**Torodi Ar. Sit**		**49.36**	**262**	P		**P**	**12 00 01.3**	**-1.3**
TORD	**Torodi Ar. Bea**		**49.36**	**262**	P		**P**	**12 00 02.2**	**-0.4**
	comp=Z,4.4nm,0.4s,baz=56,slow=8.3,SNR=31								
RODM	**Citronelle, R**		**50.14**	**166**	P		**P**	**12 00 08.1**	**-0.2**
SPA0	**Spitsbergen Ar**		**51.27**	**351**	P		**P**	**12 00 15.1**	**-1.2**
SPITS	**Spitsbergen Ar**		**51.27**	**351**	P		**P**	**12 00 16.7**	**+0.4**
	comp=Z,6.2nm,1.0s,baz=149,slow=16,SNR=4.7								
DBIC	**Dimbokro**		**58.13**	**259**	P		**P**	**12 01 08.4**	**+1.5**
	comp=Z,5.6nm,0.7s,baz=43,slow=6.8,SNR=6.1								
DBIC					LR		LR	12 26 58.8	
	comp=Z,39nm,18.3s,baz=36,slow=37								
DBIC	**Dimbokro**		**58.13**	**259**	P		**P**	**12 01 06.9**	**-0.1**
KSRS	**Korea Array**		**62.13**	**61**	P		**P**	**12 01 33.9**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=281,slow=5.9,SNR=6.5								
KSRS					LR		LR	12 32 13.3	
	comp=Z,20nm,21.0s,baz=235,slow=40								
ASAJ	**Asahikawa**		**70.41**	**50**	LR		LR	12 34 56.8	
	comp=Z,31nm,19.1s,baz=286,slow=37								
JHJ	**Hachijo jima 2**		**72.73**	**61**	LR		LR	12 38 49.0	
	comp=Z,27nm,18.1s,baz=120,slow=39								
ILAR	**Eielson Array**		**84.84**	**8**	P		**P**	**12 03 47.7**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=332,slow=2.9,SNR=4.1								
WRA	**Warramunga Arr**		**93.14**	**111**	P		**P**	**12 04 28.0**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=313,slow=3.9,SNR=15								
ASAR	**Alice Springs**		**94.65**	**114**	P		**P**	**12 04 34.7**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=298,slow=5.9,SNR=2.4								

BJI ***27*** *11:57:55.3±0.0, 42°.28N×84°.48E, h5km, ML3.6/8*
NNC ***27*** *11:58:03.6±1.8, 42°.68N×84°.03E, h20km±6km, mb4.0, mpv3.5, Error ellipse: s-maj=13.2km s-min=7.5km az=133.0*
SOME ***27*** *11:58:06.0, 42°.78N×83°.95E, h10km*
ISC 27 11:57:59.6±1.2, 42°.60N±0°.06×84°.18E±0°.04, h10km, n32, σ2s05/51, 9C-11D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**2.84**	**63**	*e*Pg	**Pn**	**11 58 47.5**	**+2.4**
WMQ				Sn	**Sn**	**11 59 18.5**	**-0.9**
WMQ				Sg	**Sb**	**11 59 21.8**	**-3.5**
WMQ				smax	smax		
	comp=N,74nm,1.1s						
WMQ				smax	smax		
	comp=E,72nm,0.5s						

KTMS	**Ketmen**		**2.93**	**288**	*e*P		**Pg**	**11 58 56.9**	**+1.1**
	0.2nm,0.1s								
KTMS					*e*S		**Sg**	**11 59 32.8**	**-0.9**
	90nm,0.4s								
KTMS	**Ketmen**		**2.93**	**288**	Pg		**Pg**	**11 58 56.9**	**+1.1**
	0.2nm,0.1s								
KTMS					Lg		Lg	11 59 32.8	
	90nm,0.4s								
SHLS	**Shalkode**		**3.51**	**281**	*e*P		**Pb**	**11 59 02.6**	**+0.7**
	32nm,0.4s								
SHLS					*e*S		**Sb**	**11 59 42.7**	**-2.0**
	81nm,0.7s								
SHLS	**Shalkode**		**3.51**	**281**	Pg		**Pb**	**11 59 02.6**	**+0.7**
	32nm,0.4s								
SHLS					Lg		Lg	11 59 42.7	
	81nm,0.7s								
PDGK	**Podgornoye**		**3.52**	**283**	Pg		**Pb**	**11 59 04.7**	**+2.8**
	9.7nm,0.6s								
PDGK					Lg		Lg	11 59 46.4	
	36nm,0.5s								
PDGK	**Podgornoye**		**3.52**	**283**	⇓Pn		**Pn**	**11 58 54.6**	**+0.1**
	1.9nm,0.6s								
PDGK					⇓Pg		**Pb**	**11 59 04.8**	**+2.8**
	21nm,0.8s								
PDGK					⇓Lg		Lg	11 59 52.3	
	60nm,0.5s								
DJR	**Jarkent**		**3.63**	**300**	*e*P		**Pb**	**11 59 06.4**	**+2.4**
	12nm,0.6s								
DJR					*e*S		**Sb**	**11 59 49.7**	**+1.5**
	42nm,0.5s								
DJR	**Jarkent**		**3.63**	**300**	Pg		**Pg**	**11 59 09.4**	**+0.2**
	19nm,0.6s								
DJR					Lg		Lg	11 59 54.3	
	56nm,0.4s								
UZB	**Uzynbulak**		**3.83**	**280**	*e*P		**Pg**	**11 59 11.5**	**-1.5**
	9.7nm,0.4s								
UZB					*e*S		**Sg**	**11 59 57.8**	**-4.8**
	36nm,0.6s								
UZB	**Uzynbulak**		**3.83**	**280**	Pg		**Pg**	**11 59 11.5**	**-1.5**
	9.7nm,0.4s								
UZB					Lg		Lg	11 59 57.8	
	36nm,0.6s								
MK31	**Makanchi Array**		**4.40**	**343**	⇓Pn		**Pn**	**11 59 07.1**	**+0.7**
	1.5nm,0.6s,baz=153,slow=12,SNR=18								
MK31					⇓Pg		**Pb**	**11 59 20.2**	**+3.2**
	2.9nm,0.4s,baz=156,slow=16,SNR=16								
MK31					⇓Sn		**Sn**	**11 59 59.5**	**+1.7**
	7.8n

JKRS			S	Sn	12 05 46.8	+0.4	
TIPB	**Shuangxi**	**1.08 297**	P	Pn	12 05 31.0	+0.1	
	baz=299						
TIPB			*e*S	Sn	12 05 45.7	-1.1	
	baz=299						
TWE	**Neicheng**	**1.13 283**	*e*P	Pn	12 05 31.4	0.0	
	baz=283						
TWE			*e*S	Sn	12 05 47.1	-0.7	
	baz=283						
JIJ	**Ishigaki jima**	**1.16 95**	P	Pn	12 05 31.9	+0.2	
JIJ			S	Sn	12 05 47.4	-1.0	
NWF	**Wu-fen Shan**	**1.16 301**	P	Pn	12 05 32.2	+0.3	
	baz=302						
WFSB	**Wu-fen Shan**	**1.16 301**	P	Pn	12 05 31.9	+0.2	
	baz=302						
ENTT	**Nioudou**	**1.21 278**	*e*P	Pn	12 05 33.1	+0.8	
	baz=278						
ENTT			*e*S	Sn	12 05 49.8	+0.3	
	baz=278						
NACB	**Ninganchiao**	**1.21 256**	P	Pn	12 05 32.0	-0.3	
	baz=255						
NACB			S	Sn	12 05 47.1	-2.4	
	baz=255						
NDT	**Datong Townshi**	**1.25 276**	P	Pn	12 05 33.8	+1.0	
	baz=276						
NDT			*e*S	Sn	12 05 49.9	-0.5	
	baz=276						
NWLT	**Wulai**	**1.29 284**	P	Pn	12 05 33.3	0.0	
	baz=284						
NWLT			S	Sn	12 05 50.4	-0.8	
	baz=284						
ETLH	**Xiulin Townshi**	**1.30 258**	P	Pn	12 05 34.0	+0.4	
	baz=258						
ETLH			S	Sn	12 05 50.8	-0.8	
	baz=258						
JISG	**Ishigakijimahi**	**1.31 85**	P	Pn	12 05 33.3	-0.1	
JISG			S	Sn	12 05 50.5	-1.0	
NNSB	**Datong**	**1.36 268**	P	Pn	12 05 34.3	+0.1	
	baz=268						
NNSB			*e*S	Sn	12 05 52.2	-0.8	
	baz=268						
NNSH	**Datong**	**1.36 268**	*e*P	Pn	12 05 34.7	+0.4	
	baz=268						
NNSH			*e*S	Sn	12 05 52.7	-0.3	
	baz=268						
NNS	**Nan Shan**	**1.37 269**	*e*P	Pn	12 05 34.6	+0.2	
	baz=268						
NNS			S	Sn	12 05 53.1	0.0	
	baz=268						
YHNB	**Yeheng**	**1.38 278**	P	Pn	12 05 35.1	+0.7	
	baz=278						
YHNB			*e*S	Sn	12 05 52.8	-0.5	
	baz=278						
YM04	**YM04**	**1.39 299**	*e*P	Pn	12 05 34.1	-0.4	
	baz=300						
YM04			*e*S	Sn	12 05 50.8	-2.6	
	baz=300						
NSK	**Sanguang**	**1.40 278**	P	Pn	12 05 35.2	+0.6	
	baz=278						
NSK			*e*S	Sn	12 05 53.0	-0.6	
	baz=278						
ESL	**Shilin**	**1.48 244**	P	Pn	12 05 35.7	+0.2	
	baz=242						
ESL			S	Sn	12 05 54.7	-0.5	
	baz=242						
FUSS	**Fushou**	**1.51 262**	P	Pn	12 05 36.7	+0.5	
	baz=261						
FUSS			*e*S	Sn	12 05 54.6	-1.7	
	baz=261						
WHF	**Hehuan Shan**	**1.51 258**	*e*P	Pn	12 05 36.7	+0.4	
	baz=257						
WHF			*e*S	Sn	12 05 56.2	-0.4	
	baz=257						
EGFH	**Guangfu**	**1.55 239**	*e*P	Pn	12 05 36.9	+0.4	
	baz=238						
EGFH			*e*S	Sn	12 05 56.4	-0.5	
	baz=238						
TWT	**Tachien**	**1.57 262**	*e*P	Pn	12 05 38.0	+1.2	
	baz=262						
TWT			S	Sn	12 05 58.3	+0.7	
	baz=262						
TDCB	**Techi**	**1.59 262**	P	Pn	12 05 38.2	+1.2	
	baz=262						
TDCB			*e*S	Sn	12 05 56.9	-1.0	
	baz=262						
CHGB	**Renai**	**1.61 255**	*e*P	Pn	12 05 38.2	+0.8	
	baz=255						
CHGB			*e*S	Sn	12 05 56.2	-2.3	
	baz=255						
HGSD	**Ruisui**	**1.66 234**	*e*P	Pn	12 05 37.8	+0.1	
	baz=232						
HGSD			S	Sn	12 05 58.2	-0.9	
	baz=232						
JTJ	**Tarama**	**1.67 84**	P	Pn	12 05 38.0	+0.2	
JTJ			*e*S	Sn	12 05 58.9	-0.5	
LIOB	**Emei**	**1.71 276**	P	Pn	12 05 39.1	+0.7	
	baz=276						
LIOB			*e*S	Sn	12 06 00.7	+0.4	
	baz=276						
NSTT	**Nanjuang**	**1.72 275**	*e*P	Pn	12 05 39.0	+0.5	
	baz=275						
NSTT			*e*S	Sn	12 06 00.8	+0.3	
	baz=275						
EHY	**Hungye**	**1.72 236**	P	Pn	12 05 38.5	-0.1	
	baz=235						
EHY			*e*S	Sn	12 05 57.6	-3.1	
	baz=235						
VWDT	**VWDT**	**1.75 246**	P	Pn	12 05 40.0	+1.1	
	baz=245						
VWDT			*e*S	Sn	12 06 01.4	+0.2	
	baz=245						
WHP	**Taichung City**	**1.77 264**	*e*P	Pn	12 05 41.2	+1.8	
	baz=263						
WHP			*e*S	Sn	12 06 01.9	-0.1	
	baz=263						
YULB	**Yu-li**	**1.81 234**	P	Pn	12 05 40.0	+0.3	
	baz=232						
YULB			*e*S	Sn	12 06 01.5	-1.1	
	baz=232						
EYUL	**Yuli**	**1.82 232**	*e*P	Pn	12 05 40.5	+0.6	
	baz=231						
EYUL			*e*S	Sn	12 06 01.5	-1.3	
	baz=231						
TWF1	**Yuli**	**1.83 233**	P	Pn	12 05 40.5	+0.5	
	baz=231						
TWF1			*e*S	Sn	12 06 02.5	-0.6	
	baz=231						
SSLB	**Suanglung**	**1.89 249**	*e*P	Pn	12 05 41.5	+0.7	
	baz=248						
SSLB			*e*S	Sn	12 06 02.3	-2.2	
	baz=248						
SMLT	**Sun Moon Lake**	**1.90 252**	*e*P	Pn	12 05 42.5	+1.5	
	baz=251						
SMLT			*e*S	Sn	12 06 07.2	+2.3	
	baz=251						
FULB	**Fuli**	**1.93 229**	*e*P	Pn	12 05 41.5	+0.2	
	baz=228						
FULB			*e*S	Sn	12 06 05.0	-0.5	
	baz=228						
TYC	**Yuchr**	**1.93 253**	*e*P	Pn	12 05 42.7	+1.4	
	baz=252						
TYC			*e*S	Sn	12 06 06.0	+0.5	
	baz=252						
CHKT	**Chengkung**	**1.95 226**	*e*S	Sn	12 06 02.8	-3.0	
	baz=224						
EDH	**Donghe**	**2.08 224**	*e*P	Pn	12 05 43.1	-0.1	
	baz=223						
EDH			*e*S	Sn	12 06 07.8	-1.1	
	baz=223						
JIRB	**Irabujima**	**2.12 80**	*e*S	Sn	12 06 08.3	-1.3	
ALS	**Alishan**	**2.13 243**	*e*P	Pn	12 05 45.7	+1.6	
	baz=242						
ALS			*e*S	Sn	12 06 10.6	+0.2	
	baz=242						
LDUT	**Ludao**	**2.21 216**	*e*P	Pn	12 05 45.0	+0.1	
	baz=214						
LDUT			*e*S	Sn	12 06 10.6	-1.3	
	baz=214						
JMJ	**Miyako jima 2**	**2.22 81**	*e*P	Pn	12 05 45.4	+0.4	
	baz=80						
JMJ			*e*S	Sn	12 06 11.5	-0.6	
	baz=80						
LONT	**Longtian**	**2.24 226**	*e*P	Pn	12 05 44.7	-0.6	
	baz=225						
LONT			*e*S	Sn	12 06 11.7	-0.9	
	baz=225						
JMJ2	**Miyako jima3**	**2.24 83**	P	Pn	12 05 45.8	+0.5	
JMJ2			*e*S	Sn	12 06 12.5	-0.1	
JOGS	**Gusukube**	**2.32 83**	P	Pn	12 05 46.7	+0.5	
JOGS			*e*S	Sn	12 06 13.6	-0.7	
STYT	**Tauyuan**	**2.34 236**	*e*P	Pn	12 05 48.0	+1.3	
	baz=235						
STYT			*e*S	Sn	12 06 16.0	+0.9	
	baz=235						
TPUB	**Ta-pu**	**2.37 241**	*e*P	Pn	12 05 47.1	+0.1	
	baz=240						
TPUB			*e*S	Sn	12 06 16.2	+0.6	
	baz=240						
WTP	**Ta-pu**	**2.41 240**	*e*P	Pn	12 05 49.3	+1.8	
	baz=238						
WTP			*e*S	Sn	12 06 19.7	+3.1	
	baz=238						
TWK	**Hsinying**	**2.50 242**	*e*P	Pn	12 05 48.5	-0.2	
	baz=240						
TWK			*e*S	Sn	12 06 19.2	+0.5	
	baz=240						
CHN1	**Nanshi**	**2.51 240**	*e*S	Sn	12 06 18.7	-0.2	
	baz=238						
SLGT	**Liugui**	**2.52 235**	P	Pn	12 05 51.3	+2.3	
	baz=233						
SLGT			S	Sn	12 06 21.0	+1.7	
	baz=233						
EAST	**Anshuo**	**2.80 222**	*e*P	Pn	12 05 53.7	+1.1	
	baz=221						
EAST			*e*S	Sn	12 06 21.2	-4.6	
	baz=221						

TAP ***27*** *12:17:55.7,24°.34N×121°.82E,h11km,ML2.6,C*
JMA ***27*** *12:17:55.8±0.1,24°.31N×121°.82E,h6km,M2.0*
ISC 27 12:17:55.7±0.9,**24°.32N**±0°.02×**121°.83E**±0°.02,**h9**km±6km,
n67,σ**0s43**/118,**6C-5D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
ENAH	**Nanao**	**0.13**	**353**	P		**Pg**	**12 17 58.6**	**-0.1**
	baz=353							
ENAH				S		**Sg**	**12 18 00.6**	**-0.1**
	baz=353							
ENA	**Nanau**	**0.13**	**323**	⇑*i*P		**Pg**	**12 17 58.6**	**-0.1**
	baz=323							
ENA				S		**Sg**	**12 18 00.4**	**-0.4**
	baz=323							
NACB	**Ninganchiao**	**0.26**	**235**	⇓*i*P		**Pg**	**12 18 01.1**	**+0.2**
	baz=222							
NACB				S		**Sg**	**12 18 04.8**	**+0.4**
	baz=222							
TWC	**Suao**	**0.29**	**4**	⇑*i*P		**Pg**	**12 18 01.4**	**0.0**
	baz=13							
TWC				S		**Sg**	**12 18 05.0**	**-0.3**
	baz=13							
TWD	**Chiawan**	**0.32**	**221**	*i* P		**Pg**	**12 18 02.4**	**+0.3**
	baz=217							
TWD				S		**Sg**	**12 18 07.1**	**+0.7**
	baz=217							
ETLH	**Xiulin Townshi**	**0.34**	**250**	⇓*i*P		**Pg**	**12 18 02.5**	**+0.1**
	baz=246							
ETLH				S		**Sg**	**12 18 07.2**	**+0.4**
	baz=246							
ENTT	**Nioudou**	**0.40**	**323**	⇑P		**Pg**	**12 18 03.8**	**+0.2**
	baz=323							
ENTT				*e*S		**Sg**	**12 18 09.2**	**+0.5**
	baz=323							
NDT	**Datong Townshi**	**0.40**	**314**	⇑P		**Pg**	**12 18 04.0**	**+0.4**
	baz=313							
NDT				S		**Sg**	**12 18 08.9**	**0.0**
	baz=313							
NNSB	**Datong**	**0.42**	**285**	⇓*i*P		**Pg**	**12 18 04.1**	**+0.2**
	baz=282							
NNSB				*e*S		**Sg**	**12 18 09.5**	**0.0**
	baz=282							
NNSH	**Datong**	**0.42**	**285**	P		**Pg**	**12 18 04.1**	**+0.2**
	baz=282							
NNSH				*e*S		**Sg**	**12 18 09.3**	**-0.2**
	baz=282							
TWE	**Neicheng**	**0.42**	**340**	⇑*i*P		**Pg**	**12 18 04.2**	**+0.2**
	baz=342							
TWE				*e*S		**Sg**	**12 18 10.5**	**+0.8**
	baz=342							
NNS	**Nan Shan**	**0.43**	**286**	*e*P		**Pg**	**12 18 04.0**	**-0.1**
	baz=284							
NNS				*e*S		**Sg**	**12 18 09.4**	**-0.5**
	baz=284							
EGS		**0.53**	**10**	*e*P		**Pg**	**12 18 06.1**	**+0.1**
	baz=18							
EGS				*e*S		**Sg**	**12 18 13.0**	**0.0**
	baz=18							
NTC	**Toucheng**	**0.53**	**0**	*e*P		**Pg**	**12 18 05.7**	**-0.3**
	baz=1.0							
NTC				*e*S		**Sg**	**12 18 12.7**	**-0.3**
	baz=1.0							
FUSS	**Fushou**	**0.54**	**262**	⇓P		**Pg**	**12 18 06.5**	**+0.3**
	baz=260							
FUSS				*e*S		**Sb**	**12 18 14.3**	**-1.1**
	baz=260							
YHNB	**Yeheng**	**0.54**	**310**	*e*P		**Pg**	**12 18 06.6**	**+0.5**
	baz=309							
YHNB				*e*S		**Sg**	**12 18 12.7**	**-0.5**
	baz=309							
NWLT	**Wulai**	**0.54**	**327**	*e*P		**Pg**	**12 18 06.6**	**+0.3**
	baz=326							
NWLT				*e*S		**Sg**	**12 18 13.1**	**-0.2**
	baz=326							
WHF	**Hehuan Shan**	**0.54**	**251**	⇓*i*P		**Pg**	**12 18 06.5**	**+0.1**
	baz=249							
WHF				*e*S		**Sg**	**12 18 13.7**	**+0.2**
	baz=249							
NSK	**Sanguang**	**0.55**	**310**	*e*P		**Pg**	**12 18 06.8**	**+0.3**
	baz=309							
NSK				*e*S		**Sg**	**12 18 13.4**	**-0.4**
	baz=309							
TWT	**Tachien**	**0.60**	**264**	*e*P		**Pb**	**12 18 08.0**	**-0.5**
	baz=261							
TWT				*e*S		**Sb**	**12 18 16.4**	**-0.6**
	baz=261							
TDCB	**Techi**	**0.61**	**264**	⇑*i*P		**Pb**	**12 18 08.1**	**-0.6**
	baz=262							
TDCB				*e*S		**Sb**	**12 18 16.4**	**-1.1**
	baz=262							
ESL	**Shilin**	**0.62**	**216**	*e*P		**Pg**	**12 18 07.7**	**0.0**
	baz=223							
ESL				*e*S		**Sg**	**12 18 16.4**	**+0.5**
	baz=223							
TIPB	**Shuangxi**	**0.65**	**360**	*e*P		**Pg**	**12 18 08.3**	**+0.1**
TIPB				*e*S		**Sg**	**12 18 16.4**	**-0.4**
CHGB	**Renai**	**0.65**	**247**	*e*P		**Pg**	**12 18 08.5**	**+0.2**
	baz=238							
CHGB				*e*S		**Sg**	**12 18 17.3**	**+0.4**
	baz=238							
TWB1	**Santiao Chiao**	**0.70**	**12**	*e*P		**Pg**	**12 18 09.5**	**+0.2**
	baz=14							
TWB1				*e*S		**Sg**	**12 18 17.1**	**-1.2**
	baz=14							
TATO	**Taipei**	**0.72**	**335**	*e*P		**Pg**	**12 18 09.5**	**-0.1**
	baz=334							
TATO				*e*S		**Sg**	**12 18 19.1**	**0.0**
	baz=334							
EGFH	**Guangfu**	**0.75**	**209**	*e*P		**Pg**	**12 18 10.2**	**+0.1**
	baz=224							
EGFH				*e*S		**Sg**	**12 18 20.5**	**+0.6**
	baz=224							
NWF	**Wu-fen Shan**	**0.75**	**357**	*e*P		**Pb**	**12 18 10.6**	**-0.3**
	baz=349							
NWF				*e*S		**Sg**	**12 18 20.0**	**+0.1**
	baz=349							
WFSB	**Wu-fen Shan**	**0.75**	**357**	*e*P		**Pb**	**12 18 10.8**	**-0.1**
	baz=349							
WFSB				*e*S		**Sg**	**12 18 20.1**	**+0.2**
	baz=349							
WHP	**Taichung City**	**0.81**	**267**	P		**Pb**	**12 18 11.8**	**-0.1**
	baz=266							
WHP				*e*S		**Sb**	**12 18 22.3**	**-0.6**
	baz=266							
LIOB	**Emei**	**0.81**	**294**	*e*P		**Pb**	**12 18 12.1**	**+0.2**
	baz=293							
LIOB				*e*S		**Sb**	**12 18 22.8**	**-0.2**
	baz=293							
NSTT	**Nanjuang**	**0.81**	**292**	*e*P		**Pb**	**12 18 12.2**	**+0.1**
	baz=291							
NSTT				*e*S		**Sg**	**12 18 22.1**	**+0.1**
	baz=291							
VWDT	**VWDT**	**0.84**	**228**	*e*P		**Pg**	**12 18 12.1**	**+0.1**
	baz=227							
VWDT				*e*S		**Sb**	**12 18 24.0**	**0.0**
	baz=227							
YM01	**YM01**	**0.85**	**344**	*e*P		**Pb**	**12 18 12.9**	**+0.2**
	baz=344							
YM01				*e*S		**Sb**	**12 18 24.9**	**+0.6**
	baz=344							
TWS1	**Kuangyinshan**	**0.86**	**334**	*e*P		**Pb**	**12 18 13.3**	**+0.5**
	baz=334							
TWS1				*e*S		**Sg**	**12 18 23.5**	**0.0**
	baz=334							
YM10	**YM10**	**0.86**	**344**	*e*P		**Pb**	**12 18 13.0**	**+0.1**
	baz=344							
YM04	**YM04**	**0.87**	**342**	*e*P		**Pb**	**12 18 13.0**	**0.0**
	baz=342							
YM04				*e*S		**Sb**	**12 18 25.0**	**+0.3**
	baz=342							
YM11	**YM11**	**0.87**	**345**	*e*P		**Pb**	**12 18 13.4**	**+0.3**
	baz=345							
YM11				*e*S		**Sb**	**12 18 25.5**	**+0.6**
	baz=345							
YM05	**YM05**	**0.87**	**344**	*e*P		**Pb**	**12 18 13.2**	**+0.2**
	baz=344							
YM05				*e*S		**Sb**	**12 18 25.9**	**+1.0**
	baz=344							
YM08	**YM08**	**0.89**	**346**	*e*P		**Pb**	**12 18 13.2**	**-0.1**
	baz=346							
YM03	**YM03**	**0.89**	**343**	*e*P		**Pb**	**12 18 13.4**	**0.0**
	baz=343							
HGSD	**Ruisui**	**0.91**	**204**	*e*P		**Pn**	**12 18 14.4**	**-0.2**
	baz=220							
NTST	**Danshui**	**0.91**	**338**	*e*P		**Pb**	**12 18 13.8**	**+0.2**
	baz=338							
EHY	**Hungye**	**0.94**	**210**	*e*P		**Pg**	**12 18 13.3**	**-0.4**
	baz=221							
SMLT	**Sun Moon Lake**	**0.95**	**243**	*e*P		**Pb**	**12 18 14.6**	**+0.1**
	baz=233							
SMLT				*e*S		**Sg**	**12 18 25.7**	**-0.8**
	baz=233							
SSLB	**Suanglung**	**0.96**	**237**	*e*P		**Pg**	**12 18 14.3**	**+0.1**
	baz=236							
SSLB				*e*S		**Sg**	**12 18 26.4**	**-0.2**
	baz=236							
TWQ1	**Liyutan**	**0.96**	**272**	*e*P		**Pn**	**12 18 15.4**	**0.0**
	baz=271							
TWQ1				*e*S		**Sn**	**12 18 28.6**	**-0.6**
	baz=271							
TYC	**Yuchr**	**0.98**	**245**	*e*P		**Pg**	**12 18 14.1**	**-0.5**
	baz=244							
TYC				*e*S		**Sg**	**12 18 27.3**	**0.0**
	baz=244							
JYNG	**Yonagunijimaku**	**1.03**	**83**	P		**Pb**	**12 18 15.8**	**+0.2**
JYNG				S		**Sb**	**12 18 29.4**	**+0.2**
YULB	**Yu-li**	**1.04**	**208**	*e*P		**Pg**	**12 18 15.8**	**0.0**
	baz=218							
EYUL	**Yuli**	**1.08**	**206**	*e*P		**Pn**	**12 18 17.8**	**+0.9**
	baz=217							
TWF1	**Yuli**	**1.08**	**207**	*e*P		**Pg**	**12 18 15.7**	**-0.7**
	baz=218							
YOJ	**Yonaguni jima**	**1.09**	**82**	*e*P		**Pg**	**12 18 15.7**	**-0.9**
	baz=71							
YOJ				*e*S		**Sb**	**12 18 31.4**	**+0.4**
	baz=71							
YOJ	**Yonaguni jima**	**1.09**	**82**	P		**Pg**	**12 18 16.2**	**-0.4**
YOJ				*e*S		**Sg**	**12 18 30.8**	**0.0**
FULB	**Fuli**	**1.22**	**204**	*e*P		**Pg**	**12 18 19.5**	**+0.4**
	baz=217							
ALS	**Alishan**	**1.24**	**229**	*e*P		**Pb**	**12 18 19.2**	**-0.2**
	baz=215							
ALS				*e*S		**Sn**	**12 18 36.3**	**-0.1**
	baz=215							
ELDTW	**Lidau**	**1.35**	**214**	*e*P		**Pg**	**12 18 22.2**	**+0.5**
	baz=212							
TPUB	**Ta-pu**	**1.50**	**227**	*e*P		**Pg**	**12 18 24.2**	**-0.2**
	baz=227							
WTP	**Ta-pu**	**1.54**	**226**	*e*P		**Pg**	**12 18 24.9**	**-0.4**
	baz=226							
TWK	**Hsinying**	**1.61**	**230**	*e*P		**Pg**	**12 18 26.8**	**+0.1**
	baz=229							
CHN1	**Nanshi**	**1.64**	**227**	*e*P		**Pg**	**12 18 26.8**	**-0.4**
	baz=227							
SLGT	**Liugui**	**1.71**	**220**	*e*P		**Pb**	**12 18 27.2**	**0.0**
	baz=219							
IRIF	**Iriomote-Funau**	**1.74**	**89**	P		**Pn**	**12 18 25.6**	**-0.4**
IRIF				*e*S		**Sn**	**12 18 49.3**	**+1.0**
JKRS	**Kuro-shima**	**1.99**	**92**	P		**Pn**	**12 18 30.1**	**+0.6**
JKRS				*e*S		**Sn**	**12 18 55.3**	**+0.7**
JIJ	**Ishigaki jima**	**2.11**	**88**	P		**Pn**	**12 18 31.4**	**+0.2**
JIJ				*e*S		**Sn**	**12 18 57.1**	**-0.5**
JISG	**Ishigakijimahi**	**2.28**	**83**	P		**Pn**	**12 18 33.0**	**-0.5**
JISG				S		**Sn**	**12 19 01.0**	**-0.7**
JTJ	**Tarama**	**2.64**	**82**	P		**Pn**	**12 18 38.6**	**+0.2**
JTJ				*e*S		**Sn**	**12 19 10.7**	**+0.1**

MEX 27 12:24:44.3±0.8,**27°.59N**×**111°.58W,h10**km,**MD4.1,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
SRIG	**Santa Rosalia**	**0.65**	**246**	*e*P		Pg	12 24 55.3	-1.5
SRIG				*e*S		Sg	12 25 04.5	-0.9
GUYB	**Guaymas**	**0.70**	**64**	*e*P		Pg	12 24 56.0	-1.8
GUYB				*e*S		Sg	12 25 05.4	-1.5
HSIG		**1.53**	**21**	*e*P		Pn	12 25 08.8	-2.9
HSIG				*e*S		Sn	12 25 27.0	-4.6
NZIG	**Nacozari, Sono**	**3.29**	**32**	*e*P		Pn	12 25 31.6	-4.5
NZIG				*e*S		Sn	12 26 11.6	-3.8
121A	**Cookes Peak, D**	**5.92**	**33**	*i* P		Pn	12 26 10.2	-2.0

IDC 27 12:25:33.0±5.8,**15°.41N**×**144°.56E,h115**km±50km,**mb3.2**/3,**mb1 3.5**/3,**mb1mx3.1**/35,**mbtmp3.6**/3,**Error ellipse: s-maj=128.4km s-min=24.5km az=109.0,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
GUMO	**Guam**	**1.84**	**171**	P		Pn	12 26 03.0	-1.2
	28nm,0.3s,baz=180,slow=10,SNR=35							
GUMO				S		Sn	12 26 28.4	+0.5
	27nm,0.3s,baz=178,slow=23,SNR=15							
GUMO				LR		LR	12 26 44.1	
	comp=Z,9.7nm,21.9s,baz=227,slow=39							
WRA	**Warramunga Arr**	**36.54**	**196**	P		P	12 32 27.4	-0.3
	1.4nm,0.7s,baz=24,slow=8.8,SNR=10							
ASAR	**Alice Springs**	**40.21**	**195**	P		P	12 32 58.3	-0.1
	0.5nm,0.5s,baz=18,slow=14,SNR=13							
ILAR	**Eielson Array**	**67.06**	**26**	P		P	12 36 13.9	+0.3
	0.2nm,0.6s,baz=253,slow=5.5,SNR=4.2							

MEX 27 12:40:43.2±0.3,**14°.44N**×**92°.64W,h16**km±999km,**MD3.5, Near coast of Chiapas**

IDC ***27*** *12:51:09.1±1.5,32°.61N×47°.35E,h0km,mb3.7/10, mb1 3.8/12,mb1mx3.6/49,mbtmp3.7/12,ML3.3/2,MS2.7/6, Ms1 2.7/6,ms1mx2.5/40,Error ellipse: s-maj=32.8km s-min=20.9km az=179.0*
ISN ***27*** *12:51:10.6±1.2,32°.74N×47°.55E,h27km±8km,ML3.6*
TEH ***27*** *12:51:10.7,32°.73N×47°.48E,h8km,ML3.6*
THR ***27*** *12:51:13.3±0.4,32°.72N×47°.54E,h14km±6km,ML3.8*
ISC 27 12:51:11.9±0.9,**32°.66N**±0°.03×**47°.41E**±0°.03,**h12**km±6km,
n71,σ**1s05**/71,**mb3.8**/10,**MS2.7**/4,**4C-3D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
DHL1	**Dehloran**	**0.11**	**281**	*e*Pg		**Pg**	**12 51 14.0**	**-0.9**
DHL1				*e*Sg		**Sg**	**12 51 17.7**	**+0.7**
SHGR	**Shooshtar-Gavs**	**1.30**	**115**	*e*Pg		**Pn**	**12 51 35.9**	**0.0**
SHGR				*e*Sg		**Sb**	**12 51 52.7**	**-0.3**
SHGR	**Shooshtar-Gavs**	**1.30**	**115**	*e*Pg		**Pn**	**12 51 35.9**	**0.0**
IBDR	**Badra**	**1.32**	**290**	*e*Pg		**Pn**	**12 51 36.0**	**-0.3**
IBDR				*e*Sg		**Sg**	**12 51 55.0**	**+0.4**
IBDR				AML		AML	12 52 00.9	
	comp=N,804nm,0.6s							
IBDR				AML		AML	12 52 11.0	
	comp=E,861nm,0.9s							
IKOM	**Komasi**	**1.51**	**3**	*e*Pg		**Pn**	**12 51 38.2**	**-0.8**
IKOM				*e*			12 51 40.6	
BMDN	**Meydan**	**1.56**	**49**	*e*Pg		**Pn**	**12 51 39.2**	**-0.5**
BMDN				*e*			12 52 06.0	
KCHF	**Cheshme Sefid,**	**1.64**	**349**	*e*Pg		**Pn**	**12 51 40.8**	**0.0**
KCHF				*e*			12 52 06.3	
AHWZ	**Ahwaz**	**1.69**	**141**	*e*Pg		**Pb**	**12 51 43.1**	**+0.1**
KER	**Kermanshah**	**1.74**	**352**	*e*Pg		**Pn**	**12 51 42.7**	**+0.6**

IGHG	**Ghaleghazi**	**1.81**	**337**	*e*Pn		**Pb**		**12 51 44.5**	**-0.6**
IGHG				*e*				12 52 21.2	
HSAM	**Samen**	**1.84**	**32**	*e*Pg		**Pn**		**12 51 43.7**	**+0.1**
HSAM				*e*				12 51 48.4	
IBZA	**Bozab**	**1.84**	**12**	*e*Pg		**Pn**		**12 51 44.2**	**+0.5**
IBZA				*e*				12 51 48.9	
IVIS	**Veis**	**1.92**	**346**	*e*Pn		**Pn**		**12 51 45.5**	**+0.9**
IVIS				*e*				12 52 22.1	
NSR	**Nassriya**	**1.97**	**214**	*e*Pn		**Pn**		**12 51 46.0**	**+0.9**
NSR				*e*Sn		**Sn**		**12 52 10.0**	**+0.2**
IDHR	**Dehrash**	**2.21**	**337**	*e*Pn		**Pn**		**12 51 49.6**	**+1.0**
IDHR				*e*				12 52 47.7	
IALM	**Almabolaq**	**2.28**	**16**	*e*Pn		**Pn**		**12 51 51.0**	**+1.3**
IALM				*e*				12 52 29.9	
ILIN	**Lien**	**2.28**	**351**	*e*Pn		**Pn**		**12 50.7**	**+1.0**
ILIN				*e*				12 52 34.9	
KHMZ	**Khomeyn**	**2.39**	**63**	*e*Pn		**Pn**		**12 51 52.4**	**+1.2**
KHMZ				*e*Sg		**Sb**		**12 52 24.8**	**+0.1**
KHMZ	**Khomeyn**	**2.39**	**63**	*e*Pn		**Pn**		**12 51 52.4**	**+1.2**
HAGD	**Aghdareh**	**2.59**	**33**	*e*		**Sg**		**12 52 36.8**	**+1.6**
BHD	**Baghdad**	**2.62**	**284**	*e*Pn		**Pn**		**12 51 54.0**	**-0.1**
BHD				*e*Sn		**Sn**		**12 52 27.0**	**+1.1**
BHD				AML		AML		12 52 53.2	
	comp=E,491nm,0.6s								
HSRG	**Sareghieh**	**2.67**	**15**	*e*Pn		**Pn**		**12 51 55.4**	**+0.3**
HSRG				*e*				12 52 41.0	
JHBN	**Jahan bin**	**2.78**	**98**	*e*Pn		**Pn**		**12 51 57.0**	**+0.3**
JHBN				*e*				12 52 52.7	
ASAO	**Ashtian**	**2.88**	**48**	*e*Pn		**Pn**		**12 51 59.4**	**+1.5**
ASAO	**Ashtian**	**2.88**	**48**	*e*Pn		**Pn**		**12 51 59.4**	**+1.5**
IPIR	**Pirpir**	**2.94**	**89**	*e*Pn		**Pn**		**12 51 58.9**	**+0.2**
ROKH	**ROKH**	**3.08**	**95**	*e*Pn		**Pn**		**12 52 01.4**	**+0.8**
ROKH				*e*				12 52 57.4	
IRAZ	**Razeghan**	**3.44**	**37**	*e*Pn		**Pn**		**12 52 06.0**	**+0.4**
QABG	**Abgarm-Qazvin**	**3.53**	**30**	*e*Pn		**Pn**		**12 52 07.0**	**+0.1**
IKLH	**Kolahrood**	**3.56**	**78**	*e*				12 52 13.2	
IKLH				*e*Pn		**Pn**		**12 52 07.9**	**+0.6**
GHVR	**GHOM**	**3.71**	**60**	*e*Pn		**Pn**		**12 52 10.3**	**+1.1**
GHVR	**GHOM**	**3.71**	**60**	*e*Pn		**Pn**		**12 52 10.4**	**+1.1**
IGAR	**Gharneh**	**3.92**	**92**	*e*Pn		**Pn**		**12 52 12.1**	**-0.1**
IGAR				*e*				12 53 00.8	
KLNJ	**Kolanjah**	**3.92**	**114**	*e*Pn		**Pn**		**12 52 12.3**	**0.0**
KLNJ				*e*				12 53 36.8	
QSDN	**Sirdan**	**4.10**	**20**	*e*Pn		**Pn**		**12 52 15.4**	**+0.7**
IZEF	**Zefreh**	**4.15**	**85**	*e*Pn		**Pn**		**12 52 15.4**	**0.0**
IRAM	**Ramesheh**	**4.30**	**100**	*e*Pn		**Pn**		**12 52 17.2**	**-0.2**
MAHB	**Mahabad**	**4.33**	**342**	*e*Pn		**Pn**		**12 52 18.5**	**+0.7**
QALM	**Alamut, Qazvin**	**4.61**	**34**	*e*Pn		**Pn**		**12 52 22.5**	**+0.8**
IDMV	**Damavand**	**4.81**	**52**	*e*Pn		**Pn**		**12 52 24.3**	**+0.2**
AHBU	**AHRAM**	**5.05**	**138**	*e*Pn		**Pn**		**12 52 30.2**	**+2.7**
ANAR	**Anarak**	**5.34**	**83**	*e*Pn		**Pn**		**12 52 30.7**	**-0.9**
GHIR	**Ghir-Karzin**	**6.49**	**131**	*e*Pn		**Pn**		**12 52 50.1**	**+2.6**
GHIR				IAML				12 54 05.2	
	comp=E,15nm,0.4s								
GHIR	**Ghir-Karzin**	**6.49**	**131**	*e*Pn		**Pn**		**12 52 50.1**	**+2.6**
MMAI	**Mount Meron Ar**	**10.11**	**275**	LR		LR		12 58 38.6	
	comp=E,11nm,18.6s,baz=80,slow=45								
BRTR	**Keskin Array B**	**13.16**	**306**	Pn		**Pn**		**12 54 21.1**	**+2.3**
	comp=E,0.1nm,0.3s,baz=128,slow=12,SNR=2.7								
BRTR				LR		LR		13 00 28.2	
	comp=E,28nm,18.7s,baz=114,slow=42								
AKTO	**Aktyubinsk**	**19.42**	**21**	P		**P**		**12 55 38.0**	**+0.1**
	comp=E,0.1nm,0.3s,baz=218,slow=12,SNR=5.4								
MLR	**Muntele Rosu**	**20.94**	**314**	P		Pn		12 55 57.5	+0.2
	comp=E,7.3nm,0.9s,baz=26,slow=8.1,SNR=5.9								
MLR	**Muntele Rosu**	**20.94**	**314**	⇓P		Pn		12 55 57.4	+0.1
VOIR		**21.46**	**313**	⇑P		**P**		**12 56 01.1**	**+0.8**
DOPR	**Dopca**	**21.52**	**315**	⇑P		**P**		**12 56 01.0**	**+0.2**
BIZ	**Bicaz**	**21.62**	**317**	⇓P		**P**		**12 56 02.2**	**+0.4**
AKASG	**Malin Array Be**	**22.46**	**329**	P		**P**		**12 56 09.5**	**-1.4**
	comp=E,1.9nm,0.5s,baz=254,slow=8.7,SNR=5.7								
BURAR	**Bucovina Array**	**22.49**	**318**	⇑P		**P**		**12 56 11.5**	**+0.2**
AAK	**Ala-Archa**	**23.55**	**57**	LR		LR		13 06 43.6	
	comp=E,24nm,19.4s,baz=284,slow=40								
SIRR	**Siria**	**23.95**	**312**	⇓P		**P**		**12 56 26.7**	**+0.7**
KOLS	**Kolonicke sedl**	**24.86**	**318**	*e*P		**P**		**12 56 34.4**	**+0.1**
ARU	**Arti**	**24.99**	**15**	LR		LR		13 07 36.9	
	comp=E,25nm,18.5s,baz=136,slow=39								
CRVS	**Cervenica-Dubn**	**25.30**	**318**	*e*P		**P**		**12 56 39.4**	**+1.1**
PSZ	**Piszkesteto**	**25.76**	**314**	⇑P		**P**		**12 56 44.1**	**+1.6**
BVAR	**Borovoye Array**	**26.22**	**32**	P		**P**		**12 56 46.2**	**-0.3**
	comp=E,0.4nm,0.4s,baz=242,slow=6.2,SNR=4.5								
VYHS	**Vyhne**	**26.65**	**315**	*e*P		**P**		**12 56 51.7**	**+1.2**
KURBB	**Kurchatov Arra**	**29.07**	**43**	P		**P**		**12 57 12.1**	**0.0**
	comp=E,0.6nm,0.7s,baz=249,slow=9.5,SNR=4.4								
MKAR	**Makanchi Array**	**30.04**	**52**	P		**P**		**12 57 20.5**	**-0.2**
	comp=E,1.6nm,0.9s,baz=251,slow=7.6,SNR=6.0								
FINES	**FINESS Array B**	**31.94**	**341**	P		**P**		**12 57 35.9**	**-1.4**
	comp=E,2.2nm,0.9s,baz=153,slow=9.4,SNR=3.8								
ZALV	**Zalesovo Beam**	**33.98**	**40**	P		**P**		**12 57 53.7**	**-1.5**
	comp=E,0.6nm,0.5s,baz=245,slow=9.4,SNR=4.6								
NOA	**NORSAR Array B**	**36.82**	**331**	LR		LR		13 16 10.3	
	comp=E,8.3nm,18.1s,baz=295,slow=41								
ARCES	**ARCESS Array B**	**38.92**	**348**	P		**P**		**12 58 36.3**	**-0.9**
	comp=E,1.7nm,0.8s,baz=168,slow=8.9,SNR=5.7								
TORD	**Torodi Ar. Bea**	**45.97**	**256**	P		**P**		**12 59 34.0**	**-1.2**
	comp=E,1.0nm,0.9s,baz=46,slow=7.7,SNR=4.2								
TORD				LR		LR		13 21 07.2	
	comp=E,32nm,21.5s,baz=215,slow=39								
SONM	**Songino Array**	**46.39**	**53**	P		**P**		**12 59 39.6**	**+1.3**
	comp=E,0.2nm,0.3s,baz=251,slow=9.0,SNR=2.0								
CMAR	**Chiang Mai Arr**	**48.16**	**94**	P		**P**		**12 59 50.3**	**-2.0**
	comp=E,0.4nm,0.4s,baz=289,slow=8.5,SNR=2.3								

*IDC **27** 12:58:21.7±0.9, 9.°25S×111.°81E, h0km, mb4.3/17, mb1 4.4/18, mb1mx4.3/32, mbtmp4.3/18, ML5.1/1, MS3.4/5, Ms1 3.5/5, ms1mx3.0/30, Error ellipse: s-maj=32.8km s-min=14.8km az=47.0*
*DJA **27** 12:58:25.2±0.3, 9.°S±3.°×111.°2E±.°, h10km, M4.6/17, mB4.7/1, mb4.9/7, MLv4.5/17, Mw(mB)4.0/1*
*NEIC **27** 12:58:26.4±1.8, 9.°48S±0.°08×111.°83E±0.°05, h42km±9km, mb4.4/22, Error ellipse: s-maj=11.1km s-min=7.4km az=191.0*

ISC 27 12:58:26.0±0.7, 9.°50S±0.°06×111.°82E±0.°04, h37km±1km, n87, σ1°46/95, mb4.4/27, MS3.4/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WOJI	**Wonogiri, Jawa**	**1.88**	**332**	P		**Pn**		**12 58 56.0**	**+0.5**
WOJI				S		**Sn**		**12 59 17.5**	**-0.5**
GMJI	**Gumukmas**	**2.02**	**53**	P		**Pn**		**12 58 57.7**	**+0.2**
UGM	**Wanagama**	**2.03**	**321**	P		**Pn**		**12 58 58.5**	**+0.8**
UGM				S		**Sn**		**12 59 22.8**	**+0.9**
UGM	**Wanagama**	**2.03**	**321**					**12 58 59.0**	**+1.3**
UGM					Sn	**Sn**		**12 59 22.6**	**+0.7**
NGJI	**Ngawi**	**2.15**	**351**	P		**Pn**		**12 59 03.5**	**+4.2**
NGJI				S		**Sn**		**12 59 26.4**	**+1.6**
YOGI	**Yogyakarta**	**2.25**	**318**	P		**Pn**		**12 59 01.8**	**+1.1**
YOGI				S		**Sn**		**12 59 26.5**	**-0.8**
JAGI	**Jajag, Banyuwa**	**2.53**	**66**	P		**Pn**		**12 59 04.6**	**+0.1**
JAGI				S		**Sn**		**12 59 32.7**	**-1.3**
JAGI	**Jajag, Banyuwa**	**2.53**	**66**					**12 59 05.3**	**+0.8**
JAGI					Sn	**Sn**		**12 59 33.3**	**-0.7**
GRJI	**Gresik**	**2.66**	**14**	P		**Pn**		**12 59 08.2**	**+2.0**
SMRI	**Semarang**	**2.79**	**331**	P		**Pn**		**12 59 10.6**	**+2.4**
SMRI	**Semarang**	**2.79**	**331**					**12 59 07.9**	**-0.3**
KMMI	**Kalianget**	**3.24**	**41**	P		**Pn**		**12 59 16.3**	**+2.1**
CMJI	**Cimerak**	**3.74**	**297**	P		**Pn**		**12 59 21.4**	**+0.2**
CMJI				S		**Sn**		**13 00 01.1**	**-2.9**
CISI	**Cisompet, Garu**	**4.41**	**296**	P		**Pn**		**12 59 31.1**	**+0.7**
CISI				S		**Sn**		**13 00 18.8**	**-1.7**
CISI	**Cisompet, Garu**	**4.41**	**296**					**12 59 31.0**	**+0.6**
CISI					Sn	**Sn**		**13 00 20.5**	**0.0**
LEM	**Lembang**	**4.94**	**302**	P		**Pn**		**12 59 40.3**	**+2.5**
TWSI	**Taliwang, Sumb**	**5.06**	**82**	P		**Pn**		**12 59 42.0**	**+2.7**
	0.1nm805nm34nm,0.8s								
CNJI	**Cibinong**	**5.12**	**295**	P		**Pn**		**12 59 41.8**	**+1.6**
	0.6nm139nm,1.3s								
SKJI	**Sukabumi**	**5.77**	**295**	P		**Pn**		**12 59 47.3**	**-1.8**
PLAI	**Plampang**	**5.92**	**84**	P		**Pn**		**12 59 53.1**	**+1.9**
	0.4nm88nm,0.7s								
XMIS	**Christmas Isla**	**6.15**	**260**	Pn		**Pn**		**12 59 54.5**	**+0.2**
XMIS				Sn		**Sn**		**13 01 04.6**	**+1.2**
BBKI	**Banjar Baru**	**6.71**	**27**	P		**Pn**		**13 00 03.5**	**+1.4**
	0.3nm56nm,0.6s								
WBSI	**Waikabubak, Su**	**7.47**	**92**	P		**Pn**		**13 00 15.7**	**+3.2**
	0.3nm53nm,0.9s								
KAPI	**Kappang**	**9.05**	**61**	LR		LR		13 04 07.9	
	comp=Z,143nm,20.5s,baz=225,slow=39								
BKSI	**Bulukumba**	**9.22**	**64**	P		**Pn**		**13 00 40.3**	**+3.8**
PMBI	**Palembang**	**9.57**	**313**	Pn		**Pn**		**13 00 43.2**	**+1.9**
PMBI				Sn		**Sn**		**13 02 27.6**	**-0.2**
EDFI	**Ende, Flores**	**9.78**	**86**	P		**Pn**		**13 00 43.2**	**-1.1**
MMRI	**Maumere**	**10.33**	**86**	P		**Pn**		**13 00 53.1**	**+1.4**
	46nm,0.5s								
MMRI	**Maumere**	**10.33**	**86**	Pn		**Pn**		**13 00 51.5**	**-0.2**
BATI	**Baumata**	**11.70**	**94**	Pn		**Pn**		**13 01 11.8**	**+1.4**
	13nm,0.3s,baz=285,slow=2.5,SNR=9.8								
BATI				Sn		**Sn**		**13 03 17.4**	**-2.4**
	1.9nm,0.3s,baz=357,slow=22,SNR=1.1								
BATI	**Baumata**	**11.70**	**94**	P		**Pn**		**13 01 10.5**	**+0.1**
	16nm,0.4s								
SOEI	**Soe**	**12.28**	**92**	P		**Pn**		**13 01 18.6**	**+0.1**
SOEI	**Soe**	**12.28**	**92**	Pn		**Pn**		**13 01 18.6**	**+0.1**
GIRL	**Giralia**	**13.27**	**170**	Pn		**Pn**		**13 01 31.9**	**0.0**
PSA00	**Pilbara Seismi**	**14.27**	**148**	Pn		**Pn**		**13 01 43.1**	**-2.5**
FITZ	**Fitzroy Crossi**	**15.90**	**124**	Pn		**Pn**		**13 02 06.6**	**-0.5**
KNRA	**Kununurra**	**17.63**	**112**	P		**Pn**		**13 02 30.5**	**+0.9**
KNRA				IAmb		IAmb		13 02 46.0	
	comp=Z,16nm,0.7s								
MTN	**Manton Dam**	**19.24**	**102**	P		**Pn**		**13 02 48.4**	**-0.1**
FAKI	**Fak Fak**	**21.33**	**73**	P		**P**		**13 03 08.9**	**-1.1**
FAKI				IAmb		IAmb		13 03 24.3	
	comp=Z,23nm,0.9s								
WB0	**Warramunga Arr**	**24.08**	**118**	P		**P**		**13 03 38.8**	**+0.6**
WRA	**Warramunga Arr**	**24.10**	**118**	P		**P**		**13 03 39.9**	**+1.5**
	comp=Z,2.0nm,0.6s,baz=294,slow=11,SNR=30								
WRA				LR		LR		13 12 14.4	
	comp=Z,63nm,20.3s,baz=200,slow=34								
WRA	**Warramunga Arr**	**24.10**	**118**	P		**P**		**13 03 39.1**	**+0.7**
WRAB	**Tennant Creek**	**24.10**	**118**	P		**P**		**13 03 38.8**	**+0.4**
WRAB				IAmb		IAmb		13 03 55.3	
	comp=Z,6.7nm,0.8s								
WB2	**Warramunga Arr**	**24.11**	**118**	P		**P**		**13 03 38.8**	**+0.3**
WR0	**Warramunga Arr**	**24.28**	**118**	P		**P**		**13 03 41.3**	**+1.3**
WR0				IAmb		IAmb		13 03 57.2	
	comp=Z,6.7nm,0.8s								
ASAR	**Alice Springs**	**25.37**	**126**	P		**P**		**13 03 52.0**	**+2.0**
	comp=Z,1.1nm,0.4s,baz=303,slow=9.3,SNR=23								
ASAR	**Alice Springs**	**25.37**	**126**	P		**P**		**13 03 51.2**	**+1.2**
FORT	**Forrest**	**26.02**	**147**	P		**P**		**13 04 00.0**	**+4.3**
FORT				IAmb		IAmb		13 04 17.1	
	comp=Z,8.7nm,0.8s								
CMAR	**Chiang Mai Arr**	**30.55**	**335**	P		**P**		**13 04 33.2**	**-3.0**
	comp=Z,1.3nm,0.6s,baz=164,slow=8.0,SNR=2.2								
CMAR				LR		LR		13 17 02.8	
	comp=Z,90nm,18.4s,baz=180,slow=37								
STKA	**Stephens Creek**	**35.45**	**133**	P		**P**		**13 05 21.4**	**+2.5**
	comp=Z,0.8nm,0.4s,baz=320,slow=11,SNR=5.2								
STKA				LR		LR		13 20 05.5	
	comp=Z,211nm,19.0s,baz=211,slow=37								
STKA	**Stephens Creek**	**35.45**	**133**	P		**P**		**13 05 19.1**	**+0.2**
H08S2	**Diego Garcia H**	**38.91**	**270**	T		T		13 47 17.3	
	baz=95,slow=74								
H08S3	**Diego Garcia H**	**38.92**	**270**	T		T		13 47 13.9	
	baz=95,slow=74								
H08S1	**Diego Garcia H**	**38.93**	**270**	T		T		13 47 38.6	
	baz=95								
XAN	**Xi'an**	**43.39**	**356**	P		**P**		**13 06 23.8**	**-1.3**
XAN				pP		pP		13 06 30.5	-4.1
XAN				pmax		pmax			
	comp=Z,8.0nm,0.9s								
KSRS	**Korea Array**	**49.09**	**17**	P		**P**		**13 07 09.8**	**+0.1**
	comp=Z,2.9nm,0.9s,baz=205,slow=7.3,SNR=8.8								
MAJO	**Matsushiro**	**52.09**	**27**	P		**P**		**13 07 31.0**	**-1.5**
MAJO				IAmb		IAmb		13 07 32.3	
	comp=Z,4.7nm,0.8s								
MAT	**Matsushiro**	**52.09**	**27**	P		**P**		**13 07 30.8**	**-1.7**
MJAR	**Matsushiro Arr**	**52.09**	**27**	P		**P**		**13 07 31.0**	**-1.5**
	comp=Z,7.2nm,0.8s,baz=203,slow=8.1,SNR=15								
USA0B	**Ussuriysk Arra**	**56.49**	**17**	P		**P**		**13 08 03.4**	**-0.9**
USRK	**Ussuriysk Ar.**	**56.49**	**17**	P		**P**		**13 08 04.0**	**-0.4**
	comp=Z,12nm,0.7s,baz=191,slow=4.4,SNR=28								
SONM	**Songino Array**	**57.29**	**356**	P		**P**		**13 08 09.9**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=174,slow=8.4,SNR=11								
ERM	**Erimo**	**58.77**	**27**	P		**P**		**13 08 19.4**	**-1.0**
KZA	**Kyzart**	**61.29**	**330**	P		**P**		**13 08 38.6**	**+0.3**
	SNR=7.1								
TKM2	**Tokmak 2**	**61.75**	**330**	P		**P**		**13 08 40.9**	**-0.2**
	SNR=12								
KBK	**Karagaybulak**	**61.87**	**330**	P		**P**		**13 08 42.5**	**+0.7**
	SNR=5.6								
MK31	**Makanchi Array**	**61.93**	**337**	P		**P**		**13 08 41.3**	**-0.6**
MK31				IAmb		IAmb		13 08 42.3	
	comp=Z,3.3nm,0.7s								
MKAR	**Makanchi Array**	**61.93**	**337**	P		**P**		**13 08 41.6**	**-0.4**
	comp=Z,5.0nm,0.6s,baz=145,slow=7.3,SNR=50								
AAK	**Ala-Archa**	**62.09**	**330**	P		**P**		**13 08 43.5**	**+0.3**
	comp=Z,2.1nm,0.4s,baz=125,slow=8.8,SNR=4.4								
AAK	**Ala-Archa**	**62.09**	**330**	P		**P**		**13 08 42.3**	**-1.0**
AAK				IAmb		IAmb		13 08 44.2	
	comp=Z,3.8nm,0.9s								
AML	**Almayashu**	**62.12**	**329**	P		**P**		**13 08 43.9**	**+0.1**
	SNR=5.8								
FRU1	**Bishkek**	**62.15**	**330**	P		**P**		**13 08 43.1**	**-0.5**
EKS2	**Erkin-Say**	**62.46**	**329**	P		**P**		**13 08 46.3**	**+0.5**
	SNR=6.4								
KK31	**Karatay Array**	**64.47**	**328**	P		**P**		**13 08 59.3**	**+0.4**
KK31				IAmb		IAmb		13 09 09.6	
	comp=Z,2.4nm,0.6s								
KKAR	**Karatay Array**	**64.47**	**328**	P		**P**		**13 08 58.7**	**-0.1**
KKAR				IAmb		IAmb		13 09 09.6	
	comp=Z,2.4nm,0.6s								
ZAA0	**Zalesovo Array**	**67.22**	**343**	P		**P**		**13 09 15.5**	**-0.8**
ZAA0				IAmb		IAmb		13 09 16.1	
	comp=Z,5.2nm,0.8s								
ZALV	**Zalesovo Beam**	**67.22**	**343**	P		**P**		**13 09 15.3**	**-0.9**
	comp=Z,4.4nm,0.6s,baz=156,slow=4.4,SNR=24								
GEYT	**Alibeck**	**68.81**	**317**	P		**P**		**13 09 27.6**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=239,slow=7.8,SNR=2.7								
BVAR	**Borovoye Array**	**71.58**	**335**	P		**P**		**13 09 43.4**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=133,slow=8.7,SNR=4.2								
YAK	**Yakutsk**	**72.66**	**9**	P		**P**		**13 09 49.2**	**-0.4**
ABKAR	**Akbulak array**	**74.03**	**328**	P		**P**		**13 09 57.4**	**-0.5**
MA2	**Magadan**	**75.57**	**19**	P		**P**		**13 10 07.3**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=195,slow=20,SNR=2.0								
SEY	**Seymchan**	**78.64**	**18**	P		**P**		**13 10 23.5**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=153,slow=2.5,SNR=8.4								
KBZ	**Khabaz**	**81.71**	**317**	P		**P**		**13 10 40.7**	**0.0**
	comp=Z,2.6nm,0.8s,baz=108,slow=1.7,SNR=4.5								
BRTR	**Keskin Array B**	**87.05**	**311**	P		**P**		**13 11 09.6**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=142,slow=6.3,SNR=4.2								
BRTR				LR		LR		13 54 56.2	
	comp=Z,11nm,18.3s,baz=147,slow=39								
NVAR	**Mina Array Bea**	**126.75**	**49**	PKP		**PKiKP**		**13 17 28.4**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=277,slow=1.5,SNR=2.3								
TXAR	**Lajitas Array**	**141.38**	**54**	PKhKP		PKPpre		13 17 50.2	
	comp=Z,0.1nm,0.4s,baz=262,slow=2.6,SNR=2.1								

*IDC **27** 13:15:41.5±1.3, 2.°56N×89.°72E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.8/48, mbtmp4.0/11, ML4.0/2, MS3.1/2, Ms1 3.2/2, ms1mx2.8/32, Error ellipse: s-maj=42.1km s-min=18.6km az=58.0*
*NEIC **27** 13:15:43.5±1.2, 2.°5N±0.°1×89.°71E±0.°09, h15km±4km, mb4.4/12, Error ellipse: s-maj=19.5km s-min=9.0km az=214.0*

ISC 27 13:15:42.8±0.8, 2.°6N±0.°1×89.°80E±0.°08, h10km, n46, σ0°76/41, mb4.2/14, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**7.61**	**69**	Pn		**Pn**		**13 17 35.2**	**+1.5**
GSI	**Gunungsitoli**	**7.87**	**99**			**Pn**		**13 17 37.6**	**+0.1**
RPSI	**Rantau Prapat**	**9.12**	**89**			**Pn**		**13 17 55.3**	**+0.8**
RPSI						**Sn**		**13 19 35.6**	**-1.6**
RPSI	**Rantau Prapat**	**9.12**	**89**	Pn		**Pn**		**13 17 54.4**	**-0.2**
PSI	**Prapat**	**9.12**	**88**	Pn		**Pn**		**13 17 55.3**	**+0.7**
	1.5nm,0.3s,baz=188,slow=0.6,SNR=4.3								
PSI				Sn		**Sn**		**13 19 35.6**	**-1.9**
	1.1nm,0.3s,baz=0.3,slow=11,SNR=3.6								
PALK	**Pallekele**	**10.20**	**298**	Pn		**Pn**		**13 18 07.9**	**-1.5**
KULM	**Kulim**	**11.16**	**76**			**Pn**		**13 18 22.2**	**-0.3**
IPM	**Ipoh**	**11.37**	**80**	Pn		**Pn**		**13 18 25.1**	**-0.3**
SKHT	**Srikalahasti**	**14.92**	**319**	*e*P		**Pn**		**13 19 13.9**	**-0.1**
ADKI	**Addanki**	**16.36**	**324**	*e*P		**Pn**		**13 19 32.5**	**-0.3**
ADKI				*e*				13 22 16.6	
PVM	**Polavaram**	**16.66**	**332**	*e*P		**Pn**		**13 19 36.6**	**+0.1**
MYLAV	**Mylavaram**	**16.73**	**328**	*e*P		**Pn**		**13 19 36.8**	**-0.6**
MYLAV				*e*				13 22 23.8	
CHLP	**Challavanipeta**	**16.81**	**341**	*e*P		**Pn**		**13 19 37.6**	**-0.8**
CHLP				*e*				13 22 28.2	
NJS	**Nagarjunasagar**	**17.31**	**324**	*e*P		**Pn**		**13 19 44.1**	**-0.7**
PBKT	**Sadao Pong**	**17.73**	**38**	P		**Pn**		**13 19 50.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**18.16**	**29**	P		**Pn**		**13 19 55.5**	**+0.3**
	0.2nm,0.3s,baz=226,slow=12,SNR=17								
CMAR				LR		LR		13 26 51.9	
	comp=Z,47nm,18.1s,baz=150,slow=37								
HYBB	**Hyderabad (bro**	**18.43**	**324**	*e*P		**Pn**		**13 19 58.3**	**-0.3**
HYBB				*e*				13 23 08.9	
RPR	**Rampur**	**19.18**	**328**	*e*P		**P**		**13 20 05.9**	**-0.9**
SRSP	**Sriramsagar**	**19.75**	**326**	*e*P		**Pn**		**13 20 13.6**	**-0.9**
UBPT	**Khong Chiam**	**19.96**	**50**			Pn		13 20 17.1	+0.1
UBPT				IAmb		IAmb		13 20 38.0	
	comp=Z,15nm,1.3s								
H08S3	**Diego Garcia H**	**20.02**	**239**	T		T		13 40 52.9	
	baz=59,slow=75,SNR=24								
H08S2	**Diego Garcia H**	**20.03**	**239**	T		T		13 40 45.9	
	baz=59,slow=75,SNR=19								
H08S1	**Diego Garcia H**	**20.04**	**239**	T		T		13 41 08.5	
	baz=59,slow=75,SNR=15								
KLRI	**Killari**	**20.12**	**321**	*e*P		**P**		**13 20 17.1**	**-0.1**
KLRI				*e*				13 23 47.6	
H01W3	**Cape Leeuwin H**	**43.70**	**151**	T		T		14 10 51.1	
	baz=327,slow=74,SNR=6.5								
H01W2	**Cape Leeuwin H**	**43.71**	**151**	T		T		14 10 45.9	
	baz=327,slow=74,SNR=8.8								
H01W1	**Cape Leeuwin H**	**43.72**	**151**	T		T		14 10 44.4	
	baz=327,slow=74,SNR=6.7								
MK31	**Makanchi Array**	**44.53**	**353**	P		**P**		**13 23 54.4**	**-0.3**
MKAR	**Makanchi Array**	**44.53**	**353**	P		**P**		**13 23 54.6**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=174,slow=9.6,SNR=9.3								
SONM	**Songino Array**	**47.32**	**15**	P		**P**		**13 24 17.4**	**+0.6**
	comp=Z,4.5nm,0.5s,baz=196,slow=9.3,SNR=22								
ULN	**Ulaanbaatar**	**47.52**	**16**	P		**P**		**13 24 18.8**	**+0.4**
ULN				IAmb		IAmb		13 24 19.3	
	comp=Z,4.8nm,1.2s								
WB0	**Warramunga Arr**	**49.08**	**119**	P		**P

PB01			IAML		13 42 22.4	
	comp=Z,271nm,0.2s					
PB02	**IPOC Station P**	**3.33 186**	*eP*	**Pn**	**13 41 47.9**	**+0.8**
PB02			*i* S	**Sn**	**13 42 26.0**	**-2.0**
PB02	**IPOC Station P**	**3.33 186**	*eP*	**Pn**	**13 41 48.2**	**+1.1**
PB02			*eS*	**Sn**	**13 42 25.2**	**-2.8**
PB02			IAML		13 42 29.8	
	comp=Z,709nm,0.3s					
PB07	**IPOC Station P**	**3.73 185**	*eP*	**Pn**	**13 41 53.3**	**+1.1**
PB07			*eS*	**Sn**	**13 42 34.0**	**-3.2**
PB07	**IPOC Station P**	**3.73 185**		**Pn**	**13 41 52.9**	**+0.7**
PB07	**IPOC Station P**	**3.73 185**	*eP*	**Pn**	**13 41 53.3**	**+1.1**
PB07			*eS*	**Sn**	**13 42 35.1**	**-2.1**
PB07			IAML		13 42 38.7	
	comp=Z,202nm,0.2s					
PB09	**IPOC Station P**	**3.79 176**↑	*eP*	**Pn**	**13 41 54.5**	**+1.5**
PB09			*eS*	**Sn**	**13 42 34.2**	**-4.5**
PB09	**IPOC Station P**	**3.79 176**		**Pn**	**13 41 54.3**	**+1.3**
PB09	**IPOC Station P**	**3.79 176**	*eP*	**Pn**	**13 41 54.3**	**+1.3**
PB09			*eS*	**Sn**	**13 42 38.8**	**+0.2**
PB09			IAML		13 42 40.8	
	comp=Z,194nm,0.4s					
PB03	**IPOC Station P**	**4.04 183**	*eP*	**Pn**	**13 41 56.7**	**+0.6**
PB03			*eS*	**Sn**	**13 42 40.0**	**-4.3**
PB03	**IPOC Station P**	**4.04 183**	*eP*	**Pn**	**13 41 57.0**	**+0.8**
PB03			*eS*	**Sn**	**13 42 43.0**	**-1.3**
PB03			IAML		13 42 46.0	
	comp=Z,454nm,0.2s					
PB04	**IPOC Station P**	**4.36 188**↑	*eP*	**Pn**	**13 42 01.2**	**+0.9**
PB04			*eS*	**Sn**	**13 42 46.9**	**-4.7**
PB04	**IPOC Station P**	**4.36 188**		**Pn**	**13 42 00.9**	**+0.7**
PB04	**IPOC Station P**	**4.36 188**	*eP*	**Pn**	**13 42 01.3**	**+1.0**
PB04			*eS*	**Sn**	**13 42 50.6**	**-1.0**
PB04			IAML		13 42 54.9	
	comp=Z,314nm,0.4s					
LVC	**Limon Verde**	**4.63 173**	P	**Pn**	**13 42 05.6**	**+1.6**
	comp=Z,6.9nm,0.3s,baz=40,slow=14,SNR=118					
LVC			S	**Sn**	**13 42 56.5**	**-1.7**
	comp=Z,16nm,0.3s,baz=333,slow=8.6,SNR=8.0					
LVC	**Limon Verde**	**4.63 173**	Pn	**Pn**	**13 42 05.1**	**+1.2**
LVC	**Limon Verde**	**4.63 173**	*eP*	**Pn**	**13 42 04.8**	**+0.8**
LVC	**Limon Verde**	**4.63 173**	*eP*	**Pn**	**13 42 05.3**	**+1.3**
LVC			*eS*	**Sn**	**13 42 58.6**	**+0.4**
PB06	**IPOC Station P**	**4.69 181**⇓	*iP*	**Pn**	**13 42 05.0**	**+0.4**
PB06			*eS*	**Sn**	**13 42 57.4**	**-1.9**
PB06	**IPOC Station P**	**4.69 181**		**Pn**	**13 42 05.0**	**+0.4**
PB06	**IPOC Station P**	**4.69 181**	*eP*	**Pn**	**13 42 05.0**	**+0.4**
PB06			*eS*	**Sn**	**13 42 56.7**	**-2.6**
PB06			IAML		13 42 59.4	
	comp=Z,285nm,0.3s					
PB15	**IPOC Station P**	**5.19 179**		**Pn**	**13 42 11.6**	**+0.5**
PB15	**IPOC Station P**	**5.19 179**	*eP*	**Pn**	**13 42 11.8**	**+0.6**
PB15			*eS*	**Sn**	**13 43 10.3**	**-0.8**
PB10	**IPOC Station P**	**5.58 190**	Pn	**Pn**	**13 42 15.8**	**-0.2**
PB10	**IPOC Station P**	**5.58 190**	*eP*	**Pn**	**13 42 16.0**	**0.0**
PB10			*eS*	**Sn**	**13 43 17.2**	**-2.7**
PB10			IAML		13 43 19.6	
	comp=Z,87nm,0.3s					
YJA	**Yavi**	**5.61 139**	*eP*	**Pn**	**13 42 17.3**	**+0.4**
HJA	**Humahuaca**	**6.46 144**	*eP*	**Pn**	**13 42 28.2**	**+0.2**
HJA			*eS*	**Sn**	**13 43 42.5**	**+1.1**
PB14	**IPOC Station P**	**6.65 187**	Pn	**Pn**	**13 42 29.6**	**-0.9**
PB14	**IPOC Station P**	**6.65 187**	*eP*	**Pn**	**13 42 30.0**	**-0.4**
PB14			*eS*	**Sn**	**13 43 42.5**	**-3.3**
PB14			IAML		13 43 46.0	
	comp=Z,56nm,0.6s					
GO02	**Mina Guanaco**	**7.13 181**	Pn	**Pn**	**13 42 35.6**	**-1.2**
AZAP	**Zapla**	**7.46 147**	*eP*	**Pn**	**13 42 40.0**	**-1.1**
AZAP			*eS*	**Sn**	**13 44 01.5**	**-3.6**
ASTB	**Santa Barbara**	**7.58 142**	*eP*	**Pn**	**13 42 41.5**	**-1.1**
ASTB			*eS*	**Sn**	**13 44 01.1**	**-6.7**
SLA	**San Lorenzo**	**7.67 151**	*eP*	**Pn**	**13 42 44.0**	**+0.2**
AC01	**Pan de Azucar**	**8.18 187**	Pn	**Pn**	**13 42 48.8**	**-1.6**
SIV	**San Ignacio**	**8.33 77**	P	**Pn**	**13 42 48.6**	**-3.8**
	comp=Z,3.0nm,0.3s,baz=275,slow=8.8,SNR=26					
SIV			S	Sn	13 44 15.8	-10
	comp=Z,1.1nm,0.3s,baz=343,slow=20,SNR=7.3					
ETMB	**Extrema**	**8.74 22**	*eP*	**Pn**	**13 42 56.3**	**-1.5**
NNA	**Nana**	**9.26 309**	P	**Pn**	**13 43 07.5**	**+2.9**
	comp=Z,15nm,0.3s,baz=131,slow=10,SNR=20					
NNA			S	**Sn**	**13 44 47.7**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=260,slow=13,SNR=1.6					
NNA	**Nana**	**9.26 309**	Pn	**Pn**	**13 43 07.0**	**+2.3**
AHML	**Horco Molle**	**9.57 157**	*eP*	**Pn**	**13 43 08.4**	**-0.3**
AC04	**Llanos de Chal**	**10.26 188**	Pn	**Pn**	**13 43 14.7**	**-3.0**
PTLB	**Pontes e Lacer**	**10.27 77**	*eP*	**Pn**	**13 43 19.3**	**+1.4**
PTLB			*eS*	**S**	**13 45 17.8**	**+4.9**
VILB	**Vilhena**	**10.29 62**	*eP*	**Pn**	**13 43 17.5**	**-0.7**
CZSB	**Cruzeiro do Su**	**10.66 343**	*eP*	Pn	13 43 15.8	-7.3
CZSB			*eS*	**Sn**	**13 45 13.6**	**-8.0**
AC05	**El Transito**	**10.81 184**	Pn	**Pn**	**13 43 23.6**	**-1.5**
SAML	**Samuel**	**10.90 35**		**Pn**	**13 43 22.8**	**-3.4**
SAML	**Samuel**	**10.90 35**	*eP*	**Pn**	**13 43 24.4**	**-1.8**
AQDB	**Aquidauana**	**13.29 103**	*eP*	**Pn**	**13 43 58.1**	**+1.3**
SALV	**Santo Antonio**	**13.39 83**	*eP*	**P**	**13 44 01.1**	**-0.6**
CPUP	**Villa Florida**	**14.01 128**	P	**Pn**	**13 44 05.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=319,slow=12,SNR=3.8					
CPUP	**Villa Florida**	**14.01 128**	*eP*	**P**	**13 44 08.3**	**-0.1**
CLDB	**Colider**	**15.05 64**	*eP*	**Pn**	**13 44 19.3**	**+0.4**
TRCB	**Terra Rica**	**16.53 110**	*eP*	**Pn**	**13 44 37.5**	**+0.6**
ARAG	**Araguaiana, MT**	**17.10 85**	*eP*	**Pn**	**13 44 44.0**	**+0.3**
PCMB	**Pacaembu**	**17.55 105**	*eP*	**Pn**	**13 44 49.6**	**+0.5**
PTGB	**Pitanga**	**17.57 115**	*eP*	**P**	**13 44 48.3**	**+0.3**
NPGB	**Novo Progresso**	**17.58 54**	*eP*	**P**	**13 44 48.2**	**+0.2**
ITRB	**Iturama**	**18.22 98**	*eP*	**Pn**	**13 44 56.0**	**-0.9**
ITAB	**Concordia**	**18.48 123**	*eP*	**Pn**	**13 44 59.5**	**-0.4**
ITTB	**Itaituba**	**19.12 47**	*eP*	**P**	**13 45 03.8**	**-0.9**
FRTB	**Fartura**	**19.41 109**	*eP*	**P**	**13 45 08.2**	**+0.3**
PTGA	**Pitinga**	**19.56 30**	P	**P**	**13 45 09.7**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=117,slow=22,SNR=11					
PLTB	**Pedras Altas**	**19.88 137**	*eP*	**P**	**13 45 11.6**	**-1.2**
BB19B	**Bebedouro**	**20.02 102**	*eP*	**P**	**13 45 14.1**	**-0.3**
IPMB	**Ipameri, GO**	**20.27 93**	*eP*	**P**	**13 45 17.8**	**+0.7**
BDFB	**Brasilia**	**20.72 87**	P	**P**	**13 45 21.9**	**-0.2**
	comp=Z,4.6nm,0.4s,baz=270,slow=12,SNR=4.2					
BDFB	**Brasilia**	**20.72 87**	P	**P**	**13 45 22.3**	**+0.3**
BDFB			IAmb	IAmb	13 45 25.5	
	comp=Z,4.5nm,0.5s					
LC01	**Cunco**	**20.93 185**	P	**P**	**13 45 22.5**	**-1.4**
PEXB	**Peixe**	**21.30 77**	*eP*	**P**	**13 45 27.6**	**-0.5**
SPB	**Sao Paulo**	**21.38 109**	*eP*	**P**	**13 45 28.8**	**-1.1**
PET01	**Itanhaem-SP**	**21.66 111**	*eP*	**P**	**13 45 32.4**	**+0.6**
PET01			*epP*	**pP**	**13 46 02.4**	**-0.4**
VAO	**Valinhos**	**21.70 107**	*eP*	**P**	**13 45 33.3**	**+1.0**
MALB	**Monte Alegre**	**21.95 45**	*eP*	**P**	**13 45 33.3**	**-1.5**
PLCA	**Paso Flores**	**22.68 182**	P	**P**	**13 45 44.4**	**+2.8**
	comp=Z,1.2nm,0.7s,baz=353,slow=13,SNR=4.3					
PLCA	**Paso Flores**	**22.68 182**	P	**P**	**13 45 42.0**	**+0.4**
PLCA			IAmb	IAmb	13 46 09.0	
	comp=Z,8.0nm,1.4s					
PLCA	**Paso Flores**	**22.68 182**	*eP*	**P**	**13 45 39.7**	**-1.9**
SMTB	**Santa Maria do**	**23.16 70**	*eP*	**P**	**13 45 45.9**	**-0.3**
JANB	**Januaria**	**24.34 87**	*eP*	**P**	**13 45 57.0**	**0.0**
SDBA	**SAO DESIDERIO**	**24.39 80**	*eP*	**P**	**13 45 56.7**	**-0.7**
MAN01	**Angra dos Reis**	**24.42 106**	*eP*	**P**	**13 45 58.0**	**+0.4**
MCPB	**Macapa, AP**	**24.53 46**	*eP*	**P**	**13 45 57.0**	**-1.6**
TMAB	**Tom-Au,PA,Br**	**26.13 56**	*eP*	**P**	**13 46 12.1**	**-1.0**
MDP	**Montagnes des**	**28.36 38**	P	**P**	**13 46 32.0**	**-0.9**
	comp=Z,14nm,0.9s,baz=56,slow=9.6,SNR=3.4					
GDU01	**Guandu, BA**	**29.10 86**	*eP*	**P**	**13 46 39.5**	**-0.1**
GDU01			*eS*	**S**	**13 51 21.4**	**+2.6**
URIC	**Uribia, Colomb**	**29.61 355**	P	**P**	**13 46 44.6**	**+0.8**
MEDO	**Medina**	**61.41 353**	P	**P**	**13 50 51.3**	**-1.2**
O20A	**White River Ci**	**68.15 329**	P	**P**	**13 51 36.2**	**-0.4**
O20A			IAmb	IAmb	13 51 39.5	
	comp=Z,7.8nm,1.5s					
DBIC	**Dimbokro**	**68.34 75**	P	**P**	**13 51 39.5**	**+1.5**
	comp=Z,5.6nm,0.7s,baz=217,slow=8.6,SNR=6.5					
DBIC	**Dimbokro**	**68.34 75**	P	**P**	**13 51 39.7**	**+1.7**
DBIC			IAmb	IAmb	13 51 43.2	
	comp=Z,24nm,1.4s					
PDAR	**Pinedale Array**	**70.80 330**	P	**P**	**13 51 56.2**	**+3.5**
	comp=Z,0.1nm,0.5s,baz=90,slow=7.2,SNR=1.3					
TOA0	**Torodi Ar. Sit**	**76.75 71**	P	**P**	**13 52 29.1**	**+1.3**
TOA0			IAmb	IAmb	13 52 34.3	
	comp=Z,4.4nm,0.9s					
TORD	**Torodi Ar. Bea**	**76.75 71**	P	**P**	**13 52 29.4**	**+1.7**
	comp=Z,2.7nm,0.6s,baz=251,slow=5.2,SNR=18					
WRA	**Warramunga Arr**	**135.62 213**	PKP	**PKiKP**	**13 59 59.8**	**+2.7**
	comp=Z,0.7nm,0.9s,baz=144,slow=1.6,SNR=4.7					
LZH	**Lanzhou**	**161.04 17**	*e*PKP	**PKPdf**	**14 00 34.5**	**-0.5**
LZH			pPKP	PKPab	14 01 16.0	-2.8
LZH			sPKP		14 01 33.0	

JMA ***27*** *13:51:31.6,24°.20N×122°.22E,h51km,2km,M3.2*
TAP ***27*** *13:51:32.4,24°.23N×122°.22E,h41km,ML3.7,C*
ISC 27 13:51:31.6±1.0,**24°.15N**±0°.02×**122°.23E**±0°.02,**h31**km±10km,
n118,s083/231,4C-8D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
ENAH	**Nanao**	**0.48 308**↑		*iP*	**Pb**	**13 51 42.3**	**+0.5**
	baz=302						
ENAH				*i* S	**Sn**	**13 51 49.5**	**-0.3**
	baz=302						
ENA	**Nanau**	**0.52 302**↑		*iP*	**Pn**	**13 51 43.0**	**0.0**
	baz=298						
ENA				*i* S	**Sn**	**13 51 51.0**	**+0.2**
	baz=298						
TWC	**Suao**	**0.57 323**↑		*iP*	**Pb**	**13 51 43.1**	**-0.1**
	baz=319						
TWC				*i* S	**Sb**	**13 51 50.4**	**-0.8**
	baz=319						
NACB	**Ninganchiao**	**0.58 272**	⇓	P	**Pn**	**13 51 44.1**	**+0.3**
	baz=264						
NACB				S	**Sn**	**13 51 52.6**	**+0.3**
	baz=264						
TWD	**Chiawan**	**0.58 263**		*i* P	**Pn**	**13 51 44.2**	**+0.3**
	baz=244						
TWD				*i* S	**Sn**	**13 51 52.1**	**-0.3**
	baz=244						
HWA	**Hwalien**	**0.60 253**		*i* P	**Pn**	**13 51 44.9**	**+0.9**
	baz=245						
HWA				S	**Sn**	**13 51 54.7**	**+2.0**
	baz=245						
ETLH	**Xiulin Townshi**	**0.69 275**		P	**Pn**	**13 51 45.5**	**+0.2**
	baz=268						
ETLH				S	**Sn**	**13 51 55.5**	**+0.5**
	baz=268						
JYNG	**Yonagunijimaku**	**0.72 65**		P	**Pb**	**13 51 45.6**	**0.0**
JYNG				S	**Sb**	**13 51 55.6**	**+0.4**
EGS		**0.74 339**⇓	*e*	P	**Pb**	**13 51 45.9**	**-0.1**
	baz=337						
EGS				*e*S	**Sb**	**13 51 55.2**	**-0.7**
	baz=337						
ILA	**Ilan**	**0.75 324**		*i* P	**Pb**	**13 51 46.6**	**+0.3**
	baz=321						
ILA				S	**Sb**	**13 51 56.5**	**+0.3**
	baz=321						
TWE	**Neicheng**	**0.76 318**↑		*iP*	**Pb**	**13 51 46.4**	**0.0**
	baz=319						
TWE				*i* S	**Sb**	**13 51 56.1**	**-0.4**
	baz=319						
ENTT	**Nioudou**	**0.78 309**		*i* P	**Pb**	**13 51 46.7**	**+0.1**
	baz=310						
ENTT				*i* S	**Sb**	**13 51 57.0**	**+0.2**
	baz=310						
YOJ	**Yonaguni jima**	**0.78 67**	⇓	P	**Pb**	**13 51 46.5**	**-0.1**
	baz=72						
YOJ				S	**Sb**	**13 51 56.8**	**-0.1**
	baz=72						
YOJ	**Yonaguni jima**	**0.78 67**		P	**Pb**	**13 51 46.5**	**-0.1**
YOJ				S	**Sb**	**13 51 56.8**	**-0.1**
NTC	**Toucheng**	**0.79 332**		*eP*	**Pb**	**13 51 46.6**	**-0.2**
	baz=337						
NTC				*e*S	**Sb**	**13 51 56.0**	**-1.2**
	baz=337						
NDT	**Datong Townshi**	**0.79 304**		*i* P	**Pb**	**13 51 47.1**	**+0.2**
	baz=292						
NDT				*i* S	**Sn**	**13 51 57.9**	**+0.4**
	baz=292						
ESL	**Shilin**	**0.80 245**		*i* P	**Pn**	**13 51 47.2**	**+0.4**
	baz=239						
ESL				*i* S	**Sn**	**13 51 58.6**	**+0.8**
	baz=239						
NNSB	**Datong**	**0.82 290**	⇓	P	**Pb**	**13 51 47.4**	**-0.1**
	baz=284						
NNSB				S	**Sn**	**13 51 58.3**	**0.0**
	baz=284						
NNSH	**Datong**	**0.82 290**		P	**Pn**	**13 51 47.6**	**+0.4**
	baz=284						
NNSH				S	**Sb**	**13 51 58.1**	**-0.2**
	baz=284						
NNS	**Nan Shan**	**0.83 290**		*i* P	**Pb**	**13 51 47.5**	**-0.1**
	baz=285						
NNS				*i* S	**Sb**	**13 51 58.5**	**-0.1**
	baz=285						
EGFH	**Guangfu**	**0.88 237**		*eP*	**Pn**	**13 51 48.5**	**+0.7**
	baz=223						
EGFH				S	**Sn**	**13 52 01.0**	**+1.4**
	baz=223						
TWB1	**Santiao Chiao**	**0.88 346**		P	**Pb**	**13 51 47.2**	**-1.2**
	baz=345						
TWB1				S	**Sb**	**13 51 57.6**	**-2.2**
	baz=345						
WHF	**Hehuan Shan**	**0.88 270**		*i* P	**Pn**	**13 51 48.5**	**+0.2**
	baz=254						
WHF				*i* S	**Sn**	**13 52 00.4**	**+0.1**
	baz=254						
TIPB	**Shuangxi**	**0.89 336**		*i* P	**Pb**	**13 51 47.9**	**-0.8**
	baz=337						
TIPB				*i* S	**Sb**	**13 51 59.6**	**-0.7**
	baz=337						
FUSS	**Fushou**	**0.91 276**		P	**Pn**	**13 51 49.0**	**+0.5**
	baz=271						
FUSS				S	**Sn**	**13 52 01.0**	**+0.3**
	baz=271						
NWLT	**Wulai**	**0.91 313**		*eP*	**Pb**	**13 51 48.9**	**0.0**
	baz=309						
NWLT				*e*S	**Sb**	**13 52 00.0**	**-0.6**
	baz=309						
YHNB	**Yeheng**	**0.93 304**	⇓	P	**Pb**	**13 51 49.1**	**-0.2**
	baz=299						
YHNB				S	**Sb**	**13 51 59.8**	**-1.6**
	baz=299						
NSK	**Sanguang**	**0.95 303**		*eP*	**Pb**	**13 51 49.3**	**-0.3**
	baz=299						
NSK				*e*S	**Sb**	**13 52 01.0**	**-0.9**
	baz=299						
CHGB	**Renai**	**0.97 265**		P	**Pn**	**13 51 49.9**	**+0.5**
	baz=249						
CHGB				S	**Sn**	**13 52 02.6**	**+0.4**
	baz=249						
OWD	**Renai**	**0.98 259**		*i* P	**Pn**	**13 51 50.2**	**+0.7**
	baz=254						
OWD				S	**Sn**	**13 52 02.6**	**+0.2**
	baz=254						
TDCB	**Techi**	**0.98 276**		P	**Pn**	**13 51 50.3**	**+0.8**
	baz=271						
TDCB				S	**Sn**	**13 52 02.7**	**+0.3**
	baz=271						
HGSD	**Ruisui**	**0.99 228**		*eP*	**Pn**	**13 51 50.0**	**+0.6**
	baz=218						
HGSD				*e*S	**Sn**	**13 52 03.5**	**+1.1**
	baz=218						
NWF	**Wu-fen Shan**	**1.00 336**		*i* P	**Pn**	**13 51 49.2**	**-0.4**
	baz=346						
NWF				S	**Sb**	**13 52 02.1**	**-1.2**
	baz=346						
WFSB	**Wu-fen Shan**	**1.00 336**		P	**Pn**	**13 51 49.4**	**-0.2**
	baz=346						
WFSB				S	**Sb**	**13 52 03.3**	**0.0**
	baz=346						
TWA	**Mucha**	**1.01 325**⇓		*iP*	**Pn**	**13 51 50.5**	**+0.8**
	baz=322						
TWA				*i* S	**Sb**	**13 52 03.2**	**-0.4**
	baz=322						
EHY	**Hungye**	**1.05 232**		*i* P	**Pb**	**13 51 50.7**	**-0.5**
	baz=228						
EHY				S	**Sn**	**13 52 04.6**	**+0.7**
	baz=228						
VWDT	**VWDT**	**1.07 248**	⇓	P	**Pb**	**13 51 51.6**	**0.0**
	baz=234						
VWDT				S	**Sn**	**13 52 05.5**	**+1.1**
	baz=234						
TAP	**Taipei**	**1.10 323**		S	**Sb**	**13 52 05.3**	**-0.8**
	baz=320						
YULB	**Yu-li**	**1.14 229**		P	**Pb**	**13 51 52.0**	**-0.8**
	baz=239						
YULB				S	**Sn**	**13 52 06.6**	**+0.4**
	baz=239						
YM01	**YM01**	**1.16 329**		*eP*	**Pn**	**13 51 51.7**	**-0.1**
	baz=340						
YM01				*e*S	**Sn**	**13 52 07.2**	**+0.7**
	baz=340						
EYUL	**Yuli**	**1.16 226**		P	**Pb**	**13 51 52.9**	**-0.2**
	baz=236						
EYUL				*e*S	**Sn**	**13 52 07.8**	**+1.3**
	baz=236						
YM10	**YM10**	**1.17 329**		P	**Pn**	**13 51 51.7**	**-0.3**
	baz=339						
YM10				S	**Sn**	**13 52 07.5**	**+0.6**
	baz=339						
TWF1	**Yuli**	**1.17 227**		P	**Pb**	**13 51 52.5**	**-0.8**
	baz=237						
TWF1				S	**Sn**	**13 52 07.4**	**+0.5**
	baz=237						
YM11	**YM11**	**1.17 329**		P	**Pn**	**13 51 52.3**	**+0.3**
	baz=339						
YM11				*e*S	**Sn**	**13 52 06.9**	**-0.1**
	baz=339						
YM05	**YM05**	**1.17 329**		*eP*	**Pn**	**13 51 51.3**	**-0.7**
	baz=339						
YM05				S	**Sn**	**13 52 07.0**	**0.0**
	baz=339						
WHP	**Taichung City**	**1.18 276**		P	**Pb**	**13 51 53.6**	**+0.1**
	baz=272						
WHP				S	**Sn**	**13 52 08.3**	**+1.1**
	baz=272						
YM04	**YM04**	**1.18 328**		P	**Pn**	**13 51 51.6**	**-0.5**
	baz=338						
YM04				S	**Sn**	**13 52 06.5**	**-0.6**
	baz=338						
YM08	**YM08**	**1.18 331**		*eP*	**Pn**	**13 51 51.6**	**-0.5**
	baz=342						
TWS1	**Kuangyinshan**	**1.20 322**		*i* P	**Pn**	**13 51 53.0**	**+0.7**
	baz=332						
TWS1				S	**Sn**	**13 52 08.6**	**+1.1**
	baz=332						
YM03	**YM03**	**1.20 329**		*eP*	**Pn**	**13 51 52.9**	**+0.5**
	baz=338						
YM03				S	**Sn**	**13 52 08.3**	**+0.6**
	baz=338						
LIOB	**Emei**	**1.21 294**		P	**Pb**	**13 51 53.7**	**-0.3**
	baz=290						
LIOB				S	**Sb**	**13 52 08.7**	**-0.6**
	baz=290						
ANP	**Anpu**	**1.21 328**		P	**Pn**	**13 51 52.8**	**+0.2**
	baz=326						
NSTT	**Nanjuang**	**1.22 293**		*i* P	**Pb**	**13 51 53.7**	**-0.3**
	baz=289						
NSTT				*i* S	**Sn**	**13 52 08.5**	**+0.5**
	baz=289						
SSLB	**Suanglung**	**1.22 253**	⇓	P	**Pb**	**13 51 53.6**	**-0.6**
	baz=249						
SSLB				S	**Sb**	**13 52 08.4**	**-1.2**
	baz=249						
NTST	**Danshui**	**1.23 325**		*eS*	**Sn**	**13 52 09.2**	**+0.9**
	baz=335						
SMLT	**Sun Moon Lake**	**1.25 258**		*i* P	**Pb**	**13 51 54.1**	**-0.5**
	baz=246						
SMLT				*i* S	**Sb**	**13 52 10.3**	**0.0**
	baz=246						
NCU	**National Centr**	**1.25 311**		*eP*	**Pn**	**13 51 53.8**	**+0.8**
	baz=307						
NCU				*e*S	**Sn**	**13 52 08.8**	**0.0**
	baz=307						
NCUH	**Zhongli**	**1.25 311**		*eP*	**Pn**	**13 51 53.6**	**+0.6**
	baz=307						
NCUH				S	**Sb**	**13 52 10.1**	**-0.3**
	baz=307						
TWY	**Chenhua**	**1.26 333**		*eP*	**Pn**	**13 51 53.4**	**+0.3**
	baz=342						
TWY				*e*S	**Sn**	**13 52 06.9**	**-2.1**
	baz=342						
FULB	**Fuli**	**1.28 222**		P	**Pn**	**13 51 54.0**	**+0.6**
	baz=209						
FULB				S	**Sb**	**13 52 10.5**	**-0.8**
	baz=209						
SBCB	**Hsinchu**	**1.30 300**		*eP*	**Pn**	**13 51 54.7**	**+1.0**
	baz=296						
SBCB				*e*S	**Sb**	**13 52 11.7**	**-0.1**
	baz=296						
CHKT	**Chengkung**	**1.32 217**		*i* P	**Pn**	**13 51 54.1**	**+0.2**
	baz=206						
CHKT				*i* S	**Sn**	**13 52 09.8**	**-0.6**
	baz=206						
HSN	**Hsinchu**	**1.32 300**		P	**Pb**	**13 51 55.8**	**0.0**
	baz=298						
HSN				S	**Sb**	**13 52 11.6**	**-0.7**
	baz=298						
WHYT	**Xinyi Township**	**1.34 250**		P	**Pb**	**13 51 56.2**	**0.0**
	baz=238						
WHYT				S	**Sb**	**13 52 13.0**	**0.0**
	baz=238						
NMLH	**Miaoli**	**1.37 287**		P	**Pb**	**13 51 55.9**	**-0.7**
	baz=282						
NMLH				S	**Sb**	**13 52 15.4**	**+1.7**
	baz=282						
IRIF	**Iriomote-Funau**	**1.38 82**		P	**Pn**	**13 51 54.9**	**+0.1**
IRIF				S	**Sn**	**13 52 12.0**	**0.0**
WJS	**Zhushan**	**1.41 257**		P	**Pb**	**13 51 57.9**	**+0.5**
	baz=253						
WJS				S	**Sb**	**13 52 16.0**	**+1.0**
	baz=253						
TCU	**Taichung**	**1.42 270**		*eP*	**Pb**	**13 51 57.6**	**+0.2**
	baz=266						
TCU				*e*S	**Sb**	**13 52 16.5**	**+1.3**
	baz=266						
PTSB	**Yuanli**	**1.42 282**		P	**Pb**	**13 51 57.0**	**-0.5**
	baz=278						
PTSB				S	**Sb**	**13 52 15.7**	**+0.4**
	baz=278						
WNT	**Mingjian**	**1.44 259**		P	**Pb**	**13 51 58.0**	**+0.2**
	baz=256						
WNT				*e*S	**Sb**	**13 52 16.9**	**+1.1**
	baz=256						
HATJ	**Hateruma jima**	**1.44 94**		P	**Pn**	**13 51 56.7**	**+1.1**
HATJ				*e*S	**Sn**	**13 52 14.6**	**+1.1**
EDH	**Donghe**	**1.45 216**		P	**Pn**	**13 51 56.0**	**+0.3**
	baz=206						
EDH				S	**Sn**	**13 52 13.7**	**0.0**
	baz=206						
ALS	**Alishan**	**1.45 244**		P	**Pb**	**13 51 57.8**	**-0.4**
	baz=232						
ALS				S	**Sb**	**13 52 15.8**	**-0.7**
	baz=232						
WDJ	**Dajia District**	**1.46 278**		P	**Pb**	**13 51 57.6**	**-0.6**
	baz=274						
WDJ				*e*S	**Sb**	**13 52 15.2**	**-1.3**
	baz=274						
ELDTW	**Lidau**	**1.47 229**		P	**Pn**	**13 51 56.6**	**+0.5**
	baz=227						
ELDTW				S	**Sn**	**13 52 14.4**	**+0.1**
	baz=

TTN	**Taitung**	**1.71 216**	*e*S		**Sb**	**13 52 23.4**	**-0.1**
	baz=205						
RLNB	**Erlin**	**1.73 262**	P		**Pb**	**13 52 01.5**	**-1.2**
RLNB	baz=259		*e*S		**Sb**	**13 52 24.1**	**0.0**
	baz=259						
WTP	**Ta-pu**	**1.73 239**	P		**Pb**	**13 52 02.0**	**-0.9**
WTP	baz=236		S		**Sb**	**13 52 24.3**	**0.0**
	baz=236						
WTK	**Tuku**	**1.75 255**	*e*P		**Pb**	**13 52 02.1**	**-0.9**
WTK	baz=241		*e*S		**Sb**	**13 52 24.2**	**-0.3**
	baz=241						
JIJ	**Ishigaki jima**	**1.76 83**	P		**Pn**	**13 52 00.0**	**0.0**
JIJ			S		**Sn**	**13 52 21.0**	**-0.3**
CHY	**Chiayi**	**1.78 249**	*e*P		**Pb**	**13 52 03.1**	**-0.4**
CHY	baz=246		*e*S		**Sb**	**13 52 26.2**	**+0.8**
	baz=246						
WTCT	**Ta-ch'eng**	**1.81 261**	P		**Pb**	**13 52 02.9**	**-1.1**
WTCT	baz=258		*e*S		**Sb**	**13 52 24.7**	**-1.6**
	baz=258						
TWK	**Hsinying**	**1.82 241**	P		**Pb**	**13 52 03.3**	**-1.0**
TWK	baz=239		S		**Sb**	**13 52 26.5**	**-0.4**
	baz=239						
CHN1	**Nanshi**	**1.83 239**	P		**Pb**	**13 52 03.4**	**-1.1**
CHN1	baz=236		S		**Sb**	**13 52 26.7**	**-0.4**
	baz=236						
SNST	**Tainan City**	**1.84 240**	*e*P		**Pb**	**13 52 03.7**	**-0.9**
SNST	baz=238		*e*S		**Sb**	**13 52 27.1**	**-0.2**
	baz=238						
SGST	**Jiashian**	**1.85 235**	P		**Pb**	**13 52 03.1**	**-1.7**
SGST	baz=233		S		**Sb**	**13 52 26.2**	**-1.4**
	baz=233						
SLGT	**Liugui**	**1.86 232**	P		**Pb**	**13 52 04.5**	**-0.4**
SLGT	baz=240		*e*S		**Sb**	**13 52 27.7**	**0.0**
	baz=240						
WSF	**Szhu**	**1.91 255**	*e*P		**Pb**	**13 52 04.1**	**-1.7**
WSF	baz=265		*e*S		**Sb**	**13 52 29.6**	**+0.4**
	baz=265						
ECL	**Taimali**	**1.94 217**	P		**Pn**	**13 52 02.8**	**+0.3**
ECL	baz=216		S		**Sn**	**13 52 25.7**	**-0.2**
	baz=216						
JISG	**Ishigakijimahi**	**1.95 77**	P		**Pn**	**13 52 02.5**	**0.0**
JISG			S		**Sn**	**13 52 25.2**	**-0.8**
ICHU	**Yijhu**	**1.95 247**	*e*P		**Pb**	**13 52 04.8**	**-1.8**
ICHU	baz=244		*e*S		**Sb**	**13 52 29.1**	**-1.4**
	baz=244						
CHN8	**Yiju**	**2.02 247**	*e*P		**Pn**	**13 52 05.4**	**+1.8**
CHN8	baz=244		*e*S		**Sb**	**13 52 30.9**	**-1.4**
	baz=244						
SCST	**Cishan**	**2.03 232**	*e*P		**Pb**	**13 52 07.3**	**-0.5**
SCST	baz=242		*e*S		**Sb**	**13 52 33.4**	**+0.6**
	baz=242						
TSMG	**Majia**	**2.05 226**	*e*P		**Pb**	**13 52 07.0**	**-1.2**
TSMG	baz=219		*e*S		**Sb**	**13 52 31.6**	**-1.7**
	baz=219						
MASBT	**Mashibuluo**	**2.12 224**	P		**Pn**	**13 52 07.0**	**+1.9**
MASBT	baz=215		S		**Sb**	**13 52 34.6**	**-0.8**
	baz=215						
EAST	**Anshuo**	**2.17 216**	*e*P		**Pn**	**13 52 05.9**	**+0.2**
EAST	baz=206		*e*S		**Sn**	**13 52 32.4**	**+0.8**
	baz=206						
LAY	**Lan-yu**	**2.20 197**	*e*P		**Pn**	**13 52 06.9**	**+0.8**
LAY	baz=196		*e*S		**Sn**	**13 52 30.7**	**-1.5**
	baz=196						
SSPT	**Xinbi**	**2.26 223**	*e*P		**Pb**	**13 52 10.0**	**-1.7**
SSPT	baz=215		*e*S		**Sb**	**13 52 36.3**	**-3.0**
	baz=215						
JTJ	**Tarama**	**2.31 77**	P		**Pn**	**13 52 08.1**	**+0.6**
JTJ			S		**Sn**	**13 52 34.6**	**-0.2**
SCZT	**Fangliau**	**2.31 220**	*e*P		**Pb**	**13 52 10.8**	**-1.8**
SCZT	baz=214		*e*S		**Sb**	**13 52 38.9**	**-1.9**
	baz=214						
WLCH	**Liuqiu**	**2.47 224**	*e*P		**Pb**	**13 52 15.2**	**-0.2**
WLCH	baz=223		*e*S		**Sb**	**13 52 46.1**	**+0.6**
	baz=223						
PHUB	**P'eng-hu**	**2.52 256**	P		**Pn**	**13 52 11.6**	**+1.2**
PHUB	baz=254		*e*S		**Sn**	**13 52 41.1**	**+1.0**
	baz=254						
TWK1	**Hengchun**	**2.56 211**	*e*P		**Pn**	**13 52 11.8**	**+0.8**
TWK1	baz=210		*e*S		**Sn**	**13 52 41.7**	**+0.5**
	baz=210						
JIRB	**Irabujima**	**2.76 75**	P		**Pn**	**13 52 14.3**	**+0.5**
JIRB			S		**Sn**	**13 52 47.0**	**+0.9**
JIKM	**Ikemajima**	**2.85 74**	P		**Pn**	**13 52 15.9**	**+0.9**
JIKM			*e*S		**Sn**	**13 52 49.1**	**+0.7**
JMJ2	**Miyako jima3**	**2.88 78**	P		**Pn**	**13 52 16.9**	**+1.5**
JMJ2			*e*S		**Sn**	**13 52 50.7**	**+1.6**
JOGS	**Gusukube**	**2.96 78**	P		**Pn**	**13 52 18.0**	**+1.5**
JOGS			*e*S		**Sn**	**13 52 51.9**	**+1.0**

*SOME **27** 14:02:48.4,44˝.62N×82˚.35E,h10km*
*NNC **27** 14:02:53.9±1.1,44˚.72N×82˚.04E,h0km,mb3.4,mpv2.9,*
Error ellipse: s-maj=14.2km s-min=5.8km az=116.0
ISC 27 14:02:50.5±2.7,44˚.64N±0˝.06×82˚.3E±0˝.1,h6km±17km,n10,
σ0s96/19,3C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.82**	**261**	*e*P	**Pn**	**14 03 22.7**	**+0.3**
	2.9nm,0.2s						
DJR				*e*S	**Sg**	**14 03 48.2**	**-0.7**
	17nm,0.5s						
KTMS	**Ketmen**	**1.84**	**230**	*e*P	**Pb**	**14 03 24.7**	**+0.1**
	1.6nm,0.1s						
KTMS				*e*S	**Sg**	**14 03 50.9**	**+1.4**
	28nm,0.5s						
MK31	**Makanchi Array**	**2.16**	**360**	⇑Pn	**Pb**	**14 03 29.9**	**-0.1**
	9.2nm,0.4s,baz=183,slow=16,SNR=18						
MK31				Sn	**Sb**	**14 03 57.8**	**+0.8**
	10.0nm,0.3s,baz=185,slow=27,SNR=9.0						
KAPS	**Kapalarasan**	**2.18**	**288**	*e*P	**Pn**	**14 03 28.1**	**+0.7**
	1.0nm,0.2s						
KAPS				*e*S	**Sb**	**14 03 57.1**	**-0.7**
	13nm,0.6s						
MAKZ	**Makanchi**	**2.18**	**354**	⇓Pn	**Pb**	**14 03 29.6**	**-0.8**
	5.5nm,0.5s						
MAKZ				⇑Sn	**Sb**	**14 03 57.9**	**+0.1**
	20nm,0.5s						
PDGK	**Podgornoye**	**2.41**	**238**	⇑Pn	**Pb**	**14 03 34.0**	**-0.4**
	2.1nm,0.7s						
PDGK				⇓Lg	Lg	14 04 05.6	
	48nm,0.6s						
SHLS	**Shalkode**	**2.52**	**235**	*e*P	**Pn**	**14 03 31.6**	**-0.6**
	3.5nm,0.5s						
SHLS				*e*S	**Sn**	**14 04 03.1**	**-0.2**
	51nm,0.5s						
UZB	**Uzynbulak**	**2.79**	**239**	*e*P	**Pb**	**14 03 39.2**	**-1.7**
	1.1nm,0.1s						
UZB				*e*S	**Sb**	**14 04 16.1**	**+0.6**
	8.1nm,0.4s						
KURS	**Kuram**	**3.19**	**250**	*e*P	**Pb**	**14 03 48.9**	**+1.4**
	1.8nm,0.4s						
KURS				*e*S	**Sg**	**14 04 32.6**	**-0.1**
	4.9nm,0.6s						
SATY	**Saty**	**3.22**	**242**	*e*P	**Pb**	**14 03 46.6**	**-1.6**
	2.3nm,0.2s						
SATY				*e*S	**Sb**	**14 04 28.7**	**+0.9**
	14nm,0.5s						

*IDC **27** 14:05:19.4±0.7,41˚.94N×82˚.67E,h0km,mb4.0/11,*
mb1 4.1/19,mb1mx3.8/65,mbtmp4.0/19,ML3.7/6,MS3.2/9,

Ms1 3.2/9,ms1mx2.9/41,Error ellipse: s-maj=19.7km
s-min=12.9km az=53.0
*SOME **27** 14:05:20.1,41˚.93N×82˚.42E,h5km,MS3.6*
*BJI **27** 14:05:21.7±0.0,41˚.87N×82˚.62E,h5km,mB4.5/15,*
mb4.3/16,ML4.1/11
*NNC **27** 14:05:21.4±1.6,41˚.91N×82˚.43E,h0km,mb4.9,mpv4.5,*
Error ellipse: s-maj=13.3km s-min=8.9km az=166.0
*MOS **27** 14:05:22.5±1.6,41˚.98N×82˚.57E,h26km,mb4.4/9,Error*
ellipse: s-maj=7.8km s-min=5.5km az=103.4
*NEIC **27** 14:05:25.3±2.4,41˚.95N±0˝.07×82˚.48E±0˝.07,h36km±6km,*
mb4.7/29,Error ellipse: s-maj=11.0km s-min=7.2km
az=161.0
ISC 27 14:05:22.0±0.4,41˚.92N±0˝.04×82˚.53E±0˝.02,h13km,n151,
σ2s21/183,mb4.4/27,MS3.2/5,18C-7D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.21**	**314**	*e*P	**Pb**	**14 06 01.5**	**-0.5**
	274nm,0.4s						
KTMS				*e*S	**Sg**	**14 06 32.2**	**-1.0**
	2µm,0.6s						
KTMS	**Ketmen**	**2.21**	**314**	Pg	**Pb**	**14 06 01.5**	**-0.5**
	274nm,0.4s						
KTMS				Lg	Lg	14 06 34.0	
	2µm,0.6s						
SHLS	**Shalkode**	**2.58**	**300**	*e*P	**Pn**	**14 06 04.2**	**+0.6**
	551nm,0.5s						
SHLS				*e*S	**Sn**	**14 06 36.4**	**+1.4**
	3µm,0.5s						
SHLS	**Shalkode**	**2.58**	**300**	Pg	**Pn**	**14 06 02.9**	**-0.8**
	551nm,0.5s						
SHLS				Lg	Lg	14 06 36.4	
	3µm,0.5s						
PDGK	**Podgornoye**	**2.65**	**303**	Pg	**Pn**	**14 06 07.1**	**+2.5**
	56nm,0.3s						
PDGK				Lg	Lg	14 06 43.4	
	630nm,1.1s						
PDGK	**Podgornoye**	**2.65**	**303**	⇓Pn	**Pn**	**14 06 07.1**	**+2.5**
	377nm,0.7s						
PDGK				⇑Lg	Lg	14 06 43.5	
	1µm,0.8s						
PDGK	**Podgornoye**	**2.65**	**303**	PN	**Pn**	**14 06 07.1**	**+2.5**
UZB	**Uzynbulak**	**2.87**	**296**	*e*P	**Pb**	**14 06 13.6**	**+0.5**
	99nm,0.3s						
UZB				*e*S	**Sg**	**14 06 52.2**	**-1.9**
	821nm,0.5s						
UZB	**Uzynbulak**	**2.87**	**296**	Pg	**Pn**	**14 06 10.2**	**+2.6**
	45nm,0.3s						
UZB				Lg	Lg	14 06 48.8	
	821nm,0.5s						
PRZ	**Przheval'sk**	**3.12**	**282**	PN	**Pn**	**14 06 14.0**	**+2.9**
PRZ	**Przheval'sk**	**3.12**	**282**		**Pn**	**14 06 13.9**	**+2.9**
DJR	**Jarkent**	**3.13**	**321**	*e*P	**Pb**	**14 06 18.9**	**+1.3**
	96nm,0.4s						
DJR				*e*S	**Sg**	**14 07 01.6**	**-1.1**
	352nm,0.5s						
DJR	**Jarkent**	**3.13**	**321**	Pg	**Pb**	**14 06 17.7**	**+0.1**
	96nm,0.4s						
DJR				Lg	Lg	14 07 01.6	
	352nm,0.5s						
SATY	**Saty**	**3.25**	**292**	*e*P	**Pb**	**14 06 20.6**	**+0.9**
	82nm,0.3s						
SATY				*e*S	**Sg**	**14 07 04.2**	**-2.4**
	613nm,0.4s						
SATY	**Saty**	**3.25**	**292**	Pg	**Pn**	**14 06 15.6**	**+2.7**
	45nm,0.5s						
SATY				Lg	Lg	14 06 58.3	
	613nm,0.4s						
TARG	**Taragay, Kyrgy**	**3.54**	**268**	Pn	**Pn**	**14 06 18.3**	**+1.2**
KURS	**Kuram**	**3.58**	**297**	*e*P	**Pb**	**14 06 26.9**	**+1.8**
	66nm,0.4s						
KURS				*e*S	**Sg**	**14 07 14.8**	**-2.0**
	227nm,1.0s						
KURS	**Kuram**	**3.58**	**297**	Pg	**Pb**	**14 06 24.5**	**-0.6**
	45nm,0.5s						
KURS				Lg	Lg	14 07 12.9	
	227nm,1.0s						
KDJ	**Kajisay**	**3.99**	**275**	PN	**Pn**	**14 06 25.6**	**+2.5**
KDJ	**Kajisay**	**3.99**	**275**	Pn	**Pn**	**14 06 25.6**	**+2.5**
KAPS	**Kapalarasan**	**4.08**	**327**	*e*P	**Pg**	**14 06 38.1**	**-1.9**
	119nm,0.5s						
KAPS				*e*S	**Sg**	**14 07 35.2**	**+2.3**
	266nm,0.6s						
KAPS	**Kapalarasan**	**4.08**	**327**	Pg	**Pb**	**14 06 37.0**	**+3.3**
	119nm,0.5s						
KAPS				Lg	Lg	14 07 35.2	
	266nm,0.6s						
ARXS	**Arharly**	**4.14**	**305**	*e*P	**Pb**	**14 06 36.1**	**+1.3**
	63nm,0.4s						
ARXS				*e*S	**Sb**	**14 07 30.4**	**+5.7**
	307nm,0.6s						
ARXS	**Arharly**	**4.14**	**305**	Pg	**Pb**	**14 06 34.5**	**-0.2**
	80nm,0.2s						
ARXS				Lg	Lg	14 07 30.3	
	307nm,0.6s						
KOTS	**Kotyrbulak**	**4.21**	**290**	*e*P	**Pb**	**14 06 34.3**	**-1.8**
	116nm,0.5s						
KOTS				*e*S	**Sb**	**14 07 27.3**	**+0.4**
	421nm,0.8s						
MDOK	**Medeo**	**4.24**	**289**	*e*P	**Pb**	**14 06 38.2**	**+1.7**
	31nm,0.4s						
MDOK				*e*S	**Sg**	**14 07 34.4**	**-3.6**
	299nm,0.7s						
MDOK	**Medeo**	**4.24**	**289**	⇑Pn	**Pn**	**14 06 28.4**	**+1.9**
MDOK				⇑Pg	**Pb**	**14 06 38.6**	**+2.1**
	94nm,0.6s						
MDOK				⇓Lg	Lg	14 07 34.0	
	266nm,0.6s						
MDOK	**Medeo**	**4.24**	**289**	Pg	**Pb**	**14 06 37.0**	**+0.5**
	83nm,0.6s						
MDOK				Lg	Lg	14 07 34.4	
	299nm,0.7s						
MDOK	**Medeo**	**4.24**	**289**	PN	**Pn**	**14 06 29.2**	**+2.8**
MDOK				PG	**Pg**	**14 06 40.5**	**-2.7**
WMQ	**Urumqi**	**4.24**	**62**	*e*Pg	**Pb**	**14 06 35.5**	**-1.0**
WMQ				Sn	**Sb**	**14 07 21.8**	**-5.9**
WMQ				Sg	**Sg**	**14 07 38.0**	**-0.2**
WMQ				smax	smax		
	comp=N,200nm,0.9s						
WMQ				smax	smax		
	comp=E,230nm,1.1s						
WMQ	**Urumqi**	**4.24**	**62**	PN	**Pn**	**14 06 28.8**	**+2.4**
WMQ	**Urumqi**	**4.24**	**62**	Pn	**Pn**	**14 06 28.8**	**+2.4**
KNDC	**Almaty**	**4.31**	**289**	⇓Pn	**Pn**	**14 06 28.9**	**+1.6**
	29nm,0.3s						
KNDC				⇓Pg	**Pb**	**14 06 40.1**	**+2.4**
	161nm,0.7s						
KNDC				⇑Lg	Lg	14 07 36.8	
	504nm,0.7s						
AAA	**Alma-Ata**	**4.34**	**289**	*e*P	**Pb**	**14 06 39.3**	**+1.1**
	40nm,0.3s						
AAA				*e*S	**Sb**	**14 07 36.5**	**+5.9**
	173nm,0.8s						
AAA	**Alma-Ata**	**4.34**	**289**	Pg	**Pb**	**14 06 38.1**	**-0.1**
	67nm,0.3s						
AAA				Lg	Lg	14 07 36.5	
	173nm,0.8s						
AAA	**Alma-Ata**	**4.34**	**289**	ePN	**Pg**	**14 06 45.4**	**+0.2**
AAA				*e*S	**Sg**	**14 07 38.6**	**-2.8**
CHKK	**Chushkaly**	**4.51**	**297**	*e*P	**Pb**	**14 06 43.5**	**+2.5**
	22nm,0.4s						
CHKK				*e*S	**Sg**	**14 07 43.2**	**-3.5**
	169nm,0.7s						
CHKK	**Chushkaly**	**4.51**	**297**	Pg	**Pb**	**14 06 42.2**	**+1.2**
	22nm,0.4s						
CHKK				Lg	Lg	14 07 43.2	
	169nm,0.7s						
IZV	**Izvestkoviy**	**4.52**	**286**	*e*P	**Pb**	**14 06 40.9**	**-0.4**
	54nm,0.6s						
IZV				*e*S	**Sb**	**14 07 39.4**	**+3.8**
	225nm,0.8s						
KTBS	**Karatobe**	**4.66**	**295**	*e*P	**Pb**	**14 06 46.0**	**+2.4**
	29nm,0.4s						
KTBS				*e*S	**Sg**	**14 07 47.3**	**-4.3**
	428nm,0.7s						
MK31	**Makanchi Array**	**4.87**	**358**	Pn	**Pn**	**14 06 36.4**	**+1.4**
	6.0nm,0.3s,baz=188,slow=12,SNR=206						
MK31				⇑Pg	**Pb**	**14 06 50.5**	**+3.3**
	83nm,0.7s,baz=173,slow=15,SNR=15						
MK31				⇓Lg	Lg	14 07 55.4	
	247nm,0.7s,baz=173,slow=26,SNR=5.1						
MK31	**Makanchi Array**	**4.87**	**358**	PN	**Pn**	**14 06 36.4**	**+1.4**
MK31				PG	**Pb**	**14 06 50.5**	**+3.3**
MK31	**Makanchi Array**	**4.87**	**358**	Pn	**Pn**	**14 06 36.5**	**+1.4**
MKAR	**Makanchi Array**	**4.87**	**358**	Pn	**Pn**	**14 06 36.6**	**+1.6**
	8.0nm,0.3s,baz=178,slow=13,SNR=42						
MKAR				Sn	**Sn**	**14 07 33.8**	**+2.5**
	12nm,0.3s,baz=164,slow=27,SNR=1.8						
MKAR				Lg	Lg	14 07 53.0	
	25nm,0.3s,baz=176,slow=29,SNR=4.6						
MAKZ	**Makanchi**	**4.90**	**356**	⇑Pn	**Pn**	**14 06 36.8**	**+1.5**
	14nm,0.3s						
MAKZ				⇑Pg	**Pb**	**14 06 50.5**	**+2.8**
	27nm,0.5s						
MAKZ				⇓Lg	Lg	14 07 55.9	
	276nm,1.1s						
MAKZ	**Makanchi**	**4.90**	**356**	PN	**Pn**	**14 06 36.9**	**+1.5**
MAKZ	**Makanchi**	**4.90**	**356**	Pn	**Pn**	**14 06 36.9**	**+1.5**
KUU	**Kurty**	**4.96**	**295**	*e*P	**Pb**	**14 06 50.6**	**+2.0**
	21nm,0.8s						
KUU				*e*S	**Sg**	**14 07 55.6**	**-5.5**
	172nm,0.5s						
KUU	**Kurty**	**4.96**	**295**	Pg	**Pb**	**14 06 49.4**	**+0.7**
	21nm,0.8s						
KUU				Lg	Lg	14 07 55.6	
	172nm,0.5s						
KST	**Kastek**	**4.99**	**285**	*e*P	**Pb**	**14 06 48.6**	**-0.6**
	86nm,0.5s						
KST				*e*S	**Sb**	**14 07 51.9**	**+2.8**
	180nm,1.1s						
KST	**Kastek**	**4.99**	**285**	Pg	**Pb**	**14 06 48.9**	**-0.3**
	86nm,0.5s						
KST				Lg	Lg	14 07 55.0	
	180nm,1.1s						
TKM2	**Tokmak 2**	**5.23**	**283**	⇑Pn	**Pn**	**14 06 43.3**	**+3.2**
	36nm,0.7s						
TKM2				⇑Lg	Lg	14 08 06.4	
	204nm,0.8s						
TKM2	**Tokmak 2**	**5.23**	**283**	PN	**Pn**	**14 06 43.4**	**+3.3**
KRBS	**Karabastau**	**5.35**	**292**	*e*P	**Pb**	**14 07 00.1**	**+4.8**
	21nm,0.3s						
KRBS				*e*S	**Sg**	**14 08 11.6**	**-2.0**
	46nm,0.8s						
KSH	**Kashi**	**5.53**	**246**	Pn	Pb	14 06 53.0	-5.5
KSH				Sn	**Sb**	**14 08 03.0**	**-1.8**
KSH				smax	smax		
	comp=N,95nm,0.7s						
KSH				smax	smax		
	comp=E,120nm,0.8s						
ZSN	**Zaisan**	**5.77**	**16**	*e*P	**Pb**	**14 07 05.6**	**+3.1**
	30nm,0.3s						
ZSN				*e*S	**Sg**	**14 08 20.9**	**-6.2**
	294nm,1.7s						
ZSN	**Zaisan**	**5.77**	**16**	Pg	**Pb**	**14 07 04.2**	**+1.7**
	30nm,0.3s						
ZSN				Lg	Lg	14 08 20.9	
	290nm,0.9s						
AAK	**Ala-Archa**	**6.00**	**280**	Pn	**Pn**	**14 06 54.2**	**+3.5**
	0.7nm,0.3s,baz=117,slow=6.8,SNR=4.0						
AAK				Lg	Lg	14 08 32.7	
	3.5nm,0.3s,baz=198,slow=23,SNR=5.0						
AAK	**Ala-Archa**	**6.00**	**280**	⇑Pg	**Pb**	**14 07 11.1**	**+4.5**
	31nm,0.8s						
AAK				⇑Lg	Lg	14 08 32.1	
	147nm,1.1s						
AAK	**Ala-Archa**	**6.00**	**280**	Pn	**Pn**	**14 06 52.6**	**+1.8**
DGZ	**Jazzator, Alta**	**8.50**	**22**	*c i*P	**Pn**	**14 07 25.5**	**+0.6**
KK31	**Karatay Array**	**8.96**	**282**	⇑Pg	Pg	14 08 05.4	-8.0
	4.3nm,0.6s,baz=82,slow=16,SNR=6.5						
KURBB	**Kurchatov Arra**	**9.13**	**344**	Pn	**Pn**	**14 07 32.4**	**-1.1**
	0.5nm,0.3s,baz=165,slow=12,SNR=12						
KURBB				Sn	**Sn**	**14 09 16.6**	**+0.7**
	0.3nm,0.3s,baz=154,slow=24,SNR=1.9						
KURBB				Lg	Lg	14 10 08.6	
	0.5nm,0.3s,baz=166,slow=30,SNR=2.8						
KURBB	**Kurchatov Arra**	**9.13**	**344**	⇓Pn	**Pn**	**14 07 32.3**	**-1.1**
	13nm,0.6s						
KURBB				⇑Sn	**Sn**	**14 09 18.0**	**+2.0**
	56nm,0.7s						
KURBB	**Kurchatov Arra**	**9.13**	**344**	P	**Pn**	**14 07 32.3**	**-1.1**
KURBB				SN	**Sn**	**14 09 17.9**	**+2.0**
KURK	**Kurchatov**	**9.20**	**344**	*ce*P	**Pn**	**14 07 33.0**	**-1.3**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KURK	**Kurchatov**	**9.20**	**344**		**Pn**	**14 07 32.8**	**-1.5**
KURK	**Kurchatov**	**9.20**	**344**		**Sn**	**14 09 16.6**	**-1.0**
CHGR	**Chuyangaron**	**10.72**	**257**	Pn	**Pn**	**14 07 55.7**	**+0.3**
NIL	**Nilore**	**11.04**	**225**	P	**Pn**	**14 07 59.7**	**0.0**
NIL	**Nilore**	**11.04**	**225**	Pn	**Pn**	**14 07 59.7**	**0.0**
ZAA0	**Zalesovo Array**	**12.13**	**6**	⇑Pn	**Pn**	**14 08 12.8**	**-1.6**
	comp=Z,1.8nm,1.0s						
ZAA0	**Zalesovo Array**	**12.13**	**6**	Pn	**Pn**	**14 08 12.3**	**-2.1**
ZALV	**Zalesovo Beam**	**12.13**	**6**	Pn	**Pn**	**14 08 12.9**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=187,slow=14,SNR=24						
ZALV				Sn	**Sn**	**14 10 24.6**	**-4.8**
	comp=Z,0.3nm,0.3s,baz=186,slow=25,SNR=2.3						
ZALV				Lg	Lg	14 11 39.9	
	baz=199,slow=32,SNR=1.7						
ZALV				LR	LR	14 13 08.6	
	comp=Z,58nm,21.3s,baz=106,slow=39						
THW	**Thamme Wali**	**12.51**	**227**	P	**Pn**	**14 08 18.8**	**-0.9**
KBL	**Kabul**	**12.90**	**240**	P	**Pn**	**14 08 25.5**	**+0.2**
KBL	**Kabul**	**12.90**	**240**	Pn	**Pn**	**14 08 25.5**	**+0.2**
BVAR	**Borovoye Array**	**13.79**	**328**	Pn	**Pn**	**14 08 36.5**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=132,slow=13,SNR=10						
BVAR				Sn	**Sn**	**14 11 02.0**	**-8.0**
	comp=Z,0.2nm,0.3s,baz=140,slow=23,SNR=1.8						
BVAR				Lg	Lg	14 12 31.8	
	comp=Z,0.4nm,0.3s,baz=132,slow=28,SNR=3.5						
BVAR				LR	LR	14 14 12.2	
	comp=Z,109nm,21.5s,baz=114,slow=38						
BRVK	**Borovoye**	**13.86**	**328**	P	**Pn**	**14 08 39.7**	**+1.7**
BRVK	**Borovoye**	**13.86**	**328**	Pn	**Pn**	**14 08 39.7**	**+1.7**
ZAK	**Zakamensk**	**16.64**	**52**	*e*P	**Pn**	**14 09 13.6**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
TLY	**Talaya**	**17.38**	**49**	LR	LR	14 16 56.7	
	comp=Z,66nm,18.1s,baz=232,slow=40						
LZH	**Lanzhou**	**17.54**	**102**	*e*P	**P**	**14 09 28.5**	**+1.0**
LZH				pP	sP	14 09 37.5	+4.1
LZH				PP	**PnPn**	**14 09 43.0**	**+6.4**
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,4.3s						
SONM	**Songino Array**	**17.88**	**63**	P	**Pn**	**14 09 27.9**	**-2.5**
	baz=255,slow=12,SNR=2.0						
SONM				Lg	Lg	14 14 37.1	
	comp=Z,0.4nm,0.3s,baz=254,slow=30,SNR=2.1						
SHL	**Shillong**	**18.05**	**152**	P	**Pn**	**14 09 32.6**	**-0.1**
SHL				pmax	pmax		
	comp=Z,35nm,1.1s						
SHL	**Shillong**	**18.05**	**152**		**Pn**	**14 09 32.6**	**-0.1**
SHL				IAmb	IAmb	14 09 34.0	
	comp=Z,35nm,1.1s						
ULN	**Ulaanbaatar**	**18.32**	**63**	*ce*P	**P**	**14 09 38.9**	**+2.9**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ULN	**Ulaanbaatar**	**18.32**	**63**		**P**	**14 09 37.9**	**+1.8**
AKTO	**Aktyubinsk**	**18.92**	**305**	P	**Pn**	**14 09 43.7**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=98,slow=17,SNR=2.5						
AKTO				LR	LR	14 17 18.3	
	comp=Z,65nm,18.3s,baz=116,slow=38						
GEYT	**Alibeck**	**19.12**	**266**	P	**P**	**14 09 44.0**	**-0.8**
	baz=92,slow=7.2,SNR=1.7						
SVE	**Sverdlovsk**	**20.50**	**324**	*e*P	Pn	14 10

CMAR					pmax	pmax			
	comp=Z,3.0nm,0.9s								
WSAR	**Wadi Sarin**	**27.29**	**234**		LR	LR	14 23 08.9		
	comp=Z,45nm,18.5s,baz=290,slow=39								
KIV	**Kislovodsk**	**29.05**	**288**	*eP*	**P**	**P**	**14 11 21.6**	**-0.3**	
KIV					pmax	pmax			
	comp=Z,10.0nm,1.1s								
NJ2	**Nanjing**	**30.45**	**97**	*eP*	**P**	**P**	**14 11 34.5**	**+0.2**	
QIZ	**Qiongzhong**	**32.54**	**126**		P	**P**	**14 11 52.5**	**-0.3**	
QIZ					S	**S**	**14 17 06.3**	**-1.5**	
OBN	**Obninsk**	**32.56**	**310**	*eP*	**P**	**P**	**14 11 52.3**	**-0.3**	
OBN					pmax	pmax			
	comp=Z,10.0nm,0.6s								
YAK	**Yakutsk**	**34.28**	**38**	*eP*	**P**	**P**	**14 12 09.2**	**+1.7**	
YAK					pmax	pmax			
	comp=Z,4.0nm,0.6s								
KLR	**Kul'dur**	**34.69**	**61**	*i P*	**P**	**P**	**14 12 13.4**	**+2.1**	
KLR					pmax	pmax			
	comp=Z,1.0nm,1.0s								
KSRS	**Korea Array**	**34.90**	**82**		P	**P**	**14 12 14.6**	**+1.4**	
	comp=Z,0.7nm,0.7s,baz=288,slow=8.3,SNR=4.6								
BR131	**Keskin Array S**	**36.67**	**283**		P	**P**	**14 12 29.7**	**+1.2**	
BR131					pmax	pmax			
	comp=Z,3.0nm,0.8s								
BR131	**Keskin Array S**	**36.67**	**283**		P	**P**	**14 12 29.7**	**+1.2**	
FINES	**FINESS Array B**	**38.56**	**320**		P	**P**	**14 12 44.0**	**-0.1**	
	comp=Z,3.3nm,1.1s,baz=99,slow=9.8,SNR=5.7								
FINES					LR	LR	14 29 19.4		
	comp=Z,48nm,18.6s,baz=26,slow=37								
FINES	**FINESS Array B**	**38.56**	**320**		P	**P**	**14 12 44.0**	**-0.1**	
KEV	**Kevo**	**39.55**	**333**		P	**P**	**14 12 52.1**	**-0.2**	
KEV					pmax	pmax			
	comp=Z,39nm,1.6s								
KEV	**Kevo**	**39.55**	**333**		P	**P**	**14 12 52.0**	**-0.2**	
ARCES	**ARCESS Array B**	**40.01**	**333**		P	**P**	**14 12 56.4**	**+0.3**	
	comp=Z,4.7nm,0.5s,baz=90,slow=8.6,SNR=46								
ARE0	**ARCESS Array S**	**40.01**	**333**		P	**P**	**14 12 56.1**	**0.0**	
BUR08	**Bucovina Ar. S**	**40.29**	**298**		P	**P**	**14 13 00.5**	**+1.6**	
MJB9	**Matsu-Tunnel**	**42.81**	**78**		P	**P**	**14 13 22.0**	**+2.4**	
VYHS	**Vyhne**	**44.19**	**301**	*eP*	P	**P**	**14 13 29.1**	**-1.4**	
VYHS	**Vyhne**	**44.19**	**301**	*eP*	P	**P**	**14 13 29.1**	**-1.4**	
MA2	**Magadan**	**44.45**	**42**		P	**P**	**14 13 32.9**	**+0.5**	
MA2					pmax	pmax			
	comp=Z,20nm,1.3s								
MA2	**Magadan**	**44.45**	**42**		P	**P**	**14 13 32.9**	**+0.5**	
MA2					IAmb	IAmb	14 13 58.5		
	comp=Z,20nm,1.3s								
NC405	**NORSAR Array S**	**45.49**	**320**		P	**P**	**14 13 40.5**	**-0.2**	
JHJ2	**Mitsune**	**45.54**	**82**		P	**P**	**14 13 40.8**	**-0.6**	
NC602	**NORSAR Array S**	**45.64**	**319**		P	**P**	**14 13 41.4**	**-0.4**	
NB201	**NORSAR Array S**	**45.71**	**320**		P	**P**	**14 13 41.8**	**-0.6**	
NB2	**NORSAR Subarra**	**45.75**	**320**		P	**P**	**14 13 42.2**	**-0.5**	
	comp=Z,1.0nm,0.5s,baz=82,slow=7.9								
NOA	**NORSAR Array B**	**45.75**	**320**		P	**P**	**14 13 42.0**	**-0.7**	
	comp=Z,1.1nm,0.6s,baz=81,slow=7.9,SNR=5.0								
NOA					LR	LR	14 33 51.4		
	comp=Z,32nm,20.1s,baz=300,slow=37								
PDG	**Podgorica**	**45.90**	**293**		P	**P**	**14 13 41.7**	**-2.4**	
NC204	**NORSAR Array S**	**45.92**	**320**		P	**P**	**14 13 44.4**	**+0.2**	
NAO01	**NORSAR Array S**	**45.94**	**320**		P	**P**	**14 13 43.8**	**-0.4**	
ITM	**Ithomi**	**46.12**	**285**		P	**P**	**14 13 44.3**	**-1.7**	
TOLK	**Toolik Lake Re**	**63.16**	**19**		P	**P**	**14 15 48.6**	**-0.6**	
TOLK					IAmb	IAmb	14 17 40.7		
	comp=Z,7.3nm,1.4s								
PPLA	**Purkeypile**	**66.78**	**24**		P	**P**	**14 16 13.0**	**+0.1**	
INK	**Inuvik**	**66.82**	**14**		P	**P**	**14 16 12.1**	**-0.8**	
	comp=Z,1.0nm,0.6s,baz=330,slow=8.2,SNR=8.7								
INK	**Inuvik**	**66.82**	**14**		P	**P**	**14 16 12.4**	**-0.5**	
INK					pmax	pmax			
	comp=Z,6.0nm,1.4s								
INK	**Inuvik**	**66.82**	**14**		P	**P**	**14 16 12.4**	**-0.5**	
INK					IAmb	IAmb	14 16 13.3		
	comp=Z,6.2nm,1.4s								
ILAR	**Eielson Array**	**66.84**	**21**		P	**P**	**14 16 11.3**	**-1.8**	
	comp=Z,0.8nm,0.9s,baz=316,slow=4.8,SNR=5.3								
C36M	**Paulatuk**	**67.32**	**10**		P	**P**	**14 16 15.0**	**-1.0**	
DHY	**Denali Highway**	**68.05**	**22**		P	**P**	**14 16 19.9**	**-1.1**	
DHY					IAmb	IAmb	14 18 37.9		
	comp=Z,9.2nm,1.6s								
SML	**Sawmill**	**68.77**	**23**		P	**P**	**14 16 25.0**	**-0.4**	
SML					IAmb	IAmb	14 18 03.3		
	comp=Z,14nm,1.6s								
SCM	**Sheep Creek Mo**	**69.04**	**23**		P	**P**	**14 16 26.1**	**-1.0**	
SCM					pmax	pmax			
	comp=Z,19nm,1.5s								
SCM	**Sheep Creek Mo**	**69.04**	**23**		P	**P**	**14 16 26.1**	**-1.0**	
SCM					IAmb	IAmb	14 16 51.5		
	comp=Z,19nm,1.5s								
KDAK	**Kodiak Island**	**70.52**	**28**		P	**P**	**14 16 35.9**	**-0.2**	
	comp=Z,3.9nm,0.9s,baz=342,slow=8.4,SNR=2.3								
TORD	**Torodi Ar. Bea**	**74.56**	**274**		P	**P**	**14 17 00.7**	**-0.1**	
	comp=Z,1.3nm,0.6s,baz=40,slow=5.3,SNR=8.4								
WRA	**Warramunga Arr**	**77.97**	**131**		P	**P**	**14 17 19.3**	**-0.8**	
	comp=Z,0.8nm,0.8s,baz=328,slow=5.4,SNR=7.6								
WRA	**Warramunga Arr**	**77.97**	**131**	*i*	P	**P**	**14 17 20.1**	**+0.1**	
WRA					pmax	pmax			
	comp=Z,1.0nm,0.8s								
WRA	**Warramunga Arr**	**77.97**	**131**		P	**P**	**14 17 19.9**	**-0.1**	
WB2	**Warramunga Arr**	**77.98**	**131**		P	**P**	**14 17 19.1**	**-1.0**	
WB2					IAmb	IAmb	14 19 25.1		
	comp=Z,18nm,1.8s								
WR0	**Warramunga Arr**	**78.10**	**131**		P	**P**	**14 17 20.4**	**-0.3**	
WR0					IAmb	IAmb	14 17 29.1		
	comp=Z,13nm,1.4s								
SCHQ	**Schefferville**	**80.13**	**343**		LR	LR	14 58 24.7		
	comp=Z,24nm,18.6s,baz=116,slow=40								
ASAR	**Alice Springs**	**80.71**	**133**		P	**P**	**14 17 34.2**	**-0.7**	
	comp=Z,0.5nm,0.7s,baz=329,slow=6.1,SNR=9.3								

*NEIC **27** 14:14:19.0±1.2, 13.1°S±0.1°×167.1°E±0.2, h204km±6km, mb4.6/32, Error ellipse: s-maj=23.0km s-min=14.5km az=95.0*
*IDC **27** 14:14:22.9±4.7, 13.22°S×167.01°E, h234km±42km, mb3.5/8, mb1 3.7/9, mb1mx3.3/36, mbtmp4.1/9, Error ellipse: s-maj=29.4km s-min=21.6km az=17.0*

ISC 27 14:14:18.7±0.8, 13.04S±0.08×167.1E±0.1, h200km, n45, σ0.81/49, mb4.4/18, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.40**	**178**				**Pn**	**14 15 01.8**	**+0.3**
DZM	**Mont Dzumac**	**9.01**	**184**	P			**Pn**	**14 16 27.5**	**+2.3**
	0.7nm,0.3s,baz=348,slow=19,SNR=16								
DZM				S			**Sn**	**14 18 06.9**	**+0.6**
	0.1nm,0.3s,baz=301,slow=19,SNR=0.9								
EIDS	**Eidsvold**	**19.47**	**229**	P			**P**	**14 18 31.3**	**+0.8**
ARMA	**Armidale**	**22.46**	**217**	P			**P**	**14 19 01.2**	**-0.2**
URZ	**Urewera**	**26.64**	**162**	P			**P**	**14 19 38.2**	**-0.8**
	2.6nm,0.5s,baz=309,slow=14,SNR=1.2								
BKZ	**Black Stump Fm**	**27.31**	**164**	P			**P**	**14 19 44.2**	**-0.8**
CAN	**Canberra**	**27.57**	**213**	P			**P**	**14 19 47.0**	**-0.3**
QRZ	**Quartz Range**	**28.08**	**171**	P			**P**	**14 19 51.9**	**+0.2**
NNZ	**Nelson**	**28.60**	**170**	P			**P**	**14 19 55.4**	**-0.9**
BFZ	**Birch Farm**	**28.68**	**165**	P			**P**	**14 19 55.4**	**-1.6**
TUWZ	**Tuamarina**	**28.90**	**169**	P			**P**	**14 19 58.4**	**-0.6**
MSWZ	**Moikau Station**	**29.15**	**167**	P			**P**	**14 19 59.8**	**-1.4**
PLWZ	**Palliser**	**29.30**	**167**	P			**P**	**14 20 01.4**	**-1.1**
LTZ	**Lake Taylor**	**29.97**	**172**	P			**P**	**14 20 07.2**	**-1.2**
LTZ					IAmb	IAmb	14 20 09.9		
	comp=Z,18nm,1.1s								
STKA	**Stephens Creek**	**30.01**	**227**	P			**P**	**14 20 08.7**	**-0.2**
	comp=Z,2.6nm,0.5s,baz=49,slow=9.7,SNR=9.2								
STKA					PcP		**PcP**	**14 23 05.2**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=57,slow=4.4,SNR=3.5								
FOZ	**Fox Glacier**	**30.47**	**176**	P			**P**	**14 20 12.2**	**-0.6**
OXZ	**Oxford**	**30.48**	**173**	P			**P**	**14 20 12.7**	**-0.1**
RPZ	**Rata Peaks**	**30.75**	**174**	P			**P**	**14 20 14.9**	**-0.4**
	comp=Z,4.1nm,0.6s,baz=354,slow=4.3,SNR=5.4								
RPZ	**Rata Peaks**	**30.75**	**174**	P			**P**	**14 20 14.9**	**-0.4**
MQZ	**McQueen's Vall**	**30.93**	**172**	P			**P**	**14 20 16.2**	**-0.5**
TOO	**Toolangi**	**31.14**	**215**	P			**P**	**14 20 18.3**	**-0.5**
TOO					IAmb	IAmb	14 21 07.9		
	comp=Z,35nm,1.8s								
WKZ	**Wanaka**	**31.72**	**177**	P			**P**	**14 20 23.5**	**-0.2**
WR0	**Warramunga Arr**	**31.95**	**253**	P			**P**	**14 20 25.3**	**-0.8**
WR0					IAmb	IAmb	14 20 49.1		
	comp=Z,19nm,1.8s								
ODZ	**Otahua Downs**	**32.04**	**175**	P			**P**	**14 20 25.9**	**-0.6**
ODZ					IAmb	IAmb	14 21 17.5		
	comp=Z,35nm,1.6s								
WB0	**Warramunga Arr**	**32.07**	**254**	P			**P**	**14 20 26.2**	**-0.9**
WB2	**Warramunga Arr**	**32.13**	**253**	P			**P**	**14 20 26.8**	**-0.8**
WB2					IAmb	IAmb	14 20 52.7		
	comp=Z,31nm,2.0s								
WRA	**Warramunga Arr**	**32.14**	**253**	P			**P**	**14 20 26.6**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=86,slow=9.2,SNR=13								
WRA					PcP		**PcP**	**14 23 12.2**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=88,slow=3.1,SNR=2.1								
WHZ	**Wether Hill Ro**	**32.75**	**179**	P			**P**	**14 20 31.8**	**-0.9**
AS31	**Alice Springs**	**33.18**	**247**	P			**P**	**14 20 35.9**	**-0.9**
ASAR	**Alice Springs**	**33.18**	**247**	P			**P**	**14 20 35.8**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=75,slow=10.0,SNR=87								
ASAR					PcP		**PcP**	**14 23 14.2**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=95,slow=2.0,SNR=4.4								
BBOO	**Buckleboo**	**34.53**	**230**	P			**P**	**14 20 47.6**	**-0.6**
BBOO					IAmb	IAmb	14 21 15.2		
	comp=Z,35nm,1.8s								
MTN	**Manton Dam**	**35.06**	**266**	P			**P**	**14 20 53.8**	**+0.8**
KNRA	**Kununurra**	**37.23**	**261**	P			**P**	**14 21 11.2**	**-0.1**
KNRA					IAmb	IAmb	14 22 23.8		
	comp=Z,12nm,1.1s								
FORT	**Forrest**	**40.06**	**237**	P			**P**	**14 21 34.0**	**-0.7**
FORT					IAmb	IAmb	14 22 14.7		
	comp=Z,34nm,1.4s								
FITZ	**Fitzroy Crossi**	**40.22**	**257**	P			**P**	**14 21 35.9**	**-0.3**
FITZ					IAmb	IAmb	14 21 37.8		
	comp=Z,25nm,1.6s								
PSA00	**Pilbara Seismi**	**45.79**	**253**	P			**P**	**14 22 20.9**	**+0.1**
NWAO	**Narrogin (SRO)**	**49.51**	**238**	P			**P**	**14 22 48.5**	**-0.7**
NWAO					IAmb	IAmb	14 23 53.0		
	comp=Z,42nm,1.5s								
CMAR	**Chiang Mai Arr**	**74.14**	**294**	P			**P**	**14 25 34.9**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=105,slow=5.7,SNR=1.8								
SII	**Sitkinak Islan**	**76.44**	**21**	P			**P**	**14 25 46.1**	**+0.1**
QSPA	**South Pole Qui**	**76.98**	**180**	P			**P**	**14 25 48.6**	**-0.6**
ILAR	**Eielson Array**	**84.97**	**18**	P			**P**	**14 26 31.8**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=241,slow=4.5,SNR=6.0								
MKAR	**Makanchi Array**	**95.89**	**317**	P			**P**	**14 27 23.5**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=86,slow=6.5,SNR=4.2								
ARCES	**ARCESS Array B**	**118.59**	**346**	PKP			**PKPdf**	**14 32 42.1**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=76,slow=1.5,SNR=13								
FINES	**FINESS Array B**	**124.11**	**339**	PKP			**PKiKP**	**14 32 53.6**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=103,slow=4.1,SNR=4.0								
ESDC	**Sonseca Array**	**152.33**	**345**	PKPbc			**PKPbc**	**14 33 51.5**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=344,slow=2.9,SNR=2.5								

*IDC **27** 14:24:13.1±2.2, 0.93N×100.35E, h139km±25km, mb3.2/5, mb1 3.3/6, mb1mx3.0/36, mbtmp3.6/6, Error ellipse: s-maj=129.6km s-min=17.5km az=54.0*
*DJA **27** 14:24:13.9±0.4, 1.1N±2.1×10.0E±0.9°, h141km±5km, M4.0/14, mb5.0/1, MLv3.5/14*

ISC 27 14:24:13.0±0.8, 0.72N±0.06×99.81E±0.06, h151km±7km, n16, σ1.25/23, mb3.5/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.24**	**287**	P			**Pn**	**14 24 33.9**	**+0.5**
MNSI				S			**Sn**	**14 24 49.3**	**+0.4**
BKNI	**Bangkinang**	**1.29**	**108**	P			**Pn**	**14 24 41.2**	**+0.7**
PBSI	**Pulau Batu**	**1.71**	**243**	P			**Pn**	**14 24 45.9**	**+1.0**
PBSI				S			**Sn**	**14 25 09.2**	**-0.2**
PDSI	**Padang**	**1.75**	**158**	P			**Pn**	**14 24 46.0**	**+0.6**
PDSI				S			**Sn**	**14 25 10.4**	**+0.2**
SISI	**Saibi**	**2.16**	**199**	P			**Pn**	**14 24 49.6**	**-0.4**
SISI				S			**Sn**	**14 25 18.0**	**-0.6**
PSI	**Prapat**	**2.25**	**337**	P			**Pn**	**14 24 50.9**	**-0.3**
	3.5nm,0.3s,baz=180,slow=9.1,SNR=13								
PSI				S			**Sn**	**14 25 18.8**	**-1.9**
	1.1nm,0.3s,baz=180,slow=19,SNR=5.8								
GSI	**Gunungsitoli**	**2.31**	**285**	P			**Pn**	**14 24 53.4**	**+1.6**
GSI				S			**Sn**	**14 25 18.8**	**-2.9**
SDSI	**Sungai Dareh**	**2.31**	**135**	P			**Pn**	**14 24 52.8**	**+1.0**
TPTI		**3.64**	**314**	P			**Pn**	**14 25 09.7**	**+1.1**
MLSI	**Meulaboh, Aceh**	**4.89**	**316**	P			**Pn**	**14 25 26.0**	**+0.9**
MNAI	**Manna**	**5.95**	**148**	P			**Pn**	**14 25 38.0**	**-1.1**
WRA	**Warramunga Arr**	**39.58**	**123**	P			**P**	**14 31 28.7**	**-1.1**
	0.4nm,0.4s,baz=305,slow=8.8,SNR=8.8								
ASAR	**Alice Springs**	**41.04**	**128**	P			**P**	**14 31 39.8**	**-2.1**
	0.1nm,0.3s,baz=298,slow=7.6,SNR=5.5								
ASAR					PcP		**PcP**	**14 33 39.4**	**+0.4**
	0.2nm,0.6s,baz=315,slow=2.5,SNR=4.6								
MKAR	**Makanchi Array**	**48.38**	**344**	P			**P**	**14 32 40.7**	**+1.2**
	0.3nm,0.3s,baz=157,slow=8.3,SNR=7.3								
ZALV	**Zalesovo Beam**	**54.48**	**349**	P			**P**	**14 33 25.3**	**+0.6**
	0.5nm,0.3s,baz=161,slow=7.0,SNR=4.2								
ARCES	**ARCESS Array B**	**83.86**	**340**	P			**P**	**14 36 26.3**	**+0.9**
	1.0nm,0.8s,baz=115,slow=3.5,SNR=4.2								

IDC 27 14:24:54.9±5.2, 21.57S×176.91W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/25, mbtmp3.5/3, Error ellipse: s-maj=176.4km s-min=101.3km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.26**	**246**	P			P	14 32 16.2	-0.8
	0.5nm,0.5s,baz=80,slow=11,SNR=1.2								
ASAR	**Alice Springs**	**45.27**	**258**	P			P	14 33 14.1	-0.5
	0.2nm,0.4s,baz=95,slow=7.8,SNR=10.0								
ASAR					PcP		PcP	14 34 54.3	-0.4
	0.2nm,0.9s,baz=111,slow=4.3,SNR=1.6								
WRA	**Warramunga Arr**	**45.47**	**263**	P			P	14 33 16.8	+0.6
	0.3nm,0.4s,baz=96,slow=8.4,SNR=21								

*SKHL **27** 14:38:38.3±0.1, 43.81N×147.47E, h79km±5km, mb4.1/3*
*JMA **27** 14:38:39.3±0.4, 44.18N×146.81E, h121km±4km, M3.0*

ISC 27 14:38:38.0±2.1, 44.26N±0.08×146.90E±0.10, h121km±14km, n20, σ0.60/29, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.78**	**254**	*i* P			**Pn**	**14 38 58.3**	**+0.3**
YUK						AMB	AMB	14 38 58.7	
	10.0nm,0.3s								
YUK						AMB	AMB	14 38 58.7	
	10.0nm,0.3s								
YUK						AMB	AMB	14 38 58.7	
	30nm,0.3s								
YUK					*i* S		**Sn**	**14 39 13.4**	**+0.2**
YUK						A	A	14 39 18.0	
	50nm,0.6s								
YUK						A	A	14 39 18.0	
	230nm,0.6s								
GRPR	**Tuman**	**0.85**	**252**	*i* P			**Pn**	**14 38 59.1**	**+0.4**
GRPR						AMB	AMB	14 38 59.7	
	150nm,0.4s								
GRPR					*i* S		**Sn**	**14 39 14.3**	**0.0**
GRPR						A	A	14 39 16.0	
	360nm,0.5s								
GRPR						A	A	14 39 16.0	
	680nm,0.5s								
KUR	**Kuril'sk**	**1.19**	**35**	*i* P			**Pn**	**14 39 02.2**	**+0.2**
KUR						AMB	AMB	14 39 02.4	
	10.0nm,0.3s								
KUR						AMB	AMB	14 39 02.4	
	10.0nm,0.3s								
KUR						AMB	AMB	14 39 02.4	
	60nm,0.3s								
KUR					*i* S		**Sn**	**14 39 20.1**	**-0.1**
KUR						A	A	14 39 21.5	
	10.0nm,0.2s								
KUR						A	A	14 39 21.5	
	40nm,0.2s								
NEM2	**Nemuro 2**	**1.23**	**224**	P			**Pn**	**14 39 02.6**	**+0.2**
NEM2					*e*	S	**Sn**	**14 39 20.4**	**-0.4**
NMR	**Nemuro--Hokkai**	**1.23**	**224**	*eP*			**Pn**	**14 39 02.0**	**-0.4**
NMR					*i*	S	**Sn**	**14 39 20.1**	**-0.8**
JNSB	**Nemuroshibetsu**	**1.45**	**251**	P			**Pn**	**14 39 05.7**	**+0.8**
JNK	**Nakash**	**1.71**	**248**	P			**Pn**	**14 39 08.4**	**+0.4**
JKHN	**Kushirohamanak**	**1.73**	**228**	P			**Pn**	**14 39 08.5**	**+0.4**
JKHN					*e*	S	**Sn**	**14 39 30.3**	**-0.7**
JAK	**Akkeshi**	**2.04**	**233**	P			**Pn**	**14 39 12.3**	**+0.4**
JAK					*e*	S	**Sn**	**14 39 37.5**	**-0.4**
JTKR	**Abashiri--Toko**	**2.17**	**263**	P			**Pn**	**14 39 13.5**	**-0.1**
JAR	**Ashorobuto**	**2.46**	**248**	P			**Pn**	**14 39 18.5**	**+1.2**
JMP	**Maruseppu**	**2.56**	**266**	P			**Pn**	**14 39 18.4**	**-0.2**
JOB	**Onbets**	**2.61**	**240**	P			**Pn**	**14 39 20.3**	**+1.1**
JOB					*e*	S	**Sn**	**14 39 50.9**	**+0.1**
JKK2	**Kamakawa 2**	**3.02**	**264**	P			**Pn**	**14 39 25.1**	**+0.6**
JCH	**Churui**	**3.06**	**239**	P			**Pn**	**14 39 25.4**	**+0.4**
JCH					*e*	S	**Sn**	**14 40 00.5**	**-0.8**
ASAJ	**Asahikawa**	**3.10**	**269**	P			**Pn**	**14 39 25.8**	**+0.2**
JSE	**Soyaes**	**3.16**	**284**	P			**Pn**	**14 39 25.5**	**-0.9**
JFR	**Furan**	**3.31**	**252**	P			**Pn**	**14 39 29.3**	**+0.9**
JNBK	**Urakawa-nobuka**	**3.62**	**238**	P			**Pn**	**14 39 32.1**	**-0.3**
JWK2	**Keihoku**	**3.72**	**288**	P			**Pn**	**14 39 34.3**	**+0.6**

*ISN **27** 14:44:30.0±0.5, 32.47N×47.81E, h14km±3km, ML3.5*
*TEH **27** 14:44:31.2, 32.54N×47.72E, h11km, ML3.5*
*THR **27** 14:44:32.0±0.3, 32.48N×47.70E, h18km±5km, ML3.5*

ISC 27 14:44:31.0±1.3, 32.53N±0.03×47.72E±0.03, h3km±12km, n41, σ1.52/46, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.40**	**292**	*eP*		g	**Pg**	**14 44 39.2**	**+0.5**
SHGR	**Shooshtar-Gavs**	**1.01**	**114**	*eP*		g	**Pb**	**14 44 50.8**	**-0.2**
SHGR					*e*	Sg	**Sb**	**14 45 04.5**	**-0.2**
SHGR						IAML		14 45 23.6	
	comp=E,935nm,0.5s								
SHGR						IAML		14 45 30.6	
	comp=N,780nm,0.5s								
SHGR	**Shooshtar-Gavs**	**1.01**	**114**	*eP*		g	**Pb**	**14 44 50.8**	**-0.2**
AHWZ	**Ahwaz**	**1.43**	**146**	*eP*		g	**Pg**	**14 44 59.0**	**+0.6**
BMDN	**Meydan**	**1.47**	**39**	*eP*		g	**Pg**	**14 44 59.2**	**0.0**
BMDN					*e*			14 45 26.9	
IBDR	**Badra**	**1.61**	**291**	*eP*		g	**Pb**	**14 45 01.0**	**-0.4**
IBDR					*eSg*		**Sg**	**14 45 24.0**	**+1.1**
IBDR						AML	AML	14 45 27.8	
	comp=N,512nm,0.6s								
IBDR						AML	AML	14 45 29.0	
	comp=E,547nm,0.6s								
IKOM	**Komasi**	**1.65**	**354**	*e*				14 45 29.9	
IKOM					*eP*	g	**Pg**	**14 45 03.1**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.83**	**342**	*e*				14 45 38.5	
KCHF					*eP*	n	**Pb**	**14 45 05.4**	**+0.2**
HSAM	**Samen**	**1.83**	**24**	*e*				14 45 36.0	
HSAM					*eP*	g	**Pb**	**14 45 05.3**	**0.0**
KER	**Kermanshah**	**1.92**	**345**	*eP*		n	**Pb**	**14 45 06.4**	**-0.2**
IBZA	**Bozab**	**1.94**	**3**	*e*				14 45 38.3	
IBZA					*eP*	g	**Pg**	**14 45 07.0**	**-0.4**
NSR	**Nassriya**	**2.03**	**222**	*eP*		n	**Pb**	**14 45 05.0**	**-1.0**
NSR					*eSn*		**Sn**	**14 45 30.0**	**-1.8**
NSR						AML	AML	14 45 37.8	
	comp=E,495nm,0.4s								
IGHG	**Ghaleghazi**	**2.04**	**332**	*e*				14 45 49.4	
IGHG					*eP*	n	**Pb**	**14 45 07.4**	**-1.4**
IVIS	**Veis**	**2.12**	**340**	*e*				14 45 51.9	
IVIS					*eP*	n	**Pb**	**14 45 08.8**	**-1.3**
KHMZ	**Khomeyn**	**2.23**	**57**	*eP*		n	**Pb**	**14 45 11.2**	**-0.9**
KHMZ					*eSg*		**Sg**	**14 45 43.7**	**+1.0**
KHMZ	**Khomeyn**	**2.23**	**57**	*eP*		n	**Pb**	**14 45 11.2**	**-0.9**
IALM	**Almabolaq**	**2.35**	**9**	*eP*		n	**Pb**	**14 45 12.3**	**-1.9**
IDHR	**Dehrash**	**2.43**	**333**	*eP*		n	**Pb**	**14 45 13.2**	**-2.3**
IDHR					*e*			14 45 53.4	
ILIN	**Lien**	**2.46**	**345**	*eP*		n	**Pb**	**14 45 13.9**	**-2.2**
ILIN					*e*			14 46 08.8	
JHBN	**Jahan bin**	**2.51**	**96**	*eP*		n	**Pn**	**14 45 13.8**	**+0.8**
JHBN					*e*			14 45 59.0	
HAGD	**Aghdareh**	**2.58**	**27**	*eP*		n	**Pb**	**14 45 15.2**	**-2.7**
HAGD					*e*			14 45 55.9	
IPIR	**Pirpir**	**2.68**	**86**	*eP*		n	**Pn**	**14 45 16.5**	**+1.2**
IPIR					*e*			14 46 09.3	
HSRG	**Sareghieh**	**2.75**	**10**	*eP*		n	**Pb**	**14 45 18.3**	**-2.6**
HSRG					*e*			14 46 04.0

	baz=33								
WJS					*e*S	Sn	14 45 28.5	-0.2	
	baz=33								
KAU	**Kaohsiung**	**0.68**	**181**	*e*P		Pn	14 45 18.6	-0.2	
	baz=180								
KAU					*e*S	Sn	14 45 28.5	-0.2	
	baz=180								
MASBT	**Mashibuluo**	**0.70**	**155**	*e*S		Sb	14 45 27.2	-0.3	
	baz=155								
PHUB	**P'eng-hu**	**0.73**	**291**	*e*P		Pb	14 45 19.1	+0.4	
	baz=290								
PHUB					*e*S	Sn	14 45 29.3	-0.7	
	baz=290								

TAP 27 14:45:11.4, 22.85N×120.90E, h13km, ML1.0, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWG	**Pinlang**	**0.16**	**101**	⇑*i*P	Pb	14 45 16.1	-0.3
	baz=101						
TWG				*i* S	Sg	14 45 18.7	+0.7
	baz=101						
TWGBT	**Beinan**	**0.17**	**101**	P	Pb	14 45 16.0	-0.5
	baz=101						
TWGBT				S	Sg	14 45 18.8	+0.6
	baz=101						
LONT	**Longtian**	**0.22**	**76**	P	Pb	14 45 16.8	-0.5
	baz=76						
LONT				*e*S	Sg	14 45 20.1	+0.6
	baz=76						
TTN	**Taitung**	**0.25**	**113**	P	Pg	14 45 17.1	+0.4
	baz=112						
TTN				S	Sb	14 45 21.7	-0.4
	baz=112						
ECL	**Taimali**	**0.26**	**168**	P	Pg	14 45 17.1	+0.2
	baz=161						
ECL				S	Sb	14 45 21.6	-0.7
	baz=161						
SSD	**Sandimen**	**0.27**	**247**	*i* P	Pg	14 45 17.1	+0.1
	baz=245						
SSD				S	Sg	14 45 21.3	+0.5
	baz=245						
SSD	**Sandimen**	**0.27**	**247**	P	Pg	14 45 17.1	+0.1
	baz=149						
SLGT	**Liugui**	**0.27**	**301**	P	Pg	14 45 16.8	-0.4
	baz=302						
SLGT				*e*S	Sg	14 45 21.7	+0.7
	baz=302						
TSMG	**Majia**	**0.28**	**238**	*e*P	Pg	14 45 17.3	+0.1
	baz=237						
TSMG				*e*S	Sg	14 45 21.6	+0.6
	baz=237						
TSMG	**Majia**	**0.28**	**238**	*e*P	Pg	14 45 17.7	+0.5
	baz=151						
STYT	**Tauyuan**	**0.34**	**337**	P	Pg	14 45 18.6	+0.3
	baz=344						
STYT				S	Sb	14 45 24.2	-0.5
	baz=344						
MASBT	**Mashibuluo**	**0.34**	**226**	P	Pg	14 45 18.6	+0.2
	baz=224						
MASBT				S	Sg	14 45 23.5	+0.5
	baz=224						
ELDTW	**Lidau**	**0.35**	**18**	P	Pb	14 45 19.7	0.0
	baz=25						
ELDTW				*e*S	Sb	14 45 25.0	-0.2
	baz=25						
EDH	**Donghe**	**0.39**	**72**	*e*P	Pb	14 45 20.5	+0.2
	baz=70						
EDH				*e*S	Sb	14 45 27.3	+1.1
	baz=70						
EAST	**Anshuo**	**0.47**	**186**	*e*P	Pb	14 45 21.6	0.0
	baz=176						
EAST				*e*S	Sb	14 45 28.0	-0.4
	baz=176						
SSPT	**Xinbi**	**0.48**	**220**	*e*S	Sb	14 45 29.1	+0.5
	baz=208						
TPUB	**Ta-pu**	**0.51**	**331**	*e*P	Pb	14 45 22.4	+0.1
	baz=334						
TPUB				*e*S	Sb	14 45 31.2	+1.6
	baz=334						
TWK	**Hsinying**	**0.56**	**318**	*e*P	Pb	14 45 23.3	+0.1
	baz=320						
ALS	**Alishan**	**0.66**	**353**	*e*P	Pg	14 45 24.5	+0.1
	baz=7.0						
ALS				*e*S	Sb	14 45 35.4	+1.1
	baz=7.0						

*IDC **27** 15:07:37.4±5.0, 36.37N×71.04E, h62km±34km, mb3.4/5, mb1 3.4/10, mb1mx3.2/46, mbtmp3.6/10, ML3.5/6, MS3.6/1, Ms1 3.6/1, ms1mx2.3/29, Error ellipse: s-maj=60.2km s-min=24.6km az=142.0*
*NNC **27** 15:07:43.4±3.6, 36.73N×70.81E, h70km±82km, mb4.0, mpv4.3, Error ellipse: s-maj=30.8km s-min=25.7km az=72.0*

ISC 27 15:07:40.8±0.9, 36.53N±0.07×71.08E±0.09, h100km, n28, σ2s12/31, mb3.7/4, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.60**	**136**	*e*P	**Pn**	**15 09 02.5**	**+0.9**
THN				*e*S	**Sn**	**15 10 00.0**	**-4.6**
AML	**Almayashu**	**5.95**	**19**	P	**Pn**	**15 09 07.8**	**+1.1**
	SNR=58						
UCH	**Uchtor**	**6.28**	**24**	P	**Pn**	**15 09 12.3**	**+1.1**
	SNR=20						
KZA	**Kyzart**	**6.41**	**29**	P	**Pn**	**15 09 13.9**	**+0.9**
	SNR=11						
EKS2	**Erkin-Say**	**6.47**	**18**	P	**Pn**	**15 09 14.6**	**+1.1**
	SNR=18						
KK31	**Karatay Array**	**6.58**	**356**	P	**Pn**	**15 09 15.5**	**+0.6**
	16nm,0.3s,baz=182,slow=12,SNR=217						
KK31				⇑S	**Sn**	**15 10 26.8**	**-1.6**
	3.3nm,0.4s,baz=187,slow=23,SNR=5.2						
AAK	**Ala-Archa**	**6.64**	**22**	P	**Pn**	**15 09 16.7**	**+0.8**
	7.4nm,0.3s,baz=176,slow=6.3,SNR=27						
AAK				S	**Sn**	**15 10 31.7**	**+1.6**
	0.7nm,0.3s,baz=127,slow=20,SNR=1.4						
AAK	**Ala-Archa**	**6.64**	**22**	P	**Pn**	**15 09 17.5**	**+1.6**
	SNR=17						
AAK	**Ala-Archa**	**6.64**	**22**	⇓P	**Pn**	**15 09 17.0**	**+1.1**
	12nm,0.4s						
AAK				⇑S	**Sn**	**15 10 30.9**	**+0.7**
	15nm,0.6s						
CHMS	**Chumysh**	**7.05**	**22**	P	**Pn**	**15 09 22.7**	**+1.4**
	SNR=23						
USP	**Ospenovka**	**7.22**	**20**	P	**Pn**	**15 09 24.7**	**+1.0**
	SNR=9.2						
TKM2	**Tokmak 2**	**7.27**	**27**	P	**Pn**	**15 09 25.4**	**+0.9**
	SNR=11						
TKM2	**Tokmak 2**	**7.27**	**27**	⇑P	**Pn**	**15 09 25.1**	**+0.6**
	3.5nm,0.5s						
GEYT	**Alibeck**	**10.43**	**282**	P	Pn	15 10 03.5	-3.9
	0.4nm,0.3s,baz=112,slow=6.7,SNR=2.1						
GEYT				S	Sn	15 11 53.5	-8.8
	1.2nm,0.3s,baz=103,slow=21,SNR=6.8						
MK31	**Makanchi Array**	**13.23**	**36**	P	**P**	**15 10 49.4**	**-1.3**
	1.7nm,1.1s,baz=202,slow=8.3,SNR=5.1						
MKAR	**Makanchi Array**	**13.23**	**36**	P	**Pn**	**15 10 43.7**	**-0.9**
	0.1nm,0.3s,baz=232,slow=11,SNR=2.2						
KURBB	**Kurchatov Arra**	**15.07**	**19**	P	**Pn**	**15 11 08.5**	**+0.3**
	0.1nm,0.3s,baz=209,slow=10,SNR=4.8						
AB01	**Akbulak array**	**15.09**	**331**	⇑P	**Pn**	**15 11 07.5**	**-1.0**
	1.3nm,0.4s						
BVAR	**Borovoye Array**	**16.50**	**359**	P	**Pn**	**15 11 26.1**	**+0.1**
	0.2nm,0.3s,baz=176,slow=13,SNR=4.5						
AKTO	**Aktyubinsk**	**16.79**	**330**	P	**Pn**	**15 11 29.0**	**-0.5**
	0.3nm,0.3s,baz=134,slow=16,SNR=6.1						
AKTO				S	**Sn**	**15 14 27.5**	**-8.3**
	0.2nm,0.3s,baz=74,slow=15,SNR=3.6						
AKTO	**Aktyubinsk**	**16.79**	**330**	⇓P	**P**	**15 11 30.8**	**+0.7**
	2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**19.86**	**24**	P	**P**	**15 12 03.6**	**0.0**
	0.9nm,0.5s,baz=214,slow=10,SNR=5.4						
FINES	**FINESS Array B**	**37.50**	**326**	P	**P**	**15 14 45.9**	**+1.4**
	2.5nm,0.9s,baz=112,slow=2.1,SNR=4.7						
ARCES	**ARCESS Array B**	**41.14**	**338**	P	**P**	**15 15 16.7**	**+2.1**
	1.1nm,0.8s,baz=121,slow=9.1,SNR=5.0						
NB2	**NORSAR Subarra**	**44.40**	**323**	P	**P**	**15 15 42.8**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.40**	**323**	P	**P**	**15 15 42.1**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=104,slow=7.4,SNR=4.0						
DAV	**Davao City (W)**	**57.54**	**107**	LR	LR	15 46 00.6	
	comp=Z,43nm,18.0s,baz=154,slow=40						
TORD	**Torodi Ar. Bea**	**65.78**	**269**	P	**P**	**15 18 16.2**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=51,slow=5.8,SNR=1.4						

*KRNET **27** 15:20:06.4±0.1, 40.89N×74.67E, mb2.0*
*SOME **27** 15:20:09.0, 41.00N×74.90E, h5km*
*NNC **27** 15:20:09.3±1.7, 40.90N×75.01E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=11.3km s-min=8.3km az=179.0*

ISC 27 15:20:03.5±1.8, 40.78N±0.07×74.93E±0.03, h4km±15km, n28, σ1s37/45, 9C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARLS	**Aral**	**1.17**	**337**	⇓*i*P	**Pb**	**15 20 25.8**	**-0.7**
	baz=46						
ARLS				⇓*i*S	**Sg**	**15 20 39.8**	**-1.5**
	baz=46						
OHH	**Osh**	**1.65**	**262**	⇑*i*P	**Pg**	**15 20 34.2**	**-1.0**
	baz=56						
OHH				⇑*i*S	**Sn**	**15 20 54.5**	**-0.6**
	baz=56						
AAK	**Ala-Archa**	**1.89**	**350**	⇑P	**Pg**	**15 20 41.6**	**+2.0**
	0.7nm,0.1s						
AAK				⇓S	**Sg**	**15 21 06.4**	**+2.3**
	9.3nm,0.6s						
KDJ	**Kajisay**	**2.16**	**51**	⇑*i*P	**Pg**	**15 20 46.7**	**+1.7**
	baz=56						
KDJ				⇑*i*S	**Sg**	**15 21 16.9**	**+3.9**
	baz=56						
TKM2	**Tokmak 2**	**2.20**	**13**	⇑P	**Pg**	**15 20 46.1**	**+0.5**
	1.0nm,0.2s						
TKM2				⇑S	**Sg**	**15 21 13.9**	**-0.2**
	3.6nm,0.3s						
MRKS	**Merke**	**2.34**	**328**	*e*P	**Pg**	**15 20 49.6**	**+1.2**
	7.5nm,0.3s						
MRKS				*e*S	**Sg**	**15 21 18.7**	**-0.1**
	12nm,0.7s						
MRKS	**Merke**	**2.34**	**328**	Pg	**Pg**	**15 20 49.6**	**+1.2**
	7.5nm,0.3s						
MRKS				Lg	Lg	15 21 18.7	
	12nm,0.7s						
KST	**Kastek**	**2.39**	**18**	*e*P	**Pg**	**15 20 50.2**	**+0.9**
	1.8nm,0.2s						
KST				*e*S	**Sg**	**15 21 19.6**	**-0.7**
	7.8nm,0.4s						
KST	**Kastek**	**2.39**	**18**	Pg	**Pg**	**15 20 50.2**	**+0.9**
	1.8nm,0.2s						
KST				Lg	Lg	15 21 19.6	
	7.8nm,0.4s						
SGDS	**Sogindy**	**2.68**	**355**	Pg	**Pg**	**15 20 55.4**	**+0.5**
	3.2nm,0.3s						
SGDS				Lg	Lg	15 21 29.0	
	12nm,0.5s						
TNSS	**Tian-Shan**	**2.71**	**33**	*e*P	**Pg**	**15 20 55.5**	**0.0**
	3.1nm,0.5s						
TNSS				*e*S	**Sg**	**15 21 28.8**	**-1.8**
	4.7nm,0.4s						
TNSS	**Tian-Shan**	**2.71**	**33**	Pg	**Pg**	**15 20 55.5**	**0.0**
	3.1nm,0.5s						
TNSS				Lg	Lg	15 21 28.8	
	4.7nm,0.4s						
MDOK	**Medeo**	**2.86**	**33**	*e*P	**Pg**	**15 20 59.2**	**+0.9**
	2.3nm,0.4s						
MDOK				*e*S	**Sg**	**15 21 35.0**	**-0.3**
	4.3nm,0.8s						
MDOK	**Medeo**	**2.86**	**33**	⇓P	**Pb**	**15 20 55.6**	**+0.4**
	1.5nm,0.4s						
MDOK				⇓S	**Sb**	**15 21 30.3**	**-0.2**
	5.5nm,1.0s						
MDOK	**Medeo**	**2.86**	**33**	Pg	**Pg**	**15 20 59.2**	**+0.9**
	2.3nm,0.4s						
MDOK				Lg	Lg	15 21 35.0	
	4.3nm,0.8s						
ANVS	**Anan'yevo**	**2.86**	**45**	⇑*i*P	**Pg**	**15 20 56.7**	**-1.7**
	baz=49						
ANVS				⇑*i*S	**Sb**	**15 21 32.8**	**+2.1**
	baz=49						
KOTS	**Kotyrbulak**	**2.94**	**33**	*e*P	**Pg**	**15 21 00.2**	**+0.3**
	5.0nm,0.3s						
KOTS				*e*S	**Sg**	**15 21 36.5**	**-1.5**
	19nm,0.7s						
KOTS	**Kotyrbulak**	**2.94**	**33**	Pg	**Pg**	**15 21 00.2**	**+0.3**
	5.0nm,0.3s						
KOTS				Lg	Lg	15 21 36.5	
	19nm,0.7s						
KRBS	**Karabastau**	**2.97**	**10**	*e*P	**Pg**	**15 21 00.1**	**-0.2**
	1.6nm,0.6s						
KRBS				*e*S	**Sg**	**15 21 36.6**	**-2.2**
	10nm,0.5s						
KRBS	**Karabastau**	**2.97**	**10**	Pg	**Pg**	**15 21 00.1**	**-0.2**
	1.6nm,0.6s						
KRBS				Lg	Lg	15 21 36.6	
	10nm,0.5s						
KTBS	**Karatobe**	**3.21**	**23**	*e*P	**Pg**	**15 21 04.5**	**-0.4**
	0.8nm,0.3s						
KTBS				*e*S	**Sg**	**15 21 44.4**	**-2.1**
	8.8nm,0.8s						
KTBS	**Karatobe**	**3.21**	**23**	Pg	**Pg**	**15 21 04.5**	**-0.4**
	0.8nm,0.3s						
KTBS				Lg	Lg	15 21 44.4	
	8.8nm,0.8s						
KUU	**Kurty**	**3.28**	**18**	*e*P	**Pg**	**15 21 05.8**	**-0.6**
	1.2nm,0.4s						
KUU				*e*S	**Sg**	**15 21 46.5**	**-2.4**
	13nm,0.8s						
KUU	**Kurty**	**3.28**	**18**	Pg	**Pg**	**15 21 05.8**	**-0.6**
	1.2nm,0.4s						
KUU				Lg	Lg	15 21 46.5	
	13nm,0.8s						
CHKK	**Chushkaly**	**3.43**	**26**	*e*P	**Pg**	**15 21 08.5**	**-0.8**
	1.1nm,0.1s						
CHKK				*e*S	**Sg**	**15 21 51.2**	**-2.5**
	7.1nm,0.3s						
CHKK	**Chushkaly**	**3.43**	**26**	Pg	**Pg**	**15 21 08.5**	**-0.8**
	1.1nm,0.1s						
CHKK				Lg	Lg	15 21 51.2	
	7.1nm,0.3s						
IUG	**Iuzhnay**	**3.93**	**292**	*e*P	**Pg**	**15 21 19.7**	**+0.9**
	1.6nm,0.4s						
IUG				*e*S	**Sg**	**15 22 10.0**	**+0.4**
	5.5nm,0.5s						
IUG	**Iuzhnay**	**3.93**	**292**	Pg	**Pg**	**15 21 19.7**	**+0.9**
	1.6nm,0.4s						
IUG				Lg	Lg	15 22 10.0	
	5.5nm,0.5s						

*IDC **27** 15:32:08.4±1.2, 55.44S×29.05W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.8/16, mbtmp3.9/3, MS3.0/1, Ms1 3.0/1, ms1mx2.7/15, Error ellipse: s-maj=61.5km s-min=32.2km az=45.0*
*NEIC **27** 15:32:10.0±1.7, 55.6S±0.2×29.2W±0.2, h10km±1km, mb4.5/3, Error ellipse: s-maj=27.5km s-min=21.0km az=216.0*

ISC 27 15:32:09.8±0.9, 55.5S±0.2×29.3W±0.2, h10km, n13, σ0s75/12, mb4.3/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.36**	**284**	Pn	**Pn**	**15 33 15.5**	**-0.5**
PLCA	**Paso Flores**	**30.76**	**281**	LR	LR	15 50 27.1	
	comp=Z,27nm,18.2s,baz=180,slow=36						
QSPA	**South Pole Qui**	**34.73**	**180**	P	**P**	**15 38 59.7**	**-0.1**
QSPA				IAmb	IAmb	15 39 34.5	
	comp=Z,9.9nm,1.6s						
MAW	**Mawson**	**41.27**	**145**	P	**P**	**15 39 55.1**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=232,slow=13,SNR=1.9						
GO02	**Mina Guanaco**	**42.21**	**299**	P	**P**	**15 40 03.8**	**+0.7**
GO02				IAmb	IAmb	15 40 11.9	
	comp=Z,18nm,1.4s						
LPAZ	**La Paz**	**49.12**	**307**	P	**P**	**15 40 58.8**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=176,slow=6.5,SNR=7.4						
LPAZ	**La Paz**	**49.12**	**307**	P	**P**	**15 40 59.4**	**+1.2**
LPAZ				IAmb	IAmb	15 41 06.3	
	comp=Z,5.2nm,1.2s						
TORD	**Torodi Ar. Bea**	**73.19**	**32**	P	**P**	**15 43 40.6**	**0.0**
	comp=Z,1.1nm,0.9s,baz=208,slow=5.8,SNR=3.3						
BCAR	**Beaver Creek A**	**146.26**	**311**	PKPdf	**PKPbc**	**15 51 48.7**	**-0.4**
RIDG	**Independent Ri**	**147.77**	**311**		**PKPbc**	**15 51 53.6**	**+0.2**
ILAR	**Eielson Array**	**148.89**	**313**	PKPbc	**PKPbc**	**15 51 56.0**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=111,slow=1.8,SNR=9.6						
ILAR	**Eielson Array**	**148.89**	**313**		**PKPbc**	**15 51 55.8**	**-0.4**
SONM	**Songino Array**	**151.86**	**87**	PKPbc	**PKPbc**	**15 52 02.6**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=264,slow=2.6,SNR=1.4						

*IDC **27** 15:38:38.7±5.8, 8.76S×124.14E, h64km±67km, mb3.1/1, mb1 3.0/3, mb1mx2.9/28, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=54.0km s-min=40.0km az=33.0*
*DJA **27** 15:38:44.0±1.3, 9.3S±3×12.4E±, h29km±14km, M3.7/7, mb4.3/1, MLv3.4/7*

ISC 27 15:38:41.5±1.3, 9.0S±0.1×123.85E±0.0, h100km±12km, n13, σ1s00/16, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.86**	**152**	P	**Pn**	**15 39 01.8**	**+1.3**
SOEI				S	**Sn**	**15 39 13.8**	**-1.0**
BATI	**Baumata**	**1.22**	**189**	P	**Pn**	**15 39 05.1**	**+0.7**
	38nm,0.3s,baz=63,slow=4.5,SNR=42						
BATI				S	**Sn**	**15 39 22.4**	**+0.8**
	37nm,0.3s,baz=120,slow=20,SNR=29						
BATI	**Baumata**	**1.22**	**189**	P	**Pn**	**15 39 05.1**	**+0.7**
BATI				S	**Sn**	**15 39 20.3**	**-1.3**
MMRI	**Maumere**	**1.64**	**283**	P	**Pn**	**15 39 09.0**	**-0.4**
MMRI				S	**Sn**	**15 39 31.0**	**+0.3**
EDFI	**Ende, Flores**	**2.15**	**276**	P	**Pn**	**15 39 16.7**	**+0.6**
EDFI				S	**Sn**	**15 39 42.1**	**-0.5**
BASI	**Baing, Sumba**	**3.45**	**249**	P	**Pn**	**15 39 33.4**	**+0.1**
WBSI	**Waikabubak, Su**	**4.45**	**261**	P	**Pn**	**15 39 46.9**	**+0.1**
BKSI	**Bukukumba**	**5.20**	**314**	P	Pn	15 40 00.3	+3.4
PLAI	**Plampang**	**6.01**	**271**	P	**Pn**	**15 40 09.0**	**+1.1**
FITZ	**Fitzroy Crossi**	**9.21**	**169**	S	Sn	15 42 23.1	-10
	1.0nm,0.3s,baz=276,slow=19,SNR=12						
WRA	**Warramunga Arr**	**14.87**	**138**	P	**Pn**	**15 42 05.0**	**-1.7**
	0.1nm,0.3s,baz=321,slow=13,SNR=11						
WRA				S	Sn	15 44 36.3	-15
	0.1nm,0.3s,baz=261,slow=18,SNR=2.8						
ASAR	**Alice Springs**	**17.47**	**148**	P	**Pn**	**15 42 39.8**	**+0.8**
	0.0nm,0.3s,baz=319,slow=12,SNR=1.6						
ASAR				S	Sn	15 45 40.5	-13
	0.1nm,0.3s,baz=320,slow=24,SNR=1.7						
MKAR	**Makanchi Array**	**66.74**	**330**	P	**P**	**15 49 22.5**	**+0.4**
	0.2nm,0.5s,baz=142,slow=6.2,SNR=3.8						

IDC 27 16:08:05.2±8.2, 26.30S×28.72E, h0km, mb1 2.8/1, mb1mx2.8/31, mbtmp2.8/1, ML1.9/1, Error ellipse: s-maj=85.3km s-min=55.1km az=142.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**3.84**	**232**	Pn	Pn	16 09 06.4	+0.6
	0.1nm,0.3s,baz=50,slow=15,SNR=1.9						
BOSA				Pg	Pb	16 09 15.2	+1.2
	0.1nm,0.3s,baz=49,slow=16,SNR=1.5						
BOSA				Sn	Sn	16 09 51.6	-0.1
	0.4nm,0.3s,baz=112,slow=15,SNR=1.7						
BOSA				Lg	Lg	16 10 07.2	
	0.7nm,0.3s,baz=64,slow=22,SNR=4.9						
I47ZA	**BOSHOF INFRASO**	**3.86**	**232**	*i*		16 36 50.0	
	baz=55,slow=322,SNR=0.9						
I35NA	**TSUMEB INFRASO**	**12.47**	**302**	*i*		17 24 40.0	
	baz=127,slow=287,SNR=1.1						

ANF 27 16:10:03.7±0.4, 44.35N×105.44W, ML3.8/11, Error ellipse: s-maj=4.5km s-min=3.1km az=167.0, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.04**	**102**	P	Pg	16 10 23.7	+0.1
	baz=284						
RSSD				S	Sg	16 10 37.4	+0.4
	baz=284						
K22A	**Casper**	**1.88**	**205**	P	Pn	16 10 37.7	+0.5
	baz=24,SNR=155						
K22A				Sb	Sg	16 11 05.2	+1.3
	baz=24						
LAO	**LASA Array**	**2.40**	**347**	P	Pn	16 10 44.7	+0.3
	baz=166						
LAO				Sb	Sb	16 11 18.4	+0.4
	baz=166						
RLMT	**Red Lodge**	**2.83**	**287**	P	Pn	16 10 50.5	0.0
	baz=104						
BW06	**Boulder Array**	**3.39**	**244**	P	Pn	16 10 58.4	+0.3
	baz=61,SNR=17						
BW06				Sb	Sb	16 11 48.8	+2.3
	baz=61						
N23A	**Red Feather La**	**3.48**	**186**	P	Pn	16 11 00.3	+1.0
	baz=6.0,SNR=10						
DGMT	**Dagmar**	**4.21**	**11**	Pb	Pb	16 11 18.8	+0.2
	baz=192						
DGMT				Sb	Sb	16 12 14.0	+4.0
	baz=192						
BOZ	**Bozeman (W)**	**4.56**	**288**	P	Pn	16 11 14.1	-0.1
	baz=104						
O20A	**White River Ci**	**4.70**	**207**	P	Pn	16 11 17.7	+1.6
	baz=25,SNR=22						
O20A				Sb	Sg	16 12 30.4	-4.3
	baz=25						
EGMT	**Eagleton**	**4.74**	**322**	P	Pn	16 11 15.8	-0.7
	baz=139						
MDND	**Maddock**	**5.36**	**47**	Sb	Sb	16 12 48.3	+5.4
	baz=231						
MSO	**Missoula**	**6.46**	**296**	P	Pn	16 11 39.4	-0.7
	baz=110						
DUG	**Dugway, Tooele**	**6.87**	**235**	P	Pn	16 11 46.7	+0.9
	baz=50						

*MOS **27** 16:31:12.3±1.1, 15.60S×177.80W, h10km, mb5.3/21, MS5.2/40, Error ellipse: s-maj=9.3km s-min=6.9km az=136.1*
*IDC **27** 16:31:12.8±0.4, 15.58S×177.92W, h0km, mb4.7/27, mb1 4.8/29, mb1mx4.7/36, mbtmp4.7/29, ML3.4/2, MS5.0/31, Ms1 5.0/31, ms1mx4.8/40, Error ellipse: s-maj=16.9km s-min=12.0km az=124.0*
*NEIC **27** 16:31:13.6±1.2, 15.57S±0.08×177.83W±0.07, h10km±1km, mb5.4/239, Ms_20 5.3/577, Mwb5.6/29, Mwc5.7(GCMT), Error ellipse: s-maj=13.8km s-min=10.4km az=156.0*
*NEIC **27** 16:31:13.5, 15.58S×177.83W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=0.10; Mθθ=0.72; Mϕϕ=-0.61; Mrθ=-0.07; Mrϕ=3.14; Mθϕ=0.50; Fault plane solution: M0 3.25000×10^17 NP1:ϕs=186.16000°, δ=87.64000°, λ=-171.30000°. NP2:ϕs=95.79000°, δ=81.31000°, λ=-2.39000°. Principal axes: T 3.2844, Plg=4.0000°, Azm=321.0000°; N -0.0632, Plg=81.0000°, Azm=201.0000°; P -3.2212, Plg=8.0000°, Azm=51.0000°;*
*GCMT **27** 16:31:19.6±0.1, 15.55S±0.01×177.84W±0.01, h23km, MW=5.7/160, Moment Tensor Solution. s134, c260; s160, c327; Duration: 1s7 Moment tensor: Scale 10^17 Nm; Mrr=0.23±.05; Mθθ=-1.17±.05; Mϕϕ=0.94±.04; Mrθ=0.12±.08; Mθϕ=4.47±.04; Mϕr=-0.33±.07; Best double couple: M0=4.60600×10^17 NP1:ϕs=263.00000°, δ=86.00000°, λ=-1.00000°. NP2:ϕs=353.00000°, δ=89.00000°, λ=-176.00000°. Principal axes: T 4.4870, Plg=2.0000°, Azm=128.0000°; N 0.2390, Plg=86.0000°, Azm=2.0000°; P -4.7240, Plg=3.0000°, Azm=218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **27** 16:31:20.1, 15.53S×177.80W, h23km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=0.20; Mθθ=-1.28; Mϕϕ=1.08; Mrθ=-0.22; Mϕϕ=4.58; Mϕr=-0.25; Fault plane solution: M0 4.74000×10^17 NP1:ϕs=173.00000°, δ=87.00000°, λ=177.00000°. NP2:ϕs=263.00000°, δ=87.00000°, λ=3.00000°. Principal axes: T 4.6557, Plg=4.0000°, Azm=128.0000°; N 0.1726, Plg=86.0000°, Azm=304.0000°; P -4.8283, Plg=0.0000°, Azm=38.0000°;*

**ISC 27 16:31:14.4±0.2, 15.66S±0.04×177.82W±0.04, h10km, n922, σ1s69/670, mb5.3/182, MS5.3/356, 15C-17D, F

NIUE	Niue	8.27	115	Pn		Pn		16 33 14.7	+0.3	
KNTN	Kanton	14.14	26	Pn		Pn		16 34 31.3	-3.6	
DZM	Mont Dzumac	16.20	244	*e*Pn		P		16 35 04.0	-1.5	
	476nm,1.6s									
DZM				*e*LR		LR		16 38 51.0		
	comp=Z,13µm,24.7s									
DZM	Mont Dzumac	16.20	244	Pn		Pn		16 35 03.4	+1.1	
	0.3nm,0.3s,baz=68,slow=17,SNR=13									
DZM				LR		LR		16 40 20.4		
	comp=Z,8µm,19.5s,baz=74,slow=34									
DZM	Mont Dzumac	16.20	244	Pn		Pn		16 35 02.5	+0.2	
DZM				IAmb		IAmb		16 35 10.8		
	comp=Z,619nm,1.8s									
RAR	Rarotonga	17.98	111	Pn		P		16 35 27.1	+1.9	
	comp=Z,0.7nm,0.3s,baz=239,slow=11,SNR=4.9									
RAR	Rarotonga	17.98	111	P		P		16 35 24.7	-0.5	
RAR				pmax		pmax				
	comp=Z,964nm,1.9s									
RAR	Rarotonga	17.98	111			P		16 35 24.7	-0.5	
NFK	Norfolk Island	18.71	222	P		Pn		16 35 36.0	+2.5	
	baz=19									
TARA	Tarawa	19.22	331	P		P		16 35 36.5	-2.4	
OUZ	Omahuta	20.95	200	P		P		16 35 55.4	-2.0	
MXZ	Matakaoa Point	22.09	188	P		P		16 36 09.7	0.0	
HNR	Honiara	22.56	283	P		P		16 36 12.9	-2.1	
	comp=Z,47nm,0.8s,baz=108,slow=3.2,SNR=1.7									
HNR				LR		LR		16 43 28.6		
	comp=Z,21µm,21.5s,baz=118,slow=33									
HNR	Honiara	22.56	283	P		P		16 36 14.4	-0.6	
HNR				pmax		pmax				
	comp=Z,433nm,1.2s									
HNR				MLR		MLR				
	comp=Z,19µm,20.0s									
HNR	Honiara	22.56	283	P		P		16 36 14.4	-0.6	
URZ	Urewera	22.95	190	P		P		16 36 18.2	-0.8	
	comp=Z,169nm,1.1s,baz=25,slow=5.2,SNR=16									
URZ				LR		LR		16 43 49.3		
	comp=Z,7µm,20.9s,baz=36,slow=33									
URZ	Urewera	22.95	190	P		P		16 36 17.9	-1.0	
HIZ	Hauiti	23.66	194	P		P		16 36 26.3	+0.2	
BKZ	Black Stump Fm	23.95	191	P		P		16 36 26.8	-2.0	
BKZ				IAMs_20		IAMs_20		16 45 50.5		
	comp=Z,8µm,18.0s									
BFZ	Birch Farm	25.46	191	P		P		16 36 41.2	-1.4	
MSWZ	Moikau Station	26.36	192	P		P		16 36 49.5	-1.3	
SNZO	South Karori	26.37	193	P		P		16 36 50.1	-0.7	
BHW	Baring Head	26.43	192	P		P		16 36 50.7	-0.6	
QRZ	Quartz Range	26.44	197	P		P		16 36 50.3	-1.2	
QRZ				IAMs_20		IAMs_20		16 46 23.5		
	comp=Z,7µm,19.0s									
PLWZ	Palliser	26.51	192	P		P		16 36 51.1	-1.0	
NNZ	Nelson	26.59	195	P		P		16 36 49.9	-2.8	
NNZ				IAmb		IAmb		16 36 57.8		
	comp=Z,124nm,1.0s									
TUWZ	Tuamarina	26.65	194	P		P		16 36 51.0	-2.4	
CMWZ	Cape Campbell	26.89	193	P		P		16 36 54.2	-1.3	
BSWZ	Blackbirch Sta	26.94	194	P		P		16 36 55.4	-0.6	
PAE	Paea	27.12	98	*e*P		P		16 37 02.9	+5.1	
	comp=Z,10nm,0.7s									
PAE	Paea	27.12	98	*e*T		T		17 05 03.9		
	comp=Z,5.7nm,0.3s									
PPT2	Papeete2	27.12	98	*e*P		P		16 37 03.4	+5.5	
	comp=Z,101nm,1.3s									
PPT2				*e*S		S		16 41 39.7	+3.2	
	comp=Z,657nm,24.2s									
PPT2				*e*LQ		LQ		16 42 34.7		
	comp=Z,17µm,29.5s									
PPT2				*e*LR		LR		16 43 49.8		
	comp=Z,7µm,26.0s									
PPT2	Papeete2	27.12	98	*e*T		T		17 04 57.2		
	comp=Z,7.1nm,0.3s									
PPT	Papeete	27.12	98	LR		LR		16 44 54.2		
	comp=Z,2µm,21.1s,baz=268,slow=30									
THZ	Tophouse	27.22	195	P		P		16 36 58.4	-0.1	
THZ				IAMs_20		IAMs_20		16 47 11.1		
	comp=Z,6µm,19.0s									
TIAR	Tiarei	27.34	98	*e*P		P		16 37 05.3	+5.5	
	comp=Z,23nm,1.1s									
TIAR	Tiarei	27.34	98	*e*T		T		17 05 12.2		
	comp=Z,4.2nm,0.3s									
TVO	Taravao	27.43	98	*e*P		P		16 37 06.2	+5.5	
	comp=Z,39nm,1.2s									
TVO	Taravao	27.43	98	*e*T		T		17 05 16.7		
	comp=Z,6nm,0.3s									
KHZ	Kahutara	27.68	194	P		P		16 37 01.1	-1.5	
KHZ				IAmb		IAmb		16 37 18.0		
	comp=Z,88nm,0.8s									
KHZ				IAMs_20		IAMs_20		16 45 52.4		
	comp=Z,6µm,21.0s									
TBI	Tubuai	27.77	110	*e*S		S		16 41 50.5	+4.1	
	comp=Z,1µm,25.5s									
TBI				*e*LQ		LQ		16 42 57.3		
	comp=Z,9µm,30.8s									
TBI				*e*LR		LR		16 44 10.3		
	comp=Z,10µm,30.8s									
TBI	Tubuai	27.77	110	*e*T		T		17 05 52.0		
	comp=Z,15nm,0.2s									
KWAJ	Kwajalein Atol	28.27	328	IAMs_20		IAMs_20		16 45 25.8		
	comp=Z,7µm,20.0s									
LTZ	Lake Taylor	28.34	195	P		P		16 37 06.7	-1.8	
LTZ				IAMs_20		IAMs_20		16 48 17.7		
	comp=Z,6µm,19.0s									
PMOR	Pomariorio Ree	28.86	93	*e*P		P		16 37 18.8	+5.4	
	comp=Z,276nm,1.2s									
PMOR	Pomariorio Ree	28.86	93	*e*T		T		17 07 15.0		
	comp=Z,3.8nm,0.2s									
OXZ	Oxford	28.91	195	P		P		16 37 11.4	-2.1	
VAH	Vaihoa	29.09	93	*e*P		P		16 37 20.7	+5.2	
	comp=Z,143nm,1.2s									
MQZ	McQueen's Vall	29.11	194	P		P		16 37 16.0	+0.7	
MQZ				IAmb		IAmb		16 37 23.4		
	comp=Z,81nm,1.3s									
RPZ	Rata Peaks	29.53	196	P		P		16 37 19.1	0.0	
	comp=Z,16nm,0.8s,baz=339,slow=1.0,SNR=13									
RPZ	Rata Peaks	29.53	196	P		P		16 37 18.6	-0.5	
RPZ				IAmb		IAmb		16 37 35.8		
	comp=Z,81nm,0.9s									
FOZ	Fox Glacier	29.72	198	P		P		16 37 19.6	-1.1	
EIDS	Eidsvold	30.62	247	P		P		16 37 30.2	+1.2	
	baz=31,SNR=5.3									
EIDS	Eidsvold	30.62	247			P		16 37 28.1	-0.9	
EIDS				IAmb		IAmb		16 37 33.3		
	comp=Z,48nm,1.2s									
ODZ	Otahua Downs	30.87	196	P		P		16 37 30.9	0.0	
ODZ				IAMs_20		IAMs_20		16 48 27.7		
	comp=Z,5µm,21.0s									
WKZ	Wanaka	31.13	198	P		P		16 37 33.4	+0.1	
WKZ				IAmb		IAmb		16 37 50.2		
	comp=Z,81nm,1.0s									
WKZ				IAMs_20		IAMs_20		16 50 29.7		
	comp=Z,6µm,22.0s									
ARMA	Armidale	31.60	237	P		P		16 37 38.6	+1.0	
	baz=32,SNR=5.5									
ARMA	Armidale	31.60	237	P		P		16 37 37.5	-0.1	
ARMA				IAmb		IAmb		16 37 43.2		
	comp=Z,77nm,1.1s									
RABL	Rabaul	31.64	288	IAMs_20		IAMs_20		16 48 22.9		
	comp=Z,8µm,22.0s									
MLZ	Mavora Lakes	31.90	199	P		P		16 37 39.6	-0.3	
MLZ				IAMs_20		IAMs_20		16 51 04.8		
	comp=Z,5µm,19.0s									
DCZ	Deep Cove	32.29	200	P		P		16 37 42.7	-0.7	
WHZ	Wether Hill Ro	32.42	199	P		P		16 37 44.0	-0.6	
PATS	Pohnpei	32.53	312	P		P		16 37 48.1	+2.3	
	baz=33,SNR=3.5									
PATS	Pohnpei	32.53	312	IAMs_20		IAMs_20		16 50 50.2		
	comp=Z,4µm,18.0s									
RMQ	Roma	32.90	245	P		P		16 37 49.9	+0.8	
	baz=33,SNR=14									
PYZ	Puysegur Point	33.07	200	IAMs_20		IAMs_20		16 51 45.8		
	comp=Z,4µm,19.0s									
MGCD	Mangrove Creek	33.08	232	P		P		16 37 51.6	+1.2	
	baz=33,SNR=5.4									
JOHN	Johnston Islan	33.21	15	P		P		16 37 51.1	-0.5	
CTAO	Charters Tower	34.43	257	P		P		16 38 02.1	-0.4	
CTAO				pmax		pmax				
	comp=Z,70nm,1.1s									
CTAO				MLR		MLR				
	comp=Z,2µm,22.0s									
CTAO	Charters Tower	34.43	257	P		P		16 38 02.1	-0.4	
CTAO				IAmb		IAmb		16 38 10.9		
	comp=Z,70nm,1.1s									
PMG	Port Moresby	34.72	276	IAMs_20		IAMs_20		16 49 54.8		
	comp=Z,4µm,21.0s									
CNB	Canberra Magne	35.27	230	P		P		16 38 10.2	+0.7	
	baz=35,SNR=8.4									
CAN	Canberra	35.54	230	P		P		16 38 11.7	-0.2	
CAN				pmax		pmax				
	comp=Z,96nm,1.4s									
CAN				MLR		MLR				
	comp=Z,3µm,21.0s									
CAN	Canberra	35.54	230	P		P		16 38 11.7	-0.2	
CAN				IAmb		IAmb		16 38 39.2		
	comp=Z,96nm,1.4s									
MTSU	Mount Surprise	36.27	261	P		P		16 38 18.3	0.0	
	baz=36,SNR=24									
CMSA	Cobar Meteorol	36.78	238	P		P		16 38 22.4	-0.1	
	baz=37,SNR=45									
QLP	Quilpie	36.90	247	P		P		16 38 23.2	-0.4	
	baz=37,SNR=13									
TAOE	Nuku Hiva Isla	37.38	84	*e*T		T		17 17 52.3		
	comp=Z,35nm,0.2s									
COEN	Coen	37.72	267	P		P		16 38 31.8	+1.2	
	baz=38,SNR=5.2									
COEN	Coen	37.72	267	P		P		16 38 30.2	-0.4	
TOO	Toolangi	39.05	229	P		P		16 38 41.6	-0.1	
	baz=39,SNR=28									
TOO	Toolangi	39.05	229	P		P		16 38 41.5	-0.1	
TOO				pmax		pmax				
	comp=Z,217nm,1.3s									
TOO				MLR		MLR				
	comp=Z,3µm,20.0s									
TOO	Toolangi	39.05	229	P		P		16 38 41.5	-0.1	
MOO	Moorlands	40.13	221	P		P		16 38 51.8	+1.2	
	baz=40,SNR=4.1									
STKA	Stephens Creek	40.24	239	P		P		16 38 51.2	-0.3	
	comp=Z,75nm,1.1s,baz=64,slow=8.3,SNR=22									
STKA				LR		LR		16 54 03.9		
	comp=Z,2µm,20.7s,baz=71,slow=34									
STKA	Stephens Creek	40.24	239	P		P		16 38 51.6	0.0	
	baz=40,SNR=63									
STKA	Stephens Creek	40.24	239	P		P		16 38 51.2	-0.3	
STKA				pmax		pmax				
	comp=Z,29nm,1.2s									
STKA				MLR		MLR				
	comp=Z,700nm,20.0s									
STKA	Stephens Creek	40.24	239	P		P		16 38 51.2	-0.3	
TAU	Tasmania Unive	40.30	220	P		P		16 38 50.5	-1.4	
TAU				pmax		pmax				
	comp=Z,167nm,1.8s									
TAU				MLR		MLR				
	comp=Z,5µm,20.0s									
TAU	Tasmania Unive	40.30	220	P		P		16 38 50.5	-1.4	
TAU				IAmb		IAmb		16 39 02.3		
	comp=Z,167nm,1.8s									
TAU				IAMs_20		IAMs_20		16 52 07.8		
	comp=Z,5µm,20.0s									
QIS	Mount Isa	40.68	257	P		P		16 38 57.1	+1.7	
	baz=41,SNR=10									
RKT	Rikitea	40.98	107	*e*S		S		16 45 14.8	+4.8	
RKT	comp=Z,1µm,26.2s									
				*e*LQ		LQ		16 48 36.5		
RKT	comp=Z,5µm,28.5s									
				*e*LR		LR		16 50 19.8		
	comp=Z,6µm,27.2s									
KHU	Kahuku	40.99	33	P		P		16 38 55.9	-2.2	
KHU				pmax		pmax				
	comp=Z,156nm,1.2s									
KHU	Kahuku	40.99	33	P		P		16 38 55.9	-2.2	
ARPS	Mount Arapiles	41.46	232	P		P		16 39 01.4	-0.1	
	baz=42,SNR=21									
HPAH	Hawaii Prepara	41.60	32	P		P		16 39 01.9	-1.0	
OPA	Opana	41.89	28	IAMs_20		IAMs_20		16 53 20.2		
	comp=Z,3µm,20.0s									
HLK	Halekala	41.93	31	IAMs_20		IAMs_20		16 52 52.4		
	comp=Z,3µm,19.0s									
HTT	Hallett	42.80	238	P		P		16 39 12.5	-0.1	
	baz=43,SNR=21									
GENI	Genyem	43.36	283	P		P		16 39 16.1	-1.2	
	comp=Z,2µmcomp=Z,70nm,1.4s									
BBOO	Buckleboo	45.01	239	P		P		16 39 29.8	-0.5	
	baz=45,SNR=13									
BBOO	Buckleboo	45.01	239	P		P		16 39 29.4	-1.0	
BBOO				IAmb		IAmb		16 39 34.6		
	comp=Z,85nm,1.2s									
WR0	Warramunga Arr	45.45	257	P		P		16 39 32.9	-1.1	
WR9	Warramunga Arr	45.47	257	IAMs_20		IAMs_20		16 55 14.3		
	comp=Z,3µm,22.0s									
WR8	Warramunga Arr	45.48	257	IAMs_20		IAMs_20		16 55 14.6		
	comp=Z,2µm,19.0s									
WB0	Warramunga Arr	45.59	258	P		P		16 39 33.6	-1.5	
WB0				IAmb		IAmb		16 39 41.8		
	comp=Z,69nm,1.4s									
WC3	Warramunga Arr	45.60	257	P		P		16 39 37.0	+1.7	
	baz=46									
WB2	Warramunga Arr	45.62	257	P		P		16 39 33.8	-1.7	
WB2				IAmb		IAmb		16 39 47.4		
	comp=Z,45nm,1.1s									
WRAB	Tennant Creek	45.63	257	*ce*P		P		16 39 34.9	-0.5	
WRAB				pmax		pmax				
	comp=Z,89nm,2.5s									
WRAB	Tennant Creek	45.63	257	P		P		16 39 34.0	-1.4	
WRAB				IAmb		IAmb		16 39 47.3		
	comp=Z,44nm,1.1s									
WB1	Warramunga Ar.	45.63	257	IAMs_20		IAMs_20		16 55 18.5		
	comp=Z,2µm,18.0s									
WRA	Warramunga Arr	45.64	257	P		P		16 39 33.8	-1.8	
	comp=Z,21nm,1.1s,baz=88,slow=7.8,SNR=37									
WRA				PcP		PcP		16 41 14.6	+0.7	
	comp=Z,7.7nm,1.0s,baz=82,slow=3.3,SNR=4.7									
WRA				LR		LR		16 55 30.7		
	comp=Z,2µm,21.9s,baz=100,slow=32									
WRA	Warramunga Arr	45.64	257	P		P		16 39 34.4	-1.1	
WRA								16 41 14.6		
WRA				pmax		pmax				
	comp=Z,2.0nm,1.0s									
WRA	Warramunga Arr	45.64	257	P		P		16 39 34.4	-1.1	
AS31	Alice Springs	45.98	252	P		P		16 39 36.2	-2.0	
ASAR	Alice Springs	45.98	252	P		P		16 39 36.9	-1.4	
	comp=Z,20nm,0.9s,baz=84,slow=8.2,SNR=90									
ASAR				PcP		PcP		16 41 14.8	-0.3	
	comp=Z,8.5nm,1.0s,baz=106,slow=3.4,SNR=1.0									
ASAR				LR		LR		16 58 31.6		
	comp=Z,2µm,19.3s,baz=92,slow=36									
ASAR	Alice Springs	45.98	252	P		P		16 39 36.4	-1.8	
ASAR	Alice Springs	45.98	252	P		P		16 39 36.4	-1.8	
GUMO	Guam	46.97	306	LR		LR		16 58 28.7		
	comp=Z,689nm,19.7s,baz=128,slow=35									
KDU	Kakadu	48.20	267	P		P		16 39 56.6	+1.0	
	baz=48,SNR=9.5									
MTN	Manton Dam	49.47	266	P		P		16 40 05.7	+0.4	
	baz=50,SNR=8.3									
MTN	Manton Dam	49.47	266	P		P		16 40 04.2	-1.1	
WRKA	Warakurna	51.10	250	P		P		16 40 16.6	-1.1	
	baz=51,SNR=58									
KNRA	Kununurra	51.31	262	P		P		16 40 21.8	+2.5	
	baz=51,SNR=5.5									
KNRA	Kununurra	51.31	262	P		P		16 40 18.6	-0.7	
FORT	Forrest	51.50	243	P		P		16 40 18.8	-1.8	
FORT				IAmb		IAmb		16 40 39.0		
	comp=Z,50nm,0.8s									
FITZ	Fitzroy Crossi	53.99	259	LR		LR		17 04 07.2		
	comp=Z,1µm,18.2s,baz=90,slow=37									
FITZ	Fitzroy Crossi	53.99	259	P		P		16 40 41.4	+2.3	
	baz=54,SNR=13									
SOEI	Soe	56.66	269	P		P		16 40 58.5	-0.1	
	comp=Z,4µmcomp=Z,425nm,1.2s									
SOEI	Soe	56.66	269	P		P		16 40 58.3	-0.3	
JCJ	Chichijima	57.56	317	LR		LR		17 02 37.7		
	comp=Z,1µm,19.6s,baz=126,slow=33									
PSA00	Pilbara Seismi	59.05	254	P		P		16 41 14.7	-0.4	
PSA00	Pilbara Seismi	59.05	254	P		P		16 41 14.2	-0.9	
PSA00				IAmb		IAmb		16 41 22.2		
	comp=Z,67nm,1.1s									
MEEK	Meekatharra	59.77	248	P		P		16 41 22.0	+1.9	
	baz=60,SNR=5.2									
KLBR	Kellerberrin	60.35	242	P		P		16 41 25.8	+1.8	
	baz=60,SNR=4.7									
GTOI	Gorontalo	60.61	280	P		P		16 41 25.8	-0.2	
	comp=Z,322nmcomp=Z,21nm,1.2s									
NWAO	Narrogin (SRO)	60.78	241	P		P		16 41 25.1	-1.8	
NWAO				pmax		pmax				
	comp=Z,168nm,1.8s									
NWAO				MLR		MLR				
	comp=Z,4µm,22.0s									
NWAO	Narrogin (SRO)	60.78	241	P		P		16 41 25.1	-1.8	
NWAO	Narrogin (SRO)	60.78	241	P		P		16 41 25.0	-1.8	
NWAO				IAmb		IAmb		16 41 32.9		
	comp=Z,146nm,1.9s									
MORW	Morawa	61.92	245	P		P		16 41 36.3	+1.7	
	baz=62,SNR=4.2									
VNDA	Vanda	62.72	185	P		P		16 41 40.1	+0.9	
	comp=Z,13nm,1.1s,baz=5.3,slow=7.3,SNR=15									
VNDA				LR		LR		17 05 33.3		
	comp=Z,424nm,18.2s,baz=26,slow=33									
VNDA	Vanda	62.72	185	P		P		16 41 39.6	+0.4	
VNDA				pmax		pmax				
	comp=Z,42nm,1.5s									
VNDA	Vanda	62.72	185	P		P		16 41 39.6	+0.4	
VNDA				IAmb		IAmb		16 41 51.6		
	comp=Z,42nm,1.4s									
PLAI	Plampang	63.12	268	P		P		16 41 41.6	-1.3	
	comp=Z,1µmcomp=Z,82nm,1.1s									
JHJ	Hachijo jima 2	63.18	321	LR		LR		17 08 29.8		
	comp=Z,757nm,18.0s,baz=150,slow=36									
MJAR	Matsushiro Arr	66.46	322	P		P		16 42 02.4	-1.8	
	comp=Z,1.5nm,0.8s,baz=164,slow=9.9,SNR=4.0									
MJAR				LR		LR		17 05 27.5		
	comp=Z,312nm,20.7s,baz=265,slow=31									
MAJO	Matsushiro	66.47	322	*i* P		P		16 42 02.4	-1.8	
MAJO				pmax		pmax				
	comp=Z,20nm,1.6s									
MAT	Matsushiro	66.47	322	P		P		16 42 05.6	+1.4	
MAT				S		S		16 50 53.2	-1.7	
YUK	Yuzh-Kuril'sk	68.03	333	P		P		16 42 12.7	-1.3	
YUK				S		S		16 51 11.5	-1.8	
YUK				MLR		MLR				
	comp=Z,2µm,21.0s									
YUK				MLR		MLR				
	comp=N,2µm,22.0s									
YUK				MLR		MLR				
	comp=E,1µm,18.0s									
KUR	Kuril'sk	68.13	335	P		P		16 42 24.5	+10	
KUR				*e*S		S		16 51 22.7	+8.2	
KUR				MLR		MLR				
	comp=N,865nm,15.0s									
KUR				MLR		MLR				
	comp=Z,741nm,15.0s									
CASY	Casey	68.41	204	P		P		16 42 15.9	-0.1	
SMY	Shemya	68.46	355	P		P		16 42 15.6	-0.8	
SMY				pmax		pmax				
	comp=Z,107nm,1.1s									
SMY	Shemya	68.46	355	P		P		16 42 15.6	-0.8	
KKM	Kota Kinabalu	68.77	283	P		P		16 42 17.1	-2.3	
KKM				IAmb		IAmb		16 42 41.2		
	comp=Z,42nm,1.2s									
JNU	Nakatsue	68.93	315	P		P		16 42 20.8	+0.9	
	comp=Z,14nm,0.9s,baz=66,slow=19,SNR=3.1									
JNU				LR		LR		17 07 30.8		
	comp=Z,603nm,20.9s,baz=120,slow=32									
JNU	Nakatsue	68.93	315	P		P		16 42 19.8	-0.1	
JNU				IAmb		IAmb		16 42 44.0		
	comp=Z,46nm,1.3s									
SKR	Severo-Kuril's	69.91	343	*e*P		P		16 42 22.0	-3.4	
SKR				*e*S		S		16 51 41.0	+5.8	
SKR				MLR		MLR				
	comp=Z,500nm,14.0s									
SKR				MLR		MLR				
	comp=Z,400nm,16.0s									
PET	Petropavlovsk	71.35	345	*e*P		P		16 42 35.6	+1.4	
PET				*e*S		S		16 51 56.6	+4.6	
PET				*e*PS		PnS		16 52 24.5	+3.8	
PET				*e*SS		SS		16 56 32.3	+5.4	
SBUM	Sibu	71.43	278	P		P		16 42 36.0	+0.4	
PEA0B	Petropavlovsk-	71.67	345	P		P		16 42 35.9	-0.3	
PEA0B				pmax		pmax				
	comp=Z,155nm,1.5s									
PEA0B	Petropavlovsk-	71.67	345	P		P		16 42 35.9	-0.3	
PETK	Petropavlovsk-	71.67	345	P		P		16 42 34.4	-1.7	
	comp=Z,5.6nm,0.8s,baz=138,slow=8.8,SNR=4.4									
PETK				LR		LR		17 14 29.8		
	comp=Z,647nm,18.0s,baz=160,slow=36									
YSS	Yuzh-Sakhalins	71.68	333	*e*P		P		16 42 37.8	+1.5	
YSS				*e*				16 42 58.3		
YSS				*e*S		S		16 51 56.7	+0.7	
YSS				pmax		pmax				
	comp=Z,10.0nm,1.2s									
YSS				smax		smax				
	comp=N,300nm,15.7s									
YSS				MLR		MLR				
	comp=Z,500nm,17.0s									
YSS				MLR		MLR				
	comp=N,400nm,15.0s									
YSS	Yuzh-Sakhalins	71.68	333	P		P		16 42 35.6	-0.7	
YSS				IAmb		IAmb		16 42 52.6		
	comp=Z,42nm,1.2s									
KSM	Kuching	72.98	276	P		P		16 42 47.0	+2.1	
KSRS	Korea Array	73.42	318	P		P		16 42 46.5	-0.4	
	comp=Z,1.9nm,1.0s,baz=122,slow=6.7,SNR=6.7									
KSRS				LR		LR		17 09 14.0		
	comp=Z,1µm,21.8s,baz=124,slow=31									
MCCM	Marconi Confer	74.25	42	IAMs_20		IAMs_20		17 07 06.8		
	comp=Z,1µm,21.0s									
INCN	Inchon	74.28	317	IAMs_20		IAMs_20		17 08 53.9		
	comp=Z,1µm,22.0s									
QSPA	South Pole Qui	74.38	180	P		P		16 42 52.5	+0.1	
QSPA				IAmb		IAmb		16 43 10.6		
	comp=Z,59nm,1.1s									
QSPA	South Pole Qui	74.38	180	IAMs_20		IAMs_20		17 09 29.0		
	comp=Z,1µm,22.0s									
SAO	San Andreas Ge	74.42	44	P		P		16 42 52.5	-0.3	
SAO				pmax		pmax				
	comp=

ISA pmax pmax
comp=Z,41nm,1.5s
ISA Isabella, Lake 75.86 46 P P 16 43 01.2 0.0
ISA IAmb IAmb 16 43 15.7
comp=Z,41nm,1.4s
WDC Whiskeytown Da 75.87 40 P P 16 43 00.7 -0.4
WDC pmax pmax
comp=Z,26nm,1.3s
WDC MLR MLR
comp=Z,1µm,20.0s
WDC Whiskeytown Da 75.87 40 P P 16 43 00.7 -0.4
WDC IAMs_20 IAMs_20 17 08 54.4
comp=Z,1µm,20.0s
MONP2 Monument Peak 75.93 50 P P 16 43 01.3 -0.6
baz=241
ORV Oroville 75.94 42 P P 16 43 01.2 -0.4
ORV pmax pmax
comp=Z,21nm,1.4s
ORV MLR MLR
comp=Z,1µm,20.0s
ORV Oroville 75.94 42 P P 16 43 01.2 -0.4
ORV IAMs_20 IAMs_20 17 08 34.4
comp=Z,1µm,20.0s
AFDM Forest Hills D 75.94 42 P P 16 43 00.9 -0.7
N02D Trinity Center 76.00 40 P P 16 43 02.1 +0.1
baz=234
IKP In-Ko-Pah, Jac 76.04 50 P P 16 43 02.0 -0.4
baz=241
KDAK Kodiak Island 76.09 14 P P 16 43 01.7 -0.2
comp=Z,7.2nm,0.9s,baz=188,slow=11,SNR=4.0
KDAK Kodiak Island 76.09 14 P P 16 43 01.1 -0.9
KDAK pmax pmax
comp=Z,29nm,1.2s
KDAK Kodiak Island 76.09 14 P P 16 43 01.1 -0.9
KDAK IAmb IAmb 16 43 12.1
comp=Z,29nm,1.1s
L02E Cave Junction 76.14 38 P P 16 43 03.3 +0.7
baz=234
M02C Callahan 76.15 39 P P 16 43 03.7 +0.9
baz=234
O03E Paynes Creek 76.17 41 P P 16 43 03.0 +0.1
baz=235
PFO Pinyon Flats O 76.26 49 LR LR 17 09 28.0
comp=Z,2µm,19.9s,baz=262,slow=30
LRMC Laurel Mtn Rad 76.32 47 P P 16 43 03.2 -0.8
baz=239
K02D Willamette Mer 76.42 38 P P 16 43 04.1 -0.2
baz=233
YBH Yreka Blue Hor 76.43 39 P P 16 43 04.5 +0.1
comp=Z,8.4nm,0.8s,baz=172,slow=3.4,SNR=12
YBH LR LR 17 09 21.0
comp=Z,1µm,21.0s,baz=216,slow=30
YBH Yreka Blue Hor 76.43 39 P P 16 43 04.6 +0.1
YBH pmax pmax
comp=Z,20nm,1.1s
YBH MLR MLR
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 76.43 39 P P 16 43 04.6 +0.1
YBH IAMs_20 IAMs_20 17 09 20.2
comp=Z,2µm,20.0s
MDPB Devils Postpil 76.48 44 P P 16 43 04.9 -0.1
OMMB Old Mammoth Mi 76.52 44 P P 16 43 05.0 -0.4
CWC Cottonwood Cre 76.53 46 P P 16 43 05.4 +0.2
baz=239
MDJ Mudanjiang 76.69 324 IAMs_20 IAMs_20 17 12 43.4
comp=Z,1µm,20.0s
WAKR Walker 76.70 43 P P 16 43 05.9 -0.3
WAKR IAmb IAmb 16 43 20.1
comp=Z,66nm,1.6s
MPMC Manual Prospec 76.75 46 P P 16 43 06.4 -0.1
baz=239
BELC Belle Mtn. Jos 76.78 49 P P 16 43 06.4 -0.3
baz=241
HUMO Hull Mountain 76.80 38 P P 16 43 06.5 +0.1
HUMO IAmb IAmb 16 43 29.7
comp=Z,29nm,1.2s
HUMO IAMs_20 IAMs_20 17 09 19.8
comp=Z,1µm,21.0s
LPIG La Paz 76.83 60 LR LR 17 08 22.2
comp=Z,593nm,20.9s,baz=261,slow=29
GSC Goldstone, Bar 76.85 47 P P 16 43 06.4 -0.5
baz=240
GSC Goldstone, Bar 76.85 47 P P 16 43 06.4 -0.5
GSC pmax pmax
comp=Z,16nm,0.5s
GSC Goldstone, Bar 76.85 47 P P 16 43 06.4 -0.5
GSC IAmb IAmb 16 45 08.7
comp=Z,16nm,0.5s
PNTR Pine Nut 76.91 43 P P 16 43 07.2 -0.2
PNTR IAmb IAmb 16 43 21.9
comp=Z,28nm,1.0s
HEC Hector,Ludlow 76.95 48 P P 16 43 07.3 -0.2
baz=240
L04D Klamath Falls 76.96 39 P P 16 43 07.1 -0.3
baz=235
NJ2 Nanjing 76.97 309 *e*P **P 16 43 10.5 +3.0**
NJ2 S **S 16 52 55.8 -0.2**
NJ2 sS **sS 16 53 02.0 +1.7**
NJ2 SS **SS 16 57 58.5 +5.2**
NJ2 pmax pmax
comp=Z,11nm,0.9s
NJ2 pmax pmax
comp=Z,220nm,5.3s
NJ2 LR LR
comp=Z,380nm,17.2s
NJ2 LR LR
comp=Z,370nm,15.7s
NJ2 LR LR
comp=Z,520nm,19.9s
VCNR Virginia City 76.99 43 P P 16 43 07.7 -0.1
VCNR IAmb IAmb 16 45 04.8
comp=Z,18nm,0.4s
M04C Macdoel 76.99 40 P P 16 43 08.1 +0.5
baz=235
BC3 Big Chuckawall 77.01 49 P P 16 43 06.9 -1.0
baz=241
YERR Yerington 77.09 43 P P 16 43 07.5 -0.9
GLA Glamis 77.18 50 P P 16 43 07.9 -0.9
GLA pmax pmax
comp=Z,29nm,1.3s
GLA Glamis 77.18 50 P P 16 43 07.9 -0.9
LHV Little Huntoon 77.19 44 P P 16 43 08.2 -0.4
LHV IAmb IAmb 16 43 32.6
comp=Z,38nm,1.2s
I03D Drain, OR 77.21 37 P P 16 43 09.1 +0.5
baz=234
GRAC Grapevine Rang 77.31 46 P P 16 43 09.8 +0.4
baz=239
GRNR Gornyy 77.32 332 ⇑ *i*P **P 16 43 08.9 -0.2**
GRNR pmax pmax
comp=Z,4.0nm,1.0s
GRNR MLR MLR
comp=E,400nm,18.0s
PAHR Pah Rah Range 77.39 42 P P 16 43 09.0 -0.9
FURC Furnace Creek, 77.39 46 P P 16 43 09.6 -0.1
baz=240
GMRC Granite Mounta 77.41 48 P P 16 43 09.9 -0.2
baz=241
NVAR Mina Array Bea 77.42 44 P P 16 43 10.4 +0.2
comp=E,4.9nm,0.8s,baz=228,slow=9.7,SNR=48
NVAR LR LR 17 09 12.0
comp=E,830nm,22.0s,baz=248,slow=29
NVAR Mina Array Bea 77.42 44 P P 16 43 09.1 -1.2
IRM Iron Mountain 77.48 49 P P 16 43 10.7 +0.3
baz=241
PIX Pinacate 77.52 52 P P 16 43 09.0 -1.6
NV11 Mina Array Sit 77.52 44 P P 16 43 09.5 -1.2
NV11 IAmb IAmb 16 43 24.4
comp=Z,64nm,1.6s
TUQ Turquoise Moun 77.54 48 P P 16 43 11.0 +0.2
baz=240
J04D Umpqua Nationa 77.67 38 P P 16 43 12.1 +0.6
baz=234
COR Corvallis 77.76 37 P P 16 43 09.3 -2.4
COR pmax pmax
comp=Z,43nm,1.2s
COR MLR MLR
comp=Z,1µm,22.0s
COR Corvallis 77.76 37 P P 16 43 09.3 -2.4
COR IAmb IAmb 16 43 59.2
comp=Z,43nm,1.2s
COR Corvallis 77.76 37 IAMs_20 IAMs_20 17 09 06.3
comp=Z,1µm,22.0s
I04A Tendick Farm, 77.81 38 P P 16 43 12.3 +0.2
baz=234
113A Mohawk Valley, 77.84 51 P P 16 43 10.7 -1.7
113A IAmb IAmb 16 43 26.2
comp=Z,44nm,1.5s
113A IAMs_20 IAMs_20 17 09 01.2
comp=Z,2µm,22.0s
KVN Kaiserville 77.88 43 P P 16 43 11.1 -1.7
KVN pmax pmax
comp=Z,15nm,1.1s
KVN Kaiserville 77.88 43 P P 16 43 11.1 -1.7
CNPM China Poot 77.97 13 P P 16 43 12.1 -0.5
CNPM IAmb IAmb 16 43 24.6
comp=Z,34nm,1.0s
MOD Modoc Plateau 78.01 40 P P 16 43 11.8 -1.5
MOD IAMs_20 IAMs_20 17 10 24.0
comp=Z,1µm,20.0s
H04D Lebanon 78.05 37 P P 16 43 13.6 +0.3
baz=234
TPNV Topopah Spring 78.06 46 P P 16 43 13.2 -0.6
baz=240
TPNV Topopah Spring 78.06 46 P P 16 43 12.4 -1.4
TPNV pmax pmax
comp=Z,43nm,1.8s
TPNV MLR MLR
comp=Z,1µm,18.0s
TPNV Topopah Spring 78.06 46 P P 16 43 12.4 -1.4
TPNV IAmb IAmb 16 43 31.6
comp=Z,43nm,1.8s
TPNV IAMs_20 IAMs_20 17 12 21.7
comp=Z,1µm,18.0s
K05A Summer Lake 78.11 39 P P 16 43 13.8 -0.2
G03D McMinnville, O 78.16 36 P P 16 43 14.2 +0.3
baz=233
214A Organ Pipe Nat 78.19 52 P P 16 43 14.2 -0.2
baz=243
214A Organ Pipe Nat 78.19 52 P P 16 43 14.0 -0.4
214A IAmb IAmb 16 43 33.7
comp=Z,48nm,1.6s
J05D Fort Rock, OR 78.22 39 P P 16 43 14.9 +0.4
baz=235
BRLK Bradley Lake 78.27 14 P P 16 43 12.5 -1.7
BRLK IAmb IAmb 16 43 26.0
comp=Z,42nm,1.1s
PDMCI Parker Dam,Lak 78.28 49 P P 16 43 15.3 +0.5
baz=242
DL2 Dalian 78.36 316 P P 16 43 15.5 +0.4
DL2 S **S 16 53 13.5 +2.6**
DL2 pmax pmax
comp=Z,27nm,1.0s
DL2 pmax pmax
comp=Z,200nm,4.4s
DL2 LR LR
comp=Z,670nm,17.3s
DL2 LR LR
comp=Z,370nm,20.5s
DL2 LR LR
comp=Z,790nm,22.2s
H04A Detroit Lake 78.46 37 P P 16 43 13.8 -1.9
H04A IAmb IAmb 16 43 24.6
comp=Z,34nm,1.3s
KLR Kul'dur 78.48 329 P P 16 43 17.6 +2.0
comp=Z,0.4nm,0.3s,baz=231,slow=1.8,SNR=4.6
KLR Kul'dur 78.48 329 *ce*P **P 16 43 16.1 +0.5**
KLR pmax pmax
comp=Z,5.0nm,1.2s
RSO Redoubt South 78.50 12 P P 16 43 14.5 -1.2
SVW2 Sparrevohn 78.53 11 P P 16 43 14.7 -1.0
SVW2 IAmb IAmb 16 43 31.1
comp=Z,57nm,1.8s
SHPR Sheep Range 78.60 47 P P 16 43 15.8 -1.0
CN2 Changchun 78.60 322 *e*P **P 16 43 18.0 +1.6**
CN2 *e*S **S 16 53 15.5 +2.2**
CN2 SS **SS 16 58 23.0 +5.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,500nm,21.0s
SNY Shenyang 78.65 319 ⇓ P **P 16 43 14.5 -2.1**
SNY S **S 16 53 16.0 +2.2**
SNY pmax pmax
comp=Z,120nm,3.9s
SNY LR LR
comp=Z,340nm,14.2s
SNY LR LR
comp=Z,400nm,14.2s
SNY LR LR
comp=Z,600nm,19.0s
PINE Pine Mountain 78.68 38 P P 16 43 16.2 -0.9
PINE IAmb IAmb 16 43 26.7
comp=Z,39nm,1.1s
I05D Terrebonne, OR 78.76 38 P P 16 43 17.5 +0.2
baz=235
W13A Hualapai Mount 78.84 49 IAMs_20 IAMs_20 17 11 01.5
comp=Z,1µm,20.0s
SEW Seward 78.90 14 P P 16 43 16.5 -1.1
SEW IAmb IAmb 16 43 32.3
comp=Z,30nm,1.0s
F04A Amboy 79.06 36 P P 16 43 15.6 -3.3
F04A IAmb IAmb 16 43 45.0
comp=Z,34nm,1.1s
QIZ Qiongzhong 79.07 293 P P 16 43 17.5 -2.0
QIZ S **S 16 53 17.3 -2.0**
QIZ pmax pmax
comp=Z,29nm,1.5s
QIZ LR LR
comp=Z,480nm,13.4s
QIZ LR LR
comp=Z,910nm,18.9s
QIZ LR LR
comp=Z,1µm,19.6s
QIZ Qiongzhong 79.07 293 IAMs_20 IAMs_20 17 13 04.9
comp=Z,2µm,22.0s
PRN Pahroc Range 79.12 46 P P 16 43 18.3 -1.2
PRN IAmb IAmb 16 43 38.7
comp=Z,39nm,1.4s
NLWA Neilton Lookou 79.14 34 IAMs_20 IAMs_20 17 11 57.6
comp=Z,1µm,19.0s
MA2 Magadan 79.19 344 P P 16 43 18.7 -0.6
comp=Z,5.3nm,0.9s,baz=165,slow=6.9,SNR=2.1
MA2 Magadan 79.19 344 *i*P **P 16 43 19.7 +0.4**
MA2 pmax pmax
comp=Z,24nm,1.3s
MA2 Magadan 79.19 344 P P 16 43 19.1 -0.1
MA2 IAmb IAmb 16 43 29.1
comp=Z,46nm,1.4s
MA2 IAMs_20 IAMs_20 17 11 53.8
comp=Z,1µm,22.0s
R11A Troy Canyon, C 79.21 45 P P 16 43 20.3 +0.2
baz=240
R11A Troy Canyon, C 79.21 45 P P 16 43 18.9 -1.2
G05D Wamic, OR 79.29 37 P P 16 43 20.4 +0.2
baz=235
SPU Mount Spurr 79.30 12 P P 16 43 17.9 -1.9
GAMB Gambell 79.32 3 P P 16 43 18.5 -1.3
GAMB IAmb IAmb 16 43 28.2
comp=Z,40nm,1.2s
WVOR Wild Horse Val 79.33 40 P P 16 43 19.0 -1.6
WVOR pmax pmax
comp=Z,19nm,1.3s
WVOR MLR MLR
comp=Z,2µm,21.0s
WVOR Wild Horse Val 79.33 40 P P 16 43 19.0 -1.6
WVOR IAMs_20 IAMs_20 17 10 46.1
comp=Z,2µm,21.0s
E04D Cinebar 79.35 35 P P 16 43 21.2 +0.8
baz=234
F05D White Salmon 79.58 36 P P 16 43 22.2 +0.5
baz=235
D04E Lakebay 79.61 35 P P 16 43 22.0 +0.2
baz=233
D03D Eldon 79.65 34 P P 16 43 22.2 +0.2
baz=233
I07A Izee 79.70 39 P P 16 43 22.0 -0.6
WHN Wuhan 79.75 306 ⇓ P P 16 43 32.5 +10
WHN Wuhan 79.75 306 S SKSac 16 53 38.5 -1.7
WHN LR LR
comp=N,580nm,13.9s
WHN LR LR
comp=E,870nm,15.3s
WHN LR LR
comp=Z,2µm,18.8s
TUC Tucson 79.88 52 P P 16 43 24.6 +0.8
baz=244
TUC Tucson 79.88 52 P P 16 43 22.7 -1.1
TUC pmax pmax
comp=Z,60nm,1.6s
TUC MLR MLR
comp=Z,2µm,22.0s
TUC Tucson 79.88 52 P P 16 43 22.7 -1.1
TUC IAmb IAmb 16 43 38.0
comp=Z,60nm,1.6s
TUC Tucson 79.88 52 IAMs_20 IAMs_20 17 09 32.4
comp=Z,2µm,22.0s
D05A Enumclaw 80.04 35 P P 16 43 24.1 -0.1
D05A IAmb IAmb 16 43 48.8
comp=Z,59nm,1.1s
BBB Bella Bella 80.08 28 P P 16 43 24.0 -0.2
comp=Z,5.6nm,0.8s,baz=253,slow=4.3,SNR=4.3
TIA Tai'an 80.17 312 P P 16 43 33.0 +7.9
TIA Tai'an 80.17 312 S S 16 53 42.5 +12
TIA Tai'an 80.17 312 SS SS 16 58 31.3 -10
TIA pmax pmax
comp=Z,4.0nm,0.3s
TIA pmax pmax
comp=Z,49nm,2.1s
TIA LR LR
comp=N,430nm,19.9s
TIA LR LR
comp=E,600nm,19.9s
TIA LR LR
comp=Z,770nm,22.1s
TTA Tatalina 80.17 10 P P 16 43 24.3 -0.3
TTA pmax pmax
comp=Z,45nm,1.1s
TTA Tatalina 80.17 10 P P 16 43 24.3 -0.3
TTA IAmb IAmb 16 43 34.0
comp=Z,45nm,1.1s
LCMT Little Creek M 80.19 47 P P 16 43 23.7 -1.7
EYAK Cordova Ski Ar 80.20 15 P P 16 43 23.7 -1.0
PMR Palmer 80.29 13 P P 16 43 23.9 -1.3
PMR Palmer 80.29 13 P P 16 43 23.9 -1.3
X16A Lo Mia Camp, P 80.31 50 P P 16 43 25.9 -0.3
X16A IAMs_20 IAMs_20 17 11 10.7
comp=Z,1µm,20.0s
CCUT Cedar City 80.36 47 P P 16 43 26.4 0.0
PSUT Pine Spring 80.49 46 P P 16 43 25.6 -1.4
KNB Kanab 80.50 47 P P 16 43 26.5 -0.6
KNB pmax pmax
comp=Z,29nm,1.5s
KNB Kanab 80.50 47 P P 16 43 26.4 -0.6
GHO Glory Hole Cre 80.50 13 P P 16 43 24.6 -1.8
U15A North Rim 80.60 48 P P 16 43 26.6 -1.3
U15A IAmb IAmb 16 43 50.7
comp=Z,46nm,1.4s
U15A IAMs_20 IAMs_20 17 12 05.2
comp=Z,1µm,21.0s
B05A Bryant 80.62 34 P P 16 43 27.8 +0.6
baz=234
319A Douglas 80.65 54 P P 16 43 27.1 -0.9
319A IAmb IAmb 16 43 42.3
comp=Z,53nm,1.5s
319A IAMs_20 IAMs_20 17 11 11.7
comp=Z,2µm,20.0s
G08A Pilot Rock 80.69 38 P P 16 43 27.4 -0.5
CUT Chulitna 80.77 13 P P 16 43 26.8 -0.9
baz=207
LTY Liberty 80.82 35 P P 16 43 27.8 -0.7
WUAZ Wupatki 80.85 49 P P 16 43 27.6 -1.4
WUAZ IAMs_20 IAMs_20 17 11 49.9
comp=Z,1µm,20.0s
MESA MESA 80.92 17 P P 16 43 28.4 -0.5
SCM Sheep Creek Mo 80.92 14 P P 16 43 27.8 -0.9
SCM pmax pmax
comp=Z,23nm,1.1s
SCM Sheep Creek Mo 80.92 14 P P 16 43 27.8 -0.9
KLU Klutina 80.96 15 P P 16 43 28.0 -1.0
HAWA Hanford 80.97 37 IAMs_20 IAMs_20 17 12 42.2
comp=Z,1µm,20.0s
PKCU Pink Cliffs 81.05 47 P P 16 43 29.1 -1.2
CRQM Cirque 81.06 16 P P 16 43 28.6 -1.0
CRQM IAmb IAmb 16 43 48.8
comp=Z,38nm,1.2s
YAH Yahtse 81.13 17 P P 16 43 29.2 -0.8
YAH IAmb IAmb 16 43 40.9
comp=Z,37nm,1.1s
ISLE Juniper Island 81.16 17 P P 16 43 28.4 -1.6
ISLE IAmb IAmb 16 43 44.9
comp=Z,33nm,1.0s
ISLE IAMs_20 IAMs_20 17 11 17.1
comp=Z,1µm,22.0s
E08A Dider Farm, El 81.30 37 P P 16 43 30.1 -0.8
E08A IAmb IAmb 16 43 49.7
comp=Z,82nm,1.8s
TABL Table Mountain 81.36 17 P P 16 43 30.4 -0.8
TABL IAmb IAmb 16 43 41.2
comp=Z,38nm,1.0s
VRDI Verde Repeater 81.37 16 P P 16 43 30.1 -1.2
MTPU Mount Pierson 81.42 47 P P 16 43 31.0 -1.3
M24K Tolsona, Glenn 81.43 14 P P 16 43 30.5 -0.9
baz=211
BMO Blue Mountains 81.44 39 P P 16 43 30.8 -1.1
BMO pmax pmax
comp=Z,27nm,1.4s
BMO MLR MLR
comp=Z,2µm,18.0s
BMO Blue Mountains 81.44 39 P P 16 43 30.8 -1.1
GLB Gilahina Butte 81.46 16 P P 16 43 30.3 -1.2
BALM Baldy 81.51 17 P P 16 43 30.1 -1.8
BALM IAmb IAmb 16 43 52.3
comp=Z,28nm,1.1s
BKNI Bangkinang 81.56 273 P P 16 43 32.7 -0.4
comp=Z,2µmcomp=Z,121nm,1.2s
MFID Camas Ranch 81.61 41 P P 16 43 30.3 -2.5
MFID IAMs_20 IAMs_20 17 12 19.2
comp=Z,1µm,21.0s
MCARA McCarthy VSAT 81.62 16 P P 16 43 30.5 -1.8
MCARA IAmb IAmb 16 43 53.5
comp=Z,43nm,1.3s
KTH Kantishna Hill 81.67 12 P P 16 43 30.6 -2.0
KTH IAmb IAmb 16 43 44.4
comp=Z,33nm,1.2s
D08A Wollman Farm, 81.69 36 P P 16 43 32.5 -0.5
TRF Thorofare Moun 81.70 12 P P 16 43 31.2 -1.7
TRF IAmb IAmb 16 43 47.1
comp=Z,35nm,0.9s
TRF IAMs_20 IAMs_20 17 12 23.4
comp=Z,940nm,20.0s
BARN Barnard Glacie 81.72 17 P P 16 43 32.1 -1.0
BARN IAmb IAmb 16 43 44.4
comp=Z,32nm,1.0s
SEY Seymchan 81.73 347 P P 16 43 31.4 -1.4
comp=Z,4.8nm,0.9s,baz=155,slow=6.2,SNR=12
SEY Seymchan 81.73 347 *i*P **P 16 43 31.7 -1.1**
CTGM Chitina Glacie 81.74 17 P P 16 43 32.1 -1.0
CTGM IAmb IAmb 16 43 44.9
comp=Z,23nm,1.0s
E09A Wood Farm, Sta 81.84 37 P P 16 43 32.6 -1.2
JIS Juneau Island 81.84 22 IAMs_20 IAMs_20 17 11 23.4
comp=Z,1µm,22.0s
BESE Bessie Mountai 81.90 21 P P 16 43 32.6 -1.3
BESE IAmb IAmb 16 44 05.1
comp=Z,52nm,1.5s
RND Reindeer 81.96 13 P P 16 43 32.7 -1.5
RND pmax pmax
comp=Z,27nm,0.8s
RND MLR MLR
comp=Z,1µm,22.0s
RND Reindeer 81.96 13 P P 16 43 32.7 -1.5
RND IAmb IAmb 16 43 45.8
comp=Z,26nm,0.8s
DUG Dugway, Tooele 81.99 45 P P 16 43 34.1 -0.8
baz=242
DUG Dugway, Tooele 81.99 45 P P 16 43 33.2 -1.8
DUG pmax pmax
comp=Z,39nm,1.8s
DUG MLR MLR
comp=Z,900nm,22.0s
DUG Dugway, Tooele 81.99 45 P P 16 43 33.1 -1.8
DHY Denali Highway 81.99 13 P P 16 43 32.6 -1.8
DHY IAmb IAmb 16 43 59.4
comp=Z,42nm,1.7s
F10A Beach Ranch, E 82.09 38 P P 16 43 33.4 -1.8
BPAW Bear Paw Mtn. 82.15 12 P P 16 43 33.1 -2.0
B08A Colville Reser 82.18 35 P P 16 43 34.2 -1.4
B08A IAmb IAmb 16 43 43.2
comp=Z,32nm,1.4s
MCK McKinley 82.23 13 P P 16 43 34.0 -1.5

MCK	McKinley	82.23	13	P	P	16 43 34.0	-1.5		
121A	Cookes Peak, D	82.28	53	P	P	16 43 37.5	+0.9		
	baz=246								
SKAG	Skagway	82.41	20	IAMs_20	IAMs_20	17 11 39.2			
	comp=Z,1µm,22.0s								
C09A	Chrisman Ranch	82.47	36	P	P	16 43 35.9	-1.1		
C09A				IAmb	IAmb	16 43 45.0			
	comp=Z,30nm,1.4s								
BWN	Browne	82.52	12	IAMs_20	IAMs_20	17 12 58.8			
	comp=Z,1µm,21.0s								
HLID	Hailey	82.57	41	P	P	16 43 38.6	+0.6		
	baz=240								
BJI	Beijing	82.60	315	P	P	16 43 40.0	+2.1		
BJI				S	S	16 54 01.5	+6.3		
BJI				SS	SS	16 59 23.3	+5.9		
BJI				pmax	pmax				
	comp=Z,5.0nm,0.6s								
BJI				pmax	pmax				
	comp=Z,190nm,3.9s								
BJI				LR	LR				
	comp=Z,410nm,19.6s								
BJI				LR	LR				
	comp=Z,550nm,17.7s								
BJI				LR	LR				
	comp=Z,760nm,24.0s								
TMUT	Trail Mountain	82.67	46	P	P	16 43 36.8	-2.0		
IPM	Ipoh	82.71	277	P	P	16 43 36.0	-3.1		
HYT	Haines Junctio	82.75	19	P	P	16 43 37.9	-0.5		
HVU	Hansel Valley	82.76	43	P	P	16 43 38.0	-1.0		
HVU				pmax	pmax				
	comp=Z,45nm,1.5s								
HVU	Hansel Valley	82.76	43	P	P	16 43 38.0	-1.0		
NEA2	Nenana	82.97	12	P	P	16 43 38.1	-1.2		
	baz=208								
EPT	El Paso	82.97	54	IAMs_20	IAMs_20	17 12 37.3			
	comp=Z,1µm,21.0s								
SRU	San Rafael Swe	83.06	46	P	P	16 43 39.7	-0.9		
SRU				pmax	pmax				
	comp=Z,88nm,1.7s								
SRU	San Rafael Swe	83.06	46	P	P	16 43 39.7	-0.9		
WRH	Wood River Hil	83.06	13	P	P	16 43 38.6	-1.1		
P17A	Butcher Ranch,	83.07	46	P	P	16 43 39.4	-1.3		
JLU	Jordanelle	83.10	45	P	P	16 43 40.4	-0.4		
RIDG	Independent Ri	83.15	14	P	P	16 43 38.8	-1.6		
RIDG				IAmb	IAmb	16 44 00.5			
	comp=Z,19nm,0.9s								
HDA	Harding Lake	83.25	13	P	P	16 43 40.5	-0.3		
	baz=210								
HDA	Harding Lake	83.25	13	P	P	16 43 39.6	-1.2		
HDA				IAmb	IAmb	16 43 53.4			
	comp=Z,51nm,1.4s								
DOT	Dot Lake	83.26	14	P	P	16 43 39.9	-1.0		
DOT				IAmb	IAmb	16 44 00.1			
	comp=Z,38nm,1.5s								
CCB	Clear Creek Bu	83.28	13	P	P	16 43 39.3	-1.5		
CCB				IAmb	IAmb	16 43 50.3			
	comp=Z,45nm,1.1s								
KULM	Kulim	83.30	277	P	P	16 43 40.0	-2.2		
BCAR	Beaver Creek A	83.34	16	P	P	16 43 40.1	-1.3		
TCUT	Toone Canyon	83.36	44	P	P	16 43 40.9	-1.3		
NEW	Newport	83.37	36	P	P	16 43 40.9	-0.8		
	baz=238								
MDM	Murphy Dome	83.46	12	P	P	16 43 40.6	-1.3		
MDM				IAmb	IAmb	16 44 02.4			
	comp=Z,38nm,1.1s								
COLA	College	83.47	12*d*	*i*P	P	16 43 40.3	-1.5		
COLA				pmax	pmax				
	comp=Z,34nm,1.0s								
HWUT	Hardware Ranch	83.48	44	P	P	16 43 41.1	-1.6		
HWUT				IAmb	IAmb	16 44 05.0			
	comp=Z,41nm,1.5s								
HWUT				IAMs_20	IAMs_20	17 15 48.1			
	comp=Z,822nm,18.0s								
ZEA	Zeya	83.51	331	*e*P	P	16 43 44.2	+1.9		
ZEA				*e*S	S	16 54 09.0	+5.1		
ZEA				pmax	pmax				
	comp=Z,64nm,1.8s								
ZEA				smax	smax				
	comp=N,300nm,12.0s								
DLBC	Dease Lake	83.55	23	P	P	16 43 41.9	-0.7		
	comp=N,1.4nm,0.5s,baz=226,slow=4.9,SNR=5.4								
DLBC	Dease Lake	83.55	23	P	P	16 43 41.8	-0.7		
DLBC				IAmb	IAmb	16 43 54.8			
	comp=Z,23nm,1.2s								
SCRK	Sand Creek	83.55	14	P	P	16 43 41.8	-0.7		
	baz=213								
LENM	Lemitar	83.56	52	P	P	16 43 42.4	-0.9		
Y22D	IRIS PASSCAL I	83.56	52	IAMs_20	IAMs_20	17 12 22.8			
	comp=Z,1µm,20.0s								
BCYI	Bear Canyon	83.57	41	P	P	16 43 41.0	-2.2		
IL31		83.58	13	P	P	16 43 41.0	-1.4		
ILAR	Eielson Array	83.58	13	P	P	16 43 41.2	-1.2		
	comp=Z,6.6nm,1.0s,baz=229,slow=6.3,SNR=38								
ILAR				LR	LR	17 14 11.2			
	comp=Z,386nm,21.6s,baz=219,slow=31								
ILAR	Eielson Array	83.58	13	P	P	16 43 40.5	-1.9		
ILAR	Eielson Array	83.58	13	P	P	16 43 40.5	-1.9		
PV05	Paradox Valley	83.61	48	P	P	16 43 43.1	-0.4		
MVCO	Mesa Verde	83.68	49	IAMs_20	IAMs_20	17 11 54.6			
	comp=Z,1µm,22.0s								
POKR	Poker Plat Res	83.77	12	P	P	16 43 42.3	-1.1		
	baz=209								
PV10	Paradox Valley	83.79	47	P	P	16 43 42.8	-1.6		
PV10				IAmb	IAmb	16 44 06.5			
	comp=Z,44nm,1.3s								
PV14	Lion Creek, Pa	83.80	47	P	P	16 43 43.4	-1.1		
PV14				IAMs_20	IAMs_20	17 15 36.7			
	comp=Z,1µm,18.0s								
PV19	Morning Glory	83.80	48	P	P	16 43 43.5	-1.0		
PV19				IAmb	IAmb	16 43 58.7			
	comp=Z,33nm,1.2s								
PV19				IAMs_20	IAMs_20	17 15 35.7			
	comp=Z,1µm,18.0s								
PV17	East Wray Mesa	83.80	48	P	P	16 43 42.7	-1.8		
PV17				IAmb	IAmb	16 44 02.2			
	comp=Z,33nm,1.2s								
BNM	Barren Site	83.82	52	P	P	16 43 43.2	-1.4		
PV18	Skein Mesa, Pa	83.82	48	P	P	16 43 44.0	-0.6		
PV18				IAmb	IAmb	16 44 06.8			
	comp=Z,24nm,1.2s								
PV18				IAMs_20	IAMs_20	17 15 30.4			
	comp=Z,1µm,20.0s								
PV20	West Nyswonger	83.82	48	P	P	16 43 43.6	-1.0		
PV20				IAmb	IAmb	16 44 02.3			
	comp=Z,30nm,1.1s								
MNTX	Cornudas Mount	83.83	55	P	P	16 43 45.1	+0.6		
	baz=248								
MNTX	Cornudas Mount	83.83	55	P	P	16 43 43.8	-0.7		
MNTX				IAMs_20	IAMs_20	17 13 43.0			
	comp=Z,1µm,20.0s								
PV23	Carpenter Ridg	83.84	47	P	P	16 43 44.5	-0.3		
PV23				IAmb	IAmb	16 43 56.3			
	comp=Z,26nm,0.9s								
PV16	Nyswonger Mesa	83.84	48	P	P	16 43 44.2	-0.5		
PV16				IAmb	IAmb	16 43 58.1			
	comp=Z,48nm,1.5s								
PV13	Radium Mtn., P	83.85	48	P	P	16 43 43.4	-1.4		
PV13				IAmb	IAmb	16 43 58.1			
	comp=Z,42nm,1.5s								
PV13				IAMs_20	IAMs_20	17 17 47.6			
	comp=Z,1µm,19.0s								
PV03	Paradox Valley	83.87	48	P	P	16 43 43.6	-1.2		
PV03				IAMs_20	IAMs_20	17 16 11.6			
	comp=Z,1µm,19.0s								
PV11	David Mesa, Pa	83.87	48	P	P	16 43 43.4	-1.4		
PV04	Paradox Valley	83.89	48	P	P	16 43 43.5	-1.4		
PV04				IAmb	IAmb	16 44 15.0			
	comp=Z,29nm,1.2s								
PV21	Cone Mtn., Par	83.91	47	P	P	16 43 42.8	-2.3		
PV12	Saucer Basin,	83.93	48	P	P	16 43 43.3	-1.9		
PV01	Paradox Valley	84.02	48	P	P	16 43 43.9	-1.7		
PV01				IAmb	IAmb	16 43 59.8			
	comp=Z,36nm,1.3s								
PV22	Blue Mesa, Par	84.03	47	P	P	16 43 44.9	-0.7		
PV22				IAmb	IAmb	16 44 08.1			
	comp=Z,28nm,1.2s								
K27K	Chicken	84.06	15	P	P	16 43 45.4	+0.5		
	baz=214								
PV07	Paradox Valley	84.09	48	P	P	16 43 44.5	-1.5		
MCMT	McKenzie Canyo	84.17	40	P	P	16 43 45.3	-0.9		
PV15	Paradox Valley	84.17	48	P	P	16 43 45.1	-1.3		
PV15				IAmb	IAmb	16 44 08.7			
	comp=Z,41nm,1.4s								
ANMO	Albuquerque	84.26	51	P	P	16 43 47.1	+0.2		
	comp=Z,0.2nm,0.7s,baz=151,slow=13,SNR=12								
ANMO	Albuquerque	84.26	51	P	P	16 43 46.9	+0.1		
	baz=246								
ANMO	Albuquerque	84.26	51	P	P	16 43 45.8	-1.1		
ANMO				pmax	pmax				
	comp=Z,56nm,1.5s								
ANMO				MLR	MLR				
	comp=Z,1µm,20.0s								
ANMO	Albuquerque	84.26	51	P	P	16 43 45.8	-1.1		
ANMO	Albuquerque	84.26	51	IAMs_20	IAMs_20	17 14 30.3			
	comp=Z,1µm,20.0s								
PSI	Prapat	84.26	275	LR	LR	17 21 58.8			
	comp=Z,412nm,20.5s,baz=91,slow=36								
TX31	Lajitas Ar. Si	84.32	58	P	P	16 43 46.8	-0.4		
TX32	Lajitas Array	84.32	58	P	P	16 43 47.4	+0.2		
TXAR	Lajitas Array	84.32	58	P	P	16 43 48.0	+0.9		
	comp=Z,9.4nm,0.8s,baz=222,slow=6.2,SNR=91								
TXAR				LR	LR	17 14 10.4			
	comp=Z,1µm,19.6s,baz=0.0,slow=31								
TXAR	Lajitas Array	84.32	58	P	P	16 43 47.4	+0.2		
TXAR	Lajitas Array	84.32	58	P	P	16 43 47.4	+0.2		
AHID	Auburn Hatcher	84.32	43	P	P	16 43 46.2	-0.8		
AHID				IAmb	IAmb	16 43 55.4			
	comp=Z,34nm,1.4s								
RDMU	Red Mountain	84.36	45	P	P	16 43 45.5	-1.8		
GYA	Guiyang	84.43	299	*e*P	P	16 43 54.8	+7.0		
GYA				PP	PP	16 46 52.3	-11		
GYA	Guiyang	84.43	299	S	S	16 54 17.5	+2.9		
GYA	Guiyang	84.43	299	SS	SS	16 59 54.5	+9.1		
GYA				pmax	pmax				
	comp=Z,7.0nm,0.9s								
GYA				pmax	pmax				
	comp=Z,210nm,4.7s								
GYA				LR	LR				
	comp=N,270nm,17.6s								
GYA				LR	LR				
	comp=E,230nm,17.7s								
GYA				LR	LR				
	comp=Z,320nm,17.5s								
MSO	Missoula	84.48	38	P	P	16 43 47.4	-0.2		
	baz=240								
MSO	Missoula	84.48	38	P	P	16 43 46.7	-0.9		
MSO				IAMs_20	IAMs_20	17 15 46.1			
	comp=Z,1µm,20.0s								
DLMT	Dillon	84.58	40	P	P	16 43 47.1	-1.0		
DLMT				IAmb	IAmb	16 44 13.0			
	comp=Z,32nm,1.1s								
TPAW	Teton Pass	84.75	42	P	P	16 43 47.8	-1.4		
TPAW				IAmb	IAmb	16 44 06.2			
	comp=Z,34nm,1.1s								
REDW	Red Top Meadow	84.75	42	P	P	16 43 48.3	-1.0		
FXWY	Fox Creek	84.77	42	P	P	16 43 47.9	-1.4		
FXWY				IAmb	IAmb	16 44 03.2			
	comp=Z,24nm,1.3s								
UNM	Universidad Na	84.78	68	IAMs_20	IAMs_20	17 13 22.1			
	comp=Z,1µm,18.0s								
GDL2	Guadalupe Moun	84.82	55	P	P	16 43 48.2	-1.4		
HIA	Hailar	84.88	324	IAMs_20	IAMs_20	17 18 36.0			
	comp=Z,873nm,20.0s								
LRM	Limekiln Ridge	84.89	40	P	P	16 43 49.1	-0.8		
EGAK	Eagle	84.91	15	P	P	16 43 48.5	-0.7		
EGAK				IAmb	IAmb	16 44 06.1			
	comp=Z,30nm,0.9s								
IMW	Indian Meadow	84.94	42	P	P	16 43 49.0	-1.2		
IMW				IAmb	IAmb	16 43 59.5			
	comp=Z,20nm,0.9s								
LOHW	Long Hollow	85.03	42	P	P	16 43 49.3	-1.3		
LOHW				IAmb	IAmb	16 43 59.0			
	comp=Z,43nm,1.6s								
QLMT	Earthquake Lak	85.06	41	P	P	16 43 49.6	-1.1		
O20A	White River Ci	85.09	46	P	P	16 43 50.6	-0.4		
	baz=245								
O20A	White River Ci	85.09	46	P	P	16 43 50.1	-0.9		
O20A				IAmb	IAmb	16 44 05.3			
	comp=Z,41nm,1.4s								
O20A				IAMs_20	IAMs_20	17 14 14.9			
	comp=Z,1µm,21.0s								
SLVN	Son La	85.10	294	IAMs_20	IAMs_20	17 17 02.4			
	comp=Z,1µm,21.0s								
S22A	4UR Ranch, Cre	85.11	49	P	P	16 43 51.4	+0.2		
	baz=246								
S22A	4UR Ranch, Cre	85.11	49	P	P	16 43 50.5	-0.7		
S22A				IAmb	IAmb	16 44 05.8			
	comp=Z,36nm,1.2s								
S22A				IAMs_20	IAMs_20	17 14 29.5			
	comp=Z,1µm,20.0s								
COLD	Coldfoot	85.11	10	P	P	16 43 49.9	-0.3		
	baz=207								
COLD	Coldfoot	85.11	10	P	P	16 43 49.6	-0.5		
COLD				IAmb	IAmb	16 44 04.6			
	comp=Z,23nm,1.0s								
GSI	Gunungsitoli	85.16	273	P	P	16 43 52.0	+0.4		
	comp=Z,3µmcomp=Z,56nm,1.6s								
GSI	Gunungsitoli	85.16	273	P	P	16 43 50.4	-1.2		
YHB	Horse Butte	85.17	41	P	P	16 43 50.3	-0.9		
FLWY	Flagg Ranch	85.18	42	P	P	16 43 50.6	-0.8		
YPP	Pitchstone Pla	85.20	42	P	P	16 43 51.0	-0.5		
YHL	Hebgen Lake	85.22	41	P	P	16 43 51.5	-0.1		
YMR	Madison River	85.28	41	P	P	16 43 51.8	-0.1		
BOZ	Bozeman (W)	85.29	40	P	P	16 43 51.6	-0.2		
	baz=242								
BOZ	Bozeman (W)	85.29	40	P	P	16 43 51.0	-0.8		
BOZ				pmax	pmax				
	comp=Z,24nm,1.3s								
BOZ				MLR	MLR				
	comp=Z,2µm,20.0s								
BOZ	Bozeman (W)	85.29	40	P	P	16 43 51.0	-0.8		
BOZ				IAmb	IAmb	16 44 00.3			
	comp=Z,24nm,1.3s								
BOZ				IAMs_20	IAMs_20	17 14 58.8			
	comp=Z,1µm,20.0s								
BW06	Boulder Array	85.34	43	P	P	16 43 51.4	-0.8		
	baz=244								
BW06	Boulder Array	85.34	43	P	P	16 43 50.5	-1.7		
BW06				IAmb	IAmb	16 43 60.0			
	comp=Z,36nm,1.5s								
PD31	Pinedale Array	85.34	43	P	P	16 43 50.9	-1.3		
PD31				IAmb	IAmb	16 43 60.0			
	comp=Z,33nm,1.5s								
PDAR	Pinedale Array	85.34	43	P	P	16 43 51.8	-0.4		
	comp=Z,2.1nm,0.7s,baz=212,slow=2.3,SNR=20								
PDAR				LR	LR	17 14 34.4			
	comp=Z,645nm,21.2s,baz=256,slow=30								
PDAR	Pinedale Array	85.34	43	P	P	16 43 50.4	-1.8		
XAN	Xi'an	85.36	307	P	P	16 43 57.8	+5.6		
XAN				pP	pwP	16 44 09.3	+12		
XAN				PP	PP	16 47 01.8	-8.7		
XAN	Xi'an	85.36	307	S	S	16 54 25.5	+2.1		
XAN	Xi'an	85.36	307	SS	SS	17 00 06.5	+7.9		
XAN				pmax	pmax				
	comp=Z,12nm,1.3s								
XAN				pmax	pmax				
	comp=Z,230nm,5.9s								
XAN				LR	LR				
	comp=N,270nm,15.2s								
XAN				LR	LR				
	comp=E,380nm,18.1s								
XAN				LR	LR				
	comp=Z,840nm,26.7s								
H17A	Grant Village	85.40	42	P	P	16 43 53.9	+1.5		
	baz=243								
H17A	Grant Village	85.40	42	IAMs_20	IAMs_20	17 13 25.8			
	comp=Z,953nm,22.0s								
YHH	Holmes Hill	85.41	41	P	P	16 43 51.7	-0.8		
LKWY	Lake	85.59	41	IAMs_20	IAMs_20	17 16 52.8			
	comp=Z,1µm,20.0s								
WALA	Waterton Lakes	85.60	36	P	P	16 43 51.5	-1.7		
PMSA	Palmer Station	85.64	157	P	P	16 43 53.0	-0.1		
HRY	Holter Researc	85.69	39	P	P	16 43 52.5	-1.2		
YNE	Yellowstone No	86.04	41	P	P	16 43 54.6	-1.1		
SDCO	Great Sand Dun	86.07	49	P	P	16 43 55.0	-1.0		
	baz=247								
SDCO	Great Sand Dun	86.07	49	IAMs_20	IAMs_20	17 15 32.1			
	comp=Z,1µm,20.0s								
HHC	Hu-ho-hao-te	86.11	314	*e*P	P	16 43 54.5	-1.4		
HHC				pmax	pmax				
	comp=Z,16nm,0.9s								
HHC				pmax	pmax				
	comp=Z,170nm,6.6s								
HHC				LR	LR				
	comp=Z,540nm,20.9s								
HHC				LR	LR				
	comp=Z,780nm,22.9s								
HHC				LR	LR				
	comp=Z,2µm,16.7s								
MAW	Mawson	86.16	200	P	P	16 43 55.2	-0.3		
	comp=Z,5.9nm,0.9s,baz=130,slow=8.0,SNR=17								
MAW				LR	LR	17 19 14.0			
	comp=Z,1µm,20.5s,baz=108,slow=33								
MAW	Mawson	86.16	200	P	P	16 43 55.6	+0.1		
	baz=86,SNR=21								
RWWY	Rawlins	86.45	45	IAMs_20	IAMs_20	17 23 34.9			
	comp=Z,1µm,18.0s								
TOLK	Toolik Lake Re	86.48	10	P	P	16 43 58.2	+1.2		
	baz=207								
TOLK	Toolik Lake Re	86.48	10	P	P	16 43 56.1	-1.0		
TOLK				IAMs_20	IAMs_20	17 17 30.7			
	comp=Z,853nm,20.0s								
RLMT	Red Lodge	86.56	41	P	P	16 43 58.6	+0.5		
	baz=244								
RLMT	Red Lodge	86.56	41	P	P	16 43 56.9	-1.2		
RLMT				IAmb	IAmb	16 44 16.3			
	comp=Z,25nm,1.1s								
RLMT				IAMs_20	IAMs_20	17 14 49.4			
	comp=Z,1µm,21.0s								
GCMT	Greycliff	86.61	41	P	P	16 43 56.8	-1.4		
Q24A	Divide	86.80	48	IAMs_20	IAMs_20	17 16 48.4			
	comp=Z,1µm,18.0s								
N23A	Red Feather La	87.00	46	IAMs_20	IAMs_20	17 16 11.5			
	comp=Z,879nm,20.0s								
BTO	Baotou	87.09	313	*e*P	P	16 44 00.5	-0.2		
BTO				S	S	16 54 31.5	-8.7		
KMI	Kunming	87.32	297	ǁ*e*P	P	16 44 03.5	+1.2		
KMI				pP	pwP	16 44 05.8	-1.9		
KMI				sP	sP	16 44 07.3	+1.4		
KMI				S	S	16 54 42.8	-0.5		
KMI				SS	SS	17 00 29.0	+0.9		
KMI				pmax	pmax				
	comp=Z,6.0nm,0.6s								
KMI				pmax	pmax				
	comp=Z,280nm,5.0s								
KMI				LR	LR				
	comp=Z,430nm,19.2s								
KMI				LR	LR				
	comp=Z,770nm,22.4s								
KMI				LR	LR				
	comp=Z,1µm,22.8s								
KMI	Kunming	87.32	297	IAMs_20	IAMs_20	17 17 54.3			
	comp=Z,1µm,22.0s								
833A	Chaparral WMA,	87.49	60	P	P	16 44 02.2	-0.6		
	baz=251								
EGMT	Eagleton	87.55	39	P	P	16 44 01.8	-0.9		
	baz=243								
YAK	Yakutsk	87.71	338	P	P	16 44 02.7	-0.3		
	comp=Z,4.4nm,0.5s,baz=160,slow=18,SNR=4.1								
YAK	Yakutsk	87.71	338	*e*P	P	16 44 02.0	-1.0		
YAK				*e**PP	sP	16 44 06.2	-0.5		
YAK				*e*		16 47 24.0			
YAK				*e*S	SKSac	16 54 29.4	-1.4		
YAK				*e**SS	SKKSac	16 54 35.8	-4.7		
YAK				*e*SS	SS	17 00 32.1	+0.3		
YAK				*e*SSS	SSS	17 04 09.0			
YAK				pmax	pmax				
	comp=Z,4.0nm,0.6s								
YAK				pmax	pmax				
	comp=N,1.0nm,0.8s								
YAK				pmax	pmax				
	comp=E,1.0nm,0.8s								
YAK				pmax	pmax				
	comp=Z,85nm,2.5s								
YAK				pmax	pmax				
	comp=N,35nm,2.8s								
YAK				pmax	pmax				
	comp=E,23nm,2.5s								
YAK				smax	smax				
	comp=N,23nm,2.6s								
YAK				smax	smax				
	comp=E,12nm,2.7s								
YAK				MLR	MLR				
	comp=Z,611nm,21.0s								
YAK				MLR	MLR				
	comp=N,366nm,19.0s								
YAK				MLR	MLR				
	comp=E,309nm,21.0s								
YAK	Yakutsk	87.71	338	IAmb	IAmb	16 44 20.9			
	comp=Z,20nm,1.2s								
AMTX	Amarillo	87.88	53	P	P	16 44 03.7	-0.9		
AMTX				IAmb	IAmb	16 44 17.2			
	comp=Z,26nm,1.4s								
AMTX				IAMs_20	IAMs_20	17 16 06.1			
	comp=Z,1µm,20.0s								
CD2	Chengdu	88.34	303	P	P	16 44 04.0	-2.8		
CD2				SKS	SKSac	16 54 38.0	+1.8		
CD2				S	ScS	16 54 59.0	+0.7		
CD2				SS	SS	17 00 42.0	-0.4		
CD2				pmax	pmax				
	comp=Z,250nm,5.7s								
CD2				LR	LR				
	comp=Z,680nm,20.1s								
CD2				LR	LR				
	comp=Z,650nm,17.2s								
CD2				LR	LR				
	comp=Z,790nm,37.4s								
H03S2	Juan Fernandez	88.58	125	T	T	18 21 56.5			
	baz=250,slow=75,SNR=771								
H03S1	Juan Fernandez	88.60	125	T	T	18 21 57.5			
	baz=250,slow=75,SNR=728								
H03S3	Juan Fernandez	88.60	125	T	T	18 21 56.3			
	baz=250,slow=75,SNR=675								
KSCO	Kaye Shedlock'	88.64	49	IAMs_20	IAMs_20	17 16 04.1			
	comp=Z,1µm,21.0s								
CMAR	Chiang Mai Arr	88.67	289	P	P	16 44 09.9	+1.3		
	comp=Z,1.7nm,0.9s,baz=88,slow=3.0,SNR=4.1								
CMAR				LR	LR	17 19 58.2			
	comp=Z,686nm,21.4s,baz=150,slow=33								
ABTX	Abilene, Hawle	88.70	56	P	P	16 44 08.3	-0.2		
	baz=251								
ABTX	Abilene, Hawle	88.70	56	P	P	16 44 07.7	-0.8		
ABTX				IAmb	IAmb	16 44 21.8			
	comp=Z,16nm,0.9s								
ABTX				IAMs_20	IAMs_20	17 16 51.1			
	comp=Z,1µm,20.0s								
CHTO	Chiang Mai	88.77	290	IAMs_20	IAMs_20	17 20 20.1			
	comp=Z,867nm,20.0s								
LAO	LASA Array	89.15	41	P	P	16 44 09.5	-0.8		
	baz=246								
LAO	LASA Array	89.15	41	P	P	16 44 09.3	-1.0		
LAO				IAMs_20	IAMs_20	17 16 50.9			
	comp=Z,940nm,21.0s								
RSSD	Black Hills	89.56	44	P	P	16 44 12.4	-0.1		
	baz=248								
RSSD	Black Hills	89.56	44	P	P	16 44 10.6	-1.9		
RSSD				pmax	pmax				
	comp=Z,16nm,1.1s								
RSSD				MLR	MLR				
	comp=Z,900nm,18.0s								
RSSD	Black Hills	89.56	44	P	P	16 44 10.6	-1.9		
RSSD	Black Hills	89.56	44	IAMs_20	IAMs_20	17 20 19.9			
	comp=Z,863nm,18.0s								

SYO	Syowa Base	91.46	193	‖	eP	cP	PcP		16 44 21.0	-0.6	
237A	Washetta, Mont	91.59	57		IAMs_20	IAMs_20	17 17 08.6				
	comp=Z,1µm,21.0s										
ULN	Ulaanbaatar	91.82	319		ceP		P		16 44 21.2	-1.7	
ULN					pmax	pmax					
	comp=Z,7.0nm,1.1s										
BOD	Bodaibo	92.00	330		eP		P		16 44 21.0	-2.2	
BOD					pmax	pmax					
	comp=Z,9.0nm,2.0s										
YKA	Yellowknife Ar	92.06	25		P		P		16 44 22.6	-0.8	
	comp=Z,1.0nm,0.8s,baz=251,slow=3.8,SNR=2.6										
YKA					LR	LR	17 18 28.7				
	comp=Z,2µm,21.1s,baz=0.0,slow=31										
SONM	Songino Array	92.23	319		P		P		16 44 26.6	+1.9	
	comp=Z,0.3nm,0.4s,baz=132,slow=5.7,SNR=2.0										
SONM					LR	LR	17 21 42.4				
	comp=Z,510nm,21.6s,baz=116,slow=33										
NATX	Nacogdoches	92.45	58		IAMs_20	IAMs_20	17 20 03.5				
	comp=Z,1µm,18.0s										
PLCA	Paso Flores	92.46	133		P		P		16 44 26.8	+0.7	
	comp=Z,5.5nm,1.1s,baz=222,slow=5.2,SNR=5.0										
PLCA					LR	LR	17 18 29.0				
	comp=Z,264nm,20.4s,baz=223,slow=31										
PETF	Flores	92.56	73		IAMs_20	IAMs_20	17 15 45.8				
	comp=Z,849nm,22.0s										
K31A	O'Neill	92.64	47		IAMs_20	IAMs_20	17 19 52.7				
	comp=Z,811nm,21.0s										
BGNE	Belgrade	92.68	48		IAMs_20	IAMs_20	17 19 54.9				
	comp=Z,1µm,18.0s										
X37A	Clayton	92.70	55		IAMs_20	IAMs_20	17 18 16.9				
	comp=Z,859nm,21.0s										
TUL1	Leonard	92.76	54		IAMs_20	IAMs_20	17 19 08.4				
	comp=Z,1µm,21.0s										
C36M	Paulatuk	92.79	17		P		P		16 44 25.8	-0.7	
	baz=231										
C36M	Paulatuk	92.79	17		P		P		16 44 25.3	-1.3	
C36M					IAmb	IAmb	16 44 37.6				
	comp=Z,28nm,1.3s										
VNA3	Neumayer Olymp	92.94	176		P		P		16 44 26.2	-1.3	
SUSD	Miller	93.09	45		IAMs_20	IAMs_20	17 18 22.4				
	comp=Z,1µm,22.0s										
KSU1	Kansas State U	93.09	50		IAMs_20	IAMs_20	17 19 59.9				
	comp=Z,1µm,20.0s										
VNA2	Neumayer--Watz	93.38	177		P		P		16 44 29.0	-0.6	
NVL	N'lazarevskaya	93.54	183		eP		P		16 44 33.4	+3.2	
NVL					pmax	pmax					
	comp=Z,4.0nm,0.6s										
VNA1	Neumayer--Stat	93.61	177		P		P		16 44 29.8	-0.8	
MDND	Maddock	93.77	41		P		P		16 44 30.8	-0.8	
	baz=251										
MDND	Maddock	93.77	41		P		P		16 44 29.6	-2.0	
MDND					IAMs_20	IAMs_20	17 19 50.1				
	comp=Z,846nm,22.0s										
U38A	Gravette	94.00	53		IAMs_20	IAMs_20	17 19 38.3				
	comp=Z,1µm,20.0s										
GTA	Gaotai	94.04	310		eP		P		16 44 35.3	+2.0	
GTA					pP	pwP	16 44 39.5	+1.0			
GTA					sP	sP	16 44 42.8	+5.8			
GTA					pmax	pmax					
	comp=Z,2.0nm,0.6s										
MIAR	Mount Ida	94.11	55		IAMs_20	IAMs_20	17 20 13.2				
	comp=Z,928nm,20.0s										
L34A	Svendsen Farm,	94.12	48		IAMs_20	IAMs_20	17 20 49.8				
	comp=Z,1µm,20.0s										
W39A	Magazine	94.12	55		IAMs_20	IAMs_20	17 19 22.6				
	comp=Z,1µm,20.0s										
A36M	Sachs Harbour	94.17	14		P		P		16 44 32.3	-0.6	
	baz=230										
N35A	Tabor	94.32	49		IAMs_20	IAMs_20	17 20 55.3				
	comp=Z,1µm,21.0s										
ECSD	EROS Data Cent	94.47	46		P		P		16 44 34.0	-1.0	
	baz=253										
ECSD	EROS Data Cent	94.47	46		P		P		16 44 33.2	-1.7	
ECSD	EROS Data Cent	94.47	46		IAMs_20	IAMs_20	17 20 40.1				
	comp=Z,738nm,20.0s										
X40A	Basin Creek Fa	94.68	56		IAMs_20	IAMs_20	17 20 40.4				
	comp=Z,769nm,20.0s										
EFI	East Falkland	95.04	147		iP		P		16 44 38.1	+0.6	
EFI					pmax	pmax					
	comp=Z,24nm,1.3s										
UALR	University of	95.15	55		IAMs_20	IAMs_20	17 19 42.8				
	comp=Z,1µm,21.0s										
S39A	Bolivar	95.16	52		P		P		16 44 36.9	-1.4	
S39A					IAmb	IAmb	16 44 51.7				
	comp=Z,21nm,1.2s										
S39A					IAMs_20	IAMs_20	17 19 19.9				
	comp=Z,1µm,22.0s										
U40A	Yellville	95.17	54		P		P		16 44 37.7	-0.6	
	baz=254										
U40A	Yellville	95.17	54		P		P		16 44 36.8	-1.6	
U40A					IAmb	IAmb	16 44 45.5				
	comp=Z,12nm,1.0s										
U40A					IAMs_20	IAMs_20	17 19 42.2				
	comp=Z,933nm,21.0s										
TLY	Talaya	95.20	322		iP		P		16 44 38.7	+0.5	
TLY					pmax	pmax					
	comp=Z,4.0nm,1.0s										
D32A	Dogwood Acres,	95.21	43		IAMs_20	IAMs_20	17 21 03.4				
	comp=Z,812nm,21.0s										
WHAR	Wooly Hollow	95.33	55		IAMs_20	IAMs_20	17 20 51.5				
	comp=Z,1µm,20.0s										
W41B	Gary Mavity, V	95.33	55		P		P		16 44 38.1	-1.0	
	baz=255										
143A	Socs Landing,	95.36	58		IAMs_20	IAMs_20	17 21 35.6				
	comp=Z,721nm,20.0s										
JTS	Las Juntas de	95.45	81		iP		P		16 44 39.2	-0.9	
JTS					pmax	pmax					
	comp=Z,9.0nm,1.3s										
P38A	Dawn	95.53	51		IAMs_20	IAMs_20	17 22 48.4				
	comp=Z,1µm,19.0s										
FCAR	Ozark Folk Cen	95.61	54		IAMs_20	IAMs_20	17 23 02.0				
	comp=Z,756nm,18.0s										
CO02	Combarbal	95.77	124		IAMs_20	IAMs_20	17 17 06.9				
	comp=Z,1µm,21.0s										
R40A	Maddies Statio	96.12	52		P		P		16 44 41.7	-0.9	
R40A					IAMs_20	IAMs_20	17 19 26.4				
	comp=Z,1µm,22.0s										
CO03	El Pedregal	96.16	124		IAMs_20	IAMs_20	17 17 18.1				
	comp=Z,1µm,21.0s										
AGMN	Agassiz Nation	96.29	42		IAMs_20	IAMs_20	17 28 52.0				
	comp=Z,742nm,18.0s										
SCIA	State Center	96.36	48		IAMs_20	IAMs_20	17 22 01.4				
	comp=Z,1µm,20.0s										
LCAR	Lake Charles	96.42	54		IAMs_20	IAMs_20	17 23 53.4				
	comp=Z,897nm,19.0s										
P40A	Paris	96.61	51		IAMs_20	IAMs_20	17 23 14.1				
	comp=Z,906nm,19.0s										
T42A	Van Buren	96.71	54		IAMs_20	IAMs_20	17 21 20.9				
	comp=Z,1µm,20.0s										
ULM	Lac du Bonnet	96.83	40		LR	LR	17 21 58.4				
	comp=Z,1µm,20.9s,baz=258,slow=32										
ULM	Lac du Bonnet	96.83	40		IAMs_20	IAMs_20	17 21 36.1				
	comp=Z,1µm,21.0s										
CCM	Cathedral Cave	96.84	53		IAMs_20	IAMs_20	17 20 10.5				
	comp=Z,1µm,22.0s										
K38A	Parkersburg	96.87	48		IAMs_20	IAMs_20	17 21 58.8				
	comp=Z,919nm,20.0s										
MET	Memphis--Engin	97.15	56		IAMs_20	IAMs_20	17 20 55.8				
	comp=Z,1µm,22.0s										
F36A	Milaca	97.18	44		IAMs_20	IAMs_20	17 23 27.6				
	comp=Z,873nm,19.0s										
AC05	El Transito	97.24	123		IAMs_20	IAMs_20	17 17 50.1				
	comp=Z,951nm,22.0s										
OXF	Oxford	97.42	56		IAMs_20	IAMs_20	17 23 47.1				
	comp=Z,930nm,19.0s										
PEBM	Pemiscott Bayo	97.44	55		IAMs_20	IAMs_20	17 19 55.5				
	comp=Z,1µm,22.0s										
SPMN	Marine on St.	97.50	45		IAMs_20	IAMs_20	17 22 21.3				
	comp=Z,850nm,20.0s										
PARMO	Parma	97.66	54		IAMs_20	IAMs_20	17 21 23.2				
	comp=Z,932nm,22.0s										
PENMO	Penman	97.71	54		IAMs_20	IAMs_20	17 20 26.5				
	comp=Z,1µm,22.0s										
LNXT	Lenox	97.73	55		IAMs_20	IAMs_20	17 23 39.2				
	comp=Z,1µm,19.0s										
W45A	Hickory Valley	97.75	56		IAMs_20	IAMs_20	17 21 34.8				
	comp=Z,1µm,21.0s										
N41A	Harden Midland	97.78	50		IAMs_20	IAMs_20	17 24 18.1				
	comp=Z,1µm,18.0s										
HALT	Halls	97.81	55		IAMs_20	IAMs_20	17 23 33.2				
	comp=Z,976nm,19.0s										
L40A	Anamosa	97.84	49		P		Pdif		16 44 49.4	-1.0	
HENM	Henderson Moun	97.89	54		IAMs_20	IAMs_20	17 21 17.4				
	comp=Z,991nm,22.0s										
GLAT	Glass	97.93	55		IAMs_20	IAMs_20	17 20 33.4				
	comp=Z,1µm,22.0s										
HICK	Hickman	98.04	54		IAMs_20	IAMs_20	17 21 22.3				
	comp=Z,958nm,22.0s										
Z47A	Carrollton	98.20	58		IAMs_20	IAMs_20	17 21 38.8				
	comp=Z,858nm,22.0s										
S44A	Carbondale	98.29	53		IAMs_20	IAMs_20	17 22 29.7				
	comp=Z,1µm,20.0s										
P43A	Skaggs, Pawnee	98.53	51		IAMs_20	IAMs_20	17 23 20.0				
	comp=Z,989nm,20.0s										
PLAL	Pickwick Lake	98.60	56		IAMs_20	IAMs_20	17 25 10.2				
	comp=Z,854nm,19.0s										
T45A	Paducah	98.61	54		IAMs_20	IAMs_20	17 21 49.2				
	comp=Z,992nm,22.0s										
E38A	The Farm, Brul	98.69	44		IAMs_20	IAMs_20	17 23 37.4				
	comp=Z,716nm,20.0s										
I40A	Norwalk	98.70	47		IAMs_20	IAMs_20	17 23 07.1				
	comp=Z,797nm,20.0s										
JFWS	Jewell Farm	98.74	48		IAMs_20	IAMs_20	17 23 24.3				
	comp=Z,1µm,21.0s										
HDIL	Hopedale	98.91	50		IAMs_20	IAMs_20	17 24 44.8				
	comp=Z,995nm,19.0s										
L42A	Oliver, Polo	98.95	49		IAMs_20	IAMs_20	17 23 47.9				
	comp=Z,896nm,20.0s										
PB10	IPOC Station P	98.98	117		IAMs_20	IAMs_20	17 18 38.3				
	comp=Z,1µm,22.0s										
EYMN	Ely	99.03	43		IAMs_20	IAMs_20	17 23 07.5				
	comp=Z,842nm,20.0s										
GO02	Mina Guanaco	99.19	119		IAMs_20	IAMs_20	17 19 27.7				
	comp=Z,694nm,20.0s										
X48A	Hartselle	99.31	57		IAMs_20	IAMs_20	17 24 37.1				
	comp=Z,952nm,19.0s										
O44A	Mansfield	99.43	51		IAMs_20	IAMs_20	17 24 44.9				
	comp=Z,797nm,20.0s										
PB04	IPOC Station P	99.75	116		IAMs_20	IAMs_20	17 18 46.9				
	comp=Z,826nm,21.0s										
T47A	Sharon Grove	99.80	54		IAMs_20	IAMs_20	17 21 53.0				
	comp=Z,1µm,22.0s										
I42A	Draeger Farm,	99.90	47		IAMs_20	IAMs_20	17 23 44.0				
	comp=Z,852nm,21.0s										
PB06	IPOC Station P	100.11	117		IAMs_20	IAMs_20	17 19 22.4				
	comp=Z,936nm,20.0s										
COWI	Conover	100.21	45		IAMs_20	IAMs_20	17 29 28.8				
	comp=Z,763nm,18.0s										
L44A	Lake County Fo	100.27	49		IAMs_20	IAMs_20	17 22 44.8				
	comp=Z,1µm,22.0s										
SWET	Sewanee	100.37	56		IAMs_20	IAMs_20	17 23 14.0				
	comp=Z,989nm,18.0s										
FPAL	Fort Paine	100.49	57		IAMs_20	IAMs_20	17 24 17.3				
	comp=Z,762nm,20.0s										
SFIN	Lafayette	100.51	51		IAMs_20	IAMs_20	17 25 35.3				
	comp=Z,906nm,20.0s										
Z51A	Franklin	100.59	58		IAMs_20	IAMs_20	17 27 51.2				
	comp=Z,779nm,19.0s										
WCI	Wyandotte Cave	100.69	53		IAMs_20	IAMs_20	17 22 29.3				
	comp=Z,829nm,21.0s										
LVC	Linn Verde	100.72	117		IAMs_20	IAMs_20	17 19 18.3				
	comp=Z,932nm,21.0s										
U49A	Red Boiling Sp	100.75	55		IAMs_20	IAMs_20	17 23 47.0				
	comp=Z,962nm,20.0s										
PSGCX	Pisagua	100.76	114		IAMs_20	IAMs_20	17 19 41.6				
	comp=Z,1µm,22.0s										
D41A	Chassel	100.79	44		IAMs_20	IAMs_20	17 25 40.0				
	comp=Z,808nm,19.0s										
H43A	Windswept, Lux	100.83	47		IAMs_20	IAMs_20	17 23 23.3				
	comp=Z,952nm,22.0s										
152A	Waverly Hall	100.84	59		IAMs_20	IAMs_20	17 24 37.7				
	comp=Z,696nm,20.0s										
W50A	Signal Mountai	100.86	56		IAMs_20	IAMs_20	17 23 08.1				
	comp=Z,897nm,20.0s										
PB12	IPOC Station P	100.92	113		IAMs_20	IAMs_20	17 19 45.5				
	comp=Z,1µm,22.0s										
PB11	IPOC Station P	101.11	114		IAMs_20	IAMs_20	17 19 23.0				
	comp=Z,813nm,21.0s										
MNMC	Mine Mirage	101.39	114		IAMs_20	IAMs_20	17 19 49.4				
	comp=Z,1µm,22.0s										
L46A	Eue Claire	101.42	49		IAMs_20	IAMs_20	17 29 32.2				
	comp=Z,738nm,18.0s										
CPCT	Cooper Cave	101.54	56		IAMs_20	IAMs_20	17 24 31.2				
	comp=Z,1µm,21.0s										
GO01	Chusmiza	101.55	114		IAMs_20	IAMs_20	17 19 36.6				
	comp=Z,899nm,21.0s										
R49A	Shelbyville	101.57	53		IAMs_20	IAMs_20	17 22 59.6				
	comp=Z,880nm,21.0s										
T50A	Nancy	101.59	55		IAMs_20	IAMs_20	17 23 32.2				
	comp=Z,1µm,22.0s										
Y52A	Lilburn	101.61	58		IAMs_20	IAMs_20	17 24 46.1				
	comp=Z,1µm,20.0s										
N47A	Urbana	101.65	51		IAMs_20	IAMs_20	17 25 43.5				
	comp=Z,798nm,20.0s										
E43A	Lone Tree Farm	101.72	45		IAMs_20	IAMs_20	17 30 15.8				
	comp=Z,895nm,18.0s										
PB16	IPOC Station P	101.75	113		IAMs_20	IAMs_20	17 19 60.0				
	comp=Z,1µm,22.0s										
I45A	Fountain	101.83	47		IAMs_20	IAMs_20	17 24 49.9				
	comp=Z,989nm,21.0s										
W52A	Murphy	101.95	57		IAMs_20	IAMs_20	17 23 44.1				
	comp=Z,991nm,21.0s										
GOGA	Godfrey	102.01	59		IAMs_20	IAMs_20	17 27 12.8				
	comp=Z,932nm,19.0s										
154A	Montrose	102.16	59		IAMs_20	IAMs_20	17 24 56.8				
	comp=Z,789nm,19.0s										
TKL	Tualeechee C	102.18	56		IAMs_20	IAMs_20	17 25 11.0				
	comp=Z,1µm,21.0s										
R50A	Paris	102.22	53		IAMs_20	IAMs_20	17 23 18.8				
	comp=Z,1µm,22.0s										
V52A	Sevierville	102.36	56		IAMs_20	IAMs_20	17 26 03.7				
	comp=Z,1µm,20.0s										
TZTN	Tazewell	102.52	55		IAMs_20	IAMs_20	17 26 35.9				
	comp=Z,1µm,20.0s										
S51A	Beattyville	102.68	54		IAMs_20	IAMs_20	17 26 53.0				
	comp=Z,1µm,21.0s										
BG3	Lake Jocassee	102.74	57		IAMs_20	IAMs_20	17 24 29.9				
	comp=Z,675nm,21.0s										
L48A	N Adams	102.77	50		IAMs_20	IAMs_20	17 27 27.1				
	comp=Z,741nm,20.0s										
N49A	Columbus Grove	102.78	51		IAMs_20	IAMs_20	17 26 26.6				
	comp=Z,669nm,20.0s										
PALK	Pallekele	102.94	274		IAMs_20	IAMs_20	17 32 12.2				
	comp=Z,868nm,21.0s										
V53A	Saluda	102.95	56		IAMs_20	IAMs_20	17 25 35.5				
	comp=Z,983nm,20.0s										
Q51A	Peebles	103.10	53		IAMs_20	IAMs_20	17 25 02.2				
	comp=Z,957nm,21.0s										
HODGE	Hodges	103.15	58		IAMs_20	IAMs_20	17 26 39.9				
	comp=Z,927nm,20.0s										
AAM	Ann Arbor	103.40	50		IAMs_20	IAMs_20	17 30 49.6				
	comp=Z,892nm,18.0s										
E46A	Sault Ste Mari	103.55	45		IAMs_20	IAMs_20	17 25 58.4				
	comp=Z,1µm,21.0s										
PAULI	Pauline	103.61	57		IAMs_20	IAMs_20	17 25 57.1				
	comp=Z,864nm,21.0s										
M50A	Fremont	103.71	51		IAMs_20	IAMs_20	17 27 59.1				
	comp=Z,853nm,20.0s										
Z56A	Williston	103.72	59		IAMs_20	IAMs_20	17 27 13.2				
	comp=Z,749nm,20.0s										
WMQ	Urumqi	103.86	312		IAMs_20	IAMs_20	17 26 56.0				
	comp=Z,918nm,22.0s										
KMSC	Kings Mountain	104.06	57		IAMs_20	IAMs_20	17 26 10.8				
	comp=Z,1µm,21.0s										
K50A	Casco	104.22	49		IAMs_20	IAMs_20	17 24 32.5				
	comp=Z,930nm,22.0s										
I49A	Point Hope	104.24	48		IAMs_20	IAMs_20	17 25 48.9				
	comp=Z,1µm,21.0s										
Y57A	Sumter	104.64	58		IAMs_20	IAMs_20	17 27 07.4				
	comp=Z,976nm,20.0s										
BIRD	Birdtown, Kers	104.68	58		IAMs_20	IAMs_20	17 25 06.5				
	comp=Z,828nm,22.0s										
M52A	Chesterland	104.98	51		IAMs_20	IAMs_20	17 25 07.8				
	comp=Z,788nm,22.0s										
U56A	King	105.00	56		IAMs_20	IAMs_20	17 28 51.8				
	comp=Z,1µm,20.0s										
BLA	Blacksburg	105.10	55		IAMs_20	IAMs_20	17 26 24.3				
	comp=Z,1µm,20.0s										
W57A	Gilead	105.14	57		IAMs_20	IAMs_20	17 26 56.5				
	comp=Z,818nm,20.0s										
M53A	Wi Miller and	105.48	51		IAMs_20	IAMs_20	17 25 32.9				
	comp=Z,866nm,21.0s										
R55A	Marlinton	105.49	54		IAMs_20	IAMs_20	17 28 41.4				
	comp=Z,1µm,20.0s										
X58A	Rowland	105.58	58		IAMs_20	IAMs_20	17 29 35.4				
	comp=Z,669nm,20.0s										
ALLY	Alegheny Colle	105.90	51		IAMs_20	IAMs_20	17 26 19.0				
	comp=Z,860nm,21.0s										
V58A	Windy Hill, Pi	105.94	57		IAMs_20	IAMs_20	17 27 37.7				
	comp=Z,1µm,20.0s										
T57A	Hurt	106.00	55		IAMs_20	IAMs_20	17 26 21.0				
	comp=Z,965nm,20.0s										
ERPA	Erie	106.07	50		IAMs_20	IAMs_20	17 25 54.5				
	comp=Z,849nm,22.0s										
M54A	Oil Creek Stat	106.24	51		IAMs_20	IAMs_20	17 26 28.0				
	comp=Z,1µm,22.0s										
Q56A	Snyder Ridge,	106.31	53		IAMs_20	IAMs_20	17 27 13.1				
	comp=Z,1µm,20.0s										
ZAA0	Zalesovo Array	106.82	322		IAMs_20	IAMs_20	17 30 39.4				
	comp=Z,711nm,21.0s										
ZALV	Zalesovo Beam	106.82	322		PKiKP	PKiKP	16 49 40.6	+0.6			
	comp=Z,0.7nm,0.6s,baz=117,slow=0.3,SNR=1.8										
CNNC	Cliffs of the	106.86	57		IAMs_20	IAMs_20	17 28 08.0				
	comp=Z,1µm,22.0s										
SADO	Sadowa	106.96	47		IAMs_20	IAMs_20	17 31 08.8				
	comp=Z,725nm,19.0s										
WVNY	West Valley, N	107.12	50		IAMs_20	IAMs_20	17 28 33.3				
	comp=Z,642nm,20.0s										
J54A	Appleton	107.18	49		IAMs_20	IAMs_20	17 27 18.8				
	comp=Z,876nm,20.0s										
P57A	Homestead Farm	107.27	53		IAMs_20	IAMs_20	17 28 22.4				
	comp=Z,790nm,20.0s										
MEDO	Medina	107.31	49		IAMs_20	IAMs_20	17 26 46.1				
	comp=Z,723nm,20.0s										
T59A	Double "B" Far	107.34	56		IAMs_20	IAMs_20	17 27 21.7				
	comp=Z,1µm,21.0s										
MMNY	Mt. Morris Dam	107.67	50		IAMs_20	IAMs_20	17 30 28.7				
	comp=Z,617nm,20.0s										
J55A	Hilton	107.78	49		IAMs_20	IAMs_20	17 27 24.6				
	comp=Z,911nm,22.0s										
MKAR	Makanchi Array	107.97	315		PKiKP	PKiKP	16 49 42.5	+0.1			
	comp=Z,0.9nm,0.7s,baz=84,slow=3.8,SNR=7.2										
MKAR					PKKPbc	PKKPbc	17 00 59.8	+3.4			
	comp=Z,1.0nm,0.8s,baz=264,slow=2.4,SNR=7.2										
DELO	Deloro Mine	108.03	48		IAMs_20	IAMs_20	17 31 07.9				
	comp=Z,928nm,19.0s										
PAGS	Pennsylvania G	108.33	52		IAMs_20	IAMs_20	17 29 51.5				
	comp=Z,1µm,20.0s										
VLDQ	Val d'Or	108.37	44		IAMs_20	IAMs_20	17 28 31.5				
	comp=Z,849nm,20.0s										
J56A	Wolcott	108.48	49		IAMs_20	IAMs_20	17 27 46.1				
	comp=Z,662nm,21.0s										
MVL	Millersville	108.59	53		IAMs_20	IAMs_20	17 27 07.5				
	comp=Z,983nm,21.0s										
J57A	Williamstown	109.12	49		IAMs_20	IAMs_20	17 33 50.9				
	comp=Z,699nm,18.0s										
K58A	Earlville	109.33	50		IAMs_20	IAMs_20	17 29 00.7				
	comp=Z,739nm,20.0s										
J58A	Remsen	109.63	49		IAMs_20	IAMs_20	17 33 04.6				
	comp=Z,743nm,19.0s										
L59A	Walton	109.74	50		IAMs_20	IAMs_20	17 28 41.6				
	comp=Z,1µm,22.0s										
P61A	Hammonton	109.76	53		IAMs_20	IAMs_20	17 27 53.5				
	comp=Z,1µm,22.0s										
LONY	Lake Ozonia	110.20	48		IAMs_20	IAMs_20	17 29 04.4				
	comp=Z,855nm,21.0s										
J59A	Piesco	110.20	49		IAMs_20	IAMs_20	17 29 10.7				
	comp=Z,714nm,22.0s										
NCB	Newcomb	110.43	48		IAMs_20	IAMs_20	17 30 47.7				
	comp=Z,867nm,20.0s										
KURK	Kurchatov	110.53	319		iPKiKP	PKiKP	16 49 46.9	-0.2			
LBNH	Lisbon	112.09	48		IAMs_20	I

KOLS	Kolonicke sedl	142.96	338	ePKP		PKiKP	16 50 53.5	+1.8
BIZ	Bicaz	143.01	332	⇓P		PKPdf	16 50 45.0	-3.6
KSP	Ksiaz	143.11	345	ePKP		PKiKP	16 50 55.9	+4.0
UZH	Uzhgorod	143.21	338	ePKIKP		PKiKP	16 50 51.5	-0.6
NIE	Niedzica	143.23	340	ePKP		PKiKP	16 50 52.9	+0.6
CRVS	Cervenica-Dubn	143.28	339	ePKIKP		PKiKP	16 50 52.4	+0.1
CRVS	Cervenica-Dubn	143.28	339	ePKP		PKiKP	16 50 52.4	+0.1
OSTC	Ostas	143.39	345	ePKP		PKiKP	16 50 56.5	+4.0
OSTC				eSS	SS		17 12 31.1	-8.7
OSTC				AMS	AMS		17 56 20.0	
	comp=Z,500nm,18.6s							
CLL	Collm	143.39	349	ePKiKP		PKiKP	16 50 54.0	+1.6
	comp=Z,3.0nm,0.8s							
CLL				*i* sPKiKP		sPKPdf	16 50 57.5	+4.7
CLL				*i*			16 51 06.2	
CLL				*i*			16 51 25.4	
CLL				*e*			16 51 34.0	
CLL				eSS	SS		17 12 35.0	-4.6
CLL				eSSS	SSS		17 17 42.0	
CLL				eSSSS			17 21 30.0	
CLL				LmV			17 56 00.0	
	comp=Z,400nm,21.0s							
CLL	Collm	143.39	349	ePKiKP		PKiKP	16 50 54.0	+1.6
CLL				*i*			16 50 57.5	
CLL				*i*			16 51 01.2	
CLL				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CLL				MLR	MLR			
	comp=Z,400nm,21.0s							
CLL	Collm	143.39	349	IAMs_20	IAMs_20		17 56 46.5	
	comp=Z,388nm,20.0s							
CHVC	Chvalec	143.40	345	ePKP		PKiKP	16 51 02.1	+10
CHVC				AMS	AMS		17 56 10.0	
	comp=Z,600nm,23.2s							
UPC	Upice	143.49	345	ePKIKP		PKiKP	16 50 56.8	+4.1
UPC				eSS	SS		17 12 39.2	-1.6
UPC				MLR	MLR			
	comp=Z,600nm,20.0s							
UPC	Upice	143.49	345	ePKP		PKiKP	16 50 56.8	+4.1
UPC				eSS	SS		17 12 39.2	-1.6
UPC				AMS	AMS		17 56 20.0	
	comp=Z,600nm,20.0s							
DPC	Dobruska-Polom	143.55	345	ePKIKP		PKiKP	16 50 56.9	+4.0
DPC				MLR	MLR			
	comp=Z,300nm,20.6s							
DPC	Dobruska-Polom	143.55	345	ePKP		PKiKP	16 50 56.9	+4.0
DPC				eSS	SS		17 12 30.8	-11
DPC				AMS	AMS		17 57 10.0	
	comp=Z,300nm,20.6s							
BRTR	Keskin Array B	143.56	317	PKP		PKPdf	16 50 48.6	-1.3
	comp=Z,3.1nm,0.8s,baz=133,slow=0.9,SNR=9.8							
BRG	Berggiesshubel	143.62	347	ePKP		PKiKP	16 50 55.1	+2.2
	comp=Z,3.5nm,0.9s							
BRG				*e*			16 50 59.3	
	comp=Z,12nm,1.0s							
BRG				*e*			17 12 38.0	
BRG				*e*			17 18 09.0	
KRLC	Kraliky	143.69	344	ePKIKP		PKiKP	16 50 51.5	-1.7
KRLC				eSS	SS		17 12 46.8	+3.5
KRLC				MLR	MLR			
	comp=Z,400nm,21.6s							
KRLC	Kraliky	143.69	344	ePKP		PKiKP	16 50 51.5	-1.7
KRLC				eSS	SS		17 12 46.8	+3.5
KRLC				AMS	AMS		17 58 00.0	
	comp=Z,400nm,21.6s							
MORC	Moravsky Berou	143.75	343	⇓P		PKiKP	16 50 52.6	-0.7
MORC	Moravsky Berou	143.75	343	ePKP		PKPbc	16 50 46.5	-0.9
MORC	Moravsky Berou	143.75	343	⇓PKiKP		PKiKP	16 50 52.6	-0.7
HARR	Harsova	143.79	328	⇑P		PKiKP	16 50 55.7	+2.2
HARR	Harsova	143.79	328	⇑PKiKP		PKiKP	16 50 55.7	+2.2
PVCC	Panska Ves	143.81	347	AMS	AMS		17 54 20.0	
	comp=Z,3μm,66.4s							
DOPR	Dopca	144.07	332	⇑P		PKPdf	16 50 51.0	+0.5
MLR	Muntele Rosu	144.18	331	⇑P		PKiKP	16 50 54.4	0.0
MLR	Muntele Rosu	144.18	331	⇑PKiKP		PKiKP	16 50 54.4	0.0
PRA	Prague	144.27	346	AMS	AMS		17 58 00.0	
	comp=Z,400nm,19.6s							
PRU	Pruhonice	144.32	346	ePKIKP		PKiKP	16 50 56.9	+2.5
PRU				eSS	SS		17 12 44.4	-5.9
PRU				MLR	MLR			
	comp=Z,1μm,20.6s							
PRU	Pruhonice	144.32	346	ePKP		PKiKP	16 50 56.9	+2.5
PRU				eSS	SS		17 12 44.4	-5.9
PRU				AMS	AMS		17 58 00.0	
	comp=Z,1μm,20.6s							
GOPC	GO Pecny, Ondr	144.33	346	ePKIKP		PKiKP	16 50 58.0	+3.5
GOPC				MLR	MLR			
	comp=Z,800nm,21.5s							
GOPC	GO Pecny, Ondr	144.33	346	ePKP		PKiKP	16 50 58.0	+3.5
GOPC				eSS	SS		17 12 36.2	-14
GOPC				AMS	AMS		17 52 30.0	
	comp=Z,800nm,21.5s							
VRAC	Vranov	144.44	344	ePKP		PKPdf	16 50 51.5	+0.5
VYHS	Vyhne	144.51	341	ePKIKP		PKiKP	16 50 54.0	-0.9
VYHS	Vyhne	144.51	341	ePKP		PKiKP	16 50 54.0	-0.9
NKC	Novy Kostel	144.53	349	ePKIKP		PKiKP	16 50 57.2	+2.4
NKC				MLR	MLR			
	comp=Z,500nm,22.0s							
NKC	Novy Kostel	144.53	349	ePKP		PKiKP	16 50 57.2	+2.4
NKC				eSS	SS		17 12 41.8	-11
NKC				AMS	AMS		17 52 40.0	
	comp=Z,500nm,22.0s							
JAVC	Velka Javorina	144.54	342	ePKP		PKiKP	16 50 52.2	-2.8
VOIR		144.63	332	⇑P		PKPdf	16 50 52.4	+0.8
VOIR		144.63	332	⇑PKiKP		PKPdf	16 50 52.4	+0.8
PSZ	Piszkesteto	144.66	339	⇓P		PKiKP	16 50 54.4	-0.8
PSZ	Piszkesteto	144.66	339	PKiKP		PKPdf	16 50 50.7	-0.9
PSZ				MLR	MLR			
	comp=Z,600nm,21.0s							
PSZ	Piszkesteto	144.66	339	PKPdf		PKPdf	16 50 50.7	-0.9
PSZ				IAMs_20	IAMs_20		17 55 50.7	
	comp=Z,600nm,21.0s							
KRUC	Moravsky	144.72	344	ePKP		PKPdf	16 50 51.3	-0.2
TREC	Trest	144.74	345	AMS	AMS		17 57 00.0	
	comp=Z,500nm,19.7s							
ARR	Arges	144.87	332	⇓P		PKiKP	16 50 56.7	+1.0
SMOL	Smolenice	144.92	342	ePKIKP		PKiKP	16 50 56.3	+0.6
SMOL	Smolenice	144.92	342	ePKP		PKiKP	16 50 56.2	+0.6
MEM	Membach	145.00	356	PKPdf		PKPdf	16 50 50.8	-1.2
MEM				x	x		16 50 58.6	
BSTI	Sart Tilman	145.06	356	x		PKiKP	16 50 58.0	+2.2
MODS	Modra-Piesok	145.09	342	ePKIKP		PKiKP	16 50 55.7	-0.4
MODS	Modra-Piesok	145.09	342	ePKP		PKiKP	16 50 55.7	-0.4
BCLA	Clavier	145.24	356	x		PKPbc	16 50 58.5	+6.6
BHOU	Houvegnez	145.26	356	PKPdf		PKPdf	16 50 51.7	-0.7
BHOU				x	x		16 50 58.1	
GRA1	Grafenberg Arr	145.27	350	IAMs_20	IAMs_20		17 58 53.0	
	comp=Z,634nm,20.0s							
GRF	Grafenberg Arr	145.27	350	ePKPbc		PKPdf	16 50 51.8	-0.7
	baz=15,slow=3.1							
BGES	Gesves	145.28	357	PKPdf		PKPab	16 50 51.1	-1.1
BGES				x	x		16 50 59.1	
KHC	Kasperske Hory	145.34	347	ePKIKP		PKiKP	16 50 57.0	+0.4
KHC				eSS	SS		17 12 58.2	-3.9
KHC				MLR	MLR			
	comp=Z,800nm,20.6s							
KHC	Kasperske Hory	145.34	347	ePKP		PKiKP	16 50 57.0	+0.4
KHC				eSS	SS		17 12 58.2	-3.9
KHC				AMS	AMS		17 55 50.0	
	comp=Z,800nm,20.6s							
KHC	Kasperske Hory	145.34	347			PKPbc	16 50 51.1	-1.3
BMRD	Maredsous	145.38	357	x		PKiKP	16 50 57.1	+0.5
BMRD				x	x		16 50 59.1	
SIRR	Siria	145.41	336	⇓P		PKiKP	16 50 57.2	+0.4
GEC2	GERESS Array S	145.58	347			PKPbc	16 50 51.7	-1.6
GERES	GERESS Array B	145.58	347	PKPbc		PKPbc	16 50 52.2	-1.1
	comp=Z,4.2nm,1.0s,baz=32,slow=3.3,SNR=11							
DOU	Dourbes	145.60	357	x		PKiKP	16 50 56.8	-0.2
DOU				x	x		16 50 59.5	
BOLV	Bolvadin	145.86	318	IAMs_20	IAMs_20		17 59 45.9	
	comp=Z,482nm,21.0s							
CONA	Conrad Observa	145.90	344	*i* pPKPdf		PKPab	16 50 54.1	-0.6
	comp=Z,23nm,1.5s							
WLF	Walferdange	145.93	355	x	x		16 50 58.9	
WLF	Walferdange	145.93	355	PKP2		PKPdf	16 50 52.7	-0.9
WLF				MLR	MLR			
	comp=Z,1μm,21.0s							
WLF	Walferdange	145.93	355			PKPdf	16 50 52.7	-0.9
BZS	Buzias	145.96	335	⇓P		PKPab	16 50 53.7	-1.2
BZS	Buzias	145.96	335	⇓PKP2		PKPab	16 50 53.7	-1.2
HERR	Herculane	146.23	334	⇑P		PKPab	16 50 54.8	-1.1
MOA	Molln	146.38	345	esPKPdf		sPKPdf	16 50 57.2	-1.0
	comp=Z,8.8nm,1.8s							

STU	Stuttgart	146.48	352	IAMs_20	IAMs_20		18 03 57.0	
	comp=Z,455nm,19.0s							
MDVR	Moldovita	146.60	334	⇓P		PKiKP	16 50 58.7	-0.7
ARSA	Arzberg	146.61	343	esPKPbc		sPKPbc	16 50 59.2	-0.9
	comp=Z,17nm,1.5s							
BFO	Black Forest	147.03	352	IAMs_20	IAMs_20		17 56 58.5	
	comp=Z,440nm,20.0s							
SOKA	Soboth	147.27	344	epPKPbc		PKiKP	16 50 59.6	-1.1
	comp=Z,6.2nm,1.0s							
ECH	Echery	147.28	354	IAMs_20	IAMs_20		17 53 40.0	
	comp=Z,485nm,22.0s							
KBA	Koelnbreinsper	147.32	346	sPKPbc		PKiKP	16 51 00.2	-0.7
	comp=Z,5.5nm,0.6s							
WATA	Walderalm	147.47	348	*i* sPKPab	sPKPab		16 51 03.5	-1.0
	comp=Z,28nm,1.4s							
RETA	Reutte	147.47	349	*i* pPKPab	pPKPab		16 51 02.0	-1.6
	comp=Z,3.4nm,0.8s							
MBAR	Mbarara	147.49	243	*i* PKP2		PKPbc	16 51 00.2	+0.1
WTTA	Wattenberg	147.52	348	*i* pPKiKP		PKiKP	16 51 03.0	+1.7
	comp=Z,34nm,1.1s							
MOTA	Moosalm	147.55	349	*i* sPKPab	sPKPab		16 51 03.7	-1.2
	comp=Z,37nm,1.1s							
OBKA	Obir	147.55	344	*i* pPKiKP		PKiKP	16 51 03.1	+1.8
	comp=Z,14nm,1.4s							
SQTA	Sankt Quirin	147.65	348	*i* pPKiKP		PKiKP	16 51 03.4	+1.9
	comp=Z,26nm,1.1s							
MYKA	Terra Mystica	147.67	345	*i* pPKiKP		PKiKP	16 51 03.1	+1.6
	comp=Z,22nm,1.0s							
DAVA	Damuels	147.82	350	*i* pPKPab	pPKPab		16 51 02.9	-2.1
	comp=Z,19nm,1.6s							
ABTA	Abfaltersbach	147.83	347	*i* pPKiKP		PKPab	16 51 04.2	+1.9
	comp=Z,24nm,1.0s							
DIVS	Divibare	147.87	336			PKPbc	16 50 58.6	-1.5
DIVS				IAMs_20	IAMs_20		17 55 05.8	
	comp=Z,497nm,21.0s							
ZOU	Zoufplan	147.90	346			PKPdf	16 50 55.9	-1.3
FETA	Feichten	147.93	349	*i* PKiKP		PKiKP	16 51 00.8	-1.4
	comp=Z,28nm,1.4s							
CIMO	Cimolais	148.26	346	PKPdf		PKPdf	16 50 56.2	-1.5
FUORN	Ofenpass-Fuorn	148.40	349	PKPdf		PKPdf	16 50 56.7	-1.5
FUORN				IAMs_20	IAMs_20		18 03 12.0	
	comp=Z,584nm,21.0s							
TUE	Stuetta	148.70	350	PKPdf		PKPdf	16 50 57.0	-1.6
SENIN	Lac Senin/Sane	149.09	353	IAMs_20	IAMs_20		17 55 26.0	
	comp=Z,597nm,21.0s							
PDG	Podgorica	149.55	335	⇑P		PKPab	16 51 08.8	-0.4
PDG	Podgorica	149.55	335	IAMs_20	IAMs_20		17 56 02.5	
	comp=Z,668nm,22.0s							
KARP	Karpathos	150.15	316	IAMs_20	IAMs_20		18 04 24.7	
	comp=Z,506nm,22.0s							
SSB	Saint Sauveur	150.41	357	PKPab		PKPab	16 51 11.3	-1.4
SSB	Saint Sauveur	150.41	357	IAMs_20	IAMs_20		18 01 14.8	
	comp=Z,579nm,20.0s							
BNI	Bardonecchia	150.45	354	IAMs_20	IAMs_20		17 56 15.1	
	comp=Z,605nm,22.0s							
SANT	Santorini	150.76	319	IAMs_20	IAMs_20		18 00 33.4	
	comp=Z,338nm,20.0s							
AGG	Agios Georgios	150.77	327	PKPab		PKPab	16 51 13.0	-1.5
AQU	L'Aquila	151.70	342			PKPab	16 51 16.6	-1.6
AQU				IAMs_20	IAMs_20		17 58 14.6	
	comp=Z,620nm,22.0s							
INTR	Introdacqua	151.86	341	PKPab		PKPab	16 51 16.4	-2.5
PGAV	Gavieira, Arco	152.28	17	ePKPab		PKPab	16 51 23.7	+3.1
PGAV	Gavieira, Arco	152.28	17	eLR		LR	17 44 24.6	
	comp=Z,642nm,20.0s							
PBRG	Braganca	152.83	15	ePKPab		PKPab	16 51 26.7	+3.8
PVRL	Vila Real	153.07	17	ePKPab		PKPab	16 51 20.1	-3.8
MVO	Moncorvo	153.36	16	ePKPab		PKPab	16 51 21.1	-4.1
MVO	Moncorvo	153.36	16	eLR	LR		17 44 37.4	
	comp=Z,587nm,20.0s							
PVIS	Viseu	153.54	17	ePKPab		PKPab	16 51 25.5	-0.4
MTE	Manteigas	153.93	17	ePKPab		PKPab	16 51 25.4	-2.2
MTE	Manteigas	153.93	17	eLR	LR		17 43 42.8	
	comp=Z,570nm,22.0s							
PCAS	Casmilo, Conde	153.97	19	ePKPab		PKPab	16 51 26.8	-0.9
PSBE	So Bento	154.36	20	ePKPab		PKPab	16 51 25.8	-3.6
PMRV	Marv??o	154.88	18	ePKPab		PKPab	16 51 26.7	-4.9
PMRV	Marv??o	154.88	18	eLR	LR		17 44 02.1	
	comp=Z,633nm,22.0s							
VSL	Villasalto	155.43	347	IAMs_20	IAMs_20		18 00 29.1	
	comp=Z,484nm,21.0s							
ESDC	Sonseca Array	155.48	11	PKPbc		PKPbc	16 51 19.8	
	comp=Z,1.0nm,1.0s,baz=42,slow=3.1,SNR=4.9							
ESDC				PP		PP	16 55 10.3	+0.7
	comp=Z,0.3nm,0.7s,baz=322,slow=3.9,SNR=2.2							
KEST	Kesra	159.01	344	PKPab		PKPab	16 51 48.2	-1.3
	comp=Z,2.5nm,0.8s,baz=325,slow=9.1,SNR=3.0							
TORD	Torodi Ar. Bea	177.46	169	PKP		PKPdf	16 51 25.2	-1.0
	comp=Z,1.4nm,1.0s,baz=208,slow=1.2,SNR=3.4							
TORD				PKPab	PKPab		16 53 11.7	+0.5
	comp=Z,2.3nm,0.9s,baz=212,slow=2.2,SNR=3.3							
TORD				PP		PP	16 57 07.8	+5.0
	comp=Z,2.7nm,1.1s,baz=219,slow=2.9,SNR=5.7							

NIED ***27*** *16:45:16.7, 36°.45N × 140°.61E, h56km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.88; Mθθ 0.26; Mϕϕ -4.14; Mrθ 2.42; Mrϕ -1.43; Mθϕ 4.03; Fault plane solution: M₀6.33000×10¹⁴ NP1: φs28.00000°, δ69.00000°, λ99.00000°. NP2: φs182.00000°, δ23.00000°, λ66.00000°.*

JMA ***27*** *16:45:16.6± 0.1, 36°.45N × 140°.61E, h56km ± 1km, M3.5 Broadband fault plane solution: P waves. NP1: φs195.00000°, δ27.00000°, λ92.00000°. NP2: φs13.00000°, δ63.00000°, λ89.00000°. Principal axes: T Plg72.0000°, Azm281.0000°; N Plg1.0000°, Azm14.0000°; P Plg18.0000°, Azm104.0000°;*

JMA Felt II J1.

IDC ***27*** *16:45:16.8± 2.5, 36°.48N × 140°.70E, h61km ± 22km, mb3.2/6, mb1 3.4/8, mb1mx3.2/51, mbtmp3.6/8, ML3.3/2 Error ellipse: s-maj=29.9km s-min=18.7km az=89.0*

ISC 27 16:45:16.0±0.8, 36°.45N±0°.04 × 140°.71E±0°.06, h56km±6km, n27, σ0s75/33, mb3.4/6, 4C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JHYU	Hitachinakayam	0.15	222	⇑P		Pn	16 45 25.3	+0.6
JHYU				S		Sn	16 45 31.3	+0.4
JHO	Hitachi	0.20	325	⇑P		Pn	16 45 25.4	+0.4
JHO				S		Sn	16 45 31.4	0.0
JYT	Yasato	0.47	242	⇓P		Pn	16 45 27.4	+0.1
JYT				S		Sn	16 45 34.7	-0.7
ONAJ	Iwakimizuishiy	0.66	6	⇑P		Pn	16 45 29.8	+0.3
ONAJ				S		Sn	16 45 39.2	-0.1
JSB	Shiboa	0.82	310	⇓P		Pn	16 45 31.5	0.0
JSB				S		Sn	16 45 42.4	-0.5
JFK	Kawauchi	0.93	8	⇑P		Pn	16 45 33.1	+0.2
JAG	Ashikaga	1.01	269	⇓P		Pn	16 45 33.9	-0.1
JAG				S		Sn	16 45 45.8	-1.6
JFT	Otama	1.11	345	⇓P		Pn	16 45 35.9	+0.6
JFT				S		Sn	16 45 49.7	0.0
JKT	Katashina	1.22	286	⇓P		Pn	16 45 36.8	0.0
JFY	Yanaizu	1.25	320	⇓P		Pn	16 45 37.6	+0.4
JFY				S		Sn	16 45 52.9	-0.1
MJAR	Matsushiro Arr	2.02	273	P		Pn	16 45 47.8	+0.2
	3.3nm,0.3s,baz=80,slow=18,SNR=148							
MJAR				S		Sn	16 46 12.5	+0.8
	2.1nm,0.3s,baz=102,slow=20,SNR=2.3							
MJAR				LR		LR	16 46 44.4	
	comp=Z,113nm,21.2s,baz=235,slow=44							
MAT	Matsushiro	2.02	273	P		Pn	16 45 48.1	+0.5
MAT				eS		Sn	16 46 12.4	+0.7
JHJ	Hachijo jima 2	3.41	193	P		Pn	16 46 08.7	+2.1
	7.0nm,0.3s,baz=30,slow=19,SNR=1.5							
JHJ				S		Sn	16 46 45.2	-0.6
	8.5nm,0.3s,baz=80,slow=18,SNR=1.8							
ASAJ	Asahikawa	7.79	10	P		Pn	16 47 06.6	-0.1
	0.5nm,0.3s,baz=212,slow=9.5,SNR=7.3							
ASAJ				S		Sn	16 48 33.0	-0.4
	0.1nm,0.3s,baz=108,slow=20,SNR=1.4							
JCJ	Chichijima	9.41	172	P		Pn	16 47 27.1	-1.8
	1.9nm,0.3s,baz=294,slow=21,SNR=2.3							
JCJ				S		Sn	16 49 02.9	-10
	1.3nm,0.3s,baz=285,slow=20,SNR=1.6							
H11N2	WAKE ISLAND Hy	28.35	119	T		T	17 21 02.1	
	baz=313,slow=75,SNR=6.2							
H11N1	WAKE ISLAND Hy	28.36	119	T		T	17 21 04.2	
	baz=313,slow=75,SNR=8.7							
H11N3	WAKE ISLAND Hy	28.37	119	T		T	17 21 14.3	
	baz=313,slow=75,SNR=9.3							
H11S1	WAKE ISLAND Hy	29.03	121	T		T	17 21 59.6	
	baz=314,slow=76,SNR=21							
H11S3	WAKE ISLAND Hy	29.03	121	T		T	17 21 59.7	
	baz=314,slow=76,SNR=16							
H11S2	WAKE ISLAND Hy	29.05	121	T		T	17 21 43.0	
	baz=314,slow=76,SNR=12							
ZALV	Zalesovo Beam	41.89	313	P		P	16 53 00.2	-0.4
	1.0nm,0.6s,baz=91,slow=7.4,SNR=3.7							
MKAR	Makanchi Array	43.95	303	P		P	16 53 18.4	+1.0
	0.5nm,0.7s,baz=85,slow=8.8,SNR=3.5							
ILAR	Eielson Array	50.29	32	P		P	16 54 06.8	+0.4
	0.2nm,0.6s,baz=278,slow=6.3,SNR=4.2							
WRA	Warramunga Arr	56.41	187	P		P	16 54 51.7	-0.1
	0.5nm,0.7s,baz=4.7,slow=7.4,SNR=7.4							
ASAR	Alice Springs	60.14	187	P		P	16 55 18.6	+0.8
	0.3nm,0.8s,baz=14,slow=7.8,SNR=1.9							
AKASG	Malin Array Be	74.41	322	P		P	16 56 47.7	-0.1
	0.1nm,0.2s,baz=41,slow=6.4,SNR=1.3							

IDC ***27*** *16:45:34.8± 3.9, 31°.70N × 56°.38E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.4/47, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=72.1km s-min=40.4km az=133.0*

TEH ***27*** *16:45:37.6, 32°.09N × 56°.10E, h5km, ML3.7*

THR ***27*** *16:45:38.8± 0.3, 32°.12N × 56°.08E, h14km ± 3km, ML3.7*

ISC 27 16:45:39.6±0.9, 32°.10N±0°.04 × 56°.05E±0°.03, h13km, n49, σ1s54/51, 1C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
IBAF	Bafgh	0.66	219	ePg		Pg	16 45 50.8	-1.7
IBAF				*e*			16 46 02.3	
TPRV	Parvadeh(Tabas	1.07	30	ePg		Pb	16 45 59.1	-0.9
TPRV				*e*			16 46 27.7	
YZKH	Yazd	1.27	283	ePg		Pn	16 46 02.7	-0.5
YZKH				eSg		Sb	16 46 20.3	+0.5
YZKH				IAML			16 46 25.7	
	comp=N,1μm,0.4s							
YZKH				IAML			16 46 26.4	
	comp=E,1μm,0.4s							
YZKH	Yazd	1.27	283	ePg		Pn	16 46 02.7	-0.5
ICHK	Chekchek	1.40	276	*e*			16 46 28.2	
ICHK				ePg		Pn	16 46 05.1	0.0
IMEH	Mehriz	1.42	240	*e*			16 46 25.8	
IMEH				ePg		Pn	16 46 05.6	+0.3
TKDS	Koohdasht(Taba	1.75	31	ePn		Pn	16 46 10.5	+0.6
TKDS				*e*			16 46 46.5	
KHGB	Koh Gabri	1.76	168	ePg		Pn	16 46 10.7	+0.6
KHGB				*e*			16 46 40.9	
TABS	Tabas	1.78	30	ePn		Pn	16 46 10.8	+0.5
TABS	Tabas	1.78	30	ePn		Pn	16 46 10.8	+0.5
TNSJ	Nastanj	1.91	14	ePn		Pn	16 46 12.5	+0.4
TNSJ				*e*			16 46 47.8	
ISAD	Sadrabad	2.02	265	ePn		Pn	16 46 14.8	+1.1
ISAD				*e*			16 46 46.0	
TVBK	TV Kerman	2.20	164	ePn		Pn	16 46 18.1	+1.9
TVBK				*e*			16 46 55.8	
KRBR	Kerman	2.20	164	ePn		Pn	16 46 17.4	+1.2
KRBR				eSg		Sb	16 46 48.5	+1.8
KRBR				IAML			16 46 50.3	
	comp=N,368nm,0.6s							
KRBR	Kerman	2.20	164	ePn		Pn	16 46 17.4	+1.2
ANAR	Anarak	2.24	300	ePn		Pn	16 46 17.6	+1.0
ITEG	Tejag	2.41	70	ePn		Pn	16 46 20.1	+1.1
ITEG				*e*			16 47 02.4	
NGRK	Negar Kerman	2.52	166	ePn		Pn	16 46 22.6	+2.0
NGRK				*e*			16 47 04.8	
CHMN	Cheshme madani	2.57	150	ePn		Pn	16 46 22.4	+1.0
CHMN				*e*			16 47 03.8	
BSRN	Basiran	2.61	92	ePn		Pn	16 46 22.3	+0.6
BSRN	Basiran	2.61	92	ePn		Pn	16 46 22.3	+0.6
AFRZ	Afriz	2.82	61	ePn		Pn	16 46 25.2	+0.6
IRAM	Ramesheh	3.13	266	ePn		Pn	16 46 30.2	+1.3
IMON	Monand	3.24	69	ePn		Pn	16 46 32.9	+2.5
IZEF	Zefreh	3.24	285	ePn		Pn	16 46 32.3	+1.8
IDAH	Dahanechah	3.29	78	ePn		Pn	16 46 32.7	+1.6
IGAR	Gharneh	3.41	276	ePn		Pn	16 46 34.6	+1.8
IGAR				*e*			16 47 28.0	
NHDN	Nehbandan	3.48	101	ePn		Pn	16 46 33.8	+0.2
IANJ	Anjilo	3.80	333	ePn		Pn	16 46 39.5	+1.4
SHRT	Shahrakht	3.88	66	ePn		Pn	16 46 39.8	+0.7
SHRT	Shahrakht	3.88	66	ePn		Pn	16 46 39.8	+0.7
KLNJ	Kolanjah	3.96	255	ePn		Pn

BULG AML AML
comp=N,564µm,0.7s
MGR Morigerati 0.51 350 ⇓P **Pn 16 59 40.7 +1.1**
MGR S **S 17 00 07.8 +1.1**
MGR AML AML
comp=E,404µm,0.8s
MGR AML AML
comp=N,388µm,0.6s
TDS Terranova Siba 0.52 87 ⇓P **Pn 16 59 40.9 +1.2**
TDS S **S 17 00 07.0 +0.3**
TDS AML AML
comp=E,544µm,1.1s
TDS AML AML
comp=N,528µm,1.2s
SIRI Monte Sirino - 0.57 16 ⇓P **Pn 16 59 40.7 +0.8**
SIRI S **S 17 00 07.7 +0.5**
SIRI AML AML
comp=E,612µm,0.3s
SIRI AML AML
comp=N,695µm,0.6s
SIRI AML AML
comp=E,588µm,0.3s
SIRI AML AML
comp=E,613µm,0.3s
SIRI AML AML
comp=N,720µm,0.6s
CAR1 CAROLEI 0.57 132 ⇓P **Pn 16 59 39.9 0.0**
CAR1 S **S 17 00 05.5 -1.7**
CAR1 AML AML
comp=N,4710µm,0.8s
CAR1 AML AML
comp=N,3420µm,0.7s
CAR1 AML AML
comp=E,6490µm,0.7s
CAR1 AML AML
comp=E,5060µm,0.7s
SALB San Lorenzo Be 0.58 65 ⇓P **Pn 16 59 40.6 +0.7**
SALB S **S 17 00 07.7 +0.4**
SALB AML AML
comp=E,882µm,1.0s
SALB AML AML
comp=N,943µm,0.5s
SALB AML AML
comp=N,942µm,0.5s
SALB AML AML
comp=E,974µm,1.0s
SALB AML AML
comp=N,1024µm,0.6s
MTSN Montesano sull 0.63 6 ⇓P **Pn 16 59 40.9 +0.8**
MTSN S **S 17 00 09.2 +1.6**
MTSN AML AML
comp=E,286µm,0.5s
MTSN AML AML
comp=N,424µm,1.6s
MTSN AML AML
comp=E,330µm,0.8s
SCHR S. Chirico Rap 0.64 29 ⇑P **Pn 16 59 41.4 +1.3**
SCHR S **S 17 00 09.0 +1.4**
SCHR AML AML
comp=E,339µm,0.9s
SCHR AML AML
comp=N,292µm,1.0s
SCHR AML AML
comp=E,338µm,0.9s
SCHR AML AML
comp=N,291µm,1.0s
CELI Celico 0.69 109 ⇓P **Pn 16 59 41.6 +1.2**
CELI S **S 17 00 08.1 +0.1**
CELI AML AML
comp=E,626µm,1.6s
CELI AML AML
comp=N,756µm,0.2s
CELI AML AML
comp=E,1294µm,0.7s
CELI AML AML
comp=N,1438µm,0.6s
CELI AML AML
comp=N,3670µm,0.6s
CELI AML AML
comp=E,3275µm,0.7s
CELI AML AML
comp=N,3675µm,0.6s
MCEL Monticello 0.69 9 ⇓P **Pn 16 59 42.0 +1.7**
MCEL S **S 17 00 09.3 +1.3**
MCEL AML AML
comp=E,898µm,0.5s
MCEL AML AML
comp=N,1235µm,0.7s
MCEL AML AML
comp=E,922µm,0.5s
MCEL AML AML
comp=N,1270µm,0.7s
MCEL AML AML
comp=E,896µm,0.5s
CMPR Campora 0.74 338 ⇓P **Pn 16 59 41.7 +1.3**
CMPR S **S 17 00 09.5 +1.3**
CMPR AML AML
comp=E,150µm,0.7s
CMPR AML AML
comp=N,200µm,0.3s
CMPR AML AML
comp=N,264µm,0.8s
CMPR AML AML
comp=E,345µm,0.8s
CDRU Civita di Ruta 0.90 342 ⇓P **Pn 16 59 42.5 +1.3**
CDRU S **S 17 00 10.4 +0.8**
CDRU AML AML
comp=E,143µm,0.7s
CDRU AML AML
comp=N,126µm,0.9s
PIPA Pietrapaola 0.90 99 ⇓P **Pn 16 59 41.8 +0.7**
PIPA AML AML
comp=N,1065µm,0.6s
PIPA AML AML
comp=N,1105µm,0.6s
PIPA AML AML
comp=E,1405µm,1.5s
PIPA AML AML
comp=E,1390µm,1.5s
CRAC Craco 0.94 39 ⇓P **Pn 16 59 42.1 +0.8**
CRAC AML AML
comp=E,842µm,1.3s
CRAC AML AML
comp=N,834µm,1.6s
TIP Timpagrande 0.96 118 ⇑P **Pn 16 59 42.0 +0.4**
TIP ⇓S **S 17 00 09.0 -1.1**
TIP Timpagrande 0.96 118 ⇓P **Pn 16 59 42.0 +0.4**
TIP S **S 17 00 08.7 -1.4**
TIP AML AML
comp=N,540µm,1.6s
TIP AML AML
comp=E,694µm,0.8s
TIP AML AML
comp=N,666µm,1.6s
TIP AML AML
comp=E,832µm,0.8s
SERS Sersale 0.99 127 ⇓P **Pn 16 59 42.1 +0.3**
SERS S **S 17 00 09.0 -1.5**
SERS AML AML
comp=N,1575µm,1.1s
SERS AML AML
comp=E,1635µm,0.7s
SERS AML AML
comp=E,1425µm,0.5s
SERS AML AML
comp=N,1545µm,0.5s
GRI Girifalco 1.00 144 P **Pn 16 59 42.2 +0.4**
GRI S **S 17 00 09.2 -1.3**
GRI AML AML
comp=E,1400µm,0.6s
GRI AML AML
comp=N,2265µm,0.6s
JOPP Joppolo 1.04 171 P **Pn 16 59 41.7 -0.3**
JOPP S **S 17 00 08.7 -2.2**
JOPP AML AML
comp=E,3030µm,1.1s
JOPP AML AML
comp=N,3310µm,0.3s
MRLC Muro Lucano 1.13 353 ⇓P **Pn 16 59 43.7 +1.3**
MRLC S **S 17 00 13.9 +2.3**
MRLC AML AML
comp=E,114µm,0.7s
MRLC AML AML
comp=N,71µm,0.6s
MRLC AML AML
comp=N,168µm,0.6s
MRLC AML AML
comp=E,122µm,0.8s
MRLC AML AML
comp=E,105µm,0.7s
MRLC AML AML
comp=N,156µm,0.6s
MIGL Miglionico 1.13 31 ⇓P **Pn 16 59 42.6 +0.3**
MIGL S **S 17 00 11.5 -0.2**
MIGL AML AML
comp=E,1022µm,0.8s
MIGL AML AML
comp=N,1275µm,0.7s
MIGL AML AML
comp=E,1021µm,0.8s
MIGL AML AML
comp=N,1280µm,0.7s
ACER Acerenza 1.17 10 ⇓P **Pn 16 59 43.0 +0.5**
ACER S **S 17 00 11.5 -0.6**
ACER AML AML
comp=E,326µm,0.6s
ACER AML AML
comp=N,349µm,0.6s
MATE Matera 1.29 38 ⇑P **Pn 16 59 43.4 +0.2**
MATE ⇑S **S 17 00 12.3 -0.9**
MATE Matera 1.29 38 ⇓P **Pn 16 59 43.5 +0.2**
MATE S **S 17 00 12.0 -1.2**
MATE AML AML
comp=N,520µm,1.4s
MATE AML AML
comp=E,835µm,0.7s
LTRZ Laterza 1.31 42 ⇓P **Pn 16 59 43.5 +0.1**
LTRZ S **S 17 00 12.5 -1.1**
LTRZ AML AML
comp=E,817µm,0.7s
LTRZ AML AML
comp=N,932µm,1.1s
PALZ Palazzo San Ge 1.32 10 ⇓P **Pn 16 59 44.1 +0.6**
PALZ S **S 17 00 13.9 +0.1**
PALZ AML AML
comp=E,226µm,1.2s
PALZ AML AML
comp=N,170µm,1.6s
PALZ AML AML
comp=E,278µm,1.3s
PALZ AML AML
comp=N,369µm,1.6s
PLAC Placanica 1.33 153 ⇓P **Pn 16 59 43.6 -0.1**
PLAC S **S 17 00 11.9 -2.1**
PLAC AML AML
comp=N,1730µm,1.3s
PLAC AML AML
comp=N,2030µm,0.6s
PLAC AML AML
comp=E,1955µm,0.6s
PLAC AML AML
comp=E,1845µm,1.2s
VPL Vulcano Piano 1.36 203 ⇑P **Pn 16 59 44.5 +0.5**
VPL S **S 17 00 14.5 +0.1**
VPL AML AML
comp=E,1600µm,0.7s
VPL AML AML
comp=E,1715µm,1.1s
VPL AML AML
comp=N,2165µm,0.7s
IFIL Filicudi I Eol 1.37 219 ⇑P **Pn 16 59 44.8 +0.9**
IFIL AML AML
comp=N,683µm,1.6s
IFIL AML AML
comp=N,684µm,1.6s
IFIL AML AML
comp=E,2080µm,1.4s
MSRU Castanea 1.38 185 ⇑P **Pn 16 59 43.6 -0.5**
MSRU AML AML
comp=E,1070µm,1.4s
MSRU AML AML
comp=N,1405µm,0.8s
CEL Celeste 1.39 173 ⇑P **Pn 16 59 43.4 -0.7**
CEL S **S 17 00 11.7 -3.1**
CEL AML AML
comp=N,976µm,1.2s
CEL AML AML
comp=E,598µm,0.7s
CEL AML AML
comp=E,702µm,0.7s
CEL AML AML
comp=N,1196µm,1.2s
MILZ Milazzo 1.41 194 P **Pn 16 59 44.9 +0.7**
MSCL Scilla 1.41 176 P **Pn 16 59 44.4 +0.1**
MSCL AML AML
comp=N,1820µm,0.5s
MSCL AML AML
comp=E,1640µm,0.8s
MSCL AML AML
comp=N,1815µm,0.5s
GMB Gambarie 1.47 175 P **Pn 16 59 44.7 -0.1**
GMB AML AML
comp=N,3555µm,0.6s
GMB AML AML
comp=E,4295µm,0.2s
MRVN Minervino Murg 1.48 16 ⇓P **Pn 16 59 45.2 +0.5**
MRVN S **S 17 00 15.6 -0.2**
MRVN AML AML
comp=E,134µm,1.2s
MRVN AML AML
comp=N,182µm,1.1s
MPNC Port Mandanici 1.51 189 ⇑P **Pn 16 59 44.4 -0.6**
MPNC AML AML
comp=E,1155µm,0.5s
MPNC AML AML
comp=N,1028µm,1.1s
SOI Samo 1.59 169 P **Pn 16 59 45.6 0.0**
SOI S **S 17 00 15.0 -2.3**
SOI AML AML
comp=E,534µm,0.9s
SOI AML AML
comp=N,686µm,1.2s
MCSR Castroreale 1.60 192 ⇑P **Pn 16 59 45.6 -0.2**
MCSR S **S 17 00 17.0 -0.7**
MCSR AML AML
comp=E,2040µm,0.4s
MCSR AML AML
comp=N,1375µm,0.5s
NOV Novara 1.66 195 ⇑P **Pn 16 59 46.5 +0.4**
NOV S **S 17 00 17.6 -0.8**
NOV AML AML
comp=E,864µm,1.4s
NOV AML AML
comp=N,1480µm,0.7s
AIO Antillo 1.70 192 ⇑P **Pn 16 59 46.7 +0.3**
AIO S **S 17 00 18.2 -0.7**
AIO AML AML
comp=E,470µm,0.9s
AIO AML AML
comp=N,610µm,0.6s
AIO AML AML
comp=E,470µm,0.9s
MPAZ Palizzi 1.70 171 ⇑P **Pn 16 59 46.2 -0.2**
MPAZ S **S 17 00 17.1 -1.8**
MPAZ AML AML
comp=E,1115µm,0.7s
MPAZ AML AML
comp=N,1835µm,0.7s
MUCR Ucria 1.71 202 ⇑P **Pn 16 59 46.8 +0.2**
MUCR S **S 17 00 19.0 -0.1**
MUCR AML AML
comp=E,166µm,0.5s
MUCR AML AML
comp=N,244µm,0.5s
MUCR AML AML
comp=E,593µm,0.5s
MUCR AML AML
comp=N,681µm,0.7s
MSFR San Fratello 1.81 208 ⇑P **Pn 16 59 48.1 +0.8**
MSFR AML AML
comp=E,128µm,1.4s
MSFR AML AML
comp=N,182µm,0.5s
MNO Monte Soro 1.86 204 ⇑P **Pn 16 59 49.0 +1.0**
MNO AML AML
comp=E,546µm,0.6s
MNO AML AML
comp=N,788µm,0.7s
EMSG Monte Spagnolo 1.90 197 P **Pn 16 59 49.8 +1.6**
EMSG AML AML
comp=N,850µm,0.5s
EMSG AML AML
comp=E,882µm,0.6s
EPZF Pizzo Felice 1.92 200 P **Pn 16 59 49.4 +1.0**
EPZF AML AML
comp=N,957µm,0.7s
EPZF AML AML
comp=E,1115µm,1.6s
MSAG Monte S. Angel 2.08 5 ⇓P **Pn 16 59 50.4 +0.9**
MSAG AML AML
comp=N,811µm,0.6s
MSAG AML AML
comp=E,435µm,0.7s
GIB Gibilmanna 2.08 218 ⇑P **Pn 16 59 50.5 +0.7**
GIB AML AML
comp=E,611µm,0.7s
GIB AML AML
comp=N,620µm,0.6s
VAGA Valle Agricola 2.09 329 ⇑P Pn 16 59 57.2 +7.6
VAGA S **S 17 00 18.0 -6.7**
GALF Gagliano Caste 2.11 204 P **Pn 16 59 50.9 +1.0**
GALF AML AML
comp=E,526µm,0.5s
GALF AML AML
comp=N,380µm,0.5s
ESML S. M. di Licod 2.11 197 P **Pn 16 59 50.2 +0.4**
ESML AML AML
comp=E,398µm,0.5s
ESML AML AML
comp=N,382µm,0.6s
PETRA Petralia Sopra 2.17 214 ⇑P **Pn 16 59 51.5 +0.9**
SOLUN Solunto 2.27 228 ⇑P **Pn 16 59 52.4 +1.1**
SOLUN AML AML
comp=E,152µm,1.3s
SOLUN AML AML
comp=N,194µm,1.1s
MPG Monte Pellegri 2.33 231 ⇑P **Pn 16 59 53.0 +1.2**
MPG AML AML
comp=E,285µm,0.6s
MPG AML AML
comp=N,307µm,0.7s
HLNI Lentini 2.37 196 P **Pn 16 59 51.9 -0.4**
HLNI AML AML
comp=N,167µm,1.2s
HLNI AML AML
comp=E,241µm,1.3s
VAE Valguarnera 2.37 205 P **Pn 16 59 54.0 +1.7**
comp=E,16nm,0.3s,baz=80,slow=6.1,SNR=26
HAGA Augusta 2.38 190 P **Pn 16 59 51.8 -0.6**
HAGA AML AML
comp=N,288µm,0.6s
HAGA AML AML
comp=E,256µm,1.6s
AGST Augusta-Monte 2.40 188 P **Pn 16 59 51.8 -0.8**
AGST AML AML
comp=E,504µm,0.5s
AGST AML AML
comp=N,456µm,0.9s
HCRL Carlentini 2.40 192 ⇑P **Pn 16 59 52.0 -0.6**
HCRL AML AML
comp=E,280µm,0.5s
HCRL AML AML
comp=N,305µm,0.7s
ALJA Alia 2.41 219 ⇓P **Pn 16 59 54.7 +2.0**
TREM Isole Tremiti 2.49 357 S **S 17 00 30.0 -1.3**
SSY Sortino 2.52 191 ⇑P **Pn 16 59 52.9 -0.9**
SSY AML AML
comp=N,335µm,0.5s
SSY AML AML
comp=E,170µm,0.8s
CORL Corleone 2.54 227 ⇑P **Pn 16 59 55.3 +1.3**
CORL AML AML
comp=E,478µm,0.8s
CORL AML AML
comp=N,392µm,1.3s
MEU Monte Lauro 2.60 193 ⇓P **Pn 16 59 54.2 -0.4**
MEU AML AML
comp=E,556µm,0.4s
MEU AML AML
comp=N,693µm,0.5s
RAFF Raffo Rosso 2.62 203 P **Pn 16 59 55.5 +0.8**
RAFF AML AML
comp=E,195µm,1.5s
RAFF AML AML
comp=N,204µm,0.9s
GIUL Giuliano Di Ro 2.66 317 P **Pn 16 59 56.3 +1.4**
GIUL AML AML
comp=E,41µm,0.4s
GIUL AML AML
comp=N,48µm,1.2s
HAVL Avola 2.71 189 ⇑P **Pn 16 59 54.8 -0.9**
HAVL AML AML
comp=N,490µm,0.5s
HAVL AML AML
comp=E,190µm,1.5s
CRJA Costa Raja 2.77 230 ⇑P **Pn 16 59 58.2 +1.9**
CLTB Caltabellotta 2.81 224 P **Pn 16 59 57.7 +0.9**
CLTB AML AML
comp=E,576µm,0.5s
CLTB AML AML
comp=N,814µm,0.6s
CLTA Licata 2.81 209 ⇑P **Pn 16 59 57.6 +1.0**
CLTA AML AML
comp=E,322µm,0.7s
CLTA AML AML
comp=N,450µm,0.3s
MMGO Monte Magaggia 2.88 228 ⇓P **Pn 16 59 58.3 +0.9**
KEK Kerkira 3.19 87 P **Pn 17 00 01.1 +0.5**
SRN Sarande 3.35 84 P **Pn 17 00 02.6 +0.3**
PDG Podgorica 3.89 43 ⇑P **Pn 17 00 08.0 -0.3**
LKD2 Lefkada island 3.97 101 P **Pn 17 00 09.9 +0.6**
FSK Fiskardo 3.99 106 P **Pn 17 00 09.9 +0.4**
JAN Janina 4.00 88 P **Pn 17 00 11.2 +1.5**
EVGI Lefkada island 4.01 103 P **Pn 17 00 10.3 +0.5**
ATCC AVT- Casa Cast 4.21 328 AML AML
comp=N,173µm,0.6s
ATCC AML AML
comp=E,227µm,0.9s
KPRO Kipourio 4.40 84 P **Pn 17 00 16.3 +1.9**
PVO Paravola 4.67 101 P **Pn 17 00 18.9 +1.4**
EVR Evrytania 4.82 97 P **Pn 17 00 21.3 +1.9**
THL Klokotos Trika 4.90 89 P **Pn 17 00 21.6 +1.3**
ANX Ano Chora 4.97 100 P **Pn 17 00 23.2 +1.9**
EFP Efpalio 5.01 102 P **Pn 17 00 23.1 +1.6**
LAKA Lakka 5.11 104 P **Pn 17 00 25.0 +2.1**
TRIZ Trizonia 5.15 102 P **Pn 17 00 24.5 +1.2**
AGG Agios Georgios 5.20 95 P **Pn 17 00 25.5 +1.5**
KLV Kalavryta, Ach 5.31 105 P **Pn 17 00 26.8 +1.5**
DSF Desfina 5.48 101 P **Pn 17 00 28.5 +1.1**
GUR Goura 5.48 106 P **Pn 17 00 29.0 +1.5**
AXAR Agios Charalam 5.50 97 P **Pn 17 00 29.2 +1.6**
VLX Vlachokerasia 5.73 111 P **Pn 17 00 31.5 +1.0**
HORT Hortiatis 5.78 78 P **Pn 17 00 31.4 +0.4**
PGF Pioggiola 5.82 302 eP **Pn 17 00 32.7 +1.2**
XOR Xorichti 5.83 90 P **Pn 17 00 32.6 +1.0**
DID Didima 6.30 107 P **Pn 17 00 37.3 -0.2**
KEST Kesra 6.35 234 P **Pn 17 00 39.9 +1.7**
comp=E,0.8nm,0.3s,baz=34,slow=4.6,SNR=14
AOS Alonnisos 6.38 92 P **Pn 17 00 38.7 +0.4**
VLI Veliai 6.42 115 P **Pn 17 00 40.5 +1.5**
EUCT Pavia 7.37 321 P **Pn 17 00 55.0 +4.5**
SBF Sospel 7.46 307 eP **Pn 17 00 53.9 +2.0**
SBF eSn **S 17 02 18.0 +0.3**
comp=E,2.0nm,0.4s
LMR La Mourre 7.80 301 eP **Pn 17 00 57.5 +1.4**
LMR eSn **S 17 02 25.5 +0.1**
comp=E,0.3nm,0.3s
FRF La Foret Royal 7.81 303 eP **Pn 17 00 57.6 +1.4**
FRF eSn **S 17 02 25.2 -0.5**
comp=E,1.1nm,0.3s
DOI San Damiano 7.93 311 P Pn 17 01 05.4 +7.7
MBDF Montbardon 8.33 310 eP **Pn 17 01 05.7 +2.8**
MBDF eSn **S 17 02 38.7 +0.8**
comp=E,8.7nm,0.7s
IDI Anoyia 8.52 118 P **Pn 17 01 06.2 +1.0**
comp=E,0.3nm,0.3s,baz=298,slow=15,SNR=2.3
SMRF Simiane la Rot 8.69 303 eP **Pn 17 01 09.0 +1.7**
LPG La Plagne 8.80 315 eP **Pn 17 01 11.5 +2.6**
LPG eSn **S 17 02 49.3 +0.4**
comp=E,9.9nm,0.6s
LPL La Plagne 8.83 315 eP **P 17 01 14.6 -1.2**
LPL eSn **S 17 02 49.3 0.0**
comp=E,9.9nm,0.5s
ORIF Oris-en-Rattie 8.97 309 eP **Pn 17 01 09.9 -0.9**
ORIF eSn **S 17 02 52.7 +0.3**
comp=E,12nm,0.7s
GERES GERESS Array B 9.31 352 P **Pn 17 01 16.9 +1.9**

	comp=E,0.7nm,0.3s,baz=166,slow=13,SNR=9.7								
JAVC	**Velka Javorina**	**9.33**	**8**	*e*PN		**Pn**	**17 01 17.8**	**+2.5**
KRUC	**Moravsky**	**9.44**	**3**	*e*PN		**Pn**	**17 01 18.8**	**+2.3**
MLR	**Muntele Rosu**	**9.57**	**49**	P		**P**	**17 01 21.6**	**-2.7**
	comp=E,0.4nm,0.3s,baz=270,slow=5.8,SNR=7.7								
MLR				S		**S**	**17 03 05.3**	**-1.1**
	comp=E,0.2nm,0.3s,baz=297,slow=17,SNR=2.0								
VIVF	**Saint-Julien-l**	**9.67**	**306**	*e*P		**Pn**	**17 01 22.3**	**+2.7**
VIVF				*e*Sn		**S**	**17 03 08.6**	**0.0**
	comp=E,1.2nm,0.3s								
VRAC	**Vranov**	**9.69**	**4**	P		**Pn**	**17 01 20.4**	**+0.7**
	comp=E,0.2nm,0.3s,baz=181,slow=8.9,SNR=5.4								
VRAC	**Vranov**	**9.69**	**4**	*e*PN		**Pn**	**17 01 21.2**	**+1.5**
LASF	**Ste Croix**	**9.86**	**301**	*e*P		**Pn**	**17 01 23.8**	**+1.8**
CABF	**La Chapelle**	**9.88**	**318**	*e*P		**Pn**	**17 01 24.3**	**+2.2**
MORC	**Moravsky Berou**	**10.23**	**7**	*e*PN		**Pn**	**17 01 28.2**	**+1.8**
HINF	**Hinteralfeld**	**10.36**	**325**	*e*P		**Pn**	**17 01 29.4**	**+1.2**
CDF	**Champ du Feu**	**10.64**	**328**	*e*P		**P**	**17 01 34.0**	**-2.1**
HAU	**Haudompre**	**10.73**	**324**	*e*P		**P**	**17 01 35.3**	**-1.7**
SMF	**Signal de Mont**	**11.12**	**313**	*e*P		**P**	**17 01 40.5**	**-0.8**
CAF	**Calviac**	**11.37**	**302**	*e*P		**Pn**	**17 01 42.0**	**+1.2**
LOR	**Lormes**	**11.47**	**316**	*e*P		**P**	**17 01 44.4**	**-0.8**
AVF	**Avril sur Loir**	**11.47**	**313**	*e*P		**P**	**17 01 45.0**	**-0.2**
SSF	**Saint Saulge**	**11.54**	**314**	*e*P		**P**	**17 01 45.3**	**-0.7**
ETSF	**Etsaut**	**12.64**	**290**	*e*P		**P**	**17 01 57.8**	**-0.5**
ETSF	**Etsaut**	**12.64**	**290**	*e*Pg		**P**	**17 02 02.1**	**+3.8**
SJPF	**Ste Jean**	**13.15**	**291**	*e*P		**P**	**17 02 04.4**	**+0.5**
BRTR	**Keskin Array B**	**13.85**	**84**	P		**P**	**17 02 13.5**	**+1.7**
	comp=E,0.1nm,0.3s,baz=270,slow=9.6,SNR=4.1								
AKASG	**Malin Array Be**	**14.60**	**36**	P		**P**	**17 02 19.6**	**-0.2**
	comp=E,2.5nm,0.3s,baz=227,slow=11,SNR=15								
ESDC	**Sonseca Array**	**15.12**	**276**	P		**P**	**17 02 25.1**	**-0.7**
	comp=E,0.2nm,0.3s,baz=79,slow=11,SNR=16								
PABE	**Paberze**	**16.81**	**16**	*e*P		**P**	**17 02 44.8**	**+0.8**
PBRG	**Braganca**	**17.12**	**284**	*e*P		**Pn**	**17 02 51.6**	**+1.6**
	comp=E,19nm,1.7s								
MMAI	**Mount Meron Ar**	**17.21**	**106**	P		**P**	**17 02 49.6**	**+1.0**
	comp=E,0.4nm,0.3s,baz=322,slow=5.3,SNR=5.7								
MVO	**Moncorvo**	**17.35**	**282**	*e*P		**P**	**17 02 50.4**	**+0.3**
	comp=E,20nm,1.8s								
ISAL	**Salakas**	**17.40**	**20**	*e*P		**P**	**17 02 50.4**	**+0.1**
MDT	**Midelt**	**17.70**	**254**	P		**P**	**17 02 53.7**	**-0.3**
	comp=E,0.1nm,0.3s,baz=88,slow=11,SNR=7.6								
PMRV	**Marv??o**	**17.79**	**277**	*e*P		**Pn**	**17 02 56.5**	**-1.3**
	comp=E,17nm,1.7s								
PCBR	**Castelo Branco**	**17.80**	**278**	*e*P		**Pn**	**17 02 57.2**	**-0.7**
	comp=E,13nm,1.7s								
PVIS	**Viseu**	**18.03**	**281**	*e*P		**Pn**	**17 03 00.8**	**+0.2**
	comp=E,24nm,2.1s								
PBEJ	**Beja**	**18.40**	**272**	*e*P		**Pn**	**17 03 03.9**	**-1.0**
	comp=E,18nm,1.4s								
EVO	**Evora**	**18.41**	**274**	*e*P		**Pn**	**17 03 03.4**	**-1.6**
	comp=E,18nm,2.0s								
PMTG	**Montargil**	**18.48**	**276**	*e*P		**P**	**17 03 04.1**	**+1.8**
	comp=E,27nm,1.0s								
PCVE	**Castro Verde**	**18.62**	**271**	*e*P		**Pn**	**17 03 05.8**	**-1.7**
	comp=E,20nm,1.9s								
PBDV	**Barranco-do-Ve**	**18.63**	**270**	*e*P		**Pn**	**17 03 06.6**	**-1.1**
	comp=E,28nm,1.3s								
PNCL	**Nicolau / Gran**	**18.89**	**273**	*e*P		**P**	**17 03 06.7**	**0.0**
	comp=E,18nm,0.8s								
PTEO	**Sao Teotonio**	**19.17**	**272**	*e*P		**P**	**17 03 09.8**	**+0.2**
	comp=E,39nm,1.1s								
EKA	**Eskdalemuir Ar**	**20.11**	**328**	P		**P**	**17 03 17.9**	**-1.5**
	comp=E,1.2nm,0.5s,baz=112,slow=9.1,SNR=6.2								
HFS	**Hagfors**	**20.56**	**357**	P		**P**	**17 03 23.5**	**-0.6**
	comp=E,4.4nm,0.7s,baz=157,slow=14,SNR=6.2								
KBZ	**Khabaz**	**20.70**	**70**	P		**P**	**17 03 26.5**	**+0.7**
	comp=E,5.6nm,0.8s,baz=273,slow=4.5,SNR=11								
NB2	**NORSAR Subarra**	**21.61**	**354**	P		**P**	**17 03 34.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=160,slow=9.3								
NOA	**NORSAR Array B**	**21.61**	**354**	P		**P**	**17 03 34.4**	**0.0**
	comp=Z,0.5nm,0.5s,baz=172,slow=7.4,SNR=4.4								
FINES	**FINESS Array B**	**22.76**	**13**	P		**P**	**17 03 45.0**	**+0.1**
	comp=Z,10nm,0.6s,baz=188,slow=8.9,SNR=32								
TORD	**Torodi Ar. Bea**	**29.12**	**209**	P		**P**	**17 04 42.8**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=17,slow=9.7,SNR=11								
ARCES	**ARCESS Array B**	**30.42**	**7**	P		**P**	**17 04 52.4**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=196,slow=9.6,SNR=5.2								
ARU	**Arti**	**32.59**	**45**	P		**P**	**17 05 11.8**	**-0.3**
	comp=Z,0.5nm,0.2s,baz=236,slow=11,SNR=2.3								
GEYT	**Alibeck**	**32.91**	**79**	P		**P**	**17 05 16.2**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=316,slow=8.3,SNR=3.8								
ZALV	**Zalesovo Beam**	**47.55**	**48**	P		**P**	**17 07 14.7**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=288,slow=8.8,SNR=9.5								
MKAR	**Makanchi Array**	**47.77**	**58**	P		**P**	**17 07 16.7**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=281,slow=7.0,SNR=25								
SCHQ	**Schefferville**	**54.79**	**315**	P		**P**	**17 08 07.6**	**-0.4**
	comp=Z,2.1nm,0.4s,baz=107,slow=5.2,SNR=6.8								
SONM	**Songino Array**	**62.42**	**49**	P		**P**	**17 09 00.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=296,slow=7.9,SNR=4.1								

BEO **27** *16:59:22.4*±*0.6,43.85*N×*16.35*E*, h5*km*±*3*km*, ML3.3/11*
PRU **27** *16:59:25.3*±*0.0,43.80*N×*17.08*E*, h0*km*
PDG **27** *16:59:25.9*±*0.4,43.86*N×*16.90*E*, h0*km*±*11*km*, ML3.1/14,*
Error ellipse: s-maj=1.1km s-min=1.6km az=0.0
RHSSO **27** *16:59:28.1*±*0.3,43.88*N×*17.00*E*, h6*km*±*2*km*, ML3.2/13*

ISC 27 16:59:27.1±0.7**, 43.87N**±0.02×**16.91E**±0.02**, h10km, n105,**
σ1**59**/169**, 13C-13D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIJV	**Kijevo**	**0.39**	**290**	*i* Pg	**Pg**	**16 59 33.2**	**-1.5**
KIJV				Sg	**Sg**	**16 59 38.4**	**-1.5**
RICI	**Ricice**	**0.41**	**157**	*i* Pg	**Pg**	**16 59 34.3**	**-0.8**
RICI				Sg	**Sb**	**16 59 41.4**	**-1.3**
MAKA	**Makarska**	**0.59**	**172**	*i* Pg	**Pg**	**16 59 37.2**	**-1.3**
MAKA				Sg	**Sb**	**16 59 46.4**	**-1.5**
HVAR	**Hvar**	**0.77**	**206**	*e*Pg	**Pg**	**16 59 40.0**	**-1.9**
HVAR				Sg	**Sg**	**16 59 51.8**	**-0.2**
MORI	**Morici**	**0.87**	**270**	*i* Pg	**Pg**	**16 59 42.1**	**-1.7**
MORI				Sg	**Sb**	**16 59 55.5**	**-0.4**
BLY	**Banja Luka**	**0.90**	**13**	*e*Pg	**Pg**	**16 59 44.0**	**-0.4**
BLY				*e*Sg	**Sn**	**16 59 58.1**	**-0.7**
BLY	**Banja Luka**	**0.90**	**13**	⇑*i* Pg	**Pg**	**16 59 43.9**	**-0.4**
BLY				*e*Sg	**Sb**	**16 59 56.9**	**+0.1**
ZIRJ	**Zirje**	**0.94**	**257**	*e*Pg	**Pg**	**16 59 43.0**	**-2.2**
ZIRJ				Sg	**Sb**	**16 59 58.0**	**-0.1**
PRIJ	**Prijedor**	**1.11**	**353**	*e*Pg	**Pn**	**16 59 48.6**	**-0.1**
PRIJ				*e*Sg	**Sg**	**17 00 03.0**	**+0.1**
DUGI	**Dugi Otok**	**1.34**	**276**	*e*Pn	**Pn**	**16 59 50.9**	**-1.0**
DUGI				Sg	**Sg**	**17 00 10.7**	**+0.4**
DBRK	**Dubrovnik**	**1.50**	**143**	Sn	**Sg**	**17 00 16.5**	**+1.1**
DBRK	**Dubrovnik**	**1.50**	**143**	*e*Pn	**Pn**	**16 59 53.9**	**-0.2**
BRY	**Bratogost**	**1.53**	**129**	*e*Pg	**Pn**	**16 59 54.3**	**-0.3**
BRY				*i* Sg	**Sg**	**17 00 18.3**	**+1.9**
BRY	**Bratogost**	**1.53**	**129**	⇑*i* Pg	**Pn**	**16 59 54.3**	**-0.3**
BRY				*e*Sg	**Sg**	**17 00 16.0**	**-0.4**
TREB	**Trebinje**	**1.56**	**137**	*e*Pg	**Pn**	**16 59 54.8**	**-0.1**
TREB				*e*Sg	**Sg**	**17 00 20.4**	**+3.1**
TREB	**Trebinje**	**1.56**	**137**	⇑*i* Pg	**Pn**	**16 59 54.8**	**-0.1**
TREB				*e*Sg	**Sg**	**17 00 16.8**	**-0.5**
UPM	**Unac-Piva**	**1.60**	**114**	⇓*i* Pn	**Pn**	**16 59 55.6**	**+0.1**
UPM				*i* Sn	**Sg**	**17 00 20.8**	**+2.4**
UPM	**Unac-Piva**	**1.60**	**114**	*e*Pn	**Pb**	**16 59 56.4**	**-0.4**
UPM				*e*Sn	**Sb**	**17 00 16.8**	**-0.3**
NVLJ	**Novalja**	**1.62**	**296**	*i* Pn	**Pn**	**16 59 55.6**	**-0.1**
NVLJ				Sn	**Sg**	**17 00 18.9**	**-0.2**
MOSL	**Moslavina**	**1.75**	**356**	*i* Pn	**Pn**	**16 59 56.9**	**-0.5**
RUDO	**Rudo**	**1.80**	**97**	*e*Pn	**Pb**	**16 59 58.9**	**-1.2**
RUDO				*e*Sn	**Sb**	**17 00 21.7**	**-1.0**
BBLS	**Lazići**	**1.81**	**89**	*e*Pn	**Pb**	**16 59 59.5**	**-0.7**
BBLS				*e*Sn	**Sg**	**17 00 27.3**	**+2.2**
BBLS	**Lazići**	**1.81**	**89**	⇓*i* Pn	**Pn**	**16 59 58.7**	**+0.4**
BBLS				*e*Sn	**Sn**	**17 00 21.2**	**-0.1**
HCY	**Herceg Novi**	**1.84**	**140**	*e*Pn	**Pb**	**16 59 59.7**	**-1.0**
HCY				*i* Sn	**Sg**	**17 00 26.0**	**-0.1**
HCY	**Herceg Novi**	**1.84**	**140**	*e*Pn	**Pn**	**16 59 59.2**	**+0.6**
HCY				*e*Sn	**Sb**	**17 00 22.9**	**-0.8**
NKY	**Niksic**	**1.85**	**124**	*e*Pn	**Pb**	**17 00 00.3**	**-0.8**
NKY				*i* Sn	**Sg**	**17 00 26.6**	**0.0**
NKME	**Niksic**	**1.86**	**126**	⇑*i* Pn	**Pb**	**17 00 00.1**	**-1.0**
NKME				*i* Sn	**Sg**	**17 00 26.7**	**0.0**
PLE	**Pljevlja**	**1.88**	**106**	*e*Pn	**Pb**	**17 00 00.6**	**-0.9**
PLE				*i* Sn	**Sg**	**17 00 27.5**	**0.0**
CEME	**Cevo**	**1.98**	**131**	⇑*i* Pn	**Pb**	**17 00 01.6**	**-1.6**
CEME				*i* Sn	**Sg**	**17 00 29.4**	**-1.2**
TEKS	**Tekeris**	**2.00**	**69**	*e*Pn	**Pn**	**17 00 01.7**	**+0.8**
TEKS				*e*Sn	**Sg**	**17 00 31.1**	**-0.3**
TEKS	**Tekeris**	**2.00**	**69**	*e*Pn	**Pn**	**17 00 01.2**	**+0.3**
TEKS				*e*Sn	**Sn**	**17 00 26.2**	**+0.2**
BOJS	**Bojanci**	**2.02**	**325**	*i* Pn	**Pn**	**17 00 01.7**	**+0.6**
BOJS				*e*Sn	**Sb**	**17 00 28.4**	**-0.5**
	comp=Z,99nm,0.5s						
OZLJ	**Ozalj**	**2.02**	**330**	*e*Pn	**Pn**	**17 00 01.7**	**+0.5**
ZAG	**Zagreb**	**2.06**	**342**	*e*Pn	**Pb**	**17 00 03.6**	**-0.9**
BUM	**Brajici-Budva**	**2.14**	**137**	⇓*i* Pn	**Pn**	**17 00 03.8**	**+0.9**
BUM				*i* Sn	**Sb**	**17 00 33.6**	**+1.1**
PTJ	**Puntijarka**	**2.14**	**342**	*e*Pn	**Pn**	**17 00 02.6**	**-0.3**
KOME	**Kolasin**	**2.16**	**117**	⇑*i* Pn	**Pb**	**17 00 04.5**	**-1.7**
KOME				*i* Sn	**Sb**	**17 00 34.1**	**+1.0**
CRES	**Cresnjev**	**2.21**	**333**	*e*Pn	**Pb**	**17 00 05.9**	**-1.2**
CRES				*e*Sn	**Sb**	**17 00 33.4**	**-1.1**
GBRS	**Gornja Briga**	**2.23**	**319**	*i* Pn	**Pb**	**17 00 06.6**	**-1.0**
GBRS				*e*Sn	**Sb**	**17 00 35.5**	**-0.2**
DIVS	**Divibare**	**2.24**	**83**	*e*Pn	**Pn**	**17 00 04.5**	**+0.3**
DIVS				*e*Sn	**Sg**	**17 00 38.9**	**0.0**
DIVS	**Divibare**	**2.24**	**83**	*e*Pn	**Pn**	**17 00 04.3**	**+0.1**
DIVS				*e*Sn	**Sn**	**17 00 32.6**	**+0.7**
PDG	**Podgorica**	**2.24**	**129**	*e*Pn	**Pb**	**17 00 05.8**	**-1.8**
PDG				*e*Sn	**Sg**	**17 00 36.8**	**-2.2**
PDG	**Podgorica**	**2.24**	**129**	*e*Pn	**Pn**	**17 00 05.4**	**+1.2**
PDG				*e*Sn	**Sn**	**17 00 32.2**	**+0.3**
PDG	**Podgorica**	**2.24**	**129**	⇓S	**Sg**	**17 00 40.2**	**+1.2**
TTG	**Podgorica**	**2.24**	**129**	⇑*i* Pn	**Pn**	**17 00 05.3**	**+1.1**
TTG				*i* Sn	**Sb**	**17 00 36.1**	**+0.7**
RIY	**Rijeka**	**2.26**	**311**	*e*Pn	**Pb**	**17 00 06.6**	**-1.3**
RIY				Sn	**Sb**	**17 00 34.5**	**-1.5**
SGRT	**San Giovanni R**	**2.28**	**202**	P	**Pn**	**17 00 05.6**	**+0.7**
SJES	**Sjenica**	**2.31**	**104**	*e*Pn	**Pb**	**17 00 07.4**	**-1.4**
SJES				*e*Sn	**Sg**	**17 00 39.7**	**-1.5**
DRME	**Dracevica, Mon**	**2.37**	**135**	*e*Pn	**Pn**	**17 00 06.9**	**+0.9**
DRME				*i* Sn	**Sb**	**17 00 39.0**	**-0.1**
DRME	**Dracevica, Mon**	**2.37**	**135**	⇓*i* Pn	**Pn**	**17 00 07.3**	**+1.3**
DRME				*e*Sn	**Sn**	**17 00 36.3**	**+1.2**
IVA	**Berane**	**2.39**	**114**	⇑*i* Pn	**Pn**	**17 00 07.4**	**+1.0**
IVA				*i* Sn	**Sb**	**17 00 39.9**	**0.0**
FRGS	**Fruska Gora**	**2.44**	**57**	*e*Pn	**Pn**	**17 00 07.0**	**0.0**
FRGS				*e*Sn	**Sb**	**17 00 42.3**	**+1.1**
FRGS	**Fruska Gora**	**2.44**	**57**	*e*Pn	**Pn**	**17 00 06.9**	**0.0**
FRGS				*e*Sn	**Sn**	**17 00 37.4**	**+0.5**
TRUS	**Trudelj**	**2.54**	**81**	*e*Pn	**Pn**	**17 00 08.5**	**+0.1**
TRUS				*e*Sn	**Sb**	**17 00 45.8**	**+1.6**
ULC	**Ulcinj**	**2.56**	**137**	*e*Pn	**Pn**	**17 00 05.5**	**-3.2**
ULC				*i* Sn	**Sb**	**17 00 44.1**	**-0.6**
PVY	**Plav**	**2.57**	**119**	⇓*i* Pn	**Pn**	**17 00 09.7**	**+0.9**
PVY				*i* Sn	**Sb**	**17 00 44.0**	**-0.9**
CEY	**Cerknica**	**2.57**	**317**	*e*Pn	**Pb**	**17 00 10.8**	**-2.5**
CEY				*e*Sn	**Sb**	**17 00 43.1**	**-1.8**
BEHE	**Becsehely**	**2.60**	**358**	*e*Pn	**Pn**	**17 00 10.7**	**+1.6**
BEHE				*e*Sn	**Sn**	**17 00 42.7**	**+1.9**
MNTP	**Montappone**	**2.61**	**255**	⇓P	**Pg**	**17 00 16.3**	**-0.8**
KOGS	**Kog**	**2.62**	**350**	*i* Pn	**Pn**	**17 00 09.7**	**+0.3**
MORH	**Mrgy, Hungar**	**2.65**	**27**	*e*Sn	**Sn**	**17 00 42.8**	**+0.9**
GRUS	**Gruza**	**2.75**	**88**	*e*Pn	**Pn**	**17 00 13.2**	**+2.0**
GRUS				*e*Sn	**Sb**	**17 00 49.7**	**-0.4**
LJU	**Ljubljana**	**2.75**	**323**	*e*Pn	**Pb**	**17 00 14.0**	**-2.3**
LJU				*e*Sn	**Sb**	**17 00 47.2**	**-2.9**
EL6	**Elcito**	**2.82**	**260**	AML	AML		
	comp=E,330μm,1.1s						
EL6	**Elcito**	**2.82**	**260**	AML	AML		
	comp=N,294μm,0.9s						
EL6	**Elcito**	**2.82**	**260**	⇓P	**Pn**	**17 00 12.6**	**+0.4**
PUK	**Puka**	**2.85**	**129**	P	**Pn**	**17 00 17.0**	**-1.1**
FAGN	**Fagnano**	**2.92**	**238**	⇓P	**Pn**	**17 00 11.1**	**+0.6**
PERS	**Pernice**	**3.04**	**336**	*e*Pn	**Pn**	**17 00 15.3**	**+0.1**
LNSS	**Leonessa**	**3.10**	**247**	⇑P	**Pn**	**17 00 16.7**	**+0.6**
SOKA	**Soboth**	**3.10**	**335**	*i* Pn	**Pn**	**17 00 16.3**	**+0.2**
	comp=N,2.7nm,0.4s						
OBKA	**Obir**	**3.12**	**328**	*i* Pn	**Pn**	**17 00 19.3**	**+2.9**
	comp=N,1.8nm,0.3s						
OBKA				*i* Sn	**Sb**	**17 00 57.6**	**-3.2**
	comp=N,34nm,0.6s						
SELS	**Selova**	**3.13**	**101**	*e*Pn	**Pn**	**17 00 17.4**	**+1.0**
ATCC	**AVT- Casa Cast**	**3.18**	**259**	⇓P	**Pn**	**17 00 17.8**	**+0.7**
FIAM	**Fiamignano**	**3.21**	**241**	⇑P	**Pn**	**17 00 18.8**	**+1.2**
ATTE	**AVT- Monte Tez**	**3.38**	**260**	⇑P	**Pn**	**17 00 22.0**	**+2.0**
BOVS	**Bovan**	**3.48**	**92**	*e*Pn	**Pn**	**17 00 21.9**	**+0.6**
ARSA	**Arzberg**	**3.52**	**344**	*i* Pn	**Pn**	**17 00 22.2**	**+0.5**
	comp=N,11nm,0.3s						
ARSA				*i* Sn	**Sn**	**17 01 04.8**	**+1.4**
	comp=N,5.6nm,0.5s						
MDVR	**Moldovita**	**3.56**	**74**	⇓P	**Pn**	**17 00 23.9**	**+1.4**
BARS	**Barje**	**3.73**	**105**	*e*Pn	**Pn**	**17 00 26.3**	**+1.6**
BARS				*e*Sn	**Sb**	**17 01 13.4**	**-4.9**
BZS	**Buzias**	**3.78**	**61**	*e*Pn	**Pn**	**17 00 25.6**	**+0.2**
BZS	**Buzias**	**3.78**	**61**	⇓P	**Pn**	**17 00 25.3**	**-0.1**
ZAGS	**Zajecar**	**3.85**	**89**	*e*Pn	**Pn**	**17 00 27.9**	**+1.6**
CONA	**Conrad Observa**	**4.12**	**350**	*i* Pn	**Pn**	**17 00 30.7**	**+0.6**
	comp=N,4.1nm,0.3s						
CONA				*e*Sn	**Sn**	**17 01 18.7**	**+0.2**
	comp=N,6.2nm,0.5s						
ZAPS	**Zavoj**	**4.20**	**96**	*e*Pn	**Pn**	**17 00 32.1**	**+0.9**
ABTA	**Abfaltersbach**	**4.23**	**314**	*i* Pn	**Pn**	**17 00 33.2**	**+1.5**
	comp=N,1.8nm,0.3s						
ABTA				*i* Sn	**Sn**	**17 01 24.6**	**+3.5**
	comp=N,14nm,0.6s						
BOSS	**Bosilegrad**	**4.30**	**107**	*e*Pn	**Pn**	**17 00 32.6**	**+0.1**
MOA	**Molln**	**4.38**	**336**	*i* Pn	**Pn**	**17 00 35.0**	**+1.3**
	comp=N,3.8nm,0.2s						
POPM	**Popiglio**	**4.45**	**274**	⇓P	**Pb**	**17 00 43.1**	**-2.1**
MODS	**Modra-Piesok**	**4.51**	**3**	*e*PN	**Pn**	**17 00 34.5**	**-0.9**
MODS				*e*SN	**Sn**	**17 01 24.4**	**-3.5**
PSZ	**Piszkesteto**	**4.55**	**26**	⇑P	**Pn**	**17 00 36.0**	**-0.1**
VYHS	**Vyhne**	**4.81**	**15**	*e*PN	**Pn**	**17 00 39.9**	**+0.3**
VYHS				*e*SN	**Sn**	**17 01 34.9**	**-0.4**
KOLL	**Kolacno**	**4.82**	**12**	*e*PN	**Pn**	**17 00 39.7**	**+0.1**
KOLL				*e*SN	**Sn**	**17 01 35.2**	**-0.3**
WTTA	**Wattenberg**	**5.02**	**314**	*i* Pn	**Pn**	**17 00 44.7**	**+2.1**
	comp=N,4.4nm,0.3s						
WTTA				*i* Sn	**Sn**	**17 01 45.2**	**+4.4**
	comp=N,30nm,0.6s						
WATA	**Walderalm**	**5.10**	**315**	*i* Pn	**Pn**	**17 00 46.1**	**+2.5**
	comp=N,4.9nm,0.3s						
WATA				*i* Sn	**Sn**	**17 01 47.2**	**+4.6**
	comp=N,26nm,0.8s						
KRUC	**Moravsky**	**5.20**	**356**	*e*PN	**Pn**	**17 00 45.2**	**+0.3**
SQTA	**Sankt Quirin**	**5.22**	**312**	*i* Pn	**Pn**	**17 00 48.7**	**+3.4**
	comp=N,2.2nm,0.3s						
SQTA				*i* Sn	**Sn**	**17 01 50.8**	**+5.2**
	comp=N,15nm,0.6s						
MOTA	**Moosalm**	**5.35**	**312**	*i* Pn	**Pn**	**17 00 49.4**	**+2.3**
	comp=N,3.0nm,0.4s						
MOTA				*i* Sn	**Sn**	**17 01 53.4**	**+4.6**
	comp=N,14nm,0.6s						
FETA	**Feichten**	**5.37**	**308**	*i* Pn	**Pn**	**17 00 49.5**	**+2.1**
	comp=N,1.3nm,0.4s						
FETA				*i* Sn	**Sn**	**17 01 53.3**	**+4.1**
	comp=N,8.4nm,0.9s						
VRAC	**Vranov**	**5.44**	**358**	*e*PN	**Pn**	**17 00 47.4**	**-0.8**
RETA	**Reutte**	**5.62**	**312**	*i* Sn	**Sn**	**17 01 59.7**	**+4.3**
	comp=N,7.2nm,0.5s						
KHC	**Kasperske Hory**	**5.74**	**338**	*e*PN	**Pn**	**17 00 54.2**	**+1.9**
KHC				*e*SN	**Sn**	**17 01 58.6**	**+0.4**
MORC	**Moravsky Berou**	**5.92**	**4**	⇑P	**Pn**	**17 00 55.3**	**+0.4**
DAVA	**Damuels**	**6.00**	**307**	*i* Sn	**Sn**	**17 02 07.5**	**+2.8**
	comp=N,5.9nm,0.5s						
IZAR	**Zarasai**	**13.31**	**23**	*e*P	**P**	**17 02 47.3**	**+1.6**

IDC 27 17:00:59.4±4.9**, 16.45S**×**176.49W, h0km, mb3.9**/4**,**
mb1 4.1/4**, mb1mx3.7**/40**, mbtmp3.9**/4**, MS4.0**/1**, Ms1 4.0**/1**,**
ms1mx3.1/33**, Error ellipse: s-maj=162.6km**
s-min=98.3km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.94**	**240**	P	P	17 08 44.8	+0.9
	1.1nm,0.7s,baz=96,slow=9.2,SNR=3.8						
JAY	**Jayapura**	**44.30**	**284**	LR	LR	17 26 58.9	
	comp=Z,182nm,18.2s,baz=36,slow=35						
WRA	**Warramunga Arr**	**46.71**	**258**	P	P	17 09 29.9	-0.7
	0.2nm,0.3s,baz=96,slow=7.4,SNR=5.7						
ASAR	**Alice Springs**	**46.96**	**253**	P	P	17 09 32.1	-0.3
	3.0nm,0.5s,baz=89,slow=7.9,SNR=132						
ASAR				PcP	PcP	17 11 04.9	-0.2
	0.1nm,0.4s,baz=102,slow=4.4,SNR=5.1						
FITZ	**Fitzroy Crossi**	**55.09**	**259**	P	P	17 10 33.5	-0.2
	2.5nm,1.1s,baz=84,slow=5.5,SNR=1.8						

IDC **27** *17:13:54.5*±*1.3,6.26*N×*127.41*E, h0*km*, mb3.6/4,*
mb1 3.7/4, mb1mx3.3/44, mbtmp3.6/4, Error ellipse:
s-maj=54.7km s-min=19.6km az=54.0

MAN **27** *17:13:55.0,5.38*N×*126.80*E, h28*km*, MS3.7*

ISC 27 17:13:53.2±3.5**, 5.4N**±0.1×**126.7E**±0.1**, h0km**±19**km**, n17,**
σ1**22**/16**, mb3.5/4, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.20**	**303**	*e*P	**Pn**	**17 14 16.6**	**-0.8**
DDMP				*e*S	**Sg**	**17 14 33.3**	**+1.4**
MATI	**Mati**	**1.56**	**343**	*e*P	**Pb**	**17 14 22.1**	**-0.9**
MATI				*e*S	**Sb**	**17 14 42.6**	**-0.8**
DAV	**Davao City (W)**	**1.98**	**325**	Pn	**Pb**	**17 14 30.3**	**+0.2**
	40nm,0.3s,baz=83,slow=3.7,SNR=5.5						
DAV				Sn	**Sb**	**17 14 55.0**	**-0.3**
	51nm,0.3s,baz=225,slow=21,SNR=6.4						
KCP	**Kidapawan**	**2.25**	**314**	⇑*i* P	**Pb**	**17 14 33.3**	**-1.4**
KCP				*i* S	**Sb**	**17 15 01.6**	**-1.6**
SKMP	**Bagumbayan, Su**	**2.42**	**296**	*e*P	**Pn**	**17 14 34.4**	**+0.3**
SKMP				*e*S	**Sn**	**17 15 04.8**	**+0.4**
BUKP	**Musuan**	**2.93**	**326**	*e*P	**Pn**	**17 14 42.1**	**+1.0**
BUKP				*e*S	**Sn**	**17 15 18.7**	**+1.6**
PAGZ	**Pagadian**	**4.09**	**306**	*e*P	**Pn**	**17 14 58.3**	**+1.2**
WRA	**Warramunga Arr**	**26.32**	**164**	P	P	17 19 37.4	+6.5
	0.4nm,0.7s,baz=344,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**29.77**	**167**	P	P	17 20 09.6	+7.8
	0.4nm,0.9s,baz=345,slow=7.2,SNR=2.1						
ASAR				PcP	**PcP**	**17 23 07.5**	**+1.7**
	0.4nm,1.0s,baz=340,slow=2.6,SNR=1.5						
H11S3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIJV	**Kijevo**	**0.29**	**296**	*i* Pg	**Pb**	**17 22 51.6**	**-0.3**
KIJV				Sg	**Sb**	**17 22 57.1**	**+0.1**
MAKA	**Makarska**	**0.62**	**163**	*i* Pg	**Pg**	**17 22 55.4**	**-0.6**
MAKA				Sg	**Sg**	**17 23 04.6**	**+0.5**
HVAR	**Hvar**	**0.74**	**198**	*e*Pg	**Pg**	**17 22 58.0**	**-0.3**
HVAR				Sg	**Sb**	**17 23 10.1**	**+0.3**
MORI	**Morici**	**0.77**	**270**	*e*Pg	**Pb**	**17 23 00.2**	**+0.2**
MORI				Sg	**Sn**	**17 23 13.7**	**+0.2**
ZIRJ	**Zirje**	**0.84**	**255**	*e*Pg	**Pb**	**17 23 01.5**	**+0.2**
ZIRJ				Sg	**Sn**	**17 23 16.0**	**+0.6**
BLY	**Banja Luka**	**0.92**	**19**	*e*Pg	**Pg**	**17 23 02.1**	**+0.2**
BLY				eSg	**Sg**	**17 23 15.7**	**+0.5**
BLY	**Banja Luka**	**0.92**	**19**	⇑*i*Pg	**Pg**	**17 23 02.1**	**+0.2**
BLY				eSg	**Sg**	**17 23 13.7**	**-0.2**
PRIJ	**Prijedor**	**1.10**	**358**	*e*Pg	**Pg**	**17 23 05.6**	**+0.3**
PRIJ				eSg	**Sb**	**17 23 20.4**	**+0.1**
LSTV	**Lastovo**	**1.11**	**175**	*e*Pg	**Pg**	**17 23 03.8**	**-1.8**
LSTV				Sg	**Sn**	**17 23 21.6**	**-0.3**
DUGI	**Dugi Otok**	**1.24**	**276**	*i* Pn	**Pg**	**17 23 09.0**	**+0.9**
DUGI				Sg	**Sn**	**17 23 28.3**	**+3.1**
NVLJ	**Novalja**	**1.53**	**297**	*e*Pn	**Pb**	**17 23 12.9**	**-0.1**
NVLJ				Sn	**Sg**	**17 23 35.8**	**+2.6**
DBRK	**Dubrovnik**	**1.57**	**140**	*i* Pn	**Pn**	**17 23 12.4**	**-0.3**
DBRK				Sn	**Sg**	**17 23 35.7**	**+1.0**
BRY	**Bratogost**	**1.62**	**126**	*e*Pn	**Pn**	**17 23 13.3**	**-0.2**
BRY				*i* Sn	**Sg**	**17 23 37.4**	**+1.2**
BRY	**Bratogost**	**1.62**	**126**	*e*Pg	**Pb**	**17 23 14.3**	**-0.3**
BRY				eSg	**Sg**	**17 23 36.5**	**+0.3**
TREB	**Trebinje**	**1.64**	**135**	*e*Pg	**Pn**	**17 23 13.3**	**-0.3**
TREB				eSg	**Sg**	**17 23 36.0**	**+1.2**
TREB	**Trebinje**	**1.64**	**135**	*e*Sn	**Sb**	**17 23 36.3**	**+0.6**
UPM	**Unac-Piva**	**1.69**	**113**	⇓*i*Pn	**Pn**	**17 23 14.7**	**+0.1**
UPM				*i* Sn	**Sg**	**17 23 39.9**	**+1.2**
UPM	**Unac-Piva**	**1.69**	**113**	*e*Pn	**Pn**	**17 23 15.0**	**+0.4**
UPM				eSn	**Sb**	**17 23 37.7**	**+0.1**
MOSL	**Moslavina**	**1.74**	**360**	*e*Pn	**Pn**	**17 23 14.0**	**-1.0**
RUDO	**Rudo**	**1.90**	**97**	*e*Pn	**Pn**	**17 23 17.5**	**+0.2**
RUDO				eSn	**Sn**	**17 23 41.5**	**-0.1**
HCY	**Herceg Novi**	**1.91**	**138**	⇓*i*Pn	**Pn**	**17 23 18.3**	**+1.0**
HCY				*i* Sn	**Sg**	**17 23 44.9**	**-0.6**
HCY	**Herceg Novi**	**1.91**	**138**	*e*Pn	**Pb**	**17 23 19.0**	**-0.4**
HCY				eSn	**Sb**	**17 23 43.6**	**+0.1**
BBLS	**Lazići**	**1.91**	**89**	*e*Pn	**Pn**	**17 23 18.1**	**+0.7**
BBLS				eSn	**Sb**	**17 23 44.6**	**+1.0**
BBLS	**Lazići**	**1.91**	**89**	*e*Pn	**Pn**	**17 23 18.2**	**+0.8**
BBLS				eSn	**Sn**	**17 23 41.8**	**0.0**
NKY	**Niksic**	**1.94**	**122**	*e*Pn	**Pn**	**17 23 19.0**	**+1.1**
NKY				*i* Sn	**Sg**	**17 23 45.8**	**-0.8**
NKME	**Niksic**	**1.94**	**124**	⇓*i*Pn	**Pn**	**17 23 18.9**	**+1.1**
NKME				*i* Sn	**Sb**	**17 23 45.6**	**+1.0**
OZLJ	**Ozalj**	**1.97**	**332**	*e*Pn	**Pb**	**17 23 19.8**	**-0.7**
OZLJ				Sn	**Sn**	**17 23 44.1**	**+0.9**
PLE	**Pljevlja**	**1.98**	**105**	*e*Pn	**Pb**	**17 23 19.8**	**-1.0**
PLE				*i* Sn	**Sb**	**17 23 46.9**	**+1.1**
CEME	**Cevo**	**2.06**	**129**	*e*Pn	**Pn**	**17 23 20.5**	**+1.0**
CEME				*i* Sn	**Sb**	**17 23 48.6**	**+0.7**
TEKS	**Tekeris**	**2.10**	**70**	*e*Pn	**Pn**	**17 23 21.2**	**+1.3**
TEKS				eSn	**Sb**	**17 23 48.1**	**-0.9**
TEKS	**Tekeris**	**2.10**	**70**	*e*Pn	**Pn**	**17 23 20.7**	**+0.8**
TEKS				eSn	**Sn**	**17 23 46.4**	**0.0**
PTJ	**Puntijarka**	**2.11**	**345**	*e*Pn	**Pn**	**17 23 20.8**	**+0.6**
PTJ				Sn	**Sn**	**17 23 47.7**	**+0.9**
CRES	**Cresnjev**	**2.16**	**335**	*e*Pn	**Pn**	**17 23 22.3**	**+1.5**
CRES				eSn	**Sb**	**17 23 49.7**	**-1.1**
BUM	**Brajici-Budva**	**2.21**	**135**	*e*Pn	**Pn**	**17 23 22.6**	**+1.0**
BUM				*i* Sn	**Sb**	**17 23 52.2**	**-0.3**
KOME	**Kolasin**	**2.25**	**116**	*e*Pn	**Pn**	**17 23 23.4**	**+1.3**
KOME				*i* Sn	**Sb**	**17 23 53.2**	**-0.3**
PDG	**Podgorica**	**2.33**	**128**	*e*Pn	**Pn**	**17 23 24.4**	**+1.4**
PDG				eSn	**Sb**	**17 23 54.6**	**-0.9**
PDG	**Podgorica**	**2.33**	**128**	⇓P	**Pb**	**17 23 26.0**	**-0.6**
PDG				⇑S	**Sg**	**17 23 57.4**	**-1.5**
PDG	**Podgorica**	**2.33**	**128**	*e*Pn	**Pb**	**17 23 25.1**	**-1.4**
PDG				eSn	**Sn**	**17 23 53.0**	**+1.1**
TTG	**Podgorica**	**2.33**	**128**	*e*Pn	**Pn**	**17 23 24.4**	**+1.4**
TTG	**Podgorica**	**2.33**	**128**	*e*Pn	**Pn**	**17 23 24.5**	**+1.4**
TTG				*i* Sn	**Sb**	**17 23 55.0**	**-0.5**
DIVS	**Divibare**	**2.34**	**83**	*e*Pn	**Pn**	**17 23 23.9**	**+0.6**
DIVS				eSn	**Sb**	**17 23 55.7**	**-0.3**
DIVS	**Divibare**	**2.34**	**83**	*e*Pn	**Pn**	**17 23 23.8**	**+0.5**
DIVS				eSn	**Sn**	**17 23 51.7**	**-0.7**
SJES	**Sjenica**	**2.41**	**104**	*e*Pn	**Pn**	**17 23 25.4**	**+1.1**
SJES				eSn	**Sb**	**17 23 56.7**	**-1.4**
DRME	**Dracevica, Mon**	**2.45**	**133**	*e*Pn	**Pn**	**17 23 25.9**	**+1.1**
DRME				*i* Sn	**Sb**	**17 23 57.9**	**-1.2**
DRME	**Dracevica, Mon**	**2.45**	**133**	*e*Pn	**Pb**	**17 23 26.9**	**-1.8**
DRME				eSn	**Sn**	**17 23 56.2**	**+1.2**
IVA	**Berane**	**2.49**	**113**	*e*Pn	**Pn**	**17 23 26.9**	**+1.5**
IVA	**Berane**	**2.49**	**113**	*e*Pn	**Pb**	**17 23 27.6**	**-1.8**
IVA				*i* Sn	**Sb**	**17 23 59.1**	**-1.3**
CEY	**Cerknica**	**2.50**	**319**	*e*Pn	**Pb**	**17 23 28.0**	**-1.5**
CEY				eSn	**Sb**	**17 23 59.3**	**-1.3**
FRGS	**Fruska Gora**	**2.52**	**58**	*e*Pn	**Pn**	**17 23 26.5**	**+0.6**
FRGS				eSn	**Sb**	**17 23 59.8**	**-1.5**
FRGS	**Fruska Gora**	**2.52**	**58**	*e*Pn	**Pn**	**17 23 26.4**	**+0.6**
FRGS				eSn	**Sn**	**17 23 56.8**	**-0.1**
BEHE	**Becsehely**	**2.59**	**0**	*e*Pn	**Pn**	**17 23 28.9**	**+2.2**
BEHE				eSn	**Sn**	**17 23 59.3**	**+0.7**
KOGS	**Kog**	**2.60**	**352**	*e*Pn	**Pn**	**17 23 28.2**	**+1.4**
ULC	**Ulcinj**	**2.64**	**136**	*e*Pn	**Pn**	**17 23 28.7**	**+1.3**
ULC				*i* Sn	**Sb**	**17 24 02.4**	**-2.2**
TRUS	**Trudelj**	**2.65**	**81**	*e*Pn	**Pn**	**17 23 28.2**	**+0.7**
TRUS				eSn	**Sb**	**17 24 03.6**	**-1.2**
PVY	**Plav**	**2.66**	**118**	*e*Pn	**Pn**	**17 23 28.7**	**+0.9**
PVY				*i* Sn	**Sb**	**17 24 03.3**	**-2.0**
LJU	**Ljubljana**	**2.69**	**325**	*e*Pn	**Pn**	**17 23 30.2**	**+2.1**
LJU				eSn	**Sn**	**17 24 03.2**	**+2.3**
MORH	**Mrgy, Hungar**	**2.69**	**29**	*e*Sn	**Sn**	**17 24 01.6**	**+0.7**
GRUS	**Gruza**	**2.85**	**88**	*e*Pn	**Pn**	**17 23 31.6**	**+1.3**
GRUS				eSn	**Sn**	**17 24 07.7**	**+2.7**
VOJS	**Vojsko**	**2.97**	**317**	*i* Pn	**Pb**	**17 23 35.6**	**-2.1**
PERS	**Pernice**	**3.00**	**338**	*e*Pn	**Pn**	**17 23 33.6**	**+1.3**
SOKA	**Soboth**	**3.06**	**337**	*i* Pn	**Pn**	**17 23 34.7**	**+1.5**
SOKA	1.2nm,0.2s			*i* Sn	**Sn**	**17 24 11.9**	**+1.8**
	3.7nm,0.4s						
OBKA	**Obir**	**3.06**	**330**	*i* Pn	**Pb**	**17 23 37.4**	**-1.8**
OBKA	1.5nm,0.2s			*i* Sn	**Sb**	**17 24 15.8**	**-1.1**
	49nm,0.8s						
MATE	**Matera**	**3.23**	**181**	⇑P	**Pn**	**17 23 34.4**	**-1.0**
ARSA	**Arzberg**	**3.48**	**346**	*i* Pn	**Pn**	**17 23 40.5**	**+1.5**
ARSA	8.1nm,0.3s			*i* Sn	**Sn**	**17 24 23.0**	**+2.4**
	4.1nm,0.4s						
MYKA	**Terra Mystica**	**3.53**	**322**	*i* Sn	**Sb**	**17 24 27.6**	**-2.7**
	5.4nm,0.6s						
MDVR	**Moldovita**	**3.66**	**74**	⇓P	**Pn**	**17 23 41.3**	**-0.2**
BARS	**Barje**	**3.83**	**104**	*e*Pn	**Pn**	**17 23 44.7**	**+0.9**
BZS	**Buzias**	**3.87**	**62**	*e*Pn	**Pn**	**17 23 45.0**	**+0.7**
BZS	**Buzias**	**3.87**	**62**	⇓P	**Pn**	**17 23 43.6**	**-0.6**
ZAGS	**Zajecar**	**3.95**	**89**	*e*Pn	**Pn**	**17 23 46.4**	**+1.0**
CONA	**Conrad Observa**	**4.10**	**351**	*i* Pn	**Pn**	**17 23 49.3**	**+1.8**
CONA	3.5nm,0.3s			*e*Sn	**Sn**	**17 24 38.3**	**+2.4**
	5.6nm,0.4s						
ABTA	**Abfaltersbach**	**4.15**	**315**	*e*Pn	**Pn**	**17 23 51.9**	**+3.6**
	0.8nm,0.2s						
ABTA	14nm,0.8s			*i* Sn	**Sb**	**17 24 43.7**	**-4.5**
ZAPS	**Zavoj**	**4.30**	**96**	*e*Pn	**Pn**	**17 23 51.9**	**+1.6**
MOA	**Molln**	**4.34**	**337**	*i* Pn	**Pn**	**17 23 53.4**	**+2.6**
MOA	1.2nm,0.2s			*i* Sn	**Sn**	**17 24 45.9**	**+4.2**
	5.5nm,0.4s						
MODS	**Modra-Piesok**	**4.51**	**4**	*e*PN	**Pn**	**17 23 53.3**	**+0.2**
MODS				eSN	**Sn**	**17 24 41.7**	**-4.2**
PSZ	**Piszkesteto**	**4.59**	**27**	⇑P	**Pn**	**17 23 54.1**	**-0.2**
VYHS	**Vyhne**	**4.84**	**17**	*e*PN	**Pn**	**17 23 59.1**	**+1.5**
VYHS				eSN	**Sn**	**17 24 50.7**	**-3.2**
KOLL	**Kolacno**	**4.84**	**13**	*e*PN	**Pn**	**17 23 58.4**	**+0.8**
WTTA	**Wattenberg**	**4.94**	**315**	*i* Pn	**Pn**	**17 24 02.3**	**+3.0**
WTTA	2.8nm,0.3s			*i* Sn	**Sn**	**17 25 03.5**	**+6.7**
	18nm,0.7s						
WATA	**Walderalm**	**5.02**	**315**	*i* Pn	**Pn**	**17 24 04.7**	**+4.5**
WATA	3.1nm,0.3s			*i* Sn	**Sn**	**17 25 05.1**	**+6.5**
	15nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SQTA	**Sankt Quirin**	**5.14**	**313**	*i* Pn	**Pn**	17 24 06.8	+5.0
SQTA	1.6nm,0.2s			*i* Sn	**Sn**	**17 25 07.7**	**+6.2**
	9.7nm,0.5s						
MOTA	**Moosalm**	**5.27**	**313**	*i* Pn	**Pn**	**17 24 07.5**	**+3.8**
MOTA	3.3nm,0.5s			*i* Sn	**Sn**	**17 25 11.7**	**+6.9**
	6.1nm,0.4s						
FETA	**Feichten**	**5.29**	**309**	*i* Pn	Pn	17 24 09.6	+5.7
FETA	0.7nm,0.3s			*i* Sn	**Sn**	**17 25 11.9**	**+6.7**
	2.5nm,0.5s						
KHC	**Kasperske Hory**	**5.70**	**338**	*e*PN	**Pn**	**17 24 10.9**	**+1.5**
KHC				eSN	**Sn**	**17 25 15.8**	**+0.7**
PGF	**Pioggiola**	**5.83**	**260**	*e*P	**Pn**	**17 24 13.9**	**+2.6**
MORC	**Moravsky Berou**	**5.93**	**5**	⇑P	**Pn**	**17 24 14.1**	**+1.5**
MBDF	**Montbardon**	**7.22**	**280**	*e*Pn	**Pn**	**17 24 28.9**	**-1.6**
MBDF	3.5nm,0.5s			eSn	**Sn**	**17 25 45.3**	**-7.6**
LPG	**La Plagne**	**7.32**	**286**	*e*P	**Pn**	**17 24 35.0**	**+3.1**
LPG	3.4nm,0.5s			eSn	**Sn**	**17 25 48.1**	**-7.4**
LPL	**La Plagne**	**7.34**	**286**	*e*P	**Pn**	**17 24 34.0**	**+1.9**
LPL	6.1nm,0.4s			eSn	**Sn**	**17 25 48.1**	**-7.7**
FRF	**La Foret Royal**	**7.34**	**271**	*e*P	**Pn**	**17 24 34.1**	**+2.2**
FRF	0.3nm,0.2s			eSn	**Sn**	**17 25 47.4**	**-8.2**
ORIF	**Oris-en-Rattie**	**7.87**	**281**	*e*P	**Pn**	**17 24 41.5**	**+2.2**
ORIF	1.6nm,0.3s			eSn	**Sn**	**17 26 00.6**	**-8.1**
HINF	**Hinteralfeld**	**7.96**	**303**	*e*P	**Pn**	**17 24 42.8**	**+2.3**
HINF	1.4nm,0.3s			eSn	**Sn**	**17 26 03.0**	**-7.9**
SMRF	**Simiane la Rot**	**8.08**	**275**	*e*Pn	**Pn**	**17 24 38.8**	**-3.4**
VIVF	**Saint-Julien-l**	**8.72**	**281**	*e*P	**Pn**	**17 24 52.7**	**+1.8**
CAF	**Calviac**	**10.58**	**281**	*e*Pn	**Pn**	**17 25 15.9**	**-0.4**
CAF	0.5nm,0.3s			eSn	**Sn**	**17 27 08.6**	**-6.5**

*THR **27** 17:26:48.7±0.4, 32°.11N×56°.07E, h14km±6km, ML3.0*
*TEH **27** 17:26:48.7, 32°.06N×56°.01E, h16km, ML2.7*
ISC 27 17:26:48.4±1.1, **32°.06N**±0°.04×**56°.06E**±0°.04, **h13**km, **n9,** σ**0**°**54**/12, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.62**	**222**	*e*Pg	**Pg**	**17 27 00.5**	**-0.2**
IBAF				*e*		17 27 11.2	
TPRV	**Parvadeh(Tabas**	**1.10**	**29**	*e*Sg	**Sn**	**17 27 26.0**	**+1.1**
TPRV				*e*Pg	**Pb**	**17 27 09.3**	**-0.2**
TPRV				*e*		17 27 27.7	
YZKH	**Yazd**	**1.28**	**285**	*e*Pg	**Pb**	**17 27 12.5**	**0.0**
YZKH				eSg	**Sg**	**17 27 30.0**	**+0.1**
IMEH	**Mehriz**	**1.40**	**242**	*e*Pg	**Pg**	**17 27 15.4**	**+0.1**
IMEH				eSg	**Sg**	**17 27 33.4**	**-0.1**
IMEH				*e*		17 27 35.4	
ICHK	**Chekchek**	**1.41**	**278**	*e*Pg	**Pg**	**17 27 15.4**	**-0.2**
ICHK				*e*		17 27 36.1	
TKDS	**Koohdasht(Taba**	**1.79**	**30**	*e*	Sg	17 27 60.0	+14
TABS	**Tabas**	**1.82**	**29**	*e*Pn	**Pb**	**17 27 20.8**	**-0.9**
ISAD	**Sadrabad**	**2.02**	**267**	*e*Pg	**Pb**	**17 27 24.7**	**-0.5**
ISAD				*e*		17 27 55.7	
KRBR	**Kerman**	**2.16**	**163**	*e*Pn	**Pb**	**17 27 27.2**	**-0.3**
KRBR				eSg	**Sg**	**17 27 58.1**	**+0.3**
KRBR				IAML		17 28 01.5	
	comp=E,64nm,0.5s						
KRBR				IAML		17 28 03.1	
	comp=N,92nm,0.8s						

*IDC **27** 17:34:33.3±2.2, 37°.46N×144°.95E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.3/32, mbtmp3.4/4, ML2.9/2, Error ellipse: s-maj=61.6km s-min=32.9km az=76.0*
*JMA **27** 17:34:39.4±0.2, 37°.54N×144°.55E, h52km, M3.4*
ISC 27 17:34:38.4±1.5, **37°.50N**±0°.07×**144°.71E**±0°.09, **h35**km, **n18,** σ**0**°**89**/22, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.69**	**289**	P	**Pn**	**17 35 19.4**	**+0.2**
JIKH				S	**Sn**	**17 35 49.3**	**-1.3**
JIO	**Ouri**	**2.83**	**291**	P	**Pn**	**17 35 21.4**	**+0.4**
JIO				S	**Sn**	**17 35 53.1**	**-0.7**
OFUJ	**Ofunato**	**2.87**	**304**	P	**Pn**	**17 35 22.2**	**+0.6**
JKMT	**Kesennumamotoy**	**2.87**	**298**	P	**Pn**	**17 35 21.9**	**+0.3**
JKMT				S	**Sn**	**17 35 53.9**	**-1.0**
JMK	**Ichinoseki**	**3.11**	**299**	P	**Pn**	**17 35 25.5**	**+0.6**
JMK				S	**Sn**	**17 36 00.7**	**-0.2**
JOM	**Ohasama**	**3.33**	**307**	P	**Pn**	**17 35 28.8**	**+0.8**
JOM				S	**Sn**	**17 36 06.6**	**+0.3**
JFT	**Otama**	**3.48**	**272**	P	**Pn**	**17 35 31.5**	**+1.4**
JFT				S	**Sn**	**17 36 10.0**	**0.0**
JRY	**Ryogami san**	**4.89**	**254**	P	**Pn**	**17 35 49.7**	**+0.2**
JRY				*e*S	**Sn**	**17 36 42.4**	**-2.6**
JCH	**Churui**	**5.21**	**349**	P	**Pn**	**17 35 53.7**	**-0.1**
JKB	**Kayabe**	**5.22**	**328**	P	**Pn**	**17 35 54.9**	**+1.0**
MJAR	**Matsushiro Arr**	**5.29**	**262**	Pn	**Pn**	**17 35 55.8**	**+0.8**
MJAR	0.1nm,0.3s,baz=72,slow=13,SNR=2.1			S	**Sn**	**17 36 55.0**	**+0.2**
	0.0nm,0.3s,baz=85,slow=24,SNR=1.4						
ASAJ	**Asahikawa**	**6.80**	**347**	P	**Pn**	**17 36 15.6**	**0.0**
	0.6nm,0.3s,baz=188,slow=16,SNR=8.5						
JCJ	**Chichijima**	**10.59**	**192**	Sn	Sn	17 38 51.6	-13
	0.8nm,0.3s,baz=285,slow=20,SNR=1.0						
H11N2	**WAKE ISLAND Hy**	**26.21**	**126**	T	T	18 07 11.4	
	baz=317						
H11N1	**WAKE ISLAND Hy**	**26.22**	**126**	T	T	18 07 14.9	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**26.23**	**126**	T	T	18 07 08.9	
	baz=317						
WRA	**Warramunga Arr**	**57.96**	**192**	P	**P**	**17 44 27.6**	**+0.2**
	0.3nm,0.7s,baz=9.1,slow=7.0,SNR=9.9						
ASAR	**Alice Springs**	**61.68**	**191**	P	**P**	**17 44 52.9**	**0.0**
	0.6nm,1.1s,baz=3.8,slow=7.3,SNR=5.1						

*JMA **27** 17:35:44.3±0.3, 43°.92N×147°.90E, h72km, M3.6*
*SKHL **27** 17:35:44.6±0.3, 44°.05N×147°.97E, h47km±3km, mb3.9/3*
ISC 27 17:35:42.6±2.6, **44°.0N**±0°.1×**148°.0E**±0°.2, **h70**km, **n13,** σ**0**°**94**/22, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.21**	**355**	*i* P	**Pn**	**17 36 04.0**	**+0.3**
KUR				AMB	AMB	17 36 04.0	
	20nm,0.2s						
KUR				*i* S	**Sn**	**17 36 18.7**	**-0.7**
KUR				A	A	17 36 19.0	
	420nm,0.3s						
KUR				A	A	17 36 19.0	
	450nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.56**	**271**	*i* P	**Pn**	**17 36 08.7**	**+0.4**
YUK				AMB	AMB	17 36 09.3	
	20nm,0.3s						
YUK				*i* S	**Sn**	**17 36 26.9**	**-0.9**
YUK				A	A	17 36 29.0	
	270nm,0.3s						
YUK				A	A	17 36 29.0	
	70nm,0.3s						
GRPR	**Tuman**	**1.63**	**269**	*e*P	**Pn**	**17 36 09.7**	**+0.5**
GRPR				AMB	AMB	17 36 10.0	
	120nm,0.4s						
GRPR				*i* S	**Sn**	**17 36 28.1**	**-1.2**
GRPR				A	A	17 36 30.0	
	250nm,0.3s						
GRPR				A	A	17 36 30.0	
	330nm,0.3s						
NEM2	**Nemuro 2**	**1.79**	**249**	P	**Pn**	**17 36 12.0**	**+0.7**
NEM2				eS	**Sn**	**17 36 32.8**	**-0.3**
NMR	**Nemuro--Hokkai**	**1.79**	**249**	*i* P	**Pn**	**17 36 12.1**	**+0.7**
NMR				*i* S	**Sn**	**17 36 32.9**	**-0.4**
JRA	**Rausu**	**2.10**	**268**	P	**Pn**	**17 36 16.5**	**+1.0**
JRA				eS	**Sn**	**17 36 40.8**	**+0.2**
JNSB	**Nemuroshibetsu**	**2.20**	**264**	P	**Pn**	**17 36 18.2**	**+1.3**
JNSB				eS	**Sn**	**17 36 43.5**	**+0.4**
JKHN	**Kushirohamanak**	**2.29**	**246**	P	**Pn**	**17 36 18.8**	**+0.7**
JNK	**Nakash**	**2.44**	**261**	P	**Pn**	**17 36 20.7**	**+0.6**
JAK	**Akkeshi**	**2.63**	**248**	P	**Pn**	**17 36 23.2**	**+0.4**
JAK				eS	**Sn**	**17 36 52.6**	**-1.0**
JAR	**Ashorobuto**	**3.17**	**258**	P	**Pn**	**17 36 31.4**	**+1.2**
JCH	**Churui**	**3.69**	**249**	P	**Pn**	**17 36 37.6**	**+0.5**
JCH				eS	**Sn**	**17 37 17.0**	**-2.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**5.56**	**250**	P	**Pn**	**17 37 03.1**	**+0.4**

VAO 27 17:45:20.8±1.9, **21°.31S**×**68°.65W, h22**km±14km, **mb3.9, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.32**	**190**	*e*P	Pb	17 45 45.0	-0.1
LVC				*e*S	Sn	17 46 00.1	-1.1
LPAZ	**La Paz**	**5.02**	**6**	*e*P	Pn	17 46 34.0	-1.3
PET01	**Itanhaem-SP**	**19.93**	**103**	*e*P	Pn	17 49 52.3	-0.6
VAO	**Valinhos**	**20.16**	**99**	*e*P	P	17 49 52.5	-1.3

*IDC **27** 17:51:45.5±1.3, 44°.15N×105°.57W, h0km, mb3.8/1, mb1 3.7/4, mb1mx3.4/38, mbtmp3.5/4, ML3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/54, Error ellipse: s-maj=33.6km s-min=9.3km az=146.0*
*NEIC **27** 17:51:45.9±0.9, 44°.00N±0°.05×105°.24W±0°.02, h0km±2km, ML3.4/65, Error ellipse: s-maj=9.2km s-min=3.1km az=351.0*
ISC 27 17:51:45.2±1.0, **44°.01N**±0°.06×**105°.20W**±0°.07, **h0**km, **n71,** σ**0**°**69**/68, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.84**	**82**	Pg	**Pb**	**17 52 02.6**	**-0.2**
K22A	**Casper**	**1.67**	**216**		**Pn**	**17 52 14.5**	**-1.3**
K22A				IAML		17 52 39.0	
	comp=E,482nm,0.5s						
K22A				IAML		17 52 39.5	
	comp=N,581nm,0.7s						
PHWY	**Pilot Hill**	**2.71**	**184**	Pn	**Pn**	**17 52 29.9**	**-0.4**
RWWY	**Rawlins**	**2.75**	**213**	Pn	**Pn**	**17 52 31.3**	**+0.5**
RWWY				IAML		17 53 09.9	
	comp=N,207nm,0.7s						
RWWY				IAML		17 53 11.6	
	comp=N,200nm,0.7s						
LAO	**LASA Array**	**2.78**	**345**	Pn	**Pn**	**17 52 31.1**	**+0.1**
LAO				IAML		17 53 17.8	
	comp=N,268nm,0.7s						
RLMT	**Red Lodge**	**3.12**	**292**	Pn	**Pn**	**17 52 35.7**	**0.0**
RLMT				IAML		17 53 31.1	
	comp=N,92nm,0.8s						
RLMT				IAML		17 53 33.6	
	comp=N,99nm,0.9s						
N23A	**Red Feather La**	**3.16**	**190**	Pn	**Pn**	**17 52 36.2**	**-0.2**
N23A				IAML		17 53 35.7	
	comp=N,82nm,0.6s						
BW06	**Boulder Array**	**3.41**	**250**	Pn	**Pn**	**17 52 40.1**	**+0.3**
BW06				IAML		17 53 28.2	
	comp=N,59nm,0.7s						
BW06				IAML		17 53 31.8	
	comp=E,72nm,0.7s						
PD31	**Pinedale Array**	**3.41**	**250**		**Pn**	**17 52 39.8**	**-0.1**
PDAR	**Pinedale Array**	**3.41**	**250**	Pn	**Pn**	**17 52 39.7**	**-0.1**
	comp=E,4.1nm,0.3s,baz=68,slow=17,SNR=44						
PDAR				Lg	Lg	17 53 26.2	
	comp=E,14nm,0.3s,baz=68,slow=34,SNR=24						
YNE	**Yellowstone No**	**3.58**	**288**	Pn	**Pn**	**17 52 41.7**	**-0.6**
YMP	**Mirror Lake Pl**	**3.63**	**283**		**Pn**	**17 52 42.3**	**-0.7**
GCMT	**Greycliff**	**3.64**	**301**		**Pn**	**17 52 43.1**	**+0.1**
LKWY	**Lake**	**3.78**	**280**	Pn	**Pn**	**17 52 45.5**	**+0.6**
LKWY				IAML		17 53 59.1	
	comp=E,56nm,0.6s						
OGNE	**Ogallala**	**3.85**	**142**		**Pn**	**17 52 46.4**	**+0.6**
OGNE				IAML		17 53 54.6	
	comp=E,99nm,1.6s						
OGNE				IAML		17 54 00.7	
	comp=E,114nm,0.5s						
H17A	**Grant Village**	**3.89**	**278**		**Pn**	**17 52 47.8**	**+1.4**
H17A				IAML		17 55 04.7	
	comp=N,42nm,0.1s						
LOHW	**Long Hollow**	**3.94**	**266**	Pn	**Pn**	**17 52 48.2**	**+1.2**
LOHW				IAML		17 53 52.3	
	comp=N,35nm,0.8s						
LOHW				IAML		17 53 52.6	
	comp=N,35nm,0.8s						
FLWY	**Flagg Ranch**	**3.97**	**273**	Pn	**Pn**	**17 52 47.8**	**

*NEIC **27** 17:54:27.7±1.0, 25°.5S±0°.1×177°.0W±0°.2, h29km±6km, mb4.3/13, Error ellipse: s-maj=26.5km s-min=12.0km az=119.0*
*IDC **27** 17:54:32.3±4.5, 25°.58S×177°.00W, h61km±38km, mb3.7/6, mb1 3.9/8, mb1mx3.6/33, mbtmp4.1/8, ML3.9/3, Error ellipse: s-maj=33.2km s-min=29.0km az=172.0*
ISC 27 17:54:28.9±0.7, 25°.48S±0°.08×177°.0W±0°.1, h35km, n33, σ1§48/32, mb4.1/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.84**	**192**	P			**Pn**	**17 55 26.9**	**+1.4**
	32nm,0.3s,baz=63,slow=21,SNR=2.0								
RAO				S			Sn	17 56 07.6	-1.8
	21nm,0.3s,baz=73,slow=19,SNR=1.3								
RAO	**Raoul Island**	**3.84**	**192**				**Pn**	**17 55 25.1**	**-0.4**
NIUE	**Niue**	**9.15**	**47**	Pn			**Pn**	**17 56 37.2**	**-1.3**
URZ	**Urewera**	**13.67**	**200**	P			**Pn**	**17 57 43.1**	**+2.8**
	0.1nm,0.3s,baz=75,slow=20,SNR=2.1								
URZ				S			Sn	17 59 59.7	-11
	0.2nm,0.3s,baz=0.0,slow=20,SNR=1.7								
URZ	**Urewera**	**13.67**	**200**				**Pn**	**17 57 42.7**	**+2.4**
DZM	**Mont Dzumac**	**15.50**	**279**	P			**P**	**17 58 08.1**	**-1.0**
	0.7nm,0.3s,baz=55,slow=7.5,SNR=43								
DZM	**Mont Dzumac**	**15.50**	**279**	P			**P**	**17 58 08.1**	**-1.0**
DZM				IAmb		IAmb		17 58 22.3	
	comp=Z,20nm,1.1s								
NNZ	**Nelson**	**17.60**	**205**	Pn			**Pn**	**17 58 26.1**	**-5.2**
NNZ				IAmb		IAmb		17 58 44.5	
	comp=Z,51nm,1.3s								
STKA	**Stephens Creek**	**36.69**	**250**	P			**P**	**18 01 34.2**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=93,slow=13,SNR=5.2								
STKA	**Stephens Creek**	**36.69**	**250**	P			**P**	**18 01 32.6**	**+0.1**
AS31	**Alice Springs**	**44.46**	**261**	P			**P**	**18 02 35.2**	**-1.7**
ASAR	**Alice Springs**	**44.46**	**261**	P			**P**	**18 02 37.2**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=95,slow=7.4,SNR=54								
ASAR				PcP			**PP**	**18 04 20.9**	**-0.1**
	comp=Z,0.4nm,1.0s,baz=100,slow=3.9,SNR=1.5								
WR0	**Warramunga Arr**	**44.82**	**267**	P			**P**	**18 02 40.7**	**+0.9**
WR0				IAmb		IAmb		18 02 54.1	
	comp=Z,3.2nm,1.1s								
WB2	**Warramunga Arr**	**44.99**	**267**	P			**P**	**18 02 40.7**	**-0.4**
WB2				IAmb		IAmb		18 02 46.6	
	comp=Z,6.8nm,1.2s								
WRA	**Warramunga Arr**	**45.01**	**267**	P			**P**	**18 02 41.6**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=100,slow=7.8,SNR=19								
WRA	**Warramunga Arr**	**45.01**	**267**	P			**P**	**18 02 41.7**	**+0.4**
WB0	**Warramunga Arr**	**45.01**	**267**	P			**P**	**18 02 41.7**	**+0.4**
WB0				IAmb		IAmb		18 02 59.3	
	comp=Z,4.1nm,1.1s								
FORT	**Forrest**	**48.31**	**251**	P			**P**	**18 03 07.0**	**-0.1**
KNRA	**Kununurra**	**51.38**	**270**	P			**P**	**18 03 30.2**	**-0.3**
MORW	**Morawa**	**58.88**	**250**	P			**P**	**18 04 23.7**	**-0.8**
QSPA	**South Pole Qui**	**64.61**	**180**	P			**P**	**18 05 02.2**	**-0.4**
QSPA				IAmb		IAmb		18 05 06.8	
	comp=Z,2.7nm,1.1s								
MAW	**Mawson**	**77.20**	**200**	P			**P**	**18 06 18.9**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=141,slow=6.3,SNR=8.6								
MAW	**Mawson**	**77.20**	**200**	P			**P**	**18 06 18.0**	**-0.9**
PETK	**Petropavlovsk-**	**81.29**	**345**	P			**P**	**18 06 43.1**	**+2.0**
	comp=Z,1.7nm,0.7s,baz=101,slow=7.6,SNR=2.1								
H03S2	**Juan Fernandez**	**82.47**	**124**	T			T	19 37 28.7	
	baz=242,slow=74,SNR=13								
H03S1	**Juan Fernandez**	**82.48**	**124**	T			T	19 37 30.3	
	baz=242,slow=74,SNR=9.7								
H03S3	**Juan Fernandez**	**82.49**	**124**	T			T	19 37 28.4	
	baz=242,slow=74,SNR=16								
NVAR	**Mina Array Bea**	**84.05**	**42**	P			**P**	**18 06 56.9**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=238,slow=5.9,SNR=3.0								
ARCES	**ARCESS Array B**	**133.96**	**349**	PKP			**PKPdf**	**18 13 41.3**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=63,slow=4.2,SNR=3.9								
NB2	**NORSAR Subarra**	**144.01**	**353**	PKP			**PKPab**	**18 13 58.1**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=16,slow=3.6								
NOA	**NORSAR Array B**	**144.01**	**353**	PKP			**PKPab**	**18 13 58.2**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=1.9,slow=2.3,SNR=3.9								
AKASG	**Malin Array Be**	**147.74**	**328**	PKPbc			**PKPbc**	**18 14 09.3**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=39,slow=4.7,SNR=6.1								
BRTR	**Keskin Array B**	**150.68**	**307**	PKPbc			**PKPbc**	**18 14 17.4**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=153,slow=4.1,SNR=3.8								

*SOME **27** 17:55:59.3, 41°.87N×82°.62E, h15km*
*NNC **27** 17:56:01.8±1.9, 41°.82N×82°.31E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=16.1km s-min=11.0km az=174.0*
ISC 27 17:56:01.5±3.0, 41°.8N±0°.1×82°.21E±0°.09, h0km±15km, n22, σ1§66/37, 9C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.16**	**321**		*eP*		**Pg**	**17 56 42.7**	**-0.1**
	8.7nm,0.2s								
KTMS					*eS*		**Sg**	**17 57 14.1**	**+3.2**
	38nm,0.7s								
KTMS	**Ketmen**	**2.16**	**321**		Pg		**Pg**	**17 56 42.7**	**-0.1**
	8.7nm,0.2s								
KTMS					Lg		Lg	17 57 14.1	
	38nm,0.7s								
SHLS	**Shalkode**	**2.46**	**305**		*eP*		**Pn**	**17 56 43.8**	**+0.9**
	20nm,0.2s								
SHLS					*eS*		**Sb**	**17 57 15.7**	**-1.6**
	72nm,0.6s								
SHLS	**Shalkode**	**2.46**	**305**		Pg		**Pn**	**17 56 43.8**	**+0.9**
	20nm,0.3s								
SHLS					Pg		**Pn**	**17 56 43.8**	**+0.9**
	20nm,0.2s								
SHLS					Lg		Lg	17 57 15.7	
	72nm,0.6s								
PDGK	**Podgornoye**	**2.54**	**309**		Pg		**Pb**	**17 56 48.0**	**0.0**
	2.5nm,0.5s								
PDGK					Pg		**Pg**	**17 56 48.1**	**-2.0**
	2.5nm,0.5s								
PDGK					Lg		Lg	17 57 23.7	
	13nm,0.6s								
PDGK	**Podgornoye**	**2.54**	**309**	⇑	Pn		**Pb**	**17 56 47.2**	**-0.8**
	9.3nm,0.8s								
PDGK				⇑	Lg		Lg	17 57 24.3	
	29nm,0.7s								
UZB	**Uzunbulak**	**2.73**	**301**		*eP*		**Pb**	**17 56 50.9**	**-0.3**
	1.3nm,0.2s								
UZB					*eS*		**Sg**	**17 57 28.0**	**-1.0**
	16nm,0.3s								
UZB	**Uzunbulak**	**2.73**	**301**		Pg		**Pb**	**17 56 50.9**	**-0.3**
	1.3nm,0.2s								
UZB					Pg		**Pb**	**17 56 51.0**	**-0.3**
	2.2nm,0.3s								
UZB					Lg		Lg	17 57 28.0	
	16nm,0.3s								
SATY	**Saty**	**3.09**	**296**		*eP*		**Pg**	**17 56 59.5**	**-1.2**
	3.7nm,0.3s								
SATY					*eS*		**Sg**	**17 57 43.2**	**+2.4**
	16nm,0.4s								
SATY	**Saty**	**3.09**	**296**		Pg		**Pb**	**17 56 56.4**	**-1.0**
	4.0nm,0.3s								
SATY					Lg		Lg	17 57 39.5	
	10nm,0.5s								
DJR	**Jarkent**	**3.11**	**326**		*eP*		**Pb**	**17 56 57.2**	**-0.4**
	2.5nm,0.2s								
DJR					*eS*		**Sg**	**17 57 39.2**	**-2.2**
	9.0nm,0.6s								
DJR	**Jarkent**	**3.11**	**326**		Pg		**Pb**	**17 56 57.2**	**-0.4**
	2.5nm,0.2s								
DJR					Lg		Lg	17 57 39.2	
	9.0nm,0.6s								
MNBS	**Baschi**	**3.62**	**311**		*eP*		**Pg**	**17 57 09.0**	**-1.9**
	2.4nm,0.3s								
MNBS					*eS*		**Sg**	**17 57 59.1**	**+1.3**
	13nm,0.5s								
ARXS	**Arharly**	**4.03**	**309**		*eP*		**Pg**	**17 57 16.9**	**-1.8**
	3.1nm,0.4s								
ARXS					*eS*		**Sg**	**17 58 12.9**	**+1.9**
	5.2nm,0.7s								
ARXS	**Arharly**	**4.03**	**309**		Pg		**Pg**	**17 57 16.9**	**-1.8**
	3.1nm,0.4s								
ARXS					Lg		Lg	17 58 12.9	
	5.2nm,0.7s								
MDOK	**Medeo**	**4.06**	**292**		*eP*		**Pg**	**17 57 17.7**	**-1.5**
	1.6nm,0.5s								
MDOK					*eS*		**Sg**	**17 58 13.8**	**+2.0**
	6.6nm,0.5s								
MDOK	**Medeo**	**4.06**	**292**	⇑	Pg		**Pg**	**17 57 18.3**	**-1.0**
	3.1nm,0.7s								
MDOK					Lg		Lg	17 58 13.8	
	4.9nm,0.5s								
TNSS	**Tian-Shan**	**4.09**	**290**		*eP*		**Pg**	**17 57 20.0**	**+0.1**
	2.3nm,0.5s								
TNSS					*eS*		**Sg**	**17 58 17.8**	**+4.8**
	4.8nm,0.9s								
TNSS	**Tian-Shan**	**4.09**	**290**		Pg		**Pb**	**17 57 15.2**	**+0.6**
	1.1nm,0.3s								
TNSS					Lg		Lg	17 58 11.3	
	4.8nm,0.7s								
MK31	**Makanchi Array**	**5.02**	**1**		Pn		**Pn**	**17 57 17.5**	**-0.5**
	0.2nm,0.3s,baz=195,slow=14,SNR=17								
MK31					⇑Pg		**Pb**	**17 57 31.5**	**+1.3**
	0.6nm,0.4s,baz=179,slow=12,SNR=5.3								
MK31					⇑Sn		**Sn**	**17 58 16.8**	**+0.1**
	1.2nm,0.4s,baz=170,slow=15,SNR=4.4								
MK31					⇑Lg		Lg	17 58 37.7	
	4.9nm,0.8s,baz=171,slow=28,SNR=5.7								
TKM2	**Tokmak 2**	**5.03**	**285**	⇑	Pg		**Pg**	**17 57 35.3**	**-2.6**
	1.3nm,0.7s								
TKM2					⇓Lg		Lg	17 58 46.2	
	4.6nm,0.8s								
MAKZ	**Makanchi**	**5.04**	**358**	⇑	Pn		**Pn**	**17 57 18.4**	**+0.2**
	0.5nm,0.5s								
MAKZ				⇑	Pg		**Pb**	**17 57 31.3**	**+0.9**
	3.4nm,1.1s								
MAKZ				⇓	Lg		Lg	17 58 39.0	
	5.0nm,1.1s								

*NEIC **27** 18:13:32.2±2.5, 19°.66S±0°.03×70°.80W±0°.10, h23km±6km, Error ellipse: s-maj=13.3km s-min=3.6km az=98.0*
*GUC **27** 18:13:34.9±0.5, 19°.69S×70°.73W, h34km±1km, ML3.8*
*IDC **27** 18:13:40.4±3.6, 19°.70S×70°.24W, h74km±28km, mb3.6/3, mb1 3.7/6, mb1mx3.3/46, mbtmp3.9/6, MS2.4/1, Ms1 2.4/1, ms1mx2.3/30, Error ellipse: s-maj=53.1km s-min=14.5km az=96.0*
ISC 27 18:13:32.1±1.5, 19°.70S±0°.03×70°.82W±0°.06, h23km±11km, n59, σ1§10/71, mb4.5/3, 9C-8D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.66**	**81**	⇓	*iP*		**Pb**	**18 13 45.1**	**+0.1**
PSGC					*i* S		**Sn**	**18 13 53.5**	**-2.4**
PSGCX	**Pisagua**	**0.66**	**81**		Pn		**Pb**	**18 13 45.1**	**0.0**
TA02	**Huaiquique**	**0.86**	**132**	⇓	*iP*		**Pb**	**18 13 48.8**	**+0.4**
TA02					*eS*		**Sn**	**18 13 59.8**	**-0.9**
TA02					IAML			18 14 00.5	
	comp=N,10μm,0.3s								
TA01	**Diego Aracena**	**1.05**	**145**	⇓	*iP*		**Pn**	**18 13 51.9**	**+0.5**
TA01					*eS*		**Sb**	**18 14 05.4**	**+0.4**
TA01					IAML			18 14 09.3	
	comp=E,3μm,0.3s								
TA01	**Diego Aracena**	**1.05**	**145**		Pn		**Pn**	**18 13 51.7**	**+0.3**
PB11	**IPOC Station P**	**1.09**	**93**	⇓	*iP*		**Pb**	**18 13 52.2**	**-0.2**
PB11					*eS*		**Sb**	**18 14 05.9**	**-0.5**
PB11					IAML			18 14 09.2	
	comp=E,6μm,0.2s								
PB11	**IPOC Station P**	**1.09**	**93**		Pn		**Pb**	**18 13 52.1**	**-0.4**
PB12	**IPOC Station P**	**1.17**	**23**	⇓	*eP*		**Pb**	**18 13 54.0**	**+0.2**
PB12					*eS*		**Sb**	**18 14 08.9**	**+0.3**
PB12					IAML			18 14 14.4	
	comp=N,2μm,0.5s								
PB12	**IPOC Station P**	**1.17**	**23**		Pn		**Pb**	**18 13 54.0**	**+0.2**
PATCX	**Punta Patache**	**1.28**	**151**	⇑	*iP*		**Pn**	**18 13 55.6**	**+1.0**
PATCX					*eS*		**Sb**	**18 14 11.6**	**0.0**
PATCX	**Punta Patache**	**1.28**	**151**		Pn		**Pn**	**18 13 55.0**	**+0.4**
MNMC	**Minye Minye**	**1.28**	**64**	⇓	*iP*		**Pb**	**18 13 55.7**	**-0.1**
MNMC					*eS*		**Sb**	**18 14 12.0**	**0.0**
MNMC					IAML			18 14 14.8	
	comp=N,7μm,0.2s								
MNMC	**Minye Minye**	**1.28**	**64**		Pn		**Pb**	**18 13 55.4**	**-0.3**
AP01	**Chacalluta**	**1.40**	**19**	⇑	*iP*		**Pb**	**18 13 57.8**	**+0.3**
AP01					*eS*		**Sb**	**18 14 14.9**	**0.0**
AP01					IAML			18 14 18.8	
	comp=E,4μm,0.5s								
AP01	**Chacalluta**	**1.40**	**19**		Pn		**Pb**	**18 13 57.8**	**+0.3**
GO01	**Chusmiza**	**1.53**	**89**	⇓	*iP*		**Pb**	**18 13 59.7**	**-0.4**
GO01					*eS*		**Sb**	**18 14 19.4**	**+0.2**
GO01	**Chusmiza**	**1.53**	**89**		Pn		**Pb**	**18 13 59.3**	**-0.7**
PB08	**IPOC Station P**	**1.62**	**106**	⇓	*iP*		**Pb**	**18 14 00.9**	**-0.7**
PB08					*i* S		**Sb**	**18 14 21.0**	**-0.8**
PB08					IAML			18 14 23.4	
	comp=N,2μm,0.4s								
PB08	**IPOC Station P**	**1.62**	**106**				**Pb**	**18 14 00.6**	**-1.1**
PB01	**IPOC Station P**	**1.83**	**137**	⇑	*iP*		**Pn**	**18 14 03.6**	**+1.4**
PB01					*eS*		**Sb**	**18 14 26.2**	**-1.3**
PB01					IAML			18 14 29.7	
	comp=E,1μm,0.2s								
PB01	**IPOC Station P**	**1.83**	**137**		Pn		**Pn**	**18 14 03.4**	**+1.1**
PB02	**IPOC Station P**	**1.83**	**152**	⇑	*iP*		**Pn**	**18 14 03.6**	**+1.3**
PB02					*eS*		**Sn**	**18 14 25.7**	**+0.9**
PB02					IAML			18 14 35.4	
	comp=N,2μm,0.3s								
PB16	**IPOC Station P**	**1.84**	**43**	⇑	*iP*		**Pb**	**18 14 04.8**	**-0.5**
PB16					*i* S		**Sb**	**18 14 28.1**	**-0.1**
PB16					IAML			18 14 36.2	
	comp=N,1μm,0.5s								
PB16	**IPOC Station P**	**1.84**	**43**		Pn		**Pb**	**18 14 04.6**	**-0.8**
PB07	**IPOC Station P**	**2.20**	**157**	⇑	*eP*		**Pn**	**18 14 08.4**	**+1.0**
PB07					*i* S		**Sb**	**18 14 39.6**	**+1.4**
PB07					IAML			18 14 46.8	
	comp=E,1μm,0.8s								
PB07	**IPOC Station P**	**2.20**	**157**		Pn		**Pn**	**18 14 07.7**	**+0.3**
PB03	**IPOC Station P**	**2.54**	**157**	⇑	*eP*		**Pn**	**18 14 13.2**	**+1.1**
PB03					*eS*		**Sn**	**18 14 44.7**	**+2.2**
PB03					IAML			18 14 55.5	
	comp=E,410nm,0.4s								
PB09	**IPOC Station P**	**2.55**	**145**	⇑	*eP*		**Pn**	**18 14 14.6**	**+2.2**
PB09					*eS*		**Sb**	**18 14 47.0**	**-1.4**
PB09					IAML			18 15 01.9	
	comp=E,622nm,0.5s								
PB09	**IPOC Station P**	**2.55**	**145**				**Pn**	**18 14 14.5**	**+2.2**
PB04	**IPOC Station P**	**2.69**	**167**		*eP*		**Pn**	**18 14 15.0**	**+0.7**
PB04					*eS*		**Sn**	**18 14 44.8**	**-1.5**
PB04					IAML			18 15 08.5	
	comp=N,443nm,0.5s								
PB04	**IPOC Station P**	**2.69**	**167**		Pn		**Pn**	**18 14 14.8**	**+0.5**
PB06	**IPOC Station P**	**3.21**	**159**		*eP*		**Pn**	**18 14 21.8**	**+0.5**
PB06					*eS*		**Sn**	**18 14 56.3**	**-2.7**
PB06					IAML			18 15 14.9	
	comp=E,282nm,0.5s								
PB06	**IPOC Station P**	**3.21**	**159**		Pn		**Pn**	**18 14 21.8**	**+0.5**
LVC	**Limon Verde**	**3.40**	**149**		P		**Pn**	**18 14 26.5**	**+2.4**
	comp=E,4.7nm,0.3s,baz=347,slow=8.6,SNR=36								
LVC					S		**Sn**	**18 15 05.1**	**+1.2**
	comp=E,14nm,0.3s,baz=209,slow=16,SNR=4.9								
LVC					LR		LR	18 16 10.4	
	comp=E,65nm,19.6s,baz=338,slow=48								
LVC	**Limon Verde**	**3.40**	**149**	⇑	*iP*		**Pn**	**18 14 26.4**	**+2.3**
LVC					*eS*		**Sn**	**18 15 06.2**	**+2.3**
LVC	**Limon Verde**	**3.40**	**149**		Pn		**Pn**	**18 14 26.2**	**+2.1**
PB15	**IPOC Station P**	**3.71**	**161**		*eP*		**Pn**	**18 14 28.8**	**+0.5**
PB15					*eS*		**Sn**	**18 15 11.9**	**+0.6**
PB15	**IPOC Station P**	**3.71**	**161**		Pn		**Pn**	**18 14 27.8**	**-0.5**
PB10	**IPOC Station P**	**3.80**	**176**		Pn		**Pn**	**18 14 29.1**	**-0.2**
LPAZ	**La Paz**	**4.25**	**37**		P		Pn	18 14 40.8	+4.8
	comp=E,1.3nm,0.3s,baz=237,slow=7.9,SNR=17								
PB14	**IPOC Station P**	**4.92**	**176**		Pn		**Pn**	**18 14 44.5**	**-0.5**
GO02	**Mina Guanaco**	**5.55**	**168**		Pn		**Pn**	**18 14 53.8**	**+0.1**
AC01	**Pan de Azucar**	**6.42**	**178**		Pn		**Pn**	**18 15 03.8**	**-1.6**
SIV	**San Ignacio**	**9.98**	**70**		P		**Pn**	**18 15 54.7**	**+0.5**
	comp=E,1.0nm,0.3s,baz=268,slow=13,SNR=9.6								
H03N1	**Juan Fernandez**	**15.47**	**206**		T		T	18 33 24.1	
	baz=33,slow=72,SNR=38								
H03N2	**Juan Fernandez**	**15.48**	**206**		T		T	18 33 25.2	
	baz=33,slow=72,SNR=43								
H03N3	**Juan Fernandez**	**15.49**	**206**		T		T	18 33 22.9	
	baz=33,slow=72,SNR=48								
PLCA	**Paso Flores**	**20.97**	**179**		P		Pn	18 18 18.4	+2.0
	comp=E,1.3nm,0.8s,baz=353,slow=12,SNR=5.2								
PLCA	**Paso Flores**	**20.97**	**179**		P		Pn	18 18 17.2	+0.9
PLCA					IAmb		IAmb	18 18 25.3	
	comp=Z,4.8nm,1.4s								
PTGA	**Pitinga**	**21.64**	**31**		P		**P**	**18 18 20.2**	**-0.8**
	comp=Z,5.4nm,0.3s,baz=187,slow=18,SNR=11								
RCBR	**Riachuelo**	**36.63**	**73**		P		**P**	**18 20 37.2**	**0.0**
RCBR					IAmb		IAmb	18 20 46.2	
	comp=Z,35nm,1.4s								
TORD	**Torodi Ar. Bea**	**78.46**	**71**		P		**P**	**18 25 31.3**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=247,slow=4.9,SNR=5.3								
H11S2	**WAKE ISLAND Hyd**	**25.86**	**279**		T		T	20 51 48.3	
	baz=101,slow=74,SNR=13								
H11S1	**WAKE ISLAND Hyd**	**25.87**	**279**		T		T	20 51 51.8	
	baz=101,slow=74,SNR=21								
H11S3	**WAKE ISLAND Hyd**	**25.88**	**279**		T		T	20 52 00.1	
	baz=101,slow=74,SNR=22								
ASAR	**Alice Springs**	**130.62**	**210**		PKP		**PKiKP**	**18 32 43.3**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=105,slow=1.5,SNR=5.3								
WRA	**Warramunga Arr**	**133.53**	**213**		PKP		**PKiKP**	**18 32 49.4**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=143,slow=1.5,SNR=2.9								
WRA	**Warramunga Arr**	**133.53**	**213**				**PKPdf**	**18 32 46.4**	**-1.1**
MKAR	**Makanchi Array**	**145.16**	**33**		PKP		**PKPdf**	**18 33 08.7**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=308,slow=3.3,SNR=10								

*BEO **27** 18:18:14.7±0.6, 43°.88N×16°.48E, h3km±3km, ML3.1/10*
*PDG **27** 18:18:16.2±0.3, 43°.86N×16°.74E, h0km±11km, ML3.1/13, Error ellipse: s-maj=0.7km s-min=1.0km az=0.0*
*PRU **27** 18:18:17.1±0.0, 43°.86N×17°.11E, h0km*
*RHSSO **27** 18:18:17.8±0.5, 43°.87N×16°.77E, h6km±3km, ML3.1/14*
*LDG **27** 18:18:18.5±0.2, 43°.87N×16°.64E, h10km, Ml3.1/16, Error ellipse: s-maj=6.6km s-min=3.1km az=21.0*
ISC 27 18:18:16.8±1.1, 43°.86N±0°.02×16°.74E±0°.02, h8km±9km, n105, σ2§61/182, 10C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KIJV	**Kijevo**	**0.28**	**302**		*i* Pg		**Pb**	**18 18 24.4**	**+0.3**
KIJV					Sg		**Sb**	**18 18 30.3**	**+1.3**
RICI	**Ricice**	**0.47**	**142**		*i* Pg		**Pg**	**18 18 25.5**	**-0.3**
RICI					Sg		**Sg**	**18 18 32.3**	**+0.4**
MAKA	**Makarska**	**0.61**	**160**		*i* Pg		**Pg**	**18 18 28.5**	**0.0**
MAKA					Sg		**Sb**	**18 18 37.6**	**-0.7**
HVAR	**Hvar**	**0.71**	**197**		*eP*		**Pb**	**18 18 31.2**	**-0.2**
HVAR					Sg		**Sb**	**18 18 43.2**	**+1.8**
MORI	**Morici**	**0.74**	**271**		*i* Pg		**Pn**	**18 18 33.2**	**-0.4**
MORI					Sg		**Sn**	**18 18 46.6**	**+1.6**
ZIRJ	**Zirje**	**0.82**	**256**		*i* Pg		**Pn**	**18 18 34.4**	**-0.1**
ZIRJ					Sg		**Sn**	**18 18 49.0**	**+2.2**
BLY	**Banja Luka**	**0.95**	**20**		*eP*		**Pb**	**18 18 35.2**	**-0.2**
BLY					*eSg*		**Sb**	**18 18 48.1**	**0.0**
BLY	**Banja Luka**	**0.95**	**20**	⇑	*iPg*		**Pb**	**18 18 35.0**	**-0.4**
BLY					*eSg*		**Sg**	**18 18 47.4**	**+0.1**
LSTV	**Lastovo**	**1.10**	**174**		*eP*		**Pg**	**18 18 36.9**	**-0.9**
LSTV					Sg		**Sn**	**18 18 53.9**	**+0.2**
PRIJ	**Prijedor**	**1.12**	**359**		*eP*		**Pg**	**18 18 37.6**	**-0.6**
PRIJ					*eSg*		**Sg**	**18 18 52.6**	**-0.1**
DUGI	**Dugi Otok**	**1.22**	**277**		*eP*		**Pn**	**18 18 41.6**	**+1.4**
DUGI					Sg		**Sn**	**18 19 01.7**	**+4.9**
NVLJ	**Novalja**	**1.52**	**298**		*eP*		**Pg**	**18 18 46.7**	**+0.9**
DBRK	**Dubrovnik**	**1.57**	**139**		*ePn*		**Pn**	**18 18 45.1**	**+0.1**
DBRK					Sn		**Sg**	**18 19 08.9**	**+1.6**
BRY	**Bratogost**	**1.63**	**125**	⇓	*iPn*		**Pn**	**18 18 45.9**	**0.0**
BRY					*i* Sn		**Sg**	**18 19 10.7**	**+1.7**
BRY	**Bratogost**	**1.63**	**125**		*ePn*		**Pn**	**18 18 46.4**	**+0.5**
BRY					*eSn*		**Sn**	**18 19 07.9**	**+0.8**
TREB	**Trebinje**	**1.64**	**134**		*ePg*		**Pn**	**18 18 46.2**	**+0.3**
TREB					*eSg*		**Sg**	**18 19 10.7**	**+1.2**
TREB	**Trebinje**	**1.64**	**134**	⇑	*iPn*		**Pn**	**18 18 46.1**	**+0.2**
TREB					*eSn*		**Sg**	**18 19 08.7**	**-0.8**
UPM	**Unac-Piva**	**1.71**	**112**	⇑	*iPn*		**Pn**	**18 18 47.3**	**+0.3**
UPM					*eSn*		**Sg**	**18 19 13.0**	**+1.3**
UPM	**Unac-Piva**	**1.71**	**112**		*ePn*		**Pn**	**18 18 47.7**	**+0.7**
UPM					*eSn*		**Sb**	**18 19 10.2**	**0.0**
HCY	**Herceg Novi**	**1.91**	**137**		*ePn*		**Pn**	**18 18 50.7**	**+1.1**
HCY					*i* Sn		**Sg**	**18 19 18.2**	**+0.1**
HCY	**Herceg Novi**	**1.91**	**137**		*ePn*		**Pn**	**18 18 50.6**	**+1.0**
HCY					*eSn*		**Sn**	**18 19 15.1**	**+1.3**
RUDO	**Rudo**	**1.92**	**96**

BLKB	**Belogradchik**	**4.31**	**91**	⇓S		**Sn**	**18 20 10.8**	**-2.3**
ZAPS	**Zavoj**	**4.33**	**96**	*e*Pn		**Pn**	**18 19 22.0**	**-0.9**
MOA	**Molln**	**4.35**	**337**	*i* Pn		**Pn**	**18 19 26.3**	**+3.2**
	comp=Z,2.6nm,0.3s,SNR=6.2							
BOSS	**Bosilegrad**	**4.42**	**106**	*e*Pn		**Pn**	**18 19 24.3**	**+0.2**
MODS	**Modra-Piesok**	**4.53**	**5**	*e*PN		**Pn**	**18 19 26.0**	**+0.3**
MODS				*e*SN		**Sn**	**18 20 15.9**	**-2.6**
PSZ	**Piszkesteto**	**4.62**	**27**	⇑P		**Pn**	**18 19 27.1**	**+0.1**
VYHS	**Vyhne**	**4.86**	**17**	*e*PN		**Pn**	**18 19 31.2**	**+1.0**
VYHS				*e*SN		**Sn**	**18 20 23.6**	**-3.0**
KOLL	**Kolacno**	**4.86**	**13**	*e*PN		**Pn**	**18 19 31.3**	**+1.1**
KOLL				*e*SN		**Sn**	**18 20 26.3**	**-0.3**
WTTA	**Wattenberg**	**4.94**	**315**		Pn	**Pn**	**18 19 35.9**	**+4.4**
	comp=Z,3.0nm,0.3s,SNR=5.5							
WTTA				*i* Sn		**Sn**	**18 20 36.4**	**+7.6**
	comp=Z,18nm,0.6s							
WATA	**Walderalm**	**5.02**	**316**		Pn	**Pn**	**18 19 37.1**	**+4.7**
	comp=Z,5.8nm,0.4s,SNR=4.8							
WATA				*i* Sn		**Sn**	**18 20 36.8**	**+6.1**
	comp=Z,11nm,0.4s							
MOTA	**Moosalm**	**5.27**	**313**	*i* Pn		**Pn**	**18 19 40.0**	**+4.1**
	comp=Z,2.9nm,0.4s,SNR=4.8							
MOTA				*i* Sn		**Sn**	**18 20 44.6**	**+7.7**
	comp=Z,9.1nm,0.5s							
FETA	**Feichten**	**5.28**	**309**	*i* Pn		Pn	18 19 42.8	+6.7
	comp=Z,1.5nm,0.4s							
FETA				*i* Sn		**Sn**	**18 20 44.8**	**+7.6**
	comp=Z,4.9nm,0.7s							
KHC	**Kasperske Hory**	**5.71**	**339**	*e*PN		**Pn**	**18 19 44.2**	**+2.4**
KHC				*e*SN		**Sn**	**18 20 49.2**	**+1.7**
PGF	**Pioggiola**	**5.80**	**260**	*e*P		**Pn**	**18 19 46.8**	**+3.6**
PGF				*e*Sn		**Sn**	**18 20 44.6**	**-5.4**
	comp=Z,0.9nm,0.3s							
MORC	**Moravsky Berou**	**5.95**	**5**	⇓S		**Sn**	**18 20 55.1**	**+1.7**
MORC	**Moravsky Berou**	**5.95**	**5**	⇑P		**Pn**	**18 19 45.6**	**+0.5**
SBF	**Sospel**	**6.72**	**273**	*e*Pn		**Pn**	**18 19 54.5**	**-1.3**
SBF				*e*Sn		**Sn**	**18 21 06.2**	**-6.4**
	comp=Z,2.6nm,0.4s							
MBDF	**Montbardon**	**7.20**	**280**	*e*P		**Pn**	**18 20 03.5**	**+1.0**
MBDF				*e*Sn		**Sn**	**18 21 17.8**	**-6.7**
	comp=Z,2.0nm,0.4s							
LPG	**La Plagne**	**7.30**	**286**	*e*P		**Pn**	**18 20 07.1**	**+3.1**
LPG				*e*Sn		**Sn**	**18 21 20.8**	**-6.4**
	comp=Z,9.3nm,0.7s							
FRF	**La Foret Royal**	**7.32**	**271**	*e*P		**Pn**	**18 20 07.1**	**+3.2**
FRF				*e*Sn		**Sn**	**18 21 20.4**	**-6.7**
	comp=Z,0.6nm,0.2s							
LPL	**La Plagne**	**7.32**	**287**	*e*P		**Pn**	**18 20 07.2**	**+3.0**
LPL				*e*Sn		**Sn**	**18 21 20.9**	**-6.6**
	comp=Z,6.3nm,0.4s							
LMR	**La Mourre**	**7.44**	**269**	*e*Pn		**Pn**	**18 20 03.7**	**-1.9**
LMR				*e*Sn		**Sn**	**18 21 24.5**	**-5.7**
	comp=Z,0.7nm,0.3s							
ORIF	**Oris-en-Rattie**	**7.85**	**282**	*e*P		**Pn**	**18 20 14.9**	**+3.6**
ORIF				*e*Sn		**Sn**	**18 21 33.6**	**-6.7**
	comp=Z,5.6nm,0.5s							
HINF	**Hinteralfeld**	**7.95**	**303**	*e*P		**Pn**	**18 20 16.1**	**+3.4**
HINF				*e*Sn		**Sn**	**18 21 36.0**	**-6.8**
	comp=Z,0.7nm,0.2s							
CDF	**Champ du Feu**	**7.99**	**308**	*e*P		**Pn**	**18 20 16.1**	**+2.9**
CDF				*e*Sn		**Sn**	**18 21 36.8**	**-7.0**
	comp=Z,0.9nm,0.3s							
CABF	**La Chapelle**	**8.00**	**294**	*e*P		**Pn**	**18 20 16.6**	**+3.2**
CABF				*e*Sn		**Sn**	**18 21 37.6**	**-6.5**
	comp=Z,0.5nm,0.2s							
SMRF	**Simiane la Rot**	**8.06**	**275**	*e*Pn		**Pn**	**18 20 11.3**	**-2.8**
SMRF				*e*Sn		**Sn**	**18 21 38.6**	**-6.9**
	comp=Z,0.7nm,0.4s							
VIVF	**Saint-Julien-l**	**8.70**	**281**	*e*P		**Pn**	**18 20 25.8**	**+2.9**
LOR	**Lormes**	**9.65**	**295**	*e*Pn		**Pn**	**18 20 31.6**	**-4.3**
	baz=116							
LOR				*e*Sn		**Sn**	**18 22 17.2**	**-7.3**
	comp=Z,1.3nm,0.3s							

VIE 27 18:18:38.8±0.8, 46°41N×15°08E, h0km, ml0.5/2, Error ellipse: s-maj=5.5km s-min=2.0km az=147.0 25 km NW of Celje Suspected Mining induced., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKA	**Soboth**	**0.27**	**353**	*e*Pg	Pg	18 18 43.8	-0.2
	1.4nm,0.2s						
SOKA				*e*Sg	Sg	18 18 46.9	-0.5
	1.3nm,0.3s						
OBKA	**Obir**	**0.38**	**285**	*i* Pg	Pg	18 18 46.2	+0.1
	0.4nm,0.2s						
OBKA				*i* Sg	Sg	18 18 51.6	+0.6
	1.6nm,0.2s						

*IDC **27** 18:24:47.3±0.8, 55°55S×28°99W, h0km, mb4.2/5, mb1 4.4/7, mb1mx4.1/22, mbtmp4.3/7, ML4.1/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/19, Error ellipse: s-maj=29.4km s-min=18.3km az=64.0*
*NEIC **27** 18:24:50.4±1.8, 55°6S±0°1×29°2W±0°2, h17km±6km, mb4.7/25, Error ellipse: s-maj=19.6km s-min=5.2km az=219.0*

ISC 27 18:24:48.9±0.7, 55°6S±0°1×29°39W±0°10, h10km, n37, σ1§45/37, mb4.7/17, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.29**	**285**		**Pn**	**18 25 54.5**	**+0.3**
HOPE				Sn	**Sn**	**18 26 39.3**	**-5.0**
EFI	**East Falkland**	**17.39**	**271**	P	**Pn**	**18 28 53.1**	**+1.8**
PMSA	**Palmer Station**	**19.28**	**228**	P	**Pn**	**18 29 15.9**	**+1.5**
	0.4nm,0.3s,baz=67,slow=10.0,SNR=12						
PMSA	**Palmer Station**	**19.28**	**228**	Pn	**Pn**	**18 29 16.1**	**+1.6**
SNAA	**Sanae**	**19.68**	**155**	P	**P**	**18 29 17.2**	**-0.6**
	0.8nm,0.3s,baz=303,slow=11,SNR=26						
SNAA				LR	LR	18 35 39.2	
	comp=Z,160nm,18.1s,baz=5.0,slow=33						
PLCA	**Paso Flores**	**30.69**	**282**	P	**P**	**18 31 02.6**	**-1.1**
PLCA				IAmb	IAmb	18 31 04.6	
	comp=Z,15nm,1.5s						
SYO	**Syowa Base**	**32.73**	**142⇑**	*e*PcP	**PcP**	**18 34 03.7**	**-2.5**
QSPA	**South Pole Qui**	**34.67**	**180**	P	**P**	**18 31 38.6**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=78,slow=4.6,SNR=16						
QSPA	**South Pole Qui**	**34.67**	**180**	P	**P**	**18 31 39.2**	**+0.8**
CPUP	**Villa Florida**	**35.58**	**314**	P	**P**	**18 31 46.9**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=153,slow=8.0,SNR=6.1						
CPUP	**Villa Florida**	**35.58**	**314**	P	**P**	**18 31 46.8**	**+0.6**
ZON	**Zonda**	**36.51**	**295**	P	**P**	**18 31 53.9**	**-0.4**
ZON				IAmb	IAmb	18 31 55.0	
	comp=Z,8.3nm,0.7s						
CO01	**Juntas del Tor**	**38.49**	**295**	P	**P**	**18 32 13.3**	**+2.0**
AC05	**El Transito**	**39.50**	**295**	P	**P**	**18 32 20.7**	**+1.0**
AC05				IAmb	IAmb	18 32 21.5	
	comp=Z,16nm,0.9s						
AC04	**Llanos de Chal**	**40.42**	**295**	P	**P**	**18 32 27.9**	**+0.7**
AC04				IAmb	IAmb	18 32 28.7	
	comp=Z,28nm,1.0s						
GO03	**Copiap**	**40.49**	**297**	P	**P**	**18 32 28.1**	**+0.3**
GO03				IAmb	IAmb	18 32 28.9	
	comp=Z,16nm,1.1s						
AC02	**Maricunga**	**40.55**	**299**	P	**P**	**18 32 30.4**	**+1.6**
MAW	**Mawson**	**41.26**	**145**	P	**P**	**18 32 32.4**	**-1.2**
	comp=Z,2.2nm,0.8s,baz=236,slow=9.9,SNR=6.9						
MAW	**Mawson**	**41.26**	**145**	P	**P**	**18 32 32.6**	**-1.0**
AC01	**Pan de Azucar**	**41.86**	**297**	P	**P**	**18 32 39.2**	**+0.2**
AC01				IAmb	IAmb	18 32 41.0	
	comp=Z,17nm,1.0s						
GO02	**Mina Guanaco**	**42.17**	**299**	P	**P**	**18 32 42.1**	**+0.1**
LVC	**Limon Verde**	**43.99**	**302**	P	**P**	**18 32 58.1**	**+1.4**
LVC				IAmb	IAmb	18 32 59.0	
	comp=Z,12nm,1.1s						
PB07	**IPOC Station P**	**45.21**	**302**	P	**P**	**18 33 07.2**	**+0.9**
PB07				IAmb	IAmb	18 33 24.1	
	comp=Z,11nm,1.0s						
PB01	**IPOC Station P**	**45.60**	**303**	P	**P**	**18 33 10.7**	**+1.4**
PB08	**IPOC Station P**	**46.22**	**304**	P	**P**	**18 33 15.7**	**+1.2**
PB08				IAmb	IAmb	18 33 18.6	
	comp=Z,8.8nm,1.0s						
GO01	**Chusmiza**	**46.65**	**304**	P	**P**	**18 33 16.1**	**-1.8**
GO01				IAmb	IAmb	18 33 20.3	
	comp=Z,8.6nm,0.8s						
PB11	**IPOC Station P**	**46.78**	**303**	P	**P**	**18 33 19.5**	**+0.9**
MNMC	**Minye Minye**	**47.30**	**304**	P	**P**	**18 33 23.5**	**+0.7**
LPAZ	**La Paz**	**49.09**	**307**	P	**P**	**18 33 38.3**	**+1.2**
	comp=Z,5.2nm,0.7s,baz=147,slow=5.4,SNR=26						
LPAZ	**La Paz**	**49.09**	**307**	P	**P**	**18 33 38.0**	**+0.9**
LPAZ				IAmb	IAmb	18 33 38.9	
	comp=Z,6.5nm,0.7s						
SAML	**Samuel**	**53.60**	**317**	P	**P**	**18 34 10.3**	**+0.2**
SAML				IAmb	IAmb	18 34 11.3	
	comp=Z,7.8nm,1.0s						
OTAV	**Otavalo**	**68.36**	**306**	P	**P**	**18 35 52.3**	**+1.3**
OTAV				IAmb	IAmb	18 35 54.1	
	comp=Z,7.4nm,1.2s						
TORD	**Torodi Ar. Bea**	**73.28**	**32**	P	**P**	**18 36 20.2**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=200,slow=6.6,SNR=11						
TEIG	**Tepich**	**90.42**	**306**	P	**P**	**18 37 51.1**	**+0.8**
	baz=77,slow=0.4						
TEIG	**Tepich**	**90.42**	**306**	IAmb	IAmb	18 37 59.4	
	comp=Z,26nm,1.3s						
ILAR	**Eielson Array**	**148.88**	**313**	PKPbc	**PKPbc**	**18 44 35.0**	**-0.3**
	comp=Z,6.8nm,0.9s,baz=125,slow=1.8,SNR=40						
SONM	**Songino Array**	**151.94**	**87**	PKPbc	**PKPbc**	**18 44 41.6**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=268,slow=3.0,SNR=7.1						

*IDC **27** 18:27:13.9±0.9, 67°17N×20°86E, h0km, mb1 3.3/5, mb1mx3.1/40, mbtmp3.3/5, ML2.5/4, Error ellipse: s-maj=15.4km s-min=7.7km az=113.0*
*NAO **27** 18:27:13.5±0.8, 67°17N×20°67E, ML2.8*
*HEL **27** 18:27:14.0±0.0, 67°20N×20°77E, h0km, ML2.3, ML2.5(UPP), Explosion*
*BER **27** 18:27:16.1±4.2, 67°13N×20°55E, h0km, ML2.3, ML2.8(NAO), Suspected explosion*

ISC 27 18:27:12.9±0.7, 67°13N±0°02×20°59E±0°03, h0km, n43, σ1§74/79, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.80**	**332**	*i* P	**Pg**	**18 27 27.8**	**-0.3**
RATU				*i* S	**Sg**	**18 27 38.2**	**-0.2**
KUA	**Kurravaara**	**0.83**	**353**	*i* P	**Pg**	**18 27 28.1**	**-0.8**
KUA				*i* S	**Sg**	**18 27 38.1**	**-1.5**
ERTU	**Ertsjaerv**	**0.86**	**132**	*e*P	**Pg**	**18 27 29.3**	**+0.1**
NIKU	**Nikkaluokta**	**0.95**	**322**	*e*P	**Pg**	**18 27 30.9**	**-0.2**
LANU	**Lannavaara**	**1.07**	**29**	*e*PB	**Pg**	**18 27 31.9**	**-1.4**
LANU				*e*SB	**Sg**	**18 27 44.9**	**-2.2**
KOVU	**Salmi**	**1.11**	**352**	*e*P	**Pg**	**18 27 33.1**	**-1.1**
TOF	**Tornio**	**1.82**	**124**	*e*PG	**Pn**	**18 27 46.4**	**+1.0**
	baz=309						
TOF				MSG		18 28 08.3	
	comp=Z,24nm,0.2s						
TOF				*e*SN	**Sb**	**18 28 11.7**	**+1.3**
KIF	**Kilpisjarvi**	**1.89**	**2**	Pn	**Pn**	**18 27 46.9**	**+0.7**
KIF				Sn	**Sg**	**18 28 12.7**	**-0.7**
KIF	**Kilpisjarvi**	**1.89**	**2**	*e*PN	**Pn**	**18 27 46.8**	**+0.5**
KIF				MSG		18 28 09.3	
	comp=Z,27nm,0.2s						
KIF				*e*SG	**Sg**	**18 28 12.9**	**-0.5**
KIF	**Kilpisjarvi**	**1.89**	**2**	Pn	**Pn**	**18 27 46.9**	**+0.7**
KIF				Sn	**Sg**	**18 28 12.7**	**-0.7**
FAUS	**Fauske**	**2.08**	**279**	*e*P	**Pb**	**18 27 51.5**	**+0.1**
FAUS				*e*Sg	**Sg**	**18 28 19.3**	**-0.2**
FAUS				IAML		18 28 21.6	
	comp=Z,65nm,0.7s						
KTK1	**Kautokeino**	**2.14**	**26**	*e*P	**Pn**	**18 27 50.8**	**+1.0**
KTK1				*e*S	**Sn**	**18 28 17.4**	**+0.4**
KTK1				IAML		18 28 19.4	
	comp=Z,45nm,0.3s						
RNF	**Rovaniemi**	**2.21**	**101**	*e*S	**Sn**	**18 28 17.8**	**-0.8**
STEI	**Steigen**	**2.21**	**294**	*e*P	**Pb**	**18 27 53.4**	**-0.1**
STEI				*e*Sg	**Sg**	**18 28 24.2**	**+0.5**
STEI				IAML		18 28 28.7	
	comp=Z,27nm,0.7s						
SGF	**Sodankyl**	**2.33**	**79**	*e*P	**Pn**	**18 27 52.6**	**+0.3**
	baz=263						
SGF				*e*SG	**Sb**	**18 28 24.2**	**-0.6**
BURU	**Burvik**	**2.58**	**172**	*e*P	**Pn**	**18 27 58.0**	**+2.2**
	baz=359						
BURU				*e*SG	**Sg**	**18 28 35.4**	**-0.1**
LOF	**Lofoten**	**2.88**	**294**	Pn	**Pn**	**18 28 00.2**	**+0.3**
LOF				Pg	**Pb**	**18 28 06.0**	**+1.0**
LOF				Lg	Lg	18 28 46.5	
LOF	**Lofoten**	**2.88**	**294**	*e*P	**Pn**	**18 28 00.8**	**+0.9**
LOF				*e*Pg	**Pb**	**18 28 05.8**	**+0.8**
LOF				*e*Sg	**Sg**	**18 28 46.5**	**+1.3**
OUL	**Oulu**	**2.98**	**131**	*e*P	**Pn**	**18 28 03.5**	**+2.2**
ARA0	**ARCESS Array S**	**3.03**	**35**	Pn	**Pn**	**18 28 02.0**	**+0.1**
	baz=212,slow=14						
ARA0				Sn	**Sn**	**18 28 38.1**	**-0.8**
	baz=217,slow=28						
ARA0	**ARCESS Array S**	**3.03**	**35**	Pn	**Pn**	**18 28 02.0**	**+0.1**
	baz=212,slow=14						
ARA0				Sn	**Sn**	**18 28 38.1**	**-0.8**
	baz=217,slow=28						
ARCES	**ARCESS Array B**	**3.03**	**35**	Pn	**Pn**	**18 28 02.0**	**0.0**
	comp=Z,1.4nm,0.3s,baz=219,slow=13,SNR=52						
ARCES				Sn	**Sn**	**18 28 37.9**	**-1.0**
	comp=Z,3.7nm,0.3s,baz=214,slow=21,SNR=11						
OBF0	**Syolatti, Pyha**	**3.04**	**149**	*e*SG	**Sg**	**18 28 49.7**	**-0.6**
OUF	**Merijarvi**	**3.26**	**146**	*e*P	**Pn**	**18 28 06.6**	**+1.5**
	baz=331						
UMAU	**Umeaa**	**3.26**	**179**	*e*P	**Pn**	**18 28 07.1**	**+2.0**
UMAU				*e*S	**Sn**	**18 28 46.6**	**+2.1**
VRF	**Varrio**	**3.53**	**76**	*e*P	**Pn**	**18 28 09.1**	**+0.2**
HUSU	**Husum**	**3.85**	**189**	*e*P	**Pn**	**18 28 15.4**	**+2.2**
	baz=5.0						
HUSU				*e*S	**Sn**	**18 29 00.4**	**+1.4**
KU6	**Riekki**	**3.88**	**102**	*e*P	**Pn**	**18 28 14.4**	**+0.8**
VAF	**Ylistaro**	**4.20**	**167**	*e*P	**Pn**	**18 28 20.3**	**+2.3**
VAF				*e*SG	**Sg**	**18 29 24.8**	**-2.7**
HEMU	**Hemsoen**	**4.60**	**195**	*e*PG	**Pb**	**18 28 37.3**	**+3.0**
	baz=12						
HEMU				*e*S	**Sn**	**18 29 18.2**	**+0.6**
FIA0	**FINESS Array S**	**6.18**	**155**	Pn	**Pn**	**18 28 47.4**	**+2.1**
	baz=347,slow=14						
FIA0				Sn	**Sn**	**18 29 56.9**	**+0.3**
	baz=346,slow=28						
FIA0				Lg	Lg	18 30 28.1	
	baz=342,slow=37						
FIA0	**FINESS Array S**	**6.18**	**155**	Pn	**Pn**	**18 28 47.4**	**+2.1**
	baz=347,slow=14						
FIA0				Sn	**Sn**	**18 29 56.9**	**+0.3**
	baz=346,slow=28						
FIA0				Sg	**Sg**	**18 30 28.1**	**-3.1**
	baz=342,slow=37						
FINES	**FINESS Array B**	**6.18**	**155**	Pn	**Pn**	**18 28 46.8**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=345,slow=12,SNR=14						
FINES				Sn	**Sn**	**18 29 56.6**	**0.0**
	comp=Z,0.4nm,0.3s,baz=347,slow=24,SNR=5.5						
FINES				Lg	Lg	18 30 28.2	
	comp=Z,1.1nm,0.3s,baz=349,slow=29,SNR=7.9						
NB2	**NORSAR Subarra**	**7.36**	**218**	Pn	**Pn**	**18 29 03.5**	**+2.1**
NB2				Sn	**Sn**	**18 30 23.9**	**-1.5**
NB2				Lg	Lg	18 31 03.5	
	baz=28,slow=37						
NB2	**NORSAR Subarra**	**7.36**	**218**	Pn	**Pn**	**18 29 03.5**	**+2.1**
NB2				Sn	**Sn**	**18 30 23.9**	**-1.5**
NB2				Sg	**Sg**	**18 31 03.5**	**-5.3**
	baz=28,slow=37						
NOA	**NORSAR Array B**	**7.36**	**218**	Pn	**Pn**	**18 29 02.1**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=29,slow=11,SNR=4.6						
NOA				Sn	**Sn**	**18 30 24.4**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=292,slow=13,SNR=5.2						
NOA				Lg	Lg	18 31 02.7	
	comp=Z,0.1nm,0.3s,baz=344,slow=13,SNR=6.0						
NRA0	**NORESS Array S**	**7.55**	**216**	Pn	**Pn**	**18 29 04.6**	**+0.6**
	baz=12,slow=12						
NRA0				Sn	**Sn**	**18 30 29.5**	**-0.6**
	baz=33,slow=22						
NRA0				Lg	Lg	18 31 09.6	
	baz=24,slow=37						
NRA0	**NORESS Array S**	**7.55**	**216**	Pn	**Pn**	**18 29 04.6**	**+0.6**
	baz=12,slow=12						
NRA0				Sn	**Sn**	**18 30 29.5**	**-0.6**
	baz=33,slow=22						
NRA0				Sg	**Sg**	**18 31 09.6**	**-5.3**
	baz=24,slow=37						
HFS	**Hagfors**	**7.66**	**207**	Pn	**Pn**	**18 29 06.1**	**+0.6**
	baz=35,slow=16						
HFS				Sn	**Sn**	**18 30 31.3**	**-1.6**
	baz=46,slow=28						
HFS				Lg	Lg	18 31 11.2	
	baz=28,slow=12						
HFS	**Hagfors**	**7.66**	**207**	Pn	**Pn**	**18 29 06.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=42,slow=14,SNR=1.6						
HFS				Sn	**Sn**	**18 30 31.5**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=34,slow=22,SNR=6.2						
HFS				Lg	Lg	18 31 11.3	
	comp=Z,0.4nm,0.3s,baz=28,slow=28,SNR=2.5						
HFS	**Hagfors**	**7.66**	**207**	Pn	**Pn**	**18 29 06.1**	**+0.6**
	baz=35,slow=16						
HFS				Sn	**Sn**	**18 30 31.3**	**-1.6**
	baz=46,slow=28						
HFS				Sg	**Sg**	**18 31 11.2**	**-7.3**
	baz=28,slow=12						
SPITS	**Spitsbergen Ar**	**11.18**	**356**	Pn	Pn	18 29 42.5	-11
	baz=95,slow=16,SNR=7.8						
AKASG	**Malin Array Be**	**17.04**	**161**	P	**Pn**	**18 31 13.3**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=347,slow=12,SNR=5.3						

*IDC **27** 19:11:28.6±4.5, 51°86N×178°54E, h85km±41km, mb3.7/14, mb1 4.1/16, mb1mx3.7/47, mbtmp4.2/16, Error ellipse: s-maj=26.9km s-min=11.9km az=168.0*
*NEIC **27** 19:11:31.8±1.6, 51°9N±0°1×178°44E±0°07, h118km±5km, Error ellipse: s-maj=15.6km s-min=4.6km az=165.0*
*AEIC **27** 19:11:32±1.7, 51°9N±0°1×178°38E±0°08, h121km±3km, ML3.8/38, mb4.4/118(NEIC), Error ellipse: s-maj=16.7km s-min=7.0km az=186.0*

ISC 27 19:11:31.5±0.6, 51°92N±0°10×178°45E±0°04, h116km±5km, n181, σ1§09/185, mb4.3/57, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.05**	**53**		**Pn**	**19 11 48.1**	**+0.6**
LSSA					**Sn**	**19 12 00.5**	**+1.0**
LSNW	**Little Sitkin**	**0.06**	**39**		**Pn**	**19 11 48.0**	**+0.5**
LSNW					**Sn**	**19 12 00.9**	**+1.5**
LSPA	**Little Sitkin**	**0.08**	**64**		**Pn**	**19 11 48.1**	**+0.6**
LSPA					**Sn**	**19 12 01.4**	**+2.0**
CETU	**Semis' Tuman**	**0.65**	**86**		**Pn**	**19 11 51.1**	**+1.1**
CESW	**Semis' Southwe**	**0.69**	**91**		**Pn**	**19 11 50.9**	**+0.5**
CEAP	**Semis' Anvil P**	**0.70**	**83**		**Pn**	**19 11 51.5**	**+1.0**
CERB	**Semis' Cerberu**	**0.73**	**89**		**Pn**	**19 11 51.6**	**+0.9**
CERB					**Sn**	**19 12 08.2**	**+3.1**
AMKA	**Amchitka**	**0.76**	**135**		**Pn**	**19 11 51.3**	**+0.4**
AMKA					**Sn**	**19 12 06.3**	**+0.8**
CERAA	**Semis' Rag'd T**	**0.76**	**91**		**Pn**	**19 11 51.7**	**+0.7**
CERAA					**Sn**	**19 12 07.4**	**+1.8**
GALAA	**Gareloi Lava P**	**1.73**	**94**		**Pn**	**19 12 02.0**	**+0.6**
GAEA	**Gareloi East**	**1.74**	**93**		**Pn**	**19 12 02.3**	**+0.7**
TASE	**Tanaga Southea**	**2.18**	**91**		**Pn**	**19 12 07.4**	**+0.3**
TAFP	**Tanaga Falls P**	**2.21**	**89**		**Pn**	**19 12 07.5**	**+0.1**
TAFP					**Sn**	**19 12 35.8**	**+1.0**
KIMD	**Kanaga Island**	**2.68**	**92**		**Pn**	**19 12 13.5**	**+0.1**
KICM	**Kanaga Island**	**2.69**	**88**		**Pn**	**19 12 14.1**	**+0.4**
KIKV	**Kanaga Island**	**2.71**	**89**		**Pn**	**19 12 14.0**	**+0.1**
SMY	**Shemya**	**2.79**	**289**		**Pn**	**19 12 14.2**	**-0.7**
SMY					**Sn**	**19 12 47.7**	**-0.5**
ADK	**Adak**	**3.01**	**89**		**Pn**	**19 12 17.5**	**-0.3**
GSTD	**Great Sitkin T**	**3.34**	**86**		**Pn**	**19 12 21.9**	**-0.3**
GSTR	**Great Sitkin T**	**3.40**	**85**		**Pn**	**19 12 22.9**	**0.0**
GSMY	**Great Sitkin M**	**3.40**	**86**		**Pn**	**19 12 22.8**	**-0.2**
ATKA	**Atka Island**	**4.55**	**84**		**Pn**	**19 12 38.5**	**+0.3**
NIKH	**Nikolski High**	**7.83**	**77**		**Pn**	**19 13 22.3**	**-0.2**
MAPS	**Pakushin South**	**9.04**	**72**		**Pn**	**19 13 38.9**	**0.0**
MREP	**Makushin Rep't**	**9.15**	**72**		**Pn**	**19 13 40.2**	**-0.3**
MNAT	**Makushin Natee**	**9.20**	**72**		**Pn**	**19 13 41.6**	**+0.6**
UNV	**Unalaska Valle**	**9.30**	**72**		**Pn**	**19 13 42.1**	**-0.3**
AKBBA	**Akutan Broad B**	**9.66**	**71**		**Pn**	**19 13 47.6**	**+0.3**
PETK	**Petropavlovsk-**	**12.69**	**284**	P	**Pn**	**19 14 28.6**	**+0.9**
	0.9nm,0.3s,baz=88,slow=8.7,SNR=24						
PETK				S	**Sn**	**19 16 44.6**	**-2.7**
	0.4nm,0.3s,baz=111,slow=36,SNR=2.4						
SVW2	**Sparrevohn**	**16.91**	**47**	P	**P**	**19 15 22.5**	**+1.6**
OHAK	**Old Harbor**	**17.15**	**61**	P	**P**	**19 15 21.0**	**-2.5**
OHAK				IAmb	IAmb	19 15 24.6	
	comp=Z,26nm,1.3s						
TTA	**Tatalina**	**17.48**	**41**		**Pn**	**19 15 28.7**	**+0.9**
KDAK	**Kodiak Island**	**17.59**	**59**	P	**P**	**19 15 26.4**	**-2.1**
	comp=Z,6.4nm,0.3s,baz=269,slow=7.1,SNR=71						
KDAK	**Kodiak Island**	**17.59**	**59**		**P**	**19 15 26.3**	**-2.1**
KDAK				IAmb	IAmb	19 15 29.0	
	comp=Z,14nm,0.8s						
RSO	**Redoubt South**	**18.03**	**50**	P	**Pn**	**19 15 34.7**	**+0.2**
CNPM	**China Poot**	**18.56**	**54**	P	**P**	**19 15 38.8**	**-0.2**
SPU	**Mount Spurr**	**18.56**	**49**		**Pn**	**19 15 41.2**	**+0.5**
BRLK	**Bradley Lake**	**18.78**	**53**	P	**P**	**19 15 41.2**	**-0.2**
SKT	**Skwentna**	**19.03**	**46**	P	**P**	**19 15 45.5**	**+1.3**
PPLA	**Purkeypile**	**19.06**	**43**	P	**Pn**	**19 15 46.3**

KLR	**Kul'dur**	**29.39**	**284**	P	**P**	**19 17 23.7**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=67,slow=8.0,SNR=10.0						
DLBC	**Dease Lake**	**29.49**	**57**	P	**P**	**19 17 25.1**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=249,slow=13,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**33.38**	**200**	T	T	19 53 14.9	
	baz=11,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**33.39**	**200**	T	T	19 53 23.7	
	baz=11,slow=76,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**33.40**	**200**	T	T	19 53 35.4	
	baz=11,slow=76,SNR=9.9						
H11S1	**WAKE ISLAND Hy**	**34.60**	**200**	T	T	19 55 12.0	
	baz=14,slow=74						
H11S3	**WAKE ISLAND Hy**	**34.62**	**200**	T	T	19 55 11.4	
	baz=14,slow=74						
H11S2	**WAKE ISLAND Hy**	**34.62**	**200**	T	T	19 55 09.3	
	baz=14						
YKA	**Yellowknife Ar**	**36.10**	**46**	P	**P**	**19 18 21.7**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=284,slow=7.0,SNR=3.8						
B08A	**Colville Reser**	**38.96**	**70**	P	**P**	**19 18 45.7**	**-0.3**
HAWA	**Hanford**	**39.84**	**73**	P	**P**	**19 18 53.3**	**0.0**
HAWA				IAmb	IAmb	19 18 53.4	
	comp=Z,4.4nm,0.6s						
NEW	**Newport**	**40.29**	**69**		**P**	**19 18 55.9**	**-1.1**
NEW				IAmb	IAmb	19 18 56.9	
	comp=Z,5.5nm,1.0s						
KHMM	**Horse Mountain**	**40.36**	**82**	P	**P**	**19 18 59.5**	**+1.6**
KHMM				IAmb	IAmb	19 18 59.9	
	comp=Z,6.9nm,0.6s						
YBH	**Yreka Blue Hor**	**40.49**	**81**		**P**	**19 18 60.0**	**+1.2**
YBH				IAmb	IAmb	19 19 01.0	
	comp=Z,4.3nm,0.8s						
KMRM	**Mail Ridge**	**40.76**	**83**	P	**P**	**19 19 03.2**	**+2.2**
KMRM				IAmb	IAmb	19 19 03.7	
	comp=Z,6.9nm,0.7s						
I07A	**Izee**	**41.10**	**76**	P	**P**	**19 19 03.7**	**-0.1**
KCPM	**Cahto Peak**	**41.16**	**84**	P	**P**	**19 19 05.6**	**+1.2**
KCPM				IAmb	IAmb	19 19 08.1	
	comp=Z,3.8nm,0.7s						
WDC	**Whiskeytown Da**	**41.27**	**82**		**P**	**19 19 06.2**	**+1.1**
WDC				IAmb	IAmb	19 19 06.9	
	comp=Z,5.0nm,1.0s						
WALA	**Waterton Lakes**	**41.72**	**66**	P	**P**	**19 19 08.7**	**-0.2**
WALA				IAmb	IAmb	19 19 09.0	
	comp=Z,6.9nm,0.8s						
MOD	**Modoc Plateau**	**41.86**	**79**	P	**P**	**19 19 10.3**	**+0.2**
MOD				IAmb	IAmb	19 19 12.0	
	comp=Z,4.9nm,0.6s						
HOPS	**Hopland Field**	**41.89**	**84**	P	**P**	**19 19 10.8**	**+0.6**
HOPS				IAmb	IAmb	19 19 16.6	
	comp=Z,9.7nm,1.3s						
BMO	**Blue Mountains**	**41.98**	**73**	P	**P**	**19 19 10.5**	**-0.5**
JTMT	**Jette**	**42.19**	**68**	P	**P**	**19 19 11.7**	**-1.0**
ORV	**Oroville**	**42.52**	**82**	P	**P**	**19 19 14.9**	**-0.4**
ORV				IAmb	IAmb	19 19 16.1	
	comp=Z,4.9nm,0.7s						
WVOR	**Wild Horse Val**	**42.56**	**77**	P	**P**	**19 19 15.8**	**+0.1**
WVOR				IAmb	IAmb	19 19 16.5	
	comp=Z,3.1nm,0.7s						
PAHR	**Pah Rah Range**	**43.72**	**81**	P	**P**	**19 19 25.5**	**+0.4**
PAHR				IAmb	IAmb	19 19 26.3	
	comp=Z,6.3nm,1.1s						
PNTR	**Pine Nut**	**43.97**	**82**	P	**P**	**19 19 28.0**	**+0.8**
CMB	**Columbia Colle**	**44.14**	**83**	P	**P**	**19 19 29.1**	**+0.8**
HRY	**Holter Researc**	**44.16**	**68**	P	**P**	**19 19 27.6**	**-0.9**
WAKR	**Walker**	**44.43**	**82**	P	**P**	**19 19 31.7**	**+0.8**
WAKR				IAmb	IAmb	19 19 32.1	
	comp=Z,4.9nm,0.6s						
MCMT	**McKenzie Canyo**	**44.62**	**71**	P	**P**	**19 19 31.2**	**-1.2**
SONM	**Songino Array**	**44.87**	**295**	P	**P**	**19 19 34.9**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=63,slow=7.8,SNR=4.9						
BOZ	**Bozeman (W)**	**44.90**	**69**	P	**P**	**19 19 33.4**	**-1.0**
BOZ				IAmb	IAmb	19 19 34.1	
	comp=Z,4.2nm,0.8s						
KVN	**Kaiserville**	**44.91**	**81**		**P**	**19 19 35.0**	**+0.3**
KVN				IAmb	IAmb	19 19 35.4	
	comp=Z,2.8nm,0.5s						
RYN	**Ryan**	**44.91**	**81**	P	**P**	**19 19 35.3**	**+0.7**
RYN				IAmb	IAmb	19 19 35.8	
	comp=Z,4.8nm,0.5s						
LHV	**Little Huntoon**	**45.16**	**82**	P	**P**	**19 19 37.2**	**+0.8**
NVAR	**Mina Array Bea**	**45.17**	**81**	P	**P**	**19 19 37.2**	**+0.4**
	comp=Z,2.9nm,0.5s,baz=295,slow=7.5,SNR=31						
NVAR	**Mina Array Bea**	**45.17**	**81**	P	**P**	**19 19 37.0**	**+0.2**
MDPB	**Devils Postpil**	**45.20**	**83**	P	**P**	**19 19 36.9**	**-0.1**
MDPB				IAmb	IAmb	19 19 39.1	
	comp=Z,4.5nm,0.9s						
OMMB	**Old Mammoth Mi**	**45.26**	**83**	P	**P**	**19 19 38.4**	**+0.8**
NV11	**Mina Array Sit**	**45.26**	**81**	P	**P**	**19 19 37.6**	**+0.3**
QLMT	**Earthquake Lak**	**45.45**	**70**	P	**P**	**19 19 38.4**	**-0.5**
YHL	**Hebgen Lake**	**45.58**	**70**	P	**P**	**19 19 39.0**	**-1.0**
YHB	**Horse Butte**	**45.63**	**70**	P	**P**	**19 19 39.4**	**-0.9**
PAGB	**Antelope Grade**	**45.70**	**86**	P	**P**	**19 19 41.5**	**+0.8**
PAGB				IAmb	IAmb	19 19 42.3	
	comp=Z,6.6nm,0.8s						
YHH	**Holmes Hill**	**45.81**	**70**	P	**P**	**19 19 41.0**	**-0.8**
FLWY	**Flagg Ranch**	**46.31**	**70**	P	**P**	**19 19 45.5**	**-0.1**
FLWY				IAmb	IAmb	19 19 46.2	
	comp=Z,4.1nm,0.7s						
RLMT	**Red Lodge**	**46.53**	**68**	P	**P**	**19 19 47.4**	**+0.1**
RLMT				IAmb	IAmb	19 19 48.1	
	comp=Z,7.1nm,1.1s						
LOHW	**Long Hollow**	**46.64**	**71**	P	**P**	**19 19 48.2**	**-0.1**
R11A	**Troy Canyon, C**	**46.88**	**80**	P	**P**	**19 19 49.8**	**-0.3**
R11A				IAmb	IAmb	19 19 50.5	
	comp=Z,2.8nm,0.6s						
TPNV	**Topopah Spring**	**47.37**	**82**		**P**	**19 19 54.2**	**+0.3**
TPNV				IAmb	IAmb	19 19 55.0	
	comp=Z,6.4nm,0.8s						
BW06	**Boulder Array**	**47.76**	**71**	P	**P**	**19 19 55.9**	**-1.0**
PD31	**Pinedale Array**	**47.76**	**71**	P	**P**	**19 19 55.9**	**-1.0**
PDAR	**Pinedale Array**	**47.76**	**71**	P	**P**	**19 19 56.0**	**-1.0**
	comp=Z,2.9nm,0.7s,baz=307,slow=3.5,SNR=6.6						
PRN	**Pahroc Range**	**47.81**	**80**	P	**P**	**19 19 57.5**	**+0.2**
PRN				IAmb	IAmb	19 19 58.4	
	comp=Z,3.8nm,0.6s						
PSUT	**Pine Spring**	**47.82**	**78**	P	**P**	**19 19 57.4**	**0.0**
GSC	**Goldstone, Bar**	**48.10**	**84**	P	**P**	**19 19 59.8**	**+0.3**
TCRU	**Three Creeks R**	**48.62**	**77**	P	**P**	**19 20 04.0**	**+0.4**
CCUT	**Cedar City**	**48.74**	**79**	P	**P**	**19 20 04.8**	**+0.3**
MSU	**Marysvale**	**48.85**	**77**	P	**P**	**19 20 05.7**	**+0.4**
TMUT	**Trail Mountain**	**48.93**	**76**	P	**P**	**19 20 06.1**	**0.0**
RDMU	**Red Mountain**	**49.11**	**73**	P	**P**	**19 20 07.1**	**-0.1**
MTPU	**Mount Pierson**	**49.14**	**78**	P	**P**	**19 20 07.9**	**+0.2**
LCMT	**Little Creek M**	**49.16**	**79**	P	**P**	**19 20 08.0**	**+0.3**
KNB	**Kanab**	**49.42**	**79**	P	**P**	**19 20 09.8**	**+0.2**
SRU	**San Rafael Swe**	**49.46**	**75**	P	**P**	**19 20 09.2**	**-0.7**
W13A	**Hualapai Mount**	**50.03**	**82**	P	**P**	**19 20 14.2**	**0.0**
U15A	**North Rim**	**50.12**	**79**	P	**P**	**19 20 15.5**	**+0.4**
CBX	**Cerro Bola**	**50.19**	**86**	P	**P**	**19 20 16.1**	**+0.7**
GLA	**Glamis**	**50.82**	**84**	P	**P**	**19 20 20.4**	**+0.3**
GLA				IAmb	IAmb	19 20 35.7	
	comp=Z,5.6nm,0.8s						
PV17	**East Wray Mesa**	**50.93**	**75**	P	**P**	**19 20 20.7**	**-0.4**
PV11	**David Mesa, Pa**	**50.97**	**75**	P	**P**	**19 20 20.7**	**-0.6**
PV05	**Paradox Valley**	**50.98**	**76**	P	**P**	**19 20 20.7**	**-0.7**
PV05				IAmb	IAmb	19 20 21.9	
	comp=Z,4.7nm,1.1s						
PV03	**Paradox Valley**	**51.02**	**75**	P	**P**	**19 20 20.8**	**-0.9**
PV03				IAmb	IAmb	19 20 21.6	
	comp=Z,4.5nm,0.6s						
PV07	**Paradox Valley**	**51.02**	**75**	P	**P**	**19 20 21.4**	**-0.2**
PV07				IAmb	IAmb	19 20 21.5	
	comp=Z,2.8nm,0.7s						
PV13	**Radium Mtn., P**	**51.09**	**75**	P	**P**	**19 20 21.9**	**-0.4**
N35A	**Tabor**	**56.96**	**64**	P	**P**	**19 21 03.6**	**-1.0**
KURK	**Kurchatov**	**57.40**	**312**	P	**P**	**19 21 08.5**	**+1.1**
KURK				IAmb	IAmb	19 21 09.5	
	comp=Z,3.6nm,1.3s						
MNTX	**Cornudas Mount**	**57.53**	**79**	P	**P**	**19 21 08.9**	**+0.2**
MNTX				IAmb	IAmb	19 21 09.7	
	comp=Z,3.8nm,0.8s						
SCIA	**State Center**	**57.59**	**62**	P	**P**	**19 21 08.7**	**-0.3**
MKAR	**Makanchi Array**	**58.34**	**307**	P	**P**	**19 21 15.8**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=52,slow=6.6,SNR=4.9						
TX31	**Lajitas Ar. Si**	**60.25**	**80**	P	**P**	**19 21 27.1**	**-0.5**
TX32	**Lajitas Array**	**60.25**	**80**	P	**P**	**19 21 27.3**	**-0.3**
TX32				IAmb	IAmb	19 21 28.2	
	comp=Z,2.8nm,0.7s						
TXAR	**Lajitas Array**	**60.25**	**80**	P	**P**	**19 21 27.6**	**0.0**
	comp=Z,2.0nm,0.6s,baz=302,slow=4.7,SNR=30						
TXAR				pP	**pP**	**19 21 48.8**	**-6.8**
	comp=Z,0.7nm,0.4s,baz=305,slow=6.3,SNR=4.4						
SFIN	**Lafayette**	**61.97**	**60**	P	**P**	**19 21 37.8**	**-1.1**
L48A	**N Adams**	**62.25**	**57**	P	**P**	**19 21 38.4**	**-2.4**
FCAR	**Ozark Folk Cen**	**62.40**	**66**	P	**P**	**19 21 40.0**	**-1.9**
MOQ	**Mont Orford**	**65.67**	**47**	P	**P**	**19 22 02.1**	**-1.1**
AKASG	**Malin Array Be**	**74.48**	**340**	P	**P**	**19 22 57.8**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=12,slow=5.7,SNR=1.9						
WB2	**Warramunga Arr**	**81.25**	**221**	P	**P**	**19 23 34.4**	**-0.1**
WB2				IAmb	IAmb	19 23 35.4	
	comp=Z,4.1nm,0.9s						
WRA	**Warramunga Arr**	**81.25**	**221**	P	**P**	**19 23 34.5**	**0.0**
	comp=Z,1.7nm,0.6s,baz=31,slow=6.2,SNR=15						
WRA	**Warramunga Arr**	**81.25**	**221**	P	**P**	**19 23 33.7**	**-0.8**
ASAR	**Alice Springs**	**84.76**	**220**	P	**P**	**19 23 53.1**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=21,slow=5.3,SNR=13						
STKA	**Stephens Creek**	**89.49**	**211**	P	**P**	**19 24 16.1**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=334,slow=2.0,SNR=7.6						
MAW	**Mawson**	**145.86**	**218**	PKPbc	**PKPab**	**19 30 55.9**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=109,slow=4.6,SNR=12						
BOSA	**Boshof**	**149.32**	**309**	PKPbc	**PKPbc**	**19 31 06.8**	**+0.2**
	comp=Z,3.2nm,0.9s,baz=96,slow=2.2,SNR=5.3						

*IDC **27** 19:13:11.3±6.0,20°.51S×178°.44W,h621km±69km, mb3.1/7, mb1 3.5/7,mb1mx3.1/24,mbtmp4.1/7, Error ellipse: s-maj=63.3km s-min=24.2km az=152.0*

*NEIC **27** 19:13:13.1±1.7,20°.3S±0°.5×178°.6W±0°.2,h637km±14km, mb4.0/6, Error ellipse: s-maj=81.9km s-min=20.0km az=162.0*

ISC 27 19:13:08.6±1.4,20°.5S±0°.5×178°.4W±0°.2,h587km,n16, σ1§03/18,mb3.8/11,1C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**33.13**	**264**	P	**P**	**19 18 58.2**	**+0.4**
CTAO				IAmb	IAmb	19 19 24.8	
	comp=Z,6.1nm,1.1s						
JAY	**Jayapura**	**43.69**	**289**	P	**P**	**19 20 23.8**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=135,slow=7.1,SNR=7.4						
AS31	**Alice Springs**	**44.17**	**257**	P	**P**	**19 20 27.8**	**+1.0**
ASAR	**Alice Springs**	**44.17**	**257**	P	**P**	**19 20 26.9**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=90,slow=8.0,SNR=15						
ASAR				PcP	**PcP**	**19 21 57.9**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=105,slow=4.2,SNR=6.5						
WB0	**Warramunga Arr**	**44.22**	**262**	P	**P**	**19 20 26.9**	**-0.3**
WB0				IAmb	IAmb	19 20 41.9	
	comp=Z,6.4nm,1.2s						
WB2	**Warramunga Arr**	**44.23**	**262**	P	**P**	**19 20 26.8**	**-0.4**
WB2				IAmb	IAmb	19 20 29.4	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**44.24**	**262**	P	**P**	**19 20 26.8**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=97,slow=7.4,SNR=11						
NVAR	**Mina Array Bea**	**81.26**	**44**	P	**P**	**19 24 24.8**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=228,slow=10,SNR=11						
MOD	**Modoc Plateau**	**82.03**	**40**	P	**P**	**19 24 29.1**	**+0.6**
MOD				IAmb	IAmb	19 24 29.6	
	comp=Z,3.9nm,0.9s						
PV05	**Paradox Valley**	**87.24**	**48**	P	**P**	**19 24 56.3**	**+2.3**
TXAR	**Lajitas Array**	**87.35**	**57**	P	**P**	**19 24 55.0**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=217,slow=7.1,SNR=7.8						
ILAR	**Eison Array**	**88.37**	**13**	P	**P**	**19 24 57.5**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=207,slow=3.8,SNR=6.2						
PDAR	**Pinedale Array**	**89.19**	**43**	P	**P**	**19 25 02.8**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=209,slow=3.6,SNR=9.3						
AKASG	**Malin Array Be**	**142.81**	**331**	PKP	**PKPdf**	**19 31 33.4**	**-2.4**
	comp=Z,1.6nm,0.5s,baz=42,slow=4.2,SNR=13						
CLL	**Collm**	**147.95**	**346**	i/PKPbc	**PKiKP**	**19 31 49.3**	**-0.5**
	comp=Z,5.0nm,0.7s						
CLL				*e*PKPab	**PKPab**	**19 31 54.0**	**+0.7**
GERES	**GERESS Array B**	**150.07**	**344**	PKPbc	**PKPbc**	**19 31 53.8**	**0.0**
	comp=Z,0.5nm,0.5s,baz=28,slow=3.2,SNR=6.6						

*NEIC **27** 19:55:36.6±1.1,51°.87N±0°.09×178°.3E±0°.1,h131km±6km, Error ellipse: s-maj=12.6km s-min=8.7km az=194.0*

AEIC 27 19:55:37.8±1.7,51°.9N±0°.1×178°.2E±0°.10,h126km±5km, mb4.1/15(NEIC),**Error ellipse: s-maj=19.4km s-min=8.3km az=186.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.16**	**73**		Pn	19 55 54.4	-0.6
LSNW	**Little Sitkin**	**0.17**	**66**		Pn	19 55 54.3	-0.7
LSNW					Sn	19 56 07.4	-0.7
LSPA	**Little Sitkin**	**0.20**	**74**		Pn	19 55 54.4	-0.7
LSPA					Sn	19 56 08.5	+0.4
CETU	**Semis' Tuman**	**0.76**	**85**		Pn	19 55 57.7	-0.4
CESW	**Semis' Southwe**	**0.80**	**90**		Pn	19 55 57.6	-0.9
CEAP	**Semis' Anvil P**	**0.81**	**83**		Pn	19 55 58.1	-0.5
AMKA	**Amchitka**	**0.83**	**129**		Pn	19 55 58.1	-0.7
AMKA					Sn	19 56 13.9	-0.6
CERAA	**Semis' Rag'd T**	**0.88**	**89**		Pn	19 55 58.4	-0.7
CERAA					Sn	19 56 15.1	-0.2
TASE	**Tanaga Southea**	**2.29**	**90**		Pn	19 56 14.3	-0.8
TAFP	**Tanaga Falls P**	**2.32**	**89**		Pn	19 56 14.4	-1.0
TAFP					Sn	19 56 43.0	-1.5
SMY	**Shemya**	**2.69**	**290**		Pn	19 56 19.4	-0.7
SMY					Sn	19 56 51.3	-1.4
KIMD	**Kanaga Island**	**2.79**	**91**		Pn	19 56 20.3	-1.2
KICM	**Kanaga Island**	**2.81**	**88**		Pn	19 56 20.7	-1.0
KIKV	**Kanaga Island**	**2.83**	**89**		Pn	19 56 21.3	-0.6
ADK	**Adak**	**3.13**	**88**		Pn	19 56 24.2	-1.6
ADAG	**Mount Adagdak**	**3.17**	**87**		Pn	19 56 25.1	-1.4
GSTD	**Great Sitkin T**	**3.46**	**85**		Pn	19 56 28.5	-1.7
GSTR	**Great Sitkin T**	**3.51**	**85**		Pn	19 56 29.4	-1.5
GSMY	**Great Sitkin M**	**3.51**	**85**		Pn	19 56 29.2	-1.7
NIKH	**Nikolski High**	**7.94**	**77**		Pn	19 57 30.5	+0.2
OHAK	**Old Harbor**	**17.25**	**61**	P	P	19 59 28.5	-1.7
OHAK				IAmb	IAmb	19 59 53.2	
	comp=Z,19nm,1.2s						
TTA	**Tatalina**	**17.57**	**41**	P	Pn	19 59 34.5	0.0
KDAK	**Kodiak Island**	**17.69**	**59**	P	P	19 59 32.5	-2.6
SKT	**Skwentna**	**19.13**	**46**	P	P	19 59 49.3	-1.4
PPLA	**Purkeypile**	**19.15**	**44**		P	19 59 50.9	-0.2
KTH	**Kanishna Hill**	**19.93**	**42**	P	P	19 59 59.5	+0.1
BPAW	**Bear Paw Mtn.**	**20.11**	**41**	P	P	20 00 01.2	0.0
BPAW				IAmb	IAmb	20 00 22.3	
	comp=Z,14nm,1.8s						
TRF	**Thorofare Moun**	**20.15**	**43**	P	P	20 00 01.9	0.0
TRF				IAmb	IAmb	20 00 46.9	
	comp=Z,24nm,2.0s						
SCM	**Sheep Creek Mo**	**21.01**	**48**	P	P	20 00 10.2	-0.8
SCM				IAmb	IAmb	20 00 43.9	
	comp=Z,7.9nm,1.1s						
DHY	**Denali Highway**	**21.29**	**45**	P	P	20 00 12.1	-2.1
DHY				IAmb	IAmb	20 00 14.7	
	comp=Z,8.8nm,1.3s						
WRH	**Wood River Hil**	**21.42**	**41**	P	P	20 00 13.6	-1.7
WRH				IAmb	IAmb	20 01 06.3	
	comp=Z,18nm,2.0s						
MDM	**Murphy Dome**	**21.53**	**40**	P	P	20 00 15.8	-0.8
RIDG	**Independent Ri**	**22.56**	**44**	P	P	20 00 26.0	-1.1
RIDG				IAmb	IAmb	20 00 50.6	
	comp=Z,18nm,1.8s						
DOT	**Dot Lake**	**22.88**	**45**	P	P	20 00 29.1	-1.1
DOT				IAmb	IAmb	20 01 00.1	
	comp=Z,8.0nm,1.5s						
BARN	**Barnard Glacie**	**23.59**	**51**	P	P	20 00 36.9	0.0
BARN				IAmb	IAmb	20 00 41.5	
	comp=Z,16nm,1.8s						
BCAR	**Beaver Creek A**	**23.77**	**46**	P	P	20 00 38.3	-0.1
BMAR	**Burnt Mountain**	**23.83**	**35**	P	P	20 00 37.7	-1.2

*IDC **27** 19:56:41.8±0.8,3°.72N×126°.16E,h0km,mb3.6/8, mb1 3.7/9,mb1mx3.5/55,mbtmp3.7/9,ML3.8/1,MS2.9/5, Ms1 2.9/5,ms1mx2.7/34, Error ellipse: s-maj=59.9km s-min=15.3km az=69.0*

*NEIC **27** 19:56:47.3±1.6,3°.7N±0°.1×126°.3E±0°.1,h43km±10km, mb4.2/14, Error ellipse: s-maj=19.5km s-min=11.8km az=54.0*

*MAN **27** 19:56:49.1,3°.94N×126°.17E,h4km,MS3.6*

ISC 27 19:56:47.3±0.6,3°.64N±0°.06×126°.3E±0°.1,h35km,n36, σ1§34/35,mb3.8/12,MS2.8/4,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.52**	**346**	*e*P	**Pn**	**19 57 26.5**	**+0.6**
DDMP				*e*S	**Sn**	**19 57 55.0**	**-0.4**
TNTI	**Ternate**	**3.03**	**160**	Pn	**Pn**	**19 57 32.4**	**-0.5**
MATI	**Mati**	**3.28**	**359**	*e*P	**Pn**	**19 57 38.1**	**+1.8**
MATI				*e*S	**Sn**	**19 58 17.6**	**+3.5**
SKMP	**Bagumbayan, Su**	**3.37**	**328**	*e*P	**Pn**	**19 57 38.9**	**+1.4**
SKMP				*e*S	**Sn**	**19 58 18.9**	**+2.7**
BUKP	**Musuan**	**4.39**	**343**	*e*P	**Pn**	**19 57 53.2**	**+1.6**
BUKP				*e*S	**Sn**	**19 58 42.7**	**+1.0**
PAGZ	**Pagadian**	**5.11**	**325**	*e*P	**Pn**	**19 58 03.8**	**+2.4**
PAGZ				*e*S	**Sn**	**19 58 59.7**	**+0.5**
LUWI	**Luwuk**	**5.86**	**218**		Pn	19 58 22.4	+11
SIJI	**Sorong**	**6.66**	**132**	Pn	**Pn**	**19 58 23.2**	**+0.5**
	2.0nm,0.3s,baz=335,slow=19,SNR=5.5						
SIJI				Sn	**Sn**	**19 59 37.5**	**0.0**
	0.5nm,0.3s,baz=41,slow=19,SNR=1.4						
MYLDM	**Lahad Datu**	**7.96**	**281**		Pn	19 58 47.9	+7.3
FAKI	**Fak Fak**	**8.80**	**138**	Pn	**Pn**	**19 58 53.5**	**+1.4**
KKM	**Kota Kinabalu**	**10.36**	**284**		Pn	19 59 20.4	+6.7
JAY	**Jayapura**	**15.61**	**113**	LR	LR	20 06 33.0	
	comp=Z,52nm,18.5s,baz=285,slow=37						
MTN	**Manton Dam**	**17.06**	**164**	Pn	**Pn**	**20 00 42.6**	**-0.7**
MTN				IAmb	IAmb	20 00 49.0	
	comp=Z,34nm,1.4s						
JAGI	**Jajag, Banyuwa**	**17.10**	**225**	P	**P**	**20 00 45.5**	**+0.3**
KNRA	**Kununurra**	**19.35**	**173**		**P**	**20 01 08.9**	**-1.0**
TPUB	**Ta-pu**	**20.31**	**345**	P	**P**	**20 01 18.6**	**-1.8**
GUMO	**Guam**	**20.80**	**61**	LR	LR	20 07 53.9	
	comp=Z,38nm,21.8s,baz=205,slow=32						
FITZ	**Fitzroy Crossi**	**21.61**	**182**	P	**P**	**20 01 35.5**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=52,slow=13,SNR=2.0						
FITZ	**Fitzroy Crossi**	**21.61**	**182**	P	**P**	**20 01 35.4**	**+1.0**
FITZ				IAmb	IAmb	20 01 50.5	
	comp=Z,11nm,1.5s						
WB0	**Warramunga Arr**	**24.57**	**161**	P	**P**	**20 02 03.9**	**-0.3**
WB0				IAmb	IAmb	20 02 15.8	
	comp=Z,5.7nm,1.1s						
WRAB	**Tennant Creek**	**24.72**	**162**	P	**P**	**20 02 06.0**	**+0.5**
WRA	**Warramunga Arr**	**24.72**	**162**	P	**P**	**20 02 06.0**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=341,slow=11,SNR=18						
WRA	**Warramunga Arr**	**24.72**	**162**	P	**P**	**20 02 05.5**	**0.0**
WB2	**Warramunga Arr**	**24.73**	**162**	P	**P**	**20 02 05.5**	**0.0**
WB2				IAmb	IAmb	20 02 19.5	
	comp=Z,5.2nm,0.9s						
WR0	**Warramunga Arr**	**24.80**	**161**	P	**P**	**20 02 05.9**	**-0.4**
KRVT	**Keravat (AS076**	**26.86**	**107**	LR	LR	20 10 38.4	
	comp=Z,33nm,21.4s,baz=38,slow=31						
JCJ	**Chichijima**	**27.81**	**31**	LR	LR	20 13 02.0	
	comp=Z,23nm,21.6s,baz=116,slow=35						
ASAR	**Alice Springs**	**28.13**	**165**	P	**P**	**20 02 37.1**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=341,slow=6.8,SNR=6.6						
KSRS	**Korea Array**	**33.68**	**2**	P	**P**	**20 03 24.9**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=180,slow=11,SNR=2.7						
MJAR	**Matsushiro Arr**	**34.52**	**17**	LR	LR	20 21 55.8	
	comp=Z,16nm,18.0s,baz=80,slow=44						
STKA	**Stephens Creek**	**38.19**	**159**	P	**P**	**20 04 03.8**	**0.0**
	comp=Z,0.5nm,0.4s,baz=337,slow=8.2,SNR=1.5						
SONM	**Songino Array**	**47.26**	**342**	P	**P**	**20 05 15.5**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=162,slow=8.6,SNR=2.1						
MK31	**Makanchi Array**	**57.40**	**325**	P	**P**	**20 06 31.7**	**-0.8**
MK31				IAmb	IAmb	20 06 41.0	
	comp=Z,3.4nm,1.4s						
MKAR	**Makanchi Array**	**57.40**	**325**	P	**P**	**20 06 31.1**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=120,slow=7.1,SNR=9.2						
MKAR				PcP	**PcP**	**20 07 26.1**	**0.0**
	comp=Z,0.5nm,0.6s,baz=106,slow=3.6,SNR=4.0						
KURBB	**Kurchatov Arra**	**61.60**	**328**	P	**P**	**20 06 59.2**	**-2.0**
	comp=Z,0.7nm,0.6s,baz=128,slow=6.4,SNR=8.2						
KURK	**Kurchatov**	**61.60**	**328**	P	**P**	**20 06 59.4**	**-1.9**
KURK				IAmb	IAmb	20 07 04.5	
	comp=Z,1.9nm,0.8s						

*IDC **27** 19:59:11.8±1.0,32°.69N×47°.64E,h0km,mb3.9/16, mb1 3.9/24,mb1mx3.8/53,mbtmp3.8/24,ML3.6/8,MS3.0/5,

TKDS	**Koohdasht(Taba**	**8.00**	**81**	*e*Pn		**Pn**	**20 01 10.9**	**+1.2**
NGRK	**Negar Kerman**	**8.36**	**109**	*e*Pn		**Pn**	**20 01 15.4**	**+0.5**
ASF	**Jabal al Asfar**	**9.10**	**270**	Pn		**Pn**	**20 01 24.2**	**-0.5**
	comp=E,0.9nm,0.3s,baz=2.4,slow=5.0,SNR=10							
ASF				Sn		**Sn**	**20 03 02.4**	**-4.4**
	comp=E,0.9nm,0.3s,baz=287,slow=19,SNR=1.9							
ASF				Lg	Lg		20 04 01.8	
	comp=E,0.6nm,0.3s,baz=248,slow=17,SNR=4.4							
KEMA	**Kemaliye**	**9.89**	**314**	*e*Pn		**Pn**	**20 01 38.6**	**+3.0**
GEYT	**Alibeck**	**10.02**	**56**	Pn		**Pn**	**20 01 37.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=224,slow=12,SNR=1.7							
MMAI	**Mount Meron Ar**	**10.30**	**275**	Pn		**Pn**	**20 01 42.1**	**+0.9**
	comp=E,0.4nm,0.3s,baz=66,slow=14,SNR=2.9							
MMAI				Lg	Lg		20 04 40.0	
	comp=E,0.5nm,0.3s,baz=59,slow=34,SNR=2.5							
UOSS	**Minazif**	**10.77**	**134**	Pn		**Pn**	**20 01 47.7**	**+0.1**
EIL	**Elat**	**11.28**	**258**	Pn		**Pn**	**20 01 53.0**	**-1.5**
	comp=E,0.3nm,0.3s,baz=63,slow=18,SNR=1.8							
EIL				Lg	Lg		20 05 11.5	
	comp=E,0.7nm,0.3s,baz=1.4,slow=18,SNR=1.7							
EIL				LR	LR		20 07 11.5	
	comp=E,40nm,21.6s,baz=96,slow=42							
KIV	**Kislovodsk**	**11.89**	**342**	*e*P		**P**	**20 02 05.3**	**+2.4**
KIV				pmax	pmax			
	comp=Z,16nm,1.1s							
KIV				MLR	MLR			
	comp=Z,35nm,10.0s							
BRTR	**Keskin Array B**	**13.29**	**306**	Pn		**Pn**	**20 02 24.7**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=112,slow=12,SNR=2.3							
WSAR	**Wadi Sarin**	**13.52**	**131**	Pn		**Pn**	**20 02 24.4**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=323,slow=10,SNR=4.4							
WSAR				Sn		**Sn**	**20 04 51.3**	**-3.8**
	comp=Z,0.3nm,0.3s,baz=138,slow=18,SNR=1.6							
KBL	**Kabul**	**17.92**	**78**	P		**Pn**	**20 03 22.4**	**-0.3**
KBL				pmax	pmax			
	comp=Z,14nm,1.1s							
KBL	**Kabul**	**17.92**	**78**	Pn		**Pn**	**20 03 22.4**	**-0.3**
CHGR	**Chuyangaron**	**18.45**	**65**	P		**P**	**20 03 28.5**	**-0.4**
CHGR				IAmb	IAmb		20 03 35.9	
	comp=Z,13nm,1.0s							
VRH	**Novokhopyorsk**	**19.00**	**348**	*e*P		**P**	**20 03 34.2**	**-0.5**
VRH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
IDI	**Anoyia**	**19.04**	**284**	P		**Pn**	**20 03 36.6**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=74,slow=7.4,SNR=9.3							
IDI	**Anoyia**	**19.04**	**284**	P		**P**	**20 03 35.3**	**-0.1**
IDI				IAmb	IAmb		20 03 42.9	
	comp=Z,14nm,1.1s							
ALN	**Alexandroupoli**	**19.10**	**301**	P		**P**	**20 03 35.7**	**-0.2**
ALN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ALN	**Alexandroupoli**	**19.10**	**301**	P		**P**	**20 03 35.7**	**-0.2**
AKTO	**Aktyubinsk**	**19.31**	**20**	P		**Pn**	**20 03 39.1**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=207,slow=11,SNR=21							
AKTO				LR	LR		20 13 46.3	
	comp=Z,39nm,18.4s,baz=144,slow=45							
GAR	**Garm**	**19.40**	**65**	P		**Pn**	**20 03 40.7**	**+0.1**
GAR				IAmb	IAmb		20 03 46.6	
	comp=Z,15nm,1.0s							
VSR	**Storozhevoye**	**19.52**	**344**	*e*P		**P**	**20 03 39.6**	**-0.9**
VSR				pmax	pmax			
	comp=Z,20nm,0.7s							
KK31	**Karatay Array**	**20.76**	**53**	P		**P**	**20 03 53.8**	**-0.3**
KK31				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KK31	**Karatay Array**	**20.76**	**53**	P		**P**	**20 03 53.8**	**-0.3**
KKAR	**Karatay Array**	**20.76**	**53**	P		**P**	**20 03 53.7**	**-0.4**
KKAR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KKAR	**Karatay Array**	**20.76**	**53**	P		**P**	**20 03 53.7**	**-0.4**
LPSR	**Galich'ya Gora**	**20.87**	**345**	*e*P		**P**	**20 03 54.0**	**-1.1**
LPSR				pmax	pmax			
	comp=Z,30nm,0.6s							
MLR	**Muntele Rosu**	**21.06**	**314**	P		**P**	**20 04 00.4**	**+3.0**
	comp=Z,4.0nm,0.7s,baz=61,slow=19,SNR=5.2							
MLR	**Muntele Rosu**	**21.06**	**314**	⇑P		**P**	**20 03 56.7**	**-0.7**
MLR	**Muntele Rosu**	**21.06**	**314**	P		**P**	**20 04 00.4**	**+3.0**
MLR				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MLR	**Muntele Rosu**	**21.06**	**314**	IAmb	IAmb		20 04 06.9	
	comp=Z,6.3nm,0.7s							
TESR	**Tescani**	**21.17**	**317**	⇑P		**P**	**20 03 59.3**	**+0.9**
SORM	**Soroca**	**21.20**	**322**	⇑P		**P**	**20 03 57.5**	**-1.2**
SORM	**Soroca**	**21.20**	**322**	⇑P		**P**	**20 03 57.5**	**-1.2**
SOCY	**Socotra**	**21.23**	**163**	P		**P**	**20 03 57.0**	**-2.4**
AGG	**Agios Georgios**	**21.43**	**294**	P		**P**	**20 04 01.9**	**+0.6**
AGG				pmax	pmax			
	comp=Z,16nm,1.3s							
AGG	**Agios Georgios**	**21.43**	**294**	P		**P**	**20 04 01.9**	**+0.6**
AGG				IAmb	IAmb		20 04 12.7	
	comp=Z,16nm,1.3s							
NIL	**Nilore**	**21.45**	**80**	P		**P**	**20 04 02.1**	**+0.6**
NIL				pmax	pmax			
	comp=Z,13nm,0.9s							
NIL	**Nilore**	**21.45**	**80**	P		**P**	**20 04 02.1**	**+0.6**
NIL				IAmb	IAmb		20 04 07.5	
	comp=Z,13nm,0.8s							
LIT	**Litokhoron**	**21.51**	**297**	P		**P**	**20 04 01.8**	**-0.3**
LIT				pmax	pmax			
	comp=Z,3.0nm,0.8s							
LIT	**Litokhoron**	**21.51**	**297**	P		**P**	**20 04 01.8**	**-0.3**
ITM	**Ithomi**	**21.52**	**289**	P		**P**	**20 04 01.8**	**-0.5**
ITM				IAmb	IAmb		20 04 07.6	
	comp=Z,9.7nm,0.6s							
VOIR		**21.58**	**313**	⇑P		**P**	**20 04 04.5**	**+1.6**
VOIR		**21.58**	**313**	⇑P		**P**	**20 04 04.5**	**+1.6**
DOIR	**Dopca**	**21.63**	**314**	⇑P		**P**	**20 04 04.2**	**+0.8**
BIZ	**Bicaz**	**21.72**	**317**	⇑P		**P**	**20 04 05.4**	**+1.0**
AKASG	**Malin Array Be**	**22.53**	**328**	P		**P**	**20 04 11.5**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=137,slow=7.9,SNR=7.5							
AKASG	**Malin Array Be**	**22.53**	**328**	*i* P		**P**	**20 04 11.3**	**-1.7**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BURAR	**Bucovina Array**	**22.59**	**318**	⇑P		**P**	**20 04 17.0**	**+3.2**
BURAR	**Bucovina Array**	**22.59**	**318**	⇑P		**P**	**20 04 17.0**	**+3.2**
BURAR	**Bucovina Array**	**22.59**	**318**	P		**P**	**20 04 13.8**	**-0.1**
BUR08	**Bucovina Ar. S**	**22.62**	**318**	P		**P**	**20 04 13.7**	**-0.5**
AAK	**Ala-Archa**	**23.37**	**57**	LR		LR	20 14 49.8	
	comp=Z,57nm,18.8s,baz=215,slow=40							
AAK	**Ala-Archa**	**23.37**	**57**	*i* P		**P**	**20 04 23.9**	**+1.9**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.9s							
OBN	**Obninsk**	**23.73**	**344**	⇓*e*P		**P**	**20 04 25.0**	**-0.1**
OBN				*e*			20 04 29.8	
OBN				*e*			20 04 52.0	
OBN				*e*S		**S**	**20 08 41.2**	**+1.9**
OBN				pmax	pmax			
	comp=Z,27nm,1.7s							
OBN				MLR	MLR			
	comp=Z,27nm,15.0s							
ARU	**Arti**	**24.91**	**14**	P		**P**	**20 04 36.2**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=187,slow=8.9,SNR=7.9							
ARU				LR	LR		20 15 56.5	
	comp=Z,27nm,20.3s,baz=164,slow=40							
ARU	**Arti**	**24.91**	**14**	*c i* P		**P**	**20 04 36.8**	**+0.9**
ARU				PPP	PPP		20 05 16.7	
ARU				S	S		**20 08 58.7**	**+0.4**
ARU				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ARU	**Arti**	**24.91**	**14**	P		**P**	**20 04 35.1**	**-0.9**
ARU				IAmb	IAmb		20 04 42.6	
	comp=Z,6.8nm,1.0s							
KOLS	**Kolonicke sedl**	**24.96**	**318**	*e*P		**P**	**20 04 37.8**	**+1.2**
KOLS	**Kolonicke sedl**	**24.96**	**318**	*e*P		**P**	**20 04 37.8**	**+1.2**
KWP	**Kalwaria Pacla**	**25.09**	**320**	P		**P**	**20 04 37.5**	**-0.2**
KWP				pmax	pmax			
	comp=Z,9.0nm,0.7s							
KWP	**Kalwaria Pacla**	**25.09**	**320**	P		**P**	**20 04 37.5**	**-0.2**
TARG	**Taragay, Kyrgy**	**25.55**	**61**	P		**P**	**20 04 42.9**	**+0.4**
TARG				IAmb	IAmb		20 04 49.1	
	comp=Z,6.5nm,0.9s							
PSZ	**Piszkesteto**	**25.87**	**314**	P		**P**	**20 04 46.3**	**+1.4**
PSZ				pmax	pmax			
	comp=Z,6.0nm,0.9s							
PSZ	**Piszkesteto**	**25.87**	**314**	P		**P**	**20 04 46.3**	**+1.4**
PSZ				IAmb	IAmb		20 04 48.2	
	comp=Z,6.4nm,0.9s							
BRVK	**Borovoye**	**26.05**	**32**	*c e* P		**P**	**20 04 47.3**	**+0.9**
BRVK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
BRVK	**Borovoye**	**26.05**	**32**	P		**P**	**20 04 47.1**	**+0.7**
BRVK				IAmb	IAmb		20 04 52.0	
	comp=Z,6.1nm,1.1s							
BVAR	**Borovoye Array**	**26.08**	**32**	P		**P**	**20 04 47.1**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=220,slow=9.3,SNR=14							
VYHS	**Vyhne**	**26.76**	**315**	*e*P		**P**	**20 04 54.3**	**+1.5**
VYHS	**Vyhne**	**26.76**	**315**	*e*P		**P**	**20 04 54.3**	**+1.5**
OJC	**Ojcow**	**27.00**	**319**	P		**P**	**20 04 55.0**	**0.0**
OJC				pmax	pmax			
	comp=Z,6.0nm,0.8s							
OJC	**Ojcow**	**27.00**	**319**	P		**P**	**20 04 55.0**	**0.0**
OJC				IAmb	IAmb		20 05 01.3	
	comp=Z,5.9nm,0.8s							
KLMR	**Klimovskoe**	**28.66**	**352**	*e*P		**P**	**20 05 07.7**	**-2.0**
KLMR				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KLMR	**Klimovskoe**	**28.66**	**352**	*e*P		**P**	**20 05 07.7**	**-2.0**
KLMR				AMP			20 05 12.6	
	comp=Z,6.0nm,0.7s							
KURBB	**Kurchatov Arra**	**28.91**	**43**	P		**P**	**20 05 12.7**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=248,slow=9.3,SNR=18							
KURK	**Kurchatov**	**29.00**	**42**	*c e* P		**P**	**20 05 13.5**	**+0.7**
KURK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KURK	**Kurchatov**	**29.00**	**42**	P		**P**	**20 05 13.8**	**+1.0**
KURK				IAmb	IAmb		20 05 19.0	
	comp=Z,4.1nm,0.9s							
MOA	**Molln**	**29.35**	**311**	*i* P		**P**	**20 05 17.1**	**+1.1**
	comp=Z,1.9nm,0.8s							
MK31	**Makanchi Array**	**29.86**	**52**	P		**P**	**20 05 21.3**	**+0.7**
MK31				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MK31	**Makanchi Array**	**29.86**	**52**	P		**P**	**20 05 21.3**	**+0.7**
MK31				IAmb	IAmb		20 05 26.4	
	comp=Z,2.6nm,0.9s							
MKAR	**Makanchi Array**	**29.86**	**52**	P		**P**	**20 05 21.2**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=248,slow=7.8,SNR=21							
MKAR	**Makanchi Array**	**29.86**	**52**	*c e* P		**P**	**20 05 21.5**	**+0.9**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
GERES	**GERESS Array B**	**30.03**	**313**	P		**P**	**20 05 23.2**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=113,slow=8.8,SNR=5.0							
CTI	**Castel Tesino**	**30.58**	**306**	P		**P**	**20 05 27.8**	**+0.8**
CTI				pmax	pmax			
	comp=Z,4.0nm,0.8s							
CTI	**Castel Tesino**	**30.58**	**306**	P		**P**	**20 05 27.8**	**+0.8**
WTTA	**Wattenberg**	**30.88**	**309**	*i* pP		**P**	**20 05 32.1**	**+2.3**
	comp=Z,2.0nm,0.5s							
SQTA	**Sankt Quirin**	**31.15**	**309**	*e*P		**P**	**20 05 32.3**	**+0.3**
	comp=Z,2.1nm,0.4s							
MOTA	**Moosalm**	**31.25**	**309**	*i* P		**P**	**20 05 33.1**	**+0.1**
	comp=Z,2.6nm,0.6s							
FETA	**Feichten**	**31.42**	**308**	*e*P		**P**	**20 05 34.0**	**-0.5**
	comp=Z,1.6nm,0.4s							
FINES	**FINESS Array B**	**31.97**	**341**	P		**P**	**20 05 40.3**	**+1.4**
	comp=Z,2.6nm,0.7s,baz=151,slow=11,SNR=9.3							
DAVA	**Damuels**	**32.05**	**308**	*i* P		**P**	**20 05 39.9**	**-0.1**
	comp=Z,3.6nm,0.4s							
SENIN	**Lac Senin/Sane**	**33.60**	**306**	P		**P**	**20 05 53.9**	**+0.3**
ZAA0	**Zalesovo Array**	**33.82**	**40**	P		**P**	**20 05 55.3**	**+0.1**
ZALV	**Zalesovo Beam**	**33.82**	**40**	P		**P**	**20 05 55.2**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=246,slow=8.6,SNR=12							
BNI	**Bardonecchia**	**33.84**	**303**	P		**P**	**20 05 55.7**	**0.0**
BNI				pmax	pmax			
	comp=Z,9.0nm,0.7s							
BNI	**Bardonecchia**	**33.84**	**303**	P		**P**	**20 05 55.7**	**0.0**
DGZ	**Jazzator, Alta**	**33.95**	**48**	*i* P		**P**	**20 05 58.5**	**+2.0**
DGZ				pmax	pmax			
	comp=Z,1.0nm,0.9s							
NOA	**NORSAR Array B**	**36.88**	**331**	P		**P**	**20 06 21.2**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=122,slow=8.4,SNR=3.3							
ARCES	**ARCESS Array B**	**38.92**	**348**	P		**P**	**20 06 37.9**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=146,slow=8.4,SNR=3.0							
ESDC	**Sonseca Array**	**41.75**	**295**	P		**P**	**20 07 02.8**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=75,slow=8.3,SNR=6.7							
EKA	**Eskdalemuir Ar**	**41.78**	**318**	P		**P**	**20 07 02.5**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=99,slow=9.4,SNR=4.7							
NRIK	**Noril'sk**	**42.93**	**20**	LR		LR	20 28 04.1	
	comp=Z,39nm,18.8s,baz=90,slow=40							
TORD	**Torodi Ar. Bea**	**46.16**	**256**	P		**P**	**20 07 38.0**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=69,slow=6.5,SNR=9.0							
SONM	**Songino Array**	**46.21**	**53**	P		**P**	**20 07 38.9**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=264,slow=7.3,SNR=3.5							
ULN	**Ulaanbaatar**	**46.65**	**53**	*c e* P		**P**	**20 07 41.9**	**+0.2**
ULN				pmax	pmax			
	comp=Z,4.0nm,1.0s							
ULN	**Ulaanbaatar**	**46.65**	**53**	P		**P**	**20 07 42.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**47.97**	**94**	P		**P**	**20 07 52.0**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=295,slow=6.9,SNR=2.1							
XAN	**Xi'an**	**50.50**	**71**	P		P	20 08 17.0	+5.6
XAN				pmax	pmax			
	comp=Z,8.0nm,1.1s							
KLR	**Kul'dur**	**62.44**	**47**	*i* P		**P**	**20 09 35.8**	**-0.3**
KLR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KSRS	**Korea Array**	**63.97**	**61**	P		**P**	**20 09 47.0**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=285,slow=6.7,SNR=3.1							
SEY	**Seymchan**	**67.67**	**29**	*i* P		**P**	**20 10 09.6**	**-0.3**
YSS	**Yuzh-Sakhalins**	**70.11**	**47**	*i* P		**P**	**20 10 24.9**	**-0.4**
YSS				pmax	pmax			
	comp=Z,7.0nm,1.1s							
IMAR	**Indian Mountai**	**80.26**	**9**	P		**P**	**20 11 23.2**	**-0.2**

*TEH **27** 20:01:21.6, 32°.71N×47°.59E, h14km, ML3.4*
*ISN **27** 20:01:22.4±1.7, 32°.74N×47°.54E, h15km, ML3.0*
*THR **27** 20:01:25.1±0.3, 32°.79N×47°.79E, h18km±6km, ML3.4*
ISC 27 20:01:22.6±1.1, **32°.64N**±0°.05×**47°.54E**±0°.04, **h10**km, **n25, σ0°74/28, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.22**	**281**	*e*Pg	**Pg**	**20 01 27.4**	**+0.2**
SHGR	**Shooshtar-Gavs**	**1.19**	**116**	*e*Pg	**Pn**	**20 01 45.4**	**+0.1**
SHGR				*e*Sg	**Sb**	**20 02 00.3**	**-0.4**
SHGR				IAML		20 02 03.9	
	comp=E,770nm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.19**	**116**	*e*Pg	**Pn**	**20 01 45.4**	**+0.1**
IBDR	**Badra**	**1.43**	**290**	*e*Pg	**Pn**	**20 01 47.0**	**-1.7**
	baz=105						
IBDR				*e*Sg	**Sb**	**20 02 08.0**	**+0.3**
IBDR				AML	AML	20 02 14.1	
	comp=N,262nm,0.6s						
IBDR				AML	AML	20 02 14.5	
	comp=E,339nm,0.8s						
BMDN	**Meydan**	**1.49**	**46**	*e*Pg	**Pn**	**20 01 47.4**	**-2.2**
BMDN				*e*		20 02 12.0	
IKOM	**Komasi**	**1.53**	**359**	*e*Pg	**Pn**	**20 01 49.5**	**-0.7**
IKOM				*e*		20 01 50.8	
AHWZ	**Ahwaz**	**1.61**	**144**	*e*Pg	**Pn**	**20 01 51.3**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.68**	**346**	*e*Pg	**Pn**	**20 01 51.9**	**-0.4**
KCHF				*e*		20 02 18.7	
KER	**Kermanshah**	**1.77**	**349**	*e*Pg	**Pn**	**20 01 53.7**	**+0.2**
HSAM	**Samen**	**1.80**	**29**	*e*Pg	**Pn**	**20 01 53.4**	**-0.6**
HSAM				*e*		20 02 20.3	
IBZA	**Bozab**	**1.84**	**8**	*e*Pg	**Pn**	**20 01 55.0**	**+0.4**
IBZA				*e*		20 01 57.5	
IGHG	**Ghaleghazi**	**1.87**	**335**	*e*Pg	**Pn**	**20 01 55.7**	**+0.8**
IGHG				*e*		20 02 24.9	
IDHR	**Dehrash**	**2.27**	**335**	*e*Pn	**Pn**	**20 02 00.7**	**+0.3**
IDHR				*e*		20 02 04.5	
KHMZ	**Khomeyn**	**2.31**	**61**	*e*Pn	**Pn**	**20 02 00.8**	**-0.1**
KHMZ				*e*Sg	**Sn**	**20 02 29.9**	**+0.5**
KHMZ	**Khomeyn**	**2.31**	**61**	*e*Pn	**Pn**	**20 02 00.8**	**-0.1**
HAGD	**Aghdareh**	**2.55**	**31**	*e*		20 02 10.4	
HAGD				*e*Pn	**Pn**	**20 02 03.4**	**-0.9**
HSRG	**Sareghieh**	**2.67**	**13**	*e*	**Pg**	**20 02 14.3**	**+0.6**
JHBN	**Jahan bin**	**2.67**	**98**	*e*Pn	**Pn**	**20 02 05.5**	**-0.5**
JHBN				*e*		20 02 54.1	
ASAO	**Ashtian**	**2.81**	**47**	*e*Pn	**Pn**	**20 02 08.0**	**+0.1**
ASAO	**Ashtian**	**2.81**	**47**	*e*Pn	**Pn**	**20 02 08.0**	**+0.1**
IPIR	**Pirpir**	**2.83**	**88**	*e*Pn	**Pn**	**20 02 07.4**	**-0.7**
IPIR				*e*		20 03 00.2	
IKLH	**Kolahrood**	**3.46**	**78**	*e*Pn	**Pn**	**20 02 16.3**	**-0.5**
IKLH				*e*		20 03 16.4	
QABG	**Abgarm-Qazvin**	**3.50**	**28**	*e*Pn	**Pn**	**20 02 16.3**	**-1.0**
GHVR	**GHOM**	**3.63**	**59**	*e*Pn	**Pn**	**20 02 18.7**	**-0.3**
GHVR	**GHOM**	**3.63**	**59**	*e*Pn	**Pn**	**20 02 18.7**	**-0.3**

*TEH **27** 20:27:03.2, 32°.80N×47°.51E, h10km, ML2.8*
*ISN **27** 20:27:04.5±1.6, 32°.80N×47°.47E, h15km, ML2.4*
ISC 27 20:27:03.7±3.5, **32°.7N**±0°.1×**47°.50E**±0°.07, **h18**km±7km, **n6, σ0°35/7, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.19**	**252**	*e*		20 27 14.8	
DHL1				*e*Pg	**Pb**	**20 27 08.1**	**0.0**
IBDR	**Badra**	**1.37**	**286**	*e*Pg	**Pn**	**20 27 28.0**	**+0.1**
	baz=103						
IBDR				*e*Sg	**Sg**	**20 27 48.0**	**-0.1**
IBDR				AML	AML	20 27 54.4	
	comp=E,78nm,0.5s						
IBDR				AML	AML	20 27 54.6	
	comp=N,65nm,0.8s						
IKOM	**Komasi**	**1.43**	**0**	*e*Pg	**Pb**	**20 27 29.6**	**-0.3**
IKOM				*e*		20 27 32.2	
BMDN	**Meydan**	**1.45**	**50**	*e*Pg	**Pb**	**20 27 30.1**	**-0.2**
BMDN				*e*		20 27 32.3	
KCHF	**Cheshme Sefid,**	**1.58**	**346**	*e*Pg	**Pb**	**20 27 32.3**	**-0.2**
KCHF				*e*		20 27 58.3	
IBZA	**Bozab**	**1.75**	**10**	*e*Pn	**Pb**	**20 27 35.9**	**+0.4**
IBZA				*e*		20 27 39.0	

IDC 27 20:43:50.9±2.9, **30°.24S**×**177°.65W, h0**km, **mb3.8**/3, **mb1 4.0**/3, **mb1mx3.6**/34, **mbtmp3.8**/3, **Error ellipse: s-maj=59.7km s-min=22.0km az=104.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.01**	**346**	Pn	Pn	20 44 13.4	+1.0
	100nm,0.3s,baz=93,slow=12,SNR=10						
RAO				Sn	Sn	20 44 26.6	-0.8
	406nm,0.3s,baz=177,slow=22,SNR=20						
URZ	**Urewera**	**9.10**	**207**	Sn	Sn	20 47 41.6	-4.9
	0.8nm,0.3s,baz=183,slow=22,SNR=5.9						
STKA	**Stephens Creek**	**34.81**	**257**	P	P	20 50 43.8	+0.3
	1.2nm,0.7s,baz=95,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**43.42**	**267**	P	P	20 51 55.5	-0.3
	0.6nm,0.7s,baz=106,slow=7.6,SNR=5.8						
WRA	**Warramunga Arr**	**44.40**	**272**	P	P	20 52 03.2	-0.3
	0.8nm,0.3s,baz=110,slow=8.1,SNR=20						
FINES	**FINESS Array B**	**145.10**	**340**	PKPbc	PKPbc	21 03 27.8	-1.3
	1.9nm,0.7s,baz=56,slow=3.5,SNR=13						

*ISK **27** 20:52:29.7, 37°.62N×26°.39E, h9km, ML2.5/14*
*ATH **27** 20:52:30.4, 37°.60N×26°.45E, h15km±4km, ML2.3/3, Error ellipse: s-maj=4.6km s-min=1.0km az=114.0*
*THE **27** 20:52:30.4, 37°.61N×26°.45E, h10km±7km, ML2.3/4, Error ellipse: s-maj=7.2km s-min=0.8km az=110.0*
*DDA **27** 20:52:32.2, 37°.69N×26°.57E, h7km±2km, ML2.2*
ISC 27 20:52:30.4±0.9, **37°.61N**±0°.02×**26°.45E**±0°.02, **h14**km±8km, **n38, σ0°73/54, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.32**	**72**	P	**Pg**	**20 52 37.0**	**0.0**
SMG				S	**Sg**	**20 52 41.5**	**+0.1**
	1μm,0.2s						
SMG	**Samos**	**0.32**	**72**	P	**Pg**	**20 52 37.0**	**0.0**
SMG				S	**Sg**	**20 52 41.5**	**+0.1**
SMG				AML	AML	20 52 42.0	
	comp=N,2656μm,0.3s						
SMG				AML	AML	20 52 42.1	
	comp=E,1603μm,0.2s						
DGB	**zmir**	**0.56**	**38**	*i* P	**Pg**	**20 52 41.1**	**-0.2**
DGB				*i* S	**Sg**	**20 52 47.3**	**-1.4**
GCAM	**G?zelcaml?**	**0.62**	**82**	PG	**Pb**	**20 52 43.2**	**+0.1**
GCAM				SG	**Sb**	**20 52 53.1**	**+1.4**
GCAM	**G?zelcaml?**	**0.62**	**82**	*i* P	**Pg**	**20 52 42.7**	**0.0**
GCAM				*i* S	**Sg**	**20 52 50.5**	**-0.3**
DIDI	**Didim-Aydin**	**0.67**	**110**	PG	**Pb**	**20 52 44.2**	**+0.4**
URLA	**Izmir**	**0.76**	**8**	PG	**Pg**	**20 52 44.9**	**-0.2**
URLA				SG	**Sb**	**20 52 55.8**	**+0.3**
URLA	**Izmir**	**0.76**	**8**	*i* P	**Pg**	**20 52 44.9**	**-0.2**
URLA				*i* S	**Sg**	**20 52 55.1**	**+0.1**
URLA				IAML		20 52 57.0	
	comp=N,130nm,0.5s						
URLA				IAML		20 52 57.0	
	comp=E,101nm,0.4s						
CHOS	**Chios island**	**0.83**	**338**	P	**Pb**	**20 52 46.9**	**+0.1**
CHOS				S	**Sb**	**20 52 58.0**	**+0.1**
	comp=E,185nm,0.4s						
CHOS	**Chios island**	**0.83**	**338**	P	**Pb**	**20 52 46.8**	**+0.1**
CHOS

URZ	Urewera	6.92 202	P	Pn	21 11 51.8	+0.2
URZ			S	S	21 13 14.0	0.0
RTZ	Ruatahuna	7.29 202	P	Pn	21 11 56.4	+0.5
SNGZ	Shannon Statio	7.33 199	P	Pn	21 11 58.8	+2.4
SNGZ			S	S	21 13 24.4	+1.5
WHHZ	Waihua	7.64 199	P	Pn	21 12 02.2	+2.2
WHHZ			S	S	21 13 29.1	-0.3
BKZ	Black Stump Fm	7.95 203	P	Pn	21 12 04.7	+1.0
BKZ			S	S	21 13 35.3	-0.9
MCHZ	McNeill Hill	8.14 201	P	P	21 12 07.4	-1.4
MCHZ			S	S	21 13 42.5	+2.4
KWHZ	Kaweka Forest	8.20 202	P	P	21 12 08.2	-1.4
KWHZ			S	S	21 13 41.1	-0.7
CKHZ	Cape Kidnapper	8.22 198	P	P	21 12 10.4	+0.6
CKHZ			S	S	21 13 41.4	-0.7
WTVZ	West Tongariro	8.23 207	P	P	21 12 09.7	-0.2
OTVZ	Oturere	8.24 207	P	Pn	21 12 07.2	0.0
NGZ	Ngauruhoe	8.27 207	P	P	21 12 10.2	-0.3
TUVZ	Tukino	8.33 206	P	Pn	21 12 08.6	+0.2
WHVZ	Whangaehu Hut	8.37 207	P	Pn	21 12 09.0	+0.1
BHHZ	Black Hill Sta	8.38 204	P	Pn	21 12 07.8	-1.1
BHHZ			S	S	21 13 43.6	-2.1
WNVZ	Wahianoa	8.41 207	P	P	21 12 11.0	-1.0
KRHZ	Kereru	8.42 202	P	Pn	21 12 08.7	-0.5
KRHZ			S	S	21 13 44.1	-2.3
PKVZ	Pokaka	8.47 208	P	P	21 12 11.0	-1.6
MTVZ	Mangateitei	8.51 207	P	P	21 12 14.2	+1.2
PXZ	Pawanui	8.63 199	P	P	21 12 13.3	-1.0
PXZ			S	S	21 13 49.4	-1.6
PNHZ	Pukenui	8.72 202	P	Pn	21 12 11.8	-1.0
PNHZ			S	S	21 13 51.5	-1.5
WPHZ	Waipukurau	8.78 200	P	P	21 12 16.2	+0.2
WPHZ			S	S	21 13 52.7	-1.6
PRHZ	Porangahau	8.91 199	P	P	21 12 16.4	-1.0
PRHZ			S	S	21 13 56.3	-0.9
TSZ	Takapari Road	8.93 203	P	Pn	21 12 13.8	-1.5
TSZ			S	S	21 13 54.8	-2.7
PKE	Pukeiti	8.99 214	P	P	21 12 21.9	+3.6
DVHZ	Dannevirke	9.08 201	P	P	21 12 18.1	-1.2
DVHZ			S	S	21 13 56.7	-4.2
ANWZ	Angora Road	9.14 199	P	P	21 12 20.1	+0.2
ANWZ			S	S	21 13 59.3	-2.7
PRWZ	Pori Road	9.38 201	P	P	21 12 22.3	-0.2
PRWZ			S	S	21 14 05.6	-1.7
BFZ	Birch Farm	9.41 200	P	Pn	21 12 20.8	-0.2
BFZ			S	S	21 14 05.0	-3.0
TIWZ	Tintock	9.60 201	P	Pn	21 12 23.8	+0.5
TIWZ			S	S	21 14 08.5	-3.9
CPWZ	Castlepoint	9.63 200	P	Pn	21 12 22.5	-1.1
CPWZ			S	S	21 14 13.5	+0.6
TMWZ	Te Maipa	9.90 200	P	P	21 12 27.8	-0.6
TMWZ			S	S	21 14 15.7	-3.3
KIW	Kapiti Island	10.00 205	P	Pn	21 12 27.9	-0.2
KIW			S	S	21 14 16.0	-5.2
CAW	Cannon Point	10.17 204	P	Pn	21 12 29.8	-0.3
TRWZ	Traveller	10.23 200	P	P	21 12 32.2	+0.1
PAWZ	Paruwai Farm	10.30 202	P	P	21 12 32.3	-0.5
MSWZ	Moikau Station	10.38 202	P	Pn	21 12 32.9	+0.3
RPZ	Rata Peaks	13.94 209	P	Pn	21 13 14.5	-0.1
	0.6nm,0.3s,baz=0.0,slow=3.0,SNR=6.1					
RPZ			S	S	21 15 41.3	-3.3
	0.8nm,0.3s,baz=126,slow=18,SNR=5.9					
DZM	Mont Dzumac	15.82 305	P	P	21 13 34.3	+0.3
	0.2nm,0.3s,baz=144,slow=21,SNR=1.5					
ASAR	Alice Springs	41.72 269	P	P	21 17 26.3	-0.1
	0.4nm,0.7s,baz=107,slow=6.9,SNR=4.9					
WRA	Warramunga Arr	42.84 275	P	P	21 17 36.7	+1.3
	1.0nm,0.3s,baz=114,slow=8.0,SNR=5.3					
FINES	FINESS Array B	146.04 338	PKPbc	PKPbc	21 29 09.6	+0.9
	3.2nm,0.5s,baz=44,slow=4.0,SNR=38					
NOA	NORSAR Array B	149.98 350	PKPbc	PKiKP	21 29 20.7	+1.0
	0.2nm,0.5s,baz=39,slow=2.7,SNR=1.1					
MMAI	Mount Meron Ar	150.54 282	PKPbc	PKiKP	21 29 22.7	+0.9
	0.9nm,0.4s,baz=73,slow=6.3,SNR=4.1					
MDT	Midelt	175.63 76	PKP	PKPdf	21 29 41.4	+2.6
	4.1nm,0.8s,baz=182,slow=1.9,SNR=9.0					

*IDC **27** 21:11:57.5±0.7,3˚.81N×126˚.30E,h0km,mb3.8/10, mb1 4.0/13,mb1mx3.8/56,mbtmp4.0/13,ML4.0/3,MS3.3/5, Ms1 3.3/5,ms1mx2.9/33,Error ellipse: s-maj=41.0km s-min=13.3km az=66.0*

*NEIC **27** 21:12:02.4±1.4,3˚.95N±0˚.04×126˚.65E±0˚.07,h35km±2km, mb4.4/22,Error ellipse: s-maj=12.2km s-min=7.6km az=88.0*

*MAN **27** 21:12:03.8,3˚.93N×126˚.44E,h4km,MS4.0*

*DJA **27** 21:12:04.1±1.4,4˚N±9×12˚7E±˚,h12km±15km,M4.2/8, mB4.7/4,mb4.4/7,MLv4.2/8,Mw(mB)3.9/4*

ISC 27 21:12:03.8±0.5,**3˚.84N**±0˚.04×**126˚.62E**±0˚.06,**h45**km,**n57,** σ1**$**79/65,**mb4.1**/20,**MS3.4**/5,**1D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	2.43	338	eP	Pn	21 12 43.0	+1.9
DDMP				eS	Sn	21 13 11.0	+1.5
MATI	Mati	3.11	353	eP	Pn	21 12 53.7	+3.3
MATI				eS	Sn	21 13 45.4	+19
TNTI	Ternate	3.13	166	P	Pn	21 12 52.8	+2.1
TNTI				S	Sn	21 13 27.9	+1.0
TNTI	Ternate	3.13	166	Pn	Pn	21 12 51.0	+0.3
SKMP	Bagumbayan, Su	3.37	322	eP	Pn	21 12 54.9	+0.9
SKMP				eS	Sn	21 13 35.2	+2.4
DAV	Davao City (W)	3.38	342	Pn	Pn	21 12 50.0	-4.0
	42nm,0.3s,baz=68,slow=11,SNR=1.8						
DAV				Sn	Sn	21 13 29.4	-3.5
	52nm,0.3s,baz=69,slow=16,SNR=3.9						
DAV				Lg	Lg	21 13 44.1	
	32nm,0.3s,baz=252,slow=19,SNR=1.5						
DAV	Davao City (W)	3.38	342		Pn	21 12 51.8	-2.3
KCP	Kidapawan	3.50	334	eP	Pn	21 12 59.1	+3.3
KCP				i S	Sn	21 13 50.9	+15
KMSI	Cibinong	4.18	219	P	Pn	21 13 09.2	+4.2
KMSI				S	Sn	21 13 54.8	+2.2
BUKP	Musuan	4.30	339	eP	Pn	21 13 08.6	+1.8
BUKP				eS	Sn	21 13 58.9	+3.1
GTOI	Gorontalo	4.81	229	P	Pn	21 13 14.8	+1.1
GTOI				S	Sn	21 14 06.6	-1.6
PAGZ	Pagadian	5.12	321	eP	Pn	21 13 19.6	+1.5
PAGZ				eS	Sn	21 14 19.8	+3.8
LUWI	Luwuk	6.19	219	P	Pn	21 13 32.7	+0.1
	0.6nm3µm91nm,0.7s						
LUWI	Luwuk	6.19	219	Pn	Pn	21 13 35.8	+3.2
SIJI	Sorong	6.59	135	Pn	Pn	21 13 39.0	+0.8
	3.5nm,0.3s,baz=327,slow=17,SNR=11						
SIJI				Sn	Sn	21 14 52.6	+0.6
	0.6nm,0.3s,baz=156,slow=18,SNR=1.3						
MPSI	Mapaga	7.56	243	P	Pn	21 13 53.4	+1.9
	0.1nm11nm,1.1s						
FAKI	Fak Fak	8.76	140	Pn	Pn	21 14 09.1	+1.2
KKM	Kota Kinabalu	10.60	282	Pn	Pn	21 14 35.7	+2.5
MTKI	Muara Teweh, K	12.64	248	P	P	21 15 08.8	-2.6
SBUM	Sibu	14.44	265		P	21 15 29.2	-2.3
JAY	Jayapura	15.43	114	Pn	P	21 15 42.2	-0.2
	0.2nm,0.3s,baz=320,slow=7.9,SNR=4.8						
STKI	Sintang	15.59	256	P	Pn	21 15 42.1	+1.5
KSM	Kuching	16.46	262		P	21 15 55.0	+1.1
KNRA	Kununurra	19.50	174	P	P	21 16 27.8	+0.4
KNRA				IAmb	IAmb	21 16 44.2	
	comp=Z,41nm,1.4s						
SSLB	Suanglung	20.58	345	P	P	21 16 36.3	-2.7
FITZ	Fitzroy Crossi	21.82	183	P	P	21 16 51.5	-0.8
	comp=Z,3.2nm,0.9s,baz=15,slow=12,SNR=2.6						
FITZ				S	S	21 20 37.1	-14
	comp=Z,3.1nm,1.0s,baz=141,slow=16,SNR=1.6						
FITZ	Fitzroy Crossi	21.82	183	P	P	21 16 52.1	-0.2
UBPT	Khong Chiam	23.72	300	P	P	21 17 10.6	-1.4
WB0	Warramunga Arr	24.67	162	P	P	21 17 20.0	-0.6
WB0				IAmb	IAmb	21 17 31.9	
	comp=Z,8.3nm,0.9s						
WRA	Warramunga Arr	24.82	162	P	P	21 17 21.4	-0.6
	comp=Z,1.5nm,0.6s,baz=339,slow=10,SNR=27						
WRA				S	S	21 21 43.7	+1.9
	comp=Z,0.7nm,0.8s,baz=335,slow=20,SNR=3.0						
WB2	Warramunga Arr	24.82	162	P	P	21 17 21.6	-0.4
WB2				IAmb	IAmb	21 17 35.6	
	comp=Z,13nm,1.1s						
WR0	Warramunga Arr	24.89	162	P	P	21 17 21.9	-0.7
WR0				IAmb	IAmb	21 17 31.7	
	comp=Z,7.9nm,0.9s						
PSA00	Pilbara Seismi	26.11	194	P	P	21 17 34.2	+0.6
AS31	Alice Springs	28.24	166	P	P	21 17 53.2	+0.4
ASAR	Alice Springs	28.24	166	P	P	21 17 53.1	+0.3
	comp=Z,0.6nm,0.6s,baz=344,slow=6.9,SNR=9.7						
ASAR				LR	LR	21 30 17.7	
	comp=Z,107nm,18.0s,baz=256,slow=39						
ASAR	Alice Springs	28.24	166	P	P	21 17 53.7	+0.9
CMAR	Chiang Mai Arr	30.72	300	P	P	21 18 12.5	-2.4
	comp=Z,0.8nm,0.4s,baz=116,slow=8.1,SNR=5.2						
CHTO	Chiang Mai	30.87	301		P	21 18 15.6	-0.6
CHTO				IAmb	IAmb	21 18 22.6	
	comp=Z,2.2nm,0.8s						
KSRS	Korea Array	33.48	2	P	P	21 18 37.9	-0.8
	comp=Z,0.4nm,0.4s,baz=196,slow=8.5,SNR=1.4						
KSRS				LR	LR	21 34 41.0	
	comp=Z,29nm,18.5s,baz=198,slow=41						
MJAR	Matsushiro Arr	34.25	17	LR	LR	21 30 58.2	
	comp=Z,21nm,21.3s,baz=180,slow=33						
BBOO	Buckleboo	37.53	167	P	P	21 19 13.9	+0.3
STKA	Stephens Creek	38.27	159	P	P	21 19 20.3	+0.4
	comp=Z,1.8nm,0.6s,baz=342,slow=8.5,SNR=5.8						
STKA	Stephens Creek	38.27	159	P	P	21 19 20.1	+0.2
SHL	Shillong	39.73	306	P	P	21 19 31.4	-1.0
SHL				IAmb	IAmb	21 19 38.0	
	comp=Z,5.7nm,0.7s						
ARMA	Armidale	41.62	147	P	P	21 19 48.6	+0.8
SONM	Songino Array	47.16	341	P	P	21 20 31.9	0.0
	comp=Z,0.6nm,0.5s,baz=151,slow=8.3,SNR=5.4						
SONM				LR	LR	21 41 10.3	
	comp=Z,38nm,19.4s,baz=184,slow=37						
MK31	Makanchi Array	57.41	325	P	P	21 21 46.8	-1.1
MK31				IAmb	IAmb	21 22 03.4	
	comp=Z,2.0nm,1.1s						
MKAR	Makanchi Array	57.41	325	P	P	21 21 47.1	-0.8
	comp=Z,0.5nm,0.4s,baz=112,slow=8.0,SNR=15						
NIL	Nilore	57.77	308	P	P	21 21 49.8	-0.9
NIL				IAmb	IAmb	21 21 58.6	
	comp=Z,6.2nm,1.1s						
ZALV	Zalesovo Beam	60.44	333	P	P	21 22 07.6	-1.1
	comp=Z,0.3nm,0.4s,baz=145,slow=5.3,SNR=2.1						
KBL	Kabul	61.37	307	P	P	21 22 14.7	-1.0
KBL				IAmb	IAmb	21 22 16.0	
	comp=Z,2.3nm,0.7s						
KURK	Kurchatov	61.59	328	P	P	21 22 15.7	-0.9
KURK				IAmb	IAmb	21 22 18.5	
	comp=Z,3.6nm,0.8s						
GAR	Garm	61.77	313	P	P	21 22 17.1	-1.1
BVAR	Borovoye Array	67.17	327	P	P	21 22 52.4	-0.7
	comp=Z,1.4nm,0.8s,baz=137,slow=11,SNR=7.2						
BRVK	Borovoye	67.24	327	P	P	21 22 53.2	-0.3
BRVK				IAmb	IAmb	21 22 55.0	
	comp=Z,2.9nm,0.8s						
NOA	NORSAR Array B	98.64	334	LR	LR	22 15 51.8	
	comp=Z,12nm,18.3s,baz=245,slow=39						
TORD	Torodi Ar. Bea	122.78	288	PKP	PKPdf	21 30 55.5	-0.4
	comp=Z,0.3nm,0.7s,baz=46,slow=2.7,SNR=1.8						

IDC 27 21:23:57.8±2.4,**1˚.49N**×**127˚.15E**,**h0**km,**mb3.2**/3, **mb1 3.4**/3,**mb1mx3.2**/44,**mbtmp3.2**/3,**Error ellipse: s-maj=181.6km s-min=28.6km az=66.0,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.43	162	P	P	21 28 58.5	0.0
	0.5nm,0.4s,baz=341,slow=11,SNR=19						
ASAR	Alice Springs	25.85	166	P	P	21 29 31.3	0.0
	0.1nm,0.5s,baz=346,slow=11,SNR=1.2						
MKAR	Makanchi Array	59.63	326	P	P	21 34 03.8	0.0
	0.2nm,0.4s,baz=119,slow=7.7,SNR=2.0						

*IDC **27** 22:09:36.4±0.8,0˚.69N×97˚.72E,h0km,mb3.9/14, mb1 4.0/16,mb1mx3.8/47,mbtmp3.9/16,ML3.6/2,MS3.5/2, Ms1 3.5/2,ms1mx2.8/34,Error ellipse: s-maj=28.4km s-min=16.9km az=56.0*

*DJA **27** 22:09:40.3±0.7,1˚N±4×9˚8E±˚,h22km±5km,M4.1/11, mb4.1/1,MLv4.1/11*

*NEIC **27** 22:09:42.7±1.3,0˚.87N±0˚.07×97˚.72E±0˚.04,h34km±6km, mb4.2/16,Error ellipse: s-maj=10.0km s-min=5.1km az=198.0*

ISC 27 22:09:40.2±1.6,**0˚.76N**±0˚.06×**97˚.74E**±0˚.07,**h23**km±11km, **n54,**σ1**$**17/54,**mb4.2**/22,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.56	343	P	Pb	22 09 50.9	-0.5
GSI				S	Sb	22 10 00.2	+1.1
GSI	Gunungsitoli	0.56	343		Pb	22 09 50.2	-1.2
GSI				Sn	Sb	22 10 00.4	+1.3
MNSI	Mandailing Nat	1.84	89	P	Pn	22 10 08.9	-1.4
MNSI				S	Sn	22 10 33.8	+1.0
RPSI	Rantau Prapat	2.25	32		Pn	22 10 17.0	+1.0
RPSI	Rantau Prapat	2.25	32		Sn	22 10 41.6	-1.5
PSI	Prapat	2.34	30	Pn	Pn	22 10 17.4	0.0
	3.0nm,0.3s,baz=181,slow=3.2,SNR=12						
PSI				Sn	Sn	22 10 41.6	-3.9
	6.5nm,0.3s,baz=180,slow=9.7,SNR=9.6						
TPTI		2.54	347	P	Pn	22 10 19.7	-0.3
TPTI				S	Sn	22 10 49.7	-0.6
PDSI	Padang	3.19	121	P	Pn	22 10 25.4	-3.5
BKNI	Bangkinang	3.33	97	P	Pn	22 10 31.8	+1.0
BKNI	Bangkinang	3.33	97		Pn	22 10 33.6	+2.8
MLSI	Meulaboh, Aceh	3.73	339	P	Pn	22 10 36.2	-0.1
SDSI	Sungai Dareh	4.05	115	P	Pn	22 10 43.0	+2.2
LHMI	Lhok Sumawe	4.51	350	P	Pn	22 10 47.7	+0.7
LHMI	Lhok Sumawe	4.51	350	Pn	Pn	22 10 47.5	+0.4
IPM	Ipoh	4.94	42	Pn	Pn	22 10 53.6	+0.6
KULM	Kulim	5.35	33	Pn	Pn	22 10 59.5	+0.8
CMAR	Chiang Mai Arr	17.62	4	P	Pn	22 13 44.5	+0.1
	0.3nm,0.3s,baz=191,slow=10,SNR=5.8						
KKM	Kota Kinabalu	19.16	74	P	Pn	22 14 03.9	+0.5
SHL	Shillong	25.30	348	P	P	22 15 05.3	0.0
SHL				IAmb	IAmb	22 15 07.8	
	comp=Z,7.2nm,1.1s						
H08S2	Diego Garcia H	26.53	251	T	T	22 42 41.2	
	baz=72,slow=75,SNR=1643						
H08S3	Diego Garcia H	26.53	251	T	T	22 42 40.8	
	baz=72,slow=75,SNR=1725						
H08S1	Diego Garcia H	26.55	251	T	T	22 42 41.9	
	baz=72,slow=75,SNR=1133						
LSA	Lhasa	29.45	348	P	P	22 15 43.5	+0.6
LSA				IAmb	IAmb	22 15 44.7	
	comp=Z,3.5nm,0.8s						
XAN	Xi'an	34.72	16	P	P	22 16 27.4	-1.1
NIL	Nilore	39.97	327	P	P	22 17 11.9	-1.2
WRA	Warramunga Arr	41.34	122	P	P	22 17 23.5	-1.2
	comp=Z,0.6nm,0.5s,baz=37,slow=9.7,SNR=6.5						
WB2	Warramunga Arr	41.35	122	P	P	22 17 23.4	-1.3
ASAR	Alice Springs	42.70	127	P	P	22 17 35.0	-0.8
	comp=Z,0.7nm,0.8s,baz=315,slow=7.3,SNR=6.3						
ASAR	Alice Springs	42.70	127	P	P	22 17 35.8	+0.1
KSRS	Korea Array	45.90	34	P	P	22 18 00.1	-0.9
	comp=Z,1.6nm,0.9s,baz=227,slow=8.2,SNR=4.5						
BTK	Batken	46.15	331	P	P	22 18 03.6	+0.4
BTK				IAmb	IAmb	22 18 04.9	
	comp=Z,2.3nm,0.6s						
SONM	Songino Array	47.48	8	P	P	22 18 13.7	+0.3
	comp=Z,0.7nm,0.6s,baz=185,slow=9.4,SNR=5.3						
MK31	Makanchi Array	47.79	346	P	P	22 18 16.1	+0.3
MK31				IAmb	IAmb	22 18 22.0	
	comp=Z,2.6nm,1.1s						
MKAR	Makanchi Array	47.79	346	P	P	22 18 16.3	+0.5
	comp=Z,2.3nm,0.5s,baz=158,slow=8.3,SNR=25						
MAKZ	Makanchi	47.89	345	P	P	22 18 16.4	0.0
MAKZ				IAmb	IAmb	22 18 17.4	
	comp=Z,2.0nm,0.6s						
KK31	Karatay Array	48.69	334	P	P	22 18 23.6	+0.9
KURK	Kurchatov	52.35	345	P	P	22 18 50.2	0.0
KURK				IAmb	IAmb	22 18 51.5	
	comp=Z,2.3nm,0.8s						
STKA	Stephens Creek	52.66	132	P	P	22 18 53.4	+0.5
	comp=Z,0.6nm,0.5s,baz=319,slow=9.5,SNR=4.2						
STKA				LR	LR	22 45 49.2	
	comp=Z,63nm,18.1s,baz=212,slow=41						
STKA	Stephens Creek	52.66	132	P	P	22 18 53.2	+0.3
ZAA0	Zalesovo Array	54.07	351	P	P	22 19 02.3	-0.5
ZAA0				IAmb	IAmb	22 19 12.0	
	comp=Z,5.4nm,1.4s						
ZALV	Zalesovo Beam	54.07	351	P	P	22 19 03.0	+0.2
	comp=Z,1.9nm,0.4s,baz=164,slow=7.1,SNR=13						
KLR	Kul'dur	56.40	26	P	P	22 19 20.6	+0.9
	comp=Z,1.4nm,0.8s,baz=244,slow=6.6						
BRVK	Borovoye	56.90	341	P	P	22 19 22.7	-0.5
BRTR	Keskin Array B	69.81	312	P	P	22 20 49.5	+0.4
	comp=Z,0.7nm,0.6s,baz=108,slow=8.0,SNR=4.7						
SEY	Seymchan	73.95	23	LR	LR	22 59 38.2	
	comp=Z,20nm,19.9s,baz=322,slow=40						
AKASG	Malin Array Be	75.93	322	P	P	22 21 24.6	-0.4
	comp=Z,0.6nm,0.6s,baz=93,slow=4.7,SNR=2.5						
BURAR	Bucovina Array	77.71	319	P	P	22 21 36.1	+0.8
BUR08	Bucovina Ar. S	77.73	319	P	P	22 21 35.8	+0.4
BUR08				IAmb	IAmb	22 21 37.5	
	comp=Z,3.2nm,1.1s						
FINES	FINESS Array B	80.63	332	P	P	22 21 51.1	+0.3
	comp=Z,1.9nm,0.7s,baz=104,slow=3.9,SNR=8.3						
ARCES	ARCESS Array B	83.13	340	P	P	22 22 04.1	+0.2
	comp=Z,1.6nm,0.8s,baz=84,slow=5.0,SNR=7.8						
GERES	GERESS Array B	85.50	319	P	P	22 22 17.1	+0.7
	comp=Z,0.7nm,0.8s,baz=112,slow=10,SNR=5.6						
NOA	NORSAR Array B	87.65	331	P	P	22 22 26.7	+0.1
	comp=Z,0.6nm,0.9s,baz=117,slow=3.8,SNR=3.6						
TXAR	Lajitas Array	143.75	33	PKP	PKPbc	22 29 12.8	+1.0
	comp=Z,0.3nm,0.7s,baz=190,slow=3.8,SNR=3.8						
CPUP	Villa Florida	145.04	221	PKP	PKPdf	22 29 17.1	+0.7
	comp=Z,2.7nm,0.8s,baz=68,slow=6.1,SNR=4.2						

*MAN **27** 22:16:32.3,3˚.11N×126˚.76E,h35km,MS4.5*

*NEIC **27** 22:16:39.4±1.9,3˚.67N±0˚.06×126˚.77E±0˚.08,h46km±7km, mb4.6/48,Error ellipse: s-maj=11.6km s-min=8.0km az=61.0*

*IDC **27** 22:16:41.0±1.9,3˚.49N×126˚.56E,h59km±18km,mb3.9/16, mb1 4.1/19,mb1mx3.9/37,mbtmp4.3/19,MS3.4/12, Ms1 3.5/12,ms1mx3.2/38,Error ellipse: s-maj=25.1km s-min=8.0km az=72.0*

*DJA **27** 22:16:45.2±0.5,3˚N±5˚×12˚7E±˚,h72km±5km,M4.4/12, mb4.6/12,mB4.9/5,MLv4.4/9,Mw(mB)4.2/5*

ISC 27 22:16:40.3±0.3,**3˚.52N**±0˚.03×**126˚.56E**±0˚.05,**h53**km,**n109,** σ2**$**03/114,**mb4.5**/37,**MS3.5**/12,**1D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	2.70	342	eP	Pn	22 17 19.2	-2.2
DDMP				eS	Sn	22 17 59.3	+6.4
TNTI	Ternate	2.85	164	P	Pn	22 17 24.1	+0.7
TNTI	Ternate	2.85	164		Pn	22 17 23.6	+0.2
TNTI				Sn	Sn	22 17 56.8	+0.4
MATI	Mati	3.42	355	eP	Pn	22 17 31.5	+0.4
MATI				eS	Sn	22 18 14.3	+3.9
SKMP	Bagumbayan, Su	3.59	326	eP	Pn	22 17 33.3	-0.2
SKMP				eS	Sn	22 18 13.1	-1.6
DAV	Davao City (W)	3.66	345	P	Pn	22 17 36.4	+1.9
	48nm,0.3s,baz=234,slow=4.0,SNR=2.2						
DAV				S	Sn	22 18 18.5	+2.1
	27nm,0.3s,baz=80,slow=21,SNR=1.3						
DAV	Davao City (W)	3.66	345	Pn	Pn	22 17 31.1	-3.4
KCP	Kidapawan	3.76	337	||iP	Pn	22 17 37.8	+1.8
KMSI	Cibinong	3.90	221	P	Pn	22 17 40.8	+3.0
GTOI	Gorontalo	4.56	231	P	Pn	22 17 50.2	+3.4
BUKP	Musuan	4.58	341	eP	Pn	22 17 46.9	-0.3
BUKP				eS	Sn	22 18 45.7	+6.6
PAGZ	Pagadian	5.33	324	eP	Pn	22 17 57.0	-0.4
PAGZ				eS	Sn	22 18 50.4	-7.3
SANI	Sanana	5.56	186	P	Pn	22 18 00.8	+0.2
	0.3nm46nm,0.7s						
SANI				S	Sn	22 18 59.2	-4.1
	0.3nm46nm,0.7s						
LUWI	Luwuk	5.91	220	P	Pn	22 18 09.3	+4.0
	0.9nm2µm98nm,0.7s						
LUWI	Luwuk	5.91	220		Pn	22 18 08.2	+2.9
SIJI	Sorong	6.42	133	P	Pn	22 18 13.0	+0.7
	15nm,0.3s,baz=339,slow=9.1,SNR=44						
SIJI				S	Sn	22 19 23.6	-0.7
	0.6nm,0.3s,baz=168,slow=22,SNR=0.9						
MPSI	Mapaga	7.37	245	P	Pn	22 18 31.1	+5.7
	0.1nm27nm,1.0s						
MYLDM	Lahad Datu	8.20	282		Pn	22 18 40.2	+3.4
FAKI	Fak Fak	8.56	138	P	Pn	22 18 40.2	-1.5
	56nm,1.3s						
FAKI	Fak Fak	8.56	138	Pn	Pn	22 18 41.6	-0.1
KKM	Kota Kinabalu	10.61	284	Pn	Pn	22 19 11.9	+2.0
TGY	Tagaytay City	11.89	333	LR	LR	22 24 37.7	
	comp=Z,310nm,21.8s,baz=144,slow=40						
MTKI	Muara Teweh, K	12.47	249	P	P	22 19 56.4	+11
SMPI	Sarmi	13.32	114	P	Pn	22 19 48.7	+1.9
	9.6nm,1.2s						
SBUM	Sibu	14.36	266		P	22 20 04.9	-1.5
GENI	Genyem	14.90	114	P	P	22 20 13.0	+0.5
JAY	Jayapura	15.36	113	P	Pn	22 20 15.2	+1.3
	2.0nm,0.3s,baz=288,slow=5.8,SNR=21						
JAY				LR	LR	22 25 32.2	
	comp=Z,42nm,21.5s,baz=348,slow=35						
JAY	Jayapura	15.36	113	P	P	22 20 16.3	-1.3
	289nm38nm,0.9s						
KSM	Kuching	16.36	263	Pn	P	22 20 29.0	+0.2
MTN	Manton Dam	16.88	164	Pn	Pn	22 20 30.7	-2.4
MTN				I

comp=Z,6.0nm,1.3s
XAN LR LR
comp=N,170nm,17.1s
XAN LR LR
comp=E,110nm,13.9s
XAN LR LR
comp=Z,160nm,19.3s
XAN Xi'an 34.52 334 P **P** **22 23 22.3 -1.5**
XAN IAmb IAmb 22 23 41.6
comp=Z,4.5nm,0.8s
BBOO Buckleboo 37.24 167 P **P** **22 23 46.9 0.0**
BBOO IAmb IAmb 22 24 05.6
comp=Z,22nm,1.4s
EIDS Eidsvold 37.29 142 P **P** **22 23 45.8 -1.7**
EIDS IAmb IAmb 22 23 47.2
comp=Z,5.7nm,0.9s
NWAO Narrogin (SRO) 37.31 193 P **P** **22 23 48.8 +1.3**
BJT Baijiatuan 37.53 347 P **P** **22 23 48.9 -0.4**
BJT IAmb IAmb 22 23 50.8
comp=Z,12nm,0.9s
BJI Beijing 37.55 347 P **P** **22 23 50.0 +0.6**
BJI pmax pmax
comp=Z,14nm,0.9s
STKA Stephens Creek 38.00 159 P **P** **22 23 53.6 +0.2**
comp=Z,16nm,0.6s,baz=332,slow=9.1,SNR=69
STKA Stephens Creek 38.00 159 P **P** **22 23 53.6 +0.2**
STKA IAmb IAmb 22 23 55.4
comp=Z,3.7nm,0.8s
LZH Lanzhou 38.60 330 *eP* **P** **22 23 59.0 +0.4**
LZH pP pP 22 24 10.3 -1.0
LZH sP pwP 22 24 15.0 -0.9
LZH PP **PnPn** **22 25 32.3 +2.1**
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.9s
LZH LR LR
comp=N,220nm,13.0s
LZH LR LR
comp=E,230nm,13.2s
LZH LR LR
comp=Z,370nm,16.4s
HHC Hu-ho-hao-te 39.54 342 *eP* **P** **22 24 06.8 +0.5**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,83nm,6.6s
SHL Shillong 39.86 307 P **P** **22 24 09.2 -0.1**
USRK Ussuriysk Ar. 40.79 6 P **P** **22 24 14.7 -1.7**
comp=Z,3.0nm,1.0s,baz=183,slow=9.3,SNR=4.7
ARMA Armidale 41.39 146 P **P** **22 24 21.6 -0.1**
ARMA IAmb IAmb 22 24 29.7
comp=Z,18nm,1.3s
LSA Lhasa 42.45 312 P **P** **22 24 31.1 +0.3**
KLR Kul'dur 45.76 5 P **P** **22 24 57.0 +0.6**
comp=Z,1.3nm,0.6s,baz=210,slow=4.6,SNR=4.8
HIA Hailar 45.95 354 P **P** **22 24 56.8 -1.2**
DZM Mont Dzumac 46.55 125 P **P** **22 25 03.2 -0.1**
DZM IAmb IAmb 22 25 09.2
comp=Z,12nm,1.1s
ULN Ulaanbaatar 47.26 342 P **P** **22 25 08.0 -0.5**
SONM Songino Array 47.44 342 P **P** **22 25 09.6 -0.3**
comp=Z,1.6nm,0.8s,baz=153,slow=7.7,SNR=7.0
SONM LR LR 22 48 05.1
comp=Z,56nm,18.9s,baz=204,slow=40
TLY Talaya 51.67 342 LR LR 22 48 51.8
comp=Z,42nm,20.8s,baz=143,slow=37
WMQ Urumqi 52.80 325 *eP* **P** **22 25 52.0 +1.6**
MK31 Makanchi Array 57.63 325 P **P** **22 26 24.9 -0.2**
MKAR Makanchi Array 57.63 325 P **P** **22 26 24.7 -0.4**
comp=Z,2.0nm,0.6s,baz=120,slow=7.2,SNR=22
MKAR LR LR 22 52 41.0
comp=Z,57nm,19.8s,baz=94,slow=38
TARG Taragay, Kyrgy 57.79 318 P **P** **22 26 26.7 -0.1**
KDJ Kajisay 58.39 318 P **P** **22 26 31.4 +0.7**
KDJ IAmb IAmb 22 26 32.8
comp=Z,4.3nm,0.8s
AAK Ala-Archa 60.40 318 LR LR 22 54 32.1
comp=Z,32nm,18.6s,baz=89,slow=38
ZALV Zalesovo Beam 60.70 333 P **P** **22 26 44.5 -1.7**
comp=Z,0.8nm,0.5s,baz=122,slow=11,SNR=4.7
ZALV LR LR 22 55 28.0
comp=Z,36nm,18.1s,baz=80,slow=38
KBL Kabul 61.51 308 P **P** **22 26 52.0 -0.4**
KBL IAmb IAmb 22 26 52.6
comp=Z,4.7nm,1.1s
LBZ Lake Benmore 61.61 146 P **P** **22 26 53.2 +0.7**
KURK Kurchatov 61.82 328 P **P** **22 26 53.8 0.0**
GAR Garm 61.94 313 P **P** **22 26 55.1 +0.1**
BTK Batken 61.94 314 P **P** **22 26 55.1 +0.1**
BTK IAmb IAmb 22 27 03.0
comp=Z,7.9nm,1.1s
KK31 Karatay Array 63.27 317 P **P** **22 27 04.0 +0.3**
KK31 IAmb IAmb 22 27 04.8
comp=Z,2.9nm,0.7s
KKAR Karatay Array 63.27 317 P **P** **22 27 03.8 +0.1**
KKAR IAmb IAmb 22 27 04.8
comp=Z,2.9nm,0.7s
BRVK Borovoye 67.47 327 **P** **22 27 31.0 +0.4**
BRVK IAmb IAmb 22 27 32.5
comp=Z,6.9nm,0.8s
NRIK Noril'sk 70.59 346 P **P** **22 27 51.0 +1.4**
comp=Z,2.4nm,0.6s,baz=128,slow=7.8,SNR=4.0
NRIK LR LR 23 00 28.4
comp=Z,61nm,19.5s,baz=195,slow=37
ARU Arti 75.02 328 P **P** **22 28 15.6 -0.6**
ARU IAmb IAmb 22 28 17.5
comp=Z,4.9nm,1.1s
IMAR Indian Mountai 82.60 24 P **P** **22 28 58.4 +0.9**
ILAR Eielson Array 85.36 25 P **P** **22 29 12.6 +0.9**
comp=Z,0.3nm,0.8s,baz=268,slow=5.4,SNR=2.9
KLMR Klimovskoe 85.50 331 *eP* **P** **22 29 08.9 -3.5**
KLMR AMP 22 29 13.2
comp=Z,9.0nm,0.9s
BCAR Beaver Creek A 87.64 27 P **P** **22 29 23.9 +0.9**
BRTR Keskin Array B 90.02 310 P **P** **22 29 35.1 +0.3**
comp=Z,0.8nm,0.5s,baz=75,slow=7.6,SNR=4.5
ARCES ARCESS Array B 90.58 340 P **P** **22 29 36.3 -0.2**
comp=Z,1.4nm,0.7s,baz=76,slow=6.6,SNR=5.9
FINES FINESS Array B 91.93 332 P **P** **22 29 43.7 +0.8**
comp=Z,2.4nm,0.7s,baz=146,slow=32,SNR=2.9
BURAR Bucovina Array 95.04 318 P **P** **22 29 58.2 +0.5**
NOA NORSAR Array B 98.90 334 P Pdif 22 30 15.1 +0.3
comp=Z,0.6nm,0.8s,baz=67,slow=4.9,SNR=2.6
TORD Torodi Ar. Bea 122.82 288 PKP **PKiKP** **22 35 32.3 +0.5**
comp=Z,0.2nm,0.4s,baz=63,slow=1.9,SNR=4.1

JMA **27** *22:45:25.7±0.1, 37.03N×141.36E, h28km±1km, M3.5*
ISC 27 22:45:23.7±2.0, 37.04N±0.05×141.47E±0.08, h7km±11km, n13, σ0.95/21, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.54**	**277**	P	**Pb**	**22 45 35.1**	**-0.4**
ONAJ				S	**Sg**	**22 45 41.7**	**+0.5**
JFK	**Kawauchi**	**0.58**	**305**	P	**Pb**	**22 45 35.9**	**-0.2**
JFK				S	**Sg**	**22 45 43.0**	**+0.6**
JFFD	**Fukushimafurud**	**0.73**	**274**	P	**Pg**	**22 45 38.1**	**+0.4**
JFFD				S	**Sg**	**22 45 46.9**	**-0.3**
JMST	**Minamisoumatoc**	**0.83**	**326**	P	**Pb**	**22 45 40.3**	**-0.1**
JMST				S	**Sb**	**22 45 50.9**	**-0.8**
JHO	**Hitachi**	**0.84**	**240**	P	**Pg**	**22 45 39.7**	**-0.1**
JHO				*eS*	**Sg**	**22 45 49.8**	**-0.9**
JMM	**Marumori**	**0.98**	**327**	P	**Pb**	**22 45 43.0**	**-0.1**
JFT	**Otama**	**1.02**	**298**	P	**Pb**	**22 45 43.7**	**0.0**
JFT				S	**Sg**	**22 45 56.4**	**-0.2**
JIO	**Ouri**	**1.42**	**356**	P	**Pb**	**22 45 50.2**	**-0.2**
JFY	**Yanaizu**	**1.46**	**285**	P	**Pn**	**22 45 50.6**	**+0.2**
JOU	**Okura**	**1.47**	**335**	P	**Pg**	**22 45 51.6**	**-0.3**
MJAR	**Matsushiro Arr**	**2.66**	**260**	Pn	**Pn**	**22 46 07.2**	**+0.2**
	0.4nm,0.3s,baz=87,slow=15,SNR=3.7						
MJAR				Sn	**Sn**	**22 46 41.8**	**+2.2**
	1.4nm,0.3s,baz=81,slow=16,SNR=3.7						
MAT	**Matsushiro**	**2.66**	**260**	P	**Pn**	**22 46 08.0**	**+1.0**
MAT				*eS*	**Sn**	**22 46 37.0**	**-2.5**
WRA	**Warramunga Arr**	**57.07**	**188**	P	**P**	**22 55 10.8**	**+0.3**
	0.4nm,0.6s,baz=2.6,slow=7.6,SNR=4.6						

IDC **27** *22:45:27.6±1.5, 36.44N×141.12E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/46, mbtmp3.4/4, ML2.0/1, MS2.7/2, Ms1 2.7/2, ms1mx2.3/43, Error ellipse: s-maj=36.0km s-min=31.3km az=110.0*

JMA **27** *22:45:39.9±0.1, 37.58N×141.80E, h30km±3km, M4.0*
JMA Felt I J1.
NIED **27** *22:45:40.0, 37.58N×141.80E, h30km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.54; $M_{\theta\theta}$0.03; $M_{\phi\phi}$ 1.51; $M_{r\theta}$-4.27; $M_{r\phi}$-1.93; $M_{\theta\phi}$1.36; Fault plane solution: $M_0$5.11000×10^{14} NP1: ϕ_s112.00000°, δ80.00000°, λ-112.00000°. NP2: ϕ_s360.00000°, δ24.00000°, λ-24.00000°.*
ISC 27 22:45:40.0±1.4, 37.59N±0.06×141.76E±0.08, h24km, n20, σ0.78/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMST	**Minamisoumatoc**	**0.70**	**282**	*eS*	**Sb**	**22 46 03.6**	**+0.7**
JFK	**Kawauchi**	**0.74**	**253**	S	**Sb**	**22 46 04.0**	**+0.1**
JIKH	**Ishinomakikobu**	**0.76**	**342**	P	**Pn**	**22 45 54.5**	**-0.7**
JIKH				S	**Sb**	**22 46 04.2**	**-0.3**
JMM	**Marumori**	**0.81**	**290**	*eS*	**Sb**	**22 46 06.6**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.91**	**238**	P	**Pb**	**22 45 56.7**	**-0.4**
ONAJ				S	**Sb**	**22 46 07.6**	**-1.1**
JIO	**Ouri**	**0.93**	**340**	P	**Pb**	**22 45 57.0**	**-0.4**
JIO				*eS*	**Sb**	**22 46 08.5**	**-0.8**
JFT	**Otama**	**1.13**	**267**	S	**Sb**	**22 46 15.9**	**+0.7**
JOU	**Okura**	**1.16**	**312**	S	**Sb**	**22 46 16.9**	**+0.8**
JKMT	**Kesennumamotoy**	**1.24**	**350**	P	**Pn**	**22 46 01.7**	**-0.2**
JKMT				S	**Sn**	**22 46 16.7**	**-1.2**
JMK	**Ichinoseki**	**1.43**	**343**	*eS*	**Sn**	**22 46 22.0**	**-0.5**
JYS	**Shirataka**	**1.48**	**296**	*eS*	**Sb**	**22 46 26.1**	**+0.8**
JFY	**Yanaizu**	**1.64**	**264**	S	**Sb**	**22 46 29.7**	**-0.2**
ASAJ	**Asahikawa**	**6.56**	**5**	LR	LR	22 51 21.7	
	comp=Z,45nm,18.3s,baz=256,slow=46						
ASAJ	**Asahikawa**	**6.56**	**5**	Pn	**Pn**	**22 47 16.1**	**+1.3**
	0.8nm,0.3s,baz=210,slow=16,SNR=2.2						
PETK	**Petropavlovsk-**	**19.07**	**30**	LR	LR	22 57 06.5	
	comp=Z,20nm,19.3s,baz=109,slow=34						
H11N2	**WAKE ISLAND Hy**	**28.20**	**122**	T	T	23 20 45.3	
	baz=314,slow=75,SNR=153						
H11N1	**WAKE ISLAND Hy**	**28.21**	**122**	T	T	23 20 47.4	
	baz=314,slow=75,SNR=135						
H11N3	**WAKE ISLAND Hy**	**28.22**	**122**	T	T	23 21 00.0	
ZALV	**Zalesovo Beam**	**41.75**	**312**	P	P	22 53 21.4	-5.6
	0.8nm,0.7s,baz=88,slow=10,SNR=2.3						
ILAR	**Eielson Array**	**48.88**	**33**	P	**P**	**22 54 24.1**	**+0.7**
	0.3nm,0.7s,baz=273,slow=6.7,SNR=4.6						

NEIC **27** *23:11:34.2±1.3, 15.05S±0.07×167.39E±0.08, h115km±3km, mb5.7/195, Mwb5.9/51, Mww5.9, Mwc5.9/11(GCMT), Error ellipse: s-maj=10.6km s-min=9.9km az=91.0*
MOS **27** *23:11:34.9±0.9, 14.96S×167.37E, h129km, mb5.7/25, Error ellipse: s-maj=7.2km s-min=5.2km az=125.0*
NEIC **27** *23:11:34.2, 15.03S×167.27E, h124km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.94; $M_{\theta\theta}$0.01; $M_{\phi\phi}$-0.95; $M_{r\theta}$-0.14; $M_{r\phi}$-0.26; $M_{\theta\phi}$-0.15; Fault plane solution: $M_0$1.00000×10^{18} NP1:ϕ_s200.00000°, δ50.00000°, λ98.00000°. NP2:ϕ_s8.00000°, δ40.00000°, λ81.00000°. Principal axes: T 0.9660, Plg82.0000°, Azm154.0000°; N 0.0649, Plg6.0000°, Azm15.0000°; P -1.0309, Plg5.0000°, Azm285.0000°;*
NEIC **27** *23:11:34.2, 15.07S×167.40E, h115km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.03; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$-0.96; $M_{r\theta}$-0.07; $M_{r\phi}$-0.30; $M_{\theta\phi}$-0.08; Fault plane solution: $M_0$1.05000×10^{18} NP1:ϕ_s199.66000°, δ47.76000°, λ93.28000°. NP2:ϕ_s14.79000°, δ42.35000°, λ86.39000°. Principal axes: T 1.0386, Plg86.0000°, Azm149.0000°; N 0.0193, Plg2.0000°, Azm17.0000°; P -1.0580, Plg3.0000°, Azm287.0000°;*
IDC **27** *23:11:35.5±0.4, 15.04S×167.47E, h126km±3km, mb5.2/36, mb1 5.2/40, mb1mx5.2/44, mbtmp5.6/40, MS4.8/23, Ms1 4.8/23, ms1mx4.6/34 Error ellipse: s-maj=8.4km s-min=6.9km az=54.0*
BJI **27** *23:11:35.5±0.0, 14.43S×167.43E, h120km, mB5.9/76, mb5.6/85*
GCMT **27** *23:11:36.2±0.1, 15.05S±0.01×167.24E, h120km, MW5.9/169, Moment Tensor Solution. s161,c340; s169,c535; Duration: 2±3 Moment tensor: Scale 10^{18} Nm; M_{rr}0.97±.01; $M_{\theta\theta}$-0.04±.01; $M_{\phi\phi}$-0.92±.01; $M_{r\theta}$-0.07±.01; $M_{\theta\phi}$-0.25±.01; $M_{r\phi}$-0.13±.01; Best double couple: $M_0$0.99300×10^{18} NP1:ϕ_s13.00000°, δ41.00000°, λ87.00000°. NP2:ϕ_s197.00000°, δ49.00000°, λ93.00000°. Principal axes: T 0.9820, Plg85.0000°, Azm130.0000°; N 0.0220, Plg2.0000°, Azm15.0000°; P -1.0040, Plg4.0000°, Azm285.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC **27** *23:11:38, 15.01S×167.01E, h120km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}8.30; $M_{\theta\theta}$-0.86; $M_{\phi\phi}$-7.43; $M_{r\theta}$-1.50; $M_{\theta\phi}$-2.72; $M_{r\phi}$-2.06; Fault plane solution: $M_0$8.74000×10^{17} NP1:ϕ_s15.00000°, δ37.00000°, λ82.00000°. NP2:ϕ_s204.00000°, δ53.00000°, λ96.00000°. Principal axes: T 8.7080, Plg81.0000°, Azm140.0000°; N 0.0565, Plg5.0000°, Azm21.0000°; P -8.7644, Plg8.0000°, Azm290.0000°;*
KLM **27** *23:11:40.0, 14.81S×167.27E, h157km, mb5.8*
ISC 27 23:11:35.5±0.2, 15.08S±0.03×167.38E±0.03, h128km±1km, h129km:pP-P, n1288, σ1.974/1382, mb5.7/221, 72C-17D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.41**	**205**		**Pn**	**23 11 52.1**	**-1.8**
DZM	**Mont Dzumac**	**7.01**	**187**	*ePn*	**Pn**	**23 13 13.0**	**-2.7**
	3μm,0.3s						
DZM				*eSn*	**Sn**	**23 14 27.0**	**-7.2**
	27μm,0.9s						
DZM				*eLR*	LR	23 14 48.0	
	comp=Z,20μm,34.0s						
DZM	**Mont Dzumac**	**7.01**	**187**	P	**Pn**	**23 13 16.9**	**+1.1**
	371nm,0.3s,baz=36,slow=14,SNR=346						
DZM				S	**Sn**	**23 14 37.0**	**+2.8**
	134nm,0.3s,baz=350,slow=19,SNR=3.1						
DZM	**Mont Dzumac**	**7.01**	**187**	Pn	**Pn**	**23 13 16.1**	**+0.4**
DZM				Sn	**Sn**	**23 14 35.3**	**+1.1**
I22FR	**PORTLAGUERRE I**	**7.09**	**184**	*i*		23 56 20.0	
	baz=1.4,slow=312,SNR=1.8						
HNR	**Honiara**	**9.18**	**307**	P	**Pn**	**23 13 45.7**	**+0.8**
	75nm,0.3s,baz=245,slow=7.3,SNR=60						
HNR				S	**Sn**	**23 15 27.7**	**+1.2**
	82nm,0.3s,baz=260,slow=18,SNR=2.0						
HNR				LR	LR	23 17 20.6	
	comp=Z,4μm,19.6s,baz=146,slow=37						
HNR	**Honiara**	**9.18**	**307**	Pn	**Pn**	**23 13 45.2**	**+0.4**
MSVF	**Nonsavu**	**10.57**	**106**	P	**Pn**	**23 14 05.9**	**+2.2**
MSVF	**Nonsavu**	**10.57**	**106**	Pn	**Pn**	**23 14 05.9**	**+2.2**
FUNA	**Funafuti**	**13.27**	**62**	Pn	**Pn**	**23 14 39.2**	**+0.2**
NFK	**Norfolk Island**	**13.91**	**178**	P	**Pn**	**23 14 48.1**	**+1.0**
	baz=14,SNR=7.8						
NFK				S	**Sn**	**23 17 22.3**	**+1.5**
	baz=14						
TARA	**Tarawa**	**17.22**	**19**	P	**Pn**	**23 15 28.3**	**0.0**
TARA				IAmb	IAmb	23 15 31.7	
	comp=Z,455nm,1.1s						
EIDS	**Eidsvold**	**18.39**	**234**	P	**Pn**	**23 15 43.8**	**+1.6**
	baz=19,SNR=41						
EIDS	**Eidsvold**	**18.39**	**234**		**Pn**	**23 15 43.0**	**+0.8**
EIDS				IAmb	IAmb	23 15 50.5	
	comp=Z,313nm,0.9s						
RABL	**Rabaul**	**18.48**	**304**	P	**P**	**23 15 42.2**	**+0.5**
RABL				IAmb	IAmb	23 16 37.5	
	comp=Z,664nm,1.4s						
KRVT	**Keravat (AS076**	**18.52**	**304**	P	**Pn**	**23 15 43.1**	**-0.7**
	comp=Z,7.3nm,0.3s,baz=87,slow=1.6,SNR=9.0						
RAO	**Raoul Island**	**19.57**	**139**	P	**P**	**23 15 52.7**	**-0.8**
	comp=Z,32nm,0.3s,baz=73,slow=19,SNR=2.0						
RAO	**Raoul Island**	**19.57**	**139**	P	**P**	**23 15 52.9**	**-0.6**
RAO				pmax	pmax		
	comp=Z,2μm,1.5s						
RAO	**Raoul Island**	**19.57**	**139**	P	**P**	**23 15 52.9**	**-0.6**
GLKZ	**Green Lake**	**19.58**	**139**	P	**Pn**	**23 15 55.8**	**-0.3**
AFI	**Afiamalu**	**20.21**	**89**	P	**P**	**23 16 00.1**	**-0.5**
	comp=Z,58nm,0.5s,baz=210,slow=8.1,SNR=4.2						
AFI	**Afiamalu**	**20.21**	**89**	P	**P**	**23 16 02.0**	**+1.4**
AFI				IAmb	IAmb	23 16 08.5	
	comp=Z,330nm,0.8s						
PMG	**Port Moresby**	**20.54**	**284**	*d*	P	Pn	23 16 05.9 -1.6
PMG					pmax	pmax	
	comp=Z,857nm,2.2s						
PMG	**Port Moresby**	**20.54**	**284**		P	**P**	**23 16 05.4 +1.4**
PMG					IAmb	IAmb	23 16 50.2
	comp=Z,996nm,1.3s						
CTA	**Charters Tower**	**20.74**	**253**		P	Pn	23 16 08.5 -1.4
	comp=Z,51nm,0.7s,baz=81,slow=12,SNR=54						
CTA					PcP	**PcP**	**23 20 10.6 -0.1**
	comp=Z,21nm,0.7s,baz=48,slow=2.0,SNR=3.2						
CTA					ScP	**ScP**	**23 23 39.0 +3.3**
	comp=Z,6.6nm,0.7s,baz=101,slow=8.0,SNR=3.6						
CTAO	**Charters Tower**	**20.74**	**253**		P	**P**	**23 16 07.4 +1.2**
CTAO					pmax	pmax	
	comp=Z,1μm,1.6s						
CTAO	**Charters Tower**	**20.74**	**253**		P	**P**	**23 16 07.4 +1.2**
CTAO					IAmb	IAmb	23 16 36.9
	comp=Z,1μm,1.6s						
RMQ	**Roma**	**20.75**	**234**		P	Pn	23 16 08.1 -1.8
	baz=21,SNR=15						
OUZ	**Omahuta**	**20.82**	**166**		P	**P**	**23 16 08.7 +1.9**
OUZ	**Omahuta**	**20.82**	**166**		P	**P**	**23 16 07.8 +1.0**
OUZ					IAmb	IAmb	23 16 10.2
	comp=Z,1μm,1.3s						
ARMA	**Armidale**	**21.04**	**221**		P	**P**	**23 16 11.7 +2.4**
	baz=21,SNR=33						
ARMA	**Armidale**	**21.04**	**221**		P	**P**	**23 16 10.8 +1.5**
ARMA					IAmb	IAmb	23 16 13.5
	comp=Z,595nm,1.3s						
WCZ	**Waipu Caves**	**21.69**	**165**		P	**P**	**23 16 18.3 +2.2**
NIUE	**Niue**	**22.05**	**104**		P	**P**	**23 16 20.4 +0.4**
	baz=22,SNR=6.9						
NIUE	**Niue**	**22.05**	**104**		P	**P**	**23 16 20.0 0.0**
GRZ	**Great Barrier**	**22.29**	**163**		P	**P**	**23 16 24.6 +2.4**
MTSU	**Mount Surprise**	**22.31**	**259**		P	**P**	**23 16 24.3 +1.6**
	baz=22,SNR=42						
ABAZ	**Army Bay**	**22.44**	**164**		P	**P**	**23 16 25.4 +1.6**
WTAZ	**Waiatarua**	**22.69**	**165**		P	**P**	**23 16 28.6 +2.4**
WIAZ	**Waiheke Island**	**22.70**	**164**		P	**P**	**23 16 28.1 +1.7**
KUZ	**Kuaotunu**	**22.82**	**163**		P	**P**	**23 16 28.5 +1.0**
AWAZ	**Awhitu Peninsu**	**22.83**	**165**		P	**P**	**23 16 29.6 +2.0**
MKAZ	**Moumakai**	**23.00**	**164**		P	**P**	**23 16 30.6 +1.4**
MGCD	**Mangrove Creek**	**23.32**	**216**		P	**P**	**23 16 34.4 +2.3**
	baz=24,SNR=29						
COEN	**Coen**	**23.46**	**270**		P	**P**	**23 16 35.0 +1.4**
	baz=24,SNR=16						
COEN	**Coen**	**23.46**	**270**		P	**P**	**23 16 34.8 +1.1**
COEN					IAmb	IAmb	23 17 13.6
	comp=Z,366nm,1.4s						
PATS	**Pohnpei**	**23.55**	**337**		P	**P**	**23 16 35.2 +0.8**
	baz=24,SNR=25						
PATS	**Pohnpei**	**23.55**	**337**		P	**P**	**23 16 34.2 -0.2**
TOZ	**Tahuroa Road**	**23.68**	**164**		P	**P**	**23 16 36.7 +1.2**
KWAJ	**Kwajalein Atol**	**23.73**	**1**		P	**P**	**23 16 35.0 -1.0**
KWAJ					pmax	pmax	
	comp=Z,358nm,1.1s						
KWAJ	**Kwajalein Atol**	**23.73**	**1**		P	**P**	**23 16 35.0 -1.0**
KWAJ					IAmb	IAmb	23 17 27.5
	comp=Z,358nm,1.1s						
RIV	**Riverview**	**23.75**	**215**		P	**P**	**23 16 38.1 +2.1**
	baz=24,SNR=8.1						
KNTN	**Kanton**	**23.96**	**61**		P	**P**	**23 16 37.9 -0.2**
KNTN					IAmb	IAmb	23 17 23.4
	comp=Z,660nm,1.8s						
WHRZ	**Whale Island**	**24.23**	**161**		P	**P**	**23 16 42.8 +2.4**
TLZ	**Tolley Road**	**24.26**	**164**		P	**P**	**23 16 42.4 +1.7**
HIZ	**Hauiti**	**24.26**	**166**		P	**P**	**23 16 42.0 +1.4**
OMRZ	**Omania**	**24.28**	**163**		P	**P**	**23 16 42.4 +1.5**
MXZ	**Matakaoa Point**	**24.40**	**159**		P	**P**	**23 16 41.5 -0.4**
QLP	**Quilpie**	**24.43**	**238**		P	**P**	**23 16 44.0 +1.6**
	baz=25,SNR=29						
TARZ	**Mount Tarawera**	**24.44**	**162**		P	**P**	**23 16 45.6 +3.2**
URZ	**Urewera**	**24.64**	**161**		P	**P**	**23 16 44.6 +0.6**
	comp=Z,461nm,1.1s,baz=6.0,slow=4.0,SNR=40						
URZ					S	**S**	**23 20 57.5 +1.3**
	comp=Z,11nm,0.6s,baz=16,slow=22,SNR=2.1						
URZ					LR	LR	23 25 03.7
	comp=Z,2μm,18.3s,baz=4.5,slow=33						
URZ	**Urewera**	**24.64**	**161**		P	**P**	**23 16 44.9 +0.8**
URZ					S	**S**	**23 20 55.7 -0.4**
URZ	**Urewera**	**24.64**	**161**		P	**P**	**23 16 44.2 +0.1**
WMGZ	**Waiomatatini S**	**24.67**	**159**		P	**P**	**23 16 44.5 +0.1**
RTZ	**Ruatahuna**	**24.93**	**162**		P	**P**	**23 16 47.3 +0.5**
RTZ					S	**S**	**23 21 00.5 -0.4**
TWVZ	**Taurewa**	**24.93**	**165**		P	**P**	**23 16 48.3 +1.5**
BKZ	**Black Stump Fm**	**25.30**	**163**		P	**P**	**23 16 50.1 -0.1**
BKZ					IAmb	IAmb	23 16 55.1
	comp=Z,924nm,1.6s						
YNG	**Young**	**25.68**	**218**		P	**P**	**23 16 55.5 +1.9**
	baz=26,SNR=10						
CMSA	**Cobar Meteorol**	**25.71**	**227**		P	**P**	**23 16 55.1 +1.2**
	baz=26,SNR=75						
CNB	**Canberra Magne**	**25.84**	**215**		P	**P**	**23 16 56.7 +1.6**
	baz=26,SNR=36						
QRZ	**Quartz Range**	**26.04**	**171**		P	**P**	**23 16 58.1 +1.3**
CAN	**Canberra**	**26.05**	**216**		P	**P**	**23 16 57.7 +0.8**
CAN					pmax	pmax	
	comp=Z,203nm,1.3s						
CAN	**Canberra**	**26.05**	**216**		P	**P**	**23 16 57.7 +0.8**
CAN					IAmb	IAmb	23 16 60.0
	comp=Z,203nm,1.3s						
NNZ	**Nelson**	**26.56**	**170**		P	**P**	**23 17 01.7 +0.3**
NNZ					IAmb	IAmb	23 17 03.8
	comp=Z,701nm,1.8s						
BFZ	**Birch Farm**	**26.66**	**165**		P	**P**	**23 17 01.4 -0.9**
TUWZ	**Tuamarina**	**26.87**	**169**		P	**P**	**23 17 04.0 -0.1**
SNZO	**South Karori**	**26.90**	**168**		P	**P**	**23 17 04.1 -0.3**
SNZO					IAmb	IAmb	23 17 06.7
	comp=Z,695nm,1.8s						
QIS	**Mount Isa**	**26.98**	**254**		P	**P**	**23 17 06.2 +0.8**
	baz=27,SNR=15						
BHW	**Baring Head**	**27.03**	**168**		P	**P**	**23 17 08.3 +2.7**
FOZ	**Fox Glacier**	**28.44**	**176**		P	**P**	**23 17 18.2 +0.2**
FOZ					IAmb	IAmb	23 17 22.2
	comp=Z,371nm,1.2s						
RPZ	**Rata Peaks**	**28.71**	**174**		P	**P**	**23 17 21.4 +0.8**
	comp=Z,58nm,0.7s,baz=294,slow=2.1,SNR=42						
RPZ					PcP	**PcP**	**23 20 27.9 +0.1**
	comp=Z,7.5nm,0.7s,baz=9.0,slow=4.5,SNR=1.1						
RPZ					LR	LR	23 28 20.6
	comp=Z,2μm,18.1s,baz=352,slow=35						
RPZ	**Rata Peaks**	**28.71**	**174**		P	**P**	**23 17 20.7 +0.1**
STKA	**Stephens Creek**	**28.85**	**230**		P	**P**	**23 17 23.8 +1.8**
	comp=Z,167nm,0.8s,baz=50,slow=8.4,SNR=348						
STKA					PcP	**PcP**	**23 20 28.8 +0.3**
	comp=Z,47nm,0.8s,baz=44,slow=1.6,SNR=5.9						
STKA					ScP	**ScP**	**23 24 00.2 +2.0**
	comp=Z,19nm,0.8s,baz=76,slow=3.6,SNR=6.4						
STKA					PKiKP	**PKiKP**	**23 28 01.8 -1.1**
	comp=Z,2.9nm,0.5s,baz=27,slow=1.6,SNR=5.1						
STKA					LR	LR	23 29 35.5
	comp=Z,2μm,18.1s,baz=86,slow=37						
STKA	**Stephens Creek**	**28.85**	**230**		P	**P**	**23 17 23.8 +1.8**

HTT	**Hallett**	**31.58**	**230**	P	**P**	**23**	**17**	**47.5**	**+1.5**
	baz=32,SNR=104								
WR0	**Warramunga Arr**	**31.66**	**256**	P	**P**	**23**	**17**	**46.0**	**-0.8**
WR0				IAmb	IAmb	23	18	14.8	
	comp=Z,399nm,1.8s								
RAR	**Rarotonga**	**31.76**	**106**	P	**P**	**23**	**17**	**47.9**	**+0.2**
	comp=Z,174nm,0.9s,baz=256,slow=7.0,SNR=16								
RAR	**Rarotonga**	**31.76**	**106**	P	**P**	**23**	**17**	**48.5**	**+0.8**
RAR				pmax	pmax				
	comp=Z,409nm,1.1s								
RAR	**Rarotonga**	**31.76**	**106**	P	**P**	**23**	**17**	**48.5**	**+0.8**
WB0	**Warramunga Arr**	**31.79**	**257**	P	**P**	**23**	**17**	**47.1**	**-0.9**
WB0				IAmb	IAmb	23	18	16.7	
	comp=Z,523nm,1.8s								
WC3	**Warramunga Arr**	**31.82**	**256**	P	**P**	**23**	**17**	**47.7**	**-0.6**
	baz=32								
WRAB	**Tennant Creek**	**31.84**	**256**	P	**P**	**23**	**17**	**47.1**	**-1.3**
WRAB				pmax	pmax				
	comp=Z,399nm,1.7s								
WRAB	**Tennant Creek**	**31.84**	**256**	P	**P**	**23**	**17**	**47.1**	**-1.3**
WRAB				IAmb	IAmb	23	18	17.1	
	comp=Z,398nm,1.7s								
WRA	**Warramunga Arr**	**31.85**	**256**	P	**P**	**23**	**17**	**48.0**	**-0.5**
	comp=Z,22nm,0.8s,baz=87,slow=8.6,SNR=37								
WRA				pP	**pP**	**23**	**18**	**15.5**	**-0.3**
	comp=Z,48nm,1.1s,baz=88,slow=8.7,SNR=6.8								
WRA				PcP	**PcP**	**23**	**20**	**37.0**	**+0.5**
	comp=Z,21nm,0.8s,baz=85,slow=3.8,SNR=7.8								
WRA				S	**S**	**23**	**22**	**47.0**	**-2.9**
	comp=Z,3.5nm,1.1s,baz=77,slow=16,SNR=5.6								
WRA				ScP	**ScP**	**23**	**24**	**10.8**	**+2.5**
	comp=Z,9.2nm,0.8s,baz=85,slow=3.5,SNR=7.4								
WRA				PKiKP	**PKiKP**	**23**	**28**	**04.0**	**-1.1**
	comp=Z,5.9nm,0.5s,baz=10,slow=0.5,SNR=48								
WRA				LR	LR	23	30	48.6	
	comp=Z,7μm,18.3s,baz=80,slow=36								
WRA				SKKS	**SKKSdf**	**23**	**49**	**54.5**	**+1.3**
	comp=Z,1.0nm,0.9s,baz=272,slow=2.8,SNR=5.0								
WRA	**Warramunga Arr**	**31.85**	**256**	P	**P**	**23**	**17**	**47.3**	**-1.2**
WRA				pmax	pmax				
	comp=Z,27nm,1.9s								
WRA	**Warramunga Arr**	**31.85**	**256**	P	**P**	**23**	**17**	**47.3**	**-1.2**
MOO	**Moorlands**	**32.34**	**209**	P	**P**	**23**	**17**	**54.0**	**+1.5**
	baz=32,SNR=36								
TAU	**Tasmania Unive**	**32.65**	**208**	P	**P**	**23**	**17**	**55.7**	**+0.5**
TAU				IAmb	IAmb	23	17	57.8	
	comp=Z,278nm,1.4s								
TAU				PcP	**PcP**	**23**	**20**	**39.2**	**+0.9**
AS31	**Alice Springs**	**32.65**	**250**	P	**P**	**23**	**17**	**55.0**	**-0.5**
ASAR	**Alice Springs**	**32.65**	**250**	P	**P**	**23**	**17**	**55.5**	**-0.1**
	comp=Z,92nm,0.8s,baz=80,slow=9.1,SNR=448								
ASAR				pP	**pP**	**23**	**18**	**22.9**	**-0.3**
	comp=Z,65nm,0.9s,baz=79,slow=9.1,SNR=5.2								
ASAR				PcP	**PcP**	**23**	**20**	**39.0**	**+0.2**
	comp=Z,15nm,0.5s,baz=83,slow=2.4,SNR=11								
ASAR				S	**S**	**23**	**22**	**59.8**	**-2.7**
	comp=Z,4.0nm,1.0s,baz=77,slow=18,SNR=4.4								
ASAR				ScP	**ScP**	**23**	**24**	**14.2**	**+3.3**
	comp=Z,6.7nm,0.8s,baz=86,slow=3.4,SNR=8.7								
ASAR				PKiKP	**PKiKP**	**23**	**28**	**04.3**	**-1.3**
	comp=Z,4.4nm,0.6s,baz=98,slow=1.5,SNR=22								
ASAR				LR	LR	23	30	50.0	
	comp=Z,4μm,19.6s,baz=84,slow=35								
ASAR				SKKS	**SKKSdf**	**23**	**49**	**52.1**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=260,slow=4.6,SNR=4.7								
ASAR	**Alice Springs**	**32.65**	**250**	P	**P**	**23**	**17**	**54.5**	**-1.1**
BBOO	**Buckleboo**	**33.45**	**233**	P	**P**	**23**	**18**	**03.7**	**+1.4**
	baz=34,SNR=172								
BBOO	**Buckleboo**	**33.45**	**233**	P	**P**	**23**	**18**	**03.2**	**+0.8**
KDU	**Kakadu**	**33.95**	**270**	P	**P**	**23**	**18**	**07.0**	**+0.1**
	baz=34,SNR=7.4								
MTN	**Manton Dam**	**35.22**	**269**	P	**P**	**23**	**18**	**18.0**	**+0.1**
MTN				IAmb	IAmb	23	18	49.2	
	comp=Z,115nm,1.4s								
GUMO	**Guam**	**36.16**	**321**	P	**P**	**23**	**18**	**25.5**	**-0.3**
	comp=Z,80nm,0.6s,baz=166,slow=10,SNR=8.1								
GUMO	**Guam**	**36.16**	**321**	P	**P**	**23**	**18**	**25.4**	**-0.3**
GUMO				pmax	pmax				
	comp=Z,602nm,1.9s								
GUMO	**Guam**	**36.16**	**321**	P	**P**	**23**	**18**	**25.4**	**-0.3**
FAKI	**Fak Fak**	**36.67**	**286**	P	**P**	**23**	**18**	**30.3**	**+0.1**
	comp=Z,9μmcomp=Z,2μmcomp=Z,118nm,1.3s								
FAKI	**Fak Fak**	**36.67**	**286**	P	**P**	**23**	**18**	**30.3**	**+0.1**
FAKI				IAmb	IAmb	23	19	14.0	
	comp=Z,204nm,1.1s								
KNRA	**Kununurra**	**37.21**	**264**	P	**P**	**23**	**18**	**34.6**	**0.0**
	baz=37,SNR=25								
KNRA	**Kununurra**	**37.21**	**264**	P	**P**	**23**	**18**	**34.1**	**-0.5**
WRKA	**Warakurna**	**37.91**	**249**	P	**P**	**23**	**18**	**40.7**	**+0.1**
	baz=38,SNR=65								
SIJI	**Sorong**	**38.35**	**288**	P	**P**	**23**	**18**	**44.8**	**+0.4**
	comp=Z,58nm,0.7s,baz=79,slow=7.3,SNR=35								
SIJI				pP	**pP**	**23**	**19**	**13.0**	**+0.3**
	comp=Z,100nm,1.0s,baz=81,slow=7.0,SNR=5.2								
SIJI				LR	LR	23	36	20.5	
	comp=Z,3μm,18.0s,baz=108,slow=39								
XMAS	**Kiritimati**	**38.74**	**67**	P	**P**	**23**	**18**	**48.5**	**+0.9**
XMAS				IAmb	IAmb	23	19	43.3	
	comp=Z,176nm,1.2s								
JOHN	**Johnston Islan**	**38.97**	**37**	P	**P**	**23**	**18**	**50.2**	**+0.9**
FORT	**Forrest**	**39.21**	**240**	P	**P**	**23**	**18**	**52.2**	**+0.9**
	baz=39,SNR=172								
MCQ	**Macquarie Isla**	**39.88**	**188**	P	**P**	**23**	**18**	**57.3**	**+0.8**
MCQ				pmax	pmax				
	comp=Z,547nm,1.5s								
MCQ	**Macquarie Isla**	**39.88**	**188**	P	**P**	**23**	**18**	**57.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**40.06**	**260**	P	**P**	**23**	**18**	**58.9**	**+0.4**
	comp=Z,48nm,0.8s,baz=92,slow=8.8								
FITZ	**Fitzroy Crossi**	**40.06**	**260**	P	**P**	**23**	**18**	**58.7**	**+0.3**
	baz=40,SNR=48								
FITZ	**Fitzroy Crossi**	**40.06**	**260**	P	**P**	**23**	**18**	**58.3**	**-0.2**
FITZ				IAmb	IAmb	23	19	28.5	
	comp=Z,532nm,1.9s								
PAE	**Paea**	**41.31**	**100**	*e*P	**P**	**23**	**19**	**08.9**	**+0.1**
	comp=Z,152nm,1.1s								
PPT2	**Papeete2**	**41.32**	**100**	*e*P	**P**	**23**	**19**	**09.3**	**+0.4**
	comp=Z,963nm,1.3s								
PPT2				*e*S	**S**	**23**	**25**	**14.0**	**-0.1**
	comp=Z,2μm,24.5s								
PPT2				*e*LQ	LQ	23	29	04.0	
	comp=Z,4μm,24.5s								
PPT2				*e*LR	LR	23	30	50.8	
	comp=Z,11μm,31.2s								
PPT	**Papeete**	**41.32**	**100**	P	**P**	**23**	**19**	**09.6**	**+0.8**
	comp=Z,597nm,0.8s,baz=41,slow=1.0,SNR=28								
PPTF	**Pamatai, Papee**	**41.33**	**100**	P	**P**	**23**	**19**	**09.8**	**+0.8**
NLAI	**Namlea**	**41.38**	**282**	P	**P**	**23**	**19**	**10.8**	**+1.4**
	comp=Z,5μmcomp=Z,311nm,1.7s								
TBI	**Tubuai**	**41.45**	**108**	*e*P	**P**	**23**	**19**	**09.9**	**0.0**
	comp=Z,196nm,0.9s								
TBI				*e*S	**S**	**23**	**25**	**15.5**	**-0.2**
	comp=Z,2μm,25.2s								
TBI				*e*LQ	LQ	23	29	04.8	
	comp=Z,4μm,36.2s								
TBI				*e*LR	LR	23	30	51.8	
	comp=Z,9μm,33.2s								
TIAR	**Tiarei**	**41.54**	**100**	*e*P	**P**	**23**	**19**	**11.2**	**+0.5**
	comp=Z,189nm,0.9s								
TVO	**Taravao**	**41.62**	**100**	*e*P	**P**	**23**	**19**	**11.7**	**+0.3**
	comp=Z,435nm,1.2s								
LBMI	**Labuha**	**41.92**	**286**	P	**P**	**23**	**19**	**15.1**	**+1.3**
	comp=Z,6μmcomp=Z,212nm,1.8s								
SOEI	**Soe**	**42.38**	**272**	P	**P**	**23**	**19**	**19.1**	**+1.4**
	comp=Z,4μmcomp=Z,173nm,1.2s								
SOEI	**Soe**	**42.38**	**272**	P	**P**	**23**	**19**	**18.8**	**+1.1**
SOEI				IAmb	IAmb	23	20	18.1	
	comp=Z,302nm,1.3s								
TNTI	**Ternate**	**42.58**	**288**	P	**P**	**23**	**19**	**19.8**	**+0.7**
	comp=Z,3μmcomp=Z,3μmcomp=Z,37nm,1.1s								
TNTI	**Ternate**	**42.58**	**288**	P	**P**	**23**	**19**	**19.3**	**+0.2**
TNTI				IAmb	IAmb	23	20	15.8	
	comp=Z,232nm,1.4s								
MEH	**Mehetia**	**42.74**	**100**	*e*P	**P**	**23**	**19**	**20.6**	**+0.2**
	comp=Z,585nm,1.3s								
SANI	**Sanana**	**42.83**	**284**	P	**P**	**23**	**19**	**20.8**	**-0.3**
	comp=Z,5μmcomp=Z,5μmcomp=Z,166nm,1.0s								
BATI	**Baumata**	**42.88**	**271**	LR	LR	23	35	52.9	
	comp=Z,2μm,22.0s,baz=130,slow=34								
BATI	**Baumata**	**42.88**	**271**	P	**P**	**23**	**19**	**21.4**	**-0.2**
	comp=Z,3μmcomp=Z,158nm,1.5s								
PMOR	**Pomariorio Ree**	**43.13**	**96**	*e*P	**P**	**23**	**19**	**23.9**	**+0.3**
	comp=Z,2μm,1.3s								
VAH	**Vaihoa**	**43.37**	**96**	*e*P	**P**	**23**	**19**	**26.0**	**+0.6**
	comp=Z,1μm,1.4s								
KMBL	**Kambalda**	**44.51**	**240**	P	**P**	**23**	**19**	**35.0**	**+0.5**
	baz=45,SNR=31								
MMRI	**Maumere**	**44.58**	**273**	P	**P**	**23**	**19**	**35.0**	**-0.2**
	comp=Z,5μmcomp=Z,242nm,1.6s								
MMRI	**Maumere**	**44.58**	**273**	P	**P**	**23**	**19**	**34.9**	**-0.3**
MMRI				IAmb	IAmb	23	19	36.1	
	comp=Z,147nm,0.8s								
EDFI	**Ende, Flores**	**45.08**	**273**	P	**P**	**23**	**19**	**39.0**	**-0.3**
	comp=Z,2μmcomp=Z,82nm,0.8s								
PSA00	**Pilbara Seismi**	**45.45**	**254**	P	**P**	**23**	**19**	**42.1**	**+0.2**
KMSI	**Cibinong**	**45.63**	**286**	P	**P**	**23**	**19**	**43.1**	**-0.4**
	comp=Z,218nm,0.8s								
BASI	**Baing, Sumba**	**45.86**	**270**	P	**P**	**23**	**19**	**46.0**	**+0.7**
	comp=Z,3μmcomp=Z,156nm,1.1s								
LUWI	**Luwuk**	**46.19**	**283**	P	**P**	**23**	**19**	**48.6**	**+0.7**
	comp=Z,5μmcomp=Z,5μmcomp=Z,162nm,1.8s								
LUWI	**Luwuk**	**46.19**	**283**	P	**P**	**23**	**19**	**48.4**	**+0.5**
WSI	**Waingapu**	**46.23**	**271**	P	**P**	**23**	**19**	**48.6**	**+0.4**
	comp=Z,52μmcomp=Z,324nm,0.6s								
MEEK	**Meekatharra**	**46.75**	**248**	P	**P**	**23**	**19**	**52.7**	**+0.5**
	baz=47,SNR=56								
DAV	**Davao City (W)**	**46.91**	**295**	*e*P	**P**	**23**	**19**	**55.5**	**+2.1**
WBSI	**Waikabubak, Su**	**47.12**	**271**	P	**P**	**23**	**19**	**55.4**	**+0.3**
	comp=Z,189nm,1.8s								
BKSI	**Bulukumba**	**47.42**	**277**	P	**P**	**23**	**19**	**57.4**	**0.0**
	comp=Z,4μmcomp=Z,2μmcomp=Z,142nm,0.7s								
BNSI	**Bone**	**47.68**	**278**	P	**P**	**23**	**20**	**00.5**	**+1.0**
	comp=Z,4μmcomp=Z,194nm,1.8s								
KAPI	**Kappang**	**47.85**	**277**	P	**P**	**23**	**20**	**02.1**	**+1.3**
	comp=Z,86nm,0.8s,baz=111,slow=6.1,SNR=39								
KAPI				pP	**pP**	**23**	**20**	**31.4**	**+0.9**
	comp=Z,236nm,1.1s,baz=122,slow=7.4,SNR=6.6								
KAPI	**Kappang**	**47.85**	**277**	P	**P**	**23**	**20**	**01.5**	**+0.7**
KAPI				pmax	pmax				
	comp=Z,726nm,1.5s								
KAPI	**Kappang**	**47.85**	**277**	P	**P**	**23**	**20**	**01.5**	**+0.7**
KLBR	**Kellerberrin**	**48.03**	**241**	P	**P**	**23**	**20**	**02.0**	**0.0**
	baz=48,SNR=43								
SPSI	**Sidrap Palu**	**48.13**	**278**	P	**P**	**23**	**20**	**02.9**	**0.0**
	comp=Z,2μmcomp=Z,85nm,1.3s								
JCJ	**Chichijima**	**48.54**	**330**	P	**P**	**23**	**20**	**05.5**	**-0.3**
	comp=Z,199nm,0.6s,baz=319,slow=19,SNR=41								
JCJ	**Chichijima**	**48.54**	**330**	P	**P**	**23**	**20**	**04.8**	**-0.9**
NWAO	**Narrogin (SRO)**	**48.66**	**239**	P	**P**	**23**	**20**	**07.0**	**+0.2**
	baz=49,SNR=37								
NWAO	**Narrogin (SRO)**	**48.66**	**239**	P	**P**	**23**	**20**	**06.8**	**0.0**
NWAO				pmax	pmax				
	comp=Z,214nm,1.2s								
NWAO	**Narrogin (SRO)**	**48.66**	**239**	P	**P**	**23**	**20**	**06.8**	**0.0**
NWAO				IAmb	IAmb	23	20	38.1	
	comp=Z,214nm,1.1s								
BLDU	**Ballidu**	**48.79**	**242**	P	**P**	**23**	**20**	**07.7**	**-0.1**
	baz=49,SNR=11								
PLAI	**Plampang**	**48.84**	**271**	P	**P**	**23**	**20**	**08.6**	**+0.2**
	comp=Z,4μmcomp=Z,4μmcomp=Z,184nm,1.0s								
MORW	**Morawa**	**49.22**	**245**	P	**P**	**23**	**20**	**11.4**	**+0.3**
	baz=49,SNR=43								
MORW	**Morawa**	**49.22**	**245**	P	**P**	**23**	**20**	**11.2**	**+0.1**
MPSI	**Mapaga**	**49.36**	**284**	P	**P**	**23**	**20**	**12.8**	**+0.5**
	comp=Z,4μmcomp=Z,3μmcomp=Z,219nm,1.7s								
MUN	**Mundaring**	**49.39**	**241**	P	**P**	**23**	**20**	**12.7**	**+0.4**
	baz=32,SNR=13								
TWSI	**Taliwang, Sumb**	**49.73**	**271**	P	**P**	**23**	**20**	**15.8**	**+0.7**
	comp=Z,3μmcomp=Z,280nm,1.4s								
GIRL	**Giralia**	**50.64**	**253**	P	**P**	**23**	**20**	**22.8**	**+0.9**
	baz=51,SNR=4.8								
GIRL	**Giralia**	**50.64**	**253**	P	**P**	**23**	**20**	**23.1**	**+1.2**
SRBI	**Singaraja**	**51.48**	**272**	P	**P**	**23**	**20**	**28.4**	**+0.1**
	comp=Z,10μmcomp=Z,161nm,2.2s								
TAOE	**Nuku Hiva Isla**	**51.61**	**89**	*e*P	**P**	**23**	**20**	**29.9**	**+0.6**
	comp=Z,606nm,1.0s								
TAOE	**Nuku Hiva Isla**	**51.61**	**89**	P	**P**	**23**	**20**	**30.0**	**+0.6**
SMKI	**Samarinda**	**51.63**	**282**	P	**P**	**23**	**20**	**30.8**	**+1.4**
KBKI	**Kotabaru**	**51.76**	**278**	P	**P**	**23**	**20**	**30.8**	**+0.4**
	comp=Z,1μmcomp=Z,83nm,0.8s								
JAGI	**Jajag, Banyuwa**	**52.42**	**271**	P	**P**	**23**	**20**	**33.7**	**-1.6**
	comp=Z,105nm,1.2s								
JAGI	**Jajag, Banyuwa**	**52.42**	**271**	P	**P**	**23**	**20**	**34.2**	**-1.1**
MYLDM	**Lahad Datu**	**52.44**	**289**	P	**P**	**23**	**20**	**37.5**	**+2.1**
BBKI	**Banjar Baru**	**52.99**	**277**	P	**P**	**23**	**20**	**40.6**	**+1.2**
	comp=Z,4μmcomp=Z,108nm,1.3s								
MTKI	**Muara Teweh, K**	**53.67**	**280**	P	**P**	**23**	**20**	**44.6**	**+0.2**
TGY	**Tagaytay City**	**54.32**	**300**	P	**P**	**23**	**20**	**50.5**	**+1.4**
	comp=Z,139nm,0.3s,baz=258,slow=2.2,SNR=8.3								
RKT	**Rikitea**	**54.77**	**108**	*e*S	**S**	**23**	**28**	**23.0**	**-0.4**
	comp=Z,3μm,27.0s								
RKT				*e*LQ	LQ	23	34	41.8	
	comp=Z,2μm,27.5s								
RKT				*e*LR	LR	23	37	00.8	
	comp=Z,7μm,29.5s								
KKM	**Kota Kinabalu**	**54.87**	**289**	P	**P**	**23**	**20**	**53.9**	**+0.6**
NGJI	**Ngawi**	**55.26**	**271**	P	**P**	**23**	**20**	**57.4**	**+1.5**
	comp=Z,92nm,1.1s								
WOJI	**Wonogiri, Jawa**	**55.68**	**271**	P	**P**	**23**	**20**	**59.6**	**+0.7**
	comp=Z,126nm,1.6s								
UGM	**Wanagama**	**56.05**	**271**	P	**P**	**23**	**21**	**01.5**	**-0.1**
SMRI	**Semarang**	**56.32**	**272**	P	**P**	**23**	**21**	**03.6**	**+0.1**
	comp=Z,7μmcomp=Z,188nm,1.8s								
SMRI	**Semarang**	**56.32**	**272**	P	**P**	**23**	**21**	**03.9**	**+0.4**
SBUM	**Sibu**	**57.29**	**283**	P	**P**	**23**	**21**	**10.8**	**+0.4**
SBUM	**Sibu**	**57.29**	**283**	P	**P**	**23**	**21**	**12.0**	**+1.7**
MJAR	**Matsushiro Arr**	**58.26**	**333**	P	**P**	**23**	**21**	**16.2**	**-0.5**
	comp=Z,42nm,0.9s,baz=168,slow=7.7,SNR=57								
MJAR				pP	**pP**	**23**	**21**	**47.5**	**+0.5**
	comp=Z,20nm,0.9s,baz=169,slow=1.5,SNR=4.1								
MJAR				LR	LR	23	43	45.9	
	comp=Z,418nm,21.8s,baz=160,slow=33								
MAJO	**Matsushiro**	**58.26**	**333**	*c*	*i*P	**P**	**23**	**21**	**16.6**	**-0.1**
MAJO					pmax	pmax				
	comp=Z,130nm,1.4s								
MAJO	**Matsushiro**	**58.26**	**333**	P	**P**	**23**	**21**	**16.5**	**-0.1**
MAJO				IAmb	IAmb	23	21	18.1	
	comp=Z,151nm,1.4s								
MAT	**Matsushiro**	**58.26**	**333**	P	**P**	**23**	**21**	**16.2**	**-0.5**
MAT				S	**S**	**23**	**29**	**07.8**	**-1.0**
YOJ	**Yonaguni jima**	**58.48**	**312**	P	**P**	**23**	**21**	**18.6**	**+0.2**
YOJ				pmax	pmax				
	comp=Z,108nm,0.7s								
YOJ	**Yonaguni jima**	**58.48**	**312**	P	**P**	**23**	**21**	**18.6**	**+0.2**
YOJ				IAmb	IAmb	23	21	19.6	
	comp=Z,108nm,0.7s								
CISI	**Cisompet, Garu**	**58.74**	**270**	P	**P**	**23**	**21**	**19.3**	**-1.2**
	comp=Z,5μmcomp=Z,231nm,1.8s								
CISI	**Cisompet, Garu**	**58.74**	**270**	P	**P**	**23**	**21**	**20.1**	**-0.5**
KSM	**Kuching**	**58.78**	**281**	P	**P**	**23**	**21**	**21.5**	**+0.8**
KSM	**Kuching**	**58.78**	**281**	P	**P**	**23**	**21**	**22.0**	**+1.3**
YULB	**Yu-li**	**59.10**	**310**	P	**P**	**23**	**21**	**21.9**	**-0.8**
YULB				IAmb	IAmb	23	22	20.6	
	comp=Z,116nm,1.5s								
JNU	**Nakatsue**	**59.27**	**324**	P	**P**	**23**	**21**	**23.9**	**+0.2**
	comp=Z,86nm,0.7s,baz=111,slow=2.2,SNR=62								
JNU				pP	**pP**	**23**	**21**	**55.1**	**+1.0**
	comp=Z,51nm,0.8s,baz=158,slow=7.8,SNR=3.9								
JNU	**Nakatsue**	**59.27**	**324**	P	**P**	**23**	**21**	**24.0**	**+0.2**
JNU				IAmb	IAmb	23	21	25.6	
	comp=Z,104nm,0.7s								
NACB	**Ninganchiao**	**59.34**	**310**	P	**P**	**23**	**21**	**24.3**	**-0.1**
TPUB	**Ta-pu**	**59.54**	**309**	P	**P**	**23**	**21**	**25.4**	**-0.4**
YHNB	**Yeheng**	**59.79**	**311**	P	**P**	**23**	**21**	**28.0**	**+0.5**
TATO	**Taipei**	**59.89**	**311**	P	**P**	**23**	**21**	**27.9**	**-0.2**
TATO				IAmb	IAmb	23	21	28.9	
	comp=Z,78nm,0.7s								
CBJI	**Citeko**	**59.93**	**271**	P	**P**	**23**	**21**	**28.2**	**-0.5**
	comp=Z,9μmcomp=Z,171nm,2.1s								
DBJI	**Dramaga**	**60.00**	**271**	P	**P**	**23**	**21**	**29.6**	**+0.5**
	comp=Z,24μmcomp=Z,156nm,1.6s								
TPI	**Tanjungpandan**	**60.08**	**276**	P	**P**	**23**	**21**	**29.9**	**+0.2**
	comp=Z,2μmcomp=Z,102nm,1.9s								
XMIS	**Christmas Isla**	**60.22**	**266**	P	**P**	**23**	**21**	**31.0**	**+0.4**
ERM	**Erimo**	**61.05**	**340**	*c*	*i*P	**P**	**23**	**21**	**36.5**	**+0.9**
ERM					pmax	pmax				
	comp=Z,47nm,0.7s								
ERM	**Erimo**	**61.05**	**340**	P	**P**	**23**	**21**	**36.4**	**+0.8**
ERM				IAmb	IAmb	23	21	40.9	
	comp=Z,46nm,0.7s								
PPBI	**Pangkal Pinang**	**61.70**	**276**	P	**P**	**23**	**21**	**41.2**	**+0.6**
	comp=Z,4μmcomp=Z,67nm,1.6s								
QZH	**Quanzhou**	**62.01**	**309**	*i*	*i*P	**P**	**23**	**21**	**43.3**	**+0.9**
QZH					pP	**pP**	**23**	**22**	**13.0**	**+0.1**
QZH					sP	**sP**	**23**	**22**	**30.0**	**+3.2**
QZH					S	**S**	**23**	**29**	**54.5**	**-2.6**
QZH					pmax	pmax				
	comp=Z,65nm,0.7s								
QZH					pmax	pmax				
	comp=Z,640nm,5.8s								
QZH					LR	LR				
	comp=Z,440nm,14.3s								
QZH					LR	LR				
	comp=Z,440nm,19.6s								
QZH					LR	LR				
	comp=Z,710nm,17.6s								
YUK	**Yuzh-Kuril'sk**	**62.02**	**343**	*c*	*i*P	**P**	**23**	**21**	**42.5**	**+0.4**
YUK					*i*		23	23	58.4	
YUK					*i* PPP	PPP	23	25	28.0	
YUK					*e*S	**S**	**23**	**29**	**55.7**	**-0.8**
YUK					*i* SS	**SS**	**23**	**34**	**04.0**	**+2.2**
YUK					pmax	pmax				
	comp=Z,463nm,2.0s									
YUK					pmax	pmax				
	comp=Z,218nm,1.4s									
YUK					pmax	pmax				
	comp=N,165nm,0.8s									
YUK					pmax	pmax				
	comp=E,164nm,0.6s									
KLSI		**62.40**	**273**	P	**P**	**23**	**21**	**44.0**	**-1.3**
	comp=E,19nm,2.1s									
KASI	**Kota Agung**	**62.42**	**272**	P	**P**	**23**	**21**	**43.9**	**-1.5**
	comp=E,203nm,1.4s									
VNDA	**Vanda**	**62.52**	**181**	P	**P**	**23**	**21**	**45.7**	**+0.7**
	comp=E,58nm,0.7s,baz=356,slow=7.1,SNR=89									
VNDA				LR	LR	23	47	17.5		
	comp=E,537nm,18.1s,baz=31,slow=34									
VNDA				PKPPKP		23	50	49.0		
	comp=E,1.1nm,0.9s,baz=320,slow=6.5,SNR=3.4									
VNDA	**Vanda**	**62.52**	**181**	P	**P**	**23**	**21**	**45.5**	**+0.5**
VNDA				pmax	pmax					
	comp=Z,135nm,1.0s									
VNDA	**Vanda**	**62.52**	**181**	P	**P**	**23**	**21**	**45.5**	**+0.5**
VNDA				IAmb	IAmb	23	21	47.5		
	comp=Z,134nm,0.9s									
KUR	**Kuril'sk**	**62.58**	**345**	*c*	*i*P	**P**	**23**	**21**	**46.6**	**+0.8**
KUR					*i* S	**S**	**23**	**30**	**05.4**	**+1.9**
KUR					pmax	pmax				
	comp=Z,1μm,4.0s									
KUR					pmax	pmax				
	comp=Z,240nm,1.5s									
KUR					MLR	MLR				
	comp=Z,824nm,18.0s									
KUR					MLR	MLR				
	comp=N,895nm,16.0s									
PMBI	**Palembang**	**62.81**	**274**	P	**P**	**23**	**21**	**48.7**	**+0.7**
LWLI	**Liwa**	**62.97**	**272**	P	**P**	**23**	**21**	**48.9**	**-0.3**
	comp=N,10μmcomp=N,127nm,0.7s									
JKA	**Kamikawa-asahi**	**63.10**	**340**	P	**P**	**23**	**21**	**50.0**	**+0.7**
JKA				IAmb	IAmb	23	21	52.2		
	comp=Z,146nm,0.9s									
ASAJ	**Asahikawa**	**63.10**	**340**	P	**P**	**23**	**21**	**50.0**	**+0.7**
	comp=Z,94nm,0.7s,baz=214,slow=8.6,SNR=67									
ASAJ	**Asahikawa**	**63.10**	**340**	P	**P**	**23**	**21**	**50.0**	**+0.7**
ASAJ				pmax	pmax					
	comp=Z,146nm,0.9s									
CASY	**Casey**	**63.25**	**202**	P	**P**	**23**	**21**	**50.7**	**+0.7**
CASY				IAmb	IAmb	23	21

KGE	**Kanggye**	67.33	328	P		**P**		**23 22 17.3**	**+0.7**
PDSI	**Padang**	67.50	275	P		**P**		**23 22 16.9**	**-1.4**
	comp=Z,3µmcomp=Z,36nm,0.5s								
SUJ	**Sinuiju**	67.85	326	P		**P**		**23 22 20.1**	**+0.2**
SUJ				pP		**PcP**		**23 22 45.1**	**-0.5**
SUJ				S		**S**		**23 31 08.1**	**+0.1**
SUJ				sS		**SKSac**		**23 32 05.3**	**-0.7**
ADK	**Adak**	68.11	11	P		**P**		**23 22 22.5**	**+1.3**
ADK				pmax	pmax				
	comp=Z,58nm,1.0s								
ADK	**Adak**	68.11	11	P		**P**		**23 22 22.5**	**+1.3**
ADK				IAmb	IAmb			23 23 10.8	
	comp=Z,58nm,1.0s								
UBPT	**Khong Chiam**	68.21	294	P		**P**		**23 22 23.5**	**+0.8**
UBPT				IAmb	IAmb			23 22 24.8	
	comp=Z,72nm,0.9s								
PET	**Petropavlovsk**	68.24	354	*c* *i*P		**P**		**23 22 21.8**	**-0.2**
PET				*e**PP		**pP**		**23 22 51.3**	**-1.5**
PET				*e*S		**S**		**23 31 14.0**	**+1.9**
PET				*e*				23 32 09.6	
PET				pmax	pmax				
	comp=Z,101nm,1.6s								
PET				pmax	pmax				
	comp=Z,700nm,15.4s								
WHN	**Wuhan**	68.25	312	⇑P		**P**		**23 22 23.0**	**+0.3**
WHN				pP		**pP**		**23 22 53.0**	**-0.9**
WHN				S		**S**		**23 31 09.3**	**-3.9**
WHN				LR	LR				
	comp=Z,4µm,28.3s								
PEA0B	**Petropavlovsk-**	68.42	354	P		**P**		**23 22 23.8**	**+0.6**
PEA0B				pmax	pmax				
	comp=Z,350nm,1.6s								
PEA0B	**Petropavlovsk-**	68.42	354	P		**P**		**23 22 23.8**	**+0.6**
PEA0B				IAmb	IAmb			23 22 57.0	
	comp=Z,350nm,1.6s								
PETK	**Petropavlovsk-**	68.42	354	P		**P**		**23 22 24.2**	**+1.0**
	comp=Z,31nm,0.8s,baz=149,slow=8.3,SNR=34								
PETK				pP		**pP**		**23 22 54.8**	**+0.8**
	comp=Z,23nm,0.9s,baz=146,slow=8.2,SNR=4.5								
PETK				PKiKP		**PKiKP**		**23 28 46.1**	**+3.5**
	comp=Z,3.0nm,0.9s,baz=87,slow=4.9,SNR=4.7								
PETK				LR	LR			23 47 50.0	
	comp=Z,590nm,20.7s,baz=161,slow=32								
GSTR	**Great Sitkin T**	68.42	11	P		**P**		**23 22 22.9**	**-0.4**
IPM	**Ipoh**	68.52	281	P		**P**		**23 22 24.8**	**+0.1**
IPM	**Ipoh**	68.52	281	P		**P**		**23 22 26.0**	**+1.3**
MDJ	**Mudanjiang**	68.64	332	P		**P**		**23 22 25.8**	**+1.1**
MDJ				S		**S**		**23 31 19.5**	**+2.3**
MDJ				SS		**SS**		**23 35 39.0**	**-5.6**
MDJ				pmax	pmax				
	comp=Z,110nm,1.6s								
MDJ				pmax	pmax				
	comp=Z,2µm,7.3s								
MDJ	**Mudanjiang**	68.64	332	P		**P**		**23 22 25.2**	**+0.5**
MDJ				IAmb	IAmb			23 22 28.7	
	comp=Z,83nm,0.8s								
DL2	**Dalian**	68.64	323	P		**P**		**23 22 25.5**	**+0.6**
DL2				pP		**pP**		**23 22 56.0**	**0.0**
DL2				sP		**sP**		**23 23 10.0**	**+0.2**
DL2				S		**S**		**23 31 18.5**	**+1.0**
DL2				sS		**SKSac**		**23 32 11.0**	**-1.1**
DL2				pmax	pmax				
	comp=Z,93nm,0.7s								
DL2				pmax	pmax				
	comp=Z,760nm,6.4s								
MNSI	**Mandailing Nat**	68.81	277	P		**P**		**23 22 26.0**	**-0.5**
	comp=Z,3µmcomp=Z,198nm,1.0s								
KULM	**Kulim**	69.12	282	P		**P**		**23 22 28.8**	**+0.4**
KULM				IAmb	IAmb			23 22 29.9	
	comp=Z,103nm,1.1s								
KULM	**Kulim**	69.12	282	P		**P**		**23 22 29.0**	**+0.6**
TYV	**Tymovskoe**	69.14	344	*e*P		**P**		**23 22 28.7**	**+1.0**
TYV				*e*S		**S**		**23 31 23.7**	**+0.8**
TYV				pmax	pmax				
	comp=Z,55nm,1.6s								
TYV				pmax	pmax				
	comp=Z,1µm,4.0s								
TYV				smax	smax				
	comp=E,800nm,8.0s								
SNY	**Shenyang**	69.55	326	⇑P		**P**		**23 22 30.5**	**+0.1**
SNY				S		**S**		**23 31 23.3**	**-4.8**
SNY				pmax	pmax				
	comp=E,37nm,2.1s								
SNY				pmax	pmax				
	comp=E,820nm,11.2s								
SNY				LR	LR				
	comp=E,440nm,20.2s								
SNY				LR	LR				
	comp=E,360nm,17.3s								
SNY				LR	LR				
	comp=E,660nm,17.1s								
TIA	**Tai'an**	69.67	318	P		**P**		**23 22 31.5**	**+0.2**
TIA				pP		**pP**		**23 23 01.3**	**-1.2**
TIA				sP		**sP**		**23 23 20.5**	**+4.3**
TIA				S		**S**		**23 31 28.0**	**-1.7**
TIA				pmax	pmax				
	comp=E,46nm,0.8s								
TIA				LR	LR				
	comp=E,380nm,15.0s								
TIA				LR	LR				
	comp=E,510nm,17.1s								
TIA				LR	LR				
	comp=E,790nm,17.1s								
RPSI	**Rantau Prapat**	69.98	279	P		**P**		**23 22 33.5**	**-0.2**
RPSI				IAmb	IAmb			23 22 34.4	
	comp=Z,100nm,1.0s								
CN2	**Changchun**	70.00	329	⇑*i*P		**P**		**23 22 33.8**	**+0.7**
CN2				PcP		**PcP**		**23 22 54.8**	**+0.2**
CN2				*e*S		**S**		**23 31 30.5**	**-2.7**
CN2				pmax	pmax				
	comp=Z,120nm,0.7s								
CN2				pmax	pmax				
	comp=Z,1µm,3.0s								
PSI	**Prapat**	70.02	279	P		**P**		**23 22 33.6**	**-0.4**
	comp=Z,48nm,0.8s,baz=180,slow=3.2,SNR=31								
PSI	**Prapat**	70.02	279	P		**P**		**23 22 33.5**	**-0.6**
PSI				pmax	pmax				
	comp=Z,101nm,1.0s								
TSI	**Tuntungan**	70.56	279	P		**P**		**23 22 37.4**	**+0.2**
	comp=Z,6µmcomp=Z,290nm,1.0s								
GSI	**Gunungsitoli**	70.88	277	P		**P**		**23 22 39.1**	**-0.1**
	comp=Z,4µmcomp=Z,221nm,1.7s								
GSI	**Gunungsitoli**	70.88	277	P		**P**		**23 22 39.3**	**+0.1**
GSI				IAmb	IAmb			23 22 40.6	
	comp=Z,166nm,1.0s								
GRNR	**Gornyy**	70.95	340	⇑*i*P		**P**		**23 22 40.4**	**+1.6**
GRNR				*e*				23 23 00.2	
GRNR				*e*S		**S**		**23 31 47.8**	**+3.7**
GRNR				*e*SS		**SS**		**23 36 14.4**	**-5.6**
GRNR				pmax	pmax				
	comp=E,30nm,0.8s								
GRNR				pmax	pmax				
	comp=E,110nm,0.8s								
GRNR				pmax	pmax				
	comp=N,30nm,0.9s								
GRNR				smax	smax				
	comp=E,10.0nm,0.7s								
KLR	**Kul'dur**	71.37	336	*c* *i*P		**P**		**23 22 42.2**	**+0.9**
KLR				*i* *PP		**pP**		**23 23 11.5**	**-1.2**
ENH	**Enshi**	71.67	309	P		**P**		**23 22 43.6**	**0.0**
ENH				IAmb	IAmb			23 22 45.6	
	comp=Z,121nm,0.8s								
NKL	**Nikolayevsk**	71.73	343	*e*P		**P**		**23 22 42.1**	**-1.3**
NKL				*e*				23 23 13.1	
NKL				pmax	pmax				
	comp=N,12nm,1.1s								
NKL				pmax	pmax				
	comp=Z,77nm,1.1s								
NKL				pmax	pmax				
	comp=Z,65nm,2.9s								
TPTI		71.81	279	P		**P**		**23 22 43.9**	**-0.9**
	comp=Z,789nmcomp=Z,33nm,1.8s								
GYA	**Guiyang**	72.00	305	⇑P		**P**		**23 22 46.5**	**+0.7**
GYA				pP		pP		23 23 20.3	+3.0
GYA				S		**S**		**23 31 56.3**	**-1.0**
GYA				pmax	pmax				
	comp=Z,100nm,0.6s								
GYA				pmax	pmax				
	comp=Z,780nm,3.5s								
GYA				LR	LR				
	comp=Z,370nm,12.0s								
GYA				LR	LR				
	comp=Z,540nm,19.1s								
GYA				LR	LR				
	comp=Z,610nm,21.8s								
SLVN	**Son La**	72.02	299	P		**P**		**23 22 47.0**	**+1.0**
SLVN				IAmb	IAmb			23 23 41.1	
	comp=Z,119nm,1.5s								
BJT	**Baijiatuau**	72.59	321	P		**P**		**23 22 49.5**	**+0.7**
BJT				pmax	pmax				
	comp=Z,47nm,0.9s								
BJT	**Baijiatuau**	72.59	321	P		**P**		**23 22 49.5**	**+0.7**
BJI	**Beijing**	72.60	321	P		**P**		**23 22 49.8**	**+0.9**
BJI				PcP		**PcP**		**23 23 08.0**	**+2.3**
BJI				S		**S**		**23 32 05.0**	**+1.6**
BJI				pmax	pmax				
	comp=Z,53nm,0.8s								
BJI				pmax	pmax				
	comp=Z,1µm,3.5s								
BJI				LR	LR				
	comp=Z,860nm,15.2s								
BJI				LR	LR				
	comp=Z,940nm,17.2s								
BJI				LR	LR				
	comp=Z,1µm,18.8s								
LHMI	**Lhok Sumawe**	72.61	280	P		**P**		**23 22 49.5**	**0.0**
LHMI				IAmb	IAmb			23 23 57.5	
	comp=Z,205nm,1.3s								
AKUT	**Akutan**	72.65	16	P		**P**		**23 22 48.5**	**-0.3**
AKUT				IAmb	IAmb			23 24 01.1	
	comp=Z,501nm,1.8s								
PBKT	**Sadao Pong**	72.69	293	P		**P**		**23 22 50.8**	**+0.9**
PBKT				IAmb	IAmb			23 22 52.3	
	comp=Z,58nm,0.8s								
MLSI	**Meulaboh, Aceh**	72.85	279	P		**P**		**23 22 50.7**	**-0.2**
	comp=Z,5µmcomp=Z,399nm,1.4s								
TIY	**Taiyuan**	73.59	317	*e*P		**P**		**23 22 56.0**	**+1.1**
TIY				pP		**pP**		**23 23 26.5**	**+0.1**
TIY				S		**S**		**23 32 14.0**	**-0.8**
TIY				SKS		**SKSac**		**23 32 46.0**	**-3.7**
TIY				pmax	pmax				
	comp=Z,59nm,0.9s								
TIY				pmax	pmax				
	comp=Z,740nm,6.5s								
XAN	**Xi'an**	74.00	313	P		**P**		**23 22 58.0**	**+0.7**
XAN				pP		pP		23 23 28.0	-1.0
XAN				sP		sP		23 23 42.8	+0.2
XAN				S		**S**		**23 32 19.0**	**-0.6**
XAN				pmax	pmax				
	comp=Z,150nm,0.9s								
XAN				pmax	pmax				
	comp=Z,1µm,3.0s								
XAN				LR	LR				
	comp=Z,770nm,27.8s								
XAN				LR	LR				
	comp=Z,690nm,23.5s								
XAN				LR	LR				
	comp=Z,2µm,32.9s								
XAN	**Xi'an**	74.00	313	P		**P**		**23 22 57.7**	**+0.4**
XAN				pmax	pmax				
	comp=Z,98nm,0.8s								
XAN	**Xi'an**	74.00	313	P		**P**		**23 22 57.7**	**+0.4**
XAN				IAmb	IAmb			23 22 59.9	
	comp=Z,98nm,0.8s								
KMI	**Kunming**	74.58	302	⇑*i*P		**P**		**23 23 03.0**	**+1.9**
KMI				S		**S**		**23 32 29.5**	**+2.8**
KMI				SS		**SS**		**23 37 09.5**	**-7.2**
KMI				pmax	pmax				
	comp=Z,150nm,1.1s								
KMI				pmax	pmax				
	comp=Z,1µm,3.5s								
KMI				LR	LR				
	comp=Z,340nm,16.2s								
KMI				LR	LR				
	comp=Z,320nm,25.6s								
KMI				LR	LR				
	comp=Z,920nm,19.4s								
KMI	**Kunming**	74.58	302	P		**P**		**23 23 02.4**	**+1.3**
KMI				pmax	pmax				
	comp=Z,109nm,0.7s								
KMI	**Kunming**	74.58	302	P		**P**		**23 23 02.4**	**+1.3**
KMI				IAmb	IAmb			23 23 03.6	
	comp=Z,108nm,0.7s								
QSPA	**South Pole Qui**	74.95	180	P		**P**		**23 23 03.0**	**+0.5**
CM31	**Chiang Mai Arr**	75.19	294	P		**P**		**23 23 05.2**	**+0.8**
CM31				IAmb	IAmb			23 23 08.0	
	comp=Z,445nm,1.9s								
CMAR	**Chiang Mai Arr**	75.19	294	P		**P**		**23 23 06.2**	**+1.8**
	comp=Z,36nm,0.7s,baz=131,slow=4.7,SNR=194								
CMAR				pP		**pP**		**23 23 37.1**	**+1.0**
	comp=Z,32nm,0.9s,baz=127,slow=4.2,SNR=6.6								
CMAR	**Chiang Mai Arr**	75.19	294	*i* P		**P**		**23 23 06.1**	**+1.7**
CMAR				pmax	pmax				
	comp=Z,36nm,0.7s								
CHTO	**Chiang Mai**	75.32	294	P		**P**		**23 23 06.3**	**+1.1**
CHTO				pmax	pmax				
	comp=Z,65nm,0.7s								
CHTO	**Chiang Mai**	75.32	294	P		**P**		**23 23 06.3**	**+1.1**
CHTO				IAmb	IAmb			23 23 07.4	
	comp=Z,65nm,0.7s								
MA2	**Magadan**	75.60	351	*c*eP		**P**		**23 23 05.7**	**-0.2**
MA2				pmax	pmax				
	comp=Z,133nm,2.5s								
MA2	**Magadan**	75.60	351	P		**P**		**23 23 05.7**	**-0.2**
MA2				IAmb	IAmb			23 23 54.7	
	comp=Z,105nm,1.5s								
HHC	**Hu-ho-hao-te**	75.92	320	*e*P		**P**		**23 23 09.5**	**+1.2**
HHC				pP		pP		23 23 38.5	-1.5
HHC				sP		sP		23 23 54.8	+1.1
HHC				S		**S**		**23 32 43.0**	**+2.3**
HHC				pmax	pmax				
	comp=Z,91nm,1.5s								
HHC				pmax	pmax				
	comp=Z,510nm,6.6s								
CD2	**Chengdu**	76.31	308	P		**P**		**23 23 11.5**	**+0.9**
CD2				pP		pP		23 23 40.0	-2.4
CD2				sP		sP		23 23 57.5	+1.5
CD2				S		**S**		**23 32 46.5**	**+1.3**
CD2				SS		**SS**		**23 37 40.5**	**-1.9**
CD2				pmax	pmax				
	comp=Z,100nm,0.7s								
CD2				pmax	pmax				
	comp=Z,1µm,4.6s								
CD2				LR	LR				
	comp=Z,970nm,14.4s								
CD2				LR	LR				
	comp=Z,1µm,23.7s								
CD2				LR	LR				
	comp=Z,2µm,23.0s								
HIA	**Hailar**	76.64	330	P		**P**		**23 23 12.3**	**+0.2**
HIA				pmax	pmax				
	comp=Z,39nm,0.9s								
HIA	**Hailar**	76.64	330	P		**P**		**23 23 12.3**	**+0.2**
ZEA	**Zeya**	76.65	337	*c*eP		**P**		**23 23 13.2**	**+1.2**
ZEA				*e*				23 23 43.8	
ZEA				*e**SP		**sP**		**23 23 57.2**	**+0.2**
ZEA				*e*PPP		PPP		23 27 58.0	
ZEA				*e*S		**S**		**23 32 52.5**	**+4.6**
ZEA				*e*PS				23 33 23.0	
ZEA				pmax	pmax				
	comp=N,150nm,1.4s								
ZEA				pmax	pmax				
	comp=Z,200nm,1.2s								
ZEA				pmax	pmax				
	comp=Z,1µm,7.0s								
ZEA				pmax	pmax				
	comp=N,500nm,6.0s								
ZEA				smax	smax				
	comp=N,2µm,8.0s								
ZEA				smax	smax				
	comp=Z,500nm,8.0s								
BTO	**Baotou**	76.75	319	*e*P		**P**		**23 23 14.0**	**+1.0**
PBA	**Port Blair**	78.53	285	P		P		23 23 23.7	+0.5
PBA				IAmb	IAmb			23 25 12.8	
	comp=Z,271nm,1.3s								
LZH	**Lanzhou**	78.63	312	⇑P		**P**		**23 23 25.5**	**+1.9**
LZH				pP		pP		23 23 55.5	-0.1
LZH				sP		sP		23 24 09.8	+0.6
LZH				S		**S**		**23 33 12.8**	**+2.5**
LZH				SKS		**SKSac**		**23 33 23.0**	**-4.1**
LZH				pmax	pmax				
	comp=Z,130nm,1.3s								
LZH				pmax	pmax				
	comp=Z,930nm,5.0s								
LZH				LR	LR				
	comp=Z,620nm,18.4s								
LZH				LR	LR				
	comp=Z,690nm,19.0s								
LZH				LR	LR				
	comp=Z,760nm,19.0s								
SEY	**Seymchan**	78.64	353	P		**P**		**23 23 23.0**	**+0.2**
	comp=Z,16nm,0.8s,baz=152,slow=5.4,SNR=37								
SEY				pP		**pP**		**23 23 55.0**	**+0.7**
	comp=Z,30nm,1.0s,baz=151,slow=6.2,SNR=5.4								
DGPR	**DIGLIPUR**	78.83	287	*e*P		**P**		**23 23 25.5**	**+0.6**
DGPR				IAmb	IAmb			23 23 30.1	
	comp=Z,64nm,0.8s								
KDAK	**Kodiak Island**	79.75	20	P		**P**		**23 23 29.4**	**+0.5**
KDAK				pmax	pmax				
	comp=Z,39nm,1.2s								
KDAK	**Kodiak Island**	79.75	20	P		**P**		**23 23 29.4**	**+0.5**
GAMB	**Gambell**	80.25	9	P		**P**		**23 23 31.9**	**+0.4**
LKP	**Lekhapani**	81.13	301	*e*P		**P**		**23 23 37.4**	**+0.4**
CIT	**Chita**	81.43	330	*e*P		**P**		**23 23 37.3**	**-0.8**
CIT				*e*				23 24 09.0	
CIT				*e*				23 24 22.9	
CIT				pmax	pmax				
	comp=Z,448nm,2.4s								
HOM	**Homer**	81.51	20	P		**P**		**23 23 38.2**	**-0.1**
	baz=220								
CNPM	**China Poot**	81.55	20	P		**P**		**23 23 39.0**	**+0.5**
MAW	**Mawson**	81.61	202	P		**P**		**23 23 39.6**	**+0.8**
	comp=Z,25nm,0.5s,baz=127,slow=4.6,SNR=93								
MAW				LR	LR			23 55 17.3	
	comp=Z,816nm,20.9s,baz=83,slow=32								
MAW	**Mawson**	81.61	202	P		**P**		**23 23 39.6**	**+0.8**
	baz=82,SNR=142								
MAW	**Mawson**	81.61	202	P		**P**		**23 23 39.4**	**+0.6**
MAW				pmax	pmax				
	comp=Z,47nm,1.5s								
MAW	**Mawson**	81.61	202	P		**P**		**23 23 39.4**	**+0.6**
RSO	**Redoubt South**	81.78	19	P		**P**		**23 23 40.0**	**0.0**
SAIH	**SAIHA**	81.83	296	*e*P		**P**		**23 23 41.3**	**+0.3**
BRLK	**Bradley Lake**	81.84	20	P		**P**		**23 23 40.0**	**0.0**
JORH	**JORHAT**	82.24	300	*e*P		**P**		**23 23 44.1**	**+1.3**
JORH				*i* pP		**pP**		**23 24 14.5**	**-0.6**
YAK	**Yakutsk**	82.39	343	*c* *i*P		**P**		**23 23 42.8**	**0.0**
YAK				*e**PP		**sP**		**23 24 30.3**	**+2.1**
YAK				*e*				23 26 57.4	
YAK				*e*S		**S**		**23 33 45.5**	**-2.5**
YAK				*e*SS		**SS**		**23 39 19.8**	**+7.7**
YAK				pmax	pmax				
	comp=Z,88nm,0.8s								
YAK				pmax	pmax				
	comp=N,43nm,1.3s								
YAK				pmax	pmax				
	comp=E,19nm,1.3s								
YAK				pmax	pmax				
	comp=Z,95nm,2.2s								
YAK				pmax	pmax				
	comp=N,82nm,1.9s								
YAK				pmax	pmax				
	comp=E,63nm,2.3s								
YAK				smax	smax				
	comp=N,282nm,3.0s								
YAK				smax	smax				
	comp=E,170nm,3.0s								
YAK	**Yakutsk**	82.39	343	P		**P**		**23 23 42.8**	**0.0**
YAK				IAmb	IAmb			23 23 44.6	
	comp=Z,178nm,0.9s								
ULN	**Ulaanbaatar**	82.48	324	*c* *i*P		**P**		**23 23 44.5**	**+0.7**
ULN				pmax	pmax				
	comp=Z,424nm,2.5s								
ULN	**Ulaanbaatar**	82.48	324	P		**P**		**23 23 44.4**	**+0.5**
ULN				IAmb	IAmb			23 23 46.6	
	comp=Z,113nm,0.8s								
CAPN	**Captain Cook N**	82.52	19	P		**P**		**23 23 43.7**	**+0.2**
	baz=220								
O22K	**Cooper Landing**	82.77	20	P		**P**		**23 23 44.3**	**-0.4**
	baz=222								
SILR	**SILCHAR**	82.78	298	*e*P		**P**		**23 23 46.8**	**+1.2**
TTA	**Tatalina**	82.82	16	P		**P**		**23 23 45.9**	**+0.8**
TTA				pmax	pmax				
	comp=Z,30nm,1.2s								
TTA	**Tatalina**	82.82	16	P		**P**		**23 23 45.9**	**+0.8**
ITAN	**ITANAGAR**	82.83	300	*e*P		**P**		**23 23 47.3**	**+1.4**
ITAN				*i* pP		**pP**		**23 24 17.6**	**-0.7**
SONM	**Songino Array**	82.84	324	P		**P**		**23 23 46.3**	**+0.6**
	comp=Z,28nm,0.6s,baz=150,slow=6.8,SNR=128								
SONM				pP		**pP**		**23 24 18.9**	**+1.1**
	comp=Z,22nm,1.0s,baz=147,slow=6.5,SNR=3.6								
SONM				LR	LR			23 59 32.0	
	comp=Z,359nm,19.5s,baz=116,slow=35								
ZIRO	**ZIRO**	82.86	301	*e*P		**P**		**23 23 47.6**	**+1.3**
GTA	**Gaotai**	82.98	314	⇑P		**P**		**23 23 47.8**	**+1.2**
GTA				pP		pP		23 24 16.0	-2.9
GTA				sP		sP		23 24 28.3	-4.1
GTA				S		**S**		**23 33 56.3**	**+1.0**
GTA				sS		sS		23 34 42.3	-7.6
GTA				pmax	pmax				
	comp=Z,110nm,1.8s								
GTA				pmax	pmax				
	comp=Z,1µm,10.0s								
GTA				LR	LR				
	comp=Z,420nm,19.9s								
GTA				LR	LR				
	comp=Z,540nm,23.0s								
GTA				LR	LR				
	comp=Z,620nm,23.7s								
Q23K	**Middleton Isla**	83.16	22	P		**P**		**23 23 46.4**	**-0.4**
	baz=225								
PAF	**Port-aux-Franc**	83.30	221	P		**P**		**23 23 48.0**	**+0.1**
PAF				pmax	pmax				
	comp=Z,319nm,1.2s								
PAF	**Port-aux-Franc**	83.30	221	P		**P**		**23 23 48.0**	**+0.1**
BELO	**BELONIA**	83.42	296	*e*P		**P**		**23 23 51.0**	**+2.0**
PMR	**Palmer**	83.79	19	P		**P**		**23 23 50.1**	**+0.1**
PMR				pmax	pmax				
	comp=Z,116nm,1.4s								
PMR	**Palmer**	83.79	19	P		**P**		**23 23 50.0**	**+0.1**
PMR				IAmb	IAmb			23 24 53.5	
	comp=Z,116nm,1.4s								
AGT	**Agartala**	83.81	297	*e*P		**P**		**23 23 51.0**	**0.0**
AGT				*i* pP		**pP**		**23 24 23.1**	**-0.3**
SHL	**Shillong**	83.83	298	*e*P		**P**		**23 23 51.0**	**-0.3**
SHL				*i* x		x		23 24 23.6	
SHL	**Shillong**	83.83	298	P		**P**		**23 23 51.7**	**+0.4**
SHL				pmax	pmax				
	comp=Z,223nm,0.8s								
SHL	**Shillong**	83.83	298	P		**P**		**23 23 51.7**	**+0.4**
KNK	**Knik Glacier**	83.88	20	P		**P**		**23 23 50.9**	**+0.4**
KNK				IAmb	IAmb			23 24 32.0	
	comp=Z,87nm,1.2s								
GHO	**Glory Hole Cre**	83.99	19	P		**P**		**23 23 50.9**	**-0.3**
GHO				IAmb	IAmb			23 24 36.6	
	comp=Z,85nm,1.1s								
CUT	**Chulitna**	84.05	18	P		**P**		**23 23 50.2**	**-1.1**
	baz=221								
KCPM	**Cahto Peak**	84.13	46	P		**P**		**23 23 52.8**	**+0.4**
KCPM				IAmb	IAmb			23 24 28.5	
	comp=Z,223nm,2.0s								
GUWA	**GUWAHATI**	84.20	299	*e*P		**P**		**23 23 53.3**	**+0.4**
GUWA				IAmb	IAmb			23 23 55.0	
	comp=Z,98nm,0.7s								
SML	**Sawmill**	84.21	19	P		**P**		**23 23 52.2**	**-0.1**
KMRM	**Mail Ridge**	84.27	46	P		**P**		**23 23 53.1**	**+0.1**
GDXM	**Geysers**	84.32	47	P		**P**		**23 23 53.5**	**+0.1**
SCM	**Sheep Creek Mo**	84.55	20	P		**P**		**23 23 54.4**	**+0.4**
SCM				pmax	pmax				
	comp=Z,71nm,1.0s								
SCM	**Sheep Creek Mo**	84.55	20	P		**P**		**23 23 54.4**	**+0.4**
SCM				IAmb	IAmb			23 25 07.9	
	comp=Z,71nm,1.0s								
PMPB	**Monarch Peak**	84.74	50	P		**P**		**23 23 54.8**	**-0.7**
SCZ2	**Santa Cruz Isl**	84.78	53	P		**P**		**23 23 55.2**	**-0.6**
	baz=

	comp=Z,85nm,1.8s										
WDC	**Whiskeytown Da**	**85.23**	**46**	P		**P**		**23 23 57.7**	**-0.1**		
DIB	**Dawson Inlet,**	**85.25**	**32**	P		**P**		**23 23 57.7**	**+0.2**		
SCI2	**San Clemente I**	**85.25**	**54**	P		**P**		**23 23 58.1**	**0.0**		
	baz=249										
N02D	**Trinity Center**	**85.28**	**46**	P		**P**		**23 23 58.9**	**+0.8**		
	baz=246,SNR=5.8										
K02D	**Willamette Mer**	**85.35**	**44**	P		**P**		**23 23 58.9**	**+0.5**		
	baz=245										
M02C	**Callahan**	**85.35**	**45**	P		**P**		**23 23 59.2**	**+0.8**		
	baz=245										
TGL	**Tana Glacier**	**85.35**	**22**	P		**P**		**23 23 58.4**	**+0.3**		
J01E	**Myrtle Point**	**85.37**	**43**	P		**P**		**23 23 58.8**	**+0.4**		
	baz=244										
VRDI	**Verde Repeater**	**85.45**	**22**	P		**P**		**23 23 58.6**	**0.0**		
MCK	**McKinley**	**85.45**	**18**	P		**P**		**23 23 58.1**	**-0.3**		
MCK				pmax		pmax					
	comp=Z,60nm,0.6s										
MCK	**McKinley**	**85.45**	**18**	P		**P**		**23 23 58.1**	**-0.3**		
MCK				IAmb		IAmb		23 24 52.5			
	comp=Z,60nm,0.6s										
GLB	**Gilahina Butte**	**85.47**	**21**	P		**P**		**23 23 58.4**	**-0.1**		
CIS	**Catalina Islan**	**85.51**	**54**	P		**P**		**23 23 59.3**	**0.0**		
	baz=249										
ORV	**Oroville**	**85.54**	**47**	P		**P**		**23 23 58.8**	**-0.6**		
ORV	**Oroville**	**85.54**	**47**	P		**P**		**23 23 58.8**	**-0.6**		
YBH	**Yreka Blue Hor**	**85.59**	**45**	P		**P**		**23 23 59.7**	**+0.1**		
YBH				pmax		pmax					
	comp=Z,21nm,1.1s										
YBH	**Yreka Blue Hor**	**85.59**	**45**	P		**P**		**23 23 59.7**	**+0.1**		
BWN	**Browne**	**85.62**	**17**	P		**P**		**23 23 59.4**	**+0.2**		
BWN				IAmb		IAmb		23 24 48.0			
	comp=Z,182nm,1.1s										
O03E	**Paynes Creek**	**85.63**	**46**	P		**P**		**23 23 59.5**	**-0.4**		
	baz=246,SNR=7.6										
AFDM	**Forest Hills D**	**85.68**	**48**	P		**P**		**23 23 59.9**	**-0.2**		
OSI	**Osito Audit: C**	**85.71**	**53**	P		**P**		**23 24 00.8**	**+0.4**		
	baz=248										
FMP	**Fort Macarthur**	**85.71**	**54**	P		**P**		**23 24 00.8**	**+0.5**		
	baz=249										
BALM	**Baldy**	**85.72**	**22**	P		**P**		**23 23 60.0**	**+0.1**		
CMB	**Columbia Colle**	**85.75**	**49**	P		**P**		**23 23 59.8**	**-0.7**		
CMB				pmax		pmax					
	comp=Z,32nm,1.3s										
CMB	**Columbia Colle**	**85.75**	**49**	P		**P**		**23 23 59.8**	**-0.7**		
TABL	**Table Mountain**	**85.76**	**23**	P		**P**		**23 24 00.5**	**+0.3**		
ARVC	**Arvin**	**85.81**	**52**	P		**P**		**23 24 01.0**	**+0.2**		
	baz=248										
I02D	**Swisshome**	**85.83**	**42**	P		**P**		**23 24 01.2**	**+0.5**		
	baz=244										
LSA	**Lhasa**	**85.83**	**302**	*i* P		**P**		**23 24 02.6**	**+1.0**		
	SNR=22										
LSA	**Lhasa**	**85.83**	**302**	P		**P**		**23 24 02.4**	**+0.8**		
LSA				pmax		pmax					
	comp=Z,51nm,0.7s										
LSA	**Lhasa**	**85.83**	**302**	P		**P**		**23 24 02.4**	**+0.8**		
LSA				IAmb		IAmb		23 24 04.5			
	comp=Z,51nm,0.7s										
VOG	**Valley Oaks Go**	**85.84**	**51**	P		**P**		**23 24 00.7**	**-0.2**		
	baz=248										
IMAR	**Indian Mountai**	**85.87**	**15**	P		**P**		**23 23 59.9**	**-0.5**		
DECC	**Green Verdugo**	**85.88**	**53**	P		**P**		**23 24 00.8**	**-0.4**		
	baz=249										
VES	**Vestal, Richgr**	**85.88**	**51**	P		**P**		**23 24 00.7**	**-0.5**		
	baz=248										
ZAK	**Zakamensk**	**85.90**	**325**	*e*P		**P**		**23 24 00.4**	**-0.6**		
ZAK				pmax		pmax					
	comp=Z,86nm,1.5s										
PASC	**Pasadena Art C**	**85.96**	**53**	P		**P**		**23 24 01.9**	**+0.3**		
PASC				IAmb		IAmb		23 24 40.7			
	comp=Z,139nm,1.9s										
I03D	**Drain, OR**	**85.98**	**43**	P		**P**		**23 24 01.6**	**+0.2**		
	baz=245										
CTGM	**Chitina Glacie**	**86.04**	**22**	P		**P**		**23 24 01.6**	**+0.2**		
NEA2	**Nenana**	**86.05**	**17**	P		**P**		**23 23 59.9**	**-1.4**		
	baz=222										
L04D	**Klamath Falls**	**86.06**	**45**	P		**P**		**23 24 02.2**	**+0.1**		
	baz=246										
MWC	**Mount Wilson**	**86.08**	**53**	P		**P**		**23 24 02.3**	**-0.1**		
MWC				pmax		pmax					
	comp=Z,171nm,1.6s										
MWC	**Mount Wilson**	**86.08**	**53**	P		**P**		**23 24 02.3**	**-0.1**		
MWC				IAmb		IAmb		23 24 39.4			
	comp=Z,171nm,1.6s										
M04C	**Macdoel**	**86.20**	**45**	P		**P**		**23 24 02.9**	**+0.1**		
	baz=246										
WRH	**Wood River Hil**	**86.25**	**18**	P		**P**		**23 24 02.1**	**-0.2**		
ISA	**Isabella, Lake**	**86.28**	**52**	P		**P**		**23 24 03.4**	**+0.2**		
	baz=249,SNR=9.5										
ISA	**Isabella, Lake**	**86.28**	**52**	P		**P**		**23 24 02.5**	**-0.7**		
ISA				pmax		pmax					
	comp=Z,44nm,1.3s										
ISA	**Isabella, Lake**	**86.28**	**52**	P		**P**		**23 24 02.5**	**-0.7**		
IRK	**Irkutsk**	**86.28**	**327**	*e*P		**P**		**23 24 00.9**	**-1.8**		
IRK				pmax		pmax					
	comp=Z,191nm,2.1s										
TLY	**Talaya**	**86.34**	**326**	P		**P**		**23 24 03.5**	**+0.5**		
	comp=Z,35nm,0.7s,baz=210,slow=3.1,SNR=36										
TLY				LR		LR		00 01 03.9			
	comp=Z,398nm,20.8s,baz=116,slow=34										
TLY	**Talaya**	**86.34**	**326**	*c i*P		**P**		**23 24 02.9**	**-0.1**		
TLY				*e*				23 24 33.8			
TLY				*e*				23 24 51.6			
TLY				*e*S		S		23 34 18.4	-9.4		
TLY				*e*				23 35 26.2			
TLY				pmax		pmax					
	comp=Z,346nm,1.7s										
TLY				MLR		MLR					
	comp=Z,621nm,15.0s										
TLY	**Talaya**	**86.34**	**326**	P		**P**		**23 24 02.9**	**-0.1**		
109C	**Camp Elliot, M**	**86.35**	**55**	P		**P**		**23 24 03.2**	**-0.3**		
	baz=250										
EDW2	**Edwards Air Fo**	**86.36**	**53**	P		**P**		**23 24 03.9**	**+0.3**		
	baz=249,SNR=14										
BFSC	**Mount Baldy Ra**	**86.39**	**53**	P		**P**		**23 24 03.7**	**-0.2**		
	baz=249										
CCB	**Clear Creek Bu**	**86.46**	**18**	P		**P**		**23 24 03.2**	**-0.1**		
MURC	**Murrieta**	**86.53**	**54**	P		**P**		**23 24 04.3**	**-0.1**		
	baz=249										
HDA	**Harding Lake**	**86.54**	**18**	P		**P**		**23 24 02.4**	**-1.3**		
	baz=224										
K04D	**Chiloquin, OR**	**86.60**	**44**	P		**P**		**23 24 04.8**	**+0.1**		
	baz=246										
OMMB	**Old Mammoth Mi**	**86.60**	**50**	P		**P**		**23 24 04.3**	**-0.7**		
TCOL	**CIGO, UAF Yank**	**86.61**	**18**	P		**P**		**23 24 02.6**	**-1.3**		
	baz=223										
J04D	**Umpqua Nationa**	**86.61**	**44**	P		**P**		**23 24 05.1**	**+0.3**		
	baz=246										
COLA	**College**	**86.61**	**18**	P		**P**		**23 24 03.7**	**-0.3**		
COLA				pmax		pmax					
	comp=Z,57nm,1.0s										
COLA	**College**	**86.61**	**18**	P		**P**		**23 24 03.7**	**-0.3**		
COLA				IAmb		IAmb		23 24 44.7			
	comp=Z,56nm,1.0s										
I04A	**Tendick Farm,**	**86.64**	**43**	P		**P**		**23 24 04.2**	**-0.5**		
	baz=246										
G03D	**McMinnville, O**	**86.68**	**41**	P		**P**		**23 24 04.9**	**+0.1**		
	baz=245										
RIDG	**Independent Ri**	**86.72**	**19**	P		**P**		**23 24 04.4**	**-0.2**		
PNTR	**Pine Nut**	**86.72**	**48**	P		**P**		**23 24 05.5**	**+0.1**		
H04D	**Lebanon**	**86.73**	**42**	P		**P**		**23 24 05.2**	**+0.1**		
	baz=245										
MLAC	**Mammoth, Mammo**	**86.73**	**50**	P		**P**		**23 24 05.4**	**-0.2**		
	baz=248										
LRMC	**Laurel Mtn Rad**	**86.82**	**52**	P		**P**		**23 24 06.2**	**+0.3**		
	baz=249,SNR=11										
IL31		**86.82**	**18**	P		**P**		**23 24 03.5**	**-1.4**		
ILAR	**Eielson Array**	**86.82**	**18**	P		**P**		**23 24 04.4**	**-0.7**		
	comp=Z,16nm,0.7s,baz=236,slow=5.6,SNR=72										
ILAR				PKKP		**PKKPdf**		**23 41 57.5**	**+2.3**		
	comp=Z,2.2nm,0.6s,baz=348,slow=2.3,SNR=21										
ILAR				LR		LR		23 57 21.7			
	comp=Z,303nm,20.9s,baz=244,slow=32										
ILAR	**Eielson Array**	**86.82**	**18**	P		**P**		**23 24 03.2**	**-1.8**		
CWC	**Cottonwood Cre**	**86.86**	**51**	P		**P**		**23 24 06.4**	**+0.3**		
	baz=249										
MONP2	**Monument Peak**	**86.89**	**55**	P		**P**		**23 24 06.6**	**+0.2**		
	baz=250,SNR=13										
POKR	**Poker Plat Res**	**86.91**	**17**	P		**P**		**23 24 03.8**	**-1.8**		
	baz=223										
YERR	**Yerington**	**86.94**	**48**	P		**P**		**23 24 06.0**	**-0.5**		
YERR				IAmb		IAmb		23 24 49.7			
	comp=Z,80nm,1.9s										
ESJX	**Sierra Juarez**	**86.97**	**56**	P		**P**		**23 24 06.9**	**+0.1**		
ESJX				IAmb		IAmb		23 24 43.8			
	comp=Z,79nm,1.7s										
TIN	**Tinemaha, Big**	**86.97**	**50**	P		**P**		**23 24 06.4**	**-0.2**		
	baz=249										
BBRC	**Big Bear Solar**	**86.97**	**53**	P		**P**		**23 24 06.5**	**-0.3**		
	baz=250										
IKP	**In-Ko-Pah, Jac**	**87.06**	**55**	P		**P**		**23 24 07.1**	**0.0**		
	baz=250										
E03A	**Lebam**	**87.06**	**40**	P		**P**		**23 24 06.3**	**-0.2**		
E03A				IAmb		IAmb		23 24 42.5			
	comp=Z,52nm,1.3s										
PAHR	**Pah Rah Range**	**87.11**	**48**	P		**P**		**23 24 07.2**	**0.0**		
PFO	**Pinyon Flats O**	**87.11**	**54**	P		**P**		**23 24 07.5**	**+0.1**		
	baz=250,SNR=5.3										
PFO	**Pinyon Flats O**	**87.11**	**54**	P		**P**		**23 24 06.4**	**-1.0**		
PFO				pmax		pmax					
	comp=Z,35nm,1.3s										
PFO	**Pinyon Flats O**	**87.11**	**54**	P		**P**		**23 24 06.4**	**-1.0**		
TPFO	**Pinon Flats**	**87.11**	**54**	P		**P**		**23 24 07.1**	**-0.2**		
	baz=250,SNR=6.3										
RRX	**Edison Barstow**	**87.13**	**53**	P		**P**		**23 24 07.6**	**+0.3**		
	baz=250										
SCRK	**Sand Creek**	**87.15**	**19**	P		**P**		**23 24 05.7**	**-1.2**		
	baz=226										
MPMC	**Manual Prospec**	**87.17**	**52**	P		**P**		**23 24 07.7**	**0.0**		
	baz=249,SNR=15										
F04D	**Rainier, OR**	**87.21**	**41**	P		**P**		**23 24 07.5**	**+0.2**		
	baz=245										
J05D	**Fort Rock, OR**	**87.22**	**44**	P		**P**		**23 24 07.6**	**0.0**		
	baz=246										
BCAR	**Beaver Creek A**	**87.27**	**21**	P		**P**		**23 24 06.4**	**-0.9**		
MOD	**Modoc Plateau**	**87.30**	**45**	P		**P**		**23 24 08.3**	**+0.2**		
RYN	**Ryan**	**87.33**	**49**	P		**P**		**23 24 08.2**	**-0.1**		
SWSC	**Sam W. Stewart**	**87.40**	**55**	P		**P**		**23 24 08.7**	**+0.1**		
	baz=250,SNR=7.1										
NVAR	**Mina Array Bea**	**87.41**	**49**	P		**P**		**23 24 08.6**	**-0.3**		
	comp=Z,6.1nm,0.8s,baz=232,slow=7.3,SNR=30										
NVAR				pP		**pP**		**23 24 40.4**	**-0.2**		
	comp=Z,8.4nm,0.7s,baz=227,slow=6.4,SNR=3.6										
NVAR				PKKPbc		**PKKPbc**		**23 41 60.0**	**+0.6**		
	comp=Z,3.0nm,0.8s,baz=96,slow=2.6,SNR=13										
NVAR				PKPPKP		**P'P'df**		**23 50 03.0**	**-2.5**		
	comp=Z,4.4nm,1.0s,baz=96,slow=2.8,SNR=8.6										
NVAR				LR		LR		23 59 18.1			
	comp=Z,290nm,18.0s,baz=251,slow=33										
NVAR	**Mina Array Bea**	**87.41**	**49**	P		**P**		**23 24 08.0**	**-0.9**		
GSC	**Goldstone, Bar**	**87.42**	**53**	P		**P**		**23 24 08.7**	**0.0**		
	baz=250,SNR=7.6										
GSC	**Goldstone, Bar**	**87.42**	**53**	P		**P**		**23 24 08.5**	**-0.3**		
GSC				pmax		pmax					
	comp=Z,165nm,1.9s										
GSC	**Goldstone, Bar**	**87.42**	**53**	P		**P**		**23 24 08.5**	**-0.3**		
GSC				IAmb		IAmb		23 24 46.3			
	comp=Z,165nm,1.9s										
NV11	**Mina Array Sit**	**87.52**	**49**	P		**P**		**23 24 09.0**	**-0.2**		
I05D	**Terrebonne, OR**	**87.57**	**43**	P		**P**		**23 24 09.4**	**+0.2**		
	baz=246										
GRAC	**Grapevine Rang**	**87.59**	**51**	P		**P**		**23 24 10.0**	**+0.5**		
	baz=249,SNR=7.3										
BELC	**Belle Mtn. Jos**	**87.60**	**54**	P		**P**		**23 24 10.0**	**+0.3**		
	baz=250,SNR=16										
PINE	**Pine Mountain**	**87.61**	**43**	P		**P**		**23 24 09.5**	**-0.1**		
HEC	**Hector,Ludlow**	**87.62**	**53**	P		**P**		**23 24 09.8**	**+0.1**		
	baz=250,SNR=11										
E04D	**Cinebar**	**87.69**	**40**	P		**P**		**23 24 10.1**	**+0.5**		
	baz=245										
COLD	**Coldfoot**	**87.73**	**15**	P		**P**		**23 24 09.8**	**+0.4**		
	baz=221										
COLD	**Coldfoot**	**87.73**	**15**	P		**P**		**23 24 10.4**	**+1.1**		
D03D	**Eldon**	**87.78**	**39**	P		**P**		**23 24 10.7**	**+0.7**		
	baz=245										
MOY	**Mondy**	**87.78**	**325**	*e*P		**P**		**23 24 10.2**	**+0.1**		
MOY				pmax		pmax					
	comp=Z,238nm,3.1s										
FURC	**Furnace Creek,**	**87.78**	**51**	P		**P**		**23 24 10.5**	**+0.2**		
	baz=250,SNR=17										
KVN	**Kaiserville**	**87.79**	**49**	P		**P**		**23 24 10.1**	**-0.5**		
KVN				pmax		pmax					
	comp=Z,14nm,1.0s										
KVN	**Kaiserville**	**87.79**	**49**	P		**P**		**23 24 10.1**	**-0.5**		
K27K	**Chicken**	**87.81**	**20**	P		**P**		**23 24 09.6**	**-0.2**		
	baz=228										
D04E	**Lakebay**	**87.82**	**40**	P		**P**		**23 24 11.1**	**+0.9**		
	baz=245										
BC3	**Big Chuckawall**	**87.91**	**54**	P		**P**		**23 24 11.4**	**+0.2**		
	baz=250,SNR=9.3										
TAPN	**Taplejung**	**87.94**	**299**	*e*P		**P**		**23 24 11.9**	**+0.2**		
	comp=Z,90nm,0.7s										
G05D	**Wamic, OR**	**87.94**	**42**	P		**P**		**23 24 10.9**	**-0.1**		
	baz=246										
SHOC	**Shoshone, Teco**	**88.04**	**52**	P		**P**		**23 24 11.5**	**-0.1**		
	baz=250,SNR=9.5										
ODAN	**Odare**	**88.06**	**298**	*e*P		**P**		**23 24 12.4**	**+0.2**		
	comp=Z,164nm,0.6s										
F05D	**White Salmon**	**88.11**	**41**	P		**P**		**23 24 11.9**	**+0.2**		
	baz=246										
GMRC	**Granite Mounta**	**88.13**	**53**	P		**P**		**23 24 12.4**	**+0.2**		
	baz=250,SNR=16										
TUQ	**Turquoise Moun**	**88.15**	**53**	P		**P**		**23 24 12.3**	**0.0**		
	baz=250,SNR=26										
GLA	**Glamis**	**88.21**	**55**	P		**P**		**23 24 13.3**	**+0.8**		
	baz=251,SNR=10										
IRM	**Iron Mountain**	**88.32**	**54**	P		**P**		**23 24 13.5**	**+0.5**		
	baz=251,SNR=16										
SYO	**Syowa Base**	**88.41**	**197**	*i*P		**P**		**23 24 11.2**	**-1.5**		
SYO	**Syowa Base**	**88.41**	**197**	*i*PcP		**PcP**		**23 24 13.7**	**-0.5**		
SYO	**Syowa Base**	**88.41**	**197**	*i*pP		pP		23 24 41.0	-4.3		
TPNV	**Topopah Spring**	**88.42**	**51**	P		**P**		**23 24 13.9**	**+0.4**		
	baz=250,SNR=19										
BOK	**Bokaro**	**88.44**	**295**	*e*P		**P**		**23 24 13.8**	**+0.1**		
BOK				IAmb		IAmb		23 24 15.7			
	comp=Z,22nm,1.0s										
A04D	**Lummi Island**	**88.51**	**38**	P		**P**		**23 24 13.9**	**+0.5**		
	baz=245										
CHLP	**Challavanipeta**	**88.57**	**289**	*e*P		**P**		**23 24 15.4**	**+1.1**		
CHLP				*e*SKSac		**SKSac**		**23 34 30.4**	**-1.7**		
EGAK	**Eagle**	**88.61**	**20**	P		**P**		**23 24 13.2**	**-0.3**		
I07A	**Izee**	**88.68**	**44**	P		**P**		**23 24 14.4**	**-0.2**		
I07A				IAmb		IAmb		23 24 51.0			
	comp=Z,128nm,2.0s										
PALK	**Pallekele**	**88.68**	**278**	P		**P**		**23 24 15.4**	**+0.3**		
PALK				pmax		pmax					
	comp=Z,141nm,1.5s										
PALK	**Pallekele**	**88.68**	**278**	P		**P**		**23 24 15.4**	**+0.3**		
PALK				IAmb		IAmb		23 24 49.8			
	comp=Z,141nm,1.5s										
B05A	**Bryant**	**88.69**	**39**	P		**P**		**23 24 14.4**	**+0.1**		
	baz=246										
RAMN	**Ramite**	**88.76**	**298**	*e*P		**P**		**23 24 15.5**	**0.0**		
	comp=Z,45nm,0.5s										
PIX	**Pinacate**	**88.83**	**57**	P		**P**		**23 24 15.5**	**+0.2**		
PIX				IAmb		IAmb		23 24 52.8			
	comp=Z,67nm,1.6s										
NEE2	**Needles Airpor**	**88.93**	**54**	P		**P**		**23 24 16.0**	**+0.3**		
	baz=251										
TOLK	**Toolik Lake Re**	**88.96**	**14**	P		**P**		**23 24 15.1**	**-0.1**		
	baz=221										
SHPR	**Sheep Range**	**89.09**	**52**	P		**P**		**23 24 16.6**	**-0.1**		
SHPR				IAmb		IAmb		23 24 54.5			
	comp=Z,206nm,1.8s										
PDMCI	**Parker Dam,Lak**	**89.16**	**54**	P		**P**		**23 24 17.3**	**+0.5**		
	baz=251,SNR=17										
C06D	**Leavenworth**	**89.28**	**40**	P		**P**		**23 24 16.8**	**-0.3**		
	baz=246										
JIRN	**Jiri**	**89.32**	**299**	*e*P		**P**		**23 24 18.4**	**+0.2**		
	comp=Z,164nm,0.9s										
BMAR	**Burnt Mountain**	**89.38**	**17**	P		**P**		**23 24 17.4**	**+0.3**		
R11A	**Troy Canyon, C**	**89.39**	**50**	P		**P**		**23 24 18.1**	**0.0**		
	baz=250,SNR=7.0										
E07A	**Sunnyside**	**89.40**	**41**	P		**P**		**23 24 17.7**	**-0.1**		
SLBS	**Sierra La Lagu**	**89.45**	**65**	P		**P**		**23 24 18.8**	**+0.2**		
SLBS				IAmb		IAmb		23 24 56.9			
	comp=Z,212nm,1.7s										
214A	**Organ Pipe Nat**	**89.47**	**57**	P		**P**		**23 24 18.9**	**+0.4**		
	baz=252,SNR=7.4										
E08A	**Dider Farm, El**	**89.88**	**42**	P		**P**		**23 24 20.2**	**+0.3**		
E08A				IAmb		IAmb		23 24 56.1			
	comp=Z,63nm,1.3s										
PKI	**Pulchoki**	**89.96**	**298**	*e*P		**P**		**23 24 20.8**	**-0.4**		
	comp=Z,160nm,1.1s										
KKN	**Kakani**	**90.13**	**299**	*e*P		**P**		**23 24 21.6**	**-0.2**		
	comp=Z,101nm,0.8s										
DMN	**Daman**	**90.22**	**298**	*e*P		**P**		**23 24 22.4**	**+0.1**		
	comp=Z,113nm,0.9s										
PVM	**Polavaram**	**90.45**	**288**	*e*P		**P**		**23 24 22.8**	**-0.4**		
PVM				*e*SKSac		**SKSac**		**23 34 42.7**	**-0.5**		
GKN	**Gorkha**	**90.74**	**299**	*e*P		**P**		**23 24 24.0**	**-0.6**		
	comp=Z,50nm,0.5s										
TUC	**Tucson**	**91.22**	**57**	P		**P**		**23 24 26.8**	**+0.2**		
	baz=253										
TUC	**Tucson**	**91.22**	**57**	P		**P**		**23 24 26.3**	**-0.3**		
TUC				pmax		pmax					
	comp=Z,129nm,1.7s										
TUC	**Tucson**	**91.22**	**57**	P		**P**		**23 24 26.3**	**-0.3**		
TUC				IAmb		IAmb		23 25 04.7			
	comp=Z,129nm,1.6s										
MYLAV	**Mylavaram**	**91.23**	**287**	*e*P		**P**		**23 24 27.2**	**+0.3**		
MYLAV				*e*SKSac		**SKSac**		**23 34 47.8**	**+0.1**		
SKHT	**Srikalahasti**	**91.31**	**284**	*e*P		**P**		**23 24 28.0**	**+0.7**		
PMSA	**Palmer Station**	**91.41**	**160**	P		**P**		**23 24 26.6**	**-0.2**		
KOLN	**Koldanda**	**91.55**	**298**	*e*P		**P**		**23 24 27.6**	**-0.8**		
ADKI	**Addanki**	**91.61**	**286**	*e*P		**P**		**23 24 29.0**	**+0.4**		
ADKI				*e*SKSac		**SKSac**		**23 34 50.9**	**+1.0**		
WUAZ	**Wupatki**	**91.69**	**54**	P		**P**		**23 24 29.4**	**+0.6**		
	baz=253										
WUAZ	**Wupatki**	**91.69**	**54**	P		**P**		**23 24 29.0**	**+0.2**		
WUAZ				IAmb		IAmb		23 25 06.6			
	comp=Z,50nm,1.1s										
NEW	**Newport**	**91.76**	**40**	P		**P**		**23 24 28.1**	**-0.5**		
	baz=249										
NEW	**Newport**	**91.76**	**40**	P		**P**		**23 24 28.2**	**-0.5**		
NEW				pmax		pmax					
	comp=Z,15nm,1.3s										
NEW	**Newport**	**91.76**	**40**	P		**P**		**23 24 28.2**	**-0.5**		
HLID	**Hailey**	**91.95**	**45**	P		**P**		**23 24 30.0**	**+0.1**		
	baz=251										
HLID	**Hailey**	**91.95**	**45**	P		**P**		**23 24 29.5**	**-0.4**		
HLID				IAmb		IAmb		23 25 06.3			
	comp=Z,41nm,1.9s										
DUG	**Dugway, Tooele**	**92.02**	**49**	P		**P**		**23 24 30.5**	**+0.3**		
	baz=252										
DUG	**Dugway, Tooele**	**92.02**	**49**	P		**P**		**23 24 29.7**	**-0.5**		
DUG				pmax		pmax					
	comp=Z,52nm,1.8s										
DUG	**Dugway, Tooele**	**92.02**	**49**	P		**P**		**23 24 29.7**	**-0.5**		
DUG				IAmb		IAmb		23 25 06.6			
	comp=Z,52nm,1.8s										
PYUN	**Piuthan**	**92.16**	**298**	*e*P		**P**		**23 24 30.1**	**-1.1**		
	comp=Z,26nm,0.6s										
319A	**Douglas**	**92.18**	**58**	P		**P**		**23 24 31.9**	**+0.7**		
NJS	**Nagarjunasagar**	**92.41**	**286**	*e*P		**P**		**23 24 32.5**	**+0.1**		
NJS				*e*SKSac		**SKSac**		**23 34 54.0**	**-0.3**		
SRLM	**Srisailam**	**92.68**	**286**	*e*P		**P**		**23 24 33.5**	**-0.1**		
NVL	**N'lazarevskaya**	**92.72**	**188**	⇑*i*P		**P**		**23 24 32.4**	**-0.3**		
NVL				*e*S		S		23 34 51.5	-35		
NVL				pmax		pmax					
	comp=Z,105nm,0.8s										
W18A	**Petrified Fore**	**92.86**	**55**	P		**P**		**23 24 34.3**	**0.0**		
	baz=254										
RPR	**Rampur**	**93.01**	**289**	*e*P		**P**		**23 24 35.0**	**-0.1**		
RPR				*e*SKSac		**SKSac**		**23 34 57.3**	**-0.3**		
WMQ	**Urumqi**	**93.05**	**315**	*e*P		**P**		**23 24 35.5**	**+0.7**		
WMQ				pP		pP		23 25 06.3	-1.1		
WMQ				sP		sP		23 25 23.0	+2.2		
WMQ				SKS		**SKSac**		**23 34 56.0**	**-1.0**		
WMQ				S		S		**23 35 29.0**	**-1.3**		
WMQ				sS		sS		23 36 27.3	+0.7		
WMQ				pmax		pmax		

comp=Z,0.5nm,0.8s,baz=130,slow=3.7,SNR=5.3
TXAR LR LR 00 03 53.8
comp=Z,347nm,18.1s,baz=0.0,slow=33
TXAR Lajitas Array 96.35 61 P **P** **23 24 49.6 -0.7**
EGMT Eagleton 96.38 42 P **P** **23 24 49.5 -0.4**
baz=255
C36M Paulatuk 96.68 19 P **P** **23 24 53.3 +2.7**
baz=245
SDCO Great Sand Dun 96.84 53 P **P** **23 24 53.5 +0.9**
baz=256
ISCO Idaho Springs 97.23 51 P Pdif 23 24 54.4 +0.1
baz=256
K22A Casper 97.24 48 P **P** **23 24 53.4 -0.6**
baz=256
N23A Red Feather La 97.24 50 P **P** **23 24 52.8 -1.5**
baz=256
MK31 Makanchi Array 97.53 316 P **P** **23 24 55.1 0.0**
MK31 pmax pmax
comp=Z,29nm,0.8s
MK31 Makanchi Array 97.53 316 P Pdif 23 24 55.1 0.0
MK31 IAmb IAmb 23 24 57.3
comp=Z,29nm,0.8s
MKAR Makanchi Array 97.53 316 P Pdif 23 24 55.3 +0.2
comp=Z,35nm,0.6s,baz=96,slow=6.1,SNR=206
MKAR pP pP 23 25 28.1 +0.3
comp=Z,7.3nm,0.7s,baz=67,slow=9.3,SNR=2.6
MKAR PKiKP **PKiKP** **23 29 28.6 -0.4**
comp=Z,2.3nm,0.6s,baz=200,slow=1.2,SNR=7.6
MKAR PKKPbc **PKKPbc** **23 41 32.3 -1.0**
comp=Z,0.9nm,0.6s,baz=275,slow=3.6,SNR=4.8
MKAR LR LR 00 08 36.4
comp=Z,274nm,21.7s,baz=101,slow=35
MKAR Makanchi Array 97.53 316 *i* P Pdif 23 24 55.2 +0.1
MKAR pmax pmax
comp=Z,35nm,0.6s
MKAR Makanchi Array 97.53 316 P **P** **23 24 55.0 -0.1**
ZAA0 Zalesovo Array 97.73 324 P **P** **23 24 55.0 -0.8**
ZAA0 IAmb IAmb 23 24 55.8
comp=Z,27nm,0.9s
ZALV Zalesovo Beam 97.73 324 P **P** **23 24 55.1 -0.7**
comp=Z,17nm,0.7s,baz=113,slow=4.9,SNR=72
ZALV pP **pP** **23 25 26.9 -1.7**
comp=Z,6.0nm,0.7s,baz=108,slow=4.8,SNR=1.9
ZALV PKiKP **PKiKP** **23 29 28.6 -0.5**
comp=Z,1.4nm,0.6s,baz=197,slow=3.1,SNR=4.1
ZALV LR LR 00 09 06.3
comp=Z,135nm,20.4s,baz=89,slow=35
ZALV Zalesovo Beam 97.73 324 P **P** **23 24 55.0 -0.7**
MAKZ Makanchi 97.74 316 P **P** **23 24 56.0 0.0**
MAKZ pmax pmax
comp=Z,25nm,0.9s
MAKZ Makanchi 97.74 316 P **P** **23 24 56.0 0.0**
MAKZ IAmb IAmb 23 24 58.9
comp=Z,24nm,0.9s
YKA Yellowknife Ar 97.80 27 P **P** **23 24 55.6 -0.3**
comp=Z,7.8nm,0.9s,baz=260,slow=5.1,SNR=8.7
YKA PKKPbc **PKKPbc** **23 41 30.4 -2.7**
comp=Z,6.3nm,0.8s,baz=66,slow=3.0,SNR=7.3
YKA LR LR 00 04 49.9
comp=Z,320nm,19.4s,baz=0.0,slow=33
SMLA Simla 97.82 300 *eP* Pdif 23 24 57.2 +0.4
SMLA *i* x x 23 29 18.7
LAO LASA Array 98.38 44 P Pdif 23 24 59.4 +0.5
baz=257
SHLS Shalkode 98.66 312⇑ *iP* **P** **23 24 59.2 -1.2**
comp=Z,57nm,2.3s,baz=312
SHLS Shalkode 98.66 312 *c iP* **P** **23 24 59.2 -1.2**
SHLS pmax pmax
comp=Z,57nm,2.3s
DHRM DHARAMSHALA 98.78 301 *eP* Pdif 23 25 01.7 +0.4
DHRM IAmb IAmb 23 25 03.4
comp=Z,8.6nm,0.7s
UZB Uzynbulak 98.97 312⇑ *iP* **P** **23 25 01.8 0.0**
comp=Z,41nm,2.8s,baz=312
UZB Uzynbulak 98.97 312 *c iP* **P** **23 25 01.7 0.0**
UZB pmax pmax
comp=Z,41nm,2.8s
KPKS Kokpek 99.28 312⇑ *iP* **Pdif** **23 25 03.1 0.0**
comp=Z,66nm,2.5s,baz=312
KPKS Kokpek 99.28 312 *c iP* **Pdif** **23 25 03.1 0.0**
KPKS pmax pmax
comp=Z,66nm,2.5s
SATY Saty 99.39 312⇑ *iP* **Pdif** **23 25 03.7 0.0**
comp=Z,31nm,2.5s,baz=312
SATY Saty 99.39 312 *c iP* **Pdif** **23 25 03.6 0.0**
SATY pmax pmax
comp=Z,31nm,2.5s
SATY Saty 99.39 312 *c iP* **Pdif** **23 25 03.6 0.0**
SATY pmax pmax
comp=Z,31nm,2.5s
TDK Taldyqorghan 99.78 314 *eP* **Pdif** **23 25 05.0 -0.2**
baz=314
TDK Taldyqorghan 99.78 314 *eP* **Pdif** **23 25 05.0 -0.2**
MDOK Medeo 100.39 312 *i P* **Pdif** **23 25 08.0 -0.2**
baz=312
MDOK Medeo 100.39 312 *i P* **Pdif** **23 25 07.9 -0.2**
NRIK Noril'sk 100.43 339 P **Pdif** **23 25 06.8 -0.7**
comp=Z,4.8nm,0.7s,baz=110,slow=4.5,SNR=24
TNSS Tian-Shan 100.44 312 *eP* **Pdif** **23 25 08.5 -0.2**
baz=312
TNSS Tian-Shan 100.44 312 *eP* **Pdif** **23 25 08.4 -0.2**
AAA Alma-Ata 100.49 312⇑ *eP* **Pdif** **23 25 08.5 0.0**
baz=312
AAA Alma-Ata 100.49 312⇑ *eP* **Pdif** **23 25 08.4 0.0**
KSH Kashi 100.50 308 P **Pdif** **23 25 09.5 +0.9**
KSH PP **PP** **23 29 18.3 +1.1**
KSH SKS 23 35 39.0
KSH S **Sdif** **23 36 37.8 +3.4**
KSH pmax pmax
comp=Z,240nm,5.2s
KSH LR LR
comp=Z,710nm,20.3s
KSH LR LR
comp=Z,790nm,20.5s
CHKK Chushkaly 100.56 313 *eP* **Pdif** **23 25 08.1 -0.6**
baz=313
CHKK Chushkaly 100.56 313 *eP* **Pdif** **23 25 08.0 -0.6**
KURK Kurchatov 100.73 320 *c iP* **Pdif** **23 25 08.8 -0.4**
KURK pmax pmax
comp=Z,6.0nm,1.5s
KURBB Kurchatov Arra 100.77 320 PKPPKP 23 49 41.0
comp=Z,0.4nm,0.7s,baz=256,slow=2.8,SNR=4.6
KUU Kurty 101.03 313 *eP* **Pdif** **23 25 10.3 -0.5**
comp=Z,58nm,2.4s,baz=313
KUU Kurty 101.03 313 *eP* **Pdif** **23 25 10.3 -0.5**
KUU pmax pmax
comp=Z,58nm,2.4s
AAK Ala-Archa 102.14 311 P **Pdif** **23 25 15.9 -0.1**
AAK Ala-Archa 102.14 311 *i P* **Pdif** **23 25 15.5 -0.4**
AAK pmax pmax
comp=Z,3.0nm,0.9s
SGDS Sogindy 102.17 312 *eP* **Pdif** **23 25 15.6 -0.4**
comp=Z,33nm,3.6s,baz=312
SGDS Sogindy 102.17 312 *eP* **Pdif** **23 25 15.5 -0.4**
SGDS pmax pmax
comp=Z,33nm,3.6s
PLCA Paso Flores 102.81 139 PKKPbc PKKPbc 23 41 17.4 -0.4
comp=Z,1.6nm,0.7s,baz=92,slow=4.2,SNR=4.4
BTLS Baital 102.83 313 *i P* **Pdif** **23 25 18.4 -0.3**
comp=Z,18nm,2.3s,baz=314
BTLS Baital 102.83 313 *i P* **Pdif** **23 25 18.4 -0.3**
BTLS pmax pmax
comp=Z,18nm,2.3s
DZA Taraz 104.48 311 *ePdif* **Pdif** **23 25 25.4 -0.8**
baz=311
DZA Taraz 104.48 311 *eP* **Pdif** **23 25 25.4 -0.8**
IUG luzhnay 105.35 310 *ePdif* **Pdif** **23 25 29.9 -0.2**
baz=310
IUG *e*PP **PP** **23 29 52.3 -1.1**
baz=310
IUG luzhnay 105.35 310 *eP* **Pdif** **23 25 29.9 -0.2**
IUG *e* 23 29 52.2
SVE Sverdlovsk 111.65 326 *e*PKiKP **PKiKP** **23 29 54.3 -0.3**
OPO Ambohidratompo 112.27 242 PKiKP **PKiKP** **23 29 57.9 +0.7**
comp=Z,22nm,0.7s,baz=96,slow=1.5,SNR=26
ARU Arti 112.83 325 *i* PKIKP **PKiKP** **23 29 56.2 -0.7**
ARU 23 30 43.6
ARU 23 36 57.0
ARU SP SP 23 40 06.2 -1.4
GEYT Alibeck 114.22 305 PKiKP PKPdf 23 30 00.0 -0.2
comp=Z,7.0nm,0.7s,baz=215,slow=1.8,SNR=18
SOHO SOHO 114.78 290 *i P* PKPdf 23 30 00.9 -0.7
SNR=19
MDH Madha 115.11 291 P **PKPdf** **23 30 00.9 -1.3**
UOSS Minazif 115.16 291 *i P* **PKPdf** **23 30 01.3 -1.0**
SNR=5.4
UOSS Minazif 115.16 291 *PKPdf* **23 30 01.5 -0.9**
BANOM Banah 115.17 292 P **PKPdf** **23 30 01.9 -0.5**
HATD Hatta, Dubai 115.22 291 *i P* **PKPdf** **23 30 02.2 -0.2**
SNR=14
MSFE Esma-Masafi 115.24 291 *i P* **PKPdf** **23 30 01.7 -0.8**
SNR=5.8
ASHO Ashiyiah 115.27 290 *i P* **PKPdf** **23 30 01.8 -0.8**
SNR=11
SPA0 Spitsbergen Ar 115.29 354 **PKiKP** **23 30 00.8 -0.3**
SPA0 Spitsbergen Ar 115.29 354 *e*PKPdf **PKPdf** **23 30 01.9 +0.8**
SPITS Spitsbergen Ar 115.29 354 PKKPbc PKKPbc 23 40 37.1 -2.0
comp=Z,16nm,1.0s,baz=255,slow=26,SNR=3.6
SHME Shamm 115.32 292 P **PKPdf** **23 30 02.0 -0.7**
ALNE Al Ain 115.49 290 *i P* **PKPdf** **23 30 02.4 -0.6**
SNR=9.4
NAZ Nazwa, Dubai 115.66 291 P **PKPdf** **23 30 02.7 -0.5**
O53A New Philadelph 115.86 52 P **PKiKP** **23 30 03.5 +0.2**
baz=272
Q54A Coxs Mills 116.19 54 P **PKiKP** **23 30 04.3 +0.4**
baz=272
M53A WI Miller and 116.22 51 P **PKPdf** **23 30 03.7 -0.2**
baz=273
T55A Pulaski 116.26 56 P **PKiKP** **23 30 04.7 +0.5**
baz=271
Z57A Bowman 116.31 60 P **PKPdf** **23 30 04.2 -0.1**
baz=269
HSPB Hornsund (broa 116.40 353 *e*PKiKP **PKPdf** **23 30 02.0 -1.2**
HSPB Hornsund (broa 116.40 353 *e*PKPdf **PKPdf** **23 30 03.0 -0.2**
P54A Burton 116.45 53 P **PKiKP** **23 30 05.3 +0.9**
baz=272
O54A Avella 116.50 52 P **PKiKP** **23 30 04.9 +0.4**
baz=272
L53A Girard 116.50 50 P **PKiKP** **23 30 05.2 +0.7**
baz=273
V56A Mocksville 116.50 57 P **PKiKP** **23 30 05.2 +0.6**
baz=270
BLA Blacksburg 116.55 56 P **PKiKP** **23 30 05.1 +0.4**
baz=271
N54A Moraine State 116.76 52 P **PKiKP** **23 30 05.4 +0.5**
baz=273
R55A Marlinton 116.77 55 P **PKiKP** **23 30 05.6 +0.4**
baz=272
Q55A Buckhannon 116.78 54 P **PKiKP** **23 30 05.8 +0.7**
baz=272
T56A Rocky Mt 116.87 56 P **PKiKP** **23 30 05.5 +0.2**
baz=271
LPAZ La Paz 116.95 117 PKP **PKPdf** **23 30 06.1 -0.7**
comp=Z,1.9nm,0.7s,baz=98,slow=1.7,SNR=7.7
LPAZ PKKPbc **PKKPbc** **23 40 32.1 -0.3**
comp=Z,2.8nm,0.7s,baz=12,slow=4.0,SNR=12
LPAZ La Paz 116.95 117 **PKPdf** **23 30 05.8 -1.0**
M54A Oil Creek Stat 116.98 51 P **PKiKP** **23 30 05.7 +0.3**
baz=274
L54A Sinclairville 117.19 50 P **PKiKP** **23 30 05.9 +0.1**
baz=274
KIRV Kirov 117.22 329 PKP **PKPdf** **23 30 05.1 -0.1**
comp=Z,26nm,0.5s,baz=88,slow=0.9,SNR=14
KIRV PKKPbc **PKKPbc** **23 40 30.4 -1.4**
comp=Z,11nm,0.6s,baz=318,slow=2.3,SNR=4.2
O55A Ligonier 117.32 52 P **PKiKP** **23 30 06.6 +0.5**
baz=273
Q56A Snyder Ridge, 117.47 54 P **PKiKP** **23 30 07.6 +1.2**
baz=273
ALGO Algonquin Park 117.74 46 P **PKiKP** **23 30 07.0 +0.4**
baz=277
G54A Lake Saint Pet 117.78 46 P **PKiKP** **23 30 07.1 +0.3**
baz=277
D53A Lac Vacive, Po 117.83 44 P **PKiKP** **23 30 07.7 +0.8**
baz=278
L55A Hinsdale 117.84 50 P **PKiKP** **23 30 07.7 +0.6**
baz=275
O56A Blue Knob Stat 117.88 52 P **PKiKP** **23 30 07.6 +0.3**
baz=274
E53A Dumoine, Ponti 117.95 45 P **PKiKP** **23 30 07.7 +0.6**
baz=278
R57A Stanardsville 118.02 54 P **PKiKP** **23 30 07.5 0.0**
baz=273
PRGR Permogore 118.03 333 *e*PKIKP **PKPdf** **23 30 05.4 -1.3**
PRGR pmax pmax
comp=Z,25nm,0.8s
N56A West Decatur 118.05 51 P **PKPdf** **23 30 07.4 0.0**
baz=274
Q57A Strasburg 118.08 54 P **PKPdf** **23 30 07.5 -0.1**
baz=273
M56A Emporium 118.09 51 P **PKPdf** **23 30 07.2 -0.4**
baz=275
E54A Lac Daplat, Po 118.27 45 P **PKiKP** **23 30 07.8 +0.1**
baz=278
P57A Homestead Farm 118.36 53 P **PKiKP** **23 30 08.5 +0.4**
baz=274
SSPA Standing Stone 118.38 52 P **PKiKP** **23 30 08.4 +0.3**
baz=274
O57A Amberson 118.60 52 P **PKiKP** **23 30 08.7 +0.1**
baz=274
Q58A Fox Den Farm, 118.65 54 P **PKiKP** **23 30 09.6 +0.9**
baz=274
U59A Littleton 118.68 57 P **PKiKP** **23 30 09.3 +0.5**
baz=272
W60A Pink Hill 118.79 58 P **PKiKP** **23 30 09.6 +0.6**
baz=271
P58A Pank, Wackersv 118.91 53 P **PKiKP** **23 30 09.4 +0.3**
baz=274
CBN Corbin Frederi 118.93 55 P **PKiKP** **23 30 09.5 +0.2**
baz=273
L57A Andrews Acres 119.04 50 P **PKiKP** **23 30 10.2 +0.8**
baz=276
E55A Montcerf-Lytto 119.04 45 P **PKiKP** **23 30 09.5 +0.4**
baz=279
O58A Lewisberry 119.15 52 P **PKiKP** **23 30 10.1 +0.5**
baz=275
K57A Scipio Center 119.20 49 P **PKiKP** **23 30 09.9 +0.2**
baz=276
N58A Sunbury 119.25 51 P **PKiKP** **23 30 09.8 +0.1**
baz=275
D55A Sainte-Anne-du 119.34 44 P **PKiKP** **23 30 10.1 +0.3**
baz=280
M58A Price's Panora 119.39 51 P **PKiKP** **23 30 10.3 +0.2**
baz=276
E56A St. Veronique 119.72 45 P **PKiKP** **23 30 10.7 +0.2**
baz=280
APA Apatity 119.74 341⇑ *i* PKIKP **PKPdf** **23 30 06.6 -3.2**
APA pmax pmax
comp=Z,13nm,0.7s
L58A Harry Jones Me 119.77 50 P **PKiKP** **23 30 10.9 +0.1**
baz=276
H57A Richville 119.80 47 P **PKiKP** **23 30 11.3 +0.6**
baz=278
K58A Earlville 119.84 49 P **PKiKP** **23 30 11.4 +0.5**
baz=277
N59A State Game Lan 119.95 51 P **PKiKP** **23 30 11.8 +0.6**
baz=276
G57A Newington 119.99 46 P **PKiKP** **23 30 11.5 +0.4**
baz=279
KEV Kevo 120.09 345 PKIKP **PKPdf** **23 30 10.0 -0.4**
KEV Kevo 120.09 345 **PKPdf** **23 30 10.0 -0.4**
CPUP Villa Florida 120.14 133 PKP **PKPdf** **23 30 11.3 -0.6**
comp=Z,1.7nm,0.4s,baz=227,slow=4.5,SNR=5.1
CPUP PKKPbc **PKKPbc** **23 40 20.4 0.0**
comp=Z,3.7nm,0.8s,baz=43,slow=4.3,SNR=7.9
CPUP Villa Florida 120.14 133 **PKPdf** **23 30 10.8 -1.1**
M59A Waymart 120.14 51 P **PKiKP** **23 30 11.7 +0.2**
baz=276
HAMF Hammerfest 120.22 347 *e*PKPdf **PKPdf** **23 30 10.2 -0.5**
L59A Walton 120.35 50 P **PKiKP** **23 30 12.3 +0.3**
baz=277
K59A Cooperstown 120.42 49 P **PKiKP** **23 30 12.4 +0.3**
baz=278
N60A Cedar Hill Far 120.46 51 P **PKiKP** **23 30 12.4 +0.2**
baz=276
SUMG Summit 120.56 9 *i P* **PKPdf** **23 30 11.0 -0.8**
comp=Z,64nm,1.2s
SUMG Summit 120.56 9 *i* PKIKP **PKPdf** **23 30 11.0 -0.8**
SUMG pmax pmax
comp=Z,64nm,1.2s
SUMG Summit 120.56 9 **PKPdf** **23 30 11.8 0.0**
J59A Piesco 120.57 48 P **PKiKP** **23 30 12.6 +0.2**
baz=278
ARCES ARCESS Array B 120.61 345 PKP **PKPdf** **23 30 11.4 -0.1**
comp=Z,48nm,0.5s,baz=71,slow=1.3,SNR=213
ARCES PKKPab **PKKPab** **23 40 16.4 -1.4**
comp=Z,1.7nm,0.5s,baz=215,slow=3.0,SNR=20
ARCES ARCESS Array B 120.61 345 **PKPdf** **23 30 11.1 -0.4**
ARE0 ARCESS Array S 120.61 345 **PKPdf** **23 30 11.2 -0.4**
ARE0 ARCESS Array S 120.61 345 *e*PKPdf **PKPdf** **23 30 11.2 -0.4**
G58A Ormstown 120.63 46 P **PKiKP** **23 30 12.8 +0.5**
baz=280
H58A Gabriels 120.66 47 P **PKiKP** **23 30 13.0 +0.5**
baz=279
ILULI Ilulissat 120.76 15 *i P* **PKPdf** **23 30 11.6 -0.1**
comp=Z,19nm,0.6s
ILULI Ilulissat 120.76 15 *i* PKIKP **PKPdf** **23 30 11.6 -0.1**
ILULI pmax pmax
comp=Z,19nm,0.6s
KLMR Klimovskoe 121.04 333 *e*PKIKP **PKPdf** **23 30 10.9 -1.6**
KLMR *e*SSS SSS 23 52 30.3
KLMR Klimovskoe 121.04 333 *e*PKPdf **PKPdf** **23 30 10.9 -1.6**
KLMR *e*PKIKP **PKKPdf** **23 40 48.9 -2.6**
KLMR *e*SSS SSS 23 52 30.3
KLMR *e*SSS SSS 23 52 30.3
LATQ La Tuque 121.08 43 P **PKiKP** **23 30 13.9 +0.7**
baz=282
N61A South Mountain 121.08 51 P **PKiKP** **23 30 13.8 +0.4**
baz=277
G59A Clarenceville 121.25 46 P **PKiKP** **23 30 14.2 +0.7**
baz=280
PAL Palisades 121.34 51 P **PKiKP** **23 30 14.4 +0.5**
baz=277
I60A Shoreham 121.38 48 P **PKiKP** **23 30 14.6 +0.7**
baz=280
KTK1 Kautokeino 121.55 346 *e*PKPdf **PKPdf** **23 30 12.7 -0.6**
MAK Makhachkala 121.92 311 *eP* **Pdif** **23 26 37.0 -6.6**
MAK *i* 23 30 14.6
MAK *e* 23 30 45.7
MAK *e* 23 37 02.0
MAK *e*SS SS 23 48 18.9 +0.7
MAK *e*SSS SSS 23 52 48.9
MAK pmax pmax
comp=Z,188nm,1.9s
AKT Akhty 121.98 310 *e*PKIKP **PKiKP** **23 30 15.6 +0.3**
AKT *e* 23 30 49.6
AKT *e* 23 31 51.3
AKT pmax pmax
comp=Z,23nm,0.6s
J61A Chester 122.00 48 P **PKiKP** **23 30 15.5 +0.4**
baz=280
TRO Tromso 122.03 348 *e*PKPdf **PKPdf** **23 30 13.7 -0.5**
L61B Northampton 122.05 49 P **PKiKP** **23 30 16.1 +0.8**
baz=279
I61A Oroboro, Fairl 122.14 47 P **PKiKP** **23 30 15.7 +0.3**
baz=280
H61A Lyndonville 122.23 47 P **PKiKP** **23 30 15.8 +0.3**
baz=281
LBNH Lisbon 122.28 47 P **PKiKP** **23 30 15.7 +0.1**
baz=281
K62A Royalston 122.34 49 P **PKiKP** **23 30 16.0 +0.2**
baz=280
SFJD Kangerlussuaq 122.47 17 *i P* **PKiKP** **23 30 15.4 +0.1**
SFJD Kangerlussuaq 122.47 17 *i* PKIKP **PKiKP** **23 30 15.4 +0.1**
SCHQ Schefferville 122.52 34 PKP **PKPdf** **23 30 14.8 -0.8**
comp=Z,2.9nm,0.5s,baz=253,slow=12,SNR=3.6
SCHQ PKKPbc **PKKPbc** **23 40 11.4 -0.7**
comp=Z,12nm,0.7s,baz=151,slow=3.8,SNR=23
J62A Henniker 122.55 48 P **PKiKP** **23 30 16.9 +0.7**
baz=280
F61A St Evariste 122.58 45 P **PKiKP** **23 30 16.8 +0.7**
baz=283
H62A Milan 122.76 46 P **PKiKP** **23 30 17.5 +0.9**
baz=282
E61A Lac Etchemin 122.82 44 P **PKiKP** **23 30 17.4 +0.7**
baz=283
SUR Sutherland 122.98 214 PKPdf **PKiKP** **23 30 18.0 +0.3**
SIV San Ignacio 123.06 121 PKP **PKPdf** **23 30 16.2 -1.6**
comp=Z,2.8nm,0.6s,baz=264,slow=3.9,SNR=10
SIV PKKPbc **PKKPab** **23 40 10.0 -0.5**
comp=Z,1.2nm,0.6s,baz=52,slow=5.2,SNR=7.0
G62A West of Eustis 123.06 46 P **PKiKP** **23 30 17.8 +0.6**
baz=282
GROC Groznyy 123.11 312 *i* PKIKP **PKPdf** **23 30 16.6 -0.5**
GROC pmax pmax
comp=Z,33nm,0.6s
BOSA Boshof 123.18 220 PKP **PKiKP** **23 30 18.4 +0.3**
comp=Z,51nm,0.8s,baz=98,slow=1.5,SNR=29
BOSA Boshof 123.18 220 PKPdf **PKiKP** **23 30 18.5 +0.4**
VRH Novokhopyorsk 123.72 322 *e*PKIKP **PKPdf** **23 30 17.3 -0.7**
VRH pmax pmax
comp=Z,80nm,0.6s
PKME Peaks-Kenny Pk 123.91 45 P **PKiKP** **23 30 19.4 +0.6**
baz=284
F63A Nahmakanta, Br 123.93 45 P **PKiKP** **23 30 19.2 +0.3**
baz=284
I64A Boothbay 123.97 47 P **PKiKP** **23 30 19.1 +0.2**
baz=282
L65A Cape Cod Natio 124.04 49 P **PKiKP** **23 30 19.3 +0.1**
baz=281
TBLG Delisi 124.15 310 PKIKP **PKiKP** **23 30 19.5 0.0**
TBLG Delisi 124.15 310 PKPdf **PKiKP** **23 30 19.5 0.0**
STEI Steigen 124.20 348 *e*PKPdf **PKPdf** **23 30 17.9 -0.5**
MOS Moscow 124.23 328 *i* PKIKP **PKPdf** **23 30 17.3 -1.5**
MOS *e* 23 30 48.5
MOS pmax pmax
comp=Z,67nm,0.8s
G64A Maxfield 124.28 45 P **PKiKP** **23 30 19.9 +0.4**
baz=284
SCO Scoresbysund 124.32 4 *i P* **PKPdf** **23 30 18.6 0.0**
comp=Z,72nm,1.3s
SCO Scoresbysund 124.32 4 *i* PKIKP **PKPdf** **23 30 18.6 0.0**
SCO pmax pmax
comp=Z,72nm,1.3s
SCO Scoresbysund 124.32 4 PKPdf **PKiKP** **23 30 19.1 +0.2**
LOF Lofoten 124.37 348 *e*PKPdf **PKiKP** **23 30 18.9 -0.1**
F64A Sherman 124.40 44 P **PKiKP** **23 30 20.0 +0.2**
baz=285
PQI Presque Isle 124.42 43 **PKPdf** **23 30 18.3 -1.1**
ZEI Tsey 124.56 312 *i* PKIKP **PKPdf** **23 30 19.5 -0.6**
ZEI pmax pmax
comp=Z,20nm,0.9s
GOF Gofitskoye 124.65 315⇑ *e*PKIKP **PKPdf** **23 30 19.9 -0.1**
FAUS Fauske 124.65 347 *e*PKPdf **PKPdf** **23 30 18.3 -1.0**
H65A Eastbrook 124.76 46 P **PKiKP** **23 30 20.4 -0.1**
baz=284
LPSR Galich'ya Gora 124.84 324 *e*PKIKP **PKPdf** **23 30 19.7 -0.4**
LPSR pmax pmax
comp=Z,50nm,0.8s
OBN Obninsk 125.05 328 PKP **PKiKP** **23 30 20.7 0.0**
comp=Z,78nm,0.5s,baz=69,slow=3.0,SNR=15
OBN Obninsk 125.05 328 *c* PKIKP **PKPdf** **23 30 20.1 -0.3**
OBN *e* 23 30 55.1
OBN *e* 23 31 09.0
OBN *e*PPP PPP 23 34 55.8
OBN 23 37 18.0
OBN *i* SS SS 23 48 56.9 +0.3
OBN pmax pmax
comp=Z,126nm,2.3s
OBN Obninsk 125.05 328 PKPdf **PKPdf** **23 30 20.1 -0.3**
KBZ Khabaz 125.07 313 PKP **PKPdf** **23 30 20.9 +0.1**
comp=Z,12nm,0.7s,baz=133,slow=2.7,SNR=32
G65A Princeton 125.11 45 P **PKiKP** **23 30 21.3 +0.1**
baz=285
AKH Akhalkalaki 125.13 310 ‖P **PKiKP** **23 30 22.4 +0.7**
AKH Akhalkalaki 125.13 310 PKIKP **PKiKP** **23 30 21.6 0.0**
AKH Akhalkalaki 125.13 310 PKPdf **PKiKP** **23 30 21.6 0.0**
KVAR Kislovodsk Arr 125.16 313 PKP **PKiKP** **23 30 22.4 +1.0**
comp=Z,6.4nm,0.8s,baz=98,slow=22,SNR=2.3
KIV Kislovodsk 125.16 313 ⇑P **PKPdf** **23 30 21.1 0.0**
KIV Kislovodsk 125.16 313 *i P* **PKPdf** **23 30 20.5 -0.6**
SNR=7.0
KIV Kislovodsk 125.16 313 *i* PKIKP **PKPdf** **23 30 21.3 +0.2**
KIV *e* 23 32 11.0
KIV *e*PS **PS** **23 42 12.3 -2.4**
KIV *e*SS SS 23 48 58.2 -1.0
KIV pmax pmax
comp=Z,42nm,0.9s
KIV MLR MLR
comp=Z,655nm,23.0s
VSR Storozhevoye 125.23 323 *e*PKIKP **PKPdf** **23 30 20.1 -0.8**
VSR pmax pmax
comp=Z,40nm,0.6s
LBTB Lobatse 125.44 224 PKIKP **PKPdf** **23 30 22.0 -0.3**
LBTB Lobatse 125.44 224 PKPdf **PKPdf** **23 30 21.9 -0.3**
PUL Pulkovo 125.50 335 *c* PKIKP **PKiKP** **23 30 22.3 +0.8**
PUL pmax pmax
comp=Z,69nm,0.5s
MOR8 Moi Rana 125.85 347 *e*PKPdf **PKPdf** **23 30 21.0 -0.6**
KONS Konsvik 125.86 348 *e*PKPdf **PKPdf** **23 30 21.7 +0.1**
CHVG Ch'k'valeri 125.88 312 ⇑P **PKPdf** **23 30 20.8 -1.6**
ATD Arta Tunnel 126.02 273 PKPdf **PKiKP** **23 30 25.0 +1.0**
GEVA Gevas 126.02 307 PKPdf **PKiKP** **23 30 23.4 0.0**
FIA1 FINESS Array S 126.08 338 PKPdf **PKPdf** **23 30 22.1 -0.1**
FINES FINESS Array B 126.08 338 PKP **PKPdf** **23 30 21.9 -0.3**
comp=Z,14nm,0.6s,baz=98,slow=2.3,SNR=53
BATM Batumi 126.41 311 ⇑P **PKiKP** **23 30 23.9 0.0**
BATM Batumi 126.41 311 ⇑PKIKP **PKiKP** **23 30 23.9 0.0**

SOC	**Sochi**	**127.34 314**	*c*	*i*PKIKP	**PKPdf**	**23 30 24.5**	**-0.6**
SOC				*e*		23 32 22.4	
SOC				*e*PPP	PPP	23 35 09.5	
SOC				*e*PS	PS	23 42 34.5	+1.0
SOC				*e*SS	SS	23 49 18.0	-8.1
SOC				pmax	pmax		
	comp=Z,12nm,0.5s						
KOPT	**Kop Dagi**	**127.65 309**		PKPdf	**PKiKP**	**23 30 27.4**	**+0.6**
VSU	**Vasula**	**127.77 335**		*e*P	**PKPdf**	**23 30 24.6**	**-0.9**
VSU	**Vasula**	**127.77 335**		*i* PKIKP	**PKPdf**	**23 30 25.4**	**-0.1**
NSS	**Namsos**	**127.80 347**		*e*PKPdf	**PKiKP**	**23 30 26.0**	**0.0**
KMBO	**Kilima Mbogo**	**128.13 256**		PKP	**PKiKP**	**23 30 28.9**	**+0.5**
	comp=Z,21nm,0.9s,baz=62,slow=3.8,SNR=40						
KMBO	**Kilima Mbogo**	**128.13 256**		*i* P	**PKiKP**	**23 30 29.0**	**+0.5**
	SNR=24						
KMBO	**Kilima Mbogo**	**128.13 256**		PKIKP	**PKiKP**	**23 30 29.0**	**+0.5**
KMBO	**Kilima Mbogo**	**128.13 256**		PKPdf	**PKiKP**	**23 30 28.7**	**+0.2**
ANN	**Anapa**	**128.54 316**		*i* PKIKP	**PKPdf**	**23 30 27.1**	**-0.3**
ANN				*e*		23 30 57.9	
ANN				*e*		23 32 32.5	
ANN				*e*SP	SP	23 42 28.0	-0.3
ANN				*e*SS	**SS**	**23 49 45.0**	**+4.1**
ANN				pmax	pmax		
	comp=Z,29nm,0.9s						
ANN				MLR	MLR		
	comp=Z,673nm,23.0s						
TBLU	**Trondheim**	**129.29 347**		*e*PKPdf	**PKPdf**	**23 30 28.4**	**+0.1**
LSZ	**Lusaka**	**129.64 235**		PKP	**PKiKP**	**23 30 31.2**	**-0.1**
	comp=Z,38nm,0.7s,baz=143,slow=1.3,SNR=38						
LSZ	**Lusaka**	**129.64 235**		PKPdf	**PKiKP**	**23 30 31.3**	**0.0**
MICGM	**Minsk**	**129.67 331**		*e*	**PKPdf**	**23 30 29.0**	**-0.2**
MNK	**Minsk**	**129.67 331**		*e*PKIKP	**PKPdf**	**23 30 29.0**	**-0.2**
IZAR	**Zarasai**	**129.68 333**		*e*P	**PKiKP**	**23 30 30.4**	**+0.4**
IDID	**Didziasalis**	**129.72 332**		*e*P	**PKiKP**	**23 30 30.5**	**+0.4**
ISAL	**Salakas**	**129.84 332**		*e*P	**PKiKP**	**23 30 30.5**	**+0.2**
MOL	**Molde**	**130.47 348**		*e*PKPdf	**PKiKP**	**23 30 31.1**	**-0.3**
DOMB	**Dombas**	**130.62 347**		*e*PKPdf	**PKPdf**	**23 30 30.2**	**-0.7**
PTGA	**Pitinga**	**130.63 104**		PKP	**PKPdf**	**23 30 31.4**	**-0.9**
	comp=Z,4.3nm,0.5s,baz=244,slow=3.2,SNR=13						
PTGA				SKPbc	**SKPbc**	**23 33 44.4**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=168,slow=4.3,SNR=4.2						
SIM	**Simferopol'**	**130.70 317**		*e*PKIKP	**PKiKP**	**23 30 32.6**	**+0.2**
SIM				pmax	pmax		
	comp=Z,47nm,0.6s						
NC303	**NORSAR Array S**	**130.79 345**			**PKPdf**	**23 30 31.6**	**+0.4**
PABE	**Paberze**	**130.83 333**		*e*P	**PKPdf**	**23 30 31.5**	**+0.1**
AKN	**Aaknes**	**130.93 348**		*e*PKPdf	**PKPdf**	**23 30 29.7**	**-1.8**
NB2	**NORSAR Subarra**	**130.99 345**		PKPdf	**PKPdf**	**23 30 30.8**	**-0.8**
	comp=Z,56nm,1.7s,baz=31,slow=1.9						
NB2	**NORSAR Subarra**	**130.99 345**		PKPdf	**PKPdf**	**23 30 30.8**	**-0.8**
	baz=31,slow=1.9						
NOA	**NORSAR Array B**	**130.99 345**		PKP	**PKPdf**	**23 30 31.9**	**+0.3**
	comp=Z,8.7nm,0.6s,baz=33,slow=2.0,SNR=64						
NOA				SKPbc	**SKPab**	**23 33 45.5**	**+0.8**
	comp=Z,3.4nm,0.6s,baz=31,slow=3.0,SNR=11						
AKASG	**Malin Array Be**	**131.08 326**		PKP	**PKPdf**	**23 30 31.6**	**-0.4**
	comp=Z,7.8nm,0.6s,baz=62,slow=2.2,SNR=30						
AKASG				SKPbc	**SKPab**	**23 33 46.5**	**+1.2**
	comp=Z,10nm,0.9s,baz=46,slow=4.4,SNR=9.2						
AKBB	**Malin Array Si**	**131.08 326**		PKIKP	**PKPdf**	**23 30 32.1**	**+0.1**
AKBB	**Malin Array Si**	**131.08 326**		PKPdf	**PKPdf**	**23 30 32.1**	**+0.1**
HFS	**Hagfors**	**131.08 343**		PKP	**PKPdf**	**23 30 31.0**	**-0.7**
	comp=Z,13nm,0.6s,baz=91,slow=5.9,SNR=21						
HFS				SKPbc	**SKPab**	**23 33 46.0**	**+1.0**
	comp=Z,6.0nm,0.9s,baz=118,slow=5.4,SNR=4.2						
NBO00	**NORSAR Array S**	**131.10 345**			**PKiKP**	**23 30 32.5**	**-0.2**
NC602	**NORSAR Array S**	**131.16 345**		*e*PKPdf	**PKPdf**	**23 30 31.9**	**0.0**
PBUR	**Paburge**	**131.35 335**		*e*P	**PKPdf**	**23 30 31.6**	**-0.7**
FOO	**Floro**	**131.85 349**		*e*PKPdf	**PKPdf**	**23 30 33.6**	**+0.5**
ASF	**Jabal al Asfar**	**131.98 300**		SKP	**SKPab**	**23 33 51.6**	**+1.7**
	comp=Z,6.5nm,1.0s,baz=341,slow=2.6,SNR=4.8						
SKAR	**Skarslia**	**132.00 346**		*e*PKPdf	**PKiKP**	**23 30 34.4**	**-0.2**
HYA	**Hoyanger**	**132.02 348**		*e*PKPdf	**PKiKP**	**23 30 34.4**	**-0.1**
OSL	**Oslo**	**132.06 344**		*e*PKPdf	**PKiKP**	**23 30 34.4**	**-0.3**
SUW	**Suwalki**	**132.15 332**		*e*PKPdf	**PKPdf**	**23 30 33.8**	**-0.2**
SUW				*e*PKS		23 34 01.8	
SUW	**Suwalki**	**132.15 332**		PKIKP	**PKiKP**	**23 30 34.6**	**-0.4**
SUW	**Suwalki**	**132.15 332**			**PKiKP**	**23 30 34.6**	**-0.4**
ILGA	**Ilgaz**	**132.34 312**		PKPdf	**PKiKP**	**23 30 35.7**	**-0.5**
SUE	**Sulen**	**132.40 349**		*e*PKPdf	**PKPdf**	**23 30 34.7**	**+0.5**
KONO	**Kongsberg**	**132.59 345**		*e*PKPdf	**PKPdf**	**23 30 34.6**	**-0.1**
BRTR	**Keskin Array B**	**132.82 311**		PKP	**PKPdf**	**23 30 35.7**	**-0.2**
	comp=Z,7.8nm,0.7s,baz=145,slow=4.7,SNR=19						
BRTR				SKPbc	**SKPab**	**23 33 52.9**	**-0.5**
	comp=Z,5.4nm,1.0s,baz=99,slow=4.1,SNR=6.2						
BRTR	**Keskin Array B**	**132.82 311**		PKIKP	**PKPdf**	**23 30 35.9**	**0.0**
BRTR	**Keskin Array B**	**132.82 311**			**PKPdf**	**23 30 35.9**	**0.0**
ASK	**Askoy**	**132.84 348**		*e*PKPdf	**PKPdf**	**23 30 31.3**	**-3.8**
SORM	**Soroca**	**132.88 323**		⇓P	**PKPdf**	**23 30 34.9**	**-0.6**
SORM	**Soroca**	**132.88 323**		⇓PKIKP	**PKPdf**	**23 30 34.9**	**-0.6**
BER	**Bergen**	**132.91 348**		*e*PKPdf	**PKPdf**	**23 30 35.1**	**-0.1**
ODD1	**Odda**	**133.06 347**		*e*PKPdf	**PKiKP**	**23 30 40.1**	**+3.3**
MMAI	**Mount Meron Ar**	**133.08 301**		SKPbc	**SKPab**	**23 33 55.5**	**+0.9**
	comp=Z,9.4nm,1.0s,baz=57,slow=5.1,SNR=5.6						
KIS	**Kishinev**	**133.17 322**	⇑	*i* PKP	**PKPdf**	**23 30 35.7**	**-0.4**
	comp=Z,150nm,4.0s						
KIS				*i* pPKP	**pPKPdf**	**23 31 07.0**	**-3.2**
KIS	**Kishinev**	**133.17 322**		*i* SKS	SKSdf	23 37 55.0	+19
KIS	**Kishinev**	**133.17 322**		PKIKP	**PKPdf**	**23 30 35.7**	**-0.4**
KIS				*i*		23 31 07.0	
KIS				pmax	pmax		
	comp=Z,150nm,4.0s						
KIS	**Kishinev**	**133.17 322**		*e*LR	LR	00 14 12.0	
	comp=Z,150nm,19.0s						
KIS	**Kishinev**	**133.17 322**		*e*PP	PP	23 33 22.0	+18
MILM	**Milestii Mici**	**133.21 322**		⇓P	**PKPdf**	**23 30 33.4**	**-2.8**
BR231	**Keskin MP Arra**	**133.41 311**			**PKPdf**	**23 30 37.0**	**+0.1**
BLS5	**Blasjo**	**133.54 347**		*e*PKPdf	**PKiKP**	**23 30 37.6**	**-0.2**
BDFB	**Brasilia**	**133.59 130**		SKPab	**SKPab**	**23 33 58.2**	**+0.9**
	comp=Z,1.8nm,0.5s,baz=187,slow=3.2,SNR=3.0						
BDFB	**Brasilia**	**133.59 130**		PKIKP	**PKPdf**	**23 30 37.4**	**-0.6**
BDFB	**Brasilia**	**133.59 130**			**PKPdf**	**23 30 37.4**	**-0.6**
KMY	**Karmoy**	**134.00 347**		*e*PKPdf	**PKiKP**	**23 30 38.8**	**+0.2**
HOMB	**Homborsund**	**134.08 345**		*i* P	**PKPdf**	**23 30 36.0**	**-1.4**
SNART	**Snartemo**	**134.34 346**		*e*PKPdf	**PKPdf**	**23 30 38.5**	**+0.5**
SNART	**Snartemo**	**134.34 346**		*e*P	**PKiKP**	**23 30 38.9**	**-0.4**
LVV	**L'vov**	**134.34 327**		*e*PKIKP	**PKPdf**	**23 30 37.7**	**-0.5**
LVV				*e*		23 33 10.6	
CSS	**Mathiatis**	**134.35 304**			**PKPdf**	**23 30 39.1**	**+0.3**
MBAR	**Mbarara**	**134.40 254**		PKP	**PKPdf**	**23 30 40.1**	**+0.5**
	comp=Z,17nm,0.7s,baz=217,slow=9.3,SNR=15						
MBAR	**Mbarara**	**134.40 254**	*c*	*i* PKIKP	**PKiKP**	**23 30 40.4**	**-0.6**
MBAR				pmax	pmax		
	comp=Z,40nm,1.3s						
MBAR	**Mbarara**	**134.40 254**			**PKPdf**	**23 30 39.8**	**+0.2**
TOPG	**Topolog**	**134.44 319**		⇑P	**PKiKP**	**23 30 39.6**	**-0.4**
CFR	**Carcaliu**	**134.45 320**		⇑P	PKPpre	23 30 35.4	
CFR	**Carcaliu**	**134.45 320**		⇑PKIKP	**PKPdf**	**23 30 35.4**	**-3.1**
BEL	**Belsk**	**134.67 331**		*e*PKPdf	**PKPdf**	**23 30 39.3**	**+0.5**
BEL				*e*PP	**PP**	**23 33 11.6**	**-1.5**
BEL				*e*PKS	**PKSdf**	**23 34 11.3**	**-3.6**
TESR	**Tescani**	**134.70 322**		⇓P	**PKPdf**	**23 30 36.4**	**-2.6**
TSUM	**Tsumeb**	**134.79 222**			**PKPdf**	**23 30 39.7**	**-0.5**
TLBR	**Topalu**	**134.80 319**		⇑P	**PKPdf**	**23 30 39.9**	**+0.7**
BIZ	**Bicaz**	**134.80 323**		⇓P	**PKiKP**	**23 30 40.3**	**-0.4**
BUR08	**Bucovina Ar. S**	**134.95 324**			**PKiKP**	**23 30 40.8**	**-0.3**
BURAR	**Bucovina Array**	**134.95 324**		⇑P	**PKPdf**	**23 30 33.5**	**-6.0**
BURAR	**Bucovina Array**	**134.95 324**		⇑PKIKP	**PKPdf**	**23 30 33.6**	**-6.0**
BURAR	**Bucovina Array**	**134.95 324**		PKPdf	**PKiKP**	**23 30 40.5**	**-0.6**
ORH	**Orhaniye**	**134.99 313**		P	**PKiKP**	**23 30 45.2**	**+4.0**
KWP	**Kalwaria Pacla**	**135.14 328**		*e*PKPdf	**PKPdf**	**23 30 40.0**	**+0.2**
KWP	**Kalwaria Pacla**	**135.14 328**		PKIKP	**PKPdf**	**23 30 39.9**	**+0.2**
KWP	**Kalwaria Pacla**	**135.14 328**			**PKPdf**	**23 30 39.9**	**+0.2**
GKP	**Gorka Klasztor**	**135.22 335**		*e*PKPdf	**PKPdf**	**23 30 39.9**	**+0.2**
GKP				*e*PKS	PP	23 34 13.4	+57
MUD	**Monsted U'grnd**	**135.48 343**		*i* P	**PKPdf**	**23 30 40.1**	**0.0**
MUD	**Monsted U'grnd**	**135.48 343**		*i* PKIKP	**PKPdf**	**23 30 40.1**	**0.0**
ISK	**Istanbul-Kandi**	**135.62 314**		P	**PKPdf**	**23 30 40.2**	**-0.7**
MLR	**Muntele Rosu**	**135.65 321**		PKP	**PKPdf**	**23 30 40.8**	**-0.2**
	comp=Z,9.1nm,0.8s,baz=236,slow=1.7,SNR=7.5						
MLR	**Muntele Rosu**	**135.65 321**			**PKPdf**	**23 30 40.5**	**-0.5**
DOPR	**Dopca**	**135.74 322**		⇑P	**PKPdf**	**23 30 41.2**	**+0.2**
RGN	**Rugen**	**135.74 339**		*e*P	**PKPdf**	**23 30 40.8**	**+0.1**
KOLS	**Kolonicke sedl**	**135.79 327**		*e*PKIKP	**PKPdf**	**23 30 41.0**	**0.0**
KOLS	**Kolonicke sedl**	**135.79 327**		*e*PKP	**PKPdf**	**23 30 41.0**	**0.0**
SECR		**135.80 321**		⇑P	**PKPdf**	**23 30 41.8**	**+0.6**
PRD	**Provadia**	**135.83 318**		*i* P	**PKiKP**	**23 30 43.3**	**+0.5**
NEF	**NEVSHA**	**135.88 318**		*i* P	**PKiKP**	**23 30 42.2**	**-0.8**
UZH	**Uzhgorod**	**135.97 327**		*e*PKIKP	**PKPdf**	**23 30 39.6**	**-1.7**
VOIR		**136.21 322**		⇓P	PKPpre	23 30 36.4	
VOIR		**136.21 322**		⇓PKIKP	PKPpre	23 30 36.4	
OJC	**Ojcow**	**136.22 330**		*e*PKPdf	**PKPdf**	**23 30 41.9**	**+0.2**
OJC				*e*PP	**PP**	**23 33 21.7**	**-1.2**
OJC	**Ojcow**	**136.22 330**		PKIKP	**PKPdf**	**23 30 41.7**	**0.0**
OJC	**Ojcow**	**136.22 330**			**PKPdf**	**23 30 41.7**	**0.0**
CRVS	**Cervenica-Dubn**	**136.23 328**		*e*PKIKP	**PKiKP**	**23 30 43.5**	**0.0**
CRVS	**Cervenica-Dubn**	**136.23 328**		*e*PKP	**PKiKP**	**23 30 43.5**	**0.0**
NIE	**Niedzica**	**136.50 329**		*e*PKP	PKPdf	23 30 33.7	-8.6
NIE				*e*PP	**PP**	**23 33 24.4**	**-0.3**
ARR	**Arges**	**136.50 322**		⇓P	PKPpre	23 30 39.5	
JMB	**Yambol**	**136.70 317**		*i* P	**PKPdf**	**23 30 43.1**	**+0.3**
HUMR	**Humele**	**136.73 320**		⇓P	**PKPdf**	**23 30 42.8**	**-0.1**
KULA	**Kula-Manisa**	**136.87 311**		P	**PKPdf**	**23 30 43.2**	**-0.2**
EDRB	**Edirne**	**136.87 316**		P	**PKPdf**	**23 30 41.1**	**-2.1**
RUE	**Ruedersdorf**	**137.20 336**		*e*P	**PKPdf**	**23 30 43.3**	**-0.1**
KSP	**Ksiaz**	**137.39 333**		*e*PKPdf	**PKPdf**	**23 30 44.1**	**+0.2**
KSP				*e*PP	**PP**	**23 33 26.8**	**-3.3**
MORC	**Moravsky Berou**	**137.59 331**		⇑P	PKPpre	23 30 36.1	
MORC	**Moravsky Berou**	**137.59 331**		*e*PKP	PKPpre	23 30 34.8	
MORC				*e*		23 30 44.7	
MORC				*e*PP	**PP**	**23 33 34.2**	**+2.8**
MORC				*e*		23 34 21.2	
MORC	**Moravsky Berou**	**137.59 331**		PKIKP	**PKPdf**	**23 30 44.6**	**+0.3**
OSTC	**Ostas**	**137.63 333**		*e*PKPpre	PKPpre	23 30 37.0	
OSTC				*e*PKPDF	**PKPdf**	**23 30 44.3**	**-0.1**
OSTC				*e*PP	**PP**	**23 33 26.9**	**-4.8**
OSTC				*e*SS	SS	23 51 34.1	+4.4
OSTC				AMS	AMS	00 31 40.0	
	comp=Z,500nm,23.4s						
PSZ	**Piszkesteto**	**137.66 328**		PKIKP	**PKPdf**	**23 30 44.8**	**+0.2**
PSZ	**Piszkesteto**	**137.66 328**			**PKPdf**	**23 30 44.8**	**+0.2**
CHVC	**Chvalec**	**137.68 333**		*e*PKP	PKPpre	23 30 36.8	
CHVC				*ex*	x	23 30 44.8	
CHVC				*e*PP	**PP**	**23 33 32.6**	**+0.6**
CHVC				AMS	AMS	00 31 40.0	
	comp=Z,500nm,21.2s						
KRLC	**Kraliky**	**137.73 332**		*e*PKHKP	PKPpre	23 30 36.3	
KRLC				*e*		23 30 42.4	
KRLC				MLR	MLR		
	comp=Z,300nm,21.6s						
KRLC	**Kraliky**	**137.73 332**		*e*PKPpre	PKPpre	23 30 36.3	
KRLC				*e*PKPDF	**PKPdf**	**23 30 42.4**	**-2.2**
KRLC				*ex*	x	23 33 51.9	
KRLC				AMS	AMS	00 29 30.0	
	comp=Z,300nm,21.6s						
DPC	**Dobruska-Polom**	**137.74 333**		*e*PKHKP	PKPpre	23 30 34.5	
DPC				*e*		23 30 44.8	
DPC				*e*		23 33 32.6	
DPC				MLR	MLR		
	comp=Z,1μm,51.8s						
DPC	**Dobruska-Polom**	**137.74 333**		*e*PKPpre	PKPpre	23 30 34.5	
DPC				*e*PKPDF	**PKPdf**	**23 30 44.8**	**+0.2**
DPC				*e*PP	**PP**	**23 33 32.6**	**+0.3**
DPC				*e*SS	SS	23 51 10.7	-20
DPC				AMS	AMS	00 17 40.0	
	comp=Z,1μm,51.8s						
UPC	**Upice**	**137.76 333**		*e*PKIKP	**PKPdf**	**23 30 44.9**	**+0.3**
UPC				*e*		23 33 30.4	
UPC				*e*SS	SS	23 51 36.6	+5.4
UPC				MLR	MLR		
	comp=Z,700nm,27.6s						
UPC	**Upice**	**137.76 333**		*e*PKPDF	**PKPdf**	**23 30 44.9**	**+0.3**
UPC				*e*PP	**PP**	**23 33 30.4**	**-2.0**
UPC				*e*SS	SS	23 51 36.6	+5.4
UPC				AMS	AMS	00 31 40.0	
	comp=Z,700nm,27.6s						
ALN	**Alexandroupoli**	**137.76 315**		P	PKPpre	23 30 34.2	
VYHS	**Vyhne**	**137.83 329**		*e*PKIKP	**PKPdf**	**23 30 45.0**	**+0.2**
VYHS	**Vyhne**	**137.83 329**		*e*PKP	**PKPdf**	**23 30 45.0**	**+0.2**
KDZ	**Kurdzhali**	**137.85 317**		*i* P	**PKPdf**	**23 30 44.8**	**-0.2**
RDO	**Rodhopi**	**138.00 316**		P	PKPpre	23 30 35.1	
EZN	**Ezine**	**138.03 314**		P	**PKPdf**	**23 30 44.8**	**-0.6**
HERR	**Herculane**	**138.08 322**		⇓P	**PKPdf**	**23 30 44.9**	**-0.5**
MPEP	**Malo Peshtene**	**138.09 320**		*i* P	**PKPdf**	**23 30 46.0**	**+0.6**
BLCB	**Balcova**	**138.10 311**		P	**PKPdf**	**23 30 44.3**	**-1.2**
PLD	**Plovdiv**	**138.10 317**		*i* P	**PKPdf**	**23 30 45.8**	**+0.4**
BZS	**Buzias**	**138.13 324**		⇑P	PKPpre	23 30 42.1	
BZS	**Buzias**	**138.13 324**		⇑PKIKP	**PKPdf**	**23 30 42.1**	**-3.3**
JAVC	**Velka Javorina**	**138.16 330**		*e*		23 34 24.6	
JAVC	**Velka Javorina**	**138.16 330**		*e*PKP	PKPpre	23 30 36.2	
JAVC	**Velka Javorina**	**138.16 330**		*e*	**PKiKP**	**23 30 46.7**	**-0.8**
JAVC	**Velka Javorina**	**138.16 330**		*e*PP	PP	23 33 36.6	+1.6
GADA	**Gvkgeada**	**138.17 314**		P	**PKPdf**	**23 30 45.0**	**-0.6**
SMTH	**Samothraki Isl**	**138.30 315**		P	PKPpre	23 30 35.9	
VRAC	**Vranov**	**138.35 331**		PKhKP	PKPpre	23 30 36.7	
	comp=Z,1.8nm,0.5s,baz=155,slow=3.6,SNR=3.8						
VRAC				PKP	**PKPdf**	**23 30 44.9**	**-0.8**
	comp=Z,5.2nm,0.7s,baz=68,slow=2.5,SNR=6.7						
VRAC	**Vranov**	**138.35 331**		*e*		23 34 22.5	
VRAC	**Vranov**	**138.35 331**		*e*PKP	PKPdf	23 30 36.0	-10
VRAC	**Vranov**	**138.35 331**		*e*	**PKPdf**	**23 30 46.0**	**+0.3**
VRAC	**Vranov**	**138.35 331**		*e*PP	PP	23 33 36.9	+0.7
BRG	**Berggiesshubel**	**138.37 335**		*e*PKP	PKPpre	23 30 37.9	
	comp=Z,9.3nm,0.8s						
BRG				*i*		23 30 46.1	
	comp=Z,18nm,1.0s						
BRG				*e*		23 31 21.2	
	comp=Z,14nm,1.1s						
BRG				*e*		23 31 36.1	
	comp=Z,28nm,1.3s						
BRG				*e*		23 33 40.0	
BRG				*e*		23 35 20.1	
	comp=Z,13nm,1.2s						
BRG	**Berggiesshubel**	**138.37 335**		*e*PKPdf	**PKiKP**	**23 30 47.4**	**-0.4**
	baz=38,slow=1.8						
BODT	**Bodrum**	**138.39 309**		P	PKPpre	23 30 40.0	
CLL	**Collm**	**138.41 336**		*e*PKPpre	PKPpre	23 30 37.0	
	comp=Z,6.0nm,0.7s						
CLL				*i* PKPdf	**PKPdf**	**23 30 45.4**	**-0.3**
	comp=Z,21nm,1.1s						
CLL				*i* PKiKP	**PKiKP**	**23 30 48.0**	**+0.2**
	comp=Z,13nm,0.6s						
CLL				*e*pPKPdf	pPKPdf	23 31 20.0	0.0
CLL				*e*		23 31 37.0	
CLL				*e*PP	**PP**	**23 33 37.0**	**+0.7**
CLL				*e*(SKPbc)		23 34 14.0	
CLL				*e*PKSdf	PKSdf	23 34 21.0	-0.6
CLL				*es*PKSdf		23 35 06.0	
CLL				*e*PPPP		23 38 48.0	
CLL				*e*SKSP		23 43 36.0	
CLL				*e*SPP	SPP	23 45 42.0	
CLL				*e*		23 46 54.0	
CLL				*e*SS	**SS**	**23 51 30.0**	**-8.7**
CLL				*e*PSPS		23 52 48.0	
CLL				*e*SKSSKSac		23 53 30.0	
CLL				*e*SSS	SSS	23 56 30.0	
CLL				LmV		00 35 00.0	
	comp=Z,500nm,21.3s						
CLL	**Collm**	**138.41 336**		*e*PKHKP	PKPpre	23 30 37.0	
CLL				*i*		23 30 45.4	
CLL				*e*		23 31 20.0	
CLL				*e*		23 33 37.0	
CLL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CLL				pmax	pmax		
	comp=Z,21nm,1.1s						
CLL	**Collm**	**138.41 336**		*e*PKPdf	**PKiKP**	**23 30 47.2**	**-0.6**
	baz=38,slow=1.8						
CLL				*e*PP	**PP**	**23 33 38.0**	**+1.6**
	baz=41,slow=6.3						
SMOL	**Smolenice**	**138.51 330**		*e*PKIKP	**PKiKP**	**23 30 47.3**	**-0.9**
SMOL	**Smolenice**	**138.51 330**		*e*PKP	**PKiKP**	**23 30 47.3**	**-0.9**
NRDL	**Niedersach Rie**	**138.53 339**		*e*PKPdf	**PKiKP**	**23 30 47.8**	**-0.2**
	baz=38,slow=1.8						
NRDL				*e*PP	**PP**	**23 33 39.5**	**+2.7**
	baz=41,slow=6.3						
SRO2	**Moca**	**138.54 328**		*e*PKIKP	**PKiKP**	**23 30 47.3**	**-0.9**
SRO2	**Moca**	**138.54 328**		*e*PKP	**PKiKP**	**23 30 47.3**	**-0.9**
SRO	**Srobarova**	**138.54 328**		*e*PKIKP	**PKiKP**	**23 30 48.0**	**-0.2**
SRO	**Srobarova**	**138.54 328**		*e*PKP	**PKiKP**	**23 30 48.0**	**-0.2**
MDVR	**Moldovita**	**138.55 323**		⇑P	**PKPdf**	**23 30 46.2**	**-0.1**
FBE	**Freiberg**	**138.57 335**		*e*PKPdf	**PKiKP**	**23 30 48.0**	**-0.2**
	baz=38,slow=1.8						
SIGRI	**SIGRI**	**138.62 313**		P	PKPpre	23 30 43.3	
KRUC	**Moravsky**	**138.62 331**		*e*		23 34 23.6	
KRUC	**Moravsky**	**138.62 331**		*e*PKP	PKPpre	23 30 35.9	
KRUC	**Moravsky**	**138.62 331**		*e*	**PKPdf**	**23 30 46.3**	**+0.1**
KRUC	**Moravsky**	**138.62 331**		*e*PP	PP	23 33 35.9	-1.9
ASSE	**Asse, Remlinge**	**138.63 338**		*e*PKPdf	**PKiKP**	**23 30 47.9**	**-0.2**
	baz=38,slow=1.8						
ASSE				*e*PP	**PP**	**23 33 40.2**	**+2.7**
	baz=41,slow=6.3						
MODS	**Modra-Piesok**	**138.68 330**		*e*PKIKP	**PKPdf**	**23 30 47.3**	**+0.9**
MODS	**Modra-Piesok**	**138.68 330**		*e*PKP	**PKPdf**	**23 30 47.3**	**+0.9**
GOPC	**GO Pecny, Ondr**	**138.73 333**		*e*PKIKP	**PKPdf**	**23 30 46.0**	**-0.4**
GOPC				*e*		23 33 38.3	
GOPC	**GO Pecny, Ondr**	**138.73 333**		*e*PKPDF	**PKPdf**	**23 30 46.0**	**-0.4**
GOPC				*ex*	x	23 30 48.8	
GOPC				*e*PP	**PP**	**23 33 38.3**	**-0.1**
PRA	**Prague**	**138.77 334**		*e*PKIKP	**PKiKP**	**23 30 48.8**	**+0.2**
PRA				MLR	MLR		
	comp=Z,300nm,24.7s						
PRA	**Prague**	**138.77 334**		*e*PKPDF	**PKiKP**	**23 30 48.8**	**+0.2**
PRA				*e*SKP		23 34 12.3	
PRA				AMS	AMS	00 25 10.0	
	comp=Z,300nm,24.7s						
PRU	**Pruhonice**	**138.78 333**		*e*PKHKP	PKPpre	23 30 39.0	
PRU				*e*		23 30 46.3	
PRU				*e*		23 33 37.2	
PRU				MLR	MLR		
	comp=Z,600nm,25.7s						
PRU	**Pruhonice**	**138.78 333**		*e*PKPpre	PKPpre	23 30 39.0	
PRU				*e*PKPDF	**PKPdf**	**23 30 46.3**	**-0.1**
PRU				*e*PP	**PP**	**23 33 37.2**	**-1.5**
PRU				AMS	AMS	00 25 10.0	
	comp=Z,600nm,25.7s						
LIA	**Limnos Island**	**138.78 314**		P	PKPpre	23 30 37.0	
THAS	**Thassos island**	**138.78 315**		P	PKPpre	23 30 43.4	
CHOS	**Chios island**	**138.81 312**		P	PKPpre	23 30 43.2	
TREC	**Trest**	**138.87 332**		*e*PKHKP	PKPpre	23 30 38.5	
TREC				*e*		23 30 47.7	
TREC				MLR	MLR		
	comp=Z,500nm,19.0s						
TREC	**Trest**	**138.87 332**		*e*PKPpre	PKPpre	23 30 38.5	
TREC				*e*PKPDF	**PKPdf**	**23 30 47.7**	**+1.0**
TREC				*e*PP	**PP**	**23 33 34.9**	**-4.4**
TREC				AMS	AMS	00 33 20.0	
	comp=Z,500nm,19.0s						
CLZ	**Clausthal**	**138.98 338**		*e*PP	PP	23 33 42.3	+2.5
	baz=41,slow=6.3						
MMB	**Musomiste**	**138.99 317**		*i* P	PKPpre	23 30 37.6	
NVR	**Nevrokopi**	**139.02 317**		P	PKPpre	23 30 37.0	
EKA	**Eskdalemuir Ar**	**139.16 352**		PKhKP	PKPpre	23 30 38.5	
	comp=Z,1.2nm,0

TIR	**Tirane**	**141.59 319**	⇑P	PKPpre	23 30 46.9		
TIR	**Tirane**	**141.59 319**	⇑PKHKP	PKPpre	23 30 46.9		
GVDS	**Gavdos**	**141.63 308**	P	**PKPdf**	**23 30 46.8**	**-5.3**	
ANX	**Ano Chora**	**141.64 314**	P	**PKPdf**	**23 30 46.7**	**-5.4**	
LJU	**Ljubljana**	**141.65 329**	*e*PKPdf	**PKPdf**	**23 30 45.7**	**-6.1**	
LJU			*e*		23 30 54.8		
LJU	**Ljubljana**	**141.65 329**	*e*P	**PKPdf**	**23 30 45.5**	**-6.3**	
GUR	**Goura**	**141.65 313**	P	**PKPdf**	**23 30 46.1**	**-6.1**	
BOJS	**Bojanci**	**141.66 328**	*e*PKPdf	**PKPdf**	**23 30 47.2**	**-4.5**	
MYKA	**Terra Mystica**	**141.66 331**	*i* PKPdf	**PKPdf**	**23 30 46.3**	**-5.6**	
	comp=Z,7.3nm,0.6s						
EFP	**Efpalio**	**141.73 314**	P	**PKPdf**	**23 30 47.2**	**-4.9**	
TREB	**Trebinje**	**141.74 322**	*e*P	**PKPdf**	**23 30 46.2**	**-5.8**	
KLV	**Kalavryta, Ach**	**141.74 313**	P	**PKPdf**	**23 30 45.9**	**-6.4**	
VLI	**Veliai**	**141.75 311**	P	**PKPdf**	**23 30 47.5**	**-4.8**	
KNDR	**Palaiochora Ch**	**141.79 308**	P	**PKPdf**	**23 30 47.0**	**-5.3**	
HCY	**Herceg Novi**	**141.81 322**	*e*P	**PKPdf**	**23 30 45.6**	**-6.6**	
JAN	**Janina**	**141.85 316**	P	**PKPdf**	**23 30 46.2**	**-6.2**	
GBRS	**Gornja Briga**	**141.86 328**	*i* PKiKP	**PKPdf**	**23 30 52.3**	**+0.1**	
VLX	**Vlachokerasia**	**141.88 312**	P	**PKPdf**	**23 30 47.5**	**-5.1**	
TRIP	**Tripoli**	**141.88 313**	P	**PKPdf**	**23 30 47.5**	**-5.1**	
DBRK	**Dubrovnik**	**141.88 322**	*i* P	**PKPdf**	**23 30 46.4**	**-5.9**	
PVO	**Paravola**	**141.90 315**	P	**PKPdf**	**23 30 48.0**	**-4.5**	
CEY	**Cerknica**	**141.91 329**	*e*P	**PKPdf**	**23 30 46.0**	**-6.3**	
RICI	**Ricice**	**141.96 324**	P	**PKPdf**	**23 30 46.6**	**-5.9**	
BGES	**Gesves**	**141.97 342**	PKPdf	**PKPdf**	**23 30 50.0**	**-2.2**	
BGES			x	x	23 30 55.0		
JAVS	**Javornik**	**141.98 329**	*e*PKPdf	**PKPdf**	**23 30 46.8**	**-5.7**	
JAVS			*i* PKiKP	**PKiKP**	**23 30 52.2**	**-3.3**	
JAVS			*e*		23 30 55.5		
KIJV	**Kijevo**	**142.04 325**	*i* P	**PKPdf**	**23 30 47.6**	**-5.0**	
WATA	**Walderalm**	**142.07 333**	*i* PKPdf	**PKPdf**	**23 30 48.6**	**-4.1**	
	comp=Z,15nm,0.6s,SNR=14						
DRO	**Drossia**	**142.09 313**	P	**PKPdf**	**23 30 48.4**	**-4.4**	
ABTA	**Abfaltersbach**	**142.10 332**	*e*PKPdf	**PKPdf**	**23 30 47.8**	**-4.9**	
	comp=Z,25nm,0.8s,SNR=14						
SNF	**Seneffe**	**142.10 342**	PKPdf	**PKPdf**	**23 30 48.5**	**-3.9**	
SNF			x	x	23 30 56.0		
WTTA	**Wattenberg**	**142.10 333**	*i* PKPdf	**PKPdf**	**23 30 48.9**	**-3.9**	
	comp=Z,92nm,1.6s,SNR=19						
MAKA	**Makarska**	**142.16 324**	*i* P	**PKPdf**	**23 30 47.4**	**-5.3**	
RLS	**Riolos of Patr**	**142.21 314**	P	**PKPdf**	**23 30 48.0**	**-5.0**	
WLF	**Walferdange**	**142.26 340**	PKPdf	**PKPdf**	**23 30 48.6**	**-4.1**	
MOTA	**Moosalm**	**142.27 333**	*i* PKPdf	**PKPdf**	**23 30 49.3**	**-3.8**	
	comp=Z,35nm,0.8s,SNR=15						
AMT	**Artemida-Makis**	**142.28 313**	P	**PKPdf**	**23 30 48.5**	**-4.7**	
ITM	**Ithomi**	**142.28 312**	P	**PKPdf**	**23 30 48.0**	**-5.2**	
SRN	**Sarande**	**142.30 317**	P	**PKPdf**	**23 30 47.9**	**-5.2**	
RETA	**Reutte**	**142.31 334**	*i* PKPdf	**PKPdf**	**23 30 49.1**	**-3.9**	
	comp=Z,26nm,0.6s,SNR=14						
SQTA	**Sankt Quirin**	**142.32 333**	*i* PKPdf	**PKPdf**	**23 30 49.5**	**-3.6**	
	comp=Z,90nm,1.4s,SNR=19						
DOU	**Dourbes**	**142.37 342**	PKPdf	**PKPdf**	**23 30 50.2**	**-2.7**	
DOU			x	x	23 30 55.1		
LKD2	**Lefkada island**	**142.41 315**	P	**PKPdf**	**23 30 48.7**	**-4.7**	
EVGI	**Lefkada island**	**142.50 315**	P	**PKPdf**	**23 30 48.8**	**-4.7**	
NVLJ	**Novalja**	**142.50 327**	*i* P	**PKPdf**	**23 30 48.5**	**-4.7**	
KEK	**Kerkira**	**142.52 317**	P	**PKPdf**	**23 30 46.8**	**-6.7**	
MORI	**Morici**	**142.52 326**	*i* P	**PKPdf**	**23 30 48.9**	**-4.5**	
PYL	**PYLOS**	**142.54 312**	P	**PKPdf**	**23 30 48.0**	**-5.7**	
HVAR	**Hvar**	**142.55 324**	*i* P	**PKPdf**	**23 30 47.6**	**-5.8**	
FSK	**Fiskardo**	**142.64 315**	P	**PKPdf**	**23 30 48.2**	**-5.6**	
FETA	**Feichten**	**142.69 333**	*i* PKPdf	**PKPdf**	**23 30 50.4**	**-3.4**	
	comp=Z,63nm,0.8s,SNR=30						
ZIRJ	**Zirje**	**142.69 325**	*i* P	**PKPdf**	**23 30 49.5**	**-4.2**	
VLS	**Valsamata**	**142.76 314**	P	**PKPdf**	**23 30 49.0**	**-5.0**	
DAVA	**Damuels**	**142.84 334**	*i* PKPdf	**PKPdf**	**23 30 51.6**	**-2.5**	
	comp=Z,44nm,0.6s,SNR=21						
FUORN	**Ofenpass-Fuorn**	**143.20 333**	PKPdf	PKPbc	23 30 53.1	+0.9	
TUE	**Stuetta**	**143.71 334**		**PKPdf**	**23 30 54.6**	**-1.0**	
SALO	**Salr**	**143.86 332**	PKPdf	PKPbc	23 30 54.0	+0.2	
MATE	**Matera**	**143.96 321**	⇑P	PKPbc	23 30 54.2	+0.1	
ZCCA	**Zocca**	**144.60 330**		**PKPdf**	**23 30 57.2**	**+0.1**	
PRMA	**PARMA**	**144.60 331**		**PKPdf**	**23 30 57.1**	**+0.1**	
NRCA	**Norcia**	**144.61 327**		**PKPdf**	**23 30 56.7**	**-0.5**	
SENIN	**Lac Senin/Sane**	**144.63 336**	PKPdf	**PKPdf**	**23 30 57.0**	**-0.3**	
TIP	**Timpagrande**	**144.78 319**	⇑P	**PKPdf**	**23 30 57.9**	**+0.3**	
TIP	**Timpagrande**	**144.78 319**		PKPbc	23 30 57.2	+0.3	
AQU	**L'Aquila**	**144.78 326**	PKIKP	PKPbc	23 30 57.0	+0.2	
AQU	**L'Aquila**	**144.78 326**	⇑*i*P	**PKPdf**	**23 30 57.3**	**-0.2**	
AQU	**L'Aquila**	**144.78 326**		PKPbc	23 30 57.0	+0.2	
CLF	**Chambon-Foret**	**144.92 343**		**PKPdf**	**23 30 57.5**	**+0.1**	
PAOL	**Paolisi**	**145.00 323**		PKPbc	23 30 56.9	-0.6	
VLC	**Villacollemand**	**145.03 331**		**PKPbc**	**23 30 57.0**	**-0.4**	
LATE	**Laterza**	**145.45 327**		**PKPab**	**23 30 59.0**	**-0.1**	
CASP	**Castiglione de**	**145.81 329**	PKPdf	**PKPdf**	**23 30 59.4**	**+0.3**	
CEL	**Celeste**	**145.86 318**		**PKPdf**	**23 30 59.5**	**0.0**	
BNI	**Bardonecchia**	**145.96 335**	PKP2	**PKPbc**	**23 31 00.2**	**-0.2**	
BNI	**Bardonecchia**	**145.96 335**	PKPdf	**PKPbc**	**23 31 00.2**	**-0.2**	
SSB	**Saint Sauveur**	**146.59 338**	PKP2	**PKPdf**	**23 31 01.1**	**+0.6**	
SSB	**Saint Sauveur**	**146.59 338**	PKPdf	**PKPdf**	**23 31 01.1**	**+0.6**	
VAE	**Valguarnera**	**147.26 318**	PKPbc	**PKPbc**	**23 31 05.2**	**+0.8**	
	comp=Z,21nm,0.8s,baz=318,slow=2.5,SNR=0.8						
RAFF	**Raffo Rosso**	**147.44 318**		**PKPdf**	**23 31 03.1**	**+1.0**	
CORL	**Corleone**	**147.72 320**	PKPdf	**PKPdf**	**23 31 03.5**	**+0.9**	
CLTB	**Caltabellotta**	**147.97 319**	PKPdf	**PKPdf**	**23 31 03.6**	**+0.6**	
SHEL	**Horse Pasture**	**148.42 193**	PKHKP	PKPpre	23 31 03.5		
SHEL	**Horse Pasture**	**148.42 193**		**PKPdf**	**23 31 03.5**	**-0.8**	
RCBR	**Riachuelo**	**148.95 130**	PKPbc	**PKPbc**	**23 31 08.0**	**-1.5**	
	comp=Z,37nm,0.8s,baz=217,slow=4.4,SNR=16						
RCBR	**Riachuelo**	**148.95 130**	PKHKP	PKPpre	23 31 04.7		
RCBR	**Riachuelo**	**148.95 130**		**PKPdf**	**23 31 04.7**	**-0.6**	
VSL	**Villasalto**	**148.96 326**		**PKPdf**	**23 31 04.8**	**+0.3**	
VSL			PKPbc	**PKPbc**	**23 31 09.1**	**+0.5**	
KEST	**Kesra**	**151.54 320**	PKP	**PKPdf**	**23 31 09.2**	**+0.4**	
	comp=Z,6.4nm,0.9s,baz=0.6,slow=0.9,SNR=8.9						
KEST			PKPbc	**PKiKP**	**23 31 15.8**	**+0.2**	
	comp=Z,69nm,0.7s,baz=282,slow=0.3,SNR=120						
KEST	**Kesra**	**151.54 320**		**PKPdf**	**23 31 08.2**	**-0.5**	
KEST			PKPbc	**PKiKP**	**23 31 15.7**	**+0.2**	
PBRG	**Braganca**	**152.88 350**	*e*PKPbc	**PKiKP**	**23 31 18.1**	**+0.1**	
PGAV	**Gavieira, Arco**	**152.94 353**	*e*PKPdf	**PKPdf**	**23 31 10.8**	**+0.1**	
PGAV	**Gavieira, Arco**	**152.94 353**	*e*PKPab	**PKPab**	**23 31 30.0**	**+0.5**	
PCAB	**Cabril**	**153.16 352**	*e*PKPdf	**PKPdf**	**23 31 12.9**	**+0.6**	
PCAB	**Cabril**	**153.16 352**	*e*PKPbc	**PKiKP**	**23 31 19.3**	**+0.7**	
PVRL	**Vila Real**	**153.55 352**	*e*PKPdf	**PKPdf**	**23 31 11.9**	**+0.4**	
PVRL	**Vila Real**	**153.55 352**	*e*PKPab	**PKPab**	**23 31 33.1**	**+1.0**	
PVRL	**Vila Real**	**153.55 352**	*e*PP	PP	23 35 07.8	+2.4	
MVO	**Moncorvo**	**153.56 350**	*e*PKPdf	**PKPdf**	**23 31 11.8**	**+0.3**	
MVO	**Moncorvo**	**153.56 350**	*e*PKPab	**PKPab**	**23 31 33.0**	**+0.9**	
MVO	**Moncorvo**	**153.56 350**	*e*PP	PP	23 35 07.9	+2.4	
PVIS	**Viseu**	**154.12 352**	*e*PKPdf	**PKPdf**	**23 31 12.3**	**0.0**	
PVIS	**Viseu**	**154.12 352**	*e*PKPab	**PKPab**	**23 31 35.3**	**+0.8**	
PVIS	**Viseu**	**154.12 352**	*e*PP	PP	23 35 11.6	+2.9	
ESBB	**Sonseca Array**	**154.34 344**		**PKPdf**	**23 31 12.1**	**-0.6**	
ESDC	**Sonseca Array**	**154.35 344**	PKP	**PKPdf**	**23 31 13.3**	**+0.6**	
	comp=Z,2.7nm,0.9s,baz=359,slow=2.6,SNR=14						
ESDC			PKPbc	**PKiKP**	**23 31 21.3**	**+0.2**	
	comp=Z,4.7nm,0.7s,baz=12,slow=2.8,SNR=22						
ESDC			PKPab	**PKPab**	**23 31 35.8**	**+0.3**	
	comp=Z,4.5nm,0.9s,baz=10,slow=3.5,SNR=8.0						
ESDC			pPKPbc	**pPKPbc**	**23 31 55.6**	**+0.6**	
	comp=Z,3.1nm,0.8s,baz=300,slow=1.3,SNR=2.5						
ESDC	**Sonseca Array**	**154.35 344**	PKPdf	**PKPdf**	**23 31 12.2**	**-0.5**	
ESDC			PKPbc	**PKiKP**	**23 31 21.5**	**+0.4**	
ESDC				**PKPab**	**23 31 36.1**	**+0.6**	
MTE	**Manteigas**	**154.38 351**	*e*PKPdf	**PKPdf**	**23 31 12.7**	**0.0**	
MTE	**Manteigas**	**154.38 351**	*e*PKPbc	**PKiKP**	**23 31 21.6**	**+0.4**	
MTE	**Manteigas**	**154.38 351**	*e*PKPab	**PKPab**	**23 31 36.7**	**+1.0**	
MTE	**Manteigas**	**154.38 351**	PKPdf	**PKPdf**	**23 31 12.6**	**-0.2**	
PAB	**San Pablo**	**154.57 345**	PKIKP	**PKPdf**	**23 31 13.2**	**+0.1**	
PAB	**San Pablo**	**154.57 345**		**PKPdf**	**23 31 13.2**	**+0.1**	
COI	**Coimbra**	**154.69 352**	*e*PKPdf	**PKPdf**	**23 31 13.2**	**+0.2**	
COI	**Coimbra**	**154.69 352**	*e*PKPab	**PKPab**	**23 31 37.8**	**+0.9**	
PCAS	**Casmilo, Conde**	**154.86 353**	*e*PKPdf	**PKPdf**	**23 31 13.3**	**0.0**	
PCAS	**Casmilo, Conde**	**154.86 353**	*e*PKPab	**PKPab**	**23 31 38.4**	**+0.8**	
PCBR	**Castelo Branco**	**154.92 351**	*e*PKPdf	**PKPdf**	**23 31 13.7**	**+0.3**	
PCBR	**Castelo Branco**	**154.92 351**	*e*PKPab	**PKPab**	**23 31 38.6**	**+0.7**	
PCBR	**Castelo Branco**	**154.92 351**	*e*PP	PP	23 35 13.9	+0.8	
PMRV	**Marv??o**	**155.31 350**	*e*PKPdf	**PKPdf**	**23 31 13.8**	**-0.2**	
PMRV	**Marv??o**	**155.31 350**	*e*PKPab	**PKPab**	**23 31 40.4**	**+0.8**	
PMRV	**Marv??o**	**155.31 350**	*e*PP	PP	23 35 17.4	+2.1	
PSBE	**So Bento**	**155.42 353**	*e*PKPdf	**PKPdf**	**23 31 14.1**	**0.0**	
PSBE	**So Bento**	**155.42 353**	*e*PKPab	**PKPab**	**23 31 41.0**	**+0.9**	
PSBE	**So Bento**	**155.42 353**	*e*PP	PP	23 35 18.6	+2.7	
PMTG	**Montargil**	**155.79 352**	*e*PKPdf	**PKPdf**	**23 31 14.4**	**-0.2**	
PMTG	**Montargil**	**155.79 352**	*e*PKPab	**PKPab**	**23 31 42.3**	**+0.7**	
PMTG	**Montargil**	**155.79 352**	*e*PP	PP	23 35 20.1	+2.2	
PMAFR	**Mafra**	**156.03 354**	*e*PKPdf	**PKPdf**	**23 31 14.9**	**0.0**	
PMAFR	**Mafra**	**156.03 354**	*e*PKPab	**PKPab**	**23 31 43.5**	**+0.9**	
LIS	**Lisbon**	**156.25 353**	*e*PKPdf	**PKPdf**	**23 31 15.0**	**-0.2**	
LIS			*e*PP	**PP**	**23 35 22.3**	**+1.9**	
LIS	**Lisbon**	**156.25 353**	*e*PKPdf	**PKPdf**	**23 31 15.8**	**+0.6**	
LIS	**Lisbon**	**156.25 353**	*e*PKPab	**PKPab**	**23 31 45.1**	**+1.5**	
EVO	**Evora**	**156.28 351**	*e*PKPdf	**PKPdf**	**23 31 15.3**	**0.0**	
EVO	**Evora**	**156.28 351**	*e*PKPab	**PKPab**	**23 31 44.9**	**+1.2**	
EVO	**Evora**	**156.28 351**	*e*PP	PP	23 35 19.8	-0.8	
PBEJ	**Beja**	**156.76 350**	*e*PKPdf	**PKPdf**	**23 31 16.9**	**+1.0**	
PBEJ	**Beja**	**156.76 350**	*e*PKPab	**PKPab**	**23 31 46.9**	**+1.1**	
PBEJ	**Beja**	**156.76 350**	*e*PP	PP	23 35 24.5	+1.2	
PNCL	**Nicolau / Gran**	**156.77 352**	*e*PKPdf	**PKPdf**	**23 31 16.0**	**+0.1**	
PNCL	**Nicolau / Gran**	**156.77 352**	*e*PKPab	**PKPab**	**23 31 47.0**	**+1.2**	
PNCL	**Nicolau / Gran**	**156.77 352**	*e*PP	PP	23 35 25.9	+2.6	
PCVE	**Castro Verde**	**157.17 351**	*e*PKPdf	**PKPdf**	**23 31 16.9**	**+0.5**	
PCVE	**Castro Verde**	**157.17 351**	*e*PKPab	**PKPab**	**23 31 48.0**	**+0.4**	
PCVE	**Castro Verde**	**157.17 351**	*e*PP	PP	23 35 27.7	+2.2	
PTEO	**Sao Teotonio**	**157.35 352**	*e*PKPab	**PKPab**	**23 31 50.1**	**+1.8**	
PBDV	**Barranco-do-Ve**	**157.53 350**	*e*PKPdf	**PKPdf**	**23 31 17.3**	**+0.4**	
PBDV	**Barranco-do-Ve**	**157.53 350**	*e*PKPab	**PKPab**	**23 31 50.6**	**+1.4**	
PBDV	**Barranco-do-Ve**	**157.53 350**	*e*PP	PP	23 35 28.4	+0.8	
MORF	**Marmelete**	**157.58 352**	*e*PKPdf	**PKPdf**	**23 31 16.6**	**-0.4**	
MORF			*e*PP	**PP**	**23 35 29.6**	**+1.8**	
MORF	**Marmelete**	**157.58 352**	*e*PKPdf	**PKPdf**	**23 31 16.9**	**-0.1**	
MORF	**Marmelete**	**157.58 352**	*e*PKPab	**PKPab**	**23 31 50.3**	**+0.9**	
PFVI	**Vila Bisbo**	**157.78 352**	*e*PKPdf	**PKPdf**	**23 31 17.6**	**+0.4**	
PFVI	**Vila Bisbo**	**157.78 352**	*e*PKPab	**PKPab**	**23 31 50.6**	**+0.4**	
PFVI	**Vila Bisbo**	**157.78 352**	*e*PP	PP	23 35 31.4	+2.6	
TAM	**Tamanrasset**	**161.21 297**	PKIKP	**PKPdf**	**23 31 22.1**	**+0.3**	
TAM	**Tamanrasset**	**161.21 297**	PKPdf	**PKPdf**	**23 31 22.1**	**+0.3**	
PMPST	**Porto Santo, M**	**161.76 10**	*e*PKPbc	**PKPdf**	**23 31 22.4**	**+0.6**	
PMPS	**Porto Santo**	**161.78 10**	*e*PKPbc	**PKPdf**	**23 31 22.9**	**+1.1**	
PMAR	**Madeira**	**162.00 12**	*e*PKPbc	**PKPdf**	**23 31 23.3**	**+1.0**	
TOAO	**Torodi Ar. Sit**	**165.98 264**		**PKPdf**	**23 31 25.4**	**-0.8**	
TORD	**Torodi Ar. Bea**	**165.98 264**	PKP	**PKPdf**	**23 31 25.8**	**-0.4**	
	comp=Z,34nm,0.8s,baz=7.1,slow=0.9,SNR=235						
TORD			PKPab	**PKPab**	**23 32 26.7**	**-0.3**	
	comp=Z,11nm,0.8s,baz=84,slow=2.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**165.98 264**		**PKPdf**	**23 31 25.5**	**-0.7**	
KIC	**Kosan Boka**	**168.39 223**	*e*PKIKP	**PKPdf**	**23 31 26.5**	**-1.5**	
	comp=Z,215nm,1.3s						
LIC	**Lamto**	**168.47 221**	*e*PKIKP	**PKPdf**	**23 31 26.3**	**-1.7**	
	comp=Z,149nm,0.8s						
DBIC	**Dimbokro**	**168.69 223**	PKP	**PKPdf**	**23 31 27.6**	**-0.6**	
	comp=Z,35nm,0.9s,baz=132,slow=1.9,SNR=19						
DBIC			PKPab	**PKPab**	**23 32 39.9**	**+1.2**	
	comp=Z,7.4nm,0.7s,baz=94,slow=7.9,SNR=4.0						
TIC	**Toumodi**	**168.78 222**	*e*PKIKP	**PKPdf**	**23 31 26.7**	**-1.6**	

*PRE **27** 23:18:53.6±1.1,26.97S×26.80E,h2km,ML3.7*
*NEIC **27** 23:18:55.3±1.8,26.99S±0.04×26.8E±0.1,h5km±1km, mb4.6/3,Error ellipse: s-maj=20.7km s-min=7.3km az=96.0*
*IDC **27** 23:18:55.6±1.4,26.93S×26.68E,h0km,mb4.1/2, mb1 4.4/8,mb1mx4.0/56,mbtmp4.4/8,ML4.4/5,Error ellipse: s-maj=27.3km s-min=12.2km az=101.0*

ISC 27 23:18:54.8±1.1,26.93S±0.03×26.80E±0.04,h12km±7km, n45,σ1°79/67,mb4.3/4,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.50**	**90**	*e*P	**Pg**		**23 19 03.6**	**-1.0**
PRYS				*e*S	**Sg**		**23 19 10.6**	**-0.7**
PRYS				AML	AML		23 19 17.1	
	comp=Z,6μm,0.6s							
WDLM	**Western Deep L**	**0.75**	**48**	*e*P	**Pg**		**23 19 08.3**	**-1.0**
WDLM				*e*S	**Sg**		**23 19 18.8**	**-0.3**
WDLM				AML	AML		23 19 27.1	
	comp=Z,2μm,0.1s							
KLOF	**Kloof**	**0.92**	**52**	*e*P	**Pg**		**23 19 12.3**	**-0.3**
KLOF				*e*S	**Sg**		**23 19 24.9**	**+0.2**
KLOF				AML	AML		23 19 31.0	
	comp=Z,6μm,0.1s							
KSR	**Koster**	**1.07**	**4**	*e*P	**Pg**		**23 19 15.4**	**-0.2**
KSR				*e*S	**Sb**		**23 19 29.9**	**+0.4**
KSR				AML	AML		23 19 34.4	
	comp=Z,5μm,0.4s							
SWZ	**Schweizer**	**1.34**	**259**	*e*P	**Pn**		**23 19 19.7**	**+0.2**
SWZ				*e*S	**Sg**		**23 19 37.9**	**-0.1**
SWZ				AML	AML		23 19 47.4	
	comp=Z,2μm,0.7s							
SLR	**Silverton**	**1.78**	**48**	*e*S	**Sb**		**23 19 50.5**	**+0.7**
BOSA	**Boshof**	**2.17**	**219**	Pn	**Pn**		**23 19 32.4**	**+1.4**
	comp=Z,54nm,0.3s,baz=38,slow=12,SNR=854							
BOSA				Lg	Lg		23 20 01.4	
	comp=Z,226nm,0.3s,baz=314,slow=15,SNR=23							
BOSA				Rg	Rg		23 20 10.3	
	comp=Z,328nm,0.3s,baz=312,slow=18,SNR=8.5							
BOSA	**Boshof**	**2.17**	**219**	*e*P	**Pn**		**23 19 31.4**	**+0.5**
BOSA				*e*S	**Sn**		**23 19 58.1**	**+0.2**
BOSA				AML	AML		23 20 03.4	
	comp=Z,556nm,0.3s							
BOSA	**Boshof**	**2.17**	**219**		**Pn**		**23 19 32.3**	**+1.4**
BOSA				Sn	**Sn**		**23 19 58.6**	**+0.8**
LBTB	**Lobatse**	**2.19**	**330**	Pn	**Pb**		**23 19 33.9**	**-0.6**
	comp=Z,64nm,0.3s,baz=148,slow=13,SNR=625							
LBTB				Lg	Lg		23 20 03.8	
	comp=Z,138nm,0.3s,baz=234,slow=22,SNR=45							
LBTB	**Lobatse**	**2.19**	**330**	*e*P	**Pn**		**23 19 32.9**	**+1.7**
LBTB				*e*S	**Sn**		**23 20 00.4**	**+2.0**
LBTB				AML	AML		23 20 04.9	
	comp=Z,655nm,0.8s							
LBTB	**Lobatse**	**2.19**	**330**		**Pb**		**23 19 33.6**	**-0.9**
LBTB				Sn	**Sb**		**23 20 02.7**	**+1.0**
HVD	**Gariep Dam**	**3.84**	**197**	*e*P	**Pn**		**23 19 54.8**	**+0.9**
HVD				*e*S	**Sn**		**23 20 38.0**	**-1.1**
HVD				AML	AML		23 21 13.1	
	comp=Z,179nm,0.6s							
MOPA	**Mopani**	**5.37**	**52**	*e*P	**Pn**		**23 20 15.6**	**+0.7**
MOPA				*e*S	**Sn**		**23 21 15.6**	**-1.0**
MOPA				AML	AML		23 21 17.3	
	comp=Z,36nm,0.2s							
MSNA	**Messina**	**5.42**	**33**	*e*P	**Pn**		**23 20 14.8**	**-0.7**
MSNA				*e*S	**Sn**		**23 21 14.5**	**-3.5**
MSNA				AML	AML		23 21 46.2	
	comp=Z,65nm,0.5s							
KEIM	**Keimoes**	**5.46**	**250**	*e*P	**Pn**		**23 20 16.5**	**+0.3**
KEIM				*e*S	**Sn**		**23 21 16.9**	**-2.1**
KEIM				AML	AML		23 21 46.9	
	comp=Z,193nm,0.5s							
MATP	**Matopo**	**6.66**	**14**	Pn	**Pn**		**23 20 34.2**	**+1.6**
	comp=Z,5.8nm,0.3s,baz=192,slow=13,SNR=121							
MATP				Sn	**Sn**		**23 21 47.0**	**-1.5**
	comp=Z,4.1nm,0.3s,baz=154,slow=17,SNR=7.9							
MATP				Lg	Lg		23 22 17.6	
	comp=Z,7.7nm,0.3s,baz=294,slow=23,SNR=10							
GRAN	**Grantham**	**6.70**	**216**	*e*P	**Pn**		**23 20 32.6**	**-0.6**
GRAN				*e*S	**Sn**		**23 21 45.9**	**-3.7**
GRAN				AML	AML		23 22 07.0	
	comp=Z,35nm,0.3s							
ROSN	**Rosenhof**	**7.42**	**195**	*e*P	**Pn**		**23 20 43.9**	**+1.0**
ROSN				*e*S	**Sn**		**23 22 02.4**	**-4.5**
ROSN				AML	AML		23 22 08.4	
	comp=Z,201nm,0.5s							
SUR	**Sutherland**	**7.53**	**222**	Pn	**Pn**		**23 20 45.8**	**+1.2**
	comp=Z,7.1nm,0.3s,baz=49,slow=9.3,SNR=42							
SUR				Sn	**Sn**		**23 22 08.8**	**-1.3**
	comp=Z,8.9nm,0.3s,baz=286,slow=20,SNR=7.2							
SUR				Lg	Lg		23 22 49.3	
	comp=Z,32nm,0.3s,baz=141,slow=19,SNR=12							
SUR	**Sutherland**	**7.53**	**222**		**Pn**		**23 20 45.5**	**+0.9**
SUR					**Sn**		**23 22 07.0**	**-3.1**
CVNA	**Calvinia**	**7.65**	**232**	*e*P	**Pn**		**23 20 45.9**	**-0.3**
CVNA				*e*S	**Sn**		**23 22 08.9**	**-3.9**
CVNA				AML	AML		23 22 57.7	
	comp=Z,148nm,0.4s							
KOMG	**Komaggas**	**8.69**	**249**	*e*P	**Pn**		**23 21 00.6**	**+0.1**
KOMG				*e*S	**Sn**		**23 22 33.5**	**-5.0**
KOMG				AML	AML		23 23 26.5	
	comp=Z,78nm,0.6s							
TSUM	**Tsumeb**	**11.45**	**310**	Pn	**Pn**		**23 21 39.1**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=138,slow=11,SNR=18							
TSUM				Sn	**Sn**		**23 23 43.3**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=243,slow=23,SNR=2.6							
TSUM				Lg	Lg		23 24 50.7	
	comp=Z,1.0nm,0.3s,baz=303,slow=20,SNR=4.6							
TSUM	**Tsumeb**	**11.45**	**310**		**Pn**		**23 21 39.6**	**+1.2**
LSZ	**Lusaka**	**11.66**	**7**	Pn	**Pn**		**23 21 41.7**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=186,slow=12,SNR=34							
LSZ				Sn	**Sn**		**23 23 46.2**	**-5.5**
	comp=Z,0.6nm,0.3s,baz=68,slow=23,SNR=2.6							
LSZ				Lg	Lg		23 24 57.8	
	comp=Z,0.9nm,0.3s,baz=95,slow=22,SNR=8.4							
LSZ	**Lusaka**	**11.66**	**7**		**Pn**		**23 21 41.4**	**+0.1**
TOAO	**Torodi Ar. Sit**	**46.71**	**325**	P	**P**		**23 27 25.2**	**+1.3**
TOAO				IAmb	IAmb		23 27 26.0	
	comp=Z,2.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**46.71**	**325**	P	**P**		**23 27 25.2**	**+1.3**
	comp=Z,2.2nm,0.6s,baz=158,slow=7.8,SNR=32							
TORD	**Torodi Ar. Bea**	**46.71**	**325**	P	**P**		**23 27 25.4**	**+1.5**
SNAA	**Sanae**	**47.72**	**192**	P	**P**		**23 27 31.6**	**+0.4**
SNAA				IAmb	IAmb		23 27 36.9	
	comp=Z,10.0nm,1.1s							
ESDC	**Sonseca Array**	**72.20**	**336**	P	**P**		**23 30 22.1**	**+2.4**
	comp=Z,1.0nm,0.6s,baz=151,slow=6.2,SNR=9.8							
PETK	**Petropavlovsk-**	**135.38**	**40**	PKP	**PKiKP**		**23 38 15.6**	**-0.3**
	comp=Z,3.5nm,1.0s,baz=262,slow=2.9,SNR=2.2							
PDAR	**Pinedale Array**	**141.31**	**306**	PKP	**PKPdf**		**23 38 26.4**	**+0.5**
	comp

	140nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.41**	**260**	*e*S		**Sn**	**23 52 49.9**	**+1.0**
GRPR	**Tuman**	**2.48**	**259**	*i* P		**Pn**	**23 52 22.9**	**+2.5**
GRPR					AMB	AMB	23 52 23.0	
	110nm,0.6s							
GRPR				*e*S		**Sn**	**23 52 49.8**	**-0.9**
GRPR				A		A	23 52 56.0	
	30nm,0.3s							
GRPR				A		A	23 52 56.0	
	120nm,0.3s							
NEM2	**Nemuro 2**	**2.71**	**246**	P		**Pn**	**23 52 24.6**	**+1.0**
NEM2				*e*S		**Sn**	**23 52 55.1**	**-1.3**
NMR	**Nemuro--Hokkai**	**2.72**	**246**	*e*P		**Pn**	**23 52 24.4**	**+0.7**
NMR				*i* S		**Sn**	**23 52 55.8**	**-0.8**
GLVR	**Golovnino**	**2.72**	**255**	*e*S		**Sn**	**23 53 00.8**	**+4.1**
JRA	**Rausu**	**2.95**	**260**	P		**Pn**	**23 52 28.8**	**+1.9**
JNK	**Nakash**	**3.32**	**255**	P		**Pn**	**23 52 32.9**	**+0.9**
JNK				*e*S		**Sn**	**23 53 11.5**	**0.0**
JAK	**Akkeshi**	**3.56**	**246**	P		**Pn**	**23 52 36.0**	**+0.7**
JAK				*e*S		**Sn**	**23 53 15.9**	**-1.5**
JAR	**Ashorobuto**	**4.07**	**255**	P		**Pn**	**23 52 44.6**	**+2.3**
JAR				*e*S		**Sn**	**23 53 32.6**	**+2.6**
JOB	**Onbets**	**4.17**	**249**	P		**Pn**	**23 52 45.5**	**+1.8**
JCH	**Churui**	**4.61**	**248**	P		Pn	**23 52 51.5**	**+1.8**
ASAJ	**Asahikawa**	**4.72**	**268**	Pn		Pn	23 52 57.0	+5.8
	1.4nm,0.3s,baz=89,slow=18,SNR=4.4							
ASAJ				Sn		**Sb**	**23 53 56.7**	**-2.8**
	0.7nm,0.3s,baz=234,slow=33,SNR=1.2							
JNBK	**Urakawa-nobuka**	**5.16**	**247**	P		**Pn**	**23 52 58.8**	**+1.5**
JBT2	**Biratori 2**	**5.21**	**253**	P		**Pn**	**23 53 00.4**	**+2.3**
JNB	**Noboribetsu**	**6.24**	**254**	P		**Pn**	**23 53 14.7**	**+2.6**
JKB	**Kayabe**	**6.48**	**249**	P		**Pn**	**23 53 16.6**	**+1.2**
JKB				*e*S		**Sn**	**23 54 24.9**	**-4.5**
JANG	**Nango**	**6.99**	**236**	*e*S		Sn	23 54 34.9	-7.1
PETK	**Petropavlovsk-**	**10.28**	**30**	Pn		**Pn**	**23 54 07.3**	**-0.3**
	baz=219,slow=13,SNR=1.6							
H11N2	**WAKE ISLAND Hy**	**28.79**	**143**	T		T	00 28 25.1	
	baz=334,slow=76,SNR=109							
H11N1	**WAKE ISLAND Hy**	**28.80**	**143**	T		T	00 28 27.2	
	baz=334,slow=76,SNR=82							
H11N3	**WAKE ISLAND Hy**	**28.81**	**143**	T		T	00 28 27.6	
	baz=334,slow=76,SNR=88							
H11S1	**WAKE ISLAND Hy**	**29.80**	**145**	T		T	00 29 42.1	
	baz=334,slow=76,SNR=110							
H11S3	**WAKE ISLAND Hy**	**29.81**	**145**	T		T	00 29 43.0	
	baz=334,slow=76,SNR=67							
H11S2	**WAKE ISLAND Hy**	**29.82**	**145**	T		T	00 29 42.3	
	baz=334,slow=76,SNR=95							
ILAR	**Eielson Array**	**40.02**	**37**	P		**P**	**23 59 14.4**	**-0.4**
	0.2nm,0.5s,baz=275,slow=9.0,SNR=2.7							
PDAR	**Pinedale Array**	**68.32**	**51**	P		**P**	**00 02 41.9**	**+0.3**
	0.2nm,0.6s,baz=316,slow=5.0,SNR=1.7							
TXAR	**Lajitas Array**	**81.03**	**58**	P		**P**	**00 03 54.8**	**-0.6**
	0.3nm,0.5s,baz=289,slow=3.3,SNR=7.5							

*ASRS **27** 23:51:41.9±0.1,50°.6N±0°.6×8°.7E±°, h3km, MLh3.5/26, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
*SOME **27** 23:51:42.9,50°.38N×85°.87E, h0km*
*NNC **27** 23:51:44.5±2.3,50°.47N×87°.29E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=24.1km s-min=8.3km az=99.0*

ISC 27 23:51:43.3±0.7,50°.55N±0°.02×87°.48E±0°.02,h10km,n41, σ2s26/72,8C-6D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBI	**Chibit, Altay**	**0.24**	**176**	Pg	**Pg**	**23 51 47.7**	**-0.6**
CHBI				Sg	**Sg**	**23 51 50.7**	**-0.9**
AKAR	**Aktash**	**0.25**	**159**	Pg	**Pg**	23 51 48.2	-0.3
AKAR				Sg	**Sg**	**23 51 51.6**	**-0.3**
ULGR	**Ulagan, Altay**	**0.32**	**77**	Pg	**Pb**	23 51 50.8	-0.3
ULGR				Sg	**Sb**	**23 51 55.8**	**-0.6**
CUR	**Chagan-Uzun**	**0.72**	**129**	Pg	**Pb**	23 51 57.4	-0.6
CUR				Sg	**Sb**	**23 52 07.8**	**-0.2**
TUNR	**Tungur**	**0.83**	**242**	Pg	**Pg**	23 51 58.5	-0.9
TUNR				Sg	**Sg**	**23 52 08.6**	**-1.6**
DGZ	**Jazzator, Alta**	**0.85**	**182**	Pg	**Pg**	**23 51 58.8**	**-1.0**
DGZ				Sg	**Sg**	**23 52 09.2**	**-1.6**
SLNR	**Muhor-Tarhata,**	**1.00**	**140**	Pg	**Pb**	**23 52 02.5**	**-0.4**
SLNR				Sg	**Sb**	**23 52 15.9**	**-0.4**
ARTR	**Artybash**	**1.25**	**354**	Pg	**Pg**	**23 52 07.8**	**+0.3**
ARTR				Sg	**Sn**	**23 52 24.6**	**+0.7**
GALT	**Gorno-Altaysk,**	**1.71**	**326**	Pg	**Pg**	**23 52 17.4**	**+1.4**
GALT				Sg	**Sg**	**23 52 39.7**	**+1.5**
UKR	**Ust'-Kan**	**1.76**	**284**	Pg	**Pb**	**23 52 15.7**	**-0.1**
UKR				Sg	**Sg**	**23 52 40.5**	**+0.5**
TASR	**Tashtagol**	**2.23**	**6**	Pg	**Pg**	**23 52 24.9**	**-1.1**
TASR				Sg	**Sg**	**23 52 55.2**	**+0.4**
TBTR	**Tabat**	**3.12**	**39**	Pg	**Pg**	**23 52 40.8**	**-2.3**
TBTR				Sg	**Sg**	**23 53 21.6**	**-1.9**
DJO	**Djoy, Khakassi**	**3.23**	**45**	Pg	**Pg**	**23 52 44.6**	**-0.5**
DJO				Sg	**Sg**	**23 53 24.8**	**-2.0**
LUZB	**Luzhba, Kemero**	**3.23**	**15**	Pg	**Pb**	**23 52 39.5**	**-1.3**
LUZB				Sg	**Sg**	**23 53 25.4**	**-1.8**
DJOS	**Djoyskaya Sosn**	**3.32**	**46**	Pg	**Pg**	**23 52 46.7**	**-0.1**
DJOS				Sg	**Sg**	**23 53 29.6**	**-0.2**
CERR	**Cheremushki**	**3.36**	**45**	Pg	**Pg**	**23 52 45.7**	**-2.0**
CERR				Sg	**Sg**	**23 53 29.5**	**-1.8**
ZSN	**Zaisan**	**3.55**	**210**	*e*P	**Pb**	**23 52 43.2**	**-3.0**
	5.4nm,0.2s						
ZSN				*e*S	**Sb**	**23 53 26.6**	**-2.7**
	19nm,0.5s						
ZSN	**Zaisan**	**3.55**	**210**	Pg	**Pb**	**23 52 44.4**	**-1.8**
	5.7nm,0.7s						
ZSN				Lg	Lg	23 53 28.8	
	16nm,0.5s						
ZAA0	**Zalesovo Array**	**3.77**	**335**	⇓Pn	**Pn**	**23 52 44.6**	**+3.1**
	0.3nm,0.5s						
ZAA0				⇑Sn	**Sn**	**23 53 30.0**	**+4.0**
	0.9nm,0.4s						
ZAA0				⇓Lg	Lg	23 53 45.4	
	4.4nm,0.8s						
POMOR	**Pomortsevo, Ku**	**3.91**	**352**	Sg	**Sg**	**23 53 45.2**	**-3.4**
SALR	**Pechorkino, Sa**	**4.02**	**345**	Pg	**Pb**	**23 52 49.8**	**-4.4**
SALR				Sg	**Sb**	**23 53 39.3**	**-3.5**
ARDR	**Aradan**	**4.23**	**59**	Pg	**Pg**	**23 53 03.7**	**-0.7**
ARDR				Sg	**Sg**	**23 53 56.1**	**-3.0**
SHRR	**Shira**	**4.27**	**21**	Pg	**Pg**	**23 53 01.4**	**-3.8**
SHRR				Sg	**Sg**	**23 53 58.8**	**-1.7**
KEM	**Kemerovo**	**4.87**	**351**	Sg	**Sg**	**23 54 20.5**	**+0.8**
ERNS	**Erzin**	**4.92**	**90**	Pg	**Pb**	**23 53 12.2**	**+2.7**
ERNS				Sg	**Sg**	**23 54 17.3**	**-3.9**
BSTK	**Bystrovka, Nov**	**4.98**	**326**	Pg	**Pb**	**23 53 13.6**	**+3.0**
BSTK				Sg	**Sg**	**23 54 21.4**	**-1.8**
NVS	**Novosibirsk**	**5.01**	**331**	Pg	**Pg**	**23 53 19.5**	**+0.3**
NVS				Sg	**Sg**	**23 54 21.3**	**-2.8**
NVSII	**Novosibirsk**	**5.01**	**331**	Pg	**Pg**	**23 53 17.8**	**-1.5**
NVSII				Sg	**Sg**	**23 54 20.7**	**-3.4**
MK31	**Makanchi Array**	**5.09**	**224**	Pn	**Pn**	**23 53 01.8**	**+2.1**
	2.1nm,0.4s,baz=46,slow=10,SNR=38						
MK31				⇑Sn	**Sn**	**23 53 59.7**	**+1.1**
	2.3nm,0.5s,baz=54,slow=20,SNR=6.7						
MK31				⇑Lg	Lg	23 54 24.0	
	5.0nm,0.5s,baz=41,slow=29,SNR=10						
MKAR	**Makanchi Array**	**5.09**	**224**	Sg	**Sg**	**23 54 23.0**	**-3.8**
NHES	**Novosibirsk, N**	**5.11**	**329**	Sg	**Sg**	**23 54 26.6**	**-0.5**
MAKZ	**Makanchi**	**5.22**	**226**	Pn	**Pn**	**23 53 05.6**	**+4.1**
MAKZ				Sg	**Sg**	**23 54 26.0**	**-5.0**
MAKZ	**Makanchi**	**5.22**	**226**	⇓Pn	**Pn**	**23 53 03.8**	**+2.3**
	3.2nm,0.7s						
MAKZ				⇑Sn	**Sn**	**23 54 02.4**	**+0.6**
	5.6nm,0.6s						
MAKZ				⇑Lg	Lg	23 54 26.3	
	12nm,0.8s						
ALXA	**Alekseevka, NS**	**5.30**	**328**	Sg	**Sg**	**23 54 33.6**	**+0.3**
KURK	**Kurchatov**	**5.64**	**275**	Sg	**Sg**	**23 54 39.6**	**-4.7**
TDJR	**Todzha**	**5.70**	**68**	Pg	**Pg**	**23 53 32.5**	**+0.1**
TDJR				Sg	**Sg**	**23 54 43.0**	**-3.1**
KURBB	**Kurchatov Arra**	**5.70**	**274**	⇑Pn	**Pn**	**23 53 10.1**	**+2.1**
	3.7nm,0.5s						
KURBB				⇓Sn	**Sn**	**23 54 14.7**	**+1.3**
	12nm,0.8s						
KURBB				⇓Lg	Lg	23 54 41.2	
	24nm,0.6s						
KAPS	**Kapalarasan**	**7.58**	**229**	Pg	**Pn**	**23 53 37.1**	**+3.2**
	1.6nm,0.8s						
KAPS				Lg	Lg	23 55 01.3	
	3.5nm,0.9s						
DJR	**Jarkent**	**8.11**	**223**	Pg	**Pn**	**23 53 44.8**	**+3.6**
	1.2nm,0.3s						
DJR				Lg	Lg	23 55 14.7	
	2.1nm,0.6s						
PDGK	**Podgornoye**	**9.05**	**220**	Pg	**Pn**	**23 53 56.6**	**+2.4**
	0.9nm,0.5s						
PDGK				Lg	Lg	23 55 35.2	
	1.2nm,0.7s						
PDGK	**Podgornoye**	**9.05**	**220**	⇑Pn	**Pn**	**23 53 56.1**	**+2.0**
	0.8nm,0.4s						
PDGK				⇑Sn	**Sn**	**23 55 36.7**	**+0.6**
	2.5nm,0.7s						
PDGK				⇓Lg	Lg	23 56 27.6	
	1.5nm,0.3s						

*REY **27** 23:53:44.7, 64°.67N×17°.44W, h3km*
*MOS **27** 23:53:45.6±1.3, 64°.82N×17°.67W, h11km, mb4.6/27, Error ellipse: s-maj=12.3km s-min=8.3km az=119.9*
*IDC **27** 23:53:45.3±0.6, 64°.73N×17°.76W, h0km, mb3.9/15, mb1 4.0/18, mb1mx3.8/54, mbtmp3.8/18, ML3.3/3, Error ellipse: s-maj=19.6km s-min=9.6km az=8.0*
*NEIC **27** 23:53:46.3±1.2, 64°.61N±0°.08×17°.7W±0°.1, h7km±4km, mb4.5/59, Error ellipse: s-maj=11.9km s-min=7.9km az=181.0*

ISC 27 23:53:46.8±0.3,64°.68N±0°.02×17°.49W±0°.02,h10km,n243, σ2s19/253,mb4.4/66,1C-1D,Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.12**	**267**	P	**Pg**	**23 53 47.5**	**-2.1**
	baz=272						
IVON				S	**Sg**	**23 53 50.0**	**-1.7**
	baz=272						
IDYN	**Dyngjuhals**	**0.12**	**25**	P	**Pg**	**23 53 47.7**	**-2.1**
	baz=15						
IDYN				S	**Sg**	**23 53 50.3**	**-1.6**
	baz=15						
IDJK	**Dyngjujokull**	**0.21**	**148**	P	**Pg**	**23 53 48.6**	**-2.5**
	baz=152						
IGRF	**Grimsfjall**	**0.29**	**161**	P	**Pg**	**23 53 50.2**	**-2.5**
	baz=164						
IKVE	**Kverkfjoll**	**0.35**	**90**	P	**Pg**	**23 53 51.3**	**-2.5**
	baz=88						
IKVE				S	**Sg**	**23 53 55.2**	**-3.2**
	baz=88						
IBJK	**Bruarjokull**	**0.38**	**123**	P	**Pg**	**23 53 51.4**	**-2.9**
	baz=124						
IHUS	**Husbondi**	**0.39**	**191**	P	**Pg**	**23 53 52.3**	**-2.2**
	baz=194						
IHUS				S	**Sg**	**23 54 00.0**	**+0.3**
	baz=194						
ISKR	**Skrokkalda**	**0.41**	**253**	P	**Pg**	**23 53 52.4**	**-2.3**
	baz=256						
IVOT	**Vottur**	**0.43**	**162**	P	**Pg**	**23 53 52.7**	**-2.6**
	baz=164						
IJOK	**Jokulheimar**	**0.48**	**221**	P	**Pg**	**23 53 53.6**	**-2.6**
	baz=224						
IKRE	**Kreppuhraun**	**0.49**	**77**	P	**Pg**	**23 53 53.4**	**-2.8**
	baz=75						
IKRE				S	**Sg**	**23 53 58.2**	**-4.4**
	baz=75						
IASK	**Askja**	**0.52**	**44**	P	**Pg**	**23 53 54.1**	**-2.7**
	baz=41						
IASK				S	**Sg**	**23 53 57.9**	**-5.8**
	baz=41						
IMKO	**Mokollar**	**0.58**	**58**	P	**Pg**	**23 53 55.2**	**-2.7**
	baz=56						
IIEY	**Innrieyrar**	**0.65**	**205**	P	**Pg**	**23 53 56.3**	**-3.0**
	baz=208						
ISVA	**Svartarkot**	**0.67**	**8**	P	**Pg**	**23 53 56.9**	**-2.8**
	baz=6.7						
ISVA				S	**Sg**	**23 54 06.8**	**-1.6**
	baz=6.7						
IKSK	**Karasker**	**0.68**	**139**	P	**Pg**	**23 53 56.3**	**-3.7**
	baz=140						
IKAL	**Kalfafell**	**0.74**	**187**	P	**Pg**	**23 53 57.9**	**-3.1**
	baz=188						
IVSH	**V-Saudahnukur**	**0.77**	**80**	P	**Pg**	**23 53 58.0**	**-3.5**
	baz=78						
IVAT	**Vatnsfell**	**0.79**	**232**	P	**Pg**	**23 53 59.0**	**-3.0**
	baz=234						
IADA	**Aoalbol**	**0.89**	**67**	P	**Pg**	**23 53 60.0**	**-3.8**
	baz=65						
IFAG	**Fagurholsmyri**	**0.89**	**155**	P	**Pg**	**23 54 00.1**	**-3.7**
	baz=156						
IFAG				S	**Sg**	**23 54 12.9**	**-2.4**
	baz=156						
IHVE	**Hveravellir**	**0.91**	**283**	P	**Pg**	**23 54 01.0**	**-3.3**
	baz=284						
IMEL	**Melhnausar**	**0.96**	**21**	P	**Pg**	**23 54 01.7**	**-3.5**
	baz=20						
IREN	**Reynihlio**	**1.00**	**14**	P	**Pg**	**23 54 02.4**	**-3.6**
	baz=13						
IKVO	**Krokottuvotn**	**1.07**	**14**	P	**Pg**	**23 54 03.4**	**-3.9**
	baz=12						
ISNB	**Snabyli**	**1.07**	**208**	P	**Pg**	**23 54 03.6**	**-3.7**
	baz=210						
ISLY	**Slysaalda**	**1.12**	**220**	P	**Pb**	**23 54 04.7**	**-3.4**
	baz=222						
IGRS	**Grimsstaoir**	**1.12**	**30**	P	**Pb**	**23 54 04.3**	**-3.9**
	baz=29						
IFED	**Fedgar**	**1.16**	**237**	P	**Pb**	**23 54 05.8**	**-3.1**
	baz=238						
IRJU	**Rjupnafell**	**1.19**	**206**	P	**Pb**	**23 54 05.6**	**-3.7**
	baz=208						
ISKI	**Skildingahlsh**	**1.21**	**9**	P	**Pn**	**23 54 05.8**	**-3.9**
	baz=8.0						
IMJO	**Mjoaskard**	**1.21**	**233**	P	**Pn**	**23 54 06.7**	**-3.0**
	baz=234						
IGHA	**Grjothals**	**1.22**	**16**	P	**Pn**	**23 54 05.8**	**-4.0**
	baz=15						
IGRA	**Granastaoir**	**1.24**	**358**	P	**Pn**	**23 54 06.3**	**-3.9**
	baz=357						
IGRA				S	**Sb**	**23 54 23.6**	**-2.8**
	baz=357						
IHAU	**Haukadalur**	**1.29**	**238**	P	**Pn**	**23 54 08.2**	**-2.6**
	baz=239						
IGOD	**Go??abunga**	**1.30**	**219**	P	**Pn**	**23 54 08.2**	**-2.9**
	baz=220						
IHVO	**Lagu-Hvolar**	**1.30**	**208**	P	**Pn**	**23 54 08.0**	**-2.9**
	baz=209						
IHLA	**Hella**	**1.32**	**344**	P	**Pn**	**23 54 08.0**	**-3.3**
	baz=343						
ISMJ	**Smjorgil**	**1.39**	**224**	P	**Pn**	**23 54 09.4**	**-2.7**
	baz=225						
IALF	**Alftagrof**	**1.41**	**213**	P	**Pn**	**23 54 09.3**	**-3.0**
	baz=214						
IHED	**Heoinshofoi**	**1.41**	**3**	P	**Pn**	**23 54 08.9**	**-3.5**
	baz=2.2						
IESK	**Eystri-Skogar**	**1.45**	**217**	P	**Pn**	**23 54 09.9**	**-3.0**
	baz=218						
ISAU	**Saurbar**	**1.45**	**243**	P	**Pn**	**23 54 09.7**	**-3.3**
	baz=244						
IBRE	**Brettingsstaoi**	**1.46**	**353**	P	**Pn**	**23 54 09.8**	**-3.3**
	baz=353						
IGIL	**Gilhagi**	**1.48**	**18**	P	**Pn**	**23 54 09.9**	**-3.5**
	baz=17						
IASM	**Asmuli**	**1.61**	**240**	P	**Pn**	**23 54 12.2**	**-2.9**
	baz=240						
IASB	**`sbjarnarst**	**1.65**	**274**	P	**Pn**	**23 54 12.8**	**-3.0**
	baz=274						
BORG	**Borgarnes**	**1.65**	**274**	Pg	**Pn**	**23 54 12.6**	**-3.1**
	47nm,0.3s,baz=99,slow=10,SNR=118						
BORG				Lg	Lg	23 54 35.0	
	22nm,0.3s,baz=56,slow=18,SNR=15						
BORG	**Borgarnes**	**1.65**	**274**	P	**Pn**	**23 54 11.9**	**-3.8**
BORG						23 54 35.6	
BORG	**Borgarnes**	**1.65**	**274**	Pn	**Pn**	**23 54 11.9**	**-3.8**
BORG					**Sn**	**23 54 35.6**	**-1.3**
IKRO	**Krokur**	**1.68**	**251**	P	**Pn**	**23 54 13.6**	**-2.6**
	baz=252						
ISOL	**Solvholt**	**1.68**	**245**	P	**Pn**	**23 54 13.6**	**-2.6**
	baz=246						
IHEI	**Heioarbar**	**1.69**	**255**	P	**Pn**	**23 54 13.4**	**-2.9**
	baz=256						
ILEI	**Leirhofn**	**1.78**	**13**	P	**Pn**	**23 54 14.8**	**-2.8**
	baz=12						
IHRN	**Hraun**	**1.81**	**324**	P	**Pn**	**23 54 15.0**	**-2.9**
	baz=323						
IBJA	**Bjarnastaoir**	**1.82**	**248**	P	**Pn**	**23 54 15.5**	**-2.6**
	baz=248						
ISAN	**Sandskeio**	**1.88**	**252**	P	**Pn**	**23 54 16.5**	**-2.4**
	baz=253						
IGRI	**Grimsey**	**1.88**	**354**	P	**Pn**	**23 54 15.9**	**-3.1**
	baz=353						
IKAS	**Kald??rsel**	**2.01**	**253**	P	**Pn**	**23 54 18.7**	**-1.9**
	baz=253						
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**23 55 15.7**	**-0.7**
SCO				*i* S	**Sn**	**23 56 30.2**	**+4.4**
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**23 55 15.7**	**-0.7**
SCO					**Sn**	**23 56 30.2**	**+4.4**
SCO	**Scoresbysund**	**6.07**	**346**	*i* S	**Sn**	**23 56 30.2**	**+4.4**
SCO				*e*	Pn	23 55 10.2	-6.2
	baz=166,slow=11						
SCO				*i* P	**Pn**	**23 55 15.7**	**-0.7**
SCO				IAML		23 56 37.2	
	comp=Z,2.3nm,0.4s						
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**23 56 33.6**	**-0.8**
	baz=325,slow=13,SNR=7.3						
ESK	**Eskdalemuir**	**11.77**	**136**	P	**Pn**	**23 56 34.1**	**-0.3**
ESK	**Eskdalemuir**	**11.77**	**136**	Pn	**Pn**	**23 56 34.1**	**-0.3**
NC204	**NORSAR Array S**	**13.23**	**92**	Pn	**Pn**	**23 56 52.7**	**-1.7**
IVI	**Ivigtut**	**14.30**	**270**	Pn	**Pn**	**23 57 08.3**	**-0.7**
ARCES	**ARCESS Array B**	**17.11**	**55**	P	**Pn**	**23 57 45.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=348,slow=28,SNR=1.5						
BMRD	**Maredsous**	**18.57**	**130**	P	**Pn**	**23 58 04.1**	**+0.4**
	comp=Z,14nm,2.2s						
LDF	**La Druitiere**	**18.62**	**142**	*e*P	**P**	**23 58 01.9**	**-2.2**
FINES	**FINESS Array B**	**19.70**	**79**	P	**P**	**23 58 16.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=274,slow=11,SNR=4.5						
FINES	**FINESS Array B**	**19.70**	**79**	P	**P**	**23 58 15.8**	**+0.1**
APA	**Apatity**	**20.32**	**59**	⇑*i* P	**P**	**23 58 21.8**	**-0.7**
APA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MOX	**Moxa**	**20.71**	**119**	P	Pn	23 58 28.2	-1.0
MOX				pmax	pmax		
	comp=Z,12nm,1.7s						
CLL	**Collm**	**20.71**	**116**	*i* P	Pn	23 58 29.0	-0.1
	comp=Z,46nm,2.0s						
CLL	**Collm**	**20.71**	**116**	*i* P	Pn	23 58 29.0	-0.1
CLL				pmax	pmax		
	comp=Z,46nm,2.0s						
CLL	**Collm**	**20.71**	**116**	P	**P**	**23 58 27.1**	**+0.3**
GKP	**Gorka Klasztor**	**20.92**	**107**	*e*P	Pn	23 58 31.3	-0.2
SSF	**Saint Saulge**	**21.04**	**137**	*e*P	**P**	**23 58 32.5**	**+2.1**
SSF				pmax	pmax		
	comp=Z,19nm,1.3s						
ECH	**Echery**	**21.16**	**129**	P	**P**	**23 58 31.7**	**-0.1**
ECH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ECH	**Echery**	**21.16**	**129**	P	**P**	**23 58 31.7**	**-0.1**
STU	**Stuttgart**	**21.38**	**125**	P	**P**	**23 58 34.8**	**+0.7**
STU				pmax	pmax		
	comp=Z,16nm,0.8s						
STU	**Stuttgart**	**21.38**	**125**	P	**P**	**23 58 34.8**	**+0.7**
STU				IAmb	IAmb	23 58 38.3	
	comp=Z,16nm,0.8s						
BRG	**Berggiesshubel**	**21.41**	**115**	*i* P	**P**	**23 58 36.8**	**+2.4**
	comp=Z,16nm,1.3s						
BFO	**Black Forest**	**21.45**	**127**	P	**P**	**23 58 35.6**	**+0.7**
BFO				pmax	pmax		
	comp=Z,15nm,1.2s						
BFO	**Black Forest**	**21.45**	**127**	P	**P**	**23 58 35.6**	**+0.7**
PRU	**Pruhonice**	**22.35**	**116**	*e*P	**P**	**23 58 47.9**	**+3.4**
PRU	**Pruhonice**	**22.35**	**116**	*e*P	**P**	**23 58 47.9**	**+3.4**
KSP	**Ksiaz**	**22.36**	**112**	*e*P	**P**	**23 58 47.3**	**+2.6**
CHVC	**Chvalec**	**22.47**	**113**	*e*P	**P**	**23 58 47.0**	**+1.2**
CHVC				*ex*	x	23 58 56.6	
GOPC	**GO Pecny, Ondr**	**22.51**	**116**	*e*P	**P**	**23 58 49.4**	**+3.2**
GOPC	**GO Pecny, Ondr**	**22.51**	**116**	*e*P	**P**	**23 58 49.4**	**+3.2**
OSTC	**Ostas**	**22.56**	**113**	*e*P	**P**	**23 58 49.9**	**+3.2**
KHC	**Kasperske Hory**	**22.68**	**118**	*i* P	**P**	**23 58 49.0**	**+1.0**
KHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KHC	**Kasperske Hory**	**22.68**	**118**	*e*P	**P**	**23 58 49.7**	**+1.7**
KHC				*ex*	x	23 58 59.2	
KHC	**Kasperske Hory**	**22.68**	**118**	P	**P**	**23 58 48.6**	**+0.6**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P	**P**	**23 58 51.4**	**+2.5**
DPC	**Dobruska-Polom**	**22.76**	**113**	*e*P	**P**	**23 58 51.4**	**+2.5**
SENIN	**Lac Senin/Sane**	**22.83**	**132**	P	**P**	**23 58 49.4**	**-0.4**
SENIN				IAmb	IAmb	23 58 51.2	
	comp=Z,28nm,1.8s						
GEC2	**GERESS Array S**	**22.96**	**119**	P	**P**	**23 58 51.8**	**+0.7**
GEC2				IAmb	IAmb	23 59 05.8	
	comp=Z,18nm,1.6s						
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**	**23 58 52.1**	**+1.1**
	comp=Z,1.2nm,0.9s,baz=289,slow=4.1,SNR=10						
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**	**23 58 51.7**	**+0.7**
KRLC	**Kraliky**	**23.16**	**113**	*e*P	**P**	**23 58 55.2**	**+2.1**
KRLC				*e*		23 59 01.9	
KRLC	**Kraliky**	**23.16**	**113**	*e*P	**P**	**23 58 55.2**	**+2.1**
KRLC				*ex*	x	23 59 01.9	
TREC	**Trest**	**23.27**	**116**	*e*P	**P**	**23 58 57.5**	**+3.3**
TREC	**Trest**	**23.27**	**116**	*e*P	**P**	**23 58 57.5**	**+3.3**
LPL	**La Plagne**	**23.41**	**133**	*e*P	**P**	**23 58 57.1**	**+1.4**
LPL				pmax	pmax		
	comp=Z,62nm,2.1s						
BEL	**Belsk**	**23.44**	**105**	*e*P	**P**	**23 58 57.5**	**+1.7**
EUNU	**Eureka**	**23.66**	**336**	P	**P**	**23 58 58.5**	**+0.7**
VRAC	**Vranov**	**23.70**	**114**	P	**P**	**23 59 00.2**	**+1.8**
	comp=Z,2.0nm,0.4s,baz=316,slow=6.2,SNR=6.8						
VRAC	**Vranov**	**23.70**	**114**	*e*P	**P**	**23 59 00.8**	**+2.

OBN pmax pmax
comp=Z,8.0nm,1.2s
MOS Moscow 27.91 82 *e*P **P 23 59 35.5 -1.0**
MOS *e* 00 00 22.9
BUR08 Bucovina Ar. S 28.50 106 P **P 23 59 42.6 +0.6**
KEST Kesra 33.16 138 P **P 00 00 25.7 +2.6**
comp=Z,2.0nm,0.9s,baz=181,slow=23,SNR=3.6
ALN Alexandroupoli 34.40 112 P **P 00 00 34.4 +0.7**
ALN pmax pmax
comp=Z,11nm,1.4s
ALN Alexandroupoli 34.40 112 P **P 00 00 34.4 +0.7**
ALN IAmb IAmb 00 00 37.1
comp=Z,11nm,1.4s
AGG Agios Georgios 34.57 118 P **P 00 00 36.0 +0.7**
AGG pmax pmax
comp=Z,8.0nm,1.2s
AGG Agios Georgios 34.57 118 P **P 00 00 36.0 +0.7**
AGG IAmb IAmb 00 00 40.3
comp=Z,8.2nm,1.2s
ARU Arti 36.07 66 P **P 00 00 50.6 +2.6**
comp=Z,0.3nm,0.4s,baz=318,slow=8.4,SNR=3.6
ARU Arti 36.07 66 P **P 00 00 49.1 +1.1**
ARU 00 02 07.2
ARU S **S 00 06 32.5 +5.8**
ARU Arti 36.07 66 P **P 00 00 48.5 +0.6**
ILGA Ilgaz 37.40 104 P **P 00 00 59.4 -0.3**
ILGA IAmb IAmb 00 01 08.2
comp=Z,17nm,1.7s
BR131 Keskin Array S 38.48 105 P **P 00 01 10.5 +1.7**
BR131 pmax pmax
comp=Z,3.0nm,1.1s
BR131 Keskin Array S 38.48 105 P **P 00 01 10.5 +1.7**
BRTR Keskin Array B 38.48 105 P **P 00 01 11.4 +2.6**
comp=Z,1.1nm,0.8s,baz=331,slow=7.4,SNR=7.7
BRTR Keskin Array B 38.48 105 P **P 00 01 10.5 +1.7**
KIV Kislovodsk 38.84 92 *e*P **P 00 01 13.0 +1.3**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 38.84 92 P **P 00 01 14.6 +2.9**
KIV IAmb IAmb 00 01 16.0
comp=Z,15nm,1.8s
KBZ Khabaz 39.11 92 P **P 00 01 15.7 +1.9**
comp=Z,2.2nm,0.9s,baz=320,slow=10,SNR=5.3
AKTO Aktyubinsk 40.28 73 P **P 00 01 23.6 +0.1**
comp=Z,1.8nm,0.9s,baz=323,slow=9.4,SNR=4.7
KOPT Kop Dagi 41.12 98 P **P 00 01 32.0 +1.1**
AKH Akhalkalaki 41.25 94 P **P 00 01 32.2 +0.4**
AKH pmax pmax
comp=Z,16nm,1.6s
AKH Akhalkalaki 41.25 94 P **P 00 01 32.2 +0.4**
AKH IAmb IAmb 00 01 36.7
comp=Z,16nm,1.6s
TBLG Delisi 41.52 93 P **P 00 01 35.0 +1.1**
TBLG pmax pmax
comp=Z,12nm,1.5s
TBLG Delisi 41.52 93 P **P 00 01 35.0 +1.1**
TBLG IAmb IAmb 00 01 40.0
comp=Z,12nm,1.5s
ABKAR Akbulak array 41.98 73 P **P 00 01 37.3 -0.2**
BMAR Burnt Mountain 42.88 333 P **P 00 01 43.6 -1.1**
BRVK Borovoye 43.12 62 *i* P **P 00 01 45.6 -1.1**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 43.19 62 P **P 00 01 46.4 -0.9**
comp=Z,0.8nm,0.5s,baz=341,slow=7.9,SNR=5.4
IL31 45.67 332 P **P 00 02 07.5 +0.6**
IL31 IAmb IAmb 00 02 12.0
comp=Z,7.1nm,1.4s
ILAR Eielson Array 45.67 332 P **P 00 02 05.4 -1.6**
comp=Z,2.7nm,1.2s,baz=21,slow=6.3,SNR=10
ILAR Eielson Array 45.67 332 P **P 00 02 07.7 +0.7**
ILAR Eielson Array 45.67 332 P **P 00 02 07.7 +0.7**
MDM Murphy Dome 45.77 333 P **P 00 02 08.5 +0.7**
MDM IAmb IAmb 00 02 14.8
comp=Z,7.2nm,1.2s
COLA College 45.77 333 *i* P **P 00 02 09.1 +1.4**
COLA pmax pmax
comp=Z,4.0nm,1.0s
IMAR Indian Mountai 45.85 337 P **P 00 02 09.8 +1.5**
BCAR Beaver Creek A 46.10 329 P **P 00 02 10.6 +0.2**
ZAA0 Zalesovo Array 47.62 51 P **P 00 02 23.0 +0.6**
ZALV Zalesovo Beam 47.62 51 P **P 00 02 23.0 +0.6**
ZALV Zalesovo Beam 47.62 51 P **P 00 02 23.0 +0.6**
KURK Kurchatov 48.10 58 *i* P **P 00 02 26.4 +0.3**
KURK pmax pmax
comp=Z,3.0nm,1.1s
KURK Kurchatov 48.10 58 P **P 00 02 26.2 +0.1**
KURK IAmb IAmb 00 02 29.6
comp=Z,6.0nm,1.3s
LAO LASA Array 48.59 293 P **P 00 02 30.3 +0.3**
EGMT Eagleton 48.87 297 P **P 00 02 31.5 -0.7**
CCM Cathedral Cave 49.52 275 P **P 00 02 37.4 +0.2**
CCM pmax pmax
comp=Z,7.0nm,1.2s
CCM Cathedral Cave 49.52 275 P **P 00 02 37.4 +0.2**
CCM IAmb IAmb 00 02 38.8
comp=Z,7.0nm,1.2s
GEYT Alibeck 50.42 84 P **P 00 02 45.6 +1.6**
GYA0 ALIBECK ARRAY 50.42 84 P **P 00 02 45.7 +1.7**
GYA0B ALIBECK ARRAY 50.42 84 P **P 00 02 45.7 +1.6**
GYA0B IAmb IAmb 00 02 48.4
comp=Z,12nm,1.6s
HRY Holter Researc 50.75 298 P **P 00 02 46.3 -0.3**
RLMT Red Lodge 51.09 295 P **P 00 02 49.8 +0.6**
KK31 Karatay Array 51.27 70 P **P 00 02 51.1 +0.7**
KK31 pmax pmax
comp=Z,6.0nm,1.5s
KK31 Karatay Array 51.27 70 P **P 00 02 51.1 +0.7**
KK31 IAmb IAmb 00 02 59.7
comp=Z,5.9nm,1.4s
KKAR Karatay Array 51.27 70 P **P 00 02 51.2 +0.9**
KKAR Karatay Array 51.27 70 P **P 00 02 51.2 +0.9**
YNE Yellowstone No 51.47 295 P **P 00 02 52.0 -0.1**
BOZ Bozeman (W) 51.60 297 P **P 00 02 53.2 +0.2**
BOZ pmax pmax
comp=Z,12nm,1.5s
BOZ Bozeman (W) 51.60 297 P **P 00 02 53.2 +0.2**
BOZ IAmb IAmb 00 02 57.4
comp=Z,12nm,1.4s
U40A Yellville 51.64 275 P **P 00 02 52.4 -0.8**
DGZ Jazzator, Alta 52.07 53 *i* P **P 00 02 57.7 +1.3**
DGZ pmax pmax
comp=Z,2.0nm,1.2s
H17A Grant Village 52.20 295 P **P 00 02 57.1 -0.5**
H17A IAmb IAmb 00 03 03.3
comp=Z,11nm,1.4s
MKAR Makanchi Array 52.71 58 P **P 00 03 01.9 +0.8**
comp=Z,1.0nm,0.9s,baz=348,slow=6.1,SNR=2.1
MKAR Makanchi Array 52.71 58 P **P 00 03 01.4 +0.3**
MCMT McKenzie Canyo 52.72 297 P **P 00 03 01.3 -0.1**
TOA0 Torodi Ar. Sit 53.15 156 P **P 00 03 04.3 -0.2**
TOA0 IAmb IAmb 00 03 08.9
comp=Z,8.8nm,1.5s
TORD Torodi Ar. Bea 53.15 156 P **P 00 03 04.2 -0.4**
comp=Z,1.2nm,0.7s,baz=343,slow=7.3,SNR=10
TORD Torodi Ar. Bea 53.15 156 P **P 00 03 04.0 -0.5**
BW06 Boulder Array 53.17 293 P **P 00 03 04.8 0.0**
BW06 IAmb IAmb 00 03 08.3
comp=Z,7.0nm,1.2s
PD31 Pinedale Array 53.17 293 P **P 00 03 04.4 -0.4**
PD31 IAmb IAmb 00 03 08.3
comp=Z,5.9nm,1.1s
PDAR Pinedale Array 53.17 293 P **P 00 03 03.9 -0.9**
comp=Z,1.1nm,0.7s,baz=56,slow=5.8,SNR=11
PDAR Pinedale Array 53.17 293 P **P 00 03 04.2 -0.6**
AAK Ala-Archa 53.25 67 P **P 00 03 05.2 -0.1**
comp=Z,1.0nm,0.3s,baz=8.1,slow=7.1,SNR=1.8
AAK Ala-Archa 53.25 67 P **P 00 03 05.2 -0.1**
AAK pmax pmax
comp=Z,11nm,1.7s
AAK Ala-Archa 53.25 67 P **P 00 03 05.2 -0.1**
AAK IAmb IAmb 00 03 10.2
comp=Z,11nm,1.6s
N23A Red Feather La 53.30 289 P **P 00 03 06.1 +0.3**
N23A IAmb IAmb 00 03 07.8
comp=Z,7.8nm,1.2s
BTK Batken 53.95 72 P **P 00 03 11.2 +0.8**
BTK pmax pmax
comp=Z,12nm,1.3s
BTK Batken 53.95 72 P **P 00 03 11.2 +0.8**
GAR Garm 54.64 73 P **P 00 03 16.2 +0.8**
HWUT Hardware Ranch 54.95 294 P **P 00 03 17.4 -0.3**
MFID Camas Ranch 55.05 298 P **P 00 03 18.5 +0.2**
HRA Herat 55.18 82 P **P 00 03 19.8 +0.3**

HVU Hansel Valley 55.27 295 P **P 00 03 19.6 -0.4**
HVU pmax pmax
comp=Z,23nm,1.7s
HVU Hansel Valley 55.27 295 P **P 00 03 19.6 -0.4**
TCUT Toone Canyon 55.30 294 P **P 00 03 19.8 -0.5**
TARG Taragay, Kyrgy 55.32 65 P **P 00 03 20.6 -0.1**
PV03 Paradox Valley 56.73 290 P **P 00 03 29.3 -1.2**
WMQ Urumqi 57.22 56 *e*P **P 00 03 37.5 +3.7**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,180nm,11.8s
WMQ LR LR
comp=N,200nm,29.3s
WMQ LR LR
comp=E,490nm,28.8s
WMQ LR LR
comp=Z,74nm,15.9s
R11A Troy Canyon, C 59.32 295 P **P 00 03 48.2 -0.4**
R11A IAmb IAmb 00 03 55.2
comp=Z,7.8nm,1.7s
JCT Junction City 59.65 278 P **P 00 03 49.9 -0.9**
JCT pmax pmax
comp=Z,5.0nm,1.0s
JCT Junction City 59.65 278 P **P 00 03 49.9 -0.9**
JCT IAmb IAmb 00 03 52.4
comp=Z,4.7nm,0.9s
WUAZ Wupatki 60.11 290 P **P 00 03 53.8 -0.2**
WUAZ IAmb IAmb 00 04 00.2
comp=Z,6.1nm,1.2s
NIL Nilore 60.44 74 P **P 00 03 56.3 +0.1**
NIL pmax pmax
comp=Z,20nm,1.7s
NIL Nilore 60.44 74 P **P 00 03 56.2 +0.1**
HHC Hu-ho-hao-te 67.50 40 *e*P **P 00 04 44.3 +1.7**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,87nm,6.6s
LZH Lanzhou 69.62 48 *e*P **P 00 04 54.3 -1.7**
LZH pP pP 00 04 58.3 -1.4
LZH sP sP 00 05 00.3 -0.8
LZH PP **PP 00 07 33.3 +4.0**
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,69nm,5.4s
LZH LR LR
comp=N,320nm,15.2s
LZH LR LR
comp=E,340nm,15.0s
LZH LR LR
comp=Z,430nm,18.1s
NJ2 Nanjing 77.72 37 *e*P **P 00 05 44.5 +1.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s

IDC 27 23:56:59.1±3.2, 15.64S×179.88W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/34, mbtmp3.8/4, Error ellipse: s-maj=174.9km s-min=27.4km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**36.40**	**338**	T	T	00 42 56.5	
	baz=154,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**36.41**	**338**	T	T	00 42 54.2	
	baz=154,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy**	**36.42**	**338**	T	T	00 42 54.9	
	baz=154,slow=76,SNR=38						
H11N3	**WAKE ISLAND Hy**	**37.47**	**339**	T	T	00 44 12.1	
	baz=155,slow=76,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**37.47**	**339**	T	T	00 44 08.7	
	baz=155,slow=76,SNR=43						
H11N2	**WAKE ISLAND Hy**	**37.48**	**339**	T	T	00 44 10.8	
	baz=155,slow=76,SNR=30						
WRA	**Warramunga Arr**	**43.70**	**257**	P	P	00 05 06.5	+0.2
	0.8nm,0.7s,baz=93,slow=8.3,SNR=5.8						
ASAR	**Alice Springs**	**44.10**	**252**	P	P	00 05 09.1	-0.4
	2.7nm,0.6s,baz=83,slow=8.7,SNR=36						
NVAR	**Mina Array Bea**	**78.79**	**45**	P	P	00 09 04.5	+0.3
	0.2nm,0.4s,baz=243,slow=6.0,SNR=3.6						
ILAR	**Eielson Array**	**84.02**	**14**	P	P	00 09 30.4	-0.6
	0.4nm,0.7s,baz=214,slow=6.4,SNR=4.1						
GERES	**GERESS Array B**	**145.07**	**344**	PKPbc	PKPbc	00 16 37.7	-0.3
	0.3nm,0.5s,baz=20,slow=4.3,SNR=4.4						

IDC 28 00:09:59.8±11.0, 18.94S×178.20W, h473km±150km, mb2.9/5, mb1 3.3/5, mb1mx3.0/24, mbtmp3.7/5, Error ellipse: s-maj=223.2km s-min=30.8km az=163.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.65**	**261**	P	P	00 17 29.4	-0.2
	0.3nm,0.3s,baz=96,slow=5.3,SNR=6.8						
ASAR	**Alice Springs**	**44.71**	**255**	P	P	00 17 29.9	-0.1
	0.8nm,0.5s,baz=91,slow=7.7,SNR=13						
NVAR	**Mina Array Bea**	**80.03**	**44**	P	P	00 21 20.2	+0.5
	0.3nm,0.6s,baz=224,slow=8.8,SNR=3.6						
TXAR	**Lajitas Array**	**86.38**	**57**	P	P	00 21 51.7	+0.1
	0.5nm,0.7s,baz=222,slow=6.1,SNR=8.4						
PDAR	**Pinedale Array**	**87.96**	**43**	P	P	00 21 58.0	-0.9
	0.3nm,0.6s,baz=220,slow=3.9,SNR=3.9						
BRTR	**Keskin Array B**	**145.64**	**314**	PKPbc	PKPbc	00 28 44.9	-0.6
	0.5nm,0.6s,baz=130,slow=4.5,SNR=4.4						
GERES	**GERESS Array B**	**148.65**	**345**	PKPbc	PKPbc	00 28 52.4	-0.7
	0.5nm,0.6s,baz=35,slow=3.6,SNR=7.0						

*TEH **28** 00:20:14.7, 32.71N×47.77E, h8km, ML3.2*
*ISN **28** 00:20:16.9±1.3, 32.72N×47.50E, h6km±8km, ML3.0*
ISC 28 00:20:16.5±1.2, 32.64N±0.05×47.69E±0.04, h23km, n23, σ1s36/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.35**	**276**	*e*Pg	**Pb**	**00 20 22.7**	**-1.5**
DHL1				*e*Sg	**Sb**	**00 20 29.8**	**+0.4**
SHGR	**Shooshtar-Gavs**	**1.08**	**119**	*e*Pg	**Pn**	**00 20 34.9**	**-1.4**
BMDN	**Meydan**	**1.40**	**43**	*e*Pg	**Pn**	**00 20 40.0**	**-0.9**
BMDN				*e*		00 21 06.1	
IKOM	**Komasi**	**1.54**	**354**	*e*Pg	**Pb**	**00 20 43.3**	**-1.1**
IKOM				*e*		00 21 11.7	
AHWZ	**Ahwaz**	**1.54**	**148**	*e*Pg	**Pn**	**00 20 44.7**	**+2.1**
IBDR	**Badra**	**1.55**	**288**	*e*Pg	**Pn**	**00 20 43.0**	**+0.2**
	baz=106						
IBDR				*e*Sg	**Sb**	**00 21 03.0**	**-0.8**
IBDR				AML	AML	00 21 11.0	
	comp=N,238nm,0.4s						
IBDR				AML	AML	00 21 12.2	
	comp=E,194nm,0.6s						
KCHF	**Cheshme Sefid,**	**1.72**	**342**	*e*Pg	**Pb**	**00 20 46.6**	**-0.9**
KCHF				*e*		00 21 16.0	
HSAM	**Samen**	**1.74**	**26**	*e*Pg	**Pn**	**00 20 46.6**	**+1.0**
HSAM				*e*		00 20 48.0	
KER	**Kermanshah**	**1.80**	**345**	*e*Pg	**Pb**	**00 20 48.5**	**-0.4**
IBZA	**Bozab**	**1.83**	**4**	*e*Pg	**Pb**	**00 20 48.4**	**-1.1**
IBZA				*e*		00 21 15.5	
IGHG	**Ghaleghazi**	**1.93**	**331**	*e*Pn	**Pb**	**00 20 49.7**	**-1.4**
IGHG				*e*		00 21 24.0	
IVIS	**Veis**	**2.00**	**340**	*e*Pn	**Pb**	**00 20 51.2**	**-1.2**
IVIS				*e*		00 21 24.5	
KHMZ	**Khomeyn**	**2.19**	**60**	*e*Pn	**Pn**	**00 20 53.2**	**+1.4**
IALM	**Almabolaq**	**2.25**	**10**	*e*Pn	**Pn**	**00 20 53.3**	**+0.7**
IDHR	**Dehrash**	**2.32**	**332**	*e*Pn	**Pb**	**00 20 55.7**	**-2.2**
IDHR				*e*		00 21 35.2	
ILIN	**Lien**	**2.35**	**345**	*e*Pn	**Pb**	**00 20 56.5**	**-1.9**
ILIN				*e*		00 21 36.2	
HAGD	**Aghdareh**	**2.49**	**29**	*e*Pn	**Pn**	**00 20 56.6**	**+0.7**
HAGD				*e*		00 21 03.6	
HSRG	**Sareghieh**	**2.64**	**11**	*e*Pn	**Pn**	**00 21 00.2**	**+2.2**
HSRG				*e*		00 21 40.5	
ASAO	**Ashtian**	**2.72**	**45**	*e*Pn	**Pn**	**00 21 00.4**	**+1.3**
BHD	**Baghdad**	**2.85**	**284**	*e*Pn	**Pn**	**00 21 01.5**	**+0.9**
BHD				*e*Sn	**Sn**	**00 21 36.0**	**+1.7**
BHD				AML	AML	00 21 55.1	
	comp=E,124nm,0.5s						
IRAZ	**Razeghan**	**3.32**	**33**	*e*Pn	**Pn**	**00 21 08.6**	**+1.3**
QABG	**Abgarm-Qazvin**	**3.44**	**27**	*e*Pn	**Pn**	**00 21 09.3**	**+0.4**
GHVR	**GHOM**	**3.52**	**58**	*e*Pn	**Pn**	**00 21 11.0**	**+1.0**

*IDC **28** 00:25:02.8±1.7, 46.95N×144.81E, h377km±27km, mb3.0/6, mb1 3.1/10, mb1mx2.9/45, mbtmp3.7/10, Error ellipse: s-maj=37.0km s-min=22.2km az=176.0*
*JMA **28** 00:25:04.1±0.5, 46.40N×144.92E, h398km, M3.2*
ISC 28 00:25:01.9±0.8, 46.59N±0.07×144.91E±0.10, h379km, n24, σ2s16/32, mb3.2/6, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSE	**Soyaes**	**2.30**	**226**	P	**Pn**	**00 26 00.8**	**+2.9**
JWK2	**Keihoku**	**2.45**	**240**	P	**Pn**	**00 26 02.1**	**+3.1**
JWK2				*e*S	**S**	**00 26 48.4**	**+3.2**
JTKR	**Abashiri--Toko**	**2.71**	**195**	P	**Pn**	**00 26 04.5**	**+3.4**
ASAJ	**Asahikawa**	**2.96**	**214**	P	**Pn**	**00 26 05.5**	**+2.4**
	2.4nm,0.3s,baz=359,slow=3.5,SNR=12						
JKK2	**Kamakawa 2**	**3.11**	**210**	P	**Pn**	**00 26 07.6**	**+3.1**
NEM2	**Nemuro 2**	**3.28**	**169**	P	**Pn**	**00 26 07.3**	**+1.4**
NEM2				*e*S	**S**	**00 26 57.6**	**0.0**
JAR	**Ashorobuto**	**3.39**	**194**	P	**Pn**	**00 26 09.8**	**+2.9**
JAK	**Akkeshi**	**3.59**	**182**	P	**Pn**	**00 26 10.5**	**+1.7**
JAK				*e*S	**S**	**00 27 03.2**	**+0.3**
JCH	**Churui**	**4.12**	**196**	P	**Pn**	**00 26 15.1**	**+1.2**
JCH				*e*S	**S**	**00 27 11.8**	**-0.3**
JSK	**Shakotan**	**4.51**	**226**	P	**Pn**	**00 26 20.6**	**+2.9**
JNBK	**Urakawa-nobuka**	**4.57**	**200**	P	**Pn**	**00 26 19.8**	**+1.4**
JNBK				*e*S	**S**	**00 27 19.3**	**-1.2**
JKB	**Kayabe**	**5.46**	**212**	P	**Pn**	**00 26 29.0**	**+1.2**
JKB				*e*S	**S**	**00 27 35.5**	**-2.1**
JOT	**Ohata**	**5.90**	**210**	P	**Pn**	**00 26 33.8**	**+1.2**
JOT				*e*S	**S**	**00 27 43.8**	**-2.6**
JANG	**Nango**	**6.68**	**203**	*e*S	**S**	**00 27 59.0**	**-3.5**
JOM	**Ohasama**	**7.59**	**202**	P	**P**	**00 26 53.5**	**+0.9**
JOM				*e*S	**S**	**00 28 20.3**	**-1.2**
KLR	**Kul'dur**	**9.22**	**291**	P	**P**	**00 27 10.5**	**-0.8**
	0.2nm,0.3s,baz=106,slow=14,SNR=7.4						
USRK	**Ussuriysk Ar.**	**9.40**	**260**	P	**P**	**00 27 13.8**	**+0.4**
	baz=67,slow=11,SNR=7.7						
MJAR	**Matsushiro Ar**	**11.21**	**209**	P	**Pn**	**00 27 37.3**	**+3.1**
	0.2nm,0.3s,baz=9.9,slow=13,SNR=6.0						
SONM	**Songino Array**	**26.01**	**287**	P	**P**	**00 30 02.9**	**+1.0**
	0.4nm,0.4s,baz=70,slow=8.7,SNR=4.1						
MKAR	**Makanchi Array**	**41.92**	**294**	P	**P**	**00 32 15.8**	**-1.0**
	0.2nm,0.5s,baz=79,slow=7.5,SNR=1.5						
INK	**Inuvik**	**44.78**	**31**	P	**P**	**00 32 37.9**	**-1.0**
	1.1nm,0.4s,baz=297,slow=4.5,SNR=5.4						
FINES	**FINESS Array B**	**61.62**	**331**	P	**P**	**00 34 37.4**	**-2.8**
	3.9nm,1.1s,baz=39,slow=9.0,SNR=4.6						
NOA	**NORSAR Array B**	**66.38**	**337**	P	**P**	**00 35 09.3**	**-1.5**
	0.2nm,0.4s,baz=32,slow=6.8,SNR=4.4						
PDAR	**Pinedale Array**	**69.28**	**49**	P	**P**	**00 35 30.4**	**+1.1**
	0.2nm,0.7s,baz=316,slow=5.0,SNR=1.9						

*IDC **28** 01:07:46.1±0.6, 30.20S×178.09W, h0km, mb4.4/11, mb1 4.6/13, mb1mx4.4/25, mbtmp4.5/13, ML4.5/2, MS3.5/7, Ms1 3.5/7, ms1mx3.3/21, Error ellipse: s-maj=20.6km s-min=18.2km az=148.0*
*NEIC **28** 01:07:54.3±0.9, 30.46S±0.07×178.12W±0.1, h65km±4km, mb4.6/31, Error ellipse: s-maj=19.9km s-min=8.6km az=105.0*
ISC 28 01:07:52.5±0.5, 30.52S±0.05×178.1W±0.1, h46km, n127, σ1s58/122, mb4.5/21, MS3.7/7, 2C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.26**	**5**	P	Pn	01 08 15.3	+1.7
GLKZ				S	**Sn**	**01 08 30.4**	**+1.0**
RAO	**Raoul Island**	**1.27**	**5**	Pn	**Pn**	**01 08 15.1**	**+1.3**
	7μm,0.3s,baz=139,slow=6.2,SNR=436						
RAO				LR	LR	01 08 16.5	
	comp=Z,346nm,20.9s,baz=116,slow=32						
RAO				Sn	**Sn**	**01 08 30.8**	**+1.2**
	4μm,0.3s,baz=116,slow=22,SNR=14						
RAO	**Raoul Island**	**1.27**	**5**	Pn	Pn	01 08 15.7	+1.9
RAO					**Sn**	**01 08 31.5**	**+1.8**
RIZ	**Raoul Island**	**1.27**	**5**	P	**Pn**	**01 08 15.0**	**+1.1**
MXZ	**Matakaoa Point**	**7.65**	**202**	P	**Pn**	**01 09 40.5**	**-0.7**
MXZ	**Matakaoa Point**	**7.65**	**202**	Pn	**Pn**	**01 09 40.7**	**-0.6**
HAZ	**Te Kaha**	**8.00**	**204**	P	**Pn**	**01 09 46.3**	**+0.2**
HAZ				S	**Sn**	**01 11 19.6**	**+4.4**
PUZ	**Puketiti**	**8.13**	**201**	P	**Pn**	**01 09 46.7**	**-1.1**
PUZ				S	**Sn**	**01 11 16.6**	**-1.8**
RUGZ	**Raukumara Rang**	**8.22**	**204**	P	**Pn**	**01 09 48.5**	**-0.8**
RUGZ				S	**Sn**	**01 11 21.1**	**+0.2**
WCZ	**Waipu Caves**	**8.35**	**228**	P	Pn	01 10 01.0	+10
OPRZ	**Ohinepanea**	**8.56**	**210**	P	**Pn**	**01 09 55.0**	**+1.2**
TKGZ	**Te Karaka**	**8.59**	**202**	P	**Pn**	**01 09 51.2**	**-3.0**
TKGZ				S	**Sn**	**01 11 29.8**	**+0.1**
MWZ	**Matawai**	**8.61**	**204**	P	**Pn**	**01 09 52.9**	**-1.6**
MWZ				S	**Sn**	**01 11 29.4**	**-0.8**
MARZ	**Manawahe**	**8.63**	**209**	P	**Pn**	**01 09 56.3**	**+1.5**
URZ	**Urewera**	**8.69**	**206**	Pn	**Pn**	**01 09 55.3**	**-0.3**
	5.9nm,0.3s,baz=276,slow=4.1,SNR=53						
URZ				Sn	**Sn**	**01 11 31.5**	**-0.7**
	21nm,0.3s,baz=56,slow=23,SNR=14						
URZ	**Urewera**	**8.69**	**206**	P	**Pn**	**01 09 54.8**	**-0.8**
URZ				S	**Sn**	**01 11 33.0**	**+0.8**
URZ	**Urewera**	**8.69**	**206**		**Pn**	**01 09 54.9**	**-0.8**
URZ					**Sn**	**01 11 33.3**	**+1.1**
RIGZ	**Rimuhau**	**8.87**	**202**	P	**Pn**	**01 09 56.1**	**-1.9**
TARZ	**Mount Tarawera**	**8.91**	**209**	P	**Pn**	**01 10 01.2**	**+2.5**
MUGZ	**Murupara**	**9.01**	**207**	P	**Pn**	**01 09 58.9**	**-1.0**
MUGZ				S	**Sn**	**01 11 40.3**	**+0.2**
PRGZ	**Paritu Road**	**9.03**	**201**	P	**Pn**	**01 09 58.5**	**-1.7**
PRGZ				S	**Sn**	**01 11 36.1**	**-4.4**
RTZ	**Ruatahuna**	**9.05**	**206**	P	**Pn**	**01 09 58.1**	**-2.5**
SNGZ	**Shannon Statio**	**9.07**	**203**	P	**Pn**	**01 09 59.0**	**-1.8**
SNGZ				S	**Sn**	**01 11 43.0**	**+1.4**
KNZ	**Kokohu**	**9.18**	**201**	P	**Pn**	**01 10 00.4**	**-1.8**
KNZ				S	**Sn**	**01 11 43.3**	**-0.9**
RAHZ	**Arahi**	**9.28**	**204**	P	**Pn**	**01 10 02.1**	**-1.6**
RAHZ				S	**Sn**	**01 11 45.8**	**-0.9**
MTHZ	**Maungataniwha**	**9.31**	**205**	P	**Pn**	**01 10 02.9**	**-1.2**
MTHZ				S	**Sn**	**01 11 49.2**	**+1.7**
ARHZ	**Aropaoanui**	**9.62**	**204**	P	**Pn**	**01 10 06.2**	**-2.1**
ARHZ				S	**Sn**	**01 11 55.3**	**+0.2**
BKZ	**Black Stump Fm**	**9.72**	**206**	P	**Pn**	**01 10 07.6**	**-2.1**
BKZ				S	**Sn**	**01 11 57.1**	**-0.4**
BKZ	**Black Stump Fm**	**9.72**	**206**		**Pn**	**01 10 07.4**	**-2.3**
MCHZ	**McNeill Hill**	**9.89**	**204**	P	**Pn**	**01 10 09.8**	**-2.1**
CKHZ	**Cape Kidnapper**	**9.95**	**202**	P	**Pn**	**01 10 10.9**	**-1.9**
TMVZ	**Te Maari**	**9.99**	**209**	P	**Pn**	**01 10 12.4**	**-1.1**
ETVZ	**East Tongariro**	**10.01**	**209**	P	**Pn**	**01 10 12.8**	**-0.8**
OTVZ	**Oturere**	**10.05**	**209**	P	**Pn**	**01 10 13.1**	**-1.2**
NGZ	**Ngauruhoe**	**10.09**	**209**	P	**Pn**	**01 10 15.7**	**+0.9**
KAHZ	**Kahuranaki**	**10.14**	**203**	P	**Pn**	**01 10 11.9**	**-3.5**
TUVZ	**Tukino**	**10.14**	**209**	P	**Pn**	**01 10 15.5**	**-0.1**
BHHZ	**Black Hill Sta**	**10.16**	**207**	P	Pn	01 10 11.9	-3.9
KRHZ	**Kereru**	**10.18**	**205**	P	**Pn**	**01 10 12.3**	**-3.7**
PRHZ	**Porangahau**	**10.65**	**203**	P	Pn	01 10 17.7	-4.7
TUWZ	**Tuamarina**	**12.66**	**209**		**Pn**	**01 10 53.7**	**+3.8**
BSWZ	**Blackbirch Sta**	**12.93**	**208**	Pn	**Pn**	**01 10 54.6**	**+1.1**
THZ	**Tophouse**	**13.38**	**211**		**Pn**	**01 11 00.3**	**+0.6**
KHZ	**Kahutara**	**13.66**	**207**	Pn	Pn	01 10 57.6	-5.8
OXZ	**Oxford**	**15.03**	**209**		**Pn**	**01 11 23.6**	**+1.9**
RPZ	**Rata Peaks**	**15.76**	**210**	Pn	**Pn**	**01 11 32.0**	**+0.8**
	1.9nm,0.3s,baz=351,slow=2.8,SNR=3.6						
RPZ					Sn	01 14 10.6	-14
	2.5nm,0.3s,baz=301,slow=22,SNR=8.7						
RPZ	**Rata Peaks**	**15.76**	**210**	P	**Pn**	**01 11 32.1**	**+0.8**
DZM	**Mont Dzumac**	**16.24**	**298**	eLR	LR	01 15 25.8	
	comp=Z,348nm,26.6s						
DZM	**Mont Dzumac**	**16.24**	**298**	LR	LR	01 15 39.7	
	comp=Z,173nm,18.4s,baz=174,slow=30						
ODZ	**Otahua Downs**	**17.01**	**208**	P	**Pn**

HNR	**Honiara**	**29.35**	**311**	LR	LR	01 24 00.7		
	comp=Z,103nm,21.0s,baz=142,slow=34							
MEH	**Mehetia**	**30.00**	**72**	*eT*	T	01 45 43.4		
	25nm,0.2s							
PMOR	**Pomariorio Ree**	**31.68**	**68**	*eT*	T	01 47 47.4		
	4.9nm,0.3s							
VAH	**Vaihoa**	**31.76**	**68**	*eT*	T	01 47 53.3		
	114nm,0.2s							
CTA	**Charters Tower**	**33.78**	**279**	P	**P**	**01 14 30.2**	**+0.1**	
	4.1nm,0.4s,baz=100,slow=10,SNR=7.7							
CTAO	**Charters Tower**	**33.78**	**279**	P	**P**	**01 14 28.4**	**-1.6**	
CTAO				IAmb	IAmb	01 14 34.6		
	comp=Z,11nm,0.9s							
STKA	**Stephens Creek**	**34.41**	**257**	P	**P**	**01 14 37.0**	**+1.5**	
	comp=Z,6.0nm,0.6s,baz=94,slow=9.5,SNR=14							
STKA				LR	LR	01 26 21.1		
	comp=Z,122nm,18.7s,baz=150,slow=32							
STKA	**Stephens Creek**	**34.41**	**257**	P	**P**	**01 14 34.2**	**-1.3**	
BBOO	**Buckleboo**	**38.90**	**254**	P	**P**	**01 15 12.7**	**-1.0**	
BBOO				IAmb	IAmb	01 15 16.4		
	comp=Z,11nm,0.9s							
COEN	**Coen**	**39.26**	**286**	P	**P**	**01 15 16.5**	**-0.4**	
AS31	**Alice Springs**	**43.06**	**267**	P	**P**	**01 15 48.1**	**+0.1**	
ASAR	**Alice Springs**	**43.06**	**267**	P	**P**	**01 15 47.9**	**-0.2**	
	comp=Z,1.4nm,0.4s,baz=102,slow=7.3,SNR=18							
ASAR				LR	LR	01 32 59.4		
	comp=Z,85nm,18.5s,baz=189,slow=35							
ASAR	**Alice Springs**	**43.06**	**267**	P	**P**	**01 15 46.2**	**-1.9**	
WB2	**Warramunga Arr**	**44.05**	**272**	P	**P**	**01 15 55.0**	**-1.0**	
WB2				IAmb	IAmb	01 15 59.6		
	comp=Z,5.9nm,0.7s							
WRA	**Warramunga Arr**	**44.06**	**272**	P	**P**	**01 15 55.7**	**-0.4**	
	comp=Z,5.1nm,0.6s,baz=111,slow=8.0,SNR=24							
WRA	**Warramunga Arr**	**44.06**	**272**	P	**P**	**01 15 54.8**	**-1.3**	
WB0	**Warramunga Arr**	**44.08**	**273**	P	**P**	**01 15 55.1**	**-1.2**	
WB0				IAmb	IAmb	01 15 57.4		
	comp=Z,5.9nm,0.7s							
FITZ	**Fitzroy Crossi**	**52.32**	**270**	P	**P**	**01 16 56.6**	**-3.2**	
FITZ				IAmb	IAmb	01 17 10.5		
	comp=Z,7.2nm,1.1s							
CASY	**Casey**	**55.02**	**208**	P	**P**	**01 17 19.1**	**+0.2**	
QSPA	**South Pole Qui**	**59.59**	**180**	P	**P**	**01 17 54.4**	**+3.0**	
	comp=Z,5.3nm,0.7s,baz=6.8,slow=0.7,SNR=32							
QSPA	**South Pole Qui**	**59.59**	**180**	P	**P**	**01 17 51.8**	**+0.4**	
QSPA				IAmb	IAmb	01 18 02.8		
	comp=Z,5.7nm,0.7s							
MAW	**Mawson**	**72.18**	**201**	P	**P**	**01 19 14.5**	**+2.5**	
	comp=Z,1.2nm,0.6s,baz=160,slow=8.7,SNR=7.5							
MAW				LR	LR	01 48 41.7		
	comp=Z,42nm,21.3s,baz=228,slow=34							
MAW	**Mawson**	**72.18**	**201**	P	**P**	**01 19 14.5**	**+2.5**	
SYO	**Syowa Base**	**76.99**	**193**⇑	*eP*	**P**	**01 19 40.0**	**+0.1**	
SYO	**Syowa Base**	**76.99**	**193**⇑	*eP*	**P**	**01 19 41.8**	**+1.9**	
SNAA	**Sanae**	**78.04**	**178**	P	**P**	**01 19 47.1**	**+1.3**	
SNAA	**Sanae**	**78.04**	**178**	P	**P**	**01 19 47.6**	**+1.8**	
SNAA				IAmb	IAmb	01 19 48.5		
	comp=Z,3.3nm,0.8s							
VNA3	**Neumayer Olymp**	**78.19**	**176**	P	**P**	**01 19 47.0**	**+0.4**	
VNA2	**Neumayer--Watz**	**78.62**	**177**	P	**P**	**01 19 48.1**	**-0.9**	
VNA1	**Neumayer--Stat**	**78.85**	**177**	P	**P**	**01 19 52.2**	**+2.0**	
H03S2	**Juan Fernandez**	**80.43**	**124**	T	T	02 49 15.8		
	baz=238,slow=74,SNR=236							
H03S1	**Juan Fernandez**	**80.44**	**124**	T	T	02 49 17.2		
	baz=238,slow=74,SNR=182							
H03S3	**Juan Fernandez**	**80.45**	**124**	T	T	02 49 16.2		
	baz=238,slow=74,SNR=197							
H03N2	**Juan Fernandez**	**80.63**	**123**	T	T	02 49 22.7		
	baz=241,slow=74,SNR=49							
H03N1	**Juan Fernandez**	**80.64**	**123**	T	T	02 49 28.0		
	baz=21,slow=74,SNR=76							
PLCA	**Paso Flores**	**82.46**	**133**	P	**P**	**01 20 12.7**	**+2.5**	
	comp=Z,7.4nm,0.9s,baz=180,slow=6.8,SNR=13							
PLCA	**Paso Flores**	**82.46**	**133**	P	**P**	**01 20 10.5**	**+0.3**	
PLCA				IAmb	IAmb	01 20 13.8		
	comp=Z,8.6nm,0.9s							
LC01	**Cunco**	**82.62**	**131**	P	**P**	**01 20 12.6**	**+1.6**	
BI02	**San Fabin de**	**84.25**	**129**	P	**P**	**01 20 20.9**	**+1.4**	
BO02	**Sierra Bellavi**	**85.63**	**128**	P	**P**	**01 20 26.6**	**+0.1**	
BO02				IAmb	IAmb	01 20 28.8		
	comp=Z,6.4nm,0.7s							
PETK	**Petropavlovsk-**	**85.92**	**346**	P	**P**	**01 20 27.4**	**+0.3**	
	comp=Z,5.7nm,1.0s,baz=118,slow=8.8,SNR=3.3							
PETK				LR	LR	01 53 48.8		
	comp=Z,37nm,21.2s,baz=10,slow=32							
PETK	**Petropavlovsk-**	**85.92**	**346**	P	**P**	**01 20 26.1**	**-1.0**	
CO02	**Combarbal**	**87.49**	**125**	P	**P**	**01 20 37.0**	**+1.3**	
NVAR	**Mina Array Bea**	**88.36**	**43**	P	**P**	**01 20 40.4**	**+0.8**	
	comp=Z,2.7nm,0.8s,baz=223,slow=8.5,SNR=16							
NVAR	**Mina Array Bea**	**88.36**	**43**	P	**P**	**01 20 39.5**	**0.0**	
NV11	**Mina Array Sit**	**88.44**	**43**	P	**P**	**01 20 39.8**	**-0.1**	
NV11				IAmb	IAmb	01 20 42.3		
	comp=Z,2.4nm,0.9s							
TUC	**Tucson**	**89.22**	**51**	P	**P**	**01 20 43.9**	**+0.3**	
TUC				IAmb	IAmb	01 20 47.6		
	comp=Z,2.7nm,0.9s							
PRN	**Pahroc Range**	**89.64**	**45**	IAmb	IAmb	01 20 47.9		
	comp=Z,2.0nm,0.8s							
U15A	**North Rim**	**90.74**	**47**	IAmb	IAmb	01 20 53.7		
	comp=Z,3.8nm,0.8s							
TXAR	**Lajitas Array**	**92.49**	**57**	P	**P**	**01 20 59.5**	**+0.7**	
	comp=Z,0.8nm,0.9s,baz=190,slow=6.4,SNR=7.1							
TXAR	**Lajitas Array**	**92.49**	**57**	P	**P**	**01 20 58.8**	**-0.1**	
PDAR	**Pinedale Array**	**96.25**	**44**	P	**P**	**01 21 15.9**	**-0.1**	
	comp=Z,0.2nm,0.6s,baz=245,slow=5.8,SNR=3.7							
PDAR	**Pinedale Array**	**96.25**	**44**	P	**P**	**01 21 15.0**	**-1.0**	
KURBB	**Kurchatov Arra**	**121.14**	**314**	PKP	**PKPdf**	**01 26 38.2**	**-1.5**	
	comp=Z,0.6nm,0.2s,baz=120,slow=2.1,SNR=5.1							
BVAR	**Borovoye Array**	**126.46**	**316**	PKP	**PKiKP**	**01 26 49.1**	**-1.2**	
	comp=Z,0.8nm,0.7s,baz=116,slow=3.4,SNR=4.3							
KBZ	**Khabaz**	**145.14**	**304**	PKP	PKPbc	01 27 22.6	-1.8	
	comp=Z,1.7nm,0.8s,baz=170,slow=4.3,SNR=3.8							
FINES	**FINESS Array B**	**145.24**	**340**	PKP	**PKPab**	**01 27 22.7**	**-1.5**	
	comp=Z,3.9nm,0.4s,baz=54,slow=4.1,SNR=46							
NB2	**NORSAR Subarra**	**148.86**	**351**	PKP	**PKPbc**	**01 27 33.6**	**-0.8**	
	comp=Z,1.7nm,0.8s,baz=16,slow=2.7							
NOA	**NORSAR Array B**	**148.86**	**351**	PKPbc	**PKPbc**	**01 27 33.0**	**-1.5**	
	comp=Z,2.5nm,0.8s,baz=15,slow=4.3,SNR=12							
AKASG	**Malin Array Be**	**151.37**	**323**	PKPbc	**PKPbc**	**01 27 39.5**	**-1.2**	
	comp=Z,2.3nm,0.5s,baz=49,slow=2.4,SNR=12							
AKASG	**Malin Array Be**	**151.37**	**323**		**PKiKP**	**01 27 39.8**	**-1.4**	
BRTR	**Keskin Array B**	**152.62**	**298**	PKPbc	**PKPbc**	**01 27 42.6**	**-1.5**	
	comp=Z,1.0nm,0.7s,baz=101,slow=5.7,SNR=4.8							
BRTR	**Keskin Array B**	**152.62**	**298**		**PKiKP**	**01 27 43.2**	**-1.2**	
GERES	**GERESS Array B**	**159.63**	**337**	PKP	**PKPdf**	**01 27 46.0**	**+0.1**	
	comp=Z,0.1nm,0.3s,baz=112,slow=11,SNR=1.8							
GERES				PKPab	PKPab	**01 28 23.6**	**-0.9**	
	comp=Z,0.3nm,0.5s,baz=32,slow=9.5,SNR=2.1							
TORD	**Torodi Ar. Bea**	**162.71**	**179**	PKP	**PKPdf**	**01 27 49.9**	**-0.2**	
	comp=Z,1.2nm,1.1s,baz=232,slow=2.6,SNR=3.9							
TORD				PKPab	**PKPab**	**01 28 39.4**	**+0.9**	
	comp=Z,3.3nm,0.8s,baz=204,slow=5.1,SNR=20							
TORD	**Torodi Ar. Bea**	**162.71**	**179**		**PKPdf**	**01 27 49.5**	**-0.6**	
TORD				PKPab	**PKPab**	**01 28 39.6**	**+1.0**	
ESDC	**Sonseca Array**	**169.66**	**26**	PKP	**PKPdf**	**01 27 54.5**	**-0.4**	
	comp=Z,0.4nm,0.7s,baz=344,slow=4.1,SNR=4.0							
ESDC	**Sonseca Array**	**169.66**	**26**		**PKPdf**	**01 27 54.9**	**-0.1**	

*IDC **28** 01:27:48.2±3.1, 37.85N×73.62E, h0km, mb3.7/3, mb1 3.6/8, mb1mx3.4/48, mbtmp3.6/8, ML3.1/5, Error ellipse: s-maj=55.2km s-min=27.2km az=135.0*
*NNC **28** 01:28:00.9±7.9, 38.59N×73.69E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=63.2km s-min=38.2km az=169.0*
ISC 28 01:27:53.8±1.6, 38.2N±0.1×72.94E±0.10, h10km, n23, σ1s48/24, mb3.8/3, 2C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**4.55**	**332**	Pg		**Pg**		**01 29 21.0**	**+0.1**
	66nm,0.6s								
IUG				Lg		Lg		01 30 21.1	
	126nm,1.2s								
MRKS	**Merke**	**4.57**	**3**	Pg		**Pb**		**01 29 14.1**	**0.0**
	24nm,0.6s								
AAK	**Ala-Archa**	**4.61**	**14**	Pn		**Pn**		**01 29 05.1**	**+1.4**
	0.9nm,0.3s,baz=176,slow=8.0,SNR=3.7								
AAK				Sn		**Sn**		**01 29 56.1**	**-1.2**
	2.1nm,0.3s,baz=141,slow=14,SNR=1.6								
AAK	**Ala-Archa**	**4.61**	**14**	⇑Pn		**Pn**		**01 29 05.5**	**+1.8**
	11nm,0.7s								
AAK				⇑Lg		Lg		01 29 54.8	
	20nm,0.8s,baz=155,slow=14								
TKM2	**Tokmak 2**	**5.15**	**22**	⇓Pn		**Pn**		**01 29 15.0**	**+3.9**
	9.8nm,0.7s								
TKM2				⇓Lg		Lg		01 30 27.5	
	30nm,1.9s								
KK31	**Karatay Array**	**5.25**	**340**	⇓Pn		**Pn**		**01 29 11.6**	**-0.8**
	0.7nm,0.3s,baz=155,slow=14								
KK31				⇓Lg		Lg		01 30 16.4	
	18nm,0.7s,baz=151,slow=25								
KK31				⇓Lg		Lg		01 30 39.6	
	17nm,0.8s								
KST	**Kastek**	**5.38**	**24**	Pg		**Pb**		**01 29 27.2**	**-0.7**
	11nm,0.7s								
KST				Lg		Lg		01 30 31.9	
	14nm,0.6s								
IZV	**Izvestkoviy**	**5.60**	**29**	Pg		**Pb**		**01 29 32.0**	**+0.3**
	6.8nm,0.5s								
IZV				Lg		Lg		01 30 41.2	
	12nm,0.8s								
TNSS	**Tian-Shan**	**5.73**	**31**	Pg		**Pb**		**01 29 33.6**	**-0.4**
	8.5nm,0.6s								
TNSS				Lg		Lg		01 30 44.0	
	6.9nm,0.9s								
MDOK	**Medeo**	**5.88**	**31**	Pn		**Pb**		**01 29 34.9**	**-1.5**
	4.4nm,0.6s								
KOTS	**Kotyrbulak**	**5.96**	**31**	Pg		**Pb**		**01 29 38.4**	**+0.6**
	13nm,0.7s								
KOTS				Lg		Lg		01 30 51.9	
	64nm,1.3s								
KTBS	**Karatobe**	**6.21**	**26**	Pg		**Pb**		**01 29 40.9**	**-1.1**
	5.7nm,0.6s								
KTBS				Lg		Lg		01 30 58.0	
	12nm,0.9s								
SATY	**Saty**	**6.41**	**39**	Pg		**Pb**		**01 29 46.4**	**+1.0**
	6.3nm,1.2s								
UZB	**Uzynbulak**	**6.78**	**41**	Pg		**Pb**		**01 29 51.6**	**-0.2**
	5.4nm,0.8s								
ARXS	**Arharly**	**7.06**	**30**	Pg		**Pb**		**01 29 56.4**	**-0.2**
	6.5nm,0.7s								
ARXS				Lg		Lg		01 31 25.3	
	5.0nm,0.6s								
MNBS	**Baschi**	**7.19**	**33**	Pg		**Pb**		**01 30 00.5**	**+1.8**
	3.0nm,0.7s								
MKAR	**Makanchi Array**	**11.03**	**36**	Pn		**Pn**		**01 30 28.2**	**-3.3**
	0.1nm,0.3s,baz=224,slow=20,SNR=1.7								
BVAR	**Borovoye Array**	**14.95**	**354**	Pn		**Pn**		**01 31 24.7**	**-0.4**
	0.1nm,0.3s,baz=153,slow=10,SNR=2.3								
AKTO	**Aktyubinsk**	**16.22**	**324**	Pn		**Pn**		**01 31 42.3**	**+0.7**
	0.1nm,0.3s,baz=123,slow=11,SNR=6.0								
ZALV	**Zalesovo Beam**	**17.75**	**24**	P		**Pn**		**01 31 59.1**	**-1.7**
	0.2nm,0.3s,baz=221,slow=11,SNR=4.9								
ARCES	**ARCESS Array B**	**40.21**	**336**	P		**P**		**01 35 30.1**	**0.0**
	1.8nm,0.8s,baz=99,slow=9.2,SNR=5.0								
NOA	**NORSAR Array B**	**43.99**	**322**	P		**P**		**01 36 01.3**	**+0.3**
	0.6nm,0.7s,baz=108,slow=7.6,SNR=3.7								
TORD	**Torodi Ar. Bea**	**67.30**	**269**	P		**P**		**01 38 48.5**	**-0.6**
	0.7nm,1.0s,baz=50,slow=6.7,SNR=2.5								

*NEIC **28** 01:30:53.4±0.9, 64.5N±0.1×17.8W±0.1, h7km±5km, mb4.0/7, Error ellipse: s-maj=15.3km s-min=6.7km az=197.0*
*IDC **28** 01:30:53.3±0.8, 64.55N×17.62W, h0km, mb3.7/9, mb1 3.9/12, mb1mx3.6/48, mbtmp3.7/12, ML2.2/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/36, Error ellipse: s-maj=24.9km s-min=10.6km az=14.0*
ISC 28 01:30:53.9±0.6, 64.51N±0.10×17.74W±0.08, h9km, n36, σ1s23/35, mb3.8/12, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**1.57**	**280**	Pg		**Pn**		**01 31 21.2**	**-0.6**
	13nm,0.3s,baz=102,slow=11,SNR=41								
BORG				Lg		Lg		01 31 45.7	
	3.7nm,0.3s,baz=294,slow=20,SNR=3.3								
BORG				LR		LR		01 32 10.1	
	comp=Z,145nm,20.5s,baz=91,slow=48								
BORG	**Borgarnes**	**1.57**	**280**	Pn		**Pn**		**01 31 21.4**	**-0.4**
SCO	**Scoresbysund**	**6.21**	**347**			**Pn**		**01 32 25.3**	**-0.3**
EKA	**Eskdalemuir Ar**	**11.72**	**135**	Pn		**Pn**		**01 33 40.6**	**-0.4**
	baz=323,slow=13,SNR=12								
ESK	**Eskdalemuir**	**11.72**	**135**	Pn		**Pn**		**01 33 41.2**	**+0.2**
NOA	**NORSAR Array B**	**13.63**	**91**	Pn		**Pn**		**01 34 06.5**	**-0.6**
	0.0nm,0.3s,baz=303,slow=16,SNR=2.9								
NOA				LR		LR		01 39 24.2	
	comp=Z,17nm,19.9s,baz=110,slow=38								
HFS	**Hagfors**	**15.14**	**92**	Pn		**Pn**		**01 34 27.2**	**-0.4**
	0.1nm,0.3s,baz=212,slow=18,SNR=2.2								
FINES	**FINESS Array B**	**19.84**	**79**	LR		LR		01 42 20.9	
	comp=Z,55nm,19.9s,baz=322,slow=35								
CLL	**Collm**	**20.73**	**115**	*i* P		**P**		**01 35 34.6**	**+0.3**
	comp=Z,8.0nm,1.2s								
ECH	**Echery**	**21.13**	**129**	P		**P**		**01 35 37.3**	**-1.4**
ECH				IAmb		IAmb		01 35 40.7	
	comp=Z,4.4nm,0.9s								
NKC	**Novy Kostel**	**21.37**	**118**	*eP*		**P**		**01 35 45.1**	**+3.9**
BRG	**Berggiesshubel**	**21.44**	**114**	*i* P		**P**		**01 35 42.4**	**+0.4**
	comp=Z,8.1nm,1.1s								
BRG				*e*				01 35 47.0	
	comp=Z,5.6nm,1.2s								
KHC	**Kasperske Hory**	**22.69**	**118**	*eP*		**P**		**01 35 57.1**	**+1.7**
KHC	**Kasperske Hory**	**22.69**	**118**	P		**P**		**01 35 55.5**	**+0.1**
DPC	**Dobruska-Polom**	**22.79**	**112**	*eP*		**P**		**01 35 57.9**	**+1.4**
GERES	**GERESS Array B**	**22.97**	**118**	P		**P**		**01 35 58.9**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=331,slow=7.9,SNR=8.0								
GERES	**GERESS Array B**	**22.97**	**118**	P		**P**		**01 35 57.9**	**-0.6**
KRLC	**Kraliky**	**23.19**	**112**	*eP*		**P**		**01 35 56.9**	**-3.7**
KRLC				*ex*		x		01 36 07.0	
ESDC	**Sonseca Array**	**26.15**	**155**	P		**P**		**01 36 29.2**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=345,slow=9.8,SNR=8.9								
ESDC	**Sonseca Array**	**26.15**	**155**	P		**P**		**01 36 27.2**	**-1.0**
BRTR	**Keskin Array B**	**38.54**	**105**	P		**P**		**01 38 17.6**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=326,slow=7.5,SNR=5.7								
BRTR	**Keskin Array B**	**38.54**	**105**	P		**P**		**01 38 15.8**	**-0.7**
BVAR	**Borovoye Array**	**43.36**	**62**	P		**P**		**01 38 55.9**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=311,slow=13,SNR=6.1								
ILAR	**Eielson Array**	**45.78**	**332**	P		**P**		**01 39 15.8**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=5.7,slow=3.6,SNR=4.2								
ILAR	**Eielson Array**	**45.78**	**332**	P		**P**		**01 39 15.1**	**0.0**
BCAR	**Beaver Creek A**	**46.19**	**328**	P		**P**		**01 39 18.4**	**-0.1**
KURK	**Kurchatov**	**48.28**	**58**	P		**P**		**01 39 35.2**	**+0.5**
KURK				IAmb		IAmb		01 39 36.1	
	comp=Z,2.8nm,0.9s								
KURBB	**Kurchatov Arra**	**48.33**	**58**	P		**P**		**01 39 34.8**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=326,slow=7.3,SNR=8.0								
TORD	**Torodi Ar. Bea**	**53.04**	**156**	P		**P**		**01 40 11.2**	**+0.3**
	comp=Z,0.8nm,1.0s,baz=343,slow=9.5,SNR=3.2								
TORD	**Torodi Ar. Bea**	**53.04**	**156**	P		**P**		**01 40 10.8**	**-0.2**
PD31	**Pinedale Array**	**53.15**	**293**	P		**P**		**01 40 10.9**	**-0.9**
PD31				IAmb		IAmb		01 40 15.4	
	comp=Z,1.5nm,0.9s								
PDAR	**Pinedale Array**	**53.15**	**293**	P		**P**		**01 40 12.4**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=56,slow=6.2,SNR=8.9								
PDAR	**Pinedale Array**	**53.15**	**293**	P		**P**		**01 40 12.1**	**+0.2**
PV13	**Radium Mtn., P**	**56.76**	**290**	P		**P**		**01 40 37.1**	**-0.9**
TXAR	**Lajitas Array**	**62.21**	**280**	P		**P**		**01 41 17.5**	**+1.9**
	comp=Z,0.7nm,1.0s,baz=64,slow=2.1,SNR=5.5								
TXAR	**Lajitas Array**	**62.21**	**280**	P		**P**		**01 41 15.6**	**-0.1**

IDC 28 02:06:34.5±1.4, 53.15N×85.41E, h0km, mb1 2.9/2, mb1mx2.8/42, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=14.0km s-min=8.4km az=96.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**0.88**	**337**	Pg		Pg		02 06 51.3	-0.1
	0.8nm,0.3s,baz=157,slow=17,SNR=14								
ZALV				Lg		Lg		02 07 03.2	
	2.3nm,0.3s,baz=155,slow=30,SNR=18								
I46RU	**ZALESOVO INFRA**	**0.88**	**337**	*i*				02 12 40.0	
	baz=159,slow=314,SNR=1.3								
KURBB	**Kurchatov Arra**	**4.95**	**242**	Pn		Pn		02 07 51.3	+1.2
	0.2nm,0.3s,baz=63,slow=14,SNR=7.8								
KURBB				Lg		Lg		02 09 05.8	
	0.1nm,0.3s,baz=241,slow=12,SNR=1.8								
MKAR	**Makanchi Array**	**6.67**	**199**	Pn		Pn		02 08 14.8	+1.1
	0.2nm,0.3s,baz=22,slow=13,SNR=4.8								
MKAR				Sn		Sn		02 09 29.5	-0.9
	0.2nm,0.3s,baz=28,slow=30,SNR=2.4								
MKAR				Lg		Lg		02 09 59.9	
	0.1nm,0.3s,baz=25,slow=31,SNR=3.3								

*IDC **28** 02:13:14.8±1.2, 11.02S×165.98E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/33, mbtmp3.8/7, ML3.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/24, Error ellipse: s-maj=48.9km s-min=26.1km az=137.0*
*NEIC **28** 02:13:23.0±0.8, 11.4S±0.1×165.9E±0.2, h87km±11km, mb4.4/8, Error ellipse: s-maj=21.8km s-min=16.5km az=81.0*
ISC 28 02:13:25.2±0.8, 11.5S±0.1×165.8E±0.1, h100km, n21, σ1s04/19, mb4.2/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.13**	**289**	Pn		**Pn**		**02 14 52.1**	**-1.2**
DZM	**Mont Dzumac**	**10.51**	**177**	Pn		**Pn**		**02 15 53.7**	**+0.8**
	0.7nm,0.3s,baz=0.0,slow=20,SNR=7.8								
DZM				LR		LR		02 19 29.8	
	comp=Z,84nm,19.7s,baz=351,slow=34								
DZM	**Mont Dzumac**	**10.51**	**177**			**Pn**		**02 15 52.2**	**-0.8**
PMG	**Port Moresby**	**18.47**	**275**	LR		LR		02 24 25.6	
	comp=Z,81nm,18.8s,baz=72,slow=36								
HIZ	**Hauiti**	**28.07**	**165**	P		**P**		**02 19 07.0**	**-0.3**
HIZ				IAmb		IAmb		02 19 16.5	
	comp=Z,47nm,1.2s								
BKZ	**Black Stump Fm**	**29.13**	**163**	P		**P**		**02 19 16.5**	**-0.2**
BKZ				IAmb		IAmb		02 19 20.5	
	comp=Z,4.6nm,0.8s								
BFZ	**Birch Farm**	**30.47**	**164**	P		**P**		**02 19 27.7**	**-0.8**
BFZ				IAmb		IAmb		02 19 43.9	
	comp=Z,10.0nm,1.1s								
WB0	**Warramunga Arr**	**31.31**	**251**	P		**P**		**02 19 36.0**	**-0.2**
WRA	**Warramunga Arr**	**31.39**	**251**	P		P		02 19 42.4	+5.5
	comp=Z,0.8nm,0.9s,baz=79,slow=9.0,SNR=2.1								
WRA	**Warramunga Arr**	**31.39**	**251**	P		**P**		**02 19 37.9**	**+1.0**
RPZ	**Rata Peaks**	**32.40**	**173**	P		**P**		**02 19 44.9**	**-0.5**
RPZ				IAmb		IAmb		02 19 56.5	
	comp=Z,11nm,1.2s								
ASAR	**Alice Springs**	**32.65**	**244**	P		**P**		**02 19 50.5**	**+2.6**
	comp=Z,0.6nm,0.8s,baz=72,slow=9.8,SNR=4.5								
ASAR	**Alice Springs**	**32.65**	**244**	P		**P**		**02 19 47.7**	**-0.2**
MCQ	**Macquarie Isla**	**43.22**	**186**	P		**P**		**02 21 16.2**	**0.0**
QSPA	**South Pole Qui**	**78.49**	**180**	P		**P**		**02 25 14.9**	**-0.3**
QSPA				IAmb		IAmb		02 25 19.0	
	comp=Z,4.0nm,1.1s								
ILAR	**Eielson Array**	**83.94**	**18**	P		**P**		**02 25 43.9**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=240,slow=5.9,SNR=4.0								
NVAR	**Mina Array Bea**	**86.27**	**50**	P		**P**		**02 25 56.6**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=233,slow=6.7,SNR=5.2								
NVAR	**Mina Array Bea**	**86.27**	**50**	P		**P**		**02 25 54.7**	**-1.6**
PDAR	**Pinedale Array**	**93.82**	**47**	P		**P**		**02 26 32.8**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=224,slow=6.0,SNR=2.1								
PDAR	**Pinedale Array**	**93.82**	**47**	P		**P**		**02 26 31.0**	**-0.6**
MKAR	**Makanchi Array**	**93.91**	**317**	P		**P**		**02 26 32.8**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=85,slow=5.1,SNR=1.7								

*GUC **28** 02:14:11.6±0.7, 17.57S×69.85W, h147km±3km, ML3.7*
*VAO **28** 02:14:14.5±0.6, 17.20S×69.60W, h180km±3km, mb3.8*
ISC 28 02:14:09.2±0.8, 17.55S±0.05×69.88W±0.08, h162km±7km, n35, σ1s69/53, 9C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.86**	**156**⇑	*iP*		**Pn**		**02 14 35.2**	**+0.6**
PB16				*eS*		**Sn**	

	SNR=8.5							
TKM2	**Tokmak 2**	**6.06**	**29**	⇑P		**Pn**	**02 31 49.7**	**-0.5**
	3.8nm,0.5s							
TKM2				⇑S		Sn	02 32 48.1	-12
	0.5nm,0.4s							

TIR ***28*** *02:40:00.3,41°.61N×20°.36E,h9km,Md2.7/5*
BEO ***28*** *02:40:01.7±0.3,41°.57N×20°.40E,h8km±4km,ML1.8/8*
SKO ***28*** *02:40:02.2,41°.40N×20°.34E,h21km*

ISC 28 02:40:00.6±1.1, 41°.59N±0°.02×20°.35E±0°.03, h5km±9km, n18, σ1s06/33, Albania

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.12**	**35**	*i* PG		**Pg**	**02 40 03.1**	**0.0**
PHP				*i* SG		**Sg**	**02 40 05.1**	**+0.3**
TIR	**Tirane**	**0.44**	**237**	*i* PG		**Pb**	**02 40 09.8**	**-1.0**
TIR				*i* SG		**Sb**	**02 40 16.6**	**-1.0**
TIR	**Tirane**	**0.44**	**237**	*e*Pg		**Pg**	**02 40 09.6**	**+0.6**
TIR				*e*Sg		**Sb**	**02 40 16.9**	**-0.7**
PUK	**Puka**	**0.57**	**323**	*i* PG		**Pg**	**02 40 11.4**	**-0.2**
PUK				*i* SG		**Sg**	**02 40 20.1**	**+1.2**
OHR	**Ohrid**	**0.58**	**145**	*i* Pg		**Pb**	**02 40 10.0**	**-1.8**
OHR				*i* Sg		**Sb**	**02 40 20.5**	**-1.4**
OHR				*e*Lg		Lg	02 40 20.6	
	comp=E,68nm,0.9s							
OHR				*e*Lg		Lg	02 40 21.5	
	comp=N,50nm,0.4s							
BCI	**Bajram Curri**	**0.81**	**345**	*i* PG		**Pg**	**02 40 16.2**	**+0.1**
BCI				*i* SG		**Sb**	**02 40 27.9**	**-0.4**
SKO	**Skopje**	**0.90**	**64**	*e*Pg		**Pb**	**02 40 18.2**	**-0.5**
SKO				*e*Sg		**Sg**	**02 40 30.1**	**+0.6**
SKO	**Skopje**	**0.90**	**64**	*i* Pg		**Pn**	**02 40 20.2**	**+0.3**
PDG	**Podgorica**	**1.17**	**316**	*e*Pg		**Pg**	**02 40 22.9**	**-0.2**
PDG				*e*Sg		**Sn**	**02 40 41.1**	**+1.1**
STIP	**Stip**	**1.38**	**85**	*i* Pn		**Pg**	**02 40 28.9**	**+1.8**
LSK	**Leskovik**	**1.45**	**172**	*i* PN		**Pg**	**02 40 28.4**	**0.0**
LSK				*i* SN		**Sg**	**02 40 49.8**	**+2.7**
BARS	**Barje**	**1.64**	**41**	*e*Pg		**Pg**	**02 40 31.8**	**-0.2**
BARS				*e*Sg		**Sg**	**02 40 53.1**	**-0.2**
VAY	**Valandovo**	**1.69**	**98**	*e*Pg		**Pn**	**02 40 31.1**	**+0.3**
VAY				*e*Sg		**Sb**	**02 40 53.8**	**+0.1**
VAY	**Valandovo**	**1.69**	**98**	*i* Pn		**Pn**	**02 40 31.1**	**+0.3**
SJES	**Sjenica**	**1.69**	**351**	*e*Pg		**Pg**	**02 40 32.8**	**-0.3**
SJES				*e*Sg		**Sg**	**02 40 56.9**	**+1.8**
SELS	**Selova**	**1.73**	**19**	*e*Pg		**Pb**	**02 40 32.2**	**-0.6**
SELS				*e*Sg		**Sg**	**02 40 56.2**	**+0.1**
BOSS	**Bosilegrad**	**1.83**	**60**	*e*Pg		**Pb**	**02 40 34.1**	**-0.4**
BOSS				*e*Sg		**Sg**	**02 40 58.5**	**-0.8**
DIVS	**Divibare**	**2.52**	**354**	*e*Pn		**Pb**	**02 40 44.2**	**-2.2**
DIVS				*e*Sn		**Sn**	**02 41 14.3**	**+0.9**

IDC ***28*** *02:58:12.5±2.2,23°.51N×142°.32E,h101km±19km,mb3.4/8, mb1 3.8/11,mb1mx3.4/49,mbtmp4.0/11,MS2.4/1, Ms1 2.4/1,ms1mx2.1/40,Error ellipse: s-maj=30.1km s-min=14.7km az=94.0*
NEIC ***28*** *02:58:12.4±1.4,23°.49N±0°.10×142°.2E±0°.2,h106km±7km, mb4.2/6,Error ellipse: s-maj=22.9km s-min=14.1km az=91.0*
JMA ***28*** *02:58:17.5±0.2,23°.94N×141°.73E,h159km±2km,M5.0*

ISC 28 02:58:17.5±0.8, 23°.78N±0°.07×142°.1E±0°.1, h150km, n36, σ1s97/40, mb3.8/11, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.84**	**1**	P		**Pn**	**02 59 01.9**	**-0.9**
JHH2				S		**Sn**	**02 59 36.2**	**-1.7**
CBIJ	**Chichi jima**	**3.30**	**1**	P		**Pn**	**02 59 08.0**	**-0.7**
CBIJ				*e*S		**Sn**	**02 59 46.6**	**-1.8**
JCJ	**Chichijima**	**3.30**	**1**	P		**Pn**	**02 59 07.7**	**-1.0**
	109nm,0.3s,baz=246,slow=23,SNR=280							
JCJ				S		**Sn**	**02 59 47.4**	**-1.0**
	33nm,0.3s,baz=290,slow=23,SNR=6.8							
JCJ	**Chichijima**	**3.30**	**1**			**Pn**	**02 59 07.0**	**-1.7**
JCJ						**Sn**	**02 59 47.1**	**-1.3**
JHJ	**Hachijo jima 2**	**9.52**	**348**	P		**Pn**	**03 00 30.3**	**-0.9**
	11nm,0.3s,baz=239,slow=19,SNR=1.8							
JMKN	**Mikurajimanish**	**10.31**	**348**	P		**Pn**	**03 00 39.6**	**-2.0**
GUMO	**Guam**	**10.47**	**165**	LR		LR	03 03 38.0	
	comp=Z,21nm,19.5s,baz=84,slow=32							
BSO1	**Boso 1**	**10.88**	**355**	P		**Pn**	**03 00 46.7**	**-1.8**
BSO3	**Boso 3**	**11.07**	**353**	P		**Pn**	**03 00 49.5**	**-1.8**
BSO3				*e*S		**Sn**	**03 02 49.7**	**-3.8**
MJAR	**Matsushiro Arr**	**13.15**	**346**	P		**Pn**	**03 01 18.4**	**-0.2**
	0.2nm,0.3s,baz=124,slow=12,SNR=4.8							
MJAR	**Matsushiro Arr**	**13.15**	**346**			**Pn**	**03 01 19.0**	**+0.4**
TATO	**Taipei**	**18.83**	**278**	P		**P**	**03 02 24.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**40.50**	**271**	P		**P**	**03 05 41.5**	**-0.5**
WB0	**Warramunga Arr**	**43.94**	**191**	P		**P**	**03 06 06.8**	**-2.9**
WB0				IAmb		IAmb	03 06 11.1	
	comp=Z,5.9nm,1.1s							
WR0	**Warramunga Arr**	**44.10**	**190**	P		**P**	**03 06 06.9**	**-4.1**
WB2	**Warramunga Arr**	**44.12**	**191**	P		**P**	**03 06 08.2**	**-2.9**
WB2				IAmb		IAmb	03 06 08.3	
	comp=Z,2.7nm,1.0s							
WRA	**Warramunga Arr**	**44.12**	**191**	P		**P**	**03 06 08.9**	**-2.2**
	comp=Z,0.8nm,0.4s,baz=8.8,slow=8.5,SNR=12							
WRA	**Warramunga Arr**	**44.12**	**191**	P		**P**	**03 06 07.7**	**-3.4**
FITZ	**Fitzroy Crossi**	**44.62**	**203**	P		**P**	**03 06 12.8**	**-2.3**
	comp=Z,0.9nm,0.6s,baz=22,slow=11,SNR=1.5							
FITZ	**Fitzroy Crossi**	**44.62**	**203**	P		**P**	**03 06 12.9**	**-2.3**
FITZ				IAmb		IAmb	03 06 26.7	
	comp=Z,4.8nm,1.1s							
ASAR	**Alice Springs**	**47.84**	**190**	P		**P**	**03 06 38.1**	**-2.1**
	comp=Z,0.3nm,0.6s,baz=8.5,slow=8.3,SNR=5.4							
MKAR	**Makanchi Array**	**52.57**	**312**	P		**P**	**03 07 17.8**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=87,slow=9.8,SNR=5.5							
MKAR	**Makanchi Array**	**52.57**	**312**	P		**P**	**03 07 17.5**	**+1.8**
ILAR	**Eielson Array**	**60.65**	**28**	P		**P**	**03 08 13.2**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=256,slow=5.9,SNR=7.4							
ILAR	**Eielson Array**	**60.65**	**28**	P		**P**	**03 08 13.8**	**+1.4**
ARCES	**ARCESS Array B**	**76.64**	**341**	P		**P**	**03 09 53.8**	**+2.5**
	comp=Z,1.5nm,0.8s,baz=72,slow=8.6,SNR=7.8							
ARCES	**ARCESS Array B**	**76.64**	**341**	P		**P**	**03 09 53.4**	**+2.1**
KBZ	**Khabaz**	**80.22**	**313**	P		**P**	**03 10 14.5**	**+3.1**
	comp=Z,11nm,0.8s,baz=100,slow=4.0,SNR=31							
FINES	**FINESS Array B**	**80.88**	**334**	P		**P**	**03 10 16.2**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=66,slow=6.0,SNR=7.9							
FINES	**FINESS Array B**	**80.88**	**334**	P		**P**	**03 10 16.5**	**+1.9**
NVAR	**Mina Array Bea**	**82.62**	**51**	P		**P**	**03 10 25.2**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=299,slow=6.1,SNR=4.4							
NVAR	**Mina Array Bea**	**82.62**	**51**	P		**P**	**03 10 24.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**126.67**	**309**	PKP		**PKiKP**	**03 17 05.4**	**+1.0**
	comp=Z,0.5nm,1.0s,baz=76,slow=1.7,SNR=1.9							
TORD	**Torodi Ar. Bea**	**126.67**	**309**			**PKiKP**	**03 17 04.1**	**-0.3**
LPAZ	**La Paz**	**150.67**	**81**	PKPbc		**PKiKP**	**03 17 54.0**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=45,slow=2.8,SNR=11							
LPAZ	**La Paz**	**150.67**	**81**			**PKiKP**	**03 17 54.4**	**+0.3**

UPA ***28*** *03:02:33.5±1.5,8°.85N×77°.92W,h9km±10km,MW3.7*
RSNC ***28*** *03:02:35.5±1.0,8°.76N×77°.91W,h20km±3km,ML2.4*

ISC 28 03:02:32.9±1.5, 8°.86N±0°.04×77°.89W±0°.03, h16km±13km, n22, σ0s88/37, 4D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**0.34**	**202**	ǁ*e*P		**Pb**	**03 02 41.0**	**+0.4**
UPD2				*e*S		**Sb**	**03 02 45.5**	**-0.2**
UPD2				*i*			03 02 47.2	
	comp=Z,526nm,0.1s							
UPD2	**Meteti**	**0.34**	**202**	ǁ*i*P		**Pb**	**03 02 41.0**	**+0.4**
UPD2				*i* S		**Sb**	**03 02 44.8**	**-0.9**
UPD2				*i* S		**Sb**	**03 02 45.6**	**-0.2**
CAP2	**Capurgana**	**0.56**	**112**	ǁ*i*P		**Pn**	**03 02 45.6**	**-0.7**
CAP2				*i* S		**Sb**	**03 02 53.4**	**+1.2**
CAPC	**Capurgana**	**0.58**	**113**	ǁ*e*P		**Pn**	**03 02 45.5**	**-0.9**
CAPC				*e*S		**Sb**	**03 02 53.3**	**+0.7**
CAPC				*i*			03 02 55.2	
	comp=Z,228nm,0.2s							
CNTA3	**Canitas, Panam**	**1.05**	**290**	*e*P		**Pb**	**03 02 51.8**	**-0.9**
CNTA3				*i* S		**Sb**	**03 03 06.5**	**+0.2**
CHPO	**Chepo, Panama**	**1.25**	**284**	*e*P		**Pb**	**03 02 56.2**	**+0.1**
CHPO				*i* S		**Sb**	**03 03 11.8**	**-0.2**
LCBC	**Los crdobas,**	**1.50**	**90**	*e*P		**Pg**	**03 03 01.4**	**-0.4**
LCBC				*e*S		**Sg**	**03 03 22.1**	**+0.8**
UPA	**Univ. de Panam**	**1.63**	**274**	*e*P		**Pn**	**03 03 00.2**	**-0.8**
UPA				*i* S		**Sn**	**03 03 21.1**	**-0.6**
TABO3	**Taboga, Panama**	**1.65**	**268**	*e*P		**Pn**	**03 03 01.1**	**-0.1**
PTAC	**Punta Ardita,**	**1.71**	**177**	*e*P		**Pn**	**03 03 01.5**	**-0.5**
PTAC				*e*S		**Sn**	**03 03 21.9**	**-1.7**
ARRA3	**Arraijan, Pana**	**1.75**	**273**	*e*P		**Pn**	**03 03 03.0**	**+0.4**
ARRA3				*e*S		**Sn**	**03 03 25.7**	**+1.0**
CHOR3	**La Chorrera**	**1.86**	**271**	*e*P		**Pn**	**03 03 04.9**	**+0.8**
CHOR3				*e*S		**Sn**	**03 03 28.2**	**+0.9**
BCIP	**Isla Barro Col**	**1.95**	**279**	*e*P		**Pn**	**03 03 06.6**	**+1.2**
BCIP				*e*S		**Sn**	**03 03 30.4**	**+0.9**
BCIP				*i*			03 03 36.0	
	comp=Z,17nm,0.4s							
BCIP	**Isla Barro Col**	**1.95**	**279**	*i* P		**Pn**	**03 03 05.7**	**+0.3**
BCIP				*e*S		**Sn**	**03 03 29.4**	**-0.2**
SABA3	**Sabanitas, Col**	**1.95**	**284**	*e*P		**Pn**	**03 03 05.9**	**+0.5**
ZANG	**Zanguenga, Cho**	**1.96**	**273**	*e*P		**Pb**	**03 03 07.0**	**-1.2**
ZANG				*i* S		**Sb**	**03 03 31.9**	**-0.6**
PINA	**Piqa, Costa Ab**	**2.19**	**280**	*e*P		**Pn**	**03 03 08.7**	**+0.1**
MOTC	**Monteria, Cord**	**2.20**	**92**	*e*S		**Sb**	**03 03 38.2**	**-1.1**
VTON	**El Valle, Cocl**	**2.21**	**264**	*e*P		**Pn**	**03 03 10.5**	**+1.4**
AZU	**Azuero**	**2.59**	**246**	*e*P		**Pn**	**03 03 14.0**	**-0.2**
GMAL	**Guarumal, Vera**	**3.49**	**252**	*e*P		**Pn**	**03 03 27.1**	**+0.6**
HELC	**Santa Helena**	**3.54**	**138**	*e*P		**Pn**	**03 03 29.6**	**+2.0**

BJI ***28*** *03:25:20.0±0.0,15°.00S×167°.50E,h121km,mB4.9/10, mb4.9/23*
IDC ***28*** *03:25:22.3±2.0,15°.00S×167°.29E,h118km±17km, mb4.1/19,mb1 4.2/20,mb1mx4.2/29,mbtmp4.5/20,MS3.3/4, Ms1 3.3/4,ms1mx2.9/30,Error ellipse: s-maj=15.1km s-min=11.7km az=83.0*
NEIC ***28*** *03:25:23.6±1.1,15°.01S±0°.09×167°.3E±0°.1,h134km±5km, mb4.4/27,Error ellipse: s-maj=16.5km s-min=13.2km az=94.0*

ISC 28 03:25:22.9±1.4, 15°.00S±0°.07×167°.30E±0°.08, h127km±12km, n133, σ1s03/146, mb4.5/32, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.08**	**186**	*e*Pn		**Pn**	**03 27 03.8**	**-0.2**
	128nm,0.9s							
DZM				*e*Sn		**Sn**	**03 28 21.6**	**-1.4**
	464nm,0.9s							
DZM				*e*LR		LR	03 28 38.2	
DZM	**Mont Dzumac**	**7.08**	**186**	P		**Pn**	**03 27 03.7**	**-0.2**
	9.9nm,0.3s,baz=9.3,slow=12,SNR=80							
DZM				S		**Sn**	**03 28 24.2**	**+1.2**
	22nm,0.3s,baz=129,slow=21,SNR=12							
DZM	**Mont Dzumac**	**7.08**	**186**	Pn		**Pn**	**03 27 03.8**	**-0.2**
DZM						**Sn**	**03 28 23.6**	**+0.5**
HNR	**Honiara**	**9.07**	**307**	LR		LR	03 31 05.7	
	comp=Z,83nm,21.1s,baz=66,slow=38							
MSVF	**Nonsavu**	**10.67**	**106**	Pn		**Pn**	**03 27 52.1**	**-0.3**
EIDS	**Eidsvold**	**18.36**	**233**	P		**P**	**03 29 27.8**	**-0.1**
EIDS				IAmb		IAmb	03 29 31.9	
	comp=Z,25nm,0.9s							
CTA	**Charters Tower**	**20.68**	**253**	P		**P**	**03 29 54.0**	**+1.0**
	comp=Z,6.1nm,0.9s,baz=79,slow=14,SNR=5.4							
WCZ	**Waipu Caves**	**21.78**	**164**	P		**P**	**03 30 06.4**	**+1.8**
KUZ	**Kuaotunu**	**22.92**	**162**	P		**P**	**03 30 15.3**	**-0.6**
MKAZ	**Moumakai**	**23.10**	**164**	P		**P**	**03 30 18.5**	**+0.9**
TOZ	**Tahuroa Road**	**23.78**	**164**	P		**P**	**03 30 24.7**	**+0.9**
TLZ	**Tolley Road**	**24.35**	**164**	P		**P**	**03 30 31.6**	**+2.6**
HIZ	**Hauiti**	**24.35**	**166**	P		**P**	**03 30 31.1**	**+2.2**
HIZ	**Hauiti**	**24.35**	**166**	P		**P**	**03 30 28.9**	**-0.1**
HAZ	**Te Kaha**	**24.50**	**160**	P		**P**	**03 30 32.3**	**+2.0**
MXZ	**Matakaoa Point**	**24.50**	**159**	P		**P**	**03 30 29.0**	**-1.3**
RUGZ	**Raukumara Rang**	**24.65**	**160**	P		**P**	**03 30 32.9**	**+1.0**
URZ	**Urewera**	**24.74**	**161**	P		**P**	**03 30 32.5**	**+0.1**
	comp=Z,42nm,0.8s,baz=341,slow=3.4,SNR=20							
URZ	**Urewera**	**24.74**	**161**	P		**P**	**03 30 31.7**	**-0.7**
URZ	**Urewera**	**24.74**	**161**	P		**P**	**03 30 32.6**	**+0.1**
MUGZ	**Murupara**	**24.83**	**162**	P		**P**	**03 30 34.5**	**+1.1**
MWZ	**Matawai**	**24.94**	**161**	P		**P**	**03 30 34.7**	**+0.4**
PUZ	**Puketiti**	**24.94**	**159**	P		**P**	**03 30 33.6**	**-0.8**
RTZ	**Ruatahuna**	**25.02**	**162**	P		**P**	**03 30 35.0**	**-0.2**
OTVZ	**Oturere**	**25.17**	**165**	P		**P**	**03 30 38.1**	**+1.5**
MTHZ	**Maungataniwha**	**25.20**	**162**	P		**P**	**03 30 37.5**	**+0.7**
WNVZ	**Wahianoa**	**25.30**	**165**	P		**P**	**03 30 40.0**	**+2.2**
RAHZ	**Arahi**	**25.33**	**162**	P		**P**	**03 30 39.1**	**+1.1**
RIGZ	**Rimuhau**	**25.35**	**161**	P		**P**	**03 30 37.8**	**-0.3**
BKZ	**Black Stump Fm**	**25.39**	**163**	P		**P**	**03 30 38.6**	**+0.1**
BKZ	**Black Stump Fm**	**25.39**	**163**	P		**P**	**03 30 38.5**	**-0.1**
NMHZ	**Naumai**	**25.42**	**163**	P		**P**	**03 30 40.0**	**+1.2**
MOVZ	**Moawhango**	**25.42**	**165**	P		**P**	**03 30 40.3**	**+1.5**
BHHZ	**Black Hill Sta**	**25.58**	**164**	P		**P**	**03 30 40.6**	**+0.4**
KRHZ	**Kereru**	**25.80**	**164**	P		**P**	**03 30 42.3**	**+0.1**
PNHZ	**Pukenui**	**26.01**	**164**	P		**P**	**03 30 42.8**	**-1.3**
KAHZ	**Kahuranaki**	**26.09**	**163**	P		**P**	**03 30 44.6**	**-0.2**
PXZ	**Pawanui**	**26.30**	**163**	P		**P**	**03 30 47.1**	**+0.4**
MRZ	**Mangatainoka R**	**26.56**	**166**	P		**P**	**03 30 47.8**	**-1.1**
BFZ	**Birch Farm**	**26.75**	**165**	P		**P**	**03 30 49.0**	**-1.7**
CMWZ	**Cape Campbell**	**27.32**	**169**	P		**P**	**03 30 55.9**	**+0.2**
PLWZ	**Palliser**	**27.36**	**167**	P		**P**	**03 30 56.9**	**+0.7**
LTZ	**Lake Taylor**	**28.01**	**172**	P		**P**	**03 31 02.1**	**+0.2**
LTZ	**Lake Taylor**	**28.01**	**172**	P		**P**	**03 31 02.1**	**+0.2**
FOZ	**Fox Glacier**	**28.51**	**176**	P		**P**	**03 31 06.6**	**+0.3**
RPZ	**Rata Peaks**	**28.79**	**174**	P		**P**	**03 31 09.0**	**+0.2**
	comp=Z,8.1nm,0.7s,baz=321,slow=2.4,SNR=6.8							
RPZ	**Rata Peaks**	**28.79**	**174**	P		**P**	**03 31 09.6**	**+0.7**
RPZ	**Rata Peaks**	**28.79**	**174**	P		**P**	**03 31 09.1**	**+0.2**
RPZ				IAmb		IAmb	03 31 10.4	
	comp=Z,12nm,0.8s							
STKA	**Stephens Creek**	**28.84**	**230**	P		**P**	**03 31 10.4**	**+1.0**
	comp=Z,10nm,0.7s,baz=39,slow=8.4,SNR=27							
STKA				PcP		**PcP**	**03 34 15.9**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=358,slow=3.5,SNR=5.8							
STKA				ScP		**ScP**	**03 37 46.3**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=340,slow=2.0,SNR=4.3							
STKA	**Stephens Creek**	**28.84**	**230**	P		**P**	**03 31 09.6**	**+0.2**
STKA						**PcP**	**03 34 15.8**	**-0.2**
MLZ	**Mavora Lakes**	**30.27**	**179**	P		**P**	**03 31 22.3**	**+0.4**
MLZ				IAmb		IAmb	03 31 24.6	
	comp=Z,6.2nm,0.8s							
DCZ	**Deep Cove**	**30.36**	**180**	P		**P**	**03 31 22.8**	**+0.2**
WB0	**Warramunga Arr**	**31.72**	**257**	P		**P**	**03 31 33.7**	**-1.3**
WB0				IAmb		IAmb	03 31 36.7	
	comp=Z,5.4nm,1.1s							
WB2	**Warramunga Arr**	**31.77**	**256**	P		**P**	**03 31 34.9**	**-0.6**
WRAB	**Tennant Creek**	**31.77**	**256**	P		**P**	**03 31 33.2**	**-2.3**
WRA	**Warramunga Arr**	**31.78**	**256**	P		**P**	**03 31 34.1**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=85,slow=8.6,SNR=7.9							
WRA				PcP		**PcP**	**03 34 23.8**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=84,slow=3.0,SNR=10							
WRA				LR		LR	03 43 57.1	
	comp=Z,128nm,19.4s,baz=215,slow=35							
WRA	**Warramunga Arr**	**31.78**	**256**	P		**P**	**03 31 34.6**	**-0.9**
WRA						**PcP**	**03 34 23.7**	**-0.2**
RAR	**Rarotonga**	**31.86**	**106**	LR		LR	03 43 28.1	
	comp=Z,33nm,18.1s,baz=268,slow=34							
AS31	**Alice Springs**	**32.60**	**249**	P		**P**	**03 31 43.5**	**+0.9**
ASAR	**Alice Springs**	**32.60**	**249**	P		**P**	**03 31 42.1**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=75,slow=9.2,SNR=36							
ASAR				PcP		**PcP**	**03 34 26.2**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=90,slow=2.2,SNR=9.2							
ASAR				ScP		**ScP**	**03 38 00.2**	**+1.7**
	comp=Z,1.7nm,1.0s,baz=90,slow=2.8,SNR=8.2							
ASAR				LR		LR	03 42 56.7	
	comp=Z,96nm,19.0s,baz=71,slow=32							
ASAR	**Alice Springs**	**32.60**	**249**	P		**P**	**03 31 42.6**	**0.0**
ASAR						**PcP**	**03 34 25.9**	**-0.3**
BBOO	**Buckleboo**	**33.43**	**232**	P		**P**	**03 31 50.2**	**+0.5**
BBOO				PcP		**PcP**	**03 34 28.0**	**-0.3**
FORT	**Forrest**	**39.18**	**240**	P		**P**	**03 32 39.5**	**+0.9**
FITZ	**Fitzroy Crossi**	**39.99**	**260**	P		**P**	**03 32 44.8**	**-0.7**
FITZ				IAmb		IAmb	03 33 03.7	
	comp=Z,4.5nm,1.1s							
PAE	**Paea**	**41.41**	**100**	*e*P		**P**	**03 32 57.7**	**+0.6**
	comp=Z,16nm,1.2s							
PPT2	**Papeete2**	**41.41**	**100**	*e*P		**P**	**03 32 58.2**	**+0.9**
	comp=Z,106nm,1.2s							
PPT	**Papeete**	**41.41**	**100**	P		**P**	**03 32 58.1**	**+0.9**
	comp=Z,62nm,0.7s,baz=21,slow=3.7,SNR=5.7							
TIAR	**Tiarei**	**41.63**	**100**	*e*P		**P**	**03 32 59.8**	**+0.8**
	comp=Z,21nm,1.1s							
TVO	**Taravao**	**41.71**	**100**	*e*P		**P**	**03 33 00.4**	**+0.7**
	comp=Z,59nm,1.4s							
MEH	**Mehetia**	**42.84**	**100**	*e*P		**P**	**03 33 09.6**	**+0.9**
	comp=Z,22nm,1.0s							
PMOR	**Pomariorio Ree**	**43.23**	**96**	*e*P		**P**	**03 33 12.3**	**+0.4**
	comp=Z,163nm,1.3s							
VAH	**Vaihoa**	**43.46**	**96**	*e*P		**P**	**03 33 14.8**	**+1.1**
	comp=Z,72nm,1.2s							
MJAR	**Matsushiro Arr**	**58.16**	**333**	P		**P**	**03 35 02.7**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=173,slow=7.9,SNR=7.8							
MJAR	**Matsushiro Arr**	**58.16**	**333**	P		**P**	**03 35 04.0**	**+0.5**
MAT	**Matsushiro**	**58.16**	**333**	P		**P**	**03 35 03.3**	**-0.2**
YHNB	**Yeheng**	**59.68**	**311**	P		**P**	**03 35 14.4**	**+0.1**
VNDA	**Vanda**	**62.59**	**181**	P		**P**	**03 35 32.5**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=15,slow=6.0,SNR=10							
VNDA	**Vanda**	**62.59**	**181**	P		**P**	**03 35 33.6**	**+0.5**
VNDA				IAmb		IAmb	03 35 35.4	
	comp=Z,3.9nm,0.7s							
KSRS	**Korea Array**	**63.98**	**326**	P		**P**	**03 35 43.3**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=141,slow=7.4,SNR=4.0							
USRK	**Ussuriysk Ar.**	**67.14**	**333**	P		**P**	**03 36 03.7**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=132,slow=4.1,SNR=7.8							
USRK	**Ussuriysk Ar.**	**67.14**	**333**	P		**P**	**03 36 03.3**	**+0.4**
PETK	**Petropavlovsk-**	**68.33**	**354**	P		**P**	**03 36 11.2**	**+1.0**
	comp=Z,4.9nm,0.8s,baz=142,slow=7.5,SNR=4.3							
PETK	**Petropavlovsk-**	**68.33**	**354**	P		**P**	**03 36 10.7**	**+0.5**
GYA	**Guiyang**	**71.89**	**305**	*e*P		**P**	**03 36 34.5**	**+1.8**
GYA				pmax		pmax		
	comp=Z,11nm,0.5s							
XAN	**Xi'an**	**73.89**	**313**	P		**P**	**03 36 45.3**	**+1.0**
XAN				pmax		pmax		
	comp=Z,12nm,0.7s							
XAN				LR		LR		
	comp=Z,190nm,17.1s							
XAN				LR		LR		
	comp=Z,130nm,19.3s							
XAN	**Xi'an**	**73.89**	**313**	P		**P**	**03 36 44.2**	**-0.1**
XAN				IAmb		IAmb	03 36 46.8	
	comp=Z,9.1nm,0.9s							
QSPA	**South Pole Qui**	**75.03**	**180**	P		**P**	**03 36 49.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**75.08**	**294**	P		**P**	**03 36 53.1**	**+1.7**
	comp=Z,2.8nm,0.4s,baz=128,slow=4.0,SNR=14							
CMAR	**Chiang Mai Arr**	**75.08**	**294**	P		**P**	**03 36 50.8**	**-0.6**
CD2	**Chengdu**	**76.20**	**308**	P		**P**	**03 36 58.8**	**+1.2**
CD2				pmax		pmax		
	comp=Z,30nm,1.2s							
MAW	**Mawson**	**81.64**	**202**	P		**P**	**03 37 27.1**	**+0.6**
	comp=Z,3.1nm,0.5s,baz=110,slow=6.8,SNR=18							
MAW	**Mawson**	**81.64**	**202**	P		**P**	**03 37 27.3**	**+0.7**
ULN	**Ulaanbaatar**	**82.37**	**324**	P		**P**	**03 37 31.0**	**+0.2**
SONM	**Songino Array**	**82.73**	**324**	P		**P**	**03 37 33.6**	**+0.9**
	comp=Z,3.4nm,0.6s,baz=150,slow=7.1,SNR=17							
SONM	**Songino Array**	**82.73**	**324**	P		**P**	**03 37 33.1**	**+0.4**
IMAR	**Indian Mountai**	**85.82**	**15**	P		**P**	**03 37 47.9**	**+0.2**
IL31		**86.78**	**18**	P		**P**	**03 37 52.1**	**-0.2**
IL31

	baz=224								
IKRE	**Kreppuhraun**	**0.48**	**75**	P		**Pg**	**03 31 39.2**	**-2.0**
	baz=75								
IASK	**Askja**	**0.53**	**42**	P		**Pg**	**03 31 39.9**	**-2.1**
	baz=42								
IMKO	**Mokollar**	**0.58**	**56**	P		**Pg**	**03 31 40.9**	**-2.1**
	baz=56								
IMKO				S		**Sg**	**03 31 49.6**	**-1.0**
	baz=56								
IIEY	**Innrieyrar**	**0.64**	**207**	P		**Pg**	**03 31 42.3**	**-1.9**
	baz=207								
IKSK	**Karasker**	**0.66**	**139**	P		**Pg**	**03 31 42.1**	**-2.6**
	baz=139								
ISVA	**Svartarkot**	**0.68**	**8**	P		**Pg**	**03 31 42.7**	**-2.3**
	baz=7.3								
IKAL	**Kalfafell**	**0.72**	**188**	P		**Pg**	**03 31 43.6**	**-2.1**
	baz=188								
BORG	**Borgarnes**	**1.66**	**275**	Pg		**Pn**	**03 31 58.4**	**-2.5**
	17nm,0.3s,baz=100,slow=11,SNR=45								
BORG				LR		LR	03 32 08.9		
	comp=Z,20nm,21.7s,baz=165,slow=24								
BORG				Lg		Lg	03 32 23.0		
	8.9nm,0.3s,baz=113,slow=16,SNR=5.7								
SCO	**Scoresbysund**	**6.09**	**346**	*i* P		**Pn**	**03 33 01.6**	**-0.1**
SCO				*i* S		**Pn**	**03 33 03.4**	**+1.7**
SCO	**Scoresbysund**	**6.09**	**346**	*e*P		**Pn**	**03 33 01.6**	**-0.1**
SCO				*i* S		**Pn**	**03 33 03.5**	**+1.7**
EKA	**Eskdalemuir Ar**	**11.75**	**136**	Pn		**Pn**	**03 34 19.1**	**-0.2**
	baz=324,slow=13,SNR=5.0								
NOA	**NORSAR Array B**	**13.52**	**92**	LR		LR	03 39 41.3		
	comp=Z,16nm,19.2s,baz=315,slow=36								
HFS	**Hagfors**	**15.03**	**93**	LR		LR	03 41 18.2		
	comp=Z,23nm,20.3s,baz=254,slow=39								
GERES	**GERESS Array B**	**22.94**	**119**	P		**P**	**03 36 38.0**	**+2.0**
	0.2nm,0.4s,baz=317,slow=7.1,SNR=4.4								
VRAC	**Vranov**	**23.68**	**114**	LR		LR	03 45 49.9		
	comp=Z,18nm,20.3s,baz=316,slow=36								
ESDC	**Sonseca Array**	**26.25**	**156**	P		**P**	**03 37 08.8**	**+2.0**
	0.4nm,0.6s,baz=340,slow=9.2,SNR=2.1								
RES	**Resolute Bay**	**26.48**	**324**	LR		LR	03 47 45.1		
	comp=Z,37nm,20.4s,baz=101,slow=37								
ILAR	**Eielson Array**	**45.69**	**332**	P		**P**	**03 39 52.5**	**+0.3**
	0.6nm,1.0s,baz=21,slow=6.7,SNR=4.9								
MKAR	**Makanchi Array**	**52.72**	**58**	P		**P**	**03 40 45.4**	**-0.8**
	0.8nm,0.9s,baz=328,slow=6.8,SNR=2.7								
TORD	**Torodi Ar. Bea**	**53.13**	**156**	P		**P**	**03 40 51.8**	**+2.3**
	0.7nm,1.0s,baz=344,slow=9.2,SNR=2.9								
PDAR	**Pinedale Array**	**53.19**	**293**	P		**P**	**03 40 50.1**	**+0.1**
	0.8nm,0.7s,baz=57,slow=6.6,SNR=8.7								

ZUR 28 04:02:18.7, 46°31N × 7°51E, h6km ± 2km, MLh0.2/6, 1D, Error ellipse: s-maj=4.5km s-min=1.0km az=248.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIEB	**Ecole de Borzu**	**0.03**	**138**	Pg	Pg	04 02 20.1	+0.2
LKBD	**Leukerbad**	**0.11**	**48**	Pg	Pg	04 02 21.5	+0.4
LKBD				Sg	Sg	04 02 23.1	+0.3
SENIN	**Lac Senin/Sane**	**0.15**	**289**	⇓Pg	Pg	04 02 22.2	+0.3
SENIN				Sg	Sg	04 02 24.6	+0.5
LAUCH	**Lauchernalp**	**0.21**	**61**	Pg	Pg	04 02 23.2	+0.4
LAUCH				Sg	Sg	04 02 26.2	+0.5
DIX	**Grande Dixence**	**0.24**	**197**	Pg	Pg	04 02 23.8	+0.2
GRYON	**Gryon**	**0.28**	**257**	Sg	Sg	04 02 28.6	+0.5

*MDD **28** 04:03:23.0±1.9, 37°22N × 13°30W, h0km, mb3.6/10, Error ellipse: s-maj=17.0km s-min=13.7km az=88.0, PRXIMO*
*INMG **28** 04:03:24.5±1.2, 36°98N × 13°65W, h10km, ML2.4, Error ellipse: s-maj=6.6km s-min=4.8km az=109.0*
ISC 28 04:03:14.8±1.7, 37°06N±0°06 × 13°69W±0°09, h10km, n52, σ3°55/87, 1D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.89**	**88**	P	**Pn**	**04 04 18.0**	**+3.3**
	2.7nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.89**	**88**	*e*Pn	**Pn**	**04 04 17.9**	**+3.3**
PFVI				*e*Sn	**Sn**	**04 04 57.6**	**-2.8**
PMAFR	**Mafra**	**3.96**	**60**	P	**Pn**	**04 04 19.5**	**+3.8**
	2.7nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**04 05 00.5**	**-1.6**
	9.7nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**3.96**	**60**	⇓*e*Pn	**Pn**	**04 04 19.6**	**+4.0**
PMAFR				*e*Sn	**Sn**	**04 05 01.0**	**-1.2**
PMAFR				A	A	04 05 04.9	
	12nm,0.2s						
PTEO	**Sao Teotonio**	**3.99**	**82**	P	**Pn**	**04 04 19.5**	**+3.5**
PTEO				S	**Sn**	**04 04 59.9**	**-2.9**
	2.5nm,1.2s						
PTEO	**Sao Teotonio**	**3.99**	**82**	*e*Pn	**Pn**	**04 04 19.5**	**+3.5**
PTEO				*e*Sn	**Sn**	**04 04 59.9**	**-2.9**
PTEO				A	A	04 05 03.1	
	4.9nm,1.2s						
PNCL	**Nicolau / Gran**	**4.23**	**74**	P	**Pn**	**04 04 22.8**	**+3.5**
PNCL				S	**Sn**	**04 05 06.2**	**-2.6**
	2.1nm,0.5s						
PNCL	**Nicolau / Gran**	**4.23**	**74**	*e*Pn	**Pn**	**04 04 22.8**	**+3.5**
PNCL				*e*Sn	**Sn**	**04 05 06.2**	**-2.6**
PNCL				A	A	04 05 10.8	
	2.1nm,0.5s						
PMPST	**Porto Santo, M**	**4.53**	**209**	*e*Sn	**Sn**	**04 05 10.8**	**-5.2**
PCVE	**Castro Verde**	**4.54**	**81**	P	**Pn**	**04 04 27.0**	**+3.4**
PCVE				S	**Sn**	**04 05 12.7**	**-3.7**
	1.6nm,0.8s						
PCVE	**Castro Verde**	**4.54**	**81**	*e*Pn	**Pn**	**04 04 27.0**	**+3.4**
PCVE				*e*Sn	**Sn**	**04 05 12.7**	**-3.7**
PCVE				A	A	04 05 24.9	
	1.6nm,0.8s						
PMPS	**Porto Santo**	**4.54**	**209**	S	**Sn**	**04 05 10.8**	**-5.7**
PMPS	**Porto Santo**	**4.54**	**209**	*e*Sn	**Sn**	**04 05 11.8**	**-4.7**
PSBE	**So Bento**	**4.56**	**56**	*e*Pn	**Pn**	**04 04 27.9**	**+4.0**
PSBE				*e*Sn	**Sn**	**04 05 17.1**	**+0.1**
PSBE				A	A	04 05 21.3	
	4.5nm,0.3s						
PBDV	**Barranco-do-Ve**	**4.61**	**86**	P	**Pn**	**04 04 28.3**	**+3.8**
PBDV	**Barranco-do-Ve**	**4.61**	**86**	*e*Pn	**Pn**	**04 04 28.3**	**+3.8**
EVO	**Evora**	**4.73**	**70**	P	**Pn**	**04 04 29.9**	**+3.7**
EVO				S	**Sn**	**04 05 18.8**	**-2.3**
	4.0nm,0.1s						
EVO	**Evora**	**4.73**	**70**	*e*P	**Pn**	**04 04 28.7**	**+2.5**
EVO				*e*S	**Sn**	**04 05 17.6**	**-3.5**
EVO	**Evora**	**4.73**	**70**	*e*Pn	**Pn**	**04 04 29.9**	**+3.7**
EVO				*e*Sn	**Sn**	**04 05 18.8**	**-2.3**
EVO				A	A	04 05 22.3	
	4.0nm,0.1s						
PMTG	**Montargil**	**4.76**	**63**	P	**Pn**	**04 04 29.9**	**+3.4**
PMTG				S	**Sn**	**04 05 18.7**	**-3.0**
	2.4nm,0.6s						
PMTG	**Montargil**	**4.76**	**63**	*e*Pn	**Pn**	**04 04 29.9**	**+3.4**
PMTG				*e*Sn	**Sn**	**04 05 18.7**	**-3.0**
PMTG				A	A	04 05 24.9	
	2.4nm,0.6s						
EGRO	**El Granado**	**4.97**	**83**	P	**Pn**	**04 04 33.6**	**+4.1**
	2.0nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**04 05 24.7**	**-2.4**
	0.3nm,0.2s,SNR=7.9						
PCAS	**Casmilo, Conde**	**5.05**	**52**	P	**Pn**	**04 04 34.3**	**+3.8**
PCAS				S	**Sn**	**04 05 27.3**	**-1.6**
	3.1nm,0.3s						
PCAS	**Casmilo, Conde**	**5.05**	**52**	*e*Pn	**Pn**	**04 04 34.3**	**+3.8**
PCAS				*e*Sn	**Sn**	**04 05 27.3**	**-1.6**
PCAS				A	A	04 05 30.2	
	3.1nm,0.3s						
PMRV	**Marv??o**	**5.49**	**63**	P	**Pn**	**04 04 40.3**	**+3.6**
PMRV				S	**Sn**	**04 05 37.0**	**-2.9**
	4.2nm,0.4s						
PMRV	**Marv??o**	**5.49**	**63**	*e*Pn	**Pn**	**04 04 40.3**	**+3.6**
PMRV				*e*Sn	**Sn**	**04 05 37.0**	**-2.9**
PMRV				A	A	04 05 41.1	
	4.2nm,0.4s						
PCBR	**Castelo Branco**	**5.61**	**58**	P	**Pn**	**04 04 42.3**	**+4.0**
PCBR				S	**Sn**	**04 05 40.3**	**-2.5**
	1.1nm,0.6s						
PCBR	**Castelo Branco**	**5.61**	**58**	*e*Pn	**Pn**	**04 04 42.3**	**+4.0**
PCBR				*e*Sn	**Sn**	**04 05 40.3**	**-2.5**
PCBR				A	A	04 05 43.5	
	2.1nm,0.6s						
EMIN	**Mina Concepcio**	**5.63**	**81**	P	**Pn**	**04 04 42.2**	**+3.6**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**04 05 39.4**	**-3.9**
	0.1nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**5.81**	**49**	S	**Sn**	**04 05 45.4**	**-2.4**
	1.9nm,0.1s						
PVIS	**Viseu**	**5.81**	**49**	*e*Sn	**Sn**	**04 05 45.4**	**-2.4**
PVIS				A	A	04 05 47.7	
	3.9nm,0.1s						
MTE	**Manteigas**	**5.85**	**53**	P	**Pn**	**04 04 45.2**	**+3.6**
MTE				S	**Sn**	**04 05 46.9**	**-1.8**
	1.6nm,0.4s						
MTE	**Manteigas**	**5.85**	**53**	*e*Pn	**Pn**	**04 04 45.2**	**+3.6**
MTE				*e*Sn	**Sn**	**04 05 46.9**	**-1.8**
MTE				A	A	04 05 49.8	
	3.1nm,0.4s						
ESPR	**Espera**	**6.28**	**89**	P	**Pn**	**04 04 51.7**	**+4.3**
	1.8nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**04 05 57.0**	**-2.2**
	1.4nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**6.39**	**42**	S	**Sn**	**04 05 59.4**	**-2.5**
	1.4nm,0.3s						
PCAB	**Cabril**	**6.39**	**42**	*e*Sn	**Sn**	**04 05 59.4**	**-2.5**
PCAB				A	A	04 06 01.4	
	2.9nm,0.3s						
PGAV	**Gavieira, Arco**	**6.45**	**39**	S	**Sn**	**04 05 59.9**	**-3.5**
PGAV	**Gavieira, Arco**	**6.45**	**39**	*e*Sn	**Sn**	**04 05 59.9**	**-3.5**
ELOB	**Lobios**	**6.48**	**41**	P	**Pn**	**04 04 53.7**	**+3.4**
	0.6nm,0.3s,SNR=7.9						
ELOB				S	**Sn**	**04 05 59.9**	**-4.4**
	0.3nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**6.60**	**50**	P	**Pn**	**04 04 55.3**	**+3.4**
	0.8nm,0.2s,SNR=7.9						
MVO				S	**Sn**	**04 06 03.8**	**-3.6**
	1.7nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**6.60**	**50**	*e*Sn	**Sn**	**04 06 04.1**	**-3.2**
MVO				A	A	04 06 08.9	
	2.7nm,0.5s						
ECAB	**El Cabril**	**6.65**	**79**	P	**Pn**	**04 04 55.8**	**+3.3**
	0.6nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**04 06 05.0**	**-3.4**
	0.2nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**6.67**	**61**	P	**Pn**	**04 04 56.9**	**+4.0**
	0.3nm,0.2s,SNR=7.9						
EPLA				S	**Sn**	**04 06 05.4**	**-3.6**
	0.9nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.90**	**30**	S	**Sn**	**04 06 08.9**	**-5.7**
	0.4nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**7.17**	**47**	S	**Sn**	**04 06 18.1**	**-3.0**
PBRG	**Braganca**	**7.17**	**47**	*e*Sn	**Sn**	**04 06 18.1**	**-3.0**
EAGO	**Agolada(Pontev**	**7.17**	**35**	P	**Pn**	**04 05 03.6**	**+3.9**
	0.3nm,0.2s,SNR=7.9						
EAGO				S	**Sn**	**04 06 15.3**	**-5.8**
	3.0nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**7.25**	**46**	P	**Pn**	**04 05 04.2**	**+3.3**
	1.0nm,0.3s,SNR=7.9						
ECAL				S	**Sn**	**04 06 19.0**	**-4.3**
	1.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.32**	**79**	P	**Pn**	**04 05 04.7**	**+3.0**
	0.4nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**04 06 21.8**	**-3.1**
	SNR=7.9						
PAB	**San Pablo**	**7.75**	**69**	P	**Pn**	**04 05 11.0**	**+3.3**
	0.6nm,0.4s,SNR=7.9						
PAB				S	**Sn**	**04 06 30.9**	**-4.8**
	0.1nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**8.01**	**37**	S	**Sn**	**04 06 36.7**	**-5.2**
	0.3nm,0.1s,SNR=7.9						
EQES	**Quesada**	**8.48**	**82**	P	**Pn**	**04 05 21.8**	**+4.0**
	0.2nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**04 06 48.9**	**-4.7**
	0.0nm,0.2s,SNR=7.9						

*ATH **28** 04:11:12.8, 38°42N × 22°46E, h8km ± 2km, ML3.3/9, Error ellipse: s-maj=2.8km s-min=0.8km az=25.0*
*ISK **28** 04:11:12.9, 38°47N × 22°46E, h18km, ML3.4/13*
*THE **28** 04:11:12.9, 38°42N × 22°47E, h3km ± 1km, ML3.3/8, Error ellipse: s-maj=1.2km s-min=0.4km az=246.0*
*IDC **28** 04:11:12.1±1.2, 38°42N × 22°52E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/38, mbtmp3.7/6, Error ellipse: s-maj=25.8km s-min=23.0km az=83.0*
*BEO **28** 04:11:20.3±2.1, 39°01N × 22°99E, h0km, ML2.3/1*
ISC 28 04:11:13.1±0.8, 38°43N±0°02 × 22°48E±0°02, h9km ± 5km, n102, σ0°88/126, mb3.9/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLFA	**Delphi**	**0.05**	**17**	P	**Pg**	**04 11 14.7**	**-0.3**
DLFA				S	**Sg**	**04 11 15.8**	**-0.6**
DLFA				AML	AML	04 11 15.9	
DLFA				AML	AML	04 11 16.1	
	comp=N,87698μm,0.5s						
TRIZ	**Trizonia**	**0.32**	**259**	P	**Pg**	**04 11 19.0**	**-0.5**
TRIZ				S	**Sg**	**04 11 24.2**	**+0.4**
	comp=N,18μm,0.4s						
TRIZ	**Trizonia**	**0.32**	**259**	P	**Pg**	**04 11 18.9**	**-0.5**
TRIZ				S	**Sg**	**04 11 23.8**	**0.0**
SERG	**Sergoula**	**0.33**	**267**	P	**Pg**	**04 11 19.1**	**-0.5**
SERG				S	**Sg**	**04 11 24.3**	**+0.3**
	comp=N,9μm,0.2s						
SERG	**Sergoula**	**0.33**	**267**	P	**Pg**	**04 11 19.1**	**-0.5**
SERG				S	**Sg**	**04 11 24.1**	**+0.1**
SERG				AML	AML	04 11 26.0	
	comp=N,21324μm,0.2s						
SERG				AML	AML	04 11 26.2	
	comp=E,16220μm,0.3s						
ALIK	**Aliki, Aigiali**	**0.33**	**240**	P	**Pg**	**04 11 19.2**	**-0.5**
ALIK				S	**Sg**	**04 11 24.6**	**+0.5**
AXAR	**Agios Charalam**	**0.36**	**23**	P	**Pg**	**04 11 20.4**	**+0.1**
AXAR	**Agios Charalam**	**0.36**	**23**	P	**Pg**	**04 11 20.3**	**+0.1**
LAKA	**Lakka**	**0.44**	**244**	P	**Pg**	**04 11 21.1**	**-0.5**
LAKA	**Lakka**	**0.44**	**244**	P	**Pg**	**04 11 21.1**	**-0.5**
LAKA				S	**Sg**	**04 11 27.1**	**-0.3**
LAKA				AML	AML	04 11 33.2	
	comp=N,3430μm,0.4s						
LAKA				AML	AML	04 11 33.6	
	comp=E,2351μm,0.7s						
EFP	**Efpalio**	**0.45**	**270**	P	**Pg**	**04 11 21.1**	**-0.7**
EFP				S	**Sg**	**04 11 28.3**	**+0.6**
	comp=E,3μm,0.4s						
KLV	**Kalavryta, Ach**	**0.46**	**214**	P	**Pg**	**04 11 21.2**	**-0.9**
KLV				S	**Sg**	**04 11 27.7**	**-0.5**
	comp=E,2μm,0.4s						
KLV	**Kalavryta, Ach**	**0.46**	**214**	P	**Pg**	**04 11 21.2**	**-0.9**
LKR	**Lokris**	**0.47**	**62**	P	**Pg**	**04 11 21.6**	**-0.5**
LKR				S	**Sg**	**04 11 29.6**	**+1.4**
	comp=E,20μm,0.1s						
LKR	**Lokris**	**0.47**	**62**	P	**Pg**	**04 11 21.6**	**-0.5**
LKR				S	**Sg**	**04 11 29.3**	**+1.0**
LKR				AML	AML	04 11 30.4	
	comp=E,42401μm,0.2s						
LKR				AML	AML	04 11 30.6	
	comp=N,37928μm,0.2s						
ANX	**Ano Chora**	**0.47**	**291**	P	**Pg**	**04 11 21.6**	**-0.6**
ANX				S	**Sg**	**04 11 28.9**	**+0.6**
	comp=N,7μm,0.4s						
ANX	**Ano Chora**	**0.47**	**291**	P	**Pg**	**04 11 21.6**	**-0.6**
ANX				S	**Sg**	**04 11 27.8**	**-0.5**
ANX				AML	AML	04 11 30.6	
	comp=N,12385μm,0.4s						
ANX				AML	AML	04 11 33.4	
	comp=E,15216μm,0.4s						
GUR	**Goura**	**0.51**	**192**	P	**Pg**	**04 11 22.1**	**-0.8**
LTK	**Loutraki**	**0.56**	**136**	P	**Pg**	**04 11 24.0**	**+0.1**
LTK	**Loutraki**	**0.56**	**136**	P	**Pg**	**04 11 23.8**	**-0.1**
LTK				S	**Sg**	**04 11 32.1**	**+0.8**
LTK				AML	AML	04 11 33.6	
	comp=N,9115μm,0.5s						
LTK				AML	AML	04 11 35.0	
	comp=E,6240μm,0.5s						
LOUT	**Loutraki**	**0.59**	**138**	P	**Pg**	**04 11 24.3**	**-0.2**
LOUT	**Loutraki**	**0.59**	**138**	P	**Pg**	**04 11 24.3**	**-0.2**
AGG	**Agios Georgios**	**0.60**	**349**	P	**Pg**	**04 11 24.1**	**-0.7**
AGG				S	**Sg**	**04 11 33.4**	**+0.8**
	comp=E,3μm,0.7s						
AGG	**Agios Georgios**	**0.60**	**349**	P	**Pg**	**04 11 24.0**	**-0.7**
AGG				S	**Sg**	**04 11 32.7**	**+0.1**
AGG				AML	AML	04 11 34.3	
	comp=E,6488μm,0.7s						
AGG				AML	AML	04 11 36.9	
	comp=N,3294μm,0.4s						
AGG	**Agios Georgios**	**0.60**	**349**	PG	**Pg**	**04 11 24.1**	**-0.7**
AGG				SG	**Sg**	**04 11 32.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.64**	**335**	P	**Pg**	**04 11 25.0**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.64**	**335**	P	**Pg**	**04 11 25.0**	**-0.5**
MAKR				S	**Sg**	**04 11 34.5**	**+0.6**
MAKR				AML	AML	04 11 42.3	
	comp=N,6210μm,0.4s						
MAKR				AML	AML	04 11 44.5	
	comp=E,6905μm,0.7s						
VIL2	**Platees**	**0.66**	**109**	P	**Pb**	**04 11 26.3**	**-0.4**
VILL	**Villia**	**0.71**	**112**	P	**Pg**	**04 11 26.4**	**-0.3**
EVR	**Evrytania**	**0.71**	**313**	P	**Pg**	**04 11 26.1**	**-0.7**
EVR				S	**Sb**	**04 11 37.6**	**-0.1**
	comp=E,2μm,0.5s						
EVR	**Evrytania**	**0.71**	**313**	P	**Pg**	**04 11 26.2**	**-0.7**
EVR				S	**Sg**	**04 11 36.6**	**+0.4**
EVR				AML	AML	04 11 38.5	
	comp=N,4110μm,0.5s						
EVR				AML	AML	04 11 44.0	
	comp=E,3513μm,0.5s						
PVO	**Paravola**	**0.77**	**284**	P	**Pg**	**04 11 26.9**	**-1.0**
DRO	**Drossia**	**0.77**	**232**	P	**Pg**	**04 11 26.9**	**-1.0**
DRO	**Drossia**	**0.77**	**232**	P	**Pg**	**04 11 27.0**	**-0.9**
RLS	**Riolos of Patr**	**0.88**	**245**	P	**Pg**	**04 11 28.9**	**-1.1**
TRIP	**Tripoli**	**0.92**	**190**	P	**Pg**	**04 11 29.5**	**-1.2**
TRIP	**Tripoli**	**0.92**	**190**	P	**Pg**	**04 11 29.7**	**-1.0**
NEO	**Neokhori**	**1.05**	**33**	P	**Pg**	**04 11 32.5**	**-0.8**
VLX	**Vlachokerasia**	**1.06**	**184**	P	**Pg**	**04 11 32.1**	**-1.4**
SKIA	**Skiathos**	**1.07**	**46**	P	**Pg**	**04 11 32.7**	**-0.9**
ATH	**Athens Observa**	**1.08**	**115**	P	**Pg**	**04 11 33.2**	**-0.6**
AMT	**Artemida-Makis**	**1.08**	**214**	P	**Pg**	**04 11 32.8**	**-1.1**
XOR	**Xorichti**	**1.09**	**31**	P	**Pg**	**04 11 32.9**	**-1.1**
DID	**Didima**	**1.10**	**147**	P	**Pg**	**04 11 33.5**	**-0.7**
ATHU	**Athens Univers**	**1.13**	**114**	P	**Pg**	**04 11 34.1**	**-0.6**
PTL	**Penteli**	**1.16**	**109**	P	**Pg**	**04 11 34.3**	**-1.0**
THL	**Klokotos Trika**	**1.19**	**342**	P	**Pg**	**04 11 35.5**	**-0.4**
THL	**Klokotos Trika**	**1.19**	**342**	P	**Pg**	**04 11 35.4**	**-0.4**
VLY	**Voula,Athens**	**1.19**	**119**	P	**Pg**	**04 11 35.8**	**-0.1**
VLY	**Voula,Athens**	**1.19**	**119**	P	**Pg**	**04 11 35.7**	**-0.2**
DION	**Dionisos Attik**	**1.20**	**107**	P	**Pg**	**04 11 35.1**	**-1.0**
KYMI	**Kymi, Euboea I**	**1.29**	**80**	P	**Pg**	**04 11 37.0**	**-0.8**
AOS	**Alonnisos**	**1.32**	**56**	P	**Pg**	**04 11 36.9**	**-1.5**
AOS	**Alonnisos**	**1.32**	**56**	PN	**Pg**	**04 11 36.9**	**-1.5**
AOS				SN	**Sg**	**04 11 54.2**	**-1.4**
ITM	**Ithomi**	**1.32**	**199**	PN	**Pg**	**04 11 37.8**	**-0.6**
ITM				SN	**Sg**	**04 11 55.3**	**-0.3**
EVGI	**Lefkada island**	**1.44**	**278**	P	**Pn**	**04 11 39.2**	**-0.1**
LKD2	**Lefkada island**	**1.47**	**285**	P	**Pn**	**04 11 40.1**	**+0.3**
FSK	**Fiskardo**	**1.50**	**272**	P	**Pn**	**04 11 39.1**	**-0.3**
VLS	**Valsamata**	**1.51**	**261**	P	**Pn**	**04 11 39.6**	**-0.7**
KARY	**Karystos**	**1.59**	**104**	P	**Pn**	**04 11 41.6**	**+0.2**
PYL	**PYLOS**	**1.64**	**201**	P	**Pn**	**04 11 42.2**	**+0.1**
LIT	**Litokhoron**	**1.67**	**0**	P	**Pn**	**04 11 42.6**	**+0.1**
VLI	**Veliai**	**1.75**	**168**	P	**Pn**	**04 11 43.4**	**-0.2**
PAIG	**Paliouri**	**1.76**	**32**	P	**Pn**	**04 11 43.2**	**-0.6**
PLG	**Polygyros**	**2.08**	**21**	P	**Pn**	**04 11 47.9**	**-0.3**
HORT	**Hortiatis**	**2.22**	**12**	PN	**Pn**	**04 11 49.5**	**-0.6**
KTHA	**Kythira Island**	**2.22**	**168**	P	**Pn**	**04 11 50.6**	**+0.5**
KTHA	**Kythira Island**	**2.22**	**168**	PN	**Pn**	**04 11 51.1**	**+1.0**
OUR	**Ouranopolis**	**2.23**	**31**	P	**Pn**	**04 11 49.9**	**-0.3**
OUR	**Ouranopolis**	**2.23**	**31**	PN	**Pn**	**04 11 49.9**	**-0.3**
LIA	**Limnos Island**	**2.56**	**54**	P	**Pn**	**04 11 54.2**	**-0.6**
SIGR	**SIGRI**	**2.75**	**72**	PN	**Pn**	**04 11 57.2**	**-0.1**
APE	**Apeiranthos**	**2.78**	**118**	PN	**Pn**	**04 11 58.0**	**+0.3**
CHOS	**Chios island**	**2.81**	**90**	PN	**Pn**	**04 11 58.7**	**+0.4**
SRS	**Serrai**	**2.82**	**17**	*e*Pg	**Pn**	**04 11 57.8**	**-0.5**
SRS				*e*Sg	**Sn**	**04 12 28.8**	**-3.6**
RODP	**Rodopos**	**3.04**	**160**	PN	**Pn**	**04 12 02.1**	**+0.7**
BOZC	**Bozcaada**	**3.12**	**62**	PN	**Pn**	**04 12 02.3**	**-0.1**
GADA	**Gvkgeada**	**3.18**	**55**	PN	**Pn**	**04 12 02.9**	**-0.4**
IMMV	**Iera Moni Meta**	**3.20**	**157**	PN	**Pn**	**04 12 05.1**	**+1.6**
URLA	**Izmir**	**3.24**	**90**	PN	**Pn**	**04 12 04.9**	**+0.8**
STIP	**Stip**	**3.27**	**356**	*i* Pn	**Pn**	**04 12 06.2**	**+1.8**
KNDR	**Palaiochora Ch**	**3.33**	**163**	PN	**Pn**	**04 12 06.6**	**+1.2**
DKL	**Dikili**	**3.52**	**78**	PN	**Pn**	**04 12 08.8**	**+0.9**
RDO	**Rodhopi**	**3.59**	**40**	PN	**Pn**	**04 12 09.1**	**+0.2**
GELI	**Tayfur-Gelibol**	**3.67**	**56**	PN	**Pn**	**04 12 10.3**	**+0.4**
IDI	**Anoyia**	**3.69**	**148**	Pn	**Pn**	**04 12 11.4**	**+1.1**
IDI				Sn	**Sn**	**04 12 54.6**	**+0.7**
	comp=E,4.0nm,0.3s,baz=299,slow=6.8,SNR=3.6						
ALN	**Alexandroupoli**	**3.69**	**47**	PN	**Pn**	**04 12 10.7**	**+0.4**
LPK	**Lapseki**	**3.84**	**58**	PN	**Pn**	**04 12 12.7**	**+0.3**
KDZ	**Kurdzhali**	**3.93**	**34**	PN	**Pn**	**04 12 12.9**	**-0.7**
BOSS	**Bosilegrad**	**4.06**	**0**	*e*Pn	**Pn**	**04 12 16.3**	**+0.9**
UKOP	**Uzunkopru-Edir**	**4.18**	**49**	PN	**

*JMA **28** 05:13:21.1±0.1,23.°52N×121.°72E,h38km±4km,M2.8*
ISC 28 05:13:20.1±1.0,23.°52N±0.°02×121.°82E±0.°02,h33km±4km, n95,σ0s89/181,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HGSD	**Ruisui**	**0.37**	**266**	P	**Pn**	**05 13 29.3**	**+0.2**
	baz=253						
HGSD				S	**Sb**	**05 13 34.5**	**-0.1**
	baz=253						
EGFH	**Guangfu**	**0.39**	**292**	P	**Pb**	**05 13 29.6**	**+0.5**
	baz=291						
EGFH				S	**Sb**	**05 13 35.1**	**-0.1**
	baz=291						
EHY	**Hungye**	**0.46**	**268**	*eP*	**Pn**	**05 13 30.5**	**+0.1**
	baz=259						
EHY				S	**Sb**	**05 13 36.3**	**-0.6**
	baz=259						
ESL	**Shilin**	**0.46**	**309**	P	**Pb**	**05 13 30.0**	**0.0**
	baz=315						
ESL				S	**Sb**	**05 13 35.7**	**-1.2**
	baz=315						
EYUL	**Yuli**	**0.49**	**250**	P	**Pn**	**05 13 31.3**	**+0.4**
	baz=238						
EYUL				S	**Sn**	**05 13 38.3**	**0.0**
	baz=238						
HWA	**Hwalien**	**0.50**	**336**	*eP*	**Pn**	**05 13 31.4**	**+0.5**
	baz=348						
HWA				S	**Sb**	**05 13 38.5**	**+0.6**
	baz=348						
YULB	**Yu-li**	**0.50**	**255**	P	**Pn**	**05 13 31.4**	**+0.4**
	baz=245						
YULB				S	**Sb**	**05 13 38.0**	**0.0**
	baz=245						
TWF1	**Yuli**	**0.51**	**251**	P	**Pn**	**05 13 31.6**	**+0.6**
	baz=239						
TWF1				S	**Sb**	**05 13 38.4**	**+0.1**
	baz=239						
FULB	**Fuli**	**0.58**	**237**	P	**Pn**	**05 13 32.6**	**+0.6**
	baz=225						
FULB				S	**Sn**	**05 13 41.0**	**+0.5**
	baz=225						
CHKT	**Chengkung**	**0.59**	**225**	*eP*	**Pn**	**05 13 32.6**	**+0.4**
	baz=213						
CHKT				S	**Sb**	**05 13 40.3**	**-0.2**
	baz=213						
TWD	**Chiawan**	**0.59**	**340**	P	**Pb**	**05 13 32.4**	**+0.2**
	baz=349						
TWD				S	**Sb**	**05 13 39.9**	**-0.6**
	baz=349						
VWDT	**VWDT**	**0.67**	**290**	P	**Pn**	**05 13 33.4**	**+0.2**
	baz=289						
VWDT				S	**Sb**	**05 13 41.0**	**-1.4**
	baz=289						
NACB	**Ninganchiao**	**0.68**	**342**	P	**Pn**	**05 13 33.6**	**+0.1**
	baz=350						
NACB				S	**Sb**	**05 13 41.7**	**-1.2**
	baz=350						
EDH	**Donghe**	**0.72**	**221**	*eP*	**Pb**	**05 13 34.5**	**+0.2**
	baz=211						
EDH				*eS*	**Sb**	**05 13 43.6**	**-0.4**
	baz=211						
OWD	**Renai**	**0.73**	**306**	*eP*	**Pn**	**05 13 34.2**	**-0.1**
	baz=308						
OWD				*eS*	**Sb**	**05 13 43.3**	**-1.1**
	baz=308						
ETLH	**Xiulin Townshi**	**0.75**	**335**	P	**Pn**	**05 13 34.6**	**+0.2**
	baz=342						
ETLH				S	**Sn**	**05 13 43.6**	**-1.2**
	baz=342						
CHGB	**Renai**	**0.80**	**312**	*eP*	**Pn**	**05 13 35.5**	**+0.3**
	baz=315						
CHGB				*eS*	**Sn**	**05 13 44.0**	**-2.1**
	baz=315						
WHF	**Hehuan Shan**	**0.80**	**321**	*eP*	**Pn**	**05 13 35.4**	**-0.1**
	baz=325						
WHF				*eS*	**Sn**	**05 13 45.3**	**-1.2**
	baz=325						
ELDTW	**Lidau**	**0.81**	**246**	*eP*	**Pn**	**05 13 35.4**	**+0.1**
	baz=238						
ELDTW				*eS*	**Sn**	**05 13 45.4**	**-0.9**
	baz=238						
SSLB	**Suanglung**	**0.84**	**289**	*eP*	**Pn**	**05 13 35.8**	**+0.2**
	baz=287						
SSLB				*eS*	**Sn**	**05 13 44.6**	**-2.3**
	baz=287						
LONT	**Longtian**	**0.88**	**226**	*eP*	**Pb**	**05 13 36.7**	**-0.3**
	baz=218						
LONT				*eS*	**Sn**	**05 13 48.1**	**+0.2**
	baz=218						
FUSS	**Fushou**	**0.90**	**324**	*eP*	**Pn**	**05 13 37.0**	**+0.4**
	baz=328						
FUSS				*eS*	**Sn**	**05 13 48.0**	**-0.6**
	baz=328						
LDUT	**Ludao**	**0.91**	**201**	*eP*	**Pb**	**05 13 37.1**	**-0.2**
	baz=193						
LDUT				*eS*	**Sn**	**05 13 48.3**	**-0.1**
	baz=193						
ENA	**Nanau**	**0.91**	**355**	*eP*	**Pn**	**05 13 37.3**	**+0.8**
	baz=2.0						
ENA				*eS*	**Sn**	**05 13 48.8**	**+0.4**
	baz=2.0						
WHYT	**Xinyi Township**	**0.91**	**281**	*eP*	**Pb**	**05 13 37.5**	**+0.1**
	baz=279						
WHYT				*eS*	**Sn**	**05 13 47.3**	**-1.2**
	baz=279						
SMLT	**Sun Moon Lake**	**0.92**	**293**	*eP*	**Pn**	**05 13 37.2**	**+0.4**
	baz=293						
SMLT				*eS*	**Sn**	**05 13 48.1**	**-0.9**
	baz=293						
ENAH	**Nanao**	**0.92**	**359**	*eP*	**Pb**	**05 13 38.0**	**+0.3**
	baz=6.0						
ENAH				*eS*	**Sn**	**05 13 49.3**	**+0.4**
	baz=6.0						
ALS	**Alishan**	**0.93**	**270**	*eP*	**Pb**	**05 13 38.3**	**+0.3**
	baz=265						
ALS				*eS*	**Sn**	**05 13 49.5**	**-0.1**
	baz=265						
TWT	**Tachien**	**0.94**	**321**	*eP*	**Pn**	**05 13 37.9**	**+0.8**
	baz=323						
TWT				*eS*	**Sn**	**05 13 49.2**	**-0.3**
	baz=323						
TDCB	**Techi**	**0.95**	**320**	*eP*	**Pn**	**05 13 38.0**	**+0.7**
	baz=323						
TDCB				*eS*	**Sn**	**05 13 48.6**	**-1.1**
	baz=323						
TYC	**Yuchr**	**0.96**	**293**	*eP*	**Pn**	**05 13 38.0**	**+0.7**
	baz=293						
TYC				*eS*	**Sn**	**05 13 49.8**	**-0.1**
	baz=293						
TWGBT	**Beinan**	**0.98**	**224**	*eP*	**Pn**	**05 13 37.8**	**+0.3**
	baz=217						
TWGBT				*eS*	**Sb**	**05 13 51.0**	**-0.2**
	baz=217						
TWG	**Pinlang**	**0.98**	**225**	*eP*	**Pn**	**05 13 37.9**	**+0.4**
	baz=217						
TWG				*eS*	**Sb**	**05 13 50.8**	**-0.5**
	baz=217						
NNSB	**Datong**	**0.99**	**336**	P	**Pn**	**05 13 38.4**	**+0.6**
	baz=340						
NNSB				S	**Sn**	**05 13 50.3**	**-0.4**
	baz=340						
NNSH	**Datong**	**0.99**	**336**	*eP*	**Pn**	**05 13 38.5**	**+0.7**
	baz=340						
NNSH				*eS*	**Sn**	**05 13 49.9**	**-0.8**
	baz=340						
NNS	**Nan Shan**	**1.00**	**336**	*eP*	**Pn**	**05 13 38.9**	**+0.9**
	baz=341						
NNS				*eS*	**Sn**	**05 13 50.8**	**-0.2**
	baz=341						
STYT	**Tauyuan**	**1.04**	**250**	*eP*	**Pb**	**05 13 39.3**	**-0.3**
	baz=244						
STYT				*eS*	**Sn**	**05 13 50.6**	**-1.3**
	baz=244						
WJS	**Zhushan**	**1.05**	**287**	*eP*	**Pb**	**05 13 39.6**	**-0.1**
	baz=285						
WJS				*eS*	**Sn**	**05 13 52.8**	**+0.9**
	baz=285						
TWC	**Suao**	**1.08**	**1**	*eP*	**Pb**	**05 13 41.2**	**+0.9**
	baz=7.0						
TWC				*eS*	**Sn**	**05 13 54.0**	**+1.2**
	baz=7.0						
WHP	**Taichung City**	**1.10**	**313**	*eP*	**Pb**	**05 13 40.5**	**-0.2**
	baz=315						
WHP				*eS*	**Sn**	**05 13 53.5**	**+0.1**
	baz=315						
WNT	**Mingjian**	**1.10**	**289**	*eP*	**Pb**	**05 13 41.2**	**+0.5**
	baz=288						
WNT				*eS*	**Sn**	**05 13 54.3**	**+1.0**
	baz=288						
NDT	**Datong Townshi**	**1.11**	**345**	*eP*	**Pn**	**05 13 40.3**	**+1.0**
	baz=350						
NDT				*eS*	**Sn**	**05 13 53.9**	**+0.3**
	baz=350						
TPUB	**Ta-pu**	**1.12**	**259**	*eP*	**Pb**	**05 13 41.2**	**+0.3**
	baz=254						
TPUB				*eS*	**Sn**	**05 13 54.4**	**+0.6**
	baz=254						
ENTT	**Nioudou**	**1.14**	**348**	*eP*	**Pn**	**05 13 40.5**	**+0.7**
	baz=353						
ENTT				*eS*	**Sn**	**05 13 54.1**	**-0.1**
	baz=353						
WTP	**Ta-pu**	**1.14**	**256**	*eP*	**Pb**	**05 13 41.5**	**+0.2**
	baz=252						
WTP				*eS*	**Sn**	**05 13 55.3**	**+0.9**
	baz=252						
WGK	**Gukeng**	**1.17**	**278**	*eS*	**Sn**	**05 13 55.8**	**+0.9**
	baz=276						
WDLH	**Douliu**	**1.19**	**278**	*eP*	**Pb**	**05 13 43.2**	**+1.1**
	baz=276						
WDLH				*eS*	**Sn**	**05 13 56.6**	**+1.2**
	baz=276						
SLGT	**Liugui**	**1.20**	**244**	P	**Pb**	**05 13 42.3**	**0.0**
	baz=239						
SLGT				*eS*	**Sb**	**05 13 58.0**	**+0.5**
	baz=239						
TWE	**Neicheng**	**1.20**	**353**	*eP*	**Pb**	**05 13 42.4**	**+0.1**
	baz=358						
TWE				*eS*	**Sn**	**05 13 56.3**	**+0.5**
	baz=358						
YHNB	**Yeheng**	**1.21**	**340**	*eP*	**Pb**	**05 13 42.2**	**-0.4**
	baz=344						
YHNB				*eS*	**Sn**	**05 13 56.4**	**+0.2**
	baz=344						
ECL	**Taimali**	**1.22**	**221**	*eP*	**Pb**	**05 13 42.4**	**-0.2**
	baz=215						
ECL				*eS*	**Sn**	**05 13 55.7**	**-0.5**
	baz=215						
SGST	**Jiashian**	**1.22**	**249**	*eP*	**Pb**	**05 13 42.1**	**-0.6**
	baz=244						
SGST				*eS*	**Sb**	**05 13 58.0**	**-0.1**
	baz=244						
NSK	**Sanguang**	**1.23**	**340**	*eP*	**Pn**	**05 13 41.2**	**+0.2**
	baz=344						
NSK				*eS*	**Sn**	**05 13 56.5**	**+0.1**
	baz=344						
CHN1	**Nanshi**	**1.24**	**255**	*eP*	**Pb**	**05 13 43.5**	**+0.6**
	baz=250						
CHN1				*eS*	**Sb**	**05 13 58.7**	**+0.1**
	baz=250						
TWK	**Hsinying**	**1.25**	**259**	*eP*	**Pb**	**05 13 43.4**	**+0.2**
	baz=254						
TWK				*eS*	**Sb**	**05 13 59.0**	**0.0**
	baz=254						
SNST	**Tainan City**	**1.25**	**256**	*eP*	**Pb**	**05 13 43.4**	**+0.2**
	baz=252						
SNST				*eS*	**Sn**	**05 13 58.4**	**+1.4**
	baz=252						
TWQ1	**Liyutan**	**1.27**	**311**	*eP*	**Pb**	**05 13 43.7**	**+0.3**
	baz=312						
TWQ1				*eS*	**Sn**	**05 13 56.9**	**-0.4**
	baz=312						
CHY	**Chiayi**	**1.28**	**269**	*eS*	**Sb**	**05 13 59.4**	**-0.5**
	baz=266						
NWLT	**Wulai**	**1.28**	**347**	*eP*	**Pb**	**05 13 43.2**	**-0.5**
	baz=351						
NWLT				*eS*	**Sn**	**05 13 58.0**	**+0.2**
	baz=351						
WCHH	**Zhanghua**	**1.28**	**296**	*eP*	**Pn**	**05 13 41.5**	**-0.2**
	baz=295						
WCHH				*eS*	**Sn**	**05 13 58.4**	**+0.6**
	baz=295						
NSY	**Sanyi**	**1.32**	**313**	*eP*	**Pb**	**05 13 44.6**	**+0.3**
	baz=314						
EGS		**1.32**	**4**	*eP*	**Pb**	**05 13 44.2**	**-0.1**
	baz=9.0						
EGS				*eS*	**Sb**	**05 14 00.6**	**-0.4**
	baz=9.0						
NSTT	**Nanjuang**	**1.34**	**326**	*eP*	**Pb**	**05 13 44.6**	**0.0**
	baz=328						
NSTT				*eS*	**Sn**	**05 13 59.9**	**+0.9**
	baz=328						
LIOB	**Emei**	**1.34**	**327**	*eP*	**Pb**	**05 13 45.0**	**+0.3**
	baz=329						
LIOB				*eS*	**Sn**	**05 14 01.1**	**+1.9**
	baz=329						
SSD	**Sandimen**	**1.34**	**235**	*eP*	**Pb**	**05 13 45.1**	**+0.4**
	baz=230						
SSD				*eS*	**Sb**	**05 14 02.2**	**+0.7**
	baz=230						
TSMG	**Majia**	**1.35**	**233**	*eP*	**Pb**	**05 13 45.4**	**+0.5**
	baz=228						
TSMG				*eS*	**Sb**	**05 14 01.3**	**-0.6**
	baz=228						
SCST	**Cishan**	**1.38**	**243**	*eP*	**Pb**	**05 13 46.6**	**+1.4**
	baz=238						
JYNG	**Yonagunijimaku**	**1.38**	**48**	P	**Pb**	**05 13 46.2**	**+0.9**
MASBT	**Mashibuluo**	**1.42**	**231**	*eP*	**Pb**	**05 13 45.1**	**-0.9**
	baz=226						
MASBT				*eS*	**Sn**	**05 14 02.4**	**+1.2**
	baz=226						
YOJ	**Yonaguni jima**	**1.43**	**49**	*eP*	**Pb**	**05 13 46.8**	**+0.6**
	baz=52						
YOJ				*eS*	**Sb**	**05 14 04.8**	**+0.6**
	baz=52						
YOJ	**Yonaguni jima**	**1.43**	**49**	P	**Pb**	**05 13 46.9**	**+0.6**
TIPB	**Shuangxi**	**1.44**	**0**	*eP*	**Pb**	**05 13 46.6**	**+0.2**
	baz=4.0						
TIPB				*eS*	**Sn**	**05 14 03.5**	**+1.7**
	baz=4.0						
EAST	**Anshuo**	**1.45**	**219**	*eP*	**Pb**	**05 13 45.8**	**-0.6**
	baz=213						
TWA	**Mucha**	**1.47**	**352**	*eS*	**Sn**	**05 14 03.2**	**+0.8**
	baz=355						
LAY	**Lan-yu**	**1.50**	**190**	*eP*	**Pb**	**05 13 46.0**	**-1.3**
	baz=185						
LAY				*eS*	**Sb**	**05 14 04.5**	**-1.5**
	baz=185						
NWF	**Wu-fen Shan**	**1.54**	**359**	*eP*	**Pb**	**05 13 48.2**	**0.0**
	baz=2.0						
NWF				*eS*	**Sn**	**05 14 06.0**	**+1.7**
	baz=2.0						
WFSB	**Wu-fen Shan**	**1.54**	**359**	*eP*	**Pb**	**05 13 47.8**	**-0.3**
	baz=2.0						
WFSB				*eS*	**Sb**	**05 14 06.6**	**-0.7**
	baz=2.0						
SCZT	**Fangliau**	**1.59**	**224**	*eP*	**Pb**	**05 13 49.1**	**+0.2**
	baz=219						
SCZT				*eS*	**Sb**	**05 14 08.6**	**-0.1**
	baz=219						
YM01	**YM01**	**1.63**	**352**	*eP*	**Pn**	**05 13 47.6**	**+1.0**
	baz=355						
YM01				*eS*	**Sn**	**05 14 08.1**	**+1.6**
	baz=355						
YM05	**YM05**	**1.65**	**352**	*eP*	**Pn**	**05 13 48.6**	**+1.8**
	baz=355						
YM05				*eS*	**Sn**	**05 14 07.0**	**0.0**
	baz=355						
TSEB	**Hengchuen, Pin**	**1.82**	**208**	*eS*	**Sn**	**05 14 12.2**	**+1.1**
	baz=205						
TWKBT	**Hengchun**	**1.83**	**211**	*eP*	**Pb**	**05 13 54.0**	**+1.1**
	baz=206						
TWKBT				*eS*	**Sn**	**05 14 13.0**	**+1.7**
	baz=206						
HATJ	**Hateruma jima**	**1.89**	**73**	P	**Pb**	**05 13 53.5**	**-0.5**
HATJ				*eS*	**Sb**	**05 14 16.5**	**-0.7**
IRIF	**Iriomote-Funau**	**1.92**	**65**	P	**Pb**	**05 13 54.2**	**-0.3**
IRIF				S	**Sb**	**05 14 17.9**	**-0.2**
WDGT	**Dungji**	**2.00**	**263**	*eP*	**Pn**	**05 13 53.2**	**+1.6**
	baz=260						
WDGT				*eS*	**Sn**	**05 14 15.0**	**-0.6**
	baz=260						
PHUB	**P'eng-hu**	**2.07**	**270**	*eP*	**Pn**	**05 13 53.0**	**+0.5**
	baz=268						
PHUB				*eS*	**Sn**	**05 14 16.3**	**-0.8**
	baz=268						
PNG	**Penghu**	**2.08**	**272**	*eP*	**Pn**	**05 13 52.6**	**0.0**
	baz=269						
PNG				*eS*	**Sn**	**05 14 16.8**	**-0.7**
	baz=269						
JKRS	**Kuro-shima**	**2.12**	**70**	P	**Pb**	**05 13 56.5**	**-1.4**
JKRS				*eS*	**Sb**	**05 14 22.7**	**-1.2**
JIJ	**Ishigaki jima**	**2.28**	**68**	P	**Pb**	**05 13 58.7**	**-1.9**
JIJ				*eS*	**Sb**	**05 14 26.2**	**-2.2**
JISG	**Ishigakijimahi**	**2.51**	**64**	P	**Pb**	**05 14 01.6**	**-2.9**
JISG				S	**Sn**	**05 14 31.2**	**+3.2**
VWUC	**VWUC**	**2.61**	**305**	P	**Pn**	**05 14 00.6**	**+0.6**
	baz=304						
VWUC				*eS*	**Sn**	**05 14 29.1**	**-1.5**
	baz=304						
PTTC	**Pingtan**	**2.72**	**317**	*eP*	**Pn**	**05 14 02.5**	**+1.1**
	baz=317						
PTTC				*eS*	**Sn**	**05 14 31.8**	**-1.3**
	baz=317						
PTMZ	**Houxiangcun**	**2.89**	**302**	P	**Pn**	**05 14 04.7**	**+0.9**
	baz=301						
PTMZ				S	**Sn**	**05 14 36.0**	**-1.4**
	baz=301						
MATB	**Ma-tsu**	**3.12**	**327**	P	**Pn**	**05 14 07.7**	**+0.6**
	baz=327						
MATB				S	**Sn**	**05 14 41.8**	**-1.4**
	baz=327						
KNMB	**Chin-men Tao**	**3.28**	**287**	*eP*	**Pn**	**05 14 09.8**	**+0.7**
	baz=286						
KNMB				*eS*	**Sn**	**05 14 44.8**	**-2.2**
	baz=286						

*TEH **28** 05:18:48.8,32.°73N×47.°53E,h10km,ML3.0*
*ISN **28** 05:18:48.3±1.5,32.°73N×47.°58E,h16km±10km,ML2.8*
*THR **28** 05:18:52.2±0.3,32.°79N×47.°65E,h18km±24km,ML3.2*
ISC 28 05:18:49.9±0.9,32.°79N±0.°04×47.°53E±0.°03,h15km,n29, σ1s72/33,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.23**	**243**	*ePg*	**Pg**	**05 18 53.1**	**-2.0**
DHL1				*eSg*	**Sg**	**05 18 57.1**	**-1.5**
SHGR	**Shooshtar-Gavs**	**1.27**	**122**	*ePn*	**Pg**	**05 19 15.8**	**+1.4**
IBDR	**Badra**	**1.38**	**284**	*ePg*	**Pn**	**05 19 14.0**	**-0.7**
	baz=105						
IBDR				*eSg*	**Sb**	**05 19 35.0**	**+2.1**
IBDR				AML	AML	05 19 39.1	
	comp=N,222nm,0.3s						
IBDR				AML	AML	05 19 39.4	
	comp=E,134nm,0.4s						
IKOM	**Komasi**	**1.39**	**360**	*ePg*	**Pg**	**05 19 16.6**	**-0.1**
IKOM				*e*		05 19 17.8	
BMDN	**Meydan**	**1.40**	**51**	*ePg*	**Pg**	**05 19 16.2**	**-0.8**
BMDN				*e*		05 19 42.9	
KCHF	**Cheshme Sefid,**	**1.54**	**345**	*ePg*	**Pg**	**05 19 19.1**	**-0.5**
KCHF				*e*		05 19 43.5	
HSAM	**Samen**	**1.68**	**32**	*ePg*	**Pg**	**05 19 21.3**	**-1.0**
HSAM				*e*		05 19 24.2	
IBZA	**Bozab**	**1.70**	**9**	*ePg*	**Pg**	**05 19 21.6**	**-1.1**
IBZA				*e*		05 19 24.6	
IGHG	**Ghaleghazi**	**1.73**	**333**	*ePn*	**Pb**	**05 19 22.3**	**+0.6**
IGHG				*e*		05 19 59.7	
IVIS	**Veis**	**1.82**	**342**	*ePn*	**Pb**	**05 19 23.8**	**+0.7**
IDHR	**Dehrash**	**2.13**	**334**	*ePn*	**Pn**	**05 19 26.7**	**+1.5**
IDHR				*e*		05 20 04.8	
IALM	**Almabolaq**	**2.14**	**14**	*ePn*	**Pb**	**05 19 28.1**	**-0.5**
ILIN	**Lien**	**2.18**	**348**	*ePn*	**Pb**	**05 19 27.9**	**-1.3**
ILIN				*e*		05 20 08.0	
KHMZ	**Khomeyn**	**2.25**	**64**	*ePn*	**Pb**	**05 19 29.5**	**-0.9**
KHMZ	**Khomeyn**	**2.25**	**64**	*ePn*	**Pb**	**05 19 29.5**	**-0.9**
HAGD	**Aghdareh**	**2.44**	**33**	*ePn*	**Pb**	**05 19 31.6**	**-2.0**
HAGD				*e*		05 20 12.0	
HSRG	**Sareghieh**	**2.53**	**14**	*ePn*	**Pb**	**05 19 34.3**	**-0.9**
BHD	**Baghdad**	**2.69**	**281**	*ePn*	**Pn**	**05 19 33.0**	**+0.4**
BHD				*eSn*	**Sn**	**05 20 07.0**	**+2.1**
JHBN	**Jahan bin**	**2.71**	**101**	*ePn*	**Pn**	**05 19 34.6**	**+1.3**
ASAO	**Ashtian**	**2.73**	**49**	*ePn*	**Pb**	**05 19 36.3**	**-2.3**
ASAO				*eSg*	**Sg**	**05 20 15.3**	**-2.3**
ASAO	**Ashtian**	**2.73**	**49**	*ePn*	**Pb**	**05 19 36.3**	**-2.3**
IPIR	**Pirpir**	**2.84**	**91**	*ePn*	**Pn**	**05 19 35.9**	**+0.9**
IRAZ	**Razeghan**	**3.29**	**37**	*ePn*	**Pb**	**05 19 44.3**	**-3.8**
QABG	**Abgarm-Qazvin**	**3.38**	**30**	*ePn*	**Pn**	**05 19 43.7**	**+1.3**
IKLH	**Kolahrood**	**3.45**	**80**	*ePn*	**Pn**	**05 19 45.4**	**+2.1**
IKLH				*e*		05 19 46.9	
GHVR	**GHOM**	**3.57**	**61**	*ePn*	**Pn**	**05 19 47.2**	**+2.3**
GHVR	**GHOM**	**3.57**	**61**	*ePn*	**Pn**	**05 19 47.2**	**+2.3**
KLNJ	**Kolanjah**	**3.89**	**116**	*ePn*	**Pn**	**05 19 50.3**	**+0.8**
QSDN	**Sirdan**	**3.95**	**20**	*ePn*	**Pn**	**05 19 52.8**	**+2.5**

IDC 28 05:30:57.0±11.0,25.°83S×179.°53E,h485km±122km, mb2.7/2,mb1 3.1/3,mb1mx2.7/25,mbtmp3.8/3,Error ellipse: s-maj=102.1km s-min=44.2km az=26.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**12.56**	**189**	P	P	05 33 42.0	+0.6
	1.0nm,0.3s,baz=4.4,slow=13,SNR=6.4						
URZ				S	S	05 35 54.8	-2.2
	0.3nm,0.3s,baz=77,slow=18,SNR=4.2						
ASAR	**Alice Springs**	**41.34**	**263**	P	P	05 37 59.9	+0.1
	0.4nm,0.4s,baz=88,slow=7.0,SNR=8.9						
WRA	**Warramunga Arr**	**41.89**	**268**	P	P	05 38 03.8	-0.4
	0.4nm,0.4s,baz=104,slow=7.5,SNR=5.4						
NB2	**NORSAR Subarra**	**143.91**	**350**	PKP	PKPab	05 49 35.4	+0.3
	comp=Z,0.5nm,0.5s,baz=13,slow=3.7						
NOA	**NORSAR Array B**	**143.91**	**350**	PKP	PKPab	05 49 35.5	+0.4
	comp=Z,0.5nm,0.6s,baz=18,slow=2.4,SNR=6.0						

PGC 28 05:31:21.6±4.8,50.°72N×138.°89W,h10km,MLSn3.3/6, Mw3.9/6,560km Wsw of Sandspit, Bc West Of Vancouver Island,West of Vancouver Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VIB	**Van Inlet**	**4.67**	**55**	Pn	Pn	05 32 31.8	-0.4
VIB				Sn	Sn	05 33 23.2	-3.2
DIB	**Dawson Inlet,**	**4.68**	**55**	Pn	Pn	05 32 31.9	-0.3
DIB				Sn	Sn	05 33 23.3	-3.2
BNB	**Barry Inlet**	**4.82**	**65**	Pn	Pn	05 32 33.7	-0.4
BNB				Sn	Sn	05 33 26.0	-4.0
NDB	**Naden**	**4.88**	**46**	Pn	Pn	05 32 34.3	-0.7
NDB				Sn	Sn	05 33 29.3	-2.2
MOBC	**Moresby Island**	**4.92**	**58**	Pn	Pg	05 33 32.1	+36
MOBC				Sn	Sg	05 34 25.8	+26
HG3B	**Hotspring**	**5.00**	**65**	Pn	Pn	05 32 36.4	-0.1
HG3B				Sn	Sn	05 33 30.5	-3.7
RUBB	**Prince Rupert**	**6.39**	**52**	Pn	Pn	05 32 57.7	+2.1
RUBB				Sn	Sn	05 34 05.8	-2.8
BBB	**Bella Bella**	**6.89**	**74**	Sn	Sn	05 34 19.7	-1.3
KITB	**Kitimat**	**7.12**	**58**	Pn	Pn	05 33 06.0	+0.4
KITB				Sn	Sn	05 34 25.6	-0.9
BESE	**Bessie Mountai**	**8.22**	**15**	Pn	Pn	05 33 21.9	+1.2
PLBC	**Pleasant Camp**	**8.88**	**8**	Pn	Pn	05 33 31.9	+2.2
PNL	**Peninsula**	**8.98**	**358**	Pn	Pn	05 33 32.3	+1.2
DLBC	**Dease Lake**	**9.28**	**30**	Pn	Pn	05 33 36.5	+1.2
PCA	**Pinnacle**	**9.43**	**356**	Pn	Pn	05 33 38.2	+0.8
SAMH	**Samovar Hills**	**9.49**	**354**	Pn	Pn	05 33 40.0	+1.7
TABL	**Table Mountain**	**9.83**	**353**	Pn	Pn	05 33 43.8	+0.8
YUK7	**Dusty Glacier**	**9.85**	**2**	Pn	Pn	05 33 45.8	+2.6
HYT	**Haines Junctio**	**10.16**	**4**	Pn	Pn	05 33 50.1	+2.7
GRNC	**Granite Creek**	**10.17**	**352**	Pn	Pn	05 33 48.9	+1.3
KIAG	**Kiagna River**	**10.41**	**351**	Pn	Pn	05 33 50.9	-0.1
YUK4	**Talbot Arm**	**10.65**	**1**	Pn	Pn	05 33 58.5	+4.3
YUK3	**Moose Creek**	**11.12**	**356**	Pn	Pn	05 34 02.9	+2.2
YUK2	**White River**	**11.15**	**355**	Pn	Pn	05 34 03.0	+2.1

*TEH **28** 05:44:38.0,32.°74N×47.°44E,h8km,ML3.6*
*THR **28** 05:44:39.2±0.3,32.°66N×47.°52E,h14km±11km,ML3.6*
*ISN **28** 05:44:39.6±1.5,32.°81N×47.

KCHF				*e*Pg		**Pb**	**05 45 08.2**	**-0.1**
KER	**Kermanshah**	**1.65**	**350**	*e*Pg		**Pb**	**05 45 09.8**	**-0.1**
HSAM	**Samen**	**1.73**	**32**	*e*Pg		**Pb**	**05 45 10.9**	**-0.3**
HSAM				*e*			05 45 39.4	
AHWZ	**Ahwaz**	**1.73**	**145**	*e*Pg		**Pb**	**05 45 11.1**	**0.0**
IBZA	**Bozab**	**1.74**	**10**	*e*Pg		**Pb**	**05 45 11.7**	**+0.3**
IGHG	**Ghaleghazi**	**1.75**	**334**	*e*Pn		**Pb**	**05 45 10.8**	**-0.7**
IGHG				*e*			05 45 46.7	
IVIS	**Veis**	**1.84**	**344**	*e*Pn		**Pb**	**05 45 12.4**	**-0.7**
IDHR	**Dehrash**	**2.14**	**335**	*e*Pn		**Pn**	**05 45 16.3**	**+1.3**
IDHR				*e*			05 45 54.9	
IALM	**Almabolaq**	**2.18**	**15**	*e*Pn		**Pb**	**05 45 17.5**	**-1.4**
ILIN	**Lien**	**2.20**	**349**	*e*Pn		**Pn**	**05 45 16.6**	**+0.7**
ILIN				*e*			05 45 54.0	
KHMZ	**Khomeyn**	**2.30**	**64**	*e*Pn		**Pb**	**05 45 19.1**	**-1.8**
KHMZ	**Khomeyn**	**2.30**	**64**	*e*Pn		**Pb**	**05 45 19.1**	**-1.8**
HAGD	**Aghdareh**	**2.48**	**33**	*e*Pn		**Pb**	**05 45 21.6**	**-2.4**
HAGD				*e*			05 46 02.1	
HSRG	**Sareghieh**	**2.57**	**15**	*e*Pn		**Pb**	**05 45 22.9**	**-2.6**
HSRG				*e*			05 46 12.4	
BHD	**Baghdad**	**2.66**	**282**	*e*Pn		**Pn**	**05 45 23.0**	**+1.1**
BHD				*e*Sn		**Sn**	**05 45 56.0**	**+2.2**
JHBN	**Jahan bin**	**2.74**	**100**	*e*Pn		**Pn**	**05 45 24.7**	**+1.4**
JHBN				*e*			05 46 16.3	
ASAO	**Ashtian**	**2.77**	**49**	*e*Pn		**Pb**	**05 45 26.1**	**-3.0**
ASAO				*e*Sg		**Sg**	**05 46 07.4**	**-1.4**
ASAO				IAML			05 46 09.6	
	comp=N,108nm,0.6s							
ASAO	**Ashtian**	**2.77**	**49**	*e*Pn		**Pb**	**05 45 26.1**	**-3.0**
IPIR	**Pirpir**	**2.88**	**90**	*e*Pn		**Pn**	**05 45 27.1**	**+1.9**
IPIR				*e*			05 46 19.7	
ROKH	**ROKH**	**3.03**	**97**	*e*Pn		**Pn**	**05 45 28.3**	**+1.1**
ROKH				*e*			05 46 26.2	
IRAZ	**Razeghan**	**3.33**	**37**	*e*Pn		**Pn**	**05 45 33.1**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.42**	**30**	*e*Pn		**Pn**	**05 45 34.1**	**+1.5**
IKLH	**Kolahrood**	**3.49**	**80**	*e*Pn		**Pn**	**05 45 35.2**	**+1.6**
GHVR	**GHOM**	**3.62**	**61**	*e*Pn		**Pn**	**05 45 36.8**	**+1.6**
GHVR	**GHOM**	**3.62**	**61**	*e*Pn		**Pn**	**05 45 36.8**	**+1.6**
IQOM	**Qom**	**3.64**	**54**	*e*Pn		**Pn**	**05 45 38.0**	**+2.3**
IGAR	**Gharneh**	**3.87**	**94**	*e*Pn		**Pn**	**05 45 40.0**	**+1.3**
KLNJ	**Kolanjah**	**3.91**	**115**	*e*Pn		**Pn**	**05 45 40.7**	**+1.3**
KLNJ				*e*			05 46 55.5	
QSDN	**Sirdan**	**3.99**	**20**	*e*Pn		**Pn**	**05 45 42.6**	**+2.1**
ZNJK	**Zanjan**	**4.03**	**14**	*e*Pn		**Pn**	**05 45 44.0**	**+3.0**
ZNJK	**Zanjan**	**4.03**	**14**	*e*Pn		**Pn**	**05 45 44.0**	**+3.0**
IZEF	**Zefreh**	**4.08**	**87**	*e*Pn		**Pn**	**05 45 43.3**	**+1.5**
IVRN	**Varamin**	**4.18**	**57**	*e*Pn		**Pn**	**05 45 44.1**	**+1.2**
IRAM	**Ramesheh**	**4.25**	**101**	*e*Pn		**Pn**	**05 45 44.9**	**+0.8**
QALM	**Alamut, Qazvin**	**4.50**	**35**	*e*Pn		**Pn**	**05 45 48.9**	**+1.4**
IDMV	**Damavand**	**4.71**	**52**	*e*Pn		**Pn**	**05 45 52.3**	**+1.9**
IFIR	**Firoozkooh**	**5.23**	**55**	*e*Pn		**Pn**	**05 45 58.9**	**+1.4**
ANAR	**Anarak**	**5.27**	**84**	*e*Pn		**Pn**	**05 45 58.1**	**+0.2**
IALA	**Alasht**	**5.51**	**52**	*e*Pn		**Pn**	**05 46 03.4**	**+1.9**
IANJ	**Anjilo**	**5.98**	**61**	*e*Pn		**Pn**	**05 46 09.0**	**+1.2**
YZKH	**Yazd**	**6.01**	**92**	IAML			05 49 15.4	
	comp=N,10nm,0.2s							
KRBR	**Kerman**	**8.40**	**107**	IAML			05 49 22.5	
	comp=N,5.4nm,0.4s							

PGC 28 05:50:22.7±0.0, 62°.61N×127°.90W, h1km, ML3.5/7, 281km Nne of Watson Lk., Yt Nw Territories - Nunavut, Canada, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBC2	**NorthernBC 2**	**3.86**	**135**	Pn	Pn	05 51 21.9	-1.3
NBC2				Sn	Sn	05 52 07.4	-1.7
DLBC	**Dease Lake**	**4.32**	**195**	Pn	Pn	05 51 28.2	-1.2
DLBC				Sn	Sn	05 52 18.1	-2.3
DLBC				Sg	Sg	05 52 36.8	-4.4
NBC3	**NorthernBC 3**	**4.60**	**127**	Sn	Sn	05 52 27.5	-3.8
HYT	**Haines Junctio**	**4.91**	**253**	Pn	Pn	05 51 36.5	-1.1
HYT				Sn	Sn	05 52 31.8	-3.3
HYT				Sg	Sb	05 52 54.4	+5.4
NBC6	**NorthernBC 6**	**5.17**	**138**	Pn	Pn	05 51 39.9	-1.2
NBC6				Sn	Sn	05 52 37.9	-3.5
PLBC	**Pleasant Camp**	**5.19**	**236**	Pn	Pn	05 51 40.6	-0.7
YUK4	**Talbot Arm**	**5.23**	**261**	Pn	Pn	05 51 40.0	-2.0
YUK6	**Outpost Mounta**	**5.24**	**256**	Pn	Pn	05 51 40.6	-1.7
YUK6				Sn	Sn	05 52 39.3	-4.1
BESE	**Bessie Mountai**	**5.30**	**223**	Pn	Pn	05 51 42.0	-0.9
BESE				Sg	Sg	05 53 06.7	-6.0
YUK7	**Dusty Glacier**	**5.32**	**252**	Pn	Pn	05 51 42.7	-0.6
DHRN	**Dharma Camp**	**5.70**	**35**	Pn	Pn	05 51 46.9	-1.5
DHRN				Sn	Sn	05 52 50.1	-4.3
NBC5	**NorthernBC 5**	**5.73**	**151**	Pn	Pn	05 51 47.7	-1.1
YUK3	**Moose Creek**	**5.94**	**268**	Sn	Sn	05 52 54.8	-5.8
YUK3				Sg	Sg	05 53 26.3	-7.0
BVCY	**Beaver Creek**	**6.01**	**274**	Sn	Sn	05 52 58.0	-4.0
BVCY				Sg	Sb	05 53 27.7	+7.2
YUK2	**White River**	**6.12**	**268**	Pn	Pn	05 51 52.3	-1.8
YUK2				Sg	Sg	05 53 31.9	-7.0
YKW3	**Yellowknife Ar**	**6.14**	**85**	Pn	Pn	05 51 52.8	-1.5
YKW3				Sn	Sn	05 52 59.9	-5.2
INK	**Inuvik**	**6.18**	**340**	Pn	Pn	05 51 53.0	-1.9
INK				Sn	Sn	05 53 01.4	-4.7
HILA	**High Level**	**6.72**	**122**	Sn	Sn	05 53 14.0	-5.5
DOT	**Dot Lake**	**7.40**	**285**	Pn	Pn	05 52 10.8	-0.9
KUKN	**Kugluktuk,NWT**	**7.50**	**40**	Pn	Pn	05 52 11.6	-1.4
KUKN				Sn	Sn	05 53 32.9	-5.6
DIB	**Dawson Inlet,**	**9.74**	**196**	Pn	Pn	05 52 42.7	-1.0

*NEIC **28** 05:52:42.9±1.3, 0°.10S±0°.07×123°.2E±0°.1, h122km±5km, mb4.2/21, Error ellipse: s-maj=18.3km s-min=9.5km az=72.0*
*IDC **28** 05:52:44.1±2.4, 0°.13S×123°.13E, h133km±20km, mb3.6/9, mb1 3.8/10, mb1mx3.5/40, mbtmp4.0/10, MS3.4/1, Ms1 3.7/1, ms1mx2.4/34, Error ellipse: s-maj=28.4km s-min=12.5km az=69.0*
*DJA **28** 05:52:45.0±0.3, 0°.3S±3°×123°.3E±°, h104km±5km, M4.5/12, mb4.7/6, mB4.9/3, MLv4.4/12, Mw(mB)4.2/3*
ISC 28 05:52:45.5±0.5, 0°.17S±0°.05×123°.17E±0°.05, h150km, n62, σ1§94/69, mb4.0/18, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.96**	**205**	P	**Pn**	**05 53 05.6**	**-4.3**
LUWI				S	**Sn**	**05 53 21.9**	**-6.7**
LUWI	**Luwuk**	**0.96**	**205**		**Pn**	**05 53 05.6**	**-4.3**
LUWI				Sn	**Sn**	**05 53 22.2**	**-6.4**
KMSI	**Cibinong**	**1.09**	**48**	P	Pn	05 53 07.5	-3.6
KMSI				S	**Sn**	**05 53 26.6**	**-4.1**
MPSI	**Mapaga**	**3.31**	**279**	P	**Pn**	**05 53 33.7**	**-3.1**
MPSI				S	**Sn**	**05 54 13.7**	**-2.8**
SANI	**Sanana**	**3.38**	**124**	P	**Pn**	**05 53 34.2**	**-3.6**
NLAI	**Namlea**	**4.97**	**128**	P	**Pn**	**05 53 57.9**	**-0.7**
BNSI	**Bone**	**5.20**	**216**	P	**Pn**	**05 54 01.7**	**+0.1**
	0.2nm37nm,0.8s						
KAPI	**Kappang**	**5.90**	**215**	P	**Pn**	**05 54 10.8**	**-0.1**
	3.1nm,0.3s,baz=199,slow=18,SNR=3.0						
KAPI				S	**Sn**	**05 55 14.9**	**-2.9**
	3.4nm,0.3s,baz=226,slow=21,SNR=3.1						
KAPI	**Kappang**	**5.90**	**215**	Pn	**Pn**	**05 54 09.0**	**-2.0**
MYLDM	**Lahad Datu**	**7.07**	**319**		**Pn**	**05 54 24.9**	**-1.6**
KBKI	**Kotabaru**	**7.66**	**246**	P	Pn	05 54 41.9	+7.5
KKM	**Kota Kinabalu**	**9.29**	**312**		**Pn**	**05 54 54.9**	**-1.4**
SBUM	**Sibu**	**11.25**	**283**		**Pn**	**05 55 20.4**	**-1.7**
SMPI	**Sarmi**	**15.64**	**97**	P	**P**	**05 56 20.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**17.98**	**172**	P	**Pn**	**05 56 46.0**	**-0.2**
FITZ				IAmb	IAmb	05 56 47.4	
	comp=Z,6.1nm,0.8s						
SDSI	**Sungai Dareh**	**21.75**	**268**	P	**P**	**05 57 27.5**	**+2.1**
WB0	**Warramunga Arr**	**22.37**	**151**	P	**P**	**05 57 31.9**	**+0.4**
WB0				IAmb	IAmb	05 57 32.9	
	comp=Z,4.7nm,0.8s						
WRA	**Warramunga Arr**	**22.50**	**152**	P	**P**	**05 57 33.0**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=330,slow=10,SNR=35						
WRA				ScP	**ScP**	**06 04 47.7**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=331,slow=2.4,SNR=7.6						
WRA	**Warramunga Arr**	**22.50**	**152**	P	**P**	**05 57 32.5**	**-0.2**
WB2	**Warramunga Arr**	**22.50**	**152**	P	**P**	**05 57 33.8**	**+1.1**
WB2				IAmb	IAmb	05 57 34.9	
	comp=Z,9.1nm,1.2s						
WR0	**Warramunga Arr**	**22.61**	**151**	P	**P**	**05 57 34.4**	**+0.7**
QIZ	**Qiongzhong**	**23.13**	**326**	P	**P**	**05 57 37.8**	**-0.8**
GIRL	**Giralia**	**23.98**	**201**	P	**P**	**05 57 47.9**	**+1.7**
AS31	**Alice Springs**	**25.58**	**157**	P	**P**	**05 58 01.1**	**+0.3**
ASAR	**Alice Springs**	**25.58**	**157**	P	**P**	**05 58 01.8**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=342,slow=13,SNR=7.3						
ASAR				PcP	**PcP**	**06 01 28.6**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=342,slow=1.9,SNR=9.9						
ASAR				ScP	**ScP**	**06 04 56.0**	**+2.3**
	comp=Z,0.4nm,0.5s,baz=338,slow=3.3,SNR=4.1						
ASAR	**Alice Springs**	**25.58**	**157**	P	**P**	**05 58 00.5**	**-0.4**
MORW	**Morawa**	**29.54**	**193**	P	**P**	**05 58 36.2**	**+0.2**
MORW				IAmb	IAmb	05 58 56.6	
	comp=Z,17nm,1.5s						
CMAR	**Chiang Mai Arr**	**30.15**	**309**	P	**P**	**05 58 42.8**	**+1.2**
	comp=Z,4.4nm,0.7s,baz=133,slow=7.0,SNR=17						
CMAR				LR	LR	06 13 54.0	
	comp=Z,72nm,18.1s,baz=236,slow=42						
CMAR	**Chiang Mai Arr**	**30.15**	**309**	P	**P**	**05 58 41.8**	**+0.2**
CHTO	**Chiang Mai**	**30.36**	**310**	P	**P**	**05 58 44.5**	**+1.1**
CHTO				IAmb	IAmb	05 58 46.9	
	comp=Z,7.4nm,0.8s						
BBOO	**Buckleboo**	**34.67**	**161**	P	**P**	**05 59 21.3**	**+0.5**
BBOO				IAmb	IAmb	05 59 32.3	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**36.03**	**153**	P	**P**	**05 59 33.5**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=324,slow=11,SNR=4.2						
STKA	**Stephens Creek**	**36.03**	**153**	P	**P**	**05 59 33.3**	**+0.8**
TOO	**Toolangi**	**42.54**	**153**	P	**P**	**06 00 29.7**	**+3.3**
TOO				IAmb	IAmb	06 00 49.9	
	comp=Z,2.8nm,1.1s						
ODAN	**Odare**	**43.66**	**311**	*e*P	**P**	**06 00 37.2**	**+1.4**
TAPN	**Taplejung**	**43.68**	**312**	*e*P	**P**	**06 00 36.1**	**0.0**
	comp=Z,30nm,1.0s						
RAMN	**Ramite**	**44.31**	**310**	*e*P	**P**	**06 00 42.1**	**+1.1**
	comp=Z,22nm,0.6s						
JIRN	**Jiri**	**44.99**	**311**	*e*P	**P**	**06 00 46.9**	**+0.4**
	comp=Z,40nm,0.7s						
GUN	**Gumba**	**45.35**	**311**	*e*P	**P**	**06 00 49.7**	**+0.3**
	comp=Z,35nm,0.6s						
PKI	**Pulchoki**	**45.53**	**310**	*e*P	**P**	**06 00 50.9**	**+0.1**
	comp=Z,8.6nm,0.6s						
KKN	**Kakani**	**45.74**	**311**	*e*P	**P**	**06 00 52.7**	**+0.4**
DMN	**Daman**	**45.78**	**310**	*e*P	**P**	**06 00 53.8**	**+1.1**
GKN	**Gorkha**	**46.34**	**310**	*e*P	**P**	**06 00 57.0**	**+0.1**
KOLN	**Koldanda**	**47.02**	**310**	*e*P	**P**	**06 01 02.6**	**+0.3**
PYUN	**Piuthan**	**47.65**	**310**	*e*P	**P**	**06 01 07.8**	**+0.6**
	comp=Z,43nm,0.7s						
SONM	**Songino Array**	**49.99**	**345**	P	**P**	**06 01 24.4**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=160,slow=8.8,SNR=3.0						
SONM	**Songino Array**	**49.99**	**345**	P	**P**	**06 01 25.4**	**+0.9**
MK31	**Makanchi Array**	**58.84**	**328**	P	**P**	**06 02 28.2**	**-0.1**
MK31				IAmb	IAmb	06 02 28.8	
	comp=Z,1.1nm,0.6s						
MKAR	**Makanchi Array**	**58.84**	**328**	P	**P**	**06 02 27.7**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=117,slow=9.1,SNR=15						
MKAR				PcP	**PcP**	**06 03 15.1**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=142,slow=3.3,SNR=7.7						
MAKZ	**Makanchi**	**59.02**	**328**	P	**P**	**06 02 29.6**	**0.0**
MAKZ				IAmb	IAmb	06 02 31.3	
	comp=Z,2.8nm,1.2s						
KURK	**Kurchatov**	**63.20**	**330**	P	**P**	**06 02 56.6**	**-1.1**
KURK				IAmb	IAmb	06 02 57.7	
	comp=Z,2.5nm,0.6s						
CASY	**Casey**	**66.58**	**186**	P	**P**	**06 03 20.6**	**+1.4**
ABKAR	**Akbulak array**	**72.96**	**322**	P	**P**	**06 03 57.5**	**-1.1**
ATKA	**Atka Island**	**73.70**	**35**	P	**P**	**06 04 03.1**	**+0.3**
MAW	**Mawson**	**78.90**	**200**	P	**P**	**06 04 33.3**	**+1.5**
	comp=Z,1.3nm,0.9s,baz=54,slow=9.3,SNR=3.8						
MAW	**Mawson**	**78.90**	**200**	P	**P**	**06 04 33.3**	**+1.5**
VNDA	**Vanda**	**80.06**	**172**	P	**P**	**06 04 38.2**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=306,slow=3.4,SNR=3.8						
VNDA	**Vanda**	**80.06**	**172**	P	**P**	**06 04 38.9**	**+1.0**
VNDA				IAmb	IAmb	06 04 53.4	
	comp=Z,3.9nm,1.4s						
ARCES	**ARCESS Array B**	**92.84**	**340**	P	**P**	**06 05 41.2**	**+0.4**
	comp=Z,1.4nm,1.0s,baz=78,slow=5.1,SNR=3.9						
ARCES	**ARCESS Array B**	**92.84**	**340**	P	**P**	**06 05 40.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**120.61**	**285**	PKP	**PKPdf**	**06 11 19.9**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=114,slow=1.8,SNR=6.8						
TORD	**Torodi Ar. Bea**	**120.61**	**285**		**PKPdf**	**06 11 20.0**	**-0.6**

*NNC **28** 06:04:26.3±5.8, 44°.51N×76°.47E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=68.1km s-min=40.1km az=156.0*
SOME 28 06:04:31.8, 44°.18N×81°.72E, h10km, 2C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.39**	**277**	*e*P	Pb	06 04 58.1	+0.1
	0.6nm,0.2s						
DJR				*e*S	Sg	06 05 16.9	+0.3
	1.1nm,0.3s						
PDGK	**Podgornoye**	**1.83**	**243**	P	Pb	06 05 05.7	+0.3
	0.6nm,0.3s						
PDGK	**Podgornoye**	**1.83**	**243**	⇑P	Pb	06 05 06.0	+0.6
	0.4nm,0.3s						
PDGK				⇑S	Sg	06 05 30.4	-0.1
	8.1nm,0.6s						
SHLS	**Shalkode**	**1.93**	**239**	*e*P	Pn	06 05 03.3	-1.5
	2.3nm,0.3s						
SHLS				*e*S	Sn	06 05 26.1	-3.2
	4.2nm,0.4s						
KAPS	**Kapalarasan**	**2.01**	**304**	*e*P	Pb	06 05 08.4	-0.1
	1.1nm,0.2s						
KAPS				*e*S	Sg	06 05 35.2	-1.2
	3.7nm,0.5s						
KAPS	**Kapalarasan**	**2.01**	**304**	Pg	Pb	06 05 08.4	-0.1
	1.1nm,0.2s						
KAPS				Lg	Lg	06 05 35.2	
	3.7nm,0.5s						
UZB	**Uzynbulak**	**2.21**	**243**	*e*P	Pb	06 05 12.4	+0.4
	0.4nm,0.2s						
UZB				*e*S	Sg	06 05 41.4	-1.6
	1.9nm,0.7s						
UZB	**Uzynbulak**	**2.21**	**243**	Pg	Pb	06 05 11.4	-0.6
	0.6nm,0.2s						
UZB				Lg	Lg	06 05 40.6	
	2.1nm,0.5s						

PRU 28 06:10:48.6±0.0, 51°.41N×16°.15E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.57**	**171**	*e*Pg	Pg	06 10 59.3	-0.3
KSP				*e*Sg	Sg	06 11 07.3	+0.2
CHVC	**Chvalec**	**0.82**	**184**	*e*PG	Pg	06 11 04.3	-0.1
CHVC				*e*SG	Sg	06 11 15.4	+0.3
	comp=Z,26nm,0.5s						
OSTC	**Ostas**	**0.86**	**177**	*e*PG	Pg	06 11 05.0	0.0
OSTC				*e*SG	Sg	06 11 16.6	+0.6
	comp=Z,38nm,0.4s						
UPC	**Upice**	**0.91**	**186**	*e*PG	Pg	06 11 05.9	-0.1
UPC				*e*SG	Sg	06 11 18.0	+0.3
	comp=Z,102nm,0.8s						
DPC	**Dobruska-Polom**	**1.07**	**174**	*e*PG	Pg	06 11 08.1	-0.9
DPC				*e*SG	Sg	06 11 23.0	+0.2
	comp=Z,42nm,0.3s						
PVCC	**Panska Ves**	**1.33**	**229**	*e*PG	Pn	06 11 14.3	-0.2
PVCC				*e*SG	Sb	06 11 32.4	+0.3
KRLC	**Kraliky**	**1.40**	**163**	*e*PG	Pg	06 11 13.9	-1.4
KRLC				*e*SG	Sg	06 11 33.0	-0.4
	comp=Z,31nm,0.3s						
BRG	**Berggiesshubel**	**1.49**	**250**	PG	Pn	06 11 16.1	-0.5
BRG				SG	Sb	06 11 36.6	0.0
	30nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.73**	**211**	*e*PG	Pn	06 11 20.6	+0.6
GOPC				*e*SG	Sb	06 11 43.6	+0.1
	comp=Z,19nm,0.6s						
PRU	**Pruhonice**	**1.75**	**216**	*e*PG	Pn	06 11 20.6	+0.4
PRU				*e*SG	Sb	06 11 44.2	+0.1
	comp=Z,25nm,0.2s						
MORC	**Moravsky Berou**	**1.86**	**151**	*e*PN	Pn	06 11 19.7	-2.1
MORC				*e*SG	Sn	06 11 46.3	+0.3
CLL	**Collm**	**1.98**	**268**	*e*Pg	Pn	06 11 24.0	+0.7
CLL				*e*Sg	Sb	06 11 51.0	+0.4
	comp=Z,14nm,0.3s						
OKC	**Ostrava-Krasne**	**2.02**	**140**	*e*PG	Pb	06 11 26.5	+0.3
OKC				*e*SG	Sb	06 11 52.1	+0.2
	comp=Z,369nm,0.4s						
VRAC	**Vranov**	**2.12**	**172**	*e*PN	Pn	06 11 24.3	-1.0
VRAC				*e*SG	Sb	06 11 55.6	+0.8
TREC	**Trest**	**2.16**	**192**	*e*SG	Sg	06 11 57.8	-0.1
	comp=Z,23nm,0.2s						
KRUC	**Moravsky**	**2.36**	**176**	*e*SG	Sb	06 12 02.8	+1.3
OJC	**Ojcow**	**2.60**	**116**	*e*Pg	Pg	06 11 37.5	-0.9
OJC				*e*Sg	Sg	06 12 11.8	-0.4
NKC	**Novy Kostel**	**2.63**	**245**	*e*PN	Pn	06 11 32.3	0.0
NKC				*e*PG	Pb	06 11 36.9	+0.4
NKC				*e*SG	Sg	06 12 12.5	-0.4
	comp=Z,22nm,0.5s						
KHC	**Kasperske Hory**	**2.82**	**217**	*e*PN	Pn	06 11 35.2	+0.3
KHC				*e*PG	Pb	06 11 40.4	+0.6
KHC				*e*SN	Sn	06 12 09.0	-0.5
KHC				*e*SG	Sg	06 12 17.8	-1.2
	comp=Z,11nm,0.5s						
MODS	**Modra-Piesok**	**3.13**	**166**	*e*SG	Sg	06 12 29.0	0.0
VYHS	**Vyhne**	**3.40**	**148**	*e*PG	Pg	06 11 52.3	-1.3
VYHS				*e*SG	Sg	06 12 35.4	-2.2
CONA	**Conrad Observa**	**3.49**	**183**	*i* Sg	Sg	06 12 40.1	-0.6
	comp=Z,9.1nm,0.3s						
MOA	**Molln**	**3.77**	**200**	*i* Sg	Sg	06 12 50.7	+1.1
	comp=Z,8.2nm,0.5s						
ARSA	**Arzberg**	**4.18**	**186**	*i* Sg	Sg	06 13 05.1	+2.2
	comp=Z,8.4nm,0.6s						

*JMA **28** 06:16:04.4±0.1, 43°.01N×145°.63E, h44km±1km, M2.7*
*SKHL **28** 06:16:05.0±0.3, 42°.99N×145°.80E, h33km±1km, mb3.8/1*
ISC 28 06:16:04.2±2.9, 43°.0N±0°.1×145°.7E±0°.1, h43km±14km, n11, σ0§37/19, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.37**	**284**	P	**Pn**	**06 16 13.6**	**+0.2**
JKHN				*e*S	**Sn**	**06 16 19.8**	**-0.1**
NEM2	**Nemuro 2**	**0.38**	**11**	P	**Pn**	**06 16 13.6**	**0.0**
NEM2				*e*S	**Sn**	**06 16 20.2**	**0.0**
NMR	**Nemuro--Hokkai**	**0.38**	**9**	*i* P	**Pn**	**06 16 13.6**	**0.0**
NMR				*i* S	**Sn**	**06 16 20.0**	**-0.2**
JAK	**Akkeshi**	**0.70**	**271**	P	**Pn**	**06 16 17.5**	**-0.2**
JAK				*e*S	**Sn**	**06 16 27.8**	**+0.5**
GLVR	**Golovnino**	**0.75**	**353**	*e*P	**Pn**	**06 16 18.9**	**+0.5**
GLVR				*i* S	**Sn**	**06 16 29.2**	**+0.5**
GLVR				A	A	06 16 29.7	
	1µm,0.3s						
JNK	**Nakash**	**0.90**	**311**	P	**Pn**	**06 16 20.3**	**-0.1**
JNK				*e*S	**Sn**	**06 16 31.6**	**-0.7**
JNSB	**Nemuroshibetsu**	**0.91**	**329**	P	**Pn**	**06 16 20.9**	**+0.3**
GRPR	**Tuman**	**1.00**	**5**	*e*P	**Pn**	**06 16 22.0**	**+0.1**
GRPR				*i* S	**Sn**	**06 16 34.2**	**-0.6**
GRPR				A	A	06 16 35.1	
	190nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**1.05**	**8**	*e*P	**Pn**	**06 16 22.6**	**+0.1**
YUK				AMB	AMB	06 16 23.2	
	30nm,0.3s						
YUK				*i* S	**Sn**	**06 16 35.7**	**-0.3**
YUK				A	A	06 16 35.8	
	230nm,0.2s						
YUK				A	A	06 16 35.8	
	110nm,0.2s						
JOB	**Onbets**	**1.33**	**267**	P	**Pn**	**06 16 26.3**	**0.0**
JAR	**Ashorobuto**	**1.41**	**283**	P	**Pn**	**06 16 27.6**	**+0.2**

*HLW **28** 06:22:46.7, 36°.42N×24°.79E, h40km±47km, Md4.5, Ml4.1*
*ATH **28** 06:22:47.3, 36°.48N×24°.23E, h95km±2km, ML3.3/16, Error ellipse: s-maj=2.5km s-min=0.9km az=75.0*
*THE **28** 06:22:49.1, 36°.47N×24°.22E, h84km±1km, ML3.1/9, Error ellipse: s-maj=1.8km s-min=0.5km az=133.0*
ISC 28 06:22:45.9±1.2, 36°.42N±0°.03×24°.25E±0°.03, h108km±8km, n110, σ1§57/124, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHLO	**Agia Marina, M**	**0.29**	**24**	P	**Pn**	**06 23 01.8**	**+0.4**
MHLO	**Agia Marina, M**	**0.29**	**24**	P	**Pn**	**06 23 01.2**	**-0.2**
MHLO				S	**Sn**	**06 23 10.9**	**-2.1**
MHLO				AML	AML	06 23 19.0	
	comp=N,2203µm,0.6s						
MHLO				AML	AML	06 23 19.7	
	comp=E,2847µm,0.5s						
MHLA	**Plaka, Milos I**	**0.35**	**23**	P	**Pn**	**06 23 02.3**	**+0.6**
MHLA				S	**Sn**	**06 23 12.6**	**-0.9**
SERI	**Serifos**	**0.76**	**14**	P	**Pn**	**06 23 05.0**	**+0.3**
SER

ANAF	**Anafi Island**	**1.23**	**93**	P	**Pn**	**06 23 11.2**	**+1.8**
IDI	**Anoyia**	**1.25**	**155**	P	**Pn**	**06 23 11.0**	**+1.2**
IDI	**Anoyia**	**1.25**	**155**	P	**Pn**	**06 23 10.9**	**+1.2**
IDI				AML	AML	06 23 30.2	
	comp=N,1210μm,0.2s						
IDI				AML	AML	06 23 30.9	
	comp=E,1580μm,0.4s						
KNDR	**Palaiochora Ch**	**1.27**	**201**	P	**Pn**	**06 23 12.8**	**+2.8**
IACM	**Heraklion**	**1.30**	**149**	P	**Pn**	**06 23 12.1**	**+1.9**
KSTL	**Kastelli Herak**	**1.30**	**149**	P	**Pn**	**06 23 14.7**	**+4.4**
HRKL	**Herakleio**	**1.31**	**148**	P	**Pn**	**06 23 12.2**	**+1.9**
DID	**Didima**	**1.35**	**323**	P	**Pn**	**06 23 11.6**	**+0.7**
DID	**Didima**	**1.35**	**323**	P	**Pn**	**06 23 11.6**	**+0.7**
DID				AML	AML	06 23 29.2	
	comp=N,667μm,0.4s						
DID				AML	AML	06 23 30.9	
	comp=E,939μm,0.3s						
VLY	**Voula,Athens**	**1.47**	**346**	P	**Pn**	**06 23 13.2**	**+0.9**
VLY	**Voula,Athens**	**1.47**	**346**	P	**Pn**	**06 23 13.1**	**+0.8**
SIVA	**Sivas**	**1.47**	**162**	P	**Pn**	**06 23 14.6**	**+2.3**
SIVA	**Sivas**	**1.47**	**162**	P	**Pn**	**06 23 14.6**	**+2.3**
SIVA				AML	AML	06 23 40.6	
	comp=E,1610μm,0.4s						
SIVA				AML	AML	06 23 40.6	
	comp=N,1113μm,0.4s						
GVDS	**Gavdos**	**1.58**	**185**	P	**Pn**	**06 23 15.8**	**+2.2**
ATHU	**Athens Univers**	**1.58**	**346**	P	**Pn**	**06 23 14.6**	**+1.0**
ATHU	**Athens Univers**	**1.58**	**346**	P	**Pn**	**06 23 14.6**	**+1.0**
GVD	**Gavdhos**	**1.59**	**185**	P	**Pn**	**06 23 16.0**	**+2.3**
GVD	**Gavdhos**	**1.59**	**185**	P	**Pn**	**06 23 15.8**	**+2.1**
GVD				AML	AML	06 23 41.5	
	comp=E,1496μm,0.3s						
GVD				AML	AML	06 23 41.6	
	comp=N,1219μm,0.4s						
NPS	**Neapolis**	**1.60**	**136**	P	**Pn**	**06 23 15.7**	**+1.8**
NPS	**Neapolis**	**1.60**	**136**	P	**Pn**	**06 23 15.2**	**+1.3**
ATH	**Athens Observa**	**1.60**	**345**	P	**Pn**	**06 23 14.9**	**+1.1**
LAST	**Lasithi**	**1.61**	**141**	P	**Pn**	**06 23 15.8**	**+1.8**
LAST	**Lasithi**	**1.61**	**141**	P	**Pn**	**06 23 15.7**	**+1.8**
LAST				AML	AML	06 23 37.2	
	comp=E,437μm,0.3s						
LAST				AML	AML	06 23 37.7	
	comp=N,554μm,0.4s						
KARY	**Karystos**	**1.61**	**5**	P	**Pn**	**06 23 14.8**	**+0.9**
PTL	**Penteli**	**1.65**	**349**	P	**Pn**	**06 23 15.7**	**+1.2**
PTL	**Penteli**	**1.65**	**349**	P	**Pn**	**06 23 15.7**	**+1.2**
DION	**Dionisos Attik**	**1.67**	**351**	P	**Pn**	**06 23 16.0**	**+1.3**
DION	**Dionisos Attik**	**1.67**	**351**	P	**Pn**	**06 23 16.0**	**+1.3**
DION				AML	AML	06 23 35.9	
	comp=E,1098μm,0.6s						
DION				AML	AML	06 23 37.4	
	comp=N,1311μm,0.6s						
VLX	**Vlachokerasia**	**1.77**	**303**	P	**Pn**	**06 23 17.2**	**+1.2**
VLX	**Vlachokerasia**	**1.77**	**303**	P	**Pn**	**06 23 17.3**	**+1.2**
LOUT	**Loutraki**	**1.87**	**327**	P	**Pn**	**06 23 18.3**	**+1.2**
LOUT	**Loutraki**	**1.87**	**327**	P	**Pn**	**06 23 18.3**	**+1.2**
VILL	**Villia**	**1.89**	**337**	P	**Pn**	**06 23 18.6**	**+1.1**
LTK	**Loutraki**	**1.90**	**328**	P	**Pn**	**06 23 18.7**	**+1.2**
LTK	**Loutraki**	**1.90**	**328**	P	**Pn**	**06 23 18.7**	**+1.2**
TRIP	**Tripoli**	**1.93**	**305**	P	**Pn**	**06 23 19.3**	**+1.3**
TRIP	**Tripoli**	**1.93**	**305**	P	**Pn**	**06 23 19.3**	**+1.3**
VIL2	**Platees**	**1.95**	**337**	P	**Pn**	**06 23 18.6**	**+0.4**
ITM	**Ithomi**	**2.01**	**293**	P	**Pn**	**06 23 21.1**	**+2.1**
ITM	**Ithomi**	**2.01**	**293**	P	**Pn**	**06 23 21.4**	**+2.4**
ZKR	**Zakros**	**2.06**	**129**	P	**Pn**	**06 23 21.8**	**+2.2**
ZKR	**Zakros**	**2.06**	**129**	P	**Pn**	**06 23 21.9**	**+2.2**
PYL	**PYLOS**	**2.07**	**284**	P	**Pn**	**06 23 20.9**	**+1.2**
PYL	**PYLOS**	**2.07**	**284**	P	**Pn**	**06 23 20.9**	**+1.2**
GUR	**Goura**	**2.15**	**315**	P	**Pn**	**06 23 21.8**	**+1.0**
GUR	**Goura**	**2.15**	**315**	P	**Pn**	**06 23 21.8**	**+1.0**
KYMI	**Kymi, Euboea I**	**2.21**	**357**	P	**Pn**	**06 23 22.7**	**+1.2**
KYMI	**Kymi, Euboea I**	**2.21**	**357**	P	**Pn**	**06 23 22.6**	**+1.2**
AMT	**Artemida-Makis**	**2.32**	**299**	P	**Pn**	**06 23 25.3**	**+2.3**
AMT	**Artemida-Makis**	**2.32**	**299**	P	**Pn**	**06 23 25.2**	**+2.3**
KLV	**Kalavryta, Ach**	**2.33**	**315**	P	**Pn**	**06 23 24.1**	**+0.9**
KLV	**Kalavryta, Ach**	**2.33**	**315**	P	**Pn**	**06 23 24.0**	**+0.9**
DSF	**Desfina**	**2.41**	**326**	P	**Pn**	**06 23 25.1**	**+0.9**
DSF	**Desfina**	**2.41**	**326**	P	**Pn**	**06 23 25.1**	**+0.9**
CHOS	**Chios island**	**2.43**	**36**	P	**Pn**	**06 23 25.9**	**+1.5**
SMG	**Samos**	**2.43**	**57**	P	**Pn**	**06 23 26.2**	**+1.9**
LKR	**Lokris**	**2.44**	**336**	P	**Pn**	**06 23 25.7**	**+1.3**
LKR	**Lokris**	**2.44**	**336**	P	**Pn**	**06 23 25.6**	**+1.2**
KARP	**Karpathos**	**2.52**	**109**	P	**Pn**	**06 23 27.8**	**+2.3**
DRO	**Drossia**	**2.54**	**308**	P	**Pn**	**06 23 28.4**	**+2.6**
TRIZ	**Trizonia**	**2.60**	**319**	P	**Pn**	**06 23 27.5**	**+0.9**
AXAR	**Agios Charalam**	**2.66**	**332**	P	**Pn**	**06 23 28.7**	**+1.3**
EFP	**Efpalio**	**2.74**	**318**	P	**Pn**	**06 23 29.4**	**+1.1**
RLS	**Riolos of Patr**	**2.76**	**307**	P	**Pn**	**06 23 30.9**	**+2.3**
ANX	**Ano Chora**	**2.85**	**320**	P	**Pn**	**06 23 31.1**	**+1.1**
AGG	**Agios Georgios**	**3.01**	**330**	P	**Pn**	**06 23 33.6**	**+1.6**
AGG	**Agios Georgios**	**3.01**	**330**	P	**Pn**	**06 23 33.6**	**+1.6**
LKD2	**Lefkada island**	**3.71**	**311**	P	**Pn**	**06 23 42.8**	**+1.5**
SLUM	**Salum**	**4.98**	**171**	P	**Pn**	**06 23 59.3**	**+0.8**
	baz=175						
SLUM				AMP		06 24 00.0	
	baz=175						
SLUM				S	**Sn**	**06 24 51.8**	**-3.1**
	baz=175						
SWA2		**7.23**	**172**	P	**Pn**	**06 24 29.2**	**+0.3**
	baz=175						
SWA2				AMP		06 25 00.0	
	baz=175						
SWA2				S	**Sn**	**06 25 44.5**	**-5.0**
	baz=175						
MAKA	**Makarska**	**8.82**	**323**	Sg	Sn	06 26 18.3	-10
HVAR	**Hvar**	**9.03**	**321**	Sg	Sn	06 26 23.4	-10
GLL	**Jalalah**	**9.26**	**135**	P	**Pn**	**06 24 55.3**	**-1.2**
	baz=137						
SUZ	**Suez**	**9.73**	**130**	AMP		06 23 00.0	
	baz=132						
HFRF	**Wahat Farafira**	**9.87**	**158**	P	**Pn**	**06 25 04.2**	**-0.5**
	baz=161						
GRB	**Gharib**	**10.86**	**136**	P	**Pn**	**06 25 16.8**	**-1.4**
	baz=138						

BJI ***28*** *06:23:05.1±0.0, 7°.63S×128°.81E, h122km, mB5.1/46, mb5.2/69*

MOS ***28*** *06:23:07.9±0.9, 7°.36S×128°.40E, h122km, mb5.1/60, Error ellipse: s-maj=8.2km s-min=4.5km az=112.7*

NEIC ***28*** *06:23:11.7±1.5, 7°.45S±0°.06×128°.45E±0°.05, h147km±4km, mb5.2/143, Error ellipse: s-maj=8.8km s-min=7.4km az=160.0*

IDC ***28*** *06:23:12.1±0.6, 7°.41S×128°.46E, h148km±4km, mb4.9/26, mb1 4.9/30, mb1mx4.9/35, mbtmp5.3/30, Error ellipse: s-maj=11.2km s-min=7.5km az=73.0*

DJA ***28*** *06:23:12.3±0.2, 8°S±1°×12°8E±°, h147km±2km, M5.3/73, mB5.8/48, mb5.5/73, MLv5.8/20, Mw(mB)5.3/48, Mwp5.2/6*

GCMT ***28*** *06:23:12.7±0.1, 7°.59S±0°.01×128°.49E±0°.01, h157km±1km, MW5.3/124, Moment Tensor Solution. s97,c136; s124,c211; Duration: 1ꜝ1 Moment tensor: Scale 10¹⁷ Nm; Mrr0.42±.02; Mθθ-0.20±.02; Mϕϕ-0.22±.02; Mrθ-0.91±.01; Mrϕ-0.22±.02; Mθϕ-0.27±.01; Best double couple: M₀1.03900×10¹⁷ NP1:ϕs27.00000°, δ15.00000°, λ48.00000°. NP2:ϕs250.00000°, δ79.00000°, λ100.00000°. Principal axes: T 1.0780, Plg55.0000°, Azm173.0000°; N -0.0790, Plg10.0000°, Azm68.0000°; P -0.9990, Plg33.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

KLM ***28*** *06:23:13.0, 7°.67S×128°.45E, h150km, mb5.7*

ISC 28 06:23:10.4±0.3, 7°.48S±0°.03×128°.44E±0°.03, h139km±2km, h140km; pP-P, n731, σ1ꜝ58/807, mb5.1/151, 8C-13D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.88**	**100**	P		**Pn**	**06 23 57.6**	**+1.8**
SAUI	**Saumlaki**	**2.88**	**100**			**Pn**	**06 23 57.8**	**+2.0**
SAUI				Sn		**Sn**	**06 24 31.1**	**+0.3**
BNDI	**Bandanaira**	**3.28**	**27**	P		**Pn**	**06 24 04.4**	**+3.5**
MSAI	**Masohi**	**4.13**	**7**	P		**Pn**	**06 24 16.6**	**+4.4**
NLAI	**Namlea**	**4.41**	**342**	P		**Pn**	**06 24 20.1**	**+4.2**
SOEI	**Soe**	**4.71**	**241**	P		**Pn**	**06 24 21.9**	**+2.0**
SOEI	**Soe**	**4.71**	**241**			**Pn**	**06 24 21.7**	**+1.8**
BATI	**Baumata**	**5.44**	**240**	P		**Pn**	**06 24 31.8**	**+2.2**
	528nm,0.3s,baz=134,slow=1.5,SNR=158							
BATI				S		**Sn**	**06 25 31.9**	**+0.5**
	872nm,0.3s,baz=95,slow=20,SNR=14							

BATI	**Baumata**	**5.44**	**240**	P	**Pn**	**06 24 31.7**	**+2.1**
	8.4nm25μm3μm,0.6s						
FAKI	**Fak Fak**	**5.91**	**40**	P	**Pn**	**06 24 38.1**	**+2.3**
	2.9nm3μm9μm415nm,0.6s						
FAKI	**Fak Fak**	**5.91**	**40**		**Pn**	**06 24 35.6**	**-0.2**
FAKI				Sn	**Sn**	**06 25 42.1**	**-0.4**
SANI	**Sanana**	**5.92**	**336**	P	**Pn**	**06 24 39.9**	**+4.0**
	1.7nm6μm438nm,1.2s						
MTN	**Manton Dam**	**5.96**	**154**	P	**Pn**	**06 24 36.4**	**-0.1**
	baz=5.8,SNR=1000						
MTN	**Manton Dam**	**5.96**	**154**	Pn	**Pn**	**06 24 36.7**	**+0.3**
MTN				Sn	**Sn**	**06 25 40.1**	**-3.6**
MMRI	**Maumere**	**6.25**	**259**	P	**Pn**	**06 24 42.7**	**+2.3**
	3.1nm3μm8μm673nm,1.2s						
MMRI	**Maumere**	**6.25**	**259**		**Pn**	**06 24 42.4**	**+2.0**
MMRI				Sn	**Sn**	**06 25 52.1**	**+1.5**
KMPI	**Kaimana, Papua**	**6.47**	**54**	P	**Pn**	**06 24 44.4**	**+1.1**
	9.8nm18μm974nm,0.5s						
KDU	**Kakadu**	**6.53**	**143**	P	**Pn**	**06 24 43.9**	**-0.2**
	baz=6.4,SNR=1000						
EDFI	**Ende, Flores**	**6.80**	**259**	P	**Pn**	**06 24 50.0**	**+2.1**
	0.6nm3μm204nm,0.8s						
LBMI	**Labuha**	**6.86**	**352**	P	Pn	06 24 53.8	+5.3
	2.3nm9μm604nm,1.3s						
KNRA	**Kununurra**	**8.16**	**178**	P	**Pn**	**06 25 05.2**	**-0.8**
	baz=8.0,SNR=726						
KNRA	**Kununurra**	**8.16**	**178**	Pn	**Pn**	**06 25 05.2**	**-0.8**
KNRA				Sn	**Sn**	**06 26 30.7**	**-6.0**
BASI	**Baing, Sumba**	**8.23**	**250**	P	**Pn**	**06 25 09.9**	**+2.9**
	4.6nm9μm502nm,0.5s						
RKPI	**Ransiki, Papua**	**8.23**	**44**	P	**Pn**	**06 25 09.8**	**+2.8**
	7.3nm14μm875nm,0.6s						
TNTI	**Ternate**	**8.26**	**353**	P	**Pn**	**06 25 11.8**	**+4.4**
	1.0nm1μm3μm259nm,1.2s						
TNTI	**Ternate**	**8.26**	**353**		**Pn**	**06 25 11.1**	**+3.7**
WSI	**Waingapu**	**8.34**	**254**	P	**Pn**	**06 25 08.9**	**+0.5**
	19nm183μm3μm,0.5s						
LUWI	**Luwuk**	**8.53**	**318**	P	**Pn**	**06 25 14.2**	**+3.2**
	16μm1μm,1.4s						
LUWI	**Luwuk**	**8.53**	**318**		Pn	06 25 16.0	+5.0
BKSI	**Bulukumba**	**8.54**	**284**	P	**Pn**	**06 25 14.3**	**+3.2**
	0.7nm2μm192nm,1.2s						
BNSI	**Bone**	**8.83**	**290**	P	**Pn**	**06 25 19.0**	**+4.0**
	1.0nm3μm196nm,1.4s						
KAPI	**Kappang**	**8.97**	**285**	P	**Pn**	**06 25 20.1**	**+3.2**
	1.8nm,0.3s,baz=121,slow=7.8,SNR=17						
KAPI	**Kappang**	**8.97**	**285**	P	**Pn**	**06 25 15.8**	**-1.1**
KAPI	**Kappang**	**8.97**	**285**	Pn	**Pn**	**06 25 18.6**	**+1.6**
KMSI	**Cibinong**	**9.15**	**331**	P	**Pn**	**06 25 23.2**	**+3.9**
	670nm,1.3s						
WBSI	**Waikabubak, Su**	**9.20**	**256**	P	**Pn**	**06 25 21.1**	**+1.1**
	11μm886nm,0.6s						
SPSI	**Sidrap Palu**	**9.30**	**292**	P	**Pn**	**06 25 24.7**	**+3.4**
	3μm147nm,1.6s						
GTOI	**Gorontalo**	**9.71**	**326**	P	Pn	06 25 33.7	+7.0
	4μm302nm,1.3s						
PLAI	**Plampang**	**10.64**	**262**	P	**Pn**	**06 25 39.8**	**+0.6**
	4μm339nm,0.7s						
WAMI	**Wamena**	**10.83**	**71**	P	**Pn**	**06 25 42.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**10.90**	**194**	P	**Pn**	**06 25 40.0**	**-2.6**
	baz=11,SNR=434						
FITZ	**Fitzroy Crossi**	**10.90**	**194**	Pn	**Pn**	**06 25 41.7**	**-0.9**
FITZ				Sn	**Sn**	**06 27 36.7**	**-6.4**
TWSI	**Taliwang, Sumb**	**11.51**	**263**	P	**Pn**	**06 25 50.5**	**-0.2**
MPSI	**Mapaga**	**11.52**	**312**	P	**Pn**	**06 25 54.7**	**+3.9**
	3μm3μm113nm,1.8s						
SMPI	**Sarmi**	**11.59**	**62**	P	**Pn**	**06 25 51.7**	**-0.1**
	69nm,0.9s						
GENI	**Genyem**	**12.65**	**68**	P	**Pn**	**06 26 06.7**	**+1.2**
	6μm226nm,0.5s						
KBKI	**Kotabaru**	**12.90**	**288**	P	**P**	**06 26 15.1**	**+1.0**
BKB	**Balikpapan**	**13.05**	**298**	P	P	06 26 22.4	+6.6
BKB	**Balikpapan**	**13.05**	**298**		**Pn**	**06 26 11.7**	**+0.9**
JAY	**Jayapura**	**13.17**	**69**	P	**Pn**	**06 26 12.6**	**+0.3**
	9.0nm,0.3s,baz=220,slow=11,SNR=12						
JAY	**Jayapura**	**13.17**	**69**	P	**Pn**	**06 26 13.2**	**+0.9**
	513nm54nm,0.8s						
SMKI	**Samarinda**	**13.20**	**301**	P	**P**	**06 26 18.3**	**+0.9**
WB0	**Warramunga Arr**	**13.52**	**155**	Pn	**Pn**	**06 26 13.6**	**-3.1**
WRAB	**Tennant Creek**	**13.65**	**156**	P	**Pn**	**06 26 16.9**	**-1.5**
WRAB	**Tennant Creek**	**13.65**	**156**	P	**Pn**	**06 26 16.9**	**-1.5**
WRA	**Warramunga Arr**	**13.65**	**156**	P	**Pn**	**06 26 14.9**	**-3.5**
	34nm,0.3s,baz=341,slow=12,SNR=447						
WRA				S	Sn	06 28 37.6	-12
	96nm,0.3s,baz=332,slow=23,SNR=13						
WRA	**Warramunga Arr**	**13.65**	**156**	P	**Pn**	**06 26 15.5**	**-2.9**
WRA	**Warramunga Arr**	**13.65**	**156**	P	**Pn**	**06 26 15.5**	**-2.9**
WB2	**Warramunga Arr**	**13.66**	**156**	P	**Pn**	**06 26 15.3**	**-3.1**
	baz=14						
WB2	**Warramunga Arr**	**13.66**	**156**	Pn	**Pn**	**06 26 16.9**	**-1.5**
WR0	**Warramunga Arr**	**13.75**	**155**	Pn	**Pn**	**06 26 16.7**	**-2.9**
BBKI	**Banjar Baru**	**14.11**	**286**	P	**P**	**06 26 27.2**	**-0.4**
	5μm424nm,1.1s						
JAGI	**Jajag, Banyuwa**	**14.18**	**265**	P	**Pn**	**06 26 26.7**	**+1.5**
	122nm,0.5s						
JAGI	**Jajag, Banyuwa**	**14.18**	**265**		**Pn**	**06 26 25.9**	**+0.7**
DAV	**Davao City (W)**	**14.73**	**349**	‖ *ePKP*	**P**	**06 26 33.9**	**-0.6**
MTKI	**Muara Teweh, K**	**14.98**	**295**	P	**P**	**06 26 38.6**	**+1.4**
	133nm,0.9s						
COEN	**Coen**	**15.84**	**115**	P	**Pn**	**06 26 44.3**	**-1.6**
	baz=16,SNR=102						
COEN	**Coen**	**15.84**	**115**		**Pn**	**06 26 45.1**	**-0.7**
COEN				IAmb	IAmb	06 26 49.8	
	comp=Z,153nm,0.7s						
MBWA	**Marble Bar**	**16.00**	**211**	Pn	**Pn**	**06 26 47.3**	**-0.4**
MYLDM	**Lahad Datu**	**16.01**	**321**	P	**P**	**06 26 53.0**	**+4.4**
PSA00	**Pilbara Seismi**	**16.29**	**210**	P	**P**	**06 26 51.8**	**+0.1**
PSA00				IAmb	IAmb	06 26 55.1	
	comp=Z,125nm,0.7s						
PSA00	**Pilbara Seismi**	**16.29**	**210**		**Pn**	**06 26 50.4**	**-0.9**
PSA00				IAmb	IAmb	06 27 07.6	
	comp=Z,70nm,1.0s						
NGJI	**Ngawi**	**16.84**	**269**	P	**Pn**	**06 26 58.9**	**+0.9**
	comp=Z,88nm,1.6s						
QIS	**Mount Isa**	**16.91**	**141**	P	**P**	**06 26 58.6**	**0.0**
	baz=17,SNR=244						
AS31	**Alice Springs**	**16.93**	**163**	P	**Pn**	**06 26 59.7**	**+0.6**
ASAR	**Alice Springs**	**16.93**	**163**	P	**P**	**06 26 57.5**	**-1.4**
	comp=Z,102nm,0.3s,baz=343,slow=10.0,SNR=1294						
ASAR				S	S	06 29 49.8	-18
	comp=Z,12nm,0.3s,baz=334,slow=17,SNR=4.3						
ASAR				ScP	**ScP**	**06 34 57.3**	**-2.3**
	comp=Z,2.1nm,0.3s,baz=316,slow=2.1,SNR=4.9						
ASAR	**Alice Springs**	**16.93**	**163**	P	**P**	**06 26 58.9**	**+0.1**
ASAR	**Alice Springs**	**16.93**	**163**	P	**P**	**06 26 58.9**	**+0.1**
SPMM	**Sapulut**	**17.01**	**315**	P	**Pn**	**06 27 05.0**	**+4.9**
WOJI	**Wonogiri, Jawa**	**17.36**	**268**	P	**P**	**06 27 03.0**	**-0.6**
WRKA	**Warakurna**	**17.46**	**180**	P	**P**	**06 27 04.5**	**-0.2**
	baz=17,SNR=1000						
SMRI	**Semarang**	**17.86**	**270**	P	**Pn**	**06 27 09.8**	**-0.5**
KKM	**Kota Kinabalu**	**18.14**	**317**	P	**Pn**	**06 27 14.6**	**+0.9**
KKM				IAmb	IAmb	06 27 23.3	
	comp=Z,257nm,1.2s						
PMG	**Port Moresby**	**18.62**	**97**	P	**P**	**06 27 17.4**	**+0.1**
	comp=Z,10nm,0.3s,baz=137,slow=2.2,SNR=9.0						
PMG	**Port Moresby**	**18.62**	**97**	P	**P**	**06 27 17.9**	**+0.6**
PMG				pmax	pmax		
	comp=Z,225nm,1.0s						
PMG	**Port Moresby**	**18.62**	**97**	P	**P**	**06 27 17.9**	**+0.6**
PMG				IAmb	IAmb	06 27 23.8	
	comp=Z,225nm,0.9s						
MTSU	**Mount Surprise**	**18.74**	**126**	P	**Pn**	**06 27 20.1**	**-0.6**
	baz=19,SNR=155						
SBUM	**Sibu**	**18.95**	**301**	P	**Pn**	**06 27 24.2**	**+1.1**
SBUM				IAmb	IAmb	06 27 26.7	
	comp=Z,160nm,1.1s						
SBUM	**Sibu**	**18.95**	**301**	P	**Pn**	**06 27 25.0**	**+1.9**
KSM	**Kuching**	**20.15**	**295**	P	**P**	**06 27 34.6**	**+0.7**
KSM				IAmb	IAmb	06 27 38.9	
	comp=Z,87nm,0.6s						
KSM	**Kuching**	**20.15**	**295**	P	Pn	06 27 36.0	-1.2
GIRL	**Giralia**	**20.36**	**221**	P	Pn	06 27 38.1	-1.4
	baz=20,SNR=43						
GIRL	**Giralia**	**20.36**	**221**	P	Pn	06 27 38.2	-1.3
CISI	**Cisompet, Garu**	**20.45**	**268**	P	**P**	**06 27 35.0**	**-2.2**
CISI	**Cisompet, Garu**	**20.45**	**268**	P	**P**	**06 27 35.0**	**-2.2**
CISI				IAmb	IAmb	06 27 40.1	
	comp=Z,99nm,0.8s						
TPI	**Tanjungpandan**	**21.22**	**282**	P	**P**	**06 27 47.1**	**+1.7**
	comp=Z,90nm,1.0s						
MEEK	**Meekatharra**	**21.22**	**205**	P	**P**	**06 27 45.8**	**+0.4**
	baz=21,SNR=138						
CTA	**Charters Tower**	**21.34**	**128**	P	**P**	**06 27 48.0**	**+1.4**
	comp=Z,88nm,0.7s,baz=304,slow=12,SNR=116						
CTAO	**Charters Tower**	**21.34**	**128**	P	**P**	**06 27 47.6**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,124nm,0.8s						
CTAO	**Charters Tower**	**21.34**	**128**	P	**P**	**06 27 47.6**	**+1.0**
CTAO				IAmb	IAmb	06 27 49.1	
	comp=Z,124nm,0.8s						
CBJI	**Citeko**	**21.45**	**271**	P	**P**	**06 27 46.5**	**-1.4**
	comp=Z,128nm,0.8s						
TGY	**Tagaytay City**	**22.69**	**341**	P	**P**	**06 28 01.7**	**+1.3**
	comp=Z,404nm,0.4s,baz=174,slow=4.5,SNR=17						
FORT	**Forrest**	**23.19**	**181**	P	**P**	**06 28 05.5**	**+0.6**
	baz=23,SNR=320						
FORT	**Forrest**	**23.19**	**181**	P	**P**	**06 28 05.9**	**+1.1**
QLP	**Quilpie**	**24.22**	**144**	P	**P**	**06 28 15.2**	**+0.9**
	baz=24,SNR=284						
MORW	**Morawa**	**24.45**	**207**	P	**P**	**06 28 17.3**	**+0.9**
	baz=24,SNR=316						
MORW	**Morawa**	**24.45**	**207**	P	**P**	**06 28 17.3**	**+0.9**
KMBL	**Kambalda**	**24.55**	**194**	P	**P**	**06 28 17.9**	**+0.7**
	baz=24,SNR=213						
LHSI	**Lahat**	**25.05**	**277**	P	**P**	**06 28 24.6**	**+2.6**
	comp=Z,49nm,0.9s						
BLDU	**Ballidu**	**25.51**	**204**	P	**P**	**06 28 26.3**	**+0.4**
	baz=26,SNR=245						
KLBR	**Kellerberrin**	**25.98**	**201**	P	**P**	**06 28 31.1**	**+0.9**
	baz=26,SNR=87						
BBOO	**Buckleboo**	**26.18**	**165**	P	**P**	**06 28 32.4**	**+0.4**
	baz=26,SNR=666						
BBOO	**Buckleboo**	**26.18**	**165**	P	**P**	**06 28 32.6**	**+0.6**
GUMO	**Guam**	**26.54**	**38**	P	**P**	**06 28 35.3**	**0.0**
	comp=Z,30nm,0.4s,baz=196,slow=6.3,SNR=5.5						
GUMO	**Guam**	**26.54**	**38**	P	**P**	**06 28 35.1**	**-0.2**
GUMO				pmax	pmax		
	comp=Z,70nm,0.9s						
GUMO	**Guam**	**26.54**	**38**	P	**P**	**06 28 35.1**	**-0.2**
GUMO				IAmb	IAmb	06 28 36.1	
	comp=Z,70nm,0.8s						
MUN	**Mundaring**	**26.91**	**203**	P	**P**	**06 28 39.1**	**+0.5**
	baz=27,SNR=29						
STKA	**Stephens Creek**	**27.20**	**155**	P	**P**	**06 28 41.7**	**+0.6**
	comp=Z,207nm,0.5s,baz=327,slow=9.3,SNR=738						
STKA	**Stephens Creek**	**27.20**	**155**	P	**P**	**06 28 41.7**	**+0.6**
	baz=27,SNR=489						
STKA	**Stephens Creek**	**27.20**	**155**	P	**P**	**06 28 42.0**	**+0.9**
STKA				pmax	pmax		
	comp=Z,49nm,0.7s						
STKA	**Stephens Creek**	**27.20**	**155**	P	**P**	**06 28 42.0**	**+0.9**
STKA				IAmb	IAmb	06 28 43.0	
	comp=Z,48nm,0.7s						
NWAO	**Narrogin (SRO)**	**27.38**	**201**	P	**P**	**06 28 43.3**	**+0.7**
	comp=Z,129nm,0.6s,baz=36,slow=7.5,SNR=116						
NWAO	**Narrogin (SRO)**	**27.38**	**201**	P	**P**	**06 28 43.4**	**+0.7**
	baz=27,SNR=82						
NWAO	**Narrogin (SRO)**	**27.38**	**201**	P	**P**	**06 28 43.6**	**+0.9**
NWAO				pmax	pmax		
	comp=Z,111nm,0.7s						
NWAO	**Narrogin (SRO)**	**27.38**	**201**	P	**P**	**06 28 43.6**	**+0.9**
NWAO	**Narrogin (SRO)**	**27.38**	**201**	P	**P**	**06 28 43.6**	**+0.9**
HTT	**Hallett**	**27.59**	**161**	P	**P**	**06 28 45.4**	**+0.7**
	baz=28,SNR=144						
SDSI	**Sungai Dareh**	**27.70**	**282**	P	**P**	**06 28 47.0**	**+1.2**
	comp=Z,14nm,0.8s						
EIDS	**Eidsvold**	**27.99**	**132**	P	**P**	**06 28 48.2**	**-0.1**
	baz=28,SNR=6.9						
EIDS	**Eidsvold**	**27.99**	**132**	P	**P**	**06 28 48.1**	**-0.2**
EIDS				IAmb	IAmb	06 28 49.3	
	comp=Z,49nm,1.1s						
CMSA	**Cobar Meteorol**	**28.85**	**148**	P	**P**	**06 28 56.8**	**+1.0**
	baz=29,SNR=254						
RKGY	**Rocky Gully**	**29.00**	**200**	P	**P**	**06 28 59.1**	**+2.1**
	baz=29,SNR=55						
IPM	**Ipoh**	**29.82**	**293**	P	**P**	**06 29 05.0**	**+0.4**
IPM	**Ipoh**	**29.82**	**293

SLVN IAmb IAmb 06 30 13.3
comp=Z,37nm,1.0s
MOO Moorlands 38.56 158 P **P** **06 30 22.0 +2.5**
baz=38,SNR=11
CM31 Chiang Mai Arr 38.87 312 P **P** **06 30 23.8 +1.3**
CMAR Chiang Mai Arr 38.87 312 P **P** **06 30 23.4 +1.0**
comp=Z,19nm,1.1s,baz=143,slow=7.0,SNR=49
CMAR PcP **PcP** **06 32 31.8 +1.1**
comp=Z,4.0nm,0.7s,baz=163,slow=4.2,SNR=5.2
CMAR ScP **ScP** **06 36 05.3 -0.9**
comp=Z,5.9nm,0.8s,baz=160,slow=3.2,SNR=14
CMAR Chiang Mai Arr 38.87 312 P **P** **06 30 23.1 +0.6**
TAU Tasmania Unive 39.01 158 P **P** **06 30 25.4 +2.1**
TAU pmax pmax
comp=Z,97nm,1.3s
TAU Tasmania Unive 39.01 158 P **P** **06 30 25.4 +2.1**
TAU IAmb IAmb 06 30 26.8
comp=Z,97nm,1.2s
CHTO Chiang Mai 39.09 312 P **P** **06 30 24.9 +0.6**
CHTO pmax pmax
comp=Z,34nm,0.9s
CHTO Chiang Mai 39.09 312 P **P** **06 30 24.9 +0.6**
CHTO IAmb IAmb 06 30 27.5
comp=Z,34nm,0.9s
DZM Mont Dzumac 39.37 116 P **P** **06 30 27.3 +0.5**
DZM IAmb IAmb 06 30 28.5
comp=Z,51nm,0.8s
GYA Guiyang 39.80 329 ⇓P **P** **06 30 31.0 +0.8**
GYA pP pP 06 31 02.0 +2.4
GYA sP sP 06 31 14.0 -0.9
GYA PP **PnPn** **06 32 08.0 -1.3**
GYA PcP **PcP** **06 32 35.0 +1.3**
GYA ScP **ScP** **06 36 09.5 -0.3**
GYA S **S** **06 36 19.3 -5.0**
GYA pmax pmax
comp=Z,40nm,1.1s
GYA LR LR
comp=Z,210nm,22.8s
GYA LR LR
comp=Z,170nm,21.9s
GYA LR LR
comp=Z,120nm,22.5s
WHN Wuhan 40.15 341 ⇓P **P** **06 30 33.8 +1.0**
WHN pP **pP** **06 31 02.5 +0.3**
WHN ScP **ScP** **06 36 10.5 -0.3**
WHN S **S** **06 36 25.8 -3.2**
WHN pmax pmax
comp=Z,200nm,1.1s
NJ2 Nanjing 40.36 347 ⇓*i*P **P** **06 30 35.5 +1.0**
NJ2 sP **pwP** **06 31 13.3 +3.1**
NJ2 ScP **ScP** **06 36 10.8 -0.8**
NJ2 pmax pmax
comp=Z,39nm,1.1s
JNU Nakatsue 40.44 3 P **P** **06 30 35.6 +0.4**
JNU IAmb IAmb 06 30 36.5
comp=Z,35nm,1.0s
KMI Kunming 40.94 323 ⇓*i*P **P** **06 30 41.3 +1.6**
KMI pP pP 06 31 07.5 -2.0
KMI sP sP 06 31 21.0 -3.7
KMI S **S** **06 36 38.3 -3.1**
KMI pmax pmax
comp=Z,50nm,0.9s
KMI pmax pmax
comp=Z,110nm,3.6s
KMI LR LR
comp=Z,280nm,17.1s
KMI LR LR
comp=Z,250nm,17.1s
KMI LR LR
comp=Z,240nm,17.8s
ENH Enshi 41.71 335 P **P** **06 30 45.6 -0.1**
TJN Taejon 43.63 359*de*P **P** **06 31 01.8 +0.8**
KSAR Wonju Array Be 44.69 359 P **P** **06 31 09.9 +0.5**
KSAR Wonju Array Be 44.69 359 P **P** **06 31 09.9 +0.5**
KSRS Korea Array 44.70 359 P **P** **06 31 10.3 +0.8**
comp=Z,4.6nm,0.5s,baz=180,slow=10,SNR=33
KSRS pP **pP** **06 31 42.6 +3.1**
comp=Z,4.2nm,0.7s,baz=185,slow=9.3,SNR=5.7
KSRS ScP **ScP** **06 36 27.7 -1.3**
comp=Z,5.5nm,1.0s,baz=177,slow=4.2,SNR=12
MJAR Matsushiro Arr 44.73 11 P **P** **06 31 08.4 -1.5**
comp=Z,27nm,0.9s,baz=191,slow=9.5,SNR=35
MJAR ScP **ScP** **06 36 27.3 -2.0**
comp=Z,11nm,0.7s,baz=188,slow=5.0,SNR=15
MJAR Matsushiro Arr 44.73 11 P **P** **06 31 09.5 -0.3**
MJAR pmax pmax
comp=Z,6.0nm,0.5s
MJAR Matsushiro Arr 44.73 11 P **P** **06 31 09.5 -0.3**
MAJO Matsushiro 44.73 11 P **P** **06 31 09.2 -0.7**
MAJO pmax pmax
comp=Z,49nm,1.2s
MAJO Matsushiro 44.73 11 P **P** **06 31 09.2 -0.7**
MAJO IAmb IAmb 06 31 10.1
comp=Z,48nm,1.2s
MAT Matsushiro 44.73 11 P **P** **06 31 08.5 -1.4**
MAT S **S** **06 37 30.6 -5.6**
TIA Tai'an 44.74 347 P **P** **06 31 09.8 -0.1**
TIA pmax pmax
comp=Z,24nm,1.2s
KS19 Wonju Array Si 44.74 359 P **P** **06 31 10.9 +1.1**
INCN Inchon 44.76 358 P **P** **06 31 09.9 -0.1**
INCN pmax pmax
comp=Z,51nm,1.4s
INCN Inchon 44.76 358 P **P** **06 31 09.9 -0.1**
CD2 Chengdu 44.90 329⇑*i*P **P** **06 31 12.0 +0.7**
CD2 sP sP 06 31 53.8 -2.6
CD2 S **S** **06 37 42.3 +3.5**
CD2 ScS **ScS** **06 40 54.8 +0.4**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,170nm,7.2s
CD2 LR LR
comp=Z,370nm,16.7s
CD2 LR LR
comp=Z,370nm,17.6s
CD2 LR LR
comp=Z,270nm,14.7s
XAN Xi'an 45.24 337 P **P** **06 31 13.5 -0.5**
XAN PP **PP** **06 33 00.3 -2.4**
XAN S **S** **06 37 39.0 -4.7**
XAN SS **ScS** **06 41 00.5 +4.0**
XAN pmax pmax
comp=Z,65nm,1.0s
XAN LR LR
comp=Z,210nm,15.7s
XAN LR LR
comp=Z,180nm,13.7s
XAN LR LR
comp=Z,290nm,18.1s
XAN Xi'an 45.24 337 P **P** **06 31 13.4 -0.5**
XAN pmax pmax
comp=Z,44nm,0.9s
XAN Xi'an 45.24 337 P **P** **06 31 13.4 -0.5**
XAN IAmb IAmb 06 31 14.8
comp=Z,44nm,0.9s
DL2 Dalian 46.58 353 P **P** **06 31 24.8 +0.6**
DL2 pmax pmax
comp=Z,40nm,1.1s
SHL Shillong 48.40 314 *e*P **P** **06 31 39.0 +0.2**
SHL *e*S **ScP** **06 36 35.0 -10**
SHL Shillong 48.40 314 P **P** **06 31 38.4 -0.4**
SHL pmax pmax
comp=Z,35nm,1.0s
SHL Shillong 48.40 314 P **P** **06 31 38.4 -0.4**
SHL IAmb IAmb 06 31 41.1
comp=Z,35nm,1.0s
BJT Baijiatuau 48.60 347 P **P** **06 31 40.3 +0.5**
BJT pmax pmax
comp=Z,59nm,1.1s
BJT Baijiatuau 48.60 347 P **P** **06 31 40.3 +0.5**
BJT IAmb IAmb 06 31 41.3
comp=Z,59nm,1.1s
BJI Beijing 48.62 347 P **P** **06 31 40.3 +0.3**
BJI pP **pP** **06 32 10.5 -0.2**
BJI sP **sP** **06 32 27.3 +1.6**
BJI PcP **PcP** **06 33 04.5 +1.1**
BJI PP **PP** **06 33 33.0 -1.3**
BJI ScP **ScP** **06 36 44.5 -0.8**
BJI pmax pmax
comp=Z,49nm,1.0s
BJI pmax pmax
comp=Z,170nm,3.5s
BJI LR LR
comp=Z,140nm,18.3s
BJI LR LR
comp=Z,99nm,11.5s
BJI LR LR
comp=Z,150nm,25.6s
LZH Lanzhou 49.11 334 ⇑P **P** **06 31 45.8 +1.7**
LZH pP pwP 06 32 18.5 -1.7
LZH PP **PP** **06 33 38.5 -0.7**
LZH S **S** **06 38 33.5 -5.3**
LZH sS sS 06 39 26.8 -6.0
LZH SS **SS** **06 42 10.0 -2.0**
LZH pmax pmax
comp=Z,43nm,1.2s
LZH pmax pmax
comp=Z,150nm,4.9s
LZH LR LR
comp=Z,220nm,16.3s
LZH LR LR
comp=Z,210nm,16.8s
LZH LR LR
comp=Z,230nm,17.5s
MSVF Nonsavu 49.34 107 P **P** **06 31 48.1 +2.0**
MSVF pmax pmax
comp=Z,45nm,0.9s
MSVF Nonsavu 49.34 107 P **P** **06 31 48.1 +2.0**
MSVF IAmb IAmb 06 31 48.9
comp=Z,45nm,0.8s
VLA Vladivostok 50.45 3⇓*e*P **P** **06 31 55.6 +1.8**
VLA pmax pmax
comp=Z,33nm,0.8s
DCZ Deep Cove 50.48 145 P **P** **06 31 55.1 +1.0**
DCZ IAmb IAmb 06 31 56.7
comp=Z,73nm,1.3s
HHC Hu-ho-hao-te 50.53 343 *e*P **P** **06 31 56.5 +1.9**
HHC PP **PP** **06 33 55.0 +3.1**
HHC S **S** **06 38 59.8 +1.6**
HHC SS **SS** **06 42 33.0 -1.3**
HHC pmax pmax
comp=Z,33nm,1.0s
HHC pmax pmax
comp=Z,97nm,7.5s
HHC LR LR
comp=Z,120nm,13.7s
HHC LR LR
comp=Z,140nm,12.9s
HHC LR LR
comp=Z,140nm,15.7s
PYZ Puysegur Point 50.64 146 P **P** **06 31 56.0 +0.7**
FOZ Fox Glacier 50.96 142 P **P** **06 31 58.8 +1.1**
MLZ Mavora Lakes 50.98 145 P **P** **06 31 58.8 +0.9**
MLZ IAmb IAmb 06 31 59.6
comp=Z,42nm,0.7s
ERM Erimo 51.06 14⇑*e*P **P** **06 31 59.3 +0.9**
ERM pmax pmax
comp=Z,11nm,0.7s
ERM Erimo 51.06 14 P **P** **06 31 59.1 +0.8**
WHZ Wether Hill Ro 51.18 145 P **P** **06 32 00.3 +1.0**
WKZ Wanaka 51.19 144 P **P** **06 32 00.5 +1.0**
WKZ IAmb IAmb 06 32 15.6
comp=Z,26nm,0.7s
QRZ Quartz Range 51.34 137 P **P** **06 32 02.7 +2.1**
LSA Lhasa 51.49 318 P **P** **06 32 04.2 +1.8**
LSA pmax pmax
comp=Z,22nm,0.9s
LSA Lhasa 51.49 318 P **P** **06 32 04.2 +1.8**
USA0B Ussuriysk Arra 51.53 3 P **P** **06 32 02.4 +0.5**
USA0B pmax pmax
comp=Z,42nm,1.5s
USA0B Ussuriysk Arra 51.53 3 P **P** **06 32 02.4 +0.5**
USRK Ussuriysk Ar. 51.53 3 P **P** **06 32 01.9 0.0**
comp=Z,5.6nm,0.5s,baz=183,slow=6.9,SNR=25
USRK ScP **ScP** **06 36 56.2 -1.6**
comp=Z,3.8nm,0.9s,baz=198,slow=5.6,SNR=6.2
LBZ Lake Benmore 51.64 142 P **P** **06 32 03.9 +1.1**
LBZ IAmb IAmb 06 32 04.3
comp=Z,64nm,0.8s
RPZ Rata Peaks 51.82 141 P **P** **06 32 05.1 +1.0**
comp=Z,337nm,0.9s,baz=279,slow=2.4,SNR=209
RPZ Rata Peaks 51.82 141 P **P** **06 32 05.6 +1.4**
MDJ Mudanjiang 51.86 1 P **P** **06 32 05.5 +1.2**
MDJ pmax pmax
comp=Z,160nm,1.5s
MDJ Mudanjiang 51.86 1 P **P** **06 32 05.0 +0.7**
MDJ IAmb IAmb 06 32 07.3
comp=Z,62nm,1.4s
HIZ Hauiti 51.94 134 P **P** **06 32 07.7 +2.5**
HIZ IAmb IAmb 06 32 08.4
comp=Z,131nm,1.3s
THZ Tophouse 52.03 138 P **P** **06 32 06.5 +0.6**
THZ IAmb IAmb 06 32 08.9
comp=Z,56nm,0.8s
NNZ Nelson 52.10 138 P **P** **06 32 07.1 +0.9**
LTZ Lake Taylor 52.12 140 P **P** **06 32 07.5 +1.1**
LTZ IAmb IAmb 06 32 08.0
comp=Z,34nm,1.0s
OXZ Oxford 52.24 140 P **P** **06 32 07.7 +0.5**
ODZ Otahua Downs 52.27 143 P **P** **06 32 08.4 +0.9**
ODZ IAmb IAmb 06 32 09.3
comp=Z,32nm,0.9s
ODAN Odare 52.41 312 *e*P **P** **06 32 09.2 +0.2**
TAPN Taplejung 52.46 313 *e*P **P** **06 32 08.8 -0.6**
TUWZ Tuamarina 52.57 138 P **P** **06 32 10.2 +0.5**
BSWZ Blackbirch Sta 52.66 138 P **P** **06 32 10.2 -0.1**
KHZ Kahutara 52.76 139 P **P** **06 32 11.3 +0.2**
TEY Ternei 52.78 7⇑*e*P **P** **06 32 11.3 +0.2**
TEY pmax pmax
comp=E,10.0nm,0.7s
TEY pmax pmax
comp=N,10.0nm,0.9s
TEY pmax pmax
comp=Z,20nm,0.9s
MQZ McQueen's Vall 52.81 141 P **P** **06 32 12.4 +0.9**
CMWZ Cape Campbell 52.90 138 P **P** **06 32 12.7 +0.6**
MCQ Macquarie Isla 52.90 158 P **P** **06 32 12.5 +0.6**
baz=53,SNR=6.3
MCQ Macquarie Isla 52.90 158 P **P** **06 32 12.6 +0.8**
MCQ pmax pmax
comp=Z,184nm,0.9s
MCQ Macquarie Isla 52.90 158 P **P** **06 32 12.6 +0.8**
ASAJ Asahikawa 52.92 13 P **P** **06 32 12.4 +0.2**
ASAJ pmax pmax
comp=Z,18nm,0.8s
JKA Kamikawa-asahi 52.92 13 P **P** **06 32 12.4 +0.2**
SNZO South Karori 53.03 137 P **P** **06 32 13.5 +0.4**
RAMN Ramite 53.04 312 *e*P **P** **06 32 14.2 +0.5**
BHW Baring Head 53.19 137 P **P** **06 32 14.4 +0.2**
BKZ Black Stump Fm 53.38 134 P **P** **06 32 16.5 +0.8**
MSWZ Moikau Station 53.44 137 P **P** **06 32 15.9 -0.3**
URZ Urewera 53.47 133 P **P** **06 32 16.7 +0.3**
comp=Z,22nm,0.5s,baz=269,slow=3.3,SNR=36
URZ Urewera 53.47 133 P **P** **06 32 16.8 +0.4**
URZ IAmb IAmb 06 32 17.1
comp=Z,26nm,0.6s
PLWZ Palliser 53.52 137 P **P** **06 32 16.8 +0.1**
GTA Gaotai 53.66 333 *e*P **P** **06 32 19.3 +1.5**
GTA pP pP 06 32 47.5 -1.7
GTA sP sP 06 33 03.0 -1.1
GTA ScP **ScP** **06 37 07.0 -0.4**
GTA S **S** **06 39 38.0 -3.0**
GTA sS sS 06 40 35.5 +0.9
GTA SS **SS** **06 43 26.0 +2.2**
GTA pmax pmax
comp=Z,49nm,1.2s
GTA pmax pmax
comp=Z,130nm,8.6s
GTA LR LR
comp=Z,110nm,15.8s
GTA LR LR
comp=Z,99nm,15.5s
GTA LR LR
comp=Z,160nm,15.1s
JIRN Jiri 53.74 312 *e*P **P** **06 32 19.1 +0.2**
BFZ Birch Farm 53.81 136 P **P** **06 32 18.7 -0.2**
BFZ IAmb IAmb 06 32 20.5
comp=Z,48nm,1.0s
MXZ Matakaoa Point 54.10 131 P **P** **06 32 21.4 +0.5**
GUN Gumba 54.11 312 *e*P **P** **06 32 21.7 +0.1**
comp=Z,79nm,0.7s
PKI Pulchoki 54.27 312 *e*P **P** **06 32 22.4 -0.3**
comp=Z,61nm,0.9s
KKN Kakani 54.48 312 *e*P **P** **06 32 24.1 0.0**
comp=Z,86nm,1.0s
DMN Daman 54.51 312 *e*P **P** **06 32 24.5 +0.1**
GKN Gorkha 55.08 312 *e*P **P** **06 32 28.3 0.0**
HYB Hyderabad 55.14 297 *i* P **P** **06 32 26.0 -2.8**
YSS Yuzh-Sakhalins 55.66 12⇑*e*P **P** **06 32 31.9 0.0**
YSS *e* 06 33 30.0
YSS pmax pmax
comp=Z,40nm,0.6s
YSS Yuzh-Sakhalins 55.66 12 P **P** **06 32 32.1 +0.2**
YSS IAmb IAmb 06 32 33.6
comp=Z,35nm,0.5s
KOLN Koldanda 55.72 311 *e*P **P** **06 32 33.1 +0.1**
comp=Z,158nm,1.0s
PYUN Piuthan 56.36 311 *e*P **P** **06 32 37.6 +0.1**
comp=Z,212nm,1.1s
KLR Kul'dur 56.54 3*d i*P **P** **06 32 38.2 +0.1**
KLR pmax pmax
comp=Z,31nm,1.3s
HIA Hailar 57.01 353 P **P** **06 32 42.1 +0.6**
HIA pmax pmax
comp=Z,10.0nm,0.5s
HIA Hailar 57.01 353 P **P** **06 32 42.1 +0.6**
ULN Ulaanbaatar 58.25 343 P **P** **06 32 51.8 +1.4**
ULN pmax pmax
comp=Z,90nm,1.3s
ULN Ulaanbaatar 58.25 343 P **P** **06 32 51.8 +1.4**
SONM Songino Array 58.41 343 P **P** **06 32 52.5 +1.0**
comp=Z,45nm,1.1s,baz=166,slow=7.5,SNR=102
SONM ScP **ScP** **06 37 27.3 -0.8**
comp=Z,4.6nm,0.8s,baz=169,slow=5.0,SNR=9.2
SONM PKP2bc 07 02 38.9
comp=Z,0.9nm,0.4s,baz=303,slow=1.1,SNR=6.9
SONM Songino Array 58.41 343 P **P** **06 32 52.2 +0.7**
SONM pmax pmax
comp=Z,43nm,1.1s
SONM Songino Array 58.41 343 P **P** **06 32 52.1 +0.7**
CASY Casey 60.01 188 P **P** **06 33 03.2 +1.3**
ZEA Zeya 60.99 359 *e*P **P** **06 33 10.2 +1.4**
ZAK Zakamensk 61.62 342 *e*P **P** **06 33 10.7 -2.5**
ZAK *e* 06 41 24.2
ZAK pmax pmax
comp=Z,14nm,1.7s
TLY Talaya 62.66 343 *e*P **P** **06 33 21.0 +1.0**
TLY *e*S **S** **06 41 36.7 -0.5**
TLY pmax pmax
comp=Z,52nm,1.4s
TLY MLR MLR
comp=Z,110nm,16.0s
TLY Talaya 62.66 343 P **P** **06 33 21.6 +1.5**
WMQ Urumqi 62.96 328 *e*P **P** **06 33 24.0 +1.7**
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ pmax pmax
comp=Z,19nm,3.7s
WMQ LR LR
comp=Z,120nm,24.3s
WMQ LR LR
comp=Z,240nm,17.9s
WMQ LR LR
comp=Z,53nm,28.1s
WMQ Urumqi 62.96 328 P **P** **06 33 22.9 +0.7**
WMQ pmax pmax
comp=Z,32nm,1.2s
WMQ Urumqi 62.96 328 P **P** **06 33 22.9 +0.7**
WMQ IAmb IAmb 06 33 24.8
comp=Z,32nm,1.2s
PEA0B Petropavlovsk- 65.26 19 P **P** **06 33 37.0 0.0**
PEA0B pmax pmax
comp=Z,64nm,0.7s
PEA0B Petropavlovsk- 65.26 19 P **P** **06 33 37.0 0.0**
PETK Petropavlovsk- 65.26 19 P **P** **06 33 37.6 +0.6**
comp=Z,54nm,0.6s,baz=188,slow=6.2,SNR=49
PETK Petropavlovsk- 65.26 19 P **P** **06 33 37.8 +0.8**
PETK Petropavlovsk- 65.26 19 P **P** **06 33 37.8 +0.8**
PET Petropavlovsk 65.50 20 *e*P **P** **06 33 39.5 +1.0**
PET *e**SP **sP** **06 34 22.5 -3.1**
PET *e*S **S** **06 42 15.2 +3.0**
PET pmax pmax
comp=Z,192nm,0.9s
PET MLR MLR
comp=Z,100nm,16.0s
PET Petropavlovsk 65.50 20 P **P** **06 33 38.8 +0.3**
NIL Nilore 66.36 312 P **P** **06 33 44.5 0.0**
NIL pmax pmax
comp=Z,17nm,0.6s
NIL Nilore 66.36 312 P **P** **06 33 44.5 0.0**
NIL IAmb IAmb 06 33 46.2
comp=Z,17nm,0.6s
ZSN Zaisan 66.88 329 *e*P **P** **06 33 48.4 +0.8**
comp=Z,2.3nm,0.8s,baz=329
ZSN *i* S **S** **06 42 32.2 +3.1**
baz=329
ZSN Zaisan 66.88 329 *e*P **P** **06 33 48.3 +0.8**
ZSN *i* S **S** **06 42 32.2 +3.1**
ZSN pmax pmax
comp=Z,2.0nm,0.8s
SHLS Shalkode 67.16 323 *e*P **P** **06 33 48.7 -0.8**
comp=Z,35nm,2.0s,baz=323
SHLS *i* S **S** **06 42 32.5 -0.5**
baz=323
SHLS Shalkode 67.16 323 *e*P **P** **06 33 48.6 -0.8**
SHLS *i* S **S** **06 42 32.4 -0.5**
SHLS pmax pmax
comp=Z,35nm,2.0s
DGZ Jazzator, Alta 67.19 332*de*P **P** **06 33 50.9 +1.3**
DGZ pmax pmax
comp=Z,28nm,1.5s
PDGK Podgornoye 67.24 323 P **P** **06 33 50.8 +0.8**
KSH Kashi 67.33 318 P **P** **06 33 52.0 +1.3**
KSH sP sP 06 34 39.0 +1.4
KSH S **S** **06 42 33.8 -1.3**
KSH pmax pmax
comp=Z,21nm,1.4s
KSH pmax pmax
comp=Z,85nm,3.4s
KSH LR LR
comp=Z,160nm,10.7s
KSH LR LR
comp=Z,140nm,13.9s
TARG Taragay, Kyrgy 67.35 321 P **P** **06 33 51.4 +0.3**
UZB Uzynbulak 67.41 323 *e*P **P** **06 33 52.1 +1.0**
comp=Z,13nm,1.5s,baz=323
UZB Uzynbulak 67.41 323 *e*P **P** **06 33 52.1 +1.0**
UZB pmax pmax
comp=Z,13nm,1.5s
SATY Saty 67.73 323 *e*P **P** **06 33 54.3 +1.2**
comp=Z,18nm,1.8s,baz=322
SATY *e*S **S** **06 42 42.7 +2.8**
baz=322
SATY Saty 67.73 323 *e*P **P** **06 33 54.3 +1.2**
SATY *e*S **S** **06 42 42.6 +2.8**
SATY pmax pmax
comp=Z,18nm,1.8s
SATY Saty 67.73 323 *e*P **P** **06 33 54.3 +1.2**
SATY *e*S **S** **06 42 42.6 +2.8**
SATY pmax pmax
comp=Z,18nm,1.8s
MK31 Makanchi Array 67.78 328 P **P** **06 33 53.5 +0.3**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 67.78 328 P **P** **06 33 53.5 +0.3**
MKAR Makanchi Array 67.78 328 P **P** **06 33 53.6 +0.4**
comp=Z,10nm,0.5s,baz=124,slow=7.8,SNR=83
MKAR S **S** **06 42 38.9 -1.2**
comp=Z,2.3nm,1.1s,baz=134,slow=10,SNR=6.4
MKAR PKPPKP P'P'df 07 02 04.3 -8.9
comp=Z,0.2nm,0.5s,baz=3.8,slow=4.3,SNR=2.9
MKAR Makanchi Array 67.78 328 *i* P **P** **06 33 53.7 +0.5**
MKAR pmax pmax
comp=Z,10.0nm,0.5s
KPKS Kokpek 67.80 323 *e*P **P** **06 33 54.3 +0.8**
comp=Z,31nm,1.6s,baz=323
KPKS Kokpek 67.80 323 *e*P **P** **06 33 54.3 +0.8**
KPKS pmax pmax
comp=Z,31nm,1.6s
MAKZ Makanchi 67.96 328 P **P** **06 33 55.4 +1.1**
MAKZ pmax pmax
comp=Z,11nm,0.7s
MAKZ Makanchi 67.96 328 P **P** **06 33 55.4 +1.1**
KDJ Kajisay 67.96 321 P **P** **06 33 56.0 +1.4**
KDJ pmax pmax
comp=Z,11nm,1.2s
KDJ Kajisay 67.96 321 P **P** **06 33 56.0 +1.4**
TNSS Tian-Shan 68.60 322 *e*P **P** **06 33 59.4 +0.5**
baz=322
TNSS Tian-Shan 68.60 322 *e*P **P** **06 33 59.4 +0.5**
MDOK Medeo 68.61 322 *e*P **P** **06 33 59.5 +0.8**
baz=322
MDOK *e*S **S** **06 42 52.9 +2.6**

baz=322
MDOK Medeo 68.61 322 *e*P **P** **06 33 59.4 +0.8**
MDOK *e*S **S** **06 42 52.8 +2.6**
AAA Alma-Ata 68.72 322 *e*P **P** **06 33 59.9 +0.7**
baz=322
AAA Alma-Ata 68.72 322 *e*P **P** **06 33 59.8 +0.7**
TDK Taldyqorghan 68.85 324 *e*P **P** **06 34 00.8 +0.9**
baz=324
TDK Taldyqorghan 68.85 324 *e*P **P** **06 34 00.7 +0.9**
CHKK Chushkaly 69.03 323 *e*P **P** **06 34 01.4 +0.4**
baz=323
CHKK Chushkaly 69.03 323 *e*P **P** **06 34 01.4 +0.4**
KZA Kyzart 69.14 320 P **P** **06 34 04.2 +1.9**
SNR=6.9
MA2 Magadan 69.17 12 *ce*P **P** **06 34 02.1 +0.6**
MA2 pmax pmax
comp=Z,30nm,1.3s
MA2 Magadan 69.17 12 P **P** **06 34 02.0 +0.6**
MA2 lAmb lAmb 06 34 03.6
comp=Z,25nm,0.9s
YAK Yakutsk 69.30 1 *e*P **P** **06 34 00.5 -1.7**
YAK *e**PP **PcP** **06 34 28.1 +3.2**
YAK *e*S **S** **06 42 53.8 -3.5**
YAK *e**SS **pS** **06 43 35.9 +0.1**
YAK *e* 06 43 44.4
YAK pmax pmax
comp=Z,59nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=N,11nm,0.9s
YAK smax smax
comp=E,85nm,1.6s
YAK smax smax
comp=N,78nm,1.5s
YAK Yakutsk 69.30 1 P **P** **06 34 02.3 +0.1**
TKM2 Tokmak 2 69.37 321 P **P** **06 34 04.2 +0.8**
SNR=6.3
TKM2 Tokmak 2 69.37 321 P **P** **06 34 03.3 -0.1**
KUU Kurty 69.44 322 *e*P **P** **06 34 04.5 +0.9**
comp=N,74nm,2.0s,baz=322
KUU Kurty 69.44 322 *e*P **P** **06 34 04.4 +0.9**
KUU pmax pmax
comp=Z,74nm,2.0s
UCH Uchtor 69.69 320 P **P** **06 34 07.5 +1.8**
SNR=7.4
KBL Kabul 69.89 311 P **P** **06 34 07.4 +0.7**
KBL Kabul 69.89 311 P **P** **06 34 07.4 +0.7**
AAK Ala-Archa 69.91 321 *d iP* **P** **06 34 08.2 +1.5**
AAK pmax pmax
comp=Z,29nm,2.5s
AAK Ala-Archa 69.91 321 P **P** **06 34 08.1 +1.4**
AML Almayashu 70.16 320 P **P** **06 34 09.9 +1.5**
SNR=10.0
USP Ospenovka 70.24 321 P **P** **06 34 10.3 +1.8**
SNR=7.3
SGDS Sogindy 70.25 321 *e*P **P** **06 34 09.3 +0.7**
comp=Z,28nm,1.8s,baz=321
SGDS Sogindy 70.25 321 *e*P **P** **06 34 09.3 +0.7**
SGDS pmax pmax
comp=Z,28nm,1.8s
EKS2 Erkin-Say 70.38 320 P **P** **06 34 10.7 +1.2**
SNR=8.8
GAR Garm 70.91 316 P **P** **06 34 13.1 +0.3**
GAR lAmb lAmb 06 34 16.3
comp=Z,46nm,1.4s
ZAA0 Zalesovo Array 71.33 335 P **P** **06 34 14.6 -0.2**
ZAA0 lAmb lAmb 06 34 17.0
comp=Z,31nm,0.8s
ZALV Zalesovo Beam 71.33 335 P **P** **06 34 14.7 0.0**
comp=Z,21nm,0.6s,baz=135,slow=5.8,SNR=60
ZALV S **S** **06 43 17.1 -4.1**
comp=Z,0.8nm,0.4s,baz=129,slow=14,SNR=5.3
ZALV Zalesovo Beam 71.33 335 *i* P **P** **06 34 14.6 -0.2**
ZALV pmax pmax
comp=Z,21nm,0.6s
BTLS Baital 71.45 323 *e*P **P** **06 34 16.3 +0.6**
comp=Z,23nm,2.3s,baz=322
BTLS Baital 71.45 323 *e*P **P** **06 34 16.3 +0.6**
BTLS pmax pmax
comp=Z,23nm,2.3s
CHGR Chuyangaron 71.57 315 P **P** **06 34 17.8 +1.1**
CHGR lAmb lAmb 06 34 18.5
comp=Z,40nm,1.2s
DZA Taraz 72.05 320 *e*P **P** **06 34 19.9 +0.5**
baz=320
DZA Taraz 72.05 320 *e*P **P** **06 34 19.9 +0.5**
KURK Kurchatov 72.12 329 P **P** **06 34 20.1 +0.6**
KURK pmax pmax
comp=Z,73nm,1.0s
KURK Kurchatov 72.12 329 P **P** **06 34 20.1 +0.6**
KURK lAmb lAmb 06 34 22.6
comp=Z,73nm,0.9s
VNDA Vanda 72.17 173 P **P** **06 34 20.3 +0.8**
comp=Z,27nm,0.6s,baz=320,slow=6.4,SNR=134
VNDA S **S** **06 43 29.5 -0.8**
comp=Z,0.3nm,0.3s,baz=46,slow=5.6,SNR=3.9
VNDA Vanda 72.17 173 P **P** **06 34 20.2 +0.8**
VNDA pmax pmax
comp=Z,33nm,0.7s
VNDA Vanda 72.17 173 P **P** **06 34 20.1 +0.7**
VNDA lAmb lAmb 06 34 20.8
comp=Z,33nm,0.7s
IUG luzhnay 72.55 318 *e*P **P** **06 34 23.4 +0.9**
comp=Z,20nm,1.7s,baz=318
IUG luzhnay 72.55 318 *e*P **P** **06 34 23.3 +0.9**
IUG pmax pmax
comp=Z,21nm,1.7s
SEY Seymchan 72.56 11 P **P** **06 34 22.4 +0.5**
comp=Z,27nm,0.7s,baz=211,slow=5.4
KK31 Karatay Array 72.68 319 P **P** **06 34 24.2 +1.1**
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KK31 Karatay Array 72.68 319 P **P** **06 34 24.2 +1.1**
KKAR Karatay Array 72.68 319 P **P** **06 34 23.7 +0.6**
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 72.68 319 P **P** **06 34 23.7 +0.6**
KKAR Karatay Array 72.68 319 P **P** **06 34 24.1 +1.0**
KKAR lAmb lAmb 06 34 26.2
comp=Z,6.1nm,0.8s
MAW Mawson 73.95 201 P **P** **06 34 31.6 +1.5**
comp=Z,27nm,0.7s,baz=73,slow=9.9,SNR=146
MAW Mawson 73.95 201 P **P** **06 34 31.3 +1.2**
baz=74,SNR=137
MAW Mawson 73.95 201 lAmb lAmb 06 34 32.8
comp=Z,27nm,1.4s
BRZS Berezniki 74.84 326 *e*P **P** **06 34 36.3 +0.7**
comp=Z,49nm,1.4s,baz=326
BRZS Berezniki 74.84 326 *e*P **P** **06 34 36.2 +0.7**
BRZS pmax pmax
comp=Z,49nm,1.4s
BRVK Borovoye 77.72 328 *d iP* **P** **06 34 52.1 +0.4**
BRVK pmax pmax
comp=Z,51nm,1.7s
BRVK Borovoye 77.72 328 P **P** **06 34 52.1 +0.4**
GEYT Alibeck 79.34 311 P **P** **06 35 02.0 +1.0**
comp=Z,1.7nm,0.5s,baz=146,slow=3.1,SNR=5.2
GEYT pP **pP** **06 35 37.2 +2.7**
comp=Z,2.0nm,0.4s,baz=105,slow=1.7,SNR=5.5
GEYT Alibeck 79.34 311 lAmb lAmb 06 35 04.5
comp=Z,5.0nm,1.2s
GYA0B ALIBECK ARRAY 79.34 311 P **P** **06 35 02.3 +1.3**
OPO Ambohidratompo 79.40 253 P **P** **06 35 03.1 +1.2**
comp=Z,2.2nm,0.5s,baz=96,slow=11,SNR=4.0
NRIK Noril'sk 81.65 346 P **P** **06 35 13.0 +0.4**
comp=Z,8.1nm,0.5s,baz=133,slow=6.5,SNR=14
NRIK pP **pwP** **06 35 49.5 -0.7**
comp=Z,4.3nm,0.7s,baz=139,slow=5.3,SNR=6.7
NRIK Noril'sk 81.65 346 P **P** **06 35 13.0 +0.4**
AB31 Akbulak array 81.92 322 P **P** **06 35 14.1 -0.3**
ABKAR Akbulak array 81.92 322 P **P** **06 35 14.7 +0.2**
QSPA South Pole Qui 82.50 180 P **P** **06 35 17.8 +0.4**
comp=Z,110nm,0.8s,baz=298,slow=0.7,SNR=675
QSPA South Pole Qui 82.50 180 P **P** **06 35 17.8 +0.4**
SYO Syowa Base 82.66 201 ‖ *eP* **P** **06 35 17.5 -0.4**
SYO Syowa Base 82.66 201 ‖ *iX* **P** **06 35 20.4 +2.5**
AKTO Aktyubinsk 83.50 323 P **P** **06 35 22.3 -0.3**
GAMB Gambell 83.95 23 P **P** **06 35 24.7 +0.2**
GAMB lAmb lAmb 06 35 26.2
comp=Z,45nm,0.9s
ARU Arti 85.29 328 *c iP* **P** **06 35 31.4 0.0**
ARU *PP **pP** **06 36 03.3 -2.4**
ARU 06 38 47.4
ARU PPP PPP 06 40 47.0
ARU S **S** **06 45 43.2 -6.9**
ARU *SS **sS** **06 46 44.8 -3.6**
ARU SS **SS** **06 51 28.9 +0.9**
ARU pmax pmax
comp=Z,25nm,0.8s
ARU Arti 85.29 328 P **P** **06 35 31.3 -0.2**
ARU lAmb lAmb 06 35 33.0
comp=Z,42nm,1.2s
AKT Akhty 87.99 312 *e*P **P** **06 35 45.8 +0.7**
AKT *e**PP **pP** **06 36 19.8 +0.2**
AKT *e**SP **sP** **06 36 31.6 -2.3**
AKT pmax pmax
comp=Z,19nm,1.1s
MAK Makhachkala 88.45 314 *e*P **P** **06 35 44.2 -2.8**
MAK *e**PP **pP** **06 36 18.6 -2.9**
MAK *e**SP **sP** **06 36 32.6 -3.2**
MAK *e* 06 39 15.3
MAK *e* 06 45 59.6
MAK *e*SS SS 06 52 13.8 -1.0
MAK *e*SSS SSS 06 55 51.8
MAK pmax pmax
comp=Z,43nm,0.4s
SII Sitkinak Islan 89.29 33 P **P** **06 35 51.4 +0.7**
SII lAmb lAmb 06 35 53.4
comp=Z,42nm,0.8s
OHAK Old Harbor 89.93 32 P **P** **06 35 53.8 +0.2**
OHAK lAmb lAmb 06 35 54.6
comp=Z,31nm,1.2s
TTA Tatalina 90.10 26 P **P** **06 35 54.7 +0.3**
TTA pmax pmax
comp=Z,12nm,1.0s
TTA Tatalina 90.10 26 P **P** **06 35 54.7 +0.3**
KDAK Kodiak Island 90.43 32 P **P** **06 35 56.1 +0.2**
comp=Z,5.7nm,0.6s,baz=273,slow=6.9,SNR=7.0
KDAK Kodiak Island 90.43 32 P **P** **06 35 56.4 +0.5**
KDAK pmax pmax
comp=Z,21nm,1.0s
KDAK Kodiak Island 90.43 32 P **P** **06 35 56.4 +0.5**
KDAK lAmb lAmb 06 35 59.1
comp=Z,21nm,0.9s
GEVA Gevas 90.97 308 P **P** **06 35 59.2 0.0**
ZEI Tsey 91.03 313 *e*P **P** **06 36 01.4 +2.0**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
AKH Akhalkalaki 91.11 311 P **P** **06 36 00.9 +1.2**
AKH pmax pmax
comp=Z,8.0nm,0.9s
AKH Akhalkalaki 91.11 311 P **P** **06 36 00.9 +1.2**
IMAR Indian Mountai 91.85 24 P **P** **06 36 02.1 -0.2**
SKT Skwentna 91.88 28 P **P** **06 36 01.6 -1.0**
SKT lAmb lAmb 06 36 02.3
comp=Z,14nm,1.0s
KBZ Khabaz 91.90 314 P **P** **06 36 03.8 +0.8**
comp=Z,2.5nm,0.7s,baz=353,slow=1.7,SNR=5.3
KIV Kislovodsk 92.08 314 *e*P **P** **06 36 06.9 +2.8**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,95nm,20.0s
KTH Kantishna Hill 92.48 26 P **P** **06 36 04.9 -0.5**
KTH lAmb lAmb 06 36 05.3
comp=Z,19nm,1.0s
BPAW Bear Paw Mtn. 92.57 26 P **P** **06 36 05.5 -0.3**
PMR Palmer 92.93 28 P **P** **06 36 06.8 -0.6**
PMR pmax pmax
comp=Z,10.0nm,0.9s
PMR Palmer 92.93 28 P **P** **06 36 06.8 -0.6**
PMR lAmb lAmb 06 36 07.2
comp=Z,10nm,0.9s
KNK Knik Glacier 93.21 29 P **P** **06 36 08.0 -0.8**
SML Sawmill 93.34 28 P **P** **06 36 09.0 -0.4**
RND Reindeer 93.37 27 P **P** **06 36 08.6 -0.9**
RND pmax pmax
comp=Z,32nm,0.8s
RND Reindeer 93.37 27 P **P** **06 36 08.6 -0.9**
MCK McKinley 93.39 26 P **P** **06 36 09.0 -0.6**
MCK pmax pmax
comp=Z,17nm,0.9s
MCK McKinley 93.39 26 P **P** **06 36 09.0 -0.6**
MCK lAmb lAmb 06 36 09.3
comp=Z,17nm,0.9s
NEA2 Nenana 93.48 25 P **P** **06 36 09.7 -0.2**
baz=260
COLD Coldfoot 93.50 23 P **P** **06 36 10.0 +0.1**
baz=259
COLD Coldfoot 93.50 23 P **P** **06 36 10.2 +0.2**
VRH Novokhopyorsk 93.71 321 *e*P **P** **06 36 09.2 -2.0**
VRH pmax pmax
comp=Z,10.0nm,1.0s
SCM Sheep Creek Mo 93.81 28 P **P** **06 36 11.6 0.0**
SCM pmax pmax
comp=Z,34nm,1.1s
SCM Sheep Creek Mo 93.81 28 P **P** **06 36 11.6 0.0**
SCM lAmb lAmb 06 36 12.1
comp=Z,34nm,1.1s
WRH Wood River Hil 93.88 26 P **P** **06 36 10.9 -0.8**
WRH lAmb lAmb 06 36 11.3
comp=Z,12nm,0.8s
MDM Murphy Dome 93.90 25 P **P** **06 36 11.4 -0.4**
DHY Denali Highway 93.98 27 P **P** **06 36 12.2 -0.2**
DHY lAmb lAmb 06 36 12.8
comp=Z,17nm,0.8s
CCB Clear Creek Bu 94.03 25 P **P** **06 36 11.5 -0.9**
CCB lAmb lAmb 06 36 12.2
comp=Z,16nm,0.9s
SOC Sochi 94.17 313 *e*P **P** **06 36 12.4 -1.1**
SOC *e* 06 40 05.4
SOC *e*PPP PPP 06 42 01.3
SOC *e*S **SKSac** **06 46 35.5 -0.1**
SOC *e*SS **SS** **06 53 43.5 +6.6**
SOC pmax pmax
comp=Z,7.0nm,0.5s
HDA Harding Lake 94.36 26 P **P** **06 36 12.8 -1.2**
baz=262
HDA Harding Lake 94.36 26 P **P** **06 36 12.7 -1.2**
HDA lAmb lAmb 06 36 13.0
comp=Z,12nm,1.0s
M24K Tolsona, Glenn 94.39 28 P **P** **06 36 14.2 0.0**
baz=262
IL31 94.44 25 P **P** **06 36 12.4 -1.9**
ILAR Eielson Array 94.44 25 P **P** **06 36 12.1 -2.2**
comp=Z,3.9nm,0.8s,baz=265,slow=4.5,SNR=30
ILAR PKKP **PKKPdf** **06 53 13.7 -1.4**
comp=Z,1.3nm,0.8s,baz=41,slow=1.4,SNR=12
SNAA Sanae 94.84 194 P **P** **06 36 17.5 +1.3**
SNAA Sanae 94.84 194 P **P** **06 36 17.5 +1.3**
SNAA pmax pmax
comp=Z,34nm,1.0s
SNAA Sanae 94.84 194 P **P** **06 36 17.5 +1.3**
RIDG Independent Ri 95.19 26 P **P** **06 36 17.1 -0.7**
RIDG lAmb lAmb 06 36 17.9
comp=Z,13nm,0.8s
VORD Divnogorie 95.21 321 *e*P **P** **06 36 17.2 -0.9**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 95.31 321 *e*P **P** **06 36 17.0 -1.6**
VSR pmax pmax
comp=Z,20nm,1.3s
GLB Gilahina Butte 95.43 29 P **P** **06 36 18.3 -0.7**
GLB lAmb lAmb 06 36 20.1
comp=Z,10nm,1.1s
DOT Dot Lake 95.53 27 P **P** **06 36 18.4 -0.9**
DOT lAmb lAmb 06 36 19.6
comp=Z,10nm,0.8s
LPSR Galich'ya Gora 95.58 322 *e*P **P** **06 36 19.1 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
SCRK Sand Creek 95.59 26 P **P** **06 36 19.2 -0.6**
baz=264
KLMR Klimovskoe 95.94 331 *e*P P 06 36 16.3 -4.9
KLMR *e* 06 40 10.5
KLMR pmax pmax
comp=Z,4.0nm,0.7s
KLMR Klimovskoe 95.94 331 *e*P P 06 36 16.4 -4.8
KLMR AMP 06 36 19.9
comp=Z,4.0nm,0.7s
KLMR *e*PP **PP** **06 40 10.5 -4.8**
VNA2 Neumayer--Watz 96.42 193 P **P** **06 36 24.8 +1.5**
BARN Barnard Glacie 96.44 29 P **P** **06 36 23.6 -0.2**
BARN lAmb lAmb 06 36 24.8
comp=Z,12nm,0.9s
K27K Chicken 96.44 26 P **P** **06 36 23.9 +0.5**
baz=266
BCAR Beaver Creek A 96.51 27 P **P** **06 36 23.7 -0.1**
VNA3 Neumayer Olymp 96.69 193 P **P** **06 36 25.2 +0.7**
VNA1 Neumayer--Stat 96.82 193 P **P** **06 36 26.4 +1.3**
TMCR Tamitsa 96.85 334 *eP* **P** **06 36 24.0 -1.2**
EGAK Eagle 96.88 26 P **P** **06 36 24.9 -0.4**
OBN Obninsk 97.14 325 ‖ *eP* **P** **06 36 25.6 -1.1**
OBN *e**PP **pP** **06 37 01.6 +0.2**
OBN *e* 06 40 24.9
OBN *i* S **S** **06 47 32.6 -5.3**
OBN pmax pmax
comp=Z,12nm,0.5s
BOSA Boshof 97.89 240 P Pdif 06 36 31.6 +0.6
comp=Z,3.8nm,0.9s,baz=99,slow=1.6,SNR=4.4
BOSA Boshof 97.89 240 P Pdif 06 36 31.6 +0.6
BOSA pmax pmax
comp=Z,18nm,1.4s
BOSA Boshof 97.89 240 lAmb lAmb 06 36 48.4
comp=Z,18nm,1.4s
ARCES ARCESS Array B 101.48 340 P **Pdif** **06 36 44.8 -1.0**
comp=Z,2.4nm,0.7s,baz=80,slow=6.4,SNR=13
ARCES PKiKP **PKiKP** **06 41 09.2 +0.1**
comp=Z,1.2nm,0.7s,baz=74,slow=20,SNR=5.2
ARCES PKKPbc **PKKPbc** **06 52 53.1 -3.5**
comp=Z,1.1nm,0.5s,baz=255,slow=3.5,SNR=12
AKASG Malin Array Be 101.58 320 P **Pdif** **06 36 46.1 -0.6**
comp=Z,0.3nm,0.3s,baz=82,slow=3.4,SNR=3.5
AKASG Malin Array Be 101.58 320 **Pdif** **06 36 45.8 -0.9**
DLBC Dease Lake 102.37 32 P **Pdif** **06 36 50.4 +0.3**
comp=Z,1.8nm,0.9s,baz=260,slow=5.4,SNR=5.0
FINES FINESS Array B 102.44 331 P **Pdif** **06 36 49.6 -0.6**
comp=Z,0.9nm,0.6s,baz=58,slow=8.7,SNR=2.8
FINES PKiKP **PKiKP** **06 41 11.5 +0.5**
comp=Z,1.5nm,0.5s,baz=114,slow=2.3,SNR=9.2
CRVS Cervenica-Dubn 106.75 319 *eP* **Pdif** **06 37 13.3 +3.5**
CRVS Cervenica-Dubn 106.75 319 *e*PDIFF **Pdif** **06 37 13.3 +3.5**
RES Resolute Bay 108.44 11 PKiKP **PKiKP** **06 41 21.2 -0.5**
comp=Z,2.4nm,0.8s,baz=265,slow=5.7,SNR=5.4
VYHS Vyhne 108.53 319 *eP* **Pdif** **06 37 23.9 +6.2**
VYHS Vyhne 108.53 319 *e*PDIFF **Pdif** **06 37 23.9 +6.2**
YKA Yellowknife Ar 108.86 26 PKiKP **PKiKP** **06 41 22.3 -0.6**
comp=Z,2.1nm,0.7s,baz=297,slow=1.5,SNR=5.2
YKA PKKPbc **PKKPbc** **06 52 31.4 -2.5**
comp=Z,2.2nm,0.7s,baz=109,slow=3.3,SNR=6.1
NOA NORSAR Array B 109.49 333 SKP 06 44 44.6
comp=Z,2.4nm,0.9s,baz=261,slow=3.2,SNR=4.2
GERES GERESS Array B 111.78 320 PKiKP **PKiKP** **06 41 28.7 -0.2**
comp=Z,1.2nm,0.5s,baz=69,slow=3.1,SNR=8.6
GERES SKP 06 44 49.0
comp=Z,1.5nm,0.6s,baz=90,slow=1.3,SNR=7.5
GERES PKKPbc **PKKPbc** **06 52 23.3 -0.8**
comp=Z,0.3nm,0.4s,baz=237,slow=4.0,SNR=3.9
GERES PKKPab **PKKPab** **06 52 33.2 +1.4**
comp=Z,0.9nm,0.9s,baz=250,slow=4.0,SNR=4.1
NVAR Mina Array Bea 112.80 52 PKiKP **PKiKP** **06 41 32.1 +0.8**
comp=Z,0.9nm,0.8s,baz=268,slow=2.3,SNR=7.9
NVAR SKP 06 44 53.4
comp=Z,0.7nm,0.6s,baz=237,slow=2.8,SNR=4.5
NVAR PKKPbc **PKKPbc** **06 52 21.6 +1.1**
comp=Z,0.8nm,0.6s,baz=112,slow=4.3,SNR=8.2
NVAR PKKPab **PKKPab** **06 52 29.5 +1.8**
comp=Z,0.8nm,0.7s,baz=111,slow=5.0,SNR=6.8
NVAR Mina Array Bea 112.80 52 **PKiKP** **06 41 32.6 +1.2**
MCMT McKenzie Canyo 115.45 44 **PKPdf** **06 41 37.0 +0.7**
PRN Pahroc Range 115.51 52 **PKiKP** **06 41 38.1 +1.6**
SHPR Sheep Range 115.58 53 **PKiKP** **06 41 37.6 +0.9**
BOZ Bozeman (W) 116.07 43 PKiKP **PKiKP** **06 41 37.7 +0.4**
BOZ Bozeman (W) 116.07 43 **PKiKP** **06 41 37.7 +0.4**
EGMT Eagleton 116.53 40 **PKPdf** **06 41 37.5 -0.5**
YHL Hebgen Lake 116.59 43 **PKiKP** **06 41 39.9 +1.3**
YHB Horse Butte 116.61 43 **PKiKP** **06 41 40.3 +1.8**
DUG Dugway, Tooele 116.64 49 PKiKP **PKiKP** **06 41 38.6 0.0**
DUG Dugway, Tooele 116.64 49 PKPdf **PKiKP** **06 41 38.6 0.0**
YHH Holmes Hill 116.83 43 PKPdf **PKiKP** **06 41 40.0 +0.9**
LCMT Little Creek M 117.00 52 **PKiKP** **06 41 41.0 +1.6**
IMW Indian Meadow 117.03 44 PKPdf **PKiKP** **06 41 40.7 +1.3**
FXWY Fox Creek 117.04 45 PKPdf **PKiKP** **06 41 39.7 +0.3**
TPAW Teton Pass 117.14 45 PKPdf **PKiKP** **06 41 39.7 +0.1**
HWUT Hardware Ranch 117.21 47 PKPdf **PKiKP** **06 41 40.1 +0.4**
REDW Red Top Meadow 117.24 45 **PKiKP** **06 41 40.2 +0.4**
SNOW Snow King Moun 117.28 45 **PKiKP** **06 41 40.8 +0.9**
YMP Mirror Lake Pl 117.32 43 **PKiKP** **06 41 40.5 +0.5**
LOHW Long Hollow 117.34 45 **PKiKP** **06 41 40.5 +0.6**
MSU Marysvale 117.51 50 PKiKP **PKiKP** **06 41 42.2 +1.8**
MSU Marysvale 117.51 50 PKPdf **PKiKP** **06 41 42.2 +1.8**
PKCU Pink Cliffs 117.64 52 **PKiKP** **06 41 42.3 +1.5**
U15A North Rim 117.87 53 **PKiKP** **06 41 42.6 +1.4**
TMUT Trail Mountain 118.06 49 **PKiKP** **06 41 42.2 +0.6**
BW06 Boulder Array 118.32 45 **PKiKP** **06 41 42.3 +0.4**
PD31 Pinedale Array 118.32 45 **PKiKP** **06 41 42.3 +0.4**
PDAR Pinedale Array 118.32 45 PKP **PKiKP** **06 41 42.0 +0.1**
comp=Z,3.1nm,0.8s,baz=243,slow=0.8,SNR=28
PDAR SKP 06 45 03.1
comp=Z,0.7nm,0.6s,baz=222,slow=2.0,SNR=4.9
PDAR PKKPbc **PKKPbc** **06 52 00.6 -0.9**
comp=Z,2.0nm,0.6s,baz=117,slow=5.3,SNR=18
PDAR PKKPab **PKKPab** **06 52 04.1 +0.9**
comp=Z,2.0nm,0.6s,baz=120,slow=6.1,SNR=15
PDAR Pinedale Array 118.32 45 PKPdf **PKiKP** **06 41 41.9 0.0**
P17A Butcher Ranch, 118.36 49 **PKiKP** **06 41 42.2 +0.2**
SRU San Rafael Swe 118.62 49 PKiKP **PKiKP** **06 41 43.3 +0.7**
SRU San Rafael Swe 118.62 49 **PKiKP** **06 41 43.2 +0.7**
WUAZ Wupatki 118.78 54 PKPdf **PKiKP** **06 41 43.7 +0.8**
RDMU Red Mountain 118.94 48 **PKiKP** **06 41 43.5 +0.3**
X16A Lo Mia Camp, P 118.95 55 **PKiKP** **06 41 44.3 +1.0**
LAO LASA Array 119.25 40 PKPdf **PKiKP** **06 41 43.6 +0.3**
TUC Tucson 119.89 57 PKiKP **PKiKP** **06 41 46.3 +1.2**
TUC Tucson 119.89 57 PKPdf **PKiKP** **06 41 46.3 +1.2**
O20A White River Ci 120.04 48 PKPdf **PKiKP** **06 41 46.2 +0.9**
RWWY Rawlins 120.31 46 **PKiKP** **06 41 46.0 +0.1**
K22A Casper 120.48 45 **PKPdf** **06 41 45.6 -0.3**
MVCO Mesa Verde 120.65 51 PKPdf **PKiKP** **06 41 47.3 +0.7**
319A Douglas 121.33 58 PKPdf **PKiKP** **06 41 49.0 +1.1**
RSSD Black Hills 121.65 42 PKiKP **PKPdf** **06 41 48.0 -0.2**
RSSD Black Hills 121.65 42 PKPdf **PKPdf** **06 41 48.0 -0.2**
S22A 4UR Ranch, Cre 121.78 50 **PKiKP** **06 41 50.2 +1.3**
ISCO Idaho Springs 122.06 47 PKiKP **PKiKP** **06 41 49.6 +0.2**
ISCO Idaho Springs 122.06 47 PKPdf **PKiKP** **06 41 49.6 +0.2**
121A Cookes Peak, D 122.33 56 PKPdf **PKiKP** **06 41 50.8 +0.8**
LENM Lemitar 122.61 54 **PKPdf** **06 41 49.6 -0.7**
E28A Huff 122.76 38 PKPdf **PKPdf** **06 41 49.7 -0.3**
SDCO Great Sand Dun 122.79 50 **PKPdf** **06 41 50.4 -0.2**
ANMO Albuquerque 122.83 53 PKiKP **PKiKP** **06 41 51.8 +0.8**
ANMO Albuquerque 122.83 53 PKPdf **PKiKP** **06 41 51.8 +0.8**
BNM Barren Site 122.90 54 PKPdf **PKiKP** **06 41 51.8 +0.6**
ULM Lac du Bonnet 123.68 33 PKP **PKPdf** **06 41 51.2 -0.4**
comp=Z,5.0nm,0.6s,baz=347,slow=4.2,SNR=3.7
ULM Lac du Bonnet 123.68 33 **PKPdf** **06 41 50.8 -0.8**
T25A Trinidad 123.80 50 PKPdf **PKiKP** **06 41 53.5 +0.7**
MNTX Cornudas Mount 124.51 57 PKPdf **PKiKP** **06 41 54.6 +0.5**
K31A O'Neill 125.77 42 **PKPdf** **06 41 55.9 0.0**
F33A 5 Mile Ranch, 125.80 37 PKPdf **PKPdf** **06 41 55.5 -0.3**
TX31 Lajitas Ar. Si 126.50 59 PKPdf **PKPdf** **06 41 58.0 +0.2**
TX32 Lajitas Array 126.50 59 **PKPdf** **06 41 57.8 +0.1**
TXAR Lajitas Array 126.50 59 PKP **PKiKP** **06 41 58.5 +0.2**
comp=Z,1.7nm,0.5s,baz=169,slow=2.9,SNR=52
TXAR SKPbc SKPbc 06 45 01.7
comp=Z,1.8nm,0.7s,baz=274,slow=2.1,SNR=11
TXAR PKiKPbc **PKKPbc** **06 51 30.0 -0.1**
comp=Z,0.2nm,0.6s,baz=100,slow=5.5,SNR=5.1
TXAR SKKPbc **SKKPbc** **06 55 06.0 -2.5**
comp=Z,0.2nm,0.5s,baz=116,slow=4.7,SNR=6.2
AMTX Amarillo 126.61 52 PKPdf **PKiKP** **06 41 58.3 0.0**
ECSD EROS Data Cent 126.64 40 PKPdf **PKPdf** **06 41 56.9 -0.7**
CBKS Cedar Bluff 126.67 47 PKiKP **PKPdf** **06 41 58.0 +0.2**
CBKS Cedar Bluff 126.67 47 PKPdf **PKPdf** **06 41 58.0 +0.2**
BGNE Belgrade 126.71 43 **PKPdf** **06 41 57.4 -0.3**
ESDC Sonseca Array 126.74 315 PKP **PKiKP** **06 41 58.5 +0.1**
comp=Z,2.0nm,1.0s,baz=39,slow=2.5,SNR=10.0
ESDC SKPbc SKPbc 06 45 03.5
comp=Z,0.7nm,0.6s,baz=31,slow=3.5,SNR=4.5
ESDC Sonseca Array 126.74 315 **PKPdf** **06 41 57.8 -0.1**
LL01 San Ignacio de 126.86 161 **PKPdf** **06 41 58.1 +0.2**
EYMN Ely 127.36 33 PKPdf **PKPdf** **06 41 58.2 -0.5**
TOA0 Torodi Ar. Sit 127.38 281 PKPdf **PKPdf** **06 41 58.9 -0.8**
TORD Torodi Ar. Bea 127.38 281 PKP **PKPdf** **06 41 59.5 -0.1**
comp=Z,4.6nm,0.7s,baz=70,slow=1.8,SNR=24
TORD SKPbc SKPbc 06 45 01.4
comp=Z,3.2nm,0.8s,baz=75,slow=2.8,SNR=6.7
F36A Milaca 127.42 36 PKPdf **PKPdf** **06 41 58.1 -0.8**
R32A Long Quarter, 127.57 47 **PKiKP** **06 41 59.9 -0.2**
SPMN Marine on St. 128.20 36 PKPdf **PKPdf** **06 42 00.5 +0.1**
MVO Moncorvo 128.20 318 *i* LQ LQ 06 45 06.8
I37A Lemond, Waseca 128.50 38 PKPdf **PKPdf** **06 42 01.2 +0.2**
KSU1 Kansas State U 128.78 45 PKPdf **PKiKP** **06 42 02.6 +0.2**

WMOK	Wichita Mounta	128.90	51	PKIKP	PKPdf	06 42 01.9	-0.2
WMOK	Wichita Mounta	128.90	51	PKPdf	PKPdf	06 42 01.9	-0.2
MTE	Manteigas	128.90	317	*i* LQ	LQ	06 45 09.7	
ABTX	Abilene, Hawle	128.93	54	PKPdf	PKPdf	06 42 02.5	+0.2
PLCA	Paso Flores	128.94	161	PKP	PKiKP	06 42 03.1	+0.3
	comp=Z,11nm,0.9s,baz=203,slow=2.7,SNR=18						
PLCA				SKPbc	SKPbc	06 45 08.5	
	comp=Z,10nm,0.8s,baz=217,slow=4.7,SNR=11						
PLCA	Paso Flores	128.94	161	*eP*	PKiKP	06 42 03.2	+0.4
PVIS	Viseu	128.99	318	*i* LQ	LQ	06 45 09.6	
PCBR	Castelo Branco	129.12	316	*i* LQ	LQ	06 45 09.8	
PMRV	Marv??o	129.24	316	*i* LQ	LQ	06 45 10.7	
JCT	Junction City	129.45	57	PKIKP	PKiKP	06 42 03.7	-0.3
JCT	Junction City	129.45	57	PKPdf	PKiKP	06 42 03.7	-0.3
OK029	Liberty Lake	129.52	49		PKPdf	06 42 03.3	+0.1
COI	Coimbra	129.58	317	*i* LQ	LQ	06 45 12.3	
G40A	Rib Lake	129.68	35	PKPdf	PKPdf	06 42 03.2	-0.1
COWI	Conover	129.77	34		PKPdf	06 42 03.4	0.0
T35A	Sooner Cattle	129.77	47	PKPdf	PKPdf	06 42 03.2	-0.4
PMTG	Montargil	129.98	316	*i* LQ	LQ	06 45 12.8	
EVO	Evora	130.08	315	*i* LQ	LQ	06 45 12.5	
LC01	Cunco	130.15	159	PKPdf	PKiKP	06 42 04.9	-0.3
PSBE	So Bento	130.17	317	*i* LQ	LQ	06 45 14.3	
PBEJ	Beja	130.20	314	*i* LQ	LQ	06 45 13.9	
PCVE	Castro Verde	130.50	314	*i* LQ	LQ	06 45 15.0	
PBDV	Barranco-do-Ve	130.59	314	*i* LQ	LQ	06 45 15.8	
PNCL	Nicolau / Gran	130.63	315	*i* LQ	LQ	06 45 15.4	
P38A	Dawn	130.66	43		PKPdf	06 42 05.2	-0.1
TULJ	Leonard	130.71	48		PKPdf	06 42 05.4	-0.1
PMAFR	Mafra	130.76	316	*i* LQ	LQ	06 45 16.6	
LIS	Lisbon	130.78	316	*i* LQ	LQ	06 45 15.8	
WHTX	Lake Whitney,	130.89	54	PKPdf	PKiKP	06 42 06.9	0.0
JFWS	Jewell Farm	131.02	37	PKIKP	PKPdf	06 42 05.9	0.0
JFWS	Jewell Farm	131.02	37		PKPdf	06 42 05.9	0.0
PTEO	Sao Teotonio	131.02	314	*i* LQ	LQ	06 45 17.6	
MORF	Marmelete	131.08	314	*i* LQ	LQ	06 45 17.7	
SCHQ	Schefferville	131.21	12	PKP	PKiKP	06 42 07.1	+0.3
	comp=Z,7.6nm,0.6s,baz=243,slow=1.4,SNR=7.2						
SCHQ				SKPbc	SKPbc	06 45 15.9	-2.0
	comp=Z,63nm,0.8s,baz=7.6,slow=4.2,SNR=35						
PFVI	Vila Bisbo	131.28	314	*i* LQ	LQ	06 45 18.0	
U38A	Gravette	131.52	47		PKPdf	06 42 08.0	-0.2
BI03	Tigo	131.54	157		PKiKP	06 42 07.5	-0.5
P40A	Paris	131.70	42		PKPdf	06 42 07.7	+0.5
S39A	Bolivar	131.72	45		PKPdf	06 42 07.1	-0.3
L42A	Oliver, Polo	131.89	38		PKPdf	06 42 07.5	0.0
HHAR	Hobbs	131.91	47		PKPdf	06 42 07.6	-0.2
R40A	Maddies Statio	132.16	44	PKPdf	PKPdf	06 42 07.8	-0.4
W39A	Magazine	132.50	48		PKiKP	06 42 10.1	+0.1
U40A	Yellville	132.67	46	PKPdf	PKPdf	06 42 09.1	-0.1
MGMO	Mountain Grove	132.71	45		PKPdf	06 42 09.1	-0.2
MIAR	Mount Ida	132.93	49	PKIKP	PKiKP	06 42 10.4	-0.5
MIAR	Mount Ida	132.93	49	PKPdf	PKiKP	06 42 10.4	-0.5
CCM	Cathedral Cave	132.98	44	PKIKP	PKPdf	06 42 09.4	-0.3
CCM	Cathedral Cave	132.98	44	PKPdf	PKPdf	06 42 09.4	-0.3
FVM	French Village	133.58	43	PKIKP	PKPdf	06 42 10.6	-0.2
FVM	French Village	133.58	43		PKPdf	06 42 10.6	-0.2
T42A	Van Buren	133.59	45		PKPdf	06 42 10.6	-0.3
WLAR	White Oak Lake	133.64	50	PKPdf	PKPdf	06 42 11.4	+0.3
DBIC	Dimbokro	133.66	272	PKP	PKiKP	06 42 13.1	+0.2
	comp=Z,4.9nm,0.5s,baz=105,slow=2.3,SNR=12						
DBIC				SKPbc	SKPbc	06 45 25.2	-2.5
	comp=Z,17nm,0.9s,baz=69,slow=3.5,SNR=14						
DBIC	Dimbokro	133.66	272		PKPdf	06 42 12.2	+0.6
LCAR	Lake Charles	134.01	46		PKPdf	06 42 11.4	-0.3
OLIL	Olney	134.72	41		PKPdf	06 42 12.7	-0.2
P46A	Rosedale	134.79	39		PKPdf	06 42 13.5	+0.5
L48A	N Adams	135.02	35	PKPdf	PKPdf	06 42 13.7	+0.3
BLO	Bloomington	135.48	39	PKIKP	PKiKP	06 42 16.0	+0.1
BLO	Bloomington	135.48	39		PKiKP	06 42 16.0	+0.1
WCI	Wyandotte Cave	136.17	40	PKIKP	PKPdf	06 42 16.2	+0.6
WCI	Wyandotte Cave	136.17	40	PKPdf	PKPdf	06 42 16.2	+0.6
Y45A	Yeager Farm, C	136.22	48	PKPdf	PKPdf	06 42 16.3	+0.5
P49A	Miami Univ. Ec	136.38	38		PKPdf	06 42 16.5	+0.5
CLTN	Cedars of Leba	137.35	43	PKPdf	PKPdf	06 42 18.0	+0.1
X48A	Hartselle	137.73	45		PKiKP	06 42 19.9	-0.8
TKL	Tuckaleechee C	139.31	42	PKIKP	PKPdf	06 42 22.6	+1.0
TKL	Tuckaleechee C	139.31	42		PKPdf	06 42 22.6	+1.0
V52A	Sevierville	139.32	41		PKPdf	06 42 21.6	+0.1
CCIG	Comitan	139.41	74		PKPdf	06 42 23.0	+0.6
Z51A	Franklin	139.65	46		PKPdf	06 42 21.8	-0.4
Y52A	Lilburn	140.14	44		PKPdf	06 42 23.1	0.0
PLTB	Pedras Altas	140.94	177	*eP*	PKPdf	06 42 18.7	-5.9
CNLB	Canela	143.42	181	*eP*	PKPbc	06 42 27.4	+0.7
TGUH	Tegucigalpa,Un	144.35	76	PKPdf	PKPbc	06 42 30.4	+0.5
PB15	IPOC Station P	144.83	151		PKPdf	06 42 32.4	+0.4
DWPF	Disney Wildern	145.10	50		PKPdf	06 42 32.3	+0.3
PB06	IPOC Station P	145.21	150		PKPab	06 42 33.5	+0.8
PB04	IPOC Station P	145.22	149		PKPab	06 42 33.9	+1.1
ITAB	Concordia	145.49	179	*eP*	PKPab	06 42 33.9	+0.6
LVC	Limon Verde	145.61	151	PKP2	PKPab	06 42 35.5	+1.1
LVC	Limon Verde	145.61	151		PKPab	06 42 35.5	+1.1
MATN	Matagalpa	145.77	78		PKPbc	06 42 34.0	-0.3
PB07	IPOC Station P	145.86	149		PKPab	06 42 35.3	+0.1
CPUP	Villa Florida	145.93	171	PKP	PKPbc	06 42 34.2	-0.1
	comp=Z,40nm,0.8s,baz=188,slow=2.3,SNR=93						
CPUP				PKPbc	PKPab	06 42 35.0	0.0
	comp=Z,40nm,0.8s,baz=173,slow=3.4,SNR=91						
CPUP				SKPbc	SKPbc	06 45 59.5	-1.3
	comp=Z,21nm,0.9s,baz=160,slow=0.7,SNR=8.4						
CPUP	Villa Florida	145.93	171	SKPbc	SKPbc	06 45 59.1	-1.7
CPUP	Villa Florida	145.93	171	*eP*	PKPbc	06 42 34.6	+0.2
PB09	IPOC Station P	146.13	150		PKPdf	06 42 33.9	-0.3
ACON	Acoyapa	146.59	80		PKPdf	06 42 37.7	-0.2
PB01	IPOC Station P	146.63	148		PKPdf	06 42 34.9	-0.1
TA01	Diego Aracena	146.66	147		PKPab	06 42 37.8	-0.2
JTS	Las Juntas de	146.90	83	PKP2	PKPab	06 42 38.7	-0.6
JTS	Las Juntas de	146.90	83		PKPab	06 42 38.7	-0.6
TIJ01	Guaruva-PR	147.31	184	*eP*	PKPbc	06 42 37.9	-0.6
PSGCX	Pisagua	147.47	146		PKPbc	06 42 39.6	+0.5
PB08	IPOC Station P	147.56	148		PKPbc	06 42 38.6	-1.0
PB08				PKPab	PKiKP	06 42 41.4	-0.3
PB11	IPOC Station P	147.60	147		PKPdf	06 42 37.2	+0.5
PB11				PKPbc	PKPbc	06 42 40.5	+1.0
PB11				PKPab	PKPab	06 42 44.2	+2.3
GO01	Chusmiza	147.92	147		PKPdf	06 42 37.2	-0.5
PTGB	Pitanga	148.00	179	*eP*	PKPdf	06 42 38.2	+1.1
MNMC	Minye Minye	148.14	146		PKPdf	06 42 38.8	+1.0
PET01	Itanhaem-SP	148.15	187	*eP*	PKiKP	06 42 41.9	-0.5
NNA	Nana	148.29	127	PKIKP	PKPdf	06 42 37.9	+0.1
NNA						06 42 42.1	
NNA	Nana	148.29	127	PKPdf	PKPdf	06 42 37.9	+0.1
NNA				PKPbc	PKiKP	06 42 42.1	-0.8
PARB	Paraibuna	148.83	191	*eP*	PKiKP	06 42 43.8	-0.1
SPB	Sao Paulo	148.86	187		PKPbc	06 42 43.1	+0.6
SPB	Sao Paulo	148.86	187	*eP*	PKiKP	06 42 43.8	0.0
MAN01	Angra dos Reis	148.94	194	*eP*	PKiKP	06 42 44.5	+0.4
FRTB	Fartura	149.31	184	*eP*	PKiKP	06 42 45.2	+0.4
VAS01	Vassouras-RJ	149.38	195	*eP*	PKiKP	06 42 45.4	+0.5
VAO	Valinhos	149.38	188	*eP*	PKiKP	06 42 45.1	+0.1
TRCB	Terra Rica	149.90	178	*eP*	PKPdf	06 42 41.5	+1.2
CBCY	The Bluff, Cay	150.07	63		PKPbc	06 42 45.5	-0.1
BSCB	Bom Sucesso	150.93	193	*eP*	PKiKP	06 42 48.9	+0.6
PCMB	Pacaembu	151.10	181	*eP*	PKPdf	06 42 43.1	+1.1
RIB01	Linhares ES	151.19	202	*eP*	PKiKP	06 42 49.0	+0.3
LPAZ	La Paz	151.25	145	PKP	PKPdf	06 42 44.1	+1.0
	comp=Z,5.8nm,1.1s,baz=37,slow=3.0,SNR=13						
LPAZ				PKPbc	PKiKP	06 42 50.2	+0.5
	comp=Z,20nm,0.4s,baz=18,slow=2.7,SNR=160						
LPAZ				PKPab	PKPab	06 42 59.5	+2.1
	comp=Z,50nm,0.6s,baz=144,slow=3.2,SNR=32						
LPAZ	La Paz	151.25	145	PKPdf	PKPdf	06 42 44.4	+1.2
BB19B	Bebedouro	151.48	186	*eP*	PKPdf	06 42 43.3	+0.6
BSFB	Barra de Sao F	151.81	202	*eP*	PKiKP	06 42 50.1	+0.1
AQDB	Aquidauana	151.93	172	*eP*	PKPdf	06 42 44.2	+0.9
BCIP	Isla Barro Col	151.97	85	*eP*	PKPbc	06 42 49.6	-0.5
BCIP	Isla Barro Col	151.97	85	PKIKP	PKPdf	06 42 42.9	-0.6
BCIP				PKP	PKPab	06 43 01.0	+1.0
BCIP	Isla Barro Col	151.97	85	PKPdf	PKPdf	06 42 42.9	-0.6
BCIP				PKPbc	PKPbc	06 42 50.2	0.0
BCIP				PKPab	PKPab	06 43 01.0	+1.0
SJMB	Sao Joao De Ma	152.05	201	*eP*	PKiKP	06 42 50.6	+0.1
OTAV	Otavalo	152.24	104	*eP*	PKPdf	06 42 43.8	-0.8
OTAV	Otavalo	152.24	104	PKIKP	PKPdf	06 42 43.8	-0.8
OTAV	Otavalo	152.24	104	PKPdf	PKPdf	06 42 43.8	-0.8
NAN01	Guarapari, ES	152.42	204	*eP*	PKiKP	06 42 52.2	+0.9
ITRB	Iturama	152.97	182	*eP*	PKPdf	06 42 46.0	+1.1
GCUF	Volcan Galeras	153.56	102	*eP*	PKiKP	06 42 55.1	+0.6
BBAC	Balboa, Cauca	153.85	101	*eP*	PKPbc	06 42 53.1	-1.5
CZSB	Cruzeiro do Su	154.07	125	*eP*	PKPdf	06 42 47.5	+0.9
PUAC	Puerto Asis, P	154.14	104	*eP*	PKPdf	06 42 46.7	-0.1
IPMB	Ipameri, GO	154.49	187	*eP*	PKPdf	06 42 42.7	-4.4
POPC	Popayan, Colom	154.51	100	*eP*	PKPdf	06 42 46.7	-0.9
FLOC	Florencia	155.29	103	*eP*	PKPdf	06 42 57.0	+8.7
FLOC	Florencia	155.29	103		PKPdf	06 42 48.9	+0.6
FLOC				PKPab	PKPab	06 42 57.6	-17
FLOC				PKPab	pPKPdf	06 43 16.4	-7.9
CBOC	Ciudad Bolivar	155.66	92	*eP*	PKPdf	06 42 48.0	-1.0
PTLC	Puerto Leguiza	155.72	106	*eP*	PKPdf	06 42 57.1	+8.2
PTLB	Pontes e Lacer	156.02	162	*eP*	PKPdf	06 42 50.2	+1.0
HELC	Santa Helena	156.17	92	*eP*	PKPdf	06 42 48.0	-1.9
ORTC	Ortega, Tolima	156.17	97	*eP*	PKPdf	06 42 49.4	-0.1
TOLC	Tolima	156.20	96	*eP*	PKPdf	06 42 50.3	+0.3
GUY2C	Guyana, Caldas	156.24	94	*eP*	PKPdf	06 42 49.6	-0.6
SALV	Santo Antonio	156.42	170	*eP*	PKPdf	06 42 50.6	+0.9
JANB	Januaria	156.49	198	*eP*	PKPdf	06 42 50.1	+0.2
PRAC	Prado	156.49	98	*eP*	PKPdf	06 42 49.9	-0.1
SJCC	San Jacinto, C	156.53	82	*eP*	PKPdf	06 42 44.1	-5.9
BDFB	Brasilia	156.77	189	PKP	PKPdf	06 42 50.9	+0.6
	comp=Z,3.9nm,0.7s,baz=153,slow=2.4,SNR=7.3						
BDFB				PKPab	PKPab	06 43 20.9	+0.8
	comp=Z,7.2nm,0.6s,baz=118,slow=3.8,SNR=8.0						
BDFB	Brasilia	156.77	189	PKIKP	PKPdf	06 42 50.9	+0.6
BDFB						06 43 21.4	
BDFB	Brasilia	156.77	189	PKPab	PKPab	06 43 21.4	+1.3
ARAG	Araguaiana, MT	156.97	179	*eP*	PKPdf	06 42 51.5	+1.1
MACC	Macarena, Meta	157.18	102	*eP*	PKPdf	06 42 50.8	0.0
ROSC	El Rosal	157.22	95	PKP	PKPdf	06 42 51.7	+0.4
	comp=Z,10nm,0.8s,baz=162,slow=11,SNR=5.4						
ROSC				PKPab	pPKPdf	06 43 25.9	-2.1
	comp=Z,18nm,0.6s,baz=170,slow=11,SNR=9.3						
PTBC	PUERTO BERRIO	157.26	91	*eP*	PKPdf	06 42 49.4	-1.4
SPBC	San Pablo de B	157.56	93	*eP*	PKPdf	06 42 51.4	0.0
CHIC	Chingaza	157.78	96	*eP*	PKPdf	06 42 51.5	-0.6
VILB	Vilhena	157.97	157	*eP*	PKPdf	06 42 53.2	+1.4
RUSC	La Rusia	158.57	93	*eP*	PKPdf	06 42 52.2	-0.9
RUSC	La Rusia	158.57	93	PKPdf	PKPdf	06 42 52.4	-0.7
RCBR	Riachuelo	159.54	230	PKP2	PKPab	06 43 33.9	+1.6
RCBR	Riachuelo	159.54	230		PKPab	06 43 33.9	+1.6
CLDB	Colider	161.29	167	*eP*	PKPdf	06 42 55.1	-0.4
SMTB	Santa Maria do	163.29	194	*eP*	PKPdf	06 42 57.8	+0.3
NPGB	Novo Progresso	165.05	165	*eP*	PKPdf	06 42 59.8	+0.6
MACA	Manacapuru-AM	166.05	139	*eP*	PKPab	06 43 59.8	-1.0
ITTB	Itaituba	167.52	160	*eP*	PKPab	06 43 53.6	-13
PTGA	Pitinga	168.31	134		PKPdf	06 43 00.3	-1.3
PTGA					PKPab	06 44 09.9	-0.9
PTGA	Pitinga	168.31	134	*eP*	PKPdf	06 43 01.9	+0.3
MALB	Monte Alegre	170.35	164	*eP*	PKPab	06 44 19.0	-0.6

*IDC **28** 06:23:10.1±5.3, 7.°93S×128.°49E, h0km, mb4.8/8, mb1 4.9/8, mb1mx4.6/31, mbtmp4.8/8, MS3.8/1, Ms1 3.8/1, ms1mx3.1/15, Error ellipse: s-maj=130.4km s-min=45.7km az=155.0*

ISC 28 06:23:17.2±5.4, 7.°8S±0.°8×128.°5E±0.°5, h44km, n9, σ0.°65/8, mb4.8/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	16.61	162	LR	LR	06 33 53.6	
	comp=Z,355nm,21.0s,baz=340,slow=39						
KSRS	Korea Array	45.02	359	P	P	06 31 28.6	+0.2
	3.8nm,0.7s,baz=177,slow=9.3,SNR=6.1						
MJAR	Matsushiro Arr	45.04	11	P	P	06 31 27.6	-1.1
	6.5nm,0.7s,baz=190,slow=8.8,SNR=4.5						
USRK	Ussuriysk Ar.	51.85	3	P	P	06 32 21.2	+0.2
	6.3nm,0.7s,baz=191,slow=7.0,SNR=3.5						
PETK	Petropavlovsk-	65.55	19	P	P	06 33 56.9	+0.8
	11nm,0.6s,baz=165,slow=3.9,SNR=5.0						
MKAR	Makanchi Array	68.09	328	P	P	06 34 12.4	-0.1
	15nm,0.5s,baz=127,slow=7.7,SNR=17						
ZALV	Zalesovo Beam	71.65	335	P	P	06 34 34.5	+0.3
	6.7nm,0.5s,baz=147,slow=6.0,SNR=5.4						
SEY	Seymchan	72.86	11	P	P	06 34 41.0	-0.2
	23nm,0.8s,baz=204,slow=4.5,SNR=3.0						
GEYT	Alibeck	79.60	311	P	P	06 35 19.8	-0.3
	2.3nm,0.5s,baz=111,slow=3.2,SNR=4.3						

IDC 28 06:48:55.0±507.0, 37.°42N×142.°56E, h0km, Error ellipse: s-maj=193.8km s-min=63.9km az=43.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I30JP	ISUMI INFRASON	2.78	221	*i*	PKiKP	07 06 10.0	+40
	baz=41,slow=306,SNR=3.1						
I45RU	USSURIYSK INFR	10.49	314	*i*		07 51 00.0	
	baz=128,slow=322,SNR=2.9						
I39PW	PALAU INFRASON	30.63	196	*i*		09 58 30.0	
	baz=7.1,slow=319,SNR=0.6						

*IDC **28** 06:49:51.3±1.2, 0.°12S×17.°98W, h0km, mb3.7/6, mb1 4.1/8, mb1mx3.7/51, mbtmp4.0/8, ML4.8/2, MS3.3/5, Ms1 3.3/5, ms1mx3.0/36, Error ellipse: s-maj=35.7km s-min=21.3km az=141.0*

*NEIC **28** 06:49:52.5±0.6, 0.°1S±0.°1×17.°99W±0.°05, h10km±1km, mb4.3/4, Error ellipse: s-maj=20.3km s-min=4.1km az=156.0*

ISC 28 06:49:54.5±0.7, 0.°1S±0.°1×18.°0W±0.°1, h23km, n25, σ0.°72/21, mb3.8/7, MS3.3/3, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	ASCENSION HYDR	8.40	156	Pn	Pn	06 51 55.2	+0.6
	baz=338,slow=13,SNR=23						
H10N2				T	T	07 01 12.2	
	baz=317,slow=74						
H10N3	ASCENSION HYDR	8.41	156	Pn	Pn	06 51 55.3	+0.6
	baz=338,slow=13,SNR=26						
H10N3				T	T	07 01 01.6	
	baz=317,slow=74						
H10N1	ASCENSION HYDR	8.42	156	Pn	Pn	06 51 55.4	+0.5
	baz=338,slow=13,SNR=26						
H10N1				T	T	07 00 58.0	
	baz=317						
ASCN	Ascension	8.55	155	Pn	Pn	06 51 57.2	+0.2
H10S3	ASCENSION HYDR	9.37	159	T	T	07 02 11.9	
	baz=242,slow=74,SNR=425						
H10S2	ASCENSION HYDR	9.38	159	T	T	07 02 07.3	
	baz=338,slow=74,SNR=68						
LIC	Lamto	14.39	64	*eP*	Pn	06 53 17.6	+0.7
	0.4s						
TIC	Toumodi	14.58	62	*eP*	Pn	06 53 18.7	-0.8
KIC	Kosan Boka	14.70	64	*eP*	Pn	06 53 20.9	-0.3
	36nm,0.6s						
DBIC	Dimbokro	14.73	62	Pn	Pn	06 53 20.6	-1.0
	6.8nm,0.3s,baz=236,slow=14,SNR=75						
DBIC				Sn	Sn	06 55 53.0	-11
	3.9nm,0.3s,baz=142,slow=16,SNR=8.1						
DBIC				LR	LR	06 57 10.8	
	comp=Z,114nm,21.4s,baz=215,slow=30						
DBIC	Dimbokro	14.73	62		Pn	06 53 20.8	-0.9
DBIC					Sn	06 55 52.7	-12
RCBR	Riachuelo	18.76	252	Pn	Pn	06 54 11.8	-0.9
	1.7nm,0.3s,baz=82,slow=14,SNR=13						
RCBR				Sn	Sn	06 57 23.5	-19
	0.7nm,0.3s,baz=329,slow=17,SNR=5.6						
RCBR				LR	LR	06 59 33.6	
	comp=Z,84nm,19.3s,baz=68,slow=31						
RCBR	Riachuelo	18.76	252	P	Pn	06 54 12.1	-0.6
RCBR				IAmb	IAmb	06 54 12.8	
	comp=Z,48nm,1.5s						
TOA0	Torodi Ar. Sit	23.55	55	P	P	06 55 03.2	-0.2
TOA0				IAmb	IAmb	06 55 18.7	
	comp=Z,8.7nm,1.2s						
TORD	Torodi Ar. Bea	23.55	55	P	P	06 55 02.7	-0.7
	comp=Z,3.9nm,0.6s,baz=240,slow=10,SNR=26						
TORD				LR	LR	07 02 58.7	
	comp=Z,94nm,21.6s,baz=215,slow=34						
TORD	Torodi Ar. Bea	23.55	55	P	P	06 55 03.0	-0.4
ESDC	Sonseca Array	41.64	16	P	P	06 57 42.5	+1.4
	comp=Z,0.3nm,0.6s,baz=198,slow=10,SNR=3.8						
SIV	San Ignacio	45.33	247	P	P	06 58 11.7	+0.4
	comp=Z,0.4nm,0.7s,baz=82,slow=18,SNR=3.5						
CPUP	Villa Florida	45.97	232	LR	LR	07 15 33.4	
	comp=Z,46nm,21.7s,baz=74,slow=34						
GERES	GERESS Array B	55.91	25	P	P	06 59 30.8	0.0
	comp=Z,0.7nm,0.7s,baz=203,slow=8.6,SNR=5.4						
GERES	GERESS Array B	55.91	25	P	P	06 59 29.8	-0.9
HOPE	Hope Point	56.09	193	P	P	06 59 31.1	-0.6
NOA	NORSAR Array B	64.98	15	LR	LR	07 27 35.4	
	comp=Z,19nm,21.7s,baz=65,slow=35						
FINES	FINESS Array B	69.92	21	P	P	07 01 03.8	+0.3
	comp=Z,1.8nm,0.8s,baz=227,slow=7.6,SNR=4.0						
TXAR	Lajitas Array	86.30	299	P	P	07 02 35.5	+0.3
	comp=Z,0.4nm,0.8s,baz=128,slow=10,SNR=5.2						

*DDA **28** 07:00:25.3, 36.°56N×30.°20E, h11km±7km, ML1.3*

ISK 28 07:00:29.7, 36.°06N×29.°66E, h28km, ML2.1/9, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAS	Kas	0.17	346	PG	Pb	07 00 35.9	+0.3
AKAS	Kas	0.17	346	*i* P	Pb	07 00 35.6	0.0
AKAS				*i* S	Sb	07 00 46.3	+6.6
AKAS				IAML		07 00 47.0	
	comp=N,55nm,0.4s						
AKAS				IAML		07 00 53.0	
	comp=E,66nm,0.3s						
AKUM	Antalya-Kumluc	0.61	65	*i* P	Pb	07 00 31.4	-10
AKUM				IAML		07 01 12.0	
	comp=E,16nm,0.4s						
AKUM				IAML		07 01 13.0	
	comp=N,15nm,0.5s						
ELL	Elmali	0.71	16	PG	Pn	07 00 44.1	+0.1
ELL				SG	Sn	07 00 54.3	+0.2
FETY	Fethiye	0.74	321	PG	Pn	07 00 44.7	+0.5
FETY				SG	Sn	07 00 55.5	+1.0
FETY	Fethiye	0.74	321	*i* P	Pb	07 00 42.6	-1.4
FETY				*i* S	Sn	07 00 55.8	+1.2
FETY				IAML		07 00 56.0	
	comp=E,13nm,0.4s						
FETY				IAML		07 01 04.0	
	comp=N,13nm,1.0s						
DALY	Dalyan (Mula)	1.11	313	PN	Pb	07 00 50.1	-0.1
TURN	Turunc	1.34	302	PN	Pn	07 00 53.1	+0.6
TURN				SN	Sn	07 01 09.9	+0.4
TAVA	DENIZLI_Tavas	1.52	337	*i* P	Pn	07 00 56.1	+1.0
TAVA				*i* S	Sb	07 01 17.2	+0.9
YER	Yerkesik	1.54	314	PN	Pn	07 00 55.9	+0.6
KEPZ	Antalya-Kepez	1.78	61	*i* P	Pn	07 00 56.4	-2.1
KEPZ				*i* S	Sb	07 01 27.2	+3.7
KEPZ				IAML		07 01 39.0	
	comp=N,7.8nm,1.2s						
KEPZ				IAML		07 01 48.0	
	comp=E,19nm,1.6s						
DAT	Datca	1.81	292	PN	Pn	07 00 59.4	+0.4
BODT	Bodrum	2.14	299	PN	Pn	07 01 04.1	+0.6
GAZI	Gazipasa	2.16	85	PN	Pn	07 01 04.9	+1.1

IDC 28 07:00:49.4±1.7, 5.°04S×151.°89E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/34, mbtmp3.6/3, Error ellipse: s-maj=67.8km s-min=14.9km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	0.74	11	Pn	Pn	07 01 07.9	+0.7
	462nm,0.3s,baz=130,slow=4.0,SNR=263						
KRVT				Sn	Sn	07 01 19.0	-0.3
	1µm,0.3s,baz=338,slow=20,SNR=76						
WRA	Warramunga Arr	22.61	228	P	P	07 05 51.6	-0.4
	0.8nm,0.5s,baz=53,

baz=95
ARK Arkit 1.30 342⇑*iP* **Pn 07 38 54.0 -0.6**
baz=43
ARK ⇑*iS* **Sg 07 39 12.0 +0.5**
baz=43
BTK Batken 1.37 249⇑*iP* **Pb 07 38 55.4 -0.4**
baz=50
BTK ⇑*iS* **Sg 07 39 14.2 +0.4**
baz=50
AML Almayashu 1.81 30⇑*iP* **Pb 07 39 03.8 +0.3**
baz=29
AML ⇑*iS* **Sg 07 39 28.2 +0.3**
baz=29
ARLS Aral 1.90 46⇓*iP* **Pb 07 39 05.4 +0.6**
baz=46
ARLS ⇓*iS* **Sg 07 39 31.2 +0.6**
baz=46
MRKS Merke 2.25 14 *eP* **Pg 07 39 14.5 +1.7**
7.5nm,0.5s
MRKS *eS* **Sb 07 39 39.6 +0.5**
9.0nm,0.3s
MRKS Merke 2.25 14 Pg **Pb 07 39 11.8 +1.0**
7.5nm,0.5s
MRKS Lg Lg 07 39 39.6
9.0nm,0.3s
UCH Uchtor 2.26 42⇑*iP* **Pb 07 39 10.3 -0.8**
baz=42
UCH ⇑*iS* **Sb 07 39 39.4 -0.1**
baz=42
EKS2 Erkin-Say 2.31 24⇓*iP* **Pb 07 39 10.7 -1.2**
baz=24
EKS2 ⇓*iS* **Sb 07 39 40.4 -0.4**
baz=24
IUG luzhnay 2.44 311 *eP* **Pg 07 39 17.2 +0.8**
9.5nm,0.3s
IUG *eS* **Sb 07 39 44.3 -0.1**
19nm,0.4s
IUG luzhnay 2.44 311 Pg **Pb 07 39 13.8 -0.3**
20nm,0.7s
IUG Lg Lg 07 39 42.8
28nm,0.7s
AAK Ala-Archa 2.56 35⇑*iP* **Pb 07 39 14.4 -1.8**
baz=35
AAK ⇑*iS* **Sb 07 39 46.5 -1.5**
baz=35
AAK Ala-Archa 2.56 35 ⇑Pn **Pg 07 39 19.4 +0.6**
1.3nm,0.3s
AAK Sn **Sg 07 39 52.5 +0.5**
5.9nm,0.4s
KZA Kyzart 2.57 53⇑*iP* **Pb 07 39 14.7 -1.8**
baz=53
KZA ⇑*iS* **Sb 07 39 47.0 -1.5**
baz=53
KK31 Karatay Array 2.94 330 ⇓Pn **Pn 07 39 17.5 +0.5**
0.4nm,0.3s,baz=164,slow=14,SNR=7.2
KK31 ⇑Sn **Sn 07 39 53.6 +0.9**
3.3nm,0.5s,baz=167,slow=32
USP Ospenovka 3.09 28⇓*iP* **Pb 07 39 22.0 -3.1**
baz=28
USP ⇓*iS* **Sn 07 39 59.2 +2.7**
baz=28
BRLS Boroldoy 3.17 322 *eP* **Pg 07 39 28.9 -1.4**
2.0nm,0.3s
BRLS *eS* **Sb 07 40 04.0 -1.4**
7.4nm,0.3s
BRLS Boroldoy 3.17 322 Pg **Pb 07 39 25.3 -1.1**
3.1nm,0.4s
BRLS Lg Lg 07 40 02.4
7.4nm,0.3s
KST Kastek 3.59 45 *eP* **Pg 07 39 39.3 +0.9**
1.4nm,0.4s
KST *eS* **Sg 07 40 22.5 -2.5**
2.9nm,0.5s
KST Kastek 3.59 45 Pg **Pg 07 39 39.2 +0.8**
2.5nm,0.5s
KST Lg Lg 07 40 26.5
2.9nm,0.5s

*THR **28** 07:41:10.5±0.3,32°.70N×47°.37E,h14km±12km,ML4.1*
*NEIC **28** 07:41:11.8±1.5,32°.74N±0°.05×47°.51E±0°.06,h10km±1km, mb4.2/25,mb_Lg4.1(TEH),Error ellipse: s-maj=9.9km s-min=8.0km az=224.0*
*ISN **28** 07:41:11.6±0.6,32°.77N×47°.61E,h18km±3km,ML4.0*
*TEH **28** 07:41:12.4,32°.75N×47°.52E,h18km,ML4.1*
*IDC **28** 07:41:13.8±4.3,32°.72N×47°.51E,h23km±27km,mb3.9/12, mb1 3.9/16,mb1mx3.7/52,mbtmp4.1/16,ML3.8/4,MS2.9/8, Ms1 2.9/8,ms1mx2.7/51,Error ellipse: s-maj=27.4km s-min=16.5km az=173.0*
ISC 28 07:41:12.9±0.9,32°.71N±0°.04×47°.56E±0°.03,h16km±6km, n157,σ1§55/152,mb4.2/20,MS2.8/3,4C-4D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.23**	**262**	*eP*	**Pg**	**07 41 17.9**	**-0.3**
DHL1				*eS*	**Sg**	**07 41 21.3**	**-0.5**
SHGR	**Shooshtar-Gavs**	**1.21**	**119**	*eP*	**Pg**	**07 41 36.6**	**+0.3**
SHGR				IAML		07 42 03.4	
comp=N,3μm,0.8s							
SHGR	**Shooshtar-Gavs**	**1.21**	**119**	*eP*	**Pg**	**07 41 36.6**	**+0.3**
IBDR	**Badra**	**1.42**	**287**	*eP*	**Pg**	**07 41 38.0**	**0.0**
IBDR				*eS*	**Sg**	**07 41 58.0**	**-0.9**
IBDR				AML	AML	07 42 05.5	
comp=E,2μm,0.7s							
IBDR				AML	AML	07 42 06.8	
comp=N,2μm,0.7s							
BMDN	**Meydan**	**1.43**	**48**	*eP*	**Pn**	**07 41 38.3**	**0.0**
BMDN				*e*		07 42 10.7	
BMDN	**Meydan**	**1.43**	**48**		**Pn**	**07 41 38.3**	**0.0**
IKOM	**Komasi**	**1.46**	**359**	*eP*	**Pb**	**07 41 39.3**	**-0.4**
IKOM				*e*		07 41 41.4	
KCHF	**Cheshme Sefid,**	**1.61**	**345**	*eP*	**Pb**	**07 41 42.2**	**-0.2**
KCHF				*e*		07 42 07.1	
AHWZ	**Ahwaz**	**1.66**	**146**	*eP*	**Pg**	**07 41 44.5**	**-0.3**
AHWZ	**Ahwaz**	**1.66**	**146**	Pg	**Pg**	**07 41 44.5**	**-0.3**
KER	**Kermanshah**	**1.70**	**348**	*eP*	**Pb**	**07 41 43.5**	**-0.4**
HSAM	**Samen**	**1.73**	**30**	*eP*	**Pb**	**07 41 44.2**	**-0.2**
HSAM				*e*		07 41 45.6	
IBZA	**Bozab**	**1.77**	**8**	*eP*	**Pb**	**07 41 45.0**	**-0.1**
IBZA				*e*		07 41 48.8	
IBZA	**Bozab**	**1.77**	**8**	Pg	**Pb**	**07 41 44.9**	**-0.1**
IGHG	**Ghaleghazi**	**1.81**	**333**	*eP*	**Pb**	**07 41 45.4**	**-0.4**
IGHG	**Ghaleghazi**	**1.81**	**333**	Pg	**Pb**	**07 41 45.4**	**-0.4**
IVIS	**Veis**	**1.90**	**342**	*eP*	**Pb**	**07 41 47.2**	**0.0**
IVIS				*e*		07 41 50.7	
NSR	**Nassriya**	**2.08**	**216**	*eP*	**Pn**	**07 41 48.0**	**+0.9**
NSR				*eS*	**Sn**	**07 42 14.0**	**+1.4**
NSR				AML	AML	07 42 29.0	
comp=E,1μm,0.6s							
IALM	**Almabolaq**	**2.20**	**13**	*eP*	**Pb**	**07 41 51.0**	**-1.4**
IDHR	**Dehrash**	**2.21**	**334**	*eP*	**Pn**	**07 41 49.6**	**+0.6**
IDHR				*e*		07 42 29.5	
ILIN	**Lien**	**2.25**	**348**	*eP*	**Pb**	**07 41 51.3**	**-2.0**
ILIN				*e*		07 42 05.4	
KHMZ	**Khomeyn**	**2.26**	**62**	*eP*	**Pb**	**07 41 51.7**	**-1.7**
KHMZ	**Khomeyn**	**2.26**	**62**	*eP*	**Pb**	**07 41 51.7**	**-1.7**
HAGD	**Aghdareh**	**2.48**	**32**	*eP*	**Pn**	**07 41 54.6**	**+1.8**
HAGD				*e*		07 42 01.8	
HSRG	**Sareghieh**	**2.59**	**13**	*eP*	**Pn**	**07 41 56.2**	**+1.8**
HSRG				*e*		07 42 38.8	
JHBN	**Jahan bin**	**2.67**	**100**	*eP*	**Pn**	**07 41 57.2**	**+1.7**
JHBN				*e*		07 42 58.6	
BHD	**Baghdad**	**2.73**	**283**	*eP*	**Pn**	**07 41 57.0**	**+1.1**
BHD				*eSn*	**Sn**	**07 42 30.0**	**+1.5**
BHD				AML	AML	07 42 52.8	
comp=E,1μm,0.6s							
ASAO	**Ashtian**	**2.75**	**48**	*eP*	**Pn**	**07 41 58.2**	**+1.7**
ASAO				*eSg*	**Sg**	**07 42 40.6**	**-0.9**
ASAO	**Ashtian**	**2.75**	**48**	*eP*	**Pn**	**07 41 58.3**	**+1.7**
IPIR	**Pirpir**	**2.81**	**90**	*eP*	**Pn**	**07 41 59.0**	**+1.6**
IPIR				*e*		07 42 50.1	
ROKH	**ROKH**	**2.96**	**96**	*eP*	**Pn**	**07 42 01.0**	**+1.6**
ROKH				*e*		07 42 57.2	
IBRJ	**Brojen**	**3.24**	**103**	*eP*	**Pn**	**07 42 04.7**	**+1.5**
IRAZ	**Razeghan**	**3.33**	**36**	*eP*	**Pn**	**07 42 06.9**	**+2.5**
QABG	**Abgarm-Qazvin**	**3.43**	**29**	*eP*	**Pn**	**07 42 07.0**	**+1.2**
IKLH	**Kolahrood**	**3.43**	**79**	*e*		07 42 12.1	
IKLH				*eP*	**Pn**	**07 42 08.2**	**+2.3**
GHVR	**GHOM**	**3.58**	**60**	*eP*	**Pn**	**07 42 09.3**	**+1.5**
GHVR	**GHOM**	**3.58**	**60**	*eP*	**Pn**	**07 42 09.3**	**+1.5**
IQOM	**Qom**	**3.62**	**53**	*eP*	**Pn**	**07 42 09.8**	**+1.4**
IGAR	**Gharneh**	**3.80**	**93**	*eP*	**Pn**	**07 42 12.4**	**+1.5**
KLNJ	**Kolanjah**	**3.83**	**115**	*eP*	**Pn**	**07 42 13.0**	**+1.5**
IMHD	**Mahdasht**	**3.93**	**40**	*eP*	**Pn**	**07 42 14.2**	**+1.6**
QSDN	**Sirdan**	**4.01**	**19**	*eP*	**Pn**	**07 42 16.1**	**+2.3**
IZEF	**Zefreh**	**4.02**	**86**	*eP*	**Pn**	**07 42 15.5**	**+1.5**
ZNJK	**Zanjan**	**4.05**	**13**	*eP*	**Pn**	**07 42 15.1**	**+0.6**
ZNJK	**Zanjan**	**4.05**	**13**	*eP*	**Pn**	**07 42 15.1**	**+0.6**
IHSB	**Hasanabad**	**4.11**	**48**	*eP*	**Pn**	**07 42 16.6**	**+1.5**
IVRN	**Varamin**	**4.15**	**56**	*eP*	**Pn**	**07 42 17.0**	**+1.4**
IRAM	**Ramesheh**	**4.19**	**101**	*eP*	**Pn**	**07 42 17.2**	**+0.9**
IGZV	**Ghazvin**	**4.27**	**30**	*eP*	**Pn**	**07 42 18.9**	**+1.5**
MAHB	**Mahabad**	**4.32**	**340**	*eP*	**Pn**	**07 42 19.1**	**+1.1**
CHTH	**Charan**	**4.34**	**42**	*eP*	**Pn**	**07 42 19.9**	**+1.5**
CHTH	**Charan**	**4.34**	**42**	*eP*	**Pn**	**07 42 19.9**	**+1.5**
QALM	**Alamut, Qazvin**	**4.50**	**34**	*eP*	**Pn**	**07 42 22.7**	**+2.1**
IDMV	**Damavand**	**4.68**	**51**	*eP*	**Pn**	**07 42 24.4**	**+1.3**
IFIR	**Firoozkooh**	**5.20**	**54**	*eP*	**Pn**	**07 42 31.6**	**+1.3**
ANAR	**Anarak**	**5.21**	**83**	*eP*	**Pn**	**07 42 31.0**	**+0.8**
ILAS	**Lasjerd**	**5.21**	**58**	*eP*	**Pn**	**07 42 31.7**	**+1.3**
ISAD	**Sadrabad**	**5.25**	**97**	*eP*	**Pn**	**07 42 31.9**	**+1.0**
IPRN	**Peran**	**5.29**	**47**	*eP*	**Pn**	**07 42 33.1**	**+1.8**
IALA	**Alasht**	**5.49**	**51**	*eP*	**Pn**	**07 42 36.5**	**+2.3**
ISHM	**Shahmirzad**	**5.66**	**55**	*eP*	**Pn**	**07 42 38.3**	**+1.7**
IANJ	**Anjilo**	**5.95**	**61**	*eP*	**Pn**	**07 42 41.7**	**+1.2**
IMEH	**Mehriz**	**6.13**	**101**	*eP*	**Pn**	**07 42 43.7**	**+0.7**
IGLO	**Ghaloghah**	**6.41**	**52**	*eP*	**Pn**	**07 42 48.9**	**+2.2**
TPRV	**Parvadeh(Tabas**	**7.69**	**85**	*eP*	**Pn**	**07 43 05.5**	**+1.3**
TKDS	**Koohdasht(Taba**	**8.07**	**81**	*eP*	**Pn**	**07 43 09.9**	**+0.4**
ASF	**Jabal al Asfar**	**9.03**	**269**	Pn	**Pn**	**07 43 22.2**	**-0.4**
comp=E,0.5nm,0.3s,baz=35,slow=4.6,SNR=4.2							
ASF				Sn	**Sn**	**07 45 00.2**	**-3.7**
comp=E,0.5nm,0.3s,baz=239,slow=11,SNR=2.8							
SBZV	**Sabzevar**	**9.07**	**63**	*eP*	**Pn**	**07 43 24.7**	**+1.5**
KOPT	**Kop Dagi**	**9.24**	**324**	Pn	**Pn**	**07 43 23.5**	**-2.2**
SLWR	**Sila**	**9.35**	**156**	*eP*	**Pn**	**07 43 28.3**	**+1.4**
GEM	**Giv'at Ha'Em**	**10.01**	**276**	Sn	Sn	07 46 35.2	+67
SHME	**Shamm**	**10.01**	**129**	*eP*	**Pn**	**07 43 36.3**	**+0.3**
GEYT	**Alibeck**	**10.07**	**56**	LR	LR	07 48 45.9	
comp=E,45nm,21.2s,baz=245,slow=45							
GYA0B	**ALIBECK ARRAY**	**10.07**	**56**	Pn	**Pn**	**07 43 37.9**	**+1.0**
HMDT	**Nahal Hemdat**	**10.17**	**271**	Sn	Sn	07 46 39.7	+68
BANOM	**Banah**	**10.20**	**129**	*eP*	**Pn**	**07 43 40.3**	**+1.7**
MMA0B	**Mount Meron ar**	**10.23**	**275**	Sn	Sn	07 46 41.7	+68
MMAI	**Mount Meron Ar**	**10.23**	**275**	LR	LR	07 48 47.4	
comp=E,52nm,18.4s,baz=90,slow=44							
MSFE	**Esma-Masafi**	**10.50**	**132**	*eP*	**Pn**	**07 43 45.6**	**+2.8**
MDH	**Madha**	**10.63**	**132**	*eP*	**Pn**	**07 43 45.8**	**+1.3**
UOSS	**Minazif**	**10.83**	**133**	*eP*	**Pn**	**07 43 49.1**	**+1.8**
UOSS	**Minazif**	**10.83**	**133**	Pn	**Pn**	**07 43 46.6**	**-0.6**
UOSS					**Sn**	**07 45 45.1**	**-3.0**
HATD	**Hatta, Dubai**	**10.88**	**134**	*eP*	**Pn**	**07 43 50.3**	**+2.4**
ASHO	**Ashiyiah**	**10.94**	**135**	*eP*	**Pn**	**07 43 51.0**	**+2.3**
PRNI	**Paran**	**10.97**	**261**	Pn	Pn	07 44 59.6	+70
PRNI					Sn	07 46 59.2	+68
HRFI	**Mount Harif**	**11.03**	**259**	Sn	Sn	07 47 01.2	+68
EIL	**Elat**	**11.21**	**258**	LR	LR	07 49 17.7	
comp=E,88nm,20.1s,baz=92,slow=43							
EIL	**Elat**	**11.21**	**258**	Pn	Pn	07 45 02.9	+70
EIL				Sn	Sn	07 47 05.0	+68
ALNE	**Al Ain**	**11.24**	**138**	*eP*	**Pn**	**07 43 54.4**	**+1.5**
KBZ	**Khabaz**	**11.59**	**343**	LR	LR	07 48 31.1	
comp=E,39nm,18.6s,baz=134,slow=38							
UMZA	**Um Al Zommool**	**12.02**	**144**	*eP*	**Pn**	**07 44 04.9**	**+1.4**
BR131	**Keskin Array S**	**13.23**	**306**	Pn	**Pn**	**07 44 23.3**	**+3.2**
BRTR	**Keskin Array B**	**13.23**	**306**	Pn	**Pn**	**07 44 23.0**	**+2.9**
comp=E,0.1nm,0.3s,baz=148,slow=14,SNR=3.8							
BRTR	**Keskin Array B**	**13.23**	**306**		**Pn**	**07 44 22.1**	**+2.0**
WSAR	**Wadi Sarin**	**13.59**	**131**	Pn	**Pn**	**07 44 23.9**	**-1.0**
comp=E,1.3nm,0.3s,baz=323,slow=10,SNR=9.1							
BR231	**Keskin MP Arra**	**13.87**	**305**	Pn	**Pn**	**07 44 29.9**	**+1.0**
MANT	**Manisa**	**16.48**	**296**		**Pn**	**07 45 03.7**	**+0.1**
KBL	**Kabul**	**17.99**	**78**		**P**	**07 45 23.4**	**+0.6**
KBL				IAmb	IAmb	07 45 29.1	
comp=Z,12nm,1.1s							
CHGR	**Chuyangaron**	**18.51**	**65**	P	**P**	**07 45 28.3**	**-0.1**
SANT	**Santorini**	**18.56**	**287**	P	**Pn**	**07 45 29.1**	**-0.1**
ABKAR	**Akbulak array**	**18.95**	**26**	P	**P**	**07 45 32.7**	**-0.4**
TIRR	**Tirgusor**	**18.96**	**314**	P	**Pn**	**07 45 35.9**	**+2.0**
IDI	**Anoyia**	**18.96**	**284**	P	**P**	**07 45 33.0**	**-0.4**
IDI				IAmb	IAmb	07 45 51.5	
comp=Z,29nm,1.5s							
TOPG	**Topolog**	**19.20**	**315**	P	**Pn**	**07 45 40.0**	**+3.1**
AKTO	**Aktyubinsk**	**19.32**	**21**	P	**Pn**	**07 45 38.0**	**-0.3**
comp=Z,0.9nm,0.3s,baz=200,slow=12,SNR=13							
AKTO				LR	LR	07 55 43.9	
comp=Z,41nm,20.8s,baz=198,slow=45							
GAR	**Garm**	**19.46**	**65**	P	**Pn**	**07 45 40.1**	**-0.1**
GAR				IAmb	IAmb	07 45 48.1	
comp=Z,12nm,1.0s							
BTK	**Batken**	**20.08**	**62**	P	Pn	07 45 46.6	-0.8
ISR	**Istrita**	**20.44**	**313**	⇓P	**P**	**07 45 50.1**	**+0.7**
KK31	**Karatay Array**	**20.81**	**54**	P	**P**	**07 45 53.3**	**-0.2**
KKAR	**Karatay Array**	**20.81**	**54**	P	**P**	**07 45 52.7**	**-0.8**
KKAR	**Karatay Array**	**20.81**	**54**	P	**P**	**07 45 53.5**	**+0.1**
KKAR				IAmb	IAmb	07 45 57.7	
comp=Z,3.3nm,0.8s							
MLR	**Muntele Rosu**	**20.99**	**314**	⇑P	Pn	07 45 59.2	+1.0
NIL	**Nilore**	**21.51**	**80**	P	**P**	**07 46 01.5**	**+0.4**
NIL				IAmb	IAmb	07 46 07.1	
comp=Z,14nm,0.9s							
VOIR		**21.52**	**313**	⇓P	**P**	**07 46 02.8**	**+1.7**
DOPR	**Dopca**	**21.57**	**314**	⇑P	**P**	**07 46 03.0**	**+1.3**
BIZ	**Bicaz**	**21.66**	**317**	P	**P**	**07 46 07.3**	**+4.7**
PRAR	**RASCA**	**21.82**	**318**	⇑P	**P**	**07 46 10.0**	**+5.7**
LOT	**Lotru**	**22.32**	**312**	P	**P**	**07 46 11.6**	**+1.8**
AKASG	**Malin Array Be**	**22.48**	**328**	P	**P**	**07 46 10.1**	**-1.3**
comp=Z,1.5nm,0.5s,baz=137,slow=8.9,SNR=8.1							
AKASG	**Malin Array Be**	**22.48**	**328**	P	**P**	**07 46 08.5**	**-2.8**
AKBB	**Malin Array Si**	**22.48**	**328**	P	**P**	**07 46 09.9**	**-1.4**
AKBB				IAmb	IAmb	07 46 15.0	
comp=Z,5.9nm,1.0s							
BURAR	**Bucovina Array**	**22.54**	**318**	⇑P	**P**	**07 46 15.8**	**+3.8**
BURAR	**Bucovina Array**	**22.54**	**318**	P	**P**	**07 46 11.2**	**-0.9**
BUR08	**Bucovina Ar. S**	**22.56**	**318**	P	**P**	**07 46 11.7**	**-0.6**
MDVR	**Moldovita**	**23.38**	**309**	⇓P	**P**	**07 46 19.6**	**-1.1**
DRGR		**23.59**	**314**	⇓P	**P**	**07 46 25.4**	**+2.6**
SIRR	**Siria**	**24.01**	**312**	P	**P**	**07 46 29.9**	**+3.1**
KDJ	**Kajisay**	**25.23**	**60**	P	**P**	**07 46 39.2**	**+1.0**
KDJ				IAmb	IAmb	07 46 44.7	
comp=Z,5.5nm,0.9s							
TARG	**Taragay, Kyrgy**	**25.61**	**61**	P	**P**	**07 46 42.4**	**+0.6**
TARG				IAmb	IAmb	07 46 45.3	
comp=Z,5.3nm,0.7s							
TIP	**Timpagrande**	**25.68**	**293**	P	**P**	**07 46 44.1**	**+2.0**
TIP				IAmb	IAmb	07 46 45.5	
comp=Z,7.0nm,1.0s							
KECS	**Kecovo**	**25.71**	**316**	*eP*	**P**	**07 46 44.0**	**+1.8**
KIRV	**Kirov**	**25.91**	**2**	LR	LR	07 59 06.5	
comp=Z,83nm,18.3s,baz=174,slow=41							
BVAR	**Borovoye Array**	**26.11**	**32**	P	**P**	**07 46 45.5**	**-0.2**
comp=Z,1.5nm,0.4s,baz=244,slow=7.0,SNR=9.0							
BVAR				ScP	**ScP**	**07 53 50.3**	**-1.6**
comp=Z,0.5nm,0.6s,baz=132,slow=2.1,SNR=4.1							
BVAR				LR	LR	07 58 29.8	
comp=Z,25nm,20.3s,baz=298,slow=40							
VYHS	**Vyhne**	**26.70**	**315**	*eP*	**P**	**07 46 52.0**	**+0.9**
OJC	**Ojcow**	**26.94**	**319**	P	**P**	**07 46 54.1**	**+0.7**
KLMR	**Klimovskoe**	**28.64**	**352**	*e*	**P**	**07 47 05.7**	**-2.6**
KLMR				AMP		07 47 08.1	
comp=Z,10.0nm,1.0s							
KURBB	**Kurchatov Arra**	**28.95**	**43**	P	**P**	**07 47 11.9**	**+0.7**
comp=Z,2.6nm,0.7s,baz=247,slow=9.2,SNR=13							
KURK	**Kurchatov**	**29.04**	**43**	P	**P**	**07 47 12.8**	**+0.7**
KURK				IAmb	IAmb	07 47 13.6	
comp=Z,4.2nm,1.0s							
MK31	**Makanchi Array**	**29.91**	**52**	P	**P**	**07 47 20.4**	**+0.5**
MK31				IAmb	IAmb	07 47 21.2	
comp=Z,3.4nm,1.1s							
MKAR	**Makanchi Array**	**29.91**	**52**	P	**P**	**07 47 20.4**	**+0.5**
comp=Z,1.4nm,0.6s,baz=249,slow=9.8,SNR=15							
MKAR				LR	LR	07 59 32.4	
comp=Z,25nm,21.7s,baz=222,slow=37							
MKAR	**Makanchi Array**	**29.91**	**52**	P	**P**	**07 47 20.2**	**+0.3**
FINES	**FINESS Array B**	**31.93**	**341**	P	**P**	**07 47 37.6**	**+0.1**
comp=Z,0.9nm,0.3s,baz=141,slow=8.6,SNR=10							
FINES	**FINESS Array B**	**31.93**	**341**	P	**P**	**07 47 37.5**	**0.0**
BNI	**Bardonecchia**	**33.77**	**303**	P	**P**	**07 47 53.9**	**0.0**
ZAA0	**Zalesovo Array**	**33.86**	**40**	P	**P**	**07 47 54.0**	**-0.4**
ZALV	**Zalesovo Beam**	**33.86**	**40**	P	**P**	**07 47 54.0**	**-0.4**
comp=Z,1.5nm,0.3s,baz=244,slow=9.4,SNR=12							
ZALV	**Zalesovo Beam**	**33.86**	**40**	P	**P**	**07 47 54.0**	**-0.4**
HFS	**Hagfors**	**35.31**	**331**	P	**P**	**07 48 06.5**	**-0.4**
comp=Z,2.0nm,0.3s,baz=120,slow=8.8,SNR=14							
KEV	**Kevo**	**38.83**	**349**	P	**P**	**07 48 36.4**	**-0.2**
KEV				IAmb	IAmb	07 48 40.9	
comp=Z,6.7nm,0.9s							
ARCES	**ARCESS Array B**	**38.89**	**348**	P	**P**	**07 48 36.9**	**-0.3**
comp=Z,0.4nm,0.3s,baz=158,slow=10.0,SNR=9.4							
ARCES	**ARCESS Array B**	**38.89**	**348**	P	**P**	**07 48 36.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**46.09**	**256**	P	**P**	**07 49 36.4**	**0.0**
comp=Z,0.9nm,0.8s,baz=71,slow=6.4,SNR=7.4							
TORD	**Torodi Ar. Bea**	**46.09**	**256**	P	**P**	**07 49 35.2**	**-1.2**
SONM	**Songino Array**	**46.26**	**53**	P	**P**	**07 49 37.9**	**+0.3**
comp=Z,0.4nm,0.4s,baz=273,slow=8.5,SNR=3.1							
SONM	**Songino Array**	**46.26**	**53**	P	**P**	**07 49 36.9**	**-0.6**
KLR	**Kul'dur**	**62.48**	**47**	P	**P**	**07 51 34.6**	**-0.7**
comp=Z,0.6nm,0.4s,baz=285,slow=2.3,SNR=3.7							
SEY	**Seymchan**	**67.69**	**29**	P	**P**	**07 52 09.3**	**+0.4**
comp=Z,1.6nm,0.4s,baz=263,slow=6.8,SNR=10							

*IDC **28** 07:59:45.1±1.0,51°.71N×171°.14W,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.5/41,mbtmp3.5/7,ML2.9/1,MS2.8/2, Ms1 2.8/2,ms1mx2.5/58,Error ellipse: s-maj=54.9km s-min=21.3km az=156.0*
*AEIC **28** 07:59:49.3±2.4,52°.0N±0°.1×171°.0W±0°.1,h41km±7km, ML3.3/18,mb3.7/5(NEIC),Error ellipse: s-maj=20.6km s-min=7.0km az=155.0*
*NEIC **28** 07:59:50.9±2.1,52°.06N±0°.06×171°.0W±0°.1,h38km±10km, Error ellipse: s-maj=12.9km s-min=3.1km az=130.0*
ISC 28 07:59:51.3±0.8,52°.1N±0°.2×170°.99W±0°.08,h42km,n40, σ1§16/35,mb3.4/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.56**	**56**		**Pn**	**08 00 14.6**	**-1.9**
ATKA	**Atka Island**	**1.98**	**274**		**Pn**	**08 00 20.4**	**-1.8**
OKSP	**Okmok Steeple**	**2.00**	**54**		**Pn**	**08 00 20.6**	**-2.0**
OKCE	**Okmok Cone E**	**2.16**	**51**		**Pn**	**08 00 25.1**	**+0.3**
OKFG	**Magazine Ridge**	**2.28**	**54**		**Pn**	**08 00 25.8**	**-0.6**
MAPS	**Pakushin South**	**2.98**	**54**		**Pn**	**08 00 36.0**	**0.0**
MAPS					**Sn**	**08 01 08.9**	**-1.6**
MREP	**Makushin Rep't**	**3.08**	**55**		**Pn**	**08 00 37.7**	**+0.3**
MSW	**Makushin Switc**	**3.12**	**53**		**Pn**	**08 00 38.6**	**+0.7**
GSTR	**Great Sitkin T**	**3.13**	**272**		**Pn**	**08 00 38.5**	**+0.4**
GSMY	**Great Sitkin M**	**3.13**	**271**		**Pn**	**08 00 38.2**	**+0.1**
GSTD	**Great Sitkin T**	**3.18**	**271**		**Pn**	**08 00 38.8**	**-0.1**
UNV	**Unalaska Valle**	**3.22**	**56**		**Pn**	**08 00 40.2**	**+0.9**
UNV	**Unalaska Valle**	**3.22**	**56**		**Sn**	**08 01 15.8**	**-0.4**
ADK	**Adak**	**3.53**	**268**		**Pn**	**08 00 43.4**	**-0.2**
AKUT	**Akutan**	**3.74**	**55**	Pn	**Pn**	**08 00 47.9**	**+1.5**
AMKA	**Amchitka**	**6.08**	**267**	Pn	**Pn**	**08 01 19.2**	**+0.7**
OHAK	**Old Harbor**	**11.44**	**56**	Pn	**Pn**	**08 02 30.8**	**-1.1**
KDAK	**Kodiak Island**	**11.99**	**55**	Pn	**Pn**	**08 02 40.2**	**+0.9**
0.2nm,0.3s,baz=210,slow=8.1,SNR=4.1							
KDAK	**Kodiak Island**	**11.99**	**55**		**Pn**	**08 02 39.7**	**+0.3**
SCM	**Sheep Creek Mo**	**16.06**	**44**		**Pn**	**08 03 34.1**	**+0.2**
SCM				IAmb	IAmb	08 03 39.3	
comp=Z,5.9nm,0.9s							
ILAR	**Eielson Array**	**17.73**	**35**	P	**P**	**08 03 57.7**	**+2.6**
comp=Z,0.0nm,0.3s,baz=213,slow=8.1,SNR=3.8							
PETK	**Petropavlovsk-**	**18.97**	**285**	LR	LR	08 11 50.4	
comp=Z,25nm,19.0s,baz=336,slow=38							
EGAK	**Eagle**	**19.86**	**39**	P	**P**	**08 04 18.2**	**-0.2**
HYT	**Haines Junctio**	**20.24**	**51**	P	Pn	08 04 24.1	-0.8
HYT				IAmb	IAmb	08 04 28.2	
comp=Z,5.4nm,0.9s							
SKAG	**Skagway**	**21.14**	**56**	P	**P**	**08 04 33.9**	**+1.6**
MA2	**Magadan**	**22.46**	**304**	LR	LR	08 12 22.5	
comp=Z,23nm,21.2s,baz=228,slow=34							
DLBC	**Dease Lake**	**23.87**	**58**	P	**P**	**08 05 03.1**	**+2.5**
comp=Z,0.6nm,0.5s,baz=266,slow=13,SNR=3.8							
DLBC	**Dease Lake**	**23.87**	**58**	P	**P**	**08 05 01.2**	**+0.6**
DLBC				IAmb	IAmb	08 05 15.0	
comp=Z,1.3nm,0.8s							
H11S1	**WAKE ISLAND Hy**	**37.84**	**216**	T	T	08 47 47.9	
baz=22,slow=76,SNR=44							
H11S2	**WAKE ISLAND Hy**	**37.85**	**216**	T	T	08 47 49.0	
baz=22,slow=76,SNR=46							
H11S3	**WAKE ISLAND Hy**	**37.86**	**216**	T	T	08 47 31.8	
baz=22,slow=76,SNR=30							
PDAR	**Pinedale Array**

	baz=238							
IRJU	**Rjupnafell**	**1.20**	**207**	P		**Pb**	08 12 12.2	**-2.1**
	baz=208							
ISKI	**Skildingahlsh**	**1.21**	**8**	P		**Pn**	08 12 12.0	**-2.6**
	baz=7.5							
IGHA	**Grjothals**	**1.21**	**16**	P		**Pn**	08 12 11.9	**-2.7**
	baz=15							
IGRA	**Granastaoir**	**1.24**	**358**	P		**Pn**	08 12 12.6	**-2.4**
	baz=357							
IGYG	**Gygjarholskot**	**1.26**	**253**	P		**Pn**	08 12 13.3	**-2.0**
	baz=254							
IDIM	**Dimmadalss**	**1.30**	**10**	P		**Pn**	08 12 13.4	**-2.5**
	baz=8.6							
BORG	**Borgarnes**	**1.66**	**274**	Pn		**Pn**	08 12 19.1	**-1.7**
	20nm,0.3s,baz=98,slow=11,SNR=48							
BORG				Sn		**Sb**	08 12 42.0	**-1.3**
	7.9nm,0.3s,baz=354,slow=8.0,SNR=4.5							
BORG	**Borgarnes**	**1.66**	**274**			**Pn**	08 12 18.7	**-2.2**
SCO	**Scoresbysund**	**6.07**	**346**			**Pn**	08 13 22.1	**+0.8**
ANGG	**Ammassalik, Gr**	**8.54**	**285**	Pn		**Pn**	08 13 54.3	**-0.9**
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn		**Pn**	08 14 39.3	**+0.1**
	baz=326,slow=13,SNR=7.1							
ESK	**Eskdalemuir**	**11.76**	**136**	Pn		**Pn**	08 14 38.9	**-0.4**
CLL	**Collm**	**20.70**	**116**	*eP*		Pn	08 16 35.0	+1.0
	comp=Z,22nm,1.7s							
BRG	**Berggiesshubel**	**21.40**	**115**	*eP*		**P**	**08 16 43.5**	**+4.2**
	comp=Z,10nm,1.4s							
GERES	**GERESS Array B**	**22.95**	**119**	P		**P**	**08 16 58.5**	**+2.7**
	comp=Z,0.9nm,0.8s,baz=326,slow=8.4,SNR=5.6							
GERES	**GERESS Array B**	**22.95**	**119**	P		**P**	**08 16 57.9**	**+2.0**
FUORN	**Ofenpass-Fuorn**	**23.59**	**127**	P		**P**	**08 17 01.8**	**-0.7**
ESDC	**Sonseca Array**	**26.26**	**156**	P		**P**	**08 17 28.8**	**+2.0**
	comp=Z,1.0nm,0.9s,baz=347,slow=9.2,SNR=5.6							
BUR08	**Bucovina Ar. S**	**28.48**	**106**	P		**P**	**08 17 47.2**	**+0.5**
BURAR	**Bucovina Array**	**28.51**	**106**	P		**P**	**08 17 49.1**	**+2.0**
DIVS	**Divibare**	**29.30**	**116**	P		**P**	**08 17 52.8**	**-1.2**
DIVS				IAmb		IAmb	08 17 56.9	
	comp=Z,4.8nm,0.9s							
BRTR	**Keskin Array B**	**38.47**	**105**	P		**P**	**08 19 15.4**	**+1.9**
	comp=Z,0.9nm,0.8s,baz=322,slow=3.8,SNR=4.1							
BRTR	**Keskin Array B**	**38.47**	**105**	P		**P**	**08 19 14.7**	**+1.1**
KBZ	**Khabaz**	**39.10**	**93**	P		**P**	**08 19 21.5**	**+2.9**
	comp=Z,1.0nm,0.4s,baz=306,slow=6.2,SNR=5.0							
J47A	**Sunmer**	**42.51**	**273**	P		**P**	**08 19 43.4**	**-3.3**
ILAR	**Eielson Array**	**45.68**	**332**	P		**P**	**08 20 13.5**	**+1.5**
	comp=Z,1.2nm,1.0s,baz=22,slow=5.7,SNR=9.7							
MDM	**Murphy Dome**	**45.77**	**333**	P		**P**	**08 20 13.6**	**+0.9**
IMAR	**Indian Mountai**	**45.85**	**337**	P		**P**	**08 20 14.3**	**+1.0**
BOZ	**Bozeman (W)**	**51.62**	**297**	P		**P**	**08 20 59.9**	**+1.9**
BOZ				IAmb		IAmb	08 21 07.5	
	comp=Z,4.8nm,1.2s							
MKAR	**Makanchi Array**	**52.70**	**58**	P		**P**	**08 21 07.7**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=310,slow=7.5,SNR=6.1							
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P		**P**	**08 21 10.8**	**+1.4**
	comp=Z,1.1nm,1.0s,baz=334,slow=8.3,SNR=3.9							
TORD	**Torodi Ar. Bea**	**53.15**	**156**	P		**P**	**08 21 10.6**	**+1.1**
BW06	**Boulder Array**	**53.19**	**293**	P		**P**	**08 21 11.5**	**+1.7**
BW06				IAmb		IAmb	08 21 12.1	
	comp=Z,3.0nm,0.9s							
PD31	**Pinedale Array**	**53.19**	**293**	P		**P**	**08 21 11.1**	**+1.3**
PD31				IAmb		IAmb	08 21 12.1	
	comp=Z,2.8nm,0.9s							
PDAR	**Pinedale Array**	**53.19**	**293**	P		**P**	**08 21 11.2**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=58,slow=6.3,SNR=15							
PDAR	**Pinedale Array**	**53.19**	**293**	P		**P**	**08 21 11.1**	**+1.3**
U15A	**North Rim**	**59.70**	**291**	P		**P**	**08 21 56.5**	**+0.1**
U15A				IAmb		IAmb	08 21 58.7	
	comp=Z,2.2nm,1.0s							
TXAR	**Lajitas Array**	**62.30**	**280**	P		**P**	**08 22 15.5**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=60,slow=5.9,SNR=6.3							
TXAR	**Lajitas Array**	**62.30**	**280**	P		**P**	**08 22 14.6**	**+0.7**

BGR ***28*** *08:13:31.9±0.0, 65.˚46N× 19.˚93W, h10km, mb5.3, Ms4.9*
REY ***28*** *08:13:40.2, 64.˚65N× 17.˚38W, h4km*
BGS ***28*** *08:13:40.7±2.1, 64.˚69N× 17.˚39W, h5km, MS4.9*
IDC ***28*** *08:13:41.7±0.5, 64.˚73N× 17.˚31W, h0km, mb4.3/28, mb1 4.4/32, mb1mx4.3/49, mbtmp4.3/32, ML3.1/3, MS4.9/39, Ms1 4.9/39, ms1mx4.8/44, Error ellipse: s-maj=14.6km s-min=9.2km az=19.0*
BJI ***28*** *08:13:41.9±0.0, 64.˚96N× 17.˚43W, h6km, mB5.8/55, mb4.9/44, Ms5.3/59, Ms7 5.0/57*
MOS ***28*** *08:13:42.1±1.5, 64.˚75N× 17.˚58W, h10km, mb5.2/99, MS4.9/66, Error ellipse: s-maj=7.2km s-min=4.6km az=101.2*
NEIC ***28*** *08:13:42.2±1.9, 64.˚69N±0.˚07× 17.˚4W±0.˚1, h4km±1km, mb5.0/305, Ms_20 5.0/628, Mwb5.4/118, Mww5.4, Mwc5.5(GCMT), Error ellipse: s-maj=12.6km s-min=9.7km az=185.0*
NEIC ***28*** *08:13:43.7, 64.˚68N× 17.˚24W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=1.37; $M_{\theta\theta}$=0.81; $M_{\phi\phi}$=0.55; $M_{r\theta}$=-1.39; $M_{\theta\phi}$=-0.01; $M_{r\phi}$=-0.40; Fault plane solution: M_0=1.87000×10^{17} NP1:ϕ_s=76.58000°, δ=71.56000°, λ=-92.87000°. NP2:ϕ_s=265.60000°, δ=18.65000°, λ=-81.45000°. Principal axes: T 1.5174, Plg=27.0000°, Azm=169.0000°; N 0.5774, Plg=3.0000°, Azm=77.0000°; P -2.0948, Plg=63.0000°, Azm=342.0000°;*
NAO ***28*** *08:13:44.5±4.6, 64.˚67N× 16.˚67W, ML5.2*
IEPN ***28*** *08:13:44.4, 64.˚41N× 17.˚57W, h10km*
NEIC ***28*** *08:13:48, 64.˚68N× 17.˚00W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=1.92; $M_{\theta\theta}$=1.01; $M_{\phi\phi}$=0.91; $M_{r\theta}$=0.63; $M_{\theta\phi}$=-0.01; $M_{r\phi}$=0.47; Fault plane solution: M_0=1.84000×10^{17} NP1:ϕ_s=71.00000°, δ=31.00000°, λ=-83.00000°. NP2:ϕ_s=244.00000°, δ=59.00000°, λ=-94.00000°. Principal axes: T 1.1770, Plg=14.0000°, Azm=337.0000°; N 0.9452, Plg=3.0000°, Azm=246.0000°; P -2.1222, Plg=76.0000°, Azm=142.0000°;*
NEIC ***28*** *08:13:48, 64.˚60N× 17.˚16W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=2.18; $M_{\theta\theta}$=1.24; $M_{\phi\phi}$=0.95; $M_{r\theta}$=0.54; $M_{\theta\phi}$=-0.14; $M_{r\phi}$=0.94; Fault plane solution: M_0=2.19000×10^{17} NP1:ϕ_s=283.00000°, δ=37.00000°, λ=-66.00000°. NP2:ϕ_s=74.00000°, δ=56.00000°, λ=-107.00000°. Principal axes: T 1.3221, Plg=10.0000°, Azm=176.0000°; N 1.2014, Plg=14.0000°, Azm=84.0000°; P -2.5235, Plg=72.0000°, Azm=299.0000°;*
DNK ***28*** *08:13:48.5±4.8, 64.˚75N× 17.˚46W, h56km±58km, Ms4.8*
GCMT ***28*** *08:13:48.2±0.1, 64.˚62N±0.˚01× 17.˚17W±0.˚01, h12km, MW5.4/157, Moment Tensor Solution. s121,c212; s157,c299; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}=2.15±.02; $M_{\theta\theta}$=1.16±.02; $M_{\phi\phi}$=0.98±.01; $M_{r\theta}$=-0.17±.05; $M_{\theta\phi}$=-0.08±.02; $M_{r\phi}$=-0.96±.04; Best double couple: M_0=1.84700×10^{17} NP1:ϕ_s=149.00000°, δ=32.00000°, λ=-105.00000°. NP2:ϕ_s=346.00000°, δ=59.00000°, λ=-81.00000°. Principal axes: T 1.2670, Plg=14.0000°, Azm=70.0000°; N 1.1570, Plg=8.0000°, Azm=162.0000°; P -2.4280, Plg=74.0000°, Azm=281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 08:13:43.0±0.1, 64.˚78N±0.˚01× 17.˚76W±0.˚01, h10km, h10km:pP-P, n1476, o2±13/1274, mb5.0/274, MS5.0/404, 38C-30D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
IVON	**Vonarskard**	**0.10**	**180**	P		**Pg**	**08 13 43.4**	**-2.3**
	baz=277							
IDYN	**Dyngjuhals**	**0.17**	**84**	P		**Pg**	**08 13 43.2**	**-3.6**
	baz=1.7							
IDYN				S		**Sg**	**08 13 45.5**	**-3.8**
	baz=1.7							
ISKR	**Skrokkalda**	**0.35**	**232**	P		**Pg**	**08 13 48.5**	**-1.4**
	baz=258							
IDJK	**Dyngjujokull**	**0.35**	**140**	P		Pg	08 13 43.5	-6.5
	baz=158							
IHUS	**Husbondi**	**0.48**	**175**	P		Pg	08 13 47.5	-5.0
	baz=199							
IJOK	**Jokulheimar**	**0.50**	**204**	P		**Pg**	**08 13 49.5**	**-3.3**
	baz=228							
IBJK	**Bruarjokull**	**0.53**	**125**	P		Pg	08 13 46.3	-7.0
	baz=124							
IASK	**Askja**	**0.55**	**59**	P		**Pg**	**08 13 49.6**	**-4.1**
	baz=38							
IVOT	**Vottur**	**0.56**	**154**	P		Pg	08 13 47.6	-6.4
	baz=168							
IKRE	**Kreppuhraun**	**0.59**	**88**	P		Pg	08 13 48.6	-5.9
	baz=73							
ISVA	**Svartarkot**	**0.60**	**20**	P		**Pg**	**08 13 52.3**	**-2.4**
	baz=4.2							
IMKO	**Mokollar**	**0.64**	**71**	P		Pg	08 13 50.4	-5.0
	baz=53							
IIEY	**Innrieyrar**	**0.70**	**193**	P		Pg	08 13 51.9	-4.6
	baz=210							
IVAT	**Vatnsfell**	**0.78**	**221**	P		**Pg**	**08 13 55.2**	**-2.8**
	baz=236							
IHVE	**Hveravellir**	**0.78**	**278**	P		**Pg**	**08 13 57.0**	**-1.0**
	baz=284							
IKSK	**Karasker**	**0.83**	**137**	P		Pg	08 13 51.1	-7.9
	baz=141							
IKAL	**Kalfafell**	**0.83**	**178**	P		Pg	08 13 53.1	-5.9
	baz=191							
IVSH	**V-Sauoahnukur**	**0.87**	**87**	P		Pg	08 13 53.2	-6.5
	baz=77							
IMEL	**Melhnausar**	**0.92**	**30**	P		**Pg**	**08 13 57.0**	**-3.7**
	baz=18							
IREN	**Reynihlio**	**0.95**	**22**	P		**Pg**	**08 13 57.8**	**-3.4**
	baz=11							
IADA	**Aoalbol**	**0.96**	**74**	P		Pg	08 13 55.2	-6.3
	baz=64							
IKVO	**Krokottuvotn**	**1.01**	**21**	P		**Pg**	**08 13 58.9**	**-3.6**
	baz=11							
IFAG	**Fagurholsmyri**	**1.02**	**151**	P		Pg	08 13 55.4	-7.3
	baz=158							
IGRS	**Grimsstaoir**	**1.11**	**38**	P		Pg	08 13 59.7	-4.6
	baz=28							
ISNB	**Snabyli**	**1.11**	**200**	P		Pb	08 13 59.3	-5.0
	baz=211							
ISLY	**Slysaalda**	**1.12**	**212**	P		Pb	08 14 00.1	-4.4
	baz=223							
IFED	**Fedgar**	**1.13**	**229**	P		**Pb**	**08 14 01.3**	**-3.2**
	baz=239							
ISKI	**Skildingahlsh**	**1.14**	**15**	P		**Pb**	**08 14 01.3**	**-3.5**
	baz=6.7							
IGRA	**Granastaoir**	**1.15**	**4**	S		**Sn**	**08 14 20.4**	**-0.5**
	baz=356							
IGRA				P		**Pb**	**08 14 01.8**	**-3.2**
	baz=356							
IGHA	**Grjothals**	**1.17**	**23**	P		**Pb**	**08 14 01.4**	**-3.8**
	baz=14							
IGYG	**Gygjarholskot**	**1.17**	**246**	P		**Pb**	**08 14 02.7**	**-2.6**
	baz=254							
IMJO	**Mjoaskard**	**1.19**	**225**	P		**Pb**	**08 14 02.2**	**-3.4**
	baz=235							
IHLA	**Hella**	**1.20**	**348**	P		**Pb**	**08 14 03.5**	**-2.3**
	baz=342							
IRJU	**Rjupnafell**	**1.23**	**199**	P		Pn	08 14 01.5	-4.7
	baz=209							
IRJU				S		**Sb**	**08 14 16.6**	**-5.5**
	baz=209							
IDIM	**Dimmadalss**	**1.24**	**16**	P		**Pn**	**08 14 02.8**	**-3.6**
	baz=7.9							
IHAU	**Haukadalur**	**1.25**	**231**	P		**Pn**	**08 14 03.3**	**-3.2**
	baz=240							
IGOD	**Go??abunga**	**1.31**	**212**	P		**Pn**	**08 14 03.8**	**-3.7**
	baz=221							
IHED	**Heoinshofoi**	**1.32**	**8**	P		**Pn**	**08 14 04.5**	**-3.0**
	baz=1.1							
IHVO	**Lagu-Hvolar**	**1.34**	**201**	P		Pn	08 14 03.4	-4.4
	baz=210							
IBRE	**Brettingsstaoi**	**1.36**	**357**	P		**Pn**	**08 14 05.4**	**-2.5**
	baz=352							
ISAU	**Saurbar**	**1.40**	**237**	P		**Pn**	**08 14 05.6**	**-2.9**
	baz=245							
IALF	**Alftagrof**	**1.43**	**207**	P		**Pn**	**08 14 04.8**	**-4.1**
	baz=215							
IGIL	**Gilhagi**	**1.43**	**24**	P		**Pn**	**08 14 05.3**	**-3.7**
	baz=16							
IMID	**Miomork**	**1.46**	**221**	P		**Pn**	**08 14 06.3**	**-3.0**
	baz=229							
IESK	**Eystri-Skogar**	**1.46**	**211**	P		**Pn**	**08 14 05.5**	**-3.8**
	baz=220							
BORG	**Borgarnes**	**1.53**	**271**	Pn		**Pn**	**08 14 09.7**	**-0.6**
	64nm,0.3s,baz=89,slow=7.5,SNR=58							
BORG				Sn		**Sg**	**08 14 34.3**	**+2.2**
	96nm,0.3s,baz=343,slow=16,SNR=9.6							
BORG	**Borgarnes**	**1.53**	**271**	P		**Pn**	**08 14 09.4**	**-0.9**
BORG	**Borgarnes**	**1.53**	**271**	Pn		**Pn**	**08 14 09.4**	**-0.9**
IASB	**`sbjarnarst**	**1.53**	**271**	P		**Pn**	**08 14 09.1**	**-1.3**
	baz=275							
IASM	**Asmuli**	**1.56**	**234**	P		**Pn**	**08 14 08.3**	**-2.5**
	baz=241							
IKRO	**Krokur**	**1.61**	**247**	P		**Pn**	**08 14 09.2**	**-2.2**
	baz=253							
IHEI	**Heioarbar**	**1.61**	**251**	P		**Pn**	**08 14 09.6**	**-1.8**
	baz=256							
ISOL	**Solvholt**	**1.63**	**240**	P		**Pn**	**08 14 09.3**	**-2.3**
	baz=246							
IHRN	**Hraun**	**1.67**	**325**	P		**Pn**	**08 14 11.1**	**-1.1**
	baz=323							
ILEI	**Leirhofn**	**1.72**	**17**	P		**Pn**	**08 14 10.2**	**-2.8**
	baz=11							
IBJA	**Bjarnastaoir**	**1.75**	**243**	P		**Pn**	**08 14 11.5**	**-1.9**
	baz=249							
IGRI	**Grimsey**	**1.78**	**357**	P		**Pn**	**08 14 11.6**	**-2.2**
	baz=352							
ISAN	**Sandskeio**	**1.81**	**248**	P		**Pn**	**08 14 13.0**	**-1.1**
	baz=254							
IKUD	**Kuludalsa**	**1.84**	**258**	P		**Pn**	**08 14 13.4**	**-1.1**
	baz=262							
SCO	**Scoresbysund**	**5.95**	**346**	*i* P		**Pn**	**08 15 11.9**	**+0.9**
SCO	**Scoresbysund**	**5.95**	**346**	*i* P		**Pn**	**08 15 11.9**	**+0.9**
SCO	**Scoresbysund**	**5.95**	**346**			**Pn**	**08 15 11.6**	**+0.6**
SCO	**Scoresbysund**	**5.95**	**346**	*i* P		**Pn**	**08 15 12.0**	**+0.9**
SCO				IAMs_20	IAMs_20		08 18 00.9	
	comp=Z,24μm,7.9s							
JMIC	**Jan Mayen**	**7.14**	**25**	Pn		**Pn**	**08 15 27.0**	**-0.3**
JMIC	**Jan Mayen**	**7.14**	**25**	LR		LR	08 17 50.7	
	comp=Z,10μm,20.1s,baz=274,slow=35							
JMIC	**Jan Mayen**	**7.14**	**25**	Pn		**Pn**	**08 15 27.0**	**-0.3**
ANGG	**Ammassalik, Gr**	**8.39**	**285**	Pn		**Pn**	**08 15 45.1**	**+0.6**
ANGG	**Ammassalik, Gr**	**8.39**	**285**	IAMs_20	IAMs_20		08 19 26.4	
	comp=Z,60μm,7.9s							
LEWI	**Lewis, Hebride**	**8.44**	**137**	*eP*		**Pn**	**08 15 41.3**	**-3.8**
LEWI				IAMs_20	IAMs_20		08 20 20.5	
	comp=Z,11μm,12.1s							
ISOG	**Isortog, Green**	**8.95**	**285**	IAMs_20	IAMs_20		08 19 43.8	
	comp=Z,49μm,8.3s							
LRW	**Lerwick**	**8.96**	**114**	*eP*		**Pn**	**08 15 48.3**	**-4.0**
LRW				IAMs_20	IAMs_20		08 19 42.7	
	comp=Z,16μm,14.7s							
LRW	**Lerwick**	**8.96**	**114**	*eP*		**Pn**	**08 15 49.2**	**-3.1**
BIGH	**Upper Bighouse**	**9.10**	**127**	*eP*		**Pn**	**08 15 50.6**	**-3.6**
BIGH	**Upper Bighouse**	**9.10**	**127**	*eP*		**Pn**	**08 15 52.9**	**-1.3**
KAC	**Kirkjubaellach**	**9.45**	**135**	*eP*		Pn	08 15 54.1	-4.8
KPL	**Plockton**	**9.47**	**136**	*eP*		Pn	08 15 54.7	-4.6
KPL	**Plockton**	**9.47**	**136**	*e*		**Pn**	**08 15 55.0**	**-4.3**
KPL				*eP*		**Pn**	**08 15 58.9**	**-0.4**
ICESG	**Greenland Ices**	**9.58**	**306**	*i* P		Pn	08 16 06.9	+5.8
ICESG				IAMs_20	IAMs_20		08 20 02.3	
	comp=Z,32μm,8.5s							
DBG	**Daneborg**	**9.62**	**356**	*i* P		Pn	08 16 05.2	+4.0
DBG				IAMs_20	IAMs_20		08 24 03.6	
	comp=Z,10μm,6.0s							
MCD	**Coleburn Disti**	**10.03**	**129**	*eP*		**Pn**	**08 16 03.5**	**-3.4**
LAWE	**Loch Awe, Argy**	**10.47**	**139**	*eP*		**Pn**	**08 16 08.6**	**-4.2**
INVG	**Invergeldie, C**	**10.72**	**135**	*eP*		Pn	08 16 11.8	-4.5
INVG				IAMs_20	IAMs_20		08 20 52.8	
	comp=Z,14μm,10.8s							
FOO	**Floro**	**10.75**	**97**	*eP*		**Pn**	**08 16 17.8**	**+1.1**
FOO				IAmb	IAmb		08 16 27.7	
	comp=Z,126nm,1.5s							
ELO	**Logie Almond**	**10.79**	**134**	*eP*		Pn	08 16 12.5	-4.8
SUMG	**Summit**	**10.79**	**325**	*i* P		Pn	08 16 22.4	+4.8
SUMG	**Summit**	**10.79**	**325**	P		**Pn**	**08 16 18.0**	**+0.4**
SUMG	**Summit**	**10.79**	**325**	Pn		**Pn**	**08 16 18.0**	**+0.4**
SUMG	**Summit**	**10.79**	**325**	*i* P		Pn	08 16 22.5	+4.8
SUMG				IAMs_20	IAMs_20		08 20 48.2	
	comp=Z,54μm,9.5s							
EAB	**Aberfoyle**	**10.83**	**136**	*eP*		**Pn**	**08 16 14.1**	**-3.8**
SUE	**Suler**	**10.89**	**100**	*eP*		**Pn**	**08 16 17.0**	**-1.7**
PGBU	**Glenifferbraes**	**11.12**	**138**	*eP*		**Pn**	**08 16 18.7**	**-3.1**
CLGH	**Cloghs, Cushen**	**11.32**	**144**	*eP*		**Pn**	**08 16 21.7**	**-2.8**
CLGH				IAMs_20	IAMs_20		08 22 19.1	
	comp=Z,14μm,11.1s							
AKN	**Aaknes**	**11.34**	**92**	Pn		Pn	08 16 19.6	-5.1
AKN	**Aaknes**	**11.34**	**92**	Pn		Pn	08 16 19.6	-5.1
ASK	**Askoy**	**11.37**	**102**	*eP*		Pn	08 16 19.5	-5.7
ASK				IAmb		IAmb	08 16 30.1	
	comp=Z,107nm,1.4s							
EDI	**Edinburgh**	**11.41**	**134**	*eP*		**Pn**	**08 16 22.0**	**-3.7**
EDI				IAMs_20	IAMs_20		08 20 08.0	
	comp=Z,9μm,19.9s							
EDI	**Edinburgh**	**11.41**	**134**	*eP*		**Pn**	**08 16 28.6**	**+2.9**
MOL	**Molde**	**11.42**	**90**	Pn		**Pn**	**08 16 21.4**	**-4.5**
MOL	**Molde**	**11.42**	**90**	*eP*		**Pn**	**08 16 23.7**	**-2.1**
ESY	**Stoneypath**	**11.59**	**133**	*eP*		**Pn**	**08 16 25.6**	**-2.6**
NEWG	**New Galloway**	**11.79**	**139**	*eP*		**Pn**	**08 16 27.5**	**-3.5**
GAL1	**Galloway**	**11.88**	**141**	*eP*		**Pn**	**08 16 28.7**	**-3.5**
EKA	**Eskdalemuir Ar**	**11.91**	**136**	Pn		**Pn**	**08 16 30.1**	**-2.6**
EKA	**Eskdalemuir Ar**	**11.91**	**136**	Pn		**Pn**	**08 16 28.7**	**-3.9**
	baz=322,slow=14,SNR=28							
EKA				LR		LR	08 20 50.3	
	comp=Z,7μm,20.1s,baz=325,slow=36							
EKA	**Eskdalemuir Ar**	**11.91**	**136**	Pn		**Pn**	**08 16 30.1**	**-2.6**
ESK	**Eskdalemuir**	**11.91**	**136**	*eP*		**Pn**	**08 16 29.3**	**-3.4**
ESK				IAMs_20	IAMs_20		08 20 59.9	
	comp=Z,11μm,18.2s							
ESK	**Eskdalemuir**	**11.91**	**136**	P		Pn	08 16 27.9	-4.8
ESK	**Eskdalemuir**	**11.91**	**136**	Pn		Pn	08 16 27.9	-4.8
DAG	**Danmarks Havn**	**12.06**	**359**	*i* P		Pn	08 16 42.2	+7.6
	comp=Z,6μm,10.0s							
DAG	**Danmarks Havn**	**12.06**	**359**	*eP*		Pn	08 16 42.2	+7.6
DAG				MLR		MLR		
	comp=Z,6μm,10.0s							
DAG	**Danmarks Havn**	**12.06**	**359**	*i* P		Pn	08 16 40.1	+5.5
DAG				*eP*			08 16 42.2	
DAG				IAMs_20	IAMs_20		08 21 22.7	
	comp=Z,6μm,10.5s							
KMY	**Karmoy**	**12.12**	**107**	*eP*		Pn	08 16 30.6	-4.8
KMY				IAmb		IAmb	08 16 37.0	
	comp=Z,92nm,1.2s							
DOMB	**Dombas**	**12.28**	**91**	*eP*		**Pn**	**08 16 34.6**	**-3.1**
ODD1	**Odda**	**12.28**	**102**	*eP*		**Pn**	**08 16 39.2**	**+1.5**
BLS5	**Blasjo**	**12.49**	**104**	*eP*		**Pn**	**08 16 37.9**	**-2.7**
BLS5				IAmb		IAmb	08 16 46.1	
	comp=Z,28nm,0.8s							
SKAR	**Skarslia**	**12.58**	**97**	*eP*		**Pn**	**08 16 39.4**	**-2.5**
SKAR				IAmb		IAmb	08 16 51.0	
	comp=Z,123nm,1.6s							
EDMD	**Edmundbyers**	**12.70**	**134**	*eP*		**Pn**	**08 16 44.0**	**+0.5**
NRS	**Narsarsuaq**	**13.03**	**267**	*i* P		P	08 16 53.7	-4.7
NRS	**Narsarsuaq**	**13.03**	**267**	*eP*		P	08 16 53.7	-4.7
NRS	**Narsarsuaq**	**13.03**	**267**	*eP*		P	08 16 53.7	-4.7
NRS				IAMs_20	IAMs_20		08 22 54.1	
	comp=Z,18μm,9.0s							
NC204	**NORSAR Array S**	**13.35**	**92**			Pn	08 16 46.7	-5.6
NC204	**NORSAR Array S**	**13.35**	**92**	*eP*		**Pn**	**08 16 48.2**	**-4.0**
NBO00	**NORSAR Array S**	**13.47**	**93**			**Pn**	**08 16 49.4**	**-4.5**
NBO00	**NORSAR Array S**	**13.47**	**93**	*eP*		**Pn**	**08 16 50.1**	**-3.8**
SFJD	**Kangerlussuaq**	**13.52**	**294**	LR		LR	08 21 57.7	
	comp=Z,8μm,20.9s,baz=86,slow=36							
SFJD	**Kangerlussuaq**	**13.52**	**294**	*i* P		P	08 16 59.5	-4.2
SFJD	**Kangerlussuaq**	**13.52**	**294**	*eP*		P	08 16 59.5	-4.2
SFJD	**Kangerlussuaq**	**13.52**	**294**	Pn		**Pn**	**08 16 53.6**	**-0.9**
SFJD	**Kangerlussuaq**	**13.52**	**294**	*eP*		P	08 16 59.6	-4.2
SFJD				IAMs_20	IAMs_20		08 22 02.0	
	comp=Z,2μm,9.4s							
NAO01	**NORSAR Array S**	**13.60**	**94**			Pn	08 16 50.7	-5.0
NAO01	**NORSAR Array S**	**13.60**	**94**	*eP*		**Pn**	**08 16 56.4**	**+0.7**
NAO01				IAmb		IAmb	08 17 01.6	
	comp=Z,44nm,1.4s							
NC303	**NORSAR Array S**	**13.63**	**92**			**Pn**	**08 16 51.6**	**-4.5**
NC303	**NORSAR Array S**	**13.63**	**92**	*eP*		**Pn**	**08 16 56.7**	**+0.6**
ILULI	**Ilulissat**	**13.64**	**304**	*i* P		**Pn**	**08 16 59.2**	**+3.0**
ILULI	**Ilulissat**	**13.64**	**304**	*eP*		**Pn**	**08 16 59.2**	**+3.0**
ILULI	**Ilulissat**	**13.64**	**304**	Pn		**Pn**	**08 16 57.8**	**+1.7**
ILULI	**Ilulissat**	**13.64**	**304**	*eP*		**Pn**	**08 16 59.2**	**+3.0**
ILULI				IAMs_20	IAMs_20		08 22 22.2	
	comp=Z,20μm,8.4s							
NB2	**NORSAR Subarra**	**13.65**	**93**	Pn		Pn	08 16 50.6	-5.7
NB2	**NORSAR Subarra**	**13.65**	**93**	Pn		**Pn**	**08 16 52.1**	**-4.3**
	comp=

comp=Z,50nm,2.7s
MEM Membach 18.87 127 P **P** **08 18 01.2 -1.8**
BHOU Houvegnez 19.08 128 P **P** **08 18 02.5 -2.9**
SUF Sumiainen 19.24 76 P **Pn** **08 18 07.2 -0.7**
TULEG Thule 19.70 327 *i* P **Pn** **08 18 16.7 +3.3**
TULEG IAMs_20 IAMs_20 08 26 12.4
comp=Z,12µm,8.1s
WLF Walferdange 19.72 129 P **Pn** **08 18 12.6 -1.2**
WLF Walferdange 19.72 129 P **P** **08 18 09.1 -3.2**
WLF pmax pmax
comp=Z,20nm,1.0s
WLF Walferdange 19.72 129 P **P** **08 18 09.1 -3.2**
FIA0 FINESS Array S 19.79 79 P **Pn** **08 18 12.3 -2.3**
baz=297,slow=6.5
FIA0 FINESS Array S 19.79 79 P **Pn** **08 18 12.3 -2.3**
baz=297,slow=6.5
FIA1 FINESS Array S 19.79 79 Pn 08 18 13.2 -1.4
FINES FINESS Array B 19.79 79 P **P** **08 18 11.8 -1.2**
comp=Z,0.3nm,0.3s,baz=319,slow=10,SNR=11
FINES LR LR 08 25 25.4
comp=Z,4µm,21.4s,baz=294,slow=36
CLF Chambon-Foret 19.95 138 P 08 18 13.2 -1.6
TNS Taunus Mts 20.04 124 *eL* L 08 28 07.6
comp=Z,2µm,19.5s
APA0 Apatity Array 20.21 59 P Pn 08 18 18.0 -1.4
RUE Ruedersdorf 20.25 112 *eP* Pn 08 18 19.3 -0.6
APA Apatity 20.37 59⇓ *i* P Pn 08 18 19.9 -1.4
APA *i* 08 18 36.7
APA *i* S **S** **08 22 05.0 -2.0**
APA pmax pmax
comp=Z,32nm,1.2s
MFF Saint Martin d 20.60 144 *eP* Pn 08 18 22.7 -1.5
MFF pmax pmax
comp=Z,44nm,1.1s
CLL Collm 20.85 116 *eP* **P** **08 18 23.0 -1.6**
comp=Z,36nm,1.7s
CLL *i* Pmax 08 18 26.2
comp=Z,204nm,1.6s
CLL *eP*max 08 18 28.0
CLL *i* 08 18 31.0
CLL *i* 08 18 34.5
CLL *e* 08 20 06.0
CLL *eS* Sn 08 22 21.0 -1.2
CLL *i* (SS) 08 22 38.3
CLL Lm MLR 08 26 00.0
comp=N,4µm,19.8s
CLL Lm MLR 08 26 00.0
comp=E,4µm,18.8s
CLL Lm MLR 08 26 00.0
comp=Z,4µm,19.7s
CLL Lmax 08 27 00.0
CLL Collm 20.85 116 *eP* **P** **08 18 23.0 -1.6**
CLL *eS* Sn 08 22 21.0 -1.2
CLL pmax pmax
comp=Z,204nm,1.6s
CLL MLR MLR
comp=Z,4µm,19.7s
CLL Collm 20.85 116 *eL* L 08 26 42.1
comp=Z,4µm,19.7s
CLL Collm 20.85 116 P **P** **08 18 21.8 -2.8**
CLL IAMs_20 IAMs_20 08 27 27.9
comp=Z,6µm,18.0s
MOX Moxa 20.85 119 *eL* L 08 26 58.2
comp=Z,7µm,20.0s
GKP Gorka Klasztor 21.05 106 *eP* **P** **08 18 28.9 +2.1**
GKP *eS* **S** **08 22 21.4 +0.6**
PBUR Paburge 21.12 96 *eP* **P** **08 18 27.9 +0.4**
ECH Echery 21.31 129 P **P** **08 18 28.6 -1.0**
ECH pmax pmax
comp=Z,114nm,1.3s
ECH Echery 21.31 129 P **P** **08 18 28.6 -1.0**
ECH IAmb IAmb 08 18 40.5
comp=Z,114nm,1.3s
GRA1 Grafenberg Arr 21.48 121 P **P** **08 18 30.1 -1.3**
GRA1 IAmb IAmb 08 18 43.2
comp=Z,71nm,1.1s
GRA1 IAMs_20 IAMs_20 08 28 08.7
comp=Z,5µm,19.0s
GRF Grafenberg Arr 21.48 121 P **P** **08 18 30.1 -1.3**
GRF pmax pmax
comp=Z,71nm,1.1s
GRF MLR MLR
comp=Z,5µm,19.0s
GRF Grafenberg Arr 21.48 121 *eP* **P** **08 18 32.1 +0.7**
comp=Z,169nm,1.6s,baz=325,slow=10
GRF *eL* L 08 28 01.2
comp=Z,5µm,18.1s
NKC Novy Kostel 21.50 118 *eP* **P** **08 18 33.2 +1.6**
NKC *eS* Sn 08 22 33.0 -4.8
NKC MLR MLR
comp=Z,6µm,18.0s
NKC Novy Kostel 21.50 118 *eP* **P** **08 18 33.2 +1.6**
NKC *eS* Sn 08 22 33.0 -4.8
NKC AMS AMS 08 27 10.0
comp=Z,6µm,18.0s
STU Stuttgart 21.53 125 P **P** **08 18 29.4 -2.5**
STU pmax pmax
comp=Z,73nm,0.9s
STU MLR MLR
comp=Z,4µm,18.0s
STU Stuttgart 21.53 125 P **P** **08 18 29.4 -2.5**
STU IAmb IAmb 08 18 39.6
comp=Z,73nm,0.9s
STU IAMs_20 IAMs_20 08 27 49.8
comp=Z,4µm,18.0s
BRG Berggiesshubel 21.56 115 *i* P **P** **08 18 30.3 -1.9**
comp=Z,15nm,1.1s
BRG *i* 08 18 34.1
BRG S Sn 08 22 34.0 -5.2
comp=Z,6µm,19.8s
comp=N,4µm,15.2s
comp=E,3µm,15.2s
BFO Black Forest 21.60 127 P **P** **08 18 29.7 -3.1**
BFO pmax pmax
comp=Z,176nm,1.5s
BFO MLR MLR
comp=Z,4µm,21.0s
BFO Black Forest 21.60 127 *eL* L 08 27 04.3
comp=Z,3µm,19.3s
BFO Black Forest 21.60 127 P **P** **08 18 29.7 -3.1**
FRB Frobisher Bay 21.61 291 P **P** **08 18 35.4 +2.8**
comp=Z,2.0nm,0.8s,baz=25,slow=21,SNR=1.9
FRB LR LR 08 26 15.8
comp=Z,4µm,20.6s,baz=68,slow=35
PVCC Panska Ves 22.08 115 *eP* **P** **08 18 39.9 +2.1**
PVCC Panska Ves 22.08 115 *eP* **P** **08 18 39.9 +2.1**
PVCC *eS* Sn 08 22 49.3 -2.3
SLVR Solovky 22.12 65 *eP* **P** **08 18 37.5 -0.6**
comp=Z,168nm,1.3s
SLVR *eS* **S** **08 22 43.2 +1.7**
PABE Paberze 22.33 95 *eP* **P** **08 18 41.3 +0.9**
PRA Prague 22.39 116 *eP* **P** **08 18 43.1 +2.0**
PRA MLR MLR
comp=Z,2µm,16.3s
PRA Prague 22.39 116 *eP* **P** **08 18 43.1 +2.0**
PRA *eS* Sn 08 22 51.6 -7.5
PRA AMS AMS 08 28 10.0
comp=Z,2µm,16.3s
PUL Pulkovo 22.45 80 *eP* **P** **08 18 41.6 -0.1**
PRU Pruhonice 22.50 116 *eP* **P** **08 18 43.5 +1.2**
PRU *e* 08 18 51.5
PRU MLR MLR
comp=Z,5µm,16.8s
PRU Pruhonice 22.50 116 *eP* **P** **08 18 43.5 +1.2**
PRU *ex* x 08 18 51.5
PRU *eS* **S** **08 22 53.1 +4.3**
PRU AMS AMS 08 28 10.0
comp=Z,5µm,16.8s
KSP Ksiaz 22.51 112 *eP* **P** **08 18 40.5 -1.9**
KSP *epP* **pP** **08 18 44.4 -1.1**
KSP *eS* **S** **08 22 51.8 +2.8**
PBCC Pribram 22.53 117 *eP* **P** **08 18 45.1 +2.4**
PBCC *ex* x 08 18 49.7
PBCC *eS* **S** **08 22 54.5 +5.0**
WET Wettzell 22.55 119 *eL* L 08 27 28.2
comp=Z,5µm,21.5s
CHVC Chvalec 22.61 113 *eP* **P** **08 18 43.0 -0.6**
CHVC *eS* **S** **08 22 53.3 +2.3**
CHVC AMS AMS 08 27 20.0
comp=Z,5µm,21.4s
GOPC GO Pecny, Ondr 22.65 115 *eP* **P** **08 18 45.5 +1.5**
GOPC *e* 08 18 53.3
GOPC MLR MLR
comp=Z,6µm,18.2s
GOPC GO Pecny, Ondr 22.65 115 *eP* **P** **08 18 45.5 +1.5**
GOPC *ex* x 08 18 53.3
GOPC *eS* Sn 08 22 58.1 -7.3
GOPC AMS AMS 08 28 20.0
comp=Z,6µm,18.2s
UPC Upice 22.66 113 *eP* **P** **08 18 45.8 +1.8**
UPC *e* 08 18 50.2
UPC MLR MLR
comp=Z,5µm,19.0s
UPC Upice 22.66 113 *eP* **P** **08 18 45.8 +1.8**
UPC *ex* x 08 18 50.2
UPC *eS* Sn 08 22 58.3 -7.3
UPC AMS AMS 08 27 40.0
comp=Z,5µm,19.0s
OSTC Ostas 22.70 113 *eP* **P** **08 18 45.6 +1.1**
OSTC *ex* x 08 18 58.7
OSTC *eS* **S** **08 22 56.6 +4.0**
OSTC AMS AMS 08 27 30.0
comp=Z,4µm,17.0s
FUR Furstenfeldbru 22.78 123 *eL* L 08 29 03.7
comp=Z,4µm,18.0s
KHC Kasperske Hory 22.82 118 *eP* **P** **08 18 44.4 -1.4**
KHC *e* 08 18 47.6
KHC *eS* **S** **08 22 55.7 +0.9**
KHC MLR MLR
comp=Z,6µm,20.4s
KHC Kasperske Hory 22.82 118 *eP* **P** **08 18 44.4 -1.4**
KHC *epP* **pP** **08 18 47.6 -1.5**
KHC *eS* **S** **08 22 55.7 +0.9**
KHC AMS AMS 08 27 20.0
comp=Z,6µm,20.4s
KHC Kasperske Hory 22.82 118 P **P** **08 18 43.6 -2.2**
DPC Dobruska-Polom 22.91 113 *eP* **P** **08 18 48.0 +1.3**
DPC *e* 08 18 54.3
DPC *eS* **S** **08 22 56.9 +0.6**
DPC MLR MLR
comp=Z,5µm,22.5s
DPC Dobruska-Polom 22.91 113 *eP* **P** **08 18 48.0 +1.3**
DPC *ex* x 08 18 54.3
DPC *eS* **S** **08 22 56.9 +0.6**
DPC AMS AMS 08 27 30.0
comp=Z,5µm,22.5s
SENIN Lac Senin/Sane 22.98 131 P **P** **08 18 46.6 -1.1**
SENIN IAmb IAmb 08 19 05.3
comp=Z,59nm,1.5s
SENIN IAMs_20 IAMs_20 08 27 55.4
comp=Z,4µm,18.0s
ZFI2 Zemlya Franca- 23.01 22 P **P** **08 18 48.2 +0.8**
comp=Z,84nm,1.6s
ZFI2 *eS* **S** **08 23 02.3 +4.8**
SUW Suwalki 23.01 98 *eP* **P** **08 18 46.7 -0.9**
SUW *eS* **S** **08 22 59.1 +1.2**
SUW Suwalki 23.01 98 P **P** **08 18 46.0 -1.6**
SUW pmax pmax
comp=Z,245nm,1.3s
SUW Suwalki 23.01 98 P **P** **08 18 46.0 -1.6**
DAVA Damuels 23.04 126 *i* sP sP 08 18 50.0 -2.9
comp=Z,81nm,1.5s,SNR=12
GEC2 GERESS Array S 23.11 119 *eL* L 08 27 43.7
comp=Z,5µm,21.7s
GEC2 GERESS Array S 23.11 119 P **P** **08 18 46.1 -2.7**
GEC2 IAMs_20 IAMs_20 08 28 05.5
comp=Z,5µm,20.0s
GERES GERESS Array B 23.11 119 P **P** **08 18 47.6 -1.2**
comp=Z,10nm,1.1s,baz=324,slow=6.6,SNR=19
GERES LR LR 08 28 56.1
comp=Z,5µm,18.8s,baz=330,slow=40
GERES GERESS Array B 23.11 119 P **P** **08 18 47.0 -1.8**
SSB Saint Sauveur 23.11 137 P **P** **08 18 48.2 -0.5**
SSB pmax pmax
comp=Z,90nm,1.2s
SSB MLR MLR
comp=Z,5µm,19.0s
SSB Saint Sauveur 23.11 137 P **P** **08 18 48.2 -0.5**
SSB IAmb IAmb 08 19 04.1
comp=Z,90nm,1.2s
SSB Saint Sauveur 23.11 137 IAMs_20 IAMs_20 08 27 15.9
comp=Z,5µm,19.0s
IZAR Zarasai 23.14 92 *eP* **P** **08 18 49.4 +0.4**
RETA Reutte 23.17 125 *i* sP **P** **08 18 51.8 +2.4**
comp=Z,36nm,1.0s,SNR=7.8
ISAL Salakas 23.21 92 *eP* **P** **08 18 50.8 +1.1**
KRLC Kraliky 23.30 113 *eP* **P** **08 18 51.3 +0.6**
KRLC *e* 08 18 58.0
KRLC *eS* **S** **08 23 03.8 +0.8**
KRLC MLR MLR
comp=Z,4µm,17.8s
KRLC Kraliky 23.30 113 *eP* **P** **08 18 51.3 +0.6**
KRLC *ex* x 08 18 58.0
KRLC *eS* **S** **08 23 03.8 +0.8**
KRLC AMS AMS 08 28 30.0
comp=Z,4µm,17.8s
TMCR Tamitsa 23.40 66 *eP* **P** **08 18 51.4 -0.1**
TMCR Tamitsa 23.40 66 *eP* **P** **08 18 51.4 -0.1**
TMCR *eS* **S** **08 23 07.5 +3.3**
MOTA Moosalm 23.41 124 *i* sP sP 08 18 54.1 -2.7
comp=Z,91nm,1.4s,SNR=16
TREC Trest 23.42 115 *eP* **P** **08 18 53.1 +1.2**
TREC MLR MLR
comp=Z,5µm,19.4s
TREC Trest 23.42 115 *eP* **P** **08 18 53.1 +1.2**
TREC *eS* **S** **08 23 11.5 +6.6**
TREC AMS AMS 08 28 40.0
comp=Z,5µm,19.4s
DAVOX Davos/Dischmat 23.47 127 LR LR 08 28 53.6
comp=Z,4µm,18.4s,slow=39
PGAV Gavieira, Arco 23.49 162⇑ *eP* **P** **08 18 55.5 +2.8**
comp=Z,161nm,2.1s
PGAV *eS* **S** **08 23 10.6 +4.4**
PGAV *eLR* LR 08 25 12.0
comp=Z,2µm,20.0s
EUNU Eureka 23.53 336 P **P** **08 18 54.3 +1.6**
EUNU IAMs_20 IAMs_20 08 27 39.2
comp=Z,7µm,19.0s
SQTA Sankt Quirin 23.56 124 *i* sP **P** **08 18 55.8 +2.4**
comp=Z,78nm,1.9s,SNR=15
FETA Feichten 23.56 125 *i* sP **P** **08 18 57.6 +4.2**
comp=Z,47nm,1.4s
TUE Stuetta 23.56 128 P **P** **08 18 51.8 -1.7**
TUE IAMs_20 IAMs_20 08 28 16.7
comp=Z,4µm,19.0s
BEL Belsk 23.58 105 *eP* **P** **08 18 53.2 -0.1**
BEL *eS* **S** **08 23 07.7 +0.4**
WATA Walderalm 23.59 124 *i* sP sP 08 18 55.1 -3.4
comp=Z,70nm,1.6s,SNR=11
IDID Didziasalis 23.64 92 *eP* **P** **08 18 53.8 -0.1**
WTTA Wattenberg 23.67 124 *i* sP **P** **08 18 57.1 +2.5**
comp=Z,86nm,1.5s,SNR=16
FUORN Ofenpass-Fuorn 23.74 126 P **P** **08 18 52.6 -2.7**
FUORN IAmb IAmb 08 19 08.9
comp=Z,34nm,1.1s
FUORN IAMs_20 IAMs_20 08 28 51.5
comp=Z,5µm,18.0s
PCAB Cabril 23.77 162 *eP* **P** **08 18 57.9 +2.5**
PCAB *eS* **S** **08 23 16.1 +5.5**
VRAC Vranov 23.84 114 P **P** **08 18 54.5 -1.5**
comp=Z,6.1nm,0.9s,baz=318,slow=11,SNR=6.2
VRAC LR LR 08 29 20.7
comp=Z,5µm,18.7s,baz=335,slow=40
VRAC Vranov 23.84 114⇓ *iP* **P** **08 18 58.6 +2.6**
VRAC Vranov 23.84 114 *eP* **P** **08 18 54.1 -1.9**
VRAC *eS* **S** **08 23 16.0 +4.5**
MORC Moravsky Berou 23.84 112⇓ P **P** **08 18 58.8 +2.7**
MORC Moravsky Berou 23.84 112 *eP* **P** **08 18 53.8 -2.2**
MORC *eS* **S** **08 23 16.7 +5.1**
MORC Moravsky Berou 23.84 112 P **P** **08 18 53.8 -2.2**
MORC pmax pmax
comp=Z,30nm,1.1s
MORC MLR MLR
comp=Z,4µm,19.0s
MORC Moravsky Berou 23.84 112 P **P** **08 18 53.8 -2.2**
MORC IAMs_20 IAMs_20 08 28 59.0
comp=Z,4µm,19.0s
PBRG Braganca 23.86 159⇑ *iP* **P** **08 18 59.6 +3.3**
PBRG *eS* **S** **08 23 18.2 +6.1**
NACGM Naroch 23.93 93 *eP* **P** **08 18 56.0 -0.8**
NACGM *eP* **P** **08 18 56.0 -0.8**
NACGM *ePP* **PnPn** **08 19 32.0 +7.2**
NACGM *eS* **S** **08 23 16.0 +3.1**
NACGM *eSS* SnSn 08 24 12.0 +20
NACGM *eSSS* SSS 08 24 52.0
NACGM *eLQ* LQ 08 26 10.0
NACGM *eLR* LR 08 27 04.0
NACGM LRM MLR 08 27 18.0
comp=Z,19nm,20.0s
BNI Bardonecchia 23.95 134 P **P** **08 18 55.2 -2.0**
BNI pmax pmax
comp=Z,42nm,1.3s
BNI MLR MLR
comp=Z,5µm,20.0s
BNI Bardonecchia 23.95 134 P **P** **08 18 55.2 -2.0**
BNI IAmb IAmb 08 19 12.0
comp=Z,42nm,1.3s
BNI IAMs_20 IAMs_20 08 28 27.3
comp=Z,5µm,20.0s
KRUC Moravsky 23.96 115 *eS* **S** **08 23 18.0 +4.6**
KRUC Moravsky 23.96 115 *eP* **P** **08 18 54.9 -2.2**
OKC Ostrava-Krasne 24.03 111 *eP* **P** **08 18 59.4 +1.6**
OKC Ostrava-Krasne 24.03 111 *eP* **P** **08 18 59.4 +1.6**
MOA Molln 24.14 119 *i* sP sP 08 19 01.0 -2.5
comp=Z,39nm,1.4s,SNR=10
PVRL Vila Real 24.24 161 *eP* **P** **08 19 02.8 +3.0**
comp=Z,101nm,1.8s
PVRL *eS* S 08 23 28.0 +10
OJC Ojcow 24.40 109 *eP* **P** **08 18 58.9 -2.2**
OJC *epP* **pP** **08 19 02.8 -1.7**
OJC *eS* **S** **08 23 22.7 +2.2**
OJC Ojcow 24.40 109 P **P** **08 18 59.2 -2.0**
OJC pmax pmax
comp=Z,21nm,1.1s
OJC MLR MLR
comp=Z,3µm,18.0s
OJC Ojcow 24.40 109 P **P** **08 18 59.2 -2.0**
ABTA Abfaltersbach 24.43 123 *i* sP sP 08 19 04.3 -2.1
comp=Z,103nm,1.4s,SNR=7.9
KBA Koelnbreinsper 24.45 121 *i* sP sP 08 19 04.8 -2.0
comp=Z,75nm,1.7s,SNR=7.2
MVO Moncorvo 24.45 160⇑ *eP* **P** **08 19 04.7 +3.0**
comp=Z,96nm,1.6s
MVO *eS* **S** **08 23 27.3 +5.8**
MVO *eLR* LR 08 25 42.0
comp=Z,1µm,20.0s
JAVC Velka Javorina 24.62 113 *eP* **P** **08 19 02.0 -1.3**
JAVC *eS* S 08 23 35.1 +11
MICGM Minsk 24.68 93⇓ *eP* **P** **08 19 03.0 -0.6**
MICGM PM 08 19 06.0
comp=Z,0.5nm,1.8s
MICGM PM 08 19 08.0
comp=Z,5.2nm,6.0s
MICGM PM 08 19 08.0
comp=E,0.4nm,1.8s
MICGM PM 08 19 09.0
comp=N,0.6nm,1.8s
MICGM *ePP* sP 08 19 40.0 +32
MICGM *ePPP* PPP 08 20 10.0
MICGM *eS* **S** **08 23 28.0 +3.2**
MICGM SM 08 23 46.0
comp=N,13nm,7.0s
MICGM SM 08 23 46.0
comp=E,11nm,8.0s
MICGM *eLR* LR 08 27 24.0
MNK Minsk 24.68 93 *eP* **P** **08 19 03.0 -0.6**
MNK *e* 08 19 40.0
MNK *eS* **S** **08 23 28.0 +3.2**
MNK pmax pmax
comp=Z,5µm,6.0s
MNK smax smax
comp=N,13µm,7.0s
CONA Conrad Observa 24.68 117 *i* pP pP 08 19 04.1 -3.0
comp=N,61nm,1.8s,SNR=8.7
SALO Salr 24.70 127 P **P** **08 19 03.8 -0.2**
SALO IAmb IAmb 08 19 22.0
comp=Z,35nm,1.2s
CTI Castel Tesino 24.72 125 P **P** **08 19 02.4 -1.8**
CTI pmax pmax
comp=Z,127nm,1.3s
CTI MLR MLR
comp=Z,4µm,18.0s
CTI Castel Tesino 24.72 125 P **P** **08 19 02.4 -1.8**
CTI IAMs_20 IAMs_20 08 29 44.3
comp=Z,4µm,18.0s
ZOU Zoufplan 24.75 123 IAMs_20 IAMs_20 08 30 16.2
comp=Z,4µm,19.0s
PVIS Viseu 24.77 162 *eP* **P** **08 19 07.7 +3.1**
comp=Z,66nm,2.3s
CIMO Cimolais 24.77 124 P **P** **08 19 05.1 +0.5**
CIMO IAMs_20 IAMs_20 08 30 21.8
comp=Z,6µm,19.0s
MODS Modra-Piesok 24.86 114 *eP* **P** **08 19 06.6 +1.2**
MODS pmax pmax
comp=Z,151nm,1.7s
MODS Modra-Piesok 24.86 114 *eP* **P** **08 19 06.6 +1.2**
MODS *eS* **S** **08 23 32.3 +4.3**
STAL STALIGIAL 24.91 123 P **P** **08 19 05.5 -0.4**
MYKA Terra Mystica 24.93 122 *i* sP sP 08 19 07.8 -3.2
comp=Z,62nm,1.5s,SNR=5.3
PRED Cave del Predi 25.07 122 P **P** **08 19 06.1 -1.2**
PRED IAMs_20 IAMs_20 08 29 56.4
comp=Z,4µm,20.0s
ARSA Arzberg 25.11 118 *i* pP pP 08 19 08.2 -2.7
comp=Z,37nm,1.6s
MTE Manteigas 25.12 161⇑ *eP* **P** **08 19 11.6 +3.8**
comp=Z,135nm,1.4s
MTE *eS* **S** **08 23 38.9 +6.5**
MTE *eLR* LR 08 25 54.1
comp=Z,3µm,20.0s
MTE Manteigas 25.12 161 P **P** **08 19 06.6 -1.3**
COI Coimbra 25.20 163 P **P** **08 19 07.0 -1.4**
COI pmax pmax
comp=Z,110nm,1.2s
COI Coimbra 25.20 163 *eP* **P** **08 19 12.8 +4.4**
comp=Z,152nm,1.4s
COI Coimbra 25.20 163 P **P** **08 19 07.0 -1.4**
ROBS Robic 25.21 122 *i* P **P** **08 19 09.9 +1.4**
ROBS *eS* **S** **08 23 40.2 +6.6**
NIE Niedzica 25.23 109 *eP* **P** **08 19 09.1 +0.4**
NIE *eS* **S** **08 23 35.6 +1.8**
GORS Gorjuse 25.33 122 *eP* **P** **08 19 10.7 +1.0**
GORS *eS* **S** **08 23 41.1 +5.5**
PCAS Casmilo, Conde 25.34 163 *eP* **P** **08 19 14.1 +4.4**
comp=Z,191nm,1.4s
PCAS *eS* **S** **08 23 41.7 +6.0**
OBKA Obir 25.37 121 *i* sP sP 08 19 11.9 -3.0
comp=Z,25nm,1.1s
VYHS Vyhne 25.38 112 *eP* **P** **08 19 11.0 +1.0**
VYHS pmax pmax
comp=Z,111nm,1.6s
VYHS Vyhne 25.38 112 *eP* **P** **08 19 11.0 +1.0**
VYHS *eS* **S** **08 23 41.5 +5.3**
SOKA Soboth 25.41 120 *i* sP sP 08 19 12.8 -2.2
comp=Z,45nm,1.4s,SNR=9.9
PERS Pernice 25.47 120 *eP* **P** **08 19 12.6 +1.6**
PERS *eS* **S** **08 23 43.8 +5.9**
KLMR Klimovskoe 25.68 72⇑ *iP* **P** **08 19 10.9 -1.7**
comp=Z,94nm,1.3s
KLMR *eS* **S** **08 23 42.7 +2.1**
KLMR Klimovskoe 25.68 72 *eP* **P** **08 19 12.9 +0.4**
KLMR *e* 08 22 44.9
KLMR *eS* **S** **08 23 42.8 +2.1**
KLMR pmax pmax
comp=Z,94nm,1.3s
KLMR MLR MLR
comp=Z,2µm,15.0s
KLMR Klimovskoe 25.68 72 *eP* **P** **08 19 13.0 +0.4**
KLMR AMP 08 19 21.5
comp=Z,94nm,1.3s
KLMR *ePcP* **PcP** **08 22 44.9 +2.5**
KLMR *eS* **S** **08 23 42.8 +2.1**
KLMR *eS* **S** **08 23 42.8 +2.1**
KLMR LQ LQ 08 26 08.3
KLMR LQ LQ 08 26 08.3
KLMR LR LR 08 27 17.4
KLMR AMP 08 29 03.2
comp=Z,2µm,14.9s
PCBR Castelo Branco 25.68 162 *eP* **P** **08 19 16.9 +4.1**
comp=Z,113nm,1.2s
PCBR *eS* **S** **08 23 49.9 +8.8**
SRO Srobarova 25.72 114 *eP* **P** **08 19 15.8 +2.7**
SRO pmax pmax
comp=Z,100nm,1.5s
SRO Srobarova 25.72 114 *eP* **P** **08 19 15.8 +2.7**
LJU Ljubljana 25.76 121 *eS* **S** **08 23 47.1 +4.9**
GROS Grobnik 25.76 119 *i* P **P** **08 19 14.8 +1.2**
GROS *eS* **S** **08 23 48.4 +5.9**
TRI Trieste 25.77 123 IAMs_20 IAMs_20 08 30 29.9
comp=Z,3µm,19.0s
PSBE So Bento 25.84 164 *eP* **P** **08 19 18.7 +4.4**
comp=Z,94nm,1.6s
PSBE *eS* S 08 23 54.8 +11

UCM	**Universidad Co**	**25.91**	**154**	⇑	*i*	P		**P**		**08 19 19.0 +4.0**	**MORF**	**Marmelete**	**28.04**	**164**		*e*	P		**P**	**08 19 36.7 +2.6**
UCM					*i*	S		S		08 24 05.2 +20	MORF					*e*	S		**S**	**08 24 25.3 +7.0**
SCHQ	**Schefferville**	**25.93**	**271**		P			**P**		**08 19 17.2 +2.2**	**PBDV**	**Barranco-do-Ve**	**28.18**	**163**	⇑	*e*	P		**P**	**08 19 38.2 +2.8**
	comp=Z,18nm,0.9s,baz=14,slow=2.2,SNR=9.2										PBDV					*e*	S		**S**	**08 24 26.9 +6.3**
SCHQ						LR		LR		08 28 18.6	**PFVI**	**Vila Bisbo**	**28.19**	**165**		*e*	P		**P**	**08 19 38.9 +3.5**
	comp=Z,2µm,19.6s,baz=36,slow=34										PFVI					*e*	S		**S**	**08 24 26.9 +6.3**
SCHQ	**Schefferville**	**25.93**	**271**		P			**P**		**08 19 16.4 +1.4**	**SIRR**	**Siria**	**28.31**	**112**	⇑	P			**P**	**08 19 39.2 +2.8**
SCHQ						IAmb		IAmb		08 19 26.2	**AQU**	**L'Aquila**	**28.56**	**127**		P			**P**	**08 19 35.8 -2.9**
	comp=Z,37nm,1.0s										AQU					pmax	pmax			
ZCCA	**Zocca**	**25.97**	**128**		P			**P**		**08 19 16.9 +1.5**		comp=Z,29nm,1.0s								
LSH	**Leshukonskoye**	**26.01**	**61**	⇓	*i*	P		**P**		**08 19 15.3 -0.3**	AQU					MLR	MLR			
	comp=Z,82nm,1.0s											comp=Z,4µm,19.0s								
LSH					*e*	S		**S**		**08 23 46.9 +1.1**	**AQU**	**L'Aquila**	**28.56**	**127**		P			**P**	**08 19 35.8 -2.9**
KECS	**Kecovo**	**26.05**	**110**		*e*	P		**P**		**08 19 17.4 +1.3**	AQU					IAmb	IAmb			08 19 47.2
KECS						pmax	pmax					comp=Z,29nm,1.0s								
	comp=Z,28nm,1.5s										AQU					IAMs_20	IAMs_20			08 32 38.1
KECS	**Kecovo**	**26.05**	**110**		*e*	P		**P**		**08 19 17.4 +1.3**		comp=Z,5µm,19.0s								
KWP	**Kalwaria Pacla**	**26.05**	**106**		*e*	P		**P**		**08 19 15.7 -0.4**	**BUR08**	**Bucovina Ar. S**	**28.63**	**106**		P			**P**	**08 19 37.6 -1.8**
KWP					*e*	pP		**sP**		**08 19 18.9 -1.8**	**BURAR**	**Bucovina Array**	**28.66**	**106**	⇓	P			**P**	**08 19 42.5 +2.8**
KWP					*e*	S		**S**		**08 23 47.3 +0.6**	**BURAR**	**Bucovina Array**	**28.66**	**106**		P			**P**	**08 19 38.0 -1.7**
PMRV	**Marv??o**	**26.10**	**162**		*e*	P		**P**		**08 19 19.3 +2.7**	**CJR**	**Cluj-Napoca**	**28.72**	**109**		P			**P**	**08 19 43.2 +3.1**
	comp=Z,82nm,1.4s										**BZS**	**Buzias**	**28.82**	**113**		P			**P**	**08 19 44.0 +3.1**
PMRV					*e*	S		**S**		**08 23 54.1 +6.4**	**CART**	**Cartagena**	**28.98**	**152**	⇑	*i*	P		P	08 19 46.3 +3.9
PMRV					*e*	LR		LR		08 26 15.5	CART					*i*	S		**S**	**08 24 39.9 +6.8**
	comp=Z,2µm,20.0s										**INTR**	**Introdacqua**	**29.04**	**126**		P			**P**	**08 19 41.3 -1.7**
CRVS	**Cervenica-Dubn**	**26.11**	**109**		*e*	P		**P**		**08 19 17.8 +1.2**	INTR					IAmb	IAmb			08 19 51.5
CRVS						pmax	pmax					comp=Z,30nm,1.2s								
	comp=Z,156nm,1.6s										**EMAL**	**Malaga-Limoner**	**29.16**	**158**	⇑	*i*	P		P	08 19 48.2 +4.2
CRVS	**Cervenica-Dubn**	**26.11**	**109**		*e*	P		**P**		**08 19 17.8 +1.2**	EMAL					*i*	S		S	08 24 45.1 +9.2
CRVS					*e*	S		**S**		**08 23 50.8 +3.1**	**SFS**	**San Fernando**	**29.18**	**161**		*i*	P		**P**	**08 19 47.1 +2.9**
PSZ	**Piszkesteto**	**26.26**	**112**		P			**P**		**08 19 15.2 -2.9**	SFS					*e*	S		**S**	**08 24 39.2 +3.1**
PSZ						pmax	pmax				**DIVS**	**Divibare**	**29.46**	**116**		P			**P**	**08 19 44.5 -2.2**
	comp=Z,93nm,1.5s										**HERR**	**Herculane**	**29.75**	**112**	⇑	P			**P**	**08 19 51.1 +1.9**
PSZ						MLR	MLR				**VSL**	**Villasalto**	**29.84**	**135**		IAMs_20	IAMs_20			08 31 12.0
	comp=Z,3µm,20.0s											comp=Z,3µm,19.0s								
PSZ	**Piszkesteto**	**26.26**	**112**		P			**P**		**08 19 15.2 -2.9**	**CEU**	**Ceuta**	**29.86**	**160**	⇑	*i*	P		P	08 19 55.0 +4.9
GCIS	**Gornji Cirnik**	**26.31**	**120**		*e*	P		**P**		**08 19 19.0 +0.5**	CEU					*e*	S		**S**	**08 24 47.1 +0.3**
RES	**Resolute Bay**	**26.31**	**324**		P			**P**		**08 19 21.1 +2.9**	**DOPR**	**Dopca**	**30.05**	**108**	⇑	P			**P**	**08 19 54.1 +2.2**
	comp=Z,3.4nm,1.0s,baz=106,slow=20,SNR=3.5										**SMIR**	**Smir Dam**	**30.07**	**160**		P			P	08 19 59.0 +6.9
RES						LR		LR		08 29 45.3		SNR=8.6								
	comp=Z,3µm,19.3s,baz=90,slow=36										**TESR**	**Tescani**	**30.13**	**106**	⇓	P			**P**	**08 19 55.0 +2.4**
RES	**Resolute Bay**	**26.31**	**324**		P			**P**		**08 19 18.7 +0.5**	**PAOL**	**Paolisi**	**30.14**	**126**		P			**P**	**08 19 51.4 -1.4**
RES						pmax	pmax				PAOL					IAmb	IAmb			08 20 06.5
	comp=Z,35nm,1.5s											comp=Z,43nm,1.3s								
RES						MLR	MLR				PAOL					IAMs_20	IAMs_20			08 33 47.7
	comp=Z,3µm,18.0s											comp=Z,5µm,18.0s								
RES	**Resolute Bay**	**26.31**	**324**		P			**P**		**08 19 18.7 +0.5**	**ARR**	**Arges**	**30.24**	**109**		P			P	08 19 57.1 +3.5
RES						IAmb	IAmb			08 19 31.7	**VOIR**		**30.35**	**109**	⇑	P			**P**	**08 19 57.5 +3.0**
	comp=Z,35nm,1.5s										**VOIR**		**30.35**	**109**		P			**P**	**08 19 57.8 +3.2**
RES						IAMs_20	IAMs_20			08 29 33.5	VOIR					pmax	pmax			
	comp=Z,3µm,18.0s											comp=Z,16nm,2.0s								
PMAFR	**Mafra**	**26.33**	**165**		*e*	P		**P**		**08 19 23.7 +5.0**	**KIS**	**Kishinev**	**30.65**	**103**	⇑	*i*	P		**P**	**08 19 57.0 -0.1**
	comp=Z,156nm,2.3s											comp=Z,300nm,6.0s								
PMAFR					*e*	S		**S**		**08 23 56.1 +4.7**	**KIS**	**Kishinev**	**30.65**	**103**	*c*	*i*	P		**P**	**08 19 57.0 -0.1**
PMTG	**Montargil**	**26.35**	**163**		*e*	P		**P**		**08 19 20.9 +2.1**	KIS					*e*	S		**S**	**08 24 52.0 -7.1**
	comp=Z,58nm,1.6s										KIS					*e*	SS		**SnSn**	**08 26 33.0 -3.0**
PMTG					*e*	S		S		08 24 02.2 +11	KIS					pmax	pmax			
ESBB	**Sonseca Array**	**26.40**	**156**		P			**P**		**08 19 19.0 -0.4**		comp=Z,300nm,6.0s								
ESBB						IAmb		IAmb		08 19 31.1	KIS					smax	smax			
	comp=Z,29nm,1.1s											comp=E,800nm,6.8s								
ESDC	**Sonseca Array**	**26.40**	**156**		P			**P**		**08 19 19.0 -0.4**	KIS					smax	smax			
	comp=Z,2.1nm,0.8s,baz=349,slow=9.3,SNR=10											comp=N,1µm,9.2s								
ESDC						LR		LR		08 29 11.8	KIS					MLR	MLR			
	comp=Z,2µm,19.3s,baz=330,slow=35											comp=Z,600nm,17.0s								
ESDC	**Sonseca Array**	**26.40**	**156**		P			**P**		**08 19 18.4 -1.0**	KIS					MLR	MLR			
KOLS	**Kolonicke sedl**	**26.41**	**108**		*e*	P		**P**		**08 19 20.5 +1.1**		comp=N,960nm,16.0s								
KOLS						pmax	pmax				**PLOR**	**Plostina**	**30.66**	**106**	⇑	P			**P**	**08 20 00.2 +2.9**
	comp=Z,94nm,1.6s										**MLR**	**Muntele Rosu**	**30.67**	**108**	⇓	P			P	08 20 01.0 +3.5
KOLS	**Kolonicke sedl**	**26.41**	**108**		*e*	P		**P**		**08 19 20.5 +1.1**	**PVLZ**	**Peæn de**	**30.73**	**158**	⇑	*i*	P		**P**	**08 20 00.8 +2.9**
KOLS					*e*	S		**S**		**08 23 57.0 +4.4**	PVLZ					*e*	S		S	08 24 48.7 -12
LVV	**L'vov**	**26.45**	**104**		*e*	P		**P**		**08 19 21.5 +1.8**	**LPSR**	**Galich'ya Gora**	**30.73**	**86**		*e*	P		**P**	**08 19 59.2 +1.4**
LVV					*e*	S		**S**		**08 23 49.5 -3.6**	LPSR					*e*	S		**S**	**08 25 01.0 +0.7**
LVV						pmax	pmax				LPSR					pmax	pmax			
	comp=Z,600nm,1.7s											comp=Z,30nm,1.1s								
LVV						smax	smax				LPSR					smax	smax			
	comp=N,5µm,6.0s											comp=E,1µm,10.1s								
LVV						smax	smax				LPSR					MLR	MLR			
	comp=E,4µm,6.0s											comp=Z,2µm,21.0s								
LVV						MLR	MLR				**RSA**	**Sarsar**	**30.79**	**161**		P	P			08 20 05.1 +6.6
	comp=E,1µm,12.0s											SNR=7.7								
LVV						MLR	MLR				**MELI**	**Melilla**	**30.84**	**156**	⇑	*i*	P		P	08 20 02.5 +3.6
	comp=N,3µm,13.0s										MELI					*i*	S		**S**	**08 25 06.8 +4.5**
LVV						MLR	MLR				**GOG**	**Mont Gurugu**	**30.90**	**156**		P	P			08 20 06.0 +6.4
	comp=Z,2µm,14.0s											SNR=9.9								
PAB	**San Pablo**	**26.45**	**156**		P			**P**		**08 19 18.4 -1.5**	GOG					P	P			08 20 06.0 +6.4
PAB						pmax	pmax					SNR=9.9								
	comp=Z,56nm,1.3s										**TAF**	**Taforalt**	**31.40**	**155**		P	P			08 20 10.0 +6.1
PAB	**San Pablo**	**26.45**	**156**		P			**P**		**08 19 18.4 -1.5**		SNR=13								
PAB						IAmb	IAmb			08 19 34.7	**AKLM**	**AKL**	**31.45**	**158**		P	P			08 20 10.0 +5.6
	comp=Z,56nm,1.2s											SNR=8.0								
LIS	**Lisbon**	**26.59**	**165**		*e*	P		**P**		**08 19 20.7 -0.3**	AKLM					P	P			08 20 10.0 +5.6
LIS						AMb	AMB			08 19 30.9		SNR=8.0								
	comp=Z,69nm,0.8s										**RTC**	**Rabat Centre**	**31.53**	**163**		IAMs_20	IAMs_20			08 32 20.1
LIS	**Lisbon**	**26.59**	**165**		*e*	P		**P**		**08 19 20.7 -0.3**		comp=Z,3µm,20.0s								
UZH	**Uzhgorod**	**26.66**	**108**		*e*	P		**P**		**08 19 21.7 +0.1**	**VSR**	**Storozhevoye**	**31.84**	**87**		*e*	P		**P**	**08 20 08.5 +1.0**
UZH					*i*					08 19 23.6	VSR					*e*	S		**S**	**08 25 20.0 +2.4**
UZH					*e*					08 19 30.3	VSR					pmax	pmax			
UZH					*i*					08 20 07.0		comp=Z,40nm,1.1s								
UZH					*i*	S		**S**		**08 23 51.1 -5.3**	VSR					smax	smax			
UZH					*i*	SS		**SnSn**		**08 25 06.7 +7.9**		comp=E,1µm,10.1s								
UZH						MLR	MLR				VSR					MLR	MLR			
	comp=Z,260nm,15.0s											comp=Z,3µm,18.0s								
OSSC	**Osservatorio P**	**26.79**	**129**		P			**P**		**08 19 20.3 -2.6**	**JBK**	**JBK**	**31.84**	**156**		P	P			08 20 14.0 +6.0
EVO	**Evora**	**26.90**	**163**		*e*	P		**P**		**08 19 21.3 -2.6**		SNR=11								
EVO					*i*	S		**S**		**08 24 06.5 +6.2**	**VTS**	**Vitosha**	**31.97**	**114**		*i*	P		**P**	**08 20 10.5 +1.5**
EVO	**Evora**	**26.90**	**163**		*e*	S		**S**		**08 24 05.4 +5.0**	**PMOZ**	**Porto Moniz, M**	**31.98**	**179**		*e*	LR		LR	08 28 30.2
PNCL	**Nicolau / Gran**	**27.25**	**164**		*e*	P		**P**		**08 19 29.7 +2.7**		comp=Z,739nm,20.0s								
	comp=Z,47nm,1.8s										**VORD**	**Divnogorie**	**32.08**	**88**		*e*	P		**P**	**08 20 10.1 +0.5**
PNCL					*e*	S		**S**		**08 24 13.0 +7.1**	VORD					*e*	S		**S**	**08 25 25.7 +4.4**
PBEJ	**Beja**	**27.42**	**163**		*e*	P		**P**		**08 19 31.4 +2.9**	VORD					pmax	pmax			
	comp=Z,38nm,1.8s											comp=Z,50nm,1.6s								
MURB	**Monte Urbino**	**27.46**	**127**		P			**P**		**08 19 29.9 +1.0**	VORD					smax	smax			
PRGR	**Permogore**	**27.68**	**67**		*e*	P		**P**		**08 19 31.7 +1.1**		comp=E,470nm,7.8s								
	comp=Z,77nm,1.4s										**PMAR**	**Madeira**	**32.08**	**179**		*e*	P		**P**	**08 20 13.5 +3.5**
PRGR					*e*	S		**S**		**08 24 14.2 +2.0**	**ZHG**	**ZHG**	**32.09**	**162**		P	P			08 20 17.0 +7.0
PRGR	**Permogore**	**27.68**	**67**		*e*	P		**P**		**08 19 31.7 +1.1**		SNR=5.9								
PRGR						pmax	pmax				**LCRM**	**LCR**	**32.10**	**159**		P	P			08 20 16.0 +5.8
	comp=Z,37nm,0.9s											SNR=8.7								
PCVE	**Castro Verde**	**27.79**	**163**	⇑	*e*	P		**P**		**08 19 34.7 +2.9**	LCRM					P	P			08 20 16.0 +5.8
	comp=Z,47nm,1.5s											SNR=8.7								
PCVE					*e*	S		**S**		**08 24 18.9 +4.6**	**AVE**	**Averroes**	**32.14**	**164**	⇑	*i*	P		P	08 20 15.9 +5.5
AKASG	**Malin Array Be**	**27.97**	**98**		P			**P**		**08 19 30.6 -2.7**	AVE					*i*	S		**S**	**08 25 28.4 +5.8**
	comp=Z,8.7nm,0.8s,baz=325,slow=9.9,SNR=16										**D63A**	**Stockholm**	**32.20**	**261**		P	P			**08 20 12.1 +1.3**
AKASG						LR		LR		08 30 18.9		baz=38								
	comp=Z,3µm,22.0s,baz=315,slow=36										D63A					S	S			08 25 32.8 +9.4
AKASG	**Malin Array Be**	**27.97**	**98**		P			**P**		**08 19 31.4 -1.9**		baz=38								
AKASG						pmax	pmax				**IFR**	**Ifrane**	**32.23**	**160**	⇑	*i*	P		**P**	**08 20 14.7 +3.4**
	comp=Z,18nm,1.2s										IFR					*i*	S		**S**	**08 25 28.8 +4.5**
AKASG	**Malin Array Be**	**27.97**	**98**		P			**P**		**08 19 31.4 -1.9**	**SCTE**	**Santa Cesarea**	**32.37**	**122**		IAMs_20	IAMs_20			08 34 45.7
OBN	**Obninsk**	**27.98**	**84**		P			**P**		**08 19 32.3 -1.0**		comp=Z,3µm,20.0s								
	comp=Z,5.9nm,0.4s,baz=104,slow=0.9,SNR=9.3										**PGB**	**Panagyurishte**	**32.40**	**113**		*i*	P		**P**	**08 20 14.8 +2.2**
OBN						LR		LR		08 30 56.8	**PQI**	**Presque Isle**	**32.45**	**261**		IAMs_20	IAMs_20			08 31 38.9
	comp=Z,387nm,18.1s,baz=340,slow=37											comp=Z,3µm,19.0s								
OBN	**Obninsk**	**27.98**	**84**		P			**P**		**08 19 35.9 +2.5**	**CORL**	**Corleone**	**32.54**	**131**		IAMs_20	IAMs_20			08 33 50.3
OBN	**Obninsk**	**27.98**	**84**	*ce*	P			**P**		**08 19 35.7 +2.3**		comp=Z,3µm,19.0s								
OBN				*e*						08 20 19.6	**TIP**	**Timpagrande**	**32.55**	**125**		IAMs_20	IAMs_20			08 32 48.5
OBN				*i*	S			**S**		**08 24 19.9 +2.9**		comp=Z,3µm,22.0s								
OBN				*e*	SS			**SnSn**		**08 25 41.0 +10**	**KKB**	**Krupnik**	**32.55**	**115**	*i*	P			**P**	**08 20 16.4 +2.5**
OBN					pmax	pmax		pmax			**D62A**	**Allapoint, All**	**32.57**	**262**		P			**P**	**08 20 15.4 +1.4**
	comp=Z,129nm,1.7s										D62A	baz=38				S	S			08 25 38.7 +10
OBN					MLR	MLR						baz=38								
	comp=Z,2µm,15.0s										**D62A**	**Allapoint, All**	**32.57**	**262**		IAMs_20	IAMs_20			08 31 24.0
MAHO	**Mahon**	**28.01**	**142**	⇑	*i*	P		**P**		**08 19 36.7 +2.9**		comp=Z,3µm,21.0s								
MAHO					*i*	S		**S**		**08 24 22.3 +4.5**	**E64A**	**Bridgewater**	**32.57**	**260**		S	**S**			**08 25 37.1 +7.9**
MOS	**Moscow**	**28.01**	**82**		*e*	P		**P**		**08 19 34.0 +0.3**		baz=38								
MOS					*e*					08 20 22.9	**CHGQ**	**Chibougamau**	**32.67**	**271**		P	**P**			**08 20 16.0 +1.1**
MOS					*e*					08 20 35.0		baz=42								
MOS					*e*	S		**S**		**08 24 20.0 +2.4**	**CZD**	**Col de Zad**	**32.72**	**160**		P	P			08 20 21.0 +5.2
MOS					*i*	SS		**SnSn**		**08 25 39.2 +7.5**		SNR=13								
MOS						pmax	pmax				**CLTB**	**Caltabellotta**	**32.80**	**131**		P	**P**			**08 20 14.6 -1.6**
	comp=Z,125nm,1.8s										CLTB					IAMs_20	IAMs_20			08 34 16.2
MOS						pmax	pmax					comp=Z,4µm,19.0s								
	comp=Z,300nm,2.2s										**E63A**	**Oxbow**	**32.82**	**261**		P	**P**			**08 20 17.5 +1.3**
MOS						smax	smax				E63A	baz=38				S	S			08 25 42.6 +10
	comp=N,3µm,6.2s											baz=38								
MOS						smax	smax				**E63A**	**Oxbow**	**32.82**	**261**		IAMs_20	IAMs_20			08 31 50.7
	comp=E,4µm,7.1s											comp=Z,2µm,18.0s								
MOS						MLR	MLR				**VRH**	**Novokhopyorsk**	**32.94**	**85**		*e*	P		**P**	**08 20 16.3 -0.9**
	comp=Z,2µm,16.0s										VRH					*e*	S		**S**	**08 25 40.0 +5.2**
MORF	**Marmelete**	**28.04**	**164**		*e*	P		**P**		**08 19 33.7 -0.4**	VRH					pmax	pmax			
MORF						AMb	AMB			08 19 43.6		comp=Z,50nm,1.2s								
	comp=Z,48nm,1.5s										VRH					smax	smax			
MORF					*e*	S		**S**		**08 24 18.1 -0.2**		comp=E,1µm,9.8s								
MORF	**Marmelete**	**28.04**	**164**		*e*	P		**P**		**08 19 33.7 -0.4**										
MORF					*e*	S		**S**		**08 24 18.1 -0.2**										

VRH					MLR	MLR													
	comp=Z,3µm,24.0s																		
D61A	**St Aubert, Com**	**32.96**	**263**		P			**P**		**08 20 18.3 +1.0**									
D61A	baz=39				S	S				08 25 47.6 +13									
	baz=39																		
MMB	**Musomiste**	**33.04**	**114**	*i*	P			**P**		**08 20 20.9 +2.7**									
CEL	**Celeste**	**33.07**	**127**		IAMs_20	IAMs_20				08 36 07.4									
	comp=Z,2µm,18.0s																		
F64A	**Sherman**	**33.23**	**260**		P			**P**		**08 20 21.1 +1.3**									
	baz=37																		
F64A					S	S				08 25 50.0 +11									
	baz=37																		
F64A	**Sherman**	**33.23**	**260**		IAMs_20	IAMs_20				08 32 10.6									
	comp=Z,3µm,18.0s																		
KEST	**Kesra**	**33.31**	**138**		P			**P**		**08 20 20.0 -0.7**									
	comp=Z,7.4nm,0.9s,baz=289,slow=3.4,SNR=13																		
KEST					LR	LR				08 33 13.0									
	comp=Z,2µm,19.3s,baz=312,slow=35																		
KEST	**Kesra**	**33.31**	**138**		P			**P**		**08 20 17.8 -2.9**									
G65A	**Princeton**	**33.44**	**259**		P			**P**		**08 20 22.5 +0.9**									
	baz=37																		
G65A					S	S				08 25 52.3 +10									
	baz=37																		
G65A	**Princeton**	**33.44**	**259**		IAMs_20	IAMs_20				08 32 05.8									
	comp=Z,3µm,20.0s																		
D60A	**Saint Jean D'O**	**33.50**	**264**		P			**P**		**08 20 23.0 +1.0**									
	baz=38																		
D60A					S	S				08 25 54.0 +11									
	baz=38																		
KDZ	**Kurdzhali**	**33.65**	**112**	*i*	P			**P**		**08 20 25.2 +1.7**									
H66A	**Whiting**	**33.66**	**258**		P			**P**		**08 20 24.1 +0.6**									
	baz=36																		
H66A					S	S				08 25 54.8 +8.8									
	baz=36																		
F63A	**Nahmakanta, Br**	**33.68**	**261**		P			**P**		**08 20 25.0 +1.2**									
	baz=37																		
F63A					S	S				08 25 55.0 +8.6									
	baz=37																		
F63A	**Nahmakanta, Br**	**33.68**	**261**		IAMs_20	IAMs_20				08 32 15.4									
	comp=Z,2µm,20.0s																		
E61A	**Lac Etchemin**	**33.69**	**263**		P			**P**		**08 20 24.6 +0.8**									
	baz=38																		
E61A					S	S				08 25 57.3 +11									
	baz=38																		
D59A	**Saint-Raymond**	**33.81**	**265**		S	S				08 25 59.5 +11									
	baz=39																		
LIT	**Litokhoron**	**33.84**	**117**		P			**P**		**08 20 23.7 -1.5**									
LIT					pmax	pmax													
	comp=Z,13nm,1.1s																		
LIT	**Litokhoron**	**33.84**	**117**		P			**P**		**08 20 23.7 -1.5**									
F62A	**Pittston Farm,**	**33.89**	**262**		P			**P**		**08 20 27.0 +1.5**									
	baz=38																		
F62A					S	S				08 26 03.4 +14									
	baz=38																		
G64A	**Maxfield**	**33.90**	**260**		P			**P**		**08 20 26.9 +1.4**									
	baz=37																		
G64A					S	S				08 26 00.7 +11									
	baz=37																		
GOLM	**Goulmima**	**34.03**	**160**		P			P		08 20 34.0 +6.9									
	SNR=6.3																		
PKME	**Peaks-Kenny Pk**	**34.11**	**260**		P			**P**		**08 20 29.0 +1.6**									
	baz=37																		
PKME	**Peaks-Kenny Pk**	**34.11**	**260**		IAMs_20	IAMs_20				08 32 29.8									
	comp=Z,2µm,19.0s																		
H65A	**Eastbrook**	**34.13**	**259**		P			**P**		**08 20 28.6 +1.0**									
	baz=36																		
H65A					S	S				08 26 04.9 +12									
	baz=36																		
E60A	**Ste Agathe de**	**34.15**	**264**		P			**P**		**08 20 28.2 +0.5**									
	baz=38																		
MATQ	**Matagami**	**34.19**	**273**		P			**P**		**08 20 29.0 +0.9**									
	baz=41																		
D58A	**Chemin du LacG**	**34.19**	**266**		P			**P**		**08 20 29.6 +1.5**									
	baz=39																		
D58A					S	S				08 26 05.5 +11									
	baz=39																		
F61A	**St Evariste**	**34.27**	**263**		P			**P**		**08 20 30.1 +1.3**									
	baz=38																		
G63A	**Kingsbury**	**34.37**	**261**		P			**P**		**08 20 30.8 +1.1**									
	baz=37																		
G63A					S	S				08 26 07.6 +11									
	baz=37																		
ARF	**Arif**	**34.41**	**159**		P			P		08 20 37.0 +6.7									
	SNR=11																		
LSQQ	**Lebel-sur-Quev**	**34.43**	**272**		P			**P**		**08 20 31.8 +1.6**									
	baz=41																		
ALN	**Alexandroupoli**	**34.54**	**112**		P			P		08 20 34.6 +3.4									
ALN					pmax	pmax													
	comp=Z,30nm,1.4s																		
OUZM	**OUZ**	**34.58**	**163**		P			P		08 20 38.0 +6.3									
	SNR=7.9																		
OUZM					P			P	

comp=Z,3µm,19.0s
D54A Lac Fusel, La 35.76 269 P P 08 20 42.7 +1.0
baz=39
D54A S S 08 26 28.4 +10
baz=39
H61A Lyndonville 35.81 262 P P 08 20 43.3 +1.1
baz=36
G59A Clarenceville 35.91 264 P P 08 20 43.1 +0.2
baz=37
F57A Harrington 35.97 266 P P 08 20 44.4 +0.9
baz=38
ANN Anapa 36.03 96 *eP* **P 08 20 46.3 +2.3**
ANN *i* *PP **sP 08 20 47.3 -1.4**
ANN *eS* **S 08 26 27.9 +5.3**
ANN pmax pmax
comp=Z,41nm,1.2s
ANN MLR MLR
comp=N,296nm,12.0s
ANN MLR MLR
comp=Z,2µm,14.0s
LBNH Lisbon 36.05 262 IAMs_20 IAMs_20 08 33 31.1
comp=Z,2µm,21.0s
E55A Montcerf-Lytto 36.05 268 P P 08 20 44.8 +0.7
baz=38
E55A S S 08 26 34.1 +11
baz=38
I62A Tamworth 36.10 261 P P 08 20 45.3 +0.7
baz=36
I62A Tamworth 36.10 261 IAMs_20 IAMs_20 08 33 41.3
comp=Z,2µm,20.0s
H60A Morristown 36.12 263 P P 08 20 45.7 +0.9
baz=37
H60A S S 08 26 36.9 +13
baz=37
ARU Arti 36.14 66*c i* P **P 08 20 47.9 +3.1**
ARU 08 22 02.1
ARU 08 23 07.5
ARU S **S 08 26 30.4 +6.4**
ARU pmax pmax
comp=Z,59nm,1.9s
ARU MLR MLR
comp=Z,4µm,20.0s
ARU Arti 36.14 66 P P 08 20 43.8 -1.0
ARU IAMs_20 IAMs_20 08 34 31.8
comp=Z,4µm,21.0s
ITM Ithomi 36.19 120 P P 08 20 43.2 -2.3
ITM IAmb IAmb 08 20 51.5
comp=Z,27nm,1.0s
ITM IAMs_20 IAMs_20 08 38 09.8
comp=Z,2µm,20.0s
G58A Ormstown 36.23 265 P P 08 20 46.3 +0.7
baz=37
G58A S S 08 26 37.8 +12
baz=37
D53A Lac Vacive, Po 36.27 270 P P 08 20 46.5 +0.5
baz=39,SNR=6.9
D53A S S 08 26 38.2 +12
baz=39
D53A Lac Vacive, Po 36.27 270 P P 08 20 48.6 +2.6
D53A IAmb IAmb 08 20 53.1
comp=Z,27nm,1.2s
FRNY Flat Rock 36.28 264 P P 08 20 49.8 +3.7
FRNY IAmb IAmb 08 21 03.6
comp=Z,45nm,1.5s
VT1 Waterbury 36.33 263 IAMs_20 IAMs_20 08 33 49.9
comp=Z,2µm,20.0s
I61A Oroboro, Fairl 36.42 262 P P 08 20 48.3 +1.0
baz=36
I61A S S 08 26 40.6 +12
baz=36
NRIK Noril'sk 36.43 35 P **P 08 20 47.9 +0.7**
comp=Z,9.4nm,0.9s,baz=314,slow=7.7,SNR=8.3
NRIK LR LR 08 37 44.6
comp=Z,1µm,18.4s,baz=348,slow=40
J63A Strafford 36.47 260 P P 08 20 48.6 +0.8
baz=36
J63A S S 08 26 42.1 +13
baz=36
H59A Cadyville 36.48 264 P P 08 20 48.2 +0.4
baz=37
H59A S S 08 26 42.2 +13
baz=37
E54A Lac Daplat, Po 36.55 269 P P 08 20 48.5 +0.1
baz=38
E54A S S 08 26 42.8 +12
baz=38
FFD Franklin Falls 36.56 261 IAMs_20 IAMs_20 08 33 54.6
comp=Z,2µm,20.0s
ORIO Orleans, Innes 36.61 267 P P 08 20 50.2 +1.3
baz=38
ORIO Orleans, Innes 36.61 267 P P 08 20 50.5 +1.6
HNH Hanover 36.64 262 IAMs_20 IAMs_20 08 33 59.6
comp=Z,2µm,21.0s
G57A Newington 36.66 266 P P 08 20 50.9 +1.6
baz=37,SNR=8.3
G57A S S 08 26 44.9 +13
baz=37
SVE Sverdlovsk 36.66 64 *eP* **P 08 20 49.3 0.0**
SVE *eS* **S 08 26 34.8 +2.8**
SVE pmax pmax
comp=Z,46nm,2.0s
F55A Otter Lake 36.67 268 P P 08 20 49.5 +0.1
baz=38
F55A S S 08 26 43.8 +12
baz=38
C36M Paulatuk 36.67 325 P P 08 20 50.2 +1.0
baz=43
C36M S S 08 26 42.6 +11
baz=43
C36M Paulatuk 36.67 325 P P 08 20 50.5 +1.3
C36M IAMs_20 IAMs_20 08 35 53.3
comp=Z,2µm,18.0s
E53A Dumoine, Ponti 36.80 270 P P 08 20 52.5 +2.0
baz=38,SNR=7.5
E53A S S 08 26 44.9 +11
baz=38
J62A Henniker 36.83 261 P P 08 20 52.1 +1.3
baz=36
J62A S S 08 26 44.6 +10
baz=36
H58A Gabriels 36.87 264 P P 08 20 52.2 +1.0
baz=37
H58A S S 08 26 48.2 +13
baz=37
LONY Lake Ozonia 36.88 265 P P 08 20 51.1 -0.1
baz=37
LONY Lake Ozonia 36.88 265 P P 08 20 54.4 +3.1
I60A Shoreham 36.95 263 P P 08 20 52.1 +0.3
baz=36
I60A S S 08 26 49.5 +13
baz=36
MDUB Mudurnu 36.98 107 P P 08 20 51.2 -1.1
MDUB IAMs_20 IAMs_20 08 36 05.7
comp=Z,4µm,21.0s
J61A Chester 37.04 262 P P 08 20 52.1 -0.6
baz=36
J61A S S 08 26 52.5 +14
baz=36
K63A Dunstable 37.14 260 P P 08 20 52.9 -0.5
baz=35
K63A S S 08 26 51.7 +12
baz=35
I59A Olmsteadville 37.24 263 P P 08 20 53.9 -0.5
baz=36
G55A Calabogie 37.28 268 P P 08 20 53.8 -0.9
baz=37
G55A S S 08 26 54.0 +12
baz=37
ALGO Algonquin Park 37.30 269 P P 08 20 54.3 -0.5
baz=38
HRV Adam Dziewonsk 37.31 260 P P 08 20 54.7 -0.1
baz=35
HRV Adam Dziewonsk 37.31 260 IAMs_20 IAMs_20 08 34 42.3
comp=Z,2µm,18.0s
WES Weston 37.31 260 IAMs_20 IAMs_20 08 34 48.3
comp=Z,2µm,18.0s
H57A Richville 37.35 266 P P 08 20 55.1 -0.1
baz=37
H57A S S 08 26 54.5 +12
baz=37
K62A Royalston 37.46 261 P P 08 20 55.6 -0.6
baz=35
K62A Royalston 37.46 261 IAMs_20 IAMs_20 08 34 40.4
comp=Z,2µm,19.0s
L64A Middleborough 37.47 259 P P 08 20 55.5 -0.7
baz=34
J60A Lant Hill Farm 37.49 262 P P 08 20 56.5 0.0
baz=36
J60A S S 08 26 58.0 +13
baz=36
ILGA Ilgaz 37.53 104 P P 08 20 55.2 -1.9
ILGA IAmb IAmb 08 21 13.5
comp=Z,39nm,1.3s
PLVO Plevna 37.61 268 IAMs_20 IAMs_20 08 34 53.5
comp=Z,3µm,19.0s
H56A Elgin 37.61 266 P P 08 20 58.5 +1.1
baz=37
H56A S S 08 26 59.5 +13
baz=37
D49A Beulah Townshi 37.68 274 P P 08 20 58.1 0.0
baz=39
D49A S S 08 26 59.0 +11
baz=39
M65A Busby, Falmout 37.70 258 P P 08 20 58.2 0.0
baz=34
G54A Lake Saint Pet 37.76 269 P P 08 20 57.0 -1.7
baz=38
G54A S S 08 27 00.2 +11
baz=38
J59A Piesco 37.77 264 P P 08 20 59.2 +0.3
baz=36
J59A S S 08 27 02.5 +13
baz=36
J59A Piesco 37.77 264 IAMs_20 IAMs_20 08 34 34.8
comp=Z,2µm,20.0s
I58A Old Forge 37.79 264 P P 08 20 58.7 -0.3
baz=36
I58A S S 08 27 03.2 +14
baz=36
L61B Northampton 37.83 261 P P 08 20 58.6 -0.7
baz=35
L61B S S 08 27 02.4 +12
baz=35
QUA2 Belchertown 37.83 260 IAMs_20 IAMs_20 08 34 41.1
comp=Z,2µm,20.0s
L63A North Scituate 37.86 259 P P 08 20 59.3 -0.2
baz=34
L63A S S 08 27 02.1 +12
baz=34
I57A Carthage 37.88 265 P P 08 20 59.5 -0.3
baz=36
I57A S S 08 27 04.6 +14
baz=36
K61A Williamstown 37.90 262 P P 08 20 59.2 -0.7
baz=35
K61A S S 08 27 03.0 +12
baz=35
M64A Tiverton 37.95 259 P P 08 21 00.3 0.0
baz=34
M64A S S 08 27 03.4 +12
baz=34
D48A Paudash Townsh 37.95 274 P P 08 21 00.1 -0.3
baz=39
D48A S S 08 27 03.5 +12
baz=39
SOC Sochi 37.99 95*c i* P **P 08 21 02.1 +1.5**
SOC *i* 08 22 27.0
SOC *e*PPP PPP 08 22 54.6
SOC *eS* **S 08 26 55.9 +3.5**
SOC pmax pmax
comp=Z,8.0nm,0.4s
SOC MLR MLR
comp=Z,1µm,16.0s
TRY Troy 38.02 262 IAMs_20 IAMs_20 08 34 52.1
comp=Z,2µm,19.0s
H55A Tweed 38.04 267 P P 08 21 01.5 +0.4
baz=37
H55A S S 08 27 05.9 +13
baz=37
L62A Suffield 38.16 261 P P 08 21 01.3 -0.8
baz=35
J58A Remsen 38.19 264 P P 08 21 02.1 -0.3
baz=36
J58A S S 08 27 08.8 +13
baz=36
J58A Remsen 38.19 264 IAMs_20 IAMs_20 08 34 46.9
comp=Z,2µm,22.0s
GOF Gofitskoye 38.23 91*i eP* **P 08 21 05.6 +3.0**
GOF pmax pmax
comp=Z,318nm,1.7s
SANT Santorini 38.23 117 IAMs_20 IAMs_20 08 39 06.8
comp=Z,3µm,20.0s
DELO Deloro Mine 38.26 268 IAMs_20 IAMs_20 08 35 12.7
comp=Z,3µm,20.0s
BOLV Bolvadin 38.37 109 P **P 08 21 03.0 -1.1**
BOLV IAMs_20 IAMs_20 08 38 40.4
comp=Z,2µm,20.0s
L61A Hillsdale 1, H 38.41 262 S S 08 27 12.3 +14
baz=35
M63A Gales Ferry 38.42 259 P P 08 21 03.7 -0.6
baz=34
M63A S S 08 27 10.7 +12
baz=34
J57A Williamstown 38.45 265 P P 08 21 04.2 -0.4
baz=36
J57A S S 08 27 13.2 +14
baz=36
PECO Prince Edward 38.46 267 IAMs_20 IAMs_20 08 35 08.0
comp=Z,2µm,21.0s
K59A Cooperstown 38.48 263 P P 08 21 04.7 -0.2
baz=35
K59A S S 08 27 12.4 +12
baz=35
I55A Frankford 38.52 267 P P 08 21 05.3 +0.2
baz=37
I55A S S 08 27 12.7 +12
baz=37
D47A Chapleau 38.60 275 P P 08 21 05.2 -0.6
baz=39
D47A S S 08 27 13.3 +12
baz=39
BR131 Keskin Array S 38.62 105 P **P 08 21 04.3 -1.8**
BR131 pmax pmax
comp=Z,11nm,0.9s
BR131 Keskin Array S 38.62 105 P **P 08 21 04.3 -1.8**
BRTR Keskin Array B 38.62 105 P **P 08 21 05.6 -0.5**
comp=Z,6.6nm,0.8s,baz=336,slow=5.7,SNR=26
BRTR Keskin Array B 38.62 105*ce* P **P 08 21 07.6 +1.5**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 38.62 105 P **P 08 21 03.4 -2.8**
H53A Bobcaygeon 38.62 269 P **P 08 21 05.1 -0.9**
baz=37
H53A S S 08 27 12.4 +10
baz=37
E48A Lockeyer 38.65 274 P P 08 21 05.8 -0.4
baz=38
E48A S S 08 27 13.7 +11
baz=38
SADO Sadowa 38.71 269 LR LR 08 35 57.3
comp=Z,2µm,18.1s,baz=54,slow=34
SADO Sadowa 38.71 269 P **P 08 21 08.1 +1.4**
SADO IAMs_20 IAMs_20 08 35 17.7
comp=Z,2µm,20.0s
M62A Hamden 38.75 260 P P 08 21 05.4 -1.7
baz=34
KSCT Kent School, K 38.76 261 P P 08 21 08.6 +1.4
KSCT IAMs_20 IAMs_20 08 34 58.9
comp=Z,2µm,20.0s
K58A Earlville 38.83 264 P P 08 21 07.1 -0.7
baz=36
K58A S S 08 27 17.5 +12
baz=36
K58A Earlville 38.83 264 P P 08 21 08.8 +1.0
K58A IAmb IAmb 08 21 24.6
comp=Z,36nm,1.4s
K58A IAMs_20 IAMs_20 08 35 05.8
comp=Z,2µm,19.0s
YLE Yale 38.87 260 IAMs_20 IAMs_20 08 35 19.7
comp=Z,3µm,22.0s
J56A Wycott 38.93 266 P P 08 21 06.9 -1.7
baz=36
KIV Kislovodsk 38.96 92 *eP* **P 08 21 09.6 +0.7**
KIV *e* 08 22 36.5
KIV *eS* **S 08 27 08.7 +1.5**
KIV pmax pmax
comp=Z,88nm,1.1s
KIV pmax pmax
comp=Z,536nm,4.3s
KIV MLR MLR
comp=Z,4µm,16.0s
KIV Kislovodsk 38.96 92 P **P 08 21 08.4 -0.5**
KIV IAmb IAmb 08 21 18.1
comp=Z,47nm,1.3s
IDI Anoyia 38.97 118 P P 08 21 08.2 -0.8
IDI IAmb IAmb 08 21 23.1
comp=Z,34nm,1.1s
L59A Walton 39.04 263 P P 08 21 07.8 -1.8
baz=35
L59A Walton 39.04 263 IAMs_20 IAMs_20 08 35 12.3
comp=Z,2µm,21.0s
YKA Yellowknife Ar 39.06 313 P **P 08 21 11.2 +1.8**
comp=Z,2.9nm,0.9s,baz=39,slow=8.0,SNR=2.8
D46A Sault St. Mari 39.12 276 P P 08 21 09.2 -1.0
baz=38
D46A S S 08 27 21.5 +12
baz=38
E47A Iron Bridge 39.14 275 P P 08 21 09.6 -0.7
baz=38
E47A S S 08 27 20.6 +11
baz=38
F49A Sandfield 39.16 273 P P 08 21 09.5 -1.0
baz=38
F49A S S 08 27 21.9 +12
baz=38
M61A Granite Spring 39.23 261 P P 08 21 09.9 -1.1
baz=34
K57A Scipio Center 39.23 265 P P 08 21 10.7 -0.4
baz=36
K57A S S 08 27 23.0 +12
baz=36
KBZ Khabaz 39.23 92 P P 08 21 10.5 -0.5
comp=Z,15nm,0.9s,baz=322,slow=11,SNR=12
KBZ LR LR 08 37 29.5
comp=Z,3µm,21.4s,baz=328,slow=37
J55A Hilton 39.35 267 P P 08 21 11.8 -0.2
baz=36
J55A S S 08 27 24.6 +12
baz=36
J55A Hilton 39.35 267 IAMs_20 IAMs_20 08 35 23.6
comp=Z,2µm,22.0s
F48A Evansville 39.35 273 P P 08 21 11.4 -0.7
baz=38
F48A S S 08 27 24.6 +12
baz=38
N62A Caumsett State 39.41 260 P P 08 21 11.6 -1.0
baz=34
BINY Binghamton 39.44 264 P P 08 21 13.2 +0.3
baz=35
BINY Binghamton 39.44 264 IAMs_20 IAMs_20 08 35 23.8
comp=Z,2µm,21.0s
L58A Harry Jones Me 39.51 264 P P 08 21 13.3 -0.1
baz=35
L58A S S 08 27 29.2 +14
baz=35
PAL Palisades 39.54 261 P P 08 21 13.7 0.0
baz=34
PAL S S 08 27 27.2 +11
baz=34
M60A Port Jervis 39.58 262 P P 08 21 13.6 -0.3
baz=34
M60A S S 08 27 29.2 +13
baz=34
K56A Middlesex 39.60 266 P P 08 21 13.6 -0.6
baz=36
K56A S S 08 27 30.0 +13
baz=36
E46A Sault Ste Mari 39.65 275 P P 08 21 16.5 +1.9
E46A IAmb IAmb 08 21 25.7
comp=Z,24nm,1.0s
E46A IAMs_20 IAMs_20 08 36 17.8
comp=Z,2µm,19.0s
INK Inuvik 39.69 328 IAMs_20 IAMs_20 08 39 09.8
comp=Z,2µm,18.0s
J54A Appleton 39.70 267 P P 08 21 15.3 +0.4
baz=36
J54A S S 08 27 28.5 +10
baz=36
J54A Appleton 39.70 267 IAMs_20 IAMs_20 08 35 45.8
comp=Z,3µm,21.0s
MEDO Medina 39.70 267 IAMs_20 IAMs_20 08 35 45.0
comp=Z,2µm,21.0s
M59A Waymart 39.74 263 P P 08 21 15.3 -0.1
baz=35
M59A S S 08 27 32.2 +13
baz=35
MMNY Mt. Morris Dam 39.82 266 IAMs_20 IAMs_20 08 35 49.1
comp=Z,2µm,22.0s
KSPA Keystone Colle 39.87 263 IAMs_20 IAMs_20 08 35 49.3
comp=Z,2µm,21.0s
K55A Perry 39.90 266 P P 08 21 16.7 +0.1
baz=36
K55A S S 08 27 31.8 +11
baz=36
N61A South Mountain 39.91 261 P P 08 21 16.4 -0.3
baz=34
N61A S S 08 27 34.2 +13
baz=34
L57A Andrews Acres 39.97 265 P P 08 21 17.2 0.0
baz=35
L57A S S 08 27 35.2 +13
baz=35
N60A Cedar Hill Far 40.15 262 P P 08 21 19.0 +0.2
baz=34
N60A S S 08 27 39.0 +14
baz=34
L56A Greenwood 40.16 265 P P 08 21 18.5 -0.4
baz=35
L56A S S 08 27 38.4 +13
baz=35
L56A Greenwood 40.16 265 P **P 08 21 18.9 0.0**
L56A IAmb IAmb 08 21 28.0
comp=Z,48nm,1.5s
K54A Basiliko Farm, 40.26 267 P P 08 21 20.0 +0.3
baz=36
I51A Listowel 40.29 270 P P 08 21 20.4 +0.5
baz=36
I51A S S 08 27 39.5 +13
baz=36
M58A Price's Panora 40.32 264 P P 08 21 20.4 +0.2
baz=34
M58A S S 08 27 39.2 +12
baz=34
WVNY West Valley, N 40.39 267 P **P 08 21 21.9 +1.2**
WVNY IAmb IAmb 08 21 27.2
comp=Z,39nm,1.2s
WVNY IAMs_20 IAMs_20 08 36 07.0
comp=Z,2µm,21.0s
N59A State Game Lan 40.40 263 P P 08 21 20.8 -0.1
baz=34
N59A S S 08 27 41.5 +13
baz=34
N59A State Game Lan 40.40 263 IAMs_20 IAMs_20 08 36 15.3
comp=Z,3µm,20.0s
ZEI Tsey 40.42 92 *eP* **P 08 21 23.5 +2.3**
ZEI pmax pmax
comp=Z,28nm,1.3s
FFC Flin Flon 40.45 297 P **P 08 21 24.2 +3.1**
FFC pmax pmax
comp=Z,35nm,1.3s
FFC MLR MLR
comp=Z,4µm,20.0s
FFC Flin Flon 40.45 297 P **P 08 21 24.2 +3.1**
FFC IAmb IAmb 08 21 35.4
comp=Z,35nm,1.3s
LUPA Lehigh Univers 40.49 262 IAMs_20 IAMs_20 08 36 15.7
comp=Z,3µm,19.0s
L55A Hinsdale 40.50 266 P P 08 21 21.9 +0.3
baz=35
L55A S S 08 27 42.9 +13
baz=35
M57A Sunshine Farm, 40.63 264 P P 08 21 22.0 -0.7
baz=35
M57A S S 08 27 45.1 +13
baz=35
M57A Sunshine Farm, 40.63 264 IAMs_20 IAMs_20 08 36 11.4
comp=Z,2µm,20.0s
O60A Telford 40.74 262 P P 08 21 23.6 0.0
baz=34
O60A S S 08 27 47.1 +13
baz=34
E43A Lone Tree Farm 40.79 278 P P 08 21 24.8 +0.9
E43A IAMs_20 IAMs_20 08 37 06.9
comp=Z,3µm,20.0s
L54A Sinclairville 40.83 267 P P 08 21 23.8 -0.6
baz=35
L54A S S 08 27 48.4 +13
baz=35
N58A Sunbury 40.87 263 P P 08 21 24.0 -0.7
baz=34
N58A S S 08 27 47.6 +12
baz=34
N58A Sunbury 40.87 263 P P 08 21 27.5 +2.8

N58A IAMs_20 IAMs_20 08 36 30.6
comp=Z,2µm,21.0s
GROC Groznyy 40.90 90 *e*P P **08 21 25.6 +0.7**
GROC *e* 08 23 01.0
GROC *e* 08 23 25.6
GROC *e*S S 08 27 45.5 +9.5
GROC pmax pmax
comp=Z,86nm,1.1s
D41A Chassel 40.91 280 P P **08 21 26.7 +1.7**
D41A IAmb IAmb 08 21 31.6
comp=Z,25nm,1.1s
D41A IAMs_20 IAMs_20 08 37 12.3
comp=Z,3µm,20.0s
I49A Point Hope 40.95 272 P P **08 21 26.8 +1.5**
M56A Emporium 40.96 265 P P **08 21 25.7 +0.2**
baz=35
M56A S S 08 27 49.5 +12
baz=35
GLMI Grayling 41.01 274 P P **08 21 25.6 -0.2**
GLMI IAmb IAmb 08 21 37.0
comp=Z,33nm,0.8s
GLMI IAMs_20 IAMs_20 08 37 35.7
comp=Z,2µm,19.0s
O59A Robesonia 41.08 263 P P **08 21 25.9 -0.5**
baz=34
O59A S S 08 27 50.4 +12
baz=34
PSUB Penn St. - Bra 41.09 261 IAMs_20 IAMs_20 08 36 43.4
comp=Z,2µm,18.0s
ERPA Erie 41.21 268 P P **08 21 27.4 -0.1**
baz=35
ERPA Erie 41.21 268 IAMs_20 IAMs_20 08 36 53.0
comp=Z,3µm,21.0s
M55A Ridgway 41.22 266 P P **08 21 27.6 -0.1**
baz=35
M55A S S 08 27 50.0 +9.0
baz=35
M55A Ridgway 41.22 266 P P **08 21 30.3 +2.7**
KOPT Kop Dagi 41.25 98 P P **08 21 27.5 -0.7**
P60A Greenville 41.26 262 P P **08 21 28.2 +0.3**
baz=34
P60A S S 08 27 53.6 +12
baz=34
P60A Greenville 41.26 262 IAMs_20 IAMs_20 08 36 48.0
comp=Z,2µm,18.0s
G45A Suttons Bay 41.28 275 IAMs_20 IAMs_20 08 37 16.9
comp=Z,2µm,20.0s
N57A Milroy 41.29 264 P P **08 21 28.0 -0.2**
baz=34
N57A S S 08 27 55.5 +14
baz=34
AKH Akhalkalaki 41.37 94 P P **08 21 28.4 -0.7**
AKH pmax pmax
comp=Z,79nm,1.4s
AKH MLR MLR
comp=Z,2µm,22.0s
AKH Akhalkalaki 41.37 94 P P **08 21 28.4 -0.7**
AKH IAMs_20 IAMs_20 08 38 31.3
comp=Z,2µm,22.0s
PAGS Pennsylvania G 41.38 263 IAMs_20 IAMs_20 08 36 45.1
comp=Z,3µm,21.0s
MVL Millersville 41.41 262 IAMs_20 IAMs_20 08 36 44.9
comp=Z,3µm,20.0s
EYMN Ely 41.45 283 P P **08 21 29.3 -0.1**
baz=38
EYMN Ely 41.45 283 P P **08 21 30.9 +1.4**
EYMN Ely 41.45 283 IAMs_20 IAMs_20 08 37 15.5
comp=Z,2µm,22.0s
ULM Lac du Bonnet 41.46 288 P P **08 21 31.8 +2.3**
comp=Z,3.0nm,0.7s,baz=51,slow=15,SNR=2.2
ULM Lac du Bonnet 41.46 288 P P **08 21 29.6 +0.1**
ULM IAMs_20 IAMs_20 08 37 53.8
comp=Z,2µm,18.0s
L53A Girard 41.46 268 P P **08 21 28.9 -0.7**
baz=35
L53A S S 08 27 56.4 +12
baz=35
N56A West Decatur 41.48 265 P P **08 21 30.3 +0.6**
baz=34
N56A S S 08 27 57.0 +12
baz=34
SSPA Standing Stone 41.53 264 P P **08 21 30.5 +0.3**
baz=34
SSPA Standing Stone 41.53 264 P P **08 21 30.9 +0.8**
O58A Lewisberry 41.55 263 P P **08 21 30.2 -0.1**
baz=34
O58A S S 08 27 57.6 +12
baz=34
M54A Oil Creek Stat 41.58 267 P P **08 21 31.1 +0.6**
baz=35
M54A S S 08 27 58.4 +12
baz=35
M54A Oil Creek Stat 41.58 267 P P **08 21 30.3 -0.2**
M54A IAmb IAmb 08 21 37.6
comp=Z,39nm,1.1s
M54A IAMs_20 IAMs_20 08 36 42.5
comp=Z,2µm,21.0s
F42A Maple Grove Fa 41.76 278 IAMs_20 IAMs_20 08 37 37.7
comp=Z,3µm,21.0s
P59A Jarrettsville 41.77 262 P P **08 21 32.7 +0.7**
baz=33
O57A Amberson 41.78 264 P P **08 21 32.1 -0.1**
baz=34
O57A S S 08 28 02.8 +14
baz=34
MAK Makhachkala 41.83 89 *e*P P **08 21 28.7 -3.8**
MAK *e* 08 23 06.3
MAK *e*S **S** **08 27 45.6 -4.2**
MAK pmax pmax
comp=Z,179nm,1.2s
MAK MLR MLR
comp=Z,2µm,18.0s
N55A Marion Center 41.88 266 P P **08 21 33.7 +0.6**
baz=34
N55A S S 08 28 03.6 +13
baz=34
Q61A Milford 41.91 260 P P **08 21 33.2 0.0**
baz=33
Q61A S S 08 28 05.0 +14
baz=33
COWI Conover 41.91 279 P P **08 21 34.8 +1.5**
COWI IAMs_20 IAMs_20 08 37 51.7
comp=Z,2µm,20.0s
Q60A Greensboro 42.03 261 P P **08 21 33.9 -0.3**
baz=33
M53A WI Miller and 42.06 268 P P **08 21 35.0 +0.5**
baz=35
M53A S **S** **08 27 58.5 +5.1**
baz=35
M53A WI Miller and 42.06 268 IAMs_20 IAMs_20 08 37 29.4
comp=Z,2µm,20.0s
ABKAR Akbulak array 42.06 73 P P **08 21 32.8 -1.6**
O56A Blue Knob Stat 42.13 265 P P **08 21 35.6 +0.5**
baz=34
O56A S S 08 28 05.6 +11
baz=34
O56A Blue Knob Stat 42.13 265 IAMs_20 IAMs_20 08 37 00.1
comp=Z,2µm,21.0s
N54A Moraine State 42.16 267 P P **08 21 36.2 +0.9**
baz=34
N54A S S 08 28 08.7 +14
baz=34
N54A Moraine State 42.16 267 IAMs_20 IAMs_20 08 37 35.0
comp=Z,2µm,20.0s
P58A Pank, Wackersv 42.24 263 P P **08 21 36.6 +0.7**
baz=33
P58A S S 08 28 07.6 +12
baz=33
M52A Chesterland 42.27 268 P P **08 21 36.7 +0.5**
baz=35
M52A S S 08 28 09.6 +13
baz=35
M52A Chesterland 42.27 268 IAMs_20 IAMs_20 08 37 26.0
comp=Z,3µm,20.0s
I45A Fountain 42.33 275 IAMs_20 IAMs_20 08 37 58.7
comp=Z,2µm,20.0s
Q59A Harwood 42.48 262 P P **08 21 38.2 +0.3**
baz=33
Q59A S S 08 28 13.0 +13
baz=33
O55A Ligonier 42.49 265 P P **08 21 38.6 +0.6**
baz=34
O55A S S 08 28 11.9 +12
baz=34
E38A The Farm, Brul 42.53 282 IAMs_20 IAMs_20 08 38 08.1
comp=Z,2µm,19.0s
P57A Homestead Farm 42.55 264 P P **08 21 38.0 -0.4**
baz=34
P57A S S 08 28 15.1 +15
baz=34
P57A Homestead Farm 42.55 264 IAMs_20 IAMs_20 08 37 22.1
comp=Z,2µm,21.0s
TOLK Toolik Lake Re 42.60 336 P P **08 21 38.1 -0.6**
baz=28,SNR=12
TOLK S S 08 28 16.1 +15
baz=28
TOLK Toolik Lake Re 42.60 336 P P **08 21 40.5 +1.9**
TOLK IAMs_20 IAMs_20 08 41 30.3
comp=Z,2µm,20.0s
AAM Ann Arbor 42.63 271 P P **08 21 39.1 0.0**
baz=35
H43A Windswept, Lux 42.64 277 IAMs_20 IAMs_20 08 38 01.8
comp=Z,3µm,20.0s
N53A Lisbon 42.65 267 P P **08 21 39.6 +0.3**
baz=34
N53A Lisbon 42.65 267 IAMs_20 IAMs_20 08 37 48.1
comp=Z,2µm,19.0s
M51A Elyria 42.80 269 P P **08 21 40.8 +0.3**
baz=35
M51A S S 08 28 18.2 +14
baz=35
Q58A Fox Den Farm, 42.86 263 P P **08 21 41.6 +0.6**
baz=33
Q58A S S 08 28 17.1 +12
baz=33
P56A Dayton Farm, R 42.88 264 P P **08 21 41.4 +0.3**
baz=34
P56A S S 08 28 17.3 +12
baz=34
O54A Avella 42.97 266 P P **08 21 42.9 +1.0**
baz=34
O54A S S 08 28 20.8 +14
baz=34
O54A Avella 42.97 266 P P **08 21 43.9 +2.0**
O54A IAmb IAmb 08 21 48.5
comp=Z,24nm,1.1s
O54A IAMs_20 IAMs_20 08 38 11.5
comp=Z,2µm,20.0s
AGMN Agassiz Nation 42.98 287 P P **08 21 41.5 -0.4**
baz=38
N52A McGinn's Farm, 43.01 268 P P **08 21 42.4 +0.2**
baz=34
N52A S S 08 28 20.5 +13
baz=34
G40A Rib Lake 43.03 279 P P **08 21 44.2 +1.9**
G40A IAmb IAmb 08 21 59.1
comp=Z,32nm,1.3s
G40A IAMs_20 IAMs_20 08 38 26.2
comp=Z,2µm,20.0s
Q57A Strasburg 43.09 264 P P **08 21 42.6 -0.2**
baz=33
Q57A S S 08 28 23.4 +15
baz=33
M50A Fremont 43.11 270 P P **08 21 43.4 +0.4**
M50A IAmb IAmb 08 21 49.5
comp=Z,34nm,0.9s
M50A IAMs_20 IAMs_20 08 38 03.1
comp=Z,2µm,19.0s
AKT Akhty 43.13 90 *e*P P **08 21 46.5 +3.2**
AKT *e* 08 23 25.1
AKT *e* 08 23 34.2
AKT pmax pmax
comp=Z,44nm,1.2s
BRVK Borovoye 43.18 62 *ce*P P 08 21 46.9 +3.5
BRVK pmax pmax
comp=Z,52nm,1.6s
MCWV Mont Chateau 43.18 265 P P **08 21 43.2 -0.4**
baz=34
MCWV Mont Chateau 43.18 265 P P **08 21 44.3 +0.8**
N51A Ashland 43.22 269 P P **08 21 43.6 -0.3**
baz=34
N51A S S 08 28 23.9 +13
baz=34
N51A Ashland 43.22 269 IAMs_20 IAMs_20 08 38 05.1
comp=Z,3µm,20.0s
R59A King George, V 43.24 262 P P **08 21 43.7 -0.3**
baz=33
BVAR Borovoye Array 43.24 62 LR LR 08 39 45.3
comp=Z,984nm,18.3s,baz=117,slow=36
L48A N Adams 43.26 272 P P **08 21 44.6 +0.4**
L48A IAmb IAmb 08 22 01.0
comp=Z,28nm,1.2s
O53A New Philadelph 43.27 267 P P **08 21 44.1 -0.2**
baz=34
O53A S S 08 28 24.9 +14
baz=34
O53A New Philadelph 43.27 267 P P **08 21 44.7 +0.4**
O53A IAmb IAmb 08 22 01.6
comp=Z,42nm,1.4s
O53A IAMs_20 IAMs_20 08 38 08.5
comp=Z,2µm,20.0s
P55A Reedsville 43.30 265 P P **08 21 44.7 +0.1**
baz=34
P55A S S 08 28 25.6 +14
baz=34
CBN Corbin Frederi 43.34 262 P P **08 21 45.5 +0.7**
baz=33
CBN Corbin Frederi 43.34 262 IAMs_20 IAMs_20 08 38 12.2
comp=Z,2µm,18.0s
Q56A Snyder Ridge, 43.41 264 P P **08 21 45.8 +0.3**
baz=33
S60A Water View 43.46 261 P P **08 21 45.8 0.0**
baz=32
P54A Burton 43.50 266 P P **08 21 45.9 -0.3**
baz=34
P54A S S 08 28 27.2 +13
baz=34
R58A Rapidan 43.53 263 P P **08 21 46.4 0.0**
baz=33
I42A Draeger Farm, 43.59 277 P P **08 21 48.3 +1.5**
O52A Adamsville 43.65 268 P P **08 21 47.7 +0.3**
baz=34
O52A S S 08 28 30.7 +14
baz=34
O52A Adamsville 43.65 268 P P **08 21 48.4 +1.0**
O52A IAmb IAmb 08 21 58.0
comp=Z,26nm,1.1s
O52A IAMs_20 IAMs_20 08 38 19.5
comp=Z,2µm,20.0s
S59A Mechanicsville 43.68 262 P P **08 21 47.9 +0.3**
baz=32
S59A S S 08 28 31.5 +14
baz=32
R57A Stanardsville 43.76 263 P P **08 21 48.9 +0.6**
baz=33
R58B Mineral 43.76 262 P P **08 21 48.2 0.0**
baz=33
R58B S S 08 28 31.6 +13
baz=33
R58B Mineral 43.76 262 IAMs_20 IAMs_20 08 38 16.2
comp=Z,2µm,19.0s
Q55A Buckhannon 43.83 265 P P **08 21 48.4 -0.5**
baz=33
F36A Milaca 43.95 283 P P **08 21 51.1 +1.4**
F36A IAmb IAmb 08 22 01.8
comp=Z,26nm,1.3s
F36A IAMs_20 IAMs_20 08 38 51.6
comp=Z,2µm,22.0s
O51A Pataskala 43.96 268 P P **08 21 49.5 -0.4**
baz=34
O51A S S 08 28 34.7 +14
baz=34
COLD Coldfoot 43.97 336 P P **08 21 48.3 -1.4**
baz=27
COLD S S 08 28 35.9 +15
baz=27
COLD Coldfoot 43.97 336 P P **08 21 50.3 +0.7**
T60A Surry 43.97 261 P P **08 21 50.2 +0.2**
baz=32
P53A Whipple 43.98 267 P P **08 21 50.0 -0.1**
baz=34
P53A S S 08 28 35.0 +13
baz=34
P53A Whipple 43.98 267 P P **08 21 51.4 +1.3**
P53A IAmb IAmb 08 21 57.5
comp=Z,42nm,1.2s
P53A IAMs_20 IAMs_20 08 38 40.2
comp=Z,3µm,20.0s
N49A Columbus Grove 43.99 270 IAmb IAmb 08 22 01.2
comp=Z,36nm,1.0s
L46A Eue Claire 44.00 273 IAMs_20 IAMs_20 08 38 57.9
comp=Z,1µm,19.0s
R56A Bull Pasture M 44.04 264 P P **08 21 50.0 -0.5**
baz=33
R56A S S 08 28 36.0 +13
baz=33
ACSO Alum Creek Sta 44.05 269 P P **08 21 50.6 +0.1**
baz=34
ACSO Alum Creek Sta 44.05 269 P P **08 21 50.8 +0.2**
S58A Poland Farm, P 44.13 262 P P **08 21 51.9 +0.7**
baz=32
S58A S S 08 28 36.2 +12
baz=32
S58A Poland Farm, P 44.13 262 IAMs_20 IAMs_20 08 38 45.0
comp=Z,2µm,18.0s
SPMN Marine on St. 44.16 281 P P **08 21 51.3 -0.1**
baz=36
SPMN S S 08 28 38.5 +14
baz=36
SPMN Marine on St. 44.16 281 IAmb IAmb 08 22 04.4
comp=Z,18nm,1.1s
Q54A Coxs Mills 44.16 266 P P **08 21 51.5 -0.1**
baz=33
Q54A S S 08 28 38.1 +14
baz=33
Q54A Coxs Mills 44.16 266 IAMs_20 IAMs_20 08 42 33.0
comp=Z,2µm,19.0s
P52A Corning 44.18 268 P P **08 21 51.3 -0.3**
baz=34
P52A Corning 44.18 268 IAmb IAmb 08 21 58.5
comp=Z,36nm,1.2s
P52A IAMs_20 IAMs_20 08 38 35.4
comp=Z,2µm,20.0s
K43A Burlington 44.31 276 IAMs_20 IAMs_20 08 39 09.0
comp=Z,2µm,20.0s
EGAK Eagle 44.33 329 IAMs_20 IAMs_20 08 41 41.4
comp=Z,2µm,19.0s
S57A Dark Hollow, R 44.39 263 P P **08 21 53.6 +0.3**
baz=32
S57A S S 08 28 42.1 +15
baz=32
R55A Marlinton 44.45 265 P P **08 21 53.7 -0.1**
baz=33
R55A S S 08 28 43.1 +15
baz=33
R55A Marlinton 44.45 265 IAMs_20 IAMs_20 08 43 56.5
comp=Z,2µm,18.0s
T59A Double "B" Far 44.46 261 P P **08 21 53.8 0.0**
baz=32
T59A Double "B" Far 44.46 261 IAMs_20 IAMs_20 08 43 56.7
comp=Z,2µm,21.0s
U61A Possum Corner 44.54 260 P P **08 21 54.1 -0.4**
baz=32
U61A Possum Corner 44.54 260 IAMs_20 IAMs_20 08 44 06.6
comp=Z,2µm,20.0s
L44A Lake County Fo 44.56 275 P P **08 21 54.9 +0.3**
baz=35
L44A Lake County Fo 44.56 275 IAMs_20 IAMs_20 08 39 53.6
comp=Z,2µm,19.0s
Q53A Leroy 44.56 266 P P **08 21 54.3 -0.4**
baz=33
Q53A S S 08 28 44.0 +14
baz=33
TAM Tamanrasset 44.66 149 P P **08 21 55.7 -0.1**
TAM pmax pmax
comp=Z,26nm,1.3s
TAM MLR MLR
comp=Z,1µm,18.0s
TAM Tamanrasset 44.66 149 P P **08 21 55.7 -0.1**
TAM IAmb IAmb 08 22 10.9
comp=Z,26nm,1.3s
O49A Covington 44.66 270 IAMs_20 IAMs_20 08 39 01.3
comp=Z,2µm,20.0s
N47A Urbana 44.67 272 IAmb IAmb 08 22 01.6
comp=Z,25nm,1.1s
P51A Williamsport 44.70 268 P P **08 21 56.1 +0.3**
baz=34
P51A S S 08 28 44.0 +12
baz=34
P51A Williamsport 44.70 268 IAmb IAmb 08 22 01.8
comp=Z,26nm,1.1s
P51A IAMs_20 IAMs_20 08 39 01.3
comp=Z,2µm,20.0s
U60A Pendleton 44.72 260 P P **08 21 56.2 +0.3**
baz=32
U60A S S 08 28 44.7 +12
baz=32
S56A Natural Bridge 44.72 264 P P **08 21 56.2 +0.3**
baz=32
S56A S S 08 28 46.4 +14
baz=32
Q52A Bidwell 44.80 267 P P **08 21 56.2 -0.3**
baz=33
Q52A S S 08 28 45.9 +12
baz=33
HQIL Hanson Quary C 44.84 274 IAMs_20 IAMs_20 08 39 52.1
comp=Z,2µm,18.0s
MDND Maddock 44.87 289 P P **08 21 56.8 -0.2**
baz=37
MDND Maddock 44.87 289 IAMs_20 IAMs_20 08 39 55.8
comp=Z,2µm,18.0s
T58A Grand View Acr 44.90 262 P P **08 21 56.3 -1.1**
baz=32
T58A S S 08 28 47.8 +13
baz=32
R54A Victor 44.90 265 P P **08 21 56.4 -1.1**
baz=33
R54A S S 08 28 49.4 +14
baz=33
JFWS Jewell Farm 44.95 277 P P **08 21 57.6 -0.1**
baz=35
V62A Hyde County Ai 44.99 259 IAMs_20 IAMs_20 08 38 34.6
comp=Z,2µm,20.0s
S55A Lewisburg 45.04 265 P P **08 21 57.9 -0.6**
baz=33
S55A S S 08 28 52.2 +15
baz=33
V61A Roper 45.05 259 IAMs_20 IAMs_20 08 43 27.3
comp=Z,3µm,22.0s
U59A Littleton 45.09 261 P P **08 21 59.9 +1.0**
baz=32
U59A S S 08 28 51.0 +13
baz=32
U59A Littleton 45.09 261 IAMs_20 IAMs_20 08 43 27.3
comp=Z,2µm,19.0s
T57A Hurt 45.16 263 P P **08 22 00.6 +1.1**
baz=32
T57A S S 08 28 52.1 +13
baz=32
K27K Chicken 45.18 329 P P **08 21 58.9 -0.5**
baz=30
K27K S S 08 28 54.0 +16
baz=30
R53A Hurricane 45.19 266 P P **08 22 00.3 +0.6**
baz=33
R53A S S 08 28 52.9 +14
baz=33
Q51A Peebles 45.20 268 IAMs_20 IAMs_20 08 44 24.6
comp=Z,2µm,20.0s
M44A Midewin, Midew 45.26 274 IAMs_20 IAMs_20 08 40 04.2
comp=Z,2µm,18.0s
POKR Poker Plat Res 45.34 333 P P **08 22 00.0 -0.6**
baz=27
POKR S S 08 28 56.8 +16
baz=27
S54A Dingess, Beckl 45.36 265 P P **08 22 01.3 +0.2**
baz=33
S54A S S 08 28 55.9 +14
baz=33
S54A Dingess, Beckl 45.36 265 IAMs_20 IAMs_20 08 43 29.7
comp=Z,2µm,19.0s
V60A Jim Taylor Roa 45.36 260 IAMs_20 IAMs_20 08 43 17.6
comp=Z,2µm,18.0s
P49A Miami Univ. Ec 45.37 270 P P **08 22 01.4 +0.3**
baz=34
P49A S S 08 28 53.2 +11
baz=34
P49A Miami Univ. Ec 45.37 270 P P **08 22 03.4 +2.3**
P49A IAMs_20 IAMs_20 08 39 24.0
comp=Z,2µm,20.0s
U58A Oxford 45.37 262 P P **08 22 00.4 -0.7**
baz=32
I37A Lemond, Waseca 45.39 281 P P **08 22 03.8 +2.6**
I37A IAMs_20 IAMs_20 08 39 48.7
comp=Z,2µm,21.0s
L42A Oliver, Polo 45.45 276 IAMs_20 IAMs_20 08 39 46.2
comp=Z,2µm,20.0s
T56A Rocky Mt 45.47 264 P P **08 22 02.2 +0.3**
baz=32
BLA Blacksburg 45.48 264 P P **08 22 02.3 +0.2**
baz=32
BLA Blacksburg 45.48 264 IAMs_20 IAMs_20 08 39 03.7
comp=Z,2µm,22.0s

ILAR Eielson Array 45.54 332 P **P** **08 22 03.8 +1.7**
comp=Z,0.9nm,0.5s,baz=18,slow=6.7,SNR=4.8
ILAR PcP **PcP** **08 23 40.9 +0.4**
comp=Z,2.7nm,0.9s,baz=5.4,slow=3.4,SNR=4.9
ILAR LR LR 08 43 53.7
comp=Z,1μm,19.3s,baz=34,slow=40
ILAR Eielson Array 45.54 332 P **P** **08 22 04.1 +1.9**
COLA College 45.64 333 P **P** **08 22 06.1 +3.2**
COLA pmax pmax
comp=Z,66nm,1.4s
COLA MLR MLR
comp=Z,1μm,21.0s
COLA College 45.64 333 P **P** **08 22 06.0 +3.2**
TCOL CIGO, UAF Yank 45.64 333 P **P** **08 22 02.5 -0.4**
baz=27
TCOL S S 08 29 00.8 +16
baz=27
SCRK Sand Creek 45.64 330 P **P** **08 22 02.1 -1.0**
baz=29
SCRK S S 08 29 00.9 +16
baz=29
U57A Blanch 45.67 262 P **P** **08 22 03.2 -0.4**
baz=32
SFIN Lafayette 45.69 273 P **P** **08 22 03.5 -0.1**
baz=34
SFIN S S 08 29 00.1 +14
baz=34
T55A Pulaski 45.71 264 P **P** **08 22 03.8 -0.1**
baz=32
T55A S S 08 28 59.2 +12
baz=32
IMAR Indian Mountai 45.71 337 P **P** **08 22 05.4 +1.9**
P48A Milroy 45.73 270 IAmb IAmb 08 22 09.8
comp=Z,23nm,1.1s
P48A IAMs_20 IAMs_20 08 39 34.7
comp=Z,2μm,19.0s
V59A Middlesex 45.78 261 P **P** **08 22 04.6 +0.3**
baz=31
S53A Williamson 45.81 266 P **P** **08 22 05.6 +0.9**
baz=33
S53A S S 08 29 01.6 +13
baz=33
HDA Harding Lake 45.87 332 P **P** **08 22 05.0 +0.2**
baz=27
DOT Dot Lake 45.95 330 IAMs_20 IAMs_20 08 42 57.1
comp=Z,1μm,18.0s
CNNC Cliffs of the 46.08 260 IAMs_20 IAMs_20 08 42 24.5
comp=Z,2μm,22.0s
T54A Tazewell 46.10 265 P **P** **08 22 07.2 +0.2**
baz=32
V58A Windy Hill, Pi 46.12 262 IAMs_20 IAMs_20 08 40 26.7
comp=Z,2μm,20.0s
NEA2 Nenana 46.12 333 P **P** **08 22 05.9 -0.9**
baz=26
NEA2 S S 08 29 08.5 +16
baz=26
U56A King 46.19 263 P **P** **08 22 07.8 +0.1**
baz=32
U56A King 46.19 263 IAMs_20 IAMs_20 08 39 41.6
comp=Z,3μm,20.0s
DGMT Dagmar 46.20 293 P **P** **08 22 07.3 -0.4**
baz=36
DGMT Dagmar 46.20 293 IAMs_20 IAMs_20 08 40 55.2
comp=Z,2μm,19.0s
K38A Parkersburg 46.24 279 IAMs_20 IAMs_20 08 40 25.2
comp=Z,2μm,20.0s
R50A Paris 46.25 269 IAmb IAmb 08 22 24.7
comp=Z,31nm,1.4s
R50A IAMs_20 IAMs_20 08 39 50.2
comp=Z,2μm,20.0s
V57A Coltrane Farms 46.32 263 P **P** **08 22 09.0 +0.3**
baz=32
V57A S S 08 29 05.7 +10
baz=32
E28A Huff 46.33 289 IAMs_20 IAMs_20 08 40 58.6
comp=Z,2μm,19.0s
U55A TA2, Sparta 46.34 264 P **P** **08 22 09.8 +0.9**
baz=32
U55A S S 08 29 09.7 +14
baz=32
P46A Rosedale 46.37 272 IAMs_20 IAMs_20 08 43 12.4
comp=Z,2μm,18.0s
W59A Clinton 46.37 261 P **P** **08 22 09.1 +0.1**
baz=31
BLO Bloomington 46.44 271 IAMs_20 IAMs_20 08 45 23.5
comp=Z,1μm,19.0s
O44A Mansfield 46.46 274 IAMs_20 IAMs_20 08 41 02.0
comp=Z,2μm,20.0s
S51A Beattyville 46.47 267 IAMs_20 IAMs_20 08 39 58.1
comp=Z,3μm,22.0s
HDIL Hopedale 46.48 275 P **P** **08 22 10.8 +0.9**
baz=34
HDIL Hopedale 46.48 275 IAMs_20 IAMs_20 08 42 06.5
comp=Z,2μm,18.0s
BRZS Berezniki 46.53 63 *j* *i*P **P** **08 22 10.9 +0.7**
comp=Z,160nm,2.5s,baz=63
BRZS *i* PP **PP** **08 24 00.6 +1.4**
baz=63
BRZS *e*S **S** **08 29 00.6 +2.3**
baz=63
BRZS Berezniki 46.53 63 *d i*P **P** **08 22 10.8 +0.6**
BRZS *i* 08 24 00.5
BRZS *e*S **S** **08 29 00.5 +2.3**
BRZS pmax pmax
comp=Z,160nm,2.5s
T53A Wise 46.57 266 P **P** **08 22 10.2 -0.5**
baz=32
T53A S S 08 29 12.1 +13
baz=32
R49A Shelbyville 46.60 269 IAMs_20 IAMs_20 08 40 11.6
comp=Z,2μm,19.0s
U54A Nelsons Funny 46.66 265 P **P** **08 22 11.2 -0.2**
baz=32
U54A S S 08 29 12.2 +12
baz=32
U54A Nelsons Funny 46.66 265 IAMs_20 IAMs_20 08 40 06.0
comp=Z,2μm,20.0s
V56A Mocksville 46.70 263 S S 08 29 13.0 +12
baz=32
W58A Raeford 46.83 261 S S 08 29 14.7 +12
baz=31
DLBC Dease Lake 46.92 318 P **P** **08 22 15.7 +2.5**
BPAW Bear Paw Mtn. 46.94 334 P **P** **08 22 14.6 +1.5**
X59A McDuffie Farm, 46.95 260 P **P** **08 22 13.5 0.0**
baz=31
ECSD EROS Data Cent 46.96 283 P **P** **08 22 13.4 -0.2**
baz=35
ECSD EROS Data Cent 46.96 283 P **P** **08 22 16.8 +3.2**
ECSD IAmb IAmb 08 22 20.4
comp=Z,23nm,1.4s
ECSD EROS Data Cent 46.96 283 IAMs_20 IAMs_20 08 40 55.4
comp=Z,2μm,21.0s
V55A Taylorsville 46.97 264 P **P** **08 22 14.7 +0.9**
baz=32
V55A S S 08 29 17.4 +13
baz=32
V55A Taylorsville 46.97 264 P **P** **08 22 15.7 +2.0**
V55A IAmb IAmb 08 22 20.9
comp=Z,27nm,1.4s
N41A Harden Midland 47.02 276 IAMs_20 IAMs_20 08 40 35.9
comp=Z,2μm,21.0s
SCIA State Center 47.03 279 P **P** **08 22 14.4 +0.2**
baz=34
SCIA State Center 47.03 279 IAMs_20 IAMs_20 08 41 01.2
comp=Z,3μm,20.0s
W57A Gilead 47.04 262 S S 08 29 23.5 +18
baz=31
W57A Gilead 47.04 262 IAMs_20 IAMs_20 08 41 19.1
comp=Z,2μm,19.0s
WCI Wyandotte Cave 47.13 270 P **P** **08 22 14.6 -0.4**
baz=33
WCI Wyandotte Cave 47.13 270 P **P** **08 22 16.7 +1.7**
WCI pmax pmax
comp=Z,23nm,1.0s
WCI Wyandotte Cave 47.13 270 P **P** **08 22 16.7 +1.7**
RND Reindeer 47.15 332 P **P** **08 22 17.2 +2.3**
RND pmax pmax
comp=Z,13nm,1.1s
RND MLR MLR
comp=Z,1μm,19.0s
RND Reindeer 47.15 332 P **P** **08 22 17.2 +2.3**
RND IAmb IAmb 08 22 26.1
comp=Z,13nm,1.1s
RND IAMs_20 IAMs_20 08 44 22.8
comp=Z,1μm,19.0s
Y60A Bolivia 47.27 260 IAMs_20 IAMs_20 08 41 49.1
comp=Z,2μm,22.0s
W56A Indian Trail 47.31 263 P **P** **08 22 16.3 -0.1**
baz=31
W56A S **S** **08 29 16.7 +7.2**
baz=31
P43A Skaggs, Pawnee 47.34 274 P **P** **08 22 18.5 +1.9**
P43A IAMs_20 IAMs_20 08 43 35.2
comp=Z,2μm,21.0s
V54A Nebo 47.34 265 P **P** **08 22 17.3 +0.6**
baz=32
V54A S S 08 29 23.6 +13
baz=32
SUSD Miller 47.35 286 P **P** **08 22 16.6 -0.1**
baz=35
SUSD S S 08 29 24.0 +14
baz=35
SUSD Miller 47.35 286 P **P** **08 22 19.0 +2.3**
SUSD IAmb IAmb 08 22 27.0
comp=Z,18nm,1.1s
TZTN Tazewell 47.38 267 P **P** **08 22 16.6 -0.3**
baz=32
TZTN Tazewell 47.38 267 IAMs_20 IAMs_20 08 40 56.1
comp=Z,2μm,21.0s
SKAG Skagway 47.50 322 IAMs_20 IAMs_20 08 42 31.6
comp=Z,2μm,19.0s
ZAA0 Zalesovo Array 47.65 51 P **P** **08 22 18.7 -0.2**
ZAA0 IAmb IAmb 08 22 23.1
comp=Z,7.7nm,0.8s
ZALV Zalesovo Beam 47.65 51 P **P** **08 22 18.3 -0.5**
comp=Z,3.9nm,0.8s,baz=310,slow=11,SNR=4.8
ZALV LR LR 08 45 02.9
comp=Z,854nm,18.3s,baz=322,slow=40
ZALV Zalesovo Beam 47.65 51 *i* P P 08 22 22.2 +3.4
ZALV pmax pmax
comp=Z,2.0nm,0.3s
ZALV Zalesovo Beam 47.65 51 P **P** **08 22 18.1 -0.7**
MCARA McCarthy VSAT 47.72 328 IAMs_20 IAMs_20 08 43 29.9
comp=Z,1μm,20.0s
Q44A Meyer Farm, Va 47.74 273 P **P** **08 22 22.8 +3.1**
Q44A IAMs_20 IAMs_20 08 41 50.7
comp=Z,2μm,20.0s
M24K Tolsona, Glenn 47.77 330 P **P** **08 22 18.7 -1.0**
baz=27
V53A Saluda 47.80 265 IAMs_20 IAMs_20 08 41 18.3
comp=Z,2μm,21.0s
GLB Gilahina Butte 47.84 328 P **P** **08 22 22.8 +2.6**
USIN University of 47.94 271 IAMs_20 IAMs_20 08 41 25.2
comp=Z,2μm,20.0s
VRDI Verde Repeater 47.95 328 IAMs_20 IAMs_20 08 43 44.1
comp=Z,1μm,18.0s
W54A Cherokee Point 48.03 264 P **P** **08 22 20.9 -1.1**
baz=31
W54A S S 08 29 32.3 +12
baz=31
X56A White Oak 48.05 263 P **P** **08 22 22.4 +0.3**
baz=31
TABL Table Mountain 48.11 326 IAMs_20 IAMs_20 08 43 47.4
comp=Z,1μm,19.0s
BESE Bessie Mountai 48.13 321 IAMs_20 IAMs_20 08 43 27.5
comp=Z,2μm,18.0s
KURK Kurchatov 48.15 58 *de*P **P** **08 22 24.0 +1.3**
KURK pmax pmax
comp=Z,29nm,0.8s
KURK Kurchatov 48.15 58 IAMs_20 IAMs_20 08 42 44.9
comp=Z,2μm,21.0s
BCPM Bancas Point 48.17 325 IAMs_20 IAMs_20 08 43 22.2
comp=Z,1μm,19.0s
Y57A Sumter 48.18 262 S S 08 29 34.0 +12
baz=31
Y57A Sumter 48.18 262 IAMs_20 IAMs_20 08 41 09.3
comp=Z,2μm,21.0s
PCA Pinnacle 48.20 325 IAMs_20 IAMs_20 08 44 40.8
comp=Z,2μm,18.0s
TKL Tuckaleechee C 48.22 266 P **P** **08 22 24.3 +0.8**
TKL pmax pmax
comp=Z,28nm,1.4s
TKL Tuckaleechee C 48.22 266 P **P** **08 22 24.3 +0.8**
TKL IAmb IAmb 08 22 38.0
comp=Z,28nm,1.4s
ISLE Juniper Island 48.25 327 IAMs_20 IAMs_20 08 43 06.1
comp=Z,1μm,21.0s
JIS Juneau Island 48.27 321 P **P** **08 22 25.6 +2.1**
JIS IAmb IAmb 08 22 35.4
comp=Z,15nm,1.2s
JIS IAMs_20 IAMs_20 08 43 22.0
comp=Z,1μm,18.0s
L34A Svendsen Farm, IAMs_20 IAMs_20 08 41 18.2
comp=Z,2μm,21.0s
YAH Yahtse 48.32 327 IAMs_20 IAMs_20 08 43 08.1
comp=Z,2μm,21.0s
X55A Gracelyn & Ava 48.32 263 P **P** **08 22 24.7 +0.5**
baz=31
X55A S S 08 29 37.3 +13
baz=31
JSC Jenkinsville 48.33 263 P **P** **08 22 26.0 +1.7**
JSC pmax pmax
comp=Z,21nm,1.5s
JSC Jenkinsville 48.33 263 P **P** **08 22 26.0 +1.7**
JSC IAmb IAmb 08 22 38.9
comp=Z,21nm,1.5s
V51A Loudon 48.35 267 P **P** **08 22 26.1 +1.6**
U49A Red Boiling Sp 48.36 269 IAMs_20 IAMs_20 08 40 54.1
comp=Z,3μm,22.0s
BG3 Lake Jocassee 48.43 265 P **P** **08 22 25.7 +0.6**
BG3 IAmb IAmb 08 22 31.4
comp=Z,21nm,1.4s
LAO LASA Array 48.45 293 P **P** **08 22 26.0 +0.8**
baz=35,SNR=5.2
LAO LASA Array 48.45 293 P **P** **08 22 26.9 +1.7**
SLM Saint Louis 48.48 274 P **P** **08 22 27.5 +2.1**
SLM pmax pmax
comp=Z,21nm,1.0s
SLM Saint Louis 48.48 274 P **P** **08 22 27.5 +2.1**
SLM IAmb IAmb 08 22 31.4
comp=Z,21nm,0.9s
P40A Paris 48.51 276 IAMs_20 IAMs_20 08 41 39.2
comp=Z,2μm,20.0s
T47A Sharon Grove 48.52 270 P **P** **08 22 25.3 -0.5**
T47A IAMs_20 IAMs_20 08 43 49.5
comp=Z,2μm,20.0s
MESA MESA 48.53 327 IAMs_20 IAMs_20 08 42 39.6
comp=Z,1μm,19.0s
X54A Belton 48.57 264 P **P** **08 22 26.4 +0.3**
baz=31
X54A S S 08 29 40.8 +13
baz=31
GHO Glory Hole Cre 48.64 332 IAMs_20 IAMs_20 08 44 25.2
comp=Z,1μm,18.0s
EGMT Eagleton 48.73 297 P **P** **08 22 28.1 +0.8**
baz=35,SNR=10
EGMT Eagleton 48.73 297 P **P** **08 22 29.3 +2.0**
Y56A Pelion 48.76 263 P **P** **08 22 27.6 0.0**
baz=31
Y56A S S 08 29 42.9 +13
baz=31
K31A O'Neill 48.77 284 P **P** **08 22 30.8 +3.2**
K31A IAmb IAmb 08 22 36.6
comp=Z,14nm,0.9s
HODGE Hodges 48.79 264 P **P** **08 22 30.3 +2.4**
HODGE IAMs_20 IAMs_20 08 41 04.5
comp=Z,3μm,22.0s
S44A Carbondale 48.85 273 IAMs_20 IAMs_20 08 43 14.2
comp=Z,2μm,21.0s
Y55A Saluda 48.87 263 P **P** **08 22 28.8 +0.3**
baz=31
Y55A S S 08 29 44.8 +13
baz=31
TTA Tatalina 48.92 336 P **P** **08 22 29.9 +1.3**
TTA pmax pmax
comp=Z,32nm,1.5s
TTA Tatalina 48.92 336 P **P** **08 22 29.9 +1.3**
TTA IAmb IAmb 08 22 38.6
comp=Z,32nm,1.5s
N35A Tabor 48.92 280 IAMs_20 IAMs_20 08 41 52.2
comp=Z,2μm,22.0s
Z57A Bowman 48.93 262 P **P** **08 22 28.6 -0.4**
baz=30
CLTN Cedars of Leba 48.95 269 P **P** **08 22 30.3 +1.3**
CLTN IAMs_20 IAMs_20 08 41 32.8
comp=Z,2μm,20.0s
SKT Skwentna 48.97 333 IAMs_20 IAMs_20 08 46 01.8
comp=Z,1μm,19.0s
RAGM Ragged Mountai 48.98 328 IAMs_20 IAMs_20 08 44 35.2
comp=Z,2μm,20.0s
SUCK Suckling Hills 49.05 328 IAMs_20 IAMs_20 08 44 31.3
comp=Z,2μm,18.0s
EYAK Cordova Ski Ar 49.07 329 IAMs_20 IAMs_20 08 45 24.7
comp=Z,1μm,21.0s
T45A Paducah 49.16 272 IAMs_20 IAMs_20 08 42 28.4
comp=Z,2μm,19.0s
Z56A Williston 49.19 262 P **P** **08 22 30.9 0.0**
baz=30
Z56A Williston 49.19 262 IAMs_20 IAMs_20 08 41 03.0
comp=Z,2μm,21.0s
W50A Signal Mountai 49.27 267 P **P** **08 22 33.4 +1.9**
CCM Cathedral Cave 49.40 275 P **P** **08 22 32.5 0.0**
baz=33
CCM Cathedral Cave 49.40 275 P **P** **08 22 34.4 +1.9**
CCM pmax pmax
comp=Z,8.0nm,1.2s
CCM Cathedral Cave 49.40 275 P **P** **08 22 34.4 +1.9**
CCM Cathedral Cave 49.40 275 IAMs_20 IAMs_20 08 42 45.7
comp=Z,2μm,20.0s
WALA Waterton Lakes 49.44 301 P **P** **08 22 33.5 +0.7**
WALA IAmb IAmb 08 22 47.7
comp=Z,17nm,1.3s
V48A Smith Brothers 49.46 269 P **P** **08 22 33.2 +0.3**
V48A IAMs_20 IAMs_20 08 42 07.2
comp=Z,2μm,19.0s
BGNE Belgrade 49.52 283 P **P** **08 22 32.9 -0.6**
baz=34
BGNE Belgrade 49.52 283 IAMs_20 IAMs_20 08 42 25.1
comp=Z,2μm,21.0s
SWET Sewanee 49.52 268 P **P** **08 22 35.4 +1.9**
SWET IAmb IAmb 08 22 39.2
comp=Z,26nm,1.3s
WVT Waverly 49.56 270 P **P** **08 22 34.0 +0.3**
baz=32
WVT Waverly 49.56 270 P **P** **08 22 34.5 +0.8**
WVT pmax pmax
comp=Z,13nm,1.3s
WVT Waverly 49.56 270 P **P** **08 22 34.5 +0.8**
SIT Sitka 49.58 320 IAMs_20 IAMs_20 08 47 16.6
comp=Z,1μm,19.0s
X51A Calhoun 49.62 266 P **P** **08 22 35.1 +0.9**
X51A IAmb IAmb 08 22 45.9
comp=Z,17nm,1.1s
X51A IAMs_20 IAMs_20 08 41 49.4
comp=Z,2μm,21.0s
R40A Maddies Statio 49.64 276 P **P** **08 22 37.6 +3.3**
R40A IAMs_20 IAMs_20 08 42 43.1
comp=Z,2μm,19.0s
RSSD Black Hills 49.69 290 P **P** **08 22 35.4 +0.5**
baz=34
RSSD Black Hills 49.69 290 P **P** **08 22 35.2 +0.3**
RSSD pmax pmax
comp=Z,4.0nm,0.9s
RSSD Black Hills 49.69 290 P **P** **08 22 35.2 +0.3**
RSSD Black Hills 49.69 290 IAMs_20 IAMs_20 08 42 41.6
comp=Z,2μm,20.0s
Y52A Lilburn 49.88 265 P **P** **08 22 36.7 +0.5**
Y52A IAmb IAmb 08 22 42.3
comp=Z,17nm,1.1s
FPAL Fort Paine 49.96 267 P **P** **08 22 37.7 +0.9**
O22K Cooper Landing 49.98 331 P **P** **08 22 36.3 -0.3**
baz=24
GOGA Godfrey 50.01 264 P **P** **08 22 37.5 +0.3**
baz=31
GOGA Godfrey 50.01 264 P **P** **08 22 37.1 -0.1**
GOGA pmax pmax
comp=Z,26nm,1.3s
GOGA Godfrey 50.01 264 P **P** **08 22 37.1 -0.1**
GOGA IAmb IAmb 08 22 43.2
comp=Z,26nm,1.2s
T42A Van Buren 50.20 274 P **P** **08 22 40.0 +1.5**
T42A IAmb IAmb 08 22 44.5
comp=Z,20nm,1.4s
T42A IAMs_20 IAMs_20 08 43 17.9
comp=Z,1μm,20.0s
PEBM Pemiscott Bayo 50.45 272 IAMs_20 IAMs_20 08 43 00.4
comp=Z,2μm,19.0s
GEYT Alibeck 50.52 83 P **P** **08 22 40.0 -1.0**
comp=Z,4.2nm,0.7s,baz=335,slow=10,SNR=9.7
GEYT PP **PP** **08 24 37.2 +0.7**
comp=Z,1.2nm,0.4s,baz=289,slow=9.0,SNR=4.0
GEYT LR LR 08 46 36.8
comp=Z,1μm,19.9s,baz=330,slow=39
GEYT Alibeck 50.52 83 P **P** **08 22 39.8 -1.3**
GYA0B ALIBECK ARRAY 50.52 83 P **P** **08 22 39.5 -1.6**
GYA0B IAmb IAmb 08 22 45.8
comp=Z,30nm,1.4s
GYA0B IAMs_20 IAMs_20 08 46 34.6
comp=Z,1μm,20.0s
154A Montrose 50.54 263 IAMs_20 IAMs_20 08 36 05.8
comp=Z,2μm,18.0s
S39A Bolivar 50.59 276 P **P** **08 22 42.3 +0.8**
S39A IAmb IAmb 08 22 46.9
comp=Z,24nm,1.4s
S39A IAMs_20 IAMs_20 08 42 45.4
comp=Z,1μm,20.0s
MGMO Mountain Grove 50.59 275 P **P** **08 22 43.8 +2.2**
MGMO IAMs_20 IAMs_20 08 43 48.4
comp=Z,2μm,18.0s
HRY Holter Researc 50.60 297 P **P** **08 22 43.3 +1.7**
GNAR Gosnell 50.64 272 P **P** **08 22 43.7 +1.8**
GNAR IAMs_20 IAMs_20 08 43 30.5
comp=Z,1μm,18.0s
PLAL Pickwick Lake 50.64 270 P **P** **08 22 41.9 0.0**
PLAL IAmb IAmb 08 22 47.0
comp=Z,26nm,1.4s
PLAL IAMs_20 IAMs_20 08 42 44.5
comp=Z,2μm,18.0s
X48A Hartselle 50.65 268 P **P** **08 22 43.6 +1.6**
X48A IAmb IAmb 08 22 47.2
comp=Z,26nm,1.2s
JTMT Jette 50.66 300 P **P** **08 22 44.7 +2.6**
KSU1 Kansas State U 50.80 280 P **P** **08 22 43.6 +0.5**
baz=33
KSU1 Kansas State U 50.80 280 P **P** **08 22 45.3 +2.2**
KSU1 IAmb IAmb 08 22 54.1
comp=Z,15nm,0.9s
Y49A Blount Mountai 50.89 267 P **P** **08 22 45.1 +1.3**
Y49A IAmb IAmb 08 22 49.5
comp=Z,28nm,1.4s
RLMT Red Lodge 50.94 294 P **P** **08 22 44.9 +0.6**
baz=33,SNR=12
RLMT Red Lodge 50.94 294 P **P** **08 22 46.3 +1.9**
W45A Hickory Valley 50.97 271 P **P** **08 22 46.7 +2.4**
W45A IAmb IAmb 08 22 49.9
comp=Z,28nm,1.1s
W45A IAMs_20 IAMs_20 08 42 56.2
comp=Z,2μm,19.0s
LCAR Lake Charles 51.04 273 P **P** **08 22 46.6 +1.7**
BTLS Baital 51.12 66 *j i*P **P** **08 22 46.6 +1.2**
comp=Z,62nm,2.2s,baz=66
BTLS *e*PP **PP** **08 24 43.4 +1.7**
baz=66
BTLS *e*S **S** **08 30 05.6 +2.6**
baz=66
BTLS Baital 51.12 66 *d i*P **P** **08 22 46.6 +1.2**
BTLS *e* 08 24 43.3
BTLS *e*S **S** **08 30 05.5 +2.6**
BTLS pmax pmax
comp=Z,62nm,2.2s
HOM Homer 51.13 332 P **P** **08 22 45.3 +0.1**
baz=23
152A Waverly Hall 51.18 265 IAMs_20 IAMs_20 08 42 32.8
comp=Z,2μm,22.0s
YAK Yakutsk 51.20 19 LR LR 08 43 40.2
comp=Z,493nm,21.5s,baz=341,slow=35
YAK Yakutsk 51.20 19 *e*P **P** **08 22 45.3 -0.5**
YAK *e* 08 24 02.2
YAK *e* 08 24 45.2
YAK *e*PPP PPP 08 25 49.0
YAK *e*S **S** **08 30 03.2 -0.3**
YAK *e* 08 32 42.2
YAK *e*SS **SS** **08 33 40.7 +2.7**
YAK pmax pmax
comp=E,28nm,1.5s
YAK pmax pmax
comp=Z,181nm,12.9s
YAK pmax pmax
comp=E,44nm,10.1s
YAK pmax pmax
comp=N,101nm,10.9s
YAK smax smax
comp=N,722nm,12.9s
YAK smax smax
comp=E,194nm,11.1s
YAK MLR MLR
comp=Z,544nm,18.0s
YAK MLR MLR
comp=N,417nm,16.0s
YAK MLR MLR
comp=E,176nm,16.0s

NEW Newport 51.27 302 P P 08 22 46.4 -0.2
baz=33
MSO Missoula 51.30 299 P P 08 22 47.1 +0.1
baz=33
MET Memphis--Engin 51.32 271 IAMs_20 IAMs_20 08 43 00.4
comp=Z,1µm,19.0s
KK31 Karatay Array 51.34 70 P P 08 22 46.7 -0.4
KK31 pmax pmax
comp=Z,40nm,1.3s
KK31 Karatay Array 51.34 70 P P 08 22 46.7 -0.4
KKAR Karatay Array 51.34 70 P P 08 22 45.9 -1.3
KKAR 08 22 46.9
KKAR Karatay Array 51.34 70 P P 08 22 46.9 -0.3
KKAR Karatay Array 51.34 70 P P 08 22 45.9 -1.3
BOZ Bozeman (W) 51.46 296 P P 08 22 47.8 -0.3
baz=33,SNR=23
BOZ Bozeman (W) 51.46 296 IAmb IAmb 08 23 02.9
comp=Z,41nm,1.4s
U40A Yellville 51.52 275 P P 08 22 48.1 -0.5
baz=32
U40A Yellville 51.52 275 IAmb IAmb 08 23 04.7
comp=Z,22nm,1.2s
U40A IAMs_20 IAMs_20 08 44 10.9
comp=Z,1µm,18.0s
FCAR Ozark Folk Cen 51.60 274 IAMs_20 IAMs_20 08 44 11.1
comp=Z,1µm,18.0s
OXF Oxford 51.61 270 P P 08 22 49.5 +0.3
baz=31
TIGA Tifton 51.76 263 P P 08 22 50.7 +0.3
baz=30
LRAL Lakeview Retre 51.84 267 P P 08 22 50.6 -0.3
baz=31
LRAL Lakeview Retre 51.84 267 P P 08 22 54.8 +3.8
LRAL IAmb IAmb 08 22 56.2
comp=Z,24nm,1.4s
LKWY Lake 51.85 295 P P 08 22 51.6 +0.4
LKWY pmax pmax
comp=Z,17nm,1.3s
LKWY MLR MLR
comp=Z,7µm,19.0s
LKWY Lake 51.85 295 P P 08 22 51.6 +0.4
LKWY IAmb IAmb 08 23 09.9
comp=Z,17nm,1.2s
K22A Casper 51.92 290 P P 08 22 52.2 +0.5
baz=33
K22A Casper 51.92 290 IAmb IAmb 08 22 57.8
comp=Z,23nm,1.3s
IUG luzhnay 51.95 71 ⇓ *i* P P 08 22 53.0 +1.2
comp=Z,129nm,2.6s,baz=71
IUG *i* PP PP 08 24 51.0 +1.6
baz=71
IUG *e*S S 08 30 17.2 +2.5
baz=71
IUG luzhnay 51.95 71 *d i* P P 08 22 53.0 +1.2
IUG *i* 08 24 50.9
IUG *e*S S 08 30 17.1 +2.5
IUG pmax pmax
comp=Z,129nm,2.6s
B08A Colville Reser 51.98 304 P P 08 22 52.8 +0.9
B08A IAMs_20 IAMs_20 08 44 45.9
comp=Z,2µm,19.0s
YHB Horse Butte 52.00 296 P P 08 22 52.4 +0.1
QLMT Earthquake Lak 52.02 296 P P 08 22 54.8 +2.3
H17A Grant Village 52.06 295 P P 08 22 53.6 +0.8
baz=33,SNR=11
H17A Grant Village 52.06 295 IAmb IAmb 08 23 09.9
comp=Z,30nm,1.3s
DGZ Jazzator, Alta 52.10 53 *d i* P P 08 22 54.9 +2.0
DGZ pmax pmax
comp=Z,32nm,1.4s
DIB Dawson Inlet, 52.12 316 IAMs_20 IAMs_20 08 46 22.1
comp=Z,1µm,18.0s
Z47A Carrollton 52.16 268 IAMs_20 IAMs_20 08 43 13.8
comp=Z,2µm,22.0s
WHAR Wooly Hollow 52.18 274 IAmb IAmb 08 23 01.6
comp=Z,20nm,1.4s
WHAR IAMs_20 IAMs_20 08 44 09.6
comp=Z,1µm,20.0s
X43A Marvell 52.24 272 P P 08 22 52.8 -1.1
baz=31
R32A Long Quarter, 52.26 281 IAMs_20 IAMs_20 08 43 33.5
comp=Z,2µm,22.0s
W41B Gary Mavity, V 52.26 273 P P 08 22 53.3 -0.8
baz=32
W41B Gary Mavity, V 52.26 273 IAmb IAmb 08 23 08.1
comp=Z,23nm,1.5s
W41B IAMs_20 IAMs_20 08 44 12.6
comp=Z,1µm,19.0s
TAS Tashkent 52.34 72 IAMs_20 IAMs_20 08 45 25.0
comp=Z,2µm,21.0s
CBKS Cedar Bluff 52.36 282 P P 08 22 54.1 -0.8
baz=32
CBKS Cedar Bluff 52.36 282 IAMs_20 IAMs_20 08 44 17.1
comp=Z,2µm,21.0s
FLWY Flagg Ranch 52.37 295 P P 08 22 55.7 +0.7
BOD Bodaibo 52.37 30 *e*P P 08 22 53.5 -1.1
BOD pmax pmax
comp=Z,19nm,1.7s
SEY Seymchan 52.39 6 *d e*P P 08 22 56.8 +2.2
MCMT McKenzie Canyo 52.57 297 P P 08 22 58.7 +2.1
T35A Sooner Cattle 52.60 278 P P 08 22 58.0 +1.4
T35A IAmb IAmb 08 23 02.0
comp=Z,19nm,1.1s
B06A Marblemount 52.61 306 IAMs_20 IAMs_20 08 46 13.3
comp=Z,2µm,19.0s
IMW Indian Meadow 52.62 295 P P 08 22 58.5 +1.5
PHWY Pilot Hill 52.62 289 P P 08 22 58.8 +1.8
PHWY IAmb IAmb 08 23 08.7
comp=Z,15nm,1.1s
PHWY IAMs_20 IAMs_20 08 44 55.1
comp=Z,2µm,19.0s
UALR University of 52.64 273 P P 08 22 59.1 +2.2
SGDS Sogindy 52.69 66 *e*P P 08 22 58.3 +1.0
comp=Z,97nm,2.4s,baz=66
SGDS Sogindy 52.69 66 *e*P P 08 22 58.2 +1.0
SGDS pmax pmax
comp=Z,97nm,2.4s
LOHW Long Hollow 52.73 294 P P 08 22 59.3 +1.6
MK31 Makanchi Array 52.76 58 P P 08 22 56.6 -1.1
MK31 pmax pmax
comp=Z,23nm,1.3s
MK31 Makanchi Array 52.76 58 P P 08 22 56.6 -1.1
MK31 IAmb IAmb 08 23 03.2
comp=Z,23nm,1.3s
MKAR Makanchi Array 52.76 58 P P 08 22 55.4 -2.3
comp=Z,3.9nm,0.8s,baz=313,slow=16,SNR=7.6
MKAR Makanchi Array 52.76 58 P P 08 22 55.9 -1.8
MKAR Makanchi Array 52.76 58 P P 08 22 55.9 -1.8
FXWY Fox Creek 52.87 295 P P 08 23 00.5 +1.7
FXWY IAmb IAmb 08 23 14.5
comp=Z,18nm,1.4s
W39A Magazine 52.90 275 P P 08 22 59.0 +0.2
baz=31
W39A Magazine 52.90 275 IAMs_20 IAMs_20 08 44 44.5
comp=Z,1µm,20.0s
C06D Leavenworth 52.91 305 P P 08 22 57.8 -0.9
baz=31
SNOW Snow King Moun 52.91 294 P P 08 23 00.7 +1.6
SNOW IAmb IAmb 08 23 14.7
comp=Z,25nm,1.2s
D08A Wollman Farm, 52.94 303 P P 08 22 59.2 +0.3
TPAW Teton Pass 52.97 294 P P 08 23 00.4 +0.9
TPAW IAmb IAmb 08 23 13.5
comp=Z,17nm,1.4s
KUU Kurty 52.98 65 *e*P P 08 23 00.3 +0.9
comp=Z,196nm,2.5s,baz=64
KUU *e*PP PP 08 25 00.1 +1.5
baz=64
KUU *e*S S 08 30 31.1 +2.6
baz=64
KUU LR LR 08 44 25.5
comp=Z,2µm,16.5s,baz=64
KUU Kurty 52.98 65 *e*P P 08 23 00.2 +0.9
KUU *e* 08 25 00.0
KUU *e*S S 08 30 31.0 +2.6
KUU pmax pmax
comp=Z,196nm,2.5s
KUU MLR MLR
comp=Z,2µm,17.0s
RWWY Rawlins 53.01 290 P P 08 23 00.7 +0.8
RWWY IAmb IAmb 08 23 13.9
comp=Z,30nm,1.4s
BW06 Boulder Array 53.03 293 P P 08 22 59.2 -0.8
baz=32,SNR=32
BW06 Boulder Array 53.03 293 P P 08 23 00.9 +0.9
BW06 IAmb IAmb 08 23 06.2
comp=Z,18nm,1.0s
BW06 IAMs_20 IAMs_20 08 45 01.9
comp=Z,2µm,20.0s
PD31 Pinedale Array 53.03 293 P P 08 23 00.7 +0.7
PD31 IAmb IAmb 08 23 06.2
comp=Z,17nm,1.0s
PDAR Pinedale Array 53.03 293 P P 08 23 00.6 +0.6
comp=Z,5.8nm,0.9s,baz=60,slow=8.8,SNR=27
PDAR LR LR 08 45 13.1
comp=Z,2µm,20.2s,baz=31,slow=36
PDAR Pinedale Array 53.03 293 P P 08 23 00.5 +0.5
B05A Bryant 53.04 306 P P 08 22 58.1 -1.5
baz=31
REDW Red Top Meadow 53.04 294 P P 08 23 01.6 +1.6
REDW IAmb IAmb 08 23 15.5
comp=Z,20nm,1.2s
KDAK Kodiak Island 53.05 332 IAMs_20 IAMs_20 08 46 54.7
comp=Z,1µm,21.0s
146A Union 53.07 269 IAMs_20 IAMs_20 08 43 42.8
comp=Z,2µm,21.0s
X40A Basin Creek Fa 53.10 274 P P 08 22 59.9 -0.4
baz=31
E09A Wood Farm, Sta 53.12 302 IAMs_20 IAMs_20 08 46 26.1
comp=Z,2µm,18.0s
ZSN Zaisan 53.13 56 *e*P P 08 23 02.1 +1.7
baz=56
ZSN *e*S S 08 30 33.8 +3.4
baz=56
ZSN Zaisan 53.13 56 *e*P P 08 23 02.1 +1.7
ZSN *e*S S 08 30 33.8 +3.4
TUL1 Leonard 53.15 277 P P 08 23 00.5 -0.1
baz=32
TUL1 Leonard 53.15 277 IAMs_20 IAMs_20 08 44 37.1
comp=Z,2µm,20.0s
N23A Red Feather La 53.16 289 P P 08 23 00.3 -0.7
baz=32,SNR=9.1
N23A Red Feather La 53.16 289 IAMs_20 IAMs_20 08 45 14.4
comp=Z,2µm,20.0s
FRU1 Bishkek 53.23 67 P P 08 23 02.2 +1.0
FRU1 pmax pmax
comp=Z,31nm,0.5s
FRU1 MLR MLR
comp=Z,2µm,20.0s
FRU1 Bishkek 53.23 67 P P 08 23 02.2 +1.0
CHKK Chushkaly 53.26 64 *e*P P 08 23 02.7 +1.2
baz=64
CHKK Chushkaly 53.26 64 *e*P P 08 23 02.6 +1.2
TOA0 Torodi Ar. Sit 53.29 156 P P 08 23 03.2 +1.5
TOA0 IAmb IAmb 08 23 07.3
comp=Z,20nm,1.1s
TORD Torodi Ar. Bea 53.29 156 P P 08 22 59.9 -1.9
comp=Z,4.5nm,0.8s,baz=345,slow=8.6,SNR=20
TORD Torodi Ar. Bea 53.29 156 P P 08 23 01.1 -0.7
AAK Ala-Archa 53.32 67 LR LR 08 45 31.0
comp=Z,2µm,20.1s,baz=318,slow=36
AAK Ala-Archa 53.32 67 P P 08 23 02.0 0.0
AAK Ala-Archa 53.32 67 P P 08 23 00.5 -1.5
AAK pmax pmax
comp=Z,26nm,1.2s
AAK MLR MLR
comp=Z,2µm,19.0s
AAK Ala-Archa 53.32 67 P P 08 23 00.5 -1.5
AAK IAmb IAmb 08 23 07.5
comp=Z,26nm,1.1s
MIAR Mount Ida 53.37 274 P P 08 23 02.8 +0.6
baz=31
MIAR Mount Ida 53.37 274 IAMs_20 IAMs_20 08 44 58.8
comp=Z,1µm,20.0s
KSCO Kaye Shedlock' 53.40 285 P P 08 23 02.6 0.0
baz=32
LTY Liberty 53.40 304 IAMs_20 IAMs_20 08 44 59.3
comp=Z,1µm,21.0s
BRAL Brewton 53.47 266 P P 08 23 03.3 +0.3
baz=30
ECR Eagle Creek 53.50 294 P P 08 23 05.3 +1.9
AHID Auburn Hatcher 53.64 294 P P 08 23 06.0 +1.6
AHID IAmb IAmb 08 23 18.8
comp=Z,31nm,1.4s
E07A Sunnyside 53.70 303 P P 08 23 06.6 +2.0
E07A IAMs_20 IAMs_20 08 45 49.4
comp=Z,2µm,18.0s
OHAK Old Harbor 53.71 332 IAMs_20 IAMs_20 08 47 39.3
comp=Z,1µm,21.0s
DWPF Disney Wildern 53.75 259 P P 08 23 05.6 +0.6
baz=28
AAA Alma-Ata 53.78 65 *e*P P 08 23 06.7 +1.4
baz=64
AAA *e*S S 08 30 42.7 +3.2
baz=64
AAA LR LR 08 44 50.8
comp=Z,1µm,16.2s,baz=64
AAA Alma-Ata 53.78 65 *e*P P 08 23 08.6 +3.3
AAA *e*S S 08 30 42.6 +3.2
AAA pmax pmax
comp=Z,600nm,5.5s
AAA smax smax
comp=N,600nm,12.6s
AAA MLR MLR
comp=Z,2µm,18.0s
MDOK Medeo 53.87 65 *i* P P 08 23 07.4 +1.4
baz=64
MDOK *e*S S 08 30 43.5 +2.7
baz=64
MDOK LR LR 08 45 00.9
comp=Z,1µm,15.8s,baz=64
MDOK Medeo 53.87 65 *i* P P 08 23 07.4 +1.4
MDOK *e*S S 08 30 43.5 +2.7
MDOK MLR MLR
comp=Z,1µm,16.0s
D05A Enumclaw 53.92 305 IAMs_20 IAMs_20 08 46 31.1
comp=Z,1µm,18.0s
OK029 Liberty Lake 53.95 278 P P 08 23 08.5 +2.0
OK029 IAmb IAmb 08 23 11.9
comp=Z,31nm,1.4s
ISCO Idaho Springs 53.96 288 P P 08 23 07.3 +0.4
baz=32
D03D Eldon 54.01 306 P P 08 23 06.9 +0.1
baz=31
143A Socs Landing, 54.02 271 IAMs_20 IAMs_20 08 45 00.9
comp=Z,2µm,18.0s
BTK Batken 54.03 71 P P 08 23 05.9 -1.2
BTK pmax pmax
comp=Z,49nm,1.1s
BTK MLR MLR
comp=Z,2µm,20.0s
BTK Batken 54.03 71 P P 08 23 05.9 -1.2
VBMS Vicksburg 54.05 270 IAMs_20 IAMs_20 08 44 50.9
comp=Z,2µm,19.0s
OK025 Westminster Rd 54.09 278 P P 08 23 08.5 +1.0
OK025 IAmb IAmb 08 23 12.8
comp=Z,21nm,1.2s
Z41A Richland Creek 54.14 273 P P 08 23 08.2 +0.4
baz=31
BMO Blue Mountains 54.23 300 P P 08 23 10.3 +1.7
BMO pmax pmax
comp=Z,23nm,1.5s
BMO Blue Mountains 54.23 300 P P 08 23 10.3 +1.7
BMO IAmb IAmb 08 23 19.7
comp=Z,23nm,1.4s
LON Longmire 54.23 305 P P 08 23 10.8 +2.3
LON pmax pmax
comp=Z,12nm,1.5s
LON MLR MLR
comp=Z,2µm,18.0s
LON Longmire 54.23 305 P P 08 23 10.8 +2.3
LON IAMs_20 IAMs_20 08 47 01.4
comp=Z,2µm,18.0s
HLID Hailey 54.24 297 P P 08 23 08.5 -0.3
baz=32
HLID Hailey 54.24 297 P P 08 23 09.9 +1.1
KPKS Kokpek 54.24 63 *e*P P 08 23 10.2 +1.5
comp=Z,160nm,2.5s,baz=63
KPKS Kokpek 54.24 63 *e*P P 08 23 10.1 +1.4
KPKS pmax pmax
comp=Z,160nm,2.5s
F07A Phinny Hill Vi 54.30 303 P P 08 23 12.4 +3.6
F07A IAmb IAmb 08 23 28.1
comp=Z,17nm,1.3s
F07A IAMs_20 IAMs_20 08 46 50.2
comp=Z,2µm,21.0s
FNO Franklin 54.39 278 P P 08 23 12.1 +2.4
NLWA Neilton Lookou 54.40 307 IAMs_20 IAMs_20 08 46 49.7
comp=Z,2µm,20.0s
G08A Pilot Rock 54.46 302 IAMs_20 IAMs_20 08 45 58.6
comp=Z,2µm,20.0s
Q24A Divide 54.48 287 P P 08 23 11.1 +0.4
baz=32
Q24A Divide 54.48 287 IAMs_20 IAMs_20 08 46 26.1
comp=Z,1µm,21.0s
SATY Saty 54.48 64 *e*P P 08 23 11.6 +1.1
comp=Z,72nm,2.5s,baz=64
SATY *i* PP PP 08 25 14.1 +1.9
baz=64
SATY *e*S S 08 30 51.8 +2.7
baz=64
SATY Saty 54.48 64 *e*P P 08 23 11.6 +1.1
SATY *i* 08 25 14.1
SATY *e*S S 08 30 51.7 +2.7
SATY pmax pmax
comp=Z,72nm,2.5s
SATY Saty 54.48 64 *e*P P 08 23 11.6 +1.1
SATY *i* 08 25 14.1
SATY *e*S S 08 30 51.7 +2.7
SATY pmax pmax
comp=Z,72nm,2.5s
SII Sitkinak Islan 54.51 332 IAMs_20 IAMs_20 08 48 06.4
comp=Z,1µm,20.0s
UZB Uzynbulak 54.64 63 ⇓ *i* P P 08 23 12.8 +1.2
comp=Z,93nm,2.6s,baz=63
UZB *i* PP PP 08 25 15.4 +1.7
baz=63
UZB *e*S S 08 30 53.9 +2.6
baz=63
UZB Uzynbulak 54.64 63 *d i* P P 08 23 12.8 +1.2
UZB *i* 08 25 15.4
UZB *e*S S 08 30 53.8 +2.6
UZB pmax pmax
comp=Z,93nm,2.6s
E04D Cinebar 54.67 305 P P 08 23 11.6 0.0
baz=30
O20A White River Ci 54.74 290 P P 08 23 12.5 +0.1
baz=32
O20A White River Ci 54.74 290 P P 08 23 14.3 +1.8
O20A IAMs_20 IAMs_20 08 45 56.0
comp=Z,2µm,18.0s
SHLS Shalkode 54.80 63 *e*P P 08 23 15.6 +2.8
comp=Z,118nm,2.4s,baz=62
SHLS Shalkode 54.80 63 *e*P P 08 23 15.5 +2.8
SHLS pmax pmax
comp=Z,118nm,2.4s
HWUT Hardware Ranch 54.80 294 P P 08 23 13.1 +0.2
F05D White Salmon 54.85 304 P P 08 23 13.4 +0.4
baz=30
E03A Lebam 55.02 306 IAMs_20 IAMs_20 08 46 29.2
comp=Z,1µm,20.0s
F04A Amboy 55.15 305 IAMs_20 IAMs_20 08 45 55.7
comp=Z,1µm,20.0s
TCUT Toone Canyon 55.16 293 P P 08 23 15.1 -0.4
F04D Rainier, OR 55.23 305 P P 08 23 16.1 +0.4
baz=30
G05D Wamic, OR 55.36 303 P P 08 23 16.8 +0.1
baz=30
TARG Taragay, Kyrgy 55.38 65 P P 08 23 16.0 -1.3
TLY Talaya 55.39 40 LR LR 08 49 56.2
comp=Z,1µm,18.0s,baz=337,slow=39
TLY Talaya 55.39 40 *e*P P 08 23 16.1 -0.6
TLY *e* 08 25 17.7
TLY *e*PPP PPP 08 26 36.2
TLY *e*S S 08 31 11.3 +11
TLY pmax pmax
comp=Z,26nm,1.1s
TLY MLR MLR
comp=Z,3µm,17.0s
TLY Talaya 55.39 40 P P 08 23 16.4 -0.3
TLY IAMs_20 IAMs_20 08 49 52.4
comp=Z,2µm,18.0s
SPUT South Promonto 55.41 294 P P 08 23 18.1 +0.9
WMOK Wichita Mounta 55.42 279 P P 08 23 17.0 -0.2
baz=31,SNR=7.2
WMOK Wichita Mounta 55.42 279 P P 08 23 20.8 +3.6
WMOK pmax pmax
comp=Z,18nm,1.4s
WMOK Wichita Mounta 55.42 279 P P 08 23 20.8 +3.6
WMOK IAmb IAmb 08 23 23.2
comp=Z,18nm,1.4s
ANWB Willy Bob 55.51 234 IAMs_20 IAMs_20 08 44 16.8
comp=Z,1µm,22.0s
F03A Seaside 55.55 305 IAMs_20 IAMs_20 08 46 10.3
comp=Z,890nm,18.0s
SDCO Great Sand Dun 55.66 286 P P 08 23 19.3 +0.1
baz=31
SDCO Great Sand Dun 55.66 286 P P 08 23 19.5 +0.3
SDCO IAMs_20 IAMs_20 08 46 33.4
comp=Z,2µm,18.0s
MA2 Magadan 55.66 7 *d i* P P 08 23 20.8 +2.2
MA2 pmax pmax
comp=Z,34nm,1.3s
MA2 Magadan 55.66 7 P P 08 23 19.8 +1.2
I07A Izee 55.70 301 P P 08 23 22.0 +2.8
T25A Trinidad 55.73 285 P P 08 23 19.8 +0.1
baz=31,SNR=6.3
T25A Trinidad 55.73 285 P P 08 23 22.7 +3.1
Z35A Perchaven, San 55.98 277 IAmb IAmb 08 23 26.7
comp=Z,22nm,1.0s
Z35A IAMs_20 IAMs_20 08 46 05.9
comp=Z,1µm,20.0s
SABA Saba 56.06 235 IAMs_20 IAMs_20 08 44 43.5
comp=Z,1µm,20.0s
G03D McMinnville, O 56.07 305 P P 08 23 21.1 -0.6
baz=30
SEUS St. Eustatius 56.08 235 IAMs_20 IAMs_20 08 40 38.2
comp=Z,1µm,19.0s
I05D Terrebonne, OR 56.15 303 P P 08 23 22.4 +0.1
baz=30
SKI Saint Kitts 56.15 234 IAMs_20 IAMs_20 08 42 30.9
comp=Z,1µm,20.0s
H04A Detroit Lake 56.15 304 IAMs_20 IAMs_20 08 47 27.1
comp=Z,1µm,18.0s
S22A 4UR Ranch, Cre 56.20 287 P P 08 23 22.8 -0.3
baz=31
S22A 4UR Ranch, Cre 56.20 287 P P 08 23 24.8 +1.7
S22A IAMs_20 IAMs_20 08 47 02.8
comp=Z,1µm,18.0s
NATX Nacogdoches 56.22 273 P P 08 23 22.9 -0.1
baz=30
P17A Butcher Ranch, 56.30 292 P P 08 23 25.2 +1.6
ZAK Zakamensk 56.45 41 *e*P P 08 23 24.6 +0.1
ZAK pmax pmax
comp=Z,16nm,1.7s
H04D Lebanon 56.48 304 P P 08 23 23.9 -0.8
baz=30
DUG Dugway, Tooele 56.50 294 P P 08 23 25.8 +0.7
baz=31,SNR=5.9
DUG Dugway, Tooele 56.50 294 P P 08 23 27.2 +2.2
DUG pmax pmax
comp=Z,24nm,1.4s
DUG MLR MLR
comp=Z,2µm,19.0s
DUG Dugway, Tooele 56.50 294 P P 08 23 27.2 +2.2
DUG IAmb IAmb 08 23 40.1
comp=Z,24nm,1.4s
237A Washetta, Mont 56.50 275 P P 08 23 25.6 +0.7
237A IAmb IAmb 08 23 31.2
comp=Z,10nm,0.9s
AMTX Amarillo 56.52 281 P P 08 23 25.5 +0.4
baz=31
SRU San Rafael Swe 56.52 291 P P 08 23 26.4 +1.1
SRU pmax pmax
comp=Z,20nm,1.3s
SRU San Rafael Swe 56.52 291 P P 08 23 26.4 +1.1
KSH Kashi 56.56 68 P P 08 23 27.0 +1.6
KSH PP PP 08 25 31.3 +0.4
KSH S S 08 31 18.8 +1.9
KSH sS sS 08 31 27.5 +4.8
KSH pmax pmax
comp=Z,44nm,1.2s
KSH pmax pmax
comp=Z,990nm,6.7s
KSH LR LR
comp=Z,2µm,18.2s
KSH LR LR
comp=Z,1µm,19.1s
COR Corvallis 56.63 304 IAMs_20 IAMs_20 08 47 35.8
comp=Z,2µm,21.0s
I04A Tendick Farm, 57.00 303 P P 08 23 28.8 +0.4
baz=30
J05D Fort Rock, OR 57.02 302 P P 08 23 28.3 -0.3
baz=30
CNBA Chernabura Isl 57.19 335 IAMs_20 IAMs_20 08 48 56.7
comp=Z,1µm,20.0s
WHTX Lake Whitney, 57.22 276 P P 08 23 30.6 +0.6
baz=30
WHTX Lake Whitney, 57.22 276 IAmb IAmb 08 23 35.5

	comp=Z,23nm,1.4s							
I02D	**Swisshome**	**57.24**	**305**	P		**P**	**08 23 30.3**	**+0.3**
	baz=29							
WMQ	**Urumqi**	**57.26**	**56**	*e*P		**P**	**08 23 33.0**	**+2.7**
WMQ				sP		sP	08 23 41.8	+6.7
WMQ				S		S	08 31 34.0	+8.1
WMQ				pmax		pmax		
	comp=Z,17nm,1.1s							
WMQ				pmax		pmax		
	comp=Z,550nm,5.7s							
WMQ				LR		LR		
	comp=Z,750nm,15.5s							
WMQ				LR		LR		
	comp=Z,650nm,21.5s							
WMQ				LR		LR		
	comp=Z,470nm,19.1s							
WMQ	**Urumqi**	**57.26**	**56**	IAMs_20		IAMs_20	08 48 30.4	
	comp=Z,1µm,21.0s							
MVCO	**Mesa Verde**	**57.34**	**289**	P		**P**	**08 23 31.2**	**+0.1**
	baz=30							
MVCO	**Mesa Verde**	**57.34**	**289**	P		**P**	**08 23 32.2**	**+1.0**
MVCO				IAmb		IAmb	08 23 37.8	
	comp=Z,14nm,1.4s							
J04D	**Umpqua Nationa**	**57.38**	**303**	P		**P**	**08 23 31.5**	**+0.3**
	baz=29							
K05A	**Summer Lake**	**57.38**	**302**	P		**P**	**08 23 34.1**	**+2.8**
K05A				IAmb		IAmb	08 23 51.0	
	comp=Z,23nm,1.3s							
I03D	**Drain, OR**	**57.42**	**304**	P		**P**	**08 23 31.5**	**+0.2**
	baz=29							
ABTX	**Abilene, Hawle**	**57.60**	**278**	P		**P**	**08 23 33.3**	**+0.6**
	baz=30							
ABTX	**Abilene, Hawle**	**57.60**	**278**	P		**P**	**08 23 32.4**	**-0.3**
ABTX				IAmb		IAmb	08 23 38.7	
	comp=Z,18nm,1.2s							
MSU	**Marysvale**	**57.70**	**292**	P		**P**	**08 23 35.1**	**+1.5**
MSU	**Marysvale**	**57.70**	**292**	P		**P**	**08 23 35.1**	**+1.5**
TCRU	**Three Creeks R**	**57.72**	**293**	P		**P**	**08 23 35.0**	**+1.2**
K04D	**Chiloquin, OR**	**57.78**	**302**	P		**P**	**08 23 33.4**	**-0.7**
	baz=29							
MOD	**Modoc Plateau**	**57.88**	**301**	P		**P**	**08 23 34.9**	**+0.1**
MOD				IAmb		IAmb	08 23 49.7	
	comp=Z,12nm,1.2s							
KBL	**Kabul**	**58.02**	**76**	P		**P**	**08 23 36.1**	**+0.2**
KBL				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KBL				MLR		MLR		
	comp=Z,2µm,19.0s							
KBL	**Kabul**	**58.02**	**76**	P		**P**	**08 23 36.1**	**+0.2**
KBL				IAmb		IAmb	08 23 40.2	
	comp=Z,10nm,1.0s							
KBL				IAMs_20		IAMs_20	08 49 11.1	
	comp=Z,2µm,19.0s							
J01E	**Myrtle Point**	**58.09**	**304**	P		**P**	**08 23 34.9**	**-1.2**
	baz=29							
MTPU	**Mount Pierson**	**58.11**	**292**	P		**P**	**08 23 37.7**	**+1.0**
HUMO	**Hull Mountain**	**58.23**	**303**	IAMs_20		IAMs_20	08 51 58.2	
	comp=Z,849nm,19.0s							
435B	**Jarrell**	**58.31**	**275**	P		**P**	**08 23 37.7**	**-0.1**
	baz=30							
L04D	**Klamath Falls**	**58.34**	**302**	P		**P**	**08 23 37.5**	**-0.4**
	baz=29							
PSUT	**Pine Spring**	**58.34**	**294**	P		**P**	**08 23 38.6**	**+0.5**
K02D	**Willamette Mer**	**58.41**	**304**	P		**P**	**08 23 39.1**	**+0.7**
	baz=29							
ANMO	**Albuquerque**	**58.45**	**285**	P		**P**	**08 23 39.5**	**+0.5**
	baz=30							
ANMO	**Albuquerque**	**58.45**	**285**	*d* *i* P		**P**	**08 23 41.7**	**+2.8**
ANMO				pmax		pmax		
	comp=Z,28nm,3.0s							
ANMO	**Albuquerque**	**58.45**	**285**	P		**P**	**08 23 41.3**	**+2.4**
KEBM	**Edson Butte**	**58.49**	**304**	IAMs_20		IAMs_20	08 49 38.1	
	comp=Z,2µm,20.0s							
M04C	**Macdoel**	**58.55**	**302**	P		**P**	**08 23 39.8**	**+0.4**
	baz=29							
PKCU	**Pink Cliffs**	**58.67**	**292**	P		**P**	**08 23 42.4**	**+1.8**
DBIC	**Dimbokro**	**58.72**	**165**	LR		LR	08 49 50.7	
	comp=Z,516nm,19.0s,baz=348,slow=37							
TIC	**Toumodi**	**58.73**	**165**	*e*P		**P**	**08 23 42.4**	**+1.6**
ZEA	**Zeya**	**58.78**	**23**	*e*P		P	08 23 44.3	+3.6
ZEA				*e*			08 24 33.0	
ZEA				*e*			08 25 55.0	
ZEA				*e*PPP		PPP	08 27 14.0	
ZEA				*e*S		S	08 32 02.0	+17
ZEA				*e*SSS		SSS	08 37 58.0	
ZEA				pmax		pmax		
	comp=Z,800nm,7.0s							
ZEA				pmax		pmax		
	comp=N,300nm,6.0s							
ZEA				pmax		pmax		
	comp=Z,63nm,2.0s							
ZEA				pmax		pmax		
	comp=Z,200nm,7.0s							
ZEA				MLR		MLR		
	comp=N,500nm,15.0s							
ZEA				MLR		MLR		
	comp=E,300nm,15.0s							
ZEA				MLR		MLR		
	comp=Z,1µm,15.0s							
SZCU	**Shurtz Canyon**	**58.85**	**292**	P		**P**	**08 23 43.4**	**+1.7**
L02E	**Cave Junction**	**58.86**	**303**	P		**P**	**08 23 41.0**	**-0.4**
	baz=29							
YBH	**Yreka Blue Hor**	**58.91**	**302**	IAMs_20		IAMs_20	08 51 44.1	
	comp=Z,1µm,19.0s							
CCUT	**Cedar City**	**59.00**	**293**	P		**P**	**08 23 44.6**	**+1.9**
KBO	**Bosley Butte**	**59.03**	**304**	IAMs_20		IAMs_20	08 49 17.4	
	comp=Z,1µm,20.0s							
KIC	**Kosan Boka**	**59.04**	**165**	*e*P		**P**	**08 23 44.6**	**+1.7**
	comp=Z,60nm,1.2s							
LIC	**Lamto**	**59.14**	**165**	*e*P		**P**	**08 23 44.1**	**+0.5**
	comp=Z,89nm,1.4s							
R11A	**Troy Canyon, C**	**59.18**	**295**	P		**P**	**08 23 44.0**	**+0.1**
	baz=30,SNR=6.5							
R11A	**Troy Canyon, C**	**59.18**	**295**	P		**P**	**08 23 45.8**	**+1.9**
R11A				IAmb		IAmb	08 23 58.8	
	comp=Z,17nm,1.3s							
BNM	**Barren Site**	**59.21**	**285**	P		**P**	**08 23 45.9**	**+1.6**
KNB	**Kanab**	**59.25**	**292**	P		**P**	**08 23 45.9**	**+1.5**
KNB				pmax		pmax		
	comp=Z,19nm,1.3s							
KNB	**Kanab**	**59.25**	**292**	P		**P**	**08 23 45.9**	**+1.5**
M02C	**Callahan**	**59.26**	**302**	P		**P**	**08 23 44.3**	**0.0**
	baz=29							
Y22D	**IRIS PASSCAL I**	**59.40**	**285**	P		**P**	**08 23 46.4**	**+0.9**
	baz=30							
Y22D	**IRIS PASSCAL I**	**59.40**	**285**	IAMs_20		IAMs_20	08 48 52.5	
	comp=Z,1µm,19.0s							
LCMT	**Little Creek M**	**59.42**	**292**	P		**P**	**08 23 47.2**	**+1.7**
PAHR	**Pah Rah Range**	**59.45**	**299**	P		**P**	**08 23 48.1**	**+2.4**
PAHR				IAmb		IAmb	08 23 52.5	
	comp=Z,21nm,1.5s							
JCT	**Junction City**	**59.52**	**277**	P		**P**	**08 23 47.1**	**+0.8**
	baz=30,SNR=6.3							
JCT	**Junction City**	**59.52**	**277**	P		**P**	**08 23 47.0**	**+0.8**
JCT	**Junction City**	**59.52**	**277**	P		**P**	**08 23 47.0**	**+0.8**
KRMB	**Red Mountain**	**59.52**	**303**	IAMs_20		IAMs_20	08 50 14.4	
	comp=Z,2µm,21.0s							
KVN	**Kaiserville**	**59.53**	**297**	P		**P**	**08 23 46.5**	**+0.1**
KVN				pmax		pmax		
	comp=Z,20nm,1.3s							
KVN				MLR		MLR		
	comp=Z,3µm,20.0s							
KVN	**Kaiserville**	**59.53**	**297**	P		**P**	**08 23 46.5**	**+0.1**
KVN				IAmb		IAmb	08 23 58.2	
	comp=Z,20nm,1.3s							
U15A	**North Rim**	**59.54**	**291**	P		**P**	**08 23 47.3**	**+0.7**
U15A				IAMs_20		IAMs_20	08 47 03.3	
	comp=Z,1µm,21.0s							
N02D	**Trinity Center**	**59.57**	**302**	P		**P**	**08 23 47.5**	**+1.1**
	baz=29							
SONM	**Songino Array**	**59.63**	**40**	P		**P**	**08 23 45.1**	**-1.7**
	comp=Z,2.0nm,1.0s,baz=330,slow=8.6,SNR=15							
SONM				LR		LR	08 51 58.2	
	comp=Z,1µm,20.2s,baz=322,slow=39							
SONM	**Songino Array**	**59.63**	**40**	P		**P**	**08 23 45.6**	**-1.2**
SONM				pmax		pmax		
	comp=Z,9.0nm,1.0s							
SONM	**Songino Array**	**59.63**	**40**	P		**P**	**08 23 45.6**	**-1.2**
W18A	**Petrified Fore**	**59.65**	**288**	P		**P**	**08 23 48.1**	**+0.9**
	baz=30							
W18A	**Petrified Fore**	**59.65**	**288**	IAMs_20		IAMs_20	08 49 50.1	
	comp=Z,1µm,21.0s							
ULN	**Ulaanbaatar**	**59.78**	**40**	P		**P**	**08 23 48.7**	**+0.8**
ULN				pmax		pmax		
	comp=Z,23nm,1.2s							
ULN				MLR		MLR		
	comp=Z,2µm,20.0s							
ULN	**Ulaanbaatar**	**59.78**	**40**	P		**P**	**08 23 48.7**	**+0.8**
PRN	**Pahroc Range**	**59.79**	**294**	P		P	**08 23 49.2**	**+1.1**
PRN				IAmb		IAmb	08 24 03.6	
	comp=Z,14nm,1.3s							
O03E	**Paynes Creek**	**59.83**	**301**	P		**P**	**08 23 48.7**	**+0.4**
	baz=29							
WDC	**Whiskeytown Da**	**59.85**	**302**	IAMs_20		IAMs_20	08 49 30.2	
	comp=Z,1µm,20.0s							
SHME	**Shamm**	**59.90**	**93**	P		**P**	**08 23 48.0**	**-0.9**
VCNR	**Virginia City**	**59.91**	**299**	P		**P**	**08 23 50.7**	**+1.8**
WUAZ	**Wupatki**	**59.97**	**290**	P		**P**	**08 23 50.3**	**+1.0**
	baz=30,SNR=7.0							
WUAZ	**Wupatki**	**59.97**	**290**	P		**P**	**08 23 50.8**	**+1.5**
WUAZ				IAMs_20		IAMs_20	08 48 51.5	
	comp=Z,1µm,18.0s							
KHMM	**Horse Mountain**	**60.03**	**303**	IAMs_20		IAMs_20	08 47 51.8	
	comp=Z,1µm,21.0s							
RYN	**Ryan**	**60.06**	**297**	P		**P**	**08 23 52.2**	**+2.2**
RYN				IAmb		IAmb	08 24 01.5	
	comp=Z,17nm,1.5s							
PNTR	**Pine Nut**	**60.07**	**298**	P		**P**	**08 23 51.7**	**+1.6**
PNTR				IAmb		IAmb	08 23 56.9	
	comp=Z,16nm,1.5s							
BANOM	**Banah**	**60.08**	**92**	P		**P**	**08 23 50.3**	**+0.2**
NV11	**Mina Array Sit**	**60.09**	**297**	P		**P**	**08 23 52.8**	**+2.6**
NVAR	**Mina Array Bea**	**60.15**	**297**	P		**P**	**08 23 51.5**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=38,slow=4.4,SNR=9.3							
NVAR	**Mina Array Bea**	**60.15**	**297**	P		**P**	**08 23 53.6**	**+3.0**
JCC	**Jacoby Creek,**	**60.19**	**303**	IAMs_20		IAMs_20	08 47 58.0	
	comp=Z,1µm,18.0s							
O02D	**Mt. Diablo Mer**	**60.30**	**302**	P		**P**	**08 23 51.6**	**+0.1**
	baz=28							
ORV	**Oroville**	**60.37**	**300**	P		**P**	**08 23 53.6**	**+1.7**
ORV				pmax		pmax		
	comp=Z,6.0nm,1.2s							
ORV				MLR		MLR		
	comp=Z,2µm,19.0s							
ORV	**Oroville**	**60.37**	**300**	P		**P**	**08 23 53.6**	**+1.7**
LHV	**Little Huntoon**	**60.39**	**297**	P		**P**	**08 23 53.7**	**+1.8**
LHV				IAmb		IAmb	08 24 04.0	
	comp=Z,20nm,1.5s							
MSFE	**Esma-Masafi**	**60.51**	**93**	*i* P		**P**	**08 23 51.8**	**-1.2**
	SNR=11							
WAKR	**Walker**	**60.52**	**298**	P		**P**	**08 23 55.0**	**+1.9**
WAKR				IAmb		IAmb	08 24 05.5	
	comp=Z,28nm,1.5s							
NIL	**Nilore**	**60.53**	**73**	P		**P**	**08 23 52.7**	**-0.3**
NIL				pmax		pmax		
	comp=Z,37nm,1.1s							
NIL				MLR		MLR		
	comp=Z,1µm,18.0s							
NIL	**Nilore**	**60.53**	**73**	P		**P**	**08 23 52.7**	**-0.3**
NIL	**Nilore**	**60.53**	**73**	IAMs_20		IAMs_20	08 51 18.9	
	comp=Z,1µm,18.0s							
KMRM	**Mail Ridge**	**60.59**	**302**	IAMs_20		IAMs_20	08 47 40.2	
	comp=Z,1µm,19.0s							
SHPR	**Sheep Range**	**60.61**	**294**	P		**P**	**08 23 55.9**	**+2.1**
SHPR				IAmb		IAmb	08 24 08.3	
	comp=Z,23nm,1.4s							
SHPR				IAMs_20		IAMs_20	08 50 07.5	
	comp=Z,1µm,19.0s							
MDH	**Madha**	**60.62**	**93**	P		**P**	**08 23 53.6**	**-0.2**
NAZ	**Nazwa, Dubai**	**60.62**	**94**	P		**P**	**08 23 53.7**	**0.0**
TPNV	**Topopah Spring**	**60.65**	**295**	P		**P**	**08 23 53.5**	**-0.6**
	baz=29							
TPNV	**Topopah Spring**	**60.65**	**295**	P		**P**	**08 23 56.7**	**+2.7**
TPNV				pmax		pmax		
	comp=Z,14nm,1.3s							
TPNV				MLR		MLR		
	comp=Z,2µm,19.0s							
TPNV	**Topopah Spring**	**60.65**	**295**	P		**P**	**08 23 56.7**	**+2.7**
TPNV				IAmb		IAmb	08 24 06.0	
	comp=Z,14nm,1.2s							
AFDM	**Forest Hills D**	**60.71**	**299**	P		**P**	**08 23 55.0**	**+0.7**
AFDM				IAMs_20		IAMs_20	08 49 48.9	
	comp=Z,1µm,20.0s							
MNTX	**Cornudas Mount**	**60.82**	**283**	P		**P**	**08 23 55.8**	**+0.8**
MNTX				IAMs_20		IAMs_20	08 49 42.1	
	comp=Z,1µm,19.0s							
UOSS	**Minazif**	**60.89**	**93**	P		**P**	**08 23 55.0**	**-0.6**
UOSS	**Minazif**	**60.89**	**93**	P		**P**	**08 23 54.0**	**-1.6**
UOSS				IAmb		IAmb	08 24 00.9	
	comp=Z,9.5nm,1.0s							
X16A	**Lo Mia Camp, P**	**60.95**	**289**	P		**P**	**08 23 57.8**	**+1.7**
X16A				IAmb		IAmb	08 24 08.4	
	comp=Z,15nm,1.1s							
X16A				IAMs_20		IAMs_20	08 50 07.5	
	comp=Z,1µm,18.0s							
HATD	**Hatta, Dubai**	**60.97**	**93**	*i* P		**P**	**08 23 56.5**	**+0.4**
	SNR=13							
KCPM	**Cahto Peak**	**61.02**	**302**	IAMs_20		IAMs_20	08 49 31.1	
	comp=Z,1µm,21.0s							
GRAC	**Grapevine Rang**	**61.05**	**296**	P		**P**	**08 23 57.1**	**+0.5**
	baz=29							
MLAC	**Mammoth, Mammo**	**61.06**	**297**	P		**P**	**08 23 56.7**	**-0.2**
	baz=29							
ASHO	**Ashiyiah**	**61.06**	**93**	*i* P		**P**	**08 23 56.9**	**+0.2**
	SNR=13							
121A	**Cookes Peak, D**	**61.09**	**285**	P		**P**	**08 23 57.2**	**+0.1**
	baz=29							
121A	**Cookes Peak, D**	**61.09**	**285**	P		**P**	**08 23 57.8**	**+0.7**
121A				IAmb		IAmb	08 24 04.4	
	comp=Z,7.7nm,1.0s							
121A				IAMs_20		IAMs_20	08 49 44.3	
	comp=Z,1µm,19.0s							
OMMB	**Old Mammoth Mi**	**61.13**	**297**	P		**P**	**08 23 59.3**	**+1.9**
OMMB				IAmb		IAmb	08 24 13.2	
	comp=Z,16nm,1.4s							
MDPB	**Devils Postpil**	**61.15**	**297**	P		**P**	**08 23 59.7**	**+2.2**
MDPB				IAmb		IAmb	08 24 10.1	
	comp=Z,14nm,1.2s							
833A	**Chaparral WMA,**	**61.22**	**276**	P		**P**	**08 23 58.4**	**+0.6**
	baz=29							
833A	**Chaparral WMA,**	**61.22**	**276**	P		**P**	**08 23 59.3**	**+1.5**
833A				IAmb		IAmb	08 24 04.5	
	comp=Z,15nm,1.1s							
NKL	**Nikolayevsk**	**61.23**	**15**	*e*P		**P**	**08 23 57.9**	**+0.4**
NKL				*e*S		**S**	**08 32 14.4**	**-2.4**
NKL				pmax		pmax		
	comp=N,11nm,0.8s							
NKL				pmax		pmax		
	comp=Z,12nm,1.2s							
CMB	**Columbia Colle**	**61.29**	**299**	P		**P**	**08 24 00.8**	**+2.6**
CMB				pmax		pmax		
	comp=Z,6.0nm,1.5s							
CMB				MLR		MLR		
	comp=Z,2µm,19.0s							
CMB	**Columbia Colle**	**61.29**	**299**	P		**P**	**08 24 00.8**	**+2.6**
CMB				IAMs_20		IAMs_20	08 50 53.3	
	comp=Z,1µm,19.0s							
FURC	**Furnace Creek,**	**61.31**	**295**	P		**P**	**08 23 57.9**	**-0.4**
	baz=29							
TIN	**Tinemaha, Big**	**61.33**	**296**	P		**P**	**08 23 58.5**	**-0.1**
	baz=29							
W13A	**Hualapai Mount**	**61.34**	**292**	P		**P**	**08 23 59.2**	**+0.4**
W13A				IAMs_20		IAMs_20	08 49 52.7	
	comp=Z,2µm,21.0s							
ALNE	**Al Ain**	**61.48**	**94**	P		**P**	**08 24 00.9**	**+1.3**
HIA	**Hailar**	**61.59**	**30**	IAMs_20		IAMs_20	08 51 18.2	
	comp=Z,1µm,20.0s							
SOHO	**SOHO**	**61.75**	**93**	*i* P		**P**	**08 24 00.6**	**-0.8**
	SNR=7.3							
TUQ	**Turquoise Moun**	**61.85**	**294**	P		**P**	**08 24 02.2**	**+0.1**
	baz=29							
MPMC	**Manual Prospec**	**61.91**	**295**	P		**P**	**08 24 02.0**	**-0.6**
	baz=28							
NEE2	**Needles Airpor**	**61.92**	**292**	P		**P**	**08 24 02.4**	**0.0**
	baz=29							
MCCM	**Marconi Confer**	**62.12**	**301**	IAMs_20		IAMs_20	08 51 35.3	
	comp=Z,1µm,18.0s							
PDMCI	**Parker Dam,Lak**	**62.13**	**291**	P		**P**	**08 24 04.7**	**+0.9**
	baz=29							
TX31	**Lajitas Ar. Si**	**62.16**	**280**	P		**P**	**08 24 04.7**	**+0.5**
TX32	**Lajitas Array**	**62.16**	**280**	P		**P**	**08 24 04.8**	**+0.6**
TX32				IAmb		IAmb	08 24 10.1	
	comp=Z,10.0nm,1.4s							
TXAR	**Lajitas Array**	**62.16**	**280**	P		**P**	**08 24 05.1**	**+0.9**
	comp=Z,3.0nm,1.0s,baz=57,slow=4.6,SNR=14							
TXAR				LR		LR	08 50 39.8	
	comp=Z,3µm,19.0s,baz=0.0,slow=36							
TXAR	**Lajitas Array**	**62.16**	**280**	P		**P**	**08 24 04.8**	**+0.6**
GMRC	**Granite Mounta**	**62.31**	**293**	P		**P**	**08 24 05.5**	**+0.3**
	baz=28							
PETK	**Petropavlovsk-**	**62.40**	**3**	P		**P**	**08 24 05.6**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=238,slow=28,SNR=2.6							
PETK	**Petropavlovsk-**	**62.40**	**3**	P		**P**	**08 24 06.2**	**+0.8**
PETK	**Petropavlovsk-**	**62.40**	**3**	P		**P**	**08 24 06.2**	**+0.8**
LRMC	**Laurel Mtn Rad**	**62.50**	**295**	P		**P**	**08 24 06.3**	**-0.2**
	baz=28							
PET	**Petropavlovsk**	**62.50**	**2**	*d* *i* P		**P**	**08 24 08.9**	**+2.9**
PET				*e*S		**S**	**08 32 36.5**	**+3.7**
PET				pmax		pmax		
	comp=Z,500nm,11.4s							
TUC	**Tucson**	**62.52**	**288**	P		**P**	**08 24 06.9**	**+0.3**
	baz=29							
TUC	**Tucson**	**62.52**	**288**	P		**P**	**08 24 07.6**	**+1.0**
TUC				pmax		pmax		
	comp=Z,15nm,1.3s							
TUC				MLR		MLR		
	comp=Z,2µm,18.0s							
TUC	**Tucson**	**62.52**	**288**	P		**P**	**08 24 07.5**	**+1.0**
TUC				IAmb		IAmb	08 24 13.6	
	comp=Z,15nm,1.2s							
HEC	**Hector,Ludlow**	**62.54**	**294**	P		**P**	**08 24 07.3**	**+0.6**
	baz=28							
ISA	**Isabella, Lake**	**62.64**	**296**	P		**P**	**08 24 06.9**	**-0.5**
	baz=28							
ISA	**Isabella, Lake**	**62.64**	**296**	P		**P**	**08 24 09.3**	**+2.0**
ISA				pmax		pmax		
	comp=Z,16nm,1.3s							
ISA				MLR		MLR		
	comp=Z,2µm,20.0s							
ISA	**Isabella, Lake**	**62.64**	**296**	P		**P**	**08 24 09.3**	**+2.0**
ISA				IAmb		IAmb	08 24 19.8	
	comp=Z,16nm,1.2s							
319A	**Douglas**	**62.72**	**286**	P		**P**	**08 24 09.4**	**+1.5**
319A				IAMs_20		IAMs_20	08 51 26.4	
	comp=Z,1µm,19.0s							
RRX	**Edison Barstow**	**62.76**	**294**	P		**P**	**08 24 08.0**	**0.0**
	baz=28							
PMPB	**Monarch Peak**	**63.05**	**298**	IAMs_20		IAMs_20	08 51 24.8	
	comp=Z,2µm,21.0s							
GRNR	**Gornyy**	**63.06**	**18**	*e*P		P	08 24 02.5	-7.3
GRNR				MLR		MLR		
	comp=E,110nm,16.0s							
GRNR				MLR		MLR		
	comp=N,240nm,18.0s							
BELC	**Belle Mtn. Jos**	**63.13**	**293**	P		**P**	**08 24 10.6**	**-0.2**
	baz=28							
BC3	**Big Chuckawall**	**63.22**	**292**	P		**P**	**08 24 11.2**	**-0.1**
	baz=28							
ARVC	**Arvin**	**63.25**	**296**	P		**P**	**08 24 11.2**	**-0.1**
	baz=28							
113A	**Mohawk Valley,**	**63.33**	**290**	P		**P**	**08 24 13.3**	**+1.5**
113A				IAmb		IAmb	08 24 27.0	
	comp=Z,15nm,1.4s							
113A				IAMs_20		IAMs_20	08 51 18.4	
	comp=Z,1µm,19.0s							
PCRV	**Puerto La Cruz**	**63.45**	**233**	LR		LR	08 48 34.7	
	comp=Z,325nm,20.1s,slow=33							
GLA	**Glamis**	**63.50**	**291**	P		**P**	**08 24 12.7**	**-0.3**
	baz=28							
BFSC	**Mount Baldy Ra**	**63.58**	**294**	P		**P**	**08 24 13.8**	**+0.2**
	baz=28							
214A	**Organ Pipe Nat**	**63.65**	**289**	IAMs_20		IAMs_20	08 52 16.1	
	comp=Z,1µm,18.0s							
OSI	**Osito Audit: C**	**63.66**	**295**	P		**P**	**08 24 14.4**	**+0.3**
	baz=28,SNR=13							
OSI	**Osito Audit: C**	**63.66**	**295**	P		**P**	**08 24 15.4**	**+1.3**
DECC	**Green Verdugo**	**63.83**	**295**	P		**P**	**08 24 15.1**	**0.0**
	baz=28							
KLR	**Kul'dur**	**63.88**	**22**	*d* *i* P		**P**	**08 24 16.8**	**+1.6**
KLR				pmax		pmax		
	comp=Z,12nm,2.0s							
MURC	**Murrieta**	**63.96**	**294**	P		**P**	**08 24 16.0**	**0.0**
	baz=28							
SWSC	**Sam W. Stewart**	**63.98**	**292**	P		**P**	**08 24 16.2**	**+0.1**
	baz=28							
SBC	**Santa Barbara**	**64.19**	**296**	P		**P**	**08 24 17.7**	**+0.2**
	baz=28							
CPBX	**Cerro Prieto**	**64.25**	**291**	IAMs_20		IAMs_20	08 51 40.8	
	comp=Z,1µm,21.0s							
GUVIX	**Guadalupe Vict**	**64.26**	**291**	IAMs_20		IAMs_20	08 51 09.1	
	comp=Z,1µm,19.0s							
IKP	**In-Ko-Pah, Jac**	**64.36**	**292**	P		**P**	**08 24 18.8**	**0.0**
	baz=28							
CIS	**Catalina Islan**	**64.61**	**294**	P		**P**	**08 24 20.6**	**+0.3**
	baz=28							
CBX	**Cerro Bola**	**64.88**	**292**	IAMs_20		IAMs_20	08 52 34.6	
	comp=Z,865nm,18.0s							
GTA	**Gaotai**	**65.31**	**49**	*e*P		**P**	**08 24 26.0**	**+1.1**
GTA				pP		sP	08 24 30.5	+0.7
GTA				sP		pP	08 24 33.3	+4.8
GTA				pmax		pmax		
	comp=Z,10.0nm,1.2s							
GTA				pmax		pmax		
	comp=Z,690nm,6.2s							
GTA				LR		LR		
	comp=Z,770nm,17.9s							
GTA				LR		LR		
	comp=Z,790nm,18.9s							
GTA				LR		LR		
	comp=Z,1µm,18.9s							
PETF	**Flores**	**67.21**	**261**	IAMs_20		IAMs_20	08 53 32.3	
	comp=Z,699nm,18.0s							
BTO	**Baotou**	**67.30**	**41**	*e*P		**P**	**08 24 34.5**	**-3.1**
BTO				S		**S**	**08 33 29.5**	**-3.0**
ZAIG	**Zacatecas**	**67.45**	**276**	P		**P**	**08 24 40.3**	**+1.3**
ZAIG				IAmb		IAmb	08 24 46.7	
	comp=Z,13nm,1.2s							
HHC	**Hu-ho-hao-te**	**67.50**	**39**	*e*P		**P**	**08 24 40.0**	**+1.1**
HHC				S		**S**	**08 33 33.8**	**-1.1**
HHC				SS		**SS**	**08 37 55.5**	**+1.4**
HHC				pmax		pmax		
	comp=Z,21nm,0.6s							
HHC				pmax		pmax		
	comp=Z,540nm,6.6s							
HHC				LR		LR		
	comp=Z,300nm,17.3s							
HHC				LR		LR		
	comp=Z,550nm,18.3s							
HHC				LR		LR		
	comp=Z,560nm,19.9s							
YSS	**Yuzh-

	comp=Z,660nm,17.1s							
BJI					LR	LR		
	comp=Z,960nm,18.0s							
SNY	**Shenyang**	**69.50**	**30**	⇓P		**P**	**08 24 53.3 +2.1**	
SNY				S		**S**	**08 34 03.0 +4.7**	
SNY				pmax	pmax			
	comp=Z,550nm,7.8s							
SNY				LR	LR			
	comp=Z,730nm,20.0s							
SNY				LR	LR			
	comp=Z,540nm,19.4s							
LZH	**Lanzhou**	**69.64**	**47**	⇑P		**P**	**08 24 54.5 +2.1**	
LZH				pP		sP	08 24 58.3 +1.1	
LZH				PP		**PP**	**08 27 23.8 -1.9**	
LZH				pmax	pmax			
	comp=Z,22nm,1.1s							
LZH				pmax	pmax			
	comp=Z,100nm,4.3s							
LZH				LR	LR			
	comp=Z,730nm,17.9s							
LZH				LR	LR			
	comp=Z,580nm,16.8s							
LZH				LR	LR			
	comp=Z,810nm,18.1s							
KUR	**Kuril'sk**	**69.75**	**11***c*	*i*P		**P**	**08 24 55.0 +2.3**	
KUR				*i*			08 27 33.8	
KUR				*i* PPP		PPP	08 29 14.5	
KUR				pmax	pmax			
	comp=Z,445nm,7.2s							
VLA	**Vladivostok**	**69.84**	**23***c*	*e*P		**P**	**08 24 56.0 +2.7**	
RUSC	**La Rusia**	**70.45**	**240**	P		**P**	**08 24 57.2 -0.7**	
TIY	**Taiyuan**	**70.67**	**40**	*e*P		P	08 25 02.5 +4.0	
TIY				pmax	pmax			
	comp=Z,510nm,5.7s							
TIY				LR	LR			
	comp=Z,250nm,11.0s							
TIY				LR	LR			
	comp=Z,360nm,9.5s							
TIY				LR	LR			
	comp=Z,810nm,14.6s							
YUK	**Yuzh-Kuril'sk**	**70.77**	**12***d*	*i*P		**P**	**08 25 00.6 +1.7**	
YUK				PPP		PPP	08 29 26.2	
YUK				*e*S		**S**	**08 34 17.6 +4.4**	
YUK				*e*SS		**SS**	**08 38 51.1 +7.1**	
YUK				SSS		SSS	08 41 59.1	
YUK				pmax	pmax			
	comp=Z,176nm,1.3s							
YUK				MLR	MLR			
	comp=Z,317nm,18.0s							
YUK				MLR	MLR			
	comp=N,271nm,16.0s							
HDC	**Heredia**	**71.02**	**253**	IAMs_20		IAMs_20	08 53 03.0	
	comp=Z,732nm,20.0s							
LSA	**Lhasa**	**71.06**	**60**	P		**P**	**08 25 02.5 +1.0**	
DL2	**Dalian**	**71.86**	**32**	⇓*i*P		**P**	**08 25 06.8 +1.2**	
DL2				PP		**PP**	**08 27 44.0 -0.5**	
DL2				*e*S		**S**	**08 34 28.0 +2.1**	
DL2				sS		**SKiKP**	**08 34 38.0 -4.8**	
DL2				pmax	pmax			
	comp=Z,630nm,7.4s							
DL2				LR	LR			
	comp=Z,970nm,18.7s							
DL2				LR	LR			
	comp=Z,1μm,19.1s							
ROSC	**El Rosal**	**71.88**	**241**	P		**P**	**08 25 08.5 +2.0**	
	comp=Z,14nm,0.7s,baz=123,slow=19,SNR=8.0							
ROSC				LR		LR	08 53 23.4	
	comp=Z,451nm,21.9s,baz=358,slow=33							
ROSC	**El Rosal**	**71.88**	**241**	P		**P**	**08 25 07.5 +1.1**	
ROSC				IAmb		IAmb	08 25 14.4	
	comp=Z,15nm,0.8s							
ROSC				IAMs_20		IAMs_20	08 55 35.1	
	comp=Z,654nm,19.0s							
ERM	**Erimo**	**72.50**	**15**	⇓*e*P		P	08 25 13.7 +4.3	
ERM				pmax	pmax			
	comp=Z,39nm,1.5s							
XAN	**Xi'an**	**73.09**	**44**	P		**P**	**08 25 14.0 +0.9**	
XAN				pP		PcP	08 25 22.8 -7.0	
XAN				PP		**PP**	**08 27 55.0 -0.2**	
XAN				S		**SKiKP**	**08 34 47.5 +2.6**	
XAN				ScS		**ScS**	**08 35 22.0 +0.9**	
XAN				pmax	pmax			
	comp=Z,17nm,2.3s							
XAN				pmax	pmax			
	comp=Z,660nm,5.8s							
XAN				LR	LR			
	comp=Z,1μm,25.7s							
XAN				LR	LR			
	comp=Z,870nm,20.2s							
XAN				LR	LR			
	comp=Z,2μm,22.5s							
XAN	**Xi'an**	**73.09**	**44**	P		**P**	**08 25 12.6 -0.5**	
XAN				pmax	pmax			
	comp=Z,22nm,1.4s							
XAN				MLR	MLR			
	comp=Z,1μm,19.0s							
XAN	**Xi'an**	**73.09**	**44**	P		**P**	**08 25 12.6 -0.5**	
XAN				IAmb		IAmb	08 25 17.7	
	comp=Z,22nm,1.4s							
XAN	**Xi'an**	**73.09**	**44**	IAMs_20		IAMs_20	09 01 49.9	
	comp=Z,990nm,19.0s							
INCN	**Inchon**	**74.31**	**29**	IAMs_20		IAMs_20	08 59 15.1	
	comp=Z,702nm,21.0s							
CD2	**Chengdu**	**74.38**	**50**	*e*P		**P**	**08 25 22.3 +1.6**	
CD2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CD2	**Chengdu**	**74.38**	**50**	P		**P**	**08 25 23.8 +3.1**	
CD2				PP		**PP**	**08 28 03.0 -3.2**	
CD2				S		**S**	**08 34 53.3 -1.6**	
CD2				sS		sS	08 35 01.0 +0.2	
CD2				pmax	pmax			
	comp=Z,30nm,1.8s							
CD2				pmax	pmax			
	comp=Z,720nm,5.2s							
CD2				LR	LR			
	comp=Z,940nm,15.4s							
CD2				LR	LR			
	comp=Z,670nm,16.4s							
CD2				LR	LR			
	comp=Z,1μm,21.2s							
KSRS	**Korea Array**	**74.61**	**28**	P		**P**	**08 25 22.1 +0.2**	
	comp=Z,1.1nm,0.7s,baz=346,slow=3.5,SNR=7.1							
KSAR	**Wonju Array Be**	**74.61**	**28**	P		**P**	**08 25 22.1 +0.2**	
KSAR	**Wonju Array Be**	**74.61**	**28**	P		**P**	**08 25 22.1 +0.2**	
SHL	**Shillong**	**75.07**	**62**	P		**P**	**08 25 23.9 -1.0**	
SHL				pmax	pmax			
	comp=Z,30nm,1.3s							
SHL				MLR	MLR			
	comp=Z,1μm,19.0s							
SHL	**Shillong**	**75.07**	**62**	P		**P**	**08 25 23.9 -1.0**	
SHL				IAmb		IAmb	08 25 29.9	
	comp=Z,30nm,1.3s							
FLOC	**Florencia**	**75.38**	**241**	P		**P**	**08 25 27.1 +0.5**	
TJN	**Taejon**	**75.53**	**28**	⇓*e*P		**P**	**08 25 30.5 +3.3**	
ENH	**Enshi**	**76.77**	**45**	IAMs_20		IAMs_20	09 01 52.1	
	comp=Z,1μm,22.0s							
MJB9	**Matsu-Tunnel**	**77.26**	**20**	IAMs_20		IAMs_20	09 04 59.6	
	comp=Z,892nm,20.0s							
MAJO	**Matsushiro**	**77.26**	**20***c*	*e*P		P	08 25 40.8 +3.7	
MAJO				pmax	pmax			
	comp=Z,16nm,1.8s							
NJ2	**Nanjing**	**77.72**	**37**	*e*P		**P**	**08 25 38.5 -1.1**	
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.6s							
NJ2				LR	LR			
	comp=Z,440nm,16.6s							
NJ2				LR	LR			
	comp=Z,410nm,13.2s							
NJ2				LR	LR			
	comp=Z,2μm,22.7s							
WHN	**Wuhan**	**77.94**	**41**	P		P	08 25 45.5 +4.6	
SSE	**Sheshan**	**79.21**	**35**	IAMs_20		IAMs_20	09 03 59.4	
	comp=Z,987nm,19.0s							
KMI	**Kunming**	**79.38**	**53**	⇑*i*P		**P**	**08 25 51.5 +2.3**	
KMI				pP		PcP	08 25 59.5 +2.2	
KMI				PP		**PP**	**08 28 54.0 +5.4**	
KMI				S		**S**	**08 35 53.0 +3.1**	
KMI				sS		sS	08 35 57.0 +1.1	
KMI				pmax	pmax			
	comp=Z,18nm,0.5s							
KMI				pmax	pmax			
	comp=Z,570nm,6.0s							
KMI				LR	LR			
	comp=Z,450nm,22.7s							
KMI				LR	LR			
	comp=Z,420nm,20.1s							
KMI				LR	LR			
	comp=Z,490nm,25.1s							
KMI	**Kunming**	**79.38**	**53**	IAMs_20		IAMs_20	09 06 32.7	
	comp=Z,544nm,20.0s							
JNU	**Nakatsue**	**79.38**	**26**	IAMs_20		IAMs_20	09 06 03.2	
	comp=Z,592nm,20.0s							
GYA	**Guiyang**	**79.44**	**49**	⇑P		**P**	**08 25 51.5 +2.1**	
GYA				PP		PP	08 28 55.5 +6.5	
GYA				S		**S**	**08 35 54.3 +3.9**	
GYA				pmax	pmax			
	comp=Z,500nm,6.4s							
GYA				LR	LR			
	comp=Z,340nm,21.8s							
GYA				LR	LR			
	comp=Z,410nm,17.9s							
GYA				LR	LR			
	comp=Z,630nm,17.3s							
SLVN	**Son La**	**83.28**	**53**	IAMs_20		IAMs_20	09 06 59.2	
	comp=Z,830nm,20.0s							
BDFB	**Brasilia**	**83.42**	**209**	LR		LR	08 57 17.0	
	comp=Z,440nm,20.9s,baz=324,slow=31							
CHTO	**Chiang Mai**	**83.84**	**58**	P		**P**	**08 26 11.2 -1.4**	
CHTO				pmax	pmax			
	comp=Z,27nm,1.4s							
CHTO				MLR	MLR			
	comp=Z,600nm,20.0s							
CHTO	**Chiang Mai**	**83.84**	**58**	P		**P**	**08 26 11.2 -1.4**	
CHTO				IAMs_20		IAMs_20	09 06 08.8	
	comp=Z,557nm,20.0s							
CMAR	**Chiang Mai Arr**	**84.17**	**58**	P		**P**	**08 26 13.9 -0.3**	
	comp=Z,1.6nm,0.4s,baz=316,slow=7.5,SNR=7.9							
CMAR				LR		LR	09 06 37.3	
	comp=Z,457nm,19.9s,baz=350,slow=38							
QZH	**Quanzhou**	**84.41**	**39**	⇓*i*P		**P**	**08 26 16.3 +1.0**	
QZH				PP		**PP**	**08 29 32.0 +2.4**	
QZH				S		**S**	**08 36 46.8 +5.5**	
QZH				LR	LR			
	comp=Z,590nm,15.2s							
QZH				LR	LR			
	comp=Z,240nm,12.7s							
QZH				LR	LR			
	comp=Z,980nm,17.9s							
KNMB	**Chin-men Tao**	**84.81**	**39**	IAMs_20		IAMs_20	09 07 48.3	
	comp=Z,761nm,19.0s							
YHNB	**Yeheng**	**85.40**	**37**	IAMs_20		IAMs_20	09 08 15.1	
	comp=Z,853nm,18.0s							
NACB	**Ninganchiao**	**85.93**	**37**	IAMs_20		IAMs_20	09 08 33.1	
	comp=Z,853nm,18.0s							
YOJ	**Yonaguni jima**	**86.01**	**35**	IAMs_20		IAMs_20	09 08 41.2	
	comp=Z,706nm,20.0s							
SSLB	**Suanglung**	**86.13**	**37**	IAMs_20		IAMs_20	09 08 48.5	
	comp=Z,588nm,18.0s							
TPUB	**Ta-pu**	**86.51**	**38**	IAMs_20		IAMs_20	09 06 55.5	
	comp=Z,530nm,20.0s							
YULB	**Yu-li**	**86.60**	**37**	IAMs_20		IAMs_20	09 09 24.8	
	comp=Z,675nm,20.0s							
QIZ	**Qiongzhong**	**87.39**	**49**	P		**P**	**08 26 29.3 -0.9**	
QIZ				sP		**sP**	**08 26 34.5 -0.7**	
QIZ				PP		**PP**	**08 29 52.0 -2.0**	
QIZ				S		**S**	**08 37 07.3 -3.4**	
QIZ				sS		**pS**	**08 37 14.3 -1.0**	
QIZ				SS		**SS**	**08 42 51.3 -3.0**	
QIZ				pmax	pmax			
	comp=Z,340nm,4.1s							
QIZ				LR	LR			
	comp=Z,560nm,17.8s							
QIZ				LR	LR			
	comp=Z,410nm,17.9s							
QIZ				LR	LR			
	comp=Z,650nm,16.0s							
DLV	**T Lat**	**93.56**	**52**	IAMs_20		IAMs_20	09 14 20.4	
	comp=Z,564nm,19.0s							
BOSA	**Boshof**	**98.92**	**143**	LR		LR	09 13 49.6	
	comp=Z,520nm,19.5s,slow=36							
KSM	**Kuching**	**103.95**	**54**	IAMs_20		IAMs_20	09 21 11.8	
	comp=Z,601nm,18.0s							
RKT	**Rikitea**	**122.22**	**285**	*e*LR		LR	09 10 28.3	
	comp=Z,630nm,24.8s							
PPT2	**Papeete2**	**122.95**	**302**	*e*LR		LR	09 10 48.0	
	comp=Z,498nm,22.0s							
TBI	**Tubuai**	**128.18**	**299**	*e*LR		LR	09 13 13.6	
	comp=Z,530nm,23.0s							
WR2	**Warramunga Arr**	**131.51**	**36**	IAMs_20		IAMs_20	09 30 51.1	
	comp=Z,314nm,19.0s							
WR6	**Warramunga Arr**	**131.54**	**36**	IAMs_20		IAMs_20	09 14 11.8	
	comp=Z,433nm,21.0s							
SNAA	**Sanae**	**136.56**	**173**	PKiKP		**PKiKP**	**08 33 10.9 +5.9**	
SNAA	**Sanae**	**136.56**	**173**	IAMs_20		IAMs_20	09 44 56.0	
	comp=Z,285nm,18.0s							
DZM	**Mont Dzumac**	**137.22**	**354**	*e*LR		LR	09 17 15.2	
	comp=Z,582nm,24.7s							
BBOO	**Buckleboo**	**144.20**	**39**	PKPdf		**PKPdf**	**08 33 18.1 -0.2**	
STKA	**Stephens Creek**	**144.69**	**31**	PKIKP		**PKPdf**	**08 33 18.9 -0.2**	
STKA	**Stephens Creek**	**144.69**	**31**	PKPdf		**PKPdf**	**08 33 18.9 -0.2**	
QSPA	**South Pole Qui**	**154.69**	**180**	PKPdf		**PKPdf**	**08 33 35.6 +1.8**	

ROM 28 08:17:08.8±0.1, **43°.575N**±0°.009×**12°.553E**±0°.010, **h5**km, **ML1.0**/1, **Error ellipse: s-maj=1.2km s-min=0.4km az=327.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIEI	**Pieia**	**0.04**	**199**	P	Pg	08 17 09.8	-0.3
PIEI				S	Sg	08 17 10.8	-0.1
FRON	**Frontone**	**0.14**	**114**	P	Pg	08 17 12.1	+0.4
MPAG	**Monte Paganucc**	**0.16**	**70**	P	Pg	08 17 12.3	+0.2
MPAG				S	Sg	08 17 15.4	+1.3
ATPI	**Pietralunga -**	**0.17**	**222**	P	Pg	08 17 12.7	+0.6
FSSB	**Fossombrone**	**0.20**	**54**	P	Pg	08 17 13.2	+0.4
FSSB				S	Sg	08 17 17.2	+1.7
ATVO	**AVT- Monte Val**	**0.22**	**209**	P	Pg	08 17 13.9	+0.8
ATVO				S	Sg	08 17 18.1	+2.0
ATVO				AML	AML		
	comp=E,48μm,1.6s						
ATVO				AML	AML		
	comp=N,68μm,1.5s						
ATVO				AML	AML		
	comp=N,68μm,1.5s						
ATVO				AML	AML		
	comp=E,63μm,1.6s						
BADI	**Badiali**	**0.23**	**254**	P	Pg	08 17 13.9	+0.5
BADI				S	Sg	08 17 18.3	+1.8

IDC ***28*** *08:26:12.3±2.9, 9°.05S×109°.45E, h0*km*, mb3.7/3, mb1 3.9/3, mb1mx3.5/46, mbtmp3.7/3, Error ellipse: s-maj=143.7km s-min=26.7km az=48.0*
NEIC ***28*** *08:26:19.3±3.2, 9°.03S±0°.06×109°.93E±0°.02, h51*km*±7*km*, mb4.3/9, Error ellipse: s-maj=9.1km s-min=1.4km az=165.0*
DJA ***28*** *08:26:21.1±0.8, 9°.S±3°×11°.0E±*°*, h17*km*±7*km*, M4.6/19, mb4.6/4, MLv4.5/19*
ISC 28 08:26:19.4±1.0, **9°.02S**±0°.05×**109°.92E**±0°.04, **h50**km±12km, **n45**, σ2**s00**/53, **mb4.2**/7, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.25**	**28**	P	**Pn**	**08 26 40.1**	**-0.5**
UGM				S	**Sn**	**08 26 54.5**	**-1.8**
UGM	**Wanagama**	**1.25**	**28**		**Pn**	**08 26 40.0**	**-0.5**
UGM				Sn	**Sn**	**08 26 53.6**	**-2.7**
YOGI	**Yogyakarta**	**1.25**	**17**	P	**Pn**	**08 26 40.5**	**0.0**
YOGI				S	**Sn**	**08 26 53.7**	**-2.6**
WOJI	**Wonogiri, Jawa**	**1.54**	**40**	P	**Pn**	**08 26 44.1**	**-0.3**
WOJI				S	**Sn**	**08 27 00.2**	**-3.0**
CMJI	**Cimerak**	**1.91**	**310**	P	**Pn**	**08 26 51.4**	**+2.0**
SMRI	**Semarang**	**2.02**	**15**	P	**Pn**	**08 26 52.6**	**+1.5**
SMRI				S	**Sn**	**08 27 15.7**	**+0.5**
SMRI	**Semarang**	**2.02**	**15**		**Pn**	**08 26 52.5**	**+1.5**
SMRI				Sn	**Sn**	**08 27 14.8**	**-0.4**
NGJI	**Ngawi**	**2.24**	**43**	P	**Pn**	**08 26 56.7**	**+2.7**
NGJI				S	**Sn**	**08 27 26.7**	**+6.2**
CISI	**Cisompet, Garu**	**2.54**	**305**	P	**Pn**	**08 27 00.4**	**+2.2**
CISI				S	**Sn**	**08 27 30.4**	**+2.4**
CISI	**Cisompet, Garu**	**2.54**	**305**		**Pn**	**08 27 00.2**	**+1.9**
CISI				Sn	**Sn**	**08 27 28.6**	**+0.6**
JCJI	**Jatiwangi**	**3.00**	**327**	P	**Pn**	**08 27 04.1**	**-0.3**
LEM	**Lembang**	**3.15**	**314**	P	**Pn**	**08 27 09.6**	**+2.9**
CNJI	**Cibinong**	**3.24**	**301**	P	**Pn**	**08 27 10.1**	**+2.3**
GRJI	**Gresik**	**3.29**	**51**	P	**Pn**	**08 27 09.7**	**+1.3**
GRJI				S	**Sn**	**08 27 46.0**	**-0.2**
GMJI	**Gumukmas**	**3.56**	**78**	P	**Pn**	**08 27 14.5**	**+2.4**
SKJI	**Sukabumi**	**3.89**	**301**	P	**Pn**	**08 27 19.8**	**+3.2**
DBJI	**Dramaga**	**3.98**	**308**	P	Pn	08 27 23.6	+5.6
JAGI	**Jajag, Banyuwa**	**4.22**	**83**	P	**Pn**	**08 27 23.5**	**+2.3**
JAGI	**Jajag, Banyuwa**	**4.22**	**83**		**Pn**	**08 27 23.0**	**+1.8**
JAGI				Sn	**Sn**	**08 28 08.6**	**-0.6**
XMIS	**Christmas Isla**	**4.45**	**251**	Pn	**Pn**	**08 27 23.0**	**-1.4**
XMIS				Sn	**Sn**	**08 28 14.2**	**-0.8**
TWSI	**Taliwang, Sumb**	**6.88**	**88**	P	**Pn**	**08 28 00.3**	**+2.5**
	0.3nm33nm,0.7s						
PLAI	**Plampang**	**7.76**	**89**	P	**Pn**	**08 28 11.6**	**+1.8**
MNAI	**Manna**	**8.32**	**303**	Pn	**Pn**	**08 28 15.9**	**-1.6**
GIRL	**Giralia**	**14.16**	**164**	Pn	**Pn**	**08 29 37.1**	**-0.2**
SOEI	**Soe**	**14.17**	**94**	Pn	**Pn**	**08 29 37.9**	**+0.3**
MYLDM	**Lahad Datu**	**16.50**	**32**	Pn	**Pn**	**08 30 05.8**	**-1.7**
FITZ	**Fitzroy Crossi**	**17.73**	**122**		**P**	**08 30 21.0**	**-2.2**
KNRA	**Kununurra**	**19.55**	**112**	P	**P**	**08 30 42.4**	**-0.7**
KNRA				IAmb	IAmb	08 31 31.9	
	comp=Z,21nm,1.2s						
MTN	**Manton Dam**	**21.17**	**102**	P	**P**	**08 31 01.4**	**+0.8**
MTN				IAmb	IAmb	08 31 24.9	
	comp=Z,28nm,1.3s						
WB0	**Warramunga Arr**	**25.96**	**117**	P	**P**	**08 31 49.2**	**+1.7**
WB0				IAmb	IAmb	08 32 21.6	
	comp=Z,9.2nm,1.2s						
WRA	**Warramunga Arr**	**25.98**	**117**	P	**P**	**08 31 50.3**	**+2.6**
	comp=Z,0.7nm,0.6s,baz=289,slow=12,SNR=20						
WRA	**Warramunga Arr**	**25.98**	**117**	P	**P**	**08 31 49.1**	**+1.4**
WRAB	**Tennant Creek**	**25.98**	**117**	P	**P**	**08 31 48.7**	**+1.0**
WB2	**Warramunga Arr**	**25.99**	**117**	P	**P**	**08 31 49.5**	**+1.8**
WB2				IAmb	IAmb	08 31 58.9	
	comp=Z,24nm,1.8s						
ASAR	**Alice Springs**	**27.17**	**125**	P	**P**	**08 32 01.7**	**+3.3**
	comp=Z,1.0nm,0.7s,baz=298,slow=8.7,SNR=10						
ASAR	**Alice Springs**	**27.17**	**125**	P	**P**	**08 32 00.2**	**+1.9**
H08S2	**Diego Garcia H**	**37.05**	**269**	T	T	09 12 12.5	
	baz=94,slow=76,SNR=33						
H08S3	**Diego Garcia H**	**37.06**	**269**	T	T	09 12 10.5	
	baz=94,slow=76,SNR=31						
H08S1	**Diego Garcia H**	**37.07**	**269**	T	T	09 12 38.4	
	baz=94,slow=76,SNR=26						
MDJ	**Mudanjiang**	**56.27**	**17**	P	**P**	**08 35 53.0**	**-1.7**
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.2s						
MDJ				pmax	pmax		
	comp=Z,65nm,3.8s						
MK31	**Makanchi Array**	**60.78**	**339**	P	**P**	**08 36 25.5**	**-0.7**
MKAR	**Makanchi Array**	**60.78**	**339**	P	**P**	**08 36 25.0**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=151,slow=7.5,SNR=6.2						
MKAR	**Makanchi Array**	**60.78**	**339**	P	**P**	**08 36 25.2**	**-1.0**
ABKAR	**Akbulak array**	**72.63**	**328**	P	**P**	**08 37 41.8**	**+0.2**
PETK	**Petropavlovsk-**	**73.98**	**28**	P	**P**	**08 37 49.3**	**-0.2**

NEIC ***28*** *08:27:41.4±3.1, 14°.13N±0°.05×91°.87W±0°.05, h35*km*±1*km*, mb5.2/482, Md5.2(SNET), Md5.0/22(MEX), Error ellipse: s-maj=9.3km s-min=5.9km az=222.0*
MEX ***28*** *08:27:43.3±1.6, 14°.02N×91°.90W, h49*km*±49*km*, MD5.1*
MOS ***28*** *08:27:43.2±0.9, 14°.34N×91°.68W, h60*km*, mb5.4/41, Error ellipse: s-maj=10.5km s-min=4.5km az=113.1*
GCMT ***28*** *08:27:44.4±0.2, 14°.29N±0°.01×92°.00W±0°.02, h63*km*±1*km*, MW5.2/110, Moment Tension Solution. s70,c95; s110,c173; Duration: 1*s*0 Moment tensor: Scale 10*16* Nm; Mrr=6.25±.21; Mθθ2.83±.18; Mφφ3.42±.19; Mrθ3.31±.13; Mθφ-4.03±.14; Mφr-2.34±.14; Best double couple: M*o*7.84500×10*16* NP1:*ϕ*s145.00000°, δ30.00000°, λ-77.00000°. NP2:*ϕ*s310.00000°, δ61.00000°, λ-97.00000°. Principal axes: T 8.2570, Plg15.0000°, Azm46.0000°; N -0.8220, Plg6.0000°, Azm314.0000°; P -7.4340, Plg73.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***28*** *08:27:44.5±0.4, 14°.46N×91°.34W, h58*km*±3*km*, mb4.5/29, mb1 4.7/30, mb1mx4.5/48, mbtmp4.8/30, MS4.4/19, Ms1 4.4/19, ms1mx4.2/33 Error ellipse: s-maj=16.3km s-min=8.3km az=55.0*
GCG ***28*** *08:27:45.7±0.3, 14°.06N×91°.74W, h26*km*±37*km*, MD5.5*
SNET ***28*** *08:27:46.3±1.1, 14°.17N×91°.49W, h30*km*±6*km*, ML5.2*
UCR ***28*** *08:27:46.2±1.3, 14°.14N×91°.51W, h0*km*±4*km*, ML4.9, mb5.2(NEIC)*
SSS ***28*** *08:27:46.3, 14°.17N×91°.49W, h30*km*, ML5.2*
INET ***28*** *08:27:48.5, 14°.34N×91°.58W, h70*km*, MD5.3*
ISC 28 08:27:42.9±0.3, **14°.20N**±0°.04×**91°.85W**±0°.04, **h52**km±2km, **n1253**, σ1**s60**/1271, **mb5.2**/237, **MS4.5**/25, **6C-12D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.36**	**26**	*e*P	**Pn**	**08 27 55.0**	**+2.1**
RTAL				*e*S	**Sn**	**08 28 03.0**	**+3.1**
RTAL	**Retalhuleu**	**0.36**	**26**	Pn	**Pn**	**08 27 54.9**	**+2.1**
THIG		**0.81**	**331**	*e*P	**Pn**	**08 27 58.7**	**+0.6**
THIG				*i* S	**Sn**	**08 28 11.2**	**+1.9**
THIG		**0.81**	**331**		**Pn**	**08 27 58.7**	**+0.6**
THIG					**Sn**	**08 28 11.2**	**+1.9**
FUG	**Fuego 3**	**1.01**	**76**	*e*P	**Pn**	**08 28 03.4**	**+2.4**
HUEH	**Huehuetenango**	**1.16**	**17**	*e*P	**Pn**	**08 28 06.4**	**+3.3**
HUEH				*e*S	**Sn**	**08 28 23.1**	**+5.0**
HUEH				IAML		08 28 30.0	
	comp=Z,66μm,0.5s						
HUEH	**Huehuetenango**	**1.16**	**17**		**Pn**	**08 28 06.0**	**+2.9**
HUEH				Sn	**Sn**	**08 28 23.5**	**+5.4**
PCG	**Pacaya**	**1.22**	**81**	*e*P	**Pn**	**08 28 06.8**	**+2.8**
IXG	**Ixpaco**	**1.37**	**91**	*e*P	**Pn**	**08 28 08.2**	**+2.3**
PCIG		**1.99**	**319**	*e*P	**Pn**	**08 28 14.8**	**+0.6**
PCIG				*i* S	**Sn**	**08 28 38.5**	**+0.5**
PCIG		**1.99**	**319**		**Pn**	**08 28 14.8**	**+0.6**
PCIG					**Sn**	**08 28 33.3**	**-4.7**
CCIG	**Comitan**	**2.09**	**353**	*e*P	**Pn**	**08 28 19.4**	**+3.7**
CCIG				*e*S	**Sn**	**08 28 43.6**	**+3.1**
CCIG	**Comitan**	**2.09**	**353**		**Pn**	**08 28 18.9**	**+3.2**
CCIG				Sn	**Sn**	**08 28 42.7**	**+2.1**
SBLS	**San Blas**	**2.19**	**99**	*e*P	**Pn**	**08 28 19.5**	**+2.3**
SBLS	**San Blas**	**2.19**	**99**	*e*P	**Pn**	**08 28 19.5**	**+2.3**
CEVE	**Cerro Verde**	**2.20**	**99**	*e*P	**Pn**	**08 28 19.5**	**+2.3**
CEVE	**Cerro Verde**	**2.20**	**99**	*e*P	**Pn**	**08 28 19.5**	**+2.3**
UNIC	**Universidad Ca**	**2.25**	**95**	*e*P	**Pn**	**08 28 20.2**	**+2.4**
UNIC	**Universidad Ca**	**2.25**	**95**	*e*P	**Pn**	**08 28 20.2**	**+2.4**
MRL	**Marmol**	**2.28**	**67**	*e*P	**Pn**	**08 28 21.8**	**+3.5**
MTO3	**Montecristo**	**2.42**	**85**	*e*P	**Pn**	**08 28 22.3**	**+2.0**
MTO3	**Montecristo**	**2.42**	**85**	*e*P	**Pn**	**08 28 22.3**	**+2.0**
MTO3	**Montecristo**	**2.42**	**85**		**Pn**	**08 28 22.3**	**+2.0**
TACO	**Tacach

TGIG Sn 08 29 01.5 +2.6
PAVA Las Pavas 2.87 99 *e*P Pn 08 28 28.9 +2.5
PAVA Las Pavas 2.87 99 eP Pn 08 28 28.9 +2.5
COEG Centro de Oper 2.94 101 eP Pn 08 28 29.9 +2.5
COEG Centro de Oper 2.94 101 eP Pn 08 28 29.9 +2.5
UESV Universidad de 3.03 100 eP Pn 08 28 30.9 +2.5
UESV Universidad de 3.03 100 eP Pn 08 28 30.9 +2.5
COEB Comit de Eme 3.30 102ǁ eP Pn 08 28 34.8 +2.6
COEB IAML 08 29 29.9
comp=Z,8µm,0.5s
COEB Comit de Eme 3.30 102ǁ eP Pn 08 28 34.8 +2.6
COEB IAML 08 29 29.9
comp=Z,8µm,0.5s
ALJI Alcalda de J 3.31 105 eP Pn 08 28 34.8 +2.6
ALJI IAML 08 29 25.3
comp=Z,7µm,0.6s
ALJI Alcalda de J 3.31 105 eP Pn 08 28 34.8 +2.6
ALJI IAML 08 29 25.3
comp=Z,7µm,0.6s
PETF Flores 3.31 35 Pn 08 28 35.0 +2.7
TECA Tecapa 3.33 102 eP Pn 08 28 35.3 +2.6
TECA Tecapa 3.33 102 eP Pn 08 28 35.3 +2.6
JUCU Jucuaŗn 3.63 105 eP Pn 08 28 39.1 +2.4
JUCU IAML 08 29 39.6
comp=Z,7µm,0.6s
JUCU Jucuaŗn 3.63 105 eP Pn 08 28 39.1 +2.4
JUCU IAML 08 29 39.6
comp=Z,7µm,0.6s
FAGO Alcalda de S 3.67 97 eP Pn 08 28 39.2 +1.9
FAGO Alcalda de S 3.67 97 eP Pn 08 28 39.2 +1.9
CMIG Matias Romero 4.10 315 P Pn 08 28 44.0 +0.9
comp=Z,64nm,0.3s,baz=155,slow=10,SNR=633
CMIG S Sn 08 29 31.4 +1.7
comp=Z,429nm,0.3s,baz=34,slow=6.5,SNR=6.1
CMIG LR LR 08 30 48.3
comp=Z,3µm,22.0s,baz=155,slow=43
CMIG Matias Romero 4.10 315 eP Pn 08 28 44.2 +1.2
CMIG eS Sn 08 29 31.5 +1.7
CMIG Matias Romero 4.10 315 Pn 08 28 44.2 +1.2
CMIG Sn 08 29 32.5 +2.7
HUIG Huatulco 4.40 291 eP Pn 08 28 46.9 -0.3
HUIG *i* S Sn 08 29 36.1 -1.1
HUIG Huatulco 4.40 291 Pn 08 28 46.9 -0.3
HUIG Sn 08 29 34.2 -2.9
TGUH Tegucigalpa,Un 4.45 91 Pn Pn 08 28 49.4 +1.4
TUIG Tuzandepetl 4.54 327 *i* P Pn 08 28 50.5 +1.3
TUIG *i* S Sn 08 29 42.4 +1.7
SCIG Sabancuy 4.78 8 *i* P Pn 08 28 54.3 +1.8
SCIG eS Sn 08 29 50.1 +3.5
CRIN San Cristobal 4.91 107 Pn 08 28 57.0 +2.8
CRIN Sn Sn 08 29 49.9 +0.1
PEIG Puerto Escondi 5.42 290 eP Pn 08 29 01.4 +0.2
PEIG eS Sn 08 30 02.5 +0.3
ESTN Estel 5.44 101 Pn 08 29 04.0 +2.4
ESTN Sn Sn 08 30 06.8 +3.8
OXBJ Oaxaca 5.49 302 eP Pn 08 29 02.5 +0.1
OXBJ *i* S Sn 08 30 05.1 +0.8
MATN Matagalpa 5.90 102 Pn Pn 08 29 09.5 +1.6
MATN Sn Sn 08 30 15.4 +1.1
YOIG Yosondua 6.09 296 eP Pn 08 29 13.2 +2.6
YOIG *i* S Sn 08 30 19.2 +0.1
BOAB BOACO BROADBAN 6.27 105 Pn 08 29 14.1 +1.2
TOIG Toxpalan 6.33 308 eP Pn 08 29 15.2 +1.4
TOIG *i* S Sn 08 30 27.3 +2.5
TOIG *i* S Sn 08 30 27.4 +2.6
PNIG Pinotepa 6.43 291 eP Pn 08 29 16.2 +1.1
TXIG Tlaxiaco 6.45 299 eP Pn 08 29 17.6 +1.9
TXIG *i* S Sn 08 30 30.1 +1.9
TPIG Tehuac#an 6.75 309 eP Pn 08 29 21.2 +1.6
TPIG *i* S Sn 08 30 36.9 +1.6
HLIG Huajuapan de L 6.76 303 eP Pn 08 29 22.8 +3.0
HLIG *i* S Sn 08 30 36.9 +1.2
HLIG *i* S Sn 08 30 37.5 +1.8
ACON Acoyapa 6.88 108 Pn 08 29 22.5 +1.3
TEIG Tepich 6.90 29 P Pn 08 29 23.1 +1.6
comp=Z,93nm,0.3s,baz=272,slow=1.2,SNR=288
TEIG S Sn 08 30 36.6 -2.0
baz=211,slow=13,SNR=3.7
TEIG Tepich 6.90 29 Pn Pn 08 29 22.9 +1.4
LVIG Laguna Verde 7.02 322 eP Pn 08 29 21.6 -1.5
LVIG *i* S Sn 08 30 46.3 +4.7
MYIG Mrida 7.02 16 eP Pn 08 29 24.5 +1.4
MYIG *i* S Sn 08 30 44.6 +3.1
HZTE Horizontes, Gu 7.03 119 eP Pn 08 29 27.1 +3.9
GBS3 Finca Las Img 7.11 118 eP Pn 08 29 28.6 +4.1
GB1A Borinquen Arri 7.14 117 eP Pn 08 29 29.8 +4.8
BUEV Buena Vista 7.15 118 eP Pn 08 29 28.8 +3.8
GPS3 Bodega del ICE 7.20 118 eP Pn 08 29 29.9 +4.1
TLIG Tlapa 7.27 298 Pn Pn 08 29 28.4 +1.7
ORTG Ortega, Santa 7.32 121 eP Pn 08 29 30.2 +2.8
CUI Cuipilapa 7.42 118 eP Pn 08 29 32.2 +3.4
DUNO Dulce Nombre, 7.45 123 eP Pn 08 29 32.5 +3.4
CRIG Cruz Grande 7.46 291 eP Pn 08 29 30.6 +1.5
CRIG *i* S Sn 08 30 53.7 +1.3
ACAL Aguas Claras 7.54 117 eP Pn 08 29 33.2 +2.8
PTEN Parque Tenorio 7.55 117 eP Pn 08 29 34.0 +3.5
ESPN Las Esperanzas 7.62 104 Pn 08 29 31.6 +0.1
PHPU Puebla 7.73 309 eP Pn 08 29 36.7 +3.5
PHPU *i* S Sn 08 31 01.4 +1.8
JTS Las Juntas de 7.78 119 P Pn 08 29 36.8 +3.1
comp=Z,7.9nm,0.3s,baz=22,slow=16,SNR=40
JTS Las Juntas de 7.78 119 *de*P Pn 08 29 36.3 +2.6
JTS Las Juntas de 7.78 119 eP Pn 08 29 36.5 +2.9
JTS Las Juntas de 7.78 119 eP Pn 08 29 36.8 +3.1
JTS *i* S Sn 08 31 00.3 -0.2
JTS Las Juntas de 7.78 119 Pn Pn 08 29 35.0 +1.3
ARE1 Arenal 1 7.90 117 eP Pn 08 29 39.6 +4.3
CASO Castillo 7.90 117 eP Pn 08 29 38.8 +3.5
CEDE Laguna Cedeo 7.90 117 eP Pn 08 29 38.4 +3.1
FORC Fortuna 7.94 117 eP Pn 08 29 39.9 +4.1
COVE Coope Vega, Sa 8.06 115 eP Pn 08 29 38.7 +1.3
LAFE Finca La Fe, P 8.07 122 eP Pn 08 29 40.5 +2.9
PPM Popocatepetl 8.10 308 eP Pn 08 29 43.0 +4.6
PPM *i* S Sn 08 31 12.2 +3.4
AMVM AMECAMECA 8.26 307 eP Pn 08 29 45.4 +5.0
AMVM *i* S Sn 08 31 14.4 +1.9
SRA1 San Ramn 8.29 119 eP Pn 08 29 44.6 +3.9
YAIG Yautepec 8.33 305 eP Pn 08 29 43.3 +2.1
YAIG *i* S Sn 08 31 16.9 +2.9
JACO JACO, Garabito 8.36 122 eP Pn 08 29 45.0 +3.5
PLIG Platanillo 8.44 301 *i* P Pn 08 29 45.2 +2.4
PLIG *i* S Sn 08 31 18.3 +1.5
CAIG El Cayaco 8.59 290 eP Pn 08 29 46.7 +2.1
CAIG *i* S Sn 08 31 20.1 0.0
VTVM Tizayuca 8.63 311 eP Pn 08 29 48.7 +3.2
VTVM *i* S Sn 08 31 25.5 +3.9
HDC Heredia 8.64 118 eP Pn 08 29 49.8 +4.3
HDC Heredia 8.64 118 Pn 08 29 47.8 +2.3
UNM Universidad Na 8.67 307 P Pn 08 29 48.0 +1.9
UNM Universidad Na 8.67 307 *i* P Pn 08 29 45.0 -1.0
UNM *i* S Sn 08 31 24.8 +2.2
UNM Universidad Na 8.67 307 Pn Pn 08 29 48.0 +1.9
CVM Colonia del Va 8.70 307 eP Pn 08 29 50.4 +4.2
CVM *i* S Sn 08 31 24.6 +1.7
MAVM Malinalco, Edo 8.72 304 eP Pn 08 29 50.4 +3.7
MAVM *i* S Sn 08 31 25.6 +1.9
PTVM Pico Tres Padr 8.78 309 eP Pn 08 29 52.1 +4.6
LCR2 La Lucha 2 8.87 119 eP Pn 08 29 52.0 +3.3
ZUVM ZUMPANGO 8.89 310 eP Pn 08 29 51.3 +2.3
ZUVM *i* S Sn 08 31 31.4 +3.5
CVTR Volcan Turrial 8.94 117 eP Pn 08 29 52.8 +2.9
RIMA Rio Macho 8.97 119 eP Pn 08 29 53.9 +3.7
ARIG Puente Sto Nin 9.11 298 *i* P Pn 08 29 55.0 +3.2
ARIG *i* S Sn 08 31 33.9 +0.9
DEIG Demacu 9.16 312 eP Pn 08 29 55.9 +3.2
DEIG *i* S Sn 08 31 37.2 +2.7
EDDO Dominical 9.24 121 eP Pn 08 29 57.1 +3.5
PEZE Perez Zeledon, 9.33 120 eP Pn 08 29 58.4 +3.5
ATVM ATLACOMULCO 9.43 307 *i* S Sn 08 31 43.3 +2.0
EDLM Las Mercedes 9.46 120 eP Pn 08 29 59.9 +3.3
ACIG Acambay 9.59 308 eP Pn 08 30 02.5 +4.0
ACIG *i* S Sn 08 31 41.4 -3.5
EDPN Palmar Norte 9.73 121 eP Pn 08 30 03.9 +3.5
EDBA Buenos Aires 9.78 120 eP Pn 08 30 04.1 +3.1
RIOS Rincon, Osa 9.83 123 eP Pn 08 30 06.4 +4.7
ZIIG Zihuatanejo 9.85 291 eP Pn 08 30 04.5 +2.7
ZIIG *i* S Sn 08 31 50.0 -1.1
PTJ1 Puerto Jimnez 10.10 123 eP Pn 08 30 09.6 +4.3
PIRO Carate, Puerto 10.14 124 eP Pn 08 30 09.4 +3.4
EDSV San Vito 10.21 121 eP Pn 08 30 10.8 +3.8

PRVC Isla de Provid 10.22 93 eP Pn 08 30 05.6 -1.4
MOIG Morelia 10.46 303 eP Pn 08 30 13.1 +2.6
MOIG *i* S Sn 08 32 07.8 +1.3
MOIG Morelia 10.46 303 Pn Pn 08 30 14.8 +4.2
BRU2 Volcan 10.46 120 eP Pn 08 30 13.4 +3.0
RPIG Rio Verde 10.87 316 eP Pn 08 30 18.3 +2.3
RPIG *e*S Sn 08 32 17.1 +0.9
IGIG Irapuato, Guan 11.14 307 eP Pn 08 30 19.8 0.0
IGIG *i* S Sn 08 32 23.1 +0.1
GTIG Gomez Farias 11.21 323 eP Pn 08 30 21.9 +1.4
GTIG *e*S Sn 08 32 25.6 +1.1
FSCY Frank Sound, G 11.41 62 Pn Pn 08 30 26.1 +2.8
MMIG Aquila 11.76 292 eP Pn 08 30 29.2 +1.1
MMIG *i* S Sn 08 32 37.2 -0.6
LCCY Blossom Villag 12.50 63 Pn Pn 08 30 38.8 +0.6
AAIG Aguscalientes 12.64 309 eP Pn 08 30 42.7 +2.5
AAIG *i* S Sn 08 32 59.8 +0.2
BCIP Isla Barro Col 12.79 112 eP Pn 08 30 43.1 +1.0
BCIP Isla Barro Col 12.79 112 eP Pn 08 30 44.8 +2.7
BCIP Isla Barro Col 12.79 112 P Pn 08 30 43.6 +1.5
BCIP Isla Barro Col 12.79 112 Pn Pn 08 30 43.6 +1.5
CBCY The Bluff, Cay 12.81 63 Pn Pn 08 30 44.1 +1.7
LNIG Linares 12.83 327 eP Pn 08 30 44.7 +2.1
LNIG *i* S Sn 08 33 07.6 +3.7
ZAIG Zacatecas 13.26 312 eP Pn 08 30 52.3 +3.5
ZAIG Zacatecas 13.26 312 Pn Pn 08 30 52.2 +3.5
MTDJ Mount Denham 14.32 72 Pn Pn 08 31 05.7 +2.7
PAYG Puerto Ayora 14.86 174 Pn Pn 08 31 10.8 +0.9
CAPC Capurgana 15.25 110 eP Pn 08 31 11.7 -3.3
061Z Ochoppi 15.49 40 Pn Pn 08 31 17.1 -1.0
735A Kenedy 15.59 340 Pn Pn 08 31 21.0 +1.7
833A Chaparral WMA, 15.70 335 P Pn 08 31 22.3 +1.5
baz=152,SNR=16
833A Chaparral WMA, 15.70 335 Pn 08 31 22.1 +1.3
HKT Hockley 16.10 347 P Pn 08 31 26.2 +0.5
HKT pmax pmax
comp=Z,64nm,1.2s
HKT Hockley 16.10 347 Pn 08 31 26.2 +0.5
SOLC Bahia Solano 16.27 118 eP P 08 31 29.4 -0.9
441A DeRidder 16.52 356 P 08 31 32.5 -0.4
441A IAmb IAmb 08 31 52.1
comp=Z,339nm,1.1s
060A Indiantown 16.68 38 P 08 31 34.4 -0.4
SJCC San Jacinto, C 16.86 103 eP Pn 08 31 33.3 -2.2
DWPF Disney Wildern 16.90 33 P Pn 08 31 36.3 +0.5
baz=217
DWPF Disney Wildern 16.90 33 P 08 31 37.2 0.0
DWPF IAmb IAmb 08 31 40.1
comp=Z,244nm,1.1s
DBBC Dabeiba 16.95 113 eP Pn 08 31 35.3 -1.3
DBBC Dabeiba 16.95 113 eP P 08 31 37.7 -0.2
PIZC Pizarro, Choco 16.97 121 eP P 08 31 38.0 -0.1
GTBY Guantanamo Bay 16.98 68 eP P 08 31 38.3 +0.1
GTBY Guantanamo Bay 16.98 68 P Pn 08 31 35.4 -1.6
342A Flagon Creek P 17.10 359 P Pn 08 31 38.5 +0.2
342A IAmb IAmb 08 31 56.7
comp=Z,239nm,1.1s
344A Westbrook Farm 17.20 3 P P 08 31 41.3 +0.7
346A Big Creek Wild 17.25 7 P P 08 31 41.3 +0.3
451A Vernon 17.28 18 P 08 31 41.9 +0.5
553A Crawfordville 17.32 22 P 08 31 41.9 +0.1
553A IAmb IAmb 08 31 47.6
comp=Z,178nm,0.5s
435B Jarrell 17.33 343 P P 08 31 43.1 +1.2
baz=161,SNR=5.2
435B Jarrell 17.33 343 Pn 08 31 41.6 +0.4
435B IAmb IAmb 08 32 00.3
comp=Z,119nm,0.8s
656A Willston 17.39 28 P P 08 31 43.0 +0.5
BRAL Brewton 17.46 14 P P 08 31 46.0 +2.7
baz=196,SNR=32
BRAL Brewton 17.46 14 P Pn 08 31 42.5 -0.2
CBOC Ciudad Bolivar 17.65 116 eP P 08 31 45.9 +0.1
CBOC Ciudad Bolivar 17.65 116 eP P 08 31 47.8 +2.0
NATX Nacogdoches 17.67 352 P P 08 31 46.6 +1.0
baz=171,SNR=11
NATX Nacogdoches 17.67 352 P P 08 31 46.7 +1.0
NATX IAmb IAmb 08 32 02.5
comp=Z,109nm,0.8s
JCT Junction City 17.78 337 P P 08 31 49.1 +2.1
baz=154,SNR=10
JCT Junction City 17.78 337 P P 08 31 47.2 +0.2
JCT pmax pmax
comp=Z,33nm,1.0s
JCT Junction City 17.78 337 P P 08 31 47.1 +0.2
HELC Santa Helena 17.92 115 eP Pn 08 31 49.0 +0.1
HELC Santa Helena 17.92 115 eP Pn 08 31 48.0 -0.9
ZARC Zaragoza, Cauc 17.97 110 eP P 08 31 46.6 -2.6
VBMS Vicksburg 17.98 4 P Pn 08 31 50.6 +1.5
baz=184,SNR=8.9
VBMS Vicksburg 17.98 4 P Pn 08 31 49.3 +0.2
VBMS IAmb IAmb 08 32 07.3
comp=Z,155nm,0.8s
237A Washetta, Mont 18.09 349 Pn 08 31 50.8 +0.4
SMLC San Martn de 18.23 105 eP P 08 31 46.0 -6.0
352A Blakely 18.33 19 P Pn 08 31 54.3 +0.9
352A IAmb IAmb 08 32 13.6
comp=Z,272nm,0.9s
YOTC Yotoco, Valle 18.36 122 eP P 08 31 53.0 -0.5
250A Grady 18.42 15 Pn 08 31 54.9 +0.4
250A IAmb IAmb 08 32 13.2
comp=Z,254nm,1.1s
143A Socs Landing, 18.42 1 P Pn 08 31 55.0 +0.5
WHTX Lake Whitney, 18.44 345 P Pn 08 31 55.2 +0.5
baz=162,SNR=13
WHTX Lake Whitney, 18.44 345 P Pn 08 31 55.3 +0.5
WHTX IAmb IAmb 08 32 11.9
comp=Z,240nm,1.4s
GUY2C Guyana, Caldas 18.52 117 eP Pn 08 31 58.1 +1.7
GUY2C Guyana, Caldas 18.52 117 eP Pn 08 31 56.8 +0.4
146A Union 18.53 7 P Pn 08 31 56.8 +1.0
146A IAmb IAmb 08 32 13.4
comp=Z,248nm,1.1s
TXAR Lajitas Array 18.61 326 P Pn 08 31 59.1 +2.2
comp=Z,1.1nm,0.3s,baz=156,slow=11,SNR=370
TXAR PcP PcP 08 36 24.8 +1.2
comp=Z,0.3nm,0.3s,baz=178,slow=3.2,SNR=4.6
TXAR Lajitas Array 18.61 326 P Pn 08 31 59.0 +2.0
TXAR PcP 08 36 24.5 +0.9
TX31 Lajitas Ar. Si 18.61 326 Pn 08 31 59.0 +2.0
TX31 IAmb IAmb 08 32 00.8
comp=Z,122nm,0.8s
TX32 Lajitas Array 18.61 326 P Pn 08 31 58.7 +1.7
TIGA Tifton 18.76 22 P Pn 08 31 59.5 +0.9
baz=206,SNR=21
TIGA Tifton 18.76 22 P Pn 08 31 59.6 +1.0
456A Hilliard 18.77 27 P P 08 31 58.1 +0.3
NORC Norcasia 18.79 115 eP P 08 31 58.6 +0.4
BBAC Balboa, Cauca 18.84 129 eP Pn 08 32 00.6 +0.8
BBAC Balboa, Cauca 18.84 129 eP P 08 31 59.1 +0.2
H06E1 SOCORRO T-PHAS 18.84 287 T T 08 51 16.9
SNR=46
ANIL Santa Ana 18.87 119 eP Pn 08 32 01.1 +0.8
ANIL Santa Ana 18.87 119 eP Pn 08 32 02.5 +2.2
TOLC Tolima 18.89 119 eP Pn 08 32 02.0 +1.4
POPC Popayan, Colom 18.95 126 eP P 08 32 00.1 0.0
Z41A Richland Creek 18.99 358 P Pn 08 32 01.1 -0.3
baz=177,SNR=20
Z41A Richland Creek 18.99 358 P Pn 08 32 01.3 -0.1
BRRC Barranca, Sant 19.16 110 eP P 08 32 00.6 -1.6
BRRC Barranca, Sant 19.16 110 eP P 08 32 01.4 -0.8
Z38A Mt. Pleasant 19.19 352 P Pn 08 32 03.8 +0.1
OTAV Otavalo 19.19 135 eP P 08 32 03.7 +0.6
OTAV Otavalo 19.19 135 P P 08 32 03.7 +0.6
OTAV pmax pmax
comp=Z,34nm,1.3s
OTAV Otavalo 19.19 135 P P 08 32 03.6 +0.6
Z47A Carrollton 19.22 10 P Pn 08 32 04.0 -0.2
PAPH Port-au-Prince 19.25 74 P P 08 32 03.1 0.0
PAPH IAmb IAmb 08 32 21.5
comp=Z,83nm,0.8s
LRAL Lakeview Retre 19.26 12 P Pn 08 32 04.8 +0.2
baz=194,SNR=70
LRAL Lakeview Retre 19.26 12 P Pn 08 32 04.8 +0.2
LRAL IAmb IAmb 08 32 09.8
comp=Z,116nm,0.8s
GCUF Volcan Galeras 19.29 131 eP Pn 08 32 07.2 +1.7
GCUF Volcan Galeras 19.29 131 eP Pn 08 32 07.4 +1.8
PCON Cinco Dias 19.30 126 eP Pn 08 32 06.5 +0.8
ORTC Ortega, Tolima 19.31 120 eP P 08 32 01.9 -2.0
MARP Paez Belalcaza 19.33 124 eP Pn 08 32 07.0 +1.1
WLAR White Oak Lake 19.43 357 P P 08 32 05.7 +0.7
SPBC San Pablo de B 19.45 114 eP P 08 32 06.0 +0.4

152A Waverly Hall 19.50 18 P Pn 08 32 07.3 -0.2
152A IAmb IAmb 08 32 12.1
comp=Z,117nm,1.0s
SLBS Sierra La Lagu 19.52 302 P Pn 08 32 09.6 +1.7
ROSC El Rosal 19.62 117 P Pn 08 32 10.5 +1.1
comp=Z,4.3nm,0.3s,baz=67,slow=3.6,SNR=19
ROSC El Rosal 19.62 117 eP P 08 32 10.1 +0.8
ROSC El Rosal 19.62 117 P Pn 08 32 09.9 +0.6
ROSC IAmb IAmb 08 32 26.9
comp=Z,105nm,1.0s
255A Hazlehurst 19.62 24 P Pn 08 32 08.4 -0.5
255A IAmb IAmb 08 32 25.5
comp=Z,206nm,1.1s
CCAR Cane Creek 19.63 0 P Pn 08 32 08.3 -0.7
Z35A Perchaven, San 19.67 346 P P 08 32 08.4 +0.8
ABTX Abilene, Hawle 19.67 340 P Pn 08 32 09.0 -0.5
baz=157,SNR=21
ABTX Abilene, Hawle 19.67 340 P P 08 32 08.7 +1.0
Y45A Yeager Farm, C 19.69 6 P Pn 08 32 09.0 -0.7
PRAC Prado 19.72 120 eP P 08 32 08.1 -0.2
BETC Betania 19.84 124 eP Pn 08 32 12.3 +0.6
BETC Betania 19.84 124 eP Pn 08 32 12.6 +0.9
BARC Barichara 19.85 110 eP P 08 32 08.2 -1.8
BARC Barichara 19.85 110 eP P 08 32 09.2 -0.8
Z51A Franklin 19.98 17 P Pn 08 32 12.4 -0.6
154A Montrose 19.99 22 P Pn 08 32 12.3 -1.0
LPIG La Paz 20.00 302 P Pn 08 32 15.4 +2.0
comp=Z,109nm,1.1s,baz=135,slow=2.5,SNR=5.4
LPIG LR LR 08 39 12.8
comp=Z,632nm,20.1s,baz=116,slow=34
GARC Garzon, Huila 20.09 125 eP Pn 08 32 14.0 -0.9
Y49A Blount Mountai 20.18 13 P Pn 08 32 14.6 -1.0
Y49A IAmb IAmb 08 32 31.9
comp=Z,103nm,0.8s
X40A Basin Creek Fa 20.22 358 P P 08 32 14.3 +0.7
baz=177,SNR=13
X40A Basin Creek Fa 20.22 358 P P 08 32 14.2 +0.7
RUSC La Rusia 20.23 112 eP P 08 32 12.1 -2.2
RUSC La Rusia 20.23 112 P P 08 32 14.0 -0.4
CHIC Chingaza 20.23 116 eP P 08 32 14.8 +0.5
CHIC Chingaza 20.23 116 eP Pn 08 32 17.0 +0.3
X43A Marvell 20.25 2 P P 08 32 14.4 +0.5
baz=183,SNR=6.6
X43A Marvell 20.25 2 P P 08 32 14.4 +0.5
X43A IAmb IAmb 08 32 22.0
comp=Z,101nm,0.8s
SDDR Presa de Saban 20.27 74 P P 08 32 14.6 +0.2
257A Skidaway Islan 20.28 27 P P 08 32 14.4 +0.2
PUAC Puerto Asis, P 20.31 131 eP P 08 32 14.8 0.0
MIAR Mount Ida 20.32 356 P P 08 32 14.7 +0.1
baz=175,SNR=37
MIAR Mount Ida 20.32 356 P P 08 32 14.9 +0.3
MIAR pmax pmax
comp=Z,140nm,1.0s
MIAR Mount Ida 20.32 356 P P 08 32 14.9 +0.3
MIAR IAmb IAmb 08 32 31.5
comp=Z,140nm,0.9s
FLOC Florencia 20.34 127 eP P 08 32 15.8 +0.7
FLOC Florencia 20.34 127 eP Pn 08 32 17.3 -0.3
FLOC Florencia 20.34 127 P P 08 32 16.3 +1.2
OXF Oxford 20.34 6 P P 08 32 14.7 -0.2
baz=187,SNR=18
OXF Oxford 20.34 6 P P 08 32 14.7 -0.2
OXF pmax pmax
comp=Z,242nm,0.9s
OXF Oxford 20.34 6 P P 08 32 14.7 -0.2
UALR University of 20.49 359 P P 08 32 16.5 0.0
UALR IAmb IAmb 08 32 34.7
comp=Z,165nm,0.8s
VILC Villavicencio, 20.52 118 eP Pn 08 32 19.4 -0.4
X37A Clayton 20.55 352 P P 08 32 17.6 +0.5
X37A IAmb IAmb 08 32 33.9
comp=Z,129nm,1.2s
GOGA Godfrey 20.59 20 P P 08 32 18.5 +0.9
baz=204,SNR=32
GOGA Godfrey 20.59 20 P P 08 32 18.2 +0.6
GOGA pmax pmax
comp=Z,74nm,0.7s
GOGA Godfrey 20.59 20 P P 08 32 18.2 +0.6
GOGA IAmb IAmb 08 32 38.3
comp=Z,74nm,0.7s
X48A Hartselle 20.63 11 P P 08 32 18.5 +0.5
X48A IAmb IAmb 08 32 36.2
comp=Z,260nm,1.5s
Y52A Lilburn 20.81 19 P P 08 32 21.2 +1.1
Y52A IAmb IAmb 08 32 39.9
comp=Z,148nm,1.2s
SC01 Santiago de lo 20.87 73 P P 08 32 21.5 +0.7
W41B Gary Mavity, V 20.89 359 P P 08 32 21.3 +0.5
baz=179
W41B Gary Mavity, V 20.89 359 P P 08 32 20.8 0.0
W41B IAmb IAmb 08 32 39.8
comp=Z,78nm,0.8s
157A Early Branch 20.89 26 P P 08 32 21.6 +0.8
baz=211
PLAL Pickwick Lake 20.97 9 P P 08 32 21.8 +0.1
PLAL IAmb IAmb 08 32 30.0
comp=Z,128nm,1.5s
W39A Magazine 20.98 356 P P 08 32 22.3 +0.5
baz=175
W39A Magazine 20.98 356 P P 08 32 21.9 +0.1
W39A IAmb IAmb 08 32 41.6
comp=Z,118nm,1.4s
WHAR Wooly Hollow 21.00 359 P P 08 32 21.9 -0.2
WHAR IAmb IAmb 08 32 40.2
comp=Z,60nm,0.8s
W45A Hickory Valley 21.00 6 P P 08 32 21.9 -0.2
W45A IAmb IAmb 08 32 39.1
comp=Z,169nm,1.0s
GRTK Grand Turk 21.01 67 P P 08 32 22.6 +0.4
FPAL Fort Paine 21.02 14 P P 08 32 22.4 0.0
FPAL IAmb IAmb 08 32 40.6
comp=Z,107nm,0.8s
CLNB Carlsbad 21.07 331 P P 08 32 24.6 +1.6
TAMC Tame, Arauca 21.18 109 eP P 08 32 20.4 -3.8
TAMC Tame, Arauca 21.18 109 eP P 08 32 19.4 -4.7
GDL2 Guadalupe Moun 21.25 330 P P 08 32 27.2 +2.3
Z56A Williston 21.29 25 P P 08 32 25.5 +0.4
baz=209,SNR=13
Z56A Williston 21.29 25 P P 08 32 25.9 +0.7
158A Hollywood 21.30 28 P P 08 32 24.1 -1.1
baz=212
MNTX Cornudas Mount 21.38 327 P P 08 32 27.4 +1.2
baz=142,SNR=124
MNTX Cornudas Mount 21.38 327 P P 08 32 27.4 +1.2
MNTX IAmb IAmb 08 32 31.2
comp=Z,84nm,0.9s
WMOK Wichita Mounta 21.38 344 P P 08 32 25.3 -0.8
baz=161,SNR=24
WMOK Wichita Mounta 21.38 344 P P 08 32 25.4 -0.8
WMOK pmax pmax
comp=Z,44nm,1.1s
WMOK Wichita Mounta 21.38 344 P P 08 32 25.4 -0.8
SDV Santo Domingo 21.44 102 P P 08 32 27.9 +0.7
comp=Z,30nm,0.6s,baz=300,slow=7.3,SNR=3.9
SDV Santo Domingo 21.44 102 P P 08 32 25.8 -1.4
SDV Santo Domingo 21.44 102 eP P 08 32 25.5 -1.7
MACC Macarena, Meta 21.45 122 eP P 08 32 26.4 -0.7
Z57A Bowman 21.55 26 P P 08 32 26.5 -1.3
baz=211
FNO Franklin 21.55 348 P P 08 32 28.1 +0.1
SWET Sewanee 21.59 13 P P 08 32 28.8 +0.3
FCAR Ozark Folk Cen 21.60 359 P P 08 32 27.9 -0.5
NHSC New Hope 21.61 27 P P 08 32 28.0 -0.6
baz=212
NHSC New Hope 21.61 27 P P 08 32 30.0 +1.4
Y55A Saluda 21.64 23 P P 08 32 28.4 -0.5
baz=207
OKCSW OKLAHOMA CITY 21.70 348 P P 08 32 30.0 +0.4
OKCFA Oklahoma City 21.72 348 IAmb IAmb 08 32 45.4
comp=Z,117nm,1.0s
W50A Signal Mountai 21.73 15 P P 08 32 29.8 -0.1
W50A IAmb IAmb 08 32 48.5
comp=Z,77nm,0.8s
Y56A Pelion 21.73 24 P P 08 32 29.5 -0.4
baz=208
GNAR Gosnell 21.74 4 P P 08 32 29.9 0.0
GNAR IAmb IAmb 08 32 48.3
comp=Z,124nm,1.1s
HODGE Hodges 21.75 22 P P 08 32 30.6 +0.5
HODGE IAmb IAmb 08 32 48.5
comp=Z,222nm,1.3s
LCAR Lake Charles 21.79 2 P P 08 32 29.8 -0.6
LCAR IAmb IAmb 08 32 45.9

comp=Z,61nm,0.8s
OK025 Westminster Rd 21.85 348 IAmb IAmb 08 32 48.5
comp=Z,100nm,0.8s
PTLC Puerto Leguiza 21.89 128 *e*P **P** **08 32 32.9 +1.1**
TUL1 Leonard 21.91 351 P **P** **08 32 31.3 -0.5**
baz=170,SNR=7.8
TUL1 Leonard 21.91 351 P **P** **08 32 30.8 -0.9**
TUL1 IAmb IAmb 08 32 49.9
comp=Z,110nm,1.2s
Z58A St. Stephen 21.97 28 P **P** **08 32 32.4 0.0**
baz=213
X54A Belton 22.00 21 P **P** **08 32 32.7 0.0**
baz=205,SNR=11
HHAR Hobbs 22.07 356 IAmb IAmb 08 32 49.6
comp=Z,51nm,0.8s
U40A Yellville 22.08 358 P **P** **08 32 32.9 -0.7**
baz=177,SNR=10
U40A Yellville 22.08 358 IAmb IAmb 08 32 50.2
comp=Z,72nm,0.8s
OK029 Liberty Lake 22.09 348 IAmb IAmb 08 32 48.0
comp=Z,116nm,0.9s
WVT Waverly 22.13 9 P **P** **08 32 33.5 -0.7**
baz=190
WVT Waverly 22.13 9 P **P** **08 32 33.6 -0.6**
WVT pmax pmax
comp=Z,88nm,1.0s
WVT Waverly 22.13 9 P **P** **08 32 33.6 -0.6**
WVT IAmb IAmb 08 32 50.9
comp=Z,88nm,1.0s
CPCT Cooper Cave 22.16 16 IAmb IAmb 08 32 52.4
comp=Z,90nm,0.9s
JSC Jenkinsville 22.17 24 P **P** **08 32 34.9 +0.3**
JSC pmax pmax
comp=Z,43nm,0.9s
JSC Jenkinsville 22.17 24 P **P** **08 32 34.9 +0.3**
X55A Gracelyn & Ava 22.20 23 P **P** **08 32 34.9 0.0**
baz=207,SNR=11
GUVC San Jose del G 22.24 120 *e*P **P** **08 32 36.1 +0.5**
Y57A Sumter 22.30 26 P **P** **08 32 36.0 +0.1**
baz=210,SNR=6.5
Y57A Sumter 22.30 26 IAmb IAmb 08 32 54.8
comp=Z,93nm,0.7s
QUOK Quay 22.31 350 IAmb IAmb 08 32 53.0
comp=Z,139nm,1.2s
CLTN Cedars of Leba 22.36 12 P **P** **08 32 35.8 -0.8**
CLTN IAmb IAmb 08 32 54.0
comp=Z,86nm,0.8s
AMTX Amarillo 22.42 338 P **P** **08 32 37.0 -0.4**
baz=154
AMTX Amarillo 22.42 338 IAmb IAmb 08 32 42.2
comp=Z,47nm,0.6s
PAULI Pauline 22.44 22 P **P** **08 32 37.6 +0.1**
PAULI IAmb IAmb 08 32 55.7
comp=Z,127nm,1.2s
X56A White Oak 22.45 24 P **P** **08 32 36.7 -0.9**
baz=208,SNR=6.5
V51A Loudon 22.54 16 IAmb IAmb 08 32 56.1
comp=Z,90nm,1.0s
W54A Cherokee Point 22.55 21 P **P** **08 32 38.3 -0.3**
baz=205,SNR=11
TKL Tuckaleechee C 22.57 17 P **P** **08 32 39.4 +0.5**
comp=Z,22nm,0.7s,baz=187,slow=10,SNR=24
TKL Tuckaleechee C 22.57 17 IAmb IAmb 08 32 56.7
comp=Z,124nm,1.2s
T42A Van Buren 22.75 2 IAmb IAmb 08 32 57.2
comp=Z,84nm,0.9s
V52A Sevierville 22.79 18 P **P** **08 32 41.5 +0.3**
V52A IAmb IAmb 08 33 00.0
comp=Z,135nm,1.1s
X57A Johnson Farm, 22.81 26 P **P** **08 32 40.6 -0.7**
baz=210
BIRD Birdtown, Kers 22.81 25 P **P** **08 32 41.3 -0.1**
MGMO Mountain Grove 22.86 359 IAmb IAmb 08 32 57.8
comp=Z,53nm,0.8s
V53A Saluda 22.87 19 P **P** **08 32 42.3 +0.2**
V53A IAmb IAmb 08 32 52.9
comp=Z,47nm,0.8s
U49A Red Boiling Sp 22.88 13 P **P** **08 32 41.5 -0.6**
CROK Carrier 22.88 347 P **P** **08 32 41.1 -1.0**
T45A Paducah 22.91 7 P **P** **08 32 41.8 -0.5**
Y59A Loris 22.95 29 P **P** **08 32 42.1 -0.7**
baz=214
Y59A Loris 22.95 29 P **P** **08 32 43.0 +0.2**
Y59A IAmb IAmb 08 33 00.3
comp=Z,162nm,1.1s
T35A Sooner Cattle 23.00 350 P **P** **08 32 42.2 -1.1**
T35A IAmb IAmb 08 32 57.8
comp=Z,61nm,0.8s
HSIG 23.03 313 P **P** **08 32 43.8 +0.1**
HSIG IAmb IAmb 08 33 00.7
comp=Z,83nm,1.4s
SRIG Santa Rosalia 23.06 308 P **P** **08 32 46.0 +2.0**
SRIG IAmb IAmb 08 33 04.7
comp=Z,210nm,1.5s
W56A Indian Trail 23.19 24 P **P** **08 32 44.8 -0.4**
baz=209,SNR=11
X58A Rowland 23.21 27 P **P** **08 32 44.9 -0.5**
baz=212
X58A Rowland 23.21 27 IAmb IAmb 08 33 02.7
comp=Z,183nm,1.4s
V54A Nebo 23.25 21 P **P** **08 32 45.9 0.0**
baz=205,SNR=14
Y60A Bolivia 23.27 30 P **P** **08 32 44.5 -1.5**
baz=215
121A Cookes Peak, D 23.33 324 P **P** **08 32 48.9 +2.1**
baz=138,SNR=80
121A Cookes Peak, D 23.33 324 IAmb IAmb 08 32 51.0
comp=Z,133nm,0.9s
319A Douglas 23.40 320 IAmb IAmb 08 32 51.9
comp=Z,136nm,1.0s
S39A Bolivar 23.43 357 IAmb IAmb 08 33 03.1
comp=Z,98nm,0.8s
W57A Gilead 23.44 25 P **P** **08 32 46.7 -0.9**
baz=210,SNR=6.2
W57A Gilead 23.44 25 P **P** **08 32 47.1 -0.5**
W57A IAmb IAmb 08 33 04.7
comp=Z,137nm,1.1s
TZTN Tazewell 23.46 17 P **P** **08 32 47.3 -0.5**
baz=200,SNR=7.6
S44A Carbondale 23.51 5 P **P** **08 32 47.7 -0.5**
X59A McDuffie Farm, 23.55 28 P **P** **08 32 48.5 -0.1**
baz=214
T50A Nancy 23.57 14 IAmb IAmb 08 33 06.2
comp=Z,105nm,0.9s
V55A Taylorsville 23.58 22 P **P** **08 32 48.7 -0.3**
baz=206,SNR=15
V55A Taylorsville 23.58 22 IAmb IAmb 08 33 07.3
comp=Z,111nm,1.1s
W58A Raeford 23.65 27 P **P** **08 32 48.7 -0.8**
baz=212,SNR=5.9
FVM French Village 23.72 3 P **P** **08 32 48.6 -1.6**
FVM pmax pmax
comp=Z,39nm,1.0s
FVM French Village 23.72 3 P **P** **08 32 48.6 -1.6**
CCM Cathedral Cave 23.77 1 P **P** **08 32 49.4 -1.2**
baz=181
CCM Cathedral Cave 23.77 1 P **P** **08 32 49.2 -1.4**
CCM pmax pmax
comp=Z,202nm,1.5s
CCM Cathedral Cave 23.77 1 P **P** **08 32 49.2 -1.4**
CCM IAmb IAmb 08 33 06.8
comp=Z,202nm,1.4s
V56A Mocksville 23.81 23 P **P** **08 32 50.5 -0.5**
baz=208,SNR=13
X60A Albert Glenn T 23.85 29 P **P** **08 32 50.4 -1.0**
baz=215
BNM Barren Site 23.95 329 P **P** **08 32 54.4 +1.8**
USIN University of 23.96 8 P **P** **08 32 51.4 -0.9**
U54A Nelsons Funny 23.97 20 P **P** **08 32 52.4 -0.2**
baz=204,SNR=18
U54A Nelsons Funny 23.97 20 P **P** **08 32 52.1 -0.5**
U54A IAmb IAmb 08 33 10.6
comp=Z,116nm,0.9s
R40A Maddies Statio 24.00 359 P **P** **08 32 51.0 -1.7**
R40A IAmb IAmb 08 33 08.1
comp=Z,61nm,0.8s
Y22D IRIS PASSCAL I 24.04 328 P **P** **08 32 54.0 +0.7**
baz=142
Y22D IRIS PASSCAL I 24.04 328 P **P** **08 32 56.1 +2.8**
Y22D IAmb IAmb 08 32 57.1
comp=Z,108nm,0.9s
W59A Clinton 24.12 28 P **P** **08 32 53.0 -0.9**
baz=213
LENM Lemitar 24.14 328 P **P** **08 32 56.5 +2.2**
T53A Wise 24.16 18 P **P** **08 32 53.6 -0.8**
baz=202,SNR=6.3
V57A Coltrane Farms 24.16 25 P **P** **08 32 53.7 -0.6**
baz=210,SNR=7.5
U55A TA2, Sparta 24.22 22 P **P** **08 32 54.5 -0.4**
baz=206,SNR=18
U56A King 24.33 23 P **P** **08 32 55.6 -0.2**
baz=208,SNR=16
U56A King 24.33 23 P **P** **08 32 55.3 -0.5**
V58A Windy Hill, Pi 24.36 26 P **P** **08 32 55.2 -0.8**
baz=211,SNR=6.0
V58A Windy Hill, Pi 24.36 26 P **P** **08 32 55.5 -0.5**
V58A IAmb IAmb 08 33 14.1
comp=Z,76nm,0.8s
W60A Pink Hill 24.36 29 P **P** **08 32 55.2 -0.9**
baz=215
SLM Saint Louis 24.38 3 P **P** **08 32 55.5 -0.7**
SLM pmax pmax
comp=Z,204nm,0.9s
SLM Saint Louis 24.38 3 P **P** **08 32 55.5 -0.7**
CNNC Cliffs of the 24.43 29 P **P** **08 32 55.1 -1.6**
baz=214
CNNC Cliffs of the 24.43 29 P **P** **08 32 56.3 -0.4**
CNNC IAmb IAmb 08 33 14.5
comp=Z,55nm,0.8s
WCI Wyandotte Cave 24.43 11 P **P** **08 32 55.9 -0.9**
baz=193
WCI Wyandotte Cave 24.43 11 P **P** **08 32 55.8 -0.9**
WCI pmax pmax
comp=Z,362nm,0.9s
WCI Wyandotte Cave 24.43 11 P **P** **08 32 55.8 -0.9**
S51A Beattyville 24.47 16 P **P** **08 32 56.2 -0.8**
S51A IAmb IAmb 08 33 12.8
comp=Z,114nm,1.1s
ANMO Albuquerque 24.50 330 P **P** **08 32 59.5 +2.0**
comp=Z,1.4nm,0.7s,baz=317,slow=12,SNR=106
ANMO Albuquerque 24.50 330 P **P** **08 32 58.7 +1.1**
baz=144
ANMO Albuquerque 24.50 330 *d i*P **P** **08 32 59.2 +1.6**
ANMO pmax pmax
comp=Z,28nm,0.8s
ANMO Albuquerque 24.50 330 P **P** **08 32 59.1 +1.6**
T54A Tazewell 24.54 20 P **P** **08 32 57.0 -0.8**
baz=204,SNR=8.1
OLIL Olney 24.66 7 P **P** **08 32 57.7 -1.0**
V59A Middlesex 24.71 27 P **P** **08 32 57.9 -1.3**
baz=213
R49A Shelbyville 24.72 13 P **P** **08 32 58.2 -1.1**
R49A IAmb IAmb 08 33 15.6
comp=Z,88nm,0.8s
Q44A Meyer Farm, Va 24.73 5 P **P** **08 32 58.3 -1.1**
W61A Ground Anchor 24.81 30 P **P** **08 32 59.0 -1.1**
baz=216
U57A Blanch 24.81 25 P **P** **08 32 59.8 -0.4**
baz=210,SNR=12
T55A Pulaski 24.87 21 P **P** **08 32 59.7 -1.1**
baz=206
R32A Long Quarter, 24.88 347 IAmb IAmb 08 33 17.1
comp=Z,105nm,0.8s
R32A **PcP** **08 36 37.5 +1.8**
R50A Paris 24.90 14 IAmb IAmb 08 33 18.7
comp=Z,70nm,0.8s
S53A Williamson 24.93 19 P **P** **08 33 00.5 -0.9**
baz=203,SNR=10
TUC Tucson 24.98 319 P **P** **08 33 03.4 +1.6**
baz=132
TUC Tucson 24.98 319 P **P** **08 33 02.9 +1.1**
TUC **PcP** **08 36 37.0 +0.9**
ATAH Atahualpa 25.05 147 P **P** **08 33 05.0 +1.9**
comp=Z,99nm,1.2s,baz=331,slow=7.6,SNR=30
T56A Rocky Mt 25.06 23 P **P** **08 33 01.9 -0.6**
baz=208,SNR=5.2
BLA Blacksburg 25.08 22 P **P** **08 33 02.1 -0.6**
baz=207
BLA Blacksburg 25.08 22 P **P** **08 33 02.2 -0.5**
BLA pmax pmax
comp=Z,59nm,1.0s
BLA Blacksburg 25.08 22 P **P** **08 33 02.2 -0.5**
BLA IAmb IAmb 08 33 19.7
comp=Z,59nm,1.0s
U58A Oxford 25.11 26 P **P** **08 33 02.0 -0.8**
baz=212
KSU1 Kansas State U 25.16 351 P **P** **08 33 02.5 -0.7**
baz=169,SNR=11
KSU1 Kansas State U 25.16 351 P **P** **08 33 02.7 -0.6**
KSU1 IAmb IAmb 08 33 18.7
comp=Z,55nm,1.0s
V60A Jim Taylor Roa 25.16 29 P **P** **08 33 02.4 -0.9**
baz=215
V60A Jim Taylor Roa 25.16 29 P **P** **08 33 02.1 -1.1**
P40A Paris 25.23 360 P **P** **08 33 03.5 -0.4**
VWCC Virginia Weste 25.27 23 P **P** **08 33 04.2 -0.2**
S54A Dingess, Beckl 25.30 20 P **P** **08 33 03.8 -0.8**
baz=204,SNR=7.2
S54A Dingess, Beckl 25.30 20 P **P** **08 33 04.2 -0.5**
S54A IAmb IAmb 08 33 21.2
comp=Z,36nm,0.8s
BLO Bloomington 25.32 10 P **P** **08 33 03.5 -1.2**
BLO pmax pmax
comp=Z,165nm,1.0s
BLO Bloomington 25.32 10 P **P** **08 33 03.5 -1.2**
T57A Hurt 25.34 24 P **P** **08 33 04.1 -0.8**
baz=210
T57A Hurt 25.34 24 P **P** **08 33 04.7 -0.2**
P38A Dawn 25.37 357 IAmb IAmb 08 33 21.8
comp=Z,33nm,0.7s
U59A Littleton 25.40 27 P **P** **08 33 04.2 -1.3**
baz=213
P43A Skaggs, Pawnee 25.43 4 IAmb IAmb 08 33 22.6
comp=Z,95nm,0.9s
T25A Trinidad 25.44 336 P **P** **08 33 07.4 +1.3**
baz=151,SNR=22
CBKS Cedar Bluff 25.49 346 P **P** **08 33 06.1 -0.3**
baz=162
CBKS Cedar Bluff 25.49 346 P **P** **08 33 07.5 +1.2**
CBKS pmax pmax
comp=Z,59nm,1.1s
CBKS Cedar Bluff 25.49 346 P **P** **08 33 07.5 +1.2**
CBKS IAmb IAmb 08 33 25.0
comp=Z,59nm,1.1s
V61A Roper 25.50 30 P **P** **08 33 05.2 -1.2**
baz=216
S55A Lewisburg 25.55 21 P **P** **08 33 05.7 -1.3**
baz=206
T58A Grand View Acr 25.58 25 P **P** **08 33 06.3 -0.8**
baz=211
R53A Hurricane 25.59 18 P **P** **08 33 06.6 -0.6**
baz=203
R53A Hurricane 25.59 18 P **P** **08 33 07.2 0.0**
R53A IAmb IAmb 08 33 26.6
comp=Z,69nm,0.9s
V62A Hyde County Ai 25.62 31 P **P** **08 33 05.9 -1.6**
baz=218
P46A Rosedale 25.65 8 P **P** **08 33 06.5 -1.2**
R54A Victor 25.75 20 P **P** **08 33 08.1 -0.7**
baz=205
U60A Pendleton 25.78 28 P **P** **08 33 07.2 -1.8**
baz=214
S56A Natural Bridge 25.81 23 P **P** **08 33 08.1 -1.2**
baz=208,SNR=7.2
Q51A Peebles 25.84 15 IAmb IAmb 08 33 25.9
comp=Z,94nm,0.8s
U61A Possum Corner 26.00 29 P **P** **08 33 08.9 -2.1**
baz=216
P49A Miami Univ. Ec 26.01 13 P **P** **08 33 09.0 -1.9**
baz=196,SNR=6.5
P49A Miami Univ. Ec 26.01 13 IAmb IAmb 08 33 27.0
comp=Z,54nm,0.8s
T59A Double "B" Far 26.02 27 P **P** **08 33 10.1 -1.1**
baz=213
T59A Double "B" Far 26.02 27 P **P** **08 33 10.6 -0.5**
T59A IAmb IAmb 08 33 28.9
comp=Z,55nm,0.8s
O44A Mansfield 26.02 6 P **P** **08 33 09.9 -1.2**
O44A IAmb IAmb 08 33 28.7
comp=Z,63nm,0.8s
214A Organ Pipe Nat 26.07 316 P **P** **08 33 13.8 +2.1**
baz=128,SNR=29
214A Organ Pipe Nat 26.07 316 P **P** **08 33 13.2 +1.5**
214A IAmb IAmb 08 33 29.8
comp=Z,66nm,1.0s
Q52A Bidwell 26.08 17 P **P** **08 33 10.9 -0.7**
baz=201,SNR=6.7
S57A Dark Hollow, R 26.12 24 P **P** **08 33 11.0 -1.0**
baz=209
S57A Dark Hollow, R 26.12 24 P **P** **08 33 11.5 -0.5**
R55A Marlinton 26.14 21 P **P** **08 33 11.8 -0.6**
baz=206,SNR=6.1
R55A Marlinton 26.14 21 IAmb IAmb 08 33 29.4
comp=Z,74nm,1.1s
Q53A Leroy 26.20 18 P **P** **08 33 12.3 -0.5**
baz=203
P51A Williamsport 26.35 15 P **P** **08 33 12.9 -1.1**
baz=199
P51A Williamsport 26.35 15 IAmb IAmb 08 33 31.4
comp=Z,48nm,0.7s
HDIL Hopedale 26.35 4 P **P** **08 33 12.8 -1.3**
baz=186,SNR=10
HDIL Hopedale 26.35 4 P **P** **08 33 13.1 -1.0**
S58A Poland Farm, P 26.35 25 P **P** **08 33 12.3 -1.8**
baz=211
SDCO Great Sand Dun 26.40 335 P **P** **08 33 17.5 +2.6**
baz=149,SNR=15
SDCO Great Sand Dun 26.40 335 P **P** **08 33 16.4 +1.5**
SFIN Lafayette 26.41 8 P **P** **08 33 13.0 -1.6**
baz=190,SNR=5.3
SFIN Lafayette 26.41 8 P **P** **08 33 13.6 -1.0**
SFIN IAmb IAmb 08 33 30.0
comp=Z,82nm,0.9s
N41A Harden Midland 26.42 2 IAmb IAmb 08 33 30.6
comp=Z,58nm,1.1s
KSCO Kaye Shedlock' 26.48 341 P **P** **08 33 15.3 -0.2**
baz=156
KSCO Kaye Shedlock' 26.48 341 P **P** **08 33 15.3 -0.2**
R56A Bull Pasture M 26.51 22 P **P** **08 33 15.5 -0.1**
baz=208
T60A Surry 26.53 28 P **P** **08 33 15.8 +0.1**
baz=214
Q54A Coxs Mills 26.53 19 P **P** **08 33 14.6 -1.2**
baz=204,SNR=10
Q54A Coxs Mills 26.53 19 IAmb IAmb 08 33 32.6
comp=Z,102nm,1.2s
O49A Covington 26.71 13 IAmb IAmb 08 33 33.8
comp=Z,57nm,0.9s
R58B Mineral 26.72 25 P **P** **08 33 16.1 -1.4**
baz=211
P52A Corning 26.74 17 P **P** **08 33 17.2 -0.4**
baz=201
R57A Stanardsville 26.75 24 P **P** **08 33 16.9 -0.8**
baz=210
Q55A Buckhannon 26.80 21 P **P** **08 33 16.6 -1.5**
baz=206
S59A Mechanicsville 26.80 26 P **P** **08 33 18.3 +0.2**
baz=213
P53A Whipple 26.82 18 P **P** **08 33 18.0 -0.4**
baz=203,SNR=5.9
P53A Whipple 26.82 18 IAmb IAmb 08 33 35.1
comp=Z,81nm,1.2s
R58A Rapidan 26.96 25 P **P** **08 33 18.8 -0.8**
baz=211
S22A 4UR Ranch, Cre 26.96 333 P **P** **08 33 22.1 +2.1**
baz=146,SNR=19
S60A Water View 27.03 27 P **P** **08 33 19.8 -0.4**
baz=214
ACSO Alum Creek Sta 27.07 15 P **P** **08 33 19.2 -1.4**
baz=199
ACSO Alum Creek Sta 27.07 15 P **P** **08 33 19.6 -1.0**
O51A Pataskala 27.09 16 P **P** **08 33 19.5 -1.3**
baz=200,SNR=6.1
N47A Urbana 27.12 10 P **P** **08 33 20.2 -0.8**
N47A IAmb IAmb 08 33 37.6
comp=Z,88nm,0.9s
CBN Corbin Frederi 27.14 26 P **P** **08 33 20.8 -0.3**
baz=212
Q56A Snyder Ridge, 27.15 22 P **P** **08 33 20.8 -0.5**
baz=208
Q56A Snyder Ridge, 27.15 22 P **P** **08 33 21.4 0.0**
Q56A IAmb IAmb 08 33 38.9
comp=Z,61nm,1.4s
113A Mohawk Valley, 27.20 317 P **P** **08 33 23.3 +1.4**
113A IAmb IAmb 08 33 40.0
comp=Z,72nm,1.1s
P54A Burton 27.21 19 P **P** **08 33 21.2 -0.7**
baz=205,SNR=8.0
R59A King George, V 27.24 26 P **P** **08 33 21.0 -1.0**
baz=212
O52A Adamsville 27.27 17 P **P** **08 33 21.6 -0.8**
baz=202,SNR=5.5
O52A Adamsville 27.27 17 IAmb IAmb 08 33 41.2
comp=Z,63nm,0.8s
MVCO Mesa Verde 27.30 330 P **P** **08 33 24.7 +1.7**
baz=143,SNR=44
MVCO Mesa Verde 27.30 330 P **P** **08 33 24.6 +1.6**
MVCO IAmb IAmb 08 33 26.6
comp=Z,52nm,1.1s
P55A Reedsville 27.34 21 P **P** **08 33 22.8 -0.3**
baz=206
SPX San Pedro Mart 27.40 312 P **P** **08 33 24.4 +0.4**
Q57A Strasburg 27.43 23 P **P** **08 33 23.8 -0.1**
baz=209
MCWV Mont Chateau 27.47 20 P **P** **08 33 23.9 -0.2**
baz=206
WUAZ Wupatki 27.54 324 P **P** **08 33 27.2 +2.1**
baz=136,SNR=29
WUAZ Wupatki 27.54 324 P **P** **08 33 26.4 +1.3**
WUAZ IAmb IAmb 08 33 43.9
comp=Z,37nm,0.9s
O53A New Philadelph 27.57 18 P **P** **08 33 24.4 -0.7**
baz=203
O53A New Philadelph 27.57 18 P **P** **08 33 25.2 +0.1**
O53A IAmb IAmb 08 33 43.7
comp=Z,48nm,1.1s
SCIA State Center 27.63 358 P **P** **08 33 25.8 +0.3**
baz=177
Q58A Fox Den Farm, 27.64 24 P **P** **08 33 24.9 -0.8**
baz=211
P56A Dayton Farm, R 27.69 22 P **P** **08 33 25.8 -0.3**
baz=208
L40A Anamosa 27.77 1 P **P** **08 33 26.1 -0.7**
L40A IAmb IAmb 08 33 42.5
comp=Z,69nm,1.0s
L42A Oliver, Polo 27.77 4 P **P** **08 33 26.7 -0.1**
O54A Avella 27.77 19 P **P** **08 33 25.4 -1.4**
baz=204
O54A Avella 27.77 19 P **P** **08 33 26.2 -0.6**
O54A IAmb IAmb 08 33 45.6
comp=Z,39nm,0.8s
N51A Ashland 27.87 15 P **P** **08 33 26.6 -1.1**
baz=200
L34A Svendsen Farm, 27.94 353 P **P** **08 33 28.7 +0.4**
L34A IAmb IAmb 08 33 46.9
comp=Z,35nm,0.7s
N52A McGinn's Farm, 27.96 17 P **P** **08 33 27.4 -1.1**
baz=201,SNR=6.1
P57A Homestead Farm 27.98 23 P **P** **08 33 28.4 -0.2**
baz=210,SNR=10
P57A Homestead Farm 27.98 23 P **P** **08 33 28.9 +0.2**
P57A IAmb IAmb 08 33 46.0
comp=Z,47nm,0.8s
L44A Lake County Fo 28.09 6 P **P** **08 33 30.5 +0.9**
baz=188,SNR=5.2
GLA Glamis 28.09 316 P **P** **08 33 32.1 +2.3**
baz=126,SNR=8.9
GLA Glamis 28.09 316 P **P** **08 33 32.1 +2.3**
GLA pmax pmax
comp=Z,167nm,1.4s
GLA Glamis 28.09 316 P **P** **08 33 32.1 +2.3**
O55A Ligonier 28.15 21 P **P** **08 33 29.5 -0.8**
baz=206
N53A Lisbon 28.20 18 P **P** **08 33 29.7 -0.9**
baz=203
N53A Lisbon 28.20 18 P **P** **08 33 29.5 -1.1**
N53A IAmb IAmb 08 33 48.8
comp=Z,37nm,0.8s
ISCO Idaho Springs 28.22 337 P **P** **08 33 33.0 +1.8**
baz=151,SNR=5.7
ISCO Idaho Springs 28.22 337 P **P** **08 33 32.9 +1.7**
ISCO pmax pmax
comp=Z,9.0nm,1.4s
ISCO Idaho Springs 28.22 337 P **P** **08 33 32.9 +1.7**
P58A Pank, Wackersv 28.26 24 P **P** **08 33 31.4 +0.2**
baz=211
ESJX Sierra Juarez 28.27 313 P **P** **08 33 34.3 +2.7**
M51A Elyria 28.31 15 P **P** **08 33 30.1 -1.6**
baz=200
SDMD Soldier's Deli 28.38 25 P **P** **08 33 32.0 -0.2**
PDMCI Parker Dam,Lak 28.40 319 P **P** **08 33 34.8 +2.3**
baz=129,SNR=30
O56A Blue Knob Stat 28.46 22 P **P** **08 33 32.5 -0.6**
baz=208,SNR=7.2
O56A Blue Knob Stat 28.46 22 P **P** **08 33 32.7 -0.3**
O56A IAmb IAmb 08 33 49.9
comp=Z,38nm,0.9s
N54A Moraine State 28.60 19 P **P** **08 33 33.4 -0.8**
baz=204,SNR=5.9
N54A Moraine State 28.60 19 IAmb IAmb 08 33 50.6
comp=Z,60nm,1.0s

JFWS **Jewell Farm** 28.65 2 P P 08 33 34.1 -0.5
baz=183
JFWS **Jewell Farm** 28.65 2 IAmb IAmb 08 33 51.7
comp=Z,44nm,0.8s
SWSC **Sam W. Stewart** 28.69 315 P P 08 33 37.5 +2.4
baz=125,SNR=11
P59A **Jarrettsville** 28.71 25 P P 08 33 34.4 -0.8
baz=212
M52A **Chesterland** 28.73 17 P P 08 33 34.6 -0.7
M52A IAmb IAmb 08 33 53.8
comp=Z,65nm,0.9s
IKP **In-Ko-Pah, Jac** 28.74 314 P P 08 33 38.4 +2.7
baz=124,SNR=8.5
O57A **Amberson** 28.75 23 P P 08 33 35.1 -0.5
baz=210,SNR=5.8
W13A **Hualapai Mount** 28.75 320 IAmb IAmb 08 33 54.5
comp=Z,49nm,1.1s
N55A **Marion Center** 28.77 21 P P 08 33 34.5 -1.2
baz=206
M53A **WI Miller and** 28.83 18 P P 08 33 35.1 -1.2
baz=203
M53A **WI Miller and** 28.83 18 P P 08 33 36.9 +0.6
M53A IAmb IAmb 08 33 52.7
comp=Z,39nm,0.9s
BC3 **Big Chuckawall** 28.87 316 P P 08 33 39.2 +2.4
baz=126,SNR=45
CZSB **Cruzeiro do Su** 28.91 138 eP P 08 33 37.1 -0.1
CBX **Cerro Bola** 28.94 313 P P 08 33 39.5 +2.0
IRM **Iron Mountain** 28.96 317 P P 08 33 40.0 +2.5
baz=128,SNR=22
NEE2 **Needles Airpor** 29.00 319 P P 08 33 40.0 +2.1
baz=129,SNR=6.2
SSPA **Standing Stone** 29.03 22 P P 08 33 37.3 -0.8
baz=209
SSPA **Standing Stone** 29.03 22 P P 08 33 37.5 -0.5
SSPA IAmb IAmb 08 33 54.7
comp=Z,50nm,1.0s
MONP2 **Monument Peak** 29.09 314 P P 08 33 41.1 +2.2
baz=124,SNR=8.4
N56A **West Decatur** 29.13 21 P P 08 33 38.0 -1.0
baz=208,SNR=6.7
M54A **Oil Creek Stat** 29.20 19 P P 08 33 38.6 -1.0
baz=205
N57A **Milroy** 29.26 23 P P 08 33 39.1 -1.0
baz=209,SNR=7.1
N23A **Red Feather La** 29.30 338 P P 08 33 41.2 +0.4
baz=151
O59A **Robesonia** 29.41 25 P P 08 33 41.1 -0.3
baz=212
BELC **Belle Mtn. Jos** 29.44 316 P P 08 33 44.0 +2.1
baz=126,SNR=14
M55A **Ridgway** 29.46 20 P P 08 33 40.9 -1.0
baz=206
PFO **Pinyon Flats O** 29.52 315 P P 08 33 45.4 +2.7
comp=Z,8.5nm,0.8s,baz=117,slow=7.1,SNR=15
PFO pP sP 08 33 59.8 -2.4
comp=Z,16nm,1.0s,baz=117,slow=8.2,SNR=11
PFO **Pinyon Flats O** 29.52 315 P P 08 33 45.1 +2.4
baz=125,SNR=7.0
PFO **Pinyon Flats O** 29.52 315 P P 08 33 43.1 +0.4
PFO *SP sP 08 33 59.8 -2.4
PFO 08 36 46.9
PFO pmax pmax
comp=Z,33nm,1.2s
PFO **Pinyon Flats O** 29.52 315 P P 08 33 43.1 +0.4
PFO **Pinyon Flats O** 29.52 315 IAmb IAmb 08 34 01.1
comp=Z,33nm,1.1s
PFO PcP 08 36 46.9 -0.1
O20A **White River Ci** 29.56 334 P P 08 33 45.3 +2.3
baz=146,SNR=6.4
O20A **White River Ci** 29.56 334 P P 08 33 44.1 +1.1
J47A **Sunmer** 29.56 10 P P 08 33 44.6 +1.9
109C **Camp Elliot, M** 29.57 313 P P 08 33 43.7 +0.8
N58A **Sunbury** 29.65 24 P P 08 33 42.0 -1.5
baz=211
N58A **Sunbury** 29.65 24 P P 08 33 42.7 -0.8
N58A IAmb IAmb 08 33 59.4
comp=Z,59nm,1.4s
LCMT **Little Creek M** 29.66 324 P P 08 33 45.9 +2.0
M56A **Emporium** 29.67 21 P P 08 33 42.3 -1.4
baz=207,SNR=6.4
M56A **Emporium** 29.67 21 P P 08 33 42.8 -0.9
M56A IAmb IAmb 08 34 00.1
comp=Z,41nm,1.1s
GMRC **Granite Mounta** 29.68 318 P P 08 33 46.4 +2.3
baz=128,SNR=26
I42A **Draeger Farm,** 29.70 4 P P 08 33 42.6 -1.3
I42A IAmb IAmb 08 34 01.4
comp=Z,42nm,0.9s
ECSD **EROS Data Cent** 29.71 353 P P 08 33 43.6 -0.4
baz=171
ECSD **EROS Data Cent** 29.71 353 P P 08 33 44.2 +0.1
I37A **Lemond, Waseca** 29.74 358 P P 08 33 44.7 +0.4
SRU **San Rafael Swe** 29.78 330 P P 08 33 46.7 +1.8
SRU pmax pmax
comp=Z,32nm,1.4s
SRU **San Rafael Swe** 29.78 330 P P 08 33 46.7 +1.8
MTPU **Mount Pierson** 29.81 327 P P 08 33 47.2 +1.7
M57A **Sunshine Farm,** 29.92 23 P P 08 33 45.1 -0.8
baz=210,SNR=11
M57A **Sunshine Farm,** 29.92 23 P P 08 33 45.3 -0.6
M57A IAmb IAmb 08 34 02.6
comp=Z,49nm,0.9s
Q16A **Castle Valley** 29.95 329 P P 08 33 45.4 -1.1
L54A **Sinclairville** 29.97 19 P P 08 33 45.1 -1.2
baz=205
NNA **Nana** 29.97 150 P P 08 33 47.5 +0.8
comp=Z,8.4nm,0.7s,baz=326,slow=11,SNR=5.3
NNA **Nana** 29.97 150 P P 08 33 47.5 +0.8
NNA pmax pmax
comp=Z,22nm,1.1s
NNA **Nana** 29.97 150 P P 08 33 47.5 +0.8
LUPA **Lehigh Univers** 29.99 26 P P 08 33 46.1 -0.4
LUPA IAmb IAmb 08 33 46.9
comp=Z,28nm,0.6s
SZCU **Shurtz Canyon** 29.99 325 P P 08 33 48.7 +1.8
MURC **Murrieta** 30.02 314 P P 08 33 49.3 +2.3
baz=124,SNR=7.0
N59A **State Game Lan** 30.09 25 P P 08 33 46.4 -1.1
baz=212
CCUT **Cedar City** 30.11 324 P P 08 33 50.6 +2.6
HEC **Hector,Ludlow** 30.15 317 P P 08 33 50.7 +2.6
baz=127,SNR=10
MSU **Marysvale** 30.16 327 P P 08 33 49.5 +1.1
MSU **Marysvale** 30.16 327 P P 08 33 49.5 +1.1
MSU PcP PcP 08 36 50.0 +1.3
P17A **Butcher Ranch,** 30.16 330 P P 08 33 49.2 +0.9
M58A **Price's Panora** 30.20 23 P P 08 33 47.6 -0.8
baz=211,SNR=7.9
L55A **Hinsdale** 30.20 20 P P 08 33 47.7 -0.8
baz=206
BBRC **Big Bear Solar** 30.21 316 P P 08 33 51.7 +2.9
baz=125,SNR=6.2
TUQ **Turquoise Moun** 30.25 319 P P 08 33 51.4 +2.2
baz=128,SNR=15
TMUT **Trail Mountain** 30.25 329 P P 08 33 51.1 +1.8
N60A **Cedar Hill Far** 30.33 26 P P 08 33 48.7 -0.8
baz=214
WVNY **West Valley, N** 30.35 20 IAmb IAmb 08 34 08.6
comp=Z,35nm,0.8s
BRNJ **Basking Ridge** 30.40 27 IAmb IAmb 08 34 07.9
comp=Z,27nm,0.7s
SHPR **Sheep Range** 30.45 321 P P 08 33 51.4 +0.5
SHPR IAmb IAmb 08 34 09.4
comp=Z,55nm,1.1s
SHPR PcP PcP 08 36 51.7 +2.3
L56A **Greenwood** 30.46 21 P P 08 33 50.0 -0.8
baz=208
L56A **Greenwood** 30.46 21 P P 08 33 50.0 -0.8
L56A IAmb IAmb 08 34 07.1
comp=Z,55nm,1.2s
RDMU **Red Mountain** 30.50 333 P P 08 33 51.8 +0.5
K54A **Basiliko Farm,** 30.50 19 P P 08 33 49.2 -1.9
baz=206
N61A **South Mountain** 30.57 27 P P 08 33 50.1 -1.6
baz=215
L57A **Andrews Acres** 30.60 22 P P 08 33 50.8 -1.2
baz=209,SNR=6.9
BFSC **Mount Baldy Ra** 30.70 315 P P 08 33 55.2 +2.1
baz=124,SNR=6.3
SUSD **Miller** 30.74 350 P P 08 33 52.2 -0.9
baz=166
SUSD **Miller** 30.74 350 P P 08 33 53.7 +0.5
M59A **Waymart** 30.75 25 P P 08 33 52.7 -0.6
baz=212
SHOC **Shoshone, Teco** 30.77 319 P P 08 33 55.6 +2.1
baz=128,SNR=10
CIS **Catalina Islan** 30.77 313 P P 08 33 53.0 -0.6
baz=122
K55A **Perry** 30.81 20 P P 08 33 52.1 -1.7
baz=207
MMNY **Mt. Morris Dam** 30.87 20 P P 08 33 54.1 -0.2
MMNY IAmb IAmb 08 34 10.6
comp=Z,67nm,1.2s
M60A **Port Jervis** 30.91 26 P P 08 33 51.8 -2.8
baz=214
I51A **Listowel** 30.93 15 P P 08 33 52.9 -1.9
baz=201
SPMN **Marine on St.** 30.93 359 P P 08 33 54.2 -0.6
baz=178,SNR=6.5
SPMN **Marine on St.** 30.93 359 P P 08 33 54.0 -0.8
SPMN IAmb IAmb 08 34 11.9
comp=Z,30nm,0.8s
PAL **Palisades** 30.95 27 P P 08 33 53.6 -1.4
baz=215
MWC **Mount Wilson** 30.96 315 P P 08 33 56.3 +0.8
MWC pmax pmax
comp=Z,48nm,1.3s
MWC **Mount Wilson** 30.96 315 P P 08 33 56.3 +0.8
MWC IAmb IAmb 08 34 14.0
comp=Z,48nm,1.2s
PRN **Pahroc Range** 30.98 322 P P 08 33 58.1 +2.6
L58A **Harry Jones Me** 31.01 23 P P 08 33 54.9 -0.7
baz=211,SNR=7.4
PASC **Pasadena Art C** 31.02 314 P P 08 33 57.2 +1.5
PASC IAmb IAmb 08 34 15.2
comp=Z,44nm,1.4s
K56A **Middlesex** 31.04 21 P P 08 33 54.8 -1.0
baz=208,SNR=7.7
K22A **Casper** 31.05 339 P P 08 33 56.2 +0.1
baz=152,SNR=9.0
K22A **Casper** 31.05 339 P P 08 33 56.5 +0.4
PSUT **Pine Spring** 31.08 325 P P 08 33 58.8 +2.4
BINY **Binghamton** 31.09 23 P P 08 33 55.4 -0.9
baz=211,SNR=8.7
BINY **Binghamton** 31.09 23 P P 08 33 55.5 -0.8
BINY IAmb IAmb 08 34 12.9
comp=Z,63nm,0.9s
J54A **Appleton** 31.12 19 P P 08 33 56.5 +0.1
baz=205
J54A **Appleton** 31.12 19 P P 08 33 56.3 -0.1
J54A IAmb IAmb 08 34 12.4
comp=Z,37nm,1.0s
DECC **Green Verdugo** 31.17 314 P P 08 33 59.9 +2.8
baz=123
M61A **Granite Spring** 31.26 27 P P 08 33 56.2 -1.6
baz=215
EDW2 **Edwards Air Fo** 31.29 316 P P 08 34 00.2 +2.0
baz=125,SNR=7.7
K57A **Scipio Center** 31.36 22 P P 08 33 57.4 -1.2
baz=209,SNR=5.4
JLU **Jordanelle** 31.38 331 P P 08 34 00.7 +1.5
TPNV **Topopah Spring** 31.41 321 P P 08 34 02.1 +2.8
baz=130,SNR=16
TPNV **Topopah Spring** 31.41 321 P P 08 34 01.1 +1.8
TPNV IAmb IAmb 08 34 18.4
comp=Z,48nm,1.1s
TPNV PcP 08 36 52.9 +0.9
LRMC **Laurel Mtn Rad** 31.43 317 P P 08 34 01.8 +2.3
baz=126,SNR=8.1
L59A **Walton** 31.45 24 P P 08 33 58.7 -0.8
baz=212,SNR=7.5
L59A **Walton** 31.45 24 IAmb IAmb 08 34 16.2
comp=Z,29nm,0.9s
FURC **Furnace Creek,** 31.49 319 P P 08 34 02.3 +2.5
baz=128,SNR=25
RSSD **Black Hills** 31.59 343 P P 08 34 00.1 -0.7
baz=157
RSSD **Black Hills** 31.59 343 P P 08 34 00.5 -0.3
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD **Black Hills** 31.59 343 P P 08 34 00.5 -0.3
F36A **Milaca** 31.59 358 P P 08 34 02.7 +2.1
L60A **Shokan** 31.62 26 P P 08 34 00.2 -0.8
baz=214,SNR=5.7
MPMC **Manual Prospec** 31.64 318 P P 08 34 03.7 +2.3
baz=127,SNR=34
K58A **Earlville** 31.71 23 P P 08 34 00.6 -1.1
baz=211,SNR=12
J56A **Wolcott** 31.71 21 P P 08 34 00.7 -1.0
baz=208
KSCT **Kent School, K** 31.72 27 IAmb IAmb 08 34 19.3
comp=Z,20nm,0.7s
DUG **Dugway, Tooele** 31.74 329 P P 08 34 04.4 +2.2
baz=139,SNR=12
COWI **Conover** 31.88 4 IAmb IAmb 08 34 19.6
comp=Z,36nm,0.8s
R11A **Troy Canyon, C** 31.93 323 P P 08 34 06.6 +2.6
baz=132,SNR=36
R11A **Troy Canyon, C** 31.93 323 IAmb IAmb 08 34 22.7
comp=Z,39nm,1.1s
ARVC **Arvin** 31.99 315 P P 08 34 06.8 +2.5
baz=124,SNR=9.4
K59A **Cooperstown** 32.02 24 P P 08 34 03.9 -0.6
baz=212
ISA **Isabella, Lake** 32.06 317 P P 08 34 07.5 +2.6
baz=125,SNR=11
ISA **Isabella, Lake** 32.06 317 P P 08 34 06.6 +1.7
ISA pmax pmax
comp=Z,57nm,1.4s
ISA **Isabella, Lake** 32.06 317 P P 08 34 06.6 +1.7
ISA IAmb IAmb 08 34 23.8
comp=Z,57nm,1.4s
M63A **Gales Ferry** 32.11 29 P P 08 34 04.8 -0.4
baz=218
GRAC **Grapevine Rang** 32.13 320 P P 08 34 08.5 +3.0
baz=128,SNR=37
J57A **Williamstown** 32.13 22 P P 08 34 03.9 -1.5
baz=210
HWUT **Hardware Ranch** 32.23 332 IAmb IAmb 08 34 25.7
comp=Z,26nm,1.1s
CWC **Cottonwood Cre** 32.25 318 P P 08 34 08.6 +1.9
baz=127
I55A **Frankford** 32.27 19 P P 08 34 06.1 -0.5
baz=206
BW06 **Boulder Array** 32.30 335 P P 08 34 07.8 +0.7
baz=146,SNR=7.8
BW06 **Boulder Array** 32.30 335 P P 08 34 06.7 -0.4
PD31 **Pinedale Array** 32.30 335 P P 08 34 07.1 0.0
PDAR **Pinedale Array** 32.30 335 P P 08 34 07.2 0.0
comp=Z,2.9nm,0.8s,baz=131,slow=10,SNR=25
PDAR PcP PcP 08 36 54.4 +0.1
comp=Z,2.7nm,0.6s,baz=134,slow=4.9,SNR=11
PDAR ScP ScP 08 40 35.8 +2.0
comp=Z,2.6nm,0.9s,baz=131,slow=4.1,SNR=8.3
PDAR **Pinedale Array** 32.30 335 P P 08 34 07.2 0.0
PDAR PcP PcP 08 36 53.8 -0.6
E38A **The Farm, Brul** 32.30 0 P P 08 34 05.9 -0.9
E38A IAmb IAmb 08 34 22.2
comp=Z,21nm,0.8s
H53A **Bobcaygeon** 32.31 18 P P 08 34 05.1 -1.9
baz=204
SADO **Sadowa** 32.33 17 P P 08 34 05.5 -1.6
comp=Z,4.4nm,0.4s,baz=232,slow=7.8,SNR=4.5
SADO **Sadowa** 32.33 17 P P 08 34 05.7 -1.4
SADO IAmb IAmb 08 34 22.6
comp=Z,34nm,0.8s
E43A **Lone Tree Farm** 32.33 6 P P 08 34 05.6 -1.5
E43A IAmb IAmb 08 34 22.9
comp=Z,54nm,1.2s
J58A **Remsen** 32.35 23 P P 08 34 06.2 -1.2
baz=211,SNR=6.8
J58A **Remsen** 32.35 23 IAmb IAmb 08 34 23.6
comp=Z,32nm,0.9s
BGU **Big Grassy Mou** 32.40 329 P P 08 34 09.7 +1.7
SPUT **South Promonto** 32.41 330 P P 08 34 09.6 +1.6
TRY **Troy** 32.47 25 P P 08 34 07.7 -0.6
TRY IAmb IAmb 08 34 25.1
comp=Z,36nm,1.0s
F49A **Sandfield** 32.53 13 P P 08 34 06.8 -2.1
baz=198
PKM **Mcpherson Peak** 32.54 314 P P 08 34 11.6 +2.3
baz=122,SNR=10
DELO **Deloro Mine** 32.56 19 P P 08 34 08.0 -1.1
DELO IAmb IAmb 08 34 28.0
comp=Z,56nm,0.9s
VES **Vestal, Richgr** 32.57 316 P P 08 34 12.2 +2.9
baz=124,SNR=27
K61A **Williamstown** 32.58 26 P P 08 34 08.5 -0.9
baz=215
L63A **North Scituate** 32.67 29 P P 08 34 10.2 0.0
baz=218
E46A **Sault Ste Mari** 32.69 10 sP 08 34 25.0 -4.9
E46A IAmb IAmb 08 34 26.4
comp=Z,41nm,1.3s
I57A **Carthage** 32.71 22 P P 08 34 09.9 -0.6
baz=210
TIN **Tinemaha, Big** 32.72 319 P P 08 34 13.6 +2.9
baz=127,SNR=12
H55A **Tweed** 32.73 20 P P 08 34 08.9 -1.7
baz=207
J59A **Piesco** 32.74 24 P P 08 34 09.4 -1.3
baz=212,SNR=6.1
J59A **Piesco** 32.74 24 IAmb IAmb 08 34 28.1
comp=Z,32nm,1.1s
I58A **Old Forge** 32.75 23 P P 08 34 09.7 -1.2
baz=211,SNR=13
SMMC **Simmler** 32.90 315 P P 08 34 14.8 +2.6
baz=123,SNR=10
E47A **Iron Bridge** 32.95 11 P P 08 34 10.6 -1.9
baz=195,SNR=5.6
J60A **Lant Hill Farm** 32.99 25 P P 08 34 11.8 -1.1
baz=214
K62A **Royalston** 33.03 27 P P 08 34 13.0 -0.2
baz=217
H56A **Elgin** 33.07 21 P P 08 34 12.8 -0.8
baz=208
L64A **Middleborough** 33.09 29 P P 08 34 13.3 -0.5
baz=219
E28A **Huff** 33.12 349 IAmb IAmb 08 34 31.3
comp=Z,30nm,0.8s
HRV **Adam Dziewonsk** 33.20 28 P P 08 34 13.6 -1.2
baz=218
G54A **Lake Saint Pet** 33.21 18 P P 08 34 13.1 -1.7
baz=205,SNR=5.3
D46A **Sault St. Mari** 33.24 10 P P 08 34 13.3 -1.8
baz=194,SNR=8.5
H57A **Richville** 33.26 22 P P 08 34 14.0 -1.3
baz=210
I59A **Olmsteadville** 33.27 24 P P 08 34 13.7 -1.6
baz=213
NCB **Newcomb** 33.28 23 P P 08 34 14.4 -1.0
NCB IAmb IAmb 08 34 31.5
comp=Z,28nm,1.1s
ECR **Eagle Creek** 33.30 334 P P 08 34 16.4 +0.6
REDW **Red Top Meadow** 33.32 334 P P 08 34 16.6 +0.5
REDW IAmb IAmb 08 34 19.1
comp=Z,35nm,1.1s
K63A **Dunstable** 33.36 28 P P 08 34 15.2 -0.9
baz=218
SNOW **Snow King Moun** 33.37 335 P P 08 34 17.5 +1.0
SNOW IAmb IAmb 08 34 19.5
comp=Z,44nm,0.9s
LOHW **Long Hollow** 33.43 335 P P 08 34 17.6 +0.6
J61A **Chester** 33.44 26 P P 08 34 16.4 -0.4
baz=215
G55A **Calabogie** 33.51 20 P P 08 34 16.2 -1.1
baz=207
NV11 **Mina Array Sit** 33.52 321 P P 08 34 20.0 +2.3
I60A **Shoreham** 33.54 25 P P 08 34 16.5 -1.2
baz=214,SNR=7.9
OMMB **Old Mammoth Mi** 33.54 319 IAmb IAmb 08 34 37.0
comp=Z,65nm,1.1s
D47A **Chapleau** 33.56 11 P P 08 34 15.8 -2.1
baz=195
MDPB **Devils Postpil** 33.60 319 P P 08 34 20.7 +2.1
NVAR **Mina Array Bea** 33.61 321 P P 08 34 21.6 +3.0
comp=Z,39nm,0.8s,baz=131,slow=8.3,SNR=320
NVAR pP sP 08 34 36.7 -1.6
comp=Z,126nm,0.8s,baz=136,slow=9.0,SNR=42
NVAR PcP PcP 08 36 59.5 +1.5
comp=Z,8.4nm,0.7s,baz=143,slow=1.8,SNR=8.6
NVAR ScP ScP 08 40 41.3 +2.9
comp=Z,4.4nm,0.9s,baz=137,slow=3.2,SNR=9.6
NVAR **Mina Array Bea** 33.61 321 P P 08 34 20.9 +2.3
NVAR PcP PcP 08 36 59.7 +1.7
LHV **Little Huntoon** 33.62 320 P P 08 34 20.8 +2.3
FXWY **Fox Creek** 33.62 334 P P 08 34 19.6 +0.9
H58A **Gabriels** 33.67 23 P P 08 34 17.4 -1.5
baz=212,SNR=8.0
LONY **Lake Ozonia** 33.69 22 P P 08 34 17.8 -1.2
baz=211,SNR=9.9
LONY **Lake Ozonia** 33.69 22 P P 08 34 17.9 -1.2
LONY IAmb IAmb 08 34 35.3
comp=Z,51nm,1.1s
ALGO **Algonquin Park** 33.73 17 P P 08 34 17.6 -1.6
baz=204
IMW **Indian Meadow** 33.80 335 P P 08 34 20.9 +0.6
RYN **Ryan** 33.86 321 P P 08 34 23.4 +2.6
D48A **Paudash Townsh** 33.93 12 P P 08 34 18.5 -2.5
baz=198
G57A **Newington** 33.96 22 P P 08 34 19.1 -2.2
baz=210
YPP **Pitchstone Pla** 34.05 335 P P 08 34 24.0 +1.5
H59A **Cadyville** 34.05 23 P P 08 34 19.8 -2.3
baz=213
I61A **Oroboro, Fairl** 34.06 26 P P 08 34 19.9 -2.4
baz=216
H17A **Grant Village** 34.06 336 P P 08 34 20.2 -2.4
baz=146
H17A **Grant Village** 34.06 336 P P 08 34 24.2 +1.7
ORIO **Orleans, Innes** 34.08 21 P P 08 34 20.9 -1.4
baz=209,SNR=5.3
ORIO **Orleans, Innes** 34.08 21 P P 08 34 21.4 -1.0
D49A **Beulah Townshi** 34.12 13 P P 08 34 20.6 -2.1
baz=198
F55A **Otter Lake** 34.14 19 P P 08 34 22.1 -0.8
baz=207
AGMN **Agassiz Nation** 34.16 355 P P 08 34 22.5 -0.5
baz=173
RLMT **Red Lodge** 34.18 338 P P 08 34 23.5 0.0
baz=149,SNR=10
RLMT **Red Lodge** 34.18 338 P P 08 34 23.6 +0.2
YMP **Mirror Lake Pl** 34.19 337 P P 08 34 25.9 +2.2
E53A **Dumoine, Ponti** 34.22 18 P P 08 34 22.4 -1.2
baz=205
FRNY **Flat Rock** 34.25 23 P P 08 34 22.8 -1.0
G58A **Ormstown** 34.34 23 P P 08 34 23.5 -1.1
baz=212
WAKR **Walker** 34.35 320 P P 08 34 28.2 +3.1
YNE **Yellowstone No** 34.35 337 P P 08 34 25.1 +0.1
YNR **Norris Junctio** 34.37 336 P P 08 34 26.1 +0.9
H60A **Morristown** 34.37 25 P P 08 34 24.0 -0.9
baz=214
I62A **Tamworth** 34.39 27 P P 08 34 23.9 -1.2
baz=217
E54A **Lac Daplat, Po** 34.41 18 P P 08 34 23.6 -1.6
baz=206,SNR=5.2
YERR **Yerington** 34.52 321 P P 08 34 29.0 +2.5
LAO **LASA Array** 34.56 342 P P 08 34 27.1 +0.6
baz=155
LAO **LASA Array** 34.56 342 P P 08 34 27.8 +1.2
YHB **Horse Butte** 34.61 335 P P 08 34 28.5 +1.3
G59A **Clarenceville** 34.62 24 P P 08 34 25.2 -1.8
baz=213
SAO **San Andreas Ge** 34.67 316 P P 08 34 29.1 +1.5
SAO pmax pmax
comp=Z,23nm,1.0s
SAO **San Andreas Ge** 34.67 316 P P 08 34 29.1 +1.5
SAO IAmb IAmb 08 34 46.2
comp=Z,23nm,1.0s
H61A **Lyndonville** 34.67 25 P P 08 34 26.1 -1.4
baz=215
CMB **Columbia Colle** 34.68 318 P P 08 34 29.5 +1.8
CMB pmax pmax
comp=Z,41nm,1.0s
CMB **Columbia Colle** 34.68 318 P P 08 34 29.5 +1.8
CMB IAmb IAmb 08 34 46.4
comp=Z,40nm,0.9s
F57A **Harrington** 34.68 21 P P 08 34 25.3 -2.3
baz=210
YHL **Hebgen Lake** 34.68 336 P P 08 34 29.2 +1.2
QLMT **Earthquake Lak** 34.77 335 P P 08 34 30.6 +2.0
E55A **Montcerf-Lytto** 34.78 19 P P 08 34 26.7 -1.7
baz=207
PNTR **Pine Nut** 34.81 321 P P 08 34 31.2 +2.2
D53A **Lac Vacive, Po** 34.85 17 P P 08 34 27.7 -1.3
baz=204,SNR=6.7
D53A **Lac Vacive, Po** 34.85 17 P P 08 34 28.0 -1.0
D53A IAmb IAmb 08 34 44.9
comp=Z,41nm,0.9s
I63A **Otisfield** 34.86 27 P P 08 34 28.4 -0.7
baz=218
ETMB **Extrema** 34.88 132 eP P 08 34 30.3 +0.7
PTGA **Pitinga** 34.88 113 P P 08 34 28.5 -1.2
comp=Z,16nm,0.7s,baz=304,slow=10,SNR=27
PTGA **Pitinga** 34.88 113 P P 08 34 28.2 -1.5
PTGA IAmb IAmb 08 34 46.1
comp=Z,70nm,1.3s

PTGA Pitinga 34.88 113 eP P 08 34 28.9 -0.8
GCMT Greycliff 34.90 338 P P 08 34 29.7 +0.1
G60A Masonville 34.96 24 P P 08 34 29.0 -1.0
baz=214,SNR=5.3
VCNR Virginia City 34.97 321 P P 08 34 32.3 +1.9
VCNR IAmb IAmb 08 34 49.2
comp=Z,53nm,1.0s
PAHR Pah Rah Range 35.06 322 P P 08 34 33.4 +2.3
HLID Hailey 35.07 331 P P 08 34 32.7 +1.6
baz=140,SNR=51
HLID Hailey 35.07 331 P P 08 34 33.0 +1.8
HLID IAmb IAmb 08 34 34.6
comp=Z,30nm,1.1s
RUBR Rubicon Trail 35.13 320 P P 08 34 32.7 +0.9
MOQ Mont Orford 35.17 24 P P 08 34 30.8 -1.1
I64A Boothbay 35.19 28 P P 08 34 31.6 -0.2
baz=219
E56A St. Veronique 35.20 20 P P 08 34 30.7 -1.3
baz=209,SNR=6.1
D54A Lac Fusel, La 35.22 18 P P 08 34 30.3 -1.9
baz=206,SNR=6.1
E57A Chemin Saint G 35.39 21 P P 08 34 32.3 -1.4
baz=210
MACA Manacapuru-AM 35.39 117 eP P 08 34 33.5 -0.6
F59A Saint Guilaume 35.41 23 P P 08 34 32.7 -1.1
baz=213
G61A St-Isidore-de- 35.44 25 P P 08 34 32.9 -1.2
baz=215
D55A Sainte-Anne-du 35.47 19 P P 08 34 32.7 -1.6
baz=208,SNR=6.2
BOZ Bozeman (W) 35.48 336 P P 08 34 35.0 +0.4
baz=146,SNR=15
AFDM Forest Hills D 35.58 319 P P 08 34 37.2 +1.8
AFDM PcP PcP 08 37 04.6 +1.1
H63A New Sharon 35.58 27 P P 08 34 34.3 -0.9
baz=218
MFID Camas Ranch 35.64 329 P P 08 34 37.4 +1.4
MFID IAmb IAmb 08 34 40.6
comp=Z,58nm,1.4s
DGMT Dagmar 35.66 346 P P 08 34 34.7 -1.3
baz=159
DGMT Dagmar 35.66 346 P P 08 34 35.6 -0.4
DGMT IAmb IAmb 08 34 51.5
comp=Z,19nm,0.8s
DGMT PcP PcP 08 37 04.5 +0.9
E58A La Victoria 35.67 22 P P 08 34 34.4 -1.6
baz=212
DLMT Dillon 35.68 335 P P 08 34 36.4 0.0
D56A ZEC Mazanza, M 35.73 20 P P 08 34 36.2 -0.4
baz=209,SNR=6.4
G62A West of Eustis 35.81 26 P P 08 34 35.3 -1.9
baz=217
F60A Warwick 35.83 24 P P 08 34 36.2 -1.3
baz=214,SNR=8.1
VLDQ Val d'Or 35.86 17 P P 08 34 38.6 +1.0
VLDQ IAmb IAmb 08 34 56.6
comp=Z,24nm,1.1s
H64A Troy 35.93 28 P P 08 34 37.3 -1.0
baz=219
LRM Limekiln Ridge 35.99 335 P P 08 34 39.7 +0.6
D57A Chemin Vers le 36.00 21 P P 08 34 37.3 -1.6
baz=210
ULM Lac du Bonnet 36.10 356 P P 08 34 38.6 -1.0
comp=Z,5.2nm,0.7s,baz=158,slow=9.7,SNR=4.6
ULM PcP PcP 08 37 04.3 -0.4
comp=Z,13nm,0.8s,baz=167,slow=3.9,SNR=5.3
ULM LR LR 08 50 49.4
comp=Z,519nm,21.6s,baz=146,slow=39
ULM Lac du Bonnet 36.10 356 P P 08 34 39.0 -0.6
ULM PcP PcP 08 37 04.4 -0.3
G63A Kingsbury 36.12 27 P P 08 34 38.7 -1.2
baz=218
ORV Oroville 36.27 320 P P 08 34 42.9 +1.6
ORV 08 37 07.5
ORV pmax pmax
comp=Z,64nm,1.3s
ORV Oroville 36.27 320 P P 08 34 42.9 +1.6
ORV IAmb IAmb 08 35 00.2
comp=Z,64nm,1.2s
ORV PcP PcP 08 37 07.5 +2.0
E60A Ste Agathe de 36.36 24 P P 08 34 40.5 -1.5
baz=215,SNR=6.5
PKME Peaks-Kenny Pk 36.38 27 P P 08 34 40.7 -1.4
baz=219
PKME Peaks-Kenny Pk 36.38 27 P P 08 34 41.2 -0.9
PKME IAmb IAmb 08 34 58.7
comp=Z,65nm,1.5s
WVOR Wild Horse Val 36.41 326 P P 08 34 44.2 +1.6
WVOR pmax pmax
comp=Z,39nm,1.0s
WVOR Wild Horse Val 36.41 326 P P 08 34 44.2 +1.6
WVOR IAmb IAmb 08 35 03.4
comp=Z,39nm,1.0s
H65A Eastbrook 36.42 29 P P 08 34 41.7 -0.8
baz=221
D58A Chemin du LacG 36.42 22 P P 08 34 40.9 -1.6
baz=212
HRY Holter Researc 36.48 337 P P 08 34 43.9 +0.8
HRY PcP 08 37 07.3 +1.2
SAML Samuel 36.58 127 P P 08 34 43.6 -0.6
SAML pmax pmax
comp=Z,61nm,1.1s
SAML Samuel 36.58 127 P P 08 34 43.6 -0.6
SAML IAmb IAmb 08 34 45.2
comp=Z,61nm,1.1s
G64A Maxfield 36.61 28 P P 08 34 42.8 -1.3
baz=220,SNR=5.1
GDXM Geysers 36.67 318 P P 08 34 46.0 +1.2
GDXM IAmb IAmb 08 35 03.7
comp=Z,33nm,1.1s
LATQ La Tuque 36.71 22 P P 08 34 43.0 -1.8
baz=212
E61A Lac Etchemin 36.80 25 P P 08 34 44.5 -1.2
baz=216
EMMW East Machias 36.80 29 P P 08 34 45.2 -0.5
EMMW IAmb IAmb 08 35 02.5
comp=Z,59nm,1.2s
F63A Nahmakanta, Br 36.81 27 P P 08 34 44.0 -1.7
baz=219
F63A Nahmakanta, Br 36.81 27 P P 08 34 44.6 -1.2
EGMT Eagleton 36.85 340 P P 08 34 46.1 -0.1
baz=150,SNR=7.6
EGMT Eagleton 36.85 340 P P 08 34 46.1 -0.1
LSQQ Lebel-sur-Quev 36.85 16 P P 08 34 44.6 -1.5
baz=204
O03E Paynes Creek 36.89 320 P P 08 34 48.1 +1.4
baz=126,SNR=18
H66A Whiting 36.93 29 P P 08 34 45.9 -0.9
baz=222,SNR=6.5
J08A Circle Bar Ran 36.95 327 P P 08 34 48.9 +1.7
MOD Modoc Plateau 36.99 324 P P 08 34 49.0 +1.4
MOD IAmb IAmb 08 35 05.2
comp=Z,51nm,1.1s
D60A Saint Jean D'O 37.02 24 P P 08 34 46.1 -1.4
baz=215,SNR=5.0
G65A Princeton 37.12 29 P P 08 34 47.5 -0.9
baz=221,SNR=9.6
G65A Princeton 37.12 29 P P 08 34 47.4 -1.1
G65A IAmb IAmb 08 34 48.9
comp=Z,51nm,0.8s
F64A Sherman 37.26 27 P P 08 34 47.9 -1.7
baz=220
F64A Sherman 37.26 27 P P 08 34 48.9 -0.8
MATQ Matagami 37.32 15 P P 08 34 48.6 -1.5
baz=203
E62A Clayton Lake 37.35 26 P P 08 34 50.1 -0.3
baz=217
E62A Clayton Lake 37.35 26 P P 08 34 49.6 -0.8
GGN Saint George 37.40 30 P P 08 34 50.1 -0.6
GGN IAmb IAmb 08 35 07.4
comp=Z,47nm,1.1s
MSO Missoula 37.41 335 P P 08 34 51.9 +0.8
baz=143,SNR=16
MSO Missoula 37.41 335 P P 08 34 51.7 +0.6
BMO Blue Mountains 37.42 330 P P 08 34 51.8 +0.7
BMO pmax pmax
comp=Z,18nm,1.0s
BMO Blue Mountains 37.42 330 P P 08 34 51.8 +0.7
O02D Mt. Diablo Mer 37.44 320 P P 08 34 51.9 +0.6
baz=125,SNR=7.0
WDC Whiskeytown Da 37.52 320 P P 08 34 51.9 +0.1
WDC pmax pmax
comp=Z,26nm,1.1s
WDC Whiskeytown Da 37.52 320 P P 08 34 51.9 +0.1
D61A St Aubert, Com 37.54 24 P P 08 34 51.3 -0.7
baz=216,SNR=9.2

E63A Oxbow 37.66 27 P P 08 34 52.2 -0.8
baz=219,SNR=5.2
E63A Oxbow 37.66 27 P P 08 34 52.1 -0.9
E63A IAmb IAmb 08 35 09.4
comp=Z,80nm,1.5s
KCPM Cahto Peak 37.67 318 P P 08 34 52.5 -0.8
KCPM IAmb IAmb 08 35 11.9
comp=Z,76nm,1.2s
M04C Macdoel 37.81 322 P P 08 34 56.1 +1.6
baz=128,SNR=17
N02D Trinity Center 37.85 321 P P 08 34 54.4 -0.3
baz=126
K05A Summer Lake 37.85 324 P P 08 34 54.3 -0.6
D62A Allapoint, All 37.91 26 P P 08 34 53.7 -1.4
baz=218,SNR=12
D62A Allapoint, All 37.91 26 P P 08 34 54.4 -0.7
D62A IAmb IAmb 08 34 54.9
comp=Z,30nm,0.9s
E64A Bridgewater 37.92 27 P P 08 34 54.0 -1.2
baz=220,SNR=5.6
I07A Izee 37.99 327 P P 08 34 57.0 +1.1
I07A IAmb IAmb 08 35 14.7
comp=Z,31nm,0.9s
M02C Callahan 38.18 321 P P 08 34 57.3 -0.3
baz=126
D63A Stockholm 38.28 26 P P 08 34 56.8 -1.4
baz=219,SNR=7.0
JTMT Jette 38.29 335 PcP PcP 08 37 12.8 +1.1
LPAZ La Paz 38.30 141 P P 08 34 59.8 +0.4
comp=Z,9.1nm,0.8s,baz=335,slow=8.7,SNR=36
LPAZ La Paz 38.30 141 P P 08 34 59.8 +0.4
LPAZ La Paz 38.30 141 eP P 08 35 00.1 +0.7
L04D Klamath Falls 38.35 323 P P 08 35 00.1 +1.1
baz=128,SNR=13
CHGQ Chibougamau 38.37 18 P P 08 34 58.0 -1.0
baz=208
J05D Fort Rock, OR 38.40 325 P P 08 35 00.8 +1.3
baz=130,SNR=12
KHMM Horse Mountain 38.42 320 P P 08 35 00.6 +0.9
KHMM PcP PcP 08 37 13.2 +1.0
G08A Pilot Rock 38.55 329 P P 08 35 00.8 +0.1
G08A PcP PcP 08 37 13.2 +0.7
PINE Pine Mountain 38.57 326 P P 08 35 01.4 +0.5
PINE IAmb IAmb 08 35 03.9
comp=Z,36nm,0.9s
JCC Jacoby Creek, 38.58 320 P P 08 35 02.4 +1.6
J04D Umpqua Nationa 38.87 324 P P 08 35 05.4 +2.0
baz=129,SNR=14
KRMB Red Mountain 38.90 321 IAmb IAmb 08 35 21.9
comp=Z,67nm,1.3s
LMN Caledonia Moun 38.92 30 sP 08 35 18.6 -4.8
LMN IAmb IAmb 08 35 19.8
comp=Z,54nm,1.1s
E09A Wood Farm, Sta 39.03 331 P P 08 35 05.3 +0.8
L02E Cave Junction 39.09 322 P P 08 35 06.3 +1.2
baz=126
I05D Terrebonne, OR 39.14 326 P P 08 35 07.1 +1.5
baz=131,SNR=11
WALA Waterton Lakes 39.21 337 P P 08 35 07.7 +1.6
BATG Bathurst New B 39.37 28 P P 08 35 06.4 -0.9
I04A Tendick Farm, 39.39 325 P P 08 35 08.6 +1.0
baz=129,SNR=18
K02D Willamette Mer 39.44 322 P P 08 35 10.4 +2.4
baz=126
E08A Dider Farm, El 39.45 330 P P 08 35 08.5 +0.5
F07A Phinny Hill Vi 39.46 329 P P 08 35 09.3 +1.2
KBO Bosley Butte 39.49 321 P P 08 35 10.8 +2.2
HAWA Hanford 39.61 330 P P 08 35 09.4 0.0
G05D Wamic, OR 39.73 327 P P 08 35 12.8 +2.4
baz=132,SNR=14
D08A Wollman Farm, 39.79 331 P P 08 35 10.9 0.0
H04A Detroit Lake 39.83 326 P P 08 35 12.5 +1.3
I03D Drain, OR 39.86 324 P P 08 35 12.8 +1.4
baz=128,SNR=13
J01E Myrtle Point 39.87 323 P P 08 35 13.5 +2.0
baz=126,SNR=8.4
NEW Newport 39.88 334 P P 08 35 12.1 +0.4
baz=140,SNR=12
NEW Newport 39.88 334 P P 08 35 12.0 +0.4
NEW pmax pmax
comp=Z,12nm,1.0s
NEW Newport 39.88 334 P P 08 35 12.0 +0.4
E07A Sunnyside 39.89 330 P P 08 35 13.0 +1.4
KEBM Edson Butte 39.94 322 P P 08 35 14.1 +1.8
H04D Lebanon 40.03 325 P P 08 35 13.7 +0.9
baz=129,SNR=11
C09A Chrisman Ranch 40.04 332 IAmb IAmb 08 35 15.0
comp=Z,30nm,0.8s
F05D White Salmon 40.23 328 P P 08 35 16.5 +2.0
baz=132,SNR=19
ITTB Itaituba 40.29 115 eP P 08 35 14.4 -1.1
COR Corvallis 40.38 325 P P 08 35 17.6 +1.9
COR Corvallis 40.38 325 P P 08 35 17.6 +1.9
I02D Swisshome 40.39 324 P P 08 35 18.4 +2.5
baz=128
MALB Monte Alegre 40.51 110 eP P 08 35 17.0 -0.2
G03D McMinnville, O 40.75 326 P P 08 35 19.0 +0.2
baz=129,SNR=7.9
LTY Liberty 40.77 330 P P 08 35 20.1 +1.0
B08A Colville Reser 40.93 332 P P 08 35 21.1 +0.8
LON Longmire 40.99 328 P P 08 35 22.1 +1.2
LON pmax pmax
comp=Z,46nm,1.0s
LON Longmire 40.99 328 P P 08 35 22.1 +1.2
LON IAmb IAmb 08 35 23.8
comp=Z,46nm,0.9s
F04D Rainier, OR 41.18 327 P P 08 35 23.7 +1.4
baz=130
E04D Cinebar 41.25 328 P P 08 35 23.6 +0.7
baz=131,SNR=9.7
C06D Leavenworth 41.35 330 P P 08 35 25.0 +1.3
baz=135
VILB Vilhena 41.36 129 eP P 08 35 24.3 0.0
F03A Seaside 41.37 326 P P 08 35 26.7 +2.8
F03A IAmb IAmb 08 35 27.7
comp=Z,80nm,1.0s
D05A Enumclaw 41.38 329 P P 08 35 25.4 +1.4
D05A IAmb IAmb 08 35 42.2
comp=Z,75nm,1.0s
E03A Lebam 41.77 327 P P 08 35 28.8 +1.7
E03A IAmb IAmb 08 35 30.4
comp=Z,92nm,1.0s
D04E Lakebay 41.77 328 P P 08 35 28.3 +1.2
baz=132,SNR=5.4
NPGB Novo Progresso 41.91 118 eP P 08 35 27.0 -1.8
MCPB Macapa, AP 41.96 107 eP P 08 35 29.2 +0.1
B06A Marblemount 42.05 331 P P 08 35 30.4 +1.1
B06A IAmb IAmb 08 35 31.5
comp=Z,63nm,1.0s
B05A Bryant 42.17 330 P P 08 35 30.3 0.0
baz=133,SNR=12
D03D Eldon 42.17 328 P P 08 35 31.1 +0.7
baz=132,SNR=12
NLWA Neilton Lookou 42.47 328 P P 08 35 33.9 +1.0
NLWA IAmb IAmb 08 35 51.6
comp=Z,68nm,1.1s
PB06 IPOC Station P 42.68 149 P P 08 35 34.9 -0.1
PB06 IAmb IAmb 08 35 37.3
comp=Z,32nm,0.8s
SIV San Ignacio 42.72 133 P P 08 35 35.6 +0.3
comp=Z,35nm,0.9s,baz=316,slow=8.4,SNR=117
A04D Lummi Island 42.77 330 P P 08 35 36.1 +0.9
baz=133,SNR=6.6
LVC Limon Verde 42.94 148 eP P 08 35 37.2 -0.1
PGC Sidney 43.09 329 IAmb IAmb 08 35 56.0
comp=Z,71nm,0.9s
CLDB Colider 43.58 123 eP P 08 35 39.9 -2.3
PTLB Pontes e Lacer 43.75 131 eP P 08 35 43.3 -0.2
RPN Rapa Nui 44.45 202 LR LR 08 49 43.3
comp=Z,440nm,18.8s,baz=16,slow=29
GO02 Mina Guanaco 44.74 151 IAmb IAmb 08 35 54.2
comp=Z,30nm,0.9s
SCHQ Schefferville 44.99 20 P P 08 35 51.0 -1.9
comp=Z,12nm,0.7s,baz=234,slow=6.1,SNR=10
SCHQ LR LR 08 55 26.3
comp=Z,2μm,21.3s,baz=230,slow=37
SCHQ Schefferville 44.99 20 P P 08 35 51.2 -1.8
SCHQ IAmb IAmb 08 36 10.4
comp=Z,31nm,0.9s
PRPB Parauapebas 46.36 113 eP P 08 36 03.5 -0.9
SALV Santo Antonio 46.60 129 eP P 08 36 05.4 -0.8
LCO Las Campanas 47.58 155 P P 08 36 15.1 +1.2
LCO pmax pmax
comp=Z,40nm,1.0s
LCO Las Campanas 47.58 155 P P 08 36 15.1 +1.2

LCO IAmb IAmb 08 36 16.0
comp=Z,40nm,0.9s
AC05 El Transito 47.60 154 IAmb IAmb 08 36 16.2
comp=Z,31nm,0.9s
GO04 Tololo Observa 48.56 155 IAmb IAmb 08 36 22.9
comp=Z,27nm,1.0s
CO01 Juntas del Tor 48.67 155 IAmb IAmb 08 36 24.9
comp=Z,27nm,1.4s
H03N2 Juan Fernandez 48.95 166 T T 09 28 53.3
baz=346
H03N1 Juan Fernandez 48.96 166 T T 09 29 06.2
baz=346
H03N3 Juan Fernandez 48.97 166 T T 09 29 08.1
baz=346
CO03 El Pedregal 49.19 156 IAmb IAmb 08 36 28.1
comp=Z,43nm,1.0s
CO02 Combarbal 49.39 156 P P 08 36 28.4 +0.7
ARAG Araguaiana, MT 49.49 125 eP P 08 36 28.0 -0.6
AQDB Aquidauana 49.50 133 eP P 08 36 27.8 -0.7
SMTB Santa Maria do 49.53 115 eP P 08 36 28.1 -0.8
ROSB Rosario 50.26 106 eP P 08 36 34.4 -0.1
DIB Dawson Inlet, 50.39 329 IAmb IAmb 08 36 54.2
comp=Z,49nm,1.2s
ZON Zonda 50.63 154 IAmb IAmb 08 36 39.5
comp=Z,60nm,1.2s
YKA Yellowknife Ar 50.86 347 P P 08 36 37.7 -0.5
comp=Z,9.7nm,0.6s,baz=149,slow=7.1,SNR=22
YKA pP pP 08 36 53.4 +1.1
comp=Z,27nm,0.8s,baz=152,slow=6.1,SNR=4.8
YKA LR LR 09 02 20.2
comp=Z,207nm,18.2s,baz=0.0,slow=41
VA03 San Esteban 50.95 157 P P 08 36 40.3 +0.9
MT02 Curacav 51.17 158 P P 08 36 41.5 +0.6
MT02 IAmb IAmb 08 36 43.0
comp=Z,51nm,1.4s
MT05 Renca 51.44 157 P P 08 36 44.0 +1.0
BO01 Tunca 52.21 158 P P 08 36 49.2 +0.6
BO01 IAmb IAmb 08 36 50.6
comp=Z,53nm,1.1s
CPUP Villa Florida 52.45 140 P P 08 36 50.0 -0.5
comp=Z,22nm,1.1s,baz=334,slow=8.7,SNR=15
CPUP Villa Florida 52.45 140 P P 08 36 49.5 -1.0
CPUP pmax pmax
comp=Z,40nm,1.2s
CPUP Villa Florida 52.45 140 P P 08 36 49.5 -1.0
CPUP IAmb IAmb 08 36 50.9
comp=Z,40nm,1.2s
CPUP Villa Florida 52.45 140 eP P 08 36 50.1 -0.4
GO05 Huala 52.47 159 IAmb IAmb 08 36 52.2
comp=Z,46nm,0.9s
BDFB Brasilia 52.51 123 P P 08 36 51.1 -0.1
comp=Z,14nm,1.0s,baz=304,slow=9.0,SNR=12
BDFB Brasilia 52.51 123 P P 08 36 51.2 -0.1
BDFB pmax pmax
comp=Z,33nm,1.2s
BDFB Brasilia 52.51 123 P P 08 36 51.2 -0.1
BDFB IAmb IAmb 08 36 52.2
comp=Z,32nm,1.2s
DLBC Dease Lake 52.53 336 P P 08 36 52.7 +1.9
DLBC IAmb IAmb 08 36 54.1
comp=Z,52nm,0.9s
BO02 Sierra Bellavi 52.67 158 P P 08 36 53.2 +1.0
BO02 IAmb IAmb 08 36 54.2
comp=Z,28nm,1.1s
ITRB Iturama 52.94 129 eP P 08 36 54.4 0.0
TAOE Nuku Hiva Isla 53.10 247 eLR LR 08 52 12.0
comp=Z,774nm,26.2s
TAOE Nuku Hiva Isla 53.10 247 eT T 09 33 36.9
comp=Z,47nm,0.2s
TRCB Terra Rica 53.17 133 eP P 08 36 55.2 -0.8
SDBA SAO DESIDERIO 53.51 117 eP P 08 36 58.0 -0.7
IPMB Ipameri, GO 53.62 125 eP P 08 36 58.9 -0.5
BI03 Tigo 53.78 161 P P 08 37 01.0 +0.8
BI02 San Fabin de 54.19 160 P P 08 37 03.9 +0.7
BI02 IAmb IAmb 08 37 05.4
comp=Z,59nm,1.2s
JIS Juneau Island 54.23 334 P P 08 37 04.8 +1.7
JIS IAmb IAmb 08 37 06.7
comp=Z,30nm,1.2s
BESE Bessie Mountai 54.60 334 P P 08 37 07.9 +1.9
BESE IAmb IAmb 08 37 08.8
comp=Z,17nm,0.9s
PTGB Pitanga 54.80 135 eP P 08 37 06.9 -1.1
BB19B Bebedouro 55.12 129 eP P 08 37 09.8 -0.5
JANB Januaria 55.28 120 eP P 08 37 11.2 -0.4
SKAG Skagway 55.32 335 P P 08 37 12.9 +1.8
SKAG IAmb IAmb 08 37 30.2
comp=Z,35nm,1.4s
FRTB Fartura 55.71 132 eP P 08 37 14.1 -0.4
LC01 Cunco 56.03 161 P P 08 37 16.4 -0.1
LC01 IAmb IAmb 08 37 17.8
comp=Z,47nm,1.1s
RKT Rikitea 56.18 229 eLR LR 08 53 49.3
comp=Z,943nm,26.8s
MC01 Montes Claros 56.41 121 eP P 08 37 19.3 -0.3
ITAB Concordia 56.41 137 eP P 08 37 19.0 -0.3
RCLB Rio Claro Sao 56.66 129 eP P 08 37 20.6 -0.7
HYT Haines Junctio 57.00 335 P P 08 37 25.0 +1.8
HYT IAmb IAmb 08 37 42.0
comp=Z,31nm,1.2s
SPB Sao Paulo 57.42 130 eP P 08 37 26.1 -0.4
VAO Valinhos 57.42 129 eP P 08 37 26.6 -0.1
PCA Pinnacle 57.75 334 P P 08 37 30.7 +2.2
BSCB Bom Sucesso 57.98 126 eP P 08 37 31.0 +0.3
PLCA Paso Flores 58.12 161 P P 08 37 32.3 +1.1
comp=Z,29nm,1.2s,baz=338,slow=7.9,SNR=16
PLCA LR LR 08 57 06.0
comp=Z,292nm,20.4s,baz=8.5,slow=30
PLCA Paso Flores 58.12 161 P P 08 37 31.8 +0.6
PLCA pmax pmax
comp=Z,61nm,1.4s
PLCA Paso Flores 58.12 161 P P 08 37 31.8 +0.6
PLCA Paso Flores 58.12 161 eP P 08 37 31.1 -0.2
TABL Table Mountain 58.31 334 P P 08 37 34.6 +2.1
YAH Yahtse 58.53 334 P P 08 37 36.5 +2.5
PLTB Pedras Altas 58.60 142 eP P 08 37 34.6 -0.1
PARB Paraibuna 58.63 129 eP P 08 37 34.9 -0.2
CTGM Chitina Glacie 58.66 334 IAmb IAmb 08 37 53.7
comp=Z,38nm,1.1s
GDU01 Guandu, BA 58.72 116 eP P 08 37 36.0 +0.2
CRQM Cirque 59.32 334 P P 08 37 40.9 +1.4
MCARA McCarthy VSAT 59.58 334 P P 08 37 42.9 +1.9
SJMB Sao Joao De Ma 59.67 122 eP P 08 37 42.7 +0.3
VRDI Verde Repeater 59.68 334 P P 08 37 43.7 +1.7
BCAR Beaver Creek A 59.91 336 P P 08 37 44.5 +1.1
GLB Gilahina Butte 59.94 334 P P 08 37 45.4 +1.8
BSFB Barra de Sao F 60.02 122 eP P 08 37 45.1 +0.4
NAN01 Guarapari, ES 60.14 120 eP P 08 37 45.7 +0.1
Q23K Middleton Isla 60.17 331 P P 08 37 46.1 +1.0
baz=114
INK Inuvik 60.29 343 P P 08 37 45.6 -0.1
INK pmax pmax
comp=Z,22nm,1.0s
INK Inuvik 60.29 343 P P 08 37 45.6 -0.1
INK IAmb IAmb 08 38 03.9
comp=Z,22nm,0.9s
EYAK Cordova Ski Ar 60.37 333 P P 08 37 46.8 +0.3
K27K Chicken 60.52 337 P P 08 37 48.8 +1.3
baz=121
EGAK Eagle 60.58 338 P P 08 37 48.0 +0.1
EGAK IAmb IAmb 08 37 49.4
comp=Z,49nm,1.4s
RIB01 Linhares ES 60.62 122 eP P 08 37 48.9 0.0
KLU Klutina 60.86 334 P P 08 37 51.7 +1.7
DOT Dot Lake 61.09 336 P P 08 37 52.0 +0.6
SCRK Sand Creek 61.22 337 P P 08 37 53.2 +0.8
baz=119,SNR=21
M24K Tolsona, Glenn 61.24 334 P P 08 37 53.7 +1.3
baz=116,SNR=9.2
RIDG Independent Ri 61.45 336 P P 08 37 54.6 +0.8
SCM Sheep Creek Mo 61.61 334 P P 08 37 56.0 +1.0
SCM pmax pmax
comp=Z,48nm,1.0s
SCM Sheep Creek Mo 61.61 334 P P 08 37 56.0 +1.0
KNK Knik Glacier 61.94 333 P P 08 37 58.6 +1.5
SML Sawmill 62.04 333 P P 08 37 58.9 +1.1
GHO Glory Hole Cre 62.28 333 P P 08 38 00.3 +0.9
PMOR Pomariorio Ree 62.56 245 eT T 09 45 26.5
comp=Z,4.5nm,0.2s
HDA Harding Lake 62.57 336 P P 08 38 01.5 +0.2
baz=116,SNR=22
HDA Harding Lake 62.57 336 P P 08 38 01.9 +0.6
HDA IAmb IAmb 08 38 18.7
comp=Z,34nm,1.0s

KDAK	**Kodiak Island**	**62.62**	**328**	P	**P**	**08 38 02.7**	**+1.0**
KDAK				pmax	pmax		
	comp=Z,68nm,0.9s						
KDAK	**Kodiak Island**	**62.62**	**328**	P	**P**	**08 38 02.7**	**+1.0**
IL31		**62.71**	**337**	P	**P**	**08 38 02.4**	**+0.3**
ILAR	**Eielson Array**	**62.71**	**337**	P	**P**	**08 38 02.5**	**+0.3**
	comp=Z,32nm,1.0s,baz=129,slow=4.4,SNR=176						
ILAR				pP	**pP**	**08 38 18.7**	**+2.0**
	comp=Z,41nm,1.0s,baz=127,slow=4.7,SNR=22						
ILAR				LR	LR	09 09 11.5	
	comp=Z,305nm,19.0s,baz=120,slow=40						
ILAR	**Eielson Array**	**62.71**	**337**	P	**P**	**08 38 01.9**	**-0.3**
OHAK	**Old Harbor**	**62.82**	**328**	P	**P**	**08 38 03.6**	**+0.6**
RND	**Reindeer**	**62.91**	**335**	P	**P**	**08 38 04.5**	**+0.9**
RND				pmax	pmax		
	comp=Z,124nm,1.0s						
RND	**Reindeer**	**62.91**	**335**	P	**P**	**08 38 04.5**	**+0.9**
WRH	**Wood River Hil**	**63.05**	**336**	IAmb	IAmb	08 38 21.9	
	comp=Z,20nm,1.0s						
POKR	**Poker Plat Res**	**63.08**	**337**	P	**P**	**08 38 05.1**	**+0.4**
	baz=116,SNR=9.4						
CUT	**Chulitna**	**63.11**	**334**	P	**P**	**08 38 05.4**	**+0.5**
	baz=112,SNR=8.7						
COLA	**College**	**63.13**	**337**	P	**P**	**08 38 05.5**	**+0.6**
COLA				pmax	pmax		
	comp=Z,37nm,0.9s						
COLA	**College**	**63.13**	**337**	P	**P**	**08 38 05.5**	**+0.6**
TCOL	**CIGO, UAF Yank**	**63.13**	**337**	P	**P**	**08 38 05.1**	**+0.1**
	baz=116,SNR=13						
MDM	**Murphy Dome**	**63.31**	**337**	P	**P**	**08 38 06.0**	**-0.2**
MDM				IAmb	IAmb	08 38 23.3	
	comp=Z,18nm,1.0s						
BWN	**Browne**	**63.47**	**336**	P	**P**	**08 38 07.3**	**+0.1**
NEA2	**Nenana**	**63.48**	**336**	P	**P**	**08 38 07.2**	**-0.1**
	baz=114,SNR=20						
MEH	**Mehetia**	**63.94**	**242**	*e*T	T	09 47 11.0	
	comp=Z,23nm,0.3s						
BPAW	**Bear Paw Mtn.**	**64.05**	**335**	P	**P**	**08 38 11.1**	**0.0**
PPLA	**Purkeypile**	**64.12**	**334**	P	**P**	**08 38 11.8**	**+0.1**
TIAR	**Tiarei**	**64.90**	**243**	*e*T	T	09 48 22.4	
	comp=Z,1.0nm,0.2s						
COLD	**Coldfoot**	**65.00**	**339**	P	**P**	**08 38 18.5**	**+1.3**
	baz=114,SNR=16						
COLD	**Coldfoot**	**65.00**	**339**	IAmb	IAmb	08 38 35.8	
	comp=Z,40nm,1.1s						
PPT2	**Papeete2**	**65.12**	**243**	*e*LR	LR	08 57 35.9	
	comp=Z,924nm,27.5s,baz=59						
TOLK	**Toolik Lake Re**	**65.38**	**340**	P	**P**	**08 38 20.8**	**+1.0**
	baz=116,SNR=14						
TOLK	**Toolik Lake Re**	**65.38**	**340**	P	**P**	**08 38 20.2**	**+0.5**
TOLK				IAmb	IAmb	08 38 38.1	
	comp=Z,23nm,0.7s						
TTA	**Tatalina**	**65.78**	**333**	P	**P**	**08 38 22.2**	**-0.3**
TTA				pmax	pmax		
	comp=Z,57nm,1.0s						
TTA	**Tatalina**	**65.78**	**333**	P	**P**	**08 38 22.2**	**-0.3**
IMAR	**Indian Mountai**	**65.83**	**337**	P	**P**	**08 38 22.1**	**-0.5**
EUNU	**Eureka**	**65.93**	**1**	P	**P**	**08 38 22.0**	**-1.1**
EUNU				IAmb	IAmb	08 38 40.5	
	comp=Z,12nm,0.8s						
SUMG	**Summit**	**66.00**	**15**	*i* P	**P**	**08 38 22.0**	**-2.1**
	comp=Z,78nm,1.4s						
SUMG	**Summit**	**66.00**	**15**	P	**P**	**08 38 22.6**	**-1.5**
SUMG				pmax	pmax		
	comp=Z,32nm,1.4s						
SUMG	**Summit**	**66.00**	**15**	P	**P**	**08 38 22.6**	**-1.5**
SUMG				IAmb	IAmb	08 38 24.2	
	comp=Z,32nm,1.4s						
TBI	**Tubuai**	**67.58**	**237**	*e*LR	LR	08 58 59.0	
	comp=Z,737nm,27.0s,baz=62						
TBI	**Tubuai**	**67.58**	**237**	*e*T	T	09 51 42.9	
	comp=Z,5.6nm,0.3s						
FALS	**False Pass**	**67.90**	**324**	P	**P**	**08 38 36.4**	**+0.5**
UNV	**Unalaska Valle**	**69.61**	**322**	P	**P**	**08 38 47.5**	**+0.9**
RDOG	**Red Dog Mine**	**69.86**	**338**	P	**P**	**08 38 48.4**	**+0.5**
RDOG				IAmb	IAmb	08 39 05.5	
	comp=Z,26nm,1.0s						
EFI	**East Falkland**	**71.87**	**159**	*e*P	**P**	**08 39 00.8**	**+0.6**
EFI				pmax	pmax		
	comp=Z,96nm,1.6s						
ADK	**Adak**	**75.79**	**320**	P	**P**	**08 39 23.6**	**+0.3**
ADK				pmax	pmax		
	comp=Z,93nm,1.0s						
ADK	**Adak**	**75.79**	**320**	P	**P**	**08 39 23.6**	**+0.3**
EKA	**Eskdalemuir Ar**	**77.72**	**36**	P	**P**	**08 39 31.4**	**-2.7**
	comp=Z,6.4nm,0.5s,baz=268,slow=5.6,SNR=32						
EKA				pP	**pP**	**08 39 48.4**	**-0.7**
	comp=Z,11nm,0.6s,baz=279,slow=5.4,SNR=15						
AMKA	**Amchitka**	**78.33**	**320**	P	**P**	**08 39 38.0**	**+0.4**
ESDC	**Sonseca Array**	**79.48**	**52**	P	**P**	**08 39 41.1**	**-3.1**
	comp=Z,2.0nm,0.5s,baz=283,slow=4.8,SNR=18						
ESDC				pP	**pP**	**08 39 58.6**	**-0.6**
	comp=Z,6.9nm,0.8s,baz=287,slow=5.6,SNR=18						
ESDC				LR	LR	09 08 59.8	
	comp=Z,185nm,22.0s,baz=250,slow=31						
ESDC	**Sonseca Array**	**79.48**	**52**	P	**P**	**08 39 41.2**	**-3.0**
MDT	**Midelt**	**80.17**	**59**	P	**P**	**08 39 45.7**	**-2.5**
	comp=Z,2.4nm,0.8s,baz=223,slow=2.8,SNR=4.6						
PMSA	**Palmer Station**	**81.53**	**168**	P	**P**	**08 39 55.4**	**+1.0**
	comp=Z,11nm,0.9s,baz=330,slow=5.1,SNR=5.8						
PMSA	**Palmer Station**	**81.53**	**168**	P	**P**	**08 39 55.5**	**+1.2**
PMSA				IAmb	IAmb	08 39 56.5	
	comp=Z,18nm,1.1s						
PMSA	**Palmer Station**	**81.53**	**168**	*e*P	**P**	**08 39 55.3**	**+1.0**
NB2	**NORSAR Subarra**	**83.90**	**28**	P	**P**	**08 40 05.8**	**-1.3**
	comp=Z,9.6nm,1.1s,baz=288,slow=5.3						
NOA	**NORSAR Array B**	**83.90**	**28**	P	**P**	**08 40 05.9**	**-1.2**
	comp=Z,6.6nm,1.0s,baz=290,slow=5.0,SNR=10						
NOA				pP	**pP**	**08 40 22.4**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=289,slow=5.2,SNR=4.7						
NOA				LR	LR	09 16 06.3	
	comp=Z,178nm,21.8s,baz=280,slow=35						
HFS	**Hagfors**	**85.36**	**29**	P	**P**	**08 40 13.4**	**-1.0**
	comp=Z,7.2nm,0.9s,baz=83,slow=4.8,SNR=5.2						
DBIC	**Dimbokro**	**85.49**	**84**	P	**P**	**08 40 15.2**	**-0.8**
	comp=Z,2.1nm,0.5s,baz=266,slow=4.0,SNR=7.5						
DBIC				LR	LR	09 15 22.2	
	comp=Z,109nm,20.6s,baz=294,slow=34						
DBIC	**Dimbokro**	**85.49**	**84**	P	**P**	**08 40 15.0**	**-1.0**
DBIC				pmax	pmax		
	comp=Z,14nm,1.4s						
DBIC	**Dimbokro**	**85.49**	**84**	P	**P**	**08 40 15.0**	**-1.0**
ARCES	**ARCESS Array B**	**85.90**	**18**	P	**P**	**08 40 16.5**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=296,slow=3.9,SNR=10						
ARCES				pP	**pP**	**08 40 32.1**	**0.0**
	comp=Z,0.7nm,0.4s,baz=288,slow=3.6,SNR=8.2						
ARCES				LR	LR	09 18 08.3	
	comp=Z,438nm,21.5s,baz=312,slow=35						
ARCES	**ARCESS Array B**	**85.90**	**18**	P	**P**	**08 40 17.5**	**+0.6**
SENIN	**Lac Senin/Sane**	**86.04**	**43**	P	**P**	**08 40 17.4**	**-1.0**
SENIN				IAmb	IAmb	08 40 36.4	
	comp=Z,19nm,1.3s						
TUE	**Stuetta**	**87.36**	**43**	P	**P**	**08 40 22.7**	**-2.1**
TUE				IAmb	IAmb	08 40 25.2	
	comp=Z,14nm,1.2s						
FUORN	**Ofenpass-Fuorn**	**87.92**	**42**	P	**P**	**08 40 25.8**	**-1.8**
SEY	**Seymchan**	**88.63**	**336**	*de*P	**P**	**08 40 31.1**	**+0.9**
GERES	**GERESS Array B**	**89.36**	**40**	P	**P**	**08 40 32.8**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=321,slow=1.7,SNR=7.0						
GERES				LR	LR	09 16 24.5	
	comp=Z,217nm,21.5s,baz=298,slow=33						
GERES	**GERESS Array B**	**89.36**	**40**	P	**P**	**08 40 32.1**	**-1.9**
TORD	**Torodi Ar. Bea**	**90.19**	**76**	P	**P**	**08 40 35.7**	**-2.8**
	comp=Z,0.7nm,0.4s,baz=300,slow=4.6,SNR=18						
TORD				LR	LR	09 18 00.2	
	comp=Z,156nm,20.9s,baz=305,slow=34						
TORD	**Torodi Ar. Bea**	**90.19**	**76**	P	**P**	**08 40 36.8**	**-1.6**
FINES	**FINESS Array B**	**90.26**	**25**	P	**P**	**08 40 36.9**	**-0.9**
	comp=Z,8.0nm,1.1s,baz=288,slow=5.7,SNR=5.5						
FINES				LR	LR	09 21 36.5	
	comp=Z,117nm,18.6s,baz=266,slow=36						
FINES	**FINESS Array B**	**90.26**	**25**	P	**P**	**08 40 36.7**	**-1.2**
PETK	**Petropavlovsk-**	**90.56**	**326**	P	**P**	**08 40 39.5**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=103,slow=11,SNR=3.8						
PETK				pP	**pP**	**08 40 57.1**	**+2.5**
	comp=Z,22nm,0.9s,baz=79,slow=9.2,SNR=15						
PETK	**Petropavlovsk-**	**90.56**	**326**	P	**P**	**08 40 39.7**	**+0.3**
KEST	**Kesra**	**90.66**	**53**	LR	LR	09 16 02.7	
	comp=Z,54nm,20.6s,baz=243,slow=32						
MA2	**Magadan**	**90.98**	**333**	*d* iP	**P**	**08 40 41.8**	**+0.5**
MA2				pmax	pmax		
	comp=Z,34nm,1.0s						
MA2	**Magadan**	**90.98**	**333**	P	**P**	**08 40 42.3**	**+1.1**
TMCR	**Tamitsa**	**93.06**	**20**	*e*P	**P**	**08 40 51.2**	**+0.5**
KLMR	**Klimovskoe**	**95.81**	**22**	*e*P	**P**	**08 41 01.3**	**-2.1**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KLMR	**Klimovskoe**	**95.81**	**22**	*e*P	**P**	**08 41 01.4**	**-2.0**
KLMR				AMP		08 41 05.8	
	comp=Z,10.0nm,1.3s						
NRIK	**Noril'sk**	**96.68**	**0**	LR	LR	09 29 15.2	
	comp=Z,388nm,19.1s,baz=11,slow=38						
YAK	**Yakutsk**	**97.31**	**342**	LR	LR	09 30 01.6	
	comp=Z,160nm,21.4s,baz=80,slow=38						
AKASG	**Malin Array Be**	**97.48**	**33**	LR	LR	09 25 43.4	
	comp=Z,125nm,20.3s,baz=55,slow=36						
YSS	**Yuzh-Sakhalins**	**101.96**	**325**	*e*P	**Pdif**	**08 41 30.6**	**-0.7**
BRVK	**Borovoye**	**111.27**	**11**	‖ iPKIKP	**PKiKP**	**08 46 11.6**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,2.5s						
BVAR	**Borovoye Array**	**111.32**	**11**	PKiKP	**PKiKP**	**08 46 11.5**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=315,slow=0.4,SNR=7.0						
TLY	**Talaya**	**113.02**	**350**	‖ iPKIKP	**PKiKP**	**08 46 14.6**	**+0.2**
KURK	**Kurchatov**	**114.83**	**7**	*c i*PKIKP	PKPdf	08 46 17.9	+0.1
KURK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KURBB	**Kurchatov Arra**	**114.91**	**7**	PKP	**PKiKP**	**08 46 17.7**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=349,slow=2.2,SNR=24						
KURBB				PKKPbc	**PKKPbc**	**08 56 54.3**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=190,slow=2.6,SNR=5.5						
ULN	**Ulaanbaatar**	**115.95**	**346**	*d i*PKIKP	**PKiKP**	**08 46 18.3**	**-2.0**
SONM	**Songino Array**	**116.13**	**346**	PKP	**PKPdf**	**08 46 20.8**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=0.0,slow=1.5,SNR=5.8						
SONM				PKKPbc	**PKKPbc**	**08 56 49.3**	**-2.9**
	comp=Z,1.1nm,0.9s,baz=219,slow=1.9,SNR=4.9						
DGZ	**Jazzator, Alta**	**116.38**	**1**	‖ iPKIKP	**PKiKP**	**08 46 21.4**	**+0.3**
KSRS	**Korea Array**	**116.46**	**325**	PKP	**PKPdf**	**08 46 21.4**	**0.0**
	comp=Z,3.5nm,0.8s,baz=60,slow=0.5,SNR=14						
KSRS				pPKP	pPKPdf	08 46 38.7	+1.7
	comp=Z,2.5nm,0.8s,baz=32,slow=1.3,SNR=9.0						
KSAR	**Wonju Array Be**	**116.49**	**325**	PKIKP	**PKiKP**	**08 46 21.5**	**+0.1**
KSAR	**Wonju Array Be**	**116.49**	**325**		**PKiKP**	**08 46 21.5**	**+0.1**
TJN	**Taejon**	**117.54**	**325**	‖ iPKIKP	**PKiKP**	**08 46 23.6**	**+0.1**
MK31	**Makanchi Array**	**119.06**	**5**	PKIKP	**PKPdf**	**08 46 25.6**	**-0.5**
MK31	**Makanchi Array**	**119.06**	**5**	PKPdf	**PKPdf**	**08 46 25.6**	**-0.5**
MKAR	**Makanchi Array**	**119.06**	**5**	PKP	**PKPdf**	**08 46 25.4**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=2.9,slow=2.4,SNR=14						
MKAR				pPKP	**pPKPdf**	**08 46 42.4**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=340,slow=1.8,SNR=13						
MKAR				PKKPbc	**PKKPbc**	**08 56 41.3**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=145,slow=4.4,SNR=4.8						
MKAR	**Makanchi Array**	**119.06**	**5**		**PKPdf**	**08 46 25.0**	**-1.2**
BOSA	**Boshof**	**120.31**	**115**	PKP	**PKiKP**	**08 46 29.2**	**0.0**
	comp=Z,14nm,0.9s,baz=289,slow=1.4,SNR=13						
BOSA				pPKP	**pPKPdf**	**08 46 46.0**	**+1.2**
	comp=Z,21nm,0.9s,baz=260,slow=2.7,SNR=10						
KKAR	**Karatay Array**	**120.73**	**15**	PKIKP	**PKPdf**	**08 46 28.6**	**-0.8**
KKAR	**Karatay Array**	**120.73**	**15**		**PKPdf**	**08 46 28.6**	**-0.8**
GEYT	**Alibeck**	**120.98**	**27**	PKP	**PKPdf**	**08 46 30.0**	**-0.1**
	comp=Z,8.1nm,0.8s,baz=298,slow=3.2,SNR=12						
GEYT				pPKP	**pPKPdf**	**08 46 46.8**	**+1.0**
	comp=Z,2.9nm,0.6s,baz=265,slow=5.4,SNR=5.2						
GEYT	**Alibeck**	**120.98**	**27**	PKPdf	**PKPdf**	**08 46 27.9**	**-2.3**
HHC	**Hu-ho-hao-te**	**121.08**	**339**	*e*PKP	**PKPdf**	**08 46 26.5**	**-3.8**
USP	**Ospenovka**	**121.46**	**12**	P	**PKiKP**	**08 46 31.6**	**+0.6**
	SNR=10						
MBAR	**Mbarara**	**121.66**	**82**	*c i*PKIKP	**PKiKP**	**08 46 34.2**	**+1.8**
MBAR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
EKS2	**Erkin-Say**	**121.90**	**12**	P	**PKiKP**	**08 46 32.4**	**+0.3**
	SNR=7.4						
TKM2	**Tokmak 2**	**122.00**	**11**	P	**PKiKP**	**08 46 32.8**	**+0.5**
	SNR=8.9						
AAK	**Ala-Archa**	**122.07**	**12**	PKP	**PKiKP**	**08 46 32.8**	**+0.4**
	comp=Z,4.1nm,0.6s,baz=23,slow=0.8,SNR=8.0						
AAK	**Ala-Archa**	**122.07**	**12**	*c i*PKIKP	**PKiKP**	**08 46 33.0**	**+0.6**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
AAK	**Ala-Archa**	**122.07**	**12**	PKPdf	**PKiKP**	**08 46 32.9**	**+0.6**
LSZ	**Lusaka**	**122.17**	**99**	PKIKP	**PKiKP**	**08 46 33.6**	**+0.4**
LSZ	**Lusaka**	**122.17**	**99**		**PKiKP**	**08 46 33.5**	**+0.4**
WMQ	**Urumqi**	**122.26**	**0**	*e*P	**PKiKP**	**08 46 33.5**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,350nm,11.7s						
WMQ				LR	LR		
	comp=N,310nm,29.2s						
WMQ				LR	LR		
	comp=E,610nm,29.2s						
WMQ				LR	LR		
	comp=Z,190nm,25.3s						
AML	**Almayashu**	**122.39**	**13**	P	**PKiKP**	**08 46 34.1**	**+0.7**
	SNR=15						
UCH	**Uchtor**	**122.47**	**12**	P	**PKiKP**	**08 46 34.8**	**+1.2**
	SNR=13						
KZA	**Kyzart**	**122.75**	**11**	P	**PKiKP**	**08 46 35.2**	**+1.1**
	SNR=5.9						
ULHL	**Ulahol**	**122.78**	**10**	P	**PKiKP**	**08 46 34.8**	**+0.9**
	SNR=8.5						
KDJ	**Kajisay**	**123.05**	**10**	PKIKP	**PKiKP**	**08 46 34.9**	**+0.5**
KDJ	**Kajisay**	**123.05**	**10**	PKPdf	**PKiKP**	**08 46 34.9**	**+0.5**
TARG	**Taragay, Kyrgy**	**123.54**	**9**		**PKPdf**	**08 46 35.3**	**-0.2**
MAW	**Mawson**	**124.14**	**169**	PKP	**PKPdf**	**08 46 35.3**	**+0.2**
	comp=Z,5.3nm,0.9s,baz=233,slow=2.4,SNR=14						
MAW	**Mawson**	**124.14**	**169**	PKIKP	**PKiKP**	**08 46 35.5**	**+0.1**
MAW	**Mawson**	**124.14**	**169**	PKPdf	**PKiKP**	**08 46 35.5**	**+0.1**
KSH	**Kashi**	**125.37**	**12**	PKP	**PKiKP**	**08 46 40.3**	**+1.3**
NJ2	**Nanjing**	**125.40**	**328**	*e*PKP	**PKPdf**	**08 46 38.8**	**+0.1**
GTA	**Gaotai**	**125.57**	**349**	*e*PKP	**PKiKP**	**08 46 39.5**	**+0.1**
LZH	**Lanzhou**	**127.83**	**344**	*e*PKP	**PKiKP**	**08 46 45.8**	**+1.8**
LZH				LR	LR		
	comp=Z,330nm,18.0s						
LZH				LR	LR		
	comp=Z,340nm,18.1s						
LZH				LR	LR		
	comp=Z,400nm,20.2s						
XAN	**Xi'an**	**128.11**	**338**	PKP	**PKPdf**	**08 46 44.0**	**+0.1**
XAN				LR	LR		
	comp=Z,230nm,21.4s						
XAN				LR	LR		
	comp=Z,190nm,19.3s						
XAN				LR	LR		
	comp=Z,380nm,20.6s						
XAN	**Xi'an**	**128.11**	**338**	PKIKP	**PKPdf**	**08 46 43.8**	**-0.1**
XAN	**Xi'an**	**128.11**	**338**		**PKPdf**	**08 46 43.8**	**-0.1**
STKA	**Stephens Creek**	**128.28**	**241**	PKP	**PKiKP**	**08 46 44.8**	**0.0**
	comp=Z,7.2nm,0.9s,baz=48,slow=2.5,SNR=16						
SSLB	**Suanglung**	**130.46**	**319**	PKPdf	**PKPdf**	**08 46 48.6**	**0.0**
ENH	**Enshi**	**131.24**	**335**		**PKiKP**	**08 46 50.5**	**-0.4**
CD2	**Chengdu**	**132.70**	**342**	PKP	**PKPdf**	**08 46 51.3**	**-1.4**
WSAR	**Wadi Sarin**	**132.90**	**30**	PKP	**PKPdf**	**08 46 52.6**	**-0.6**
	comp=Z,5.0nm,0.7s,baz=205,slow=3.5,SNR=4.5						
WB0	**Warramunga Arr**	**135.53**	**256**	PKPdf	**PKPdf**	**08 46 57.5**	**-0.7**
WRAB	**Tennant Creek**	**135.57**	**256**	*c i*PKIKP	**PKPdf**	**08 46 58.9**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,17nm,2.5s						
WRA	**Warramunga Arr**	**135.58**	**256**	PKP	**PKPdf**	**08 46 58.8**	**+0.6**
	comp=Z,4.1nm,1.1s,baz=77,slow=1.3,SNR=12						
WRA	**Warramunga Arr**	**135.58**	**256**	*c i*PKIKP	**PKPdf**	**08 46 58.7**	**+0.4**
WRA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WRA	**Warramunga Arr**	**135.58**	**256**	PKPdf	**PKPdf**	**08 46 57.5**	**-0.8**
ASAR	**Alice Springs**	**135.87**	**251**	PKP	**PKPdf**	**08 46 58.9**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=100,slow=2.3,SNR=9.2						
ASAR	**Alice Springs**	**135.87**	**251**	PKPdf	**PKPdf**	**08 46 55.8**	**-2.9**
KMI	**Kunming**	**138.40**	**340**	*e*PKP	**PKPdf**	**08 47 04.5**	**+0.8**
MYLDM	**Lahad Datu**	**144.26**	**301**	PKPdf	**PKPab**	**08 47 11.8**	**-0.3**
SOEI	**Soe**	**144.42**	**273**		**PKPab**	**08 47 12.4**	**-0.5**
CHTO	**Chiang Mai**	**145.51**	**342**	PKIKP	**PKPdf**	**08 47 15.6**	**-0.6**
CHTO	**Chiang Mai**	**145.51**	**342**		**PKPdf**	**08 47 15.6**	**-0.6**
KKM	**Kota Kinabalu**	**145.65**	**304**		**PKPab**	**08 47 17.5**	**+0.1**
CM31	**Chiang Mai Arr**	**145.85**	**342**		**PKPbc**	**08 47 17.3**	**0.0**
CMAR	**Chiang Mai Arr**	**145.85**	**342**	PKPbc	**PKPbc**	**08 47 17.2**	**-0.1**
	comp=Z,66nm,0.9s,baz=342,slow=4.0,SNR=184						
CMAR				pPKPbc	pPKPab	08 47 34.6	+1.5
	comp=Z,58nm,0.8s,baz=343,slow=3.6,SNR=7.1						
CMAR				SKPbc	**SKiKP**	**08 50 54.6**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=360,slow=4.5,SNR=4.4						
CMAR	**Chiang Mai Arr**	**145.85**	**342**		**PKPdf**	**08 47 17.1**	**+0.3**
DLV	**T Lat**	**147.12**	**321**	PKPdf	**PKPdf**	**08 47 17.1**	**-2.2**
DLV					**PKPab**	**08 47 22.8**	**-0.2**
HYB	**Hyderabad**	**147.19**	**17**	*i* PKP	**PKPdf**	**08 47 18.0**	**-1.1**
RER	**Riviere de l'E**	**148.41**	**107**		**PKiKP**	**08 47 25.6**	**-0.6**
PSA00	**Pilbara Seismi**	**149.00**	**252**		**PKPbc**	**08 47 25.9**	**-0.1**
MORW	**Morawa**	**150.25**	**236**		**PKPbc**	**08 47 28.9**	**0.0**
KSM	**Kuching**	**153.08**	**304**		**PKPbc**	**08 47 35.7**	**-0.1**
KULM	**Kulim**	**157.00**	**327**	PKPdf	**PKPdf**	**08 47 30.0**	**-3.8**
KULM				PKPab	**PKPab**	**08 48 03.9**	**0.0**
PSI	**Prapat**	**160.01**	**327**	PKIKP	**PKPdf**	**08 47 36.0**	**-1.6**
PSI				PKP	**PKPab**	**08 48 17.2**	**+0.1**
RPSI	**Rantau Prapat**	**160.10**	**327**	PKPdf	**PKPdf**	**08 47 36.0**	**-1.5**
RPSI				PKPab	**PKPab**	**08 48 17.2**	**-0.2**

MAN ***28*** *08:33:09.6, 7.°42N×127.°30E, h22km, mb4.6, ML3.4, MS3.3*
IDC ***28*** *08:33:13.4±5.4, 7.°25N×127.°54E, h52km±48km, mb3.8/9, mb1 3.9/9, mb1mx3.6/56, mbtmp4.1/9, Error ellipse: s-maj=38.4km s-min=14.4km az=62.0*
NEIC ***28*** *08:33:13.6±1.4, 7.°2N±0.°1×127.°49E±0.°10, h55km±7km, mb4.4/19, Error ellipse: s-maj=16.4km s-min=12.5km az=213.0*

ISC 28 08:33:12.0±0.5, **7.°33N**±0.°08×**127.°53E**±0.°09, **h41**km, **n38,**
σ1§**38**/42, **mb4.3**/18, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.95**	**263**	P		P	**Pn**	**08 33 43.1**	**+0.5**
	89nm,0.3s,baz=63,slow=4.7,SNR=3.7								
DAV				S		S	**Sn**	**08 34 08.1**	**+2.2**
	159nm,0.3s,baz=286,slow=23,SNR=15								
TBP	**Tagbilaran**	**4.32**	**303**	*e*P		P	**Pn**	**08 34 12.2**	**-3.1**
TBP				*e*S		Sn		08 34 14.9	-49
FAKI	**Fak Fak**	**11.22**	**155**	Pn		P	**Pn**	**08 35 48.2**	**-1.6**
MTN	**Manton Dam**	**20.36**	**170**	P		P	**P**	**08 37 44.7**	**-0.5**
MTN				IAmb		IAmb		08 37 48.1	
	comp=Z,12nm,1.0s								
KNRA	**Kununurra**	**22.89**	**177**	P		P	**P**	**08 38 12.1**	**-0.2**
KNRA				IAmb		IAmb		08 38 17.0	
	comp=Z,14nm,1.1s								
FITZ	**Fitzroy Crossi**	**25.33**	**184**	P		P	**P**	**08 38 34.5**	**-0.7**
COEN	**Coen**	**26.24**	**144**	P		P	**P**	**08 38 45.0**	**+1.6**
COEN				IAmb		IAmb		08 39 04.7	
	comp=Z,12nm,1.1s								
WB0	**Warramunga Arr**	**27.76**	**166**	P		P	**P**	**08 38 56.2**	**-0.9**
WB0				IAmb		IAmb		08 39 01.3	
	comp=Z,5.8nm,0.8s								
WRAB	**Tennant Creek**	**27.91**	**166**	P		P	**P**	**08 38 55.3**	**-3.1**
WRAB				IAmb		IAmb		08 39 04.3	
	comp=Z,14nm,1.5s								
WRA	**Warramunga Arr**	**27.91**	**166**	P		P	**P**	**08 38 57.3**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=350,slow=10,SNR=13								
WRA	**Warramunga Arr**	**27.91**	**166**	P		P	**P**	**08 38 58.7**	**+0.2**
WB2	**Warramunga Arr**	**27.92**	**166**	P		P	**P**	**08 38 57.0**	**-1.5**
WR0	**Warramunga Arr**	**27.98**	**166**	P		P	**P**	**08 38 55.5**	**-3.6**
WR0				IAmb		IAmb		08 39 14.0	
	comp=Z,10nm,1.4s								
ASAR	**Alice Springs**	**31.43**	**169**	P		P	**P**	**08 39 28.9**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=354,slow=8.2,SNR=9.8								
ASAR				PcP		PcP	**PcP**	**08 42 22.8**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=349,slow=2.6,SNR=9.6								
ASAR	**Alice Springs**	**31.43**	**169**	P		P	**P**	**08 39 28.4**	**-1.2**
ASAR						PcP	**PcP**	**08 42 22.3**	**-0.2**
**MOR

TWE	**Neicheng** baz=241	**0.53**	**245**	*e*P		**Pg**	09 17 41.2	**-0.1**
TWA	**Mucha** baz=270	**0.56**	**273**	*e*P		**Pg**	09 17 41.9	**+0.1**
TWA	baz=270			*e*S		**Sg**	09 17 49.4	**+0.2**
YM08	**YM08** baz=291	**0.60**	**293**⇑	*i*P		**Pg**	09 17 42.4	**-0.2**
YM01	**YM01** baz=287	**0.60**	**289**⇑	*e*P		**Pg**	09 17 42.8	**+0.1**
YM01	baz=287			S		**Sg**	09 17 50.6	**0.0**
YM11	**YM11** baz=289	**0.61**	**291**	*e*P		**Pg**	09 17 43.0	**+0.2**
ENAH	**Nanao** baz=213	**0.61**	**215**	*e*P		**Pb**	09 17 43.5	**-0.4**
YM05	**YM05** baz=288	**0.61**	**291**⇑	*e*P		**Pg**	09 17 42.9	**0.0**
YM10	**YM10** baz=288	**0.61**	**290**	*e*P		**Pg**	09 17 43.0	**+0.1**
TWY	**Chenhua** baz=299	**0.63**	**301**	*e*P		**Pg**	09 17 43.3	**+0.1**
YM04	**YM04** baz=287	**0.64**	**289**	*e*P		**Pg**	09 17 43.2	**0.0**
YM03	**YM03** baz=289	**0.64**	**291**	*e*P		**Pg**	09 17 43.3	**-0.1**
TATO	**Taipei** baz=270	**0.65**	**273**	*e*P		**Pg**	09 17 43.5	**+0.1**
TATO	baz=270			*e*S		**Sg**	09 17 52.1	**+0.2**
ENTT	**Nioudou** baz=239	**0.65**	**242**	*i* P		**Pg**	09 17 43.5	**0.0**
NWLT	**Wulai** baz=252	**0.66**	**255**	*i* P		**Pg**	09 17 43.5	**-0.1**
NWLT	baz=252			*i* S		**Sg**	09 17 52.4	**+0.2**
ANP	**Anpu** baz=289	**0.66**	**291**	*e*P		**Pg**	09 17 43.4	**-0.3**
ENA	**Nanau** baz=216	**0.67**	**219**	*i* P		**Pg**	09 17 44.1	**+0.3**
PCYT	**Pengchaiyu** baz=351	**0.69**	**350**	*e*P		**Pg**	09 17 43.9	**-0.4**
NDT	**Datong Townshi** baz=239	**0.71**	**241**	*e*P		**Pg**	09 17 44.5	**-0.3**
TWS1	**Kuangyinshan** baz=280	**0.72**	**282**	*e*P		**Pb**	09 17 45.5	**-0.3**
YHNB	**Yeheng** baz=247	**0.80**	**250**	P		**Pg**	09 17 46.0	**-0.4**
NSK	**Sanguang** baz=248	**0.81**	**251**	*e*P		**Pg**	09 17 46.5	**-0.1**
JYNG	**Yonagunijimaku**	**0.84**	**126**	P		**Pg**	09 17 47.2	**+0.1**
JYNG				S		**Sg**	09 17 58.2	**+0.1**
YOJ	**Yonaguni jima** baz=123	**0.88**	**123**	*e*P		**Pg**	09 17 47.7	**-0.2**
YOJ	**Yonaguni jima**	**0.88**	**123**	P		**Pg**	09 17 47.8	**-0.2**
YOJ				*e*S		**Sg**	09 17 59.3	**-0.2**
NNSB	**Datong** baz=233	**0.91**	**235**	*e*P		**Pg**	09 17 48.4	**0.0**
NNSB	baz=233			*i* S		**Sg**	09 18 00.5	**+0.3**
NNSH	**Datong** baz=233	**0.91**	**235**	*e*P		**Pg**	09 17 48.4	**-0.1**
NNSH	baz=233			*e*S		**Sg**	09 18 00.6	**+0.4**
NNS	**Nan Shan** baz=234	**0.91**	**236**	*i* P		**Pg**	09 17 48.1	**-0.4**
NACB	**Ninganchiao** baz=214	**0.95**	**216**	*e*P		**Pg**	09 17 48.6	**-0.6**
ETLH	**Xiulin Townshi** baz=220	**0.99**	**222**	P		**Pg**	09 17 49.6	**-0.3**
ETLH	baz=220			*i* S		**Sb**	09 18 03.4	**-0.2**
TWD	**Chiawan** baz=210	**1.02**	**213**	*i* P		**Pg**	09 17 50.5	**-0.2**
TWD	baz=210			S		**Sb**	09 18 04.5	**0.0**
FUSS	**Fushou** baz=230	**1.11**	**231**	*i* P		**Pg**	09 17 51.9	**-0.5**
FUSS	baz=230			*e*S		**Sg**	09 18 06.7	**-0.2**
LIOB	**Emei** baz=253	**1.12**	**255**	*i* P		**Pg**	09 17 51.6	**-0.8**
WHF	**Hehuan Shan** baz=225	**1.17**	**227**	*i* P		**Pg**	09 17 52.8	**-0.6**
WHF	baz=225			*i* S		**Sg**	09 18 08.6	**0.0**
TDCB	**Techi** baz=232	**1.17**	**234**	*e*P		**Pg**	09 17 53.3	**-0.2**
CHGB	**Renai** baz=225	**1.29**	**227**	*e*P		**Pg**	09 17 54.9	**-0.8**
WHP	**Taichung City** baz=238	**1.32**	**240**	*e*P		**Pn**	09 17 55.9	**+0.1**
ESL	**Shilin** baz=210	**1.33**	**212**	*e*P		**Pn**	09 17 55.8	**0.0**
VWDT	**VWDT** baz=218	**1.53**	**219**	*e*P		**Pn**	09 17 58.9	**+0.3**
SMLT	**Sun Moon Lake** baz=227	**1.59**	**228**	*e*P		**Pb**	09 18 00.8	**+0.1**
SSLB	**Suanglung** baz=223	**1.62**	**225**	*e*P		**Pb**	09 18 01.0	**-0.2**
EHY	**Hungye** baz=208	**1.64**	**209**	*e*P		**Pn**	09 17 59.4	**-0.7**
YULB	**Yu-li** baz=207	**1.75**	**208**	*e*P		**Pn**	09 18 01.7	**0.0**
JIJ	**Ishigaki jima**	**1.86**	**108**	*e*S		**Sn**	09 18 28.0	**+1.1**

MEX 28 09:25:23.6±0.3, 14°11N×91°95W, h57km±90km, MD3.7, Guatemala

WEL 28 09:37:57.7, 40°S±1°×175°4E±1°0, h10km±1km, M3.1/21, ML3.4/21, MLv3.1/21, Error ellipse: s-maj=0.0km s-min=0.0km az=28.9, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	**Ohakea**	**0.18**	**327**	P	Pg	09 38 02.7	**+1.1**
POWZ	**Post Office Ro**	**0.25**	**98**	P	Pg	09 38 03.5	**+0.7**
POWZ				S	Sg	09 38 07.6	**+1.4**
MRZ	**Mangatainoka R**	**0.32**	**161**	P	Pb	09 38 05.3	**-0.3**
MRZ				S	Sb	09 38 10.3	**-0.5**
PRWZ	**Pori Road**	**0.45**	**116**	P	Pb	09 38 07.6	**-0.1**
PRWZ				S	Sb	09 38 14.9	**+0.4**
TSZ	**Takapari Road**	**0.49**	**53**	P	Pg	09 38 07.4	**0.0**
TSZ				S	Sg	09 38 14.3	**+0.4**
OGWZ	**Otaki Gorge**	**0.51**	**204**	P	Pb	09 38 08.4	**-0.3**
OGWZ				S	Sb	09 38 15.3	**-0.8**
TIWZ	**Tintock**	**0.54**	**141**	P	Pb	09 38 09.4	**+0.1**
TIWZ				S	Sb	09 38 17.6	**+0.5**
HOWZ	**Holdsworth Sta**	**0.54**	**174**	P	Pb	09 38 09.5	**+0.1**
HOWZ				S	Sb	09 38 17.2	**-0.1**
DVHZ	**Dannevirke**	**0.56**	**84**	P	Pb	09 38 09.1	**-0.5**
DVHZ				S	Sb	09 38 17.1	**-0.5**
KIW	**Kapiti Island**	**0.65**	**219**	P	Pg	09 38 10.5	**+0.2**
BFZ	**Birch Farm**	**0.69**	**118**	P	Pb	09 38 12.1	**+0.2**
WAZ	**Wanganui**	**0.70**	**329**	P	Pb	09 38 11.8	**-0.2**
WAZ				S	Sb	09 38 21.7	**0.0**
MTW	**Mount Morrison**	**0.80**	**177**	P	Pb	09 38 14.2	**+0.4**
MTW				S	Sb	09 38 25.5	**+0.8**
CAW	**Cannon Point**	**0.80**	**201**	P	Pg	09 38 13.5	**+0.2**
TMWZ	**Te Maipa**	**0.82**	**156**	P	Pn	09 38 15.0	**-0.5**
TMWZ				S	Sn	09 38 26.9	**-0.8**
MTVZ	**Mangateitei**	**0.97**	**1**	P	Pg	09 38 16.1	**-0.3**
MTVZ				S	Sb	09 38 30.4	**+0.8**
MOVZ	**Moawhango**	**0.98**	**14**	P	Pg	09 38 16.1	**-0.5**
MOVZ				S	Sg	09 38 27.6	**-1.7**
BHHZ	**Black Hill Sta**	**0.99**	**29**	P	Pg	09 38 16.2	**-0.5**
BHHZ				S	Sg	09 38 27.9	**-1.6**
KRHZ	**Kereru**	**1.01**	**45**	P	Pg	09 38 16.3	**-0.8**
KRHZ				S	Sg	09 38 29.8	**-0.4**
PAWZ	**Paruwai Farm**	**1.02**	**181**	P	Pn	09 38 18.3	**+0.1**
PAWZ				S	Sn	09 38 32.7	**0.0**
TRVZ	**Turoa**	**1.06**	**4**	P	Pg	09 38 17.8	**-0.3**
PKVZ	**Pokaka**	**1.07**	**356**	P	Pg	09 38 17.6	**-0.7**
PKVZ				S	Sg	09 38 31.5	**-0.6**
WHVZ	**Whangaehu Hut**	**1.08**	**6**	P	Pg	09 38 18.1	**-0.3**
WHVZ				S	Sg	09 38 32.0	**-0.5**
DRZ	**Dome Shelter**	**1.08**	**5**	P	Pg	09 38 18.5	**0.0**
FWVZ	**Far West T-bar**	**1.10**	**4**	P	Pg	09 38 18.5	**-0.5**
FWVZ				S	Sg	09 38 32.6	**-0.7**
PXZ	**Pawanui**	**1.13**	**74**	P	Pn	09 38 19.8	**+0.2**
BHW	**Baring Head**	**1.14**	**202**	P	Pb	09 38 19.2	**-0.3**
NGZ	**Ngauruhoe**	**1.19**	**6**	P	Pb	09 38 19.7	**-0.7**
NGZ				S	Sg	09 38 36.1	**+0.2**
KWHZ	**Kaweka Forest**	**1.20**	**39**	P	Pb	09 38 19.8	**-0.8**
KWHZ				S	Sn	09 38 37.5	**+0.5**
LREZ	**Lake Rotokare**	**1.20**	**318**	P	Pg	09 38 21.1	**+0.3**
OTVZ	**Oturere**	**1.20**	**8**	P	Pb	09 38 20.0	**-0.7**
TCW	**Tory Channel**	**1.23**	**226**	P	Pn	09 38 20.3	**-0.8**
KAHZ	**Kahuranaki**	**1.23**	**63**	P	Pg	09 38 21.4	**0.0**
WTVZ	**West Tongariro**	**1.24**	**5**	P	Pn	09 38 20.7	**-0.6**
KRVZ	**Karewarewa**	**1.27**	**7**	P	Pn	09 38 21.3	**-0.4**
TWVZ	**Taurewa**	**1.28**	**360**	P	Pn	09 38 21.1	**-0.8**
TWVZ				S	Sb	09 38 37.3	**-1.3**
MCHZ	**McNeill Hill**	**1.33**	**47**	P	Pg	09 38 23.0	**-0.2**
VRZ	**Vera Road**	**1.34**	**337**	P	Pn	09 38 22.5	**0.0**
KATZ	**Kakaramea**	**1.39**	**8**	P	Pn	09 38 23.5	**+0.1**
RITZ	**Rihia Road**	**1.41**	**13**	P	Pb	09 38 24.1	**-0.1**
PREZ	**Palmer Road**	**1.42**	**315**	P	Pg	09 38 24.9	**0.0**
BKZ	**Black Stump Fm**	**1.44**	**35**	P	Pn	09 38 24.1	**+0.2**
NEZ	**North Egmont**	**1.50**	**316**	P	Pb	09 38 25.9	**+0.1**
DREZ	**Durham Road**	**1.51**	**320**	P	Pb	09 38 26.1	**+0.3**
RATZ	**Rangitukua**	**1.51**	**10**	P	Pn	09 38 25.2	**+0.3**
NMEZ	**Namu Road**	**1.53**	**307**	P	Pb	09 38 26.6	**+0.4**
NMEZ				S	Sg	09 38 47.6	**+0.7**
MHEZ	**Mangahewa**	**1.54**	**326**	P	Pg	09 38 27.0	**-0.3**
PKE	**Pukeiti**	**1.62**	**315**	P	Pb	09 38 28.1	**+0.5**
NBEZ	**Newall Road No**	**1.63**	**311**	P	Pb	09 38 28.1	**+0.2**
NMHZ	**Naumai**	**1.64**	**40**	P	Pn	09 38 27.1	**+0.5**
WATZ	**Wairara**	**1.66**	**8**	P	Pb	09 38 28.0	**-0.5**
CMWZ	**Cape Campbell**	**1.67**	**213**	P	Pg	09 38 30.9	**+1.1**
WHTZ	**Whakaora**	**1.73**	**13**	P	Pb	09 38 29.3	**-0.5**
NNZ	**Nelson**	**1.79**	**241**	P	Pn	09 38 29.6	**+0.9**
BSWZ	**Blackbirch Sta**	**1.80**	**221**	P	Pn	09 38 29.1	**+0.2**
MTHZ	**Maungataniwha**	**1.85**	**36**	P	Pn	09 38 29.6	**0.0**
HIZ	**Hauiti**	**1.90**	**346**	P	Pn	09 38 30.8	**+0.6**
RAHZ	**Arahi**	**1.92**	**42**	P	Pn	09 38 30.2	**-0.3**
WPRZ	**Whakapapatarin**	**1.92**	**17**	P	Pn	09 38 31.3	**+0.8**
ALRZ	**Allen Road**	**1.92**	**21**	P	Pn	09 38 31.1	**+0.6**
TLZ	**Tolley Road**	**2.02**	**2**	P	Pn	09 38 32.3	**+0.4**
RTZ	**Ruatahuna**	**2.11**	**35**	P	Pg	09 38 38.8	**+0.7**
SNGZ	**Shannon Statio**	**2.15**	**44**	P	Pb	09 38 36.6	**-0.1**
RRRZ	**Republican Roa**	**2.18**	**23**	P	Pb	09 38 38.4	**+1.1**
QRZ	**Quartz Range**	**2.27**	**257**	P	Pn	09 38 35.8	**+0.5**
THZ	**Tophouse**	**2.38**	**233**	P	Pn	09 38 37.0	**+0.1**
URZ	**Urewera**	**2.46**	**32**	P	Pn	09 38 36.9	**-1.0**
KHZ	**Kahutara**	**2.51**	**214**	P	Pn	09 38 37.7	**-0.8**
MWZ	**Matawai**	**2.59**	**39**	P	Pn	09 38 38.3	**-1.4**
TOZ	**Tahuroa Road**	**2.62**	**1**	P	Pn	09 38 41.3	**+1.2**
DSZ	**Denniston Nort**	**3.08**	**242**	P	Pn	09 38 46.7	**+0.1**
HAZ	**Te Kaha**	**3.17**	**36**	P	Pn	09 38 46.9	**-0.7**
LTZ	**Lake Taylor**	**3.40**	**223**	P	Pn	09 38 49.8	**-1.1**
WMGZ	**Waiomatatini S**	**3.43**	**43**	P	Pn	09 38 49.2	**-2.0**
OKCZ	**Okains Bay**	**3.80**	**207**	P	Pn	09 38 54.3	**-2.1**
INZ	**Inchbonnie**	**3.82**	**230**	P	Pn	09 38 55.8	**-0.8**
AKCZ	**Akaroa Harbour**	**3.99**	**207**	P	Pn	09 38 59.7	**+0.7**

*IDC **28** 09:45:55.5±0.7, 38°40N×144°08E, h0km, mb4.0/11, mb1 4.2/16, mb1mx4.0/57, mbtmp4.0/16, ML3.4/5, MS3.2/4, Ms1 3.2/4, ms1mx2.7/47, Error ellipse: s-maj=17.7km s-min=16.9km az=103.0*
*JMA **28** 09:45:57.7±0.2, 38°57N×143°95E, h44km, M3.9*
*NEIC **28** 09:45:57.9±1.8, 38°45N±0°08×144°1E±0°1, h18km±5km, mb4.2/5, Error ellipse: s-maj=16.5km s-min=10.9km az=102.0*
*NIED **28** 09:45:57.8, 38°57N×143°95E, h44km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}=0.74; $M_{\theta\theta}$0.15; $M_{\phi\phi}$0.59; $M_{r\theta}$0.13; $M_{\theta\phi}$0.12; $M_{\phi r}$0.83; Fault plane solution: $M_0$1.08000×10¹⁵ NP1: ϕ_s190.00000°, δ71.00000°, λ-92.00000°. NP2:ϕ_s16.00000°, δ20.00000°, λ-84.00000°.*

ISC 28 09:45:57.3±0.7, 38°61N±0°04×143°90E±0°06, h14km, n56, σ1ᵗ79/57, mb4.1/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.80**	**286**	P	**Pb**	**09 46 28.2**	**-1.9**
OFUJ				*e*S	**Sn**	**09 46 49.5**	**-1.1**
MIYJ	**Miyakonagasawa**	**1.88**	**301**	P	**Pb**	**09 46 29.0**	**-2.5**
MIYJ				*e*S	**Sn**	**09 46 52.4**	**-0.2**
JKMT	**Kesennumamotoy**	**1.91**	**277**	P	**Pb**	**09 46 29.5**	**-2.4**
JIKH	**Ishinomakikobu**	**1.93**	**262**	P	**Pb**	**09 46 29.5**	**-2.8**
JIKH				S	**Sn**	**09 46 53.1**	**-0.7**
JMK	**Ichinoseki**	**2.12**	**280**	P	**Pb**	**09 46 32.9**	**-2.6**
JMK				*e*S	**Sn**	**09 46 58.5**	**0.0**
JOM	**Ohasama**	**2.21**	**294**	P	**Pb**	**09 46 34.0**	**-2.9**
JANG	**Nango**	**2.55**	**314**	P	**Pb**	**09 46 38.6**	**+0.3**
JANG				*e*S	**Sn**	**09 47 09.6**	**+0.5**
JYK	**Kaneyama**	**2.79**	**277**	P	**Pb**	**09 46 42.4**	**-4.4**
JFT	**Otama**	**3.02**	**250**	P	**Pn**	**09 46 45.4**	**+0.8**
JFT				S	**Sn**	**09 47 20.4**	**-0.2**
ERM	**Erimo**	**3.45**	**351**	Pn	**Pn**	**09 46 50.9**	**+0.4**
JOT	**Ohata**	**3.53**	**323**	*e*S	**Sn**	**09 47 32.1**	**-1.1**
JNBK	**Urakawa-nobuka**	**3.77**	**347**	P	**Pn**	**09 46 55.3**	**+0.3**
JNBK				*e*S	**Sn**	**09 47 38.4**	**-0.7**
JKB	**Kayabe**	**3.94**	**327**	*e*S	**Sn**	**09 47 42.3**	**-1.0**
JCH	**Churui**	**4.02**	**354**	P	**Pn**	**09 46 57.9**	**-0.5**
JCH				*e*S	**Sn**	**09 47 43.9**	**-1.4**
BSO1	**Boso 1**	**4.59**	**212**	S	**Sn**	**09 47 56.6**	**-2.1**
JRY	**Ryogami san**	**4.75**	**239**	P	**Pn**	**09 47 08.7**	**+0.2**
JRY				*e*S	**Sn**	**09 48 01.9**	**-1.5**
NEM2	**Nemuro 2**	**4.95**	**16**	P	**Pn**	**09 47 09.0**	**-2.2**
NEM2				*e*S	**Sn**	**09 48 03.5**	**-4.7**
MJAR	**Matsushiro Arr** 1.4nm,0.3s,baz=162,slow=8.9,SNR=54	**4.97**	**247**	Pn	**Pn**	**09 47 12.8**	**+1.3**
MJAR	**Matsushiro Arr**	**4.97**	**247**		**Pn**	**09 47 13.0**	**+1.5**
MAJO	**Matsushiro**	**4.97**	**247**	Pn	**Pn**	**09 47 13.3**	**+1.7**
MAT	**Matsushiro**	**4.97**	**247**	P	**Pn**	**09 47 13.0**	**+1.5**
MAT				*e*S	**Sn**	**09 48 10.0**	**+1.2**
JKA	**Kamikawa-asahi**	**5.59**	**350**	Pn	**Pn**	**09 47 20.9**	**+0.9**
ASAJ	**Asahikawa** 1.7nm,0.3s,baz=205,slow=14,SNR=12	**5.59**	**350**	Pn	**Pn**	**09 47 21.4**	**+1.4**
JHJ2	**Mitsune**	**6.41**	**212**	Pn	**Pn**	**09 47 30.0**	**-1.3**
JHJ	**Hachijo jima 2** comp=Z,47nm,18.6s,baz=216,slow=44	**6.42**	**213**	LR	LR	09 50 36.0	
USRK	**Ussuriysk Ar.** baz=103,slow=13,SNR=14	**10.54**	**306**	Pn	Pn	09 48 32.3	**+4.4**
USRK	**Ussuriysk Ar.**	**10.54**	**306**	Pn	**Pn**	09 48 32.0	**+4.1**
JCJ	**Chichijima** 1.8nm,0.3s,baz=271,slow=23,SNR=6.0	**11.57**	**188**	Pn	**Pn**	**09 48 37.4**	**-4.7**
KSRS	**Korea Array** 0.1nm,0.3s,baz=92,slow=14,SNR=8.7	**12.65**	**270**	Pn	Pn	09 48 59.5	**+2.8**
KSRS	comp=Z,90nm,18.1s,baz=336,slow=39			LR	LR	09 54 12.4	
KLR	**Kul'dur** 0.1nm,0.3s,baz=119,slow=12,SNR=4.1	**13.74**	**324**	Pn	**Pn**	**09 49 12.0**	**+0.4**
H11N2	**WAKE ISLAND Hy** baz=319,slow=76,SNR=6.7	**27.39**	**127**	T	T	10 20 15.5	
H11N1	**WAKE ISLAND Hy** baz=319,slow=76,SNR=5.5	**27.40**	**127**	T	T	10 20 28.0	
H11N3	**WAKE ISLAND Hy** baz=319,slow=76,SNR=6.4	**27.41**	**127**	T	T	10 20 25.2	
SONM	**Songino Array** 0.7nm,0.6s,baz=106,slow=11,SNR=4.0	**28.60**	**301**	P	P	09 51 56.0	**+2.9**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=90,slow=14,SNR=3.1	**42.34**	**311**	P	**P**	**09 53 52.3**	**+1.8**
ZALV				PcP	**PcP**	**09 55 45.0**	**+1.2**
MK31	**Makanchi Array** 1.4nm,0.6s,baz=64,slow=5.1,SNR=3.9	**44.97**	**301**	P	**P**	**09 54 13.6**	**+1.7**
MK31				IAmb	IAmb	09 54 25.4	
MKAR	**Makanchi Array** comp=Z,2.7nm,0.8s	**44.97**	**301**	P	**P**	**09 54 13.8**	**+1.9**
MKAR	**Makanchi Array** comp=Z,1.5nm,0.8s,baz=83,slow=9.9,SNR=11	**44.97**	**301**	P	**P**	**09 54 13.4**	**+1.5**
ILAR	**Eielson Array** comp=Z,0.9nm,0.8s,baz=264,slow=6.9,SNR=11	**47.10**	**33**	P	**P**	**09 54 28.9**	**+0.5**
BCAR	**Beaver Creek A**	**49.48**	**35**	P	**P**	**09 54 47.5**	**+0.6**
ARU	**Arti** comp=Z,1.3nm,0.2s,baz=310,slow=4.2,SNR=3.8	**56.49**	**318**	P	**P**	**09 55 40.8**	**+2.2**
ABKAR	**Akbulak array**	**58.43**	**310**	P	P	09 55 55.2	**+2.8**
WB0	**Warramunga Arr**	**58.75**	**190**	P	**P**	**09 55 54.0**	**-0.8**
WR0	**Warramunga Arr**	**58.92**	**190**	P	**P**	**09 55 54.4**	**-1.6**
WB2	**Warramunga Arr**	**58.93**	**190**	P	**P**	**09 55 55.0**	**-1.0**
WRA	**Warramunga Arr** comp=Z,3.7nm,0.8s,baz=10,slow=7.4,SNR=19	**58.93**	**191**	P	**P**	**09 55 55.0**	**-1.1**
WRA	**Warramunga Arr**	**58.93**	**191**	P	**P**	**09 55 55.3**	**-0.8**
ASAR	**Alice Springs** comp=Z,1.0nm,0.8s,baz=8,slow=7.1,SNR=11	**62.65**	**190**	P	**P**	**09 56 20.8**	**-0.6**
ASAR	**Alice Springs**	**62.65**	**190**	P	**P**	**09 56 20.5**	**-0.9**
GEYT	**Alibeck** comp=Z,34nm,20.3s,baz=125,slow=38	**64.79**	**299**	LR	LR	10 26 37.3	
FINES	**FINESS Array B** comp=Z,29nm,18.2s,baz=276,slow=39	**68.33**	**333**	LR	LR	10 30 51.2	
KBZ	**Khabaz**	**71.36**	**311**	P	**P**	**09 57 19.1**	**+2.5**
	comp=Z,2.3nm,0.7s,baz=190,slow=0.3,SNR=5.2						
NVAR	**Mina Array Bea** comp=Z,1.4nm,0.8s,baz=286,slow=6.0,SNR=13	**72.47**	**55**	P	**P**	**09 57 25.4**	**+1.7**
NVAR	**Mina Array Bea**	**72.47**	**55**	P	**P**	**09 57 24.4**	**+0.8**
PDAR	**Pinedale Array** comp=Z,0.6nm,0.7s,baz=308,slow=1.3,SNR=7.1	**75.16**	**47**	P	**P**	**09 57 40.0**	**+0.6**
TXAR	**Lajitas Array** comp=Z,0.8nm,0.8s,baz=303,slow=3.8,SNR=6.8	**87.60**	**54**	P	**P**	**09 58 46.1**	**+0.7**

*ATH **28** 09:49:07.9, 40°21N×25°13E, h16km±5km, ML2.2/7, Error ellipse: s-maj=5.3km s-min=0.8km az=160.0*
*ISK **28** 09:49:07.1, 40°20N×25°11E, h3km, ML2.5/12*
*THE **28** 09:49:08.2, 40°21N×25°10E, h2km±3km, ML2.2/4, Error ellipse: s-maj=3.6km s-min=0.6km az=327.0*
*DDA **28** 09:49:09.3, 40°19N×25°22E, h7km±2km, ML2.0*

ISC 28 09:49:08.3±1.0, 40°21N±0°02×25°12E±0°02, h11km±9km, n41, σ0ᵗ56/60, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.31**	**171**	P	**Pg**	**09 49 14.7**	**+0.1**
LIA	3μm,0.2s			S	**Sg**	**09 49 19.2**	**+0.4**
LIA	**Limnos Island**	**0.31**	**171**	P	**Pg**	**09 49 14.7**	**+0.1**
LIA				S	**Sg**	**09 49 18.9**	**+0.1**
LIA	comp=E,8056μm,0.3s			AML	AML	09 49 19.4	
LIA	comp=N,3475μm,0.1s			AML	AML	09 49 19.6	
SMTH	**Samothraki Isl**	**0.41**	**50**	P	**Pg**	**09 49 16.0**	**-0.4**
SMTH	comp=N,238nm,0.1s			S	**Sg**	**09 49 22.4**	**+0.6**
SMTH	**Samothraki Isl**	**0.41**	**50**	P	**Pg**	**09 49 16.0**	**-0.4**
SMTH				S	**Sg**	**09 49 21.9**	**+0.1**
SMTH	comp=E,451μm,0.2s			AML	AML	09 49 22.7	
SMTH	comp=N,489μm,0.1s			AML	AML	09 49 23.1	
THAS	**Thassos island**	**0.50**	**322**	P	**Pg**	**09 49 17.6**	**-0.5**
THAS	**Thassos island**	**0.50**	**322**	P	**Pg**	**09 49 17.9**	**-0.2**
THAS				S	**Sg**	**09 49 25.2**	**+0.4**
THAS	comp=N,272μm,0.3s			AML	AML	09 49 28.5	
THAS	comp=E,224μm,0.2s			AML	AML	09 49 29.3	
GADA	**Gvkgeada**	**0.60**	**91**	P	**Pg**	**09 49 19.7**	**-0.2**
GADA	**Gvkgeada**	**0.60**	**91**	PG	**Pg**	**09 49 19.3**	**-0.6**
GOKA	**anakkale-Gk**	**0.60**	**91**	*i* P	**Pg**	**09 49 19.8**	**-0.2**
GOKA				*i* S	**Sb**	**09 49 30.8**	**+1.4**
GOKA	comp=E,211nm,0.3s			IAML		09 49 31.0	
GOKA	comp=N,171nm,0.2s			IAML		09 49 32.0	
BOZC	**Bozcaada**	**0.80**	**117**	PG	**Pg**	**09 49 23.5**	**-0.4**
BOZC	**Bozcaada**	**0.80**	**117**	*i* P	**Pg**	**09 49 23.4**	**-0.4**
BOZC				*i* P	**Pb**	**09 49 23.8**	**-0.5**
BOZC				*i* S	**Sg**	**09 49 33.9**	**-0.4**
BOZC	comp=E,409nm,1.3s			IAML		09 49 34.0	
BOZC	comp=N,49nm,0.2s			IAML		09 49 36.0	
BOZC	comp=N,96nm,0.5s			IAML		09 49 36.0	
BOZC	comp=E,42nm,0.7s			IAML		09 49 37.0	
OUR	**Ouranopolis**	**0.88**	**279**	P	**Pg**	**09 49 24.7**	**-0.6**
OUR	comp=E,160nm,0.4s			S	**Sg**	**09 49 36.6**	**-0.2**
OUR	**Ouranopolis**	**0.88**	**279**	P	**Pg**	**09 49 24.6**	**-0.6**
OUR				S	**Sg**	**09 49 37.1**	**+0.3**
OUR	comp=E,344μm,0.3s			AML	AML	09 49 39.3	
OUR	comp=N,288μm,0.4s			AML	AML	09 49 40.5	
OUR	**Ouranopolis**	**0.88**	**279**	PG	**Pg**	**09 49 24.9**	**-0.4**
OUR				SG	**Sb**	**09 49 37.4**	**0.0**
KAVA	**Kavala**	**0.91**	**330**	P	**Pg**	**09 49 25.9**	**0.0**
KAVA	**Kavala**	**0.91**	**330**	P	**Pg**	**09 49 25.4**	**-0.6**
KAVA				S	**Sg**	**09 49 38.2**	**+0.4**
KAVA	comp=N,201μm,0.4s			AML	AML	09 49 38.8	
KAVA	comp=E,220μm,0.3s			AML	AML	09 49 39.0	
ALN	**Alexandroupoli**	**0.98**	**45**	P	**Pg**	**09 49 26.4**	**-0.9**
ALN				S	**Sb**	**09 49 40.9**	**+0.5**
ALN	**Alexandroupoli**	**0.98**	**45**	P	**Pg**	**09 49 26.4**	**-0.9**
ALN				S	**Sb**	**09 49 40.5**	**+0.1**
ALN	comp=E,174μm,0.4s			AML	AML	09 49 42.4	
ALN	comp=N,323μm,0.5s			AML	AML	09 49 43.1	
ALN	**Alexandroupoli**	**0.98**	**45**	PG	**Pg**	**09 49 26.5**	**-0.9**
ALN				SG	**Sn**	**09 49 41.7**	**-0.3**
RDO	**Rodhopi**	**0.99**	**19**	P	**Pg**	**09 49 26.6**	**-0.8**
RDO	**Rodhopi**	**0.99**	**19**	P	**Pg**	**09 49 26.7**	**-0.8**
RDO	**Rodhopi**	**0.99**	**19**	PG	**Pg**	**09 49 26.5**	**-0.8**
EZN	**Ezine**	**1.00**	**112**	PG	**Pg**	**09 49 26.8**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.05**	**79**	PG	**Pg**	**09 49 28.4**	**-0.1**
GELI				SG	**Sn**	**09 49 43.7**	**0.0**
SIGR	**SIGRI**	**1.15**	**150**	P	**Pg**	**09 49 29.6**	**-0.7**
SIGR	**SIGRI**	**1.15**	**150**	P	**Pg**	**09 49 29.6**

THIG				*i* S		**Sn**	**09 52 19.5**	**+2.5**
FUG	**Fuego 3**	**1.28**	**74**	*e*P		**Pn**	**09 52 12.2**	**+0.3**
PCG	**Pacaya**	**1.49**	**78**	*e*S		**Sn**	**09 52 32.1**	**-1.3**
IXG	**Ixpaco**	**1.62**	**87**	*e*P		**Pn**	**09 52 17.5**	**+1.0**
IXG				*e*S		**Sn**	**09 52 35.7**	**-0.7**

*SKHL **28** 09:54:04.2±0.8,43°.29N×146°.25E, h25km±2km, mb3.8/2*
*JMA **28** 09:54:04.8±0.1,43°.22N×145°.98E, h45km±1km, M2.6*
ISC 28 09:54:02.4±3.3,**43°.2N**±0°.1×**146°.2E**±0°.2,**h46**km±14km,**n13, s079/22, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.38**	**297**	P	**Pn**	**09 54 12.7**	**+0.8**
NEM2				*e*S	**Sn**	**09 54 18.1**	**-0.6**
NMR	**Nemuro--Hokkai**	**0.39**	**297**	*i* P	**Pn**	**09 54 12.7**	**+0.6**
NMR				*i* S	**Sn**	**09 54 18.2**	**-0.7**
GLVR	**Golovnino**	**0.74**	**318**	*e*P	**Pn**	**09 54 17.1**	**+0.6**
GLVR				AMB	AMB	09 54 17.6	
	30nm,0.3s						
GLVR				*e*S	**Sn**	**09 54 27.1**	**+0.4**
GLVR				A	A	09 54 27.6	
	480nm,0.2s						
GLVR				A	A	09 54 27.6	
	320nm,0.2s						
JKHN	**Kushirohamanak**	**0.78**	**262**	P	**Pn**	**09 54 17.4**	**+0.5**
GRPR	**Tuman**	**0.86**	**339**	*e*P	**Pn**	**09 54 18.7**	**+0.6**
GRPR				AMB	AMB	09 54 19.0	
	130nm,0.3s						
GRPR				*e*S	**Sn**	**09 54 28.6**	**-1.0**
GRPR				A	A	09 54 30.0	
	310nm,0.2s						
GRPR				A	A	09 54 30.0	
	170nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.88**	**343**	*e*P	**Pn**	**09 54 18.2**	**-0.1**
YUK				*e*S	**Sn**	**09 54 29.1**	**-0.9**
YUK				A	A	09 54 32.0	
	130nm,0.2s						
YUK				A	A	09 54 32.0	
	190nm,0.2s						
JNSB	**Nemuroshibetsu**	**1.05**	**304**	P	**Pn**	**09 54 21.0**	**+0.3**
JRA	**Rausu**	**1.09**	**314**	P	**Pn**	**09 54 22.0**	**+0.9**
JRA				*e*S	**Sn**	**09 54 34.8**	**-0.2**
JAK	**Akkeshi**	**1.12**	**261**	P	**Pn**	**09 54 21.7**	**+0.1**
JNK	**Nakash**	**1.16**	**290**	P	**Pn**	**09 54 22.0**	**-0.1**
JNK				*e*S	**Sn**	**09 54 35.0**	**-1.7**
JOB	**Onbets**	**1.76**	**261**	P	**Pn**	**09 54 30.8**	**+0.4**
JAR	**Ashorobuto**	**1.79**	**274**	P	**Pn**	**09 54 31.2**	**+0.5**
JAR				*e*S	**Sn**	**09 54 51.6**	**-0.6**
JTKR	**Abashiri--Toko**	**1.84**	**296**	P	**Pn**	**09 54 32.8**	**+1.3**
JTKR				*e*S	**Sn**	**09 54 53.7**	**+0.1**

*MEX **28** 10:03:43.3±0.3,14°.06N×92°.13W, h45km, MD3.8*
*GCG **28** 10:03:44.9±0.3,14°.34N×91°.83W, h50km, MD4.0*
ISC 28 10:03:42.2±3.9,**14°.1N**±0°.2×**92°.0W**±0°.2,**h54**km,**n5,** σ1§**77**/7,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.85**	**343**	*e*P	**Pn**	**10 03 57.8**	**-0.3**
THIG				*i* S	**Sn**	**10 04 07.5**	**-2.2**
FUG	**Fuego 3**	**1.19**	**72**	*e*P	**Pn**	**10 04 02.7**	**-0.1**
PCG	**Pacaya**	**1.40**	**77**	*e*S	**Sn**	**10 04 22.5**	**-0.7**
IXG	**Ixpaco**	**1.53**	**87**	*e*P	**Pn**	**10 04 08.1**	**+0.8**
CCIG	**Comitan**	**2.18**	**357**	*e*P	**Pn**	**10 04 18.8**	**+2.5**
CCIG				*i* S	**Sn**	**10 04 41.7**	**-0.5**

*GII **28** 10:21:42.2±0.0,38°.51N×37°.15E, h1km, MD3.7/2*
*NIC **28** 10:22:00.4±0.0,37°.25N×36°.89E, h17km±26km, Ml3.9/3*
*IDC **28** 10:22:00.8±1.3,37°.08N×37°.10E, h0km, mb3.6/5,*
mb1 3.7/9, mb1mx3.5/41, mbtmp3.7/9, ML3.5/4, MS3.3/1,
Ms1 3.3/1, ms1mx2.2/45, Error ellipse: s-maj=22.2km
s-min=11.6km az=80.0
*ISK **28** 10:22:00.8,37°.11N×36°.90E, h10km, ML3.9/32*
*DDA **28** 10:22:01.4,37°.12N×36°.88E, h8km±1km, MW3.8*
ISC 28 10:22:01.9±0.9,**37°.14N**±0°.02×**36°.89E**±0.02,**h9**km±7km,
n105, σ1§**18**/116,**mb3.7**/4,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMA	**Osmaniye**	**0.18**	**285**	*i* P	**Pg**	**10 22 05.4**	**-0.3**
KAMA				*i* S	**Sg**	**10 22 08.6**	**+0.2**
KAMA				IAML		10 22 09.0	
	comp=N,14μm,0.4s						
KAMA				IAML		10 22 10.0	
	comp=E,18μm,0.2s						
HCB	**Kahramanmara**	**0.20**	**4**	*i* P	**Pg**	**10 22 05.9**	**-0.2**
HCB				*i* S	**Sg**	**10 22 09.4**	**+0.4**
HCB				IAML		10 22 11.0	
	comp=E,18μm,0.1s						
GAZ	**Gaziantep**	**0.26**	**83**	PG	**Pg**	**10 22 06.6**	**-0.6**
GAZ				SG	**Sg**	**10 22 10.9**	**+0.2**
GAZ	**Gaziantep**	**0.26**	**83**	P	**Pg**	**10 22 06.5**	**-0.6**
GAZ				S	**Sg**	**10 22 10.9**	**+0.2**
GAZ				AML	AML	10 22 11.6	
	comp=E,115nm,0.5s						
GAZ				AML	AML	10 22 11.6	
	comp=E,115nm,0.5s						
GAZ				AML	AML	10 22 11.8	
	comp=E,76nm,0.6s						
GAZ				AML	AML	10 22 11.8	
	comp=E,76nm,0.6s						
KMRS	**Kahramanmaras**	**0.36**	**1**	PG	**Pg**	**10 22 08.9**	**-0.2**
GZT	**Gaziantep**	**0.58**	**68**	*i* P	**Pg**	**10 22 12.8**	**-0.3**
GZT				IAML		10 22 23.0	
	comp=E,12μm,0.4s						
GZT				IAML		10 22 30.0	
	comp=N,12μm,0.4s						
ANDN	**Andirin**	**0.62**	**315**	*i* P	**Pg**	**10 22 13.6**	**-0.2**
ANDN				*i* S	**Sb**	**10 22 22.9**	**-0.9**
ANDN				IAML		10 22 23.0	
	comp=E,4μm,0.3s						
ANDN				IAML		10 22 24.0	
	comp=N,4μm,0.5s						
KOZT	**Kozan**	**0.91**	**292**	PG	**Pg**	**10 22 18.9**	**-0.6**
SAIM	**ADANA**	**1.05**	**323**	*i* P	**Pg**	**10 22 21.5**	**-0.7**
SAIM				IAML		10 22 40.0	
	comp=N,5μm,0.3s						
SAIM				IAML		10 22 42.0	
	comp=E,7μm,0.3s						
YURE	**YUREGIR**	**1.05**	**253**	PG	**Pn**	**10 22 22.3**	**-0.6**
YURE	**YUREGIR**	**1.05**	**253**	*i* P	**Pn**	**10 22 22.2**	**-0.8**
ATAB	**Bozova**	**1.17**	**73**	*i* P	**Pg**	**10 22 23.6**	**-0.7**
ATAB				IAML		10 22 41.0	
	comp=E,8μm,0.5s						
YAYL	**Yayladag**	**1.27**	**210**	*i* P	**Pn**	**10 22 24.8**	**-1.2**
YAYL				IAML		10 22 46.0	
	comp=N,2μm,0.8s						
YAYL				IAML		10 22 46.0	
	comp=E,2μm,0.4s						
SARI	**SarD1z-Kayseri**	**1.32**	**344**	PN	**Pb**	**10 22 26.8**	**-0.2**
KRTS	**Karatas**	**1.34**	**245**	PN	**Pn**	**10 22 26.3**	**-0.5**
SURC	**SANLIURFA_SURC**	**1.40**	**100**	*i* P	**Pn**	**10 22 26.3**	**-1.5**
SURC				IAML		10 22 50.0	
	comp=N,2μm,0.3s						
SURC				IAML		10 22 52.0	
	comp=E,3μm,0.7s						
KARA	**Karaisali**	**1.47**	**275**	PN	**Pn**	**10 22 27.8**	**-0.8**
YAHY	**KAYSERI_Yahyal**	**1.54**	**309**	*i* P	**Pb**	**10 22 30.3**	**-0.4**
YAHY				IAML		10 22 58.0	
	comp=E,409nm,0.5s						
YAHY				IAML		10 23 00.0	
	comp=N,478nm,0.4s						
URFA	**Urfa**	**1.57**	**78**	PN	**Pn**	**10 22 29.1**	**-1.0**
URFA				SN	**Sb**	**10 22 51.0**	**-0.2**
CMRD	**Camardi-Nigde**	**1.60**	**290**	PN	**Pn**	**10 22 30.2**	**-0.3**
CUGUR	**Gurin_SVAS**	**1.61**	**11**	*i* P	**Pb**	**10 22 31.6**	**-0.3**
CUGUR				IAML		10 23 00.0	
	comp=N,2μm,1.0s						
CUGUR				IAML		10 23 02.0	
	comp=E,2μm,0.9s						
SANL	**SANLIURFA_Merk**	**1.68**	**88**	*i* P	**Pn**	**10 22 30.3**	**-1.2**
SANL				IAML		10 22 56.0	
	comp=N,2μm,0.5s						
SANL				IAML		10 23 05.0	
	comp=E,2μm,0.4s						
DED	**Mersin**	**1.68**	**265**	*i* P	**Pn**	**10 22 31.2**	**-0.4**
DED				IAML		10 22 59.0	
	comp=N,398nm,0.5s						
DED				IAML		10 22 59.0	
	comp=E,528nm,0.5s						
MALT	**Malatya**	**1.69**	**46**	PN	**Pn**	**10 22 31.2**	**-0.6**
BNN	**Bunyan**	**1.90**	**335**	PN	**Pn**	**10 22 35.0**	**+0.3**
MERS	**Mersin**	**1.92**	**263**	PN	**Pn**	**10 22 34.5**	**-0.3**
HEKM	**Malatya_Hekimh**	**1.93**	**26**	*i* P	**Pb**	**10 22 36.2**	**-1.2**
HEKM				IAML		10 23 10.0	
	comp=N,2μm,0.5s						
HEKM				IAML		10 23 12.0	
	comp=E,2μm,0.5s						
GUNE	**Kayseri**	**2.02**	**331**	*i* P	**Pg**	**10 22 40.8**	**+0.1**
GUNE				IAML		10 23 19.0	
	comp=E,1μm,0.5s						
GUNE				IAML		10 23 21.0	
	comp=N,832nm,1.0s						
NIG	**Nigde**	**2.05**	**299**	PN	**Pn**	**10 22 36.7**	**-0.2**
ELZG	**Elazig**	**2.14**	**50**	*i* P	**Pn**	**10 22 37.9**	**-0.1**
ELZG				IAML		10 23 18.0	
	comp=N,618nm,0.4s						
ELZG				IAML		10 23 19.0	
	comp=E,661nm,0.4s						
KERG	**Konya-Eregli**	**2.22**	**278**	*i* P	**Pn**	**10 22 39.9**	**+0.8**
KERG				IAML		10 23 15.0	
	comp=E,255nm,0.6s						
KERG				IAML		10 23 16.0	
	comp=N,239nm,0.3s						
ARPR	**Arapgir-MALATY**	**2.26**	**30**	PN	**Pn**	**10 22 39.4**	**-0.2**
SVRC	**Sivrice-ELAZID**	**2.28**	**56**	PN	**Pn**	**10 22 39.6**	**-0.3**
KIZK	**Mersin**	**2.30**	**254**	PN	**Pn**	**10 22 39.2**	**-0.8**
KIZK	**Mersin**	**2.30**	**254**	*i* P	**Pn**	**10 22 39.5**	**-0.6**
KIZK				IAML		10 23 20.0	
	comp=E,142nm,0.4s						
AVNS	**Nevsehir-Avano**	**2.32**	**316**	*i* P	**Pb**	**10 22 42.4**	**-1.6**
AVNS				IAML		10 23 31.0	
	comp=N,284nm,0.7s						
AVNS				IAML		10 23 34.0	
	comp=E,370nm,0.8s						
GULA	**Gulagac**	**2.42**	**301**	PN	**Pn**	**10 22 41.9**	**+0.1**
KEMA	**Kemaliye**	**2.47**	**30**	*i* P	**Pn**	**10 22 43.5**	**+1.0**
KEMA				IAML		10 23 24.0	
	comp=E,357nm,0.5s						
KEMA				IAML		10 23 28.0	
	comp=N,398nm,0.5s						
SLFK	**Silifke-Mersin**	**2.48**	**253**	PN	**Pn**	**10 22 42.5**	**0.0**
SILI	**Silifke-Mersin**	**2.50**	**253**	PN	**Pn**	**10 22 42.8**	**0.0**
YESY	**Yesilyurt**	**2.58**	**285**	PN	**Pn**	**10 22 44.2**	**+0.1**
PTK	**Pertek**	**2.64**	**48**	PN	**Pn**	**10 22 44.7**	**-0.2**
DYBB	**Diyarbakir**	**2.71**	**72**	PN	**Pn**	**10 22 45.5**	**-0.2**
EREN	**Erenkoy**	**2.72**	**235**	PN	**Pn**	**10 22 45.6**	**-0.2**
EREN	**Erenkoy**	**2.72**	**235**	*i* P	**Pn**	**10 22 45.0**	**-0.8**
IKL	**Isikli**	**2.73**	**252**	PN	**Pn**	**10 22 45.7**	**-0.2**
TISA	**Tisan-Mersin**	**2.76**	**250**	PN	**Pn**	**10 22 46.4**	**0.0**
SVSK	**Karacayir**	**2.77**	**2**	PN	**Pn**	**10 22 47.1**	**+0.6**
YESI	**Yesilovacik-Me**	**2.78**	**251**	PN	**Pn**	**10 22 46.3**	**-0.3**
YOZ	**Yozgat**	**2.78**	**334**	PN	**Pn**	**10 22 47.2**	**+0.4**
TEPK	**Tepekoy-MERSIN**	**2.84**	**252**	PN	**Pn**	**10 22 47.5**	**0.0**
MAZI	**Mazidag**	**2.85**	**83**	PN	**Pn**	**10 22 47.5**	**-0.3**
GULN	**MERSIN_Gulnar**	**2.85**	**251**	*i* P	**Pn**	**10 22 46.7**	**-1.0**
TEVE	**Tevekalti-Mers**	**2.85**	**257**	PN	**Pn**	**10 22 47.9**	**+0.2**
AKKU	**Akkuyu-Mersin**	**2.86**	**251**	PN	**Pn**	**10 22 47.8**	**+0.1**
AKK2	**Akkuyu-Mersin**	**2.87**	**251**	PN	**Pn**	**10 22 47.9**	**+0.1**
AKK1	**Akkuyu-Mersin**	**2.87**	**251**	PN	**Pn**	**10 22 47.9**	**0.0**
SULT	**Sultanhani-AKS**	**2.88**	**293**	PN	**Pn**	**10 22 48.3**	**+0.2**
OREN	**Orenkoy-Mersin**	**2.91**	**252**	PN	**Pn**	**10 22 48.5**	**+0.1**
HWQ	**Hawqa**	**2.96**	**195**	*e*P	**Pn**	**10 22 49.2**	**0.0**
YORU	**Yoruktepe-Mers**	**2.97**	**252**	PN	**Pn**	**10 22 49.3**	**0.0**
YAYX	**Yaylak**	**3.02**	**307**	PN	**Pn**	**10 22 50.6**	**+0.5**
PARAL	**Paralimni**	**3.15**	**228**	P	**Pn**	**10 22 50.8**	**-0.9**
PARAL				AML	AML	10 23 44.0	
	comp=N,0.7nm,0.7s						
PARAL				AML	AML	10 23 45.1	
	comp=N,1.1nm,0.6s						
SERE	**Serefiikochisa**	**3.19**	**305**	PN	**Pn**	**10 22 52.9**	**+0.6**
TOKT	**Tokat**	**3.19**	**355**	PN	**Pn**	**10 22 52.8**	**+0.5**
TEKE	**Tekeli-Mersin**	**3.20**	**253**	PN	**Pn**	**10 22 52.6**	**+0.2**
RSDY	**Resadiye-TOKAT**	**3.27**	**6**	PN	**Pn**	**10 22 53.9**	**+0.5**
LFK	**Lefkose**	**3.29**	**237**	PN	**Pn**	**10 22 53.7**	**0.0**
ERZN	**Erzincan**	**3.31**	**41**	PN	**Pn**	**10 22 54.3**	**+0.3**
BHL	**Bhannes**	**3.38**	**198**	*e*P	**Pn**	**10 22 56.4**	**+1.4**
MVOU	**Mavrovouni**	**3.38**	**232**	P	**Pn**	**10 22 53.0**	**-2.0**
MVOU				S	**Sn**	**10 23 35.5**	**+0.3**
MVOU				AML	AML	10 23 43.9	
	comp=N,0.6nm,0.4s						
MVOU				AML	AML	10 23 43.9	
	comp=N,0.6nm,0.4s						
MVOU				AML	AML	10 23 48.8	
	comp=N,0.5nm,0.8s						
MVOU				AML	AML	10 23 48.8	
	comp=N,0.5nm,0.8s						
BNGB	**Bingl**	**3.52**	**57**	PN	**Pn**	**10 22 57.1**	**+0.2**
SVAN	**Silvan-Diyarba**	**3.56**	**72**	PN	**Pn**	**10 22 57.8**	**+0.3**
DQRL	**Deir Qamar**	**3.59**	**198**	*e*P	**Pn**	**10 22 57.3**	**-0.6**
CSS	**Mathiatis**	**3.61**	**234**	Pn	**Pn**	**10 22 54.5**	**-3.6**
CSS	**Mathiatis**	**3.61**	**234**	P	**Pn**	**10 22 55.4**	**-2.7**
BRTR	**Keskin Array B**	**3.63**	**316**	Pn	**Pn**	**10 23 01.1**	**+2.6**
	comp=N,1.3nm,0.3s,baz=143,slow=14,SNR=16						
BRTR				Pg	**Pg**	**10 23 12.8**	**+1.3**
	comp=N,3.2nm,0.3s,baz=132,slow=17,SNR=15						
BRTR				Lg	Lg	10 24 02.6	
	comp=N,1.2nm,0.3s,baz=142,slow=31,SNR=2.0						
YEDI	**Yedisu-Bingol**	**3.68**	**50**	PN	**Pn**	**10 22 59.5**	**+0.4**
RCY	**Rachaya**	**3.74**	**194**	*e*P	**Pn**	**10 22 58.7**	**-1.3**
ASGA	**Asgata**	**3.77**	**233**	P	**Pn**	**10 22 59.3**	**-1.0**
NATI	**Neve Ativ**	**3.98**	**194**	Pn	**Pn**	**10 23 04.0**	**+0.8**
ALFC	**Alefka**	**4.00**	**242**	P	**Pn**	**10 23 00.7**	**-2.8**
ALFC				S	**Sn**	**10 23 49.6**	**-0.8**
SZAC	**Souni**	**4.03**	**235**	P	**Pn**	**10 23 03.3**	**-0.6**
GEM	**Giv'at Ha'Em**	**4.05**	**195**	Pn	**Pn**	**10 23 04.2**	**+0.1**
GEM				Sn	**Sg**	**10 24 07.5**	**-4.4**
AKMS	**Akamas**	**4.25**	**242**	P	**Pn**	**10 23 05.3**	**-1.6**
HNTI	**Hanita**	**4.29**	**200**	Pn	**Pn**	**10 23 07.4**	**+0.1**
MMA0B	**Mount Meron ar**	**4.29**	**197**	Pn	**Pn**	**10 23 07.7**	**+0.2**
MMA0B				Sn	**Sg**	**10 24 15.6**	**-4.1**
MMAI	**Mount Meron Ar**	**4.29**	**197**	Pn	**Pn**	**10 23 06.9**	**-0.6**
	comp=N,11nm,0.3s,baz=11,slow=14,SNR=21						
MMAI				Pg	**Pb**	**10 23 19.9**	**+2.2**
	comp=N,13nm,0.3s,baz=28,slow=15,SNR=7.7						
MMAI				Lg	Lg	10 24 17.6	
	comp=N,20nm,0.3s,baz=18,slow=30,SNR=5.9						
SHMJ	**Saham**	**4.50**	**192**	Pn	**Pn**	**10 23 11.1**	**+0.8**
SHMJ				Sn	**Sb**	**10 24 19.9**	**+4.4**
BLGI	**Bet Lehem HaGe**	**4.61**	**198**	Pn	**Pn**	**10 23 12.1**	**+0.3**
MMLI	**Mount Malkishu**	**4.84**	**195**	Pn	**Pn**	**10 23 15.6**	**+0.5**
QRNJ	**Al-Qirein**	**4.91**	**193**	Pn	**Pn**	**10 23 16.5**	**+0.6**
ASF	**Jabal al Asfar**	**4.96**	**180**	Pn	**Pn**	**10 23 17.7**	**+1.0**
	comp=N,0.4nm,0.3s,baz=312,slow=16,SNR=1.1						
ASF				Pg	**Pb**	**10 23 31.8**	**+2.9**
	comp=N,1.8nm,0.3s,baz=312,slow=22,SNR=3.5						
ASF				Lg	Lg	10 24 37.8	
	comp=N,4.4nm,0.3s,baz=140,slow=23,SNR=6.1						
HMDT	**Nahal Hemdat**	**5.00**	**193**	Pn	**Pn**	**10 23 18.5**	**+1.3**
OSC2	**CSNet OBS 4**	**5.55**	**224**	P	**Pn**	**10 23 24.5**	**-0.2**
OSC1	**CSNet OBS 1**	**5.85**	**233**	P	**Pn**	**10 23 28.5**	**-0.4**
KARJ	**KARJ**	**6.09**	**190**	Pn	Pn	10 23 20.9	-11
EIL	**Elat**	**7.62**	**193**	Lg	Lg	10 26 03.0	
	comp=N,0.4nm,0.3s,baz=314,slow=19,SNR=3.8						
IDI	**Anoyia**	**9.87**	**263**	Pn	**Pn**	**10 24 26.2**	**+2.1**
	comp=N,1.2nm,0.3s,baz=114,slow=12,SNR=6.8						
AKASG	**Malin Array Be**	**14.63**	**340**	Pn	**P**	**10 25 35.5**	**+0.1**
	comp=N,0.5nm,0.3s,baz=158,slow=9.9,SNR=3.1						
GERES	**GERESS Array B**	**20.52**	**312**	P	Pn	10 26 42.6	0.0
	comp=N,0.4nm,0.6s,baz=111,slow=11,SNR=2.2						
FINES	**FINESS Array B**	**25.26**	**348**	P	**P**	**10 27 29.6**	**+1.5**
	comp=N,2.1nm,0.9s,baz=167,slow=13,SNR=4.0						
MKAR	**Makanchi Array**	**34.68**	**59**	P	**P**	**10 28 51.0**	**-0.9**
	comp=N,0.6nm,0.7s,baz=271,slow=6.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**39.47**	**242**	P	**P**	**10 29 32.7**	**-0.1**
	comp=N,0.9nm,0.9s,baz=38,slow=6.8,SNR=4.3						
TORD				LR	LR	10 48 16.4	
	comp=N,42nm,19.7s,baz=195,slow=40						
DBIC	**Dimbokro**	**48.58**	**242**	P	**P**	**10 30 45.6**	**-0.3**
	comp=N,4.0nm,0.9s,baz=18,slow=3.2,SNR=3.1						

VAO 28 10:35:05.7±0.3,**15°.99S**×**60°.76W, h10**km**, mbR3.7,**
Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTLB	**Pontes e Lacer**	**1.65**	**71**	*e*P	Pb	10 35 36.3	0.0
PTLB				*e*S	Sn	10 35 56.2	+0.1
VILB	**Vilhena**	**3.07**	**10**	*e*S	Sn	10 36 32.7	+1.5
SALV	**Santo Antonio**	**4.87**	**90**	*e*S	Sn	10 37 16.7	+1.1
AQDB	**Aquidauana**	**6.55**	**134**	*e*P	Pn	10 36 41.7	-0.5
CLDB	**Colider**	**7.01**	**44**	*e*P	Pn	10 36 50.0	+1.4
CLDB				*e*S	Sn	10 38 08.5	0.0
LPAZ	**La Paz**	**7.09**	**267**	*e*P	Pn	10 36 50.3	+0.2
ETMB	**Extrema**	**8.12**	**318**	*e*P	Pn	10 37 03.5	-0.3
ARAG	**Araguaiana, MT**	**8.62**	**89**	*e*P	Pn	10 37 10.5	0.0
ARAG				*e*S	Sn	10 38 49.6	+1.7
TRCB	**Terra Rica**	**10.22**	**133**	*e*S	Sn	10 39 28.4	+1.0
NPGB	**Novo Progresso**	**10.35**	**31**	*e*P	Pn	10 37 34.5	+0.2
ITRB	**Iturama**	**10.57**	**112**	*e*P	Pn	10 37 37.0	-0.4
ITRB				*e*S	Sn	10 39 37.2	+1.3
PCMB	**Pacaembu**	**10.58**	**123**	*e*P	Pn	10 37 37.1	-0.4
PCMB				*e*S	Sn	10 39 37.3	+1.1
CPUP	**Villa Florida**	**10.77**	**163**	*e*P	Pn	10 37 39.7	-0.4
CPUP				*e*S	Sn	10 39 42.0	+1.3
PTGB	**Pitanga**	**11.90**	**138**	*e*P	Pn	10 37 55.9	+0.2
PTGB				*e*S	Sn	10 40 11.3	+2.7
IPMB	**Ipameri, GO**	**12.17**	**101**	*e*S	Sn	10 40 15.6	+0.4
ITTB	**Itaituba**	**12.56**	**24**	*e*P	Pn	10 38 04.1	-0.6
MACA	**Manacapuru-AM**	**12.75**	**0**	*e*P	Pn	10 38 06.5	-0.7
MACA				*e*S	Sn	10 40 31.7	+2.3
CZSB	**Cruzeiro do Su**	**14.28**	**304**	*e*P	Pn	10 38 28.0	-0.2
SMTB	**Santa Maria do**	**14.68**	**63**	*e*P	Pn	10 38 33.7	0.0
PTGA	**Pitinga**	**15.19**	**3**	*e*P	Pn	10 38 39.9	-0.5
MALB	**Monte Alegre**	**15.44**	**25**	*e*P	Pn	10 38 42.2	-1.5
SDBA	**SAO DESIDERIO**	**15.78**	**79**	*e*P	Pn	10 38 48.0	-0.2

*GCG **28** 10:44:08.4±0.3,14°.14N×92°.34W, h50km, MD4.4*
*MEX **28** 10:44:13.1±0.4,14°.12N×91°.80W, h64km±39km, MD3.6*
ISC 28 10:44:11.4±3.1,**13°.9N**±0°.2×**92°.1W**±0°.1,**h54**km,**n6,** σ1§**46**/9,
1C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.03**	**353**	*e*P	**Pn**	**10 44 28.6**	**-1.0**
THIG				*i* S	**Sn**	**10 44 41.0**	**-2.1**
FUG	**Fuego 3**	**1.37**	**66**	*e*P	**Pn**	**10 44 33.2**	**-1.2**
IXG	**Ixpaco**	**1.67**	**80**	*e*P	**Pn**	**10 44 38.2**	**-0.2**
NBG	**Las Nubes**	**1.87**	**68**	*e*S	**Sn**	**10 45 05.5**	**+1.6**
PCIG		**2.09**	**330**	*e*P	**Pn**	**10 44 44.8**	**+0.7**
PCIG				*i* S	**Sn**	**10 45 08.8**	**-0.1**
CCIG	**Comitan**	**2.38**	**360**	*e*P	**Pn**	**10 44 48.8**	**+0.5**
CCIG				*i* S	**Sn**	**10 45 17.9**	**+1.6**

*IDC **28** 10:52:22.7±1.0,8°.64N×82°.67W, h0km, mb3.7/6, mb1 4.0/9,*
mb1mx3.8/33, mbtmp3.8/9, ML3.7/3, Error ellipse:
s-maj=58.8km s-min=13.2km az=47.0
*UCR **28** 10:52:24.6±2.3,8°.49N×82°.97W, h5km±5km, MD4.1*
*UPA **28** 10:52:24.3±3.5,8°.45N×82°.93W, h6km±10km, MW4.5*
ISC 28 10:52:24.3±1.0,**8°.46N**±0°.03×**82°.94W**±0°.02,**h10**km±7km,
n108, σ1§**52**/135,**mb3.7**/6,**4C-24D, Panama-Costa Rica**
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLIR3	**Monte Lirio, C**	**0.35**	**19**	*i* P	**Pb**	**10 52 32.5**	**-0.3**
EDSV	**San Vito**	**0.36**	**355**	*i* P	**Pb**	**10 52 32.2**	**-0.8**
EDSV				*e*S	**Sb**	**10 52 38.6**	**-0.1**
PTJ1	**Puerto Jimnez**	**0.37**	**282**	*i* P	**Pg**	**10 52 31.4**	**-0.2**
PTJ1	**Puerto Jimnez**	**0.37**	**282**	*e*P	**Pg**	**10 52 31.2**	**-0.4**
PTJ1				*e*S	**Sg**	**10 52 37.5**	**+0.9**
PIRO	**Carate, Puerto**	**0.40**	**262**	*i* P	**Pg**	**10 52 31.6**	**-0.6**
PIRO	**Carate, Puerto**	**0.40**	**262**	*e*P	**Pg**	**10 52 31.5**	**-0.6**
BRU2	**Volcan**	**0.41**	**36**	*i* P	**Pb**	**10 52 33.3**	**-0.6**
	baz=218,slow=1.8						
BRU2	**Volcan**	**0.41**	**36**	*e*P	**Pb**	**10 52 33.2**	**-0.6**
BC3P	**Paso Ancho**	**0.48**	**42**	*i* P	**Pb**	**10 52 34.2**	**-0.8**
BC3P				*i* S	**Sb**	**10 52 44.0**	**+1.7**
BCO2	**Palmira**	**0.48**	**57**	*i* P	**Pb**	**10 52 34.4**	**-0.5**
BCO2				*i* S	**Sb**	**10 52 43.0**	**+0.8**
DVD	**David**	**0.48**	**93**	*i* P	**Pg**	**10 52 34.1**	**+0.4**
DVD				*i* S	**Sb**	**10 52 41.4**	**-0.6**
PTAR3	**Potrerillos Ar**	**0.49**	**62**	*i* P	**Pb**	**10 52 34.6**	**-0.6**
PTAR3				*i* S	**Sb**	**10 52 43.0**	**+0.4**
PEDE3	**Pedregal, Chir**	**0.52**	**98**	*i* P	**Pg**	**10 52 33.2**	**-1.1**
PEDE3				*i

CUI	Cuipilapa	3.10	315	*i* P		Pn	10 53 15.0	+1.6	
BCIP	Isla Barro Col	3.14	77	*e*P		Pn	10 53 13.9	-0.1	
BCIP	Isla Barro Col	3.14	77	⇓*i*P		Pn	10 53 13.9	-0.1	
CHOR3	La Chorrera	3.17	82	*e*P		Pn	10 53 16.9	+2.6	
ARRA3	Arraijan, Pana	3.28	81	*e*P		Pn	10 53 18.4	+2.6	
TABO3	Taboga, Panama	3.36	84	*e*P		Pn	10 53 20.1	+3.2	
UPA	Univ. de Panam	3.40	81	*e*P		Pn	10 53 21.0	+3.5	
UPA	Univ. de Panam	3.40	81	*e*P		Pn	10 53 17.7	+0.1	
UPA				*e*S		Sb	10 54 02.9	-3.4	
CHPO	Chepo, Panama	3.84	79	*e*P		Pn	10 53 25.6	+2.1	
CNTA3	Canitas, Panam	4.07	79	*e*P		Pn	10 53 24.9	-1.8	
UPD2	Meteti	4.87	89	*e*P		Pn	10 53 40.5	+2.8	
UPD2	Meteti	4.87	89	*e*P		Pn	10 53 40.4	+2.8	
PRVC	Isla de Provid	5.13	17	*e*P		Pn	10 53 41.3	0.0	
PRVC				*e*S		Sn	10 54 36.2	-4.3	
PRVC				*i*			10 54 43.9		
	comp=Z,40nm,0.3s								
CAP2	Capurgana	5.52	88	*e*P		Pn	10 53 49.4	+2.7	
CAPC	Capurgana	5.53	88	*e*P		Pn	10 53 48.6	+1.8	
SOLC	Bahia Solano	5.92	112	*e*P		Pn	10 53 50.1	-1.9	
DBBC	Dabeiba	6.82	102	*e*P		Pn	10 54 08.1	+3.5	
URES	San Jos de Ur	7.37	95	*e*P		Pn	10 54 14.7	+2.6	
SJCC	San Jacinto, C	7.79	79	*e*P		Pn	10 54 18.6	+0.7	
SJCC	San Jacinto, C	7.79	79	*e*P		Pn	10 54 18.9	+1.0	
YOTC	Yotoco, Valle	7.92	124	*e*P		Pn	10 54 19.1	-0.7	
ZARC	Zaragoza, Cauc	8.06	96	*e*P		Pn	10 54 24.3	+2.7	
GUY2C	Guyana, Caldas	8.18	113	*e*P		Pn	10 54 25.8	+2.2	
TOLC	Tolima	8.49	116	*e*P		Pn	10 54 30.4	+2.7	
ORTC	Ortega, Tolima	8.88	120	*e*P		Pn	10 54 35.7	+2.8	
APG	El Apazote	9.83	312	Pn		Pn	10 54 48.4	+2.4	
	comp=Z,0.6nm,0.3s,baz=68,slow=9.4,SNR=5.2								
CMIG	Matias Romero	14.46	308	Pn		Pn	10 55 51.6	+2.3	
	comp=Z,0.3nm,0.3s,baz=84,slow=13,SNR=1.9								
LPAZ	La Paz	28.62	149	P		P	10 58 22.4	+0.5	
	comp=Z,1.5nm,1.1s,baz=343,slow=4.6,SNR=2.5								
SIV	San Ignacio	32.54	138	P		P	10 58 55.4	-0.5	
	comp=Z,0.9nm,0.6s,baz=315,slow=8.7,SNR=6.8								
PDAR	Pinedale Array	41.40	330	P		P	11 00 11.9	+0.7	
	comp=Z,0.1nm,0.4s,baz=138,slow=11,SNR=1.9								
H03N2	Juan Fernandez	41.84	175	T		T	11 44 44.8		
	baz=354,slow=76,SNR=2.6								
H03N1	Juan Fernandez	41.84	175	T		T	11 44 46.7		
	baz=354,slow=76,SNR=2.8								
H03N3	Juan Fernandez	41.86	175	T		T	11 44 47.0		
	baz=354,slow=76,SNR=4.3								
NVAR	Mina Array Bea	43.61	319	P		P	11 00 30.8	+1.5	
	comp=Z,0.4nm,0.6s,baz=132,slow=6.5,SNR=4.9								
PLCA	Paso Flores	50.26	168	P		P	11 01 21.6	+0.7	
	comp=Z,2.7nm,0.8s,baz=322,slow=8.4,SNR=6.8								
ILAR	Eielson Array	71.44	336	P		P	11 03 42.6	-2.1	
	comp=Z,0.2nm,0.3s,baz=115,slow=5.5,SNR=3.8								
ASAR	Alice Springs	141.65	242	PKhKP		PKPpre	11 11 51.6		
	comp=Z,0.1nm,0.3s,baz=104,slow=4.0,SNR=1.3								
ASAR				PKP		**PKPdf**	**11 11 55.0**	**-2.0**	
	comp=Z,0.4nm,0.8s,baz=132,slow=2.6,SNR=4.5								
WRA	Warramunga Arr	142.19	248	PKhKP		PKPpre	11 11 54.5		
	comp=Z,0.3nm,0.8s,baz=99,slow=2.6,SNR=1.7								

IDC 28 10:58:14.8±1.8, 54°.70N×83°.75E, h0km, mb1 2.7/3, mb1mx2.7/39, mbtmp2.7/3, ML2.4/3, Error ellipse: s-maj=16.4km s-min=10.0km az=10.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.98	140	*i*		11 03 45.4	
	baz=318,slow=338,SNR=2.8						
ZALV	Zalesovo Beam	0.98	140	Pg	Pg	10 58 32.8	-0.7
	2.3nm,0.3s,baz=322,slow=16,SNR=18						
ZALV				Lg	Lg	10 58 47.6	
	3.9nm,0.3s,baz=323,slow=26,SNR=23						
KURBB	Kurchatov Arra	5.17	220	Pn	Pn	10 59 33.5	+0.1
	0.0nm,0.3s,baz=38,slow=14,SNR=5.2						
KURBB				Sn	Sn	11 00 33.3	-0.4
	0.0nm,0.3s,baz=40,slow=24,SNR=1.6						
KURBB				Lg	Lg	11 01 00.1	
	0.0nm,0.3s,baz=39,slow=30,SNR=5.4						
MKAR	Makanchi Array	7.97	187	Pn	Pn	11 00 12.7	+0.8
	0.1nm,0.3s,baz=359,slow=10,SNR=2.2						
BVAR	Borovoye Array	8.08	263	Pn	Pn	11 00 11.9	-1.4
	0.2nm,0.3s,baz=71,slow=16,SNR=4.2						

IDC 28 11:09:14.2±2.7, 54°.39N×86°.14E, h0km, mb1 2.9/2, mb1mx2.8/46, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=20.2km s-min=12.8km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.89	241	*i*		11 13 49.8	
	baz=59,slow=334,SNR=1.6						
ZALV	Zalesovo Beam	0.89	241	Pg	Pg	11 09 29.9	-1.4
	0.4nm,0.3s,baz=59,slow=17,SNR=7.3						
ZALV				Lg	Lg	11 09 44.0	
	4.3nm,0.3s,baz=63,slow=28,SNR=23						
KURBB	Kurchatov Arra	5.98	234	Pn	Pn	11 10 44.6	+0.7
	0.1nm,0.3s,baz=50,slow=13,SNR=6.4						
KURBB				Lg	Lg	11 12 26.8	
	0.0nm,0.3s,baz=50,slow=32,SNR=4.4						
MKAR	Makanchi Array	7.99	199	Pn	Pn	11 11 12.5	+1.0
	0.2nm,0.3s,baz=23,slow=12,SNR=5.5						
MKAR				Lg	Lg	11 13 29.6	
	0.0nm,0.3s,baz=40,slow=32,SNR=2.6						

*AEIC **28** 11:12:17±2.8, 51°.56N±0°.09×175°.97E±0°.04, h64km±7km, ML3.5/15, Error ellipse: s-maj=12.8km s-min=2.0km az=167.0*
*NEIC **28** 11:12:17.7±1.6, 51°.4N±0°.1×175°.93E±0°.07, h38km±8km, Error ellipse: s-maj=16.8km s-min=6.3km az=188.0*
*IDC **28** 11:12:20.4±4.9, 51°.15N×175°.70E, h67km±42km, mb3.5/9, mb1 3.6/11, mb1mx3.3/58, mbtmp3.8/11, ML2.9/2, Error ellipse: s-maj=59.7km s-min=18.9km az=6.0*
ISC 28 11:12:16.8±1.1, 51°.5N±0°.2×175°.94E±0°.06, h25km, n38, σ1§13/34, mb3.8/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	Little Sitkin	1.67	73		Pn	11 12 44.4	-0.1
SMY	Shemya	1.69	319		Pn	11 12 44.4	-0.3
SMY					Sn	11 13 04.7	-0.8
LSSE	Little Sitkin	1.70	73		Pn	11 12 44.8	0.0
LSPA	Little Sitkin	1.71	73		Pn	11 12 45.1	+0.1
LSPA					Sn	11 13 05.8	-0.2
AMKA	Amchitka	2.11	91		Pn	11 12 50.0	-0.5
CESW	Semis' Southwe	2.29	78		Pn	11 12 53.3	+0.2
CESW					Sn	11 13 19.1	-1.3
CEAP	Semis' Anvil P	2.32	75		Pn	11 12 54.0	+0.6
CERAA	Semis' Rag'd T	2.37	78		Pn	11 12 54.2	+0.1
CERAA					Sn	11 13 22.1	-0.3
TASE	Tanaga Southea	3.77	82		Pn	11 13 13.9	+0.6
KIMD	Kanaga Island	4.26	84		Pn	11 13 20.6	+0.5
ADK	Adak	4.61	82		Pn	11 13 24.9	+0.1
GSTR	Great Sitkin T	5.01	80	Pn	Pn	11 13 29.0	-1.4
ATKA	Atka Island	6.16	79	Pn	Pn	11 13 45.6	-0.5
NIKH	Nikolski High	9.45	75	Pn	Pn	11 14 32.8	+1.5
UNV	Unalaska Valle	10.92	71	Pn	Pn	11 14 53.0	+1.7
PEA0B	Petropavlovsk-	11.29	285	Pn	Pn	11 14 58.1	+1.7
PETK	Petropavlovsk-	11.29	285	P	Pn	11 14 57.6	+1.2
	0.4nm,0.3s,baz=104,slow=18,SNR=2.1						
SEY	Seymchan	17.04	321	P	P	11 16 16.1	+1.4
	0.1nm,0.3s,baz=118,slow=12,SNR=4.0						
OHAK	Old Harbor	18.73	60	Pn	P	11 16 31.8	-1.6
KDAK	Kodiak Island	19.16	58	Pn	P	11 16 36.1	-2.0
ILAR	Eielson Array	23.28	41	P	P	11 17 25.6	+3.3
	0.4nm,0.7s,baz=277,slow=11,SNR=5.0						
KLR	Kul'dur	27.97	283	P	P	11 18 04.1	-1.0
	0.8nm,0.4s,baz=71,slow=7.7,SNR=4.8						
H11N2	WAKE ISLAND Hy	32.47	196	T	T	11 53 21.0	
	baz=18,slow=76,SNR=129						
H11N1	WAKE ISLAND Hy	32.49	196	T	T	11 53 29.2	
	baz=16,slow=76,SNR=101						
H11S1	WAKE ISLAND Hy	33.70	196	T	T	11 54 57.2	
	baz=10,slow=76,SNR=70						
H11S3	WAKE ISLAND Hy	33.72	196	T	T	11 54 58.3	
	baz=10,slow=76,SNR=70						
H11S2	WAKE ISLAND Hy	33.72	196	T	T	11 54 58.4	
	baz=10,slow=76,SNR=36						
NVAR	Mina Array Bea	46.79	79	P	P	11 20 43.7	-0.6
	0.1nm,0.3s,baz=293,slow=7.7,SNR=1.7						
KURK	Kurchatov	56.52	311	P	P	11 21 56.7	+0.2
KURBB	Kurchatov Arra	56.62	311	P	P	11 21 56.7	-0.6
	1.5nm,0.8s,baz=45,slow=6.7,SNR=12						
MKAR	Makanchi Array	57.34	305	P	P	11 22 01.5	-1.0
	0.5nm,0.5s,baz=47,slow=7.8,SNR=7.8						
BVAR	Borovoye Array	58.63	317	P	P	11 22 11.3	0.0
	2.1nm,0.5s,baz=38,slow=7.5,SNR=12						
TXAR	Lajitas Array	61.87	77	P	P	11 22 35.0	+1.0
	0.2nm,0.7s,baz=319,slow=4.9,SNR=3.8						
AKTO	Aktyubinsk	65.63	322	P	P	11 22 58.2	-0.2
	2.4nm,0.6s,baz=41,slow=7.3,SNR=9.0						
AKASG	Malin Array Be	74.35	339	P	P	11 23 50.9	-0.9
	0.2nm,0.3s,baz=24,slow=6.5,SNR=4.0						
H03N2	Juan Fernandez	124.36	102	T	T	13 48 22.5	
	baz=314,slow=77,SNR=5.6						
H03N1	Juan Fernandez	124.38	102	T	T	13 48 24.3	
	baz=314,slow=77,SNR=6.9						
H03N3	Juan Fernandez	124.38	102	T	T	13 48 22.6	
	baz=314,slow=77,SNR=7.6						

*UPA **28** 11:13:31.3±0.9, 8°.48N×82°.94W, h3km±3km, MW4.1*
*UCR **28** 11:13:32.5±2.1, 8°.52N×82°.99W, h2km±4km, MD3.8*
ISC 28 11:13:31.9±1.1, 8°.46N±0°.03×82°.96W±0°.02, h11km±8km, n51, σ1§18/72, 1C-7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	Canoas	0.14	36	*e*P	Pg	11 13 35.5	+0.3
PTJ1	Puerto Jimnez	0.35	283	⇓*i*P	Pg	11 13 39.0	+0.1
PTJ1				*e*S	Sb	11 13 45.1	-0.6
PTJ1	Puerto Jimnez	0.35	283	*e*P	Pg	11 13 39.0	+0.1
PTJ1				*e*S	Sb	11 13 45.6	-0.2
MLIR3	Monte Lirio, C	0.36	22	*e*P	Pb	11 13 39.6	-0.8
EDSV	San Vito	0.36	358	*e*P	Pb	11 13 39.9	-0.6
EDSV				*e*S	Sb	11 13 46.3	+0.1
PIRO	Carate, Puerto	0.38	262	*e*P	Pg	11 13 39.2	-0.2
PIRO				*e*S	Sb	11 13 47.2	+0.6
PIRO	Carate, Puerto	0.38	262	*e*P	Pg	11 13 39.2	-0.2
BRU2	Volcan	0.42	38	⇓*i*P	Pb	11 13 40.9	-0.8
BRU2				*e*S	Sb	11 13 47.5	-0.7
BRU2	Volcan	0.42	38	*e*P	Pb	11 13 40.8	-0.8
BC3P	Paso Ancho	0.49	44	⇓*i*P	Pg	11 13 41.9	+0.2
BCO2	Palmira	0.50	59	⇓*i*P	Pg	11 13 42.1	+0.4
BCO2				*e*S	Sb	11 13 50.2	0.0
DVD	David	0.50	93	⇑*i*P	Pg	11 13 41.8	0.0
DVD				*e*S	Sg	11 13 49.4	+1.0
PTAR3	Potrerillos Ar	0.51	63	*i* P	Pg	11 13 42.3	+0.3
RIOS	Rincon, Osa	0.60	294	*e*P	Pg	11 13 42.5	-1.1
CHIR3	Chiriqui UPA,	0.62	96	⇓*i*P	Pg	11 13 43.6	-0.4
CHIR3				*e*S	Sb	11 13 54.1	+0.4
GUAL3	Gualaca, Chiri	0.66	84	⇓*i*P	Pg	11 13 44.3	-0.4
PSOM3	Paja de Sombre	0.67	70	⇓*i*P	Pg	11 13 44.4	-0.5
EDPN	Palmar Norte	0.70	315	*e*P	Pg	11 13 44.7	-0.8
EDBA	Buenos Aires	0.77	336	*e*P	Pg	11 13 46.5	-0.3
EDBA				*e*S	Sb	11 13 58.6	+0.8
DRK0	Durika	0.85	340	*e*P	Pg	11 13 47.7	-0.6
DRK0				*e*S	Sb	11 14 00.3	0.0
DRK0	Durika	0.85	340	*e*P	Pg	11 13 47.7	-0.6
DRK0				*e*S	Sb	11 13 59.7	-0.7
CHGR2	Aguacate	0.94	59	*i* P	Pg	11 13 48.6	-1.3
CHGR2				*e*S	Sb	11 14 02.8	+0.1
EDLM	Las Mercedes	1.03	323	*e*P	Pg	11 13 51.0	-0.7
EDLM				*e*S	Sb	11 14 05.2	-0.2
REME3	Remedios, Chir	1.14	102	*e*P	Pg	11 13 51.9	-1.9
PEZE	Perez Zeledon,	1.16	322	*e*P	Pg	11 13 52.6	-1.7
EDDO	Dominical	1.19	311	*e*P	Pg	11 13 52.6	-2.3
EDDO				*e*S	Sb	11 14 10.0	-0.1
LCR2	La Lucha 2	1.64	321	*e*P	Pn	11 14 01.1	+0.1
BATAN	Batan	1.68	346	*e*P	Pn	11 14 01.7	+0.3
CVTR	Volcan Turrial	1.74	333	*e*P	Pn	11 14 02.5	-0.1
GMAL	Guarumal, Vera	1.84	112	*e*P	Pn	11 14 01.4	-2.1
GMAL				*e*S	Sn	11 14 26.4	-0.5
HDC	Heredia	1.91	323	*e*P	Pb	11 14 07.2	+0.3
HDC				*e*S	Sg	11 14 31.6	-1.9
HDC	Heredia	1.91	323	*e*P	Pb	11 14 07.3	+0.3
STIA3	Santiago, Vera	2.00	100	*e*P	Pn	11 14 05.4	-0.3
JACO	JACO, Garabito	2.06	306	*e*P	Pn	11 14 07.0	+0.3
SRA1	San Ramn	2.21	317	*e*P	Pb	11 14 11.2	-0.8
LAFE	Finca La Fe, P	2.35	305	*e*P	Pn	11 14 11.3	+0.8
CACAO	El Cacao, Vera	2.35	118	*e*P	Pn	11 14 10.9	+0.3
CACAO				*e*S	Sn	11 14 40.0	+0.5
PNME	Penonome	2.60	89	*e*P	Pn	11 14 15.3	+1.3
PNME	Penonome	2.60	89	*e*P	Pn	11 14 13.5	-0.5
JTS	Las Juntas de	2.68	313	*e*P	Pn	11 14 17.4	+2.3
JTS				*e*S	Sn	11 14 49.5	+1.8
JTS	Las Juntas de	2.68	313	*e*P	Pn	11 14 17.4	+2.3
AZU	Azuero	2.74	104	*e*P	Pn	11 14 18.6	+2.7
AZU	Azuero	2.74	104	*e*P	Pn	11 14 16.5	+0.6
AZU				*e*S	Sn	11 14 50.5	+1.4
VTON	El Valle, Cocl	2.82	87	*e*P	Pn	11 14 18.4	+1.4
DUNO	Dulce Nombre,	2.98	303	*e*P	Pn	11 14 20.3	+1.2
GRZA	Playa Garza	3.01	299	*e*P	Pn	11 14 20.7	+1.0
ZANG	Zanguenga, Cho	3.10	81	*e*P	Pb	11 14 25.2	-1.9
ZANG				*e*S	Sn	11 14 57.5	-0.4
ORTG	Ortega, Santa	3.11	308	*e*P	Pn	11 14 23.4	+2.3
BCIP	Isla Barro Col	3.16	77	*e*P	Pn	11 14 23.5	+1.8
BCIP	Isla Barro Col	3.16	77	*e*P	Pn	11 14 21.7	0.0
BCIP				*e*S	Sn	11 14 59.6	+0.1
CAPC	Capurgana	5.55	88	*e*P	Pn	11 14 59.0	+4.4

*JMA **28** 11:19:50.3±0.3, 23°.90N×122°.39E, h15km±5km, M2.3*
*TAP **28** 11:19:50.7, 23°.92N×122°.40E, h23km, ML2.9, D*
ISC 28 11:19:50.0±1.2, 23°.88N±0°.02×122°.40E±0°.02, h18km±3km, n89, σ0§64/160, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.73	277	*e*P	Pg	11 20 05.2	+0.7
	baz=260						
HWA				*e*S	Sg	11 20 14.7	+0.5
	baz=260						
JYNG	Yonagunijimaku	0.75	41	P	Pb	11 20 04.6	0.0
JYNG				*e*S	Sb	11 20 13.8	-0.7
TWD	Chiawan	0.76	285	P	Pb	11 20 04.6	-0.1
	baz=267						
TWD				S	Sb	11 20 14.9	+0.2
	baz=267						
ENAH	Nanao	0.78	316	*i* P	Pb	11 20 04.7	-0.3
	baz=314						
ENAH				*e*S	Sg	11 20 15.6	-0.1
	baz=314						
NACB	Ninganchiao	0.79	292	P	Pb	11 20 05.0	-0.2
	baz=274						
NACB				S	Sb	11 20 15.4	-0.1
	baz=274						
YOJ	Yonaguni jima	0.80	44	P	Pb	11 20 05.6	+0.1
	baz=57						
YOJ				S	Sb	11 20 15.1	-0.8
	baz=57						
YOJ	Yonaguni jima	0.80	44	P	Pb	11 20 05.5	+0.1
YOJ				*e*S	Sb	11 20 15.1	-0.8
ENA	Nanau	0.81	312	P	Pg	11 20 06.1	+0.3
	baz=310						
ENA				S	Sb	11 20 15.9	-0.2
	baz=310						
TWC	Suao	0.88	325	*i* P	Pb	11 20 06.1	-0.6
	baz=324						
TWC				*i* S	Sb	11 20 18.0	-0.1
	baz=324						
ESL	Shilin	0.89	266	P	Pb	11 20 06.3	-0.6
	baz=262						
ESL				S	Sb	11 20 18.0	-0.4
	baz=262						
ETLH	Xiulin Townshi	0.90	291	P	Pg	11 20 07.7	+0.1
	baz=288						
ETLH				*e*S	Sg	11 20 19.4	0.0
	baz=288						
EGFH	Guangfu	0.92	257	*e*P	Pb	11 20 07.5	+0.1
	baz=253						
EGFH				*e*S	Sb	11 20 19.4	+0.3
	baz=253						
HGSD	Ruisui	0.98	247	*e*P	Pb	11 20 07.4	-1.0
	baz=244						
HGSD				S	Sb	11 20 20.5	-0.4
	baz=244						
EGS		1.05	336	P	Pb	11 20 09.6	0.0
	baz=325						
EGS				*e*S	Sn	11 20 23.6	-0.3
	baz=325						
EHY	Hungye	1.06	249	P	Pb	11 20 09.0	-0.8
	baz=246						
EHY				*i* S	Sb	11 20 23.0	-0.2
	baz=246						
TWE	Neicheng	1.07	321	*i* P	Pb	11 20 09.9	-0.1
	baz=320						
TWE				*i* S	Sg	11 20 24.4	-0.4
	baz=320						
WHF	Hehuan Shan	1.07	284	P	Pb	11 20 09.4	-0.8
	baz=268						
WHF				S	Sb	11 20 24.5	+0.4
	baz=268						
ENTT	Nioudou	1.07	315	*i* P	Pb	11 20 09.8	-0.2
	baz=298						
ENTT				S	Sn	11 20 23.8	-0.7
	baz=298						
NNSB	Datong	1.07	300	P	Pb	11 20 10.0	-0.1
	baz=285						
NNSB				S	Sb	11 20 23.9	+0.1
	baz=285						
NNSH	Datong	1.07	300	*e*P	Pb	11 20 10.0	-0.2
	baz=285						
NNSH				*e*S	Sb	11 20 23.9	+0.1
	baz=285						
NDT	Datong Townshi	1.08	312	P	Pb	11 20 10.1	0.0
	baz=309						
NDT				S	Sn	11 20 24.6	-0.1
	baz=309						
NNS	Nan Shan	1.09	301	*i* P	Pb	11 20 10.2	-0.2
	baz=286						
NNS				S	Sb	11 20 24.3	0.0
	baz=286						
NTC	Toucheng	1.10	332	*e*P	Pn	11 20 10.8	+0.3
	baz=330						
NTC				*e*S	Sg	11 20 26.0	+0.3
	baz=330						
FUSS	Fushou	1.12	289	*e*P	Pb	11 20 10.6	-0.4
	baz=286						
FUSS				*e*S	Sb	11 20 24.6	-0.6
	baz=286						
YULB	Yu-li	1.12	244	P	Pn	11 20 10.7	-0.1
	baz=241						
YULB				S	Sb	11 20 24.8	-0.4
	baz=241						
EYUL	Yuli	1.13	242	*e*P	Pn	11 20 11.1	+0.2
	baz=239						
EYUL				*e*S	Sb	11 20 25.1	-0.2
	baz=239						
CHGB	Renai	1.13	279	⇑P	Pn	11 20 10.8	-0.4
	baz=265						
CHGB				S	Sb	11 20 26.0	+0.3
	baz=265						
TWF1	Yuli	1.14	243	P	Pn	11 20 11.1	+0.1
	baz=240						
TWF1				*i* S	Sb	11 20 26.0	+0.3
	baz=240						
VWDT	VWDT	1.16	264	P	Pn	11 20 11.0	-0.3
	baz=261						
VWDT				S	Sb	11 20 26.0	-0.2
	baz=261						
TWB1	Santiao Chiao	1.18	342	*i* P	Pg	11 20 12.6	-0.2
	baz=327						
TWB1				S	Sn	11 20 27.1	-0.1
	baz=327						
TDCB	Techi	1.19	288	P	Pn	11 20 12.2	+0.3
	baz=273						
TDCB				*e*S	Sn	11 20 27.6	-0.1
	baz=273						
TIPB	Shuangxi	1.20	334	P	Pb	11 20 12.7	+0.4
	baz=333						
TIPB				S	Sn	11 20 28.0	+0.2
	baz=333						
NWLT	Wulai	1.21	318	*e*P	Pb	11 20 12.3	0.0
	baz=315						
NWLT				*e*S	Sn	11 20 28.3	+0.4
	baz=315						
YHNB	Yeheng	1.22	310	P	Pn	11 20 12.2	0.0
	baz=308						
YHNB				*e*S	Sn	11 20 28.2	0.0
	baz=308						
FULB	Fuli	1.22	236	*e*P	Pn	11 20 12.2	0.0
	baz=221						
FULB				*e*S	Sb	11 20 27.4	-0.6
	baz=221						
NSK	Sanguang	1.23	310	*i* P	Pn	11 20 12.6	+0.1
	baz=307						
NSK				S	Sn	11 20 28.3	-0.3
	baz=307						
IRIF	Iriomote-Funau	1.30	69	P	Pb	11 20 14.4	+0.6
IRIF				S	Sb	11 20 30.8	+0.7
HATJ	Hateruma jima	1.30	82	S	Sb	11 20 31.1	+0.9
NWF	Wu-fen Shan	1.31	335	P	Pb	11 20 14.3	+0.2
	baz=333						
NWF				S	Sg	11 20 31.2	-1.3
	baz=333						
WFSB	Wu-fen Shan	1.31	335	*e*P	Pb	11 20 14.0	-0.1
	baz=333						
WFSB				*e*S	Sg	11 20 31.4	-1.0
	baz=333						
TWA	Mucha	1.32	326	P	Pb	11 20 14.3	+0.1
	baz=324						
TWA				*e*S	Sb	11 20 31.4	+0.6
	baz=324						
SSLB	Suanglung	1.33	266	*e*P	Pn	11 20 14.2	+0.5
	baz=263						
SSLB				*e*S	Sn	11 20 29.9	-1.0
	baz=263						
EDH	Donghe	1.35	228	*e*P	Pn	11 20 14.0	0.0
	baz=216						
EDH				S	Sn	11 20 29.9	-1.6
	baz=216						
TATO	Taipei	1.37	323	P	Pb	11 20 15.6	+0.5
	baz=321						
SMLT	Sun Moon Lake	1.37	270	P	Pn	11 20 15.0	+0.7
	baz=267						
SMLT				S	Sn	11 20 31.2	-0.9
	baz=267						
WHP	Taichung City	1.39	287	*e*P	Pb	11 20 16.1	+0.7
	baz=273						
WHP				*e*S	Sn	11 20 32.3	-0.1
	baz=273						
TYC	Yuchr	1.41	271	P	Pn	11 20 14.6	-0.1
	baz=268						
TYC				S	Sn	11 20 33.1	+0.2
	baz

	baz=327								
WJS	**Zhushan**	**1.53**	**268**	*e*P		**Pb**	**11 20 17.8**	**-0.1**
	baz=265								
WJS				*e*S		**Sb**	**11 20 37.7**	**+0.8**
	baz=265								
WNT	**Mingjian**	**1.57**	**270**	S		**Sb**	**11 20 39.1**	**+1.1**
	baz=267								
NMLH	**Miaoli**	**1.61**	**294**	*e*S		**Sg**	**11 20 40.8**	**-1.1**
	baz=291								
TWGBT	**Beinan**	**1.61**	**229**	*e*P		**Pn**	**11 20 17.3**	**-0.2**
	baz=239								
TWGBT				*e*S		**Sn**	**11 20 36.5**	**-1.4**
	baz=239								
TWG	**Pinlang**	**1.61**	**229**	*e*P		**Pn**	**11 20 17.8**	**+0.2**
	baz=239								
TWG				*e*S		**Sn**	**11 20 37.2**	**-0.7**
	baz=239								
JIJ	**Ishigaki jima**	**1.66**	**73**	P		**Pn**	**11 20 18.8**	**+0.6**
JIJ				*e*S		**Sb**	**11 20 41.2**	**+0.5**
STYT	**Tauyuan**	**1.67**	**245**	*e*P		**Pn**	**11 20 18.6**	**+0.2**
	baz=232								
STYT				S		**Sn**	**11 20 39.7**	**+0.3**
	baz=232								
WDLH	**Douliu**	**1.72**	**264**	*e*S		**Sb**	**11 20 42.5**	**+0.3**
	baz=261								
TPUB	**Ta-pu**	**1.72**	**251**	P		**Pn**	**11 20 19.5**	**+0.4**
	baz=237								
TPUB				S		**Sb**	**11 20 42.5**	**0.0**
	baz=237								
WTP	**Ta-pu**	**1.76**	**249**	P		**Pb**	**11 20 22.0**	**+0.3**
	baz=235								
WTP				*e*S		**Sn**	**11 20 42.8**	**+1.3**
	baz=235								
SLGT	**Liugui**	**1.84**	**242**	*e*P		**Pn**	**11 20 22.2**	**+1.6**
	baz=230								
SLGT				*e*S		**Sn**	**11 20 44.8**	**+1.4**
	baz=230								
ECL	**Taimali**	**1.85**	**226**	P		**Pn**	**11 20 20.9**	**+0.1**
	baz=224								
ECL				S		**Sn**	**11 20 42.0**	**-1.7**
	baz=224								
SGST	**Jiashian**	**1.85**	**245**	*e*P		**Pb**	**11 20 22.9**	**-0.4**
	baz=242								
SGST				S		**Sn**	**11 20 45.4**	**+1.6**
	baz=242								
CHY	**Chiayi**	**1.85**	**258**	*e*S		**Sb**	**11 20 45.9**	**-0.2**
	baz=256								
WTK	**Tuku**	**1.85**	**264**	*e*S		**Sb**	**11 20 46.5**	**+0.4**
	baz=262								
CHN1	**Nanshi**	**1.85**	**248**	P		**Pb**	**11 20 24.0**	**+0.7**
	baz=246								
CHN1				S		**Sb**	**11 20 46.8**	**+0.6**
	baz=246								
TWK	**Hsinying**	**1.86**	**251**	P		**Pn**	**11 20 22.6**	**+1.6**
	baz=248								
TWK				S		**Sb**	**11 20 46.2**	**-0.2**
	baz=248								
SNST	**Tainan City**	**1.87**	**250**	S		**Sb**	**11 20 46.2**	**-0.3**
	baz=247								
RLNB	**Erlin**	**1.87**	**271**	*e*S		**Sb**	**11 20 47.9**	**+1.4**
	baz=268								
SSD	**Sandimen**	**1.98**	**235**	*e*P		**Pn**	**11 20 23.7**	**+1.1**
	baz=225								
LAY	**Lan-yu**	**2.00**	**203**	P		**Pn**	**11 20 22.9**	**0.0**
	baz=202								
LAY				S		**Sn**	**11 20 45.9**	**-1.4**
	baz=202								
WSF	**Szhu**	**2.01**	**263**	S		**Sb**	**11 20 50.8**	**+0.1**
	baz=261								
SCST	**Cishan**	**2.01**	**241**	*e*S		**Sb**	**11 20 52.5**	**+1.7**
	baz=239								
TAW	**Tawu**	**2.06**	**223**	*e*P		**Pn**	**11 20 23.9**	**+0.3**
	baz=231								
TAW				*e*S		**Sn**	**11 20 48.2**	**-0.6**
	baz=231								
MASBT	**Mashibuluo**	**2.06**	**232**	*e*P		**Pn**	**11 20 23.4**	**-0.2**
	baz=223								
MASBT				*e*S		**Sn**	**11 20 50.8**	**+1.9**
	baz=223								
EAST	**Anshuo**	**2.07**	**224**	*e*P		**Pn**	**11 20 24.9**	**+1.0**
	baz=222								
EAST				*e*S		**Sn**	**11 20 49.1**	**-0.1**
	baz=222								
JTJ	**Tarama**	**2.23**	**70**	*e*S		**Sb**	**11 20 55.8**	**-1.3**

*IDC **28** 11:24:49.2±3.0,6.34S×69.07E,h0km,mb3.9/2,mb1 4.2/2, mb1mx3.4/66,mbtmp3.9/2,Error ellipse: s-maj=202.7km s-min=37.1km az=32.0*

ISC 28 11:24:51.5±1.9,7.5±1.1×69.0E±0.4,h10km,n9,σ0.8s16/9, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**3.57**	**104**	Pn		**Pn**	**11 25 47.0**	**+0.3**
	baz=319,slow=17,SNR=368							
H08S1				Sn		**Sn**	**11 26 29.0**	**0.0**
H08S1				T		T	11 29 55.7	
	baz=312							
H08S3	**Diego Garcia H**	**3.58**	**104**	Pn		**Pn**	**11 25 46.8**	**-0.1**
	baz=319,slow=17,SNR=437							
H08S3				Sn		**Sn**	**11 26 29.0**	**-0.1**
H08S3				T		T	11 29 45.9	
	baz=312							
H08S2	**Diego Garcia H**	**3.59**	**104**	Pn		**Pn**	**11 25 47.2**	**+0.2**
	baz=319,slow=17,SNR=382							
H08S2				Sn		**Sn**	**11 26 29.2**	**-0.2**
H08S2				T		T	11 29 47.7	
	baz=312							
H01W3	**Cape Leeuwin H**	**50.02**	**130**	T		T	12 28 05.8	
	baz=294,slow=75,SNR=6.1							
H01W2	**Cape Leeuwin H**	**50.03**	**130**	T		T	12 28 03.1	
	baz=294,slow=75,SNR=4.6							
H01W1	**Cape Leeuwin H**	**50.04**	**130**	T		T	12 28 17.5	
	baz=294,slow=75,SNR=4.0							
ASAR	**Alice Springs**	**64.36**	**113**	P		**P**	**11 35 28.1**	**-0.1**
	0.7nm,0.6s,baz=277,slow=6.1,SNR=15							
WRA	**Warramunga Arr**	**64.58**	**109**	P		**P**	**11 35 29.6**	**0.0**
	1.3nm,0.7s,baz=274,slow=6.6,SNR=7.4							
NVAR	**Mina Array Bea**	**147.81**	**11**	PKPbc		**PKPdf**	**11 44 34.6**	**0.0**
	0.6nm,0.9s,baz=17,slow=1.5,SNR=4.3							

*GCG **28** 11:26:21.3±0.3,14.30N×92.28W,h95km±96km,MD4.2*
*MEX **28** 11:26:26.1±0.6,14.06N×91.77W,h45km,MD3.8*

ISC 28 11:26:24.8±3.1,13.9N±0.2×92.1W±0.1,h54km,n7, σ1§25/10,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**1.01**	**353**	*i* P		**Pn**	**11 26 41.7**	**-1.1**
THIG				*i* S		**Sn**	**11 26 54.1**	**-2.0**
FUG	**Fuego 3**	**1.37**	**66**	*e*P		**Pn**	**11 26 46.8**	**-1.0**
PCG	**Pacaya**	**1.56**	**71**	*e*P		**Pn**	**11 26 49.9**	**-0.5**
IXG	**Ixpaco**	**1.67**	**80**	*e*P		**Pn**	**11 26 51.7**	**0.0**
NBG	**Las Nubes**	**1.86**	**68**	*e*S		**Sn**	**11 27 18.5**	**+1.4**
PCIG		**2.08**	**330**	*i* P		**Pn**	**11 26 57.9**	**+0.7**
PCIG				*i* S		**Sn**	**11 27 21.9**	**-0.1**
CCIG	**Comitan**	**2.37**	**360**	*e*P		**Pn**	**11 27 02.5**	**+1.1**
CCIG				*i* S		**Sn**	**11 27 30.5**	**+1.1**

*IPEC **28** 11:28:19.9±0.3,51.58N×16.18E,h0km,ML2.6/3,Error ellipse: s-maj=3.1km s-min=1.7km az=69.0*
*PRU **28** 11:28:21.9±0.0,51.50N×16.10E,h0km*
*BGR **28** 11:28:21.5±0.4,51.52N×16.13E,h1km,ML3.0/11,Error ellipse: s-maj=4.4km s-min=2.2km az=42.0*
*IDC **28** 11:28:21.3±0.9,51.53N×16.04E,h0km,mb1 3.4/5, mb1mx3.2/43,mbtmp3.2/5,ML2.9/5,Error ellipse: s-maj=17.7km s-min=8.3km az=117.0*

ISC 28 11:28:18.8±0.7,51.62N±0.03×16.17E±0.02,h0km,n57, σ1§14/105,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.78**	**174**	*e*Pg		**Pg**	**11 28 34.5**	**+0.7**
	SNR=38							
KSP				*e*Sg		**Sg**	**11 28 43.6**	**-0.3**
	SNR=3.0							
KSP	**Ksiaz**	**0.78**	**174**	*i* Pg		**Pg**	**11 28 34.4**	**+0.7**
KSP				*e*Sg		**Sg**	**11 28 43.4**	**-0.5**
CHVC	**Chvalec**	**1.03**	**184**	*e*PG		**Pg**	**11 28 39.2**	**+0.6**
CHVC				*e*SG		**Sg**	**11 28 51.5**	**-0.5**
	comp=Z,148nm,0.4s							
OSTC	**Ostas**	**1.06**	**179**	*e*PG		**Pg**	**11 28 39.5**	**+0.3**
OSTC				*e*SG		**Sg**	**11 28 52.6**	**-0.4**
	comp=Z,122nm,0.4s							
UPC	**Upice**	**1.12**	**185**	*e*PG		**Pg**	**11 28 40.2**	**0.0**
UPC				*e*SG		**Sg**	**11 28 53.8**	**-0.9**
	comp=Z,320nm,0.4s							
DPC	**Dobruska-Polom**	**1.27**	**176**	*e*Pg		**Pg**	**11 28 43.4**	**+0.1**
	SNR=35							
DPC				*e*Sg		**Sg**	**11 28 58.7**	**-1.0**
	SNR=7.9							
DPC	**Dobruska-Polom**	**1.27**	**176**	*e*PG		**Pg**	**11 28 43.1**	**-0.1**
DPC				*e*SG		**Sg**	**11 28 58.2**	**-1.5**
	comp=Z,99nm,0.7s							
PVCC	**Panska Ves**	**1.49**	**223**	*e*Pg		**Pg**	**11 28 47.7**	**+0.3**
	SNR=12							
PVCC	**Panska Ves**	**1.49**	**223**	*e*PG		**Pn**	**11 28 47.2**	**+0.4**
PVCC				*e*SG		**Sg**	**11 29 06.0**	**-0.6**
BRG	**Berggiesshubel**	**1.59**	**243**	PN		**Pn**	**11 28 48.6**	**+0.4**
BRG				PG		**Pb**	**11 28 49.3**	**+0.3**
BRG				SG		**Sn**	**11 29 09.8**	**+0.3**
	110nm,0.4s							
KRLC	**Kraliky**	**1.59**	**166**	*e*PG		**Pn**	**11 28 49.0**	**+0.7**
KRLC				*e*SG		**Sn**	**11 29 09.2**	**-0.4**
	comp=Z,126nm,0.6s							
RUE	**Ruedersdorf**	**1.71**	**301**	*e*Pn		**Pn**	**11 28 51.0**	**+1.2**
	SNR=2.2							
RUE				*e*Sg		**Sg**	**11 29 17.1**	**+3.3**
	SNR=5.6							
FBE	**Freiberg**	**1.90**	**250**	*e*Pg		**Pg**	**11 28 55.6**	**+0.3**
	SNR=6.1							
FBE				*e*Sg		**Sg**	**11 29 20.4**	**+0.4**
	SNR=5.5							
PRA	**Prague**	**1.90**	**216**	*e*PG		**Pn**	**11 28 52.6**	**+0.1**
PRA				*e*SG		**Sn**	**11 29 17.8**	**+0.6**
	comp=Z,67nm,1.1s							
GOPC	**GO Pecny, Ondr**	**1.92**	**208**	*e*PG		**Pn**	**11 28 53.8**	**+1.0**
GOPC				*e*SG		**Sn**	**11 29 18.4**	**+0.7**
	comp=Z,40nm,0.6s							
PRU	**Pruhonice**	**1.93**	**213**	*e*Pn		**Pn**	**11 28 53.4**	**+0.5**
	SNR=3.3							
PRU				*e*Sg		**Sn**	**11 29 19.0**	**+1.0**
	SNR=4.1							
PRU	**Pruhonice**	**1.93**	**213**	*e*PG		**Pn**	**11 28 53.6**	**+0.7**
PRU				*e*SG		**Sn**	**11 29 18.9**	**+1.0**
	comp=Z,84nm,0.3s							
CLL	**Collm**	**2.01**	**262**	*e*Pn		**Pn**	**11 28 54.0**	**+0.1**
	SNR=6.9							
CLL				*e*Pg		**Pg**	**11 28 57.6**	**+0.3**
	SNR=2.7							
CLL				*e*Sg		**Sg**	**11 29 24.1**	**+0.8**
	SNR=3.0							
CLL	**Collm**	**2.01**	**262**	*i* Pn		**Pn**	**11 28 54.0**	**+0.1**
CLL				*e*Pg		**Pb**	**11 28 57.0**	**+0.8**
CLL				*i*			11 29 00.3	
CLL				*i* Sg		**Sg**	**11 29 23.6**	**+0.3**
	comp=Z,38nm,0.5s							
MORC	**Moravsky Berou**	**2.04**	**154**	*e*Pn		**Pn**	**11 28 54.9**	**+0.5**
	SNR=8.2							
MORC	**Moravsky Berou**	**2.04**	**154**	*e*PN		**Pn**	**11 28 54.9**	**+0.5**
MORC				*e*SG		**Sb**	**11 29 22.7**	**0.0**
MORC	**Moravsky Berou**	**2.04**	**154**	*e*Pn		**Pn**	**11 28 54.8**	**+0.3**
	baz=335							
MORC				*e*Sg		**Sb**	**11 29 22.7**	**0.0**
	comp=Z,49nm,0.3s,baz=335							
OKC	**Ostrava-Krasne**	**2.18**	**144**	*e*PG		**Pb**	**11 29 00.4**	**+1.3**
OKC				*e*SG		**Sb**	**11 29 27.9**	**+1.2**
VRAC	**Vranov**	**2.33**	**173**	Pn		**Pn**	**11 28 59.7**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=349,slow=16,SNR=10							
VRAC				Lg		Lg	11 29 31.4	
	comp=Z,8.9nm,0.3s,baz=68,slow=19,SNR=13							
VRAC	**Vranov**	**2.33**	**173**	*e*Pn		**Pn**	**11 28 59.7**	**+1.3**
	SNR=5.0							
VRAC				*e*Sg		**Sb**	**11 29 31.7**	**+0.7**
	SNR=4.3							
VRAC	**Vranov**	**2.33**	**173**	*e*PN		**Pn**	**11 28 59.1**	**+0.7**
VRAC				*e*SG		**Sb**	**11 29 31.8**	**+0.8**
VRAC	**Vranov**	**2.33**	**173**	*e*Pn		**Pn**	**11 28 59.1**	**+0.7**
	baz=354							
VRAC				*e*Sg		**Sb**	**11 29 31.7**	**+0.7**
	comp=Z,32nm,0.4s,baz=354							
TREC	**Trest**	**2.37**	**191**	*e*Sn		**Sn**	**11 29 26.9**	**-1.8**
TREC				*e*Sg		**Sb**	**11 29 33.2**	**+1.1**
	SNR=3.6							
TREC	**Trest**	**2.37**	**191**	*e*PN		**Pn**	**11 28 59.5**	**+0.6**
TREC				*e*SG		**Sb**	**11 29 32.9**	**+0.8**
	comp=Z,56nm,0.5s							
PBCC	**Pribram**	**2.38**	**216**	*e*PG		**Pb**	**11 29 02.7**	**+0.1**
PBCC				*e*SG		**Sb**	**11 29 33.4**	**+0.9**
KRUC	**Moravsky**	**2.56**	**177**	*e*PN		**Pn**	**11 29 02.4**	**+0.8**
KRUC				*e*SG		**Sb**	**11 29 39.1**	**+1.4**
KRUC	**Moravsky**	**2.56**	**177**	*e*Pn		**Pn**	**11 29 02.3**	**+0.7**
	baz=357							
KRUC				*e*Sg		**Sb**	**11 29 39.1**	**+1.4**
	comp=Z,22nm,0.2s,baz=357							
OJC	**Ojcow**	**2.69**	**120**	*e*Pn		**Pn**	**11 29 04.2**	**+0.9**
OJC				*e*Pg		**Pg**	**11 29 11.7**	**+1.4**
OJC				*e*Sg		**Sg**	**11 29 46.9**	**+1.7**
WERD	**Werda**	**2.71**	**246**	*e*Pg		**Pg**	**11 29 11.4**	**+0.7**
	SNR=6.0							
GUNZ	**Gunzen**	**2.73**	**244**	*e*Pn		**Pn**	**11 29 04.8**	**+0.8**
	SNR=3.0							
NKC	**Novy Kostel**	**2.73**	**241**	*e*Pn		**Pn**	**11 29 05.1**	**+1.1**
	SNR=6.6							
NKC				*e*Pg		**Pg**	**11 29 12.2**	**+0.9**
	SNR=2.9							
NKC	**Novy Kostel**	**2.73**	**241**	*e*PN		**Pn**	**11 29 04.8**	**+0.8**
NKC				*e*SG		**Sg**	**11 29 46.2**	**-0.5**
	comp=Z,74nm,0.3s							
WERN	**Wernitzgruen**	**2.75**	**242**	*e*Pn		**Pn**	**11 29 05.2**	**+1.0**
	SNR=1.8							
PLN	**Plauen**	**2.78**	**247**	*e*Sg		**Sg**	**11 29 47.9**	**-0.1**
	SNR=8.6							
NEUB	**Neuenburg**	**2.78**	**263**	*e*Sg		**Sg**	**11 29 49.5**	**+1.3**
	SNR=4.0							
JAVC	**Velka Javorina**	**2.92**	**160**	*e*PN		**Pn**	**11 29 07.2**	**+0.6**
JAVC	**Velka Javorina**	**2.92**	**160**	*e*Pn		**Pn**	**11 29 07.1**	**+0.5**
	baz=341							
KHC	**Kasperske Hory**	**2.99**	**215**	*e*Pn		**Pn**	**11 29 07.8**	**+0.2**
	SNR=3.8							
KHC	**Kasperske Hory**	**2.99**	**215**	*e*PN		**Pn**	**11 29 07.8**	**+0.2**
KHC				*e*PG		**Pb**	**11 29 14.1**	**+1.1**
KHC				*e*SN		**Sn**	**11 29 43.3**	**-0.9**
KHC				*e*SG		**Sb**	**11 29 52.2**	**+2.1**
	comp=Z,23nm,0.4s							
MOX	**Moxa**	**3.03**	**253**	*e*Pg		**Pg**	**11 29 16.9**	**0.0**
	SNR=3.2							
MOX				*e*Sg		**Sg**	**11 29 57.0**	**+0.8**
	SNR=6.5							
MANZ	**Manzenberg**	**3.05**	**239**	*e*Pn		**Pn**	**11 29 09.2**	**+0.9**
	SNR=1.7							
MANZ				*e*Pg		**Pg**	**11 29 17.7**	**+0.3**
	SNR=2.4							
ROTZ	**Rotzenmuhle**	**3.13**	**235**	*e*Pn		**Pn**	**11 29 10.1**	**+0.7**
	SNR=3.8							
GEC2	**GERESS Array S**	**3.20**	**211**	*e*Pn		**Pn**	**11 29 11.5**	**+1.1**
	SNR=2.8							
GERES	**GERESS Array B**	**3.20**	**211**	Pn		**Pn**	**11 29 11.2**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=27,slow=15,SNR=15							
GERES				Pg		**Pb**	**11 29 17.6**	**+1.0**
	comp=Z,2.8nm,0.3s,baz=29,slow=17,SNR=27							
GERES				Lg		Lg	11 29 58.4	
	comp=Z,7.2nm,0.3s,baz=29,slow=28,SNR=9.7							
MODS	**Modra-Piesok**	**3.33**	**167**	*e*PN		**Pn**	**11 29 14.2**	**+2.1**
MODS				*e*PG		**Pg**	**11 29 22.1**	**-0.4**
MODS				*e*SG		**Sg**	**11 30 03.7**	**-1.9**
NIE	**Niedzica**	**3.43**	**128**	*e*P		**Pg**	**11 29 26.2**	**+1.6**
NIE				*e*S		**Sg**	**11 30 11.5**	**+2.4**
VYHS	**Vyhne**	**3.57**	**150**	*e*PN		**Pn**	**11 29 15.7**	**+0.3**
VYHS				*e*PG		**Pg**	**11 29 28.9**	**+1.7**
VYHS				*e*SG		**Sg**	**11 30 13.9**	**+0.5**
UBBA	**Unterbreizbach**	**3.96**	**261**	*e*Pg		**Pg**	**11 29 34.7**	**0.0**
	SNR=3.2							
AKASG	**Malin Array Be**	**8.26**	**91**	Pn		**Pn**	**11 30 20.6**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=278,slow=12,SNR=1.8							
FINES	**FINESS Array B**	**11.25**	**25**	Pn		**Pn**	**11 30 59.7**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=208,slow=9.6,SNR=1.3							
FINES				Sn		**Sn**	**11 33 00.9**	**-6.0**
	comp=Z,0.1nm,0.3s,baz=291,slow=26,SNR=1.8							
EKA	**Eskdalemuir Ar**	**12.09**	**295**	Pn		**Pn**	**11 31 11.5**	**-0.8**
	baz=105,slow=14,SNR=2.0							
ARCES	**ARCESS Array B**	**18.51**	**10**	Pn		**P**	**11 32 35.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=6.1							

*IDC **28** 12:04:22.4±1.6,1.45N×66.93E,h0km,mb3.8/7,mb1 4.0/7, mb1mx3.6/50,mbtmp3.8/7,MS3.3/4,Ms1 3.3/4, ms1mx2.9/40,Error ellipse: s-maj=47.4km s-min=25.0km az=55.0*

ISC 28 12:04:24.4±1.7,1.4N±0.3×66.9E±0.3,h13km,n15,σ1§25/8, mb4.0/7,MS3.3/4,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**23.10**	**340**	LR		LR	12 16 06.2	
	comp=Z,43nm,20.1s,baz=156,slow=30							
OPO	**Ambohidratompo**	**27.75**	**223**	LR		LR	12 18 50.9	
	comp=Z,64nm,18.3s,baz=195,slow=31							
CMAR	**Chiang Mai Arr**	**35.72**	**60**	P		**P**	**12 11 24.5**	**+1.5**
	0.3nm,0.3s,baz=252,slow=9.0,SNR=4.5							
MKAR	**Makanchi Array**	**47.14**	**14**	P		**P**	**12 12 56.0**	**-0.4**
	0.3nm,0.4s,baz=224,slow=12,SNR=2.4							
BRTR	**Keskin Array B**	**48.64**	**326**	P		**P**	**12 13 09.2**	**+0.8**
	0.6nm,0.6s,baz=168,slow=8.3,SNR=2.0							
ZALV	**Zalesovo Beam**	**54.39**	**13**	P		**P**	**12 13 48.9**	**-2.0**
	1.0nm,0.6s,baz=190,slow=6.6,SNR=5.4							
H01W3	**Cape Leeuwin H**	**57.07**	**134**	T		T	13 15 49.3	
	baz=300,slow=75,SNR=121							
H01W2	**Cape Leeuwin H**	**57.08**	**134**	T		T	13 15 45.5	
	baz=300,slow=75,SNR=145							
H01W1	**Cape Leeuwin H**	**57.09**	**134**	T		T	13 15 50.8	
	baz=300,slow=75,SNR=124							
SONM	**Songino Array**	**57.46**	**31**	P		**P**	**12 14 12.8**	**-0.4**
	0.6nm,0.4s,baz=244,slow=6.1,SNR=6.5							
DAV	**Davao City (W)**	**58.77**	**83**	LR		LR	12 40 11.2	
	comp=Z,58nm,19.5s,baz=345,slow=37							
VRAC	**Vranov**	**64.09**	**326**	LR		LR	12 43 59.5	
	comp=Z,19nm,18.3s,baz=258,slow=37							
WRA	**Warramunga Arr**	**69.39**	**112**	P		**P**	**12 15 32.1**	**-0.5**
	2.5nm,1.0s,baz=292,slow=5.6,SNR=10							
ASAR	**Alice Springs**	**69.65**	**116**	P		**P**	**12 15 33.9**	**-0.3**
	1.2nm,0.9s,baz=277,slow=6.6,SNR=12							
TXAR	**Lajitas Array**	**148.09**	**344**	PKPbc		**PKPbc**	**12 24 11.2**	**+0.5**
	1.8nm,0.9s,baz=82,slow=1.8,SNR=13							

IDC 28 12:05:11.8±2.7,1.95N×67.60E,h0km,mb3.8/4,mb1 3.9/4, mb1mx3.4/50,mbtmp3.8/4,MS3.2/1,Ms1 3.2/1, ms1mx2.6/40,Error ellipse: s-maj=93.7km s-min=37.3km az=65.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**26.33**	**292**	LR		LR	12 18 11.3	
	comp=Z,45nm,18.4s,baz=243,slow=30							
ZALV	**Zalesovo Beam**	**53.73**	**13**	P		P	12 14 35.8	+0.3
	0.7nm,0.3s,baz=215,slow=6.8,SNR=2.3							
SONM	**Songino Array**	**56.65**	**30**	P		P	12 14 56.6	-0.3
	0.7nm,0.4s,baz=226,slow=9.9,SNR=3.6							
WRA	**Warramunga Arr**	**68.91**	**112**	P		P	12 16 19.5	+0.3
	0.8nm,0.8s,baz=291,slow=5.8,SNR=1.6							
ASAR	**Alice Springs**	**69.22**	**116**	P		P	12 16 20.9	-0.2
	0.4nm,0.8s,baz=297,slow=6.1,SNR=2.0							
TXAR	**Lajitas Array**	**147.78**	**346**	PKPbc		PKPbc	12 24 58.6	-0.9
	1.0nm,0.8s,baz=56,slow=3.0,SNR=4.6							

IDC 28 12:05:59.9±2.9,1.87N×67.46E,h0km,mb3.9/3,mb1 4.0/3, mb1mx3.4/50,mbtmp3.9/3,Error ellipse: s-maj=115.0km s-min=37.0km az=59.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**53.84**	**13**	P		P	12 15 24.4	-0.1
	1.6nm,0.6s,baz=219,slow=8.7,SNR=4.9							
H01W3	**Cape Leeuwin H**	**56.95**	**134**	T		T	13 17 24.6	
	baz=300,slow=75,SNR=6.1							
H01W2	**Cape Leeuwin H**	**56.96**	**134**	T		T	13 17 22.1	
	baz=300,slow=75,SNR=4.7							
H01W1	**Cape Leeuwin H**	**56.97**	**134**	T		T	13 17 25.0	
	baz=300,slow=75,SNR=6.3							
WRA	**Warramunga Arr**	**69.01**	**112**	P		P	12 17 08.0	+0.1
	1.2nm,0.9s,baz=289,slow=5.8,SNR=4.7							
ASAR	**Alice Springs**	**69.31**	**116**	P		P	12 17 09.7	0.0
	0.6nm,0.8s,baz=285,slow=5.3,SNR=4.5							
TXAR	**Lajitas Array**	**147.83**	**345**	PKPbc		PKPbc	12 25 47.1	-0.7
	1.2nm,0.9s,baz=54,slow=2.8,SNR=5.6							

*IDC **28** 12:11:35.2±1.6,48.72N×155.94E,h0km,mb3.6/3, mb1 3.9/4,mb1mx3.4/34,mbtmp3.5/4,ML2.0/1,Error ellipse: s-maj=65.8km s-min=32.4km az=149.0*
*KRSC **28** 12:11:51.3±1.9,49.51N×157.02E,h67km±28km,ML3.9*

ISC 28 12:11:47.6±1.9,49.2N±0.1×156.8E±0.1,h50km,n25, σ2§03/32,mb3.6/3,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.57**	**343**	*i* P		**Pn**	**12 12 14.1**	**+1.1**
SKR				*e*S		**Sn**	**12 12 30.8**	**-1.3**
PAU	**Pauzhetka**	**2.28**	**360**	*e*P		**Pn**	**12 12 23.7**	**+1.0**
PAU				*e*S		**Sn**	**12 12 48.0**	**-1.6**
KDTR	**Khodutka, Kamc**	**2.74**	**16**	*e*P		**Pn**	**12 12 31.9**	**+2.9**
KDTR				*e*S		**Sn**	**12 13 00.5**	**-0.4**
ASAK	**Asacha**	**3.27**	**12**	*e*P		**Pn**	**12 12 38.5**	**+2.1**
ASAK				*e*S		**Sn**	**12 13 13.2**	**-0.8**
MTVR	**Mutnovka**	**3.41**	**14**	*e*P		**Pn**	**12 12 41.1**	**+2.8**
MTVR				*e*S		**Sn**	**12 13 17.1**	**-0.4**
RUS	**Russkaya**	**3.42**	**17**	*e*P		**Pn**	**12 12 40.4**	**+2.1**
RUS				*e*S

MRKS					Lg	Lg	12 16 57.0		
	11nm,0.6s								
AML	**Almayashu**	**3.82**	**67**	⇓*i*P		**Pn**	**12 16 16.5**	**+1.5**	
AML	baz=66			⇓*i*S		**Sn**	**12 17 00.3**	**+0.1**	
	baz=66								
EKS2	**Erkin-Say**	**4.09**	**60**	⇓*e*P		**Pn**	**12 16 20.4**	**+2.0**	
EKS2	baz=59			⇓*i*S		**Sn**	**12 17 06.8**	**+0.4**	
	baz=59								
UCH	**Uchtor**	**4.43**	**68**	⇑*i*P		**Pn**	**12 16 24.9**	**+1.5**	
UCH	baz=67			⇑*i*S		**Sn**	**12 17 15.0**	**-0.2**	
	baz=67								
USP	**Ospenovka**	**4.84**	**57**	⇓*i*P		**Pn**	**12 16 30.8**	**+2.1**	
USP	baz=55			⇓*i*S		**Sn**	**12 17 25.0**	**+0.2**	
	baz=55								
KZA	**Kyzart**	**4.91**	**72**	⇓*i*P		**Pn**	**12 16 31.4**	**+1.4**	
KZA	baz=71			⇓*i*S		**Sn**	**12 17 26.3**	**-0.8**	
	baz=71								
BTLS	**Baital**	**5.70**	**39**	*e*P		**Pb**	**12 16 56.1**	**+0.8**	
BTLS	3.2nm,1.5s			*e*S		**Sb**	**12 18 02.9**	**-0.7**	
	5.0nm,0.5s								
BTLS	**Baital**	**5.70**	**39**	Pg		**Pb**	**12 16 56.1**	**+0.8**	
BTLS	3.2nm,1.5s			Lg		Lg	12 18 02.9		
	5.0nm,0.5s								
KTBS	**Karatobe**	**6.46**	**60**	*e*P		**Pb**	**12 17 07.5**	**-0.7**	
KTBS	1.2nm,0.6s			*e*S		**Sb**	**12 18 21.8**	**-3.6**	
	5.7nm,0.6s								
KTBS	**Karatobe**	**6.46**	**60**	Pg		**Pb**	**12 17 07.5**	**-0.7**	
KTBS	1.2nm,0.6s			Lg		Lg	12 18 21.8		
	5.7nm,0.6s								
ARXS	**Arharly**	**7.42**	**59**	*e*P		**Pb**	**12 17 25.3**	**+0.7**	
ARXS	2.3nm,0.5s			*e*S		**Sb**	**12 18 53.2**	**+0.1**	
	4.1nm,0.6s								
ARXS	**Arharly**	**7.42**	**59**	Pg		**Pb**	**12 17 25.3**	**+0.7**	
ARXS	2.3nm,0.5s			Lg		Lg	12 18 53.2		
	4.1nm,0.6s								

MAN ***28*** *12:28:19.6,5.°65N×126.°14E,h87km,mb4.5,ML3.4,MS3.2*
IDC ***28*** *12:28:21.8±3.0,5.°97N×126.°48E,h119km±20km,mb3.4/4, mb1 3.6/4,mb1mx3.2/45,mbtmp3.8/4,Error ellipse: s-maj=136.4km s-min=16.7km az=66.0*

ISC 28 12:28:20.0±1.2,**5.°9N**±0.°2×**126.°5E**±0.°3,**h100**km,**n7,** σ1§**39**/10,**mb3.7**/4,**1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.50**	**323**	P		**Pn**	**12 28 47.4**	**+1.0**
DAV	46nm,0.3s,baz=270,slow=9.1,SNR=1.3			S		**Sn**	**12 29 08.4**	**+2.0**
	102nm,0.3s,baz=168,slow=20,SNR=3.7							
KCP	**Kidapawan**	**1.80**	**309**	⇑*i*P		**Pn**	**12 28 50.5**	**+0.4**
KCP				*i*S		**Sn**	**12 29 12.4**	**-0.7**
WRA	**Warramunga Arr**	**26.79**	**163**	P		**P**	**12 33 51.5**	**+0.6**
	0.5nm,0.3s,baz=343,slow=11,SNR=17							
ASAR	**Alice Springs**	**30.23**	**166**	P		**P**	**12 34 22.1**	**+0.6**
	0.5nm,0.6s,baz=345,slow=7.5,SNR=11							
ASAR				PcP		**PcP**	**12 37 20.9**	**+0.7**
	0.3nm,0.9s,baz=343,slow=2.3,SNR=1.1							
MKAR	**Makanchi Array**	**55.68**	**325**	P		**P**	**12 37 45.0**	**-1.0**
	0.7nm,0.4s,baz=117,slow=7.6,SNR=7.0							
ZALV	**Zalesovo Beam**	**58.59**	**333**	P		**P**	**12 38 04.1**	**-2.2**
	0.4nm,0.3s,baz=124,slow=8.6,SNR=2.3							
TORD	**Torodi Ar. Bea**	**122.02**	**289**	PKP		**PKPdf**	**12 47 03.3**	**-0.6**
	0.2nm,0.4s,baz=66,slow=2.1,SNR=2.4							

DJA ***28*** *12:40:59.5±1.1,1.°N±8.°×12.°3E±.°,h10km±6km,M4.5/6, mB4.8/1,mb4.6/3,MLv4.5/6,Mw(mB)4.0/1,Mwp5.2/1*
IDC ***28*** *12:41:04.9±5.5,1.°01N×122.°68E,h78km±54km,mb3.3/6, mb1 3.4/7,mb1mx3.2/44,mbtmp3.6/7,ML3.7/1,MS3.5/2, Ms1 3.6/2,ms1mx2.7/32,Error ellipse: s-maj=38.6km s-min=18.6km az=50.0*

ISC 28 12:40:57.7±0.9,**1.°21N**±0.°08×**122.°65E**±0.°06,**h10**km,**n17,** σ1§**98**/20,**mb3.8**/7,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.68**	**148**	P		**Pb**	**12 41 11.4**	**-0.2**
GTOI				S		**Sg**	**12 41 18.8**	**-0.8**
KMSI	**Cibinong**	**1.47**	**115**	P		**Pg**	**12 41 27.6**	**+1.6**
KMSI				S		**Sg**	**12 41 49.1**	**+4.0**
LUWI	**Luwuk**	**2.24**	**177**	P		**Pn**	**12 41 36.2**	**+1.3**
LUWI				S		**Sn**	**12 42 02.0**	**-0.6**
MPSI	**Mapaga**	**2.88**	**253**	P		**Pn**	**12 41 45.5**	**+1.8**
MPSI				S		**Sn**	**12 42 20.5**	**+2.0**
SPSI	**Sidrap Palu**	**5.89**	**209**	P		**Pn**	**12 42 27.8**	**+2.7**
	0.2nm711nm55nm,0.7s							
BNSI	**Bone**	**6.13**	**204**	P		**Pn**	**12 42 30.9**	**+2.6**
KAPI	**Kappang**	**6.83**	**205**	P		**Pn**	**12 42 40.1**	**+2.2**
	1.7nm,0.3s,baz=41,slow=11,SNR=3.8							
KAPI				S		**Sn**	**12 43 55.2**	**-0.6**
	1.6nm,0.3s,baz=37,slow=22,SNR=1.3							
PSI	**Prapat**	**23.76**	**274**	LR		LR	12 55 58.1	
	comp=Z,273nm,18.1s,baz=177,slow=38							
WRA	**Warramunga Arr**	**23.95**	**152**	P		**P**	**12 46 09.9**	**-2.3**
	1.4nm,0.7s,baz=328,slow=11,SNR=18							
ASAR	**Alice Springs**	**27.04**	**157**	P		**P**	**12 46 39.0**	**-1.4**
	0.4nm,0.8s,baz=340,slow=13,SNR=6.8							
CMAR	**Chiang Mai Arr**	**28.89**	**308**	LR		LR	13 00 59.0	
	comp=Z,35nm,18.7s,baz=140,slow=41							
KRVT	**Keravat (AS076**	**29.86**	**101**	P		**P**	**12 47 04.8**	**-0.8**
	15nm,0.7s,baz=198,slow=3.2,SNR=3.9							
STKA	**Stephens Creek**	**37.49**	**153**	P		**P**	**12 48 09.2**	**-2.5**
	0.4nm,0.4s,baz=325,slow=16,SNR=1.5							
MKAR	**Makanchi Array**	**57.41**	**328**	P		**P**	**12 50 47.0**	**+0.5**
	0.6nm,0.7s,baz=117,slow=8.5,SNR=5.6							
ZALV	**Zalesovo Beam**	**61.07**	**336**	P		**P**	**12 51 11.5**	**-0.2**
	0.3nm,0.4s,baz=120,slow=8.5,SNR=1.6							
KURBB	**Kurchatov Arra**	**61.75**	**330**	P		**P**	**12 51 16.5**	**+0.1**
	0.2nm,0.3s,baz=126,slow=4.7,SNR=1.5							
TORD	**Torodi Ar. Bea**	**119.75**	**286**	PKP		**PKPdf**	**12 59 47.1**	**-2.1**
	0.4nm,0.6s,baz=58,slow=2.0,SNR=2.4							

IDC 28 12:56:35.7±2.3,**6.°40S×154.°84E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.4/26,mbtmp3.5/3,ML3.8/1,Error ellipse: s-maj=46.7km s-min=23.8km az=52.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.49**	**306**	Pn		Pn	12 57 33.0	+1.7
	8.9nm,0.3s,baz=117,slow=2.3,SNR=10							
KRVT				Sn		Sn	12 58 11.3	-2.0
	9.9nm,0.3s,baz=133,slow=19,SNR=2.2							
KRVT				Lg		Lg	12 58 25.7	
	31nm,0.3s,baz=161,slow=18,SNR=9.0							
WRA	**Warramunga Arr**	**24.03**	**234**	P		P	13 01 52.8	+0.2
	0.9nm,0.8s,baz=60,slow=9.6,SNR=6.8							
ASAR	**Alice Springs**	**26.46**	**227**	P		P	13 02 14.7	0.0
	0.3nm,0.4s,baz=55,slow=9.3,SNR=15							
ASAR				PcP		PcP	13 05 39.6	-0.5
	0.3nm,0.7s,baz=52,slow=1.2,SNR=4.4							
TORD	**Torodi Ar. Bea**	**152.72**	**286**	PKPbc		PKPbc	13 16 35.0	-0.6
	0.4nm,0.6s,baz=88,slow=3.1,SNR=2.4							

IDC ***28*** *13:25:56.9±0.5,22.°74S×69.°40E,h0km,mb4.2/19, mb1 4.3/19,mb1mx4.1/56,mbtmp4.2/19,MS4.1/24, Ms1 4.1/24,ms1mx3.9/39,Error ellipse: s-maj=17.9km s-min=15.2km az=25.0*
BJI ***28*** *13:25:57.3±0.0,22.°67S×68.°62E,h6km,mB5.0/24, mb4.8/39,Ms4.7/9,Ms7 4.4/9*
NEIC ***28*** *13:25:57.8±1.6,22.°9S±0.°1×69.°26E±0.°10,h10km±1km, mb4.8/17,Error ellipse: s-maj=20.2km s-min=14.1km az=199.0*
GCMT ***28*** *13:26:00.8±0.3,22.°76S±0.°02×69.°22E±0.°01,h16km±1km, MW5.0/103,Moment Tensor Solution. s32,c35; s103,c148; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.33±.12; Mθθ-2.81±.10; Mϕϕ3.14±.12; Mrθ0.34±.31; Mθϕ1.62±.10; Mϕr0.12±.29; Best double couple: Mo3.40800×10¹⁶ NP1:ϕs329.00000°,δ84.00000°, λ-178.00000°. NP2:ϕs239.00000°,δ88.00000°, λ-6.00000°. Principal axes: T 3.5620, Plg3.0000°, Azm284.0000°; N -0.3070, Plg83.0000°, Azm41.0000°; P -3.2530, Plg6.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 13:25:58.1±0.5,**22.°91S**±0.°09×**69.°25E**±0.°08,**h10**km,**n70,** σ1§**45**/48,**mb4.7**/35,**MS4.1**/27,**1C, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**12.64**	**275**	Pn		**Pn**	**13 28 55.0**	**-3.2**
H08S1	**Diego Garcia H**	**15.49**	**12**	T		T	13 45 16.7	
	baz=192,slow=76,SNR=3105							
H08S2	**Diego Garcia H**	**15.49**	**12**	T		T	13 45 18.1	
	baz=192,slow=76,SNR=2909							
H08S3	**Diego Garcia H**	**15.51**	**12**	T		T	13 45 17.4	
	baz=192,slow=76,SNR=3938							
AIS	**Amsterdam Isla**	**16.47**	**156**	Pn		**Pn**	**13 29 47.1**	**-2.2**
AIS				IAmb		IAmb	13 30 03.1	
	comp=Z,128nm,1.1s							
ABPO	**Ambohimpanom**	**20.92**	**277**	P		**P**	**13 30 37.9**	**-3.3**
ABPO				IAmb		IAmb	13 30 43.8	
	comp=Z,35nm,1.5s							
OPO	**Ambohidratompo**	**21.07**	**278**	P		**P**	**13 30 45.2**	**+2.4**
	comp=Z,3.4nm,0.9s,baz=83,slow=8.2,SNR=6.6							
MATP	**Matopo**	**37.87**	**266**	P		**P**	**13 33 16.8**	**+1.2**
	comp=Z,6.9nm,1.0s,baz=83,slow=13,SNR=5.8							
KMBO	**Kilima Mbogo**	**37.87**	**300**	P		**P**	**13 33 17.6**	**+1.8**
	comp=Z,1.2nm,0.3s,baz=125,slow=8.3,SNR=6.4							
KMBO				LR		LR	13 45 34.4	
	comp=Z,299nm,20.4s,baz=98,slow=31							
LSZ	**Lusaka**	**39.43**	**274**	P		**P**	**13 33 29.8**	**+1.0**
	comp=Z,6.0nm,0.9s,baz=122,slow=4.0,SNR=5.2							
LSZ	**Lusaka**	**39.43**	**274**	P		**P**	**13 33 26.1**	**-2.7**
LSZ				IAmb		IAmb	13 33 32.6	
	comp=Z,20nm,1.3s							
LBTB	**Lobatse**	**39.82**	**258**	P		**P**	**13 33 33.0**	**+1.1**
LBTB				IAmb		IAmb	13 33 38.4	
	comp=Z,18nm,0.6s							
BOSA	**Boshof**	**39.85**	**252**	LR		LR	13 46 43.7	
	comp=Z,449nm,20.5s,slow=31							
H01W2	**Cape Leeuwin H**	**40.77**	**117**	T		T	14 16 54.0	
	baz=274,slow=75,SNR=96							
H01W3	**Cape Leeuwin H**	**40.77**	**117**	T		T	14 16 55.6	
	baz=274,slow=75,SNR=104							
H01W1	**Cape Leeuwin H**	**40.78**	**117**	T		T	14 16 55.2	
	baz=274,slow=75,SNR=121							
SUR	**Sutherland**	**43.62**	**247**	LR		LR	13 49 13.7	
	comp=Z,186nm,19.3s,baz=129,slow=32							
MAW	**Mawson**	**44.88**	**183**	P		**P**	**13 34 14.3**	**+2.0**
	comp=Z,1.6nm,1.0s,baz=299,slow=6.1,SNR=3.9							
MAW				LR		LR	13 48 23.6	
	comp=Z,130nm,21.8s,baz=52,slow=30							
MAW	**Mawson**	**44.88**	**183**	P		**P**	**13 34 13.3**	**+0.9**
PBKT	**Sadao Pong**	**50.03**	**41**	P		**P**	**13 34 51.5**	**-1.6**
PBKT				IAmb		IAmb	13 34 59.8	
	comp=Z,6.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**50.32**	**38**	P		**P**	**13 34 56.9**	**+1.6**
	comp=Z,4.5nm,1.0s,baz=235,slow=7.7,SNR=15							
CMAR				LR		LR	13 53 42.3	
	comp=Z,99nm,18.4s,baz=246,slow=33							
FITZ	**Fitzroy Crossi**	**52.78**	**96**	P		**P**	**13 35 12.0**	**-1.8**
FITZ				IAmb		IAmb	13 35 15.7	
	comp=Z,14nm,1.1s							
KMI	**Kunming**	**57.75**	**36**	⇑*e*P		P	13 35 59.5	+10
KMI				pP		pwP	13 36 02.8	+7.2
KMI				pmax		pmax		
	comp=Z,14nm,0.6s							
KMI				pmax		pmax		
	comp=Z,120nm,3.5s							
ASAR	**Alice Springs**	**58.91**	**105**	P		**P**	**13 35 57.9**	**0.0**
	comp=Z,6.3nm,0.9s,baz=255,slow=6.2,SNR=39							
ASAR				LR		LR	13 57 54.8	
	comp=Z,602nm,20.5s,baz=282,slow=33							
ASAR	**Alice Springs**	**58.91**	**105**	P		**P**	**13 35 57.6**	**-0.2**
AS31	**Alice Springs**	**58.91**	**105**	P		**P**	**13 35 57.4**	**-0.5**
BBOO	**Buckleboo**	**59.04**	**115**	P		**P**	**13 35 58.9**	**+0.3**
BBOO				IAmb		IAmb	13 36 14.8	
	comp=Z,7.4nm,1.1s							
WRA	**Warramunga Arr**	**60.23**	**101**	P		**P**	**13 36 07.0**	**+0.1**
	comp=Z,13nm,1.0s,baz=256,slow=6.8,SNR=28							
WRA				LR		LR	14 00 48.4	
	comp=Z,354nm,18.1s,baz=255,slow=35							
WRA	**Warramunga Arr**	**60.23**	**101**	P		**P**	**13 36 07.2**	**+0.3**
WB2	**Warramunga Arr**	**60.24**	**101**	P		**P**	**13 36 07.1**	**+0.1**
WB0	**Warramunga Arr**	**60.32**	**100**	P		**P**	**13 36 07.7**	**+0.1**
WR0	**Warramunga Arr**	**60.41**	**101**	P		**P**	**13 36 08.0**	**-0.2**
GYA	**Guiyang**	**60.99**	**39**	*e*P		P	13 36 17.8	+5.8
GYA				pmax		pmax		
	comp=Z,8.0nm,0.9s							
GEYT	**Alibeck**	**61.41**	**350**	LR		LR	13 59 29.4	
	comp=Z,130nm,21.6s,baz=35,slow=33							
EIL	**Elat**	**61.81**	**326**	LR		LR	13 59 11.6	
	comp=Z,99nm,20.4s,baz=136,slow=32							
KSH	**Kashi**	**62.42**	**6**	*e*P		**P**	**13 36 21.0**	**-0.4**
KSH				pmax		pmax		
	comp=Z,16nm,0.8s							
ASF	**Jabal al Asfar**	**62.90**	**329**	LR		LR	14 02 14.9	
	comp=Z,240nm,19.7s,baz=122,slow=35							
CD2	**Chengdu**	**62.92**	**33**	*e*P		P	13 36 29.0	+4.2
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
STKA	**Stephens Creek**	**63.82**	**115**	LR		LR	14 00 27.4	
	comp=Z,420nm,20.6s,baz=216,slow=32							
STKA	**Stephens Creek**	**63.82**	**115**	P		**P**	**13 36 28.0**	**-2.9**
MMAI	**Mount Meron Ar**	**64.31**	**329**	LR		LR	14 01 04.0	
	comp=Z,82nm,20.7s,baz=0.0,slow=33							
LZH	**Lanzhou**	**67.18**	**30**	*e*P		P	13 36 56.5	+3.9
LZH				pP		pwP	13 37 00.8	+2.4
LZH				sP		sP	13 37 03.0	+7.1
LZH				pmax		pmax		
	comp=Z,15nm,1.1s							
LZH				pmax		pmax		
	comp=Z,67nm,4.8s							
LZH				LR		LR		
	comp=Z,180nm,16.2s							
LZH				LR		LR		
	comp=Z,140nm,14.6s							
LZH				LR		LR		
	comp=Z,210nm,17.4s							
QSPA	**South Pole Qui**	**67.21**	**180**	P		**P**	**13 36 53.5**	**+1.1**
	comp=Z,7.2nm,1.0s,baz=309,slow=1.2,SNR=11							
QSPA	**South Pole Qui**	**67.21**	**180**	P		**P**	**13 36 52.6**	**+0.2**
QSPA				IAmb		IAmb	13 37 11.7	
	comp=Z,11nm,1.1s							
XAN	**Xi'an**	**68.06**	**35**	P		P	13 37 02.0	+4.0
XAN				pmax		pmax		
	comp=Z,14nm,1.3s							
XAN				LR		LR		
	comp=Z,190nm,18.2s							
XAN				LR		LR		
	comp=Z,290nm,17.1s							
XAN				LR		LR		
	comp=Z,150nm,16.7s							
GTA	**Gaotai**	**68.27**	**25**	*e*P		**P**	**13 37 01.8**	**+2.5**
GTA				pP		pwP	13 37 06.5	+1.3
GTA				sP		sP	13 37 09.5	+6.9
GTA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
VNDA	**Vanda**	**68.37**	**166**	P		**P**	**13 37 00.1**	**+0.8**
	comp=Z,1.5nm,1.0s,baz=292,slow=4.4,SNR=3.7							
VNDA				LR		LR	14 03 29.2	
	comp=Z,56nm,18.2s,baz=235,slow=33							
WMQ	**Urumqi**	**68.53**	**14**	*e*P		**P**	**13 37 02.3**	**+1.5**
WMQ				pmax		pmax		
	comp=Z,11nm,0.6s							
WMQ				pmax		pmax		
	comp=Z,27nm,6.3s							
WMQ				LR		LR		
	comp=Z,130nm,19.1s							
WMQ				LR		LR		
	comp=Z,130nm,19.9s							
WMQ				LR		LR		
	comp=Z,130nm,22.7s							
MK31	**Makanchi Array**	**70.37**	**9**	P		**P**	**13 37 11.4**	**-0.7**
MK31				IAmb		IAmb	13 37 18.9	
	comp=Z,8.5nm,0.9s							
MKAR	**Makanchi Array**	**70.37**	**9**	P		**P**	**13 37 11.3**	**-0.7**
	comp=Z,6.3nm,0.7s,baz=191,slow=5.6,SNR=20							
MKAR				LR		LR	14 06 47.3	
	comp=Z,126nm,20.0s,baz=195,slow=35							
MKAR	**Makanchi Array**	**70.37**	**9**	P		**P**	**13 37 11.8**	**-0.3**
KBZ	**Khabaz**	**70.59**	**340**	P		**P**	**13 37 12.3**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=230,slow=21,SNR=1.9							
KBZ				LR		LR	14 06 59.2	
	comp=Z,123nm,19.5s,baz=168,slow=35							
BRTR	**Keskin Array B**	**70.62**	**332**	P		**P**	**13 37 13.9**	**+0.1**
	comp=Z,2.2nm,1.0s,baz=182,slow=3.6,SNR=5.6							
BRTR				LR		LR	14 05 30.0	
	comp=Z,53nm,20.2s,baz=150,slow=34							
ABKAR	**Akbulak array**	**72.31**	**354**	P		**P**	**13 37 23.4**	**-0.3**
NJ2	**Nanjing**	**72.36**	**43**	*e*P		**P**	**13 37 25.0**	**+0.6**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**74.63**	**32**	*e*P		**P**	**13 37 38.0**	**+0.3**
HHC				pmax		pmax		
	comp=Z,19nm,0.8s							
TORD	**Torodi Ar. Bea**	**75.20**	**291**	P		**P**	**13 37 41.0**	**-0.4**
	comp=Z,1.4nm,1.0s,baz=132,slow=2.6,SNR=4.5							
TORD				LR		LR	14 10 08.2	
	comp=Z,213nm,18.4s,baz=115,slow=35							
TORD	**Torodi Ar. Bea**	**75.20**	**291**	P		**P**	**13 37 41.3**	**-0.1**
ZALV	**Zalesovo Beam**	**77.71**	**9**	P		**P**	**13 37 54.3**	**-0.4**
	comp=Z,5.3nm,0.7s,baz=202,slow=4.5,SNR=22							
ZALV				LR		LR	14 10 32.0	
	comp=Z,67nm,22.0s,baz=245,slow=34							
SONM	**Songino Array**	**77.93**	**25**	P		**P**	**13 37 55.8**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=204,slow=5.9,SNR=7.3							
SONM				LR		LR	14 11 21.4	
	comp=Z,86nm,21.1s,baz=213,slow=35							
DBIC	**Dimbokro**	**78.10**	**282**	P		**P**	**13 38 00.8**	**+3.0**
	comp=Z,6.4nm,1.1s,baz=146,slow=12,SNR=2.8							
DBIC				LR		LR	14 10 20.3	
	comp=Z,311nm,19.8s,baz=92,slow=34							
ARU	**Arti**	**79.54**	**354**	LR		LR	14 12 30.2	
	comp=Z,78nm,18.8s,baz=160,slow=35							
KEST	**Kesra**	**81.30**	**315**	LR		LR	14 12 59.2	
	comp=Z,88nm,19.6s,baz=274,slow=35							
AKASG	**Malin Array Be**	**81.36**	**336**	P		**P**	**13 38 14.1**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=152,slow=4.5,SNR=1.5							
KSRS	**Korea Array**	**81.54**	**43**	P		**P**	**13 38 15.2**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=233,slow=6.3,SNR=5.1							
VYHS	**Vyhne**	**84.15**	**329**	*e*P		**P**	**13 38 29.5**	**+0.2**
KLMR	**Klimovskoe**	**86.88**	**346**	*e*P		**P**	**13 38 41.3**	**-1.2**
KLMR				AMP			13 38 56.0	
	comp=Z,27nm,1.5s							
MJAR	**Matsushiro Arr**	**87.87**	**49**	P		**P**	**13 38 46.8**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=232,slow=6.0,SNR=1.5							
ESDC	**Sonseca Array**	**92.32**	**312**	LR		LR	14 22 27.8	
	comp=Z,96nm,18.1s,baz=95,slow=37							
ARCES	**ARCESS Array B**	**97.36**	**346**	LR		LR	14 23 14.1	
	comp=Z,64nm,21.2s,baz=160,slow=35							

KRNET ***28*** *13:28:36.7±0.1,40.°77N×70.°42E,h30km,mb2.5*
SOME ***28*** *13:28:38.1,41.°03N×70.°60E,h10km*
NNC ***28*** *13:28:39.5±7.6,40.°99N×70.°92E,h0km,mb3.1,mpv3.3, Error ellipse: s-maj=57.3km s-min=33.7km az=19.0*

ISC 28 13:28:35.9±3.2,**40.°70N**±0.°05×**70.°46E**±0.°05,**h11**km±24km, **n14,**σ1§**43**/26,**8C-8B, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.70**	**157**	⇓*i*P		**Pn**	**13 28 51.5**	**-0.3**
BTK	baz=57			⇓*i*S		**Sn**	**13 29 02.6**	**0.0**
	baz=57							
IUG	**Iuzhnay**	**1.48**	**347**	*e*P		**Pb**	**13 29 04.4**	**+1.0**
IUG	44nm,0.1s			*e*S		**Sb**	**13 29 23.9**	**+1.6**
	106nm,0.2s							
IUG	**Iuzhnay**	**1.48**	**347**	P		**Pb**	**13 29 04.3**	**+0.8**
IUG	44nm,0.1s			S		**Sb**	**13 29 23.4**	**+1.1**
	106nm,0.2s							
ARK	**Arkit**	**1.57**	**45**	⇑*i*P		**Pn**	**13 29 04.5**	**+0.6**
ARK	baz=49			⇑*i*S		**Sb**	**13 29 24.7**	**-0.4**
	baz=49							
OHH	**Osh**	**1.78**	**95**	⇑*i*P		**Pb**	**13 29 08.3**	**-0.2**
OHH	baz=97			⇑*i*S		**Sb**	**13 29 31.2**	**+0.4**
	baz=97							
BRLS	**Borolday**	**2.37**	**349**	*e*P		**Pn**	**13 29 13.5**	**-1.2**
	11nm,0.2s			*e*S		**Sn**	**13 29 39.8**	**-4.0**
BRLS	14nm,0.2s							
BRLS	**Borolday**	**2.37**	**349**	Pg		**Pn**	**13 29 14.3**	**-0.5**
	11nm,0.2s			Lg		Lg	13 29 40.3	
BRLS	14nm,0.2s							
KK31	**Karatay Array**	**2.40**	**1**	⇑Pn		**Pn**	**13 29 16.3**	**+1.2**
	0.5nm,0.2s,baz=151,slow=12,SNR=20							
KK31				⇑Sn		**Sn**	**13 29 45.0**	**+0.5**
	5.6nm,0.3s							
AML	**Almayashu**	**2.82**	**59**	⇓*i*P		**Pn**	**13 29 22.3**	**+1.1**
AML	baz=60			⇓*i*S		**Sn**	**13 29 55.2**	**-0.2**
	baz=60							
MRKS	**Merke**	**2.91**	**44**	*e*P		**Pb**	**13 29 25.2**	**-2.5**
	3.6nm,0.3s			*e*S		**Sn**	**13 29 57.7**	**+0.6**
MRKS	4.0nm,0.3s							
MRKS	**Merke**	**2.91**	**44**	Pg		**Pb**	**13 29 25.4**	**-2.3**
	3.6nm,0.3s			Lg		Lg	13 29 59.7	
MRKS	4.0nm,0.3s							
EKS2	**Erkin-Say**	**3.16**	**51**	⇓*i*P		**Pn**	**13 29 26.3**	**+0.6**
EKS2	baz=52			⇓*i*S		**Sn**	**13 30 03.0**	**-0.5**
	baz=52							
UCH	**Uchtor**	**3.41**	**62**	⇓*i*P		**Pn**	**13 29 30.7**	**+1.4**
UCH	baz=63			⇓*i*S		**Sn**	**13 30 09.6**	**-0.3**
	baz=63							
KZA	**Kyzart**	**3.85**	**68**	⇑*i*P		**Pn**	**13 29 37.3**	**+1.8**
	baz=69							
KZA				⇑*i*S		**Sn**	**13 30 21.2**

TCOL	**CIGO, UAF Yank**	**6.30**	**109**		**Pn**	13 34 44.5	**+0.2**
COLA	**College**	**6.30**	**109**		**Pn**	13 34 45.2	**+0.8**
POKR	**Poker Plat Res**	**6.33**	**106**	P	**Pn**	13 34 45.3	**+0.4**
	baz=300,SNR=12						
POKR				S	**Sn**	13 35 57.4	**+0.3**
	baz=300						
POKR	**Poker Plat Res**	**6.33**	**106**		**Pn**	13 34 45.2	**+0.4**
TRF	**Thorofare Moun**	**6.37**	**125**		**Pn**	13 34 46.4	**+0.8**
WRH	**Wood River Hil**	**6.44**	**113**		**Pn**	13 34 46.5	**+0.2**
CCB	**Clear Creek Bu**	**6.44**	**111**		**Pn**	13 34 46.6	**+0.3**
MCK	**McKinley**	**6.61**	**120**		**Pn**	13 34 49.1	**+0.4**
IL31		**6.70**	**108**		**Pn**	13 34 50.0	**+0.1**
ILAR	**Eielson Array**	**6.70**	**108**	Pn	**Pn**	13 34 49.8	**-0.2**
	4.4nm,0.3s,baz=306,slow=14,SNR=213						
ILAR				Sn	**Sn**	13 36 05.1	**-1.2**
	1.7nm,0.3s,baz=306,slow=26,SNR=1.2						
ILAR				Lg	Lg	13 36 36.4	
	baz=20,slow=41,SNR=2.4						
ILAR				LR	LR	13 37 48.6	
	comp=Z,80nm,18.6s,baz=294,slow=41						
RND	**Reindeer**	**6.86**	**122**	Pn	**Pn**	13 34 52.9	**+0.7**
HDA	**Harding Lake**	**6.88**	**111**	P	**Pn**	13 34 52.6	**+0.2**
	baz=304,SNR=13						
HDA				S	**Sn**	13 36 08.6	**-2.0**
	baz=304						
HDA	**Harding Lake**	**6.88**	**111**		**Pn**	13 34 52.4	**0.0**
SVW2	**Sparrevohn**	**7.08**	**154**		**Pn**	13 34 55.6	**+0.5**
SKT	**Skwentna**	**7.16**	**137**		**Pn**	13 34 57.8	**+1.5**
CUT	**Chulitna**	**7.17**	**131**	S	**Sn**	13 36 19.0	**+1.4**
	baz=322						
DHY	**Denali Highway**	**7.57**	**120**		**Pn**	13 35 02.4	**+0.4**
RIDG	**Independent Ri**	**8.02**	**111**	Pn	**Pn**	13 35 09.1	**+1.0**
GHO	**Glory Hole Cre**	**8.06**	**130**		**Pn**	13 35 10.0	**+1.4**
PMR	**Palmer**	**8.14**	**132**		**Pn**	13 35 09.8	**+0.1**
SCRK	**Sand Creek**	**8.20**	**108**	S	**Sn**	13 36 41.4	**-1.8**
	baz=304						
SML	**Sawmill**	**8.20**	**129**		**Pn**	13 35 12.1	**+1.5**
PAX	**Paxson**	**8.29**	**116**		**Pn**	13 35 12.9	**+1.1**
CAPN	**Captain Cook N**	**8.29**	**141**	S	**Sn**	13 36 45.2	**-0.1**
	baz=330						
DOT	**Dot Lake**	**8.36**	**110**	Pn	**Pn**	13 35 12.8	**+0.1**
EGAK	**Eagle**	**8.84**	**99**		**Pn**	13 35 18.9	**-0.3**
BCAR	**Beaver Creek A**	**9.53**	**109**		**Pn**	13 35 28.9	**+0.2**
INK	**Inuvik**	**10.64**	**73**	Pn	**Pn**	13 35 42.9	**-0.9**
	0.4nm,0.3s,baz=293,slow=13,SNR=15						
INK				Sn	**Sn**	13 37 34.7	**-8.1**
	0.6nm,0.3s,baz=348,slow=16,SNR=5.1						
INK				LR	LR	13 40 08.0	
	comp=Z,97nm,21.1s,baz=256,slow=39						
DLBC	**Dease Lake**	**16.91**	**107**	Pn	**P**	13 37 10.0	**-0.1**
	0.1nm,0.3s,baz=3.8,slow=18,SNR=2.3						
DLBC				LR	LR	13 44 28.9	
	comp=Z,57nm,18.6s,baz=14,slow=40						
SEY	**Seymchan**	**19.31**	**278**	P	**Pn**	13 37 38.4	**+1.0**
	0.2nm,0.3s,baz=44,slow=3.2,SNR=33						
SEY				LR	LR	13 45 34.5	
	comp=Z,79nm,18.9s,baz=206,slow=39						
YKA	**Yellowknife Ar**	**20.16**	**82**	P	**P**	13 37 44.5	**-1.1**
	1.6nm,0.6s,baz=300,slow=9.9,SNR=6.7						
RES	**Resolute Bay**	**21.53**	**42**	LR	LR	13 47 07.3	
	comp=Z,38nm,21.1s,baz=282,slow=39						
MA2	**Magadan**	**21.99**	**272**	P	**P**	13 38 06.5	**+1.2**
	8.4nm,0.9s,baz=37,slow=9.1,SNR=4.8						
MA2				LR	LR	13 46 57.6	
	comp=Z,80nm,18.9s,baz=54,slow=38						
PETK	**Petropavlovsk-**	**24.10**	**253**	P	**P**	13 38 27.4	**+0.5**
	3.3nm,1.0s,baz=59,slow=14,SNR=4.1						
PETK				LR	LR	13 49 16.5	
	comp=Z,44nm,18.6s,baz=60,slow=40						
NRIK	**Noril'sk**	**35.33**	**325**	P	**P**	13 40 07.0	**+0.7**
	4.6nm,0.8s,baz=40,slow=8.7,SNR=4.4						
PDAR	**Pinedale Array**	**37.13**	**105**	P	**P**	13 40 23.9	**+1.7**
	1.2nm,0.6s,baz=342,slow=9.7,SNR=15						
PDAR	**Pinedale Array**	**37.13**	**105**	P	**P**	13 40 21.7	**-0.5**
NVAR	**Mina Array Bea**	**37.84**	**118**	P	**P**	13 40 30.0	**+1.7**
	1.4nm,0.6s,baz=321,slow=7.5,SNR=15						
USRK	**Ussuriysk Ar.**	**41.12**	**270**	P	**P**	13 40 55.7	**+0.4**
	1.6nm,0.8s,baz=40,slow=5.6,SNR=2.1						
USRK	**Ussuriysk Ar.**	**41.12**	**270**	P	**P**	13 40 52.8	**-2.5**
SCHQ	**Schefferville**	**42.80**	**58**	LR	LR	14 02 38.1	
	comp=Z,51nm,19.1s,baz=26,slow=41						
SONM	**Songino Array**	**47.56**	**294**	P	**P**	13 41 47.3	**+0.3**
	1.9nm,0.7s,baz=32,slow=6.7,SNR=10						
KSRS	**Korea Array**	**48.49**	**269**	P	**P**	13 41 54.5	**+0.4**
	2.6nm,0.7s,baz=19,slow=8.0,SNR=12						
ZAA0	**Zalesovo Array**	**49.04**	**314**	P	**P**	13 41 56.2	**-1.9**
ZAA0				IAmb	IAmb	13 41 59.0	
	comp=Z,6.0nm,0.7s						
ZALV	**Zalesovo Beam**	**49.04**	**314**	P	**P**	13 41 58.4	**+0.3**
	comp=Z,5.2nm,0.6s,baz=28,slow=6.7,SNR=22						
ZALV	**Zalesovo Beam**	**49.04**	**314**	P	**P**	13 41 57.2	**-0.9**
FINES	**FINESS Array B**	**51.12**	**355**	P	**P**	13 42 14.1	**+0.3**
	comp=Z,4.0nm,0.8s,baz=3.5,slow=6.3,SNR=6.4						
FINES	**FINESS Array B**	**51.12**	**355**	P	**P**	13 42 12.8	**-1.0**
TXAR	**Lajitas Array**	**51.22**	**108**	P	**P**	13 42 15.9	**+0.9**
	comp=Z,2.5nm,0.7s,baz=331,slow=5.8,SNR=28						
TXAR	**Lajitas Array**	**51.22**	**108**	P	**P**	13 42 15.4	**+0.4**
NOA	**NORSAR Array B**	**51.56**	**4**	P	**P**	13 42 17.5	**+0.4**
	comp=Z,0.7nm,0.7s,baz=356,slow=7.4,SNR=2.8						
KURK	**Kurchatov**	**53.62**	**317**	P	**P**	13 42 30.0	**-2.4**
KURK				IAmb	IAmb	13 42 33.5	
	comp=Z,6.6nm,0.9s						
LPIG	**La Paz**	**53.66**	**117**	LR	LR	14 07 19.0	
	comp=Z,48nm,19.7s,baz=341,slow=38						
MK31	**Makanchi Array**	**56.19**	**312**	P	**P**	13 42 49.0	**-2.2**
MK31				IAmb	IAmb	13 42 52.7	
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**56.19**	**312**	P	**P**	13 42 50.9	**-0.3**
	comp=Z,1.6nm,0.8s,baz=38,slow=6.5,SNR=16						
MKAR	**Makanchi Array**	**56.19**	**312**	P	**P**	13 42 49.0	**-2.1**
AKTO	**Aktyubinsk**	**58.52**	**331**	LR	LR	14 11 35.8	
	comp=Z,56nm,18.3s,baz=160,slow=39						
AKASG	**Malin Array Be**	**61.72**	**352**	P	**P**	13 43 29.4	**0.0**
	comp=Z,1.0nm,0.5s,baz=6.0,slow=6.9,SNR=5.3						
GERES	**GERESS Array B**	**63.83**	**3**	P	**P**	13 43 44.2	**+0.6**
	comp=Z,0.7nm,0.7s,baz=19,slow=6.2,SNR=4.8						
KBZ	**Khabaz**	**67.42**	**341**	P	**P**	13 44 07.5	**+0.8**
	comp=Z,0.9nm,0.5s,baz=342,slow=13,SNR=2.2						
ESDC	**Sonseca Array**	**71.75**	**18**	P	**P**	13 44 34.4	**+0.8**
	comp=Z,0.5nm,0.6s,baz=350,slow=5.1,SNR=7.9						
CMAR	**Chiang Mai Arr**	**76.54**	**286**	P	**P**	13 45 02.0	**+0.3**
	comp=Z,2.0nm,0.6s,baz=4.5,slow=6.8,SNR=2.0						

IDC 28 13:34:33.7±1.3, 4°.25S×152°.76E, h120km±8km, mb3.3/5, mb1 3.5/5, mb1mx3.2/41, mbtmp3.6/5, Error ellipse: s-maj=31.0km s-min=23.5km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.74**	**265**	P	Pn	13 34 54.0	+0.7
	57nm,0.3s,baz=105,slow=3.6,SNR=84						
KRVT				S	Sn	13 35 09.1	+1.0
	95nm,0.3s,baz=335,slow=23,SNR=8.0						
DZM	**Mont Dzumac**	**22.13**	**144**	P	P	13 39 20.2	+0.3
	3.2nm,0.7s,baz=201,slow=20,SNR=1.6						
WRA	**Warramunga Arr**	**23.79**	**227**	P	P	13 39 35.7	+0.1
	0.9nm,0.4s,baz=56,slow=9.8,SNR=24						
WRA				PcP	PcP	13 43 16.3	+0.2
	0.3nm,0.7s,baz=49,slow=2.1,SNR=1.8						
ASAR	**Alice Springs**	**26.54**	**222**	P	P	13 39 59.7	-0.7
	0.1nm,0.3s,baz=48,slow=8.5,SNR=7.8						
ASAR				PcP	PcP	13 43 22.3	+0.1
	0.1nm,0.6s,baz=18,slow=4.2,SNR=1.3						
MKAR	**Makanchi Array**	**79.89**	**319**	P	P	13 46 29.7	+0.4
	0.2nm,0.4s,baz=114,slow=7.3,SNR=4.3						
ILAR	**Eielson Array**	**81.66**	**22**	P	P	13 46 37.5	-0.8
	0.5nm,0.6s,baz=241,slow=5.5,SNR=5.6						
TORD	**Torodi Ar. Bea**	**150.10**	**289**	PKPbc	PKPbc	13 54 11.1	-0.3
	1.1nm,0.4s,baz=66,slow=2.2,SNR=15						

*MEX **28** 13:41:01.6±0.4, 14°.62N×92°.55W, h82km±8km, MD3.5*
*GCG **28** 13:41:02.7±1.2, 14°.86N×92°.31W, h0km±15km, MD4.1*
ISC 28 13:40:54.5±2.7, 14°.5N±0°.1×92°.86W±0°.09, h1km±17km, n7, σ1°35/11, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.68**	**57**	*i* P	**Pn**	13 41 13.5	**+2.2**
THIG				*i* S	**Sn**	13 41 22.9	**+0.3**
PCIG		**1.21**	**343**	*i* P	Pg	13 41 22.7	+5.0
CCIG	**Comitan**	**1.87**	**22**	*eP*	**Pg**	13 41 30.3	**-0.1**
CCIG				*eS*	**Sb**	13 41 52.5	**-1.0**
FUG	**Fuego 3**	**1.96**	**92**	*eP*	**Pb**	13 41 30.4	**-0.7**
FUG				*eS*	**Sn**	13 41 52.1	**-2.2**
PCG	**Pacaya**	**2.19**	**94**	*eP*	**Pb**	13 41 34.0	**-1.1**
PCG				*eS*	**Sn**	13 41 60.0	**-0.1**
IXG	**Ixpaco**	**2.37**	**99**	*eP*	**Pb**	13 41 38.2	**0.0**
IXG				*eS*	**Sn**	13 42 04.1	**-0.5**
CMIG	**Matias Romero**	**3.20**	**323**	*eP*	**Pb**	13 41 51.4	**-0.8**

JMA 28 13:41:14.8±0.2, 35°.74N×140°.88E, h11km±1km, M3.5, 7C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.04**	**205**	⇓P	Pg	13 41 16.9	0.0
CHOJ				S	Sg	13 41 18.3	0.0
JIHU	**Itakohorinouch**	**0.36**	**308**	⇑P	Pb	13 41 22.9	-0.4
JSMT	**Sammumatsuo**	**0.36**	**255**	⇑P	Pb	13 41 22.7	-0.6
JCN	**Nagara**	**0.64**	**240**	⇑P	Pb	13 41 28.1	+0.1
JHYU	**Hitachinakayam**	**0.65**	**338**	⇑P	Pg	13 41 27.5	+0.2
JHYU				S	Sg	13 41 36.2	+0.4
JYT	**Yasato**	**0.74**	**311**	⇑P	Pg	13 41 28.6	-0.5
JYT				S	Sg	13 41 38.1	-0.7
JKUC	**kamogawauchiur**	**0.80**	**224**	P	Pg	13 41 30.1	-0.2
JKUC				S	Sb	13 41 41.4	-0.2
JHO	**Hitachi**	**0.91**	**344**	⇑P	Pg	13 41 31.1	-1.2
JHO				S	Sg	13 41 43.3	-0.8
BSO3	**Boso 3**	**0.98**	**198**	⇑P	Pb	13 41 33.5	-0.2
MAT	**Matsushiro**	**2.31**	**291**	P	Pn	13 41 52.1	-0.7
MAT				S	Sn	13 42 18.5	-2.7

*TEH **28** 13:49:39.5, 28°.09N×56°.82E, h10km, ML3.7*
*THR **28** 13:49:41.7±1.0, 28°.03N×56°.74E, h33km±7km, ML3.8*
ISC 28 13:49:42.5±1.2, 28°.03N±0°.07×56°.78E±0°.07, h28km, n26, σ0°97/27, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.82**	**95**	*ePg*	Pn	13 49 54.0	-4.2
GENO	**Geno**	**0.82**	**221**	*ePg*	**Pb**	13 49 57.0	**-1.4**
GENO				*eSg*	**Sn**	13 50 10.4	**+0.6**
BNDS	**Bandar-Abbas**	**0.83**	**221**	*ePg*	**Pb**	13 49 57.1	**-1.3**
BNDS	**Bandar-Abbas**	**0.83**	**221**	*ePg*	**Pb**	13 49 57.1	**-1.3**
NGRK	**Negar Kerman**	**1.61**	**358**	*e*		13 50 38.7	
NGRK				*ePg*	**Pn**	13 50 09.2	**-0.2**
CHMN	**Cheshme madani**	**1.94**	**20**	*ePn*	**Pn**	13 50 13.3	**-0.7**
CHMN				*e*		13 50 17.6	
KRBR	**Kerman**	**1.95**	**359**	*ePn*	**Pn**	13 50 14.2	**+0.2**
KRBR				*eSg*	**Sb**	13 50 42.5	**+1.0**
KRBR				IAML		13 50 44.4	
	comp=N,607nm,0.4s						
KRBR				IAML		13 50 45.0	
	comp=E,836nm,0.7s						
KRBR	**Kerman**	**1.95**	**359**	*ePn*	**Pn**	13 50 14.2	**+0.2**
TVBK	**TV Kerman**	**1.95**	**360**	*ePn*	**Pn**	13 50 14.0	**-0.1**
TVBK				*e*		13 50 17.4	
KHGB	**Koh Gabri**	**2.35**	**354**	*ePn*	**Pn**	13 50 19.6	**+0.1**
GHIR	**Ghir-Karzin**	**3.36**	**275**	*ePn*	**Pn**	13 50 34.1	**+0.9**
GHIR	**Ghir-Karzin**	**3.36**	**275**	*ePn*	**Pn**	13 50 34.1	**+0.9**
ZHSF	**Zahedan**	**3.84**	**65**	*ePn*	**Pn**	13 50 41.9	**+1.9**
ZHSF	**Zahedan**	**3.84**	**65**	*ePn*	**Pn**	13 50 41.9	**+1.9**
IMEH	**Mehriz**	**3.84**	**331**	*ePn*	**Pn**	13 50 40.2	**+0.2**
BSRN	**Basiran**	**4.42**	**27**	*ePn*	**Pn**	13 50 48.8	**+0.9**
BSRN	**Basiran**	**4.42**	**27**	*ePn*	**Pn**	13 50 48.8	**+0.9**
ISAD	**Sadrabad**	**4.71**	**326**	*ePn*	**Pn**	13 50 52.4	**+0.4**
TPRV	**Parvadeh(Tabas**	**4.99**	**359**	*ePn*	**Pn**	13 50 56.2	**+0.6**
IRAM	**Ramesheh**	**5.36**	**316**	*ePn*	**Pn**	13 51 01.4	**+0.5**
IRAM				*e*		13 52 06.6	
KLNJ	**Kolanjah**	**5.41**	**305**	*ePn*	**Pn**	13 51 03.0	**+1.4**
KLNJ				*e*		13 52 45.9	
AFRZ	**Afriz**	**5.71**	**19**	*ePn*	**Pn**	13 51 04.5	**-1.1**
ANAR	**Anarak**	**5.78**	**334**	*ePn*	**Pn**	13 51 06.6	**+0.1**
IGAR	**Gharneh**	**5.99**	**318**	*ePn*	**Pn**	13 51 10.1	**+0.7**
IZEF	**Zefreh**	**6.19**	**323**	*ePn*	**Pn**	13 51 12.1	**-0.2**
JHBN	**Jahan bin**	**6.75**	**310**	*ePn*	**Pn**	13 51 19.8	**-0.2**

*IDC **28** 14:02:58.2±2.5, 19°.94S×176°.73W, h235km±26km, mb3.5/7, mb1 3.7/9, mb1mx3.5/23, mbtmp4.2/9, Error ellipse: s-maj=25.7km s-min=13.0km az=131.0*
ISC 28 14:03:00.4±0.7, 20°.0S±0°.1×176°.7W±0°.1, h263km, n30, σ1°60/31, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.70**	**38**	P	**Pn**	14 04 47.2	**-2.9**
	7.6nm,0.3s,baz=163,slow=11,SNR=6.1						
AFI				S	S	14 06 06.9	-12
	0.8nm,0.3s,baz=30,slow=24,SNR=1.5						
DZM	**Mont Dzumac**	**15.87**	**260**	P	**Pn**	14 06 33.1	**+2.6**
	0.6nm,0.3s,baz=75,slow=19,SNR=13						
URZ	**Urewera**	**18.94**	**195**	P	**P**	14 07 01.6	**-0.6**
	4.7nm,0.3s,baz=288,slow=1.7,SNR=29						
URZ				S	**S**	14 10 19.6	**-3.5**
	0.4nm,0.3s,baz=137,slow=16,SNR=1.5						
PRWZ	**Pori Road**	**21.40**	**195**	P	P	14 07 36.0	+8.3
OGWZ	**Otaki Gorge**	**21.85**	**197**	P	**P**	14 07 31.4	**-0.4**
CAW	**Cannon Point**	**22.15**	**197**	P	**P**	14 07 34.6	**0.0**
TCW	**Tory Channel**	**22.47**	**198**	P	**P**	14 07 37.9	**+0.4**
PLWZ	**Palliser**	**22.53**	**196**	P	**P**	14 07 39.1	**+1.0**
QRZ	**Quartz Range**	**22.68**	**202**	P	**P**	14 07 40.9	**+1.5**
NNZ	**Nelson**	**22.75**	**200**	P	**P**	14 07 40.0	**0.0**
TUWZ	**Tuamarina**	**22.77**	**198**	P	**P**	14 07 40.4	**+0.2**
DSZ	**Denniston Nort**	**23.74**	**202**	P	**P**	14 07 49.7	**+0.5**
KHZ	**Kahutara**	**23.79**	**198**	P	**P**	14 07 50.3	**+0.8**
GVZ	**Greta Valley S**	**24.45**	**198**	P	**P**	14 07 55.4	**-0.1**
LTZ	**Lake Taylor**	**24.53**	**200**	P	**P**	14 07 55.5	**-0.6**
INZ	**Inchbonnie**	**24.73**	**201**	P	**P**	14 07 58.0	**0.0**
OXZ	**Oxford**	**25.08**	**200**	P	**P**	14 08 02.2	**+1.1**
MQZ	**McQueen's Vall**	**25.23**	**198**	P	**P**	14 08 02.6	**+0.1**
WVZ	**Waitaha Valley**	**25.29**	**202**	P	**P**	14 08 04.2	**+1.2**
RPZ	**Rata Peaks**	**25.74**	**201**	P	**P**	14 08 08.6	**+1.5**
	3.5nm,0.4s,baz=323,slow=7.7,SNR=3.8						
STKA	**Stephens Creek**	**39.09**	**244**	P	**P**	14 10 03.9	**+1.3**
	1.5nm,0.4s,baz=96,slow=11,SNR=12						
ASAR	**Alice Springs**	**45.81**	**256**	P	**P**	14 10 57.4	**+0.7**
	1.8nm,0.4s,baz=86,slow=8.4,SNR=140						
ASAR				S	**S**	14 17 15.8	**-4.5**
	1.1nm,1.0s,baz=95,slow=15,SNR=5.4						
WRA	**Warramunga Arr**	**45.87**	**261**	P	**P**	14 10 57.3	**+0.1**
	0.4nm,0.3s,baz=96,slow=7.5,SNR=30						
PETK	**Petropavlovsk-**	**76.14**	**344**	P	**P**	14 14 18.0	**-1.2**
	1.3nm,0.7s,baz=116,slow=9.3,SNR=4.4						
NVAR	**Mina Array Bea**	**79.85**	**43**	P	**P**	14 14 42.1	**+1.9**
	0.5nm,0.6s,baz=220,slow=8.5,SNR=6.1						
TXAR	**Lajitas Array**	**85.78**	**57**	P	**P**	14 15 13.0	**+2.4**
	0.1nm,0.3s,baz=188,slow=4.6,SNR=2.7						
ILAR	**Eielson Array**	**87.59**	**12**	P	**P**	14 15 18.1	**-0.2**
	0.6nm,0.8s,baz=214,slow=5.4,SNR=7.1						
ARCES	**ARCESS Array B**	**128.67**	**350**	PKP	**PKPdf**	14 21 35.5	**-0.1**
	1.5nm,0.9s,baz=22,slow=1.3,SNR=6.1						
BRTR	**Keskin Array B**	**147.41**	**314**	PKPbc	**PKPbc**	14 22 12.9	**-0.7**
	1.1nm,0.5s,baz=173,slow=2.9,SNR=4.6						
GERES	**GERESS Array B**	**150.06**	**346**	PKPbc	**PKPbc**	14 22 20.0	**+0.1**
	0.3nm,0.4s,baz=38,slow=2.4,SNR=4.3						

JMA 28 14:48:14.4±0.3, 37°.24N×142°.22E, h20km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.08**	**277**	P	Pb	14 48 34.1	-0.3
JFK				*eS*	Sb	14 48 48.3	+0.2
ONAJ	**Iwakimizuishiy**	**1.14**	**263**	P	Pn	14 48 35.1	-0.2
JMST	**Minamisoumatoc**	**1.17**	**295**	P	Pn	14 48 35.1	-0.5
JIKH	**Ishinomakikobu**	**1.23**	**331**	P	Pn	14 48 36.2	-0.2
JMM	**Marumori**	**1.29**	**299**	P	Pn	14 48 37.3	0.0
JIO	**Ouri**	**1.40**	**331**	P	Pn	14 48 38.9	+0.2
JIO				*eS*	Sn	14 48 56.4	-0.1
JHO	**Hitachi**	**1.46**	**245**	P	Pn	14 48 39.6	-0.1
JFT	**Otama**	**1.53**	**281**	P	Pb	14 48 41.5	-0.5
JOU	**Okura**	**1.67**	**313**	P	Pb	14 48 43.5	-0.9
JMK	**Ichinoseki**	**1.88**	**336**	P	Pn	14 48 46.6	+1.2
JYS	**Shirataka**	**1.97**	**300**	P	Pb	14 48 48.3	-1.3
JYS				*eS*	Sb	14 49 12.4	-1.3
JYK	**Kaneyama**	**2.23**	**319**	P	Pn	14 48 51.2	+1.0
MAT	**Matsushiro**	**3.29**	**259**	P	Pb	14 49 08.7	-3.4
MAT				S	Sb	14 49 48.2	-3.5

*IDC **28** 14:48:44.2±1.6, 20°.70S×168°.43E, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.9/27, mbtmp4.0/8, ML4.4/2, MS3.2/3, Ms1 3.1/3, ms1mx2.7/32, Error ellipse: s-maj=53.4km s-min=22.9km az=148.0*
*NEIC **28** 14:48:45.1±0.8, 20°.8S±0°.1×168°.5E±0°.2, h10km±2km, mb4.4/7, Error ellipse: s-maj=36.2km s-min=10.1km az=124.0*
ISC 28 14:48:45.3±1.3, 20°.8S±0°.1×168°.5E±0°.2, h10km, n15, σ1°08/15, mb4.2/8, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.25**	**236**	Pn	**Pn**	14 49 23.0	**+0.2**
	35nm,0.3s,baz=72,slow=20,SNR=1452						
DZM				Sn	**Sn**	14 49 50.8	**0.0**
	85nm,0.3s,baz=335,slow=20,SNR=10						
DZM				LR	LR	14 50 11.9	
	comp=Z,228nm,20.9s,baz=18,slow=38						
DZM	**Mont Dzumac**	**2.25**	**236**		**Pn**	14 49 23.0	**+0.2**
HNR	**Honiara**	**13.96**	**323**	Pn	**Pn**	14 52 03.0	**-0.3**
	5.9nm,0.3s,baz=198,slow=14,SNR=2.0						
ARMA	**Armidale**	**17.92**	**234**	P	**Pn**	14 52 54.5	**-0.3**
ARMA				IAmb	IAmb	14 53 01.0	
	comp=Z,32nm,1.4s						
CTA	**Charters Tower**	**20.81**	**268**	P	**P**	14 53 28.6	**+1.6**
	comp=Z,2.1nm,0.8s,baz=70,slow=15,SNR=1.7						
STKA	**Stephens Creek**	**26.40**	**240**	P	**P**	14 54 23.9	**+1.7**
	comp=Z,1.0nm,0.6s,baz=45,slow=8.6,SNR=4.2						
STKA				LR	LR	15 04 07.3	
	comp=Z,43nm,19.1s,baz=29,slow=35						
BBOO	**Buckleboo**	**31.16**	**241**	P	**P**	14 55 02.0	**-2.5**
BBOO				IAmb	IAmb	14 55 16.2	
	comp=Z,7.7nm,1.1s						
WB2	**Warramunga Arr**	**31.94**	**265**	P	**P**	14 55 11.7	**+0.1**
WB2				IAmb	IAmb	14 55 24.8	
	comp=Z,6.0nm,1.1s						
WRAB	**Tennant Creek**	**31.94**	**265**	P	P	14 55 03.2	-8.4
WRA	**Warramunga Arr**	**31.95**	**265**	P	**P**	14 55 10.6	**-1.1**
	comp=Z,0.2nm,0.5s,baz=98,slow=7.0,SNR=9.1						
WRA	**Warramunga Arr**	**31.95**	**265**	P	**P**	14 55 11.9	**+0.2**
AS31	**Alice Springs**	**32.06**	**258**	P	**P**	14 55 12.7	**+0.1**
AS31				IAmb	IAmb	14 55 23.2	
	comp=Z,2.6nm,0.8s						
ASAR	**Alice Springs**	**32.06**	**258**	P	**P**	14 55 13.1	**+0.5**
	comp=Z,2.5nm,0.8s,baz=85,slow=9.2,SNR=40						
ASAR				LR	LR	15 07 45.4	
	comp=Z,92nm,18.3s,baz=62,slow=36						
NVAR	**Mina Array Bea**	**90.39**	**49**	P	**P**	15 01 47.8	**+0.5**
	comp=Z,0.8nm,0.7s,baz=228,slow=7.4,SNR=8.6						
ILAR	**Eielson Array**	**91.94**	**18**	P	**P**	15 01 53.4	**-0.2**
	comp=Z,0.2nm,0.7s,baz=220,slow=6.1,SNR=1.8						

*CRAAG **28** 14:56:47.2, 36°.49N×4°.92E, Ml3.1*
*MDD **28** 14:56:49.2±0.7, 36°.63N×4°.91E, h0km, mb3.7/5, Error ellipse: s-maj=9.5km s-min=6.5km az=48.0, PRXIMO*
ISC 28 14:56:48.5±1.0, 36°.64N±0°.06×4°.91E±0°.05, h13km, n13, σ1°64/15, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SET	**Setif**	**0.59**	**138**	P	**Pb**	14 57 01.0	**+0.2**
SET	**Setif**	**0.59**	**138**	P	**Pb**	14 57 01.0	**+0.2**
DFRA	**Djebel Bou Aff**	**0.78**	**96**	P	**Pg**	14 57 02.6	**-1.2**
DFRA	**Djebel Bou Aff**	**0.78**	**96**	P	**Pg**	14 57 02.6	**-1.

TWKBT	**Hengchun**	**0.87**	**311**	*e*P	**Pn**	**16 30 16.8**	**-1.8**
	baz=313							
TWKBT				*e*S	**Sn**	**16 30 31.0**	**+0.2**
	baz=313							
TWK1	**Hengchun**	**0.88**	**311**	P	**Pn**	**16 30 17.4**	**-1.3**
	baz=313							
TWK1				S	**Sn**	**16 30 32.3**	**+1.4**
	baz=313							
HEN	**Hengchun**	**0.97**	**311**	P	**Pn**	**16 30 19.0**	**-0.8**
	baz=315							
HEN				S	**Sn**	**16 30 32.5**	**-0.4**
	baz=315							
SLIU	**Shizi**	**1.08**	**322**	*e*P	**Pn**	**16 30 19.6**	**-1.7**
	baz=333							
TAW	**Tawu**	**1.15**	**330**	*e*P	**Pn**	**16 30 19.9**	**-2.3**
	baz=339							
TAW				*e*S	**Sn**	**16 30 37.3**	**+0.3**
	baz=339							
EAST	**Anshuo**	**1.19**	**329**	*i* P	**Pn**	**16 30 21.0**	**-1.8**
	baz=341							
EAST				*e*S	**Sn**	**16 30 38.2**	**+0.1**
	baz=341							
LDUT	**Ludao**	**1.30**	**358**	*e*P	**Pn**	**16 30 22.6**	**-1.7**
	baz=358							
LDUT				*e*S	**Sn**	**16 30 41.2**	**+0.4**
	baz=358							
SCZT	**Fangliau**	**1.30**	**320**	*e*P	**Pn**	**16 30 23.6**	**-0.7**
	baz=317							
SCZT				*e*S	**Sn**	**16 30 40.5**	**-0.3**
	baz=317							
ECL	**Taimali**	**1.33**	**337**	*e*P	**Pn**	**16 30 22.1**	**-2.6**
	baz=340							
ECL				S	**Sn**	**16 30 39.4**	**-2.1**
	baz=340							
SSPT	**Xinbi**	**1.42**	**322**	*e*P	**Pn**	**16 30 25.7**	**-0.1**
	baz=333							
SSPT				*e*S	**Sn**	**16 30 44.6**	**+1.1**
	baz=333							
TTN	**Taitung**	**1.43**	**346**	*e*P	**Pn**	**16 30 23.4**	**-2.5**
	baz=338							
TTN				*e*S	**Sn**	**16 30 46.1**	**+2.4**
	baz=338							
MASBT	**Mashibuluo**	**1.49**	**327**	P	**Pn**	**16 30 25.7**	**-1.1**
	baz=337							
MASBT				*e*S	**Sn**	**16 30 46.1**	**+0.8**
	baz=337							
TWGBT	**Beinan**	**1.50**	**344**	*e*P	**Pn**	**16 30 25.2**	**-1.8**
	baz=339							
TWGBT				*e*S	**Sn**	**16 30 47.1**	**+1.5**
	baz=339							
TWG	**Pinlang**	**1.51**	**344**	*e*P	**Pn**	**16 30 24.2**	**-2.7**
	baz=339							
TWG				*e*S	**Sn**	**16 30 45.8**	**+0.1**
	baz=339							
TSMG	**Majia**	**1.56**	**329**	*e*P	**Pn**	**16 30 27.0**	**-0.7**
	baz=332							
TSMG				*e*S	**Sn**	**16 30 47.4**	**+0.4**
	baz=332							
LONT	**Longtian**	**1.58**	**347**	P	**Pn**	**16 30 25.9**	**-2.0**
	baz=340							
LONT				S	**Sn**	**16 30 47.6**	**+0.3**
	baz=340							
SSD	**Sandimen**	**1.60**	**329**	*e*P	**Pn**	**16 30 27.4**	**-0.9**
	baz=332							
SSD				*e*S	**Sn**	**16 30 48.5**	**+0.6**
	baz=332							
EDH	**Donghe**	**1.61**	**353**	*e*P	**Pn**	**16 30 26.7**	**-1.7**
	baz=346							
EDH				*e*S	**Sn**	**16 30 48.8**	**+0.6**
	baz=346							
CHKT	**Chengkung**	**1.73**	**355**	*e*P	**Pn**	**16 30 30.1**	**+0.1**
	baz=347							
CHKT				*e*S	**Sn**	**16 30 52.1**	**+1.0**
	baz=347							
TWM1	**Shoushan**	**1.77**	**325**	*e*P	**Pn**	**16 30 30.7**	**+0.1**
	baz=328							
SCST	**Cishan**	**1.79**	**328**	*e*P	**Pn**	**16 30 30.6**	**-0.2**
	baz=331							
SLGT	**Liugui**	**1.81**	**334**	*e*P	**Pn**	**16 30 30.4**	**-0.7**
	baz=336							
SLGT				*e*S	**Sn**	**16 30 54.7**	**+1.7**
	baz=336							
FULB	**Fuli**	**1.84**	**354**	P	**Pn**	**16 30 30.6**	**-0.9**
	baz=345							
FULB				*e*S	**Sn**	**16 30 55.2**	**+1.5**
	baz=345							
ELDTW	**Lidau**	**1.87**	**346**	*e*P	**Pn**	**16 30 30.2**	**-1.9**
	baz=351							
SGST	**Jiashian**	**1.92**	**333**	P	**Pn**	**16 30 32.8**	**+0.2**
	baz=335							
SGST				*e*S	**Sn**	**16 30 57.3**	**+1.7**
	baz=335							
STYT	**Tauyuan**	**1.92**	**339**	*e*P	**Pn**	**16 30 32.1**	**-0.6**
	baz=340							
EYUL	**Yuli**	**1.98**	**355**	*e*P	**Pn**	**16 30 33.5**	**+0.1**
	baz=346							
EYUL				*e*S	**Sn**	**16 30 60.0**	**+2.8**
	baz=346							
TWF1	**Yuli**	**1.99**	**354**	*e*P	**Pn**	**16 30 31.9**	**-1.6**
	baz=346							
TWF1				*e*S	**Sn**	**16 30 58.1**	**+0.7**
	baz=346							
YULB	**Yu-li**	**2.03**	**354**	*e*P	**Pn**	**16 30 32.9**	**-1.2**
	baz=346							
YULB				*e*S	**Sn**	**16 30 59.1**	**+0.8**
	baz=346							
CHN1	**Nanshi**	**2.03**	**333**	*e*P	**Pn**	**16 30 33.8**	**-0.3**
	baz=335							
CHN1				*e*S	**Sn**	**16 30 59.7**	**+1.3**
	baz=335							
WTP	**Ta-pu**	**2.05**	**336**	P	**Pn**	**16 30 34.2**	**-0.2**
	baz=338							
SNST	**Tainan City**	**2.07**	**333**	*e*P	**Pn**	**16 30 34.7**	**+0.1**
	baz=335							
SNST				*e*S	**Sn**	**16 31 01.2**	**+1.7**
	baz=335							
TPUB	**Ta-pu**	**2.10**	**337**	*e*P	**Pn**	**16 30 33.8**	**-1.2**
	baz=339							
TPUB				*e*S	**Sn**	**16 31 01.0**	**+1.1**
	baz=339							
HGSD	**Ruisui**	**2.12**	**358**	*e*P	**Pn**	**16 30 33.7**	**-1.6**
	baz=5.0							
HGSD				*e*S	**Sn**	**16 31 02.5**	**+1.9**
	baz=5.0							
TWK	**Hsinying**	**2.12**	**333**	*e*P	**Pn**	**16 30 34.1**	**-1.3**
	baz=336							
EHY	**Hungye**	**2.14**	**355**	P	**Pn**	**16 30 35.0**	**-0.6**
	baz=348							
EHY				*e*S	**Sn**	**16 31 01.0**	**0.0**
	baz=348							
ALS	**Alishan**	**2.23**	**343**	P	**Pn**	**16 30 36.5**	**-0.6**
	baz=344							
ALS				*e*S	**Sn**	**16 31 04.8**	**+1.0**
	baz=344							
EGFH	**Guangfu**	**2.29**	**358**	*e*P	**Pn**	**16 30 36.2**	**-1.4**
	baz=349							
EGFH				*e*S	**Sn**	**16 31 05.5**	**+0.8**
	baz=349							
VWDT	**VWDT**	**2.40**	**352**	*e*P	**Pn**	**16 30 38.8**	**-0.3**
	baz=346							
VWDT				*e*S	**Sn**	**16 31 09.0**	**+1.6**
	baz=346							
ESL	**Shilin**	**2.44**	**358**	*e*P	**Pn**	**16 30 38.5**	**-1.2**
	baz=351							
ESL				*e*S	**Sn**	**16 31 07.6**	**-0.7**
	baz=351							
SSLB	**Suanglung**	**2.47**	**348**	*e*P	**Pn**	**16 30 39.7**	**-0.3**
	baz=338							
SMLT	**Sun Moon Lake**	**2.57**	**347**	*e*P	**Pn**	**16 30 41.3**	**-0.2**
	baz=348							
CHGB	**Renai**	**2.70**	**353**	*e*P	**Pn**	**16 30 43.4**	**-0.1**
	baz=342							
CHGB				*e*S	**Sn**	**16 31 15.1**	**0.0**
	baz=342							
WHF	**Hehuan Shan**	**2.78**	**355**	*e*P	**Pn**	**16 30 44.0**	**-0.6**
	baz=346							
WHF				*e*S	**Sn**	**16 31 17.2**	**0.0**
	baz=346							
NACB	**Ninganchiao**	**2.80**	**1**	*e*P	**Pn**	**16 30 42.8**	**-1.7**
	baz=353							
NACB				*e*S	**Sn**	**16 31 16.9**	**-0.2**
	baz=353							
ETLH	**Xiulin Townshi**	**2.83**	**359**	*e*P	**Pn**	**16 30 45.3**	**+0.2**
	baz=359							
ETLH				*e*S	**Sn**	**16 31 20.3**	**+2.3**
	baz=359							
JYNG	**Yonagunijimaku**	**3.34**	**23**	P	**Pn**	**16 30 51.8**	**-0.1**
JYNG				*e*S	**Sn**	**16 31 29.0**	**-1.4**
YOJ	**Yonaguni jima**	**3.38**	**24**	P	**Pn**	**16 30 52.9**	**+0.5**
YOJ				*e*S	**Sn**	**16 31 30.9**	**-0.3**
HATJ	**Hateruma jima**	**3.41**	**38**	P	**Pn**	**16 30 53.1**	**+0.2**
HATJ				S	**Sn**	**16 31 32.0**	**-0.1**
IRIF	**Iriomote-Funau**	**3.59**	**34**	P	**Pn**	**16 30 55.8**	**+0.4**
IRIF				*e*S	**Sn**	**16 31 36.8**	**+0.3**
JKRS	**Kuro-shima**	**3.67**	**38**	P	**Pn**	**16 30 56.9**	**+0.5**
JKRS				*e*S	**Sn**	**16 31 38.8**	**+0.4**
JIJ	**Ishigaki jima**	**3.84**	**39**	P	**Pn**	**16 30 58.5**	**-0.3**
JIJ				S	**Sn**	**16 31 41.8**	**-0.9**
JISG	**Ishigakijimahi**	**4.11**	**38**	P	**Pn**	**16 31 02.3**	**-0.2**
JISG				S	**Sn**	**16 31 49.7**	**+0.4**
JTJ	**Tarama**	**4.39**	**41**	P	**Pn**	**16 31 06.7**	**+0.5**
JTJ				*e*S	**Sn**	**16 31 56.0**	**0.0**
JIRB	**Irabujima**	**4.82**	**44**	P	**Pn**	**16 31 12.1**	**0.0**
JIRB				S	**Sn**	**16 32 06.5**	**-0.1**
JMJ2	**Miyako jima3**	**4.86**	**46**	P	**Pn**	**16 31 12.5**	**-0.2**

NEIC ***28*** *16:30:22.1±1.8,31°.91N±0°.06×132°.08E±0°.08,h22km±5km, mb4.4/24, Error ellipse: s-maj=12.5km s-min=4.3km az=49.0*

NIED ***28*** *16:30:23.6,32°.13N×132°.15E,h18km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.94; Mθθ-0.79; Mφφ-0.15; Mrθ0.81; Mrφ-1.21; Mθφ2.02; Fault plane solution: M₀2.63000×10¹⁵ NP1:φs24.00000°, δ78.00000°,λ67.00000°. NP2:φs267.00000°,δ26.00000°, λ151.00000°.*

JMA ***28*** *16:30:23.5±0.1,32°.13N×132°.15E,h18km±2km,M4.2 Broadband fault plane solution: P waves. NP1: φs219.00000°,δ26.00000°,λ101.00000°. NP2: φs27.00000°,δ64.00000°,λ85.00000°. Principal axes: T Plg70.0000°, Azm286.0000°; N Plg5.0000°, Azm29.0000°; P Plg19.0000°, Azm121.0000°;*

JMA Felt II J1.

IDC ***28*** *16:30:26.7±2.1,32°.09N×131°.96E,h54km±18km, mb3.6/13, mb1 3.7/16,mb1mx3.6/39, mbtmp3.8/16, ML3.1/3, MS3.5/16, Ms1 3.5/16,ms1mx3.3/43 Error ellipse: s-maj=24.4km s-min=14.5km az=66.0*

ISC 28 16:30:23.5±1.1,32°.08N±0°.04×132°.12E±0°.04,h29km±8km, n86,σ1s21/85,mb4.3/24,MS3.6/12,5C-6D,Shikoku

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHHC	**Hyugahichiya**	**0.55**	**311**	⇓P		**Pb**		**16 30 34.0**	**-0.7**
JHHC				S		**Sb**		**16 30 41.6**	**-0.7**
JTSN	**Tsuno**	**0.55**	**287**	⇓P		**Pb**		**16 30 34.1**	**-0.6**
JTSN				S		**Sb**		**16 30 41.6**	**-0.8**
JSKE	**Saikikamae**	**0.74**	**345**	⇓P		**Pn**		**16 30 37.2**	**-0.8**
JSKE				S		**Sn**		**16 30 47.2**	**-1.1**
JKIT	**Kitakata**	**0.78**	**314**	⇓P		**Pn**		**16 30 38.2**	**-0.5**
JKIT				*e*S		**Sn**		**16 30 48.7**	**-0.7**
JTZ	**Takazaki**	**0.90**	**259**	⇑P		**Pb**		**16 30 40.8**	**+0.2**
JTZ				*e*S		**Sb**		**16 30 54.2**	**+2.0**
JNAR	**Kushima--Naru**	**0.91**	**233**	⇑P		**Pb**		**16 30 41.4**	**+0.6**
JNAR				*e*S		**Sb**		**16 30 54.8**	**+2.2**
JTO	**Tosashimizu**	**0.96**	**36**	⇓P		**Pn**		**16 30 40.3**	**-0.8**
JTO				S		**Sn**		**16 30 52.7**	**-1.2**
JIU3	**Izumi3**	**1.20**	**293**	⇓P		**Pb**		**16 30 45.6**	**-0.1**
JIU3				S		**Sb**		**16 31 01.4**	**+0.5**
UWA2	**Uwa jima 2**	**1.21**	**20**	⇑P		**Pn**		**16 30 44.1**	**-0.4**
UWA2				*e*S		**Sb**		**16 30 59.5**	**-1.5**
JKU	**Kubokawa**	**1.46**	**33**	⇑P		**Pn**		**16 30 48.0**	**0.0**
JNU	**Nakatsue**	**1.48**	**315**	P		**Pb**		**16 30 50.1**	**-0.2**
	354nm,0.3s,baz=97,slow=2.1,SNR=2484								
JNU				S		**Sb**		**16 31 10.2**	**+1.5**
	248nm,0.3s,baz=201,slow=22,SNR=16								
JNU	**Nakatsue**	**1.48**	**315**			**Pb**		**16 30 49.7**	**-0.6**
JNA	**Nagahama**	**1.50**	**11**	⇑P		**Pn**		**16 30 48.6**	**+0.1**
KSRS	**Korea Array**	**6.38**	**328**	P		**Pn**		**16 31 57.2**	**+1.7**
	1.2nm,0.3s,baz=146,slow=14,SNR=24								
KSRS				S		**Sn**		**16 33 09.1**	**+1.8**
	baz=46,slow=18,SNR=3.0								
KSAR	**Wonju Array Be**	**6.38**	**328**			**Pn**		**16 31 57.2**	**+1.6**
KS19	**Wonju Array Si**	**6.44**	**328**			**Pn**		**16 31 57.1**	**+0.7**
JHJ	**Hachijo jima 2**	**6.55**	**79**	P		**Pn**		**16 31 58.5**	**+0.7**
	15nm,0.3s,baz=77,slow=15,SNR=2.2								
JHJ				LR		LR		16 34 38.2	
	comp=Z,193nm,18.5s,baz=298,slow=38								
JHJ2	**Mitsune**	**6.57**	**79**	Pn		**Pn**		**16 31 58.5**	**+0.2**
MAJO	**Matsushiro**	**6.72**	**47**			**Pn**		**16 32 01.9**	**+1.7**
MAT	**Matsushiro**	**6.72**	**47**	P		**Pn**		**16 32 01.5**	**+1.3**
MAT				*e*S		**Sn**		**16 33 15.8**	**0.0**
MJAR	**Matsushiro Arr**	**6.72**	**47**	P		**Pn**		**16 32 02.5**	**+2.2**
	0.2nm,0.3s,baz=221,slow=7.1,SNR=10								
MJAR				LR		LR		16 34 21.5	
	comp=Z,16nm,21.7s,baz=185,slow=34								
MJAR	**Matsushiro Arr**	**6.72**	**47**			**Pn**		**16 32 01.6**	**+1.4**
JCJ	**Chichijima**	**10.07**	**117**	P		**Pn**		**16 32 44.5**	**-1.6**
	1.4nm,0.3s,baz=271,slow=17,SNR=1.7								
JCJ				LR		LR		16 36 10.8	
	comp=Z,118nm,20.4s,baz=206,slow=34								
USRK	**Ussuriysk Ar.**	**12.10**	**360**	LR		LR		16 37 47.3	
	comp=Z,210nm,18.5s,baz=151,slow=36								
USRK	**Ussuriysk Ar.**	**12.10**	**360**	Pn		**Pn**		**16 33 15.8**	**+1.9**
ASAJ	**Asahikawa**	**14.55**	**31**	P		**Pn**		**16 33 48.6**	**+1.2**
	0.1nm,0.3s,baz=100,slow=29,SNR=1.2								
KLR	**Kul'dur**	**17.13**	**359**	P		**P**		**16 34 24.8**	**+2.6**
	1.1nm,0.3s,baz=173,slow=8.2,SNR=69								
KLR				LR		LR		16 40 25.7	
	comp=Z,114nm,18.7s,baz=172,slow=35								
HKPS	**Hong Kong Po S**	**18.72**	**243**	P		**P**		**16 34 37.4**	**-2.4**
ENH	**Enshi**	**19.45**	**271**	P		**P**		**16 34 46.9**	**-1.0**
ENH				IAmb		IAmb		16 35 04.5	
	comp=Z,22nm,1.2s								
HIA	**Hailar**	**19.52**	**335**	P		**Pn**		**16 34 49.5**	**-0.4**
XAN	**Xi'an**	**19.54**	**282**	P		**P**		**16 34 48.2**	**-0.7**
GUMO	**Guam**	**21.80**	**145**	P		**P**		**16 35 11.2**	**-2.2**
ULN	**Ulaanbaatar**	**24.70**	**317**	P		**P**		**16 35 42.0**	**-0.2**
ULN				IAmb		IAmb		16 35 52.1	
	comp=Z,9.5nm,1.1s								
SONM	**Songino Array**	**25.07**	**316**	P		**P**		**16 35 44.9**	**-0.6**
	comp=Z,4.7nm,0.8s,baz=128,slow=10,SNR=22								
SONM				LR		LR		16 46 09.1	
	comp=Z,147nm,20.7s,baz=103,slow=38								
SONM	**Songino Array**	**25.07**	**316**	P		**P**		**16 35 45.3**	**-0.2**
PETK	**Petropavlovsk-**	**27.95**	**34**	LR		LR		16 47 07.6	
	comp=Z,36nm,20.0s,baz=229,slow=36								
TLY	**Talaya**	**28.57**	**322**	LR		LR		16 48 53.4	
	comp=Z,98nm,19.1s,baz=122,slow=39								
PBKT	**Sadao Pong**	**32.17**	**249**	P		**P**		**16 36 48.6**	**-0.3**
PBKT				IAmb		IAmb		16 36 51.8	
	comp=Z,4.2nm,0.9s								
SIJI	**Sorong**	**32.78**	**182**	LR		LR		16 49 08.5	
	comp=Z,74nm,21.4s,baz=15,slow=34								
CMAR	**Chiang Mai Arr**	**32.78**	**254**	LR		LR		16 51 29.8	
	comp=Z,97nm,18.2s,baz=70,slow=39								
SEY	**Seymchan**	**33.45**	**17**	P		**P**		**16 37 01.6**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=201,slow=4.7,SNR=4.2								
H11N2	**WAKE ISLAND Hy**	**33.46**	**103**	T		T		17 12 32.1	
	baz=298,slow=74,SNR=14								
H11N1	**WAKE ISLAND Hy**	**33.47**	**103**	T		T		17 12 30.9	
	baz=298,slow=74,SNR=5.9								
H11N3	**WAKE ISLAND Hy**	**33.48**	**103**	T		T		17 12 30.5	
	baz=298,slow=74,SNR=8.8								
H11S3	**WAKE ISLAND Hy**	**33.90**	**105**	T		T		17 12 58.2	
	baz=301,slow=75,SNR=11								
H11S1	**WAKE ISLAND Hy**	**33.90**	**105**	T		T		17 12 57.1	
	baz=301,slow=75,SNR=12								
H11S2	**WAKE ISLAND Hy**	**33.91**	**105**	T		T		17 12 58.1	
	baz=301,slow=75,SNR=7.2								
JAY	**Jayapura**	**35.36**	**165**	LR		LR		16 50 39.9	
	comp=Z,55nm,19.6s,baz=210,slow=34								
ZALV	**Zalesovo Beam**	**39.95**	**317**	LR		LR		16 55 43.7	
	comp=Z,102nm,20.5s,baz=72,slow=38								
MK31	**Makanchi Array**	**40.51**	**306**	P		**P**		**16 37 59.2**	**-0.7**
MKAR	**Makanchi Array**	**40.51**	**306**	P		**P**		**16 37 59.5**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=93,slow=10,SNR=7.0								
MKAR				PcP		**PcP**		**16 40 01.4**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=75,slow=5.1,SNR=3.8								
MKAR				LR		LR		16 56 07.1	
	comp=Z,104nm,19.5s,baz=109,slow=38								
MKAR	**Makanchi Array**	**40.51**	**306**	P		**P**		**16 37 59.5**	**-0.4**
MKAR						**PcP**		**16 40 02.1**	**0.0**
MAKZ	**Makanchi**	**40.73**	**306**	P		**P**		**16 38 00.7**	**-1.0**
KURK	**Kurchatov**	**43.20**	**312**	P		**P**		**16 38 20.2**	**-1.6**
KURK				IAmb		IAmb		16 38 21.8	
	comp=Z,5.6nm,1.3s								
GSI	**Gunungsitoli**	**44.69**	**234**	P		**P**		**16 38 34.3**	**+0.2**
NRIK	**Noril'sk**	**44.86**	**339**	P		**P**		**16 38 34.2**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=109,slow=9.6,SNR=3.4								
KNRA	**Kununurra**	**47.60**	**184**	P		**P**		**16 38 58.2**	**+1.3**
KNRA				IAmb		IAmb		16 39 08.0	
	comp=Z,14nm,1.1s								
BRVK	**Borovoye**	**48.45**	**315**	P		**P**		**16 39 03.2**	**0.0**
BRVK				IAmb		IAmb		16 39 03.3	
	comp=Z,3.0nm,0.5s								
KK31	**Karatay Array**	**49.04**	**301**	P		**P**		**16 39 08.9**	**+1.0**
KK31				IAmb		IAmb		16 39 18.9	
	comp=Z,3.9nm,1.2s								
KKAR	**Karatay Array**	**49.04**	**301**	P		**P**		**16 39 07.4**	**-0.5**
KKAR	**Karatay Array**	**49.04**	**301**	P		**P**		**16 39 07.9**	**0.0**
KKAR				IAmb		IAmb		16 39 18.9	
	comp=Z,3.9nm,1.2s								
XMIS	**Christmas Isla**	**49.32**	**215**	P		**P**		**16 39 08.3**	**-1.9**
WB0	**Warramunga Arr**	**51.60**	**177**	P		**P**		**16 39 24.8**	**-2.5**
WB0				IAmb		IAmb		16 39 50.4	
	comp=Z,6.8nm,1.2s								
WRA	**Warramunga Arr**	**51.77**	**177**	P		**P**		**16 39 28.5**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=354,slow=7.8,SNR=5.8								
WRA	**Warramunga Arr**	**51.77**	**177**	P		**P**		**16 39 26.9**	**-1.7**
WB2	**Warramunga Arr**	**51.77**	**177**	P		**P**		**16 39 27.2**	**-1.4**
WB2				IAmb		IAmb		16 39 38.8	
	comp=Z,7.6nm,1.2s								
WR0	**Warramunga Arr**	**51.80**	**177**	P		**P**		**16 39 27.5**	**-1.4**
WR0				IAmb		IAmb		16 39 39.9	
	comp=Z,6.9nm,1.1s								
ABKAR	**Akbulak array**	**55.28**	**311**	P		**P**		**16 39 53.6**	**-0.5**
ASAR	**Alice Springs**	**55.46**	**178**	P		**P**		**16 39 56.3**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=13,slow=12,SNR=9.2								
ASAR	**Alice Springs**	**55.46**	**178**	P		**P**		**16 39 55.8**	**+0.1**
OHAK	**Old Harbor**	**55.51**	**40**	P		**P**		**16 39 56.8**	**+1.2**
GEYT	**Alibeck**	**59.44**	**298**	LR		LR		17 10 44.3	
	comp=Z,52nm,18.3s,baz=55,slow=41								
BCAR	**Beaver Creek A**	**60.20**	**32**	P		**P**		**16 40 31.4**	**+2.8**
STKA	**Stephens Creek**	**64.24**	**171**	P		**P**		**16 40 56.2**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=350,slow=12,SNR=3.7								
STKA	**Stephens Creek**	**64.24**	**171**	P		**P**		**16 40 54.6**	**-1.2**
ARCES	**ARCESS Array B**	**65.83**	**338**	P		**P**		**16 41 04.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=61,slow=9.9,SNR=4.3								
ARCES	**ARCESS Array B**	**65.83**	**338**	P		**P**		**16 41 05.2**	**-0.6**
FINES	**FINESS Array B**	**69.46**	**330**	P		**P**		**16 41 28.3**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=72,slow=6.2,SNR=6.8								
FINES				LR		LR		17 14 12.4	
	comp=Z,48nm,19.4s,baz=38,slow=38								
AKASG	**Malin Array Be**	**73.30**	**320**	P		**P**		**16 41 51.4**	**-0.8**
	comp=Z,2.7nm,0.5s,baz=56,slow=6.5,SNR=16								
SUMG	**Summit**	**75.42**	**357**	P		**P**		**16 42 05.8**	**+1.2**
SUMG				IAmb		IAmb		16 42 06.5	
	comp=Z,9.2nm,1.0s								
NOA	**NORSAR Array B**	**75.55**	**334**	P		**P**		**16 42 04.7**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=49,slow=5.4,SNR=1.7								
NOA				LR		LR		17 18 26.6	
	comp=Z,50nm,19.4s,baz=280,slow=38								
BRTR	**Keskin Array B**	**76.12**	**308**	LR		LR		17 20 20.3	
	comp=Z,29nm,18.7s,baz=342,slow=39								
BURAR	**Bucovina Array**	**77.16**	**318**	P		**P**		**16 42 14.8**	**+0.2**
GERES	**GERESS Array B**	**82.53**	**324**	P		**P**		**16 42 43.4**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=62,slow=6.8,SNR=3.5								
GERES	**GERESS Array B**	**82.53**	**324**	P		**P**		**16 42 43.2**	**-0.4**
NVAR	**Mina Array Bea**	**84.04**	**48**	P		**P**		**16 42 54.3**	**+2.5**
	comp=Z,0.2nm,0.5s,baz=288,slow=6.5,SNR=2.0								

GUC ***28*** *16:36:34.9±0.6,24°.09S×67°.45W,h209km±8km, ML3.7*

IDC ***28*** *16:36:38.3±11.0,23°.64S×66°.28W,h186km±88km, mb3.0/1, mb1 3.1/2,mb1mx2.9/16,mbtmp3.5/2, Error ellipse: s-maj=142.0km s-min=88.5km az=52.0*

ISC 28 16:36:34.4±1.6,24°.05S±0°.07×67°.4W±0°.2,h206km±17km, n15,σ0s68/27,8C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.01**	**315**	⇑*i*P		**Pn**		**16 37 14.2**	**+0.2**
LVC				*i* S		**S**		**16 37 44.2**	**0.0**
PB15	**IPOC Station P**	**2.09**	**293**	⇑*i*P		**Pn**		**16 37 15.2**	**+0.5**
PB15				*e*S		**S**		**16 37 45.4**	**0.0**
GO02	**Mina Guanaco**	**2.30**	**241**	⇑*i*P		**Pn**		**16 37 16.6**	**-0.3**
GO02				*i* S		**S**		**16 37 49.0**	**-0.4**
GO02				IAML				16 37 50.0	
	comp=N,383nm,0.1s								
PB06	**IPOC Station P**	**2.42**	**303**	⇑*i*P		**Pn**		**16 37 18.6**	**+0.5**
PB06				*i* S		**S**		**16 37 51.4**	**-0.1**
PB06				IAML				16 37 54.2	
	comp=N,147nm,0.4s								
PB09	**IPOC Station P**	**2.83**	**322**	⇑*e*P		**Pn**		**16 37 23.4**	**+0.8**
PB09				*i* S		**S**		**16 38 00.1**	**+0.4**
PB10	**IPOC Station P**	**2.96**	**280**	⇑*e*P		**Pn**		**16 37 24.6**	**+0.6**
PB10				*e*S		**S**		**16 38 01.3**	**-0.8**
PB03	**IPOC Station P**	**2.96**	**312**	⇑*e*P		**Pn**		**16 37 24.5**	**+0.4**
PB03				*i* S		**S**		**16 38 02.2**	**-0.2**
PB03				IAML				16 38 04

SIJI	**Sorong**	**7.39**	**95**	P		**Pn**	**16 44 24.3**	**+0.6**
	1.1nm,0.3s,baz=270,slow=20,SNR=1.8								
MYLDM	**Lahad Datu**	**7.63**	**315**			Pn	16 44 31.2	+4.2
FAKI	**Fak Fak**	**8.76**	**108**	Pn		**Pn**	**16 44 41.8**	**-0.6**
KKM	**Kota Kinabalu**	**9.90**	**309**	Pn		**Pn**	**16 45 00.8**	**+2.6**
KNRA	**Kununurra**	**16.05**	**163**	Pn		**Pn**	**16 46 20.9**	**-0.5**
KNRA					IAml	IAmb	16 46 40.9	
	comp=Z,18nm,1.4s								
WRA	**Warramunga Arr**	**22.07**	**153**	P		**P**	**16 47 30.1**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=333,slow=12,SNR=14								
WRA				PcP		**PcP**	**16 51 26.7**	**-0.7**
	comp=Z,0.2nm,0.8s,baz=330,slow=2.9,SNR=1.5								
WRA	**Warramunga Arr**	**22.07**	**153**	IAmb		IAmb	16 47 36.4		
	comp=Z,0.2nm,1.2s								
WB2	**Warramunga Arr**	**22.08**	**153**	P		**P**	**16 47 29.9**	**-0.4**
WB2				IAmb		IAmb	16 47 42.8		
	comp=Z,15nm,1.6s								
WR0	**Warramunga Arr**	**22.18**	**153**	P		**P**	**16 47 30.9**	**-0.6**
WR0				IAmb		IAmb	16 47 33.9		
	comp=Z,17nm,1.6s								
COEN	**Coen**	**23.44**	**126**	P		**P**	**16 47 44.7**	**+0.2**
COEN				IAmb		IAmb	16 48 11.6		
	comp=Z,33nm,1.4s								
AS31	**Alice Springs**	**25.21**	**158**	P		**P**	**16 48 00.5**	**-0.4**
ASAR	**Alice Springs**	**25.21**	**158**	P		**P**	**16 47 59.5**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=322,slow=7.3,SNR=18								
ASAR				PcP		**PcP**	**16 51 33.1**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=350,slow=2.3,SNR=13								
ASAR	**Alice Springs**	**25.21**	**158**	P		**P**	**16 47 59.2**	**-1.7**
STKA	**Stephens Creek**	**35.62**	**154**	P		**P**	**16 49 32.6**	**-0.1**
KSAR	**Wonju Array Be**	**37.70**	**5**	P		**P**	**16 49 50.4**	**+0.1**
KS19	**Wonju Array Si**	**37.76**	**5**	P		**P**	**16 49 50.8**	**-0.1**
SONM	**Songino Array**	**50.27**	**345**	P		**P**	**16 51 30.3**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=148,slow=8.5,SNR=2.3								
SONM	**Songino Array**	**50.27**	**345**	P		**P**	**16 51 29.7**	**-1.5**
MK31	**Makanchi Array**	**59.31**	**328**	P		**P**	**16 52 35.5**	**-1.1**
MK31				IAmb		IAmb	16 52 36.6		
	comp=Z,0.6nm,0.8s								
MKAR	**Makanchi Array**	**59.31**	**328**	P		**P**	**16 52 35.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=123,slow=8.9,SNR=5.9								
MKAR	**Makanchi Array**	**59.31**	**328**	P		**P**	**16 52 35.4**	**-1.2**
YAK	**Yakutsk**	**62.29**	**3**	P		**P**	**16 52 55.6**	**-0.9**
ZALV	**Zalesovo Beam**	**62.92**	**335**	P		**P**	**16 53 00.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=120,slow=8.5,SNR=2.1								
KURK	**Kurchatov**	**63.65**	**330**	P		**P**	**16 53 04.1**	**-1.7**
KURK				IAmb		IAmb	16 53 25.8		
	comp=Z,5.1nm,1.6s								
GEYT	**Alibeck**	**71.24**	**310**	P		**P**	**16 53 53.6**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=106,slow=9.7,SNR=2.9								
GEYT	**Alibeck**	**71.24**	**310**	IAmb		IAmb	16 53 57.8		
	comp=Z,0.7nm,0.7s								
GYA0B	**ALIBECK ARRAY**	**71.24**	**310**	P		**P**	**16 53 53.1**	**-1.0**
GYA0B				IAmb		IAmb	16 53 54.2		
	comp=Z,3.5nm,0.5s								

*INET **28** 16:45:26.7, 13°.01N×88°.54W, h15km, ML2.9*
*SNET **28** 16:45:27.4±0.8, 12°.96N×88°.56W, h62km±9km, ML3.7*
*UCR **28** 16:45:27.6±0.9, 12°.94N×88°.57W, h60km±11km, ML3.8*
ISC 28 16:45:26.8±3.4, 12°.9N±0°.3×88°.59W±0°.09, h59km±22km, n16,σ0°25/26, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.47**	**2**	*e*P	**Pn**	**16 45 38.6**	**+0.1**
ALJI				*e*S	**Sn**	**16 45 47.1**	**+0.2**
ALJI	**Alcalda de J**	**0.47**	**2**	*e*P	**Pn**	**16 45 38.6**	**+0.1**
ALJI				*e*S	**Sn**	**16 45 47.1**	**+0.2**
JUCU	**Jucuarįn**	**0.52**	**40**	*e*P	**Pn**	**16 45 38.8**	**-0.2**
JUCU				*e*S	**Sn**	**16 45 47.7**	**-0.2**
JUCU				IAML		16 45 53.9	
	comp=Z,2µm,0.4s						
JUCU	**Jucuarįn**	**0.52**	**40**	*e*P	**Pn**	**16 45 38.8**	**-0.2**
JUCU				*e*S	**Sn**	**16 45 47.7**	**-0.2**
JUCU				IAML		16 45 53.9	
	comp=Z,2µm,0.4s						
LCY	**Lacayo**	**0.64**	**27**	*e*P	**Pn**	**16 45 40.5**	**+0.1**
LCY	**Lacayo**	**0.64**	**27**	*e*P	**Pn**	**16 45 40.5**	**+0.1**
BLLM	**Bellamira**	**0.68**	**30**	*e*P	**Pn**	**16 45 40.8**	**-0.1**
BLLM				*e*S	**Sn**	**16 45 51.2**	**+0.1**
BLLM	**Bellamira**	**0.68**	**30**	*e*P	**Pn**	**16 45 40.8**	**-0.1**
BLLM				*e*S	**Sn**	**16 45 51.2**	**+0.1**
COEG	**Centro de Oper**	**0.81**	**340**	*e*S	**Sn**	**16 45 53.6**	**-0.4**
COEG	**Centro de Oper**	**0.81**	**340**	*e*S	**Sn**	**16 45 53.6**	**-0.4**
LCND	**La Caada**	**0.82**	**56**	↓*i*P	**Pn**	**16 45 42.5**	**-0.1**
LCND				*e*S	**Sn**	**16 45 54.2**	**+0.1**
LCND				IAML		16 45 55.9	
	comp=Z,3µm,0.3s						
LCND	**La Caada**	**0.82**	**56**	↓*i*P	**Pn**	**16 45 42.5**	**-0.1**
LCND				*e*S	**Sn**	**16 45 54.2**	**+0.1**
LCND				IAML		16 45 55.9	
	comp=Z,3µm,0.3s						
CNCH	**Conchagua**	**0.85**	**60**	*e*P	**Pn**	**16 45 42.8**	**-0.2**
CNCH				*e*S	**Sn**	**16 45 55.4**	**+0.4**
CNCH				IAML		16 46 01.0	
	comp=Z,3µm,0.4s						
CNCH	**Conchagua**	**0.85**	**60**	*e*P	**Pn**	**16 45 42.8**	**-0.2**
CNCH				*e*S	**Sn**	**16 45 55.4**	**+0.4**
CNCH				IAML		16 46 01.0	
	comp=Z,3µm,0.4s						
LFRS	**El Faro**	**0.89**	**329**	*e*P	**Pn**	**16 45 43.7**	**+0.1**
LFRS	**El Faro**	**0.89**	**329**	*e*P	**Pn**	**16 45 43.7**	**+0.1**

*GUC **28** 17:02:22.9±0.6, 17°.80S×69°.75W, h138km±3km, ML3.6*
*IDC **28** 17:02:24.3±2.6, 18°.30S×69°.07W, h125km±24km, mb3.1/3, mb1 3.4/4, mb1mx3.3/19, mbtmp3.5/4, Error ellipse: s-maj=43.4km s-min=28.5km az=93.0*
ISC 28 17:02:21.9±1.2, 17°.84S±0°.06×69°.8W±0°.1, h146km±8km, n18,σ1§66/30, mb3.4/3, 4C-4D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.58**	**147**	↑*e*P	**Pn**	**17 02 44.3**	**+0.4**
PB16				*i* S	**Sn**	**17 03 00.4**	**-0.3**
AP01	**Chacalluta**	**0.71**	**222**	↑*i*P	**Pn**	**17 02 44.4**	**+0.4**
AP01				*e*S	**Sn**	**17 03 00.9**	**+0.1**
PB12	**IPOC Station P**	**0.90**	**211**	↑*i*P	**Pn**	**17 02 45.7**	**+0.2**
PB12				*e*S	**Sn**	**17 03 03.0**	**-0.5**
PB12				IAML		17 03 05.2	
	comp=E,2µm,0.1s						
MNMC	**Minye Minye**	**1.30**	**170**	↑*i*P	**Pn**	**17 02 50.2**	**+0.8**
MNMC				*i* S	**Sn**	**17 03 10.7**	**+0.3**
MNMC				IAML		17 03 18.1	
	comp=N,712nm,0.5s						
PSGC	**Pisagua**	**1.77**	**189**	*e*P	**Pn**	**17 02 54.3**	**+0.2**
PSGC				*e*S	**Sn**	**17 03 17.6**	**-1.4**
PSGC				IAML		17 03 19.8	
	comp=N,193nm,0.4s						
PB11	**IPOC Station P**	**1.92**	**175**	↓*e*P	**Pn**	**17 02 56.6**	**+0.6**
PB11				*i* S	**Sn**	**17 03 21.8**	**-0.4**
PB11				IAML		17 03 23.3	
	comp=N,344nm,0.1s						
GO01	**Chusmiza**	**1.92**	**161**	*e*P	**Pn**	**17 02 56.8**	**+0.6**
GO01				*e*S	**Sn**	**17 03 23.0**	**+0.3**
GO01				IAML		17 03 26.9	
	comp=E,514nm,0.1s						
LPAZ	**La Paz**	**2.25**	**47**	P	**Pn**	**17 03 01.1**	**+0.6**
	comp=E,7.6nm,0.3s,baz=223,slow=7.4,SNR=164						
LPAZ				S	**Sn**	**17 03 25.3**	**-4.6**
	comp=E,1.1nm,0.3s,baz=2.9,slow=25,SNR=4.0						
LPAZ	**La Paz**	**2.25**	**47**	↓*i*P	**Pn**	**17 03 01.0**	**+0.6**
PB08	**IPOC Station P**	**2.38**	**164**	↓*e*P	**Pn**	**17 03 02.8**	**+1.1**
PB08				*i* S	**Sn**	**17 03 32.1**	**-0.2**
PB08				IAML		17 03 34.1	
	comp=N,168nm,0.2s						
TA02	**Huaiquique**	**2.43**	**186**	*e*S	**Sn**	**17 03 30.9**	**-1.9**
TA02				IAML		17 03 33.1	
	comp=N,656nm,0.1s						
TA01	**Diego Aracena**	**2.73**	**187**	*e*P	**Pn**	**17 03 05.6**	**0.0**
TA01				*e*S	**Sn**	**17 03 35.5**	**-3.9**
PATCX	**Punta Patache**	**2.98**	**186**	*e*P	**Pn**	**17 03 09.2**	**+0.3**
PATCX				*e*S	**Sn**	**17 03 41.8**	**-3.4**
PB01	**IPOC Station P**	**3.20**	**174**	↓*e*P	**Pn**	**17 03 11.9**	**+0.2**
PB01				*e*S	**Sn**	**17 03 48.1**	**-2.3**
PB01				IAML		17 03 51.9	
	comp=N,150nm,0.2s						
PB02	**IPOC Station P**	**3.46**	**181**	*e*P	**Pn**	**17 03 15.6**	**+0.5**
PB02				*e*S	**Sn**	**17 03 54.0**	**-2.4**
PLCA	**Paso Flores**	**22.82**	**181**	P	**P**	**17 07 12.4**	**0.0**
	comp=N,1.4nm,0.8s,baz=320,slow=10,SNR=3.9						
TXAR	**Lajitas Array**	**57.15**	**325**	P	P	17 12 03.7	+10
	comp=N,0.2nm,0.7s,baz=131,slow=9.7,SNR=1.7						
TORD	**Torodi Ar. Bea**	**77.00**	**71**	P	**P**	**17 14 00.8**	**+1.6**
	comp=N,0.8nm,0.6s,baz=252,slow=5.3,SNR=5.6						

*TEH **28** 17:18:52.8, 32°.77N×47°.52E, h20km, ML3.4*
*THR **28** 17:18:52.0±0.5, 32°.82N×47°.38E, h15km±8km, ML3.3*
*ISN **28** 17:18:52.2±0.7, 32°.75N×47°.63E, h14km±4km, ML3.1*
ISC 28 17:18:53.0±1.1, 32°.72N±0°.03×47°.51E±0°.03, h18km±12km, n45,σ1§50/51, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.19**	**260**	*e*Pg	**Pb**	**17 18 57.9**	**-0.2**
SHGR	**Shooshtar-Gavs**	**1.25**	**119**	*e*Pg	**Pg**	**17 19 17.6**	**+0.4**
SHGR				*e*Sg	**Sg**	**17 19 36.5**	**+2.9**
SHGR	**Shooshtar-Gavs**	**1.25**	**119**	*e*Pg	**Pg**	**17 19 17.6**	**+0.4**
IBDR	**Badra**	**1.38**	**287**	*e*Pg	**Pg**	**17 19 19.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**17 19 39.0**	**+1.3**
IBDR				AML	AML	17 19 45.4	
	comp=E,331nm,0.7s						
IBDR				AML	AML	17 19 47.5	
	comp=N,321nm,0.5s						
IKOM	**Komasi**	**1.46**	**0**	*e*Pg	**Pb**	**17 19 19.2**	**-0.5**
IKOM				*e*		17 19 21.6	
BMDN	**Meydan**	**1.46**	**49**	*e*Pg	**Pb**	**17 19 19.4**	**-0.4**
BMDN				*e*		17 19 22.4	
BMDN				*e*Sg	**Sg**	**17 19 39.6**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.60**	**346**	*e*Pg	**Pb**	**17 19 22.3**	**0.0**
KCHF				*e*		17 19 47.3	
AHWZ	**Ahwaz**	**1.69**	**145**	*e*Pg	**Pg**	**17 19 24.7**	**-0.8**
KER	**Kermanshah**	**1.69**	**350**	*e*Pg	**Pb**	**17 19 24.1**	**+0.3**
HSAM	**Samen**	**1.75**	**31**	*e*Pg	**Pb**	**17 19 24.5**	**-0.3**
HSAM				*e*		17 19 28.2	
IBZA	**Bozab**	**1.77**	**10**	*e*Pg	**Pb**	**17 19 25.0**	**-0.2**
IBZA				*e*		17 19 28.3	
IGHG	**Ghaleghazi**	**1.79**	**334**	*e*Pn	**Pb**	**17 19 24.2**	**-1.3**
IGHG				*e*		17 19 59.8	
IVIS	**Veis**	**1.89**	**343**	*e*Pn	**Pb**	**17 19 26.1**	**-1.0**
IVIS				*e*		17 19 31.1	
NSR	**Nassriya**	**2.06**	**215**	*e*Pn	**Pb**	**17 19 29.0**	**-0.9**
NSR				*e*Sn	**Sb**	**17 19 55.0**	**-0.2**
IDHR	**Dehrash**	**2.19**	**335**	*e*Pn	**Pb**	**17 19 30.5**	**-1.7**
IDHR				*e*		17 20 09.9	
IALM	**Almabolaq**	**2.21**	**14**	*e*Pn	**Pn**	**17 19 30.3**	**+1.2**
ILIN	**Lien**	**2.24**	**349**	*e*Pn	**Pb**	**17 19 31.4**	**-1.8**
ILIN				*e*		17 20 07.1	
KHMZ	**Khomeyn**	**2.30**	**63**	*e*Pn	**Pb**	**17 19 32.0**	**-2.1**
KHMZ	**Khomeyn**	**2.30**	**63**	*e*Pn	**Pb**	**17 19 32.0**	**-2.1**
HAGD	**Aghdareh**	**2.50**	**33**	*e*	**Sg**	**17 20 15.1**	**+1.5**
HSRG	**Sareghieh**	**2.60**	**14**	*e*Pn	**Pb**	**17 19 37.2**	**-2.1**
HSRG				*e*		17 20 19.0	
BHD	**Baghdad**	**2.68**	**283**	*e*Pn	**Pb**	**17 19 38.0**	**-2.5**
BHD				*e*Sn	**Sb**	**17 20 12.0**	**-1.2**
BHD				*e*		17 20 39.9	
JHBN	**Jahan bin**	**2.71**	**99**	*e*Pn	**Pn**	**17 19 37.0**	**+0.9**
JHBN				*e*		17 20 22.4	
ASAO	**Ashtian**	**2.79**	**48**	*e*Pn	**Pn**	**17 19 38.9**	**+1.9**
ASAO				*e*Sg	**Sg**	**17 20 19.7**	**-2.9**
ASAO	**Ashtian**	**2.79**	**48**	*e*Pn	**Pn**	**17 19 38.9**	**+1.9**
IPIR	**Pirpir**	**2.86**	**90**	*e*Pn	**Pn**	**17 19 39.1**	**+1.1**
IPIR				*e*		17 20 28.4	
ROKH	**ROKH**	**3.00**	**96**	*e*Pn	**Pn**	**17 19 41.0**	**+1.0**
ROKH				*e*		17 20 42.6	
IRAZ	**Razeghan**	**3.35**	**36**	*e*Pn	**Pn**	**17 19 47.2**	**+2.4**
QABG	**Abgarm-Qazvin**	**3.45**	**29**	*e*Pn	**Pn**	**17 19 47.2**	**+1.1**
IKLH	**Kolahrood**	**3.48**	**79**	*e*Pn	**Pn**	**17 19 47.8**	**+1.3**
IKLH				*e*		17 20 48.8	
GHVR	**GHOM**	**3.62**	**60**	*e*Pn	**Pn**	**17 19 49.7**	**+1.4**
GHVR				IAML		17 20 52.0	
	comp=E,43nm,0.6s						
GHVR	**GHOM**	**3.62**	**60**	*e*Pn	**Pn**	**17 19 49.7**	**+1.4**
IGAR	**Gharneh**	**3.84**	**93**	*e*Pn	**Pn**	**17 19 52.3**	**+0.8**
IGAR				*e*		17 19 54.7	
KLNJ	**Kolanjah**	**3.87**	**115**	*e*Pn	**Pn**	**17 19 52.9**	**+0.9**
KLNJ				*e*		17 21 12.8	
IMHD	**Mahdasht**	**3.96**	**41**	*e*Pn	**Pn**	**17 19 54.2**	**+1.2**
QSDN	**Sirdan**	**4.02**	**20**	*e*Pn	**Pn**	**17 19 55.9**	**+1.9**
IZEF	**Zefreh**	**4.07**	**86**	*e*Pn	**Pn**	**17 19 55.9**	**+1.3**
IRAM	**Ramesheh**	**4.23**	**101**	*e*Pn	**Pn**	**17 19 56.8**	**0.0**
IGZV	**Ghazvin**	**4.29**	**31**	*e*Pn	**Pn**	**17 19 59.6**	**+1.9**
QALM	**Alamut, Qazvin**	**4.52**	**34**	*e*Pn	**Pn**	**17 20 02.7**	**+1.8**
IDMV	**Damavand**	**4.71**	**52**	*e*Pn	**Pn**	**17 20 03.9**	**+0.3**
IAZR	**Azarshahr**	**5.11**	**346**	*e*Pn	**Pn**	**17 20 11.5**	**+2.6**
IFIR	**Firoozkooh**	**5.24**	**55**	*e*Pn	**Pn**	**17 20 11.5**	**+0.8**
ILAS	**Lasjerd**	**5.25**	**58**	*e*Pn	**Pn**	**17 20 13.2**	**+2.3**
ISHM	**Shahmirzad**	**5.70**	**56**	*e*Pn	**Pn**	**17 20 18.0**	**+0.9**

*IDC **28** 17:49:19.0±1.0, 45°.62N×10°.68E, h0km, mb3.6/5, mb1 3.9/13, mb1mx3.7/45, mbtmp3.7/13, ML3.8/8, MS2.7/5, Ms1 2.8/5, ms1mx2.4/45, Error ellipse: s-maj=12.3km s-min=11.1km az=132.0*
*STR **28** 17:49:18.6±0.8, 46°N±3°×1°E±°, h0km, MLv4.3/19, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*PRU **28** 17:49:19.2±0.0, 45°.68N×10°.60E, h0km*
*NEIC **28** 17:49:19.7±2.3, 45°.60N±0°.03×10°.67E±0°.04, h1km±5km, Error ellipse: s-maj=4.5km s-min=3.8km az=71.0*
*MED_RC **28** 17:49:20.0±0.4, 45°.67N×10°.70E, h14km±1km, MW4.0/14, Moment Tensor Solution.Mantle waves: s14,c19; Duration: 1§0 Moment tensor: Scale 10^15Nm; Mrr0.96±.17; Mθθ-0.59±.09; Mφφ-0.36±.11; Mrθ0.18±.10; Mθφ-0.58±.06; Mφr-0.44±.14; Best double couple: M0 1.2000×10^15 NP1:φ72.00000°, δ45.00000°, λ123.00000°. NP2:φ209.00000°, δ54.00000°, λ61.00000°. Principal axes: T 1.1600, Plg66.0000°, Azm59.0000°; N -0.0900, Plg23.0000°, Azm227.0000°; P -1.0700, Plg4.0000°, Azm319.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*ROM **28** 17:49:20.5±0.1, 45°.656N±0°.005×10°.666E±0°.008, h10km, ML4.0/68, Mw3.6 Error ellipse: s-maj=0.6km s-min=0.6km az=312.0, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr2.05; Mθθ-1.65; Mφφ-0.40; Mrθ0.75; Mθφ-1.70; Mφr-1.41; Fault plane solution: M0 2.98629×10^14 NP1:φ84.00000°, δ52.00000°, λ135.00000°. NP2: φ206.00000°, δ56.00000°, λ48.00000°.*
*GEN **28** 17:49:20.6, 45°.69N×10°.66E, h1km±4km, Ml4.1*
*PDG **28** 17:49:20.8±0.8, 45°.65N×10°.71E, h16km±1km, ML4.2/13, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*
*LDG **28** 17:49:20.6±0.1, 45°.67N×10°.58E, h3km, Ml4.0/53, Error ellipse: s-maj=2.3km s-min=2.1km az=81.0*
*ZUR **28** 17:49:20.7, 45°.68N×10°.67E, h3km±1km, MLh4.1/20, Error ellipse: s-maj=2.6km s-min=0.9km az=117.0*
*BEO **28** 17:49:21.7±0.9, 45°.48N×10°.66E, h15km, ML4.5/3*
*BGR **28** 17:49:23.1±0.5, 45°.67N×10°.78E, h10km, ML4.1/4, Error ellipse: s-maj=7.8km s-min=4.4km az=6.0*
ISC 28 17:49:20.1±0.6, 45°.65N±0°.01×10°.65E±0°.01, h14km±3km, n531,σ1§91/691, mb3.7/5, 30C-29D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GARGN	**Gargnano BS**	**0.04**	**9**	↓*i*Pg	**Pg**	**17 49 22.6**	**-0.3**
GARGN				*i* Sg	**Sg**	**17 49 24.3**	**-0.5**
SALO	**Salr**	**0.10**	**249**	↑Pg	**Pg**	**17 49 23.2**	**-0.1**
SALO				Sg	**Sg**	**17 49 25.7**	**+0.3**
SALO	**Salr**	**0.10**	**249**	↑Pg	**Pg**	**17 49 23.2**	**-0.1**
SALO				Sg	**Sg**	**17 49 25.7**	**+0.3**
SALO	**Salr**	**0.10**	**249**	↑P	**Pg**	**17 49 23.2**	**-0.1**
SALO				S	**Sg**	**17 49 25.7**	**+0.3**
SALO				AML	AML		
SALO				AML	AML		
SALO				AML	AML		
SALO				AML	AML		
SALO	**Salr**	**0.10**	**249**		**Pg**	**17 49 22.5**	**-0.8**
VOBA	**Vobarno**	**0.10**	**265**	P	**Pg**	**17 49 23.1**	**-0.2**
VOBA				S	**Sg**	**17 49 25.4**	**-0.1**
VOBA				AML	AML		
VOBA				AML	AML		
BALD	**Monte Baldo**	**0.12**	**75**	↓*e*Pg	**Pg**	**17 49 23.1**	**-0.6**
BALD				*e*Sg	**Sg**	**17 49 25.6**	**-0.5**
BOTT	**Botticino**	**0.26**	**247**	P	**Pg**	**17 49 25.6**	**-0.1**
BOTT				S	**Sg**	**17 49 30.1**	**+0.6**
BOTT				AML	AML		
	comp=E,8965µm,0.4s						
BOTT				AML	AML		
	comp=N,40000µm,0.8s						
BOTT				AML	AML		
	comp=N,39950µm,0.8s						
BOTT				AML	AML		
	comp=N,39950µm,0.8s						
BOTT				AML	AML		
	comp=N,40000µm,0.8s						
ROVR	**Rover Verones**	**0.29**	**91**	P	**Pg**	**17 49 26.0**	**-0.3**
ROVR				S	**Sg**	**17 49 29.8**	**-0.7**
ROVR				AML	AML		
ROVR				AML	AML		
	comp=E,30850µm,0.4s						
ROVR				AML	AML		
	comp=N,97450µm,1.0s						
ROVR				AML	AML		
	comp=E,89250µm,0.4s						
ROVR				AML	AML		
	comp=E,30850µm,0.4s						
ROVR				AML	AML		
	comp=N,97450µm,1.0s						
CNCS	**Concesio**	**0.31**	**262**	P	**Pg**	**17 49 26.5**	**0.0**
CNCS				S	**Sg**	**17 49 31.5**	**+0.7**
TREG	**Tregnago**	**0.38**	**110**	↓P	**Pg**	**17 49 27.5**	**-0.2**
TREG				S	**Sg**	**17 49 32.4**	**-0.5**
TREG				AML	AML		
TREG				AML	AML		
MARN	**Marana (Italy)**	**0.39**	**92**	↑*e*Pg	**Pg**	**17 49 27.7**	**-0.2**
MARN				*e*Sg	**Sg**	**17 49 32.8**	**-0.6**
MABI	**Malga Bissina**	**0.41**	**346**	↓Pg	**Pg**	**17 49 28.5**	**+0.1**
MABI				Sg	**Sg**	**17 49 34.8**	**+0.7**
MABI	**Malga Bissina**	**0.41**	**346**	↓Pg	**Pg**	**17 49 28.5**	**+0.1**
MABI				Sg	**Sg**	**17 49 34.8**	**+0.7**
MABI	**Malga Bissina**	**0.41**	**346**	↓P	**Pg**	**17 49 28.6**	**+0.1**
MABI				S	**Sg**	**17 49 34.8**	**+0.7**
MABI				AML	AML		
	comp=N,18450µm,0.3s						
MABI				AML	AML		
	comp=E,40250µm,1.2s						
LEOD	**Capriano del C**	**0.42**	**243**	P	**Pb**	**17 49 29.9**	**+0.7**
DOSS	**Dosso del Somm**	**0.44**	**58**	↑*e*Pg	**Pg**	**17 49 28.8**	**-0.1**
DOSS				*e*Sg	**Sg**	**17 49 34.7**	**-0.2**
GAGG	**Gaggia**	**0.48**	**26**	*e*Pg	**Pg**	**17 49 29.7**	**0.0**
OPPE	**Oppeano**	**0.50**	**133**	P	**Pg**	**17 49 29.8**	**-0.1**
OPPE				AML	AML		
	comp=E,55200µm,1.4s						
OPPE				AML	AML		
	comp=N,65650µm,0.5s						
OPPE				AML	AML		
	comp=N,65650µm,0.5s						
OPPE				AML	AML		
	comp=E,55200µm,1.4s						
MNTV	**Mantova**	**0.51**	**169**	AML	AML		
	comp=E,53100µm,0.6s						
MNTV				AML	AML		
	comp=N,61100µm,0.5s						
MNTV				AML	AML		
	comp=N,61100µm,0.5s						
MNTV				AML	AML		
	comp=N,61100µm,0.5s						
MNTV				AML	AML		
	comp=E,53100µm,0.6s						
ZOVE	**Zovencedo**	**0.62**	**108**	↓P	**Pg**	**17 49 31.9**	**-0.3**
ZOVE				S	**Sg**	**17 49 39.8**	**-0.6**
ZOVE				AML	AML		
	comp=E,21100µm,0.3s						
ZOVE				AML	AML		
	comp=N,27800µm,0.7s						
ZOVE				AML	AML		
	comp=N,27800µm,0.7s						
ZOVE				AML	AML		
	comp=E,21100µm,0.3s						
PANI	**Panarotta**	**0.62**	**50**	↑*i*Pg	**Pg**	**17 49 32.2**	**-0.1**
PANI				*i* Sg	**Sb**	**17 49 41.0**	**-0.4**
GAZZ	**Gazzo Veronese**	**0.62**	**150**	↑*e*Pg	**Pb**	**17 49 32.7**	**0.0**
GAZZ				*e*Sg	**Sb**	**17 49 42.1**	**+0.8**
SBPO	**S.Benedetto Po**	**0.63**	**163**	P	**Pb**	**17 49 32.9**	**+0.1**
SBPO				AML	AML		
	comp=E,20100µm,0.8s						
SBPO				AML	AML		
	comp=N,18850µm,0.6s						
SBPO				AML	AML		
	comp=N,23700µm,0.7s						
SBPO				AML	AML		
	comp=E,26050µm,0.8s						
SBPO				AML	AML		
	comp=N,23700µm,0.7s						
MDI	**Monti di Nese**	**0.67**	**281**	↓Pg	**Pg**	**17 49 33.4**	**+0.2**
MDI	**Monti di Nese**	**0.67**	**281**	↓Pg	**Pg**	**17 49 33.4**	**+0.2**
MDI	**Monti di Nese**	**0.67**	**281**	↓P	**Pg**	**17 49 33.4**	**+0.2**
MDI				AML	AML		
	comp=E,10050µm,1.2s						
MDI				AML	AML		
	comp=N,9335µm,0.4s						
MDI				AML	AML		
	comp=N,9365µm,0.4s						
MDI				AML	AML		
	comp=N,10100µm,0.4s						
MDI				AML	AML		
	comp=E,10350µm,1.2s						
MDI				AML	AML		
	comp=E,10020µm,1.2s						
TEOL	**Teolo**	**0.77**	**112**	↓*e*Pg	**Pg**	**17 49 34.7**	**-0.4**
TEOL				*e*Sg	**Sb**	**17 49 45.9**	**+0.2**
CARE	**Lago del Cares**	**0.77**	**2**	↓*e*Pg	**Pg**	**17 49 35.0**	**-0.2**
CARE				*e*Sg	**Sb**	**17 49 46.1**	**+0.1**
SERM	**Sermide**	**0.79**	**145**	P	**Pb**	**17 49 35.4**	**0.0**
SERM			

APPI AML AML
comp=E,18950µm,1.5s
APPI AML AML
comp=N,18700µm,0.4s
APPI AML AML
comp=E,19000µm,1.5s
PRMA PARMA 0.92 195 P **Pn 17 49 38.9 +0.3**
PRMA AML AML
comp=E,6500µm,0.4s
PRMA AML AML
comp=N,5550µm,1.4s
PRMA AML AML
comp=E,7190µm,1.1s
PRMA AML AML
comp=N,6910µm,1.0s
PRMA PARMA 0.92 195 Pn 17 49 38.8 +0.3
KOSI Kohlern 0.95 32 ⇑Pg **Pg 17 49 38.6 0.0**
KOSI Kohlern 0.95 32 ⇑Pg **Pg 17 49 38.6 0.0**
KOSI Kohlern 0.95 32 ⇑P **Pg 17 49 38.6 0.0**
KOSI AML AML
comp=N,12550µm,0.9s
KOSI AML AML
comp=E,11865µm,0.4s
RAVA Ravarino 0.95 160 ⇓P **Pn 17 49 39.0 0.0**
RAVA AML AML
comp=E,61950µm,0.7s
RAVA AML AML
comp=N,78350µm,0.7s
RAVA AML AML
comp=E,61950µm,0.7s
RAVA AML AML
comp=N,78400µm,0.7s
RAVA AML AML
comp=N,78400µm,0.7s
RAVA AML AML
comp=E,61950µm,0.7s
RAVA AML AML
comp=N,78350µm,0.7s
BOSI Bolzano 0.96 29 Pg **Pn 17 49 38.9 -0.2**
BOSI Bolzano 0.96 29 Pg **Pn 17 49 38.9 -0.2**
BOSI Bolzano 0.96 29 P **Pn 17 49 38.9 -0.2**
BOSI AML AML
comp=E,37600µm,0.7s
BOSI AML AML
comp=N,27400µm,0.4s
BOSI AML AML
comp=E,37600µm,0.7s
BOSI AML AML
comp=N,27400µm,0.4s
FERS Ferara-Casagl 0.98 140 P **Pn 17 49 39.4 +0.1**
FERS AML AML
comp=N,47150µm,0.5s
FERS AML AML
comp=N,47150µm,0.5s
FERS AML AML
comp=E,35000µm,0.5s
FUORN Ofenpass-Fuorn 1.00 345 ⇓Pg **Pb 17 49 39.2 -0.2**
FUORN Ofenpass-Fuorn 1.00 345 ⇓Pg **Pb 17 49 39.2 -0.2**
FUORN Ofenpass-Fuorn 1.00 345 ⇓P **Pb 17 49 39.3 -0.2**
FUORN S **Sg 17 49 53.0 +0.3**
FUORN AML AML
comp=E,6875µm,0.5s
FUORN AML AML
comp=N,6235µm,0.6s
FUORN Ofenpass-Fuorn 1.00 345 Pb 17 49 39.1 -0.3
MILN Milano 1.01 261 P **Pn 17 49 41.2 +1.4**
MILN AML AML
MILN AML AML
CRND Cornuda 1.01 79 P **Pb 17 49 38.8 -0.6**
SCEL Celerina 1.02 327 Pg **Pg 17 49 39.9 +0.1**
SCEL Celerina 1.02 327 Pg **Pg 17 49 39.9 +0.1**
MTLO Montello 1.02 80 ⇓*e*Pg **Pn 17 49 40.1 +0.1**
MTLO *e*Sg **Sn 17 49 54.6 +0.5**
MODE Modena 1.04 168 AML AML
comp=N,39950µm,0.7s
MODE AML AML
comp=N,39950µm,0.7s
MODE AML AML
FAU Forcella Aurin 1.09 58 *e*Pg **Pb 17 49 40.8 0.0**
FAU *e*Sg **Sn 17 49 56.5 +0.5**
AGOR Agordo 1.16 57 ⇑Pg **Pn 17 49 42.0 +0.1**
AGOR Agordo 1.16 57 ⇑Pg **Pn 17 49 42.0 +0.1**
AGOR Agordo 1.16 57 ⇑P **Pn 17 49 42.0 +0.1**
AGOR AML AML
comp=E,4690µm,0.8s
AGOR AML AML
comp=N,5525µm,1.0s
MUGIO Muggio 1.16 284 ⇓Pg **Pn 17 49 42.2 +0.3**
MUGIO Muggio 1.16 284 ⇓Pg **Pn 17 49 42.2 +0.3**
MUGIO Muggio 1.16 284 P **Pg 17 49 42.4 0.0**
MUGIO AML AML
comp=E,5545µm,0.8s
MUGIO AML AML
comp=N,6235µm,1.3s
MUGIO AML AML
comp=E,5545µm,0.8s
ABSI Aberstueckl 1.17 23 Pg **Pg 17 49 42.5 -0.2**
ABSI Aberstueckl 1.17 23 Pg **Pg 17 49 42.5 -0.2**
ABSI Aberstueckl 1.17 23 ⇑P **Pg 17 49 42.6 -0.2**
ABSI AML AML
comp=E,26800µm,0.5s
ABSI AML AML
comp=N,20150µm,1.3s
ABSI AML AML
comp=N,20150µm,1.3s
ABSI AML AML
comp=E,26800µm,0.5s
VDL Val di Lei 1.18 315 ⇓Pg **Pn 17 49 42.4 0.0**
VDL Val di Lei 1.18 315 ⇓Pg **Pn 17 49 42.4 0.0**
TUE Stuetta 1.22 313 Pg **Pb 17 49 43.2 +0.1**
TUE Stuetta 1.22 313 Pg **Pb 17 49 43.2 +0.1**
TUE Stuetta 1.22 313 ⇓P **Pb 17 49 43.2 +0.1**
TUE AML AML
comp=E,11060µm,0.9s
TUE AML AML
comp=E,8825µm,0.8s
TUE AML AML
comp=N,8880µm,0.5s
TUE AML AML
comp=N,11800µm,0.5s
TUE Stuetta 1.22 313 Pb 17 49 43.1 +0.1
BOB Bobbio (Coli) 1.23 224 Pg **Pg 17 49 44.5 +0.8**
BOB Bobbio (Coli) 1.23 224 Pg **Pg 17 49 44.5 +0.8**
BOB Bobbio (Coli) 1.23 224 P **Pg 17 49 44.5 +0.8**
BOB AML AML
comp=E,4075µm,0.8s
BOB AML AML
comp=N,5745µm,0.7s
BOB AML AML
comp=E,4690µm,0.7s
BOB AML AML
comp=N,5705µm,1.0s
GRAM Graiana 1.23 200 P **Pg 17 49 44.2 +0.4**
GRAM S **Sg 17 50 03.0 +3.1**
GRAM Graiana 1.23 200 P **Pg 17 49 44.1 +0.3**
GRAM AML AML
comp=E,6405µm,0.5s
GRAM AML AML
comp=N,6855µm,0.8s
FRE8 Fregona 1.24 72 P **Pg 17 49 43.7 -0.3**
ERBM Eremo 1.25 188 ⇓P **Pg 17 49 44.9 +0.8**
ERBM AML AML
comp=E,3485µm,1.1s
ERBM AML AML
comp=N,3975µm,1.0s
DAVOX Davos/Dischmat 1.25 335 Pg **Pb 17 49 43.9 +0.3**
comp=N,231nm,0.3s,baz=136,slow=14,SNR=424
DAVOX Lg Lg 17 50 00.7
comp=N,319nm,0.3s,baz=349,slow=21,SNR=17
DAVOX Davos/Dischmat 1.25 335 Pg **Pb 17 49 43.8 +0.3**
DAVOX Davos/Dischmat 1.25 335 Pg **Pb 17 49 43.8 +0.3**
DAVOX Davos/Dischmat 1.25 335 ⇓P **Pb 17 49 43.8 +0.3**
DAVOX AML AML
comp=N,6515µm,0.5s
DAVOX AML AML
comp=E,4830µm,1.3s
DAVOX AML AML
comp=E,4830µm,1.3s
BRES Bressanone 1.29 35 ⇑P **Pg 17 49 44.6 -0.3**
BRES S **Sg 17 50 01.9 +0.2**
BRES AML AML
comp=E,7775µm,0.3s
BRES AML AML
comp=N,11400µm,0.7s
SVAM Vaz, Muldain 1.30 323 Pg **Pg 17 49 44.9 -0.2**
SVAM Vaz, Muldain 1.30 323 Pg **Pg 17 49 44.9 -0.2**
ZCCA Zocca 1.32 170 P **Pg 17 49 45.9 +0.4**
ZCCA AML AML
comp=N,4880µm,0.8s
ZCCA AML AML
comp=E,4150µm,0.5s
ZCCA Zocca 1.32 170 Pg 17 49 45.5 0.0
FETA Feichten 1.37 2 Pg **Pb 17 49 45.7 +0.2**
FETA Feichten 1.37 2 Pg **Pb 17 49 45.7 +0.2**
FETA Feichten 1.37 2 *i* Pn **Pb 17 49 46.0 +0.4**
comp=E,35nm,0.3s,SNR=814
FETA *i* Sn **Sg 17 50 04.4 +0.1**
comp=E,1µm,0.7s
FETA Feichten 1.37 2 Pb 17 49 46.0 +0.4
FETA **Sg 17 50 04.4 +0.1**
ROSI Rosskopf 1.38 22 Pg **Pg 17 49 46.6 -0.1**
ROSI Rosskopf 1.38 22 Pg **Pg 17 49 46.6 -0.1**
ROSI Rosskopf 1.38 22 ⇑P **Pg 17 49 46.3 -0.4**
ROSI AML AML
comp=N,16600µm,0.9s
ROSI AML AML
comp=E,13000µm,0.7s
ROSI AML AML
comp=N,16600µm,0.9s
MTRZ Monterenzio 1.40 155 AML AML
comp=N,9300µm,0.5s
MTRZ AML AML
comp=E,7850µm,0.5s
MTRZ AML AML
comp=E,8265µm,0.5s
MTRZ AML AML
comp=N,9040µm,0.5s
CIMO Cimolais 1.41 62 Pg **Pb 17 49 46.1 0.0**
CIMO Sg **Sg 17 50 06.6 +1.1**
CIMO Cimolais 1.41 62 Pn **Pb 17 49 45.8 -0.4**
GORR Gorreto 1.42 223 P **Pg 17 49 47.2 -0.2**
GORR AML AML
comp=N,4300µm,0.8s
GORR AML AML
comp=E,4140µm,1.2s
SARO Sassorosso 1.48 187 P **Pb 17 49 47.7 +0.4**
SARO AML AML
comp=E,1560µm,0.7s
SARO AML AML
comp=N,1435µm,0.4s
VLC Villacollemand 1.50 187 P **Pb 17 49 48.2 +0.4**
VLC AML AML
comp=E,2650µm,0.7s
VLC AML AML
comp=N,2925µm,0.8s
VLC AML AML
comp=E,2620µm,0.7s
VLC AML AML
comp=N,2940µm,0.8s
VLC Villacollemand 1.50 187 Pb 17 49 47.7 0.0
FNVD Fontana Vidola 1.52 167 P **Pb 17 49 48.6 +0.6**
FNVD AML AML
comp=E,3140µm,0.7s
FNVD AML AML
comp=N,2290µm,0.7s
EQUI Equi 1.53 194 P **Pb 17 49 48.6 +0.4**
EQUI AML AML
comp=E,2385µm,0.6s
EQUI AML AML
comp=N,2480µm,0.8s
STAL STALIGIAL 1.56 66 P **Pb 17 49 48.3 -0.4**
STAL AML AML
comp=N,13950µm,0.7s
STAL AML AML
comp=E,11630µm,0.2s
STAL STALIGIAL 1.56 66 Pb 17 49 48.3 -0.4
MSSA Maissana 1.56 212 P **Pb 17 49 49.2 +0.4**
MSSA Maissana 1.56 212 Pb 17 49 48.9 +0.1
PANIX Pigniu (Panix) 1.59 318 Pg **Pb 17 49 49.7 +0.5**
PANIX Pigniu (Panix) 1.59 318 Pg **Pb 17 49 49.7 +0.5**
FUSIO Fusio 1.60 301 Pg **Pb 17 49 49.6 +0.1**
FUSIO Fusio 1.60 301 Pg **Pb 17 49 49.6 +0.1**
FUSIO Fusio 1.60 301 P **Pb 17 49 49.8 +0.3**
FUSIO AML AML
comp=E,6195µm,0.5s
FUSIO AML AML
comp=N,3625µm,0.4s
POPM Popiglio 1.61 177 P **Pb 17 49 49.8 +0.3**
POPM AML AML
comp=E,2145µm,0.4s
POPM AML AML
comp=N,2740µm,0.6s
SQTA Sankt Quirin 1.61 14 *e*Pn **Pg 17 49 50.7 -0.4**
comp=N,721nm,0.4s,SNR=415
SQTA *i* Sn **Sg 17 50 12.8 +0.7**
comp=N,902nm,0.2s
SQTA Sankt Quirin 1.61 14 Pg 17 49 50.7 -0.4
SQTA **Sg 17 50 12.8 +0.7**
BRIS BRISIGHELLA 1.62 158 P **Pb 17 49 49.8 +0.1**
BRIS AML AML
comp=E,7225µm,0.6s
BRIS AML AML
comp=N,4350µm,0.5s
RISI Rein 1.63 37 P **Pb 17 49 50.4 +0.4**
RISI AML AML
comp=E,21650µm,0.2s
RISI AML AML
comp=N,26500µm,0.3s
RISI AML AML
comp=E,21650µm,0.2s
CARD Cardoso 1.63 184 AML AML
comp=E,3830µm,0.7s
CARD AML AML
comp=N,2775µm,1.5s
LLS Linth-Limmern 1.65 317 Pg **Pb 17 49 51.0 +0.6**
LLS Linth-Limmern 1.65 317 Pg **Pb 17 49 51.0 +0.6**
PLONS Plons/SG 1.65 328 *e*Pn **Pg 17 49 51.2 -0.7**
SNR=39
PLONS *e*Pg **Pb 17 49 53.8 +3.5**
SNR=13
PLONS *e*Sg **Sg 17 50 17.3 +4.0**
SNR=1.8
PLONS Plons/SG 1.65 328 Pg **Pb 17 49 51.0 +0.7**
PLONS Plons/SG 1.65 328 Pg **Pb 17 49 51.0 +0.7**
PLONS Plons/SG 1.65 328 P **Pg 17 49 51.1 -0.7**
PLONS AML AML
comp=N,2275µm,0.5s
PLONS AML AML
comp=E,2855µm,0.5s
PLONS Plons/SG 1.65 328 *e*Pn **Pg 17 49 51.2 -0.7**
SNR=39
PLONS *e*Pg **Pb 17 49 53.8 +3.5**
SNR=13
PLONS *e*Sg **Sg 17 50 17.3 +4.0**
SNR=1.8
SEI Scarperia 1.67 162 AML AML
comp=N,6540µm,0.5s
SEI AML AML
comp=E,4045µm,0.5s
ABTA Abfaltersbach 1.69 49 *i* Pn **Pg 17 49 51.7 -0.9**
comp=E,1µm,0.5s,SNR=1476
ABTA *i* Sg **Sg 17 50 16.3 +1.7**
comp=E,885nm,0.4s
ABTA Abfaltersbach 1.69 49 Pg 17 49 51.7 -0.9
ABTA **Sg 17 50 16.3 +1.7**
PLMA Palmaria, Port 1.70 200 P **Pb 17 49 51.1 0.0**
PLMA AML AML
comp=E,2140µm,0.4s
PLMA AML AML
comp=N,3025µm,0.5s
DAVA Damuels 1.72 342 *e*Pn **Pg 17 49 52.6 -0.5**
SNR=34
DAVA *e*Pg **Pb 17 49 54.5 +3.0**
SNR=14
DAVA *e*Sg **Sg 17 50 19.9 +4.4**
SNR=4.0
DAVA Damuels 1.72 342 Pg **Pb 17 49 52.2 +0.7**
DAVA Damuels 1.72 342 Pg **Pb 17 49 52.2 +0.7**
DAVA Damuels 1.72 342 Pn **Pg 17 49 52.6 -0.5**
comp=N,445nm,0.5s,SNR=297
DAVA *i* Sg **Sg 17 50 19.6 +4.1**
comp=N,3µm,0.8s
DAVA Damuels 1.72 342 *e*Pn **Pg 17 49 52.6 -0.5**
SNR=34
DAVA *e*Pg **Pb 17 49 54.5 +3.0**
SNR=14
DAVA *e*Sg **Sg 17 50 19.9 +4.4**
SNR=4.0
DAVA Damuels 1.72 342 Pg 17 49 52.6 -0.5
DAVA **Sg 17 50 19.6 +4.1**
MOTA Moosalm 1.72 10 *i* Pn **Pg 17 49 52.3 -0.8**
comp=N,320nm,0.5s,SNR=266
MOTA *i* Sg **Sg 17 50 17.1 +1.6**
comp=N,333nm,0.3s
MOTA Moosalm 1.72 10 Pg 17 49 52.4 -0.8
MOTA **Sg 17 50 17.1 +1.6**
LMD Lutirano 1.74 154 P **Pn 17 49 50.6 +0.8**
LMD AML AML
comp=N,2930µm,1.6s
LMD AML AML
comp=E,4560µm,0.6s
FVI Forni Avoltri 1.75 57 AML AML
comp=E,2695µm,0.5s
FVI AML AML
comp=N,3385µm,0.6s
OBER Oberstdorf 1.77 352 *e*Pn **Pg 17 49 54.3 +0.2**
OBER Oberstdorf 1.77 352 *e*Pn **Pg 17 49 54.3 +0.2**
WATA Walderalm 1.80 20 *i* Pn **Pb 17 49 53.5 +0.6**
comp=N,88nm,0.2s,SNR=156
WATA *i* Sn **Sg 17 50 18.3 +0.3**
comp=N,842nm,0.3s
WATA Walderalm 1.80 20 Pb 17 49 53.5 +0.6
WATA **Sg 17 50 18.3 +0.3**
ROTM Rocchetta Tana 1.81 245 AML AML
comp=N,8550µm,0.6s
ROTM AML AML
comp=E,7180µm,0.7s
LIENZ Kamor/St.Gall 1.83 334 Pg **Pg 17 49 54.7 -0.4**
LIENZ Kamor/St.Gall 1.83 334 Pg **Pg 17 49 54.7 -0.4**
RETA Reutte 1.84 2 ⇑Pg **Pg 17 49 54.8 -0.5**
RETA Reutte 1.84 2 ⇑Pg **Pg 17 49 54.8 -0.5**
RETA Reutte 1.84 2 *i* Pn **Pg 17 49 54.9 -0.4**
comp=E,260nm,0.5s,SNR=140
RETA *e*Sg **Sg 17 50 22.6 +3.4**
comp=E,241nm,0.4s
RETA Reutte 1.84 2 Pg 17 49 55.0 -0.4
RETA **Sg 17 50 22.6 +3.4**
GEPF Gemona 1.84 69 P **Pn 17 49 52.2 +1.0**
GEPF AML AML
comp=N,5765µm,0.4s
GEPF AML AML
comp=E,5945µm,0.7s
ZOU Zoufplan 1.85 60 Pb 17 49 53.1 -0.7
PCP Piancastagn 1.86 234 P **Pb 17 49 53.4 -0.5**
PCP AML AML
comp=E,2190µm,0.7s
PCP AML AML
comp=N,2225µm,0.7s
CRMI Carmignano 1.88 173 AML AML
comp=E,488µm,1.0s
CRMI AML AML
comp=N,364µm,0.7s
MUO Muotathal 1.92 314 Pg **Pg 17 49 56.1 -0.8**
MUO Muotathal 1.92 314 Pg **Pg 17 49 56.1 -0.8**
MMK Mattmark 1.92 283 AML AML
comp=N,2805µm,0.5s
MMK AML AML
comp=E,2135µm,1.3s
SGT04 Schlatt-Haslen 1.92 333 Pg **Pg 17 49 56.4 -0.5**
SGT04 Schlatt-Haslen 1.92 333 Pg **Pg 17 49 56.4 -0.5**
VINO Villanova 1.93 71 P **Pn 17 49 53.2 +0.7**
PII Pisa 1.93 183 AML AML
comp=N,3565µm,0.5s
PII AML AML
comp=E,4045µm,0.7s
SFI Santa Sofia 1.94 154 AML AML
comp=N,2765µm,0.8s
SFI AML AML
comp=E,2450µm,0.6s
SFI AML AML
comp=N,2805µm,0.8s
SFI AML AML
comp=E,2220µm,0.5s
BNALP Bannalp 1.97 309 P **Pb 17 49 56.6 +0.9**
BNALP AML AML
comp=E,2135µm,1.1s
BNALP AML AML
comp=N,2850µm,0.6s
MONC Moncucco Torin 2.01 254 AML AML
comp=N,3780µm,0.7s
MONC AML AML
comp=E,4685µm,0.7s
PTCC Patocco-Chiusa 2.03 67 P **Pn 17 49 54.7 +0.9**
PTCC AML AML
comp=N,2465µm,0.5s
PTCC AML AML
comp=E,3100µm,0.6s
UBR Ueberruh 2.06 350 *e*Pn **Pb 17 49 57.9 +0.6**
SNR=21
UBR Ueberruh 2.06 350 *e*Pn **Pb 17 49 57.9 +0.6**
SNR=21
SABO M.te Sabotino 2.09 80 AML AML
comp=E,6000µm,0.6s
SABO AML AML
comp=N,8395µm,1.6s
QLNO Quiliano 2.11 232 AML AML
comp=E,1510µm,0.7s
QLNO AML AML
comp=N,2585µm,0.7s
WILA Wila 2.13 326 *e*Pn **Pb 17 49 59.0 +0.4**
SNR=17
WILA Wila 2.13 326 *e*Pn **Pb 17 49 59.0 +0.4**
SNR=17
OSSC Osservatorio P 2.17 169 P **Pn 17 49 56.6 +0.9**
OSSC AML AML
comp=N,854µm,1.6s
OSSC AML AML
comp=N,894µm,1.6s
OSSC AML AML
comp=E,1102µm,0.6s
OSSC AML AML
comp=E,1082µm,0.6s
OSSC Osservatorio P 2.17 169 Pn 17 49 56.5 +0.7
PRED Cave del Predi 2.18 68 Pn **Pn 17 49 56.6 +0.7**
ACOM Acomizza, Ital 2.18 65 P **Pn 17 49 57.5 +1.5**
ACOM AML AML
comp=N,6315µm,0.6s
ACOM AML AML
comp=E,7130µm,0.9s
TRI Trieste 2.18 87 Pn 17 49 56.0 +0.2
CADS Cadrg 2.23 74 *i* Pn **Pn 17 49 57.1 +0.5**
CADS *e*Sn **Sg 17 50 29.9 -1.8**
comp=Z,1µm,0.5s
VOJS Vojsko 2.29 79 *i* Pn **Pn 17 49 58.0 +0.6**
VOJS *e*Sn **Sb 17 50 30.7 +1.4**
comp=Z,1µm,0.4s
MYKA Terra Mystica 2.30 64 *e*Pn **Pn 17 49 59.2 +1.7**
comp=Z,13nm,0.3s,SNR=149
MYKA *e*Pg **Pg 17 50 02.6 -1.5**
comp=Z,193nm,0.3s
MYKA *i* Sn **Sg 17 50 32.6 -1.3**
comp=Z,180nm,0.2s
MYKA Terra Mystica 2.30 64 Pn 17 49 59.2 +1.7
MYKA **Pg 17 50 02.6 -1.5**
MYKA LR 17 50 32.6
PARC Parchiule 2.30 150 AML AML
comp=N,1075µm,0.5s
PARC AML AML
comp=E,928µm,0.7s
DIX Grande Dixence 2.31 282 AML AML
comp=N,1010µm,1.2s
DIX AML AML
comp=E,1160µm,1.5s
PESA Pesaro 2.31 137 AML AML
comp=N,2855µm,0.5s
PESA AML AML
comp=E,2140µm,0.9s
KBA Koelnbreinsper 2.35 52 *e*Pn **Pb 17 50 01.0 -1.2**
SNR=37
KBA *e*Pg **Pg 17 50 04.5 -0.6**
SNR=6.6
KBA Koelnbreinsper 2.35 52 *e*Pn **Pb 17 50 01.0 -1.2**
comp=E,106nm,0.6s,SNR=271
KBA *e*Sn **Sg 17 50 35.5 0.0**
comp=E,945nm,0.6s
KBA Koelnbreinsper 2.35 52 *e*Pn **Pb 17 50 01.0 -1.2**
SNR=37
KBA *e*Pg **Pg 17 50 04.5 -0.6**
SNR=6.6
KBA Koelnbreinsper 2.35 52 Pb 17 50 01.0 -1.2
KBA LR 17 50 35.5
WALHA Wallhausen, DE 2.35 334 *e*Pn **Pb 17 50 01.9 -0.3**
WALHA Wallhausen, DE 2.35 334 *e*Pn **Pb 17 50 01.9 -0.3**
PE3 Peglio 2.36 145 AML AML
comp=N,5005µm,0.5s
PE3 AML AML
comp=E,3935µm,0.6s

SKDS Skadanscina 2.36 91 *i* Pn **Pn** 17 49 58.1 -0.3
BADI Badiali 2.42 151 P **Pn** 17 50 01.2 +1.9
BADI AML AML
comp=N,888µm,0.9s
BADI AML AML
comp=E,960µm,1.4s
SENIN Lac Senin/Sane 2.44 288 **Pn** 17 50 01.7 +2.0
FSSB Fossombrone 2.48 142 P **Pn** 17 50 00.8 +0.8
FSSB AML AML
comp=N,2755µm,0.3s
FSSB AML AML
comp=E,2145µm,0.5s
CAFI Castiglion Fio 2.51 158 P **Pn** 17 50 01.4 +1.1
CAFI AML AML
comp=N,538µm,0.5s
CAFI AML AML
comp=E,748µm,0.7s
PIEI Pieia 2.51 147 AML AML
comp=N,744µm,0.5s
PIEI AML AML
comp=E,1185µm,0.6s
MRGE Morge 2.52 274 AML AML
comp=N,1385µm,0.6s
MRGE AML AML
comp=E,2125µm,0.7s
MPAG Monte Paganucc 2.52 143 P **Pn** 17 50 01.6 +0.9
MPAG AML AML
comp=E,1074µm,0.7s
MPAG AML AML
comp=N,1275µm,0.6s
ATPI Pietralunga - 2.53 150 P **Pn** 17 50 02.7 +1.9
ATPI AML AML
comp=N,1010µm,0.7s
ATPI AML AML
comp=E,804µm,0.6s
FUR Furstenfeldbru 2.55 9 *e*Pn **Pb** 17 50 03.6 -2.0
SNR=8.7
FUR Furstenfeldbru 2.55 9 *e*Pn **Pb** 17 50 03.6 -2.0
SNR=8.7
RJOB Jochberg 2.55 34 *e*Pn **Pn** 17 50 02.9 +1.8
SNR=43
RJOB *e*Sg **Sg** 17 50 43.5 +1.4
SNR=2.9
RJOB Jochberg 2.55 34 *e*Pn **Pn** 17 50 02.9 +1.8
SNR=43
RJOB *e*Sg **Sg** 17 50 43.5 +1.4
SNR=2.9
SULZ Cheisacher 2.57 318 *e*Pn **Pb** 17 50 04.0 -1.9
SNR=15
SULZ *e*Pg **Pg** 17 50 10.1 +0.9
SNR=7.3
SULZ Cheisacher 2.57 318 *e*Pn **Pb** 17 50 04.0 -1.9
SNR=15
SULZ *e*Pg **Pg** 17 50 10.1 +0.9
SNR=7.3
SLE Schleitheim 2.58 326 *e*Pn **Pb** 17 50 04.1 -2.0
SNR=8.2
SLE Schleitheim 2.58 326 *e*Pn **Pb** 17 50 04.1 -2.0
SNR=8.2
MGRO Montegrosso 2.59 233 P **Pn** 17 50 02.6 +1.0
MGRO AML AML
comp=N,1515µm,0.7s
MGRO AML AML
comp=E,1830µm,0.7s
ATMI Monte Miggiano 2.59 153 AML AML
comp=N,1880µm,0.6s
ATMI AML AML
comp=E,1495µm,0.6s
ATVO AVT- Monte Val 2.59 150 P **Pn** 17 50 02.9 +1.3
ATVO AML AML
comp=E,1027µm,1.0s
ATVO AML AML
comp=N,1130µm,0.8s
IMI Imperia 2.63 229 P **Pn** 17 50 02.6 +0.6
IMI AML AML
comp=N,1225µm,0.8s
IMI AML AML
comp=E,926µm,0.6s
CEY Cerknica 2.65 87 *e*Pn **Pb** 17 50 06.4 -0.8
CEY *e*Sn **Sn** 17 50 34.1 -0.1
CEY Cerknica 2.65 87 *e*Pn **Pn** 17 50 01.8 -0.5
BALST Balsthal 2.65 311 *e*Pn **Pb** 17 50 05.0 -2.2
SNR=18
BALST Balsthal 2.65 311 *e*Pn **Pb** 17 50 05.0 -2.2
SNR=18
ATFO Monte Foce - G 2.67 148 AML AML
comp=E,1415µm,0.6s
ATFO AML AML
comp=N,1650µm,0.6s
GBAS Gorenja Brezov 2.67 83 *i* Pn **Pn** 17 50 03.3 +0.8
comp=Z,212nm,0.2s
ENR Entracque 2.70 239 AML AML
comp=N,837µm,0.6s
ENR AML AML
comp=E,780µm,0.7s
ARVD Arcevia 2.70 142 AML AML
comp=E,794µm,0.6s
ARVD AML AML
comp=N,574µm,1.4s
RIY Rijeka 2.71 96 *e*Pn **Pn** 17 50 05.1 +1.9
RIY Sn **Sn** 17 50 33.7 -2.1
MOZS Mozjanca 2.72 75 *i* Pn **Pn** 17 50 04.2 +0.8
MOZS *i* 17 50 09.7
LJU Ljubljana 2.74 80 *e*Pn **Pb** 17 50 06.6 -2.1
LJU *e*Sn **Sb** 17 50 39.8 -2.3
LJU Ljubljana 2.74 80 *e*Pn **Pn** 17 50 04.0 +0.5
MURB Monte Urbino 2.74 150 AML AML
comp=E,1565µm,0.6s
MURB AML AML
comp=N,1500µm,0.8s
MURB Monte Urbino 2.74 150 **Pn** 17 50 05.0 +1.3
ATTE AVT- Monte Tez 2.74 153 P **Pn** 17 50 04.4 +0.7
ATTE AML AML
comp=N,858µm,0.8s
ATTE AML AML
comp=E,554µm,0.6s
LPG La Plagne 2.74 268 *e*Pn **Pn** 17 50 04.2 +0.3
LPG *e*Sg **Sb** 17 50 44.2 +1.6
comp=E,276nm,0.5s
LPL La Plagne 2.76 269 *e*Pn **Pn** 17 50 03.8 -0.2
LPL La Plagne 2.76 269 *e*Pg **Pg** 17 50 11.9 -1.0
LPL *e*Sg **Sb** 17 50 43.2 +0.3
comp=E,120nm,0.3s
SAOF Saorge 2.76 234 P **Pn** 17 50 04.9 +1.0
SAOF Saorge 2.76 234 AML AML
comp=E,961µm,0.6s
SAOF AML AML
comp=N,1255µm,0.7s
SAOF Saorge 2.76 234 P **Pn** 17 50 05.0 +1.1
SAOF S **Sn** 17 50 38.7 +1.6
RSL Roselend 2.82 272 P **Pb** 17 50 08.1 -2.2
OGMO Fort Saint-Gob 2.83 262 P **Pn** 17 50 06.9 +2.0
OBKA Obir 2.84 71 *e*Pn **Pn** 17 50 06.7 +1.6
comp=N,7.4nm,0.1s,SNR=54
OBKA *e*Pg **Pg** 17 50 13.6 -0.9
comp=N,112nm,0.4s
OBKA *e*Sn **Sg** 17 50 50.8 -0.6
comp=N,419nm,0.3s
OBKA Obir 2.84 71 **Pn** 17 50 06.7 +1.6
OBKA **Pg** 17 50 13.6 -0.9
OBKA LR 17 50 50.8
ATCC AVT- Casa Cast 2.85 149 P **Pn** 17 50 06.4 +1.3
ATCC AML AML
comp=E,1235µm,0.6s
ATCC AML AML
comp=N,1315µm,0.5s
TURF col de Turini 2.86 235 P **Pn** 17 50 06.9 +1.4
CASP Castiglione de 2.87 177 P **Pn** 17 50 05.5 +0.2
CASP AML AML
comp=N,307µm,0.4s
CASP AML AML
comp=E,272µm,0.8s
CASP Castiglione de 2.87 177 **Pn** 17 50 06.0 +0.7
BNI Bardonecchia 2.87 259 **Pn** 17 50 06.2 +0.8
MBDF Montbardon 2.90 253 *e*Pn **Pn** 17 50 05.7 -0.2
MBDF Montbardon 2.90 253 *e*Pg **Pg** 17 50 13.9 -1.7
MBDF *e*Sn **Sn** 17 50 38.5 -2.0
MBDF *e*Sg **Sb** 17 50 50.0 +3.1
comp=E,216nm,0.5s
SBF Sospel 2.91 233 *e*P **Pn** 17 50 07.5 +1.6
SBF *e*Sg **Pb** 17 50 14.2 +2.5
SBF *e*Sn **Sn** 17 50 38.6 -2.1
comp=E,202nm,0.3s
CING Cingoli 2.91 140 AML AML
comp=N,568µm,0.7s
CING AML AML
comp=E,521µm,0.6s
MGAB Montegabbione 2.93 159 P **Pn** 17 50 06.9 +0.7
MGAB AML AML
comp=E,606µm,0.6s
MGAB AML AML
comp=N,538µm,0.4s
MGAB AML AML
comp=N,550µm,1.6s
MGAB AML AML
comp=E,610µm,1.0s
ISO Isola 2.95 241 P **Pn** 17 50 06.3 -0.2
ESCA l'Escarene 2.96 233 P **Pn** 17 50 08.0 +1.4
KIZ Kirchzarten 2.97 322 P **Pn** 17 50 09.4 +2.6
PDKS Podkum 3.06 81 *i* Pn **Pn** 17 50 09.3 +1.3
BFO Black Forest 3.12 330 *e*Pn **Pn** 17 50 11.5 +2.8
SNR=34
BFO Black Forest 3.12 330 *e*Pn **Pn** 17 50 11.5 +2.8
SNR=34
BFO Black Forest 3.12 330 Pn **Pn** 17 50 10.9 +2.2
LOMF Lomont 3.14 304 P **Pn** 17 50 11.4 +2.2
FDMO Fiordimonte 3.15 145 P **Pn** 17 50 10.1 +0.9
FDMO AML AML
comp=E,619µm,0.9s
FDMO AML AML
comp=N,480µm,0.6s
CSP1 Cessapalombo 3.15 144 AML AML
comp=E,1292µm,0.5s
CSP1 AML AML
comp=N,1215µm,1.6s
LATE Laterza 3.15 164 **Pn** 17 50 10.2 +1.0
OGAG Argentiere 3.15 249 P **Pn** 17 50 10.0 +0.7
GIMEL St. Georges / 3.18 288 AML AML
comp=N,512µm,0.7s
GIMEL AML AML
comp=E,606µm,0.6s
NVLJ Novalja 3.18 109 *i* Pn **Pn** 17 50 10.3 +0.7
NVLJ Sn **Sn** 17 50 45.4 -1.8
CHMF Charmoille 3.19 301 P **Pn** 17 50 11.5 +1.6
SOKA Soboth 3.21 70 *i* Pn **Pn** 17 50 11.8 +1.7
comp=E,5.7nm,0.2s,SNR=16
SOKA *i* Pg **Pb** 17 50 19.0 +2.1
comp=E,57nm,0.3s
SOKA *i* Sn **Sg** 17 51 02.1 -1.1
comp=E,120nm,0.4s
SOKA Soboth 3.21 70 **Pn** 17 50 11.8 +1.7
SOKA **Pb** 17 50 19.0 +2.1
SOKA LR 17 51 02.1
GDM Grand'Maison 3.23 264 P **Pn** 17 50 13.6 +3.2
BOJS Bojanci 3.23 91 *e*Pn **Pn** 17 50 11.2 +0.9
BOJS *e*Sn **Sn** 17 50 50.1 +1.5
CALF Calern 3.27 236 P **Pn** 17 50 12.4 +1.5
MOF Molkenrain 3.27 314 P **Pn** 17 50 13.1 +2.1
STU Stuttgart 3.27 343 **Pn** 17 50 12.1 +1.1
OPP Oppenau 3.31 330 P **Pn** 17 50 13.9 +2.5
CABF La Chapelle 3.32 288 *e*P **Pn** 17 50 13.6 +2.0
CABF La Chapelle 3.32 288 *e*Pg **Pg** 17 50 23.2 -0.4
CABF *e*Sg **Sg** 17 51 03.9 -2.7
comp=E,358nm,0.7s
MOA Molln 3.32 47 *e*Pn **Pn** 17 50 14.3 +2.8
MOA Molln 3.32 47 *e*Pn **Pn** 17 50 13.9 +2.4
SNR=113
MOA Molln 3.32 47 *i* Pn **Pn** 17 50 13.8 +2.4
comp=E,36nm,0.2s,SNR=38
MOA Molln 3.32 47 *e*Pn **Pn** 17 50 13.9 +2.4
SNR=113
MOA Molln 3.32 47 **Pn** 17 50 13.8 +2.4
PGF Pioggiola 3.32 202 *e*Pn **Pn** 17 50 11.9 +0.2
PGF *e*Sn **Sn** 17 50 49.1 -1.9
comp=E,64nm,0.4s
PGF Pioggiola 3.32 202 AML AML
comp=E,198µm,0.9s
PGF AML AML
comp=N,184µm,0.6s
PGF Pioggiola 3.32 202 P **Pn** 17 50 12.5 +0.8
NRCA Norcia 3.33 147 **Pn** 17 50 12.9 +1.2
CRES Cresnjev 3.37 85 *e*Pn **Pn** 17 50 12.6 +0.4
OZLJ Ozalj 3.38 89 *i* Pn **Pn** 17 50 13.9 +1.6
HINF Hinteralfeld 3.39 311 *e*P **Pn** 17 50 14.3 +1.7
HINF Hinteralfeld 3.39 311 *e*Pg **Pb** 17 50 22.0 +2.0
HINF *e*Sn **Sn** 17 50 49.7 -2.9
comp=N,126nm,0.3s
HINF *e*Sg **Sg** 17 51 06.7 -2.3
comp=N,327nm,0.6s
ORIF Oris-en-Rattie 3.45 259 *e*P **Pn** 17 50 16.0 +2.6
ORIF *e*Sn **Sn** 17 50 51.1 -3.0
comp=N,171nm,0.6s
ORIF *e*Sg **Sg** 17 51 07.9 -2.9
comp=N,429nm,0.9s
ORIF Oris-en-Rattie 3.45 259 AML AML
comp=E,350µm,0.6s
ORIF AML AML
comp=N,368µm,0.6s
ORIF Oris-en-Rattie 3.45 259 P **Pn** 17 50 16.5 +3.1
OGDI Digne 3.46 245 P **Pn** 17 50 17.3 +3.8
GROS Grobnik 3.47 75 *i* Pn **Pn** 17 50 14.3 +0.6
GROS *i* 17 50 15.8
GROS *i* Pg **Pb** 17 50 23.3 +2.0
comp=Z,350nm,0.7s
GRN Grenoble 3.48 265 P **Pn** 17 50 16.4 +2.6
GUMA Gualdo di Mace 3.50 137 AML AML
comp=N,2440µm,0.5s
GUMA AML AML
comp=E,2960µm,0.6s
GUMA AML AML
comp=E,2730µm,0.5s
GUMA AML AML
comp=N,2560µm,0.5s
LNSS Leonessa 3.50 150 AML AML
comp=N,795µm,0.4s
LNSS AML AML
comp=E,634µm,0.5s
ECH Echery 3.51 318 P **Pn** 17 50 16.4 +2.2
ECH S **Sn** 17 50 58.0 +2.5
ECH Echery 3.51 318 P **Pn** 17 50 16.7 +2.6
ECH Echery 3.51 318 P **Pn** 17 50 16.4 +2.2
ECH S **Sn** 17 50 58.0 +2.5
ECH Echery 3.51 318 Pn **Pn** 17 50 16.0 +1.8
FRF La Foret Royal 3.54 235 *e*Pn **Pn** 17 50 15.0 +0.4
FRF La Foret Royal 3.54 235 *e*Pg **Pg** 17 50 25.6 -2.3
FRF *e*Sg **Sg** 17 51 10.7 -3.1
comp=E,380nm,0.7s
DUGI Dugi Otok 3.55 116 *i* Pn **Pn** 17 50 15.3 +0.7
WLS Welschbruch 3.57 322 P **Pn** 17 50 17.4 +2.4
OG35 Corcelles 3.57 278 P **Pn** 17 50 16.9 +1.8
SMA1 SAN MARTINO 3.58 146 AML AML
comp=N,738µm,0.5s
SMA1 AML AML
comp=E,798µm,0.6s
CDF Champ du Feu 3.60 321 *e*P **Pn** 17 50 17.4 +1.9
CDF *e*Sg **Sg** 17 51 12.1 -3.5
comp=E,346nm,0.6s
RM33 Pellescritta (3.64 149 AML AML
comp=E,382µm,1.4s
RM33 AML AML
comp=N,414µm,0.7s
CAMP Campotosto 3.69 147 AML AML
comp=E,351µm,0.6s
CAMP AML AML
comp=N,370µm,0.7s
TERO Teramo 3.70 144 AML AML
comp=E,171µm,1.4s
TERO AML AML
comp=N,256µm,0.7s
ARSA Arzberg 3.73 63 *e*Pn **Pn** 17 50 18.9 +1.7
ARSA Arzberg 3.73 63 *e*Pn **Pn** 17 50 18.3 +1.2
SNR=24
ARSA Arzberg 3.73 63 *i* Pn **Pn** 17 50 18.2 +1.1
comp=N,18nm,0.3s,SNR=19
ARSA *i* Sn **Sg** 17 51 18.5 -1.2
comp=N,58nm,0.7s
ARSA Arzberg 3.73 63 *e*Pn **Pn** 17 50 18.3 +1.2
SNR=24
ARSA Arzberg 3.73 63 **Pn** 17 50 18.2 +1.1
ARSA LR 17 51 18.5
PTJ Puntijarka 3.73 84 *e*Pn **Pn** 17 50 18.8 +1.5
LMR La Mourre 3.76 233 *e*Pn **Pn** 17 50 18.0 +0.4
LMR La Mourre 3.76 233 *e*Pg **Pg** 17 50 29.4 -2.7
LMR *e*Sn **Sn** 17 50 59.0 -2.7
LMR *e*Sg **Sg** 17 51 17.5 -3.4
comp=N,38nm,0.4s
HAU Haudompre 3.78 310 *e*P **Pn** 17 50 19.7 +1.8
HAU *e*Sn **Sn** 17 50 59.0 -3.1
comp=N,134nm,0.3s
SUBF Surbourg 3.78 331 P **Pn** 17 50 21.1 +3.3
UDBI Udbina 3.79 105 *i* Pn **Pn** 17 50 19.0 +0.9
UDBI Sn **Sn** 17 51 00.6 -1.8
WET Wettzell 3.81 23 *e*Pn **Pn** 17 50 19.6 +1.4
SNR=33
WET Wettzell 3.81 23 *e*Pn **Pn** 17 50 19.6 +1.4
SNR=33
GEC2 GERESS Array S 3.81 32 *e*Pn **Pn** 17 50 19.6 +1.2
SNR=52
GEC2 GERESS Array S 3.81 32 *e*Pn **Pn** 17 50 19.6 +1.2
SNR=52
GEC2 GERESS Array S 3.81 32 Pn **Pn** 17 50 19.6 +1.2
GERES GERESS Array B 3.81 32 Pn **Pn** 17 50 19.5 +1.2
comp=N,12nm,0.3s,baz=207,slow=13,SNR=250
GERES Sn **Sn** 17 51 03.7 +0.8
comp=N,32nm,0.3s,baz=202,slow=16,SNR=10.0
GERES Lg Lg 17 51 20.0
comp=N,56nm,0.3s,baz=218,slow=30,SNR=5.9
GERES LR LR 17 52 08.8
comp=N,129nm,18.2s,baz=208,slow=44
GERES GERESS Array B 3.81 32 **Pn** 17 50 19.0 +0.7
FIAM Fiamignano 3.82 151 AML AML
comp=E,434µm,0.6s
FIAM AML AML
comp=N,300µm,0.5s
AQU L'Aquila 3.85 148 *e*Pn **Pn** 17 50 20.3 +1.4
AQU L'Aquila 3.85 148 **Pn** 17 50 19.9 +1.0
LANF Langenberg 3.85 331 P **Pn** 17 50 21.9 +3.0
MLYF Mely 3.85 246 P **Pn** 17 50 22.1 +3.2
BSTF la Bastide-des 3.98 245 P **Pn** 17 50 22.4 +1.7
SMRF Simiane la Rot 3.98 247 *e*P **Pn** 17 50 23.2 +2.5
SMRF *e*Sn **Sn** 17 51 05.6 -1.6
comp=N,34nm,0.4s
SMRF *e*Sg **Sg** 17 51 24.4 -3.5
comp=N,164nm,0.8s
KHC Kasperske Hory 4.01 29 *e*PN **Pn** 17 50 22.1 +1.1
KHC *e*SN **Sn** 17 51 09.4 +1.6
KHC *e*SG **Sg** 17 51 26.8 -1.9
comp=N,271nm,0.6s
KHC Kasperske Hory 4.01 29 **Pn** 17 50 22.1 +1.1
MORI Morici 4.02 115 *i* Pn **Pn** 17 50 22.2 +1.0
MORI Sn **Sn** 17 51 04.3 -3.6
ARTF Artigues 4.03 241 P **Pn** 17 50 22.2 +0.8
RUSF Rustrel 4.06 247 P **Pn** 17 50 23.9 +2.2
GRA1 Grafenberg Arr 4.06 5 **Pn** 17 50 22.1 +0.4
GRF Grafenberg Arr 4.06 5 *e*Pn **Pn** 17 50 22.4 +0.7
SNR=4.7
GRF Grafenberg Arr 4.06 5 *e*Pn **Pn** 17 50 22.4 +0.7
SNR=4.7
KTD Kalmit 4.06 336 P **Pn** 17 50 25.2 +3.4
KALN Kalnik 4.08 81 *e*Pn **Pn** 17 50 22.7 +0.6
ZIRJ Zirje 4.08 118 *i* Pn **Pn** 17 50 22.8 +0.8
ZIRJ Sn **Sn** 17 51 07.7 -1.9
THEF They Montfort 4.11 311 P **Pn** 17 50 24.3 +2.0
RMP Rome, Mte Porz 4.12 158 AML AML
comp=E,201µm,0.9s
RMP AML AML
comp=N,202µm,0.6s
CONA Conrad Observa 4.24 56 *i* Pn **Pn** 17 50 26.1 +1.8
comp=N,11nm,0.3s,SNR=12
CONA Sg **Sg** 17 51 39.6 +3.4
comp=N,104nm,0.5s
CONA Conrad Observa 4.24 56 **Pn** 17 50 26.1 +1.8
CONA Lg 17 51 39.6
ROTZ Rotzenmuhle 4.25 14 *e*Pn **Pn** 17 50 24.6 +0.3
SNR=15
ROTZ *e*Sg **Sg** 17 51 34.9 -1.5
SNR=2.3
ROTZ Rotzenmuhle 4.25 14 *e*Pn **Pn** 17 50 24.6 +0.3
SNR=15
ROTZ *e*Sg **Sg** 17 51 34.9 -1.5
SNR=2.3
MOSL Moslavina 4.28 88 *e*Pn **Pn** 17 50 24.6 -0.1
VIVF Saint-Julien-l 4.30 261 *e*P **Pn** 17 50 26.2 +1.2
VIVF Saint-Julien-l 4.30 261 *e*Pg **Pg** 17 50 39.9 -2.5
VIVF *e*Sn **Sn** 17 51 11.6 -3.3
comp=N,79nm,0.7s
SSB Saint Sauveur 4.32 267 P **Pn** 17 50 26.2 +0.9
SSB Saint Sauveur 4.32 267 Pn **Pn** 17 50 26.2 +0.9
PRIJ Prijedor 4.33 97 *e*Pn **Pg** 17 50 45.2 +2.2
INTR Introdacqua 4.33 146 Pn **Pn** 17 50 25.2 -0.3
BEHE Becsehely 4.34 77 *e*Pn **Pn** 17 50 26.1 +0.6
PAGF Fort de Pagny 4.44 313 *e*P **Pn** 17 50 29.5 +2.5
baz=133
PAGF *e*Sn **Sn** 17 51 14.8 -3.7
comp=N,61nm,0.3s
PAGF *e*Sg **Sg** 17 51 38.6 -4.1
comp=N,922nm,1.4s
MANZ Manzenberg 4.45 12 *e*Pn **Pn** 17 50 27.4 +0.3
SNR=22
MANZ Manzenberg 4.45 12 *e*Pn **Pn** 17 50 27.4 +0.3
SNR=22
SFTF Sexfontaines 4.62 306 *e*P **Pn** 17 50 31.6 +2.2
baz=126
SFTF Sexfontaines 4.62 306 *e*Pg **Pg** 17 50 45.2 -3.2
baz=126
SFTF *e*Sn **Sn** 17 51 18.7 -4.0
comp=N,44nm,0.3s
SFTF *e*Sg **Sg** 17 51 44.7 -3.5
comp=N,88nm,0.4s
PBCC Pribram 4.62 28 *e*PN **Pn** 17 50 29.8 +0.3
PBCC *e*SN **Sn** 17 51 23.9 +1.0
PBCC *e*SG **Sg** 17 51 46.6 -1.8
BLY Banja Luka 4.70 99 *e*Pn **Pn** 17 50 31.0 +0.5
BLY Banja Luka 4.70 99 *e*Pn **Pn** 17 50 30.4 -0.1
ABH Alteburg 4.72 335 P **Pn** 17 50 33.5 +2.7
MGRS Mrkonjic Grad 4.72 103 *e*Pn Pb 17 50 37.0 -5.6
NKC Novy Kostel 4.74 14 *e*PN **Pn** 17 50 31.5 +0.4
NKC *e*SN **Sn** 17 51 26.6 +0.8
NKC *e*SG **Sg** 17 51 50.5 -1.6
comp=N,129nm,0.4s
MEZF Maizieres J'vi 4.77 309 *e*P **Pn** 17 50 34.5 +3.0
baz=128
MEZF Maizieres J'vi 4.77 309 *e*Pg **Pg** 17 50 48.2 -3.2
MEZF *e*Sn **Sn** 17 51 22.6 -3.9
comp=N,69nm,0.6s
MEZF *e*Sg **Sg** 17 51 50.0 -3.2
comp=N,330nm,0.8s
WERN Wernitzgruen 4.78 13 *e*Pn **Pn** 17 50 32.0 +0.4
SNR=8.4
WERN Wernitzgruen 4.78 13 *e*Pn **Pn** 17 50 32.0 +0.4
SNR=8.4
TNS Taunus Mts 4.81 343 *e*Pn **Pn** 17 50 34.4 +2.4
SNR=20
TNS Taunus Mts 4.81 343 *e*Pn **Pn** 17 50 34.4 +2.4
SNR=20
HVAR Hvar 4.83 119 *e*Pn **Pn** 17 50 32.6 +0.3
SMF Signal de Mont 4.84 284 *e*P **Pn** 17 50 33.8 +1.4
SMF Signal de Mont 4.84 284 *e*Pg **Pg** 17 50 49.2 -3.5
SMF *e*Sn **Sn** 17 51 24.6 -3.6
comp=N,67nm,0.2s
GUNZ Gunzen 4.85 13 *e*Pn **Pn** 17 50 32.8 +0.2
SNR=14
GUNZ Gunzen 4.85 13 *e*Pn **Pn** 17 50 32.8 +0.2
SNR=14
TREC Trest 4.90 40 *e*PN **Pn** 17 50 34.2 +0.9
TREC *e*SN **Sn** 17 51 29.9 +0.2
TREC *e*SG **Sg** 17 51 54.8 -2.5
comp=N,160nm,0.6s
TANN Tannenbergstha 4.92 14 *e*Pn **Pn** 17 50 34.0 +0.5
SNR=12
TANN Tannenbergstha 4.92 14 *e*Pn **Pn** 17 50 34.0 +0.5
SNR=12
LOR Lormes 4.96 291 *e*P **Pn** 17 50 35.3 +1.1
baz=111
LOR *e*Sn **Sn** 17 51 28.7 -2.6
comp=N,91nm,0.5s
WLF Walferdange 5.04 324 **Pn** 17 50 38.1 +3.0
PRU Pruhonice 5.07 30 *e*PN **Pn** 17 50 36.8 +1.3
PRU *e*SN **Sn** 17 51 34.0 +0.2
PRU *e*SG **Sg** 17 52 00.3 -2.3
comp=N,176nm,1.0s
LASF Ste Croix 5.08 254 *e*Pn **Pn** 17 50 35.7 -0.1
LASF *e*Sn **Sn** 17 51 33.3 -0.9
comp=N,52nm,0.6s
GOPC GO Pecny, Ondr 5.09 32 *e*PN **Pn** 17 50 36.9 +1.0
GOPC *e*SN **Sn** 17 51 35.2 +0.7
GOPC *e*SG **Sg** 17 52 01.9 -1.6
comp=N,250nm,0.9s
PRA Prague 5.10 29 *e*PN **Pn** 17 50 36.9 +0.9
PRA *e*SN **Sn** 17 51 35.7 +1.1
PRA *e*SG **Sg** 17 52 00.7 -3.0
comp=N,91nm,0.6s
RICI Ricice 5.11 113 *e*Pn **Pn** 17 50 36.7 +0.6
RICI Sn **Sn** 17 51 33.0 -1.9
MAKA Makarska 5.13 115 *e*Pn **Pn** 17 50 37.0 +0.6
MAKA Sn **Sn** 17 51 33.2 -2.2

SSF	**Saint Saulge**	**5.14**	**288**	*e*P		**Pn**	**17 50 38.3**	**+1.7**
SSF	**Saint Saulge**	**5.14**	**288**	*e*Pg		**Pg**	**17 50 58.1**	**-0.4**
SSF				*e*Sn		**Sn**	**17 51 31.7**	**-4.0**
	comp=N,47nm,0.5s							
SSF				*e*Sg		**Sg**	**17 52 01.7**	**-3.4**
	comp=N,80nm,0.6s							
KRUC	**Moravsky**	**5.18**	**47**	*e*PN		**Pn**	**17 50 37.2**	**+0.1**
KRUC				*e*PG		**Pg**	**17 50 58.5**	**-0.8**
KRUC				*e*SG		**Sg**	**17 52 03.8**	**-2.5**
UBBA	**Unterbreizbach**	**5.19**	**355**	*e*Pn		**Pn**	**17 50 39.0**	**+1.9**
	SNR=13							
UBBA	**Unterbreizbach**	**5.19**	**355**	*e*Pn		**Pn**	**17 50 39.0**	**+1.9**
	SNR=13							
AVF	**Avril sur Loir**	**5.19**	**285**	*e*P		**Pn**	**17 50 38.5**	**+1.2**
AVF				*e*Sn		**Sn**	**17 51 33.1**	**-3.8**
	comp=N,26nm,0.5s							
MODS	**Modra-Piesok**	**5.29**	**57**	*e*PN		**Pn**	**17 50 38.9**	**+0.3**
MODS				*e*PG		**Pb**	**17 50 56.0**	**+3.8**
MODS				*e*SG		**Sg**	**17 52 09.9**	**+0.3**
LSTV	**Lastovo**	**5.33**	**121**	*e*Pn		**Pn**	**17 50 39.4**	**+0.2**
LSTV				Sn		**Sn**	**17 51 35.3**	**-5.0**
SGRT	**San Giovanni R**	**5.37**	**135**	Pn		**Pn**	**17 50 38.9**	**-0.9**
PAOL	**Paolisi**	**5.43**	**147**	Pn		**Pn**	**17 50 40.0**	**-0.6**
VRAC	**Vranov**	**5.44**	**46**	Pn		**Pn**	**17 50 41.3**	**+0.7**
	comp=N,1.0nm,0.3s,baz=237,slow=11,SNR=8.7							
VRAC				Sn		**Sn**	**17 51 44.2**	**+1.2**
	comp=N,3.3nm,0.3s,baz=129,slow=21,SNR=4.3							
VRAC				Lg		Lg	17 52 10.9	
	comp=N,9.3nm,0.3s,baz=310,slow=21,SNR=9.6							
VRAC				LR		LR	17 53 09.4	
	comp=N,84nm,19.8s,baz=260,slow=42							
VRAC	**Vranov**	**5.44**	**46**	⇑P		**Pn**	**17 50 41.9**	**+1.2**
VRAC				⇑S		**Pb**	**17 50 57.0**	**+2.2**
VRAC	**Vranov**	**5.44**	**46**	*e*PN		**Pn**	**17 50 40.9**	**+0.2**
VRAC				*e*SG		**Sg**	**17 52 10.7**	**-3.9**
SMOL	**Smolenice**	**5.44**	**56**	*e*PN		**Pn**	**17 50 42.5**	**+1.8**
SMOL				*e*SG		**Sg**	**17 52 16.8**	**+2.2**
AHRW	**Bad Neuenahr-A**	**5.45**	**335**	*e*Pn		**Pn**	**17 50 44.1**	**+3.4**
	SNR=6.7							
AHRW	**Bad Neuenahr-A**	**5.45**	**335**	*e*Pn		**Pn**	**17 50 44.1**	**+3.4**
	SNR=6.7							
PVCC	**Panska Ves**	**5.54**	**27**	*e*PN		**Pn**	**17 50 42.3**	**+0.3**
PVCC				*e*SG		**Sg**	**17 52 16.6**	**-1.1**
MORH	**Mrgy, Hungar**	**5.60**	**81**	*e*Pn		**Pn**	**17 50 41.6**	**-1.3**
BRG	**Berggiesshubel**	**5.67**	**22**	*e*Pn		**Pn**	**17 50 44.8**	**+1.0**
	SNR=9.1							
BRG	**Berggiesshubel**	**5.67**	**22**	PN		**Pn**	**17 50 44.4**	**+0.7**
BRG				PG		**Pg**	**17 51 07.1**	**-1.4**
BRG				SN		**Sn**	**17 51 47.9**	**-0.7**
BRG				SG		**Sg**	**17 52 18.4**	**-3.4**
	comp=N,86nm,0.8s							
BRG	**Berggiesshubel**	**5.67**	**22**	*e*Pn		**Pn**	**17 50 44.8**	**+1.0**
	SNR=9.1							
SRO	**Srobarova**	**5.69**	**65**	*e*PN		**Pn**	**17 50 44.9**	**+0.8**
SRO				*e*PG		**Pg**	**17 51 06.9**	**-2.1**
JAVC	**Velka Javorina**	**5.75**	**54**	*e*PN		**Pn**	**17 50 46.7**	**+1.7**
HYF	**Humbligny**	**5.77**	**289**	*e*P		**Pn**	**17 50 47.2**	**+2.0**
HYF				*e*Sn		**Sn**	**17 51 47.0**	**-4.1**
HYF				*e*Sg		**Sg**	**17 52 20.4**	**-4.7**
CLL	**Collm**	**5.87**	**15**	*e*Pn		**Pn**	**17 50 47.0**	**+0.4**
	SNR=9.8							
CLL	**Collm**	**5.87**	**15**	*e*Pn		**Pn**	**17 50 47.0**	**+0.4**
CLL				*e*Pg		**Pg**	**17 51 11.0**	**-1.4**
CLL				*e*Sb		**Sn**	**17 51 56.0**	**+2.4**
CLL				*e*			17 52 04.0	
CLL				*e*Sg		**Sg**	**17 52 26.0**	**-2.4**
	comp=Z,107nm,0.9s							
CLL	**Collm**	**5.87**	**15**	*e*Pn		**Pn**	**17 50 47.0**	**+0.4**
	SNR=9.8							
CLL	**Collm**	**5.87**	**15**			**Pn**	**17 50 46.2**	**-0.3**
TCF	**Toulx Ste Croi**	**5.92**	**279**	*e*P		**Pn**	**17 50 48.5**	**+1.2**
TCF				*e*Sn		**Sn**	**17 51 50.6**	**-4.3**
	comp=Z,39nm,0.5s							
GIVF	**Givet**	**5.93**	**321**	*e*P		**Pn**	**17 50 51.3**	**+3.9**
UPC	**Upice**	**6.04**	**35**	*e*PN		**Pn**	**17 50 49.4**	**+0.5**
UPC				*e*SG		**Sg**	**17 52 30.5**	**-3.3**
	comp=Z,188nm,0.7s							
DPC	**Dobruska-Polom**	**6.05**	**37**	*e*PN		**Pn**	**17 50 48.5**	**-0.5**
DPC				*e*SN		**Sn**	**17 51 57.9**	**-0.1**
DPC				*e*SG		**Sg**	**17 52 30.5**	**-3.5**
	comp=Z,147nm,1.1s							
KRLC	**Kraliky**	**6.05**	**41**	*e*PN		**Pn**	**17 50 49.6**	**+0.6**
KRLC				*e*SN		**Sn**	**17 51 57.0**	**-1.0**
KRLC				*e*SG		**Sg**	**17 52 31.1**	**-2.9**
	comp=Z,209nm,0.8s							
CAF	**Calviac**	**6.10**	**266**	*e*P		**Pn**	**17 50 52.1**	**+2.3**
CAF				*e*Sn		**Sn**	**17 51 55.3**	**-4.1**
	comp=Z,24nm,0.7s							
CHVC	**Chvalec**	**6.12**	**34**	*e*PN		**Pn**	**17 50 50.4**	**+0.4**
CHVC				*e*SG		**Sg**	**17 52 33.2**	**-3.2**
	comp=Z,207nm,0.9s							
OSTC	**Ostas**	**6.16**	**35**	*e*PN		**Pn**	**17 50 50.9**	**+0.3**
OSTC				*e*SG		**Sg**	**17 52 34.6**	**-3.0**
	comp=Z,138nm,1.0s							
DBRK	**Dubrovnik**	**6.16**	**116**	*e*Pn		**Pn**	**17 50 51.0**	**+0.4**
DBRK				Sn		**Sn**	**17 51 56.8**	**-3.9**
BAIF	**Baives**	**6.18**	**318**	*e*P		**Pn**	**17 50 54.6**	**+3.8**
BAIF				*e*Sg		**Sg**	**17 52 32.3**	**-6.1**
	comp=Z,42nm,0.7s							
CLZ	**Clausthal**	**6.20**	**358**	*e*Pn		**Pn**	**17 50 52.4**	**+1.4**
	SNR=11							
CLZ	**Clausthal**	**6.20**	**358**	*e*Pn		**Pn**	**17 50 52.4**	**+1.4**
	SNR=11							
MORC	**Moravsky Berou**	**6.21**	**46**	⇑P		**Pn**	**17 50 51.5**	**+0.2**
MORC				⇓S		**Pn**	**17 51 55.2**	**-6.9**
MORC	**Moravsky Berou**	**6.21**	**46**	*e*PN		**Pn**	**17 50 51.9**	**+0.6**
MORC				*e*SG		**Sg**	**17 52 34.8**	**-4.6**
MORC	**Moravsky Berou**	**6.21**	**46**			**Pn**	**17 50 51.5**	**+0.2**
VSL	**Villasalto**	**6.22**	**189**	Pn		**Pn**	**17 50 52.7**	**+1.2**
CLF	**Chambon-Foret**	**6.23**	**295**	Pn		**Pn**	**17 50 53.8**	**+2.4**
TREB	**Trebinje**	**6.26**	**115**	*e*Pn		**Pn**	**17 50 52.0**	**0.0**
VYHS	**Vyhne**	**6.27**	**60**	*e*PN		**Pn**	**17 50 52.0**	**-0.1**
VYHS				*e*PG		**Pg**	**17 51 16.6**	**-3.4**
VYHS				*e*SG		**Sg**	**17 52 42.8**	**+1.6**
BRY	**Bratogost**	**6.29**	**113**	*e*Pn		**Pn**	**17 50 53.1**	**+0.6**
BRY				*i* Sn		**Sn**	**17 52 00.6**	**-3.6**
BRY	**Bratogost**	**6.29**	**113**	*e*Pn		**Pn**	**17 50 52.7**	**+0.2**
TEKS	**Tekeris**	**6.38**	**97**	*e*Pn		**Pn**	**17 50 53.6**	**0.0**
TEKS	**Tekeris**	**6.38**	**97**	*e*Pn		**Pn**	**17 50 53.1**	**-0.5**
UPM	**Unac-Piva**	**6.40**	**110**	*e*Pn		**Pn**	**17 50 54.7**	**+0.7**
UPM				*i* Sn		**Sn**	**17 52 05.6**	**-1.2**
UPM	**Unac-Piva**	**6.40**	**110**	*e*Pn		**Pn**	**17 50 55.0**	**+1.0**
KSP	**Ksiaz**	**6.41**	**34**	*e*Pn		**Pn**	**17 50 54.9**	**+0.8**
KSP				*e*Sn		**Sn**	**17 52 05.2**	**-1.8**
KSP				*e*Sg		**Sg**	**17 52 41.1**	**-4.7**
RJF	**Les Rejaudoux**	**6.43**	**270**	*e*P		**Pn**	**17 50 56.8**	**+2.5**
RJF				*e*Sn		**Sn**	**17 52 02.9**	**-4.6**
RJF				*e*Sg		**Sg**	**17 52 41.7**	**-4.8**
	comp=Z,24nm,0.7s							
MTLF	**Montolieu**	**6.46**	**252**	*e*Pn		**Pn**	**17 50 55.2**	**+0.5**
MTLF				*e*Sn		**Sn**	**17 52 03.5**	**-4.7**
	comp=Z,5.2nm,0.4s							
FRGS	**Fruska Gora**	**6.47**	**91**	*e*Pn		**Pn**	**17 50 55.8**	**+1.0**
FRGS	**Fruska Gora**	**6.47**	**91**	*e*Pn		**Pn**	**17 50 55.1**	**+0.3**
BBLS	**Lazići**	**6.48**	**103**	*e*Pn		**Pn**	**17 50 55.3**	**+0.3**
BBLS	**Lazići**	**6.48**	**103**	*e*Pn		**Pn**	**17 50 54.7**	**-0.3**
HCY	**Herceg Novi**	**6.49**	**117**	*e*Pn		**Pn**	**17 50 55.5**	**+0.3**
HCY				*i* Sn		**Sn**	**17 52 07.6**	**-1.4**
HCY	**Herceg Novi**	**6.49**	**117**	*e*Pn		**Pn**	**17 50 53.4**	**-1.8**
RUDO	**Rudo**	**6.54**	**105**	*e*Pn		**Pn**	**17 50 55.3**	**-0.5**
OKC	**Ostrava-Krasne**	**6.56**	**48**	*e*SG		**Sg**	**17 52 46.7**	**-3.8**
	comp=Z,1µm,0.6s							
NKME	**Niksic**	**6.62**	**113**	*e*Pn		**Pn**	**17 50 57.7**	**+0.7**
NKME				*i* Sn		**Sn**	**17 52 12.0**	**-0.3**
NKY	**Niksic**	**6.63**	**112**	*e*Pn		**Pn**	**17 50 57.4**	**+0.3**
NKY				*i* Sn		**Sn**	**17 52 10.4**	**-2.1**
PLE	**Pljevlja**	**6.67**	**107**	*e*Pn		**Pn**	**17 50 58.5**	**+0.9**
PLE				*i* Sn		**Sn**	**17 52 12.2**	**-1.2**
CEME	**Cevo**	**6.71**	**115**	⇓*i*Pn		**Pn**	**17 50 58.5**	**+0.3**
CEME				*i* Sn		**Sn**	**17 52 13.1**	**-1.3**
PSZ	**Piszkesteto**	**6.74**	**67**			**Pn**	**17 50 58.8**	**+0.2**
DIVS	**Divibare**	**6.81**	**100**	*e*Pn		**Pn**	**17 50 59.5**	**-0.1**
DIVS	**Divibare**	**6.81**	**100**	*e*Pn		**Pn**	**17 50 59.9**	**+0.3**
BUM	**Brajici-Budva**	**6.82**	**116**	*e*Pn		**Pn**	**17 51 00.2**	**+0.5**
BUM				*i* Sn		**Sn**	**17 52 15.8**	**-1.4**
KOME	**Kolasin**	**6.95**	**111**	*e*Pn		**Pn**	**17 51 02.5**	**+1.0**
KOME				*i* Sn		**Sn**	**17 52 18.8**	**-1.6**
PDG	**Podgorica**	**6.99**	**114**	*e*Pn		**Pn**	**17 51 01.9**	**0.0**
PDG	**Podgorica**	**6.99**	**114**			**Pn**	**17 51 02.2**	**+0.4**
TTG	**Podgorica**	**6.99**	**114**	*e*Pn		**Pn**	**17 51 02.3**	**+0.4**
TTG				*i* Sn		**Sn**	**17 52 19.4**	**-1.6**
LFF	**La Frestale**	**7.03**	**268**	*e*P		**Pn**	**17 51 05.2**	**+2.7**
LFF				*e*Sn		**Sn**	**17 52 17.0**	**-5.1**
	comp=Z,9.1nm,0.3s							
DRME	**Dracevica, Mon**	**7.07**	**116**	⇓*i*Pn		**Pn**	**17 51 03.6**	**+0.6**
DRME				*i* Sn		**Sn**	**17 52 21.5**	**-1.6**
DRME	**Dracevica, Mon**	**7.07**	**116**	*e*Pn		**Pn**	**17 51 03.3**	**+0.3**
TRUS	**Trudelj**	**7.07**	**98**	*e*Pn		**Pn**	**17 51 02.7**	**-0.3**
SJES	**Sjenica**	**7.08**	**106**	*e*Pn		**Pn**	**17 51 04.0**	**+0.6**
IVA	**Berane**	**7.19**	**109**	*e*Pn		**Pn**	**17 51 05.9**	**+1.1**
IVA				*i* Sn		**Sn**	**17 52 24.6**	**-1.7**
ULC	**Ulcinj**	**7.22**	**118**	⇑*i*Pn		**Pn**	**17 51 05.5**	**+0.3**
ULC				*i* Sn		**Sn**	**17 52 23.5**	**-3.5**
PVY	**Plav**	**7.36**	**111**	*e*Pn		**Pn**	**17 51 07.7**	**+0.5**
PVY				*i* Sn		**Sn**	**17 52 28.6**	**-1.9**
GRUS	**Gruza**	**7.38**	**100**	*e*Pn		**Pn**	**17 51 07.5**	**+0.3**
NIE	**Niedzica**	**7.54**	**57**	*e*Pn		**Pn**	**17 51 11.9**	**+2.4**
NIE				*e*Sg		**Sg**	**17 53 27.9**	**+6.1**
MFF	**Saint Martin d**	**7.56**	**281**	*e*P		**Pn**	**17 51 12.1**	**+2.3**
MFF				*e*Sn		**Sn**	**17 52 29.8**	**-5.5**
	comp=Z,21nm,0.5s							
OJC	**Ojcow**	**7.65**	**50**	*e*Pn		**Pn**	**17 51 11.6**	**+0.6**
OJC				*e*Sn		**Sn**	**17 52 37.1**	**-0.3**
OJC				*e*Sg		**Sg**	**17 53 25.4**	**-0.1**
OJC	**Ojcow**	**7.65**	**50**	Pn		**Pn**	**17 51 11.6**	**+0.6**
BZS	**Buzias**	**7.69**	**86**	⇑P		**Pn**	**17 51 12.8**	**+1.3**
EPF	**Esparros**	**7.84**	**254**	*e*P		**Pn**	**17 51 17.3**	**+3.6**
EPF				*e*Sn		**Sn**	**17 52 36.4**	**-5.9**
	comp=Z,3.8nm,0.5s							
MDVR	**Moldovita**	**7.86**	**92**	⇑P		**Pn**	**17 51 15.4**	**+1.5**
SELS	**Selova**	**7.88**	**104**	*e*Pn		**Pn**	**17 51 14.2**	**+0.1**
TIP	**Timpagrande**	**7.89**	**143**	Pn		**Pn**	**17 51 14.5**	**+0.2**
LDF	**La Druitiere**	**7.92**	**296**	*e*P		**Pn**	**17 51 18.0**	**+3.4**
LDF	**La Druitiere**	**7.92**	**296**	*e*Pg		Pg	17 51 45.2	-6.3
LDF				*e*Sn		**Sn**	**17 52 37.9**	**-6.0**
LDF				*e*Sg		**Sg**	**17 53 27.2**	**-6.7**
	comp=Z,40nm,0.6s							
TIR	**Tirane**	**7.96**	**119**	Pn		**Pn**	**17 51 15.8**	**+0.6**
SCTE	**Santa Cesarea**	**8.00**	**131**	Pn		**Pn**	**17 51 17.4**	**+1.6**
BOVS	**Bovan**	**8.14**	**100**	*e*Pn		**Pn**	**17 51 17.8**	**+0.1**
FLN	**La Foliniere**	**8.20**	**296**	*e*P		**Pn**	**17 51 20.7**	**+2.3**
	baz=116							
FLN	**La Foliniere**	**8.20**	**296**	*e*Pg		**Pg**	**17 51 52.4**	**-4.4**
	baz=116							
FLN				*e*Sn		**Sn**	**17 52 45.1**	**-5.7**
FLN				*e*Sg		**Sg**	**17 53 36.5**	**-6.3**
	comp=Z,38nm,0.8s,baz=115							
GRR	**Gorron**	**8.33**	**293**	*e*P		**Pn**	**17 51 22.2**	**+1.9**
GRR				*e*Sn		**Sn**	**17 52 47.9**	**-6.1**
	comp=Z,12nm,0.3s							
HERR	**Herculane**	**8.34**	**91**	⇓P		**Pn**	**17 51 22.0**	**+1.6**
BARS	**Barje**	**8.50**	**106**	*e*Pn		**Pn**	**17 51 23.0**	**+0.3**
ETSF	**Etsaut**	**8.50**	**255**	*e*P		**Pn**	**17 51 26.4**	**+3.6**
ETSF				*e*Sn		**Sn**	**17 52 53.0**	**-5.5**
	comp=Z,3.4nm,0.4s							
KOLS	**Kolonicke sedl**	**8.55**	**63**	*e*PN		**Pn**	**17 51 23.5**	**+0.1**
OHR	**Ohrid**	**8.67**	**118**	*i* Pn		**Pn**	**17 51 26.4**	**+1.4**
SJPF	**Ste Jean**	**8.88**	**258**	*e*P		**Pn**	**17 51 32.4**	**+4.5**
ZAPS	**Zavoj**	**8.89**	**101**	*e*Pn		**Pn**	**17 51 28.5**	**+0.4**
BOSS	**Bosilegrad**	**9.08**	**106**	*e*Pn		**Pn**	**17 51 29.1**	**-1.5**
STIP	**Stip**	**9.24**	**111**	*i* Pn		**Pn**	**17 51 34.6**	**+1.7**
SGMF	**Saint Gilles**	**9.40**	**291**	*e*P		**Pn**	**17 51 36.6**	**+1.6**
SGMF				*e*Sn		**Sn**	**17 53 14.1**	**-6.3**
	comp=Z,9.3nm,0.4s							
QUIF	**Quistinic**	**9.75**	**288**	*e*P		**Pn**	**17 51 42.5**	**+2.8**
QUIF				*e*Sn		**Sn**	**17 53 22.0**	**-6.9**
	comp=Z,15nm,0.5s							
ROSF	**Rostrenen**	**9.89**	**291**	*e*P		**Pn**	**17 51 42.4**	**+0.7**
ROSF				*e*Sn		**Sn**	**17 53 24.8**	**-7.5**
	comp=Z,11nm,0.3s							
VOIR		**10.11**	**86**	⇑P		**Pn**	**17 51 46.4**	**+1.6**
MLR	**Muntele Rosu**	**10.73**	**85**	Pn		**Pn**	**17 51 56.7**	**+3.5**
	comp=Z,0.2nm,0.3s,baz=184,slow=5.6,SNR=3.4							
AGG	**Agios Georgios**	**10.88**	**123**	Pn		**Pn**	**17 51 55.9**	**+0.5**
ESDC	**Sonseca Array**	**12.30**	**246**	Pn		**Pn**	**17 52 16.3**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=52,slow=14,SNR=3.2							
ESDC				LR		LR	17 57 55.9	
	comp=Z,47nm,18.0s,baz=335,slow=42							
EKA	**Eskdalemuir Ar**	**13.06**	**323**	Pn		**Pn**	**17 52 25.8**	**+0.8**
	baz=138,slow=14,SNR=13							
AKASG	**Malin Array Be**	**13.37**	**61**	Pn		**Pn**	**17 52 29.8**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=251,slow=12,SNR=5.0							
DSB	**Dublin**	**13.41**	**311**	Pn		**Pn**	**17 52 30.4**	**+0.6**
IDI	**Anoyia**	**14.96**	**129**	Pn		**Pn**	**17 52 52.6**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=302,slow=13,SNR=2.1							
IDI				LR		LR	17 59 16.2	
	comp=Z,32nm,20.8s,baz=98,slow=40							
IDI	**Anoyia**	**14.96**	**129**			**Pn**	**17 52 52.4**	**+1.3**
NB2	**NORSAR Subarra**	**15.42**	**1**	P		**P**	**17 53 03.3**	**+1.8**
	comp=Z,3.5nm,0.9s,baz=181,slow=11							
NOA	**NORSAR Array B**	**15.42**	**1**	Pn		**P**	**17 53 01.3**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=182,slow=11,SNR=4.3							
NOA				LR		LR	17 58 25.7	
	comp=Z,16nm,20.2s,baz=315,slow=35							
FINES	**FINESS Array B**	**18.20**	**24**	P		**Pn**	**17 53 31.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=201,slow=15,SNR=1.9							
FINES	**FINESS Array B**	**18.20**	**24**	P		**Pn**	**17 53 32.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**33.28**	**196**	P		**P**	**17 55 56.3**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=21,slow=8.5,SNR=2.6							
KKAR	**Karatay Array**	**41.99**	**71**	P		**P**	**17 57 11.8**	**+1.2**
MKAR	**Makanchi Array**	**47.96**	**61**	P		**P**	**17 57 58.3**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=282,slow=5.7,SNR=4.5							
MKAR	**Makanchi Array**	**47.96**	**61**	P		**P**	**17 57 58.5**	**+0.6**
ILAR	**Eielson Array**	**68.52**	**350**	P		**P**	**18 00 22.9**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=358,slow=7.2,SNR=4.4							
CMAR	**Chiang Mai Arr**	**75.87**	**78**	P		**P**	**18 01 07.2**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=299,slow=7.2,SNR=7.8							
TXAR	**Lajitas Array**	**84.54**	**307**	P		**P**	**18 01 55.2**	**+2.3**
	comp=Z,0.4nm,0.8s,baz=81,slow=5.6,SNR=4.0							
TXAR	**Lajitas Array**	**84.54**	**307**	P		**P**	**18 01 55.1**	**+2.2**

*ROM **28** 17:52:31.0±0.2,45°.63N±0°.01×10°.68E±0°.01,h10km±1km, ML2.7/11, Error ellipse: s-maj=1.4km s-min=1.0km az=198.0*

*ZUR **28** 17:52:32.0,45°.67N×10°.62E,h7km±4km, MLh2.5/14, Error ellipse: s-maj=9.2km s-min=2.5km az=209.0*

ISC 28 17:52:31.5±0.9,45°.64N±0°.03×10°.68E±0°.02,h9km±6km, n47,σ0°.59/68,4C,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GARGN	**Gargnano BS**	**0.05**	**346**	Pg		**Pg**	**Pg**	**17 52 33.5**	**0.0**
GARGN				Sg		**Sg**	**Sg**	**17 52 35.3**	**+0.4**
SALO	**Salr**	**0.11**	**260**	Pg		**Pg**	**Pg**	**17 52 34.1**	**-0.1**
SALO	**Salr**	**0.11**	**260**	Pg		**Pg**	**Pg**	**17 52 34.1**	**-0.1**
SALO				Sg		**Sg**	**Sg**	**17 52 35.4**	**-0.6**
SALO	**Salr**	**0.11**	**260**	P		**Pg**	**Pg**	**17 52 34.2**	**-0.1**
SALO				S		**Sg**	**Sg**	**17 52 36.7**	**+0.6**
SALO				AML	AML				
	comp=E,7200µm,0.2s								
SALO				AML	AML				
	comp=N,9135µm,0.8s								
SALO				AML	AML				
	comp=N,9145µm,0.8s								
SALO				AML	AML				
	comp=E,8220µm,0.2s								
SALO				AML	AML				
	comp=N,9120µm,0.8s								
VOBA	**Vobarno**	**0.12**	**272**	P		**Pg**	**Pg**	**17 52 34.1**	**-0.2**
VOBA				S		**Sg**	**Sg**	**17 52 36.4**	**+0.1**
BOTT	**Botticino**	**0.28**	**251**	P		**Pb**	**Pb**	**17 52 38.0**	**-0.6**
BOTT				S		**Sg**	**Sg**	**17 52 41.1**	**+0.4**
ROVR	**Rover Verones**	**0.28**	**88**	P		**Pg**	**Pg**	**17 52 37.0**	**-0.1**
ROVR				S		**Sg**	**Sg**	**17 52 40.8**	**0.0**
ROVR				AML	AML				
	comp=E,462µm,0.4s								
ROVR				AML	AML				
	comp=N,1395µm,0.2s								
CNCS	**Concesio**	**0.33**	**265**	P		**Pg**	**Pg**	**17 52 38.2**	**+0.3**
CNCS				S		**Sg**	**Sg**	**17 52 42.5**	**+0.2**
TREG	**Tregnago**	**0.36**	**109**	P		**Pg**	**Pg**	**17 52 38.5**	**0.0**
TREG				S		**Sg**	**Sg**	**17 52 43.5**	**+0.2**
TREG				AML	AML				
	comp=E,1845µm,0.4s								
TREG				AML	AML				
	comp=N,3660µm,0.3s								
TREG				AML	AML				
	comp=N,3665µm,0.3s								
TREG				AML	AML				
	comp=E,1840µm,0.4s								
MARN	**Marana (Italy)**	**0.37**	**90**	⇑*e*Pg		**Pg**	**Pg**	**17 52 38.6**	**-0.2**
MARN				*e*Sg		**Sg**	**Sg**	**17 52 43.8**	**+0.1**
DOSS	**Dosso del Somm**	**0.43**	**55**	⇑*e*Pg		**Pg**	**Pg**	**17 52 39.8**	**-0.2**
DOSS				*e*Sg		**Sg**	**Sg**	**17 52 45.5**	**-0.1**
MABI	**Malga Bissina**	**0.43**	**344**	Pg		**Pg**	**Pg**	**17 52 39.5**	**-0.6**
MABI				Sg		**Sg**	**Sg**	**17 52 45.8**	**0.0**
MABI	**Malga Bissina**	**0.43**	**344**	Pg		**Pg**	**Pg**	**17 52 39.5**	**-0.6**
MABI				Sg		**Sg**	**Sg**	**17 52 45.8**	**0.0**
MABI	**Malga Bissina**	**0.43**	**344**	P		**Pg**	**Pg**	**17 52 39.5**	**-0.6**
MABI				S		**Sg**	**Sg**	**17 52 45.8**	**0.0**
MABI				AML	AML				
	comp=E,732µm,0.1s								
MABI				AML	AML				
	comp=E,732µm,0.1s								
MABI				AML	AML				
	comp=N,388µm,0.2s								
GAGG	**Gaggia**	**0.49**	**23**	*e*Pg		**Pg**	**Pg**	**17 52 41.1**	**+0.1**
ZOVE	**Zovencedo**	**0.60**	**108**	P		**Pg**	**Pg**	**17 52 43.0**	**-0.1**
ZOVE				S		**Sg**	**Sg**	**17 52 51.0**	**+0.2**
PANI	**Panarotta**	**0.62**	**48**	⇑*e*Pg		**Pg**	**Pg**	**17 52 43.2**	**-0.3**
PANI				*e*Sg		**Sg**	**Sg**	**17 52 52.5**	**+0.9**
MDI	**Monti di Nese**	**0.69**	**282**	Pg		**Pb**	**Pb**	**17 52 45.5**	**-0.3**
CARE	**Lago del Cares**	**0.79**	**1**	*e*Pg		**Pg**	**Pg**	**17 52 46.9**	**+0.2**
CARE				*e*Sg		**Sb**	**Sb**	**17 52 58.0**	**-0.5**
CTI	**Castel Tesino**	**0.79**	**58**	AML	AML				
	comp=N,400µm,0.3s								
CTI				AML	AML				
	comp=E,423µm,1.2s								
CGRP	**Cima Grappa**	**0.82**	**72**	Pg		**Pg**	**Pg**	**17 52 47.7**	**+0.3**
CGRP	**Cima Grappa**	**0.82**	**72**	⇑*e*Pg		**Pg**	**Pg**	**17 52 47.4**	**+0.1**
CGRP				*e*Sg		**Sg**	**Sg**	**17 52 58.5**	**+0.4**
APPI	**Appiano**	**0.92**	**24**	AML	AML				
	comp=N,358µm,0.3s								
APPI				AML	AML				
	comp=E,356µm,0.2s								
KOSI	**Kohlern**	**0.96**	**30**	Pg		**Pg**	**Pg**	**17 52 49.6**	**-0.3**
KOSI	**Kohlern**	**0.96**	**30**	Pg		**Pg**	**Pg**	**17 52 49.6**	**-0.3**
VARN	**Col Varnada, M**	**1.06**	**70**	*e*Pg		**Pg**	**Pg**	**17 52 51.7**	**-0.1**
VARN				*e*Sg		**Sg**	**Sb**	**17 53 06.9**	**+0.9**
AGOR	**Agordo**	**1.15**	**55**	Pg		**Pg**	**Pg**	**17 52 53.4**	**-0.3**
AGOR	**Agordo**	**1.15**	**55**	Pg		**Pg**	**Pg**	**17

JOPP	**Joppolo**	**0.35**	**150**	⇓P	**Pn**	18 02 44.0	+0.5	
JOPP				S	**S**	18 03 05.3	-1.2	
JOPP				AML	AML			
	comp=E,488µm,0.3s							
JOPP				AML	AML			
	comp=N,508µm,1.4s							
JOPP				AML	AML			
	comp=N,508µm,1.4s							
JOPP				AML	AML			
	comp=E,488µm,0.3s							
IST3	**Stromboli F**	**0.35**	**252**	P	**Pn**	18 02 44.3	+0.9	
CAR1	**CAROLEI**	**0.55**	**51**	⇓P	**Pn**	18 02 44.6	+0.6	
CAR1				S	**S**	18 03 06.0	-1.6	
CAR1				AML	AML			
	comp=E,1290µm,0.4s							
CAR1				AML	AML			
	comp=N,1266µm,0.8s							
CAR1				AML	AML			
	comp=E,1290µm,0.4s							
CAR1				AML	AML			
	comp=N,1263µm,0.9s							
CAR1				AML	AML			
	comp=E,1490µm,0.4s							
CAR1				AML	AML			
	comp=N,1106µm,0.4s							
GRI	**Girifalco**	**0.60**	**98**	P	**Pn**	18 02 45.5	+1.3	
GRI				S	**S**	18 03 07.7	0.0	
GRI				AML	AML			
	comp=E,352µm,0.3s							
GRI				AML	AML			
	comp=N,357µm,1.0s							
GRI				AML	AML			
	comp=N,356µm,1.0s							
MSRU	**Castanea**	**0.66**	**191**	⇓P	**Pn**	18 02 44.8	+0.3	
MSRU				S	**S**	18 03 07.2	-1.0	
MSRU				AML	AML			
	comp=N,750µm,0.3s							
MSRU				AML	AML			
	comp=E,670µm,0.3s							
CET2	**Cetraro**	**0.66**	**20**	⇓P	**Pn**	18 02 45.0	+0.6	
CET2				S	**S**	18 03 06.8	-1.6	
CET2				AML	AML			
	comp=N,2395µm,0.9s							
CET2				AML	AML			
	comp=E,1435µm,0.9s							
CEL	**Celeste**	**0.67**	**164**	P	**Pn**	18 02 45.0	+0.4	
CEL				S	**S**	18 03 07.9	-0.5	
CEL				AML	AML			
	comp=N,244µm,0.3s							
CEL				AML	AML			
	comp=E,234µm,0.3s							
CEL				AML	AML			
	comp=N,294µm,0.3s							
CEL				AML	AML			
	comp=E,280µm,0.2s							
CEL				AML	AML			
	comp=N,244µm,0.3s							
CEL				AML	AML			
	comp=E,235µm,0.3s							
MSCL	**Scilla**	**0.68**	**172**	P	**Pn**	18 02 45.0	+0.4	
MSCL				S	**S**	18 03 07.6	-1.0	
MSCL				AML	AML			
	comp=E,792µm,0.3s							
MSCL				AML	AML			
	comp=N,934µm,0.9s							
MSCL				AML	AML			
	comp=E,791µm,0.3s							
MSCL				AML	AML			
	comp=N,933µm,0.9s							
MILZ	**Milazzo**	**0.72**	**208**	⇓P	**Pn**	18 02 45.1	+0.4	
MILZ				S	**S**	18 03 08.1	-0.5	
MILZ				AML	AML			
	comp=E,744µm,0.4s							
MILZ				AML	AML			
	comp=E,744µm,0.4s							
MILZ				AML	AML			
	comp=N,968µm,0.4s							
LLI	**Lipari**	**0.73**	**231**	P	**Pn**	18 02 46.3	+1.5	
VPL	**Vulcano Piano**	**0.75**	**225**	⇓P	**Pn**	18 02 45.8	+1.0	
VPL				AML	AML			
	comp=E,1195µm,0.8s							
VPL				AML	AML			
	comp=N,1525µm,0.5s							
GMB	**Gambarie**	**0.75**	**170**	⇓P	**Pn**	18 02 45.7	+0.6	
GMB				S	**S**	18 03 09.0	-0.2	
GMB				AML	AML			
	comp=E,3545µm,0.4s							
GMB				AML	AML			
	comp=N,1995µm,0.2s							
GMB				AML	AML			
	comp=E,3540µm,0.4s							
PLAC	**Placanica**	**0.76**	**127**	⇓P	**Pn**	18 02 46.0	+1.1	
PLAC				S	**S**	18 03 08.6	-0.5	
PLAC				AML	AML			
	comp=E,345µm,0.2s							
PLAC				AML	AML			
	comp=E,344µm,0.2s							
PLAC				AML	AML			
	comp=N,282µm,0.6s							
ATN	**Antennamare**	**0.76**	**192**	P	**Pn**	18 02 45.1	0.0	
ATN				S	**S**	18 03 08.4	-0.9	
MPNC	**Port Mandanici**	**0.80**	**198**	P	**Pn**	18 02 45.4	+0.2	
MPNC				S	**S**	18 03 08.2	-1.2	
MPNC				AML	AML			
	comp=N,346µm,0.2s							
MPNC				AML	AML			
	comp=E,493µm,0.7s							
SERS	**Sersale**	**0.81**	**81**	⇓P	**Pn**	18 02 46.5	+1.2	
SERS				S	**S**	18 03 09.0	-0.6	
SERS				AML	AML			
	comp=E,244µm,0.6s							
SERS				AML	AML			
	comp=N,312µm,1.2s							
CELI	**Celico**	**0.82**	**53**	P	**Pn**	18 02 46.9	+1.6	
CELI				S	**S**	18 03 10.1	+0.3	
CELI				AML	AML			
	comp=N,1026µm,0.5s							
CELI				AML	AML			
	comp=E,825µm,0.4s							
CELI				AML	AML			
	comp=N,1026µm,0.5s							
T0702	**Acquaformosa (**	**0.88**	**22**	⇓P	**Pn**	18 02 46.1	+0.6	
T0702				S	**S**	18 03 08.8	-1.5	
SOI	**Samo**	**0.89**	**160**	⇓P	**Pn**	18 02 46.5	+0.9	
SOI				S	**S**	18 03 09.8	-0.4	
SOI				AML	AML			
	comp=N,189µm,0.5s							
SOI				AML	AML			
	comp=E,202µm,0.4s							
SOI				AML	AML			
	comp=N,188µm,0.5s							
TIP	**Timpagrande**	**0.90**	**72**	⇓P	**Pn**	18 02 47.0	+1.3	
TIP				S	**S**	18 03 10.0	-0.3	
TIP				AML	AML			
	comp=E,139µm,1.6s							
TIP				AML	AML			
	comp=N,161µm,0.6s							
TIP				AML	AML			
	comp=E,162µm,1.6s							
TIP				AML	AML			
	comp=E,140µm,1.6s							
TIP				AML	AML			
	comp=N,138µm,0.6s							
MCSR	**Castroreale**	**0.90**	**201**	⇓P	**Pn**	18 02 46.5	+0.7	
MCSR				AML	AML			
	comp=E,846µm,0.3s							
MCSR				AML	AML			
	comp=N,876µm,1.6s							
TDS	**Terranova Siba**	**0.92**	**35**	P	**Pn**	18 02 46.8	+1.1	
TDS				S	**S**	18 03 10.0	-0.5	
TDS				AML	AML			
	comp=N,197µm,1.5s							
TDS				AML	AML			
	comp=E,194µm,0.7s							
NOV	**Novara**	**0.97**	**205**	P	**Pn**	18 02 47.1	+1.0	
NOV				AML	AML			
	comp=E,307µm,0.7s							
NOV				AML	AML			
	comp=N,471µm,0.4s							
MPAZ	**Palizzi**	**0.99**	**164**	⇓P	**Pn**	18 02 47.1	+0.9	
MPAZ				S	**S**	18 03 10.6	-0.7	
MPAZ				AML	AML			
	comp=E,440µm,0.2s							
MPAZ				AML	AML			
	comp=N,540µm,0.3s							
AIO	**Antillo**	**0.99**	**200**	P	**Pn**	18 02 47.4	+1.1	
AIO				S	**S**	18 03 11.9	+0.5	
AIO				AML	AML			
	comp=N,263µm,0.5s							
AIO				AML	AML			
	comp=E,256µm,0.3s							
AIO				AML	AML			
	comp=N,276µm,0.8s							
MUCR	**Ucria**	**1.06**	**216**	P	**Pn**	18 02 47.2	+0.5	
MUCR				AML	AML			
	comp=N,258µm,0.5s							
MUCR				AML	AML			
	comp=E,186µm,0.4s							
PIPA	**Pietrapaola**	**1.06**	**57**	P	**Pn**	18 02 47.7	+1.1	
PIPA				AML	AML			
	comp=E,226µm,0.1s							
PIPA				AML	AML			
	comp=N,202µm,0.2s							
PIPA				AML	AML			
	comp=N,264µm,0.2s							
PIPA				AML	AML			
	comp=E,303µm,0.3s							
SALB	**San Lorenzo Be**	**1.10**	**28**	P	**Pn**	18 02 48.2	+1.2	
SALB				S	**S**	18 03 12.3	-0.5	
SALB				AML	AML			
	comp=E,732µm,0.8s							
SALB				AML	AML			
	comp=N,492µm,0.7s							
SALB				AML	AML			
	comp=N,482µm,0.7s							
SALB				AML	AML			
	comp=E,804µm,0.8s							
BULG	**Bulgheria - Ca**	**1.19**	**349**	P	**Pn**	18 02 48.8	+1.3	
BULG				AML	AML			
	comp=N,250µm,0.6s							
BULG				AML	AML			
	comp=E,120µm,1.5s							
MSFR	**San Fratello**	**1.21**	**224**	⇓P	**Pn**	18 02 48.8	+1.1	
MSFR				AML	AML			
	comp=E,50µm,0.3s							
MSFR				AML	AML			
	comp=N,62µm,0.3s							
MSFR				AML	AML			
	comp=E,50µm,0.3s							
EMSG	**Monte Spagnolo**	**1.22**	**207**	AML	AML			
	comp=E,348µm,0.4s							
EMSG				AML	AML			
	comp=N,372µm,0.9s							
MGR	**Morigerati**	**1.23**	**356**	P	**Pn**	18 02 48.6	+1.0	
MGR				S	**S**	18 03 13.1	-1.0	
MGR				AML	AML			
	comp=N,138µm,0.7s							
MGR				AML	AML			
	comp=E,190µm,0.3s							
MNO	**Monte Soro**	**1.23**	**218**	AML	AML			
	comp=E,104µm,1.5s							
MNO				AML	AML			
	comp=N,183µm,1.0s							
SIRI	**Monte Sirino -**	**1.28**	**7**	P	**Pn**	18 02 48.8	+0.7	
SIRI				AML	AML			
	comp=E,188µm,1.4s							
SIRI				AML	AML			
	comp=N,193µm,0.6s							
SIRI				AML	AML			
	comp=E,190µm,0.3s							
SIRI				AML	AML			
	comp=N,186µm,0.6s							
SIRI				AML	AML			
	comp=E,190µm,0.3s							
SCHR	**S. Chirico Rap**	**1.33**	**14**	P	**Pn**	18 02 50.0	+1.5	
SCHR				S	**S**	18 03 16.3	+0.8	
SCHR				AML	AML			
	comp=E,155µm,0.4s							
SCHR				AML	AML			
	comp=N,126µm,1.3s							
MTSN	**Montesano sull**	**1.36**	**3**	P	**Pn**	18 02 49.3	+0.6	
MTSN				AML	AML			
	comp=N,104µm,0.5s							
MTSN				AML	AML			
	comp=E,140µm,1.0s							
MTSN				AML	AML			
	comp=N,104µm,0.5s							
MCEL	**Monticello**	**1.42**	**4**	P	**Pn**	18 02 50.4	+1.3	
MCEL				AML	AML			
	comp=N,108µm,0.5s							
MCEL				AML	AML			
	comp=E,190µm,0.9s							
GALF	**Gagliano Caste**	**1.47**	**216**	AML	AML			
	comp=E,94µm,0.8s							
GALF				AML	AML			
	comp=N,94µm,0.7s							
SLCN	**Sala Consilina**	**1.48**	**359**	P	**Pn**	18 02 50.6	+1.0	
SLCN				AML	AML			
	comp=E,156µm,0.5s							
SLCN				AML	AML			
	comp=N,184µm,0.5s							
CRAC	**Craco**	**1.57**	**22**	⇓P	**Pn**	18 02 51.4	+1.1	
CRAC				S	**S**	18 03 19.7	+0.9	
CRAC				AML	AML			
	comp=E,1515µm,1.4s							
CRAC				AML	AML			
	comp=N,1095µm,0.3s							
HLNI	**Lentini**	**1.68**	**202**	AML	AML			
	comp=N,68µm,0.3s							
HLNI				AML	AML			
	comp=E,65µm,1.2s							
MIGL	**Miglionico**	**1.80**	**19**	AML	AML			
	comp=E,698µm,0.3s							
MIGL				AML	AML			
	comp=N,585µm,0.6s							
SSY	**Sortino**	**1.81**	**195**	AML	AML			
	comp=N,180µm,1.1s							
SSY				AML	AML			
	comp=E,81µm,0.5s							
ACER	**Acerenza**	**1.89**	**6**	P	**Pn**	18 02 53.9	+0.7	
ACER				AML	AML			
	comp=N,96µm,1.2s							
ACER				AML	AML			
	comp=E,97µm,0.6s							
MEU	**Monte Lauro**	**1.90**	**198**	P	**Pn**	18 02 54.6	+1.1	
MEU				AML	AML			
	comp=E,212µm,0.3s							
MEU				AML	AML			
	comp=N,256µm,0.3s							
HAVL	**Avola**	**1.99**	**192**	AML	AML			
	comp=E,105µm,0.4s							
HAVL				AML	AML			
	comp=N,160µm,1.6s							
HMDC	**Modica**	**2.07**	**200**	AML	AML			
	comp=N,142µm,1.6s							
HMDC				AML	AML			
	comp=E,96µm,0.6s							
AMUR	**Altamura**	**2.12**	**20**	⇓P	**Pn**	18 02 55.4	0.0	
AMUR				AML	AML			
	comp=E,144µm,0.3s							
AMUR				AML	AML			
	comp=N,140µm,0.5s							
NOCI	**Noci**	**2.17**	**29**	P	**Pn**	18 02 55.5	-0.4	
NOCI				AML	AML			
	comp=E,295µm,0.3s							
NOCI				AML	AML			
	comp=N,202µm,0.3s							
MMGO	**Monte Magaggia**	**2.45**	**240**	P	**Pn**	18 03 00.0	+1.1	
SCTE	**Santa Cesarea**	**2.46**	**61**	P	**Pn**	18 02 59.5	+0.6	
SCTE				AML	AML			
	comp=E,386µm,1.5s							
SCTE				AML	AML			
	comp=N,277µm,0.4s							
GERES	**GERESS Array B**	**10.03**	**353**	P	**Pn**	18 04 33.8	+0.6	
	comp=N,0.2nm,0.3s,baz=163,slow=14,SNR=4.5							
ESDC	**Sonseca Array**	**15.22**	**279**	P	**Pn**	18 05 38.2	+0.4	
	comp=N,0.1nm,0.3s,baz=76,slow=9.7,SNR=2.7							
NB2	**NORSAR Subarra**	**22.33**	**354**	P	**P**	18 06 52.0	-0.9	
	comp=Z,0.2nm,0.4s,baz=171,slow=11							
NOA	**NORSAR Array B**	**22.33**	**354**	P	**P**	18 06 52.2	-0.7	
	comp=Z,0.1nm,0.5s,baz=163,slow=9.3,SNR=4.9							
FINES	**FINESS Array B**	**23.47**	**13**	P	**P**	18 07 03.0	-0.1	
	comp=Z,1.3nm,0.5s,baz=197,slow=6.9,SNR=8.9							
ARCES	**ARCESS Array B**	**31.14**	**7**	P	**P**	18 08 10.3	-1.1	
	comp=Z,1.2nm,0.8s,baz=195,slow=8.9,SNR=5.3							
ZALV	**Zalesovo Beam**	**48.04**	**48**	P	**P**	18 10 30.5	+0.1	
	comp=Z,0.4nm,0.3s,baz=273,slow=5.0,SNR=2.6							
MKAR	**Makanchi Array**	**48.15**	**58**	P	**P**	18 10 32.7	+1.2	
	comp=Z,0.3nm,0.3s,baz=283,slow=7.2,SNR=7.3							

*NNC **28** 18:52:20.7±0.3, 43°.28N×75°.07E, h1km±2km, mb2.7,*

mpv2.6, Error ellipse: s-maj=3.4km s-min=2.2km az=20.0
*KRNET **28** 18:52:21.1±0.1, 43°.26N×75°.03E, h23km, mb2.1*
*SOME **28** 18:52:21.4, 43°.27N×75°.05E, h15km*

ISC 28 18:52:20.9±0.9, 43°.26N±0°.02×75°.05E±0°.02, h13km±9km,
n42, σ0.55/81, 12C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMS	**Chumysh**	**0.34**	**220**	⇓*e*P	**Pg**	**18 52 27.9**	**0.0**
	baz=18						
CHMS				⇓*i*S	**Sg**	**18 52 33.1**	**+0.5**
	baz=18						
SGDS	**Sogindy**	**0.36**	**302**	P	**Pg**	**18 52 28.1**	**-0.1**
	3.5nm,0.1s						
SGDS				S	**Sg**	**18 52 32.8**	**-0.4**
	31nm,0.1s						
USP	**Ospenovka**	**0.40**	**271**	⇓*i*P	**Pg**	**18 52 28.8**	**-0.2**
	baz=72						
USP				⇓*i*S	**Sg**	**18 52 34.6**	**+0.1**
	baz=72						
TKM2	**Tokmak 2**	**0.53**	**130**	⇑*i*P	**Pg**	**18 52 31.6**	**+0.3**
	baz=29						
TKM2				⇑*i*S	**Sb**	**18 52 39.5**	**-0.1**
	baz=29						
TKM2	**Tokmak 2**	**0.53**	**130**	⇑P	**Pg**	**18 52 31.2**	**-0.1**
	0.6nm,0.2s						
TKM2				⇑S	**Sg**	**18 52 38.7**	**+0.4**
	2.3nm,0.2s						
KRBS	**Karabastau**	**0.63**	**46**	*e*P	**Pg**	**18 52 33.0**	**-0.2**
	1.4nm,0.1s						
KRBS				*e*S	**Sg**	**18 52 41.1**	**-0.4**
	9.8nm,0.5s						
KRBS	**Karabastau**	**0.63**	**46**	P	**Pg**	**18 52 33.0**	**-0.2**
	1.4nm,0.1s						
KRBS				S	**Sg**	**18 52 41.1**	**-0.4**
	9.8nm,0.5s						
KST	**Kastek**	**0.70**	**108**	*e*P	**Pg**	**18 52 35.0**	**+0.4**
	baz=7.0						
KST				*e*S	**Sb**	**18 52 44.7**	**0.0**
	baz=7.0						
KST	**Kastek**	**0.70**	**108**	*e*P	**Pg**	**18 52 35.0**	**+0.4**
	1.7nm,0.1s						
KST				*e*S	**Sb**	**18 52 44.7**	**0.0**
	5.9nm,0.2s						
KST	**Kastek**	**0.70**	**108**	P	**Pg**	**18 52 35.0**	**+0.4**
	1.7nm,0.1s						
KST				S	**Sb**	**18 52 44.7**	**0.0**
	5.9nm,0.2s						
AAK	**Ala-Archa**	**0.75**	**213**	⇑*i*P	**Pg**	**18 52 35.0**	**-0.4**
	baz=13						
AAK				⇑*i*S	**Sg**	**18 52 45.4**	**+0.1**
	baz=13						
UCH	**Uchtor**	**1.11**	**201**	⇓*i*P	**Pb**	**18 52 41.6**	**-0.5**
	baz=0.0						
UCH				⇓*i*S	**Sb**	**18 52 56.7**	**+0.1**
	baz=0.0						
EKS2	**Erkin-Say**	**1.11**	**238**	⇓*i*P	**Pb**	**18 52 41.6**	**-0.4**
	baz=38						
EKS2				⇓*i*S	**Sb**	**18 52 56.7**	**+0.3**
	baz=38						
IZV	**Izvestkoviy**	**1.17**	**101**	*e*P	**Pg**	**18 52 43.4**	**0.0**
	baz=0.0						
IZV				*e*S	**Sg**	**18 52 59.0**	**+0.4**
	baz=0.0						
IZV	**Izvestkoviy**	**1.17**	**101**	*e*P	**Pg**	**18 52 43.4**	**0.0**
	1.7nm,0.1s						
IZV				*e*S	**Sg**	**18 52 59.0**	**+0.4**
	4.7nm,0.2s						
IZV	**Izvestkoviy**	**1.17**	**101**	P	**Pg**	**18 52 43.3**	**0.0**
	1.7nm,0.1s						
IZV				S	**Sg**	**18 52 59.0**	**+0.4**
	4.7nm,0.2s						
KZA	**Kyzart**	**1.19**	**173**	⇑*i*P	**Pn**	**18 52 43.2**	**-0.4**
	baz=72						
KZA				⇑*i*S	**Sb**	**18 52 59.3**	**+0.3**
	baz=72						
KTBS	**Karatobe**	**1.27**	**69**	*e*P	**Pn**	**18 52 44.0**	**-0.3**
	1.3nm,0.1s						
KTBS				*e*S	**Sb**	**18 53 00.2**	**-0.7**
	11nm,0.4s						
KTBS	**Karatobe**	**1.27**	**69**	P	**Pn**	**18 52 44.0**	**-0.3**
	1.3nm,0.1s						
KTBS				S	**Sb**	**18 53 00.2**	**-0.7**
	11nm,0.4s						
ULHL	**Ulahol**	**1.34**	**139**	⇓*i*P	**Pn**	**18 52 45.7**	**+0.2**
	baz=38						
ULHL				⇓*i*S	**Sn**	**18 53 03.4**	**+0.1**
	baz=38						
TNSS	**Tian-Shan**	**1.41**	**99**	*e*P	**Pb**	**18 52 47.2**	**0.0**
	baz=98						
TNSS				*e*S	**Sg**	**18 53 05.9**	**-0.4**
	baz=98						
TNSS	**Tian-Shan**	**1.41**	**99**	*e*P	**Pb**	**18 52 47.2**	**0.0**
	1.2nm,0.2s						
TNSS				*e*S	**Sg**	**18 53 05.9**	**-0.4**
	4.9nm,0.3s						
TNSS	**Tian-Shan**	**1.41**	**99**	P	**Pb**	**18 52 47.2**	**0.0**
	1.2nm,0.2s						
TNSS				S	**Sg**	**18 53 05.9**	**-0.4**
	4.9nm,0.3s						
MRKS	**Merke**	**1.44**	**250**	*e*P	**Pb**	**18 52 47.4**	**-0.1**
	baz=49						
MRKS				*e*S	**Sb**	**18 53 06.2**	**+0.4**
	baz=49						
MRKS	**Merke**	**1.44**	**250**	*e*P	**Pb**	**18 52 47.4**	**-0.1**
	3.0nm,0.1s						
MRKS				*e*S	**Sb**	**18 53 06.1**	**+0.4**
	5.0nm,0.2s						
MRKS	**Merke**	**1.44**	**250**	P	**Pb**	**18 52 47.4**	**-0.1**
	3.0nm,0.1s						
MRKS				S	**Sb**	**18 53 06.1**	**+0.4**
	5.0nm,0.2s						
MDOK	**Medeo**	**1.46**	**93**	*e*P	**Pb**	**18 52 48.6**	**+0.6**
	0.4nm,0.1s						
MDOK				*e*S	**Sg**	**18 53 08.2**	**+0.1**
	3.3nm,0.2s						
MDOK	**Medeo**	**1.46**	**93**	Pg	**Pb**	**18 52 48.6**	**+0.6**
	0.4nm,0.1s						
ARLS	**Aral**	**1.50**	**201**	⇓*i*P	**Pn**	**18 52 47.8**	**+0.2**
	baz=1.0						
ARLS				⇓*i*S	**Sb**	**18 53 07.8**	**+0.2**
	baz=1.0						
KOTS	**Kotyrbulak**	**1.51**	**90**	*e*P	**Pb**	**18 52 49.1**	**+0.4**
	baz=90						
KOTS				*e*S	**Sg**	**18 53 08.9**	**-0.5**
	baz=90						
KOTS	**Kotyrbulak**	**1.51**	**90**	*e*P	**Pb**	**18 52 49.1**	**+0.4**
	1.2nm,0.2s						
KOTS				*e*S	**Sg**	**18 53 08.9**	**-0.5**
	7.3nm,0.4s						
KOTS	**Kotyrbulak**	**1.51**	**90**	P	**Pb**	**18 52 49.1**	**+0.4**
	1.2nm,0.2s						
KOTS				S	**Sg**	**18 53 09.0**	**-0.5**
	7.3nm,0.4s						
CHKK	**Chushkaly**	**1.53**	**67**	*e*P	**Pb**	**18 52 48.6**	**-0.5**
	1.7nm,0.2s						
CHKK				*e*S	**Sb**	**18 53 07.9**	**-0.4**
	8.0nm,0.2s						
CHKK	**Chushkaly**	**1.53**	**67**	P	**Pb**	**18 52 48.6**	**-0.5**
	1.7nm,0.2s						
CHKK				S	**Sb**	**18 53 07.9**	**-0.4**
	8.0nm,0.2s						
BTLS	**Baital**	**1.92**	**338**	*e*P	**Pb**	**18 52 55.8**	**+0.1**
	0.8nm,0.2s						
BTLS				*e*S	**Sb**	**18 53 20.3**	**+0.7**
	3.6nm,0.3s						
BTLS	**Baital**	**1.92**	**338**	P	**Pb**	**18 52 55.8**	**+0.1**
	0.8nm,0.2s						
BTLS				S	**Sb**	**18 53 20.3**	**+0.7**
	3.6nm,0.3s						
KDJ	**Kajisay**	**1.94**	**125**	⇑*i*P	**Pb**	**18 52 55.2**	**-0.9**
	baz=25						
KDJ				⇑*i*S	**Sb**	**18 53 20.3**	**+0.1**
	baz=25						
ANVS	**Anan'yevo**	**1.98**	**103**	⇑*i*P	**Pb**	**18 52 56.1**	**-0.7**
	baz=3.0						
ANVS				⇑*i*S	**Sb**	**18 53 21.2**	**-0.2**
	baz=3.0						
SATY	**Saty**	**2.46**	**94**	*e*P	**Pb**	**18 53 06.3**	**+1.3**
	0.5nm,0.2s						
SATY				*e*S	**Sg**	**18 53 38.3**	**-1.8**
	3.3nm,0.1s						
SATY	**Saty**	**2.46**	**94**	Pg	**Pb**	**18 53 06.3**	**+1.3**
	0.5nm,0.2s						
SATY				Lg	Lg	18 53 38.3	
	3.3nm,0.1s						
MNBS	**Baschi**	**2.56**	**70**	*e*P	**Pb**	**18 53 07.6**	**+0.8**
	0.4nm,0.2s						

MNBS				*e*S		**Sb**	18 53 40.5 **+2.3**
	2.2nm,0.4s						
MNBS	**Baschi**	**2.56**	**70**	Pg		**Pb**	18 53 07.6 **+0.8**
	0.4nm,0.2s						
MNBS				Lg		Lg	18 53 40.5
	2.2nm,0.4s						

IDC ***28*** *19:04:13.9±1.2,60.27S×47.51W,h0km,mb4.2/4, mb1 4.2/4,mb1mx3.9/23,mbtmp4.1/4,MS3.1/1,Ms1 3.1/1, ms1mx2.9/21,Error ellipse: s-maj=52.4km s-min=27.6km az=74.0*

NEIC ***28*** *19:04:15.7±1.0,60.2S±0.1×47.5W±0.2,h10km±2km, mb4.4/6,Error ellipse: s-maj=27.9km s-min=6.1km az=323.0*

ISC 28 19:04:15.4±0.7,60.2S±0.1×47.6W±0.1,h10km,n17, σ1§09/16,mb4.0/5,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**8.46**	**50**	Pn	**Pn**	**19 06 17.8**	**0.0**
PMSA	**Palmer Station**	**8.86**	**232**	Pn	**Pn**	**19 06 23.4**	**+0.2**
VNA3	**Neumayer Olymp**	**18.68**	**142**	P	**Pn**	**19 08 34.7**	**+1.1**
SNAA	**Sanae**	**20.90**	**141**	P	Pn	19 09 01.3	+1.3
SNAA	**Sanae**	**20.90**	**141**	P	**P**	**19 08 57.3**	**-0.2**
PLCA	**Paso Flores**	**24.15**	**314**	P	**P**	**19 09 32.5**	**+1.0**
	2.7nm,0.7s,baz=164,slow=9.9,SNR=11						
PLCA				LR	LR	19 17 32.3	
	comp=Z,45nm,19.5s,baz=190,slow=33						
PLCA	**Paso Flores**	**24.15**	**314**	P	**P**	**19 09 32.0**	**+0.5**
PLCA				IAmb	IAmb	19 09 44.4	
	comp=Z,4.5nm,0.8s						
QSPA	**South Pole Qui**	**30.01**	**180**	P	**P**	**19 10 24.9**	**+0.9**
	comp=Z,6.9nm,0.8s,baz=142,slow=9.3,SNR=31						
QSPA	**South Pole Qui**	**30.01**	**180**	P	**P**	**19 10 25.1**	**+1.1**
QSPA				IAmb	IAmb	19 10 25.9	
	comp=Z,7.1nm,0.8s						
LBTB	**Lobatse**	**60.30**	**89**	P	**P**	**19 14 23.8**	**-0.3**
TSUM	**Tsumeb**	**61.23**	**78**	P	**P**	**19 14 30.7**	**+0.2**
TSUM				IAmb	IAmb	19 14 44.4	
	comp=Z,4.1nm,1.2s						
TORD	**Torodi Ar. Bea**	**83.03**	**48**	P	**P**	**19 16 41.5**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=208,slow=5.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**83.03**	**48**	P	**P**	**19 16 40.9**	**+0.1**
ASAR	**Alice Springs**	**96.40**	**181**	P	**P**	**19 17 42.6**	**-1.9**
	comp=Z,0.3nm,0.8s,baz=183,slow=3.2,SNR=2.1						
ASAR	**Alice Springs**	**96.40**	**181**	P	**Pdif**	**19 17 42.4**	**-2.1**
WRA	**Warramunga Arr**	**100.10**	**182**	P	**Pdif**	**19 17 59.7**	**-1.4**
	comp=Z,0.4nm,0.9s,baz=167,slow=3.9,SNR=1.6						
ILAR	**Eielson Array**	**144.84**	**313**	PKP	**PKPab**	**19 23 49.5**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=150,slow=1.5,SNR=8.5						

ISN ***28*** *19:06:53.7±1.1,32.63N×47.72E,h14km±7km,ML2.9*
TEH ***28*** *19:06:55.6,32.66N×47.62E,h16km,ML3.1*
THR ***28*** *19:06:55.5±0.3,32.72N×47.53E,h14km±5km,ML3.2*

ISC 28 19:06:55.0±1.4,32.64N±0.04×47.53E±0.03,h2km±13km, n28,σ0§98/33,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.30**	**279**	*e*Pg	**Pg**	**19 07 01.7**	**+1.1**
SHGR	**Shooshtar-Gavs**	**1.12**	**118**	*e*Pg	**Pn**	**19 07 18.3**	**+0.6**
SHGR				*e*Sg	**Sn**	**19 07 35.1**	**+1.4**
SHGR				IAML		19 07 58.2	
	comp=E,427nm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.12**	**118**	*e*Pg	**Pn**	**19 07 18.3**	**+0.6**
BMDN	**Meydan**	**1.44**	**44**	*e*Pg	**Pn**	**19 07 22.1**	**-0.2**
BMDN				*e*		19 07 49.1	
IBDR	**Badra**	**1.50**	**289**	*e*Pg	**Pn**	**19 07 22.0**	**-1.0**
IBDR				*e*Sg	**Sg**	**19 07 44.0**	**+0.7**
IBDR				AML	AML	19 07 49.6	
	comp=E,264nm,0.6s						
IBDR				AML	AML	19 07 49.6	
	comp=N,111nm,0.5s						
IKOM	**Komasi**	**1.54**	**356**	*e*Pg	**Pg**	**19 07 24.5**	**0.0**
IKOM				*e*		19 07 53.4	
AHWZ	**Ahwaz**	**1.56**	**146**	*e*Pg	**Pb**	**19 07 24.8**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.71**	**343**	*e*Pg	**Pb**	**19 07 26.8**	**-0.4**
KCHF				*e*		19 07 54.4	
HSAM	**Samen**	**1.77**	**27**	*e*Pg	**Pb**	**19 07 27.9**	**-0.4**
HSAM				*e*		19 07 56.3	
KER	**Kermanshah**	**1.79**	**347**	*e*Pn	**Pb**	**19 07 28.1**	**-0.5**
IBZA	**Bozab**	**1.84**	**6**	*e*Pg	**Pb**	**19 07 29.1**	**-0.4**
IBZA				*e*		19 07 33.5	
IVIS	**Veis**	**2.00**	**341**	*e*Pn	**Pb**	**19 07 30.5**	**-1.6**
IVIS				*e*		19 08 06.8	
NSR	**Nassriya**	**2.06**	**218**	*e*Pn	**Pn**	**19 07 30.0**	**-0.5**
NSR				*e*Sn	**Sn**	**19 07 55.0**	**-1.7**
KHMZ	**Khomeyn**	**2.24**	**60**	*e*Pn	**Pb**	**19 07 34.9**	**-1.5**
KHMZ	**Khomeyn**	**2.24**	**60**	*e*Pn	**Pb**	**19 07 34.9**	**-1.5**
IALM	**Almaboliaq**	**2.26**	**11**	*e*Pn	**Pn**	**19 07 34.6**	**+0.9**
IDHR	**Dehrash**	**2.30**	**334**	*e*Pn	**Pn**	**19 07 34.9**	**+0.7**
IDHR				*e*		19 07 42.5	
ILIN	**Lien**	**2.34**	**347**	*e*Pn	**Pn**	**19 07 35.8**	**+1.1**
ILIN				*e*		19 08 14.4	
HAGD	**Aghdareh**	**2.52**	**30**	*e*Pn	**Pn**	**19 07 37.8**	**+0.7**
HAGD				*e*		19 08 19.4	
JHBN	**Jahan bin**	**2.60**	**98**	*e*Pn	**Pn**	**19 07 38.6**	**+0.3**
JHBN				*e*		19 08 31.6	
HSRG	**Sareghieh**	**2.66**	**12**	*e*Pn	**Pn**	**19 07 40.5**	**+1.4**
HSRG				*e*		19 08 32.3	
IPIR	**Pirpir**	**2.75**	**88**	*e*Pn	**Pn**	**19 07 40.6**	**+0.2**
IPIR				*e*		19 08 33.3	
ASAO	**Ashtian**	**2.77**	**46**	*e*Pn	**Pn**	**19 07 41.6**	**+1.1**
ASAO				*e*Sg	**Sg**	**19 08 22.1**	**-1.7**
ASAO	**Ashtian**	**2.77**	**46**	*e*Pn	**Pn**	**19 07 41.6**	**+1.1**
BHD	**Baghdad**	**2.80**	**284**	*e*Pn	**Pn**	**19 07 41.0**	**+0.2**
BHD				*e*Sn	**Sn**	**19 08 16.0**	**+0.8**
ROKH	**ROKH**	**2.89**	**95**	*e*Pn	**Pn**	**19 07 42.7**	**+0.4**
ROKH				*e*		19 08 41.2	
IRAZ	**Razeghan**	**3.36**	**34**	*e*Pn	**Pn**	**19 07 49.3**	**+0.6**
QABG	**Abgarm-Qazvin**	**3.47**	**27**	*e*Pn	**Pn**	**19 07 50.6**	**+0.4**

IDC ***28*** *19:14:32.2±0.3,32.12N×131.75E,h0km,mb5.0/58, mb1 5.0/60,mb1mx5.0/66,mbtmp5.0/60,ML3.8/2,MS5.6/54, Ms1 5.6/54,ms1mx5.5/63,Error ellipse: s-maj=10.0km s-min=7.3km az=81.0*

BJI ***28*** *19:14:33.3±0.0,32.09N×132.11E,h20km,mB6.0/77, mb5.4/86,Ms6.2/97,Ms7 6.3/85*

MOS ***28*** *19:14:33.8±1.1,32.13N×131.79E,h22km,mb5.8/57, MS5.8/96,Error ellipse: s-maj=5.1km s-min=3.3km az=109.5*

NIED ***28*** *19:14:35.5,32.14N×132.15E,h18km,MW5.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁷Nm; Mrr1.76; Mθθ-0.97; Mφφ-0.80; Mrθ1.88; Mθφ-1.88; Mφr4.38; Fault plane solution: M₀5.33000×10¹⁷ NP1:φs24.00000°, δ79.00000°,λ76.00000°. NP2:φs257.00000°,δ18.00000°, λ141.00000°.*

NEIC ***28*** *19:14:35.5±2.6,32.09N±0.07×132.07E±0.05,h20km±1km, mb5.6/422,Ms_20 5.6/743,Mwb5.8/118,Mww5.8, Mwc5.9(GCMT) Error ellipse: s-maj=11.1km s-min=7.2km az=182.0*

BGR ***28*** *19:14:35.9±0.0,32.13N×132.80E,h33km,mb6.1, mB_BB6.5,Ms6.4*

NEIC ***28*** *19:14:35.6,32.09N×132.09E,h17km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.47; Mθθ0.14; Mφφ-2.60; Mrθ2.69; Mθφ-1.67; Mφr5.29; Fault plane solution: M₀6.67000×10¹⁷ NP1:φs202.30000°, δ13.17000°,λ85.50000°. NP2:φs26.92000°,δ76.87000°, λ91.05000°. Principal axes: T 6.1554, Plg58.0000°, Azm298.0000°; N 0.9241, Plg1.0000°, Azm207.0000°; P -7.0794, Plg32.0000°, Azm116.0000°;*

JMA ***28*** *19:14:35.5±0.1,32.14N×132.15E,h18km±2km,M6.0 Broadband fault plane solution: P waves. NP1: φs221.00000°,δ30.00000°,λ77.00000°. NP2:φs57.00000°, δ61.00000°,λ98.00000°. Principal axes: T Plg73.0000°, Azm345.0000°; N Plg7.0000°, Azm233.0000°; P Plg16.0000°, Azm141.0000°;*

JMA Felt IV J1.

GCMT ***28*** *19:14:37.6±0.1,32.07N±0.01×132.11E±0.01,h28km, MW5.9/155,Moment Tensor Solution. s145,c314; s155,c463; Duration: 2§1 Moment tensor: Scale 10¹⁷ Nm; Mrr5.19±.06; Mθθ-2.02±.04; Mφφ-3.17±.04; Mrθ2.94±.09; Mθφ-3.19±.03; Mφr5.41±.10; Best double couple: M₀8.27200×10¹⁷ NP1:φs230.00000°,δ22.00000°, λ108.00000°. NP2:φs31.00000°,δ69.00000°,λ83.00000°. Principal axes: T 8.0200, Plg65.0000°, Azm289.0000°; N 0.5050, Plg7.0000°, Azm34.0000°; P -8.5250, Plg24.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***28*** *19:14:39,32.19N×132.69E,h24km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr4.49; Mθθ-1.05; Mφφ-3.44; Mrθ3.23; Mθφ-2.42; Mφr4.07; Fault plane solution: M₀7.03000×10¹⁷ NP1:φs206.00000°, δ21.00000°,λ80.00000°. NP2:φs37.00000°,δ69.00000°, λ94.00000°. Principal axes: T 6.8144, Plg66.0000°, Azm314.0000°; N 0.4153, Plg4.0000°, Azm215.0000°; P -7.2297, Plg24.0000°, Azm124.0000°;*

NEIC ***28*** *19:14:39,32.06N×132.10E,h25km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.44; Mθθ-0.16; Mφφ-0.28; Mrθ0.42; Mθφ-0.32; Mφr0.77; Fault plane solution: M₀1.01000×10¹⁸ NP1:φs234.00000°, δ16.00000°,λ113.00000°. NP2:φs30.00000°,δ76.00000°, λ84.00000°. Principal axes: T 0.9681, Plg59.0000°, Azm291.0000°; N 0.0832, Plg6.0000°, Azm31.0000°; P -1.0512, Plg30.0000°, Azm125.0000°;*

KEA ***28*** *19:14:44.4±0.0,32.40N×131.80E,h33km,mB5.7/1, MS5.4/1*

ISC 28 19:14:36.0±0.3,32.11N±0.02×132.06E±0.02,h27km±1km, h27km:pP-P,n1942,σ1§95/1872,mb5.6/431,MS5.6/534, 154C-24D,Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHC	**Hyugahichiya**	**0.49**	**312**	⇓P	**Pb**	**19 14 45.8**	**-0.3**
JHHC				*e*S	**Sb**	**19 14 53.2**	**+0.3**
JTSN	**Tsuno**	**0.49**	**286**	⇓P	**Pb**	**19 14 45.9**	**-0.2**
JTSN				*e*S	**Sb**	**19 14 53.4**	**+0.4**
JSKE	**Saikikamae**	**0.69**	**349**	⇓P	**Pb**	**19 14 48.9**	**-0.6**
JSKE				S	**Sb**	**19 14 57.9**	**-0.9**
JKIT	**Kitakata**	**0.72**	**315**	⇓P	**Pb**	**19 14 50.0**	**0.0**
JKIT				S	**Sb**	**19 14 59.4**	**-0.2**
JNKG	**Nichinankitago**	**0.74**	**232**	⇑P	**Pn**	**19 14 50.9**	**+0.3**
JNKG				S	**Sn**	**19 15 02.4**	**+1.5**
JTZ	**Takazaki**	**0.85**	**256**	⇑P	**Pb**	**19 14 52.7**	**+0.5**
JTZ				*e*S	**Sn**	**19 15 06.2**	**+2.4**
JNAR	**Kushima--Naru**	**0.89**	**229**	⇑P	**Pb**	**19 14 53.3**	**+0.5**
JNAR				S	**Sn**	**19 15 07.8**	**+3.1**
JTO	**Tosashimizu**	**0.97**	**40**	⇓P	**Pn**	**19 14 51.9**	**-1.9**
JTO				*e*S	**Sb**	**19 15 04.6**	**-2.0**
JUS	**Usuki**	**0.98**	**345**	⇓P	**Pn**	**19 14 53.9**	**-0.1**
JUS				S	**Sn**	**19 15 08.1**	**+1.1**
JIU3	**Izumi3**	**1.14**	**293**	⇓P	**Pb**	**19 14 57.0**	**-0.1**
JIU3				S	**Sb**	**19 15 13.2**	**+1.7**
UWA2	**Uwa jima 2**	**1.20**	**23**	⇑P	**Pn**	**19 14 55.8**	**-1.1**
UWA2				*e*S	**Sn**	**19 15 10.5**	**-1.8**
JZO	**Okuchi**	**1.24**	**272**	⇑P	**Pb**	**19 14 58.9**	**+0.1**
JBEP	**Beppuamama**	**1.34**	**336**	⇓P	**Pb**	**19 15 00.1**	**-0.3**
JTSR	**Tashiro 2**	**1.36**	**226**	P	**Pn**	**19 14 59.1**	**0.0**
JNU	**Nakatsue**	**1.42**	**315**	Pn	**Pb**	**19 15 01.6**	**-0.1**
	4μm,0.3s,baz=68,slow=3.1,SNR=5767						
JNU				Sn	**Sb**	**19 15 22.5**	**+3.1**
	4μm,0.3s,baz=272,slow=23,SNR=26						
JNU	**Nakatsue**	**1.42**	**315**	⇓P	**Pb**	**19 15 01.6**	**-0.1**
JNU	**Nakatsue**	**1.42**	**315**	Pn	**Pb**	**19 15 02.0**	**+0.2**
JKU	**Kubokawa**	**1.46**	**35**	P	**Pn**	**19 14 59.7**	**-0.9**
JNA	**Nagahama**	**1.48**	**14**	⇑P	**Pn**	**19 15 00.3**	**-0.5**
JSU	**Suzuyama**	**1.50**	**247**	⇑P	**Pn**	**19 15 01.6**	**+0.6**
JTA	**Tamana**	**1.54**	**304**	⇑P	**Pb**	**19 15 03.4**	**-0.5**
JKI	**Kunimi**	**1.57**	**345**	⇑P	**Pb**	**19 15 03.3**	**-1.0**
JHD	**Hondo**	**1.67**	**283**	⇑P	**Pb**	**19 15 05.0**	**-1.0**
JTN	**Tanegashima 3**	**1.73**	**213**	⇓P	**Pn**	**19 15 03.9**	**-0.3**
JFA	**Akaike**	**1.92**	**327**	⇑P	**Pn**	**19 15 08.1**	**+1.3**
JFI	**Itaya**	**1.92**	**313**	⇑P	**Pn**	**19 15 08.5**	**+1.5**
JKD	**Kudamatsu**	**1.94**	**355**	⇑P	**Pn**	**19 15 07.8**	**+0.7**
NGSJ	**Nagasakinomoza**	**1.98**	**286**	⇑P	**Pn**	**19 15 09.0**	**+1.3**
JUR	**Ureshino**	**2.03**	**299**	⇑P	**Pn**	**19 15 09.9**	**+1.5**
JSJ	**Shimokoshiki**	**2.04**	**258**	⇑P	**Pn**	**19 15 08.5**	**0.0**
JTY	**Toyota**	**2.30**	**339**	⇑P	**Pn**	**19 15 13.4**	**+1.3**
JHIK	**Hikimi**	**2.41**	**357**	⇑P	**Pn**	**19 15 14.4**	**+0.7**
JHT	**Toyohira**	**2.56**	**7**	⇑P	**Pn**	**19 15 16.2**	**+0.5**
JFU	**Fukue jima 2**	**2.85**	**282**	⇑P	**Pn**	**19 15 20.6**	**+0.9**
JHS	**Saijyo**	**3.01**	**17**	P	**Pn**	**19 15 22.9**	**+1.0**
JSSY	**Shinshiroyabe**	**5.34**	**57**	P	**Pn**	**19 15 55.4**	**+1.6**
JGF	**Kuroka**	**5.61**	**50**	P	**Pn**	**19 15 58.0**	**+0.4**
TJN	**Taejon**	**5.76**	**319**	*c i*P	**Pn**	**19 16 00.8**	**+1.2**
JGN	**Niukaw**	**5.98**	**45**	P	**Pn**	**19 16 03.5**	**+0.8**
JKDJ	**Kitadaitoujima**	**6.18**	**186**	⇓P	**Pn**	**19 16 03.1**	**-2.3**
JMZ	**Minamidaito 2**	**6.32**	**187**	P	**Pn**	**19 16 05.2**	**-2.1**
KSRS	**Korea Array**	**6.32**	**329**	Pn	**Pn**	**19 16 08.9**	**+1.6**
	12nm,0.3s,baz=146,slow=15,SNR=134						
KSRS				Sn	**Sn**	**19 17 25.6**	**+7.1**
	11nm,0.3s,baz=147,slow=24,SNR=4.7						
KSRS				Lg	Lg	19 17 56.2	
	12nm,0.3s,baz=152,slow=32,SNR=5.1						
KSAR	**Wonju Array Be**	**6.33**	**328**	P	**Pn**	**19 16 08.7**	**+1.3**
KSAR	**Wonju Array Be**	**6.33**	**328**		**Pn**	**19 16 08.7**	**+1.3**
KS19	**Wonju Array Si**	**6.39**	**328**		**Pn**	**19 16 08.8**	**+0.6**
JHJ	**Hachijo jima 2**	**6.59**	**79**	Pn	**Pn**	**19 16 10.1**	**-1.0**
	224nm,0.3s,baz=246,slow=16,SNR=28						
JHJ				LR	LR	19 18 51.8	
	comp=Z,45μm,18.5s,baz=308,slow=38						
JHJ2	**Mitsune**	**6.62**	**79**	Pn	**Pn**	**19 16 10.1**	**-1.4**
MAJO	**Matsushiro**	**6.73**	**47**	P	**Pn**	**19 16 13.6**	**+0.6**
MAJO	**Matsushiro**	**6.73**	**47**	Pn	**Pn**	**19 16 13.6**	**+0.6**
MAT	**Matsushiro**	**6.73**	**47**	P	**Pn**	**19 16 13.2**	**+0.2**
MAT				*e*S	**Sn**	**19 17 28.6**	**-0.2**
MJAR	**Matsushiro Arr**	**6.73**	**47**	Pn	**Pn**	**19 16 13.9**	**+0.9**
	1.9nm,0.3s,baz=249,slow=14,SNR=82						
MJAR				Lg	Lg	19 18 15.5	
	0.1nm,0.3s,baz=154,slow=31,SNR=4.4						
MJAR				LR	LR	19 18 59.8	
	comp=Z,14μm,20.2s,baz=210,slow=38						
MJAR	**Matsushiro Arr**	**6.73**	**47**		**Pn**	**19 16 13.5**	**+0.4**
JAGN	**Aguni-jima**	**6.93**	**219**	P	**Pn**	**19 16 15.3**	**-0.4**
INCN	**Inchon**	**6.97**	**322**	P	**Pn**	**19 16 16.9**	**+0.6**
INCN	**Inchon**	**6.97**	**322**	Pn	**Pn**	**19 16 16.9**	**+0.6**
JKE	**Kume jima 2**	**7.38**	**220**	P	**Pn**	**19 16 21.2**	**-0.7**
HJU	**Haeju**	**7.87**	**320**	P	**Pn**	**19 16 31.5**	**+2.9**
WOSN	**Wonsan**	**7.98**	**333**	P	Pn	19 16 35.6	+5.5
PYAG	**Pyongyang**	**8.62**	**325**	P	**Pn**	**19 16 41.6**	**+2.8**
PYAG				S	**Sn**	**19 18 21.5**	**+6.5**
HHU	**Hamhung**	**8.62**	**336**	P	Pn	19 16 10.9	-28
HHU				S	**Sn**	**19 18 16.4**	**+1.4**
PYS	**Pyongsong**	**8.73**	**326**	P	**Pn**	**19 16 43.1**	**+2.8**
PYS				S	**Sn**	**19 18 22.8**	**+5.0**
SSE	**Sheshan**	**9.33**	**267**	P	**Pn**	**19 16 51.0**	**+2.4**
SSE				S	**Sn**	**19 18 35.0**	**+2.3**
SSE				pmax	pmax		
	comp=Z,220nm,1.6s						
SSE				pmax	pmax		
	comp=Z,2μm,3.6s						
SSE	**Sheshan**	**9.33**	**267**		**Pn**	**19 16 50.8**	**+2.2**
CHJN	**Chongjin**	**9.84**	**350**	P	**Pn**	**19 17 00.0**	**+4.5**
KGE	**Kanggye**	**9.84**	**335**	P	Pn	19 17 02.1	+6.5
SUJ	**Sinuiju**	**10.05**	**325**	P	**Pn**	**19 17 01.4**	**+3.0**
SUJ				S	Sn	19 18 36.3	-14
JCJ	**Chichijima**	**10.13**	**117**	Pn	**Pn**	**19 16 55.2**	**-4.4**
	14nm,0.3s,baz=291,slow=22,SNR=13						
JCJ				Sn	**Sn**	**19 18 47.2**	**-5.1**
	3.5nm,0.3s,baz=340,slow=22,SNR=1.4						
JCJ				LR	LR	19 20 24.1	
	comp=Z,33μm,20.6s,baz=298,slow=34						
JCJ	**Chichijima**	**10.13**	**117**	Pn	**Pn**	**19 16 57.1**	**-2.5**
DL2	**Dalian**	**10.87**	**311**	P	**Pn**	**19 17 11.3**	**+1.6**
DL2				S	**Sn**	**19 19 11.0**	**+0.7**
DL2				pmax	pmax		
	comp=Z,170nm,1.4s						
DL2				pmax	pmax		
	comp=Z,5μm,7.4s						
DL2				LR	LR		
	comp=N,69μm,15.5s						
DL2				LR	LR		
	comp=E,68μm,15.3s						
DL2				LR	LR		
	comp=Z,115μm,14.9s						
VLA	**Vladivostok**	**10.99**	**359**	*c i*P	**Pn**	**19 17 14.0**	**+2.7**
VLA				pmax	pmax		
	comp=Z,87nm,1.4s						
YOJ	**Yonaguni jima**	**11.03**	**229**	P	**Pn**	**19 17 12.7**	**+0.8**
YOJ	**Yonaguni jima**	**11.03**	**229**		**Pn**	**19 17 12.7**	**+0.8**
NJ2	**Nanjing**	**11.21**	**273**	⇑*i*P	**Pn**	**19 17 16.8**	**+2.5**
NJ2				pP		19 17 23.5	
NJ2				sP		19 17 27.5	
NJ2				S	**Sn**	**19 19 22.0**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,820nm,1.7s						
NJ2				LR	LR		
	comp=Z,40μm,11.4s						
NJ2				LR	LR		
	comp=Z,113μm,12.8s						
NJ2				LR	LR		
	comp=Z,125μm,13.7s						
TATO	**Taipei**	**11.70**	**235**	Pn	**Pn**	**19 17 20.7**	**-0.4**
SNY	**Shenyang**	**11.82**	**327**	⇑P	**Pn**	**19 17 27.3**	**+4.6**
SNY				S	Sn	19 19 43.5	+10
SNY				pmax	pmax		
	comp=Z,480nm,1.8s						
SNY				pmax	pmax		
	comp=Z,7μm,3.9s						
SNY				LR	LR		
	comp=Z,102μm,12.7s						
SNY				LR	LR		
	comp=Z,103μm,13.1s						
SNY				LR	LR		
	comp=Z,193μm,13.2s						
YHNB	**Yeheng**	**11.97**	**234**		**Pn**	**19 17 25.1**	**+0.2**
USRK	**Ussuriysk Ar.**	**12.07**	**360**	Pn	**Pn**	**19 17 29.7**	**+3.7**
	baz=176,slow=12,SNR=18						
USRK				LR	LR	19 21 50.3	
	comp=Z,33μm,18.4s,baz=169,slow=36						
USRK	**Ussuriysk Ar.**	**12.07**	**360**	P	**Pn**	**19 17 29.0**	**+2.9**
USRK	**Ussuriysk Ar.**	**12.07**	**360**	Pn	**Pn**	**19 17 28.9**	**+2.9**
USA0B	**Ussuriysk Arra**	**12.07**	**360**	P	**Pn**	**19 17 29.1**	**+3.1**
USA0B	**Ussuriysk Arra**	**12.07**	**360**	Pn	**Pn**	**19 17 29.1**	**+3.1**
NACB	**Ninganchiao**	**12.15**	**232**		**Pn**	**19 17 27.6**	**+0.3**
MDJ	**Mudanjiang**	**12.63**	**352**	P	**Pn**	**19 17 37.8**	**+4.0**
MDJ				S	Sn	19 20 04.8	+11
MDJ				pmax	pmax		
	comp=Z,71nm,2.3s						
MDJ				pmax	pmax		
	comp=Z,5μm,4.3s						
MDJ				LR	LR		
	comp=Z,33μm,19.0s						
MDJ				LR	LR		
	comp=Z,47μm,15.6s						
MDJ				LR	LR		
	comp=Z,47μm,14.6s						
MDJ	**Mudanjiang**	**12.63**	**352**	Pn	**Pn**	**19 17 37.7**	**+3.9**
CN2	**Changchun**	**12.78**	**338**	*e*P	**Pn**	**19 17 39.0**	**+3.3**
CN2				*e*PP	**P**	**19 17 50.5**	**+4.0**
CN2				*e*S	**Sn**	**19 19 58.3**	**+1.3**
CN2				pmax	pmax		
	comp=Z,70nm,1.7s						
CN2				pmax	pmax		
	comp=Z,4μm,4.5s						
CN2				LR	LR		
	comp=Z,59μm,12.0s						
CN2				LR	LR		
	comp=Z,49μm,12.0s						
CN2				LR	LR		
	comp=Z,66μm,13.0s						
SSLB	**Suanglung**	**12.85**	**233**	Pn	**Pn**	**19 17 36.0**	**-0.8**
YULB	**Yu-li**	**12.89**	**230**		**Pn**	**19 17 38.7**	**+1.3**
TIA	**Tai'an**	**13.03**	**292**	P	**Pn**	**19 17 42.3**	**+3.1**
TIA				pmax	pmax		
	comp=Z,240nm,1.8s						
TIA				pmax	pmax		
	comp=Z,8μm,6.7s						
TIA				LR	LR		
	comp=Z,77μm,14.1s						
TIA				LR	LR		
	comp=Z,84μm,15.1s						
TIA				LR	LR		
	comp=Z,132μm,15.5s						
ERM	**Erimo**	**13.26**	**39**	P	**Pn**	**19 17 43.1**	**+0.8**
ERM	**Erimo**	**13.26**	**39**	Pn	**Pn**	**19 17 43.1**	**+0.8**
TEY	**Ternei**	**13.38**	**14**	⇓*e*P	**Pn**	**19 17 47.7**	**+3.8**
TEY				pmax	pmax		
	comp=N,100nm,1.3s						
TEY				pmax	pmax		
	comp=E,30nm,1.3s						
TEY				pmax	pmax		
	comp=Z,90nm,1.3s						
TEY				MLR	MLR		
	comp=E,16μm,19.0s						
TEY				MLR	MLR		
	comp=N,18μm,13.0s						
TEY				MLR	MLR		
	comp=Z,22μm,13.0s						
TPUB	**Ta-pu**	**13.39**	**232**	Pn	**Pn**	**19 17 47.4**	**+3.1**
TWG	**Pinlang**	**13.44**	**229**		**Pn**	**19 17 43.8**	**-1.1**
QZH	**Quanzhou**	**13.82**	**242**	⇑*i*P	**Pn**	**19 17 51.0**	**+0.9**
QZH				S	**Sn**	**19 20 29.8**	**+7.1**
QZH				LR	LR		
	comp=Z,62μm,14.6s						
QZH				LR	LR		
	comp=Z,59μm,15.1s						
QZH				LR	LR		
	comp=Z,102μm,14.1s						
KNMB	**Chin-men Tao**	**14.25**	**241**		**Pn**	**19 17 56.3**	**+0.4**
ASAJ	**Asahikawa**	**14.55**	**32**	Pn	**Pn**	**19 18 01.4**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=215,slow=12,SNR=16						
JKA	**Kamikawa-asahi**	**14.56**	**32**		**Pn**	**19 18 00.0**	**0.0**
BJT	**Baijiatuao**	**15.07**	**306**	P	**Pn**	**19 18 08.4**	**+1.5**
BJT				pmax	pmax		
	comp=Z,331nm,1.1s						
BJT	**Baijiatuao**	**15.07**	**306**		**Pn**	**19 18 08.4**	**+1.5**
BJT				IAmb	IAmb	19 18 20.5	
	comp=Z,331nm,1.1s						
BJI	**Beijing**	**15.07**	**306**	P	**Pn**	**19 18 08.0**	**+1.0**
BJI				S	**

comp=N,7.4nm,0.3s,baz=178,slow=8.1,SNR=218
KLR S **S** **19 21 52.6 +1.5**
baz=352,slow=23,SNR=8.4
KLR LR LR 19 24 58.4
comp=N,14µm,18.6s,baz=174,slow=37
KLR Kul'dur 17.10 359*c i*P **P** **19 18 34.2 -0.2**
KLR pmax pmax
comp=Z,939nm,1.9s
KUR Kuril'sk 17.95 39*c i*P **P** **19 18 47.4 +3.5**
KUR *e*S **S** **19 22 09.9 +1.4**
KUR pmax pmax
comp=Z,122nm,1.2s
KUR pmax pmax
comp=E,17nm,0.6s
KUR pmax pmax
comp=N,42nm,0.9s
KUR pmax pmax
comp=Z,3µm,2.6s
KUR pmax pmax
comp=N,2µm,2.9s
KUR pmax pmax
comp=E,2µm,2.7s
KUR smax smax
comp=N,10µm,8.5s
KUR smax smax
comp=E,6µm,5.6s
KUR MLR MLR
comp=N,18µm,14.0s
KUR MLR MLR
comp=E,10µm,14.0s
KUR MLR MLR
comp=Z,6µm,14.0s
UGL Uglegorsk 18.54 21 P **P** **19 18 48.7 -1.6**
UGL pmax pmax
comp=Z,109nm,1.3s
UGL pmax pmax
comp=Z,3µm,11.3s
UGL MLR MLR
comp=Z,15µm,14.0s
UGL MLR MLR
comp=N,10µm,15.0s
UGL MLR MLR
comp=E,16µm,16.0s
HHC Hu-ho-hao-te 18.61 304 *e*P **Pn** **19 18 54.5 +2.8**
HHC PP **PnPn** **19 19 10.5 +6.7**
HHC S **Sn** **19 22 19.0 -0.1**
HHC pmax pmax
comp=E,270nm,1.4s
HHC pmax pmax
comp=E,7µm,6.4s
HHC LR LR
comp=E,32µm,13.4s
HHC LR LR
comp=E,60µm,11.9s
HHC LR LR
comp=E,81µm,16.4s
HKPS Hong Kong Po S 18.69 243 P **P** **19 18 52.3 +0.2**
GZH Guangzhou 18.85 246⇑*i*P **P** **19 18 48.0 -5.9**
GZH S **Sn** **19 22 14.3 -10**
GZH pmax pmax
comp=E,7µm,5.5s
GZH LR LR
comp=E,63µm,14.1s
GZH LR LR
comp=E,77µm,13.1s
GRNR Gornyy 18.92 9⇑*i*P **P** **19 18 53.9 -0.6**
GRNR *e*S **S** **19 22 29.0 +1.3**
GRNR pmax pmax
comp=N,50nm,1.1s
GRNR pmax pmax
comp=Z,70nm,1.2s
GRNR smax smax
comp=N,6.0nm,1.0s
GRNR MLR MLR
comp=N,11µm,15.0s
GRNR MLR MLR
comp=E,19µm,15.0s
GRNR MLR MLR
comp=Z,15µm,14.0s
ENH Enshi 19.40 271 P **P** **19 19 00.4 +0.4**
XAN Xi'an 19.48 282 P **P** **19 19 00.5 -0.3**
XAN SS Sn 19 22 57.5 +17
XAN PcP **PcP** **19 23 23.5 +2.4**
XAN pmax pmax
comp=Z,330nm,1.8s
XAN pmax pmax
comp=Z,11µm,8.6s
XAN LR LR
comp=Z,43µm,13.5s
XAN LR LR
comp=Z,75µm,15.7s
XAN LR LR
comp=Z,102µm,14.7s
XAN Xi'an 19.48 282 P **P** **19 19 00.6 -0.3**
XAN pmax pmax
comp=Z,335nm,1.2s
XAN Xi'an 19.48 282 P **P** **19 19 00.6 -0.3**
XAN IAmb IAmb 19 19 26.3
comp=Z,335nm,1.2s
BTO Baotou 19.63 302 *e*P **Pn** **19 19 04.5 +0.5**
BTO S **S** **19 22 35.8 -6.8**
TGY Tagaytay City 20.62 212 P Pn 19 19 14.6 -1.1
comp=Z,95nm,0.4s,baz=16,slow=10,SNR=11
GUMO Guam 21.86 145 P **P** **19 19 27.3 +0.8**
comp=Z,574nm,1.1s,baz=338,slow=2.3,SNR=7.1
GUMO LR LR 19 27 04.1
comp=Z,9µm,19.0s,baz=333,slow=34
GUMO Guam 21.86 145 P **P** **19 19 24.0 -2.5**
ZEA Zeya 21.89 352*ce*P **P** **19 19 25.7 -0.9**
ZEA *i* 19 19 38.0
ZEA *e*S **S** **19 23 24.0 -2.9**
ZEA pmax pmax
comp=N,2µm,4.0s
ZEA pmax pmax
comp=Z,4µm,4.0s
ZEA pmax pmax
comp=E,310nm,2.0s
ZEA pmax pmax
comp=N,670nm,1.8s
ZEA pmax pmax
comp=Z,1µm,1.8s
ZEA smax smax
comp=N,4µm,9.0s
ZEA MLR MLR
comp=Z,29µm,17.0s
ZEA MLR MLR
comp=N,20µm,16.0s
NKL Nikolayevsk 21.93 14 *e*P **P** **19 19 25.9 -1.1**
NKL pmax pmax
comp=N,11nm,0.7s
NKL pmax pmax
comp=Z,206nm,1.5s
NKL MLR MLR
comp=N,356nm,17.0s
NKL MLR MLR
comp=Z,11µm,14.0s
GYA Guiyang 22.83 262 ⇑P **P** **19 19 35.0 -2.1**
GYA S S 19 23 33.3 -12
GYA SS **SnSn** **19 24 28.0 +11**
GYA ScP **ScP** **19 27 03.3 -0.3**
GYA pmax pmax
comp=Z,140nm,1.6s
GYA pmax pmax
comp=Z,3µm,4.5s
GYA LR LR
comp=Z,23µm,14.5s
GYA LR LR
comp=Z,33µm,11.9s
GYA LR LR
comp=Z,34µm,16.6s
LZH Lanzhou 23.66 287 ⇑P **P** **19 19 44.3 -1.1**
LZH sP pP 19 19 53.0 0.0
LZH S **S** **19 23 58.0 -0.6**
LZH sS sS 19 24 11.5 0.0
LZH SS **SnSn** **19 24 45.3 +8.4**
LZH pmax pmax
comp=Z,190nm,1.4s
LZH pmax pmax
comp=Z,3µm,6.0s
LZH LR LR
comp=Z,36µm,14.1s
LZH LR LR
comp=Z,62µm,13.6s
LZH LR LR
comp=Z,71µm,12.5s
QIZ Qiongzhong 23.84 242 P **P** **19 19 45.8 -1.2**
QIZ PP sP 19 20 20.5 +23
QIZ S **S** **19 24 06.5 +5.1**
QIZ pmax pmax
comp=Z,2µm,13.7s
QIZ LR LR
comp=Z,27µm,12.8s
QIZ LR LR
comp=Z,24µm,19.1s
QIZ LR LR
comp=Z,37µm,13.9s
QIZ Qiongzhong 23.84 242 IAMs_20 IAMs_20 19 30 14.9
comp=Z,20µm,20.0s
CIT Chita 24.05 331 *e*P **P** **19 19 47.3 -1.4**
CIT *e* 19 19 56.6
CIT *e* 19 20 24.7
CIT pmax pmax
comp=Z,826nm,2.3s
CD2 Chengdu 24.14 275⇑*i*P **P** **19 19 48.3 -1.4**
CD2 sP pP 19 19 57.5 0.0
CD2 S **S** **19 24 08.8 +2.8**
CD2 sS sS 19 24 19.0 +0.2
CD2 pmax pmax
comp=Z,690nm,1.9s
CD2 pmax pmax
comp=Z,7µm,6.5s
CD2 LR LR
comp=Z,111µm,11.8s
CD2 LR LR
comp=Z,61µm,13.7s
CD2 LR LR
comp=Z,32µm,22.0s
ULN Ulaanbaatar 24.64 317*c i*P **P** **19 19 53.4 -0.9**
ULN pmax pmax
comp=Z,713nm,1.7s
ULN MLR MLR
comp=Z,59µm,15.0s
ULN Ulaanbaatar 24.64 317 P **P** **19 19 53.9 -0.4**
SONM Songino Array 25.00 316 P **P** **19 19 56.7 -0.9**
comp=Z,64nm,0.8s,baz=130,slow=6.3,SNR=203
SONM PcP **PcP** **19 23 33.2 +1.1**
comp=Z,5.0nm,0.7s,baz=125,slow=3.4,SNR=2.8
SONM LR LR 19 30 21.0
comp=Z,25µm,21.7s,baz=122,slow=38
SONM Songino Array 25.00 316 P **P** **19 19 57.1 -0.5**
SONM pmax pmax
comp=Z,413nm,1.2s
SONM Songino Array 25.00 316 P **P** **19 19 57.1 -0.5**
DAV Davao City (W) 25.64 195 LR LR 19 31 14.1
comp=Z,7µm,19.2s,baz=24,slow=39
DAV Davao City (W) 25.64 195 IAMs_20 IAMs_20 19 29 11.5
comp=Z,14µm,19.0s
DAV Davao City (W) 25.64 195⇑*i*P **P** **19 20 03.7 +0.3**
SKR Severo-Kuril's 25.69 37 *e*P **P** **19 20 07.1 +3.6**
SKR *e*PPP PPP 19 20 39.7
SKR *e*S **S** **19 24 21.9 -8.5**
SKR pmax pmax
comp=Z,600nm,11.0s
SKR pmax pmax
comp=Z,109nm,1.3s
SKR MLR MLR
comp=Z,8µm,17.0s
SKR MLR MLR
comp=Z,8µm,17.0s
KMI Kunming 26.61 262⇑*i*P **P** **19 20 10.5 -1.9**
KMI S S 19 24 35.0 -11
KMI sS sS 19 24 58.5 -0.3
KMI pmax pmax
comp=Z,61nm,2.0s
KMI pmax pmax
comp=Z,2µm,4.7s
KMI LR LR
comp=Z,27µm,11.3s
KMI LR LR
comp=Z,49µm,13.7s
KMI LR LR
comp=Z,51µm,12.6s
KMI Kunming 26.61 262 P **P** **19 20 11.2 -1.2**
KMI pmax pmax
comp=Z,80nm,1.2s
KMI MLR MLR
comp=Z,39µm,18.0s
KMI Kunming 26.61 262 P **P** **19 20 11.2 -1.2**
GTA Gaotai 27.06 295⇑P **P** **19 20 14.5 -1.7**
GTA pP pP 19 20 22.0 -2.0
GTA sP sP 19 20 25.5 -1.8
GTA pmax pmax
comp=Z,54nm,1.9s
GTA pmax pmax
comp=Z,2µm,9.3s
GTA LR LR
comp=Z,30µm,16.1s
GTA LR LR
comp=Z,54µm,14.4s
GTA LR LR
comp=Z,67µm,15.5s
SLVN Son La 27.27 254 P **P** **19 20 16.6 -1.6**
PEA0B Petropavlovsk- 27.95 34 P **P** **19 20 22.8 -1.1**
PEA0B pmax pmax
comp=Z,87nm,1.1s
PEA0B Petropavlovsk- 27.95 34 P **P** **19 20 22.8 -1.1**
PETK Petropavlovsk- 27.95 34 P **P** **19 20 25.6 +1.6**
comp=Z,10nm,0.8s,baz=207,slow=6.3,SNR=12
PETK PcP **PcP** **19 23 39.9 +1.3**
comp=Z,4.3nm,0.8s,baz=136,slow=1.9,SNR=6.0
PETK LR LR 19 33 14.2
comp=Z,8µm,18.3s,baz=227,slow=40
PETK Petropavlovsk- 27.95 34 P **P** **19 20 24.5 +0.5**
PETK 19 23 39.9
PETK Petropavlovsk- 27.95 34 P **P** **19 20 24.5 +0.5**
ZAK Zakamensk 28.05 319 *e*P **P** **19 20 23.0 -1.9**
ZAK pmax pmax
comp=Z,62nm,1.3s
PET Petropavlovsk 28.36 35*c i*P **P** **19 20 29.0 +1.5**
PET *e*S **S** **19 25 09.7 -2.7**
PET pmax pmax
comp=Z,600nm,11.8s
PET pmax pmax
comp=Z,312nm,1.4s
PET MLR MLR
comp=Z,11µm,21.0s
PET Petropavlovsk 28.36 35 P **P** **19 20 27.7 +0.2**
PET IAmb IAmb 19 20 50.3
comp=Z,173nm,1.3s
BOD Bodaibo 28.52 340 *e*P **P** **19 20 27.5 -1.4**
BOD pmax pmax
comp=Z,66nm,2.0s
TLY Talaya 28.52 322 P **P** **19 20 28.2 -0.8**
comp=Z,3.3nm,0.7s,baz=142,slow=7.0,SNR=7.0
TLY LR LR 19 33 05.5
comp=Z,19µm,19.5s,baz=126,slow=39
TLY Talaya 28.52 322*c i*P **P** **19 20 27.8 -1.2**
TLY *e* 19 21 36.5
TLY pmax pmax
comp=Z,140nm,2.0s
TLY MLR MLR
comp=Z,63µm,15.0s
TLY Talaya 28.52 322 P **P** **19 20 28.4 -0.6**
UBPT Khong Chiam 29.44 242 P **P** **19 20 36.7 -0.8**
DLV T Lat 29.55 233 P **P** **19 20 38.7 +0.1**
DLV IAmb IAmb 19 20 50.6
comp=Z,94nm,1.0s
MYLDM Lahad Datu 29.65 208 P **P** **19 20 41.9 +2.6**
MYLDM IAmb IAmb 19 21 07.8
comp=Z,222nm,1.4s
KKM Kota Kinabalu 29.86 213 P **P** **19 20 41.9 +0.6**
KKM IAmb IAmb 19 21 01.5
comp=Z,87nm,1.1s
MOY Mondy 29.93 320 *e*P **P** **19 20 41.4 -0.3**
MOY pmax pmax
comp=Z,119nm,2.4s
YAK Yakutsk 29.97 358 P **P** **19 20 42.1 +0.4**
comp=Z,12nm,0.7s,baz=168,slow=1.1,SNR=16
YAK LR LR 19 32 42.9
comp=Z,11µm,18.3s,baz=175,slow=36
YAK Yakutsk 29.97 358*c i*P **P** **19 20 40.0 -1.7**
YAK *e**PP **pP** **19 20 48.4 -1.0**
YAK *e* 19 21 34.7
YAK *e* 19 23 41.8
YAK *e*S **S** **19 25 34.8 -2.7**
YAK *e**SS **sS** **19 25 49.0 -1.3**
YAK *e* 19 31 19.8
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,19nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,104nm,1.8s
YAK smax smax
comp=N,239nm,2.6s
YAK smax smax
comp=E,103nm,2.2s
YAK MLR MLR
comp=Z,13µm,14.0s
YAK MLR MLR
comp=E,8µm,14.0s
YAK MLR MLR
comp=N,12µm,14.0s
YAK Yakutsk 29.97 358 P **P** **19 20 39.2 -2.4**
YAK IAmb IAmb 19 21 03.6
comp=Z,66nm,1.0s
YAK IAMs_20 IAMs_20 19 32 31.4
comp=Z,12µm,18.0s
MA2 Magadan 30.18 19 P **P** **19 20 45.0 +1.4**
comp=Z,8.2nm,0.8s,baz=206,slow=10.0,SNR=5.9
MA2 PcP **PcP** **19 23 45.0 +0.9**
comp=Z,9.8nm,0.8s,baz=231,slow=3.1,SNR=3.3
MA2 Magadan 30.18 19*c i*P **P** **19 20 44.0 +0.4**
MA2 pmax pmax
comp=Z,39nm,1.7s
MA2 MLR MLR
comp=Z,7µm,16.0s
MA2 Magadan 30.18 19 P **P** **19 20 42.7 -0.9**
TNTI Ternate 31.49 189 P **P** **19 20 55.5 -0.1**
comp=Z,2µmcomp=Z,115nm,1.8s
TNTI Ternate 31.49 189 P **P** **19 20 55.4 -0.1**
TNTI IAmb IAmb 19 21 15.6
comp=Z,155nm,1.3s
LKP Lekhapani 31.71 271 *e*P **P** **19 20 54.8 -2.7**
PBKT Sadao Pong 32.13 249 P **P** **19 20 60.0 -1.2**
KMSI Cibinong 32.29 195 P **P** **19 21 03.3 +0.8**
comp=Z,2µmcomp=Z,208nm,1.0s
GTOI Gorontalo 32.46 197 P **P** **19 21 02.5 -1.5**
comp=Z,760nmcomp=Z,19nm,1.0s
CHTO Chiang Mai 32.56 254 P **P** **19 21 03.7 -1.3**
CHTO pmax pmax
comp=Z,61nm,1.1s
CHTO MLR MLR
comp=Z,28µm,20.0s
CHTO Chiang Mai 32.56 254 P **P** **19 21 03.7 -1.3**
CHTO IAmb IAmb 19 21 07.6
comp=Z,61nm,1.1s
CM31 Chiang Mai Arr 32.74 254 P **P** **19 21 06.7 +0.1**
SNR=16
CM31 Chiang Mai Arr 32.74 254 P **P** **19 21 06.8 +0.1**
CM31 IAmb IAmb 19 21 08.6
comp=Z,76nm,1.4s
CMAR Chiang Mai Arr 32.74 254 P **P** **19 21 06.0 -0.6**
comp=Z,5.5nm,0.7s,baz=47,slow=6.4,SNR=38
CMAR PcP **PcP** **19 23 53.0 +1.3**
comp=Z,6.4nm,0.8s,baz=37,slow=2.1,SNR=9.5
CMAR ScP **ScP** **19 27 34.9 +1.1**
comp=Z,0.2nm,0.3s,baz=54,slow=1.6,SNR=1.3
CMAR LR LR 19 35 43.2
comp=Z,18µm,18.9s,baz=100,slow=39
CMAR Chiang Mai Arr 32.74 254 P **P** **19 21 05.0 -1.6**
CMAR **PcP** **19 23 52.8 +1.0**
CMAR **ScP** **19 27 34.7 +0.8**
SIJI Sorong 32.81 181 P **P** **19 21 07.7 +0.5**
comp=Z,33nm,0.9s,baz=354,slow=11,SNR=14
SIJI LR LR 19 33 32.3
comp=Z,8µm,20.5s,baz=16,slow=35
JORH JORHAT 33.25 271 *e*P **P** **19 21 06.8 -4.2**
ZIRO ZIRO 33.35 272 *e*P **P** **19 21 09.3 -2.7**
SEY Seymchan 33.44 17 P **P** **19 21 13.3 +1.2**
comp=Z,6.3nm,0.8s,baz=216,slow=7.4,SNR=27
SEY PcP **PcP** **19 23 54.3 +1.4**
comp=Z,7.9nm,0.9s,baz=248,slow=5.4,SNR=2.7
SEY Seymchan 33.44 17*c i*P **P** **19 21 13.1 +0.9**
H11N2 WAKE ISLAND Hy 33.52 103 T T 19 56 37.5
baz=298,slow=74
H11N1 WAKE ISLAND Hy 33.52 103 T T 19 56 45.6
baz=298,slow=74
H11N3 WAKE ISLAND Hy 33.54 103 T T 19 56 48.8
baz=298,slow=74
MPSI Mapaga 33.63 202 P **P** **19 21 14.7 +0.4**
comp=Z,3µmcomp=Z,2µmcomp=Z,90nm,1.9s
H11S3 WAKE ISLAND Hy 33.95 105 T T 19 57 12.6
baz=302,slow=75
H11S1 WAKE ISLAND Hy 33.96 105 T T 19 57 09.1
baz=302,slow=75
H11S2 WAKE ISLAND Hy 33.97 105 T T 19 57 28.0
baz=302,slow=75,SNR=124
SRPI Serui, Papua 34.03 173 P **P** **19 21 17.7 -0.1**
comp=Z,3µmcomp=Z,55nm,0.4s
LUWI Luwuk 34.13 197 P **P** **19 21 19.3 +0.7**
comp=Z,2µmcomp=Z,79nm,1.1s
SANI Sanana 34.46 191 P **P** **19 21 20.8 -0.7**
comp=Z,2µmcomp=Z,2µmcomp=Z,70nm,1.5s
SMPI Sarmi 34.50 168 P **P** **19 21 22.6 +0.8**
comp=Z,3µmcomp=Z,2µmcomp=Z,98nm,1.9s
FAKI Fak Fak 34.84 180 P **P** **19 21 24.9 +0.1**
comp=Z,3µmcomp=Z,5µmcomp=Z,417nm,1.2s
FAKI Fak Fak 34.84 180 P **P** **19 21 25.2 +0.4**
SBUM Sibu 34.92 216 P **P** **19 21 25.4 -0.1**
SBUM Sibu 34.92 216 P **P** **19 21 27.0 +1.5**
LSA Lhasa 35.04 277 P **P** **19 21 25.8 -1.2**
LSA LR LR
comp=N,73µm,15.7s
LSA LR LR
comp=E,105µm,17.4s
LSA LR LR
comp=Z,175µm,15.3s
LSA Lhasa 35.04 277 P **P** **19 21 26.0 -1.0**
LSA S **S** **19 26 58.0 -0.1**
LSA pmax pmax
comp=Z,84nm,2.3s
LSA LR LR
comp=Z,73µm,15.0s
LSA LR LR
comp=Z,105µm,16.4s
LSA Lhasa 35.04 277*i* P **P** **19 21 25.8 -1.2**
SNR=15
LSA Lhasa 35.04 277 P **P** **19 21 26.7 -0.3**
LSA pmax pmax
comp=Z,47nm,1.0s
LSA MLR MLR
comp=Z,34µm,18.0s
LSA Lhasa 35.04 277 P **P** **19 21 26.7 -0.3**
SMKI Samarinda 35.30 206 P **P** **19 21 29.3 +0.5**
comp=Z,4µmcomp=Z,6µmcomp=Z,250nm,0.9s
GENI Genyem 35.36 166 P **P** **19 21 30.6 +1.3**
comp=Z,4µmcomp=Z,5µmcomp=Z,153nm,2.2s
MSAI Masohi 35.39 185 P **P** **19 21 31.2 +1.7**
comp=Z,999nmcomp=Z,46nm,1.8s
JAY Jayapura 35.40 165 P **P** **19 21 30.4 +0.6**
comp=Z,26nm,1.0s,baz=310,slow=5.5,SNR=32
JAY LR LR 19 33 44.9
comp=Z,4µm,20.3s,baz=336,slow=32
JAY Jayapura 35.40 165 P **P** **19 21 30.3 +0.6**
comp=Z,1000nmcomp=Z,39nm,2.3s
NLAI Namlea 35.47 189 P **P** **19 21 31.0 +0.8**
comp=Z,65nm,1.0s
GUWA GUWAHATI 35.60 271 *e*P **P** **19 21 28.9 -2.4**
SHL Shillong 35.64 270 *e*P **P** **19 21 27.7 -4.2**
SHL *e*P pP 19 21 30.0 -10
SHL *i*S S 19 27 18.0 +11
SHL Shillong 35.64 270 P **P** **19 21 29.5 -2.5**
SNR=15
SHL Shillong 35.64 270 P **P** **19 21 28.7 -3.2**
SHL pmax pmax
comp=Z,97nm,1.4s
SHL Shillong 35.64 270 P **P** **19 21 28.7 -3.2**
SHL IAmb IAmb 19 21 55.1
comp=Z,97nm,1.4s
SAIH SAIHA 35.86 264 *e*P **P** **19 21 29.8 -4.0**
BKB Balikpapan 36.17 206 P **P** **19 21 36.1 -0.1**
comp=Z,6µmcomp=Z,6µmcomp=Z,295nm,2.2s
BKB Balikpapan 36.17 206 P **P** **19 21 32.4 -3.8**
KRAR Krasnoyarsk 36.19 323*ce*P **P** **19 21 31.7 -4.3**
WMQ Urumqi 36.47 302 *e*P **P** **19 21 37.8 -0.9**
WMQ pP pP 19 21 43.8 -2.7
WMQ sP sP 19 21 49.8 0.0
WMQ PP **PP** **19 23 06.3 +4.5**
WMQ S **S** **19 27 24.0 +5.0**
WMQ sS sS 19 27 34.0 +2.1
WMQ pmax pmax
comp=Z,64nm,1.9s
WMQ pmax pmax
comp=Z,690nm,3.6s

WMQ				LR	LR			
	comp=Z,9µm,16.7s							
WMQ				LR	LR			
	comp=Z,25µm,16.3s							
WMQ				LR	LR			
	comp=Z,17µm,20.1s							
WMQ	**Urumqi**	**36.47 302**		P	**P**	**19 21 37.8**	**-0.9**	
WMQ				pmax	pmax			
	comp=Z,306nm,1.5s							
WMQ				MLR	MLR			
	comp=Z,46µm,20.0s							
WMQ	**Urumqi**	**36.47 302**		P	**P**	**19 21 37.8**	**-0.9**	
MTKI	**Muara Teweh, K**	**36.67 210**		P	**P**	**19 21 40.1**	**-0.4**	
	comp=Z,2µmcomp=Z,3µmcomp=Z,91nm,1.6s							
KSM	**Kuching**	**36.73 218**		P	**P**	**19 21 39.8**	**-1.3**	
KSM				IAmb	IAmb	19 21 55.7		
	comp=Z,125nm,1.2s							
KSM	**Kuching**	**36.73 218**		P	**P**	**19 21 43.0**	**+1.9**	
AGT	**Agartala**	**36.78 268**	*e*P	P	**P**	**19 21 38.8**	**-2.6**	
BELO	**BELONIA**	**36.86 267**	*e*P	P	**P**	**19 21 40.3**	**-1.8**	
DGZ	**Jazzator, Alta**	**37.39 311**	*c i*P		**P**	**19 21 45.5**	**-1.1**	
DGZ				pmax	pmax			
	comp=Z,96nm,2.7s							
DGZ				MLR	MLR			
	comp=Z,45µm,18.0s							
SPSI	**Sidrap Palu**	**37.74 200**		P	**P**	**19 21 48.3**	**-1.2**	
	comp=Z,1µmcomp=Z,26nm,2.6s							
GTK	**Tadong**	**37.86 274**	*e*P	P	**P**	**19 21 48.5**	**-2.2**	
BNSI	**Bone**	**38.05 200**		P	**P**	**19 21 51.9**	**-0.3**	
	comp=Z,1µmcomp=Z,44nm,1.2s							
KBKI	**Kotabaru**	**38.32 206**		P	**P**	**19 21 54.1**	**-0.4**	
	comp=Z,438nmcomp=Z,40nm,1.3s							
TAPN	**Taplejung**	**38.60 275**	*e*P		**P**	**19 21 55.9**	**-1.3**	
KAPI	**Kappang**	**38.74 200**		P	**P**	**19 21 57.8**	**-0.1**	
	comp=Z,5.3nm,0.5s,baz=36,slow=12,SNR=6.3							
KAPI				PcP	**PcP**	**19 24 09.9**	**+0.5**	
	comp=Z,16nm,0.8s,baz=227,slow=3.8,SNR=3.6							
KAPI				LR	LR	19 39 35.2		
	comp=Z,2µm,20.1s,baz=26,slow=39							
KAPI	**Kappang**	**38.74 200**		P	**P**	**19 21 57.4**	**-0.6**	
KAPI				pmax	pmax			
	comp=Z,175nm,1.5s							
KAPI				MLR	MLR			
	comp=Z,5µm,22.0s							
KAPI	**Kappang**	**38.74 200**		P	**P**	**19 21 57.4**	**-0.6**	
KAPI				IAmb	IAmb	19 22 09.5		
	comp=Z,175nm,1.5s							
ZSN	**Zaisan**	**38.75 307**	*i* P		**P**	**19 21 56.9**	**-1.0**	
	comp=Z,163nm,2.5s,baz=307							
ZSN				LR	LR	19 38 16.0		
	comp=Z,10µm,14.4s,baz=307							
ZSN	**Zaisan**	**38.75 307**	*i* P		**P**	**19 21 56.8**	**-1.0**	
ZSN				pmax	pmax			
	comp=Z,163nm,2.5s							
ZSN				MLR	MLR			
	comp=Z,10µm,14.0s							
BKSI	**Bulukumba**	**38.93 199**		P	**P**	**19 21 59.4**	**-0.1**	
	comp=Z,2µmcomp=Z,50nm,0.9s							
BBKI	**Banjar Baru**	**38.98 208**		P	**P**	**19 22 01.0**	**+1.0**	
	comp=Z,7µmcomp=Z,376nm,1.6s							
ODAN	**Odare**	**39.03 274**	*e*P		**P**	**19 21 59.0**	**-1.7**	
RAMN	**Ramite**	**39.67 275**	*e*P		**P**	**19 22 04.4**	**-1.6**	
PBKI	**Pangkalan Bun**	**39.67 213**		P	P	19 22 18.6	+13	
KULM	**Kulim**	**39.68 234**		P	**P**	**19 22 05.6**	**-0.3**	
KULM				IAmb	IAmb	19 22 08.9		
	comp=Z,191nm,1.2s							
KULM				IAMs_20	IAMs_20	19 40 38.1		
	comp=Z,8µm,20.0s							
KULM	**Kulim**	**39.68 234**		P	**P**	**19 22 07.0**	**+1.1**	
JIRN	**Jiri**	**39.79 276**	*e*P		**P**	**19 22 06.1**	**-1.1**	
ZAA0	**Zalesovo Array**	**39.89 317**		P	**P**	**19 22 05.3**	**-1.9**	
ZALV	**Zalesovo Beam**	**39.89 317**		P	**P**	**19 22 06.2**	**-1.1**	
	comp=Z,1.5nm,0.3s,baz=101,slow=7.7,SNR=27							
ZALV				PcP	**PcP**	**19 24 11.9**	**-0.6**	
	comp=Z,18nm,0.8s,baz=107,slow=3.2,SNR=9.8							
ZALV				ScP	**ScP**	**19 28 00.3**	**+0.7**	
	comp=Z,4.6nm,0.9s,baz=113,slow=3.9,SNR=4.7							
ZALV				LR	LR	19 39 56.4		
	comp=Z,18µm,21.5s,baz=104,slow=38							
ZALV	**Zalesovo Beam**	**39.89 317**		P	**P**	**19 22 05.3**	**-1.9**	
IPM	**Ipoh**	**40.01 233**		P	**P**	**19 22 07.7**	**-1.0**	
IPM				IAmb	IAmb	19 22 10.9		
	comp=Z,182nm,1.1s							
IPM				IAMs_20	IAMs_20	19 41 09.8		
	comp=Z,11µm,18.0s							
IPM	**Ipoh**	**40.01 233**		P	**P**	**19 22 08.0**	**-0.7**	
MYKOM	**Kota Tinggi**	**40.20 227**		P	**P**	**19 22 10.2**	**0.0**	
MYKOM	**Kota Tinggi**	**40.20 227**		P	**P**	**19 22 11.0**	**+0.8**	
MK31	**Makanchi Array**	**40.45 306**		P	**P**	**19 22 10.0**	**-2.1**	
MK31				pmax	pmax			
	comp=Z,50nm,1.2s							
MK31	**Makanchi Array**	**40.45 306**		P	**P**	**19 22 09.9**	**-2.1**	
MKAR	**Makanchi Array**	**40.45 306**		P	**P**	**19 22 11.2**	**-0.9**	
	comp=Z,6.7nm,0.6s,baz=95,slow=10,SNR=65							
MKAR				PcP	**PcP**	**19 24 14.9**	**+0.4**	
	comp=Z,5.4nm,0.8s,baz=84,slow=3.9,SNR=5.5							
MKAR				ScP	**ScP**	**19 28 02.9**	**+0.9**	
	comp=Z,3.1nm,0.9s,baz=99,slow=3.5,SNR=4.6							
MKAR				LR	LR	19 40 19.2		
	comp=Z,23µm,18.3s,baz=90,slow=38							
MKAR	**Makanchi Array**	**40.45 306**	*i* P		**P**	**19 22 10.6**	**-1.5**	
MKAR				pmax	pmax			
	comp=Z,7.0nm,0.6s							
MKAR	**Makanchi Array**	**40.45 306**		P	**P**	**19 22 10.2**	**-1.9**	
MKAR					**PcP**	**19 24 14.8**	**+0.4**	
PKI	**Pulchoki**	**40.48 276**	*e*P		**P**	**19 22 11.1**	**-1.8**	
	comp=Z,610nm,1.6s							
KKN	**Kakani**	**40.52 276**	*e*P		**P**	**19 22 11.9**	**-1.2**	
MAKZ	**Makanchi**	**40.67 306**		P	**P**	**19 22 11.9**	**-1.9**	
MAKZ				pmax	pmax			
	comp=Z,39nm,0.9s							
MAKZ				MLR	MLR			
	comp=Z,26µm,18.0s							
MAKZ	**Makanchi**	**40.67 306**		P	**P**	**19 22 11.9**	**-1.9**	
DMN	**Daman**	**40.72 276**	*e*P		**P**	**19 22 13.2**	**-1.6**	
GKN	**Gorkha**	**41.00 277**	*e*P		**P**	**19 22 15.6**	**-1.3**	
	comp=Z,807nm,1.8s							
BOK	**Bokaro**	**41.37 270**	*e*P		**P**	**19 22 16.9**	**-3.0**	
DSRI	**Dabo**	**41.55 224**		P	**P**	**19 22 21.6**	**+0.3**	
	comp=Z,991nmcomp=Z,23nm,1.4s							
TPI	**Tanjungpandan**	**41.70 218**		P	**P**	**19 22 23.6**	**+1.0**	
	comp=Z,2µmcomp=Z,82nm,1.6s							
EDFI	**Ende, Flores**	**41.83 195**		P	**P**	**19 22 21.2**	**-2.4**	
	comp=Z,1µmcomp=Z,27nm,1.6s							
KOLN	**Koldanda**	**41.94 277**	*e*P		**P**	**19 22 23.6**	**-1.1**	
PPBI	**Pangkal Pinang**	**42.03 221**		P	**P**	**19 22 26.6**	**+1.4**	
	comp=Z,4µmcomp=Z,3µmcomp=Z,215nm,1.5s							
SOEI	**Soe**	**42.30 191**		P	**P**	**19 22 26.6**	**-0.9**	
	comp=Z,4µmcomp=Z,200nm,1.1s							
SOEI	**Soe**	**42.30 191**		P	**P**	**19 22 26.2**	**-1.3**	
SOEI				IAmb	IAmb	19 22 51.2		
	comp=Z,192nm,1.0s							
LHMI	**Lhok Sumawe**	**42.34 238**		P	**P**	**19 22 27.9**	**+0.1**	
	comp=Z,8µmcomp=Z,4µmcomp=Z,154nm,0.9s							
LHMI	**Lhok Sumawe**	**42.34 238**		P	**P**	**19 22 28.7**	**+0.9**	
LHMI				IAMs_20	IAMs_20	19 41 15.5		
	comp=Z,8µm,21.0s							
PYUN	**Piuthan**	**42.35 278**	*e*P		**P**	**19 22 26.8**	**-1.3**	
	comp=Z,762nm,1.4s							
SHLS	**Shalkode**	**42.46 301**	⇑ *i*P		**P**	**19 22 24.3**	**-4.5**	
	comp=Z,108nm,2.1s,baz=300							
SHLS				LR	LR	19 40 15.3		
	comp=Z,5µm,15.1s,baz=300							
SHLS	**Shalkode**	**42.46 301**	*c i*P		**P**	**19 22 24.2**	**-4.5**	
SHLS				pmax	pmax			
	comp=Z,108nm,2.1s							
SHLS				MLR	MLR			
	comp=Z,5µm,15.0s							
KMMI	**Kalianget**	**42.60 207**		P	**P**	**19 22 30.3**	**+0.5**	
	comp=Z,110nm,1.2s							
PSI	**Prapat**	**42.66 234**		P	**P**	**19 22 30.4**	**-0.1**	
	comp=Z,39nm,0.8s,baz=360,slow=5.4,SNR=31							
PSI				PcP	**PcP**	**19 24 23.4**	**+1.1**	
	comp=Z,7.9nm,0.5s,baz=2.3,slow=0.8,SNR=2.3							
PSI				ScP	**ScP**	**19 28 12.7**	**+1.3**	
	comp=Z,3.3nm,0.3s,baz=180,slow=5.7,SNR=6.6							
PSI	**Prapat**	**42.66 234**		P	**P**	**19 22 29.9**	**-0.6**	
PSI				pmax	pmax			
	comp=Z,71nm,1.0s							
RPSI	**Rantau Prapat**	**42.73 234**		P	**P**	**19 22 29.9**	**-1.1**	
RPSI	**Rantau Prapat**	**42.73 234**			**PcP**	**19 24 23.4**	**+1.0**	
RPSI					**ScP**	**19 28 12.7**	**+1.2**	
UZB	**Uzynbulak**	**42.78 301**	⇑ *i*P		**P**	**19 22 29.6**	**-1.7**	
	comp=Z,131nm,2.1s,baz=300							
UZB			*e*S		**S**	**19 28 53.1**	**-0.7**	
	baz=300							
UZB				LR	LR	19 40 39.9		
	comp=Z,3µm,14.3s,baz=300							
UZB	**Uzynbulak**	**42.78 301**	*c i*P		**P**	**19 22 29.6**	**-1.7**	
UZB			*e*S		**S**	**19 28 53.0**	**-0.7**	
UZB				pmax	pmax			
	comp=Z,131nm,2.1s							
UZB				MLR	MLR			
	comp=Z,3µm,14.0s							
BATI	**Baumata**	**42.84 192**		P	**P**	**19 22 31.4**	**-0.4**	
	comp=Z,130nm,0.9s,baz=72,slow=4.0,SNR=11							
BATI				LR	LR	19 41 01.5		
	comp=Z,3µm,20.3s,baz=7.5,slow=37							
BATI	**Baumata**	**42.84 192**		P	**P**	**19 22 30.0**	**-1.8**	
	comp=Z,2µmcomp=Z,80nm,0.9s							
KCSI	**Kotacane, Aceh**	**42.94 236**		P	**P**	**19 22 29.2**	**-3.5**	
	comp=Z,74nm,1.6s							
PLAI	**Plampang**	**42.94 201**		P	**P**	**19 22 33.0**	**+0.4**	
	comp=Z,4µmcomp=Z,187nm,2.1s							
KPKS	**Kokpek**	**43.01 301**	⇑ *i*P		**P**	**19 22 31.5**	**-1.7**	
	comp=Z,185nm,2.2s,baz=301							
KPKS				LR	LR	19 40 21.7		
	comp=Z,10µm,15.0s,baz=301							
KPKS	**Kokpek**	**43.01 301**	*c i*P		**P**	**19 22 31.4**	**-1.7**	
KPKS				pmax	pmax			
	comp=Z,185nm,2.2s							
KPKS				MLR	MLR			
	comp=Z,10µm,15.0s							
GRJI	**Gresik**	**43.07 209**		P	**P**	**19 22 35.1**	**+1.4**	
	comp=Z,3µmcomp=Z,169nm,0.9s							
BKNI	**Bangkinang**	**43.10 229**		P	**P**	**19 22 33.8**	**-0.1**	
	comp=Z,5µmcomp=Z,3µmcomp=Z,289nm,0.9s							
BKNI	**Bangkinang**	**43.10 229**		P	**P**	**19 22 33.9**	**-0.1**	
TWSI	**Taliwang, Sumb**	**43.13 202**		P	**P**	**19 22 34.6**	**+0.4**	
	comp=Z,5µmcomp=Z,246nm,1.6s							
KURK	**Kurchatov**	**43.14 312**	*c i*P		**P**	**19 22 32.2**	**-1.7**	
KURK				pmax	pmax			
	comp=Z,180nm,2.5s							
KURK				MLR	MLR			
	comp=Z,40µm,16.0s							
KURK	**Kurchatov**	**43.14 312**		P	**P**	**19 22 31.8**	**-2.1**	
KURK				IAmb	IAmb	19 22 44.2		
	comp=Z,251nm,1.4s							
TDK	**Taldyqorghan**	**43.14 303**	*i* P		**P**	**19 22 33.1**	**-1.0**	
	comp=Z,513nm,2.5s,baz=303							
TDK			*i* S		**S**	**19 28 58.7**	**-0.1**	
	baz=303							
TDK				LR	LR	19 41 31.8		
	comp=Z,15µm,14.2s,baz=303							
TDK	**Taldyqorghan**	**43.14 303**	*i* P		**P**	**19 22 33.1**	**-1.0**	
TDK			*i* S		**S**	**19 28 58.7**	**-0.1**	
TDK				pmax	pmax			
	comp=Z,513nm,2.5s							
TDK				MLR	MLR			
	comp=Z,15µm,14.0s							
KURBB	**Kurchatov Arra**	**43.19 312**		P	**P**	**19 22 32.8**	**-1.5**	
	comp=Z,15nm,0.8s,baz=96,slow=9.0,SNR=168							
KURBB				PcP	**PcP**	**19 24 22.8**	**-0.6**	
	comp=Z,14nm,0.8s,baz=96,slow=3.7,SNR=8.1							
SATY	**Saty**	**43.24 300**	⇑ *i*P		**P**	**19 22 33.5**	**-1.5**	
	comp=Z,126nm,2.4s,baz=300							
SATY			*e*S		**S**	**19 29 00.0**	**-0.4**	
	baz=300							
SATY				LR	LR	19 41 27.2		
	comp=Z,2µm,11.6s,baz=300							
SATY	**Saty**	**43.24 300**	*c i*P		**P**	**19 22 33.5**	**-1.5**	
SATY			*e*S		**S**	**19 29 00.0**	**-0.4**	
SATY				pmax	pmax			
	comp=Z,126nm,2.4s							
SATY				MLR	MLR			
	comp=Z,2µm,12.0s							
SATY	**Saty**	**43.24 300**	*c i*P		**P**	**19 22 33.5**	**-1.5**	
SATY			*e*S		**S**	**19 29 00.0**	**-0.4**	
SATY				pmax	pmax			
	comp=Z,126nm,2.4s							
SATY				MLR	MLR			
	comp=Z,2µm,12.0s							
PRZ	**Przheval'sk**	**43.28 300**		P	**P**	**19 22 34.3**	**-1.2**	
PRZ				pmax	pmax			
	comp=Z,239nm,1.5s							
PRZ				MLR	MLR			
	comp=Z,32µm,18.0s							
PRZ	**Przheval'sk**	**43.28 300**		P	**P**	**19 22 34.3**	**-1.2**	
PRZ				IAmb	IAmb	19 22 45.8		
	comp=Z,239nm,1.5s							
MLSI	**Meulaboh, Aceh**	**43.39 238**		P	**P**	**19 22 34.5**	**-1.8**	
	comp=Z,3µmcomp=Z,265nm,0.9s							
PMBI	**Palembang**	**43.42 222**		P	**P**	**19 22 38.0**	**+1.5**	
	comp=Z,5µmcomp=Z,5µmcomp=Z,372nm,1.1s							
PMBI	**Palembang**	**43.42 222**		P	**P**	**19 22 36.9**	**+0.3**	
TPTI		**43.54 236**		P	**P**	**19 22 37.3**	**-0.2**	
	comp=Z,42nm,1.5s							
MNSI	**Mandailing Nat**	**43.69 231**		P	**P**	**19 22 37.8**	**-0.9**	
PMG	**Port Moresby**	**43.74 158**		P	**P**	**19 22 39.5**	**+0.5**	
	comp=Z,50nm,1.0s,baz=301,slow=8.7,SNR=4.5							
PMG				LR	LR	19 39 52.7		
	comp=Z,5µm,19.5s,baz=324,slow=35							
PMG	**Port Moresby**	**43.74 158**		P	**P**	**19 22 37.5**	**-1.5**	
PMG				pmax	pmax			
	comp=Z,115nm,1.4s							
PMG				MLR	MLR			
	comp=Z,8µm,22.0s							
PMG	**Port Moresby**	**43.74 158**		P	**P**	**19 22 37.5**	**-1.5**	
PMG				IAmb	IAmb	19 22 41.4		
	comp=Z,115nm,1.4s							
PMG	**Port Moresby**	**43.74 158**		IAMs_20	IAMs_20	19 37 36.2		
	comp=Z,8µm,22.0s							
TARG	**Taragay, Kyrgy**	**43.79 299**		P	**P**	**19 22 38.0**	**-1.9**	
SDSI	**Sungai Dareh**	**43.82 227**		P	**P**	**19 22 39.8**	**0.0**	
	comp=Z,2µmcomp=Z,65nm,1.7s							
NGJI	**Ngwi**	**43.91 210**		P	**P**	**19 22 43.1**	**+2.7**	
	comp=Z,192nm,1.8s							
SMRI	**Semarang**	**44.07 212**		P	**P**	**19 22 43.2**	**+1.5**	
	comp=Z,9µmcomp=Z,347nm,1.9s							
SMRI	**Semarang**	**44.07 212**		P	**P**	**19 22 42.1**	**+0.4**	
CHKK	**Chushkaly**	**44.22 302**	*e*P		**P**	**19 22 41.3**	**-1.4**	
	baz=302							
CHKK				LR	LR	19 41 34.5		
	comp=Z,8µm,13.3s,baz=302							
CHKK	**Chushkaly**	**44.22 302**	*e*P		**P**	**19 22 41.3**	**-1.4**	
CHKK				MLR	MLR			
	comp=Z,8µm,13.0s							
MDOK	**Medeo**	**44.22 301**	*i* P		**P**	**19 22 42.1**	**-0.9**	
	baz=301							
MDOK				LR	LR	19 41 30.9		
	comp=Z,16µm,14.2s,baz=301							
MDOK	**Medeo**	**44.22 301**	*i* P		**P**	**19 22 42.0**	**-0.9**	
MDOK				MLR	MLR			
	comp=Z,16µm,14.0s							
TNSS	**Tian-Shan**	**44.31 301**	*i* P		**P**	**19 22 43.2**	**-0.7**	
	baz=300							
TNSS	**Tian-Shan**	**44.31 301**	*i* P		**P**	**19 22 43.2**	**-0.7**	
AAA	**Alma-Ata**	**44.32 301**	*e*P		**P**	**19 22 42.9**	**-0.7**	
	comp=Z,56nm,1.0s,baz=301							
AAA			*e*S		**S**	**19 29 16.4**	**+0.3**	
	baz=301							
AAA				LR	LR	19 41 08.1		
	comp=Z,14µm,15.8s,baz=301							
AAA	**Alma-Ata**	**44.32 301**	*e*P		**P**	**19 22 42.9**	**-0.7**	
AAA			*e*S		**S**	**19 29 16.3**	**+0.3**	
AAA				pmax	pmax			
	comp=Z,56nm,1.0s							
AAA				MLR	MLR			
	comp=Z,14µm,16.0s							
PDSI	**Padang**	**44.41 228**		P	**P**	**19 22 44.0**	**-0.6**	
	comp=Z,28nm,1.5s							
WOJI	**Wonogiri, Jawa**	**44.56 211**		P	**P**	**19 22 46.2**	**+0.6**	
	comp=Z,4µmcomp=Z,169nm,2.1s							
GSI	**Gunungsitoli**	**44.66 234**		P	**P**	**19 22 45.3**	**-1.3**	
	comp=Z,458nm,1.7s							
GSI	**Gunungsitoli**	**44.66 234**			**P**	**19 22 45.5**	**-1.0**	
GSI				IAMs_20	IAMs_20	19 41 14.8		
	comp=Z,6µm,19.0s							
MTBS	**Maitube**	**44.68 301**	*e*P		**P**	**19 22 45.6**	**-1.0**	
	baz=301							
MTBS	**Maitube**	**44.68 301**	*e*P		**P**	**19 22 45.5**	**-1.0**	
KUU	**Kurty**	**44.68 302**	⇑ *i*P		**P**	**19 22 45.1**	**-1.4**	
	comp=Z,419nm,2.3s,baz=302							
KUU			*e*S		**S**	**19 29 21.0**	**-0.3**	
	baz=302							
KUU				LR	LR	19 41 55.4		
	comp=Z,8µm,12.5s,baz=302							
KUU	**Kurty**	**44.68 302**	*c i*P		**P**	**19 22 45.0**	**-1.4**	
KUU			*e*S		**S**	**19 29 20.9**	**-0.3**	
KUU				pmax	pmax			
	comp=Z,419nm,2.3s							
KUU				MLR	MLR			
	comp=Z,8µm,13.0s							
KRJI	**Kerinci**	**44.70 226**		P	**P**	**19 22 46.8**	**-0.2**	
	comp=Z,7µmcomp=Z,377nm,1.9s							
MTN	**Manton Dam**	**44.71 181**		P	**P**	**19 22 46.3**	**-0.5**	
NRIK	**Noril'sk**	**44.81 339**		P	**P**	**19 22 46.2**	**-0.9**	
	comp=Z,34nm,0.9s,baz=121,slow=8.3,SNR=59							
NRIK				ScP	**ScP**	**19 28 19.8**	**+0.8**	
	comp=Z,3.8nm,0.8s,baz=36,slow=2.9,SNR=3.6							
NRIK				LR	LR	19 42 50.2		
	comp=Z,17µm,19.6s,baz=122,slow=38							
LHSI	**Lahat**	**44.87 223**		P	**P**	**19 22 48.7**	**+0.6**	
	comp=Z,4µmcomp=Z,261nm,1.3s							
KLSI		**44.90 220**		P	**P**	**19 22 50.2**	**+1.8**	
	comp=Z,1µmcomp=Z,66nm,1.8s							
MASI	**Maura Aman, Be**	**45.06 225**		P	**P**	**19 22 50.1**	**+0.3**	
	comp=Z,8µmcomp=Z,562nm,0.9s							
CHLP	**Challavanipeta**	**45.12 264**	*e*P		**P**	**19 22 49.6**	**-0.5**	
CHLP				IVmBBB		19 22 59.2		
	comp=Z,567nm,2.2s							
CHLP			*e*S		**S**	**19 29 28.9**	**+1.0**	
CHLP				IVMs_BB	IVMs_BB	19 45 02.6		
	comp=Z,2µm,13.0s							
BLSI	**Bandar Lampung**	**45.18 219**		P	P	19 23 00.2	+10	
CBJI	**Citeko**	**45.23 217**		P	**P**	**19 22 52.9**	**+1.9**	
	comp=Z,7µmcomp=Z,395nm,1.7s							
KSI	**Kapahiang**	**45.26 224**		P	**P**	**19 22 51.7**	**+0.3**	
	comp=Z,3µmcomp=Z,171nm,0.8s							
TKM2	**Tokmak 2**	**45.30 301**		P	**P**	**19 22 51.2**	**-0.5**	
	SNR=98							
DBJI	**Dramaga**	**45.40 217**		P	**P**	**19 22 52.8**	**+0.5**	
	comp=Z,5µmcomp=Z,272nm,1.7s							
KSH	**Kashi**	**45.45 296**		P	**P**	**19 22 55.3**	**+2.5**	
KSH				sP	sP	19 23 05.5	+1.5	
KSH				PcP	**PcP**	**19 24 34.5**	**+3.0**	
KSH				S	**S**	**19 29 36.3**	**+3.6**	
KSH				pmax	pmax			
	comp=Z,240nm,2.2s							
KSH				pmax	pmax			
	comp=Z,1µm,8.6s							
KSH				LR	LR			
	comp=Z,8µm,12.3s							
KSH				LR	LR			
	comp=Z,10µm,13.0s							
LWLI	**Liwa**	**45.54 221**		P	P	19 23 05.0	+11	
SISI	**Saibi**	**45.61 230**		P	**P**	**19 22 53.5**	**-0.5**	
	comp=Z,105nm,0.8s							
KZA	**Kyzart**	**45.65 299**		P	**P**	**19 22 54.6**	**0.0**	
	SNR=25							
KASI	**Kota Agung**	**45.72 220**		P	P	19 23 05.6	+11	
KBK	**Karagaybulak**	**45.81 300**		P	**P**	**19 22 55.6**	**+0.1**	
	SNR=18							
DDI	**Dehra Dun**	**45.81 283**	*e*P		**P**	**19 22 51.7**	**-4.0**	
CHMS	**Chumysh**	**45.91 301**		P	**P**	**19 22 55.4**	**-0.8**	
	SNR=35							
SGDS	**Sogindy**	**45.95 301**	⇑ *i*P		**P**	**19 22 55.3**	**-1.3**	
	comp=Z,94nm,1.7s,baz=301							
SGDS			*e*S		**S**	**19 29 39.2**	**-0.6**	
	baz=301							
SGDS				LR	LR	19 43 08.3		
	comp=Z,5µm,14.6s,baz=301							
SGDS	**Sogindy**	**45.95 301**	*c i*P		**P**	**19 22 55.3**	**-1.3**	
SGDS			*e*S		**S**	**19 29 39.1**	**-0.6**	
SGDS				pmax	pmax			
	comp=Z,93nm,1.7s							
SGDS				MLR	MLR			
	comp=Z,5µm,15.0s							
FRU1	**Bishkek**	**46.02 300**		P	**P**	**19 22 56.7**	**-0.4**	
FRU1				pmax	pmax			
	comp=Z,201nm,1.5s							
FRU1				MLR	MLR			
	comp=Z,23µm,19.0s							
FRU1	**Bishkek**	**46.02 300**		P	**P**	**19 22 56.7**	**-0.4**	
USP	**Ospenovka**	**46.07 301**		P	**P**	**19 22 56.2**	**-1.2**	
	SNR=30							
AAK	**Ala-Archa**	**46.14 300**		P	**P**	**19 22 57.3**	**-0.9**	
	comp=Z,23nm,0.9s,baz=91,slow=7.5,SNR=38							
AAK				PcP	**PcP**	**19 24 33.8**	**-0.1**	
	comp=Z,12nm,0.8s,baz=63,slow=2.3,SNR=2.5							
AAK				LR	LR	19 44 48.8		
	comp=Z,18µm,19.6s,baz=70,slow=40							
AAK	**Ala-Archa**	**46.14 300**		P	**P**	**19 22 57.2**	**-1.0**	
	SNR=15							
AAK	**Ala-Archa**	**46.14 300**	*i* P		**P**	**19 22 56.6**	**-1.6**	
	SNR=17							
AAK	**Ala-Archa**	**46.14 300**	*c i*P		**P**	**19 22 56.9**	**-1.3**	
AAK				pmax	pmax			
	comp=Z,67nm,1.7s							
AAK				MLR	MLR			
	comp=Z,23µm,17.0s							
AAK	**Ala-Archa**	**46.14 300**		P	**P**	**19 22 56.9**	**-1.3**	
AAK					**PcP**	**19 24 35.0**	**+1.0**	
UCH	**Uchtor**	**46.18 300**		P	**P**	**19 22 58.5**	**-0.4**	
	SNR=57							
BTLS	**Baital**	**46.23 304**	⇑ *i*P		**P**	**19 22 57.1**	**-1.5**	
	comp=Z,142nm,2.3s,baz=303							
BTLS			*i* S		**S**	**19 29 43.3**	**-0.2**	
	baz=303							
BTLS				LR	LR	19 43 13.7		
	comp=Z,2µm,11.5s,baz=303							
BTLS	**Baital**	**46.23 304**	*c i*P		**P**	**19 22 57.1**	**-1.5**	
BTLS			*i* S		**S**	**19 29 43.2**	**-0.2**	
BTLS				pmax	pmax			
	comp=Z,142nm,2.3s							
BTLS				MLR	MLR			
	comp=Z,2µm,11.0s							

MYLAV eS S 19 30 22.1 +1.3
MYLAV IVMs_BB IVMs_BB 19 46 22.8
comp=Z,2µm,15.4s
NIL Nilore 48.82 289 P P 19 23 17.8 -1.2
NIL pmax pmax
comp=Z,113nm,1.2s
NIL MLR MLR
comp=Z,11µm,19.0s
NIL Nilore 48.82 289 P P 19 23 17.8 -1.2
NIL IAmb IAmb 19 23 41.7
comp=Z,113nm,1.2s
KK31 Karatay Array 48.98 301 P P 19 23 19.0 -1.1
KK31 pmax pmax
comp=Z,146nm,1.2s
KK31 Karatay Array 48.98 301 P P 19 23 19.0 -1.1
KKAR Karatay Array 48.98 301 P P 19 23 19.0 -1.1
KKAR pmax pmax
comp=Z,146nm,1.2s
KKAR Karatay Array 48.98 301 P P 19 23 19.0 -1.1
KKAR Karatay Array 48.98 301 P P 19 23 19.0 -1.1
RPR Rampur 48.99 268 eP P 19 23 19.4 -1.0
RPR IVmBBB 19 23 20.4
comp=Z,571nm,1.2s
RPR IVMs_BB IVMs_BB 19 46 10.3
comp=Z,1µm,16.1s
HNR Honiara 49.16 142 LR LR 19 41 51.9
comp=Z,1µm20.5s,baz=332,slow=33
BTK Batken 49.27 297 P P 19 23 20.9 -1.6
BTK pmax pmax
comp=Z,89nm,1.4s
BTK MLR MLR
comp=Z,14µm,19.0s
BTK Batken 49.27 297 P P 19 23 20.9 -1.6
BTK IAmb IAmb 19 23 34.6
comp=Z,88nm,1.4s
IUG luzhnay 49.48 300⇑ *i*P P 19 23 23.1 -0.9
comp=Z,93nm,1.8s,baz=300
IUG *i* S S 19 30 29.9 -0.1
baz=300
IUG LR LR 19 44 53.0
comp=Z,3µm,12.6s,baz=300
IUG luzhnay 49.48 300*c i*P P 19 23 23.1 -0.9
IUG *i* S S 19 30 29.8 -0.1
IUG pmax pmax
comp=Z,93nm,1.8s
IUG MLR MLR
comp=Z,3µm,13.0s
SRSP Sriramsagar 49.77 268 eP P 19 23 25.1 -1.2
SRSP IVmB_BB 19 23 26.2
comp=Z,851nm,2.4s
SRSP eS S 19 30 33.4 -0.8
SRSP IVMs_BB IVMs_BB 19 47 08.4
comp=Z,2µm,15.7s
ADKI Addanki 49.81 264 eP P 19 23 26.4 -0.3
ADKI IVmB_BB 19 23 27.4
comp=Z,567nm,2.2s
ADKI eS S 19 30 37.5 +2.8
ADKI IVMs_BB IVMs_BB 19 47 13.6
comp=Z,2µm,14.7s
NJS Nagarjunasagar 50.03 265 eP P 19 23 27.3 -1.0
NJS IVmB_BB 19 23 28.5
comp=Z,811nm,2.6s
NJS eS S 19 30 38.2 +0.3
NJS IVMs_BB IVMs_BB 19 50 30.4
comp=Z,1µm,16.3s
TAS Tashkent 50.17 299 P P 19 23 27.5 -1.7
TAS pmax pmax
comp=Z,186nm,1.5s
TAS MLR MLR
comp=Z,19µm,18.0s
TAS Tashkent 50.17 299 P P 19 23 27.5 -1.7
HYB Hyderabad 50.27 266 *i*P P 19 23 28.0 -2.2
HYB ePP pP 19 23 39.0 +0.7
HYB ePcP sP 19 23 47.5 +6.0
HYB eS S 19 30 44.0 +2.8
HYBB Hyderabad (bro 50.27 266 eP P 19 23 29.3 -0.9
HYBB IVmB_BB 19 23 30.1
comp=Z,706nm,2.3s
HYBB eS S 19 30 43.0 +1.7
HYBB IVMs_BB IVMs_BB 19 48 38.1
comp=Z,1µm,15.4s
FITZ Fitzroy Crossi 50.30 188 P P 19 23 30.4 +0.2
comp=Z,39nm,0.9s,baz=17,slow=8.0,SNR=45
FITZ Fitzroy Crossi 50.30 188 P P 19 23 30.7 +0.5
FITZ IAmb IAmb 19 23 46.4
comp=Z,44nm,0.8s
SRLM Srisailam 50.60 265 eP P 19 23 31.8 -0.9
SRLM IVmB_BB 19 23 32.7
comp=Z,774nm,2.3s
SRLM eS S 19 30 45.8 0.0
SRLM IVMs_BB IVMs_BB 19 50 47.8
comp=Z,1µm,16.0s
SKHT Srikalahasti 51.06 262 eP P 19 23 35.8 -0.3
SKHT IVmB_BB 19 23 36.9
comp=Z,659nm,2.4s
SKHT eS S 19 30 52.9 +0.8
SKHT IVMs_BB IVMs_BB 19 48 14.8
comp=Z,1µm,17.1s
RDOG Red Dog Mine 51.33 26 IAMs_20 IAMs_20 19 47 47.8
comp=Z,4µm,19.0s
KLRI Killari 51.63 268 eP P 19 23 38.8 -1.7
KLRI IVmBBB 19 23 40.2
comp=Z,1µm,1.2s
KLRI eS S 19 30 58.7 -1.5
KLRI IVMs_BB IVMs_BB 19 47 38.8
comp=Z,2µm,15.0s
WB0 Warramunga Arr 51.63 177 P P 19 23 39.7 -0.5
WB0 IAmb IAmb 19 23 50.3
comp=Z,97nm,1.2s
WRAB Tennant Creek 51.80 177*d i*P P 19 23 41.4 -0.1
WRAB pmax pmax
comp=Z,186nm,2.4s
WRAB MLR MLR
comp=Z,3µm,20.0s
WRAB Tennant Creek 51.80 177 P P 19 23 41.4 -0.1
WB2 Warramunga Arr 51.81 177 P P 19 23 41.2 -0.4
WB2 IAmb IAmb 19 24 03.4
comp=Z,91nm,1.1s
WRA Warramunga Arr 51.81 177 P P 19 23 41.1 -0.4
comp=Z,35nm,0.9s,baz=352,slow=8.3,SNR=118
WRA LR LR 19 45 19.5
comp=Z,3µm,20.9s,baz=20,slow=36
WRA Warramunga Arr 51.81 177 *i* P P 19 23 41.0 -0.5
WRA pmax pmax
comp=Z,35nm,0.9s
WRA Warramunga Arr 51.81 177 P P 19 23 40.4 -1.1
WR8 Warramunga Arr 51.83 177 IAMs_20 IAMs_20 19 48 09.0
comp=Z,4µm,18.0s
WR0 Warramunga Arr 51.83 177 P P 19 23 41.1 -0.6
WR0 IAmb IAmb 19 23 43.2
comp=Z,94nm,1.0s
KBL Kabul 51.95 291 P P 19 23 41.6 -1.2
KBL pmax pmax
comp=Z,73nm,1.2s
KBL MLR MLR
comp=Z,13µm,19.0s
KBL Kabul 51.95 291 P P 19 23 41.6 -1.2
KBL IAmb IAmb 19 24 05.4
comp=Z,73nm,1.2s
URV Uravakonda 52.53 264 eP P 19 23 46.5 -0.7
URV IVmB_BB 19 23 47.3
comp=Z,723nm,2.2s
URV eS S 19 31 12.9 +0.4
URV IVMs_BB IVMs_BB 19 51 55.7
comp=Z,2µm,15.8s
CTA Charters Tower 53.66 163 P P 19 23 56.2 +1.0
comp=Z,84nm,0.9s,baz=339,slow=9.9,SNR=60
CTA LR LR 19 44 51.1
comp=Z,2µm,21.0s,baz=344,slow=34
CTAO Charters Tower 53.66 163 P P 19 23 56.3 +1.0
CTAO pmax pmax
comp=Z,141nm,1.0s
CTAO MLR MLR
comp=Z,3µm,19.0s
CTAO Charters Tower 53.66 163 P P 19 23 56.3 +1.1
PALK Pallekele 53.69 254 P P 19 23 54.1 -1.6
comp=Z,18nm,0.8s,baz=145,slow=9.8,SNR=7.1
PALK Pallekele 53.69 254 P P 19 23 55.3 -0.4
PALK pmax pmax
comp=Z,11nm,1.4s
PALK MLR MLR
comp=Z,8µm,21.0s
PALK Pallekele 53.69 254 P P 19 23 55.3 -0.4
POO Poona 53.76 270 eP P 19 23 52.4 -3.8
POO ⇓ *i*P pP 19 23 55.0 -9.3
comp=Z,120nm,1.0s

TTA Tatalina 53.78 33 P P 19 23 56.1 +0.3
TTA pmax pmax
comp=Z,40nm,1.2s
TTA MLR MLR
comp=Z,2µm,20.0s
TTA Tatalina 53.78 33 P P 19 23 56.1 +0.3
SVE Sverdlovsk 53.80 320⇓ eP P 19 23 54.5 -1.4
SVE eS S 19 31 26.5 -2.2
SVE pmax pmax
comp=Z,171nm,1.8s
SVE MLR MLR
comp=E,9µm,15.0s
SVE MLR MLR
comp=Z,13µm,16.0s
KAD Karad 54.02 269 eP P 19 23 58.5 +0.3
SVW2 Sparrevohn 54.03 35 P P 19 23 59.4 +1.8
SVW2 IAmb IAmb 19 24 28.2
comp=Z,60nm,1.4s
CHIR Chirikof Islan 54.39 41 IAMs_20 IAMs_20 19 46 22.2
comp=Z,4µm,21.0s
PSAD1 Pilbara Seismi 54.54 194 P P 19 24 01.6 0.0
PSAD1 IAmb IAmb 19 24 22.3
comp=Z,60nm,1.0s
PSAC1 Pilbara Seismi 54.62 194 P P 19 24 02.4 +0.2
PSAC1 IAmb IAmb 19 24 22.9
comp=Z,70nm,1.1s
PSAC2 Pilbara Seismi 54.63 194 P P 19 24 02.5 +0.2
PSAC2 IAmb IAmb 19 24 22.9
comp=Z,85nm,1.1s
PSAB2 Pilbara Seismi 54.63 194 P P 19 24 02.4 +0.1
PSAB2 IAmb IAmb 19 24 22.9
comp=Z,71nm,1.1s
PSAA2 Pilbara Seismi 54.64 194 P P 19 24 01.9 -0.4
PSAA2 IAmb IAmb 19 24 23.6
comp=Z,45nm,0.8s
PSA00 Pilbara Seismi 54.65 194 P P 19 24 03.1 +0.7
PSA00 Pilbara Seismi 54.65 194 P P 19 24 02.3 -0.1
PSA00 IAmb IAmb 19 24 23.6
comp=Z,40nm,0.8s
PSAB1 Pilbara Seismi 54.65 194 P P 19 24 01.9 -0.6
PSAB1 IAmb IAmb 19 24 23.1
comp=Z,55nm,1.1s
PSAA3 Pilbara Seismi 54.65 194 P P 19 24 02.1 -0.3
PSAA3 IAmb IAmb 19 24 23.1
comp=Z,66nm,1.1s
PSAA1 Pilbara Seismi 54.66 194 P P 19 24 02.1 -0.4
PSAA1 IAmb IAmb 19 24 23.7
comp=Z,37nm,0.8s
PSAB3 Pilbara Seismi 54.67 194 P P 19 24 02.1 -0.5
PSAB3 IAmb IAmb 19 24 23.2
comp=Z,69nm,1.1s
PSAD2 Pilbara Seismi 54.67 194 P P 19 24 02.7 +0.1
PSAD2 IAmb IAmb 19 24 23.2
comp=Z,56nm,1.1s
PSAC3 Pilbara Seismi 54.70 194 P P 19 24 02.9 +0.1
PSAC3 IAmb IAmb 19 24 23.5
comp=Z,46nm,1.1s
PSAD3 Pilbara Seismi 54.73 194 P P 19 24 03.4 +0.4
PSAD3 IAmb IAmb 19 24 23.7
comp=Z,43nm,1.0s
IMAR Indian Mountai 54.74 29 P P 19 24 03.6 +1.0
ARU Arti 54.98 319 P P 19 24 03.4 -1.2
comp=Z,5.0nm,0.4s,baz=82,slow=3.9,SNR=74
ARU LR LR 19 50 02.3
comp=Z,9µm,18.7s,baz=87,slow=39
ARU Arti 54.98 319*c i*P P 19 24 02.8 -1.7
ARU 19 25 04.6
ARU 19 26 06.5
ARU PPP PPP 19 27 18.2
ARU S S 19 31 45.9 +1.3
ARU 19 33 47.8
ARU pmax pmax
comp=Z,115nm,1.3s
ARU MLR MLR
comp=Z,10µm,14.0s
ARU Arti 54.98 319 P P 19 24 03.1 -1.4
GOA Goa 55.17 267 eP P 19 24 03.3 -3.1
ABKAR Akbulak array 55.22 311 P P 19 24 04.9 -1.5
ABKAR Akbulak array 55.22 311 P P 19 24 04.3 -2.0
ABKAR IAmb IAmb 19 24 15.6
comp=Z,188nm,1.4s
BHUJ Bhuj 55.31 278 eP P 19 24 06.5 -0.8
AS31 Alice Springs 55.49 178 P P 19 24 09.1 +0.5
ASAR Alice Springs 55.49 178 P P 19 24 08.9 +0.4
comp=Z,31nm,0.9s,baz=0.5,slow=5.6,SNR=173
ASAR LR LR 19 47 54.7
comp=Z,2µm,21.0s,baz=10,slow=36
ASAR Alice Springs 55.49 178 P P 19 24 09.0 +0.4
ASAR Alice Springs 55.49 178 P P 19 24 08.8 +0.3
OHAK Old Harbor 55.52 40 P P 19 24 06.0 -2.3
PPLA Purkeypile 55.53 33 P P 19 24 05.3 -3.2
PPLA IAmb IAmb 19 24 33.8
comp=Z,116nm,1.2s
KDAK Kodiak Island 55.83 39 P P 19 24 12.0 +1.5
comp=Z,18nm,0.8s,baz=188,slow=3.4,SNR=10
KDAK Kodiak Island 55.83 39 P P 19 24 11.9 +1.3
KDAK pmax pmax
comp=Z,104nm,1.1s
KDAK MLR MLR
comp=Z,4µm,21.0s
KDAK Kodiak Island 55.83 39 P P 19 24 11.9 +1.3
KDAK IAmb IAmb 19 24 22.1
comp=Z,104nm,1.1s
SKT Skwentna 55.91 34 P P 19 24 08.4 -2.7
BPAW Bear Paw Mtn. 55.98 31 P P 19 24 11.5 -0.1
BPAW IAmb IAmb 19 24 27.7
comp=Z,71nm,1.2s
KTH Kantishna Hill 56.05 32 P P 19 24 11.2 -1.0
KTH IAmb IAmb 19 24 37.0
comp=Z,88nm,1.2s
TRD Trivandrum 56.09 258 eP P 19 24 12.1 -1.0
HOM Homer 56.09 36 P P 19 24 13.2 +0.8
baz=277
COLD Coldfoot 56.12 27 P P 19 24 14.3 +1.8
baz=273
COLD S S 19 32 03.4 +3.9
baz=273
COLD Coldfoot 56.12 27 P P 19 24 14.1 +1.6
COLD IAmb IAmb 19 24 31.2
comp=Z,84nm,1.4s
AKTO Aktyubinsk 56.23 312 P P 19 24 12.5 -1.1
comp=Z,28nm,0.7s,baz=77,slow=5.0,SNR=70
AKTO LR LR 19 51 46.9
comp=Z,7µm,18.8s,baz=84,slow=40
TOLK Toolik Lake Re 56.29 26 P P 19 24 15.9 +2.1
baz=272
TOLK S S 19 32 04.7 +2.8
baz=272
TOLK Toolik Lake Re 56.29 26 P P 19 24 15.7 +1.9
TOLK IAmb IAmb 19 24 18.8
comp=Z,100nm,1.3s
TOLK IAMs_20 IAMs_20 19 50 14.1
comp=Z,5µm,19.0s
TRF Thorofare Moun 56.34 32 P P 19 24 15.2 +0.8
CUT Chulitna 56.46 33 P P 19 24 16.6 +1.6
baz=276
BRLK Bradley Lake 56.46 36 P P 19 24 16.0 +0.9
BRLK IAmb IAmb 19 24 27.5
comp=Z,43nm,0.9s
BWN Browne 56.64 31 P P 19 24 15.4 -0.9
NEA2 Nenana 56.77 30 P P 19 24 19.3 +2.0
baz=276,SNR=21
NEA2 S S 19 32 10.8 +2.6
baz=276
O22K Cooper Landing 56.94 35 P P 19 24 18.8 +0.3
baz=278
RND Reindeer 56.99 32 P P 19 24 19.8 +0.9
RND pmax pmax
comp=Z,61nm,0.9s
RND MLR MLR
comp=Z,4µm,20.0s
RND Reindeer 56.99 32 P P 19 24 19.8 +0.9
RND IAmb IAmb 19 24 41.8
comp=Z,61nm,0.9s
RND IAMs_20 IAMs_20 19 49 56.6
comp=Z,4µm,20.0s
PMR Palmer 57.08 34 P P 19 24 20.2 +0.8
PMR IAmb IAmb 19 24 34.9
comp=Z,56nm,1.2s
MDM Murphy Dome 57.09 30 P P 19 24 21.6 +2.1
GHO Glory Hole Cre 57.16 34 P P 19 24 22.0 +1.9
WRH Wood River Hil 57.21 30 P P 19 24 22.2 +1.9
TCOL CIGO, UAF Yank 57.26 30 P P 19 24 22.7 +2.1
baz=276
COLA College 57.26 30*c i*P P 19 24 22.1 +1.5

COLA pmax pmax
comp=Z,100nm,1.8s
COLA MLR MLR
comp=Z,2µm,19.0s
COLA College 57.26 30 P P 19 24 20.5 -0.1
COLA IAmb IAmb 19 24 45.2
comp=Z,94nm,1.3s
CCB Clear Creek Bu 57.31 30 P P 19 24 22.9 +1.9
HRA Herat 57.35 293 P P 19 24 21.3 -0.8
HRA IAmb IAmb 19 24 45.0
comp=Z,79nm,1.4s
POKR Poker Flat Res 57.41 30 P P 19 24 23.8 +2.0
baz=277,SNR=23
POKR S S 19 32 21.9 +5.3
baz=277
KNK Knik Glacier 57.43 34 P P 19 24 22.7 +0.8
KNK IAmb IAmb 19 24 26.2
comp=Z,69nm,1.2s
IL31 57.69 30 P P 19 24 24.1 +0.5
ILAR Eielson Array 57.69 30 P P 19 24 25.1 +1.4
comp=Z,5.8nm,0.8s,baz=286,slow=5.6,SNR=34
ILAR LR LR 19 49 47.0
comp=Z,1µm,21.1s,baz=281,slow=37
ILAR Eielson Array 57.69 30 P P 19 24 24.3 +0.6
DHY Denali Highway 57.70 32 P P 19 24 25.2 +1.3
DHY IAMs_20 IAMs_20 19 50 10.3
comp=Z,3µm,19.0s
HDA Harding Lake 57.71 30 P P 19 24 24.4 +0.5
baz=277,SNR=22
HDA S S 19 32 23.5 +2.9
baz=277
HDA Harding Lake 57.71 30 P P 19 24 24.9 +1.1
HDA IAmb IAmb 19 24 46.2
comp=Z,48nm,1.0s
SCM Sheep Creek Mo 57.90 34 P P 19 24 26.0 +0.7
SCM pmax pmax
comp=Z,107nm,1.3s
SCM Sheep Creek Mo 57.90 34 P P 19 24 26.0 +0.7
SCM IAmb IAmb 19 24 51.8
comp=Z,107nm,1.3s
GLI Glacier Island 58.16 35 P P 19 24 28.9 +1.9
GLI IAmb IAmb 19 24 43.8
comp=Z,76nm,1.4s
M24K Tolsona, Glenn 58.40 33 P P 19 24 30.3 +1.6
baz=280
M24K S S 19 32 35.4 +5.7
baz=280
FID Port Fidalgo 58.48 35 P P 19 24 30.5 +1.2
FID IAmb IAmb 19 24 41.1
comp=Z,77nm,1.0s
HIN Hinchinbrook I 58.53 35 IAMs_20 IAMs_20 19 49 12.4
comp=Z,4µm,22.0s
PAX Paxson 58.57 32 P P 19 24 31.0 +1.0
PAX pmax pmax
comp=Z,41nm,1.2s
PAX MLR MLR
comp=Z,3µm,20.0s
PAX Paxson 58.57 32 P P 19 24 31.0 +1.0
KLU Klutina 58.62 34 P P 19 24 31.7 +1.3
KLU IAmb IAmb 19 25 00.2
comp=Z,49nm,1.2s
RIDG Independent Ri 58.72 31 P P 19 24 31.3 +0.3
RIDG IAmb IAmb 19 24 51.4
comp=Z,60nm,1.3s
EYAK Cordova Ski Ar 58.87 35 IAMs_20 IAMs_20 19 49 26.4
comp=Z,4µm,21.0s
SCRK Sand Creek 59.05 31 P P 19 24 34.4 +1.0
baz=280
SCRK S S 19 32 41.1 +2.8
baz=280
DOT Dot Lake 59.08 31 P P 19 24 33.2 -0.3
DOT IAmb IAmb 19 24 43.2
comp=Z,36nm,1.0s
DOT IAMs_20 IAMs_20 19 53 40.7
comp=Z,3µm,19.0s
MENT Mentasta 59.37 32 P P 19 24 36.6 +1.1
MENT IAmb IAmb 19 25 03.9
comp=Z,61nm,0.9s
GEYT Alibeck 59.37 298 P P 19 24 35.3 -0.6
comp=Z,2.1nm,0.5s,baz=90,slow=4.4,SNR=14
GEYT LR LR 19 54 36.4
comp=Z,14µm,18.1s,baz=65,slow=41
GEYT Alibeck 59.37 298 P P 19 24 35.3 -0.6
GYA0 ALIBECK ARRAY 59.37 298 P P 19 24 35.6 -0.3
GYA0B ALIBECK ARRAY 59.37 298 P P 19 24 35.6 -0.3
RAGM Ragged Mountai 59.43 35 IAMs_20 IAMs_20 19 50 00.0
comp=Z,4µm,20.0s
KIRV Kirov 59.50 323 P P 19 24 35.5 -0.8
comp=Z,18nm,0.7s,baz=89,slow=4.3,SNR=36
GLB Gilahina Butte 59.62 34 P P 19 24 36.4 -0.9
GLB IAmb IAmb 19 24 42.2
comp=Z,111nm,1.4s
VRDI Verde Repeater 59.84 34 P P 19 24 39.0 +0.1
VRDI IAmb IAmb 19 24 55.9
comp=Z,109nm,1.4s
K27K Chicken 59.87 31 S S 19 32 52.8 +4.2
baz=282
EIDS Eidsvold 59.98 160 P P 19 24 40.5 +0.5
EIDS IAMs_20 IAMs_20 19 47 47.8
comp=Z,4µm,21.0s
MCARA McCarthy VSAT 60.01 34 P P 19 24 41.7 +1.9
CRQM Cirque 60.09 34 P P 19 24 42.0 +1.3
CRQM IAMs_20 IAMs_20 19 50 26.1
comp=Z,4µm,21.0s
EGAK Eagle 60.10 30 P P 19 24 40.8 +0.4
EGAK IAmb IAmb 19 25 04.6
comp=Z,50nm,1.1s
BCAR Beaver Creek A 60.20 32 P P 19 24 43.3 +2.1
TGL Tana Glacier 60.24 34 P P 19 24 43.3 +1.7
TGL IAmb IAmb 19 25 12.2
comp=Z,72nm,1.1s
TGL IAMs_20 IAMs_20 19 50 29.5
comp=Z,3µm,21.0s
BALM Baldy 60.40 34 P P 19 24 45.1 +2.4
BALM IAmb IAmb 19 24 47.2
comp=Z,76nm,1.4s
PRGR Permogore 60.66 327⇑ *i*P P 19 24 41.8 -2.4
PRGR pmax pmax
comp=Z,79nm,1.4s
BARN Barnard Glacie 60.72 34 P P 19 24 45.9 +1.0
BARN IAmb IAmb 19 25 03.3
comp=Z,42nm,1.0s
CTGM Chitina Glacie 60.90 34 P P 19 24 47.1 +1.0
CTGM IAmb IAmb 19 25 02.5
comp=Z,42nm,1.0s
PCA Pinnacle 61.64 35 P P 19 24 53.6 +2.5
PCA IAmb IAmb 19 25 04.2
comp=Z,66nm,0.9s
BCPM Bancas Point 61.98 35 P P 19 24 55.9 +2.7
INK Inuvik 62.17 25 P P 19 24 56.0 +1.6
comp=Z,39nm,0.8s,baz=349,slow=3.0,SNR=56
INK Inuvik 62.17 25 P P 19 24 56.1 +1.8
INK pmax pmax
comp=Z,152nm,1.3s
INK MLR MLR
comp=Z,3µm,19.0s
INK Inuvik 62.17 25 P P 19 24 56.1 +1.8
INK IAMs_20 IAMs_20 19 54 35.5
comp=Z,3µm,19.0s
KIP Kipapa 62.38 81 IAMs_20 IAMs_20 19 46 00.5
comp=Z,5µm,22.0s
HON Honolulu 62.44 81 IAMs_20 IAMs_20 19 45 49.0
comp=Z,4µm,20.0s
FORT Forrest 62.67 184 P P 19 24 58.5 +0.5
MORW Morawa 62.72 196 P P 19 24 58.9 +0.5
MORW IAmb IAmb 19 25 19.5
comp=Z,59nm,1.1s
HYT Haines Junctio 62.74 33 P P 19 25 01.3 +2.8
HYT IAmb IAmb 19 25 11.4
comp=Z,46nm,0.9s
DZM Mont Dzumac 63.13 144 eP P 19 25 02.5 +1.1
comp=Z,184nm,1.0s
DZM eS S 19 33 33.5 +2.5
comp=Z,5µm,30.4s
DZM Mont Dzumac 63.13 144 eLR LR 19 43 47.2
comp=Z,6µm,23.0s
DZM Mont Dzumac 63.13 144 P P 19 25 02.7 +1.3
comp=Z,70nm,0.9s,baz=12,slow=6.6,SNR=32
DZM Mont Dzumac 63.13 144 P P 19 25 02.7 +1.3
DZM IAMs_20 IAMs_20 19 49 23.2
comp=Z,4µm,21.0s
TMCR Tamitsa 63.29 331 eP P 19 24 59.1 -2.8
KNTN Kanton 63.52 112 IAMs_20 IAMs_20 19 46 08.6
comp=Z,3µm,20.0s
A36M Sachs Harbour 63.59 20 P P 19 25 05.2 +1.5
baz=292

A36M S **S** 19 33 39.3 +3.9
baz=292
KLMR Klimovskoe 63.71 327 *e*P **P** 19 25 02.5 -2.2
KLMR *e* 19 27 25.9
KLMR *e*S **S** 19 33 36.7 -0.5
KLMR *e*SS **SS** 19 37 45.9 +1.4
KLMR pmax pmax
comp=Z,89nm,1.4s
KLMR MLR MLR
comp=Z,17µm,16.0s
KLMR Klimovskoe 63.71 327 *e*P **P** 19 25 02.5 -2.2
KLMR AMP 19 25 14.2
comp=Z,89nm,1.4s
KLMR *e*PP **PP** 19 27 25.9 +1.3
KLMR *e*S **S** 19 33 36.8 -0.5
KLMR *e*S **S** 19 33 36.8 -0.5
KLMR *e*SS **SS** 19 37 45.9 +1.4
KLMR *e*SS **SS** 19 37 45.9 +1.4
KLMR LQ LQ 19 48 15.0
KLMR LQ LQ 19 48 15.0
KLMR LR LR 19 53 08.5
KLMR AMP 19 55 58.0
comp=Z,17µm,15.5s
SPITS Spitsbergen Ar 63.78 348 P **P** **19 25 05.9 +0.9**
comp=Z,7.9nm,0.6s,baz=94,slow=12,SNR=7.7
APA Apatity 63.93 335⇑ *i*P **P** **19 25 04.0 -2.0**
APA *i* 19 25 44.0
APA *i* 19 27 24.0
APA *i*S **S** **19 33 33.0 -6.7**
APA *i* SSS SSS 19 40 36.0
APA pmax pmax
comp=Z,26nm,1.1s
APA MLR MLR
comp=Z,10µm,14.0s
KBS Kingsbay 64.10 349 *ce*P **P** **19 25 07.1 0.0**
KBS pmax pmax
comp=Z,66nm,1.7s
KBS MLR MLR
comp=Z,4µm,17.0s
KBS Kingsbay 64.10 349 IAMs_20 IAMs_20 19 55 18.7
comp=Z,4µm,18.0s
KBS Kingsbay 64.10 349 *e*P **P** **19 25 07.8 +0.7**
HLK Haleakala 64.16 81 IAMs_20 IAMs_20 19 46 47.4
comp=Z,4µm,20.0s
SKAG Skagway 64.21 35 P **P** **19 25 09.3 +1.3**
SKAG IAmb IAmb 19 25 25.0
comp=Z,62nm,1.1s
SKAG IAMs_20 IAMs_20 19 54 39.4
comp=Z,3µm,19.0s
STKA Stephens Creek 64.28 171 P **P** **19 25 09.4 +0.7**
comp=Z,29nm,0.8s,baz=340,slow=7.7,SNR=77
STKA LR LR 19 52 49.5
comp=Z,3µm,20.7s,baz=341,slow=36
STKA Stephens Creek 64.28 171 P **P** **19 25 09.4 +0.7**
STKA pmax pmax
comp=Z,7.0nm,0.8s
STKA MLR MLR
comp=Z,600nm,20.0s
STKA Stephens Creek 64.28 171 P **P** **19 25 09.4 +0.7**
JLN Jalan Bani Buh 64.35 281 P **P** **19 25 08.8 -0.8**
SNR=10
JLN P **P** **19 25 08.8 -0.8**
SNR=10
WBK Wadi Bani Khal 64.51 282 P **P** **19 25 10.3 -0.4**
SNR=12
WBK P **P** **19 25 10.3 -0.4**
SNR=12
WSAR Wadi Sarin 64.52 282 P **P** **19 25 10.2 -0.5**
SNR=8.7
HSPB Hornsund (broa 64.56 347 *e*P **P** **19 25 09.8 -0.3**
HSPB *e*S **S** **19 33 48.0 +0.7**
HSPB *e*L L 19 56 46.7
comp=Z,7µm,17.7s
HSPB Hornsund (broa 64.56 347 *e*P **P** **19 25 09.5 -0.5**
BBOO Buckleboo 64.69 176 P **P** **19 25 12.0 +0.6**
BBOO IAmb IAmb 19 25 34.0
comp=Z,38nm,1.1s
BESE Bessie Mountai 64.74 35 P **P** **19 25 12.9 +1.3**
BESE IAmb IAmb 19 25 38.1
comp=Z,92nm,1.4s
BIDO Bidbid 64.82 283 P **P** **19 25 11.8 -0.8**
SNR=16
BIDO P **P** **19 25 11.8 -0.8**
SNR=16
BIDO P **P** **19 25 11.8 -0.8**
SNR=16
ARMA Armidale 64.90 161 P **P** **19 25 14.5 +1.5**
ARMA IAmb IAmb 19 25 15.6
comp=Z,82nm,1.1s
ARMA IAMs_20 IAMs_20 19 50 44.2
comp=Z,3µm,21.0s
HPAH Hawaii Prepara 64.94 81 IAMs_20 IAMs_20 19 47 19.2
comp=Z,4µm,21.0s
KHLU Kahalu`u 64.98 82 IAMs_20 IAMs_20 19 47 09.1
comp=Z,4µm,21.0s
C36M Paulatuk 65.01 22 P **P** **19 25 14.4 +1.3**
baz=295,SNR=15
C36M S **S** **19 33 56.3 +3.3**
baz=295
C36M Paulatuk 65.01 22 P **P** **19 25 14.4 +1.3**
JIS Juneau Island 65.08 36 P **P** **19 25 13.4 -0.3**
JIS IAmb IAmb 19 25 39.6
comp=Z,86nm,1.4s
SMDO Samad 65.08 282 P **P** **19 25 15.0 +0.5**
SNR=16
SMDO P **P** **19 25 15.0 +0.5**
SNR=16
SMDO P **P** **19 25 15.0 +0.5**
SNR=16
POHA Pohakuloa 65.20 81 IAMs_20 IAMs_20 19 47 05.2
comp=Z,5µm,21.0s
KEV Kevo 65.21 338 P **P** **19 25 13.7 -0.7**
KEV pmax pmax
comp=Z,47nm,1.0s
KEV MLR MLR
comp=Z,11µm,18.0s
KEV Kevo 65.21 338 P **P** **19 25 13.7 -0.7**
KEV IAmb IAmb 19 25 16.0
comp=Z,47nm,1.0s
MLOA Mauna Loa Obse 65.27 82 IAMs_20 IAMs_20 19 47 17.9
comp=Z,5µm,20.0s
MAK Makhachkala 65.27 306 *e*P P 19 25 07.8 -7.4
MAK *e* 19 27 32.8
MAK *e*S **S** **19 33 48.3 -8.7**
MAK *e*SS **SS** **19 38 06.9 -2.7**
MAK pmax pmax
comp=Z,128nm,1.0s
MAK MLR MLR
comp=Z,20µm,14.0s
BANOM Banah 65.29 286 *i* P **P** **19 25 14.9 -0.8**
SNR=6.8
JMDO Jabal Madar 65.34 282 P **P** **19 25 15.2 -0.8**
SNR=14
JMDO P **P** **19 25 15.2 -0.8**
SNR=14
JMDO P **P** **19 25 15.2 -0.8**
SNR=14
KHU Kahuku 65.37 82 P **P** **19 25 14.5 -2.0**
KHU pmax pmax
comp=Z,197nm,1.2s
KHU Kahuku 65.37 82 P **P** **19 25 14.5 -2.0**
SHME Shamm 65.37 286 *i* P **P** **19 25 14.9 -1.3**
SNR=16
NOR Nord 65.38 355 *i* P **P** **19 25 15.6 +0.3**
comp=Z,4µm,18.0s
HOQ Hoqain 65.47 283 P **P** **19 25 17.0 +0.1**
SNR=16
HOQ P **P** **19 25 17.0 +0.1**
SNR=16
HOQ P **P** **19 25 17.0 +0.1**
SNR=16
MDH Madha 65.56 285 P **P** **19 25 15.9 -1.5**
MSFE Esma-Masafi 65.65 286 *i* P **P** **19 25 16.8 -1.2**
SNR=5.9
ARCES ARCESS Array B 65.78 338 P **P** **19 25 17.5 -0.7**
comp=Z,12nm,0.8s,baz=61,slow=5.5,SNR=37
ARCES LR LR 19 58 52.9
comp=Z,7µm,19.7s,baz=66,slow=40
ARE0 ARCESS Array S 65.78 338 P **P** **19 25 16.4 -1.7**
ARE0 ARCESS Array S 65.78 338 *e*P **P** **19 25 16.9 -1.2**
UOSS Minazif 65.79 285 P **P** **19 25 17.0 -1.9**
HAMF Hammerfest 65.82 340 *e*P **P** **19 25 16.8 -1.5**
SOHO SOHO 65.87 284 *i* P **P** **19 25 17.8 -1.6**
SNR=15
HATD Hatta, Dubai 65.90 285 *i* P **P** **19 25 18.2 -1.5**
SNR=9.6
HATD Hatta, Dubai 65.90 285 P **P** **19 25 19.2 -0.4**
SNR=10
HATD P **P** **19 25 19.2 -0.4**
SNR=10
HATD P **P** **19 25 19.2 -0.4**
SNR=10
VRH Novokhopyorsk 65.92 316 *e*P **P** **19 25 16.9 -2.4**
VRH pmax pmax
comp=Z,60nm,0.7s
VRH MLR MLR
comp=Z,19µm,16.0s
BSY Bisya 65.92 283 P **P** **19 25 19.0 -0.9**
SNR=16
BSY P **P** **19 25 19.0 -0.9**
SNR=16
BSY P **P** **19 25 19.0 -0.9**
SNR=16
LKRN Lenkeran, Azer 65.97 302 P **P** **19 25 18.6 -1.2**
UMQ Umm Al-Quwin 65.98 286 *i* P **P** **19 25 19.9 -0.2**
SNR=10
ASHO Ashiyiah 66.02 285 *i* P **P** **19 25 19.1 -1.4**
SNR=15
ASHO Ashiyiah 66.02 285 P **P** **19 25 19.6 -0.8**
SNR=9.3
ASHO P **P** **19 25 19.6 -0.8**
SNR=9.3
ASHO P **P** **19 25 19.6 -0.8**
SNR=9.3
MHTO MHTO 66.06 281 P **P** **19 25 19.6 -1.1**
SNR=22
MHTO P **P** **19 25 19.6 -1.1**
SNR=22
MHTO P **P** **19 25 19.6 -1.1**
SNR=22
EUNU Eureka 66.08 7 P **P** **19 25 19.4 -0.6**
EUNU IAmb IAmb 19 25 32.3
comp=Z,101nm,1.4s
EUNU IAMs_20 IAMs_20 19 54 04.8
comp=Z,5µm,20.0s
SEKA Sheki 66.14 305 P **P** **19 25 19.0 -2.0**
NWAO Narrogin (SRO) 66.19 194 P **P** **19 25 21.2 +0.1**
comp=Z,22nm,0.9s,baz=356,slow=7.7,SNR=4.6
NWAO Narrogin (SRO) 66.19 194 IAmb IAmb 19 25 35.6
comp=Z,87nm,1.1s
NAZ Nazwa, Dubai 66.21 285 *i* P **P** **19 25 20.4 -1.2**
SNR=6.9
NAZ Nazwa, Dubai 66.21 285 P **P** **19 25 22.0 +0.3**
SNR=15
NAZ P **P** **19 25 22.0 +0.3**
SNR=15
NAZ P **P** **19 25 22.0 +0.3**
SNR=15
ARQ Araqi 66.22 283 P **P** **19 25 20.9 -0.8**
SNR=16
ARQ P **P** **19 25 20.9 -0.8**
SNR=16
ARQ P **P** **19 25 20.9 -0.8**
SNR=16
MSVF Nonsavu 66.31 132 P **P** **19 25 23.6 +1.3**
MSVF pmax pmax
comp=Z,104nm,1.1s
MSVF MLR MLR
comp=Z,3µm,22.0s
MSVF Nonsavu 66.31 132 P **P** **19 25 23.6 +1.3**
GROC Groznyy 66.34 307 *e*P **P** **19 25 20.3 -1.8**
GROC *e* 19 25 48.9
GROC *e*S **S** **19 34 08.8 -1.3**
GROC pmax pmax
comp=Z,123nm,1.6s
GROC MLR MLR
comp=Z,6µm,12.0s
ZKTA Zakatala 66.37 305 P **P** **19 25 21.0 -1.4**
FAQ Al Faqa, Dubai 66.38 285 *i* P **P** **19 25 21.0 -1.6**
SNR=7.6
MNGR Mingechevir, A 66.38 304 P **P** **19 25 21.0 -1.4**
MOS Moscow 66.47 322 *e*P P 19 25 17.1 -5.6
MOS *e* 19 25 29.0
MOS *e* 19 27 45.3
MOS *e*S **S** **19 34 06.2 -5.1**
MOS *e* 19 35 09.6
MOS *i* SS **SS** **19 38 26.2 -1.5**
MOS *e*SSS SSS 19 41 27.8
MOS pmax pmax
comp=Z,900nm,2.6s
MOS pmax pmax
comp=Z,221nm,1.7s
MOS MLR MLR
comp=Z,29µm,15.0s
MOS MLR MLR
comp=N,12µm,14.0s
MOS MLR MLR
comp=E,23µm,16.0s
ALNE Al Ain 66.55 284 *i* P **P** **19 25 22.6 -1.1**
SNR=20
KTK1 Kautokeino 66.74 338 *e*P **P** **19 25 23.5 -0.8**
WRAK Wrangell Islan 66.80 37 P **P** **19 25 27.5 +2.6**
WRAK IAmb IAmb 19 25 42.7
comp=Z,54nm,1.4s
DQM DQM 66.90 280 P **P** **19 25 24.8 -1.2**
SNR=6.6
DQM P **P** **19 25 24.8 -1.2**
SNR=6.6
DQM P **P** **19 25 24.8 -1.2**
SNR=6.6
AJN Ajban 66.95 285 *i* P **P** **19 25 24.7 -1.6**
SNR=10
GANJ Ganja 66.97 304 P **P** **19 25 24.9 -1.4**
LPSR Galich'ya Gora 66.99 319 *e*P **P** **19 25 24.2 -1.9**
LPSR *e*S S 19 34 08.6 -9.0
LPSR pmax pmax
comp=Z,110nm,1.0s
LPSR smax smax
comp=E,1µm,17.6s
LPSR MLR MLR
comp=Z,14µm,15.0s
DLBC Dease Lake 67.14 34 P **P** **19 25 29.7 +2.6**
comp=Z,16nm,1.2s,baz=308,slow=6.0,SNR=12
DLBC Dease Lake 67.14 34 P **P** **19 25 29.4 +2.3**
DLBC IAmb IAmb 19 25 45.4
comp=Z,60nm,1.4s
OBN Obninsk 67.27 322 P **P** **19 25 26.6 -1.2**
comp=Z,7.8nm,1.0s,baz=53,slow=1.7,SNR=30
OBN LR LR 19 58 00.2
comp=Z,4µm,19.1s,baz=59,slow=39
OBN Obninsk 67.27 322 *c* *i*P **P** **19 25 26.0 -1.8**
OBN *e* 19 25 57.5
OBN *e* 19 28 02.4
OBN *i* S S 19 34 36.1 +15
OBN pmax pmax
comp=Z,185nm,1.7s
OBN MLR MLR
comp=Z,25µm,15.0s
OBN Obninsk 67.27 322 P **P** **19 25 26.7 -1.2**
VSR Storozhevoye 67.40 317 *e*P **P** **19 25 26.6 -2.1**
VSR *e*S **S** **19 34 16.2 -6.4**
VSR pmax pmax
comp=Z,170nm,1.4s
VSR smax smax
comp=E,1µm,16.8s
VSR MLR MLR
comp=Z,20µm,15.0s
VORD Divnogorie 67.42 317 *e*P **P** **19 25 27.1 -1.8**
VORD pmax pmax
comp=Z,60nm,1.3s
GOF Gofitskoye 67.45 310⇑ *i*P **P** **19 25 27.8 -1.4**
GOF pmax pmax
comp=Z,136nm,1.4s
TBLG Delisi 67.64 306 P **P** **19 25 29.7 -0.7**
TBLG Delisi 67.64 306 P **P** **19 25 29.7 -0.7**
TRO Tromso 67.74 340 *e*P **P** **19 25 29.1 -1.5**
ZEI Tsey 67.78 307 *e*P **P** **19 25 29.8 -1.8**
ZEI *e*S S 19 34 45.1 +17
ZEI pmax pmax
comp=Z,38nm,1.0s
ZEI MLR MLR
comp=Z,7µm,14.0s
ZEI MLR MLR
comp=E,3µm,14.0s
ZEI MLR MLR
comp=N,4µm,13.0s
DIB Dawson Inlet, 68.04 40 P **P** **19 25 34.4 +1.7**
DIB IAmb IAmb 19 25 58.8
comp=Z,41nm,1.0s
KBZ Khabaz 68.08 309 P **P** **19 25 32.8 -0.3**
comp=Z,26nm,0.9s,baz=68,slow=6.1,SNR=50
KBZ LR LR 19 59 22.0
comp=Z,17µm,19.0s,baz=74,slow=40
KVAR Kislovodsk Arr 68.12 309 P **P** **19 25 32.9 -0.7**
comp=Z,23nm,1.2s,baz=307,slow=10,SNR=9.1
KVAR LR LR 19 58 48.0
comp=Z,12µm,19.8s,baz=247,slow=39
KIV Kislovodsk 68.12 309⇑ P **P** **19 25 33.4 -0.2**
KIV Kislovodsk 68.12 309 *i* P **P** **19 25 32.6 -1.0**
SNR=23
KIV Kislovodsk 68.12 309 *e*P **P** **19 25 32.4 -1.2**
KIV *e* 19 28 02.2
KIV *e*PPP PPP 19 29 41.1
KIV *e*S **S** **19 34 31.8 0.0**
KIV *e*SS **SS** **19 38 53.4 -0.6**
KIV pmax pmax
comp=Z,948nm,4.8s
KIV pmax pmax
comp=Z,342nm,1.0s
KIV MLR MLR
comp=Z,33µm,17.0s
KIV Kislovodsk 68.12 309 P **P** **19 25 32.4 -1.2**
ONI Oni 68.17 307 P **P** **19 25 33.9 +0.1**
AKH Akhalkalaki 68.62 306⇑ P **P** **19 25 37.0 +0.1**
AKH Akhalkalaki 68.62 306 P **P** **19 25 36.5 -0.4**
AKH pmax pmax
comp=Z,151nm,1.1s
AKH MLR MLR
comp=Z,14µm,18.0s
AKH Akhalkalaki 68.62 306 P **P** **19 25 36.5 -0.4**
SUF Sumiainen 68.76 332 P **P** **19 25 35.5 -1.5**
SUF pmax pmax
comp=Z,56nm,1.4s
DGAR Diego Garcia 69.03 246 IAMs_20 IAMs_20 19 58 58.3
comp=Z,5µm,18.0s
CHVG Ch'k'valeri 69.03 308⇑ P **P** **19 25 39.2 +0.1**
RES Resolute Bay 69.14 12 P **P** **19 25 40.5 +1.3**
comp=Z,21nm,0.9s,baz=312,slow=6.6,SNR=18
RES Resolute Bay 69.14 12 P **P** **19 25 40.5 +1.3**
RES pmax pmax
comp=Z,82nm,1.1s
RES MLR MLR
comp=Z,2µm,19.0s
RES Resolute Bay 69.14 12 P **P** **19 25 40.5 +1.3**
RES IAmb IAmb 19 25 52.7
comp=Z,82nm,1.1s
RES IAMs_20 IAMs_20 19 59 21.5
comp=Z,2µm,19.0s
SHAO Shalim 69.39 279 P **P** **19 25 40.7 -1.0**
FIA1 FINESS Array S 69.41 330 P **P** **19 25 39.9 -1.2**
FIA1 IAmb IAmb 19 25 53.1
comp=Z,89nm,1.5s
FINES FINESS Array B 69.41 330 P **P** **19 25 39.9 -1.2**
comp=Z,9.7nm,0.7s,baz=65,slow=5.9,SNR=53
FINES LR LR 19 59 04.4
comp=Z,9µm,18.2s,baz=65,slow=39
STEI Steigen 69.81 339 *e*P **P** **19 25 41.6 -1.8**
DAG Danmarks Havn 69.86 353⇑ *i*P **P** **19 25 43.2 -0.4**
DAG *i* 19 25 52.5
comp=Z,2µm,16.0s
FAUS Fauske 70.12 338 *e*P **P** **19 25 43.6 -1.8**
LOF Lofoten 70.20 340 *e*P **P** **19 25 43.9 -2.0**
GEVA Gevas 70.23 303 P **P** **19 25 46.1 -0.7**
GEVA IAmb IAmb 19 25 56.7
comp=Z,68nm,1.0s
SOC Sochi 70.23 310 *c* *i*P **P** **19 25 44.7 -1.8**
SOC *e**PP **pP** **19 25 50.4 -4.5**
SOC *e**SP **sP** **19 25 53.2 -4.7**
SOC *e* 19 28 17.7
SOC *e*PPP PPP 19 30 05.4
SOC *e*S **S** **19 34 54.3 -2.2**
SOC *e*SS **SS** **19 39 26.8 +0.5**
SOC pmax pmax
comp=Z,26nm,0.7s
SOC MLR MLR
comp=Z,10µm,16.0s
TOO Toolangi 70.45 169 P **P** **19 25 49.7 +2.0**
TOO pmax pmax
comp=Z,41nm,0.9s
TOO MLR MLR
comp=Z,4µm,20.0s
TOO Toolangi 70.45 169 P **P** **19 25 49.7 +2.0**
TOO IAmb IAmb 19 25 50.7
comp=Z,41nm,0.9s
TOO IAMs_20 IAMs_20 19 55 01.1
comp=Z,4µm,20.0s
VSU Vasula 70.60 327 *e*P **P** **19 25 46.3 -2.1**
BBB Bella Bella 70.87 40 P **P** **19 25 52.2 +2.1**
comp=Z,3.6nm,0.7s,baz=292,slow=8.9,SNR=3.4
BBB Bella Bella 70.87 40 IAmb IAmb 19 26 08.1
comp=Z,66nm,1.4s
ANN Anapa 71.17 311 *e*P **P** **19 25 48.6 -3.6**
ANN *e**PP **pP** **19 25 56.9 -3.7**
ANN *e* 19 26 07.8
ANN *e*PPP PPP 19 30 06.3
ANN *e*S **S** **19 35 04.2 -3.1**
ANN *e*SS **SS** **19 39 34.2 -6.4**
ANN pmax pmax
comp=Z,146nm,1.5s
ANN MLR MLR
comp=Z,12µm,16.0s
ANN MLR MLR
comp=N,5µm,14.0s
KOPT Kop Dagi 71.27 306 P **P** **19 25 53.1 -0.2**
KOPT IAmb IAmb 19 26 16.6
comp=Z,41nm,1.1s
YKA Yellowknife Ar 71.79 27 P **P** **19 25 57.4 +1.8**
comp=Z,9.3nm,0.8s,baz=303,slow=6.0,SNR=37
YKA LR LR 20 02 06.3
comp=Z,1µm,18.4s,baz=0.0,slow=40
MICGM Minsk 72.03 324⇓ *e*P **P** **19 25 56.0 -1.2**
MICGM PM 19 26 00.0
comp=Z,0.8nm,2.0s
MICGM PM 19 26 02.0
comp=E,0.6nm,1.5s
MICGM *e*PcP **PcP** **19 26 16.0 +0.4**
MICGM *e*S **S** **19 35 16.0 -0.9**
MICGM *e*LQ LQ 19 53 12.0
MICGM *e*LR LR 19 57 32.0
MICGM LRM MLR 20 01 14.0
comp=E,21nm,16.0s
MICGM LRM MLR 20 01 18.0
comp=Z,41nm,15.0s
MICGM LRM MLR 20 01 20.0
comp=E,36nm,16.0s
MICGM LRM MLR 20 01 24.0
comp=Z,49nm,16.0s
MNK Minsk 72.03 324 *e*P **P** **19 25 56.0 -1.2**
MNK *e* 19 26 16.0
MNK *e*S **S** **19 35 16.0 -0.9**
MNK pmax pmax
comp=Z,800nm,2.0s
MNK MLR MLR
comp=Z,41µm,16.0s
IDID Didziasalis 72.19 325 *e*P **P** **19 25 57.3 -0.8**
IZAR Zarasai 72.20 325 *e*P **P** **19 25 57.3 -0.9**
ISAL Salakas 72.36 325 *e*P **P** **19 25 57.3 -1.8**
NACGM Naroch 72.38 324 *e*P **P** **19 25 58.0 -1.3**
NACGM *e*PcP **sP** **19 26 10.0 -0.7**
NACGM *e*PP **PP** **19 28 44.0 +4.2**
NACGM *e*S **S** **19 35 18.0 -2.9**
NACGM *e*PS 19 36 04.0
NACGM *e*SS SS 19 40 10.0 +11
NACGM *e*SSS SSS 19 43 40.0
NACGM *e*LQ LQ 19 52 04.0
NACGM *e*LR LR 19 59 08.0
NACGM LRM MLR 20 01 34.0
comp=Z,47nm,14.0s
XMAS Kiritimati 72.43 99 IAMs_20 IAMs_20 19 50 41.4
comp=Z,3µm,19.0s
NSS Namsos 72.96 337 *e*P **P** **19 26 00.7 -1.8**
SLIT Slitere, Latvi 73.05 328 *e*P **P** **19 26 00.8 -2.3**
SIM Simferopol' 73.19 313 P **P** **19 26 02.2 -2.1**
SIM pmax pmax
comp=Z,71nm,1.1s
SIM MLR MLR
comp=Z,3µm,16.0s
AKASG Malin Array Be 73.24 320 P **P** **19 26 03.0 -1.4**
comp=Z,40nm,0.7s,baz=52,slow=6.0,SNR=146
AKASG LR LR 20 00 51.1
comp=Z,13µm,18.6s,baz=60,slow=38
AKASG Malin Array Be 73.24 320 *i* P **P** **19 26 02.7 -1.7**
AKASG pmax pmax
comp=Z,40nm,0.7s
AKASG Malin Array Be 73.24 320 P **P** **19 26 03.2 -1.2**
AKBB Malin Array Si 73.24 320 P **P** **19 26 03.0 -1.4**
AKBB pmax pmax

comp=Z,74nm,1.0s
AKBB MLR MLR
comp=Z,15µm,19.0s
AKBB Malin Array Si 73.24 320 P **P** **19 26 03.0 -1.4**
AKBB IAmb IAmb 19 26 13.3
comp=Z,74nm,0.9s
KULLO Kullorsuaq 73.40 3⇑*iP* **P** **19 26 05.3 +0.3**
comp=Z,6µm,17.0s
PABE Paberze 73.43 326 *e*P **P** **19 26 04.2 -1.3**
JMIC Jan Mayen 73.44 347 LR LR 20 00 09.3
comp=Z,2µm,19.3s,baz=36,slow=37
JMIC Jan Mayen 73.44 347 *e*P **P** **19 26 05.6 +0.3**
SOCY Socotra 73.59 274 P **P** **19 26 05.1 -2.2**
SOCY IAMs_20 IAMs_20 20 00 19.3
comp=Z,4µm,20.0s
TOKA Tokat 73.87 308 P **P** **19 26 09.0 +0.6**
TOKA IAmb IAmb 19 26 18.1
comp=Z,74nm,1.3s
TOKA IAMs_20 IAMs_20 20 04 42.0
comp=Z,4µm,19.0s
TBLU Trondheim 74.37 336 *e*P **P** **19 26 08.9 -1.9**
SUW Suwalki 74.63 325 *e*P **P** **19 26 11.2 -1.2**
SUW *e*pP **pP** **19 26 18.4 -2.4**
SUW *e*PP **PP** **19 28 58.4 -0.6**
SUW *e*S **S** **19 35 44.9 -1.5**
SUW *e*L L 20 02 36.3
comp=Z,51µm,16.8s
SUW Suwalki 74.63 325 P **P** **19 26 11.3 -1.2**
SUW pmax pmax
comp=Z,86nm,1.0s
SUW MLR MLR
comp=Z,12µm,20.0s
SUW Suwalki 74.63 325 P **P** **19 26 11.3 -1.2**
SUW IAmb IAmb 19 26 32.7
comp=Z,86nm,1.0s
GAZ Gaziantep 74.87 304 P **P** **19 26 14.0 -0.4**
GAZ IAmb IAmb 19 26 23.7
comp=Z,53nm,1.2s
SORM Soroca 75.04 318⇑P **P** **19 26 14.6 -0.4**
HFS Hagfors 75.15 333 LR LR 20 03 20.2
comp=Z,9µm,19.1s,baz=46,slow=39
NC405 NORSAR Array S 75.27 334 P **P** **19 26 14.8 -1.3**
NC303 NORSAR Array S 75.32 335 P **P** **19 26 15.5 -0.9**
NC303 IAmb IAmb 19 26 33.9
comp=Z,133nm,1.4s
ILGA Ilgaz 75.35 309 P **P** **19 26 15.7 -1.5**
ILGA IAmb IAmb 19 26 36.5
comp=Z,60nm,1.2s
KIS Kishinev 75.37 316⇑*iP* **P** **19 26 14.4 -2.5**
comp=Z,360nm,8.5s
KIS Kishinev 75.37 316 *e*PcP **PcP** **19 26 25.0 -5.1**
KIS Kishinev 75.37 316*c i*P **P** **19 26 14.4 -2.5**
KIS *e* 19 26 25.0
KIS *e* 19 26 31.0
KIS *e*PPP PPP 19 30 53.0
KIS *e*S **S** **19 35 50.0 -4.8**
KIS *e*PS 19 36 43.0
KIS pmax pmax
comp=Z,360nm,8.5s
KIS MLR MLR
comp=Z,6µm,15.5s
KIS MLR MLR
comp=N,2µm,13.0s
KIS MLR MLR
comp=E,3µm,15.0s
SUMG Summit 75.39 357⇑*iP* **P** **19 26 18.0 +0.9**
comp=E,529nm,1.1s
comp=Z,9µm,17.0s
SUMG Summit 75.39 357 P **P** **19 26 17.6 +0.5**
SUMG Summit 75.39 357 P **P** **19 26 17.6 +0.5**
SUMG IAMs_20 IAMs_20 20 02 14.4
comp=Z,4µm,19.0s
MILM Milestii Mici 75.41 316⇑P **P** **19 26 16.6 -0.6**
NB201 NORSAR Array S 75.46 334 P **P** **19 26 16.4 -0.9**
NB2 NORSAR Subarra 75.50 334 P **P** **19 26 15.6 -1.9**
comp=Z,290nm,2.0s,baz=50,slow=5.9
NB2 NORSAR Subarra 75.50 334 P **P** **19 26 15.6 -1.9**
baz=50,slow=5.9
NOA NORSAR Array B 75.50 334 P **P** **19 26 16.4 -1.1**
comp=Z,9.9nm,0.8s,baz=48,slow=5.6,SNR=28
NOA LR LR 20 02 39.1
comp=Z,9µm,19.9s,baz=50,slow=38
NC204 NORSAR Array S 75.51 335 P **P** **19 26 16.6 -0.9**
NC204 IAmb IAmb 19 26 35.8
comp=Z,70nm,1.1s
NC602 NORSAR Array S 75.58 334 P **P** **19 26 16.7 -1.2**
NC602 IAmb IAmb 19 26 41.4
comp=Z,55nm,1.3s
DOMB Dombas 75.59 336 *e*P **P** **19 26 16.8 -1.2**
A04D Lummi Island 75.59 41 P **P** **19 26 20.0 +1.9**
baz=302
A04D S **S** **19 36 00.6 +3.3**
baz=302
NLWA Neilton Lookou 75.64 43 P **P** **19 26 20.2 +1.7**
NBO00 NORSAR Array S 75.67 335 P **P** **19 26 17.4 -1.0**
NBO00 IAmb IAmb 19 26 45.0
comp=Z,74nm,1.4s
MOL Molde 75.75 337 *e*P **P** **19 26 17.8 -0.9**
NAO01 NORSAR Array S 75.75 334 P **P** **19 26 17.6 -1.3**
NAO01 IAmb IAmb 19 26 36.1
comp=Z,65nm,1.1s
NAO01 NORSAR Array S 75.75 334 *e*P **P** **19 26 16.8 -2.1**
TAU Tasmania Unive 75.96 169 P **P** **19 26 20.9 +0.8**
TAU pmax pmax
comp=Z,70nm,1.2s
TAU Tasmania Unive 75.96 169 P **P** **19 26 20.9 +0.8**
TAU IAmb IAmb 19 26 31.8
comp=Z,70nm,1.2s
IAS Iasi 75.99 317⇑P **P** **19 26 20.5 0.0**
SCO Scoresbysund 76.00 351⇑*iP* **P** **19 26 20.5 +0.4**
comp=Z,207nm,1.5s
comp=Z,4µm,16.0s
SCO Scoresbysund 76.00 351 P **P** **19 26 21.0 +0.9**
SCO pmax pmax
comp=Z,210nm,1.5s
SCO MLR MLR
comp=Z,3µm,19.0s
SCO Scoresbysund 76.00 351 P **P** **19 26 21.0 +0.9**
SCO IAMs_20 IAMs_20 20 04 47.8
comp=Z,3µm,19.0s
D03D Eldon 76.01 42 P **P** **19 26 22.7 +2.1**
baz=302,SNR=18
D03D S **S** **19 36 06.3 +4.3**
baz=302
BR131 Keskin Array S 76.06 308 P **P** **19 26 20.2 -1.0**
BR131 pmax pmax
comp=Z,45nm,1.1s
BR131 Keskin Array S 76.06 308 P **P** **19 26 20.2 -1.0**
BR131 IAmb IAmb 19 26 30.6
comp=Z,45nm,1.1s
BRTR Keskin Array B 76.06 308 P **P** **19 26 20.6 -0.6**
comp=Z,13nm,0.9s,baz=90,slow=4.8,SNR=53
BRTR LR LR 20 04 32.4
comp=Z,5µm,19.6s,baz=36,slow=40
BRTR Keskin Array B 76.06 308 P **P** **19 26 19.5 -1.7**
VASR Vaslui 76.15 317⇑P **P** **19 26 21.7 +0.3**
B05A Bryant 76.18 41 P **P** **19 26 23.2 +1.6**
baz=303
B05A S **S** **19 36 06.1 +2.3**
baz=303
AKN Aaknes 76.20 337 *e*P **P** **19 26 20.7 -0.7**
TLCR 76.32 315⇑P **P** **19 26 22.3 -0.1**
D04E Lakebay 76.39 43 P **P** **19 26 24.7 +2.0**
baz=303
D04E S **S** **19 36 11.2 +5.1**
baz=303
B06A Marblemount 76.39 41 P **P** **19 26 23.7 +1.0**
B06A IAmb IAmb 19 26 40.7
comp=Z,83nm,1.2s
OSL Oslo 76.42 334 *e*P **P** **19 26 21.6 -1.1**
VARL Varlezi 76.52 316⇓P **P** **19 26 23.8 +0.3**
LVV L'vov 76.53 321 *e*P **P** **19 26 22.8 -0.7**
LVV *e*S **S** **19 36 01.0 -6.6**
LVV MLR MLR
comp=Z,19µm,15.0s
BR231 Keskin MP Arra 76.58 309 P **P** **19 26 23.8 -0.3**
BR231 IAmb IAmb 19 26 33.0
comp=Z,49nm,1.2s
PRAR RASCA 76.67 318⇑P **P** **19 26 24.4 +0.1**
GHRR 76.69 316⇓P **P** **19 26 24.8 +0.4**
CFR Carcaliu 76.73 315⇑P **P** **19 26 24.6 -0.1**
TOPG Topolog 76.74 315⇓P **P** **19 26 24.9 +0.1**
SKAR Skarslia 76.79 335 *e*P **P** **19 26 23.8 -1.0**
D05A Enumclaw 76.83 42 P **P** **19 26 24.9 -0.4**
D05A IAmb IAmb 19 26 41.0
comp=Z,90nm,1.3s
F04D Rainier, OR 76.84 44 P **P** **19 26 28.2 +2.9**
baz=303
E04D Cinebar 76.84 43 P **P** **19 26 28.5 +3.2**
baz=303,SNR=5.1
E04D S **S** **19 36 14.3 +3.2**
baz=303
TESR Tescani 76.89 317⇑P **P** **19 26 25.2 -0.4**
BIZ Bicaz 76.97 317⇑P **P** **19 26 25.5 -0.6**
PETR Petresti 76.97 316⇑P **P** **19 26 26.9 +0.9**
KONO Kongsberg 77.03 334*c i*P **P** **19 26 24.4 -1.7**
KONO pmax pmax
comp=Z,46nm,1.7s
KONO MLR MLR
comp=Z,10µm,16.0s
KONO Kongsberg 77.03 334 *e*P **P** **19 26 24.6 -1.5**
ODBI Odobesti 77.06 316⇑P **P** **19 26 27.6 +1.1**
BEL Belsk 77.06 324 *e*P **P** **19 26 25.9 -0.6**
BEL *e*pP **pP** **19 26 33.6 -1.2**
BEL *e*S **S** **19 36 12.5 -0.8**
BEL *e*L L 20 04 13.7
comp=Z,53µm,16.0s
BUR08 Bucovina Ar. S 77.10 318 P **P** **19 26 25.8 -1.1**
BUR08 IAmb IAmb 19 26 45.5
comp=Z,77nm,1.1s
BURAR Bucovina Array 77.10 318⇓P **P** **19 26 26.7 -0.2**
BURAR Bucovina Array 77.10 318 P **P** **19 26 25.9 -1.1**
HARR Harsova 77.11 315⇑P **P** **19 26 26.5 -0.3**
TLBR Topalu 77.12 315⇑P **P** **19 26 27.2 +0.3**
G03D McMinnville, O 77.16 45 P **P** **19 26 29.6 +2.5**
baz=303
G03D S **S** **19 36 18.3 +3.7**
baz=303
LON Longmire 77.17 43 P **P** **19 26 27.5 +0.2**
LON pmax pmax
comp=Z,18nm,1.3s
LON Longmire 77.17 43 P **P** **19 26 27.5 +0.2**
HYA Hoyanger 77.19 336 *e*P **P** **19 26 26.6 -0.4**
VRI Vrincioaia 77.19 316⇑P **P** **19 26 26.9 -0.5**
PLOR Plostina 77.25 316⇑P **P** **19 26 28.2 +0.6**
F04A Amboy 77.27 44 P **P** **19 26 28.5 +0.8**
FOO Floro 77.27 337 *e*P **P** **19 26 26.4 -1.0**
MDUB Mudurnu 77.29 310 P **P** **19 26 27.7 -0.4**
KWP Kalwaria Pacla 77.34 321 *e*P **P** **19 26 27.9 -0.3**
KWP *e*S **S** **19 36 15.4 -1.1**
BISRR Bisoca 77.38 316⇑P **P** **19 26 29.6 +1.1**
I02D Swisshome 77.40 46 P **P** **19 26 30.2 +1.7**
baz=303
I02D S **S** **19 36 21.3 +4.1**
baz=303
LTY Liberty 77.54 42 P **P** **19 26 30.6 +1.2**
ASF Jabal al Asfar 77.55 300 LR LR 20 06 31.2
comp=Z,3µm,18.8s,baz=356,slow=40
PGOR Pogoanele 77.56 315⇑P **P** **19 26 30.1 +0.8**
OZUR 77.62 317⇑P **P** **19 26 30.8 +1.1**
B08A Colville Reser 77.67 40 P **P** **19 26 31.4 +1.4**
B08A IAmb IAmb 19 26 48.0
comp=Z,55nm,1.1s
SUE Sulen 77.75 337 *e*P **P** **19 26 29.0 -1.1**
ORH Orhaniye 77.82 311 *e*P P 19 26 42.9 +12
H04D Lebanon 77.85 45 P **P** **19 26 33.1 +2.1**
baz=303
H04D S **S** **19 36 25.5 +3.4**
baz=303
F05D White Salmon 77.85 43 P **P** **19 26 33.2 +2.1**
baz=304
F05D S **S** **19 36 25.5 +3.3**
baz=304
MLR Muntele Rosu 77.86 316⇑P **P** **19 26 31.5 +0.2**
MLR Muntele Rosu 77.86 316 P **P** **19 26 31.1 -0.1**
MLR pmax pmax
comp=Z,54nm,1.1s
MLR MLR MLR
comp=Z,16µm,20.0s
MLR Muntele Rosu 77.86 316 P **P** **19 26 31.1 -0.1**
MLR IAmb IAmb 19 26 51.7
comp=Z,54nm,1.1s
J01E Myrtle Point 77.86 47 P **P** **19 26 34.4 +3.3**
baz=303
J01E S **S** **19 36 27.2 +5.0**
baz=303
ARCR ARCALIA 77.89 318⇑P **P** **19 26 32.4 +1.2**
DOPR Dopca 77.92 317⇑P **P** **19 26 31.4 0.0**
I03D Drain, OR 77.93 46 P **P** **19 26 34.9 +3.4**
baz=303,SNR=7.0
I03D S **S** **19 36 27.0 +4.1**
baz=303
ODD1 Odda 77.93 335 *e*P **P** **19 26 33.8 +2.6**
GKP Gorka Klasztor 77.94 326 *e*P **P** **19 26 30.6 -0.7**
GKP *e*S **S** **19 36 21.4 -1.3**
GKP *e*L L 20 04 06.2
comp=Z,23µm,18.6s
KOLS Kolonicke sedl 77.98 321 *e*P **P** **19 26 30.1 -1.6**
KOLS pmax pmax
comp=Z,36nm,1.3s
KOLS Kolonicke sedl 77.98 321 *e*P **P** **19 26 30.0 -1.6**
KOLS *e*S **S** **19 36 21.7 -1.7**
KOLS *e*SS SS 19 41 43.5 +20
KOLS *e*L L 20 05 25.0
ASK Askoy 78.02 336 *e*P P 19 26 25.6 -6.0
BMR Baia Mare 78.03 319⇑P **P** **19 26 33.2 +1.2**
SECR 78.04 316⇓P **P** **19 26 32.4 +0.4**
BER Bergen 78.05 336 *e*P **P** **19 26 31.0 -0.8**
H04A Detroit Lake 78.09 45 P **P** **19 26 33.5 +1.1**
UZH Uzhgorod 78.14 320 *e*P **P** **19 26 30.1 -2.4**
UZH *i* 19 26 32.6
UZH *e* 19 29 27.2
UZH *i*S **S** **19 36 17.9 -7.2**
UZH MLR MLR
comp=Z,3µm,13.0s
MMAI Mount Meron Ar 78.22 302 LR LR 20 05 45.2
comp=Z,4µm,19.2s,baz=55,slow=39
PRD Provadia 78.24 314 *e*P **P** **19 26 32.8 -0.4**
K02D Willamette Mer 78.28 47 P **P** **19 26 35.3 +1.8**
baz=303,SNR=5.4
K02D S **S** **19 36 30.1 +3.1**
baz=303
G05D Wamic, OR 78.29 44 P **P** **19 26 35.9 +2.4**
baz=304
G05D S **S** **19 36 29.0 +2.1**
baz=304
BLS5 Blasjo 78.34 335 *e*P **P** **19 26 32.4 -1.1**
BOLV Bolvadin 78.37 308 P **P** **19 26 33.6 -0.6**
BOLV IAmb IAmb 19 26 43.1
comp=Z,76nm,1.2s
BOLV IAMs_20 IAMs_20 20 06 05.8
comp=Z,4µm,21.0s
E07A Sunnyside 78.40 42 P **P** **19 26 35.7 +1.7**
VOIR 78.41 317⇑P **P** **19 26 34.4 +0.2**
CRVS Cervenica-Dubn 78.43 321 *e*P **P** **19 26 33.6 -0.6**
CRVS pmax pmax
comp=Z,452nm,2.0s
CRVS Cervenica-Dubn 78.43 321 *e*P **P** **19 26 33.6 -0.6**
CRVS *e*PP **PP** **19 29 33.6 +2.5**
CRVS *e*S **S** **19 36 25.8 -2.5**
CRVS *e*SS SS 19 41 49.6 +19
CRVS *e*L L 20 04 59.8
I04A Tendick Farm, 78.44 45 P **P** **19 26 35.9 +1.5**
baz=304,SNR=9.3
I04A S **S** **19 36 32.6 +4.0**
baz=304
CJR Cluj-Napoca 78.52 318⇑P **P** **19 26 36.0 +1.2**
OJC Ojcow 78.53 323 *e*P **P** **19 26 34.1 -0.6**
OJC *e*pP **pP** **19 26 40.5 -2.5**
OJC *e*PP **PP** **19 29 31.9 0.0**
OJC *e*S **S** **19 36 26.6 -2.6**
OJC *e*SS SS 19 41 44.0 +12
OJC *e*L L 20 05 09.8
comp=Z,15µm,16.6s
OJC Ojcow 78.53 323 P **P** **19 26 34.8 +0.1**
OJC pmax pmax
comp=Z,260nm,1.4s
OJC Ojcow 78.53 323 P **P** **19 26 34.8 +0.1**
C09A Chrisman Ranch 78.57 40 P **P** **19 26 35.5 +0.6**
RAZG Razgrad 78.58 314⇑P **P** **19 26 35.5 +0.4**
L02E Cave Junction 78.61 47 P **P** **19 26 36.8 +1.5**
baz=303
L02E S **S** **19 36 34.7 +4.3**
baz=303
D08A Wollman Farm, 78.64 41 P **P** **19 26 36.8 +1.4**
HAWA Hanford 78.67 42 P **P** **19 26 36.5 +1.0**
HAWA IAmb IAmb 19 26 55.4
comp=Z,60nm,1.4s
ARR Arges 78.69 317⇑P **P** **19 26 36.8 +1.1**
CSS Mathiatis 78.70 304 P **P** **19 26 34.2 -1.7**
CSS IAMs_20 IAMs_20 20 05 17.8
comp=Z,4µm,20.0s
F07A Phinny Hill Vi 78.73 43 P **P** **19 26 37.5 +1.7**
NIE Niedzica 78.74 322 *e*P **P** **19 26 35.9 -0.1**
NIE *e*PP **PP** **19 29 31.1 -2.7**
NIE *e*S **S** **19 36 29.8 -1.9**
NIE *e*SS SS 19 41 50.1 +15
KRMB Red Mountain 78.76 48 P **P** **19 26 38.0 +1.8**
HUMO Hull Mountain 78.76 47 P **P** **19 26 37.0 +0.9**
I05D Terrebonne, OR 78.78 45 P **P** **19 26 37.6 +1.4**
baz=304
I05D S **S** **19 36 35.6 +3.3**
baz=304
SNART Snartemo 78.83 334 *e*P **P** **19 26 35.2 -1.0**
E08A Dider Farm, El 78.89 42 P **P** **19 26 37.2 +0.5**
RGN Rugen 78.92 329 *e*P **P** **19 26 35.6 -1.1**
NEW Newport 78.92 40 P **P** **19 26 38.6 +1.6**
baz=306,SNR=11
NEW Newport 78.92 40 P **P** **19 26 38.4 +1.5**
NEW pmax pmax
comp=Z,23nm,1.1s
NEW MLR MLR
comp=Z,1µm,21.0s
NEW Newport 78.92 40 P **P** **19 26 38.4 +1.5**
J04D Umpqua Nationa 78.93 46 P **P** **19 26 38.8 +1.5**
baz=304
ILULI Ilulissat 78.95 1 *i* P **P** **19 26 37.0 +0.4**
ILULI *i* 19 26 45.6
comp=Z,3µm,16.0s
ILULI Ilulissat 78.95 1 P **P** **19 26 37.4 +0.8**
ILULI pmax pmax
comp=Z,93nm,1.2s
ILULI MLR MLR
comp=Z,3µm,18.0s
ILULI Ilulissat 78.95 1 P **P** **19 26 37.4 +0.8**
ILULI IAmb IAmb 19 26 48.6
comp=Z,93nm,1.2s
ILULI IAMs_20 IAMs_20 20 04 50.4
comp=Z,3µm,18.0s
JCC Jacoby Creek, 79.07 49 P **P** **19 26 39.7 +1.9**
JCC IAmb IAmb 19 26 52.9
comp=Z,117nm,1.4s
SZH Strazhica 79.10 314 *e*P **P** **19 26 36.7 -1.2**
JMB Yambol 79.14 313 *e*P **P** **19 26 37.7 -0.5**
LOT Lotru 79.15 317⇑P **P** **19 26 38.6 +0.2**
KECS Kecovo 79.20 321 *e*P **P** **19 26 38.8 +0.4**
KECS pmax pmax
comp=Z,58nm,2.0s
KECS Kecovo 79.20 321 *e*P **P** **19 26 38.8 +0.4**
KHMM Horse Mountain 79.22 48 P **P** **19 26 40.2 +1.3**
KHMM IAMs_20 IAMs_20 20 02 15.5
comp=Z,2µm,18.0s
PINE Pine Mountain 79.33 45 P **P** **19 26 41.5 +2.1**
PINE IAmb IAmb 19 26 56.5
comp=Z,54nm,0.9s
L04D Klamath Falls 79.38 47 P **P** **19 26 41.3 +1.6**
baz=304,SNR=11
L04D S **S** **19 36 42.2 +3.3**
baz=304
MUD Monsted U'grnd 79.39 332⇑*iP* **P** **19 26 38.2 -1.0**
MUD *i* 19 26 47.1
comp=Z,12µm,13.0s
E09A Wood Farm, Sta 79.39 41 P **P** **19 26 41.2 +1.7**
E09A IAmb IAmb 19 26 59.3
comp=Z,70nm,1.4s
EDRB Edirne 79.39 313 P **P** **19 26 38.7 -0.8**
YBH Yreka Blue Hor 79.40 47 P **P** **19 26 41.1 +1.4**
comp=Z,3.3nm,0.8s,baz=297,slow=0.8,SNR=12
YBH Yreka Blue Hor 79.40 47 P **P** **19 26 41.1 +1.4**
YBH pmax pmax
comp=Z,18nm,1.1s
YBH Yreka Blue Hor 79.40 47 P **P** **19 26 41.1 +1.4**
J05D Fort Rock, OR 79.44 45 P **P** **19 26 41.6 +1.6**
baz=304,SNR=14
J05D S **S** **19 36 43.6 +4.1**
baz=304
K04D Chiloquin, OR 79.49 46 P **P** **19 26 42.1 +1.8**
baz=304
K04D S **S** **19 36 44.4 +4.4**
baz=304
M02C Callahan 79.50 48 P **P** **19 26 42.7 +2.5**
baz=304,SNR=8.1
M02C S **S** **19 36 43.9 +3.9**
baz=304
KMRM Mail Ridge 79.60 49 P **P** **19 26 42.2 +1.4**
KMRM IAMs_20 IAMs_20 19 56 25.7
comp=Z,2µm,19.0s
OKC Ostrava-Krasne 79.60 323 AMS AMS 20 06 00.0
comp=Z,6µm,14.0s
G08A Pilot Rock 79.64 43 P **P** **19 26 42.3 +1.3**
N02D Trinity Center 79.82 48 P **P** **19 26 45.5 +3.5**
baz=304,SNR=9.5
N02D S **S** **19 36 46.8 +3.3**
baz=304
PSZ Piszkesteto 79.86 321 P **P** **19 26 41.3 -0.8**
PSZ pmax pmax
comp=Z,126nm,1.3s
PSZ MLR MLR
comp=Z,15µm,18.0s
PSZ Piszkesteto 79.86 321 P **P** **19 26 41.3 -0.8**
PSZ IAmb IAmb 19 26 51.8
comp=Z,126nm,1.3s
SIRR Siria 79.87 319⇑P **P** **19 26 43.0 +0.9**
KSP Ksiaz 79.91 325 *e*P **P** **19 26 41.6 -0.5**
KSP *e*PP **PP** **19 29 43.2 -0.1**
KSP *e*S **S** **19 36 41.6 -2.2**
KSP *e*L L 20 06 00.4
comp=Z,42µm,16.4s
M04C Macdoel 79.91 47 P **P** **19 26 45.4 +2.9**
baz=304,SNR=13
M04C S **S** **19 36 48.9 +4.4**
baz=304
MORC Moravsky Berou 79.95 323⇑P **P** **19 26 43.5 +0.9**
MORC Moravsky Berou 79.95 323*i*P **P** **19 26 41.7 -0.8**
MORC Moravsky Berou 79.95 323 *e*S **S** **19 36 43.9 -0.6**
MORC Moravsky Berou 79.95 323 P **P** **19 26 41.6 -0.9**
MORC pmax pmax
comp=Z,142nm,1.5s
MORC MLR MLR
comp=Z,17µm,22.0s
MORC Moravsky Berou 79.95 323 P **P** **19 26 41.6 -0.9**
MORC IAmb IAmb 19 26 44.0
comp=Z,142nm,1.5s
K05A Summer Lake 79.96 46 P **P** **19 26 44.6 +1.7**
K05A IAmb IAmb 19 27 02.7
comp=Z,58nm,1.2s
KCPM Cahto Peak 79.97 49 P **P** **19 26 44.9 +1.9**
KCPM IAmb IAmb 19 26 57.6
comp=Z,92nm,1.5s
KULA Kula-Manisa 79.99 309 P **P** **19 26 39.0 -4.0**
I07A Izee 80.02 44 P **P** **19 26 44.4 +1.3**
RUE Ruedersdorf 80.06 327 *e*P **P** **19 26 41.9 -1.0**
RUE Ruedersdorf 80.06 327 *e*P **P** **19 26 42.9 0.0**
comp=Z,434nm,1.9s,baz=47,slow=5.2
VYHS Vyhne 80.07 322 *e*P **P** **19 26 42.9 -0.2**
VYHS pmax pmax
comp=Z,281nm,1.8s
VYHS Vyhne 80.07 322 *e*P **P** **19 26 42.9 -0.2**
VYHS *e*S **S** **19 36 42.2 -3.5**
VYHS *e*L L 20 05 13.4
MANT Manisa 80.07 309 P **P** **19 26 42.2 -1.4**
MANT IAmb IAmb 19 26 46.6
comp=Z,107nm,1.2s
ELL Elmali 80.11 307 P **P** **19 26 42.6 -1.1**
ELL pmax pmax
comp=Z,345nm,1.4s
ELL MLR MLR
comp=Z,21µm,19.0s
ELL Elmali 80.11 307 P **P** **19 26 42.6 -1.1**
OSTC Ostas 80.13 324 *e*P **P** **19 26 43.2 -0.2**
OSTC *ex* x 19 26 51.1
OSTC *e*S S 19 36 30.2 -16
OSTC AMS AMS 20 06 10.0
comp=Z,48µm,15.7s
WALA Waterton Lakes 80.14 38 P **P** **19 26 45.4 +1.8**
WDC Whiskeytown Da 80.14 48 P **P** **19 26 45.8 +2.2**
WDC pmax pmax
comp=Z,42nm,1.2s
WDC MLR MLR
comp=Z,1µm,22.0s
WDC Whiskeytown Da 80.14 48 P **P** **19 26 45.8 +2.2**
KRLC Kraliky 80.15 324 *e*P **P** **19 26 43.1 -0.5**
KRLC *e* 19 26 51.0
KRLC *e*S **S** **19 36 41.6 -4.9**

KRLC MLR MLR
comp=Z,48µm,15.4s
KRLC Kraliky 80.15 324 eP **P** **19 26 43.1 -0.5**
KRLC epP **PcP** **19 26 51.0 +0.2**
KRLC eS **S** **19 36 41.6 -4.9**
KRLC AMS AMS 20 06 20.0
comp=Z,48µm,15.4s
CHVC Chvalec 80.19 324 eP **P** **19 26 43.1 -0.6**
CHVC ex x 19 26 52.1
CHVC eS S 19 36 30.2 -17
CHVC AMS AMS 20 06 10.0
comp=Z,45µm,15.6s
DPC Dobruska-Polom 80.20 324 eP **P** **19 26 43.6 -0.3**
DPC MLR MLR
comp=Z,50µm,15.5s
DPC Dobruska-Polom 80.20 324 eP **P** **19 26 43.6 -0.3**
DPC ex x 19 27 01.9
DPC eS S 19 36 32.5 -15
DPC AMS AMS 20 06 20.0
comp=Z,50µm,15.5s
O02D Mt. Diablo Mer 80.21 49 P **P** **19 26 47.3 +3.1**
baz=304,SNR=14
O02D S **S** **19 36 51.7 +4.1**
baz=304
F10A Beach Ranch, E 80.22 41 P **P** **19 26 45.5 +1.4**
HERR Herculane 80.26 317 ⇑P **P** **19 26 44.7 +0.5**
UPC Upice 80.26 324 eP **P** **19 26 43.4 -0.7**
UPC e 19 26 52.3
UPC eS **S** **19 36 43.9 -3.7**
UPC MLR MLR
comp=Z,50µm,15.7s
UPC Upice 80.26 324 eP **P** **19 26 43.4 -0.7**
UPC epP **pP** **19 26 52.3 -0.2**
UPC eS **S** **19 36 43.9 -3.7**
UPC AMS AMS 20 06 10.0
comp=Z,50µm,15.7s
EIL Elat 80.26 299 LR LR 20 07 29.0
comp=Z,3µm,19.1s,baz=60,slow=40
BZS Buzias 80.28 318 ⇑P **P** **19 26 44.4 +0.1**
PUNG Punghina 80.31 316 ⇑P **P** **19 26 44.8 +0.4**
ALN Alexandroupoli 80.35 312 P **P** **19 26 43.6 -1.2**
ALN Alexandroupoli 80.35 312 P **P** **19 26 45.9 +1.1**
ALN pmax pmax
comp=Z,56nm,1.4s
ALN MLR MLR
comp=Z,8µm,18.0s
ALN Alexandroupoli 80.35 312 P **P** **19 26 45.9 +1.1**
JAVC Velka Javorina 80.45 322 ⇑iP **P** **19 26 45.8 +0.5**
JAVC Velka Javorina 80.45 322 eS **S** **19 36 49.7 -0.1**
SKMB Sankelmark Bun 80.48 330 eP **P** **19 26 44.9 -0.3**
comp=Z,466nm,1.8s,baz=47,slow=5.2
PGB Panagyurishte 80.57 315 eP **P** **19 26 45.3 -0.7**
AKAS Kas 80.60 307 P **P** **19 26 44.3 -2.0**
AKAS IAMs_20 IAMs_20 20 07 27.0
comp=Z,3µm,21.0s
BSEG Bad Segeberg 80.64 329 eP **P** **19 26 45.3 -0.7**
comp=Z,156nm,1.9s,baz=47,slow=5.2
BSEG eL L 20 05 43.7
comp=Z,10µm,19.9s
HOPS Hopland Field 80.68 50 P **P** **19 26 45.3 -1.3**
HOPS IAMs_20 IAMs_20 20 01 21.2
comp=Z,2µm,18.0s
MDVR Moldovita 80.72 317 ⇑P **P** **19 26 46.3 -0.5**
VRAC Vranov 80.73 323 ⇓P **P** **19 26 47.7 +1.0**
VRAC Vranov 80.73 323 ⇑iP **P** **19 26 46.5 -0.1**
VRAC Vranov 80.73 323 eS **S** **19 36 51.7 -0.8**
RZN Rozhen 80.73 314 eP **S** **19 26 45.8 -1.3**
FETY Fethiye 80.73 307 P **P** **19 26 44.2 -2.7**
JTMT Jette 80.76 39 P **P** **19 26 47.8 +0.8**
JTMT IAmb IAmb 19 27 13.4
comp=Z,59nm,1.3s
JTMT IAMs_20 IAMs_20 20 05 20.4
comp=Z,2µm,20.0s
SRO Srobarova 80.77 321 eP **P** **19 26 47.3 +0.5**
SRO pmax pmax
comp=Z,219nm,2.0s
SRO Srobarova 80.77 321 eP **P** **19 26 47.3 +0.5**
O03E Paynes Creek 80.77 48 P **P** **19 26 49.1 +2.0**
baz=304,SNR=12
O03E S **S** **19 36 55.2 +1.8**
baz=304
MOD Modoc Plateau 80.79 46 P **P** **19 26 48.8 +1.4**
SMOL Smolenice 80.80 322 eP **P** **19 26 47.5 +0.5**
SMOL pmax pmax
comp=Z,92nm,1.5s
SMOL Smolenice 80.80 322 eP **P** **19 26 47.5 +0.5**
BMO Blue Mountains 80.84 42 P **P** **19 26 49.0 +1.5**
BMO pmax pmax
comp=Z,54nm,1.4s
BMO MLR MLR
comp=Z,1µm,22.0s
BMO Blue Mountains 80.84 42 P **P** **19 26 49.0 +1.5**
SMTH Samothraki Isl 80.92 312 P **P** **19 26 44.2 -3.6**
MODS Modra-Piesok 80.96 322 eP **P** **19 26 47.4 -0.5**
MODS pmax pmax
comp=Z,281nm,1.6s
MODS Modra-Piesok 80.96 322 eP **P** **19 26 47.4 -0.5**
MODS ePP **PP** **19 29 50.9 -1.2**
MODS eS **S** **19 36 52.8 -2.3**
MODS eSS SS 19 42 31.3 +23
MODS eL L 20 05 51.2
GDXM Geysers 80.97 50 P **P** **19 26 50.5 +2.3**
GDXM IAmb IAmb 19 27 03.0
comp=Z,71nm,1.5s
KRUC Moravsky 80.98 323 ⇑iP **P** **19 26 47.7 -0.3**
KRUC Moravsky 80.98 323 eS **S** **19 36 54.4 -0.8**
YER Yerkesik 81.00 308 P **P** **19 26 47.1 -1.3**
BRG Berggiesshubel 81.03 326 iP **P** **19 26 47.6 -0.6**
comp=Z,141nm,1.8s
BRG e 19 26 55.7
comp=Z,187nm,1.9s
BRG PP PP 19 30 02.3 +10
comp=Z,22nm,1.6s
BRG PPP PPP 19 33 13.0
BRG S **S** **19 36 56.0 +0.4**
BRG SS SS 19 42 22.0 +13
comp=Z,29µm,15.3s
comp=N,13µm,15.0s
comp=E,16µm,15.0s
BRG Berggiesshubel 81.03 326 eP **P** **19 26 47.8 -0.4**
comp=E,142nm,1.8s,baz=47,slow=5.2
J08A Circle Bar Ran 81.04 44 P **P** **19 26 49.7 +1.1**
VTS Vitosha 81.10 315 eP **P** **19 26 48.5 -0.4**
BLCB Balcova 81.12 310 P **P** **19 26 47.4 -1.5**
SFJD Kangerlussuaq 81.18 1 ⇑iP **P** **19 26 49.0 +0.4**
SFJD i 19 26 57.7
comp=Z,250nm,16.0s
SFJD Kangerlussuaq 81.18 1 P **P** **19 26 49.1 +0.4**
SFJD pmax pmax
comp=Z,147nm,1.4s
SFJD MLR MLR
comp=Z,4µm,20.0s
SFJD Kangerlussuaq 81.18 1 P **P** **19 26 49.1 +0.4**
SFJD Kangerlussuaq 81.18 1 IAMs_20 IAMs_20 20 04 56.5
comp=Z,3µm,20.0s
CLL Collm 81.19 326 ⇑iP **P** **19 26 48.1 -1.0**
comp=Z,207nm,1.6s
CLL i sP **pP** **19 26 57.0 -0.4**
CLL i 19 27 05.4
comp=Z,121nm,1.3s
CLL ePP **PP** **19 30 00.0 +6.1**
CLL ePPP PPP 19 31 48.0
CLL ePPPP 19 33 06.0
CLL eS **S** **19 36 59.0 +1.7**
CLL esS **SKKSac** **19 37 09.0 +0.1**
CLL e 19 37 31.0
CLL ePPS PPS 19 38 04.0
CLL e 19 39 06.0
CLL eSS **SS** **19 42 16.0 +4.4**
CLL e 19 46 48.0
CLL eSSSS 19 48 12.0
CLL Lmax 20 06 00.0
CLL Collm 81.19 326 ⇑iP **P** **19 26 48.1 -1.0**
CLL i 19 26 57.0
CLL eS **S** **19 36 59.0 +1.7**
CLL pmax pmax
comp=Z,207nm,1.6s
CLL Collm 81.19 326 eP **P** **19 26 48.3 -0.8**
comp=Z,207nm,1.6s,baz=47,slow=5.2
CLL eL L 20 06 33.0
comp=Z,17µm,19.9s
CLL Collm 81.19 326 P **P** **19 26 47.6 -1.4**
CLL IAmb IAmb 19 27 07.8
comp=Z,100nm,1.2s

BORG Borgarnes 81.23 349 LR LR 20 04 03.3
comp=Z,1µm,18.7s,baz=10,slow=37
GOPC GO Pecny, Ondr 81.24 324 eP **P** **19 26 49.4 0.0**
GOPC e 19 26 57.3
GOPC eS S 19 36 46.2 -12
GOPC MLR MLR
comp=Z,43µm,15.6s
GOPC GO Pecny, Ondr 81.24 324 eP **P** **19 26 49.4 0.0**
GOPC epP **pP** **19 26 57.3 -0.5**
GOPC eS S 19 36 46.2 -12
GOPC AMS AMS 20 06 40.0
comp=Z,43µm,15.6s
FBE Freiberg 81.28 326 eP **P** **19 26 49.4 -0.2**
comp=Z,292nm,1.7s,baz=47,slow=5.2
TREC Trest 81.29 324 eP **P** **19 26 49.5 -0.2**
TREC eS **S** **19 36 55.3 -3.2**
TREC MLR MLR
comp=Z,57µm,15.3s
TREC Trest 81.29 324 eP **P** **19 26 49.5 -0.2**
TREC ex x 19 27 06.7
TREC eS **S** **19 36 55.3 -3.2**
TREC AMS AMS 20 07 10.0
comp=Z,57µm,15.3s
PRA Prague 81.32 325 eP **P** **19 26 48.9 -0.8**
PRA eS **S** **19 36 53.0 -5.6**
PRA MLR MLR
comp=Z,20µm,15.6s
PRA Prague 81.32 325 eP **P** **19 26 48.9 -0.8**
PRA eS **S** **19 36 53.0 -5.6**
PRA AMS AMS 20 06 50.0
comp=Z,20µm,15.6s
PRU Pruhonice 81.32 325 eP **P** **19 26 49.4 -0.4**
PRU eS **S** **19 36 53.0 -5.6**
PRU MLR MLR
comp=Z,39µm,15.6s
PRU Pruhonice 81.32 325 eP **P** **19 26 49.4 -0.4**
PRU ex x 19 27 06.9
PRU eS **S** **19 36 53.0 -5.6**
PRU AMS AMS 20 06 50.0
comp=Z,39µm,15.6s
THAS Thassos island 81.35 313 P **P** **19 26 47.1 -3.0**
ORV Oroville 81.38 49 P **P** **19 26 51.2 +0.9**
ORV pmax pmax
comp=Z,62nm,1.5s
ORV MLR MLR
comp=Z,1µm,20.0s
ORV Oroville 81.38 49 P **P** **19 26 51.2 +0.9**
ORV IAmb IAmb 19 27 04.0
comp=Z,62nm,1.5s
MMB Musomiste 81.39 314 eP **P** **19 26 49.5 -0.9**
SIGR SIGRI 81.42 311 P **P** **19 26 48.8 -1.7**
LIA Limnos Island 81.46 312 P **P** **19 26 48.8 -1.9**
WVOR Wild Horse Val 81.49 45 P **P** **19 26 52.5 +1.5**
WVOR pmax pmax
comp=Z,28nm,1.1s
WVOR MLR MLR
comp=Z,1µm,18.0s
WVOR Wild Horse Val 81.49 45 P **P** **19 26 52.5 +1.5**
MSO Missoula 81.51 39 P **P** **19 26 52.4 +1.4**
baz=308
MSO Missoula 81.51 39 P **P** **19 26 52.2 +1.2**
FRGS Fruska Gora 81.58 319 ⇑iP **P** **19 26 50.5 -0.8**
MORH Mrgy, Hungar 81.58 320 ⇑iP **P** **19 26 50.2 -1.0**
ARG Arkhangelos 81.61 307 P **P** **19 26 49.7 -1.9**
SMG Samos 81.63 309 P **P** **19 26 49.1 -2.6**
FCC Fort Churchill 81.65 22 P **P** **19 26 52.1 +0.8**
FCC pmax pmax
comp=Z,57nm,1.0s
FCC MLR MLR
comp=Z,3µm,18.0s
FCC Fort Churchill 81.65 22 P **P** **19 26 52.1 +0.8**
FCC IAmb IAmb 19 26 55.1
comp=Z,57nm,1.0s
FCC IAMs_20 IAMs_20 20 08 34.9
comp=Z,3µm,18.0s
BODT Bodrum 81.68 309 P **P** **19 26 50.3 -1.7**
DAT Datca 81.69 308 P **P** **19 26 49.1 -3.0**
ASSE Asse, Remlinge 81.71 328 eP **P** **19 26 51.3 -0.4**
comp=Z,201nm,2.0s,baz=47,slow=5.2
NRDL Niedersach Rie 81.72 328 eP **P** **19 26 51.4 -0.3**
comp=Z,221nm,2.1s,baz=47,slow=5.2
SRS Serai 81.75 314 P **P** **19 26 48.5 -3.8**
PBCC Pribram 81.78 325 eP **P** **19 26 52.2 0.0**
PBCC ex x 19 27 07.9
NEUB Neuenburg 81.83 327 eP **P** **19 26 52.0 -0.4**
comp=Z,345nm,1.8s,baz=47,slow=5.2
FFC Flin Flon 81.84 28 P **P** **19 26 53.3 +0.9**
FFC pmax pmax
comp=Z,45nm,1.0s
FFC Flin Flon 81.84 28 P **P** **19 26 53.3 +0.9**
FFC IAmb IAmb 19 27 04.5
comp=Z,45nm,1.0s
CONA Conrad Observa 81.98 322 iP **P** **19 26 53.7 +0.3**
comp=Z,142nm,1.9s,SNR=62
TANN Tannenbergstha 82.04 326 eP **P** **19 26 53.1 -0.5**
comp=Z,363nm,1.9s,baz=47,slow=5.2
CLZ Clausthal 82.05 328 eP **P** **19 26 53.4 -0.2**
comp=Z,376nm,2.0s,baz=47,slow=5.2
BKZ Black Stump Fm 82.05 147 P **P** **19 26 53.8 +0.2**
BKZ IAmb IAmb 19 27 22.0
comp=Z,59nm,1.3s
AFDM Forest Hills D 82.06 49 P **P** **19 26 54.8 +0.8**
SOH Sokhos 82.07 313 P **P** **19 26 51.4 -2.6**
WERD Werda 82.09 326 eP **P** **19 26 53.3 -0.6**
comp=Z,101nm,1.8s,baz=47,slow=5.2
TEKERIS Tekeris 82.11 318 eP **P** **19 26 55.8 +1.7**
DIVS Divibare 82.12 318 ⇑iP **P** **19 26 53.0 -1.2**
DIVS Divibare 82.12 318 P **P** **19 26 53.3 -0.9**
GUNZ Gunzen 82.14 326 eP **P** **19 26 53.7 -0.4**
comp=Z,252nm,1.9s,baz=47,slow=5.2
PLN Plauen 82.14 326 eP **P** **19 26 53.5 -0.6**
comp=Z,219nm,2.0s,baz=47,slow=5.2
WERN Wernitzgruen 82.17 326 eP **P** **19 26 54.1 -0.2**
comp=Z,224nm,1.8s,baz=47,slow=5.2
NKC Novy Kostel 82.17 326 eP **P** **19 26 53.9 -0.4**
NKC eS **S** **19 36 59.9 -7.6**
NKC MLR MLR
comp=Z,27µm,14.2s
NKC Novy Kostel 82.17 326 eP **P** **19 26 53.9 -0.4**
NKC eS **S** **19 36 59.9 -7.6**
NKC AMS AMS 20 08 10.0
comp=Z,27µm,14.2s
VAY Valandovo 82.26 314 iP **P** **19 26 54.4 -0.5**
STIP Stip 82.27 315 iP **P** **19 26 53.6 -1.4**
PLG Polygyros 82.28 313 P **P** **19 26 52.9 -2.2**
MOX Moxa 82.29 326 eP **P** **19 26 54.5 -0.4**
comp=Z,250nm,2.0s,baz=47,slow=5.2
MOX eL L 20 07 14.9
comp=Z,13µm,18.7s
NNZ Nelson 82.33 150 IAMs_20 IAMs_20 20 06 51.2
comp=Z,2µm,18.0s
KHC Kasperske Hory 82.35 324 eP **P** **19 26 54.2 -1.1**
KHC e 19 27 01.3
KHC eS **S** **19 37 05.9 -3.5**
KHC MLR MLR
comp=Z,47µm,15.6s
KHC Kasperske Hory 82.35 324 eP **P** **19 26 54.2 -1.1**
KHC epP **PcP** **19 27 01.3 +0.8**
KHC ex x 19 27 11.9
KHC eS **S** **19 37 05.9 -3.5**
KHC AMS AMS 20 07 30.0
comp=Z,47µm,15.6s
KHC Kasperske Hory 82.35 324 P **P** **19 26 54.3 -1.0**
HORT Hortiatis 82.36 313 P **P** **19 26 53.8 -1.7**
BEHE Becsehely 82.42 321 ⇑iP **P** **19 26 57.4 +1.7**
GTTG Gottingen 82.44 328 eP **P** **19 26 55.4 -0.2**
comp=Z,290nm,2.1s,baz=47,slow=5.2
GEC2 GERESS Array S 82.48 324 eP **P** **19 26 55.5 -0.6**
comp=Z,112nm,1.7s,baz=47,slow=5.2
GEC2 eL L 20 07 37.7
comp=Z,20µm,19.6s
GEC2 GERESS Array S 82.48 324 P **P** **19 26 55.2 -0.8**
GERES GERESS Array B 82.48 324 P **P** **19 26 55.9 -0.1**
comp=Z,3.7nm,0.7s,baz=48,slow=4.0,SNR=43
GERES LR LR 20 07 48.6
comp=Z,19µm,20.5s,baz=52,slow=39
GERES GERESS Array B 82.48 324 P **P** **19 26 55.3 -0.7**
MANZ Manzenberg 82.50 326 eP **P** **19 26 55.6 -0.4**
comp=Z,203nm,1.8s,baz=47,slow=5.2
SKO Skopje 82.55 315 iP **P** **19 26 56.8 +0.4**
MFID Camas Ranch 82.56 43 P **P** **19 26 58.1 +1.5**
MFID IAmb IAmb 19 27 11.0
comp=Z,108nm,1.5s
ARSA Arzberg 82.59 322 iP **P** **19 26 56.3 -0.2**

comp=Z,77nm,1.8s,SNR=32
BBLS Lazići 82.59 318 ⇑iP **P** **19 26 56.2 -0.5**
ROTZ Rotzenmuhle 82.60 325 eP **P** **19 26 56.3 -0.2**
comp=Z,311nm,1.7s,baz=47,slow=5.2
PAHR Pah Rah Range 82.63 48 P **P** **19 26 58.9 +1.8**
KARP Karpathos 82.63 307 IAMs_20 IAMs_20 20 09 09.1
comp=Z,3µm,20.0s
WET Wettzell 82.69 325 eP **P** **19 26 56.8 -0.2**
comp=Z,205nm,1.9s,baz=47,slow=5.2
WET eL L 20 07 36.0
comp=Z,18µm,19.4s
VCNR Virginia City 82.70 48 P **P** **19 26 59.8 +2.3**
AOS Alonnisos 82.70 312 P **P** **19 26 54.9 -2.4**
HRY Holter Researc 82.71 39 P **P** **19 26 58.5 +1.2**
TUWZ Tuamarina 82.74 150 P **P** **19 26 56.2 -0.9**
MOA Molln 82.85 323 iP **P** **19 26 57.9 0.0**
comp=Z,68nm,1.4s,SNR=35
PNTR Pine Nut 82.85 48 P **P** **19 27 00.7 +2.3**
KYMI Kymi, Euboea I 82.88 311 P **P** **19 26 55.2 -3.0**
IBBN Ibbenburen 82.88 329 eP **P** **19 26 57.0 -0.9**
comp=Z,145nm,1.5s,baz=47,slow=5.2
UBBA Unterbreizbach 82.92 327 eP **P** **19 26 57.5 -0.5**
comp=Z,252nm,1.9s,baz=47,slow=5.2
IVA Berane 82.92 317 ⇑iP **P** **19 26 58.0 -0.4**
EGMT Eagleton 82.93 37 P **P** **19 26 59.5 +1.1**
baz=311,SNR=15
EGMT Eagleton 82.93 37 P **P** **19 26 59.8 +1.4**
PLE Pljevlja 82.93 317 ⇑iP **P** **19 26 56.3 -2.2**
LRM Limekiln Ridge 82.94 39 P **P** **19 27 00.1 +1.3**
CMB Columbia Colle 82.96 49 P **P** **19 26 59.8 +1.1**
CMB pmax pmax
comp=Z,29nm,1.2s
CMB MLR MLR
comp=Z,2µm,21.0s
CMB Columbia Colle 82.96 49 P **P** **19 26 59.8 +1.1**
SNZO South Karori 82.97 149 IAMs_20 IAMs_20 20 00 21.6
comp=Z,2µm,22.0s
SAO San Andreas Ge 83.00 51 P **P** **19 26 59.1 +0.2**
SAO pmax pmax
comp=Z,21nm,1.2s
SAO San Andreas Ge 83.00 51 P **P** **19 26 59.1 +0.2**
XOR Xorichti 83.02 312 P **P** **19 26 56.6 -2.4**
LIT Litokhoron 83.03 313 P **P** **19 26 56.1 -2.9**
LIT Litokhoron 83.03 313 P **P** **19 26 57.2 -1.8**
LIT MLR MLR
comp=Z,10µm,19.0s
LIT Litokhoron 83.03 313 P **P** **19 26 57.2 -1.8**
GRF Grafenberg Arr 83.12 326 eP **P** **19 26 59.1 -0.1**
comp=Z,544nm,1.6s,baz=47,slow=5.2
GRF eL L 20 07 51.0
comp=Z,20µm,19.4s
YERR Yerington 83.14 48 P **P** **19 27 01.0 +1.2**
YERR IAmb IAmb 19 27 14.2
comp=Z,88nm,1.5s
KOME Kolasin 83.15 317 ⇑iP **P** **19 26 58.4 -1.2**
DLMT Dillon 83.16 40 P **P** **19 27 01.3 +1.6**
DLMT IAmb IAmb 19 27 13.9
comp=Z,100nm,1.4s
PERS Pernice 83.20 322 iP **P** **19 26 59.3 -0.4**
PERS iPcP **PcP** **19 27 01.9 -2.4**
PERS ePP **sP** **19 27 14.0 +2.7**
PERS eS **S** **19 37 17.1 -1.1**
SOKA Soboth 83.22 322 iP **P** **19 26 59.5 -0.4**
comp=Z,279nm,1.7s,SNR=101
HLID Hailey 83.28 42 P **P** **19 27 02.3 +2.0**
baz=308,SNR=19
HLID Hailey 83.28 42 P **P** **19 27 01.2 +0.8**
UPM Unac-Piva 83.29 317 ⇓iP **P** **19 26 59.7 -0.8**
BLY Banja Luka 83.29 319 ⇑iP **P** **19 26 59.9 -0.3**
WAKR Walker 83.30 49 P **P** **19 27 02.1 +1.5**
WAKR IAmb IAmb 19 27 17.9
comp=Z,62nm,1.4s
SANT Santorini 83.30 309 IAMs_20 IAMs_20 20 08 41.7
comp=Z,4µm,20.0s
DION Dionisos Attik 83.31 311 P P 19 26 55.2 -5.2
ATD Arta Tunnel 83.31 279 eP P 19 26 50.6 -10
ATD eS S 19 37 36.5 +16
ATD Arta Tunnel 83.31 279 IAMs_20 IAMs_20 20 05 57.7
comp=Z,3µm,20.0s
ATD Arta Tunnel 83.31 279 eP P 19 26 50.6 -10
ATD eS S 19 37 36.5 +16
PHP Peshkopia 83.32 315 P **P** **19 26 58.1 -2.4**
KZN Kozani 83.35 314 P **P** **19 26 59.5 -1.2**
MCMT McKenzie Canyo 83.36 40 P **P** **19 27 01.8 +0.9**
BCYI Bear Canyon 83.38 41 P **P** **19 26 59.9 -1.0**
OHR Ohrid 83.45 315 iP **P** **19 27 00.5 -0.6**
RPZ Rata Peaks 83.46 153 P **P** **19 27 00.3 -0.4**
RPZ IAmb IAmb 19 27 16.9
comp=Z,68nm,1.3s
NKY Niksic 83.48 317 ⇑iP **P** **19 27 00.1 -1.2**
ZKR Zakros 83.51 307 P **P** **19 27 00.7 -0.8**
OXZ Oxford 83.52 152 IAMs_20 IAMs_20 19 57 43.9
comp=Z,2µm,21.0s
NKME Niksic 83.53 317 ⇓iP **P** **19 27 01.2 -0.3**
BOZ Bozeman (W) 83.53 39 P **P** **19 27 02.8 +1.2**
baz=310,SNR=26
BOZ Bozeman (W) 83.53 39 P **P** **19 27 02.9 +1.2**
BOZ pmax pmax
comp=Z,51nm,1.3s
BOZ MLR MLR
comp=Z,1µm,21.0s
BOZ Bozeman (W) 83.53 39 P **P** **19 27 02.9 +1.2**
BOZ IAmb IAmb 19 27 19.6
comp=Z,51nm,1.3s
LEGS Legarje 83.54 321 iP **P** **19 27 00.9 -0.6**
CRES Cresnjev 83.54 321 ⇑iP **P** **19 27 00.8 -0.7**
MGRS Mrkonjic Grad 83.56 319 eP P 19 27 07.2 +5.6
PDG Podgorica 83.56 317 ⇑iP **P** **19 27 00.8 -0.8**
PDG Podgorica 83.56 317 P **P** **19 27 01.1 -0.5**
PDG IAmb IAmb 19 27 03.9
comp=Z,47nm,1.0s
TTG Podgorica 83.56 317 eP **P** **19 27 01.0 -0.6**
LKR Lokris 83.57 312 P **P** **19 26 58.7 -3.0**
OBKA Obir 83.58 322 iP **P** **19 27 01.2 -0.6**
comp=Z,115nm,1.9s,SNR=19
THL Klokotos Trika 83.64 313 P P 19 26 56.6 -5.5
RJOB Jochberg 83.67 324 eP **P** **19 27 01.1 -1.1**
comp=Z,504nm,2.2s,baz=47,slow=5.2
BRY Bratogost 83.69 317 ⇑iP **P** **19 27 00.2 -2.2**
BRY Bratogost 83.69 317 eP **P** **19 27 01.3 -1.1**
CEME Cevo 83.69 317 ⇑iP **P** **19 27 01.1 -1.3**
BUG Bochum--Univer 83.71 329 eP **P** **19 27 01.5 -0.7**
comp=Z,153nm,1.7s,baz=47,slow=5.2
NEST Nestorio 83.72 314 P **P** **19 27 00.4 -2.2**
DRME Dracevica, Mon 83.75 316 ⇑iP **P** **19 27 01.1 -1.5**
DRME Dracevica, Mon 83.75 316 ⇑iP **P** **19 27 01.7 -0.9**
AGG Agios Georgios 83.77 312 P **P** **19 26 59.2 -3.6**
RYN Ryan 83.80 48 P **P** **19 27 04.9 +1.8**
RYN IAmb IAmb 19 27 17.7
comp=Z,62nm,1.3s
KPRO Kipourio 83.81 314 P **P** **19 26 59.5 -3.5**
KVN Kaiserville 83.82 47 P **P** **19 27 04.4 +1.1**
KVN pmax pmax
comp=Z,60nm,1.2s
KVN Kaiserville 83.82 47 P **P** **19 27 04.4 +1.1**
KVN IAmb IAmb 19 27 18.4
comp=Z,60nm,1.2s
KBA Koelnbreinsper 83.83 323 iP **P** **19 27 02.5 -0.7**
comp=Z,123nm,1.9s,SNR=36
NPS Neapolis 83.83 308 P **P** **19 27 01.3 -1.9**
BUM Brajici-Budva 83.85 317 ⇑iP **P** **19 27 02.3 -0.9**
ULC Ulcinj 83.86 316 ⇑iP **P** **19 27 03.3 +0.1**
VISS Visnje 83.89 321 iP **P** **19 27 02.6 -0.6**
LJU Ljubljana 83.89 322 eP **P** **19 27 02.6 -0.7**
LJU iPcP **PcP** **19 27 05.3 -2.0**
LJU epP **pP** **19 27 10.8 -0.9**
LJU e 19 27 16.8
LJU e 19 33 59.4
LJU eS **S** **19 37 20.8 -4.3**
LJU e 19 37 36.3
LJU Ljubljana 83.89 322 ⇑iP **P** **19 27 02.5 -0.8**
TREB Trebinje 83.91 317 eP **P** **19 27 02.4 -1.0**
MYKA Terra Mystica 83.97 322 iP **P** **19 27 03.5 -0.2**
comp=Z,107nm,1.7s,SNR=28
LAST Lasithi 83.98 308 P **P** **19 27 02.7 -1.3**
HCY Herceg Novi 84.00 317 ⇑iP **P** **19 27 03.2 -0.7**
HCY Herceg Novi 84.00 317 eP **P** **19 27 02.9 -1.0**
DSF Desfina 84.01 312 P **P** **19 27 00.4 -3.7**
MDPB Devils Postpil 84.04 49 P **P** **19 27 05.7 +1.2**
MDPB IAmb IAmb 19 27 21.6
comp=Z,46nm,1.1s
LHV Little Huntoon 84.04 48 P **P** **19 27 06.6 +2.5**
TNS Taunus Mts 84.05 327 eP **P** **19 27 03.5 -0.5**
comp=Z,224nm,1.9s,baz=47,slow=5.2

TNS eL L 20 09 11.1
comp=Z,13µm,18.3s
NVAR Mina Array Bea 84.06 48 P **P** **19 27 06.8 +2.2**
comp=Z,3.1nm,0.5s,baz=290,slow=5.3,SNR=11
NVAR LR LR 19 59 38.7
comp=Z,1µm,21.2s,baz=299,slow=32
NVAR Mina Array Bea 84.06 48 P **P** **19 27 05.8 +1.3**
OMMB Old Mammoth Mi 84.10 49 P **P** **19 27 07.1 +2.2**
OMMB IAmb IAmb 19 27 19.2
comp=Z,66nm,1.4s
FUR Furstenfeldbru 84.13 325 *e*P **P** **19 27 04.4 -0.1**
comp=Z,611nm,1.8s,baz=47,slow=5.2
FUR eL L 20 08 39.0
comp=Z,26µm,18.9s
QLMT Earthquake Lak 84.13 40 P **P** **19 27 06.7 +1.9**
PRED Cave del Predi 84.13 322 P **P** **19 27 04.1 -0.5**
PRED IAmb IAmb 19 27 07.1
comp=Z,38nm,1.1s
CEY Cerknica 84.15 321 ⇑*i*P **P** **19 27 03.7 -0.9**
NV11 Mina Array Sit 84.15 48 P **P** **19 27 06.1 +1.2**
NV11 IAmb IAmb 19 27 19.4
comp=Z,60nm,1.4s
EVR Evrytania 84.16 313 P **P** **19 27 00.7 -4.2**
MLAC Mammoth, Mammo 84.19 49 P **P** **19 27 07.0 +1.8**
baz=306
VOJS Vojsko 84.24 322 *i*P **P** **19 27 04.0 -1.2**
YHL Hebgen Lake 84.25 40 P **P** **19 27 04.8 -0.7**
ANX Ano Chora 84.28 312 P **P** **19 27 03.3 -2.2**
IDI Anoyia 84.30 308 P **P** **19 27 01.0 -4.6**
IDI Anoyia 84.30 308 P **P** **19 27 03.9 -1.7**
IDI IAmb IAmb 19 27 32.1
comp=Z,56nm,1.3s
YHB Horse Butte 84.31 40 P **P** **19 27 07.7 +1.9**
TRIZ Trizonia 84.32 312 P **P** **19 27 02.7 -2.8**
ZOU Zoufplan 84.36 323 P **P** **19 27 03.9 -2.1**
PAGB Antelope Grade 84.39 51 P **P** **19 27 08.4 +2.4**
PAGB IAmb IAmb 19 27 23.1
comp=Z,63nm,1.0s
EFP Efpalio 84.39 312 P **P** **19 27 02.4 -3.5**
GUR Goura 84.41 312 P **P** **19 27 02.1 -4.1**
ODZ Otahua Downs 84.42 154 P **P** **19 27 07.2 +1.6**
ODZ IAmb IAmb 19 27 34.9
comp=Z,39nm,1.5s
AHRW Bad Neuenahr-A 84.44 328 *e*P **P** **19 27 05.3 -0.6**
comp=Z,137nm,1.5s,baz=47,slow=5.2
GCMT Greycliff 84.45 38 P **P** **19 27 06.3 0.0**
KLV Kalavryta, Ach 84.46 312 P **P** **19 27 03.0 -3.4**
ABTA Abfaltersbach 84.47 323 *i*P **P** **19 27 05.5 -0.8**
comp=Z,63nm,1.2s,SNR=32
YHH Holmes Hill 84.47 40 P **P** **19 27 08.0 +1.3**
YMR Madison River 84.49 40 P **P** **19 27 08.8 +2.2**
SKDS Skadanscina 84.49 321 *i*P **P** **19 27 05.3 -1.1**
SKDS *ep*P **pP** **19 27 13.4 -1.3**
PVO Paravola 84.51 313 P **P** **19 27 04.8 -1.7**
TRI Trieste 84.52 322 P **P** **19 27 05.2 -1.2**
TRI pmax pmax
comp=Z,196nm,1.3s
TRI MLR MLR
comp=Z,12µm,19.0s
TRI Trieste 84.52 322 P **P** **19 27 05.2 -1.2**
WATA Walderalm 84.55 324 *i*P **P** **19 27 06.6 -0.1**
comp=Z,64nm,2.0s,SNR=16
VOG Valley Oaks Go 84.61 50 P **P** **19 27 08.2 +1.1**
baz=306
YNR Norris Junctio 84.61 40 P **P** **19 27 09.2 +1.9**
SRN Sarande 84.69 314 P **P** **19 27 05.0 -2.4**
VAM Vamos 84.69 309 P **P** **19 27 05.3 -2.2**
STU Stuttgart 84.72 326 P **P** **19 27 06.0 -1.4**
STU pmax pmax
comp=Z,98nm,1.1s
STU MLR MLR
comp=Z,12µm,18.0s
STU Stuttgart 84.72 326 *e*P **P** **19 27 06.7 -0.6**
comp=Z,272nm,1.8s,baz=47,slow=5.2
STU Stuttgart 84.72 326 P **P** **19 27 06.0 -1.4**
VLX Vlachokerasia 84.72 311 P **P** **19 27 03.3 -4.4**
VLI Veliai 84.75 310 P **P** **19 27 04.5 -3.3**
MOTA Moosalm 84.78 324 *i*P **P** **19 27 07.7 -0.2**
comp=Z,76nm,2.3s,SNR=16
YNE Yellowstone No 84.78 39 P **P** **19 27 09.5 +1.4**
DRO Drossia 84.80 312 P **P** **19 27 05.3 -2.7**
SMMC Simmler 84.80 51 P **P** **19 27 09.8 +1.7**
baz=306
CIMO Cimolais 84.80 323 P **P** **19 27 06.0 -1.9**
IMMV Iera Moni Meta 84.80 309 P **P** **19 27 05.3 -2.8**
SQTA Sankt Quirin 84.81 324 *i*P **P** **19 27 07.8 -0.3**
comp=Z,71nm,2.0s,SNR=19
YPP Pitchstone Pla 84.84 40 P **P** **19 27 10.9 +2.4**
RETA Reutte 84.85 324 *i*P **P** **19 27 08.1 -0.1**
comp=Z,114nm,1.8s,SNR=34
LKWY Lake 84.86 40 P **P** **19 27 10.4 +1.8**
LKWY pmax pmax
comp=Z,34nm,1.1s
LKWY Lake 84.86 40 P **P** **19 27 10.3 +1.8**
LKWY IAmb IAmb 19 27 32.0
comp=Z,34nm,1.1s
LKWY IAMs_20 IAMs_20 20 06 46.1
comp=Z,3µm,20.0s
MEM Membach 84.86 329 P **P** **19 27 06.5 -1.6**
comp=Z,37nm,2.2s
BEBN Eben Emael 84.87 329 P **P** **19 27 05.5 -2.6**
H17A Grant Village 84.88 40 P **P** **19 27 11.4 +2.8**
baz=311,SNR=12
H17A Grant Village 84.88 40 P **P** **19 27 11.6 +2.9**
H17A IAMs_20 IAMs_20 20 06 37.5
comp=Z,3µm,21.0s
YMP Mirror Lake Pl 84.88 39 P **P** **19 27 09.4 +0.7**
RLS Riolos of Patr 84.89 312 P **P** **19 27 06.5 -1.9**
KEK Kerkira 84.91 314 P **P** **19 27 06.2 -2.3**
TIN Tinemaha, Big 84.92 49 P **P** **19 27 10.6 +1.8**
baz=307
KTHA Kythira Island 84.94 310 P **P** **19 27 05.6 -3.2**
LKD2 Lefkada island 84.95 313 P **P** **19 27 04.2 -4.6**
IMW Indian Meadow 85.01 40 P **P** **19 27 11.9 +2.6**
IMW IAmb IAmb 19 27 27.2
comp=Z,50nm,1.3s
ANKY Antikythira Is 85.01 309 P **P** **19 27 07.1 -2.0**
FLWY Flagg Ranch 85.02 40 P **P** **19 27 10.0 +0.7**
FLWY IAmb IAmb 19 27 22.4
comp=Z,53nm,1.2s
UBR Ueberruh 85.04 325 *e*P **P** **19 27 08.4 -0.7**
comp=Z,313nm,1.9s,baz=47,slow=5.2
AMT Artemida-Makis 85.05 312 P **P** **19 27 07.1 -2.2**
BHOU Houvegnez 85.05 329 P **P** **19 27 08.1 -0.9**
comp=Z,62nm,2.2s
BSTI Sart Tilman 85.07 329 P **P** **19 27 08.9 -0.2**
comp=Z,16nm,2.3s
RLMT Red Lodge 85.10 39 P **P** **19 27 11.4 +1.6**
baz=312,SNR=18
RLMT Red Lodge 85.10 39 P **P** **19 27 11.3 +1.6**
RLMT IAmb IAmb 19 27 27.9
comp=Z,90nm,1.5s
RLMT IAMs_20 IAMs_20 20 07 56.3
comp=Z,2µm,21.0s
ITM Ithomi 85.12 311 P **P** **19 27 05.9 -3.8**
ITM Ithomi 85.12 311 P **P** **19 27 08.0 -1.7**
FXWY Fox Creek 85.13 41 P **P** **19 27 11.0 +1.1**
PKM Mcpherson Peak 85.17 52 P **P** **19 27 11.7 +1.5**
baz=306,SNR=5.3
FETA Feichten 85.19 324 *i*P **P** **19 27 09.2 -0.8**
comp=Z,52nm,1.7s,SNR=20
TPAW Teton Pass 85.27 41 P **P** **19 27 11.8 +1.2**
TPAW IAmb IAmb 19 27 26.6
comp=Z,40nm,1.2s
BCLA Clavier 85.31 329 P **P** **19 27 09.4 -0.9**
comp=Z,42nm,2.2s
ECR Eagle Creek 85.31 41 P **P** **19 27 11.1 +0.3**
HVU Hansel Valley 85.34 43 P **P** **19 27 12.4 +1.5**
HVU pmax pmax
comp=Z,38nm,1.1s
HVU Hansel Valley 85.34 43 P **P** **19 27 12.3 +1.5**
DGMT Dagmar 85.34 34 P **P** **19 27 11.7 +1.1**
baz=315
DGMT Dagmar 85.34 34 P **P** **19 27 12.1 +1.5**
LOHW Long Hollow 85.38 40 P **P** **19 27 12.8 +1.7**
CTI Castel Tesino 85.39 323 P **P** **19 27 09.2 -1.7**
CTI pmax pmax
comp=Z,125nm,1.3s
CTI MLR MLR
comp=Z,20µm,20.0s
CTI Castel Tesino 85.39 323 P **P** **19 27 09.2 -1.7**
CWC Cottonwood Cre 85.39 50 P **P** **19 27 12.4 +1.2**
baz=307
SNOW Snow King Moun 85.39 41 P **P** **19 27 11.8 +0.6**
REDW Red Top Meadow 85.40 41 P **P** **19 27 12.9 +1.7**

PYL PYLOS 85.41 311 P **P** **19 27 07.9 -3.2**
DAVA Damuels 85.42 325 *i*P **P** **19 27 11.2 +0.1**
comp=Z,125nm,1.5s,SNR=38
BGES Gesves 85.43 329 P **P** **19 27 10.0 -0.9**
comp=Z,44nm,2.1s
BFO Black Forest 85.44 326 P **P** **19 27 09.9 -1.2**
BFO pmax pmax
comp=Z,164nm,1.3s
BFO MLR MLR
comp=Z,9µm,18.0s
BFO Black Forest 85.44 326 *e*P **P** **19 27 10.1 -0.9**
comp=Z,281nm,1.7s,baz=47,slow=5.2
BFO eL L 20 09 09.2
comp=Z,9µm,18.5s
BFO Black Forest 85.44 326 P **P** **19 27 09.9 -1.2**
UCC Uccle 85.44 330 P **P** **19 27 09.7 -1.3**
comp=Z,50nm,2.3s
UCC Uccle 85.44 330 P **P** **19 27 09.6 -1.3**
UCC pmax pmax
comp=Z,52nm,1.4s
UCC MLR MLR
comp=Z,10µm,19.0s
UCC Uccle 85.44 330 P **P** **19 27 09.6 -1.3**
UCC IAmb IAmb 19 27 29.2
comp=Z,52nm,1.4s
WLF Walferdange 85.48 328 P **P** **19 27 10.8 -0.4**
comp=Z,100nm,2.0s
WLF Walferdange 85.48 328 P **P** **19 27 10.6 -0.6**
WLF pmax pmax
comp=Z,128nm,1.2s
WLF MLR MLR
comp=Z,11µm,19.0s
WLF Walferdange 85.48 328 *e*P **P** **19 27 10.9 -0.3**
comp=Z,365nm,2.0s,baz=47,slow=5.2
WLF Walferdange 85.48 328 P **P** **19 27 10.6 -0.6**
SCTE Santa Cesarea 85.49 315 P **P** **19 27 10.8 -0.7**
SBC Santa Barbara 85.50 52 P **P** **19 27 12.6 +1.1**
baz=306
GRAC Grapevine Rang 85.51 49 P **P** **19 27 13.9 +2.2**
baz=307,SNR=6.3
ISA Isabella, Lake 85.59 50 P **P** **19 27 14.0 +1.9**
baz=307
ISA Isabella, Lake 85.59 50 P **P** **19 27 12.0 -0.1**
ISA pmax pmax
comp=Z,18nm,1.1s
ISA MLR MLR
comp=Z,2µm,22.0s
ISA Isabella, Lake 85.59 50 P **P** **19 27 12.0 -0.1**
ISA IAMs_20 IAMs_20 19 57 18.3
comp=Z,2µm,22.0s
LAO LASA Array 85.61 36 P **P** **19 27 13.1 +1.2**
baz=314
LAO LASA Array 85.61 36 P **P** **19 27 13.0 +1.0**
LAO IAmb IAmb 19 27 38.2
comp=Z,65nm,1.1s
BMRD Maredsous 85.63 329 P **P** **19 27 10.2 -1.7**
comp=Z,56nm,1.9s
AHID Auburn Hatcher 85.65 41 P **P** **19 27 13.6 +1.1**
AHID IAmb IAmb 19 27 27.6
comp=Z,52nm,1.4s
ARVC Arvin 85.68 51 P **P** **19 27 14.5 +2.1**
baz=307
SNF Seneffe 85.69 330 P **P** **19 27 10.8 -1.4**
comp=Z,53nm,1.9s
FUORN Ofenpass-Fuorn 85.69 324 P **P** **19 27 11.8 -0.8**
BGU Big Grassy Mou 85.73 44 P **P** **19 27 14.7 +1.9**
R11A Troy Canyon, C 85.81 47 P **P** **19 27 15.7 +2.4**
baz=308,SNR=29
R11A Troy Canyon, C 85.81 47 P **P** **19 27 14.0 +0.8**
R11A IAmb IAmb 19 27 28.6
comp=Z,46nm,1.4s
SCZ2 Santa Cruz Isl 85.81 52 P **P** **19 27 14.4 +1.3**
baz=306
SPUT South Promonto 85.83 43 P **P** **19 27 15.2 +1.9**
DOU Dourbes 85.86 329 P **P** **19 27 11.7 -1.3**
comp=Z,38nm,2.2s
MPMC Manual Prospec 86.00 50 P **P** **19 27 16.4 +2.1**
baz=307,SNR=11
SGRT San Giovanni R 86.02 318 P **P** **19 27 13.2 -0.9**
OSI Osito Audit: C 86.05 51 P **P** **19 27 15.6 +1.2**
baz=307
OSI Osito Audit: C 86.05 51 IAMs_20 IAMs_20 19 58 21.5
comp=Z,3µm,21.0s
ECH Echery 86.07 327 P **P** **19 27 13.0 -1.2**
ECH pmax pmax
comp=Z,83nm,1.2s
ECH MLR MLR
comp=Z,5µm,19.0s
ECH Echery 86.07 327 P **P** **19 27 13.0 -1.2**
HWUT Hardware Ranch 86.14 42 P **P** **19 27 16.6 +1.7**
FURC Furnace Creek, 86.15 49 P **P** **19 27 17.2 +2.5**
baz=308,SNR=13
LRMC Laurel Mtn Rad 86.22 50 P **P** **19 27 17.1 +1.8**
baz=307,SNR=6.8
TPNV Topopah Spring 86.25 48 P **P** **19 27 18.0 +2.5**
baz=308,SNR=21
TPNV Topopah Spring 86.25 48 P **P** **19 27 16.7 +1.2**
TPNV pmax pmax
comp=Z,33nm,1.1s
TPNV MLR MLR
comp=Z,2µm,20.0s
TPNV Topopah Spring 86.25 48 P **P** **19 27 16.7 +1.2**
TPNV IAmb IAmb 19 27 40.7
comp=Z,33nm,1.1s
TUE Stuetta 86.25 324 P **P** **19 27 13.3 -2.1**
SALO Salr 86.25 323 P **P** **19 27 14.2 -0.9**
DUG Dugway, Tooele 86.32 44 P **P** **19 27 17.8 +2.1**
baz=310,SNR=14
DUG Dugway, Tooele 86.32 44 P **P** **19 27 17.5 +1.7**
DUG pmax pmax
comp=Z,62nm,1.4s
DUG MLR MLR
comp=Z,1µm,20.0s
DUG Dugway, Tooele 86.32 44 P **P** **19 27 17.5 +1.7**
DUG IAmb IAmb 19 27 30.5
comp=Z,62nm,1.4s
SNCC San Nicolas Is 86.33 53 IAMs_20 IAMs_20 19 58 19.8
comp=Z,3µm,22.0s
EDW2 Edwards Air Fo 86.38 51 P **P** **19 27 18.3 +2.3**
baz=307
BW06 Boulder Array 86.51 40 P **P** **19 27 17.8 +1.1**
baz=312,SNR=19
PD31 Pinedale Array 86.51 40 P **P** **19 27 17.6 +0.9**
PD31 IAmb IAmb 19 27 34.1
comp=Z,39nm,1.4s
PDAR Pinedale Array 86.51 40 P **P** **19 27 18.1 +1.4**
comp=Z,7.1nm,0.9s,baz=318,slow=2.0,SNR=41
PDAR Pinedale Array 86.51 40 P **P** **19 27 17.2 +0.5**
PASC Pasadena Art C 86.67 51 IAMs_20 IAMs_20 19 58 37.9
comp=Z,3µm,21.0s
PRN Pahroc Range 86.72 47 P **P** **19 27 19.5 +1.7**
PRN IAMs_20 IAMs_20 20 05 22.8
comp=Z,2µm,18.0s
MWC Mount Wilson 86.73 51 IAMs_20 IAMs_20 19 58 52.3
comp=Z,3µm,21.0s
PSUT Pine Spring 86.75 46 P **P** **19 27 19.0 +1.0**
NRCA Norcia 86.78 320 P **P** **19 27 17.7 -0.1**
MURB Monte Urbino 86.81 320 P **P** **19 27 18.1 +0.2**
JLU Jordanelle 86.86 43 P **P** **19 27 18.9 +0.4**
SHOC Shoshone, Teco 86.88 49 P **P** **19 27 20.9 +2.5**
baz=308
INTR Introdacqua 86.89 319 P **P** **19 27 18.4 0.0**
ZCCA Zocca 86.89 322 P **P** **19 27 18.5 +0.1**
AQU L'Aquila 86.94 319 P **P** **19 27 19.0 +0.4**
AQU pmax pmax
comp=Z,158nm,1.1s
AQU MLR MLR
comp=Z,13µm,20.0s
AQU L'Aquila 86.94 319 ⇑*i*P **P** **19 27 18.4 -0.2**
AQU L'Aquila 86.94 319 P **P** **19 27 19.0 +0.4**
PRMA PARMA 86.95 323 P **P** **19 27 19.0 +0.5**
CIS Catalina Islan 86.98 52 P **P** **19 27 20.9 +1.9**
baz=307
BFSC Mount Baldy Ra 86.98 51 P **P** **19 27 20.5 +1.4**
baz=307
RRX Edison Barstow 87.03 50 P **P** **19 27 21.3 +2.1**
baz=308
TIP Timpagrande 87.08 315 P **P** **19 27 17.9 -1.5**
TIP IAmb IAmb 19 27 32.4
comp=Z,92nm,1.5s
MPU Maple Canyon 87.13 44 P **P** **19 27 21.3 +1.5**
PAOL Paolisi 87.16 318 P **P** **19 27 19.7 0.0**
PAOL IAmb IAmb 19 27 41.9
comp=Z,40nm,1.4s
SHPR Sheep Range 87.21 48 P **P** **19 27 21.8 +1.7**
SHPR IAmb IAmb 19 27 34.9
comp=Z,40nm,1.4s
OSSC Osservatorio P 87.32 321 P **P** **19 27 19.0 -1.3**
OSSC IAmb IAmb 19 27 38.6
comp=Z,25nm,1.0s
SENIN Lac Senin/Sane 87.33 325 P **P** **19 27 19.4 -1.3**
TUQ Turquoise Moun 87.39 49 P **P** **19 27 23.5 +2.5**
baz=308,SNR=5.5
BBRC Big Bear Solar 87.45 51 P **P** **19 27 22.8 +1.3**
baz=308
HEC Hector,Ludlow 87.49 50 P **P** **19 27 23.5 +2.1**
baz=308
TCRU Three Creeks R 87.56 45 P **P** **19 27 24.1 +2.2**
LATE Laterza 87.64 320 P **P** **19 27 21.1 -0.8**
LATE IAmb IAmb 19 27 24.9
comp=Z,28nm,1.2s
ULM Lac du Bonnet 87.67 28 P **P** **19 27 23.2 +1.3**
comp=Z,31nm,0.8s,baz=327,slow=5.8,SNR=21
ULM LR LR 20 07 54.1
comp=Z,910nm,21.0s,baz=341,slow=36
ULM Lac du Bonnet 87.67 28 P **P** **19 27 23.0 +1.1**
ULM pmax pmax
comp=Z,90nm,1.2s
ULM MLR MLR
comp=Z,1µm,18.0s
ULM Lac du Bonnet 87.67 28 P **P** **19 27 23.0 +1.1**
CCUT Cedar City 87.67 46 P **P** **19 27 24.1 +1.6**
MURC Murrieta 87.67 51 P **P** **19 27 24.2 +1.9**
baz=308
MSU Marysvale 87.78 45 P **P** **19 27 25.7 +2.7**
MSU Marysvale 87.78 45 P **P** **19 27 25.7 +2.7**
SZCU Shurtz Canyon 87.81 46 P **P** **19 27 24.2 +1.1**
TMUT Trail Mountain 87.85 44 P **P** **19 27 25.1 +1.7**
MDND Maddock 87.91 32 P **P** **19 27 24.0 +0.9**
baz=318
MDND Maddock 87.91 32 P **P** **19 27 25.1 +1.9**
MDND IAMs_20 IAMs_20 20 07 57.1
comp=Z,2µm,21.0s
GMRC Granite Mounta 87.96 50 P **P** **19 27 26.3 +2.6**
baz=308,SNR=8.2
RDMU Red Mountain 87.96 42 P **P** **19 27 25.2 +1.4**
P17A Butcher Ranch, 88.01 44 P **P** **19 27 26.0 +2.0**
MTPU Mount Pierson 88.08 45 P **P** **19 27 26.7 +2.2**
LCMT Little Creek M 88.09 47 P **P** **19 27 26.9 +2.5**
Q16A Castle Valley 88.12 44 P **P** **19 27 26.8 +2.2**
PFO Pinyon Flats O 88.16 51 P **P** **19 27 27.1 +2.3**
baz=308
PFO Pinyon Flats O 88.16 51 IAMs_20 IAMs_20 19 59 46.2
comp=Z,3µm,22.0s
XPFO Pion Flat 88.16 51 IAMs_20 IAMs_20 19 59 46.2
comp=Z,3µm,22.0s
109C Camp Elliot, M 88.17 52 P **P** **19 27 26.4 +1.9**
baz=308
109C Camp Elliot, M 88.17 52 IAMs_20 IAMs_20 19 59 28.5
comp=Z,2µm,21.0s
FURI Furi 88.18 279 *e*P **P** **19 27 26.5 +1.2**
FURI *e*S **S** **19 38 00.4 -8.3**
FURI Furi 88.18 279 *e*P **P** **19 27 26.5 +1.2**
FURI *e*S **S** **19 38 00.4 -8.3**
CEL Celeste 88.19 315 P **P** **19 27 24.7 0.0**
BELC Belle Mtn. Jos 88.22 50 P **P** **19 27 27.0 +2.0**
baz=308
K22A Casper 88.23 39 P **P** **19 27 25.9 +0.9**
baz=314,SNR=7.0
K22A Casper 88.23 39 P **P** **19 27 25.5 +0.6**
K22A IAmb IAmb 19 27 46.3
comp=Z,48nm,1.3s
KNB Kanab 88.35 46 P **P** **19 27 28.0 +2.4**
KNB pmax pmax
comp=Z,48nm,1.2s
KNB Kanab 88.35 46 P **P** **19 27 28.0 +2.4**
E28A Huff 88.35 33 P **P** **19 27 26.9 +1.7**
E28A IAmb IAmb 19 27 50.7
comp=Z,46nm,1.1s
E28A IAMs_20 IAMs_20 20 07 48.0
comp=Z,2µm,21.0s
SRU San Rafael Swe 88.37 44 P **P** **19 27 27.3 +1.6**
SRU pmax pmax
comp=Z,26nm,0.8s
SRU San Rafael Swe 88.37 44 P **P** **19 27 27.3 +1.6**
CLF Chambon-Foret 88.42 329 P **P** **19 27 25.3 -0.2**
TJX Tijuana 88.43 52 IAMs_20 IAMs_20 19 59 19.5
comp=Z,2µm,21.0s
RSSD Black Hills 88.50 37 P **P** **19 27 27.2 +0.9**
baz=315
RSSD Black Hills 88.50 37 P **P** **19 27 27.5 +1.2**
RSSD pmax pmax
comp=Z,115nm,1.5s
RSSD MLR MLR
comp=Z,2µm,20.0s
RSSD Black Hills 88.50 37 P **P** **19 27 27.5 +1.2**
RWWY Rawlins 88.52 40 P **P** **19 27 27.1 +0.6**
BNI Bardonecchia 88.57 325 P **P** **19 27 24.1 -2.4**
BNI pmax pmax
comp=Z,64nm,1.5s
BNI MLR MLR
comp=Z,15µm,19.0s
BNI Bardonecchia 88.57 325 P **P** **19 27 24.1 -2.4**
BNI IAmb IAmb 19 27 35.9
comp=Z,64nm,1.5s
BAR Barrett 88.58 52 IAMs_20 IAMs_20 19 59 41.5
comp=Z,2µm,21.0s
MONP2 Monument Peak 88.62 52 P **P** **19 27 29.3 +2.2**
baz=308
NEE2 Needles Airpor 88.64 49 P **P** **19 27 28.6 +1.8**
baz=309
NEE2 S **S** **19 38 14.0 +2.3**
baz=309
IRM Iron Mountain 88.68 50 P **P** **19 27 29.5 +2.5**
baz=309,SNR=7.3
IRM S **S** **19 38 13.7 +1.4**
baz=309
BC3 Big Chuckawall 88.79 50 P **P** **19 27 29.8 +2.1**
baz=308
W13A Hualapai Mount 88.90 48 P **P** **19 27 29.7 +1.4**
IKP In-Ko-Pah, Jac 88.98 52 P **P** **19 27 29.8 +1.3**
baz=308
SWSC Sam W. Stewart 89.00 51 P **P** **19 27 29.8 +1.3**
baz=308
O20A White River Ci 89.00 42 P **P** **19 27 30.6 +1.9**
baz=313
O20A S **S** **19 38 17.3 +1.8**
baz=313
O20A White River Ci 89.00 42 P **P** **19 27 30.0 +1.3**
O20A IAmb IAmb 19 27 43.8
comp=Z,52nm,1.4s
LDF La Druitiere 89.01 331 P **P** **19 27 26.8 -1.5**
LDF pmax pmax
comp=Z,50nm,1.3s
LDF MLR MLR
comp=Z,1µm,20.0s
U15A North Rim 89.05 47 P **P** **19 27 30.3 +1.2**
U15A IAmb IAmb 19 27 44.9
comp=Z,64nm,1.4s
AGMN Agassiz Nation 89.19 30 P **P** **19 27 29.7 +0.6**
baz=321,SNR=11
PDMCI Parker Dam,Lak 89.23 49 P **P** **19 27 30.7 +1.1**
baz=309
PDMCI S **S** **19 38 20.2 +2.8**
baz=309
SSB Saint Sauveur 89.44 326 P **P** **19 27 29.5 -0.9**
SSB pmax pmax
comp=Z,19nm,1.0s
SSB MLR MLR
comp=Z,8µm,19.0s
SSB Saint Sauveur 89.44 326 P **P** **19 27 29.5 -0.9**
ESJX Sierra Juarez 89.48 52 IAMs_20 IAMs_20 19 59 55.3
comp=Z,2µm,21.0s
GLA Glamis 89.57 51 S **S** **19 38 23.4 +2.7**
baz=309
GLA Glamis 89.57 51 P **P** **19 27 31.9 +0.6**
GLA pmax pmax
comp=Z,23nm,1.3s
GLA MLR MLR
comp=Z,3µm,21.0s
GLA Glamis 89.57 51 P **P** **19 27 31.9 +0.6**
GLA IAMs_20 IAMs_20 20 00 43.6
comp=Z,3µm,21.0s
D32A Dogwood Acres, 89.59 31 IAMs_20 IAMs_20 20 13 36.6
comp=Z,2µm,18.0s
PV21 Cone Mtn., Par 89.64 43 P **P** **19 27 32.7 +0.9**
PV21 IAmb IAmb 19 27 47.3
comp=Z,73nm,1.2s
PMOR Pomariorio Ree 89.67 108 *e*T T 21 06 21.2
comp=Z,28nm,0.2s
PV23 Carpenter Ridg 89.69 43 P **P** **19 27 34.2 +2.1**
PV10 Paradox Valley 89.73 43 P **P** **19 27 34.0 +1.8**

PPT Papeete 89.74 111 LR LR 20 04 56.5
comp=Z,871nm,18.4s,baz=6.0,slow=34
PV14 Lion Creek, Pa 89.74 43 P **P** **19 27 34.1 +1.8**
PV14 IAms_20 IAms_20 20 10 22.4
comp=Z,2µm,21.0s
PPT2 Papeete2 89.75 111 *e*SKSac **SKSac** **19 38 00.6 -0.7**
comp=Z,942nm,29.8s
PPT2 *e*SS **SS** **19 44 20.3 0.0**
comp=Z,2µm,24.8s
PPT2 *e*LQ LQ 19 52 21.5
comp=Z,2µm,24.8s
PPT2 *e*LR LR 19 56 16.6
comp=Z,4µm,24.5s,baz=311
N23A Red Feather La 89.76 40 P **P** **19 27 34.2 +1.9**
baz=314,SNR=8.2
N23A S **S** **19 38 25.2 +2.6**
baz=314
N23A Red Feather La 89.76 40 P **P** **19 27 33.3 +1.0**
N23A IAms_20 IAms_20 20 11 12.7
comp=Z,2µm,21.0s
PV22 Blue Mesa, Par 89.77 43 P **P** **19 27 33.0 +0.7**
PV22 IAmb IAmb 19 27 47.8
comp=Z,72nm,1.4s
RAFF Raffo Rosso 89.78 315 P **P** **19 27 31.8 -0.4**
PV20 West Nyswonger 89.79 43 P **P** **19 27 34.0 +1.6**
PV04 Paradox Valley 89.79 43 P **P** **19 27 34.2 +1.8**
PV04 IAmb IAmb 19 27 56.5
comp=Z,81nm,1.4s
PV19 Morning Glory 89.80 44 P **P** **19 27 34.7 +2.2**
PV17 East Wray Mesa 89.84 44 P **P** **19 27 35.0 +2.3**
PV16 Nyswonger Mesa 89.84 43 P **P** **19 27 34.8 +2.1**
PV16 IAmb IAmb 19 27 55.7
comp=Z,42nm,1.2s
GUVIX Guadalupe Vict 89.88 51 IAms_20 IAms_20 20 00 10.7
comp=Z,2µm,21.0s
PV11 David Mesa, Pa 89.88 43 P **P** **19 27 34.6 +1.8**
PV11 IAms_20 IAms_20 20 12 18.0
comp=Z,2µm,20.0s
PV18 Skein Mesa, Pa 89.89 44 P **P** **19 27 34.2 +1.3**
PV05 Paradox Valley 89.89 44 P **P** **19 27 34.9 +2.0**
PV12 Saucer Basin, 89.91 43 P **P** **19 27 34.8 +1.8**
PV07 Paradox Valley 89.91 43 P **P** **19 27 33.7 +0.7**
PV07 IAmb IAmb 19 27 48.6
comp=Z,38nm,1.2s
PV07 IAms_20 IAms_20 20 12 39.0
comp=Z,2µm,18.0s
PV03 Paradox Valley 89.92 43 P **P** **19 27 34.1 +1.1**
PV03 IAmb IAmb 19 27 53.3
comp=Z,72nm,1.3s
PV13 Radium Mtn., P 90.00 44 P **P** **19 27 34.7 +1.2**
PV02 Paradox Valley 90.02 43 P **P** **19 27 35.3 +1.8**
PV02 IAmb IAmb 19 27 52.0
comp=Z,40nm,1.1s
PV15 Paradox Valley 90.08 43 P **P** **19 27 34.9 +1.1**
PV15 IAmb IAmb 19 27 38.5
comp=Z,75nm,1.4s
PV01 Paradox Valley 90.16 43 P **P** **19 27 35.4 +1.2**
WUAZ Wupatki 90.21 47 P **P** **19 27 36.4 +2.0**
baz=311,SNR=8.8
WUAZ Wupatki 90.21 47 P **P** **19 27 36.0 +1.7**
WUAZ IAmb IAmb 19 27 49.1
comp=Z,38nm,1.2s
SPX San Pedro Mart 90.40 52 IAms_20 IAms_20 20 00 33.2
comp=Z,2µm,22.0s
113A Mohawk Valley, 90.44 50 P **P** **19 27 36.0 +0.7**
113A IAms_20 IAms_20 20 01 32.7
comp=Z,2µm,20.0s
ISCO Idaho Springs 90.70 41 P **P** **19 27 38.8 +2.0**
baz=314,SNR=6.7
ISCO Idaho Springs 90.70 41 P **P** **19 27 38.8 +2.0**
ISCO pmax pmax
comp=Z,7.0nm,1.0s
ISCO MLR MLR
comp=Z,2µm,20.0s
ISCO Idaho Springs 90.70 41 P **P** **19 27 38.8 +2.0**
SUSD Miller 90.76 34 P **P** **19 27 37.6 +1.1**
baz=319
SUSD S **S** **19 38 32.0 +0.8**
baz=319
SUSD Miller 90.76 34 P **P** **19 27 37.4 +0.8**
SUSD IAms_20 IAms_20 20 15 07.6
comp=Z,2µm,20.0s
MVCO Mesa Verde 90.83 44 P **P** **19 27 39.0 +1.7**
baz=312,SNR=12
MVCO Mesa Verde 90.83 44 P **P** **19 27 38.2 +0.9**
MVCO IAmb IAmb 19 27 41.9
comp=Z,71nm,1.5s
X16A Lo Mia Camp, P 90.88 48 P **P** **19 27 39.3 +1.8**
F33A 5 Mile Ranch, 90.91 31 P **P** **19 27 38.4 +1.2**
F33A IAms_20 IAms_20 20 14 53.5
comp=Z,2µm,18.0s
EYMN Ely 91.25 28 P **P** **19 27 39.7 +1.0**
baz=324
EYMN Ely 91.25 28 P **P** **19 27 39.7 +1.0**
EYMN Ely 91.25 28 IAms_20 IAms_20 20 14 09.2
comp=Z,2µm,18.0s
S22A 4UR Ranch, Cre 91.44 43 P **P** **19 27 42.3 +2.1**
baz=314,SNR=21
S22A 4UR Ranch, Cre 91.44 43 P **P** **19 27 41.0 +0.7**
S22A IAmb IAmb 19 27 56.0
comp=Z,42nm,1.4s
W18A Petrified Fore 91.48 46 P **P** **19 27 42.3 +2.0**
baz=312
W18A Petrified Fore 91.48 46 P **P** **19 27 41.6 +1.3**
W18A IAmb IAmb 19 27 55.0
comp=Z,42nm,1.5s
Q24A Divide 91.54 41 P **P** **19 27 42.5 +1.8**
baz=314
Q24A Divide 91.54 41 P **P** **19 27 42.2 +1.5**
Q24A IAmb IAmb 19 27 54.8
comp=Z,36nm,1.4s
214A Organ Pipe Nat 91.58 50 P **P** **19 27 42.5 +1.8**
baz=310
214A Organ Pipe Nat 91.58 50 P **P** **19 27 42.0 +1.4**
214A IAmb IAmb 19 27 56.0
comp=Z,35nm,1.4s
214A IAms_20 IAms_20 20 01 54.8
comp=Z,2µm,22.0s
OGNE Ogallala 91.81 38 P **P** **19 27 42.4 +0.8**
baz=317
OGNE Ogallala 91.81 38 P **P** **19 27 43.6 +2.0**
SCHQ Schefferville 91.89 11 P **P** **19 27 42.1 +0.5**
comp=Z,12nm,0.9s,baz=8.1,slow=6.2,SNR=5.9
SCHQ LR LR 20 11 28.7
comp=Z,4µm,20.2s,baz=354,slow=37
SCHQ Schefferville 91.89 11 P **P** **19 27 42.0 +0.5**
F36A Milaca 92.09 30 P **P** **19 27 43.0 +0.3**
F36A IAmb IAmb 19 27 54.7
comp=Z,24nm,1.4s
F36A IAms_20 IAms_20 20 17 00.8
comp=Z,3µm,18.0s
SDCO Great Sand Dun 92.20 42 P **P** **19 27 45.8 +2.0**
baz=314,SNR=15
SDCO Great Sand Dun 92.20 42 P **P** **19 27 45.3 +1.6**
SDCO IAms_20 IAms_20 20 12 55.3
comp=Z,2µm,19.0s
K31A O'Neill 92.22 35 P **P** **19 27 44.8 +1.4**
K31A IAms_20 IAms_20 20 16 32.5
comp=Z,3µm,19.0s
E38A The Farm, Brul 92.31 28 P **P** **19 27 44.8 +1.2**
E38A IAmb IAmb 19 27 59.1
comp=Z,47nm,1.4s
E38A IAms_20 IAms_20 20 14 48.4
comp=Z,2µm,19.0s
ECSD EROS Data Cent 92.39 33 P **P** **19 27 45.3 +1.1**
baz=320,SNR=7.0
ECSD EROS Data Cent 92.39 33 P **P** **19 27 44.7 +0.6**
ECSD IAmb IAmb 19 27 59.7
comp=Z,45nm,1.4s
ECSD EROS Data Cent 92.39 33 IAms_20 IAms_20 20 14 32.8
comp=Z,2µm,20.0s
TUC Tucson 92.67 49 P **P** **19 27 47.5 +1.8**
baz=311
TUC Tucson 92.67 49 P **P** **19 27 46.6 +0.9**
TUC pmax pmax
comp=Z,36nm,1.2s
TUC MLR MLR
comp=Z,2µm,20.0s
TUC Tucson 92.67 49 P **P** **19 27 46.5 +0.9**
TUC IAmb IAmb 19 28 01.1
comp=Z,36nm,1.1s
TUC Tucson 92.67 49 IAms_20 IAms_20 20 07 02.4
comp=Z,2µm,20.0s
TAOE Nuku Hiva Isla 92.78 99 *e*S **S** **19 38 48.8 -1.6**
comp=Z,2µm,25.1s
TAOE Nuku Hiva Isla 92.78 99 *e*LR LR 19 57 35.3
comp=Z,4µm,24.5s,baz=306
KSCO Kaye Shedlock' 92.89 40 P **P** **19 27 47.3 +0.6**
baz=316
KSCO Kaye Shedlock' 92.89 40 IAms_20 IAms_20 20 15 16.6
comp=Z,2µm,19.0s
SPMN Marine on St. 92.91 30 P **P** **19 27 47.4 +0.9**
baz=323
SPMN Marine on St. 92.91 30 P **P** **19 27 47.7 +1.2**
SPMN IAms_20 IAms_20 20 17 25.3
comp=Z,2µm,18.0s
TBI Tubuai 93.02 116 *e*PP PP 19 31 27.5 -3.1
comp=Z,274nm,26.8s
TBI *e*SKSac **SKSac** **19 38 18.5 -1.0**
comp=Z,1µm,26.5s
TBI *e*SP **SP** **19 40 03.9 -0.2**
comp=Z,2µm,26.5s
TBI *e*SS **SS** **19 45 09.3 +2.1**
comp=Z,1µm,26.5s
TBI Tubuai 93.02 116 eLR LR 19 57 47.0
comp=Z,4µm,24.0s,baz=305
D41A Chassel 93.11 26 IAms_20 IAms_20 20 14 38.4
comp=Z,2µm,21.0s
T25A Trinidad 93.24 42 P **P** **19 27 49.9 +1.4**
baz=315,SNR=6.3
T25A S **S** **19 38 55.1 +0.9**
baz=315
T25A Trinidad 93.24 42 P **P** **19 27 49.9 +1.4**
T25A IAmb IAmb 19 28 03.6
comp=Z,32nm,1.4s
BGNE Belgrade 93.43 35 P **P** **19 27 49.3 +0.3**
baz=319
BGNE S **S** **19 38 53.7 -1.6**
baz=319
BGNE Belgrade 93.43 35 P **P** **19 27 50.4 +1.4**
BGNE IAms_20 IAms_20 20 16 51.6
comp=Z,2µm,18.0s
MAHO Mahon 93.56 322 *e*P **P** **19 27 48.7 -0.8**
MAHO *e*S **SKSac** **19 38 11.6 -11**
ANMO Albuquerque 93.58 45 P **P** **19 27 51.8 +1.8**
baz=314
ANMO Albuquerque 93.58 45⇑ *e*P **P** **19 27 49.5 -0.5**
ANMO pmax pmax
comp=Z,28nm,1.7s
ANMO MLR MLR
comp=Z,1µm,19.0s
ANMO Albuquerque 93.58 45 P **P** **19 27 51.6 +1.6**
ANMO IAmb IAmb 19 28 05.8
comp=Z,26nm,1.4s
ANMO Albuquerque 93.58 45 IAms_20 IAms_20 20 10 45.1
comp=Z,2µm,20.0s
I37A Lemond, Waseca 93.62 31 P **P** **19 27 51.0 +1.2**
I37A IAms_20 IAms_20 20 08 23.1
comp=Z,2µm,20.0s
COWI Conover 93.69 27 P **P** **19 27 50.9 +0.8**
COWI IAms_20 IAms_20 20 16 22.7
comp=Z,2µm,19.0s
KEST Kesra 93.76 317 P **P** **19 27 50.4 -0.3**
comp=Z,7.4nm,1.0s,baz=318,slow=6.5,SNR=5.6
KEST LR LR 20 16 08.1
comp=Z,4µm,18.7s,baz=351,slow=40
KEST Kesra 93.76 317 P **P** **19 27 50.9 +0.2**
KEST IAmb IAmb 19 28 00.6
comp=Z,30nm,1.2s
L34A Svendsen Farm, 93.86 34 P **P** **19 27 51.0 +0.1**
L34A IAmb IAmb 19 28 04.2
comp=Z,19nm,0.8s
Y22D IRIS PASSCAL I 93.89 45 IAms_20 IAms_20 20 10 08.6
comp=Z,2µm,20.0s
G40A Rib Lake 93.95 28 P **P** **19 27 52.7 +1.4**
G40A IAmb IAmb 19 28 03.8
comp=Z,32nm,1.1s
G40A IAms_20 IAms_20 20 17 00.8
comp=Z,2µm,18.0s
BNM Barren Site 94.02 45 P **P** **19 27 53.2 +1.1**
319A Douglas 94.24 49 IAms_20 IAms_20 20 03 48.1
comp=Z,2µm,21.0s
E43A Lone Tree Farm 94.27 26 IAms_20 IAms_20 20 16 37.1
comp=Z,2µm,18.0s
MATQ Mamagami 94.32 19 P **P** **19 27 52.7 -0.1**
baz=335
CBKS Cedar Bluff 94.57 38 P **P** **19 27 54.8 +0.5**
baz=318
CBKS Cedar Bluff 94.57 38 P **P** **19 27 54.8 +0.5**
CBKS pmax pmax
comp=Z,32nm,1.3s
CBKS MLR MLR
comp=Z,2µm,20.0s
CBKS Cedar Bluff 94.57 38 P **P** **19 27 54.8 +0.5**
CBKS IAmb IAmb 19 28 11.2
comp=Z,32nm,1.3s
CBKS IAms_20 IAms_20 20 18 45.9
comp=Z,1µm,20.0s
KMBO Kilima Mbogo 94.67 272 P **P** **19 27 55.6 +0.3**
comp=Z,1.0nm,0.5s,baz=230,slow=23,SNR=1.5
KMBO Kilima Mbogo 94.67 272 P **P** **19 27 55.7 +0.3**
KMBO pmax pmax
comp=Z,11nm,1.2s
KMBO MLR MLR
comp=Z,3µm,21.0s
KMBO Kilima Mbogo 94.67 272 *e*P **P** **19 27 54.4 -1.0**
KMBO *e*S **sSKSac** **19 38 44.2 +0.1**
KMBO Kilima Mbogo 94.67 272 IAms_20 IAms_20 20 11 26.4
comp=Z,3µm,21.0s
KMBO Kilima Mbogo 94.67 272 *e*P **P** **19 27 54.4 -1.0**
KMBO *e*S **sSKSac** **19 38 44.2 +0.1**
D46A Sault St. Mari 94.89 24 P **P** **19 27 56.1 +0.5**
baz=330
I40A Norwalk 94.91 29 IAms_20 IAms_20 20 16 24.1
comp=Z,2µm,18.0s
SRIG Santa Rosalia 94.92 54 IAms_20 IAms_20 20 03 18.6
comp=Z,2µm,21.0s
K38A Parkersburg 94.98 31 IAms_20 IAms_20 20 19 12.3
comp=Z,2µm,18.0s
CHGQ Chibougamau 95.03 17 P **P** **19 27 55.6 -0.5**
baz=338
D47A Chapleau 95.06 23 P **P** **19 27 56.5 +0.1**
baz=331
N35A Tabor 95.07 34 P **P** **19 27 57.5 +1.0**
N35A IAmb IAmb 19 28 12.3
comp=Z,28nm,0.9s
N35A IAms_20 IAms_20 20 12 07.7
comp=Z,2µm,21.0s
LSQQ Lebel-sur-Quev 95.14 19 P **P** **19 27 56.6 0.0**
baz=336
E46A Sault Ste Mari 95.25 24 P **P** **19 27 57.7 +0.5**
E46A IAmb IAmb 19 28 00.5
comp=Z,52nm,1.4s
E46A IAms_20 IAms_20 20 16 07.5
comp=Z,2µm,18.0s
SCIA State Center 95.38 32 P **P** **19 27 58.4 +0.5**
baz=323
SCIA State Center 95.38 32 IAms_20 IAms_20 20 19 22.7
comp=Z,2µm,18.0s
D48A Paudash Townsh 95.39 22 P **P** **19 27 57.6 -0.2**
baz=332
R32A Long Quarter, 95.40 38 IAms_20 IAms_20 20 16 44.8
comp=Z,1µm,18.0s
E47A Iron Bridge 95.53 24 P **P** **19 27 58.7 +0.3**
baz=330
ABPO Ambohimpanom 95.69 251 IAms_20 IAms_20 20 08 29.4
comp=Z,2µm,22.0s
JFWS Jewell Farm 95.86 30 P **P** **19 28 00.5 +0.5**
baz=325
E48A Lockeyer 95.88 23 P **P** **19 28 00.1 0.0**
baz=331
G45A Suttons Bay 95.90 26 IAms_20 IAms_20 20 17 24.2
comp=Z,2µm,18.0s
KSU1 Kansas State U 95.95 36 IAms_20 IAms_20 20 16 55.3
comp=Z,2µm,19.0s
L40A Anamosa 96.14 31 IAms_20 IAms_20 20 17 37.7
comp=Z,3µm,18.0s
F48A Evansville 96.30 24 P **P** **19 28 01.6 -0.3**
baz=331
F48A S **S** **19 39 19.3 -0.7**
baz=331
MNTX Cornudas Mount 96.47 46 P **P** **19 28 04.9 +1.8**
GLMI Grayling 96.47 25 IAms_20 IAms_20 20 19 02.7
comp=Z,2µm,19.0s
I45A Fountain 96.54 27 IAms_20 IAms_20 20 16 52.1
comp=Z,2µm,20.0s
F49A Sandfield 96.55 23 P **P** **19 28 03.0 -0.1**
baz=331
F49A S **S** **19 39 21.5 -0.6**
baz=331
D53A Lac Vacive, Po 96.73 20 P **P** **19 28 03.8 -0.1**
baz=335
K43A Burlington 96.83 29 IAms_20 IAms_20 20 11 28.9
comp=Z,2µm,21.0s
L42A Oliver, Polo 96.85 30 IAms_20 IAms_20 20 18 16.6
comp=Z,2µm,18.0s
UCM Universidad Co 96.92 327 *e*P **P** **19 28 05.3 +0.3**
UCM *e*S **SKSac** **19 38 36.1 -4.2**
P38A Dawn 97.04 34 IAms_20 IAms_20 20 20 26.8
comp=Z,2µm,18.0s
N41A Harden Midland 97.40 31 IAms_20 IAms_20 20 18 20.1
comp=Z,2µm,18.0s
D55A Sainte-Anne-du 97.41 19 P Pdif 19 28 07.2 +0.1
baz=337
D55A S **S** **19 39 26.5 -3.1**
baz=337
L44A Lake County Fo 97.44 29 IAms_20 IAms_20 20 11 47.1
comp=Z,2µm,22.0s
E54A Lac Daplat, Po 97.47 20 P **P** **19 28 06.8 -0.5**
baz=335
D56A ZEC Mazanza, M 97.58 18 P Pdif 19 28 07.9 +0.1
baz=337
ALGO Algonquin Park 97.65 21 P **P** **19 28 07.9 -0.1**
baz=335
T35A Sooner Cattle 97.68 37 P Pdif 19 28 09.7 +1.2
T35A IAmb IAmb 19 28 26.6
comp=Z,27nm,1.4s
PGAV Gavieira, Arco 97.74 331 *e*P Pdif 19 28 10.0 +1.2
PGAV Gavieira, Arco 97.74 331 *e*PP PP 19 32 14.1 +8.2
PGAV *e*SKS **SKSac** **19 38 50.4 +5.8**
PGAV Gavieira, Arco 97.74 331 *e*LQ LQ 20 04 00.7
PGAV *e*LR LR 20 08 28.1
comp=Z,6µm,18.0s
ESDC Sonseca Array 97.75 327 P **P** **19 28 07.9 -0.9**
comp=Z,1.4nm,0.9s,baz=19,slow=4.3,SNR=10
ESDC LR LR 20 18 01.7
comp=Z,6µm,20.5s,baz=65,slow=39
ESDC Sonseca Array 97.75 327 P **P** **19 28 08.2 -0.6**
J47A Sunmer 97.75 26 IAms_20 IAms_20 20 14 40.3
comp=Z,2µm,20.0s
HQIL Hanson Quary C 97.78 29 IAms_20 IAms_20 20 11 56.1
comp=Z,2µm,21.0s
P40A Paris 97.81 33 P **P** **19 28 08.6 -0.3**
P40A IAms_20 IAms_20 20 18 53.1
comp=Z,2µm,19.0s
MVO Moncorvo 97.89 330 *e*P Pdif 19 28 17.6 +8.2
MVO Moncorvo 97.89 330 *e*PP PP 19 32 15.4 +8.4
MVO *e*SKS **SKSac** **19 38 50.3 +5.0**
MVO Moncorvo 97.89 330 *e*LQ LQ 20 01 55.1
MVO *e*LR LR 20 07 43.2
comp=Z,9µm,16.0s
E56A St. Veronique 97.97 19 P **P** **19 28 09.4 -0.1**
baz=337
CART Cartagena 97.99 324⇑ *e*P **P** **19 28 09.4 -0.4**
CART *e*S **SKSac** **19 38 47.7 +1.9**
D58A Chemin du LacG 98.01 17 P **P** **19 28 08.8 -0.9**
baz=339
OK029 Liberty Lake 98.04 39 IAms_20 IAms_20 20 18 43.7
comp=Z,2µm,19.0s
M44A Midewin, Midew 98.04 29 IAms_20 IAms_20 20 18 04.1
comp=Z,2µm,19.0s
WMOK Wichita Mounta 98.12 40 IAms_20 IAms_20 20 16 17.0
comp=Z,1µm,20.0s
G54A Lake Saint Pet 98.14 21 P **P** **19 28 10.0 -0.3**
baz=334
QUOK Quay 98.14 38 IAms_20 IAms_20 20 17 47.5
comp=Z,2µm,20.0s
HDIL Hopedale 98.20 31 IAms_20 IAms_20 20 11 25.4
comp=Z,2µm,21.0s
L46A Eue Claire 98.23 28 IAms_20 IAms_20 20 18 31.9
comp=Z,2µm,20.0s
OK025 Westminster Rd 98.26 39 IAms_20 IAms_20 20 18 55.6
comp=Z,2µm,20.0s
E57A Chemin Saint G 98.33 18 P **P** **19 28 11.1 0.0**
baz=338
OKCFA Oklahoma City 98.33 39 IAms_20 IAms_20 20 20 59.4
comp=Z,2µm,19.0s
D61A St Aubert, Com 98.54 15 P **P** **19 28 11.7 -0.3**
baz=341
E58A La Victoria 98.59 17 P **P** **19 28 12.0 -0.3**
baz=338
I51A Listowel 98.62 24 P **P** **19 28 12.3 -0.2**
baz=332
D60A Saint Jean D'O 98.65 16 P **P** **19 28 12.2 -0.3**
baz=340
S39A Bolivar 98.67 35 IAms_20 IAms_20 20 18 15.1
comp=Z,2µm,19.0s
G55A Calabogie 98.68 20 P Pdif 19 28 12.9 +0.2
baz=336
R40A Maddies Statio 98.70 34 IAms_20 IAms_20 20 14 25.7
comp=Z,1µm,19.0s
H53A Bobcaygeon 98.73 22 P Pdif 19 28 13.4 +0.5
baz=334
MTE Manteigas 98.74 330 *e*P P 19 28 04.9 -8.3
MTE Manteigas 98.74 330 *e*PP PP 19 32 22.9 +9.3
MTE *e*SKS **SKSac** **19 38 56.3 +6.6**
MTE Manteigas 98.74 330 *e*LQ LQ 20 02 08.8
MTE *e*LR LR 20 06 10.5
comp=Z,9µm,18.0s
TUL1 Leonard 98.82 38 IAms_20 IAms_20 20 17 43.3
comp=Z,2µm,19.0s
SLBS Sierra La Lagu 98.85 55 IAms_20 IAms_20 20 17 08.6
comp=Z,2µm,20.0s
P43A Skaggs, Pawnee 98.86 31 IAms_20 IAms_20 20 20 17.7
comp=Z,2µm,19.0s
O44A Mansfield 98.89 30 IAms_20 IAms_20 20 18 39.6
comp=Z,2µm,19.0s
D62A Allapoint, All 98.90 14 P **P** **19 28 13.1 -0.5**
baz=342
AAM Ann Arbor 99.00 26 IAms_20 IAms_20 20 19 18.1
comp=Z,2µm,19.0s
L48A N Adams 99.01 27 IAms_20 IAms_20 20 20 48.6
comp=Z,2µm,18.0s
U38A Gravette 99.13 36 IAms_20 IAms_20 20 17 06.3
comp=Z,2µm,21.0s
TX31 Lajitas Ar. Si 99.17 47 **Pdif** **19 28 16.2 +0.8**
TX31 IAmb IAmb 19 28 29.6
comp=Z,35nm,1.4s
TX32 Lajitas Array 99.17 47 P **Pdif** **19 28 16.2 +0.8**
TXAR Lajitas Array 99.17 47 P **Pdif** **19 28 17.6 +2.2**
comp=Z,0.9nm,0.9s,baz=306,slow=3.0,SNR=9.5
TXAR PKiKP **PKiKP** **19 32 44.4 -1.1**
comp=Z,2.0nm,1.1s,baz=322,slow=2.6,SNR=5.0
TXAR LR LR 20 15 17.4
comp=Z,1µm,18.3s,baz=0.0,slow=37
TXAR Lajitas Array 99.17 47 **Pdif** **19 28 16.0 +0.7**
ABTX Abilene, Hawle 99.20 42 IAms_20 IAms_20 20 21 10.8
comp=Z,1µm,18.0s
E62A Clayton Lake 99.24 15 P **Pdif** **19 28 14.8 -0.4**
baz=342
E62A Clayton Lake 99.24 15 IAms_20 IAms_20 20 19 23.9
comp=Z,2µm,18.0s
COI Coimbra 99.27 330 *e*P **Pdif** **19 28 13.8 -1.6**
COI Coimbra 99.27 330 *e*PP **PP** **19 32 14.4 -3.1**
CCM Cathedral Cave 99.36 33 P **Pdif** **19 28 16.4 +0.4**
baz=324
CCM Cathedral Cave 99.36 33 IAms_20 IAms_20 20 20 00.3
comp=Z,2µm,19.0s
N47A Urbana 99.43 28 IAms_20 IAms_20 20 19 05.7
comp=Z,2µm,18.0s
PCAS Casmilo, Conde 99.44 330 *e*P **Pdif** **19 28 12.9 -3.3**
PCAS Casmilo, Conde 99.44 330 *e*PP **PP** **19 32 14.4 -4.4**
PMRV Marv??o 99.48 329 *e*P **Pdif** **19 28 16.7 +0.2**
PMRV Marv??o 99.48 329 *e*PP **PP** **19 32 23.1 +3.9**
PMRV *e*SKS **SKSac** **19 38 59.4 +6.1**
PMRV Marv??o 99.48 329 *e*LQ LQ 20 03 07.0
PMRV *e*LR LR 20 09 54.5
comp=Z,11µm,16.0s
PQI Presque Isle 99.51 14 IAms_20 IAms_20 20 14 31.9
comp=Z,3µm,20.0s
F61A St Evariste 99.52 16 P **Pdif** **19 28 16.2 -0.3**
baz=340
MGMO Mountain Grove 99.60 34 IAms_20 IAms_20 20 14 55.8
comp=Z,2µm,20.0s
Q44A Meyer Farm, Va 99.68 31 IAms_20 IAms_20 20 21 00.7
comp=Z,2µm,18.0s
H57A Richville 99.78 20 P **Pdif** **19 28 16.6 -1.0**
baz=337
FVM French Village 99.80 33 IAms_20 IAms_20 20 21 47.0
comp=Z,2µm,18.0s
F62A Pittston Farm, 99.83 15 IAms_20 IAms_20 20 14 41.4
comp=Z,3µm,21.0s
LONY Lake Ozonia 99.86 19 IAms_20 IAms_20 20 16 21.4
comp=Z,2µm,19.0s
P46A Rosedale 99.87 30 IAms_20 IAms_20 20 12 10.5
comp=Z,2µm,19.0s
J54A Appleton 99.88 22 IAms_20 IAms_20 20 16 44.9
comp=Z,2µm,20.0s
FRNY Flat Rock 99.94 18 IAms_20 IAms_20 20 17 44.3
comp=Z,3µm,20.0s

U40A Yellville 99.95 35 IAMs_20 IAMs_20 20 19 07.1
comp=Z,2µm,19.0s

N49A Columbus Grove 99.99 27 IAMs_20 IAMs_20 20 15 55.4
comp=Z,2µm,19.0s

Z35A Perchaven, San 100.01 40 IAMs_20 IAMs_20 20 22 24.0
comp=Z,1µm,19.0s

PSBE So Bento 100.01 330 *e*P Pdif 19 28 22.4 +3.6
PSBE So Bento 100.01 330 *e*PP PP 19 32 14.4 -8.8
G61A St-Isidore-de- 100.04 17 P Pdif 19 28 18.7 -0.1
baz=340

X37A Clayton 100.06 38 IAMs_20 IAMs_20 20 18 37.1
comp=Z,2µm,18.0s

PMTG Montargil 100.14 330 *e*P Pdif 19 28 20.2 +0.9
PMTG Montargil 100.14 330 *e*PP PP 19 32 08.9 -15
J55A Hilton 100.15 22 P Pdif 19 28 18.9 -0.4
baz=335

OLIL Olney 100.23 31 IAMs_20 IAMs_20 20 21 13.0
comp=Z,2µm,18.0s

T42A Van Buren 100.26 34 IAMs_20 IAMs_20 20 22 40.2
comp=Z,2µm,18.0s

EMAL Malaga-Limoner 100.31 326 *e*P Pdif 19 28 18.4 -1.7
EMAL *e*S SKSac 19 38 51.1 -6.3
W39A Magazine 100.40 37 IAMs_20 IAMs_20 20 18 06.2
comp=Z,1µm,20.0s

H60A Morristown 100.42 18 P Pdif 19 28 19.6 -0.9
baz=339

J56A Wolcott 100.43 21 P Pdif 19 28 20.4 -0.1
baz=335

J56A Wolcott 100.43 21 IAMs_20 IAMs_20 20 15 51.6
comp=Z,2µm,20.0s

EVO Evora 100.50 329 *e*P Pdif 19 28 26.3 +5.4
EVO *e*S SKSac 19 38 55.8 -2.5
M52A Chesterland 100.50 25 IAMs_20 IAMs_20 20 19 30.8
comp=Z,2µm,18.0s

BLO Bloomington 100.53 30 IAMs_20 IAMs_20 20 12 42.0
comp=Z,2µm,20.0s

K55A Perry 100.55 22 P Pdif 19 28 21.1 -0.1
baz=334

O49A Covington 100.56 28 IAMs_20 IAMs_20 20 14 29.5
comp=Z,2µm,21.0s

NCB Newcomb 100.56 19 IAMs_20 IAMs_20 20 19 49.9
comp=Z,1µm,19.0s

J57A Williamstown 100.57 20 IAMs_20 IAMs_20 20 20 13.2
comp=Z,2µm,18.0s

S44A Carbondale 100.57 32 IAMs_20 IAMs_20 20 22 32.2
comp=Z,2µm,18.0s

VT1 Waterbury 100.62 18 IAMs_20 IAMs_20 20 18 01.7
comp=Z,2µm,20.0s

H61A Lyndonville 100.64 17 P Pdif 19 28 21.9 +0.4
baz=340

N51A Ashland 100.67 26 IAMs_20 IAMs_20 20 19 46.5
comp=Z,2µm,18.0s

FCAR Ozark Folk Cen 100.68 35 IAMs_20 IAMs_20 20 19 26.4
comp=Z,2µm,19.0s

PMAFR Mafra 100.69 330 *e*P Pdif 19 28 16.9 -4.9
PMAFR Mafra 100.69 330 *e*PP PP 19 32 33.6 +5.3
G64A Maxfield 100.71 15 P Pdif 19 28 21.5 -0.3
baz=342

P48A Milroy 100.74 29 IAMs_20 IAMs_20 20 22 26.5
comp=Z,2µm,18.0s

MELI Melilla 100.75 324 *e*P Pdif 19 28 21.4 -0.7
MELI *e*S SKSac 19 38 55.1 -4.5
K56A Middlesex 100.81 22 P Pdif 19 28 21.9 -0.5
baz=335

M53A WI Miller and 100.83 24 IAMs_20 IAMs_20 20 23 23.5
comp=Z,2µm,18.0s

WHTX Lake Whitney, 100.91 41 IAMs_20 IAMs_20 20 18 11.9
comp=Z,2µm,20.0s

L55A Hinsdale 100.92 23 P Pdif 19 28 22.6 -0.2
baz=334

I60A Shoreham 100.93 18 P Pdif 19 28 22.9 +0.2
baz=338

J59A Piesco 100.95 19 P Pdif 19 28 22.8 -0.1
baz=337

J59A Piesco 100.95 19 IAMs_20 IAMs_20 20 16 55.2
comp=Z,2µm,19.0s

P49A Miami Univ. Ec 100.97 28 IAMs_20 IAMs_20 20 19 41.4
comp=Z,2µm,20.0s

G65A Princeton 101.01 14 P Pdif 19 28 23.4 +0.3
baz=343

ACSO Alum Creek Sta 101.04 27 IAMs_20 IAMs_20 20 20 33.3
comp=Z,3µm,19.0s

PNCL Nicolau / Gran 101.07 329 *i* PP PP 19 32 25.7 -5.5
WHAR Wooly Hollow 101.08 36 IAMs_20 IAMs_20 20 23 19.9
comp=Z,2µm,19.0s

M54A Oil Creek Stat 101.12 24 P Pdif 19 28 24.1 +0.5
baz=333

WVL Waterville 101.16 16 IAMs_20 IAMs_20 20 18 35.6
comp=Z,2µm,19.0s

H64A Troy 101.19 15 P Pdif 19 28 24.0 +0.2
baz=342

PARMO Parma 101.19 33 IAMs_20 IAMs_20 20 23 05.6
comp=Z,1µm,18.0s

W41B Gary Mavity, V 101.19 36 IAMs_20 IAMs_20 20 23 23.9
comp=Z,2µm,19.0s

PCVE Castro Verde 101.26 329 *e*P Pdif 19 28 36.6 +12
PCVE Castro Verde 101.26 329 *e*PP PP 19 32 36.9 +4.3
K58A Earlville 101.27 20 IAMs_20 IAMs_20 20 20 35.6
comp=Z,2µm,18.0s

HENM Henderson Moun 101.27 33 IAMs_20 IAMs_20 20 22 32.9
comp=Z,1µm,18.0s

Z38A Mt. Pleasant 101.28 39 IAMs_20 IAMs_20 20 20 20.7
comp=Z,2µm,20.0s

HNH Hanover 101.33 18 IAMs_20 IAMs_20 20 14 35.1
comp=Z,2µm,22.0s

N53A Lisbon 101.33 25 IAMs_20 IAMs_20 20 23 41.9
comp=Z,2µm,18.0s

T45A Paducah 101.40 32 IAMs_20 IAMs_20 20 22 07.3
comp=Z,2µm,18.0s

I62A Tamworth 101.41 17 IAMs_20 IAMs_20 20 18 51.3
comp=Z,2µm,18.0s

PENMO Penman 101.42 33 IAMs_20 IAMs_20 20 23 29.7
comp=Z,1µm,18.0s

WCI Wyandotte Cave 101.42 30 IAMs_20 IAMs_20 20 20 22.6
comp=Z,2µm,19.0s

I63A Otisfield 101.43 16 IAMs_20 IAMs_20 20 15 21.8
comp=Z,2µm,20.0s

X40A Basin Creek Fa 101.44 37 IAMs_20 IAMs_20 20 18 36.2
comp=Z,2µm,19.0s

CEU Ceuta 101.45 326 *e*P Pdif 19 28 24.2 -1.0
CEU *e*S Sdif 19 39 59.0 -4.9
M55A Ridgway 101.46 23 IAMs_20 IAMs_20 20 19 19.7
comp=Z,2µm,19.0s

UALR University of 101.46 36 IAMs_20 IAMs_20 20 20 08.1
comp=Z,2µm,19.0s

K59A Cooperstown 101.49 20 P Pdif 19 28 25.5 +0.2
baz=337

N54A Moraine State 101.49 24 IAMs_20 IAMs_20 20 19 56.6
comp=Z,2µm,18.0s

PVLZ Peæn de 101.52 325 *i* P Pdif 19 28 24.2 -1.3
PVLZ *e*S SKSac 19 39 01.3 -1.9
HICK Hickman 101.53 33 IAMs_20 IAMs_20 20 22 30.6
comp=Z,1µm,19.0s

PBDV Barranco-do-Ve 101.53 328 *e*P Pdif 19 28 31.7 +6.1
PBDV Barranco-do-Ve 101.53 328 *e*PP PP 19 32 40.2 +5.5
O52A Adamsville 101.57 26 IAMs_20 IAMs_20 20 20 13.3
comp=Z,2µm,19.0s

PEBM Pemiscott Bayo 101.58 34 IAMs_20 IAMs_20 20 23 30.1
comp=Z,2µm,18.0s

J61A Chester 101.59 18 P Pdif 19 28 25.1 -0.7
baz=339

L57A Andrews Acres 101.59 22 P Pdif 19 28 25.6 -0.2
baz=335

M56A Emporium 101.64 23 P Pdif 19 28 26.0 0.0
baz=334

M56A Emporium 101.64 23 IAMs_20 IAMs_20 20 19 55.4
comp=Z,2µm,18.0s

HBAR Harrisburg 101.66 34 IAMs_20 IAMs_20 20 21 19.2
comp=Z,2µm,18.0s

P51A Williamsport 101.66 27 IAMs_20 IAMs_20 20 21 04.7
comp=Z,2µm,18.0s

BINY Binghamton 101.68 21 IAMs_20 IAMs_20 20 24 03.5
comp=Z,2µm,19.0s

FFD Franklin Falls 101.71 17 IAMs_20 IAMs_20 20 15 20.2
comp=Z,2µm,21.0s

435B Jarrell 101.74 42 IAMs_20 IAMs_20 20 18 43.0
comp=Z,2µm,19.0s

LNXT Lenox 101.77 33 IAMs_20 IAMs_20 20 21 07.0
comp=Z,2µm,18.0s

LPAR Lepanto 101.79 34 IAMs_20 IAMs_20 20 23 35.7
comp=Z,2µm,18.0s

MORF Marmelete 101.80 329 *e*PP PP 19 32 38.3 +1.6
MORF *e*SKSac SKSac 19 39 05.2 +0.6
MORF AMS AMS 20 21 26.9
comp=Z,7µm,15.9s

MORF Marmelete 101.80 329 *e*PP PP 19 32 33.5 -3.2
237A Washetta, Mont 101.81 40 IAMs_20 IAMs_20 20 22 59.7
comp=Z,1µm,18.0s

R49A Shelbyville 101.84 29 IAMs_20 IAMs_20 20 21 28.6
comp=Z,2µm,18.0s

TRY Troy 101.86 19 IAMs_20 IAMs_20 20 20 28.3
comp=Z,2µm,19.0s

P52A Corning 101.88 26 IAMs_20 IAMs_20 20 20 28.6
comp=Z,1µm,18.0s

WLAR White Oak Lake 101.93 37 IAMs_20 IAMs_20 20 24 02.6
comp=Z,2µm,18.0s

HALT Halls 101.99 33 IAMs_20 IAMs_20 20 20 35.9
comp=Z,1µm,20.0s

N55A Marion Center 102.00 24 P Pdif 19 28 27.3 -0.4
baz=334

PFVI Vila Bisbo 102.02 329 *e*P Pdif 19 28 28.9 +1.2
PFVI Vila Bisbo 102.02 329 *i* PP PP 19 32 23.8 -15
O54A Avella 102.04 25 IAMs_20 IAMs_20 20 20 27.7
comp=Z,2µm,19.0s

M57A Sunshine Farm, 102.11 22 IAMs_20 IAMs_20 20 17 27.9
comp=Z,2µm,20.0s

T47A Sharon Grove 102.11 31 IAMs_20 IAMs_20 20 22 53.0
comp=Z,2µm,18.0s

R50A Paris 102.19 29 IAMs_20 IAMs_20 20 20 49.9
comp=Z,2µm,19.0s

P53A Whipple 102.29 26 IAMs_20 IAMs_20 20 20 42.3
comp=Z,2µm,18.0s

K62A Royalston 102.31 18 IAMs_20 IAMs_20 20 19 04.2
comp=Z,2µm,19.0s

KSPA Keystone Colle 102.33 21 IAMs_20 IAMs_20 20 24 25.4
comp=Z,1µm,19.0s

MET Memphis--Engin 102.36 34 IAMs_20 IAMs_20 20 23 51.6
comp=Z,2µm,18.0s

X43A Marvell 102.39 35 IAMs_20 IAMs_20 20 21 58.6
comp=Z,2µm,19.0s

CCAR Cane Creek 102.43 36 IAMs_20 IAMs_20 20 20 36.7
comp=Z,2µm,18.0s

Z41A Richland Creek 102.43 37 IAMs_20 IAMs_20 20 19 13.8
comp=Z,1µm,20.0s

SSPA Standing Stone 102.50 23 IAMs_20 IAMs_20 20 20 31.2
comp=Z,2µm,19.0s

833A Chaparral WMA, 102.50 45 IAMs_20 IAMs_20 20 16 20.5
comp=Z,2µm,20.0s

WVT Waverly 102.50 32 IAMs_20 IAMs_20 20 20 55.4
comp=Z,2µm,19.0s

NATX Nacogdoches 102.62 39 IAMs_20 IAMs_20 20 20 37.0
comp=Z,2µm,19.0s

HRV Adam Dziewonsk 102.64 18 IAMs_20 IAMs_20 20 20 08.1
comp=Z,2µm,18.0s

QUA2 Belchertown 102.64 18 IAMs_20 IAMs_20 20 19 23.9
comp=Z,2µm,19.0s

N58A Sunbury 102.69 22 IAMs_20 IAMs_20 20 15 01.3
comp=Z,2µm,22.0s

WES Weston 102.81 18 IAMs_20 IAMs_20 20 16 10.4
comp=Z,2µm,19.0s

KSCT Kent School, K 102.84 19 IAMs_20 IAMs_20 20 19 37.3
comp=Z,2µm,19.0s

N59A State Game Lan 102.92 21 IAMs_20 IAMs_20 20 18 15.3
comp=Z,2µm,20.0s

Q54A Coxs Mills 102.94 26 IAMs_20 IAMs_20 20 21 00.4
comp=Z,2µm,18.0s

S51A Beattyville 103.04 28 IAMs_20 IAMs_20 20 23 19.3
comp=Z,2µm,19.0s

735A Kenedy 103.05 44 IAMs_20 IAMs_20 20 11 08.8
comp=Z,2µm,22.0s

T50A Nacy 103.06 30 IAMs_20 IAMs_20 20 22 08.9
comp=Z,2µm,19.0s

R53A Hurricane 103.09 27 IAMs_20 IAMs_20 20 23 02.5
comp=Z,2µm,18.0s

U49A Red Boiling Sp 103.09 30 IAMs_20 IAMs_20 20 21 24.8
comp=Z,2µm,20.0s

BRYW Bryant College 103.19 18 IAMs_20 IAMs_20 20 20 26.5
comp=Z,2µm,18.0s

CLTN Cedars of Leba 103.20 31 IAMs_20 IAMs_20 20 19 28.8
comp=Z,2µm,18.0s

IFR Ifrane 103.26 324 *e*P Pdif 19 28 34.3 +0.8
IFR *e*S SKSac 19 39 15.4 +3.4
V48A Smith Brothers 103.28 32 IAMs_20 IAMs_20 20 23 39.9
comp=Z,2µm,18.0s

LUPA Lehigh Univers 103.33 21 IAMs_20 IAMs_20 20 19 57.2
comp=Z,2µm,20.0s

PLAL Pickwick Lake 103.34 33 IAMs_20 IAMs_20 20 23 20.7
comp=Z,2µm,18.0s

HKT Hockley 103.36 41 IAMs_20 IAMs_20 20 24 33.5
comp=Z,2µm,18.0s

PAL Palisades 103.39 20 IAMs_20 IAMs_20 20 21 39.8
comp=Z,2µm,19.0s

WSPT Westport, CT 103.40 19 IAMs_20 IAMs_20 20 21 27.1
comp=Z,2µm,18.0s

P57A Homestead Farm 103.49 24 IAMs_20 IAMs_20 20 20 22.1
comp=Z,2µm,20.0s

Y45A Yeager Farm, C 103.56 35 IAMs_20 IAMs_20 20 19 27.7
comp=Z,2µm,20.0s

MVL Millersville 103.57 22 IAMs_20 IAMs_20 20 17 52.6
comp=Z,2µm,21.0s

143A Socs Landing, 103.58 37 IAMs_20 IAMs_20 20 17 19.3
comp=Z,2µm,21.0s

M65A Busby, Falmout 103.76 17 IAMs_20 IAMs_20 20 16 56.4
comp=Z,2µm,18.0s

S54A Dingess, Beckl 103.80 27 IAMs_20 IAMs_20 20 21 45.2
comp=Z,2µm,18.0s

R55A Marlinton 103.82 26 IAMs_20 IAMs_20 20 15 53.7
comp=Z,2µm,20.0s

TZTN Tazewell 104.00 29 IAMs_20 IAMs_20 20 18 41.8
comp=Z,2µm,19.0s

SWET Sewanee 104.11 31 IAMs_20 IAMs_20 20 21 51.7
comp=Z,1µm,20.0s

342A Flagon Creek P 104.16 38 IAMs_20 IAMs_20 20 22 32.7
comp=Z,2µm,18.0s

441A DeRidder 104.19 39 IAMs_20 IAMs_20 20 24 06.7
comp=Z,2µm,19.0s

X48A Hartselle 104.25 33 IAMs_20 IAMs_20 20 20 46.7
comp=Z,1µm,20.0s

RKT Rikitea 104.30 108 *e*SKSac SKSac 19 39 14.7 -1.6
comp=Z,990nm,27.2s

RKT Rikitea 104.30 108 *e*PS PS 19 42 09.2 -0.2
comp=Z,3µm,25.5s

RKT Rikitea 104.30 108 *e*LR LR 20 03 01.5
comp=Z,3µm,27.0s

V51A Loudon 104.30 30 IAMs_20 IAMs_20 20 22 47.8
comp=Z,2µm,20.0s

P61A Hamnton 104.35 21 IAMs_20 IAMs_20 20 20 15.3
comp=Z,3µm,20.0s

W50A Signal Mountai 104.40 31 IAMs_20 IAMs_20 20 22 24.5
comp=Z,2µm,19.0s

VBMS Vicksburg 104.42 36 IAMs_20 IAMs_20 20 18 04.4
comp=Z,2µm,21.0s

ZAIG Zacatecas 104.47 51 IAMs_20 IAMs_20 20 09 05.1
comp=Z,1µm,20.0s

CPCT Cooper Cave 104.53 30 IAMs_20 IAMs_20 20 22 47.8
comp=Z,2µm,19.0s

AVE Averroes 104.55 326 *e*PP PP 19 32 59.1 +1.8
AVE *e*S SKSac 19 39 10.8 -6.8
V52A Sevierville 104.58 29 IAMs_20 IAMs_20 20 22 01.3
comp=Z,2µm,20.0s

Q60A Greensboro 104.64 22 IAMs_20 IAMs_20 20 19 41.9
comp=Z,3µm,20.0s

BLA Blacksburg 104.65 26 IAMs_20 IAMs_20 20 20 07.8
comp=Z,1µm,20.0s

TKL Tuckaleechee C 104.67 30 IAMs_20 IAMs_20 20 22 14.5
comp=Z,2µm,19.0s

U54A Nelsons Funny 104.72 28 IAMs_20 IAMs_20 20 22 32.6
comp=Z,2µm,18.0s

146A Union 104.80 35 IAMs_20 IAMs_20 20 20 07.4
comp=Z,2µm,20.0s

Z47A Carrollton 104.81 34 IAMs_20 IAMs_20 20 22 51.7
comp=Z,2µm,18.0s

FPAL Fort Paine 104.83 31 IAMs_20 IAMs_20 20 26 07.8
comp=Z,2µm,18.0s

CBN Corbin Frederi 104.86 24 IAMs_20 IAMs_20 20 23 02.7
comp=Z,2µm,18.0s

R58B Mineral 104.90 24 IAMs_20 IAMs_20 20 21 27.9
comp=Z,2µm,19.0s

Y49A Blount Mountai 105.04 32 IAMs_20 IAMs_20 20 21 52.5
comp=Z,2µm,20.0s

V53A Saluda 105.06 29 IAMs_20 IAMs_20 20 21 29.7
comp=Z,2µm,18.0s

W52A Murphy 105.08 30 IAMs_20 IAMs_20 20 17 27.6
comp=Z,2µm,20.0s

U56A King 105.42 27 IAMs_20 IAMs_20 20 16 33.3
comp=Z,2µm,21.0s

LRAL Lakeview Retre 105.45 33 IAMs_20 IAMs_20 20 18 34.5
comp=Z,1µm,21.0s

V55A Taylorsville 105.54 28 IAMs_20 IAMs_20 20 17 11.4
comp=Z,2µm,22.0s

346A Big Creek Wild 105.61 36 IAMs_20 IAMs_20 20 24 30.0
comp=Z,2µm,18.0s

Z51A Franklin 106.05 32 IAMs_20 IAMs_20 20 16 19.2
comp=Z,2µm,22.0s

Y52A Lilburn 106.08 31 IAMs_20 IAMs_20 20 25 27.9
comp=Z,1µm,20.0s

KMSC Kings Mountain 106.11 28 IAMs_20 IAMs_20 20 17 28.6
comp=Z,2µm,21.0s

PAULI Pauline 106.20 29 IAMs_20 IAMs_20 20 23 43.9
comp=Z,2µm,18.0s

U59A Littleton 106.37 25 IAMs_20 IAMs_20 20 22 43.3
comp=Z,2µm,18.0s

HODGE Hodges 106.53 29 IAMs_20 IAMs_20 20 23 53.6
comp=Z,2µm,18.0s

W57A Gilead 106.62 27 IAMs_20 IAMs_20 20 16 47.2
comp=Z,2µm,22.0s

250A Grady 106.67 33 IAMs_20 IAMs_20 20 21 35.8
comp=Z,2µm,20.0s

GOGA Godfrey 106.72 30 IAMs_20 IAMs_20 20 23 21.9
comp=Z,1µm,19.0s

152A Waverly Hall 106.80 32 IAMs_20 IAMs_20 20 24 43.1
comp=Z,2µm,18.0s

BIRD Birdtown, Kers 106.89 28 IAMs_20 IAMs_20 20 27 22.2
comp=Z,2µm,18.0s

JSC Jenkinsville 106.89 28 IAMs_20 IAMs_20 20 23 53.2
comp=Z,1µm,18.0s

BRAL Brewton 106.97 34 IAMs_20 IAMs_20 20 24 35.9
comp=Z,2µm,18.0s

V60A Jim Taylor Roa 107.09 25 IAMs_20 IAMs_20 20 21 24.2
comp=Z,2µm,20.0s

V61A Roper 107.31 24 IAMs_20 IAMs_20 20 18 27.6
comp=Z,2µm,20.0s

CNNC Cliffs of the 107.34 25 IAMs_20 IAMs_20 20 21 23.8
comp=Z,2µm,19.0s

Y57A Sumter 107.47 28 IAMs_20 IAMs_20 20 17 55.5
comp=Z,2µm,22.0s

154A Montrose 107.56 31 IAMs_20 IAMs_20 20 23 06.1
comp=Z,1µm,19.0s

352A Blakely 107.71 33 IAMs_20 IAMs_20 20 25 18.3
comp=Z,2µm,20.0s

V62A Hyde County Ai 107.73 24 IAMs_20 IAMs_20 20 20 56.7
comp=Z,2µm,21.0s

451A Vernon 108.05 34 IAMs_20 IAMs_20 20 25 13.4
comp=Z,2µm,19.0s

TIGA Tifton 108.35 32 IAMs_20 IAMs_20 20 25 04.1
comp=Z,2µm,18.0s

NHSC New Hope 108.35 28 IAMs_20 IAMs_20 20 18 31.9
comp=Z,2µm,22.0s

255A Hazlehurst 108.42 31 IAMs_20 IAMs_20 20 24 39.9
comp=Z,2µm,18.0s

257A Skidaway Islan 108.99 29 IAMs_20 IAMs_20 20 25 16.0
comp=Z,2µm,18.0s

UNM Universidad Na 109.12 51 IAMs_20 IAMs_20 20 25 54.5
comp=Z,1µm,20.0s

PMOZ Porto Moniz, M 109.19 333 *i* PP PP 19 33 23.0 -8.4
PMOZ Porto Moniz, M 109.19 333 *e*LR LR 20 11 14.3
comp=Z,3µm,18.0s

456A Hilliard 109.65 31 IAMs_20 IAMs_20 20 25 01.5
comp=Z,2µm,18.0s

656A Williston 110.58 32 IAMs_20 IAMs_20 20 21 31.3
comp=Z,2µm,22.0s

MAW Mawson 111.91 203 PKiKP **PKiKP 19 33 08.1 +0.7**
comp=Z,2.2nm,0.9s,baz=350,slow=2.0,SNR=6.9

MAW Mawson 111.91 203 PKiKP **PKiKP 19 33 08.9 +1.5**
060A Indiantown 113.56 31 IAMs_20 IAMs_20 20 19 55.1
comp=Z,2µm,21.0s

TOC2 Torodi Ar. Sit 114.55 305 IAMs_20 IAMs_20 20 27 49.3
comp=Z,2µm,22.0s

TOC3 Torodi Ar. Sit 114.56 305 IAMs_20 IAMs_20 20 27 38.7
comp=Z,2µm,22.0s

TOB1 Torodi Ar. Sit 114.56 305 IAMs_20 IAMs_20 20 27 38.7
comp=Z,2µm,22.0s

TOA2 Torodi Ar. Sit 114.57 305 IAMs_20 IAMs_20 20 27 49.8
comp=Z,2µm,22.0s

TOA0 Torodi Ar. Sit 114.57 305 IAMs_20 IAMs_20 20 27 50.9
comp=Z,2µm,22.0s

TOC7 Torodi Ar. Sit 114.57 305 IAMs_20 IAMs_20 20 27 49.9
comp=Z,2µm,22.0s

TORD Torodi Ar. Bea 114.57 305 PKP **PKiKP 19 33 13.9 -0.4**
comp=Z,2.1nm,0.8s,baz=42,slow=1.1,SNR=10.0

TORD PKKPbc **PKKPbc 19 43 54.7 +3.2**
comp=Z,1.1nm,0.9s,baz=296,slow=3.1,SNR=5.1

TORD Torodi Ar. Bea 114.57 305 **PKiKP 19 33 13.6 -0.6**
TOB3 Torodi Ar. Sit 114.57 305 IAMs_20 IAMs_20 20 27 39.0
comp=Z,2µm,22.0s

TOA3 Torodi Ar. Sit 114.58 305 IAMs_20 IAMs_20 20 27 39.1
comp=Z,2µm,22.0s

TOB5 Torodi Ar. Sit 114.58 305 IAMs_20 IAMs_20 20 30 52.1
comp=Z,2µm,18.0s

TOB4 Torodi Ar. Sit 114.58 305 IAMs_20 IAMs_20 20 27 38.3
comp=Z,2µm,22.0s

TOC4 Torodi Ar. Sit 114.59 305 IAMs_20 IAMs_20 20 29 49.3
comp=Z,2µm,19.0s

TOC5 Torodi Ar. Sit 114.60 305 IAMs_20 IAMs_20 20 27 38.7
comp=Z,2µm,22.0s

CCIG Comitan 115.91 48 IAMs_20 IAMs_20 20 15 43.9
comp=Z,2µm,22.0s

PETF Flores 116.83 46 IAMs_20 IAMs_20 20 16 44.2
comp=Z,1µm,22.0s

HUEH Huehuetenango 117.03 48 IAMs_20 IAMs_20 20 15 04.7
comp=Z,1µm,22.0s

BOSA Boshof 117.89 252 PKP **PKiKP 19 33 21.0 +0.6**
comp=Z,3.5nm,0.7s,baz=47,slow=4.0,SNR=4.1

BOSA Boshof 117.89 252 PKIKP **PKiKP 19 33 21.0 +0.6**
ESQI Esquipulas 118.96 47 IAMs_20 IAMs_20 20 23 50.6
comp=Z,1µm,22.0s

MTO3 Montecristo 119.07 47 IAMs_20 IAMs_20 20 18 18.6
comp=Z,1µm,21.0s

TSUM Tsumeb 120.35 265 PKPdf **PKiKP 19 33 25.7 +0.3**
SYO Syowa Base 120.44 205 ⇑ *i*X **PKPdf 19 33 23.2 -0.6**
SYO Syowa Base 120.44 205 ⇑ *e*PKiKP **PKiKP 19 33 26.2 +2.3**
QSPA South Pole Qui 121.87 180 PKPdf **PKiKP 19 33 27.9 +1.0**
QSPA South Pole Qui 121.87 180 IAMs_20 IAMs_20 20 25 09.9
comp=Z,1µm,20.0s

GTBY Guantanamo Bay 122.08 30 IAMs_20 IAMs_20 20 31 38.6
comp=Z,1µm,20.0s

MTDJ Mount Denham 122.47 34 IAMs_20 IAMs_20 20 34 17.4
comp=Z,1µm,19.0s

BOAB BOACO BROADBA 122.84 45 IAMs_20 IAMs_20 20 24 50.3
comp=Z,2µm,21.0s

ACON Acoyapa 123.51 45 **PKiKP 19 33 31.6 -0.1**
DBIC Dimbokro 123.68 305 PKP **PKPdf 19 33 31.9 +0.1**
comp=Z,11nm,0.7s,baz=57,slow=1.7,SNR=16

DBIC PP **PP 19 35 13.1 -0.6**
comp=Z,13nm,1.2s,baz=46,slow=6.5,SNR=4.6

DBIC Dimbokro 123.68 305 PKPdf **PKPdf 19 33 31.6 -0.2**
TIC Toumodi 123.81 305 *e*PKiKP **PKPdf 19 33 31.6 -0.5**
KIC Kosan Boka 123.82 305 *e*PKiKP **PKPdf 19 33 31.7 -0.4**
comp=Z,34nm,0.9s

ESPN Las Esperanzas 123.86 44 IAMs_20 IAMs_20 20 38 27.1
comp=Z,1µm,19.0s

LIC Lamto 124.12 305 *e*PKiKP **PKPdf 19 33 32.1 -0.5**
comp=Z,102nm,1.1s

SC01 Santiago de lo 124.29 26 IAMs_20 IAMs_20 20 25 40.2
comp=Z,1µm,20.0s

HDC Heredia 125.69 46 IAMs_20 IAMs_20 20 38 26.0
comp=Z,968nm,18.0s

ANWB Willy Bob 128.75 17 IAMs_20 IAMs_20 20 30 07.9
comp=Z,1µm,21.0s

SKI Saint Kitts 128.83 18 IAMs_20 IAMs_20 20 31 05.0
comp=Z,2µm,22.0s

BCIP Isla Barro Col 128.88 42 *e*P **PKPdf 19 33 38.3 -3.4**
BCIP Isla Barro Col 128.88 42 PKIKP **PKPdf 19 33 42.0 +0.3**
BCIP MLR MLR
comp=Z,900nm,19.0s

BCIP Isla Barro Col 128.88 42 PKPdf **PKPdf 19 33 42.0 +0.3**
BCIP IAMs_20 IAMs_20 20 39 55.0
comp=Z,906nm,19.0s

AZU Azuero 129.73 44 *e*P **PKPdf 19 33 36.1 -7.2**
NVL N'lazarevskaya 129.85 202 *e*PKiKP **PKiKP 19 33 44.4 +1.8**
NVL pmax pmax
comp=Z,21nm,0.9s

CAPC Capurgana 130.69 40 *e*P **PKPdf 19 33 42.6 -2.6**
URIC Uribia, Colomb 130.72 32 *e*P **PKiKP 19 33 46.1 0.0**
SJCC San Jacinto, C 130.77 37 *e*P **PKPdf 19 33 43.5 -1.9**
DLPL La Plaine 131.13 17 IAMs_20 IAMs_20 20 29 12.0
comp=Z,1µm,20.0s

ARGC Ariguani, Magd 131.27 36 *e*P **PKPdf 19 33 43.1 -3.2**
MOTC Monteria, Cord 131.47 38 *e*P **PKPdf 19 33 46.1 -0.5**
FDF Fort de France 131.73 17 IAMs_20 IAMs_20 20 32 49.8
comp=Z,842nm,19.0s

SMLC San Martn de 132.27 36 *e*P **PKPdf 19 33 48.5 +0.4**
UREC San Jos de Ur 132.41 38 *e*P **PKPdf 19 33 48.1 -0.4**
ZARC Zaragoza, Cauc 132.98 38 *e*P **PKPdf 19 33 48.1 -1.4**
OCAC Ocana 133.12 36 *e*P **PKPdf 19 33 46.6 -3.4**
HELC Santa Helena 133.72 40 *e*P **PKPdf 19 33 50.5 -0.8**
CBOC Ciudad Bolivar 133.72 40 *e*P **PKPdf 19 33 50.9 -0.3**
SNAA Sanae 133.74 198 PKPdf **PKPdf 19 33 49.7 +0.4**
SNAA Sanae 133.74 198 PKIKP **PKPdf 19 33 48.8 -0.4**
SNAA Sanae 133.74 198 **PKPdf 19 33 48.8 -0.4**
BELA Belgrano 2 133.76 184 **PKPdf 19 33 48.2 -0.8**
SDV Santo Domingo 133.82 32 *e*P **PKiKP 19 33 52.5 -0.1**

SDV	**Santo Domingo**	**133.82**	**32**		IAMs_20	IAMs_20	20 36 32.1	
	comp=Z,2µm,20.0s							
SDV	**Santo Domingo**	**133.82**	**32**	*eP*		**PKiKP**	**19 33 56.0**	**+3.4**
BRRC	**Barranca, Sant**	**133.90**	**37**	*eP*		**PKiKP**	**19 33 52.6**	**0.0**
PTBC	**PUERTO BERRIO**	**133.99**	**38**	*eP*		**PKPdf**	**19 33 50.7**	**-0.7**
PAMC	**Pamplona, Colo**	**134.20**	**35**	*eP*		**PKPdf**	**19 33 51.7**	**-0.8**
NORC	**Norcasia**	**134.60**	**39**	*eP*		**PKPdf**	**19 33 52.6**	**0.0**
BARC	**Barichara**	**134.60**	**37**	*eP*		**PKiKP**	**19 33 53.8**	**-0.5**
GUY2C	**San Pablo de B**	**134.61**	**40**	*eP*		**PKPdf**	**19 33 52.4**	**-0.8**
SPBC	**Guyana, Caldas**	**134.94**	**38**	*eP*		**PKPdf**	**19 33 53.3**	**0.0**
YOTC	**Yotoco, Valle**	**135.08**	**42**	*eP*		**PKPdf**	**19 33 52.5**	**-1.1**
TOLC	**Tolima**	**135.16**	**41**	*eP*		**PKPdf**	**19 33 54.4**	**+0.3**
TOSP	**Speyside**	**135.18**	**18**		IAMs_20	IAMs_20	20 40 37.3	
	comp=Z,1µm,20.0s							
ANIL	**Santa Ana**	**135.20**	**41**	*eP*		**PKiKP**	**19 33 55.2**	**-0.4**
RUSC	**La Rusia**	**135.25**	**37**	*eP*		**PKPdf**	**19 33 53.1**	**-1.3**
RUSC	**La Rusia**	**135.25**	**37**	PKPdf		**PKPdf**	**19 33 54.1**	**-0.2**
VNA2	**Neumayer--Watz**	**135.37**	**198**	PKPdf		**PKiKP**	**19 33 53.9**	**+0.2**
ROSC	**El Rosal**	**135.50**	**39**	PKP		**PKiKP**	**19 33 55.7**	**-0.6**
	comp=Z,6.1nm,0.3s,baz=63,slow=7.5,SNR=7.7							
ROSC	**El Rosal**	**135.50**	**39**		IAMs_20	IAMs_20	20 35 33.5	
	comp=Z,1µm,22.0s							
VNA3	**Neumayer Olymp**	**135.74**	**197**	PKPdf		**PKiKP**	**19 33 54.2**	**-0.3**
ORTC	**Ortega, Tolima**	**135.76**	**41**	*eP*		**PKPdf**	**19 33 55.1**	**+0.4**
VNA1	**Neumayer--Stat**	**135.77**	**198**	PKPdf		**PKiKP**	**19 33 54.7**	**+0.2**
CHIC	**Chingaza**	**135.99**	**39**	*eP*		**PKPdf**	**19 33 55.0**	**-0.6**
POPC	**Popayan, Colom**	**136.06**	**44**	*eP*		**PKPdf**	**19 33 54.1**	**-1.5**
PRAC	**Prado**	**136.12**	**41**	*eP*		**PKiKP**	**19 33 56.9**	**-0.2**
BBAC	**Balboa, Cauca**	**136.13**	**45**	*eP*		**PKiKP**	**19 33 58.0**	**+0.7**
MARP	**Paez Belalcaza**	**136.23**	**43**	*eP*		PKPpre	19 33 48.1	
PCON	**Cinco Dias**	**136.39**	**44**	*eP*		**PKPdf**	**19 33 57.5**	**+0.8**
BETC	**Betania**	**136.66**	**42**	*eP*		PKPpre	19 33 49.2	
GCUF	**Volcan Galeras**	**136.71**	**46**	*eP*		**PKPdf**	**19 33 54.5**	**-2.6**
OTAV	**Otavalo**	**136.79**	**48**	*eP*		PKPpre	19 33 52.0	
OTAV	**Otavalo**	**136.79**	**48**	PKiKP		**PKPdf**	**19 33 56.6**	**-0.6**
OTAV				MLR		MLR		
	comp=Z,900nm,19.0s							
OTAV	**Otavalo**	**136.79**	**48**			**PKPdf**	**19 33 56.6**	**-0.6**
OTAV	**Otavalo**	**136.79**	**48**		IAMs_20	IAMs_20	20 37 27.4	
	comp=Z,895nm,19.0s							
OTAV	**Otavalo**	**136.79**	**48**	*eP*		**PKiKP**	**19 33 58.5**	**-0.5**
GARC	**Garzon, Huila**	**137.03**	**43**	*eP*		**PKiKP**	**19 33 58.9**	**-0.4**
MACC	**Macarena, Meta**	**138.00**	**41**	*eP*		**PKPdf**	**19 33 57.9**	**-1.0**
ATAH	**Atahualpa**	**142.30**	**55**	PKP		**PKPdf**	**19 34 08.4**	**+1.3**
	comp=Z,8.0nm,0.9s,baz=202,slow=3.1,SNR=6.8							
PMSA	**Palmer Station**	**145.83**	**168**			**PKPab**	**19 34 12.8**	**+0.7**
PMSA	**Palmer Station**	**145.83**	**168**	*eP*		PKPdf	19 33 59.0	-12
CZSB	**Cruzeiro do Su**	**146.54**	**49**	*eP*		**PKPbc**	**19 34 15.3**	**-0.2**
NNA	**Nana**	**146.73**	**60**	PKPbc		**PKPbc**	**19 34 15.9**	**-0.1**
	comp=Z,13nm,0.7s,baz=284,slow=5.8,SNR=4.9							
NNA	**Nana**	**146.73**	**60**	PKiKP		**PKPdf**	**19 34 14.0**	**-0.3**
NNA				MLR		MLR		
	comp=Z,1µm,22.0s							
NNA	**Nana**	**146.73**	**60**			**PKPdf**	**19 34 14.0**	**-0.3**
NNA					IAMs_20	IAMs_20	20 27 26.3	
	comp=Z,1µm,22.0s							
PTGA	**Pitinga**	**146.78**	**22**	PKPbc		**PKPbc**	**19 34 15.9**	**-0.2**
	comp=Z,52nm,0.8s,baz=348,slow=3.4,SNR=114							
PTGA	**Pitinga**	**146.78**	**22**			**PKPbc**	**19 34 15.5**	**-0.6**
PTGA					IAMs_20	IAMs_20	20 51 52.0	
	comp=Z,1µm,20.0s							
PTGA	**Pitinga**	**146.78**	**22**	*eP*		**PKiKP**	**19 34 20.1**	**+1.2**
MCPB	**Macapa, AP**	**148.18**	**8**	*eP*		**PKPab**	**19 34 22.5**	**-0.3**
MACA	**Manacapuru-AM**	**148.81**	**25**	*eP*		**PKPbc**	**19 34 21.4**	**-0.2**
MALB	**Monte Alegre**	**149.31**	**12**	*eP*		**PKPbc**	**19 34 22.8**	**-0.1**
NBMO	**Morrinhos-CE**	**150.40**	**344**			**PKPbc**	**19 34 23.4**	**-2.1**
TMAB	**Tom-Au,PA,Br**	**150.41**	**0**	*eP*		**PKPbc**	**19 34 25.3**	**-0.3**
ROSB	**Rosrio**	**150.72**	**352**	*eP*		**PKPbc**	**19 34 25.5**	**-0.8**
ITTB	**Itaituba**	**151.44**	**16**	*eP*		**PKPbc**	**19 34 26.9**	**-1.1**
ETMB	**Extrema**	**152.10**	**41**	*eP*		**PKPdf**	**19 34 23.6**	**+0.7**
SAML	**Samuel**	**152.96**	**35**	*eP*		**PKPdf**	**19 34 22.6**	**-1.5**
SAML	**Samuel**	**152.96**	**35**	PKiKP		**PKPdf**	**19 34 24.7**	**+0.6**
SAML				MLR		MLR		
	comp=Z,1µm,19.0s							
SAML	**Samuel**	**152.96**	**35**	PKPdf		**PKPdf**	**19 34 24.7**	**+0.6**
SAML	**Samuel**	**152.96**	**35**		IAMs_20	IAMs_20	20 54 38.4	
	comp=Z,1µm,19.0s							
SAML	**Samuel**	**152.96**	**35**	*eP*		**PKPdf**	**19 34 27.3**	**+3.2**
NPGB	**Novo Progresso**	**154.12**	**17**	*eP*		**PKPbc**	**19 34 31.7**	**-2.2**
PRPB	**Paraupebas**	**154.13**	**4**	*eP*		**PKPbc**	**19 34 30.6**	**-3.3**
PB12	**IPOC Station P**	**155.77**	**62**			**PKPdf**	**19 34 30.0**	**+2.0**
PB12					IAMs_20	IAMs_20	20 32 01.9	
	comp=Z,1µm,22.0s							
LPAZ	**La Paz**	**155.83**	**54**	PKP		**PKPdf**	**19 34 30.4**	**+1.6**
	comp=Z,2.3nm,0.8s,baz=357,slow=3.4,SNR=11							
LPAZ	**La Paz**	**155.83**	**54**	*eP*		**PKPdf**	**19 34 28.9**	**+0.1**
LPAZ	**La Paz**	**155.83**	**54**	PKiKP		**PKPdf**	**19 34 29.7**	**+0.9**
LPAZ	**La Paz**	**155.83**	**54**	PKPdf		**PKPdf**	**19 34 29.7**	**+0.9**
LPAZ	**La Paz**	**155.83**	**54**	*eP*		**PKPdf**	**19 34 28.6**	**-0.2**
PB16	**IPOC Station P**	**156.21**	**60**			**PKPdf**	**19 34 29.3**	**+0.1**
PB16					IAMs_20	IAMs_20	20 39 48.3	
	comp=Z,1µm,19.0s							
MNMC	**Minye Minye**	**156.64**	**62**			**PKPdf**	**19 34 30.5**	**+1.1**
MNMC					IAMs_20	IAMs_20	20 51 45.8	
	comp=Z,1µm,21.0s							
SMTB	**Santa Maria do**	**156.86**	**359**	*eP*		**PKPdf**	**19 34 33.6**	**+4.1**
PB11	**IPOC Station P**	**156.97**	**63**			**PKPdf**	**19 34 31.0**	**+1.4**
PATCX	**Punta Patache**	**157.20**	**66**		IAMs_20	IAMs_20	20 46 54.1	
	comp=Z,1µm,20.0s							
GO01	**Chusmiza**	**157.26**	**62**			**PKPdf**	**19 34 31.5**	**+1.0**
GO01					IAMs_20	IAMs_20	20 32 48.4	
	comp=Z,1µm,22.0s							
PB08	**IPOC Station P**	**157.58**	**63**			**PKPdf**	**19 34 30.5**	**-0.2**
CLDB	**Colider**	**157.65**	**21**	*eP*		**PKPdf**	**19 34 34.4**	**+3.9**
PB01	**IPOC Station P**	**157.84**	**65**		IAMs_20	IAMs_20	20 42 51.0	
	comp=Z,1µm,20.0s							
VILB	**Vilhena**	**157.85**	**33**	*eP*		**PKPdf**	**19 34 31.1**	**+0.4**
PB07	**IPOC Station P**	**157.90**	**68**		IAMs_20	IAMs_20	20 34 24.9	
	comp=Z,1µm,22.0s							
PB04	**IPOC Station P**	**158.01**	**69**		IAMs_20	IAMs_20	20 33 02.9	
	comp=Z,835nm,20.0s							
PB10	**IPOC Station P**	**158.27**	**72**		IAMs_20	IAMs_20	20 41 59.9	
	comp=Z,1µm,18.0s							
PB09	**IPOC Station P**	**158.44**	**67**		IAMs_20	IAMs_20	20 35 06.1	
	comp=Z,1µm,22.0s							
PB06	**IPOC Station P**	**158.66**	**69**		IAMs_20	IAMs_20	20 39 57.1	
	comp=Z,868nm,20.0s							
PB14	**IPOC Station P**	**158.90**	**75**		IAMs_20	IAMs_20	20 31 34.6	
	comp=Z,1µm,21.0s							
PB15	**IPOC Station P**	**159.00**	**70**		IAMs_20	IAMs_20	20 42 08.0	
	comp=Z,889nm,20.0s							
LVC	**Limon Verde**	**159.14**	**68**	PKP		**PKPdf**	**19 34 34.2**	**+1.7**
	comp=Z,1.2nm,0.4s,baz=157,slow=1.9,SNR=4.6							
LVC	**Limon Verde**	**159.14**	**68**	PKiKP		**PKPdf**	**19 34 34.2**	**+1.7**
LVC				MLR		MLR		
	comp=Z,1µm,21.0s							
LVC	**Limon Verde**	**159.14**	**68**		IAMs_20	IAMs_20	20 32 20.6	
	comp=Z,970nm,21.0s							
LVC	**Limon Verde**	**159.14**	**68**	*eP*		**PKPdf**	**19 34 30.5**	**-2.0**
AC04	**Llanos de Chal**	**159.63**	**85**		IAMs_20	IAMs_20	20 53 47.7	
	comp=Z,1µm,21.0s							
GO02	**Mina Guanaco**	**159.79**	**75**	PKPdf		**PKPdf**	**19 34 33.7**	**+0.6**
GO05	**Huala**	**159.81**	**105**		IAMs_20	IAMs_20	20 33 18.2	
	comp=Z,1µm,21.0s							
PLCA	**Paso Flores**	**159.91**	**122**	PKP		**PKPdf**	**19 34 33.9**	**+1.4**
	comp=Z,2.5nm,1.1s,baz=311,slow=4.8,SNR=3.3							
PLCA				PKPab		**PKPab**	**19 35 12.6**	**+0.7**
	comp=Z,4.0nm,0.9s,baz=277,slow=3.8,SNR=5.4							
PLCA	**Paso Flores**	**159.91**	**122**			**PKPdf**	**19 34 33.4**	**+0.9**
SIV	**San Ignacio**	**160.00**	**40**	PKP		**PKPdf**	**19 34 34.6**	**+1.4**
	comp=Z,7.5nm,1.0s,baz=57,slow=0.3,SNR=19							
PEXB	**Peixe**	**160.08**	**1**	*eP*		**PKPdf**	**19 34 36.6**	**+3.2**
GDU01	**Guandu, BA**	**160.15**	**335**	*eP*		**PKPdf**	**19 34 35.6**	**+2.2**
SDBA	**SAO DESIDERIO**	**160.19**	**351**	*eP*		**PKPdf**	**19 34 35.8**	**+2.3**
GO04	**Tololo Observa**	**160.34**	**90**	PKPdf		**PKPdf**	**19 34 33.7**	**+0.2**
CO02	**Combarbal**	**160.35**	**93**	PKPdf		**PKPdf**	**19 34 32.9**	**-0.4**
CO02						**PKPab**	**19 35 15.7**	**+1.4**
MT02	**Curacav**	**160.44**	**100**	PKPdf		**PKPdf**	**19 34 32.1**	**-1.2**
MT02				PKPab		**PKPab**	**19 35 16.1**	**+1.6**
AC05	**El Transito**	**160.48**	**86**	PKPdf		**PKPdf**	**19 34 34.4**	**+0.9**
PTLB	**Pontes e Lacer**	**160.53**	**34**	*eP*		**PKPdf**	**19 34 35.2**	**+1.4**
BO02	**Sierra Bellavi**	**160.76**	**104**			**PKPdf**	**19 34 33.6**	**0.0**
SALV	**Santo Antonio**	**162.38**	**25**	*eP*		**PKPdf**	**19 34 37.4**	**+1.7**
JANB	**Januaria**	**162.70**	**348**	*eP*		**PKPdf**	**19 34 38.3**	**+2.2**
ARAG	**Araguaiana, MT**	**163.29**	**13**	*eP*		**PKPdf**	**19 34 37.7**	**+1.1**
BDFB	**Brasilia**	**163.60**	**0**	PKP		**PKPdf**	**19 34 38.3**	**+1.3**
	comp=Z,7.0nm,0.9s,baz=324,slow=1.8,SNR=5.1							
BDFB				PKPab		**PKPab**	**19 35 28.6**	**+0.1**
	comp=Z,20nm,1.1s,baz=86,slow=2.8,SNR=6.0							
BDFB	**Brasilia**	**163.60**	**0**			**PKPdf**	**19 34 37.1**	**+0.1**
MC01	**Montes Claros**	**164.24**	**346**	*eP*		**PKPdf**	**19 34 40.3**	**+2.8**
SJMB	**Sao Joao De Ma**	**165.32**	**334**	*eP*		**PKPdf**	**19 34 40.8**	**+2.5**
IPMB	**Ipameri, GO**	**165.93**	**1**	*eP*		**PKPdf**	**19 34 40.5**	**+1.6**
AQDB	**Aquidauana**	**166.49**	**33**	*eP*		**PKPdf**	**19 34 40.6**	**+1.4**
CPUP	**Villa Florida**	**169.98**	**57**	PKP		**PKPdf**	**19 34 42.4**	**+1.0**
	comp=Z,3.8nm,1.1s,baz=90,slow=4.0,SNR=3.0							
LPA	**La Plata**	**171.20**	**111**	PKIKP		**PKPdf**	**19 34 35.7**	**-6.1**
ITAB	**Concordia**	**173.92**	**38**	*eP*		**PKPdf**	**19 34 43.1**	**-0.1**
PLTB	**Pedras Altas**	**175.17**	**87**	*eP*		**PKPdf**	**19 34 40.3**	**-3.2**

IDC ***28*** *19:15:22.2±1.5,2°.12N×100°.29E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/62, mbtmp3.1/3, ML4.0/1, Error ellipse: s-maj=68.4km s-min=21.8km az=33.0*
NEIC ***28*** *19:15:29.4±1.6,2°.03N±0°.09×99°.02E±0°.09, h135km±10km, mb4.0/4, Error ellipse: s-maj=15.3km s-min=8.8km az=136.0*

ISC 28 19:15:29.2±1.0, 2°.10N±0°.07×98°.93E±0°.09, h150km, n13, σ1§86/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPSI	**Rantau Prapat**	**0.59**	**359**		**Pn**	**19 15 50.3**	**-0.8**
RPSI				Sn	**Sn**	**19 16 05.5**	**-2.3**
PSI	**Prapat**	**0.70**	**359**	Pn	**Pn**	**19 15 50.4**	**-1.5**
	21nm,0.3s,baz=180,slow=8.7,SNR=44						
PSI				Sn	**Sn**	**19 16 05.9**	**-3.3**
	10nm,0.3s,baz=0.5,slow=20,SNR=33						
GSI	**Gunungsitoli**	**1.57**	**240**		**Pn**	**19 15 59.3**	**-0.2**
GSI				Sn	**Sn**	**19 16 20.7**	**-2.0**
BKNI	**Bangkinang**	**2.75**	**130**		**Pn**	**19 16 12.1**	**-1.3**
IPM	**Ipoh**	**3.16**	**41**	Pn	**Pn**	**19 16 17.7**	**-0.9**
KULM	**Kulim**	**3.60**	**28**	Pn	**Pn**	**19 16 24.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**16.26**	**0**	Pn	**P**	**19 19 12.5**	**+3.0**
	0.2nm,0.3s,baz=189,slow=11,SNR=5.1						
WB0	**Warramunga Arr**	**41.03**	**124**	P	**P**	**19 22 60.0**	**+1.9**
WB0				IAmb	IAmb	19 23 12.0	
	comp=Z,4.1nm,1.4s						
WRA	**Warramunga Arr**	**41.07**	**124**	P	**P**	**19 22 58.1**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=302,slow=9.1,SNR=11						
WRA	**Warramunga Arr**	**41.07**	**124**	P	**P**	**19 22 58.8**	**+0.4**
WRAB	**Tennant Creek**	**41.07**	**124**	P	**P**	**19 23 00.0**	**+1.6**
WRAB				IAmb	IAmb	19 23 11.2	
	comp=Z,6.7nm,1.2s						
WR0	**Warramunga Arr**	**41.24**	**124**	P	**P**	**19 22 59.8**	**0.0**
WR0				IAmb	IAmb	19 23 12.0	
	comp=Z,3.3nm,1.0s						
ASAR	**Alice Springs**	**42.58**	**129**	P	**P**	**19 23 12.6**	**+1.9**
	comp=Z,0.2nm,0.7s,baz=303,slow=7.6,SNR=1.5						

IDC ***28*** *19:26:26.5±2.6,31°.92N×131°.87E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.2/59, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=115.5km s-min=17.1km az=66.0*
JMA ***28*** *19:26:29.2±0.2, 32°.17N×132°.09E, h15km, M3.7*

ISC 28 19:26:29.1±1.5, 32°.12N±0°.09×132°.1E±0°.1, h26km, n8, σ1§25/11, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHC	**Hyugahichiya**	**0.50**	**311**	P	**Pb**	**19 26 38.5**	**-0.9**
JHHC				S	**Sb**	**19 26 45.3**	**-1.0**
JTSN	**Tsuno**	**0.51**	**285**	P	**Pb**	**19 26 38.8**	**-0.7**
JTSN				S	**Sb**	**19 26 45.6**	**-0.9**
JSKE	**Saikikamae**	**0.70**	**347**	*eS*	**Sb**	**19 26 50.4**	**-1.5**
JKIT	**Kitakata**	**0.73**	**314**	*eS*	**Sb**	**19 26 52.1**	**-0.9**
JNU	**Nakatsue**	**1.43**	**315**	Pn	**Pn**	**19 26 55.0**	**+1.6**
	2.2nm,0.3s,baz=135,slow=8.6,SNR=2.6						
JNU				Sn	**Sb**	**19 27 14.4**	**+1.5**
	98nm,0.3s,baz=302,slow=11,SNR=9.0						
KSRS	**Korea Array**	**6.33**	**328**	Pn	**Pn**	**19 28 01.9**	**+1.2**
	0.3nm,0.3s,baz=144,slow=14,SNR=4.4						
KSRS				Lg	Lg	19 29 49.1	
	0.1nm,0.3s,baz=149,slow=31,SNR=2.2						
WRA	**Warramunga Arr**	**51.81**	**177**	P	**P**	**19 35 34.5**	**-0.4**
	0.5nm,0.8s,baz=353,slow=7.9,SNR=2.8						
ASAR	**Alice Springs**	**55.50**	**178**	P	**P**	**19 36 01.9**	**0.0**
	1.0nm,1.0s,baz=0.5,slow=6.7,SNR=4.8						

NEIC ***28*** *19:32:00.4±2.9,31°.92N±0°.07×132°.08E±0°.09, h10km±1km, mb4.5/13, Error ellipse: s-maj=16.8km s-min=7.2km az=228.0*
JMA ***28*** *19:32:03.5±0.1,32°.11N×132°.14E, h19km±2km, M4.5*
JMA Felt II J1.
NIED ***28*** *19:32:03.6,32°.11N×132°.14E, h19km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.41; Mθθ-3.23; Mφφ0.82; Mrθ3.93; Mθφ-3.80; Mφr6.01; Fault plane solution: M₀8.52000×10¹⁵ NP1:φs31.00000°, δ79.00000°, λ66.00000°. NP2:φs278.00000°, δ26.00000°, λ155.00000°.*
IDC ***28*** *19:32:09.7±1.4,32°.08N×131°.85E, h78km±10km, mb3.7/23, mb1 3.9/26, mb1mx3.7/56, mbtmp4.1/26 Error ellipse: s-maj=19.8km s-min=11.3km az=70.0*

ISC 28 19:32:02.4±1.0, 32°.07N±0°.04×132°.13E±0°.03, h19km±3km, n75, σ1§17/90, mb4.3/30, 6C-5D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.56**	**289**	⇓P	**Pg**	**19 32 14.1**	**+0.4**
JTSN				S	**Sb**	**19 32 21.6**	**+0.3**
JHHC	**Hyugahichiya**	**0.56**	**312**	⇓P	**Pg**	**19 32 14.2**	**+0.5**
JHHC				S	**Sb**	**19 32 21.6**	**+0.3**
JSKE	**Saikikamae**	**0.76**	**345**	⇓P	**Pb**	**19 32 17.4**	**+0.4**
JSKE				S	**Sg**	**19 32 27.6**	**+0.3**
JNKG	**Nichinankitago**	**0.76**	**238**	⇑P	**Pn**	**19 32 18.7**	**+0.5**
JNKG				*eS*	**Sn**	**19 32 29.3**	**+0.2**
JKIT	**Kitakata**	**0.80**	**314**	⇑P	**Pg**	**19 32 18.3**	**+0.2**
JKIT				*eS*	**Sg**	**19 32 28.4**	**-0.3**
JTZ	**Takazaki**	**0.90**	**260**	⇑P	**Pg**	**19 32 20.5**	**+0.5**
JTZ				S	**Sn**	**19 32 32.6**	**-0.1**
JNAR	**Kushima--Naru**	**0.91**	**234**	⇑P	**Pn**	**19 32 21.0**	**+0.8**
JNAR				S	**Sn**	**19 32 34.2**	**+1.3**
JTO	**Tosashimizu**	**0.97**	**35**	⇓P	**Pb**	**19 32 20.4**	**-0.3**
JTO				*eS*	**Sb**	**19 32 32.5**	**-0.7**
JUS	**Usuki**	**1.05**	**342**	P	**Pn**	**19 32 22.7**	**+0.5**
JUS				S	**Sn**	**19 32 36.5**	**+0.2**
JIU3	**Izumi3**	**1.22**	**294**	⇓P	**Pb**	**19 32 25.6**	**+0.7**
UWA2	**Uwa jima 2**	**1.22**	**20**	⇑P	**Pn**	**19 32 24.3**	**-0.2**
UWA2				S	**Sb**	**19 32 39.9**	**-0.4**
JZO	**Okuchi**	**1.30**	**274**	⇑P	**Pb**	**19 32 26.9**	**+0.5**
JNU	**Nakatsue**	**1.49**	**315**	P	**Pb**	**19 32 30.6**	**+1.0**
	614nm,0.3s,baz=125,slow=6.6,SNR=517						
JNU				S	**Sg**	**19 32 50.4**	**-0.3**
	602nm,0.3s,baz=28,slow=20,SNR=10						
JNU	**Nakatsue**	**1.49**	**315**		**Pb**	**19 32 30.4**	**+0.8**
JNU					**Sg**	**19 32 49.9**	**-0.8**
KSRS	**Korea Array**	**6.39**	**328**	P	**Pn**	**19 33 37.6**	**+2.0**
	2.0nm,0.3s,baz=147,slow=14,SNR=22						
KSRS				S	**Sn**	**19 34 50.4**	**+2.3**
	baz=148,slow=24,SNR=2.2						
KSAR	**Wonju Array Be**	**6.40**	**328**		**Pn**	**19 33 36.9**	**+1.2**
KS19	**Wonju Array Si**	**6.46**	**328**		**Pn**	**19 33 37.1**	**+0.6**
MAJO	**Matsushiro**	**6.72**	**47**		**Pn**	**19 33 42.6**	**+2.5**
MAT	**Matsushiro**	**6.72**	**47**	P	**Pn**	**19 33 42.1**	**+1.9**
MAT				*eS*	**Sn**	**19 34 56.4**	**+0.1**
MJAR	**Matsushiro Arr**	**6.72**	**47**	P	**Pn**	**19 33 42.7**	**+2.5**
	0.3nm,0.3s,baz=217,slow=7.8,SNR=16						
MJAR	**Matsushiro Arr**	**6.72**	**47**		**Pn**	**19 33 41.5**	**+1.4**
USRK	**Ussuriysk Ar.**	**12.11**	**360**	P	**Pn**	**19 34 57.8**	**+3.8**
	baz=181,slow=12,SNR=1.5						
ASAJ	**Asahikawa**	**14.56**	**31**	P	**Pn**	**19 35 28.3**	**+0.8**
	0.2nm,0.3s,baz=252,slow=16,SNR=2.0						
KLR	**Kul'dur**	**17.15**	**359**	P	**P**	**19 36 04.2**	**+1.7**
	1.5nm,0.3s,baz=169,slow=8.6,SNR=82						
ENH	**Enshi**	**19.46**	**271**	P	**P**	**19 36 27.8**	**-0.3**
ULN	**Ulaanbaatar**	**24.71**	**317**	P	**P**	**19 37 21.4**	**-1.2**
ULN					IAmb	IAmb	19 37 32.2	
	comp=Z,12nm,0.9s						
SONM	**Songino Array**	**25.08**	**316**	P	**P**	**19 37 25.4**	**-0.5**
	comp=Z,8.7nm,0.9s,baz=130,slow=11,SNR=36						
SONM				PcP	**PcP**	**19 40 59.2**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=142,slow=0.9,SNR=2.1						
SONM	**Songino Array**	**25.08**	**316**	P	**P**	**19 37 24.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**32.79**	**254**	P	**P**	**19 38 34.5**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=59,slow=7.8,SNR=1.5						
H11S3	**WAKE ISLAND Hy**	**33.88**	**105**	T	T	20 14 42.3	
	baz=302,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**33.89**	**105**	T	T	20 14 42.3	
	baz=302,slow=75,SNR=31						
H11S2	**WAKE ISLAND Hy**	**33.90**	**105**	T	T	20 14 46.4	
	baz=302,slow=75,SNR=10.0						
ZALV	**Zalesovo Beam**	**39.97**	**317**	PcP	**PcP**	**19 41 40.0**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=128,slow=2.4,SNR=6.1						
MKAR	**Makanchi Array**	**40.53**	**306**	P	**P**	**19 39 39.0**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=86,slow=9.5,SNR=7.3						
MKAR				PcP	**PcP**	**19 41 42.4**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=86,slow=6.9,SNR=4.0						
MKAR	**Makanchi Array**	**40.53**	**306**	P	**P**	**19 39 38.5**	**-1.9**
KURK	**Kurchatov**	**43.21**	**312**	P	**P**	**19 40 01.1**	**-1.1**
KURBB	**Kurchatov Arra**	**43.26**	**312**	P	**P**	**19 40 01.2**	**-1.4**
	comp=Z,1.8nm,0.9s,baz=96,slow=8.8,SNR=8.6						
KURBB				PcP	**PcP**	**19 41 50.2**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=99,slow=3.3,SNR=8.5						
NRIK	**Noril'sk**	**44.88**	**339**	P	**P**	**19 40 14.8**	**-0.5**
	comp=Z,2.2nm,0.4s,baz=120,slow=8.3,SNR=4.9						
KNRA	**Kununurra**	**47.58**	**184**	P	**P**	**19 40 37.9**	**+0.8**
BVAR	**Borovoye Array**	**48.41**	**315**	P	**P**	**19 40 42.1**	**-1.1**
	comp=Z,3.3nm,0.6s,baz=100,slow=9.2,SNR=19						
BVAR				PcP	**PcP**	**19 42 08.9**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=88,slow=3.4,SNR=4.8						
KK31	**Karatay Array**	**49.06**	**301**	P	**P**	**19 40 47.2**	**-1.2**
KK31				IAmb	IAmb	19 41 05.5	
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**49.06**	**301**	P	**P**	**19 40 47.2**	**-1.2**
KKAR				IAmb	IAmb	19 41 05.5	
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**49.06**	**301**	P	**P**	**19 40 47.1**	**-1.3**
WRA	**Warramunga Arr**	**51.76**	**177**	P	**P**	**19 41 09.0**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=354,slow=8.1,SNR=10						
WRA	**Warramunga Arr**	**51.76**	**177**	P	**P**	**19 41 09.1**	**+0.2**
CTA	**Charters Tower**	**53.59**	**163**	P	**P**	**19 41 23.4**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=330,slow=7.8,SNR=4.7						
ARU	**Arti**	**55.06**	**319**	P	**P**	**19 41 31.1**	**-1.7**
	comp=Z,1.0nm,0.6s,baz

	baz=309								
YM10				*e*S		**Sb**	**19 38 59.9**	**-0.7**	
	baz=309								
YM05	**YM05**	**0.53**	**311**	*i* P		**Pb**	**19 38 52.5**	**-0.4**	
	baz=310								
YM05				*e*S		**Sb**	**19 38 59.7**	**-1.1**	
	baz=310								
YM08	**YM08**	**0.53**	**314**	*i* P		**Pb**	**19 38 52.3**	**-0.6**	
	baz=300								
YM08				*e*S		**Sg**	**19 38 58.7**	**+0.1**	
	baz=300								
YM04	**YM04**	**0.54**	**308**	*i* P		**Pb**	**19 38 52.8**	**-0.4**	
	baz=307								
YM04				S		**Sb**	**19 39 00.1**	**-1.0**	
	baz=307								
YM03	**YM03**	**0.56**	**310**	*e*P		**Pb**	**19 38 52.8**	**-0.6**	
	baz=310								
YM03				*e*S		**Sb**	**19 39 00.6**	**-0.9**	
	baz=310								
ANP	**Anpu**	**0.57**	**310**	*e*P		**Pb**	**19 38 52.8**	**-0.9**	
	baz=309								
ANP				*e*S		**Sb**	**19 39 01.0**	**-1.1**	
	baz=309								
TWY	**Chenhua**	**0.59**	**321**	P		**Pb**	**19 38 53.6**	**-0.2**	
	baz=308								
TWY				*e*S		**Sb**	**19 39 02.4**	**+0.1**	
	baz=308								
YHNB	**Yeheng**	**0.59**	**256**	*i* P		**Pg**	**19 38 52.7**	**-0.2**	
	baz=254								
YHNB				S		**Sb**	**19 39 01.0**	**-1.6**	
	baz=254								
TWS1	**Kuangyinshan**	**0.60**	**298**	*e*P		**Pb**	**19 38 54.3**	**+0.1**	
	baz=298								
TWS1				*e*S		**Sb**	**19 39 02.6**	**-0.2**	
	baz=298								
NSK	**Sanguang**	**0.61**	**257**	P		**Pg**	**19 38 52.9**	**-0.3**	
	baz=255								
NSK				*e*S		**Sb**	**19 39 02.1**	**-0.9**	
	baz=255								
NTST	**Danshui**	**0.61**	**304**	*e*P		**Pb**	**19 38 54.4**	**+0.1**	
	baz=304								
NTST				*e*S		**Sb**	**19 39 03.1**	**+0.1**	
	baz=304								
NNSB	**Datong**	**0.69**	**236**	P		**Pb**	**19 38 54.9**	**-0.8**	
	baz=234								
NNSB				*e*S		**Sg**	**19 39 03.9**	**+0.3**	
	baz=234								
NNSH	**Datong**	**0.69**	**236**	P		**Pg**	**19 38 54.9**	**+0.2**	
	baz=235								
NNSH				*e*S		**Sb**	**19 39 04.8**	**-0.6**	
	baz=235								
NNS	**Nan Shan**	**0.69**	**237**	P		**Pg**	**19 38 54.7**	**0.0**	
	baz=226								
NNS				*e*S		**Sb**	**19 39 04.7**	**-0.7**	
	baz=226								
NACB	**Ninganchiao**	**0.74**	**210**	P		**Pb**	**19 38 56.0**	**-0.5**	
	baz=199								
NACB				*e*S		**Sb**	**19 39 06.1**	**-0.7**	
	baz=199								
NCU	**National Centr**	**0.76**	**282**	*e*P		**Pn**	**19 38 58.5**	**+0.1**	
	baz=280								
NCU				*e*S		**Sb**	**19 39 08.3**	**+1.0**	
	baz=280								
NCUH	**Zhongli**	**0.76**	**281**	*e*P		**Pb**	**19 38 57.1**	**+0.2**	
	baz=280								
NCUH				S		**Sn**	**19 39 09.2**	**-0.8**	
	baz=280								
ETLH	**Xiulin Townshi**	**0.78**	**218**	P		**Pb**	**19 38 56.6**	**-0.6**	
	baz=217								
ETLH				*e*S		**Sb**	**19 39 07.4**	**-0.4**	
	baz=217								
PCYT	**Pengchaiyu**	**0.81**	**4**	P		**Pb**	**19 38 58.1**	**+0.5**	
	baz=4.0								
PCYT				S		**Sn**	**19 39 11.0**	**-0.2**	
	baz=4.0								
TWD	**Chiawan**	**0.83**	**207**	P		**Pg**	**19 38 57.4**	**+0.1**	
	baz=196								
TWD				*e*S		**Sb**	**19 39 09.2**	**0.0**	
	baz=196								
FUSS	**Fushou**	**0.90**	**231**	*e*P		**Pg**	**19 38 58.6**	**0.0**	
	baz=230								
FUSS				*e*S		**Sb**	**19 39 11.3**	**-0.2**	
	baz=230								
HWA	**Hwalien**	**0.92**	**204**	P		**Pb**	**19 38 59.5**	**+0.1**	
	baz=203								
HWA				*e*S		**Sb**	**19 39 12.1**	**+0.3**	
	baz=203								
LIOB	**Emei**	**0.92**	**259**	*e*P		**Pb**	**19 38 59.5**	**0.0**	
	baz=258								
LIOB				*e*S		**Sb**	**19 39 12.1**	**+0.2**	
	baz=258								
JYNG	**Yonagunijimaku**	**0.93**	**113**	P		**Pg**	**19 38 59.7**	**+0.5**	
JYNG				*e*S		**Sg**	**19 39 12.0**	**+0.7**	
SBCB	**Hsinchu**	**0.93**	**269**	*e*P		**Pn**	**19 39 00.3**	**-0.4**	
	baz=267								
SBCB				*e*S		**Sn**	**19 39 13.9**	**-0.3**	
	baz=267								
NSTT	**Nanjuang**	**0.93**	**259**	*e*P		**Pg**	**19 38 59.1**	**-0.2**	
	baz=258								
HSN	**Hsinchu**	**0.94**	**269**	P		**Pn**	**19 39 00.3**	**-0.6**	
	baz=269								
HSN				S		**Sn**	**19 39 14.1**	**-0.4**	
	baz=269								
WHF	**Hehuan Shan**	**0.95**	**225**	P		**Pb**	**19 38 59.8**	**-0.6**	
	baz=224								
WHF				*e*S		**Sb**	**19 39 12.6**	**-0.7**	
	baz=224								
TDCB	**Techi**	**0.96**	**234**	P		**Pb**	**19 39 00.0**	**-0.2**	
	baz=225								
TDCB				*e*S		**Sb**	**19 39 12.4**	**-0.7**	
	baz=225								
YOJ	**Yonaguni jima**	**0.98**	**111**	*e*P		**Pg**	**19 39 00.4**	**+0.2**	
	baz=112								
YOJ				*e*S		**Sb**	**19 39 14.4**	**+0.7**	
	baz=112								
YOJ	**Yonaguni jima**	**0.98**	**111**	P		**Pg**	**19 39 00.4**	**+0.2**	
YOJ				S		**Sg**	**19 39 13.8**	**+0.8**	
CHGB	**Renai**	**1.07**	**225**	*e*P		**Pg**	**19 39 01.8**	**-0.2**	
	baz=224								
CHGB				*e*S		**Sb**	**19 39 15.9**	**-0.6**	
	baz=224								
WHP	**Taichung City**	**1.11**	**241**	*e*P		**Pn**	**19 39 02.9**	**-0.3**	
	baz=240								
WHP				*e*S		**Sb**	**19 39 17.5**	**+0.1**	
	baz=240								
ESL	**Shilin**	**1.13**	**208**	P		**Pg**	**19 39 02.5**	**-0.6**	
	baz=207								
ESL				*e*S		**Sb**	**19 39 17.7**	**-0.2**	
	baz=207								
NMLH	**Miaoli**	**1.14**	**256**	*e*P		**Pn**	**19 39 04.3**	**+0.7**	
	baz=254								
NMLH				*e*S		**Sn**	**19 39 19.5**	**+0.1**	
	baz=254								
NSY	**Sanyi**	**1.20**	**251**	*e*P		**Pn**	**19 39 05.7**	**+1.3**	
	baz=249								
NSY				*e*S		**Sn**	**19 39 21.9**	**+0.9**	
	baz=249								
PTSB	**Yuanli**	**1.24**	**253**	*e*P		**Pn**	**19 39 05.3**	**+0.3**	
	baz=252								
PTSB				*e*S		**Sn**	**19 39 22.8**	**+0.8**	
	baz=252								
EGFH	**Guangfu**	**1.26**	**205**	*e*P		**Pg**	**19 39 04.6**	**-1.0**	
	baz=212								
EGFH				*e*S		**Sg**	**19 39 21.2**	**-0.7**	
	baz=212								
VWDT	**VWDT**	**1.32**	**217**	*e*P		**Pg**	**19 39 06.4**	**-0.4**	
	baz=217								
VWDT				*e*S		**Sn**	**19 39 23.8**	**-0.1**	
	baz=217								
WDJ	**Dajia District**	**1.33**	**250**	*e*P		**Pg**	**19 39 06.8**	**-0.1**	
	baz=249								
WDJ				*e*S		**Sn**	**19 39 25.1**	**+1.0**	
	baz=249								
SMLT	**Sun Moon Lake**	**1.37**	**228**	*e*P		**Pn**	**19 39 07.0**	**+0.1**	
	baz=216								
TCU	**Taichung**	**1.39**	**241**	*e*P		**Pg**	**19 39 08.7**	**+0.8**	
	baz=240								
TCU				*e*S		**Sn**	**19 39 27.4**	**+2.0**	
	baz=240								
TYC	**Yuchr**	**1.39**	**229**	*e*P		**Pg**	**19 39 08.1**	**0.0**	
	baz=221								
TYC				*e*S		**Sg**	**19 39 25.5**	**-0.6**	
	baz=221								
SSLB	**Suanglung**	**1.41**	**223**	*e*P		**Pn**	**19 39 07.0**	**-0.3**	
	baz=223								
SSLB				*e*S		**Sb**	**19 39 25.7**	**-0.2**	
	baz=223								
HGSD	**Ruisui**	**1.43**	**202**	*e*P		**Pg**	**19 39 08.7**	**0.0**	
	baz=192								
HGSD				*e*S		**Sg**	**19 39 28.1**	**+0.9**	
	baz=192								
EHY	**Hungye**	**1.45**	**206**	P		**Pn**	**19 39 08.2**	**+0.3**	
	baz=218								
EHY				*e*S		**Sg**	**19 39 27.7**	**-0.3**	
	baz=218								
WNT	**Mingjian**	**1.53**	**232**	*e*P		**Pg**	**19 39 11.7**	**+1.0**	
	baz=219								
WNT				*e*S		**Sg**	**19 39 32.6**	**+2.1**	
	baz=219								
WJS	**Zhushan**	**1.53**	**230**	*e*P		**Pg**	**19 39 12.2**	**+1.4**	
	baz=219								
WJS				*e*S		**Sg**	**19 39 33.2**	**+2.6**	
	baz=219								
WHYT	**Xinyi Township**	**1.54**	**224**	*e*P		**Pg**	**19 39 10.4**	**-0.5**	
	baz=224								
YULB	**Yu-li**	**1.56**	**205**	*e*P		**Pn**	**19 39 09.7**	**+0.3**	
	baz=216								
YULB				*e*S		**Sb**	**19 39 30.4**	**0.0**	
	baz=216								
EYUL	**Yuli**	**1.59**	**203**	*e*P		**Pb**	**19 39 10.9**	**-0.2**	
	baz=215								
EYUL				*e*S		**Sb**	**19 39 31.7**	**+0.3**	
	baz=215								
TWF1	**Yuli**	**1.60**	**204**	*e*P		**Pb**	**19 39 10.8**	**-0.4**	
	baz=213								
TWF1				*e*S		**Sb**	**19 39 31.5**	**+0.1**	
	baz=213								
IRIF	**Iriomote-Funau**	**1.64**	**107**	P		**Pn**	**19 39 09.8**	**-0.7**	
ALS	**Alishan**	**1.70**	**220**	*e*P		**Pg**	**19 39 13.7**	**-0.3**	
	baz=206								
ALS				*e*S		**Sg**	**19 39 37.0**	**+0.8**	
	baz=206								
WGK	**Gukeng**	**1.74**	**230**	P		**Pg**	**19 39 15.3**	**+0.6**	
	baz=246								
WGK				S		**Sg**	**19 39 39.5**	**+2.4**	
	baz=246								
FULB	**Fuli**	**1.74**	**202**	*e*P		**Pb**	**19 39 12.8**	**-0.7**	
	baz=219								
FULB				*e*S		**Sb**	**19 39 36.2**	**+0.6**	
	baz=219								
WDLH	**Douliu**	**1.75**	**230**	*e*P		**Pg**	**19 39 15.2**	**+0.2**	
	baz=231								
WDLH				*e*S		**Sg**	**19 39 38.5**	**+0.9**	
	baz=231								
RLNB	**Erlin**	**1.76**	**239**	*e*P		**Pg**	**19 39 14.5**	**-0.7**	
	baz=238								
RLNB				*e*S		**Sg**	**19 39 37.4**	**-0.7**	
	baz=238								
HATJ	**Hateruma jima**	**1.81**	**114**	P		**Pn**	**19 39 12.6**	**-0.1**	
HATJ				*e*S		**Sn**	**19 39 35.1**	**-0.7**	
CHKT	**Chengkung**	**1.81**	**199**	*e*P		**Pn**	**19 39 13.7**	**+0.9**	
	baz=184								
CHKT				*e*S		**Sb**	**19 39 37.9**	**+0.3**	
	baz=184								
ELDTW	**Lidau**	**1.86**	**209**	*e*P		**Pb**	**19 39 14.9**	**-0.7**	
	baz=211								
ELDTW				*e*S		**Sb**	**19 39 38.4**	**-0.7**	
	baz=211								
WTK	**Tuku**	**1.86**	**233**	*e*P		**Pb**	**19 39 15.4**	**-0.1**	
	baz=251								
WTK				*e*S		**Sg**	**19 39 39.7**	**-1.4**	
	baz=251								
JKRS	**Kuro-shima**	**1.91**	**107**	P		**Pn**	**19 39 14.1**	**-0.1**	
JKRS				*e*S		**Sn**	**19 39 37.3**	**-1.2**	
EDH	**Donghe**	**1.95**	**199**	*e*P		**Pn**	**19 39 14.9**	**+0.2**	
	baz=188								
EDH				*e*S		**Sb**	**19 39 41.2**	**-0.3**	
	baz=188								
TPUB	**Ta-pu**	**1.97**	**220**	*e*P		**Pb**	**19 39 17.4**	**-0.1**	
	baz=207								
TPUB				*e*S		**Sg**	**19 39 44.1**	**-0.6**	
	baz=207								
JIJ	**Ishigaki jima**	**2.00**	**103**	P		**Pn**	**19 39 15.1**	**-0.3**	
JIJ				*e*S		**Sn**	**19 39 39.9**	**-0.6**	
STYT	**Tauyuan**	**2.01**	**215**	*e*P		**Pb**	**19 39 18.4**	**+0.3**	
	baz=205								
STYT				*e*S		**Sg**	**19 39 44.5**	**-1.4**	
	baz=205								
WSF	**Szhu**	**2.01**	**235**	*e*S		**Sb**	**19 39 43.4**	**+0.1**	
	baz=249								
WTP	**Ta-pu**	**2.02**	**219**	*e*P		**Pb**	**19 39 18.6**	**+0.3**	
	baz=207								
WTP				*e*S		**Sg**	**19 39 45.2**	**-1.1**	
	baz=207								
WLGB	**Puzi**	**2.05**	**230**	*e*P		**Pb**	**19 39 18.5**	**-0.4**	
	baz=247								
LONT	**Longtian**	**2.07**	**203**	*e*P		**Pn**	**19 39 17.2**	**+0.9**	
	baz=206								
LONT				*e*S		**Sn**	**19 39 43.7**	**+1.4**	
	baz=206								
TWK	**Hsinying**	**2.08**	**222**	*e*P		**Pb**	**19 39 19.1**	**-0.2**	
	baz=223								
TWK				*e*S		**Sg**	**19 39 47.2**	**-1.0**	
	baz=223								
SNST	**Tainan City**	**2.11**	**221**	*e*S		**Sb**	**19 39 48.6**	**-0.5**	
	baz=223								
JISG	**Ishigakijimahi**	**2.11**	**96**	P		**Pn**	**19 39 16.5**	**-0.4**	
CHN1	**Nanshi**	**2.12**	**220**	*e*P		**Pb**	**19 39 19.8**	**-0.2**	
	baz=208								
CHN1				*e*S		**Sg**	**19 39 47.8**	**-1.6**	
	baz=208								
PTTC	**Pingtan**	**2.14**	**289**	*e*P		**Pn**	**19 39 18.0**	**+0.7**	
	baz=288								
ICHU	**Yijhu**	**2.15**	**228**	*e*P		**Pg**	**19 39 21.9**	**-0.6**	
	baz=243								
ICHU				*e*S		**Sg**	**19 39 49.9**	**-0.5**	
	baz=243								
SGST	**Jiashian**	**2.17**	**217**	*e*P		**Pn**	**19 39 18.9**	**+1.2**	
	baz=206								
SGST				*e*S		**Sg**	**19 39 50.1**	**-0.9**	
	baz=206								
TWGBT	**Beinan**	**2.17**	**203**	*e*P		**Pb**	**19 39 19.4**	**-1.4**	
	baz=206								
TWGBT				*e*S		**Sb**	**19 39 46.5**	**-1.3**	
	baz=206								
LDUT	**Ludao**	**2.19**	**193**	*e*P		**Pn**	**19 39 18.1**	**+0.1**	
	baz=183								
LDUT				*e*S		**Sn**	**19 39 44.5**	**-0.9**	
	baz=183								
CHN8	**Yiju**	**2.20**	**229**	*e*P		**Pg**	**19 39 22.4**	**-1.2**	
	baz=245								
CHN8				*e*S		**Sg**	**19 39 50.1**	**-2.0**	
	baz=245								
SLGT	**Liugui**	**2.20**	**215**	*e*P		**Pb**	**19 39 20.6**	**-0.9**	
	baz=217								
SLGT				*e*S		**Sb**	**19 39 49.7**	**+0.8**	
	baz=217								
MATB	**Ma-tsu**	**2.29**	**306**	*e*P		**Pn**	**19 39 20.7**	**+1.3**	
	baz=304								
VWUC	**VWUC**	**2.33**	**275**	*e*P		**Pn**	**19 39 21.0**	**+1.0**	
	baz=274								
SCST	**Cishan**	**2.37**	**216**	*e*P		**Pb**	**19 39 24.2**	**-0.1**	
	baz=220								
SCST				*e*S		**Sg**	**19 39 55.8**	**-1.8**	
	baz=220								
ECL	**Taimali**	**2.41**	**204**	*e*P		**Pn**	**19 39 21.6**	**+0.5**	
	baz=194								
ECL				*e*S		**Sn**	**19 39 51.9**	**+1.1**	
	baz=194								
SSD	**Sandimen**	**2.42**	**212**	*e*P		**Pb**	**19 39 24.1**	**-1.0**	
	baz=215								
SSD				*e*S		**Sb**	**19 39 55.4**	**+0.3**	
	baz=215								
TSMG	**Majia**	**2.45**	**211**	*e*P		**Pb**	**19 39 25.4**	**-0.2**	
	baz=216								
TSMG				*e*S		**Sb**	**19 39 57.5**	**+1.6**	
	baz=216								
JTJ	**Tarama**	**2.46**	**94**	P		**Pn**	**19 39 22.1**	**+0.4**	
TWM1	**Shoushan**	**2.46**	**216**	*e*P		**Pb**	**19 39 25.5**	**-0.4**	
	baz=219								
MASBT	**Mashibuluo**	**2.53**	**210**	*e*P		**Pb**	**19 39 26.1**	**-0.9**	
	baz=215								
MASBT				*e*S		**Sb**	**19 39 58.6**	**+0.3**	
	baz=215								
PNG	**Penghu**	**2.56**	**241**	*e*P		**Pn**	**19 39 24.1**	**+0.9**	
	baz=241								
PNG				*e*S		**Sn**	**19 39 55.0**	**+0.5**	
	baz=241								
PHUB	**P'eng-hu**	**2.58**	**240**	*e*P		**Pn**	**19 39 23.9**	**+0.6**	
	baz=240								
PHUB				*e*S		**Sn**	**19 39 55.5**	**+0.7**	
	baz=240								
PTMZ	**Houxiangcun**	**2.63**	**275**	*e*P		**Pn**	**19 39 25.1**	**+1.0**	
	baz=272								
PTMZ				*e*S		**Sn**	**19 39 57.2**	**+1.0**	
	baz=272								
EAST	**Anshuo**	**2.65**	**204**	*e*P		**Pn**	**19 39 25.6**	**+1.2**	
	baz=194								
WDGT	**Dungji**	**2.65**	**235**	*e*P		**Pn**	**19 39 25.9**	**+1.5**	
	baz=247								
WDGT				*e*S		**Sb**	**19 39 59.5**	**-2.1**	
	baz=247								
TAW	**Tawu**	**2.65**	**203**	*e*P		**Pn**	**19 39 25.1**	**+0.7**	
	baz=194								
TAW				*e*S		**Sn**	**19 39 58.4**	**+1.6**	
	baz=194								
LYJJ	**Jianjiangzhen**	**2.66**	**311**	*e*P		**Pn**	**19 39 26.0**	**+1.5**	
	baz=309								
XPSS	**Dashiqiu**	**2.66**	**322**	*e*P		**Pn**	**19 39 25.6**	**+1.1**	
	baz=321								
SCZT	**Fangliau**	**2.75**	**208**	*e*P		**Pn**	**19 39 28.1**	**+2.3**	
	baz=213								
SCZT				*e*S		**Sb**	**19 40 02.8**	**-1.8**	
	baz=213								
SLIU	**Shizi**	**2.82**	**203**	*e*P		**Pn**	**19 39 28.3**	**+1.6**	
	baz=194								
KNMB	**Chin-men Tao**	**3.31**	**265**	*e*P		**Pn**	**19 39 33.2**	**-0.2**	
	baz=263								

WEL 28 20:07:36.1, 43°S±14′×17°2E±2′6, h11km±42km, M2.2/6, ML2.1/5, MLv2.2/6, Error ellipse: s-maj=0.0km s-min=0.0km az=66.2, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OXZ	**Oxford**	**0.09**	**122**	P	**Pg**	**20 07 39.5**	**+0.8**
LTZ	**Lake Taylor**	**0.56**	**26**	P	**Pb**	**20 07 48.2**	**+0.3**
WACZ	**Wakanui South**	**0.67**	**186**	P	**Pb**	**20 07 50.6**	**+0.8**
MQZ	**McQueen's Vall**	**0.67**	**130**	P	**Pb**	**20 07 49.9**	**0.0**
RPZ	**Rata Peaks**	**0.78**	**236**	P	**Pn**	**20 07 52.5**	**-0.6**
GVZ	**Greta Valley S**	**0.86**	**69**	P	**Pn**	**20 07 54.0**	**-0.2**
ARCZ	**Arundel**	**0.87**	**219**	P	**Pn**	**20 07 53.9**	**-0.4**
AKCZ	**Akaroa Harbour**	**0.92**	**130**	P	**Pn**	**20 07 55.1**	**0.0**
OKCZ	**Okains Bay**	**0.93**	**119**	P	**Pn**	**20 07 55.0**	**-0.2**

*IDC **28** 20:17:47.6±3.3, 39°28N×21°49E, h0km, mb3.4/3, mb1 3.4/3, mb1mx3.2/36, mbtmp3.4/3, Error ellipse: s-maj=382.7km s-min=29.1km az=136.0*
*ATH **28** 20:17:49.5, 38′41N×22′44E, h14km±2km, ML3.0/24, Error ellipse: s-maj=2.5km s-min=0.7km az=359.0*
*THE **28** 20:17:50.2, 38′41N×22′45E, h5km±2km, ML3.1/12, Error ellipse: s-maj=2.3km s-min=0.5km az=87.0*
ISC 28 20:17:49.7±0.8, 38°42N±0′02×22°44E±0′02, h10km±5km, n68, σ0°67/95, mb3.3/3, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DSF	**Desfina**	**0.07**	**95**	P	**Pg**	**20 17 51.6**	**-0.3**
DSF				S	**Sg**	**20 17 53.0**	**-0.5**
	257μm,0.2s						
DLFA	**Delphi**	**0.07**	**34**	P	**Pg**	**20 17 52.1**	**+0.1**
DLFA				S	**Sg**	**20 17 53.4**	**-0.3**
DLFA				AML	AML	20 17 53.6	
DLFA				AML	AML	20 17 54.2	
	comp=N,37237μm,0.2s						
TRIZ	**Trizonia**	**0.29**	**260**	P	**Pg**	**20 17 55.9**	**+0.3**
TRIZ				S	**Sb**	**20 18 00.9**	**-1.2**
	comp=N,13μm,0.3s						
TRIZ	**Trizonia**	**0.29**	**260**	P	**Pg**	**20 17 56.0**	**+0.4**
TRIZ				S	**Sg**	**20 18 00.4**	**+0.9**
ALIK	**Aliki, Aigiali**	**0.30**	**239**	P	**Pb**	**20 17 56.4**	**-0.9**
ALIK				S	**Sb**	**20 18 00.9**	**-1.4**
AXAR	**Agios Charalam**	**0.39**	**26**	P	**Pg**	**20 17 58.0**	**+0.6**
AXAR				S	**Sg**	**20 18 03.6**	**+1.1**
AXAR				AML	AML	20 18 05.5	
	comp=E,85329μm,0.3s						
AXAR				AML	AML	20 18 08.7	
	comp=N,61020μm,0.3s						
EFP	**Efpalio**	**0.42**	**272**	P	**Pg**	**20 17 58.1**	**+0.1**
EFP				S	**Sb**	**20 18 05.0**	**-0.7**
	comp=N,5μm,0.4s						
KLV	**Kalavryta, Ach**	**0.44**	**212**	P	**Pg**	**20 17 58.0**	**-0.3**
KLV				S	**Sg**	**20 18 04.5**	**+0.4**
	comp=N,835nm,0.3s						
KLV	**Kalavryta, Ach**	**0.44**	**212**	P	**Pg**	**20 17 58.1**	**-0.2**
KLV				S	**Sg**	**20 18 04.5**	**+0.4**
KLV				AML	AML	20 18 05.7	
	comp=N,1587μm,0.3s						
KLV				AML	AML	20 18 06.7	
	comp=E,1720μm,0.2s						
ANX	**Ano Chora**	**0.45**	**293**	P	**Pg**	**20 17 58.7**	**+0.2**
ANX				S	**Sb**	**20 18 05.9**	**-0.6**
	comp=E,11μm,0.3s						
GUR	**Goura**	**0.49**	**189**	P	**Pg**	**20 17 59.1**	**-0.1**
LKR	**Lokris**	**0.49**	**62**	P	**Pg**	**20 17 59.2**	**-0.2**
LKR				S	**Sg**	**20 18 07.0**	**+1.1**
	comp=E,8μm,0.2s						
LKR	**Lokris**	**0.49**	**62**	P	**Pg**	**20 17 59.0**	**-0.4**
LKR				S	**Sg**	**20 18 06.5**	**+0.6**
LKR				AML	AML	20 18 07.4	
	comp=E,16243μm,0.2s						
LKR				AML	AML	20 18 07.5	
	comp=N,15240μm,0.2s						
LTK	**Loutraki**	**0.57**	**133**	P	**Pg**	**20 18 00.9**	**+0.1**
LTK				S	**Sb**	**20 18 09.8**	**-0.3**
LOUT	**Loutraki**	**0.60**	**135**	P	**Pg**	**20 18 01.5**	**+0.1**
LOUT				S	**Sb**	**20 18 10.5**	**-0.4**
	comp=N,1μm,0.2s						
LOUT	**Loutraki**	**0.60**	**135**	P	**Pg**	**20 18 01.4**	**+0.1**
LOUT				S	**Sb**	**20 18 10.0**	**-0.9**
AGG	**Agios Georgios**	**0.61**	**352**	P	**Pg**	**20 18 01.3**	**-0.2**
AGG				S	**Sb**	**20 18 11.0**	**-0.3**
	comp=N,942nm,0.4s						
AGG	**Agios Georgios**	**0.61**	**352**	P	**Pg**	**20 18 01.4**	**-0.2**
AGG				AML	AML	20 18 13.3	
	comp=N,2220μm,0.3s						
AGG				AML	AML	20 18 16.5	
	comp=E,1536μm,0.5s						
MAKR	**Makrakomi, Fth**	**0.64**	**338**	P	**Pg**	**20 18 02.5**	**+0.3**
MAKR				S	**Sg**	**20 18 11.5**	**+0.9**
MAKR				AML	AML	20 18 18.1	
	comp=N,3896μm,0.4s						
MAKR				AML	AML	20 18 19.5	
	comp=E,3546μm,0.4s						
VIL2	**Platees**	**0.68**	**107**	P	**Pb**	**20 18 03.5**	**-0.2**
VIL2				S	**Sb**	**20 18 14.2**	**+1.0**
VIL2				AML	AML	20 18 17.1	
	comp=N,6406μm,0.6s						
VIL2				AML	AML	20 18 17.3	
	comp=E,6382μm,0.6s						
EVR	**Evrytania**	**0.70**	**315**	P	**Pg**	**20 18 03.3**	**0.0**
EVR				S	**Sb**	**20 18 14.6**	**+0.6**
	comp=E,1μm,0.4s						
EVR	**Evrytania**	**0.70**	**315**	P	**Pg**	**20 18 03.2**	**-0.2**
EVR				S	**Sb**	**20 18 13.8**	**-0.2**
EVR				AML	AML	20 18 17.9	
	comp=E,3317μm,0.4s						
EVR				AML	AML	20 18 19.3	
	comp=N,2580μm,0.6s						
DRO	**Drossia**	**0.74**	**231**	P	**Pg**	**20 18 03.8**	**-0.2**
DRO				S	**Sb**	**20 18 14.5**	**-0.4**
	comp=N,1μm,0.4s						
PVO	**Paravola**	**0.75**

DID					S		**Sb**	**20 18 25.5**	**0.0**
	comp=E,798nm,0.8s								
XOR	**Xorichti**	**1.11**	**31**		P		**Pg**	**20 18 10.4**	**-0.7**
XOR					S		**Sn**	**20 18 27.2**	**+0.3**
	comp=E,852nm,0.6s								
XOR	**Xorichti**	**1.11**	**31**		P		**Pg**	**20 18 10.5**	**-0.7**
XOR					AML	AML		20 18 31.4	
	comp=E,1358μm,0.3s								
XOR					AML	AML		20 18 35.6	
	comp=N,1964μm,0.9s								
ATHU	**Athens Univers**	**1.15**	**113**		P		**Pg**	**20 18 11.4**	**-0.4**
PTL	**Penteli**	**1.18**	**108**		P		**Pg**	**20 18 11.5**	**-0.9**
THL	**Klokotos Trika**	**1.19**	**344**		P		**Pb**	**20 18 12.8**	**+0.3**
THL					AML	AML		20 18 33.6	
	comp=E,496μm,0.5s								
THL					AML	AML		20 18 36.9	
	comp=N,244μm,0.7s								
VLY	**Voula,Athens**	**1.21**	**117**		P		**Pb**	**20 18 12.7**	**+0.1**
VLY					AML	AML		20 18 32.2	
	comp=N,1741μm,0.6s								
VLY					AML	AML		20 18 33.5	
	comp=E,2310μm,0.4s								
DION	**Dionisos Attik**	**1.22**	**106**		P		**Pg**	**20 18 12.2**	**-1.0**
DION					AML	AML		20 18 32.8	
	comp=E,4709μm,0.6s								
DION					AML	AML		20 18 37.4	
	comp=N,3793μm,0.4s								
ITM	**Ithomi**	**1.30**	**198**		P		**Pn**	**20 18 13.7**	**-0.3**
ITM					AML	AML		20 18 39.1	
	comp=E,432μm,0.4s								
ITM					AML	AML		20 18 40.7	
	comp=N,405μm,0.5s								
KYMI	**Kymi, Euboea I**	**1.32**	**80**		P		**Pn**	**20 18 14.1**	**-0.2**
KYMI					AML	AML		20 18 35.6	
	comp=N,1094μm,0.5s								
KYMI					AML	AML		20 18 36.5	
	comp=E,781μm,0.5s								
ALNA	**Alonissos**	**1.33**	**56**		P		**Pn**	**20 18 14.5**	**+0.1**
AOS	**Alonnisos**	**1.35**	**56**		P		**Pn**	**20 18 14.3**	**-0.4**
AOS					AML	AML		20 18 38.1	
	comp=E,578μm,0.3s								
AOS					AML	AML		20 18 41.7	
	comp=N,692μm,0.8s								
EVGI	**Lefkada island**	**1.42**	**279**		P		**Pb**	**20 18 16.4**	**+0.1**
LKD2	**Lefkada island**	**1.45**	**285**		P		**Pg**	**20 18 17.1**	**-0.4**
LKD2					AML	AML		20 18 46.3	
	comp=E,709μm,0.4s								
LKD2					AML	AML		20 18 47.3	
	comp=N,1180μm,0.7s								
FSK	**Fiskardo**	**1.48**	**272**		P		**Pb**	**20 18 17.4**	**+0.1**
VLS	**Valsamata**	**1.48**	**261**		P		**Pn**	**20 18 16.6**	**+0.1**
VLMS	**Volimes, Zakyn**	**1.50**	**250**		P		**Pn**	**20 18 17.1**	**+0.3**
KEF5	**Kardakata, Kep**	**1.56**	**265**		P		**Pb**	**20 18 17.8**	**+0.3**
KEF4	**Livadi, Kephal**	**1.59**	**265**		P		**Pn**	**20 18 18.4**	**+0.4**
KARY	**Karystos**	**1.62**	**103**		P		**Pn**	**20 18 19.0**	**+0.7**
KARY					AML	AML		20 18 45.2	
	comp=N,639μm,0.6s								
KARY					AML	AML		20 18 47.0	
	comp=E,510μm,0.4s								
LIT	**Litokhoron**	**1.68**	**1**		P		**Pn**	**20 18 20.0**	**+0.7**
LIT					AML	AML		20 18 51.1	
	comp=E,250μm,0.6s								
LIT					AML	AML		20 18 56.6	
	comp=N,241μm,0.6s								
VLI	**Veliai**	**1.74**	**167**		P		**Pn**	**20 18 20.8**	**+0.7**
VLI					AML	AML		20 18 48.4	
	comp=N,370μm,0.9s								
VLI					AML	AML		20 18 51.6	
	comp=E,423μm,0.6s								
KPRO	**Kipourio**	**1.75**	**332**		P		**Pb**	**20 18 21.5**	**-0.5**
KPRO					AML	AML		20 18 52.9	
	comp=E,425μm,0.7s								
KPRO					AML	AML		20 18 56.4	
	comp=N,397μm,0.7s								
KTHA	**Kythira Island**	**2.21**	**167**		P		**Pn**	**20 18 27.7**	**+1.1**
DBRK	**Dubrovnik**	**5.36**	**324**	*e*Pn			**Pn**	**20 19 10.6**	**+0.8**
DBRK					Sn		**Sn**	**20 20 10.7**	**-0.9**
LSTV	**Lastovo**	**6.06**	**318**	*e*Pn			**Pn**	**20 19 19.1**	**-0.3**
RICI	**Ricice**	**6.47**	**323**	*e*Pn			**Pn**	**20 19 26.0**	**+1.0**
RICI					Sn		**Sn**	**20 20 38.6**	**-0.3**
HVAR	**Hvar**	**6.58**	**318**	*e*Pn			**Pn**	**20 19 26.3**	**-0.2**
ZIRJ	**Zirje**	**7.33**	**318**	*i* Pn			**Pn**	**20 19 37.0**	**+0.2**
ZIRJ					Sn		**Sn**	**20 20 58.6**	**-1.5**
MORI	**Morici**	**7.45**	**319**	*e*Pn			**Pn**	**20 19 37.6**	**-0.8**
DUGI	**Dugi Otok**	**7.87**	**317**	*e*Pn			**Pn**	**20 19 43.7**	**-0.6**
UDBI	**Udbina**	**7.90**	**323**	*e*Pn			**Pn**	**20 19 45.7**	**+1.1**
MOSL	**Moslavina**	**8.34**	**331**	*i* Pn			**Pn**	**20 19 49.2**	**-1.5**
NVLJ	**Novalja**	**8.36**	**320**	*e*Pn			**Pn**	**20 19 50.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**31.19**	**222**		P		**P**	**20 24 10.1**	**+0.9**
	comp=N,0.2nm,0.5s,baz=24,slow=8.7,SNR=4.4								
MKAR	**Makanchi Array**	**43.89**	**59**		P		**P**	**20 25 57.2**	**+0.8**
	comp=N,0.3nm,0.6s,baz=281,slow=8.7,SNR=2.2								
ZALV	**Zalesovo Beam**	**44.40**	**48**		P		**P**	**20 25 59.5**	**-0.9**
	comp=N,0.6nm,0.6s,baz=261,slow=8.6,SNR=2.7								

*KRNET **28** 20:37:28.9±0.1, 39°.38N×73°.27E, mb3.5*
*SOME **28** 20:37:30.2, 39°.58N×73°.33E, h0km*
*NNC **28** 20:37:33.3±1.2, 39°.61N×73°.34E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=10.2km s-min=5.7km az=167.0
ISC 28 20:37:30.8±1.6, 39°.32N±0°.08×73°.22E±0°.03, h10km, n74,
σ2s 04/115, 28C-18D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OHH	**Osh**	**1.25**	**345**	⇓*iP*		**Pb**	**20 37 51.7**	**-2.8**
OHH	baz=42			⇓*iS*		**Sb**	**20 38 08.7**	**-2.0**
BTK	**Batken**	**1.99**	**292**	⇑*iP*		**Pn**	**20 38 06.0**	**+1.3**
BTK	baz=91			⇑*iS*		**Sg**	**20 38 33.6**	**-1.3**
ARK	**Arkit**	**2.65**	**339**	⇑*iP*		**Pn**	**20 38 14.0**	**+0.2**
ARK	baz=38			⇑*iS*		**Sn**	**20 38 47.0**	**+0.9**
ARLS	**Aral**	**2.67**	**18**	⇓*iP*		**Pn**	**20 38 14.7**	**+0.6**
ARLS	baz=18			⇓*iS*		**Sn**	**20 38 48.0**	**+1.3**
AML	**Almayashu**	**2.83**	**7**	⇓*iP*		**Pn**	**20 38 16.9**	**+0.4**
AML	baz=7.0			⇓*iS*		**Sn**	**20 38 52.0**	**+1.1**
AML	**Almayashu**	**2.83**	**7**	P		**Pn**	**20 38 16.9**	**+0.4**
	SNR=39							
UCH	**Uchtor**	**3.07**	**18**	⇑*iP*		**Pn**	**20 38 20.6**	**+0.8**
UCH	baz=18			⇑*iS*		**Sn**	**20 38 57.6**	**+0.9**
UCH	**Uchtor**	**3.07**	**18**	P		**Pn**	**20 38 21.2**	**+1.4**
	SNR=37							
KZA	**Kyzart**	**3.16**	**29**	⇑*iP*		**Pn**	**20 38 21.5**	**+0.5**
KZA	baz=29			⇑*iS*		**Sn**	**20 38 59.8**	**+0.9**
KZA	**Kyzart**	**3.16**	**29**	P		**Pn**	**20 38 22.7**	**+1.7**
	SNR=9.2							
EKS2	**Erkin-Say**	**3.37**	**7**	⇑*eP*		**Pn**	**20 38 23.9**	**+0.3**
EKS2	baz=7.0			⇑*iS*		**Sn**	**20 39 04.5**	**+0.9**
EKS2	**Erkin-Say**	**3.37**	**7**	P		**Pn**	**20 38 23.9**	**+0.3**
	SNR=9.6							
MRKS	**Merke**	**3.42**	**0**	*eP*		**Pb**	**20 38 30.2**	**-1.4**
MRKS	21nm,0.4s			*eS*		**Sb**	**20 39 14.0**	**+0.8**
	50nm,0.6s							
MRKS	**Merke**	**3.42**	**0**	Pg		**Pb**	**20 38 30.2**	**-1.4**
MRKS	21nm,0.4s			Lg		Lg	20 39 14.0	
	50nm,0.6s							
AAK	**Ala-Archa**	**3.45**	**16**	⇑*eP*		**Pn**	**20 38 25.4**	**+0.6**
AAK	baz=16			⇑*iS*		**Sn**	**20 39 06.2**	**+0.4**
AAK	**Ala-Archa**	**3.45**	**16**	P		**Pn**	**20 38 26.3**	**+1.5**
	SNR=8.3							
AAK	**Ala-Archa**	**3.45**	**16**	⇓Pn		**Pn**	**20 38 26.4**	**+1.5**
AAK	6.2nm,0.6s			Pg		**Pg**	**20 38 39.6**	**+2.7**
	23nm,0.7s							
AAK				Lg		Lg	20 39 09.3	
	75nm,0.9s							
KBK	**Karagaybulak**	**3.58**	**21**	⇑*iP*		**Pn**	**20 38 27.1**	**+0.5**
KBK	baz=21			⇑*iS*		**Sn**	**20 39 09.6**	**+0.6**
KBK	**Karagaybulak**	**3.58**	**21**	P		**Pn**	**20 38 28.9**	**+2.3**
	SNR=12							
FRU1	**Bishkek**	**3.65**	**17**	⇓*iP*		**Pn**	**20 38 27.5**	**+0.1**
FRU1	baz=16			⇓*iS*		**Sn**	**20 39 11.2**	**+0.7**
ULHL	**Ulahol**	**3.72**	**37**	⇑*eP*		**Pn**	**20 38 29.8**	**+1.3**
ULHL	baz=37			⇑*iS*		**Sn**	**20 39 13.5**	**+1.1**
ULHL	**Ulahol**	**3.72**	**37**	P		**Pb**	**20 38 34.9**	**-1.8**
	SNR=5.5							
IUG	**Iuzhnay**	**3.72**	**320**	*eP*		**Pb**	**20 38 37.3**	**+0.7**
IUG	64nm,0.8s			*eS*		**Sg**	**20 39 26.6**	**-3.6**
	67nm,0.5s							
IUG	**Iuzhnay**	**3.72**	**320**	Pg		**Pb**	**20 38 37.3**	**+0.7**
	64nm,0.8s							
CHMS	**Chumysh**	**3.85**	**17**	⇓*eP*		**Pn**	**20 38 31.2**	**+1.0**
CHMS	baz=17			⇓*iS*		**Sn**	**20 39 16.4**	**+0.9**
CHMS	**Chumysh**	**3.85**	**17**	P		**Pn**	**20 38 32.2**	**+2.0**
	SNR=8.0							
TKM2	**Tokmak 2**	**4.02**	**26**	⇓*iP*		**Pn**	**20 38 33.4**	**+0.7**
TKM2	baz=26			⇓*iS*		**Sn**	**20 39 20.2**	**+0.3**
TKM2	**Tokmak 2**	**4.02**	**26**	P		**Pn**	**20 38 33.9**	**+1.3**
	SNR=7.6							
TKM2	**Tokmak 2**	**4.02**	**26**	⇑Pn		**Pn**	**20 38 33.8**	**+1.1**
TKM2	3.7nm,0.6s			⇓Pg		**Pb**	**20 38 42.4**	**+0.5**
	10nm,0.8s							
TKM2				⇑Lg		Lg	20 39 31.2	
	46nm,0.8s							
USP	**Ospenovka**	**4.06**	**13**	⇑*eP*		**Pn**	**20 38 33.8**	**+0.8**
USP	baz=13			⇑*iS*		**Sn**	**20 39 20.9**	**+0.3**
USP	**Ospenovka**	**4.06**	**13**	P		**Pn**	**20 38 34.1**	**+1.1**
	SNR=6.1							
KDJ	**Kajisay**	**4.12**	**46**	⇑*iP*		**Pn**	**20 38 34.2**	**+0.3**
KDJ	baz=46			⇑*iS*		**Sn**	**20 39 21.5**	**-0.7**
KST	**Kastek**	**4.26**	**28**	*eP*		**Pb**	**20 38 45.2**	**-0.7**
KST	5.6nm,0.5s			*eS*		**Sb**	**20 39 40.1**	**+2.8**
	48nm,0.8s							
KST	**Kastek**	**4.26**	**28**	Pg		**Pb**	**20 38 45.2**	**-0.7**
KST	5.6nm,0.5s			Lg		Lg	20 39 40.1	
	48nm,0.8s							
SGDS	**Sogindy**	**4.26**	**14**	Pg		**Pb**	**20 38 44.9**	**-1.0**
	4.4nm,0.9s							
SGDS				Lg		Lg	20 39 39.5	
	24nm,0.9s							
KK31	**Karatay Array**	**4.29**	**333**	Pn		**Pn**	**20 38 37.3**	**+1.1**
	1.7nm,0.4s,baz=142,slow=12,SNR=30							
KK31				⇑Pg		**Pb**	**20 38 47.7**	**+1.2**
	4.7nm,0.6s,baz=162,slow=14,SNR=11							
KK31				⇓Lg		Lg	20 39 30.9	
	13nm,0.5s							
BRLS	**Borolday**	**4.50**	**327**	*eP*		**Pb**	**20 38 48.6**	**-1.3**
	11nm,0.3s							
BRLS				*eS*		**Sb**	**20 39 45.4**	**+1.2**
	26nm,0.6s							
BRLS	**Borolday**	**4.50**	**327**	Pg		**Pb**	**20 38 48.6**	**-1.3**
	11nm,0.3s							
BRLS				Lg		Lg	20 39 45.4	
	26nm,0.6s							
IZV	**Izvestkoviy**	**4.51**	**34**	*eP*		**Pb**	**20 38 49.9**	**-0.3**
	6.8nm,0.6s							
IZV				*eS*		**Sb**	**20 39 48.0**	**+3.3**
	45nm,0.8s							
IZV	**Izvestkoviy**	**4.51**	**34**	Pg		**Pb**	**20 38 49.9**	**-0.3**
	6.8nm,0.6s							
IZV				Lg		Lg	20 39 48.0	
	45nm,0.8s							
MTBS	**Maitube**	**4.51**	**31**	*eP*		**Pb**	**20 38 50.0**	**-0.2**
	5.7nm,0.4s							
MTBS				*eS*		**Sb**	**20 39 48.8**	**+4.2**
	34nm,0.6s							
MTBS	**Maitube**	**4.51**	**31**	Pg		**Pb**	**20 38 50.0**	**-0.2**
	5.7nm,0.4s							
MTBS				Lg		Lg	20 39 48.8	
	34nm,0.6s							
TNSS	**Tian-Shan**	**4.66**	**36**	*eP*		**Pb**	**20 38 52.8**	**0.0**
	4.5nm,0.3s							
TNSS				*eS*		**Sb**	**20 39 53.2**	**+4.0**
	33nm,0.6s							
TNSS	**Tian-Shan**	**4.66**	**36**	Pg		**Pb**	**20 38 52.8**	**0.0**
	4.5nm,0.3s							
TNSS				Lg		Lg	20 39 53.2	
	33nm,0.6s							
KRBS	**Karabastau**	**4.75**	**22**	*eP*		**Pb**	**20 38 53.6**	**-0.5**
	3.1nm,0.5s							
KRBS				*eS*		**Sb**	**20 39 54.4**	**+3.1**
	26nm,0.7s							
KRBS	**Karabastau**	**4.75**	**22**	Pg		**Pb**	**20 38 53.6**	**-0.5**
	3.1nm,0.5s							
KRBS				Lg		Lg	20 39 54.4	
	26nm,0.7s							
AAA	**Alma-Ata**	**4.78**	**34**	*eP*		**Pb**	**20 38 55.6**	**+0.9**
	9.2nm,0.3s							
AAA				*eS*		**Sg**	**20 39 58.3**	**-6.0**
	58nm,0.7s							
AAA	**Alma-Ata**	**4.78**	**34**	Pg		**Pb**	**20 38 55.6**	**+0.9**
	9.2nm,0.3s							
AAA				Lg		Lg	20 39 58.3	
	58nm,0.7s							
MDOK	**Medeo**	**4.80**	**36**	*eP*		**Pb**	**20 38 54.6**	**-0.5**
	3.7nm,0.6s							
MDOK				*eS*		**Sb**	**20 39 56.9**	**+3.8**
	32nm,1.0s							
MDOK	**Medeo**	**4.80**	**36**	⇑Pn		**Pn**	**20 38 45.1**	**+1.7**
	2.4nm,0.7s							
MDOK				⇑Pg		**Pb**	**20 38 55.6**	**+0.4**
	6.7nm,0.6s							
MDOK				⇑Lg		Lg	20 39 58.0	
	60nm,1.1s							
MDOK	**Medeo**	**4.80**	**36**	Pg		**Pb**	**20 38 54.6**	**-0.5**
	3.7nm,0.6s							
MDOK				Lg		Lg	20 39 56.9	
	32nm,1.0s							
ANVS	**Anan'yevo**	**4.83**	**43**	⇑*iP*		**Pn**	**20 38 44.0**	**+0.3**
	baz=43							
ANVS				⇑*iS*		**Sn**	**20 39 39.2**	**-0.5**
	baz=43							
KOTS	**Kotyrbulak**	**4.89**	**36**	*eP*		**Pb**	**20 38 56.0**	**-0.6**
	14nm,0.6s							
KOTS				*eS*		**Sb**	**20 39 58.4**	**+2.9**
	178nm,0.8s							
KOTS	**Kotyrbulak**	**4.89**	**36**	Pg		**Pb**	**20 38 56.0**	**-0.6**
	14nm,0.6s							
KOTS				Lg		Lg	20 39 58.4	
	178nm,0.8s							
KTBS	**Karatobe**	**5.10**	**30**	*eP*		**Pb**	**20 39 00.2**	**+0.1**
	2.7nm,0.7s							
KTBS				*eS*		**Sb**	**20 40 06.0**	**+4.5**
	58nm,0.9s							
KTBS	**Karatobe**	**5.10**	**30**	Pg		**Pb**	**20 39 00.2**	**+0.1**
	2.7nm,0.7s							
KTBS				Lg		Lg	20 40 06.0	
	58nm,0.9s							
KUU	**Kurty**	**5.13**	**26**	*eP*		**Pb**	**20 39 00.7**	**0.0**
	3.0nm,0.6s							
KUU				*eS*		**Sb**	**20 40 06.9**	**+4.5**
	32nm,0.6s							
KUU	**Kurty**	**5.13**	**26**	Pg		**Pb**	**20 39 00.7**	**0.0**
	3.0nm,0.6s							
KUU				Lg		Lg	20 40 06.9	
	32nm,0.6s							
CHKK	**Chushkaly**	**5.34**	**31**	*eP*		**Pb**	**20 39 06.1**	**+1.9**
	2.7nm,0.4s							
CHKK				*eS*		**Sg**	**20 40 15.8**	**-6.4**
	24nm,0.7s							
CHKK	**Chushkaly**	**5.34**	**31**	Pg		**Pb**	**20 39 06.1**	**+1.9**
	2.7nm,0.4s							
CHKK				Lg		Lg	20 40 15.8	
	24nm,0.7s							
SATY	**Saty**	**5.41**	**45**	*eP*		**Pb**	**20 39 05.3**	**-0.2**
	8.7nm,0.8s							
SATY				*eS*		**Sb**	**20 40 15.0**	**+4.5**
	22nm,1.3s							
SATY	**Saty**	**5.41**	**45**	Pg		**Pb**	**20 39 05.3**	**-0.2**
	8.7nm,0.8s							
SATY				Lg		Lg	20 40 15.0	
	22nm,1.3s							
KURS	**Kuram**	**5.58**	**40**	*eP*		**Pb**	**20 39 09.3**	**+0.9**
	3.3nm,0.6s							
KURS				*eS*		**Sb**	**20 40 21.0**	**+5.5**
	18nm,1.0s							
KURS	**Kuram**	**5.58**	**40**	Pg		**Pb**	**20 39 09.3**	**+0.9**
	3.3nm,0.6s							
KURS				Lg		Lg	20 40 21.0	
	18nm,1.0s							
BTLS	**Baital**	**5.75**	**6**	*eP*		**Pb**	**20 39 11.4**	**+0.3**
	3.2nm,0.7s							
BTLS				*eS*		**Sb**	**20 40 25.6**	**+5.4**
	10nm,0.7s							
BTLS	**Baital**	**5.75**	**6**	Pg		**Pb**	**20 39 11.4**	**+0.3**
	3.2nm,0.7s							
UZB	**Uzynbulak**	**5.81**	**47**	*eP*		**Pb**	**20 39 12.0**	**-0.3**
	3.5nm,0.7s							
UZB				*eS*		**Sb**	**20 40 25.9**	**+3.8**
	10.0nm,1.0s							
UZB	**Uzynbulak**	**5.81**	**47**	Pg		**Pb**	**20 39 12.0**	**-0.3**
	3.5nm,0.7s							
UZB				Lg		Lg	20 40 25.9	
	10.0nm,1.0s							
KPKS	**Kokpek**	**5.83**	**43**	*eP*		**Pb**	**20 39 12.8**	**+0.1**
	8.2nm,0.5s							
KPKS				*eS*		**Sb**	**20 40 27.0**	**+4.3**
	18nm,0.7s							
ARXS	**Arharly**	**5.98**	**34**	Pg		**Pb**	**20 39 16.2**	**+1.0**
	3.3nm,0.3s							
ARXS				Lg		Lg	20 40 33.1	
	34nm,0.8s							
SHLS	**Shalkode**	**6.07**	**49**	Pg		**Pg**	**20 39 23.3**	**-3.8**
	5.9nm,0.7s							
MNBS	**Baschi**	**6.13**	**38**	Pg		**Pb**	**20 39 19.3**	**+1.4**
	1.2nm,0.5s							
MNBS				Lg		Lg	20 40 39.0	
	26nm,0.7s							
PDGK	**Podgornoye**	**6.19**	**48**	⇓Pn		**Pn**	**20 39 00.3**	**-2.1**
	3.6nm,1.1s							
PDGK				⇓Pg		**Pg**	**20 39 25.6**	**-3.8**
	5.5nm,0.8s							
PDGK				⇓Lg		Lg	20 40 39.5	
	20nm,1.0s							
KAPS	**Kapalarasan**	**7.50**	**35**	Pg		**Pb**	**20 39 43.3**	**+2.3**
	2.0nm,1.0s							
KAPS				Lg		Lg	20 41 19.6	
	6.9nm,1.1s							

*GRAL **28** 21:20:07.5±0.3, 33°.00N×35°.77E, h1km±4km, MD2.8*
*GII **28** 21:20:08.6±0.1, 33°.13N×35°.69E, h10km, MD2.1/4,*
Mm2.2/2
ISC 28 21:20:08.5±0.9, 33°.08N±0°.03×35°.72E±0°.05, h10km±8km,
n23, σ0s 69/39, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GEM	**Giv'at Ha'Em**	**0.14**	**341**		Pg	**Pg**	**21 20 11.2**	**-0.5**
GEM					Sg	**Sg**	**21 20 14.1**	**+0.2**
NATI	**Neve Ativ**	**0.18**	**5**		Pg	**Pg**	**21 20 12.0**	**-0.4**
NATI					Sg	**Sg**	**21 20 15.4**	**+0.3**
SHBL	**Chebaa**	**0.27**	**5**	*eP*		**Pg**	**21 20 13.7**	**-0.4**
SHBL				*eS*		**Sg**	**21 20 18.3**	**+0.6**
MMA0B	**Mount Meron ar**	**0.27**	**256**		Pg	**Pg**	**21 20 14.2**	**+0.2**
MMA0B					Sg	**Sb**	**21 20 19.0**	**-1.2**
RCY	**Rachaya**	**0.43**	**13**	*eP*		**Pg**	**21 20 16.4**	**-0.5**
RCY				*eS*		**Sg**	**21 20 23.1**	**+0.5**
HNTI	**Hanita**	**0.46**	**270**		Pg	**Pg**	**21 20 17.3**	**-0.1**
HNTI					Sg	**Sg**	**21 20 23.1**	**-0.4**
QRWL	**Qaraoun**	**0.47**	**356**	*eP*		**Pg**	**21 20 17.3**	**-0.3**
QRWL				*eS*		**Sg**	**21 20 24.6**	**+0.7**
BLGI	**Bet Lehem HaGe**	**0.56**	**232**		Pg	**Pb**	**21 20 19.6**	**-0.8**
BLGI					Sg	**Sb**	**21 20 28.7**	**+0.3**
DQRL	**Deir Qamar**	**0.64**	**349**	*eP*		**Pg**	**21 20 20.5**	**-0.4**
DQRL				*eS*		**Sg**	**21 20 30.1**	**+0.9**
MMLI	**Mount Malkishu**	**0.69**	**201**		Pg	**Pb**	**21 20 22.1**	**-0.4**
MMLI					Sg	**Sb**	**21 20 32.9**	**+0.8**
OFRI	**`Ofer**	**0.77**	**234**		Pg	**Pb**	**21 20 23.4**	**-0.5**
OFRI					Sg	**Sb**	**21 20 35.1**	**+0.7**
BHL	**Bhannes**	**0.82**	**356**	*eP*		**Pg**	**21 20 23.8**	**-0.6**
HMDT	**Nahal Hemdat**	**0.84**	**191**		Pg	**Pb**	**21 20 24.7**	**-0.4**
HMDT					Sg	**Sb**	**21 20 37.3**	**+0.8**
SLTI	**Sal'it**	**1.01**	**214**		Pg	**Pb**	**21 20 27.7**	**-0.4**
SLTI					Sg	**Sn**	**21 20 42.7**	**-0.3**
HWQ	**Hawqa**	**1.21**	**9**	*eP*		**Pg**	**21 20 30.3**	**-1.4**
DSI	**Dead Sea**	**1.53**	**191**		Pn	**Pn**	**21 20 35.8**	**0.0**
DSI					Sn	**Sg**	**21 20 57.6**	**-0.2**
AMAZ	**Amatzia**	**1.69**	**204**		Pn	**Pb**	**21 20 39.1**	**-0.5**
AMAZ					Sn	**Sg**	**21 21 02.2**	**-0.5**
YTIR	**Yattir**	**1.79**	**197**		Pn	**Pn**	**21 20 40.2**	**+0.8**
YTIR					Sn	**Sg**	**21 21 05.2**	**-0.7**
KZIT	**Kziot**	**2.44**	**208**		Pn	**Pn**	**21 20 49.5**	**+1.2**
ZFRI	**Zfri**	**2.56**	**190**		Pn	**Pn**	**21 20 50.9**	**+0.9**
PRNI	**Paran**	**2.79**	**193**		Pn	**Pn**	**21 20 54.1**	**+1.0**
HRFI	**Mount Harif**	**3.09**	**191**		Pn	**Pn**	**21 20 58.1**	**+0.8**
MBRI	**Mt Berech**	**3.35**	**192**		Pn	**Pn**	**21 21 01.7**	**+0.8**

*ISN **28** 21:24:08.0±0.7, 33°.70N×45°.77E, h23km±4km, ML3.2*
*TEH **28** 21:24:13.1, 33°.59N×45°.79E, h20km, ML3.2*
ISC 28 21:24:10.9±1.0, 33°.53N±0°.04×45°.57E±0°.05, h10km, n26,
σ0s 77/29, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
IBDR	**Badra**	**0.51**	**144**	*e*Pg		**Pg**	**21 24 20.0**	**-0.9**
IBDR				*e*Sg		**Sg**	**21 24 28.0**	**+0.3**
IBDR					AML	AML	21 24 34.0	
	comp=E,1μm,0.4s							
IBDR					AML	AML	21 24 37.7	
	comp=N,647nm,0.5s							
BHD	**Baghdad**	**1.03**	**256**	*e*Pg		**Pg**	**21 24 30.0**	**-0.7**
BHD				*e*Sg		**Sn**	**21 24 47.0**	**+1.2**
BHD					AML	AML	21 25 00.6	
	comp=E,904nm,0.4s							
IGHG	**Ghaleghazi**	**1.16**	**46**	*e*Pg		**Pb**	**21 24 31.7**	**-1.4**
IGHG				*e*			21 24 49.7	
IDHR	**Dehrash**	**1.35**	**30**	*e*Pg		**Pb**	**21 24 36.3**	**-0.2**
IDHR				*e*			21 24 58.0	
KCHF	**Cheshme Sefid,**	**1.43**	**58**	*e*Pg		**Pn**	**21 24 37.2**	**0.0**
KCHF				*e*			21 24 56.9	
IVIS	**Veis**	**1.46**	**46**	*e*Pg		**Pn**	**21 24 37.2**	**-0.3**
IVIS				*e*			21 25

M_{rr}2.84; $M_{\theta\theta}$-0.42; $M_{\phi\phi}$-2.42; $M_{r\theta}$1.18; $M_{r\phi}$-1.75; $M_{\theta\phi}$1.90;
Fault plane solution: $M_0$3.85000×10^{14} NP1:ϕ_s31.00000°, δ63.00000°, λ91.00000°. NP2:ϕ_s209.00000°, δ27.00000°, λ88.00000°.

JMA 28 21:29:35.0±0.1, 32°10N×132°15E, h19km±3km, M3.7, 4C-4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHC	**Hyugahichiya**	**0.55**	**308**	⇓P	Pb	21 29 45.9	-0.1
JHHC				S	Sg	21 29 53.7	+0.1
JTSN	**Tsuno**	**0.57**	**285**	⇓P	Pb	21 29 45.7	-0.5
JTSN				S	Sb	21 29 53.6	-0.3
JSKE	**Saikikamae**	**0.73**	**343**	⇓P	Pg	21 29 49.2	-0.1
JSKE				S	Sg	21 29 58.9	-0.1
JKIT	**Kitakata**	**0.79**	**312**	⇓P	Pb	21 29 50.1	0.0
JKIT				S	Sb	21 30 00.3	-0.1
JNKG	**Nichinankitago**	**0.79**	**237**	⇑P	Pb	21 29 50.1	0.0
JTZ	**Takazaki**	**0.92**	**258**	⇑P	Pb	21 29 52.0	-0.4
JTZ				S	Sg	21 30 05.1	-0.1
JTO	**Tosashimizu**	**0.94**	**36**	⇑P	Pb	21 29 52.0	-0.6
JTO				S	Sb	21 30 04.7	0.0
JNAR	**Kushima--Naru**	**0.94**	**233**	⇑P	Pb	21 29 52.5	-0.2
JNAR				S	Sb	21 30 05.1	+0.3
JUS	**Usuki**	**1.02**	**341**	P	Pn	21 29 54.3	0.0
JUS				*eS*	Sn	21 30 07.7	-0.4

WEL 28 21:35:57.8, 43°S±1°×17°3E±°, h10km±2km, M2.1/8, ML2.3/8, MLv2.1/8, Error ellipse: s-maj=0.0km s-min=0.0km az=33.1, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.24**	**201**	P	Pb	21 36 04.3	+0.2
OKCZ	**Okains Bay**	**0.32**	**139**	P	Pb	21 36 06.0	+0.4
AMCZ	**Amberley**	**0.32**	**344**	P	Pb	21 36 06.0	+0.4
AKCZ	**Akaroa Harbour**	**0.40**	**165**	P	Pb	21 36 07.4	+0.4
GVZ	**Greta Valley S**	**0.55**	**21**	P	Pb	21 36 10.0	+0.4
OXZ	**Oxford**	**0.56**	**286**	P	Pn	21 36 10.5	+0.9
LTZ	**Lake Taylor**	**0.79**	**332**	P	Pn	21 36 14.8	-0.3
WACZ	**Wakanui South**	**0.81**	**235**	P	Pn	21 36 16.2	+0.9
KHZ	**Kahutara**	**1.21**	**28**	P	Pn	21 36 20.7	0.0
INZ	**Inchbonnie**	**1.23**	**308**	P	Pg	21 36 22.6	+1.1
ARCZ	**Arundel**	**1.24**	**248**	P	Pg	21 36 22.4	+0.8
RPZ	**Rata Peaks**	**1.27**	**259**	P	Pg	21 36 22.6	+0.5

*NIED **28** 21:55:05.6, 32°.11N×132°.15E, h10km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.30; $M_{\theta\theta}$-2.80; $M_{\phi\phi}$0.50; $M_{r\theta}$4.07; $M_{r\phi}$-2.75; $M_{\theta\phi}$6.58; Fault plane solution: $M_0$8.58000×10^{14} NP1:ϕ_s32.00000°, δ81.00000°, λ72.00000°. NP2:ϕ_s276.00000°, δ20.00000°, λ152.00000°.*

JMA 28 21:55:05.5±0.2, 32°.11N×132°.15E, h10km±4km, M3.9, 1D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHC	**Hyugahichiya**	**0.55**	**308**	⇓P	Pg	21 55 16.4	+0.3
JHHC				S	Sb	21 55 24.4	-0.7
JTSN	**Tsuno**	**0.56**	**284**	P	Pg	21 55 16.0	-0.5
JTSN				S	Sg	21 55 24.0	+0.1
JSKE	**Saikikamae**	**0.72**	**343**	P	Pg	21 55 19.7	+0.3
JSKE				S	Sb	21 55 29.9	-0.1
JKIT	**Kitakata**	**0.78**	**311**	P	Pg	21 55 20.5	-0.1
JKIT				S	Sb	21 55 31.5	-0.4
JNKG	**Nichinankitago**	**0.80**	**236**	P	Pg	21 55 21.0	+0.2
JNKG				S	Sb	21 55 32.1	-0.1
JTZ	**Takazaki**	**0.93**	**257**	P	Pg	21 55 23.1	-0.2
JTZ				S	Sb	21 55 35.9	-0.1
JTO	**Tosashimizu**	**0.93**	**36**	P	Pg	21 55 22.7	-0.7
JNAR	**Kushima--Naru**	**0.95**	**232**	P	Pg	21 55 23.3	-0.4
JNAR				S	Sb	21 55 36.6	0.0
JUS	**Usuki**	**1.01**	**341**	P	Pb	21 55 25.2	+0.1

IDC 28 22:08:41.5±1.5, 5°.79S×150°.48E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.5/27, mbtmp3.8/3, ML4.4/1, Error ellipse: s-maj=105.3km s-min=20.3km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.13**	**46**	Pn	Pn	22 09 19.2	+0.9
	112nm,0.3s,baz=49,slow=1.5,SNR=9.7						
KRVT				Sn	Sn	22 09 46.2	+0.7
	59nm,0.3s,baz=10,slow=22,SNR=1.2						
WRA	**Warramunga Arr**	**21.07**	**227**	P	P	22 13 28.6	+1.0
	1.3nm,0.6s,baz=53,slow=11,SNR=14						
ASAR	**Alice Springs**	**23.89**	**220**	P	P	22 13 57.0	0.0
	1.8nm,0.6s,baz=56,slow=9.2,SNR=29						
TORD	**Torodi Ar. Bea**	**148.38**	**286**	PKPbc	PKPdf	22 28 29.0	+1.5
	0.2nm,0.6s,baz=65,slow=2.4,SNR=2.3						

*NNC **28** 22:27:19.8±6.0, 37°.01N×70°.01E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=51.3km s-min=49.3km az=3.0*
*KRNET **28** 22:27:34.8±0.1, 40°.17N×73°.56E, h11km, mb2.2*

ISC 28 22:27:33.5±2.4, 40°.12N±0°.09×73°.65E±0°.06, h2km±16km, n13, σ1§35/20, 9C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.78**	**302**	⇑*i*P	**Pg**	**22 27 48.1**	**-0.4**
	baz=1.0						
OHH				⇑*i*S	**Sg**	**22 27 57.7**	**-0.9**
	baz=1.0						
ARLS	**Aral**	**1.81**	**16**	⇓*i*P	**Pb**	**22 28 08.0**	**+0.5**
	baz=19						
ARLS				⇓*i*S	**Sg**	**22 28 32.6**	**+0.8**
	baz=19						
AML	**Almayashu**	**2.01**	**1**	⇓*i*P	**Pb**	**22 28 10.4**	**-0.7**
	baz=3.0						
AML				⇓*e*S	**Sg**	**22 28 38.7**	**+0.5**
	baz=3.0						
ARK	**Arkit**	**2.11**	**323**	⇑*i*P	**Pb**	**22 28 12.2**	**-0.4**
	baz=24						
ARK				⇑*i*S	**Sb**	**22 28 38.4**	**-0.9**
	baz=24						
BTK	**Batken**	**2.18**	**269**	⇑*e*P	**Pb**	**22 28 12.2**	**-1.5**
	baz=68						
BTK				⇑*i*S	**Sb**	**22 28 40.7**	**-0.4**
	baz=68						
UCH	**Uchtor**	**2.21**	**17**	⇓*e*P	**Pb**	**22 28 13.6**	**-0.8**
	baz=19						
UCH				⇓*i*S	**Sg**	**22 28 44.3**	**-0.1**
	baz=19						
KZA	**Kyzart**	**2.30**	**31**	⇑*i*P	**Pb**	**22 28 15.4**	**-0.6**
	baz=33						
KZA				⇑*i*S	**Sg**	**22 28 47.1**	**-0.3**
	baz=33						
EKS2	**Erkin-Say**	**2.54**	**2**	⇓*i*P	**Pb**	**22 28 17.8**	**-2.2**
	baz=4.0						
EKS2				⇓*i*S	**Sb**	**22 28 51.1**	**-0.6**
	baz=4.0						
MRKS	**Merke**	**2.64**	**353**	Lg	Lg	22 30 01.4	
	11nm,0.4s						
USP	**Ospenovka**	**3.21**	**11**	⇓*i*P	**Pn**	**22 28 27.0**	**+2.0**
	baz=13						
USP				⇓*i*S	**Sb**	**22 29 07.6**	**-3.2**
	baz=13						
IUG	**luzhnay**	**3.41**	**308**	Pg	**Pg**	**22 28 39.6**	**+0.8**
	5.2nm,0.2s						
IUG				Lg	Lg	22 29 42.5	
	52nm,0.2s						
KK31	**Karatay Array**	**3.80**	**323**	⇑P	Pg	22 28 51.2	+4.9
	0.6nm,0.3s,baz=183,slow=14						
BRLS	**Borolday**	**4.08**	**317**	Pg	**Pb**	**22 28 47.7**	**+1.5**
	9.9nm,0.4s						

*NAO **28** 22:30:18.7±3.9, 72°.60N×4°.73E, ML3.6*
*IDC **28** 22:30:18.3±1.0, 72°.59N×4°.59E, h0km, mb3.5/7, mb1 3.7/12, mb1mx3.5/49, mbtmp3.6/12, ML2.9/5, MS3.5/22, Ms1 3.5/22, ms1mx3.3/44, Error ellipse: s-maj=22.4km s-min=15.2km az=48.0*
*BER **28** 22:30:22.9±2.6, 72°.74N×5°.05E, h10km, ML2.1, ML3.6(NAO)*

ISC 28 22:30:19.9±0.8, 72°.68N±0°.08×4°.86E±0°.10, h10km, n52, σ1§13/40, mb3.5/8, MS3.4/16, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**5.16**	**28**	Pn	**Pn**	**22 31 36.8**	**-0.2**
HSPB	**Hornsund (broa**	**5.16**	**28**	*eP*	**Pn**	**22 31 36.6**	**-0.3**
LOF	**Lofoten**	**5.42**	**143**	*eP*	**Pn**	**22 31 41.7**	**+1.2**
LOF				IAML		22 32 44.6	
	comp=Z,3.2nm,0.3s						
TRO	**Tromso**	**5.48**	**117**	*eP*	**Pn**	**22 31 41.8**	**+0.4**
TRO				IAML		22 32 45.2	
	comp=Z,6.3nm,0.4s						
STEI	**Steigen**	**5.91**	**139**	*eP*	**Pn**	**22 31 48.3**	**+0.9**
STEI				IAML		22 32 56.7	
	comp=Z,4.2nm,0.6s						
SPA0	**Spitsbergen Ar**	**6.23**	**22**	Pn	**Pn**	**22 31 52.0**	**+0.3**
	baz=207,slow=22						
SPA0	**Spitsbergen Ar**	**6.23**	**22**	Pn	**Pn**	**22 31 52.0**	**+0.3**
	baz=207,slow=22						
SPITS	**Spitsbergen Ar**	**6.23**	**22**	Pn	**Pn**	**22 31 51.1**	**-0.5**
	baz=198,slow=18,SNR=2.0						
SPITS				LR	LR	22 33 53.3	
	comp=Z,176nm,18.6s,baz=255,slow=34						
HAMF	**Hammerfest**	**6.27**	**100**	Pn	**Pn**	**22 31 52.5**	**+0.2**
HAMF	**Hammerfest**	**6.27**	**100**	*eP*	**Pn**	**22 31 52.0**	**-0.3**
FAUS	**Fauske**	**6.40**	**141**	*eP*	**Pn**	**22 31 54.2**	**+0.2**
KIF	**Kilpisjarvi**	**6.40**	**117**	*eP*	**Pn**	**22 31 54.9**	**+0.9**
KONS	**Konsvik**	**6.84**	**151**	*eP*	**Pn**	**22 32 00.2**	**+0.1**
KONS				IAML		22 33 15.5	
	comp=Z,2.7nm,0.4s						
KTK1	**Kautokeino**	**7.06**	**112**	*eP*	**Pn**	**22 32 04.5**	**+1.4**
ARA0	**ARCESS Array S**	**7.38**	**105**	Pn	**Pn**	**22 32 07.7**	**+0.2**
	baz=306,slow=11						
ARA0	**ARCESS Array S**	**7.38**	**105**	Pn	**Pn**	**22 32 07.7**	**+0.2**
	baz=306,slow=11						
ARCES	**ARCESS Array B**	**7.38**	**105**	Pn	**Pn**	**22 32 06.8**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=313,slow=12,SNR=65						
ARCES				Sn	**Sn**	**22 33 30.7**	**-0.5**
	baz=315,slow=25,SNR=2.2						
ARE0	**ARCESS Array S**	**7.38**	**105**	*eP*	**Pn**	**22 32 08.6**	**+1.1**
NSS	**Namsos**	**8.58**	**159**	*eP*	**Pn**	**22 32 24.7**	**+0.8**
APA0	**Apatity Array**	**10.74**	**104**	Pn	**Pn**	**22 32 52.8**	**-0.7**
	baz=323,slow=14						
APA0	**Apatity Array**	**10.74**	**104**	Pn	**Pn**	**22 32 52.8**	**-0.7**
	baz=323,slow=14						
NOA	**NORSAR Array B**	**11.94**	**165**	Pn	**Pn**	**22 33 12.5**	**+2.5**
	comp=Z,0.0nm,0.3s,baz=351,slow=14,SNR=1.9						
NOA				LR	LR	22 37 42.8	
	comp=Z,97nm,18.3s,baz=350,slow=37						
BORG	**Borgarnes**	**12.27**	**243**	LR	LR	22 36 44.4	
	comp=Z,114nm,18.2s,baz=2.1,slow=32						
HFS	**Hagfors**	**13.06**	**160**	Pn	**Pn**	**22 33 25.9**	**+0.7**
	baz=338,slow=11						
HFS	**Hagfors**	**13.06**	**160**	Pn	**Pn**	**22 33 24.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=354,slow=12,SNR=1.9						
HFS				LR	LR	22 38 08.5	
	comp=Z,149nm,19.4s,baz=346,slow=36						
HFS	**Hagfors**	**13.06**	**160**	Pn	**Pn**	**22 33 25.9**	**+0.7**
	baz=338,slow=11						
FIA0	**FINESS Array S**	**13.86**	**133**	Pn	**Pn**	**22 33 35.9**	**-0.1**
	baz=331,slow=11						
FIA0	**FINESS Array S**	**13.86**	**133**	Pn	**Pn**	**22 33 35.9**	**-0.1**
	baz=331,slow=11						
FINES	**FINESS Array B**	**13.86**	**133**	Pn	**Pn**	**22 33 35.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=334,slow=9.3,SNR=8.3						
FINES				LR	LR	22 38 37.7	
	comp=Z,255nm,18.3s,baz=326,slow=36						
KLMR	**Klimovskoe**	**17.72**	**114**	*eP*	**Pn**	**22 34 24.8**	**-1.5**
	comp=Z,22nm,1.4s						
KLMR	**Klimovskoe**	**17.72**	**114**	*ePn*	**Pn**	**22 34 24.8**	**-1.5**
KLMR				AMP		22 34 30.5	
	comp=Z,21nm,1.4s						
PRGR	**Permogore**	**18.81**	**105**	*eP*	**P**	**22 34 38.0**	**-1.1**
	comp=Z,18nm,1.2s						
SFJD	**Kangerlussuaq**	**19.26**	**281**	LR	LR	22 40 59.9	
	comp=Z,200nm,19.8s,baz=60,slow=33						
OBN	**Obninsk**	**21.98**	**126**	LR	LR	22 43 32.4	
	comp=Z,52nm,19.5s,baz=360,slow=36						
KIRV	**Kirov**	**22.40**	**105**	LR	LR	22 43 55.2	
	comp=Z,100nm,20.3s,baz=320,slow=36						
VRAC	**Vranov**	**24.03**	**161**	LR	LR	22 45 17.5	
	comp=Z,83nm,18.9s,baz=337,slow=38						
GERES	**GERESS Array B**	**24.25**	**166**	P	**P**	**22 35 35.9**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=354,slow=8.3,SNR=7.7						
AKASG	**Malin Array Be**	**24.52**	**141**	P	**P**	**22 35 39.4**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=335,slow=8.6,SNR=5.6						
AKASG				LR	LR	22 45 01.5	
	comp=Z,208nm,19.5s,baz=330,slow=36						
RES	**Resolute Bay**	**25.00**	**322**	LR	LR	22 45 00.3	
	comp=Z,61nm,18.3s,baz=226,slow=35						
DAVOX	**Davos/Dischmat**	**26.08**	**172**	LR	LR	22 45 49.5	
	comp=Z,93nm,20.4s,baz=348,slow=36						
ARU	**Arti**	**26.90**	**98**	P	**P**	**22 36 04.6**	**+4.1**
	comp=Z,0.7nm,0.5s,baz=351,slow=17,SNR=4.6						
ARU				LR	LR	22 47 12.6	
	comp=Z,78nm,18.1s,baz=339,slow=38						
KBZ	**Khabaz**	**34.08**	**127**	LR	LR	22 51 13.2	
	comp=Z,138nm,18.1s,baz=20,slow=37						
BRTR	**Keskin Array B**	**35.92**	**141**	P	**P**	**22 37 18.9**	**-1.3**
	comp=Z,0.9nm,1.0s,baz=352,slow=6.0,SNR=2.3						
BRTR				LR	LR	22 52 51.2	
	comp=Z,45nm,20.4s,baz=334,slow=38						
ZALV	**Zalesovo Beam**	**36.83**	**76**	LR	LR	22 54 29.8	
	comp=Z,60nm,21.8s,baz=66,slow=39						
YKA	**Yellowknife Ar**	**39.05**	**320**	LR	LR	22 53 32.6	
	comp=Z,59nm,20.2s,baz=0.0,slow=36						
ILAR	**Eielson Array**	**41.50**	**342**	P	**P**	**22 38 07.7**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=0.1,slow=8.3,SNR=5.4						
MKAR	**Makanchi Array**	**42.44**	**84**	LR	LR	22 58 41.9	
	comp=Z,68nm,20.4s,baz=40,slow=40						
GEYT	**Alibeck**	**43.47**	**113**	P	**P**	**22 38 24.0**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=309,slow=9.1,SNR=2.5						
GEYT				LR	LR	22 58 21.7	
	comp=Z,62nm,19.9s,baz=285,slow=39						
TKL	**Tuckaleechee C**	**55.98**	**281**	LR	LR	23 03 23.2	
	comp=Z,45nm,19.9s,baz=7.0,slow=36						
TORD	**Torodi Ar. Bea**	**59.54**	**184**	P	**P**	**22 40 22.8**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=354,slow=7.2,SNR=1.7						
YBH	**Yreka Blue Hor**	**60.27**	**317**	LR	LR	23 06 16.2	
	comp=Z,98nm,18.6s,baz=18,slow=36						
TXAR	**Lajitas Array**	**67.55**	**296**	P	**P**	**22 41 14.7**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=46,slow=3.9,SNR=3.3						
TXAR				LR	LR	23 09 37.1	
	comp=Z,50nm,19.2s,baz=0.0,slow=35						

*INET **28** 22:32:20.8, 13°.12N×94°.00W, h15km, ML4.8*
*GCG **28** 22:32:46.0±0.5, 14°.01N×92°.01W, h34km±66km, MD4.7*
*NEIC **28** 22:32:47.6±2.2, 14°.14N±0°.05×91°.88W±0°.05, h49km±7km, Error ellipse: s-maj=8.8km s-min=5.9km az=222.0*
*SNET **28** 22:32:50.5±1.1, 14°.32N×91°.41W, h10km±4km, ML4.8*
*UCR **28** 22:32:51.0±1.2, 14°.26N×91°.51W, h10km, ML4.5, mb4.3(NEIC)*
*IDC **28** 22:32:53.7±1.7, 14°.47N×91°.36W, h107km±12km, mb3.6/12, mb1 3.9/15, mb1mx3.7/43, mbtmp4.1/15, MS3.5/5, Ms1 3.5/5, ms1mx3.1/25, Error ellipse: s-maj=28.7km s-min=12.3km az=52.0*

ISC 28 22:32:47.6±0.8, 14°.18N±0°.05×91°.88W±0°.04, h59km±6km, n175, σ1§55/188, mb4.2/37, MS3.5/5, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.39**	**27**	*eP*	**Pn**	**22 32 58.4**	**0.0**
RTAL	**Retalhuleu**	**0.39**	**27**		**Pn**	**22 32 58.4**	**0.0**
RTAL					**Sn**	**22 33 03.0**	**-3.3**
STG3	**Santiaguito 3,**	**0.61**	**29**	*eP*	**Pn**	**22 33 01.6**	**+0.7**
STG3				*eS*	**Sn**	**22 33 11.1**	**+0.5**
THIG		**0.82**	**333**		**Pn**	**22 33 02.3**	**-1.0**
THIG					**Sn**	**22 33 14.0**	**-0.8**
FUG	**Fuego 3**	**1.04**	**75**	*eP*	**Pn**	**22 33 06.9**	**+0.6**
HUEH	**Huehuetenango**	**1.19**	**18**	*eP*	**Pn**	**22 33 09.5**	**+1.2**
HUEH				*eS*	**Sn**	**22 33 26.7**	**+2.9**
HUEH	**Huehuetenango**	**1.19**	**18**		**Pn**	**22 33 09.3**	**+0.9**
HUEH				Sn	**Sn**	**22 33 24.7**	**+0.9**
PCG	**Pacaya**	**1.25**	**80**	*eP*	**Pn**	**22 33 10.3**	**+1.2**
IXG	**Ixpaco**	**1.39**	**90**	*eP*	**Pn**	**22 33 11.6**	**+0.7**
NBG	**Las Nubes**	**1.54**	**74**	*eP*	**Pn**	**22 33 15.5**	**+2.5**
NBG				*eS*	**Sn**	**22 33 36.4**	**+4.3**
APG	**El Apazote**	**1.59**	**59**	P	**Pn**	**22 33 15.0**	**+1.2**
	384nm,0.3s,baz=230,slow=8.1,SNR=802						
APG				S	**Sn**	**22 33 36.6**	**+3.1**
	928nm,0.3s,baz=346,slow=23,SNR=34						
PCIG		**2.00**	**320**		**Pn**	**22 33 18.6**	**-0.4**
CCIG	**Comitan**	**2.11**	**353**		**Pn**	**22 33 22.3**	**+1.6**
CCIG				Sn	**Sn**	**22 33 50.5**	**+4.6**
RTR	**El Retiro**	**2.18**	**97**	*eP*	**Pn**	**22 33 22.5**	**+0.8**
RTR	**El Retiro**	**2.18**	**97**	*eP*	**Pn**	**22 33 22.5**	**+0.8**
SBLS	**San Blas**	**2.21**	**98**	*eP*	**Pn**	**22 33 22.9**	**+0.8**
SBLS	**San Blas**	**2.21**	**98**	*eP*	**Pn**	**22 33 22.9**	**+0.8**
CEVE	**Cerro Verde**	**2.21**	**99**	*eP*	**Pn**	**22 33 23.0**	**+0.8**
CEVE				*eS*	**Sn**	**22 33 48.1**	**-0.4**
CEVE				IAML		22 34 01.9	
	comp=Z,11μm,0.2s						
CEVE	**Cerro Verde**	**2.21**	**99**	*eP*	**Pn**	**22 33 23.0**	**+0.8**
CEVE				*eS*	**Sn**	**22 33 48.1**	**-0.4**
CEVE				IAML		22 34 01.9	
	comp=Z,11μm,0.2s						
MRL	**Marmol**	**2.31**	**67**	*eP*	**Pn**	**22 33 25.2**	**+1.8**
MTO3	**Montecristo**	**2.45**	**84**	Pn	**Pn**	**22 33 25.7**	**+0.3**
BOQS	**Boqueron**	**2.56**	**100**	*eP*	**Pn**	**22 33 28.1**	**+1.2**
BOQS				*eS*	**Sn**	**22 33 57.8**	**+0.9**
BOQS	**Boqueron**	**2.56**	**100**	*eP*	**Pn**	**22 33 28.1**	**+1.2**
BOQS				*eS*	**Sn**	**22 33 57.8**	**+0.9**
LALI	**Alcalda de L**	**2.57**	**105**	*eP*	**Pn**	**22 33 27.2**	**+0.4**
LALI				*eS*	**Sn**	**22 33 57.1**	**+0.1**
LALI	**Alcalda de L**	**2.57**	**105**	*eP*	**Pn**	**22 33 27.2**	**+0.4**
LALI				*eS*	**Sn**	**22 33 57.1**	**+0.1**
SNET	**Serv Nac Est T**	**2.61**	**100**	*eP*	**Pn**	**22 33 28.4**	**+1.0**
SNET	**Serv Nac Est T**	**2.61**	**100**	*eP*	**Pn**	**22 33 28.4**	**+1.0**
SNET	**Serv Nac Est T**	**2.61**	**100**		**Pn**	**22 33 28.2**	**+0.7**
SNET				Sn	**Sn**	**22 33 59.9**	**+1.8**
LFU	**La Fuente**	**2.71**	**99**	*eP*	**Pn**	**22 33 30.1**	**+1.2**
LFU	**La Fuente**	**2.71**	**99**	*eP*	**Pn**	**22 33 30.1**	**+1.2**
LBRS	**Las Brisas**	**2.78**	**99**	*eP*	**Pn**	**22 33 30.9**	**+1.1**
LBRS	**Las Brisas**	**2.78**	**99**	*eP*	**Pn**	**22 33 30.9**	**+1.1**
LFRS	**El Faro**	**2.79**	**101**	*eP*	**Pn**	**22 33 31.2**	**+1.3**
LFRS	**El Faro**	**2.79**	**101**	*eP*	**Pn**	**22 33 31.2**	**+1.3**
TGIG		**2.85**	**335**		**Pn**	**22 33 31.0**	**+0.3**
TGIG					**Sn**	**22 34 07.7**	**+3.7**
PAVA	**Las Pavas**	**2.89**	**99**	*eP*	**Pn**	**22 33 32.4**	**+1.2**
PAVA	**Las Pavas**	**2.89**	**99**	*eP*	**Pn**	**22 33 32.4**	**+1.2**
COEG	**Centro de Oper**	**2.96**	**100**	*eP*	**Pn**	**22 33 33.6**	**+1.4**
COEG	**Centro de Oper**	**2.96**	**100**	*eP*	**Pn**	**22 33 33.6**	**+1.4**
COEB	**Comit de Eme**	**3.32**	**101**	*eP*	**Pn**	**22 33 38.6**	**+1.4**
COEB				*eS*	**Sn**	**22 34 15.9**	**+0.4**
COEB	**Comit de Eme**	**3.32**	**101**	*eP*	**Pn**	**22 33 38.6**	**+1.4**
COEB				*eS*	**Sn**	**22 34 15.9**	**+0.4**
ALJI	**Alcalda de J**	**3.32**	**104**	*eP*	**Pn**	**22 33 38.9**	**+1.8**
ALJI				*eS*	**Sn**	**22 34 14.7**	**-0.6**
ALJI	**Alcalda de J**	**3.32**	**104**	*eP*	**Pn**	**22 33 38.9**	**+1.8**
ALJI				*eS*	**Sn**	**22 34 14.7**	**-0.6**
PETF	**Flores**	**3.34**	**35**	Pn	**Pn**	**22 33 38.3**	**+0.9**
JUCU	**Jucuarįn**	**3.64**	**104**	*eP*	**Pn**	**22 33 43.0**	**+1.5**
JUCU	**Jucuarįn**	**3.64**	**104**	*eP*	**Pn**	**22 33 43.0**	**+1.5**
LCND	**La Caada**	**3.97**	**102**	*eP*	**Pn**	**22 33 47.3**	**+1.3**
LCND				IAML		22 34 47.9	
	comp=Z,1μm,0.4s						
LCND	**La Caada**	**3.97**	**102**	*eP*	**Pn**	**22 33 47.3**	**+1.3**
LCND				IAML		22 34 47.9	
	comp=Z,1μm,0.4s						
CNCH	**Conchagua**	**4.03**	**102**	*eP*	**Pn**	**22 33 48.0**	**+1.1**
CNCH				IAML		22 34 49.1	
	comp=Z,3μm,0.4s						
CNCH	**Conchagua**	**4.03**	**102**	*eP*	**Pn**	**22 33 48.0**	**+1.1**
CNCH				IAML		22 34 49.1	
	comp=Z,3μm,0.4s						
CMIG	**Matias Romero**	**4.10**	**315**	P	**Pn**	**22 33 47.8**	**+0.1**
	comp=Z,13nm,0.3s,baz=150,slow=11,SNR=74						
CMIG				S	**Sn**	**22 34 37.6**	**+3.1**
	comp=Z,43nm,0.3s,baz=272,slow=14,SNR=7.9						
HUIG	**Huatulco**	**4.39**	**292**		**Pn**	**22 33 51.6**	**-0.1**
TGUH	**Tegucigalpa,Un**	**4.47**	**91**	Pn	**Pn**	**22 33 53.8**	**+0.9**
SCIG	**Sabancuy**	**4.81**	**8**		**Pn**	**22 33 57.6**	**+0.1**
CRIN	**San Cristobal**	**4.92**	**107**	Pn	**Pn**	**22 34 00.3**	**+1.2**
ESTN	**Estel**	**5.46**	**101**		**Pn**	**22 34 05.8**	**-0.7**
MATN	**Matagalpa**	**5.92**	**101**	Pn	**Pn**	**22 34 13.1**	**+0.3**
BOAB	**BOACO BROADBAN**	**6.28**	**105**	Pn	**Pn**	**22 34 17.5**	**-0.2**
PNIG	**Pinotepa**	**6.42**	**291**		**Pn**	**22 34 19.2**	**-0.4**
ACON	**Acoyapa**	**6.89**	**108**		**Pn**	**22 34 25.4**	**-0.6**
TEIG	**Tepich**	**6.93**	**29**	P	**Pn**	**22 34 26.6**	**0.0**
	comp=Z,37nm,0.3s,baz=141,slow=1.4,SNR=46						
TEIG				S	**Sn**	**22 35 41.5**	**-2.5**
	baz=287,slow=19,SNR=1.5						
TEIG	**Tepich**	**6.93**	**29**	Pn	**Pn**	**22 34 26.8**	**+0.3**
TLIG	**Tlapa**	**7.26**	**298**	Pn	**Pn**	**22 34 31.1**	**-0.1**
ESPN	**Las Esperanzas**	**7.64**	**104**	Pn	**Pn**

CPCT	**Cooper Cave**	**22.19**	**16**	P	**P**	**22 37 40.0**	**+1.1**
CPCT				IAmb	IAmb	22 37 56.8		
	comp=Z,7.7nm,0.9s							
TKL	**Tuckaleechee C**	**22.60**	**17**	P	**P**	**22 37 42.1**	**-1.2**
	comp=Z,3.0nm,0.7s,baz=188,slow=12,SNR=4.7							
T47A	**Sharon Grove**	**23.11**	**10**	IAmb	IAmb	22 37 47.8		
	comp=Z,12nm,0.8s							
121A	**Cookes Peak, D**	**23.34**	**324**	P	**P**	**22 37 51.6**	**+0.7**
319A	**Douglas**	**23.41**	**320**	P	**P**	**22 37 53.8**	**+2.2**
319A				IAmb	IAmb	22 37 55.3		
	comp=Z,14nm,1.0s							
TZTN	**Tazewell**	**23.49**	**17**	P	**P**	**22 37 50.8**	**-1.3**
CCM	**Cathedral Cave**	**23.79**	**1**	P	**P**	**22 37 53.3**	**-1.5**
BNM	**Barren Site**	**23.96**	**329**	P	**P**	**22 37 59.1**	**+2.5**
LENM	**Lemitar**	**24.14**	**328**	P	**P**	**22 38 00.3**	**+2.0**
ANMO	**Albuquerque**	**24.51**	**330**	P	**P**	**22 38 03.2**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=319,slow=12,SNR=11							
ANMO	**Albuquerque**	**24.51**	**330**	P	**P**	**22 38 00.9**	**-0.8**
ANMO				IAmb	IAmb	22 38 03.7		
	comp=Z,3.6nm,0.6s							
OLIL	**Olney**	**24.69**	**7**	P	**P**	**22 38 02.4**	**-0.6**
TUC	**Tucson**	**24.98**	**319**	P	**P**	**22 38 08.8**	**+3.0**
ATAH	**Atahualpa**	**25.05**	**147**	P	**P**	**22 38 08.8**	**+1.9**
	comp=Z,5.2nm,0.6s,baz=62,slow=17,SNR=3.5							
214A	**Organ Pipe Nat**	**26.07**	**316**	P	**P**	**22 38 17.3**	**+1.6**
O49A	**Covington**	**26.74**	**13**	P	**P**	**22 38 21.1**	**-0.5**
X16A	**Lo Mia Camp, P**	**26.82**	**322**	P	**P**	**22 38 24.4**	**+1.9**
GLA	**Glamis**	**28.09**	**316**	P	**P**	**22 38 35.6**	**+1.8**
GLA				IAmb	IAmb	22 38 52.2		
	comp=Z,9.4nm,1.4s							
PV13	**Radium Mtn., P**	**28.22**	**331**	P	**P**	**22 38 37.0**	**+1.9**
PV12	**Saucer Basin,**	**28.34**	**331**	P	**P**	**22 38 38.5**	**+2.4**
PV12				IAmb	IAmb	22 38 38.6		
	comp=Z,4.2nm,0.7s							
PV04	**Paradox Valley**	**28.45**	**331**	P	**P**	**22 38 38.5**	**+1.4**
PV04				IAmb	IAmb	22 38 41.9		
	comp=Z,3.3nm,0.7s							
PV22	**Blue Mesa, Par**	**28.51**	**331**	P	**P**	**22 38 39.6**	**+2.0**
PV22				IAmb	IAmb	22 38 42.0		
	comp=Z,6.2nm,1.3s							
W13A	**Hualapai Mount**	**28.76**	**320**	P	**P**	**22 38 40.2**	**+0.3**
W13A				IAmb	IAmb	22 38 43.0		
	comp=Z,5.5nm,1.4s							
LCMT	**Little Creek M**	**29.67**	**324**	P	**P**	**22 38 49.9**	**+1.9**
MTPU	**Mount Pierson**	**29.82**	**327**	P	**P**	**22 38 51.2**	**+1.7**
M57A	**Sunshine Farm,**	**29.95**	**23**	P	**P**	**22 38 48.4**	**-1.7**
CCUT	**Cedar City**	**30.12**	**325**	P	**P**	**22 38 54.4**	**+2.4**
MSU	**Marysvale**	**30.17**	**327**	P	**P**	**22 38 54.2**	**+1.8**
P17A	**Butcher Ranch,**	**30.17**	**330**	P	**P**	**22 38 53.8**	**+1.5**
PSUT	**Pine Spring**	**31.09**	**325**	P	**P**	**22 39 02.6**	**+2.1**
PDAR	**Pinedale Array**	**32.31**	**335**	P	**P**	**22 39 12.1**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=128,slow=12,SNR=1.7							
REDW	**Red Top Meadow**	**33.34**	**334**	P	**P**	**22 39 21.4**	**+1.2**
REDW				IAmb	IAmb	22 39 21.8		
	comp=Z,4.1nm,0.8s							
NV11	**Mina Array Sit**	**33.52**	**321**	P	**P**	**22 39 24.0**	**+2.3**
NVAR	**Mina Array Bea**	**33.61**	**321**	P	**P**	**22 39 25.4**	**+2.7**
	comp=Z,3.6nm,0.6s,baz=130,slow=8.5,SNR=40							
NVAR				PcP	**PcP**	**22 42 03.3**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=126,slow=2.4,SNR=4.2							
NVAR	**Mina Array Bea**	**33.61**	**321**	P	**P**	**22 39 24.5**	**+1.9**
LHV	**Little Huntoon**	**33.62**	**320**	P	**P**	**22 39 24.9**	**+2.5**
KVN	**Kaiserville**	**33.88**	**322**	P	**P**	**22 39 24.3**	**-0.6**
KVN				IAmb	IAmb	22 39 43.4		
	comp=Z,5.1nm,1.1s							
PNTR	**Pine Nut**	**34.81**	**321**	P	**P**	**22 39 35.6**	**+2.6**
PNTR				IAmb	IAmb	22 39 51.2		
	comp=Z,4.5nm,0.8s							
HLID	**Hailey**	**35.08**	**331**	P	**P**	**22 39 36.0**	**+0.8**
MCMT	**McKenzie Canyo**	**35.37**	**334**	P	**P**	**22 39 39.6**	**+1.8**
MFID	**Camas Ranch**	**35.65**	**329**	P	**P**	**22 39 42.3**	**+2.3**
MFID				IAmb	IAmb	22 39 44.5		
	comp=Z,3.0nm,0.8s							
DLMT	**Dillon**	**35.69**	**335**	P	**P**	**22 39 42.1**	**+1.7**
DLMT				IAmb	IAmb	22 39 43.4		
	comp=Z,6.6nm,1.1s							
WVOR	**Wild Horse Val**	**36.41**	**326**	P	**P**	**22 39 48.2**	**+1.7**
WVOR				IAmb	IAmb	22 39 49.0		
	comp=Z,5.1nm,1.2s							
SAML	**Samuel**	**36.58**	**127**	P	**P**	**22 39 47.0**	**-1.2**
SAML				IAmb	IAmb	22 39 48.3		
	comp=Z,8.8nm,1.4s							
I07A	**Izee**	**38.00**	**327**	IAmb	IAmb	22 40 02.1		
	comp=Z,3.7nm,1.0s							
LPAZ	**La Paz**	**38.30**	**141**	P	**P**	**22 40 03.4**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=291,slow=12,SNR=3.6							
LPAZ				LR	LR	22 54 10.5		
	comp=Z,38nm,18.0s,baz=23,slow=33							
PINE	**Pine Mountain**	**38.58**	**326**	IAmb	IAmb	22 40 07.2		
	comp=Z,3.3nm,0.8s							
H04A	**Detroit Lake**	**39.84**	**326**	P	**P**	**22 40 15.6**	**+0.3**
H04A				IAmb	IAmb	22 40 17.1		
	comp=Z,6.4nm,0.8s							
LON	**Longmire**	**41.00**	**328**	P	**P**	**22 40 26.4**	**+1.6**
LON				IAmb	IAmb	22 40 27.1		
	comp=Z,7.8nm,1.1s							
SCHQ	**Schefferville**	**45.02**	**20**	LR	LR	23 00 41.3		
	comp=Z,107nm,18.7s,baz=295,slow=37							
AC02	**Maricunga**	**46.37**	**151**	P	**P**	**22 41 07.8**	**-0.9**
AC02				IAmb	IAmb	22 41 12.7		
	comp=Z,3.4nm,1.2s							
YKA	**Yellowknife Ar**	**50.88**	**347**	P	**P**	**22 41 41.2**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=149,slow=6.8,SNR=14							
FRB	**Frobisher Bay**	**52.12**	**13**	LR	LR	23 04 31.9		
	comp=Z,124nm,19.2s,baz=216,slow=37							
PLCA	**Paso Flores**	**58.10**	**161**	LR	LR	23 01 44.8		
	comp=Z,24nm,20.1s,baz=323,slow=30							
BCAR	**Beaver Creek A**	**59.93**	**336**	P	**P**	**22 42 48.1**	**+0.7**
ILAR	**Eielson Array**	**62.73**	**337**	P	**P**	**22 43 06.2**	**0.0**
	comp=Z,3.2nm,0.9s,baz=131,slow=5.2,SNR=21							
ILAR	**Eielson Array**	**62.73**	**337**	P	**P**	**22 43 05.9**	**-0.3**
EKA	**Eskdalemuir Ar**	**77.75**	**36**	P	**P**	**22 44 35.0**	**-3.2**
	comp=Z,0.6nm,0.4s,baz=276,slow=6.6,SNR=9.0							
ESDC	**Sonseca Array**	**79.51**	**52**	P	**P**	**22 44 45.0**	**-3.3**
	comp=Z,0.5nm,0.7s,baz=288,slow=5.6,SNR=3.7							
NOA	**NORSAR Array B**	**83.93**	**28**	P	**P**	**22 45 10.7**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=289,slow=13,SNR=1.6							
NOA				LR	LR	23 19 46.6		
	comp=Z,20nm,21.9s,baz=315,slow=34							
ARCES	**ARCESS Array B**	**85.93**	**18**	P	**P**	**22 45 20.8**	**-0.1**
	comp=Z,1.8nm,1.1s,baz=294,slow=6.1,SNR=4.3							
TORD	**Torodi Ar. Bea**	**90.22**	**76**	P	**P**	**22 45 39.5**	**-2.9**
	comp=Z,0.2nm,0.5s,baz=300,slow=4.1,SNR=4.1							
MKAR	**Makanchi Array**	**119.09**	**5**	PKP	**PKPdf**	**22 51 28.9**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=28,slow=2.9,SNR=2.7							
GEYT	**Alibeck**	**121.01**	**27**	PKP	**PKPdf**	**22 51 33.5**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=243,slow=6.3,SNR=4.6							
LZH	**Lanzhou**	**127.85**	**344**	*e*PKP	**PKPdf**	**22 51 42.8**	**-4.5**
LZH				pPKP	pPKPdf	22 52 08.0	+3.3	
LZH				sPKP		22 52 18.8		
FITZ	**Fitzroy Crossi**	**143.79**	**259**	PKP	PKPbc	22 52 15.3	+0.7	
	comp=Z,2.7nm,1.0s,baz=190,slow=6.1,SNR=2.0							
FITZ	**Fitzroy Crossi**	**143.79**	**259**		PKPpre	22 52 17.1		
CMAR	**Chiang Mai Arr**	**145.87**	**341**	PKPbc	**PKPbc**	**22 52 21.2**	**+0.1**
	comp=Z,6.4nm,0.8s,baz=340,slow=4.2,SNR=31							
CMAR	**Chiang Mai Arr**	**145.87**	**341**		**PKPab**	**22 52 21.6**	**0.0**

***IDC 28 23:22:25.2**±3.2,**1°97S**×**135°15E**,**h0**km,**mb3.9**/2,*
mb1 4.2**/3,**mb1mx3.5**/35,**mbtmp4.0**/3,**ML3.5**/1,**Error
ellipse: s-maj=149.4km s-min=27.7km az=79.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.89**	**182**	P	Pn	23 26 34.9	-0.7
	0.2nm,0.3s,baz=0.3,slow=11,SNR=17						
ASAR	**Alice Springs**	**21.61**	**183**	P	P	23 27 16.6	-0.4
	9.1nm,0.8s,baz=6.0,slow=12,SNR=60						
MKAR	**Makanchi Array**	**67.06**	**324**	P	P	23 33 20.8	+0.4
	0.5nm,0.5s,baz=109,slow=7.8,SNR=5.9						

*MEX **29** 00:02:51.9±0.4,27°63N×111°63W,h4km±6km,MD3.7*
ECX 29 00:02:51.4**±0.7,**27°82N**×**111°71W**,**h10**km±61km,**MD2.8,
2C,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.68**	**223**	*i* P	Pg	00 03 03.6	-1.0
SRIG				*i* S	Sg	00 03 12.1	-1.5
SRIG	**Santa Rosalia**	**0.68**	**223**	↑*i* P	Pg	00 03 03.6	-1.0
SRIG				*i* S	Sg	00 03 12.6	-1.0
GUYB	**Guaymas**	**0.75**	**84**	*e*P	Pg	00 03 04.7	-1.1
GUYB				*i* S	Sg	00 03 15.0	-0.7
GUYB	**Guaymas**	**0.75**	**84**	↑*e*P	Pg	00 03 04.8	-1.1
GUYB				*e*S	Sg	00 03 14.6	-1.0
HSIG		**1.37**	**29**	*i* P	Pn	00 03 16.0	-0.6
HSIG				*e*S	Sg	00 03 35.4	-0.2
HSIG		**1.37**	**29**	*e*P	Pn	00 03 15.5	-1.1
HSIG				*e*S	Sb	00 03 33.2	-1.7

*JMA **29** 00:06:59.6±0.1,22°56N×122°02E,h51km,M2.4*
*TAP **29** 00:07:01.2,22°56N×121°91E,h48km±1km,ML2.5,D*
***ISC 29 00:06:59.3**±1.3,**22°54N**±0°04×**122°01E**±0°03,**h28**km±12km,*
n40,**σ9°70/72,**Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.52**	**285**	*e*P	**Pb**	**00 07 10.1**	**+0.2**
LDUT	baz=285			*e*S	**Sn**	**00 07 17.6**	**-1.0**
	baz=285						
LAY	**Lan-yu**	**0.65**	**220**	*e*P	**Pb**	**00 07 12.0**	**-0.2**
	baz=216						
EDH	**Donghe**	**0.78**	**304**	*e*P	**Pb**	**00 07 14.1**	**-0.2**
EDH	baz=313			S	**Sb**	**00 07 23.8**	**-0.7**
	baz=313						
CHKT	**Chengkung**	**0.81**	**313**	*e*S	**Sb**	**00 07 24.9**	**-0.6**
	baz=322						
LONT	**Longtian**	**0.89**	**294**	*e*P	**Pn**	**00 07 16.0**	**+0.1**
LONT	baz=300			S	**Sn**	**00 07 28.2**	**+0.3**
	baz=300						
TWGBT	**Beinan**	**0.90**	**288**	P	**Pb**	**00 07 16.4**	**+0.1**
TWGBT	baz=291			S	**Sn**	**00 07 28.4**	**+0.2**
	baz=291						
TWG	**Pinlang**	**0.91**	**288**	*e*P	**Pn**	**00 07 16.4**	**+0.2**
TWG	baz=291			S	**Sn**	**00 07 28.0**	**-0.3**
	baz=291						
FULB	**Fuli**	**0.93**	**315**	P	**Pn**	**00 07 16.0**	**-0.5**
FULB	baz=324			S	**Sn**	**00 07 28.5**	**-0.4**
	baz=324						
ECL	**Taimali**	**0.98**	**274**	*e*P	**Pn**	**00 07 17.4**	**+0.3**
ECL	baz=283			*e*S	**Sn**	**00 07 29.2**	**-0.8**
	baz=283						
EYUL	**Yuli**	**1.02**	**322**	*e*P	**Pn**	**00 07 17.9**	**+0.2**
EYUL	baz=333			*e*S	**Sb**	**00 07 31.6**	**+0.1**
	baz=333						
TWF1	**Yuli**	**1.04**	**321**	*e*P	**Pn**	**00 07 18.0**	**0.0**
TWF1	baz=331			*e*S	**Sn**	**00 07 31.2**	**-0.5**
	baz=331						
YULB	**Yu-li**	**1.07**	**322**	P	**Pn**	**00 07 18.6**	**+0.2**
YULB	baz=332			*e*S	**Sb**	**00 07 32.7**	**-0.2**
	baz=332						
EAST	**Anshuo**	**1.08**	**262**	*e*P	**Pn**	**00 07 18.9**	**+0.3**
EAST	baz=268			*e*S	**Sn**	**00 07 32.3**	**-0.4**
	baz=268						
HGSD	**Ruisui**	**1.09**	**331**	*e*P	**Pn**	**00 07 19.1**	**+0.5**
HGSD	baz=340			*e*S	**Sn**	**00 07 32.3**	**-0.5**
	baz=340						
ELDTW	**Lidau**	**1.12**	**305**	*e*P	**Pn**	**00 07 19.2**	**+0.1**
ELDTW	baz=308			*e*S	**Sn**	**00 07 33.0**	**-0.7**
	baz=308						
EHY	**Hungye**	**1.15**	**327**	*e*P	**Pn**	**00 07 19.8**	**+0.3**
EHY	baz=335			*e*S	**Sb**	**00 07 34.9**	**-0.2**
	baz=335						
SLIU	**Shizi**	**1.17**	**254**	*e*P	**Pn**	**00 07 19.5**	**-0.2**
SLIU	baz=252			*e*S	**Sn**	**00 07 33.6**	**-1.1**
	baz=252						
TSEB	**Hengchuen, Pin**	**1.21**	**238**	*e*P	**Pb**	**00 07 22.4**	**+0.9**
TSEB	baz=236			*e*S	**Sn**	**00 07 36.0**	**+0.3**
	baz=236						
EGFH	**Guangfu**	**1.24**	**335**	*e*S	**Sn**	**00 07 37.1**	**+0.5**
	baz=344						
TWKBT	**Hengchun**	**1.26**	**242**	*e*P	**Pn**	**00 07 20.9**	**-0.1**
TWKBT	baz=238			*e*S	**Sn**	**00 07 36.6**	**-0.3**
	baz=238						
TWK1	**Hengchun**	**1.26**	**242**	*e*S	**Sn**	**00 07 36.9**	**-0.2**
	baz=238						
TSMG	**Majia**	**1.27**	**278**	*e*P	**Pb**	**00 07 22.6**	**0.0**
	baz=280						
MASBT	**Mashibuluo**	**1.27**	**273**	*e*P	**Pb**	**00 07 22.8**	**+0.2**
MASBT	baz=273			*e*S	**Sb**	**00 07 38.2**	**-0.4**
	baz=273						
SLGT	**Liugui**	**1.34**	**290**	*e*P	**Pb**	**00 07 23.3**	**-0.4**
	baz=293						
VWDT	**VWDT**	**1.45**	**327**	*e*P	**Pn**	**00 07 24.8**	**+1.2**
VWDT	baz=330			*e*S	**Sb**	**00 07 43.1**	**-0.5**
	baz=330						
WTP	**Ta-pu**	**1.47**	**299**	P	**Pb**	**00 07 25.7**	**-0.2**
WTP	baz=307			*e*S	**Sb**	**00 07 44.7**	**+0.5**
	baz=307						
ALS	**Alishan**	**1.47**	**311**	*e*P	**Pb**	**00 07 25.6**	**-0.5**
	baz=319						
TPUB	**Ta-pu**	**1.48**	**301**	*e*P	**Pb**	**00 07 26.0**	**-0.1**
TPUB	baz=308			*e*S	**Sb**	**00 07 45.1**	**+0.6**
	baz=308						
CHN1	**Nanshi**	**1.51**	**295**	*e*P	**Pb**	**00 07 26.4**	**-0.2**
CHN1	baz=299			*e*S	**Sb**	**00 07 46.2**	**+0.8**
	baz=299						
SNST	**Tainan City**	**1.55**	**296**	*e*P	**Pb**	**00 07 26.3**	**-1.0**
SNST	baz=298			*e*S	**Sb**	**00 07 47.2**	**+0.7**
	baz=298						
SSLB	**Suanglung**	**1.58**	**322**	*e*P	**Pb**	**00 07 27.5**	**-0.3**
SSLB	baz=331			*e*S	**Sb**	**00 07 46.1**	**-1.2**
	baz=331						
TWK	**Hsinying**	**1.58**	**298**	*e*P	**Pb**	**00 07 27.4**	**-0.4**
TWK	baz=299			*e*S	**Sb**	**00 07 48.3**	**+0.9**
	baz=299						
NACB	**Ninganchiao**	**1.67**	**347**	*e*P	**Pn**	**00 07 26.9**	**+0.3**
NACB	baz=357			*e*S	**Sn**	**00 07 46.8**	**-0.3**
	baz=357						
TYC	**Yuchr**	**1.72**	**322**	*e*P	**Pb**	**00 07 29.6**	**-0.6**
	baz=328						
NNSB	**Datong**	**1.97**	**343**	*e*P	**Pn**	**00 07 32.7**	**+1.9**
NNSB	baz=345			*e*S	**Sn**	**00 07 55.4**	**+0.8**
	baz=345						
NNSH	**Datong**	**1.97**	**343**	*e*P	**Pn**	**00 07 32.5**	**+1.7**
NNSH	baz=354			*e*S	**Sn**	**00 07 55.2**	**+0.6**
	baz=354						
IRIF	**Iriomote-Funau**	**2.39**	**41**	P	**Pn**	**00 07 37.1**	**+0.6**
IRIF				S	**Sn**	**00 08 05.6**	**+0.8**
JKRS	**Kuro-shima**	**2.50**	**47**	P	**Pn**	**00 07 38.5**	**+0.5**
JKRS				S	**Sn**	**00 08 05.2**	**-2.3**
JIJ	**Ishigaki jima**	**2.67**	**47**	P	**Pn**	**00 07 41.2**	**+0.8**
JIJ				*e*S	**Sn**	**00 08 10.6**	**-1.2**
JISG	**Ishigakijimahi**	**2.94**	**46**	P	**Pn**	**00 07 44.6**	**+0.6**
JISG				S	**Sn**	**00 08 17.7**	**-0.6**

*NEIC **29** 00:39:11.3±2.0,23°80S±0°07×180°0W±0°2,h519km±14km,*
mb4.5/12,Error ellipse: s-maj=20.6km s-min=10.2km
az=98.0
*IDC **29** 00:39:12.6±10.0,24°09S×179°94W,h528km±134km,*
mb2.8/4,mb1 3.2/5,mb1mx2.9/30,mbtmp4.0/5,Error
ellipse: s-maj=92.9km s-min=31.5km az=5.0
ISC 29 00:39:10.9**±0.8,**23°93S**±0°09×**180°0W**±0°1,**h518**km,**n28,
*σ1s67/29,**mb3.2**/4,**South of Fiji Islands***

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.61**	**161**	P	**P**	**00 40 45.0**	**+0.7**
MSVF	**Nonsavu**	**6.44**	**343**	P	**P**	**00 40 51.7**	**-0.8**
NIUE	**Niue**	**10.52**	**65**	P	**P**	**00 41 34.4**	**+0.5**
AFI	**Afiamalu**	**12.62**	**39**	P	**P**	**00 41 54.1**	**-2.1**
DZM	**Mont Dzumac**	**12.66**	**276**	P	**P**	**00 41 57.0**	**+0.5**
MXZ	**Matakaoa Point**	**13.67**	**186**	P	**P**	**00 42 08.8**	**+2.0**
URZ	**Urewera**	**14.50**	**189**	P	**P**	**00 42 16.1**	**+0.7**
	4.9nm,0.3s,baz=9.7,slow=1.9,SNR=23						
URZ				S	**S**	**00 44 42.8**	**-4.9**
	0.3nm,0.3s,baz=357,slow=16,SNR=2.0						
URZ	**Urewera**	**14.50**	**189**	P	**P**	**00 42 17.1**	**+1.7**
HIZ	**Hauiti**	**15.19**	**196**	P	**P**	**00 42 25.5**	**+2.8**
HIZ				IAmb	IAmb	00 42 26.6		
	comp=Z,34nm,1.2s							
BKZ	**Black Stump Fm**	**15.48**	**190**	P	**P**	**00 42 27.6**	**+1.8**
BKZ				IAmb	IAmb	00 42 29.2		
	comp=Z,9.7nm,1.2s							
BFZ	**Birch Farm**	**17.00**	**190**	P	**P**	**00 42 41.3**	**+0.3**
BFZ				IAmb	IAmb	00 42 45.2		
	comp=Z,23nm,1.2s							
MSWZ	**Moikau Station**	**17.89**	**192**	P	**P**	**00 42 49.8**	**+0.6**
SNZO	**South Karori**	**17.89**	**193**	P	**P**	**00 42 48.3**	**-0.9**
BHW	**Baring Head**	**17.95**	**193**	P	**P**	**00 42 50.6**	**+0.8**
QRZ	**Quartz Range**	**17.99**	**199**	P	**P**	**00 42 51.3**	**+1.2**
QRZ				IAmb	IAmb	00 42 53.6		
	comp=Z,14nm,0.6s							
PLWZ	**Palliser**	**18.04**	**192**	P	**P**	**00 42 50.8**	**+0.2**
NNZ	**Nelson**	**18.12**	**196**	P	**P**	**00 42 52.6**	**+1.4**
BSWZ	**Blackbirch Sta**	**18.46**	**195**	P	**P**	**00 42 56.3**	**+1.9**
THZ	**Tophouse**	**18.75**	**197**	P	**P**	**00 42 58.9**	**+1.8**
THZ				IAmb	IAmb	00 43 05.5		
	comp=Z,10nm,1.1s							
KHZ	**Kahutara**	**19.21**	**195**	P	**P**	**00 43 02.4**	**+1.2**
KHZ				IAmb	IAmb	00 43 09.8		
	comp=Z,6.0nm,0.9s							
LTZ	**Lake Taylor**	**19.87**	**197**	P	**P**	**00 43 09.4**	**+2.1**
LTZ				IAmb	IAmb	00 43 13.6		
	comp=Z,7.4nm,0.7s							
ASAR	**Alice Springs**	**42.06**	**261**	P	**P**	**00 46 17.9**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=96,slow=7.6,SNR=3.0							
WB2	**Warramunga Arr**	**42.43**	**266**	P	**P**	**00 46 18.3**	**-1.8**
WB0	**Warramunga Arr**	**42.43**	**266**	P	**P**	**00 46 20.6**	**+0.5**
WRA	**Warramunga Arr**	**42.44**	**266**	P	**P**	**00 46 21.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=96,slow=8.3,SNR=7.0							
WRA	**Warramunga Arr**	**42.44**	**266**	P	**P**	**00 46 19.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**50.86**	**266**	P	**P**	**00 47 24.7**	**+0.7**
	comp=Z,2.0nm,0.9s,baz=90,slow=6.1,SNR=1.8							
TXAR	**Lajitas Array**	**90.42**	**58**	P	**P**	**00 51 18.2**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=214,slow=4.4,SNR=3.5							

*NEIC **29** 00:42:41.7±1.9,19°45S±0°07×178°35W±0°08,h10km±1km,*
mb4.3/15,Error ellipse: s-maj=12.7km s-min=11.5km
az=88.0
*IDC **29** 00:42:44.8±57.0,19°60S×178°54W,h0km,mb4.1/3,*
mb1 4.3/3,mb1mx3.8/25,mbtmp4.1/3,Error ellipse:
s-maj=1042.0km s-min=157.5km az=81.0
ISC 29 00:42:41.7**±0.7,**19°48S**±0°08×**178°32W**±0°08,**h10**km,**n25,
*σ1s42/25,**mb4.3**/8,**Fiji Islands region***

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.86**	**296**	Pn	**Pn**	**00 43 41.2**	**0.0**
NIUE	**Niue**	**7.93**	**89**	Pn	**Pn**	**00 44 38.5**	**+1.4**
AFI	**Afiamalu**	**8.36**	**52**	Pn	**Pn**	**00 44 43.2**	**+0.2**
RAO	**Raoul Island**	**9.74**	**178**	Pn	**Pn**	**00 45 01.9**	**0.0**
FUNA	**Funafuti**	**11.15**	**347**	Pn	**Pn**	**00 45 21.1**	**-0.1**
DZM	**Mont Dzumac**	**14.49**	**257**	Pn	**Pn**	**00 46 06.0**	**-1.0**
RAR	**Rarotonga**	**17.48**	**99**	Pn	**Pn**	**00 46 44.2**	**-1.4**
RAR				IAmb	IAmb	00 46 51.4		
	comp=Z,29nm,1.1s							
MXZ	**Matakaoa Point**	**18.26**	**189**	Pn	**Pn**	**00 46 52.1**	**-3.1**
MXZ				IAmb	IAmb	00 47 04.3		
	comp=Z,61nm,1.2s							
BKZ	**Black Stump Fm**	**20.13**	**192**	P	**P**	**00 47 16.3**	**+0.3**
BKZ				IAmb	IAmb	00 47 31.2		
	comp=Z,6.6nm,1.2s							
STKA	**Stephens Creek**	**37.98**	**243**	P	**P**	**00 50 02.3**	**+2.4**
	comp=Z,1.1nm,0.5s,baz=82,slow=11,SNR=4.8							
STKA	**Stephens Creek**	**37.98**	**243**	P	**P**	**00 50 00.9**	**+1.0**
BBOO	**Buckleboo**	**42.75**	**242**	P	**P**	**00 50 39.2**	**-0.2**
BBOO				IAmb	IAmb	00 50 51.0		
	comp=Z,7.2nm,1.1s							
WR0	**Warramunga Arr**	**44.27**	**261**	P	**P**	**00 50 53.0**	**+1.2**
WR0				IAmb	IAmb	00 51 09.1		
	comp=Z,2.7nm,1.0s							
WB0	**Warramunga Arr**	**44.43**	**261**	P	**P**	**00 50 54.2**	**+1.1**
WB0				IAmb	IAmb	00 50 57.0		
	comp=Z,3.5nm,0.5s							
WB2	**Warramunga Arr**	**44.45**	**261**	P	**P**	**00 50 53.4**	**+0.1**
WB2				IAmb	IAmb	00 50 57.0		
	comp=Z,5.3nm,1.1s							
WRAB	**Tennant Creek**	**44.45**	**261**	P	**P**	**00 50 52.7**	**-0.6**
WRA	**Warramunga Arr**	**44.46**	**261**	P	**P**	**00 50 56.0**	**+2.6**
	comp=Z,1.2nm,0.3s,baz=97,slow=7.5,SNR=20							
WRA	**Warramunga Arr**	**44.46**	**261**	P	**P**	**00 50 51.9**	**-1.5**
AS31	**Alice Springs**	**44.47**	**256**	P	**P**	**00 50 53.2**	**-0.2**
ASAR	**Alice Springs**	**44.47**	**256**	P	**P**	**00 50 56.2**	**+2.7**
	comp=Z,3.1nm,0.8s,baz=96,slow=7.9,SNR=25							
ASAR	**Alice Springs**	**44.47**	**256**	P	**P**	**00 50 53.0**	**-0.5**
CASY	**Casey**	**64.76**	**205**	P	**P**	**00 53 20.4**	**+0.4**
SAO	**San Andreas Ge**	**77.49**	**44**	P	**P**	**00 54 36.2**	**-1.3**
SAO				IAmb	IAmb	00 54 52.5		
	comp=Z,4.4nm,1.1s			

BKZ					IAmb	IAmb	01 00 55.8	
	comp=Z,7.0nm,0.8s							
BFZ	**Birch Farm**		**26.15**	**199**	P	**P**	**01 00 54.4**	**+1.2**
BFZ					IAmb	IAmb	01 01 11.9	
	comp=Z,20nm,1.1s							
MSWZ	**Moikau Station**		**27.13**	**200**	P	**P**	**01 01 02.4**	**+0.4**
HNR	**Honiara**		**27.17**	**281**	LR	LR	01 10 13.2	
	comp=Z,870nm,20.9s,baz=153,slow=33							
SNZO	**South Karori**		**27.22**	**200**	P	**P**	**01 01 02.1**	**-0.6**
PLWZ	**Palliser**		**27.27**	**199**	P	**P**	**01 01 03.5**	**+0.2**
QRZ	**Quartz Range**		**27.59**	**204**	P	**P**	**01 01 06.2**	**+0.1**
NNZ	**Nelson**		**27.60**	**203**	P	**P**	**01 01 06.5**	**+0.3**
BSWZ	**Blackbirch Sta**		**27.86**	**201**	P	**P**	**01 01 08.7**	**+0.2**
THZ	**Tophouse**		**28.25**	**203**	P	**P**	**01 01 11.0**	**-1.1**
KHZ	**Kahutara**		**28.60**	**201**	P	**P**	**01 01 15.3**	**+0.3**
KHZ					IAmb	IAmb	01 01 26.1	
	comp=Z,6.6nm,0.8s							
LTZ	**Lake Taylor**		**29.37**	**202**	P	**P**	**01 01 22.7**	**+0.7**
LTZ					IAmb	IAmb	01 01 31.5	
	comp=Z,12nm,0.8s							
OXZ	**Oxford**		**29.93**	**202**	P	**P**	**01 01 25.9**	**-0.9**
RPZ	**Rata Peaks**		**30.63**	**203**	P	**P**	**01 01 33.1**	**0.0**
	comp=Z,4.9nm,0.7s,baz=95,slow=23,SNR=2.0							
RPZ	**Rata Peaks**		**30.63**	**203**	IAmb	IAmb	01 01 40.7	
	comp=Z,7.9nm,0.8s							
FOZ	**Fox Glacier**		**30.95**	**205**	P	**P**	**01 01 36.3**	**+0.4**
TAOE	**Nuku Hiva Isla**		**32.87**	**81**	*e*LR	LR	01 10 28.8	
	comp=Z,398nm,26.0s							
TAOE	**Nuku Hiva Isla**		**32.87**	**81**	*e*T	T	01 36 18.7	
	comp=Z,28nm,0.2s							
MLZ	**Mavora Lakes**		**33.15**	**205**	P	**P**	**01 01 55.1**	**-0.2**
DCZ	**Deep Cove**		**33.63**	**206**	P	**P**	**01 01 59.1**	**-0.2**
DCZ					IAmb	IAmb	01 02 07.7	
	comp=Z,9.6nm,1.1s							
WHZ	**Wether Hill Ro**		**33.65**	**204**	P	**P**	**01 01 59.7**	**+0.1**
WHZ					IAmb	IAmb	01 02 06.3	
	comp=Z,6.1nm,0.9s							
ARMA	**Armidale**		**35.27**	**240**	P	**P**	**01 02 11.8**	**-2.2**
ARMA					IAmb	IAmb	01 02 21.3	
	comp=Z,4.2nm,0.7s							
RKT	**Rikitea**		**36.42**	**107**	*e*LR	LR	01 12 07.0	
	comp=Z,518nm,26.8s							
H11S2	**WAKE ISLAND Hy**		**39.80**	**329**	T	T	01 45 12.4	
	baz=149							
H11S3	**WAKE ISLAND Hy**		**39.81**	**329**	T	T	01 45 21.4	
	baz=149,slow=74							
H11S1	**WAKE ISLAND Hy**		**39.81**	**329**	T	T	01 45 09.5	
	baz=149,slow=74							
H11N3	**WAKE ISLAND Hy**		**40.74**	**330**	T	T	01 46 31.1	
	baz=150,slow=75							
H11N1	**WAKE ISLAND Hy**		**40.75**	**330**	T	T	01 46 19.4	
	baz=150							
H11N2	**WAKE ISLAND Hy**		**40.76**	**330**	T	T	01 46 43.8	
	baz=150,slow=75							
TOO	**Toolangi**		**42.28**	**231**	P	**P**	**01 03 11.2**	**-1.3**
TOO					IAmb	IAmb	01 03 13.4	
	comp=Z,8.4nm,1.1s							
COEN	**Coen**		**42.30**	**267**	P	**P**	**01 03 12.8**	**-0.2**
COEN					IAmb	IAmb	01 03 15.6	
	comp=Z,9.1nm,0.9s							
STKA	**Stephens Creek**		**43.98**	**241**	P	**P**	**01 03 25.3**	**-1.0**
	comp=Z,8.5nm,0.9s,baz=78,slow=10.0,SNR=14							
STKA					LR	LR	01 19 04.1	
	comp=Z,108nm,20.9s,baz=30,slow=33							
STKA	**Stephens Creek**		**43.98**	**241**	P	**P**	**01 03 25.2**	**-1.0**
BBOO	**Buckleboo**		**48.75**	**240**	P	**P**	**01 04 02.7**	**-1.1**
WB0	**Warramunga Arr**		**49.99**	**258**	P	**P**	**01 04 13.2**	**-0.3**
WB0					IAmb	IAmb	01 04 28.4	
	comp=Z,4.2nm,1.0s							
WB2	**Warramunga Arr**		**50.02**	**257**	P	**P**	**01 04 12.8**	**-0.8**
WB2					IAmb	IAmb	01 04 26.0	
	comp=Z,3.0nm,0.7s							
WRA	**Warramunga Arr**		**50.03**	**257**	P	**P**	**01 04 11.8**	**-2.0**
	comp=Z,1.9nm,0.7s,baz=96,slow=7.4,SNR=16							
WRA					PcP	**PcP**	**01 05 34.1**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=93,slow=3.5,SNR=1.8							
WRA					LR	LR	01 24 09.0	
	comp=Z,245nm,20.4s,baz=95,slow=35							
WRA	**Warramunga Arr**		**50.03**	**257**	P	**P**	**01 04 13.4**	**-0.4**
AS31	**Alice Springs**		**50.23**	**252**		**P**	**01 04 13.9**	**-1.4**
ASAR	**Alice Springs**		**50.23**	**252**	P	**P**	**01 04 13.6**	**-1.7**
	comp=Z,9.5nm,0.6s,baz=88,slow=8.4,SNR=97							
ASAR					LR	LR	01 24 40.3	
	comp=Z,272nm,18.1s,baz=90,slow=35							
ASAR	**Alice Springs**		**50.23**	**252**	P	**P**	**01 04 13.7**	**-1.6**
FORT	**Forrest**		**55.40**	**244**	P	**P**	**01 04 51.5**	**-1.9**
PSA00	**Pilbara Seismi**		**63.34**	**254**	P	**P**	**01 05 47.5**	**-0.9**
CMB	**Columbia Colle**		**73.09**	**41**	P	**P**	**01 06 52.6**	**+3.5**
CMB					IAmb	IAmb	01 06 52.8	
	comp=Z,3.7nm,1.1s							
AFDM	**Forest Hills D**		**73.28**	**40**	P	**P**	**01 06 53.6**	**+3.4**
AFDM					IAmb	IAmb	01 06 54.7	
	comp=Z,4.7nm,1.2s							
NVAR	**Mina Array Bea**		**74.64**	**42**	P	**P**	**01 07 00.8**	**+2.3**
	comp=Z,2.2nm,0.9s,baz=227,slow=10,SNR=15							
NVAR					LR	LR	01 33 30.6	
	comp=Z,78nm,19.4s,baz=302,slow=31							
NVAR	**Mina Array Bea**		**74.64**	**42**	P	**P**	**01 07 01.1**	**+2.6**
NV11	**Mina Array Sit**		**74.74**	**42**	P	**P**	**01 07 02.5**	**+3.6**
MOD	**Modoc Plateau**		**75.49**	**38**	IAmb	IAmb	01 07 22.3	
	comp=Z,2.9nm,0.8s							
PINE	**Pine Mountain**		**76.29**	**36**	P	**P**	**01 07 11.2**	**+3.4**
PINE					IAmb	IAmb	01 07 12.4	
	comp=Z,7.9nm,1.0s							
X16A	**Lo Mia Camp, P**		**77.14**	**48**	IAmb	IAmb	01 07 17.3	
	comp=Z,3.4nm,1.0s							
HLID	**Hailey**		**79.98**	**39**	P	**P**	**01 07 31.4**	**+3.2**
TXAR	**Lajitas Array**		**80.73**	**56**	P	**P**	**01 07 35.2**	**+2.7**
	comp=Z,0.6nm,0.9s,baz=194,slow=4.6,SNR=5.9							
PD31	**Pinedale Array**		**82.58**	**42**	IAmb	IAmb	01 07 45.9	
	comp=Z,2.8nm,0.9s							
PDAR	**Pinedale Array**		**82.58**	**42**	P	**P**	**01 07 44.1**	**+2.0**
	comp=Z,2.3nm,0.8s,baz=222,slow=3.7,SNR=16							
PDAR	**Pinedale Array**		**82.58**	**42**	P	**P**	**01 07 44.3**	**+2.2**
MAW	**Mawson**		**87.20**	**199**	P	**P**	**01 08 05.5**	**+0.9**
	comp=Z,2.2nm,0.9s,baz=124,slow=5.5,SNR=5.0							
MAW	**Mawson**		**87.20**	**199**	IAmb	IAmb	01 08 09.4	
	comp=Z,0.7nm,1.1s							
CMAR	**Chiang Mai Arr**		**93.20**	**288**	P	**P**	**01 08 33.1**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=90,slow=4.0,SNR=5.2							
CMAR					LR	LR	01 44 16.3	
	comp=Z,26nm,22.0s,baz=95,slow=32							
BIZ	**Bicaz**		**145.44**	**337**	⇓P	**PKiKP**	**01 15 08.4**	**+7.6**
KMBO	**Kilima Mbogo**		**145.53**	**243**	PKPbc	**PKPab**	**01 15 00.3**	**+1.8**
	comp=Z,2.2nm,0.8s,baz=28,slow=3.6,SNR=5.7							
VRI	**Vrincioaia**		**146.08**	**335**	⇓P	**PKiKP**	**01 15 09.3**	**+7.2**
GERES	**GERESS Array B**		**146.94**	**352**	PKPbc	**PKPab**	**01 15 02.5**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=28,slow=3.6,SNR=3.7							
BRTR	**Keskin Array B**		**146.97**	**321**	PKPbc	**PKPab**	**01 15 02.8**	**-0.4**
	comp=Z,3.9nm,1.0s,baz=86,slow=2.5,SNR=8.9							
BRTR	**Keskin Array B**		**146.97**	**321**		**PKPab**	**01 15 03.2**	**0.0**
VOIR			**147.10**	**336**	⇓P	PKiKP	01 15 15.0	+11
ARR	**Arges**		**147.32**	**337**	⇑P	**PKiKP**	**01 15 06.5**	**+1.7**
CONA	**Conrad Observa**		**147.48**	**349**	P	PKiKP	01 15 18.2	+13
	comp=Z,16nm,1.0s,SNR=4.9							
RETA	**Reutte**		**148.60**	**355**	P	PKPab	01 15 20.6	+11
	comp=Z,10nm,1.0s,SNR=5.5							
WATA	**Walderalm**		**148.68**	**354**	P	PKPab	01 15 20.8	+11
	comp=Z,10nm,1.1s							
MOTA	**Moosalm**		**148.71**	**355**	P	PKPab	01 15 21.0	+11
	comp=Z,15nm,1.0s							
DAVA	**Damuels**		**148.87**	**356**	P	PKPab	01 15 21.8	+11
	comp=Z,16nm,1.0s,SNR=5.7							
FETA	**Feichten**		**149.07**	**355**	P	PKPab	01 15 22.1	+11
	comp=Z,13nm,1.0s,SNR=4.6							
ABTA	**Abfaltersbach**		**149.15**	**353**	P	PKPab	01 15 21.7	+10
	comp=Z,15nm,0.8s,SNR=7.0							
MMAI	**Mount Meron Ar**		**149.32**	**308**	PKPab	**PKPab**	**01 15 14.2**	**+1.4**
	comp=Z,1.8nm,0.6s,baz=61,slow=4.1,SNR=6.1							

DRS **29** *00:57:21.6±0.0, 42.83N×46.56E, h11km*
NORS **29** *00:57:22.9±0.0, 42.68N×46.49E, h10km, MPVA3.6*
ISC 29 00:57:22.0±0.8, 42.85N±0.03×46.68E±0.02, h17km±6km, n29, σ1.907/52, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNCR	**Uncukul**	**0.16**	**148**	*e*Pg	**Pb**	**00 57 26.0**	**-0.5**
	428nm,0.2s						
UNCR				*e*Sg	**Sb**	**00 57 30.0**	**+0.5**
	2μm,0.2s						
KRNR	**Karanay**	**0.17**	**97**	*i* Pg	**Pg**	**00 57 26.8**	**+0.3**
	165nm,0.1s						
KRNR				*i* Sg	**Sg**	**00 57 30.5**	**+1.0**
	258nm,0.2s						
DLMR	**Dylym**	**0.23**	**351**	*i* Pg	**Pg**	**00 57 27.0**	**-0.2**
	207nm,0.1s						
DLMR				*i* Sg	**Sg**	**00 57 31.0**	**+0.2**
	866nm,0.3s						
XNZR	**Khunzakh**	**0.31**	**177**	*e*Pg	**Pg**	**00 57 28.5**	**-0.1**
XNZR				*e*Sg	**Sg**	**00 57 32.8**	**-0.4**
BUJR	**Buynaksk**	**0.32**	**94**	*e*Pg	**Pn**	**00 57 30.3**	**-1.6**
	97nm,0.4s						
BUJR				*e*Sg	**Sn**	**00 57 37.1**	**-1.0**
	624nm,0.5s						
ARKR	**Arakani**	**0.34**	**137**	*i* Pg	**Pb**	**00 57 30.0**	**+0.4**
	50nm,0.2s						
ARKR				*i* Sg	**Sb**	**00 57 35.5**	**+0.8**
	252nm,0.3s						
BTLR	**Botlikh**	**0.38**	**242**	*i* Pg	**Pb**	**00 57 27.9**	**-2.5**
	91nm,0.4s						
BTLR				*e*Sg	**Sg**	**00 57 32.9**	**-2.4**
	892nm,0.6s						
GNBR	**Gunib**	**0.51**	**155**	*i* Pg	**Pb**	**00 57 32.4**	**0.0**
	48nm,0.6s						
GNBR				*e*Sg	**Sb**	**00 57 40.3**	**+0.8**
	668nm,0.4s						
KANR	**Karaman**	**0.69**	**59**	*e*Pg	Pn	00 57 39.6	+2.7
KANR				*e*Sg	Sn	00 57 52.7	+5.5
KMKR	**Kumukh**	**0.78**	**156**	*e*Pg	**Pn**	**00 57 38.0**	**-0.4**
KMKR				*i* Sg	**Sn**	**00 57 50.5**	**+0.7**
	579nm,0.4s						
LGD	**Lagodekhi**	**1.06**	**198**	P	**Pn**	**00 57 41.2**	**-0.9**
LGD				S	**Sb**	**00 57 55.2**	**-0.3**
KMGR	**Komgaron**	**1.35**	**280**	*e*Pg	**Pg**	**00 57 48.2**	**+0.2**
KMGR				*e*Sg	**Sg**	**00 58 07.7**	**+2.1**
DDFL	**Dedoflistskaro**	**1.46**	**197**	P	**Pg**	**00 57 51.4**	**+1.2**
VLKR	**Vladikavkaz**	**1.48**	**278**	*e*Pg	**Pg**	**00 57 51.0**	**+0.4**
VLKR				*e*Sg	**Sg**	**00 58 12.0**	**+2.1**
PNSH	**Pansheti**	**1.54**	**263**	P	**Pn**	**00 57 49.0**	**+0.2**
PNSH				S	**Sn**	**00 58 07.9**	**-0.6**
BTKR	**Batakoyurt**	**1.65**	**289**	*e*Pg	**Pg**	**00 57 53.1**	**-0.6**
BTKR				*e*Sg	**Sg**	**00 58 17.6**	**+2.4**
TRKR	**Terskaya**	**1.67**	**302**	*e*Pg	**Pg**	**00 57 53.7**	**-0.4**
TRKR				*e*Sg	**Sg**	**00 58 17.7**	**+1.9**
DGRG	**David-gareji**	**1.70**	**215**	P	**Pb**	**00 57 53.9**	**+1.1**
LACR	**Lac**	**1.75**	**270**	*e*Pg	**Pb**	**00 57 53.1**	**-0.7**
LACR				*e*Sg	**Sb**	**00 58 16.0**	**+0.4**
ARNR	**Ardon**	**1.79**	**282**	*e*Pg	**Pb**	**00 57 55.3**	**+1.0**
ARNR				*e*Sg	**Sg**	**00 58 19.1**	**-0.5**
TBLG	**Delisi**	**1.82**	**233**	P	**Pb**	**00 57 55.7**	**+0.8**
KORR	**Kora**	**1.93**	**278**	*e*Pg	**Pg**	**00 57 59.5**	**+0.4**
KORR				*e*Sg	**Sg**	**00 58 23.8**	**-0.4**
PRTR	**Priterechnaya**	**1.97**	**298**	*e*Pg	**Pg**	**00 57 58.6**	**-1.2**
PRTR				*e*Sg	**Sg**	**00 58 25.9**	**+0.5**
LSNR	**Lesken**	**2.13**	**283**	*e*Pg	**Pb**	**00 58 00.7**	**+0.5**
LSNR				*e*Sg	**Sg**	**00 58 30.3**	**-0.4**
DIGR	**Digorskoe uzhe**	**2.28**	**272**	*e*Pg	**Pb**	**00 58 02.7**	**-0.1**
DIGR				*e*Sg	**Sb**	**00 58 31.2**	**+0.4**
TRLG	**Trialeti**	**2.32**	**237**	P	**Pb**	**00 58 02.8**	**-0.6**
TRLG				S	**Sb**	**00 58 33.1**	**+1.2**
ONI	**Oni**	**2.39**	**265**	P	**Pb**	**00 58 05.0**	**+0.4**
DMNI	**Dmanisi**	**2.40**	**232**	P	**Pb**	**00 58 03.3**	**-1.4**
DMNI				S	**Sb**	**00 58 34.6**	**+0.6**
BKRG	**Bakuriani**	**2.58**	**246**	P	**Pb**	**00 58 06.8**	**-1.2**
BKRG				S	**Sb**	**00 58 40.8**	**+1.3**

BGR **29** *01:03:55.6±0.0, 37.51N×71.85E, h33km, mb4.9, Ms4.1*
SOME **29** *01:03:56.5, 39.40N×71.88E, h0km, MS4.4*
IDC **29** *01:03:57.1±0.5, 39.04N×71.64E, h0km, mb4.5/30, mb1 4.6/39, mb1mx4.6/42, mbtmp4.6/39, ML4.0/8, MS4.1/33, Ms1 4.1/33, ms1mx4.1/38, Error ellipse: s-maj=11.1km s-min=7.8km az=145.0*
KRNET **29** *01:03:58.7±0.1, 39.14N×71.45E, mb5.3*
BJI **29** *01:03:59.0±0.0, 39.26N×71.45E, h22km, mB4.9/44, mb4.8/56, ML5.0/2, Ms4.7/56, Ms7 4.4/55*
NNC **29** *01:04:01.4±1.4, 39.27N×71.39E, h6km±7km, mb5.4, mpv5.3, Error ellipse: s-maj=9.6km s-min=7.7km az=176.0*
GCMT **29** *01:04:01.3±0.2, 39.17N±0.02×71.30E±0.02, h12km, MW4.9/87, Moment Tensor Solution. s31,c38; s87,c139; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.90±.09; Mθθ-1.17±.08; Mϕϕ0.26±.07; Mrθ0.71±.25; Mrϕ-2.25±.07; Mθϕ-1.50±.25; Best double couple: Mw2.98100×10^16 NP1:ϕs92.00000°, δ61.00000°, λ156.00000°. NP2: ϕs195.00000°, δ69.00000°, λ31.00000°. Principal axes: T 3.1200, Plg36.0000°, Azm56.0000°; N -0.2810, Plg53.0000°, Azm225.0000°; P -2.8430, Plg6.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC **29** *01:04:03.3±2.0, 39.14N±0.05×71.58E±0.07, h36km±5km, mb4.8/140 Error ellipse: s-maj=8.2km s-min=7.4km az=140.0*
MOS **29** *01:04:03.5±1.1, 39.17N×71.65E, h54km, mb5.1/51, MS4.2/22, Error ellipse: s-maj=5.0km s-min=4.4km az=107.4*
ISC 29 01:04:03.1±0.2, 39.23N±0.03×71.55E±0.02, h34km, h35km:pP-P, n541, σ2.921/596, mb4.8/179, MS4.3/65, 76C-33D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.00**	**326**	⇑*e*P	**Pn**	**01 04 18.1**	**-2.8**
BTK	baz=32			⇑*e*S	**Sn**	**01 04 32.4**	**-1.5**
OHH	**Osh**	**1.61**	**36**	⇑*e*P	**Pb**	**01 04 30.4**	**-1.9**
OHH	baz=36			⇑*e*S	**Sb**	**01 04 53.7**	**+1.4**
ARK	**Arkit**	**2.59**	**7**	⇑*e*P	**Pn**	**01 04 43.9**	**+1.2**
ARK	baz=9.0			⇑*e*S	**Sb**	**01 05 17.6**	**-2.8**
TAS	**Tashkent**	**2.71**	**321**	PN	**Pb**	**01 04 48.2**	**-2.8**
TAS	**Tashkent**	**2.71**	**321**		**Pb**	**01 04 48.2**	**-2.8**
IUG	**luzhnay**	**3.14**	**339**	*e*P	**Pb**	**01 04 55.0**	**-3.3**
IUG	3μm,0.5s			*e*S	**Sb**	**01 05 35.2**	**-0.9**
	9μm,0.7s						
AML	**Almayashu**	**3.33**	**29**	⇑*e*P	**Pn**	**01 04 55.2**	**+2.1**
AML	baz=29			⇑*i*S	**Sb**	**01 05 36.6**	**-5.3**
	baz=29						
AML	**Almayashu**	**3.33**	**29**	P	**Pn**	**01 04 56.9**	**+3.8**
	SNR=1316						
ARLS	**Aral**	**3.38**	**38**	⇓*e*P	**Pn**	**01 04 56.3**	**+2.7**
ARLS	baz=38			⇓*e*S	**Sb**	**01 05 38.1**	**-4.9**
	baz=38						
CHM	**Chimkent**	**3.42**	**335**	*e*P	**Pb**	**01 05 00.1**	**-2.9**
CHM	8.1nm,0.5s			*e*S	**Sb**	**01 05 44.9**	**+0.7**
	5μm,0.5s						
KSH	**Kashi**	**3.44**	**84**	Pn	**Pn**	**01 04 52.3**	**-2.1**
KSH	comp=N,3μm,0.7s			smax	smax		
KSH	comp=E,3μm,0.8s			smax	smax		
DZA	**Taraz**	**3.67**	**358**	*e*P	**Pn**	**01 05 01.2**	**+3.7**
DZA	4μm,0.6s			*e*S	**Sb**	**01 05 46.2**	**-5.0**
	5μm,0.7s						
MRKS	**Merke**	**3.74**	**19**	*e*P	**Pn**	**01 05 01.3**	**+2.8**
MRKS	959nm,0.4s			*e*S	**Sn**	**01 05 45.9**	**+4.6**
	517nm,0.7s						
UCH	**Uchtor**	**3.75**	**36**	⇑*i*P	**Pn**	**01 05 01.2**	**+2.2**
UCH	baz=36			⇑*i*S	**Sn**	**01 05 46.9**	**+4.7**
	baz=36						
UCH	**Uchtor**	**3.75**	**36**	P	**Pn**	**01 05 02.2**	**+3.2**
	SNR=2426						
EKS2	**Erkin-Say**	**3.83**	**25**	⇑*i*P	**Pn**	**01 05 02.2**	**+2.5**
EKS2	baz=26			⇑*i*S	**Sn**	**01 05 48.7**	**+5.2**
	baz=26						
EKS2	**Erkin-Say**	**3.83**	**25**	P	**Pn**	**01 05 03.1**	**+3.4**
	SNR=1339						
KK31	**Karatay Array**	**3.95**	**349**	⇓Pn	**Pn**	**01 05 03.2**	**+1.8**
	185nm,0.3s,baz=167,slow=12,SNR=5338						
KK31				⇓Pg	**Pb**	**01 05 13.5**	**+1.5**
	159nm,0.3s,baz=168,slow=14,SNR=2.6						
KK31				⇑Sn	**Sn**	**01 05 49.6**	**+3.0**
	468nm,0.4s						
KK31				⇓Lg	Lg	01 06 04.0	
	1μm,0.6s,baz=166,slow=29,SNR=8.2						
KK31	**Karatay Array**	**3.95**	**349**	PN	**Pn**	**01 05 04.0**	**+2.7**
KK31						01 05 52.0	
KK31	**Karatay Array**	**3.95**	**349**	Pn	**Pn**	**01 05 03.5**	**+2.2**
KKAR	**Karatay Array**	**3.95**	**349**	PN	**Pn**	**01 05 03.3**	**+1.9**
KKAR	**Karatay Array**	**3.95**	**349**		**Pn**	**01 05 03.3**	**+1.9**
KZA	**Kyzart**	**4.01**	**43**	⇑*i*P	**Pn**	**01 05 04.4**	**+2.0**
KZA	baz=43			⇑*i*S	**Sn**	**01 05 52.5**	**+4.1**
	baz=43						
KZA	**Kyzart**	**4.01**	**43**	P	**Pn**	**01 05 05.5**	**+3.0**
	SNR=139						
BRLS	**Borolday**	**4.01**	**342**	*e*P	Pn	01 05 07.5	+5.3
BRLS	149nm,0.8s			*e*S	**Sb**	**01 05 56.8**	**-4.4**
	461nm,0.7s						
AAK	**Ala-Archa**	**4.07**	**32**	Pn	**Pn**	**01 05 06.7**	**+3.6**
	222nm,0.3s,baz=232,slow=6.7,SNR=350						
AAK				Sn	**Sb**	**01 05 58.5**	**-4.5**
	38nm,0.3s,baz=195,slow=16,SNR=1.8						
AAK				Lg	Lg	01 06 08.4	
	116nm,0.3s,baz=338,slow=19,SNR=6.1						
AAK	**Ala-Archa**	**4.07**	**32**	⇑*e*P	**Pn**	**01 05 05.6**	**+2.4**
AAK	baz=33			⇑*i*S	**Sn**	**01 05 54.8**	**+5.1**
	baz=33						
AAK	**Ala-Archa**	**4.07**	**32**	P	**Pn**	**01 05 06.7**	**+3.6**
	SNR=603						
AAK	**Ala-Archa**	**4.07**	**32**	*i* P	**Pn**	**01 05 06.8**	**+3.6**
	SNR=634						
AAK	**Ala-Archa**	**4.07**	**32**	⇑Pn	**Pn**	**01 05 05.8**	**+2.6**
AAK	157nm,0.3s			⇓Pg	**Pb**	**01 05 14.5**	**+0.3**
	908nm,0.6s						
AAK				⇓Lg	Lg	01 06 07.8	
	1μm,0.6s						
FRU1	**Bishkek**	**4.27**	**32**	⇑*e*P	**Pn**	**01 05 07.9**	**+2.1**
FRU1	baz=32			⇑*e*S	**Sn**	**01 05 58.5**	**+4.0**
	baz=32						
KBK	**Karagaybulak**	**4.29**	**36**	⇑*i*P	**Pn**	**01 05 08.5**	**+2.4**
KBK	baz=36			⇑*i*S	**Sn**	**01 05 59.5**	**+4.5**
	baz=36						
KBK	**Karagaybulak**	**4.29**	**36**	P	**Pn**	**01 05 10.1**	**+4.0**
	SNR=500						
CHMS	**Chumysh**	**4.48**	**32**	⇑*e*P	**Pn**	**01 05 11.1**	**+2.5**
CHMS	baz=32			⇑*i*S	**Sn**	**01 06 03.9**	**+4.4**
	baz=32						
CHMS	**Chumysh**	**4.48**	**32**	P	**Pn**	**01 05 12.2**	**+3.6**
	SNR=873						
USP	**Ospenovka**	**4.61**	**28**	⇑*i*P	**Pn**	**01 05 13.5**	**+3.1**
USP	baz=28			⇑*i*S	**Sn**	**01 06 06.9**	**+4.1**
	baz=28						
USP	**Ospenovka**	**4.61**	**28**	P	**Pn**	**01 05 13.7**	**+3.3**
	SNR=294						
ULHL	**Ulahol**	**4.67**	**48**	⇑*e*P	**Pn**	**01 05 13.7**	**+2.3**
ULHL	baz=48			⇑*i*S	**Sn**	**01 06 08.7**	**+4.2**
	baz=48						
ULHL	**Ulahol**	**4.67**	**48**	P	**Pn**	**01 05 14.3**	**+2.9**
	SNR=62						
TKM2	**Tokmak 2**	**4.79**	**38**	⇑*e*P	**Pn**	**01 05 16.2**	**+3.1**
TKM2	baz=38			⇑*i*S	**Sn**	**01 06 11.7**	**+4.1**
	baz=38						
TKM2	**Tokmak 2**	**4.79**	**38**	P	**Pn**	**01 05 16.6**	**+3.5**
	SNR=73						
TKM2	**Tokmak 2**	**4.79**	**38**	⇑Pn	**Pn**	**01 05 15.1**	**+2.0**
TKM2	313nm,0.7s			⇓Pg	**Pb**	**01 05 28.3**	**+1.8**
	341nm,0.6s						
TKM2				⇓Lg	Lg	01 06 30.5	
	600nm,0.7s						
TKM2	**Tokmak 2**	**4.79**	**38**	PN	**Pn**	**01 05 16.1**	**+3.0**
KST	**Kastek**	**5.07**	**40**	*e*P	Pb	01 05 24.8	-6.2
KST	307nm,0.7s			*e*S	**Sb**	**01 06 27.0**	**-4.4**
	203nm,0.7s						
KBL	**Kabul**	**5.09**	**204**	PN	**Pn**	**01 05 18.8**	**+1.7**
KBL	**Kabul**	**5.09**	**204**	Pn	**Pn**	**01 05 18.8**	**+1.7**
KDJ	**Kajisay**	**5.17**	**54**	*e*P	**Pn**	**01 05 21.1**	**+2.8**
KDJ	baz=54			*e*S	**Sn**	**01 06 21.1**	**+4.3**
	baz=54						
MTBS	**Maitube**	**5.37**	**42**	*e*P	Pb	01 05 30.4	-5.7
MTBS	194nm,0.6s			*e*S	**Sb**	**01 06 37.0**	**-3.0**
	112nm,0.8s						
TARG	**Taragay, Kyrgy**	**5.39**	**60**	Pn	**Pn**	**01 05 22.5**	**+1.1**
IZV	**Izvestkoviy**	**5.40**	**44**	*e*P	Pb	01 05 29.6	-7.0
IZV	317nm,0.7s			*e*S	**Sb**	**01 06 35.8**	**-5.2**
	210nm,0.9s						
CEP	**Cherat**	**5.40**	**177**	P	**Pn**	**01 05 23.8**	**+2.4**
CEP				S	**Sn**	**01 06 23.0**	**+0.6**
KRBS	**Karabastau**	**5.44**	**33**	*e*P	**Pb**	**01 05 33.5**	**-3.8**
KRBS	105nm,0.5s			*e*S	**Sb**	**01 06 41.6**	**-0.4**
	212nm,0.7s						
TNSS	**Tian-Shan**	**5.58**	**45**	*e*P	**Pb**	**01 05 35.8**	**-4.1**
TNSS	154nm,0.7s			*e*S	**Sb**	**01 06 45.2

THN ex x 01 06 26.5
DHRM DHARAMSHALA 7.96 150 eP Pn 01 05 57.0 +0.4
DHRM eS Sn **01 07 27.8 +2.2**
DHRM ex x 01 07 28.3
DHRM IAML 01 07 32.2
comp=E,860nm,0.7s
DHRM IAML 01 07 32.8
comp=N,552nm,1.5s
HRA Herat 8.88 240 Pn Pn 01 06 08.5 -0.7
SMLA Simla 9.29 149 eP Pn 01 06 14.7 +0.1
SMLA eS Sn **01 07 54.8 -3.1**
SMLA IAML 01 08 06.1
comp=E,419nm,0.8s
SMLA IAML 01 08 06.2
comp=N,422nm,0.3s
DDI Dehra Dun 10.37 147 eP Pn 01 06 30.4 +0.9
DDI ex x 01 06 30.5
GEYT Alibeck 10.60 267 Pn Pn 01 06 30.5 -2.0
comp=N,2.1nm,0.3s,baz=107,slow=8.2,SNR=22
GEYT Sn Sn **01 08 31.5 +1.6**
comp=N,7.8nm,0.3s,baz=249,slow=25,SNR=6.4
GEYT LR LR 01 11 30.0
comp=N,1μm,19.9s,baz=55,slow=42
GEYT Alibeck 10.60 267 Pn 01 06 30.6 -1.9
GYA0 ALIBECK ARRAY 10.60 267 P Pn 01 06 30.2 -2.3
GYA0 SN Sn **01 08 32.6 +2.6**
GYA0B ALIBECK ARRAY 10.60 267 ⇑Pn Pn 01 06 30.2 -2.3
GYA0B ⇑Sn Sn **01 08 36.9 +6.9**
GYA0B ⇓Lg Lg 01 09 41.6
GYA0B ALIBECK ARRAY 10.60 267 Pn Pn 01 06 31.4 -1.1
MAKZ Makanchi 10.75 42 ⇓Pn Pn 01 06 35.6 +1.0
comp=N,36nm,0.9s
MAKZ ⇓Lg Lg 01 09 35.9
comp=N,65nm,1.1s
MAKZ Makanchi 10.75 42 P Pn 01 06 35.2 +0.6
MAKZ Makanchi 10.75 42 Pn Pn 01 06 35.2 +0.6
MK31 Makanchi Array 10.90 43 ⇑Pn Pn 01 06 38.1 +1.4
comp=N,34nm,0.8s,baz=227,slow=13,SNR=126
MK31 ⇑Lg Lg 01 09 41.9
comp=N,30nm,0.8s,baz=232,slow=14,SNR=2.9
MK31 Makanchi Array 10.90 43 P Pn 01 06 37.9 +1.2
MK31 Makanchi Array 10.90 43 Pn 01 06 37.9 +1.2
MKAR Makanchi Array 10.90 43 Pn Pn 01 06 38.6 +1.9
comp=N,1.5nm,0.3s,baz=229,slow=14,SNR=98
MKAR Lg Lg 01 09 42.4
comp=N,0.3nm,0.3s,baz=229,slow=22,SNR=1.8
MKAR LR LR 01 10 01.3
comp=N,113nm,18.0s,baz=231,slow=33
MKAR Makanchi Array 10.90 43 *i* P Pn 01 06 38.5 +1.8
MKAR pmax pmax
comp=Z,28nm,0.7s
MKAR Makanchi Array 10.90 43 Pn 01 06 38.0 +1.3
NDI New Delhi 11.52 154 eP Pn 01 06 31.2 -14
NDI eS Sn 01 08 34.7 -18
SONA Sohna 11.87 156 ex Pn 01 06 42.9 -7.1
SONA eS **Sn 01 08 57.3 -4.0**
KURBB Kurchatov Arra 12.42 21 Pn Pn 01 06 54.9 -2.4
comp=Z,0.6nm,0.3s,baz=214,slow=12,SNR=47
KURBB Sn **Sn 01 09 14.3 0.0**
comp=Z,0.2nm,0.3s,baz=218,slow=27,SNR=1.9
KURBB Lg Lg 01 10 23.9
comp=Z,0.4nm,0.3s,baz=214,slow=31,SNR=2.5
KURBB Kurchatov Arra 12.42 21 ⇑Pn Pn 01 06 56.2 -1.1
comp=Z,30nm,0.6s
KURBB ⇑Lg Lg 01 10 22.1
comp=Z,268nm,0.8s
KURK Kurchatov 12.53 21 ⇑Pn Pn 01 06 57.7 -1.0
comp=Z,18nm,0.9s
KURK Kurchatov 12.53 21 *c i* P Pn 01 06 57.1 -1.7
KURK pmax pmax
comp=Z,47nm,2.5s
KURK Kurchatov 12.53 21 Pn Pn 01 06 56.6 -2.1
WMQ Urumqi 12.94 64 eP Pn 01 07 05.3 +0.8
WMQ PP P **01 07 16.5 +1.8**
WMQ sP 01 07 19.3
WMQ S Sn **01 09 31.3 +4.0**
WMQ sS 01 09 43.0
WMQ pmax pmax
comp=Z,11nm,1.7s
WMQ pmax pmax
comp=Z,120nm,3.7s
WMQ LR LR
comp=Z,390nm,12.3s
WMQ LR LR
comp=Z,1μm,6.1s
WMQ LR LR
comp=Z,440nm,19.1s
WMQ Urumqi 12.94 64 P Pn 01 07 03.4 -1.2
WMQ Urumqi 12.94 64 Pn 01 07 03.4 -1.2
AB01 Akbulak array 13.01 324 ⇓Pn Pn 01 07 02.9 -2.5
comp=Z,24nm,0.5s
AB31 Akbulak array 13.01 324 ⇓Sn Sn 01 09 31.4 +2.5
comp=Z,111nm,0.6s
AB31 Akbulak array 13.01 324 P Pn 01 07 02.5 -2.9
ABKAR Akbulak array 13.01 324 Pn Pn 01 07 03.1 -2.4
BVA0 Borovoye Array 13.83 357 ⇑Sn Sn 01 09 46.8 -1.9
comp=Z,44nm,0.8s,baz=168,slow=21,SNR=7.7
BVA0 ⇓Lg Lg 01 11 10.3
comp=Z,166nm,1.4s,baz=183,slow=29,SNR=4.4
BVAR Borovoye Array 13.83 357 Pn Pn 01 07 15.3 -1.3
comp=Z,4.7nm,0.3s,baz=161,slow=14,SNR=86
BVAR Sn **Sn 01 09 45.6 -3.1**
comp=Z,2.5nm,0.3s,baz=164,slow=22,SNR=7.7
BVAR Lg Lg 01 11 07.5
comp=Z,1.2nm,0.3s,baz=170,slow=25,SNR=2.6
BVAR LR LR 01 13 23.2
comp=Z,384nm,18.9s,baz=94,slow=40
BRVK Borovoye 13.86 357 ⇑Pn Pn 01 07 15.4 -1.6
comp=Z,42nm,0.8s
BRVK ⇓Sn **Sn 01 09 48.5 -1.1**
comp=Z,28nm,0.8s
BRVK ⇑Lg Lg 01 11 10.9
comp=Z,138nm,1.0s
BRVK Borovoye 13.86 357 P Pn 01 07 15.4 -1.6
BRVK SN **Sn 01 09 48.5 -1.1**
BRVK Borovoye 13.86 357 Pn Pn 01 07 15.9 -1.2
PYUN Piuthan 14.61 136 eP Pn 01 07 21.8 -5.7
comp=Z,51nm,0.4s
AKTO Aktyubinsk 14.73 324 Pn Pn 01 07 26.5 -2.3
comp=Z,3.1nm,0.3s,baz=134,slow=14,SNR=39
AKTO Sn **Sn 01 10 09.2 -1.5**
comp=Z,5.0nm,0.3s,baz=347,slow=22,SNR=10.0
AKTO Lg Lg 01 11 35.3
baz=18,slow=19,SNR=1.1
AKTO LR LR 01 13 39.1
comp=Z,2μm,18.6s,baz=142,slow=39
AKTO Aktyubinsk 14.73 324 ⇓Pn Pn 01 07 26.3 -2.5
comp=Z,87nm,0.7s
AKTO ⇑Sn **Sn 01 10 08.4 -2.3**
comp=Z,68nm,0.6s
AKTO ⇓Lg Lg 01 11 48.8
AKTO Aktyubinsk 14.73 324 P Pn 01 07 26.3 -2.5
AKTO SN **Sn 01 10 08.4 -2.3**
KOLN Koldanda 15.20 135 eP Pn 01 07 29.2 -6.2
DGZ Jazzator, Alta 15.40 42 *c i* P Pn 01 07 37.2 -0.7
GKN Gorkha 15.61 132 eP Pn 01 07 34.5 -6.2
comp=Z,19nm,0.2s
BHUJ Bhuj 16.00 186 eP Pn 01 07 41.5 -4.1
KKN Kakani 16.14 131 eP Pn 01 07 40.8 -6.8
comp=Z,35nm,0.6s
DMN Daman 16.18 132 eP Pn 01 07 41.9 -6.2
comp=Z,32nm,0.6s
PKI Pulchoki 16.38 131 eP Pn 01 07 44.9 -5.8
BHPL Bhopal 16.70 161 eP Pn 01 07 51.0 -3.5
JIRN Jiri 16.78 129 eP Pn 01 07 49.9 -5.9
comp=Z,36nm,0.3s
ZAA0 Zalesovo Array 17.28 27 ⇑Pn Pn 01 07 59.1 -2.4
comp=Z,5.6nm,0.6s
ZAA0 ⇓Sn **S 01 11 18.8 -1.8**
comp=Z,3.8nm,1.0s
ZAA0 ⇑Lg Lg 01 13 03.7
ZAA0 Zalesovo Array 17.28 27 Pn Pn 01 08 00.5 -1.0
ZAA0 IAmb IAmb 01 08 06.9
comp=Z,50nm,0.6s
ZALV Zalesovo Beam 17.28 27 P Pn 01 08 00.9 -0.6
comp=Z,4.6nm,0.3s,baz=230,slow=12,SNR=47
ZALV S **S 01 11 19.2 -1.4**
comp=Z,0.3nm,0.3s,baz=226,slow=22,SNR=1.8
ZALV Lg Lg 01 13 05.5
comp=Z,0.2nm,0.3s,baz=229,slow=28,SNR=1.3
ZALV LR LR 01 15 08.0
comp=Z,530nm,21.9s,baz=216,slow=38
ZALV Zalesovo Beam 17.28 27 *i* P Pn 01 08 00.9 -0.6
ZALV pmax pmax
comp=Z,38nm,0.5s

ZALV Zalesovo Beam 17.28 27 Pn 01 08 00.0 -1.5
RAMN Ramite 17.55 130 eP Pn 01 07 59.8 -5.5
comp=Z,81nm,0.7s
TAPN Taplejung 17.94 126 eP Pn 01 08 04.7 -5.4
comp=Z,76nm,0.8s
ODAN Odare 18.09 128 eP Pn 01 08 07.5 -4.5
SHME Shamm 18.43 229 P P 01 08 13.8 -1.8
BANOM Banah 18.43 229 P P 01 08 14.1 -1.6
MAK Makhachkala 18.48 289 eP Pn 01 08 17.0 +0.6
MAK eS Sn **01 11 42.1 +0.3**
MAK pmax pmax
comp=Z,466nm,1.7s
MAK MLR MLR
comp=Z,327nm,13.0s
LSA Lhasa 18.72 115 P P 01 08 17.6 -1.7
LSA pmax pmax
comp=Z,16nm,0.8s
LSA Lhasa 18.72 115 P P 01 08 17.6 -1.7
SVE Sverdlovsk 19.02 341 *d* eP Pn 01 08 22.3 -0.5
SVE eS Sn **01 11 53.6 -1.0**
SVE pmax pmax
comp=Z,35nm,0.9s
SVE MLR MLR
comp=Z,2μm,14.0s
NGP Nagpur 19.13 158 eP P 01 08 22.7 -0.7
NGP IAmb IAmb 01 08 49.5
comp=Z,22nm,0.9s
ARU Arti 19.24 338 P P 01 08 24.4 +0.2
comp=Z,0.0nm,0.3s,baz=174,slow=8.6,SNR=29
ARU S Sn **01 11 53.8 -6.0**
comp=Z,0.0nm,0.3s,baz=186,slow=24,SNR=2.1
ARU Lg 01 14 09.8
comp=Z,0.0nm,0.3s,baz=354,slow=23,SNR=1.5
ARU LR LR 01 16 32.6
comp=Z,1μm,18.4s,baz=140,slow=39
ARU Arti 19.24 338 *d i* P Pn 01 08 25.2 -0.2
ARU S **S 01 12 01.6 +1.6**
ARU pmax pmax
comp=Z,30nm,0.7s
ARU MLR MLR
comp=Z,1μm,21.0s
ARU Arti 19.24 338 P P 01 08 23.8 -0.4
ARU IAmb IAmb 01 08 29.1
comp=Z,29nm,0.7s
UOSS Minazif 19.24 227 P P 01 08 22.4 -2.1
UOSS Minazif 19.24 227 P P 01 08 22.4 -2.1
WSAR Wadi Sarin 19.36 218 P P 01 08 24.8 -1.0
comp=Z,0.3nm,0.3s,baz=49,slow=17,SNR=3.9
HATD Hatta, Dubai 19.37 227 P Pn 01 08 27.0 -0.3
DDFL Dedoflistskaro 19.49 285 P Pn 01 08 30.2 +1.5
NAZ Nazwa, Dubai 19.52 228 *i* P P 01 08 27.3 -0.2
SNR=7.0
NAZ Nazwa, Dubai 19.52 228 P Pn 01 08 30.0 +1.0
SNR=7.8
NAZ P Pn **01 08 30.0 +1.0**
SNR=7.8
ASHO Ashiyiah 19.53 227 *i* P P 01 08 27.4 -0.3
SNR=6.5
BOK Bokaro 19.61 137 eP P 01 08 23.9 -4.6
SOHO SOHO 19.70 225 P P 01 08 28.5 -0.9
WBK Wadi Bani Khal 19.73 217 P Pn 01 08 32.1 +0.5
SNR=6.2
WBK P **Pn 01 08 32.1 +0.5**
SNR=6.2
GROC Groznyy 19.75 290 eP P 01 08 30.1 +0.2
GROC eS **Sn 01 12 17.0 +4.7**
GROC pmax pmax
comp=Z,77nm,1.0s
GROC MLR MLR
comp=Z,81nm,6.0s
JLN Jalan Bani Buh 19.93 215 P P 01 08 32.6 +0.6
SNR=6.9
JLN P **P 01 08 32.6 +0.6**
SNR=6.9
ALNE Al Ain 20.19 226 *i* P P 01 08 35.4 +0.6
SNR=15
ARQ Araqi 20.34 223 P P 01 08 37.7 +1.1
SNR=6.6
ARQ P **P 01 08 37.7 +1.1**
SNR=6.6
JMDO Jabal Madar 20.35 218 P Pn 01 08 37.7 -1.1
SNR=6.0
BSY Bisya 20.48 221 P Pn 01 08 39.7 -0.6
SNR=6.9
TBLG Delisi 20.52 286 P P 01 08 38.6 +0.3
TBLG pmax pmax
comp=Z,46nm,1.2s
TBLG Delisi 20.52 286 P P 01 08 38.6 +0.3
TBLG IAmb IAmb 01 08 48.1
comp=Z,46nm,1.2s
POO Poona 20.72 174 eP Pn 01 08 43.0 -0.2
KZRT Kazreti 20.79 285 P Pn 01 08 43.2 -0.7
ZEI Tsey 21.12 289 eP P 01 08 47.6 +2.5
ZEI pmax pmax
comp=Z,24nm,0.7s
ONI Oni 21.46 288 P P 01 08 50.5 +2.0
AKH Akhalkalaki 21.47 285 P P 01 08 49.9 +1.2
AKH pmax pmax
comp=Z,79nm,1.0s
AKH Akhalkalaki 21.47 285 P P 01 08 49.9 +1.2
MHTO MHTO 21.60 217 P P 01 08 50.6 +0.6
SNR=8.1
GTA Gaotai 21.84 80 eP P 01 08 53.3 +0.6
GTA pP pP 01 09 02.3 -0.5
GTA sP sP 01 09 06.5 -0.9
GTA S **S 01 12 47.5 -4.8**
GTA sS Sn 01 13 02.5 -0.4
GTA SS **SnSn 01 13 31.3 +13**
GTA pmax pmax
comp=Z,35nm,1.2s
GTA pmax pmax
comp=Z,350nm,8.6s
GTA LR LR
comp=Z,1μm,16.8s
GTA LR LR
comp=Z,950nm,17.5s
GTA LR LR
comp=Z,840nm,18.5s
KARS Kars 21.84 283 P P 01 08 55.4 +2.7
SHL Shillong 21.85 123 eP P 01 08 50.0 -3.0
SHL Shillong 21.85 123 P P 01 08 53.1 +0.1
SNR=7.8
SHL Shillong 21.85 123 P P 01 08 50.6 -2.3
SHL pmax pmax
comp=Z,26nm,0.7s
SHL Shillong 21.85 123 P P 01 08 50.6 -2.3
SHL IAmb IAmb 01 09 02.4
comp=Z,26nm,0.7s
GOF Gofitskoye 21.86 295 ⇑eP P 01 08 53.7 +1.0
GOF pmax pmax
comp=Z,60nm,1.1s
KBZ Khabaz 21.88 291 P P 01 08 51.9 -0.9
comp=Z,12nm,0.8s,baz=114,slow=8.7,SNR=11
KBZ LR LR 01 18 24.4
comp=Z,430nm,18.8s,baz=90,slow=39
ZIRO ZIRO 21.92 115 eP P 01 08 54.2 +0.6
KVAR Kislovodsk Arr 22.03 292 S S 01 12 52.0 -3.9
comp=Z,6.2nm,0.8s,baz=38,slow=19,SNR=2.1
KIV Kislovodsk 22.04 292 eP P 01 08 55.7 +0.9
KIV eS **S 01 12 56.5 +0.5**
KIV pmax pmax
comp=Z,55nm,0.9s
KIV MLR MLR
comp=Z,678nm,14.0s
KIV Kislovodsk 22.04 292 P P 01 08 54.6 -0.2
KIV IAmb IAmb 01 09 07.2
comp=Z,30nm,0.7s
GEVA Gevas 22.20 277 P P 01 08 57.2 +0.6
GEVA IAmb IAmb 01 09 00.3
comp=Z,56nm,1.3s
BWNR Bhubaneshwar 22.51 143 eP P 01 08 48.5 -11
BWNR IAmb IAmb 01 08 56.2
comp=Z,29nm,1.0s
HYB Hyderabad 22.57 162 *i* P P 01 09 01.0 +0.5
HYB *es*P **sP 01 09 19.0 +3.5**
HYB eS Sn 01 13 15.0 -5.5
KOPT Kop Dagi 23.87 282 P P 01 09 13.2 -0.5
MOY Mondy 23.93 49 eP P 01 09 15.8 +1.8
MOY pmax pmax
comp=Z,123nm,2.7s
VRH Novokhopyorsk 24.01 310 eP P 01 09 22.1 +7.6
VRH pmax pmax
comp=Z,120nm,1.7s
VRH MLR MLR
comp=Z,1μm,22.0s

KIRV Kirov 24.02 331 P P 01 09 14.2 -0.3
comp=Z,54nm,0.7s,baz=117,slow=3.1,SNR=20
KIRV S **S 01 13 31.0 +1.9**
comp=Z,4.4nm,0.6s,baz=349,slow=6.3,SNR=1.8
KIRV Lg Lg 01 16 34.9
comp=Z,2.8nm,0.6s,baz=180,slow=22,SNR=1.4
KIRV LR LR 01 19 14.0
comp=Z,1μm,18.0s,baz=125,slow=38
SOC Sochi 24.18 291 eP P 01 09 16.3 +0.1
SOC *e* 01 09 47.4
SOC eS **S 01 13 31.8 -0.3**
SOC eSS **SnSn 01 14 18.7 +3.4**
SOC pmax pmax
comp=Z,21nm,1.1s
SOC MLR MLR
comp=Z,378nm,19.0s
ZAK Zakamensk 24.94 53 eP P 01 09 23.9 +0.8
ZAK pmax pmax
comp=Z,13nm,0.9s
VORD Divnogorie 25.41 308 eP P 01 09 27.8 +0.6
VORD pmax pmax
comp=Z,100nm,1.2s
TLY Talaya 25.51 50 P P 01 09 27.0 -1.1
comp=Z,8.3nm,0.8s,baz=212,slow=5.4,SNR=8.6
TLY Lg Lg 01 17 24.2
comp=Z,2.4nm,0.5s,baz=278,slow=19,SNR=2.6
TLY Talaya 25.51 50 *c i* P P 01 09 29.2 +1.0
TLY pmax pmax
comp=Z,17nm,0.7s
TLY MLR MLR
comp=Z,1μm,13.0s
TLY Talaya 25.51 50 P P 01 09 27.9 -0.3
VSR Storozhevoye 25.55 309 eP P 01 09 28.5 0.0
VSR pmax pmax
comp=Z,50nm,1.3s
VSR MLR MLR
comp=Z,990nm,25.0s
LZH Lanzhou 25.69 87 eP P 01 09 31.0 +0.9
LZH pP pP 01 09 39.0 -1.9
LZH sP sP 01 09 43.8 -1.2
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,93nm,4.8s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,1μm,16.3s
LZH LR LR
comp=Z,960nm,15.7s
LPSR Galich'ya Gora 26.09 312 eP P 01 09 34.7 +1.4
LPSR pmax pmax
comp=Z,30nm,0.8s
LPSR MLR MLR
comp=Z,450nm,17.0s
SONM Songino Array 26.50 60 P P 01 09 37.0 -0.4
comp=Z,7.3nm,0.8s,baz=270,slow=9.8,SNR=20
SONM PcP **PcP 01 13 01.6 +0.1**
comp=Z,1.0nm,0.8s,baz=252,slow=4.2,SNR=2.4
SONM ScP **ScP 01 16 41.9 +3.2**
comp=Z,0.5nm,0.8s,baz=245,slow=5.4,SNR=1.8
SONM LR LR 01 21 02.8
comp=Z,914nm,21.0s,baz=262,slow=39
SONM Songino Array 26.50 60 P P 01 09 37.6 +0.3
TOKA Tokat 26.87 284 P P 01 09 43.0 +2.3
ULN Ulaanbaatar 26.95 60 *c i* P P 01 09 41.1 -0.3
ULN pmax pmax
comp=Z,28nm,1.7s
ULN Ulaanbaatar 26.95 60 P P 01 09 41.3 -0.1
GAZ Gaziantep 26.97 277 P P 01 09 43.1 +1.5
PRGR Permogore 27.50 333 eP P 01 09 42.8 -3.2
PRGR eS **S 01 14 16.0 -8.4**
PRGR pmax pmax
comp=Z,14nm,0.6s
CD2 Chengdu 27.53 98 P P 01 09 48.0 +1.4
CD2 S **S 01 14 30.8 +5.3**
CD2 pmax pmax
comp=Z,100nm,0.8s
CD2 pmax pmax
comp=Z,240nm,7.8s
CD2 LR LR
comp=Z,1μm,15.1s
CD2 LR LR
comp=Z,1μm,14.6s
CD2 LR LR
comp=Z,1μm,16.9s
MOS Moscow 27.88 318 eP P 01 09 48.4 -1.0
MOS eS **S 01 14 29.0 -1.4**
MOS MLR MLR
comp=Z,900nm,15.0s
OBN Obninsk 28.22 316 P P 01 09 53.2 +0.7
comp=Z,2.8nm,0.3s,baz=341,slow=21,SNR=4.6
OBN S S 01 14 54.0 +18
comp=Z,3.3nm,0.4s,baz=289,slow=5.8,SNR=2.4
OBN LR LR 01 22 21.4
comp=Z,116nm,19.7s,baz=72,slow=39
OBN Obninsk 28.22 316 eP P 01 09 54.3 +1.9
OBN *e* 01 10 43.9
OBN *e* 01 13 06.3
OBN pmax pmax
comp=Z,34nm,1.7s
OBN MLR MLR
comp=Z,564nm,16.0s
OBN Obninsk 28.22 316 P P 01 09 53.6 +1.2
OBN IAmb IAmb 01 10 01.1
comp=Z,21nm,0.6s
ILGA Ilgaz 28.83 286 P P 01 09 58.6 +0.3
ILGA IAmb IAmb 01 10 02.9
comp=Z,26nm,1.0s
ASF Jabal al Asfar 28.88 267 P P 01 09 59.3 +0.6
comp=Z,0.7nm,0.4s,baz=7.3,slow=3.7,SNR=6.9
BR131 Keskin Array S 29.12 283 P P 01 10 00.1 -0.8
BR131 pmax pmax
comp=Z,12nm,1.1s
BR131 Keskin Array S 29.12 283 P P 01 10 00.1 -0.8
BRTR Keskin Array B 29.12 283 P P 01 10 01.9 +1.0
comp=Z,4.3nm,0.7s,baz=94,slow=7.3,SNR=20
BRTR LR LR 01 23 44.8
comp=Z,165nm,20.6s,baz=78,slow=41
BRTR Keskin Array B 29.12 283 *c e* P P 01 10 02.4 +1.5
BRTR pmax pmax
comp=Z,4.0nm,0.7s
KLMR Klimovskoe 29.36 328 eP P 01 10 02.3 -0.2
KLMR eS **S 01 14 52.8 -0.8**
KLMR pmax pmax
comp=Z,30nm,1.4s
KLMR Klimovskoe 29.36 328 eP P 01 10 02.4 -0.1
KLMR AMP 01 10 16.6
comp=Z,30nm,1.4s
KLMR eS **S 01 14 52.9 -0.7**
KLMR eS **S 01 14 52.9 -0.7**
KLMR LQ LQ 01 19 42.7
KLMR LQ LQ 01 19 42.7
KLMR LR LR 01 21 32.1
BTO Baotou 29.39 75 eP P 01 10 02.0 -1.2
BTO S S 01 14 45.3 -9.4
MMAI Mount Meron Ar 29.71 269 P P 01 10 06.2 +0.2
comp=Z,0.1nm,0.3s,baz=60,slow=8.5,SNR=2.1
MMAI LR LR 01 23 06.0
comp=Z,134nm,19.1s,baz=335,slow=39
KMI Kunming 29.75 109 ⇓eP P 01 10 09.0 +2.4
KMI pP pP 01 10 18.0 +0.5
KMI pmax pmax
comp=Z,17nm,0.9s
KMI pmax pmax
comp=Z,78nm,4.0s
KMI LR LR
comp=Z,460nm,12.8s
KMI LR LR
comp=Z,310nm,11.9s
KMI LR LR
comp=Z,580nm,13.5s
BR231 Keskin MP Arra 29.75 284 P P 01 10 06.0 -0.4
BR231 IAmb IAmb 01 10 19.5
comp=Z,15nm,1.1s
XAN Xi'an 30.29 88 P P 01 10 11.0 -0.1
XAN pP pP 01 10 19.5 -2.5
XAN S **S 01 15 14.5 +5.6**
XAN pmax pmax
comp=Z,23nm,0.8s
XAN pmax pmax
comp=Z,150nm,7.6s
XAN LR LR
comp=Z,860nm,15.0s
XAN LR LR
comp=Z,1μm,15.7s

XAN LR LR
comp=Z,2µm,14.5s
XAN Xi'an 30.29 88 P **P** **01 10 11.3 +0.1**
XAN pmax pmax
comp=Z,15nm,0.8s
XAN Xi'an 30.29 88 P **P** **01 10 11.2 +0.1**
XAN IAmb IAmb 01 10 12.5
comp=Z,15nm,0.8s
HHC Hu-ho-hao-te 30.50 74 *e*P **P** **01 10 14.3 +1.3**
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,95nm,4.4s
HHC LR LR
comp=Z,570nm,13.1s
HHC LR LR
comp=Z,620nm,11.1s
HHC LR LR
comp=Z,630nm,11.9s
NRIK Noril'sk 31.37 11 P **P** **01 10 20.6 +0.4**
comp=Z,14nm,0.8s,baz=195,slow=6.4,SNR=18
NRIK LR LR 01 23 01.3
comp=Z,358nm,21.1s,baz=194,slow=36
CMAR Chiang Mai Arr 31.48 123 P P 01 10 15.8 -5.9
comp=Z,0.8nm,0.4s,baz=316,slow=10,SNR=1.9
CMAR LR LR 01 24 60.0
comp=Z,196nm,19.2s,baz=360,slow=40
CMAR Chiang Mai Arr 31.48 123*c**e*P **P** **01 10 25.1 +3.4**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 31.65 305 P **P** **01 10 22.6 -0.3**
comp=Z,1.8nm,0.5s,baz=78,slow=7.5,SNR=11
AKASG LR LR 01 26 25.3
comp=Z,526nm,18.3s,baz=85,slow=42
AKASG Malin Array Be 31.65 305*c**e*P **P** **01 10 23.7 +0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 31.65 305 IAmb IAmb 01 10 26.7
comp=Z,1.4nm,0.8s
AKBB Malin Array Si 31.65 305 IAmb IAmb 01 10 26.6
comp=Z,9.5nm,0.7s
GYA Guiyang 31.93 103 ⇓P **P** **01 10 27.0 +1.2**
GYA S **S** **01 15 35.0 +0.2**
GYA pmax pmax
comp=Z,15nm,1.1s
GYA pmax pmax
comp=Z,130nm,3.5s
GYA LR LR
comp=Z,490nm,23.7s
GYA LR LR
comp=Z,390nm,25.2s
GYA LR LR
comp=Z,350nm,15.3s
SORM Soroca 32.12 300 ⇑P **P** **01 10 27.3 +0.3**
ENH Enshi 32.24 94 P **P** **01 10 28.8 +0.5**
ENH IAmb IAmb 01 10 30.4
comp=Z,16nm,0.9s
TOPG Topolog 32.26 294 ⇑P **P** **01 10 29.2 +0.9**
CFR Carcaliu 32.40 295 ⇑P **P** **01 10 30.9 +1.4**
HARR Harsova 32.59 294 ⇑P **P** **01 10 33.1 +1.9**
ELL Elmali 32.71 279 P **P** **01 10 32.8 +0.3**
ELL pmax pmax
comp=Z,17nm,0.6s
ELL Elmali 32.71 279 P **P** **01 10 32.8 +0.3**
MANT Manisa 33.25 283 P **P** **01 10 38.9 +1.5**
VRI Vrincioaia 33.33 296 ⇑P **P** **01 10 40.1 +2.4**
TESR Tescani 33.33 297 ⇑P **P** **01 10 39.0 +1.3**
PLOR Plostina 33.38 296 ⇑P **P** **01 10 39.8 +1.7**
ISR Istrita 33.53 295 ⇓P **P** **01 10 41.2 +1.7**
BIZ Bicaz 33.68 298 ⇑P **P** **01 10 42.3 +1.5**
MLR Muntele Rosu 33.91 296 ⇑P **P** **01 10 45.3 +2.4**
MLR Muntele Rosu 33.91 296 P **P** **01 10 44.4 +1.5**
MLR pmax pmax
comp=Z,44nm,1.1s
MLR Muntele Rosu 33.91 296 P **P** **01 10 44.4 +1.5**
BJI Beijing 34.11 74 P **P** **01 10 44.3 -0.2**
BJI S **S** **01 16 04.0 -4.1**
BJI pmax pmax
comp=Z,3.0nm,0.4s
BJI LR LR
comp=Z,470nm,16.9s
BJI LR LR
comp=Z,350nm,15.2s
BJI LR LR
comp=Z,380nm,24.6s
PBKT Sadao Pong 34.18 123 P **P** **01 10 43.7 -1.5**
BURAR Bucovina Array 34.24 300 P **P** **01 10 47.0 +1.3**
DOPR Dopca 34.25 297 ⇑P **P** **01 10 47.5 +1.8**
VSU Vasula 34.37 319*c* *i*P **P** **01 10 48.5 +2.0**
VSU pmax pmax
comp=Z,38nm,0.8s
VOIR 34.54 296 ⇑P **P** **01 10 50.0 +1.7**
LVV L'vov 34.95 304 *e*P **P** **01 10 53.3 +1.6**
KARP Karpathos 35.19 278 P **P** **01 10 54.3 +0.4**
LOT Lotru 35.44 296 ⇑P **P** **01 10 58.1 +2.0**
FIA1 FINESS Array S 35.50 324 P **P** **01 10 57.4 +1.1**
FIA1 IAmb IAmb 01 10 59.3
comp=Z,17nm,1.1s
FINES FINESS Array B 35.50 324 P **P** **01 10 56.9 +0.6**
comp=Z,2.8nm,0.3s,baz=117,slow=8.8,SNR=69
FINES LR LR 01 26 12.6
comp=Z,773nm,21.8s,baz=108,slow=37
KWP Kalwaria Pacla 35.81 303 *e*P **P** **01 11 01.4 +2.3**
TIA Tai'an 35.89 80 P **P** **01 11 00.3 +0.4**
TIA pmax pmax
comp=Z,14nm,1.3s
TIA LR LR
comp=Z,380nm,14.5s
TIA LR LR
comp=Z,260nm,13.9s
TIA LR LR
comp=Z,240nm,10.6s
WHN Wuhan 35.89 91 P **P** **01 10 59.8 -0.1**
WHN S **S** **01 16 33.0 -2.7**
WHN LR LR
comp=Z,1µm,11.6s
WHN LR LR
comp=Z,710nm,13.8s
WHN LR LR
comp=Z,1µm,13.9s
KOLS Kolonicke sedl 36.13 302 *e*P **P** **01 11 02.9 +1.1**
KOLS pmax pmax
comp=Z,4.0nm,1.0s
KOLS Kolonicke sedl 36.13 302 *e*P **P** **01 11 02.9 +1.1**
KOLS *e* 01 12 12.1
UZH Uzhgorod 36.14 302 *e*P **P** **01 11 02.6 +0.8**
UZH *e* 01 11 14.8
UZH *e*S **S** **01 16 38.5 -0.6**
UZH *e*SS **SnSn** **01 19 02.9 -3.1**
UZH MLR MLR
comp=Z,30nm,17.0s
CRVS Cervenica-Dubn 36.67 302 *e*P **P** **01 11 07.9 +1.5**
CRVS *e* 01 12 31.2
CRVS Cervenica-Dubn 36.67 302 *e*P **P** **01 11 07.9 +1.5**
CRVS *e*PP **PP** **01 12 31.2 +1.1**
MDVR Moldovita 36.97 295 ⇑P **P** **01 11 10.0 +0.9**
NIE Niedzica 37.39 303 *e*P **P** **01 11 13.9 +1.3**
NIE *e*S **PP** **01 12 42.5 +4.5**
ATD Arta Tunnel 37.55 231 P **P** **01 11 17.1 +2.8**
SNR=5.7
ATD Arta Tunnel 37.55 231 P **P** **01 11 13.8 -0.4**
ATD IAmb IAmb 01 11 19.5
comp=Z,28nm,1.2s
OJC Ojcow 37.66 304 *e*P **P** **01 11 15.4 +0.6**
OJC Ojcow 37.66 304 P **P** **01 11 15.3 +0.4**
OJC pmax pmax
comp=Z,11nm,0.7s
OJC Ojcow 37.66 304 P **P** **01 11 15.3 +0.4**
OJC IAmb IAmb 01 11 17.9
comp=Z,10nm,0.7s
PSZ Piszkesteto 37.80 301 P **P** **01 11 17.8 +1.7**
PSZ pmax pmax
comp=Z,11nm,1.2s
PSZ Piszkesteto 37.80 301 P **P** **01 11 17.8 +1.7**
DIVS Divibare 38.30 294 IAmb IAmb 01 11 24.1
comp=Z,11nm,0.9s
VYHS Vyhne 38.44 302 *e*P **P** **01 11 23.7 +2.3**
VYHS pmax pmax
comp=Z,98nm,3.0s
VYHS Vyhne 38.44 302 *e*P **P** **01 11 23.7 +2.3**
VYHS *e*PP **PP** **01 12 50.6 +1.1**
QIZ Qiongzhong 38.66 110 P **P** **01 11 25.0 +1.4**
QIZ S **S** **01 17 22.3 +4.2**
QIZ pmax pmax
comp=Z,39nm,1.0s
QIZ LR LR
comp=Z,480nm,20.7s
QIZ LR LR
comp=Z,600nm,22.6s
QIZ LR LR
comp=Z,440nm,14.7s
NJ2 Nanjing 38.75 86 *e*P **P** **01 11 24.5 +0.3**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 LR LR
comp=Z,550nm,12.3s
NJ2 LR LR
comp=Z,400nm,11.5s
NJ2 LR LR
comp=Z,490nm,13.5s
ARCES ARCESS Array B 38.81 336 P **P** **01 11 24.9 +0.7**
comp=Z,3.9nm,0.6s,baz=112,slow=7.7,SNR=34
ARCES PcP **PcP** **01 13 34.6 -0.2**
comp=Z,1.2nm,0.5s,baz=118,slow=4.4,SNR=3.9
ARCES LR LR 01 28 13.5
comp=Z,1µm,18.3s,baz=133,slow=37
ARCES ARCESS Array B 38.81 336 P **P** **01 11 25.1 +0.8**
ARE0 ARCESS Array S 38.81 336 P **P** **01 11 24.1 -0.1**
ARE0 ARCESS Array S 38.81 336 *e*P **P** **01 11 25.3 +1.0**
SRO2 Moca 38.82 301 *e*P **P** **01 11 26.1 +1.6**
SRO2 pmax pmax
comp=Z,11nm,1.2s
SRO2 Moca 38.82 301 *e*P **P** **01 11 26.1 +1.6**
SRO Srobarova 38.87 301 *e*P **P** **01 11 27.5 +2.6**
SRO pmax pmax
comp=Z,13nm,1.3s
SRO Srobarova 38.87 301 *e*P **P** **01 11 27.5 +2.6**
GKP Gorka Klasztor 39.13 309 *e*P **P** **01 11 27.9 +0.8**
MORC Moravsky Berou 39.15 304 ⇑P **P** **01 11 28.8 +1.4**
MORC Moravsky Berou 39.15 304 *e*P **P** **01 11 28.4 +1.0**
JAVC Velka Javorina 39.16 302 *e*P **P** **01 11 29.9 +2.4**
PDG Podgorica 39.19 292 ⇑P **P** **01 11 28.0 +0.3**
KTK1 Kautokeino 39.32 335 *e*P **P** **01 11 29.1 +0.6**
SMOL Smolenice 39.36 302 *e*P **P** **01 11 31.5 +2.4**
SMOL Smolenice 39.36 302 *e*P **P** **01 11 31.5 +2.4**
MODS Modra-Piesok 39.48 302 *e*P **P** **01 11 31.1 +1.0**
MODS pmax pmax
comp=Z,26nm,1.8s
MODS Modra-Piesok 39.48 302 *e*P **P** **01 11 31.1 +1.0**
KRLC Kraliky 39.61 304 *e*P **P** **01 11 32.1 +0.9**
KRLC *e* 01 11 42.8
KRLC MLR MLR
comp=Z,400nm,18.0s
KRLC Kraliky 39.61 304 *e*P **P** **01 11 32.1 +0.9**
KRLC *e*pP **pP** **01 11 42.8 +0.8**
KRLC AMS AMS 01 30 30.0
comp=Z,400nm,18.0s
VRAC Vranov 39.81 303 *e*P **P** **01 11 34.1 +1.2**
KSP Ksiaz 39.85 306 *e*P **P** **01 11 33.9 +0.7**
HAMF Hammerfest 39.87 337 *e*P **P** **01 11 34.6 +1.7**
DPC Dobruska-Polom 39.88 305 *e*P **P** **01 11 34.8 +1.4**
DPC MLR MLR
comp=Z,400nm,21.4s
DPC Dobruska-Polom 39.88 305 *e*P **P** **01 11 34.8 +1.4**
DPC *e*x x 01 15 10.7
DPC AMS AMS 01 30 30.0
comp=Z,400nm,21.4s
OSTC Ostas 39.92 305 *e*P **P** **01 11 34.5 +0.7**
OSTC *e*x x 01 15 09.9
OSTC AMS AMS 01 29 50.0
comp=Z,400nm,13.9s
ZEA Zeya 39.95 50 *e*P **P** **01 11 35.8 +1.9**
ZEA pmax pmax
comp=Z,23nm,1.0s
ZEA MLR MLR
comp=Z,300nm,16.0s
ZEA MLR MLR
comp=E,200nm,17.0s
ZEA MLR MLR
comp=N,400nm,14.0s
KRUC Moravsky 39.97 303 *e*P **P** **01 11 35.7 +1.5**
CHVC Chvalec 40.02 305 *e*P **P** **01 11 35.4 +0.8**
CHVC AMS AMS 01 30 40.0
comp=N,400nm,17.9s
UPC Upice 40.06 305 *e*P **P** **01 11 35.7 +0.8**
UPC MLR MLR
comp=Z,500nm,21.5s
UPC Upice 40.06 305 *e*P **P** **01 11 35.7 +0.8**
UPC AMS AMS 01 30 50.0
comp=Z,500nm,21.5s
CONA Conrad Observa 40.48 301 *i* P **P** **01 11 40.1 +1.5**
comp=Z,28nm,1.6s,SNR=12
TREC Trest 40.53 303 *e*P **P** **01 11 41.7 +2.8**
TREC MLR MLR
comp=Z,300nm,12.8s
TREC Trest 40.53 303 *e*P **P** **01 11 41.7 +2.8**
TREC *e*x x 01 15 13.5
TREC AMS AMS 01 30 50.0
comp=Z,300nm,12.8s
ARSA Arzberg 40.82 300 *i* P **P** **01 11 43.3 +2.1**
comp=Z,6.4nm,0.9s
GOPC GO Pecny, Ondr 40.91 304 *e*P **P** **01 11 45.0 +3.1**
GOPC MLR MLR
comp=Z,400nm,19.6s
GOPC GO Pecny, Ondr 40.91 304 *e*P **P** **01 11 45.0 +3.1**
GOPC *e*x x 01 15 12.1
GOPC AMS AMS 01 30 30.0
comp=Z,400nm,19.6s
TRO Tromso 40.97 335 *e*P **P** **01 11 43.1 +1.0**
PVCC Panska Ves 40.97 305 *e*P **P** **01 11 43.6 +1.2**
PVCC MLR MLR
comp=Z,400nm,19.6s
PVCC Panska Ves 40.97 305 *e*P **P** **01 11 43.6 +1.2**
PVCC AMS AMS 01 31 10.0
comp=Z,400nm,19.6s
DOBS Dobrina 41.05 299 *e*P **P** **01 11 44.6 +1.4**
PRU Pruhonice 41.06 304 *e*P **P** **01 11 44.5 +1.4**
PRU MLR MLR
comp=Z,400nm,19.1s
PRU Pruhonice 41.06 304 *e*P **P** **01 11 44.5 +1.4**
PRU *e*x x 01 15 12.3
PRU AMS AMS 01 30 30.0
comp=Z,400nm,19.1s
PRA Prague 41.12 305 AMS AMS 01 30 40.0
comp=Z,200nm,10.6s
SOKA Soboth 41.25 299 *i* P **P** **01 11 46.6 +1.7**
comp=Z,15nm,1.1s,SNR=6.2
BRG Berggiesshubel 41.33 306 *i* P **P** **01 11 46.2 +0.9**
comp=Z,16nm,1.0s
BRG *e* 01 12 11.9
comp=Z,4.4nm,0.8s
BRG *e* 01 13 27.6
comp=Z,68nm,2.5s
RGN Rugen 41.39 311 *e*P **P** **01 11 48.0 +2.2**
baz=82,slow=8.0
YAK Yakutsk 41.52 37 *e*P **P** **01 11 46.1 -0.6**
YAK *e**PP **sP** **01 12 02.6 +0.1**
YAK *e* 01 13 25.3
YAK *e*S **S** **01 17 57.2 -2.6**
YAK *e**SS **sS** **01 18 18.4 +0.3**
YAK *e*SS **SS** **01 21 03.4 -1.3**
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,23nm,1.0s
YAK pmax pmax
comp=Z,72nm,2.3s
YAK pmax pmax
comp=N,30nm,2.5s
YAK smax smax
comp=N,47nm,2.3s
YAK smax smax
comp=E,37nm,2.0s
YAK MLR MLR
comp=Z,145nm,15.0s
YAK MLR MLR
comp=E,124nm,15.0s
YAK Yakutsk 41.52 37 P **P** **01 11 47.6 +0.9**
MOA Molln 41.56 301 *i* P **P** **01 11 50.2 +2.9**
comp=E,20nm,1.9s,SNR=5.1
FAUS Fauske 41.61 331 *e*P **P** **01 11 46.4 -1.0**
OBKA Obir 41.61 299 *i* P **P** **01 11 51.0 +3.2**
comp=E,17nm,1.4s
FBE Freiberg 41.69 306 *e*P **P** **01 11 49.7 +1.4**
comp=E,20nm,1.2s,baz=82,slow=8.0
LJU Ljubljana 41.72 299 *i* P **P** **01 11 49.4 +0.7**
LJU *i* 01 15 22.4
STEI Steigen 41.76 332 *e*P **P** **01 11 49.6 +1.0**
GEC2 GERESS Array S 41.76 303 *e*P **P** **01 11 50.7 +1.6**
comp=E,31nm,1.6s,baz=82,slow=8.0
GEC2 *e*L L 01 31 46.3
comp=E,265nm,18.2s
GERES GERESS Array B 41.76 303 P **P** **01 11 49.5 +0.5**
comp=E,3.3nm,0.7s,baz=60,slow=8.0,SNR=26
GERES PP **PnPn** **01 13 28.4 -2.4**
comp=E,1.8nm,1.0s,baz=72,slow=9.4,SNR=2.5
GERES LR LR 01 31 56.4
comp=E,268nm,18.0s,baz=84,slow=40
GERES GERESS Array B 41.76 303 P **P** **01 11 49.8 +0.7**
GERES GERESS Array B 41.76 303 P **P** **01 11 49.8 +0.7**
KHC Kasperske Hory 41.80 303*c* *i*P **P** **01 11 50.1 +0.8**
KHC pmax pmax
comp=Z,41nm,1.3s
KHC Kasperske Hory 41.80 303 *e*P **P** **01 11 50.0 +0.8**
KHC *e*x x 01 15 14.9
KHC AMS AMS 01 31 30.0
comp=Z,300nm,14.7s
KHC Kasperske Hory 41.80 303 P **P** **01 11 50.3 +1.0**
CLL Collm 41.87 307 *i* P **P** **01 11 50.5 +0.8**
comp=Z,11nm,0.8s
CLL *e*pP **pP** **01 12 01.0 +0.5**
CLL *e*PP **PP** **01 13 25.0 -1.7**
CLL *e*pPP 01 13 39.0
CLL *e*S **S** **01 18 03.0 -2.2**
CLL LmV 01 30 00.0
comp=Z,300nm,21.1s
CLL Collm 41.87 307 *i* P **P** **01 11 50.5 +0.8**
CLL *e**PP **pP** **01 12 01.0 +0.5**
CLL *e*S **S** **01 18 03.0 -2.2**
CLL pmax pmax
comp=Z,11nm,0.8s
CLL MLR MLR
comp=Z,300nm,21.1s
CLL Collm 41.87 307 *e*P **P** **01 11 50.5 +0.8**
comp=Z,11nm,0.8s,baz=82,slow=8.0
CLL *e*L L 01 30 55.2
comp=Z,270nm,19.8s
WET Wettzell 42.25 303 *e*P **P** **01 11 54.1 +1.1**
comp=Z,18nm,1.4s,baz=82,slow=8.0
WET *e*L L 01 24 32.3
comp=Z,59nm,19.5s
NC405 NORSAR Array S 42.26 321 P **P** **01 11 53.6 +0.8**
NC405 IAmb IAmb 01 11 57.7
comp=Z,29nm,1.1s
KONS Konsvik 42.26 329 *e*P **P** **01 11 53.6 +0.9**
KBA Koelnbreinsper 42.31 300 *i* P **P** **01 11 56.4 +2.7**
comp=Z,8.1nm,1.3s
TANN Tannenbergstha 42.32 305 *e*P **P** **01 11 54.8 +1.3**
comp=Z,75nm,1.9s,baz=82,slow=8.0
NKC Novy Kostel 42.36 305 AMS AMS 01 32 00.0
comp=Z,500nm,17.2s
WERN Wernitzgruen 42.40 305 *e*P **P** **01 11 55.9 +1.8**
comp=Z,13nm,1.3s,baz=82,slow=8.0
GUNZ Gunzen 42.41 305 *e*P **P** **01 11 55.4 +1.1**
comp=Z,11nm,1.2s,baz=82,slow=8.0
WERD Werda 42.42 305 *e*P **P** **01 11 55.2 +0.9**
comp=Z,9.1nm,1.1s,baz=82,slow=8.0
NC303 NORSAR Array S 42.43 322 P **P** **01 11 53.5 -0.8**
NC303 IAmb IAmb 01 11 58.4
comp=Z,26nm,1.1s
NB2 NORSAR Subarra 42.50 321 P **P** **01 11 54.4 -0.4**
comp=Z,6.9nm,0.8s,baz=92,slow=8.6
NB2 NORSAR Subarra 42.50 321 P **P** **01 11 54.4 -0.4**
baz=92,slow=8.6
NOA NORSAR Array B 42.50 321 P **P** **01 11 54.4 -0.4**
comp=Z,2.5nm,0.6s,baz=92,slow=8.0,SNR=19
NOA PP **PP** **01 13 37.8 +4.4**
comp=Z,1.0nm,0.7s,baz=103,slow=9.3,SNR=4.4
NOA LR LR 01 30 38.6
comp=Z,731nm,19.5s,baz=95,slow=38
PLN Plauen 42.51 306 *e*P **P** **01 11 56.5 +1.6**
comp=Z,5.8nm,0.9s,baz=82,slow=8.0
NEUB Neuenburg 42.64 307 *e*P **P** **01 11 57.5 +1.5**
comp=Z,15nm,1.1s,baz=82,slow=8.0
NC204 NORSAR Array S 42.73 322 *e*P **P** **01 11 56.5 -0.1**
MDJ Mudanjiang 42.74 63 P **P** **01 11 57.5 +0.6**
MDJ pP pP 01 12 06.5 -1.5
MDJ sP sP 01 12 10.3 -2.0
MDJ PP **PP** **01 13 34.5 -1.8**
MDJ S **S** **01 18 18.5 +0.2**
MDJ pmax pmax
comp=Z,9.0nm,0.5s
MDJ pmax pmax
comp=Z,88nm,3.4s
MDJ LR LR
comp=Z,520nm,10.8s
MDJ LR LR
comp=Z,550nm,12.4s
MDJ LR LR
comp=Z,640nm,14.5s
KULM Kulim 42.82 135 P **P** **01 11 56.5 -1.4**
KULM IAmb IAmb 01 12 03.6
comp=Z,21nm,1.3s
MOX Moxa 42.82 306 *e*P **P** **01 11 58.8 +1.2**
comp=Z,16nm,1.3s,baz=82,slow=8.0
MOX *e*L L 01 32 42.8
comp=Z,290nm,18.8s
CEL Celeste 42.83 287 P **P** **01 11 57.6 -0.2**
CEL IAmb IAmb 01 12 00.8
comp=Z,21nm,1.1s
ABTA Abfaltersbach 42.94 300 *i* P **P** **01 11 59.7 +1.1**
comp=Z,7.6nm,1.1s
INTR Introdacqua 43.13 293 P **P** **01 12 00.6 +0.4**
BSEG Bad Segeberg 43.20 311 *e*P **P** **01 12 02.0 +1.5**
comp=Z,31nm,1.5s,baz=82,slow=8.0
BSEG *e*L L 01 31 59.2
comp=Z,739nm,19.5s
GRA1 Grafenberg Arr 43.23 305 IAmb IAmb 01 12 04.2
comp=Z,24nm,1.1s
GRF Grafenberg Arr 43.23 305 *e*P **P** **01 12 02.4 +1.6**
comp=Z,40nm,1.3s,baz=82,slow=8.0
GRF *e*L L 01 33 15.8
comp=Z,420nm,18.5s
KLR Kul'dur 43.23 56⇑ *e*P **P** **01 12 00.9 +0.1**
KLR pmax pmax
comp=Z,13nm,1.5s
KONO Kongsberg 43.28 319 *e*P **P** **01 12 01.5 +0.4**
CLZ Clausthal 43.42 308 *e*P **P** **01 12 04.0 +1.6**
comp=Z,12nm,1.1s,baz=82,slow=8.0
WATA Walderalm 43.44 301 *i* P **P** **01 12 04.2 +1.4**
comp=Z,13nm,1.0s
FUR Furstenfeldbru 43.47 302 *e*P **P** **01 12 04.6 +1.7**
baz=82,slow=8.0
FUR *e*L L 01 32 50.9
comp=Z,369nm,19.6s
NRDL Niedersach Rie 43.49 309 *e*P **P** **01 12 04.1 +1.3**
comp=Z,49nm,1.7s,baz=82,slow=8.0
DOMB Dombas 43.56 323 *e*P **P** **01 12 01.4 -2.0**
TJN Taejon 43.60 75⇑ *e*P **P** **01 12 04.7 +0.7**
KSAR Wonju Array Be 43.62 74 P **P** **01 12 03.8 -0.3**
KSAR Wonju Array Be 43.62 74 P **P** **01 12 03.8 -0.3**
KSRS Korea Array 43.64 74 P **P** **01 12 03.2 -1.0**
comp=Z,3.4nm,0.9s,baz=279,slow=7.0,SNR=9.1
KSRS LR LR 01 32 17.0
comp=Z,329nm,18.3s,baz=288,slow=39
IPM Ipoh 43.70 135 P **P** **01 12 04.1 -0.8**
IPM IAmb IAmb 01 12 07.3
comp=Z,20nm,1.1s
SQTA Sankt Quirin 43.71 301 *i* P **P** **01 12 06.4 +1.5**
comp=Z,8.9nm,0.9s
GTTG Gottingen 43.72 307 *e*P **P** **01 12 07.0 +2.3**
comp=Z,64nm,1.6s,baz=82,slow=8.0
MOTA Moosalm 43.75 301 *i* P **P** **01 12 05.9 +0.6**
comp=Z,9.8nm,0.9s,SNR=5.4
UBBA Unterbreizbach 43.81 306 *e*P **P** **01 12 06.9 +1.6**
comp=Z,34nm,1.8s,baz=82,slow=8.0
RETA Reutte 43.95 301 *i* P **P** **01 12 08.3 +1.6**
comp=Z,11nm,1.2s
FETA Feichten 44.07 301 *i* P **P** **01 12 08.4 +0.6**
comp=Z,8.7nm,1.2s
SSLB Suanglung 44.31 95 P **P** **01 12 09.7 -0.1**
SSLB IAmb IAmb 01 12 12.8
comp=Z,20nm,0.9s
RAFF Raffo Rosso 44.33 286 IAmb IAmb 01 12 23.5
comp=Z,18nm,0.9s
UBR Ueberruh 44.34 302 *e*P **P** **01 12 10.5 +0.6**
comp=Z,31nm,1.1s,baz=82,slow=8.0
USRK Ussuriysk Ar. 44.51 63 P **P** **01 12 09.4 -1.7**
comp=Z,1.4nm,0.5s,baz=279,slow=7.3,SNR=5.8
USRK LR LR 01 32 15.0
comp=Z,298nm,18.1s,baz=271,slow=38
DAVA Damuels 44.58 301 *i* P **P** **01 12 12.2 +0.3**
comp=Z,16nm,0.7s,SNR=7.4
OSSC Osservatorio P 44.59 296 P **P** **01 12 11.8 -0.1**

OSSC IAmb IAmb 01 12 15.7
comp=Z,16nm,1.1s
GSI Gunungsitoli 44.60 141 P **P** **01 12 11.2 -1.0**
comp=Z,45nm,2.0s
GSI Gunungsitoli 44.60 141 P **P** **01 12 12.4 +0.2**
TNS Taunus Mts 44.89 306 *e*P **P** **01 12 15.7 +1.5**
baz=82,slow=8.0
TNS *e*L L 01 32 01.4
comp=Z,212nm,20.5s
TWG Pinlang 44.92 96 P **P** **01 12 15.7 +1.0**
IBBN Ibbenburen 44.95 309 *e*P **P** **01 12 16.4 +1.9**
comp=Z,36nm,1.2s,baz=82,slow=8.0
TUE Stuetta 45.12 300 IAmb IAmb 01 12 24.1
comp=Z,7.1nm,0.7s
BFO Black Forest 45.36 303 P **P** **01 12 18.8 +0.8**
BFO pmax pmax
comp=Z,10.0nm,0.8s
BFO Black Forest 45.36 303 *e*P **P** **01 12 18.4 +0.5**
comp=Z,44nm,1.9s,baz=82,slow=8.0
BFO *e*L L 01 32 20.8
comp=Z,147nm,21.3s
BFO Black Forest 45.36 303 P **P** **01 12 18.8 +0.8**
BFO IAmb IAmb 01 12 23.1
comp=Z,9.5nm,0.8s
MSSA Maissana 45.57 297 IAmb IAmb 01 12 24.9
comp=Z,19nm,1.0s
AHRW Bad Neuenahr-A 45.69 306 *e*P **P** **01 12 21.8 +1.3**
comp=Z,18nm,1.2s,baz=82,slow=8.0
MNSI Mandailing Nat 46.03 139 P **P** **01 12 21.6 -1.9**
MEM Membach 46.34 307 P **P** **01 12 26.7 +1.1**
WLF Walferdange 46.46 305 P **P** **01 12 27.1 +0.6**
WLF Walferdange 46.46 305 *e*P **P** **01 12 28.0 +1.5**
comp=Z,81nm,1.8s,baz=82,slow=8.0
SENIN Lac Senin/Sane 46.52 301 IAmb IAmb 01 12 30.3
comp=Z,15nm,0.8s
BMRD Maredsous 47.18 307 P **P** **01 12 34.5 +2.3**
BNI Bardonecchia 47.30 299 IAmb IAmb 01 12 43.0
comp=Z,17nm,1.2s
SNF Seneffe 47.44 307 P **P** **01 12 36.3 +2.2**
MYKOM Kota Tinggi 47.49 134 P **P** **01 12 35.1 +0.2**
PDSI Padang 47.94 139 P **P** **01 12 39.6 +1.1**
KEST Kesra 48.63 286 P **P** **01 12 44.4 +0.7**
comp=Z,4.8nm,1.0s,baz=88,slow=4.5,SNR=5.8
KEST LR LR 01 37 10.6
comp=Z,86nm,20.1s,baz=285,slow=41
SSB Saint Sauveur 48.68 300 IAmb IAmb 01 12 47.6
comp=Z,13nm,1.0s
YSS Yuzh-Sakhalins 50.93 57⇓ *e*P **P** **01 13 01.4 +0.5**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=N,200nm,15.0s
YSS MLR MLR
comp=Z,400nm,15.0s
YSS MLR MLR
comp=E,200nm,13.0s
YSS Yuzh-Sakhalins 50.93 57 P **P** **01 13 01.7 +0.8**
KMBO Kilima Mbogo 51.00 226 P **P** **01 13 01.4 -0.7**
comp=E,3.1nm,1.0s,baz=57,slow=19,SNR=2.6
KMBO LR LR 01 35 23.9
comp=E,130nm,18.6s,baz=31,slow=37
KMBO Kilima Mbogo 51.00 226 P **P** **01 13 03.1 +1.0**
KMBO pmax pmax
comp=Z,6.0nm,1.1s
KMBO Kilima Mbogo 51.00 226 P **P** **01 13 03.1 +1.0**
MAJO Matsushiro 51.60 71⇓ *e*P **P** **01 13 05.3 -0.8**
MAJO pmax pmax
comp=Z,18nm,1.4s
MAT Matsushiro 51.60 71 P **P** **01 13 05.6 -0.5**
MJAR Matsushiro Arr 51.60 71 P **P** **01 13 04.5 -1.6**
comp=Z,6.5nm,0.8s,baz=297,slow=10,SNR=9.5
MJAR Matsushiro Arr 51.60 71 P **P** **01 13 04.5 -1.6**
MJAR pmax pmax
comp=Z,4.0nm,1.0s
MJAR Matsushiro Arr 51.60 71 IAmb IAmb 01 13 06.5
comp=Z,4.0nm,1.0s
SEY Seymchan 51.93 35⇓ *e*P **P** **01 13 09.4 +1.3**
MA2 Magadan 51.97 39 *de*P **P** **01 13 09.7 +1.2**
MA2 pmax pmax
comp=Z,16nm,1.1s
MA2 Magadan 51.97 39 P **P** **01 13 09.8 +1.3**
MA2 IAmb IAmb 01 13 10.5
comp=Z,18nm,1.1s
KKM Kota Kinabalu 52.03 118 P **P** **01 13 10.3 +0.7**
ERM Erimo 52.94 62⇓ *e*P **P** **01 13 16.5 +0.5**
ERM pmax pmax
comp=Z,10.0nm,0.7s
YUK Yuzh-Kuril'sk 54.00 59 *e*P **P** **01 13 23.8 +0.1**
YUK *e* 01 14 28.6
YUK *e* 01 15 23.2
YUK *e*PPP PPP 01 16 33.6
YUK *e*S **S** **01 20 57.4 +0.2**
YUK *e*SS **SS** **01 24 41.0 +2.6**
YUK MLR MLR
comp=Z,246nm,14.0s
YUK MLR MLR
comp=N,176nm,13.0s
YUK MLR MLR
comp=E,329nm,17.0s
CART Cartagena 55.42 293 IAmb IAmb 01 13 36.0
comp=Z,15nm,0.9s
ESBB Sonseca Array 56.60 296 IAmb IAmb 01 13 44.5
comp=Z,8.4nm,1.0s
ESDC Sonseca Array 56.60 296 P **P** **01 13 42.6 0.0**
comp=Z,6.4nm,0.9s,baz=58,slow=6.8,SNR=45
ESDC LR LR 01 42 21.5
comp=Z,147nm,18.3s,baz=95,slow=41
ESDC Sonseca Array 56.60 296 P **P** **01 13 42.6 0.0**
PAB San Pablo 56.92 296 P **P** **01 13 45.7 +0.8**
PAB pmax pmax
comp=Z,8.0nm,1.1s
PAB San Pablo 56.92 296 P **P** **01 13 45.7 +0.8**
PAB IAmb IAmb 01 13 46.8
comp=Z,7.8nm,1.1s
PBRG Braganca 57.58 300 *e*P **P** **01 13 52.2 +2.7**
comp=Z,14nm,1.6s
PETK Petropavlovsk- 57.73 45 P **P** **01 13 49.3 -1.0**
comp=Z,3.6nm,0.9s,baz=342,slow=7.2,SNR=3.9
PETK LR LR 01 39 50.5
comp=Z,162nm,18.6s,baz=296,slow=37
TAM Tamanrasset 57.73 274 P **P** **01 13 50.9 0.0**
TAM pmax pmax
comp=Z,3.0nm,0.7s
TAM Tamanrasset 57.73 274 P **P** **01 13 50.9 0.0**
MVO Moncorvo 58.05 299 *e*P **P** **01 13 54.3 +1.5**
comp=Z,32nm,1.5s
MVO *i* LQ LQ 01 14 02.8
PVRL Vila Real 58.47 300 *e*P **P** **01 13 56.2 +0.5**
comp=Z,33nm,1.8s
PCAB Cabril 58.48 300 *e*P **P** **01 13 56.9 +1.1**
comp=Z,47nm,1.8s
PGAV Gavieira, Arco 58.53 301 *e*P **P** **01 13 55.7 -0.5**
comp=Z,29nm,1.9s
SUMG Summit 58.63 341 *i* P **P** **01 13 58.0 +1.2**
comp=Z,23nm,0.6s
SUMG Summit 58.63 341 *i* P **P** **01 13 58.0 +1.2**
SUMG pmax pmax
comp=Z,23nm,0.6s
SUMG Summit 58.63 341 P **P** **01 13 57.0 +0.2**
MTE Manteigas 58.74 299 *e*P **P** **01 13 58.6 +0.9**
comp=Z,30nm,1.7s
PVIS Viseu 58.84 299 *e*P **P** **01 13 59.3 +1.0**
comp=Z,26nm,1.4s
PMRV Marv??o 59.08 298 *e*P **P** **01 14 01.1 +1.2**
comp=Z,24nm,1.3s
COI Coimbra 59.42 299 *e*P **P** **01 14 03.3 +1.1**
comp=Z,36nm,1.2s
PCAS Casmilo, Conde 59.55 299 *e*P **P** **01 14 04.6 +1.4**
comp=Z,39nm,1.6s
PMTG Montargil 59.82 298 *e*P **P** **01 14 08.3 +3.3**
comp=Z,14nm,2.2s
EVO Evora 59.92 297 *e*P **P** **01 14 07.4 +1.6**
comp=Z,18nm,1.4s
PSBE So Bento 60.00 298 *e*P **P** **01 14 07.7 +1.4**
comp=Z,26nm,1.6s
PBEJ Beja 60.06 296 *e*P **P** **01 14 08.1 +1.4**
comp=Z,20nm,1.5s
TOA0 Torodi Ar. Sit 66.24 268 P **P** **01 14 49.3 +1.4**
SNR=5.5
TOA0 Torodi Ar. Sit 66.24 268 P **P** **01 14 47.4 -0.5**
TORD Torodi Ar. Bea 66.24 268 P **P** **01 14 47.0 -1.0**
comp=Z,11nm,0.5s,baz=46,slow=5.6,SNR=88
TORD Torodi Ar. Bea 66.24 268 P **P** **01 14 47.0 -1.0**
TOLK Toolik Lake Re 68.18 15 P **P** **01 15 00.3 +0.8**
IMAR Indian Mountai 69.45 18 P **P** **01 15 07.4 0.0**
C36M Paulatuk 71.13 6 P **P** **01 15 18.2 +0.6**

INK Inuvik 71.15 10 P **P** **01 15 18.3 +0.6**
INK pmax pmax
comp=Z,27nm,0.9s
INK Inuvik 71.15 10 P **P** **01 15 18.3 +0.6**
TTA Tatalina 71.32 21 IAmb IAmb 01 15 21.4
comp=Z,22nm,1.4s
MDM Murphy Dome 71.59 17 IAmb IAmb 01 15 23.6
comp=Z,24nm,1.3s
BPAW Bear Paw Mtn. 71.67 18 IAmb IAmb 01 15 28.8
comp=Z,9.4nm,1.0s
COLA College 71.74 17 *d* iP **P** **01 15 22.3 +1.0**
COLA pmax pmax
comp=Z,29nm,1.0s
COLA College 71.74 17 P **P** **01 15 22.4 +1.0**
CCB Clear Creek Bu 71.95 17 IAmb IAmb 01 15 33.3
comp=Z,17nm,1.5s
IL31 72.04 16 IAmb IAmb 01 15 24.8
comp=Z,7.5nm,0.9s
ILAR Eielson Array 72.04 16 P **P** **01 15 23.0 -0.2**
comp=Z,6.1nm,0.8s,baz=323,slow=4.6,SNR=46
ILAR LR LR 01 51 18.8
comp=Z,96nm,18.9s,baz=314,slow=39
ILAR Eielson Array 72.04 16 P **P** **01 15 22.3 -0.9**
ILAR Eielson Array 72.04 16 P **P** **01 15 22.3 -0.9**
HDA Harding Lake 72.34 16 IAmb IAmb 01 15 26.1
comp=Z,6.0nm,0.8s
PPLA Purkeypile 72.37 19 IAmb IAmb 01 15 28.3
comp=Z,15nm,1.0s
TRF Thorofare Moun 72.39 18 IAmb IAmb 01 15 28.1
comp=Z,9.1nm,1.0s
EGAK Eagle 73.20 14 P **P** **01 15 30.3 +0.2**
EGAK IAmb IAmb 01 15 38.1
comp=Z,8.2nm,1.0s
RIDG Independent Ri 73.39 16 IAmb IAmb 01 15 34.3
comp=Z,13nm,1.1s
DHY Denali Highway 73.40 17 IAmb IAmb 01 15 33.0
comp=Z,12nm,0.9s
DOT Dot Lake 73.63 16 IAmb IAmb 01 15 37.9
comp=Z,7.1nm,0.9s
PAX Paxson 73.93 17 IAmb IAmb 01 15 36.3
comp=Z,14nm,1.2s
BCAR Beaver Creek A 74.62 15 P **P** **01 15 38.5 0.0**
GENI Genyem 75.25 106 P **P** **01 15 45.0 +2.2**
DBIC Dimbokro 75.28 267 P **P** **01 15 42.6 -0.4**
comp=Z,3.1nm,0.7s,baz=240,slow=4.2,SNR=5.1
DBIC LR LR 01 54 03.3
comp=Z,86nm,19.4s,baz=27,slow=40
DBIC Dimbokro 75.28 267 P **P** **01 15 42.6 -0.4**
DBIC pmax pmax
comp=Z,19nm,1.5s
DBIC Dimbokro 75.28 267 IAmb IAmb 01 15 44.8
comp=Z,19nm,1.4s
KIC Kosan Boka 75.39 266 *e*PKP1 **P** **01 15 43.6 0.0**
comp=Z,36nm,1.2s
TIC Toumodi 75.42 267 *e*PKP1 **P** **01 15 45.0 +1.2**
LIC Lamto 75.69 266 *e*PKP1 **P** **01 15 44.3 -1.0**
comp=Z,4.5nm,0.5s
KNRA Kununurra 76.35 124 P **P** **01 15 48.7 -0.2**
YKA Yellowknife Ar 78.51 3 P **P** **01 16 00.8 +0.5**
comp=Z,14nm,0.8s,baz=323,slow=6.8,SNR=43
YKA LR LR 01 54 35.3
comp=Z,107nm,20.1s,baz=0.0,slow=39
SCHQ Schefferville 79.76 337 P **P** **01 16 06.5 -0.9**
comp=Z,6.0nm,0.8s,baz=306,slow=2.6,SNR=6.0
SCHQ LR LR 01 50 43.1
comp=Z,258nm,21.6s,baz=16,slow=35
SCHQ Schefferville 79.76 337 IAmb IAmb 01 16 09.2
comp=Z,8.3nm,0.8s
BOSA Boshof 80.11 220 P **P** **01 16 08.6 -1.0**
comp=Z,4.3nm,1.0s,baz=275,slow=1.0,SNR=3.0
BOSA LR LR 01 55 39.0
comp=Z,40nm,18.5s,baz=40,slow=39
BOSA Boshof 80.11 220 P **P** **01 16 08.6 -1.0**
BOSA pmax pmax
comp=Z,21nm,1.2s
BOSA Boshof 80.11 220 IAmb IAmb 01 16 23.4
comp=Z,21nm,1.2s
WB0 Warramunga Arr 82.99 122 IAmb IAmb 01 16 25.0
comp=Z,6.6nm,0.9s
WRA Warramunga Arr 83.08 123 P **P** **01 16 23.6 -1.7**
comp=Z,5.6nm,0.8s,baz=324,slow=5.0,SNR=34
WRA Warramunga Arr 83.08 123 P **P** **01 16 23.4 -1.9**
WRAB Tennant Creek 83.08 123 *i*P **P** **01 16 24.4 -1.0**
WRAB pmax pmax
comp=Z,8.0nm,0.6s
WB2 Warramunga Arr 83.08 123 IAmb IAmb 01 16 26.0
comp=Z,9.2nm,0.8s
WR0 Warramunga Arr 83.22 122 P **P** **01 16 25.0 -1.1**
WR0 IAmb IAmb 01 16 26.6
comp=Z,7.1nm,0.9s
AS31 Alice Springs 85.47 125 P **P** **01 16 36.1 -1.4**
ASAR Alice Springs 85.47 125 P **P** **01 16 36.0 -1.5**
comp=Z,3.4nm,0.8s,baz=323,slow=5.6,SNR=28
ASAR PP **PP** **01 19 49.2 -7.3**
comp=Z,0.5nm,0.9s,baz=324,slow=6.1,SNR=2.2
ASAR LR LR 02 02 01.6
comp=Z,67nm,20.6s,baz=332,slow=41
ASAR Alice Springs 85.47 125 P **P** **01 16 36.2 -1.2**
ASAR Alice Springs 85.47 125 P **P** **01 16 36.2 -1.2**
FFC Flin Flon 86.25 356 P **P** **01 16 41.7 +0.8**
FFC pmax pmax
comp=Z,11nm,0.9s
FFC Flin Flon 86.25 356 P **P** **01 16 41.7 +0.8**
VLDQ Val d'Or 88.78 340 P **P** **01 16 53.7 +0.5**
ULM Lac du Bonnet 90.22 352 P **P** **01 16 60.0 +0.1**
comp=Z,2.6nm,0.5s,baz=312,slow=4.3,SNR=1.6
ULM LR LR 01 59 44.4
comp=Z,165nm,20.8s,baz=53,slow=37
ULM Lac du Bonnet 90.22 352 P **P** **01 17 00.0 +0.1**
ULM pmax pmax
comp=Z,10.0nm,1.4s
ULM Lac du Bonnet 90.22 352 IAmb IAmb 01 17 08.2
comp=Z,9.6nm,1.4s
WALA Waterton Lakes 91.96 4 P **P** **01 17 08.2 0.0**
E46A Sault Ste Mari 92.09 344 P **P** **01 17 09.1 +0.4**
B08A Colville Reser 92.26 7 IAmb IAmb 01 17 11.9
comp=Z,4.5nm,0.8s
LTY Liberty 93.21 8 IAmb IAmb 01 17 16.8
comp=Z,5.0nm,0.8s
D08A Wollman Farm, 93.59 7 IAmb IAmb 01 17 19.2
comp=Z,5.5nm,1.0s
LAO LASA Array 94.44 358 P **P** **01 17 20.1 +0.5**
BOZ Bozeman (W) 95.51 2 IAmb IAmb 01 17 27.1
comp=Z,3.7nm,1.1s
I07A Izee 96.47 8 IAmb IAmb 01 17 32.0
comp=Z,3.5nm,1.0s
ECSD EROS Data Cent 96.73 351 P **P** **01 17 30.2 +0.2**
ECSD IAmb IAmb 01 17 31.8
comp=Z,2.9nm,0.9s
PDAR Pinedale Array 98.38 1 P Pdif 01 17 38.0 +0.2
comp=Z,0.2nm,0.4s,baz=20,slow=2.9,SNR=1.0
PDAR LR LR 02 05 56.6
comp=Z,101nm,20.9s,baz=6.0,slow=38
NVAR Mina Array Bea 102.19 8 P **Pdif** **01 17 55.4 +0.6**
comp=Z,0.2nm,0.6s,baz=4.3,slow=4.8,SNR=1.7
AC01 Pan de Azucar 145.82 281 PKPbc **PKPab** **01 23 39.6 +0.2**
GO03 Copiap 146.28 278 PKPbc **PKPab** **01 23 42.0 +0.8**
ZON Zonda 146.89 271 PKP2 **PKiKP** **01 23 44.8 +0.3**
ZON Zonda 146.89 271 PKPbc **PKiKP** **01 23 44.8 +0.3**
AC05 El Transito 146.92 276 PKPbc **PKPab** **01 23 43.0 -0.6**
CO01 Juntas del Tor 147.31 274 PKPbc **PKPbc** **01 23 44.2 +0.8**
GO04 Tololo Observa 147.94 275 PKPbc **PKiKP** **01 23 46.0 -1.0**
CO03 El Pedregal 148.15 273 PKPbc **PKPbc** **01 23 45.9 +0.4**
BO02 Sierra Bellavi 149.74 266 PKPbc **PKPbc** **01 23 48.9 -0.4**
PLCA Paso Flores 151.06 255 PKPbc **PKPbc** **01 23 51.0 -1.4**
comp=Z,4.3nm,1.0s,baz=96,slow=5.1,SNR=6.1
PLCA Paso Flores 151.06 255 PKIKP **PKPbc** **01 23 51.0 -1.4**
PLCA Paso Flores 151.06 255 **PKPbc** **01 23 52.5 +0.1**

IDC ***29*** *01:14:26.3±2.6,38.42N×72.22E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.3/37,mbtmp3.6/4,ML3.1/1,Error ellipse: s-maj=68.6km s-min=33.8km az=156.0*
SOME ***29*** *01:14:30.5,39.55N×71.43E,h0km*
KRNET ***29*** *01:14:31.9±0.1,39.20N×71.39E,mb3.8*
NNC ***29*** *01:14:38.6±2.9,39.66N×71.93E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=22.8km s-min=12.2km az=7.0*
ISC 29 01:14:35.9±1.4,39.58N±0.08×71.75E±0.03,h10km,n53,
α25 54/79,mb3.7/3,29C-9D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.86**	**304**	⇓ *i*P		**Pg**		**01 14 50.1**	**-2.4**
	baz=33								
BTK				⇓ *i*S		**Sg**		**01 15 04.1**	**+0.4**
OHH	**Osh**	**1.23**	**40**	⇑ *i*P		**Pn**		**01 15 03.5**	**+4.2**
	baz=39								
OHH				⇑ *i*S		Sn		01 15 27.0	+11
	baz=39								
ARK	**Arkit**	**2.22**	**4**	⇑ *e*P		**Pb**		**01 15 17.4**	**+1.2**
	baz=10.0								
ARK				⇑ *i*S		**Sg**		**01 15 50.6**	**+3.3**
	baz=10.0								
IUG	**Iuzhnay**	**2.88**	**334**	*e*P		**Pb**		**01 15 27.1**	**-0.2**
	84nm,0.5s								
IUG				*e*S		**Sg**		**01 16 08.3**	**+0.1**
	322nm,0.6s								
IUG	**Iuzhnay**	**2.88**	**334**	Pg		**Pb**		**01 15 27.1**	**-0.2**
	84nm,0.5s								
IUG				Lg		Lg		01 16 08.3	
	322nm,0.6s								
AML	**Almayashu**	**2.95**	**29**	⇑ *e*P		**Pb**		**01 15 28.7**	**0.0**
	baz=30								
AML				⇑ *i*S		**Sg**		**01 16 09.9**	**-0.6**
	baz=30								
AML	**Almayashu**	**2.95**	**29**	P		**Pb**		**01 15 29.1**	**+0.4**
	SNR=40								
ARLS	**Aral**	**3.00**	**40**	⇑ *i*P		**Pb**		**01 15 29.2**	**-0.4**
	baz=39								
ARLS				⇑ *i*S		**Sg**		**01 16 11.4**	**-1.0**
	baz=39								
DZA	**Taraz**	**3.33**	**355**	*e*P		**Pb**		**01 15 33.4**	**-1.6**
	62nm,0.1s								
DZA				*e*S		**Sb**		**01 16 18.2**	**+2.7**
	176nm,0.5s								
MRKS	**Merke**	**3.35**	**19**	*e*P		**Pb**		**01 15 35.2**	**-0.3**
	18nm,0.5s								
MRKS				*e*S		**Sg**		**01 16 22.6**	**-1.0**
	37nm,0.5s								
MRKS	**Merke**	**3.35**	**19**	Pg		**Pb**		**01 15 35.2**	**-0.3**
	18nm,0.5s								
MRKS				Lg		Lg		01 16 22.5	
	37nm,0.5s								
UCH	**Uchtor**	**3.38**	**37**	⇓ *i*P		**Pb**		**01 15 34.6**	**-1.4**
	baz=37								
UCH				⇓ *i*S		**Sb**		**01 16 20.1**	**+2.8**
	baz=37								
UCH	**Uchtor**	**3.38**	**37**	P		**Pb**		**01 15 34.7**	**-1.4**
	SNR=9.2								
EKS2	**Erkin-Say**	**3.44**	**26**	⇑ *e*P		**Pb**		**01 15 35.1**	**-1.9**
	baz=27								
EKS2				⇑ *i*S		**Sb**		**01 16 21.3**	**+2.4**
	baz=27								
EKS2	**Erkin-Say**	**3.44**	**26**	P		**Pb**		**01 15 35.9**	**-1.1**
	SNR=9.7								
KK31	**Karatay Array**	**3.64**	**346**	Pn		**Pn**		**01 15 36.9**	**+4.6**
	4.5nm,0.4s,baz=171,slow=13,SNR=86								
KK31				⇑ Pg		**Pg**		**01 15 45.5**	**-0.2**
	6.9nm,0.5s,baz=163,slow=13,SNR=8.8								
KK31				⇑ Sn		**Sb**		**01 16 21.4**	**-3.1**
	22nm,0.6s,baz=175,slow=26,SNR=6.9								
KZA	**Kyzart**	**3.65**	**46**	⇑ *i*P		**Pb**		**01 15 38.4**	**-2.2**
	baz=44								
KZA				⇑ *i*S		**Sb**		**01 16 27.0**	**+1.9**
	baz=44								
KZA	**Kyzart**	**3.65**	**46**	P		**Pb**		**01 15 37.8**	**-2.9**
	SNR=12								
AAK	**Ala-Archa**	**3.69**	**33**	⇑ *i*P		**Pb**		**01 15 38.9**	**-2.4**
	baz=33								
AAK				⇑ *i*S		**Sb**		**01 16 27.8**	**+1.6**
	baz=33								
AAK	**Ala-Archa**	**3.69**	**33**	P		**Pb**		**01 15 39.6**	**-1.7**
	SNR=7.5								
AAK	**Ala-Archa**	**3.69**	**33**	⇑ Pn		**Pb**		**01 15 38.2**	**-3.1**
	9.5nm,0.5s								
AAK				⇓ Pg		**Pg**		**01 15 45.4**	**-1.2**
	7.6nm,0.4s								
AAK				⇓ Lg		Lg		01 16 33.8	
	34nm,0.5s								
BRLS	**Borolday**	**3.74**	**338**	*e*P		**Pn**		**01 15 35.5**	**+1.9**
	9.8nm,0.4s								
BRLS				*e*S		**Sb**		**01 16 22.5**	**-4.8**
	33nm,0.7s								
FRU1	**Bishkek**	**3.89**	**33**	⇑ *e*P		**Pb**		**01 15 41.4**	**-3.2**
	baz=33								
FRU1				⇑ *i*S		**Sb**		**01 16 32.2**	**+0.4**
	baz=33								
KBK	**Karagaybulak**	**3.91**	**37**	⇑ *i*P		**Pb**		**01 15 41.8**	**-3.2**
	baz=37								
KBK				⇑ *i*S		**Sb**		**01 16 32.8**	**+0.3**
	baz=37								
CHMS	**Chumysh**	**4.10**	**33**	⇑ *i*P		**Pb**		**01 15 44.3**	**-3.8**
	baz=33								
CHMS				⇑ *i*S		**Sb**		**01 16 37.2**	**-0.5**
	baz=33								
CHMS	**Chumysh**	**4.10**	**33**	P		**Pb**		**01 15 44.8**	**-3.4**
	SNR=8.3								
USP	**Ospenovka**	**4.23**	**28**	⇑ *i*P		Pn		01 15 45.9	+5.5
	baz=29								
USP				⇑ *i*S		**Sb**		**01 16 39.8**	**-1.6**
	baz=29								
USP	**Ospenovka**	**4.23**	**28**	P		**Pb**		**01 15 46.2**	**-4.1**
	SNR=14								
ULHL	**Ulahol**	**4.32**	**51**	⇑ *e*P		Pn		01 15 47.7	+5.8
	baz=49								
ULHL				⇑ *i*S		**Sb**		**01 16 42.6**	**-1.8**
	baz=49								
TKM2	**Tokmak 2**	**4.42**	**40**	⇑ *i*P		Pn		01 15 49.0	+5.8
	baz=39								
TKM2				⇑ *i*S		**Sb**		**01 16 45.3**	**-1.9**
	baz=39								
TKM2	**Tokmak 2**	**4.42**	**40**	⇓ Pn		**Pn**		**01 15 46.7**	**+3.5**
	6.2nm,0.6s								
TKM2				⇓ Pg		**Pg**		**01 15 58.8**	**-1.8**
	11nm,0.9s								
TKM2				⇓ Lg		Lg		01 16 57.7	
	8.3nm,0.6s								
SGDS	**Sogindy**	**4.43**	**28**	Pg		**Pb**		**01 15 54.4**	**+0.5**
	9.7nm,0.7s								
SGDS				Lg		Lg		01 16 55.2	
	32nm,0.7s								
KST	**Kastek**	**4.70**	**41**	*e*P		**Pg**		**01 16 03.4**	**-2.4**
	9.8nm,1.3s								
KST				*e*S		**Sg**		**01 17 10.4**	**+3.7**
	12nm,0.6s								
KST	**Kastek**	**4.70**	**41**	Pg		**Pb**		**01 15 58.5**	**+0.1**
	5.3nm,0.6s								
KST				Lg		Lg		01 17 01.4	
	9.2nm,0.5s								
MTBS	**Maitube**	**5.00**	**43**	*e*P		**Pg**		**01 16 09.8**	**-1.8**
	3.5nm,0.3s								
MTBS				*e*S		**Sg**		**01 17 20.8**	**+4.4**
	7.2nm,0.5s								
IZV	**Izvestkoviy**	**5.04**	**45**	*e*P		**Pb**		**01 16 05.3**	**+1.2**
	4.0nm,0.6s								
IZV				*e*S		**Sg**		**01 17 13.2**	**-4.4**
	8.5nm,0.6s								
IZV	**Izvestkoviy**	**5.04**	**45**	Pg		**Pb**		**01 16 05.4**	**+1.2**
	4.0nm,0.6s								
IZV				Lg		Lg		01 17 13.1	
	8.5nm,0.6s								
KRBS	**Karabastau**	**5.06**	**34**	*e*P		**Pb**		**01 16 06.8**	**+2.3**
	4.8nm,0.5s								
KRBS				*e*S		**Sg**		**01 17 15.8**	**-2.4**
	13nm,0.5s								
KRBS	**Karabastau**	**5.06**	**34**	Pg		**Pb**		**01 16 06.8**	**+2.3**
	4.8nm,0.5s								
KRBS				Lg		Lg		01 17 15.8	
	13nm,0.5s								
TNSS	**Tian-Shan**	**5.22**	**47**	Pg		**Pb**		**01 16 08.9**	**+1.4**
	3.2nm,0.8s								
TNSS				Lg		Lg		01 17 20.5	
	5.4nm,0.7s								
MDOK	**Medeo**	**5.36**	**46**	Pg		**Pb**		**01 16 13.2**	**+3.5**
	3.7nm,0.4s								
MDOK				Lg		Lg		01 17 27.4	
	4.8nm,0.8s								
KOTS	**Kotyrbulak**	**5.44**	**46**	*e*P		**Pb**		**01 16 14.1**	**+3.0**
	7.4nm,1.0s								
KOTS				*e*S		**Sg**		**01 17 29.1**	**-1.4**
	6.8nm,0.8s								
KOTS	**Kotyrbulak**	**5.44**	**46**	Pg		**Pb**		**01 16 14.1**	**+3.0**
	7.4nm,1.0s								
KOTS				Lg		Lg		01 17 29.1	
	6.8nm,0.8s								
KUU	**Kurty**	**5.51**	**37**	*e*P		**Pg**		**01 16 17.5**	**-3.9**
	3.2nm,1.5s								
KUU				*e*S		**Sg**		**01 17 34.9**	**+2.1**
	7.2nm,0.5s								
KUU	**Kurty**	**5.51**	**37**	Pg		**Pb**		**01 16 12.6**	**+0.4**
	2.6nm,0.4s								
KUU				Lg		Lg		01 17 25.5	
	4.8nm,0.7s								

KTBS	**Karatobe**	**5.54**	**40**	*e*P		**Pb**	**01 16 15.2**	**+2.5**
	3.6nm,0.9s							
KTBS				*e*S		**Sg**	**01 17 30.1**	**-3.6**
	14nm,0.7s							
KTBS	**Karatobe**	**5.54**	**40**	Pg		**Pb**	**01 16 15.2**	**+2.5**
	3.6nm,0.9s							
KTBS				Lg		Lg	01 17 30.1	
	14nm,0.7s							
CHKK	**Chushkaly**	**5.80**	**41**	*e*P		**Pb**	**01 16 18.9**	**+1.8**
	2.0nm,0.2s							
CHKK				*e*S		**Sg**	**01 17 36.5**	**-5.5**
	3.5nm,0.3s							
CHKK	**Chushkaly**	**5.80**	**41**	Pg		**Pb**	**01 16 18.9**	**+1.8**
	2.0nm,0.2s							
CHKK				Lg		Lg	01 17 36.5	
	3.5nm,0.3s							
ZALV	**Zalesovo Beam**	**16.89**	**27**	P		**P**	**01 18 34.8**	**+0.6**
	0.3nm,0.3s,baz=215,slow=12,SNR=4.8							
SONM	**Songino Array**	**26.19**	**60**	P		**P**	**01 20 05.1**	**-5.6**
	0.3nm,0.5s,baz=267,slow=10,SNR=1.6							
ARCES	**ARCESS Array B**	**38.55**	**336**	P		**P**	**01 22 00.2**	**+2.0**
	1.5nm,1.0s,baz=107,slow=11,SNR=2.1							
TORD	**Torodi Ar. Bea**	**66.41**	**268**	P		P	01 25 19.6	-5.8
	0.4nm,0.7s,baz=44,slow=5.6,SNR=2.5							

IDC 29 01:14:55.5±4.7, 26°68S×71°35E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/25, mbtmp3.9/5, MS3.4/1, Ms1 3.4/1, ms1mx2.9/25, Error ellipse: s-maj=131.1km s-min=37.5km az=53.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.96**	**3**	T	T	01 38 28.4	
	baz=182,slow=76,SNR=28						
H08S2	**Diego Garcia H**	**18.96**	**3**	T	T	01 38 25.5	
	baz=182,slow=76,SNR=22						
H08S3	**Diego Garcia H**	**18.98**	**3**	T	T	01 38 25.9	
	baz=182,slow=76,SNR=30						
H01W2	**Cape Leeuwin H**	**37.43**	**113**	T	T	02 01 27.5	
	baz=271,slow=75,SNR=14						
H01W3	**Cape Leeuwin H**	**37.43**	**113**	T	T	02 01 27.6	
	baz=271,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**37.45**	**113**	T	T	02 01 29.0	
	baz=271,slow=75,SNR=11						
CMAR	**Chiang Mai Arr**	**52.26**	**34**	P	P	01 24 08.7	-0.1
	0.9nm,0.4s,baz=224,slow=7.0,SNR=8.2						
ASAR	**Alice Springs**	**56.19**	**102**	P	P	01 24 37.7	0.0
	0.7nm,0.9s,baz=250,slow=6.3,SNR=3.8						
WRA	**Warramunga Arr**	**57.74**	**98**	P	P	01 24 48.6	-0.1
	0.9nm,0.9s,baz=254,slow=7.8,SNR=3.9						
SNAA	**Sanae**	**59.95**	**201**	LR	LR	01 45 21.6	
	comp=Z,32nm,18.6s,baz=187,slow=30						
MKAR	**Makanchi Array**	**73.80**	**8**	P	P	01 26 32.5	+0.9
	0.9nm,0.8s,baz=177,slow=5.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**81.14**	**8**	P	P	01 27 11.4	-1.0
	0.5nm,0.3s,baz=186,slow=4.3,SNR=2.1						

SNET 29 01:20:34.4±1.1, 12°54N×90°06W, h14km±6km, ML3.3
GCG 29 01:20:36.4±0.6, 12°68N×90°34W, h0km±15km, MD4.0
ISC 29 01:20:29.7±3.5, 12°4N±0°1×90°03W±0°08, h8km±16km, n16, σ0°49/21, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.31**	**32**	*e*P	**Pb**	**01 20 54.8**	**+0.3**
LALI				*e*S	**Sg**	**01 21 12.3**	**+0.5**
CEVE	**Cerro Verde**	**1.50**	**15**	*e*P	**Pg**	**01 20 58.7**	**+0.1**
CEVE				IAML		01 21 23.1	
	comp=Z,1μm,0.6s						
SBLS	**San Blas**	**1.51**	**15**	*e*P	**Pb**	**01 20 58.8**	**+0.5**
SBLS				*e*S	**Sg**	**01 21 18.1**	**-0.3**
BOQS	**Boqueron**	**1.54**	**28**	*e*P	**Pg**	**01 20 59.4**	**+0.1**
SNJE	**San Jose**	**1.54**	**15**	*e*P	**Pb**	**01 20 58.8**	**+0.1**
LFRS	**El Faro**	**1.56**	**37**	*e*P	**Pg**	**01 20 59.9**	**+0.2**
LFRS				*e*S	**Sg**	**01 21 19.5**	**-0.5**
RTR	**El Retiro**	**1.56**	**14**	*e*P	**Pb**	**01 20 59.4**	**+0.4**
LFU	**La Fuente**	**1.63**	**33**	*e*P	**Pg**	**01 21 01.3**	**+0.2**
LBRS	**Las Brisas**	**1.66**	**35**	*e*P	**Pg**	**01 21 01.8**	**+0.1**
COEG	**Centro de Oper**	**1.67**	**42**	*e*P	**Pg**	**01 21 01.9**	**+0.1**
COEG				IAML		01 21 27.3	
	comp=Z,346nm,0.3s						
PAVA	**Las Pavas**	**1.71**	**38**	*e*P	**Pb**	**01 21 01.9**	**+0.4**
PAVA				IAML		01 21 27.9	
	comp=Z,543nm,0.4s						
TACO	**Tacachico**	**1.72**	**22**	*e*P	**Pb**	**01 21 01.7**	**+0.1**
TACO				*e*S	**Sb**	**01 21 22.4**	**-1.1**
TACO				IAML		01 21 32.7	
	comp=Z,156nm,0.6s						
IXG	**Ixpaco**	**1.83**	**347**	*e*P	**Pb**	**01 21 03.9**	**+0.2**
FUG	**Fuego 3**	**2.21**	**339**	*e*P	**Pb**	**01 21 09.3**	**-0.8**
FUG				*e*S	**Sn**	**01 21 35.2**	**+0.6**
NBG	**Las Nubes**	**2.23**	**352**	*e*P	**Pb**	**01 21 11.0**	**+0.6**
FAGO	**Alcalda de S**	**2.29**	**55**	*e*P	**Pb**	**01 21 11.0**	**-0.3**

TEH 29 01:32:48.3, 32°56N×47°72E, h8km, ML2.9
ISN 29 01:32:48.4±0.9, 32°58N×47°72E, h14km±6km, ML2.7
ISC 29 01:32:49.8±1.0, 32°40N±0°05×47°62E±0°04, h10km, n13, σ1§81/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.40**	**315**	*e*Pg	**Pg**	**01 32 56.3**	**-1.3**
DHL1				*e*	Sn	01 33 11.0	
IBDR	**Badra**	**1.59**	**297**	*e*Pg	**Pn**	**01 33 17.0**	**-1.0**
IBDR				*e*Sg	**Sb**	**01 33 39.0**	**-0.3**
IBDR				AML	AML	01 33 46.1	
	comp=N,123nm,0.8s						
IBDR				AML	AML	01 33 48.9	
	comp=E,102nm,0.6s						
BMDN	**Meydan**	**1.62**	**38**	*e*Pg	**Pn**	**01 33 16.1**	**-2.5**
BMDN				*e*		01 33 43.3	
IKOM	**Komasi**	**1.77**	**357**	*e*Pg	**Pn**	**01 33 19.4**	**-1.3**
IKOM				*e*		01 33 23.5	
NSR	**Nassriya**	**1.87**	**223**	*e*Pn	**Pb**	**01 33 24.0**	**-0.1**
NSR				*e*Sn	**Sb**	**01 33 49.0**	**+1.4**
KCHF	**Cheshme Sefid,**	**1.93**	**346**	*e*Pn	**Pn**	**01 33 21.2**	**-1.7**
KCHF				*e*		01 33 58.0	
HSAM	**Samen**	**1.98**	**24**	*e*Pn	**Pn**	**01 33 22.5**	**-1.2**
HSAM				*e*		01 33 28.5	
IBZA	**Bozab**	**2.07**	**6**	*e*	**Sb**	**01 33 58.5**	**+4.9**
IGHG	**Ghaleghazi**	**2.11**	**336**	*e*Pn	**Pn**	**01 33 25.2**	**-0.2**
IGHG				*e*		01 34 13.7	
IDHR	**Dehrash**	**2.51**	**336**	*e*Pn	**Pn**	**01 33 30.3**	**-0.6**
IDHR				*e*		01 33 39.6	
JHBN	**Jahan bin**	**2.59**	**93**	*e*Pn	**Pn**	**01 33 31.7**	**-0.3**
JHBN				*e*		01 34 16.6	
IPIR	**Pirpir**	**2.78**	**83**	*e*Pn	**Pn**	**01 33 34.2**	**-0.5**
IPIR				*e*	**Sb**	**01 34 15.4**	**+1.4**
BHD	**Baghdad**	**2.86**	**288**	*e*Pn	**Pn**	**01 33 36.0**	**+0.6**
BHD				*e*Sn	**Sn**	**01 34 11.0**	**+1.1**

IDC 29 01:38:38.3±0.7, 73°38S×135°52W, h0km, mb4.4/7, mb1 4.5/9, mb1mx4.3/16, mbtmp4.4/9, ML3.4/2, MS3.8/6, Ms1 3.7/6, ms1mx3.6/12, Error ellipse: s-maj=32.6km s-min=19.3km az=172.0
NEIC 29 01:38:40.0±1.2, 73°5S±0°1×136°0W±0°4, h10km±1km, mb4.8/20, Error ellipse: s-maj=26.4km s-min=16.3km az=327.0
ISC 29 01:38:39.8±0.5, 73°5S±0°1×136°05W±0°10, h10km, n134, σ1§15/135, mb4.7/14, MS3.8/5, 18C-1D, Southern Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.35**	**227**	Pn	**Pn**	**01 42 17.9**	**+1.8**
	0.5nm,0.3s,baz=103,slow=17,SNR=40						
VNDA					**Sn**	**01 44 59.8**	**-6.0**
	0.2nm,0.3s,baz=191,slow=22,SNR=2.7						
VNDA				LR	LR	01 47 46.2	
	comp=Z,328nm,18.8s,baz=126,slow=35						
VNDA	**Vanda**	**15.35**	**227**		**Pn**	**01 42 16.5**	**+0.5**
VNDA				IAmb	IAmb	01 42 38.5	
	comp=Z,54nm,1.0s						
VNDA					**Sn**	**01 45 05.4**	**-0.3**
QSPA	**South Pole Qui**	**16.63**	**180**	Pn	**P**	**01 42 34.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=86,slow=6.4,SNR=5.0						
QSPA				LR	LR	01 49 19.6	
	comp=Z,595nm,18.5s,baz=78,slow=38						
QSPA	**South Pole Qui**	**16.63**	**180**	IAmb	IAmb	01 42 40.2	
	comp=Z,22nm,1.1s						

BELA	**Belgrano 2**	**22.41**	**147**	P		**P**	**01 43 38.7**	**+0.8**
PMSA	**Palmer Station**	**25.36**	**108**	LR		LR	01 53 25.8	
	comp=Z,142nm,19.3s,baz=242,slow=35							
SNAA	**Sanae**	**32.13**	**154**	PcP		**PcP**	**01 47 55.2**	**0.0**
	comp=Z,2.7nm,0.8s,baz=206,slow=1.1,SNR=8.5							
MAW	**Mawson**	**38.63**	**191**	P		**P**	**01 46 04.1**	**+1.6**
	comp=Z,2.8nm,1.2s,baz=180,slow=13,SNR=2.4							
MAW				PcP		**PcP**	**01 48 15.0**	**+0.8**
	comp=Z,2.3nm,0.9s,baz=196,slow=7.5,SNR=5.1							
MAW				LR		LR	02 02 36.3	
	comp=Z,265nm,19.1s,baz=194,slow=37							
MAW	**Mawson**	**38.63**	**191**	P		**P**	**01 46 02.8**	**+0.3**
PLCA	**Paso Flores**	**44.52**	**80**	P		**P**	**01 46 50.8**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=246,slow=14,SNR=2.5							
PLCA	**Paso Flores**	**44.52**	**80**	IAmb		IAmb	01 48 07.5	
	comp=Z,18nm,1.8s							
H03S1	**Juan Fernandez**	**48.67**	**69**	T		T	02 39 47.0	
	baz=196,slow=74,SNR=6.7							
H03S2	**Juan Fernandez**	**48.67**	**69**	T		T	02 39 46.1	
	baz=196,slow=74,SNR=7.0							
H03S3	**Juan Fernandez**	**48.68**	**69**	T		T	02 39 47.1	
	baz=196,slow=74,SNR=7.8							
TBI	**Tubuai**	**50.68**	**344**	*e*T		T	02 42 11.1	
	comp=Z,15nm,0.3s							
AC04	**Llanos de Chal**	**56.12**	**74**	P		**P**	**01 48 17.9**	**-1.1**
AC04				IAmb		IAmb	01 49 53.5	
	comp=Z,29nm,1.9s							
PPT2	**Papeete2**	**56.40**	**344**	*e*LR		LR	02 04 10.0	
	comp=Z,96nm,24.5s							
PPT	**Papeete**	**56.42**	**344**	LR		LR	02 07 22.4	
	comp=Z,26nm,20.2s,baz=326,slow=31							
STKA	**Stephens Creek**	**57.59**	**267**	P		**P**	**01 48 31.6**	**+2.2**
	comp=Z,3.9nm,0.5s,baz=132,slow=8.1,SNR=14							
STKA	**Stephens Creek**	**57.59**	**267**	P		**P**	**01 48 29.7**	**+0.3**
BBOO	**Buckleboo**	**58.29**	**262**	P		**P**	**01 48 34.8**	**+0.5**
VAH	**Vaihoa**	**58.60**	**347**	*e*T		T	02 52 03.0	
	comp=Z,10nm,0.2s							
PB16	**IPOC Station P**	**65.93**	**73**	P		**P**	**01 49 26.6**	**+0.3**
PB16				IAmb		IAmb	01 49 42.0	
	comp=Z,5.9nm,1.2s							
ASAR	**Alice Springs**	**67.53**	**263**	P		**P**	**01 49 37.0**	**+1.2**
	comp=Z,5.7nm,0.7s,baz=155,slow=6.4,SNR=50							
ASAR	**Alice Springs**	**67.53**	**263**	P		**P**	**01 49 36.7**	**+0.9**
AS31	**Alice Springs**	**67.53**	**263**	P		**P**	**01 49 36.7**	**+0.8**
AS31				IAmb		IAmb	01 49 37.8	
	comp=Z,2.5nm,0.6s							
LPAZ	**La Paz**	**68.26**	**73**	P		**P**	**01 49 40.2**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=209,slow=4.9,SNR=8.6							
LPAZ	**La Paz**	**68.26**	**73**	P		**P**	**01 49 41.1**	**-0.1**
LPAZ				IAmb		IAmb	01 49 52.0	
	comp=Z,3.9nm,0.7s							
WB2	**Warramunga Arr**	**70.93**	**264**	P		**P**	**01 49 57.5**	**+0.6**
WRA	**Warramunga Arr**	**70.93**	**264**	P		**P**	**01 49 57.9**	**+0.9**
	comp=Z,8.1nm,0.6s,baz=160,slow=5.8,SNR=90							
WRA	**Warramunga Arr**	**70.93**	**264**	P		**P**	**01 49 57.5**	**+0.6**
WRAB	**Tennant Creek**	**70.94**	**264**	P		**P**	**01 49 57.3**	**+0.3**
WB0	**Warramunga Arr**	**71.08**	**265**	P		**P**	**01 49 58.1**	**+0.3**
WB0				IAmb		IAmb	01 49 59.5	
	comp=Z,8.7nm,0.7s							
FITZ	**Fitzroy Crossi**	**75.14**	**257**	P		**P**	**01 50 21.9**	**+0.1**
FITZ				IAmb		IAmb	01 50 25.1	
	comp=Z,7.9nm,0.9s							
SAML	**Samuel**	**76.62**	**76**	P		**P**	**01 50 27.7**	**-2.6**
BOSA	**Boshof**	**77.41**	**163**	P		**P**	**01 50 34.0**	**-0.7**
	comp=Z,2.8nm,0.9s,baz=285,slow=12,SNR=1.4							
BOSA				LR		LR	02 21 37.8	
	comp=Z,44nm,19.4s,baz=198,slow=33							
OTAV	**Otavalo**	**81.40**	**59**	P		**P**	**01 50 56.2**	**-0.8**
OTAV				IAmb		IAmb	01 51 09.2	
	comp=Z,11nm,1.1s							
PTGA	**Pitinga**	**85.35**	**77**	P		**P**	**01 51 16.2**	**-0.7**
PTGA				IAmb		IAmb	01 51 28.3	
	comp=Z,6.5nm,1.1s							
ILAR	**Eielson Array**	**138.17**	**353**	PKhKP		PKPpre	01 57 56.5	
	comp=Z,0.7nm,0.9s,baz=186,slow=1.8,SNR=3.7							
ILAR				PKP		**PKPdf**	**01 58 02.0**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=194,slow=1.9,SNR=5.5							
ILAR	**Eielson Array**	**138.17**	**353**			**PKPdf**	**01 58 03.4**	**+0.5**
ESDC	**Sonseca Array**	**139.24**	**119**	PKhKP		PKPpre	01 57 56.1	
	comp=Z,0.6nm,1.0s,baz=214,slow=2.7,SNR=4.5							
SONM	**Songino Array**	**142.87**	**262**	PKhKP		**PKPdf**	**01 58 08.3**	**-3.9**
	comp=Z,0.7nm,0.6s,baz=155,slow=4.8,SNR=3.2							
TIP	**Timpagrande**	**143.21**	**144**	⇓P		PKPbc	01 58 10.6	+0.6
GEYT	**Alibeck**	**143.71**	**199**	PKhKP		PKPab	01 58 10.1	-0.5
	comp=Z,2.5nm,0.8s,baz=188,slow=2.9,SNR=7.8							
GEYT	**Alibeck**	**143.71**	**199**	PKPdf		**PKPdf**	**01 58 12.7**	**-1.2**
WMQ	**Urumqi**	**144.18**	**239**	PKPdf		PKPbc	01 58 12.9	+0.2
TARG	**Taragay, Kyrgy**	**144.43**	**226**	PKPdf		**PKPab**	**01 58 13.5**	**-0.2**
GEVA	**Geva**	**144.76**	**179**	PKPdf		**PKPdf**	**01 58 15.4**	**-0.4**
ULHL	**Ulahol**	**145.24**	**224**	P		**PKPdf**	**01 58 17.6**	**+0.9**
	SNR=7.4							
KZA	**Kyzart**	**145.27**	**223**	P		**PKPdf**	**01 58 17.4**	**+0.5**
	SNR=32							
INTR	**Introdacqua**	**145.45**	**139**			**PKPdf**	**01 58 16.7**	**0.0**
UCH	**Uchtor**	**145.56**	**222**	P		**PKPab**	**01 58 18.4**	**+0.4**
	SNR=39							
CASP	**Castiglione de**	**145.60**	**135**			**PKPdf**	**01 58 17.0**	**+0.1**
TAS	**Tashkent**	**145.61**	**215**			**PKPab**	**01 58 17.8**	**+0.2**
AML	**Almayashu**	**145.62**	**221**	P		**PKPab**	**01 58 18.3**	**+0.2**
	SNR=42							
AQU	**L'Aquila**	**145.68**	**138**			**PKPdf**	**01 58 17.3**	**+0.2**
BR131	**Keskin Array S**	**145.81**	**166**			**PKPbc**	**01 58 18.2**	**+0.1**
BRTR	**Keskin Array B**	**145.81**	**166**	PKPbc		**PKPbc**	**01 58 17.9**	**-0.3**
	comp=Z,19nm,0.7s,baz=179,slow=4.9,SNR=113							
TIR	**Tirana**	**145.83**	**147**			**PKPab**	**01 58 19.4**	**+1.0**
BR231	**Keskin MP Arra**	**145.87**	**165**			**PKPab**	**01 58 18.8**	**+0.1**
KBK	**Karagaybulak**	**145.89**	**223**	P		**PKPab**	**01 58 19.5**	**+0.7**
	SNR=7.4							
AAK	**Ala-Archa**	**145.96**	**222**	P		**PKPab**	**01 58 19.6**	**+0.5**
	SNR=14							
TKM2	**Tokmak 2**	**146.02**	**224**	P		**PKPbc**	**01 58 18.6**	**-0.2**
	SNR=9.7							
EKS2	**Erkin-Say**	**146.12**	**221**	P		**PKPab**	**01 58 19.9**	**+0.3**
	SNR=21							
CHMS	**Chumysh**	**146.26**	**223**	P		**PKPab**	**01 58 19.9**	**-0.1**
	SNR=7.7							
KOPT	**Kop Dagi**	**146.43**	**175**	PKPbc		**PKPbc**	**01 58 20.6**	**+0.4**
USP	**Ospenovka**	**146.56**	**222**	P		**PKPbc**	**01 58 20.6**	**+0.4**
	SNR=7.8							
PDG	**Podgorica**	**146.79**	**146**	⇑P		**PKPab**	**01 58 21.7**	**-0.3**
ZCCA	**Zocca**	**147.12**	**134**	PKPbc		**PKPbc**	**01 58 22.1**	**+0.4**
KK31	**Karatay Array**	**147.14**	**217**	PKPbc		**PKPab**	**01 58 22.7**	**-0.7**
KKAR	**Karatay Array**	**147.14**	**217**	PKPbc		**PKPab**	**01 58 22.7**	**-0.7**
AKH	**Akhalkalaki**	**147.86**	**179**	PKPbc		**PKPbc**	**01 58 24.2**	**+0.3**
MKAR	**Makanchi Array**	**148.26**	**234**	PKPbc		**PKPdf**	**01 58 23.0**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=186,slow=1,SNR=4.0							
DIVS	**Divisare**	**148.54**	**146**	PKPbc		**PKPbc**	**01 58 25.0**	**-0.5**
TUE	**Stuetta**	**148.80**	**131**	PKPbc		**PKPbc**	**01 58 26.7**	**+0.4**
CTI	**Castel Tesino**	**148.88**	**134**			**PKiKP**	**01 58 27.1**	**-0.6**
CIMO	**Cimolais**	**149.30**	**135**	PKPbc		**PKPbc**	**01 58 27.8**	**+0.4**
MDVR	**Moldovita**	**149.47**	**148**	⇑P		**PKPbc**	**01 58 28.0**	**+0.2**
FETA	**Feichten**	**149.62**	**132**	*i* PKPdf		**PKPbc**	**01 58 28.7**	**+0.4**
	comp=Z,12nm,1.0s,SNR=6.5							
FETA				*i* PKPab		**sPKPab**	**01 58 39.8**	**+3.0**
	comp=Z,11nm,1.0s							
ZOU	**Zoufplan**	**149.64**	**135**			**PKiKP**	**01 58 29.0**	**-0.4**
PRED	**Cave del Predi**	**149.65**	**136**			**PKiKP**	**01 58 28.8**	**-0.5**
HERR	**Herculane**	**149.68**	**149**	⇑P		**PKPbc**	**01 58 28.4**	**+0.2**
DAVA	**Damuels**	**149.69**	**131**	*i* PKPdf		**PKPbc**	**01 58 28.8**	**+0.4**
	comp=Z,20nm,0.9s,SNR=9.8							
DAVA				*i* PKPab		**sPKPab**	**01 58 40.2**	**+3.1**
	comp=Z,26nm,1.2s							
ABTA	**Abfaltersbach**	**149.73**	**135**	*i* PKPdf		**PKPbc**	**01 58 28.6**	**+0.1**
	comp=Z,12nm,1.3s,SNR=6.4							
ABTA				*i* PKPab		**sPKPab**	**01 58 41.0**	**+3.8**
	comp=Z,10nm,1.1s							
MYKA	**Terra Mystica**	**149.84**	**136**	*i* PKPdf		**PKPbc**	**01 58 29.1**	**+0.4**
	comp=Z,7.5nm,0.7s,SNR=5.8							
MYKA				*i* PKPab		**sPKPab**	**01 58 41.1**	**+3.5**
	comp=Z,12nm,1.2s							
OBKA	**Obir**	**149.91**	**137**	*i* PKPdf		**PKiKP**	**01 58 29.5**	**-0.3**
	comp=Z,14nm,1.2s							
OBKA				*i* PKPab		**sPKPab**	**01 58 41.7**	**+3.8**
	comp=Z,16nm,1.4s							
SQTA	**Sankt Quirin**	**149.91**	**133**	*i* PKPdf		**PKPbc**	**01 58 29.1**	**+0.2**
	comp=Z,18nm,0.8s,SNR=12							
SQTA				*i* PKPab		**sPKPab**	**01 58 40.5**	**+2.5**
	comp=Z,11nm,0.6s							
MOTA	**Moosalm**	**150.01**	**132**	*i* PKPdf		**PKPbc**	**01 58 29.2**	**0.0**
	comp=Z,20nm,1.4s,SNR=6.7							
MOTA				*i* PKPab		**sPKPab**	**01 58 40.7**	**+2.3**
	comp=Z,21nm,1.2s							
RETA	**Reutte**	**150.07**	**132**	*i* PKPdf		**PKPbc**	**01 58 29.3**	**+0.1**
	comp=Z,8.6nm,0.7s							
WATA	**Walderalm**	**150.10**	**133**	*i* PKPdf		**PKPbc**	**01 58 29.3**	**0.0**
	comp=Z,19nm,1.1s,SNR=7.7							

UBR	**Ueberruh**	**150.11**	**131**	*e*PKPdf		**PKPbc**	**01 58 29.7**	**+0.4**
	baz=194,slow=2.4							
SOKA	**Soboth**	**150.16**	**138**	*i* PKPdf		**PKiKP**	**01 58 29.9**	**-0.4**
	comp=Z,10nm,1.0s,SNR=5.7							
KBZ	**Khabaz**	**150.18**	**178**	PKP		**PKPdf**	**01 58 24.1**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=215,slow=2.9,SNR=2.5							
KBZ				PKPbc		**PKPbc**	**01 58 29.7**	**+0.2**
	comp=Z,4.3nm,0.9s,baz=160,slow=2.5,SNR=8.1							
KBA	**Koelnbreinsper**	**150.22**	**136**	*i* PKPdf		**PKPbc**	**01 58 29.3**	**-0.4**
	comp=Z,7.0nm,0.9s							
BZS	**Buzias**	**150.28**	**147**	⇑P		**PKiKP**	**01 58 30.1**	**-0.3**
BFO	**Black Forest**	**150.34**	**128**	*e*PKPdf		**PKPbc**	**01 58 29.8**	**+0.1**
	baz=194,slow=2.4							
TOPG	**Topolog**	**150.45**	**157**	⇑P		**PKPbc**	**01 58 29.6**	**-0.5**
VOIR		**150.59**	**152**	⇑P		**PKPbc**	**01 58 30.0**	**-0.6**
CFR	**Carcaliu**	**150.72**	**157**	⇑P		**PKPbc**	**01 58 30.6**	**-0.1**
RJOB	**Jochberg**	**150.73**	**134**	*e*PKPdf		**PKPbc**	**01 58 29.5**	**-1.3**
	baz=194,slow=2.4							
MLR	**Muntele Rosu**	**150.76**	**154**	⇑P		**PKPbc**	**01 58 30.6**	**-0.4**
ARSA	**Arzberg**	**150.81**	**138**	*i* PKPdf		**PKiKP**	**01 58 31.5**	**0.0**
	comp=Z,15nm,1.1s,SNR=6.0							
FUR	**Furstenfeldbru**	**150.82**	**132**	*e*PKPdf		**PKiKP**	**01 58 31.3**	**-0.3**
	baz=194,slow=2.4							
SIRR	**Siria**	**150.92**	**147**	⇑P		**PKiKP**	**01 58 31.6**	**-0.2**
STU	**Stuttgart**	**150.94**	**129**	*e*PKPdf		**PKPbc**	**01 58 31.2**	**+0.1**
	baz=194,slow=2.4							
WLF	**Walferdange**	**151.08**	**125**	*e*PKPdf		**PKiKP**	**01 58 32.3**	**+0.3**
	baz=194,slow=2.4							
MOA	**Molln**	**151.14**	**136**	*i* PKPdf		**PKPbc**	**01 58 31.8**	**+0.1**
	comp=Z,8.8nm,0.7s,SNR=6.5							
MOA				*i* PKiKP		**PKPab**	**01 58 39.1**	**-0.5**
	comp=Z,5.0nm,0.8s							
MOA				*i* PKPab		**sPKPab**	**01 58 43.2**	**+0.3**
	comp=Z,5.1nm,0.7s							
DOPR	**Dopca**	**151.16**	**153**	⇑P		**PKiKP**	**01 58 32.1**	**-0.2**
PLOR	**Plostina**	**151.21**	**154**	⇑P		**PKPbc**	**01 58 31.1**	**-0.8**
VRI	**Vrincioaia**	**151.23**	**155**	⇑P		**PKPbc**	**01 58 31.1**	**-0.8**
VARL	**Varlezi**	**151.40**	**156**	⇑P		**PKiKP**	**01 58 32.8**	**0.0**
CONA	**Conrad Observa**	**151.52**	**138**	*i* PKPdf		**PKPbc**	**01 58 32.4**	**-0.2**
	comp=Z,5.0nm,0.9s							
TESR	**Tescani**	**151.85**	**154**	⇑P		**PKPbc**	**01 58 31.7**	**-1.7**
GEC2	**GERESS Array S**	**151.97**	**135**	*e*PKPdf		**PKPbc**	**01 58 33.3**	**-0.3**
	baz=194,slow=2.4							
GERES	**GERESS Array B**	**151.97**	**135**	PKP		**PKPdf**	**01 58 26.7**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=180,slow=6.7,SNR=3.7							
GERES				PKPbc		**PKPbc**	**01 58 33.5**	**-0.1**
	comp=Z,5.3nm,0.9s,baz=180,slow=2.1,SNR=30							
GERES	**GERESS Array B**	**151.97**	**135**			**PKPbc**	**01 58 33.0**	**-0.7**
WET	**Wettzell**	**152.09**	**134**	*e*PKPdf		**PKPbc**	**01 58 33.6**	**-0.2**
	baz=194,slow=2.4							
TNS	**Taunus**	**152.14**	**127**	*e*PKPdf		**PKiKP**	**01 58 34.8**	**+0.6**
	baz=194,slow=2.4							
BIZ	**Bicaz**	**152.21**	**153**	⇑P		**PKiKP**	**01 58 35.2**	**+0.7**
KHC	**Kasperske Hory**	**152.22**	**135**	*e*PKP		**PKPbc**	**01 58 33.5**	**-0.6**
KH

OZUR		**1.53**	**113**	⇑P	Pn	02 13 42.5	0.0
OZUR				⇓S	Sb	02 14 03.2	+0.2
VOIR		**1.56**	**145**	⇑P	Pb	02 13 43.7	-0.4
VOIR				⇑S	Sb	02 14 04.5	+0.6
VOIR		**1.56**	**145**	⇑P	Pb	02 13 43.7	-0.4
VOIR				⇑S	Sb	02 14 04.5	+0.6
BZS	**Buzias**	**1.85**	**234**	⇑P	Pn	02 13 46.9	0.0
BZS				⇓S	Sn	02 14 10.3	-0.1
BZS	**Buzias**	**1.85**	**234**	⇑P	Pn	02 13 46.9	0.0
BZS				⇓S	Sn	02 14 10.3	-0.1
HERR	**Herculane**	**2.06**	**208**	⇓P	Pn	02 13 50.6	+0.9
HERR	**Herculane**	**2.06**	**208**	⇓P	Pn	02 13 50.6	+0.9
MDVR	**Moldovita**	**2.41**	**217**	⇑P	Pn	02 13 54.8	+0.2
MDVR				⇑S	Sn	02 14 25.7	+1.5
MDVR	**Moldovita**	**2.41**	**217**	⇑P	Pn	02 13 54.8	+0.2
MDVR				⇑S	Sn	02 14 25.7	+1.5
KOLS	**Kolonicke sedl**	**2.44**	**336**	*e*PG	Pn	02 13 55.1	+0.2
KOLS				*e*SG	Pg	02 14 03.2	+1.4
CRVS	**Cervenica-Dubn**	**2.68**	**325**	*e*PG	Pn	02 13 59.2	+0.9
KOLL	**Kolacno**	**4.08**	**299**	*e*	Pn	02 14 17.3	-0.1

IDC ***29*** *02:17:47.1±1.6,37°.31S×74°.10W,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.5/15,mbtmp3.5/4,ML3.5/1,Error ellipse: s-maj=52.5km s-min=17.4km az=52.0*

GUC ***29*** *02:17:47.7±0.6,37°.27S×74°.30W,h31km±5km,ML3.8*

ISC 29 02:17:51.5±1.0,37°.29S±0°.06×74°.11W±0°.07,h35km,n15, σ1s71/20,mb3.7/3,3C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI03	**Tigo**	**0.98**	**63**	⇑*i*P	**Pn**	**02 18 06.9**	**-1.9**
BI03				*i* S	**Sn**	**02 18 21.0**	**-0.4**
BI03				IAML		02 18 30.1	
	comp=N,15μm,0.5s						
LAJA	**Laja**	**1.12**	**90**	*e*P	**Pn**	**02 18 08.7**	**-2.0**
LAJA				*e*S	**Sn**	**02 18 21.6**	**-3.3**
LAJA				IAML		02 18 29.9	
	comp=N,2μm,0.5s						
BI04	**Isla Mocha**	**1.14**	**171**	*e*P	**Pn**	**02 18 07.7**	**-3.2**
BI02	**San Fabin de**	**2.36**	**76**	⇑*i*P	**Pn**	**02 18 27.0**	**-0.8**
BI02				*e*S	**Sn**	**02 18 55.8**	**+0.2**
LC01	**Cunco**	**2.39**	**133**	⇑*i*P	**Pn**	**02 18 27.4**	**-0.8**
LC01				*e*S	**Sn**	**02 18 57.3**	**+1.1**
LC01				IAML		02 19 15.8	
	comp=E,353nm,0.6s						
PLCA	**Paso Flores**	**4.42**	**142**	Pn	**Pn**	**02 18 55.9**	**-0.2**
	comp=E,0.6nm,0.3s,baz=313,slow=14,SNR=6.4						
PLCA				Sn	**Sn**	**02 19 48.1**	**+1.7**
	comp=E,2.0nm,0.3s,baz=302,slow=15,SNR=2.9						
PLCA				Lg	Lg	02 20 06.5	
	comp=E,1.3nm,0.3s,baz=242,slow=19,SNR=1.7						
H03S1	**Juan Fernandez**	**5.20**	**310**	Pn	**Pn**	**02 19 05.4**	**-1.2**
	baz=95,slow=11,SNR=10						
H03S1				T	T	02 24 21.9	
	baz=130,slow=74,SNR=384						
H03S3	**Juan Fernandez**	**5.22**	**310**	Pn	**Pn**	**02 19 05.8**	**-1.0**
	baz=95,slow=11,SNR=10						
H03S3				T	T	02 24 25.7	
	baz=130,slow=74,SNR=267						
H03S2	**Juan Fernandez**	**5.22**	**310**	Pn	**Pn**	**02 19 05.1**	**-1.7**
	baz=95,slow=11,SNR=14						
H03S2				T	T	02 24 22.9	
	baz=130,slow=74,SNR=317						
H03N3	**Juan Fernandez**	**5.48**	**313**	Pn	**Pn**	**02 19 09.5**	**-1.0**
	SNR=8.4						
H03N1	**Juan Fernandez**	**5.49**	**313**	Pn	**Pn**	**02 19 09.0**	**-1.4**
	SNR=14						
H03N2	**Juan Fernandez**	**5.50**	**313**	Pn	**Pn**	**02 19 09.2**	**-1.4**
	SNR=6.9						
LPAZ	**La Paz**	**21.58**	**16**	P	**P**	**02 22 39.4**	**+0.6**
	comp=E,4.1nm,1.2s,baz=209,slow=9.8,SNR=4.6						
TXAR	**Lajitas Array**	**71.83**	**333**	P	**P**	**02 29 12.9**	**+2.2**
	comp=E,0.2nm,0.8s,baz=161,slow=5.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**86.90**	**71**	P	**P**	**02 30 33.2**	**+0.3**
	comp=E,0.6nm,0.7s,baz=220,slow=4.3,SNR=3.2						

WEL 29 02:17:55.5,39°S±4°×17°5E±°,h214km±6km,M2.5/27, MLv2.5/27,Error ellipse: s-maj=0.0km s-min=0.0km az=87.5,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.41**	**145**	P	Pn	02 18 23.9	-0.1
HIZ	**Hauiti**	**0.43**	**308**	P	Pn	02 18 23.8	-0.2
NGZ	**Ngauruhoe**	**0.46**	**149**	P	Pn	02 18 24.3	+0.1
OTVZ	**Oturere**	**0.48**	**143**	P	Pn	02 18 24.7	+0.4
OTVZ				S	S	02 18 46.4	-0.5
TLZ	**Tolley Road**	**0.49**	**23**	P	Pn	02 18 24.0	-0.2
PKVZ	**Pokaka**	**0.51**	**175**	P	Pn	02 18 24.2	0.0
WHVZ	**Whangaehu Hut**	**0.55**	**155**	P	Pn	02 18 25.0	+0.3
WNVZ	**Wahianoa**	**0.60**	**157**	P	Pn	02 18 24.9	+0.1
MTVZ	**Mangateitei**	**0.62**	**167**	P	Pn	02 18 24.8	+0.1
MOVZ	**Moawhango**	**0.72**	**150**	P	Pn	02 18 25.0	-0.2
MOVZ				S	S	02 18 45.5	-2.9
MRHZ	**Matea Rd**	**0.88**	**94**	P	Pn	02 18 25.8	-0.2
MRHZ				S	S	02 18 47.0	-2.6
BHHZ	**Black Hill Sta**	**0.93**	**140**	P	Pn	02 18 26.3	0.0
WAZ	**Wanganui**	**1.00**	**194**	P	Pn	02 18 26.8	+0.1
WAZ				S	S	02 18 49.4	-1.7
BKZ	**Black Stump Fm**	**1.01**	**113**	P	Pn	02 18 26.9	+0.1
BKZ				S	S	02 18 48.6	-2.5
PREZ	**Palmer Road**	**1.05**	**237**	P	Pn	02 18 27.0	0.0
TOZ	**Tahuroa Road**	**1.06**	**9**	P	Pn	02 18 27.0	-0.1
KWHZ	**Kaweka Forest**	**1.09**	**127**	P	Pn	02 18 28.0	+0.7
KWHZ				S	S	02 18 51.2	-0.8
KRHZ	**Kereru**	**1.20**	**136**	P	Pn	02 18 28.5	+0.4
MTHZ	**Maungataniwha**	**1.21**	**94**	P	Pn	02 18 28.4	+0.3
MTHZ				S	S	02 18 51.6	-1.9
MCHZ	**McNeill Hill**	**1.28**	**122**	P	Pn	02 18 29.8	+1.2
MCHZ				S	S	02 18 54.6	+0.4
RTZ	**Ruatahuna**	**1.33**	**83**	P	Pn	02 18 29.0	-0.1
RTZ				S	S	02 18 53.0	-2.1
PNHZ	**Pukenui**	**1.33**	**148**	P	Pn	02 18 29.6	+0.5
TSZ	**Takapari Road**	**1.38**	**158**	P	Pn	02 18 29.7	+0.3
ARHZ	**Aropaoanui**	**1.41**	**111**	P	Pn	02 18 30.6	+0.9
ARHZ				S	S	02 18 55.7	-0.4
URZ	**Urewera**	**1.52**	**71**	P	Pn	02 18 30.0	-0.5
URZ				S	S	02 18 55.2	-2.4
KAHZ	**Kahuranaki**	**1.59**	**130**	P	Pn	02 18 32.1	+0.8
KAHZ				S	S	02 18 58.6	-0.3
DVHZ	**Dannevirke**	**1.66**	**156**	P	Pn	02 18 31.8	0.0
DVHZ				S	S	02 18 57.6	-2.4
MWZ	**Matawai**	**1.81**	**76**	P	Pn	02 18 33.0	-0.2
MWZ				S	S	02 18 59.7	-2.6
MRZ	**Mangatainoka R**	**1.89**	**173**	P	Pn	02 18 33.5	-0.4
MRZ				S	S	02 19 00.9	-2.9
BFZ	**Birch Farm**	**2.04**	**159**	P	Pn	02 18 35.0	-0.4
OGWZ	**Otaki Gorge**	**2.04**	**183**	P	Pn	02 18 35.0	-0.3
RUGZ	**Raukumara Rang**	**2.04**	**67**	P	Pn	02 18 34.5	-1.1
TIWZ	**Tintock**	**2.05**	**167**	P	Pn	02 18 35.2	-0.3
KIW	**Kapiti Island**	**2.10**	**188**	P	Pn	02 18 35.2	-0.8
HOWZ	**Holdsworth Sta**	**2.12**	**175**	P	Pn	02 18 35.5	-0.7
HAZ	**Te Kaha**	**2.21**	**63**	P	Pn	02 18 36.2	-1.0
DUWZ	**D'Urville Isla**	**2.28**	**207**	P	Pn	02 18 36.8	-1.1
CAW	**Cannon Point**	**2.33**	**184**	P	Pn	02 18 37.6	-0.8
TMWZ	**Te Maipa**	**2.37**	**169**	P	Pn	02 18 38.1	-0.7
TCW	**Tory Channel**	**2.55**	**198**	P	Pn	02 18 39.9	-0.8
PAWZ	**Paruwai Farm**	**2.60**	**178**	P	Pn	02 18 40.2	-1.1
MSWZ	**Moikau Station**	**2.63**	**181**	P	Pn	02 18 40.5	-1.2
TRWZ	**Traveller**	**2.63**	**174**	P	Pn	02 18 40.7	-0.9
WMGZ	**Waiomatatini S**	**2.64**	**70**	P	Pn	02 18 41.5	-0.3
BHW	**Baring Head**	**2.65**	**187**	P	Pn	02 18 40.6	-1.2
PLWZ	**Palliser**	**2.79**	**181**	P	Pn	02 18 42.0	-1.4
TUWZ	**Tuamarina**	**2.84**	**201**	P	Pn	02 18 42.9	-1.1
NNZ	**Nelson**	**2.84**	**211**	P	Pn	02 18 42.3	-1.6
ORZ	**Quartz Range**	**2.95**	**225**	P	Pn	02 18 42.8	-2.4
BSWZ	**Blackbirch Sta**	**3.13**	**200**	P	Pn	02 18 46.5	-0.8
THZ	**Tophouse**	**3.49**	**211**	P	Pn	02 18 49.5	-2.2
KHZ	**Kahutara**	**3.87**	**200**	P	Pn	02 18 54.7	-1.4
DSZ	**Denniston Nort**	**3.99**	**221**	P	Pn	02 18 54.7	-2.9
GVZ	**Greta Valley S**	**4.52**	**202**	P	Pn	02 19 02.2	-1.9
LTZ	**Lake Taylor**	**4.61**	**209**	P	Pn	02 19 03.1	-2.2
INZ	**Inchbonnie**	**4.91**	**215**	P	Pn	02 19 06.2	-2.8
OKCZ	**Okains Bay**	**5.22**	**198**	P	Pn	02 19 10.8	-2.2
MQZ	**McQueen's Vall**	**5.31**	**201**	P	Pn	02 19 10.6	-3.4
WVZ	**Waitaha Valley**	**5.50**	**217**	P	Pn	02 19 13.0	-3.5
ARCZ	**Arundel**	**6.02**	**210**	P	Pn	02 19 19.9	-3.3

TEH ***29*** *02:37:43.5,32°.66N×47°.49E,h10km,ML2.9*

ISN ***29*** *02:37:43.2±1.0,32°.64N×47°.53E,h17km±6km,ML2.6*

ISC 29 02:37:43.3±1.6,32°.66N±0°.07×47°.51E±0°.05,h8km±12km, n13,σ0s85/16,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.19**	**277**	*e*Pg	**Pg**	**02 37 47.3**	**0.0**
IBDR	**Badra**	**1.40**	**289**	*e*Pg	**Pn**	**02 38 09.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**02 38 29.0**	**+0.6**
IBDR				AML	AML	02 38 34.2	
	comp=E,122nm,0.6s						
IBDR				AML	AML	02 38 34.6	
	comp=N,79nm,0.8s						
BMDN	**Meydan**	**1.50**	**47**	*e*Pg	**Pg**	**02 38 12.1**	**0.0**
BMDN				*e*		02 38 40.9	
IKOM	**Komasi**	**1.51**	**0**	*e*Pg	**Pb**	**02 38 11.7**	**-0.1**
IKOM				*e*		02 38 37.4	
KCHF	**Cheshme Sefid,**	**1.66**	**346**	*e*Pn	**Pb**	**02 38 14.4**	**+0.1**
HSAM	**Samen**	**1.80**	**30**	*e*Pn	**Pb**	**02 38 16.9**	**+0.2**
HSAM				*e*		02 38 45.4	
IBZA	**Bozab**	**1.83**	**9**	*e*Pn	**Pg**	**02 38 18.0**	**-0.4**
IBZA				*e*		02 38 45.8	
IGHG	**Ghaleghazi**	**1.84**	**335**	*e*Pn	**Pb**	**02 38 16.7**	**-0.7**
IGHG				*e*		02 38 55.3	
IVIS	**Veis**	**1.94**	**344**	*e*Pn	**Pb**	**02 38 19.1**	**0.0**
IVIS				*e*		02 38 49.7	
NSR	**Nassriya**	**2.02**	**216**	*e*Pn	**Pn**	**02 38 18.0**	**+0.4**
NSR				*e*Sn	**Sn**	**02 38 42.0**	**-1.0**
IDHR	**Dehrash**	**2.24**	**336**	*e*Pn	**Pb**	**02 38 22.6**	**-1.6**
IDHR				*e*		02 38 59.1	
ILIN	**Lien**	**2.30**	**349**	*e*Pn	**Pb**	**02 38 24.0**	**-1.2**
ILIN				*e*		02 39 11.8	
BHD	**Baghdad**	**2.70**	**284**	*e*Pn	**Pn**	**02 38 28.1**	**+1.0**
BHD				*e*Sn	**Sn**	**02 39 01.0**	**+1.1**

SNET ***29*** *02:52:15.3±0.6,12°.57N×90°.01W,h13km±4km,ML3.5*

UCR ***29*** *02:52:15.0±0.7,12°.57N×90°.03W,h11km±10km,ML3.5*

GCG ***29*** *02:52:17.5±1.1,12°.72N×90°.19W,h0km±25km,MD4.0*

ISC 29 02:52:15.5±2.7,12°.6N±0°.1×89°.96W±0°.08,h10km,n41, σ0s72/46,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**1.26**	**15**	*e*P	**Pn**	**02 52 38.9**	**-0.7**
CEVE				*e*S	**Sb**	**02 52 57.6**	**+1.6**
CEVE	**Cerro Verde**	**1.26**	**15**	*e*P	**Pn**	**02 52 38.9**	**-0.7**
CEVE				*e*S	**Sb**	**02 52 57.6**	**+1.6**
SBLS	**San Blas**	**1.27**	**15**	*e*P	**Pn**	**02 52 39.0**	**-0.7**
SBLS	**San Blas**	**1.27**	**15**	*e*P	**Pn**	**02 52 39.0**	**-0.7**
SNET	**Serv Nac Est T**	**1.29**	**33**	*e*P	**Pn**	**02 52 39.1**	**-0.7**
SNET	**Serv Nac Est T**	**1.29**	**33**	*e*P	**Pn**	**02 52 39.1**	**-0.7**
SNJE	**San Jose**	**1.31**	**15**	*e*P	**Pn**	**02 52 39.5**	**-0.6**
SNJE	**San Jose**	**1.31**	**15**	*e*P	**Pn**	**02 52 39.5**	**-0.6**
BOQS	**Boqueron**	**1.31**	**30**	*e*P	**Pn**	**02 52 39.8**	**-0.3**
BOQS				*e*S	**Sb**	**02 52 58.8**	**+1.5**
BOQS	**Boqueron**	**1.31**	**30**	*e*P	**Pn**	**02 52 39.8**	**-0.3**
BOQS				*e*S	**Sb**	**02 52 58.8**	**+1.5**
UEES	**Universidad Ev**	**1.31**	**32**	*e*P	**Pn**	**02 52 39.0**	**-1.0**
UEES	**Universidad Ev**	**1.31**	**32**	*e*P	**Pn**	**02 52 39.0**	**-1.0**
RTR	**El Retiro**	**1.32**	**13**	*e*P	**Pn**	**02 52 39.7**	**-0.6**
RTR	**El Retiro**	**1.32**	**13**	*e*P	**Pn**	**02 52 39.7**	**-0.6**
OPAM	**Oficina de Pla**	**1.33**	**34**	*e*P	**Pn**	**02 52 40.0**	**-0.3**
OPAM	**Oficina de Pla**	**1.33**	**34**	*e*P	**Pn**	**02 52 40.0**	**-0.3**
LFRS	**El Faro**	**1.34**	**41**	*e*P	**Pn**	**02 52 40.1**	**-0.4**
LFRS	**El Faro**	**1.34**	**41**	*e*P	**Pn**	**02 52 40.1**	**-0.4**
IGN	**Direccin Gen**	**1.35**	**35**	*e*P	**Pn**	**02 52 40.4**	**-0.1**
IGN	**Direccin Gen**	**1.35**	**35**	*e*P	**Pn**	**02 52 40.4**	**-0.1**
UDBS	**Universidad Do**	**1.36**	**35**	*e*P	**Pn**	**02 52 40.0**	**-0.7**
UDBS	**Universidad Do**	**1.36**	**35**	*e*P	**Pn**	**02 52 40.0**	**-0.7**
LFU	**La Fuente**	**1.41**	**36**	*e*P	**Pn**	**02 52 41.4**	**0.0**
LFU	**La Fuente**	**1.41**	**36**	*e*P	**Pn**	**02 52 41.4**	**0.0**
LBRS	**Las Brisas**	**1.44**	**38**	*e*P	**Pn**	**02 52 41.9**	**+0.1**
LBRS	**Las Brisas**	**1.44**	**38**	*e*P	**Pn**	**02 52 41.9**	**+0.1**
COEG	**Centro de Oper**	**1.46**	**46**	*e*P	**Pn**	**02 52 41.7**	**-0.3**
COEG				IAML		02 53 11.4	
	comp=Z,838nm,0.5s						
COEG	**Centro de Oper**	**1.46**	**46**	*e*P	**Pn**	**02 52 41.7**	**-0.3**
COEG				IAML		02 53 11.4	
	comp=Z,838nm,0.5s						
TACO	**Tacachico**	**1.48**	**23**	*e*P	**Pn**	**02 52 41.9**	**-0.5**
TACO	**Tacachico**	**1.48**	**23**	*e*P	**Pn**	**02 52 41.9**	**-0.5**
PAVA	**Las Pavas**	**1.49**	**42**	*e*P	**Pn**	**02 52 42.3**	**-0.2**
PAVA	**Las Pavas**	**1.49**	**42**	*e*P	**Pn**	**02 52 42.3**	**-0.2**
IXG	**Ixpaco**	**1.63**	**343**	*e*P	**Pn**	**02 52 44.1**	**-0.4**
JUCU	**Jucuarn**	**1.79**	**69**	*e*P	**Pn**	**02 52 46.9**	**+0.3**
JUCU				IAML		02 53 22.7	
	comp=Z,386nm,0.3s						
JUCU	**Jucuarn**	**1.79**	**69**	*e*P	**Pn**	**02 52 46.9**	**+0.3**
JUCU				IAML		02 53 22.7	
	comp=Z,386nm,0.3s						
MTO3	**Montecristo**	**1.88**	**18**	*e*P	**Pn**	**02 52 48.0**	**0.0**
MTO3	**Montecristo**	**1.88**	**18**	*e*P	**Pn**	**02 52 48.0**	**0.0**
PCG	**Pacaya**	**1.89**	**341**	*e*S	**Sb**	**02 53 14.2**	**+0.1**
NBG	**Las Nubes**	**2.01**	**349**	*e*P	**Pn**	**02 52 51.0**	**+1.1**
FUG	**Fuego 3**	**2.03**	**335**	*e*P	**Pn**	**02 52 51.0**	**+1.1**
MRL	**Marmol**	**2.48**	**6**	*e*P	**Pb**	**02 52 59.3**	**-1.1**
MRL				*e*S	**Sb**	**02 53 30.8**	**-0.3**

IDC ***29*** *02:53:39.5±1.0,29°.48S×178°.91W,h346km±12km,mb2.8/3, mb1 3.1/5,mb1mx3.0/29,mbtmp3.8/5,Error ellipse: s-maj=34.9km s-min=25.1km az=47.0*

ISC 29 02:53:37.7±1.0,29°.5S±0°.1×178°.8W±0°.2,h350km,n8, σ2s62/10,mb2.9/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.76**	**73**	P	**Pn**	**02 54 24.5**	**+1.9**
	156nm,0.3s,baz=92,slow=12,SNR=12						
RAO				S	**S**	**02 54 53.9**	**-4.7**
	69nm,0.3s,baz=334,slow=17,SNR=1.8						
URZ	**Urewera**	**9.41**	**200**	P	**P**	**02 55 50.0**	**-0.4**
	1.9nm,0.3s,baz=266,slow=6.1,SNR=13						
URZ				S	**S**	**02 57 33.5**	**-2.0**
	1.4nm,0.3s,baz=281,slow=23,SNR=6.8						
DZM	**Mont Dzumac**	**15.23**	**296**	P	**Pn**	**02 56 56.7**	**-0.8**
	0.3nm,0.3s,baz=93,slow=14,SNR=1.5						
ASAR	**Alice Springs**	**42.51**	**266**	P	**P**	**03 01 01.0**	**+0.8**
	0.4nm,0.5s,baz=102,slow=7.2,SNR=9.8						
WRA	**Warramunga Arr**	**43.42**	**272**	P	**P**	**03 01 08.0**	**+0.6**
	0.3nm,0.4s,baz=112,slow=7.1,SNR=6.4						
VNDA	**Vanda**	**48.95**	**185**	P	**P**	**03 01 50.2**	**+1.1**
	0.4nm,0.5s,baz=34,slow=3.6,SNR=2.5						
FINES	**FINESS Array B**	**144.06**	**340**	PKP	**PKiKP**	**03 12 32.6**	**-2.3**
	0.9nm,0.3s,baz=66,slow=1.7,SNR=12						
TORD	**Torodi Ar. Bea**	**163.74**	**182**	PKPab	**PKPab**	**03 13 57.1**	**+3.2**
	0.5nm,1.0s,baz=178,slow=3.3,SNR=1.7						

TAP ***29*** *03:03:19.9,24°.36N×122°.87E,h83km,ML3.2,C*

JMA ***29*** *03:03:20.3±0.1,24°.34N×122°.83E,h79km±2km,M2.2*

ISC 29 03:03:20.6±1.3,24°.28N±0°.05×122°.84E±0°.03,h75km±9km, n60,σ0s88/85,2C-3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.20**	**31**	P	**Pn**	**03 03 31.8**	**0.0**
JYNG				S	**Sn**	**03 03 40.1**	**+0.2**
YOJ	**Yonaguni jima**	**0.24**	**42**	⇓P	**Pn**	**03 03 32.1**	**+0.1**
	baz=40						
YOJ				S	**Sn**	**03 03 40.9**	**+0.6**
	baz=40						
YOJ	**Yonaguni jima**	**0.24**	**42**	P	**Pn**	**03 03 32.1**	**+0.1**
YOJ				S	**Sn**	**03 03 40.4**	**+0.1**
IRIF	**Iriomote-Funau**	**0.82**	**86**	P	**Pn**	**03 03 37.3**	**+0.1**
IRIF				S	**Sn**	**03 03 49.6**	**+0.1**
HATJ	**Hateruma jima**	**0.91**	**104**	P	**Pn**	**03 03 39.1**	**+0.8**
HATJ				*e*S	**Sn**	**03 03 52.3**	**+0.8**
ENAH	**Nanao**	**0.95**	**280**	*e*P	**Pn**	**03 03 38.7**	**0.0**
	baz=275						
TWC	**Suao**	**0.96**	**290**	⇓P	**Pn**	**03 03 38.5**	**-0.3**
	baz=285						
TWC				*e*S	**Sn**	**03 03 51.1**	**-1.3**
	baz=285						
ENA	**Nanau**	**1.01**	**278**	*e*P	**Pn**	**03 03 39.4**	**-0.1**
	baz=274						
ENA				*e*S	**Sn**	**03 03 53.7**	**+0.1**
	baz=274						
JKRS	**Kuro-shima**	**1.07**	**92**	P	**Pn**	**03 03 40.8**	**+0.6**
JKRS				S	**Sn**	**03 03 55.8**	**+0.9**
NACB	**Ninganchiao**	**1.14**	**265**	P	**Pn**	**03 03 40.9**	**-0.2**
	baz=261						
NACB				*e*S	**Sn**	**03 03 54.6**	**-1.8**
	baz=261						
TWE	**Neicheng**	**1.15**	**293**	*e*P	**Pn**	**03 03 41.0**	**-0.2**
	baz=288						
HWA	**Hwalien**	**1.17**	**255**	*e*P	**Pn**	**03 03 42.0**	**+0.6**
	baz=251						
JIJ	**Ishigaki jima**	**1.20**	**86**	P	**Pn**	**03 03 41.5**	**-0.3**
JIJ				S	**Sn**	**03 03 56.8**	**-0.9**
ENTT	**Nioudou**	**1.21**	**287**	⇓P	**Pn**	**03 03 42.4**	**+0.4**
	baz=290						
ENTT				*e*S	**Sn**	**03 03 58.3**	**+0.2**
	baz=290						
ETLH	**Xiulin Townshi**	**1.24**	**267**	*e*P	**Pn**	**03 03 42.2**	**-0.2**
	baz=263						
NDT	**Datong Townshi**	**1.25**	**285**	P	**Pn**	**03 03 43.0**	**+0.5**
	baz=286						
NDT				*e*S	**Sn**	**03 03 59.0**	**+0.1**
	baz=286						
NWLT	**Wulai**	**1.31**	**292**	*e*P	**Pn**	**03 03 43.4**	**+0.1**
	baz=294						
NNSB	**Datong**	**1.33**	**277**	P	**Pn**	**03 03 43.6**	**0.0**
	baz=273						
NNSB				*e*S	**Sn**	**03 03 59.8**	**-1.2**
	baz=273						
NNSH	**Datong**	**1.33**	**277**	*e*P	**Pn**	**03 03 43.6**	**-0.1**
	baz=272						
NNS	**Nan Shan**	**1.34**	**277**	*e*P	**Pn**	**03 03 44.4**	**+0.5**
	baz=273						
ESL	**Shilin**	**1.36**	**250**	*e*P	**Pn**	**03 03 43.4**	**-0.6**
	baz=247						
JISG	**Ishigakijimahi**	**1.38**	**77**	P	**Pn**	**03 03 43.7**	**-0.4**
JISG				S	**Sn**	**03 04 00.4**	**-1.4**
YHNB	**Yeheng**	**1.39**	**286**	P	**Pn**	**03 03 44.5**	**+0.2**
	baz=273						
NSK	**Sanguang**	**1.40**	**287**	*e*P	**Pn**	**03 03 45.2**	**+0.7**
	baz=274						
EGFH	**Guangfu**	**1.43**	**245**	*e*P	**Pn**	**03 03 44.4**	**-0.4**
	baz=237						
YM01	**YM01**	**1.44**	**307**	*e*P	**Pn**	**03 03 44.7**	**-0.2**
	baz=293						
WHF	**Hehuan Shan**	**1.44**	**265**	*e*P	**Pn**	**03 03 45.3**	**0.0**
	baz=261						
FUSS	**Fushou**	**1.45**	**269**	*e*P	**Pn**	**03 03 45.8**	**+0.4**
	baz=265						
YM04	**YM04**	**1.47**	**307**	*e*P	**Pn**	**03 03 45.1**	**-0.2**
	baz=293						
PCYT	**Pengchaiyu**	**1.51**	**333**	*e*P	**Pn**	**03 03 45.9**	**0.0**
	baz=329						
HGSD	**Ruisui**	**1.51**	**239**	*e*P	**Pn**	**03 03 46.0**	**+0.1**
	baz=237						
TWT	**Tachien**	**1.52**	**269**	*e*P	**Pn**	**03 03 47.1**	**+1.0**
	baz=266						
CHGB	**Renai**	**1.53**	**262**	*e*P	**Pn**	**03 03 46.4**	**0.0**
	baz=253						
EHY	**Hungye**	**1.59**	**241**	*e*P	**Pn**	**03 03 45.1**	**-1.7**
	baz=247						
VWDT	**VWDT**	**1.64**	**252**	⇑P	**Pn**	**03 03 48.2**	**+0.6**
	baz=249						
VWDT				*i* S	**Sn**	**03 04 07.5**	**-0.4**
	baz=249						
YULB	**Yu-li**	**1.66**	**238**	⇑P	**Pn**	**03 03 48.0**	**+0.1**
	baz=232						
EYUL	**Yuli**	**1.67**	**236**	*e*P	**Pn**	**03 03 48.1**	**+0.1**
	baz=234						
TWF1	**Yuli**	**1.69**	**237**	P	**Pn**	**03 03 48.5**	**+0.3**
	baz=230						
TWF1				*e*S	**Sn**	**03 04 08.7**	**-0.4**
	baz=230						
NSTT	**Nanjuang**	**1.71**	**282**	*e*P	**Pn**	**03 03 49.8**	**+1.3**
	baz=278						
WHP	**Taichung City**	**1.73**	**270**	*e*P	**Pn**	**03 03 50.2**	**+1.4**
	baz=262						
WHP				*e*S	**Sn**	**03 04 10.6**	**+0.4**
	baz=262						
JTJ	**Tarama**	**1.74**	**78**	P	**Pn**	**03 03 49.4**	**+0.5**
JTJ				S	**Sn**	**03 04 10.1**	**-0.2**
FULB	**Fuli**	**1.78**	**233**	*e*P	**Pn**	**03 03 49.0**	**-0.4**
	baz=224						
FULB				*e*S	**Sn**	**03 04 10.9**	**-0.4**
	baz=224	

TKGZ	**Te Karaka**	**10.66**	**196**	P		**Pn**	**03 20 57.4**	**-4.1**
TKGZ				S		**S**	**03 22 58.6**	**-2.3**
URZ	**Urewera**	**10.69**	**200**	P		**Pn**	**03 20 58.8**	**-3.1**
	4.7nm,0.3s,baz=269,slow=3.1,SNR=22							
URZ				S		**S**	**03 22 55.5**	**-6.2**
	4.6nm,0.3s,baz=32,slow=17,SNR=1.7							
URZ	**Urewera**	**10.69**	**200**	P		**Pn**	**03 20 58.3**	**-3.6**
RIGZ	**Rimuhau**	**10.93**	**196**	P		**Pn**	**03 21 00.9**	**-4.2**
RIGZ				S		**S**	**03 23 00.5**	**-6.9**
RRRZ	**Republican Roa**	**10.95**	**202**	P		**P**	**03 21 07.5**	**-2.1**
MSVF	**Nonsavu**	**10.95**	**342**	Pn		**Pn**	**03 21 03.4**	**-2.2**
MUGZ	**Murupara**	**10.99**	**200**	P		**Pn**	**03 21 02.3**	**-3.4**
RTZ	**Ruatahuna**	**11.06**	**199**	P		Pn	03 21 01.6	-5.1
PRGZ	**Paritu Road**	**11.11**	**195**	P		**Pn**	**03 21 06.7**	**-0.5**
SNGZ	**Shannon Statio**	**11.11**	**198**	P		**Pn**	**03 21 05.4**	**-1.9**
SNGZ				S		**S**	**03 23 12.8**	**+1.2**
ALRZ	**Allen Road**	**11.21**	**202**	P		**P**	**03 21 09.9**	**-2.5**
KNZ	**Kokohu**	**11.25**	**196**	P		**Pn**	**03 21 05.9**	**-3.1**
TLZ	**Tolley Road**	**11.28**	**205**	P		**P**	**03 21 13.3**	**-0.1**
RAHZ	**Arahi**	**11.31**	**198**	P		**Pn**	**03 21 05.5**	**-4.2**
KUTZ	**Kaahu Road**	**11.32**	**204**	P		**P**	**03 21 10.6**	**-3.1**
MTHZ	**Maungataniwha**	**11.32**	**199**	P		Pn	03 21 04.2	-5.6
MRHZ	**Matea Rd**	**11.43**	**201**	P		**Pn**	**03 21 11.2**	**0.0**
ARHZ	**Aropaoanui**	**11.66**	**198**	P		Pn	03 21 09.1	-4.9
HIZ	**Hauiti**	**11.71**	**207**	P		**P**	**03 21 18.4**	**+0.3**
BKZ	**Black Stump Fm**	**11.71**	**200**	P		**Pn**	**03 21 13.4**	**-1.4**
RITZ	**Rihia Road**	**11.74**	**203**	P		**Pn**	**03 21 14.4**	**-0.7**
MCHZ	**McNeill Hill**	**11.91**	**199**	P		**Pn**	**03 21 13.9**	**-3.3**
MCHZ				S		**S**	**03 23 32.6**	**+2.7**
TMVZ	**Te Maari**	**11.92**	**203**	P		**Pn**	**03 21 16.7**	**-0.7**
ETVZ	**East Tongariro**	**11.94**	**203**	P		**Pn**	**03 21 16.9**	**-0.7**
WTVZ	**West Tongariro**	**11.96**	**203**	P		**Pn**	**03 21 18.1**	**+0.2**
KWHZ	**Kaweka Forest**	**11.97**	**200**	P		**Pn**	**03 21 16.3**	**-1.7**
TWVZ	**Taurewa**	**11.97**	**204**	P		**P**	**03 21 18.7**	**-2.4**
CKHZ	**Cape Kidnapper**	**12.01**	**197**	P		**Pn**	**03 21 17.9**	**-0.4**
NGZ	**Ngauruhoe**	**12.01**	**203**	P		**Pn**	**03 21 17.1**	**-1.5**
TUVZ	**Tukino**	**12.07**	**203**	P		**Pn**	**03 21 16.4**	**-2.9**
FWVZ	**Far West T-bar**	**12.10**	**203**	P		**Pn**	**03 21 19.8**	**+0.1**
WHVZ	**Whangaehu Hut**	**12.11**	**203**	P		**Pn**	**03 21 18.6**	**-1.3**
BHHZ	**Black Hill Sta**	**12.14**	**201**	P		Pn	03 21 14.2	-5.8
WNVZ	**Wahianoa**	**12.14**	**203**	P		**Pn**	**03 21 18.8**	**-1.5**
MOVZ	**Moawhango**	**12.16**	**202**	P		**Pn**	**03 21 18.7**	**-1.7**
KAHZ	**Kahuranaki**	**12.19**	**198**	P		**Pn**	**03 21 16.3**	**-4.4**
PKVZ	**Pokaka**	**12.20**	**204**	P		**Pn**	**03 21 20.5**	**-0.3**
MTVZ	**Mangateitei**	**12.24**	**203**	P		**Pn**	**03 21 19.8**	**-1.6**
VRZ	**Vera Road**	**12.27**	**205**	P		**P**	**03 21 24.2**	**-0.1**
PXZ	**Pawanui**	**12.41**	**197**	P		**Pn**	**03 21 19.4**	**-4.0**
PNHZ	**Pukenui**	**12.49**	**200**	P		Pn	03 21 19.8	-4.5
PRHZ	**Porangahau**	**12.69**	**198**	P		Pn	03 21 21.0	-5.8
TSZ	**Takapari Road**	**12.69**	**200**	P		**Pn**	**03 21 24.6**	**-2.3**
KHEZ	**Kahui Hut**	**12.71**	**208**	P		**P**	**03 21 30.7**	**+1.4**
DVHZ	**Dannevirke**	**12.85**	**199**	P		**Pn**	**03 21 26.5**	**-2.4**
ANWZ	**Angora Road**	**12.92**	**198**	P		**Pn**	**03 21 28.0**	**-1.5**
POWZ	**Post Office Ro**	**13.06**	**200**	P		**Pn**	**03 21 30.4**	**-0.9**
PRWZ	**Pori Road**	**13.14**	**199**	P		**Pn**	**03 21 31.2**	**-1.2**
BFZ	**Birch Farm**	**13.19**	**198**	Pn		**P**	**03 21 32.9**	**-1.5**
TIWZ	**Tintock**	**13.37**	**199**	P		**Pn**	**03 21 32.1**	**-3.2**
CPWZ	**Castlepoint**	**13.41**	**198**	P		**Pn**	**03 21 34.5**	**-1.1**
TRWZ	**Traveller**	**14.01**	**199**	P		**Pn**	**03 21 40.4**	**-2.5**
MSWZ	**Moikau Station**	**14.15**	**200**	P		**P**	**03 21 44.2**	**-0.9**
BHW	**Baring Head**	**14.26**	**201**	P		**P**	**03 21 45.1**	**-1.2**
CMWZ	**Cape Campbell**	**14.78**	**202**	P		**Pn**	**03 21 51.7**	**-0.6**
DZM	**Mont Dzumac**	**15.04**	**291**	*e*Pn		**Pn**	**03 21 58.4**	**+2.7**
	238nm,1.7s							
DZM	**Mont Dzumac**	**15.04**	**291**	P		**Pn**	**03 21 56.5**	**+0.7**
	2.8nm,0.3s,baz=115,slow=6.6,SNR=30							
DZM	**Mont Dzumac**	**15.04**	**291**			**Pn**	**03 21 57.8**	**+2.1**
AFI	**Afiamalu**	**15.52**	**25**	P		P	03 21 52.0	-8.5
	11nm,0.3s,baz=269,slow=11,SNR=10							
AFI				S		S	03 24 26.4	-25
	4.5nm,0.3s,baz=46,slow=18,SNR=2.0							
AFI	**Afiamalu**	**15.52**	**25**			P	03 21 52.3	-8.2
RPZ	**Rata Peaks**	**17.64**	**206**	P		**P**	**03 22 23.3**	**-0.1**
	2.2nm,0.3s,baz=36,slow=2.7,SNR=11							
RPZ				S		**S**	**03 25 27.4**	**-5.9**
	3.4nm,0.3s,baz=299,slow=22,SNR=14							
RPZ	**Rata Peaks**	**17.64**	**206**	IAmb		IAmb	03 23 04.6	
	comp=Z,27nm,1.3s							
RAR	**Rarotonga**	**18.28**	**72**	P		**Pn**	**03 22 29.9**	**-3.8**
	comp=Z,0.9nm,0.3s,baz=252,slow=9.2,SNR=6.4							
RAR	**Rarotonga**	**18.28**	**72**	IAmb		IAmb	03 22 34.1	
	comp=Z,83nm,0.9s							
PPT2	**Papeete2**	**28.50**	**74**	*e*LQ		LQ	03 30 27.0	
	comp=Z,730nm,26.0s							
PPT2				*e*LR		LR	03 31 40.0	
	comp=Z,120nm,24.0s							
CTA	**Charters Tower**	**33.18**	**276**	P		**P**	**03 24 49.0**	**+0.7**
	comp=Z,3.6nm,0.4s,baz=100,slow=11,SNR=10							
STKA	**Stephens Creek**	**34.70**	**254**	P		**P**	**03 25 03.5**	**+2.3**
	comp=Z,1.1nm,0.5s,baz=98,slow=9.7,SNR=4.4							
STKA	**Stephens Creek**	**34.70**	**254**	P		**P**	**03 25 00.7**	**-0.6**
BBOO	**Buckleboo**	**39.29**	**252**	P		**P**	**03 25 39.4**	**-0.4**
BBOO				IAmb		IAmb	03 25 41.4	
	comp=Z,29nm,1.3s							
AS31	**Alice Springs**	**42.94**	**265**	P		**P**	**03 26 09.6**	**+0.1**
ASAR	**Alice Springs**	**42.94**	**265**	P		**P**	**03 26 10.3**	**+0.8**
	comp=Z,6.0nm,0.9s,baz=91,slow=6.8,SNR=38							
ASAR				pP		**pP**	**03 27 02.1**	**+1.4**
	comp=Z,2.0nm,0.8s,baz=96,slow=7.1,SNR=2.2							
ASAR				PcP		**PP**	**03 27 55.6**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=99,slow=4.8,SNR=1.7							
ASAR				ScP		**ScP**	**03 31 23.2**	**+0.9**
	comp=Z,1.7nm,1.0s,baz=120,slow=4.0,SNR=6.2							
ASAR	**Alice Springs**	**42.94**	**265**	P		**P**	**03 26 09.4**	**-0.1**
ASAR	**Alice Springs**	**42.94**	**265**			**ScP**	**03 31 23.8**	**+1.5**
WR0	**Warramunga Arr**	**43.54**	**270**	P		**P**	**03 26 13.3**	**-1.1**
WB2	**Warramunga Arr**	**43.72**	**270**	P		**P**	**03 26 16.1**	**+0.4**
WRAB	**Tennant Creek**	**43.72**	**270**	P		**P**	**03 26 15.5**	**-0.3**
WRAB				IAmb		IAmb	03 27 11.5	
	comp=Z,14nm,0.7s							
WRA	**Warramunga Arr**	**43.73**	**270**	P		**P**	**03 26 15.8**	**-0.1**
	comp=Z,5.3nm,0.7s,baz=111,slow=7.4,SNR=45							
WRA				ScP		**ScP**	**03 31 26.4**	**+0.9**
	comp=Z,3.6nm,1.1s,baz=114,slow=4.2,SNR=5.4							
WB0	**Warramunga Arr**	**43.74**	**270**	P		**P**	**03 26 15.3**	**-0.6**
FORT	**Forrest**	**46.32**	**253**	P		**P**	**03 26 35.4**	**-0.6**
FORT				IAmb		IAmb	03 26 36.8	
	comp=Z,25nm,0.8s							
VNDA	**Vanda**	**50.22**	**185**	P		P	03 27 09.3	+4.4
	comp=Z,3.4nm,0.7s,baz=4.3,slow=8.7,SNR=30							
VNDA	**Vanda**	**50.22**	**185**	P		**P**	**03 27 07.8**	**+2.8**
FITZ	**Fitzroy Crossi**	**52.06**	**268**	P		**P**	**03 27 20.2**	**+0.6**
	comp=Z,8.1nm,1.0s,baz=70,slow=4.1,SNR=7.0							
FITZ	**Fitzroy Crossi**	**52.06**	**268**	P		**P**	**03 27 18.4**	**-1.1**
CASY	**Casey**	**56.91**	**207**	P		**P**	**03 27 55.1**	**+1.6**
CASY				IAmb		IAmb	03 28 55.5	
	comp=Z,11nm,1.1s							
QSPA	**South Pole Qui**	**61.87**	**180**	P		P	03 28 31.0	+3.4
	comp=Z,6.4nm,0.7s,baz=26,slow=1.5,SNR=18							
QSPA				pP		pP	03 29 26.9	+3.7
	comp=Z,7.1nm,0.9s,baz=25,slow=3.9,SNR=4.3							
QSPA	**South Pole Qui**	**61.87**	**180**	P		**P**	**03 28 30.2**	**+2.6**
QSPA				IAmb		IAmb	03 29 34.2	
	comp=Z,30nm,1.4s							
BELA	**Belgrano 2**	**71.97**	**172**	P		**P**	**03 29 28.7**	**-2.0**
MAW	**Mawson**	**74.22**	**200**	P		**P**	**03 29 46.4**	**+2.5**
	comp=Z,4.6nm,0.7s,baz=137,slow=5.3,SNR=16							
MAW	**Mawson**	**74.22**	**200**	P		**P**	**03 29 45.2**	**+1.3**
MJAR	**Matsushiro Arr**	**76.28**	**325**	P		**P**	**03 29 55.0**	**-1.0**
	comp=Z,4.5nm,0.7s,baz=167,slow=5.5,SNR=10							
MJAR	**Matsushiro Arr**	**76.28**	**325**	P		**P**	**03 29 56.4**	**+0.4**
MAJO	**Matsushiro**	**76.28**	**325**	P		**P**	**03 29 53.2**	**-2.9**
MAT	**Matsushiro**	**76.28**	**325**	P		**P**	**03 29 54.8**	**-1.2**
MAT				*e*S		**SKiKP**	**03 38 57.8**	**+9.3**
YOJ	**Yonaguni jima**	**77.00**	**307**	P		**P**	**03 29 58.5**	**-1.8**
JNU	**Nakatsue**	**77.72**	**318**	P		**P**	**03 30 03.9**	**-0.2**
	comp=Z,5.3nm,0.7s,baz=235,slow=15,SNR=2.2							
SYO	**Syowa Base**	**79.15**	**193**	*e*P		**P**	**03 30 11.9**	**+0.5**
SNAA	**Sanae**	**80.33**	**179**	P		**P**	**03 30 20.3**	**+2.5**
SNAA	**Sanae**	**80.33**	**179**	P		**P**	**03 30 18.9**	**+1.1**
JKA	**Kamikawa-asahi**	**80.37**	**333**	IAmb		IAmb	03 30 20.6	
	comp=Z,12nm,1.2s							
ASAJ	**Asahikawa**	**80.37**	**333**	P		**P**	**03 30 17.8**	**-0.4**
	comp=Z,6.0nm,0.9s,baz=238,slow=12,SNR=5.3							
VNA3	**Neumayer Olymp**	**80.48**	**176**	P		**P**	**03 30 21.0**	**+2.4**
VNA1	**Neumayer--Stat**	**81.15**	**177**	P		**P**	**03 30 24.2**	**+2.2**
H03S2	**Juan Fernandez**	**81.94**	**124**	T		T	05 01 10.9	
	baz=240,slow=74,SNR=14							
H03S1	**Juan Fernandez**	**81.95**	**124**	T		T	05 01 09.2	
	baz=240,slow=74,SNR=5.2							
H03S3	**Juan Fernandez**	**81.96**	**124**	T		T	05 01 05.8	
	baz=240,slow=74,SNR=15							
H03N3	**Juan Fernandez**	**82.12**	**124**	T		T	05 01 28.1	
	baz=245,slow=72,SNR=3.5							
H03N2	**Juan Fernandez**	**82.12**	**124**	T		T	05 01 27.8	
	baz=245,slow=72,SNR=4.1							
H03N1	**Juan Fernandez**	**82.14**	**124**	T		T	05 01 25.8	
	baz=245,slow=72,SNR=7.1							
KSRS	**Korea Array**	**82.49**	**320**	P		**P**	**03 30 28.9**	**-0.5**
	comp=Z,1.8nn,0.7s,baz=140,slow=5.4,SNR=9.5							
KSAR	**Wonju Array Be**	**82.50**	**320**	P		**P**	**03 30 30.0**	**+0.5**
PETK	**Petropavlovsk-**	**83.64**	**346**	P		**P**	**03 30 33.4**	**-1.5**
	comp=Z,3.6nn,0.7s,baz=110,slow=6.6,SNR=5.5							
PKM	**Mcpherson Peak**	**83.66**	**45**	P		**P**	**03 30 36.1**	**+0.4**
	baz=229							
PLCA	**Paso Flores**	**84.23**	**133**	P		**P**	**03 30 40.8**	**+2.3**
	comp=Z,2.6nm,0.8s,baz=228,slow=6.5,SNR=8.6							
LC01	**Cunco**	**84.33**	**131**	P		**P**	**03 30 40.9**	**+1.8**
ARVC	**Arvin**	**84.43**	**45**	P		**P**	**03 30 39.9**	**+0.6**
	baz=230							
MURC	**Murrieta**	**84.50**	**47**	P		**P**	**03 30 40.6**	**+0.8**
	baz=231							
MONP2	**Monument Peak**	**84.56**	**48**	P		**P**	**03 30 40.9**	**+0.5**
	baz=232							
NJ2	**Nanjing**	**84.59**	**311**	*e*P		**P**	**03 30 41.0**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
BFSC	**Mount Baldy Ra**	**84.61**	**47**	P		**P**	**03 30 40.9**	**+0.4**
	baz=231							
IKP	**In-Ko-Pah, Jac**	**84.62**	**49**	P		**P**	**03 30 41.5**	**+1.0**
	baz=232							
VES	**Vestal, Richgr**	**84.73**	**45**	P		**P**	**03 30 41.1**	**+0.3**
	baz=230							
EDW2	**Edwards Air Fo**	**84.80**	**46**	P		**P**	**03 30 41.7**	**+0.5**
	baz=230,SNR=5.7							
RPSI	**Rantau Prapat**	**84.83**	**276**	P		**P**	**03 30 41.9**	**0.0**
RPSI				IAmb		IAmb	03 30 42.6	
	comp=Z,14nm,1.0s							
KMRM	**Mail Ridge**	**84.95**	**39**	P		**P**	**03 30 42.4**	**+0.5**
PFO	**Pinyon Flats O**	**84.99**	**48**	P		**P**	**03 30 43.0**	**+0.7**
	baz=231							
PFO	**Pinyon Flats O**	**84.99**	**48**	P		**P**	**03 30 43.1**	**+0.8**
PFO				IAmb		IAmb	03 30 44.9	
	comp=Z,16nm,1.4s							
ISA	**Isabella, Lake**	**85.00**	**45**	P		**P**	**03 30 42.8**	**+0.6**
	baz=230,SNR=7.7							
ISA	**Isabella, Lake**	**85.00**	**45**	P		**P**	**03 30 41.5**	**-0.7**
ISA				IAmb		IAmb	03 30 44.1	
	comp=Z,17nm,1.1s							
SWSC	**Sam W. Stewart**	**85.01**	**49**	P		**P**	**03 30 43.0**	**+0.7**
	baz=232							
USRK	**Ussuriysk Ar.**	**85.17**	**327**	P		**P**	**03 30 41.7**	**-1.1**
	comp=Z,2.9nm,1.0s,baz=139,slow=4.3,SNR=9.0							
USRK	**Ussuriysk Ar.**	**85.17**	**327**	P		**P**	**03 30 43.5**	**+0.7**
GSI	**Gunungsitoli**	**85.36**	**274**	P		**P**	**03 30 44.8**	**+0.2**
CMB	**Columbia Colle**	**85.38**	**42**	P		**P**	**03 30 45.0**	**+0.9**
CMB				IAmb		IAmb	03 30 45.4	
	comp=Z,9.4nm,1.0s							
LRMC	**Laurel Mtn Rad**	**85.38**	**46**	P		**P**	**03 30 44.8**	**+0.6**
	baz=231							
O02D	**Mt. Diablo Mer**	**85.43**	**39**	P		**P**	**03 30 45.4**	**+1.1**
	baz=227,SNR=14							
RRX	**Edison Barstow**	**85.43**	**46**	P		**P**	**03 30 44.9**	**+0.6**
	baz=231							
BELC	**Belle Mtn. Jos**	**85.53**	**48**	P		**P**	**03 30 46.0**	**+0.9**
	baz=232,SNR=8.3							
AFDM	**Forest Hills D**	**85.64**	**41**	IAmb		IAmb	03 30 46.6	
	comp=Z,13nm,1.2s							
BC3	**Big Chuckawall**	**85.67**	**48**	P		**P**	**03 30 46.7**	**+1.0**
	baz=232,SNR=6.3							
GLA	**Glamis**	**85.72**	**49**	P		**P**	**03 30 47.1**	**+1.3**
	baz=232							
GLA	**Glamis**	**85.72**	**49**	P		**P**	**03 30 46.0**	**+0.1**
CWC	**Cottonwood Cre**	**85.74**	**45**	P		**P**	**03 30 46.6**	**+0.5**
	baz=230							
HEC	**Hector,Ludlow**	**85.83**	**47**	P		**P**	**03 30 46.9**	**+0.5**
	baz=231,SNR=6.4							
WDC	**Whiskeytown Da**	**85.84**	**39**	P		**P**	**03 30 47.0**	**+0.8**
WDC				IAmb		IAmb	03 30 47.9	
	comp=Z,15nm,1.1s							
MPMC	**Manual Prospec**	**85.86**	**45**	P		**P**	**03 30 47.2**	**+0.5**
	baz=231,SNR=7.1							
OMMB	**Old Mammoth Mi**	**85.93**	**43**	IAmb		IAmb	03 30 48.7	
	comp=Z,12nm,1.5s							
N02D	**Trinity Center**	**86.02**	**39**	P		**P**	**03 30 48.0**	**+0.9**
	baz=227,SNR=6.8							
TIN	**Tinemaha, Big**	**86.04**	**44**	P		**P**	**03 30 48.2**	**+0.8**
	baz=230							
MLAC	**Mammoth, Mammo**	**86.04**	**43**	P		**P**	**03 30 48.1**	**+0.6**
	baz=230							
O03E	**Paynes Creek**	**86.06**	**40**	P		**P**	**03 30 47.5**	**+0.1**
	baz=228,SNR=5.5							
IRM	**Iron Mountain**	**86.18**	**48**	P		**P**	**03 30 49.1**	**+1.1**
	baz=232,SNR=9.1							
M02C	**Callahan**	**86.22**	**38**	P		**P**	**03 30 49.1**	**+0.9**
	baz=227,SNR=7.1							
GMRC	**Granite Mounta**	**86.23**	**47**	P		**P**	**03 30 49.3**	**+0.8**
	baz=232							
WAKR	**Weer**	**86.25**	**42**	IAmb		IAmb	03 30 50.3	
	comp=Z,12nm,1.1s							
113A	**Mohawk Valley,**	**86.26**	**50**	P		**P**	**03 30 48.9**	**+0.5**
113A				IAmb		IAmb	03 30 50.6	
	comp=Z,14nm,1.2s							
L02E	**Cave Junction**	**86.34**	**37**	P		**P**	**03 30 49.7**	**+1.1**
	baz=226							
214A	**Organ Pipe Nat**	**86.42**	**51**	P		**P**	**03 30 50.2**	**+0.9**
	baz=234							
TUQ	**Turquoise Moun**	**86.47**	**47**	P		**P**	**03 30 50.0**	**+0.5**
	baz=232,SNR=5.9							
FURC	**Furnace Creek,**	**86.52**	**45**	P		**P**	**03 30 49.9**	**+0.4**
	baz=231							
SHOC	**Shoshone, Teco**	**86.53**	**46**	P		**P**	**03 30 50.4**	**+0.7**
	baz=231							
GRAC	**Grapevine Rang**	**86.53**	**45**	P		**P**	**03 30 50.6**	**+0.8**
	baz=231							
LHV	**Little Huntoon**	**86.64**	**43**	P		**P**	**03 30 49.8**	**-0.3**
LHV				IAmb		IAmb	03 30 51.9	
	comp=Z,13nm,1.3s							
YERR	**Yerington**	**86.68**	**42**	IAmb		IAmb	03 30 52.0	
	comp=Z,10nm,1.5s							
K02D	**Willamette Mer**	**86.68**	**37**	P		**P**	**03 30 51.5**	**+1.2**
	baz=226							
NVAR	**Mina Array Bea**	**86.88**	**43**	P		**P**	**03 30 51.0**	**-0.6**
	comp=Z,3.7nm,0.8s,baz=221,slow=8.3,SNR=27							
HUMO	**Hull Mountain**	**87.00**	**37**	IAmb		IAmb	03 30 54.1	
	comp=Z,11nm,1.4s							
M04C	**Macdoel**	**87.05**	**39**	P		**P**	**03 30 52.6**	**+0.4**
	baz=228							
TPNV	**Topopah Spring**	**87.20**	**45**	P		**P**	**03 30 53.8**	**+0.7**
	baz=231,SNR=5.0							
BO02	**Sierra Bellavi**	**87.26**	**128**	P		**P**	**03 30 55.6**	**+2.0**
BO02				IAmb		IAmb	03 30 56.5	
	comp=Z,8.4nm,0.7s							
KVN	**Kaiserville**	**87.40**	**43**	IAmb		IAmb	03 30 55.1	
	comp=Z,7.9nm,1.2s							
I02D	**Swisshome**	**87.56**	**36**	P		**P**	**03 30 55.0**	**+0.7**
	baz=226							
SHPR	**Sheep Range**	**87.61**	**46**	P		**P**	**03 30 56.5**	**+1.4**
SHPR				IAmb		IAmb	03 30 57.3	
	comp=Z,23nm,1.7s							
MT02	**Curacav**	**87.84**	**127**	P		**P**	**03 30 57.0**	**+0.8**
TUC	**Tucson**	**88.02**	**52**	P		**P**	**03 30 58.5**	**+1.5**
	baz=235							
TUC	**Tucson**	**88.02**	**52**	P		**P**	**03 30 58.6**	**+1.6**
I04A	**Tendick Farm,**	**88.10**	**37**	P		**P**	**03 30 57.2**	**+0.2**
	baz=227							
K05A	**Summer Lake**	**88.20**	**38**	IAmb		IAmb	03 30 59.5	
	comp=Z,16nm,1.4s							
J05D	**Fort Rock, OR**	**88.39**	**38**	P		**P**	**03 30 59.1**	**+0.6**
	baz=228							
H04D	**Lebanon**	**88.43**	**36**	P		**P**	**03 30 59.1**	**+0.7**
	baz=227							
R11A	**Troy Canyon, C**	**88.48**	**44**	P		**P**	**03 30 59.3**	**+0.2**
	baz=232							
VA03	**San Esteban**	**88.52**	**127**	P		**P**	**03 30 59.6**	**+0.1**
319A	**Douglas**	**88.54**	**53**	IAmb		IAmb	03 31 02.0	
	comp=Z,11nm,1.1s							
G03D	**McMinnville, O**	**88.63**	**35**	P		**P**	**03 31 00.3**	**+1.0**
	baz=226							
X16A	**Lo Mia Camp, P**	**88.80**	**50**	IAmb		IAmb	03 31 03.2	
	comp=Z,11nm,1.1s							
KLR	**Kul'dur**	**89.00**	**330**	P		**P**	**03 31 01.0**	**0.0**
	comp=Z,2.0nm,0.7s,baz=110,slow=3.8,SNR=7.0							
I05D	**Terrebonne, OR**	**89.04**	**37**	P		**P**	**03 31 01.8**	**+0.4**
	baz=228							
WVOR	**Wild Horse Val**	**89.26**	**40**	P		**P**	**03 31 02.5**	**-0.1**
WVOR				IAmb		IAmb	03 31 04.1	
	comp=Z,8.9nm,1.3s							
U15A	**North Rim**	**89.41**	**48**	IAmb		IAmb	03 31 05.8	
	comp=Z,6.5nm,0.8s							
CO03	**El Pedregal**	**89.46**	**125**	P		**P**	**03 31 04.7**	**+0.7**
WUAZ	**Wupatki**	**89.48**	**49**	P		**P**	**03 31 04.7**	**+0.8**
	baz=234							
G05D	**Wamic, OR**	**89.66**	**36**	P		**P**	**03 31 04.7**	**+0.5**
	baz=228							
NLWA	**Neilton Lookou**	**89.84**	**34**	IAmb		IAmb	03 31 07.0	
	comp=Z,15nm,1.3s							
I07A	**Izee**	**89.86**	**38**	IAmb		IAmb	03 31 06.9	
	comp=Z,13nm,1.2s							
E04D	**Cinebar**	**89.91**	**35**	P		**P**	**03 31 06.1**	**+0.8**
	baz=227							
ENH	**Enshi**	**90.11**	**305**	P		**P**	**03 31 06.3**	**-0.4**
121A	**Cookes Peak, D**	**90.24**	**53**	P		**P**	**03 31 08.5**	**+1.1**
	baz=236							
D03D	**Eldon**	**90.32**	**34**	P		**P**	**03 31 07.7**	**+0.5**
	baz=227							
W18A	**Petrified Fore**	**90.34**	**50**	P		**P**	**03 31 08.6**	**+0.7**
	baz=235							
G08A	**Pilot Rock**	**90.94**	**37**	P		**P**	**03 31 10.4**	**+0.1**
BJI	**Beijing**	**91.15**	**316**	P		**P**	**03 31 12.8**	**+1.6**
BJI	**Beijing**	**91.15**	**316**	S		**S**	**03 41 50.8**	**+3.5**
BJI				pmax		pmax		
	comp=Z,6.0nm,0.9s							
B05A	**Bryant**	**91.31**	**34**	P		**P**	**03 31 12.7**	**+1.0**
	baz=227							
DUG	**Dugway, Tooele**	**91.31**	**44**	P		**P**	**03 31 12.3**	**+0.1**
	baz=234							
MNTX	**Cornudas Mount**	**91.49**	**55**	P		**P**	**03 31 13.8**	**+0.7**
	baz=238							
TX31	**Lajitas Ar. Si**	**91.50**	**57**	P		**P**	**03 31 13.6**	**+0.3**
TX32	**Lajitas Array**	**91.50**	**57**	IAmb		IAmb	03 31 15.2	
	comp=Z,11nm,1.4s							
TXAR	**Lajitas Array**	**91.50**	**57**	P		**P**	**03 31 13.4**	**+0.1**
	comp=Z,2.6nm,1.0s,baz=202,slow=6.1,SNR=17							
TXAR	**Lajitas Array**	**91.50**	**57**	P		**P**	**03 31 13.8**	**+0.5**
MVCO	**Mesa Verde**	**92.35**	**49**	P		**P**	**03 31 17.6**	**+0.4**
	baz=236							
CMAR	**Chiang Mai Arr**	**92.37**	**290**	P		**P**	**03 31 18.0**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=128,slow=5.8,SNR=4.4							
HLID	**Hailey**	**92.38**	**41**	P		**P**	**03 31 17.7**	**+0.6**
	baz=233							
ANMO	**Albuquerque**	**92.48**	**51**	P		**P**	**03 31 18.1**	**+0.3**
	baz=237							
S22A	**4UR Ranch, Cre**	**93.75**	**49**	P		**P**	**03 31 24.1**	**+0.4**
	baz=237							
SEY	**Seymchan**	**93.80**	**347**	P		**P**	**03 31 21.6**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=247,slow=7.2,SNR=3.6							
AHID	**Auburn Hatcher**	**93.86**	**43**	IAmb		IAmb	03 31 25.3	
	comp=Z,5.8nm,0.9s							
REDW	**Red Top Me

	SNR=7.1							
KK31	**Karatay Array**	**6.18**	**355**	P	**Pn**	**03 24 34.9**	**-1.1**	
	2.2nm,0.3s,baz=185,slow=16,SNR=46							
KK31				S	**Sn**	**03 25 47.0**	**0.0**	
	1.8nm,0.3s,baz=188,slow=25,SNR=7.1							
AAK	**Ala-Archa**	**6.24**	**23**	P	**Pn**	**03 24 36.6**	**-0.3**	
	SNR=7.0							
AAK	**Ala-Archa**	**6.24**	**23**	⇑P	**Pn**	**03 24 36.2**	**-0.6**	
	3.8nm,0.3s							
AAK				⇓S	**Sn**	**03 25 49.1**	**+0.7**	
	5.6nm,1.1s							
CHMS	**Chumysh**	**6.64**	**23**	P	**Pn**	**03 24 41.8**	**-0.3**	
	SNR=5.6							
TKM2	**Tokmak 2**	**6.87**	**28**	P	**Pn**	**03 24 44.7**	**-0.4**	
	SNR=6.2							
TKM2	**Tokmak 2**	**6.87**	**28**	⇓P	**Pn**	**03 24 44.8**	**-0.4**	
	1.8nm,0.5s							
AB01	**Akbulak array**	**14.78**	**330**	⇑P	**P**	**03 26 27.5**	**+0.8**	
	0.6nm,0.3s							

BEO ***29*** *03:45:03.6±0.7,36.59N×23.23E,h15km,ML6.0/8*
BGR ***29*** *03:45:04.7±0.0,36.76N×24.07E,h33km,mb5.5,Ms4.5*
BJI ***29*** *03:45:04.0±0.0,36.70N×23.70E,h95km,mB5.3/59, mb5.4/80*
MOS ***29*** *03:45:04.8±1.2,36.78N×23.76E,h87km,mb5.7/66,Error ellipse: s-maj=4.7km s-min=3.0km az=83.9*
ISK ***29*** *03:45:05.5,36.67N×23.56E,h96km±7km,ML5.6/35*
NEIC ***29*** *03:45:05.9±1.8,36.74N±0.06×23.74E±0.07,h86km±1km, Error ellipse: s-maj=10.4km s-min=8.5km az=219.0*
ATH ***29*** *03:45:05.6,36.67N×23.67E,h97km±1km,ML5.7/53,Error ellipse: s-maj=1.5km s-min=0.6km az=197.0*
IDC ***29*** *03:45:05.5±0.6,36.68N×23.82E,h87km±4km,mb5.1/48, mb1 5.2/56,mb1mx5.2/59,mbtmp5.5/56,MS4.6/43, Ms1 4.6/43,ms1mx4.6/48,Error ellipse: s-maj=7.2km s-min=5.6km az=69.0*
MED_RC ***29*** *03:45:06.0±0.1,36.49N×23.65E,h100km±1km,MW5.8/44, Moment Tensor Solution. Body waves: s32,c50;Mantle waves: s44,c98; Duration: 1ŝ7 Moment tensor: Scale 10¹⁷Nm; Mrr0.74±.06; Mθθ0.17±.07; Mϕϕ-0.92±.07; Mrθ-1.02±.06; Mθϕ-5.75±.07; Mϕr2.01±.05; Best double couple: M☉6.23000×10¹⁷ NP1:ϕ₁265.00000°,δ70.00000°, λ170.00000°. NP2:ϕ₂359.00000°,δ80.00000°,λ20.00000°. Principal axes: T 6.2200, Plg21.0000°, Azm224.0000°; N 0.0200, Plg68.0000°, Azm24.0000°; P -6.2400, Plg7.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
NEIC ***29*** *03:45:06.3,36.73N×23.74E,h88km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.02; Mθθ0.57; Mϕϕ-1.59; Mrθ-0.92; Mθϕ-3.75; Mϕr1.48; Fault plane solution: M☉4.37000×10¹⁷ NP1:ϕ₁355.28000°, δ76.20000°,λ24.86000°. NP2:ϕ₂258.97000°,δ65.91000°, λ164.85000°. Principal axes: T 4.2310, Plg27.0000°, Azm219.0000°; N 0.2633, Plg62.0000°, Azm23.0000°; P -4.4943, Plg7.0000°, Azm126.0000°;*
GCMT ***29*** *03:45:07.5±0.1,36.46N±0.01×23.62E±0.01,h100km, MW5.8/156,Moment Tensor Solution. s146,c290; s156,c381; Duration: 2ŝ0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.90±.04; Mθθ-0.09±.05; Mϕϕ-0.81±.05; Mrθ-0.60±.04; Mθϕ-6.19±.05; Mϕr1.79±.04; Best double couple: M☉6.51500×10¹⁷ NP1:ϕ₁267.00000°,δ73.00000°, λ172.00000°. NP2:ϕ₂360.00000°,δ83.00000°,λ17.00000°. Principal axes: T 6.2730, Plg17.0000°, Azm225.0000°; N 0.4840, Plg71.0000°, Azm22.0000°; P -6.7570, Plg7.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
THE ***29*** *03:45:07.5,36.69N×23.71E,h80km±1km,ML5.7/37 Error ellipse: s-maj=1.7km s-min=0.4km az=230.0*
NEIC ***29*** *03:45:08,36.64N×23.76E,h100km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.59; Mθθ-0.72; Mϕϕ-0.87; Mrθ-1.29; Mθϕ-5.37; Mϕr1.85; Fault plane solution: M☉5.99000×10¹⁷ NP1:ϕ₁266.00000°, δ68.00000°,λ162.00000°. NP2:ϕ₂3.00000°,δ73.00000°, λ23.00000°. Principal axes: T 5.7615, Plg28.0000°, Azm226.0000°; N 0.4288, Plg62.0000°, Azm38.0000°; P -6.1903, Plg3.0000°, Azm134.0000°;*
HLW ***29*** *03:45:09.0,36.28N×24.32E,h25km±41km,Md4.8*
NEIC ***29*** *03:45:09,36.51N×23.61E,h105km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.73; Mθθ0.06; Mϕϕ-0.79; Mrθ-0.59; Mθϕ-6.34; Mϕr1.95; Fault plane solution: M☉6.70000×10¹⁷ NP1:ϕ₁267.00000°, δ72.00000°,λ173.00000°. NP2:ϕ₂359.00000°,δ84.00000°, λ18.00000°. Principal axes: T 6.5303, Plg17.0000°, Azm224.0000°; N 0.3322, Plg71.0000°, Azm18.0000°; P -6.8625, Plg8.0000°, Azm132.0000°;*
DDA ***29*** *03:45:09.8,36.85N×23.80E,h46km±4km,MW5.5*
GII ***29*** *03:45:09.8±0.0,36.02N×24.59E,h1km,Mm5.6/10*
PDG ***29*** *03:45:16.4±0.7,37.56N×23.00E,h40km±11km,MD5.6/11, ML5.2/13,Error ellipse: s-maj=2.4km s-min=2.4km az=90.0*

ISC 29 03:45:06.0±0.2,36.75N±0.02×23.77E±0.02,h91km±1km, h91km:pP-P,n2059,σ2ŝ05/2401,mb5.6/411,87C-85D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHLO	**Agia Marina, M**	**0.51**	**97**	P	**Pn**	**03 45 22.2**	**+1.3**
MHLO				S	**Sn**	**03 45 33.4**	**+1.4**
	914µm,0.5s						
MHLO	**Agia Marina, M**	**0.51**	**97**	P	**Pn**	**03 45 22.2**	**+1.3**
MHLO				S	**Sn**	**03 45 34.3**	**+2.3**
MHLO				AML	AML	03 45 36.4	
MHLO				AML	AML	03 45 36.7	
MHLA	**Plaka, Milos I**	**0.53**	**90**	P	**Pn**	**03 45 22.7**	**+1.7**
MHLA				S	**Sn**	**03 45 34.6**	**+2.4**
MHLA				AML	AML	03 45 36.7	
MHLA				AML	AML	03 45 40.7	
MNVA	**Monemvasia**	**0.59**	**264**	P	**Pn**	**03 45 21.9**	**+0.4**
MNVA				S	**Sn**	**03 45 32.7**	**-0.4**
MNVA				AML	AML	03 45 33.8	
MNVA				AML	AML	03 45 34.5	
YDRA	**Hydra**	**0.65**	**338**	P	**Pn**	**03 45 23.2**	**+1.2**
YDRA				AML	AML	03 45 37.9	
YDRA				AML	AML	03 45 38.0	
VLI	**Veliai**	**0.67**	**267**	P	**Pn**	**03 45 22.4**	**+0.2**
VLI				S	**Sn**	**03 45 33.3**	**-1.1**
	675µm,0.5s						
VLI	**Veliai**	**0.67**	**267**	P	**Pn**	**03 45 22.4**	**+0.2**
VLI				S	**Sn**	**03 45 33.5**	**-0.9**
VLI				AML	AML	03 45 33.8	
VLI				AML	AML	03 45 34.2	
SERI	**Serifos**	**0.71**	**54**	P	**Pn**	**03 45 24.3**	**+1.6**
SERI				S	**Sn**	**03 45 37.4**	**+2.3**
	161µm,0.5s						
SERI	**Serifos**	**0.71**	**54**	P	**Pn**	**03 45 24.3**	**+1.6**
SERI				S	**Sn**	**03 45 38.1**	**+2.9**
SERI				AML	AML	03 45 38.7	
SERI				AML	AML	03 45 38.9	
KTHA	**Kythira Island**	**0.75**	**229**	P	**Pn**	**03 45 23.3**	**+0.3**
KTHA				S	**Sn**	**03 45 34.9**	**-1.0**
	1200µm,0.6s						
KTHA	**Kythira Island**	**0.75**	**229**	P	**Pn**	**03 45 23.4**	**+0.3**
KTHA				S	**Sn**	**03 45 34.9**	**-1.0**
KTHA				AML	AML	03 45 36.9	
KTHA				AML	AML	03 45 37.4	
DID	**Didima**	**0.86**	**331**	P	**Pn**	**03 45 25.4**	**+1.1**
DID				S	**Sn**	**03 45 39.1**	**+1.1**
	337µm,0.3s						
DID	**Didima**	**0.86**	**331**	P	**Pn**	**03 45 25.4**	**+1.1**
DID				S	**Sn**	**03 45 40.2**	**+2.2**
DID				AML	AML	03 45 41.9	
DID				AML	AML	03 45 44.5	
ANKY	**Antikythira Is**	**0.96**	**203**	P	**Pn**	**03 45 25.2**	**-0.1**
ANKY				S	**Sn**	**03 45 37.8**	**-1.9**
	829µm,0.5s						
ANKY	**Antikythira Is**	**0.96**	**203**	P	**Pn**	**03 45 25.3**	**0.0**
ANKY				S	**Sn**	**03 45 38.6**	**-1.1**
ANKY				AML	AML	03 45 39.9	
ANKY				AML	AML	03 45 40.6	
VLY	**Voula,Athens**	**1.10**	**1**	P	**Pn**	**03 45 28.3**	**+1.4**
VLY				S	**Sn**	**03 45 43.7**	**+1.1**
	149µm,0.5s						
VLY	**Voula,Athens**	**1.10**	**1**	P	**Pn**	**03 45 28.4**	**+1.5**
VLY				S	**Sn**	**03 45 45.2**	**+2.6**
VLY				AML	AML	03 45 45.6	
VLY				AML	AML	03 45 46.0	
RODP	**Rodopos**	**1.19**	**180**	P	**Pn**	**03 45 28.1**	**+0.1**
RODP	**Rodopos**	**1.19**	**180**	PN	**Pn**	**03 45 28.1**	**+0.1**
RODP				SN	**Sn**	**03 45 43.7**	**-0.8**
ATHU	**Athens Univers**	**1.21**	**1**	P	**Pn**	**03 45 30.1**	**+1.9**
ATHU				S	**Sn**	**03 45 46.1**	**+1.1**
	95µm,0.6s						
ATHU	**Athens Univers**	**1.21**	**1**	P	**Pn**	**03 45 30.1**	**+1.9**
ATHU				AML	AML	03 45 47.1	
ATHU				AML	AML	03 45 48.3	
ATH	**Athens Observa**	**1.22**	**358**	P	**Pn**	**03 45 30.2**	**+1.9**
ATH				S	**Sn**	**03 45 46.5**	**+1.4**
	170µm,0.5s						
ATH	**Athens Observa**	**1.22**	**358**	P	**Pn**	**03 45 30.3**	**+2.0**
ATH				S	**Sn**	**03 45 47.7**	**+2.6**
ATH				AML	AML	03 45 49.1	
ATH				AML	AML	03 45 50.0	
ATH	**Athens Observa**	**1.22**	**358**	P	**Pn**	**03 45 30.3**	**+2.0**
ATH				S	**Sn**	**03 45 46.5**	**+1.4**
IOSP	**Ios island**	**1.22**	**91**	P	**Pn**	**03 45 30.2**	**+1.9**
IOSP				S	**Sn**	**03 45 46.8**	**+1.6**
	189µm,0.8s						
IOSP	**Ios island**	**1.22**	**91**	P	**Pn**	**03 45 30.3**	**+1.9**
IOSP				AML	AML	03 45 47.8	
IOSP				AML	AML	03 45 48.3	
CHAN	**Chania**	**1.25**	**170**	P	**Pn**	**03 45 28.7**	**0.0**
CHAN				S	**Sn**	**03 45 44.4**	**-1.3**
VLX	**Vlachokerasia**	**1.27**	**300**	P	**Pn**	**03 45 30.1**	**+1.1**
VLX	**Vlachokerasia**	**1.27**	**300**	P	**Pn**	**03 45 30.1**	**+1.1**
VLX				S	**Sn**	**03 45 46.8**	**+0.4**
VLX				AML	AML	03 45 48.9	
VLX				AML	AML	03 45 48.9	
IMMV	**Iera Moni Meta**	**1.30**	**172**	P	**Pn**	**03 45 29.5**	**+0.2**
IMMV				S	**Sn**	**03 45 45.8**	**-1.0**
	707µm,0.5s						
IMMV	**Iera Moni Meta**	**1.30**	**172**	P	**Pn**	**03 45 29.5**	**+0.2**
IMMV				S	**Sn**	**03 45 46.7**	**-0.2**
IMMV				AML	AML	03 45 49.4	
IMMV				AML	AML	03 45 51.5	
IMMV	**Iera Moni Meta**	**1.30**	**172**	PN	**Pn**	**03 45 29.5**	**+0.2**
IMMV				SN	**Sn**	**03 45 47.1**	**+0.3**
PTL	**Penteli**	**1.30**	**3**	P	**Pn**	**03 45 31.4**	**+2.1**
PTL				S	**Sn**	**03 45 48.5**	**+1.6**
	157µm,0.5s						
PTL	**Penteli**	**1.30**	**3**	P	**Pn**	**03 45 31.4**	**+2.1**
PTL				S	**Sn**	**03 45 49.9**	**+3.0**
PTL				AML	AML	03 45 51.1	
PTL				AML	AML	03 45 51.1	
SAP3	**Santorini-Thir**	**1.31**	**103**	P	**Pn**	**03 45 31.1**	**+1.7**
SAP3				S	**Sn**	**03 45 48.6**	**+1.6**
SAP3	**Santorini-Thir**	**1.31**	**103**	P	**Pn**	**03 45 31.3**	**+1.9**
SAP4	**Santorini-Oia**	**1.32**	**102**	P	**Pn**	**03 45 31.4**	**+1.9**
SAP4				S	**Sn**	**03 45 49.6**	**+2.3**
	625µm,1.0s						
SAP4	**Santorini-Oia**	**1.32**	**102**	P	**Pn**	**03 45 31.4**	**+1.9**
DION	**Dionisos Attik**	**1.33**	**6**	P	**Pn**	**03 45 31.9**	**+2.2**
DION				S	**Sn**	**03 45 49.4**	**+1.8**
	591µm,0.6s						
DION	**Dionisos Attik**	**1.33**	**6**	P	**Pn**	**03 45 31.9**	**+2.2**
DION				S	**Sn**	**03 45 49.9**	**+2.3**
DION				AML	AML	03 45 51.0	
DION				AML	AML	03 45 51.1	
CMBO	**Columbo, Santo**	**1.35**	**101**	P	**Pn**	**03 45 31.8**	**+1.9**
CMBO				S	**Sn**	**03 45 49.7**	**+1.8**
	441µm,0.5s						
CMBO	**Columbo, Santo**	**1.35**	**101**	P	**Pn**	**03 45 31.9**	**+2.1**
CMBO				S	**Sn**	**03 45 50.2**	**+2.4**
CMBO				AML	AML	03 45 51.0	
CMBO				AML	AML	03 45 51.8	
TNSA	**Tinos**	**1.37**	**54**	P	**Pn**	**03 45 32.2**	**+2.1**
SAP1	**Santorini-Akro**	**1.37**	**106**	P	**Pn**	**03 45 31.9**	**+1.8**
SAP1				S	**Sn**	**03 45 49.9**	**+1.6**
	534µm,0.5s						
SAP1	**Santorini-Akro**	**1.37**	**106**	P	**Pn**	**03 45 31.9**	**+1.8**
SAP1				S	**Sn**	**03 45 50.6**	**+2.2**
THT2	**Imerovigli**	**1.37**	**103**	P	**Pn**	**03 45 31.9**	**+1.8**
THT2	**Imerovigli**	**1.37**	**103**	PN	**Pn**	**03 45 31.9**	**+1.8**
SFIR	**Foira Santorin**	**1.38**	**103**	P	**Pn**	**03 45 31.9**	**+1.7**
SNT1	**Gialos, Santor**	**1.38**	**104**	P	**Pn**	**03 45 31.9**	**+1.7**
KARY	**Karystos**	**1.39**	**22**	P	**Pn**	**03 45 32.6**	**+2.2**
KARY				S	**Sn**	**03 45 50.9**	**+2.2**
	83µm,0.8s						
KARY	**Karystos**	**1.39**	**22**	P	**Pn**	**03 45 32.6**	**+2.2**
KARY				AML	AML	03 45 51.8	
KARY				AML	AML	03 45 53.4	
VAM	**Vamos**	**1.39**	**165**	P	**Pn**	**03 45 30.1**	**-0.3**
VAM				S	**Sn**	**03 45 47.4**	**-1.3**
	453µm,0.6s						
VAM	**Vamos**	**1.39**	**165**	P	**Pn**	**03 45 30.3**	**-0.1**
VAM				S	**Sn**	**03 45 48.4**	**-0.3**
VAM				AML	AML	03 45 51.9	
VAM				AML	AML	03 45 52.3	
VAM	**Vamos**	**1.39**	**165**	P	**Pn**	**03 45 30.3**	**-0.1**
LOUT	**Loutraki**	**1.39**	**333**	P	**Pn**	**03 45 31.8**	**+1.5**
LOUT				S	**Sn**	**03 45 50.1**	**+1.3**
	110µm,0.5s						
LOUT	**Loutraki**	**1.39**	**333**	P	**Pn**	**03 45 31.9**	**+1.5**
LOUT				S	**Sn**	**03 45 51.2**	**+2.4**
SAP2K	**Karterados**	**1.39**	**104**	P	**Pn**	**03 45 32.3**	**+1.9**
SAP2K				S	**Sn**	**03 45 49.5**	**+0.6**
	542µm,1.1s						
SAP2K	**Karterados**	**1.39**	**104**	P	**Pn**	**03 45 32.4**	**+2.0**
SNT3	**Karterados, Sa**	**1.39**	**103**	P	**Pn**	**03 45 32.4**	**+2.0**
SANT	**Santorini**	**1.41**	**105**	P	**Pn**	**03 45 32.4**	**+1.7**
SANT				S	**Sn**	**03 45 50.6**	**+1.2**
	101µm,0.5s						
SANT	**Santorini**	**1.41**	**105**	P	**Pn**	**03 45 32.5**	**+1.7**
SANT				AML	AML	03 45 52.3	
SANT				AML	AML	03 45 59.9	
SANT	**Santorini**	**1.41**	**105**	⇓P	**Pn**	**03 45 32.7**	**+2.0**
SANT	**Santorini**	**1.41**	**105**	PN	**Pn**	**03 45 32.4**	**+1.7**
SANT	**Santorini**	**1.41**	**105**	*i* P	**Pn**	**03 45 32.3**	**+1.7**
SANT				*i* S	**Sn**	**03 45 46.9**	**-2.5**
SANT	**Santorini**	**1.41**	**105**		**Pn**	**03 45 32.3**	**+1.7**
LTK	**Loutraki**	**1.42**	**334**	P	**Pn**	**03 45 32.4**	**+1.6**
LTK				S	**Sn**	**03 45 51.0**	**+1.5**
	157µm,0.6s						
LTK	**Loutraki**	**1.42**	**334**	P	**Pn**	**03 45 32.4**	**+1.6**
LTK				S	**Sn**	**03 45 51.1**	**+1.6**
LTK				AML	AML	03 45 53.4	
LTK				AML	AML	03 46 00.4	
TRIP	**Tripoli**	**1.43**	**303**	P	**Pn**	**03 45 32.1**	**+1.2**
TRIP				S	**Sn**	**03 45 50.1**	**+0.4**
	117µm,0.7s						
TRIP	**Tripoli**	**1.43**	**303**	P	**Pn**	**03 45 32.0**	**+1.2**
TRIP				S	**Sn**	**03 45 50.4**	**+0.7**
TRIP				AML	AML	03 45 54.2	
TRIP				AML	AML	03 45 54.6	
APE	**Apeiranthos**	**1.45**	**77**	P	**Pn**	**03 45 33.4**	**+2.3**
APE				S	**Sn**	**03 45 52.1**	**+1.9**
	75µm,0.9s						
APE	**Apeiranthos**	**1.45**	**77**	P	**Pn**	**03 45 33.4**	**+2.3**
APE				AML	AML	03 45 54.3	
APE				AML	AML	03 45 55.4	
APE	**Apeiranthos**	**1.45**	**77**	PN	**Pn**	**03 45 33.5**	**+2.3**
APE	**Apeiranthos**	**1.45**	**77**	*i* P	**Pn**	**03 45 33.5**	**+2.3**
APE				*i* S	**Sn**	**03 45 49.5**	**-0.7**
APE	**Apeiranthos**	**1.45**	**77**	*c i* P	**Pn**	**03 45 33.3**	**+2.1**
VIL2	**Vilia**	**1.46**	**346**	P	**Pn**	**03 45 33.0**	**+1.7**
VIL2	**Platees**	**1.51**	**345**	P	**Pn**	**03 45 32.9**	**+1.0**
VIL2				S	**Sn**	**03 45 52.6**	**+1.0**
VIL2				AML	AML	03 45 55.9	
VIL2				AML	AML	03 45 58.6	
KNDR	**Palaiochora Ch**	**1.52**	**182**	P	**Pn**	**03 45 32.4**	**+0.5**
KNDR				S	**Sn**	**03 45 51.2**	**-0.4**
	279µm,0.5s						
KNDR	**Palaiochora Ch**	**1.52**	**182**	PN	**Pn**	**03 45 32.5**	**+0.5**
ITM	**Ithomi**	**1.53**	**287**	P	**Pn**	**03 45 33.7**	**+1.5**
ITM				S	**Sn**	**03 45 53.6**	**+1.5**
	100µm,0.3s						
ITM	**Ithomi**	**1.53**	**287**	P	**Pn**	**03 45 33.7**	**+1.5**
ITM				AML	AML	03 45 56.2	
ITM				AML	AML	03 45 56.8	
ITM	**Ithomi**	**1.53**	**287**		**Pn**	**03 45 33.4**	**+1.1**
PYL	**PYLOS**	**1.63**	**276**	P	**Pn**	**03 45 33.6**	**+0.2**
PYL				S	**Sn**	**03 45 53.3**	**-0.9**
	116µm,0.4s						
PYL	**PYLOS**	**1.63**	**276**	P	**Pn**	**03 45 33.7**	**+0.3**
PYL				AML	AML	03 45 58.7	
PYL				AML	AML	03 46 03.5	
GUR	**Goura**	**1.64**	**317**	P	**Pn**	**03 45 34.9**	**+1.2**
GUR				S	**Sn**	**03 45 56.5**	**+1.9**
	219µm,0.4s						
ANAF	**Anafi Island**	**1.66**	**103**	P	**Pn**	**03 45 35.8**	**+2.0**
ANAF	**Anafi Island**	**1.66**	**103**	P	**Pn**	**03 45 35.9**	**+2.0**
ANAF				AML	AML	03 45 59.4	
ANAF				AML	AML	03 46 01.8	
AMGA	**Amorgos Island**	**1.71**	**87**	P	**Pn**	**03 45 36.9**	**+2.5**
AMGA				S	**Sn**	**03 45 57.7**	**+1.6**
	155µm,0.7s						
AMGA	**Amorgos Island**	**1.71**	**87**	P	**Pn**	**03 45 36.8**	**+2.3**
AMGA				AML	AML	03 45 59.7	
AMGA				AML	AML	03 46 00.1	
IDI	**Anoyia**	**1.72**	**148**	P	**Pn**	**03 45 34.1**	**-0.5**
	8µm,0.3s,baz=268,slow=8.8,SNR=9642						
IDI				S	**Sn**	**03 45 52.7**	**-3.7**
	14µm,0.3s,baz=28,slow=17,SNR=13						
IDI				ScS	**ScS**	**04 00 20.0**	**-0.1**
	0.5nm,0.3s,baz=252,slow=20,SNR=7.5						
IDI	**Anoyia**	**1.72**	**148**	P	**Pn**	**03 45 34.1**	**-0.5**
IDI	**Anoyia**	**1.72**	**148**	P	**Pn**	**03 45 34.3**	**-0.3**
IDI				S	**Sn**	**03 45 55.3**	**-1.1**
IDI				AML	AML	03 45 56.5	
IDI				AML	AML	03 46 03.2	
IDI	**Anoyia**	**1.72**	**148**	PN	**Pn**	**03 45 34.2**	**-0.5**
IDI	**Anoyia**	**1.72**	**148**	Pn	**Pn**	**03 45 33.9**	**-0.7**
IACM	**Heraklion**	**1.79**	**143**	P	**Pn**	**03 45 35.7**	**+0.3**
IACM				S	**Sn**	**03 45 58.1**	**+0.2**
IACM	**Heraklion**	**1.79**	**143**	P	**Pn**	**03 45 35.7**	**+0.3**
IACM				S	**Sn**	**03 45 58.0**	**+0.2**
KSTL	**Kastelli Herak**	**1.79**	**143**	P	**Pn**	**03 45 38.8**	**+3.3**
HRKL	**Herakleio**	**1.80**	**143**	P	**Pn**	**03 45 35.9**	**+0.3**
HRKL	**Herakleio**	**1.80**	**143**	PN	**Pn**	**03 45 36.2**	**+0.6**
AMT	**Artemida-Makis**	**1.82**	**296**	P	**Pn**	**03 45 37.5**	**+1.6**
KLV	**Kalavryta, Ach**	**1.82**	**316**	P	**Pn**	**03 45 37.2**	**+1.2**
KLV				S	**Sn**	**03 45 59.2**	**+0.4**
	48µm,0.7s						
KLV	**Kalavryta, Ach**	**1.82**	**316**	P	**Pn**	**03 45 37.2**	**+1.2**
KLV				AML	AML	03 46 05.5	
	comp=N,90452µm,0.6s						
KLV				AML	AML	03 46 08.3	
TMBK	**Timbaki Herakl**	**1.86**	**154**	P	**Pn**	**03 45 36.7**	**+0.3**
TMBK				S	**Sn**	**03 46 00.3**	**+0.8**
	comp=N,217µm,0.5s						
KYMI	**Kymi, Euboea I**	**1.90**	**8**	P	**Pn**	**03 45 39.0**	**+2.1**
KYMI	**Kymi, Euboea I**	**1.90**	**8**	P	**Pn**	**03 45 39.0**	**+2.1**
KYMI				AML	AML	03 46 07.9	
	comp=N,73570µm,0.9s						
KYMI				AML	AML	03 46 08.1	
	comp=E,73991µm,1.1s						
GVDS	**Gavdos**	**1.92**	**172**	P	**Pn**	**03 45 37.1**	**-0.1**
GVDS				S	**Sn**	**03 46 01.3**	**+0.4**
	comp=E,378µm,0.4s						
GVDS	**Gavdos**	**1.92**	**172**	PN	**Pn**	**03 45 37.0**	**-0.1**
GVD	**Gavdhos**	**1.93**	**172**	P	**Pn**	**03 45 37.0**	**-0.2**
GVD				S	**Sn**	**03 46 00.9**	**-0.1**
	comp=E,530µm,0.4s						
GVD	**Gavdhos**	**1.93**	**172**	P	**Pn**	**03 45 37.0**	**-0.2**
GVD				AML	AML	03 46 02.9	
GVD				AML	AML	03 46 04.3	
GVD	**Gavdhos**	**1.93**	**172**	PN	**Pn**	**03 45 37.3**	**0.0**
SIVA	**Sivas**	**1.93**	**154**	P	**Pn**	**03 45 37.5**	**+0.3**
SIVA				S	**Sn**	**03 46 00.4**	**-0.6**
	comp=E,421µm,0.5s						
SIVA	**Sivas**	**1.93**	**154**	P	**Pn**	**03 45 37.1**	**-0.1**
SIVA				AML	AML	03 46 05.2	
SIVA				AML	AML	03 46 08.1	
DSF	**Desfina**	**1.93**	**330**	P	**Pn**	**03 45 38.5**	**+1.2**
DSF				S	**Sn**	**03 46 02.2**	**+1.0**
	comp=E,65µm,0.4s						
DSF	**Desfina**	**1.93**	**330**	P	**Pn**	**03 45 38.6**	**+1.2**
DSF				AML	AML	03 46 04.7	
DSF				AML	AML	03 46 07.5	
LKR	**Lokris**	**1.99**	**342**	P	**Pn**	**03 45 39.9**	**+1.9**
LKR	**Lokris**	**1.99**	**342**	P	**Pn**	**03 45 40.0**	**+1.9**
LKR				AML	AML	03 46 07.1	
LKR				AML	AML	03 46 07.5	
DLFA	**Delphi**	**2.00**	**330**	P	**Pn**	**03 45 39.5**	**+1.2**
DLFA				AML	AML	03 46 06.4	
	comp=N,75776µm,0.5s						
DLFA				AML	AML	03 46 07.2	
	comp=E,93788µm,0.4s						
ALIK	**Aliki, Aigiali**	**2.00**	**319**	P	**Pn**	**03 45 39.5**	**+1.3**
DRO	**Drossia**	**2.03**	**307**	P	**Pn**	**03 45 40.4**	**+1.8**
DRO	**Drossia**	**2.03**	**307**	P	**Pn**	**03 45 40.5**	**+1.8**
DRO				AML	AML	03 46 10.6	
DRO				AML	AML	03 46 13.2	
TRIZ	**Trizonia**	**2.10**	**321**	P	**Pn**	**03 45 40.6**	**+1.1**
TRIZ	**Trizonia**	**2.10**	**321**	P	**Pn**	**03 45 40.4**	**+0.9**
LAST	**Lasithi**	**2.11**	**138**	P	**Pn**	**03 45 40.2**	**+0.5**
LAST	**Lasithi**	**2.11**	**138**	P	**Pn**	**03 45 40.2**	**+0.5**
LAST				AML	AML	03 46 08.1	
LAST				AML	AML	03 46 08.9	
NPS	**Neapolis**	**2.11**	**134**	P	**Pn**	**03 45 39.8**	**+0.1**
NPS	**Neapolis**	**2.11**	**134**	P	**Pn**	**03 45 40.4**	**+0.7**
NPS				AML	AML	03 46 08.8	
NPS				AML	AML	03 46 11.0	
AXAR	**Agios Charalam**	**2.20**	**337**	P	**Pn**	**03 45 42.5**	**+1.7**
AXAR				S	**Sn**	**03 46 10.8**	**+3.4**
AXAR	**Agios Charalam**	**2.20**	**337**	P	**Pn**	**03 45 42.5**	**+1.7**
AXAR				AML	AML	03 46 12.5	
AXAR				AML	AML	03 46 15.4	
SKY	**Skiros Island**	**2.21**	**16**	P	**Pn**	**03 45 43.2**	**+2.2**
SKY	**Skiros Island**	**2.21**	**16**	P	**Pn**	**03 45 43.2**	**+2.2**
SKY				AML	AML	03 46 11.4	
	comp=N,83894µm,0.7s						
SKY				AML	AML	03 46 12.8	
EFP	**Efpalio**	**2.23**	**319**	P	**Pn**	**03 45 42.5**	**+1.2**
EFP				S	**Sn**	**03 46 09.8**	**+1.6**
RLS	**Riolos of Patr**	**2.25**	**306**	P	**Pn**	**03 45 43.5**	**+2.0**
RLS				S	**Sn**	**03 46 10.1**	**+1.5**
	comp=N,58µm,0.7s

XOR	**Xorichti**	**2.65**	**350**		P		**Pn**	**03 45 49.0**	**+2.1**
EVR	**Evrytania**	**2.66**	**325**		P		**Pn**	**03 45 48.5**	**+1.4**
EVR	**Evrytania**	**2.66**	**325**		P		**Pn**	**03 45 48.5**	**+1.4**
VOL3	**Nea Ionia, Vol**	**2.70**	**346**		P		**Pn**	**03 45 48.7**	**+1.2**
NISR	**Nisiros**	**2.71**	**92**		P		**Pn**	**03 45 49.9**	**+2.4**
NISR	**Nisiros**	**2.71**	**92**		P		**Pn**	**03 45 49.8**	**+2.2**
VLMS	**Volimes, Zakyn**	**2.72**	**295**		P		**Pn**	**03 45 47.5**	**-0.2**
VLMS					AML		AML	03 46 20.6	
VLMS					AML		AML	03 46 21.6	
URLA	**Izmir**	**2.76**	**54**		PN		**Pn**	**03 45 51.1**	**+2.8**
URLA	**Izmir**	**2.76**	**54**	*i*	P		**Pn**	**03 45 51.1**	**+2.8**
URLA					*i* S		**Sn**	**03 46 20.3**	**-0.7**
URLA					IAML			03 46 26.0	
	comp=N,7µm,1.0s								
URLA					IAML			03 46 26.0	
	comp=Z,2µm,0.7s								
URLA					IAML			03 46 59.0	
	comp=E,3µm,1.2s								
DGB	**zmir**	**2.80**	**61**	*i*	P		**Pn**	**03 45 51.2**	**+2.4**
DGB					*i* S		**Sn**	**03 46 19.6**	**-2.1**
DGB					IAML			03 46 26.0	
	comp=Z,3µm,1.4s								
DGB					IAML			03 46 26.0	
	comp=N,6µm,1.0s								
DGB					IAML			03 46 26.0	
	comp=E,4µm,1.5s								
DIDI	**Didim-Aydin**	**2.85**	**76**		PN		**Pn**	**03 45 51.8**	**+2.4**
BODT	**Bodrum**	**2.86**	**83**		P		**Pn**	**03 45 52.6**	**+3.0**
BODT	**Bodrum**	**2.86**	**83**		PN		**Pn**	**03 45 52.7**	**+3.1**
KRBN	**Karaburun**	**2.88**	**49**		PN		**Pn**	**03 45 52.7**	**+2.9**
VLS	**Valsamata**	**2.90**	**300**		P		**Pn**	**03 45 50.1**	**-0.1**
VLS	**Valsamata**	**2.90**	**300**		P		**Pn**	**03 45 50.0**	**-0.1**
GCAM	**G?zelcaml?**	**2.92**	**70**		PN		**Pn**	**03 45 53.5**	**+3.0**
GCAM	**G?zelcaml?**	**2.92**	**70**	*i*	P		**Pn**	**03 45 53.5**	**+3.0**
GCAM					*i* S		**Sn**	**03 46 25.8**	**+1.0**
GCAM					IAML			03 46 29.0	
	comp=N,5µm,0.9s								
GCAM					IAML			03 46 31.0	
	comp=Z,4µm,1.2s								
GCAM					IAML			03 46 54.0	
	comp=E,4µm,0.7s								
EFSA	**Agios Efstrati**	**2.95**	**19**		P		**Pn**	**03 45 52.8**	**+2.0**
SIGR	**SIGRI**	**2.96**	**33**		P		**Pn**	**03 45 52.9**	**+2.0**
SIGR	**SIGRI**	**2.96**	**33**		P		**Pn**	**03 45 53.0**	**+2.0**
SIGR	**SIGRI**	**2.96**	**33**		PN		**Pn**	**03 45 52.9**	**+2.0**
BDRM	**Kayabasi**	**2.96**	**83**	*i*	P		**Pn**	**03 45 54.0**	**+2.9**
BDRM					IAML			03 46 46.0	
	comp=E,2µm,1.0s								
BDRM					IAML			03 46 47.0	
	comp=Z,4µm,1.4s								
ARGA	**Argostoli. Kep**	**2.98**	**300**		P		**Pn**	**03 45 51.2**	**0.0**
KARP	**Karpathos**	**3.00**	**113**		P		**Pn**	**03 45 52.9**	**+1.4**
KARP	**Karpathos**	**3.00**	**113**		P		**Pn**	**03 45 52.9**	**+1.4**
KARP					AML		AML	03 46 28.3	
KARP					AML		AML	03 46 30.2	
KARP	**Karpathos**	**3.00**	**113**		PN		**Pn**	**03 45 52.9**	**+1.4**
KARP	**Karpathos**	**3.00**	**113**		Pn		**Pn**	**03 45 52.9**	**+1.4**
KEF5	**Kardakata, Kep**	**3.03**	**301**		P		**Pn**	**03 45 52.0**	**0.0**
KEF4	**Livadi, Kephal**	**3.05**	**301**		P		**Pn**	**03 45 52.2**	**0.0**
DAT	**Datca**	**3.06**	**89**		P		**Pn**	**03 45 55.1**	**+2.7**
DAT	**Datca**	**3.06**	**89**		PN		**Pn**	**03 45 55.2**	**+2.8**
DAT	**Datca**	**3.06**	**89**	*i*	P		**Pn**	**03 45 55.2**	**+2.8**
DAT					IAML			03 46 33.0	
	comp=Z,2µm,2.1s								
DAT					IAML			03 46 45.0	
	comp=E,711nm,0.8s								
FSK	**Fiskardo**	**3.06**	**305**		P		**Pn**	**03 45 52.1**	**-0.2**
FSK	**Fiskardo**	**3.06**	**305**		P		**Pn**	**03 45 52.4**	**0.0**
BLCB	**Balcova**	**3.07**	**57**		P		**Pn**	**03 45 55.0**	**+2.5**
BLCB	**Balcova**	**3.07**	**57**		PN		**Pn**	**03 45 54.9**	**+2.5**
KEF3	**Kipouria, Keph**	**3.08**	**299**		P		**Pn**	**03 45 52.4**	**-0.1**
EVGI	**Lefkada island**	**3.09**	**308**		P		**Pn**	**03 45 53.0**	**+0.2**
EVGI	**Lefkada island**	**3.09**	**308**		P		**Pn**	**03 45 53.3**	**+0.6**
LRSO	**Larissa Observ**	**3.11**	**340**		P		**Pn**	**03 45 55.1**	**+2.2**
THL	**Klokotos Trika**	**3.13**	**334**		P		**Pn**	**03 45 54.6**	**+1.4**
THL	**Klokotos Trika**	**3.13**	**334**		P		**Pn**	**03 45 54.7**	**+1.4**
PAIG	**Paliouri**	**3.17**	**359**		P		**Pn**	**03 45 55.5**	**+1.7**
PAIG	**Paliouri**	**3.17**	**359**		P		**Pn**	**03 45 55.9**	**+2.1**
PRK	**Paraskevi**	**3.18**	**38**		P		**Pn**	**03 45 57.1**	**+3.2**
PRK	**Paraskevi**	**3.18**	**38**		P		**Pn**	**03 45 57.2**	**+3.3**
LKD2	**Lefkada island**	**3.19**	**311**		P		**Pn**	**03 45 54.8**	**+0.6**
LKD2	**Lefkada island**	**3.19**	**311**		P		**Pn**	**03 45 55.5**	**+1.4**
TSLK	**Tsoukalades, L**	**3.22**	**311**		P		**Pn**	**03 45 56.1**	**+1.7**
LIA	**Limnos Island**	**3.33**	**19**		P		**Pn**	**03 45 57.8**	**+1.9**
LIA	**Limnos Island**	**3.33**	**19**		P		**Pn**	**03 45 57.9**	**+1.9**
DKL	**Dikili**	**3.40**	**46**		PN		**Pn**	**03 45 59.4**	**+2.6**
AYDN	**Tasoluk**	**3.41**	**73**	*i*	P		**Pn**	**03 46 00.7**	**+3.7**
AYDN					*i* S		**Sn**	**03 46 30.8**	**-5.7**
AYDN					IAML			03 46 57.0	
	comp=Z,3µm,2.2s								
AYDN					IAML			03 47 03.0	
	comp=E,1µm,1.0s								
AYDN					IAML			03 47 06.0	
	comp=N,2µm,1.3s								
ZEDA	**zmir-Bergama**	**3.43**	**49**	*i*	P		**Pn**	**03 46 00.2**	**+2.9**
ZEDA					*i* S		Sn	03 46 23.9	-13
ZEDA					IAML			03 46 42.0	
	comp=N,2µm,1.8s								
ZEDA					IAML			03 47 03.0	
	comp=Z,1µm,1.5s								
ZEDA					IAML			03 47 26.0	
	comp=E,2µm,1.3s								
AYVA	**Ayvalik**	**3.44**	**41**	*i*	P		**Pn**	**03 45 59.8**	**+2.4**
AYVA					IAML			03 46 52.0	
	comp=Z,1µm,0.5s								
AYVA					IAML			03 47 09.0	
	comp=N,2µm,0.9s								
AYVA					IAML			03 47 25.0	
	comp=E,2µm,1.5s								
LIT	**Litokhoron**	**3.49**	**344**		P		**Pn**	**03 45 59.7**	**+1.5**
LIT	**Litokhoron**	**3.49**	**344**		P		**Pn**	**03 46 00.0**	**+1.9**
LIT	**Litokhoron**	**3.49**	**344**	*i*	P		**Pn**	**03 45 59.3**	**+1.1**
LIT	**Litokhoron**	**3.49**	**344**		P		**Pn**	**03 45 59.5**	**+1.3**
LIT	**Litokhoron**	**3.49**	**344**		Pn		**Pn**	**03 45 59.5**	**+1.3**
ARG	**Arkhangelos**	**3.55**	**97**		P		**Pn**	**03 46 01.4**	**+2.5**
ARG	**Arkhangelos**	**3.55**	**97**		P		**Pn**	**03 46 01.5**	**+2.5**
ARG					AML		AML	03 46 46.6	
	comp=E,71760µm,1.1s								
ARG					AML		AML	03 46 48.8	
	comp=N,29874µm,0.7s								
ARG	**Arkhangelos**	**3.55**	**97**		PN		**Pn**	**03 46 01.6**	**+2.6**
BOZC	**Bozcaada**	**3.57**	**30**		PN		**Pn**	**03 46 01.3**	**+2.1**
BOZC	**Bozcaada**	**3.57**	**30**	*i*	P		**Pn**	**03 45 59.8**	**+0.6**
BOZC					*i* P		**Pn**	**03 46 01.2**	**+2.1**
BOZC					*i* S		**Sn**	**03 46 32.8**	**-7.6**
BOZC					IAML			03 46 44.0	
	comp=N,2µm,0.9s								
BOZC					IAML			03 46 45.0	
	comp=Z,812nm,0.8s								
BOZC					IAML			03 46 45.0	
	comp=Z,830nm,2.0s								
BOZC					IAML			03 46 45.0	
	comp=E,2µm,0.9s								
OUR	**Ouranopolis**	**3.58**	**3**		P		**Pn**	**03 46 01.5**	**+2.2**
OUR	**Ouranopolis**	**3.58**	**3**		P		**Pn**	**03 46 01.7**	**+2.3**
TURN	**Turunc**	**3.60**	**88**		PN		**Pn**	**03 46 02.7**	**+3.2**
TURN	**Turunc**	**3.60**	**88**	*i*	P		**Pn**	**03 46 02.7**	**+3.2**
TURN					*i* S		**Sn**	**03 46 35.7**	**-5.2**
TURN					IAML			03 46 46.0	
	comp=N,3µm,0.7s								
TURN					IAML			03 46 47.0	
	comp=Z,3µm,0.5s								
TURN					IAML			03 46 48.0	
	comp=E,4µm,0.4s								
PLG	**Polygyros**	**3.63**	**356**		P		**Pn**	**03 46 01.8**	**+1.9**
PLG	**Polygyros**	**3.63**	**356**		P		**Pn**	**03 46 01.9**	**+1.9**
YER	**Yerkesik**	**3.64**	**83**		PN		**Pn**	**03 46 03.8**	**+3.6**
YER	**Yerkesik**	**3.64**	**83**		P		**Pn**	**03 46 03.4**	**+3.2**
EZN	**Ezine**	**3.67**	**32**		PN		**Pn**	**03 46 02.6**	**+2.1**
JAN	**Janina**	**3.70**	**323**		P		**Pn**	**03 46 02.6**	**+1.6**
JAN	**Janina**	**3.70**	**323**		P		**Pn**	**03 46 02.6**	**+1.6**
JAN					AML		AML	03 46 48.1	
	comp=E,42545µm,0.4s								
JAN					AML		AML	03 46 52.2	
	comp=N,26789µm,0.4s								
BAYC	**CANAKKALE_Bayr**	**3.70**	**35**	*i*	P		**Pn**	**03 46 03.1**	**+2.1**
BAYC					*i* S		Sn	03 46 34.0	-10
BAYC					IAML			03 46 56.0	
	comp=E,700nm,0.8s								
BAYC					IAML			03 46 59.0	
	comp=N,689nm,0.7s								
BAYC					IAML			03 47 31.0	
	comp=Z,613nm,1.3s								
KPRO	**Kipourio**	**3.71**	**330**		P		**Pn**	**03 46 02.2**	**+1.0**
KPRO	**Kipourio**	**3.71**	**330**		P		**Pn**	**03 46 02.5**	**+1.3**
GADA	**Gvkgeada**	**3.82**	**25**		P		**Pn**	**03 46 04.5**	**+1.9**
GADA	**Gvkgeada**	**3.82**	**25**		PN		**Pn**	**03 46 04.4**	**+1.9**
GOKA	**anakkale-Gk**	**3.82**	**25**	*i*	P		**Pn**	**03 46 04.8**	**+2.2**
GOKA					IAML			03 46 51.0	
	comp=E,3µm,0.6s								
GOKA					IAML			03 46 52.0	
	comp=N,3µm,0.7s								
GOKA					IAML			03 47 17.0	
	comp=Z,1µm,1.3s								
GOMA	**Golmarmara-Man**	**3.83**	**58**		PN		**Pn**	**03 46 05.9**	**+3.3**
AKHS	**Akhisar**	**3.84**	**55**	*i*	P		**Pn**	**03 46 05.3**	**+2.4**
AKHS					IAML			03 47 13.0	
	comp=Z,482nm,2.0s								
AKS	**Akhisar**	**3.84**	**55**		PN		**Pn**	**03 46 05.8**	**+2.9**
HORT	**Hortiatis**	**3.88**	**352**		P		**Pn**	**03 46 05.4**	**+2.0**
HORT	**Hortiatis**	**3.88**	**352**		P		**Pn**	**03 46 05.8**	**+2.3**
KZN	**Kozani**	**3.88**	**337**		P		**Pn**	**03 46 04.7**	**+1.2**
KZN					AML		AML	03 46 55.2	
	comp=N,18318µm,0.4s								
KZN					AML		AML	03 46 56.3	
	comp=E,25034µm,0.5s								
THAS	**Thassos island**	**3.92**	**11**		P		**Pn**	**03 46 06.0**	**+2.0**
DALY	**Dalyan (Mula)**	**3.92**	**88**		PN		**Pn**	**03 46 07.3**	**+3.3**
DALY	**Dalyan (Mula)**	**3.92**	**88**	*i*	P		**Pn**	**03 46 07.5**	**+3.6**
DALY					IAML			03 47 02.0	
	comp=Z,2µm,0.5s								
THE	**Thessaloniki**	**3.93**	**351**		P		**Pn**	**03 46 05.6**	**+1.6**
THE	**Thessaloniki**	**3.93**	**351**		P		**Pn**	**03 46 05.8**	**+1.9**
SMTH	**Samothraki Isl**	**3.96**	**20**		P		**Pn**	**03 46 06.0**	**+1.5**
SMTH	**Samothraki Isl**	**3.96**	**20**		P		**Pn**	**03 46 06.2**	**+1.7**
PENT	**Pentalofos**	**4.01**	**330**		P		**Pn**	**03 46 06.7**	**+1.4**
PENT	**Pentalofos**	**4.01**	**330**		P		**Pn**	**03 46 06.5**	**+1.3**
STEP	**BALIKESIR_Sava**	**4.07**	**49**	*i*	P		**Pn**	**03 46 09.1**	**+3.0**
STEP					IAML			03 46 58.0	
	comp=Z,1µm,0.6s								
STEP					IAML			03 47 25.0	
	comp=N,2µm,0.9s								
STEP					IAML			03 47 35.0	
	comp=E,3µm,1.4s								
SOH	**Sokhos**	**4.08**	**356**		P		**Pn**	**03 46 08.2**	**+2.1**
SOH	**Sokhos**	**4.08**	**356**		P		**Pn**	**03 46 08.6**	**+2.5**
TAVA	**DENIZLI_Tavas**	**4.18**	**79**	*i*	P		**Pn**	**03 46 11.7**	**+4.2**
TAVA					*i* S		**Sn**	**03 46 46.4**	**-8.8**
TAVA					IAML			03 47 04.0	
	comp=E,2µm,1.6s								
TAVA					IAML			03 47 15.0	
	comp=Z,2µm,1.2s								
TAVA					IAML			03 47 16.0	
	comp=N,3µm,1.8s								
MANT	**Manisa**	**4.18**	**64**	*i*	P		**Pn**	**03 46 11.3**	**+3.6**
MANT					*i* S		Sn	03 46 44.3	-11
MANT					IAML			03 47 01.0	
	comp=Z,918nm,1.7s								
MANT					IAML			03 47 09.0	
	comp=E,815nm,1.0s								
MANT					IAML			03 47 11.0	
	comp=N,971nm,1.2s								
MANT	**Manisa**	**4.18**	**64**		Pn		**Pn**	**03 46 10.3**	**+2.6**
KVLA	**Kavala**	**4.21**	**6**		P		**Pn**	**03 46 09.6**	**+1.8**
GELI	**Tayfur-Gelibol**	**4.21**	**29**		PN		**Pn**	**03 46 10.6**	**+2.7**
NEST	**Nestorio**	**4.23**	**331**		P		**Pn**	**03 46 10.0**	**+1.8**
NEST					AML		AML	03 47 01.9	
	comp=E,22613µm,0.5s								
NEST					AML		AML	03 47 07.3	
	comp=N,16887µm,0.9s								
KASA	**Kassiopi**	**4.25**	**316**		P		**Pn**	**03 46 08.8**	**+0.5**
BALY	**Balya**	**4.25**	**44**	*i*	P		**Pn**	**03 46 11.5**	**+3.0**
BALY					IAML			03 47 30.0	
	comp=N,2µm,1.9s								
BALY					IAML			03 47 30.0	
	comp=E,2µm,2.0s								
BALY					IAML			03 47 38.0	
	comp=Z,1µm,2.0s								
KULA	**Kula-Manisa**	**4.26**	**64**		PN		**Pn**	**03 46 12.5**	**+3.8**
FETY	**Fethiye**	**4.28**	**90**		PN		**Pn**	**03 46 11.7**	**+2.9**
FETY	**Fethiye**	**4.28**	**90**	*i*	P		**Pn**	**03 46 11.4**	**+2.7**
FETY					IAML			03 47 06.0	
	comp=Z,2µm,1.2s								
KAVA	**Kavala**	**4.28**	**8**		P		**Pn**	**03 46 10.9**	**+2.1**
KAVA	**Kavala**	**4.28**	**8**		P		**Pn**	**03 46 10.9**	**+2.1**
KEK	**Kerkira**	**4.30**	**315**		P		**Pn**	**03 46 09.3**	**+0.2**
KEK					AML		AML	03 46 57.7	
	comp=N,37882µm,0.5s								
KEK					AML		AML	03 46 59.0	
	comp=E,34372µm,0.3s								
LPK	**Lapseki**	**4.31**	**32**		PN		**Pn**	**03 46 12.1**	**+2.9**
BALB	**Balikesir**	**4.34**	**47**		PN		**Pn**	**03 46 12.7**	**+3.1**
SRS	**Serrai**	**4.36**	**358**	*e*	Pn		**Pn**	**03 46 11.4**	**+1.5**
SRS				*e*	Sn		**Sn**	**03 47 00.6**	**+1.0**
SRS	**Serrai**	**4.36**	**358**		P		**Pn**	**03 46 11.5**	**+1.5**
GONE	**Gonen-Balikesi**	**4.51**	**42**		PN		**Pn**	**03 46 15.7**	**+3.8**
ALN	**Alexandroupoli**	**4.51**	**23**		P		**Pn**	**03 46 13.7**	**+1.8**
ALN	**Alexandroupoli**	**4.51**	**23**		P		**Pn**	**03 46 13.7**	**+1.8**
ALN	**Alexandroupoli**	**4.51**	**23**	*i*	P		**Pn**	**03 46 13.0**	**+1.1**
ALN	**Alexandroupoli**	**4.51**	**23**		P		**Pn**	**03 46 13.3**	**+1.4**
ALN	**Alexandroupoli**	**4.51**	**23**		Pn		**Pn**	**03 46 13.2**	**+1.4**
KNL	**Balıkesir**	**4.59**	**39**	*i*	P		**Pn**	**03 46 14.6**	**+1.6**
KNL					IAML			03 48 05.0	
	comp=Z,821nm,1.4s								
NVR	**Nevrokopi**	**4.59**	**1**		P		**Pn**	**03 46 15.2**	**+2.1**
NVR	**Nevrokopi**	**4.59**	**1**		P		**Pn**	**03 46 15.2**	**+2.1**
RDO	**Rodhopi**	**4.60**	**17**		P		**Pn**	**03 46 15.1**	**+2.0**
RDO	**Rodhopi**	**4.60**	**17**		P		**Pn**	**03 46 15.1**	**+2.0**
VAY	**Valandovo**	**4.66**	**349**	*i*	Pn		**Pn**	**03 46 15.0**	**+1.1**
KESN	**Edirne-Kesan**	**4.66**	**28**	*i*	P		**Pn**	**03 46 16.5**	**+2.2**
KESN					IAML			03 47 11.0	
	comp=N,1µm,1.7s								
KESN					IAML			03 47 11.0	
	comp=E,1µm,1.0s								
KESN					IAML			03 47 14.0	
	comp=Z,247nm,0.8s								
GOLH	**Golhisar**	**4.66**	**82**	*i*	P		**Pn**	**03 46 18.4**	**+4.3**
GOLH					*i* S		**Sn**	**03 46 59.5**	**-7.5**
GOLH					IAML			03 47 20.0	
	comp=N,2µm,0.4s								
GOLH					IAML			03 47 29.0	
	comp=E,487nm,1.8s								
GOLH					IAML			03 48 16.0	
	comp=Z,4µm,3.2s								
DURS	**Dursunbey**	**4.67**	**51**	*i*	P		**Pn**	**03 46 17.6**	**+3.3**
DURS					IAML			03 47 13.0	
	comp=N,612nm,0.8s								
DURS					IAML			03 47 24.0	
	comp=E,520nm,0.6s								
DURS					IAML			03 47 50.0	
	comp=Z,501nm,1.9s								
KSL	**Kastellorizon**	**4.73**	**96**		P		**Pn**	**03 46 16.6**	**+1.7**
KSL	**Kastellorizon**	**4.73**	**96**		P		**Pn**	**03 46 17.1**	**+2.3**
AKAS	**Kas**	**4.73**	**95**		PN		**Pn**	**03 46 16.8**	**+1.7**
AKAS	**Kas**	**4.73**	**95**	*i*	P		**Pn**	**03 46 16.8**	**+1.7**
AKAS					IAML			03 47 13.0	
	comp=N,4µm,0.4s								
AKAS					IAML			03 47 15.0	
	comp=E,5µm,0.4s								
AKAS					IAML			03 47 16.0	
	comp=Z,2µm,0.4s								
AKAS	**Kas**	**4.73**	**95**		Pn		**Pn**	**03 46 16.9**	**+1.8**
SIMA	**Simav-Kutahya**	**4.74**	**59**		PN		**Pn**	**03 46 18.9**	**+3.8**
DST	**Dursunbey**	**4.77**	**52**		PN		**Pn**	**03 46 19.0**	**+3.5**
EDC	**Edincik**	**4.82**	**41**		PN		**Pn**	**03 46 19.4**	**+3.3**
MMB	**Musomiste**	**4.83**	**360**	*i*	P		**Pn**	**03 46 18.3**	**+2.0**
MRMT	**Marmara Adasi**	**4.88**	**37**		PN		**Pn**	**03 46 20.0**	**+3.0**
OHR	**Ohrid**	**4.93**	**333**		Pn		**Pn**	**03 46 18.1**	**+0.4**
ELL	**Elmali**	**4.93**	**88**		PN		**Pn**	**03 46 20.6**	**+2.8**
ELL	**Elmali**	**4.93**	**88**		P		**Pn**	**03 46 20.7**	**+2.9**
ELL	**Elmali**	**4.93**	**88**		Pn		**Pn**	**03 46 20.6**	**+2.9**
MAR9	**Marsite Statio**	**4.94**	**37**		PN		**Pn**	**03 46 20.8**	**+3.1**
DEMR	**Demre-Antalya**	**4.97**	**94**		PN		**Pn**	**03 46 22.0**	**+3.8**
RZN	**Rozhen**	**4.99**	**8**		P		**Pn**	**03 46 21.4**	**+2.8**
GEDZ	**Gediz**	**5.02**	**61**		PN		**Pn**	**03 46 22.9**	**+4.0**
KDZ	**Kurdzhali**	**5.06**	**14**	*i*	P		**Pn**	**03 46 21.3**	**+1.9**
GDZ	**Gediz**	**5.09**	**61**	*i*	P		**Pn**	**03 46 23.9**	**+4.0**
GDZ					IAML			03 47 33.0	
	comp=E,218nm,2.3s								
GDZ					IAML			03 47 35.0	
	comp=Z,282nm,2.8s								
GDZ					IAML			03 47 36.0	
	comp=N,245nm,1.5s								
STIP	**Stip**	**5.09**	**347**	*i*	Pn		**Pn**	**03 46 20.7**	**+1.0**
BRDR	**BURDUR-Merkez**	**5.11**	**77**	*i*	P		**Pn**	**03 46 24.8**	**+4.6**
BRDR					*i* S		Sn	03 47 06.7	-11
BRDR					IAML			03 47 27.0	
	comp=N,1µm,0.6s								
BRDR					IAML			03 47 27.0	
	comp=E,2µm,1.8s								
BRDR					IAML			03 48 07.0	
	comp=Z,2µm,2.3s								
KKB	**Krupnik**	**5.14**	**354**	*i*	P		**Pn**	**03 46 21.9**	**+1.4**
BASM	**Basmaki-Afyon**	**5.14**	**75**		PN		Pn	03 46 25.9	+5.3
ORLT	**Orhaneli**	**5.20**	**49**		PN		**Pn**	**03 46 25.2**	**+3.8**
TVSB	**Tavsanli**	**5.24**	**57**		PN		**Pn**	**03 46 25.8**	**+3.9**
KORT	**Korkueli**	**5.28**	**85**		PN		**Pn**	**03 46 25.8**	**+3.2**
KORT	**Korkueli**	**5.28**	**85**	*i*	P		**Pn**	**03 46 26.0**	**+3.4**
KORT					IAML			03 47 32.0	
	comp=N,2µm,1.2s								
KORT					IAML			03 47 36.0	
	comp=E,3µm,0.7s								
KORT					IAML			03 47 54.0	
	comp=Z,2µm,1.7s								
KZIL	**AFYON_Kizioren**	**5.29**	**72**	*i*	P		**Pn**	**03 46 27.1**	**+4.5**
KZIL					IAML			03 47 34.0	
	comp=N,764nm,1.4s								
KZIL					IAML			03 47 36.0	
	comp=E,1µm,0.7s								
KZIL					IAML			03 48 01.0	
	comp=Z,1µm,3.0s								
AKUM	**Antalya-Kumluc**	**5.31**	**93**	*i*	P		**Pn**	**03 46 24.8**	**+1.9**
AKUM					IAML			03 47 26.0	
	comp=N,2µm,0.6s								
AKUM					IAML			03 47 28.0	
	comp=E,4µm,0.3s								
AKUM					IAML			03 47 31.0	
	comp=Z,2µm,0.4s								
SLUM	**Salum**	**5.38**	**167**		P		**Pn**	**03 46 21.2**	**-2.6**
	baz=170								
SLUM					S		Sn	03 47 11.8	-13
	baz=170								
PLD	**Plovdiv**	**5.40**	**7**	*i*	P		**Pn**	**03 46 27.4**	**+3.5**
MDNY	**Mudanya-Bursa**	**5.40**	**46**		PN		**Pn**	**03 46 27.3**	**+3.3**
ULDT	**Uludag**	**5.41**	**50**	*i*	P		**Pn**	**03 46 27.6**	**+3.3**
ULDT					IAML			03 47 31.0	
	comp=E,420nm,1.4s								
ULDT					IAML			03 47 34.0	
	comp=N,310nm,0.9s								
ULDT					IAML			03 48 15.0	
	comp=Z,438nm,1.7s								
KEMT	**Kemer-ANTALYA**	**5.46**	**90**		PN		**Pn**	**03 46 28.6**	**+3.8**
DIM	**Dimitrovgrad**	**5.47**	**14**	*i*	P		**Pn**	**03 46 27.9**	**+3.0**
BCK	**Bucak**	**5.50**	**81**		PN		**Pn**	**03 46 29.8**	**+4.3**
TIR	**Tirane**	**5.50**	**328**	*e*	Pn		**Pn**	**03 46 24.5**	**-0.9**
TIR				*e*	Sn		**Sn**	**03 47 24.1**	**-3.2**
TIR	**Tirane**	**5.50**	**328**	⇓	P		**Pn**	**03 46 25.3**	**0.0**
TIR	**Tirane**	**5.50**	**328**		P		**Pn**	**03 46 25.4**	**0.0**
TIR	**Tirane**	**5.50**	**328**		Pn		**Pn**	**03 46 25.4**	**0.0**
SKO	**Skopje**	**5.52**	**342**	*e*	Pn		**Pn**	**03 46 25.6**	**0.0**
SKO				*e*	Sn		**Sn**	**03 47 27.8**	**+0.1**
SKO	**Skopje**	**5.52**	**342**	*i*	Pn		**Pn**	**03 46 25.8**	**+0.2**
IGD	**Bursa**	**5.52**	**49**	*i*	P		**Pn**	**03 46 29.0**	**+3.4**
IGD					IAML			03 47 34.0	
	comp=N,207nm,1.5s								
IGD					IAML			03 47 34.0	
	comp=E,234nm,1.7s								
IGD					IAML			03 49 05.0	
	comp=Z,310nm,3.0s								
ANTB	**Antalya**	**5.53**	**86**		PN		**Pn**	**03 46 29.9**	**+4.2**
AFYO	**Afyonkarahisar**	**5.56**	**67**	*i*	P		Pn	03 46 31.2	+4.9
AFYO					IAML			03 48 15.0	
	comp=N,4µm,3.0s								
AFYO					IAML			03 48 23.0	
	comp=Z,1µm,1.6s								
AFYO					IAML			03 48 55.0	
	com

CEME	**Cevo**	**6.89**	**329**	⇓	*i*Pn		**Pn**	**03 46 42.4**	**-2.0**
CEME					*i* Sn		Sn	03 47 47.3	-14
MDUB	**Mudurnu**	**6.90**	**55**		Pn		**Pn**	**03 46 47.4**	**+2.8**
GAZI	**Gazipasa**	**6.91**	**92**		*i* P		**Pn**	**03 46 43.7**	**-0.9**
GAZI					*i* S		Sn	03 47 50.0	-12
BAI	**Bari**	**6.91**	**311**	⇓	*i*P		**Pn**	**03 46 43.2**	**-1.3**
BAI					S		**Sn**	**03 47 56.5**	**-5.0**
KOME	**Kolasin**	**6.92**	**333**		*e*Pn		**Pn**	**03 46 43.2**	**-1.5**
KOME					*i* Sn		Sn	03 47 48.4	-13
KMER	**Konya-Meram**	**6.94**	**79**		*i* P		**Pn**	**03 46 48.0**	**+3.0**
KMER					*i* S		**Sn**	**03 48 00.4**	**-2.1**
HCY	**Herceg Novi**	**6.99**	**326**	⇓	*i*Pn		**Pn**	**03 46 43.2**	**-2.5**
HCY					*i* Sn		Sn	03 47 48.9	-15
HCY	**Herceg Novi**	**6.99**	**326**	⇑	*i*Pn		**Pn**	**03 46 43.1**	**-2.6**
ZIMR		**7.01**	**10**	⇓	P		**Pn**	**03 46 48.1**	**+2.2**
PRD	**Provadia**	**7.02**	**22**		*i* P		**Pn**	**03 46 48.3**	**+2.3**
NEF	**NEVSHA**	**7.04**	**21**		*i* P		**Pn**	**03 46 49.0**	**+2.7**
BOVS	**Bovan**	**7.05**	**348**		*e*Pn		**Pn**	**03 46 46.5**	**0.0**
NKME	**Niksic**	**7.06**	**330**	⇓	*i*Pn		**Pn**	**03 46 44.7**	**-1.9**
NKME					*i* Sn		Sn	03 47 51.5	-14
NKY	**Niksic**	**7.08**	**330**	⇑	*i*Pn		**Pn**	**03 46 45.9**	**-1.1**
NKY					*i* Sn		Sn	03 47 51.2	-15
RAZG	**Razgrad**	**7.12**	**16**	⇑	P		**Pn**	**03 46 49.9**	**+2.5**
SJES	**Sjenica**	**7.12**	**337**		*e*Pn		**Pn**	**03 46 46.3**	**-1.3**
SJES					*e*Sn		**Sn**	**03 48 03.5**	**-3.5**
VLAD	**Vladila**	**7.26**	**4**	⇑	P		**Pn**	**03 46 50.7**	**+1.5**
TREB	**Trebinje**	**7.27**	**327**		*e*Pn		**Pn**	**03 46 46.9**	**-2.6**
TREB	**Trebinje**	**7.27**	**327**	⇓	*i*Pn		**Pn**	**03 46 46.7**	**-2.8**
KIBS	**BOLU**	**7.32**	**57**		*i* P		**Pn**	**03 46 53.5**	**+3.3**
YIGI	**Dzce**	**7.32**	**53**		*i* P		**Pn**	**03 46 53.0**	**+2.8**
DBRK	**Dubrovnik**	**7.33**	**326**		*i* Pn		**Pn**	**03 46 47.4**	**-2.8**
DBRK					Sn		**Sn**	**03 48 05.5**	**-6.3**
BRY	**Bratogost**	**7.34**	**328**	⇓	*i*Pn		**Pn**	**03 46 48.1**	**-2.5**
BRY					*i* Sn		Sn	03 47 57.3	-15
BRY	**Bratogost**	**7.34**	**328**	⇓	*i*Pn		**Pn**	**03 46 47.9**	**-2.7**
ERMK	**Ermenek**	**7.35**	**88**		*i* P		**Pn**	**03 46 52.4**	**+1.6**
ERMK					*i* S		Sn	03 48 02.0	-11
PLE	**Pljevlja**	**7.38**	**334**	⇓	*i*Pn		**Pn**	**03 46 49.9**	**-1.2**
PLE					*i* Sn		Sn	03 47 59.6	-14
UPM	**Unac-Piva**	**7.45**	**331**	⇓	*i*Pn		**Pn**	**03 46 51.0**	**-1.0**
UPM					*i* Sn		Sn	03 48 01.0	-14
UPM	**Unac-Piva**	**7.45**	**331**	⇓	*i*Pn		**Pn**	**03 46 51.0**	**-1.0**
GRUS	**Gruza**	**7.50**	**343**		*e*Pn		**Pn**	**03 46 51.5**	**-1.1**
GRUS					*e*Sn		**Sn**	**03 48 14.2**	**-1.8**
VAE	**Valguarnera**	**7.51**	**278**		P		**Pn**	**03 46 52.0**	**-0.8**
	comp=Z,27nm,0.3s,baz=153,slow=3.3,SNR=55								
VAE					S		**Sn**	**03 48 09.1**	**-7.3**
	comp=Z,627nm,0.3s,baz=209,slow=0.5,SNR=12								
KDZE	**Karadeniz Ereo**	**7.51**	**50**	⇑	P		**Pn**	**03 46 57.4**	**+4.7**
RAFF	**Raffo Rosso**	**7.54**	**276**				**Pn**	**03 46 50.9**	**-2.3**
PUNG	**Punghina**	**7.55**	**355**	⇑	P		**Pn**	**03 46 54.2**	**+1.0**
SWA2		**7.62**	**169**		P		**Pn**	**03 46 51.2**	**-3.1**
	baz=171								
SWA2					S		Sn	03 48 05.4	-14
	baz=171								
KKUL	**Konya-Kulu**	**7.62**	**69**		*i* P		**Pn**	**03 46 59.0**	**+4.6**
RUDO	**Rudo**	**7.64**	**335**		*e*Pn		**Pn**	**03 46 51.7**	**-2.8**
BCAM	**Yenicaga**	**7.65**	**55**		*i* P		**Pn**	**03 46 58.5**	**+3.7**
SGRR	**Singureni**	**7.65**	**12**	⇑	P		**Pn**	**03 46 56.5**	**+1.9**
PSR	**Preselentsi**	**7.70**	**22**		*i* P		**Pn**	**03 46 51.1**	**-4.2**
CMDR	**Camlidere-ANKA**	**7.77**	**59**		*i* P		**Pn**	**03 47 00.1**	**+3.6**
BBLS	**Lazići**	**7.85**	**336**		*e*Pn		**Pn**	**03 46 55.4**	**-2.0**
BBLS					*e*Sn		**Sn**	**03 48 19.3**	**-5.3**
BBLS	**Lazići**	**7.85**	**336**	⇓	*i*Pn		**Pn**	**03 46 55.3**	**-2.1**
BBAL	**Bala**	**7.88**	**66**		*i* P		Pn	03 47 03.4	+5.4
DIVS	**Divibare**	**7.88**	**340**		*e*Pn		**Pn**	**03 46 55.8**	**-2.1**
DIVS	**Divibare**	**7.88**	**340**	⇓	*i*Pn		**Pn**	**03 46 55.7**	**-2.1**
RASA	**Rasa**	**7.89**	**18**	⇓	P		**Pn**	**03 47 01.0**	**+3.2**
TRUS	**Trudelj**	**7.89**	**342**		*e*Pn		**Pn**	**03 46 56.2**	**-1.7**
GULN	**MERSİN_Gulnar**	**7.90**	**91**		*i* P		**Pn**	**03 46 56.8**	**-1.2**
SRE	**Strehaia**	**7.92**	**357**	⇑	P		**Pn**	**03 46 59.6**	**+1.4**
MANR	**Mangalia**	**7.96**	**26**	⇓	P		**Pn**	**03 47 01.6**	**+2.7**
DJES	**Djerdap**	**7.96**	**354**		*e*Pn		**Pn**	**03 46 59.6**	**+0.7**
CSS	**Mathiatis**	**7.97**	**100**		*i* P		**Pn**	**03 46 56.3**	**-2.8**
CSS	**Mathiatis**	**7.97**	**100**		Pn		**Pn**	**03 46 57.1**	**-1.9**
CSS					Sn		**Sn**	**03 48 20.0**	**-7.5**
CSS	**Mathiatis**	**7.97**	**100**		Pn		**Pn**	**03 46 57.2**	**-1.8**
HBRG	**Burj al`Arab**	**7.97**	**139**		P		**Pn**	**03 46 56.5**	**-2.6**
	baz=139								
HBRG					S		Sn	03 48 12.4	-15
	baz=139								
SGRT	**San Giovanni R**	**7.98**	**311**				**Pn**	**03 46 57.5**	**-1.8**
LSTV	**Lastovo**	**8.01**	**321**		*i* Pn		**Pn**	**03 46 56.4**	**-3.1**
LSTV					Sn		Sn	03 48 18.8	-10
SULR		**8.14**	**13**	⇑	P		**Pn**	**03 47 03.9**	**+2.6**
AKSY	**AKSARAY - Alti**	**8.15**	**74**		*i* P		**Pn**	**03 47 04.5**	**+3.0**
AKSY					*i* S		**Sn**	**03 48 36.0**	**+4.0**
STFAR	**Stefanesti-Arg**	**8.15**	**6**	⇑	P		**Pn**	**03 47 04.5**	**+2.9**
MDVR	**Moldovita**	**8.17**	**350**	⇑	P		**Pn**	**03 47 02.2**	**+0.4**
HERR	**Herculane**	**8.19**	**353**	⇑	P		**ScP**	**03 56 51.6**	**-0.1**
BTIN	**Bartın**	**8.20**	**51**		P		**Pn**	**03 47 01.2**	**-0.9**
MFTR	**Murfatlar**	**8.22**	**24**	⇑	P		**Pn**	**03 47 05.7**	**+3.3**
KBUK	**KARABUK-Merkez**	**8.22**	**54**		*i* P		**Pn**	**03 47 05.0**	**+2.5**
KERG	**Konya-Eregli**	**8.31**	**82**		*i* P		**Pn**	**03 47 05.6**	**+1.8**
BR131	**Keskin Array S**	**8.32**	**66**		P		**Pn**	**03 47 08.7**	**+4.8**
	SNR=128								
BR131					P		**Pn**	**03 47 08.7**	**+4.8**
	SNR=128								
BR131					S		**Sn**	**03 48 40.9**	**+4.8**
BR131					S		**Sn**	**03 48 40.9**	**+4.8**
BRTR	**Keskin Array B**	**8.32**	**66**		P		**Pn**	**03 47 08.4**	**+4.5**
	comp=Z,14nm,0.3s,baz=244,slow=11,SNR=273								
BRTR					S		**Sn**	**03 48 40.1**	**+3.9**
	baz=248,slow=7.2,SNR=1.0								
BRTR					LR		LR	03 50 48.4	
	comp=Z,2µm,20.2s,baz=224,slow=41								
BRTR					ScP		**ScP**	**03 56 50.1**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=199,slow=1.3,SNR=11								
BRTR	**Keskin Array B**	**8.32**	**66**	*c*	*e*P		**Pn**	**03 47 08.3**	**+4.4**
BRTR					pmax		pmax		
	comp=Z,209nm,0.9s								
BRTR	**Keskin Array B**	**8.32**	**66**				**Pn**	**03 47 06.8**	**+2.9**
BRTR							**ScP**	**03 56 51.7**	**-0.4**
MAKA	**Makarska**	**8.33**	**324**		*i* Pn		**Pn**	**03 47 00.8**	**-3.1**
MAKA					Sn		**Sn**	**03 48 29.0**	**-7.2**
KIZK	**Mersin**	**8.35**	**89**		*i* P		**Pn**	**03 47 05.0**	**+0.8**
KIRS	**Kırehir-Merke**	**8.37**	**70**		*i* P		**Pn**	**03 47 08.3**	**+3.8**
KIRS					*i* S		**Sn**	**03 48 36.5**	**-0.7**
TEKS	**Tekeris**	**8.43**	**339**		*e*Pn		**Pn**	**03 47 02.8**	**-2.5**
TEKS					*e*Sn		**Sn**	**03 48 33.8**	**-4.9**
TEKS	**Tekeris**	**8.43**	**339**	⇓	*i*Pn		**Pn**	**03 47 02.7**	**-2.5**
RICI	**Ricice**	**8.44**	**325**		*i* Pn		**Pn**	**03 47 02.5**	**-2.9**
TLBR	**Topalu**	**8.44**	**21**	⇑	P		**Pn**	**03 47 07.6**	**+2.2**
SECR		**8.46**	**11**	⇑	P		**Pn**	**03 47 08.0**	**+2.3**
CLTB	**Caltabellotta**	**8.46**	**279**		Pn		**Pn**	**03 47 05.7**	**-0.1**
TIRR	**Tirgusor**	**8.47**	**23**	⇑	P		**Pn**	**03 47 08.4**	**+2.7**
TIRR	**Tirgusor**	**8.47**	**23**	⇑	P		**Pn**	**03 47 08.4**	**+2.7**
TIRR	**Tirgusor**	**8.47**	**23**	⇑	P		**ScP**	**03 56 51.4**	**-0.5**
TIRR	**Tirgusor**	**8.47**	**23**		P		**Pn**	**03 47 07.6**	**+1.8**
TIRR	**Tirgusor**	**8.47**	**23**				**Pn**	**03 47 07.6**	**+1.8**
PGOR	**Pogoanele**	**8.51**	**16**	⇓	P		**Pn**	**03 47 10.0**	**+3.8**
MTUR	**Matau**	**8.52**	**6**	⇑	P		**Pn**	**03 47 08.7**	**+2.1**
HVAR	**Hvar**	**8.53**	**321**		*e*Pn		**Pn**	**03 47 03.4**	**-3.2**
HVAR					Sn		**Sn**	**03 48 33.3**	**-7.7**
DELI	**KIRIKKALE**	**8.61**	**65**		*i* P		**Pn**	**03 47 11.6**	**+3.8**
DELI					*i* S		**Sn**	**03 48 35.5**	**-7.8**
LOT	**Lotru**	**8.69**	**0**	⇑	P		**ScP**	**03 56 52.0**	**-0.3**
PELI	**Kastamonı-Ara**	**8.71**	**56**		*i* P		**Pn**	**03 47 12.2**	**+3.0**
PELI					*i* S		**Sn**	**03 48 45.3**	**-0.3**
VOIR		**8.73**	**6**	⇓	P		**Pn**	**03 47 10.6**	**+1.2**
VOIR		**8.73**	**6**	⇑	P		**ScP**	**03 56 53.4**	**+1.1**
GULE	**Gulek**	**8.82**	**83**		*i* P		**Pn**	**03 47 12.2**	**+1.3**
CDAG	**Cicekdag**	**8.83**	**68**		*i* P		**Pn**	**03 47 13.8**	**+3.0**
CDAG					*i* S		Sn	03 48 21.2	-27
TOPG	**Topolog**	**8.84**	**22**	⇓	P		**Pn**	**03 47 12.9**	**+2.1**
DED	**Mersin**	**8.85**	**85**		*i* P		**Pn**	**03 47 11.6**	**+0.6**
ILGA	**Ilgaz**	**8.87**	**58**		*i* P		**Pn**	**03 47 13.8**	**+2.4**
ILGA	**Ilgaz**	**8.87**	**58**				**Pn**	**03 47 15.3**	**+3.9**
NEHR	**Nehoiu**	**8.88**	**12**	⇑	P		**Pn**	**03 47 14.7**	**+3.3**
NEHR	**Nehoiu**	**8.88**	**12**	⇑	P		**ScP**	**03 56 51.7**	**-0.7**
MLR	**Muntele Rosu**	**8.88**	**10**		P		**Pn**	**03 47 13.7**	**+2.1**
	comp=Z,21nm,0.3s,baz=279,slow=5.3,SNR=111								
MLR					LR		LR	03 51 10.8	
	comp=Z,5µm,19.2s,baz=192,slow=41								
MLR					ScS		ScS	04 00 24.3	-2.3
	comp=Z,0.3nm,0.3s,baz=95,slow=15,SNR=12								
MLR	**Muntele Rosu**	**8.88**	**10**	⇑	P		**Pn**	**03 47 14.0**	**+2.4**
MLR	**Muntele Rosu**	**8.88**	**10**				**Pn**	**03 47 12.4**	**+0.8**
JURR	**Jurilovca**	**8.89**	**24**	⇑	P		**Pn**	**03 47 15.0**	**+3.4**
FRGS	**Fruska Gora**	**8.91**	**342**		*e*Pn		**Pn**	**03 47 10.8**	**-1.1**
FRGS	**Fruska Gora**	**8.91**	**342**	⇓	*i*Pn		**Pn**	**03 47 09.1**	**-2.8**
BZS	**Buzias**	**9.01**	**350**		*e*Pn		**Pn**	**03 47 13.2**	**+0.1**
AVNS	**Nevsehir-Avano**	**9.01**	**73**		*i* P		**Pn**	**03 47 16.0**	**+2.7**
CFR	**Carcaliu**	**9.04**	**20**	⇓	P		**ScP**	**03 56 52.3**	**-0.1**
HMYD	**Mayadein**	**9.10**	**138**		P		**Pn**	**03 47 11.6**	**-2.8**
	baz=138								
HNAT	**Natroun**	**9.13**	**139**		P		**Pn**	**03 47 11.9**	**-2.9**
	baz=139								
MGRS	**Mrkonjic Grad**	**9.19**	**329**		*e*Pn		**Pn**	**03 47 18.3**	**+2.7**
KAST	**KASTAMONU**	**9.21**	**56**		*i* P		**Pn**	**03 47 16.5**	**+0.7**
TLCR		**9.25**	**23**	⇓	P		**Pn**	**03 47 18.9**	**+2.5**
SCHL	**Schela**	**9.26**	**18**	⇑	P		**Pn**	**03 47 20.6**	**+4.0**
INTR	**Introdacqua**	**9.27**	**308**				**Pn**	**03 47 15.5**	**-1.3**
ZIRJ	**Zirje**	**9.28**	**320**		*e*Pn		**Pn**	**03 47 13.7**	**-3.1**
YAHY	**KAYSERI_Yahyal**	**9.32**	**78**		*i* P		**Pn**	**03 47 20.4**	**+2.8**
YAHY					*i* S		Sn	03 48 50.8	-10
PETR	**Petresti**	**9.34**	**15**	⇑	P		**Pn**	**03 47 21.1**	**+3.6**
ODBI	**Odobesti**	**9.34**	**14**	⇑	P		**Pn**	**03 47 21.6**	**+4.0**
PLOR	**Plostina**	**9.35**	**13**	⇑	P		**Pn**	**03 47 20.6**	**+2.9**
VRI	**Vrincioaia**	**9.38**	**13**	⇑	P		**Pn**	**03 47 20.7**	**+2.5**
MDB	**Medias**	**9.39**	**3**	⇑	P		**Pn**	**03 47 21.4**	**+3.0**
MORI	**Morici**	**9.40**	**322**		*i* Pn		**Pn**	**03 47 15.9**	**-2.5**
BLY	**Banja Luka**	**9.42**	**330**		*e*Pn		**Pn**	**03 47 16.0**	**-2.7**
BLY	**Banja Luka**	**9.42**	**330**	⇓	*i*Pn		**Pn**	**03 47 16.0**	**-2.7**
KAGI	**orum-Kargı**	**9.42**	**59**		*i* P		**Pn**	**03 47 18.2**	**-0.6**
CTAK	**Corum_Osmancik**	**9.46**	**62**		*i* P		**Pn**	**03 47 19.8**	**+0.4**
OZUR		**9.46**	**9**	⇑	P		**Pn**	**03 47 22.5**	**+3.2**
COAL	**Corum-Alaca**	**9.46**	**65**		*i* P		**Pn**	**03 47 24.2**	**+4.7**
KOT	**Kottamia**	**9.58**	**133**		P		**Pn**	**03 47 17.3**	**-3.7**
	baz=133								
GUNE	**Kayseri**	**9.62**	**74**		*i* P		**Pn**	**03 47 24.8**	**+3.1**
SIRR	**Siria**	**9.64**	**351**	⇑	P		**Pn**	**03 47 22.2**	**+0.4**
SIRR	**Siria**	**9.64**	**351**	⇓	P		**ScP**	**03 56 52.9**	**-0.3**
VARL	**Varlezi**	**9.64**	**17**	⇑	P		**Pn**	**03 47 24.8**	**+3.1**
HSAF	**As Saff**	**9.65**	**135**		P		**Pn**	**03 47 18.6**	**-3.4**
	baz=135								
AQU	**L'Aquila**	**9.76**	**308**	⇓	*i*Pn		**Pn**	**03 47 22.6**	**-0.9**
GLL	**Jalalah**	**9.77**	**135**		P		**Pn**	**03 47 19.8**	**-3.8**
	baz=135								
PRIJ	**Prijedor**	**9.80**	**329**		*e*Pn		**Pn**	**03 47 21.8**	**-2.0**
DUGI	**Dugi Otok**	**9.82**	**320**		*i* Pn		**Pn**	**03 47 21.3**	**-2.8**
UDBI	**Udbina**	**9.86**	**324**		*e*Pn		**Pn**	**03 47 22.6**	**-2.2**
SAIM	**ADANA**	**9.88**	**79**		*i* P		**Pn**	**03 47 26.4**	**+1.2**
YAYL	**Yayladag**	**9.98**	**90**		*i* P		**Pn**	**03 47 23.1**	**-3.4**
TESR	**Tescani**	**9.99**	**12**	⇑	P		**Pn**	**03 47 30.1**	**+3.6**
BEYL	**Beirut**	**10.00**	**103**		*e*P		**Pn**	**03 47 24.2**	**-2.5**
HNTI	**Hanita**	**10.05**	**108**		Pn		**Pn**	**03 47 23.7**	**-3.8**
HNTI					Sn		Sn	03 49 09.3	-9.1
ANDN	**Andirin**	**10.07**	**82**		*i* P		**Pn**	**03 47 28.0**	**+0.2**
OFRI	**`Ofer**	**10.11**	**111**		Pn		**Pn**	**03 47 24.0**	**-4.3**
OFRI					Sn		Sn	03 49 10.3	-10
BHL	**Bhannes**	**10.12**	**103**		*e*P		**Pn**	**03 47 24.7**	**-3.8**
DQRL	**Deir Qamar**	**10.12**	**104**		*e*P		**Pn**	**03 47 25.0**	**-3.5**
MORH	**Mrgy, Hungar**	**10.20**	**340**	⇓	*i*Pn		**Pn**	**03 47 25.9**	**-3.5**
BLGI	**Bet Lehem HaGe**	**10.22**	**110**		Pn		**Pn**	**03 47 25.9**	**-3.8**
BLGI					Sn		Sn	03 49 12.0	-10
HWQ	**Hawqa**	**10.23**	**100**		*e*P		Pn	03 47 24.2	-5.8
SUZ	**Suez**	**10.24**	**130**		P		**Pn**	**03 47 26.3**	**-3.7**
	baz=129								
MMA0B	**Mount Meron ar**	**10.26**	**108**		Pn		**Pn**	**03 47 26.8**	**-3.5**
MMA0B					Sn		**Sn**	**03 49 14.9**	**-8.6**
MMAI	**Mount Meron Ar**	**10.26**	**108**		P		**Pn**	**03 47 27.4**	**-3.0**
	comp=Z,418nm,0.3s,baz=298,slow=12,SNR=496								
MMAI					S		**Sn**	**03 49 16.3**	**-7.2**
	comp=Z,883nm,0.3s,baz=310,slow=25,SNR=11								
MMAI					ScP		**ScP**	**03 56 54.1**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=251,slow=2.6,SNR=5.1								
HAVZ	**Havza**	**10.26**	**61**		*i* P		**Pn**	**03 47 28.0**	**-2.3**
QRWL	**Qaraoun**	**10.27**	**105**		*e*P		**Pn**	**03 47 27.9**	**-2.5**
NBNS	**Bani Suef**	**10.29**	**140**		P		**Pn**	**03 47 27.3**	**-3.4**
	baz=140								
MOSL	**Moslavina**	**10.31**	**331**		*i* Pn		**Pn**	**03 47 27.3**	**-3.5**
NVLJ	**Novalja**	**10.32**	**322**		*i* Pn		**Pn**	**03 47 28.3**	**-2.6**
HFRF	**Wahat Farafira**	**10.32**	**157**		P		**Pn**	**03 47 27.4**	**-3.7**
	baz=158								
BIZ	**Bicaz**	**10.33**	**9**	⇑	P		**ScP**	**03 56 54.4**	**+0.4**
VASR	**Vaslui**	**10.33**	**16**	⇓	P		**Pn**	**03 47 33.6**	**+2.5**
SLTI	**Sal'it**	**10.33**	**113**		Pn		**Pn**	**03 47 27.2**	**-4.1**
SLTI					Sn		Sn	03 49 15.2	-10
KAMA	**Osmaniye**	**10.33**	**84**		*i* P		**Pn**	**03 47 30.2**	**-1.1**
ARCR	**ARCALIA**	**10.34**	**2**	⇑	P		**ScP**	**03 56 54.3**	**+0.2**
GEM	**Giv'at Ha'Em**	**10.38**	**106**		Pn		**Pn**	**03 47 28.9**	**-3.0**
GEM					Sn		**Sn**	**03 49 17.5**	**-8.8**
SHBL	**Chebaa**	**10.39**	**106**		*e*P		**Pn**	**03 47 29.1**	**-3.1**
RCY	**Rachaya**	**10.40**	**105**		*e*P		**Pn**	**03 47 29.6**	**-2.8**
NATI	**Neve Ativ**	**10.41**	**106**		Pn		**Pn**	**03 47 29.3**	**-3.0**
NATI					Sn		**Sn**	**03 49 18.7**	**-8.4**
ZAF	**Zafarana**	**10.47**	**133**		P		**Pn**	**03 47 29.6**	**-3.6**
	baz=133								
MMLI	**Mount Malkishu**	**10.52**	**111**		*i* P		**Pn**	**03 47 29.7**	**-4.2**
MMLI	**Mount Malkishu**	**10.52**	**111**		Pn		**Pn**	**03 47 30.1**	**-3.8**
MMLI					Sn		Sn	03 49 20.0	-10
CUALT	**Altinyayla-SIV**	**10.55**	**72**		*i* P		**Pn**	**03 47 38.5**	**+4.1**
CUALT					*i* S		**Sn**	**03 49 31.9**	**+1.2**
TOKA	**Tokat**	**10.58**	**66**		*i* P		**Pn**	**03 47 36.8**	**+2.2**
KZIT	**Kziot**	**10.59**	**120**		Pn		**Pn**	**03 47 30.0**	**-4.7**
KZIT					Sn		Sn	03 49 19.1	-12
AMAZ	**Amatzia**	**10.60**	**116**		*i* P		Pn	03 47 28.6	-6.3
AMAZ					*i* S		Sn	03 49 19.3	-12
AMAZ	**Amatzia**	**10.60**	**116**		Pn		**Pn**	**03 47 31.4**	**-3.5**
AMAZ					Sn		Sn	03 49 21.2	-11
ZNM	**Zenema**	**10.60**	**131**		P		**Pn**	**03 47 31.6**	**-3.4**
	baz=131								
SHMJ	**Saham**	**10.65**	**109**		Pn		**Pn**	**03 47 32.8**	**-2.9**
KUZU	**Kuzuini**	**10.68**	**86**		*i* P		**Pn**	**03 47 32.4**	**-3.6**
QRNJ	**Al-Qirein**	**10.69**	**111**		Pn		**Pn**	**03 47 32.9**	**-3.1**
HMDT	**Nahal Hemdat**	**10.69**	**111**		Pn		**Pn**	**03 47 32.8**	**-3.3**
HMDT					Sn		Sn	03 49 24.4	-9.4
GAZ	**Gaziantep**	**10.77**	**84**		Pn		**Pn**	**03 47 38.0**	**+0.7**
ZAG	**Zagreb**	**10.79**	**330**		*e*Pn		**Pn**	**03 47 34.0**	**-3.3**
UJAP	**Al Uja**	**10.79**	**113**		Pn		**Pn**	**03 47 34.2**	**-3.2**
MILM	**Milestii Mici**	**10.83**	**19**	⇑	P		**Pn**	**03 47 40.2**	**+2.2**
OZLJ	**Ozalj**	**10.84**	**327**		*i* Pn		**Pn**	**03 47 34.5**	**-3.5**
YTIR	**Yattir**	**10.84**	**116**		Pn		**Pn**	**03 47 34.2**	**-4.0**
YTIR					Sn		Sn	03 49 26.3	-11
BOJS	**Bojanci**	**10.84**	**326**	⇓	*i*Pn		**Pn**	**03 47 34.8**	**-3.3**
BOJS					*e*Sn		Sn	03 49 23.4	-14
KALN	**Kalnik**	**10.85**	**332**		*i* Pn		**Pn**	**03 47 34.5**	**-3.8**
PTJ	**Puntijarka**	**10.86**	**330**		*i* Pn		**Pn**	**03 47 34.4**	**-4.0**
CUGUR	**Gurin_SVAS**	**10.88**	**75**		*i* P		**Pn**	**03 47 41.7**	**+3.0**
TAMRE	**El Minia**	**10.88**	**144**		P		**Pn**	**03 47 34.6**	**-4.1**
	baz=145								
ERBA	**Erbaa**	**10.88**	**65**		*i* P		**Pn**	**03 47 39.0**	**+0.3**
KIS	**Kishinev**	**10.91**	**19**	⇑	*e*P		**Pn**	**03 47 40.0**	**+1.1**
	comp=Z,1µm,4.0s								
KIS	**Kishinev**	**10.91**	**19**		*e*PP		Pn	03 47 50.0	+11
KIS					*e*SP			03 48 00.0	
KIS					*e*S		**Sn**	**03 49 39.0**	**+0.1**
	comp=Z,3µm,8.0s								
KIS					*e*Lg		Lg	03 50 40.0	
	comp=Z,4µm,10.0s								
KIS					LRM		MLR	03 52 14.0	
	comp=Z,2µm,11.0s								
KIS	**Kishinev**	**10.91**	**19**	*c*	*i*P		**Pn**	**03 47 40.0**	**+1.1**
KIS					*e*S		**Sn**	**03 49 39.0**	**+0.1**
KIS					pmax		pmax		
	comp=Z,1µm,4.0s								
KIS					smax		smax		
	comp=N,3µm,8.0s								
KIS					MLR		MLR		
	comp=Z,2µm,11.0s								
BURAR	**Bucovina Array**	**10.91**	**5**	⇑	P		**ScP**	**03 56 54.2**	**-0.7**
BURAR	**Bucovina Array**	**10.91**	**5**				**Pn**	**03 47 40.2**	**+1.1**
DSI	**Dead Sea**	**10.92**	**115**		Pn		**Pn**	**03 47 35.6**	**-3.6**
DSI					Sn		Sn	03 49 29.0	-10
BUR08	**Bucovina Ar. S**	**10.94**	**5**				**Pn**	**03 47 40.9**	**+1.4**
SCER	**sogukcermik**	**10.95**	**69**		*i* P		**Pn**	**03 47 42.3**	**+2.5**
CRES	**Cresnjev**	**11.01**	**328**	⇓	*i*Pn		**Pn**	**03 47 36.6**	**-3.7**
BEHE	**Becsehely**	**11.03**	**334**	⇓	*i*Pn		**Pn**	**03 47 39.3**	**-1.3**
RIY	**Rijeka**	**11.06**	**324**		*e*Pn		**Pn**	**03 47 37.8**	**-3.2**
CUKAN	**kangal_SIVAS**	**11.11**	**73**		*i* P		**Pn**	**03 47 37.9**	**-4.0**
DAMI2	**DAM2**	**11.18**	**116**		Pn		**Pn**	**03 47 39.5**	**-3.1**
DAMI2					Sn		Sn	03 49 35.4	-10
GHAJ	**Ghor Haditha**	**11.19**	**116**		Pn		**Pn**	**03 47 39.9**	**-3.0**
KRMI	**Paran Flat**	**11.29**	**123**		Pn		**Pn**	**03 47 39.8**	**-4.5**
KRMI					Sn		Sn	03 49 36.3	-12
SIM	**Simferopol'**	**11.33**	**41**	*d*	*i*P		**Pn**	**03 47 47.8**	**+3.1**
SIM					*e*S		**Sn**	**03 49 51.0**	**+1.8**
SIM					pmax		pmax		
	comp=Z,258nm,0.4s								
SIM					MLR		MLR		
	comp=N,4µm,14.0s								
HRDS	**Abu Rudays**	**11.34**	**132**		P	

comp=Z,2µm,9.0s
MOA Molln 13.12 331 *i* Pn **Pn** **03 48 06.1 -2.5**
comp=Z,112nm,0.6s,SNR=34
MOA *i* Sn **Sn** **03 50 31.2 -1.5**
comp=Z,89nm,0.4s
MOA *i* ScP **ScP** **03 56 57.4 -0.6**
comp=Z,19nm,1.1s
CMAH Djebel Manchou 13.12 274 P **Pn** **03 48 09.4 +0.6**
KTUT Trabzon 13.16 66 ⇑P **P** **03 48 12.8 -3.0**
KTUT Trabzon 13.16 66 ⇓P **ScP** **03 56 58.3 +0.1**
KRUC Moravsky 13.43 339 ⇓*i*PN **Pn** **03 48 08.7 -4.0**
KRUC Moravsky 13.43 339 *e*SN **Sn** **03 50 34.3 -5.9**
KRUC *e* 03 56 58.1
KRUC *e* 04 00 34.7
CAEH 'Ain El Ouahch 13.57 275 P **Pn** **03 48 12.7 -1.9**
VRAC Vranov 13.59 340 P **Pn** **03 48 12.7 -2.2**
comp=Z,0.3nm,0.3s,baz=157,slow=12,SNR=9.4
VRAC S **Sn** **03 50 36.6 -7.6**
comp=Z,1.2nm,0.3s,baz=172,slow=12,SNR=1.1
VRAC LR LR 03 54 19.4
comp=Z,2µm,21.6s,baz=158,slow=40
VRAC ScP **ScP** **03 56 58.2 -0.5**
comp=Z,0.3nm,0.3s,baz=112,slow=4.3,SNR=7.8
VRAC ScS **ScS** **04 00 35.7 +0.2**
comp=Z,0.3nm,0.3s,baz=132,slow=17,SNR=5.5
VRAC Vranov 13.59 340 ⇑P **ScP** **03 56 59.1 +0.3**
VRAC Vranov 13.59 340 ⇓*i*PN **Pn** **03 48 11.5 -3.3**
VRAC Vranov 13.59 340 *e*SN **Sn** **03 50 41.5 -2.7**
VRAC *e* 03 56 58.5
VRAC *e* 04 00 35.2
OKC Ostrava-Krasne 13.70 344 *e*P **P** **03 48 23.0 +1.2**
OKC Ostrava-Krasne 13.70 344 *e*P **P** **03 48 23.0 +1.2**
OKC *e*SCP **ScP** **03 56 59.1 +0.2**
CKFL Kef-Lekhel 13.71 274 P **Pn** **03 48 17.3 +0.8**
OJC Ojcow 13.77 349 *e*PKP **Pn** **03 48 15.9 -1.1**
OJC Ojcow 13.77 349 *e*P **Pn** **03 48 15.9 -1.1**
OJC *e*S **S** **03 51 00.8 -3.9**
MORC Moravsky Berou 13.78 343 ⇑P **ScP** **03 56 59.0 -0.1**
MORC Moravsky Berou 13.78 343 ⇓*i*PN **Pn** **03 48 14.6 -2.7**
MORC Moravsky Berou 13.78 343 *e*SN **Sn** **03 50 44.5 -4.2**
MORC *e* 03 56 58.9
MORC *e* 04 00 35.8
WTTA Wattenberg 13.83 323 *i* Pn **Pn** **03 48 16.2 -1.9**
comp=Z,41nm,0.3s
WTTA *i* ScP **ScP** **03 56 58.9 -0.5**
comp=Z,34nm,0.7s
WTTA Wattenberg 13.83 323 *i* ScP **ScS** **04 00 34.9 -1.7**
comp=Z,41nm,1.2s
WATA Walderalm 13.91 323 *e*Pn **Pn** **03 48 18.3 -0.7**
comp=Z,127nm,0.5s,SNR=78
WATA *i* ScP **ScP** **03 56 59.2 -0.3**
comp=Z,46nm,1.0s,SNR=8.1
WATA Walderalm 13.91 323 *i* ScP **ScS** **04 00 36.1 -0.6**
comp=Z,38nm,1.3s,SNR=8.1
CASM Ain Smara 13.91 273 P **Pn** **03 48 21.3 +2.2**
TREC Trest 13.91 337 *e*P **Pn** **03 48 20.4 +1.4**
TREC *e*S **Sn** **03 50 51.0 -0.9**
TREC MLR MLR
comp=Z,4µm,8.7s
TREC Trest 13.91 337 *e*P **Pn** **03 48 20.4 +1.4**
TREC *e*x x 03 48 24.8
TREC *e*S **Sn** **03 50 51.0 -0.9**
TREC AMS AMS 03 54 20.0
comp=Z,4µm,8.7s
TREC *e*SCP **ScP** **03 56 58.9 -0.4**
SOC Sochi 13.96 56 *i* P **Pn** **03 48 21.1 +1.4**
SOC *e* 03 50 57.0
SOC pmax pmax
comp=Z,119nm,1.1s
SOC MLR MLR
comp=Z,3µm,18.0s
CTEI Djebel Teioual 14.00 272 P **P** **03 48 23.4 -2.0**
SQTA Sankt Quirin 14.00 322 *e*Pn **Pn** **03 48 19.7 -0.6**
comp=Z,67nm,0.3s,SNR=94
SQTA *i* Sn **Sn** **03 50 46.6 -7.8**
comp=Z,483nm,0.8s
SQTA *e*ScP **ScP** **03 56 59.1 -0.5**
comp=Z,48nm,0.8s,SNR=13
SQTA Sankt Quirin 14.00 322 *i* ScP **ScS** **04 00 35.9 -0.9**
comp=Z,33nm,1.4s
FUORN Ofenpass-Fuorn 14.09 319 Pn **Pn** **03 48 19.9 -1.6**
FETA Feichten 14.11 321 *i* Pn **Pn** **03 48 21.1 -0.6**
comp=Z,109nm,0.6s,SNR=60
FETA *i* Sn **Sn** **03 50 51.3 -5.6**
comp=Z,110nm,0.6s
FETA *i* ScP **ScP** **03 56 59.5 -0.4**
comp=Z,38nm,0.9s,SNR=9.5
FETA Feichten 14.11 321 *i* ScP **ScS** **04 00 33.7 -3.5**
comp=Z,56nm,1.2s
MOTA Moosalm 14.14 322 *i* Pn **Pn** **03 48 20.8 -1.3**
comp=Z,61nm,0.3s,SNR=90
MOTA *i* Sn **Sn** **03 50 49.8 -7.9**
comp=Z,278nm,0.8s
MOTA *i* ScP **ScP** **03 56 59.4 -0.6**
comp=Z,42nm,1.1s,SNR=9.2
MOTA Moosalm 14.14 322 *i* ScP **ScS** **04 00 36.2 -1.0**
comp=Z,38nm,1.4s,SNR=6.3
GEC2 GERESS Array S 14.15 332 *e*L L 03 54 31.1
comp=Z,4µm,21.3s
GERES GERESS Array B 14.15 332 P **Pn** **03 48 22.2 0.0**
comp=Z,2.6nm,0.3s,baz=153,slow=13,SNR=78
GERES S **Sn** **03 50 50.1 -7.7**
comp=Z,3.7nm,0.3s,baz=161,slow=28,SNR=4.0
GERES LR LR 03 54 42.5
comp=Z,4µm,21.6s,baz=148,slow=40
GERES ScP **ScP** **03 56 58.8 -1.0**
comp=Z,2.9nm,0.3s,baz=153,slow=2.0,SNR=36
GERES GERESS Array B 14.15 332 **Pn** **03 48 18.3 -3.9**
KRLC Kraliky 14.24 341 *e*P **Pn** **03 48 22.8 -0.5**
KRLC *e*S **Sn** **03 51 03.4 +3.4**
KRLC MLR MLR
comp=Z,3µm,15.0s
KRLC Kraliky 14.24 341 *e*P **Pn** **03 48 22.8 -0.5**
KRLC *e*x x 03 48 26.8
KRLC *e*S **Sn** **03 51 03.4 +3.4**
KRLC AMS AMS 03 54 10.0
comp=Z,3µm,15.0s
KRLC *e*SCP **ScP** **03 56 58.9 -1.0**
DFRA Djebel Bou Aff 14.37 275 P **Pn** **03 48 27.0 +1.9**
DAVOX Davos/Dischmat 14.39 318 P **Pn** **03 48 25.5 +0.1**
comp=Z,10nm,0.3s,baz=157,slow=18,SNR=78
DAVOX S **Sn** **03 50 55.1 -8.8**
comp=Z,12nm,0.3s,baz=320,slow=24,SNR=2.0
DAVOX LR LR 03 54 41.3
comp=Z,4µm,21.8s,baz=112,slow=40
DAVOX ScP **ScP** **03 56 59.3 -1.2**
comp=Z,0.7nm,0.3s,baz=109,slow=4.0,SNR=5.2
DAVOX ScS **ScS** **04 00 33.3 -4.7**
comp=Z,0.2nm,0.3s,baz=338,slow=19,SNR=11
RETA Reutte 14.41 322 *i* Pn **Pn** **03 48 25.3 -0.2**
comp=Z,86nm,0.4s,SNR=64
RETA *i* Sn **Sn** **03 50 56.2 -7.8**
comp=Z,180nm,0.5s
RETA *i* ScP **ScP** **03 57 00.1 -0.2**
comp=Z,47nm,1.4s
RETA Reutte 14.41 322 *i* ScP **ScS** **04 00 36.3 -1.5**
comp=Z,32nm,1.7s
KHC Kasperske Hory 14.43 332 *e*P **Pn** **03 48 23.9 -1.8**
KHC *e*S **S** **03 51 11.5 -6.9**
KHC MLR MLR
comp=Z,5µm,18.6s
KHC Kasperske Hory 14.43 332 *e*P **Pn** **03 48 23.9 -1.8**
KHC *e*x x 03 48 29.5
KHC *e*S **S** **03 51 11.5 -6.9**
KHC AMS AMS 03 55 10.0
comp=Z,5µm,18.6s
KHC *e*SCP **ScP** **03 56 58.9 -1.3**
AKASG Malin Array Be 14.49 14 P **Pn** **03 48 26.4 +0.1**
comp=Z,24nm,0.3s,baz=205,slow=12,SNR=104
AKASG PcP **PcP** **03 53 34.8 +0.1**
comp=Z,3.0nm,0.3s,baz=240,slow=1.3,SNR=4.4
AKASG LR LR 03 53 53.3
comp=Z,2µm,18.6s,baz=205,slow=36
AKASG ScP **ScP** **03 56 58.5 -1.7**
comp=Z,3.0nm,0.3s,baz=229,slow=1.5,SNR=29
AKASG ScS **ScS** **04 00 34.7 -2.9**
comp=Z,0.6nm,0.3s,baz=216,slow=4.6,SNR=8.8
AKASG Malin Array Be 14.49 14 Pn **Pn** **03 48 25.0 -1.4**
AKBB Malin Array Si 14.49 14 P **Pn** **03 48 26.1 -0.3**
AKBB Malin Array Si 14.49 14 Pn **Pn** **03 48 26.1 -0.3**
DPC Dobruska-Polom 14.62 341 *e*P **Pn** **03 48 28.8 +0.7**
DPC *e*S **Sn** **03 51 05.9 -3.0**
DPC MLR MLR
comp=Z,4µm,13.0s
DPC Dobruska-Polom 14.62 341 *e*P **Pn** **03 48 28.8 +0.7**
DPC *ex* x 03 48 34.8
DPC *e*S **Sn** **03 51 05.9 -3.0**
DPC AMS AMS 03 54 20.0
comp=Z,4µm,13.0s
DPC *e*SCP **ScP** **03 57 00.1 -0.4**
FUR Furstenfeldbru 14.64 325 *e*L L 03 55 24.5
comp=Z,5µm,20.3s
GOPC GO Pecny, Ondr 14.67 337 *e*P **Pn** **03 48 28.4 -0.4**
GOPC *e*S **Sn** **03 51 05.4 -5.0**
GOPC MLR MLR
comp=Z,4µm,11.1s
GOPC GO Pecny, Ondr 14.67 337 *e*P **Pn** **03 48 28.4 -0.4**
GOPC *ex* x 03 48 33.2
GOPC *e*S **Sn** **03 51 05.4 -5.0**
GOPC AMS AMS 03 54 10.0
comp=Z,4µm,11.1s
GOPC *e*SCP **ScP** **03 56 59.6 -1.0**
WET Wettzell 14.71 331 *e*L L 03 54 49.2
comp=Z,5µm,22.0s
DAVA Damuels 14.72 320 *i* Pn **Pn** **03 48 29.0 -0.6**
comp=Z,74nm,0.4s,SNR=73
DAVA *i* Sn **Sn** **03 51 03.9 -7.8**
comp=Z,129nm,0.5s
DAVA *i* ScP **ScP** **03 57 00.9 0.0**
comp=Z,24nm,0.8s
BATM Batumi 14.72 65 ⇑P **ScP** **03 56 59.8 -1.1**
PBCC Pribram 14.74 334 *e*P **Pn** **03 48 29.8 +0.1**
PBCC *ex* x 03 48 33.8
PBCC *e*S Sn 03 51 02.9 -9.1
PBCC *e*SCP **ScP** **03 56 59.9 -0.8**
SET Setif 14.79 273 P **Pn** **03 48 32.0 +1.5**
PRU Pruhonice 14.82 336 *e*P **Pn** **03 48 30.4 -0.2**
PRU *e*S **Sn** **03 51 09.8 -4.0**
PRU MLR MLR
comp=Z,4µm,10.6s
PRU Pruhonice 14.82 336 *e*P **Pn** **03 48 30.4 -0.2**
PRU *ex* x 03 48 34.4
PRU *e*S **Sn** **03 51 09.8 -4.0**
PRU AMS AMS 03 54 20.0
comp=Z,4µm,10.6s
PRU *e*SCP **ScP** **03 57 00.8 0.0**
OSTC Ostas 14.83 341 *e*P **P** **03 48 33.2 -1.2**
OSTC *ex* x 03 48 36.5
OSTC *e*S **Sn** **03 51 14.4 +0.3**
OSTC AMS AMS 03 54 20.0
comp=Z,3µm,14.3s
OSTC *e*SCP **ScP** **03 57 00.4 -0.5**
UPC Upice 14.84 340 *e*P **P** **03 48 34.8 +0.4**
UPC MLR MLR
comp=Z,4µm,13.9s
UPC Upice 14.84 340 *e*P **P** **03 48 34.8 +0.4**
UPC *e*S Sn 03 51 00.2 -14
UPC AMS AMS 03 55 10.0
comp=Z,4µm,13.9s
UPC *e*SCP **ScP** **03 56 59.9 -1.0**
CHVC Chvalec 14.90 341 *e*P **Pn** **03 48 30.8 -0.9**
CHVC *ex* x 03 48 34.0
CHVC *e*S **Sn** **03 51 15.2 -0.7**
CHVC AMS AMS 03 55 20.0
comp=Z,3µm,18.9s
CHVC *e*SCP **ScP** **03 57 00.5 -0.5**
PRA Prague 14.92 336 *e*P **P** **03 48 36.3 +0.9**
PRA *e*S **Sn** **03 51 07.6 -8.7**
PRA MLR MLR
comp=Z,2µm,10.7s
PRA Prague 14.92 336 *e*P **P** **03 48 36.3 +0.9**
PRA *e*S **Sn** **03 51 07.6 -8.7**
PRA AMS AMS 03 54 20.0
comp=Z,2µm,10.7s
KSP Ksiaz 15.07 342 *e*PKP **Pn** **03 48 31.6 -2.2**
KSP Ksiaz 15.07 342 *e*P **Pn** **03 48 31.7 -2.2**
KSP *e*S **S** **03 51 31.1 -0.4**
BEL Belsk 15.23 353 *e*PKP **Pn** **03 48 36.2 +0.4**
BEL Belsk 15.23 353 *e*P **Pn** **03 48 36.1 +0.3**
BEL *e*S **Sn** **03 51 28.4 +4.7**
PVCC Panska Ves 15.28 337 *e*P **P** **03 48 38.1 -1.2**
PVCC *e*S **Sn** **03 51 19.7 -5.2**
PVCC MLR MLR
comp=Z,3µm,10.3s
PVCC Panska Ves 15.28 337 *e*P **P** **03 48 38.1 -1.2**
PVCC *e*S **Sn** **03 51 19.7 -5.2**
PVCC AMS AMS 03 54 40.0
comp=Z,3µm,10.3s
PVCC *e*SCP **ScP** **03 57 01.1 -0.6**
BNI Bardonecchia 15.33 308 IAmb IAmb 03 48 45.5
comp=Z,172nm,0.6s
GEVA Gevas 15.39 78 Pn **Pn** **03 48 39.3 +1.1**
SENIN Lac Senin/Sane 15.60 313 IAmb IAmb 03 48 49.2
comp=Z,377nm,0.6s
MAHO Mahon 15.62 288 *i* P **Pn** **03 48 37.9 -3.0**
MAHO *i* S **Sn** **03 51 35.4 +2.1**
NKC Novy Kostel 15.76 332 *e*P **Pn** **03 48 42.9 +0.4**
NKC *e*S **Sn** **03 51 30.7 -5.8**
NKC MLR MLR
comp=Z,5µm,13.6s
NKC Novy Kostel 15.76 332 *e*P **Pn** **03 48 42.9 +0.4**
NKC *ex* x 03 48 45.7
NKC *e*S **Sn** **03 51 30.7 -5.8**
NKC AMS AMS 03 55 40.0
comp=Z,5µm,13.6s
NKC *e*SCP **ScP** **03 57 01.9 -0.7**
BRG Berggiesshubel 15.78 337 *i* P **Pn** **03 48 41.4 -1.3**
comp=Z,8.5nm,0.7s
BRG *i* 03 48 45.5
comp=Z,88nm,0.6s
BRG *e* 03 48 52.0
comp=Z,39nm,0.7s
BRG pP **pP** **03 49 02.5 +0.5**
comp=Z,48nm,0.7s
BRG sP **sP** **03 49 16.1 +2.5**
BRG S **Sn** **03 51 35.0 -1.9**
BRG sS sS 03 52 30.0 +16
BRG SCP **ScP** **03 57 02.1 -0.5**
comp=Z,33nm,1.2s
BRG SCS **ScS** **04 00 38.5 -2.5**
comp=Z,4.7nm,1.0s
BRG *e* 04 03 41.8
comp=Z,10nm,1.3s
comp=Z,4µm,9.1s
comp=N,2µm,13.0s
comp=E,3µm,13.0s
GRF Grafenberg Arr 15.81 329 *e*P **P** **03 48 46.4 +1.2**
comp=E,635nm,1.4s,baz=145,slow=12
GRF *e*L L 03 55 44.9
comp=E,5µm,20.1s
AKH Akhalkalaki 16.00 67 ⇑P **ScP** **03 57 04.5 +1.1**
AKH Akhalkalaki 16.00 67 P **Pn** **03 48 46.4 +0.6**
AKH pmax pmax
comp=Z,1µm,1.5s
AKH Akhalkalaki 16.00 67 Pn **Pn** **03 48 46.4 +0.6**
KIV Kislovodsk 16.10 58 *i* P **P** **03 48 49.4 +0.9**
SNR=62
KIV Kislovodsk 16.10 58 *e*P **P** **03 48 49.3 +0.7**
KIV *e*S **S** **03 51 49.4 -3.4**
KIV pmax pmax
comp=Z,933nm,1.0s
KIV MLR MLR
comp=Z,2µm,12.0s
KIV Kislovodsk 16.10 58 Pn **P** **03 48 48.3 -0.3**
KVAR Kislovodsk Arr 16.11 58 P **P** **03 48 49.5 +0.9**
baz=272,slow=23,SNR=47
KVAR ScS ScS 04 00 42.1 -0.3
baz=1.0,slow=20,SNR=6.4
KBZ Khabaz 16.17 59 P **P** **03 48 51.0 +1.8**
comp=Z,13nm,0.3s,baz=257,slow=11,SNR=154
KBZ LR LR 03 55 58.5
comp=Z,2µm,19.4s,baz=253,slow=40
KBZ ScP **ScP** **03 57 01.8 -1.6**
comp=Z,0.3nm,0.3s,baz=296,slow=1.4,SNR=5.7
KBZ ScS **ScS** **04 00 41.9 -0.4**
comp=Z,0.1nm,0.3s,baz=266,slow=23,SNR=7.2
BFO Black Forest 16.19 320 P **Pn** **03 48 46.7 -1.3**
BFO pmax pmax
comp=Z,570nm,1.6s
BFO Black Forest 16.19 320 *e*L L 03 55 15.5
comp=Z,3µm,19.8s
BFO Black Forest 16.19 320 **Pn** **03 48 46.7 -1.3**
BFO IAmb IAmb 03 48 52.6
comp=Z,570nm,1.6s
MOX Moxa 16.40 332 *e*L L 03 55 51.7
comp=Z,4µm,22.0s
CLL Collm 16.45 336 *e*P **Pn** **03 48 51.0 -0.2**
CLL *i* Pmax 03 48 54.5
comp=Z,132nm,0.8s
CLL *e*Pmax 03 48 58.0
CLL *i* pP **pP** **03 49 12.4 +2.9**
CLL *e*S **Sn** **03 51 51.0 -2.3**
CLL Lmax 03 55 00.0
CLL Collm 16.45 336 ⇑*i*PKPbc **ScP** **03 57 03.3 -0.6**
comp=Z,60nm,1.1s
CLL Collm 16.45 336 *e*P **Pn** **03 48 51.0 -0.2**
CLL *e*S **Sn** **03 51 51.0 -2.3**
CLL Collm 16.45 336 *e*L L 03 57 02.4
comp=Z,998nm,21.7s
ZEI Tsey 16.60 63 *e*P **P** **03 48 55.1 +0.9**
ZEI pmax pmax
comp=Z,67nm,0.6s
ECH Echery 16.73 318 IAmb IAmb 03 49 01.2
comp=Z,575nm,1.7s
GOF Gofitskoye 16.74 54⇑*e*P **P** **03 48 55.5 0.0**
GOF pmax pmax
comp=Z,563nm,1.2s
SSB Saint Sauveur 16.80 306 P **Pn** **03 48 54.2 -1.3**
SSB pmax pmax
comp=Z,482nm,1.9s
SSB Saint Sauveur 16.80 306 **Pn** **03 48 54.1 -1.3**
SSB Saint Sauveur 16.80 306 IAmb IAmb 03 48 59.6
comp=Z,482nm,1.9s
TBLG Delisi 16.98 67 P P 03 49 05.9 +7.7
TBLG Delisi 16.98 67 Pn P 03 49 05.8 +7.6
GKP Gorka Klasztor 17.14 347 *e*PKP **Pn** **03 48 59.0 -0.5**
GKP Gorka Klasztor 17.14 347 *e*P **Pn** **03 48 59.0 -0.5**
GKP *e*S **Sn** **03 52 10.6 +0.9**
RUE Ruedersdorf 17.23 339 *e*P **Pn** **03 49 00.4 -0.2**
SUW Suwalki 17.27 359 *e*PKP **Pn** **03 48 59.8 -1.3**
SUW Suwalki 17.27 359 *e*P **Pn** **03 48 59.8 -1.3**
SUW *e*S **Sn** **03 52 10.4 -2.4**
NAX Nakhchivan 17.30 75 P **Pn** **03 49 01.2 -0.6**
TNS Taunus Mts 17.41 325 *e*L L 03 56 58.5
comp=Z,4µm,19.3s
EBNR Beni Rached 17.88 275 P **P** **03 49 07.0 -1.2**
MICGM Minsk 17.98 8⇓*e*P **P** **03 49 07.0 -2.1**
MICGM PM 03 49 08.0
comp=N,1.0nm,1.0s
MICGM PM 03 49 11.0
comp=Z,0.9nm,1.0s
MICGM *e*pP **pP** **03 49 20.0 -6.5**
MICGM *e*PP sP 03 49 30.0 -8.0
MICGM *e*S Sn 03 52 19.0 -11
MICGM SM 03 52 28.0
comp=E,1.9nm,2.0s
MICGM SM 03 52 29.0
comp=N,2.1nm,1.5s
MICGM *e* 03 52 43.0
MICGM *e*LR LR 03 55 44.0
MNK Minsk 17.98 8 *e*P **P** **03 49 07.0 -2.1**
MNK *e*S Sn 03 52 18.0 -12
GANJ Ganja 18.02 71 P **Pn** **03 49 10.1 -0.3**
ECHA Ech Chlef 18.03 275 P **P** **03 49 09.0 -0.8**
VORD Divnogorie 18.04 33 *e*P **Pn** **03 49 11.6 +1.2**
VORD *e*S **S** **03 52 28.7 -2.5**
VORD pmax pmax
comp=Z,120nm,0.6s
VORD smax smax
comp=E,1µm,8.2s
GROC Groznyy 18.05 62 *e*P **Pn** **03 49 10.9 +0.2**
GROC *e*S **Sn** **03 52 32.3 +0.5**
GROC pmax pmax
comp=Z,446nm,1.4s
WLF Walferdange 18.15 321 P **Pn** **03 49 12.1 +0.3**
WLF Walferdange 18.15 321 P **Pn** **03 49 12.1 +0.3**
WLF pmax pmax
comp=Z,1µm,1.6s
WLF Walferdange 18.15 321 **Pn** **03 49 12.1 +0.3**
VSR Storozhevoye 18.16 32 *e*P **Pn** **03 49 12.1 +0.1**
VSR *e*S **S** **03 52 27.8 -6.0**
VSR pmax pmax
comp=Z,410nm,0.6s
VSR smax smax
comp=N,2µm,9.0s
ETRT Tiaret 18.21 272 P **P** **03 49 11.0 -0.9**
EANR 'Ain N'Sour 18.27 274 P **P** **03 49 10.0 -2.6**
NACGM Naroch 18.27 6 *e*P **P** **03 49 12.0 -0.3**
NACGM *e*P **P** **03 49 12.0 -0.3**
NACGM PM 03 49 14.0
comp=Z,0.8nm,1.0s
NACGM *e*PPP PPP 03 49 44.0
NACGM *e*S **S** **03 52 26.0 -10**
NACGM *e*SS **SnSn** **03 52 50.0 -2.7**
NACGM eLQ LQ 03 54 20.0
ZKTA Zakatala 18.36 68 P **Pn** **03 49 14.2 -0.3**
VORR Voronezh 18.52 31 *e*P **Pn** **03 49 16.0 -0.2**
VORR *e*S **S** **03 52 38.0 -3.0**
VORR pmax pmax
comp=Z,750nm,1.4s
MNGR Mingechevir, A 18.61 70 P **P** **03 49 16.0 -0.1**
BHOU Houvegnez 18.66 322 ⇓P **Pn** **03 49 17.3 -0.6**
IDID Didziasalis 18.68 5 *e*P **P** **03 49 16.9 +0.2**
IDID IAmb IAmb 03 49 19.7
comp=Z,87nm,0.9s
SEKA Sheki 18.74 69 P **Pn** **03 49 18.6 -0.4**
PABE Paberze 18.76 0 *e*P **P** **03 49 18.1 +0.5**
PABE *e*S **S** **03 52 43.5 -2.5**
MEM Membach 18.82 323 ⇓P **Pn** **03 49 19.7 -0.1**
comp=Z,133nm,0.7s
ISAL Salakas 18.89 4 *e*P **P** **03 49 19.3 +0.2**
ISAL *e*S **S** **03 52 45.7 -3.0**
BSTI Sart Tilman 19.02 322 P **Pn** **03 49 22.2 0.0**
BCLA Clavier 19.05 322 ⇓P **P** **03 49 21.6 +0.8**
IZAR Zarasai 19.08 4 *e*P **P** **03 49 21.2 +0.1**
IZAR IAmb IAmb 03 49 23.0
comp=Z,167nm,0.6s
LPSR Galich'ya Gora 19.10 29 *e*P **Pn** **03 49 22.5 -0.6**
LPSR *e*S **S** **03 52 50.6 -2.5**
LPSR pmax pmax
comp=Z,870nm,1.7s
LPSR smax smax
comp=E,5µm,16.4s
BEBN Eben Emael 19.10 323 P **Pn** **03 49 22.7 -0.4**
BGES Gesves 19.13 321 P **P** **03 49 22.1 +0.3**
RGN Rugen 19.20 341 *e*P **P** **03 49 22.0 -0.4**
RGN Rugen 19.20 341 IAmb IAmb 03 49 24.8
comp=Z,233nm,0.6s
DOU Dourbes 19.21 320 ⇓P **P** **03 49 23.0 +0.5**
comp=Z,393nm,0.7s
MAK Makhachkala 19.22 64 *e*P **P** **03 49 22.4 -0.3**
MAK *e*S **S** **03 52 55.3 -0.3**
MAK pmax pmax
comp=Z,401nm,0.6s
MAK MLR MLR
comp=Z,914nm,11.0s
BMRD Maredsous 19.25 321 ⇓P **P** **03 49 23.5 +0.5**
comp=Z,210nm,0.6s
VRH Novokhopyorsk 19.31 36 *e*P **Pn** **03 49 25.0 -0.5**
VRH *e*S **S** **03 52 56.3 -0.9**
VRH pmax pmax
comp=Z,950nm,0.8s
VRH smax smax
comp=N,3µm,11.0s
PBUR Paburge 19.32 357 *e*P **P** **03 49 23.8 +0.1**
PBUR IAmb IAmb 03 49 25.1
comp=Z,913nm,0.6s
CLF Chambon-Foret 19.41 312 P **P** **03 49 25.1 +0.4**
BSEG Bad Segeberg 19.55 336 *e*L L 03 58 35.3
comp=Z,2µm,18.4s
SNF Seneffe 19.62 321 ⇓P **P** **03 49 27.8 +0.8**
comp=Z,379nm,0.5s
CART Cartagena 19.75 280 *e*P **P** **03 49 27.1 -1.4**
CART *i* S **S** **03 53 03.4 -2.8**
CART Cartagena 19.75 280 P **P** **03 49 27.8 -0.7**
UCC Uccle 19.75 321 P **P** **03 49 29.6 +1.1**
LKRN Lenkeran, Azer 19.87 77 P **P** **03 49 28.5 -1.3**
OBN Obninsk 20.35 21 P **P** **03 49 35.3 +0.5**
comp=Z,71nm,0.5s,baz=207,slow=15,SNR=50
OBN ScP **ScP** **03 57 11.0 -1.2**
comp=Z,3.9nm,0.3s,baz=92,slow=3.3,SNR=3.6
OBN LR LR 03 58 03.4
comp=Z,312nm,21.9s,baz=215,slow=38
OBN ScS **ScS** **04 00 55.1 +0.3**
comp=Z,5.2nm,0.5s,baz=144,slow=21,SNR=16
OBN Obninsk 20.35 21*d* *i*P **P** **03 49 35.0 +0.2**
OBN *e**SP **sP** **03 50 01.7 -2.2**
OBN *i* S **S** **03 53 15.4 -2.2**
OBN pmax pmax
comp=Z,365nm,0.6s
OBN MLR MLR
comp=Z,2µm,21.0s
OBN Obninsk 20.35 21 P **P** **03 49 35.6 +0.8**
SLIT Slitere, Latvi 20.91 358 *e*P **P** **03 49 39.0 -1.9**

TAM	**Tamanrasset**	**21.03**	**234**	P	**P**	**03 49 42.8**	**+0.2**
TAM				pmax	pmax		
	comp=Z,661nm,1.4s						
TAM	**Tamanrasset**	**21.03**	**234**	P	**P**	**03 49 42.8**	**+0.2**
TAM				IAmb	IAmb	03 49 48.9	
	comp=Z,661nm,1.4s						
MOS	**Moscow**	**21.20**	**22**	*e*P	**P**	**03 49 42.2**	**-1.7**
MOS				*e*S	**S**	**03 53 32.3**	**-2.1**
MOS				*e*		03 53 45.3	
MOS				*i*		04 00 54.7	
MOS				pmax	pmax		
	comp=Z,592nm,1.0s						
MOS				pmax	pmax		
	comp=Z,700nm,1.0s						
MOS				smax	smax		
	comp=N,1μm,2.1s						
MOS				smax	smax		
	comp=E,2μm,3.1s						
UCM	**Universidad Co**	**21.40**	**288**	*i* P	**P**	**03 49 42.1**	**-4.2**
UCM				*i* S	**S**	**03 53 34.1**	**-4.5**
ELSH	**Elham, Standar**	**21.62**	**319**	*e*P	**P**	**03 49 48.8**	**+0.3**
MELI	**Melilla**	**21.62**	**274**	*e*P	**P**	**03 49 42.9**	**-5.8**
MELI				*e*S	**S**	**03 53 39.6**	**-3.4**
VSU	**Vasula**	**21.81**	**4**	*e*P	**P**	**03 49 49.4**	**-1.0**
VSU	**Vasula**	**21.81**	**4***d*	*i*P	**P**	**03 49 49.6**	**-0.8**
ESBB	**Sonseca Array**	**21.95**	**286**	P	**P**	**03 49 51.6**	**-0.6**
ESBB				IAmb	IAmb	03 49 54.9	
	comp=Z,370nm,1.4s						
ESDC	**Sonseca Array**	**21.95**	**286**	P	**P**	**03 49 51.7**	**-0.5**
	comp=Z,98nm,0.5s,baz=78,slow=10,SNR=325						
ESDC				ScP	**ScP**	**03 57 16.2**	**-0.4**
	comp=Z,18nm,0.9s,baz=51,slow=2.3,SNR=25						
ESDC				LR	LR	03 59 08.6	
	comp=Z,1μm,18.0s,baz=80,slow=38						
ESDC	**Sonseca Array**	**21.95**	**286**	P	**P**	**03 49 51.2**	**-1.0**
MUD	**Monsted U'grnd**	**22.02**	**338**	*i* P	**P**	**03 49 51.1**	**-1.6**
	comp=Z,109nm,0.8s						
MUD	**Monsted U'grnd**	**22.02**	**338**	*i* P	**P**	**03 49 51.1**	**-1.6**
MUD				pmax	pmax		
	comp=Z,110nm,0.8s						
PAB	**San Pablo**	**22.25**	**286**	P	**P**	**03 49 54.7**	**-0.7**
PAB				pmax	pmax		
	comp=Z,505nm,1.4s						
PAB	**San Pablo**	**22.25**	**286**	P	**P**	**03 49 54.7**	**-0.7**
PAB				IAmb	IAmb	03 49 58.7	
	comp=Z,505nm,1.4s						
JSA	**Saint Aubin**	**22.56**	**312**	*e*P	**P**	**03 49 57.4**	**-1.1**
EMAL	**Malaga-Limoner**	**22.56**	**279**	*e*P	**P**	**03 49 55.9**	**-2.7**
EMAL				*i* S	**S**	**03 53 54.7**	**-4.7**
PVLZ	**Peæn de**	**22.74**	**274**⇑	*i*P	**S**	**03 50 00.1**	**-0.4**
PVLZ				*i* S	**S**	**03 54 02.4**	**0.0**
WACR	**West Acre**	**22.77**	**322**	*e*P	**P**	**03 50 00.2**	**-0.3**
WACR				IAmb	IAmb	03 50 01.3	
	comp=Z,581nm,0.7s						
WOL	**Wolverton**	**22.97**	**317**	*e*P	**P**	**03 50 01.9**	**-0.7**
REAL	**Reales**	**23.22**	**278**	*e*P	**P**	**03 50 05.0**	**-0.4**
SWN1	**Swindon**	**23.39**	**317**	*e*P	**P**	**03 50 06.3**	**-0.2**
PUL	**Pulkovo**	**23.43**	**8**	*e*P	**P**	**03 50 08.1**	**+1.3**
PUL	**Pulkovo**	**23.43**	**8***d*	*i*P	**P**	**03 50 08.1**	**+1.3**
PUL				pmax	pmax		
	comp=Z,583nm,0.8s						
CEU	**Ceuta**	**23.46**	**277**⇑	*i*P	**P**	**03 50 04.6**	**-2.7**
CEU				*e*S	**S**	**03 54 11.2**	**-2.6**
MDT	**Midelt**	**23.59**	**269**	LR	LR	04 01 40.9	
	comp=Z,2μm,19.9s,baz=87,slow=42						
BATH	**Bath**	**23.64**	**317**	*e*P	**P**	**03 50 08.7**	**-0.1**
STRD	**Stroud**	**23.71**	**317**	*e*P	**P**	**03 50 09.4**	**-0.1**
STRD				IAmb	IAmb	03 50 11.7	
	comp=Z,596nm,0.7s						
CWF	**Charnwood Fore**	**23.75**	**320**	*e*P	**P**	**03 50 09.3**	**-0.5**
CWF				IAmb	IAmb	03 50 11.9	
	comp=Z,229nm,0.7s						
HOMB	**Homborsund**	**23.76**	**340**	*e*P	**P**	**03 50 09.3**	**-0.5**
IFR	**Ifrane**	**23.81**	**271**	*e*P	**P**	**03 50 05.2**	**-5.6**
IFR				*i* S	**S**	**03 54 22.1**	**+2.1**
CNIL	**Conil**	**23.92**	**278**	*e*P	**P**	**03 50 11.2**	**-0.2**
SFS	**San Fernando**	**24.02**	**278**	P	**P**	**03 50 11.8**	**-0.6**
SFS				pmax	pmax		
	comp=Z,245nm,1.1s						
SFS	**San Fernando**	**24.02**	**278**	*e*P	**P**	**03 50 09.8**	**-2.6**
SFS				*i* S	**S**	**03 54 25.8**	**+2.8**
SFS	**San Fernando**	**24.02**	**278**	P	**P**	**03 50 11.8**	**-0.6**
SFS				IAmb	IAmb	03 50 15.2	
	comp=Z,245nm,1.1s						
PBRG	**Braganca**	**24.08**	**292**⇑	*e*P	**P**	**03 50 12.9**	**0.0**
	comp=Z,335nm,2.1s						
PBRG				*e*pP	**sP**	**03 50 39.2**	**-4.7**
DYA	**Yadsworthy**	**24.11**	**313**	*e*P	**P**	**03 50 12.8**	**-0.2**
SNART	**Snartemo**	**24.19**	**338**	*e*P	**P**	**03 50 14.4**	**+0.8**
MCH1	**Michaelchurch**	**24.27**	**317**	*e*P	**P**	**03 50 14.1**	**-0.3**
HFS	**Hagfors**	**24.28**	**348**	P	**P**	**03 50 13.7**	**-0.7**
	comp=Z,74nm,0.5s,baz=154,slow=11,SNR=280						
HFS				LR	LR	04 00 56.9	
	comp=Z,1μm,20.8s,baz=161,slow=39						
HFS				ScS	ScS	04 01 08.2	-1.2
	comp=Z,8.8nm,0.9s,baz=98,slow=11,SNR=3.5						
MVO	**Moncorvo**	**24.28**	**290**⇑	*e*P	**P**	**03 50 15.2**	**+0.4**
	comp=Z,525nm,1.6s						
MVO				*i* LQ	LQ	03 54 24.9	
LBWR	**Ladybower, Pea**	**24.32**	**321**	*e*P	**P**	**03 50 14.6**	**-0.3**
STNC	**Stoke**	**24.40**	**320**	*e*P	**P**	**03 50 16.0**	**+0.4**
GDLE	**Glaisdale, N Y**	**24.46**	**324**	*e*P	**P**	**03 50 15.9**	**-0.2**
HLM1	**Long Mynd**	**24.46**	**319**	*e*P	**P**	**03 50 15.7**	**-0.5**
HPK	**Haverah Park**	**24.58**	**322**	*e*P	**P**	**03 50 17.2**	**-0.1**
PMRV	**Marv??o**	**24.61**	**286**⇑	*e*P	**P**	**03 50 17.3**	**-0.4**
	comp=Z,392nm,1.5s						
PMRV				*i* LQ	LQ	03 54 30.2	
PCBR	**Castelo Branco**	**24.65**	**287**	*e*P	**P**	**03 50 18.0**	**-0.1**
	comp=Z,305nm,1.6s						
PCBR				*e*pP	**sP**	**03 50 45.0**	**-4.0**
HTL	**Hartland**	**24.66**	**314**	*e*P	**P**	**03 50 18.7**	**+0.7**
HTL				IAmb	IAmb	03 50 21.2	
	comp=Z,175nm,0.5s						
KONO	**Kongsberg**	**24.68**	**343**	P	**P**	**03 50 17.5**	**-0.5**
KONO				pmax	pmax		
	comp=Z,73nm,0.6s						
KONO	**Kongsberg**	**24.68**	**343**	P	**P**	**03 50 17.5**	**-0.5**
KONO	**Kongsberg**	**24.68**	**343**	*e*P	**P**	**03 50 17.6**	**-0.5**
OSL	**Oslo**	**24.68**	**344**	*e*P	**P**	**03 50 18.1**	**0.0**
MTE	**Manteigas**	**24.68**	**288**⇑	*e*P	**P**	**03 50 18.8**	**+0.4**
	comp=Z,362nm,1.5s						
MTE				*e*pP	**pP**	**03 50 42.6**	**+3.8**
MTE				*i* LQ	LQ	03 54 32.7	
FINES	**FINESS Array B**	**24.76**	**3**	P	**P**	**03 50 18.2**	**-0.5**
	comp=Z,36nm,0.6s,baz=158,slow=11,SNR=156						
FINES				PcP	**PcP**	**03 53 53.8**	**+0.8**
	comp=Z,18nm,0.4s,baz=146,slow=3.5,SNR=6.7						
FINES				ScP	**ScP**	**03 57 22.1**	**-1.5**
	comp=Z,60nm,0.6s,baz=132,slow=2.8,SNR=25						
FINES				ScS	**ScS**	**04 01 08.8**	**-2.6**
	comp=Z,8.1nm,0.8s,baz=116,slow=4.4,SNR=6.2						
FINES				LR	LR	04 01 23.6	
	comp=Z,2μm,18.3s,baz=181,slow=39						
FINES				P3KPbc		04 23 21.1	
	comp=Z,2.1nm,0.8s,baz=10,slow=3.1,SNR=5.3						
FIA1	**FINESS Array S**	**24.76**	**3**	P	**P**	**03 50 18.6**	**-0.2**
PVRL	**Vila Real**	**24.80**	**290**	*e*P	**P**	**03 50 19.7**	**+0.2**
	comp=Z,208nm,1.7s						
PVRL				*e*pP	**sP**	**03 50 49.2**	**-1.2**
FOEL	**Foel Wylfa**	**24.81**	**319**	*e*P	**P**	**03 50 19.8**	**+0.3**
FOEL				IAmb	IAmb	03 50 22.5	
	comp=Z,242nm,0.6s						
PVIS	**Viseu**	**24.94**	**289**⇑	*e*P	**P**	**03 50 20.9**	**+0.1**
	comp=Z,358nm,1.5s						
PVIS				*e*pP	**sP**	**03 50 48.1**	**-3.5**
PCAB	**Cabril**	**25.04**	**291**	*e*P	**P**	**03 50 22.0**	**+0.4**
	comp=Z,289nm,1.5s						
PCAB				*e*pP	**sP**	**03 50 51.8**	**-0.7**
RTC	**Rabat Centre**	**25.07**	**273**	P	**P**	**03 50 22.4**	**+0.4**
PBEJ	**Beja**	**25.11**	**283**⇑	*e*P	**P**	**03 50 22.1**	**-0.2**
	comp=Z,302nm,1.7s						
PBEJ				*e*pP	**pP**	**03 50 43.5**	**+1.0**
EVO	**Evora**	**25.17**	**284**	*i* P	**P**	**03 50 20.6**	**-2.2**
EVO				*i* S	**S**	**03 54 38.2**	**-3.0**
EVO	**Evora**	**25.17**	**284**	*e*P	**P**	**03 50 23.9**	**+1.1**
	comp=Z,277nm,1.5s						
EVO				*e*pP	**pP**	**03 50 47.1**	**+4.0**
RSBS	**Rosebush, Pemb**	**25.21**	**316**	*e*P	**P**	**03 50 24.2**	**+1.1**
RSBS				IAmb	IAmb	03 50 26.1	
	comp=Z,150nm,0.6s						
PGAV	**Gavieira, Arco**	**25.22**	**292**	*e*P	**P**	**03 50 23.9**	**+0.5**
	comp=Z,202nm,2.0s						
PGAV				*e*pP	**sP**	**03 50 52.7**	**-1.6**
PGAV				*i* LQ	LQ	03 54 42.9	
NC602	**NORSAR Array S**	**25.24**	**346**	IAmb	IAmb	03 50 55.1	
	comp=Z,219nm,0.9s						
EDMD	**Edmundbyers**	**25.24**	**324**	*e*P	**P**	**03 50 23.1**	**-0.2**
EDMD				IAmb	IAmb	03 50 24.9	
	comp=Z,160nm,0.6s						
PBDV	**Barranco-do-Ve**	**25.26**	**281**⇑	*e*P	**P**	**03 50 23.5**	**-0.2**
	comp=Z,535nm,1.3s						
PBDV				*e*pP	**pP**	**03 50 45.4**	**+1.4**
PMTG	**Montargil**	**25.28**	**285**	*e*P	**P**	**03 50 23.3**	**-0.5**
	comp=Z,295nm,1.6s						
PMTG				*e*pP	**pP**	**03 50 44.7**	**+0.5**
PCVE	**Castro Verde**	**25.29**	**282**⇑	*e*P	**P**	**03 50 23.9**	**0.0**
	comp=Z,256nm,1.8s						
PCVE				*e*pP	**pP**	**03 50 45.4**	**+1.1**
BLS5	**Blasjo**	**25.31**	**339**	*e*P	**P**	**03 50 24.5**	**+0.6**
COI	**Coimbra**	**25.35**	**288**	*e*P	**P**	**03 50 24.7**	**+0.3**
	comp=Z,223nm,1.8s						
COI				*e*pP	**sP**	**03 50 54.2**	**-1.0**
COI	**Coimbra**	**25.35**	**288**	IAmb	IAmb	03 50 26.6	
	comp=Z,121nm,0.8s						
PCAS	**Casmilo, Conde**	**25.42**	**287**	*e*P	**P**	**03 50 25.4**	**+0.3**
	comp=Z,129nm,1.6s						
PCAS				*e*pP	**pP**	**03 50 49.8**	**+4.4**
NAO01	**NORSAR Array S**	**25.47**	**345**	IAmb	IAmb	03 50 58.0	
	comp=Z,160nm,0.9s						
NAO01	**NORSAR Array S**	**25.47**	**345**	*e*P	**P**	**03 50 24.9**	**-0.4**
PTO	**Porto**	**25.47**	**290**	*e*P	**P**	**03 50 26.3**	**+0.8**
	comp=Z,222nm,1.5s						
PTO				*e*pP	**pP**	**03 50 49.1**	**+3.3**
KMY	**Karmoy**	**25.49**	**338**	*e*P	**P**	**03 50 25.9**	**+0.5**
NB201	**NORSAR Array S**	**25.57**	**346**	IAmb	IAmb	03 50 50.3	
	comp=Z,170nm,0.7s						
NB2	**NORSAR Subarra**	**25.58**	**346**	P	**P**	**03 50 25.9**	**-0.4**
	comp=Z,48nm,0.9s,baz=159,slow=9.3						
NB2	**NORSAR Subarra**	**25.58**	**346**	P	**P**	**03 50 25.9**	**-0.4**
	baz=159,slow=9.3						
NOA	**NORSAR Array B**	**25.58**	**346**	P	**P**	**03 50 25.6**	**-0.7**
	comp=Z,29nm,0.6s,baz=161,slow=11,SNR=260						
NOA				ScP	**ScP**	**03 57 24.3**	**-1.7**
	comp=Z,13nm,0.8s,baz=135,slow=3.1,SNR=6.3						
NOA				LR	LR	04 00 30.9	
	comp=Z,1μm,21.4s,baz=155,slow=36						
PNCL	**Nicolau / Gran**	**25.62**	**283**⇑	*e*P	**P**	**03 50 27.3**	**+0.5**
	comp=Z,471nm,1.5s						
PNCL				*e*pP	**pP**	**03 50 48.5**	**+1.3**
WME	**Myndd Eilian**	**25.64**	**319**	*e*P	**P**	**03 50 27.9**	**+1.0**
KESW	**Keswick, Cumbr**	**25.65**	**323**	*e*P	**P**	**03 50 26.7**	**-0.3**
ODD1	**Odda**	**25.67**	**340**	*e*P	**P**	**03 50 32.3**	**+5.1**
PSBE	**So Bento**	**25.69**	**286**⇑	*e*P	**P**	**03 50 27.4**	**-0.1**
	comp=Z,157nm,1.6s						
PSBE				*e*pP	**sP**	**03 50 57.4**	**-0.8**
AVE	**Averroes**	**25.71**	**272**	*e*P	**P**	**03 50 31.3**	**+3.6**
AVE				*e*S	**S**	**03 54 48.3**	**-1.6**
YRC	**Rhoscolyn**	**25.71**	**319**	*e*P	**P**	**03 50 28.5**	**+1.0**
NC303	**NORSAR Array S**	**25.72**	**346**	IAmb	IAmb	03 51 03.9	
	comp=Z,104nm,0.8s						
WPS	**Cemaes, Angles**	**25.75**	**319**	*e*P	**P**	**03 50 28.3**	**+0.5**
MORF	**Marmelete**	**25.82**	**281**	*e*P	**P**	**03 50 28.4**	**-0.4**
MORF				AMb	AMB	03 50 32.4	
	comp=Z,172nm,1.4s						
MORF				*e*S	**S**	**03 54 51.4**	**-0.3**
MORF	**Marmelete**	**25.82**	**281**	*e*P	**P**	**03 50 28.4**	**-0.4**
MORF				*e*S	**S**	**03 54 51.4**	**-0.3**
MORF	**Marmelete**	**25.82**	**281**	*e*P	**P**	**03 50 29.6**	**+0.8**
	comp=Z,160nm,1.5s						
MORF				*e*pP	**sP**	**03 51 00.0**	**0.0**
PTEO	**Sao Teotonio**	**25.84**	**282**	*e*P	**P**	**03 50 29.1**	**+0.2**
	comp=Z,580nm,1.5s						
PTEO				*e*pP	**pP**	**03 50 50.8**	**+1.6**
NC204	**NORSAR Array S**	**25.89**	**346**	P	**P**	**03 50 29.0**	**-0.1**
NC204				IAmb	IAmb	03 51 04.6	
	comp=Z,138nm,0.9s						
SKAR	**Skarslia**	**25.90**	**343**	*e*P	**P**	**03 50 29.6**	**+0.4**
PFVI	**Vila Bisbo**	**25.99**	**281**	*e*P	**P**	**03 50 30.3**	**+0.1**
	comp=Z,229nm,1.2s						
PFVI				*e*pP	**pP**	**03 50 52.0**	**+1.2**
PFVI	**Vila Bisbo**	**25.99**	**281**	P	**P**	**03 50 29.4**	**-0.8**
PFVI				IAmb	IAmb	03 50 32.9	
	comp=Z,270nm,1.3s						
LIS	**Lisbon**	**26.03**	**284**	*e*P	**P**	**03 50 30.3**	**-0.3**
LIS				AMb	AMB	03 50 34.0	
	comp=Z,388nm,0.8s						
LIS				*e*S	**S**	**03 54 54.7**	**-0.1**
LIS	**Lisbon**	**26.03**	**284**	*e*P	**P**	**03 50 30.3**	**-0.3**
LIS				*e*S	**S**	**03 54 54.7**	**-0.1**
LIS	**Lisbon**	**26.03**	**284**	*e*P	**P**	**03 50 31.3**	**+0.7**
	comp=Z,376nm,1.1s						
LIS				*e*pP	**pP**	**03 50 52.5**	**+1.6**
EKA	**Eskdalemuir Ar**	**26.09**	**324**	P	**P**	**03 50 31.2**	**+0.2**
	comp=Z,266nm,0.6s,baz=118,slow=9.5,SNR=193						
EKA				ScP	**ScP**	**03 57 26.6**	**-1.0**
	comp=Z,16nm,0.7s,baz=126,slow=3.9,SNR=15						
EKA				LR	LR	04 02 17.6	
	comp=Z,911nm,20.9s,baz=150,slow=39						
ESK	**Eskdalemuir**	**26.10**	**324**	*e*P	**P**	**03 50 31.2**	**+0.2**
ESK				IAmb	IAmb	03 50 35.0	
	comp=Z,336nm,0.6s						
ESK	**Eskdalemuir**	**26.10**	**324**	P	**P**	**03 50 31.3**	**+0.2**
ESK				pmax	pmax		
	comp=Z,334nm,0.7s						
ESK	**Eskdalemuir**	**26.10**	**324**	P	**P**	**03 50 31.3**	**+0.3**
PMAFR	**Mafra**	**26.11**	**285**	*e*P	**P**	**03 50 31.7**	**+0.4**
	comp=Z,162nm,1.6s						
PMAFR				*e*pP	**pP**	**03 50 55.2**	**+3.5**
KLMR	**Klimovskoe**	**26.12**	**18***c*	*i*P	**P**	**03 50 30.4**	**-0.6**
KLMR				*e*S	**S**	**03 54 55.6**	**-0.1**
KLMR				pmax	pmax		
	comp=Z,133nm,0.7s						
KLMR	**Klimovskoe**	**26.12**	**18**⇑	*i*P	**P**	**03 50 30.5**	**-0.6**
KLMR				*i* P	**P**	**03 50 30.5**	**-0.6**
KLMR				*i* P	**P**	**03 50 30.5**	**-0.6**
KLMR				AMP		03 50 32.1	
	comp=Z,133nm,0.7s						
KLMR				*e*S	**S**	**03 54 55.7**	**0.0**
KLMR				*e*S	**S**	**03 54 55.7**	**0.0**
KLMR				LQ	LQ	03 58 42.3	
KLMR				LQ	LQ	03 58 42.3	
KLMR				LR	LR	03 59 34.1	
ESY	**Stoneypath**	**26.18**	**325**	*e*P	**P**	**03 50 32.1**	**+0.4**
WIM	**Isle of Man**	**26.20**	**321**	*e*P	**P**	**03 50 32.4**	**+0.4**
IOMK	**Kirk Michael**	**26.21**	**321**	*e*P	**P**	**03 50 32.1**	**+0.1**
IOMK				IAmb	IAmb	03 50 35.3	
	comp=Z,497nm,0.5s						
EBL	**Broad Law**	**26.29**	**325**	*e*P	**P**	**03 50 32.9**	**+0.1**
BER	**Bergen**	**26.42**	**339**	*e*P	**P**	**03 50 33.3**	**-0.6**
EDI	**Edinburgh**	**26.44**	**325**	*e*P	**P**	**03 50 34.5**	**+0.5**
EDI				IAmb	IAmb	03 50 36.6	
	comp=Z,510nm,0.5s						
NEWG	**New Galloway**	**26.49**	**323**	*e*P	**P**	**03 50 34.4**	**-0.1**
NEWG				IAmb	IAmb	03 50 38.0	
	comp=Z,63nm,0.6s						
ASK	**Askoy**	**26.54**	**339**	*e*P	**P**	**03 50 29.6**	**-5.3**
GAL1	**Galloway**	**26.59**	**322**	*e*P	**P**	**03 50 35.9**	**+0.4**
GAL1				IAmb	IAmb	03 50 39.8	
	comp=Z,105nm,0.6s						
HYA	**Hoyanger**	**26.84**	**341**	*e*P	**P**	**03 50 37.8**	**+0.1**
DOMB	**Dombas**	**26.93**	**345**	*e*P	**P**	**03 50 39.0**	**+0.5**
PGBU	**Glenifferbraes**	**26.98**	**324**	*e*P	**P**	**03 50 38.4**	**-0.5**
PGBU				IAmb	IAmb	03 50 41.1	
	comp=Z,326nm,1.7s						
ELO	**Logie Almond**	**27.00**	**326**	*e*P	**P**	**03 50 39.1**	**0.0**
EAB	**Aberfoyle**	**27.12**	**325**	*e*P	**P**	**03 50 40.7**	**+0.5**
INVG	**Invergeldie, C**	**27.12**	**325**	*e*P	**P**	**03 50 40.3**	**+0.1**
INVG				IAmb	IAmb	03 50 42.1	
	comp=Z,119nm,0.6s						
SUE	**Sulen**	**27.14**	**340**	*e*P	**P**	**03 50 40.2**	**0.0**
GEYT	**Alibeck**	**27.25**	**77**	P	**P**	**03 50 42.4**	**+0.8**
	comp=Z,109nm,0.5s,baz=280,slow=8.9,SNR=153						
GEYT				ScP	**ScP**	**03 57 30.8**	**-0.6**
	comp=Z,17nm,0.7s,baz=270,slow=4.0,SNR=6.0						
GEYT				LR	LR	04 02 18.7	
	comp=Z,870nm,18.8s,baz=325,slow=38						
GEYT	**Alibeck**	**27.25**	**77**	P	**P**	**03 50 42.5**	**+0.9**
GYA0	**ALIBECK ARRAY**	**27.25**	**77**	P	**P**	**03 50 42.9**	**+1.3**
GYA0B	**ALIBECK ARRAY**	**27.25**	**77**	P	**P**	**03 50 42.8**	**+1.2**
CLGH	**Cloghs, Cushen**	**27.39**	**322**	*e*P	**P**	**03 50 43.2**	**+0.5**
ASHT	**Ashkhabad**	**27.46**	**77**	P	**P**	**03 50 44.1**	**+0.7**
ASHT				pmax	pmax		
	comp=Z,566nm,1.3s						
ASHT	**Ashkhabad**	**27.46**	**77**	P	**P**	**03 50 44.1**	**+0.7**
MCD	**Coleburn Disti**	**27.46**	**328**	*e*P	**P**	**03 50 42.7**	**-0.5**
FOO	**Floro**	**27.51**	**341**	*e*P	**P**	**03 50 42.1**	**-1.5**
AKN	**Aaknes**	**27.51**	**343**	*e*P	**P**	**03 50 43.5**	**-0.2**
KIRV	**Kirov**	**27.54**	**29**	P	**P**	**03 50 43.1**	**-0.7**
	comp=Z,115nm,0.6s,baz=219,slow=2.3,SNR=36						
KIRV				ScP	**ScP**	**03 57 29.9**	**-1.9**
	comp=Z,13nm,0.5s,baz=173,slow=2.0,SNR=3.9						
KIRV				ScS	**ScS**	**04 01 22.8**	**-0.5**
	comp=Z,11nm,0.5s,baz=145,slow=23,SNR=11						
KIRV				LR	LR	04 02 07.4	
	comp=Z,653nm,18.7s,baz=232,slow=37						
LAWE	**Loch Awe, Argy**	**27.66**	**324**	*e*P	**P**	**03 50 45.2**	**+0.2**
MOL	**Molde**	**27.73**	**344**	*e*P	**P**	**03 50 45.9**	**+0.4**
MDO	**Dochfour**	**27.85**	**327**	*e*P	**P**	**03 50 46.7**	**0.0**
AKTO	**Aktyubinsk**	**28.05**	**50**	P	**P**	**03 50 48.5**	**0.0**
	comp=Z,24nm,0.5s,baz=253,slow=9.8,SNR=40						
AKTO				ScP	**ScP**	**03 57 31.1**	**-2.4**
	comp=Z,18nm,0.9s,baz=141,slow=6.3,SNR=5.1						
AKTO				ScS	**ScS**	**04 01 24.3**	**-1.7**
	comp=Z,13nm,1.0s,baz=205,slow=3.0,SNR=29						
AKTO				LR	LR	04 04 04.6	
	comp=Z,886nm,18.4s,baz=243,slow=41						
BIGH	**Upper Bighouse**	**28.30**	**329**	*e*P	**P**	**03 50 50.3**	**-0.3**
KAC	**Achnashellach**	**28.30**	**326**	*e*P	**P**	**03 50 49.8**	**-0.9**
KPL	**Plockton**	**28.37**	**326**	*e*P	**P**	**03 50 50.6**	**-0.6**
KPL				IAmb	IAmb	03 50 53.2	
	comp=Z,80nm,0.6s						
PRGR	**Permogore**	**28.43**	**22**⇑	*i*P	**P**	**03 50 50.8**	**-1.0**
PRGR				*i* S	**S**	**03 55 27.9**	**-4.2**
PRGR				*i*		04 01 25.0	
PRGR				pmax	pmax		
	comp=Z,219nm,0.6s						
NSS	**Namsos**	**28.70**	**349**	*e*P	**P**	**03 50 54.1**	**-0.1**
TMCR	**Tamitsa**	**28.77**	**13**	*e*P	**P**	**03 50 54.0**	**-0.7**
ABKAR	**Akbulak array**	**28.97**	**53**	P	**P**	**03 50 56.5**	**-0.2**
TEND	**Ethiopian Broa**	**29.30**	**144**	*e*PG	**P**	**03 51 02.7**	**+2.8**
TEND				*e*S	**S**	**03 55 53.3**	**+6.6**
AJN	**Ajban**	**29.34**	**106**	*i* P	**P**	**03 51 01.0**	**+0.7**
	SNR=11						
LEWI	**Lewis, Hebride**	**29.36**	**327**	*e*P	**P**	**03 51 00.3**	**+0.2**
LEWI				IAmb	IAmb	03 51 02.6	
	comp=Z,78nm,0.7s						
UMQ	**Umm Al-Quwin**	**29.38**	**103**	*i* P	**P**	**03 51 02.2**	**+1.6**
	SNR=11						
SHME	**Shamm**	**29.49**	**102**	*i* P	**P**	**03 51 01.9**	**+0.3**
	SNR=19						
NAZ	**Nazwa, Dubai**	**29.65**	**104**	*i* P	**P**	**03 51 03.6**	**+0.7**
	SNR=64						
NAZ	**Nazwa, Dubai**	**29.65**	**104**	P	**P**	**03 51 04.3**	**+1.3**
	SNR=20						
NAZ				S	**S**	**03 55 52.7**	**+0.7**
BANOM	**Banah**	**29.68**	**102**	*i* P	**P**	**03 51 03.9**	**+0.6**
	SNR=30						
BANOM	**Banah**	**29.68**	**102**	P	**P**	**03 51 04.1**	**+0.8**
	SNR=6.9						
BANOM				S	**S**	**03 55 50.1**	**-2.5**
FAQ	**Al Faqa, Dubai**	**29.72**	**105**	*i* P	**P**	**03 51 05.0**	**+1.4**
	SNR=9.9						
FAQ				*i* P	**P**	**03 51 05.0**	**+1.4**
	SNR=6.9						
FAQ	**Al Faqa, Dubai**	**29.72**	**105**	P	**P**	**03 51 04.6**	**+1.0**
	SNR=7.9						
FAQ				S	**S**	**03 55 53.7**	**+0.6**
MSFE	**Esma-Masafi**	**29.85**	**103**	*i* P	**P**	**03 51 05.0**	**+0.2**
	SNR=11						
MDH	**Madha**	**29.99**	**103**	*i* P	**P**	**03 51 06.3**	**+0.3**
	SNR=8.9						
MDH	**Madha**	**29.99**	**103**	P	**P**	**03 51 06.7**	**+0.7**
	SNR=6.1						
MDH				S	**S**	**03 55 54.9**	**-2.4**
UOSS	**Minazif**	**30.09**	**104**	*i* P	**P**	**03 51 07.0**	**+0.1**
	SNR=26						
UOSS	**Minazif**	**30.09**	**104**	P	**P**	**03 51 07.6**	**+0.6**
UOSS	**Minazif**	**30.09**	**104**	P	**P**	**03 51 07.2**	**+0.2**
UOSS				IAmb	IAmb	03 51 08.6	
	comp=Z,107nm,0.8s						
HATD	**Hatta, Dubai**	**30.10**	**104**	*i* P	**P**	**03 51 07.3**	**+0.4**
	SNR=36						
HATD	**Hatta, Dubai**	**30.10**	**104**	P	**P**	**03 51 07.8**	**+0.9**
	SNR=15						
HATD				P	**P**	**03 51 07.8**	**+0.9**
	SNR=15						
HATD				S	**S**	**03 55 57.0**

N2RO R,st 31.52 351 *e* 03 57 43.1
N2IH Innhavet 31.58 354 *e*P P **03 51 19.4 0.0**
N2IH *e* 03 57 43.6
N2VA Vr,y 31.59 352 *e*P P **03 51 20.2 +0.6**
N2VA *e* 03 57 43.6
STEI Steigen 31.60 354 *e*P P **03 51 19.5 -0.1**
STEI *e* 03 57 43.5
HOQ Hoqain 31.66 105 P P **03 51 21.1 +0.3**
SNR=18
HOQ P P **03 51 21.1 +0.3**
SNR=18
HOQ S S **03 56 21.3 -2.2**
HOQ S S **03 56 21.3 -2.2**
SVE Sverdlovsk 31.69 39*c*eP P **03 51 21.0 +0.4**
SVE *e*S S **03 56 19.7 -3.7**
SVE pmax pmax
comp=Z,182nm,1.3s
SVE MLR MLR
comp=Z,1µm,14.0s
N2SV S,rvŸgen 31.78 352 *e*P P **03 51 20.7 -0.5**
N2SV *e* 03 57 44.2
LOF Lofoten 31.95 353 *e*P P **03 51 22.1 -0.7**
LOF *e* 03 57 44.5
BSY Bisya 32.03 106 P P **03 51 24.9 +0.9**
SNR=37
BSY S S **03 56 28.0 -1.3**
N2VI Vinje 32.07 353 *e*P P **03 51 24.5 +0.7**
KTK1 Kautokeino 32.32 360 *e*P P **03 51 25.7 -0.3**
BIDO Bidbid 32.33 104 P P **03 51 26.6 0.0**
SNR=7.7
BIDO P P **03 51 26.6 0.0**
SNR=7.7
BIDO S S **03 56 32.5 -1.5**
BIDO S S **03 56 32.5 -1.5**
KIF Kilpisjarvi 32.35 358 *e*P P **03 51 25.7 -0.5**
WHFO Wadi Hawf 32.39 117 P P **03 51 27.8 +0.6**
WHFO S S **03 56 34.0 -1.1**
ABTO Aybut 32.43 119 P P **03 51 28.9 +1.3**
SNR=7.0
ABTO S S **03 56 34.5 -1.2**
SMDO Samad 32.52 105 P P **03 51 28.9 +0.6**
SNR=36
SMDO S S **03 56 35.2 -1.8**
ARCES ARCESS Array B 32.86 1 P P **03 51 29.8 -0.9**
comp=Z,8.5nm,0.4s,baz=180,slow=9.1,SNR=75
ARCES ScP ScP **03 57 47.0 -2.1**
comp=Z,6.8nm,0.5s,baz=166,slow=3.3,SNR=9.8
ARCES LR LR 04 04 49.5
comp=Z,1µm,22.0s,baz=177,slow=36
ARCES P3KPbc 04 22 46.5
comp=Z,3.3nm,0.8s,baz=12,slow=4.6,SNR=15
ARE0 ARCESS Array S 32.86 1 *e*P P **03 51 32.2 +1.5**
WSAR Wadi Sarin 32.87 104 P P **03 51 31.5 +0.1**
comp=Z,22nm,0.5s,baz=309,slow=8.9,SNR=39
WSAR PcP PcP **03 54 14.5 +0.4**
comp=Z,34nm,0.6s,baz=305,slow=5.0,SNR=4.3
WSAR LR LR 04 10 41.0
comp=Z,516nm,18.3s,baz=340,slow=47
WSAR Wadi Sarin 32.87 104 P P **03 51 32.0 +0.6**
SNR=8.4
WSAR S S **03 56 42.6 +0.2**
PMPST Porto Santo, M 32.92 276 *e*P P **03 51 32.7 +1.0**
comp=Z,635nm,1.4s
PMPS Porto Santo 32.93 276 *e*P P **03 51 32.9 +1.2**
comp=Z,495nm,1.4s
JMDO Jabal Madar 32.93 106 P P **03 51 32.6 +0.7**
SNR=22
JMDO S S **03 56 42.3 -1.0**
RBK Rabkut 32.98 117 P P **03 51 33.5 +1.2**
SNR=9.8
RBK S S **03 56 44.1 0.0**
TRO Tromso 33.05 357 *e*P P **03 51 31.6 -0.7**
KEV Kevo 33.11 2 P P **03 51 32.7 -0.2**
KEV pmax pmax
comp=Z,48nm,1.0s
KEV Kevo 33.11 2 P P **03 51 32.7 -0.2**
DMTO DMTO 33.37 116 P P **03 51 36.5 +0.8**
SNR=5.4
DMTO S S **03 56 48.8 -1.3**
WBK Wadi Bani Khal 33.47 105 P P **03 51 37.9 +1.3**
SNR=21
WBK S S **03 56 52.1 +0.4**
PMAR Madeira 33.49 275⇑ *e*P P **03 51 38.1 +1.2**
comp=Z,709nm,1.4s
FUL Funchal 33.50 275 *e*P P **03 51 37.7 +1.0**
comp=Z,364nm,1.5s
MHTO MHTO 33.61 108 P P **03 51 39.1 +1.3**
SNR=41
MHTO S S **03 56 52.5 -1.2**
SHAO Shalim 33.66 115 *i*P P **03 51 38.4 +0.1**
SNR=31
SHAO Shalim 33.66 115 P P **03 51 39.7 +1.5**
SHAO S S **03 56 54.0 -0.7**
PMOZ Porto Moniz, M 33.69 276⇑ *e*P P **03 51 39.6 +1.1**
comp=Z,286nm,1.4s
PMOZ *i* LQ LQ 03 56 59.1
DQM DQM 33.90 110 P P **03 51 41.0 +0.7**
SNR=30
DQM P P **03 51 41.0 +0.7**
SNR=30
DQM S S **03 56 58.1 -0.3**
DQM S S **03 56 58.1 -0.3**
HAMF Hammerfest 33.96 360 *e*P P **03 51 39.1 -1.0**
JLN Jalan Bani Buh 34.06 105 P P **03 51 42.8 +1.1**
SNR=36
JLN S S **03 57 02.2 +1.4**
MACI Morro de la Ar 34.80 268 P P **03 51 48.6 +0.3**
LODK Lodwar 34.84 159 *i*P P **03 51 47.7 -0.8**
LODK *i*S P **03 51 53.2 +4.7**
TAS Tashkent 35.34 68 P P **03 51 53.4 +0.8**
TAS pmax pmax
comp=Z,150nm,0.9s
TAS Tashkent 35.34 68 P P **03 51 53.4 +0.8**
KK31 Karatay Array 36.03 65 *e*P P **03 51 59.3 +0.9**
KKAR Karatay Array 36.03 65 P P **03 51 58.1 -0.3**
KKAR Karatay Array 36.03 65 P P **03 51 58.1 -0.3**
BRVK Borovoye 36.04 48 *d*iP P **03 51 58.8 +0.4**
BRVK pmax pmax
comp=Z,196nm,1.7s
BRVK Borovoye 36.04 48 P P **03 51 58.6 +0.2**
BVA0 Borovoye Array 36.10 48 P P **03 51 59.1 +0.2**
BVAR Borovoye Array 36.10 48 P P **03 51 59.4 +0.5**
comp=Z,30nm,0.5s,baz=266,slow=6.5,SNR=121
SOCY Socotra 36.53 124 P P **03 52 01.2 -1.8**
KBL Kabul 36.60 80 P P **03 52 04.2 +0.6**
KBL pmax pmax
comp=Z,88nm,1.0s
KBL Kabul 36.60 80 P P **03 52 04.2 +0.6**
KBL IAmb IAmb 03 52 06.1
comp=Z,88nm,0.9s
MBAR Mbarara 37.72 169 P P **03 52 12.9 -0.2**
comp=Z,7.0nm,0.4s,baz=346,slow=17,SNR=13
MBAR Mbarara 37.72 169*c*eP P **03 52 14.5 +1.4**
MBAR pmax pmax
comp=Z,37nm,1.7s
MBAR Mbarara 37.72 169 P P **03 52 13.1 0.0**
MBAR IAmb IAmb 03 52 37.5
comp=Z,155nm,1.9s
JMIC Jan Mayen 38.24 344 P P **03 52 17.9 +1.2**
comp=Z,89nm,0.7s,baz=296,slow=1.6,SNR=11
JMIC ScP ScP **03 58 08.6 0.0**
comp=Z,65nm,0.9s,baz=5.0,slow=2.8,SNR=4.3
JMIC Jan Mayen 38.24 344 *e*P P **03 52 18.4 +1.7**
EKS2 Erkin-Say 38.47 65 P P **03 52 20.6 +1.4**
SNR=87
AML Almayashu 38.48 66 P ScP **03 58 11.1 +0.5**
SNR=5.6
AML Almayashu 38.48 66 P P **03 52 21.5 +1.9**
SNR=11
BORG Borgarnes 38.61 331 P P **03 52 21.4 +1.5**
comp=Z,36nm,0.5s,baz=110,slow=4.0,SNR=28
BORG Borgarnes 38.61 331 P P **03 52 20.6 +0.7**
BORG pmax pmax
comp=Z,296nm,1.7s
BORG Borgarnes 38.61 331 P P **03 52 20.6 +0.7**
PSMN Pico do Norte, 38.72 286 *e*P P 03 52 29.3 +8.2
comp=Z,224nm,1.5s
PSMA Santa Maria 38.77 286 *e*P P 03 52 30.0 +8.4
comp=Z,182nm,1.6s
CMLA Cha da Macela 38.88 287 *e*P P 03 52 29.8 +7.3
comp=Z,246nm,1.9s
CMLA Cha da Macela 38.88 287 P P **03 52 23.3 +0.8**
CMLA pmax pmax
comp=Z,247nm,1.2s
CMLA Cha da Macela 38.88 287 P P **03 52 23.3 +0.8**

USP Ospenovka 38.90 64 P ScP **03 58 12.0 +0.3**
SNR=10
USP Ospenovka 38.90 64 P P **03 52 23.0 +0.3**
SNR=38
PDA Ponta Delgada 38.99 287 *e*P P 03 52 31.0 +7.6
comp=Z,236nm,1.1s
AAK Ala-Archa 38.99 65 P P **03 52 25.1 +1.5**
comp=Z,68nm,0.9s,baz=243,slow=5.6,SNR=102
AAK ScS ScS 04 02 24.0 +0.2
comp=Z,6.0nm,1.0s,baz=129,slow=22,SNR=7.6
AAK LR LR 04 10 30.1
comp=Z,969nm,20.2s,baz=274,slow=39
AAK Ala-Archa 38.99 65 P ScP **03 58 12.2 0.0**
SNR=13
AAK Ala-Archa 38.99 65 P P **03 52 25.1 +1.5**
SNR=39
AAK Ala-Archa 38.99 65 *d*iP P **03 52 24.9 +1.3**
AAK pmax pmax
comp=Z,122nm,1.2s
AAK Ala-Archa 38.99 65 P P **03 52 24.4 +0.8**
PSET Sete Cidades 39.02 287 *e*P P 03 52 32.4 +8.7
comp=Z,507nm,1.6s
UCH Uchtor 39.07 66 P ScP **03 58 13.8 +0.9**
SNR=8.0
UCH Uchtor 39.07 66 P P **03 52 26.4 +1.7**
SNR=7.5
CHMS Chumysh 39.12 65 P ScP **03 58 13.2 +0.6**
SNR=9.2
CHMS Chumysh 39.12 65 P P **03 52 25.5 +1.0**
SNR=43
KBK Karagaybulak 39.32 65 P ScP **03 58 14.5 +1.0**
SNR=6.8
KBK Karagaybulak 39.32 65 P P **03 52 27.8 +1.5**
SNR=24
KZA Kyzart 39.64 66 P ScP **03 58 15.8 +0.8**
SNR=9.0
KZA Kyzart 39.64 66 P P **03 52 31.1 +1.9**
SNR=165
KMBO Kilima Mbogo 39.71 159 P P **03 52 33.2 +3.3**
comp=Z,42nm,1.0s,baz=348,slow=8.6,SNR=52
KMBO ScP ScP **03 58 17.4 +2.0**
comp=Z,4.5nm,0.9s,baz=347,slow=4.5,SNR=4.9
KMBO LR LR 04 10 16.8
comp=Z,849nm,18.1s,baz=331,slow=38
KMBO Kilima Mbogo 39.71 159 P P **03 52 31.1 +1.2**
KMBO pmax pmax
comp=Z,133nm,1.5s
KMBO Kilima Mbogo 39.71 159 P P **03 52 31.1 +1.2**
KMBO IAmb IAmb 03 52 33.4
comp=Z,133nm,1.5s
KMBO ScP **03 58 16.3 +0.9**
DBIC Dimbokro 39.73 228 P P **03 52 29.4 -0.4**
comp=Z,118nm,0.5s,baz=24,slow=9.1,SNR=306
DBIC ScP ScP **03 58 15.4 +0.2**
comp=Z,7.0nm,0.8s,baz=13,slow=8.1,SNR=5.3
DBIC LR LR 04 12 03.8
comp=Z,596nm,18.7s,baz=22,slow=41
DBIC Dimbokro 39.73 228 P P **03 52 29.4 -0.4**
DBIC ScP ScP **03 58 16.0 +0.8**
TKM2 Tokmak 2 39.75 65 P ScP **03 58 14.9 -0.3**
SNR=13
TKM2 Tokmak 2 39.75 65 P P **03 52 30.7 +0.8**
SNR=64
TKM2 Tokmak 2 39.75 65 P P **03 52 30.5 +0.5**
TIC Toumodi 39.85 228 *e*PKP2 ScP **03 58 15.7 0.0**
TIC Toumodi 39.85 228 *e*P P **03 52 28.9 -1.9**
KIC Kosan Boka 39.91 228 *e*PKP2 ScP **03 58 16.3 +0.4**
comp=Z,513nm,1.9s
KIC Kosan Boka 39.91 228 *e*P P **03 52 29.6 -1.7**
comp=Z,416nm,0.7s
LIC Lamto 40.19 228 *e*PKP2 ScP **03 58 17.2 +0.2**
comp=Z,354nm,1.5s
LIC Lamto 40.19 228 *e*P P **03 52 31.7 -1.9**
comp=Z,1µm,0.8s
NIL Nilore 40.20 79 P P **03 52 35.1 +1.6**
NIL Nilore 40.20 79 P P **03 52 34.9 +1.3**
NIL pmax pmax
comp=Z,566nm,1.1s
NIL Nilore 40.20 79 P P **03 52 34.9 +1.3**
ULHL Ulahol 40.33 65 P ScP **03 58 17.5 -0.1**
SNR=20
ULHL Ulahol 40.33 65 P P **03 52 36.4 +1.6**
SNR=90
AAA Alma-Ata 40.66 64 *e*P P **03 52 38.8 +1.5**
AAA *e*S S **03 58 43.1 +2.6**
AAA pmax pmax
comp=Z,200nm,1.5s
KSH Kashi 40.69 70 P P **03 52 37.5 -0.1**
KSH sP sP 03 53 09.3 +0.2
KSH S S **03 58 37.5 -3.6**
KSH pmax pmax
comp=Z,66nm,0.7s
KURBB Kurchatov Arra 41.02 52 P P **03 52 40.4 +0.3**
comp=Z,122nm,0.5s,baz=277,slow=8.8,SNR=761
KURK Kurchatov 41.08 52*c* *i*P P **03 52 40.6 0.0**
KURK pmax pmax
comp=Z,316nm,1.3s
KURK Kurchatov 41.08 52 P P **03 52 40.5 0.0**
KIBK Kibwezi 41.10 158 *i*P P **03 52 42.7 +1.5**
KIBK *i*S P 03 52 51.0 +10
SCO Scoresbysund 41.45 339⇓ *i*P P **03 52 45.3 +2.1**
comp=Z,76nm,0.6s
SCO Scoresbysund 41.45 339⇓ *i*P P **03 52 45.3 +2.1**
SCO pmax pmax
comp=Z,76nm,0.6s
SCO Scoresbysund 41.45 339 P P **03 52 44.6 +1.4**
SCO IAmb IAmb 03 52 46.3
comp=Z,78nm,0.7s
TARG Taragay, Kyrgy 41.58 66 P P **03 52 45.9 +0.7**
TARG IAmb IAmb 03 52 47.5
comp=Z,64nm,0.7s
BHUJ Bhuj 41.58 96 *e*P P **03 52 45.6 +0.7**
BHUJ IAmb IAmb 03 52 48.1
comp=Z,83nm,0.6s
SPA0 Spitsbergen Ar 41.65 358 P P **03 52 45.4 +0.5**
SPA0 IAmb IAmb 03 52 48.7
comp=Z,157nm,1.4s
SPA0 Spitsbergen Ar 41.65 358 *e*P P **03 52 45.8 +0.9**
SPITS Spitsbergen Ar 41.65 358 P P **03 52 45.0 +0.2**
comp=Z,3.7nm,0.3s,baz=160,slow=15,SNR=34
THN Thein Dam 42.56 80 *e*P P **03 52 56.0 +3.2**
THN *e*S S **03 59 11.0 +2.4**
DHRM DHARAMSHALA 43.08 80 *e*P P **03 52 58.0 +0.6**
DHRM IAmb IAmb 03 52 59.2
comp=Z,237nm,0.6s
MAKZ Makanchi 43.65 58 P P **03 53 02.1 +0.6**
MAKZ pmax pmax
comp=Z,79nm,0.6s
MAKZ Makanchi 43.65 58 P P **03 53 02.1 +0.6**
MAKZ IAmb IAmb 03 53 03.0
comp=Z,79nm,0.6s
MK31 Makanchi Array 43.86 58 *i*P P **03 53 03.7 +0.5**
MK31 Makanchi Array 43.86 58 P P **03 53 03.7 +0.5**
MKAR Makanchi Array 43.86 58 P P **03 53 03.6 +0.5**
comp=Z,199nm,0.4s,baz=271,slow=7.6,SNR=1764
MKAR ScP ScP **03 58 29.7 -1.7**
comp=Z,30nm,0.8s,baz=277,slow=4.2,SNR=13
MKAR LR LR 04 14 56.0
comp=Z,618nm,19.1s,baz=270,slow=41
MKAR Makanchi Array 43.86 58 P P **03 53 03.3 +0.1**
SMLA Simla 44.18 81 *e*P P **03 53 06.7 +0.8**
SMLA IAmb IAmb 03 53 09.1
comp=Z,330nm,1.0s
SMLA ⇑*e*S S **03 59 30.6 -1.7**
ZAA0 Zalesovo Array 44.74 47 P P **03 53 09.9 -0.1**
ZALV Zalesovo Beam 44.74 47 P P **03 53 09.9 -0.1**
comp=Z,134nm,0.5s,baz=265,slow=9.1,SNR=498
ZALV ScP ScP **03 58 33.3 -1.4**
comp=Z,14nm,0.6s,baz=261,slow=4.5,SNR=7.1
ZALV LR LR 04 14 10.0
comp=Z,457nm,19.6s,baz=258,slow=39
ZALV Zalesovo Beam 44.74 47 P P **03 53 09.7 -0.4**
NDI New Delhi 45.19 84 *e*P P **03 53 14.0 0.0**
NDI *e*S S **03 59 43.5 -3.6**
DDI Dehra Dun 45.20 82 *e*P P **03 53 14.9 +0.8**
DGZ Jazzator, Alta 46.81 53 *d*iP P **03 53 27.0 +0.4**
DGZ pmax pmax
comp=Z,109nm,0.9s
NRIK Noril'sk 46.93 26 P P **03 53 27.5 +0.5**
comp=Z,54nm,0.6s,baz=251,slow=6.2,SNR=71
NRIK ScP ScP **03 58 43.5 0.0**
comp=Z,21nm,1.0s,baz=202,slow=2.3,SNR=5.4
NRIK LR LR 04 15 41.4
comp=Z,618nm,19.1s,baz=262,slow=39
SUMG Summit 47.09 339 *i*P P **03 53 29.8 +1.1**
comp=Z,84nm,0.7s

SUMG Summit 47.09 339 *i*P P **03 53 29.8 +1.1**
SUMG pmax pmax
comp=Z,84nm,0.7s
SUMG Summit 47.09 339 P P **03 53 29.2 +0.5**
SUMG IAmb IAmb 03 53 31.0
comp=Z,87nm,1.2s
NOR Nord 47.22 353 *i*P P **03 53 27.5 -1.7**
NOR Nord 47.22 353 *i*P P **03 53 27.5 -1.7**
SACV Santiago Islan 47.27 256 P P **03 53 32.0 +1.7**
POO Poona 47.38 99⇓ *i*P P **03 53 32.0 +0.8**
comp=Z,270nm,1.0s
POO *e*P P **03 53 32.1 +0.8**
POO IAmb IAmb 03 53 34.3
comp=Z,81nm,0.6s
BHPL Bhopal 47.81 91 *e*P P **03 53 34.9 +0.3**
WMQ Urumqi 48.20 61 *e*P P **03 53 38.8 +1.5**
WMQ PP PP **03 55 32.8 +2.6**
WMQ ScP ScP **03 58 50.3 +0.8**
WMQ S S **04 00 28.8 -0.9**
WMQ sS sS 04 01 11.5 +4.5
WMQ ScS ScS **04 03 20.5 -0.8**
WMQ pmax pmax
comp=Z,84nm,1.5s
WMQ pmax pmax
comp=Z,270nm,3.7s
WMQ LR LR
comp=Z,600nm,12.3s
WMQ LR LR
comp=Z,750nm,14.1s
WMQ LR LR
comp=Z,850nm,27.9s
KAD Karad 48.31 100⇓ *i*P P **03 53 39.5 +1.0**
GOA Goa 49.06 102 *e*P P **03 53 44.5 +0.4**
GOA IAmb IAmb 03 53 47.0
comp=Z,86nm,0.5s
KLRI Killari 49.81 97 *e*P P **03 53 50.0 +0.1**
PYUN Piuthan 50.04 82 *e*P P **03 53 52.4 +0.6**
comp=Z,692nm,0.6s
NGP Nagpur 50.16 92 *e*P P **03 53 52.6 +0.1**
KOLN Koldanda 50.67 82 *e*P P **03 53 56.8 +0.3**
SFJD Kangerlussuaq 50.75 331 *i*P P **03 53 55.7 -0.5**
SFJD Kangerlussuaq 50.75 331 *i*P P **03 53 55.7 -0.5**
SRSP Sriramsagar 50.75 95 *e*P P **03 53 56.6 -0.3**
ILULI Ilulissat 50.85 334 IAmb IAmb 03 54 29.1
comp=Z,65nm,1.0s
GKN Gorkha 51.39 81 *e*P P **03 54 02.0 +0.1**
HYBB Hyderabad (bro 51.73 97 *e*P P **03 54 04.1 -0.2**
HYB Hyderabad 51.73 97 *i*P P **03 54 03.0 -1.3**
HYB *e*pP pP **03 54 26.5 +0.1**
HYB *e*PcP PcP **03 55 17.0 +0.5**
HYB *e*PP PP **03 56 08.0 +5.3**
HYB *e*S S **04 01 16.0 -3.3**
LSZ Lusaka 51.91 175 P P **03 54 05.5 -0.1**
comp=Z,9.6nm,0.6s,baz=357,slow=8.1,SNR=26
LSZ Lusaka 51.91 175 P P **03 54 06.3 +0.7**
LSZ pmax pmax
comp=Z,105nm,1.9s
LSZ Lusaka 51.91 175 P P **03 54 06.3 +0.7**
LSZ IAmb IAmb 03 54 43.3
comp=Z,105nm,1.9s
DMN Daman 51.94 81 *e*P P **03 54 06.4 +0.4**
comp=Z,648nm,0.7s
KKN Kakani 52.00 81 *e*P P **03 54 06.6 +0.2**
comp=Z,308nm,0.5s
URV Uravakonda 52.08 100 *e*P P **03 54 06.5 -0.4**
PKI Pulchoki 52.20 81 *e*P P **03 54 07.9 -0.1**
comp=Z,569nm,1.0s
GUN Gumba 52.42 81 *e*P P **03 54 09.7 0.0**
SRLM Srisailam 52.73 98 *e*P P **03 54 11.5 -0.2**
JIRN Jiri 52.78 81 *e*P P **03 54 12.6 +0.2**
comp=Z,396nm,0.6s
NJS Nagarjunasagar 52.80 97 *e*P P **03 54 11.6 -0.6**
RAMN Ramite 53.42 81 *e*P P **03 54 16.9 -0.1**
comp=Z,289nm,0.7s
ADKI Addanki 53.73 97 *e*P P **03 54 18.7 -0.3**
MYLAV Mylavaram 53.76 96 *e*P P **03 54 18.8 -0.4**
ODAN Odare 54.09 81 *e*P P **03 54 21.5 -0.3**
comp=Z,321nm,1.2s
TAPN Taplejung 54.12 80 *e*P P **03 54 22.1 0.0**
PVM Polavaram 54.27 95 *e*P P **03 54 21.9 -1.0**
BOK Bokaro 54.34 85 *e*P P **03 54 21.9 -1.5**
BOK IAmb IAmb 03 54 23.9
comp=Z,90nm,0.6s
SKHT Srikalahasti 54.71 99 *e*P P **03 54 26.1 0.0**
MOY Mondy 54.78 48 *e*P P **03 54 27.9 +1.6**
MOY pmax pmax
comp=Z,83nm,1.8s
GTK Tadong 54.84 80 *e*P P **03 54 27.5 +0.3**
GTK IAmb IAmb 03 54 32.4
comp=Z,120nm,0.4s
CHLP Challavanipeta 55.55 92 *e*P P **03 54 31.7 -0.4**
TSUM Tsumeb 55.95 187 P P **03 54 35.0 0.0**
TLY Talaya 56.35 47 *i*P P **03 54 38.7 +1.0**
TLY *e*S S **04 02 21.7 +0.9**
TLY *e* 04 04 19.2
TLY pmax pmax
comp=Z,206nm,1.5s
TLY MLR MLR
comp=Z,1µm,17.0s
TLY Talaya 56.35 47 P P **03 54 38.7 +1.2**
TLY IAmb IAmb 03 54 40.7
comp=Z,98nm,1.4s
IRK Irkutsk 56.55 47 *e*P P **03 54 37.9 -0.9**
IRK pmax pmax
comp=Z,104nm,1.6s
ZAK Zakamensk 56.55 49 *e*P P **03 54 39.4 +0.4**
ZAK pmax pmax
comp=Z,39nm,1.4s
H10N2 ASCENSION HYDR 57.02 227 P P **03 54 40.3 -1.9**
baz=46,slow=5.3,SNR=4.4
ASCN Ascension 57.03 227 P P **03 54 43.4 +0.8**
H10N1 ASCENSION HYDR 57.03 227 P P **03 54 42.0 -0.3**
baz=46,slow=5.3,SNR=4.9
H10N3 ASCENSION HYDR 57.04 227 P P **03 54 41.5 -0.9**
baz=46,slow=5.3,SNR=3.9
EUNU Eureka 57.42 349 IAmb IAmb 03 55 26.1
comp=Z,85nm,1.5s
GUWA GUWAHATI 57.81 80 *e*P P **03 54 47.2 -0.9**
GUWA IAmb IAmb 03 54 49.0
comp=Z,74nm,0.4s
DRLN Deer Lake 58.00 310 P P **03 54 49.8 +0.8**
GTA Gaotai 58.22 62 P P **03 54 51.0 +0.1**
GTA pP pP 03 55 14.5 +1.3
GTA sP sP 03 55 26.0 +2.8
GTA ScP ScP **03 59 34.0 +0.7**
GTA S S **04 02 41.5 -4.3**
GTA sS sS 04 03 21.5 -2.4
GTA SS SS **04 06 41.5 +3.1**
GTA pmax pmax
comp=Z,77nm,0.9s
GTA pmax pmax
comp=Z,230nm,10.3s
GTA LR LR
comp=Z,600nm,18.9s
GTA LR LR
comp=Z,590nm,19.6s
GTA LR LR
comp=Z,740nm,18.5s
SHL Shillong 58.26 80 *e*P P **03 54 50.4 -1.1**
SHL *i*PN P **03 54 51.0 -0.5**
SHL IAmb IAmb 03 54 52.2
comp=Z,44nm,0.5s
SHL *i*pP sP **03 55 26.5 +2.5**
SHL Shillong 58.26 80 P P **03 54 50.9 -0.5**
SNR=51
SHL Shillong 58.26 80 P P **03 54 50.8 -0.7**
SHL pmax pmax
comp=Z,847nm,1.9s
SHL Shillong 58.26 80 P P **03 54 50.8 -0.7**
ZIRO ZIRO 58.88 77 *e*P P **03 54 56.0 +0.3**
ITAN ITANAGAR 58.96 78 *e*P P **03 54 56.5 +0.4**
SONM Songino Array 59.36 51 P P **03 54 59.0 +0.3**
comp=Z,18nm,0.7s,baz=284,slow=7.2,SNR=80
SONM ScP ScP **03 59 37.9 -0.3**
comp=Z,28nm,0.9s,baz=275,slow=4.4,SNR=15
SONM LR LR 04 23 54.1
comp=Z,892nm,18.8s,baz=290,slow=39
SONM Songino Array 59.36 51 P P **03 54 58.7 0.0**
SONM pmax pmax
comp=Z,141nm,1.8s
SONM Songino Array 59.36 51 P P **03 54 58.7 0.0**
PALK Pallekele 59.36 105 P P **03 54 60.0 +1.0**
PALK Pallekele 59.36 105 P P **03 54 59.6 +0.6**
PALK pmax pmax

PALK Pallekele 59.36 105 P P 03 54 59.6 +0.6
SHEL Horse Pasture 59.36 213 P P 03 54 59.4 +0.6
SHEL pmax pmax
comp=Z,482nm,1.6s
SHEL Horse Pasture 59.36 213 P P 03 54 59.4 +0.6
SILR SILCHAR 59.37 81 eP P 03 54 59.4 +0.5
ABPO Ambohimpanom 59.73 154 P P 03 55 01.8 +0.3
ABPO pmax pmax
comp=Z,75nm,1.6s
ABPO Ambohimpanom 59.73 154 P P 03 55 01.8 +0.3
ABPO IAmb IAmb 03 55 03.8
comp=Z,75nm,1.6s
ULN Ulaanbaatar 59.76 51 diP P 03 55 01.3 -0.1
ULN pmax pmax
comp=Z,88nm,1.7s
ULN Ulaanbaatar 59.76 51 P P 03 55 01.8 +0.3
BOD Bodaibo 59.90 38 eP P 03 55 04.2 +2.2
BOD pmax pmax
comp=Z,59nm,1.2s
LKP Lekhapani 60.53 76 eP P 03 55 07.5 +0.6
SAIH SAIHA 60.65 83 eP P 03 55 09.0 +1.1
SCHQ Schefferville 61.25 319 P P 03 55 11.9 +0.7
comp=Z,58nm,0.3s,baz=68,slow=4.8,SNR=360
SCHQ Schefferville 61.25 319 P P 03 55 11.4 +0.1
LBTB Lobatse 61.46 178 P P 03 55 13.2 +0.2
LBTB Lobatse 61.46 178 P P 03 55 13.2 +0.2
RES Resolute Bay 61.84 345 P P 03 55 15.5 +0.6
RES pmax pmax
comp=Z,21nm,0.8s
RES Resolute Bay 61.84 345 P P 03 55 15.4 +0.6
LZH Lanzhou 62.52 64 ⇓P P 03 55 20.8 +0.5
LZH pP pP 03 55 42.5 -0.4
LZH sP sP 03 55 55.5 +2.7
LZH S S 04 03 34.5 -6.4
LZH sS sS 04 04 17.0 -2.8
LZH SS SS 04 07 51.8 +5.8
LZH pmax pmax
comp=Z,100nm,1.1s
LZH pmax pmax
comp=Z,280nm,5.0s
LZH LR LR
comp=Z,900nm,17.4s
LZH LR LR
comp=Z,750nm,17.5s
LZH LR LR
comp=Z,970nm,18.7s
BATG Bathurst New B 64.03 311 IAmb IAmb 03 55 32.0
comp=Z,138nm,1.2s
BTO Baotou 64.77 57 eP P 03 55 33.0 -2.0
CD2 Chengdu 64.88 69 ⇓iP P 03 55 36.3 +0.5
CD2 S S 04 04 07.5 -2.6
CD2 SS SS 04 08 27.0 +4.2
CD2 pmax pmax
comp=Z,290nm,1.0s
CD2 pmax pmax
comp=Z,450nm,7.1s
CD2 LR LR
comp=Z,1μm,19.9s
CD2 LR LR
comp=Z,1μm,23.3s
CD2 LR LR
comp=Z,1μm,25.9s
RER Riviere de l'E 65.03 147 P P 03 55 37.5 +0.8
BOSA Boshof 65.03 179 P P 03 55 36.7 +0.1
comp=Z,33nm,0.8s,baz=359,slow=7.5,SNR=50
BOSA ScP 04 00 02.4
comp=Z,12nm,1.2s,baz=356,slow=7.4,SNR=3.8
BOSA LR LR 04 27 14.1
comp=Z,999nm,18.1s,baz=3.0,slow=39
BOSA Boshof 65.03 179 P P 03 55 37.2 +0.6
BOSA pmax pmax
comp=Z,65nm,1.2s
BOSA Boshof 65.03 179 P P 03 55 37.2 +0.6
BOSA IAmb IAmb 03 55 38.4
comp=Z,65nm,1.1s
YAK Yakutsk 65.07 30 eP P 03 55 35.9 -0.4
YAK e*PP pP 03 56 01.2 +2.2
YAK eS S 04 04 07.4 -3.9
YAK e*SS pS 04 04 35.9 -2.1
YAK pmax pmax
comp=Z,58nm,0.9s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,27nm,1.2s
YAK smax smax
comp=N,79nm,2.0s
YAK smax smax
comp=E,90nm,2.5s
YAK Yakutsk 65.07 30 P P 03 55 36.7 +0.4
YAK IAmb IAmb 03 55 37.9
comp=Z,57nm,0.8s
FOMA Nahampoana Res 65.18 157 P P 03 55 38.3 +0.9
FOMA IAmb IAmb 03 56 03.7
comp=Z,177nm,1.5s
D63A Stockholm 65.38 311 P P 03 55 39.5 +0.9
baz=62,SNR=9.1
PQI Presque Isle 65.50 311 P P 03 55 39.9 +0.6
PQI IAmb IAmb 03 55 41.4
comp=Z,121nm,1.2s
E64A Bridgewater 65.50 311 P P 03 55 40.3 +0.9
baz=62,SNR=16
GGN Saint George 65.50 309 IAmb IAmb 03 55 41.3
comp=Z,82nm,1.1s
HHC Hu-ho-hao-te 65.70 56 eP P 03 55 41.5 +0.5
HHC sP sP 03 56 16.8 +3.2
HHC PcS 04 00 17.0
HHC S S 04 04 19.3 -0.6
HHC pmax pmax
comp=Z,98nm,1.1s
HHC pmax pmax
comp=Z,300nm,6.7s
HHC LR LR
comp=Z,810nm,18.3s
HHC LR LR
comp=Z,760nm,17.3s
HHC LR LR
comp=Z,960nm,18.6s
E63A Oxbow 65.86 311 P P 03 55 42.8 +1.0
baz=62,SNR=11
E63A Oxbow 65.86 311 IAmb IAmb 03 55 44.0
comp=Z,66nm,1.1s
G65A Princeton 65.91 309 P P 03 55 42.8 +0.7
baz=62,SNR=8.3
G65A S S 04 04 21.6 -0.5
baz=62
G65A Princeton 65.91 309 IAmb IAmb 03 55 44.3
comp=Z,67nm,1.1s
D62A Allapoint, All 65.92 312 P P 03 55 43.4 +1.3
baz=61,SNR=26
H66A Whiting 65.95 309 P P 03 55 43.1 +0.8
baz=62,SNR=6.3
H66A S S 04 04 20.8 -1.8
baz=62
EMMW East Machias 66.08 309 IAmb IAmb 03 55 45.3
comp=Z,112nm,1.1s
F64A Sherman 66.08 310 P P 03 55 44.3 +1.1
baz=61,SNR=9.0
F64A Sherman 66.08 310 IAmb IAmb 03 55 45.4
comp=Z,62nm,1.1s
E62A Clayton Lake 66.43 311 P P 03 55 46.5 +1.0
baz=61,SNR=21
E62A Clayton Lake 66.43 311 IAmb IAmb 03 55 47.8
comp=Z,124nm,1.1s
D61A St Aubert, Com 66.55 312 P P 03 55 47.6 +1.5
baz=61,SNR=6.7
H65A Eastbrook 66.58 309 P P 03 55 47.3 +0.9
baz=61,SNR=6.4
F63A Nahmakanta, Br 66.62 310 P P 03 55 48.0 +1.4
baz=61
G64A Maxfield 66.63 310 P P 03 55 48.0 +1.3
baz=61,SNR=14
G64A S S 04 04 31.7 +0.9
baz=61
HIA Hailar 66.71 45 diP P 03 55 47.6 +0.4
HIA pmax pmax
comp=Z,83nm,1.5s
HIA Hailar 66.71 45 P P 03 55 47.2 0.0
PKME Peaks-Kenny Pk 66.95 310 P P 03 55 50.2 +1.4
baz=61,SNR=6.8
PKME Peaks-Kenny Pk 66.95 310 IAmb IAmb 03 55 51.3
comp=Z,61nm,1.1s
KMI Kunming 67.00 75 ⇓iP P 03 55 49.5 -0.1
KMI sP sP 03 56 22.0 -0.3
KMI S S 04 04 32.0 -4.3
KMI pmax pmax
comp=Z,89nm,0.8s
KMI pmax pmax
comp=Z,320nm,3.5s
KMI LR LR
comp=Z,500nm,25.8s
KMI LR LR
comp=Z,540nm,27.2s
KMI LR LR
comp=Z,790nm,33.9s
F62A Pittston Farm, 67.05 311 P P 03 55 51.0 +1.7
baz=60,SNR=10
E61A Lac Etchemin 67.11 312 P P 03 55 50.8 +1.1
baz=60,SNR=7.9
D60A Saint Jean D'O 67.13 312 P P 03 55 50.6 +0.8
baz=60
XAN Xi'an 67.15 64 P P 03 55 50.5 +0.2
XAN PcP pP 03 56 11.8 -1.3
XAN S S 04 04 34.3 -3.3
XAN ScS SKSac 04 05 37.0 -2.4
XAN pmax pmax
comp=Z,310nm,1.5s
XAN LR LR
comp=Z,570nm,23.5s
XAN LR LR
comp=Z,720nm,23.5s
XAN LR LR
comp=Z,1μm,29.4s
XAN Xi'an 67.15 64 P P 03 55 50.7 +0.4
XAN pmax pmax
comp=Z,384nm,2.0s
XAN Xi'an 67.15 64 P P 03 55 50.7 +0.4
H64A Troy 67.21 309 P P 03 55 51.7 +1.3
baz=60,SNR=5.3
H64A S S 04 04 39.3 +1.4
baz=60
G63A Kingsbury 67.22 310 P P 03 55 51.8 +1.4
baz=60
G63A S S 04 04 39.3 +1.3
baz=60
CHTO Chiang Mai 67.32 83 P P 03 55 51.3 -0.2
CHTO pmax pmax
comp=Z,68nm,1.0s
CHTO Chiang Mai 67.32 83 P P 03 55 51.3 -0.2
CHTO IAmb IAmb 03 55 52.6
comp=Z,68nm,1.0s
CM31 Chiang Mai Arr 67.51 83 P P 03 55 53.1 +0.4
SNR=18
CM31 Chiang Mai Arr 67.51 83 IAmb IAmb 03 55 53.8
comp=Z,81nm,0.9s
CMAR Chiang Mai Arr 67.51 83 P P 03 55 52.7 0.0
comp=Z,47nm,0.7s,baz=302,slow=7.8,SNR=123
CMAR LR LR 04 30 14.4
comp=Z,249nm,19.7s,baz=336,slow=40
CMAR Chiang Mai Arr 67.51 83 ceP P 03 55 52.7 0.0
CMAR pmax pmax
comp=Z,49nm,0.8s
CMAR Chiang Mai Arr 67.51 83 P P 03 55 52.2 -0.5
CHGQ Chibougamau 67.61 316 P P 03 55 54.2 +1.4
baz=59,SNR=42
D59A Saint-Raymond 67.62 313 P P 03 55 54.0 +1.1
baz=60
F61A St Evariste 67.64 311 P P 03 55 54.6 +1.6
baz=60,SNR=8.1
H63A New Sharon 67.71 310 S S 04 04 45.7 +1.9
baz=60
E60A Ste Agathe de 67.71 312 P P 03 55 54.6 +1.1
baz=60,SNR=8.4
G62A West of Eustis 67.73 310 P P 03 55 55.4 +1.7
baz=60,SNR=9.6
G62A West of Eustis 67.73 310 IAmb IAmb 03 55 57.4
comp=Z,167nm,1.8s
TIY Taiyuan 67.81 59 eP P 03 55 54.5 +0.1
TIY S S 04 04 42.5 -2.9
TIY pmax pmax
comp=Z,37nm,0.5s
TIY pmax pmax
comp=Z,170nm,4.3s
TIY LR LR
comp=Z,660nm,16.8s
TIY LR LR
comp=Z,510nm,20.9s
TIY LR LR
comp=Z,780nm,24.2s
I64A Boothbay 67.83 309 P P 03 55 55.6 +1.3
baz=60
LATQ La Tuque 67.99 313 P P 03 55 56.3 +1.1
baz=59,SNR=16
D58A Chemin du LacG 68.19 313 P P 03 55 57.5 +1.0
baz=59,SNR=15
D58A S S 04 04 49.8 +0.2
baz=59
F60A Warwick 68.22 312 P P 03 55 57.9 +1.2
baz=59,SNR=26
F60A S S 04 04 50.5 +0.7
baz=59
E59A St. Maurice 68.29 312 P P 03 55 58.3 +1.2
baz=59
G61A St-Isidore-de- 68.31 311 P P 03 55 58.9 +1.6
baz=59,SNR=18
G61A S S 04 04 52.8 +1.8
baz=59
I63A Otisfield 68.35 309 P P 03 55 59.0 +1.4
baz=59,SNR=6.1
I63A Otisfield 68.35 309 IAmb IAmb 03 56 00.1
comp=Z,81nm,1.4s
ZEA Zeya 68.41 38 eP P 03 55 59.0 +1.3
ZEA e 03 56 31.0
ZEA e 03 58 32.0
ZEA eS SKiKP 04 05 24.0 -18
ZEA pmax pmax
comp=Z,37nm,1.4s
ZEA MLR MLR
comp=Z,700nm,16.0s
ZEA MLR MLR
comp=N,300nm,17.0s
H62A Milan 68.44 310 P P 03 55 59.5 +1.4
baz=59,SNR=12
H62A S S 04 04 54.7 +2.1
baz=59
H62A Milan 68.44 310 IAmb IAmb 03 56 00.7
comp=Z,91nm,1.2s
F59A Saint Guilaume 68.77 312 P P 03 56 01.5 +1.4
baz=59,SNR=9.6
E58A La Victoria 68.80 313 P P 03 56 01.5 +1.2
baz=59,SNR=28
E58A S S 04 04 58.0 +1.3
baz=59
D57A Chemin Vers le 68.82 313 P P 03 56 01.5 +1.0
baz=58,SNR=12
G60A Masonville 68.89 311 P P 03 56 02.4 +1.5
baz=59,SNR=7.4
I62A Tamworth 68.91 309 P P 03 56 03.0 +2.0
baz=59,SNR=7.9
H61A Lyndonville 68.94 310 P P 03 56 03.1 +1.9
baz=59,SNR=13
H61A S S 04 05 00.5 +2.1
baz=59
J63A Strafford 69.06 309 P P 03 56 03.7 +1.8
baz=59
LBNH Lisbon 69.09 310 P P 03 56 04.0 +1.9
baz=59,SNR=8.0
LBNH Lisbon 69.09 310 IAmb IAmb 03 56 05.3
comp=Z,91nm,1.1s
BJI Beijing 69.16 55 P P 03 56 02.8 +0.2
BJI pP PcP 03 56 25.8 -0.1
BJI sP sP 03 56 34.8 -0.5
BJI S S 04 04 58.8 -2.3
BJI SS SS 04 09 28.8 +0.5
BJI pmax pmax
comp=Z,23nm,1.4s
BJI pmax pmax
comp=Z,130nm,3.5s
BJI LR LR
comp=Z,670nm,17.3s
BJI LR LR
comp=Z,610nm,26.8s
BJI LR LR
comp=Z,850nm,38.7s
BJT Baijiatuan 69.16 55 P P 03 56 02.8 +0.1
BJT pmax pmax
comp=Z,89nm,1.6s
BJT Baijiatuan 69.16 55 P P 03 56 02.8 +0.1
BJT IAmb IAmb 03 56 05.0
comp=Z,89nm,1.6s
E57A Chemin Saint G 69.29 313 P P 03 56 04.8 +1.4
baz=58,SNR=34
E57A S S 04 05 03.8 +1.2
baz=58
D56A ZEC Mazanza, M 69.31 314 P P 03 56 04.9 +1.4
baz=58,SNR=43
GYA Guiyang 69.33 72 ⇓P P 03 56 04.0 -0.1
GYA S S 04 04 58.3 -5.5
GYA sS sS 04 05 40.0 -3.4
GYA SKS SKiKP 04 05 49.5 +4.8
GYA SS SS 04 09 31.5 -0.4
GYA pmax pmax
comp=Z,55nm,1.0s
GYA pmax pmax
comp=Z,220nm,3.5s
GYA LR LR
comp=Z,400nm,29.3s
GYA LR LR
comp=Z,300nm,32.0s
GYA LR LR
comp=Z,700nm,36.1s
F58A St-Lin Laurent 69.38 312 P P 03 56 05.3 +1.4
baz=58
A36M Sachs Harbour 69.39 350 P P 03 56 04.6 +1.1
baz=26
H60A Morristown 69.39 311 P P 03 56 05.8 +1.8
baz=58,SNR=9.7
G59A Clarenceville 69.41 311 P P 03 56 05.0 +0.9
baz=58,SNR=7.7
I61A Oroboro, Fairl 69.42 310 P P 03 56 06.0 +1.8
baz=58,SNR=6.5
ENH Enshi 69.47 67 P P 03 56 04.7 -0.1
ENH IAmb IAmb 03 56 05.8
comp=Z,75nm,1.1s
MATQ Matagami 69.48 317 P P 03 56 05.6 +1.2
baz=57,SNR=23
LSQQ Lebel-sur-Quev 69.50 316 P P 03 56 05.9 +1.3
baz=57
M66A Nantucket 69.50 307 P P 03 56 06.3 +1.6
baz=59
J62A Henniker 69.54 309 P P 03 56 06.9 +2.0
baz=58,SNR=7.2
HNH Hanover 69.59 310 IAmb IAmb 03 56 08.4
comp=Z,100nm,1.1s
L64A Middleborough 69.60 307 P P 03 56 07.0 +1.7
baz=59,SNR=7.9
K63A Dunstable 69.65 308 P P 03 56 07.3 +1.8
baz=58,SNR=6.3
K63A S S 04 05 09.3 +2.6
baz=58
WES Weston 69.67 308 IAmb IAmb 03 56 08.4
comp=Z,97nm,1.0s
E56A St. Veronique 69.74 313 P P 03 56 07.5 +1.3
baz=58,SNR=21
D55A Sainte-Anne-du 69.74 314 P P 03 56 07.8 +1.6
baz=58,SNR=46
D55A S S 04 05 08.7 +0.9
baz=58
HRV Adam Dziewonsk 69.76 308 P P 03 56 07.8 +1.5
baz=58
HRV Adam Dziewonsk 69.76 308 P P 03 56 06.8 +0.5
HRV pmax pmax
comp=Z,58nm,1.1s
HRV Adam Dziewonsk 69.76 308 P P 03 56 06.8 +0.5
HRV IAmb IAmb 03 56 08.9
comp=Z,58nm,1.1s
FRNY Flat Rock 69.79 311 IAmb IAmb 03 56 08.8
comp=Z,108nm,1.3s
SLVN Son La 69.90 78 P P 03 56 07.5 -0.1
SLVN IAmb IAmb 03 56 09.0
comp=Z,71nm,0.6s
G58A Ormstown 69.90 312 P P 03 56 08.4 +1.3
baz=58,SNR=14
G58A S S 04 05 12.0 +2.3
baz=58
RCBR Riachuelo 69.91 246 P P 03 56 08.6 +1.0
comp=Z,78nm,0.9s,baz=21,slow=7.6,SNR=25
RCBR Riachuelo 69.91 246 P P 03 56 08.1 +0.5
RCBR pmax pmax
comp=Z,148nm,1.2s
RCBR Riachuelo 69.91 246 P P 03 56 08.1 +0.5
F57A Harrington 69.93 313 P P 03 56 08.9 +1.6
baz=58,SNR=5.5
J61A Chester 69.94 309 P P 03 56 09.4 +2.0
baz=58,SNR=12
H59A Cadyville 69.95 311 P P 03 56 08.9 +1.4
baz=58,SNR=23
M64A Tiverton 70.04 307 P P 03 56 09.7 +1.7
baz=58
K62A Royalston 70.10 309 P P 03 56 10.1 +1.7
baz=58,SNR=9.8
K62A Royalston 70.10 309 IAmb IAmb 03 56 11.7
comp=Z,90nm,1.1s
L63A North Scituate 70.13 308 P P 03 56 10.1 +1.5
baz=58,SNR=6.4
L63A S S 04 05 15.1 +2.6
baz=58
I60A Shoreham 70.13 310 P P 03 56 10.4 +1.9
baz=58,SNR=11
PBKT Sadao Pong 70.16 84 P P 03 56 09.1 0.0
PBKT IAmb IAmb 03 56 10.2
comp=Z,81nm,1.3s
VLDQ Val d'Or 70.28 316 IAmb IAmb 03 56 12.5
comp=Z,106nm,1.1s
D54A Lac Fusel, La 70.35 315 P P 03 56 11.2 +1.3
baz=57,SNR=22
D54A S S 04 05 16.9 +1.9
baz=57
H58A Gabriels 70.37 311 P P 03 56 11.5 +1.5
baz=58,SNR=17
E55A Montcerf-Lytto 70.39 314 P P 03 56 11.8 +1.7
baz=57,SNR=14
E55A S S 04 05 15.4 +0.1
baz=57
G57A Newington 70.48 312 P P 03 56 12.2 +1.6
baz=57,SNR=8.5
G57A S S 04 05 19.4 +2.9
baz=57
L61B Northampton 70.50 309 P P 03 56 12.4 +1.6
baz=58,SNR=7.5
L61B S S 04 05 17.8 +1.1
baz=58
LONY Lake Ozonia 70.50 311 P P 03 56 12.3 +1.5
baz=57,SNR=13
LONY Lake Ozonia 70.50 311 IAmb IAmb 03 56 13.5
comp=Z,76nm,1.0s
I59A Olmsteadville 70.52 310 P P 03 56 12.7 +1.8
baz=58,SNR=16
I59A S S 04 05 20.7 +3.7
baz=58
J60A Lant Hill Farm 70.53 310 P P 03 56 13.0 +2.0
baz=58,SNR=9.1
ORIO Orleans, Innes 70.61 313 P P 03 56 13.0 +1.6
baz=57,SNR=21
ACCN Adirondack Com 70.61 310 IAmb IAmb 03 56 14.6
comp=Z,130nm,1.1s
M63A Gales Ferry 70.65 308 P P 03 56 13.4 +1.7
baz=58,SNR=6.3
M63A S S 04 05 22.1 +3.6
baz=58
L62A Suffield 70.71 308 P P 03 56 13.8 +1.7
baz=58
K61A Williamstown 70.75 309 P P 03 56 14.6 +2.2
baz=58,SNR=14
F55A Otter Lake 70.89 313 P P 03 56 14.6 +1.5
baz=57,SNR=12
F55A S S 04 05 23.0 +1.7
baz=57
D53A Lac Vacive, Po 70.99 315 P P 03 56 15.1 +1.4
baz=56,SNR=31
D53A S S 04 05 23.5 +1.2
baz=56
D53A Lac Vacive, Po 70.99 315 IAmb IAmb 03 56 16.5
comp=Z,131nm,1.1s
E54A Lac Daplat, Po 71.05 314 P P 03 56 15.2 +1.1
baz=56,SNR=15
E54A S S 04 05 25.5 +2.5
baz=56
H57A Richville 71.08 312 P P 03 56 15.8 +1.5
baz=57,SNR=12
J59A Piesco 71.08 310 P P 03 56 16.2 +1.8
baz=57,SNR=15
J59A Piesco 71.08 310 IAmb IAmb 03 56 17.4
comp=Z,81nm,1.1s
K60A Five Rivers En 71.16 309 P P 03 56 16.7 +1.9
baz=57,SNR=8.3
M62A Hamden 71.17 308 P P 03 56 16.3 +1.4
baz=57,SNR=10
N63A Mattituck 71.17 307 P P 03 56 16.3 +1.4
baz=57

L61A	**Hillsdale 1, H**	**71.18**	**309**	P	**P**	**03 56 16.8 +1.9**
	baz=57					
L61A				S	**S**	**04 05 28.1 +3.4**
	baz=57					
I58A	**Old Forge**	**71.24**	**311**	P	**P**	**03 56 17.1 +1.8**
	baz=57,SNR=10					
YLE	**Yale**	**71.26**	**308**	IAmb	IAmb	03 56 17.8
	comp=Z,83nm,1.0s					
E53A	**Dumoine, Ponti**	**71.36**	**314**	P	**P**	**03 56 17.3 +1.4**
	baz=56,SNR=35					
E53A				S	**S**	**04 05 28.5 +1.9**
	baz=56					
KSCT	**Kent School, K**	**71.39**	**308**	IAmb	IAmb	03 56 19.1
	comp=Z,122nm,1.1s					
G55A	**Calabogie**	**71.43**	**313**	P	**P**	**03 56 18.0 +1.6**
	baz=56,SNR=5.7					
G55A				S	**S**	**04 05 30.0 +2.6**
	baz=56					
H56A	**Elgin**	**71.52**	**312**	P	**P**	**03 56 18.6 +1.6**
	baz=56					
I57A	**Carthage**	**71.52**	**311**	P	**P**	**03 56 18.9 +1.9**
	baz=57,SNR=9.6					
I57A				S	**S**	**04 05 30.1 +1.5**
	baz=57					
C36M	**Paulatuk**	**71.59**	**349**	P	**P**	**03 56 19.0 +2.1**
	baz=27					
C36M				S	**S**	**04 05 28.5 0.0**
	baz=27					
C36M	**Paulatuk**	**71.59**	**349**	P	**P**	**03 56 17.8 +0.9**
C36M				IAmb	IAmb	03 56 23.4
	comp=Z,167nm,1.9s					
J58A	**Remsen**	**71.61**	**311**	P	**P**	**03 56 19.2 +1.6**
	baz=57,SNR=11					
J58A				S	**S**	**04 05 32.8 +3.1**
	baz=57					
J58A	**Remsen**	**71.61**	**311**	IAmb	IAmb	03 56 20.6
	comp=Z,101nm,1.1s					
K59A	**Cooperstown**	**71.67**	**310**	P	**P**	**03 56 19.5 +1.6**
	baz=57,SNR=14					
K59A				S	**S**	**04 05 33.2 +2.8**
	baz=57					
L60A	**Shokan**	**71.71**	**309**	P	**P**	**03 56 19.8 +1.6**
	baz=57,SNR=7.0					
L60A				S	**S**	**04 05 34.5 +3.7**
	baz=57					
M61A	**Granite Spring**	**71.79**	**308**	P	**P**	**03 56 19.8 +1.1**
	baz=57					
M61A				S	**S**	**04 05 34.0 +2.2**
	baz=57					
TIA	**Tai'an**	**71.80**	**58**	P	**P**	**03 56 18.5 -0.3**
TIA				S	**S**	**04 05 28.5 -3.5**
TIA				SS	**SS**	**04 10 14.5 +5.4**
TIA				pmax	pmax	
	comp=Z,31nm,1.4s					
TIA				LR	LR	
	comp=Z,540nm,22.1s					
TIA				LR	LR	
	comp=Z,400nm,28.9s					
TIA				LR	LR	
	comp=Z,720nm,28.0s					
ALGO	**Algonquin Park**	**71.82**	**314**	P	**P**	**03 56 20.0 +1.3**
	baz=56,SNR=22					
J57A	**Williamstown**	**72.02**	**311**	P	**P**	**03 56 21.8 +1.8**
	baz=56,SNR=5.9					
J57A	**Williamstown**	**72.02**	**311**	IAmb	IAmb	03 56 22.8
	comp=Z,78nm,1.0s					
PAL	**Palisades**	**72.05**	**308**	P	**P**	**03 56 21.4 +1.2**
	baz=57,SNR=7.1					
PAL				S	**S**	**04 05 36.6 +1.9**
	baz=57					
PAL	**Palisades**	**72.05**	**308**	IAmb	IAmb	03 56 22.6
	comp=Z,82nm,1.2s					
H55A	**Tweed**	**72.09**	**312**	P	**P**	**03 56 22.0 +1.7**
	baz=56,SNR=6.9					
H55A				S	**S**	**04 05 37.3 +2.2**
	baz=56					
L59A	**Walton**	**72.11**	**309**	P	**P**	**03 56 22.4 +1.8**
	baz=56,SNR=18					
L59A				S	**S**	**04 05 38.6 +3.1**
	baz=56					
L59A	**Walton**	**72.11**	**309**	IAmb	IAmb	03 56 23.6
	comp=Z,122nm,1.1s					
G54A	**Lake Saint Pet**	**72.15**	**314**	P	**P**	**03 56 22.4 +1.6**
	baz=56,SNR=23					
G54A				S	**S**	**04 05 38.2 +2.4**
	baz=56					
K58A	**Earlville**	**72.16**	**310**	P	**P**	**03 56 22.4 +1.5**
	baz=56,SNR=10.0					
K58A				S	**S**	**04 05 38.9 +2.8**
	baz=56					
K58A	**Earlville**	**72.16**	**310**	IAmb	IAmb	03 56 23.8
	comp=Z,117nm,1.2s					
CPNY	**Central Park**	**72.20**	**308**	IAmb	IAmb	03 56 24.5
	comp=Z,92nm,1.1s					
M60A	**Port Jervis**	**72.32**	**309**	P	**P**	**03 56 23.1 +1.2**
	baz=56,SNR=6.5					
M60A				S	**S**	**04 05 40.9 +3.0**
	baz=56					
DELO	**Deloro Mine**	**72.37**	**313**	IAmb	IAmb	03 56 24.9
	comp=Z,92nm,1.4s					
N61A	**South Mountain**	**72.43**	**308**	P	**P**	**03 56 24.1 +1.6**
	baz=56					
N61A				S	**S**	**04 05 42.3 +3.2**
	baz=56					
SEY	**Seymchan**	**72.52**	**22***c*	*i*P	**P**	**03 56 23.7 +1.2**
I55A	**Frankford**	**72.58**	**312**	P	**P**	**03 56 24.7 +1.5**
	baz=56					
I55A				S	**S**	**04 05 43.5 +2.9**
	baz=56					
J56A	**Wolcott**	**72.61**	**311**	P	**P**	**03 56 25.1 +1.6**
	baz=56					
J56A				S	**S**	**04 05 43.4 +2.3**
	baz=56					
BRNJ	**Basking Ridge**	**72.64**	**308**	IAmb	IAmb	03 56 26.6
	comp=Z,69nm,1.1s					
BINY	**Binghamton**	**72.69**	**310**	P	**P**	**03 56 25.5 +1.5**
	baz=56,SNR=13					
BINY	**Binghamton**	**72.69**	**310**	IAmb	IAmb	03 56 26.9
	comp=Z,125nm,1.2s					
L58A	**Harry Jones Me**	**72.69**	**310**	P	**P**	**03 56 25.6 +1.6**
	baz=56,SNR=18					
L58A				S	**S**	**04 05 45.4 +3.3**
	baz=56					
M59A	**Waymart**	**72.71**	**309**	P	**P**	**03 56 25.6 +1.4**
	baz=56,SNR=11					
M59A				S	**S**	**04 05 44.7 +2.4**
	baz=56					
K57A	**Scipio Center**	**72.71**	**311**	P	**P**	**03 56 25.8 +1.7**
	baz=56,SNR=7.3					
K57A				S	**S**	**04 05 44.0 +1.7**
	baz=56					
N60A	**Cedar Hill Far**	**72.88**	**308**	P	**P**	**03 56 26.7 +1.6**
	baz=56,SNR=16					
N60A				S	**SKiKP**	**04 05 47.3 -2.1**
	baz=56					
WHN	**Wuhan**	**72.89**	**65**	⇓P	**P**	**03 56 25.8 +0.5**
WHN				sP	**sP**	**03 56 55.5 -2.7**
WHN				S	**S**	**04 05 42.0 -2.6**
WHN				LR	LR	
	comp=Z,960nm,12.9s					
WHN				LR	LR	
	comp=Z,490nm,9.3s					
WHN				LR	LR	
	comp=Z,1μm,20.3s					
H53A	**Bobcaygeon**	**72.91**	**313**	P	**P**	**03 56 26.7 +1.4**
	baz=55,SNR=11					
H53A				S	**S**	**04 05 45.1 +0.7**
	baz=55					
KSPA	**Keystone Colle**	**72.91**	**309**	P	**P**	**03 56 26.8 +1.5**
KSPA				IAmb	IAmb	03 56 28.1
	comp=Z,106nm,1.2s					
D49A	**Beulah Townshi**	**72.93**	**317**	P	**P**	**03 56 26.6 +1.2**
	baz=54,SNR=14					
D49A				S	**S**	**04 05 46.3 +1.7**
	baz=54					
SNY	**Shenyang**	**72.93**	**50**	⇑P	**P**	**03 56 25.3 -0.1**
SNY				pmax	pmax	
	comp=Z,22nm,1.0s					
SNY				pmax	pmax	
	comp=Z,110nm,3.1s					
SNY				LR	LR	
	comp=Z,880nm,17.9s					
SNY				LR	LR	
	comp=Z,450nm,14.7s					
SNY				LR	LR	
	comp=Z,850nm,26.1s					
CN2	**Changchun**	**72.95**	**48**	*e*P	**P**	**03 56 25.0 -0.5**
CN2				*e*S	**S**	**04 05 40.0 -4.9**
CN2				SS	**SS**	**04 10 31.5 +5.2**
CN2				pmax	pmax	
	comp=Z,20nm,1.0s					
CN2				pmax	pmax	
	comp=Z,80nm,4.0s					
CN2				LR	LR	
	comp=Z,620nm,17.0s					
CN2				LR	LR	
	comp=Z,500nm,17.0s					
CN2				LR	LR	
	comp=Z,730nm,17.0s					
SADO	**Sadowa**	**73.12**	**313**	IAmb	IAmb	03 56 29.1
	comp=Z,117nm,1.2s					
J55A	**Hilton**	**73.20**	**312**	P	**P**	**03 56 28.5 +1.5**
	baz=55					
K56A	**Middlesex**	**73.22**	**311**	P	**P**	**03 56 28.9 +1.7**
	baz=55,SNR=16					
D48A	**Paudash Townsh**	**73.23**	**317**	P	**P**	**03 56 28.1 +0.9**
	baz=54,SNR=12					
D48A				S	**SKiKP**	**04 05 49.6 -0.1**
	baz=54					
N59A	**State Game Lan**	**73.27**	**309**	P	**P**	**03 56 29.3 +1.8**
	baz=56,SNR=16					
N59A				S	**SKiKP**	**04 05 51.1 +1.1**
	baz=56					
N59A	**State Game Lan**	**73.27**	**309**	IAmb	IAmb	03 56 30.4
	comp=Z,104nm,1.2s					
KLR	**Kul'dur**	**73.30**	**41**	*de*P	**P**	**03 56 27.1 -0.4**
KLR				pmax	pmax	
	comp=Z,41nm,1.6s					
DL2	**Dalian**	**73.33**	**54**	*e*P	**P**	**03 56 26.0 -1.8**
DL2				pP	**pP**	**03 56 51.3 +0.4**
DL2				sP	**sP**	**03 56 59.5 -1.2**
DL2				S	**S**	**04 05 44.0 -5.3**
DL2				pmax	pmax	
	comp=Z,33nm,0.7s					
DL2				pmax	pmax	
	comp=Z,95nm,5.3s					
DL2				LR	LR	
	comp=Z,750nm,16.3s					
DL2				LR	LR	
	comp=Z,320nm,16.8s					
DL2				LR	LR	
	comp=Z,830nm,23.0s					
L57A	**Andrews Acres**	**73.33**	**310**	P	**P**	**03 56 29.4 +1.6**
	baz=55,SNR=18					
O60A	**Telford**	**73.38**	**308**	P	**P**	**03 56 29.5 +1.4**
	baz=56,SNR=10					
O60A				S	**SKiKP**	**04 05 52.2 +2.1**
	baz=56					
M58A	**Price's Panora**	**73.44**	**309**	P	**P**	**03 56 30.1 +1.6**
	baz=56,SNR=19					
M58A				S	**S**	**04 05 53.7 +3.0**
	baz=56					
MMNY	**Mt. Morris Dam**	**73.56**	**311**	IAmb	IAmb	03 56 31.7
	comp=Z,133nm,1.1s					
MEDO	**Medina**	**73.64**	**312**	IAmb	IAmb	03 56 32.1
	comp=Z,138nm,1.2s					
K55A	**Perry**	**73.66**	**311**	P	**P**	**03 56 30.8 +1.1**
	baz=55,SNR=6.7					
K55A				S	**S**	**04 05 54.5 +1.5**
	baz=55					
L56A	**Greenwood**	**73.69**	**311**	P	**P**	**03 56 31.1 +1.1**
	baz=55,SNR=32					
J54A	**Appleton**	**73.69**	**312**	P	**P**	**03 56 31.4 +1.6**
	baz=55					
J54A				S	**S**	**04 05 55.8 +2.6**
	baz=55					
J54A	**Appleton**	**73.69**	**312**	IAmb	IAmb	03 56 32.5
	comp=Z,92nm,1.1s					
P60A	**Greenville**	**73.81**	**308**	P	**P**	**03 56 31.6 +1.0**
	baz=56,SNR=6.9					
P60A				S	**S**	**04 05 55.1 +0.4**
	baz=56					
E48A	**Lockeyer**	**73.84**	**316**	P	**P**	**03 56 31.7 +1.0**
	baz=54,SNR=26					
E48A				S	**S**	**04 05 57.1 +2.2**
	baz=54					
O59A	**Robesonia**	**73.87**	**308**	P	**P**	**03 56 32.4 +1.5**
	baz=55,SNR=19					
O59A				S	**S**	**04 05 58.2 +2.7**
	baz=55					
M57A	**Sunshine Farm,**	**73.88**	**310**	P	**P**	**03 56 32.7 +1.7**
	baz=55,SNR=28					
M57A				S	**S**	**04 05 57.8 +2.3**
	baz=55					
M57A	**Sunshine Farm,**	**73.88**	**310**	IAmb	IAmb	03 56 33.9
	comp=Z,137nm,1.1s					
N58A	**Sunbury**	**73.91**	**309**	P	**P**	**03 56 32.6 +1.5**
	baz=55,SNR=21					
N58A				S	**S**	**04 05 58.0 +2.2**
	baz=55					
N58A	**Sunbury**	**73.91**	**309**	IAmb	IAmb	03 56 33.8
	comp=Z,108nm,1.1s					
D47A	**Chapleau**	**74.02**	**317**	P	**P**	**03 56 33.0 +1.3**
	baz=53,SNR=19					
D47A				S	**S**	**04 05 58.8 +2.0**
	baz=53					
K54A	**Basiliko Farm,**	**74.10**	**311**	P	**P**	**03 56 33.8 +1.5**
	baz=54,SNR=5.7					
K54A				S	**S**	**04 05 59.0 +1.1**
	baz=54					
MVL	**Millersville**	**74.15**	**308**	IAmb	IAmb	03 56 35.4
	comp=Z,88nm,1.2s					
WVNY	**West Valley, N**	**74.17**	**311**	IAmb	IAmb	03 56 35.3
	comp=Z,131nm,1.1s					
L55A	**Hinsdale**	**74.19**	**311**	P	**P**	**03 56 34.3 +1.4**
	baz=55,SNR=17					
L55A				S	**S**	**04 06 01.1 +2.1**
	baz=55					
F49A	**Sandfield**	**74.20**	**316**	P	**P**	**03 56 34.4 +1.6**
	baz=53,SNR=28					
F49A				S	**S**	**04 06 01.5 +2.6**
	baz=53					
Q60A	**Greensboro**	**74.40**	**307**	P	**P**	**03 56 35.4 +1.4**
	baz=55,SNR=5.3					
P59A	**Jarrettsville**	**74.43**	**308**	P	**P**	**03 56 35.8 +1.6**
	baz=55					
M56A	**Emporium**	**74.44**	**310**	P	**P**	**03 56 35.6 +1.3**
	baz=55,SNR=29					
M56A				S	**S**	**04 06 03.4 +1.5**
	baz=55					
O58A	**Lewisberry**	**74.44**	**309**	P	**P**	**03 56 35.3 +1.0**
	baz=55,SNR=8.0					
O58A				S	**S**	**04 06 02.6 +0.8**
	baz=55					
R61A	**Willards**	**74.45**	**306**	P	**P**	**03 56 36.3 +1.9**
	baz=55					
UBPT	**Khong Chiam**	**74.46**	**82**	P	**P**	**03 56 34.2 -0.5**
N57A	**Milroy**	**74.47**	**309**	P	**P**	**03 56 35.9 +1.4**
	baz=55,SNR=31					
N57A				S	**S**	**04 06 04.0 +1.8**
	baz=55					
E47A	**Iron Bridge**	**74.47**	**317**	P	**P**	**03 56 35.7 +1.3**
	baz=53,SNR=23					
E47A				S	**S**	**04 06 04.2 +2.3**
	baz=53					
F48A	**Evansville**	**74.48**	**316**	P	**P**	**03 56 36.0 +1.5**
	baz=53					
F48A				S	**S**	**04 06 04.3 +2.2**
	baz=53					
MA2	**Magadan**	**74.53**	**25**	*d*P	**P**	**03 56 36.3 +1.9**
MA2				pmax	pmax	
	comp=Z,61nm,1.7s					
MA2	**Magadan**	**74.53**	**25**	P	**P**	**03 56 35.0 +0.6**
MA2				IAmb	IAmb	03 56 46.0
	comp=Z,76nm,1.0s					
D46A	**Sault St. Mari**	**74.62**	**317**	P	**P**	**03 56 36.5 +1.2**
	baz=52,SNR=35					
D46A				S	**S**	**04 06 06.2 +2.6**
	baz=52					
L54A	**Sinclairville**	**74.69**	**311**	P	**P**	**03 56 37.0 +1.3**
	baz=54,SNR=11					
GRNR	**Gornyy**	**74.71**	**37**	⇑*i*P	**P**	**03 56 35.8 +0.2**
GRNR				MLR	MLR	
	comp=E,320nm,15.0s					
GRNR				MLR	MLR	
	comp=N,160nm,11.0s					
GRNR				MLR	MLR	
	comp=Z,340nm,14.0s					
SSPA	**Standing Stone**	**74.75**	**309**	P	**P**	**03 56 37.5 +1.4**
	baz=54					
SSPA	**Standing Stone**	**74.75**	**309**	P	**P**	**03 56 37.0 +0.9**
SSPA				IAmb	IAmb	03 56 38.8
	comp=Z,120nm,1.1s					
I51A	**Listowel**	**74.78**	**313**	P	**P**	**03 56 37.6 +1.4**
	baz=54,SNR=23					
I51A				S	**S**	**04 06 07.6 +2.1**
	baz=54					
TOLK	**Toolik Lake Re**	**74.81**	**357**	P	**P**	**03 56 37.2 +1.3**
	baz=5.5					
TOLK				S	**S**	**04 06 05.8 +0.8**
	baz=5.5					
M55A	**Ridgway**	**74.81**	**311**	P	**P**	**03 56 38.1 +1.7**
	baz=54,SNR=28					
M55A				S	**S**	**04 06 08.2 +2.3**
	baz=54					
M55A	**Ridgway**	**74.81**	**311**	IAmb	IAmb	03 56 39.1
	comp=Z,114nm,1.0s					
N56A	**West Decatur**	**74.84**	**310**	P	**P**	**03 56 38.1 +1.5**
	baz=54,SNR=28					
N56A				S	**S**	**04 06 08.8 +2.5**
	baz=54					
O57A	**Amberson**	**74.84**	**309**	P	**P**	**03 56 37.7 +1.1**
	baz=55,SNR=16					
O57A				S	**S**	**04 06 08.4 +2.1**
	baz=55					
MDJ	**Mudanjiang**	**74.90**	**45**	P	**P**	**03 56 37.3 +0.5**
MDJ				pP	pP	03 57 01.0 +1.0
MDJ				sP	sP	03 57 11.5 +1.8
MDJ				S	**S**	**04 06 05.5 -1.2**
MDJ				ScS	**SKKSac**	**04 06 38.3 +0.6**
MDJ				SS	**SS**	**04 10 54.3 -1.5**
MDJ				pmax	pmax	
	comp=Z,8.0nm,0.4s					
MDJ				pmax	pmax	
	comp=Z,65nm,3.8s					
MDJ				LR	LR	
	comp=Z,440nm,13.3s					
MDJ				LR	LR	
	comp=Z,620nm,18.6s					
MDJ				LR	LR	
	comp=Z,670nm,23.5s					
Q59A	**Harwood**	**75.00**	**307**	P	**P**	**03 56 39.1 +1.6**
	baz=55					
P58A	**Pank, Wackersv**	**75.05**	**308**	P	**P**	**03 56 38.8 +1.1**
	baz=55,SNR=24					
P58A				S	**S**	**04 06 10.0 +1.5**
	baz=55					
E46A	**Sault Ste Mari**	**75.09**	**317**	IAmb	IAmb	03 56 40.5
	comp=Z,96nm,1.1s					
ERPA	**Erie**	**75.17**	**312**	P	**P**	**03 56 39.7 +1.3**
	baz=54,SNR=16					
NJ2	**Nanjing**	**75.28**	**61**	⇓P	**P**	**03 56 38.8 -0.4**
NJ2				pP	**pP**	**03 57 02.5 +0.1**
NJ2				sP	**sP**	**03 57 13.0 +0.8**
NJ2				S	**S**	**04 06 07.0 -4.3**
NJ2				pmax	pmax	
	comp=Z,16nm,0.5s					
NJ2				pmax	pmax	
	comp=Z,450nm,4.8s					
NJ2				LR	LR	
	comp=Z,410nm,17.8s					
NJ2				LR	LR	
	comp=Z,460nm,17.6s					
NJ2				LR	LR	
	comp=Z,320nm,19.5s					
R60A	**Leonardtown, M**	**75.29**	**307**	P	**P**	**03 56 40.5 +1.3**
	baz=55					
R60A				S	**S**	**04 06 13.7 +2.5**
	baz=55					
M54A	**Oil Creek Stat**	**75.33**	**311**	P	**P**	**03 56 40.9 +1.5**
	baz=54,SNR=24					
M54A				S	**S**	**04 06 13.1 +1.4**
	baz=54					
M54A	**Oil Creek Stat**	**75.33**	**311**	IAmb	IAmb	03 56 42.2
	comp=Z,119nm,1.1s					
N55A	**Marion Center**	**75.34**	**310**	P	**P**	**03 56 40.8 +1.3**
	baz=54,SNR=28					
N55A				S	**S**	**04 06 12.8 +0.9**
	baz=54					
O56A	**Blue Knob Stat**	**75.39**	**309**	P	**P**	**03 56 41.1 +1.3**
	baz=54,SNR=23					
O56A				S	**S**	**04 06 14.6 +2.2**
	baz=54					
O56A	**Blue Knob Stat**	**75.39**	**309**	IAmb	IAmb	03 56 42.4
	comp=Z,77nm,1.0s					
L53A	**Girard**	**75.43**	**312**	P	**P**	**03 56 41.4 +1.4**
	baz=54,SNR=12					
L53A				S	**S**	**04 06 14.4 +1.7**
	baz=54					
P57A	**Homestead Farm**	**75.50**	**309**	P	**P**	**03 56 41.7 +1.4**
	baz=54,SNR=23					
P57A				S	**S**	**04 06 15.7 +2.1**
	baz=54					
P57A	**Homestead Farm**	**75.50**	**309**	IAmb	IAmb	03 56 43.0
	comp=Z,99nm,1.1s					
YKA	**Yellowknife Ar**	**75.59**	**341**	P	**P**	**03 56 40.5 +0.1**
	comp=Z,10.0nm,0.7s,baz=25,slow=5.5,SNR=25					
YKA				LR	LR	04 31 45.8
	comp=Z,405nm,20.9s,baz=0.0,slow=37					
Q58A	**Fox Den Farm,**	**75.61**	**308**	P	**P**	**03 56 42.1 +1.1**
	baz=54,SNR=17					
Q58A				S	**S**	**04 06 15.9 +1.2**
	baz=54					
S60A	**Water View**	**75.66**	**306**	P	**P**	**03 56 43.0 +1.7**
	baz=54					
R59A	**King George, V**	**75.67**	**307**	P	**P**	**03 56 42.6 +1.2**
	baz=54					
R59A				S	**S**	**04 06 18.3 +2.8**
	baz=54					
I49A	**Point Hope**	**75.74**	**314**	IAmb	IAmb	03 56 44.1
	comp=Z,87nm,1.1s					
QIZ	**Qiongzhong**	**75.81**	**77**	P	**P**	**03 56 40.3 -2.2**
QIZ				sP	**sP**	**03 57 15.0 -0.7**
QIZ				S	**S**	**04 06 16.0 -1.6**
QIZ				sS	**sS**	**04 06 55.5 -2.2**
QIZ				pmax	pmax	
	comp=Z,370nm,2.3s					
QIZ				LR	LR	
	comp=Z,460nm,21.6s					
QIZ				LR	LR	
	comp=Z,500nm,19.6s					
QIZ				LR	LR	
	comp=Z,280nm,15.7s					
CBN	**Corbin Frederi**	**75.84**	**307**	P	**P**	**03 56 43.4 +1.1**
	baz=54,SNR=5.9					
N54A	**Moraine State**	**75.85**	**311**	P	**P**	**03 56 43.8 +1.4**
	baz=54,SNR=22					
N54A				S	**S**	**04 06 18.8 +1.4**
	baz=54					
N54A	**Moraine State**	**75.85**	**311**	IAmb	IAmb	03 56 45.0
	comp=Z,130nm,1.1s					
O55A	**Ligonier**	**75.88**	**310**	P	**P**	**03 56 43.9 +1.4**
	baz=54,SNR=33					
O55A				S	**S**	**04 06 19.4 +1.6**
	baz=54					
M53A	**WI Miller and**	**75.98**	**311**	P	**P**	**03 56 43.9 +0.8**
	baz=53,SNR=10					
M53A				S	**S**	**04 06 20.3 +1.5**
	baz=53					
M53A	**WI Miller and**	**75.98**	**311**	IAmb	IAmb	03 56 45.4
	comp=Z,78nm,1.0s					
P56A	**Dayton Farm, R**	**76.00**	**309**	P	**P**	**03 56 44.3 +1.0**
	baz=54,SNR=24					
P56A				S	**S**	**04 06 20.5 +1.4**
	baz=54					
Q57A	**Strasburg**	**76.01**	**308**	P	**P**	**03 56 44.6 +1.3**
	baz=54,SNR=9.7					
Q57A				S	**S**	**04 06 21.7 +2.4**
	baz=54					
S59A	**Mechanicsville**	**76.04**	**307**	P	**P**	**03 56 44.7 +1.3**
	baz=54,SNR=10					
S59A				S	**S**	**04 06 21.5 +2.0**
	baz=54					
T60A	**Surry**	**76.04**	**306**	P	**P**	**03 56 44.8 +1.4**
	baz=54					
T60A				S	**S**	**04 06 20.8 +1.2**
	baz=54					
MDP	**Montagnes des**	**76.08**	**266**	P	**P**	**03 56 44.7 +0.7**
	comp=Z,56nm,1.1s,baz=36,slow=11,SNR=17					
R58A	**Rapidan**	**76.19**	**308**	P	**P**	**03 56 45.0 +0.7**
	baz=54,SNR=5.2					
R58A				S	**S**	**04 06 22.7 +1.6**
	baz=54					
COLD	**Coldfoot**	**76.24**	**358**	P	**P**	**03 56 45.0 +0.9**
	baz=5.0,SNR=11					
GSI	**Gunungsitoli**	**76.27**	**99**	P	**P**	**03 56 45.6 +0.5**
GSI				IAmb	IAmb	03 56 46.8
	comp=Z,192nm,1.6s					
R58B	**Mineral**	**76.30**	**307**	P	**P**	**03 56 46.0 +1.0**
	baz=54,SNR=22					
R58B				S	**S**	**04 06 22.6 +0.2**
	baz=54					
R58B	**Mineral**	**76.30**	**307**	IAmb	IAmb	03 56 47.2
	comp=Z,73nm,1.2s					

U61A	**Possum Corner**	**76.32**	**305**	P	**P**	**03 56 46.7 +1.6**
	baz=54					
M52A	**Chesterland**	**76.33**	**312**	P	**P**	**03 56 46.1 +1.0**
	baz=53,SNR=15					
M52A				S	**S**	**04 06 24.2 +1.5**
	baz=53					
M52A	**Chesterland**	**76.33**	**312**	IAmb	IAmb	03 56 47.5
	comp=Z,104nm,1.0s					
KULM	**Kulim**	**76.35**	**94**	P	**P**	**03 56 44.9 -0.7**
KULM				IAmb	IAmb	03 56 46.4
	comp=Z,74nm,0.9s					
PSI	**Prapat**	**76.44**	**97**	P	**P**	**03 56 46.1 -0.1**
PSI				pmax	pmax	
	comp=Z,62nm,0.8s					
V62A	**Hyde County Ai**	**76.45**	**304**	P	**P**	**03 56 47.3 +1.5**
	baz=54					
N53A	**Lisbon**	**76.46**	**311**	P	**P**	**03 56 46.9 +1.1**
	baz=53,SNR=16					
N53A				S	**S**	**04 06 25.7 +1.6**
	baz=53					
N53A	**Lisbon**	**76.46**	**311**	IAmb	IAmb	03 56 48.3
	comp=Z,94nm,1.1s					
Q56A	**Snyder Ridge,**	**76.50**	**309**	P	**P**	**03 56 47.3 +1.2**
	baz=54,SNR=37					
Q56A				S	**S**	**04 06 24.8 +0.2**
	baz=54					
RPSI	**Rantau Prapat**	**76.51**	**97**	P	**P**	**03 56 46.1 -0.3**
RPSI				IAmb	IAmb	03 56 47.2
	comp=Z,62nm,0.8s					
USRK	**Ussuriysk Ar.**	**76.51**	**45**	P	**P**	**03 56 45.7 -0.3**
	comp=Z,14nm,0.6s,baz=276,slow=4.5,SNR=33					
USRK				LR	LR	04 34 51.5
	comp=Z,498nm,18.2s,baz=309,slow=39					
USRK	**Ussuriysk Ar.**	**76.51**	**45**	P	**P**	**03 56 45.3 -0.7**
R57A	**Stanardsville**	**76.52**	**308**	P	**P**	**03 56 47.3 +1.1**
	baz=54,SNR=18					
R57A				S	**S**	**04 06 24.6 -0.2**
	baz=54					
MCWV	**Mont Chateau**	**76.54**	**310**	P	**P**	**03 56 47.9 +1.6**
	baz=53,SNR=21					
E43A	**Lone Tree Farm**	**76.54**	**318**	IAmb	IAmb	03 56 48.4
	comp=Z,68nm,1.1s					
O54A	**Avella**	**76.56**	**310**	P	**P**	**03 56 47.6 +1.3**
	baz=53,SNR=14					
O54A				S	**S**	**04 06 26.3 +1.1**
	baz=53					
O54A	**Avella**	**76.56**	**310**	IAmb	IAmb	03 56 48.9
	comp=Z,70nm,1.1s					
P55A	**Reedsville**	**76.62**	**309**	P	**P**	**03 56 48.1 +1.3**
	baz=53,SNR=24					
P55A				S	**S**	**04 06 27.0 +1.1**
	baz=53					
S58A	**Poland Farm, P**	**76.62**	**307**	P	**P**	**03 56 47.8 +1.0**
	baz=54,SNR=14					
S58A				S	**S**	**04 06 26.3 +0.4**
	baz=54					
S58A	**Poland Farm, P**	**76.62**	**307**	IAmb	IAmb	03 56 49.1
	comp=Z,76nm,1.1s					
T59A	**Double "B" Far**	**76.67**	**306**	P	**P**	**03 56 47.9 +0.8**
	baz=54,SNR=15					
T59A				S	**S**	**04 06 27.4 +0.9**
	baz=54					
U60A	**Pendleton**	**76.71**	**306**	P	**P**	**03 56 48.4 +1.2**
	baz=54,SNR=6.1					
U60A				S	**S**	**04 06 28.4 +1.5**
	baz=54					
V61A	**Roper**	**76.72**	**305**	P	**P**	**03 56 48.0 +0.7**
	baz=54					
M51A	**Elyria**	**76.95**	**312**	P	**P**	**03 56 49.2 +0.7**
	baz=52,SNR=8.7					
M51A				S	**S**	**04 06 30.0 +0.6**
	baz=52					
P54A	**Burton**	**76.97**	**310**	P	**P**	**03 56 50.0 +1.2**
	baz=53,SNR=18					
P54A				S	**S**	**04 06 30.5 +0.8**
	baz=53					
N52A	**McGinn's Farm,**	**76.97**	**311**	P	**P**	**03 56 49.8 +1.1**
	baz=52,SNR=12					
N52A				S	**S**	**04 06 30.5 +0.9**
	baz=52					
R56A	**Bull Pasture M**	**77.01**	**308**	P	**P**	**03 56 50.4 +1.4**
	baz=53,SNR=23					
R56A				S	**S**	**04 06 31.6 +1.3**
	baz=53					
O53A	**New Philadelph**	**77.03**	**311**	P	**P**	**03 56 50.1 +1.1**
	baz=53,SNR=14					
O53A				S	**S**	**04 06 30.5 +0.2**
	baz=53					
O53A	**New Philadelph**	**77.03**	**311**	IAmb	IAmb	03 56 51.5
	comp=Z,82nm,1.0s					
Q55A	**Buckhannon**	**77.08**	**309**	P	**P**	**03 56 50.5 +1.1**
	baz=53,SNR=24					
Q55A				S	**S**	**04 06 32.4 +1.3**
	baz=53					
S57A	**Dark Hollow, R**	**77.11**	**308**	P	**P**	**03 56 50.4 +0.9**
	baz=53,SNR=14					
VLA	**Vladivostok**	**77.12**	**46**	*eP*	**P**	**03 56 49.8 +0.3**
VLA				pmax	pmax	
	comp=Z,40nm,1.4s					
IPM	**Ipoh**	**77.12**	**94**	P	**P**	**03 56 49.0 -1.0**
V60A	**Jim Taylor Roa**	**77.19**	**305**	P	**P**	**03 56 51.0 +1.1**
	baz=54					
U59A	**Littleton**	**77.19**	**306**	P	**P**	**03 56 51.1 +1.1**
	baz=54,SNR=19					
U59A				S	**S**	**04 06 33.0 +0.9**
	baz=54					
AAM	**Ann Arbor**	**77.23**	**313**	P	**P**	**03 56 50.8 +0.7**
	baz=52					
AAM	**Ann Arbor**	**77.23**	**313**	IAmb	IAmb	03 56 52.9
	comp=Z,94nm,1.4s					
J47A	**Sunmer**	**77.32**	**315**	IAmb	IAmb	03 56 52.9
	comp=Z,82nm,1.0s					
N51A	**Ashland**	**77.32**	**312**	P	**P**	**03 56 51.4 +0.8**
	baz=52,SNR=13					
N51A				S	**S**	**04 06 34.0 +0.6**
	baz=52					
N51A	**Ashland**	**77.32**	**312**	IAmb	IAmb	03 56 52.8
	comp=Z,98nm,1.1s					
T58A	**Grand View Acr**	**77.32**	**307**	P	**P**	**03 56 51.7 +0.9**
	baz=53,SNR=16					
W61A	**Ground Anchor**	**77.36**	**304**	P	**P**	**03 56 52.2 +1.3**
	baz=54					
INCN	**Inchon**	**77.37**	**53**	P	**P**	**03 56 51.4 +0.4**
INCN				pmax	pmax	
	comp=Z,81nm,1.4s					
INCN	**Inchon**	**77.37**	**53**	P	**P**	**03 56 51.4 +0.4**
INCN				IAmb	IAmb	03 56 53.1
	comp=Z,81nm,1.4s					
SSE	**Sheshan**	**77.46**	**61**	P	**P**	**03 56 51.3 -0.2**
SSE				S	**S**	**04 06 31.0 -4.2**
SSE				pmax	pmax	
	comp=Z,15nm,0.7s					
SSE				pmax	pmax	
	comp=Z,87nm,3.6s					
SSE				LR	LR	
	comp=Z,280nm,20.6s					
SSE				LR	LR	
	comp=Z,190nm,20.2s					
O52A	**Adamsville**	**77.48**	**311**	P	**P**	**03 56 52.5 +0.9**
	baz=52,SNR=24					
O52A				S	**S**	**04 06 34.6 -0.7**
	baz=52					
O52A	**Adamsville**	**77.48**	**311**	IAmb	IAmb	03 56 53.8
	comp=Z,108nm,1.0s					
R55A	**Marlinton**	**77.53**	**309**	P	**P**	**03 56 53.2 +1.2**
	baz=53,SNR=35					
R55A				S	**S**	**04 06 38.0 +2.0**
	baz=53					
R55A	**Marlinton**	**77.53**	**309**	IAmb	IAmb	03 56 54.6
	comp=Z,126nm,1.1s					
S56A	**Natural Bridge**	**77.55**	**308**	P	**P**	**03 56 53.3 +1.2**
	baz=53,SNR=9.4					
Q54A	**Coxs Mills**	**77.56**	**309**	P	**P**	**03 56 53.1 +1.1**
	baz=53,SNR=26					
Q54A				S	**S**	**04 06 36.5 +0.5**
	baz=53					
Q54A	**Coxs Mills**	**77.56**	**309**	IAmb	IAmb	03 56 54.1
	comp=Z,74nm,1.1s					
IMAR	**Indian Mountai**	**77.58**	**359**	P	**P**	**03 56 52.3 +0.7**
P53A	**Whipple**	**77.59**	**310**	P	**P**	**03 56 53.4 +1.1**
	baz=52,SNR=25					
P53A				S	**S**	**04 06 36.9 +0.5**
	baz=52					
U58A	**Oxford**	**77.66**	**306**	P	**P**	**03 56 53.7 +1.1**
	baz=53,SNR=20					
U58A				S	**S**	**04 06 37.8 +0.6**
	baz=53					
FFC	**Flin Flon**	**77.70**	**331**	P	**P**	**03 56 53.3 +0.8**
FFC				pmax	pmax	
	comp=Z,57nm,1.1s					
FFC	**Flin Flon**	**77.70**	**331**	P	**P**	**03 56 53.3 +0.8**
MCLT	**Moule a Chique**	**77.74**	**278**	P	**P**	**03 56 52.9 -0.5**
T57A	**Hurt**	**77.75**	**307**	P	**P**	**03 56 54.1 +0.9**
	baz=53,SNR=18					
V59A	**Middlesex**	**77.83**	**306**	P	**P**	**03 56 54.3 +0.7**
	baz=53,SNR=14					
EYMN	**Ely**	**77.84**	**322**	P	**P**	**03 56 54.1 +0.7**
	baz=48,SNR=15					
EYMN	**Ely**	**77.84**	**322**	P	**P**	**03 56 54.5 +1.0**
EYMN				IAmb	IAmb	03 56 55.4
	comp=Z,90nm,1.5s					
GDU01	**Guandu, BA**	**77.89**	**243**	*eP*	**P**	**03 56 54.9 +0.8**
L48A	**N Adams**	**77.90**	**314**	IAmb	IAmb	03 56 55.8
	comp=Z,82nm,1.1s					
W60A	**Pink Hill**	**77.91**	**305**	P	**P**	**03 56 55.0 +1.1**
	baz=54					
CNNC	**Cliffs of the**	**77.92**	**305**	P	**P**	**03 56 55.1 +1.1**
	baz=54					
O51A	**Pataskala**	**77.93**	**311**	P	**P**	**03 56 55.1 +1.0**
	baz=52,SNR=43					
O51A				S	**S**	**04 06 40.3 +0.3**
	baz=52					
P52A	**Corning**	**77.96**	**311**	P	**P**	**03 56 54.9 +0.6**
	baz=52,SNR=16					
P52A				S	**S**	**04 06 40.5 +0.1**
	baz=52					
P52A	**Corning**	**77.96**	**311**	IAmb	IAmb	03 56 57.0
	comp=Z,160nm,1.4s					
Q53A	**Leroy**	**78.06**	**310**	P	**P**	**03 56 55.7 +0.9**
	baz=52,SNR=20					
Q53A				S	**S**	**04 06 41.1 -0.4**
	baz=52					
S55A	**Lewisburg**	**78.08**	**308**	P	**P**	**03 56 56.1 +1.1**
	baz=53,SNR=21					
S55A				S	**S**	**04 06 43.7 +1.8**
	baz=53					
ACSO	**Alum Creek Sta**	**78.11**	**311**	P	**P**	**03 56 55.7 +0.7**
	baz=52,SNR=12					
ACSO	**Alum Creek Sta**	**78.11**	**311**	IAmb	IAmb	03 56 57.1
	comp=Z,100nm,1.1s					
KS19	**Wonju Array Si**	**78.14**	**52**	P	**P**	**03 56 56.1 +0.8**
KS19				IAmb	IAmb	03 56 57.8
	comp=Z,97nm,1.6s					
R54A	**Victor**	**78.14**	**309**	P	**P**	**03 56 56.1 +0.8**
	baz=52,SNR=7.0					
R54A				S	**S**	**04 06 44.0 +1.5**
	baz=52					
U57A	**Blanch**	**78.15**	**307**	P	**P**	**03 56 56.4 +1.1**
	baz=53,SNR=26					
H43A	**Windswept, Lux**	**78.18**	**317**	IAmb	IAmb	03 56 57.8
	comp=Z,109nm,1.1s					
KSAR	**Wonju Array Be**	**78.19**	**52**	P	**P**	**03 56 55.0 -0.5**
KSAR	**Wonju Array Be**	**78.19**	**52**	P	**P**	**03 56 55.0 -0.5**
KSRS	**Korea Array**	**78.20**	**52**	P	**P**	**03 56 55.6 0.0**
	comp=Z,13nm,0.6s,baz=309,slow=4.6,SNR=53					
KSRS				LR	LR	04 36 01.1
	comp=Z,400nm,18.6s,baz=312,slow=39					
POKR	**Poker Plat Res**	**78.23**	**356**	P	**P**	**03 56 56.3 +1.0**
	baz=7.2					
POKR				S	**S**	**04 06 43.8 +1.3**
	baz=7.2					
T56A	**Rocky Mt**	**78.23**	**307**	P	**P**	**03 56 56.9 +1.1**
	baz=53,SNR=26					
T56A				S	**S**	**04 06 43.6 +0.2**
	baz=53					
SVB	**Belmont**	**78.24**	**278**	P	**P**	**03 56 56.4 +0.2**
STVI	**Saint Thomas**	**78.26**	**284**	P	**P**	**03 56 56.8 +0.6**
STVI				IAmb	IAmb	03 56 58.4
	comp=Z,102nm,1.6s					
W59A	**Clinton**	**78.32**	**305**	P	**P**	**03 56 57.8 +1.5**
	baz=53					
ULM	**Lac du Bonnet**	**78.36**	**325**	P	**P**	**03 56 56.5 +0.2**
	comp=Z,47nm,0.9s,baz=54,slow=5.6,SNR=27					
ULM				LR	LR	04 32 06.4
	comp=Z,660nm,20.8s,baz=62,slow=36					
ULM	**Lac du Bonnet**	**78.36**	**325**	IAmb	IAmb	03 56 57.9
	comp=Z,99nm,1.1s					
X60A	**Albert Glenn T**	**78.36**	**304**	P	**P**	**03 56 57.5 +1.0**
	baz=53					
BLA	**Blacksburg**	**78.37**	**308**	P	**P**	**03 56 57.3 +0.7**
	baz=52,SNR=5.7					
V58A	**Windy Hill, Pi**	**78.39**	**306**	P	**P**	**03 56 57.6 +0.9**
	baz=53,SNR=14					
V58A				S	**S**	**04 06 45.6 +0.6**
	baz=53					
N49A	**Columbus Grove**	**78.39**	**313**	IAmb	IAmb	03 56 58.5
	comp=Z,81nm,1.1s					
Q52A	**Bidwell**	**78.45**	**310**	P	**P**	**03 56 57.6 +0.6**
	baz=52,SNR=22					
Q52A				S	**S**	**04 06 45.9 +0.2**
	baz=52					
COLA	**College**	**78.49**	**356**	*d iP*	**P**	**03 56 58.0 +1.3**
COLA				pmax	pmax	
	comp=Z,20nm,1.6s					
TCOL	**CIGO, UAF Yank**	**78.50**	**356**	P	**P**	**03 56 57.4 +0.8**
	baz=6.8					
TJN	**Taejon**	**78.50**	**53**	*eP*	**P**	**03 56 57.6 +0.4**
TEY	**Ternei**	**78.52**	**42**	*eP*	**P**	**03 56 56.8 -0.4**
TEY				*e*		03 57 03.5
TEY				*e*		03 57 15.6
IL31		**78.54**	**356**	P	**P**	**03 56 57.4 +0.4**
ILAR	**Eielson Array**	**78.54**	**356**	P	**P**	**03 56 57.4 +0.4**
	comp=Z,4.3nm,0.5s,baz=341,slow=3.7,SNR=44					
ILAR				PKKPbc	**PKKPbc**	**04 15 49.9 -2.4**
	comp=Z,1.6nm,0.6s,baz=209,slow=2.7,SNR=15					
ILAR				PKPPKP	**P'P'df**	**04 23 54.8 -3.2**
	comp=Z,0.9nm,0.9s,baz=209,slow=1.7,SNR=8.0					
ILAR				LR	LR	04 32 19.9
	comp=Z,177nm,22.0s,baz=14,slow=36					
S54A	**Dingess, Beckl**	**78.57**	**309**	P	**P**	**03 56 58.1 +0.4**
	baz=52,SNR=6.7					
S54A				S	**S**	**04 06 47.0 -0.1**
	baz=52					
P51A	**Williamsport**	**78.62**	**311**	P	**P**	**03 56 58.2 +0.3**
	baz=52,SNR=12					
P51A				S	**S**	**04 06 46.8 -0.6**
	baz=52					
P51A	**Williamsport**	**78.62**	**311**	IAmb	IAmb	03 56 59.4
	comp=Z,66nm,1.1s					
R53A	**Hurricane**	**78.65**	**309**	P	**P**	**03 56 59.1 +1.0**
	baz=52,SNR=21					
R53A				S	**S**	**04 06 48.1 +0.3**
	baz=52					
T55A	**Pulaski**	**78.66**	**308**	P	**P**	**03 56 59.2 +1.0**
	baz=52,SNR=18					
T55A				S	**S**	**04 06 47.5 -0.5**
	baz=52					
V57A	**Coltrane Farms**	**78.76**	**306**	P	**P**	**03 56 59.5 +0.9**
	baz=53,SNR=27					
DLV	**T Lat**	**78.77**	**83**	P	**P**	**03 56 59.5 +0.2**
X59A	**McDuffie Farm,**	**78.78**	**305**	P	**P**	**03 56 59.8 +1.0**
	baz=53,SNR=5.3					
TOSP	**Speyside**	**78.80**	**276**	IAmb	IAmb	03 57 02.9
	comp=Z,176nm,1.4s					
NEA2	**Nenana**	**78.83**	**357**	P	**P**	**03 56 60.0 +1.4**
	baz=5.9,SNR=8.7					
Y60A	**Bolivia**	**78.86**	**304**	P	**P**	**03 57 00.2 +0.9**
	baz=53					
U56A	**King**	**78.87**	**307**	P	**P**	**03 57 00.3 +1.0**
	baz=52,SNR=16					
U56A				S	**S**	**04 06 50.0 -0.2**
	baz=52					
MTP	**Monte Pirata**	**78.87**	**284**	IAmb	IAmb	03 57 02.9
	comp=Z,60nm,1.1s					
HDA	**Harding Lake**	**78.91**	**356**	P	**P**	**03 56 59.5 +0.5**
	baz=7.6,SNR=24					
W58A	**Raeford**	**78.93**	**305**	P	**P**	**03 57 01.0 +1.4**
	baz=53,SNR=20					
W58A				S	**S**	**04 06 51.3 +0.5**
	baz=53					
O49A	**Covington**	**78.94**	**312**	IAmb	IAmb	03 57 01.4
	comp=Z,127nm,1.1s					
G40A	**Rib Lake**	**78.96**	**319**	IAmb	IAmb	03 57 02.6
	comp=Z,100nm,1.3s					
CBYP	**Canovanas**	**79.01**	**285**	IAmb	IAmb	03 57 02.4
	comp=Z,67nm,1.1s					
HUMP	**Col San Antoni**	**79.08**	**284**	IAmb	IAmb	03 57 03.2
	comp=Z,131nm,1.1s					
SCRK	**Sand Creek**	**79.14**	**355**	P	**P**	**03 57 01.6 +1.2**
	baz=10.0,SNR=18					
S53A	**Williamson**	**79.16**	**309**	P	**P**	**03 57 01.6 +0.7**
	baz=52,SNR=6.2					
I42A	**Draeger Farm,**	**79.18**	**317**	IAmb	IAmb	03 57 03.0
	comp=Z,69nm,1.1s					
T54A	**Tazewell**	**79.19**	**308**	P	**P**	**03 57 01.6 +0.5**
	baz=52,SNR=34					
T54A				S	**S**	**04 06 53.1 -0.7**
	baz=52					
U55A	**TA2, Sparta**	**79.20**	**308**	P	**P**	**03 57 02.2 +1.0**
	baz=52,SNR=57					
U55A				S	**S**	**04 06 53.8 0.0**
	baz=52					
GRGR	**Grenville**	**79.22**	**277**	P	**P**	**03 57 02.8 +1.3**
V56A	**Mocksville**	**79.27**	**307**	P	**P**	**03 57 02.5 +1.0**
	baz=52,SNR=14					
V56A				S	**S**	**04 06 53.8 -0.7**
	baz=52					
BWN	**Browne**	**79.27**	**357**	P	**P**	**03 57 02.1 +1.2**
BWN				IAmb	IAmb	03 57 13.5
	comp=Z,83nm,1.3s					
X58A	**Rowland**	**79.28**	**305**	P	**P**	**03 57 02.6 +1.1**
	baz=53,SNR=8.0					
N47A	**Urbana**	**79.31**	**313**	IAmb	IAmb	03 57 03.2
	comp=Z,94nm,1.1s					
Y59A	**Loris**	**79.31**	**304**	P	**P**	**03 57 03.0 +1.3**
	baz=53					
W57A	**Gilead**	**79.34**	**306**	P	**P**	**03 57 02.6 +0.8**
	baz=52,SNR=18					
W57A				S	**S**	**04 06 53.3 -1.9**
	baz=52					
P49A	**Miami Univ. Ec**	**79.58**	**312**	P	**P**	**03 57 03.3 +0.2**
	baz=51,SNR=16					
P49A				S	**S**	**04 06 56.3 -1.4**
	baz=51					
P49A	**Miami Univ. Ec**	**79.58**	**312**	IAmb	IAmb	03 57 04.5
	comp=Z,74nm,1.1s					
BKNI	**Bangkinang**	**79.61**	**97**	P	**P**	**03 57 02.9 -0.7**
K43A	**Burlington**	**79.64**	**316**	IAmb	IAmb	03 57 06.1
	comp=Z,145nm,1.1s					
AOPR	**Arecibo Observ**	**79.66**	**285**	IAmb	IAmb	03 57 05.7
	comp=Z,63nm,0.9s					
U54A	**Nelsons Funny**	**79.68**	**308**	P	**P**	**03 57 04.6 +0.8**
	baz=52,SNR=33					
U54A				S	**S**	**04 06 58.4 -0.5**
	baz=52					
V55A	**Taylorsville**	**79.70**	**307**	P	**P**	**03 57 04.9 +1.0**
	baz=52,SNR=26					
V55A				S	**S**	**04 06 59.2 +0.2**
	baz=52					
V55A	**Taylorsville**	**79.70**	**307**	IAmb	IAmb	03 57 06.3
	comp=Z,64nm,1.1s					
AGMN	**Agassiz Nation**	**79.73**	**324**	P	**P**	**03 57 04.1 +0.3**
	baz=45,SNR=13					
W56A	**Indian Trail**	**79.74**	**306**	P	**P**	**03 57 05.0 +0.9**
	baz=52,SNR=14					
W56A				S	**S**	**04 06 58.5 -0.9**
	baz=52					
L44A	**Lake County Fo**	**79.75**	**315**	P	**P**	**03 57 04.7 +0.8**
	baz=49					
L44A				S	**S**	**04 06 58.6 -0.6**
	baz=49					
L44A	**Lake County Fo**	**79.75**	**315**	IAmb	IAmb	03 57 05.8
	comp=Z,95nm,1.1s					
X57A	**Johnson Farm,**	**79.83**	**305**	P	**P**	**03 57 05.6 +1.1**
	baz=52,SNR=10					
X57A				S	**S**	**04 07 00.4 0.0**
	baz=52					
T53A	**Wise**	**79.84**	**309**	P	**P**	**03 57 05.4 +0.7**
	baz=51,SNR=8.7					
T53A				S	**S**	**04 07 00.2 -0.5**
	baz=51					
BCAR	**Beaver Creek A**	**79.85**	**353**	P	**P**	**03 57 05.2 +1.0**
KTH	**Kantishna Hill**	**79.94**	**358**	IAmb	IAmb	03 57 45.3
	comp=Z,91nm,1.5s					
BIRD	**Birdtown, Kers**	**79.96**	**306**	IAmb	IAmb	03 57 07.5
	comp=Z,68nm,1.1s					
HQIL	**Hanson Quary C**	**79.96**	**315**	IAmb	IAmb	03 57 07.0
	comp=Z,99nm,1.0s					
TRF	**Thorofare Moun**	**80.03**	**357**	P	**P**	**03 57 05.3 0.0**
TRF				IAmb	IAmb	03 57 31.1
	comp=Z,130nm,1.9s					
Z59A	**Georgetown, SC**	**80.03**	**304**	P	**P**	**03 57 06.8 +1.2**
	baz=52					
P48A	**Milroy**	**80.06**	**312**	IAmb	IAmb	03 57 07.1
	comp=Z,71nm,1.1s					
I40A	**Norwalk**	**80.10**	**318**	IAmb	IAmb	03 57 08.0
	comp=Z,66nm,1.1s					
KMSC	**Kings Mountain**	**80.22**	**307**	P	**P**	**03 57 07.4 +0.7**
	baz=52,SNR=21					
KMSC				S	**S**	**04 07 03.8 -0.7**
	baz=52					
V54A	**Nebo**	**80.22**	**307**	P	**P**	**03 57 07.8 +1.2**
	baz=52,SNR=33					
V54A				S	**S**	**04 07 03.8 -0.7**
	baz=52					
DHY	**Denali Highway**	**80.26**	**356**	IAmb	IAmb	03 57 34.2
	comp=Z,46nm,0.7s					
F36A	**Milaca**	**80.28**	**321**	IAmb	IAmb	03 57 08.4
	comp=Z,63nm,1.1s					
Y57A	**Sumter**	**80.30**	**305**	P	**P**	**03 57 08.1 +1.1**
	baz=52,SNR=9.3					
Y57A	**Sumter**	**80.30**	**305**	IAmb	IAmb	03 57 09.5
	comp=Z,84nm,1.0s					
Z58A	**St. Stephen**	**80.33**	**304**	P	**P**	**03 57 08.7 +1.5**
	baz=52,SNR=16					
M44A	**Midewin, Midew**	**80.34**	**315**	IAmb	IAmb	03 57 09.7
	comp=Z,147nm,1.4s					
SPMN	**Marine on St.**	**80.35**	**320**	P	**P**	**03 57 07.9 +0.7**
	baz=47,SNR=18					
SPMN				S	**S**	**04 07 05.1 -0.4**
	baz=47					
SPMN	**Marine on St.**	**80.35**	**320**	IAmb	IAmb	03 57 09.2
	comp=Z,73nm,1.1s					
YSS	**Yuzh-Sakhalins**	**80.36**	**37**	*α iP*	**P**	**03 57 08.2 +1.0**
YSS				*e**PP	**pP**	**03 57 31.5 +0.9**
YSS				*e**SP	**sP**	**03 57 39.2 -1.1**
YSS				*e*		04 00 12.1
YSS				*eS*	**S**	**04 07 06.4 +0.8**
YSS				pmax	pmax	
	comp=Z,40nm,1.2s					
YSS				pmax	pmax	
	comp=Z,200nm,5.5s					
YSS				MLR	MLR	
	comp=Z,400nm,14.0s					
YSS				MLR	MLR	
	comp=N,600nm,15.0s					
YSS	**Yuzh-Sakhalins**	**80.36**	**37**	P	**P**	**03 57 08.1 +1.0**
YSS				IAmb	IAmb	03 57 47.5
	comp=Z,76nm,1.2s					
X56A	**White Oak**	**80.42**	**306**	P	**P**	**03 57 08.5 +0.8**
	baz=52,SNR=25					
SFIN	**Lafayette**	**80.45**	**314**	P	**P**	**03 57 08.3 +0.5**
	baz=50,SNR=19					
SFIN				S	**S**	**04 07 05.8 -0.9**
	baz=50					
SFIN	**Lafayette**	**80.45**	**314**	IAmb	IAmb	03 57 09.5
	comp=Z,82nm,1.1s					
JFWS	**Jewell Farm**	**80.56**	**317**	P	**P**	**03 57 08.7 +0.4**
	baz=48,SNR=21					
JFWS	**Jewell Farm**	**80.56**	**317**	IAmb	IAmb	03 57 09.9
	comp=Z,90nm,1.1s					
PPLA	**Purkeypile**	**80.64**	**358**	IAmb	IAmb	03 57 36.4
	comp=Z,55nm,0.7s					
SMTB	**Santa Maria do**	**80.64**	**252**	*eP*	**P**	**03 57 09.9 +0.8**
R49A	**Shelbyville**	**80.65**	**311**	IAmb	IAmb	03 57 10.9
	comp=Z,119nm,1.1s					
NHSC	**New Hope**	**80.71**	**304**	P	**P**	**03 57 10.7 +1.5**
	baz=52,SNR=6.4					
NHSC	**New Hope**	**80.71**	**304**	P	**P**	**03 57 10.4 +1.1**
NHSC				IAmb	IAmb	03 57 12.1
	comp=Z,120nm,1.2s					
PAULI	**Pauline**	**80.73**	**307**	IAmb	IAmb	03 57 11.6
	comp=Z,56nm,1.0s					
TZTN	**Tazewell**	**80.75**	**309**	P	**P**	**03 57 10.5 +1.0**
	baz=51,SNR=18					
TZTN	**Tazewell**	**80.75**	**309**	IAmb	IAmb	03 57 11.8
	comp=Z,69nm,1.2s					
W54A	**Cherokee Point**	**80.80**	**307**	P	**P**	**03 57 10.8 +1.1**
	baz=51,SNR=15					
W54A				S	**S**	**04 07 09.8 -0.8**
	baz=51					
X55A	**Gracelyn & Ava**	**80.83**	**306**	P	**P**	**03 57 11.0 +1.1**
	baz=52,SNR=12					
X55A				S	**S**	**04 07 10.2 -0.7**
	baz=52					
L42A	**Oliver, Polo**	**80.84**	**316**	IAmb	IAmb	03 57 11.8
	comp=Z,116nm,1.1s					
BLO	**Bloomington**	**80.89**	**312**	IAmb	IAmb	03 57 12.1
	comp=Z,132nm,1.1s					
SDBA	**SAO DESIDERIO**	**80.90**	**247**	*eP*	**P**	**03 57 11.2 +0.6**
Z57A	**Bowman**	**80.94**	**305**	P	**P**	**03 57 11.6 +1.1**
	baz=52,SNR

MYKOM **Kota Tinggi** 80.98 95 P P 03 57 10.7 -0.3
Y56A Pelion 81.03 306 P P 03 57 12.4 +1.4
baz=52
M24K Tolsona, Glenn 81.15 355 P P 03 57 12.2 +1.0
baz=8.2
T50A Nancy 81.25 310 IAmb IAmb 03 57 14.5
comp=Z,82nm,1.0s
X54A Belton 81.26 307 P P 03 57 13.1 +0.9
baz=51,SNR=18
Y55A Saluda 81.30 306 P P 03 57 13.6 +1.2
baz=51,SNR=19
YHNB Yeheng 81.34 66 P P 03 57 13.6 +0.7
Z56A Williston 81.36 305 P P 03 57 13.9 +1.1
baz=52
WCI Wyandotte Cave 81.36 312 P P 03 57 13.7 +1.1
baz=50
WCI Wyandotte Cave 81.36 312 P P 03 57 13.8 +1.1
WCI pmax pmax
comp=Z,119nm,1.1s
WCI Wyandotte Cave 81.36 312 P P 03 57 13.8 +1.2
WCI IAmb IAmb 03 57 14.8
comp=Z,119nm,1.1s
O44A Mansfield 81.39 314 IAmb IAmb 03 57 14.8
comp=Z,130nm,1.2s
TKL Tuckaleechee C 81.45 308 IAmb IAmb 03 57 15.3
comp=Z,68nm,1.1s
157A Early Branch 81.52 304 P P 03 57 14.9 +1.3
baz=52,SNR=10
SKT Skwentna 81.54 358 IAmb IAmb 03 57 14.4
comp=Z,49nm,0.5s
SML Sawmill 81.58 356 IAmb IAmb 03 57 42.1
comp=Z,46nm,0.8s
HDIL Hopedale 81.60 315 P P 03 57 14.5 +0.7
baz=48,SNR=17
TPUB Ta-pu 81.60 67 P P 03 57 14.8 +0.6
V51A Loudon 81.72 309 IAmb IAmb 03 57 17.9
comp=Z,112nm,1.2s
MDND Maddock 81.79 325 P P 03 57 15.2 +0.4
baz=43,SNR=13
CTGM Chitina Glacie 81.87 353 IAmb IAmb 03 59 18.1
comp=Z,116nm,1.9s
BALM Baldy 81.90 353 IAmb IAmb 03 58 16.3
comp=Z,143nm,1.9s
W52A Murphy 81.91 308 IAmb IAmb 03 57 17.7
comp=Z,58nm,1.1s
PEA0B Petropavlovsk- 81.99 26 P P 03 57 17.8 +2.1
PEA0B pmax pmax
comp=Z,154nm,1.8s
PEA0B Petropavlovsk- 81.99 26 P P 03 57 17.8 +2.1
PEA0B IAmb IAmb 03 57 22.8
comp=Z,154nm,1.8s
PETK Petropavlovsk- 81.99 26 P P 03 57 15.6 -0.1
comp=Z,2.7nm,0.6s,baz=88,slow=3.7,SNR=8.8
PETK PP PP 04 00 26.3 +2.6
comp=Z,11nm,1.2s,baz=309,slow=9.4,SNR=3.6
PETK LR LR 04 39 13.8
comp=Z,487nm,18.1s,baz=317,slow=40
PETK Petropavlovsk- 81.99 26 P P 03 57 15.2 -0.5
CPCT Cooper Cave 82.06 308 IAmb IAmb 03 57 18.9
comp=Z,96nm,1.0s
SC01 Santiago de lo 82.09 288 IAmb IAmb 03 57 20.4
comp=Z,145nm,1.2s
K38A Parkersburg 82.10 318 IAmb IAmb 03 57 17.7
comp=Z,79nm,1.2s
OLIL Olney 82.11 313 IAmb IAmb 03 57 18.4
comp=Z,121nm,1.1s
U49A Red Boiling Sp 82.16 310 IAmb IAmb 03 57 19.1
comp=Z,134nm,1.1s
JANB Januaria 82.19 245 eP P 03 57 18.0 +0.7
TWG Pinlang 82.21 67 P P 03 57 17.5 +0.1
BSFB Barra de Sao F 82.24 240 eP P 03 57 18.0 +0.6
CRQM Cirque 82.25 354 IAmb IAmb 03 57 23.3
comp=Z,78nm,1.4s
RIB01 Linhares ES 82.26 239 eP P 03 57 18.5 +1.0
P43A Skaggs, Pawnee 82.33 314 IAmb IAmb 03 57 19.8
comp=Z,107nm,1.0s
N41A Harden Midland 82.38 316 IAmb IAmb 03 57 19.5
comp=Z,108nm,1.1s
SJMB Sao Joao De Ma 82.39 240 eP P 03 57 18.9 +0.7
PET Petropavlovsk 82.39 26 eP P 03 57 16.2 -1.5
PET e*PP pP 03 57 42.6 +1.3
PET eS S 04 07 22.5 -3.8
PET ePS 04 08 23.1
PET eSS SS 04 12 44.1 -3.3
PET MLR MLR
comp=Z,700nm,16.0s
PET MLR MLR
comp=Z,700nm,21.0s
YAH Yahtse 82.50 353 IAmb IAmb 03 57 27.7
comp=Z,116nm,1.0s
GOGA Godfrey 82.68 306 P P 03 57 20.5 +0.9
baz=50,SNR=26
GOGA Godfrey 82.68 306 IAmb IAmb 03 57 21.9
comp=Z,65nm,1.1s
W50A Signal Mountai 82.71 309 IAmb IAmb 03 57 22.3
comp=Z,91nm,1.0s
PCRV Puerto La Cruz 82.73 277 P P 03 57 19.3 -0.9
comp=Z,4.6nm,0.2s,baz=47,slow=1.4,SNR=16
CLTN Cedars of Leba 82.77 310 IAmb IAmb 03 57 22.2
comp=Z,84nm,1.2s
Y52A Lilburn 82.77 307 IAmb IAmb 03 57 22.6
comp=Z,98nm,1.1s
JNU Nakatsue 82.78 54 P P 03 57 19.4 -0.9
SDDR Presa de Saban 82.78 288 IAmb IAmb 03 57 23.7
comp=Z,119nm,1.1s
SCIA State Center 82.85 318 P P 03 57 20.8 +0.4
baz=46
SCIA State Center 82.85 318 P P 03 57 20.9 +0.4
SCIA IAmb IAmb 03 57 22.1
comp=Z,61nm,1.1s
MC01 Montes Claros 83.01 243 eP P 03 57 22.8 +1.3
PEXB Peixe 83.24 250 eP P 03 57 24.0 +1.3
V48A Smith Brothers 83.30 310 IAmb IAmb 03 57 24.6
comp=Z,59nm,1.1s
FPAL Fort Paine 83.32 308 IAmb IAmb 03 57 25.2
comp=Z,77nm,1.1s
ECSD EROS Data Cent 83.34 321 P P 03 57 23.4 +0.5
baz=44,SNR=62
ECSD EROS Data Cent 83.34 321 IAmb IAmb 03 57 24.9
comp=Z,81nm,1.1s
DGMT Dagmar 83.35 328 P P 03 57 24.0 +1.2
baz=40,SNR=17
DGMT Dagmar 83.35 328 IAmb IAmb 03 57 25.4
comp=Z,109nm,1.2s
SKR Severo-Kuril's 83.37 28 eP P 03 57 27.7 +4.9
SKR eS S 04 07 40.9 +4.6
SKR pmax pmax
comp=Z,100nm,15.2s
SKR MLR MLR
comp=Z,300nm,18.0s
SKR MLR MLR
comp=Z,400nm,17.0s
SLM Saint Louis 83.42 314 IAmb IAmb 03 57 25.5
comp=Z,96nm,1.0s
WVT Waverly 83.66 311 P P 03 57 24.7 0.0
baz=49
WVT Waverly 83.66 311 P P 03 57 24.5 -0.1
WVT pmax pmax
comp=Z,46nm,1.0s
WVT Waverly 83.66 311 P P 03 57 24.5 -0.1
WVT IAmb IAmb 03 57 25.9
comp=Z,46nm,0.9s
Z51A Franklin 83.83 307 IAmb IAmb 03 57 27.9
comp=Z,55nm,1.1s
P40A Paris 83.85 316 IAmb IAmb 03 57 27.3
comp=Z,62nm,1.1s
152A Waverly Hall 83.96 306 IAmb IAmb 03 57 28.3
comp=Z,64nm,1.1s
FVM French Village 83.97 314 IAmb IAmb 03 57 28.3
comp=Z,88nm,1.1s
YUK Yuzh-Kuril'sk 83.98 38 eP P 03 57 26.4 +0.3
YUK e 04 00 41.6
YUK ePPP PPP 04 02 33.6
YUK eS S 04 07 40.7 -1.9
YUK eSS SS 04 13 13.9 +2.5
YUK eSSS SSS 04 16 44.7
YUK pmax pmax
comp=Z,157nm,1.1s
YUK pmax pmax
comp=Z,154nm,0.7s
SUSD Miller 83.99 323 P P 03 57 26.8 +0.6
baz=43,SNR=32
TIGA Tifton 84.01 305 P P 03 57 27.4 +0.9
baz=50,SNR=8.5
ERM Erimo 84.06 41*d* iP P 03 57 26.8 +0.3
ERM pmax pmax
comp=Z,59nm,1.3s
ERM Erimo 84.06 41 P P 03 57 27.3 +0.8
ERM IAmb IAmb 03 57 55.9
comp=Z,65nm,1.2s
Y49A Blount Mountai 84.27 308 IAmb IAmb 03 57 29.9
comp=Z,49nm,1.0s
CCM Cathedral Cave 84.40 314 P P 03 57 29.1 +0.7
baz=47
CCM Cathedral Cave 84.40 314 P P 03 57 28.9 +0.6
CCM pmax pmax
comp=Z,88nm,1.2s
CCM Cathedral Cave 84.40 314 P P 03 57 28.9 +0.6
CCM IAmb IAmb 03 57 30.4
comp=Z,88nm,1.2s
PLAL Pickwick Lake 84.57 310 IAmb IAmb 03 57 30.6
comp=Z,98nm,1.1s
P38A Dawn 84.61 316 IAmb IAmb 03 57 31.6
comp=Z,79nm,1.1s
DWPF Disney Wildern 84.65 301 P P 03 57 30.9 +1.2
baz=51
DWPF Disney Wildern 84.65 301 P P 03 57 30.0 +0.2
PBMO Poplar Bluff 84.79 313 IAmb IAmb 03 57 32.4
comp=Z,77nm,1.2s
352A Blakely 84.86 306 IAmb IAmb 03 57 32.7
comp=Z,48nm,1.0s
MAJO Matsushiro 85.09 47*d* iP P 03 57 31.5 -0.4
MAJO pmax pmax
comp=Z,37nm,1.3s
MAJO Matsushiro 85.09 47 P P 03 57 31.8 -0.1
MAT Matsushiro 85.09 47 P P 03 57 31.3 -0.6
MAT S S 04 07 51.4 -2.7
MJAR Matsushiro Arr 85.09 47 P P 03 57 32.4 +0.5
comp=Z,15nm,0.8s,baz=304,slow=5.9,SNR=30
MJAR LR LR 04 39 38.6
comp=Z,344nm,18.6s,baz=50,slow=38
MJAR Matsushiro Arr 85.09 47 P P 03 57 32.4 +0.5
MJAR pmax pmax
comp=Z,13nm,0.8s
MJAR Matsushiro Arr 85.09 47 P P 03 57 32.4 +0.5
LRAL Lakeview Retre 85.18 308 P P 03 57 33.2 +0.8
baz=49,SNR=78
BDFB Brasilia 85.28 247 P P 03 57 34.4 +1.2
comp=Z,32nm,0.7s,baz=53,slow=4.6,SNR=46
BDFB LR LR 04 34 15.1
comp=Z,1μm,21.9s,baz=63,slow=35
553A Crawfordville 85.36 304 IAmb IAmb 03 57 35.7
comp=Z,81nm,1.1s
PTGA Pitinga 85.40 266 P P 03 57 34.0 +0.3
comp=Z,66nm,1.1s,baz=60,slow=6.4,SNR=54
PTGA Pitinga 85.40 266 P P 03 57 34.8 +1.0
PTGA IAmb IAmb 03 57 36.3
comp=Z,107nm,1.1s
NPGB Novo Progresso 85.54 258 eP P 03 57 34.7 +0.3
LAO LASA Array 85.60 328 P P 03 57 35.7 +1.5
baz=38,SNR=37
LCAR Lake Charles 85.70 313 IAmb IAmb 03 57 37.2
comp=Z,93nm,1.0s
OXF Oxford 85.70 310 P P 03 57 34.7 -0.3
baz=48
Z47A Carrollton 85.75 309 IAmb IAmb 03 57 37.3
comp=Z,57nm,1.0s
BGNE Belgrade 85.81 320 P P 03 57 36.4 +1.0
baz=43,SNR=13
BGNE S S 04 08 00.1 -0.8
baz=43
BGNE Belgrade 85.81 320 P P 03 57 36.1 +0.7
S39A Bolivar 85.84 315 IAmb IAmb 03 57 37.7
comp=Z,94nm,1.2s
EGMT Eagleton 85.97 331 P P 03 57 37.4 +1.3
baz=36
KSM Kuching 86.35 91 IAmb IAmb 03 57 41.1
comp=Z,96nm,1.5s
VAS01 Vassouras-RJ 86.35 239 eP P 03 57 39.5 +1.3
OHAK Old Harbor 86.35 358 IAmb IAmb 03 58 08.9
comp=Z,155nm,1.7s
FCAR Ozark Folk Cen 86.39 313 IAmb IAmb 03 57 40.3
comp=Z,68nm,1.0s
BSCB Bom Sucesso 86.43 241 eP P 03 57 39.3 +0.7
BRAL Brewton 86.44 307 P P 03 57 40.1 +1.4
baz=49,SNR=7.8
U40A Yellville 86.50 314 P P 03 57 39.5 +0.6
baz=46,SNR=43
U40A S S 04 08 07.4 -0.4
baz=46
U40A Yellville 86.50 314 IAmb IAmb 03 57 40.8
comp=Z,61nm,1.0s
X43A Marvell 86.59 311 P P 03 57 40.2 +0.9
baz=47,SNR=15
X43A S S 04 08 09.5 +0.8
baz=47
RSSD Black Hills 86.63 325 P P 03 57 40.4 +0.7
baz=39
RSSD Black Hills 86.63 325 P P 03 57 40.1 +0.5
RSSD pmax pmax
comp=Z,59nm,1.3s
RSSD Black Hills 86.63 325 P P 03 57 40.1 +0.5
RSSD IAmb IAmb 03 57 41.8
comp=Z,59nm,1.2s
KSU1 Kansas State U 86.66 318 P P 03 57 40.1 +0.5
baz=44,SNR=15
KSU1 Kansas State U 86.66 318 IAmb IAmb 03 57 41.5
comp=Z,79nm,1.0s
WALA Waterton Lakes 86.67 334 IAmb IAmb 03 57 41.2
comp=Z,50nm,0.9s
WHAR Wooly Hollow 86.90 313 IAmb IAmb 03 57 42.8
comp=Z,91nm,1.2s
IPMB Ipameri, GO 86.92 245 eP P 03 57 41.9 +0.8
W41B Gary Mavity, V 86.96 313 P P 03 57 41.7 +0.7
baz=46,SNR=22
W41B S S 04 08 12.8 +0.6
baz=46
W41B Gary Mavity, V 86.96 313 IAmb IAmb 03 57 43.1
comp=Z,56nm,1.1s
MAN01 Angra dos Reis 87.10 239 eP P 03 57 43.1 +1.3
HHAR Hobbs 87.18 314 IAmb IAmb 03 57 43.9
comp=Z,79nm,1.2s
UALR University of 87.29 312 IAmb IAmb 03 57 44.6
comp=Z,52nm,1.1s
SBUM Sibu 87.31 89 P P 03 57 44.7 +1.6
U38A Gravette 87.32 315 IAmb IAmb 03 57 44.7
comp=Z,92nm,1.2s
MACA Manacapuru-AM 87.42 264 eP P 03 57 44.7 +1.1
MACA eS S 04 08 21.2 +3.9
CCAR Cane Creek 87.54 311 IAmb IAmb 03 57 46.2
comp=Z,67nm,0.9s
X40A Basin Creek Fa 87.78 312 P P 03 57 45.6 +0.6
baz=46,SNR=13
X40A S S 04 08 19.4 -0.7
baz=46
X40A Basin Creek Fa 87.78 312 IAmb IAmb 03 57 47.0
comp=Z,39nm,1.1s
W39A Magazine 87.85 313 P P 03 57 46.1 +0.8
baz=45,SNR=9.5
W39A S S 04 08 21.7 +0.9
baz=45
W39A Magazine 87.85 313 IAmb IAmb 03 57 51.6
comp=Z,117nm,1.9s
VBMS Vicksburg 87.93 309 P P 03 57 47.1 +1.4
baz=47,SNR=8.9
OGNE Ogallala 88.11 322 P P 03 57 47.0 +0.4
baz=41
RLMT Red Lodge 88.13 329 P P 03 57 48.1 +1.4
baz=36,SNR=24
RLMT Red Lodge 88.13 329 IAmb IAmb 03 57 50.3
comp=Z,116nm,1.7s
ARAG Araguaiana, MT 88.14 249 eP P 03 57 48.9 +1.9
ARAG eS S 04 08 29.6 +5.7
MIAR Mount Ida 88.18 313 P P 03 57 48.1 +1.2
baz=45,SNR=38
MIAR Mount Ida 88.18 313 IAmb IAmb 03 57 49.5
comp=Z,95nm,1.2s
CLDB Colider 88.21 255 eP P 03 57 47.3 0.0
CLDB eS S 04 08 29.1 +4.5
SDV Santo Domingo 88.25 280 P P 03 57 47.8 0.0
comp=Z,28nm,0.5s,baz=41,slow=3.9,SNR=11
SDV Santo Domingo 88.25 280 P P 03 57 47.3 -0.6
SDV IAmb IAmb 03 57 49.6
comp=Z,73nm,1.1s
SDV Santo Domingo 88.25 280 eP P 03 57 48.4 +0.6
NEW Newport 88.46 335 P P 03 57 48.9 +0.8
baz=30,SNR=53
TUL1 Leonard 88.50 315 P P 03 57 49.0 +0.5
baz=44,SNR=22
TUL1 S S 04 08 27.2 +0.3
baz=44
WLAR White Oak Lake 88.50 312 IAmb IAmb 03 57 51.0
comp=Z,69nm,1.1s
CBKS Cedar Bluff 88.54 319 P P 03 57 49.0 +0.3
baz=42,SNR=6.2
MSO Missoula 88.56 332 P P 03 57 49.2 +0.6
baz=33,SNR=21
MSO Missoula 88.56 332 IAmb IAmb 03 58 24.4
comp=Z,81nm,1.8s
PARB Paraibuna 88.56 239 eP P 03 57 49.6 +0.9
Z41A Richland Creek 88.61 311 P P 03 57 50.1 +1.1
baz=46,SNR=8.8
Z41A S S 04 08 29.8 +1.7
baz=46
BOZ Bozeman (W) 88.70 330 P P 03 57 50.4 +1.1
baz=34,SNR=27
BOZ Bozeman (W) 88.70 330 P P 03 57 51.0 +1.6
BOZ pmax pmax
comp=Z,58nm,1.6s
BOZ Bozeman (W) 88.70 330 P P 03 57 51.0 +1.6
BOZ IAmb IAmb 03 57 51.9
comp=Z,58nm,1.6s
K22A Casper 88.91 326 P P 03 57 50.4 -0.1
baz=38,SNR=45
B08A Colville Reser 89.11 336 IAmb IAmb 03 57 54.0
comp=Z,71nm,1.9s
BB19B Bebedouro 89.13 243 eP P 03 57 53.9 +2.4
X37A Clayton 89.20 314 IAmb IAmb 03 57 54.2
comp=Z,34nm,1.0s
H17A Grant Village 89.26 329 P P 03 57 54.8 +2.6
baz=35,SNR=8.3
H17A Grant Village 89.26 329 IAmb IAmb 03 57 56.9
comp=Z,60nm,1.2s
VAO Valinhos 89.27 240 eP P 03 57 53.9 +1.7
DLMT Dillon 89.27 331 IAmb IAmb 03 57 56.3
comp=Z,54nm,1.6s
ITRB Iturama 89.58 245 eP P 03 57 55.2 +1.6
BCOK Bluff Creek, N 89.70 316 P P 03 57 55.2 +1.1
CISI Cisompet, Garu 89.73 100 P P 03 57 54.0 -0.5
IMW Indian Meadow 89.82 329 IAmb IAmb 03 57 58.4
comp=Z,40nm,1.1s
KSCO Kaye Shedlock' 89.87 321 P P 03 57 55.7 +0.7
baz=40,SNR=10
KSCO S S 04 08 39.3 -0.7
baz=40
KSCO Kaye Shedlock' 89.87 321 IAmb IAmb 03 57 57.0
comp=Z,58nm,1.1s
LOHW Long Hollow 89.91 329 P P 03 57 56.0 +0.8
SPB Sao Paulo 89.98 240 eP P 03 57 56.7 +1.3
C06D Leavenworth 89.99 337 P P 03 57 55.2 0.0
baz=28
N23A Red Feather La 90.03 324 P P 03 57 56.5 +0.7
baz=38,SNR=53
N23A S S 04 08 40.2 -1.4
baz=38
B05A Bryant 90.06 338 P P 03 57 55.2 -0.2
baz=27
TPAW Teton Pass 90.16 329 IAmb IAmb 03 57 57.8
comp=Z,31nm,1.0s
BW06 Boulder Array 90.16 328 P P 03 57 56.2 -0.2
baz=36,SNR=16
PDAR Pinedale Array 90.16 328 P P 03 57 56.3 -0.1
comp=Z,9.1nm,0.8s,baz=64,slow=4.3,SNR=76
PDAR PP PP 04 01 33.6 +3.5
comp=Z,0.7nm,0.6s,baz=60,slow=9.0,SNR=4.6
PDAR LR LR 04 40 00.3
comp=Z,545nm,20.1s,baz=30,slow=36
PDAR Pinedale Array 90.16 328 P P 03 57 55.9 -0.5
E09A Wood Farm, Sta 90.33 335 IAmb IAmb 03 58 00.3
comp=Z,62nm,1.6s
F10A Beach Ranch, E 90.48 334 IAmb IAmb 03 57 59.1
comp=Z,34nm,1.3s
ARGC Ariguani, Magd 90.52 283 eP P 03 57 59.3 +1.1
ISCO Idaho Springs 90.73 323 P P 03 57 59.9 +0.7
baz=38,SNR=40
ISCO Idaho Springs 90.73 323 P P 03 57 59.6 +0.4
ISCO pmax pmax
comp=Z,32nm,1.0s
ISCO Idaho Springs 90.73 323 P P 03 57 59.6 +0.4
ISCO IAmb IAmb 03 58 01.0
comp=Z,32nm,1.0s
NATX Nacogdoches 90.78 311 P P 03 58 00.4 +1.2
baz=45,SNR=6.9
AHID Auburn Hatcher 90.81 329 IAmb IAmb 03 58 01.4
comp=Z,27nm,0.9s
HAWA Hanford 90.90 336 IAmb IAmb 03 58 01.9
comp=Z,30nm,1.0s
D05A Enumclaw 90.98 337 IAmb IAmb 03 59 00.9
comp=Z,50nm,1.6s
D03D Eldon 91.01 338 P P 03 58 00.9 +1.0
baz=26,SNR=9.4
SMLC San Martn de 91.01 282 eP P 03 58 00.4 -0.1
WMOK Wichita Mounta 91.03 316 P P 03 58 01.1 +0.8
baz=42,SNR=54
Q24A Divide 91.16 323 P P 03 58 01.6 +0.3
baz=39,SNR=13
SALV Santo Antonio 91.19 251 eP P 03 58 02.5 +1.3
SJCC San Jacinto, C 91.22 283 eP P 03 58 02.1 +0.6
LON Longmire 91.32 337 IAmb IAmb 03 58 04.2
comp=Z,46nm,1.9s
PCMB Pacaembu 91.43 244 eP P 03 58 04.1 +1.9
F07A Phinny Hill Vi 91.47 336 IAmb IAmb 03 58 04.9
comp=Z,27nm,1.1s
HLID Hailey 91.49 331 P P 03 58 03.3 +0.8
baz=32,SNR=8.0
O20A White River Ci 91.69 325 P P 03 58 03.6 +0.1
baz=37,SNR=30
E04D Cinebar 91.73 337 P P 03 58 03.8 +0.6
baz=26,SNR=5.9
HWUT Hardware Ranch 91.96 328 P P 03 58 05.0 +0.3
F05D White Salmon 91.98 337 P P 03 58 05.1 +0.7
baz=27
E03A Lebam 92.04 338 IAmb IAmb 03 58 07.0
comp=Z,25nm,1.0s
T25A Trinidad 92.21 321 P P 03 58 06.3 +0.3
baz=39,SNR=14
T25A Trinidad 92.21 321 IAmb IAmb 03 58 07.7
comp=Z,23nm,1.1s
WHTX Lake Whitney, 92.27 313 P P 03 58 06.7 +0.6
baz=43
MOTC Monteria, Cord 92.28 283 eP P 03 58 06.5 +0.2
SDCO Great Sand Dun 92.28 322 P P 03 58 06.4 0.0
baz=38,SNR=42
SDCO Great Sand Dun 92.28 322 IAmb IAmb 03 58 08.3
comp=Z,27nm,1.1s
ZARC Zaragoza, Cauc 92.42 281 eP P 03 58 07.3 +0.2
G05D Wamic, OR 92.50 336 P P 03 58 07.7 +0.8
baz=27
AMTX Amarillo 92.51 318 IAmb IAmb 03 58 08.5
comp=Z,29nm,1.6s
PTBC PUERTO BERRIO, 92.68 280 eP P 03 58 07.6 -0.6
LCBC Los crdobas, 92.78 283 eP P 03 58 09.7 +1.0
UREC San Jos de Ur 92.80 282 eP P 03 58 07.9 -0.9
SAML Samuel 92.86 261 P P 03 58 08.9 0.0
SAML pmax pmax
comp=Z,29nm,1.2s
SAML Samuel 92.86 261 P P 03 58 08.9 0.0
SAML IAmb IAmb 03 58 10.3
comp=Z,29nm,1.2s
VILB Vilhena 92.89 256 eP P 03 58 10.4 +1.3
I07A Izee 92.92 334 IAmb IAmb 03 58 11.6
comp=Z,22nm,1.3s
S22A 4UR Ranch, Cre 92.93 323 P P 03 58 09.9 +0.5
baz=38,SNR=32
S22A 4UR Ranch, Cre 92.93 323 IAmb IAmb 03 58 11.2
comp=Z,23nm,0.9s
ABTX Abilene, Hawle 93.07 315 P P 03 58 10.7 +0.9
baz=42,SNR=13
ABTX S S 04 09 09.1 +0.3
baz=42
G03D McMinnville, O 93.15 337 P P 03 58 11.2 +1.4
baz=26,SNR=9.9
TRCB Terra Rica 93.17 244 eP P 03 58 12.0 +1.7
435B Jarrell 93.22 313 P P 03 58 11.5 +1.0
baz=43
PV07 Paradox Valley 93.24 324 IAmb IAmb 03 58 12.3
comp=Z,39nm,1.0s
H04A Detroit Lake 93.28 336 IAmb IAmb 03 58 12.3
comp=Z,25nm,1.0s
PV21 Cone Mtn., Par 93.30 325 IAmb IAmb 03 58 12.6
comp=Z,38nm,1.1s
I05D Terrebonne, OR 93.31 336 P P 03 58 12.0 +1.3
baz=27
PTLB Pontes e Lacer 93.56 253 eP P 03 58 13.3 +1.3
NORC Norcasia 93.59 280 eP P 03 58 12.1 -0.4
ROSC El Rosal 93.59 279 P P 03 58 12.4 -0.5
comp=Z,11nm,0.5s,baz=83,slow=6.3,SNR=10
ROSC El Rosal 93.59 279 IAmb IAmb 03 58 14.6
comp=Z,40nm,1.1s
H04D Lebanon 93.60 337 P P 03 58 12.7 +0.7
baz=26,SNR=12

DUG	**Dugway, Tooele**	**93.66**	**328**	P	**P**	**03 58 13.0**	**+0.5**
	baz=34,SNR=22						
DUG	**Dugway, Tooele**	**93.66**	**328**	IAmb	IAmb	03 58 14.2	
	comp=Z,15nm,0.9s						
PINE	**Pine Mountain**	**93.66**	**335**	IAmb	IAmb	03 58 15.6	
	comp=Z,22nm,1.0s						
CAPC	**Capurgana**	**93.69**	**284**	*e*P	**P**	**03 58 10.9**	**-1.9**
COR	**Corvallis**	**93.72**	**337**	P	**P**	**03 58 13.3**	**+0.8**
COR				pmax	pmax		
	comp=Z,34nm,1.1s						
COR	**Corvallis**	**93.72**	**337**	P	**P**	**03 58 13.3**	**+0.8**
COR				IAmb	IAmb	03 58 16.0	
	comp=Z,34nm,1.1s						
HELC	**Santa Helena**	**93.74**	**280**	*e*P	**P**	**03 58 11.6**	**-2.0**
DBBC	**Dabeiba**	**93.77**	**282**	*e*P	**P**	**03 58 13.2**	**-0.2**
PTGB	**Pitanga**	**93.95**	**242**	*e*P	**P**	**03 58 15.7**	**+1.9**
AQDB	**Aquidauana**	**93.99**	**248**	*e*P	**P**	**03 58 15.2**	**+1.2**
I04A	**Tendick Farm,**	**94.15**	**336**	P	**P**	**03 58 14.7**	**+0.2**
	baz=27,SNR=18						
MVCO	**Mesa Verde**	**94.16**	**324**	P	**P**	**03 58 15.3**	**+0.3**
	baz=36,SNR=8.7						
GUY2C	**Guyana, Caldas**	**94.19**	**280**	*e*P	**P**	**03 58 12.1**	**-3.7**
J05D	**Fort Rock, OR**	**94.21**	**335**	P	**P**	**03 58 16.3**	**+1.3**
	baz=27,SNR=19						
CBOC	**Ciudad Bolivar**	**94.31**	**281**	*e*P	**P**	**03 58 15.8**	**-0.1**
I02D	**Swisshome**	**94.32**	**337**	P	**P**	**03 58 16.4**	**+1.1**
	baz=26						
I03D	**Drain, OR**	**94.54**	**337**	P	**P**	**03 58 16.8**	**+0.6**
	baz=26,SNR=7.5						
TOLC	**Tolima**	**94.54**	**279**	*e*P	**P**	**03 58 17.8**	**+0.6**
J04D	**Umpqua Nationa**	**94.54**	**336**	P	**P**	**03 58 17.3**	**+0.7**
	baz=27						
K05A	**Summer Lake**	**94.59**	**335**	IAmb	IAmb	03 58 19.6	
	comp=Z,32nm,1.2s						
PRAC	**Prado**	**94.72**	**278**	*e*P	**P**	**03 58 17.4**	**-0.2**
JCT	**Junction City**	**94.75**	**314**	P	**P**	**03 58 18.2**	**+0.7**
	baz=42						
MACC	**Macarena, Meta**	**94.83**	**276**	*e*P	**P**	**03 58 14.2**	**-3.9**
ORTC	**Ortega, Tolima**	**94.89**	**279**	*e*P	**P**	**03 58 16.3**	**-2.1**
ANMO	**Albuquerque**	**94.95**	**321**	P	**P**	**03 58 19.0**	**+0.4**
	baz=38						
ANMO	**Albuquerque**	**94.95**	**321**	*d* iP	**P**	**03 58 19.4**	**+0.8**
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ANMO	**Albuquerque**	**94.95**	**321**	P	**P**	**03 58 19.6**	**+0.9**
PLMC	**San Jos del P**	**95.11**	**280**	*e*P	**P**	**03 58 20.5**	**+1.0**
DAV	**Davao City (W)**	**95.18**	**77**	LR	LR	04 47 02.5	
	comp=Z,216nm,20.1s,baz=336,slow=39						
J01E	**Myrtle Point**	**95.20**	**337**	P	**P**	**03 58 20.1**	**+0.9**
	baz=26						
BCIP	**Isla Barro Col**	**95.29**	**285**	IAmb	IAmb	03 58 22.3	
	comp=Z,40nm,1.2s						
SIV	**San Ignacio**	**95.37**	**254**	P	**P**	**03 58 20.6**	**+0.1**
	comp=Z,7.4nm,0.9s,baz=114,slow=5.7,SNR=9.6						
L04D	**Klamath Falls**	**95.52**	**335**	P	**P**	**03 58 21.3**	**+0.3**
	baz=27						
K02D	**Willamette Mer**	**95.54**	**337**	P	**P**	**03 58 21.5**	**+0.6**
	baz=26						
ITAB	**Concordia**	**95.56**	**240**	*e*P	**P**	**03 58 23.2**	**+2.2**
YOTC	**Yotoco, Valle**	**95.71**	**279**	*e*P	**P**	**03 58 18.1**	**-4.2**
M04C	**Macdoel**	**95.75**	**335**	P	**P**	**03 58 21.8**	**-0.3**
	baz=27						
ETMB	**Extrema**	**95.78**	**262**	*e*P	**P**	**03 58 22.3**	**0.0**
L02E	**Cave Junction**	**96.00**	**336**	P	**P**	**03 58 23.8**	**+0.8**
	baz=26						
833A	**Chaparral WMA,**	**96.09**	**312**	P	**P**	**03 58 24.6**	**+0.9**
	baz=42						
KNB	**Kanab**	**96.31**	**326**	P	**P**	**03 58 25.5**	**+0.8**
KNB				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KNB	**Kanab**	**96.31**	**326**	P	**P**	**03 58 25.5**	**+0.8**
R11A	**Troy Canyon, C**	**96.38**	**329**	P	**P**	**03 58 25.5**	**+0.5**
	baz=32,SNR=9.0						
R11A	**Troy Canyon, C**	**96.38**	**329**	IAmb	IAmb	03 58 26.9	
	comp=Z,32nm,1.9s						
W18A	**Petrified Fore**	**96.44**	**323**	P	**P**	**03 58 25.5**	**+0.2**
	baz=36						
M02C	**Callahan**	**96.44**	**335**	P	**P**	**03 58 25.4**	**+0.3**
	baz=26						
N02D	**Trinity Center**	**96.77**	**335**	P	**P**	**03 58 27.0**	**+0.4**
	baz=26						
WUAZ	**Wupatki**	**96.89**	**325**	P	**P**	**03 58 27.8**	**+0.5**
	baz=35,SNR=8.5						
WUAZ	**Wupatki**	**96.89**	**325**	IAmb	IAmb	03 58 29.4	
	comp=Z,14nm,1.1s						
MNTX	**Cornudas Mount**	**96.93**	**318**	P	**P**	**03 58 27.2**	**-0.2**
	baz=39,SNR=18						
O03E	**Paynes Creek**	**97.06**	**334**	P	**P**	**03 58 27.9**	**-0.1**
	baz=27						
YERR	**Yerington**	**97.28**	**332**	IAmb	IAmb	03 58 32.1	
	comp=Z,20nm,1.2s						
NVAR	**Mina Array Bea**	**97.40**	**331**	P	Pdif	03 58 30.0	+0.3
	comp=Z,2.4nm,0.8s,baz=44,slow=4.4,SNR=21						
NVAR				PP	**PP**	**04 02 27.1**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=57,slow=5.5,SNR=3.7						
NVAR				PKKPbc	**PKKPbc**	**04 15 03.9**	**-2.5**
	comp=Z,2.0nm,0.6s,baz=201,slow=4.3,SNR=18						
NVAR				SKKPbc	SKKPbc	04 18 38.0	+3.4
	comp=Z,0.8nm,0.8s,baz=197,slow=5.0,SNR=4.5						
NVAR				LR	LR	04 46 00.3	
	comp=Z,331nm,19.5s,baz=24,slow=38						
NVAR	**Mina Array Bea**	**97.40**	**331**	P	Pdif	03 58 29.9	+0.1
121A	**Cookes Peak, D**	**97.54**	**320**	P	Pdif	03 58 30.8	+0.4
	baz=37,SNR=5.1						
MATN	**Matagalpa**	**97.55**	**292**	P	**P**	**03 58 29.9**	**-0.7**
MATN				IAmb	IAmb	03 58 32.0	
	comp=Z,18nm,1.3s						
BOAB	**BOACO BROADBAND**	**97.67**	**292**	P	Pdif	03 58 31.1	+0.1
ESTN	**Estel**	**97.77**	**293**	P	Pdif	03 58 31.9	+0.3
ESTN				IAmb	IAmb	03 58 33.0	
	comp=Z,28nm,1.2s						
KMRM	**Mail Ridge**	**97.78**	**335**	IAmb	IAmb	03 58 33.7	
	comp=Z,16nm,1.0s						
TX31	**Lajitas Ar. Si**	**97.81**	**316**	P	Pdif	03 58 31.6	+0.1
TX31				IAmb	IAmb	03 58 33.6	
	comp=Z,33nm,1.1s						
TXAR	**Lajitas Array**	**97.81**	**316**	P	Pdif	03 58 32.3	+0.7
	comp=Z,3.4nm,0.8s,baz=73,slow=4.2,SNR=37						
TXAR				PP	**PP**	**04 02 29.9**	**-0.2**
	comp=Z,1.9nm,1.0s,baz=57,slow=4.6,SNR=4.2						
TXAR				PKKP	**PKKPdf**	**04 15 06.4**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=194,slow=6.3,SNR=7.3						
TXAR				LR	LR	04 43 59.7	
	comp=Z,227nm,18.8s,baz=0.0,slow=36						
TXAR	**Lajitas Array**	**97.81**	**316**	P	Pdif	03 58 32.0	+0.5
TPNV	**Topopah Spring**	**97.84**	**329**	P	Pdif	03 58 32.0	+0.4
	baz=31						
GRAC	**Grapevine Rang**	**98.26**	**329**	P	Pdif	03 58 34.5	+1.1
	baz=30,SNR=5.5						
FURC	**Furnace Creek,**	**98.51**	**329**	P	Pdif	03 58 35.8	+1.4
	baz=31						
SHOC	**Shoshone, Teco**	**98.75**	**328**	P	Pdif	03 58 36.8	+1.3
	baz=31						
TUQ	**Turquoise Moun**	**98.99**	**328**	P	Pdif	03 58 37.9	+1.1
	baz=32						
CWC	**Cottonwood Cre**	**99.03**	**330**	P	**Pdif**	**03 58 37.8**	**+0.8**
	baz=30						
MPMC	**Manual Prospec**	**99.12**	**329**	P	**Pdif**	**03 58 38.3**	**+0.9**
	baz=30						
PDMCI	**Parker Dam,Lak**	**99.16**	**326**	P	**Pdif**	**03 58 38.7**	**+1.3**
	baz=33						
TUC	**Tucson**	**99.22**	**322**	P	**Pdif**	**03 58 38.6**	**+0.9**
	baz=35						
TUC	**Tucson**	**99.22**	**322**	P	**Pdif**	**03 58 37.8**	**0.0**
TUC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TUC	**Tucson**	**99.22**	**322**	P	**Pdif**	**03 58 37.8**	**0.0**
GMRC	**Granite Mounta**	**99.43**	**327**	P	**Pdif**	**03 58 39.7**	**+1.0**
	baz=32						
APG	**El Apazote**	**99.51**	**297**	P	**Pdif**	**03 58 40.7**	**+1.2**
	comp=Z,7.3nm,1.1s,baz=88,slow=15,SNR=3.8						
OTAV	**Otavalo**	**99.64**	**278**	P	**Pdif**	**03 58 41.0**	**+0.6**
OTAV				pmax	pmax		
	comp=Z,21nm,1.5s						
OTAV	**Otavalo**	**99.64**	**278**	Pdif	**Pdif**	**03 58 41.0**	**+0.6**
OTAV				IAmb	IAmb	03 58 42.6	
	comp=Z,21nm,1.5s						
LRMC	**Laurel Mtn Rad**	**99.69**	**329**	P	**Pdif**	**03 58 41.0**	**+1.2**
	baz=30						
IRM	**Iron Mountain**	**99.73**	**326**	P	**Pdif**	**03 58 40.3**	**+0.3**
	baz=32						
ISA	**Isabella, Lake**	**99.86**	**330**	P	**Pdif**	**03 58 41.4**	**+0.8**
	baz=30						
ISA	**Isabella, Lake**	**99.86**	**330**	P	**Pdif**	**03 58 42.4**	**+1.8**
ISA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ISA	**Isabella, Lake**	**99.86**	**330**	Pdif	**Pdif**	**03 58 42.4**	**+1.8**

BELC	**Belle Mtn. Jos**	**100.24**	**327**	P	**Pdif**	**03 58 43.3**	**+1.0**
	baz=32						
BC3	**Big Chuckawall**	**100.29**	**326**	P	**Pdif**	**03 58 43.6**	**+1.0**
	baz=32						
EDW2	**Edwards Air Fo**	**100.34**	**329**	P	**Pdif**	**03 58 43.6**	**+1.0**
	baz=30						
214A	**Organ Pipe Nat**	**100.49**	**324**	P	**Pdif**	**03 58 43.8**	**+0.4**
	baz=34						
214A	**Organ Pipe Nat**	**100.49**	**324**	Pdif	**Pdif**	**03 58 43.0**	**-0.3**
PFO	**Pinyon Flats O**	**100.77**	**327**	P	**Pdif**	**03 58 45.7**	**+1.0**
	baz=31						
LPAZ	**La Paz**	**101.05**	**258**	PP	**PP**	**04 02 55.3**	**-1.1**
	comp=Z,6.3nm,1.2s,baz=23,slow=8.5,SNR=4.5						
LPAZ				PKKP	**PKKPbc**	**04 14 59.2**	**+2.7**
	comp=Z,0.7nm,0.5s,baz=252,slow=1.8,SNR=5.0						
MURC	**Murrieta**	**101.10**	**328**	P	**Pdif**	**03 58 46.6**	**+0.5**
	baz=31						
SYO	**Syowa Base**	**106.10**	**174**↑	*e*PP	**PP**	**04 03 35.0**	**+2.7**
MAW	**Mawson**	**108.15**	**165**	PKiKP	**PKiKP**	**04 03 22.2**	**0.0**
	comp=Z,1.3nm,0.6s,baz=341,slow=0.9,SNR=6.7						
PLCA	**Paso Flores**	**115.67**	**237**	PKP	**PKiKP**	**04 03 38.0**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=48,slow=1.8,SNR=9.9						
PLCA				SKP		04 07 04.5	
	comp=Z,5.0nm,0.9s,baz=39,slow=3.4,SNR=7.2						
PLCA	**Paso Flores**	**115.67**	**237**	PKIKP	**PKiKP**	**04 03 38.0**	**+0.5**
PLCA	**Paso Flores**	**115.67**	**237**	PKPdf	**PKiKP**	**04 03 37.8**	**+0.3**
WRA	**Warramunga Arr**	**117.87**	**95**	PKP	**PKPdf**	**04 03 42.2**	**-0.1**
	comp=Z,18nm,0.6s,baz=316,slow=1.8,SNR=174						
WRA				SKP		04 07 08.3	
	comp=Z,5.6nm,0.9s,baz=303,slow=1.9,SNR=5.9						
WRA				PKKPab	**PKKPbc**	**04 14 03.1**	**+1.3**
	comp=Z,2.4nm,1.1s,baz=122,slow=3.7,SNR=6.1						
WRA	**Warramunga Arr**	**117.87**	**95***c* *i*	PKIKP	**PKPdf**	**04 03 42.2**	**-0.1**
WRA				pmax	pmax		
	comp=Z,17nm,0.6s						
WRA	**Warramunga Arr**	**117.87**	**95**	PKPdf	**PKPdf**	**04 03 41.0**	**-1.2**
WRAB	**Tennant Creek**	**117.88**	**95***d* *i*	PKIKP	**PKPdf**	**04 03 41.8**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,17nm,0.6s						
WRAB	**Tennant Creek**	**117.88**	**95**		**PKPdf**	**04 03 42.1**	**-0.2**
AS31	**Alice Springs**	**119.43**	**99**	PKPdf	**PKPdf**	**04 03 45.0**	**-0.2**
ASAR	**Alice Springs**	**119.43**	**99**	PKP	**PKPdf**	**04 03 44.9**	**-0.4**
	comp=Z,32nm,0.5s,baz=313,slow=1.5,SNR=244						
ASAR				SKP		04 07 11.2	
	comp=Z,7.8nm,0.9s,baz=319,slow=1.8,SNR=8.2						
ASAR				PKKPbc	**PKKPbc**	**04 13 55.5**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=120,slow=3.9,SNR=18						
BELA	**Belgrano 2**	**119.56**	**192**	PKPdf	**PKiKP**	**04 03 44.5**	**+0.6**
PMSA	**Palmer Station**	**121.68**	**210**		**PKiKP**	**04 03 49.0**	**+0.7**
CASY	**Casey**	**121.77**	**152**	PKPdf	**PKiKP**	**04 03 49.0**	**+0.5**
BBOO	**Buckleboo**	**125.30**	**107**		**PKPdf**	**04 03 56.3**	**+0.2**
QSPA	**South Pole Qui**	**126.60**	**180**		**PKPdf**	**04 03 57.3**	**-0.3**
CTAO	**Charters Tower**	**127.51**	**88**	PKIKP	**PKiKP**	**04 04 01.4**	**+0.1**
CTAO	**Charters Tower**	**127.51**	**88**		**PKiKP**	**04 04 01.4**	**+0.1**
STKA	**Stephens Creek**	**129.20**	**104**	PKP	**PKPdf**	**04 04 03.5**	**-0.2**
	comp=Z,18nm,0.6s,baz=340,slow=2.9,SNR=42						
STKA				SKPbc	SKPab	04 07 15.5	-0.4
	comp=Z,17nm,0.6s,baz=297,slow=5.5,SNR=20						
STKA	**Stephens Creek**	**129.20**	**104**	PKPdf	**PKPdf**	**04 04 03.1**	**-0.5**
TOO	**Toolangi**	**134.21**	**109**	PKIKP	**PKiKP**	**04 04 14.9**	**+0.6**
TOO	**Toolangi**	**134.21**	**109**	PKPdf	**PKiKP**	**04 04 14.9**	**+0.6**
VNDA	**Vanda**	**135.36**	**168**	PKP	**PKiKP**	**04 04 15.1**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=293,slow=3.8,SNR=12						
VNDA				SKPbc	**SKPbc**	**04 07 35.5**	**-1.1**
	comp=Z,15nm,0.9s,baz=264,slow=5.6,SNR=20						
DZM	**Mont Dzumac**	**144.59**	**76**	PKPdf	**PKPdf**	**04 04 32.6**	**+0.3**
MSVF	**Nonsavu**	**150.46**	**57**	PKIKP	**PKiKP**	**04 04 48.8**	**+0.5**
MSVF	**Nonsavu**	**150.46**	**57**		**PKiKP**	**04 04 48.8**	**+0.5**

*NEIC **29** 03:48:36.2±2.6,36.54N±0.08×23.63E±0.07, h104km±10km, Error ellipse: s-maj=12.6km s-min=6.7km az=202.0*
*ATH **29** 03:48:36.0,36.69N×23.71E,h90km±2km, ML4.7/30, Error ellipse: s-maj=2.0km s-min=0.6km az=189.0*
*ISK **29** 03:48:36.5,36.72N×23.76E, h67km±3km, ML4.7/10*
*IDC **29** 03:48:36.7±1.4,36.53N×23.81E,h106km±17km, mb4.5/10, mb1 4.5/13,mb1mx4.0/57, mbtmp4.8/13, Error ellipse: s-maj=20.9km s-min=15.4km az=112.0*
*THE **29** 03:48:37.6,36.69N×23.71E,h76km±2km, ML4.8/28, Error ellipse: s-maj=2.2km s-min=0.5km az=233.0*

ISC 29 03:48:35.9±0.6,36.69N±0.02×23.69E±0.02,h93km±5km, n202,σ1§35/262,mb4.7/14,1C-1D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNVA	**Monemvasia**	**0.53**	**270**	P		P	**Pn**	**03 48 51.9**	**+0.9**
MNVA				S		S	**Sn**	**03 49 02.5**	**+0.1**
MNVA				AML		AML		03 49 03.0	
	comp=E,82607μm,0.5s								
MNVA				AML		AML		03 49 03.0	
MHLO	**Agia Marina, M**	**0.57**	**89**	P		P	**Pn**	**03 48 52.2**	**+0.7**
MHLO				S		S	**Sn**	**03 49 03.1**	**0.0**
	comp=E,112μm,0.3s								
MHLO	**Agia Marina, M**	**0.57**	**89**	P		P	**Pn**	**03 48 52.3**	**+0.9**
MHLO				S		S	**Sn**	**03 49 03.4**	**+0.3**
MHLO				AML		AML		03 49 05.0	
MHLO				AML		AML		03 49 05.2	
MHLA	**Plaka, Milos I**	**0.59**	**84**	P		P	**Pn**	**03 48 52.7**	**+1.1**
VLI	**Veliai**	**0.61**	**273**	P		P	**Pn**	**03 48 52.3**	**+0.5**
VLI				S		S	**Sn**	**03 49 03.2**	**-0.4**
	comp=E,108μm,0.3s								
VLI	**Veliai**	**0.61**	**273**	P		P	**Pn**	**03 48 52.3**	**+0.5**
VLI				S		S	**Sn**	**03 49 03.5**	**-0.1**
VLI				AML		AML		03 49 03.6	
VLI				AML		AML		03 49 03.9	
KTHA	**Kythira Island**	**0.66**	**230**	P		P	**Pn**	**03 48 53.5**	**+1.2**
KTHA				S		S	**Sn**	**03 49 04.8**	**+0.3**
	comp=E,50μm,0.4s								
KTHA	**Kythira Island**	**0.66**	**230**	P		P	**Pn**	**03 48 53.4**	**+1.2**
KTHA				S		S	**Sn**	**03 49 04.9**	**+0.3**
KTHA				AML		AML		03 49 06.5	
KTHA				AML		AML		03 49 06.7	
	comp=N,85788μm,0.5s								
YDRA	**Hydra**	**0.69**	**345**	P		P	**Pn**	**03 48 53.3**	**+0.8**
YDRA				AML		AML		03 49 06.6	
YDRA				AML		AML		03 49 06.8	
SERI	**Serifos**	**0.79**	**53**	P		P	**Pn**	**03 48 54.3**	**+0.7**
SERI	**Serifos**	**0.79**	**53**	P		P	**Pn**	**03 48 54.1**	**+0.5**
SERI				S		S	**Sn**	**03 49 06.3**	**-0.6**
SERI				AML		AML		03 49 07.1	
	comp=E,43019μm,0.6s								
SERI				AML		AML		03 49 07.1	
	comp=N,29451μm,0.4s								
ANKY	**Antikythira Is**	**0.88**	**201**	P		P	**Pn**	**03 48 55.5**	**+1.1**
ANKY				S		S	**Sn**	**03 49 08.2**	**-0.1**
	comp=N,29μm,0.4s								
ANKY	**Antikythira Is**	**0.88**	**201**	P		P	**Pn**	**03 48 55.3**	**+0.9**
ANKY				S		S	**Sn**	**03 49 08.4**	**+0.1**
ANKY				AML		AML		03 49 08.6	
	comp=N,63761μm,0.4s								
ANKY				AML		AML		03 49 08.9	
	comp=E,52432μm,0.4s								
DID	**Didima**	**0.90**	**336**	P		P	**Pn**	**03 48 55.4**	**+0.7**
DID				S		S	**Sn**	**03 49 09.1**	**+0.4**
	comp=E,63μm,0.4s								
DID	**Didima**	**0.90**	**336**	P		P	**Pn**	**03 48 55.4**	**+0.7**
DID				S		S	**Sn**	**03 49 09.2**	**+0.5**
DID				AML		AML		03 49 09.9	
DID				AML		AML		03 49 10.0	
	comp=N,90154μm,0.3s								
RODP	**Rodopos**	**1.12**	**177**	P		P	**Pn**	**03 48 58.0**	**+0.8**
RODP				S		S	**Sn**	**03 49 12.6**	**-0.6**
	comp=N,16μm,0.6s								
RODP	**Rodopos**	**1.12**	**177**	PN		P	**Pn**	**03 48 57.6**	**+0.4**
RODP				SN		S	**Sn**	**03 49 12.9**	**-0.3**
VLY	**Voula,Athens**	**1.17**	**4**	P		P	**Pn**	**03 48 58.4**	**+0.7**
VLY				S		S	**Sn**	**03 49 14.2**	**+0.1**
	comp=N,22μm,0.7s								
VLY	**Voula,Athens**	**1.17**	**4**	P		P	**Pn**	**03 48 58.4**	**+0.7**
VLY				S		S	**Sn**	**03 49 14.1**	**0.0**
VLY				AML		AML		03 49 15.1	
	comp=N,42073μm,0.9s								
VLY				AML		AML		03 49 15.5	
	comp=E,45883μm,0.5s								
CHAN	**Chania**	**1.20**	**166**	P		P	**Pn**	**03 48 58.5**	**+0.4**
CHAN				S		S	**Sn**	**03 49 14.3**	**-0.4**
	comp=E,17μm,0.4s								
IMMV	**Iera Moni Meta**	**1.25**	**169**	P		P	**Pn**	**03 48 59.2**	**+0.6**
IMMV				S		S	**Sn**	**03 49 15.9**	**+0.1**
	comp=E,26μm,0.3s								
IMMV	**Iera Moni Meta**	**1.25**	**169**	P		P	**Pn**	**03 48 59.3**	**+0.6**
IMMV				S		S	**Sn**	**03 49 16.3**	**+0.5**
IMMV						AML	AML	03 49 17.8	
	comp=E,48892μm,0.6s								
IMMV						AML	AML	03 49 20.3	
	comp=N,55501μm,0.3s								
IMMV	**Iera Moni Meta**	**1.25**	**169**	PN		**Pn**	**03 48 59.1**	**+0.4**
IMMV				SN		**Sn**	**03 49 15.6**	**-0.2**
VLX	**Vlachokerasia**	**1.25**	**303**	P		**Pn**	**03 49 00.0**	**+1.2**
VLX				S		**Sn**	**03 49 16.4**	**+0.3**
	comp=N,20μm,0.4s								
VLX	**Vlachokerasia**	**1.25**	**303**	P		**Pn**	**03 48 59.8**	**+1.0**
VLX				S		**Sn**	**03 49 16.5**	**+0.5**
VLX				AML		AML		03 49 18.3	
	comp=N,33474μm,0.3s								
VLX				AML		AML		03 49 18.6	
	comp=E,43309μm,0.4s								
ATHU	**Athens Univers**	**1.28**	**3**	P		**Pn**	**03 49 00.0**	**+0.9**
ATHU				S		**Sn**	**03 49 16.1**	**-0.4**
	comp=E,17μm,0.6s								
ATHU	**Athens Univers**	**1.28**	**3**	P		**Pn**	**03 48 59.8**	**+0.8**
ATHU				S		**Sn**	**03 49 16.6**	**+0.1**
ATHU				AML		AML		03 49 17.5	
	comp=E,34710μm,0.6s								
ATHU				AML		AML		03 49 17.6	
	comp=N,34086μm,0.7s								
ATH	**Athens Observa**	**1.28**	**1**	P		**Pn**	**03 49 00.2**	**+1.1**
ATH				S		**Sn**	**03 49 16.8**	**+0.2**
	comp=N,26μm,0.4s								
ATH	**Athens Observa**	**1.28**	**1**	P		**Pn**	**03 49 00.1**	**+1.1**
ATH				S		**Sn**	**03 49 17.0**	**+0.4**
ATH				AML		AML		03 49 17.5	
	comp=E,45682μm,0.4s								
ATH				AML		AML		03 49 18.1	
	comp=N,57632μm,0.5s								
IOSP	**Ios island**	**1.28**	**88**	P		**Pn**	**03 49 00.1**	**+1.0**
IOSP				S		**Sn**	**03 49 16.1**	**-0.5**
	comp=N,20μm,0.6s								
IOSP	**Ios island**	**1.28**	**88**	P		**Pn**	**03 49 00.2**	**+1.0**
IOSP				S		**Sn**	**03 49 16.3**	**-0.3**
IOSP				AML		AML		03 49 16.8	
	comp=N,26475μm,0.4s								
IOSP				AML		AML		03 49 18.3	
	comp=E,51757μm,0.7s								
VAM	**Vamos**	**1.34**	**162**	P		**Pn**	**03 49 00.3**	**+0.5**
VAM				S		**Sn**	**03 49 17.8**	**0.0**
	comp=E,17μm,0.5s								
VAM	**Vamos**	**1.34**	**162**	P		**Pn**	**03 49 00.1**	**+0.3**
VAM				S		**Sn**	**03 49 17.9**	**0.0**
VAM				AML		AML		03 49 18.4	
	comp=E,32200μm,0.5s								
VAM				AML		AML		03 49 19.6	
	comp=N,35266μm,0.4s								
SAP3	**Santorini-Thir**	**1.36**	**100**	P		**Pn**	**03 49 01.1**	**+1.2**
SAP3				S		**Sn**	**03 49 19.1**	**+0.9**
	comp=N,86μm,0.5s								
SAP3	**Santorini-Thir**	**1.36**	**100**	P		**Pn**	**03 49 01.1**	**+1.2**
SAP3				S		**Sn**	**03 49 19.1**	**+0.9**
PTL	**Penteli**	**1.37**	**6**	P		**Pn**	**03 49 01.2**	**+1.1**
PTL				S		**Sn**	**03 49 18.4**	**0.0**
	comp=N,20μm,0.5s								
PTL	**Penteli**	**1.37**	**6**	P		**Pn**	**03 49 00.9**	**+0.8**
PTL				S		**Sn**	**03 49 18.4**	**0.0**
PTL				AML		AML		03 49 19.2	
	comp=E,45011μm,0.5s								
PTL				AML		AML		03 49 19.2	
	comp=N,36476μm,0.6s								
SAP4	**Santorini-Oia**	**1.37**	**98**	P		**Pn**	**03 49 01.4**	**+1.3**
SAP4				S		**Sn**	**03 49 19.3**	**+0.9**
CMBO	**Columbo, Santo**	**1.40**	**98**	P		**Pn**	**03 49 01.7**	**+1.2**
CMBO				S		**Sn**	**03 49 19.6**	**+0.6**
	comp=N,46μm,0.5s								
CMBO	**Columbo, Santo**	**1.40**	**98**	P		**Pn**	**03 49 01.7**	**+1.2**
CMBO				S		**Sn**	**03 49 19.5**	**+0.4**
CMBO				AML		AML		03 49 20.6	
	comp=N,86345μm,0.5s								
CMBO				AML		AML		03 49 21.4	
	comp=E,98358μm,0.6s								
DION	**Dionisos Attik**	**1.40**	**8**	P		**Pn**	**03 49 01.8**	**+1.2**
DION				S		**Sn**	**03 49 19.4**	**+0.2**
	comp=E,76μm,0.6s								
DION	**Dionisos Attik**	**1.40**	**8**	P		**Pn**	**03 49 01.7**	**+1.1**
DION				S		**Sn**	**03 49 19.5**	**+0.3**
DION				AML		AML		03 49 20.2	
DION				AML		AML		03 49 20.9	
SAP1	**Santorini-Akro**	**

comp=E,444nm,0.3s,baz=324,slow=13,SNR=4.6
IDI S Sn 03 49 23.9 -2.1
comp=E,2µm,0.3s,baz=277,slow=6.0,SNR=6.1
IDI Anoyia 1.70 145 P Pn 03 49 04.1 -0.3
IDI Anoyia 1.70 145 P Pn 03 49 04.2 -0.3
IDI S Sn 03 49 24.6 -1.4
IDI AML AML 03 49 25.4
comp=N,17112µm,0.3s
IDI AML AML 03 49 25.6
comp=E,20523µm,0.3s
IDI Anoyia 1.70 145 PN Pn 03 49 04.7 +0.3
IDI Anoyia 1.70 145 Pn Pn 03 49 04.2 -0.3
ANAF Anafi Island 1.71 100 P Pn 03 49 05.7 +1.3
ANAF Anafi Island 1.71 100 P Pn 03 49 05.8 +1.4
IACM Heraklion 1.77 140 P Pn 03 49 06.0 +0.7
IACM Heraklion 1.77 140 P Pn 03 49 06.1 +0.9
AMGA Amorgos Island 1.78 85 P Pn 03 49 06.4 +1.1
AMGA S Sn 03 49 27.9 +0.3
comp=E,20µm,0.7s
AMGA Amorgos Island 1.78 85 P Pn 03 49 06.3 +1.1
AMGA S Sn 03 49 27.7 +0.1
KSTL Kastelli Herak 1.78 141 P Pn 03 49 09.1 +3.8
HRKL Herakleio 1.79 140 P Pn 03 49 05.9 +0.5
HRKL S Sn 03 49 27.4 -0.4
comp=E,25µm,0.5s
HRKL Herakleio 1.79 140 PN Pn 03 49 06.3 +0.9
AMT Artemida-Makis 1.79 299 P Pn 03 49 08.0 +2.5
AMT Artemida-Makis 1.79 299 P Pn 03 49 07.8 +2.2
KLV Kalavryta, Ach 1.83 318 P Pn 03 49 07.0 +1.0
KLV Kalavryta, Ach 1.83 318 P Pn 03 49 07.3 +1.3
KLV S Sn 03 49 29.8 +0.9
GVDS Gavdos 1.87 170 P Pn 03 49 07.0 +0.5
GVDS Gavdos 1.87 170 PN Pn 03 49 07.5 +1.0
GVD Gavdhos 1.87 170 P Pn 03 49 07.5 +1.0
GVD Gavdhos 1.87 170 P Pn 03 49 07.1 +0.6
GVD S Sn 03 49 30.6 +0.8
GVD AML AML 03 49 32.0
comp=E,25385µm,0.4s
GVD AML AML 03 49 33.4
comp=N,37707µm,0.4s
GVD Gavdhos 1.87 170 PN Pn 03 49 07.7 +1.2
SIVA Sivas 1.90 151 P Pn 03 49 08.2 +1.3
DSF Desfina 1.95 332 P Pn 03 49 07.9 +0.3
KYMI Kymi, Euboea I 1.97 9 P Pn 03 49 08.5 +0.7
KYMI AML AML 03 49 36.1
comp=N,8931µm,0.7s
KYMI AML AML 03 49 36.3
comp=E,9654µm,0.7s
ALIK Aliki, Aigiali 2.01 322 P Pn 03 49 09.5 +1.2
DRO Drossia 2.02 309 P Pn 03 49 10.4 +1.9
DRO Drossia 2.02 309 P Pn 03 49 10.2 +1.7
DLFA Delphi 2.02 332 P Pn 03 49 09.4 +0.9
DLFA S Sn 03 49 34.1 +0.6
DLFA AML AML 03 49 35.1
comp=N,13215µm,0.5s
DLFA AML AML 03 49 35.5
comp=E,12196µm,0.7s
LKR Lokris 2.04 345 P Pn 03 49 09.9 +1.3
LKR S Sn 03 49 34.6 +1.0
comp=E,11µm,0.9s
LKR Lokris 2.04 345 P Pn 03 49 09.9 +1.3
LKR S Sn 03 49 33.9 +0.3
LKR AML AML 03 49 36.0
comp=N,22206µm,1.2s
LKR AML AML 03 49 36.2
comp=E,20712µm,0.6s
LAST Lasithi 2.10 136 P Pn 03 49 10.2 +0.6
LAST Lasithi 2.10 136 P Pn 03 49 10.3 +0.6
NPS Neapolis 2.11 132 P Pn 03 49 09.9 +0.3
NPS S Sn 03 49 34.5 -0.9
comp=E,7µm,0.5s
NPS Neapolis 2.11 132 P Pn 03 49 10.5 +0.8
TRIZ Trizonia 2.11 323 P Pn 03 49 10.9 +1.3
TRIZ Trizonia 2.11 323 P Pn 03 49 10.8 +1.2
AXAR Agios Charalam 2.23 339 P Pn 03 49 12.3 +1.1
AXAR S Sn 03 49 40.2 +1.9
comp=E,18µm,0.3s
AXAR Agios Charalam 2.23 339 P Pn 03 49 12.5 +1.3
RLS Riolos of Patr 2.24 308 P Pn 03 49 14.0 +2.7
RLS Riolos of Patr 2.24 308 P Pn 03 49 13.7 +2.4
EFP Efpalio 2.24 321 P Pn 03 49 12.6 +1.3
SKY Skiros Island 2.29 17 P Pn 03 49 12.9 +0.9
VTN Vitineika 2.34 302 P Pn 03 49 14.6 +1.9
ANX Ano Chora 2.37 324 P Pn 03 49 14.3 +1.2
ANX Ano Chora 2.37 324 P Pn 03 49 14.3 +1.2
ALNA Alonissos 2.46 3 P Pn 03 49 15.4 +1.2
SKIA Skiathos 2.48 356 P Pn 03 49 16.1 +1.5
SKIA Skiathos 2.48 356 P Pn 03 49 16.1 +1.5
AOS Alonnisos 2.48 3 P Pn 03 49 15.5 +0.9
AOS Alonnisos 2.48 3 P Pn 03 49 15.4 +0.9
AOS Alonnisos 2.48 3 PN Pn 03 49 15.5 +0.9
CHOS Chios island 2.53 47 P Pn 03 49 16.2 +0.9
CHOS Chios island 2.53 47 PN Pn 03 49 15.9 +0.6
AGG Agios Georgios 2.57 336 P Pn 03 49 16.8 +1.1
AGG Agios Georgios 2.57 336 P Pn 03 49 17.2 +1.5
AGG Agios Georgios 2.57 336 Pn Pn 03 49 17.2 +1.5
ZKR Zakros 2.58 127 P Pn 03 49 17.2 +1.3
ZKR Zakros 2.58 127 P Pn 03 49 17.2 +1.3
ZKR Zakros 2.58 127 PN Pn 03 49 17.5 +1.6
MAKR Makrakomi, Fth 2.63 332 P Pn 03 49 18.4 +1.9
NEO Neokhori 2.64 352 P Pn 03 49 18.1 +1.4
NEO Neokhori 2.64 352 P Pn 03 49 18.1 +1.4
KOSK Kos Island 2.64 88 PN Pn 03 49 17.5 +0.9
XOR Xorichti 2.70 352 P Pn 03 49 18.8 +1.3
SMG Samos 2.71 67 P Pn 03 49 19.1 +1.5
URLA Izmir 2.85 53 PN Pn 03 49 20.4 +0.9
BODT Bodrum 2.93 82 PN Pn 03 49 21.6 +1.1
KRBN Karaburun 2.96 49 PN Pn 03 49 21.9 +0.9
GCAM G?zelcaml? 3.00 69 PN Pn 03 49 22.6 +1.1
KARP Karpathos 3.03 111 PN Pn 03 49 23.4 +1.5
KARP Karpathos 3.03 111 Pn Pn 03 49 23.0 +1.1
SIGR SIGRI 3.05 34 PN Pn 03 49 23.2 +1.1
EVGI Lefkada island 3.09 310 P Pn 03 49 23.8 +1.2
BLCB Balcova 3.16 57 PN Pn 03 49 24.8 +1.2
LKD2 Lefkada island 3.19 312 P Pn 03 49 24.9 +0.8
PAIG Paliouri 3.24 360 P Pn 03 49 25.7 +1.1
LIA Limnos Island 3.42 20 P Pn 03 49 27.9 +0.9
DKL Dikili 3.48 46 PN Pn 03 49 29.4 +1.5
LIT Litokhoron 3.54 345 Pn Pn 03 49 29.9 +1.3
OUR Ouranopolis 3.65 4 P Pn 03 49 31.4 +1.2
ALN Alexandroupoli 4.59 23 Pn Pn 03 49 46.2 +3.3
AKAS Kas 4.79 94 Pn Pn 03 49 48.7 +2.9
SCTE Santa Cesarea 5.32 311 Pn Pn 03 49 52.2 -0.6
TIR Tirane 5.53 329 Pn Pn 03 49 54.6 -1.1
TIP Tinpagrande 6.02 297 Pn Pn 03 50 02.2 -0.2
TAR1 Taranto 6.31 309⇑ *i*P Pn 03 50 05.8 -0.5
TAR1 S Sn 03 51 11.3 -5.6
CEL Celeste 6.40 287 Pn Pn 03 50 06.4 -1.2
BAI Bari 6.91 312⇓ *i*P Pn 03 50 13.4 -1.0
BAI S Sn 03 51 26.0 -5.4
SGRT San Giovanni R 7.98 312 Pn Pn 03 50 27.8 -1.3
PAOL Paolisi 8.33 304 Pn Pn 03 50 34.8 +0.9
BRTR Keskin Array B 8.40 66 P Pn 03 50 39.8 +4.9
comp=E,1.1nm,0.3s,baz=243,slow=13,SNR=2.0
CLTB Caltabellotta 8.41 279 Pn Pn 03 50 38.0 +2.9
MLR Muntele Rosu 8.96 10 P Pn 03 50 45.5 +3.1
comp=E,2.2nm,0.3s,baz=140,slow=7.9,SNR=1.1
INTR Introdacqua 9.26 309 Pn Pn 03 50 46.6 +0.1
NRCA Norcia 10.19 310 Pn Pn 03 50 59.9 +0.6
MMAI Mount Meron Ar 10.30 107 P Pn 03 50 58.3 -2.4
baz=300,slow=12,SNR=1.5
MURB Monte Urbino 10.79 311 Pn Pn 03 51 07.8 +0.4
BUR08 Bucovina Ar. S 11.01 5 Pn Pn 03 51 10.7 +0.4
CASP Castiglione de 11.60 306 Pn Pn 03 51 18.4 +0.2
ARSA Arzberg 12.17 333 *e*Sn Sn 03 53 33.9 -5.7
comp=E,6.8nm,0.4s
MOA Molln 13.14 331 *e*Sn Sn 03 53 57.7 -5.5
comp=E,7.5nm,0.4s
WATA Walderalm 13.92 324 *i* Sn Sn 03 54 17.0 -5.2
comp=E,24nm,0.7s
GERES GERESS Array B 14.18 332 P Pn 03 51 54.8 +2.4
comp=E,2.6nm,0.3s,baz=150,slow=12,SNR=2.8
SSB Saint Sauveur 16.79 307 Pn P 03 52 27.1 +1.3
TBLG Delisi 17.06 66 Pn P 03 52 31.8 +2.9
OBN Obninsk 20.43 22 P Pn 03 53 12.2 +3.9
HFS Hagfors 24.33 348 P P 03 53 46.3 +1.7
comp=E,10nm,0.4s,baz=160,slow=8.9,SNR=2.2
EKA Eskdalemuir Ar 26.11 324 P P 03 54 01.1 +0.2
comp=E,17nm,0.5s,baz=120,slow=9.8,SNR=4.8
TORD Torodi Ar. Bea 30.63 226 P P 03 54 40.9 -0.5
comp=E,11nm,0.7s,baz=32,slow=8.3,SNR=3.4
DBIC Dimbokro 39.64 228 P P 03 55 57.8 -1.0
comp=E,14nm,0.5s,baz=12,slow=6.4,SNR=3.1
DBIC Dimbokro 39.64 228 IAmb IAmb 03 55 59.5
comp=Z,25nm,0.8s
TIC Toumodi 39.76 228 *e*P P 03 56 00.8 +1.0
KIC Kosan Boka 39.82 228 *e*P P 03 56 00.5 +0.2
comp=Z,4.5nm,0.2s
LIC Lamto 40.10 228 *e*P P 03 56 02.8 +0.3
comp=Z,51nm,0.4s
KURBB Kurchatov Arra 41.11 52 P P 03 56 10.1 -0.4
comp=Z,3.3nm,0.4s,baz=272,slow=8.6,SNR=1.8
KURK Kurchatov 41.17 52 P P 03 56 18.9 +7.9
KURK IAmb IAmb 03 56 20.3
comp=Z,14nm,0.9s
MK31 Makanchi Array 43.95 58 P P 03 56 33.4 -0.2
MK31 IAmb IAmb 03 56 48.7
comp=Z,8.7nm,0.8s
MKAR Makanchi Array 43.95 58 P P 03 56 33.4 -0.2
comp=Z,5.2nm,0.4s,baz=264,slow=7.1,SNR=1.6
ZALV Zalesovo Beam 44.83 47 P P 03 56 39.5 -0.9
comp=Z,3.6nm,0.3s,baz=272,slow=9.7,SNR=1.2
ZALV Zalesovo Beam 44.83 47 P P 03 56 46.7 +6.2
SCHQ Schefferville 61.25 319 P P 03 58 41.6 +0.6
comp=Z,5.5nm,0.5s,baz=63,slow=9.5,SNR=1.6
SCHQ Schefferville 61.25 319 IAmb IAmb 03 59 07.5
comp=Z,18nm,1.1s
RCBR Riachuelo 69.83 246 P P 03 59 35.9 -0.9
comp=Z,6.9nm,0.7s,baz=45,slow=5.7,SNR=1.8
BDFB Brasilia 85.20 247 P P 04 01 02.0 -0.4
comp=Z,5.6nm,0.5s,baz=60,slow=4.2,SNR=3.8

*IDC **29** 04:00:46.0±1.1, 37.43N×32.06E, h0km, mb3.7/4, mb1 3.7/9, mb1mx3.5/48, mbtmp3.6/9, ML3.2/5, Error ellipse: s-maj=20.9km s-min=13.4km az=108.0*
*ISK **29** 04:00:46.2, 37.34N×32.04E, h2km, ML3.5/50*
*DDA **29** 04:00:46.6, 37.34N×32.08E, h12km±1km, MW3.7*
ISC 29 04:00:45.8±1.1, 37.35N±0.02×32.09E±0.02, h2km±9km, n103, σ1$46/125, mb3.7/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SEYD	**Seydisehir-KON**	**0.21**	**286**		PG	**Pg**	**04 00 50.6**	**+0.8**
SEYD					SG	**Sg**	**04 00 53.7**	**+1.2**
KMER	**Konya-Meram**	**0.48**	**28**	*i* P	**Pg**		**04 00 56.0**	**+1.1**
KMER				*i* S	**Sg**		**04 01 02.6**	**+1.5**
KMER				IAML			04 01 03.0	
	comp=E,6µm,0.2s							
KMER				IAML			04 01 05.0	
	comp=N,3µm,0.3s							
KEPZ	**Antalya-Kepez**	**0.59**	**221**	*i* P	**Pb**		**04 00 58.0**	**-0.9**
KEPZ				*i* S	**Sg**		**04 01 05.1**	**+0.3**
KEPZ				IAML			04 01 08.0	
	comp=N,2µm,0.4s							
KEPZ				IAML			04 01 11.0	
	comp=E,2µm,0.7s							
KONT	**Konya--Tatoy**	**0.64**	**20**	PG	**Pb**		**04 00 59.3**	**-0.4**
KONT	**Konya--Tatoy**	**0.64**	**20**	*i* P	**Pb**		**04 00 59.3**	**-0.4**
KONT				*i* S	**Sg**		**04 01 06.8**	**+0.6**
KONT				IAML			04 01 09.0	
	comp=E,3µm,0.2s							
KONT				IAML			04 01 11.0	
	comp=N,2µm,0.2s							
ALAN	**Alanya-ANTALYA**	**0.79**	**183**	PG	**Pb**		**04 01 02.1**	**-0.2**
DOGA	**KONYA_Doganhis**	**0.83**	**336**	*i* P	**Pg**		**04 01 01.5**	**-0.1**
DOGA				*i* S	**Sg**		**04 01 11.4**	**-1.0**
DOGA				IAML			04 01 18.0	
	comp=N,2µm,0.3s							
DOGA				IAML			04 01 18.0	
	comp=E,2µm,0.5s							
LADK	**Ladik-KONYA**	**0.88**	**14**	PG	**Pb**		**04 01 03.9**	**0.0**
KRMN	**Karaman**	**0.95**	**100**	PG	**Pb**		**04 01 05.1**	**-0.1**
KRMN				SG	**Sn**		**04 01 20.5**	**-0.1**
ERMK	**Ermenek**	**0.97**	**137**	*i* P	**Pg**		**04 01 04.3**	**0.0**
ERMK				*i* S	**Sg**		**04 01 16.2**	**-0.7**
ERMK				IAML			04 01 23.0	
	comp=E,1µm,0.3s							
ERMK				IAML			04 01 28.0	
	comp=N,1µm,0.6s							
GAZI	**Gazipasa**	**1.13**	**171**	PN	**Pn**		**04 01 07.9**	**-0.7**
GAZI	**Gazipasa**	**1.13**	**171**	*i* P	**Pb**		**04 01 07.3**	**-0.8**
GAZI				*i* S	**Sb**		**04 01 20.3**	**-2.9**
GAZI				IAML			04 01 31.0	
	comp=E,642nm,0.6s							
GAZI				IAML			04 01 32.0	
	comp=N,621nm,0.7s							
KDHN	**Kadinhani**	**1.17**	**1**	*i* P	**Pb**		**04 01 07.9**	**-1.0**
KDHN				*i* S	**Sb**		**04 01 22.2**	**-2.4**
KDHN				IAML			04 01 28.0	
	comp=N,327nm,0.3s							
KDHN				IAML			04 01 36.0	
	comp=E,373nm,0.8s							
BCK	**Bucak**	**1.20**	**276**	PN	**Pg**		**04 01 09.2**	**+0.4**
BAGO	**Egridir - ISPA**	**1.21**	**302**	*i* P	**Pb**		**04 01 08.9**	**-0.7**
BAGO				*i* S	**Sn**		**04 01 25.1**	**-1.9**
BAGO				IAML			04 01 31.0	
	comp=E,187nm,0.4s							
BAGO				IAML			04 01 35.0	
	comp=N,200nm,0.7s							
ANTB	**Antalya**	**1.23**	**249**	PN	**Pg**		**04 01 09.8**	**+0.4**
CHBY	**Cihanbeyli**	**1.39**	**27**	PN	**Pg**		**04 01 13.7**	**+1.3**
YESY	**Yesilyurt**	**1.39**	**71**	PN	**Pg**		**04 01 13.8**	**+1.4**
SULT	**Sultanhani-AKS**	**1.42**	**53**	PN	**Pg**		**04 01 14.4**	**+1.5**
TEVE	**Tevekalti-Mers**	**1.42**	**130**	PN	**Pg**		**04 01 13.6**	**+0.6**
KORT	**Korkueli**	**1.43**	**257**	PN	**Pg**		**04 01 13.2**	**0.0**
KORT	**Korkueli**	**1.43**	**257**	*i* P	**Pb**		**04 01 12.4**	**-0.9**
KORT				IAML			04 01 43.0	
	comp=E,461nm,0.5s							
KORT				IAML			04 01 45.0	
	comp=N,356nm,0.6s							
KEMT	**Kemer-ANTALYA**	**1.43**	**239**	PN	**Pb**		**04 01 12.6**	**-0.6**
TEKE	**Tekeli-Mersin**	**1.46**	**145**	PN	**Pb**		**04 01 13.2**	**-0.5**
KIZT	**Kizilcal**	**1.54**	**354**	PN	**Pg**		**04 01 15.8**	**+0.5**
OREN	**Orenkoy-Mersin**	**1.58**	**136**	PN	**Pg**		**04 01 16.6**	**+0.5**
YORU	**Yoruktepe-Mers**	**1.59**	**138**	PN	**Pg**		**04 01 16.7**	**+0.3**
TEPK	**Tepekoy-MERSIN**	**1.62**	**133**	PN	**Pg**		**04 01 17.1**	**+0.2**
KERG	**Konya-Eregli**	**1.62**	**87**	*i* P	**Pb**		**04 01 16.3**	**-0.3**
KERG				*i* S	**Sn**		**04 01 34.6**	**-2.7**
KERG				IAML			04 01 43.0	
	comp=E,410nm,0.5s							
KERG				IAML			04 01 45.0	
	comp=N,413nm,0.9s							
BOLV	**Bolvadin**	**1.64**	**327**	*i* P	**Pn**		**04 01 14.3**	**-1.5**
BOLV				*i* S	**Sb**		**04 01 36.5**	**-1.5**
BOLV				IAML			04 01 46.0	
	comp=N,408nm,0.4s							
BOLV				IAML			04 01 46.0	
	comp=E,492nm,0.7s							
BRDR	**BURDUR-Merkez**	**1.65**	**283**	*i* P	**Pn**		**04 01 14.2**	**-1.7**
BRDR				IAML			04 01 43.0	
	comp=N,127nm,1.1s							
BRDR				IAML			04 01 48.0	
	comp=E,134nm,0.6s							
GULN	**MERSIN_Gulnar**	**1.65**	**134**	*i* P	**Pb**		**04 01 16.2**	**-0.8**
GULN				*i* S	**Sb**		**04 01 37.2**	**-1.0**
GULN				IAML			04 01 44.0	
	comp=E,437nm,0.8s							
GULN				IAML			04 01 47.0	
	comp=N,386nm,0.4s							
AKKU	**Akkuyu-Mersin**	**1.67**	**135**	PN	**Pg**		**04 01 17.8**	**0.0**
AKK1	**Akkuyu-Mersin**	**1.68**	**135**	PN	**Pg**		**04 01 17.8**	**-0.1**
AKK2	**Akkuyu-Mersin**	**1.69**	**135**	PN	**Pg**		**04 01 18.2**	**+0.1**
IKL	**Isikli**	**1.69**	**130**	PN	**Pg**		**04 01 18.4**	**+0.1**
YESI	**Yesilovacik-Me**	**1.70**	**132**	PN	**Pg**		**04 01 18.2**	**-0.1**
SHUT	**Suhut-Afyon**	**1.71**	**315**	PN	**Pb**		**04 01 17.6**	**-0.5**
BASM	**Basmaki-Afyon**	**1.71**	**290**	PN	**Pb**		**04 01 17.8**	**-0.3**
KARG	**Kargicak-Mersi**	**1.73**	**131**	PN	**Pb**		**04 01 18.6**	**+0.2**
AKUM	**Antalya-Kumluc**	**1.73**	**234**	*i* P	**Pb**		**04 01 17.2**	**-1.1**
AKUM				IAML			04 01 54.0	
	comp=N,201nm,0.5s							
AKUM				IAML			04 01 55.0	
	comp=E,207nm,0.6s							
TISA	**Tisan-Mersin**	**1.74**	**132**	PN	**Pb**		**04 01 18.9**	**+0.4**
SILI	**Silifke-Mersin**	**1.77**	**123**	PN	**Pg**		**04 01 19.5**	**-0.2**
KZIL	**AFYON_Kizioren**	**1.79**	**301**	*i* P	**Pb**		**04 01 18.9**	**-0.5**
KZIL				*i* S	**Sb**		**04 01 41.5**	**-0.8**
KZIL				IAML			04 01 50.0	
	comp=N,173nm,1.0s							
KZIL				IAML			04 01 52.0	
	comp=E,152nm,0.5s							
KULU	**Kulu**	**1.84**	**23**	PN	**Pb**		**04 01 20.4**	**+0.1**
ELL	**Elmali**	**1.84**	**252**	PN	**Pb**		**04 01 19.3**	**-1.0**
AKSY	**AKSARAY - Alti**	**1.85**	**45**	*i* P	**Pb**		**04 01 19.2**	**-1.3**
AKSY				IAML			04 01 57.0	
	comp=E,69nm,0.6s							
KIZK	**Mersin**	**1.86**	**117**	PN	**Pb**		**04 01 20.6**	**0.0**
KIZK	**Mersin**	**1.86**	**117**	*i* P	**Pb**		**04 01 20.0**	**-0.6**
KIZK				*i* S	**Sb**		**04 01 44.2**	**-0.1**
KIZK				IAML			04 01 52.0	
	comp=N,436nm,0.9s							
KIZK				IAML			04 01 54.0	
	comp=E,222nm,0.4s							
KKUL	**Konya-Kulu**	**1.94**	**19**	*i* P	**Pn**		**04 01 19.8**	**-0.1**
KKUL				*i* S	**Sg**		**04 01 47.3**	**-0.7**
KKUL				IAML			04 01 55.0	
	comp=E,214nm,0.7s							
KKUL				IAML			04 02 01.0	
	comp=N,130nm,1.0s							
GULA	**Gulagac**	**1.97**	**59**	PN	**Pb**		**04 01 22.5**	**0.0**
SERE	**Sereflikochisa**	**1.98**	**36**	PN	**Pb**		**04 01 22.1**	**-0.5**
MERS	**Mersin**	**2.00**	**103**	PN	**Pb**		**04 01 22.9**	**-0.2**
AFYO	**Afyonkarahisar**	**2.01**	**316**	*i* P	**Pn**		**04 01 20.2**	**-0.7**
AFYO				*i* S	**Sg**		**04 01 50.7**	**+0.2**
AFYO				IAML			04 02 04.0	
	comp=E,376nm,1.0s							
AFYO				IAML			04 02 08.0	
	comp=N,354nm,0.9s							
GOLH	**Golhisar**	**2.02**	**268**	*i* P	**Pb**		**04 01 23.0**	**-0.2**
GOLH				IAML			04 02 08.0	
	comp=N,148nm,1.1s							
AUSIV	**SIVRIHISAR**	**2.13**	**349**	PN	**Pb**		**04 01 23.9**	**-1.4**
AUSIV	**SIVRIHISAR**	**2.13**	**349**	*i* P	**Pn**		**04 01 22.7**	**+0.1**
AUSIV				IAML			04 02 00.0	
	comp=N,50nm,0.5s							
SVRH	**Sivrihisar-ESK**	**2.14**	**348**	PN	**Pn**		**04 01 23.3**	**+0.6**
AKDN	**Akdeniz- Kıbrı**	**2.17**	**161**	PN	**Pb**		**04 01 25.2**	**-0.5**
CIFT	**Cifteler, Eski**	**2.17**	**338**	PN	**Pb**		**04 01 24.6**	**-1.2**
DED	**Mersin**	**2.20**	**99**	*i* P	**Pb**		**04 01 24.8**	**-1.6**
DED				*i* S	**Sn**		**04 01 47.4**	**-3.9**
DED				IAML			04 02 02.0	
	comp=N,156nm,0.3s							
DED				IAML			04 02 06.0	
	comp=E,130nm,0.5s							
AFSR	**Afar-Bala (An**	**2.23**	**20**	PN	**Pb**		**04 01 25.8**	**-1.2**
AKAS	**Kas**	**2.28**	**242**	PN	**Pb**		**04 01 25.6**	**-2.2**
AUKIR	**Kırka- Seyitga**	**2.28**	**328**	*i* P	**Pb**		**04 01 26.6**	**-1.3**
AUKIR				IAML			04 02 14.0	
	comp=E,59nm,0.4s							
AUKIR				IAML			04 02 17.0	
	comp=N,83nm,1.1s							
KIRS	**Kırehir-Merke**	**2.29**	**38**	*i* P	**Pb**		**04 01 25.9**	**-2.1**
LEF	**Lefka**	**2.32**	**163**	PN	**Pb**		**04 01 26.9**	**-1.4**
CMRD	**Camardi-Nigde**	**2.33**	**81**	PN	**Pb**		**04 01 27.6**	**-1.0**
BBAL	**Bala**	**2.34**	**20**	*i* P	**Pn**		**04 01 25.8**	**+0.4**
BBAL				IAML			04 02 10.0	
	comp=E,78nm,0.5s							
BBAL				IAML			04 02 15.0	
	comp=N,79nm,0.9s							
KARA	**Karaisali**	**2.37**	**91**	PN	**Pb**		**04 01 28.0**	**-1.2**
LFK	**Lefkose**	**2.37**	**150**	PN	**Pb**		**04 01 27.9**	**-1.4**
EREN	**Erenkoy**	**2.47**	**137**	PN	**Pb**		**04 01 29.6**	**-1.4**
FETY	**Fethiye**	**2.51**	**254**	PN	**Pn**		**04 01 28.8**	**+1.1**
AKIN	**Akıncılar- Kıb**	**2.58**	**154**	PN	**Pb**		**04 01 30.7**	**-2.1**
CSS	**Mathiatis**	**2.58**	**157**	PN	**Pb**		**04 01 30.5**	**-2.4**
AVNS	**Nevsehir-Avano**	**2.62**	**55**	*i* P	**Pn**		**04 01 26.8**	**-2.5**
AVNS				IAML			04 02 37.0	
	comp=E,77nm,0.7s							
AVNS				IAML			04 02 42.0	
	comp=N,65nm,1.2s							
BRTR	**Keskin Array B**	**2.67**	**27**	Pn	**Pn**		**04 01 30.7**	**+0.7**
	comp=N,1.4nm,0.3s,baz=205,slow=16,SNR=55							
BRTR				Lg	Lg		04 02 08.1	
	comp=N,2.7nm,0.3s,baz=65,slow=3.6,SNR=6.3							
BRTR	**Keskin Array B**	**2.67**	**27**	PN	**Pn**		**04 01 30.9**	**+0.9**
YAHY	**KAYSERI_Yahyal**	**2.70**	**73**	*i* P	**Pb**		**04 01 32.5**	**-2.5**
YAHY				IAML			04 02 23.0	
	comp=E,34nm,1.0s							
YAHY				IAML			04 02 25.0	
	comp=N,33nm,0.9s							
KRTS	**Karatas**	**2.75**	**105**	PN	**Pb**		**04 01 33.4**	**-2.2**
KRTD	**Karatas-Adana**	**2.77**	**105**	PN	**Pb**		**04 01 33.5**	**-2.5**
BORA	**Eskisehir**	**2.83**	**334**	PN	**Pb**		**04 01 34.0**	**-3.2**
YURE	**YUREGIR**	**2.88**	**99**	PN	**Pb**		**04 01 35.3**	**-2.7**
CDAG	**Cicekdag**	**2.90**	**38**	*i* P	**Pn**		**04 01 34.8**	**+1.7**
CDAG				IAML			04 02 25.0	
	comp=N,53nm,0.7s							
CDAG				IAML			04 02 32.0	
	comp=E,64nm,0.8s							
SRCK	**Saricakaya, Es**	**2.92**	**337**	PN	**Pn**		**04 01 35.1**	**+1.7**
TVSB	**Tavsanli**	**2.94**	**316**	PN	**Pn**		**04 01 35.5**	**+1.8**
KULA	**Kula-Manisa**	**2.95**	**294**	PN	**Pn**		**04 01 35.1**	**+1.3**
KOZT	**Kozan**	**2.98**	**86**	PN	**Pb**		**04 01 36.9**	**-2.8**
SIMA	**Simav-Kutahya**	**3.00**	**306**	PN	**Pn**		**04 01 36.1**	**+1.6**
AUBOZ	**BOZOYUK**	**3.02**	**328**	PN	**Pn**		**04 01 36.6**	**+1.8**
YUVA	**Yuva-Kibriscik**	**3.06**	**354**	PN	**Pn**		**04 01 37.4**	**+2.1**
MDUB	**Mudurnu**	**3.19**	**348**	PN	**Pn**		**04 01 38.9**	**+1.7**
GULT	**Gulveren**	**3.31**	**339**	PN	**Pn**		**04 01 40.8**	**+2.0**
BNN	**Bunyan**	**3.32**	**62**	PN	**Pn**		**04 01 41.7**	**+2.7**
CAVI	**Cavuskoy**	**3.35**	**329**	PN	**Pn**		**04 01 41.2**	**+2.0**
CORM	**Corum**	**3.46**	**34**	PN	**Pn**		**04 01 43.3**	**+2.5**
MMAI	**Mount Meron Ar**	**5.10**	**147**	Pn	**Pn**		**04 02 05.0**	**+1.6**
	comp=E,4.6nm,0.3s,baz=330,slow=11,SNR=9.5							
MMAI					Sn	**Sn**	**04 03 04.0**	**+1.0**
	comp=E,3.4nm,0.3s,baz=313,slow=28,SNR=2.3							
IDI	**Anoyia**	**6.16**	**253**	Pn	**Pn**		**04 02 19.2**	**+1.3**
	comp=E,0.8nm,0.3s,baz=60,slow=8.6,SNR=2.3							
IDI					Sn	**Sn**	**04 03 29.7**	**+0.6**
	comp=E,0.4nm,0.3s,baz=292,slow=18,SNR=1.5							
ASF	**Jabal al Asfar**	**6.50**	**141**	Pn	**Pn**		**04 02 24.5**	**+1.8**
	comp=E,0.1nm,0.3s,baz=342,slow=3.2,SNR=1.7							
ASF					Sn	**Sn**	**04 03 43.4**	**+5.9**
	baz=152,slow=18,SNR=1.3							
EIL	**Elat**	**8.02**	**162**	Pn	**Pn**		**04 02 45.0**	**+1.6**
	comp=E,0.5nm,0.3s,baz=355,slow=11,SNR=1.8							
EIL					Sn	**Sn**	**04 04 16.1**	**+1.3**
	comp=E,0.7nm,0.3s,baz=266,slow=23,SNR=1.5							
FINES	**FINESS Array B**	**24.41**	**353**	P	**P**		**04 06 05.7**	**+0.3**
	comp=E,1.9nm,0.8s,baz=171,slow=11,SNR=5.3							
ARCES	**ARCESS Array B**	**32.44**	**356**	P	**P**		**04 07 17.6**	**+0.6**
	comp=E,0.9nm,0.8s,baz=169,slow=6.4,SNR=3.9							
**T

JKT	**Katashina**	**1.20**	**285**	‖P		**Pn**	**04 05 47.8**	**+0.6**
JKT				S		**Sn**	**04 06 03.0**	**+0.3**
MJAR	**Matsushiro Arr**	**2.00**	**273**	P		**Pn**	**04 05 58.7**	**+0.7**
	8.0nm,0.3s,baz=55,slow=10,SNR=193							
MJAR				S		**Sn**	**04 06 22.7**	**+0.7**
	9.9nm,0.3s,baz=315,slow=24,SNR=15							
MJAR				LR		LR	04 06 53.6	
	comp=Z,119nm,19.4s,baz=240,slow=44							
MJAR	**Matsushiro Arr**	**2.00**	**273**			**Pn**	**04 05 58.2**	**+0.2**
MAJO	**Matsushiro**	**2.00**	**273**			**Pn**	**04 05 59.4**	**+1.3**
MAT	**Matsushiro**	**2.00**	**273**	P		**Pn**	**04 05 59.0**	**+1.0**
MAT				S		**Sn**	**04 06 22.2**	**+0.2**
JHJ	**Hachijo jima 2**	**3.43**	**193**	P		**Pn**	**04 06 18.6**	**+1.1**
	12nm,0.3s,baz=289,slow=3.3,SNR=1.9							
JHJ				S		**Sn**	**04 06 59.5**	**+2.6**
	19nm,0.3s,baz=242,slow=23,SNR=5.7							
ERM	**Erimo**	**5.85**	**18**	Pn		**Pn**	**04 06 49.9**	**-0.7**
JCJ	**Chichijima**	**9.44**	**172**	P		**Pn**	**04 07 37.4**	**-2.4**
	4.2nm,0.3s,baz=268,slow=13,SNR=2.5							
JCJ				S		Sn	04 09 13.2	-11
	2.4nm,0.3s,baz=293,slow=20,SNR=2.0							
JCJ	**Chichijima**	**9.44**	**172**			**Pn**	**04 07 39.2**	**-0.5**
KSRS	**Korea Array**	**10.27**	**279**	P		**Pn**	**04 07 51.7**	**+0.7**
	0.3nm,0.3s,baz=90,slow=15,SNR=6.2							
ULN	**Ulaanbaatar**	**27.20**	**305**	P		**P**	**04 11 02.9**	**-1.9**
SONM	**Songino Array**	**27.63**	**305**	P		**P**	**04 11 09.0**	**+0.5**
	0.5nm,0.3s,baz=98,slow=7.4,SNR=2.5							
SONM	**Songino Array**	**27.63**	**305**	IAmb		IAmb	04 11 12.5	
	comp=Z,0.9nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**28.37**	**119**	T		T	04 41 19.9	
	baz=313,slow=75,SNR=39							
H11N1	**WAKE ISLAND Hy**	**28.38**	**119**	T		T	04 41 20.5	
	baz=313,slow=75,SNR=35							
H11N3	**WAKE ISLAND Hy**	**28.39**	**119**	T		T	04 41 21.2	
	baz=313,slow=75,SNR=35							
H11S1	**WAKE ISLAND Hy**	**29.05**	**121**	T		T	04 42 11.9	
	baz=314,slow=76,SNR=70							
H11S3	**WAKE ISLAND Hy**	**29.05**	**121**	T		T	04 42 10.1	
	baz=314,slow=76,SNR=54							
H11S2	**WAKE ISLAND Hy**	**29.07**	**121**	T		T	04 42 11.0	
	baz=314,slow=76,SNR=38							
ZAA0	**Zalesovo Array**	**41.87**	**313**	P		**P**	**04 13 09.0**	**-1.6**
ZAA0				IAmb		IAmb	04 13 12.5	
	comp=Z,2.8nm,0.6s							
ZALV	**Zalesovo Beam**	**41.87**	**313**	P		**P**	**04 13 11.8**	**+1.1**
	comp=Z,2.5nm,0.5s,baz=85,slow=5.8,SNR=9.1							
MKAR	**Makanchi Array**	**43.93**	**302**	P		**P**	**04 13 27.5**	**0.0**
	comp=Z,1.0nm,0.8s,baz=88,slow=9.6,SNR=7.4							
IL31		**50.27**	**32**	P		**P**	**04 14 13.9**	**-2.6**
ILAR	**Eielson Array**	**50.27**	**32**	P		**P**	**04 14 16.5**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=263,slow=5.8,SNR=4.8							
WRA	**Warramunga Arr**	**56.43**	**187**	P		**P**	**04 15 03.0**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=1.2,slow=7.6,SNR=13							
ARCES	**ARCESS Array B**	**64.32**	**339**	P		**P**	**04 15 56.4**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=35,slow=6.6,SNR=2.2							
FINES	**FINESS Array B**	**69.04**	**332**	P		**P**	**04 16 26.1**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=67,slow=5.0,SNR=6.7							
KBZ	**Khabaz**	**70.83**	**310**	P		**P**	**04 16 37.2**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=50,slow=4.6,SNR=4.3							
HFS	**Hagfors**	**74.36**	**335**	P		**P**	**04 16 57.1**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=64,slow=10,SNR=6.1							
NB2	**NORSAR Subarra**	**74.48**	**337**	P		**P**	**04 16 59.2**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=39,slow=6.2							
NB2	**NORSAR Subarra**	**74.48**	**337**	P		**P**	**04 16 59.2**	**+0.9**
	baz=39,slow=6.2							
NOA	**NORSAR Array B**	**74.48**	**337**	P		**P**	**04 16 58.8**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=38,slow=5.9,SNR=4.8							
H03N2	**Juan Fernandez**	**147.54**	**97**	T		T	07 10 15.7	
	baz=291,slow=76,SNR=4.4							
H03N3	**Juan Fernandez**	**147.55**	**97**	T		T	07 10 15.4	
	baz=291,slow=76,SNR=7.8							
H03N1	**Juan Fernandez**	**147.55**	**97**	T		T	07 10 17.3	
	baz=291,slow=76,SNR=7.5							

*IDC **29** 04:14:37.1±1.4, 35˚.79N×29˚.31E, h0km, mb3.6/2, mb1 3.7/6, mb1mx3.5/37, mbtmp3.6/6, ML3.7/4, Error ellipse: s-maj=28.5km s-min=19.0km az=165.0*
*NIC **29** 04:14:38.1±0.0, 35˚.66N×29˚.38E, h0km±1km, Ml3.3/3*
*DDA **29** 04:14:38.5, 35˚.67N×29˚.29E, h24km±1km, ML3.0*
*ISK **29** 04:14:38.0, 35˚.61N×29˚.34E, h12km, ML3.3/31*
*GII **29** 04:14:43.4±0.0, 35˚.48N×29˚.58E, h20km*

ISC 29 04:14:40.3±1.1,**35˚.68N**±0˚.03×**29˚.37E**±0˚.02,**h28**km±10km, **n99**,σ1ᵖ**51**/138,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KSL	**Kastellorizon**	**0.50**	**20**	P		**Pb**	**04 14 48.7**	**-1.9**
KSL				S		**Sb**	**04 14 58.0**	**+0.4**
AKAS	**Kas**	**0.58**	**19**	PG		**Pb**	**04 14 51.6**	**-0.5**
AKAS				SG		**Sn**	**04 15 00.9**	**-0.7**
AKAS	**Kas**	**0.58**	**19**	*i* P		**Pb**	**04 14 50.9**	**-1.2**
DEMR	**Demre-Antalya**	**0.70**	**38**	PG		**Pb**	**04 14 53.6**	**-0.4**
DEMR				SG		**Sn**	**04 15 04.7**	**+0.3**
FETY	**Fethiye**	**0.98**	**346**	PG		**Pb**	**04 14 58.4**	**-0.3**
FETY				SG		**Sb**	**04 15 12.7**	**+1.4**
FETY	**Fethiye**	**0.98**	**346**	*i* P		**Pn**	**04 14 57.9**	**-0.4**
FETY				*i* S		**Sn**	**04 15 10.6**	**-0.7**
FETY				IAML			04 15 14.0	
	comp=E,296nm,1.0s							
AKUM	**Antalya-Kumluc**	**1.01**	**51**	*i* P		**Pb**	**04 14 59.3**	**+0.1**
ARG	**Arkhangelos**	**1.14**	**298**	PN		**Pn**	**04 15 00.5**	**0.0**
ARG				SN		**Sb**	**04 15 16.9**	**+1.0**
ARG	**Arkhangelos**	**1.14**	**298**	P		**Pn**	**04 15 00.4**	**0.0**
ELL	**Elmali**	**1.15**	**22**	PN		**Pb**	**04 15 01.5**	**-0.1**
ELL				SN		**Sb**	**04 15 18.5**	**+2.3**
ELL	**Elmali**	**1.15**	**22**	P		**Pb**	**04 15 01.2**	**-0.5**
DALY	**Dalyan (Mula)**	**1.27**	**333**	PN		**Pb**	**04 15 02.9**	**-0.7**
DALY				SN		**Sb**	**04 15 21.0**	**+1.4**
DALY	**Dalyan (Mula)**	**1.27**	**333**	*i* P		**Pn**	**04 15 02.7**	**+0.4**
DALY				*i* S		**Sb**	**04 15 18.9**	**-0.7**
DALY				IAML			04 15 25.0	
	comp=N,266nm,0.8s							
TURN	**Turunc**	**1.42**	**320**	PN		**Pb**	**04 15 04.8**	**0.0**
TURN	**Turunc**	**1.42**	**320**	*i* P		**Pb**	**04 15 04.4**	**-0.4**
KORT	**Korkueli**	**1.54**	**31**	PN		**Pb**	**04 15 07.2**	**-1.0**
KORT	**Korkueli**	**1.54**	**31**	*i* P		**Pb**	**04 15 07.3**	**-0.9**
KORT				*i* S		**Sb**	**04 15 29.0**	**+1.7**
KORT				IAML			04 15 37.0	
	comp=E,160nm,0.6s							
GOLH	**Golhisar**	**1.56**	**6**	*i* P		**Pb**	**04 15 07.5**	**-1.1**
GOLH				*i* S		**Sb**	**04 15 30.5**	**+2.5**
GOLH				IAML			04 15 43.0	
	comp=N,203nm,0.7s							
ANTB	**Antalya**	**1.60**	**40**	PN		**Pb**	**04 15 08.1**	**-1.0**
YER	**Yerkesik**	**1.70**	**329**	PN		**Pn**	**04 15 09.0**	**+0.8**
YER				SN		**Sb**	**04 15 31.3**	**-0.5**
DAT	**Datca**	**1.79**	**306**	PN		**Pn**	**04 15 09.9**	**+0.4**
DAT				SN		**Sb**	**04 15 33.0**	**-1.5**
DAT	**Datca**	**1.79**	**306**	P		**Pn**	**04 15 09.9**	**+0.4**
KARP	**Karpathos**	**1.81**	**266**	PN		**Pn**	**04 15 10.9**	**+1.3**
KARP	**Karpathos**	**1.81**	**266**	P		**Pn**	**04 15 11.0**	**+1.3**
KARP				S		**Sb**	**04 15 36.1**	**+1.2**
KARP				AML		AML	04 15 54.7	
	comp=N,0.4nm,0.5s							
KARP				AML		AML	04 15 54.7	
	comp=N,0.4nm,0.5s							
KARP				AML		AML	04 15 58.9	
	comp=N,0.5nm,1.0s							
KARP				AML		AML	04 15 58.9	
	comp=N,0.5nm,1.0s							
TAVA	**DENIZLI_Tavas**	**1.82**	**348**	*i* P		**Pn**	**04 15 11.2**	**+1.3**
TAVA				*i* S		**Sn**	**04 15 31.3**	**-0.7**
TAVA				IAML			04 15 40.0	
	comp=E,109nm,0.5s							
TAVA				IAML			04 15 40.0	
	comp=N,108nm,0.5s							
BCK	**Bucak**	**2.03**	**28**	PN		**Pn**	**04 15 13.9**	**+1.2**
BRDR	**BURDUR-Merkez**	**2.09**	**15**	*i* P		**Pn**	**04 15 14.4**	**+0.8**
BODT	**Bodrum**	**2.16**	**310**	PN		**Pn**	**04 15 15.2**	**+0.7**
KEPZ	**Antalya-Kepez**	**2.18**	**55**	*i* P		**Pn**	**04 15 16.3**	**+1.6**
KEPZ				*i* S		**Sn**	**04 15 39.0**	**-1.8**
BASM	**Basmaki-Afyon**	**2.30**	**13**	PN		**Pn**	**04 15 17.8**	**+1.3**
AYDN	**Tasoluk**	**2.31**	**329**	*i* P		**Pn**	**04 15 17.7**	**+1.1**
AYDN				*i* S		**Sb**	**04 15 46.8**	**-2.7**
AYDN				IAML			04 15 54.0	
	comp=N,93nm,0.4s							
AYDN				IAML			04 15 55.0	
	comp=E,124nm,0.5s							
ALAN	**Alanya-ANTALYA**	**2.32**	**67**	PN		**Pn**	**04 15 17.9**	**+1.2**
GAZI	**Gazipasa**	**2.45**	**76**	PN		**Pn**	**04 15 19.1**	**+0.6**
GAZI	**Gazipasa**	**2.45**	**76**	*i* P		**Pn**	**04 15 18.4**	**-0.1**
GAZI				*i* S		**Sn**	**04 15 46.9**	**-0.6**
GAZI				IAML			04 15 50.0	
	comp=N,56nm,0.5s							
AKMS	**Akamas**	**2.51**	**104**	P		**Pn**	**04 15 20.0**	**+0.7**
AKMS				S		**Sn**	**04 15 52.1**	**+3.1**
AKMS				AML		AML	04 15 58.0	
	comp=N,0.4nm,0.4s							
AKMS				AML		AML	04 15 58.0	
	comp=N,0.4nm,0.4s							
AKMS				AML		AML	04 16 01.4	
	comp=N,0.5nm,0.4s							
AKMS				AML		AML	04 16 01.4	
	comp=N,0.5nm,0.4s							
BAGO	**Egridir - ISPA**	**2.57**	**26**	*i* P		**Pn**	**04 15 19.5**	**-0.7**
SEYD	**Seydisehir-KON**	**2.63**	**48**	PN		**Pn**	**04 15 22.4**	**+1.4**
ZKR	**Zakros**	**2.64**	**259**	PN		**Pn**	**04 15 21.2**	**+0.2**
KZIL	**AFYON_Kizioren**	**2.65**	**13**	*i* P		**Pn**	**04 15 20.0**	**-1.2**
GCAM	**G?zelcaml?**	**2.65**	**320**	PN		**Pn**	**04 15 22.4**	**+1.2**
GCAM	**G?zelcaml?**	**2.65**	**320**	*i* P		**Pn**	**04 15 21.1**	**-0.1**
OSC1	**CSNet OBS 1**	**2.68**	**144**	P		**Pn**	**04 15 22.6**	**+1.0**
OSC1				S		**Sn**	**04 15 56.5**	**+3.4**
ALFC	**Alefka**	**2.69**	**100**	P		**Pn**	**04 15 22.6**	**+0.9**
ALFC				AML		AML	04 15 55.0	
	comp=N,0.4nm,0.6s							
ALFC				AML		AML	04 15 55.0	
	comp=N,0.4nm,0.6s							
ALFC				S		**Sb**	**04 15 57.9**	**-2.3**
ALFC				AML		AML	04 16 08.3	
	comp=N,0.5nm,0.5s							
ALFC				AML		AML	04 16 08.3	
	comp=N,0.5nm,0.5s							
NATA	**Nata**	**2.77**	**108**	P		**Pn**	**04 15 24.3**	**+1.5**
MANT	**Manisa**	**2.88**	**347**	*i* P		**Pn**	**04 15 25.8**	**+1.2**
KULA	**Kula-Manisa**	**2.88**	**349**	PN		**Pn**	**04 15 26.1**	**+1.6**
LEF	**Lefka**	**2.93**	**100**	PN		**Pn**	**04 15 25.2**	**+0.2**
LEF	**Lefka**	**2.93**	**100**	*i* P		**Pn**	**04 15 23.8**	**-1.2**
SHUT	**Suhut-Afyon**	**3.02**	**18**	PN		**Pn**	**04 15 27.9**	**+1.5**
SZAC	**Souni**	**3.02**	**107**	P		**Pn**	**04 15 28.2**	**+1.9**
ERMK	**Ermenek**	**3.02**	**70**	*i* P		**Pb**	**04 15 30.1**	**-3.4**
DOGA	**KONYA_Doganhis**	**3.04**	**37**	*i* P		**Pn**	**04 15 29.6**	**+2.9**
DOGA				*i* S		**Sn**	**04 15 58.4**	**-3.9**
TEKE	**Tekeli-Mersin**	**3.07**	**80**	PN		**Pn**	**04 15 28.2**	**+1.2**
DGB	**zmir**	**3.10**	**321**	*i* P		**Pn**	**04 15 27.2**	**-0.1**
KMER	**Konya-Meram**	**3.18**	**48**	*i* P		**Pn**	**04 15 31.0**	**+2.4**
KMER				*i* S		**Sn**	**04 16 04.1**	**-1.6**
BLCB	**Balcova**	**3.28**	**326**	PN		**Pn**	**04 15 31.6**	**+1.7**
BOLV	**Bolvadin**	**3.28**	**22**	*i* P		**Pn**	**04 15 29.8**	**-0.3**
ASGA	**Asgata**	**3.29**	**105**	P		**Pn**	**04 15 30.8**	**+0.8**
KONT	**Konya--Tatoy**	**3.29**	**46**	PN		**Pn**	**04 15 31.9**	**+1.8**
KONT	**Konya--Tatoy**	**3.29**	**46**	*i* P		**Pn**	**04 15 30.7**	**+0.6**
CSS	**Mathiatis**	**3.31**	**101**	PN		**Pn**	**04 15 31.2**	**+0.8**
CSS	**Mathiatis**	**3.31**	**101**	P		**Pn**	**04 15 32.1**	**+1.7**
TEVE	**Tevekalti-Mers**	**3.38**	**76**	P		**Pn**	**04 15 32.7**	**+1.4**
GDZ	**Gediz**	**3.40**	**1**	*i* P		**Pn**	**04 15 33.8**	**+2.1**
SIMA	**Simav-Kutahya**	**3.41**	**355**	PN		**Pn**	**04 15 33.7**	**+2.0**
LFK	**Lefkose**	**3.42**	**96**	PN		**Pn**	**04 15 32.8**	**+1.0**
GULN	**MERSIN_Gulnar**	**3.42**	**80**	*i* P		**Pn**	**04 15 33.4**	**+1.6**
GULN				*i* S		**Sn**	**04 16 12.1**	**+0.7**
KRMN	**Karaman**	**3.47**	**63**	PN		**Pn**	**04 15 34.2**	**+1.6**
LADK	**Ladik-KONYA**	**3.47**	**43**	PN		**Pn**	**04 15 34.6**	**+2.0**
IKL	**Isikli**	**3.54**	**80**	PN		**Pn**	**04 15 34.9**	**+1.5**
MVOU	**Mavrovouni**	**3.54**	**100**	P		**Pn**	**04 15 34.7**	**+1.3**
KDHN	**Kadinhani**	**3.58**	**37**	*i* P		**Pn**	**04 15 36.3**	**+2.1**
KDHN				*i* S		**Sn**	**04 16 13.6**	**-2.0**
IDI	**Anoyia**	**3.68**	**265**	Pn		**Pn**	**04 15 36.3**	**+0.9**
	comp=N,7.3nm,0.3s,baz=79,slow=16,SNR=9.7							
IDI				Sn		**Sn**	**04 16 18.2**	**+0.3**
	comp=N,3.8nm,0.3s,baz=338,slow=19,SNR=2.0							
TVSB	**Tavsanli**	**3.76**	**1**	PN		**Pn**	**04 15 38.7**	**+2.1**
KIZT	**Kizilcal**	**3.77**	**31**	PN		**Pn**	**04 15 38.9**	**+2.2**
CIFT	**Cifteler, Eski**	**3.91**	**20**	PN		**Pn**	**04 15 40.5**	**+1.9**
KIZK	**Mersin**	**3.95**	**77**	*i* P		**Pn**	**04 15 41.5**	**+2.5**
CHBY	**Cihanbeyli**	**4.04**	**43**	PN		**Pn**	**04 15 42.4**	**+2.1**
KERG	**Konya-Eregli**	**4.20**	**64**	*i* P		**Pn**	**04 15 44.5**	**+1.9**
KKUL	**Konya-Kulu**	**4.48**	**38**	*i* P		**Pn**	**04 15 48.8**	**+2.3**
KIRS	**Kırehir-Merke**	**5.00**	**45**	*i* P		**Pn**	**04 15 55.6**	**+2.1**
KIRS				*i* S		Sn	04 16 39.6	-11
KIBS	**BOLU**	**5.12**	**22**	*i* P		**Pn**	**04 15 55.5**	**+0.2**
BRTR	**Keskin Array B**	**5.27**	**39**	Pn		**Pn**	**04 15 58.9**	**+1.6**
	comp=N,1.7nm,0.3s,baz=227,slow=14,SNR=40							
BRTR				Sn		**Sn**	**04 16 58.5**	**+1.4**
	comp=N,1.0nm,0.3s,baz=210,slow=24,SNR=21							
HNTI	**Hanita**	**5.45**	**117**	Pn		**Pn**	**04 16 00.6**	**+0.9**
HNTI				Sn		**Sn**	**04 17 00.6**	**-0.9**
MMA0B	**Mount Meron ar**	**5.65**	**116**	Pn		**Pn**	**04 16 03.2**	**+0.7**
MMA0B				Sn		**Sn**	**04 17 05.1**	**-1.5**
MMAI	**Mount Meron Ar**	**5.65**	**116**	Pn		**Pn**	**04 16 04.0**	**+1.5**
	comp=N,4.0nm,0.3s,baz=306,slow=13,SNR=7.0							
MMAI				Sn		**Sn**	**04 17 05.0**	**-1.6**
	comp=N,2.2nm,0.3s,baz=302,slow=26,SNR=3.9							
GEM	**Giv'at Ha'Em**	**5.75**	**114**	Pn		**Pn**	**04 16 05.0**	**+1.2**
GEM				Sn		**Sn**	**04 17 07.6**	**-1.3**
NATI	**Neve Ativ**	**5.78**	**113**	Pn		**Pn**	**04 16 05.5**	**+1.3**
NATI				Sn		**Sn**	**04 17 08.1**	**-1.3**
SHMJ	**Saham**	**6.06**	**117**	Pn		**Pn**	**04 16 09.2**	**+1.1**
SHMJ				Sn		**Sn**	**04 17 15.4**	**-1.1**
HMDT	**Nahal Hemdat**	**6.15**	**122**	Pn		**Pn**	**04 16 10.3**	**+1.0**
HMDT				Sn		**Sn**	**04 17 17.9**	**-0.8**
KZIT	**Kziot**	**6.35**	**137**	Pn		**Pn**	**04 16 12.4**	**+0.3**
KZIT				Sn		**Sn**	**04 17 22.1**	**-1.6**
DSI	**Dead Sea**	**6.47**	**128**	Pn		**Pn**	**04 16 13.3**	**-0.4**
KRMI	**Paran Flat**	**7.14**	**139**	Pn		**Pn**	**04 16 23.7**	**+0.7**
KRMI				Sn		**Sn**	**04 17 41.6**	**-1.6**
HRFI	**Mount Harif**	**7.37**	**138**	Sn		**Sn**	**04 17 47.4**	**-1.5**
MBRI	**Mt Berech**	**7.50**	**140**	Pn		**Pn**	**04 16 28.3**	**+0.4**
MBRI				Sn		**Sn**	**04 17 51.1**	**-1.0**
EIL	**Elat**	**7.62**	**140**	Pn		**Pn**	**04 16 29.9**	**+0.4**
	comp=N,0.5nm,0.3s,baz=315,slow=5.7,SNR=2.0							
EIL				Sn		**Sn**	**04 17 49.9**	**-5.0**
	comp=N,0.2nm,0.3s,baz=234,slow=11,SNR=1.5							
EIL	**Elat**	**7.62**	**140**	Pn		**Pn**	**04 16 30.6**	**+1.1**
EIL				Sn		**Sn**	**04 17 52.4**	**-2.5**
ESDC	**Sonseca Array**	**26.59**	**289**	P		**P**	**04 20 15.8**	**-0.4**
	comp=N,0.8nm,0.7s,baz=82,slow=9.1,SNR=9.2							
TORD	**Torodi Ar. Bea**	**33.53**	**235**	P		**P**	**04 21 18.9**	**+1.1**
	comp=N,0.5nm,0.6s,baz=36,slow=8.8,SNR=3.7							

*IDC **29** 04:22:48.0±1.8, 33˚.24S×177˚.86W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/23, mbtmp4.0/4, ML3.5/1, Error ellipse: s-maj=44.4km s-min=39.9km az=174.0*
*WEL **29** 04:22:54.1±0.5, 33˚.5±8˚×17˚.9W±2˚.0, h33km, M4.8/11, mB4.4/2, ML5.0/11, MLv4.8/11, Mw(mB)3.5/2, Error ellipse: s-maj=0.0km s-min=0.0km az=111.6*

ISC 29 04:22:51.6±1.4,**33˚.15S**±0˚.09×**177˚.9W**±0˚.2,**h35**km,**n27**, σ2ᵖ**02**/38,**mb4.1/3**,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GLKZ	**Green Lake**	**3.87**	**360**	P		**Pn**	**04 23 47.1**	**-1.6**
GLKZ				S		**Sn**	**04 24 30.4**	**-2.5**
RAO	**Raoul Island**	**3.88**	**360**	Sn		**Sn**	**04 24 32.2**	**-1.1**
	82nm,0.3s,baz=102,slow=21,SNR=2.3							
RIZ	**Raoul Island**	**3.89**	**360**	S		**Sn**	**04 24 32.0**	**-1.4**
MXZ	**Matakaoa Point**	**5.39**	**214**	P		**Pn**	**04 24 07.4**	**-2.1**
MXZ				S		**Sn**	**04 25 09.5**	**-0.7**
WMGZ	**Waiomatatini S**	**5.55**	**212**	P		**Pn**	**04 24 10.5**	**-1.2**
WMGZ				S		**Sn**	**04 25 13.5**	**-0.7**
HAZ	**Te Kaha**	**5.79**	**216**	P		**Pn**	**04 24 15.8**	**+0.7**
HAZ				S		**Sn**	**04 25 21.0**	**+0.8**
PUZ	**Puketiti**	**5.83**	**211**	P		**Pn**	**04 24 18.9**	**+3.4**
PUZ				S		**Sn**	**04 25 20.4**	**-0.8**
MWZ	**Matawai**	**6.37**	**214**	P		**Pn**	**04 24 22.7**	**-0.3**
MWZ				S		**Sn**	**04 25 33.0**	**-1.6**
URZ	**Urewera**	**6.52**	**217**	Pn		**Pn**	**04 24 23.9**	**-1.1**
	1.0nm,0.3s,baz=265,slow=2.8,SNR=9.3							
URZ				Sn		**Sn**	**04 25 36.1**	**-2.0**
	8.3nm,0.3s,baz=162,slow=21,SNR=15							
URZ	**Urewera**	**6.52**	**217**	P		**Pn**	**04 24 24.3**	**-0.7**
URZ				S		**Sn**	**04 25 36.6**	**-1.5**
WCZ	**Waipu Caves**	**6.98**	**244**	P		Pn	04 24 20.1	-11
RAHZ	**Arahi**	**7.04**	**214**	P		**Pn**	**04 24 34.2**	**+1.9**
RAHZ				S		**Sn**	**04 25 49.3**	**-1.8**
WHHZ	**Waihua**	**7.11**	**212**	P		**Sn**	**04 25 50.7**	**-1.9**
MTHZ	**Maungataniwha**	**7.11**	**215**	P		**Pn**	**04 24 33.8**	**+0.6**
MTHZ				S		**Sn**	**04 25 50.1**	**-2.7**
NMHZ	**Naumai**	**7.32**	**214**	P		Pn	04 24 40.2	+4.1
NMHZ				S		**Sn**	**04 25 55.9**	**-2.0**
ARHZ	**Aropaoanui**	**7.37**	**213**	P		**Pn**	**04 24 33.9**	**-2.7**
ARHZ				S		**Sn**	**04 25 57.3**	**-1.7**
MCHZ	**McNeill Hill**	**7.65**	**213**	P		**Sn**	**04 26 05.0**	**-0.9**
CKHZ	**Cape Kidnapper**	**7.66**	**210**	S		**Sn**	**04 26 01.1**	**-4.9**
KWHZ	**Kaweka Forest**	**7.76**	**215**	P		**Pn**	**04 24 43.6**	**+1.5**
KWHZ				P		**Sn**	**04 26 06.4**	**-2.4**
KAHZ	**Kahuranaki**	**7.85**	**211**	S		**Sn**	**04 26 09.4**	**-1.7**
KRHZ	**Kereru**	**7.96**	**214**	S		**Sn**	**04 26 09.2**	**-4.4**
RPZ	**Rata Peaks**	**13.63**	**216**	Pn		Pn	04 25 55.8	-6.6
	0.1nm,0.3s,baz=171,slow=7.2,SNR=1.8							
RPZ				Sn		Sn	04 28 16.9	-16
	0.5nm,0.3s,baz=137,slow=23,SNR=6.5							
CTA	**Charters Tower**	**34.41**	**283**	P		**P**	**04 29 38.2**	**+2.4**
	4.9nm,1.0s,baz=125,slow=12,SNR=2.0							
ASAR	**Alice Springs**	**43.12**	**270**	P		**P**	**04 30 50.4**	**+1.7**
	0.9nm,0.5s,baz=111,slow=7.5,SNR=10							
WRA	**Warramunga Arr**	**44.35**	**275**	P		**P**	**04 31 00.0**	**+1.3**
	1.8nm,0.6s,baz=116,slow=7.6,SNR=18							
FINES	**FINESS Array B**	**147.74**	**339**	PKP		**PKPdf**	**04 42 30.0**	**+1.0**
	1.0nm,0.7s,baz=56,slow=3.5,SNR=1.4							
FINES				PKPbc		**PKiKP**	**04 42 33.6**	**-0.2**
	1.2nm,0.6s,baz=64,slow=3.2,SNR=6.1							
TORD	**Torodi Ar. Bea**	**160.09**	**179**	PKPab		**PKPab**	**04 43 28.7**	**+1.2**
	0.3nm,0.7s,baz=204,slow=3.2,SNR=2.1							

*VIE **29** 04:40:13.6±1.0, 51˚.42N×15˚.98E, h0km, mb2.3/3, ml2.6/4, Error ellipse: s-maj=8.5km s-min=4.6km az=117.0 80 km WNW of Wroclaw Suspected Mining induced.*
*PRU **29** 04:40:14.0±0.0, 51˚.46N×16˚.10E, h0km*

ISC 29 04:40:12.9±1.1,**51˚.51N**±0˚.05×**16˚.13E**±0˚.03,**h0**km,**n27**, σ0ᵖ**75**/61,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**171**	*i* Pg		**Pg**	**04 40 26.2**	**+0.5**
KSP				*e*Sg		**Sg**	**04 40 34.6**	**+0.2**
CHVC	**Chvalec**	**0.92**	**183**	*e*PG		**Pg**	**04 40 30.7**	**+0.2**
CHVC				*e*SG		**Sg**	**04 40 42.5**	**+0.1**
	comp=Z,25nm,0.5s							
OSTC	**Ostas**	**0.95**	**177**	*e*PG		**Pg**	**04 40 31.3**	**+0.2**
OSTC				*e*SG		**Sg**	**04 40 43.0**	**-0.4**
	comp=Z,25nm,0.4s							
UPC	**Upice**	**1.00**	**184**	*e*PG		**Pg**	**04 40 32.2**	**+0.2**
UPC				*e*SG		**Sg**	**04 40 44.8**	**-0.2**
	comp=Z,57nm,0.3s							
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*PG		**Pg

ZFI2				*e*S		**Sb**	**05 02 30.5**	**-0.8**
	comp=Z,6.3nm,1.0s							
DBG	**Daneborg**	**8.33**	**221**	*i* P		**Pn**	**05 01 01.4**	**-0.6**
DBG				*i* S		Sn	05 02 17.5	-18
DBG				IAML			05 02 23.8	
	comp=Z,2.9nm,0.3s							
DBG	**Daneborg**	**8.33**	**221**	*i* P		**Pn**	**05 01 01.4**	**-0.6**
DBG				*i* S		Sn	05 02 17.5	-18
DBG				IAML			05 02 23.8	
	comp=Z,2.9nm,0.3s							
SUMG	**Summit**	**12.06**	**244**	*i* P		**Pn**	**05 01 52.4**	**-0.8**
SUMG				*i* S		Sn	05 03 49.6	-18
SUMG	**Summit**	**12.06**	**244**	*i* P		**Pn**	**05 01 52.5**	**-0.8**
SUMG				*i* S		Sn	05 03 49.7	-18
SUMG				IAML			05 03 56.0	
	comp=Z,2.8nm,0.3s							
SUMG	**Summit**	**12.06**	**244**	*i* P		**Pn**	**05 01 52.5**	**-0.8**
SUMG				*i* S		Sn	05 03 49.7	-18
SUMG				IAML			05 03 56.0	
	comp=Z,2.8nm,0.3s							

IDC ***29*** *05:16:39.3±1.8,6˚.30S×153˚.26E, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.7/28, mbtmp3.8/7, ML3.2/2, Error ellipse: s-maj=50.0km s-min=23.1km az=118.0*

ISC 29 05:16:45.6±1.3, 6˚.05S±0˚.08×152˚.9E±0˚.1, h33km, n8, σ1°27/10, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.93**	**333**	Pn	**Pb**	**05 17 20.0**	**-0.2**
	48nm,0.3s,baz=15,slow=16,SNR=4.3						
KRVT				Sn	**Sb**	**05 17 43.9**	**-0.1**
	65nm,0.3s,baz=108,slow=22,SNR=18						
PMG	**Port Moresby**	**6.59**	**239**	Pn	**Pn**	**05 18 21.5**	**+1.2**
	7.0nm,0.3s,baz=51,slow=9.1,SNR=6.4						
PMG				Sn	**Sn**	**05 19 33.4**	**-0.8**
	1.5nm,0.3s,baz=241,slow=12,SNR=1.6						
WRA	**Warramunga Arr**	**22.71**	**231**	P	**P**	**05 21 42.9**	**-1.9**
	0.5nm,0.7s,baz=58,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**25.31**	**224**	P	**P**	**05 22 08.3**	**-1.1**
	0.7nm,0.5s,baz=57,slow=8.9,SNR=8.2						
FITZ	**Fitzroy Crossi**	**29.16**	**243**	P	**P**	**05 22 46.0**	**+1.9**
	1.1nm,0.6s,baz=45,slow=5.1,SNR=3.2						
SONM	**Songino Array**	**67.42**	**328**	P	**P**	**05 27 37.6**	**-0.5**
	0.3nm,0.5s,baz=134,slow=8.3,SNR=2.2						
ILAR	**Eielson Array**	**83.27**	**22**	P	**P**	**05 29 08.9**	**+0.3**
	0.4nm,0.7s,baz=250,slow=5.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**150.76**	**286**	PKPbc	**PKPbc**	**05 36 35.3**	**-0.4**
	0.5nm,0.8s,baz=73,slow=1.5,SNR=3.1						

IDC 29 05:31:30.1±3.1, 4˚.31S×143˚.26E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.6/31, mbtmp3.6/6, ML4.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/34, Error ellipse: s-maj=59.0km s-min=27.3km az=54.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.11**	**305**	Pn	Pn	05 32 21.2	+0.7
	0.5nm,0.3s,baz=271,slow=23,SNR=1.6						
JAY				Sn	Sn	05 32 58.2	-0.3
	3.1nm,0.3s,baz=92,slow=24,SNR=4.2						
PMG	**Port Moresby**	**6.37**	**143**	LR	LR	05 36 18.3	
	comp=Z,98nm,18.2s,baz=96,slow=45						
CTA	**Charters Tower**	**15.95**	**170**	Pn	P	05 35 18.6	-1.2
	0.1nm,0.3s,baz=30,slow=16,SNR=2.2						
WRA	**Warramunga Arr**	**17.80**	**208**	P	Pn	05 35 38.8	-0.7
	0.5nm,0.3s,baz=32,slow=12,SNR=19						
WRA				S	Sn	05 38 52.4	-6.3
	0.0nm,0.3s,baz=35,slow=25,SNR=1.3						
ASAR	**Alice Springs**	**21.25**	**204**	P	P	05 36 18.4	+0.3
	0.6nm,0.6s,baz=34,slow=12,SNR=8.7						
FITZ	**Fitzroy Crossi**	**22.02**	**230**	P	P	05 36 26.4	0.0
	2.0nm,0.6s,baz=45,slow=11,SNR=6.2						
STKA	**Stephens Creek**	**27.46**	**183**	P	P	05 37 18.5	+0.5
	1.4nm,0.6s,baz=347,slow=10,SNR=4.5						
VNDA	**Vanda**	**73.83**	**176**	P	P	05 43 05.7	-0.4
	0.3nm,0.6s,baz=333,slow=4.5,SNR=1.9						

IDC ***29*** *05:45:45.7±0.7, 14˚.92S×66˚.25E, h0km, mb4.3/18, mb1 4.4/18, mb1mx4.2/43, mbtmp4.3/18, MS3.6/10, Ms1 3.6/10, ms1mx3.3/44, Error ellipse: s-maj=26.6km s-min=17.5km az=21.0*

NEIC ***29*** *05:45:47.4±1.3, 14˚.9S±0˚.1×66˚.3E±0˚.2, h10km±1km, mb4.8/23, Error ellipse: s-maj=24.9km s-min=22.5km az=264.0*

ISC 29 05:45:48.8±0.6, 14˚.9S±0˚.1×66˚.3E±0˚.1, h19km, n78, σ0°69/70, mb4.6/28, MS3.7/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**9.45**	**41**	T	T	05 57 28.0	
	baz=220,slow=75,SNR=6385						
H08S2	**Diego Garcia H**	**9.46**	**41**	T	T	05 57 29.4	
	baz=220,slow=75,SNR=5461						
H08S3	**Diego Garcia H**	**9.47**	**41**	T	T	05 57 30.8	
	baz=220,slow=75,SNR=5454						
PALK	**Pallekele**	**26.29**	**34**	LR	LR	05 59 19.0	
	comp=Z,233nm,20.8s,baz=330,slow=31						
BOSA	**Boshof**	**40.24**	**243**	LR	LR	06 07 12.5	
	comp=Z,122nm,19.2s,baz=142,slow=32						
CMAR	**Chiang Mai Arr**	**46.23**	**45**	P	**P**	**05 54 13.8**	**+0.7**
	1.1nm,0.3s,baz=240,slow=7.2,SNR=6.4						
CMAR				LR	LR	06 10 14.1	
	comp=Z,52nm,19.9s,baz=218,slow=32						
CMAR	**Chiang Mai Arr**	**46.23**	**45**	P	**P**	**05 54 14.1**	**+1.1**
H01W3	**Cape Leeuwin H**	**47.26**	**124**	T	T	06 44 49.0	
	baz=282,slow=75,SNR=281						
H01W2	**Cape Leeuwin H**	**47.26**	**124**	T	T	06 44 49.1	
	baz=282,slow=75,SNR=290						
H01W1	**Cape Leeuwin H**	**47.28**	**124**	T	T	06 44 49.8	
	baz=282,slow=75,SNR=281						
SHL	**Shillong**	**47.35**	**32**	P	**P**	**05 54 22.4**	**+0.5**
KBL	**Kabul**	**49.25**	**3**	P	**P**	**05 54 37.5**	**+1.0**
MAW	**Mawson**	**52.70**	**182**	LR	LR	06 11 37.5	
	comp=Z,76nm,20.9s,baz=43,slow=30						
GEYT	**Alibeck**	**53.12**	**352**	LR	LR	06 15 27.9	
	comp=Z,34nm,18.7s,baz=195,slow=34						
KK31	**Karatay Array**	**57.86**	**4**	P	**P**	**05 55 39.1**	**-0.2**
KKAR	**Karatay Array**	**57.86**	**4**	P	**P**	**05 55 38.6**	**-0.6**
CD2	**Chengdu**	**58.10**	**38**	P	**P**	**05 55 41.8**	**+0.6**
CD2				pmax	pmax		
	comp=Z,30nm,1.3s						
BRTR	**Keskin Array B**	**62.28**	**332**	P	**P**	**05 56 09.2**	**-0.7**
	comp=Z,1.4nm,1.0s,baz=142,slow=11,SNR=4.4						
GTA	**Gaotai**	**62.46**	**29**	*e*P	**P**	**05 56 11.5**	**+0.5**
GTA				pP	pP	05 56 15.8	-0.4
GTA				sP	pwP	05 56 19.3	-0.8
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MAKZ	**Makanchi**	**63.04**	**12**	P	**P**	**05 56 14.0**	**-0.6**
MAKZ				IAmb	IAmb	05 56 15.2	
	comp=Z,6.5nm,1.1s						
MK31	**Makanchi Array**	**63.09**	**12**	P	**P**	**05 56 13.8**	**-1.2**
MK31				IAmb	IAmb	05 56 16.1	
	comp=Z,7.1nm,1.4s						
MKAR	**Makanchi Array**	**63.09**	**12**	P	**P**	**05 56 14.2**	**-0.8**
	comp=Z,5.0nm,1.0s,baz=203,slow=9.0,SNR=16						
MKAR				PcP	**PcP**	**05 56 52.1**	**-0.4**
	comp=Z,1.7nm,1.0s,baz=204,slow=2.7,SNR=3.6						
MKAR				LR	LR	06 20 30.2	
	comp=Z,50nm,21.3s,baz=128,slow=33						
MKAR	**Makanchi Array**	**63.09**	**12**	P	**P**	**05 56 13.8**	**-1.2**
XAN	**Xi'an**	**63.40**	**39**	P	**P**	**05 56 17.0**	**-0.2**
XAN				pP	pwP	05 56 28.5	+2.2
XAN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
XAN	**Xi'an**	**63.40**	**39**	P	**P**	**05 56 17.1**	**-0.2**
XAN				IAmb	IAmb	05 56 18.5	
	comp=Z,9.6nm,1.1s						
ASAR	**Alice Springs**	**63.95**	**109**	P	**P**	**05 56 21.4**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=271,slow=6.0,SNR=11						
ASAR				PcP	**PcP**	**05 56 54.6**	**-2.1**
	comp=Z,0.9nm,0.8s,baz=274,slow=4.7,SNR=4.5						
ASAR				LR	LR	06 21 28.9	
	comp=Z,56nm,18.2s,baz=303,slow=34						
ASAR	**Alice Springs**	**63.95**	**109**	P	**P**	**05 56 20.8**	**-0.4**
ABKAR	**Akbulak array**	**64.13**	**355**	P	**P**	**05 56 20.8**	**-0.9**
WRA	**Warramunga Arr**	**64.77**	**105**	P	**P**	**05 56 26.9**	**+0.2**
	comp=Z,5.6nm,1.0s,baz=267,slow=6.1,SNR=20						
WRA	**Warramunga Arr**	**64.77**	**105**	P	**P**	**05 56 26.4**	**-0.2**
WB2	**Warramunga Arr**	**64.78**	**105**	P	**P**	**05 56 27.4**	**+0.6**
WR0	**Warramunga Arr**	**64.96**	**105**	P	**P**	**05 56 27.7**	**-0.2**
KURK	**Kurchatov**	**66.24**	**9**	P	**P**	**05 56 34.9**	**-0.5**
KURK				IAmb	IAmb	05 56 36.8	
	comp=Z,7.8nm,1.1s						
BRVK	**Borovoye**	**67.78**	**3**	P	**P**	**05 56 44.8**	**-0.4**
BRVK				IAmb	IAmb	05 56 45.8	
	comp=Z,5.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**69.72**	**290**	P	**P**	**05 56 58.3**	**+0.3**
	comp=Z,1.9nm,1.0s,baz=158,slow=1.7,SNR=6.5						
TORD	**Torodi Ar. Bea**	**69.72**	**290**	P	**P**	**05 56 58.0**	**0.0**
ZAA0	**Zalesovo Array**	**70.40**	**12**	P	**P**	**05 57 00.7**	**-0.7**
ZAA0				IAmb	IAmb	05 57 01.7	
	comp=Z,12nm,1.2s						
ZALV	**Zalesovo Beam**	**70.40**	**12**	P	**P**	**05 57 01.1**	**-0.3**
	comp=Z,4.6nm,0.9s,baz=213,slow=5.1,SNR=18						
ZALV				LR	LR	06 25 42.6	
	comp=Z,37nm,21.9s,baz=74,slow=34						
ARU	**Arti**	**71.36**	**355**	P	**P**	**05 57 06.6**	**-0.5**
SONM	**Songino Array**	**72.00**	**27**	P	**P**	**05 57 12.3**	**+0.9**
	comp=Z,4.9nm,0.9s,baz=222,slow=5.9,SNR=21						
SONM	**Songino Array**	**72.00**	**27**	P	**P**	**05 57 11.2**	**-0.2**
BURAR	**Bucovina Array**	**72.24**	**332**	P	**P**	**05 57 13.0**	**+0.2**
ULN	**Ulaanbaatar**	**72.32**	**28**	P	**P**	**05 57 13.2**	**-0.1**
ULN				IAmb	IAmb	05 57 15.3	
	comp=Z,6.4nm,1.1s						
AKASG	**Malin Array Be**	**72.94**	**336**	P	**P**	**05 57 15.6**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=152,slow=5.1,SNR=5.9						
AKASG	**Malin Array Be**	**72.94**	**336**	P	**P**	**05 57 16.3**	**-0.4**
DBIC	**Dimbokro**	**73.66**	**282**	P	**P**	**05 57 22.2**	**+0.4**
	comp=Z,5.7nm,1.0s,baz=201,slow=3.7,SNR=3.5						
QSPA	**South Pole Qui**	**75.17**	**180**	P	**P**	**05 57 30.5**	**+0.7**
QSPA				IAmb	IAmb	05 57 31.8	
	comp=Z,13nm,1.3s						
VYHS	**Vyhne**	**75.87**	**330**	*e*P	**P**	**05 57 34.3**	**+0.4**
MORC	**Moravsky Berou**	**77.36**	**330**	P	**P**	**05 57 42.5**	**+0.2**
KSAR	**Wonju Array Be**	**77.83**	**46**	P	**P**	**05 57 45.0**	**-0.1**
KSRS	**Korea Array**	**77.86**	**46**	P	**P**	**05 57 45.5**	**+0.2**
	comp=Z,3.0nm,1.0s,baz=242,slow=5.7,SNR=8.7						
JNU	**Nakatsue**	**77.96**	**51**	LR	LR	06 31 17.2	
	comp=Z,25nm,19.1s,baz=331,slow=35						
KLMR	**Klimovskoe**	**78.49**	**347**	*e*P	**P**	**05 57 47.4**	**-0.8**
KLMR				AMP		05 57 49.8	
	comp=Z,33nm,1.2s						
GERES	**GERESS Array B**	**78.68**	**328**	P	**P**	**05 57 50.0**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=180,slow=2.4,SNR=6.1						
GERES	**GERESS Array B**	**78.68**	**328**	P	**P**	**05 57 48.8**	**-1.0**
KHC	**Kasperske Hory**	**78.92**	**328**	P	**P**	**05 57 51.5**	**+0.5**
CLL	**Collm**	**80.56**	**329**	*e*P	**P**	**05 58 01.0**	**+1.2**
FINES	**FINESS Array B**	**82.50**	**342**	P	**P**	**05 58 11.5**	**+1.7**
	comp=Z,2.9nm,0.9s,baz=161,slow=8.8,SNR=2.4						
USRK	**Ussuriysk Ar.**	**83.80**	**41**	P	**P**	**05 58 16.2**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=229,slow=2.5,SNR=5.2						
USRK	**Ussuriysk Ar.**	**83.80**	**41**	P	**P**	**05 58 16.1**	**-0.8**
ESDC	**Sonseca Array**	**84.85**	**313**	P	**P**	**05 58 23.2**	**+0.8**
	comp=Z,2.0nm,1.0s,baz=105,slow=4.0,SNR=9.0						
ESDC	**Sonseca Array**	**84.85**	**313**	P	**P**	**05 58 22.9**	**+0.5**
MJAR	**Matsushiro Arr**	**84.86**	**50**	P	**P**	**05 58 23.4**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=246,slow=6.0,SNR=8.5						
MJAR	**Matsushiro Arr**	**84.86**	**50**	P	**P**	**05 58 22.9**	**+0.4**
NRIK	**Noril'sk**	**85.38**	**7**	LR	LR	06 36 24.0	
	comp=Z,50nm,18.6s,baz=18,slow=36						
KLR	**Kul'dur**	**86.00**	**37**	P	**P**	**05 58 27.4**	**-0.5**
	comp=Z,3.3nm,1.0s,baz=278,slow=5.5,SNR=7.7						
ARCES	**ARCESS Array B**	**88.96**	**347**	P	**P**	**05 58 41.8**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=160,slow=3.9,SNR=6.8						
IMAR	**Indian Mountai**	**122.44**	**18**		**PKiKP**	**06 04 42.7**	**+0.1**
ILAR	**Eielson Array**	**125.31**	**17**	PKP	**PKPdf**	**06 04 47.4**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=297,slow=2.4,SNR=7.3						
ILAR	**Eielson Array**	**125.31**	**17**	PKPdf	**PKPdf**	**06 04 47.2**	**-0.7**
LPAZ	**La Paz**	**125.32**	**237**	PKP	**PKPdf**	**06 04 50.0**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=23,slow=8.5,SNR=4.3						
LPAZ	**La Paz**	**125.32**	**237**	PKPdf	**PKPdf**	**06 04 49.4**	**-0.7**
PDAR	**Pinedale Array**	**152.01**	**353**	PKPbc	**PKPbc**	**06 05 43.4**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=74,slow=2.5,SNR=20						
PDAR	**Pinedale Array**	**152.01**	**353**		**PKPbc**	**06 05 43.1**	**-0.2**
NVAR	**Mina Array Bea**	**156.23**	**9**	PKPbc	PKPbc	06 05 53.9	
	comp=Z,0.2nm,0.5s,baz=22,slow=1.6,SNR=3.7						
NVAR				PKPab	**PKPab**	**06 06 11.1**	**+0.6**
	comp=Z,1.5nm,1.0s,baz=354,slow=2.6,SNR=8.6						
NVAR	**Mina Array Bea**	**156.23**	**9**		PKPbc	06 05 53.2	
NVAR					**PKPab**	**06 06 11.4**	**+0.8**
TXAR	**Lajitas Array**	**162.90**	**329**	PKP	**PKPdf**	**06 05 50.1**	**-0.4**
	comp=Z,0.7nm,1.0s,baz=159,slow=7.4,SNR=4.4						
TXAR				PKPab	**PKPab**	**06 06 39.3**	**-0.3**
	comp=Z,1.3nm,1.0s,baz=57,slow=4.6,SNR=7.2						
TXAR	**Lajitas Array**	**162.90**	**329**	PKPdf	**PKPdf**	**06 05 50.9**	**+0.4**
TXAR					**PKPdf**	**06 06 40.3**	**+0.7**

IDC ***29*** *06:14:32.5±2.0, 22˚.35N×143˚.92E, h96km±18km, mb4.0/22, mb1 4.1/24, mb1mx4.0/52, mbtmp4.3/24, MS3.0/6, Ms1 3.0/6, ms1mx2.8/42, Error ellipse: s-maj=17.6km s-min=9.0km az=93.0*

NEIC ***29*** *06:14:34.4±1.2, 22˚.34N±0˚.08×143˚.8E±0˚.1, h113km±2km, mb4.5/60, Error ellipse: s-maj=17.0km s-min=11.0km az=81.0*

JMA ***29*** *06:14:35.2±0.2, 23˚.31N×144˚.87E, h0km*

ISC 29 06:14:33.4±1.6, 22˚.37N±0˚.06×143˚.89E±0˚.09, h105km±14km, n129, σ1°03/131, mb4.5/56, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**4.52**	**340**	P	**Pn**	**06 15 41.2**	**+1.5**
JHH2				*e*S	**Sn**	**06 16 30.1**	**-1.0**
CBIJ	**Chichi jima**	**4.95**	**342**	P	**Pn**	**06 15 46.3**	**+0.8**
CBIJ				S	**Sn**	**06 16 39.5**	**-2.1**
JCJ	**Chichijima**	**4.95**	**342**	P	**Pn**	**06 15 46.1**	**+0.6**
	136nm,0.3s,baz=127,slow=10,SNR=125						
JCJ				S	**Sn**	**06 16 39.6**	**-2.0**
	81nm,0.3s,baz=99,slow=23,SNR=18						
JCJ	**Chichijima**	**4.95**	**342**	Pn	**Pn**	**06 15 46.4**	**+0.9**
JCJ				Sn	**Sn**	**06 16 41.5**	**0.0**
GUMO	**Guam**	**8.79**	**174**	LR	LR	06 19 00.7	
	comp=Z,58nm,20.4s,baz=134,slow=31						
JHJ	**Hachijo jima 2**	**11.30**	**342**	LR	LR	06 20 23.7	
	comp=Z,38nm,21.5s,baz=282,slow=31						
BSO1	**Boso 1**	**12.50**	**349**	P	**Pn**	**06 17 28.6**	**+1.6**
BSO3	**Boso 3**	**12.73**	**347**	P	**Pn**	**06 17 32.1**	**+1.8**
BSO4	**Boso 4**	**12.95**	**347**	P	**Pn**	**06 17 35.7**	**+2.4**
BSO4				S	**Sn**	**06 19 54.8**	**-0.9**
JOD2	**Odawara 2**	**13.51**	**343**	P	**Pn**	**06 17 41.6**	**+0.8**
JHU	**Hanno**	**14.02**	**344**	P	**Pn**	**06 17 49.2**	**+1.9**
JRY	**Ryogami san**	**14.27**	**343**	P	**Pn**	**06 17 50.7**	**+0.1**
JHO	**Hitachi**	**14.48**	**349**	P	**P**	**06 17 55.4**	**-1.6**
MJAR	**Matsushiro Arr**	**14.95**	**342**	P	**Pn**	**06 17 58.6**	**-0.7**
	0.1nm,0.3s,baz=161,slow=11,SNR=3.7						
MJAR	**Matsushiro Arr**	**14.95**	**342**	P	**P**	**06 18 01.1**	**-1.1**
MAJO	**Matsushiro**	**14.96**	**342**		**P**	**06 18 02.2**	**-0.1**
MAT	**Matsushiro**	**14.96**	**342**	P	**P**	**06 18 02.1**	**-0.2**
MAT				*e*S	**Sn**	**06 20 39.0**	**-5.5**
ERM	**Erimo**	**19.60**	**358**	P	**Pn**	**06 18 56.5**	**+0.9**
KSRS	**Korea Array**	**20.38**	**321**	P	Pn	06 19 05.3	+0.5
	1.8nm,0.5s,baz=148,slow=9.8,SNR=7.9						
KSAR	**Wonju Array Be**	**20.40**	**321**	P	Pn	06 19 03.7	-1.2
SSLB	**Suanglung**	**21.14**	**278**	P	**P**	**06 19 11.6**	**+1.4**
SSLB				IAmb	IAmb	06 19 13.2	
	comp=Z,21nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**21.63**	**93**	T	T	06 41 54.8	
	baz=111,slow=74,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**21.63**	**93**	T	T	06 41 54.5	
	baz=283,slow=74,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**21.65**	**93**	T	T	06 41 54.2	
	SNR=5.5						
H11S3	**WAKE ISLAND Hy**	**21.71**	**96**	T	T	06 42 10.5	
	baz=284,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**21.72**	**96**	T	T	06 42 10.5	
	baz=284,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**21.73**	**96**	T	T	06 42 10.5	
	baz=284,slow=75,SNR=18						
DAV	**Davao City (W)**	**23.30**	**232**	LR	LR	06 29 11.9	
	comp=Z,34nm,18.2s,baz=324,slow=38						
USRK	**Ussuriysk Ar.**	**23.88**	**339**	P	**P**	**06 19 38.7**	**+1.5**
	comp=Z,2.6nm,0.8s,baz=83,slow=11,SNR=6.0						
USRK	**Ussuriysk Ar.**	**23.88**	**339**	P	**P**	**06 19 37.8**	**+0.6**
NJ2	**Nanjing**	**24.21**	**299**	*e*P	**P**	**06 19 40.3**	**0.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KLR	**Kul'dur**	**28.48**	**343**	P	**P**	**06 20 19.6**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=142,slow=6.7,SNR=12						
MYLDM	**Lahad Datu**	**29.91**	**239**	P	**P**	**06 20 32.3**	**+0.7**
HHC	**Hu-ho-hao-te**	**32.86**	**312**	*e*P	**P**	**06 20 58.5**	**+1.1**
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,81nm,4.4s						
GYA	**Guiyang**	**34.06**	**284**	*e*P	**P**	**06 21 10.0**	**+2.0**
GYA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
CD2	**Chengdu**	**36.70**	**292**	P	**P**	**06 21 30.0**	**-0.5**
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
LZH	**Lanzhou**	**37.26**	**301**	*e*P	**P**	**06 21 36.5**	**+1.2**
LZH				pP	pP	06 21 58.5	+0.6
LZH				sP	pwP	06 22 08.3	+5.6
LZH				PP	**PnPn**	**06 23 04.5**	**+0.5**
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,72nm,4.9s						
SONM	**Songino Array**	**39.24**	**320**	P	**P**	**06 21 51.9**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=134,slow=11,SNR=2.9						
SONM	**Songino Array**	**39.24**	**320**	P	**P**	**06 21 51.2**	**-0.5**
KNRA	**Kununurra**	**40.61**	**203**	P	**P**	**06 22 02.6**	**-0.5**
SEY	**Seymchan**	**40.95**	**6**	P	**P**	**06 22 05.7**	**+0.3**
	comp=Z,5.1nm,0.7s,baz=192,slow=5.7,SNR=16						
CMAR	**Chiang Mai Arr**	**42.19**	**273**	P	**P**	**06 22 16.6**	**+0.4**
	comp=Z,0.7nm,0.2s,baz=80,slow=6.7,SNR=4.4						
CMAR				LR	LR	06 41 38.4	
	comp=Z,11nm,18.0s,baz=190,slow=38						
CTA	**Charters Tower**	**42.27**	**177**	P	**P**	**06 22 16.9**	**+0.3**
	comp=Z,32nm,0.7s,baz=0.8,slow=9.1,SNR=41						
CTAO	**Charters Tower**	**42.27**	**177**	P	**P**	**06 22 16.0**	**-0.6**
WRAB	**Tennant Creek**	**43.07**	**193**	P	**P**	**06 22 23.0**	**-0.1**
WRAB				IAmb	IAmb	06 22 24.5	
	comp=Z,7.9nm,1.1s						
WRAB					**PcP**	**06 24 10.4**	**-1.0**
WB2	**Warramunga Arr**	**43.08**	**193**	P	**P**	**06 22 22.7**	**-0.5**
WB2				IAmb	IAmb	06 22 24.6	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**43.08**	**193**	P	**P**	**06 22 22.9**	**-0.3**
	comp=Z,3.7nm,0.3s,baz=14,slow=8.7,SNR=192						
WRA				PcP	**PcP**	**06 24 10.9**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=7.3,slow=3.5,SNR=7.5						
WRA				ScP	**ScP**	**06 27 51.1**	**-2.0**
	comp=Z,2.1nm,1.3s,baz=2.2,slow=3.7,SNR=4.7						
WRA				LR	LR	06 39 29.2	
	comp=Z,44nm,18.6s,baz=270,slow=35						
WRA	**Warramunga Arr**	**43.08**	**193**	P	**P**	**06 22 22.0**	**-1.2**
WRA					**PcP**	**06 24 11.2**	**-0.2**
ATKA	**Atka Island**	**43.77**	**36**	P	**P**	**06 22 29.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**44.01**	**205**	P	**P**	**06 22 30.1**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=7.9,slow=5.7,SNR=20						
FITZ	**Fitzroy Crossi**	**44.01**	**205**	P	**P**	**06 22 29.6**	**-1.0**
AS31	**Alice Springs**	**46.78**	**193**	P	**P**	**06 22 51.8**	**-0.7**
ASAR	**Alice Springs**	**46.78**	**193**	P	**P**	**06 22 51.7**	**-0.9**
	comp=Z,3.1nm,0.6s,baz=16,slow=8.8,SNR=45						
ASAR				PcP	**PcP**	**06 24 23.9**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=15,slow=4.8,SNR=8.2						
ASAR				LR	LR	06 40 33.4	
	comp=Z,43nm,20.9s,baz=346,slow=33						
ASAR	**Alice Springs**	**46.78**	**193**	P	**P**	**06 22 51.5**	**-1.0**
ASAR					**PcP**	**06 24 24.3**	**+0.1**
EIDS	**Eidsvold**	**47.97**	**171**	P	**P**	**06 23 00.6**	**-1.1**
EIDS				IAmb	IAmb	06 23 04.8	
	comp=Z,7.1nm,1.1s						
DZM	**Mont Dzumac**	**49.34**	**152**	P	**P**	**06 23 12.1**	**-0.3**
	comp=Z,4.6nm,0.7s,baz=163,slow=7.6,SNR=7.3						
DZM	**Mont Dzumac**	**49.34**	**152**		**P**	**06 23 12.6**	**+0.2**
DZM				IAmb	IAmb	06 23 13.4	
	comp=Z,12nm,1.2s						
PSA00	**Pilbara Seismi**	**49.57**	**210**		**P**	**06 23 13.7**	**-0.3

K05A	**Summer Lake**	**78.83**	**48**	P	**P**	**06 26 26.8**	**+1.5**
K05A				IAmb	IAmb	06 26 27.6	
	comp=Z,10.0nm,1.0s						
E09A	**Wood Farm, Sta**	**79.33**	**44**	P	**P**	**06 26 27.8**	**+0.1**
E09A				IAmb	IAmb	06 26 30.3	
	comp=Z,12nm,1.5s						
NEW	**Newport**	**79.34**	**42**	P	**P**	**06 26 28.2**	**+0.4**
NEW				IAmb	IAmb	06 26 29.5	
	comp=Z,5.4nm,0.8s						
ORV	**Oroville**	**79.49**	**52**	P	**P**	**06 26 29.0**	**+0.3**
MOD	**Modoc Plateau**	**79.52**	**49**	P	**P**	**06 26 29.9**	**+0.9**
WVOR	**Wild Horse Val**	**80.49**	**48**	P	**P**	**06 26 34.1**	**0.0**
BMO	**Blue Mountains**	**80.49**	**45**	P	**P**	**06 26 34.5**	**+0.4**
CMB	**Columbia Colle**	**80.84**	**53**	P	**P**	**06 26 36.3**	**+0.2**
CMB				IAmb	IAmb	06 26 37.8	
	comp=Z,4.2nm,0.7s						
WALA	**Waterton Lakes**	**81.00**	**41**	P	**P**	**06 26 37.5**	**+0.7**
WALA				IAmb	IAmb	06 26 39.0	
	comp=Z,4.9nm,0.8s						
PNTR	**Pine Nut**	**81.03**	**52**	P	**P**	**06 26 37.6**	**+0.3**
PNTR				IAmb	IAmb	06 26 39.3	
	comp=Z,7.7nm,0.9s						
RYN	**Ryan**	**81.98**	**52**	P	**P**	**06 26 42.7**	**+0.5**
MFID	**Camas Ranch**	**82.03**	**46**	P	**P**	**06 26 42.7**	**+0.4**
KVN	**Kaiserville**	**82.13**	**51**	P	**P**	**06 26 43.9**	**+0.9**
KVN				IAmb	IAmb	06 26 44.9	
	comp=Z,7.0nm,1.3s						
NVAR	**Mina Array Bea**	**82.22**	**52**	P	**P**	**06 26 44.5**	**+1.0**
	comp=Z,3.2nm,0.7s,baz=283,slow=5.5,SNR=30						
NVAR	**Mina Array Bea**	**82.22**	**52**	P	**P**	**06 26 44.1**	**+0.6**
NV11	**Mina Array Sit**	**82.32**	**52**	P	**P**	**06 26 44.8**	**+0.8**
FINES	**FINESS Array B**	**82.85**	**335**	P	**P**	**06 26 44.9**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=70,slow=6.3,SNR=4.4						
FINES	**FINESS Array B**	**82.85**	**335**	P	**P**	**06 26 45.3**	**-0.7**
R11A	**Troy Canyon, C**	**84.21**	**51**	P	**P**	**06 26 53.9**	**+0.1**
TPNV	**Topopah Spring**	**84.29**	**52**	P	**P**	**06 26 55.1**	**+1.0**
TPNV				IAmb	IAmb	06 26 55.9	
	comp=Z,8.5nm,1.4s						
PDAR	**Pinedale Array**	**86.46**	**45**	P	**P**	**06 27 04.2**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=256,slow=0.6,SNR=4.5						
PDAR	**Pinedale Array**	**86.46**	**45**	P	**P**	**06 27 05.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**128.82**	**310**	PKP	**PKiKP**	**06 33 29.0**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=9.6,slow=5.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**128.82**	**310**	PKPdf	**PKPdf**	**06 33 28.8**	**-0.8**
PLCA	**Paso Flores**	**145.70**	**130**	PKPbc	**PKPab**	**06 34 00.6**	**-0.3**
	comp=Z,2.8nm,0.6s,baz=214,slow=4.5,SNR=8.2						
PLCA	**Paso Flores**	**145.70**	**130**		**PKPab**	**06 34 00.3**	**-0.5**

*IDC **29** 06:20:41.2±2.5,6°.94S×154°.46E,h45km±23km,mb3.4/5,*
mb1 3.8/7,mb1mx3.5/38,mbtmp3.8/7,ML4.2/2,MS3.0/1,
Ms1 3.0/1,ms1mx2.5/20,Error ellipse: s-maj=26.5km
s-min=19.2km az=50.0

ISC 29 06:20:40.7±0.9,7.0S±0°.2×154°.5E±0°.1,h39km,n8,σ0s67/9,
mb3.7/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.57**	**317**	P	**Pn**	**06 21 33.4**	**-0.2**
	8.2nm,0.3s,baz=47,slow=11,SNR=2.0						
KRVT				S	**Sn**	**06 22 15.5**	**+0.8**
	4.7nm,0.3s,baz=168,slow=23,SNR=1.7						
HNR	**Honiara**	**5.97**	**115**	P	**Pn**	**06 22 07.1**	**+0.6**
	17nm,0.3s,baz=197,slow=2.6,SNR=1.6						
HNR				LR	LR	06 24 44.1	
	comp=Z,136nm,20.6s,baz=157,slow=41						
WRA	**Warramunga Arr**	**23.40**	**235**	P	**P**	**06 25 46.3**	**0.0**
	2.7nm,1.1s,baz=58,slow=9.4,SNR=5.7						
ASAR	**Alice Springs**	**25.88**	**228**	P	**P**	**06 26 08.7**	**+0.3**
	0.5nm,0.8s,baz=56,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**83.02**	**319**	P	**P**	**06 33 02.2**	**+0.1**
	0.8nm,0.6s,baz=105,slow=4.7,SNR=7.5						
ILAR	**Eielson Array**	**83.54**	**22**	P	**P**	**06 33 04.5**	**+0.1**
	0.1nm,0.6s,baz=255,slow=5.5,SNR=1.8						
NVAR	**Mina Array Bea**	**92.12**	**52**	P	**P**	**06 33 46.0**	**-0.6**
	0.2nm,0.5s,baz=260,slow=5.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**152.50**	**285**	PKPbc	**PKPbc**	**06 40 32.9**	**-1.0**
	0.8nm,0.8s,baz=39,slow=2.2,SNR=4.4						

*BUC **29** 06:24:29.4±0.2,45°.54N×26°.37E,h126km±2km,ml4.1/51,*
Error ellipse: s-maj=1.5km s-min=1.4km az=146.0
*SOF **29** 06:24:30.5,45°.50N×26°.38E,h100km,MD3.5*
*BEO **29** 06:24:40.1±1.7,45°.21N×25°.36E,h56km±1km,ML3.2/12*

ISC 29 06:24:28.2±1.3,45°.55N±0°.03×26°.35E±0°.02,h138km±6km,
n139,σ0s73/222,108C-96D,Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEHR	**Nehoiu**	**0.12**	**196**	P	**Pn**	**06 24 47.4**	**+0.5**
NEHR				S	**Sn**	**06 25 00.3**	**-0.8**
NEHR	**Nehoiu**	**0.12**	**196**	P	**Pn**	**06 24 47.4**	**+0.5**
NEHR				S	**Sn**	**06 25 00.3**	**-0.8**
BISRR	**Bisoca**	**0.26**	**89**	P	**Pn**	**06 24 48.0**	**+0.8**
BISRR				S	**Sn**	**06 25 01.0**	**-0.6**
BISRR	**Bisoca**	**0.26**	**89**	P	**Pn**	**06 24 48.0**	**+0.8**
BISRR				S	**Sn**	**06 25 01.0**	**-0.6**
MLR	**Muntele Rosu**	**0.29**	**259**	P	**Pn**	**06 24 47.8**	**+0.4**
MLR				S	**Sn**	**06 25 01.1**	**-0.9**
MLR	**Muntele Rosu**	**0.29**	**259**	P	**Pn**	**06 24 47.8**	**+0.4**
MLR				S	**Sn**	**06 25 01.1**	**-0.9**
PLOR	**Plostina**	**0.37**	**35**	P	**Pn**	**06 24 47.8**	**+0.2**
PLOR				S	**Sn**	**06 25 01.7**	**-0.7**
PLOR	**Plostina**	**0.37**	**35**	P	**Pn**	**06 24 47.8**	**+0.2**
PLOR				S	**Sn**	**06 25 01.7**	**-0.7**
VRI	**Vrincioaia**	**0.42**	**40**	P	**Pn**	**06 24 48.2**	**+0.4**
VRI				S	**Sn**	**06 25 01.9**	**-0.8**
VRI	**Vrincioaia**	**0.42**	**40**	P	**Pn**	**06 24 48.2**	**+0.4**
VRI				S	**Sn**	**06 25 01.9**	**-0.8**
ISR	**Istrita**	**0.45**	**162**	P	**Pn**	**06 24 48.5**	**+0.5**
ISR				S	**Sn**	**06 25 03.0**	**+0.1**
ISR	**Istrita**	**0.45**	**162**	P	**Pn**	**06 24 48.5**	**+0.5**
ISR				S	**Sn**	**06 25 03.0**	**+0.1**
GRER		**0.47**	**110**	S	**Sn**	**06 25 05.6**	**+2.6**
SECR		**0.55**	**201**	P	**Pn**	**06 24 49.3**	**+0.9**
SECR				S	**Sn**	**06 25 03.8**	**0.0**
SECR		**0.55**	**201**	P	**Pn**	**06 24 49.3**	**+0.9**
SECR				S	**Sn**	**06 25 03.8**	**0.0**
PETR	**Petresti**	**0.65**	**74**	P	**Pn**	**06 24 50.0**	**+1.0**
PETR				S	**Sn**	**06 25 04.7**	**-0.1**
PETR	**Petresti**	**0.65**	**74**	P	**Pn**	**06 24 50.0**	**+1.0**
PETR				S	**Sn**	**06 25 04.7**	**-0.1**
PLAR	**PLOIESTI**	**0.67**	**200**	P	**Pn**	**06 24 50.1**	**+0.9**
PLAR	**PLOIESTI**	**0.67**	**200**	P	**Pn**	**06 24 50.1**	**+0.9**
OZUR		**0.67**	**325**	P	**Pn**	**06 24 49.4**	**+0.1**
OZUR		**0.67**	**325**	P	**Pn**	**06 24 49.4**	**+0.1**
PGOR	**Pogoanele**	**0.78**	**144**	P	**Pn**	**06 24 49.8**	**-0.2**
PGOR				S	**Sn**	**06 25 04.9**	**-1.6**
PGOR	**Pogoanele**	**0.78**	**144**	P	**Pn**	**06 24 49.8**	**-0.2**
PGOR				S	**Sn**	**06 25 04.9**	**-1.6**
DOPR	**Dopca**	**0.79**	**303**	P	**Pn**	**06 24 50.1**	**0.0**
DOPR				S	**Sn**	**06 25 05.8**	**-0.9**
DOPR	**Dopca**	**0.79**	**303**	P	**Pn**	**06 24 50.1**	**0.0**
DOPR				S	**Sn**	**06 25 05.8**	**-0.9**
SULR		**0.87**	**184**	P	**Pn**	**06 24 51.5**	**+0.8**
SULR				S	**Sn**	**06 25 07.8**	**+0.1**
SULR		**0.87**	**184**	P	**Pn**	**06 24 51.5**	**+0.8**
SULR				S	**Sn**	**06 25 07.8**	**+0.1**
GHRR		**0.90**	**55**	P	**Pn**	**06 24 51.9**	**+0.9**
GHRR				S	**Sn**	**06 25 07.7**	**-0.6**
GHRR		**0.90**	**55**	P	**Pn**	**06 24 51.9**	**+0.9**
GHRR				S	**Sn**	**06 25 07.7**	**-0.6**
VOIR		**0.92**	**264**	P	**Pn**	**06 24 51.5**	**+0.3**
VOIR				S	**Sn**	**06 25 07.7**	**-0.9**
VOIR		**0.92**	**264**	P	**Pn**	**06 24 51.5**	**+0.3**
VOIR				S	**Sn**	**06 25 07.7**	**-0.9**
TUDR		**0.93**	**87**	P	**Pn**	**06 24 51.3**	**+0.2**
TUDR				S	**Sn**	**06 25 07.8**	**-0.8**
TUDR		**0.93**	**87**	P	**Pn**	**06 24 51.3**	**+0.2**
TUDR				S	**Sn**	**06 25 07.8**	**-0.8**
MTUR	**Matau**	**0.96**	**251**	P	**Pn**	**06 24 52.2**	**+0.6**
MTUR	**Matau**	**0.96**	**251**	P	**Pn**	**06 24 52.2**	**+0.6**
TESR	**Tescani**	**0.99**	**12**	P	**Pn**	**06 24 52.0**	**+0.3**
TESR				S	**Sn**	**06 25 08.5**	**-1.2**
TESR	**Tescani**	**0.99**	**12**	P	**Pn**	**06 24 52.0**	**+0.3**
TESR				S	**Sn**	**06 25 08.5**	**-1.2**
SCHL	**Schela**	**1.04**	**92**	P	**Pn**	**06 24 52.3**	**+0.2**
SCHL				S	**Sn**	**06 25 09.0**	**-1.4**
SCHL	**Schela**	**1.04**	**92**	P	**Pn**	**06 24 52.3**	**+0.2**
SCHL				S	**Sn**	**06 25 09.0**	**-1.4**
VARL	**Varlezi**	**1.11**	**71**	P	**Pn**	**06 24 53.3**	**+0.5**
VARL				S	**Sn**	**06 25 10.6**	**-0.9**
VARL	**Varlezi**	**1.11**	**71**	P	**Pn**	**06 24 53.3**	**+0.5**
VARL				S	**Sn**	**06 25 10.6**	**-0.9**
INCR	**INCERC-Sediu C**	**1.11**	**187**	P	**Pn**	**06 24 53.4**	**+0.6**
INCR				S	**Sn**	**06 25 11.4**	**-0.2**
INCR	**INCERC-Sediu C**	**1.11**	**187**	P	**Pn**	**06 24 53.4**	**+0.6**
INCR				S	**Sn**	**06 25 11.4**	**-0.2**
LEHL	**Lehliu**	**1.12**	**162**	P	**Pn**	**06 24 53.7**	**+0.8**
LEHL				S	**Sn**	**06 25 11.6**	**-0.1**
LEHL	**Lehliu**	**1.12**	**162**	P	**Pn**	**06 24 53.7**	**+0.8**
LEHL				S	**Sn**	**06 25 11.6**	**-0.1**
BIR	**Birlad**	**1.15**	**51**	P	**Pn**	**06 24 54.0**	**+0.8**
BIR				S	**Sn**	**06 25 11.7**	**-0.6**
BIR	**Birlad**	**1.15**	**51**	P	**Pn**	**06 24 54.0**	**+0.8**
BIR				S	**Sn**	**06 25 11.7**	**-0.6**
AMRR	**Amara**	**1.17**	**143**	P	**Pn**	**06 24 54.2**	**+0.8**
AMRR				S	**Sn**	**06 25 12.4**	**-0.1**
AMRR	**Amara**	**1.17**	**143**	P	**Pn**	**06 24 54.2**	**+0.8**
AMRR				S	**Sn**	**06 25 12.4**	**-0.1**
STFAR	**Stefanesti-Arg**	**1.19**	**236**	P	**Pn**	**06 24 54.6**	**+0.9**
STFAR				S	**Sn**	**06 25 13.7**	**+0.6**
STFAR	**Stefanesti-Arg**	**1.19**	**236**	P	**Pn**	**06 24 54.6**	**+0.9**
STFAR				S	**Sn**	**06 25 13.7**	**+0.6**
GISR	**Galati**	**1.21**	**94**	P	**Pn**	**06 24 54.5**	**+0.8**
GISR				S	**Sn**	**06 25 12.7**	**-0.5**
GISR	**Galati**	**1.21**	**94**	P	**Pn**	**06 24 54.5**	**+0.8**
GISR				S	**Sn**	**06 25 12.7**	**-0.5**
ARR	**Arges**	**1.22**	**262**	P	**Pn**	**06 24 55.1**	**+1.2**
ARR				S	**Sn**	**06 25 13.6**	**+0.1**
ARR	**Arges**	**1.22**	**262**	P	**Pn**	**06 24 55.1**	**+1.2**
ARR				S	**Sn**	**06 25 13.6**	**+0.1**
BUC1	**Bucharest**	**1.22**	**191**	P	**Pn**	**06 24 54.6**	**+0.7**
BUC1				S	**Sn**	**06 25 13.4**	**0.0**
BUC1	**Bucharest**	**1.22**	**191**	P	**Pn**	**06 24 54.6**	**+0.7**
BUC1				S	**Sn**	**06 25 13.4**	**0.0**
GIUM	**Giurgiulesti**	**1.31**	**92**	P	**Pn**	**06 24 55.6**	**+0.8**
GIUM				S	**Sn**	**06 25 15.1**	**+0.1**
GIUM	**Giurgiulesti**	**1.31**	**92**	P	**Pn**	**06 24 55.6**	**+0.8**
GIUM				S	**Sn**	**06 25 15.1**	**+0.1**
CFR	**Carcaliu**	**1.31**	**106**	P	**Pn**	**06 24 54.9**	**+0.1**
CFR				S	**Sn**	**06 25 14.7**	**-0.4**
CFR	**Carcaliu**	**1.31**	**106**	P	**Pn**	**06 24 54.9**	**+0.1**
CFR				S	**Sn**	**06 25 14.7**	**-0.4**
SGRR	**Singureni**	**1.35**	**191**	P	**Pn**	**06 24 55.7**	**+0.5**
SGRR				S	**Sn**	**06 25 15.2**	**-0.6**
SGRR	**Singureni**	**1.35**	**191**	P	**Pn**	**06 24 55.7**	**+0.5**
SGRR				S	**Sn**	**06 25 15.2**	**-0.6**
BIZ	**Bicaz**	**1.40**	**353**	P	**Pn**	**06 24 57.2**	**+1.4**
BIZ	**Bicaz**	**1.40**	**353**	P	**Pn**	**06 24 57.2**	**+1.4**
HUMR	**Humele**	**1.40**	**224**	P	**Pn**	**06 24 56.2**	**+0.4**
HUMR				S	**Sn**	**06 25 16.3**	**-0.6**
HUMR	**Humele**	**1.40**	**224**	P	**Pn**	**06 24 56.2**	**+0.4**
HUMR				S	**Sn**	**06 25 16.3**	**-0.6**
HARR	**Harsova**	**1.41**	**127**	P	**Pn**	**06 24 56.3**	**+0.5**
HARR	**Harsova**	**1.41**	**127**	P	**Pn**	**06 24 56.3**	**+0.5**
RASA	**Rasa**	**1.45**	**156**	P	**Pn**	**06 24 56.9**	**+0.6**
RASA				S	**Sn**	**06 25 17.8**	**+0.1**
RASA	**Rasa**	**1.45**	**156**	P	**Pn**	**06 24 56.9**	**+0.6**
RASA				S	**Sn**	**06 25 17.8**	**+0.1**
VASR	**Vaslui**	**1.49**	**42**	P	**Pn**	**06 24 57.3**	**+0.7**
VASR				S	**Sn**	**06 25 17.7**	**-0.7**
VASR	**Vaslui**	**1.49**	**42**	P	**Pn**	**06 24 57.3**	**+0.7**
VASR				S	**Sn**	**06 25 17.7**	**-0.7**
TLBR	**Topalu**	**1.57**	**129**	P	**Pn**	**06 24 58.1**	**+0.5**
TLBR				S	**Sn**	**06 25 19.1**	**-0.9**
TLBR	**Topalu**	**1.57**	**129**	P	**Pn**	**06 24 58.1**	**+0.5**
TLBR				S	**Sn**	**06 25 19.1**	**-0.9**
TOPG	**Topolog**	**1.59**	**114**	P	**Pn**	**06 24 57.8**	**0.0**
TOPG				S	**Sn**	**06 25 19.5**	**-0.8**
TOPG	**Topolog**	**1.59**	**114**	P	**Pn**	**06 24 57.8**	**0.0**
TOPG				S	**Sn**	**06 25 19.5**	**-0.8**
COPA	**Copaceanca**	**1.62**	**210**	P	**Pn**	**06 24 58.6**	**+0.4**
COPA				S	**Sn**	**06 25 20.6**	**-0.5**
COPA	**Copaceanca**	**1.62**	**210**	P	**Pn**	**06 24 58.6**	**+0.4**
COPA				S	**Sn**	**06 25 20.6**	**-0.5**
CVDA	**Cernavoda**	**1.71**	**135**	P	**Pn**	**06 24 59.8**	**+0.7**
CVDA				S	**Sn**	**06 25 22.3**	**-0.4**
CVDA	**Cernavoda**	**1.71**	**135**	P	**Pn**	**06 24 59.8**	**+0.7**
CVDA				S	**Sn**	**06 25 22.3**	**-0.4**
ICOR	**Ion Corvin**	**1.77**	**144**	P	**Pn**	**06 25 00.8**	**+1.0**
ICOR				S	**Sn**	**06 25 23.5**	**-0.4**
ICOR	**Ion Corvin**	**1.77**	**144**	P	**Pn**	**06 25 00.8**	**+1.0**
ICOR				S	**Sn**	**06 25 23.5**	**-0.4**
TLCR		**1.78**	**101**	P	**Pn**	**06 25 00.4**	**+0.5**
TLCR				S	**Sn**	**06 25 23.7**	**-0.5**
TLCR		**1.78**	**101**	P	**Pn**	**06 25 00.4**	**+0.5**
TLCR				S	**Sn**	**06 25 23.7**	**-0.5**
TIRR	**Tirgusor**	**1.83**	**126**	P	**Pn**	**06 25 01.0**	**+0.5**
TIRR				S	**Sn**	**06 25 24.3**	**-0.9**
TIRR	**Tirgusor**	**1.83**	**126**	P	**Pn**	**06 25 01.0**	**+0.5**
TIRR				S	**Sn**	**06 25 24.3**	**-0.9**
IAS	**Iasi**	**1.85**	**27**	P	**Pn**	**06 25 01.5**	**+0.8**
IAS				S	**Sn**	**06 25 25.3**	**-0.4**
IAS	**Iasi**	**1.85**	**27**	P	**Pn**	**06 25 01.5**	**+0.8**
IAS				S	**Sn**	**06 25 25.3**	**-0.4**
JURR	**Jurilovca**	**1.95**	**113**	P	**Pn**	**06 25 03.1**	**+1.1**
JURR	**Jurilovca**	**1.95**	**113**	P	**Pn**	**06 25 03.1**	**+1.1**
RAZG	**Razgrad**	**1.98**	**177**	S	**Sn**	**06 25 28.3**	**-0.3**
RAZG	**Razgrad**	**1.98**	**177**	S	**Sn**	**06 25 28.3**	**-0.3**
MFTR	**Murfatlar**	**2.01**	**132**	P	**Pn**	**06 25 03.2**	**+0.5**
MFTR				S	**Sn**	**06 25 28.6**	**-0.5**
MFTR	**Murfatlar**	**2.01**	**132**	P	**Pn**	**06 25 03.2**	**+0.5**
MFTR				S	**Sn**	**06 25 28.6**	**-0.5**
ZIMR		**2.01**	**201**	S	**Sn**	**06 25 28.1**	**-1.1**
ZIMR		**2.01**	**201**	S	**Sn**	**06 25 28.1**	**-1.1**
VLAD	**Vladila**	**2.08**	**222**	P	**Pn**	**06 25 03.7**	**+0.2**
VLAD	**Vladila**	**2.08**	**222**	P	**Pn**	**06 25 03.7**	**+0.2**
MILM	**Milestii Mici**	**2.19**	**50**	P	**Pn**	**06 25 05.5**	**+0.7**
MILM				S	**Sn**	**06 25 32.5**	**-0.6**
MILM	**Milestii Mici**	**2.19**	**50**	P	**Pn**	**06 25 05.5**	**+0.7**
MILM				S	**Sn**	**06 25 32.5**	**-0.6**
BURAR	**Bucovina Array**	**2.21**	**340**	P	**Pn**	**06 25 07.1**	**+1.9**
BURAR	**Bucovina Array**	**2.21**	**340**	P	**Pn**	**06 25 07.1**	**+1.9**
CJR	**Cluj-Napoca**	**2.24**	**302**	P	**Pn**	**06 25 06.2**	**+0.7**
CJR	**Cluj-Napoca**	**2.24**	**302**	P	**Pn**	**06 25 06.2**	**+0.7**
KIS	**Kishinev**	**2.25**	**49**	P	**Pn**	**06 25 06.2**	**+0.7**
	220nm,0.2s						
KIS				*i* S	**Sn**	**06 25 33.1**	**-1.2**
	210nm,0.1s						
KIS	**Kishinev**	**2.25**	**49**	P	**Pn**	**06 25 06.3**	**+0.7**
KIS	**Kishinev**	**2.25**	**49**	P	**Pn**	**06 25 06.3**	**+0.7**
PSN	**Preselentsi**	**2.28**	**144**	*i* P	**Pn**	**06 25 07.0**	**+1.0**
SZH	**Strazhica**	**2.30**	**188**	*i* P	**Pn**	**06 25 06.7**	**+0.5**
MANR	**Mangalia**	**2.36**	**136**	P	**Pn**	**06 25 07.6**	**+0.7**
MANR	**Mangalia**	**2.36**	**136**	P	**Pn**	**06 25 07.6**	**+0.7**
SRE	**Strehaia**	**2.39**	**249**	P	**Pn**	**06 25 07.8**	**+0.5**
SRE	**Strehaia**	**2.39**	**249**	P	**Pn**	**06 25 07.8**	**+0.5**
PRD	**Provadia**	**2.46**	**162**	*i* P	**Pn**	**06 25 09.5**	**+1.3**
ROIA	**ROIAK**	**2.56**	**163**	*i* P	**Pn**	**06 25 10.4**	**+0.9**
HERR	**Herculane**	**2.85**	**258**	P	**Pn**	**06 25 13.1**	**-0.1**
HERR	**Herculane**	**2.85**	**258**	P	**Pn**	**06 25 13.1**	**-0.1**
SORM	**Soroca**	**2.93**	**27**	P	**Pn**	**06 25 14.3**	**+0.2**
SORM	**Soroca**	**2.93**	**27**	P	**Pn**	**06 25 14.3**	**+0.2**
BZS	**Buzias**	**3.32**	**273**	*e*Pn	**Pn**	**06 25 19.5**	**+0.3**
BZS				*e*Sn	Sn	**06 25 49.2**	**-9.4**
BZS	**Buzias**	**3.32**	**273**	*e*Pn	**Pn**	**06 25 19.3**	**+0.2**
BZS	**Buzias**	**3.32**	**273**	P	**Pn**	**06 25 19.3**	**+0.2**
SIRR	**Siria**	**3.35**	**284**	P	**Pn**	**06 25 20.7**	**+1.1**
SIRR	**Siria**	**3.35**	**284**	P	**Pn**	**06 25 20.7**	**+1.1**
MDVR	**Moldovita**	**3.36**	**259**	P	**Pn**	**06 25 20.0**	**+0.2**
MDVR	**Moldovita**	**3.36**	**259**	P	**Pn**	**06 25 20.0**	**+0.2**
ZAGS	**Zajecar**	**3.41**	**241**	*e*Pn	**Pn**	**06 25 19.3**	**-1.0**
ZAGS				*e*Sn	Sn	**06 25 48.5**	**-12**
ZAPS	**Zavoj**	**3.50**	**231**	*e*Pn	**Pn**	**06 25 22.1**	**+0.6**
ZAPS				*e*Sn	Sn	**06 25 51.4**	**-11**
KUBS	**Kucevo**	**3.50**	**253**	*e*Pn	**Pn**	**06 25 20.6**	**-1.0**
KUBS				*e*Sn	Sn	**06 25 49.6**	**-13**
BOVS	**Bovan**	**3.83**	**242**	*e*Pn	**Pn**	**06 25 25.8**	**0.0**
BOVS				*e*Sn	Sn	**06 25 57.4**	**-13**
BOSS	**Bosilegrad**	**4.13**	**224**	*e*Pn	**Pn**	**06 25 29.8**	**0.0**
BOSS				*e*Sn	Sn	**06 26 06.3**	**-11**
BARS	**Barje**	**4.25**	**232**	*e*Pn	**Pn**	**06 25 32.1**	**+0.7**
BARS				*e*Sn	Sn	**06 26 08.1**	**-12**
GRUS	**Gruza**	**4.34**	**250**	*e*Pn	**Pn**	**06 25 32.8**	**+0.2**
GRUS				*e*Sn	Sn	**06 26 10.4**	**-12**
TRUS	**Trudelj**	**4.42**	**255**	*e*Pn	**Pn**	**06 25 33.9**	**+0.2**
TRUS				*e*Sn	Sn	**06 26 12.2**	**-12**
DIVS	**Divibare**	**4.75**	**254**	*e*Pn	**Pn**	**06 25 37.9**	**-0.1**
DIVS				*e*Sn	Sn	**06 26 19.8**	**-13**
STIP	**Stip**	**4.89**	**220**	*i* Pn	**Pn**	**06 25 38.7**	**-1.2**
SJES	**Sjenica**	**5.10**	**246**	*e*Pn	**Pn**	**06 25 42.7**	**-0.1**
SJES				*e*Sn	Sn	**06 26 28.3**	**-13**
BBLS	**Lazići**	**5.22**	**254**	*e*Pn	**Pn**	**06 25 45.2**	**+0.8**
BBLS				*e*Sn	Sn	**06 26 31.8**	**-12**

*GII **29** 06:49:20.7±0.2,35°.64N×31°.54E,h100km,Mm2.2/2*
*NIC **29** 06:49:22.0±0.0,35°.60N×31°.51E,h10km±2km,Ml3.3/6*
*DDA **29** 06:49:24.4,35°.68N×31°.11E,h6km±4km,MW3.3*
*ISK **29** 06:49:25.7,35°.58N×31°.84E,h7km,ML3.3/24*
*HLW **29** 06:49:34.7,34°.61N×31°.18E,h25km±8km,Md3.7,Ml3.4*

ISC 29 06:49:24.9±1.2,35°.52N±0°.03×31°.76E±0°.03,h16km±9km,
n63,σ1s33/64,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKMS	**Akamas**	**0.69**	**136**	P	**Pg**	**06 49 38.1**	**-0.2**
AKMS				S	**Sn**	**06 49 52.3**	**+1.8**
AKMS				AML	AML	06 49 53.0	
	4.2nm,0.3s						
AKMS				AML	AML	06 49 53.0	
	4.2nm,0.3s						
AKMS				AML	AML	06 49 54.5	
	7.4nm,0.4s						
AKMS				AML	AML	06 49 54.5	
	7.4nm,0.4s						
ALFC	**Alefka**	**0.78**	**118**	P	**Pg**	**06 49 39.8**	**-0.3**
ALFC				S	**Sn**	**06 49 55.5**	**+2.8**
ALFC				AML	AML	06 49 59.2	
	3.8nm,0.4s						
ALFC				AML	AML	06 49 59.2	
	3.6nm,0.3s						
ALFC				AML	AML	06 49 59.2	
	3.8nm,0.4s						
ALFC				AML	AML	06 49 59.2	
	3.6nm,0.3s						
GAZI	**Gazipasa**	**0.84**	**32**	PG	**Pb**	**06 49 41.2**	**-0.1**
NATA	**Nata**	**0.99**	**138**	P	**Pg**	**06 49 44.7**	**+0.5**
NATA				S	**Sn**	**06 50 00.5**	**+2.5**
NATA				AML	AML	06 50 03.2	
	5.4nm,0.3s						
NATA				AML	AML	06 50 03.2	
	5.4nm,0.3s						
LEF	**Lefka**	**1.01**	**113**	PG	**Pg**	**06 49 44.2**	**-0.2**
AKDN	**Akdeniz- Kıbrı**	**1.01**	**102**	PG	**Pb**	**06 49 44.9**	**+0.8**
ALAN	**Alanya-ANTALYA**	**1.06**	**12**	PG	**Pg**	**06 49 43.9**	**-1.5**
BOZY	**Bozyazi-Mersin**	**1.15**	**59**	PG	**Pg**	**06 49 45.7**	**-1.4**
SZAC	**Souni**	**1.20**	**129**	P	**Pg**	**06 49 47.8**	**-0.2**
SZAC				AML	AML	06 50 10.9	
	1.5nm,0.3s						
SZAC				AML	AML	06 50 14.2	
	1.5nm,0.4s						
TEKE	**Tekeli-Mersin**	**1.27**	**60**	PN	**Pn**	**06 49 48.7**	**+0.7**
KEPZ	**Antalya-Kepez**	**1.38**	**355**	*i* P	**Pn**	**06 49 47.5**	**-2.2**
KEPZ				*i* S	**Sb**	**06 50 07.2**	**-0.8**
AKUM	**Antalya-Kumluc**	**1.40**	**305**	*i* P	Pn	06 49 47.0	-2.8
AKUM				*i* S	**Sb**	**06 50 09.8**	**+1.5**
CSS	**Mathiatis**	**1.40**	**113**	PN	**Pb**	**06 49 51.5**	**+0.7**
CSS				SN	**Sg**	**06 50 10.3**	**+0.1**
CSS

0.2nm,0.3s,baz=110,slow=8.1,SNR=9.7
FINES FINESS Array B 145.29 340 PKPbc PKPbc 07 10 25.8 -0.8
1.0nm,0.8s,baz=36,slow=7.4,SNR=3.3

IDC 29 06:54:53.1±4.3, 28.40S×177.37W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/33, mbtmp3.5/2, Error ellipse: s-maj=86.5km s-min=27.1km az=98.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.97 209**		Pn	Pn	06 55 13.8	-0.2
	244nm,0.3s,baz=105,slow=7.2,SNR=12						
RAO				Sn	Sn	06 55 30.2	+1.7
	500nm,0.3s,baz=114,slow=23,SNR=3.5						
ASAR	**Alice Springs**	**43.80 265**		P	P	07 03 00.6	-0.4
	0.2nm,0.3s,baz=105,slow=7.7,SNR=4.1						
WRA	**Warramunga Arr**	**44.61 270**		P	P	07 03 07.5	0.0
	0.3nm,0.4s,baz=111,slow=7.8,SNR=8.7						
FINES	**FINESS Array B**	**143.45 341**		PKP	PKPdf	07 14 28.5	-0.4
	1.0nm,0.4s,baz=66,slow=4.7,SNR=12						

IDC 29 06:57:21.9±2.5, 29.99S×177.10W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/33, mbtmp3.5/2, Error ellipse: s-maj=58.5km s-min=31.9km az=56.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.03 316**		Pn	Pn	06 57 44.1	+0.5
	109nm,0.3s,baz=86,slow=16,SNR=2.6						
RAO				Sn	Sn	06 57 59.3	+0.6
	235nm,0.3s,baz=275,slow=23,SNR=5.3						
ASAR	**Alice Springs**	**43.91 266**		P	P	07 05 30.7	+0.1
	0.5nm,0.9s,baz=105,slow=7.9,SNR=2.0						
WRA	**Warramunga Arr**	**44.86 271**		P	P	07 05 37.8	-0.5
	0.5nm,0.6s,baz=110,slow=7.9,SNR=5.1						
FINES	**FINESS Array B**	**145.03 341**		PKPbc	PKPbc	07 16 58.9	-0.9
	0.8nm,0.4s,baz=78,slow=5.3,SNR=7.0						

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*NNC **29** 07:05:35.8±4.2, 53.64N×90.26E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=35.3km s-min=18.7km az=88.0, Suspected Mining explosion.*

IDC 29 07:05:25.6±4.1, 53.71N×90.86E, h0km, mb1 3.3/3, mb1mx3.1/53, mbtmp3.3/3, ML3.1/2, 4C-2D, Error ellipse: s-maj=38.9km s-min=27.2km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.58 276**		*i*		07 28 30.0	
	baz=88,slow=304,SNR=1.6						
ZAA0	**Zalesovo Array**	**3.58 276**		⇓P	Pb	07 06 27.9	-2.0
	3.4nm,0.8s,baz=96,slow=16						
ZAA0				⇑Lg	Lg	07 07 16.8	
	19nm,1.1s,baz=92,slow=25						
ZALV	**Zalesovo Beam**	**3.58 276**		Pn	Pn	07 06 23.3	+0.9
	0.2nm,0.3s,baz=90,slow=13,SNR=1.5						
ZALV				Lg	Lg	07 07 18.9	
	2.0nm,0.3s,baz=93,slow=25,SNR=7.5						
TLY	**Talaya**	**8.03 100**		Lg	Lg	07 09 26.4	
	0.0nm,0.3s,baz=254,slow=24,SNR=2.1						
KURK	**Kurchatov**	**8.09 253**		⇑Lg	Lg	07 09 40.5	
	77nm,1.1s						
KURBB	**Kurchatov Arra**	**8.18 253**		Pn	Pn	07 07 25.7	+0.2
	0.2nm,0.3s,baz=65,slow=15,SNR=2.8						
KURBB				Sn	Sn	07 09 03.9	+5.2
	0.1nm,0.3s,baz=68,slow=27,SNR=10						
KURBB				Lg	Lg	07 09 47.9	
	0.1nm,0.3s,baz=57,slow=30,SNR=3.8						
MK31	**Makanchi Array**	**8.83 222**		⇓Pg	Pg	07 08 12.4	-2.3
	3.3nm,0.6s,baz=30,slow=14,SNR=3.0						
MK31				⇑Sn	Sn	07 09 19.2	+4.6
	3.1nm,0.8s,baz=35,slow=21,SNR=4.4						
MK31				⇑Lg	Lg	07 10 06.8	
	21nm,1.0s,baz=37,slow=26,SNR=4.4						
MKAR	**Makanchi Array**	**8.83 222**		Pn	Pn	07 07 34.9	+0.4
	0.2nm,0.3s,baz=32,slow=14,SNR=7.4						
MKAR				Sn	Sn	07 09 16.2	+1.6
	baz=45,slow=21,SNR=5.4						
MKAR				Lg	Lg	07 10 03.5	
	baz=34,slow=22,SNR=5.5						
SONM	**Songino Array**	**11.45 115**		Lg	Lg	07 11 18.0	
	0.2nm,0.3s,baz=302,slow=29,SNR=8.1						

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*ECX **29** 07:25:06.1±0.8, 30.96N×114.23W, h20km±19km, MD2.9, ML3.2*
*MEX **29** 07:25:17.0±2.0, 30.85N×114.99W, h32km±53km, MD3.7*

ISC 29 07:25:04.6±1.3, 30.65N±0.09×114.54W±0.08, h10km, n11, σ1§46/14, 2C-4D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**0.47 326**		⇓*i*P	**Pn**	**07 25 16.8**	**-0.7**
SFX				*e*S	**Sb**	**07 25 24.6**	**+2.5**
SPX	**San Pedro Mart**	**0.89 296**		*e*P	**Pn**	**07 25 25.2**	**+1.7**
SPX				*i* S	**Sg**	**07 25 31.9**	**-1.5**
SPX	**San Pedro Mart**	**0.89 296**		*e*P	**Pn**	**07 25 25.0**	**+1.5**
SPX				⇑*e*		07 25 34.1	
SPX				IAML		07 25 34.1	
	comp=E,576nm,0.5s						
SPX				IAML		07 25 35.2	
	comp=N,499nm,0.6s						
SPX				⇓*e*	**Sn**	**07 25 35.2**	**-1.4**
SPIG	**San Pedro Mart**	**0.89 297**		⇓*e*P	**Pn**	**07 25 25.1**	**+1.6**
	baz=105,slow=14						
SPIG				*i* S	**Sg**	**07 25 31.9**	**-1.6**
SPIG	**San Pedro Mart**	**0.89 297**		⇑*e*P	**Pn**	**07 25 24.2**	**+0.6**
ECBX	**El Chinero**	**0.93 332**		*e*P	**Pg**	**07 25 21.4**	**-1.2**
BAHB	**Baha de los**	**1.10 129**		*e*P	**Sb**	**07 25 40.3**	**+0.2**
PIX	**Pinacate**	**1.30 45**		⇓*e*P	Pn	07 25 22.0	-6.9
VTX	**Valle De La Tr**	**1.30 305**		*e*P	**Pg**	**07 25 29.8**	**+0.2**
SJX	**San Joaquin**	**1.65 313**		*e*P	**Pg**	**07 25 35.8**	**-0.5**
MBIG	**Mexicali**	**1.84 342**		*i* P	**Pg**	**07 25 40.8**	**+0.7**

IDC 29 07:29:26.1±2.9, 55.55N×86.33E, h0km, mb1 3.0/3, mb1mx2.9/44, mbtmp3.0/3, ML2.8/3, 3C-2D, Error ellipse: s-maj=25.4km s-min=18.3km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.83 209**		*i*		07 41 10.0	
	baz=22,slow=328,SNR=1.5						
ZAA0	**Zalesovo Array**	**1.83 209**		⇓P	Pn	07 29 58.1	-0.7
	0.7nm,0.3s						
ZAA0				⇑S	Sb	07 30 24.1	+0.3
	3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**1.83 209**		Pg	Pn	07 29 58.3	-0.4
	4.0nm,0.3s,baz=28,slow=16,SNR=29						
ZALV				Lg	Lg	07 30 24.7	
	4.5nm,0.3s,baz=40,slow=28,SNR=13						
KURBB	**Kurchatov Arra**	**6.81 227**		Pn	Pn	07 31 07.2	+0.1
	0.1nm,0.3s,baz=44,slow=14,SNR=7.2						
KURBB				Lg	Lg	07 33 04.3	
	0.0nm,0.3s,baz=36,slow=29,SNR=3.2						
KURBB	**Kurchatov Arra**	**6.81 227**		⇑Pn	Pn	07 31 06.4	-0.8
	1.2nm,0.8s,baz=44,slow=14						
KURBB				⇓Sn	Sn	07 32 24.5	-0.9
	1.5nm,0.5s						
KURBB				⇑Lg	Lg	07 32 59.8	
	5.6nm,0.7s						
MKAR	**Makanchi Array**	**9.13 198**		Pn	Pn	07 31 38.3	-0.6
	0.1nm,0.3s,baz=16,slow=10,SNR=4.1						
BVAR	**Borovoye Array**	**9.66 261**		Pn	Pn	07 31 46.0	-0.2
	0.3nm,0.3s,baz=60,slow=16,SNR=4.0						
BVAR				Sn	Sn	07 33 31.2	-4.1
	baz=58,slow=19,SNR=1.4						

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*BJI **29** 07:35:02.9±0.0, 36.73N×141.19E, h10km, mB4.7/52, mb4.9/64, Ms4.4/63, Ms7 4.2/56*
*IDC **29** 07:35:04.1±0.5, 36.88N×141.18E, h0km, mb4.8/26, mb1 4.9/30, mb1mx4.9/36, mbtmp4.8/30, ML3.7/6, MS3.8/29, Ms1 3.8/29, ms1mx3.7/41, Error ellipse: s-maj=13.8km s-min=11.1km az=99.0*
*JMA **29** 07:35:05.4±0.1, 36.88N×141.35E, h28km±1km, M5.0 Broadband fault plane solution: P waves. NP1: φs28.00000°, δ6.00000°, λ104.00000°. NP2:φs195.00000°, δ84.00000°, λ89.00000°. Principal axes: T Plg51.0000°, Azm103.0000°; N Plg1.0000°, Azm195.0000°; P Plg39.0000°, Azm286.0000°;*
JMA Felt III J1.
*NIED **29** 07:35:05.5, 36.88N×141.35E, h28km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr-1.01; Mθθ 0.05; Mφφ 0.97; Mrθ 0.04; Mθφ 0.34; Mφr 0.02; Fault plane solution: M0 1.05000×10^16 NP1: φs200.00000°, δ46.00000°, λ-88.00000°. NP2:φs17.00000°, δ44.00000°, λ-92.00000°.*
*MOS **29** 07:35:07.9±1.0, 36.95N×141.17E, h36km, mb5.2/47 Error ellipse: s-maj=7.8km s-min=4.8km az=116.6*
*GCMT **29** 07:35:09.2±0.4, 36.85N±0.04×141.24E±0.03, h18km±1km, MW4.8/82, Moment Tensor Solution. s11,c11; s82,c108; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.79±.16; Mθθ 0.41±.09; Mφφ 1.38±.10; Mrθ-0.61±.26; Mθφ 0.45±.04; Mφr 0.00±.19; Best double couple: M0 1.76100×10^16 NP1:φs188.00000°, δ43.00000°, λ-111.00000°. NP2: φs36.00000°, δ51.00000°, λ-71.00000°. Principal axes: T 1.5720, Plg4.0000°, Azm113.0000°; N 0.3770, Plg14.0000°, Azm204.0000°; P -1.9500, Plg75.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **29** 07:35:09.2±1.7, 36.87N±0.05×141.24E±0.09, h35km±1km, mb4.9/223 Error ellipse: s-maj=12.3km s-min=9.1km az=102.0*
*BGR **29** 07:35:10.1±0.0, 36.94N×141.66E, h33km, mb5.1, Ms4.3*

ISC 29 07:35:07.4±0.6, 36.90N±0.03×141.26E±0.03, h24km±3km, n594, σ1§37/550, mb4.9/196, MS4.1/38, 32C-49D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.42 299**		⇑P	**Pb**	**07 35 15.3**	**-1.0**
ONAJ				*e*S	**Sb**	**07 35 22.4**	**0.0**
JFK	**Kawauchi**	**0.56 327**		⇑P	**Pb**	**07 35 17.4**	**-1.2**
JFK				S	**Sb**	**07 35 25.8**	**-0.5**
JFFD	**Fukushimafurud**	**0.59 289**		⇓P	**Pb**	**07 35 18.2**	**-0.9**
JFFD				S	**Sb**	**07 35 26.6**	**-0.5**
JHO	**Hitachi**	**0.62 243**		⇓P	**Pb**	**07 35 18.5**	**-1.2**
JHO				S	**Sb**	**07 35 27.9**	**-0.1**
JHYU	**Hitachinakayam**	**0.78 225**		⇓P	**Pb**	**07 35 20.4**	**-1.8**
JHYU				S	**Sb**	**07 35 32.2**	**-0.1**
JMST	**Minamisoumatoc**	**0.88 340**		⇓P	**Pb**	**07 35 22.1**	**-1.9**
JFT	**Otama**	**0.96 310**		⇓P	**Pb**	**07 35 24.6**	**-0.8**
JFT				S	**Sn**	**07 35 38.3**	**-0.1**
JMM	**Marumori**	**1.04 339**		⇓P	**Pn**	**07 35 24.6**	**-1.8**
JMM				S	**Sb**	**07 35 39.1**	**-0.7**
JSB	**Shiboa**	**1.08 274**		⇓P	**Pn**	**07 35 26.9**	**-0.1**
JSB				S	**Sn**	**07 35 42.3**	**+1.1**
JYT	**Yasato**	**1.09 232**		⇓P	**Pn**	**07 35 25.2**	**-1.9**
JYT				S	**Sb**	**07 35 39.9**	**-1.3**
JIHU	**Itakohorinouch**	**1.10 213**		⇓P	**Pn**	**07 35 26.0**	**-1.3**
JIHU				S	**Sb**	**07 35 41.4**	**-0.2**
JFY	**Yanaizu**	**1.34 293**		⇓P	**Pn**	**07 35 30.6**	**-0.1**
JFY				S	**Sb**	**07 35 48.8**	**+0.1**
JAG	**Ashikaga**	**1.53 253**		⇓P	**Pn**	**07 35 32.1**	**-1.1**
JOU	**Okura**	**1.54 342**		⇓P	**Pn**	**07 35 32.9**	**-0.5**
JOU				S	**Sb**	**07 35 53.7**	**-0.7**
JIO	**Ouri**	**1.56 3**		⇓P	**Pn**	**07 35 31.9**	**-1.7**
JKT	**Katashina**	**1.62 266**		⇓P	**Pn**	**07 35 34.5**	**0.0**
JYS	**Shirataka**	**1.63 325**		⇓P	**Pn**	**07 35 34.7**	**+0.1**
TOK	**Tokyo**	**1.71 226**		P	**Pn**	**07 35 35.2**	**-0.5**
I30JP	**ISUMI INFRASON**	**1.76 206**		Pn	**Pn**	**07 35 36.2**	**-0.2**
	baz=19,slow=28,SNR=2.8						
JNS	**Sasagawa**	**1.80 301**		⇓P	**Pn**	**07 35 36.9**	**0.0**
JHK	**Hiroka**	**1.83 282**		⇓P	**Pn**	**07 35 37.9**	**+0.6**
JKMT	**Kesennumamotoy**	**1.92 5**		⇓P	**Pn**	**07 35 37.2**	**-1.4**
JYA	**Atsumi**	**2.09 325**		⇓P	**Pn**	**07 35 41.5**	**+0.6**
JRY	**Ryogami san**	**2.09 246**		⇓P	**Pn**	**07 35 40.1**	**-0.9**
JSGW	**Sagamiharawaka**	**2.10 233**		P	**Pn**	**07 35 40.0**	**-1.1**
JGK	**Kuni**	**2.13 262**		⇓P	**Pn**	**07 35 42.2**	**+0.7**
JIZZ	**Izumozaki**	**2.13 288**		⇓P	**Pn**	**07 35 43.2**	**+1.7**
JYK	**Kaneyama**	**2.14 341**		⇓P	**Pn**	**07 35 41.8**	**+0.2**
OFUJ	**Ofunato**	**2.20 8**		P	**Pn**	**07 35 41.1**	**-1.4**
JAW	**Awa shima**	**2.23 315**		⇓P	**Pn**	**07 35 43.2**	**+0.4**
JYYZ	**Yamagatayuza**	**2.36 334**		⇓P	**Pn**	**07 35 45.8**	**+1.1**
MJAR	**Matsushiro Arr**	**2.48 263**		Pn	**Pn**	**07 35 46.4**	**+0.2**
	11nm,0.3s,baz=98,slow=14,SNR=458						
MJAR				Sn	**Sn**	**07 36 18.3**	**+2.5**
	22nm,0.3s,baz=155,slow=41,SNR=2.4						
MJAR				LR	LR	07 36 24.3	
	comp=Z,596nm,21.4s,baz=75,slow=34						
MJAR	**Matsushiro Arr**	**2.48 263**			**Pn**	**07 35 45.8**	**-0.4**
MAJO	**Matsushiro**	**2.48 263**		P	**Pn**	**07 35 47.6**	**+1.3**
MAJO	**Matsushiro**	**2.48 263**		Pn	**Pn**	**07 35 47.6**	**+1.3**
MAT	**Matsushiro**	**2.48 263**		P	**Pn**	**07 35 47.1**	**+0.8**
MAT				S	**Sn**	**07 36 15.9**	**+0.1**
MAT	**Matsushiro**	**2.48 263**		P	**Pn**	**07 35 47.1**	**+0.8**
JJN	**Nakama**	**2.49 276**		P	**Pn**	**07 35 47.6**	**+1.2**
JRG	**Rokugo**	**2.54 349**		⇓P	**Pn**	**07 35 47.5**	**+0.3**
JOM	**Ohasama**	**2.57 1**		⇓P	**Pn**	**07 35 46.9**	**-0.7**
JNG	**Nsakai**	**2.59 260**		⇓P	**Pn**	**07 35 48.6**	**+0.8**
JYN	**Shimob**	**2.60 238**		P	**Pn**	**07 35 47.8**	**-0.2**
JIM2	**Oshima 3**	**2.63 215**		P	**Pn**	**07 35 47.9**	**-0.5**
JSD	**Sado**	**2.64 296**		⇓P	**Pn**	**07 35 48.3**	**-0.2**
JHTM	**Izuhatsuma**	**2.66 224**		P	**Pn**	**07 35 48.1**	**-0.7**
JTB	**Tobi-shima**	**2.66 330**		⇓P	**Pn**	**07 35 49.0**	**+0.3**
JNT	**Takato**	**2.72 249**		⇓P	**Pn**	**07 35 50.2**	**+0.5**
JIZS	**Izushimoda**	**2.91 222**		P	**Pn**	**07 35 51.8**	**-0.4**
SHZ3	**Shizuoka 3**	**3.08 234**		P	**Pn**	**07 35 55.0**	**+0.5**
JNY	**Yasuok**	**3.15 242**		⇓P	**Pn**	**07 35 56.7**	**+1.1**
JGN	**Niukaw**	**3.25 259**		⇓P	**Pn**	**07 35 58.1**	**+1.2**
JYTA	**Yamagatataniai**	**3.88 252**		⇑P	**Pn**	**07 36 07.2**	**+1.7**
JHJ2	**Mitsune**	**3.96 198**			**Pn**	**07 36 08.0**	**+1.4**
JHJ	**Hachijo jima 2**	**3.96 198**		Pn	**Pn**	**07 36 05.5**	**-1.2**
	70nm,0.3s,baz=228,slow=5.4,SNR=11						
JHJ				Sn	**Sn**	**07 36 52.7**	**+0.4**
	107nm,0.3s,baz=68,slow=23,SNR=7.4						
JHJ				LR	LR	07 37 17.5	
	comp=Z,267nm,20.9s,baz=53,slow=34						
JFM	**Mihama**	**4.48 254**		P	**Pn**	**07 36 15.4**	**+1.6**
ERM	**Erimo**	**5.32 15**		*i* P	**Pn**	**07 36 23.8**	**-1.5**
ERM	**Erimo**	**5.32 15**		Pn	**Pn**	**07 36 23.6**	**-1.6**
ASAJ	**Asahikawa**	**7.28 8**		Pn	**Pn**	**07 36 52.5**	**+0.3**
	2.3nm,0.3s,baz=216,slow=10,SNR=13						
ASAJ				Sn	**Sn**	**07 38 14.4**	**+0.2**
	1.5nm,0.3s,baz=166,slow=31,SNR=3.5						
ASAJ				LR	LR	07 39 53.0	
	comp=Z,222nm,20.0s,baz=192,slow=40						
JKA	**Kamikawa-asahi**	**7.28 8**		Pn	**Pn**	**07 36 51.7**	**-0.6**
TEY	**Ternei**	**8.86 338**		*e*P	**Pn**	**07 37 15.3**	**+1.5**
TEY				pmax	pmax		
	comp=N,10.0nm,1.0s						
TEY				pmax	pmax		
	comp=E,10.0nm,1.2s						
TEY				MLR	MLR		
	comp=Z,100nm,13.0s						
JNU	**Nakatsue**	**9.31 249**		Pn	**Pn**	**07 37 20.7**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=53,slow=7.7,SNR=11						
JNU				LR	LR	07 41 23.6	
	comp=Z,833nm,18.3s,baz=67,slow=41						
JNU	**Nakatsue**	**9.31 249**		Pn	**Pn**	**07 37 22.4**	**+2.3**
VLA	**Vladivostok**	**9.50 314**		*c*P	**Pn**	**07 37 24.0**	**+1.3**
KUR	**Kuril'sk**	**9.70 29**		P	Pn	07 37 31.1	+5.7
KUR				S	**Sn**	**07 39 12.2**	**-1.4**
KUR				MLR	MLR		
	comp=Z,700nm,15.0s						
KUR				MLR	MLR		
	comp=E,700nm,9.0s						
JCJ	**Chichijima**	**9.80 175**		Pn	**Pn**	**07 37 23.6**	**-3.3**
	comp=E,12nm,0.3s,baz=346,slow=6.0,SNR=14						
JCJ				Sn	Sn	07 39 06.7	-9.5
	comp=E,11nm,0.3s,baz=242,slow=23,SNR=3.7						
JCJ				LR	LR	07 41 10.9	
	comp=E,535nm,21.2s,baz=360,slow=37						
JCJ	**Chichijima**	**9.80 175**		Pn	**Pn**	**07 37 23.3**	**-3.5**
YSS	**Yuzh-Sakhalins**	**10.11 6**		*e*P	**Pn**	**07 37 29.3**	**-1.7**
YSS				*e*S	**Sn**	**07 39 23.8**	**+0.2**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				pmax	pmax		
	comp=N,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,100nm,4.1s						
YSS				MLR	MLR		
	comp=Z,1μm,10.0s						
YSS				MLR	MLR		
	comp=N,900nm,16.0s						
YSS				MLR	MLR		
	comp=E,1μm,16.0s						
YSS	**Yuzh-Sakhalins**	**10.11 6**			**Pn**	**07 37 30.6**	**-0.4**
USA0B	**Ussuriysk Arra**	**10.14 319**		P	**Pn**	**07 37 34.0**	**+2.5**
USA0B	**Ussuriysk Arra**	**10.14 319**		Pn	**Pn**	**07 37 34.0**	**+2.5**
USRK	**Ussuriysk Ar.**	**10.14 319**		Pn	**Pn**	**07 37 35.2**	**+3.8**
	baz=133,slow=13,SNR=62						
USRK				LR	LR	07 41 07.7	
	comp=E,1μm,19.0s,baz=127,slow=36						
USRK	**Ussuriysk Ar.**	**10.14 319**		P	**Pn**	**07 37 34.4**	**+2.9**
USRK	**Ussuriysk Ar.**	**10.14 319**		Pn	**Pn**	**07 37 34.4**	**+2.9**
KSRS	**Korea Array**	**10.66 277**		Pn	**Pn**	**07 37 41.9**	**+3.3**
	comp=E,0.9nm,0.3s,baz=88,slow=14,SNR=47						
KSRS				LR	LR	07 41 26.4	
	comp=E,957nm,21.7s,baz=88,slow=36						
KS19	**Wonju Array Si**	**10.70 277**			**Pn**	**07 37 41.5**	**+2.3**
TJN	**Taejon**	**11.18 272**		⇓*e*P	**Pn**	**07 37 47.3**	**+1.6**
MDJ	**Mudanjiang**	**11.73 315**		P	Pn	07 37 58.3	+5.2
MDJ				S	**Sn**	**07 40 03.8**	**+0.6**
MDJ				pmax	pmax		
	comp=E,53nm,0.9s						
MDJ				pmax	pmax		
	comp=E,220nm,3.7s						
MDJ				LR	LR		
	comp=E,1μm,16.4s						
MDJ				LR	LR		
	comp=E,640nm,15.7s						
MDJ				LR	LR		
	comp=E,940nm,24.2s						
MDJ	**Mudanjiang**	**11.73 315**		Pn	**Pn**	**07 37 57.8**	**+4.6**
CN2	**Changchun**	**13.88 305**		*e*P	**Pn**	**07 38 26.0**	**+3.5**
CN2				pmax	pmax		
	comp=E,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=E,210nm,6.0s						
CN2				LR	LR		
	comp=E,780nm,14.0s						
CN2				LR	LR		
	comp=E,850nm,14.0s						
CN2				LR	LR		
	comp=E,750nm,14.0s						
TYV	**Tymovskoe**	**14.00 4**		*e*P	**Pn**	**07 38 24.4**	**+0.3**
TYV				pmax	pmax		
	comp=Z,13nm,1.4s						
KLR	**Kul'dur**	**14.14 334**		Pn	**Pn**	**07 38 26.2**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=127,slow=14,SNR=3.3						
KLR				LR	LR	07 43 34.7	
	comp=Z,742nm,19.5s,baz=150,slow=36						
KLR	**Kul'dur**	**14.14 334**		⇓*e*P			
GRNR	**Gornyy**	**14.30 347**		⇑*i*P	Pn	07 38 18.0	-10
GRNR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
GRNR				MLR	MLR		
	comp=E,360nm,14.0s						
GRNR				MLR	MLR		
	comp=N,350nm,12.0s						
GRNR				MLR	MLR		
	comp=Z,640nm,13.0s						
SNY	**Shenyang**	**14.53 295**		⇑P	**P**	**07 38 39.5**	**+1.7**
SNY				S	**S**	**07 41 25.8**	**-5.0**
SNY				pmax	pmax		
	comp=Z,29nm,0.6s						
SNY				pmax	pmax		
	comp=Z,120nm,2.3s						
SNY				LR	LR		
	comp=N,910nm,13.5s						
SNY				LR	LR		
	comp=E,880nm,16.1s						
SNY				LR	LR		
	comp=Z,1μm,15.3s						
DL2	**Dalian**	**15.63 283**		P	**P**	**07 38 51.0**	**+1.0**
DL2				S	**S**	**07 41 51.5**	**-1.7**
DL2				pmax	pmax		
	comp=Z,43nm,0.7s						
DL2				pmax	pmax		
	comp=Z,250nm,5.7s						
DL2				LR	LR		
	comp=N,300nm,11.5s						
DL2				LR	LR		
	comp=E,630nm,16.2s						
DL2				LR	LR		
	comp=Z,780nm,15.6s						
OKH	**Okha**	**16.70**	**3**	*c i*P	**Pn**	**07 38 56.1**	**-3.4**
OKH				*i* S	**Sn**	**07 41 57.0**	**-7.1**
OKH				MLR	MLR		
	comp=E,1μm,15.0s						
OKH				MLR	MLR		
	comp=N,1μm,14.0s						
OKH				MLR	MLR		
	comp=Z,600nm,15.0s						
NJ2	**Nanjing**	**19.08 262**		*e*P	**P**	**07 39 26.8**	**-1.4**
NJ2				S	**Sn**	**07 43 02.3**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,21nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,220nm,3.8s						
NJ2				LR	LR		
	comp=Z,960nm,15.5s						
NJ2				LR	LR		
	comp=Z,440nm,15.2s						
NJ2				LR	LR		
	comp=Z,340nm,19.9s						
TIA	**Tai'an**	**19.39 275**		P	**P**	**07 39 30.5**	**-1.1**
TIA				pmax	pmax		
	comp=Z,20nm,0.9s						
TIA				LR	LR		
	comp=Z,500nm,15.1s						
TIA				LR	LR		
	comp=Z,370nm,22.0s						
TIA				LR	LR		
	comp=Z,610nm,20.6s						
ZEA	**Zeya**	**19.45 334**		*e*P	**P**	**07 39 29.1**	**-3.0**
ZEA				pmax	pmax		
	comp=N,50nm,0.7s						
ZEA				pmax	pmax		
	comp=E,59nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,70nm,1.0s						
ZEA				MLR	MLR		
	comp=N,500nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,900nm,14.0s						
ZEA				MLR	MLR		
	comp=E,500nm,12.0s						
PETK	**Petropavlovsk-**	**19.87 30**		P	**P**	**07 39 37.0**	**+0.4**
	comp=E,0.1nm,0.3s,baz=185,slow=13,SNR=6.0						
PETK	**Petropavlovsk-**	**19.87 30**		P	**Pn**	**07 39 38.4**	**+0.1**
PETK	**Petropavlovsk-**	**19.87 30**		P	**Pn**	**07 39 38.4**	**+0.1**
BJI	**Beijing**	**19.87 287**		P	**P**	**07 39 36.5**	**-0.3**
BJI				S	**S**	**07 43 18.5**	**-0.8**
BJI				pmax	pmax		
	comp=E,10.0nm,1.1s						
BJI				pmax	pmax		
	comp=E,79nm,3.5s						
BJ

HHC S **S** **07 44 30.5 +4.2**
HHC pmax pmax
comp=Z,20nm,1.2s
HHC pmax pmax
comp=Z,88nm,4.4s
HHC LR LR
comp=Z,420nm,12.3s
HHC LR LR
comp=Z,250nm,10.5s
HHC LR LR
comp=Z,240nm,11.9s
MA2 Magadan 23.51 12⇑ *e*P **P** **07 40 15.3 0.0**
MA2 pmax pmax
comp=Z,57nm,1.7s
MA2 Magadan 23.51 12 P **P** **07 40 16.2 +0.8**
MA2 IAmb IAmb 07 40 21.8
comp=Z,40nm,1.1s
BTO Baotou 24.57 288 *e*P **P** **07 40 22.5 -3.1**
BTO S S 07 44 33.5 -12
YAK Yakutsk 26.18 348 P **P** **07 40 39.2 -0.5**
comp=Z,8.4nm,0.3s,baz=126,slow=2.9,SNR=6.1
YAK LR LR 07 51 35.9
comp=Z,93nm,19.2s,baz=357,slow=38
YAK Yakutsk 26.18 348 *e*P **P** **07 40 38.9 -0.8**
YAK *e**PP **pP** **07 40 47.7 +1.0**
YAK *e*PPP PPP 07 41 25.3
YAK *e*S **S** **07 45 08.9 -1.1**
YAK *e**SS sS 07 45 30.4 +8.8
YAK *e*SSS SSS 07 46 34.2
YAK pmax pmax
comp=N,17nm,0.9s
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK smax smax
comp=N,75nm,1.8s
YAK smax smax
comp=E,55nm,1.7s
YAK MLR MLR
comp=Z,253nm,14.0s
YAK MLR MLR
comp=N,253nm,14.0s
YAK Yakutsk 26.18 348 P **P** **07 40 38.7 -0.9**
YAK IAmb IAmb 07 40 42.4
comp=Z,49nm,1.0s
XAN Xi'an 26.43 274 P **P** **07 40 42.0 -0.3**
XAN S **S** **07 45 20.8 +6.2**
XAN pmax pmax
comp=Z,11nm,0.7s
XAN pmax pmax
comp=Z,110nm,5.9s
XAN LR LR
comp=Z,650nm,16.7s
XAN LR LR
comp=Z,290nm,18.1s
XAN LR LR
comp=Z,470nm,14.2s
XAN Xi'an 26.43 274 P **P** **07 40 41.6 -0.7**
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN Xi'an 26.43 274 P **P** **07 40 41.6 -0.7**
SEY Seymchan 26.95 11 *ce*P **P** **07 40 47.0 +0.3**
comp=Z,15nm,0.9s,baz=197,slow=7.2,SNR=30
SEY Seymchan 26.95 11 *ce*P **P** **07 40 48.0 +1.3**
ENH Enshi 27.20 265 P **P** **07 40 48.3 -1.0**
ULN Ulaanbaatar 27.33 304⇑ *e*P **P** **07 40 49.5 -1.0**
ULN pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 27.33 304 P **P** **07 40 49.2 -1.3**
BOD Bodaibo 27.58 328 *e*P **P** **07 40 51.9 -0.5**
BOD pmax pmax
comp=Z,27nm,0.8s
SONM Songino Array 27.76 304 P **P** **07 40 53.3 -1.0**
comp=Z,12nm,0.6s,baz=111,slow=9.6,SNR=40
SONM LR LR 07 51 56.5
comp=Z,246nm,20.6s,baz=106,slow=36
SONM Songino Array 27.76 304 P **P** **07 40 53.3 -1.0**
SONM pmax pmax
comp=Z,8.0nm,0.7s
SONM Songino Array 27.76 304 P **P** **07 40 53.3 -1.0**
H11N2 WAKE ISLAND Hy 28.18 120 T T 08 10 23.7
baz=313,slow=75,SNR=6499
H11N1 WAKE ISLAND Hy 28.19 120 T T 08 10 24.4
baz=313,slow=75,SNR=6643
H11N3 WAKE ISLAND Hy 28.20 120 T T 08 10 25.2
baz=313,slow=75,SNR=5524
H11S1 WAKE ISLAND Hy 28.89 122 T T 08 11 17.5
baz=315,slow=76,SNR=3294
H11S3 WAKE ISLAND Hy 28.89 122 T T 08 11 17.7
baz=315,slow=76,SNR=1984
H11S2 WAKE ISLAND Hy 28.91 122 T T 08 11 16.1
baz=315,slow=76,SNR=1028
LZH Lanzhou 29.97 280 *e*P **P** **07 41 15.0 +0.9**
LZH pP sP 07 41 24.5 +0.4
LZH sP pP 07 41 28.3 +7.1
LZH PP **PnPn** **07 42 09.5 -1.3**
LZH pmax pmax
comp=Z,27nm,1.3s
LZH pmax pmax
comp=Z,120nm,5.0s
LZH LR LR
comp=Z,420nm,13.4s
LZH LR LR
comp=Z,620nm,16.3s
LZH LR LR
comp=Z,640nm,16.3s
ZAK Zakamensk 30.26 309 *e*P **P** **07 41 16.3 -0.1**
ZAK *e* 07 44 15.9
ZAK pmax pmax
comp=Z,5.0nm,1.1s
TLY Talaya 30.33 311 *e*P **P** **07 41 17.6 +0.7**
TLY *e*S **S** **07 46 18.7 +3.1**
TLY pmax pmax
comp=Z,21nm,0.8s
TLY MLR MLR
comp=Z,330nm,8.0s
TLY Talaya 30.33 311 P **P** **07 41 17.2 +0.3**
TLY IAmb IAmb 07 41 18.5
comp=Z,8.7nm,0.7s
GYA Guiyang 31.08 260 ⇑P **P** **07 41 22.8 -1.1**
GYA pP sP 07 41 32.5 -1.4
GYA S **S** **07 46 24.5 -3.5**
GYA pmax pmax
comp=Z,23nm,0.8s
GYA pmax pmax
comp=Z,71nm,3.5s
GYA LR LR
comp=Z,290nm,16.1s
GYA LR LR
comp=Z,300nm,11.0s
GYA LR LR
comp=Z,340nm,13.3s
CD2 Chengdu 31.55 270 P **P** **07 41 27.0 -0.9**
CD2 S **S** **07 46 36.5 +1.3**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,160nm,6.5s
CD2 LR LR
comp=Z,1μm,17.7s
CD2 LR LR
comp=Z,960nm,17.9s
CD2 LR LR
comp=Z,1μm,18.0s
GTA Gaotai 32.49 287 *e*P **P** **07 41 35.5 -0.7**
GTA pP pP 07 41 44.5 +1.2
GTA sP sP 07 41 49.0 +2.8
GTA S **S** **07 46 46.5 -3.3**
GTA sS sS 07 47 06.0 +4.4
GTA pmax pmax
comp=Z,7.0nm,0.6s
GTA pmax pmax
comp=Z,63nm,8.6s
GTA LR LR
comp=Z,230nm,14.8s
GTA LR LR
comp=Z,230nm,15.1s
GTA LR LR
comp=Z,270nm,15.5s
QIZ Qiongzhong 32.76 246 P **P** **07 41 38.8 +0.2**
QIZ S **S** **07 46 51.5 -2.6**
QIZ LR LR
comp=Z,520nm,19.1s
QIZ LR LR
comp=Z,330nm,16.7s
QIZ LR LR
comp=Z,280nm,15.7s
KMI Kunming 34.82 261⇓ *e*P **P** **07 41 56.8 +0.1**
KMI pmax pmax
comp=Z,100nm,4.7s
KMI LR LR
comp=Z,400nm,18.3s
KMI LR LR
comp=Z,260nm,19.3s
KMI LR LR
comp=Z,270nm,25.6s
MYLDM Lahad Datu 37.83 219 P **P** **07 42 23.9 +1.7**
MYLDM IAmb IAmb 07 42 30.8
comp=Z,22nm,1.0s
TNTI Ternate 38.17 203 P **P** **07 42 25.0 -0.1**
comp=Z,34nm,1.0s
UBPT Khong Chiam 38.36 245 P **P** **07 42 27.3 +0.6**
UBPT IAmb IAmb 07 42 28.3
comp=Z,20nm,0.8s
DLV T Lat 38.50 238 P **P** **07 42 28.8 +0.7**
DLV IAmb IAmb 07 42 30.9
comp=Z,29nm,1.2s
GTOI Gorontalo 39.84 209 P **P** **07 42 37.6 -1.4**
comp=Z,266nmcomp=Z,33nm,0.8s
WMQ Urumqi 40.79 297 *e*P **P** **07 42 48.0 +1.2**
WMQ pP pP 07 42 53.5 -0.5
WMQ PcS **PcS** **07 48 32.5 -5.9**
WMQ pmax pmax
comp=Z,50nm,1.1s
WMQ pmax pmax
comp=Z,75nm,3.6s
WMQ LR LR
comp=Z,160nm,21.3s
WMQ LR LR
comp=Z,170nm,19.7s
CHTO Chiang Mai 41.14 256 P **P** **07 42 49.9 +0.1**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 41.14 256 P **P** **07 42 49.9 +0.1**
CMAR Chiang Mai Arr 41.34 255 P **P** **07 42 51.4 -0.1**
comp=Z,4.4nm,0.7s,baz=42,slow=7.9,SNR=14
CMAR LR LR 08 02 26.0
comp=Z,191nm,18.3s,baz=86,slow=40
CMAR Chiang Mai Arr 41.34 255 *i* P **P** **07 42 51.4 -0.1**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR Chiang Mai Arr 41.34 255 P **P** **07 42 51.7 +0.2**
ZAA0 Zalesovo Array 41.92 312 P **P** **07 42 55.8 0.0**
ZAA0 IAmb IAmb 07 42 56.6
comp=Z,30nm,0.8s
ZALV Zalesovo Beam 41.92 312 P **P** **07 42 55.8 +0.1**
comp=Z,27nm,0.7s,baz=92,slow=7.1,SNR=85
ZALV PcP **PcP** **07 44 51.5 +0.6**
comp=Z,5.3nm,0.7s,baz=82,slow=2.8,SNR=5.2
ZALV LR LR 08 00 56.8
comp=Z,221nm,18.5s,baz=74,slow=37
ZALV Zalesovo Beam 41.92 312 *i* P **P** **07 42 55.7 -0.1**
ZALV pmax pmax
comp=Z,27nm,0.7s
ZALV Zalesovo Beam 41.92 312 P **P** **07 42 55.3 -0.5**
ZALV PcP **PcP** **07 44 51.3 +0.3**
SHL Shillong 43.28 269 P **P** **07 43 07.7 +0.2**
SHL pmax pmax
comp=Z,15nm,1.0s
SHL Shillong 43.28 269 P **P** **07 43 07.7 +0.2**
SHL IAmb IAmb 07 43 16.9
comp=Z,15nm,1.0s
NRIK Noril'sk 43.34 335 P **P** **07 43 06.8 -0.3**
comp=Z,3.9nm,0.5s,baz=117,slow=5.8,SNR=11
NRIK PcP **PcP** **07 44 56.4 +0.9**
comp=Z,4.8nm,0.8s,baz=54,slow=3.9,SNR=4.0
NRIK LR LR 08 02 00.6
comp=Z,202nm,18.7s,baz=105,slow=37
MK31 Makanchi Array 44.09 302 P **P** **07 43 13.6 +0.1**
MK31 pmax pmax
comp=Z,24nm,0.8s
MK31 Makanchi Array 44.09 302 P **P** **07 43 13.6 +0.1**
MK31 IAmb IAmb 07 43 14.6
comp=Z,24nm,0.8s
MKAR Makanchi Array 44.09 302 P **P** **07 43 13.6 +0.1**
comp=Z,25nm,0.7s,baz=89,slow=9.9,SNR=277
MKAR PcP **PcP** **07 44 59.3 +0.8**
comp=Z,3.0nm,0.7s,baz=298,slow=2.6,SNR=2.8
MKAR LR LR 08 01 42.0
comp=Z,231nm,21.8s,baz=86,slow=36
MKAR Makanchi Array 44.09 302 P **P** **07 43 13.6 +0.1**
MKAR **PcP** **07 44 58.8 +0.4**
MAKZ Makanchi 44.30 302 P **P** **07 43 15.3 +0.1**
MAKZ pmax pmax
comp=Z,27nm,0.8s
MAKZ Makanchi 44.30 302 P **P** **07 43 15.3 +0.1**
MAKZ IAmb IAmb 07 43 16.3
comp=Z,27nm,0.8s
SPSI Sidrap Palu 45.32 211 P **P** **07 43 22.9 -0.7**
comp=Z,23nm,0.8s
KSM Kuching 45.37 226 P **P** **07 43 24.9 +0.9**
BNSI Bone 45.58 210 P **P** **07 43 26.0 +0.4**
comp=Z,846nmcomp=Z,84nm,1.1s
TAPN Taplejung 45.83 274 *e*P **P** **07 43 28.4 +0.5**
comp=Z,26nm,0.5s
KURK Kurchatov 45.92 308 *c i*P **P** **07 43 28.2 +0.2**
KURK pmax pmax
comp=Z,128nm,1.7s
KURK Kurchatov 45.92 308 P **P** **07 43 27.6 -0.3**
KURBB Kurchatov Arra 45.99 308 P **P** **07 43 27.7 -0.8**
KAPI Kappang 46.28 210 P **P** **07 43 31.8 +0.7**
KAPI pmax pmax
comp=Z,62nm,0.9s
KAPI Kappang 46.28 210 P **P** **07 43 31.8 +0.7**
ODAN Odare 46.30 274 *e*P **P** **07 43 31.8 +0.2**
comp=Z,63nm,0.8s
BKSI Bulukumba 46.41 210 P **P** **07 43 31.0 -1.2**
comp=Z,44nm,1.0s
IMAR Indin Mountai 46.83 31 P **P** **07 43 36.3 +1.4**
RAMN Ramite 46.89 274 *e*P **P** **07 43 36.6 +0.4**
comp=Z,120nm,0.7s
JIRN Jiri 46.91 275 *e*P **P** **07 43 37.1 +0.6**
comp=Z,133nm,0.9s
GUN Gumba 47.05 276 *e*P **P** **07 43 38.0 +0.5**
comp=Z,126nm,0.9s
RSO Redoubt South 47.09 38 P **P** **07 43 38.5 +1.3**
BBKI Banjar Baru 47.10 217 P **P** **07 43 37.2 -0.3**
comp=Z,17nm,1.0s
PPLA Purkeypile 47.35 35 P **P** **07 43 41.3 +2.1**
PKI Pulchoki 47.57 276 *e*P **P** **07 43 41.5 -0.1**
comp=Z,36nm,0.8s
DMN Daman 47.79 276 *e*P **P** **07 43 43.4 +0.1**
KTH Kantishna Hill 47.93 34 IAmb IAmb 07 43 46.5
comp=Z,21nm,1.0s
GKN Gorkha 48.00 276 *e*P **P** **07 43 44.9 +0.2**
comp=Z,145nm,0.8s
SUA Susitna One 48.04 37 IAmb IAmb 07 43 47.9
comp=Z,10nm,0.9s
TRF Thorofare Moun 48.21 34 IAmb IAmb 07 43 49.4
comp=Z,12nm,1.0s
COLD Coldfoot 48.33 29 P **P** **07 43 48.1 +1.5**
baz=267
O22K Cooper Landing 48.59 38 P **P** **07 43 49.0 +0.5**
baz=274
KULM Kulim 48.64 240 P **P** **07 43 51.0 +1.4**
TOLK Toolik Lake Re 48.65 27 P **P** **07 43 50.8 +1.8**
baz=266
TOLK Toolik Lake Re 48.65 27 IAmb IAmb 07 43 51.9
comp=Z,16nm,0.9s
NEA2 Nenana 48.74 33 P **P** **07 43 51.3 +1.5**
baz=270
PMR Palmer 48.81 37 IAmb IAmb 07 43 51.5
comp=Z,11nm,0.9s
MCK McKinley 48.81 34 IAmb IAmb 07 43 52.5
comp=Z,14nm,1.0s
GHO Glory Hole Cre 48.90 36 IAmb IAmb 07 43 53.1
comp=Z,18nm,0.8s
KOLN Koldanda 48.92 277 *e*P **P** **07 43 52.3 +0.4**
comp=Z,73nm,1.0s
IPM Ipoh 48.97 239 P **P** **07 43 51.8 -0.2**
MYKOM Kota Tinggi 49.08 233 P **P** **07 43 55.0 +2.1**
WRH Wood River Hil 49.17 33 P **P** **07 43 54.0 +1.1**
WRH IAmb IAmb 07 43 57.6
comp=Z,7.6nm,0.9s
SML Sawmill 49.18 36 IAmb IAmb 07 43 55.3
comp=Z,18nm,0.8s
TCOL CIGO, UAF Yank 49.26 32 P **P** **07 43 55.0 +1.4**
baz=271
COLA College 49.26 32⇑ *i*P **P** **07 43 55.4 +1.7**
COLA pmax pmax
comp=Z,9.0nm,0.9s
COLA College 49.26 32 P **P** **07 43 54.5 +0.8**
COLA IAmb IAmb 07 43 57.4
comp=Z,10nm,0.9s
PYUN Piuthan 49.27 277 *e*P **P** **07 43 55.0 +0.5**
comp=Z,151nm,0.9s
POKR Poker Plat Res 49.43 32 P **P** **07 43 56.9 +1.9**
baz=272,SNR=23
DHY Denali Highway 49.54 35 IAmb IAmb 07 44 04.7
comp=Z,13nm,1.2s
TKM2 Tokmak 2 49.59 298 P **P** **07 43 56.9 +0.1**
HDA Harding Lake 49.66 33 P **P** **07 43 57.1 +0.3**
baz=273,SNR=11
HDA Harding Lake 49.66 33 IAmb IAmb 07 43 58.5
comp=Z,16nm,0.9s
IL31 49.68 32 IAmb IAmb 07 43 58.7
comp=Z,15nm,0.8s
ILAR Eielson Array 49.68 32 P **P** **07 43 57.5 +0.7**
comp=Z,11nm,0.8s,baz=269,slow=6.2,SNR=145
ILAR LR LR 08 06 36.5
comp=Z,72nm,19.1s,baz=314,slow=38
ILAR Eielson Array 49.68 32 P **P** **07 43 57.1 +0.2**
M24K Tolsona, Glenn 50.17 36 P **P** **07 44 02.6 +1.9**
baz=275
WSI Waingapu 50.33 207 P **P** **07 44 00.7 -1.6**
comp=Z,39μmcomp=Z,3μm,0.6s
KSH Kashi 50.35 294 P **P** **07 44 07.0 +4.5**
KSH S **S** **07 51 19.0 +4.8**
KSH pmax pmax
comp=Z,32nm,1.6s
KSH pmax pmax
comp=Z,89nm,4.1s
KSH LR LR
comp=Z,140nm,9.9s
KSH LR LR
comp=Z,150nm,10.3s
AAK Ala-Archa 50.45 298 *de*P **P** **07 44 03.5 +0.2**
AAK pmax pmax
comp=Z,14nm,1.7s
AAK Ala-Archa 50.45 298 P **P** **07 44 02.5 -0.8**
BRVK Borovoye 50.63 312 *d i*P **P** **07 44 04.3 0.0**
BRVK pmax pmax
comp=Z,11nm,0.9s
BRVK Borovoye 50.63 312 P **P** **07 44 04.6 +0.3**
BRVK IAmb IAmb 07 44 05.5
comp=Z,10nm,0.9s
RIDG Independent Ri 50.63 34 IAmb IAmb 07 44 06.8
comp=Z,9.7nm,1.0s
DOT Dot Lake 50.99 34 IAmb IAmb 07 44 08.2
comp=Z,7.4nm,0.9s
SCRK Sand Creek 50.99 33 P **P** **07 44 08.0 +1.1**
baz=276
MENT Mentasta 51.22 35 IAmb IAmb 07 44 14.1
comp=Z,15nm,1.0s
PSI Prapat 51.62 239 P **P** **07 44 12.2 -0.1**
PSI pmax pmax
comp=Z,22nm,0.8s
RPSI Rantau Prapat 51.69 239 P **P** **07 44 12.2 -0.5**
K27K Chicken 51.82 33 P **P** **07 44 14.6 +1.6**
baz=277
BCAR Beaver Creek A 52.08 34 P **P** **07 44 17.1 +2.1**
EGAK Eagle 52.12 32 IAmb IAmb 07 44 20.7
comp=Z,9.6nm,1.0s
MLSI Meulaboh, Aceh 52.34 243 P **P** **07 44 16.5 -1.1**
comp=Z,77nm,0.9s
MNSI Mandailing Nat 52.63 237 P **P** **07 44 19.2 -0.5**
comp=Z,4μmcomp=Z,23nm,0.9s
SDSI Sungai Dareh 52.71 234 P **P** **07 44 20.2 0.0**
KK31 Karatay Array 53.09 300 *i* P **P** **07 44 22.9 +0.1**
KK31 Karatay Array 53.09 300 IAmb IAmb 07 44 32.1
comp=Z,11nm,1.0s
KKAR Karatay Array 53.09 300 P **P** **07 44 22.5 -0.3**
KKAR Karatay Array 53.09 300 P **P** **07 44 22.5 -0.3**
KKAR Karatay Array 53.09 300 IAmb IAmb 07 44 32.1
comp=Z,11nm,1.0s
KLSI 53.59 227 P **P** **07 44 26.6 -0.1**
comp=Z,16nm,1.0s
KNRA Kununurra 53.60 195 P **P** **07 44 26.4 -0.2**
GSI Gunungsitoli 53.62 239 P **P** **07 44 26.8 -0.2**
comp=Z,166nm,1.1s
GSI Gunungsitoli 53.62 239 P **P** **07 44 27.7 +0.7**
NIL Nilore 54.54 288 P **P** **07 44 34.1 +0.5**
NIL pmax pmax
comp=Z,35nm,0.7s
NIL Nilore 54.54 288 P **P** **07 44 34.1 +0.5**
INK Inuvik 54.56 27 P **P** **07 44 34.3 +1.2**
INK pmax pmax
comp=Z,12nm,1.0s
INK Inuvik 54.56 27 P **P** **07 44 34.3 +1.2**
INK IAmb IAmb 07 44 35.6
comp=Z,12nm,0.9s
SVE Sverdlovsk 55.17 319 *ce*P **P** **07 44 38.3 +0.6**
SVE pmax pmax
comp=Z,63nm,0.9s
ARU Arti 56.38 319 *d i*P **P** **07 44 46.3 -0.1**
ARU 07 46 46.9
ARU S **S** **07 52 36.7 +1.3**
ARU SS **SS** **07 56 18.4 -3.5**
ARU pmax pmax
comp=Z,63nm,0.8s
ARU Arti 56.38 319 P **P** **07 44 46.4 -0.1**
FITZ Fitzroy Crossi 56.65 198 P **P** **07 44 48.7 0.0**
FITZ IAmb IAmb 07 44 54.6
comp=Z,25nm,1.2s
WB0 Warramunga Arr 56.73 188 P **P** **07 44 49.1 -0.1**
WRAB Tennant Creek 56.90 188⇓ *e*P **P** **07 44 50.2 -0.2**
WRAB pmax pmax
comp=Z,49nm,1.7s
WRAB Tennant Creek 56.90 188 P **P** **07 44 50.2 -0.2**
WR0 Warramunga Arr 56.90 188 P **P** **07 44 50.0 -0.5**
WB2 Warramunga Arr 56.91 188 P **P** **07 44 50.0 -0.5**
WRA Warramunga Arr 56.91 188 P **P** **07 44 50.2 -0.3**
comp=Z,19nm,0.7s,baz=3.8,slow=7.3,SNR=95
WRA PcP **PcP** **07 45 46.5 +0.8**
comp=Z,5.8nm,0.7s,baz=360,slow=3.8,SNR=5.0
WRA Warramunga Arr 56.91 188 P **P** **07 44 49.7 -0.8**
WRA **PcP** **07 45 46.7 +0.9**
KBL Kabul 57.35 291 P **P** **07 44 53.6 -0.3**
KBL pmax pmax
comp=Z,17nm,1.1s
KBL Kabul 57.35 291 P **P** **07 44 53.6 -0.3**
KBL IAmb IAmb 07 44 54.7
comp=Z,18nm,1.1s
C36M Paulatuk 57.60 25 P **P** **07 44 55.9 +1.1**
baz=289
C36M Paulatuk 57.60 25 IAmb IAmb 07 44 57.0
comp=Z,22nm,1.0s
AB31 Akbulak array 57.93 310 P **P** **07 44 57.1 -0.4**
ABKAR Akbulak array 57.93 310 P **P** **07 44 56.7 -0.8**
HYB Hyderabad 58.08 268 *i* P **P** **07 44 59.0 0.0**
AKTO Aktyubinsk 58.67 312 P **P** **07 45 02.8 +0.1**
comp=Z,12nm,0.8s,baz=75,slow=11,SNR=21
AS31 Alice Springs 60.63 188 P **P** **07 45 16.6 +0.3**
ASAR Alice Springs 60.63 188 P **P** **07 45 16.4 0.0**
comp=Z,12nm,0.8s,baz=10,slow=6.2,SNR=106
ASAR Alice Springs 60.63 188 P **P** **07 45 16.6 +0.2**
ASAR Alice Springs 60.63 188 P **P** **07 45 16.6 +0.2**
PRGR Permogore 60.81 327 *e*P **P** **07 45 15.6 -1.6**
PRGR pmax pmax
comp=Z,44nm,1.0s
POO Poona 61.25 272 *e*P **P** **07 45 21.0 +0.2**
HRA Herat 62.46 294 P **P** **07 45 29.6 +0.6**
APA Apatity 62.76 336⇓ *i*P P 07 45 36.6 +6.4
APA pmax pmax
comp=Z,9.0nm,1.2s
APA MLR MLR
comp=Z,400nm,13.0s
GEYT Alibeck 63.79 299 P **P** **07 45 38.1 +0.6**
comp=Z,18nm,0.8s,baz=46,slow=4.3,SNR=32
GEYT LR LR 08 14 43.0
comp=Z,85nm,18.7s,baz=50,slow=37
GEYT Alibeck 63.79 299 P **P** **07 45 37.9 +0.2**
GYA0B ALIBECK ARRAY 63.79 299 P **P** **07 45 37.9 +0.2**
KLMR Klimovskoe 63.81 328 *e*P **P** **07 45 36.7 -0.5**
KLMR pmax pmax
comp=Z,37nm,1.3s
KLMR Klimovskoe 63.81 328 *e*P **P** **07 45 36.7 -0.5**
KLMR AMP 07 45 38.3
comp=Z,37nm,1.3s
YKA Yellowknife Ar 63.99 30 P **P** **07 45 39.1 +0.7**
comp=Z,4.3nm,0.8s,baz=302,slow=6.7,SNR=9.1
YKA LR LR 08 14 09.1
comp=Z,33nm,21.6s,baz=0.0,slow=37
ARCES ARCESS Array B 64.08 339 P **P** **07 45 39.5 +0.6**
comp=Z,7.8nm,0.9s,baz=61,slow=8.0,SNR=29
ARCES LR LR 08 16 47.3

comp=Z,72nm,18.4s,baz=2.5,slow=39
ARCES ARCESS Array B 64.08 339 P **P** **07 45 39.3 +0.4**
NLWA Neilton Lookou 66.90 47 IAmb IAmb 07 46 01.1
comp=Z,8.1nm,0.9s
MOS Moscow 67.29 323 *e*P **P** **07 45 58.0 -1.8**
MOS pmax pmax
comp=Z,43nm,1.0s
VRH Novokhopyorsk 67.60 318 *e*P **P** **07 46 00.9 -0.9**
VRH pmax pmax
comp=Z,40nm,0.8s
E04D Cinebar 68.09 48 P **P** **07 46 07.2 +2.2**
baz=301
OBN Obninsk 68.13 323 P **P** **07 46 05.0 -0.1**
comp=Z,5.8nm,0.3s,baz=32,slow=23,SNR=6.9
OBN Obninsk 68.13 323 *e*P **P** **07 46 05.0 -0.1**
OBN *e* 07 46 30.3
OBN *e* 07 48 36.1
OBN *e*PPP PPP 07 50 16.4
OBN pmax pmax
comp=Z,45nm,1.7s
OBN Obninsk 68.13 323 P **P** **07 46 05.4 +0.3**
LPSR Galich'ya Gora 68.33 320 *e*P **P** **07 46 06.4 0.0**
LPSR pmax pmax
comp=Z,40nm,1.0s
STKA Stephens Creek 68.42 180 P **P** **07 46 07.0 -0.1**
comp=Z,3.6nm,0.7s,baz=338,slow=5.6,SNR=11
STKA Stephens Creek 68.42 180 P **P** **07 46 07.6 +0.6**
STKA Stephens Creek 68.42 180 P **P** **07 46 07.6 +0.6**
FIA1 FINESS Array S 68.88 332 P **P** **07 46 10.0 +0.3**
FINES FINESS Array B 68.88 332 P **P** **07 46 09.8 +0.1**
comp=Z,17nm,0.7s,baz=57,slow=7.7,SNR=52
FINES LR LR 08 18 10.4
comp=Z,100nm,18.2s,baz=52,slow=38
VSR Storozhevoye 68.95 319 *e*P **P** **07 46 09.7 -0.6**
VSR pmax pmax
comp=Z,30nm,1.0s
VORD Divnogorie 69.02 319 *e*P **P** **07 46 10.1 -0.6**
VORD pmax pmax
comp=Z,10.0nm,0.6s
I03D Drain, OR 69.09 51 P **P** **07 46 13.3 +2.0**
baz=301
H04A Detroit Lake 69.29 49 IAmb IAmb 07 46 15.4
comp=Z,13nm,1.2s
K02D Willamette Mer 69.41 52 P **P** **07 46 15.1 +1.6**
baz=302
BBOO Buckleboo 69.52 185 P **P** **07 46 14.3 +0.4**
BBOO IAmb IAmb 07 46 15.3
comp=Z,9.8nm,0.8s
G05D Wamic, OR 69.52 48 P **P** **07 46 15.8 +1.8**
baz=302
I04A Tendick Farm, 69.62 50 P **P** **07 46 16.0 +1.3**
baz=302,SNR=6.0
I05D Terrebonne, OR 69.98 49 P **P** **07 46 18.1 +1.2**
baz=302
F07A Phinny Hill Vi 70.00 47 IAmb IAmb 07 46 19.8
comp=Z,7.9nm,0.9s
GOF Gofitskoye 70.09 312⇑ *e*P **P** **07 46 18.2 +0.7**
J04D Umpqua Nationa 70.10 51 P **P** **07 46 19.4 +1.6**
baz=302
NEW Newport 70.31 44 P **P** **07 46 19.7 +0.9**
baz=304
VSU Vasula 70.51 330*d* *i*P **P** **07 46 19.9 +0.1**
VSU pmax pmax
comp=Z,62nm,0.9s
L04D Klamath Falls 70.52 52 P **P** **07 46 22.4 +2.0**
baz=302
PINE Pine Mountain 70.52 50 P **P** **07 46 22.1 +1.6**
PINE IAmb IAmb 07 46 23.8
comp=Z,16nm,0.9s
J05D Fort Rock, OR 70.61 50 P **P** **07 46 22.9 +1.9**
baz=303,SNR=6.2
M02C Callahan 70.61 53 P **P** **07 46 22.7 +1.8**
baz=302
E09A Wood Farm, Sta 70.70 46 IAmb IAmb 07 46 23.9
comp=Z,7.4nm,0.9s
ZEI Tsey 70.79 309 *e*P **P** **07 46 21.0 -1.1**
ZEI pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 70.82 360 *i* P **P** **07 46 22.8 +0.8**
comp=Z,28nm,1.0s
SUMG Summit 70.82 360 *i* P **P** **07 46 22.8 +0.8**
SUMG pmax pmax
comp=Z,28nm,1.0s
SUMG Summit 70.82 360 P **P** **07 46 22.7 +0.7**
SUMG IAmb IAmb 07 46 24.2
comp=Z,9.3nm,0.9s
KBZ Khabaz 70.90 311 P **P** **07 46 23.3 +0.9**
comp=Z,20nm,0.9s,baz=54,slow=2.8,SNR=30
KBZ LR LR 08 18 04.8
comp=Z,101nm,20.6s,baz=60,slow=36
KIV Kislovodsk 70.90 311⇑P **P** **07 46 23.7 +1.1**
KIV Kislovodsk 70.90 311 *i* P **P** **07 46 23.7 +1.1**
SNR=5.6
KIV Kislovodsk 70.90 311 *e*P **P** **07 46 23.2 +0.6**
KIV pmax pmax
comp=Z,150nm,1.1s
KIV MLR MLR
comp=Z,292nm,18.0s
KIV Kislovodsk 70.90 311 P **P** **07 46 23.3 +0.7**
N02D Trinity Center 70.93 53 P **P** **07 46 24.8 +2.0**
baz=303
M04C Macloel 71.05 52 P **P** **07 46 25.6 +2.1**
baz=303
K05A Summer Lake 71.13 50 IAmb IAmb 07 46 27.6
comp=Z,18nm,1.1s
BANOM Banah 71.14 289 P **P** **07 46 24.2 0.0**
SHME Shamm 71.19 289 *i* P **P** **07 46 25.2 +0.6**
SNR=9.0
O02D Mt. Diablo Mer 71.31 54 P **P** **07 46 27.1 +2.0**
baz=303
MSFE Esma-Masafi 71.54 288 P **P** **07 46 28.0 +1.3**
WALA Waterton Lakes 71.62 42 IAmb IAmb 07 46 44.5
comp=Z,15nm,1.5s
UOSS Minazif 71.73 288 P **P** **07 46 28.5 +0.8**
AKH Akhalkalaki 71.80 308 IAmb IAmb 07 46 30.1
comp=Z,12nm,0.9s
HATD Hatta, Dubai 71.85 288 P **P** **07 46 29.7 +1.2**
O03E Paynes Creek 71.88 53 P **P** **07 46 29.8 +1.2**
baz=303
SOHO SOHO 71.92 287 *i* P **P** **07 46 29.2 +0.3**
SNR=7.3
ASHO Ashiyiah 71.98 288 P **P** **07 46 29.8 +0.5**
ORV Oroville 72.48 54 P **P** **07 46 33.1 +1.1**
ORV pmax pmax
comp=Z,10.0nm,1.3s
ORV Oroville 72.48 54 P **P** **07 46 33.1 +1.1**
ORV IAmb IAmb 07 46 34.3
comp=Z,9.9nm,1.2s
ALNE Al Ain 72.56 287 P **P** **07 46 33.4 +0.6**
NACGM Naroch 72.77 327 *e* **P** **07 46 32.0 -1.5**
MSO Missoula 72.90 44 P **P** **07 46 35.5 +0.9**
baz=306
PAHR Pah Rah Range 73.75 52 IAmb IAmb 07 46 46.7
comp=Z,12nm,1.3s
FFC Flin Flon 73.89 33 P **P** **07 46 41.1 +1.0**
FFC pmax pmax
comp=Z,14nm,1.0s
FFC Flin Flon 73.89 33 P **P** **07 46 41.1 +1.0**
FFC IAmb IAmb 07 46 42.1
comp=Z,14nm,0.9s
PNTR Pine Nut 73.96 53 IAmb IAmb 07 46 52.5
comp=Z,10nm,1.2s
CMB Columbia Colle 74.05 54 IAmb IAmb 07 46 44.2
comp=Z,13nm,1.2s
YERR Yerington 74.25 53 IAmb IAmb 07 46 45.7
comp=Z,11nm,1.1s
NB2 NORSAR Subarra 74.27 337 P **P** **07 46 42.1 -0.1**
comp=Z,10nm,0.7s,baz=39,slow=6.2
NOA NORSAR Array B 74.27 337 P **P** **07 46 42.5 +0.3**
comp=Z,10.0nm,0.7s,baz=39,slow=5.8,SNR=49
NOA LR LR 08 21 59.6
comp=Z,107nm,19.1s,baz=45,slow=38
AKASG Malin Array Be 74.33 322 P **P** **07 46 42.6 0.0**
comp=Z,6.1nm,0.4s,baz=47,slow=5.9,SNR=30
AKASG LR LR 08 21 14.9
comp=Z,136nm,20.3s,baz=35,slow=37
AKASG Malin Array Be 74.33 322 P **P** **07 46 42.0 -0.7**
NAO01 NORSAR Array S 74.52 337 IAmb IAmb 07 46 44.4
comp=Z,20nm,0.9s
DLMT Dillon 74.53 45 IAmb IAmb 07 46 46.8
comp=Z,8.4nm,0.9s
HLID Hailey 74.56 47 P **P** **07 46 46.3 +1.9**
baz=306
HLID Hailey 74.56 47 P **P** **07 46 46.0 +1.6**
BOZ Bozeman (W) 74.92 44 P **P** **07 46 47.9 +1.4**
baz=308

KVN Kaiserville 74.94 52 IAmb IAmb 07 46 49.8
comp=Z,12nm,1.1s
LHV Little Huntoon 75.14 53 IAmb IAmb 07 46 51.3
comp=Z,22nm,1.2s
NVAR Mina Array Bea 75.17 53 P **P** **07 46 49.8 +1.7**
comp=Z,4.6nm,0.9s,baz=285,slow=6.4,SNR=31
NVAR Mina Array Bea 75.17 53 P **P** **07 46 49.5 +1.4**
PAGB Antelope Grade 75.45 56 IAmb IAmb 07 46 52.6
comp=Z,23nm,1.2s
KONO Kongsberg 75.86 337⇑ *e*P **P** **07 46 51.5 +0.2**
KONO pmax pmax
comp=Z,37nm,2.5s
VES Vestal, Richgr 76.16 56 P **P** **07 46 54.9 +1.4**
baz=306
H17A Grant Village 76.25 45 IAmb IAmb 07 46 58.8
comp=Z,11nm,1.1s
FLWY Flagg Ranch 76.38 45 IAmb IAmb 07 46 58.9
comp=Z,13nm,1.2s
CWC Cottonwood Cre 76.47 55 P **P** **07 46 56.6 +1.1**
baz=306
GRAC Grapevine Rang 76.61 54 P **P** **07 46 57.0 +0.9**
baz=306
ISA Isabella, Lake 76.67 55 P **P** **07 46 57.4 +0.9**
baz=306
R11A Troy Canyon, C 76.94 52 P **P** **07 46 59.7 +1.5**
baz=307
R11A Troy Canyon, C 76.94 52 P **P** **07 46 59.7 +1.5**
R11A IAmb IAmb 07 47 01.2
comp=Z,13nm,1.2s
MPMC Manual Prospec 77.08 55 P **P** **07 46 60.0 +1.0**
baz=306
FURC Furnace Creek, 77.25 54 P **P** **07 47 00.9 +1.3**
baz=307
LRMC Laurel Mtn Rad 77.30 55 P **P** **07 47 01.5 +1.3**
baz=306
TPNV Topopah Spring 77.36 53 P **P** **07 47 01.7 +1.3**
baz=307
TPNV Topopah Spring 77.36 53 IAmb IAmb 07 47 07.5
comp=Z,8.5nm,1.0s
HWUT Hardware Ranch 77.41 47 IAmb IAmb 07 47 04.0
comp=Z,13nm,1.3s
LVV L'vov 77.42 324 *e*P **P** **07 47 01.0 +0.6**
EDW2 Edwards Air Fo 77.44 56 P **P** **07 47 02.3 +1.4**
baz=306
DUG Dugway, Tooele 77.54 49 P **P** **07 47 03.3 +1.9**
baz=308,SNR=6.5
BW06 Boulder Array 77.85 45 P **P** **07 47 03.9 +0.7**
baz=309
PD31 Pinedale Array 77.85 45 P **P** **07 47 03.7 +0.5**
PDAR Pinedale Array 77.85 45 P **P** **07 47 04.5 +1.3**
comp=Z,2.5nm,0.8s,baz=290,slow=4.3,SNR=12
PDAR LR LR 08 20 22.9
comp=Z,26nm,19.3s,baz=16,slow=35
PDAR Pinedale Array 77.85 45 P **P** **07 47 04.0 +0.7**
SHOC Shoshone, Teco 77.97 54 P **P** **07 47 04.9 +1.2**
baz=307
ILGA Ilgaz 77.97 312 IAmb IAmb 07 47 07.5
comp=Z,20nm,1.0s
KWP Kalwaria Pacla 78.17 324 *e*P **P** **07 47 05.6 +1.1**
SHPR Sheep Range 78.32 53 IAmb IAmb 07 47 09.0
comp=Z,9.3nm,1.3s
BUR08 Bucovina Ar. S 78.33 322 IAmb IAmb 07 47 12.1
comp=Z,9.3nm,0.9s
BURAR Bucovina Array 78.34 322⇑P **P** **07 47 06.2 +0.6**
BURAR Bucovina Array 78.34 322 P **P** **07 47 06.3 +0.6**
BIZ Bicaz 78.35 321⇑P **P** **07 47 06.7 +1.0**
TESR Tescani 78.36 320⇓P **P** **07 47 06.3 +0.7**
CFR Carcaliu 78.47 318⇓P **P** **07 47 06.4 +0.1**
TUQ Turquoise Moun 78.47 54 P **P** **07 47 07.8 +1.1**
baz=307
TOPG Topolog 78.54 318⇓P **P** **07 47 07.4 +0.7**
HEC Hector,Ludlow 78.57 55 P **P** **07 47 08.3 +1.2**
baz=307
VRI Vrincioaia 78.75 320⇑P **P** **07 47 09.0 +1.1**
TIRR Tirgusor 78.79 318⇑P **P** **07 47 08.5 +0.4**
PLOR Plostina 78.80 320⇓P **P** **07 47 09.5 +1.4**
BRTR Keskin Array B 78.85 311 P **P** **07 47 09.3 +0.6**
comp=Z,5.2nm,0.8s,baz=86,slow=4.4,SNR=14
BRTR LR LR 08 26 16.3
comp=Z,40nm,18.5s,baz=360,slow=39
BRTR Keskin Array B 78.85 311 *i* P **P** **07 47 09.8 +1.1**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 78.85 311 P **P** **07 47 08.6 -0.1**
KOLS Kolonicke sedl 78.86 324 *e*P **P** **07 47 08.3 -0.1**
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS Kolonicke sedl 78.86 324 *e*P **P** **07 47 08.3 -0.1**
HARR Harsova 78.90 318⇑P **P** **07 47 09.6 +0.9**
GMRC Granite Mounta 79.04 55 P **P** **07 47 11.1 +1.3**
baz=307
UZH Uzhgorod 79.06 324 *e*P **P** **07 47 10.0 +0.5**
UZH *e* 07 47 19.8
OJC Ojcow 79.08 326 *e*P **P** **07 47 10.3 +0.7**
CRVS Cervenica-Dubn 79.26 324 *e*P **P** **07 47 11.7 +1.1**
CRVS pmax pmax
comp=Z,19nm,1.1s
CRVS Cervenica-Dubn 79.26 324 *e*P **P** **07 47 11.7 +1.1**
BELC Belle Mtn. Jos 79.29 56 P **P** **07 47 12.3 +1.1**
baz=307
ISR Istrita 79.35 319⇑P **P** **07 47 12.6 +1.4**
DOPR Dopca 79.37 320⇑P **P** **07 47 12.5 +1.2**
NIE Niedzica 79.43 325 *e*P **P** **07 47 12.8 +1.3**
K22A Casper 79.64 44 P **P** **07 47 13.5 +0.6**
baz=311
MONP2 Monument Peak 79.68 57 P **P** **07 47 14.5 +1.1**
baz=307
ULM Lac du Bonnet 79.69 33 P **P** **07 47 16.7 +3.9**
comp=Z,4.9nm,0.6s,baz=334,slow=5.3,SNR=4.1
ULM LR LR 08 22 50.7
comp=Z,23nm,21.6s,baz=36,slow=36
ULM Lac du Bonnet 79.69 33 IAmb IAmb 07 47 18.0
comp=Z,7.7nm,0.8s
MDND Maddock 79.69 37 P **P** **07 47 13.9 +0.9**
baz=315
IRM Iron Mountain 79.76 55 P **P** **07 47 13.9 +0.3**
baz=308
SKMB Sankelmark Bun 79.82 334 *e*L L 08 24 41.8
comp=Z,203nm,19.2s
BC3 Big Chuckawall 79.86 56 P **P** **07 47 14.4 +0.2**
baz=308
RWWY Rawlins 79.88 45 IAmb IAmb 07 47 16.8
comp=Z,9.6nm,1.0s
VOIR 79.91 320⇑P **P** **07 47 15.3 +1.0**
RSSD Black Hills 80.01 42 P **P** **07 47 15.5 +0.5**
baz=312
IKP In-Ko-Pah, Jac 80.03 57 P **P** **07 47 16.0 +0.9**
baz=308
SWSC Sam W. Stewart 80.06 56 P **P** **07 47 16.2 +1.0**
baz=308
BSEG Bad Segeberg 80.13 333 *e*L L 08 23 18.4
comp=Z,91nm,21.5s
KSP Ksiaz 80.15 328 *e*P **P** **07 47 16.1 +0.7**
ARR Arges 80.17 320⇑P **P** **07 47 17.5 +1.8**
O20A White River Ci 80.29 47 P **P** **07 47 17.2 +0.6**
baz=310
PDMCI Parker Dam,Lak 80.32 54 P **P** **07 47 17.0 +0.4**
baz=308
MORC Moravsky Berou 80.41 327⇓P **P** **07 47 17.8 +0.9**
MORC Moravsky Berou 80.41 327 *e*P **P** **07 47 17.4 +0.6**
MORC Moravsky Berou 80.41 327 IAmb IAmb 07 47 18.7
comp=Z,12nm,1.0s
DPC Dobruska-Polom 80.51 328 *e*P **P** **07 47 18.4 +1.0**
DPC Dobruska-Polom 80.51 328 *e*P **P** **07 47 18.4 +1.0**
DPC *e*PCP **PcP** **07 47 22.9 -1.4**
KRLC Kraliky 80.52 327 *e*P **P** **07 47 18.3 +0.9**
KRLC Kraliky 80.52 327 *e*P **P** **07 47 18.3 +0.9**
KRLC *e*PCP **PcP** **07 47 22.2 -2.1**
ESJX Sierra Juarez 80.53 57 IAmb IAmb 07 47 25.1
comp=Z,14nm,1.2s
GLA Glamis 80.64 56 P **P** **07 47 19.3 +0.9**
baz=308
PSZ Piszkesteto 80.70 324⇓P **P** **07 47 19.6 +1.2**
PSZ Piszkesteto 80.70 324 IAmb IAmb 07 47 24.7
comp=Z,17nm,1.0s
VYHS Vyhne 80.77 325 *e*P **P** **07 47 19.6 +0.9**
VYHS pmax pmax
comp=Z,17nm,1.4s
VYHS Vyhne 80.77 325 *e*P **P** **07 47 19.6 +0.9**
PV21 Cone Mtn., Par 80.88 48 IAmb IAmb 07 47 22.7
comp=Z,15nm,1.2s
PV23 Carpenter Ridg 80.92 48 IAmb IAmb 07 47 23.0
comp=Z,22nm,1.2s
PV10 Paradox Valley 80.96 49 P **P** **07 47 22.0 +1.7**
PV22 Blue Mesa, Par 81.00 48 P **P** **07 47 21.1 +0.7**
PV22 IAmb IAmb 07 47 23.3

comp=Z,11nm,1.1s
JAVC Velka Javorina 81.03 326 *e*P **P** **07 47 21.9 +1.7**
PV04 Paradox Valley 81.03 48 IAmb IAmb 07 47 23.6
comp=Z,23nm,1.3s
PV19 Morning Glory 81.03 49 IAmb IAmb 07 47 23.5
comp=Z,16nm,1.0s
PV17 East Wray Mesa 81.07 49 IAmb IAmb 07 47 23.7
comp=Z,29nm,1.2s
PV16 Nyswonger Mesa 81.07 49 IAmb IAmb 07 47 23.8
comp=Z,17nm,1.3s
PV11 David Mesa, Pa 81.11 49 P **P** **07 47 22.1 +1.1**
PV11 IAmb IAmb 07 47 24.0
comp=Z,34nm,1.4s
BRG Berggiesshubel 81.11 329 *i* P **P** **07 47 21.3 +0.9**
comp=Z,14nm,1.2s
BRG Berggiesshubel 81.11 329 *e*P **P** **07 47 20.9 +0.4**
comp=Z,9.6nm,0.8s,baz=38,slow=5.2
AGMN Agassiz Nation 81.12 35 P **P** **07 47 20.6 0.0**
baz=317
N23A Red Feather La 81.12 45 P **P** **07 47 22.4 +1.3**
baz=312
N23A Red Feather La 81.12 45 IAmb IAmb 07 47 24.2
comp=Z,11nm,1.1s
PV18 Skein Mesa, Pa 81.12 49 IAmb IAmb 07 47 24.0
comp=Z,20nm,1.2s
PV12 Saucer Basin, 81.14 48 IAmb IAmb 07 47 40.5
comp=Z,15nm,1.2s
PV03 Paradox Valley 81.15 49 IAmb IAmb 07 47 24.2
comp=Z,14nm,1.2s
CLL Collm 81.15 330⇓ *i*P **P** **07 47 21.0 +0.3**
CLL comp=Z,18nm,0.9s
CLL *e*(PcP) **PcP** **07 47 25.0 -2.0**
CLL *e*RpP 07 47 31.0
CLL *e*PP **PP** **07 50 27.0 +1.7**
CLL Collm 81.15 330⇓ *i*P **P** **07 47 21.0 +0.3**
CLL pmax pmax
comp=Z,18nm,0.9s
CLL Collm 81.15 330 *e*P **P** **07 47 21.1 +0.3**
comp=Z,18nm,0.9s,baz=38,slow=5.2
CLL *e*L L 08 28 34.0
comp=Z,105nm,18.4s
VRAC Vranov 81.17 327⇑P **P** **07 47 22.1 +1.3**
VRAC Vranov 81.17 327 *e*P **P** **07 47 21.7 +0.8**
PV13 Radium Mtn., P 81.23 49 IAmb IAmb 07 47 24.6
comp=Z,21nm,1.2s
PV02 Paradox Valley 81.25 49 IAmb IAmb 07 47 24.8
comp=Z,9.0nm,1.0s
FBE Freiberg 81.31 330 *e*P **P** **07 47 22.3 +0.8**
comp=Z,21nm,1.1s,baz=38,slow=5.2
WUAZ Wupatki 81.34 52 P **P** **07 47 24.0 +1.8**
baz=309
WUAZ Wupatki 81.34 52 IAmb IAmb 07 47 29.5
comp=Z,7.9nm,1.0s
SMOL Smolenice 81.39 326 *e*P **P** **07 47 23.6 +1.6**
SMOL pmax pmax
comp=Z,10.0nm,1.3s
SMOL Smolenice 81.39 326 *e*P **P** **07 47 23.6 +1.6**
PV01 Paradox Valley 81.39 48 IAmb IAmb 07 47 25.4
comp=Z,13nm,1.2s
KRUC Moravsky 81.44 327 *e*P **P** **07 47 22.9 +0.6**
GOPC GO Pecny, Ondr 81.49 328 *e*P **P** **07 47 23.1 +0.5**
GOPC GO Pecny, Ondr 81.49 328 *e*P **P** **07 47 23.1 +0.5**
PRU Pruhonice 81.53 328 *e*P **P** **07 47 23.8 +1.0**
PRU *e* 07 47 33.1
PRU Pruhonice 81.53 328 *e*P **P** **07 47 23.8 +1.0**
PRU *e*pP **sP** **07 47 33.1 -0.2**
MODS Modra-Piesok 81.56 326 *e*P **P** **07 47 23.3 +0.3**
MODS pmax pmax
comp=Z,12nm,1.2s
MODS Modra-Piesok 81.56 326 *e*P **P** **07 47 23.3 +0.3**
NEUB Neuenburg 81.72 331 *e*P **P** **07 47 24.1 +0.4**
comp=Z,20nm,0.9s,baz=38,slow=5.2
CLZ Clausthal 81.76 332 *e*P **P** **07 47 24.5 +0.5**
comp=Z,24nm,1.4s,baz=38,slow=5.2
X16A Lo Mia Camp, P 81.99 53 P **P** **07 47 27.6 +1.9**
PBCC Pribram 82.00 329 *e*P **P** **07 47 25.8 +0.6**
ISCO Idaho Springs 82.03 46 P **P** **07 47 27.3 +1.3**
baz=312
MVCO Mesa Verde 82.04 49 P **P** **07 47 27.4 +1.4**
baz=311,SNR=5.2
MVCO Mesa Verde 82.04 49 IAmb IAmb 07 47 28.8
comp=Z,9.7nm,1.2s
CSS Mathiatis 82.05 308 IAmb IAmb 07 47 27.0
comp=Z,11nm,0.9s
MDVR Moldovita 82.06 321⇑P **P** **07 47 26.4 +0.7**
GUNZ Gunzen 82.16 330 *e*P **P** **07 47 26.4 +0.3**
comp=Z,6.5nm,0.8s,baz=38,slow=5.2
WERN Wernitzgruen 82.20 330 *e*P **P** **07 47 26.8 +0.5**
comp=Z,13nm,1.1s,baz=38,slow=5.2
MOX Moxa 82.22 330 *e*P **P** **07 47 26.8 +0.4**
comp=Z,6.2nm,0.9s,baz=38,slow=5.2
MOX *e*L L 08 26 40.4
comp=Z,78nm,19.6s
CONA Conrad Observa 82.53 326 *i* P **P** **07 47 29.2 +1.0**
comp=Z,13nm,1.3s,SNR=6.2
MANZ Manzenberg 82.54 330 *e*P **P** **07 47 28.7 +0.6**
comp=Z,8.8nm,0.9s,baz=38,slow=5.2
KHC Kasperske Hory 82.59 328*e* *e*P **P** **07 47 29.0 +0.6**
KHC pmax pmax
comp=Z,38nm,1.3s
KHC Kasperske Hory 82.59 328 *e*P **P** **07 47 29.1 +0.6**
KHC *e*PCP **PcP** **07 47 33.7 +0.3**
KHC *e*pP **sP** **07 47 39.1 +0.2**
ROTZ Rotzenmuhle 82.67 329 *e*P **P** **07 47 29.3 +0.6**
comp=Z,20nm,1.6s,baz=38,slow=5.2
S22A 4UR Ranch, Cre 82.69 48 P **P** **07 47 31.2 +1.7**
baz=312,SNR=6.4
F33A 5 Mile Ranch, 82.72 36 P **P** **07 47 29.3 +0.2**
F33A IAmb IAmb 07 47 31.1
comp=Z,17nm,1.4s
GEC2 GERESS Array S 82.76 328 *e*P **P** **07 47 29.5 +0.2**
comp=Z,6nm,0.7s,baz=38,slow=5.2
GEC2 GERESS Array S 82.76 328 IAmb IAmb 07 47 30.6
comp=Z,9.7nm,1.1s
GERES GERESS Array B 82.76 328 P **P** **07 47 29.7 +0.4**
comp=Z,3.8nm,0.5s,baz=39,slow=5.1,SNR=28
GERES GERESS Array B 82.76 328 P **P** **07 47 28.7 -0.7**
WET Wettzell 82.88 329 *e*P **P** **07 47 30.7 +0.8**
comp=Z,12nm,1.2s,baz=38,slow=5.2
WET *e*L L 08 27 13.7
comp=Z,133nm,19.1s
GRF Grafenberg Arr 83.13 330 *e*P **P** **07 47 32.1 +0.9**
comp=Z,32nm,1.1s,baz=38,slow=5.2
GRF *e*L L 08 27 27.7
comp=Z,110nm,18.9s
ARSA Arzberg 83.19 326 *i* P **P** **07 47 32.5 +1.0**
comp=Z,8.9nm,1.2s
MOA Molln 83.28 327 *i* PcP **P** **07 47 33.8 +1.8**
comp=Z,5.7nm,0.8s
SDCO Great Sand Dun 83.47 47 P **P** **07 47 35.0 +1.5**
baz=312,SNR=6.6
SDCO Great Sand Dun 83.47 47 IAmb IAmb 07 47 36.5
comp=Z,6.9nm,1.2s
TUC Tucson 83.76 54 P **P** **07 47 36.2 +1.4**
baz=310
TNS Taunus Mts 83.79 332 *e*L L 08 26 47.0
comp=Z,142nm,20.3s
PERS Pernice 83.83 326 *i* P **P** **07 47 35.2 +0.3**
SOKA Soboth 83.84 326 *i* P **P** **07 47 35.6 +0.7**
comp=Z,20nm,1.1s,SNR=8.1
RJOB Jochberg 84.00 328 *e*P **P** **07 47 35.5 -0.2**
comp=Z,14nm,0.9s,baz=38,slow=5.2
ECSD EROS Data Cent 84.10 38 P **P** **07 47 36.5 +0.3**
baz=317
ECSD EROS Data Cent 84.10 38 P **P** **07 47 36.3 0.0**
ECSD IAmb IAmb 07 47 37.4
comp=Z,7.2nm,1.1s
PMOR Pomariorio Ree 84.24 113 *e*T T 09 20 19.5
comp=Z,21nm,0.2s
KBA Koelnbreinsper 84.28 327 *i* P **P** **07 47 37.4 +0.1**
comp=Z,5.2nm,0.7s
FUR Furstenfeldbru 84.31 329 *e*L L 08 28 07.3
comp=Z,174nm,19.0s
MYKA Terra Mystica 84.49 327 *i* P **P** **07 47 38.1 -0.2**
comp=Z,3.9nm,0.5s
T25A Trinidad 84.52 47 P **P** **07 47 40.2 +1.5**
baz=313,SNR=5.5
T25A Trinidad 84.52 47 IAmb IAmb 07 47 41.5
comp=Z,12nm,1.1s
PRED Cave del Predi 84.67 327 IAmb IAmb 07 47 40.6
comp=Z,4.8nm,0.9s
PPT Papeete 84.68 116 LR LR 08 19 24.2
comp=Z,74nm,20.8s,baz=339,slow=31
PPT2 Papeete2 84.70 116 *e*LR LR 08 14 34.0
comp=Z,214nm,27.2s
ANMO Albuquerque 84.77 50 P **P** **07 47 41.7 +1.6**
baz=312

ANMO	**Albuquerque**	**84.77**	**50**	P	**P**	**07 47 41.5**	**+1.4**
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ANMO	**Albuquerque**	**84.77**	**50**	P	**P**	**07 47 41.5**	**+1.4**
ANMO				IAmb	IAmb	07 47 43.1	
	comp=Z,9.3nm,1.2s						
GBRS	**Gornja Briga**	**84.81**	**325**	*i* P	**P**	**07 47 39.8**	**-0.1**
TIAR	**Tiarei**	**84.84**	**116**	*e*T	T	09 21 04.8	
	comp=Z,1.2nm,0.2s						
WTTA	**Wattenberg**	**84.86**	**328**	*i* PcP	**P**	**07 47 40.8**	**+0.5**
	comp=Z,5.1nm,0.6s						
ABTA	**Abfaltersbach**	**84.89**	**327**	*i* P	**P**	**07 47 40.3**	**0.0**
	comp=Z,4.6nm,0.7s						
RETA	**Reutte**	**85.06**	**329**	*i* PcP	**P**	**07 47 42.0**	**+0.9**
	comp=Z,18nm,1.2s						
STAL	**STALIGIAL**	**85.19**	**327**	IAmb	IAmb	07 47 45.7	
	comp=Z,12nm,1.0s						
BFO	**Black Forest**	**85.36**	**331**	P	**P**	**07 47 42.5**	**0.0**
BFO				pmax	pmax		
	comp=Z,17nm,0.9s						
BFO	**Black Forest**	**85.36**	**331**	*e*P	**P**	**07 47 42.8**	**+0.3**
	comp=Z,19nm,0.9s,baz=38,slow=5.2						
BFO				*e*L	L	08 27 49.4	
	comp=Z,74nm,19.9s						
BFO	**Black Forest**	**85.36**	**331**	P	**P**	**07 47 42.5**	**0.0**
FETA	**Feichten**	**85.44**	**329**	*i* PcP	**P**	**07 47 43.6**	**+0.5**
	comp=Z,7.0nm,1.0s						
I37A	**Lemond, Waseca**	**85.45**	**36**	P	**P**	**07 47 43.7**	**+0.7**
DAVA	**Damuels**	**85.58**	**329**	*i* PcP	**P**	**07 47 44.7**	**+0.9**
	comp=Z,15nm,0.8s						
TAOE	**Nuku Hiva Isla**	**86.26**	**104**	*e*LR	LR	08 15 26.0	
	comp=Z,288nm,27.4s						
MATQ	**Matagami**	**87.11**	**24**	P	**P**	**07 47 51.2**	**+0.2**
	baz=330						
D46A	**Sault St. Mari**	**87.23**	**29**	P	**P**	**07 47 51.9**	**+0.2**
	baz=325						
D47A	**Chapleau**	**87.46**	**29**	P	**P**	**07 47 52.7**	**-0.1**
	baz=326						
KSU1	**Kansas State U**	**87.49**	**41**	P	**P**	**07 47 53.4**	**+0.3**
	baz=317						
MNTX	**Cornudas Mount**	**87.61**	**52**	P	**P**	**07 47 55.0**	**+1.1**
	baz=313						
NRCA	**Norcia**	**87.67**	**325**	P	**P**	**07 47 54.2**	**+0.2**
AMTX	**Amarillo**	**87.68**	**47**	P	**P**	**07 47 55.4**	**+1.2**
	baz=314						
AMTX	**Amarillo**	**87.68**	**47**	IAmb	IAmb	07 47 56.8	
	comp=Z,10nm,1.1s						
E47A	**Iron Bridge**	**87.89**	**29**	P	**P**	**07 47 55.1**	**+0.2**
	baz=326						
LSQQ	**Lebel-sur-Quev**	**87.93**	**24**	P	**P**	**07 47 55.2**	**+0.2**
	baz=330						
D49A	**Beulah Townshi**	**87.94**	**27**	P	**P**	**07 47 55.2**	**+0.1**
	baz=327						
CHGQ	**Chibougamau**	**88.00**	**22**	P	**P**	**07 47 55.7**	**+0.3**
	baz=332						
E48A	**Lockeyer**	**88.29**	**28**	P	**P**	**07 47 57.1**	**+0.3**
	baz=327						
TBI	**Tubuai**	**88.56**	**121**	*e*LR	LR	08 16 24.4	
	comp=Z,180nm,27.8s						
TBI	**Tubuai**	**88.56**	**121**	*e*T	T	09 25 43.7	
	comp=Z,54nm,0.3s						
F48A	**Evansville**	**88.66**	**29**	P	**P**	**07 47 58.2**	**-0.3**
	baz=326						
F49A	**Sandfield**	**88.94**	**29**	P	**P**	**07 48 00.1**	**+0.3**
	baz=327						
WMOK	**Wichita Mounta**	**89.46**	**46**	P	**P**	**07 48 03.2**	**+0.7**
	baz=316						
WMOK	**Wichita Mounta**	**89.46**	**46**	IAmb	IAmb	07 48 12.5	
	comp=Z,5.4nm,1.3s						
TX31	**Lajitas Ar. Si**	**90.30**	**52**	P	**P**	**07 48 07.9**	**+1.3**
TX31				IAmb	IAmb	07 48 10.0	
	comp=Z,10nm,1.1s						
TX32	**Lajitas Array**	**90.30**	**52**	P	**P**	**07 48 07.8**	**+1.1**
TXAR	**Lajitas Array**	**90.30**	**52**	P	**P**	**07 48 08.1**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=305,slow=2.9,SNR=24						
TXAR				LR	LR	08 22 41.0	
	comp=Z,30nm,21.4s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**90.30**	**52**	P	**P**	**07 48 07.5**	**+0.8**
D56A	**ZEC Mazanza, M**	**90.41**	**24**	P	**P**	**07 48 07.4**	**+0.6**
	baz=332						
D57A	**Chemin Vers le**	**90.72**	**23**	P	**P**	**07 48 09.3**	**+1.2**
	baz=333						
CCM	**Cathedral Cave**	**91.05**	**39**	P	**P**	**07 48 10.4**	**+0.6**
	baz=321						
Z35A	**Perchaven, San**	**91.35**	**46**	P	**P**	**07 48 11.4**	**0.0**
U40A	**Yellville**	**91.52**	**41**	P	**P**	**07 48 12.2**	**+0.1**
	baz=320,SNR=5.4						
U40A	**Yellville**	**91.52**	**41**	P	**P**	**07 48 12.6**	**+0.5**
U40A				IAmb	IAmb	07 48 13.7	
	comp=Z,8.1nm,0.9s						
MIAR	**Mount Ida**	**92.50**	**42**	P	**P**	**07 48 17.3**	**+0.6**
	baz=319						
W41B	**Gary Mavity, V**	**92.74**	**41**	P	**P**	**07 48 17.9**	**+0.3**
	baz=320						
KEST	**Kesra**	**95.06**	**323**	LR	LR	08 35 33.1	
	comp=Z,55nm,18.2s,baz=310,slow=38						
ESDC	**Sonseca Array**	**97.36**	**334**	P	**P**	**07 48 38.3**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=23,slow=4.9,SNR=6.0						
ESDC				LR	LR	08 36 39.3	
	comp=Z,116nm,19.2s,baz=70,slow=38						
VNDA	**Vanda**	**114.85**	**175**	PKP	**PKiKP**	**07 53 44.8**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=308,slow=7.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**117.34**	**315**	PKP	**PKPdf**	**07 53 50.8**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=139,slow=1.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**117.34**	**315**	PKPdf	**PKPdf**	**07 53 50.1**	**-1.3**
MAW	**Mawson**	**119.36**	**206**	PKP	**PKiKP**	**07 53 54.5**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=86,slow=4.8,SNR=5.3						
PTBC	**PUERTO BERRIO**	**125.39**	**45**	*e*P	**PKPdf**	**07 54 06.0**	**-1.0**
GUY2C	**Guyana, Caldas**	**125.92**	**47**	*e*P	**PKPdf**	**07 54 08.6**	**+0.1**
DBIC	**Dimbokro**	**126.31**	**317**	PKP	**PKPdf**	**07 54 08.5**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=59,slow=4.6,SNR=3.0						
YOTC	**Yotoco, Valle**	**126.32**	**49**	*e*P	**PKiKP**	**07 54 09.3**	**0.0**
SPBC	**San Pablo de B**	**126.33**	**46**	*e*P	**PKPdf**	**07 54 09.0**	**+0.2**
ORTC	**Ortega, Tolima**	**127.04**	**48**	*e*P	**PKPdf**	**07 54 09.4**	**-0.7**
SNAA	**Sanae**	**140.58**	**197**	PKPdf	**PKPdf**	**07 54 26.4**	**-7.3**
VNA2	**Neumayer--Watz**	**142.15**	**196**	PKPdf	**PKPdf**	**07 54 32.0**	**-4.5**
VNA3	**Neumayer Olymp**	**142.40**	**195**	PKPdf	**PKPdf**	**07 54 32.5**	**-4.4**
VNA1	**Neumayer--Stat**	**142.55**	**196**	PKPdf	**PKPdf**	**07 54 34.3**	**-2.8**
LPAZ	**La Paz**	**146.87**	**60**	PKPbc	**PKPbc**	**07 54 49.5**	**+0.7**
	comp=Z,10nm,0.8s,baz=327,slow=3.3,SNR=39						
LPAZ	**La Paz**	**146.87**	**60**	PKPbc	**PKPbc**	**07 54 48.7**	**-0.2**
H03N2	**Juan Fernandez**	**147.13**	**96**	T	T	10 39 09.1	
	baz=291,slow=76,SNR=130						
H03N3	**Juan Fernandez**	**147.14**	**96**	T	T	10 39 09.1	
	baz=291,slow=76,SNR=161						
H03N1	**Juan Fernandez**	**147.15**	**96**	T	T	10 39 09.1	
	baz=291,slow=76,SNR=185						
H03S2	**Juan Fernandez**	**147.25**	**97**	T	T	10 39 23.5	
	SNR=7.9						
H03S3	**Juan Fernandez**	**147.26**	**97**	T	T	10 39 23.9	
H03S1	**Juan Fernandez**	**147.27**	**97**	T	T	10 39 25.6	

*IDC **29** 07:57:10.3±1.8,21°.64N×143°.14E,h306^{km}±16^{km}, mb3.3/13,mb1 3.5/14,mb1mx3.3/43,mbtmp4.0/14,Error ellipse: s-maj=21.8km s-min=11.6km az=86.0*

ISC 29 07:57:10.6±0.7,21°.63N±0°.09×143°.2E±0°.2,h311^{km},n17, σ0^{s}.55/19,mb3.5/12,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.52**	**351**	P	**Pn**	**07 58 34.0**	**-0.6**
	19nm,0.3s,baz=96,slow=20,SNR=26						
JCJ				S	**S**	**07 59 41.7**	**-0.5**
	14nm,0.3s,baz=304,slow=22,SNR=9.0						
MJAR	**Matsushiro Arr**	**15.47**	**345**	P	**Pn**	**08 00 35.0**	**+0.8**
	0.1nm,0.3s,baz=147,slow=12,SNR=2.4						
KSRS	**Korea Array**	**20.56**	**323**	P	**P**	**08 01 26.6**	**+0.2**
	2.3nm,0.6s,baz=146,slow=8.9,SNR=12						
KLR	**Kul'dur**	**29.00**	**344**	P	**P**	**08 02 42.5**	**+0.3**
	1.7nm,0.4s,baz=158,slow=7.8,SNR=9.4						
WRA	**Warramunga Arr**	**42.20**	**192**	P	**P**	**08 04 33.8**	**-0.2**
	0.7nm,0.4s,baz=17,slow=9.0,SNR=19						
ASAR	**Alice Springs**	**45.91**	**192**	P	**P**	**08 05 03.1**	**-0.1**
	0.2nm,0.4s,baz=13,slow=12,SNR=5.5						
STKA	**Stephens Creek**	**53.22**	**182**	P	**P**	**08 05 57.5**	**-0.3**
	0.8nm,0.5s,baz=16,slow=3.1,SNR=3.1						
ZALV	**Zalesovo Beam**	**54.25**	**322**	P	**P**	**08 06 04.7**	**-0.2**
	0.7nm,0.4s,baz=98,slow=7.6,SNR=3.8						
MKAR	**Makanchi Array**	**54.73**	**313**	P	**P**	**08 06 08.6**	**+0.1**
	0.7nm,0.5s,baz=89,slow=9.4,SNR=9.3						
MKAR				PcP	**PcP**	**08 07 06.3**	**-0.6**
	0.4nm,0.4s,baz=76,slow=5.1,SNR=5.4						
ILAR	**Eielson Array**	**62.11**	**27**	P	**P**	**08 06 58.1**	**-0.8**
	0.5nm,0.6s,baz=262,slow=5.3,SNR=9.8						
YKA	**Yellowknife Ar**	**76.53**	**28**	P	**P**	**08 08 26.7**	**+0.1**
	0.9nm,0.6s,baz=297,slow=4.1,SNR=3.0						
ARCES	**ARCESS Array B**	**78.98**	**341**	P	**P**	**08 08 40.2**	**+0.3**
	1.7nm,0.5s,baz=76,slow=8.5,SNR=21						
KBZ	**Khabaz**	**82.40**	**314**	P	**P**	**08 08 59.2**	**+0.8**
	2.1nm,0.6s,baz=130,slow=18,SNR=3.7						
NVAR	**Mina Array Bea**	**83.21**	**51**	P	**P**	**08 09 03.8**	**+0.8**
	0.5nm,0.6s,baz=279,slow=5.2,SNR=6.3						
FINES	**FINESS Array B**	**83.23**	**334**	P	**P**	**08 09 01.5**	**-0.8**
	1.8nm,0.5s,baz=76,slow=4.7,SNR=18						
PLCA	**Paso Flores**	**145.73**	**132**	PKPbc	**PKPab**	**08 16 14.3**	**-0.2**
	0.7nm,0.5s,baz=335,slow=10,SNR=4.4						
LPAZ	**La Paz**	**149.97**	**85**	PKPbc	**PKPbc**	**08 16 26.6**	**+0.5**
	0.9nm,0.6s,baz=116,slow=0.7,SNR=5.9						

IDC 29 08:07:30.9±1.1,8°.59S×157°.75E,h0^{km},mb3.7/5, mb1 3.9/6,mb1mx3.6/31,mbtmp3.7/6,ML3.6/1,Error ellipse: s-maj=33.7km s-min=21.7km az=158.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.33**	**111**	Pn	Pn	08 08 08.7	-1.7
	14nm,0.3s,baz=231,slow=11,SNR=2.0						
HNR				Sn	Sb	08 08 42.7	-0.3
	114nm,0.3s,baz=30,slow=22,SNR=9.8						
WRA	**Warramunga Arr**	**25.30**	**241**	P	P	08 12 57.9	-1.5
	1.5nm,0.9s,baz=68,slow=9.8,SNR=4.8						
ASAR	**Alice Springs**	**27.31**	**234**	P	P	08 13 18.9	+1.4
	0.2nm,0.6s,baz=67,slow=9.4,SNR=1.7						
STKA	**Stephens Creek**	**27.62**	**211**	P	P	08 13 20.4	+0.3
	1.5nm,0.7s,baz=28,slow=12,SNR=4.7						
H11S3	**WAKE ISLAND Hy**	**28.32**	**18**	T	T	08 42 06.9	
	baz=9.6,slow=74,SNR=9.8						
H11S2	**WAKE ISLAND Hy**	**28.32**	**18**	T	T	08 42 02.0	
	baz=199,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.33**	**18**	T	T	08 42 03.2	
ILAR	**Eielson Array**	**83.86**	**21**	P	P	08 20 02.1	0.0
	0.2nm,0.4s,baz=258,slow=5.1,SNR=8.8						
NVAR	**Mina Array Bea**	**90.57**	**51**	P	P	08 20 36.1	+0.5
	0.5nm,0.8s,baz=250,slow=7.6,SNR=4.3						

IDC 29 08:11:12.6±1.3,46°.86N×154°.30E,h0^{km},mb3.4/3, mb1 3.8/6,mb1mx3.5/44,mbtmp3.6/6,ML3.1/3,Error ellipse: s-maj=50.4km s-min=23.6km az=143.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.63**	**18**	Pn	Pn	08 12 52.0	+0.7
	0.3nm,0.3s,baz=177,slow=11,SNR=9.3						
ASAJ	**Asahikawa**	**8.67**	**256**	Pn	Pn	08 13 21.1	+1.9
	0.6nm,0.3s,baz=74,slow=13,SNR=5.8						
MJAR	**Matsushiro Arr**	**15.80**	**235**	Pn	Pn	08 14 56.3	0.0
	0.1nm,0.3s,baz=29,slow=14,SNR=2.5						
KSRS	**Korea Array**	**21.61**	**254**	P	P	08 16 02.9	-1.1
	0.9nm,0.6s,baz=59,slow=8.1,SNR=5.5						
ASAR	**Alice Springs**	**72.57**	**200**	P	P	08 22 41.9	+0.5
	0.3nm,0.5s,baz=16,slow=6.1,SNR=5.0						
TXAR	**Lajitas Array**	**76.73**	**61**	P	P	08 23 05.5	-0.3
	0.3nm,0.6s,baz=303,slow=3.8,SNR=5.3						

IDC 29 08:18:23.5±1.8,16°.30S×171°.79W,h0^{km},mb3.3/4, mb1 3.8/5,mb1mx3.6/34,mbtmp3.5/5,ML4.6/1,MS2.7/1, Ms1 2.7/1,ms1mx2.5/13,Error ellipse: s-maj=59.0km s-min=27.5km az=135.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.38**	**0**	Pn	Pn	08 19 02.8	-1.0
	140nm,0.3s,baz=186,slow=2.1,SNR=137						
AFI				Sn	Sn	08 19 22.1	-12
	248nm,0.3s,baz=336,slow=22,SNR=14						
PPT	**Papeete**	**21.29**	**97**	LR	LR	08 28 50.8	
	comp=Z,22nm,21.3s,baz=120,slow=30						
H11S2	**WAKE ISLAND Hy**	**40.54**	**328**	T	T	09 08 52.2	
	baz=145,slow=76,SNR=9.6						
H11S3	**WAKE ISLAND Hy**	**40.55**	**328**	T	T	09 08 53.3	
	baz=145,slow=76,SNR=7.9						
H11S1	**WAKE ISLAND Hy**	**40.56**	**328**	T	T	09 08 53.1	
	baz=145,slow=76,SNR=6.5						
WRA	**Warramunga Arr**	**51.15**	**257**	P	P	08 27 29.4	+0.7
	0.3nm,1.1s,baz=96,slow=8.0,SNR=1.5						
ASAR	**Alice Springs**	**51.31**	**253**	P	P	08 27 29.0	-0.9
	0.5nm,0.7s,baz=86,slow=8.0,SNR=6.9						
TXAR	**Lajitas Array**	**79.84**	**55**	P	P	08 30 33.6	-0.7
	0.2nm,0.9s,baz=238,slow=5.2,SNR=2.3						
ILAR	**Eielson Array**	**83.04**	**10**	P	P	08 30 52.0	+1.6
	0.3nm,0.7s,baz=200,slow=6.7,SNR=2.4						

*NEIC **29** 08:36:11.1±0.9,51°.8N±0°.1×178°.35E±0°.07,h117^{km}±5^{km}, Error ellipse: s-maj=15.4km s-min=5.9km az=185.0*

AEIC 29 08:36:12±1.2,51°.90N±0°.10×178°.43E±0°.06,h114^{km}±3^{km}, mb3.8/5(NEIC),Error ellipse: s-maj=14.1km s-min=5.1km az=190.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.07**	**42**		Pn	08 36 27.4	-0.3
LSSA					Sn	08 36 39.5	+0.2
LSNW	**Little Sitkin**	**0.09**	**34**		Pn	08 36 27.2	-0.4
LSSE	**Little Sitkin**	**0.09**	**65**		Pn	08 36 27.7	+0.1
LSPA	**Little Sitkin**	**0.11**	**54**		Pn	08 36 27.3	-0.3
LSPA					Sn	08 36 40.7	+1.3
CETU	**Semis' Tuman**	**0.66**	**83**		Pn	08 36 31.1	+0.7
CESW	**Semis' Southwe**	**0.70**	**89**		Pn	08 36 30.5	-0.2
CEAP	**Semis' Anvil P**	**0.72**	**81**		Pn	08 36 31.0	+0.2
CEAP					Sn	08 36 44.6	-0.3
CERB	**Semis' Cerberu**	**0.74**	**87**		Pn	08 36 31.4	+0.4
AMKA	**Amchitka**	**0.75**	**133**	Pn	Pn	08 36 30.8	-0.3
AMKA				Sn	Sn	08 36 44.4	-1.0
CERAA	**Semis' Rag'd T**	**0.78**	**89**		Pn	08 36 31.3	0.0
GALAA	**Gareloi Lava P**	**1.74**	**93**		Pn	08 36 42.3	+0.4
TASE	**Tanaga Southea**	**2.19**	**90**		Pn	08 36 47.6	+0.1
TAFP	**Tanaga Falls P**	**2.22**	**88**		Pn	08 36 47.7	-0.2
TAFP					Sn	08 37 15.6	+0.2
KIMD	**Kanaga Island**	**2.69**	**91**		Pn	08 36 53.9	-0.1
KICM	**Kanaga Island**	**2.71**	**88**		Pn	08 36 54.5	+0.4
KIKV	**Kanaga Island**	**2.72**	**89**		Pn	08 36 54.5	0.0
SMY	**Shemya**	**2.79**	**289**	Pn	Pn	08 36 54.9	-0.4
SMY				Sn	Sn	08 37 27.7	-0.8
ADK	**Adak**	**3.02**	**88**	Pn	Pn	08 36 58.1	-0.2
ADAG	**Mount Adagdak**	**3.07**	**86**		Pn	08 36 58.8	-0.2
GSTD	**Great Sitkin T**	**3.36**	**85**		Pn	08 37 02.4	-0.4
GSTR	**Great Sitkin T**	**3.41**	**84**	Pn	Pn	08 37 03.8	+0.3
GSMY	**Great Sitkin M**	**3.41**	**85**		Pn	08 37 03.4	-0.1
ATKA	**Atka Island**	**4.56**	**83**	Pn	Pn	08 37 18.4	-0.4
NIKH	**Nikolski High**	**7.85**	**77**	Pn	Pn	08 38 04.0	+0.7
SPIA	**Saint Paul Isl**	**8.44**	**47**	Pn	Pn	08 38 13.1	+1.9
MAPS	**Paulushin South**	**9.06**	**72**		Pn	08 38 18.9	-0.8
UNV	**Unalaska Valle**	**9.32**	**72**	Pn	Pn	08 38 24.5	+1.4
AKUT	**Akutan**	**9.78**	**71**	Pn	Pn	08 38 31.6	+2.3
CNBA	**Chernabura Isl**	**13.44**	**69**	Pn	Pn	08 39 16.3	-1.5
OHAK	**Old Harbor**	**17.17**	**61**	P	P	08 40 02.6	-1.8
OHAK				IAmb	IAmb	08 40 14.2	
	comp=Z,4.2nm,0.9s						
KDAK	**Kodiak Island**	**17.61**	**59**	P	Pn	08 40 09.7	-0.2
KDAK				IAmb	IAmb	08 40 19.6	
	comp=Z,4.5nm,0.9s						
SUA	**Susitna One**	**19.27**	**48**	P	Pn	08 40 30.3	+0.7
SUA				IAmb	IAmb	08 40 30.8	
	comp=Z,6.7nm,1.2s						
IMAR	**Indian Mountai**	**19.88**	**34**	P	Pn	08 40 38.2	+1.6
KNK	**Knik Glacier**	**20.32**	**49**	P	Pn	08 40 43.2	+1.5
DHY	**Denali Highway**	**21.23**	**45**	P	P	08 40 50.6	+2.0

ISC 29 08:37:58.7±2.0,49°.61N±0°.06×17°.9E±0°.1,h10^{km},n5, σ0^{s}.87/9,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.31**	**304**	*e*PG	**Pg**	**08 38 04.3**	**-0.6**
MORC				*e*SG	**Sg**	**08 38 10.4**	**+1.3**
JAVC	**Velka Javorina**	**0.77**	**193**	*e*PG	**Pb**	**08 38 14.1**	**-0.1**
VRAC	**Vranov**	**0.93**	**252**	*e*PG	**Pg**	**08 38 16.3**	**-0.2**
VRAC				*e*SG	**Sn**	**08 38 31.3**	**+0.1**
KRUC	**Moravsky**	**1.15**	**242**	*e*PG	**Pb**	**08 38 19.5**	**-1.1**
KRUC				*e*SG	**Sg**	**08 38 36.5**	**+0.9**
KSP	**Ksiaz**	**1.63**	**320**	*e*Pg	**Pn**	**08 38 27.9**	**+0.5**
KSP				*e*Sg	**Sg**	**08 38 51.3**	**+0.3**

*IDC **29** 08:46:56.8±1.0,41°.95N×119°.64W,h0^{km},mb3.6/1, mb1 3.4/5,mb1mx3.3/42,mbtmp3.0/5,ML2.8/3,MS2.5/2, Ms1 2.6/2,ms1mx2.4/46,Error ellipse: s-maj=12.7km s-min=7.0km az=15.0*

*ANF **29** 08:46:56.9±0.4,41°.83N×119°.60W,ML3.7/21,Error ellipse: s-maj=3.7km s-min=2.8km az=117.0*

*NEIC **29** 08:46:58.4,41°.87N×119°.63W,h11^{km},Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.83; $M_{\theta\theta}$-2.19; $M_{\phi\phi}$4.02; $M_{r\theta}$-2.47; $M_{\theta\phi}$-0.15; $M_{\phi r}$-2.14; Fault plane solution: M_o4.79000×10^{14} NP1:ϕ_s142.00000°, δ42.00000°,λ-157.00000°. NP2:ϕ_s35.00000°,δ75.00000°, λ-50.00000°. Principal axes: T 4.7814, Plg20.0000°, Azm96.0000°; N -0.0009, Plg38.0000°, Azm203.0000°; P -4.7805, Plg45.0000°, Azm345.0000°;*

*REN **29** 08:46:58.4±2.2,41°.87N±0°.03×119°.63W±0°.04,h2^{km}±7^{km}, ML3.8/2,Mwr3.7/31(SLM) Error ellipse: s-maj=5.3km s-min=2.8km az=132.0*

*NEIC **29** 08:46:59.8±2.7,41°.93N±0°.03×119°.67W±0°.06,h5^{km}±8^{km}, Error ellipse: s-maj=6.9km s-min=3.6km az=92.0*

ISC 29 08:46:58.9±0.7,41°.90N±0°.02×119°.71W±0°.03,h10^{km},n99, σ1^{s}.64/117,Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.44**	**271**		**Pb**	**08 47 08.2**	**-0.6**
MOD					**Sb**	**08 47 15.4**	**-0.1**
WVOR	**Wild Horse Val**	**0.96**	**56**	Pg	**Pg**	**08 47 16.3**	**-1.1**
WVOR				Sg	**Sg**	**08 47 29.1**	**-0.8**
K05A	**Summer Lake**	**1.21**	**314**	Pg	**Pg**	**08 47 22.5**	**+0.5**
M04C	**Macdoel**	**1.59**	**267**	P	**Pn**	**08 47 27.4**	**+0.2**
	baz=86,SNR=144						
M04C				S	**Sg**	**08 47 50.2**	**0.0**
	baz=86						
K04D	**Chiloquin, OR**	**1.68**	**296**	P	**Pb**	**08 47 29.0**	**-0.9**
	baz=115,SNR=29						
J08A	**Circle Bar Ran**	**1.72**	**32**		**Pn**	**08 47 28.5**	**-0.5**
J05D	**Fort Rock, OR**	**1.79**	**321**	P	**Pb**	**08 47 30.6**	**-1.2**
	baz=140,SNR=354						
BMRR	**Black Mountain**	**1.84**	**194**		**Pb**	**08 47 32.1**	**-0.7**
WVA	**Winnemucca Val**	**1.95**	**183**		**Pb**	**08 47 34.0**	**-0.7**
L04D	**Klamath Falls**	**1.96**	**280**	P	**Pn**	**08 47 32.5**	**+0.3**
	baz=99,SNR=85						
PINE	**Pine Mountain**	**2.10**	**335**	Pn	**Pb**	**08 47 35.3**	**-1.8**
I07A	**Izee**	**2.19**	**4**	Pn	**Pb**	**08 47 36.7**	**-1.9**
PAHR	**Pah Rah Range**	**2.20**	**173**	Pn	**Pn**	**08 47 35.2**	**-0.5**
J04D	**Umpqua Nationa**	**2.22**	**308**	P	**Pn**	**08 47 36.8**	**+0.8**
	baz=126,SNR=31						
J04D				Sb	**Sg**	**08 48 10.4**	**+0.2**
	baz=126						
YBH	**Yreka Blue Hor**	**2.25**	**267**	Pn	**Pn**	**08 47 35.8**	**-0.4**
	2.8nm,0.3s,baz=74,slow=11,SNR=28						
YBH				Pg	**Pb**	**08 47 39.6**	**0.0**
	3.0nm,0.3s,baz=86,slow=13,SNR=35						
YBH				LR	LR	08 48 05.6	
	comp=Z,50nm,19.2s,baz=154,slow=30						
YBH				Lg	Lg	08 48 09.2	
	10nm,0.3s,baz=140,slow=3.8,SNR=11						
YBH	**Yreka Blue Hor**	**2.25**	**267**	Pn	**Pn**	**08 47 36.1**	**-0.1**
O03E	**Paynes Creek**	**2.25**	**225**	P	**Pn**	**08 47 35.9**	**-0.3**
	baz=45,SNR=77						
O03E				S	**Sb**	**08 48 06.6**	**-1.0**
	baz=45						
LOY	**Loyalton**	**2.27**	**190**		**Pb**	**08 47 39.9**	**-0.2**
PEAR	**Peavine Mounta**	**2.30**	**185**		**Pb**	**08 47 40.5**	**0.0**
M02C	**Callahan**	**2.41**	**259**	P	**Pn**	**08 47 38.0**	**-0.4**
	baz=78,SNR=18						
M02C				Sb	**Sg**	**08 48 15.6**	**-0.6**
	baz=78						
KBF	**Kyburz Flat**	**2.42**	**189**		**Pb**	**08 47 42.3**	**-0.3**
N02D	**Trinity Center**	**2.43**	**249**	P	**Pn**	**08 47 38.0**	**-0.7**
	baz=68,SNR=34						
N02D				Sb	**Sg**	**08 48 16.6**	**-0.4**
	baz=68						
WDC	**Whiskeytown Da**	**2.51**	**239**	Pn	**Pn**	**08 47 40.1**	**+0.4**
HUMO	**Hull Mountain**	**2.51**	**287**	Pn	**Pn**	**08 47 39.6**	**-0.2**
VCNR	**Virgin

DLMT	**Dillon**	**6.22**	**54**	Pn		**Pn**	**08 48 33.5**	**+2.7**
JLU	**Jordanelle**	**6.36**	**99**	Pn		**Pn**	**08 48 34.0**	**+1.2**
MSO	**Missoula**	**6.43**	**38**	P		**Pn**	**08 48 35.2**	**+1.4**
	baz=221							
MSO	**Missoula**	**6.43**	**38**	Pn		**Pn**	**08 48 35.9**	**+2.1**
ICU	**Indian Springs**	**6.52**	**135**			**Pn**	**08 48 37.5**	**+2.6**
CCUT	**Cedar City**	**6.54**	**130**	Pn		**Pn**	**08 48 36.2**	**+0.9**
LRM	**Limekiln Ridge**	**6.55**	**51**	Pn		**Pn**	**08 48 36.4**	**+1.0**
MSU	**Marysvale**	**6.69**	**118**	Pn		**Pn**	**08 48 38.2**	**+0.9**
IMW	**Indian Meadow**	**6.75**	**70**	Pn		**Pn**	**08 48 40.7**	**+2.5**
BOZ	**Bozeman (W)**	**6.92**	**55**	Pn		**Pn**	**08 48 43.7**	**+3.2**
MTPU	**Mount Pierson**	**6.95**	**121**	Pn		**Pn**	**08 48 43.1**	**+2.1**
TMUT	**Trail Mountain**	**6.97**	**109**	Pn		**Pn**	**08 48 43.2**	**+1.9**
LCMT	**Little Creek M**	**6.99**	**132**	Pn		**Pn**	**08 48 42.8**	**+1.4**
KNB	**Kanab**	**7.22**	**130**	Pn		**Pn**	**08 48 46.3**	**+1.6**
SRU	**San Rafael Swe**	**7.53**	**109**	Pn		**Pn**	**08 48 51.1**	**+2.2**
PDAR	**Pinedale Array**	**7.58**	**80**	Pn		**Pn**	**08 48 48.7**	**-0.8**
	baz=154,slow=41,SNR=1.2							
PDAR				Lg		Lg	08 50 54.0	
	0.1nm,0.3s,baz=110,slow=41,SNR=2.5							
PDAR	**Pinedale Array**	**7.58**	**80**	Pn		**Pn**	**08 48 49.1**	**-0.4**
RDMU	**Red Mountain**	**7.76**	**96**	Pn		**Pn**	**08 48 56.2**	**+4.1**
U15A	**North Rim**	**7.94**	**131**	Pn		**Pn**	**08 48 57.4**	**+2.8**
PV14	**Lion Creek, Pa**	**8.91**	**110**	Pn		**Pn**	**08 49 11.5**	**+3.7**
PV17	**East Wray Mesa**	**9.00**	**110**	Pn		**Pn**	**08 49 11.9**	**+2.8**
PV22	**Blue Mesa, Par**	**9.01**	**108**	Pn		**Pn**	**08 49 11.6**	**+2.4**
PV16	**Nyswonger Mesa**	**9.01**	**110**	Pn		**Pn**	**08 49 12.4**	**+3.1**
PV03	**Paradox Valley**	**9.09**	**110**	Pn		**Pn**	**08 49 13.5**	**+3.3**
PHWY	**Pilot Hill**	**10.70**	**88**	Pn		**Pn**	**08 49 34.0**	**+1.6**
TXAR	**Lajitas Array**	**18.05**	**129**	P		**P**	**08 51 10.0**	**-0.4**
	0.0nm,0.3s,baz=352,slow=5.5,SNR=2.7							
ILAR	**Eielson Array**	**27.66**	**335**	P		**P**	**08 52 47.6**	**+1.1**
	0.8nm,0.8s,baz=145,slow=7.0,SNR=8.0							

*MOS **29** 08:47:23.1±0.9, 46.˚17N×150.˚71E, h148km, mb4.2/1, Error ellipse: s-maj=27.8km s-min=9.9km az=47.6*
*SKHL **29** 08:47:24.5±0.1, 46.˚25N×150.˚40E, h169km±7km, mb4.3/3, msh5.2/5*
*IDC **29** 08:47:26.7±2.1, 46.˚57N×150.˚03E, h179km±21km, mb3.2/8, mb1 3.4/12, mb1mx3.2/42, mbtmp3.7/12, Error ellipse: s-maj=26.2km s-min=12.9km az=137.0*

ISC 29 08:47:25.2±0.7, **46.˚34N**±0.˚10×**150.˚27E**±0.˚09, **h167**km, **n39**, σ1§**66**/45, **mb3.5**/8, **2C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.01**	**238**	*i* P	**Pn**	**08 48 03.3**	**+1.8**
KUR				AMB	AMB	08 48 03.8	
	10.0nm,0.3s						
KUR				AMB	AMB	08 48 03.8	
	20nm,0.3s						
KUR				AMB	AMB	08 48 03.8	
	30nm,0.3s						
KUR				*i* S	**Sn**	**08 48 32.4**	**+2.9**
KUR				A	A	08 48 36.0	
	260nm,0.5s						
KUR				A	A	08 48 36.0	
	70nm,0.5s						
KUR	**Kuril'sk**	**2.01**	**238**	*d* iPN	**Pn**	**08 48 03.3**	**+1.8**
KUR				*i* S	**Sn**	**08 48 35.5**	**+6.0**
KUR				pmax	pmax		
	comp=Z,221nm,0.4s						
KUR				pmax	pmax		
	comp=N,52nm,0.5s						
KUR				pmax	pmax		
	comp=E,25nm,0.3s						
KUR				smax	smax		
	comp=N,235nm,0.4s						
KUR				smax	smax		
	comp=E,102nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.88**	**235**	*e*P	**Pn**	**08 48 25.5**	**+1.2**
YUK				AMB	AMB	08 48 27.0	
	comp=E,10.0nm,0.2s						
YUK				AMB	AMB	08 48 27.0	
	comp=E,10.0nm,0.2s						
YUK				AMB	AMB	08 48 27.0	
	comp=E,10.0nm,0.2s						
YUK				*e*S	**Sn**	**08 49 11.2**	**+0.8**
YUK				A	A	08 49 12.0	
	comp=E,70nm,0.3s						
YUK				A	A	08 49 12.0	
	comp=E,100nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.88**	**235**	*e*PN	**Pn**	**08 48 25.5**	**+1.2**
YUK				*e*S	**Sn**	**08 49 11.2**	**+0.8**
YUK				pmax	pmax		
	comp=Z,109nm,0.2s						
YUK				pmax	pmax		
	comp=N,20nm,0.1s						
YUK				pmax	pmax		
	comp=E,35nm,0.2s						
YUK				smax	smax		
	comp=N,69nm,0.1s						
YUK				smax	smax		
	comp=E,101nm,0.2s						
GRPR	**Tuman**	**3.95**	**235**	*e*P	**Pn**	**08 48 25.7**	**+0.4**
GRPR				*e*S	**Sn**	**08 49 12.5**	**+0.4**
GRPR				A	A	08 49 14.0	
	comp=E,140nm,0.4s						
GRPR				A	A	08 49 14.0	
	comp=E,60nm,0.4s						
GRPR	**Tuman**	**3.95**	**235**	*e*PN	**Pn**	**08 48 25.7**	**+0.4**
GRPR				*e*S	**Sn**	**08 49 12.5**	**+0.4**
GRPR				smax	smax		
	comp=E,55nm,0.1s						
GRPR				smax	smax		
	comp=N,142nm,0.2s						
GLVR	**Golovnino**	**4.25**	**234**	*e*P	**Pn**	**08 48 29.3**	**+0.1**
GLVR				*e*S	**Sn**	**08 49 18.8**	**-0.3**
GLVR				A	A	08 49 21.0	
	comp=N,140nm,0.5s						
GLVR				A	A	08 49 21.0	
	comp=N,100nm,0.5s						
GLVR	**Golovnino**	**4.25**	**234**	PN	**Pn**	**08 48 29.3**	**+0.1**
GLVR				*e*S	**Sn**	**08 49 18.8**	**-0.3**
GLVR				smax	smax		
	comp=N,140nm,0.2s						
GLVR				smax	smax		
	comp=E,96nm,0.2s						
NMR	**Nemuro--Hokkai**	**4.39**	**229**	*e*P	**Pn**	**08 48 30.1**	**-0.8**
NMR	**Nemuro--Hokkai**	**4.39**	**229**	*e*PN	**Pn**	**08 48 30.1**	**-0.8**
NMR				S	**Sn**	**08 49 18.1**	**-4.1**
YSS	**Yuzh-Sakhalins**	**5.21**	**280**	*e*P	**Pn**	**08 48 42.8**	**+1.1**
YSS				AMB	AMB	08 48 43.4	
	comp=E,20nm,0.9s						
YSS	**Yuzh-Sakhalins**	**5.21**	**280**	⇑*e*PN	**Pn**	**08 48 42.8**	**+1.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
SKR	**Severo-Kuril's**	**5.83**	**40**	*e*P	**Pn**	**08 48 50.0**	**+0.3**
SKR				*e*S	**Sn**	**08 49 56.1**	**+0.1**
SKR				A	A	08 50 02.6	
	comp=Z,40nm,0.7s						
SKR				A	A	08 50 02.6	
	comp=Z,30nm,0.7s						
SKR	**Severo-Kuril's**	**5.83**	**40**	*e*PN	**Pn**	**08 48 50.0**	**+0.3**
SKR				*e*S	**Sn**	**08 49 56.1**	**+0.1**
SKR				smax	smax		
	comp=E,28nm,0.8s						
SKR				smax	smax		
	comp=N,42nm,0.7s						
JKA	**Kamikawa-asahi**	**5.86**	**250**	*e*P	**Pn**	**08 48 52.3**	**+2.1**
ASAJ	**Asahikawa**	**5.86**	**250**	P	**Pn**	**08 48 52.3**	**+2.1**
	comp=N,1.3nm,0.3s,baz=75,slow=12,SNR=12						
ASAJ				S	**Sn**	**08 49 56.5**	**-0.3**
	comp=N,0.4nm,0.3s,baz=59,slow=32,SNR=1.4						
ERM	**Erimo**	**6.70**	**232**	⇑*e*PN	**Pn**	**08 49 02.7**	**+1.5**
PETK	**Petropavlovsk-**	**8.31**	**33**	P	**Pn**	**08 49 20.9**	**-1.5**
	comp=N,0.3nm,0.3s,baz=98,slow=3.0,SNR=6.8						
PETK	**Petropavlovsk-**	**8.31**	**33**	PN	**Pn**	**08 49 21.0**	**-1.5**
KLR	**Kul'dur**	**12.79**	**290**	P	**Pn**	**08 50 20.4**	**-0.6**
	comp=N,0.1nm,0.3s,baz=111,slow=22,SNR=5.8						
USRK	**Ussuriysk Ar.**	**13.06**	**267**	P	**Pn**	**08 50 23.1**	**-1.3**
	baz=73,slow=11,SNR=2.4						
EKMR	**Ekimchan**	**13.06**	**307**	*e*P	**Pn**	**08 50 27.4**	**+3.0**
EKMR				AMB	AMB	08 50 29.1	
	comp=N,4.0nm,0.7s						
KSRS	**Korea Array**	**18.81**	**250**	P	**Pn**	**08 51 35.5**	**+1.1**
	comp=N,0.2nm,0.3s,baz=49,slow=13,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**29.84**	**147**	T	T	09 24 29.2	
	baz=336,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**29.86**	**147**	T	T	09 24 35.4	
	baz=336,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**29.86**	**147**	T	T	09 24 41.8	
	baz=336,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**30.89**	**148**	T	T	09 25 59.1	
	baz=336,slow=76,SNR=38						
H11S3	**WAKE ISLAND Hy**	**30.90**	**149**	T	T	09 25 55.5	
	baz=336,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**30.91**	**148**	T	T	09 25 55.6	
	baz=336,slow=76,SNR=20						
COLA	**College**	**37.67**	**38**	*i* P	**P**	**08 54 23.8**	**0.0**
ILAR	**Eielson Array**	**38.09**	**38**	P	**P**	**08 54 27.1**	**-0.2**
	comp=N,0.6nm,0.5s,baz=265,slow=7.5,SNR=13						
MKAR	**Makanchi Array**	**45.38**	**297**	P	**P**	**08 55 24.5**	**-2.2**
	comp=N,0.2nm,0.5s,baz=70,slow=5.5,SNR=2.7						
FINES	**FINESS Array B**	**63.56**	**334**	P	**P**	**08 57 35.1**	**-2.3**
	comp=N,0.9nm,0.7s,baz=64,slow=8.7,SNR=1.9						
NVAR	**Mina Array Bea**	**64.35**	**61**	P	**P**	**08 57 43.7**	**+0.5**
	comp=N,0.7nm,0.7s,baz=291,slow=7.0,SNR=5.6						
PDAR	**Pinedale Array**	**66.56**	**52**	P	**P**	**08 57 57.8**	**+0.4**
	comp=N,1.0nm,0.6s,baz=296,slow=1.5,SNR=15						
WRA	**Warramunga Arr**	**67.53**	**196**	P	**P**	**08 58 03.6**	**+0.3**
	comp=N,0.7nm,1.2s,baz=237,slow=26,SNR=3.5						
ASAR	**Alice Springs**	**71.24**	**196**	P	**P**	**08 58 27.4**	**+1.4**
	comp=N,0.4nm,0.4s,baz=11,slow=6.1,SNR=8.6						
TXAR	**Lajitas Array**	**79.39**	**59**	P	**P**	**08 59 12.9**	**+0.1**
	comp=N,0.6nm,0.7s,baz=299,slow=4.7,SNR=8.7						
PLCA	**Paso Flores**	**150.13**	**94**	PKPbc	**PKPbc**	**09 06 56.2**	**+0.5**
	comp=N,1.0nm,0.7s,baz=301,slow=3.7,SNR=5.3						

*UPP **29** 09:00:29.2±2.8, 65.˚11N×31.˚65E, h0km, ML1.6, Suspected explosion*

HEL 29 09:00:31.6±0.3, **64.˚67N×30.˚90E, h0**km, **ML2.2, Explosion, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KU6	**Riekki**	**1.43**	**343**	PG	Pn	09 00 57.5	-1.2
	baz=166						
KU6				MSG		09 01 14.6	
	comp=Z,15nm,0.2s						
KU6				SG	Sg	09 01 15.4	-2.0
MSF	**Maaselka**	**1.47**	**329**	PG	Pn	09 00 58.2	-1.2
MSF				SG	Sg	09 01 16.1	-2.7
OUL	**Oulu**	**2.18**	**283**	PG	Pb	09 01 11.1	-0.6
OUL				SB	Sn	09 01 37.1	+0.6
OUF	**Merijarvi**	**2.68**	**266**	PG	Pb	09 01 19.0	-1.4
OUF				MSG		09 01 50.6	
	comp=Z,12nm,0.2s						
OUF				SG	Sb	09 01 53.2	-0.7
OBF0	**Syolatti, Pyha**	**2.88**	**270**	PG	Pb	09 01 21.9	-1.8
	baz=82						
OBF0				SG	Sb	09 02 00.9	+1.5
SUF	**Sumiainen**	**2.88**	**229**	PG	Pb	09 01 23.6	-0.2
SUF				MSG		09 01 56.3	
	comp=Z,8.6nm,0.2s						
SUF				SG	Sb	09 02 01.2	+1.7
TOF	**Tornio**	**3.10**	**300**	PG	Pb	09 01 25.4	-2.0
TOF				SB	Sn	09 02 02.4	+3.1
TOF				MSG		09 02 02.5	
	comp=Z,7.6nm,0.2s						
VRF	**Varrio**	**3.14**	**351**	PN	Pn	09 01 20.0	-2.2
VRF				MSG		09 02 03.8	
	comp=Z,3.9nm,0.2s						
KAF	**Kangasniemi**	**3.29**	**221**	PG	Pb	09 01 29.4	-1.4
	baz=141						
SGF	**Sodankyl**	**3.31**	**329**	PN	Pn	09 01 21.4	-3.1
KEF	**Keuruu**	**3.69**	**230**	PB	Pb	09 01 34.7	-2.9
FIA0	**FINESS Array S**	**3.91**	**216**	PB	Pb	09 01 37.3	-4.0
	baz=32						
VAF	**Ylistaro**	**3.99**	**250**	PB	Pb	09 01 38.4	-4.2
SJUU	**Sjulsmark**	**4.02**	**286**	P	Pn	09 01 35.3	+1.0
BURU	**Burvik**	**4.10**	**273**	P	Pn	09 01 36.5	+1.1
BURU				S	Sn	09 02 24.6	+0.6
UMAU	**Umeaa**	**4.53**	**265**	P	Pn	09 01 41.9	+0.6
UMAU				S	Sn	09 02 35.0	+0.6
UMAU	**Umeaa**	**4.53**	**265**	PN	Pn	09 01 42.4	+1.2
LILU	**Lilltraesk**	**4.74**	**282**	P	Pn	09 01 45.4	+1.3
SVAU	**Svanoeiden**	**4.88**	**273**	P	Pn	09 01 47.7	+1.5
KUA	**Kuravaara**	**5.38**	**312**	P	Pn	09 01 49.7	-3.4
HEMU	**Hemsoen**	**6.06**	**257**	P	Pn	09 02 03.8	+1.4

HEL 29 09:00:38.4±0.3, **68.˚16N×32.˚96E, h0**km, **ML1.8, Explosion, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**1.33**	**253**	PG	Pg	09 01 02.3	-1.6
	baz=72						
VRF				MSG		09 01 18.6	
	comp=Z,9.0nm,0.2s						
VRF				SG	Sg	09 01 19.4	-1.6
SGF	**Sodankyl**	**2.55**	**257**	PN	Pn	09 01 20.4	-0.5
	baz=68						
ARE0	**ARCESS Array S**	**3.03**	**301**	PN	Pn	09 01 27.6	0.0
	baz=115						
ARE0				SG	Sb	09 02 11.4	+0.7
LANU	**Lannavaara**	**4.11**	**274**	P	Pn	09 01 41.1	-1.3
LANU	**Lannavaara**	**4.11**	**274**	PN	Pn	09 01 41.5	-0.9
ERTU	**Ertsjaerv**	**4.46**	**254**	PN	Pn	09 01 44.6	-2.6
KIF	**Kilpisjarvi**	**4.54**	**286**	PN	Pn	09 01 48.5	+0.4

*SOME **29** 09:03:35.8, 40.˚15N×71.˚35E, h0km*
*KRNET **29** 09:03:36.1±0.1, 40.˚05N×71.˚26E, h22km, mb3.1*
*ISU **29** 09:03:36.0, 40.˚10N×71.˚30E, h10km*
*NNC **29** 09:03:38.5±2.1, 40.˚19N×71.˚40E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=18.0km s-min=9.2km az=4.0*

ISC 29 09:03:37.0±1.1, **40.˚09N**±0.˚06×**71.˚28E**±0.˚03, **h10**km, **n19**, σ1§**63**/35, **12C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.36**	**265**	⇑*i*P	**Pg**	**09 03 43.2**	**-0.9**
	baz=72						
BTK				⇑*i*S	**Sg**	**09 03 48.6**	**-0.3**
	baz=72						
BTK	**Batken**	**0.36**	**265**	*e*P	**Pg**	**09 03 42.8**	**-1.3**
BTK				*e*S	**Sg**	**09 03 48.8**	**-0.1**
MINT	**Mingtut**	**0.44**	**328**	*e*P	**Pb**	**09 03 46.6**	**-0.3**
MINT				*e*S	**Sb**	**09 03 53.2**	**-0.4**
FRG	**Fergana**	**0.75**	**31**	*e*P	Pg	09 03 45.6	-5.9
FRG				*e*S	Sg	09 03 51.9	-9.4
ANR	**Andizhan**	**1.06**	**51**	*e*P	**Pn**	**09 03 57.5**	**-0.4**
ANR				*e*S	**Sn**	**09 04 12.1**	**-0.6**
OHH	**Osh**	**1.23**	**69**	⇑*i*P	**Pn**	**09 03 59.5**	**-0.8**
	baz=67						
OHH				⇑*i*S	**Sn**	**09 04 16.1**	**-0.9**
	baz=67						
ARK	**Arkit**	**1.78**	**17**	⇑*i*P	**Pb**	**09 04 08.7**	**-1.1**
	baz=17						
ARK				⇑*i*S	**Sb**	**09 04 32.2**	**-0.1**
	baz=17						
CHRV	**Charvak**	**1.85**	**327**	*e*P	**Pb**	**09 04 10.4**	**-0.5**
CHRV				*e*S	**Sb**	**09 04 35.6**	**+1.5**
IUG	**Iuzhnay**	**2.26**	**336**	*e*P	**Pb**	**09 04 18.5**	**+0.5**
	95nm,0.3s						
IUG				*e*S	**Sg**	**09 04 50.2**	**+0.6**
	143nm,0.3s						
CHM	**Chimkent**	**2.56**	**331**	*e*P	**Pb**	**09 04 24.2**	**+1.2**
	6.5nm,0.4s						
CHM				*e*S	**Sg**	**09 04 59.4**	**+0.1**
	206nm,0.4s						
ARLS	**Aral**	**2.90**	**51**	⇓*e*P	**Pn**	**09 04 24.4**	**+1.0**
	baz=51						
ARLS				⇓*i*S	**Sn**	**09 04 59.6**	**+1.1**
	baz=51						
MRKS	**Merke**	**3.03**	**28**	*e*P	**Pb**	**09 04 31.9**	**+0.8**
	28nm,0.4s						
MRKS				*e*S	**Sg**	**09 05 12.6**	**-1.6**
	67nm,0.4s						
KK31	**Karatay Array**	**3.06**	**349**	⇓Pn	**Pn**	**09 04 26.6**	**+1.1**
	1.0nm,0.1s,baz=136,slow=10,SNR=141						
KK31				Pg	**Pb**	**09 04 33.0**	**+1.4**
	20nm,0.4s,baz=170,slow=17,SNR=35						
KK31				⇑Lg	Lg	09 05 14.2	
	6.5nm,0.3s,baz=155,slow=29,SNR=6.8						
BRLS	**Borolday**	**3.13**	**340**	*e*P	**Pb**	**09 04 31.1**	**-1.7**
	6.3nm,0.2s						
BRLS				*e*S	**Sb**	**09 05 10.7**	**-0.3**
	31nm,0.2s						
AAK	**Ala-Archa**	**3.51**	**42**	⇑Pg	**Pb**	**09 04 41.0**	**+1.7**
	4.3nm,0.3s						
AAK				⇓Lg	Lg	09 05 26.1	
	8.4nm,0.3s						
FRU1	**Bishkek**	**3.70**	**42**	⇑*i*P	**Pn**	**09 04 35.1**	**+0.8**
	baz=41						
FRU1				⇑*i*S	**Sn**	**09 05 18.7**	**+0.6**
	baz=41						
TKM2	**Tokmak 2**	**4.30**	**47**	⇑Pn	**Pn**	**09 04 43.8**	**+1.1**
	2.6nm,0.3s						
TKM2				⇓Sn	**Sn**	**09 05 33.8**	**+0.8**
	12nm,0.9s						
TKM2				⇑Lg	Lg	09 05 49.6	
	7.3nm,0.6s						
KST	**Kastek**	**4.59**	**48**	*e*P	**Pb**	**09 04 58.1**	**+0.4**
	2.4nm,0.4s						
KST				*e*S	**Sb**	**09 05 57.1**	**+4.1**
	10nm,0.3s						
MDOK	**Medeo**	**5.30**	**53**	*e*P	**Pb**	**09 05 12.1**	**+2.3**
	1.0nm,0.2s						
MDOK				*e*S	**Sg**	**09 06 21.3**	**-5.8**
	5.9nm,0.6s						

*NNC **29** 09:05:31.8±0.8, 41.˚71N×78.˚37E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=5.8km s-min=3.0km az=172.0, Suspected Mining explosion.*
*KRNET **29** 09:05:34.9±0.1, 41.˚84N×78.˚20E, h10km, mb2.4*

ISC 29 09:05:30.1±1.8, **41.˚64N**±0.˚09×**78.˚23E**±0.˚05, **h0**km, **n15**, σ0§**90**/22, **7C-3D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**0.85**	**8**	⇑*i*P	**Pb**	**09 05 47.7**	**-0.1**
	baz=14						
PRZ				⇑*i*S	**Sg**	**09 05 56.9**	**-0.4**
	baz=14						
KDJ	**Kajisay**	**0.92**	**302**	⇑*i*P	**Pn**	**09 05 50.2**	**-0.3**
	baz=91						
KDJ				⇑*i*S	**Sb**	**09 06 01.4**	**-0.6**
	baz=91						
ANVS	**Anan'yevo**	**1.21**	**340**	⇓*i*P	**Pn**	**09 05 54.3**	**-0.2**
	baz=38						
ANVS				⇓*i*S	**Sg**	**09 06 08.5**	**-0.6**
	baz=38						
UZB	**Uzynbulak**	**1.61**	**21**	P	**Pn**	**09 05 59.5**	**-0.5**
	2.4nm,0.3s						
UZB				S	Sn	**09 06 20.2**	**-1.3**
	3.8nm,0.4s						
TNSS	**Tian-Shan**	**1.69**	**326**	P	**Pg**	**09 06 03.1**	**+0.7**
	6.2nm,0.2s						
TNSS				S	**Sg**	**09 06 26.5**	**+2.2**
	8.4nm,0.3s						
MDOK	**Medeo**	**1.75**	**330**	Pg	**Pb**	**09 06 02.9**	**-0.3**
	1.9nm,0.4s						
MDOK				Lg	Lg	09 06 26.5	
	5.9nm,0.6s						
SHLS	**Shalkode**	**1.77**	**31**	P	**Pg**	**09 06 04.6**	**+0.7**
	16nm,0.3s						
SHLS				S	**Sg**	**09 06 28.9**	**+2.1**
	7.7nm,0.4s						
TKM2	**Tokmak 2**	**2.33**	**304**	⇓Pg	**Pg**	**09 06 15.4**	**+0.6**
	3.3nm,0.6s						
TKM2				⇑Lg	Lg	09 06 46.0	
	5.8nm,0.5s						
KTBS	**Karatobe**	**2.36**	**332**	Pg	**Pg**	**09 06 15.2**	**-0.1**
	7.1nm,0.4s						
KTBS				Lg	Lg	09 06 47.7	
	35nm,0.9s						
KTMS	**Ketmen**	**2.39**	**40**	Pg	**Pb**	**09 06 14.1**	**+0.1**
	0.2nm,0.1s						
KTMS				Lg	Lg	09 06 45.8	
	8.0nm,0.5s						
CHKK	**Chushkaly**	**2.39**	**338**	Pg	**Pb**	**09 06 14.7**	**+0.7**
	9.8nm,0.2s						
CHKK				Lg	Lg	09 06 46.6	
	19nm,0.4s						
MNBS	**Baschi**	**2.44**	**3**	Pg	**Pb**	**09 06 14.1**	**-0.8**
	5.8nm,0.6s						
MNBS				Lg	Lg	09 06 45.3	
	11nm,0.3s						
ARXS	**Arharly**	**2.58**	**354**	Pg	**Pb**	**09 06 18.0**	**+0.7**
	20nm,0.4s						
ARXS				Lg	Lg	09 06 52.6	
	9.8nm,0.4s						
DJR	**Jarkent**	**2.92**	**23**	Pg	**Pb**	**09 06 23.0**	**-0.1**
	3.4nm,0.5s						
DJR				Lg	Lg	09 07 00.7	
	7.6nm,0.4s						
ARLS	**Aral**	**2.93**	**276**	⇑*i*P	**Pb**	**09 06 23.5**	**+0.2**
	baz=72						
ARLS				⇑*i*S	**Sb**	**09 06 58.9**	**-0.9**
	baz=72						

*ISN **29** 09:06:04.2±0.9, 32.˚56N×47.˚77E, h14km±6km, ML3.4*
*TEH **29** 09:06:05.1, 32.˚49N×47.˚66E, h14km, ML3.5*
*THR **29** 09:06:06.0±0.3, 32.˚48N×47.˚71E, h16km±5km, ML3.6*

ISC 29 09:06:05.4±1.2, **32.˚48N**±0.˚03×**47.˚65E**±0.˚03, **h13**km±13km, **n41**, σ1§**69**/46, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.37**	**303**	*e*Pg	**Pg**	**09 06 12.1**	**-0.8**
SHGR	**Shooshtar-Gavs**	**1.04**	**111**	*e*Pg	**Pg**	**09 06 24.6**	**-0.7**
SHGR				*e*Sg	**Sb**	**09 06 38.3**	**-0.6**
SHGR				IAML		09 06 46.4	
	comp=E,832nm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.04**	**111**	*e*Pg	**Pb**	**09 06 24.6**	**-0.7**
AHWZ	**Ahwaz**	**1.42**	**143**	*e*Pg	**Pg**	**09 06 32.8**	**+0.1**
BMDN	**Meydan**	**1.54**	**39**	*e*Pg	**Pb**	**09 06 33.7**	**-0.3**
BMDN				*e*		09 07 00.2	
IBDR	**Badra**	**1.58**	**294**	*e*Pg	**Pb**	**09 06 34.0**	**-0.5**
IBDR				*e*Sg	**Sg**	**09 06 56.0**	**-0.3**
IKOM	**Komasi**	**1.69**	**356**	*e*Pn	**Pg**	**09 06 36.9**	**-1.1**
IKOM				*e*		09 07 22.6	
KCHF	**Cheshme Sefid,**	**1.86**	**344**	*e*Pg	**Pb**	**09 06 39.7**	**+0.2**
KCHF				*e*		09 07 11.4	
HSAM	**Samen**	**1.90**	**24**	*e*Pg	**Pb**	**09 06 40.3**	**+0.1**
HSAM				*e*		09 07 14.0	
KER	**Kermanshah**	**1.95**	**347**	*e*Pn	**Pb**	**09 06 40.5**	**-0.4**
NSR	**Nassriya**	**1.95**	**222**	*e*Pn	**Pb**	**09 06 40.0**	**-0.8**
NSR				*e*Sn	**Sb**	**09 07 05.0**	**-0.1**
NSR				AML	AML	09 07 25.6	
	comp=E,373nm,0.4s						
IBZA	**Bozab**	**1.99**	**5**	*e*Pg	**Pg**

mb4.6/40, Error ellipse: s-maj=17.4km s-min=14.5km az=143.0

*IDC **29** 09:12:38.3±1.8, 20°.27S×177°.94W, h513km±21km, mb3.6/14, mb1 3.7/16, mb1mx3.5/41, mbtmp4.5/16, Error ellipse: s-maj=14.7km s-min=13.7km az=118.0*

ISC 29 09:12:36.9±0.5, 20°.27S±0.06×177.79W±0.07, h500km, n112, σ1ᵖ86/121, mb4.5/31, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
MSVF	**Nonsavu**	**4.67**	**302**		**P**	**P**	**09 14 05.7**	**+4.5**
NIUE	**Niue**	**7.51**	**82**	P		**P**	**09 14 31.2**	**+3.0**
AFI	**Afiamalu**	**8.55**	**43**	P		**P**	**09 14 39.7**	**+0.5**
	5.3nm,0.3s,baz=241,slow=4.9,SNR=5.8							
AFI				S		**S**	**09 16 15.6**	**-3.9**
	2.2nm,0.3s,baz=12,slow=23,SNR=2.8							
AFI	**Afiamalu**	**8.55**	**43**	P		**P**	**09 14 39.6**	**+0.5**
AFI				S		**S**	**09 16 20.0**	**+0.4**
GLKZ	**Green Lake**	**8.95**	**181**	P		**P**	**09 14 40.9**	**-2.2**
GLKZ				S		**S**	**09 16 26.3**	**-0.5**
DZM	**Mont Dzumac**	**14.81**	**260**	P		**P**	**09 15 45.3**	**0.0**
	0.8nm,0.3s,baz=126,slow=17,SNR=12							
DZM	**Mont Dzumac**	**14.81**	**260**	P		**P**	**09 15 46.2**	**+0.9**
OUZ	**Omahuta**	**16.71**	**205**	P		**P**	**09 16 05.2**	**+0.4**
TGRZ	**Tauranga**	**18.15**	**195**	P		**P**	**09 16 19.3**	**+0.8**
MWZ	**Matawai**	**18.45**	**192**	P		**P**	**09 16 19.0**	**-2.3**
URZ	**Urewera**	**18.46**	**193**	P		**P**	**09 16 19.0**	**-2.3**
	4.8nm,0.3s,baz=9.5,slow=6.1,SNR=36							
URZ				S		**S**	**09 19 30.1**	**+5.8**
	0.3nm,0.3s,baz=120,slow=16,SNR=1.4							
URZ	**Urewera**	**18.46**	**193**	P		**P**	**09 16 18.6**	**-2.7**
URZ	**Urewera**	**18.46**	**193**	P		**P**	**09 16 18.8**	**-2.5**
TKGZ	**Te Karaka**	**18.49**	**191**	P		**P**	**09 16 21.0**	**-0.6**
RRRZ	**Republican Roa**	**18.67**	**194**	P		**P**	**09 16 22.5**	**-0.8**
MUGZ	**Murupara**	**18.74**	**193**	P		**P**	**09 16 22.6**	**-1.4**
RIGZ	**Rimuhau**	**18.77**	**191**	P		**P**	**09 16 22.8**	**-1.3**
HRRZ	**Handcock Road**	**18.77**	**195**	P		**P**	**09 16 22.9**	**-1.3**
RTZ	**Ruatahuna**	**18.83**	**193**	P		**P**	**09 16 22.5**	**-2.3**
MTHZ	**Maungataniwha**	**19.09**	**193**	P		**P**	**09 16 27.0**	**-0.1**
RAHZ	**Arahi**	**19.10**	**192**	P		**P**	**09 16 25.9**	**-1.3**
HIZ	**Hauiti**	**19.26**	**198**	P		**P**	**09 16 30.3**	**+1.7**
HIZ	**Hauiti**	**19.26**	**198**	P		**P**	**09 16 28.0**	**-0.7**
NMHZ	**Naumai**	**19.33**	**193**	P		**P**	**09 16 27.9**	**-1.5**
RITZ	**Rihia Road**	**19.43**	**195**	P		**P**	**09 16 29.3**	**-1.0**
BKZ	**Black Stump Fm**	**19.46**	**193**	P		**P**	**09 16 27.8**	**-2.8**
BKZ	**Black Stump Fm**	**19.46**	**193**	P		**P**	**09 16 26.8**	**-3.8**
BKZ				IAmb		IAmb	09 16 28.3	
	comp=Z,21nm,1.3s							
TWVZ	**Taurewa**	**19.62**	**196**	P		**P**	**09 16 31.3**	**-0.8**
WTVZ	**West Tongariro**	**19.63**	**195**	P		**P**	**09 16 31.1**	**-1.0**
OTVZ	**Oturere**	**19.65**	**195**	P		**P**	**09 16 30.2**	**-2.3**
MCHZ	**McNeill Hill**	**19.69**	**193**	P		**P**	**09 16 30.5**	**-2.1**
KWHZ	**Kaweka Forest**	**19.73**	**193**	P		**P**	**09 16 31.3**	**-1.6**
TUVZ	**Tukino**	**19.75**	**195**	P		**P**	**09 16 30.8**	**-2.6**
FWVZ	**Far West T-bar**	**19.77**	**195**	P		**P**	**09 16 32.3**	**-1.3**
WNVZ	**Wahianoa**	**19.82**	**195**	P		**P**	**09 16 32.0**	**-2.0**
BHHZ	**Black Hill Sta**	**19.87**	**194**	P		**P**	**09 16 30.9**	**-3.4**
KRHZ	**Kereru**	**19.95**	**193**	P		**P**	**09 16 33.0**	**-1.9**
KAHZ	**Kahuranaki**	**19.99**	**192**	P		**P**	**09 16 34.2**	**-1.1**
NEZ	**North Egmont**	**20.18**	**199**	P		**P**	**09 16 37.3**	**+0.2**
PXZ	**Pawanui**	**20.22**	**192**	P		**P**	**09 16 35.9**	**-1.5**
PNHZ	**Pukenui**	**20.24**	**193**	P		**P**	**09 16 36.1**	**-1.5**
PRHZ	**Porangahau**	**20.49**	**192**	P		**P**	**09 16 38.9**	**-0.9**
DVHZ	**Dannevirke**	**20.62**	**193**	P		**P**	**09 16 39.5**	**-1.6**
ANWZ	**Angora Road**	**20.71**	**192**	P		**P**	**09 16 39.8**	**-2.0**
ANWZ				P		**PcP**	**09 20 33.3**	**+3.8**
BFZ	**Birch Farm**	**20.97**	**193**	P		**P**	**09 16 42.3**	**-1.8**
BFZ				S		**PcP**	**09 20 32.3**	**+2.2**
BFZ	**Birch Farm**	**20.97**	**193**	P		**P**	**09 16 41.9**	**-2.3**
BFZ				IAmb		IAmb	09 17 14.6	
	comp=Z,42nm,1.4s							
MRZ	**Mangatainoka R**	**21.10**	**194**	P		**P**	**09 16 43.1**	**-2.2**
MRZ				S		**PcP**	**09 20 34.8**	**+4.5**
TIWZ	**Tintock**	**21.14**	**193**	P		**P**	**09 16 45.4**	**-0.3**
TIWZ				S		**PcP**	**09 20 37.1**	**+6.7**
HOWZ	**Holdsworth Sta**	**21.34**	**194**	P		**P**	**09 16 46.2**	**-1.3**
OGWZ	**Otaki Gorge**	**21.34**	**195**	P		**P**	**09 16 46.4**	**-1.1**
KIW	**Kapiti Island**	**21.45**	**195**	P		**P**	**09 16 47.2**	**-1.3**
CAW	**Cannon Point**	**21.64**	**195**	P		**P**	**09 16 49.6**	**-0.7**
MSWZ	**Moikau Station**	**21.89**	**194**	P		**P**	**09 16 49.7**	**-2.8**
SNZO	**South Karori**	**21.92**	**195**	P		**P**	**09 16 50.7**	**-2.1**
BHW	**Baring Head**	**21.97**	**195**	P		**P**	**09 16 52.7**	**-0.5**
PLWZ	**Palliser**	**22.04**	**194**	P		**P**	**09 16 53.1**	**-0.8**
QRZ	**Quartz Range**	**22.09**	**200**	P		**P**	**09 16 53.0**	**-1.3**
NNZ	**Nelson**	**22.19**	**198**	P		**P**	**09 16 54.5**	**-0.7**
BSWZ	**Blackbirch Sta**	**22.51**	**196**	P		**P**	**09 16 57.0**	**-1.1**
THZ	**Tophouse**	**22.83**	**198**	P		**P**	**09 17 00.1**	**-0.9**
KHZ	**Kahutara**	**23.26**	**196**	P		**P**	**09 17 03.1**	**-1.6**
KHZ				IAmb		IAmb	09 17 15.5	
	comp=Z,37nm,1.4s							
LTZ	**Lake Taylor**	**23.95**	**198**	P		**P**	**09 17 08.5**	**-2.5**
LTZ				IAmb		IAmb	09 17 38.5	
	comp=Z,25nm,1.4s							
OXZ	**Oxford**	**24.52**	**198**	P		**P**	**09 17 13.8**	**-2.2**
OXZ				IAmb		IAmb	09 17 27.4	
	comp=Z,15nm,1.2s							
MQZ	**McQueen's Vall**	**24.69**	**197**	P		**P**	**09 17 16.3**	**-1.2**
MQZ				IAmb		IAmb	09 17 37.2	
	comp=Z,20nm,1.4s							
RPZ	**Rata Peaks**	**25.17**	**199**	P		**P**	**09 17 20.6**	**-1.1**
	comp=Z,5.3nm,0.5s,baz=347,slow=7.5,SNR=5.0							
RPZ	**Rata Peaks**	**25.17**	**199**	P		**P**	**09 17 18.5**	**-3.2**
RPZ				IAmb		IAmb	09 17 33.2	
	comp=Z,44nm,1.6s							
FOZ	**Fox Glacier**	**25.41**	**201**	P		**P**	**09 17 22.7**	**-1.1**
WKZ	**Wanaka**	**26.82**	**201**	P		**P**	**09 17 36.8**	**+0.5**
WKZ				IAmb		IAmb	09 18 09.2	
	comp=Z,51nm,1.4s							
MLZ	**Mavora Lakes**	**27.60**	**202**	P		**P**	**09 17 44.1**	**+0.9**
MLZ				IAmb		IAmb	09 18 10.1	
	comp=Z,40nm,1.6s							
WHZ	**Wether Hill Ro**	**28.12**	**201**	P		**P**	**09 17 46.7**	**-1.0**
WHZ				IAmb		IAmb	09 18 04.7	
	comp=Z,17nm,1.3s							
EIDS	**Eidsvold**	**29.09**	**254**	P		**P**	**09 17 56.3**	**-0.2**
EIDS				IAmb		IAmb	09 17 57.5	
	comp=Z,28nm,1.6s							
ARMA	**Armidale**	**29.34**	**244**	P		**P**	**09 17 59.4**	**+0.7**
ARMA				IAmb		IAmb	09 18 19.3	
	comp=Z,49nm,1.6s							
CTA	**Charters Tower**	**33.70**	**264**	P		**P**	**09 18 35.9**	**-0.2**
	comp=Z,14nm,0.3s,baz=89,slow=11,SNR=63							
CTAO	**Charters Tower**	**33.70**	**264**	P		**P**	**09 18 36.2**	**+0.1**
COEN	**Coen**	**37.76**	**273**	P		**P**	**09 19 10.0**	**+0.1**
COEN				IAmb		IAmb	09 19 23.5	
	comp=Z,26nm,1.4s							
STKA	**Stephens Creek**	**38.06**	**244**	P		**P**	**09 19 11.6**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=85,slow=11,SNR=8.5							
STKA	**Stephens Creek**	**38.06**	**244**	P		**P**	**09 19 11.9**	**-0.3**
BBOO	**Buckleboo**	**42.82**	**243**	P		**P**	**09 19 49.6**	**-0.7**
BBOO				IAmb		IAmb	09 20 18.5	
	comp=Z,21nm,1.6s							
JAY	**Jayapura**	**44.16**	**288**	P		**P**	**09 20 01.3**	**+0.3**
	comp=Z,15nm,0.4s,baz=146,slow=4.7,SNR=22							
WR0	**Warramunga Arr**	**44.63**	**262**	P		**P**	**09 20 03.5**	**-1.0**
WR0				IAmb		IAmb	09 20 04.6	
	comp=Z,7.4nm,0.4s							
AS31	**Alice Springs**	**44.76**	**256**	P		**P**	**09 20 05.0**	**-0.5**
ASAR	**Alice Springs**	**44.76**	**256**	P		**P**	**09 20 04.9**	**-0.6**
	comp=Z,11nm,0.5s,baz=94,slow=7.6,SNR=220							
ASAR				S		**S**	**09 26 01.8**	**-4.0**
	comp=Z,1.0nm,0.8s,baz=92,slow=17,SNR=5.6							
ASAR	**Alice Springs**	**44.76**	**256**	P		**P**	**09 20 04.1**	**-1.5**
WB0	**Warramunga Arr**	**44.80**	**262**	P		**P**	**09 20 04.8**	**-1.1**
WB0				IAmb		IAmb	09 20 05.4	
	comp=Z,13nm,0.5s							
WB2	**Warramunga Arr**	**44.81**	**262**	P		**P**	**09 20 05.0**	**-1.0**
WRAB	**Tennant Creek**	**44.81**	**262**	P		**P**	**09 20 04.2**	**-1.8**
WRA	**Warramunga Arr**	**44.82**	**262**	P		**P**	**09 20 04.8**	**-1.3**
	comp=Z,4.8nm,0.3s,baz=96,slow=7.7,SNR=195							
WRA	**Warramunga Arr**	**44.82**	**262**	P		**P**	**09 20 03.9**	**-2.1**
MTN	**Manton Dam**	**49.35**	**270**	P		**P**	**09 20 39.3**	**-1.1**
MTN				IAmb		IAmb	09 20 40.3	
	comp=Z,21nm,0.9s							
FORT	**Forrest**	**49.56**	**246**	P		**P**	**09 20 40.8**	**-0.8**
FORT				IAmb		IAmb	09 20 42.4	
	comp=Z,17nm,0.9s							
KNRA	**Kununurra**	**50.87**	**266**	P		**P**	**09 20 50.5**	**-1.0**
KNRA				IAmb		IAmb	09 20 51.4	
	comp=Z,11nm,0.7s							
FITZ	**Fitzroy Crossi**	**53.25**	**262**	P		**P**	**09 21 07.9**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=78,slow=4.1,SNR=15							
FITZ	**Fitzroy Crossi**	**53.25**	**262**	P		**P**	**09 21 06.4**	**-2.2**
PSA00	**Pilbara Seismi**	**57.91**	**257**	P		**P**	**09 21 40.1**	**-0.9**
VNDA	**Vanda**	**58.15**	**185**	P		**P**	**09 21 42.6**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=357,slow=7.4,SNR=11							
VNDA	**Vanda**	**58.15**	**185**	P		**P**	**09 21 42.7**	**+1.0**
QSPA	**South Pole Qui**	**69.79**	**180**	P		**P**	**09 22 56.8**	**+0.4**
	comp=Z,3.6nm,0.7s,baz=227,slow=1.2,SNR=33							
QSPA	**South Pole Qui**	**69.79**	**180**	P		**P**	**09 22 56.9**	**+0.6**
PETK	**Petropavlovsk-**	**76.10**	**345**	P		**P**	**09 23 32.1**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=133,slow=6.3,SNR=4.7							
PETK	**Petropavlovsk-**	**76.10**	**345**	P		**P**	**09 23 32.8**	**+0.3**
MAW	**Mawson**	**81.84**	**200**	P		**P**	**09 24 02.1**	**-0.8**
KLR	**Kul'dur**	**82.43**	**329**	P		**P**	**09 24 05.6**	**-0.6**
	comp=Z,2.7nm,0.6s,baz=149,slow=10.0,SNR=6.3							
SEY	**Seymchan**	**86.20**	**347**	P		**P**	**09 24 24.3**	**0.0**
	comp=Z,1.8nm,0.6s,baz=129,slow=6.4,SNR=7.1							
ILAR	**Eielson Array**	**88.05**	**13**	P		**P**	**09 24 32.4**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=215,slow=5.7,SNR=4.6							
ILAR	**Eielson Array**	**88.05**	**13**	P		**P**	**09 24 32.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**90.22**	**289**	P		**P**	**09 24 45.2**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=135,slow=4.4,SNR=5.5							
CMAR	**Chiang Mai Arr**	**90.22**	**289**	P		**P**	**09 24 44.0**	**-0.2**
ROC1	**El Roble**	**92.36**	**126**	P		**P**	**09 24 51.7**	**-2.5**
LAO	**LASA Array**	**92.61**	**41**	P		**P**	**09 24 54.4**	**-0.2**
LAO				IAmb		IAmb	09 24 58.5	
	comp=Z,6.7nm,0.7s							
BRTR	**Keskin Array B**	**146.83**	**313**	PKPbc		**PKPbc**	**09 31 22.9**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=139,slow=4.5,SNR=2.9							
BRTR	**Keskin Array B**	**146.83**	**313**			**PKPbc**	**09 31 22.6**	**-0.5**
KHC	**Kasperske Hory**	**149.80**	**345**			**PKPbc**	**09 31 29.3**	**-0.7**

NIED 29 09:18:48.5, 26°.56N×142°.78E, h18km, MW3.9, Moment Tension Solution. s1 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.97; $M_{\theta\theta}$2.38; $M_{\phi\phi}$-0.40; $M_{r\theta}$-1.95; $M_{\theta\phi}$-2.69; $M_{\phi r}$5.85; **Fault plane solution:** $M_0$7.08000×10^{14} **NP1:** ϕ_s157.00000°, δ81.00000°, λ-66.00000°. **NP2:** ϕ_s266.00000°, δ26.00000°, λ-159.00000°. **Bonin Islands region**

*JMA **29** 09:19:40.9, 36°.65N×140°.66E, h10km, M4.2 Broadband fault plane solution: P waves. NP1:ϕ_s191.00000°, δ27.00000°, λ-60.00000°. NP2:ϕ_s338.00000°, δ67.00000°, λ-104.00000°. Principal axes: T Plg21.0000°, Azm79.0000°; N Plg13.0000°, Azm344.0000°; P Plg65.0000°, Azm224.0000°;*

JMA Felt IV J1.

*NIED **29** 09:19:40.9, 36°.65N×140°.66E, h10km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.24; $M_{\theta\theta}$-0.33; $M_{\phi\phi}$1.57; $M_{r\theta}$0.43; $M_{\theta\phi}$-0.05; $M_{\phi r}$-0.26; Fault plane solution: $M_0$1.51000×10^{15} NP1: ϕ_s339.00000°, δ54.00000°, λ-116.00000°. NP2: ϕ_s199.00000°, δ43.00000°, λ-59.00000°.*

*NEIC **29** 09:19:43.2±2.9, 36°.57N±0.05×140°.68E±0.08, h39km±7km, mb4.4/24 Error ellipse: s-maj=9.7km s-min=7.4km az=91.0*

*IDC **29** 09:19:44.7±1.6, 36°.52N×140°.53E, h46km±17km, mb3.6/15, mb1 3.8/19, mb1mx3.6/53, mbtmp3.9/19, ML3.6/3, MS3.0/6, Ms1 3.0/6, ms1mx2.7/48, Error ellipse: s-maj=15.0km s-min=10.0km az=76.0*

ISC 29 09:19:40.0±0.9, 36°.59N±0.04×140°.68E±0.05, h14km±5km, n81, σ1ᵖ25/77, mb4.2/25, 1C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
JHO	**Hitachi**	**0.09**	**282**	⇓P		**Pg**	**09 19 43.3**	**+0.2**
JHO				*e*S		**Sg**	**09 19 44.8**	**-0.4**
JHYU	**Hitachinakayam**	**0.26**	**197**	S		**Sb**	**09 19 51.7**	**+0.9**
JFFD	**Fukushimafurud**	**0.51**	**349**	⇓P		**Pg**	**09 19 49.7**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.52**	**10**	S		**Sg**	**09 19 56.7**	**-0.5**
JSB	**Shiboa**	**0.72**	**302**	⇑P		**Pb**	**09 19 54.2**	**-0.1**
JFT	**Otama**	**0.96**	**343**	⇓P		**Pb**	**09 19 58.1**	**-0.4**
JFT				S		**Sg**	**09 20 10.0**	**-1.3**
MJAR	**Matsushiro Arr**	**1.99**	**269**	P		**Pn**	**09 20 13.4**	**+0.2**
	9.6nm,0.3s,baz=95,slow=7.9,SNR=153							
MJAR				S		**Sn**	**09 20 36.6**	**-1.3**
	20nm,0.3s,baz=319,slow=17,SNR=4.2							
MJAR	**Matsushiro Arr**	**1.99**	**269**			**Pn**	**09 20 13.2**	**-0.1**
MJAR						**Sn**	**09 20 36.9**	**-1.1**
MAJO	**Matsushiro**	**1.99**	**269**			**Pn**	**09 20 12.6**	**-0.6**
MAJO					Sn	**Sn**	**09 20 38.5**	**+0.5**
MAT	**Matsushiro**	**1.99**	**269**	P		**Pn**	**09 20 14.0**	**+0.8**
MAT				S		**Sn**	**09 20 38.0**	**0.0**
JHJ	**Hachijo jima 2**	**3.54**	**192**	P		**Pn**	**09 20 35.7**	**+1.2**
	53nm,0.3s,baz=121,slow=22,SNR=10							
JHJ				S		**Sn**	**09 21 15.4**	**-0.7**
	15nm,0.3s,baz=249,slow=23,SNR=1.6							
JHJ				LR		LR	09 22 09.6	
	comp=Z,148nm,20.3s,baz=325,slow=42							
JHJ2	**Mitsune**	**3.54**	**192**	Pn		**Pn**	**09 20 35.8**	**+1.2**
ERM	**Erimo**	**5.75**	**19**			**Pn**	**09 21 04.9**	**+0.1**
ERM						**Sn**	**09 22 11.4**	**+1.0**
ASAJ	**Asahikawa**	**7.66**	**10**	P		**Pn**	**09 21 33.2**	**+2.2**
	1.1nm,0.3s,baz=290,slow=9.4,SNR=4.3							
JKA	**Kamikawa-asahi**	**7.66**	**10**			**Pn**	**09 21 30.7**	**-0.3**
JNU	**Nakatsue**	**8.77**	**250**	LR		LR	09 25 16.3	
	comp=Z,133nm,18.4s,baz=44,slow=38							
JCJ	**Chichijima**	**9.55**	**172**	LR		LR	09 25 49.0	
	comp=Z,43nm,18.8s,baz=62,slow=38							
JCJ	**Chichijima**	**9.55**	**172**	Pn		**Pn**	**09 21 55.8**	**-1.3**
USA0B	**Ussuriysk Arra**	**10.08**	**322**	Pn		**Pn**	**09 22 03.8**	**-0.4**
USRK	**Ussuriysk Ar.**	**10.08**	**322**	P		**Pn**	**09 22 08.2**	**+4.0**
	baz=134,slow=16,SNR=9.9							
USRK	**Ussuriysk Ar.**	**10.08**	**322**			**Pn**	**09 22 07.0**	**+2.8**
KSRS	**Korea Array**	**10.24**	**279**	P		**Pn**	**09 22 09.2**	**+2.8**
	0.1nm,0.3s,baz=96,slow=14,SNR=2.5							
KSRS				LR		LR	09 25 46.3	
	comp=Z,68nm,19.2s,baz=88,slow=36							
MA2	**Magadan**	**23.91**	**13**	LR		LR	09 34 24.9	
	comp=Z,55nm,18.5s,baz=176,slow=37							
SEY	**Seymchan**	**27.34**	**12**	P		**P**	**09 25 25.4**	**+1.3**
	0.3nm,0.3s,baz=199,slow=12,SNR=5.4							
SONM	**Songino Array**	**27.55**	**305**	P		**P**	**09 25 26.0**	**-0.4**
	1.8nm,0.7s,baz=108,slow=8.7,SNR=8.1							
SONM	**Songino Array**	**27.55**	**305**	P		**P**	**09 25 26.2**	**-0.2**
H11N2	**WAKE ISLAND Hy**	**28.44**	**119**	T		T	09 55 16.4	
	baz=312,slow=76,SNR=3823							
H11N1	**WAKE ISLAND Hy**	**28.45**	**119**	T		T	09 55 19.4	
	baz=312,slow=76,SNR=5739							
H11N3	**WAKE ISLAND Hy**	**28.45**	**119**	T		T	09 55 20.1	
	baz=312,slow=76,SNR=3750							
H11S1	**WAKE ISLAND Hy**	**29.12**	**121**	T		T	09 56 08.1	
	baz=314,slow=76							
H11S3	**WAKE ISLAND Hy**	**29.12**	**121**	T		T	09 56 10.5	
	baz=314,slow=76							
H11S2	**WAKE ISLAND Hy**	**29.14**	**121**	T		T	09 56 12.7	
	baz=314,slow=76,SNR=9274							
ZAA0	**Zalesovo Array**	**41.78**	**313**	P		**P**	**09 27 27.7**	**-1.0**
ZAA0				IAmb		IAmb	09 27 32.7	
	comp=Z,2.4nm,0.5s							
ZALV	**Zalesovo Beam**	**41.78**	**313**	P		**P**	**09 27 28.6**	**0.0**
	comp=Z,1.7nm,0.6s,baz=85,slow=6.4,SNR=5.7							
ZALV	**Zalesovo Beam**	**41.78**	**313**	P		**P**	**09 27 28.1**	**-0.6**
MK31	**Makanchi Array**	**43.86**	**302**	P		**P**	**09 27 43.6**	**-2.0**
MKAR	**Makanchi Array**	**43.86**	**302**	P		**P**	**09 27 46.2**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=342,slow=19,SNR=3.3							
MKAR					LR	LR	09 45 55.6	
	comp=Z,38nm,19.0s,baz=90,slow=36							
MKAR	**Makanchi Array**	**43.86**	**302**	P		**P**	**09 27 44.4**	**-1.3**
KURK	**Kurchatov**	**45.74**	**308**	P		**P**	**09 28 02.1**	**+1.5**
KURK				IAmb		IAmb	09 28 03.4	
	comp=Z,7.7nm,1.0s							
GHO	**Glory Hole Cre**	**49.42**	**36**	P		**P**	**09 28 27.9**	**-1.2**
ILAR	**Eielson Array**	**50.18**	**32**	P		**P**	**09 28 36.6**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=265,slow=6.1,SNR=8.8							
ILAR	**Eielson Array**	**50.18**	**32**	P		**P**	**09 28 36.4**	**+1.7**
BCAR	**Beaver Creek A**	**52.59**	**34**	P		**P**	**09 28 52.7**	**-0.2**
EGAK	**Eagle**	**52.62**	**32**	P		**P**	**09 28 54.5**	**+1.4**
KK31	**Karatay Array**	**52.84**	**300**	P		**P**	**09 28 52.7**	**-2.3**
KK31				IAmb		IAmb	09 29 00.2	
	comp=Z,3.9nm,1.3s							
KKAR	**Karatay Array**	**52.84**	**300**	P		**P**	**09 28 52.4**	**-2.6**
KKAR				IAmb		IAmb	09 29 00.2	
	comp=Z,3.9nm,1.3s							
GSI	**Gunungsitoli**	**53.07**	**239**	P		**P**	**09 28 57.4**	**+0.4**
KNRA	**Kununurra**	**53.19**	**194**	P		**P**	**09 28 56.1**	**-1.6**
INK	**Inuvik**	**55.05**	**27**	P		**P**	**09 29 12.8**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=345,slow=29,SNR=1.9							
INK	**Inuvik**	**55.05**	**27**	P		**P**	**09 29 11.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**56.22**	**197**	P		**P**	**09 29 20.3**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=161,slow=22,SNR=2.7							
FITZ	**Fitzroy Crossi**	**56.22**	**197**	P		**P**	**09 29 19.6**	**0.0**
FITZ				IAmb		IAmb	09 29 38.0	
	comp=Z,11nm,1.3s							
ARU	**Arti**	**56.30**	**319**	P		**P**	**09 29 20.1**	**+0.2**
ARU				IAmb		IAmb	09 29 23.1	
	comp=Z,9.4nm,1.3s							
WB0	**Warramunga Arr**	**56.37**	**187**	P		**P**	**09 29 21.2**	**+0.5**
WB0				IAmb		IAmb	09 29 38.9	
	comp=Z,10nm,1.4s							
WRAB	**Tennant Creek**	**56.54**	**187**	P		**P**	**09 29 21.1**	**-0.8**
WRAB				IAmb		IAmb	09 29 35.9	
	comp=Z,3.9nm,1.1s							
WR0	**Warramunga Arr**	**56.54**	**187**	P		**P**	**09 29 22.6**	**+0.6**
WR0				IAmb		IAmb	09 29 30.1	
	comp=Z,5.0nm,0.9s							
WB2	**Warramunga Arr**	**56.55**	**187**	P		**P**	**09 29 22.6**	**+0.6**
WB2				IAmb		IAmb	09 29 26.1	
	comp=Z,8.1nm,1.2s							
WRA	**Warramunga Arr**	**56.55**	**187**	P		**P**	**09 29 22.1**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=3,slow=7.3,SNR=22							
WRA	**Warramunga Arr**	**56.55**	**187**	P		**P**	**09 29 21.6**	**-0.4**
ABKAR	**Akbulak array**	**57.77**	**310**	P		**P**	**09 29 29.8**	**-0.7**
AS31	**Alice Springs**	**60.27**	**187**	P		**P**	**09 29 48.4**	**+0.4**
ASAR	**Alice Springs**	**60.27**	**187**	P		**P**	**09 29 47.5**	**-0.5**
	comp=Z,2.3nm,1.0s,baz=12,slow=6.4,SNR=10							
ASAR	**Alice Springs**	**60.27**	**187**	P		**P**	**09 29 46.3**	**-1.6**
ARCES	**ARCESS Array B**	**64.20**	**339**	P		**P**	**09 30 12.9**	**-0.9**
	comp=Z,3.4nm,1.0s,baz=54,slow=8.2,SNR=5.4							
FORT	**Forrest**	**68.06**	**192**	P		**P**	**09 30 38.6**	**-0.3**
STKA	**Stephens Creek**	**68.12**	**179**	P		**P**	**09 30 39.0**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=357,slow=4.7,SNR=5.4							
STKA	**Stephens Creek**	**68.12**	**179**	P		**P**	**09 30 38.6**	**-0.6**
FINES	**FINESS Array B**	**68.93**	**332**	P		**P**	**09 30 44.1**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=54,slow=7.1,SNR=2.9							
FINES	**FINESS Array B**	**68.93**	**332**	P		**P**	**09 30 44.5**	**+0.4**
NC405	**NORSAR Array S**	**74.15**	**337**	P		**P**	**09 31 16.4**	**+0.7**
DLMT	**Dillon**	**75.07**	**44**	P		**P**	**09 31 23.0**	**+1.6**
DLMT				IAmb		IAmb	09 31 29.6	
	comp=Z,2.7nm,1.1s							
BOZ	**Bozeman (W)**	**75.47**	**44**	P		**P**	**09 31 24.0**	**+0.3**
NVAR	**Mina Array Bea**	**75.72**	**53**	P		**P**	**09 31 26.9**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=298,slow=5.4,SNR=7.3							
NVAR	**Mina Array Bea**	**75.72**	**53**	P		**P**	**09 31 25.5**	**+0.1**
PDAR	**Pinedale Array**	**78.39**	**45**	P		**P**	**09 31 41.9**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=218,slow=9.4,SNR=2

GLB	**Gilahina Butte**	**65.63**	**32**	P	**P**	**09 47 12.7**	**+0.7**
GLB				IAmb	IAmb	09 47 31.5	
	comp=Z,3.9nm,1.0s						
BCAR	**Beaver Creek A**	**66.17**	**30**	P	**P**	**09 47 14.9**	**-0.5**

IDC ***29*** *09:41:12.7±4.8,2°.48S×100°.12E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/47, mbtmp3.7/5, Error ellipse: s-maj=250.3km s-min=22.6km az=52.0*
NEIC ***29*** *09:41:16.7±1.8,2°.55S±0°.09×100°.03E±0°.07, h35km±2km, mb4.4/5, Error ellipse: s-maj=18.7km s-min=6.2km az=213.0*
DJA ***29*** *09:41:21.8±0.5,2°.3S±3°×10°.1E±°, h11km±8km, M3.5/6, MLv3.5/6*

ISC 29 09:41:18.7±0.8, 2°.25S±0°.05×100°.39E±0°.08, h35km, n25, σ1§27/24, mb4.1/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.63**	**216**	P	**Sn**	**09 41 41.7**	**+1.6**
KRJI	**Kerinci**	**1.09**	**82**	P	**Pn**	**09 41 39.1**	**+1.6**
PDSI	**Padang**	**1.33**	**3**	P	**Pn**	**09 41 42.2**	**+1.3**
PDSI				S	**Sn**	**09 41 55.6**	**-1.8**
SDSI	**Sungai Dareh**	**1.67**	**39**	P	**Pn**	**09 41 45.2**	**-0.3**
BKNI	**Bangkinang**	**2.64**	**14**	Pn	**Pn**	**09 42 00.9**	**+2.1**
MNAI	**Manna**	**3.31**	**129**	Pn	**Pn**	**09 42 06.0**	**-2.1**
MNAI				Sn	**Sn**	**09 42 48.9**	**+2.6**
PMBI	**Palembang**	**4.43**	**99**	Pn	**Pn**	**09 42 24.9**	**+1.4**
H08S2	**Diego Garcia H**	**28.29**	**258**	T	T	10 16 32.3	
	baz=81,slow=76,SNR=4.2						
H08S3	**Diego Garcia H**	**28.30**	**258**	T	T	10 16 29.6	
	baz=81,slow=76,SNR=4.6						
H08S1	**Diego Garcia H**	**28.31**	**258**	T	T	10 16 25.5	
	baz=81,slow=76,SNR=3.8						
WB0	**Warramunga Arr**	**37.51**	**120**	P	**P**	**09 48 29.8**	**+0.1**
WB0				IAmb	IAmb	09 48 37.2	
	comp=Z,7.8nm,1.5s						
WRA	**Warramunga Arr**	**37.53**	**120**	P	**P**	**09 48 29.1**	**-0.8**
	comp=Z,0.3nm,0.9s,baz=310,slow=9.0,SNR=5.5						
WRAB	**Tennant Creek**	**37.54**	**120**	P	**P**	**09 48 29.0**	**-0.9**
WRAB				IAmb	IAmb	09 48 44.1	
	comp=Z,9.4nm,1.4s						
WB2	**Warramunga Arr**	**37.55**	**120**	P	**P**	**09 48 29.6**	**-0.3**
WR0	**Warramunga Arr**	**37.72**	**120**	P	**P**	**09 48 30.6**	**-0.7**
WR0				IAmb	IAmb	09 48 35.3	
	comp=Z,7.2nm,1.3s						
ASAR	**Alice Springs**	**38.79**	**126**	P	**P**	**09 48 40.5**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=300,slow=8.3,SNR=12						
ASAR	**Alice Springs**	**38.79**	**126**	P	**P**	**09 48 39.1**	**-1.3**
MK31	**Makanchi Array**	**51.37**	**344**	P	**P**	**09 50 20.2**	**+0.2**
MKAR	**Makanchi Array**	**51.37**	**344**	P	**P**	**09 50 20.4**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=145,slow=8.7,SNR=7.2						
MKAR	**Makanchi Array**	**51.37**	**344**	P	**P**	**09 50 19.9**	**-0.1**
ZALV	**Zalesovo Beam**	**57.48**	**349**	P	**P**	**09 51 04.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=180,slow=5.0,SNR=1.9						
ZALV	**Zalesovo Beam**	**57.48**	**349**	P	**P**	**09 51 03.5**	**-0.6**
ARCES	**ARCESS Array B**	**86.84**	**340**	P	**P**	**09 53 59.1**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=113,slow=6.9,SNR=3.7						
TXAR	**Lajitas Array**	**144.66**	**38**	PKPbc	**PKPdf**	**10 00 51.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=215,slow=1.1,SNR=2.3						
TXAR	**Lajitas Array**	**144.66**	**38**		**PKPdf**	**10 00 51.5**	**-1.1**

WEL 29 09:41:57.8, 43°S±1°×17°3E±°, h11km±2km, M2.2/8, ML2.3/8, MLv2.2/8, Error ellipse: s-maj=0.0km s-min=0.0km az=45.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMCZ	**Amberley**	**0.28**	**339**	P	Pb	09 42 05.3	+0.4
MQZ	**McQueen's Vall**	**0.28**	**201**	P	Pb	09 42 05.2	+0.3
OKCZ	**Okains Bay**	**0.34**	**146**	P	Pb	09 42 06.1	+0.2
AKCZ	**Akaroa Harbour**	**0.44**	**169**	P	Pb	09 42 08.5	+0.9
GVZ	**Greta Valley S**	**0.50**	**21**	P	Pb	09 42 09.0	+0.3
OXZ	**Oxford**	**0.56**	**281**	P	Pb	09 42 10.7	+1.0
LTZ	**Lake Taylor**	**0.76**	**330**	P	Pn	09 42 14.2	-0.3
WACZ	**Wakanui South**	**0.85**	**234**	P	Pn	09 42 16.7	+0.9
KHZ	**Kahutara**	**1.16**	**28**	P	Pn	09 42 19.9	0.0
INZ	**Inchbonnie**	**1.22**	**305**	P	Pg	09 42 22.9	+1.7
ARCZ	**Arundel**	**1.28**	**246**	P	Pg	09 42 22.9	+0.6
RPZ	**Rata Peaks**	**1.29**	**257**	P	Pg	09 42 24.5	+1.8
THZ	**Tophouse**	**1.68**	**3**	P	Pn	09 42 27.4	+0.2
ODZ	**Otahua Downs**	**2.23**	**223**	P	Pg	09 42 41.9	+1.4

IDC ***29*** *09:44:39.3±1.4,21°.61N×143°.10E, h306km±13km, mb3.4/14, mb1 3.6/17, mb1mx3.3/56, mbtmp4.2/17, Error ellipse: s-maj=20.0km s-min=10.0km az=85.0*

ISC 29 09:44:39.6±0.6, 21°.62N±0°.07×143°.1E±0°.2, h311km, n19, σ0§77/22, mb3.5/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.51**	**351**	P	**Pn**	**09 46 03.7**	**+0.3**
	29nm,0.3s,baz=79,slow=22,SNR=56						
JCJ				S	**S**	**09 47 09.8**	**-1.2**
	16nm,0.3s,baz=129,slow=23,SNR=6.8						
GUMO	**Guam**	**8.16**	**168**	P	**Pn**	**09 46 36.2**	**+0.8**
	5.3nm,0.3s,baz=186,slow=2.8,SNR=4.3						
JHJ	**Hachijo jima 2**	**11.82**	**346**	P	**Pn**	**09 47 19.4**	**-0.4**
	7.5nm,0.3s,baz=130,slow=21,SNR=6.6						
KSRS	**Korea Array**	**20.53**	**324**	P	**P**	**09 48 55.2**	**+0.2**
	2.5nm,0.6s,baz=144,slow=8.7,SNR=13						
KLR	**Kul'dur**	**28.99**	**345**	P	**P**	**09 50 12.0**	**+0.9**
	2.8nm,0.5s,baz=154,slow=6.6,SNR=12						
CMAR	**Chiang Mai Arr**	**41.51**	**274**	P	**P**	**09 51 58.2**	**+0.8**
	1.9nm,0.6s,baz=91,slow=6.4,SNR=5.4						
WRA	**Warramunga Arr**	**42.19**	**192**	P	**P**	**09 52 02.5**	**-0.3**
	1.0nm,0.5s,baz=15,slow=8.4,SNR=9.3						
FITZ	**Fitzroy Crossi**	**43.02**	**205**	P	**P**	**09 52 08.8**	**-0.6**
	1.1nm,0.6s,baz=76,slow=9.1,SNR=1.7						
ASAR	**Alice Springs**	**45.90**	**192**	P	**P**	**09 52 31.4**	**-0.6**
	0.4nm,0.6s,baz=15,slow=12,SNR=4.7						
STKA	**Stephens Creek**	**53.22**	**182**	P	**P**	**09 53 25.6**	**-1.1**
	0.9nm,0.3s,baz=114,slow=15,SNR=2.4						
ZALV	**Zalesovo Beam**	**54.22**	**322**	P	**P**	**09 53 33.4**	**-0.3**
	1.1nm,0.3s,baz=96,slow=9.1,SNR=5.0						
ZALV				PcP	**PcP**	**09 54 32.9**	**-0.8**
	1.2nm,0.4s,baz=114,slow=3.7,SNR=4.8						
MKAR	**Makanchi Array**	**54.69**	**313**	P	**P**	**09 53 37.7**	**+0.5**
	0.8nm,0.6s,baz=91,slow=7.9,SNR=8.4						
MKAR				PcP	**PcP**	**09 54 35.9**	**+0.1**
	0.6nm,0.5s,baz=69,slow=4.7,SNR=5.2						
ILAR	**Eielson Array**	**62.14**	**27**	P	**P**	**09 54 27.9**	**-0.1**
	0.8nm,0.6s,baz=255,slow=5.3,SNR=11						
YKA	**Yellowknife Ar**	**76.56**	**28**	P	**P**	**09 55 56.3**	**+0.6**
	1.4nm,0.6s,baz=287,slow=9.4,SNR=3.4						
ARCES	**ARCESS Array B**	**78.97**	**341**	P	**P**	**09 56 09.8**	**+1.0**
	2.5nm,0.7s,baz=78,slow=9.0,SNR=18						
FINES	**FINESS Array B**	**83.22**	**334**	P	**P**	**09 56 30.3**	**-0.9**
	3.0nm,0.6s,baz=68,slow=4.9,SNR=20						
NOA	**NORSAR Array B**	**88.99**	**339**	P	**P**	**09 56 57.8**	**-1.5**
	0.1nm,0.4s,baz=52,slow=4.3,SNR=3.5						
PLCA	**Paso Flores**	**145.76**	**132**	PKPbc	**PKPbc**	**10 03 42.6**	**0.0**
	0.7nm,0.8s,baz=285,slow=2.2,SNR=2.8						
LPAZ	**La Paz**	**150.02**	**85**	PKPbc	**PKiKP**	**10 03 56.1**	**+0.3**
	0.6nm,0.5s,baz=12,slow=9.4,SNR=5.3						

IDC 29 09:56:08.0±2.3, 7°.71S×128°.00E, h0km, mb3.5/1, mb1 3.4/4, mb1mx3.3/30, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=105.1km s-min=30.2km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.58**	**192**	Pn	Pn	09 58 41.8	+0.8
	0.1nm,0.3s,baz=148,slow=8.0,SNR=1.7						
FITZ				Sn	Sn	10 00 38.2	-2.1
	0.2nm,0.3s,baz=78,slow=19,SNR=1.6						
WRA	**Warramunga Arr**	**13.62**	**154**	Pn	Pn	09 59 21.8	-0.9
	0.2nm,0.3s,baz=327,slow=14,SNR=9.2						
WRA				Sn	Sn	10 01 51.8	-3.2
	0.3nm,0.3s,baz=329,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**16.85**	**161**	Pn	Pn	10 00 05.5	0.0
	0.1nm,0.3s,baz=333,slow=9.9,SNR=7.0						
ASAR				Sn	Sn	10 03 08.9	-4.5
	0.1nm,0.3s,baz=351,slow=27,SNR=1.3						
MKAR	**Makanchi Array**	**67.75**	**328**	P	P	10 07 07.5	0.0
	0.2nm,0.4s,baz=123,slow=5.3,SNR=2.3						

GUC ***29*** *10:06:28.5±0.7,24°.18S×67°.55W, h196km±10km, ML3.6*
IDC ***29*** *10:06:29.9±11.0,23°.97S×66°.41W, h162km±89km, mb3.0/1, mb1 3.3/2, mb1mx3.0/16, mbtmp3.6/2, Error ellipse: s-maj=140.5km s-min=87.2km az=57.0*

ISC 29 10:06:28.8±1.6, 24°.18S±0°.08×67°.5W±0°.2, h200km±18km, n14, σ0§52/23, 8C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.04**	**320**	*eP*	**Pn**	**10 07 08.4**	**+0.1**
LVC				*i* S	**Sn**	**10 07 38.7**	**-0.1**
PB15	**IPOC Station P**	**2.07**	**297**	⇑*iP*	**Pn**	**10 07 09.0**	**+0.6**
PB15				*i* S	**Sn**	**10 07 38.8**	**-0.3**
GO02	**Mina Guanaco**	**2.16**	**243**	⇑*iP*	**Pn**	**10 07 09.2**	**-0.2**
GO02				*i* S	**Sn**	**10 07 40.8**	**-0.1**
PB06	**IPOC Station P**	**2.42**	**307**	⇑*iP*	**Pn**	**10 07 12.7**	**+0.6**
PB06				*i* S	**Sn**	**10 07 45.7**	**0.0**
PB06				IAML		10 07 47.9	
	comp=N,167nm,0.5s						
PB05	**IPOC Station P**	**2.83**	**297**	⇑*iP*	**Pn**	**10 07 17.1**	**+0.4**
PB05				IAML		10 07 57.3	
	comp=N,83nm,0.4s						
PB09	**IPOC Station P**	**2.88**	**325**	⇑*iP*	**Pn**	**10 07 17.9**	**+0.6**
PB09				*eS*	**Sn**	**10 07 55.4**	**+0.3**
PB09				IAML		10 08 00.2	
	comp=E,44nm,0.5s						
PB10	**IPOC Station P**	**2.90**	**283**	⇑*iP*	**Pn**	**10 07 18.1**	**+0.7**
PB10				*i* S	**Sn**	**10 07 54.6**	**-0.5**
PB10				IAML		10 07 58.4	
	comp=N,60nm,0.5s						
PB03	**IPOC Station P**	**2.98**	**315**	⇑*iP*	**Pn**	**10 07 18.8**	**+0.3**
PB03				*i* S	**Sn**	**10 07 56.7**	**-0.6**
PB03				IAML		10 08 01.9	
	comp=N,100nm,0.2s						
PB04	**IPOC Station P**	**3.07**	**306**	⇓*iP*	**Pn**	**10 07 20.0**	**+0.5**
PB04				*i* S	**Sn**	**10 07 58.3**	**-0.8**
PB04				IAML		10 08 02.6	
	comp=N,91nm,0.2s						
PB07	**IPOC Station P**	**3.30**	**317**	⇑*iP*	**Pn**	**10 07 22.6**	**+0.3**
PB07				*i* S	**Sn**	**10 08 03.2**	**-1.0**
PB07				IAML		10 08 06.2	
	comp=E,120nm,0.4s						
PB01	**IPOC Station P**	**3.63**	**329**	IAML		10 08 13.4	
	comp=N,48nm,0.3s						
LPAZ	**La Paz**	**7.88**	**355**	P	**Pn**	**10 08 21.4**	**+0.3**
LPAZ	comp=N,1.1nm,0.3s,baz=165,slow=7.9,SNR=38			S	**Sn**	**10 09 49.8**	**-0.6**
	comp=N,0.0nm,0.3s,baz=2.6,slow=14,SNR=1.7						
TORD	**Torodi Ar. Bea**	**77.04**	**69**	P	**P**	**10 18 00.0**	**-0.1**
	comp=N,0.1nm,0.3s,baz=243,slow=9.5,SNR=2.2						
MKAR	**Makanchi Array**	**146.94**	**39**	PKPbc	**PKiKP**	**10 25 50.2**	**+0.2**
	comp=N,0.4nm,0.6s,baz=285,slow=2.4,SNR=4.5						

SOME ***29*** *10:07:30.6, 40°.75N×73°.05E, h5km*
KRNET ***29*** *10:07:31.1±0.1, 40°.62N×73°.07E, h18km, mb3.2*
NNC ***29*** *10:07:32.5±1.3, 40°.75N×73°.04E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=10.7km s-min=4.5km az=173.0*

ISC 29 10:07:27.9±1.3, 40°.49N±0°.05×73°.26E±0°.03, h14km±10km, n39, σ1§25/60, 29C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.36**	**276**	⇑*iP*	**Pg**	**10 07 35.7**	**+0.4**
	baz=46						
OHH				⇑*iS*	**Sg**	**10 07 39.3**	**-1.0**
	baz=46						
ARLS	**Aral**	**1.59**	**30**	⇓*eP*	**Pg**	**10 07 59.3**	**+0.7**
	baz=37						
ARLS				⇓*iS*	**Sg**	**10 08 20.2**	**+0.9**
	baz=37						
ARK	**Arkit**	**1.63**	**324**	⇓*iP*	**Pn**	**10 07 56.8**	**+0.4**
	baz=25						
ARK				⇓*iS*	**Sn**	**10 08 15.8**	**-1.5**
	baz=25						
AML	**Almayashu**	**1.68**	**11**	⇑*iP*	**Pg**	**10 08 00.0**	**-0.2**
	baz=17						
AML				⇑*iS*	**Sg**	**10 08 21.0**	**-1.0**
	baz=17						
AML	**Almayashu**	**1.68**	**11**	P	**Pg**	**10 08 00.4**	**+0.2**
	SNR=87						
BTK	**Batken**	**1.91**	**258**	⇑*iP*	**Pb**	**10 08 03.6**	**+0.9**
	baz=53						
BTK				⇑*iS*	**Sb**	**10 08 27.5**	**+1.1**
	baz=53						
UCH	**Uchtor**	**1.98**	**28**	⇑*iP*	**Pg**	**10 08 06.2**	**+0.2**
	baz=34						
UCH				⇑*iS*	**Sg**	**10 08 31.7**	**0.0**
	baz=34						
UCH	**Uchtor**	**1.98**	**28**	P	**Pg**	**10 08 05.9**	**-0.1**
	SNR=21						
KZA	**Kyzart**	**2.19**	**43**	⇑*iP*	**Pg**	**10 08 10.0**	**0.0**
	baz=48						
KZA				⇑*iS*	**Sg**	**10 08 38.6**	**+0.2**
	baz=48						
KZA	**Kyzart**	**2.19**	**43**	P	**Pg**	**10 08 10.3**	**+0.4**
	SNR=17						
EKS2	**Erkin-Say**	**2.21**	**10**	⇑*iP*	**Pg**	**10 08 09.2**	**-1.1**
	baz=14						
EKS2				⇑*iS*	**Sb**	**10 08 36.7**	**+1.7**
	baz=14						
EKS2	**Erkin-Say**	**2.21**	**10**	P	**Pg**	**10 08 09.6**	**-0.7**
	SNR=24						
MRKS	**Merke**	**2.26**	**359**	*eP*	**Pb**	**10 08 09.4**	**+0.8**
	31nm,0.4s						
MRKS				*eS*	**Sb**	**10 08 37.8**	**+1.5**
	109nm,0.4s						
MRKS	**Merke**	**2.26**	**359**	Pg	**Pb**	**10 08 09.4**	**+0.8**
	31nm,0.4s						
MRKS				Lg	Lg	10 08 37.8	
	109nm,0.4s						
AAK	**Ala-Archa**	**2.34**	**23**	⇑*iP*	**Pb**	**10 08 11.3**	**+1.3**
	baz=28						
AAK				⇑*iS*	**Sb**	**10 08 40.5**	**+1.6**
	baz=28						
AAK	**Ala-Archa**	**2.34**	**23**	P	**Pg**	**10 08 13.3**	**+0.4**
	SNR=7.2						
AAK	**Ala-Archa**	**2.34**	**23**	⇑Pn	**Pb**	**10 08 11.4**	**+1.3**
	4.7nm,0.2s						
AAK				⇑Lg	Lg	10 08 42.4	
	49nm,0.2s						
KBK	**Karagaybulak**	**2.51**	**30**	⇑*iP*	**Pb**	**10 08 13.9**	**+1.0**
	baz=34						
KBK				⇑*iS*	**Sb**	**10 08 45.4**	**+1.6**
	baz=34						
FRU1	**Bishkek**	**2.54**	**23**	⇑*iP*	**Pb**	**10 08 12.9**	**-0.4**
	baz=28						
FRU1				⇑*iS*	**Sb**	**10 08 43.7**	**-0.8**
	baz=28						
CHMS	**Chumysh**	**2.75**	**24**	⇑*eP*	**Pb**	**10 08 16.7**	**-0.2**
	baz=27						
CHMS				⇑*iS*	**Sb**	**10 08 50.4**	**0.0**
	baz=27						
DZA	**Taraz**	**2.80**	**330**	Pg	**Pb**	**10 08 18.9**	**+1.1**
	274nm,0.1s						
DZA				Lg	Lg	10 08 54.2	
	235nm,0.3s						
USP	**Ospenovka**	**2.93**	**18**	⇑*iP*	**Pb**	**10 08 19.1**	**-0.9**
	baz=22						
USP				⇑*iS*	**Sb**	**10 08 54.1**	**-1.6**
	baz=22						
IUG	**Iuzhnay**	**2.94**	**305**	*eP*	**Pb**	**10 08 20.0**	**-0.2**
	6.7nm,0.3s						
IUG				*eS*	**Sb**	**10 08 55.7**	**-0.3**
	59nm,0.3s						
IUG	**Iuzhnay**	**2.94**	**305**	Pg	**Pb**	**10 08 20.0**	**-0.2**
	6.7nm,0.3s						
IUG				Lg	Lg	10 08 55.7	
	59nm,0.3s						
TKM2	**Tokmak 2**	**3.00**	**35**	⇑Pg	**Pg**	**10 08 25.0**	**-0.4**
	2.5nm,0.4s						
TKM2				⇓Lg	Lg	10 09 02.7	
	5.0nm,0.4s						
SGDS	**Sogindy**	**3.14**	**19**	Pg	**Pg**	**10 08 25.9**	**-2.1**
	4.4nm,0.6s						
SGDS				Lg	Lg	10 09 05.8	
	12nm,0.3s						
KST	**Kastek**	**3.26**	**38**	*eP*	**Pg**	**10 08 30.0**	**-0.4**
	4.4nm,0.5s						
KST				*eS*	**Sg**	**10 09 12.8**	**+0.1**
	5.9nm,0.5s						
KST	**Kastek**	**3.26**	**38**	Pg	**Pg**	**10 08 30.0**	**-0.4**
	4.4nm,0.5s						
KST				Lg	Lg	10 09 12.8	
	5.9nm,0.5s						
KK31	**Karatay Array**	**3.32**	**323**	⇑Pg	**Pb**	**10 08 27.3**	**+0.6**
	0.5nm,0.2s,baz=145,slow=16,SNR=8.2						
KK31				⇑Lg	Lg	10 09 06.9	
	2.0nm,0.2s,baz=134,slow=28,SNR=9.8						

KDJ	**Kajisay**	**3.38**	**60**	⇑*iP*	**Pb**	**10 08 26.9**	**-0.9**
	baz=63						
KDJ				⇑*iS*	**Sb**	**10 09 06.9**	**-1.9**
	baz=63						
IZV	**Izvestkoviy**	**3.58**	**43**	*eP*	**Pg**	**10 08 36.7**	**+0.2**
	5.2nm,0.5s						
IZV				*eS*	**Sg**	**10 09 24.1**	**+1.3**
	14nm,0.3s						
IZV	**Izvestkoviy**	**3.58**	**43**	Pg	**Pg**	**10 08 36.7**	**+0.2**
	5.2nm,0.5s						
IZV				Lg	Lg	10 09 24.1	
	14nm,0.3s						
BRLS	**Borolday**	**3.61**	**316**	*eP*	**Pb**	**10 08 31.0**	**-0.5**
	13nm,0.3s						
BRLS				*eS*	**Sb**	**10 09 14.7**	**-0.4**
	17nm,0.3s						
BRLS	**Borolday**	**3.61**	**316**	Pg	**Pb**	**10 08 31.0**	**-0.5**
	13nm,0.3s						
BRLS				Lg	Lg	10 09 14.7	
	17nm,0.3s						
KRBS	**Karabastau**	**3.68**	**29**	*eP*	**Pg**	**10 08 36.0**	**-2.4**
	5.7nm,0.5s						
KRBS				*eS*	**Sg**	**10 09 23.0**	**-3.1**
	32nm,0.6s						
KRBS	**Karabastau**	**3.68**	**29**	Pg	**Pg**	**10 08 36.0**	**-2.4**
	5.7nm,0.5s						
KRBS				Lg	Lg	10 09 23.0	
	32nm,0.6s						
MDOK	**Medeo**	**3.90**	**45**	*eP*	**Pg**	**10 08 41.9**	**-0.7**
	2.7nm,0.3s						
MDOK				*eS*	**Sg**	**10 09 33.0**	**0.0**
	13nm,0.9s						
BTLS	**Baital**	**4.59**	**7**	*eP*	**Pb**	**10 08 50.4**	**+2.2**
	2.2nm,0.5s						
BTLS				*eS*	**Sb**	**10 09 47.6**	**+4.3**
	3.5nm,0.6s						
PDGK	**Podgornoye**	**5.45**	**57**	⇓Lg	Lg	10 10 23.2	
	5.4nm,0.7s						

SOME ***29*** *10:13:20.1, 41°.05N×73°.73E, h10km*
KRNET ***29*** *10:13:21.0±0.1, 41°.17N×73°.58E, h15km, mb2.7*
NNC ***29*** *10:13:27.0±3.0, 41°.28N×74°.22E, h5km, 13km, mb3.1, mpv2.8, Error ellipse: s-maj=20.5km s-min=12.4km az=162.0*

ISC 29 10:13:19.9±1.4, 41°.05N±0°.05×73°.73E±0°.04, h12km±11km, n14, σ1§61/26, 14C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.89**	**234**	⇑*iP*	**Pg**	**10 13 37.4**	**+0.4**
	baz=23						
OHH				⇑*iS*	**Sb**	**10 13 49.4**	**+0.3**
	baz=23						
AML	**Almayashu**	**1.08**	**359**	⇑*iP*	**Pg**	**10 13 39.4**	**-1.5**
	baz=5.0						
AML				⇑*iS*	**Sg**	**10 13 51.8**	**-3.2**
	baz=5.0						
UCH	**Uchtor**	**1.32**	**26**	⇑*iP*	**Pn**	**10 13 44.5**	**-0.1**
	baz=33						
UCH				⇑*iS*	**Sb**	**10 14 01.5**	**-0.4**
	baz=33						
KZA	**Kyzart**	**1.54**	**47**	⇑*iP*	**Pg**	**10 13 49.8**	**+0.3**
	baz=53						
KZA				⇑*iS*	**Sg**	**10 14 09.1**	**-0.4**
	baz=53						
AAK	**Ala-Archa**	**1.69**	**20**	⇑P	**Pg**	**10 13 53.5**	**+1.1**
	0.7nm,0.3s						
AAK				⇑S	**Sn**	**10 14 10.7**	**-0.3**
	1.9nm,0.6s						
MRKS	**Merke**	**1.74**	**348**	*eP*	**Pg**	**10 13 54.1**	**+0.8**
	15nm,0.3s						
MRKS				*eS*	**Sg**	**10 14 19.5**	**+3.7**
	16nm,0.3s						
MRKS	**Merke**	**1.74**	**348**	P	**Pg**	**10 13 54.1**	**+0.8**
	15nm,0.3s						
MRKS				S	**Sg**	**10 14 19.5**	**+3.7**
	16nm,0.3s						
USP	**Ospenovka**	**2.29**	**14**	⇑*iP*	**Pb**	**10 14 00.0**	**-1.2**
	baz=18						
USP				⇑*iS*	**Sn**	**10 14 26.2**	**+0.5**
	baz=18						
TKM2	**Tokmak 2**	**2.33**	**36**	⇑Pn	**Pb**	**10 14 01.7**	**-0.3**
	1.8nm,0.4s						
TKM2				⇑Sn	**Sn**	**10 14 26.1**	**-0.9**
	2.1nm,0.7s						
SGDS	**Sogindy**	**2.50**	**15**	Pg	**Pb**	**10 14 04.9**	**+0.2**
	4.0nm,0.3s						
SGDS				Lg	Lg	10 14 37.7	
	2.4nm,0.4s						
KST	**Kastek**	**2.60**	**39**	*eP*	**Pb**	**10 14 05.9**	**-0.6**
	6.2nm,0.3s						
KST				*eS*	**Sb**	**10 14 39.8**	**+1.4**
	3.0nm,0.5s						
KST	**Kastek**	**2.60**	**39**	Pg	**Pb**	**10 14 05.9**	**-0.6**
	6.2nm,0.3s						
KST				Lg	Lg	10 14 39.8	
	3.0nm,0.5s						
IUG	**Iuzhnay**	**2.98**	**293**	*eP*	**Pb**	**10 14 14.4**	**+1.3**
	1.3nm,0.3s						
IUG				*eS*	**Sg**	**10 14 53.9**	**-1.8**
	6.3nm,0.6s						
KK31	**Karatay Array**	**3.16**	**312**	⇓Pn	**Pg**	**10 14 18.5**	**-1.9**
	0.4nm,0.4s						
KK31				Sn	**Sg**	**10 15 00.7**	**-0.6**
	0.4nm,0.3s,baz=127,slow=29,SNR=4.0						

IDC ***29*** *10:14:53.0±1.0, 30°.18N×131°.96E, h0km, mb3.6/5, mb1 3.8/8, mb1mx3.6/44, mbtmp3.6/8, ML3.2/3, MS2.4/3, Ms1 2.4/3, ms1mx2.2/40, Error ellipse: s-maj=39.4km s-min=19.9km az=80.0*
JMA ***29*** *10:14:56.1±0.1, 30°.21N×131°.96E, h54km±3km, M3.8*
NIED ***29*** *10:14:56.1, 30°.21N×131°.96E, h54km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=5.28; $M_{\theta\theta}$=0.25; $M_{\phi\phi}$=5.54; $M_{r\theta}$=0.70; $M

KSRS	**Korea Array**	**7.98**	**336**	Pn		**Pn**	**10 16 51.4 +1.6**
	0.2nm,0.3s,baz=158,slow=15,SNR=2.6						
KSRS				LR		LR	10 19 18.0
	comp=Z,21nm,19.0s,baz=75,slow=33						
MAJO	**Matsushiro**	**8.16**	**38**			**Pn**	**10 16 53.7 +1.4**
MAT	**Matsushiro**	**8.16**	**38**	P		**Pn**	**10 16 54.4 +2.1**
MJAR	**Matsushiro Arr**	**8.16**	**38**	Pn		**Pn**	**10 16 54.5 +2.2**
	0.6nm,0.3s,baz=240,slow=15,SNR=39						
MJAR				LR		LR	10 20 04.6
	comp=Z,26nm,20.1s,baz=160,slow=38						
JCJ	**Chichijima**	**9.46**	**107**	Pn		**Pn**	**10 17 09.2 -1.0**
MKAR	**Makanchi Array**	**41.55**	**308**	P		**P**	**10 22 42.5 +1.1**
	0.2nm,0.5s,baz=83,slow=12,SNR=2.1						
PMG	**Port Moresby**	**42.00**	**157**	P		**P**	**10 22 44.9 -0.4**
WB0	**Warramunga Arr**	**49.75**	**177**	P		**P**	**10 23 46.8 +0.5**
WRAB	**Tennant Creek**	**49.91**	**177**	P		**P**	**10 23 48.1 +0.5**
WRA	**Warramunga Arr**	**49.92**	**177**	P		**P**	**10 23 48.0 +0.4**
	0.6nm,0.7s,baz=354,slow=7.7,SNR=6.4						
WRA	**Warramunga Arr**	**49.92**	**177**	P		**P**	**10 23 47.2 -0.5**
WB2	**Warramunga Arr**	**49.92**	**177**	P		**P**	**10 23 48.4 +0.7**
WB2				IAmb		IAmb	10 23 58.2
	comp=Z,7.6nm,1.4s						
WR0	**Warramunga Arr**	**49.95**	**177**	P		**P**	**10 23 48.4 +0.6**
WR0				IAmb		IAmb	10 24 01.1
	comp=Z,8.8nm,1.3s						
ASAR	**Alice Springs**	**53.61**	**178**	P		**P**	**10 24 16.2 +1.0**
	comp=Z,0.6nm,0.8s,baz=10,slow=13,SNR=6.1						
ASAR	**Alice Springs**	**53.61**	**178**	P		**P**	**10 24 16.1 +0.9**
ABKAR	**Akbulak array**	**56.43**	**312**	P		**P**	**10 24 37.4 +2.0**
PPLA	**Purkeypile**	**57.15**	**32**	P		**P**	**10 24 40.5 +0.1**
DOT	**Dot Lake**	**60.72**	**31**	P		**P**	**10 25 03.6 -1.5**
DOT				IAmb		IAmb	10 25 04.5
	comp=Z,7.8nm,1.2s						
INK	**Inuvik**	**63.90**	**24**	P		**P**	**10 25 27.3 +1.1**
INK				IAmb		IAmb	10 25 38.0
	comp=Z,8.2nm,1.4s						
FINES	**FINESS Array B**	**71.03**	**331**	P		**P**	**10 26 11.7 +0.2**
	comp=Z,1.3nm,0.8s,baz=91,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**71.03**	**331**	P		**P**	**10 26 13.7 +2.3**
RAR	**Rarotonga**	**83.13**	**119**	LR		LR	10 55 27.1
	comp=Z,82nm,20.0s,baz=34,slow=29						
GERES	**GERESS Array B**	**83.99**	**324**	P		**P**	**10 27 22.2 -2.0**
NVAR	**Mina Array Bea**	**85.35**	**48**	P		**P**	**10 27 32.5 +1.0**
	comp=Z,0.5nm,0.7s,baz=304,slow=5.2,SNR=4.3						
NVAR	**Mina Array Bea**	**85.35**	**48**	P		**P**	**10 27 32.0 +0.5**

*KRSC **29** 10:16:16.6±1.2, 52.°94N×160.°12E, h54km±12km, ML4.3*
*IDC **29** 10:16:22.7±1.8, 53.°19N×159.°69E, h82km±16km, mb3.3/10, mb1 3.5/11, mb1mx3.4/40, mbtmp3.6/11, Error ellipse: s-maj=29.4km s-min=17.0km az=145.0*

ISC 29 10:16:19.0±0.8, 52.°96N±0.°04×160.°06E±0.°04, h46km±7km, n61, σ1§34/77, mb3.6/9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.14**	**352**	*i* P	**Pn**	**10 16 26.6**	**0.0**
SPN				*e*S	**Sn**	**10 16 53.8**	**+0.3**
SDLR	**Sedlovina**	**0.78**	**295**	*e*P	**Pn**	**10 16 33.7**	**0.0**
UGLR	**Uglovaya**	**0.78**	**289**	*i* P	**Pn**	**10 16 33.8**	**0.0**
DALK	**Dalny**	**0.79**	**276**	*e*P	**Pn**	**10 16 33.3**	**-0.5**
DALK				*e*S	**Sn**	**10 16 44.4**	**-0.1**
SMAR	**Somma**	**0.81**	**292**	*e*P	**Pn**	**10 16 34.0**	**-0.3**
AVH	**Avacha**	**0.85**	**292**	*e*P	**Pn**	**10 16 34.8**	**+0.1**
PET	**Petropavlovsk**	**0.85**	**275**	*i* P	**Pn**	**10 16 34.3**	**-0.3**
PET				*e*S	**Sn**	**10 16 45.3**	**-0.6**
KRER	**Koryakskii**	**0.86**	**294**	*e*P	**Pn**	**10 16 35.0**	**+0.1**
KRER				*e*S	**Sn**	**10 16 46.9**	**+0.4**
KOK	**Koryaka**	**0.92**	**292**	*e*P	**Pn**	**10 16 35.6**	**0.0**
KRX	**Arik**	**0.94**	**296**	*e*P	**Pn**	**10 16 35.8**	**-0.1**
KRX				*e*S	**Sn**	**10 16 47.9**	**-0.4**
RUS	**Russkaya**	**1.08**	**241**	*e*P	**Pn**	**10 16 37.2**	**-0.4**
RUS				*e*S	**Sn**	**10 16 50.9**	**-0.5**
KII	**Karymskiy**	**1.14**	**342**	*e*P	**Pn**	**10 16 38.7**	**+0.2**
KII				*e*S	**Sn**	**10 16 53.8**	**+0.8**
KRMR	**Karymshinskiy**	**1.17**	**264**	*i* P	**Pn**	**10 16 39.3**	**+0.4**
KRMR				*e*S	**Sn**	**10 16 54.1**	**+0.3**
MTVR	**Mutnovka**	**1.24**	**248**	*e*P	**Pn**	**10 16 40.0**	**+0.1**
MTVR				*e*S	**Sn**	**10 16 55.2**	**-0.3**
GRL	**Gorelyy**	**1.27**	**252**	*e*P	**Pn**	**10 16 40.8**	**+0.4**
GRL				*e*S	**Sn**	**10 16 56.4**	**0.0**
PETK	**Petropavlovsk-**	**1.43**	**277**	P	**Pn**	**10 16 43.0**	**+0.5**
	125nm,0.3s,baz=98,slow=17,SNR=1273						
PETK				S	**Sn**	**10 17 00.8**	**+0.7**
	100nm,0.3s,baz=101,slow=15,SNR=5.4						
PETK				LR	LR	10 17 29.3	
	comp=Z,142nm,18.6s,baz=96,slow=56						
ASAK	**Asacha**	**1.44**	**247**	*e*P	**Pn**	**10 16 43.1**	**+0.5**
ASAK				*e*S	**Sn**	**10 17 01.4**	**+1.1**
KDTR	**Khodutka, Kamc**	**1.67**	**227**	*e*P	**Pn**	**10 16 46.3**	**+0.5**
KDTR				*e*S	**Sn**	**10 17 06.3**	**+0.3**
APC	**Apacha**	**1.75**	**270**	*e*P	**Pn**	**10 16 48.0**	**+1.1**
APC				*e*S	**Sn**	**10 17 10.6**	**+2.6**
MIPR	**Malaya Ipel'ka**	**2.12**	**252**	*e*P	**Pn**	**10 16 52.9**	**+0.9**
KZV	**Kizimen**	**2.16**	**4**	*e*P	**Pn**	**10 16 53.6**	**+1.0**
KZV				*e*S	**Sn**	**10 17 19.4**	**+1.1**
TUMD	**Tumrok D**	**2.26**	**5**	*e*P	**Pn**	**10 16 54.6**	**+0.8**
TUMD				*e*S	**Sn**	**10 17 20.2**	**-0.2**
TUMR	**Tumrok**	**2.33**	**1**	*e*P	**Pn**	**10 16 56.3**	**+1.4**
PAU	**Pauzhetka**	**2.50**	**234**	*e*P	**Pn**	**10 16 58.6**	**+1.6**
PAU				*e*S	**Sn**	**10 17 26.3**	**+0.1**
KMNR	**Kamenistaya**	**2.80**	**2**	*e*P	**Pn**	**10 17 02.8**	**+1.4**
KIRR	**Kirishev**	**3.00**	**3**	*e*P	**Pn**	**10 17 05.5**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**3.01**	**7**	*e*P	**Pn**	**10 17 06.0**	**+1.8**
KPT	**Kopyto**	**3.01**	**2**	*e*P	**Pn**	**10 17 05.7**	**+1.5**
BZWR	**Bezymyannyi-We**	**3.02**	**5**	*e*P	**Pn**	**10 17 06.1**	**+1.7**
ZLN	**Zelenaya**	**3.09**	**8**	*e*P	**Pn**	**10 17 07.5**	**+2.2**
KOZ	**Kozyrevsk**	**3.11**	**358**	*e*P	**Pn**	**10 17 06.7**	**+1.3**
LGNR	**Loginova**	**3.15**	**6**	*e*P	**Pn**	**10 17 08.2**	**+1.9**
KRSR	**Krestovskiy**	**3.28**	**5**	*e*P	**Pn**	**10 17 09.3**	**+1.4**
SKR	**Severo-Kuril's**	**3.34**	**229**	*e*P	**Pn**	**10 17 11.1**	**+2.5**
SKR				*e*S	**Sn**	**10 17 48.0**	**+1.0**
SRDR	**Sredinnyy**	**3.37**	**357**	*e*P	**Pn**	**10 17 10.0**	**+0.9**
KLY	**Klyuchi**	**3.38**	**6**	*e*P	**Pn**	**10 17 10.8**	**+1.7**
ALID	**Alaid**	**3.49**	**235**	*e*P	**Pn**	**10 17 12.8**	**+2.0**
KBTR	**Krutoberegovo**	**3.63**	**25**	*e*P	**Pn**	**10 17 14.8**	**+2.2**
KBTR				*e*S	**Sn**	**10 17 54.3**	**+0.2**
KBG	**Krutoberegovo**	**3.64**	**24**	*e*P	**Pn**	**10 17 15.2**	**+2.5**
KBG				*e*S	**Sn**	**10 17 54.9**	**+0.5**
BDR	**Baidarnaya**	**3.68**	**10**	*e*P	**Pn**	**10 17 16.2**	**+2.9**
SMKR	**Semkarok**	**3.72**	**12**	*e*P	**Pn**	**10 17 15.6**	**+1.7**
SRKR	**Sorokina**	**3.76**	**9**	*e*P	**Pn**	**10 17 17.0**	**+2.6**
SRKR				*e*S	**Sn**	**10 17 58.4**	**+1.0**
BKI	**Bering**	**4.15**	**55**	*e*P	**Pn**	**10 17 19.8**	**+0.2**
BKI				*e*S	**Sn**	**10 18 02.6**	**-4.2**
ASAJ	**Asahikawa**	**14.53**	**239**	P	**Pn**	**10 19 42.4**	**+0.8**
	0.1nm,0.3s,baz=37,slow=11,SNR=5.2						
USRK	**Ussuriysk Ar.**	**20.42**	**256**	P	**P**	**10 20 52.2**	**+0.1**
	0.9nm,0.5s,baz=40,slow=13,SNR=2.2						
MJAR	**Matsushiro Arr**	**22.45**	**232**	P	**P**	**10 21 14.2**	**+0.3**
	2.3nm,0.8s,baz=16,slow=11,SNR=8.0						
ILAR	**Eielson Array**	**28.93**	**45**	P	**P**	**10 22 13.7**	**+0.4**
	0.3nm,0.6s,baz=267,slow=7.2,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**33.59**	**168**	T	T	10 58 47.4	
	baz=352,slow=76,SNR=76						
H11N3	**WAKE ISLAND Hy**	**33.60**	**168**	T	T	10 58 48.7	
	baz=352,slow=76,SNR=40						
H11N1	**WAKE ISLAND Hy**	**33.60**	**168**	T	T	10 58 46.0	
	baz=352,slow=76,SNR=54						
INK	**Inuvik**	**33.99**	**38**	P	**P**	**10 22 58.0**	**+0.4**
	0.4nm,0.4s,baz=272,slow=6.0,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**34.77**	**169**	T	T	11 00 14.3	
	baz=352,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**34.78**	**169**	T	T	11 00 11.0	
	baz=352,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**34.79**	**169**	T	T	11 00 13.4	
	baz=352,slow=76,SNR=7.2						
MKAR	**Makanchi Array**	**48.19**	**296**	P	**P**	**10 24 51.4**	**-3.1**
	0.2nm,0.3s,baz=46,slow=8.3,SNR=2.1						
PDAR	**Pinedale Array**	**57.61**	**61**	P	**P**	**10 26 04.7**	**+0.5**
	0.4nm,0.9s,baz=289,slow=5.8,SNR=3.6						
FINES	**FINESS Array B**	**60.23**	**337**	P	**P**	**10 26 19.6**	**-2.2**
	0.6nm,0.5s,baz=30,slow=9.1,SNR=4.7						
NB2	**NORSAR Subarra**	**63.66**	**344**	P	**P**	**10 26 43.6**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=23,slow=6.9						
NOA	**NORSAR Array B**	**63.66**	**344**	P	**P**	**10 26 42.9**	**-2.0**
	comp=Z,0.8nm,0.7s,baz=19,slow=6.7,SNR=4.0						
TXAR	**Lajitas Array**	**70.71**	**67**	P	**P**	**10 27 30.5**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=300,slow=5.1,SNR=7.7						
WRA	**Warramunga Arr**	**75.95**	**205**	P	**P**	**10 28 01.5**	**+0.8**
	comp=Z,0.6nm,1.1s,baz=20,slow=6.3,SNR=2.4						

*NIED **29** 10:22:51.1, 32.°09N×132.°14E, h18km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr3.40; Mθθ 0.21; Mϕϕ -3.61; Mrθ 2.20; Mϕr -1.55; Mθϕ 2.29; Fault plane solution: Mo4.97000×10¹⁴ NP1:φs36.00000°, δ66.00000°, λ106.00000°. NP2:φs180.00000°, δ29.00000°, λ58.00000°.*

JMA 29 10:22:51.0±0.2, 32.°09N×132.°14E, h18km±3km, M3.9, 4C-3D Broadband fault plane solution: P waves. NP1:φs256.00000°, δ41.00000°, λ-137.00000°. **NP2:** φs131.00000°, δ64.00000°, λ-57.00000°. **Principal axes:** T Plg13.0000°, Azm198.0000°; N Plg29.0000°, Azm295.0000°; P Plg58.0000°, Azm87.0000°; **Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHC	**Hyugahichiya**	**0.55**	**310**	⇓P	Pg	10 23 02.0	-0.1
JHHC				*e*S	Sb	10 23 09.7	0.0
JTSN	**Tsuno**	**0.56**	**286**	⇓P	Pg	10 23 01.6	-0.6
JTSN				*e*S	Sg	10 23 09.5	-0.2
JSKE	**Saikikamae**	**0.73**	**344**	⇑P	Pg	10 23 05.4	0.0
JSKE				*e*S	Sg	10 23 15.9	+0.7
JKIT	**Kitakata**	**0.79**	**313**	⇑P	Pb	10 23 06.1	-0.1
JKIT				*e*S	Sb	10 23 16.4	-0.1
JTZ	**Takazaki**	**0.91**	**258**	⇑P	Pb	10 23 07.9	-0.4
JTZ				*e*S	Sg	10 23 21.2	+0.4
JTO	**Tosashimizu**	**0.95**	**36**	P	Pb	10 23 08.5	-0.4
JTO				*e*S	Sb	10 23 21.1	-0.1
UWA2	**Uwa jima 2**	**1.19**	**20**	⇑P	Pn	10 23 12.2	-0.6
UWA2				*e*S	Sb	10 23 27.7	-0.5
JIU3	**Izumi3**	**1.21**	**293**	⇓P	Pn	10 23 13.2	+0.1
JIU3				*e*S	Sn	10 23 29.2	+0.1
JKU	**Kubokawa**	**1.44**	**32**	P	Pn	10 23 16.2	-0.1
JKU				*e*S	Sn	10 23 33.6	-1.2
JNA	**Nagahama**	**1.49**	**11**	P	Pn	10 23 16.9	0.0
JNA				*e*S	Sn	10 23 35.7	-0.2

*IDC **29** 10:41:04.0±3.7, 17.°63S×175.°62W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/28, mbtmp3.6/3 Error ellipse: s-maj=457.2km s-min=33.9km az=158.0*
*NEIC **29** 10:41:05.2±1.4, 17.°9S±0.°3×175.°55W±0.°09, h10km±1km, mb4.4/6, Error ellipse: s-maj=51.4km s-min=8.5km az=346.0*

ISC 29 10:41:05.1±1.3, 17.°9S±0.°4×175.°6W±0.°2, h10km, n9, σ0§97/9, mb4.1/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBOO	**Buckleboo**	**45.75**	**241**	P	**P**	**10 49 25.9**	**-1.0**
WR0	**Warramunga Arr**	**47.08**	**259**	P	**P**	**10 49 38.5**	**+1.1**
WR0				IAmb	IAmb	10 49 50.7	
	comp=Z,6.8nm,1.5s						
WB0	**Warramunga Arr**	**47.24**	**259**	P	**P**	**10 49 39.2**	**+0.5**
WB0				IAmb	IAmb	10 49 42.6	
	comp=Z,5.8nm,1.4s						
WRA	**Warramunga Arr**	**47.27**	**259**	P	**P**	**10 49 39.5**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=90,slow=7.7,SNR=6.3						
WRA	**Warramunga Arr**	**47.27**	**259**	P	**P**	**10 49 37.9**	**-1.0**
AS31	**Alice Springs**	**47.37**	**254**	P	**P**	**10 49 40.8**	**+1.0**
ASAR	**Alice Springs**	**47.37**	**254**	P	**P**	**10 49 40.7**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=89,slow=8.5,SNR=21						
QSPA	**South Pole Qui**	**72.12**	**180**	P	**P**	**10 52 29.9**	**+0.2**
QSPA				IAmb	IAmb	10 52 33.2	
	comp=Z,2.1nm,1.2s						
TXAR	**Lajitas Array**	**83.75**	**57**	P	**P**	**10 53 34.8**	**-0.1**
	comp=Z,0.5nm,1.0s,baz=232,slow=4.4,SNR=3.9						

*IDC **29** 10:54:19.4±2.3, 18.°50N×146.°94E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.5/57, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=115.1km s-min=20.4km az=94.0*
*NEIC **29** 10:54:26.9±2.5, 18.°39N±0.°07×146.°7E±0.°1, h53km±8km, mb4.4/9, Error ellipse: s-maj=17.9km s-min=5.0km az=59.0*

ISC 29 10:54:25.8±0.9, 18.°46N±0.°08×146.°9E±0.°2, h52km, n19, σ1§13/21, mb4.2/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.23**	**202**	Pn	**Pn**	**10 55 41.6**	**+0.1**
	5.6nm,0.3s,baz=3.9,slow=11,SNR=4.7						
GUMO				Sn	**Sn**	**10 56 41.2**	**+0.6**
	2.8nm,0.3s,baz=39,slow=11,SNR=2.1						
GUMO	**Guam**	**5.23**	**202**		**Pn**	**10 55 40.8**	**-0.7**
GUMO					**Sn**	**10 56 41.5**	**+0.9**
PATS	**Pohnpei**	**16.02**	**135**	Pn	**P**	**10 58 10.0**	**-0.4**
PATS				IAmb	IAmb	10 58 21.4	
	comp=Z,108nm,1.3s						
FAKI	**Fak Fak**	**25.70**	**216**	P	**P**	**10 59 50.5**	**-0.8**
WB0	**Warramunga Arr**	**39.93**	**199**	P	**P**	**11 01 56.8**	**+1.7**
WB0				IAmb	IAmb	11 02 15.4	
	comp=Z,4.0nm,1.1s						
WR0	**Warramunga Arr**	**40.07**	**198**	P	**P**	**11 01 57.5**	**+1.2**
WR0				IAmb	IAmb	11 02 00.7	
	comp=Z,4.5nm,1.3s						
WB2	**Warramunga Arr**	**40.11**	**199**	P	**P**	**11 01 56.0**	**-0.6**
WB2				IAmb	IAmb	11 02 10.6	
	comp=Z,5.9nm,1.2s						
WRA	**Warramunga Arr**	**40.11**	**199**	P	**P**	**11 01 56.9**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=21,slow=8.3,SNR=11						
WRA	**Warramunga Arr**	**40.11**	**199**	P	**P**	**11 01 57.5**	**+0.8**
ASAR	**Alice Springs**	**43.76**	**197**	P	**P**	**11 02 26.9**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=19,slow=14,SNR=6.6						
SONM	**Songino Array**	**44.06**	**321**	P	**P**	**11 02 29.7**	**+1.0**
BBOO	**Buckleboo**	**52.03**	**192**	P	**P**	**11 03 29.5**	**-0.7**
BBOO				IAmb	IAmb	11 03 35.1	
	comp=Z,12nm,1.3s						
MK31	**Makanchi Array**	**59.47**	**314**	P	**P**	**11 04 21.8**	**-1.7**
MKAR	**Makanchi Array**	**59.47**	**314**	P	**P**	**11 04 22.0**	**-1.5**
BVAR	**Borovoye Array**	**67.40**	**320**	P	**P**	**11 05 16.2**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=90,slow=0.6,SNR=4.2						
ABKAR	**Akbulak array**	**74.31**	**317**	P	**P**	**11 05 56.6**	**-1.1**
ARCES	**ARCESS Array B**	**83.07**	**342**	P	**P**	**11 06 47.3**	**+1.8**
	comp=Z,1.5nm,0.6s,baz=63,slow=7.3,SNR=19						
ARCES	**ARCESS Array B**	**83.07**	**342**	P	**P**	**11 06 47.4**	**+1.9**
FINES	**FINESS Array B**	**87.58**	**336**	P	**P**	**11 07 08.4**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=73,slow=6.6,SNR=5.0						

*IDC **29** 11:01:17.8±0.8, 29.°88N×87.°97E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.7/65, mbtmp3.9/11, MS3.2/2, Ms1 3.2/2, ms1mx2.5/52, Error ellipse: s-maj=27.8km s-min=17.5km az=48.0*
*DMN **29** 11:01:20.2±1.5, 29.°72N×87.°78E, h10km, Error ellipse: s-maj=38.3km s-min=6.3km az=35.0*
*NEIC **29** 11:01:21.7±2.8, 29.°8N±0.°1×87.°9E±0.°1, h25km±5km, mb4.2/24, Error ellipse: s-maj=17.9km s-min=11.0km az=218.0*

ISC 29 11:01:23.2±0.5, 29.°84N±0.°07×87.°87E±0.°06, h37km, n57, σ1§29/55, mb3.9/19, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAPN	**Taplejung**	**2.49**	**183**	*e*P	**Pn**	**11 02 00.2**	**-1.2**
JIRN	**Jiri**	**2.62**	**215**	*e*P	**Pn**	**11 02 02.0**	**-1.4**
ODAN	**Odare**	**3.00**	**188**	*e*P	**Pn**	**11 02 07.5**	**-0.9**
RAMN	**Ramite**	**3.09**	**201**	*e*P	**Pn**	**11 02 08.6**	**-1.1**
PKI	**Pulchoki**	**3.13**	**224**	*e*P	**Pn**	**11 02 09.6**	**-0.6**
DMN	**Daman**	**3.29**	**228**	*e*P	**Pn**	**11 02 11.5**	**-0.9**
GKN	**Gorkha**	**3.37**	**238**	*e*P	**Pn**	**11 02 12.3**	**-1.9**
KOLN	**Koldanda**	**4.28**	**242**	*e*P	**Pn**	**11 02 25.0**	**-0.9**
PYUN	**Piuthan**	**4.61**	**249**	*e*P	**Pn**	**11 02 30.8**	**+0.3**
SHL	**Shillong**	**5.55**	**139**	*e*PN	**Pn**	**11 02 45.5**	**+2.1**
SHL				*e*SN	Sn	11 03 10.5	-36
SHL	**Shillong**	**5.55**	**139**	Pn	**Pn**	**11 02 40.0**	**-3.4**
NIL	**Nilore**	**13.00**	**291**	Pn	**Pn**	**11 04 26.2**	**+0.8**
WMQ	**Urumqi**	**13.95**	**359**	*e*P	**Pn**	**11 04 37.0**	**-1.3**
WMQ				smax	smax		
	comp=N,7.0nm,0.5s						
WMQ				smax	smax		
	comp=E,6.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**15.17**	**136**	Pn	**Pn**	**11 04 55.5**	**+0.6**
	baz=324,slow=12,SNR=3.6						
CMAR	**Chiang Mai Arr**	**15.17**	**136**		**Pn**	**11 04 54.1**	**-0.7**
KBL	**Kabul**	**16.60**	**291**	Pn	**Pn**	**11 05 11.3**	**-2.1**
MK31	**Makanchi Array**	**17.47**	**347**	Pn	**Pn**	**11 05 20.1**	**-3.8**
MKAR	**Makanchi Array**	**17.47**	**347**	P	**Pn**	**11 05 21.4**	**-2.5**
	baz=151,slow=13,SNR=2.7						
MAKZ	**Makanchi**	**17.55**	**346**		**Pn**	**11 05 24.9**	**0.0**
PBKT	**Sadao Pong**	**17.85**	**135**		**P**	**11 05 30.4**	**+1.3**
PBKT				IAmb	IAmb	11 05 43.9	
	comp=Z,10nm,1.3s						
KURBB	**Kurchatov Arra**	**21.91**	**344**	P	**P**	**11 06 11.9**	**-1.1**
	comp=Z,3.2nm,0.7s,baz=157,slow=11,SNR=15						
KURK	**Kurchatov**	**21.98**	**344**	P	**P**	**11 06 12.7**	**-1.0**
KURK				IAmb	IAmb	11 06 19.0	
	comp=Z,4.6nm,1.1s						
HRA	**Herat**	**22.15**	**288**	P	**P**	**11 06 15.2**	**-0.8**
HRA				IAmb	IAmb	11 06 28.0	
	comp=Z,2.2nm,0.6s						
SONM	**Songino Array**	**22.94**	**33**	P	**P**	**11 06 23.9**	**-0.3**
	comp=Z,3.7nm,0.9s,baz=222,slow=11,SNR=13						
SONM	**Songino Array**	**22.94**	**33**	P	**P**	**11 06 23.7**	**-0.5**
ULN	**Ulaanbaatar**	**23.28**	**34**	P	**P**	**11 06 29.7**	**+2.1**
ULN				IAmb	IAmb	11 06 30.9	
	comp=Z,4.7nm,0.8s						
ABKAR	**Akbulak array**	**28.72**	**320**	P	**P**	**11 07 18.0**	**+1.2**
KSRS	**Korea Array**	**34.00**	**66**	LR	LR	11 23 01.4	
	comp=Z,23nm,18.5s,baz=310,slow=38						
JNU	**Nakatsue**	**36.64**	**74**	LR	LR	11 23 31.9	
	comp=Z,48nm,18.3s,baz=12,slow=36						
MJAR	**Matsushiro Arr**	**42.26**	**67**	P	**P**	**11 09 12.5**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=284,slow=11,SNR=4.7						
MJAR	**Matsushiro Arr**	**42.26**	**67**	P	**P**	**11 09 14.6**	**+1.6**
AKASG	**Malin Array Be**	**47.96**	**313**	P	**P**	**11 09 58.3**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=80,slow=7.4,SNR=5.5						
ELL	**Elmali**	**48.30**	**294**	P	**P**		
MLR	**Muntele Rosu**	**50.24**	**306**	P	**P**	**11 10 18.0**	**+2.2**
MLR				IAmb	IAmb	11 10 19.1	
	comp=Z,6.8nm,1.0s						
FIA1	**FINESS Array S**	**50.84**	**327**	P	**P**	**11 10 21.0**	**+1.2**
FINES	**FINESS Array B**	**50.84**	**327**	P	**P**	**11 10 20.6**	**+0.8**
ITM	**Ithomi**	**54.49**	**296**	P	**P**	**11 10 47.5**	**+0.2**
NB2	**NORSAR Subarra**	**57.99**	**326**	P	**P**	**11 11 11.2**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=85,slow=7.4						
NOA	**NORSAR Array B**	**57.99**	**326**	P	**P**	**11 11 11.6**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=86,slow=6.9,SNR=4.1						
GEC2	**GERESS Array S**	**58.11**	**312**	P	**P**		
GEC2				IAmb	IAmb	11 11 15.7	
	comp=Z,5.7nm,1.4s						
GERES	**GERESS Array B**	**58.11**	**312**	P	**P**	**11 11 13.8**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=79,slow=6.9,SNR=5.9						
GERES	**GERESS Array B**	**58.11**	**312**	P	**P**	**11 11 12.8**	**-0.1**
WB0	**Warramunga Arr**	**66.64**	**132**	P	**P**	**11 12 10.3**	**+0.1**
WB0				IAmb	IAmb	11 12 23.0	
	comp=Z,4.1nm,1.2s						
WRA	**Warramunga Arr**	**66.73**	**132**	P	**P**	**11 12 10.6**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=324,slow=6.4,SNR=15						
WRA	**Warramunga Arr**	**66.73**	**132**	P	**P**	**11 12 10.2**	**-0.6**
WRAB	**Tennant Creek**	**66.73**	**132**	P	**P**	**11 12 10.9**	**+0.1**
WB2	**Warramunga Arr**	**66.74**	**132**	P	**P**	**11 12 11.0**	**+0.1**
WB2				IAmb	IAmb	11 12 11.9	
	comp=Z,8.9nm,1.5s						
WR0	**Warramunga Arr**	**66.87**	**132**	P	**P**	**11 12 11.8**	**+0.1**
WR0				IAmb	IAmb	11 12 18.5	
	comp=Z,4.0nm,1.1s						
AS31	**Alice Springs**	**69.18**	**135**	P	**P**	**11 12 26.5**	**+0.3**
AS31				IAmb	IAmb	11 12 28.4	
	comp=Z,0.9nm,1.1s						
ASAR	**Alice Springs**	**69.18**	**135**	P	**P**	**11 12 26.1**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=320,slow=5.8,SNR=13						
ASAR	**Alice Springs**	**69.18**	**135**	P	**P**	**11

baz=8.4
BORG Borgarnes 1.65 274 Pn **Pn 11 15 27.2 -2.9**
43nm,0.3s,baz=97,slow=9.2,SNR=75
BORG Sn **Sn 11 15 50.9 -0.4**
22nm,0.3s,baz=21,slow=22,SNR=9.9
SCO Scoresbysund 6.08 346 *i* P **Pn 11 16 30.8 0.0**
SCO *i* S **Sn 11 17 44.0 +3.7**
SCO Scoresbysund 6.08 346 **Pn 11 16 29.8 -1.1**
SCO Scoresbysund 6.08 346 *i* S **Sn 11 17 44.0 +3.7**
SCO *e* **Pn 11 16 28.6 -2.3**
baz=162,slow=7.9
SCO *i* P **Pn 11 16 30.9 0.0**
EKA Eskdalemuir Ar 11.76 136 Pn **Pn 11 17 48.5 -0.3**
baz=329,slow=13,SNR=8.1
ESK Eskdalemuir 11.77 136 Pn **Pn 11 17 49.4 +0.5**
NOA NORSAR Array B 13.53 92 LR LR 11 23 08.4
comp=Z,17nm,19.3s,baz=295,slow=36
HFS Hagfors 15.04 93 LR LR 11 24 08.0
comp=Z,31nm,21.8s,baz=282,slow=36
ARCES ARCESS Array B 17.11 55 P **P 11 19 03.5 +1.8**
0.1nm,0.3s,baz=259,slow=9.8,SNR=3.3
FINES FINESS Array B 19.70 79 P **Pn 11 19 32.7 +1.1**
0.1nm,0.3s,baz=324,slow=12,SNR=3.6
FINES LR LR 11 26 34.1
comp=Z,51nm,19.2s,baz=208,slow=35
FINES FINESS Array B 19.70 79 P **Pn 11 19 32.5 +0.9**
CLL Collm 20.71 116 *e*P **P 11 19 42.0 +0.8**
comp=Z,11nm,1.5s
CLL *i* sP **pP 11 19 44.7 +0.2**
comp=Z,18nm,1.5s
ECH Echery 21.16 129 P **P 11 19 49.2 +3.1**
BRG Berggiesshubel 21.41 115 *e*P **P 11 19 51.3 +2.5**
comp=Z,9.2nm,1.1s
BFO Black Forest 21.45 127 P **P 11 19 50.4 +1.1**
CHVC Chvalec 22.47 113 *e*P **P 11 20 04.2 +4.0**
KHC Kasperske Hory 22.68 118 *e*P **P 11 20 04.8 +2.4**
KHC Kasperske Hory 22.68 118 P **P 11 20 04.2 +1.8**
DPC Dobruska-Polom 22.76 113 *e*P **P 11 20 04.8 +1.5**
GEC2 GERESS Array S 22.96 119 P **P 11 20 05.4 0.0**
GERES GERESS Array B 22.96 119 P **P 11 20 06.5 +1.0**
comp=Z,1.6nm,0.8s,baz=328,slow=13,SNR=7.4
MORC Moravsky Berou 23.70 112 P **P 11 20 15.5 +2.7**
MORC IAmb IAmb 11 20 17.6
comp=Z,17nm,1.5s
KLMR Klimovskoe 25.60 72 *e*P **P 11 20 28.6 -1.5**
comp=Z,18nm,1.6s
SCHQ Schefferville 26.04 271 P **P 11 20 35.3 +1.2**
comp=Z,3.8nm,0.8s,baz=7.2,slow=5.7,SNR=4.1
SCHQ Schefferville 26.04 271 P **P 11 20 35.8 +1.7**
SCHQ IAmb IAmb 11 20 54.2
comp=Z,7.7nm,1.1s
ESDC Sonseca Array 26.26 156 P **P 11 20 36.5 +0.2**
comp=Z,0.5nm,0.6s,baz=350,slow=9.0,SNR=6.5
ESDC Sonseca Array 26.26 156 P **P 11 20 36.7 +0.4**
IDI Anoyia 38.82 118 LR LR 11 38 57.4
comp=Z,7.0nm,18.8s,baz=288,slow=37
ABKAR Akbulak array 41.98 73 P **P 11 22 52.4 +0.5**
BVAR Borovoye Array 43.19 62 P **P 11 23 02.7 +1.0**
comp=Z,1.6nm,0.9s,baz=327,slow=7.8,SNR=8.1
ILAR Eielson Array 45.68 332 P **P 11 23 22.8 +1.3**
comp=Z,1.8nm,1.1s,baz=22,slow=6.1,SNR=12
ILAR PcP **PcP 11 24 59.9 +0.8**
comp=Z,0.8nm,0.9s,baz=29,slow=2.1,SNR=4.8
ILAR Eielson Array 45.68 332 P **P 11 23 22.4 +1.0**
ILAR **PcP 11 25 00.2 +1.0**
MDM Murphy Dome 45.77 333 P **P 11 23 24.1 +1.9**
IMAR Indian Mountai 45.85 337 P **P 11 23 24.3 +1.6**
KURK Kurchatov 48.10 58 P **P 11 23 41.1 +0.5**
KURK IAmb IAmb 11 23 44.0
comp=Z,4.4nm,1.2s
KURBB Kurchatov Arra 48.15 58 P **P 11 23 41.2 +0.3**
comp=Z,1.8nm,0.9s,baz=324,slow=7.3,SNR=10
TKL Tuckaleechee C 48.33 266 LR LR 11 40 59.2
comp=Z,46nm,18.2s,baz=34,slow=32
EGMT Eagleton 48.87 297 P **P 11 23 46.8 +0.2**
KKAR Karatay Array 51.27 70 P **P 11 24 06.2 +1.5**
BOZ Bozeman (W) 51.60 297 P **P 11 24 08.7 +1.2**
BOZ IAmb IAmb 11 24 09.7
comp=Z,8.7nm,1.3s
MK31 Makanchi Array 52.72 58 P **P 11 24 14.9 -0.6**
MKAR Makanchi Array 52.72 58 P **P 11 24 16.0 +0.5**
comp=Z,0.6nm,0.8s,baz=350,slow=6.2,SNR=7.2
MKAR Makanchi Array 52.72 58 P **P 11 24 15.9 +0.4**
TORD Torodi Ar. Bea 53.15 156 P **P 11 24 18.3 -0.7**
comp=Z,1.2nm,0.8s,baz=340,slow=8.3,SNR=6.9
TORD Torodi Ar. Bea 53.15 156 P **P 11 24 18.3 -0.7**
BW06 Boulder Array 53.17 293 P **P 11 24 19.0 -0.2**
BW06 IAmb IAmb 11 24 23.5
comp=Z,2.8nm,1.0s
PD31 Pinedale Array 53.17 293 P **P 11 24 19.2 0.0**
PD31 IAmb IAmb 11 24 23.5
comp=Z,2.5nm,1.0s
PDAR Pinedale Array 53.17 293 P **P 11 24 19.4 +0.2**
comp=Z,1.2nm,0.8s,baz=53,slow=5.9,SNR=13
PDAR Pinedale Array 53.17 293 P **P 11 24 18.9 -0.3**
AAK Ala-Archa 53.25 67 P **P 11 24 21.7 +2.0**
comp=Z,1.8nm,0.4s,baz=28,slow=0.8,SNR=4.6
AAK Ala-Archa 53.25 67 P **P 11 24 20.5 +0.8**
AAK IAmb IAmb 11 24 24.1
comp=Z,2.7nm,0.5s
N23A Red Feather La 53.30 289 P **P 11 24 21.7 +1.5**
N23A IAmb IAmb 11 24 22.3
comp=Z,5.8nm,1.1s
O20A White River Ci 54.88 290 P **P 11 24 29.6 -2.0**
O20A IAmb IAmb 11 24 37.4
comp=Z,2.2nm,0.9s
344A Westbrook Farm 54.92 270 P **P 11 24 31.5 -0.2**
HWUT Hardware Ranch 54.95 294 P **P 11 24 33.1 +1.0**
HWUT IAmb IAmb 11 24 41.0
comp=Z,3.8nm,1.1s
PV13 Radium Mtn., P 56.80 290 P **P 11 24 46.3 +0.9**
WUAZ Wupatki 60.11 290 P **P 11 25 08.6 +0.1**
WUAZ IAmb IAmb 11 25 10.4
comp=Z,3.6nm,1.1s
TXAR Lajitas Array 62.28 280 P **P 11 25 24.2 +0.9**
comp=Z,0.5nm,0.9s,baz=45,slow=4.0,SNR=4.6
TXAR Lajitas Array 62.28 280 P **P 11 25 23.9 +0.7**

*ISK **29** 11:22:12.5,38.06N×27.11E,h5km,ML2.5/9*
*DDA **29** 11:22:12.9,38.02N×27.05E,h6km±1km,ML2.0*
ISC 29 11:22:13.0±1.0,38.04N±0.03×27.10E±0.03,h8km±9km,
n15,σ0.970/22,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DGB	**zmir**	**0.17**	**275**	*i* P		**Pg**	**11 22 16.6**	**0.0**
DGB				*i* S		**Sg**	**11 22 18.8**	**-0.2**
DGB				IAML			11 22 19.0	
	comp=N,559nm,0.2s							
DGB				IAML			11 22 19.0	
	comp=E,677nm,0.1s							
BLCB	**Balcova**	**0.35**	**352**	PG		**Pg**	**11 22 20.1**	**+0.2**
GCAM	**G?zelcaml?**	**0.35**	**163**	PG		**Pb**	**11 22 20.7**	**-0.8**
GCAM	**G?zelcaml?**	**0.35**	**163**	*i* P		**Pg**	**11 22 20.4**	**+0.4**
GCAM				IAML			11 22 25.0	
	comp=E,264nm,0.3s							
GCAM				*i* S		**Sg**	**11 22 25.2**	**+0.6**
GCAM				IAML			11 22 26.0	
	comp=N,352nm,0.3s							
URLA	**Izmir**	**0.51**	**309**	PG		**Pg**	**11 22 22.7**	**-0.3**
URLA	**Izmir**	**0.51**	**309**	*i* P		**Pg**	**11 22 23.0**	**0.0**
URLA				*i* S		**Sb**	**11 22 30.2**	**-1.7**
KRBN	**Karaburun**	**0.70**	**322**	PG		**Pb**	**11 22 27.8**	**+0.3**
AYDN	**Tasoluk**	**0.72**	**121**	*i* P		**Pb**	**11 22 27.6**	**-0.3**
ZEDA	**zmir-Bergama**	**0.93**	**359**	*i* P		**Pg**	**11 22 30.5**	**-0.4**
ZEDA				*i* S		**Sb**	**11 22 44.4**	**+0.6**
ZEDA				IAML			11 22 46.0	
	comp=E,26nm,0.6s							
BODT	**Bodrum**	**0.99**	**170**	PG		**Pn**	**11 22 33.0**	**-0.2**
BODT				SG		**Sn**	**11 22 47.8**	**+0.4**
DKL	**Dikili**	**1.04**	**352**	PG		**Pn**	**11 22 34.0**	**+0.1**
MANT	**Manisa**	**1.23**	**68**	*i* P		**Pn**	**11 22 37.7**	**+0.9**
MANT				*i* S		**Sg**	**11 22 51.6**	**-1.2**
MANT				IAML			11 22 56.0	
	comp=N,18nm,0.5s							
KULA	**Kula-Manisa**	**1.32**	**68**	PN		**Pg**	**11 22 38.4**	**+0.1**
SIGR	**SIGRI**	**1.52**	**321**	PN		**Pg**	**11 22 42.3**	**0.0**
SIGR				SN		**Sg**	**11 23 03.2**	**+1.1**
APE	**Apeiranthos**	**1.58**	**233**	PN		**Pg**	**11 22 43.7**	**+0.4**

*NEIC **29** 11:43:27.0±3.1,33.28S±0.08×178.9W±0.1,h10km±1km,*
mb4.7/20,Error ellipse: s-maj=16.9km s-min=13.8km
az=89.0
*IDC **29** 11:43:26.8±0.7,32.95S×179.08W,h0km,mb4.4/9,*
mb1 4.5/9,mb1mx4.2/29,mbtmp4.4/9,MS3.8/9,Ms1 3.8/9,
ms1mx3.6/21,Error ellipse: s-maj=25.5km s-min=20.4km
az=81.0
*WEL **29** 11:43:30.0±0.5,33.5S±4.1×17.9W±7.1,h144km±16km,M4.6/54,*
mB5.1/43,ML5.6/29,MLv5.4/54,Mw(mB)4.5/43,Error
ellipse: s-maj=0.0km s-min=0.0km az=110.9
ISC 29 11:43:31.3±0.5,33.25S±0.05×178.84W±0.07,h35km,
n169,σ2.9/14/171,mb4.6/18,MS4.0/11,South of Kermadec
Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GLKZ	**Green Lake**	**4.05**	**11**	P		**Pn**	**11 44 28.1**	**-2.7**
GLKZ				S		**Sn**	**11 45 14.8**	**-2.2**
RIZ	**Raoul Island**	**4.06**	**11**	P		**Pn**	**11 44 31.6**	**+0.6**
MXZ	**Matakaoa Point**	**4.90**	**208**	P		**Pn**	**11 44 41.3**	**-1.1**
MXZ				S		**Sn**	**11 45 38.6**	**+0.8**
MXZ	**Matakaoa Point**	**4.90**	**208**			**Pn**	**11 44 42.1**	**-0.3**
MXZ				Sn		**Sn**	**11 45 33.4**	**-4.4**
WMGZ	**Waiomatatini S**	**5.08**	**205**	P		**Pn**	**11 44 46.1**	**+1.1**
WMGZ				S		**Sn**	**11 45 47.0**	**+4.6**
HAZ	**Te Kaha**	**5.28**	**210**	P		**Pn**	**11 44 48.3**	**+0.7**
HAZ				S		**Sn**	**11 45 49.4**	**+2.3**
PUZ	**Puketiti**	**5.36**	**205**	P		**Pn**	**11 44 48.3**	**-0.6**
PUZ				S		**Sn**	**11 45 51.6**	**+2.2**
RUGZ	**Raukumara Rang**	**5.50**	**210**	P		**Pn**	**11 44 50.7**	**0.0**
GRZ	**Great Barrier**	**5.57**	**236**	P		**Pn**	**11 44 54.8**	**+3.2**
KUZ	**Kuaotunu**	**5.67**	**230**	P		**Pn**	**11 44 55.7**	**+2.8**
WHRZ	**Whale Island**	**5.72**	**215**	P		**Pn**	**11 44 57.9**	**+4.1**
TKGZ	**Te Karaka**	**5.84**	**206**	P		**Pn**	**11 44 55.6**	**+0.3**
TKGZ				S		**Sn**	**11 46 00.5**	**-0.5**
MWZ	**Matawai**	**5.87**	**209**	P		**Pn**	**11 44 54.7**	**-1.2**
MWZ				S		**Sn**	**11 46 02.0**	**0.0**
OPRZ	**Ohinepanea**	**5.93**	**218**	P		**Pn**	**11 44 57.2**	**+0.7**
MANZ	**Manawahe**	**5.97**	**216**	P		**Pn**	**11 44 59.5**	**+2.3**
MARZ				S		**Sn**	**11 46 04.6**	**+0.2**
URZ	**Urewera**	**5.99**	**212**	Pn		**Pn**	**11 44 55.6**	**-1.8**
	18nm,0.3s,baz=8.0,slow=2.3,SNR=118							
URZ				Sn		**Sn**	**11 46 04.5**	**-0.2**
	27nm,0.3s,baz=239,slow=2.1,SNR=6.3							
URZ				LR		LR	11 47 18.0	
	comp=Z,509nm,19.2s,baz=32,slow=38							
URZ	**Urewera**	**5.99**	**212**	P		**Pn**	**11 44 56.5**	**-0.9**
URZ				S		**Sn**	**11 46 04.0**	**-0.7**
URZ	**Urewera**	**5.99**	**212**	Pn		**Pn**	**11 44 56.3**	**-1.0**
URZ						**Sn**	**11 46 04.4**	**-0.3**
TGRZ	**Tauranga**	**6.00**	**220**	P		**Pn**	**11 45 00.5**	**+3.0**
EDRZ	**Edgecumbe**	**6.04**	**215**	P		**Pn**	**11 45 00.2**	**+2.0**
RIGZ	**Rimuhau**	**6.10**	**206**	P		**Pn**	**11 44 58.1**	**-0.9**
RIGZ				S		**Sn**	**11 46 07.2**	**-0.5**
OMRZ	**Omania**	**6.22**	**217**	P		**Pn**	**11 45 04.1**	**+3.5**
KARZ	**Kaharoa**	**6.22**	**219**	P		**Pn**	**11 45 03.0**	**+2.4**
TARZ	**Mount Tarawera**	**6.25**	**216**	P		**Pn**	**11 45 03.3**	**+2.2**
PRGZ	**Paritu Road**	**6.25**	**204**	P		**Pn**	**11 45 00.0**	**-1.1**
RRRZ	**Republican Roa**	**6.33**	**215**	P		**Pn**	**11 45 03.7**	**+1.6**
SNGZ	**Shannon Statio**	**6.33**	**208**	P		**Pn**	**11 45 02.4**	**+0.2**
SNGZ				S		**Sn**	**11 46 11.4**	**-1.8**
RTZ	**Ruatahuna**	**6.34**	**211**	P		**Pn**	**11 45 01.0**	**-1.3**
RTZ				S		**Sn**	**11 46 12.1**	**-1.4**
KNZ	**Kokohu**	**6.42**	**205**	P		**Pn**	**11 45 02.0**	**-1.3**
PRRZ	**Plateau Road**	**6.51**	**215**	P		**Pn**	**11 45 05.8**	**+1.1**
WTAZ	**Waiatarua**	**6.53**	**234**	P		**Pn**	**11 45 08.3**	**+3.5**
RAHZ	**Arahi**	**6.55**	**209**	P		**Pn**	**11 45 08.2**	**0.0**
AWAZ	**Awhitu Peninsu**	**6.55**	**233**	P		**Pn**	**11 45 09.4**	**+4.3**
OUZ	**Omahuta**	**6.56**	**250**	P		**Pn**	**11 45 07.2**	**+1.9**
OUZ				S		**Sn**	**11 46 15.6**	**-3.3**
OUZ	**Omahuta**	**6.56**	**250**	Pn		**Pn**	**11 45 07.0**	**+1.7**
OUZ				Sn		**Sn**	**11 46 16.8**	**-2.2**
ALRZ	**Allen Road**	**6.59**	**215**	P		**Pn**	**11 45 05.5**	**-0.2**
MTHZ	**Maungataniwha**	**6.60**	**211**	P		**Pn**	**11 45 06.1**	**+0.3**
WHHZ	**Waihua**	**6.63**	**207**	P		**Pn**	**11 45 06.4**	**+0.2**
MRHZ	**Matea Rd**	**6.77**	**213**	P		**Pn**	**11 45 07.6**	**-0.6**
KUTZ	**Kaahu Road**	**6.79**	**218**	P		**Pn**	**11 45 10.6**	**+2.1**
NMHZ	**Naumai**	**6.82**	**210**	P		**Pn**	**11 45 09.4**	**+0.5**
TLZ	**Tolley Road**	**6.82**	**220**	P		**Pn**	**11 45 11.4**	**+2.5**
ARHZ	**Aropaoanui**	**6.88**	**208**	P		**Pn**	**11 45 08.5**	**-1.2**
BKZ	**Black Stump Fm**	**7.01**	**211**	P		**Pn**	**11 45 10.1**	**-1.4**
BKZ	**Black Stump Fm**	**7.01**	**211**	Pn		**Pn**	**11 45 10.6**	**-0.8**
BKZ				Sn		**Sn**	**11 46 30.2**	**+0.3**
RITZ	**Rihia Road**	**7.15**	**215**	P		**Pn**	**11 45 13.6**	**+0.3**
MCHZ	**McNeill Hill**	**7.16**	**209**	P		**Pn**	**11 45 12.9**	**-0.5**
CKHZ	**Cape Kidnapper**	**7.19**	**206**	P		**Pn**	**11 45 14.1**	**+0.1**
KWHZ	**Kaweka Forest**	**7.25**	**210**	P		**Pn**	**11 45 14.2**	**-0.7**
HIZ	**Hauiti**	**7.33**	**222**	P		**Pn**	**11 45 18.9**	**+3.0**
HIZ	**Hauiti**	**7.33**	**222**			**Pn**	**11 45 15.7**	**-0.2**
OTVZ	**Oturere**	**7.39**	**215**	P		**Pn**	**11 45 16.9**	**+0.1**
WTVZ	**West Tongariro**	**7.39**	**216**	P		**Pn**	**11 45 17.2**	**+0.5**
KAHZ	**Kahuranaki**	**7.39**	**207**	P		**Pn**	**11 45 14.2**	**-2.5**
NGZ	**Ngauruhoe**	**7.43**	**216**	P		**Pn**	**11 45 17.7**	**+0.4**
KRHZ	**Kereru**	**7.46**	**210**	P		**Pn**	**11 45 16.2**	**-1.4**
BHHZ	**Black Hill Sta**	**7.46**	**212**	P		**Pn**	**11 45 16.8**	**-1.0**
TUVZ	**Tukino**	**7.47**	**215**	P		**Pn**	**11 45 18.4**	**+0.4**
FWVZ	**Far West T-bar**	**7.51**	**215**	P		**Pn**	**11 45 16.9**	**-1.7**
MOVZ	**Moawhango**	**7.54**	**214**	P		**Pn**	**11 45 17.8**	**-1.0**
WNVZ	**Wahianoa**	**7.55**	**215**	P		**Pn**	**11 45 18.7**	**-0.3**
PXZ	**Pawanui**	**7.60**	**206**	P		**Pn**	**11 45 17.1**	**-2.4**
PXZ				S		**Sn**	**11 46 40.4**	**-4.0**
MTVZ	**Mangateitei**	**7.65**	**215**	P		**Pn**	**11 45 19.7**	**-0.7**
PNHZ	**Pukenui**	**7.76**	**210**	P		**Pn**	**11 45 19.8**	**-2.0**
WPHZ	**Waipukurau**	**7.79**	**208**	P		**Pn**	**11 45 21.7**	**-0.4**
VRZ	**Vera Road**	**7.82**	**220**	P		**Pn**	**11 45 23.6**	**+1.0**
PRHZ	**Porangahau**	**7.89**	**206**	P		**Pn**	**11 45 20.4**	**-3.1**
DVHZ	**Dannevirke**	**8.10**	**208**	P		**Pn**	**11 45 24.0**	**-2.4**
ANWZ	**Angora Road**	**8.12**	**206**	P		**Pn**	**11 45 25.1**	**-1.5**
WAZ	**Wanganui**	**8.18**	**216**	P		**Pn**	**11 45 26.9**	**-0.6**
NEZ	**North Egmont**	**8.28**	**221**	P		**Pn**	**11 45 31.5**	**+2.5**
POWZ	**Post Office Ro**	**8.34**	**210**	P		**Pn**	**11 45 29.1**	**-0.6**
PRWZ	**Pori Road**	**8.39**	**208**	P		**Pn**	**11 45 28.7**	**-1.7**
BFZ	**Birch Farm**	**8.40**	**206**	P		**Pn**	**11 45 27.4**	**-3.1**
BFZ	**Birch Farm**	**8.40**	**206**	Pn		**Pn**	**11 45 27.4**	**-3.1**
TIWZ	**Tintock**	**8.62**	**208**	P		**Pn**	**11 45 30.4**	**-3.1**
TIWZ				S		**Sn**	**11 47 03.9**	**-5.6**
MRZ	**Mangatainoka R**	**8.64**	**209**	P		**Pn**	**11 45 30.0**	**-3.8**
HOWZ	**Holdsworth Sta**	**8.87**	**209**	P		**Pn**	**11 45 33.0**	**-4.0**
TMWZ	**Te Maipa**	**8.90**	**207**	P		**Pn**	**11 45 33.7**	**-3.6**
OGWZ	**Otaki Gorge**	**8.94**	**211**	P		**Pn**	**11 45 34.3**	**-2.7**
KIW	**Kapiti Island**	**9.09**	**211**	P		**Pn**	**11 45 35.3**	**-4.7**
TRWZ	**Traveller**	**9.23**	**207**	P		**Pn**	**11 45 39.2**	**-2.7**
MSWZ	**Moikau Station**	**9.41**	**208**	P		**Pn**	**11 45 41.3**	**-3.1**
MSWZ	**Moikau Station**	**9.41**	**208**	Pn		**Pn**	**11 45 41.1**	**-3.3**
PLWZ	**Palliser**	**9.54**	**208**	P		**Pn**	**11 45 42.5**	**-3.7**
PLWZ	**Palliser**	**9.54**	**208**	Pn		**Pn**	**11 45 42.4**	**-3.8**
SNZO	**South Karori**	**9.55**	**211**	Pn		**Pn**	**11 45 42.9**	**-3.4**
BHW	**Baring Head**	**9.56**	**210**	P		**Pn**	**11 45 43.0**	**-3.4**
BHW	**Baring Head**	**9.56**	**210**	Pn		**Pn**	**11 45 42.2**	**-4.2**
TUWZ	**Tuamarina**	**9.98**	**213**			**Pn**	**11 45 48.5**	**-3.6**
BSWZ	**Blackbirch Sta**	**10.24**	**212**	P		Pn	11 45 50.6	-5.1
THZ	**Tophouse**	**10.73**	**215**	Pn		**Pn**	**11 45 59.9**	**-2.5**
KHZ	**Kahutara**	**10.95**	**211**	Pn		**Pn**	**11 46 01.0**	**-4.5**
OXZ	**Oxford**	**12.34**	**213**			**Pn**	**11 46 19.8**	**-4.7**
RPZ	**Rata Peaks**	**13.10**	**214**	Pn		Pn	11 46 28.7	-6.2
	1.3nm,0.3s,baz=48,slow=3.0,SNR=7.1							
RPZ				Sn		Sn	11 48 47.1	-12
	4.7nm,0.3s,baz=133,slow=23,SNR=14							
RPZ	**Rata Peaks**	**13.10**	**214**			**Pn**	**11 46 30.8**	**-4.0**
WKZ	**Wanaka**	**14.90**	**216**	Pn		**Pn**	**11 46 57.2**	**-2.1**
WHZ	**Wether Hill Ro**	**16.20**	**215**	Pn		**Pn**	**11 47 11.1**	**-5.0**
DZM	**Mont Dzumac**	**17.12**	**307**	*e*Pn		**P**	**11 47 29.8**	**+0.4**
	75nm,1.3s							
DZM				*e*LR		LR	11 51 19.5	
	comp=Z,1μm,24.4s							
DZM	**Mont Dzumac**	**17.12**	**307**	LR		LR	11 52 45.0	
	comp=Z,741nm,18.7s,baz=112,slow=33							
DZM	**Mont Dzumac**	**17.12**	**307**	Pn		**Pn**	**11 47 26.7**	**-1.2**
DZM				IAmb		IAmb	11 47 31.9	
	comp=Z,36nm,1.2s							
RAR	**Rarotonga**	**20.73**	**59**	LR		LR	11 54 19.2	
	comp=Z,186nm,20.2s,baz=268,slow=31							
TBI	**Tubuai**	**27.61**	**77**	*e*LR		LR	11 56 19.0	
	comp=Z,513nm,27.5s							
TBI	**Tubuai**	**27.61**	**77**	*e*T		T	12 18 16.4	
	comp=Z,19nm,0.3s							
PAE	**Paea**	**30.51**	**67**	*e*T		T	12 21 43.4	
	comp=Z,7.0nm,0.2s							
PPT2	**Papeete2**	**30.55**	**67**	*e*LR		LR	11 57 33.7	
	comp=Z,499nm,26.0s							
PPT2	**Papeete2**	**30.55**	**67**	*e*T		T	12 21 47.0	
	comp=Z,8.9nm,0.3s							
PPT	**Papeete**	**30.56**	**67**	LR		LR	12 01 51.3	
	comp=Z,117nm,18.3s,baz=223,slow=36							
TVO	**Taravao**	**30.69**	**67**	*e*T		T	12 21 57.6	
	comp=Z,2.2nm,0.4s							
TIAR	**Tiarei**	**30.75**	**67**	*e*T		T	12 22 00.7	
	comp=Z,1.6nm,0.3s							
STKA	**Stephens Creek**	**33.24**	**261**	LR		LR	12 02 14.3	
	comp=Z,372nm,19.3s,baz=36,slow=34							
PMOR	**Pomariorio Ree**	**33.40**	**65**	*e*T		T	12 25 17.7	
	comp=Z,2.4nm,0.3s							
VAH	**Vaihoa**	**33.45**	**65**	*e*T		T	12 25 23.3	
	comp=Z,21nm,0.2s							
CTAO	**Charters Tower**	**33.67**	**284**	P		**P**	**11 50 09.2**	**+0.1**
CTAO				IAmb		IAmb	11 50 22.3	
	comp=Z,12nm,0.9s							
BBOO	**Buckleboo**	**37.59**	**258**	P		**P**	**11 50 41.8**	**-0.8**
BBOO				IAmb		IAmb	11 50 49.4	
	comp=Z,8.6nm,1.1s							
RKT	**Rikitea**	**39.72**	**87**	*e*LR		LR	12 01 57.0	
	comp=Z,525nm,24.8s							
AS31	**Alice Springs**	**42.33**	**270**	P		**P**	**11 51 20.9**	**-1.1**
ASAR	**Alice Springs**	**42.33**	**270**	P		**P**	**11 51 21.1**	**-1.0**
	comp=Z,6.9nm,0.7s,baz=109,slow=7.6,SNR=58							
ASAR				S		**S**	**11 57 36.1**	**-4.7**
	comp=Z,1.4nm,1.1s,baz=116,slow=15,SNR=4.2							
ASAR				LR		LR	12 06 49.0	
	comp=Z,135nm,21.2s,baz=139,slow=33							
ASAR	**Alice Springs**	**42.33**	**270**	P		**P**	**11 51 21.6**	**-0.4**
TAOE	**Nuku Hiva Isla**	**43.13**	**65**	*e*LR		LR	12 03 24.8	
	comp=Z,262nm,27.1s							
WR0	**Warramunga Arr**	**43.40**	**276**	P		**P**	**11 51 29.3**	**-1.4**
WR0				IAmb		IAmb	11 51 30.6	
	comp=Z,9.8nm,1.1s							
WB2	**Warramunga Arr**	**43.56**	**276**	P		**P**	**11 51 31.1**	**-1.0**
WB2				IAmb		IAmb	11 51 32.3	
	comp=Z,15nm,1.2s							
WRAB	**Tennant Creek**	**43.57**	**276**	P		**P**	**11 51 31.0**	**-1.0**
WRAB				IAmb		IAmb	11 51 32.4	
	comp=Z,14nm,1.2s							
WRA	**Warramunga Arr**	**43.57**	**276**	P		**P**	**11 51 30.9**	**-1.3**
	comp=Z,2.5nm,0.4s,baz=114,slow=7.8,SNR=30							
WRA				LR		LR	12 09 19.8	
	comp=Z,132nm,18.5s,baz=240,slow=36							
WRA	**Warramunga Arr**	**43.57**	**276**	P		**P**	**11 51 31.1**	**-1.0**
WB0	**Warramunga Arr**	**43.61**	**276**	P		**P**	**11 51 31.0**	**-1.4**
WB0				IAmb		IAmb	11 51 32.8	
	comp=Z,22nm,1.2s							
FORT	**Forrest**	**44.69**	**258**	P		**P**	**11 51 39.6**	**-1.4**
VNDA	**Vanda**	**45.20**	**186**	P		**P**	**11 51 48.2**	**+3.8**
	comp=Z,0.7nm,0.7s,baz=8.8,slow=8.0,SNR=6.2							
VNDA				LR		LR	12 07 40.0	
	comp=Z,55nm,20.6s,baz=358,slow=32							
VNDA	**Vanda**	**45.20**	**186**	P		**P**	**11 51 43.1**	**-1.2**
CASY	**Casey**	**52.30**	**209**	P		**P**	**11 52 39.5**	**+0.5**
CASY				IAmb		IAmb	11 52 53.8	
	comp=Z,13nm,1.1s							
QSPA	**South Pole Qui**	**56.87**	**180**	P		**P**	**11 53 15.3**	**+3.0**
	comp=Z,7.7nm,0.8s,baz=35,slow=1.6,SNR=50							
QSPA	**South Pole Qui**	**56.87**	**180**	P		**P**	**11 53 15.3**	**+3.0**
MAW	**Mawson**	**69.40**	**201**	P		**P**	**11 54 37.4**	**+2.2**
	comp=Z,3.9nm,0.8s,baz=114,slow=6.4,SNR=14							
MAW				LR		LR	12 24 07.5	
	comp=Z,110nm,19.1s,baz=64,slow=35							
MAW	**Mawson**	**69.40**	**201**	P		**P**	**11 54 35.9**	**+0.7**
SNAA	**Sanae**	**75.34**	**179**	P		**P**	**11 55 11.9**	**+1.3**
SNAA	**Sanae**	**75.34**	**179**	P		**P**	**11 55 10.1**	**-0.5**
SNAA				IAmb		IAmb	11 55 28.6	
	comp=Z,5.9nm,1.0s							
VNA3	**Neumayer Olymp**	**75.52**	**176**	P		**P**	**11 55 12.9**	**+1.3**
VNA2	**Neumayer--Watz**	**75.94**	**177**	P		**P**	**11 55 15.7**	**+1.6**
VNA1	**Neumayer--Stat**	**76.18**	**177**	P		**P**	**11 55 16.5**	**+1.2**
H03S2	**Juan Fernandez**	**79.50**	**124**	T		T	13 23 53.8	
	baz=235,slow=74,SNR=112							
H03S1	**Juan Fernandez**	**79.51**	**124**	T		T	13 23 55.0	
	baz=235,slow=74,SNR=94							
H03S3	**Juan Fernandez**	**79.51**	**123**	T		T	13 23 54.2	
	baz=235,slow=74,SNR=108							
H03N3	**Juan Fernandez**	**79.70**	**123**	T		T	13 24 05.5	
	baz=239,slow=

GOLH *i* S **Sg** **11 55 00.0 +4.7**

BJI **29** *12:21:44.7±0.0, 64°.64N×17°.79W, h6km, mB5.7/62, mb4.9/56, Ms5.1/67, Ms7.4.7/63*
REY **29** *12:21:46.7, 64°.68N×17°.43W, h9km*
BGS **29** *12:21:47.0±2.0, 64°.72N×17°.35W, h5km, MS5.0*
IDC **29** *12:21:47.5±0.5, 64°.62N×17°.43W, h0km, mb4.4/27, mb1 4.5/31, mb1mx4.4/39, mbtmp4.3/31, ML3.2/3, MS4.6/44, Ms1 4.6/44, ms1mx4.6/48, Error ellipse: s-maj=14.4km s-min=9.6km az=27.0*
MOS **29** *12:21:47.7±1.0, 64°.70N×17°.30W, h10km, mb5.4/93, MS4.7/33, Error ellipse: s-maj=7.3km s-min=4.3km az=99.3*
IEPN **29** *12:21:48.5, 64°.52N×17°.05W, h10km*
NAO **29** *12:21:49.2±5.6, 64°.69N×17°.08W, ML4.8*
NEIC **29** *12:21:49.3±1.8, 64°.72N±0°.07×17°.3W±0°.1, h10km±1km, mb5.2/352, Mww5.4, Error ellipse: s-maj=12.5km s-min=9.0km az=185.0*
GCMT **29** *12:21:52.3±0.1, 64°.62N±0°.01×17°.18W±0°.01, h12km, MW5.3/142, Moment Tensor Solution. s117,c188; s142,c281; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-1.34±.01; Mθθ 0.47±.01; Mϕϕ 0.87±.01; Mrθ-0.29±.04; Mrϕ-0.26±.01; Mθr-0.39±.03; Best double couple: Mo1.24500×10^17 NP1:ϕs143.00000°, δ41.00000°, λ-110.00000°. NP2:ϕs349.00000°, δ52.00000°, λ-73.00000°. Principal axes: T 1.0240, Plg6.0000°, Azm68.0000°; N 0.4470, Plg13.0000°, Azm159.0000°; P -1.4650, Plg76.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DNK **29** *12:21:54.4±4.7, 64°.79N×16°.96W, h45km±56km, mb5.4, Ms4.7*
NEIC **29** *12:21:55, 64°.67N×16°.88W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr-1.41; Mθθ 0.60; Mϕϕ 0.81; Mrθ-0.56; Mϕθ-0.13; Mϕr-0.31; Fault plane solution: Mo1.39000×10^17 NP1:ϕs141.00000°, δ46.00000°, λ-113.00000°. NP2:ϕs352.00000°, δ49.00000°, λ-67.00000°. Principal axes: T 0.8714, Plg2.0000°, Azm67.0000°; N 0.7270, Plg16.0000°, Azm157.0000°; P -1.5983, Plg73.0000°, Azm331.0000°;*
ISC 29 12:21:48.0±0.5, 64°.70N±0°.02×17°.43W±0°.02, h2km±2km, n1264, σ1°54/1324, mb5.2/306, MS4.7/96, 30C-40D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
IDYN	**Dyngjuhals**	**0.09**	**17**	P	**Pg**	**12 21 49.4**	**-0.5**
	baz=14						
IDYN				S	**Sg**	**12 21 51.9**	**+0.9**
	baz=14						
IVON	**Vonarskard**	**0.14**	**259**	P	**Pg**	**12 21 49.5**	**-1.2**
	baz=267						
IDJK	**Dyngjujokull**	**0.21**	**157**	P	**Pg**	**12 21 50.6**	**-1.5**
	baz=155						
IGRF	**Grimsfjall**	**0.30**	**167**	P	**Pg**	**12 21 52.7**	**-1.1**
	baz=166						
IGRF				S	**Sg**	**12 21 56.7**	**-1.1**
	baz=166						
IKVE	**Kverkfjoll**	**0.32**	**94**	P	**Pg**	**12 21 52.8**	**-1.4**
	baz=90						
IKVE				S	**Sg**	**12 21 57.4**	**-1.0**
	baz=90						
IBJK	**Bruarjokull**	**0.37**	**128**	P	**Pg**	**12 21 53.4**	**-1.7**
	baz=126						
ISKR	**Skrokkalda**	**0.44**	**251**	P	**Pg**	**12 21 54.5**	**-1.8**
	baz=254						
IVOT	**Vottur**	**0.45**	**166**	P	**Pg**	**12 21 54.3**	**-2.2**
	baz=165						
IKRE	**Kreppuhraun**	**0.46**	**79**	P	**Pg**	**12 21 54.9**	**-1.8**
	baz=77						
IKRE				S	**Sg**	**12 22 02.6**	**0.0**
	baz=77						
IASK	**Askja**	**0.48**	**43**	P	**Pg**	**12 21 55.7**	**-1.6**
	baz=42						
IJOK	**Jokulheimar**	**0.52**	**222**	P	**Pg**	**12 21 55.9**	**-1.9**
	baz=224						
IJOK				S	**Sg**	**12 22 04.1**	**-0.5**
	baz=224						
IMKO	**Mokollar**	**0.54**	**59**	P	**Pg**	**12 21 56.6**	**-1.7**
	baz=57						
ISVA	**Svartarkot**	**0.64**	**7**	P	**Pg**	**12 21 58.5**	**-1.7**
	baz=6.4						
ISVA				S	**Sg**	**12 22 07.3**	**-1.2**
	baz=6.4						
IIEY	**Innrieyrar**	**0.68**	**207**	P	**Pg**	**12 21 58.4**	**-2.5**
	baz=208						
IIEY				S	**Sg**	**12 22 08.4**	**-1.3**
	baz=208						
IKSK	**Karasker**	**0.68**	**142**	P	**Pg**	**12 21 57.7**	**-3.3**
	baz=141						
IVSH	**V-Sauoahnukur**	**0.74**	**81**	P	**Pg**	**12 21 59.5**	**-2.6**
	baz=79						
IADA	**Aoalbol**	**0.85**	**67**	P	**Pg**	**12 22 01.5**	**-2.8**
	baz=66						
IADA				S	**Sg**	**12 22 13.2**	**-2.2**
	baz=66						
IMEL	**Melhnausar**	**0.93**	**20**	P	**Pg**	**12 22 03.2**	**-2.6**
	baz=20						
IREN	**Reynihlio**	**0.97**	**13**	P	**Pg**	**12 22 03.9**	**-2.7**
	baz=13						
IGRS	**Grimsstaoir**	**1.09**	**30**	P	**Pg**	**12 22 05.9**	**-2.9**
	baz=29						
BORG	**Borgarnes**	**1.67**	**273**	Pn	**Pn**	**12 22 14.6**	**-3.6**
	64nm,0.3s,baz=100,slow=9.7,SNR=130						
BORG				Sn	**Sb**	**12 22 40.1**	**-0.8**
	58nm,0.3s,baz=155,slow=7.3,SNR=5.1						
BORG	**Borgarnes**	**1.67**	**273**	P	**Pn**	**12 22 14.9**	**-3.3**
BORG						12 22 41.0	
BORG	**Borgarnes**	**1.67**	**273**		**Pn**	**12 22 14.9**	**-3.3**
BORG					**Sb**	**12 22 41.0**	**+0.1**
SCO	**Scoresbysund**	**6.06**	**345**	*i* P	**Pn**	**12 23 17.8**	**-0.5**
SCO	**Scoresbysund**	**6.06**	**345**	*i* P	**Pn**	**12 23 17.8**	**-0.5**
SCO	**Scoresbysund**	**6.06**	**345**	Pn	**Pn**	**12 23 15.9**	**-2.5**
SCO	**Scoresbysund**	**6.06**	**345**	*i* P	**Pn**	**12 23 17.8**	**-0.5**
SCO				IAMs_20	IAMs_20	12 27 05.2	
	comp=Z,30μm,6.2s						
JMIC	**Jan Mayen**	**7.15**	**24**	Pn	**Pn**	**12 23 35.0**	**+1.7**
LEWI	**Lewis, Hebride**	**8.29**	**138**	*e*P	**Pn**	**12 23 48.0**	**-1.0**
LEWI				IAMs_20	IAMs_20	12 28 38.1	
	comp=Z,12μm,10.5s						
ANGG	**Ammassalik, Gr**	**8.55**	**285**	IAMs_20	IAMs_20	12 27 27.3	
	comp=Z,57μm,8.3s						
BIGH	**Upper Bighouse**	**8.94**	**128**	*e*P	**Pn**	**12 23 57.6**	**-0.3**
ISOG	**Isortog, Green**	**9.11**	**285**	IAMs_20	IAMs_20	12 27 45.5	
	comp=Z,42μm,8.3s						
KAC	**Achnashellach**	**9.29**	**135**	*e*P	**Pn**	**12 24 01.1**	**-1.6**
KPL	**Plockton**	**9.32**	**137**	*e*P	**Pn**	**12 24 01.2**	**-1.9**
KPL				IAMs_20	IAMs_20	12 28 27.8	
	comp=Z,12μm,11.4s						
MDO	**Dochfour**	**9.63**	**133**	*e*P	**Pn**	**12 24 05.9**	**-1.5**
DBG	**Daneborg**	**9.70**	**355**	*i* P	**Pn**	**12 24 10.7**	**+2.4**
DBG				IAMs_20	IAMs_20	12 29 43.3	
	comp=Z,11μm,7.0s						
ICESG	**Greenland Ices**	**9.74**	**307**	*i* P	Pn	12 24 14.6	+5.4
ICESG				IAMs_20	IAMs_20	12 28 03.1	
	comp=Z,34μm,9.0s						
LAWE	**Loch Awe, Argy**	**10.32**	**140**	*e*P	**Pn**	**12 24 15.9**	**-0.9**
INVG	**Invergeldie, C**	**10.57**	**135**	*e*P	**Pn**	**12 24 19.1**	**-1.1**
INVG				IAMs_20	IAMs_20	12 29 15.6	
	comp=Z,11μm,12.6s						
ELO	**Logie Almond**	**10.63**	**135**	*e*P	**Pn**	**12 24 19.9**	**-1.2**
EAB	**Aberfoyle**	**10.68**	**137**	*e*P	**Pn**	**12 24 20.2**	**-1.6**
SUMG	**Summit**	**10.93**	**325**	*i* P	**Pn**	**12 24 26.2**	**+0.8**
SUMG	**Summit**	**10.93**	**325**	*i* P	**Pn**	**12 24 26.2**	**+0.8**
SUMG	**Summit**	**10.93**	**325**		**Pn**	**12 24 25.4**	**0.0**
SUMG	**Summit**	**10.93**	**325**	*i* P	**Pn**	**12 24 26.3**	**+0.8**
SUMG				IAMs_20	IAMs_20	12 28 45.2	
	comp=Z,50μm,9.0s						
PGBU	**Glenifferbraes**	**10.97**	**138**	*e*P	**Pn**	**12 24 24.7**	**-0.9**
AKN	**Aaknes**	**11.19**	**92**	Pn	**Pn**	**12 24 26.9**	**-1.8**
EDI	**Edinburgh**	**11.25**	**135**	*e*P	**Pn**	**12 24 28.3**	**-1.2**
EDI				IAMs_20	IAMs_20	12 30 31.1	
	comp=Z,10μm,8.6s						
GAL1	**Galloway**	**11.73**	**141**	*e*P	**Pn**	**12 24 34.5**	**-1.5**
GAL1				IAMs_20	IAMs_20	12 29 57.1	
	comp=Z,14μm,12.8s						
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**12 24 36.5**	**0.0**
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**12 24 34.7**	**-1.8**
	baz=323,slow=13,SNR=44						
EKA				LR	LR	12 29 11.0	
	comp=Z,2μm,18.7s,baz=165,slow=38						
ESK	**Eskdalemuir**	**11.76**	**136**	*e*P	**Pn**	**12 24 35.7**	**-0.8**
ESK				IAMs_20	IAMs_20	12 30 01.4	
	comp=Z,10μm,10.5s						
ESK	**Eskdalemuir**	**11.76**	**136**	P	**Pn**	**12 24 36.0**	**-0.5**
ESK	**Eskdalemuir**	**11.76**	**136**	Pn	**Pn**	**12 24 34.9**	**-1.6**
DAG	**Danmarks Havn**	**12.14**	**359**	*i* P	**Pn**	**12 24 45.4**	**+3.9**
	comp=Z,4μm,10.0s						
DAG	**Danmarks Havn**	**12.14**	**359**	⇓ *i* P	**Pn**	**12 24 45.4**	**+3.9**
DAG				MLR	MLR		
	comp=Z,4μm,10.0s						
DAG	**Danmarks Havn**	**12.14**	**359**	⇓ *i* P	**Pn**	**12 24 45.4**	**+3.9**
DAG				IAMs_20	IAMs_20	12 29 24.0	
	comp=Z,4μm,10.1s						
DSB	**Dublin**	**12.80**	**149**	Pn	**Pn**	**12 24 51.1**	**+0.4**
NRS	**Narsarsuaq**	**13.17**	**267**	*i* P	**P**	**12 25 02.5**	**-3.4**
NRS	**Narsarsuaq**	**13.17**	**267**	*e*P	**P**	**12 25 02.5**	**-3.4**
NRS	**Narsarsuaq**	**13.17**	**267**	*e*P	**P**	**12 25 02.6**	**-3.4**
NRS				IAMs_20	IAMs_20	12 31 22.4	
	comp=Z,23μm,8.1s						
NC204	**NORSAR Array S**	**13.20**	**92**	Pn	**Pn**	**12 24 54.2**	**-2.0**
NBO00	**NORSAR Array S**	**13.32**	**93**	Pn	**Pn**	**12 24 55.6**	**-2.2**
NC303	**NORSAR Array S**	**13.48**	**92**	Pn	**Pn**	**12 24 57.5**	**-2.5**
NB2	**NORSAR Subarra**	**13.51**	**93**	Pn	**Pn**	**12 25 00.6**	**+0.3**
NB2	**NORSAR Subarra**	**13.51**	**93**	Pn	**Pn**	**12 24 57.3**	**-3.0**
	comp=Z,327nm,3.3s,baz=298,slow=14						
NB2	**NORSAR Subarra**	**13.51**	**93**	Pn	**Pn**	**12 24 57.3**	**-3.0**
	baz=298,slow=14						
NOA	**NORSAR Array B**	**13.51**	**93**	Pn	**Pn**	**12 24 57.2**	**-3.0**
	comp=Z,0.0nm,0.3s,baz=300,slow=13,SNR=4.9						
NOA				LR	LR	12 30 00.1	
	comp=Z,3μm,21.4s,baz=295,slow=36						
KONO	**Kongsberg**	**13.53**	**99**	⇓ *e*P	**Pn**	**12 25 00.6**	**0.0**
NB201	**NORSAR Array S**	**13.53**	**92**	Pn	**Pn**	**12 24 56.6**	**-4.1**
SFJD	**Kangerlussuaq**	**13.68**	**295**	LR	LR	12 29 48.7	
	comp=Z,4μm,19.7s,baz=86,slow=35						
SFJD	**Kangerlussuaq**	**13.68**	**295**	IAMs_20	IAMs_20	12 30 07.9	
	comp=Z,1μm,9.9s						
NC405	**NORSAR Array S**	**13.69**	**92**	Pn	Pn	12 24 58.3	-4.4
NC602	**NORSAR Array S**	**13.79**	**93**	Pn	**P**	**12 25 08.9**	**-4.0**
NRA0	**NORESS Array S**	**13.79**	**93**	Pn	**Pn**	**12 25 04.8**	**+0.6**
ILULI	**Ilulissat**	**13.80**	**304**	IAMs_20	IAMs_20	12 30 58.7	
	comp=Z,29μm,6.3s						
HOMB	**Homborsund**	**13.88**	**106**	*i* P	**Pn**	**12 25 06.0**	**+0.6**
HFS	**Hagfors**	**15.02**	**93**	P	**Pn**	**12 25 21.4**	**+0.5**
	baz=285,slow=22						
HFS	**Hagfors**	**15.02**	**93**	LR	LR	12 30 46.1	
	comp=Z,4μm,21.9s,baz=288,slow=36						
MUD	**Monsted U'grnd**	**15.35**	**110**	*i* P	**Pn**	**12 25 25.8**	**+0.6**
MUD	**Monsted U'grnd**	**15.35**	**110**	*i* P	**Pn**	**12 25 25.8**	**+0.6**
MUD	**Monsted U'grnd**	**15.35**	**110**	*i* P	**Pn**	**12 25 25.9**	**+0.6**
MUD				IAMs_20	IAMs_20	12 33 41.4	
	comp=Z,4μm,9.9s						
KIF	**Kilpisjarvi**	**15.43**	**57**	P	**Pn**	**12 25 26.6**	**+0.3**
BJO1	**Bjornoya**	**15.70**	**36**	P	**Pn**	**12 25 28.1**	**-1.7**
UPNV	**Upernavik**	**15.88**	**317**	*e*P	**P**	**12 25 37.0**	**+1.1**
UPNV				IAMs_20	IAMs_20	12 32 17.1	
	comp=Z,19μm,7.4s						
HSPB	**Hornsund (broa**	**16.02**	**26**	P	**P**	**12 25 35.7**	**-1.8**
HSPB	**Hornsund (broa**	**16.02**	**26**	*e*P	**P**	**12 25 36.5**	**-1.1**
HAMF	**Hammerfest**	**16.41**	**51**	P	**Pn**	**12 25 38.4**	**-0.6**
KULLO	**Kullorsuaq**	**16.59**	**323**	IAMs_20	IAMs_20	12 32 19.3	
	comp=Z,14μm,8.9s						
KBS	**Kingsbay**	**16.60**	**19**	⇑ *i* P	**P**	**12 25 43.0**	**-0.9**
KBS				*e*S	**Sn**	**12 28 49.7**	**+4.0**
KBS	**Kingsbay**	**16.60**	**19**	⇑ *e*P	**P**	**12 25 42.7**	**-1.2**
KBS				pmax	pmax		
	comp=Z,176nm,1.8s						
KBS	**Kingsbay**	**16.60**	**19**	*e*P	**P**	**12 25 44.4**	**+0.5**
SPA0	**Spitsbergen Ar**	**16.82**	**23**	P	**P**	**12 25 46.0**	**-0.4**
SPA0	**Spitsbergen Ar**	**16.82**	**23**	*e*P	**P**	**12 25 45.7**	**-0.7**
SPA0				*e*S	**S**	**12 28 56.3**	**-5.9**
SPA0	**Spitsbergen Ar**	**16.82**	**23**	P	**P**	**12 25 46.0**	**-0.4**
SPA0				IAmb	IAmb	12 26 01.3	
	comp=Z,380nm,2.0s						
SPITS	**Spitsbergen Ar**	**16.82**	**23**	LR	LR	12 30 28.7	
	comp=Z,2μm,19.4s,baz=220,slow=31						
NOR	**Nord**	**16.99**	**0**	P	**P**	**12 25 46.7**	**-1.5**
NOR	**Nord**	**16.99**	**0**	⇓ *i* P	**P**	**12 25 46.8**	**-1.5**
	comp=Z,641nm,1.9s						
NOR	**Nord**	**16.99**	**0**	⇓ *i* P	**P**	**12 25 46.8**	**-1.5**
NOR				pmax	pmax		
	comp=Z,640nm,1.9s						
NOR	**Nord**	**16.99**	**0**	⇓ *i* P	**P**	**12 25 46.8**	**-1.4**
NOR				IAmb	IAmb	12 25 53.9	
	comp=Z,642nm,1.9s						
NOR				IAMs_20	IAMs_20	12 33 13.4	
	comp=Z,4μm,8.7s						
ARA0	**ARCESS Array S**	**17.07**	**55**	P	**Pn**	**12 25 45.9**	**-1.5**
	baz=277,slow=8.6						
ARCES	**ARCESS Array B**	**17.07**	**55**	P	**Pn**	**12 25 46.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=287,slow=6.2,SNR=14						
ARCES				LR	LR	12 31 09.3	
	comp=Z,4μm,19.6s,baz=274,slow=33						
ARCES	**ARCESS Array B**	**17.07**	**55**	P	**Pn**	**12 25 45.2**	**-2.1**
ARE0	**ARCESS Array S**	**17.07**	**55**	P	**Pn**	**12 25 46.2**	**-1.2**
KEV	**Kevo**	**17.58**	**54**	P	**P**	**12 25 53.4**	**-1.3**
KEV				pmax	pmax		
	comp=Z,126nm,1.7s						
KEV	**Kevo**	**17.58**	**54**	P	**P**	**12 25 53.4**	**-1.3**
BSEG	**Bad Segeberg**	**17.62**	**115**	*e*L	L	12 33 19.3	
	comp=Z,5μm,18.1s						
HOPEN	**Hopen**	**17.79**	**31**	P	**P**	**12 25 58.3**	**+1.2**
IBBN	**Ibbenburen**	**17.92**	**122**	*e*P	**Pn**	**12 25 56.2**	**-1.8**
	comp=Z,2μm,3.0s,baz=328,slow=10						
UCC	**Uccle**	**18.00**	**130**	P	**Pn**	**12 25 56.8**	**-2.1**
UCC				pmax	pmax		
	comp=Z,110nm,1.5s						
UCC	**Uccle**	**18.00**	**130**	P	**Pn**	**12 25 56.8**	**-2.1**
SNF	**Seneffe**	**18.22**	**131**	P	**Pn**	**12 25 59.6**	**-2.1**
RGN	**Rugen**	**18.37**	**109**	*e*P	**P**	**12 26 03.5**	**0.0**
RGN	**Rugen**	**18.37**	**109**	P	**P**	**12 26 03.0**	**-0.5**
BEBN	**Eben Emael**	**18.44**	**128**	P	**Pn**	**12 26 03.5**	**-0.8**
BMRD	**Maredsous**	**18.56**	**130**	P	**Pn**	**12 26 04.8**	**-1.1**
	comp=Z,112nm,2.4s						
BSTI	**Sart Tilman**	**18.58**	**129**	P	**P**	**12 26 03.7**	**-2.3**
BGES	**Gesves**	**18.59**	**130**	P	**P**	**12 26 03.5**	**-2.6**
	comp=Z,89nm,2.1s						
LDF	**La Druitiere**	**18.63**	**142**	*e*P	**Pn**	**12 26 06.2**	**-0.4**
BCLA	**Clavier**	**18.64**	**129**	P	**P**	**12 26 03.0**	**-3.5**
	comp=Z,80nm,2.8s						
NRDL	**Niedersach Rie**	**18.65**	**118**	*e*P	**P**	**12 26 04.4**	**-2.2**
	comp=Z,3μm,3.2s,baz=328,slow=10						
DOU	**Dour**	**18.68**	**131**	P	**P**	**12 26 04.8**	**-2.3**
	comp=Z,62nm,2.9s						
MEM	**Membach**	**18.71**	**128**	P	**P**	**12 26 05.4**	**-2.0**
BHOU	**Houvegnez**	**18.93**	**128**	P	**P**	**12 26 07.5**	**-2.2**
	comp=Z,138nm,3.0s						
SUF	**Sumiainen**	**19.12**	**76**	P	**Pn**	**12 26 11.8**	**-0.7**
ASSE	**Asse, Remlinge**	**19.15**	**118**	*e*P	**P**	**12 26 10.2**	**-1.9**
	comp=Z,1μm,2.8s,baz=328,slow=10						
CLZ	**Clausthal**	**19.27**	**119**	*e*P	**Pn**	**12 26 12.8**	**-1.6**
	comp=Z,391nm,1.7s,baz=328,slow=10						
WLF	**Walferdange**	**19.57**	**129**	P	**Pn**	**12 26 16.9**	**-1.1**
	comp=Z,76nm,2.8s						
WLF	**Walferdange**	**19.57**	**129**	P	**P**	**12 26 15.2**	**-1.5**
WLF				pmax	pmax		
	comp=Z,229nm,1.9s						
WLF	**Walferdange**	**19.57**	**129**	P	**P**	**12 26 15.2**	**-1.5**
WLF				IAmb	IAmb	12 26 28.3	
	comp=Z,229nm,1.9s						
FIA0	**FINESS Array S**	**19.67**	**79**	P	**Pn**	**12 26 17.5**	**-1.6**
	baz=302,slow=14						
FINES	**FINESS Array B**	**19.67**	**79**	P	**Pn**	**12 26 17.5**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=318,slow=13,SNR=6.5						
FINES				LR	LR	12 33 29.8	
	comp=Z,3μm,21.6s,baz=289,slow=36						
FINES	**FINESS Array B**	**19.67**	**79**	P	**P**	**12 26 16.7**	**-1.1**
FIA1	**FINESS Array S**	**19.67**	**79**	P	**P**	**12 26 16.1**	**-1.6**
FIA1				IAmb	IAmb	12 26 30.2	
	comp=Z,388nm,1.9s						
CLF	**Chambon-Foret**	**19.80**	**138**	P	**P**	**12 26 17.9**	**-1.4**
TULEG	**Thule**	**19.84**	**327**	P	**P**	**12 26 19.2**	**-0.3**
TULEG				IAmb	IAmb	12 26 30.4	
	comp=Z,355nm,1.8s						
TULEG	**Thule**	**19.84**	**327**	*e*P	**Pn**	**12 26 20.5**	**-0.5**
TULEG				IAMs_20	IAMs_20	12 34 36.9	
	comp=Z,13μm,9.1s						
TNS	**Taunus Mts**	**19.88**	**124**	*e*P	**Pn**	**12 26 20.7**	**-1.1**
	comp=Z,546nm,2.5s,baz=328,slow=10						
TNS				*e*L	L	12 34 51.7	
	comp=Z,1μm,18.1s						
UBBA	**Unterbreizbach**	**19.95**	**121**	*e*P	**Pn**	**12 26 21.9**	**-0.5**
	comp=Z,282nm,1.8s,baz=328,slow=10						
RUE	**Ruedersdorf**	**20.09**	**113**	*e*P	Pn	12 26 22.8	-1.3
SLIT	**Slitere, Latvi**	**20.12**	**92**	*e*P	Pn	12 26 22.2	-2.2
APA	**Apatity**	**20.28**	**59**	⇑ *i*P	Pn	12 26 27.2	+0.9
APA				*i* S	Sn	12 30 12.0	-2.8
APA				pmax	pmax		
	comp=Z,17nm,0.9s						
NEUB	**Neuenburg**	**20.30**	**118**	*e*P	Pn	12 26 25.2	-1.4
	comp=Z,323nm,1.4s,baz=328,slow=10						
MFF	**Saint Martin d**	**20.46**	**144**	*e*P	Pn	12 26 27.4	-1.2
MFF				pmax	pmax		
	comp=Z,142nm,1.6s						
CLL	**Collm**	**20.69**	**116**	*i* P	**P**	**12 26 28.2**	**-0.7**
	comp=Z,165nm,1.9s						
CLL				*e*Pmax		12 26 31.0	
CLL				*i* sP	**sP**	**12 26 33.9**	**+3.5**
	comp=Z,147nm,1.5s						
CLL				*i* PP	**PnPn**	**12 26 43.1**	**-3.3**
CLL				*e*		12 28 18.0	
CLL				*e*S	Sn	12 30 21.0	-3.9
CLL				Lm	MLR	12 34 00.0	
	comp=N,2μm,20.8s						
CLL				Lm	MLR	12 34 00.0	
	comp=E,5μm,18.9s						
CLL				Lm	MLR	12 34 00.0	
	comp=Z,3μm,19.2s						
CLL				Lmax		12 37 00.0	
CLL	**Collm**	**20.69**	**116**	*i* P	**P**	**12 26 28.2**	**-0.7**
CLL				*i*		12 26 33.9	
CLL				*e*S	Sn	12 30 21.0	-3.9
CLL				pmax	pmax		
	comp=Z,165nm,1.9s						
CLL				MLR	MLR		
	comp=Z,3μm,19.2s						
CLL	**Collm**	**20.69**	**116**	*e*P	Pn	12 26 29.1	-2.1
	comp=Z,147nm,1.4s,baz=328,slow=10						
CLL				*e*L	L	12 34 15.5	
	comp=Z,3μm,21.7s						
CLL	**Collm**	**20.69**	**116**	P	**P**	**12 26 28.2**	**-0.7**
CLL				IAmb	IAmb	12 26 36.1	
	comp=Z,159nm,1.5s						
MOX	**Moxa**	**20.69**	**119**	P	Pn	12 26 29.7	-1.6
MOX				pmax	pmax		
	comp=Z,101nm,2.0s						
MOX	**Moxa**	**20.69**	**119**	*e*P	Pn	12 26 29.6	-1.7
	comp=Z,2μm,3.1s,baz=328,slow=10						
MOX				*e*L	L	12 35 12.9	
	comp=Z,3μm,19.3s						
GKP	**Gorka Klasztor**	**20.90**	**107**	*e*P	Pn	12 26 32.5	-1.1
GKP				*e*S	Sn	12 30 35.0	+5.3
GKP				*e*L	L	12 33 37.1	
	comp=Z,3μm,24.2s						
PBUR	**Paburge**	**20.97**	**96**	*e*P	Pn	12 26 32.0	-2.5
PLN	**Plauen**	**21.03**	**118**	*e*P	**P**	**12 26 33.0**	**+0.4**
	comp=Z,2μm,3.0s,baz=328,slow=10						
WERD	**Werda**	**21.11**	**118**	*e*P	**P**	**12 26 34.5**	**+0.9**
	comp=Z,498nm,2.8s,baz=328,slow=10						
FBE	**Freiberg**	**21.14**	**116**	*e*P	**P**	**12 26 34.3**	**+0.5**
	comp=Z,5μm,3.6s,baz=328,slow=10						
ECH	**Echery**	**21.15**	**130**	P	**P**	**12 26 32.2**	**-1.8**
ECH				pmax	pmax		
	comp=Z,322nm,1.9s						
ECH	**Echery**	**21.15**	**130**	P	**P**	**12 26 32.2**	**-1.8**
ECH				IAmb	IAmb	12 26 53.2	
	comp=Z,322nm,1.9s						
GUNZ	**Gunzen**	**21.19**	**118**	*e*P	**P**	**12 26 34.5**	**+0.1**
	comp=Z,2μm,2.8s,baz=328,slow=10						
TANN	**Tannenbergstha**	**21.20**	**118**	*e*P	**P**	**12 26 34.8**	**+0.3**
	comp=Z,3μm,2.6s,baz=328,slow=10						
WERN	**Wernitzgruen**	**21.27**	**118**	*e*P	**P**	**12 26 35.4**	**+0.2**
	comp=Z,2μm,2.8s,baz=328,slow=10						
GRA1	**Grafenberg Arr**	**21.32**	**121**	P	**P**	**12 26 34.3**	**-1.5**
GRF	**Grafenberg Arr**	**21.32**	**121**	P	**P**	**12 26 34.3**	**-1.5**
GRF				pmax	pmax		
	comp=Z,467nm,1.8s						
GRF	**Grafenberg Arr**	**21.32**	**121**	*e*P	**P**	**12 26 36.9**	**+1.0**
	comp=Z,3μm,3.4s,baz=328,slow=10						
GRF				*e*L	L	12 36 06.9	
	comp=Z,3μm,19.2s						
NKC	**Novy Kostel**	**21.34**	**118**	*e*P	**P**	**12 26 37.5**	**+1.5**
NKC				*e*		12 26 40.9	
NKC				*e*S	Sn	12 30 41.1	+0.6
NKC				MLR	MLR		
	comp=Z,3μm,17.1s						
NKC	**Novy Kostel**	**21.34**	**118**	*e*P	**P**	**12 26 37.5**	**+1.5**
NKC				*e*pP	**sP**	**12 26 40.9**	**+3.4**
NKC				*e*S	Sn	12 30 41.1	+0.6
NKC				AMS	AMS	12 35 30.0	
	comp=Z,3μm,17.1s						
STU	**Stuttgart**	**21.37**	**126**	P	**P**	**12 26 36.9**	**+0.6**
STU				pmax	pmax		
	comp=Z,90nm,1.0s						
STU	**Stuttgart**	**21.37**	**126**	P	**P**	**12 26 36.9**	**+0.6**
STU				IAmb	IAmb	12 26 45.0	
	comp=Z,90nm,1.0s						
BRG	**Berggiesshubel**	**21.40**	**115**	*i* P	**P

comp=Z,125nm,1.7s,baz=328,slow=10
WET eL L 12 35 33.0
comp=Z,3µm,20.7s
CHVC Chvalec 22.45 113 eP **P 12 26 48.7 +0.8**
CHVC ex x 12 26 57.3
CHVC eS **S 12 30 54.0 -0.9**
CHVC AMS AMS 12 35 20.0
comp=Z,3µm,18.0s
UPC Upice 22.50 113 eP **P 12 26 49.7 +1.3**
UPC MLR MLR
comp=Z,3µm,18.3s
UPC Upice 22.50 113 eP P **12 26 49.7 +1.3**
UPC eS Sn 12 31 03.6 -4.6
UPC AMS AMS 12 35 30.0
comp=Z,3µm,18.3s
OSTC Ostas 22.54 113 eP **P 12 26 50.3 +1.4**
OSTC ex x 12 26 54.9
OSTC eS **S 12 30 54.8 -1.7**
OSTC AMS AMS 12 35 30.0
comp=Z,3µm,20.4s
UBR Ueberruh 22.62 126 eP **P 12 26 50.7 +1.0**
comp=Z,442nm,1.7s,baz=328,slow=10
FUR Furstenfeldbru 22.62 123 eL L 12 36 50.7
comp=Z,3µm,18.5s
KHC Kasperske Hory 22.66 119 eP **P 12 26 50.2 0.0**
KHC e 12 26 56.1
KHC eS **S 12 31 01.3 +2.4**
KHC MLR MLR
comp=Z,3µm,16.8s
KHC Kasperske Hory 22.66 119 eP **P 12 26 50.2 0.0**
KHC epP **sP 12 26 56.1 +4.4**
KHC ex x 12 27 05.1
KHC eS **S 12 31 01.3 +2.4**
KHC AMS AMS 12 35 40.0
comp=Z,3µm,16.8s
KHC Kasperske Hory 22.66 119 P P **12 26 50.6 +0.4**
KHC IAmb IAmb 12 27 06.7
comp=Z,131nm,1.9s
DPC Dobruska-Polom 22.75 113 eP **P 12 26 50.6 -0.5**
DPC e 12 26 57.2
DPC MLR MLR
comp=Z,3µm,21.2s
DPC Dobruska-Polom 22.75 113 eP **P 12 26 50.6 -0.5**
DPC epP **sP 12 26 57.2 +4.7**
DPC ex x 12 27 06.2
DPC eS Sn 12 31 05.2 -9.0
DPC AMS AMS 12 35 30.0
comp=Z,3µm,21.2s
SENIN Lac Senin/Sane 22.82 132 P **P 12 26 52.9 +0.8**
SUW Suwalki 22.86 99 eP **P 12 26 50.6 -1.5**
SUW eS Sn 12 31 09.6 -7.2
SUW eL L 12 34 07.6
comp=Z,2µm,28.1s
SUW Suwalki 22.86 99 P **P 12 26 52.6 +0.5**
SUW pmax pmax
comp=Z,346nm,1.6s
SUW Suwalki 22.86 99 P **P 12 26 52.6 +0.5**
DAVA Damuels 22.88 127 epP pP 12 26 54.0 +0.4
comp=Z,73nm,1.4s,SNR=8.8
GEC2 GERESS Array S 22.95 119 eP **P 12 26 53.4 +0.2**
comp=Z,392nm,1.9s,baz=328,slow=10
GEC2 eL L 12 35 59.1
comp=Z,3µm,20.6s
GEC2 GERESS Array S 22.95 119 P **P 12 26 53.4 +0.2**
GERES GERESS Array B 22.95 119 P **P 12 26 53.2 0.0**
comp=Z,6.0nm,0.9s,baz=324,slow=8.6,SNR=36
GERES LR LR 12 36 20.2
comp=Z,3µm,20.3s,baz=330,slow=38
GERES GERESS Array B 22.95 119 P **P 12 26 53.0 -0.3**
SSB Saint Sauveur 22.95 137 P **P 12 26 52.3 -1.0**
SSB pmax pmax
comp=Z,202nm,1.8s
SSB Saint Sauveur 22.95 137 P **P 12 26 52.3 -1.0**
SSB IAmb IAmb 12 27 04.7
comp=Z,202nm,1.8s
IZAR Zarasai 23.00 92 eP **P 12 26 54.2 +0.6**
RETA Reutte 23.01 125 eP **P 12 26 54.4 +0.5**
comp=Z,120nm,2.1s,SNR=12
ZFI2 Zemlya Franca- 23.02 22 eP **P 12 26 53.6 -0.1**
comp=Z,50nm,1.4s
ZFI2 eS **S 12 31 07.0 +2.3**
ISAL Salakas 23.06 93 eP **P 12 26 54.4 +0.1**
KRLC Kraliky 23.14 113 eP **P 12 26 56.6 +1.4**
KRLC e 12 27 04.8
KRLC eS **S 12 31 05.7 -1.6**
KRLC MLR MLR
comp=Z,3µm,18.5s
KRLC Kraliky 23.14 113 eP **P 12 26 56.6 +1.4**
KRLC ex x 12 27 04.8
KRLC eS **S 12 31 05.7 -1.6**
KRLC AMS AMS 12 35 50.0
comp=Z,3µm,18.5s
MOTA Moosalm 23.26 125 eP **P 12 26 56.8 +0.3**
comp=Z,138nm,1.5s,SNR=14
TREC Trest 23.26 116 eP **P 12 26 58.8 +2.4**
TREC eS **S 12 31 09.2 0.0**
TREC MLR MLR
comp=Z,3µm,17.0s
TREC Trest 23.26 116 eP **P 12 26 58.8 +2.4**
TREC ex x 12 27 10.9
TREC eS **S 12 31 09.2 0.0**
TREC AMS AMS 12 36 40.0
comp=Z,3µm,17.0s
DAVOX Davos/Dischmat 23.32 127 P **P 12 26 56.4 -0.7**
comp=Z,11nm,0.9s,baz=332,slow=9.6,SNR=14
DAVOX LR LR 12 36 48.1
comp=Z,1µm,19.9s,baz=335,slow=39
PGAV Gavieira, Arco 23.38 163 eP **P 12 26 59.3 +1.6**
comp=Z,136nm,2.0s
PGAV eS **S 12 31 09.8 -1.5**
PGAV eLR LR 12 33 57.3
comp=Z,3µm,16.0s
SQTA Sankt Quirin 23.40 125 eP **P 12 26 58.3 +0.4**
comp=Z,110nm,1.6s,SNR=10
FETA Feichten 23.40 126 eP **P 12 26 58.5 +0.6**
comp=Z,63nm,1.6s,SNR=10
TUE Stuetta 23.40 128 P **P 12 26 57.5 -0.6**
BEL Belsk 23.42 105 eP **P 12 26 57.8 -0.1**
BEL eS Sn 12 31 21.4 -8.8
BEL eL L 12 34 37.6
comp=Z,2µm,25.8s
WATA Walderalm 23.43 124 eP **P 12 26 58.5 +0.3**
comp=Z,75nm,1.6s,SNR=10
IDID Didziasalis 23.50 93 eP **P 12 26 59.0 +0.3**
WTTA Wattenberg 23.51 124 eP **P 12 26 59.4 +0.2**
comp=Z,120nm,1.5s,SNR=13
RJOB Jochberg 23.53 122 eP **P 12 26 57.2 -1.9**
comp=Z,962nm,3.2s,baz=328,slow=10
FUORN Ofenpass-Fuorn 23.59 127 P **P 12 26 59.6 -0.3**
FUORN IAmb IAmb 12 27 32.1
comp=Z,190nm,1.9s
EUNU Eureka 23.65 336 P **P 12 26 59.7 -0.4**
PCAB Cabril 23.66 162 eP **P 12 27 01.2 +0.8**
comp=Z,116nm,1.8s
VRAC Vranov 23.68 114 P **P 12 26 59.8 -0.8**
comp=Z,8.3nm,1.0s,baz=322,slow=11,SNR=34
VRAC LR LR 12 37 33.5
comp=Z,3µm,18.9s,baz=332,slow=40
VRAC Vranov 23.68 114 ⇑P **P 12 27 01.3 +0.8**
VRAC Vranov 23.68 114 ⇓*i*P **P 12 26 59.8 -0.8**
VRAC eS **S 12 31 20.1 +4.2**
MORC Moravsky Berou 23.68 112 ⇓*i*P **P 12 26 59.9 -0.7**
MORC eS **S 12 31 17.9 +1.9**
MORC Moravsky Berou 23.68 112 P **P 12 26 59.5 -1.1**
MORC pmax pmax
comp=Z,341nm,1.9s
MORC Moravsky Berou 23.68 112 P **P 12 26 59.5 -1.1**
PBRG Braganca 23.75 160 eP **P 12 27 00.8 -0.5**
comp=Z,99nm,2.0s
PBRG eS **S 12 31 17.1 0.0**
NACGM Naroch 23.79 93 eP P 12 26 54.0 -7.5
NACGM ePP **PnPn 12 27 22.0 -6.8**
NACGM eS S 12 31 06.0 -12
NACGM eSS **SnSn 12 31 54.0 -0.9**
NACGM eSSS SSS 12 32 14.0
NACGM eLQ LQ 12 35 00.0
NACGM eLR LR 12 36 48.0
BNI Bardonecchia 23.80 134 P **P 12 27 02.2 +0.3**
BNI pmax pmax
comp=Z,292nm,2.0s
BNI Bardonecchia 23.80 134 P **P 12 27 02.2 +0.3**
KRUC Moravsky 23.80 115 ⇓*i*P **P 12 27 00.7 -1.0**
KRUC eS **S 12 31 20.6 +2.8**
OKC Ostrava-Krasne 23.88 111 eP **P 12 27 07.7 +5.3**
OKC Ostrava-Krasne 23.88 111 ⇓*i*P **P 12 27 07.7 +5.3**
MOA Molln 23.98 119 eP **P 12 27 03.5 0.0**
comp=Z,62nm,1.8s,SNR=12
OJC Ojcow 24.24 109 eP **P 12 27 04.4 -1.5**
OJC eS S 12 31 33.1 +8.3
OJC eL L 12 35 27.2
comp=Z,2µm,24.2s
OJC Ojcow 24.24 109 P **P 12 27 04.3 -1.6**
OJC pmax pmax
comp=Z,277nm,1.9s
OJC Ojcow 24.24 109 P **P 12 27 04.3 -1.6**
ABTA Abfaltersbach 24.27 123 eP **P 12 27 07.1 +0.9**
comp=Z,37nm,1.5s,SNR=5.7
KBA Koelnbreinsper 24.29 122 eP **P 12 27 07.0 +0.5**
comp=Z,71nm,1.6s,SNR=16
MVO Moncorvo 24.33 161 eP **P 12 27 07.7 +0.9**
comp=Z,132nm,2.1s
MVO eS **S 12 31 30.9 +4.4**
MVO eLR LR 12 34 04.2
comp=Z,2µm,16.0s
JAVC Velka Javorina 24.46 114 ⇓*i*P **P 12 27 08.3 +0.3**
JAVC eS **S 12 31 35.5 +6.9**
CONA Conrad Observa 24.52 117 *i* P **P 12 27 08.8 +0.3**
comp=Z,24nm,1.0s
MICGM Minsk 24.53 93 ⇑eP **P 12 27 07.0 -1.5**
MICGM ⇑eP **P 12 27 07.0 -1.5**
MICGM PM 12 27 08.0
comp=Z,0.3nm,2.0s
MICGM PM 12 27 09.0
comp=E,0.2nm,1.5s
MICGM PM 12 27 09.0
comp=Z,3.6nm,4.0s
MICGM PM 12 27 10.0
comp=N,0.2nm,1.5s
MICGM ePP sP 12 27 44.0 +34
MICGM ePPP PPP 12 28 06.0
MICGM eS **S 12 31 34.0 +4.6**
MICGM SM 12 31 35.0
comp=N,4.8nm,8.0s
MICGM SM 12 31 36.0
comp=E,6.0nm,8.0s
MICGM eSS **SnSn 12 32 14.0 +0.9**
MICGM eSSS SSS 12 32 29.0
MICGM eLQ LQ 12 34 18.0
MICGM eLR LR 12 35 14.0
MICGM LRM MLR 12 36 20.0
comp=Z,2.6nm,16.0s
MNK Minsk 24.53 93 eP **P 12 27 07.0 -1.5**
MNK e 12 27 44.0
MNK eS **S 12 31 34.0 +4.6**
MNK eSS **SnSn 12 32 14.0 +0.9**
MNK pmax pmax
comp=Z,310nm,2.0s
MNK smax smax
comp=E,6µm,8.0s
MNK MLR MLR
comp=Z,3µm,16.0s
SALO Salr 24.55 128 P **P 12 27 07.7 -1.0**
SALO IAmb IAmb 12 27 24.4
comp=Z,125nm,1.8s
CTI Castel Tesino 24.56 125 P **P 12 27 08.1 -0.8**
CTI pmax pmax
comp=Z,330nm,2.0s
CTI Castel Tesino 24.56 125 P **P 12 27 08.1 -0.8**
ZOU Zoufplan 24.60 123 P **P 12 27 09.7 +0.4**
CIMO Cimolais 24.62 124 P **P 12 27 10.1 +0.7**
CIMO IAmb IAmb 12 27 49.5
comp=Z,131nm,1.6s
SMOL Smolenice 24.65 114 eP **P 12 27 10.4 +0.8**
SMOL pmax pmax
comp=Z,415nm,2.8s
SMOL Smolenice 24.65 114 eP **P 12 27 10.4 +0.8**
PVIS Viseu 24.65 162 eP **P 12 27 09.2 -0.5**
comp=Z,100nm,1.9s
MODS Modra-Piesok 24.70 115 eP **P 12 27 09.6 -0.5**
MODS pmax pmax
comp=Z,1µm,3.3s
MODS Modra-Piesok 24.70 115 eP **P 12 27 09.6 -0.5**
MODS eS **S 12 31 37.1 +4.8**
MODS eL L 12 36 34.4
STAL STALIGIAL 24.75 124 P **P 12 27 11.1 +0.5**
MYKA Terra Mystica 24.78 122 eP **P 12 27 11.5 +0.7**
comp=Z,32nm,1.5s,SNR=11
PRED Cave del Predi 24.91 122 P **P 12 27 11.8 -0.2**
ARSA Arzberg 24.95 119 eP **P 12 27 13.1 +0.8**
comp=Z,41nm,1.9s,SNR=10
MTE Manteigas 25.01 162 eP **P 12 27 13.3 +0.3**
comp=Z,107nm,2.1s
MTE eS **S 12 31 38.5 +1.0**
MTE eLR LR 12 34 26.3
comp=Z,3µm,16.0s
MTE Manteigas 25.01 162 P **P 12 27 13.9 +1.0**
MTE IAmb IAmb 12 27 33.8
comp=Z,90nm,1.5s
NIE Niedzica 25.07 109 eP **P 12 27 13.4 0.0**
NIE eS **S 12 31 44.8 +6.6**
NIE eL L 12 36 15.8
comp=Z,1µm,22.4s
COI Coimbra 25.09 164 P **P 12 27 14.4 +0.8**
COI pmax pmax
comp=Z,138nm,1.5s
COI Coimbra 25.09 164 eS **S 12 31 43.1 +4.5**
COI Coimbra 25.09 164 P **P 12 27 14.4 +0.8**
CADS Cadrg 25.15 122 *i* P **P 12 27 13.6 -0.6**
CADS eS **S 12 31 44.4 +4.8**
CADS *e* 12 36 21.9
OBKA Obir 25.21 121 eP **P 12 27 15.1 +0.3**
comp=Z,26nm,1.2s
VYHS Vyhne 25.22 113 eP **P 12 27 14.9 +0.2**
VYHS pmax pmax
comp=Z,833nm,3.2s
VYHS Vyhne 25.22 113 eP **P 12 27 14.9 +0.2**
VYHS eS **S 12 31 45.7 +5.1**
VYHS eL L 12 36 42.8
PCAS Casmilo, Conde 25.23 164 eP **P 12 27 16.6 +1.7**
comp=Z,142nm,1.6s
PCAS eS **S 12 31 46.1 +5.2**
SOKA Soboth 25.25 120 eP **P 12 27 15.4 +0.3**
comp=Z,31nm,1.5s,SNR=11
MSSA Maissana 25.36 131 P **P 12 27 14.2 -1.9**
KLMR Klimovskoe 25.56 72 ⇓*i*P **P 12 27 16.9 -0.9**
comp=Z,91nm,1.4s
KLMR eS **S 12 31 45.9 +0.1**
KLMR Klimovskoe 25.56 72 *d*P **P 12 27 16.8 -0.9**
KLMR *e* 12 30 47.6
KLMR eS **S 12 31 45.7 -0.1**
KLMR pmax pmax
comp=Z,91nm,1.4s
KLMR Klimovskoe 25.56 72 ⇓*i*P **P 12 27 16.8 -0.9**
KLMR *i* P **P 12 27 16.8 -0.9**
KLMR *i* P **P 12 27 16.8 -0.9**
KLMR AMP 12 27 26.5
comp=Z,91nm,1.4s
KLMR ePcP **PcP 12 30 47.6 -0.8**
KLMR eS **S 12 31 45.7 -0.1**
KLMR eS **S 12 31 45.7 -0.1**
KLMR LQ LQ 12 34 20.4
KLMR LQ LQ 12 34 20.4
KLMR LR LR 12 35 23.7
PCBR Castelo Branco 25.57 162 eP **P 12 27 18.9 +1.0**
comp=Z,79nm,1.7s
LJU Ljubljana 25.60 121 *i* P **P 12 27 17.6 -0.5**
TRI Trieste 25.61 123 P **P 12 27 16.5 -1.7**
TRI pmax pmax
comp=Z,159nm,1.9s
TRI Trieste 25.61 123 P **P 12 27 16.5 -1.7**
TRI IAmb IAmb 12 27 33.5
comp=Z,160nm,1.9s
PSBE So Bento 25.73 164 eP **P 12 27 22.0 +2.6**
comp=Z,103nm,1.7s
PSBE eS **S 12 31 43.1 -5.7**
UCM Universidad Co 25.79 154 eP **P 12 27 19.1 -0.8**
UCM eS **S 12 31 53.0 +3.2**
VLC Villacollemand 25.79 129 P **P 12 27 18.0 -1.9**
ZCCA Zocca 25.82 128 P **P 12 27 19.6 -0.6**
ZCCA IAmb IAmb 12 27 38.4
comp=Z,95nm,1.2s
KECS Kecovo 25.89 111 eP **P 12 27 21.6 +0.8**
KECS Kecovo 25.89 111 eP **P 12 27 21.6 +0.8**
KWP Kalwaria Pacla 25.89 106 eP **P 12 27 20.3 -0.5**
KWP eS **S 12 31 57.4 +6.2**
KWP eL L 12 36 06.6
comp=Z,2µm,26.3s
KWP Kalwaria Pacla 25.89 106 P **P 12 27 21.5 +0.7**
KWP pmax pmax
comp=Z,422nm,1.7s
KWP Kalwaria Pacla 25.89 106 P **P 12 27 21.5 +0.7**
LSH Leshukonskoye 25.92 61 eP **P 12 27 19.3 -1.7**
comp=Z,72nm,1.1s
LSH eS **S 12 31 57.0 +5.6**
CRVS Cervenica-Dubn 25.95 109 eP **P 12 27 21.5 +0.1**
CRVS pmax pmax
comp=Z,222nm,1.6s
CRVS Cervenica-Dubn 25.95 109 eP **P 12 27 21.5 +0.1**
CRVS eS **S 12 31 56.4 +4.2**
CRVS eL L 12 36 14.4
KNDS Knezji Dol 25.98 122 *i* P **P 12 27 20.9 -0.9**
KNDS eS **S 12 31 57.6 +4.7**
PMRV Marv??o 25.99 162 eP **P 12 27 22.0 +0.2**
comp=Z,106nm,2.4s
PMRV eS **S 12 31 59.2 +6.3**
PMRV eLR LR 12 34 24.2
comp=Z,2µm,18.0s
SCHQ Schefferville 26.07 271 P **P 12 27 22.0 -0.4**
comp=Z,29nm,0.9s,baz=59,slow=7.6,SNR=8.8
SCHQ LR LR 12 36 32.9
comp=Z,1µm,18.5s,baz=64,slow=34
SCHQ Schefferville 26.07 271 P **P 12 27 23.6 +1.2**
SCHQ IAmb IAmb 12 27 29.5
comp=Z,37nm,0.9s
PSZ Piszkesteto 26.10 112 ⇑P **P 12 27 25.5 +2.6**
PSZ Piszkesteto 26.10 112 P **P 12 27 23.5 +0.7**
PSZ pmax pmax
comp=Z,290nm,1.7s
PSZ Piszkesteto 26.10 112 P **P 12 27 23.5 +0.7**
DRLN Deer Lake 26.16 253 P **P 12 27 24.0 +0.8**
PMAFR Mafra 26.23 166 eP **P 12 27 25.4 +1.5**
comp=Z,175nm,1.7s
PMAFR eS **S 12 32 01.2 +4.6**
PMTG Montargil 26.24 164 eP **P 12 27 23.8 -0.2**
comp=Z,92nm,2.0s
PMTG eS **S 12 31 53.2 -3.5**
KOLS Kolonicke sedl 26.26 108 eP **P 12 27 24.0 -0.1**
KOLS pmax pmax
comp=Z,67nm,1.3s
KOLS Kolonicke sedl 26.26 108 eP **P 12 27 24.0 -0.1**
KOLS eS **S 12 32 01.4 +4.4**
KOLS eL L 12 36 51.5
ESSB Sonseca Array 26.27 156 P **P 12 27 24.3 -0.1**
ESDC Sonseca Array 26.27 156 P **P 12 27 24.1 -0.3**
comp=Z,5.1nm,0.8s,baz=351,slow=8.1,SNR=23
ESDC LR LR 12 37 27.8
comp=Z,1µm,18.9s,baz=345,slow=36
ESDC Sonseca Array 26.27 156 P **P 12 27 23.3 -1.1**
LVV L'vov 26.29 105 eP **P 12 27 23.9 -0.5**
LVV *e* 12 28 06.3
LVV eS **S 12 31 54.0 -3.6**
LVV pmax pmax
comp=Z,130nm,1.8s
LVV MLR MLR
comp=E,2µm,15.0s
LVV MLR MLR
comp=Z,2µm,15.0s
LVV MLR MLR
comp=N,2µm,14.0s
PAB San Pablo 26.33 157 P **P 12 27 25.2 +0.2**
PAB pmax pmax
comp=Z,213nm,2.0s
PAB San Pablo 26.33 157 P **P 12 27 25.2 +0.2**
RES Resolute Bay 26.45 324 LR LR 12 37 54.0
comp=Z,485nm,21.9s,baz=62,slow=36
LIS Lisbon 26.48 165 eP **P 12 27 27.7 +1.6**
LIS AMb AMB 12 27 38.2
comp=Z,127nm,1.9s
LIS eS **S 12 32 03.4 +2.9**
LIS Lisbon 26.48 165 eP **P 12 27 27.7 +1.6**
LIS eS **S 12 32 03.4 +2.9**
UZH Uzhgorod 26.50 108 eP **P 12 27 25.7 -0.6**
UZH eS **S 12 31 58.0 -2.8**
UZH pmax pmax
comp=Z,16nm,1.0s
OSSC Osservatorio P 26.64 129 P **P 12 27 28.1 +0.5**
EVO Evora 26.79 163 eP **P 12 27 29.6 +0.6**
EVO eS **S 12 32 09.7 +4.2**
EVO Evora 26.79 163 eP **P 12 27 28.8 -0.2**
comp=Z,42nm,2.5s
PNCL Nicolau / Gran 27.14 164 eP **P 12 27 33.5 +1.3**
comp=Z,46nm,1.9s
PNCL eS **S 12 32 12.9 +1.8**
PBEJ Beja 27.31 163 eP **P 12 27 33.0 -0.7**
comp=Z,50nm,2.1s
PRGR Permogore 27.58 67 eP **P 12 27 35.6 -0.3**
comp=Z,37nm,1.4s
PRGR Permogore 27.58 67 ⇑*i*P **P 12 27 35.6 -0.3**
PRGR pmax pmax
comp=Z,37nm,1.4s
PCVE Castro Verde 27.68 164 eP **P 12 27 36.8 -0.2**
comp=Z,46nm,1.7s
PCVE eS **S 12 32 19.1 -0.4**
PTEO Sao Teotonio 27.68 165 eP **P 12 27 38.5 +1.5**
comp=Z,71nm,1.5s
AKASG Malin Array Be 27.82 98 P **P 12 27 36.6 -1.6**
comp=Z,4.2nm,0.8s,baz=322,slow=9.7,SNR=12
AKASG LR LR 12 38 23.1
comp=Z,2µm,22.0s,baz=320,slow=36
AKASG Malin Array Be 27.82 98 *i* P **P 12 27 37.5 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 27.82 98 P **P 12 27 36.5 -1.6**
AKBB Malin Array Si 27.82 98 P **P 12 27 37.2 -0.9**
AKBB pmax pmax
comp=Z,67nm,1.6s
AKBB Malin Array Si 27.82 98 P **P 12 27 37.2 -0.9**
AKBB IAmb IAmb 12 27 48.0
comp=Z,67nm,1.6s
OBN Obninsk 27.85 84 P **P 12 27 37.4 -0.9**
comp=Z,4.7nm,0.3s,baz=287,slow=10,SNR=8.0
OBN LR LR 12 38 35.3
comp=Z,273nm,19.2s,baz=330,slow=36
OBN Obninsk 27.85 84 *ce*P **P 12 27 38.4 +0.1**
OBN ePPP PPP 12 28 29.7
OBN *e* 12 30 56.1
OBN pmax pmax
comp=Z,123nm,2.5s
OBN MLR MLR
comp=Z,1µm,14.0s
OBN Obninsk 27.85 84 P **P 12 27 37.4 -0.9**
MAHO Mahon 27.87 143 eP **P 12 27 32.9 -5.7**
MAHO eS **S 12 32 23.4 +0.9**
MOS Moscow 27.88 82 eP **P 12 27 37.4 -1.2**
MOS *e* 12 28 25.6
MOS *e* 12 28 37.9
MOS eS **S 12 32 23.0 +0.5**
MOS pmax pmax
comp=Z,81nm,1.7s
MOS pmax pmax
comp=Z,600nm,3.7s
MOS smax smax
comp=E,1µm,4.5s
MOS smax smax
comp=N,2µm,5.9s
MOS MLR MLR
comp=Z,1µm,13.0s
MORF Marmelete 27.93 165 eP **P 12 27 40.8 +1.5**
MORF AMb AMB 12 27 52.2
comp=Z,48nm,1.8s
MORF eS **S 12 32 26.5 +2.9**
MORF Marmelete 27.93 165 eP **P 12 27 40.8 +1.5**
MORF eS **S 12 32 26.5 +2.9**
MORF Marmelete 27.93 165 eP **P 12 27 41.9 +2.6**
comp=Z,48nm,1.8s
MORF eS **S 12 32 25.0 +1.5**
PBDV Barranco-do-Ve 28.07 164 eP **P 12 27 40.5 0.0**
comp=Z,66nm,2.3s
PBDV eS S 12 32 33.0 +7.2
PFVI Vila Bisbo 28.08 165 eP **P 12 27 39.2 -1.4**
PFVI eS **S 12 32 30.1 +4.3**
SIRR Siria 28.15 112 ⇓P **P 12 27 43.7 +2.5**
AQU L'Aquila 28.41 127 P **P 12 27 42.7 -0.8**
AQU pmax pmax
comp=Z,46nm,1.2s
AQU L'Aquila 28.41 127 P **P 12 27 42.7 -0.8**
AQU IAmb IAmb 12 28 18.6
comp=Z,46nm,1.2s
BUR08 Bucovina Ar. S 28.48 106 P **P 12 27 42.8 -1.3**
BUR08 IAmb IAmb 12 28 02.8
comp=Z,129nm,2.0s
BURAR Bucovina Array 28.51 106 ⇓P **P 12 27 45.2 +0.8**
BURAR Bucovina Array 28.51 106 P **P 12 27 44.3 -0.1**

CJR Cluj-Napoca 28.57 109 P **P** **12 27 46.0 +1.1**
BZS Buzias 28.67 113 P **P** **12 27 47.5 +1.8**
CART Cartagena 28.85 152 *e*P **P** **12 27 45.8 -1.6**
CART *e*S S 12 32 49.0 +11
INTR Introdacqua 28.88 127 P **P** **12 27 47.7 -0.1**
INTR IAmb IAmb 12 27 56.3
comp=Z,85nm,1.6s
EMAL Malaga-Limoner 29.04 158 *e*P **P** **12 27 48.0 -1.1**
EMAL *e*S S 12 32 49.0 +8.1
SFS San Fernando 29.06 161 *e*P **P** **12 27 46.5 -2.7**
SFS *e*S S 12 32 48.6 +7.4
DIVS Divibare 29.30 117 P **P** **12 27 51.3 -0.2**
DIVS IAmb IAmb 12 28 51.0
comp=Z,71nm,2.0s
MDVR Moldovita 29.40 114 ⇑P **P** **12 27 53.1 +0.8**
VSL Villasalto 29.68 135 P **P** **12 27 56.2 +1.4**
CEU Ceuta 29.74 160 *e*P **P** **12 27 56.5 +1.2**
CEU *e*S S 12 33 28.9 +37
DOPR Dopca 29.90 108 ⇑P **P** **12 27 59.0 +2.3**
TESR Tescani 29.98 106 ⇑P **P** **12 27 59.0 +1.7**
ARR Arges 30.08 110 ⇑P **P** **12 28 00.6 +2.3**
VOIR 30.19 109 ⇑P **P** **12 28 01.9 +2.5**
PDG Podgorica 30.45 119 P **P** **12 28 01.8 +0.3**
KIS Kishinev 30.49 103 ⇓*i*P **P** **12 28 00.0 -1.9**
comp=Z,400nm,3.8s
KIS Kishinev 30.49 103 *d i*P **P** **12 28 00.0 -1.9**
KIS *i* 12 33 08.0
KIS pmax pmax
comp=Z,400nm,3.8s
KIS MLR MLR
comp=Z,420nm,11.0s
PLOR Plostina 30.51 107 ⇑P **P** **12 28 04.7 +2.6**
MLR Muntele Rosu 30.51 108 ⇑P **P** **12 28 05.2 +3.0**
MLR Muntele Rosu 30.51 108 P **P** **12 28 01.6 -0.7**
MLR pmax pmax
comp=Z,85nm,1.7s
MLR Muntele Rosu 30.51 108 P **P** **12 28 01.6 -0.7**
MLR IAmb IAmb 12 28 13.6
comp=Z,85nm,1.7s
VRI Vrincioaia 30.53 107 ⇑P **P** **12 28 04.6 +2.4**
LPSR Galich'ya Gora 30.60 86 *e*P **P** **12 28 02.9 +0.2**
LPSR pmax pmax
comp=Z,30nm,1.6s
LPSR MLR MLR
comp=Z,2µm,25.0s
PVLZ Peæn de 30.61 159 *e*P **P** **12 28 00.8 -2.3**
PVLZ *e*S **S** **12 33 04.0 -1.6**
MELI Melilla 30.72 156 *e*P **P** **12 28 01.1 -2.8**
MELI *e*S **S** **12 33 11.7 +4.4**
ISR Istrita 31.06 108 ⇑P **P** **12 28 09.3 +2.3**
MATE Matera 31.07 124 ⇑P **P** **12 28 08.1 +1.1**
SET Setif 31.65 143 P **P** **12 28 13.0 +0.7**
CFR Carcaliu 31.67 106 ⇓P **P** **12 28 13.8 +1.6**
VSR Storozhevoye 31.70 88 *e*P **P** **12 28 11.8 -0.7**
VSR pmax pmax
comp=Z,70nm,1.8s
VSR MLR MLR
comp=Z,3µm,21.0s
PMOZ Porto Moniz, M 31.91 180 *e*LR LR 12 36 07.5
comp=Z,1µm,18.0s
VORD Divnogorie 31.94 88 *e*P **P** **12 28 12.9 -1.7**
VORD pmax pmax
comp=Z,8.0nm,0.9s
TOPG Topolog 32.01 106 ⇑P **P** **12 28 16.8 +1.6**
AVE Averroes 32.03 164 *e*P **P** **12 28 13.3 -2.2**
AVE *e*S **S** **12 33 32.3 +4.5**
IFR Ifrane 32.11 160 *e*P P 12 28 11.0 -5.5
IFR *e*S **S** **12 33 28.9 -0.6**
D63A Stockholm 32.33 262 P **P** **12 28 18.7 +0.6**
baz=38
TIRR Tirgusor 32.37 106 ⇑P **P** **12 28 20.0 +1.6**
CLTB Caltabellotta 32.64 131 IAmb IAmb 12 28 29.9
comp=Z,33nm,0.9s
D62A Allapoint, All 32.70 263 P **P** **12 28 20.9 -0.3**
baz=38
VRH Novokhopyorsk 32.81 85 *e*P **P** **12 28 21.9 -0.3**
VRH pmax pmax
comp=Z,50nm,1.2s
VRH MLR MLR
comp=Z,2µm,27.0s
CHGQ Chibougamau 32.82 271 P **P** **12 28 21.8 -0.5**
baz=41
E63A Oxbow 32.95 261 P **P** **12 28 23.8 +0.3**
baz=38
D61A St Aubert, Com 33.09 264 P **P** **12 28 24.0 -0.7**
baz=39
KEST Kesra 33.16 138 P **P** **12 28 25.7 +0.2**
comp=Z,3.8nm,1.0s,baz=289,slow=6.5,SNR=5.2
KEST LR LR 12 40 45.9
comp=Z,926nm,19.2s,baz=346,slow=34
KEST Kesra 33.16 138 IAmb IAmb 12 28 35.5
comp=Z,40nm,1.2s
E62A Clayton Lake 33.26 263 P **P** **12 28 25.6 -0.7**
baz=38
F64A Sherman 33.36 261 P **P** **12 28 27.4 +0.3**
baz=37
G65A Princeton 33.56 259 P **P** **12 28 29.6 +0.8**
baz=36
H66A Whiting 33.79 258 P **P** **12 28 30.5 -0.3**
baz=36
F63A Nahmakanta, Br 33.81 261 P **P** **12 28 30.9 -0.1**
baz=37
E61A Lac Etchemin 33.82 263 P **P** **12 28 31.4 +0.2**
baz=38
D59A Saint-Raymond 33.95 265 P **P** **12 28 33.8 +1.6**
baz=38
G64A Maxfield 34.02 260 P **P** **12 28 34.0 +1.1**
baz=37
F62A Pittston Farm, 34.02 262 P **P** **12 28 32.5 -0.4**
baz=37
PKME Peaks-Kenny Pk 34.24 261 P **P** **12 28 34.7 0.0**
baz=37
H65A Eastbrook 34.25 259 P **P** **12 28 35.4 +0.6**
baz=36
D58A Chemin du LacG 34.33 266 P **P** **12 28 36.5 +1.0**
baz=39
MATQ Matagami 34.33 274 P **P** **12 28 35.1 -0.3**
baz=41
F61A St Evariste 34.40 263 P **P** **12 28 37.2 +1.0**
baz=38
G63A Kingsbury 34.50 261 P **P** **12 28 36.6 -0.4**
baz=37
LSQQ Lebel-sur-Quev 34.58 272 P **P** **12 28 38.2 +0.6**
baz=40
G62A West of Eustis 34.80 262 P **P** **12 28 39.3 -0.3**
baz=37
F60A Warwick 34.81 264 P **P** **12 28 39.5 -0.1**
baz=38
D57A Chemin Vers le 34.82 267 P **P** **12 28 39.4 -0.3**
baz=39,SNR=5.2
H63A New Sharon 35.04 261 P **P** **12 28 41.6 -0.1**
baz=36
E58A La Victoria 35.06 266 P **P** **12 28 41.3 -0.5**
baz=38
D56A ZEC Mazanza, M 35.17 268 P **P** **12 28 42.5 -0.3**
baz=39
G61A St-Isidore-de- 35.17 263 P **P** **12 28 43.9 +1.0**
baz=37
A36M Sachs Harbour 35.19 329 P **P** **12 28 41.7 -1.0**
baz=45
E57A Chemin Saint G 35.40 267 P **P** **12 28 44.6 -0.3**
baz=38
I64A Boothbay 35.47 260 P **P** **12 28 44.7 -0.6**
baz=36
D55A Sainte-Anne-du 35.50 269 P **P** **12 28 45.9 +0.3**
baz=39
VLDQ Val d'Or 35.50 272 P **P** **12 28 46.2 +0.7**
VLDQ IAmb IAmb 12 28 51.7
comp=Z,32nm,1.3s
H62A Milan 35.58 262 P **P** **12 28 46.1 -0.2**
baz=36
G60A Masonville 35.67 264 P **P** **12 28 46.3 -0.8**
baz=37
E56A St. Veronique 35.68 268 P **P** **12 28 46.3 -0.8**
baz=38
I63A Otisfield 35.76 261 P **P** **12 28 47.2 -0.7**
baz=36
ANN Anapa 35.89 97 *e*P **P** **12 28 47.4 -1.5**
ANN *e*S **S** **12 34 23.4 -3.8**
ANN pmax pmax
comp=Z,60nm,1.2s
D54A Lac Fusel, La 35.90 270 P **P** **12 28 48.5 -0.6**
baz=39
H61A Lyndonville 35.95 263 P **P** **12 28 49.1 -0.4**
baz=36
ARU Arti 36.04 66 *d i*P **P** **12 28 49.5 -0.6**
ARU S **S** 12 30 05.5
ARU S **S** **12 34 30.5 +1.1**
ARU SS **SnSn** **12 36 54.6 +1.6**
ARU pmax pmax
comp=Z,54nm,2.2s
ARU MLR MLR
comp=Z,3µm,20.0s
ARU Arti 36.04 66 P **P** **12 28 49.8 -0.3**
ARU IAmb IAmb 12 29 13.9
comp=Z,32nm,1.4s
G59A Clarenceville 36.04 264 P **P** **12 28 50.7 +0.4**
baz=37
LBNH Lisbon 36.18 262 P **P** **12 28 51.6 +0.1**
baz=36
E55A Montcerf-Lytto 36.19 269 P **P** **12 28 50.7 -0.8**
baz=38
I62A Tamworth 36.23 261 P **P** **12 28 52.0 +0.2**
baz=36
H60A Morristown 36.25 263 P **P** **12 28 51.7 -0.4**
baz=36
G58A Ormstown 36.36 265 P **P** **12 28 51.9 -1.0**
baz=37
D53A Lac Vacive, Po 36.41 271 P **P** **12 28 52.5 -0.9**
baz=39
D53A Lac Vacive, Po 36.41 271 P **P** **12 28 53.8 +0.5**
D53A IAmb IAmb 12 28 59.1
comp=Z,35nm,1.2s
NRIK Noril'sk 36.41 35 P **P** **12 28 53.9 +0.8**
comp=Z,7.0nm,0.9s,baz=315,slow=7.9,SNR=19
NRIK LR LR 12 47 35.1
comp=Z,375nm,19.0s,baz=358,slow=42
FRNY Flat Rock 36.41 265 P **P** **12 28 54.1 +0.6**
I61A Oroboro, Fairl 36.55 262 P **P** **12 28 53.9 -0.7**
baz=36
SVE Sverdlovsk 36.57 65 *e*P **P** **12 28 54.7 +0.1**
SVE *e*S **S** **12 34 42.1 +4.6**
SVE pmax pmax
comp=Z,36nm,2.0s
SVE MLR MLR
comp=Z,3µm,20.0s
H59A Cadyville 36.61 265 P **P** **12 28 54.6 -0.5**
baz=37
E54A Lac Daplat, Po 36.69 270 P **P** **12 28 53.7 -2.1**
baz=38
ORIO Orleans, Innes 36.75 267 P **P** **12 28 55.1 -1.1**
baz=37
G57A Newington 36.80 266 P **P** **12 28 55.9 -0.8**
baz=37
C36M Paulatuk 36.81 325 P **P** **12 28 55.1 -1.4**
baz=43
E53A Dumoine, Ponti 36.94 270 P **P** **12 28 56.4 -1.5**
baz=38,SNR=9.2
J62A Henniker 36.95 261 P **P** **12 28 56.2 -1.9**
baz=35
H58A Gabriels 37.00 265 P **P** **12 28 56.2 -2.3**
baz=36
LONY Lake Ozonia 37.01 265 P **P** **12 28 57.1 -1.5**
baz=37
LONY Lake Ozonia 37.01 265 P **P** **12 28 59.1 +0.6**
I60A Shoreham 37.08 263 P **P** **12 28 58.3 -0.8**
baz=36
J61A Chester 37.17 262 P **P** **12 28 59.5 -0.4**
baz=36
K63A Dunstable 37.27 260 P **P** **12 29 00.8 0.0**
baz=35
I59A Olmsteadville 37.37 264 P **P** **12 29 00.2 -1.4**
baz=36
NCB Newcomb 37.38 264 P **P** **12 29 02.8 +1.1**
NCB IAmb IAmb 12 29 07.5
comp=Z,63nm,1.7s
G55A Calabogie 37.42 268 P **P** **12 29 00.8 -1.2**
baz=37,SNR=5.4
HRV Adam Dziewonsk 37.43 260 P **P** **12 29 02.3 +0.2**
baz=35
ALGO Algonquin Park 37.44 270 P **P** **12 29 01.2 -0.9**
baz=38
H57A Richville 37.48 266 P **P** **12 29 02.6 +0.1**
baz=37
L64A Middleborough 37.60 259 P **P** **12 29 03.5 0.0**
baz=34
J60A Lant Hill Farm 37.62 263 P **P** **12 29 02.9 -0.8**
baz=36
PLVO Plevna 37.74 268 P **P** **12 29 06.2 +1.4**
M65A Busby, Falmout 37.83 259 P **P** **12 29 05.4 0.0**
baz=34
D49A Beulah Townshi 37.83 274 P **P** **12 29 04.5 -0.9**
baz=39
SOC Sochi 37.84 96 *e*P **P** **12 29 06.6 +1.0**
SOC *e* 12 30 29.0
SOC *e*S **S** **12 34 58.7 +1.6**
SOC pmax pmax
comp=Z,12nm,0.6s
SOC MLR MLR
comp=Z,1µm,16.0s
G54A Lake Saint Pet 37.90 269 P **P** **12 29 05.1 -0.9**
baz=37
J59A Piesco 37.91 264 P **P** **12 29 05.3 -0.8**
baz=36
I58A Old Forge 37.92 265 P **P** **12 29 05.8 -0.6**
baz=36
L61B Northampton 37.95 261 P **P** **12 29 06.1 -0.4**
baz=35
L63A North Scituate 37.98 260 P **P** **12 29 05.8 -1.0**
baz=34
I57A Carthage 38.02 266 P **P** **12 29 06.5 -0.6**
baz=36
K61A Williamstown 38.03 262 P **P** **12 29 07.3 +0.1**
baz=35
M64A Tiverton 38.07 259 P **P** **12 29 07.5 0.0**
baz=34
GOF Gofitskoye 38.09 91⇑ *e*P **P** **12 29 08.0 +0.4**
GOF pmax pmax
comp=Z,44nm,0.9s
D48A Paudash Townsh 38.10 274 P **P** **12 29 08.1 +0.4**
baz=39
H55A Tweed 38.18 268 P **P** **12 29 07.7 -0.7**
baz=37
J58A Remsen 38.33 265 P **P** **12 29 09.3 -0.4**
baz=36
K60A Five Rivers En 38.33 263 P **P** **12 29 09.7 0.0**
baz=35
BR131 Keskin Array S 38.46 105 P **P** **12 29 11.7 +0.7**
BR131 pmax pmax
comp=Z,36nm,1.2s
BR131 Keskin Array S 38.46 105 P **P** **12 29 11.7 +0.7**
BRTR Keskin Array B 38.46 105 P **P** **12 29 11.4 +0.4**
comp=Z,6.4nm,0.9s,baz=323,slow=6.6,SNR=17
BRTR LR LR 12 47 43.2
comp=Z,440nm,18.2s,baz=291,slow=40
BRTR Keskin Array B 38.46 105 P **P** **12 29 11.0 0.0**
M63A Gales Ferry 38.55 260 P **P** **12 29 10.8 -0.7**
baz=34
J57A Williamstown 38.59 266 P **P** **12 29 11.3 -0.6**
baz=36
K59A Cooperstown 38.62 264 P **P** **12 29 11.9 -0.2**
baz=35
I55A Frankford 38.66 268 P **P** **12 29 12.5 0.0**
baz=36
D47A Chapleau 38.74 275 P **P** **12 29 12.7 -0.5**
baz=38
H53A Bobcaygeon 38.76 269 P **P** **12 29 12.9 -0.4**
baz=37
E48A Lockeyer 38.79 274 P **P** **12 29 12.8 -0.8**
baz=38
KIV Kislovodsk 38.81 93 *e*P **P** **12 29 15.1 +1.2**
KIV *e* 12 30 42.7
KIV *e*S **S** **12 35 13.2 +1.2**
KIV pmax pmax
comp=Z,37nm,1.0s
KIV MLR MLR
comp=Z,3µm,16.0s
KIV Kislovodsk 38.81 93 P **P** **12 29 14.5 +0.6**
SADO Sadowa 38.85 270 P **P** **12 29 15.6 +1.5**
M62A Hamden 38.87 261 P **P** **12 29 13.5 -0.8**
baz=34
K58A Earlville 38.97 265 P **P** **12 29 14.6 -0.5**
baz=35
L60A Shokan 38.99 262 P **P** **12 29 15.4 +0.1**
baz=35
J56A Wolcott 39.07 266 P **P** **12 29 15.3 -0.5**
baz=36
KBZ Khabaz 39.09 93 P **P** **12 29 16.6 +0.6**
comp=Z,12nm,0.9s,baz=313,slow=9.4,SNR=16
KBZ LR LR 12 45 33.8
comp=Z,2µm,21.8s,baz=331,slow=36
L59A Walton 39.17 263 P **P** **12 29 16.9 0.0**
baz=35
YKA Yellowknife Ar 39.21 313 P **P** **12 29 16.7 -0.2**
comp=Z,9.4nm,1.0s,baz=40,slow=9.0,SNR=7.7
YKA LR LR 12 45 04.5
comp=Z,856nm,18.6s,baz=0.0,slow=36
D46A Sault St. Mari 39.27 276 P **P** **12 29 17.1 -0.5**
baz=38
E47A Iron Bridge 39.29 275 P **P** **12 29 17.4 -0.3**
baz=38
F49A Sandfield 39.30 273 P **P** **12 29 17.7 -0.1**
baz=38
M61A Granite Spring 39.35 261 P **P** **12 29 18.1 -0.1**
baz=34
K57A Scipio Center 39.36 265 P **P** **12 29 17.8 -0.6**
baz=35
ELL Elmali 39.48 112 P **P** **12 29 18.1 -1.5**
ELL pmax pmax
comp=Z,217nm,1.3s
ELL Elmali 39.48 112 P **P** **12 29 18.1 -1.5**
J55A Hilton 39.49 267 P **P** **12 29 19.1 -0.3**
baz=36
F48A Evansville 39.50 274 P **P** **12 29 19.3 -0.1**
baz=38
N62A Caumsett State 39.54 261 P **P** **12 29 20.0 +0.2**
baz=34
BINY Binghamton 39.57 264 P **P** **12 29 19.9 -0.3**
baz=35
L58A Harry Jones Me 39.64 264 P **P** **12 29 20.4 -0.2**
baz=35
PAL Palisades 39.66 261 P **P** **12 29 20.4 -0.5**
baz=34
M60A Port Jervis 39.70 262 P **P** **12 29 20.9 -0.3**
baz=34
K56A Middlesex 39.74 266 P **P** **12 29 21.3 -0.2**
baz=35
E46A Sault Ste Mari 39.80 276 P **P** **12 29 22.7 +0.8**
AKAS Kas 39.81 112 P **P** **12 29 22.0 -0.3**
INK Inuvik 39.83 329 LR LR 12 46 05.0
comp=Z,271nm,18.1s,baz=20,slow=36
INK Inuvik 39.83 329 P **P** **12 29 22.0 +0.1**
INK pmax pmax
comp=Z,33nm,1.3s
INK Inuvik 39.83 329 P **P** **12 29 22.0 +0.1**
J54A Appleton 39.83 268 P **P** **12 29 21.7 -0.6**
baz=36
M59A Waymart 39.87 263 P **P** **12 29 22.4 -0.2**
baz=34
K55A Perry 40.03 267 P **P** **12 29 23.6 -0.3**
baz=35
N61A South Mountain 40.04 261 P **P** **12 29 24.4 +0.5**
baz=34
L57A Andrews Acres 40.10 265 P **P** **12 29 25.1 +0.6**
baz=35
AKTO Aktyubinsk 40.25 73 P **P** **12 29 23.7 -1.9**
ZEI Tsey 40.28 92 *e*P **P** **12 29 28.1 +1.9**
ZEI pmax pmax
comp=Z,8.0nm,0.5s
N60A Cedar Hill Far 40.28 262 P **P** **12 29 25.3 -0.8**
baz=34
L56A Greenwood 40.29 266 P **P** **12 29 26.5 +0.4**
baz=35
L56A Greenwood 40.29 266 P **P** **12 29 27.0 +0.8**
L56A IAmb IAmb 12 29 32.7
comp=Z,70nm,1.4s
K54A Basiliko Farm, 40.39 267 P **P** **12 29 26.0 -0.9**
baz=35
I51A Listowel 40.43 270 P **P** **12 29 27.1 -0.1**
baz=36
M58A Price's Panora 40.45 264 P **P** **12 29 28.1 +0.7**
baz=34
WVNY West Valley, N 40.52 267 P **P** **12 29 28.0 0.0**
WVNY IAmb IAmb 12 29 34.4
comp=Z,75nm,1.4s
N59A State Game Lan 40.53 263 P **P** **12 29 27.7 -0.5**
baz=34
FFC Flin Flon 40.61 297 P **P** **12 29 30.4 +1.9**
FFC pmax pmax
comp=Z,74nm,1.6s
FFC Flin Flon 40.61 297 P **P** **12 29 30.4 +1.9**
FFC IAmb IAmb 12 29 35.2
comp=Z,74nm,1.6s
L55A Hinsdale 40.63 267 P **P** **12 29 29.2 +0.2**
baz=35
O60A Telford 40.87 262 P **P** **12 29 30.4 -0.4**
baz=34
L54A Sinclairville 40.97 268 P **P** **12 29 31.7 0.0**
baz=35
N58A Sunbury 41.00 264 P **P** **12 29 31.7 -0.2**
baz=34
D41A Chassel 41.07 280 P **P** **12 29 33.2 +0.7**
D41A IAmb IAmb 12 29 38.0
comp=Z,34nm,1.0s
M56A Emporium 41.10 266 P **P** **12 29 32.2 -0.5**
baz=35,SNR=5.8
KOPT Kop Dagi 41.10 98 P **P** **12 29 32.0 -1.1**
O59A Robesonia 41.21 263 P **P** **12 29 34.2 +0.5**
baz=34
AKH Akhalkalaki 41.23 94 P **P** **12 29 33.9 -0.2**
AKH pmax pmax
comp=Z,107nm,1.8s
AKH Akhalkalaki 41.23 94 P **P** **12 29 33.9 -0.2**
AKH IAmb IAmb 12 29 42.5
comp=Z,107nm,1.8s
ERPA Erie 41.35 268 P **P** **12 29 33.9 -0.9**
baz=35
M55A Ridgway 41.36 266 P **P** **12 29 34.6 -0.3**
baz=35
M55A Ridgway 41.36 266 P **P** **12 29 34.8 -0.2**
M55A IAmb IAmb 12 29 55.8
comp=Z,64nm,1.3s
P60A Greenville 41.39 262 P **P** **12 29 35.2 +0.1**
baz=33
A21K Barrow 41.41 341 P **P** **12 29 33.8 -1.1**
baz=25
N57A Milroy 41.42 265 P **P** **12 29 35.5 0.0**
baz=34
TBLG Delisi 41.50 93 P **P** **12 29 36.2 +0.1**
TBLG pmax pmax
comp=Z,174nm,1.8s
TBLG Delisi 41.50 93 P **P** **12 29 36.2 +0.1**
L53A Girard 41.60 268 P **P** **12 29 36.1 -0.8**
baz=35
EYMN Ely 41.60 283 P **P** **12 29 36.7 -0.1**
baz=38
N56A West Decatur 41.61 265 P **P** **12 29 36.0 -1.0**
baz=34
ULM Lac du Bonnet 41.62 289 LR LR 12 46 10.5
comp=Z,1µm,18.4s,baz=44,slow=35
ULM Lac du Bonnet 41.62 289 P **P** **12 29 35.8 -1.1**
ULM pmax pmax
comp=Z,64nm,1.7s
ULM Lac du Bonnet 41.62 289 P **P** **12 29 35.8 -1.1**
ULM IAmb IAmb 12 29 42.7
comp=Z,64nm,1.7s
MALT Malatya 41.65 102 P P 12 29 41.0 +3.5
SSPA Standing Stone 41.67 265 P **P** **12 29 37.2 -0.2**
baz=34
O58A Lewisberry 41.68 263 P **P** **12 29 37.6 +0.1**
baz=34
MAK Makhachkala 41.69 89 *e*P **P** **12 29 34.5 -3.0**
MAK *e* 12 31 10.8
MAK *e*S **S** **12 35 50.9 -3.8**
MAK *e*SS **SS** **12 38 57.7 -1.7**
MAK pmax pmax
comp=Z,227nm,1.2s
MAK MLR MLR
comp=Z,2µm,15.0s
M54A Oil Creek Stat 41.71 267 P **P** **12 29 38.1 +0.2**
baz=35
M54A Oil Creek Stat 41.71 267 P **P** **12 29 39.6 +1.8**
M54A IAmb IAmb 12 29 44.2
comp=Z,71nm,1.3s
P59A Jarrettsville 41.90 263 P **P** **12 29 39.1 -0.2**
baz=33
O57A Amberson 41.91 264 P **P** **12 29 39.8 +0.3**
baz=34,SNR=5.5
AB31 Akbulak array 41.95 73 P **P** **12 29 38.3 -1.4**
ABKAR Akbulak array 41.95 73 P **P** **12 29 38.5 -1.1**
N55A Marion Center 42.02 266 P **P** **12 29 40.6 +0.3**
baz=34
M53A Wi Miller and 42.20 268 P **P** **12 29 41.8 0.0**
baz=35
O56A Blue Knob Stat 42.26 265 P **P** **12 29 42.6 +0.3**
baz=34
N54A Moraine State 42.30 267 P **P** **12 29 42.3 -0.3**
baz=34
N54A Moraine State 42.30 267 IAmb IAmb 12 29 49.2
comp=Z,72nm,1.4s

P58A	**Pank, Wackersv**	**42.37**	**263**	P	**P**	**12 29 43.0**	**-0.2**
	baz=33						
M52A	**Chesterland**	**42.41**	**269**	P	**P**	**12 29 43.5**	**0.0**
	baz=35						
M52A	**Chesterland**	**42.41**	**269**	IAmb	IAmb	12 29 49.8	
	comp=Z,86nm,1.4s						
O55A	**Ligonier**	**42.63**	**266**	P	**P**	**12 29 45.3**	**0.0**
	baz=34						
P57A	**Homestead Farm**	**42.68**	**264**	P	**P**	**12 29 44.9**	**-0.8**
	baz=33						
TOLK	**Toolik Lake Re**	**42.73**	**336**	P	**P**	**12 29 44.1**	**-1.7**
	baz=28,SNR=17						
TOLK	**Toolik Lake Re**	**42.73**	**336**	IAmb	IAmb	12 29 51.5	
	comp=Z,62nm,1.1s						
AAM	**Ann Arbor**	**42.78**	**272**	P	**P**	**12 29 46.1**	**-0.4**
	baz=35						
N53A	**Lisbon**	**42.79**	**268**	P	**P**	**12 29 46.0**	**-0.6**
	baz=34						
N53A	**Lisbon**	**42.79**	**268**	IAmb	IAmb	12 29 53.0	
	comp=Z,95nm,1.4s						
M51A	**Elyria**	**42.94**	**269**	P	**P**	**12 29 47.1**	**-0.7**
	baz=35						
Q58A	**Fox Den Farm,**	**42.99**	**263**	P	**P**	**12 29 47.4**	**-0.8**
	baz=33						
P56A	**Dayton Farm, R**	**43.01**	**265**	P	**P**	**12 29 47.4**	**-1.0**
	baz=33						
R60A	**Leonardtown, M**	**43.08**	**262**	P	**P**	**12 29 48.7**	**-0.2**
	baz=32						
BRVK	**Borovoye**	**43.09**	**62**	*de*P	**P**	**12 29 49.0**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,38nm,1.7s						
BRVK	**Borovoye**	**43.09**	**62**	P	**P**	**12 29 48.1**	**-0.8**
O54A	**Avella**	**43.11**	**267**	P	**P**	**12 29 48.0**	**-1.2**
	baz=34						
O54A	**Avella**	**43.11**	**267**	IAmb	IAmb	12 29 55.6	
	comp=Z,42nm,1.2s						
AGMN	**Agassiz Nation**	**43.14**	**287**	P	**P**	**12 29 50.5**	**+1.2**
N52A	**McGinn's Farm,**	**43.15**	**268**	P	**P**	**12 29 48.9**	**-0.6**
	baz=34						
G40A	**Rib Lake**	**43.18**	**280**	IAmb	IAmb	12 29 55.8	
	comp=Z,61nm,1.6s						
Q57A	**Strasburg**	**43.22**	**264**	P	**P**	**12 29 49.3**	**-0.8**
	baz=33						
MCWV	**Mont Chateau**	**43.32**	**266**	P	**P**	**12 29 50.0**	**-0.9**
	baz=34						
N51A	**Ashland**	**43.36**	**269**	P	**P**	**12 29 50.7**	**-0.5**
	baz=34						
R59A	**King George, V**	**43.37**	**262**	P	**P**	**12 29 51.1**	**-0.1**
	baz=32						
L48A	**N Adams**	**43.40**	**272**	IAmb	IAmb	12 29 57.6	
	comp=Z,34nm,1.1s						
O53A	**New Philadelph**	**43.41**	**268**	P	**P**	**12 29 52.0**	**+0.4**
	baz=34						
O53A	**New Philadelph**	**43.41**	**268**	IAmb	IAmb	12 29 58.3	
	comp=Z,70nm,1.4s						
P55A	**Reedsville**	**43.43**	**266**	P	**P**	**12 29 51.8**	**0.0**
	baz=33						
CBN	**Corbin Frederi**	**43.47**	**262**	P	**P**	**12 29 52.2**	**+0.1**
	baz=32						
Q56A	**Snyder Ridge,**	**43.55**	**265**	P	**P**	**12 29 52.2**	**-0.6**
	baz=33						
S60A	**Water View**	**43.59**	**261**	P	**P**	**12 29 53.3**	**+0.2**
	baz=32						
P54A	**Burton**	**43.63**	**266**	P	**P**	**12 29 53.4**	**0.0**
	baz=34						
R58A	**Rapidan**	**43.66**	**263**	P	**P**	**12 29 53.8**	**+0.1**
	baz=33						
O52A	**Adamsville**	**43.79**	**268**	P	**P**	**12 29 53.8**	**-0.9**
	baz=34						
S59A	**Mechanicsville**	**43.81**	**262**	P	**P**	**12 29 53.8**	**-1.0**
	baz=32						
R57A	**Stanardsville**	**43.89**	**264**	P	**P**	**12 29 55.6**	**+0.1**
	baz=33						
R58B	**Mineral**	**43.89**	**263**	P	**P**	**12 29 55.6**	**+0.1**
	baz=32						
R58B	**Mineral**	**43.89**	**263**	P	**P**	**12 29 56.3**	**+0.9**
Q55A	**Buckhannon**	**43.97**	**266**	P	**P**	**12 29 55.9**	**-0.3**
	baz=33						
COLD	**Coldfoot**	**44.10**	**336**	P	**P**	**12 29 55.8**	**-1.0**
	baz=27,SNR=7.0						
COLD	**Coldfoot**	**44.10**	**336**	P	**P**	**12 29 57.3**	**+0.5**
T60A	**Surry**	**44.10**	**261**	P	**P**	**12 29 56.8**	**-0.4**
	baz=32						
F36A	**Milaca**	**44.10**	**283**	P	**P**	**12 29 58.1**	**+1.0**
P53A	**Whipple**	**44.12**	**267**	P	**P**	**12 29 57.3**	**0.0**
	baz=34						
P53A	**Whipple**	**44.12**	**267**	P	**P**	**12 29 58.1**	**+0.8**
P53A				IAmb	IAmb	12 30 04.1	
	comp=Z,65nm,1.1s						
R56A	**Bull Pasture M**	**44.17**	**264**	P	**P**	**12 29 57.7**	**-0.1**
	baz=33						
ACSO	**Alum Creek Sta**	**44.19**	**269**	P	**P**	**12 29 57.2**	**-0.7**
	baz=34						
ACSO	**Alum Creek Sta**	**44.19**	**269**	IAmb	IAmb	12 30 04.0	
	comp=Z,65nm,1.4s						
S58A	**Poland Farm, P**	**44.26**	**263**	P	**P**	**12 29 59.2**	**+0.7**
	baz=32						
Q54A	**Coxs Mills**	**44.30**	**266**	P	**P**	**12 29 59.4**	**+0.6**
	baz=33						
SPMN	**Marine on St.**	**44.31**	**282**	P	**P**	**12 29 58.6**	**-0.2**
	baz=36						
SPMN	**Marine on St.**	**44.31**	**282**	IAmb	IAmb	12 30 07.4	
	comp=Z,39nm,1.6s						
P52A	**Corning**	**44.32**	**268**	P	**P**	**12 29 59.0**	**+0.1**
	baz=34						
P52A	**Corning**	**44.32**	**268**	IAmb	IAmb	12 30 05.1	
	comp=Z,53nm,1.2s						
EGAK	**Eagle**	**44.47**	**329**	P	**P**	**12 29 59.0**	**-0.8**
S57A	**Dark Hollow, R**	**44.52**	**264**	P	**P**	**12 30 00.7**	**+0.1**
	baz=32						
TAM	**Tamanrasset**	**44.52**	**149**	P	**P**	**12 30 00.3**	**-0.6**
TAM				pmax	pmax		
	comp=Z,23nm,1.4s						
TAM	**Tamanrasset**	**44.52**	**149**	P	**P**	**12 30 00.3**	**-0.6**
R55A	**Marlinton**	**44.58**	**265**	P	**P**	**12 30 01.1**	**0.0**
	baz=33						
T59A	**Double "B" Far**	**44.59**	**262**	P	**P**	**12 30 01.9**	**+0.8**
	baz=32						
T59A	**Double "B" Far**	**44.59**	**262**	IAmb	IAmb	12 30 07.5	
	comp=Z,72nm,1.8s						
U61A	**Possum Corner**	**44.66**	**260**	P	**P**	**12 30 01.6**	**-0.1**
	baz=31						
Q53A	**Leroy**	**44.70**	**267**	P	**P**	**12 30 02.4**	**+0.4**
	baz=33						
L44A	**Lake County Fo**	**44.70**	**275**	P	**P**	**12 30 01.9**	**0.0**
	baz=35						
P51A	**Williamsport**	**44.84**	**269**	P	**P**	**12 30 02.5**	**-0.6**
	baz=34						
P51A	**Williamsport**	**44.84**	**269**	P	**P**	**12 30 02.9**	**-0.2**
U60A	**Pendleton**	**44.85**	**261**	P	**P**	**12 30 03.4**	**+0.2**
	baz=32						
S56A	**Natural Bridge**	**44.85**	**264**	P	**P**	**12 30 03.9**	**+0.6**
	baz=32						
Q52A	**Bidwell**	**44.93**	**268**	P	**P**	**12 30 03.5**	**-0.3**
	baz=33						
MDND	**Maddock**	**45.02**	**289**	P	**P**	**12 30 03.3**	**-1.2**
	baz=37						
MDND	**Maddock**	**45.02**	**289**	P	**P**	**12 30 04.1**	**-0.3**
T58A	**Grand View Acr**	**45.03**	**262**	P	**P**	**12 30 05.0**	**+0.4**
	baz=32						
R54A	**Victor**	**45.04**	**266**	P	**P**	**12 30 04.3**	**-0.4**
	baz=33						
JFWS	**Jewell Farm**	**45.10**	**278**	P	**P**	**12 30 05.1**	**0.0**
	baz=35						
S55A	**Lewisburg**	**45.17**	**265**	P	**P**	**12 30 06.4**	**+0.6**
	baz=32						
V61A	**Roper**	**45.18**	**260**	P	**P**	**12 30 06.6**	**+0.8**
	baz=31						
U59A	**Littleton**	**45.22**	**261**	P	**P**	**12 30 06.4**	**+0.3**
	baz=32						
F33A	**5 Mile Ranch,**	**45.28**	**285**	IAmb	IAmb	12 30 13.1	
	comp=Z,48nm,1.4s						
T57A	**Hurt**	**45.29**	**263**	P	**P**	**12 30 07.4**	**+0.7**
	baz=32						
T57A	**Hurt**	**45.29**	**263**	IAmb	IAmb	12 30 13.2	
	comp=Z,78nm,1.8s						
K27K	**Chicken**	**45.32**	**329**	P	**P**	**12 30 05.5**	**-1.1**
	baz=30,SNR=14						
R53A	**Hurricane**	**45.33**	**267**	P	**P**	**12 30 07.8**	**+0.9**
	baz=33						
Q51A	**Peebles**	**45.34**	**269**	IAmb	IAmb	12 30 13.2	
	comp=Z,60nm,1.4s						
POKR	**Poker Plat Res**	**45.47**	**333**	P	**P**	**12 30 06.6**	**-1.1**
	baz=27						
V60A	**Jim Taylor Roa**	**45.49**	**260**	P	**P**	**12 30 08.6**	**+0.4**
	baz=31						
S54A	**Dingess, Beckl**	**45.50**	**266**	P	**P**	**12 30 08.9**	**+0.6**
	baz=32						
U58A	**Oxford**	**45.50**	**262**	P	**P**	**12 30 07.9**	**-0.5**
	baz=32						
P49A	**Miami Univ. Ec**	**45.51**	**270**	P	**P**	**12 30 09.2**	**+0.8**
	baz=34						
P49A	**Miami Univ. Ec**	**45.51**	**270**	P	**P**	**12 30 08.1**	**-0.3**
P49A				IAmb	IAmb	12 30 13.4	
	comp=Z,46nm,1.3s						
I37A	**Lemond, Waseca**	**45.54**	**281**	P	**P**	**12 30 08.7**	**+0.1**
L42A	**Oliver, Polo**	**45.60**	**277**	P	**P**	**12 30 08.8**	**-0.2**
L42A				IAmb	IAmb	12 30 15.3	
	comp=Z,58nm,1.4s						
T56A	**Rocky Mt**	**45.60**	**264**	P	**P**	**12 30 09.2**	**+0.1**
	baz=32						
BLA	**Blacksburg**	**45.61**	**264**	P	**P**	**12 30 08.1**	**-1.2**
	baz=32						
IL31		**45.67**	**332**	P	**P**	**12 30 09.6**	**+0.3**
IL31				IAmb	IAmb	12 30 15.4	
	comp=Z,42nm,1.4s						
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**12 30 10.2**	**+0.9**
	comp=Z,8.7nm,1.0s,baz=24,slow=5.7,SNR=32						
ILAR				PcP	**PcP**	**12 31 47.5**	**+0.2**
	comp=Z,4.4nm,0.9s,baz=349,slow=3.0,SNR=11						
ILAR				LR	LR	12 51 41.7	
	comp=Z,471nm,18.6s,baz=20,slow=39						
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**12 30 09.6**	**+0.2**
MDM	**Murphy Dome**	**45.76**	**333**	P	**P**	**12 30 10.9**	**+0.7**
COLA	**College**	**45.77**	**333**	‖ *e*P	**P**	**12 30 12.2**	**+2.1**
COLA				pmax	pmax		
	comp=Z,26nm,1.1s						
COLA	**College**	**45.77**	**333**	P	**P**	**12 30 11.3**	**+1.2**
COLA				IAmb	IAmb	12 30 16.1	
	comp=Z,37nm,1.1s						
TCOL	**CIGO, UAF Yank**	**45.77**	**333**	P	**P**	**12 30 09.2**	**-1.0**
	baz=27						
SCRK	**Sand Creek**	**45.77**	**330**	P	**P**	**12 30 09.4**	**-1.0**
	baz=29,SNR=6.1						
U57A	**Blanch**	**45.81**	**263**	P	**P**	**12 30 10.6**	**-0.2**
	baz=32						
SFIN	**Lafayette**	**45.83**	**273**	P	**P**	**12 30 10.5**	**-0.4**
	baz=34						
IMAR	**Indian Mountai**	**45.84**	**337**	P	**P**	**12 30 10.3**	**-0.4**
T55A	**Pulaski**	**45.84**	**265**	P	**P**	**12 30 10.5**	**-0.6**
	baz=32						
P48A	**Milroy**	**45.88**	**271**	P	**P**	**12 30 10.3**	**-1.0**
W61A	**Ground Anchor**	**45.88**	**260**	P	**P**	**12 30 11.5**	**+0.2**
	baz=31						
V59A	**Middlesex**	**45.91**	**261**	P	**P**	**12 30 11.4**	**-0.1**
	baz=31						
S53A	**Williamson**	**45.95**	**266**	P	**P**	**12 30 12.2**	**+0.3**
	baz=32						
CCB	**Clear Creek Bu**	**45.96**	**333**	P	**P**	**12 30 12.0**	**+0.3**
CCB				IAmb	IAmb	12 30 22.3	
	comp=Z,41nm,1.7s						
HDA	**Harding Lake**	**46.00**	**332**	P	**P**	**12 30 11.9**	**-0.1**
	baz=27,SNR=14						
HDA	**Harding Lake**	**46.00**	**332**	P	**P**	**12 30 13.2**	**+1.2**
DOT	**Dot Lake**	**46.08**	**330**	P	**P**	**12 30 13.1**	**+0.5**
DOT				IAmb	IAmb	12 30 27.7	
	comp=Z,34nm,1.8s						
BCAR	**Beaver Creek A**	**46.09**	**329**	P	**P**	**12 30 13.8**	**+1.0**
RIDG	**Independent Ri**	**46.16**	**331**	P	**P**	**12 30 14.3**	**+0.9**
RIDG				IAmb	IAmb	12 30 24.5	
	comp=Z,28nm,1.1s						
WRH	**Wood River Hil**	**46.17**	**333**	P	**P**	**12 30 14.0**	**+0.6**
WRH				IAmb	IAmb	12 30 25.2	
	comp=Z,27nm,1.5s						
CNNC	**Cliffs of the**	**46.20**	**261**	P	**P**	**12 30 14.1**	**+0.2**
	baz=31						
L40A	**Anamosa**	**46.21**	**278**	P	**P**	**12 30 14.6**	**+0.7**
L40A				IAmb	IAmb	12 30 17.8	
	comp=Z,18nm,1.1s						
T54A	**Tazewell**	**46.23**	**265**	P	**P**	**12 30 13.9**	**-0.3**
	baz=32						
V58A	**Windy Hill, Pi**	**46.25**	**262**	P	**P**	**12 30 14.7**	**+0.4**
	baz=31						
NEA2	**Nenana**	**46.25**	**333**	P	**P**	**12 30 12.4**	**-1.6**
	baz=26,SNR=23						
W60A	**Pink Hill**	**46.29**	**260**	P	**P**	**12 30 14.8**	**+0.2**
	baz=31						
U56A	**King**	**46.32**	**264**	P	**P**	**12 30 14.7**	**-0.2**
	baz=32						
DGMT	**Dagmar**	**46.36**	**293**	P	**P**	**12 30 14.3**	**-0.8**
	baz=36						
DGMT	**Dagmar**	**46.36**	**293**	P	**P**	**12 30 15.2**	**+0.1**
DGMT				IAmb	IAmb	12 30 22.3	
	comp=Z,46nm,1.2s						
R50A	**Paris**	**46.39**	**269**	P	**P**	**12 30 15.6**	**+0.2**
R50A				IAmb	IAmb	12 30 23.6	
	comp=Z,43nm,1.4s						
K38A	**Parkersburg**	**46.39**	**280**	P	**P**	**12 30 15.3**	**0.0**
BRZS	**Berezniki**	**46.44**	**63**	‖ *i*P	**P**	**12 30 15.9**	**+0.3**
	comp=Z,343nm,4.1s,baz=63						
BRZS				*i* PP	**PP**	**12 32 04.6**	**+0.4**
	baz=63						
BRZS	**Berezniki**	**46.44**	**63**	*d i*P	**P**	**12 30 15.9**	**+0.3**
BRZS				*i*		12 32 04.6	
V57A	**Coltrane Farms**	**46.45**	**263**	P	**P**	**12 30 16.3**	**+0.4**
	baz=32						
U55A	**TA2, Sparta**	**46.48**	**265**	P	**P**	**12 30 16.4**	**+0.3**
	baz=32						
W59A	**Clinton**	**46.50**	**261**	P	**P**	**12 30 16.7**	**+0.5**
	baz=31						
BLO	**Bloomington**	**46.59**	**272**	P	**P**	**12 30 19.3**	**+2.4**
BLO				pmax	pmax		
	comp=Z,17nm,0.8s						
BLO	**Bloomington**	**46.59**	**272**	P	**P**	**12 30 19.3**	**+2.4**
BLO				IAmb	IAmb	12 30 25.4	
	comp=Z,17nm,0.8s						
O44A	**Mansfield**	**46.61**	**274**	P	**P**	**12 30 18.4**	**+1.4**
S51A	**Beattyville**	**46.61**	**268**	P	**P**	**12 30 17.9**	**+0.8**
S51A				IAmb	IAmb	12 30 23.2	
	comp=Z,47nm,1.4s						
HDIL	**Hopedale**	**46.63**	**275**	P	**P**	**12 30 17.6**	**+0.4**
	baz=34						
HDIL	**Hopedale**	**46.63**	**275**	P	**P**	**12 30 18.6**	**+1.4**
T53A	**Wise**	**46.71**	**266**	P	**P**	**12 30 18.2**	**+0.2**
	baz=32						
R49A	**Shelbyville**	**46.74**	**270**	P	**P**	**12 30 19.1**	**+1.0**
U54A	**Nelsons Funny**	**46.79**	**265**	P	**P**	**12 30 18.3**	**-0.3**
	baz=32						
U54A	**Nelsons Funny**	**46.79**	**265**	P	**P**	**12 30 19.6**	**+1.0**
U54A				IAmb	IAmb	12 30 24.7	
	comp=Z,48nm,1.4s						
X60A	**Albert Glenn T**	**46.81**	**260**	P	**P**	**12 30 18.9**	**+0.3**
	baz=31						
V56A	**Mocksville**	**46.83**	**264**	P	**P**	**12 30 19.0**	**+0.2**
	baz=32						
W58A	**Raeford**	**46.96**	**262**	P	**P**	**12 30 19.8**	**0.0**
	baz=31						
PAX	**Paxson**	**46.98**	**331**	P	**P**	**12 30 21.0**	**+1.2**
PAX				pmax	pmax		
	comp=Z,84nm,1.8s						
PAX	**Paxson**	**46.98**	**331**	P	**P**	**12 30 21.0**	**+1.2**
MCK	**McKinley**	**47.00**	**333**	P	**P**	**12 30 19.3**	**-0.6**
MCK				pmax	pmax		
	comp=Z,86nm,1.6s						
MCK	**McKinley**	**47.00**	**333**	P	**P**	**12 30 19.2**	**-0.6**
BPAW	**Bear Paw Mtn.**	**47.06**	**334**	P	**P**	**12 30 21.1**	**+0.7**
BPAW				IAmb	IAmb	12 31 18.4	
	comp=Z,44nm,2.0s						
DLBC	**Dease Lake**	**47.07**	**318**	LR	LR	12 50 27.3	
	comp=Z,480nm,18.1s,baz=20,slow=36						
X59A	**McDuffie Farm,**	**47.08**	**261**	P	**P**	**12 30 21.2**	**+0.5**
	baz=31						
V55A	**Taylorsville**	**47.10**	**264**	P	**P**	**12 30 21.0**	**+0.1**
	baz=32						
V55A	**Taylorsville**	**47.10**	**264**	P	**P**	**12 30 22.3**	**+1.3**
ECSD	**EROS Data Cent**	**47.12**	**284**	P	**P**	**12 30 20.7**	**-0.3**
	baz=35						
ECSD	**EROS Data Cent**	**47.12**	**284**	P	**P**	**12 30 21.8**	**+0.8**
ECSD				IAmb	IAmb	12 30 27.5	
	comp=Z,16nm,1.2s						
W57A	**Gilead**	**47.17**	**263**	P	**P**	**12 30 21.6**	**+0.2**
	baz=31						
SCIA	**State Center**	**47.19**	**279**	P	**P**	**12 30 21.5**	**0.0**
	baz=34						
SCIA	**State Center**	**47.19**	**279**	P	**P**	**12 30 22.5**	**+1.0**
SCIA				IAmb	IAmb	12 30 26.8	
	comp=Z,24nm,1.1s						
WCI	**Wyandotte Cave**	**47.28**	**271**	P	**P**	**12 30 22.2**	**-0.1**
	baz=33						
WCI	**Wyandotte Cave**	**47.28**	**271**	P	**P**	**12 30 23.1**	**+0.8**
WCI				pmax	pmax		
	comp=Z,21nm,0.9s						
WCI	**Wyandotte Cave**	**47.28**	**271**	P	**P**	**12 30 23.1**	**+0.8**
WCI				IAmb	IAmb	12 30 26.2	
	comp=Z,21nm,0.8s						
RND	**Reindeer**	**47.28**	**333**	P	**P**	**12 30 23.2**	**+1.1**
RND				pmax	pmax		
	comp=Z,14nm,1.1s						
RND	**Reindeer**	**47.28**	**333**	P	**P**	**12 30 23.2**	**+1.1**
Y60A	**Bolivia**	**47.40**	**260**	P	**P**	**12 30 23.5**	**+0.2**
	baz=30						
X58A	**Rowland**	**47.41**	**262**	P	**P**	**12 30 23.8**	**+0.5**
	baz=31						
W56A	**Indian Trail**	**47.44**	**263**	P	**P**	**12 30 23.4**	**-0.2**
	baz=31						
V54A	**Nebo**	**47.48**	**265**	P	**P**	**12 30 23.6**	**-0.3**
	baz=32						
SUSD	**Miller**	**47.51**	**286**	P	**P**	**12 30 23.6**	**-0.5**
	baz=35						
TZTN	**Tazewell**	**47.51**	**267**	P	**P**	**12 30 24.3**	**+0.2**
	baz=32						
TZTN	**Tazewell**	**47.51**	**267**	P	**P**	**12 30 26.3**	**+2.1**
TRF	**Thorofare Moun**	**47.52**	**333**	P	**P**	**12 30 25.2**	**+1.1**
ZAA0	**Zalesovo Array**	**47.59**	**51**	P	**P**	**12 30 24.1**	**-0.4**
ZAA0				IAmb	IAmb	12 30 26.4	
	comp=Z,22nm,1.4s						
ZALV	**Zalesovo Beam**	**47.59**	**51**	P	**P**	**12 30 24.8**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=331,slow=8.7,SNR=11						
ZALV				PcP	**PcP**	**12 31 54.6**	**+0.5**
	comp=Z,2.4nm,1.0s,baz=355,slow=1.6,SNR=3.8						
ZALV				LR	LR	12 53 16.8	
	comp=Z,418nm,18.1s,baz=316,slow=40						
ZALV	**Zalesovo Beam**	**47.59**	**51**	*i* P	**P**	**12 30 25.2**	**+0.7**
ZALV	**Zalesovo Beam**	**47.59**	**51**	P	**P**	**12 30 23.8**	**-0.7**
OLIL	**Olney**	**47.63**	**273**	P	**P**	**12 30 26.0**	**+1.0**
OLIL				IAmb	IAmb	12 30 28.8	
	comp=Z,21nm,1.1s						
T50A	**Nancy**	**47.66**	**268**	P	**P**	**12 30 26.3**	**+0.9**
KMSC	**Kings Mountain**	**47.75**	**264**	P	**P**	**12 30 26.1**	**+0.1**
	baz=31						
KMSC	**Kings Mountain**	**47.75**	**264**	P	**P**	**12 30 26.5**	**+0.5**
X57A	**Johnson Farm,**	**47.80**	**262**	P	**P**	**12 30 26.3**	**-0.1**
	baz=31						
BIRD	**Birdtown, Kers**	**47.80**	**263**	P	**P**	**12 30 26.1**	**-0.3**
V53A	**Saluda**	**47.94**	**266**	P	**P**	**12 30 27.9**	**+0.4**
V53A				IAmb	IAmb	12 30 56.5	
	comp=Z,26nm,1.7s						
KURK	**Kurchatov**	**48.07**	**58**	*de*P	**P**	**12 30 27.7**	**-0.6**
KURK				pmax	pmax		
	comp=Z,36nm,1.7s						
KURK	**Kurchatov**	**48.07**	**58**	P	**P**	**12 30 26.7**	**-1.5**
KURK				IAmb	IAmb	12 30 33.2	
	comp=Z,27nm,1.2s						
KURBB	**Kurchatov Arra**	**48.11**	**58**	P	**P**	**12 30 27.4**	**-1.2**
V52A	**Sevierville**	**48.13**	**266**	P	**P**	**12 30 29.4**	**+0.5**
W54A	**Cherokee Point**	**48.17**	**265**	P	**P**	**12 30 29.3**	**+0.1**
	baz=31						
X56A	**White Oak**	**48.18**	**263**	P	**P**	**12 30 29.6**	**+0.3**
	baz=31						
Y57A	**Sumter**	**48.31**	**262**	P	**P**	**12 30 30.5**	**+0.2**
	baz=31						
X55A	**Gracelyn & Ava**	**48.45**	**264**	P	**P**	**12 30 32.2**	**+0.7**
	baz=31						
CUT	**Chulitna**	**48.47**	**333**	P	**P**	**12 30 29.1**	**-2.0**
	baz=25						
V51A	**Loudon**	**48.48**	**267**	P	**P**	**12 30 31.9**	**+0.2**
V51A				IAmb	IAmb	12 30 37.3	
	comp=Z,31nm,1.2s						
U49A	**Red Boiling Sp**	**48.50**	**269**	IAmb	IAmb	12 30 36.9	
	comp=Z,20nm,1.1s						
Z59A	**Georgetown, SC**	**48.51**	**261**	P	**P**	**12 30 31.8**	**-0.1**
	baz=30						
LAO	**LASA Array**	**48.61**	**293**	P	**P**	**12 30 32.7**	**+0.1**
	baz=35						
Z58A	**St. Stephen**	**48.65**	**261**	P	**P**	**12 30 32.9**	**-0.1**
	baz=30						
X54A	**Belton**	**48.70**	**264**	P	**P**	**12 30 33.5**	**+0.1**
	baz=31						
EGMT	**Eagleton**	**48.88**	**297**	P	**P**	**12 30 34.2**	**-0.6**
	baz=34,SNR=19						
EGMT	**Eagleton**	**48.88**	**297**	P	**P**	**12 30 35.1**	**+0.4**
Y56A	**Pelion**	**48.89**	**263**	P	**P**	**12 30 34.8**	**0.0**
	baz=31						
HODGE	**Hodges**	**48.93**	**264**	IAmb	IAmb	12 30 40.4	
	comp=Z,38nm,1.4s						
NHSC	**New Hope**	**49.00**	**261**	P	**P**	**12 30 35.6**	**-0.1**
	baz=30						
Y55A	**Saluda**	**49.01**	**264**	P	**P**	**12 30 35.8**	**+0.1**
	baz=31						
Z57A	**Bowman**	**49.06**	**262**	P	**P**	**12 30 35.7**	**-0.4**
	baz=30						
CLTN	**Cedars of Leba**	**49.09**	**269**	IAmb	IAmb	12 30 44.7	
	comp=Z,68nm,1.8s						
SKT	**Skwentna**	**49.10**	**333**	IAmb	IAmb	12 30 51.7	
	comp=Z,25nm,1.4s						
Z56A	**Williston**	**49.32**	**263**	P	**P**	**12 30 38.3**	**+0.2**
	baz=30						
158A	**Hollywood**	**49.33**	**261**	P	**P**	**12 30 38.4**	**+0.3**
	baz=30						
W50A	**Signal Mountai**	**49.41**	**268**	P	**P**	**12 30 39.5**	**+0.7**
W50A				IAmb	IAmb	12 30 42.9	
	comp=Z,25nm,0.9s						
SUA	**Susitna One**	**49.42**	**333**	P	**P**	**12 30 39.4**	**+0.7**
SUA				IAmb	IAmb	12 30 49.4	
	comp=Z,64nm,1.9s						
CCM	**Cathedral Cave**	**49.55**	**275**	P	**P**	**12 30 39.6**	**-0.2**
	baz=33						
CCM	**Cathedral Cave**	**49.55**	**275**	P	**P**	**12 30 40.6**	**+0.8**
CCM				pmax	pmax		
	comp=Z,25nm,1.6s						
CCM	**Cathedral Cave**	**49.55**	**275**	P	**P**	**12 30 40.6**	**+0.8**
WALA	**Waterton Lakes**	**49.59**	**301**	P	**P**	**12 30 40.5**	**+0.3**
WALA				IAmb	IAmb	12 30 43.7	
	comp=Z,42nm,1.6s						
V48A	**Smith Brothers**	**49.60**	**269**	P	**P**	**12 30 40.7**	**+0.4**
SWET	**Sewanee**	**49.66**	**268**	IAmb	IAmb	12 30 54.3	
	comp=Z,52nm,1.8s						
BGNE	**Belgrade**	**49.68**	**283**	P	**P**	**12 30 39.2**	**-1.6**
	baz=34						
WVT	**Waverly**	**49.70**	**271**	P	**P**	**12 30 39.8**	**-1.2**
	baz=32						
157A	**Early Branch**	**49.72**	**262**	P	**P**	**12 30 40.8**	**-0.3**
	baz=30						
R40A	**Maddies Statio**	**49.79**	**276**	IAmb	IAmb	12 32 07.7	
	comp=Z,34nm,1.9s						
RSSD	**Black Hills**	**49.85**	**290**	P	**P**	**12 30 41.3**	**-1.0**
	baz=34						
RSSD	**Black Hills**	**49.85**	**290**	P	**P**	**12 30 41.9**	**-0.4**
RSSD				pmax	pmax		
	comp=Z,31nm,1.9s						
RSSD	**Black Hills**	**49.85**	**290**	P	**P**	**12 30 41.9**	**-0.4**
SPU	**Mount Spurr**	**49.94**	**333**	P	**P**	**12 30 42.7**	**+0.1**
Y52A	**Lilburn**	**50.01**	**266**	P	**P**	**12 30 43.4**	**0.0**
Y52A				IAmb	IAmb	12 30 49.6	
	comp=Z,36nm,1.3s						
FPAL	**Fort Paine**	**50.10**	**267**	P	**P**	**12 30 44.8**	**+0.7**
FPAL				IAmb	IAmb	12 30 57.7	
	comp=Z,32nm,1.5s

BTLS eS S 12 38 09.4 +0.9
RLMT Red Lodge 51.10 295 P P 12 30 50.5 -1.2
baz=33,SNR=5.9
YAK Yakutsk 51.23 19 eP P 12 30 51.5 -0.7
YAK e 12 32 04.9
YAK ePPP PPP 12 33 52.6
YAK eS S 12 38 08.4 -2.5
YAK e 12 40 47.8
YAK eSS SS 12 41 37.0 -8.3
YAK pmax pmax
comp=Z,182nm,3.2s
YAK pmax pmax
comp=N,108nm,2.2s
YAK pmax pmax
comp=E,22nm,1.8s
YAK smax smax
comp=N,218nm,6.4s
YAK smax smax
comp=E,122nm,5.3s
KK31 Karatay Array 51.23 70 i P P 12 30 53.3 +0.8
KK31 Karatay Array 51.23 70 IAmb IAmb 12 31 02.7
comp=Z,57nm,1.8s
KKAR Karatay Array 51.23 70 P P 12 30 52.2 -0.4
KKAR pmax pmax
comp=Z,57nm,1.8s
KKAR Karatay Array 51.23 70 P P 12 30 52.7 +0.2
KKAR IAmb IAmb 12 31 02.7
comp=Z,57nm,1.8s
KKAR Karatay Array 51.23 70 P P 12 30 52.2 -0.4
HOM Homer 51.26 332 P P 12 30 50.6 -1.8
baz=23
NEW Newport 51.43 303 P P 12 30 52.8 -1.2
baz=33
MSO Missoula 51.46 299 P P 12 30 53.2 -1.1
baz=33
YNE Yellowstone No 51.48 295 P P 12 30 55.3 +0.6
BOZ Bozeman (W) 51.62 297 P P 12 30 54.8 -0.8
baz=33,SNR=34
BOZ Bozeman (W) 51.62 297 P P 12 30 55.9 +0.3
BOZ pmax pmax
comp=Z,36nm,1.2s
BOZ Bozeman (W) 51.62 297 P P 12 30 55.9 +0.3
BOZ IAmb IAmb 12 31 00.7
comp=Z,36nm,1.1s
U40A Yellville 51.67 275 P P 12 30 55.1 -0.7
baz=32
U40A Yellville 51.67 275 P P 12 30 55.8 -0.1
DZA Taraz 51.74 69 eP P 12 30 57.0 +0.7
baz=69
DZA eS S 12 38 19.7 +1.1
baz=69
DZA LR LR 12 52 05.0
comp=Z,431nm,15.9s,baz=69
DZA Taraz 51.74 69 eP P 12 30 57.0 +0.7
DZA eS S 12 38 19.6 +1.1
DZA MLR MLR
comp=Z,431nm,16.0s
FCAR Ozark Folk Cen 51.75 274 P P 12 30 56.1 -0.3
OXF Oxford 51.75 271 P P 12 30 55.1 -1.3
baz=31
BBB Bella Bella 51.82 313 LR LR 12 53 30.3
comp=Z,352nm,18.1s,baz=34,slow=37
IUG luzhnay 51.84 71 eP P 12 30 57.6 +0.4
comp=Z,230nm,4.3s,baz=71
IUG luzhnay 51.84 71 eP P 12 30 57.5 +0.4
TIGA Tifton 51.89 264 P P 12 30 57.1 -0.4
baz=30
LRAL Lakeview Retre 51.98 268 P P 12 30 57.4 -0.8
baz=30
LRAL Lakeview Retre 51.98 268 P P 12 30 57.8 -0.4
LRAL IAmb IAmb 12 31 02.4
comp=Z,31nm,1.4s
YHH Holmes Hill 52.00 296 P P 12 30 59.0 +0.4
LKWY Lake 52.01 295 P P 12 30 58.6 0.0
LKWY pmax pmax
comp=Z,39nm,1.7s
LKWY Lake 52.01 295 P P 12 30 58.6 0.0
LKWY IAmb IAmb 12 31 05.0
comp=Z,39nm,1.6s
DGZ Jazzator, Alta 52.03 53 d iP P 12 30 59.4 +0.8
DGZ pmax pmax
comp=Z,9.0nm,1.2s
K22A Casper 52.08 291 P P 12 30 58.6 -0.4
baz=33,SNR=13
K22A Casper 52.08 291 P P 12 30 57.7 -1.3
K22A IAmb IAmb 12 31 04.4
comp=Z,25nm,1.1s
B08A Colville Reser 52.14 304 P P 12 30 59.1 -0.2
YHB Horse Butte 52.16 296 P P 12 30 59.6 -0.1
QLMT Earthquake Lak 52.18 296 P P 12 30 59.4 -0.5
H17A Grant Village 52.22 295 P P 12 30 59.2 -1.0
baz=33
BOD Bodaibo 52.37 30 eP P 12 31 00.2 -0.5
BOD pmax pmax
comp=Z,19nm,2.2s
X43A Marvell 52.38 272 P P 12 31 00.8 -0.3
baz=31
W41B Gary Mavity, V 52.41 274 P P 12 31 01.0 -0.4
baz=31
W41B Gary Mavity, V 52.41 274 P P 12 31 01.2 -0.1
W41B IAmb IAmb 12 31 06.0
comp=Z,89nm,1.9s
YPP Pitchstone Pla 52.41 295 P P 12 31 01.1 -0.6
SEY Seymchan 52.45 6 ⇓ iP P 12 31 02.5 +1.2
CBKS Cedar Bluff 52.51 283 P P 12 31 01.4 -0.7
baz=32
MAKZ Makanchi 52.55 59 P P 12 31 01.1 -1.2
MAKZ pmax pmax
comp=Z,53nm,1.9s
MAKZ Makanchi 52.55 59 P P 12 31 01.1 -1.2
MAKZ IAmb IAmb 12 31 04.2
comp=Z,54nm,1.9s
SGDS Sogindy 52.59 66 ⇓ iP P 12 31 03.0 +0.3
comp=Z,243nm,4.4s,baz=66
SGDS Sogindy 52.59 66 d iP P 12 31 02.9 +0.3
MK31 Makanchi Array 52.68 58 P P 12 31 02.8 -0.5
MK31 pmax pmax
comp=Z,14nm,1.4s
MK31 Makanchi Array 52.68 58 P P 12 31 02.8 -0.5
MKAR Makanchi Array 52.68 58 P P 12 31 03.2 0.0
comp=Z,2.9nm,0.9s,baz=327,slow=5.8,SNR=23
MKAR LR LR 12 53 44.0
comp=Z,373nm,19.1s,baz=310,slow=36
MKAR Makanchi Array 52.68 58 P P 12 31 02.2 -1.1
MCMT McKenzie Canyo 52.73 297 P P 12 31 04.5 +0.6
TDK Taldyqorghan 52.74 62 eP P 12 31 04.2 +0.5
comp=Z,481nm,3.4s,baz=62
TDK eS S 12 38 33.5 +1.2
baz=62
TDK Taldyqorghan 52.74 62 eP P 12 31 04.2 +0.5
TDK eS S 12 38 33.4 +1.2
TDK pmax pmax
comp=Z,481nm,3.4s
T35A Sooner Cattle 52.75 279 IAmb IAmb 12 31 08.7
comp=Z,27nm,1.4s
PHWY Pilot Hill 52.78 289 P P 12 31 04.3 -0.1
KUU Kurty 52.88 65 eP P 12 31 04.8 -0.1
comp=Z,419nm,3.9s,baz=65
KUU LR LR 12 52 02.2
comp=Z,680nm,13.6s,baz=65
KUU Kurty 52.88 65 eP P 12 31 04.7 -0.1
KUU pmax pmax
comp=Z,419nm,3.9s
KUU MLR MLR
comp=Z,680nm,14.0s
LOHW Long Hollow 52.89 295 P P 12 31 06.4 +1.3
FXWY Fox Creek 53.03 295 P P 12 31 06.9 +0.7
W39A Magazine 53.05 275 P P 12 31 04.8 -1.3
baz=31
W39A Magazine 53.05 275 IAmb IAmb 12 31 25.2
comp=Z,42nm,1.7s
SNOW Snow King Moun 53.07 295 IAmb IAmb 12 31 16.8
comp=Z,25nm,1.3s
TPAW Teton Pass 53.13 295 P P 12 31 06.0 -0.9
TPAW IAmb IAmb 12 31 14.9
comp=Z,64nm,1.9s
TOA0 Torodi Ar. Sit 53.16 157 P P 12 31 06.8 -0.3
TORD Torodi Ar. Bea 53.16 157 P P 12 31 05.7 -1.4
comp=Z,10nm,1.0s,baz=343,slow=7.1,SNR=16
TORD LR LR 12 53 41.8
comp=Z,420nm,19.2s,baz=340,slow=36
TORD Torodi Ar. Bea 53.16 157 P P 12 31 05.8 -1.2
RWWY Rawlins 53.16 291 P P 12 31 06.8 -0.3
RWWY IAmb IAmb 12 31 13.1
comp=Z,35nm,1.3s
CHKK Chushkaly 53.17 64 eP P 12 31 06.8 -0.2
baz=64
CHKK Chushkaly 53.17 64 eP P 12 31 06.7 -0.2
BW06 Boulder Array 53.19 293 P P 12 31 06.6 -0.7
baz=32,SNR=27
BW06 Boulder Array 53.19 293 P P 12 31 06.6 -0.7
BW06 IAmb IAmb 12 31 11.4
comp=Z,30nm,1.2s
PD31 Pinedale Array 53.19 293 P P 12 31 05.6 -1.7
PD31 IAmb IAmb 12 31 11.4
comp=Z,28nm,1.2s
PDAR Pinedale Array 53.19 293 P P 12 31 06.6 -0.7
comp=Z,14nm,1.0s,baz=61,slow=7.0,SNR=28
PDAR LR LR 12 53 35.8
comp=Z,1μm,18.2s,baz=36,slow=36
PDAR Pinedale Array 53.19 293 P P 12 31 06.2 -1.2
B05A Bryant 53.19 306 P P 12 31 05.5 -1.5
baz=31
REDW Red Top Meadow 53.20 295 P P 12 31 07.0 -0.3
REDW IAmb IAmb 12 31 20.3
comp=Z,84nm,1.9s
AAK Ala-Archa 53.22 67 deP P 12 31 08.3 +0.8
AAK pmax pmax
comp=Z,31nm,1.7s
AAK Ala-Archa 53.22 67 P P 12 31 07.9 +0.4
AAK IAmb IAmb 12 31 16.1
comp=Z,70nm,1.8s
X40A Basin Creek Fa 53.24 274 P P 12 31 06.7 -0.8
baz=31
TUL1 Leonard 53.30 277 P P 12 31 07.7 -0.2
baz=32
N23A Red Feather La 53.32 289 P P 12 31 07.3 -1.0
baz=32,SNR=7.6
N23A Red Feather La 53.32 289 IAmb IAmb 12 31 15.0
comp=Z,46nm,1.2s
MIAR Mount Ida 53.51 275 P P 12 31 09.1 -0.4
baz=31
MIAR Mount Ida 53.51 275 P P 12 31 09.9 +0.4
MIAR pmax pmax
comp=Z,12nm,1.2s
MIAR Mount Ida 53.51 275 P P 12 31 09.9 +0.4
KSCO Kaye Shedlock' 53.55 285 P P 12 31 09.0 -0.9
baz=32
KSCO Kaye Shedlock' 53.55 285 P P 12 31 10.0 +0.1
BRAL Brewton 53.61 267 P P 12 31 09.8 -0.5
baz=30
AAA Alma-Ata 53.68 65 eP P 12 31 11.3 +0.6
comp=Z,664nm,2.7s,baz=65
AAA eS S 12 38 46.6 +1.4
baz=65
AAA LR LR 12 52 59.4
comp=Z,782nm,15.8s,baz=65
AAA Alma-Ata 53.68 65 eP P 12 31 11.8 +1.0
AAA eS S 12 38 43.9 -1.3
AAA pmax pmax
comp=Z,400nm,3.8s
AAA smax smax
comp=N,300nm,10.0s
AAA MLR MLR
comp=Z,1μm,18.0s
MDOK Medeo 53.77 65 i P P 12 31 11.8 +0.3
baz=65
MDOK eS S 12 38 47.2 +0.6
baz=65
MDOK LR LR 12 52 57.7
comp=Z,856nm,18.0s,baz=65
MDOK Medeo 53.77 65 i P P 12 31 11.8 +0.3
MDOK eS S 12 38 47.2 +0.6
MDOK MLR MLR
comp=Z,856nm,18.0s
TNSS Tian-Shan 53.84 65 eP P 12 31 13.1 +0.7
baz=65
TNSS Tian-Shan 53.84 65 eP P 12 31 13.0 +0.7
DWPF Disney Wildern 53.87 259 P P 12 31 12.1 0.0
baz=28
ISCO Idaho Springs 54.11 288 P P 12 31 13.4 -0.9
baz=32
KPKS Kokpek 54.15 63 eP P 12 31 14.5 +0.3
comp=Z,302nm,4.2s,baz=63
KPKS Kokpek 54.15 63 eP P 12 31 14.5 +0.3
D03D Eldon 54.16 306 P P 12 31 12.9 -1.2
baz=30
VBMS Vicksburg 54.19 270 P P 12 31 13.6 -0.8
baz=30
Z41A Richland Creek 54.28 273 P P 12 31 14.5 -0.6
baz=31
D04E Lakebay 54.36 306 P P 12 31 14.3 -1.1
baz=30
BMO Blue Mountains 54.39 300 P P 12 31 15.1 -0.8
BMO pmax pmax
comp=Z,29nm,1.6s
BMO Blue Mountains 54.39 300 P P 12 31 15.1 -0.8
BMO IAmb IAmb 12 31 24.7
comp=Z,29nm,1.6s
SATY Saty 54.39 64 eP P 12 31 16.5 +0.5
comp=Z,148nm,3.7s,baz=64
SATY eS S 12 38 56.0 +1.1
baz=64
SATY Saty 54.39 64 eP P 12 31 16.5 +0.5
SATY eS S 12 38 55.9 +1.1
SATY pmax pmax
comp=Z,148nm,3.7s
SATY Saty 54.39 64 eP P 12 31 16.5 +0.5
SATY eS S 12 38 55.9 +1.1
SATY pmax pmax
comp=Z,148nm,3.7s
HLID Hailey 54.40 297 P P 12 31 15.0 -1.1
baz=31,SNR=7.1
HLID Hailey 54.40 297 P P 12 31 16.9 +0.8
HLID IAmb IAmb 12 31 26.1
comp=Z,35nm,1.9s
F07A Phinny Hill Vi 54.45 303 P P 12 31 17.1 +0.8
UZB Uzynbulak 54.55 63 i P P 12 31 17.5 +0.2
comp=Z,163nm,4.1s,baz=63
UZB Uzynbulak 54.55 63 i P P 12 31 17.4 +0.2
NLWA Neilton Lookou 54.55 307 IAmb IAmb 12 31 21.6
comp=Z,67nm,1.9s
PDGK Podgornoye 54.58 63 P P 12 31 16.2 -1.1
MOY Mondy 54.61 42 eP P 12 31 19.1 +1.6
MOY pmax pmax
comp=Z,198nm,3.4s
Q24A Divide 54.63 287 P P 12 31 16.9 -1.2
baz=32
SHLS Shalkode 54.71 63 eP P 12 31 20.2 +1.9
comp=Z,258nm,4.5s,baz=62
SHLS Shalkode 54.71 63 eP P 12 31 20.2 +1.9
E04D Cinebar 54.82 305 P P 12 31 18.3 -0.6
baz=30
O20A White River Ci 54.89 290 P P 12 31 19.3 -0.4
baz=32,SNR=8.4
HWUT Hardware Ranch 54.96 294 P P 12 31 20.4 +0.1
HWUT IAmb IAmb 12 31 26.4
comp=Z,24nm,1.0s
F05D White Salmon 55.01 304 P P 12 31 20.0 -0.3
baz=30
IRK Irkutsk 55.02 40 eP P 12 31 19.8 -0.5
IRK e 12 33 23.5
IRK pmax pmax
comp=Z,99nm,3.5s
RDMU Red Mountain 55.06 292 P P 12 31 20.5 -0.5
HRA Herat 55.16 82 IAmb IAmb 12 31 24.1
comp=Z,44nm,1.7s
F04A Amboy 55.31 305 P P 12 31 22.9 +0.4
F04A IAmb IAmb 12 31 26.1
comp=Z,68nm,1.9s
TLY Talaya 55.35 40 d iP P 12 31 23.0 +0.3
TLY e 12 33 27.0
TLY ePPP PPP 12 34 43.7
TLY eS S 12 39 13.8 +6.5
TLY pmax pmax
comp=Z,46nm,1.5s
TLY MLR MLR
comp=Z,1μm,15.0s
F04D Rainier, OR 55.39 305 P P 12 31 21.8 -1.2
baz=30
G05D Wamic, OR 55.52 304 P P 12 31 21.9 -2.1
baz=30
WMOK Wichita Mounta 55.57 279 P P 12 31 24.1 -0.4
baz=31
WMOK Wichita Mounta 55.57 279 IAmb IAmb 12 31 30.6
comp=Z,22nm,1.2s
MA2 Magadan 55.72 7 ⇓ eP P 12 31 26.9 +1.7
MA2 pmax pmax
comp=Z,10.0nm,1.1s
JLU Jordanelle 55.77 293 P P 12 31 26.8 +0.6
SDCO Great Sand Dun 55.81 287 P P 12 31 25.7 -0.9
baz=31,SNR=6.2
SDCO Great Sand Dun 55.81 287 IAmb IAmb 12 31 36.2
comp=Z,33nm,1.9s
T25A Trinidad 55.88 285 P P 12 31 26.7 -0.3
baz=31
T25A Trinidad 55.88 285 P P 12 31 27.7 +0.8
T25A IAmb IAmb 12 31 33.6
comp=Z,61nm,1.9s
BGU Big Grassy Mou 56.12 295 P P 12 31 28.5 0.0
G03D McMinnville, O 56.23 305 P P 12 31 29.1 0.0
baz=30
I05D Terrebonne, OR 56.30 303 P P 12 31 29.6 0.0
baz=30
H04A Detroit Lake 56.31 304 P P 12 31 28.9 -0.8
S22A 4UR Ranch, Cre 56.36 288 P P 12 31 30.0 -0.4
baz=31
S22A 4UR Ranch, Cre 56.36 288 P P 12 31 31.0 +0.5
NATX Nacogdoches 56.37 274 P P 12 31 29.8 -0.3
baz=30
ZAK Zakamensk 56.41 41 eP P 12 31 31.3 +0.9
ZAK pmax pmax
comp=Z,12nm,1.7s
KSH Kashi 56.46 68 P P 12 31 33.0 +2.1
KSH sP sP 12 31 40.3 +7.8
KSH S S 12 39 25.0 +2.5
KSH pmax pmax
comp=Z,39nm,1.3s
KSH pmax pmax
comp=Z,560nm,4.3s
KSH LR LR
comp=Z,820nm,14.0s
KSH LR LR
comp=Z,530nm,10.2s
KSH LR LR
comp=Z,2μm,16.5s
CBYP Canovanas 56.47 239 P P 12 31 31.8 +0.7
CBYP IAmb IAmb 12 31 34.4
comp=Z,22nm,0.9s
PV22 Blue Mesa, Par 56.48 290 P P 12 31 31.1 0.0
PV22 IAmb IAmb 12 32 36.2
comp=Z,29nm,1.6s
MTP Monte Pirata 56.52 238 P P 12 31 32.4 +1.0
MTP IAmb IAmb 12 31 35.9
comp=Z,39nm,1.1s
PV21 Cone Mtn., Par 56.53 290 P P 12 31 31.8 +0.2
PV23 Carpenter Ridg 56.64 290 IAmb IAmb 12 31 36.2
comp=Z,20nm,0.9s
H04D Lebanon 56.64 304 P P 12 31 30.9 -1.1
baz=30
PV04 Paradox Valley 56.65 290 IAmb IAmb 12 31 41.7
comp=Z,17nm,1.1s
DUG Dugway, Tooele 56.66 294 P P 12 31 32.5 +0.2
baz=31,SNR=6.3
DUG Dugway, Tooele 56.66 294 IAmb IAmb 12 31 39.4
comp=Z,45nm,1.6s
AMTX Amarillo 56.67 282 P P 12 31 32.3 -0.1
baz=31
SRU San Rafael Swe 56.68 292 P P 12 31 33.0 +0.4
SRU pmax pmax
comp=Z,14nm,1.0s
SRU San Rafael Swe 56.68 292 P P 12 31 33.0 +0.4
PV14 Lion Creek, Pa 56.71 290 IAmb IAmb 12 31 36.7
comp=Z,15nm,0.9s
PV11 David Mesa, Pa 56.72 290 IAmb IAmb 12 31 42.2
comp=Z,23nm,1.0s
PV10 Paradox Valley 56.72 290 IAmb IAmb 12 31 38.0
comp=Z,27nm,1.1s
PV16 Nyswonger Mesa 56.72 290 IAmb IAmb 12 31 39.0
comp=Z,24nm,1.2s
PV01 Paradox Valley 56.73 289 IAmb IAmb 12 31 37.9
comp=Z,21nm,1.1s
PV02 Paradox Valley 56.74 290 IAmb IAmb 12 31 37.8
comp=Z,30nm,1.1s
PV03 Paradox Valley 56.74 290 IAmb IAmb 12 31 39.1
comp=Z,32nm,1.3s
PV17 East Wray Mesa 56.77 290 IAmb IAmb 12 31 42.6
comp=Z,44nm,1.5s
PV18 Skein Mesa, Pa 56.77 290 IAmb IAmb 12 31 39.3
comp=Z,22nm,1.0s
TMUT Trail Mountain 56.80 292 P P 12 31 34.2 +0.6
WVOR Wild Horse Val 56.96 300 P P 12 31 35.8 +1.3
WVOR pmax pmax
comp=Z,30nm,0.6s
WVOR Wild Horse Val 56.96 300 P P 12 31 35.8 +1.3
Q16A Castle Valley 57.11 292 P P 12 31 36.7 +1.0
I04A Tendick Farm, 57.16 304 P P 12 31 34.6 -1.2
baz=29
J05D Fort Rock, OR 57.18 302 P P 12 31 35.9 -0.1
baz=30
WMQ Urumqi 57.19 56 eP P 12 31 36.5 +0.5
WMQ sP sP 12 31 46.0 +8.5
WMQ PcP PcP 12 32 31.8 +1.3
WMQ S S 12 39 36.8 +4.9
WMQ pmax pmax
comp=Z,17nm,1.9s
WMQ pmax pmax
comp=Z,420nm,4.5s
WMQ LR LR
comp=Z,550nm,23.3s
WMQ LR LR
comp=Z,680nm,16.1s
WMQ LR LR
comp=Z,350nm,20.5s
MLPR Magueyes Islan 57.19 240 P P 12 31 37.1 +1.0
WHTX Lake Whitney, 57.36 276 P P 12 31 36.8 -0.5
baz=30
WHTX Lake Whitney, 57.36 276 P P 12 31 37.8 +0.6
WHTX IAmb IAmb 12 31 44.7
comp=Z,47nm,1.6s
I02D Swisshome 57.40 305 P P 12 31 37.0 -0.3
baz=29
MVCO Mesa Verde 57.50 289 P P 12 31 37.7 -0.8
baz=30
MVCO Mesa Verde 57.50 289 P P 12 31 39.5 +1.0
J04D Umpqua Nationa 57.53 303 P P 12 31 37.1 -1.5
baz=29
K05A Summer Lake 57.54 302 P P 12 31 39.7 +1.1
I03D Drain, OR 57.58 304 P P 12 31 38.5 -0.1
baz=29
ABTX Abilene, Hawle 57.75 279 P P 12 31 39.9 -0.2
baz=30
MSU Marysvale 57.86 293 P P 12 31 40.8 -0.1
MSU Marysvale 57.86 293 P P 12 31 40.8 -0.1
SDDR Presa de Saban 57.88 244 P P 12 31 42.2 +1.2
SDDR IAmb IAmb 12 31 45.3
comp=Z,24nm,1.0s
KBL Kabul 57.90 77 P P 12 31 42.0 +0.8
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 57.90 77 P P 12 31 42.0 +0.8
K04D Chiloquin, OR 57.94 302 P P 12 31 39.9 -1.5
baz=29
J01E Myrtle Point 58.25 304 P P 12 31 42.5 -0.8
baz=29
MTPU Mount Pierson 58.26 292 P P 12 31 45.1 +1.1
435B Jarrell 58.46 276 P P 12 31 44.2 -0.8
baz=30
L04D Klamath Falls 58.49 303 P P 12 31 43.4 -1.8
baz=29
PSUT Pine Spring 58.50 294 P P 12 31 47.1 +1.7
K02D Willamette Mer 58.57 304 P P 12 31 44.0 -1.7
baz=29
ANMO Albuquerque 58.61 286 P P 12 31 45.3 -0.9
baz=30
ANMO Albuquerque 58.61 286 ⇑ eP P 12 31 47.7 +1.5
ANMO pmax pmax
comp=Z,35nm,2.5s
ANMO Albuquerque 58.61 286 P P 12 31 47.1 +0.9
DBIC Dimbokro 58.62 165 P P 12 31 45.1 -1.0
comp=Z,13nm,1.0s,baz=341,slow=9.9,SNR=9.2
DBIC LR LR 12 57 34.9
comp=Z,718nm,18.1s,baz=348,slow=37
DBIC Dimbokro 58.62 165 P P 12 31 47.0 +0.8
DBIC pmax pmax
comp=Z,17nm,1.1s
DBIC Dimbokro 58.62 165 P P 12 31 47.0 +0.8
DBIC IAmb IAmb 12 31 49.7
comp=Z,17nm,1.1s
TIC Toumodi 58.62 166 eP P 12 31 46.0 -0.2
M04C Macdoel 58.71 302 P P 12 31 44.6 -2.1
baz=29
ZEA Zeya 58.80 24 eP P 12 31 48.3 +1.3
ZEA ePPP PPP 12 35 19.0
ZEA eS S 12 40 14.0 +21
ZEA pmax pmax
comp=Z,84nm,2.0s
ZEA pmax pmax

ZEA smax smax
comp=N,600nm,13.0s
ZEA MLR MLR
comp=N,300nm,15.0s
ZEA MLR MLR
comp=E,200nm,15.0s
PKCU Pink Cliffs 58.83 292 P **P** **12 31 47.5 -0.4**
KIC Kosan Boka 58.94 165 *e*P **P** **12 31 48.3 -0.1**
comp=E,42nm,1.1s
SZCU Shurtz Canyon 59.01 293 P **P** **12 31 48.3 -0.7**
LIC Lamto 59.04 166 *e*P **P** **12 31 48.1 -1.0**
comp=E,93nm,1.3s
YBH Yreka Blue Hor 59.07 303 LR LR 12 57 21.1
comp=E,281nm,18.2s,baz=26,slow=36
CCUT Cedar City 59.16 293 P **P** **12 31 51.4 +1.4**
R11A Troy Canyon, C 59.34 295 P **P** **12 31 49.9 -1.3**
baz=29,SNR=17
R11A Troy Canyon, C 59.34 295 P **P** **12 31 52.2 +1.0**
R11A IAmb IAmb 12 32 07.1
comp=E,34nm,1.8s
BNM Barren Site 59.37 285 P **P** **12 31 52.0 +0.5**
KNB Kanab 59.40 292 P **P** **12 31 52.5 +0.8**
KNB pmax pmax
comp=E,52nm,1.7s
KNB Kanab 59.40 292 P **P** **12 31 52.5 +0.8**
M02C Callahan 59.41 303 P **P** **12 31 50.4 -1.2**
baz=29
Y22D IRIS PASSCAL I 59.55 286 P **P** **12 31 52.1 -0.6**
baz=30
LCMT Little Creek M 59.58 293 P **P** **12 31 53.4 +0.5**
SONM Songino Array 59.59 40 P **P** **12 31 52.8 0.0**
comp=E,2.6nm,0.9s,baz=341,slow=8.5,SNR=9.9
SONM LR LR 13 00 37.4
comp=E,565nm,18.1s,baz=329,slow=39
SONM Songino Array 59.59 40 P **P** **12 31 52.5 -0.3**
SONM pmax pmax
comp=E,7.0nm,1.2s
SONM Songino Array 59.59 40 P **P** **12 31 52.5 -0.3**
PAHR Pah Rah Range 59.61 299 P **P** **12 31 52.1 -0.9**
PAHR IAmb IAmb 12 32 09.7
comp=E,29nm,1.6s
JCT Junction City 59.67 278 P **P** **12 31 53.0 -0.4**
baz=29
JCT Junction City 59.67 278 P **P** **12 31 54.3 +0.8**
JCT pmax pmax
comp=E,112nm,1.9s
JCT Junction City 59.67 278 P **P** **12 31 54.3 +0.8**
KVN Kaiserville 59.69 298 P **P** **12 31 54.3 +0.6**
KVN pmax pmax
comp=E,37nm,1.8s
KVN Kaiserville 59.69 298 P **P** **12 31 54.3 +0.6**
KVN IAmb IAmb 12 32 09.0
comp=E,37nm,1.8s
U15A North Rim 59.70 291 P **P** **12 31 54.1 +0.3**
U15A IAmb IAmb 12 32 01.1
comp=E,14nm,1.0s
ULN Ulaanbaatar 59.75 40*d i*P **P** **12 31 54.5 +0.6**
ULN pmax pmax
comp=E,32nm,1.7s
ULN Ulaanbaatar 59.75 40 P **P** **12 31 54.8 +0.9**
W18A Petrified Fore 59.80 289 P **P** **12 31 54.1 -0.4**
baz=30
PRN Pahroc Range 59.95 294 IAmb IAmb 12 32 05.1
comp=E,47nm,1.7s
O03E Paynes Creek 59.99 301 P **P** **12 31 53.9 -1.7**
baz=28
WUAZ Wupatki 60.12 290 P **P** **12 31 55.8 -0.8**
baz=29,SNR=12
RYN Ryan 60.22 298 P **P** **12 31 57.2 -0.1**
RYN IAmb IAmb 12 32 49.4
comp=E,31nm,2.0s
NV11 Mina Array Sit 60.25 297 P **P** **12 31 58.2 +0.7**
NV11 IAmb IAmb 12 32 02.5
comp=E,21nm,1.6s
NVAR Mina Array Bea 60.31 297 P **P** **12 31 57.8 -0.1**
comp=E,1.9nm,0.9s,baz=55,slow=5.4,SNR=9.8
NVAR LR LR 12 57 48.6
comp=E,1μm,19.2s,baz=28,slow=36
NVAR Mina Array Bea 60.31 297 P **P** **12 31 57.4 -0.6**
NIL Nilore 60.41 74 P **P** **12 31 57.6 -0.9**
NIL pmax pmax
comp=E,71nm,1.5s
NIL Nilore 60.41 74 P **P** **12 31 57.5 -0.9**
NIKH Nikolski High 60.60 341 P **P** **12 31 59.6 +0.2**
WAKR Walker 60.68 298 P **P** **12 32 01.7 +1.2**
SHPR Sheep Range 60.77 294 P **P** **12 32 02.4 +1.3**
TPNV Topopah Spring 60.81 295 P **P** **12 32 01.0 -0.4**
baz=29,SNR=5.7
TPNV Topopah Spring 60.81 295 P **P** **12 32 02.2 +0.8**
TPNV pmax pmax
comp=E,17nm,1.4s
TPNV Topopah Spring 60.81 295 P **P** **12 32 02.1 +0.8**
AFDM Forest Hills D 60.87 300 P **P** **12 32 01.6 +0.1**
MNTX Cornudas Mount 60.97 283 P **P** **12 32 02.0 -0.3**
baz=29,SNR=5.3
MNTX Cornudas Mount 60.97 283 P **P** **12 32 02.7 +0.4**
X16A Lo Mia Camp, P 61.11 290 P **P** **12 32 04.1 +0.7**
X16A IAmb IAmb 12 32 12.4
comp=E,44nm,1.6s
GRAC Grapevine Rang 61.20 296 P **P** **12 32 03.5 -0.3**
baz=29
MLAC Mammoth, Mammo 61.22 297 P **P** **12 32 03.8 -0.3**
baz=28
121A Cookes Peak, D 61.25 286 P **P** **12 32 04.1 -0.2**
baz=29
121A Cookes Peak, D 61.25 286 P **P** **12 32 06.0 +1.6**
121A IAmb IAmb 12 32 10.3
comp=E,21nm,1.4s
MDPB Devils Postpil 61.30 298 P **P** **12 32 06.5 +1.7**
833A Chaparral WMA, 61.37 276 P **P** **12 32 04.5 -0.5**
baz=29
FURC Furnace Creek, 61.47 295 P **P** **12 32 04.9 -0.7**
baz=29
TIN Tinemaha, Big 61.49 297 P **P** **12 32 04.5 -1.4**
baz=28
W13A Hualapai Mount 61.49 292 P **P** **12 32 06.7 +0.7**
W13A IAmb IAmb 12 32 14.8
comp=E,26nm,1.7s
HIA Hailar 61.59 30 P **P** **12 32 06.9 +0.7**
HIA pmax pmax
comp=E,6.0nm,0.6s
HIA Hailar 61.59 30 P **P** **12 32 06.9 +0.7**
SHOC Shoshone, Teco 61.74 294 P **P** **12 32 06.1 -1.3**
baz=29
CWC Cottonwood Cre 61.97 296 P **P** **12 32 07.9 -1.3**
baz=28
TUQ Turquoise Moun 62.01 294 P **P** **12 32 08.2 -1.2**
baz=29
NEE2 Needles Airpor 62.08 292 P **P** **12 32 08.9 -0.8**
baz=29
PDMCI Parker Dam,Lak 62.29 292 P **P** **12 32 10.3 -0.8**
baz=29
TX31 Lajitas Ar. Si 62.31 280 P **P** **12 32 11.8 +0.3**
TXAR Lajitas Array 62.31 280 P **P** **12 32 11.4 0.0**
comp=E,4.5nm,1.0s,baz=60,slow=3.2,SNR=19
TXAR LR LR 12 58 45.1
comp=E,1μm,19.6s,baz=0.0,slow=36
TXAR Lajitas Array 62.31 280 P **P** **12 32 10.7 -0.8**
TX32 Lajitas Array 62.31 280 P **P** **12 32 12.0 +0.5**
PETK Petropavlovsk- 62.46 3 P **P** **12 32 12.6 +0.5**
comp=E,3.1nm,1.0s,baz=243,slow=3.0,SNR=5.5
PETK LR LR 12 58 44.2
comp=E,153nm,19.9s,baz=358,slow=35
PETK Petropavlovsk- 62.46 3 P **P** **12 32 11.8 -0.3**
GMRC Granite Mounta 62.47 293 P **P** **12 32 11.2 -1.3**
baz=28
PET Petropavlovsk 62.57 3*d i*P **P** **12 32 12.3 -0.4**
PET *e* 12 34 32.9
PET *e*S **S** **12 40 40.6 -0.1**
PET *e*SS **SS** **12 44 50.3 +6.7**
PET pmax pmax
comp=E,300nm,9.4s
PET pmax pmax
comp=E,500nm,12.8s
PET pmax pmax
comp=E,200nm,13.8s
PET MLR MLR
comp=E,200nm,21.0s
LRMC Laurel Mtn Rad 62.66 295 P **P** **12 32 12.7 -1.0**
baz=28
TUC Tucson 62.68 288 P **P** **12 32 13.4 -0.4**
baz=29
TUC Tucson 62.68 288 P **P** **12 32 14.8 +1.0**
TUC pmax pmax
comp=E,31nm,1.9s
TUC Tucson 62.68 288 P **P** **12 32 14.8 +1.0**
TUC IAmb IAmb 12 32 30.6
comp=E,31nm,1.9s
HEC Hector,Ludlow 62.70 294 P **P** **12 32 13.7 -0.3**
baz=28
ISA Isabella, Lake 62.80 296 P **P** **12 32 12.8 -1.8**
baz=28
ISA Isabella, Lake 62.80 296 P **P** **12 32 14.9 +0.3**
ISA pmax pmax
comp=E,11nm,1.1s
ISA Isabella, Lake 62.80 296 P **P** **12 32 14.9 +0.3**
IRM Iron Mountain 62.82 293 P **P** **12 32 12.7 -2.0**
baz=28
319A Douglas 62.87 286 P **P** **12 32 15.9 +0.7**
319A IAmb IAmb 12 32 22.1
comp=E,27nm,1.1s
DHRM DHARAMSHALA 62.88 72 *e*P **P** **12 32 14.2 -1.2**
VES Vestal, Richgr 62.88 297 P **P** **12 32 14.5 -0.5**
baz=28
RRX Edison Barstow 62.92 294 P **P** **12 32 15.1 -0.2**
baz=28
BELC Belle Mtn. Jos 63.29 293 P **P** **12 32 18.2 +0.2**
baz=28
EDW2 Edwards Air Fo 63.30 295 P **P** **12 32 17.9 0.0**
baz=28
BC3 Big Chuckawall 63.38 293 P **P** **12 32 18.6 0.0**
baz=28
ARVC Arvin 63.41 296 P **P** **12 32 17.4 -1.2**
baz=28
BBRC Big Bear Solar 63.43 294 P **P** **12 32 17.3 -1.6**
baz=28
113A Mohawk Valley, 63.48 291 P **P** **12 32 19.6 +0.6**
GLA Glamis 63.66 292 P **P** **12 32 19.9 -0.5**
baz=28
GLA Glamis 63.66 292 P **P** **12 32 21.6 +1.3**
GLA pmax pmax
comp=E,61nm,1.8s
GLA Glamis 63.66 292 P **P** **12 32 21.6 +1.3**
SMMC Simmler 63.69 297 P **P** **12 32 19.6 -0.9**
baz=28
BFSC Mount Baldy Ra 63.74 295 P **P** **12 32 19.8 -1.2**
baz=28
TYV Tymovskoe 63.74 14 *e*P **P** **12 32 21.0 +0.5**
TYV pmax pmax
comp=E,300nm,3.5s
214A Organ Pipe Nat 63.81 289 P **P** **12 32 20.3 -1.0**
baz=28
214A Organ Pipe Nat 63.81 289 P **P** **12 32 21.8 +0.5**
214A IAmb IAmb 12 32 31.1
comp=E,17nm,1.4s
PFO Pinyon Flats O 63.82 293 P **P** **12 32 20.6 -0.9**
baz=28
OSI Osito Audit: C 63.82 296 P **P** **12 32 20.8 -0.6**
baz=28
KLR Kul'dur 63.90 22*de*P **P** **12 32 21.5 -0.1**
KLR pmax pmax
comp=E,10.0nm,2.0s
DECC Green Verdugo 63.99 295 P **P** **12 32 21.4 -1.0**
baz=28
PKM Mcpherson Peak 64.00 297 P **P** **12 32 22.5 -0.2**
baz=28
MURC Murrieta 64.12 294 P **P** **12 32 22.5 -0.8**
baz=28
SWSC Sam W. Stewart 64.14 292 P **P** **12 32 23.6 +0.2**
baz=28
SMLA Simla 64.22 72 *e*P **P** **12 32 24.4 +0.5**
SMLA IAmb IAmb 12 32 25.5
comp=E,54nm,0.1s
MONP2 Monument Peak 64.44 293 P **P** **12 32 25.2 -0.4**
baz=28
FMP Fort Macarthur 64.45 295 P **P** **12 32 24.7 -0.7**
baz=28
IKP In-Ko-Pah, Jac 64.52 293 P **P** **12 32 25.6 -0.5**
baz=28
109C Camp Elliot, M 64.71 293 P **P** **12 32 26.2 -0.9**
baz=28
SCZ2 Santa Cruz Isl 64.72 296 P **P** **12 32 26.1 -1.1**
baz=28
CIS Catalina Islan 64.77 295 P **P** **12 32 26.2 -1.4**
baz=28
URIC Uribia, Colomb 64.79 242 *e*P **P** **12 32 27.1 -0.7**
SCI2 San Clemente I 65.19 295 P **P** **12 32 28.6 -1.6**
baz=28
GTA Gaotai 65.25 49 *e*P **P** **12 32 31.5 +0.7**
GTA pP sP 12 32 35.8 +3.4
GTA sP pP 12 32 39.3 +7.4
GTA S S 12 41 22.3 +7.5
GTA sS sS 12 41 29.5 +13
GTA pmax pmax
comp=Z,13nm,2.0s
GTA pmax pmax
comp=Z,540nm,9.6s
GTA LR LR
comp=Z,170nm,17.9s
GTA LR LR
comp=Z,430nm,19.6s
GTA LR LR
comp=Z,240nm,24.0s
DDI Dehra Dun 65.29 71 *e*P **P** **12 32 31.8 +0.8**
HSIG 65.63 286 P **P** **12 32 33.7 +0.5**
HSIG IAmb IAmb 12 32 37.1
comp=Z,13nm,1.0s
SMRC Santa Marta, M 66.13 244 *e*P **P** **12 32 38.1 +1.6**
SDV Santo Domingo 66.87 239 *e*P **P** **12 32 43.1 +1.7**
BTO Baotou 67.26 41 *e*P P 12 32 38.3 -5.3
BTO S **S** **12 41 30.8 -8.3**
ARGC Ariguani, Magd 67.34 243 *e*P **P** **12 32 46.1 +1.9**
HHC Hu-ho-hao-te 67.47 40 *e*P **P** **12 32 45.0 +0.1**
HHC PP **PP** **12 35 18.0 +5.1**
HHC S **S** **12 41 38.5 -3.0**
HHC ScS **SKiKP** **12 42 44.3 +0.5**
HHC pmax pmax
comp=Z,27nm,1.1s
HHC pmax pmax
comp=Z,490nm,5.7s
HHC LR LR
comp=Z,490nm,16.4s
HHC LR LR
comp=Z,420nm,17.1s
HHC LR LR
comp=Z,480nm,16.8s
ZAIG Zacatecas 67.60 276 P **P** **12 32 47.8 +1.6**
ZAIG IAmb IAmb 12 32 52.5
comp=Z,19nm,1.3s
YSS Yuzh-Sakhalins 67.61 15 *e*P **P** **12 32 45.2 -0.3**
YSS *e*PPP PPP 12 37 01.6
YSS *e*S **S** **12 41 39.9 -2.9**
YSS *e*SS **SS** **12 46 01.8 -0.4**
YSS pmax pmax
comp=Z,600nm,4.4s
YSS pmax pmax
comp=Z,10.0nm,1.3s
YSS MLR MLR
comp=Z,200nm,17.0s
YSS MLR MLR
comp=N,100nm,18.0s
YSS MLR MLR
comp=E,100nm,16.0s
YSS Yuzh-Sakhalins 67.61 15 P **P** **12 32 46.0 +0.5**
YSS IAmb IAmb 12 32 51.0
comp=Z,35nm,1.4s
SJCC San Jacinto, C 67.66 244 *e*P P 12 32 50.0 +3.7
CN2 Changchun 67.99 28 *e*P **P** **12 32 45.8 -2.2**
CN2 *e*S **S** **12 41 48.5 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,490nm,6.0s
CN2 LR LR
comp=Z,290nm,16.0s
CN2 LR LR
comp=Z,250nm,16.0s
CN2 LR LR
comp=Z,380nm,17.0s
MDJ Mudanjiang 68.00 25 P **P** **12 32 48.0 0.0**
MDJ PP **PP** **12 35 17.3 0.0**
MDJ S **S** **12 41 46.3 -1.3**
MDJ ScS **ScS** **12 42 47.0 -0.6**
MDJ SS **SS** **12 46 09.0 +0.6**
MDJ pmax pmax
comp=Z,15nm,1.2s
MDJ pmax pmax
comp=Z,400nm,3.4s
MDJ LR LR
comp=Z,360nm,12.8s
MDJ LR LR
comp=Z,350nm,15.7s
MDJ LR LR
comp=Z,410nm,15.7s
MDJ Mudanjiang 68.00 25 P **P** **12 32 48.4 +0.4**
MDJ IAmb IAmb 12 32 53.1
comp=Z,27nm,1.4s
SMLC San Martn de 68.24 243 *e*P P 12 32 42.5 -7.3
TGUH Tegucigalpa,Un 68.80 258 *e*P **P** **12 32 56.9 +3.3**
MOTC Monteria, Cord 68.87 244 *e*P **P** **12 32 53.2 -0.6**
LCBC Los crdobas, 69.07 245 *e*P **P** **12 32 57.5 +2.4**
MATN Matagalpa 69.25 256 P **P** **12 32 57.4 +1.1**
MATN IAmb IAmb 12 33 08.5
comp=Z,19nm,1.3s
BJI Beijing 69.44 36 P **P** **12 32 58.5 +1.4**
BJI PP **PP** **12 35 30.0 +0.1**
BJI S S 12 42 13.3 +8.5
BJI SS **SS** **12 46 29.5 -1.3**
BJI pmax pmax
comp=Z,9.0nm,1.4s
BJI pmax pmax
comp=Z,410nm,3.9s
BJI LR LR
comp=Z,120nm,22.9s
BJI LR LR
comp=Z,570nm,21.6s
BJI LR LR
comp=Z,380nm,24.5s
BJT Baijiatuau 69.46 36 P **P** **12 32 58.0 +0.8**
BJT pmax pmax
comp=Z,63nm,2.0s
BJT Baijiatuau 69.46 36 P **P** **12 32 58.0 +0.8**
SNY Shenyang 69.49 30 ⇓P **P** **12 32 57.5 +0.1**
SNY S **S** **12 42 09.5 +4.2**
SNY pmax pmax
comp=Z,7.0nm,0.5s
SNY pmax pmax
comp=Z,400nm,3.6s
SNY LR LR
comp=Z,250nm,14.7s
SNY LR LR
comp=Z,190nm,13.5s
SNY LR LR
comp=Z,310nm,16.0s
TAMC Tame, Arauca 69.55 240 *e*P **P** **12 32 56.2 -1.9**
LZH Lanzhou 69.58 48 ⇑P **P** **12 32 59.3 +1.0**
LZH pP sP 12 33 03.3 +3.5
LZH S **S** **12 42 11.5 +4.5**
LZH sS sS 12 42 17.8 +8.9
LZH pmax pmax
comp=Z,22nm,1.4s
LZH pmax pmax
comp=Z,110nm,5.3s
LZH LR LR
comp=Z,580nm,16.3s
LZH LR LR
comp=Z,530nm,18.0s
LZH LR LR
comp=Z,630nm,17.4s
BRRC Barranca, Sant 69.65 242 *e*P **P** **12 32 58.8 +0.1**
CAPC Capurgana 69.66 246 *e*P **P** **12 32 59.2 +0.5**
ZARC Zaragoza, Cauc 69.74 243 *e*P **P** **12 33 00.0 +0.8**
UREC San Jos de Ur 69.76 244 *e*P **P** **12 32 59.5 +0.1**
KUR Kuril'sk 69.80 11 *e*P **P** **12 32 59.2 0.0**
KUR *e* 12 33 22.1
KUR 12 35 33.4
KUR PPP PPP 12 37 18.9
KUR SS SS 12 46 44.7 +8.7
UPD2 Meteti 70.00 246 *e*P P 12 33 04.4 +3.6
BCIP Isla Barro Col 70.16 248 *e*P **P** **12 33 00.0 -1.8**
PTBC PUERTO BERRIO, 70.46 242 *e*P **P** **12 33 02.4 -1.2**
RUSC La Rusia 70.53 241 *e*P **P** **12 33 05.5 +0.9**
TIY Taiyuan 70.63 40 *e*P **P** **12 33 03.8 -0.8**
TIY S S 12 42 26.5 +7.5
TIY SS **SS** **12 46 56.8 +7.4**
TIY pmax pmax
comp=Z,310nm,3.9s
TIY LR LR
comp=Z,270nm,10.7s
TIY LR LR
comp=Z,180nm,10.7s
TIY LR LR
comp=Z,480nm,17.2s
DBBC Dabeiba 70.69 244 *e*P **P** **12 33 04.3 -0.8**
PNME Penonome 70.97 249 *e*P **P** **12 33 08.7 +1.9**
SPBC San Pablo de B 71.13 241 *e*P **P** **12 33 07.1 -0.7**
HELC Santa Helena 71.19 243 *e*P **P** **12 33 07.7 -0.8**
BHPL Bhopal 71.28 75 *e*P **P** **12 33 08.2 -0.5**
BHPL IAmb IAmb 12 33 14.6
comp=Z,13nm,1.0s
NORC Norcasia 71.51 242 *e*P **P** **12 33 11.4 +1.3**
AZU Azuero 71.58 248 *e*P **P** **12 33 12.7 +2.2**
CBOC Ciudad Bolivar 71.67 243 *e*P **P** **12 33 10.7 -0.5**
DL2 Dalian 71.85 33 ⇓P **P** **12 33 11.3 -0.5**
DL2 PP **PP** **12 35 54.5 +4.0**
DL2 S **S** **12 42 35.5 +2.7**
DL2 pmax pmax
comp=Z,13nm,0.7s
DL2 pmax pmax
comp=Z,460nm,4.1s
DL2 LR LR
comp=Z,250nm,23.0s
DL2 LR LR
comp=Z,960nm,23.7s
DL2 LR LR
comp=Z,700nm,17.4s
CHIC Chingaza 71.94 241 *e*P **P** **12 33 15.6 +2.5**
ROSC El Rosal 71.97 241 LR LR 12 59 56.4
comp=Z,191nm,21.8s,baz=62,slow=32
ROSC El Rosal 71.97 241 *e*P **P** **12 33 12.1 -1.1**
GUY2C Guyana, Caldas 72.01 243 *e*P **P** **12 33 14.1 +0.5**
PTGA Pitinga 72.23 225 P **P** **12 33 14.6 +0.3**
PTGA IAmb IAmb 12 33 25.9
comp=Z,37nm,1.9s
ERM Erimo 72.53 15⇑*e*P **P** **12 33 18.9 +3.1**
ERM pmax pmax
comp=Z,8.0nm,1.2s
ANIL Santa Ana 72.70 242 *e*P **P** **12 33 15.9 -1.6**
XAN Xi'an 73.04 44 P **P** **12 33 19.0 0.0**
XAN PP **PP** **12 36 05.8 +4.8**
XAN S **SKiKP** **12 42 53.0 +1.0**
XAN pmax pmax
comp=Z,530nm,4.6s
XAN LR LR
comp=Z,670nm,22.5s
XAN LR LR
comp=Z,540nm,20.3s
XAN LR LR
comp=Z,1μm,23.5s
XAN Xi'an 73.04 44 P **P** **12 33 19.1 0.0**
XAN pmax pmax
comp=Z,31nm,1.6s
XAN Xi'an 73.04 44 P **P** **12 33 19.1 0.0**
XAN IAmb IAmb 12 33 32.5
comp=Z,31nm,1.6s
ORTC Ortega, Tolima 73.17 242 *e*P **P** **12 33 22.3 +2.3**
PRAC Prado 73.22 241 *e*P **P** **12 33 20.4 +0.1**
YOTC Yotoco, Valle 73.52 243 *e*P **P** **12 33 22.3 +0.2**
MBAR Mbarara 73.91 129⇑*e*P **P** **12 33 25.6 +1.1**
MBAR pmax pmax
comp=Z,2.0nm,1.0s
ZIRO ZIRO 73.94 59 *e*P **P** **12 33 25.8 +1.2**
ZIRO IAmb IAmb 12 33 31.2
comp=Z,18nm,0.3s
POO Poona 73.97 81 *ex* x 12 16 05.0
BOK Bokaro 74.24 68 *e*P **P** **12 33 26.2 +0.1**
BOK IAmb IAmb 12 33 32.3
comp=Z,7.9nm,0.8s
MACC Macarena, Meta 74.27 240 *e*P **P** **12 33 28.1 +1.7**
CD2 Chengdu 74.32 50 P **P** **12 33 26.3 -0.3**
CD2 PP **PP** **12 36 13.5 +1.6**
CD2 S **S** **12 43 00.5 -0.8**
CD2 sS sS 12 43 07.0 +3.8
CD2 SS **SS** **12 47 47.0 +1.0**
CD2 pmax pmax
comp=Z,30nm,1.4s
CD2 pmax pmax
comp=Z,840nm,5.4s
CD2 LR LR
comp=Z,640nm,20.5s
CD2 LR LR
comp=Z,840nm,18.1s
CD2 LR LR
comp=Z,720nm,18.3s
GUWA GUWAHATI 74.34 62 *e*P **P** **12 33 25.1 -1.6**

GUWA					IAmb	IAmb	12 33 46.3	
	comp=Z,23nm,0.3s							
BETC	**Betania**	**74.38**	**242**	*eP*	**P**	**P**	**12 33 27.5**	**+0.5**
MARP	**Paez Belalcaza**	**74.42**	**242**	*eP*	**P**	**P**	**12 33 29.5**	**+1.9**
KSRS	**Korea Array**	**74.60**	**28**	P	**P**	**P**	**12 33 28.1**	**0.0**
	comp=Z,0.5nm,0.7s,baz=347,slow=5.0,SNR=4.9							
KSRS					LR	LR	13 09 24.3	
	comp=Z,186nm,18.8s,baz=342,slow=38							
KSAR	**Wonju Array Be**	**74.61**	**28**	P	**P**	**P**	**12 33 28.0**	**-0.1**
KSAR	**Wonju Array Be**	**74.61**	**28**	P	**P**	**P**	**12 33 28.0**	**-0.1**
LKP	**Lekhapani**	**74.85**	**58**	*eP*	**P**	**P**	**12 33 31.6**	**+1.9**
GARC	**Garzon, Huila**	**74.85**	**241**	*eP*	**P**	**P**	**12 33 32.8**	**+2.8**
POPC	**Popayan, Colom**	**74.97**	**243**	*eP*	**P**	**P**	**12 33 30.4**	**-0.4**
SHL	**Shillong**	**74.98**	**62**	*eP*	**P**	**P**	**12 33 30.2**	**-0.4**
PCON	**Cinco Dias**	**75.06**	**242**	*eP*	**P**	**P**	**12 33 32.1**	**+0.4**
FLOC	**Florencia**	**75.47**	**241**	*eP*	**P**	**P**	**12 33 35.0**	**+1.7**
FLOC	**Florencia**	**75.47**	**241**	P	**P**	**P**	**12 33 33.6**	**+0.2**
BBAC	**Balboa, Cauca**	**75.67**	**243**	*eP*	**P**	**P**	**12 33 37.5**	**+2.7**
AGT	**Agartala**	**76.26**	**63**	*eP*	**P**	**P**	**12 33 40.4**	**+2.6**
GCUF	**Volcan Galeras**	**76.44**	**243**	*eP*	**P**	**P**	**12 33 42.3**	**+2.9**
KMBO	**Kilima Mbogo**	**76.66**	**123**	LR	LR	LR	13 10 54.3	
	comp=Z,308nm,18.4s,baz=99,slow=38							
MAT	**Matsushiro**	**77.28**	**20**	P	**P**	**P**	**12 33 43.7**	**+0.3**
MAT				S	S	S	12 43 43.4	+10
MJAR	**Matsushiro Arr**	**77.29**	**20**	P	**P**	**P**	**12 33 44.0**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=352,slow=3.0,SNR=4.0							
MJAR	**Matsushiro Arr**	**77.29**	**20**	P	**P**	**P**	**12 33 43.0**	**-0.4**
MJAR				pmax	pmax			
	comp=Z,7.0nm,1.8s							
MJAR	**Matsushiro Arr**	**77.29**	**20**	P	**P**		**12 33 43.0**	**-0.4**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,440nm,4.1s							
NJ2				LR	LR			
	comp=Z,300nm,14.7s							
NJ2				LR	LR			
	comp=Z,280nm,14.0s							
NJ2				LR	LR			
	comp=Z,330nm,17.7s							
OTAV	**Otavalo**	**77.77**	**244**	*eP*	**P**	**P**	**12 33 43.7**	**-3.2**
OTAV	**Otavalo**	**77.77**	**244**	P	**P**	**P**	**12 33 46.7**	**-0.2**
OTAV				pmax	pmax			
	comp=Z,17nm,1.4s							
OTAV	**Otavalo**	**77.77**	**244**	P	**P**	**P**	**12 33 46.7**	**-0.2**
SSE	**Sheshan**	**79.19**	**35**	P	**P**	**P**	**12 33 53.8**	**-0.2**
SSE				S	S	**S**	**12 43 56.5**	**+2.1**
SSE				pmax	pmax			
	comp=Z,22nm,0.7s							
SSE				pmax	pmax			
	comp=Z,200nm,3.7s							
SSE				LR	LR			
	comp=Z,130nm,16.9s							
SSE				LR	LR			
	comp=Z,320nm,18.4s							
KMI	**Kunming**	**79.31**	**53**	⇓*iP*	**P**	**P**	**12 33 54.5**	**-0.5**
KMI				pP	sP	sP	12 33 58.8	+2.2
KMI				sP	PcP	PcP	12 34 07.5	+4.2
KMI				PP	**PP**	**PP**	**12 36 58.3**	**+4.1**
KMI				S	**S**	**S**	**12 43 52.3**	**-4.0**
KMI				sS	SKSac	SKSac	12 44 05.0	-7.2
KMI				pmax	pmax			
	comp=Z,13nm,1.0s							
KMI				pmax	pmax			
	comp=Z,340nm,4.1s							
KMI				LR	LR			
	comp=Z,310nm,21.7s							
KMI				LR	LR			
	comp=Z,490nm,19.5s							
KMI				LR	LR			
	comp=Z,380nm,34.8s							
GYA	**Guiyang**	**79.38**	**49**	⇑*iP*	**P**	**P**	**12 33 55.5**	**+0.2**
GYA				sP	PcP	PcP	12 34 08.5	+5.0
GYA				PP	**PP**	**PP**	**12 36 55.0**	**+0.4**
GYA				S	**S**	**S**	**12 44 01.5**	**+4.7**
GYA				pmax	pmax			
	comp=Z,14nm,1.9s							
GYA				pmax	pmax			
	comp=Z,470nm,4.9s							
GYA				LR	LR			
	comp=Z,230nm,19.8s							
GYA				LR	LR			
	comp=Z,400nm,19.3s							
GYA				LR	LR			
	comp=Z,330nm,18.1s							
SAML	**Samuel**	**80.99**	**226**	P	**P**	**P**	**12 34 05.7**	**+1.9**
SAML				pmax	pmax			
	comp=Z,12nm,1.2s							
SAML	**Samuel**	**80.99**	**226**	P	**P**	**P**	**12 34 05.7**	**+1.9**
BDFB	**Brasilia**	**83.43**	**210**	LR	LR	LR	13 07 44.1	
	comp=Z,298nm,18.2s,baz=340,slow=33							
CHTO	**Chiang Mai**	**83.76**	**59**	P	**P**	**P**	**12 34 17.5**	**-0.9**
CHTO	**Chiang Mai**	**83.76**	**59**	P	**P**	**P**	**12 34 17.5**	**-0.9**
CHTO				IAmb	IAmb	IAmb	12 34 22.9	
	comp=Z,18nm,1.2s							
CMAR	**Chiang Mai Arr**	**84.09**	**59**	P	**P**	**P**	**12 34 20.2**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=317,slow=6.7,SNR=9.3							
CMAR				LR	LR	LR	13 14 41.7	
	comp=Z,301nm,20.2s,baz=354,slow=38							
CMAR	**Chiang Mai Arr**	**84.09**	**59**	P	**P**	**P**	**12 34 19.5**	**-0.6**
QZH	**Quanzhou**	**84.38**	**39**	⇓*iP*	**P**	**P**	**12 34 20.0**	**-1.4**
QZH				S	**S**	**S**	**12 44 43.5**	**-4.5**
QZH				pmax	pmax			
	comp=Z,310nm,9.3s							
QZH				LR	LR			
	comp=Z,310nm,13.3s							
QZH				LR	LR			
	comp=Z,160nm,12.8s							
QZH				LR	LR			
	comp=Z,400nm,15.6s							
QIZ	**Qiongzhong**	**87.33**	**49**	P	**P**	**P**	**12 34 36.5**	**+0.3**
QIZ				PP	**PP**	**PP**	**12 37 57.8**	**-1.9**
QIZ				S	**S**	**S**	**12 45 17.3**	**0.0**
QIZ				SS	**SS**	**SS**	**12 51 01.3**	**+0.8**
QIZ				LR	LR			
	comp=Z,330nm,16.2s							
QIZ				LR	LR			
	comp=Z,380nm,17.2s							
QIZ				LR	LR			
	comp=Z,300nm,17.7s							
LPAZ	**La Paz**	**89.45**	**228**	LR	LR	LR	13 13 41.6	
	comp=Z,109nm,18.3s,baz=356,slow=35							
BOSA	**Boshof**	**98.77**	**143**	LR	LR	LR	13 22 31.7	
	comp=Z,787nm,18.2s,baz=350,slow=37							
WRA	**Warramunga Arr**	**131.48**	**36**	PKP		**PKiKP**	**12 41 02.2**	**-0.4**
	comp=Z,2.8nm,1.1s,baz=354,slow=2.3,SNR=4.5							
WRA	**Warramunga Arr**	**131.48**	**36**			**PKiKP**	**12 41 01.7**	**-0.9**
ASAR	**Alice Springs**	**134.92**	**38**	PKP		**PKiKP**	**12 41 07.7**	**-1.7**
	comp=Z,1.6nm,0.9s,baz=2.1,slow=3.6,SNR=8.0							
ASAR	**Alice Springs**	**134.92**	**38**	PKPdf		**PKiKP**	**12 41 07.5**	**-1.9**
SYO	**Syowa Base**	**139.29**	**152**	⇑*eX*		**Pdif**	**12 38 26.3**	**-1.4**
MAW	**Mawson**	**143.74**	**140**	PKP		**PKPdf**	**12 41 22.2**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=285,slow=6.0,SNR=5.7							
MAW	**Mawson**	**143.74**	**140**			**PKPdf**	**12 41 22.1**	**-0.4**
BBOO	**Buckleboo**	**144.17**	**40**			**PKPdf**	**12 41 24.6**	**+0.1**
STKA	**Stephens Creek**	**144.68**	**32**	PKP		**PKPdf**	**12 41 23.8**	**-1.6**
	comp=Z,2.4nm,0.8s,baz=305,slow=5.5,SNR=7.9							
STKA	**Stephens Creek**	**144.68**	**32**	PKPdf		**PKPdf**	**12 41 23.4**	**-2.0**
QSPA	**South Pole Qui**	**154.62**	**180**			**PKPdf**	**12 41 40.6**	**+0.6**

*IDC **29** 12:42:15.1±5.4, 53°49.49N×167°54.54W, h63km±50km, mb3.4/6, mb1 3.7/8, mb1mx3.3/42, mbtmp3.7/8, ML3.6/2, Error ellipse: s-maj=51.4km s-min=20.2km az=166.0*
*NEIC **29** 12:42:17.0±1.9, 53°44.5N±0°1.1×167°44.4W±0°1.1, h79km±4km, Error ellipse: s-maj=18.1km s-min=4.6km az=150.0*
*AEIC **29** 12:42:17±3.4, 53°17.17N±0°0.08×167°23.23W±0°0.08, h59km±6km, ML3.8, mb3.9/21(NEIC), Error ellipse: s-maj=12.9km s-min=4.6km az=153.0*

ISC 29 12:42:16.8±0.8, 53°3.3N±0°1.1×167°32.32W±0°0.06, h77km±7km, n107, σ1°46/111, mb3.7/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.38**	**290**		**Pn**	**12 42 28.9**	**-0.3**
OKFG					**Sn**	**12 42 38.1**	**-0.2**
OKNC	**Okmok New Cone**	**0.51**	**290**		**Sn**	**12 42 39.5**	**-0.9**
OKCE	**Okmok Cone E**	**0.53**	**286**		**Pn**	**12 42 30.4**	**0.0**
MAPS	**Pakushin South**	**0.57**	**23**		**Pn**	**12 42 30.8**	**-0.1**
MAPS					**Sn**	**12 42 41.5**	**+0.2**
MGOD	**Makushin Gods**	**0.58**	**27**		**Pn**	**12 42 30.6**	**-0.3**
MGOD					**Sn**	**12 42 42.2**	**+0.8**
OKSP	**Okmok Steeple**	**0.59**	**267**		**Pn**	**12 42 31.0**	**0.0**
MREP	**Makushin Rep't**	**0.63**	**33**		**Pn**	**12 42 31.5**	**0.0**
MSW	**Makushin Switc**	**0.71**	**27**		**Pn**	**12 42 32.0**	**-0.3**
MSW					**Sn**	**12 42 44.2**	**+0.4**
MNAT	**Makushin Natee**	**0.71**	**32**		**Pn**	**12 42 32.2**	**-0.1**
MNAT					**Sn**	**12 42 44.3**	**+0.5**
MCIR	**Makushin Cirqu**	**0.71**	**21**		**Pn**	**12 42 32.3**	**-0.1**
UNV	**Unalaska Valle**	**0.74**	**40**		**Pn**	**12 42 32.5**	**0.0**
UNV					**Sn**	**12 42 44.9**	**+0.6**
MTBL	**Makushin Table**	**0.79**	**29**		**Pn**	**12 42 33.1**	**0.0**
NIKH	**Nikolski High**	**0.98**	**252**		**Pn**	**12 42 35.7**	**+0.4**
NIKH					**Sn**	**12 42 50.4**	**+1.2**
AKMO	**Akutan Morgan**	**1.12**	**43**		**Pn**	**12 42 37.5**	**+0.4**
AKMO					**Sn**	**12 42 53.6**	**+1.3**
AKRB	**Akutan Reef Bi**	**1.13**	**41**		**Pn**	**12 42 37.5**	**+0.3**
AKRB					**Sn**	**12 42 53.7**	**+1.3**
AKBBA	**Akutan Broad B**	**1.16**	**45**		**Pn**	**12 42 37.9**	**+0.3**
AKBBA					**Sn**	**12 42 54.6**	**+1.4**
AKLV	**Akutan Long Va**	**1.20**	**42**		**Pn**	**12 42 38.2**	**+0.2**
AKLV					**Sn**	**12 42 55.6**	**+1.6**
AKGG	**Akutan Green G**	**1.21**	**40**		**Pn**	**12 42 38.5**	**+0.4**
AKUT	**Akutan**	**1.25**	**47**		**Pn**	**12 42 39.0**	**+0.3**
AKSA	**Akutan Strait**	**1.29**	**48**		**Pn**	**12 42 39.3**	**+0.1**
WESP	**Westdahl Peak**	**1.96**	**51**		**Pn**	**12 42 48.7**	**+0.7**
WEBT	**Westdahl Beart**	**2.00**	**48**		**Pn**	**12 42 49.2**	**+0.6**
SSBA	**Shishaldin**	**2.40**	**50**		**Pn**	**12 42 54.6**	**+0.6**
SSBA					**Sn**	**12 43 24.3**	**+1.9**
SSLW	**Shishaldin Wes**	**2.40**	**50**		**Pn**	**12 42 54.7**	**+0.7**
BRPK	**Brown Peak**	**2.51**	**56**		**Pn**	**12 42 56.0**	**+0.6**
FALS	**False Pass**	**2.79**	**54**		**Pn**	**12 42 60.0**	**+0.9**
OTT1	**Dutton Round H**	**3.48**	**56**		**Pn**	12 43 09.5	+1.1
SPIA	**Saint Paul Isl**	**4.25**	**338**		**Pn**	**12 43 17.9**	**-1.0**
ATKA	**Atka Island**	**4.32**	**258**		**Pn**	**12 43 20.2**	**+0.3**
SDPT	**Sand Point**	**4.51**	**60**		**Pn**	**12 43 23.0**	**+0.6**
CNBA	**Chernabura Isl**	**4.81**	**68**		**Pn**	**12 43 26.2**	**-0.3**
GSTR	**Great Sitkin T**	**5.45**	**261**	Pn	**Pn**	**12 43 33.3**	**-2.1**
ADK	**Adak**	**5.88**	**260**	Pn	**Pn**	**12 43 41.3**	**+0.1**
CHIR	**Chirikof Islan**	**7.26**	**65**		**Pn**	**12 43 59.4**	**-0.6**
SII	**Sitkinak Islan**	**8.24**	**61**	Pn	**Pn**	**12 44 12.4**	**-1.1**
AMKA	**Amchitka**	**8.42**	**262**	Pn	**Pn**	**12 44 15.8**	**0.0**
KABU	**Katmai Buttres**	**8.42**	**49**		**Pn**	**12 44 15.7**	**-0.2**
OHAK	**Old Harbor**	**8.93**	**58**		**Pn**	**12 44 20.7**	**-2.0**
KDAK	**Kodiak Island**	**9.48**	**56**	P	**Pn**	**12 44 28.2**	**-2.1**
	1.4nm,0.3s,baz=166,slow=3.7,SNR=44						
KDAK				S	**Sn**	**12 46 08.8**	**-6.3**
	0.2nm,0.3s,baz=115,slow=23,SNR=3.9						
SVW2	**Sparrevohn**	**10.08**	**34**	Pn	**Pn**	**12 44 39.3**	**+0.9**
RSO	**Redoubt South**	**10.72**	**42**		Pn	12 44 50.1	+2.8
CNPM	**China Poot**	**10.87**	**48**	Pn	**Pn**	**12 44 47.5**	**-1.7**
SPU	**Mount Spurr**	**11.42**	**40**	Pn	**Pn**	**12 44 56.6**	**-0.1**
SLKM	**Skilak Lake**	**11.79**	**45**		**Pn**	**12 45 00.4**	**-1.4**
SEW	**Seward**	**11.93**	**48**	Pn	**Pn**	**12 45 01.4**	**-2.3**
SUA	**Susitna One**	**12.10**	**41**	Pn	**Pn**	**12 45 04.7**	**-1.3**
SKT	**Skwentna**	**12.11**	**38**	Pn	**Pn**	**12 45 05.3**	**-0.8**
PPLA	**Purkeypile**	**12.49**	**34**	Pn	**Pn**	**12 45 09.9**	**-1.4**
PMR	**Palmer**	**12.81**	**42**	Pn	**Pn**	**12 45 15.3**	**-0.3**
KNK	**Knik Glacier**	**12.99**	**44**	Pn	**Pn**	**12 45 16.3**	**-1.7**
SML	**Sawmill**	**13.25**	**42**	Pn	**Pn**	**12 45 20.2**	**-1.3**
GLI	**Glacier Island**	**13.32**	**47**	Pn	**Pn**	**12 45 18.8**	**-3.6**
FID	**Port Fidalgo**	**13.54**	**48**	Pn	**Pn**	**12 45 21.6**	**-3.7**
SCM	**Sheep Creek Mo**	**13.67**	**43**	Pn	**Pn**	**12 45 24.0**	**-3.1**
BPAW	**Bear Paw Mtn.**	**13.71**	**31**	Pn	**Pn**	**12 45 28.0**	**+0.5**
EYAK	**Cordova Ski Ar**	**13.79**	**50**	Pn	**Pn**	**12 45 25.6**	**-3.0**
RND	**Reindeer**	**13.97**	**36**	Pn	**Pn**	**12 45 31.1**	**+0.2**
KLU	**Klutina**	**14.11**	**46**		**Pn**	**12 45 29.2**	**-3.6**
DHY	**Denali Highway**	**14.31**	**39**	Pn	**Pn**	**12 45 34.9**	**-0.6**
IMAR	**Indian Mountai**	**14.41**	**23**	Pn	**Pn**	**12 45 36.6**	**0.0**
GLB	**Gilahina Butte**	**15.01**	**48**	Pn	**Pn**	**12 45 42.5**	**-1.9**
GLB				IAmb	IAmb	12 45 57.8	
	comp=Z,4.0nm,0.8s						
CCB	**Clear Creek Bu**	**15.11**	**33**	Pn	**Pn**	**12 45 44.6**	**-0.9**
CCB				IAmb	IAmb	12 45 52.4	
	comp=Z,4.2nm,1.3s						
MDM	**Murphy Dome**	**15.17**	**32**	Pn	**Pn**	**12 45 44.9**	**-1.6**
HDA	**Harding Lake**	**15.25**	**35**	Pn	**Pn**	**12 45 47.1**	**-0.3**
IL31		**15.49**	**34**	Pn	**Pn**	**12 45 48.8**	**-1.6**
ILAR	**Eielson Array**	**15.49**	**34**	P	**Pn**	**12 45 49.0**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=232,slow=10,SNR=8.9						
ILAR	**Eielson Array**	**15.49**	**34**		**Pn**	**12 45 50.5**	**+0.1**
BALM	**Baldy**	**15.53**	**50**	Pn	**Pn**	**12 45 49.5**	**-1.6**
BALM				IAmb	IAmb	12 45 56.7	
	comp=Z,13nm,1.2s						
YAH	**Yahtse**	**15.61**	**53**	Pn	**Pn**	**12 45 51.4**	**-0.8**
RIDG	**Independent Ri**	**15.63**	**39**	Pn	**Pn**	**12 45 51.8**	**-0.4**
RIDG				IAmb	IAmb	12 46 10.0	
	comp=Z,6.1nm,1.2s						
BARN	**Barnard Glacie**	**15.85**	**50**	Pn	**Pn**	**12 45 54.5**	**-0.8**
BARN				IAmb	IAmb	12 46 07.3	
	comp=Z,5.1nm,0.6s						
TABL	**Table Mountain**	**15.92**	**53**	Pn	**Pn**	**12 45 56.0**	**-0.1**
TABL				IAmb	IAmb	12 46 07.9	
	comp=Z,12nm,0.8s						
CTGM	**Chitina Glacie**	**15.98**	**51**	Pn	**P**	**12 45 57.5**	**-1.4**
CTGM				IAmb	IAmb	12 45 58.2	
	comp=Z,12nm,1.2s						
COLD	**Coldfoot**	**16.26**	**24**	Pn	**Pn**	**12 46 01.9**	**+1.8**
BCAR	**Beaver Creek A**	**16.53**	**44**	Pn	**Pn**	**12 46 01.2**	**-2.4**
EGAK	**Eagle**	**17.55**	**39**	Pn	**Pn**	**12 46 15.0**	**-0.9**
HYT	**Haines Junctio**	**17.75**	**53**	P	**P**	**12 46 19.7**	**+1.3**
SKAG	**Skagway**	**18.63**	**58**	P	**Pn**	**12 46 28.7**	**-0.3**
SKAG				IAmb	IAmb	12 46 32.8	
	comp=Z,6.8nm,0.6s						
BESE	**Bessie Mountai**	**18.82**	**61**	P	**Pn**	**12 46 30.2**	**-1.1**
JIS	**Juneau Island**	**19.05**	**62**	P	**Pn**	**12 46 34.4**	**+0.3**
PEA0B	**Petropavlovsk-**	**20.84**	**284**	P	**P**	**12 46 52.2**	**+0.3**
PEA0B				IAmb	IAmb	12 46 53.7	
	comp=Z,15nm,1.3s						
PETK	**Petropavlovsk-**	**20.84**	**284**	P	**P**	**12 46 50.4**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=67,slow=15,SNR=19						
PETK	**Petropavlovsk-**	**20.84**	**284**	P	**P**	**12 46 53.7**	**+1.7**
DLBC	**Dease Lake**	**21.35**	**61**	P	**P**	**12 47 01.4**	**+4.0**
	comp=Z,5.7nm,0.8s,baz=277,slow=12,SNR=9.0						
DLBC	**Dease Lake**	**21.35**	**61**	P	**P**	**12 46 59.6**	**+2.1**
DLBC				IAmb	IAmb	12 47 18.5	
	comp=Z,7.8nm,1.3s						
INK	**Inuvik**	**21.89**	**34**	P	**P**	**12 47 00.5**	**-2.5**
	comp=Z,1.6nm,0.5s,baz=232,slow=7.1,SNR=14						
INK	**Inuvik**	**21.89**	**34**	P	**P**	**12 47 00.8**	**-2.2**
INK				IAmb	IAmb	12 47 01.1	
	comp=Z,3.3nm,1.0s						
YKA	**Yellowknife Ar**	**28.70**	**50**	P	**P**	**12 48 05.7**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=274,slow=7.4,SNR=4.0						
MCMT	**McKenzie Canyo**	**35.89**	**81**	P	**P**	**12 49 11.0**	**+1.5**
H11N2	**WAKE ISLAND Hy**	**38.95**	**221**	T	T	13 31 10.7	
	baz=25,slow=76,SNR=100						
H11N3	**WAKE ISLAND Hy**	**38.96**	**221**	T	T	13 31 11.2	
	baz=25,slow=76,SNR=103						
H11N1	**WAKE ISLAND Hy**	**38.97**	**221**	T	T	13 31 12.1	
	baz=25,slow=76,SNR=56						
H11S1	**WAKE ISLAND Hy**	**40.14**	**220**	T	T	13 32 43.9	
	baz=22,slow=74,SNR=106						
H11S2	**WAKE ISLAND Hy**	**40.15**	**220**	T	T	13 32 53.4	
	baz=22,slow=74,SNR=58						
H11S3	**WAKE ISLAND Hy**	**40.16**	**220**	T	T	13 32 18.9	
	baz=22,SNR=43						
TX31	**Lajitas Ar. Si**	**51.50**	**91**	P	**P**	**12 51 15.4**	**+0.8**
TX32	**Lajitas Array**	**51.50**	**91**	P	**P**	**12 51 15.6**	**+1.1**
TXAR	**Lajitas Array**	**51.50**	**91**	P	**P**	**12 51 15.6**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=302,slow=5.6,SNR=11						
TXAR				PcP	**PcP**	**12 52 28.7**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=354,slow=0.9,SNR=3.4						
TXAR	**Lajitas Array**	**51.50**	**91**	P	**P**	**12 51 14.9**	**+0.4**
TXAR				PcP	**PcP**	**12 52 28.7**	**+0.9**
ABTX	**Abilene, Hawle**	**51.57**	**85**	P	**P**	**12 51 14.4**	**-0.6**
WRA	**Warramunga Arr**	**88.55**	**233**	P	**P**	**12 55 00.0**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=32,slow=5.7,SNR=6.3						
ASAR	**Alice Springs**	**91.94**	**232**	P	**P**	**12 55 16.1**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=26,slow=5.1,SNR=6.3						
H03N2	**Juan Fernandez**	**115.12**	**113**	T	T	15 06 20.2	
	baz=322,slow=77,SNR=13						
H03N1	**Juan Fernandez**	**115.13**	**113**	T	T	15 06 24.8	
	baz=322,slow=77,SNR=9.0						
H03N3	**Juan Fernandez**	**115.13**	**113**	T	T	15 06 20.4	
	baz=322,slow=77,SNR=17						
MAW	**Mawson**	**152.37**	**219**	PKPbc	**PKPbc**	**13 02 02.2**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=122,slow=2.7,SNR=9.5						
MAW	**Mawson**	**152.37**	**219**		**PKPbc**	**13 02 02.4**	**+0.1**

*PRU **29** 12:49:43.8±0.0, 50°09Nx19°10E, h0km*

*IDC **29** 12:49:49.0±1.2, 50°51Nx18°40E, h0km, mb1 3.3/2, mb1mx3.0/35, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=29.3km s-min=10.8km az=154.0*

ISC 29 12:49:41.8±0.7, 50°04N±0°03×19°13E±0°02, h0km, n32, σ0s99/51, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.46**	**67**	*eP*g	**Pg**	**12 49 50.9**	**+0.2**
OJC				*eS*g	**Sg**	**12 49 57.5**	**+0.8**
OKC	**Ostrava-Krasne**	**0.67**	**252**	*eP*G	**Pb**	**12 49 56.8**	**+0.5**
OKC				*eS*G	**Sb**	**12 50 05.6**	**-0.5**
	comp=Z,2μm,0.6s						
NIE	**Niedzica**	**0.98**	**129**	*eP*g	**Pn**	**12 50 02.6**	**-0.3**
NIE				*eS*g	**Sn**	**12 50 17.6**	**0.0**
MORC	**Moravsky Berou**	**1.06**	**256**	*eP*G	**Pb**	**12 50 03.0**	**-0.1**
MORC				*eS*G	**Sb**	**12 50 17.9**	**+0.4**
STHS	**Stebnicka Huta**	**1.51**	**114**	*eP*N	**Pg**	**12 50 11.3**	**+0.6**
STHS				*eS*N	**Sn**	**12 50 32.9**	**+2.4**
STHS				*eL*G	Lg	12 50 37.7	
KRLC	**Kraliky**	**1.51**	**272**	*eP*G	**Pn**	**12 50 10.6**	**+0.4**
KRLC				*eS*G	**Sn**	**12 50 31.7**	**+1.0**
	comp=Z,76nm,0.6s						
JAVC	**Velka Javorina**	**1.52**	**219**	*eP*N	**Pg**	**12 50 11.9**	**+1.0**
VYHS	**Vyhne**	**1.56**	**187**	*eP*N	**Pb**	**12 50 11.7**	**+0.1**
VYHS				*eS*N	**Sg**	**12 50 32.7**	**+0.7**
KECS	**Kecovo**	**1.80**	**150**	*eP*N	**Pb**	**12 50 15.1**	**-0.5**
KECS				*eS*N	**Sn**	**12 50 37.4**	**-0.1**
KECS				*eL*G	Lg	12 50 43.9	
VRAC	**Vranov**	**1.81**	**247**	*eP*N	**Pg**	**12 50 16.7**	**+0.3**
VRAC				*eS*G	**Sg**	**12 50 40.0**	**+0.2**
DPC	**Dobruska-Polom**	**1.83**	**281**	*eP*G	**Pb**	**12 50 15.9**	**-0.3**
DPC				*eS*G	**Sg**	**12 50 41.2**	**+0.6**
	comp=Z,60nm,0.5s						
CRVS	**Cervenica-Dubn**	**1.90**	**126**	*eP*N	**Pg**	**12 50 18.4**	**+0.2**
CRVS				*eS*N	**Sg**	**12 50 44.3**	**+1.4**
CRVS				*eL*G	Lg	12 50 50.2	
OSTC	**Ostas**	**1.94**	**286**	*eP*G	**Pb**	**12 50 17.9**	**-0.1**
OSTC				*eS*G	**Sg**	**12 50 45.1**	**+1.0**
	comp=Z,60nm,0.7s						
KSP	**Ksiaz**	**1.98**	**295**	*eP*g	**Pg**	**12 50 21.1**	**+1.3**
KSP				*eS*g	**Sg**	**12 50 46.9**	**+1.4**
KRUC	**Moravsky**	**2.03**	**242**	*eP*N	**Pb**	**12 50 19.6**	**0.0**
KRUC				*eS*G	**Sg**	**12 50 47.2**	**+0.1**
CHVC	**Chvalec**	**2.05**	**287**	*eP*G	**Pg**	**12 50 21.3**	**+0.3**
CHVC				*eS*G	**Sg**	**12 50 47.6**	**+0.1**
	comp=Z,75nm,1.2s						
UPC	**Upice**	**2.05**	**284**	*eP*G	**Pb**	**12 50 20.6**	**+0.6**
UPC				*eS*G	**Sg**	**12 50 48.7**	**+0.9**
	comp=Z,40nm,0.6s						
MODS	**Modra-Piesok**	**2.07**	**217**	*eP*N	**Pn**	**12 50 17.9**	**+0.1**
MODS				*eS*N	**Sb**	**12 50 46.2**	**-0.2**
KOLS	**Kolonicke sedl**	**2.33**	**117**	*eP*G	**Pg**	**12 50 27.4**	**+0.9**
KOLS				*eS*N	**Sb**	**12 50 52.9**	**-1.1**
KOLS				*eL*G	Lg	12 51 04.5	
TREC	**Trest**	**2.48**	**254**	*eS*G	**Sg**	**12 51 03.5**	**+2.0**
	comp=Z,32nm,0.5s						
PRU	**Pruhonice**	**2.96**	**271**	*eS*G	**Sg**	**12 51 16.5**	**-0.4**
	comp=Z,16nm,0.5s						
PVCC	**Panska Ves**	**2.97**	**281**	*eS*G	**Sg**	**12 51 17.8**	**+0.8**
	comp=Z,71nm,0.8s						
PRA	**Prague**	**3.03**	**272**	*eS*G	**Sg**	**12 51 20.5**	**+1.5**
	comp=Z,12nm,0.4s						
PBCC	**Pribram**	**3.34**	**266**	*eS*G	**Sg**	**12 51 29.4**	**+0.3**
BRG	**Berggiesshubel**	**3.42**	**286**	PG	**Pg**

Ms1 4.3/29,ms1mx4.2/40,Error ellipse: s-maj=13.0km s-min=8.9km az=88.0

GCMT ***29*** *13:14:08.2±0.2,5.°88S±0.°01×153.°84E±0.°01,h42km, MW5.2/105,Moment Tensor Solution. s105,c151; s85,c129; Duration: 1↑0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.79±.02; $M_{\theta\theta}$-0.38±.01; $M_{\phi\phi}$-0.40±.01; $M_{r\theta}$0.08±.01; $M_{\theta\phi}$0.41±.01; $M_{\phi r}$-0.08±.01; Best double couple: M_o0.80500×10^{17} NP1:ϕ_s316.00000°,δ41.00000°, λ90.00000°. NP2:ϕ_s136.00000°,δ49.00000°,λ90.00000°. Principal axes: T 0.7960, Plg86.0000°, Azm45.0000°; N 0.0200, Plg0.0000°, Azm136.0000°; P -0.8150, Plg4.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***29*** *13:14:08.7±0.0,5.°41S×154.°18E,h69km,mB5.2/52, mb5.5/71,Ms4.7/42,Ms7 4.4/41*

DJA ***29*** *13:14:09.3±0.4,6.°5S×3.°1×15.°4E±.°,h66km±4km,M5.1/50, mb5.3/50,mB5.5/23,MLv5.8/3,Mw(mB)5.0/23,Mwp4.9/3*

NEIC ***29*** *13:14:09.2±1.6,5.°67S±0.°07×153.°99E±0.°07,h66km±5km, mb5.2/105,Error ellipse: s-maj=11.6km s-min=9.6km az=50.0*

ISC 29 13:14:09.4±0.5,5.°68S±0.°04×154.°04E±0.°05,h69km±3km, h70km:pP-P,n400,σ1↑25/424,mb5.2/142,17C-6D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.39**	**308**		Pn		**Pn**	**13 14 46.2**	**0.0**
HNR	**Honiara**	**6.94**	**123**		P		**Pn**	**13 15 49.8**	**+1.4**
	27nm,0.3s,baz=235,slow=4.1,SNR=18								
HNR					LR		LR	13 18 24.1	
	comp=Z,4μm,20.2s,baz=288,slow=37								
HNR	**Honiara**	**6.94**	**123**		P		**Pn**	**13 15 50.4**	**+2.0**
HNR	**Honiara**	**6.94**	**123**		Pn		**Pn**	**13 15 50.4**	**+2.0**
PMG	**Port Moresby**	**7.76**	**241**		P		**Pn**	**13 15 58.8**	**-1.0**
	19nm,0.3s,baz=49,slow=7.0,SNR=43								
PMG					S		**Sn**	**13 17 27.7**	**+1.4**
	18nm,0.3s,baz=338,slow=23,SNR=13								
PMG					LR		LR	13 18 54.3	
	comp=Z,3μm,21.7s,baz=68,slow=37								
PMG	**Port Moresby**	**7.76**	**241**		P		**Pn**	**13 15 59.0**	**-0.8**
PMG	**Port Moresby**	**7.76**	**241**		Pn		**Pn**	**13 15 59.0**	**-0.8**
PATS	**Pohnpei**	**13.14**	**19**		P		**Pn**	**13 17 10.6**	**-2.6**
	baz=13,SNR=4.1								
PATS	**Pohnpei**	**13.14**	**19**		Pn		**Pn**	**13 17 10.5**	**-2.6**
COEN	**Coen**	**13.50**	**232**		P		**Pn**	**13 17 16.3**	**-1.7**
	baz=14,SNR=4.9								
COEN	**Coen**	**13.50**	**232**		Pn		**Pn**	**13 17 17.4**	**-0.6**
JAY	**Jayapura**	**13.67**	**283**		P		**Pn**	**13 17 18.7**	**-1.6**
	0.4nm,0.3s,baz=147,slow=5.6,SNR=11								
JAY					LR		LR	13 22 51.1	
	comp=Z,754nm,18.5s,baz=70,slow=38								
JAY	**Jayapura**	**13.67**	**283**		P		**Pn**	**13 17 20.4**	**+0.1**
	525nm32nm,1.2s								
GENI	**Genyem**	**14.18**	**282**		P		**Pn**	**13 17 25.5**	**-1.4**
	3μm3μm114nm,0.5s								
MTSU	**Mount Surprise**	**15.60**	**217**		P		**Pn**	**13 17 43.1**	**-2.2**
	baz=16,SNR=18								
SMPI	**Sarmi**	**15.73**	**283**		P		**Pn**	**13 17 46.8**	**-0.2**
	98nm,1.2s								
CTA	**Charters Tower**	**16.20**	**207**		P		**Pn**	**13 17 52.5**	**-0.4**
	0.6nm,0.3s,baz=34,slow=14,SNR=13								
CTAO	**Charters Tower**	**16.20**	**207**		P		**Pn**	**13 17 53.2**	**+0.3**
CTAO					pmax		pmax		
	comp=Z,90nm,1.3s								
CTAO	**Charters Tower**	**16.20**	**207**		Pn		**Pn**	**13 17 53.2**	**+0.3**
EIDS	**Eidsvold**	**19.78**	**188**		P		**P**	**13 18 34.1**	**0.0**
	baz=20,SNR=6.0								
EIDS	**Eidsvold**	**19.78**	**188**		P		**P**	**13 18 35.1**	**+0.9**
DZM	**Mont Dzumac**	**20.23**	**145**	*e*	P		**P**	**13 18 39.1**	**-0.1**
	comp=Z,324nm,1.1s								
DZM				*e*	S		**S**	**13 22 22.8**	**+0.2**
	comp=Z,1000nm,25.6s								
DZM				*e*	LQ		LQ	13 22 54.2	
	comp=Z,2μm,32.5s								
DZM				*e*	LR		LR	13 23 27.3	
	comp=Z,2μm,27.1s								
DZM	**Mont Dzumac**	**20.23**	**145**		P		**P**	**13 18 38.9**	**-0.3**
	comp=Z,84nm,0.6s,baz=336,slow=9.1,SNR=113								
DZM	**Mont Dzumac**	**20.23**	**145**		P		**P**	**13 18 38.6**	**-0.6**
DZM					IAmb		IAmb	13 18 46.2	
	comp=Z,105nm,0.8s								
QIS	**Mount Isa**	**20.38**	**222**		P		**P**	**13 18 40.9**	**+0.2**
	baz=20,SNR=44								
GUMO	**Guam**	**21.20**	**335**		P		**P**	**13 18 49.9**	**+0.3**
	comp=Z,128nm,0.6s,baz=78,slow=2.2,SNR=11								
GUMO					LR		LR	13 27 39.2	
	comp=Z,195nm,19.1s,baz=162,slow=38								
GUMO	**Guam**	**21.20**	**335**		P		**P**	**13 18 49.7**	**+0.2**
GUMO					pmax		pmax		
	comp=Z,162nm,0.9s								
GUMO	**Guam**	**21.20**	**335**		P		**P**	**13 18 49.7**	**+0.2**
GUMO					IAmb		IAmb	13 18 54.0	
	comp=Z,162nm,0.8s								
RMQ	**Roma**	**21.30**	**193**		P		**P**	**13 18 50.8**	**+0.3**
	baz=21,SNR=15								
FAKI	**Fak Fak**	**21.90**	**276**		P		**P**	**13 18 57.6**	**+0.5**
	comp=Z,1μmcomp=Z,79nm,1.2s								
KDU	**Kakadu**	**22.39**	**250**		P		**P**	**13 19 01.2**	**-1.2**
	baz=22,SNR=7.1								
SAUI	**Saumlaki**	**22.70**	**263**		P		**P**	**13 19 05.6**	**0.0**
QLP	**Quilpie**	**22.80**	**203**		P		**P**	**13 19 07.3**	**+0.8**
	baz=23,SNR=14								
SIJI	**Sorong**	**23.23**	**281**		P		**P**	**13 19 10.5**	**-0.5**
	comp=Z,102nm,1.0s,baz=52,slow=8.8,SNR=24								
WR0	**Warramunga Arr**	**23.69**	**231**		P		**P**	**13 19 14.8**	**-0.3**
MTN	**Manton Dam**	**23.69**	**251**		P		**P**	**13 19 14.4**	**-0.8**
MTN					IAmb		IAmb	13 19 16.6	
	comp=Z,90nm,1.1s								
WB0	**Warramunga Arr**	**23.70**	**232**		P		**P**	**13 19 14.7**	**-0.5**
WB0					IAmb		IAmb	13 19 30.1	
	comp=Z,64nm,1.1s								
WRAB	**Tennant Creek**	**23.82**	**232**	*c i*	P		**P**	**13 19 16.0**	**-0.3**
WRAB					pmax		pmax		
	comp=Z,34nm,0.8s								
WRAB	**Tennant Creek**	**23.82**	**232**		P		**P**	**13 19 15.9**	**-0.3**
WB2	**Warramunga Arr**	**23.82**	**232**		P		**P**	**13 19 16.2**	**-0.2**
WRA	**Warramunga Arr**	**23.83**	**232**		P		**P**	**13 19 15.8**	**-0.6**
	comp=Z,27nm,0.9s,baz=57,slow=9.5,SNR=54								
WRA					PcP		**PcP**	**13 22 58.9**	**+0.7**
	comp=Z,14nm,0.8s,baz=49,slow=2.0,SNR=8.5								
WRA					S		**S**	**13 23 28.0**	**+0.5**
	comp=Z,3.8nm,1.0s,baz=56,slow=16,SNR=4.0								
WRA					LR		LR	13 28 45.2	
	comp=Z,1μm,19.5s,baz=60,slow=37								
WRA	**Warramunga Arr**	**23.83**	**232**	*i*	P		**P**	**13 19 16.2**	**-0.2**
WRA					pmax		pmax		
	comp=Z,28nm,0.9s								
WRA	**Warramunga Arr**	**23.83**	**232**		P		**P**	**13 19 15.7**	**-0.8**
WRA					PcP		**PcP**	**13 22 58.8**	**+0.6**
ARMA	**Armidale**	**24.71**	**185**		P		**P**	**13 19 24.9**	**+0.5**
	baz=25,SNR=23								
ARMA	**Armidale**	**24.71**	**185**		P		**P**	**13 19 25.7**	**+1.3**
ARMA					IAmb		IAmb	13 19 26.4	
	comp=Z,97nm,0.9s								
AS31	**Alice Springs**	**26.38**	**225**		P		**P**	**13 19 39.8**	**+0.3**
ASAR	**Alice Springs**	**26.38**	**225**		P		**P**	**13 19 39.0**	**-0.5**
	comp=Z,24nm,0.8s,baz=61,slow=8.6,SNR=72								
ASAR					PcP		**PcP**	**13 23 04.7**	**+0.8**
	comp=Z,22nm,0.7s,baz=62,slow=2.5,SNR=24								
ASAR					ScP		**ScP**	**13 26 40.7**	**+2.8**
	comp=Z,0.9nm,0.6s,baz=54,slow=4.2,SNR=4.1								
ASAR					LR		LR	13 30 03.1	
	comp=Z,1μm,19.6s,baz=94,slow=36								
ASAR	**Alice Springs**	**26.38**	**225**		P		**P**	**13 19 39.4**	**-0.1**
ASAR	**Alice Springs**	**26.38**	**225**		P		**P**	**13 19 39.4**	**-0.1**
ASAR							**PcP**	**13 23 04.7**	**+0.8**
KNRA	**Kununurra**	**26.72**	**246**		P		**P**	**13 19 42.4**	**-0.3**
	baz=27,SNR=11								
KNRA	**Kununurra**	**26.72**	**246**		P		**P**	**13 19 43.0**	**+0.4**
KNRA					IAmb		IAmb	13 20 02.3	
	comp=Z,57nm,1.0s								
CMSA	**Cobar Meteorol**	**26.89**	**196**		P		**P**	**13 19 44.0**	**0.0**
	baz=27,SNR=9.8								
H11S3	**WAKE ISLAND Hy**	**27.07**	**27**		T		T	13 47 58.2	
	baz=208,slow=76,SNR=644								
H11S2	**WAKE ISLAND Hy**	**27.07**	**27**		T		T	13 48 03.1	
	baz=208,slow=76,SNR=914								
H11S1	**WAKE ISLAND Hy**	**27.08**	**27**		T		T	13 48 05.9	
	baz=208,slow=76,SNR=389								
SANI	**Sanana**	**28.22**	**276**		P		**P**	**13 19 55.7**	**-0.4**
	comp=Z,684nmcomp=Z,71nm,1.0s								
STKA	**Stephens Creek**	**28.55**	**203**		P		**P**	**13 19 57.9**	**-0.9**
	comp=Z,3.9nm,0.7s,baz=23,slow=13,SNR=9.6								
STKA					PcP		**PcP**	**13 23 09.0**	**+0.1**
	comp=Z,10nm,0.7s,baz=71,slow=3.4,SNR=6.5								
STKA					ScP		**ScP**	**13 26 47.6**	**+3.3**
	comp=Z,2.8nm,0.9s,baz=60,slow=8.6,SNR=3.6								
STKA					LR		LR	13 31 20.2	
	comp=Z,737nm,20.6s,baz=5.7,slow=36								
STKA	**Stephens Creek**	**28.55**	**203**		P		**P**	**13 19 58.3**	**-0.5**
	baz=29,SNR=10								
STKA	**Stephens Creek**	**28.55**	**203**		P		**P**	**13 19 58.0**	**-0.7**
STKA							**PcP**	**13 23 09.8**	**+0.9**
SOEI	**Soe**	**29.77**	**260**		P		**P**	**13 20 09.3**	**-0.7**
SOEI					IAmb		IAmb	13 20 13.2	
	comp=Z,54nm,1.0s								
CAN	**Canberra**	**29.86**	**188**		P		**P**	**13 20 09.3**	**-1.2**
CAN					pmax		pmax		
	comp=Z,53nm,1.1s								
CAN	**Canberra**	**29.86**	**188**		P		**P**	**13 20 09.3**	**-1.2**
CAN					IAmb		IAmb	13 20 12.2	
	comp=Z,53nm,1.1s								
FITZ	**Fitzroy Crossi**	**30.35**	**244**		P		**P**	**13 20 14.1**	**-0.8**
	comp=Z,39nm,1.0s,baz=78,slow=8.5,SNR=53								
FITZ					PcP		**PcP**	**13 23 14.3**	**+0.6**
	comp=Z,20nm,0.8s,baz=121,slow=5.6,SNR=4.8								
FITZ					LR		LR	13 32 53.9	
	comp=Z,708nm,20.3s,baz=56,slow=37								
FITZ	**Fitzroy Crossi**	**30.35**	**244**		P		**P**	**13 20 14.2**	**-0.8**
	baz=30,SNR=27								
FITZ	**Fitzroy Crossi**	**30.35**	**244**		P		**P**	**13 20 14.4**	**-0.5**
FITZ					IAmb		IAmb	13 20 15.2	
	comp=Z,33nm,0.8s								
FITZ							**PcP**	**13 23 14.7**	**+1.0**
BATI	**Baumata**	**30.41**	**260**		P		**P**	**13 20 16.8**	**+1.2**
	comp=Z,137nm,0.9s,baz=149,slow=1.7,SNR=17								
BATI	**Baumata**	**30.41**	**260**		P		**P**	**13 20 17.1**	**+1.6**
	comp=Z,88nm,1.0s								
KMSI	**Cibinong**	**30.66**	**281**		P		**P**	**13 20 17.6**	**-0.1**
	comp=Z,2μmcomp=Z,68nm,0.7s								
HTT	**Hallett**	**30.99**	**205**		P		**P**	**13 20 20.2**	**-0.2**
	baz=31,SNR=10.0								
DAV	**Davao City (W)**	**31.10**	**294**		LR		LR	13 30 57.6	
	comp=Z,382nm,21.8s,baz=116,slow=32								
WRKA	**Warakurna**	**31.30**	**229**		P		**P**	**13 20 22.3**	**-0.9**
	baz=31,SNR=26								
GTOI	**Gorontalo**	**31.62**	**280**		P		**P**	**13 20 27.4**	**+1.3**
	comp=Z,19nm,1.2s								
MMRI	**Maumere**	**31.69**	**263**		P		**P**	**13 20 26.3**	**-0.5**
	comp=Z,130nm,0.9s								
MMRI	**Maumere**	**31.69**	**263**		P		**P**	**13 20 26.4**	**-0.4**
BBOO	**Buckleboo**	**31.78**	**210**		P		**P**	**13 20 26.8**	**-0.5**
	baz=32,SNR=5.3								
BBOO	**Buckleboo**	**31.78**	**210**		P		**P**	**13 20 26.6**	**-0.7**
BBOO							**PcP**	**13 23 17.5**	**+0.2**
TOO	**Toolangi**	**32.69**	**193**		P		**P**	**13 20 36.1**	**+0.8**
	baz=33,SNR=6.7								
TOO	**Toolangi**	**32.69**	**193**		P		**P**	**13 20 34.1**	**-1.1**
TOO					pmax		pmax		
	comp=Z,8.0nm,0.9s								
TOO	**Toolangi**	**32.69**	**193**		P		**P**	**13 20 34.1**	**-1.1**
ARPS	**Mount Arapiles**	**32.90**	**198**		P		**P**	**13 20 37.5**	**+0.4**
	baz=33,SNR=11								
BASI	**Baing, Sumba**	**33.44**	**260**		P		**P**	**13 20 41.8**	**-0.2**
	comp=Z,205nm,1.0s								
WSI	**Waingapu**	**33.67**	**261**		P		**P**	**13 20 43.6**	**-0.4**
	comp=Z,5μmcomp=Z,492nm,1.1s								
BKSI	**Bulukumba**	**33.77**	**269**		P		**P**	**13 20 45.0**	**+0.1**
	comp=Z,48nm,1.1s								
BNSI	**Bone**	**33.83**	**271**		P		**P**	**13 20 44.8**	**-0.7**
	comp=Z,1μmcomp=Z,106nm,0.9s								
KAPI	**Kappang**	**34.15**	**269**		P		**P**	**13 20 48.5**	**+0.2**
	comp=Z,50nm,0.7s,baz=82,slow=5.5,SNR=23								
KAPI					PcP		**PcP**	**13 23 24.9**	**+0.6**
	comp=Z,3.7nm,0.3s,baz=98,slow=1.7,SNR=4.9								
KAPI	**Kappang**	**34.15**	**269**		P		**P**	**13 20 48.8**	**+0.6**
KAPI					pmax		pmax		
	comp=Z,62nm,0.8s								
KAPI	**Kappang**	**34.15**	**269**		P		**P**	**13 20 48.8**	**+0.6**
SPSI	**Sidrap Palu**	**34.19**	**271**		P		**P**	**13 20 48.4**	**-0.2**
	comp=Z,620nmcomp=Z,82nm,1.1s								
KNTN	**Kanton**	**34.26**	**87**		P		**P**	**13 20 48.3**	**-0.9**
OUZ	**Omahuta**	**34.49**	**151**		P		**P**	**13 20 51.8**	**+0.9**
JCJ	**Chichijima**	**34.55**	**341**		LR		LR	13 32 22.2	
	comp=Z,168nm,21.0s,baz=153,slow=32								
JCJ	**Chichijima**	**34.55**	**341**		P		**P**	**13 20 48.3**	**-3.1**
WBSI	**Waikabubak, Su**	**34.56**	**261**		P		**P**	**13 20 50.8**	**-1.0**
	comp=Z,2μmcomp=Z,176nm,0.9s								
MPSI	**Mapaga**	**34.61**	**279**		P		**P**	**13 20 51.7**	**-0.6**
	comp=Z,399nmcomp=Z,44nm,0.9s								
FORT	**Forrest**	**34.92**	**221**		P		**P**	**13 20 54.3**	**-0.3**
	baz=35,SNR=17								
FORT	**Forrest**	**34.92**	**221**		P		**P**	**13 20 54.4**	**-0.3**
PLAI	**Plampang**	**36.10**	**263**		P		**P**	**13 21 03.7**	**-1.4**
	comp=Z,67nm,1.0s								
PSA00	**Pilbara Seismi**	**36.67**	**241**		P		**P**	**13 21 09.2**	**-0.6**
PSA00					IAmb		IAmb	13 21 10.0	
	comp=Z,25nm,1.2s								
PSA00					PcP		**PcP**	**13 23 32.0**	**+0.5**
PSA00	**Pilbara Seismi**	**36.67**	**241**		P		**P**	**13 21 10.3**	**+0.4**
PSA00					IAmb		IAmb	13 21 13.5	
	comp=Z,9.3nm,0.6s								
MOO	**Moorlands**	**37.11**	**188**		P		**P**	**13 21 14.5**	**+1.3**
	baz=37,SNR=11								
TAU	**Tasmania Unive**	**37.55**	**188**		P		**P**	**13 21 16.7**	**-0.2**
TAU					pmax		pmax		
	comp=Z,65nm,1.0s								
TAU	**Tasmania Unive**	**37.55**	**188**		P		**P**	**13 21 16.7**	**-0.2**
HIZ	**Hauiti**	**37.75**	**153**		P		**P**	**13 21 19.1**	**+0.5**
KBKI	**Kotabaru**	**37.83**	**272**		P		**P**	**13 21 19.8**	**+0.1**
	comp=Z,21nm,0.9s								
TGY	**Tagaytay City**	**38.28**	**301**		P		**P**	**13 21 24.5**	**+1.0**
	comp=Z,76nm,0.3s,baz=179,slow=3.7,SNR=5.2								
TGY					PcP		**PcP**	**13 23 35.8**	**-0.8**
	comp=Z,43nm,0.3s,baz=162,slow=3.2,SNR=3.5								
TGY					LR		LR	13 35 01.3	
	comp=Z,580nm,22.0s,baz=117,slow=33								
URZ	**Urewera**	**38.61**	**150**		P		**P**	**13 21 26.1**	**+0.2**
	comp=Z,41nm,0.7s,baz=343,slow=2.0,SNR=23								
URZ	**Urewera**	**38.61**	**150**		P		**P**	**13 21 26.4**	**+0.5**
SPMM	**Sapulut**	**38.92**	**285**		P		**P**	**13 21 29.0**	**+0.1**
BKZ	**Black Stump Fm**	**39.03**	**152**		P		**P**	**13 21 29.9**	**+0.4**
BKZ					IAmb		IAmb	13 21 31.4	
	comp=Z,27nm,0.7s								
BBKI	**Banjar Baru**	**39.13**	**271**		P		**P**	**13 21 30.6**	**-0.1**
	comp=Z,1μmcomp=Z,78nm,0.9s								
MTKI	**Muara Teweh, K**	**39.35**	**275**		P		**P**	**13 21 31.8**	**-0.7**
	comp=Z,3μmcomp=Z,16nm,1.1s								
KMBL	**Kambalda**	**39.51**	**226**		P		**P**	**13 21 33.4**	**-0.2**
	baz=40,SNR=9.5								
THZ	**Tophouse**	**39.67**	**158**		P		**P**	**13 21 34.8**	**0.0**
MEEK	**Meekatharra**	**39.68**	**234**		P		**P**	**13 21 34.5**	**-0.6**
	baz=40,SNR=7.9								
TUWZ	**Tuamarina**	**39.78**	**156**		P		**P**	**13 21 36.0**	**+0.3**
BSWZ	**Blackbirch Sta**	**40.00**	**157**		P		**P**	**13 21 37.4**	**-0.1**
BFZ	**Birch Farm**	**40.13**	**154**		P		**P**	**13 21 38.4**	**-0.2**
BFZ					IAmb		IAmb	13 21 39.3	
	comp=Z,30nm,0.6s								
MSWZ	**Moikau Station**	**40.31**	**155**		P		**P**	**13 21 39.3**	**-0.8**
LTZ	**Lake Taylor**	**40.32**	**159**		P		**P**	**13 21 40.5**	**+0.3**
PLWZ	**Palliser**	**40.44**	**155**		P		**P**	**13 21 40.6**	**-0.5**
KHZ	**Kahutara**	**40.47**	**158**		P		**P**	**13 21 40.5**	**-0.9**
OXZ	**Oxford**	**40.72**	**160**		P		**P**	**13 21 41.5**	**-1.9**
OXZ					IAmb		IAmb	13 21 47.7	
	comp=Z,26nm,0.7s								
RPZ	**Rata Peaks**	**40.73**	**161**		P		**P**	**13 21 43.9**	**+0.4**
	comp=Z,43nm,0.8s,baz=2.5,slow=1.1,SNR=25								
RPZ	**Rata Peaks**	**40.73**	**161**		P		**P**	**13 21 42.7**	**-0.9**
RPZ					IAmb		IAmb	13 21 44.5	
	comp=Z,51nm,0.8s								
JHJ	**Hachijo jima 2**	**40.89**	**342**		LR		LR	13 36 36.6	
	comp=Z,181nm,21.8s,baz=128,slow=33								
LBZ	**Lake Benmore**	**41.07**	**162**		P		**P**	**13 21 45.0**	**-1.3**
LBZ					IAmb		IAmb	13 21 50.9	
	comp=Z,31nm,1.0s								
DCZ	**Deep Cove**	**41.24**	**166**		P		**P**	**13 21 46.8**	**-0.9**
MQZ	**McQueen's Vall**	**41.27**	**159**		P		**P**	**13 21 47.8**	**-0.1**
MQZ					IAmb		IAmb	13 21 58.8	
	comp=Z,78nm,1.3s								
MLZ	**Mavora Lakes**	**41.39**	**165**		P		**P**	**13 21 48.9**	**0.0**
MLZ					IAmb		IAmb	13 21 49.8	
	comp=Z,68nm,1.0s								
PBKI	**Pangkalan Bun**	**42.36**	**272**		P		**P**	**13 21 57.1**	**-0.1**
	comp=Z,247nm,1.1s								
SBUM	**Sibu**	**42.55**	**280**		P		**P**	**13 22 00.0**	**+1.2**
YOJ	**Yonaguni jima**	**42.56**	**316**		P		**P**	**13 21 59.2**	**+0.5**
YOJ					pmax		pmax		
	comp=Z,138nm,0.8s								
YOJ	**Yonaguni jima**	**42.56**	**316**		P		**P**	**13 21 59.2**	**+0.5**
KLBR	**Kellerberrin**	**42.63**	**228**		P		**P**	**13 21 58.3**	**-0.9**
	baz=43,SNR=5.9								
MORW	**Morawa**	**42.78**	**233**		P		**P**	**13 21 59.9**	**-0.5**
	baz=43,SNR=8.4								
MORW	**Morawa**	**42.78**	**233**		P		**P**	**13 21 59.9**	**-0.5**
MORW					IAmb		IAmb	13 22 00.7	
	comp=Z,35nm,0.8s								
STKI	**Sintang**	**42.88**	**276**		P		**P**	**13 22 00.9**	**-0.6**
	comp=Z,32nm,0.5s								
BLDU	**Ballidu**	**42.95**	**230**		P		**P**	**13 22 01.1**	**-0.7**
	baz=43,SNR=5.3								
YULB	**Yu-li**	**43.10**	**313**		P		**P**	**13 22 03.3**	**+0.2**
YULB					IAmb		IAmb	13 22 05.2	
	comp=Z,33nm,0.7s								
NACB	**Ninganchiao**	**43.37**	**314**		P		**P**	**13 22 05.9**	**+0.7**
NACB					IAmb		IAmb	13 22 09.8	
	comp=Z,48nm,0.9s								
TPUB	**Ta-pu**	**43.53**	**313**		IAmb		IAmb	13 22 06.8	
	comp=Z,25nm,0.8s								
TPUB					P		**P**	**13 22 06.9**	**+0.3**
SSLB	**Suanglung**	**43.59**	**314**		P		**P**	**13 22 06.6**	**-0.4**
SSLB					IAmb		IAmb	13 22 09.7	
	comp=Z,23nm,0.6s								
YHNB	**Yeheng**	**43.83**	**315**		P		**P**	**13 22 10.0**	**+0.9**
YHNB					IAmb		IAmb	13 22 11.1	
	comp=Z,57nm,1.0s								
TATO	**Taipei**	**43.95**	**315**		P		**P**	**13 22 09.8**	**0.0**
TATO					IAmb		IAmb	13 22 21.6	
	comp=Z,95nm,1.3s								
MUN	**Mundaring**	**43.97**	**229**		P		**P**	**13 22 10.6**	**+0.6**
	baz=44,SNR=4.4								
KSM	**Kuching**	**44.25**	**278**		P		**P**	**13 22 12.4**	**-0.1**
KSM					IAmb		IAmb	13 22 14.3	
	comp=Z,40nm,0.9s								
KSM	**Kuching**	**44.25**	**278**		P		**P**	**13 22 13.0**	**+0.5**
JNU	**Nakatsue**	**44.41**	**332**		P		**P**	**13 22 13.0**	**-0.5**
	comp=Z,49nm,0.7s,baz=182,slow=0.3,SNR=40								
JNU	**Nakatsue**	**44.41**	**332**		P		**P**	**13 22 12.4**	**-1.1**
JNU					IAmb		IAmb	13 22 14.1	
	comp=Z,55nm,0.8s								
MJAR	**Matsushiro Arr**	**44.54**	**342**		P		**P**	**13 22 11.8**	**-2.6**
	comp=Z,8.7nm,0.9s,baz=169,slow=6.5,SNR=21								
MJAR					LR		LR	13 41 14.7	
	comp=Z,90nm,18.1s,baz=190,slow=37								
MJAR	**Matsushiro Arr**	**44.54**	**342**		P		**P**	**13 22 13.7**	**-0.8**
MJAR					pmax		pmax		
	comp=Z,3.0nm,0.7s								
MJAR	**Matsushiro Arr**	**44.54**	**342**		P		**P**	**13 22 13.7**	**-0.8**
MAJO	**Matsushiro**	**44.54**	**342**		P		**P**	**13 22 13.6**	**-0.9**
MAJO					pmax		pmax		
	comp=Z,12nm,1.0s								
MAJO	**Matsushiro**	**44.54**	**342**		P		**P**	**13 22 13.6**	**-0.9**
MAT	**Matsushiro**	**44.54**	**342**		P		**P**	**13 22 12.0**	**-2.5**
MAT					*e*S		**S**	**13 28 44.0**	**-1.2**
CISI	**Cisompet, Garu**	**45.94**	**265**		P		**P**	**13 22 24.7**	**-1.3**
QZH	**Quanzhou**	**46.00**	**313**	⇑*i*	P		**P**	**13 22 27.0**	**+0.9**
QZH					pmax		pmax		
	comp=Z,53nm,0.8s								
DLV	**T Lat**	**48.57**	**291**		P		**P**	**13 22 47.4**	**+0.8**
TJN	**Taejon**	**48.73**	**331**	*d i*	P		**P**	**13 22 47.4**	**+0.2**
KSRS	**Korea Array**	**49.34**	**332**		P		**P**	**13 22 51.5**	**-0.3**
	comp=Z,18nm,0.8s,baz=148,slow=8.0,SNR=89								
KSAR	**Wonju Array Be**	**49.35**	**332**		P		**P**	**13 22 52.1**	**+0.2**
KSAR	**Wonju Array Be**	**49.35**	**332**		P		**P**	**13 22 52.1**	**+0.2**
KS19	**

comp=Z,31nm,1.1s
PSI Prapat 55.69 277 P **P** **13 23 36.7 -2.7**
PSI pmax pmax
comp=Z,31nm,1.1s
GYA Guiyang 55.91 307 ⇑P **P** **13 23 41.8 +1.0**
GYA pP pwP 13 24 02.8 +2.3
GYA S **S** **13 31 19.0 -4.7**
GYA sS sS 13 31 54.5 +1.4
GYA pmax pmax
comp=Z,18nm,1.1s
GYA pmax pmax
comp=Z,130nm,3.5s
GYA LR LR
comp=Z,210nm,18.3s
GYA LR LR
comp=Z,300nm,23.4s
GYA LR LR
comp=Z,420nm,21.3s
PPT Papeete 56.28 107 LR LR 13 45 31.0
comp=Z,154nm,18.5s,baz=312,slow=34
PPT2 Papeete2 56.28 107 *e*LQ LQ 13 37 42.5
comp=Z,645nm,29.8s
PPT2 *e*LR LR 13 40 03.0
comp=Z,423nm,28.8s
GSI Gunungsitoli 56.81 275 P **P** **13 23 46.2 -1.1**
TBI Tubuai 57.07 114 *e*LQ LQ 13 38 02.8
comp=Z,593nm,31.2s
TBI *e*LR LR 13 40 20.5
comp=Z,809nm,29.0s
TYV Tymovskoe 57.17 351 *e*P **P** **13 23 49.1 +0.1**
TYV pmax pmax
comp=Z,14nm,0.7s
BJI Beijing 57.31 326 P **P** **13 23 49.8 -0.4**
BJI pmax pmax
comp=Z,7.0nm,0.7s
KLR Kul'dur 58.04 343 P **P** **13 23 55.2 0.0**
comp=Z,22nm,0.8s,baz=161,slow=3.3,SNR=50
KLR LR LR 13 45 22.9
comp=Z,148nm,20.7s,baz=162,slow=32
KLR Kul'dur 58.04 343*c i*P **P** **13 23 55.0 -0.2**
KLR pmax pmax
comp=Z,29nm,0.9s
XAN Xi'an 58.11 316 P **P** **13 23 56.5 +0.4**
XAN pP pP 13 24 13.8 +0.6
XAN pmax pmax
comp=Z,110nm,0.7s
XAN LR LR
comp=Z,230nm,20.3s
XAN LR LR
comp=Z,250nm,18.2s
XAN LR LR
comp=Z,370nm,19.1s
XAN Xi'an 58.11 316 P **P** **13 23 55.9 -0.2**
XAN pmax pmax
comp=Z,75nm,0.7s
XAN Xi'an 58.11 316 P **P** **13 23 55.9 -0.2**
GRNR Gornyy 58.24 347 *e*P **P** **13 23 57.1 +0.5**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
KMI Kunming 58.50 304⇑ *e*P **P** **13 24 01.0 +1.8**
KMI PP **PP** **13 26 15.8 +6.4**
KMI S **S** **13 31 54.5 -3.6**
KMI SS **SS** **13 35 54.0 +2.2**
KMI pmax pmax
comp=Z,67nm,1.0s
KMI pmax pmax
comp=Z,190nm,4.4s
KMI LR LR
comp=Z,160nm,15.8s
KMI LR LR
comp=Z,230nm,16.4s
KMI LR LR
comp=Z,400nm,27.7s
PET Petropavlovsk 58.61 3 *e*P **P** **13 24 00.1 +1.0**
PET *e**PP **pP** **13 24 18.6 +2.1**
PET *e*S **S** **13 32 00.8 +2.8**
PET pmax pmax
comp=Z,52nm,0.6s
PEA0B Petropavlovsk- 58.65 3 P **P** **13 23 59.4 0.0**
PEA0B pmax pmax
comp=Z,23nm,1.0s
PEA0B Petropavlovsk- 58.65 3 P **P** **13 23 59.4 0.0**
PEA0B lAmb lAmb 13 24 00.6
comp=Z,22nm,0.9s
PETK Petropavlovsk- 58.65 3 P **P** **13 23 59.4 0.0**
comp=Z,19nm,0.8s,baz=165,slow=6.9,SNR=39
PETK LR LR 13 45 42.0
comp=Z,250nm,21.4s,baz=183,slow=32
PETK Petropavlovsk- 58.65 3 P **P** **13 23 59.9 +0.5**
PETK Petropavlovsk- 58.65 3 P **P** **13 23 59.9 +0.5**
CMAR Chiang Mai Arr 59.37 295 P **P** **13 24 06.7 +1.6**
comp=Z,43nm,0.9s,baz=113,slow=5.2,SNR=154
CMAR PcP **PcP** **13 24 53.5 +1.1**
comp=Z,7.5nm,0.8s,baz=100,slow=2.9,SNR=4.3
CMAR LR LR 13 49 23.5
comp=Z,91nm,19.8s,baz=152,slow=36
CMAR Chiang Mai Arr 59.37 295 *i* P **P** **13 24 06.6 +1.5**
CMAR pmax pmax
comp=Z,43nm,0.9s
CMAR Chiang Mai Arr 59.37 295 P **P** **13 24 05.3 +0.3**
CHTO Chiang Mai 59.48 296 P **P** **13 24 03.4 -2.4**
CHTO pmax pmax
comp=Z,68nm,1.2s
CHTO Chiang Mai 59.48 296 P **P** **13 24 03.4 -2.4**
CD2 Chengdu 60.25 310⇑ *i*P **P** **13 24 12.0 +1.1**
CD2 S **S** **13 32 19.3 -0.8**
CD2 SS **SS** **13 36 20.3 +1.6**
CD2 pmax pmax
comp=Z,610nm,12.0s
CD2 LR LR
comp=Z,590nm,19.6s
CD2 LR LR
comp=Z,790nm,26.3s
CD2 LR LR
comp=Z,630nm,28.0s
HHC Hu-ho-hao-te 60.48 324 *e*P **P** **13 24 13.0 +0.6**
HHC sS sS 13 32 56.5 +5.7
HHC pmax pmax
comp=Z,39nm,1.2s
HHC pmax pmax
comp=Z,110nm,5.6s
HHC LR LR
comp=Z,210nm,16.9s
HHC LR LR
comp=Z,210nm,17.4s
HHC LR LR
comp=Z,280nm,17.1s
BTO Baotou 61.24 323 *e*P **P** **13 24 17.5 -0.1**
LZH Lanzhou 62.72 316 ⇑P **P** **13 24 29.5 +1.9**
LZH pP sP 13 24 49.8 -3.0
LZH sP PcP 13 24 59.0 -6.8
LZH PP **PP** **13 26 45.5 -1.0**
LZH pmax pmax
comp=Z,26nm,1.2s
LZH pmax pmax
comp=Z,120nm,5.0s
LZH LR LR
comp=Z,140nm,13.6s
LZH LR LR
comp=Z,240nm,14.6s
LZH LR LR
comp=Z,240nm,16.4s
ZEA Zeya 63.34 343 *e*P **P** **13 24 31.2 0.0**
ZEA pmax pmax
comp=N,21nm,0.8s
ZEA pmax pmax
comp=Z,28nm,0.8s
MA2 Magadan 65.10 358*d i*P **P** **13 24 42.0 -0.6**
MA2 pmax pmax
comp=Z,22nm,0.7s
MA2 Magadan 65.10 358 P **P** **13 24 41.6 -1.0**
MA2 lAmb lAmb 13 24 46.2
comp=Z,29nm,0.8s
TAOE Nuku Hiva Isla 65.29 97 *e*LR LR 13 44 07.4
comp=Z,275nm,23.3s
GTA Gaotai 67.14 317 P **P** **13 24 57.5 +1.2**
GTA pP pP 13 25 13.8 -0.2
GTA sP sP 13 25 21.0 -0.4
GTA pmax pmax
comp=Z,75nm,1.0s
GTA pmax pmax
comp=Z,240nm,10.0s
GTA LR LR
comp=Z,120nm,15.8s
GTA LR LR
comp=Z,130nm,17.2s
GTA LR LR
comp=Z,170nm,21.6s
ULN Ulaanbaatar 67.39 328*c i*P **P** **13 24 58.2 +0.5**
ULN *i* *PP **pwP** **13 25 17.9 +0.3**
ULN pmax pmax
comp=Z,18nm,0.8s
ULN Ulaanbaatar 67.39 328 P **P** **13 24 58.5 +0.8**
ULN lAmb lAmb 13 24 59.6
comp=Z,17nm,0.8s
CASY Casey 67.55 198 P **P** **13 24 57.1 -1.0**
CASY lAmb lAmb 13 24 58.6
comp=Z,15nm,0.9s
SONM Songino Array 67.73 327 P **P** **13 25 00.4 +0.7**
comp=Z,11nm,0.6s,baz=135,slow=6.6,SNR=40
SONM LR LR 13 54 25.7
comp=Z,109nm,19.8s,baz=123,slow=36
SONM Songino Array 67.73 327 P **P** **13 25 00.5 +0.7**
SONM pmax pmax
comp=Z,12nm,0.9s
SONM Songino Array 67.73 327 P **P** **13 25 00.5 +0.7**
SHL Shillong 67.82 300 *e*PG **P** **13 25 02.5 +1.6**
UNV Unalaska Valle 67.91 24 P **P** **13 25 00.4 -0.2**
UNV lAmb lAmb 13 25 05.9
comp=Z,31nm,1.3s
SEY Seymchan 68.43 359 P **P** **13 25 03.2 -0.4**
comp=Z,4.4nm,0.8s,baz=176,slow=5.7,SNR=15
SEY Seymchan 68.43 359*de*P **P** **13 25 03.5 -0.2**
YAK Yakutsk 70.08 348 P **P** **13 25 13.6 -0.2**
comp=Z,2.8nm,0.3s,baz=357,slow=0.7,SNR=4.1
YAK LR LR 13 52 30.9
comp=Z,67nm,21.9s,baz=178,slow=33
YAK Yakutsk 70.08 348 *e*P **P** **13 25 13.5 -0.4**
YAK *e**PP **pP** **13 25 26.8 -5.0**
YAK *e*S **S** **13 34 19.6 +0.4**
YAK *e**SS **pS** **13 34 40.4 +0.5**
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax smax
comp=E,44nm,3.1s
YAK smax smax
comp=N,23nm,4.0s
RKT Rikitea 70.31 112 *e*LR LR 13 46 29.0
comp=N,447nm,24.8s
ZAK Zakamensk 70.89 328 *e*P **P** **13 25 19.0 -0.2**
ZAK pmax pmax
comp=Z,27nm,0.9s
TLY Talaya 71.46 330 P **P** **13 25 23.2 +0.6**
comp=Z,8.3nm,0.6s,baz=225,slow=7.5,SNR=5.1
TLY Talaya 71.46 330 *e*P **P** **13 25 22.9 +0.4**
TLY pmax pmax
comp=Z,21nm,0.7s
VNDA Vanda 71.91 178 P **P** **13 25 25.4 +0.6**
comp=Z,11nm,0.7s,baz=328,slow=6.7,SNR=89
VNDA Vanda 71.91 178 P **P** **13 25 25.4 +0.6**
VNDA pmax pmax
comp=Z,15nm,0.9s
VNDA Vanda 71.91 178 P **P** **13 25 25.4 +0.6**
VNDA lAmb lAmb 13 25 26.0
comp=Z,15nm,0.9s
TAPN Taplejung 71.92 301 *e*P **P** **13 25 27.0 +0.8**
comp=Z,80nm,0.7s
ODAN Odare 72.06 300 *e*P **P** **13 25 27.9 +1.0**
comp=Z,143nm,0.7s
RAMN Ramite 72.76 300 *e*P **P** **13 25 31.5 +0.4**
MOY Mondy 72.81 329 *e*P **P** **13 25 31.1 +0.4**
MOY pmax pmax
comp=Z,20nm,1.1s
JIRN Jiri 73.30 301 *e*P **P** **13 25 35.2 +0.7**
comp=Z,109nm,0.9s
GUN Gumba 73.63 301 *e*P **P** **13 25 37.2 +0.8**
comp=Z,92nm,0.6s
PKI Pulchoki 73.94 301 *e*P **P** **13 25 38.5 +0.3**
KKN Kakani 74.11 301 *e*P **P** **13 25 39.6 +0.6**
DMN Daman 74.21 301 *e*P **P** **13 25 40.5 +0.8**
comp=Z,214nm,1.1s
GKN Gorkha 74.72 301 *e*P **P** **13 25 42.9 +0.4**
comp=Z,264nm,1.1s
KOLN Koldanda 75.55 300 *e*P **P** **13 25 47.8 +0.5**
comp=Z,204nm,0.9s
PYUN Piuthan 76.15 301 *e*P **P** **13 25 50.9 +0.2**
comp=Z,297nm,0.9s
KDAK Kodiak Island 76.41 26 P **P** **13 25 51.7 +0.5**
comp=Z,9.7nm,0.9s,baz=256,slow=5.7,SNR=4.5
KDAK LR LR 13 54 01.3
comp=Z,320nm,20.9s,baz=246,slow=31
KDAK Kodiak Island 76.41 26 P **P** **13 25 50.5 -0.8**
KDAK pmax pmax
comp=Z,30nm,1.3s
KDAK Kodiak Island 76.41 26 P **P** **13 25 50.5 -0.8**
KDAK lAmb lAmb 13 25 54.1
comp=Z,30nm,1.2s
SVW2 Sparrevohn 77.15 23 P **P** **13 25 55.9 +0.5**
WMQ Urumqi 77.22 317 *e*P **P** **13 25 57.3 +1.0**
WMQ PcP **PcP** **13 26 07.5 +0.8**
WMQ sP sP 13 26 22.8 +1.0
WMQ pmax pmax
comp=Z,24nm,1.3s
WMQ pmax pmax
comp=Z,120nm,6.9s
WMQ LR LR
comp=Z,170nm,20.7s
WMQ LR LR
comp=Z,85nm,22.1s
HOM Homer 77.88 25 P **P** **13 26 00.0 +0.6**
baz=236
HYB Hyderabad 77.95 289 *i* P **P** **13 26 01.0 +0.2**
CNPM China Poot 77.97 25 P **P** **13 25 58.6 -1.5**
CNPM lAmb lAmb 13 26 17.2
comp=Z,33nm,0.9s
CAPN Captain Cook N 78.70 24 P **P** **13 26 05.4 +1.4**
baz=236
O22K Cooper Landing 79.13 25 P **P** **13 26 08.4 +2.0**
baz=237
SUA Susitna One 79.26 24 P **P** **13 26 05.6 -1.6**
DGZ Jazzator, Alta 79.53 323⇑ *e*P **P** **13 26 09.2 +0.2**
DGZ pmax pmax
comp=Z,19nm,0.9s
GHO Glory Hole Cre 80.16 24 lAmb lAmb 13 26 29.9
comp=Z,24nm,1.3s
ZSN Zaisan 80.34 320 *e*P **P** **13 26 13.4 +0.1**
comp=Z,3.5nm,0.7s,baz=320
ZSN Zaisan 80.34 320 *e*P **P** **13 26 13.3 +0.1**
ZSN pmax pmax
comp=Z,4.0nm,0.7s
SML Sawmill 80.41 24 lAmb lAmb 13 26 14.2
comp=Z,20nm,0.8s
IMAR Indian Mountai 80.80 19 P **P** **13 26 14.5 -0.7**
RND Reindeer 81.06 22 lAmb lAmb 13 26 17.1
comp=Z,13nm,0.8s
MCK McKinley 81.20 22 lAmb lAmb 13 26 17.8
comp=Z,23nm,0.8s
M24K Tolsona, Glenn 81.44 24 P **P** **13 26 19.1 +0.3**
baz=240
NEA2 Nenana 81.61 21 P **P** **13 26 18.4 -1.2**
baz=237
MK31 Makanchi Array 81.80 319 *i* P **P** **13 26 20.7 -0.3**
MK31 Makanchi Array 81.80 319 lAmb lAmb 13 26 22.4
comp=Z,13nm,0.8s
MKAR Makanchi Array 81.80 319 P **P** **13 26 21.3 +0.3**
comp=Z,13nm,0.7s,baz=96,slow=6.9,SNR=91
MKAR LR LR 14 02 31.2
comp=Z,100nm,20.5s,baz=95,slow=36
MKAR Makanchi Array 81.80 319 *i* P **P** **13 26 21.2 +0.2**
MKAR pmax pmax
comp=Z,13nm,0.7s
MAKZ Makanchi 82.01 319 P **P** **13 26 21.2 -0.9**
TCOL CIGO, UAF Yank 82.20 21 P **P** **13 26 21.7 -1.0**
baz=238
COLA College 82.21 21*d i*P **P** **13 26 21.8 -0.9**
COLA pmax pmax
comp=Z,15nm,0.9s
COLA College 82.21 21 P **P** **13 26 20.6 -2.0**
COLA lAmb lAmb 13 26 22.7
comp=Z,18nm,0.8s
HDA Harding Lake 82.30 22 P **P** **13 26 21.9 -1.3**
baz=239
POKR Poker Plat Res 82.49 21 P **P** **13 26 25.2 +1.0**
baz=239
ILAR Eielson Array 82.51 22 P **P** **13 26 22.3 -2.0**
comp=Z,6.5nm,0.6s,baz=242,slow=5.5,SNR=84
ILAR LR LR 14 00 15.5
comp=Z,410nm,20.4s,baz=232,slow=34
ILAR Eielson Array 82.51 22 P **P** **13 26 22.8 -1.5**
ILAR Eielson Array 82.51 22 P **P** **13 26 22.8 -1.5**
POO Poona 82.55 289 *e*P **P** **13 26 25.0 -0.5**
ZALV Zalesovo Beam 82.57 326 P **P** **13 26 23.7 -1.1**
comp=Z,12nm,0.7s,baz=110,slow=5.2,SNR=55
ZALV Zalesovo Beam 82.57 326 *i* P **P** **13 26 23.8 -1.0**
ZALV pmax pmax
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 82.57 326 P **P** **13 26 23.2 -1.6**
COLD Coldfoot 82.68 19 P **P** **13 26 25.5 +0.4**
baz=236
SHLS Shalkode 82.73 315 *e*P **P** **13 26 24.9 -1.2**
comp=Z,15nm,1.0s,baz=315
SHLS Shalkode 82.73 315 *e*P **P** **13 26 24.9 -1.2**
SHLS pmax pmax
comp=Z,15nm,1.0s
PDGK Podgornoye 82.75 315 P **P** **13 26 25.0 -1.2**
UZB Uzynbulak 83.04 315⇑ *i*P **P** **13 26 28.2 +0.4**
comp=Z,13nm,1.1s,baz=315
UZB *e*S **S** **13 36 42.5 +0.6**
baz=315
UZB Uzynbulak 83.04 315*c i*P **P** **13 26 28.1 +0.4**
UZB *e*S **S** **13 36 42.5 +0.6**
UZB pmax pmax
comp=Z,13nm,1.1s
SCRK Sand Creek 83.22 23 P **P** **13 26 27.9 -0.3**
baz=242
KPKS Kokpek 83.35 315 *e*P **P** **13 26 29.8 +0.5**
comp=Z,19nm,1.1s,baz=315
KPKS Kokpek 83.35 315 *e*P **P** **13 26 29.8 +0.5**
KPKS pmax pmax
comp=Z,19nm,1.1s
SATY Saty 83.45 314 *e*P **P** **13 26 30.4 +0.5**
comp=Z,12nm,1.0s,baz=314
SATY Saty 83.45 314 *e*P **P** **13 26 30.3 +0.5**
SATY pmax pmax
comp=Z,12nm,1.0s
SATY Saty 83.45 314 *e*P **P** **13 26 30.3 +0.5**
SATY pmax pmax
comp=Z,12nm,1.0s
TOLK Toolik Lake Re 83.66 18 P **P** **13 26 30.2 -0.1**
baz=236
BCAR Beaver Creek A 83.69 24 P **P** **13 26 30.3 -0.2**
TDK Taldyqorghan 83.92 316 *e*P **P** **13 26 32.5 +0.4**
comp=Z,24nm,1.0s,baz=316
TDK Taldyqorghan 83.92 316 *e*P **P** **13 26 32.4 +0.4**
TDK pmax pmax
comp=Z,24nm,1.0s
K27K Chicken 83.99 23 P **P** **13 26 32.5 +0.5**
baz=244
KDJ Kajisay 84.12 313 P **P** **13 26 33.3 0.0**
KDJ pmax pmax
comp=Z,57nm,0.9s
KDJ Kajisay 84.12 313 P **P** **13 26 33.3 0.0**
QSPA South Pole Qui 84.29 180 P **P** **13 26 34.1 +0.5**
MDOK Medeo 84.44 314 *i* P **P** **13 26 35.6 +0.7**
baz=314
MDOK *e*S **SKSac** **13 36 52.3 -0.8**
baz=314
MDOK Medeo 84.44 314 *i* P **P** **13 26 35.6 +0.7**
MDOK *e*S **SKSac** **13 36 52.2 -0.8**
KSH Kashi 84.44 311 P **P** **13 26 37.3 +2.3**
KSH sP sP 13 27 09.0 +8.4
KSH S **S** **13 36 56.5 +0.3**
KSH pmax pmax
comp=Z,57nm,0.9s
KSH pmax pmax
comp=Z,200nm,6.5s
KSH LR LR
comp=Z,100nm,8.1s
KSH LR LR
comp=Z,90nm,6.9s
TNSS Tian-Shan 84.49 314 *e*P **P** **13 26 36.3 +0.8**
baz=314
TNSS Tian-Shan 84.49 314 *e*P **P** **13 26 36.2 +0.8**
AAA Alma-Ata 84.55 314 *e*P **P** **13 26 35.9 +0.5**
baz=314
AAA Alma-Ata 84.55 314 *e*P **P** **13 26 35.8 +0.5**
CHKK Chushkaly 84.64 315 *e*P **P** **13 26 35.5 -0.3**
baz=315
CHKK Chushkaly 84.64 315 *e*P **P** **13 26 35.4 -0.3**
HYT Haines Junctio 84.64 27 lAmb lAmb 13 26 54.9
comp=Z,21nm,1.0s
EGAK Eagle 84.68 23 lAmb lAmb 13 26 38.3
comp=Z,16nm,1.1s
MTBS Maitube 84.88 314 *e*P **P** **13 26 37.3 +0.2**
baz=314
MTBS Maitube 84.88 314 *e*P **P** **13 26 37.2 +0.2**
KUU Kurty 85.11 315⇑ *i*P **P** **13 26 38.2 +0.2**
comp=Z,72nm,1.3s,baz=315
KUU Kurty 85.11 315*c i*P **P** **13 26 38.2 +0.2**
KUU pmax pmax
comp=Z,72nm,1.3s
KURK Kurchatov 85.22 322*c i*P **P** **13 26 37.7 -0.7**
KURK pmax pmax
comp=Z,13nm,1.0s
KURK Kurchatov 85.22 322 P **P** **13 26 37.6 -0.7**
KURK lAmb lAmb 13 26 51.6
comp=Z,26nm,1.4s
MAW Mawson 85.24 203 P **P** **13 26 38.3 +0.2**
comp=Z,22nm,1.0s,baz=98,slow=6.7,SNR=46
MAW Mawson 85.24 203 P **P** **13 26 38.4 +0.2**
baz=85,SNR=31
MAW Mawson 85.24 203 P **P** **13 26 38.6 +0.4**
MAW pmax pmax
comp=Z,9.0nm,1.2s
MAW Mawson 85.24 203 P **P** **13 26 38.5 +0.4**
KURBB Kurchatov Arra 85.25 322 P **P** **13 26 37.8 -0.7**
comp=Z,6.2nm,0.8s,baz=111,slow=3.6,SNR=65
TKM2 Tokmak 2 85.43 314 P **P** **13 26 40.8 +0.9**
SNR=20
TKM2 Tokmak 2 85.43 314 P **P** **13 26 36.9 -3.0**
NIL Nilore 85.49 304 P **P** **13 26 40.4 +0.2**
NIL pmax pmax
comp=Z,73nm,0.8s
NIL Nilore 85.49 304 P **P** **13 26 40.4 +0.2**
KZA Kyzart 85.51 313 P **P** **13 26 42.4 +1.9**
SNR=28
KBK Karagaybulak 85.84 313 P **P** **13 26 43.0 +1.0**
SNR=9.3
CHMS Chumysh 86.05 314 P **P** **13 26 44.1 +1.4**
SNR=14
UCH Uchtor 86.07 313 P **P** **13 26 44.2 +0.8**
SNR=24
AAK Ala-Archa 86.17 313 P **P** **13 26 44.8 +1.3**
comp=Z,17nm,0.9s,baz=104,slow=4.6,SNR=21
AAK Ala-Archa 86.17 313 P **P** **13 26 45.2 +1.7**
SNR=8.8
AAK Ala-Archa 86.17 313 P **P** **13 26 43.5 0.0**
AAK pmax pmax
comp=Z,15nm,0.8s
AAK Ala-Archa 86.17 313 P **P** **13 26 43.5 0.0**
AAK lAmb lAmb 13 26 45.9
comp=Z,15nm,0.8s
SGDS Sogindy 86.23 314 *e*P **P** **13 26 43.8 0.0**
comp=Z,14nm,1.4s,baz=314
SGDS Sogindy 86.23 314 *e*P **P** **13 26 43.7 0.0**
SGDS pmax pmax
comp=Z,14nm,1.4s
USP Ospenovka 86.29 314 P **P** **13 26 44.2 +0.3**
SNR=23
AML Almayashu 86.65 313 P **P** **13 26 46.9 +0.7**
SNR=21
EKS2 Erkin-Say 86.69 313 P **P** **13 26 46.5 +0.5**
SNR=14
BTLS Baital 86.95 316 *e*P **P** **13 26 47.1 0.0**
comp=Z,13nm,1.7s,baz=316
BTLS Baital 86.95 316 *e*P **P** **13 26 47.1 0.0**
BTLS pmax pmax
comp=Z,13nm,1.7s
BBB Bella Bella 87.05 37 LR LR 13 59 31.5
comp=Z,204nm,20.8s,baz=266,slow=31
NRIK Noril'sk 87.19 341 P **P** **13 26 46.5 -1.2**
comp=Z,6.4nm,0.8s,baz=137,slow=3.0,SNR=6.4
DZA Taraz 88.50 313 *e*P **P** **13 26 54.4 -0.2**
baz=313
DZA Taraz 88.50 313 *e*P **P** **13 26 54.4 -0.2**
INK Inuvik 88.83 21 P **P** **13 26 54.7 -0.8**
comp=Z,2.4nm,0.6s,baz=214,slow=4.0,SNR=4.9
INK LR LR 14 01 56.5
comp=Z,421nm,21.6s,baz=223,slow=32
INK Inuvik 88.83 21 P **P** **13 26 54.7 -0.8**
INK pmax pmax
comp=Z,10.0nm,1.3s
BVAR Borovoye Array 90.68 323 P **P** **13 27 03.1 -1.4**
comp=Z,12nm,0.8s,baz=107,slow=5.1,SNR=39

BRVK	**Borovoye**	**90.75**	**323**	P	**P**	**13 27 03.3**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,12nm,1.0s						
BRVK	**Borovoye**	**90.75**	**323**	P	**P**	**13 27 03.3**	**-1.5**
BRVK				IAmb	IAmb	13 27 05.8	
	comp=Z,12nm,0.9s						
NVAR	**Mina Array Bea**	**91.65**	**52**	P	**P**	**13 27 09.5**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=256,slow=5.9,SNR=24						
NVAR				LR	LR	14 01 35.5	
	comp=Z,210nm,21.3s,baz=290,slow=31						
NVAR	**Mina Array Bea**	**91.65**	**52**	P	**P**	**13 27 09.2**	**-0.5**
KVN	**Kaiserville**	**91.87**	**51**	P	**P**	**13 27 10.5**	**-0.1**
KVN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KVN	**Kaiserville**	**91.87**	**51**	P	**P**	**13 27 10.4**	**-0.1**
SYO	**Syowa Base**	**93.25**	**199**	⇓*e*P	**P**	**13 27 14.0**	**-2.1**
SYO	**Syowa Base**	**93.25**	**199**	⇓*e*X	pP	13 27 31.2	-2.8
YKA	**Yellowknife Ar**	**95.62**	**28**	PKKPbc	PKKPbc	13 44 16.8	-3.6
	comp=Z,3.3nm,0.7s,baz=96,slow=3.3,SNR=7.1						
YKA				LR	LR	14 06 20.7	
	comp=Z,180nm,21.1s,baz=0.0,slow=33						
ABKAR	**Akbulak array**	**96.94**	**319**	P	**P**	**13 27 31.4**	**-1.9**
GEYT	**Alibeck**	**98.13**	**307**	PP	**PP**	**13 31 38.6**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=111,slow=8.1,SNR=3.9						
PDAR	**Pinedale Array**	**98.52**	**48**	P	**P**	**13 27 39.6**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=297,slow=6.0,SNR=3.5						
PDAR				PKKPbc	**PKKPbc**	**13 44 10.1**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=95,slow=4.9,SNR=4.0						
PDAR				LR	LR	14 05 28.4	
	comp=Z,371nm,21.8s,baz=278,slow=31						
SNAA	**Sanae**	**101.32**	**187**	P	**Pdif**	**13 27 52.1**	**-0.5**
VNA3	**Neumayer Olymp**	**102.47**	**185**	P	**Pdif**	**13 27 57.6**	**-0.1**
TXAR	**Lajitas Array**	**103.47**	**61**	Pdiff	**Pdif**	**13 28 04.8**	**+1.8**
	comp=Z,0.2nm,0.7s,baz=242,slow=1.9,SNR=2.9						
TXAR				PKKPbc	**PKKPbc**	**13 43 57.7**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=95,slow=2.4,SNR=4.4						
ULM	**Lac du Bonnet**	**107.14**	**39**	PP	**PP**	**13 32 44.6**	**-1.5**
	comp=Z,1.8nm,0.5s,baz=321,slow=2.5,SNR=3.2						
ARCES	**ARCESS Array B**	**108.06**	**343**	PKiKP	**PKiKP**	**13 32 30.3**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=46,slow=2.6,SNR=5.0						
BRTR	**Keskin Array B**	**116.81**	**312**	PP	PP	13 33 55.4	-0.3
	comp=Z,3.0nm,0.9s,baz=110,slow=7.2,SNR=8.8						
NOA	**NORSAR Array B**	**118.15**	**341**	PKP	**PKiKP**	**13 32 50.8**	**+2.4**
	comp=Z,0.7nm,0.7s,baz=46,slow=1.9,SNR=3.9						
NOA				PKKPbc	**PKKPbc**	**13 43 07.5**	**-2.5**
	comp=Z,0.6nm,0.7s,baz=45,slow=3.8,SNR=3.6						
VYHS	**Vyhne**	**122.90**	**326**	*e*PKiKP	**PKiKP**	**13 33 03.2**	**+5.1**
VYHS	**Vyhne**	**122.90**	**326**	*e*PKP	**PKiKP**	**13 33 03.2**	**+5.1**
CLL	**Collm**	**124.21**	**331**	*e*(PKPdf)	**PKiKP**	**13 33 03.2**	**+2.6**
	comp=Z,4.0nm,0.6s						
CLL	**Collm**	**124.21**	**331**	*e*PKIKP	**PKPdf**	**13 32 58.0**	**-2.3**
GERES	**GERESS Array B**	**125.44**	**329**	PKP	**PKPdf**	**13 33 03.0**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=50,slow=2.1,SNR=6.5						
LPAZ	**La Paz**	**132.91**	**118**	PKP	**PKPdf**	**13 33 18.7**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=263,slow=3.4,SNR=5.1						
ESDC	**Sonseca Array**	**140.78**	**333**	PP	PP	13 36 30.5	-1.0
	comp=Z,0.8nm,0.8s,baz=25,slow=6.2,SNR=4.1						
TAM	**Tamanrasset**	**145.19**	**302**	PKIKP	**PKiKP**	**13 33 42.9**	**-1.3**
TAM	**Tamanrasset**	**145.19**	**302**		**PKiKP**	**13 33 42.9**	**-1.3**
BDFB	**Brasilia**	**149.57**	**134**	PKPbc	**PKPbc**	**13 33 52.4**	**+0.1**
	comp=Z,9.8nm,0.6s,baz=214,slow=0.8,SNR=12						
BDFB	**Brasilia**	**149.57**	**134**	PKP2	**PKPbc**	**13 33 52.5**	**+0.3**
BDFB	**Brasilia**	**149.57**	**134**		**PKPbc**	**13 33 52.5**	**+0.3**
TOA0	**Torodi Ar. Sit**	**151.75**	**287**		**PKPbc**	**13 33 57.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**151.75**	**287**	PKPbc	**PKPbc**	**13 33 56.9**	**-0.4**
	comp=Z,27nm,0.7s,baz=49,slow=2.2,SNR=112						
TORD				PKPab	**PKPab**	**13 34 06.6**	**+0.2**
	comp=Z,42nm,0.8s,baz=68,slow=4.2,SNR=34						
KIC	**Kosan Boka**	**158.89**	**273**	*e*P	**PKPab**	**13 34 31.9**	**-5.1**
	comp=Z,44nm,1.1s						
DBIC	**Dimbokro**	**159.00**	**274**	PKPab	**PKPab**	**13 34 37.9**	**+0.5**
	comp=Z,7.9nm,0.7s,baz=68,slow=4.7,SNR=7.4						
TIC	**Toumodi**	**159.16**	**274**	*e*P	**PKPab**	**13 34 33.3**	**-4.9**
LIC	**Lamto**	**159.18**	**273**	*e*P	**PKPab**	**13 34 33.7**	**-4.5**
	comp=Z,32nm,1.0s						

*SOME **29** 13:25:58.0,40.87N×69.67E,h20km*
*NNC **29** 13:26:00.2±3.6,40.99N×69.77E,h0km,mb3.9,mpv4.0,*
Error ellipse: s-maj=29.7km s-min=20.7km az=71.0
*KRNET **29** 13:26:11.0±0.1,40.55N×71.40E,h35km,mb2.7*
ISC 29 13:26:00.6±1.9,**40.98N**±0.006×**69.84E**±0.008,**h19**km±4km,
n12,σ2ᵖ**46**/19,**2C-6D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IUG	**luzhnay**	**1.18**	**7**	*e*P	**Pn**	**13 26 23.9**	**+1.8**
	244nm,0.2s						
IUG				*e*S	**Sn**	**13 26 43.2**	**+5.5**
	156nm,0.3s						
IUG	**luzhnay**	**1.18**	**7**	P	**Pb**	**13 26 21.4**	**-1.0**
	244nm,0.2s						
IUG				S	**Sg**	**13 26 38.1**	**-0.8**
	156nm,0.3s						
BTK	**Batken**	**1.18**	**140**	⇑*i*P	**Pg**	**13 26 24.6**	**+1.1**
	baz=22						
BTK				⇑*i*S	**Sb**	**13 26 34.8**	**-2.6**
	baz=22						
ARK	**Arkit**	**1.80**	**62**	⇓*i*P	**Pb**	**13 26 34.2**	**+1.3**
	baz=19						
ARK				⇓*i*S	**Sn**	**13 26 51.2**	**-1.8**
	baz=19						
BRLS	**Borolday**	**2.05**	**360**	*e*P	**Pn**	**13 26 32.8**	**-1.3**
	35nm,0.3s						
BRLS				*e*S	**Sn**	**13 26 58.1**	**-1.1**
	98nm,0.4s						
BRLS	**Borolday**	**2.05**	**360**	Pg	**Pn**	**13 26 32.8**	**-1.3**
	35nm,0.3s						
BRLS				Lg	Lg	13 26 58.1	
	98nm,0.4s						
KK31	**Karatay Array**	**2.19**	**13**	P	**Pb**	**13 26 39.2**	**-0.2**
	11nm,0.3s,baz=203,slow=14,SNR=201						
KK31				S	**Sg**	**13 27 09.0**	**-1.9**
	18nm,0.3s,baz=194,slow=22,SNR=16						
OHH	**Osh**	**2.28**	**100**	⇓*i*P	Pn	13 26 30.9	-6.4
	baz=91						
OHH				⇓*i*S	Sn	13 26 45.0	-20
	baz=91						
MRKS	**Merke**	**3.09**	**54**	*e*P	**Pb**	**13 26 56.9**	**+2.0**
	6.2nm,0.3s						
MRKS				*e*S	**Sg**	**13 27 38.7**	**-1.0**
	13nm,0.5s						
MRKS	**Merke**	**3.09**	**54**	Pg	**Pb**	**13 26 56.9**	**+2.0**
	6.2nm,0.3s						
MRKS				Lg	Lg	13 27 38.7	
	13nm,0.5s						
ARLS	**Aral**	**3.49**	**74**	⇓*i*P	**Pn**	**13 26 52.0**	**-1.9**
	baz=58						
ARLS				⇓*i*S	Sn	13 27 21.6	-13
	baz=58						
KST	**Kastek**	**5.01**	**64**	*e*P	**Pb**	**13 27 31.6**	**+4.0**
	15nm,1.5s						
KST				*e*S	**Sg**	**13 28 38.6**	**-2.7**
	4.0nm,0.7s						

*IDC **29** 13:33:37.4±0.7,36.86N×143.32E,h0km,mb4.0/17,*
mb1 4.2/22,mb1mx4.0/66,mbtmp4.1/22,ML3.9/4,MS3.6/10,
Ms1 3.6/10,ms1mx3.2/52,Error ellipse: s-maj=18.5km
s-min=13.5km az=106.0
*JMA **29** 13:33:40.7±0.2,36.98N×143.20E,h47km,M4.3*
*NEIC **29** 13:33:42.3±2.1,36.90N±0.07×143.2E±0.1,h35km±7km,*
mb4.5/8,Error ellipse: s-maj=14.0km s-min=10.1km
az=104.0
ISC 29 13:33:38.6±4.1,**36.94N**±0.05×**143.22E**±0.07,**h9**km±26km,
n74,σ1ᵖ**57**/74,**mb4.1**/21,**MS3.7**/11,**Off east coast of**
Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.92**	**283**	P	**Pn**	**13 34 11.4**	**-0.1**
JFK				S	**Sn**	**13 34 33.9**	**-1.9**
ONAJ	**Iwakimizuishiy**	**1.95**	**275**	P	**Pn**	**13 34 11.7**	**-0.2**
JIKH	**Ishinomakikobu**	**1.95**	**315**	P	**Pn**	**13 34 11.6**	**-0.3**
JIKH				S	**Sn**	**13 34 34.0**	**-2.5**
JMST	**Minamisoumatoc**	**2.02**	**293**	P	**Pn**	**13 34 12.6**	**-0.2**
JMST				S	**Sn**	**13 34 36.3**	**-1.8**
JIO	**Ouri**	**2.12**	**316**	P	**Pn**	**13 34 14.1**	**0.0**
JIO				*e*S	**Sn**	**13 34 38.2**	**-2.3**
JFT	**Otama**	**2.37**	**285**	P	**Pn**	**13 34 18.6**	**+0.9**
JFT				*e*S	**Sn**	**13 34 46.4**	**-0.5**
JMK	**Ichinoseki**	**2.55**	**322**	P	**Pn**	**13 34 20.2**	**0.0**
JMK				S	**Sn**	**13 34 49.4**	**-1.9**
BSO1	**Boso 1**	**2.92**	**219**	P	**Pn**	**13 34 25.1**	**+0.3**
JOM	**Ohasama**	**2.95**	**330**	P	**Pn**	**13 34 24.7**	**-0.9**
JOM				S	**Sn**	**13 34 59.4**	**-1.7**
JYK	**Kaneyama**	**3.00**	**312**	P	**Pn**	**13 34 27.1**	**+0.8**
JAG	**Ashikaga**	**3.07**	**261**	P	**Pn**	**13 34 28.0**	**+0.7**
JRY	**Ryogami san**	**3.60**	**256**	P	**Pn**	**13 34 35.0**	**+0.4**
JANG	**Nango**	**3.68**	**339**	P	**Pn**	**13 34 36.4**	**+0.8**
JOD2	**Odawara 2**	**3.74**	**245**	P	**Pn**	**13 34 36.8**	**+0.2**
JOD2				*e*S	**Sn**	**13 35 18.4**	**-2.4**
MJAR	**Matsushiro Arr**	**4.05**	**266**	Pn	**Pn**	**13 34 42.2**	**+1.5**
	1.8nm,0.3s,baz=88,slow=14,SNR=84						
MJAR	**Matsushiro Arr**	**4.05**	**266**		**Pn**	**13 34 41.6**	**+0.9**
MAJO	**Matsushiro**	**4.05**	**266**	Pn	**Pn**	**13 34 42.6**	**+1.9**
MAT	**Matsushiro**	**4.05**	**266**	P	**Pn**	**13 34 42.5**	**+1.8**
MAT				S	**Sn**	**13 35 26.7**	**-1.5**
MAT	**Matsushiro**	**4.05**	**266**	P	**Pn**	**13 34 42.0**	**+1.3**
JYN	**Shimob**	**4.05**	**251**	P	**Pn**	**13 34 41.9**	**+1.1**
JHJ2	**Mitsune**	**4.74**	**217**	Pn	**Pn**	**13 34 50.2**	**+0.1**
JOT	**Ohata**	**4.74**	**340**	P	**Pn**	**13 34 51.3**	**+1.1**
JHJ	**Hachijo jima 2**	**4.75**	**217**	Pn	**Pn**	**13 34 49.5**	**-0.8**
	26nm,0.3s,baz=356,slow=19,SNR=9.5						
JHJ				Sn	**Sn**	**13 35 40.4**	**-5.0**
	48nm,0.3s,baz=106,slow=22,SNR=4.0						
ERM	**Erimo**	**5.07**	**359**	Pn	**Pn**	**13 34 53.2**	**-1.4**
JKA	**Kamikawa-asahi**	**7.18**	**356**	Pn	**Pn**	**13 35 23.1**	**-0.6**
ASAJ	**Asahikawa**	**7.18**	**356**	Pn	**Pn**	**13 35 23.1**	**-0.7**
	5.9nm,0.3s,baz=216,slow=9.2,SNR=56						
ASAJ				Sn	**Sn**	**13 36 39.5**	**-5.9**
	1.7nm,0.3s,baz=77,slow=31,SNR=5.1						
JCJ	**Chichijima**	**9.86**	**185**	Pn	**Pn**	**13 35 56.6**	**-3.9**
	4.3nm,0.3s,baz=274,slow=21,SNR=14						
JCJ				Sn	Sn	13 37 38.3	-13
	12nm,0.3s,baz=306,slow=22,SNR=8.5						
USRK	**Ussuriysk Ar.**	**11.20**	**314**	Pn	**Pn**	**13 36 20.4**	**+1.6**
	baz=106,slow=14,SNR=7.0						
USRK	**Ussuriysk Ar.**	**11.20**	**314**	Pn	**Pn**	**13 36 19.9**	**+1.2**
KSRS	**Korea Array**	**12.21**	**277**	Pn	**Pn**	**13 36 34.9**	**+2.2**
	0.1nm,0.3s,baz=91,slow=14,SNR=14						
KLR	**Kul'dur**	**14.85**	**329**	Pn	**Pn**	**13 37 07.1**	**-1.4**
	0.2nm,0.3s,baz=150,slow=16,SNR=4.5						
MA2	**Magadan**	**23.17**	**10**	LR	LR	13 48 18.0	
	comp=Z,69nm,20.8s,baz=184,slow=38						
YAK	**Yakutsk**	**26.49**	**346**	P	**P**	**13 39 16.3**	**+0.4**
	7.6nm,0.5s,baz=88,slow=0.2,SNR=6.1						
YAK	**Yakutsk**	**26.49**	**346**	P	**P**	**13 39 14.9**	**-1.0**
SEY	**Seymchan**	**26.62**	**9**	P	**P**	**13 39 18.4**	**+1.4**
	2.1nm,0.5s,baz=190,slow=9.2,SNR=16						
SEY				LR	LR	13 51 55.5	
	comp=Z,71nm,18.4s,baz=159,slow=41						
H11N2	**WAKE ISLAND Hy**	**26.87**	**123**	T	T	14 07 22.1	
	baz=314,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**26.88**	**123**	T	T	14 07 32.6	
	baz=314,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**26.89**	**123**	T	T	14 07 26.0	
	baz=314,slow=75,SNR=9.3						
H11S1	**WAKE ISLAND Hy**	**27.61**	**125**	T	T	14 08 24.3	
	baz=317,slow=76,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**27.61**	**125**	T	T	14 08 25.1	
	baz=317,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**27.63**	**125**	T	T	14 08 24.4	
	baz=317,slow=76,SNR=9.9						
XAN	**Xi'an**	**27.99**	**274**	P	**P**	**13 39 31.3**	**+1.6**
XAN				pP	pwP	13 39 52.3	+13
XAN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
XAN				LR	LR		
	comp=N,160nm,16.1s						
XAN				LR	LR		
	comp=E,130nm,16.0s						
XAN				LR	LR		
	comp=Z,180nm,17.6s						
SONM	**Songino Array**	**29.04**	**304**	P	**P**	**13 39 41.4**	**+2.3**
	comp=Z,2.6nm,0.7s,baz=98,slow=8.6,SNR=11						
SONM	**Songino Array**	**29.04**	**304**	P	**P**	**13 39 39.0**	**0.0**
WMQ	**Urumqi**	**42.17**	**297**	*e*P	**P**	**13 41 32.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**42.88**	**257**	P	**P**	**13 41 38.8**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=51,slow=8.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**43.05**	**312**	P	**P**	**13 41 39.4**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=94,slow=6.0,SNR=6.8						
ZALV				PcP	**PcP**	**13 43 28.6**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=111,slow=3.3,SNR=6.6						
ZALV	**Zalesovo Beam**	**43.05**	**312**	P	**P**	**13 41 36.6**	**-1.7**
ZALV					**PcP**	**13 43 27.9**	**-0.4**
MKAR	**Makanchi Array**	**45.39**	**302**	P	**P**	**13 41 58.3**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=83,slow=9.9,SNR=6.4						
MKAR	**Makanchi Array**	**45.39**	**302**	P	**P**	**13 41 56.1**	**-1.2**
KURK	**Kurchatov**	**47.12**	**308**	P	**P**	**13 42 10.0**	**-0.8**
KURK				IAmb	IAmb	13 42 20.3	
	comp=Z,5.4nm,0.8s						
MDM	**Murphy Dome**	**48.22**	**32**	P	**P**	**13 42 20.4**	**+1.2**
MDM				IAmb	IAmb	13 42 21.4	
	comp=Z,3.6nm,0.8s						
IL31		**48.80**	**32**	P	**P**	**13 42 23.6**	**+0.1**
IL31				IAmb	IAmb	13 42 24.5	
	comp=Z,4.9nm,1.2s						
ILAR	**Eielson Array**	**48.80**	**32**	P	**P**	**13 42 24.0**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=264,slow=6.4,SNR=29						
INK	**Inuvik**	**53.80**	**27**	P	**P**	**13 43 02.3**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=280,slow=6.9,SNR=10						
KKAR	**Karatay Array**	**54.42**	**301**	P	**P**	**13 43 04.7**	**-1.3**
WRA	**Warramunga Arr**	**57.20**	**190**	P	**P**	**13 43 25.0**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=7.4,slow=8.2,SNR=24						
FITZ	**Fitzroy Crossi**	**57.20**	**200**	P	**P**	**13 43 26.2**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=43,slow=13,SNR=6.2						
ARU	**Arti**	**57.38**	**319**	LR	LR	14 10 13.6	
	comp=Z,92nm,21.6s,baz=90,slow=38						
ABKAR	**Akbulak array**	**59.10**	**311**	P	**P**	**13 43 38.3**	**-0.8**
SPITS	**Spitsbergen Ar**	**60.89**	**349**	LR	LR	14 12 09.9	
	comp=Z,101nm,20.6s,baz=105,slow=38						
ASAR	**Alice Springs**	**60.92**	**190**	P	**P**	**13 43 51.2**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=16,slow=12,SNR=8.0						
ARCES	**ARCESS Array B**	**64.58**	**340**	P	**P**	**13 44 16.3**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=61,slow=7.5,SNR=6.4						
ARCES				LR	LR	14 17 19.3	
	comp=Z,56nm,21.7s,baz=22,slow=40						
OBN	**Obninsk**	**69.03**	**324**	LR	LR	14 18 32.6	
	comp=Z,19nm,18.7s,baz=182,slow=39						
FINES	**FINESS Array B**	**69.56**	**333**	P	**P**	**13 44 47.7**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=74,slow=6.9,SNR=6.5						
KBZ	**Khabaz**	**72.05**	**311**	LR	LR	14 19 34.1	
	comp=Z,62nm,22.0s,baz=56,slow=38						
NVAR	**Mina Array Bea**	**73.88**	**54**	P	**P**	**13 45 15.5**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=294,slow=5.1,SNR=3.9						
NB2	**NORSAR Subarra**	**74.82**	**338**	P	**P**	**13 45 19.4**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**74.82**	**338**	P	**P**	**13 45 19.5**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=39,slow=5.8,SNR=3.9						
NOA				LR	LR	14 23 03.6	
	comp=Z,27nm,19.4s,baz=40,slow=40						
AKASG	**Malin Array Be**	**75.25**	**323**	P	**P**	**13 45 21.8**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=50,slow=5.3,SNR=4.3						
AKASG				LR	LR	14 22 18.3	
	comp=Z,94nm,21.3s,baz=60,slow=39						
AKASG	**Malin Array Be**	**75.25**	**323**	IAmb	IAmb	13 45 22.1	
	comp=Z,0.7nm,0.6s						
BRTR	**Keskin Array B**	**79.99**	**312**	LR	LR	14 25 46.8	
	comp=Z,30nm,18.6s,baz=18,slow=39						
CLL	**Collm**	**81.89**	**331**	*e*P	**P**	**13 45 59.0**	**+0.9**
TXAR	**Lajitas Array**	**89.02**	**53**	P	**P**	**13 46 34.6**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=313,slow=3.9,SNR=4.3						

*NEIC **29** 13:35:26.5±2.3,56.0S±0.1×27.7W±0.2,h106km±7km,*
mb4.2/8,Error ellipse: s-maj=20.6km s-min=13.9km
az=191.0
*IDC **29** 13:35:29.3±6.4,56.01S×27.34W,h125km±56km,mb3.9/7,*
mb1 4.0/9,mb1mx3.8/23,mbtmp4.4/9,Error ellipse:
s-maj=29.0km s-min=19.3km az=53.0
ISC 29 13:35:28.3±0.7,**56.0S**±0.1×**27.85W**±0.10,**h121**km,**n29,**
σ1ᵖ**04**/30,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.25**	**286**	Pn	**Pn**	**13 36 45.0**	**+0.5**
HOPE					**Sn**	**13 37 41.4**	**-2.5**
VNA1	**Neumayer--Stat**	**16.97**	**157**	P	**P**	**13 39 17.2**	**-0.7**
VNA3	**Neumayer Olymp**	**17.15**	**160**	P	**P**	**13 39 18.4**	**-1.5**
VNA2	**Neumayer--Watz**	**17.36**	**157**	P	**P**	**13 39 20.6**	**-1.6**
SNAA	**Sanae**	**18.93**	**156**	P	**P**	**13 39 38.0**	**-1.3**
SNAA	**Sanae**	**18.93**	**156**	P	**P**	**13 39 38.1**	**-1.3**
	5.1nm,0.3s,baz=303,slow=10,SNR=248						
SNAA	**Sanae**	**18.93**	**156**	P	**P**	**13 39 37.9**	**-1.3**
PMSA	**Palmer Station**	**19.64**	**229**	P	**Pn**	**13 39 50.4**	**+0.7**
	0.6nm,0.3s,baz=65,slow=6.4,SNR=7.9						
PMSA	**Palmer Station**	**19.64**	**229**	P	**P**	**13 39 47.4**	**+0.3**
PMSA				IAmb	IAmb	13 39 53.7	
	comp=Z,6.1nm,0.7s						
QSPA	**South Pole Qui**	**34.23**	**180**	P	**P**	**13 42 02.7**	**+0.5**
	comp=Z,6.7nm,0.5s,baz=223,slow=0.7,SNR=105						
QSPA	**South Pole Qui**	**34.23**	**180**	P	**P**	**13 42 02.9**	**+0.8**
QSPA				IAmb	IAmb	13 42 04.8	
	comp=Z,5.9nm,0.7s						
MAW	**Mawson**	**40.40**	**144**	P	**P**	**13 42 53.1**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=237,slow=8.0,SNR=18						
MAW	**Mawson**	**40.40**	**144**	P	**P**	**13 42 53.3**	**-0.5**
VNDA	**Vanda**	**46.59**	**183**	P	**P**	**13 43 44.2**	**+1.0**
	comp=Z,3.1nm,0.6s,baz=187,slow=6.8,SNR=43						
VNDA	**Vanda**	**46.59**	**183**	P	**P**	**13 43 44.3**	**+1.0**
VNDA				IAmb	IAmb	13 43 45.5	
	comp=Z,4.0nm,0.7s						
LPAZ	**La Paz**	**50.06**	**306**	P	**P**	**13 44 13.4**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=143,slow=5.9,SNR=4.8						
LPAZ	**La Paz**	**50.06**	**306**	P	**P**	**13 44 10.5**	**-0.8**
LPAZ				IAmb	IAmb	13 44 25.7	
	comp=Z,4.7nm,1.5s						
TORD	**Torodi Ar. Bea**	**73.21**	**30**	P	**P**	**13 46 45.9**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=199,slow=6.8,SNR=5.7						
TORD	**Torodi Ar. Bea**	**73.21**	**30**	P	**P**	**13 46 45.7**	**-0.1**
STKA	**Stephens Creek**	**92.00**	**171**	P	**P**	**13 48 23.9**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=243,slow=2.3,SNR=4.1						
STKA	**Stephens Creek**	**92.00**	**171**	P	**P**	**13 48 22.7**	**-0.5**
STKA				IAmb	IAmb	13 48 36.1	
	comp=Z,1.1nm,1.4s						
ASAR	**Alice Springs**	**99.13**	**163**	P	**Pdif**	**13 48 55.0**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=191,slow=4.3,SNR=8.9						
ASAR	**Alice Springs**	**99.13**	**163**	P	**Pdif**	**13 48 55.0**	**-0.8**
WRA	**Warramunga Arr**	**102.85**	**163**	P	**Pdif**	**13 49 12.0**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=194,slow=4.4,SNR=4.0						
INK	**Inuvik**	**145.54**	**321**	PKPbc	**PKPab**	**13 54 51.4**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=94,slow=5.6,SNR=7.6						
ILAR	**Eielson Array**	**149.82**	**312**	PKPbc	**PKPbc**	**13 55 02.7**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=131,slow=2.9,SNR=37						
ILAR	**Eielson Array**	**149.82**	**312**		**PKiKP**	**13 55 03.9**	**+0.5**
KDAK	**Kodiak Island**	**150.47**	**297**	PKPbc	**PKiKP**	**13 55 05.0**	**+0.1**
	comp=Z,4.3nm,0.4s,baz=149,slow=3.9,SNR=14						
SONM	**Songino Array**	**151.09**	**87**	PKPbc	**PKPbc**	**13 55 05.6**	**-0.6**
	comp=Z,2.5nm,0.5s,baz=213,slow=3.3,SNR=9.9						

*IDC **29** 13:51:23.7±7.0,3.16S×135.98E,h30km±54km,mb3.9/6,*
mb1 4.0/9,mb1mx3.7/37,mbtmp4.1/9,ML3.9/3,MS3.2/2,
Ms1 3.2/2,ms1mx2.7/24,Error ellipse: s-maj=25.5km
s-min=22.4km az=178.0
ISC 29 13:51:23.1±0.7,**3.41S**±0.08×**135.92E**±0.07,**h37**km,**n10,**
σ1ᵖ**31**/13,**mb4.1/5,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**4.86**	**80**	Pn	**Pn**	**13 52 33.4**	**-0.3**
	3.3nm,0.3s,baz=233,slow=13,SNR=22						
JAY				Sn	**Sn**	**13 53 28.3**	**-0.4**
	5.0nm,0.3s,baz=137,slow=22,SNR=7.8						
SIJI	**Sorong**	**5.29**	**298**	Pn	**Pn**	**13 52 39.5**	**-0.1**
	9.5nm,0.3s,baz=196,slow=23,SNR=21						
SIJI				Sn	**Sn**	**13 53 37.8**	**-1.6**
	5.4nm,0.3s,baz=328,slow=18,SNR=7.3						
SIJI				LR	LR	13 55 09.5	
	comp=Z,108nm,21.0s,baz=133,slow=43

UCH	**Uchtor**	**4.09**	**40**	P	**Pb**	**14 01 54.0**	**-2.9**
	SNR=8.4							
EKS2	**Erkin-Say**	**4.11**	**30**	⇑*iP*	**Pn**	**14 01 49.0**	**+1.5**
	baz=29							
EKS2				⇑*iS*	**Sn**	**14 02 36.8**	**+1.0**
	baz=29							
KZA	**Kyzart**	**4.38**	**46**	⇑*iP*	**Pn**	**14 01 52.4**	**+1.0**
	baz=45							
KZA				⇑*iS*	**Sn**	**14 02 43.4**	**+0.7**
	baz=45							
KZA	**Kyzart**	**4.38**	**46**	P	**Pb**	**14 02 01.3**	**-0.4**
	SNR=11							
AAK	**Ala-Archa**	**4.40**	**36**	⇑Pn	Pn	14 01 58.1	+6.6
	3.3nm,0.4s							
AAK				⇑Sn	**Sb**	**14 02 56.5**	**+1.4**
	26nm,1.0s							
KBK	**Karagaybulak**	**4.63**	**39**	P	Pb	14 02 02.3	-3.6
	SNR=9.3							
TKM2	**Tokmak 2**	**5.14**	**41**	P	Pn	14 02 08.1	+6.3
	SNR=15							
TKM2	**Tokmak 2**	**5.14**	**41**	⇑Pn	Pn	14 02 08.0	+6.2
	3.6nm,0.5s							
TKM2				⇑Sn	**Sb**	**14 03 15.3**	**-1.3**
	22nm,1.1s							
AB01	**Akbulak array**	**12.85**	**326**	⇑Pn	**Pn**	**14 03 42.8**	**-4.4**
	1.7nm,0.6s							
AB31	**Akbulak array**	**12.85**	**326**	⇓Sn	**Sn**	**14 06 09.0**	**-1.1**
	0.9nm,0.6s							
AKTO	**Aktyubinsk**	**14.56**	**325**	⇑Pn	**Pn**	**14 04 09.7**	**-0.8**
	2.4nm,0.7s							

*ISN **29** 14:43:19.2±1.2,33.°70N×45.°58E,h0km±4km,ML2.3*
*TEH **29** 14:43:20.8,33.°72N×45.°65E,h12km,ML2.8*
ISC 29 14:43:21.0±1.5,33.°71N±0.°05×45.°63E±0.°05,h4km±13km, n9,σ1§21/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
IBDR	**Badra**	**0.65**	**157**		*e*Pg		**Pg**	**14 43 33.0**	**-0.4**
IBDR					*e*Sg		**Sb**	**14 43 44.0**	**-0.2**
IBDR					AML		AML	14 43 50.2	
	comp=N,135nm,0.5s								
IBDR					AML		AML	14 43 52.5	
	comp=E,119nm,0.4s								
IGHG	**Ghaleghazi**	**1.00**	**51**		*e*Pg		**Pg**	**14 43 40.2**	**0.0**
IGHG					*e*		**Sn**	**14 43 58.9**	**+2.2**
BHD	**Baghdad**	**1.13**	**248**		*e*Pg		**Pb**	**14 43 43.0**	**0.0**
BHD					*e*Sg		**Sn**	**14 44 00.0**	**+0.5**
IDHR	**Dehrash**	**1.18**	**32**		*e*Pg		**Pb**	**14 43 42.8**	**-1.2**
IDHR					*e*			14 43 45.0	
IVIS	**Veis**	**1.30**	**51**		*e*Pg		**Pn**	**14 43 45.3**	**-0.8**
IVIS					*e*			14 44 08.3	
IKOM	**Komasi**	**1.64**	**73**		*e*Pg		**Pb**	**14 43 51.5**	**-0.3**
IKOM					*e*		**Sg**	**14 44 15.9**	**+2.3**
ILIN	**Lien**	**1.64**	**42**		*e*Pg		**Pb**	**14 43 51.3**	**-0.7**
ILIN					*e*			14 43 52.3	
ILIN					*e*Sg		**Sg**	**14 44 13.8**	**+0.1**
IBZA	**Bozab**	**2.01**	**67**		*e*Pg		**Pb**	**14 43 56.9**	**-1.3**
IBZA					*e*			14 43 59.4	
NSR	**Nassriya**	**2.72**	**171**		*e*Pn		**Pn**	**14 44 06.0**	**+0.5**
NSR					*e*Sn		**Sn**	**14 44 38.0**	**-0.8**

*ISN **29** 14:48:33.3±0.6,33.°59N×45.°75E,h30km±2km,ML2.9*
*TEH **29** 14:48:37.6,33.°79N×45.°85E,h14km,ML3.0*
ISC 29 14:48:40.7±5.0,34.°0N±0.°2×46.°0E±0.°3,h10km,n19, σ0§73/16,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
IGHG	**Ghaleghazi**	**0.61**	**52**		*e*Pg		**Pg**	**14 48 52.8**	**+0.1**
IGHG					*e*			14 49 13.7	
IDHR	**Dehrash**	**0.82**	**24**		*e*Pg		**Pg**	**14 48 57.1**	**+0.6**
IDHR					*e*			14 48 59.8	
IBDR	**Badra**	**0.84**	**183**		*e*Pg		Pg	14 48 44.0	-13
IBDR					*e*Sg		Sg	14 48 51.0	-17
IBDR					AML		AML	14 49 05.0	
	comp=N,355nm,0.4s								
IBDR					AML		AML	14 49 07.4	
	comp=E,313nm,0.5s								
IVIS	**Veis**	**0.92**	**51**		*e*Pg		**Pg**	**14 48 58.0**	**-0.4**
IVIS					*e*			14 49 23.1	
KCHF	**Cheshme Sefid,**	**0.94**	**70**		*e*Pg		**Pg**	**14 48 59.3**	**+0.5**
KCHF					*e*			14 49 21.9	
KER	**Kermanshah**	**1.05**	**65**		*e*Pg		**Pb**	**14 49 00.4**	**-0.6**
ILIN	**Lien**	**1.26**	**40**		*e*Pg		**Pn**	**14 49 03.8**	**-0.8**
ILIN					*e*			14 49 30.0	
IKOM	**Komasi**	**1.29**	**80**		*e*			14 49 40.0	
IKOM					*e*Pg		**Pn**	**14 49 04.3**	**-0.6**
BHD	**Baghdad**	**1.50**	**243**		*e*Pg		Pn	14 48 55.0	-13
BHD					*e*Sg		Sb	14 49 11.0	-17
BHD					AML		AML	14 49 20.6	
	comp=E,747nm,0.5s								
IBZA	**Bozab**	**1.64**	**71**		*e*Pg		**Pn**	**14 49 10.1**	**+0.2**
IBZA					*e*			14 49 14.2	
IALM	**Almabolaq**	**2.02**	**63**		*e*Pn		**Pn**	**14 49 16.8**	**+1.7**
HSAM	**Samen**	**2.19**	**83**		*e*Pn		**Pn**	**14 49 17.8**	**+0.4**
HSRG	**Sareghieh**	**2.29**	**55**		*e*Pn		**Pn**	**14 49 19.0**	**+0.2**
HSRG					*e*			14 50 04.1	
BMDN	**Meydan**	**2.38**	**96**		*e*Pn		**Pn**	**14 49 20.0**	**0.0**
BMDN					*e*			14 50 10.1	
HAGD	**Aghdareh**	**2.75**	**71**		*e*Pn		**Pn**	**14 49 25.5**	**+0.4**
HAGD					*e*			14 50 19.6	
NSR	**Nassriya**	**2.94**	**177**		*e*Pn		Pn	14 49 15.0	-12
NSR					*e*Sn		Sn	14 49 46.0	-17
QABG	**Abgarm-Qazvin**	**3.44**	**58**		*e*Pn		**Pn**	**14 49 34.2**	**-0.4**
IRAZ	**Razeghan**	**3.56**	**65**		*e*Pn		**Pn**	**14 49 37.3**	**+1.1**
QALM	**Alamut, Qazvin**	**4.55**	**56**		*e*Pn		**Pn**	**14 49 50.3**	**+0.4**

*DNK **29** 14:50:38.4±3.2,80.°58N×2.°06W,h40km±74km,ML2.1*
*BER **29** 14:50:38.1±2.5,80.°53N×2.°28W,h10km,ML1.4, ML2.1(DNK)*
ISC 29 14:50:36.6±1.9,80.°4N±0.°1×2.°94W±0.°07,h10km,n14, σ1§45/19,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
NOR	**Nord**	**2.50**	**307**		*i*P		**Pn**	**14 51 16.0**	**-1.2**
NOR	**Nord**	**2.50**	**307**		*i*P		**Pn**	**14 51 16.0**	**-1.2**
NOR					IAML			14 51 53.5	
	comp=Z,2.1nm,0.3s								
NOR	**Nord**	**2.50**	**307**		*i*P		**Pn**	**14 51 16.0**	**-1.2**
NOR					IAML			14 51 53.5	
	comp=Z,2.1nm,0.3s								
KBS	**Kingsbay**	**3.04**	**111**		*e*P		**Pn**	**14 51 23.7**	**-0.9**
KBS	**Kingsbay**	**3.04**	**111**		*i*P		**Pn**	**14 51 23.7**	**-0.9**
SPA0	**Spitsbergen Ar**	**4.20**	**111**		*e*P		**Pn**	**14 51 40.2**	**-0.3**
DAG	**Danmarks Havn**	**4.75**	**229**		*i*P		**Pn**	**14 51 50.1**	**+2.1**
DAG					*i*S		**Sn**	**14 52 43.1**	**+0.1**
DAG	**Danmarks Havn**	**4.75**	**229**		*e*		**Pn**	**14 51 49.6**	**+1.5**
	baz=45,slow=16								
DAG					*i*P		Pb	14 51 50.1	-10
DAG					IAML			14 52 43.0	
	comp=Z,2.6nm,0.5s								
DAG					*i*S		**Sn**	**14 52 43.1**	**+0.1**
DAG	**Danmarks Havn**	**4.75**	**229**		*e*		**Pn**	**14 51 49.6**	**+1.5**
	baz=45,slow=16								
DAG					*i*P		Pb	14 51 50.1	-10
DAG					IAML			14 52 43.0	
	comp=Z,2.6nm,0.5s								
DAG					*i*S		**Sn**	**14 52 43.1**	**+0.1**
DBG	**Daneborg**	**7.12**	**221**		*i*P		**Pn**	**14 52 22.1**	**+1.6**
DBG					*i*S		**Sn**	**14 53 38.8**	**-2.5**
DBG					IAML			14 53 46.0	
	comp=Z,0.5nm,0.3s								
DBG	**Daneborg**	**7.12**	**221**		*i*P		**Pn**	**14 52 22.1**	**+1.6**
DBG					*i*S		**Sn**	**14 53 38.8**	**-2.5**
DBG					IAML			14 53 46.0	
	comp=Z,0.5nm,0.3s								
SUMG	**Summit**	**11.12**	**245**		*i*P		**Pn**	**14 53 16.1**	**+0.5**
SUMG	**Summit**	**11.12**	**245**		*i*P		**Pn**	**14 53 16.2**	**+0.5**
SUMG	**Summit**	**11.12**	**245**		*i*P		**Pn**	**14 53 16.2**	**+0.5**

IDC 29 15:01:28.1±10.0,49.°23S×127.°39E,h0km,mb3.8/3, mb1 4.1/3,mb1mx3.7/22,mbtmp3.8/3,MS3.3/1,Ms1 3.2/1, ms1mx2.7/13,Error ellipse: s-maj=714.7km s-min=25.0km az=90.0,Western Indian-Antarctic Ridge

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

H01W1	**Cape Leeuwin H**	**17.33**	**321**		T		T	15 23 28.5	
	baz=148,slow=74,SNR=42								
H01W2	**Cape Leeuwin H**	**17.33**	**321**		T		T	15 23 14.1	
	baz=148,slow=74,SNR=85								
H01W3	**Cape Leeuwin H**	**17.35**	**321**		T		T	15 23 29.6	
	baz=148,slow=74,SNR=38								
STKA	**Stephens Creek**	**20.36**	**37**		LR		LR	15 12 07.1	
	comp=Z,80nm,19.8s,baz=208,slow=31								
ASAR	**Alice Springs**	**26.02**	**14**		P		P	15 07 03.0	+0.2
	1.4nm,0.5s,baz=187,slow=9.2,SNR=44								
WRA	**Warramunga Arr**	**29.75**	**13**		P		P	15 07 35.9	-0.2
	0.6nm,0.9s,baz=192,slow=10,SNR=5.2								
VNDA	**Vanda**	**31.28**	**166**		P		P	15 07 49.1	0.0
	1.0nm,0.8s,baz=318,slow=7.8,SNR=9.5								

*IDC **29** 15:12:14.0±1.4,0.°94N×146.°25E,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.6/26,mbtmp3.7/5,ML2.6/1,MS2.9/2, Ms1 2.9/2,ms1mx2.6/23,Error ellipse: s-maj=54.8km s-min=22.2km az=114.0*
*NEIC **29** 15:12:14.7±2.3,1.°0N±0.°1×145.°94E±0.°06,h10km±2km, mb4.2/8,Error ellipse: s-maj=24.0km s-min=9.1km az=5.0*
ISC 29 15:12:15.9±1.1,1.°1N±0.°1×145.°9E±0.°1,h10km,n15, σ2§00/16,mb4.0/8,Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JAY	**Jayapura**	**6.30**	**235**		Pn		**Pn**	**15 13 51.6**	**+2.6**
	0.1nm,0.3s,baz=27,slow=4.5,SNR=4.0								
JAY					Sn		**Sn**	**15 15 00.5**	**-0.6**
	0.5nm,0.3s,baz=183,slow=23,SNR=3.3								
JAY					LR		LR	15 16 08.2	
	comp=Z,45nm,19.0s,baz=78,slow=36								
RABL	**Rabaul**	**8.18**	**130**		Pn		**Pn**	**15 14 15.5**	**+0.8**
MTN	**Manton Dam**	**20.15**	**226**		P		**P**	**15 16 46.8**	**-3.8**
MTN					IAmb		IAmb	15 16 47.0	
	comp=Z,14nm,1.3s								
WB0	**Warramunga Arr**	**23.60**	**208**		P		**P**	**15 17 25.5**	**-1.6**
WB0					IAmb		IAmb	15 17 29.0	
	comp=Z,4.4nm,1.1s								
WR0	**Warramunga Arr**	**23.70**	**207**		P		**P**	**15 17 26.7**	**-1.4**
WR0					IAmb		IAmb	15 17 45.5	
	comp=Z,8.9nm,1.4s								
KNRA	**Kununurra**	**23.75**	**225**		P		**P**	**15 17 27.0**	**-1.6**
KNRA					IAmb		IAmb	15 17 33.6	
	comp=Z,12nm,1.4s								
WB2	**Warramunga Arr**	**23.77**	**208**		P		**P**	**15 17 28.2**	**-0.6**
WB2					IAmb		IAmb	15 17 31.6	
	comp=Z,3.4nm,0.5s								
WRA	**Warramunga Arr**	**23.78**	**208**		P		**P**	**15 17 29.2**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=31,slow=11,SNR=45								
WRA	**Warramunga Arr**	**23.78**	**208**		P		**P**	**15 17 27.4**	**-1.5**
SOEI	**Soe**	**24.08**	**243**		P		**P**	**15 17 29.9**	**-2.0**
ASAR	**Alice Springs**	**27.23**	**205**		P		**P**	**15 18 01.6**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=32,slow=11,SNR=8.4								
ASAR					LR		LR	15 29 00.9	
	comp=Z,53nm,18.2s,baz=312,slow=37								
ASAR	**Alice Springs**	**27.23**	**205**		P		**P**	**15 17 57.8**	**-2.5**
FITZ	**Fitzroy Crossi**	**27.58**	**225**		P		**P**	**15 18 02.0**	**-1.5**
MKAR	**Makanchi Array**	**71.39**	**320**		P		**P**	**15 23 38.2**	**+1.8**
	comp=Z,0.1nm,0.4s,baz=100,slow=8.7,SNR=4.7								
ILAR	**Eielson Array**	**79.46**	**24**		P		**P**	**15 24 20.7**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=253,slow=5.4,SNR=7.8								

*TEH **29** 15:19:55.9,32.°63N×47.°72E,h18km,ML3.3*
*ISN **29** 15:19:56.3±0.8,32.°67N×47.°76E,h14km±5km,ML3.6*
*THR **29** 15:19:57.7±0.3,32.°64N×47.°73E,h18km±5km,ML3.1*
ISC 29 15:19:56.1±1.1,32.°63N±0.°03×47.°69E±0.°03,h16km±11km, n46,σ1§44/51,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
DHL1	**Dehloran**	**0.35**	**278**		*e*Pg		**Pg**	**15 20 03.6**	**+0.3**
SHGR	**Shooshtar-Gavs**	**1.08**	**119**		*e*Pg		**Pg**	**15 20 17.4**	**+0.4**
SHGR					*e*Sg		**Sg**	**15 20 31.5**	**+0.4**
SHGR					IAML			15 20 36.9	
	comp=E,475nm,0.4s								
SHGR	**Shooshtar-Gavs**	**1.08**	**119**		*e*Pg		**Pg**	**15 20 17.4**	**+0.4**
BMDN	**Meydan**	**1.41**	**42**		*e*Pg		**Pb**	**15 20 22.0**	**-0.2**
BMDN					*e*			15 20 53.7	
AHWZ	**Ahwaz**	**1.53**	**148**		*e*Pg		**Pb**	**15 20 23.8**	**-0.3**
IKOM	**Komasi**	**1.54**	**355**		*e*Pg		**Pg**	**15 20 25.6**	**-0.3**
IKOM					*e*			15 20 51.3	
IBDR	**Badra**	**1.55**	**288**		*e*Pg		**Pb**	**15 20 25.0**	**+0.5**
IBDR					*e*Sg		**Sg**	**15 20 47.0**	**+0.8**
IBDR					AML		AML	15 20 52.6	
	comp=N,772nm,0.8s								
IBDR					AML		AML	15 21 08.6	
	comp=E,752nm,0.3s								
KCHF	**Cheshme Sefid,**	**1.73**	**342**		*e*Pg		**Pb**	**15 20 27.7**	**+0.1**
HSAM	**Samen**	**1.75**	**26**		*e*Pg		**Pb**	**15 20 28.0**	**-0.1**
HSAM					*e*			15 21 01.8	
KER	**Kermanshah**	**1.81**	**345**		*e*Pg		**Pg**	**15 20 30.6**	**-0.3**
IBZA	**Bozab**	**1.84**	**4**		*e*Pg		**Pb**	**15 20 29.4**	**-0.1**
IBZA					*e*			15 21 03.4	
IGHG	**Ghaleghazi**	**1.93**	**331**		*e*Pn		**Pb**	**15 20 30.9**	**-0.2**
IGHG					*e*			15 21 07.9	
IVIS	**Veis**	**2.01**	**340**		*e*Pn		**Pb**	**15 20 31.5**	**-0.9**
IVIS					*e*			15 21 06.3	
NSR	**Nassriya**	**2.09**	**220**		*e*Pn		**Pb**	**15 20 33.0**	**-0.6**
NSR					*e*Sn		**Sb**	**15 20 59.0**	**-0.2**
KHMZ	**Khomeyn**	**2.20**	**59**		*e*Pn		**Pb**	**15 20 35.1**	**-0.6**
KHMZ					*e*Sg		**Sg**	**15 21 06.2**	**-0.8**
KHMZ	**Khomeyn**	**2.20**	**59**		*e*Pn		**Pb**	**15 20 35.1**	**-0.6**
IALM	**Almabolaq**	**2.26**	**10**		*e*Pn		**Pb**	**15 20 35.3**	**-1.4**
IDHR	**Dehrash**	**2.33**	**333**		*e*Pn		**Pb**	**15 20 36.1**	**-1.8**
IDHR					*e*			15 21 17.4	
ILIN	**Lien**	**2.36**	**345**		*e*Pn		**Pb**	**15 20 36.9**	**-1.5**
ILIN					*e*			15 21 21.8	
HAGD	**Aghdareh**	**2.50**	**29**		*e*Pn		**Pn**	**15 20 38.0**	**+1.7**
HAGD					*e*			15 21 20.7	
JHBN	**Jahan bin**	**2.55**	**98**		*e*Pn		**Pn**	**15 20 38.1**	**+1.0**
JHBN					*e*			15 21 27.9	
HSRG	**Sareghieh**	**2.65**	**11**		*e*Pn		**Pb**	**15 20 41.4**	**-2.0**
IPIR	**Pirpir**	**2.70**	**88**		*e*Pn		**Pn**	**15 20 40.3**	**+1.1**
IPIR					*e*			15 21 29.1	
ASAO	**Ashtian**	**2.73**	**45**		*e*Pn		**Pb**	**15 20 42.6**	**-2.1**
ASAO	**Ashtian**	**2.73**	**45**		*e*Pn		**Pb**	**15 20 42.6**	**-2.1**
ROKH	**ROKH**	**2.84**	**95**		*e*Pn		**Pn**	**15 20 42.2**	**+1.1**
ROKH					*e*			15 21 28.5	
BHD	**Baghdad**	**2.85**	**284**		*e*Pn		**Pb**	**15 20 44.0**	**-2.6**
BHD					*e*Sn		**Sb**	**15 21 19.0**	**-2.3**
BHD					AML		AML	15 21 41.8	
	comp=E,470nm,0.3s								
IRAZ	**Razeghan**	**3.33**	**33**		*e*Pn		**Pn**	**15 20 50.4**	**+2.6**
IKLH	**Kolahrood**	**3.34**	**77**		*e*Pn		**Pn**	**15 20 49.6**	**+1.6**
QABG	**Abgarm-Qazvin**	**3.45**	**27**		*e*Pn		**Pn**	**15 20 50.7**	**+1.3**
GHVR	**GHOM**	**3.53**	**58**		*e*Pn		**Pn**	**15 20 52.9**	**+2.5**
GHVR	**GHOM**	**3.53**	**58**		*e*Pn		**Pn**	**15 20 52.9**	**+2.5**
IGAR	**Gharneh**	**3.69**	**92**		*e*Pn		**Pn**	**15 20 53.5**	**+0.8**
KLNJ	**Kolanjah**	**3.70**	**115**		*e*Pn		**Pn**	**15 20 53.0**	**+0.1**
KLNJ					*e*			15 22 04.4	
IZEF	**Zefreh**	**3.92**	**85**		*e*Pn		**Pn**	**15 20 57.1**	**+1.2**
IMHD	**Mahdasht**	**3.92**	**38**		*e*Pn		**Pn**	**15 20 57.8**	**+2.0**
QSDN	**Sirdan**	**4.05**	**17**		*e*Pn		**Pn**	**15 21 00.2**	**+2.5**
IRAM	**Ramesheh**	**4.06**	**100**		*e*Pn		**Pn**	**15 20 58.1**	**+0.3**
MAHB	**Mahabad**	**4.43**	**339**		*e*Pn		**Pn**	**15 21 05.2**	**+2.3**
QALM	**Alamut, Qazvin**	**4.51**	**32**		*e*Pn		**Pn**	**15 21 05.0**	**+1.0**
IDMV	**Damavand**	**4.65**	**50**		*e*Pn		**Pn**	**15 21 07.2**	**+1.2**
ANAR	**Anarak**	**5.11**	**82**		*e*Pn		**Pn**	**15 21 13.1**	**+0.9**
ILAS	**Lasjerd**	**5.17**	**56**		*e*Pn		**Pn**	**15 21 13.8**	**+0.8**
IPRN	**Peran**	**5.27**	**46**		*e*Pn		**Pn**	**15 21 16.6**	**+2.3**
IALA	**Alasht**	**5.46**	**50**		*e*Pn		**Pn**	**15 21 18.8**	**+1.7**
IANJ	**Anjilo**	**5.89**	**60**		*e*Pn		**Pn**	**15 21 24.0**	**+1.0**

NNC 29 15:33:51.5±5.3,37.°11N×70.°97E,h0km,mb3.6,mpv3.2, 4C-1D,Error ellipse: s-maj=42.5km s-min=38.9km az=140.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KK31	**Karatay Array**	**6.00**	**357**		⇑P		Pn	15 35 22.0	+0.4
	0.2nm,0.2s,baz=181,slow=13,SNR=17								
KK31					S		Sn	15 36 31.8	+0.8
	1.1nm,0.3s,baz=187,slow=24,SNR=9.6								
AAK	**Ala-Archa**	**6.15**	**25**		⇑P		Pn	15 35 24.3	+0.5
	0.9nm,0.3s								
AAK					⇑S		Sn	15 36 37.7	+2.7
	3.8nm,0.8s								
TKM2	**Tokmak 2**	**6.80**	**30**		⇑P		Pn	15 35 31.9	-0.9
	4.1nm,0.6s								
TKM2					⇓S		Sn	15 36 50.7	-0.4
	1.7nm,0.9s								

*IDC **29** 15:36:15.2±1.0,6.°92N×71.°98W,h0km,mb3.6/3,mb1 3.9/6, mb1mx3.6/38,mbtmp3.9/6,ML3.9/3,MS2.9/2,Ms1 2.9/2, ms1mx2.5/32,Error ellipse: s-maj=28.7km s-min=26.3km az=119.0*
*RSNC **29** 15:36:19.8±1.1,7.°24N×72.°03W,h5km±5km,ML3.5,Mw3.8, Fault plane solution: NP1:φs26.00000°,δ68.00000°, λ49.00000°.*
ISC 29 15:36:17.6±1.5,7.°25N±0.°03×72.°03W±0.°03,h2km±10km, n33,σ1§05/55,mb3.7/3,7C-4D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PAMC	**Pamplona, Colo**	**0.67**	**278**	⇓	*i*Pg		**Pg**	**15 36 30.1**	**-0.4**
PAMC					*i*			15 36 32.2	
	comp=Z,837nm,0.2s								
PAMC					*e*Sg		**Sg**	**15 36 38.4**	**-0.8**
TAMC	**Tame, Arauca**	**0.84**	**164**	⇓	*i*Pg		**Pg**	**15 36 34.5**	**+0.7**
TAMC					*e*Sg		**Sg**	**15 36 45.9**	**+1.1**
TAMC					*i*			15 36 47.6	
	comp=Z,1μm,0.4s								
BARC	**Barichara**	**1.32**	**240**	⇑	*i*P		**Pn**	**15 36 42.3**	**-1.0**
BARC					*e*S		**Sb**	**15 37 01.4**	**+0.7**
BARC					*i*			15 37 05.3	
	comp=Z,1μm,0.3s								
OCAC	**Ocana**	**1.61**	**308**	⇑	*e*P		**Pn**	**15 36 47.1**	**-0.1**
OCAC					*e*S		**Sn**	**15 37 09.3**	**+0.6**
OCAC					*i*			15 37 15.9	
	comp=Z,628nm,0.3s								
BRRC	**Barranca, Sant**	**1.67**	**265**	⇓	*i*P		**Pn**	**15 36 48.9**	**+0.9**
BRRC					*i*			15 36 49.7	
	comp=Z,337nm,0.3s								
BRRC					*e*S		**Sn**	**15 37 10.6**	**+0.5**
RUSC	**La Rusia**	**1.71**	**218**	⇑	*e*P		**Pn**	**15 36 49.5**	**+0.5**
RUSC					*e*S		**Sn**	**15 37 11.8**	**+0.2**
RUSC					*i*			15 37 16.1	
	comp=Z,397nm,0.3s								
SDV	**Santo Domingo**	**2.13**	**40**		Pn		**Pn**	**15 36 54.4**	**-0.1**
	comp=Z,123nm,0.3s,baz=190,slow=6.6,SNR=49								
SDV					Sn		**Sn**	**15 37 23.0**	**+1.2**
	comp=Z,107nm,0.3s,baz=248,slow=22,SNR=19								
SDV	**Santo Domingo**	**2.13**	**40**		*e*P		**Pn**	**15 36 54.7**	**+0.1**
SDV					*e*S		**Sn**	**15 37 22.3**	**+0.5**
SDV					*i*			15 37 25.9	
	comp=Z,284nm,0.3s								
PTBC	**PUERTO BERRIO,**	**2.51**	**254**	⇑	*i*P		**Pn**	**15 36 59.2**	**-0.3**
PTBC					*e*S		**Sn**	**15 37 30.4**	**-0.4**
PTBC					*i*			15 37 37.8	
	comp=Z,266nm,0.4s								
SMLC	**San Martn de**	**2.54**	**307**		*e*P		**Pn**	**15 36 59.5**	**-0.5**
SMLC					*e*S		**Sn**	**15 37 33.2**	**+1.7**
SMLC					*i*			15 37 37.6	
	comp=Z,242nm,0.4s								
SPBC	**San Pablo de B**	**2.58**	**232**		*e*P		**Pn**	**15 37 01.6**	**+1.1**
SPBC					*e*S		**Sn**	**15 37 33.0**	**+0.4**
SPBC					*i*			15 37 41.0	
	comp=Z,215nm,0.4s								
ZARC	**Zaragoza, Cauc**	**2.81**	**275**	⇑	*i*P		**Pn**	**15 37 04.1**	**+0.4**
ZARC					*i*			15 37 05.0	
	comp=Z,187nm,0.2s								
ZARC					*e*S		**Sn**	**15 37 38.6**	**+0.3**
CHIC	**Chingaza**	**3.11**	**213**		*e*P		**Pn**	**15 37 08.5**	**+0.4**
CHIC					*e*S		**Sn**	**15 37 46.7**	**+0.7**
CHIC					*i*			15 38 06.7	
	comp=Z,101nm,0.5s								
ARGC	**Ariguani, Magd**	**3.39**	**320**	⇓	*e*P		**Pn**	**15 37 11.7**	**0.0**
ARGC					*e*S		**Sn**	**15 37 53.3**	**+0.7**
ARGC					*i*			15 38 25.4	
	comp=Z,35nm,0.6s								
UREC	**San Jos de Ur**	**3.51**	**278**		*e*P		**Pn**	**15 37 14.0**	**+0.7**
UREC					*e*S		**Sn**	**15 37 56.4**	**+1.0**
UREC					*i*			15 38 10.7	
	comp=Z,62nm,0.5s								
VILC	**Villavicencio,**	**3.53**	**208**		*e*P		**Pn**	**15 37 14.3**	**+0.7**
VILC					*e*S		**Sn**	**15 37 56.3**	**+0.1**
VILC					*i*			15 38 23.7	
	comp=Z,204nm,0.4s								
HELC	**Santa Helena**	**3.63**	**253**		*e*P		**Pn**	**15 37 15.7**	**+0.5

BTMN			*i* S	**Sn**	15 58 33.4	+0.7
BTMN			IAML		15 58 37.0	
	comp=E,210nm,0.7s					
BTMN			IAML		15 58 38.0	
	comp=N,133nm,0.4s					
GURO	**Guroymak-BITLI**	**1.28 340**	PN	**Pn**	15 58 17.5	-0.2
GURO			SN	**Sn**	15 58 35.5	+0.2
SVAN	**Silvan-Diyarba**	**1.36 307**	PN	**Pg**	15 58 18.9	-0.3
SVAN	**Silvan-Diyarba**	**1.36 307**	*i* P	**Pg**	15 58 19.0	-0.2
SVAN			*i* S	**Sn**	15 58 37.3	+0.1
ADCV	**BITLIS_Adilcev**	**1.47 4**	*i* P	**Pg**	15 58 21.8	+0.6
ADCV			*i* S	**Sg**	15 58 41.6	+1.4
MUSM	**Mu-Merkez**	**1.62 329**	*i* P	**Pb**	15 58 23.1	-0.4
MUSM			*i* S	**Sg**	15 58 45.1	0.0
MAZI	**Mazidag**	**1.71 274**	PN	**Pn**	15 58 23.9	+0.4
HANI	**Diyarbakir_Han**	**2.03 302**	*i* P	**Pb**	15 58 30.5	-0.1
HANI			*i* S	**Sg**	15 58 57.8	-0.6
DIYA	**Diyarbakir**	**2.04 287**	*i* P	**Pg**	15 58 31.8	-0.4
DIYA			*i* S	**Sn**	15 58 54.2	+0.3
DIYA			IAML		15 59 04.0	
	comp=N,39nm,0.3s					
DIYA			IAML		15 59 12.0	
	comp=E,44nm,0.8s					
AGRB	**Hanur-Agry**	**2.25 8**	PN	**Pn**	15 58 32.1	+1.0
SVRC	**Sivrice-ELAZID**	**2.79 293**	PN	**Pn**	15 58 38.9	+0.4

PRU ***29*** *16:22:07.8±0.0,51°.49N×16°.09E,h0km*
VIE ***29*** *16:22:08.9±1.2,51°.39N×16°.03E,h0km,mb2.1/5,ml2.5/5, Error ellipse: s-maj=7.6km s-min=5.8km az=30.0 75 km WNW of Wroclaw Suspected Mining induced.*

ISC 29 16:22:07.5±1.3,51°.47N±0'.06×16.13E±0'.03,h0km,n22, σ0ˢ58/43, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.63**	**171**	*e*Pg		**Pg**	**16 22 20.4**	**+0.8**
KSP				*e*Sg		**Sb**	**16 22 29.6**	**-1.1**
CHVC	**Chvalec**	**0.88**	**183**	*e*PG		**Pb**	**16 22 25.2**	**-0.4**
CHVC				*e*SG		**Sb**	**16 22 37.2**	**-0.8**
	comp=Z,25nm,0.7s							
OSTC	**Ostas**	**0.91**	**177**	*e*PG		**Pb**	**16 22 25.8**	**-0.4**
OSTC				*e*SG		**Sb**	**16 22 38.0**	**-0.9**
	comp=Z,32nm,0.7s							
UPC	**Upice**	**0.96**	**185**	*e*PG		**Pg**	**16 22 26.3**	**+0.4**
UPC				*e*SG		**Sb**	**16 22 40.1**	**-0.2**
	comp=Z,47nm,0.4s							
DPC	**Dobruska-Polom**	**1.12**	**174**	*e*PG		**Pg**	**16 22 29.2**	**+0.2**
DPC				*e*SG		**Sb**	**16 22 44.3**	**-0.7**
	comp=Z,20nm,0.5s							
PVCC	**Panska Ves**	**1.36**	**227**	*e*PG		**Pg**	**16 22 33.6**	**0.0**
PVCC				*e*SG		**Sn**	**16 22 52.5**	**0.0**
	comp=Z,95nm,0.4s							
KRLC	**Kraliky**	**1.45**	**163**	*e*PG		**Pn**	**16 22 35.0**	**0.0**
KRLC				*e*SG		**Sn**	**16 22 54.7**	**-0.1**
	comp=Z,16nm,0.4s							
BRG	**Berggiesshubel**	**1.50**	**248**	PG		**Pn**	**16 22 35.7**	**+0.1**
BRG				SG		**Sn**	**16 22 56.0**	**+0.1**
	57nm,0.3s							
PRU	**Pruhonice**	**1.79**	**215**	*e*PG		**Pn**	**16 22 40.1**	**+0.5**
PRU				*e*SG		**Sg**	**16 23 04.9**	**-0.1**
	comp=Z,24nm,0.3s							
MORC	**Moravsky Berou**	**1.92**	**151**	*e*PN		**Pn**	**16 22 40.9**	**-0.5**
MORC				*e*SG		**Sg**	**16 23 09.9**	**+0.9**
CLL	**Collm**	**1.97**	**267**	*e*Pg		**Pb**	**16 22 44.0**	**-0.1**
CLL				*e*			16 22 47.0	
CLL				*e*Sg		**Sb**	**16 23 09.0**	**-0.2**
	comp=Z,18nm,0.7s							
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*PG		**Pb**	**16 22 46.0**	**0.0**
OKC				*e*SG		**Sg**	**16 23 14.5**	**+0.4**
	comp=Z,222nm,0.4s							
VRAC	**Vranov**	**2.18**	**172**	*e*PN		**Pn**	**16 22 45.6**	**+0.6**
VRAC				*e*SG		**Sg**	**16 23 17.6**	**+0.1**
PBCC	**Pribram**	**2.24**	**218**	*e*PG		**Pb**	**16 22 49.4**	**+0.5**
PBCC				*e*SG		**Sg**	**16 23 18.9**	**-0.6**
KRUC	**Moravsky**	**2.41**	**176**	*e*PN		**Pn**	**16 22 48.6**	**+0.4**
KRUC				*e*SG		**Sg**	**16 23 25.0**	**0.0**
OJC	**Ojcow**	**2.64**	**117**	*e*Pg		**Pg**	**16 22 58.0**	**-0.1**
OJC				*e*Sg		**Sg**	**16 23 32.8**	**+0.6**
NKC	**Novy Kostel**	**2.64**	**244**	*e*PN		**Pn**	**16 22 51.7**	**+0.4**
NKC				*e*SG		**Sg**	**16 23 31.8**	**-0.5**
	comp=Z,36nm,0.7s							
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PN		**Pn**	**16 22 54.5**	**+0.2**
KHC				*e*PG		**Pb**	**16 23 00.1**	**+0.8**
KHC				*e*SG		**Sg**	**16 23 38.0**	**-1.1**
	comp=Z,8.3nm,0.6s							
VYHS	**Vyhne**	**3.45**	**149**	*e*PG		**Pg**	**16 23 12.7**	**-0.9**
CONA	**Conrad Observa**	**3.55**	**183**	*i* Pn		**Pn**	**16 23 04.5**	**+0.6**
	comp=Z,0.5nm,0.2s							
CONA				Sg		**Sg**	**16 24 02.3**	**+1.0**
	comp=Z,6.7nm,0.4s							
MOA	**Molln**	**3.82**	**199**	*i* Pn		**Pn**	**16 23 07.8**	**+0.3**
	comp=Z,1.0nm,0.2s							
MOA				Sg		**Sg**	**16 24 11.1**	**+1.1**
	comp=Z,4.3nm,0.3s							
ARSA	**Arzberg**	**4.24**	**186**	*e*Sg		**Sg**	**16 24 23.1**	**-0.5**
	comp=Z,1.6nm,0.3s							

IDC 29 16:30:03.4±1.1,7°.22S×128°.17E,h0km,mb4.0/3, mb1 4.1/8,mb1mx3.8/31,mbtmp4.0/8,ML4.1/5,Error ellipse: s-maj=38.1km s-min=20.0km az=81.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BATI	**Baumata**	**5.35**	**236**	Pn		Pn	16 31 25.5	+0.8
	9.1nm,0.3s,baz=109,slow=5.3,SNR=5.0							
BATI				Sn		Sn	16 32 25.0	-2.0
	3.5nm,0.3s,baz=129,slow=22,SNR=2.0							
SIJI	**Sorong**	**7.03**	**26**	Pn		Pn	16 31 46.5	-1.2
	1.5nm,0.3s,baz=246,slow=23,SNR=4.3							
FITZ	**Fitzroy Crossi**	**11.09**	**193**	Pn		Pn	16 32 42.5	-0.9
	0.9nm,0.3s,baz=19,slow=12,SNR=23							
FITZ				Sn		Sn	16 34 42.4	-5.8
	0.8nm,0.3s,baz=43,slow=10.0,SNR=3.6							
WRA	**Warramunga Arr**	**13.99**	**155**	Pn		Pn	16 33 21.9	-1.1
	1.2nm,0.3s,baz=323,slow=13,SNR=40							
WRA				Sn		Sn	16 35 51.3	-7.9
	0.8nm,0.3s,baz=328,slow=22,SNR=7.3							
ASAR	**Alice Springs**	**17.25**	**162**	P		Pn	16 34 05.2	-0.8
	0.4nm,0.3s,baz=329,slow=10,SNR=43							
ASAR				S		Sn	16 37 10.6	-8.1
	0.2nm,0.3s,baz=322,slow=21,SNR=3.0							
STKA	**Stephens Creek**	**27.54**	**155**	P		P	16 35 52.8	+0.8
	0.9nm,0.4s,baz=329,slow=12,SNR=1.3							
MKAR	**Makanchi Array**	**67.43**	**328**	P		P	16 41 00.8	-0.1
	1.0nm,0.7s,baz=130,slow=7.2,SNR=11							
ZALV	**Zalesovo Beam**	**70.99**	**335**	P		P	16 41 23.1	+0.3
	1.3nm,0.7s,baz=134,slow=4.9,SNR=5.8							

ATH ***29*** *16:34:19.3,35°.01N×27°.46E,h8km±3km,ML2.9/4,Error ellipse: s-maj=4.9km s-min=1.6km az=314.0*
ISK ***29*** *16:34:19.3,35°.00N×26°.97E,h7km,ML3.1/11*
DDA ***29*** *16:34:23.7,35°.16N×27°.55E,h10km,ML2.6*
THE ***29*** *16:34:24.1,35°.23N×27°.16E,h0km±1km,ML2.7/3,Error ellipse: s-maj=3.4km s-min=0.9km az=144.0*

ISC 29 16:34:22.4±1.4,35°.13N±0'.05×27°.32E±0'.04,h11km±9km, n34,σ1ˢ73/56,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KARP	**Karpathos**	**0.44**	**343**	P		**Pg**	**16 34 30.7**	**-0.3**
KARP				S		**Sg**	**16 34 36.6**	**-0.2**
	2μm,0.2s							
KARP	**Karpathos**	**0.44**	**343**	P		**Pg**	**16 34 30.6**	**-0.4**
KARP				S		**Sg**	**16 34 38.8**	**+2.0**
KARP				AML	AML		16 34 42.1	
	comp=E,3075μm,0.2s							
KARP				AML	AML		16 34 43.8	
	comp=N,3368μm,0.2s							
KARP	**Karpathos**	**0.44**	**343**	PG		**Pg**	**16 34 30.8**	**-0.3**
KARP				SG		**Sg**	**16 34 39.1**	**+2.3**
ZKR	**Zakros**	**0.91**	**269**	P		**Pg**	**16 34 39.1**	**-0.7**
ZKR				S		**Sg**	**16 34 52.5**	**+0.8**
	comp=N,790nm,0.6s							
ZKR	**Zakros**	**0.91**	**269**	P		Pg	16 34 38.1	-1.7
ZKR				S		**Sg**	**16 34 52.8**	**+1.1**
ZKR				AML	AML		16 34 58.5	
	comp=E,2030μm,0.7s							
ZKR				AML	AML		16 34 59.8	
	comp=N,1115μm,0.6s							
STIA	**Sitia Lasithi**	**1.01**	**274**	P		**Pg**	**16 34 40.8**	**-1.0**
ARG	**Arkhangelos**	**1.27**	**31**	P		**Pn**	**16 34 47.5**	**+1.5**
ARG				S		**Sn**	**16 35 05.6**	**+2.5**
	comp=N,350nm,0.6s							
ARG	**Arkhangelos**	**1.27**	**31**	PN		**Pn**	**16 34 47.8**	**+1.8**
ARG				SN		**Sn**	**16 35 08.6**	**+5.5**
NPS	**Neapolis**	**1.41**	**276**	P		**Pn**	**16 34 48.2**	**+0.2**
NPS	**Neapolis**	**1.41**	**276**	P		**Pn**	**16 34 48.2**	**+0.2**
NPS				AML	AML		16 35 13.1	
	comp=N,572μm,0.7s							
NPS				AML	AML		16 35 13.6	
	comp=E,738μm,0.4s							
LAST	**Lasithi**	**1.51**	**272**	P		**Pn**	**16 34 49.8**	**+0.3**
LAST	**Lasithi**	**1.51**	**272**	P		**Pn**	**16 34 49.8**	**+0.3**
LAST				S		**Sn**	**16 35 12.0**	**+2.8**
LAST				AML	AML		16 35 19.2	
	comp=E,450μm,0.9s							
LAST				AML	AML		16 35 21.4	
	comp=N,562μm,0.7s							
DAT	**Datca**	**1.61**	**7**	P		**Pn**	**16 34 51.4**	**+0.6**
DAT				S		**Sb**	**16 35 13.0**	**+0.4**
DAT	**Datca**	**1.61**	**7**	PN		**Pn**	**16 34 51.4**	**+0.6**
DAT				SN		**Sg**	**16 35 14.9**	**+0.7**
DAT	**Datca**	**1.61**	**7**	*i* P		**Pn**	**16 34 51.5**	**+0.6**
DAT				*i* S		**Sn**	**16 35 10.5**	**-1.2**
TURN	**Turunc**	**1.80**	**24**	PN		**Pn**	**16 34 55.1**	**-1.4**
TURN				SN		**Sn**	**16 35 21.3**	**-0.5**
TURN	**Turunc**	**1.80**	**24**	*i* P		**Pn**	**16 34 55.7**	**-0.7**
TURN				*i* S		**Sn**	**16 35 19.5**	**-2.3**
TURN				IAML			16 35 25.0	
	comp=N,68nm,0.5s							
BODT	**Bodrum**	**1.93**	**360**	PN		**Pn**	**16 34 55.5**	**+0.3**
BODT				SN		**Sb**	**16 35 21.9**	**+0.2**
IDI	**Anoyia**	**2.00**	**275**	P		**Pn**	**16 34 57.4**	**+1.2**
DALY	**Dalyan (Mula)**	**2.00**	**32**	PN		**Pb**	**16 34 58.3**	**-0.5**
DALY				SN		**Sg**	**16 35 26.8**	**+0.1**
DALY	**Dalyan (Mula)**	**2.00**	**32**	*i* P		**Pb**	**16 34 58.3**	**-0.5**
DALY				*i* S		**Sg**	**16 35 29.2**	**+2.5**
DALY				IAML			16 35 32.0	
	comp=N,58nm,0.6s							
FETY	**Fethiye**	**2.07**	**43**	PN		**Pb**	**16 34 59.6**	**-0.5**
FETY				SN		**Sg**	**16 35 29.2**	**+0.1**
FETY	**Fethiye**	**2.07**	**43**	*i* P		**Pb**	**16 34 59.1**	**-0.9**
FETY				*i* S		**Sg**	**16 35 30.5**	**+1.4**
YER	**Yerkesik**	**2.15**	**21**	PN		**Pn**	**16 34 59.9**	**+1.7**
YER				SN		**Sg**	**16 35 29.4**	**-2.0**
AKAS	**Kas**	**2.16**	**59**	PN		**Pb**	**16 35 00.2**	**-1.4**
AKAS	**Kas**	**2.16**	**59**	*i* P		**Pb**	**16 35 00.0**	**-1.6**
AKAS				*i* S		**Sb**	**16 35 27.5**	**-1.0**
IOSP	**Ios island**	**2.29**	**315**	P		**Pn**	**16 35 01.5**	**+1.4**
APE	**Apeiranthos**	**2.42**	**324**	P		**Pn**	**16 35 03.3**	**+1.4**
APE	**Apeiranthos**	**2.42**	**324**	PN		**Pn**	**16 34 59.7**	**-2.2**
APE				SN		**Sn**	**16 35 29.2**	**-2.4**
ELL	**Elmali**	**2.65**	**52**	PN		**Pb**	**16 35 07.7**	**-2.2**
TAVA	**DENIZLI_Tavas**	**2.66**	**28**	*i* P		**Pb**	**16 35 08.8**	**-1.3**
TAVA				*i* S		**Sb**	**16 35 40.7**	**-2.2**
TAVA				IAML			16 35 50.0	
	comp=N,33nm,0.9s							
TAVA				IAML			16 35 52.0	
	comp=E,38nm,0.7s							
IMMV	**Iera Moni Meta**	**2.75**	**278**	P		**Pn**	**16 35 08.5**	**+2.0**
GOLH	**Golhisar**	**2.77**	**40**	*i* P		**Pn**	**16 35 09.3**	**+2.5**
GOLH				*i* S		**Sg**	**16 35 55.2**	**+3.6**
GOLH				IAML			16 36 07.0	
	comp=N,47nm,1.3s							
KORT	**Korkueli**	**3.08**	**52**	PN		**Pb**	**16 35 14.3**	**-3.0**

IDC ***29*** *16:34:23.3±1.2,17°.71N×61°.52W,h0km,mb3.6/7, mb1 3.9/8,mb1mx3.7/34,mbtmp3.6/8,ML3.6/1,MS3.1/5, Ms1 3.1/5,ms1mx2.8/28,Error ellipse: s-maj=36.8km s-min=25.8km az=22.0*
TRN ***29*** *16:34:26.7,17°.75N×61°.57W,h30km,MD4.1*

ISC 29 16:34:27.8±1.4,17°.77N±0'.06×61°.54W±0'.06,h28km±10km, n27,σ0ˢ94/33,mb3.7/7,MS3.1/3,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ANWB	**Willy Bob**	**0.25**	**248**	*e*P		**Pb**	**16 34 34.8**	**+0.4**
ANWB				*e*S		**Sn**	**16 34 39.8**	**-0.9**
MLYT	**Lee's Yard**	**1.21**	**211**	*e*P		**Pn**	**16 34 48.4**	**-0.5**
MLYT				*e*S		**Sn**	**16 35 04.1**	**-0.4**
SKI	**Saint Kitts**	**1.22**	**250**	*e*P		**Pn**	**16 34 49.2**	**+0.1**
SKI				*e*S		**Sn**	**16 35 05.1**	**+0.4**
SKOC	**St. Kitts, UWI**	**1.23**	**248**	*e*P		**Pn**	**16 34 49.6**	**+0.5**
SKOC				*e*S		**Sn**	**16 35 05.3**	**+0.4**
ABD	**La Joyeuse, An**	**1.28**	**178**	*e*P		**Pn**	**16 34 49.0**	**-0.9**
ABD				*e*S		**Sn**	**16 35 05.9**	**-0.3**
H05N1	**Guadeloupe/Mar**	**1.51**	**162**	Pn		**Pn**	**16 34 51.5**	**-1.5**
H05N1				Sn		**Sn**	**16 35 12.1**	**+0.2**
	SNR=1634							
CBE	**Ff, Capester**	**1.69**	**182**	*e*P		**Pn**	**16 34 55.6**	**+0.1**
CBE				*e*S		**Sb**	**16 35 18.2**	**-0.9**
MAGL	**Barre de l'ile**	**1.82**	**172**	*e*P		**Pn**	**16 34 57.4**	**0.0**
MAGL				*e*S		**Sn**	**16 35 20.8**	**+1.3**
TBG	**Guadaloupe-3**	**1.91**	**183**	*e*P		**Pn**	**16 34 59.1**	**+0.6**
TBG				*e*S		**Sn**	**16 35 22.2**	**+0.7**
TDBA	**Terre de Bas,**	**1.91**	**183**	*e*P		**Pn**	**16 34 59.1**	**+0.6**
TDBA				*e*S		**Sn**	**16 35 22.3**	**+0.7**
DSLB	**Salisbury**	**2.32**	**177**	*e*P		**Pn**	**16 35 04.4**	**+0.3**
DSLB				*e*S		**Sn**	**16 35 34.5**	**+2.8**
DLPL	**La Plaine**	**2.44**	**173**	*e*P		**Pn**	**16 35 06.0**	**+0.2**
DLPL				*e*S		**Sn**	**16 35 35.6**	**+1.0**
MDP	**Montagnes des**	**15.30**	**144**	LR		LR	16 43 42.9	
	comp=Z,48nm,20.5s,baz=45,slow=37							
PTGA	**Pitinga**	**18.45**	**175**	P		**P**	**16 38 40.4**	**-0.9**
	0.2nm,0.3s,baz=4.6,slow=13,SNR=5.0							
PTGA				LR		LR	16 46 29.8	
	comp=Z,44nm,19.6s,baz=47,slow=40							
TKL	**Tuckaleechee C**	**26.58**	**316**	LR		LR	16 51 44.2	
	comp=Z,47nm,18.9s,baz=44,slow=39							
BDFB	**Brasilia**	**35.77**	**157**	LR		LR	16 57 16.3	
	comp=Z,28nm,18.5s,baz=325,slow=38							
TXAR	**Lajitas Array**	**40.10**	**295**	P		**P**	**16 42 00.7**	**-0.7**
	0.1nm,0.4s,baz=91,slow=8.1,SNR=2.3							
PDAR	**Pinedale Array**	**47.58**	**312**	P		**P**	**16 43 01.6**	**+0.2**
	0.4nm,0.5s,baz=110,slow=7.6,SNR=6.2							
H10N3	**ASCENSION HYDR**	**52.96**	**115**	T		T	17 40 49.2	
	baz=299,slow=75,SNR=66							
H10N2	**ASCENSION HYDR**	**52.97**	**115**	T		T	17 40 51.5	
	baz=299,slow=75,SNR=46							
H10N1	**ASCENSION HYDR**	**52.98**	**115**	T		T	17 40 50.1	
	baz=299,slow=75,SNR=47							
NVAR	**Mina Array Bea**	**53.28**	**305**	P		**P**	**16 43 45.7**	**+1.1**
	0.3nm,0.7s,baz=80,slow=5.6,SNR=1.9							
TORD	**Torodi Ar. Bea**	**60.88**	**85**	P		**P**	**16 44 37.4**	**-1.1**
	0.5nm,0.5s,baz=292,slow=6.9,SNR=4.2							
NB2	**NORSAR Subarra**	**66.27**	**31**	P		**P**	**16 45 14.3**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=275,slow=5.1							
NOA	**NORSAR Array B**	**66.27**	**31**	P		**P**	**16 45 14.7**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=264,slow=6.6,SNR=4.2							
ILAR	**Eielson Array**	**72.11**	**333**	P		**P**	**16 45 48.6**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=102,slow=4.6,SNR=6.8							
ARCES	**ARCESS Array B**	**72.47**	**22**	P		**P**	**16 45 51.9**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=284,slow=5.9,SNR=3.8							
ARCES				LR		LR	17 12 39.8	
	comp=Z,26nm,22.0s,baz=349,slow=32							

IDC ***29*** *16:39:27.8±1.6,6°.63S×129°.93E,h137km±18km,mb3.7/2, mb1 3.6/7,mb1mx3.3/34,mbtmp4.1/7,Error ellipse: s-maj=24.1km s-min=12.7km az=105.0*

ISC 29 16:39:27.7±0.9,6°.77S±0'.06×130°.0E±0'.1,h150km,n7, σ3ˢ17/12,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIJI	**Sorong**	**5.99**	**12**	P		**Pn**	**16 40 54.4**	**+0.1**
	3.7nm,0.3s,baz=40,slow=20,SNR=39							
SIJI				S		**Sn**	**16 41 58.1**	**-3.9**
	5.7nm,0.3s,baz=242,slow=23,SNR=17							
BATI	**Baumata**	**7.16**	**241**	P		**Pn**	**16 41 11.8**	**+1.7**
	8.3nm,0.3s,baz=76,slow=3.3,SNR=8.8							
BATI				S		**Sn**	**16 42 29.1**	**-1.2**
	4.2nm,0.3s,baz=300,slow=14,SNR=1.8							
FITZ	**Fitzroy Crossi**	**12.05**	**200**	P		**Pn**	**16 42 14.9**	**+0.2**
	0.5nm,0.3s,baz=18,slow=11,SNR=35							
FITZ				S		**Sn**	**16 44 21.4**	**-6.6**
	0.5nm,0.3s,baz=187,slow=19,SNR=6.7							
WRA	**Warramunga Arr**	**13.75**	**163**	P		**Pn**	**16 42 37.7**	**+1.1**
	0.4nm,0.3s,baz=335,slow=12,SNR=25							
WRA				S		**Sn**	**16 45 05.9**	**-3.0**
	0.6nm,0.3s,baz=333,slow=24,SNR=7.7							
ASAR	**Alice Springs**	**17.21**	**168**	P		**Pn**	**16 43 22.6**	**+3.3**
	0.6nm,0.3s,baz=347,slow=11,SNR=51							
ASAR				S		**S**	**16 46 30.3**	**0.0**
	0.2nm,0.3s,baz=350,slow=26,SNR=1.9							
STKA	**Stephens Creek**	**27.22**	**158**	P		**P**	**16 45 00.1**	**+2.5**
	0.6nm,0.4s,baz=332,slow=11,SNR=2.8							
MKAR	**Makanchi Array**	**68.05**	**327**	P		**P**	**16 50 11.4**	**+0.4**
	1.2nm,0.4s,baz=118,slow=7.8,SNR=21							

IDC ***29*** *17:13:26.7±0.6,47°.47N×156°.03E,h0km,mb4.2/21, mb1 4.3/28,mb1mx4.1/48,mbtmp4.2/28,ML3.5/6,MS3.2/13, Ms1 3.3/13,ms1mx3.0/45,Error ellipse: s-maj=15.3km s-min=12.1km az=138.0*
MOS ***29*** *17:13:28.6±1.1,47°.41N×156°.05E,h26km,mb4.8/15,Error ellipse: s-maj=7.1km s-min=5.5km az=94.1*
BJI ***29*** *17:13:28.1±0.0,47°.67N×155°.96E,h13km,mB4.7/26, mb4.5/34,Ms4.0/9,Ms7 3.7/8*
SKHL ***29*** *17:13:30.2±0.8,47°.46N×156°.05E,h39km±4km,mb4.8/2*
NEIC ***29*** *17:13:30.4±1.7,47°.41N±0'.08×156°.1E±0'.1,h24km±5km, mb4.7/58,Error ellipse: s-maj=13.6km s-min=9.0km az=139.0*
NIED ***29*** *17:13:31.6,47°.96N×155°.47E,h30km,MW4.4,Moment Tensor Solution. s1 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.45; $M_{\theta\theta}$2.63; $M_{\phi\phi}$-0.18; $M_{r\theta}$-2.92; $M_{\theta\phi}$0.91; $M_{\phi r}$-2.60; Fault plane solution: $M_0$4.75000×10^{15} NP1:ϕ_s53.00000°, δ74.00000°,λ-104.00000°. NP2:ϕ_s275.00000°, δ21.00000°,λ-50.00000°.*

ISC 29 17:13:29.6±0.5,47°.43N±0'.05×156°.03E±0'.05,h18km,n254, σ1ˢ39/263,mb4.6/68,MS3.7/11,22C-8D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**3.25**	**1**	*e*P		**Pn**	**17 14 19.0**	**-0.7**
SKR				AMB		AMB	17 14 19.6	
	100nm,2.0s							
SKR				AMB		AMB	17 14 19.8	
	70nm,0.3s							
SKR				*e*S		**Sn**	**17 14 56.2**	**-1.7**
SKR				A		A	17 14 58.4	
	520nm,0.3s							
SKR				A		A	17 14 58.4	
	400nm,0.3s							
SKR	**Severo-Kuril's**	**3.25**	**1**	*e*PN		**Pn**	**17 14 19.0**	**-0.7**
SKR				*e*S		**Sn**	**17 14 56.2**	**-1.7**
SKR				pmax		pmax		
	comp=Z,100nm,0.2s							
SKR				pmax		pmax		
	comp=Z,68nm,0.3s							
SKR				smax		smax		
	comp=N,521nm,0.5s							
SKR				smax		smax		
	comp=E,398nm,0.2s							
SKR				MLR		MLR		
	comp=Z,200nm,19.0s							
PAU	**Pauzhetka**	**4.07**	**7**	*e*P		**Pn**	**17 14 30.7**	**-0.2**
PAU				AMB		AMB	17 14 33.1	
	comp=Z,270nm,0.5s							
PAU				*e*S		**Sn**	**17 15 15.5**	**-2.6**
PAU				A		A	17 15 18.2	
	comp=Z,240nm,0.3s							
PAU				A		A	17 15 18.2	
	comp=Z,190nm,0.3s							
PEA0B	**Petropavlovsk-**	**5.78**	**10**	PN		**Pn**	**17 14 54.6**	**+0.2**
PEA0B	**Petropavlovsk-**	**5.78**	**10**	Pn		**Pn**	**17 14 54.6**	**+0.2**
PETK	**Petropavlovsk-**	**5.78**	**10**	Pn		**Pn**	**17 14 54.5**	**0.0**
	comp=Z,1.6nm,0.3s,baz=286,slow=8.8,SNR=3.6							
PETK				Sn		**Sn**	**17 16 02.0**	**+1.7**
	comp=Z,2.2nm,0.3s,baz=100,slow=41,SNR=1.0							
PETK				LR		LR	17 17 19.1	
	comp=Z,233nm,21.4s,baz=204,slow=40							
PET	**Petropavlovsk**	**5.85**	**16**	*e*P		**Pn**	**17 14 55.2**	**-0.1**
PET				AMB		AMB	17 14 56.5	
	comp=Z,250nm,0.8s							
PET				*e*S		**Sn**	**17 15 59.0**	**-2.8**
PET	**Petropavlovsk**	**5.85**	**16**	*e*PN		**Pn**	**17 14 55.2**	**-0.1**
PET				pmax		pmax		
	comp=Z,253nm,0.8s							
PET				MLR		MLR		
	comp=Z,100nm,19.0s							
PET	**Petropavlovsk**	**5.85**	**16**			**Pn**	**17 14 54.4**	**-0.9**
KUR	**Kuril'sk**	**6.06**	**252**	*i* P		**Pn**	**17 14 59.9**	**+1.6**
KUR				AMB		AMB	17 15 01.0	
	comp=Z,130nm,0.4s							
KUR				*i* S		**Sn**	**17 16 05.8**	**-1.3**
KUR				A		A	17 16 09.0	
	comp=Z,270nm,0.3s							
KUR				A		A	17 16 09.0	
	comp=Z,60nm,0.3s							
KUR	**Kuril'sk**	**6.06**	**252**	*c i*PN		**Pn**	**17 14 59.7**	**+1.4**
KUR				pmax		pmax		
	comp=Z,114nm,0.4s		

ASAJ LR LR 17 19 26.1
comp=Z,38nm,20.4s,baz=58,slow=36
ASAJ Asahikawa 9.95 255 P **Pn** **17 15 54.4 +2.8**
JKK2 Kamakawa 2 9.96 254 P **Pn** **17 15 52.7 +1.0**
JCH Churui 10.18 246 P **Pn** **17 15 52.8 -1.9**
OKH Okha 10.34 311 *eP* **Pn** **17 15 57.9 +1.0**
OKH AMB AMB 17 15 59.0
comp=Z,30nm,1.0s
JFR Furan 10.38 251 P **Pn** **17 15 58.8 +1.3**
ERM Erimo 10.63 244 *i* PN **Pn** **17 16 00.1 -0.8**
ERM Erimo 10.63 244 **Pn** **17 16 00.1 -0.8**
JBT2 Biratori 2 10.72 249 P **Pn** **17 16 01.3 -0.8**
JBT2 *e*S Sn 17 17 53.3 -8.2
JNBK Urakawa-nobuka 10.73 246 P **Pn** **17 16 00.4 -1.9**
JNBK *e*S Sn 17 17 50.9 -11
JNB Noboribetsu 11.72 250 P **Pn** **17 16 14.7 -1.1**
JNB *e*S Sn 17 18 16.4 -10
JYM2 Yakumo 2 12.32 250 P **Pn** **17 16 21.9 -2.1**
MA2 Magadan 12.56 348 Pn **Pn** **17 16 27.9 +0.8**
comp=Z,0.7nm,0.3s,baz=114,slow=7.0,SNR=3.0
MA2 LR LR 17 21 17.4
comp=Z,134nm,21.2s,baz=170,slow=38
MA2 Magadan 12.56 348 *eP* **Pn** **17 16 26.1 -1.1**
MA2 Magadan 12.56 348⇓ *e*PN **Pn** **17 16 26.1 -1.1**
MA2 pmax pmax
comp=Z,3.0nm,0.5s
MA2 Magadan 12.56 348 Pn **Pn** **17 16 28.1 +1.0**
JTM Tenmabayashi 12.63 244 P Pn 17 16 25.0 -3.2
JTM *e*S Sn 17 18 33.1 -15
SMY Shemya 12.75 59 PN **Pn** **17 16 28.8 -1.0**
SMY Shemya 12.75 59 Pn **Pn** **17 16 28.8 -1.0**
GRNR Gornyy 13.27 292 *eP* **Pn** **17 16 39.0 +2.1**
GRNR Gornyy 13.27 292 *e*PN **Pn** **17 16 39.0 +2.1**
GRNR MLR MLR
comp=E,30nm,13.0s
GRNR MLR MLR
comp=N,40nm,17.0s
GRNR MLR MLR
comp=Z,60nm,18.0s
OFUJ Ofunato 13.37 237 P Pn 17 16 34.7 -3.6
OFUJ *e*S Sn 17 18 52.9 -14
JRG Rokugo 13.76 240 P **Pn** **17 16 40.6 -3.0**
JRG *e*S Sn 17 19 01.6 -14
JIO Ouri 13.98 235 P Pn 17 16 42.8 -3.9
JIO *e*S Sn 17 19 05.3 -16
SEY Seymchan 15.67 354 Pn **Pn** **17 17 08.2 -1.0**
comp=Z,0.1nm,0.3s,baz=177,slow=11,SNR=5.5
SEY LR LR 17 23 28.2
comp=Z,104nm,20.7s,baz=175,slow=38
EKMR Ekimchan 15.77 300 *eP* **Pn** **17 17 10.3 -0.3**
EKMR AMB AMB 17 17 16.0
comp=Z,30nm,0.8s
KLR Kul'dur 16.23 285 Pn **Pn** **17 17 18.0 +1.5**
comp=Z,0.9nm,0.3s,baz=74,slow=11,SNR=32
KLR LR LR 17 23 45.3
comp=Z,64nm,18.2s,baz=96,slow=38
KLR Kul'dur 16.23 285⇑ *eP* **Pn** **17 17 18.2 +1.7**
USA0B Ussuriysk Arra 17.05 268 P **Pn** **17 17 26.1 -0.8**
USA0B pmax pmax
comp=Z,5.0nm,0.7s
USA0B Ussuriysk Arra 17.05 268 Pn **Pn** **17 17 26.1 -0.8**
USRK Ussuriysk Ar. 17.05 268 P **Pn** **17 17 25.9 -1.0**
baz=69,slow=12,SNR=9.5
USRK LR LR 17 23 58.8
comp=Z,51nm,21.6s,baz=178,slow=37
USRK Ussuriysk Ar. 17.05 268 P **Pn** **17 17 26.9 0.0**
USRK Ussuriysk Ar. 17.05 268 Pn **Pn** **17 17 26.9 0.0**
MJA0 Matsu Arr-Jizo 17.08 237 *eP* **Pn** **17 17 26.2 -1.2**
MJAR Matsushiro Arr 17.10 237 P **Pn** **17 17 26.3 -1.3**
comp=Z,0.1nm,0.3s,baz=23,slow=12,SNR=7.7
MJAR Matsushiro Arr 17.10 237 P **Pn** **17 17 26.4 -1.2**
MJAR pmax pmax
comp=Z,1.0nm,0.8s
MJAR Matsushiro Arr 17.10 237 Pn **Pn** **17 17 26.4 -1.2**
MAJO Matsushiro 17.10 237 P **Pn** **17 17 26.1 -1.5**
MAJO Matsushiro 17.10 237 Pn **Pn** **17 17 26.1 -1.5**
MAT Matsushiro 17.10 237 P **Pn** **17 17 25.7 -1.9**
MAT *e*S **Sn** **17 20 33.8 -3.4**
MDJ Mudanjiang 18.54 271 P **P** **17 17 45.0 -0.1**
MDJ pmax pmax
comp=Z,8.0nm,0.9s
MDJ pmax pmax
comp=Z,70nm,3.2s
ZEA Zeya 19.25 300 *eP* **P** **17 17 53.4 +0.7**
ZEA AMB AMB 17 17 55.1
comp=Z,10.0nm,0.9s
ZEA Zeya 19.25 300 *eP* **P** **17 17 52.4 -0.3**
ZEA pmax pmax
comp=Z,12nm,1.0s
KROS Kirovskiy 19.51 302 *eP* **P** **17 17 55.9 +0.3**
KROS AMB AMB 17 17 58.2
comp=Z,10.0nm,0.6s
YAK Yakutsk 20.88 324 P **P** **17 18 09.4 -1.0**
comp=Z,8.1nm,0.5s,baz=182,slow=2.0,SNR=2.5
YAK Yakutsk 20.88 324 *eP* **P** **17 18 09.1 -1.3**
YAK *e**PP **pwP** **17 18 20.7 -1.3**
YAK *e* 17 18 42.0
YAK *e*S **S** **17 21 59.0 -3.3**
YAK *e**SS **pS** **17 22 13.9 +3.5**
YAK *e*SS **SnSn** **17 22 23.9 +1.2**
YAK *e*SSS SSS 17 22 35.7
YAK pmax pmax
comp=Z,14nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax smax
comp=E,26nm,2.0s
YAK smax smax
comp=N,36nm,2.3s
YAK Yakutsk 20.88 324 P **P** **17 18 12.0 +1.6**
YAK IAmb IAmb 17 18 13.1
comp=Z,19nm,0.7s
CN2 Changchun 21.62 272 *eP* **P** **17 18 17.3 -1.3**
KSRS Korea Array 22.90 254 P **P** **17 18 32.7 +0.5**
comp=Z,2.2nm,0.8s,baz=47,slow=10,SNR=9.4
JCJ Chichijima 23.03 213 LR LR 17 25 38.7
comp=Z,25nm,21.6s,baz=114,slow=32
H11S1 WAKE ISLAND Hy 30.14 160 T T 17 50 50.0
baz=349
H11S3 WAKE ISLAND Hy 30.15 160 T T 17 50 45.2
baz=349,slow=74
H11S2 WAKE ISLAND Hy 30.16 160 T T 17 50 52.0
baz=349,slow=74
IMAR Indian Mountai 32.04 36 P **P** **17 19 54.9 +0.2**
NJ2 Nanjing 32.10 255 *eP* **P** **17 19 56.5 +0.9**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
HHC Hu-ho-hao-te 32.23 275 *eP* **P** **17 19 58.0 +1.2**
HHC pmax pmax
comp=Z,32nm,0.9s
HHC pmax pmax
comp=Z,57nm,4.5s
HHC LR LR
comp=Z,120nm,12.6s
HHC LR LR
comp=Z,100nm,13.3s
HHC LR LR
comp=Z,120nm,12.5s
ULN Ulaanbaatar 32.55 289 *eP* **P** **17 19 59.8 +0.2**
ULN Ulaanbaatar 32.55 289⇓ *e*P **P** **17 19 59.8 +0.2**
ULN pmax pmax
comp=Z,2.0nm,1.0s
RND Reindeer 33.86 42 P **P** **17 20 10.2 -0.5**
RND pmax pmax
comp=Z,12nm,1.5s
RND Reindeer 33.86 42 P **P** **17 20 10.2 -0.5**
RND IAmb IAmb 17 20 29.4
comp=Z,12nm,1.5s
SML Sawmill 34.10 44 P **P** **17 20 12.8 0.0**
SML IAmb IAmb 17 20 32.4
comp=Z,26nm,1.5s
MDM Murphy Dome 34.20 39 P **P** **17 20 13.5 -0.2**
ILAR Eielson Array 34.77 39 P **P** **17 20 17.8 -0.8**
comp=Z,0.2nm,0.6s,baz=250,slow=8.1,SNR=4.3
BCAR Beaver Creek A 37.07 42 P **P** **17 20 38.9 +0.6**
EGAK Eagle 37.22 39 P **P** **17 20 39.9 +0.4**
BARN Barnard Glacie 37.35 45 P **P** **17 20 41.6 +0.8**
BARN IAmb IAmb 17 21 00.0
comp=Z,23nm,1.4s
HYT Haines Junctio 39.39 45 P **P** **17 20 58.7 +0.8**
LZH Lanzhou 39.85 273 *eP* **P** **17 21 02.3 +0.2**
LZH pP sP 17 21 10.5 +3.1
LZH sP pwP 17 21 13.8 -0.6
LZH PP **PnPn** **17 22 42.3 +5.4**
LZH pmax pmax
comp=Z,15nm,1.1s
LZH pmax pmax
comp=Z,67nm,4.9s
LZH LR LR
comp=Z,170nm,14.2s
LZH LR LR
comp=Z,170nm,14.4s
LZH LR LR
comp=Z,220nm,16.5s
INK Inuvik 40.00 33 P **P** **17 21 03.5 +0.8**
comp=Z,2.4nm,0.6s,baz=298,slow=4.5,SNR=9.7
INK Inuvik 40.00 33 P **P** **17 21 03.5 +0.8**
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 40.00 33 P **P** **17 21 03.5 +0.8**
PATS Pohnpei 40.49 177 P **P** **17 21 07.9 +0.6**
GTA Gaotai 40.82 280 *eP* **P** **17 21 11.3 +1.2**
GTA pP pP 17 21 15.8 +2.2
GTA sP sP 17 21 19.0 +3.6
GTA pmax pmax
comp=Z,4.0nm,1.1s
ZAA0 Zalesovo Array 43.82 306 P **P** **17 21 33.5 -0.6**
ZALV Zalesovo Beam 43.82 306 P **P** **17 21 33.9 -0.3**
comp=Z,1.5nm,0.5s,baz=62,slow=7.7,SNR=7.2
ZALV LR LR 17 40 27.7
comp=Z,38nm,19.5s,baz=67,slow=37
ZALV Zalesovo Beam 43.82 306 *eP* **P** **17 21 34.4 +0.3**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
DGZ Jazzator, Alta 44.01 300⇓ *e*P **P** **17 21 37.5 +1.6**
DGZ pmax pmax
comp=Z,1.0nm,0.4s
WMQ Urumqi 46.53 292 *eP* **P** **17 21 58.0 +2.2**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,63nm,4.5s
WMQ LR LR
comp=Z,170nm,29.1s
WMQ LR LR
comp=Z,240nm,29.5s
WMQ LR LR
comp=Z,100nm,29.2s
KMI Kunming 47.32 261⇑ *eP* P 17 22 08.3 +5.9
KMI pP sP 17 22 11.8 +4.0
KMI pmax pmax
comp=Z,5.0nm,0.5s
KMI pmax pmax
comp=Z,55nm,3.5s
MK31 Makanchi Array 48.39 298 P **P** **17 22 09.8 -0.4**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 48.39 298 P **P** **17 22 09.8 -0.4**
MK31 IAmb IAmb 17 22 11.6
comp=Z,3.6nm,0.8s
MKAR Makanchi Array 48.39 298 P **P** **17 22 10.1 -0.2**
comp=Z,6.1nm,0.9s,baz=66,slow=7.3,SNR=36
MKAR Makanchi Array 48.39 298 P **P** **17 22 09.9 -0.2**
MAKZ Makanchi 48.57 298 P **P** **17 22 11.5 -0.1**
MAKZ pmax pmax
comp=Z,4.0nm,1.0s
MAKZ Makanchi 48.57 298 P **P** **17 22 11.5 -0.1**
KURK Kurchatov 48.64 304 *eP* **P** **17 22 12.2 +0.2**
KURK Kurchatov 48.64 304 P **P** **17 22 12.2 +0.2**
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK Kurchatov 48.64 304 P **P** **17 22 12.2 +0.2**
KURK IAmb IAmb 17 22 13.5
comp=Z,8.9nm,0.8s
BRVK Borovoye 51.99 310 *eP* **P** **17 22 37.4 0.0**
BRVK Borovoye 51.99 310 *d iP* **P** **17 22 37.4 0.0**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 51.99 310 P **P** **17 22 37.6 +0.2**
BRVK IAmb IAmb 17 22 38.5
comp=Z,9.7nm,0.7s
KBS Kingsbay 52.12 352 P **P** **17 22 39.2 +1.2**
KBS pmax pmax
comp=Z,81nm,1.4s
KBS Kingsbay 52.12 352 P **P** **17 22 39.2 +1.2**
SPA0 Spitsbergen Ar 52.29 350 P **P** **17 22 37.6 -1.7**
TULEG Thule 53.06 12 P **P** **17 22 45.7 +0.7**
KDJ Kajisay 53.96 296 P **P** **17 22 52.7 +0.4**
KDJ pmax pmax
comp=Z,9.0nm,1.0s
KDJ Kajisay 53.96 296 P **P** **17 22 52.7 +0.4**
KDJ IAmb IAmb 17 22 53.9
comp=Z,8.9nm,0.9s
CM31 Chiang Mai Arr 54.46 258 P **P** **17 22 57.6 +1.6**
CM31 IAmb IAmb 17 23 12.5
comp=Z,7.7nm,1.3s
CMAR Chiang Mai Arr 54.46 258 P **P** **17 22 57.4 +1.4**
comp=Z,1.8nm,0.5s,baz=37,slow=7.3,SNR=13
TKM2 Tokmak 2 54.47 297 P **P** **17 22 56.6 +0.6**
SNR=7.6
PBKT Sadao Pong 54.48 255 P **P** **17 22 57.2 +1.1**
PBKT IAmb IAmb 17 23 26.3
comp=Z,14nm,1.6s
USP Ospenovka 54.94 298 P **P** **17 23 00.0 +0.8**
SNR=12
CHMS Chumysh 54.94 298 P **P** **17 23 00.1 +0.9**
SNR=5.4
KZA Kyzart 55.17 296 P **P** **17 23 03.0 +1.6**
SNR=8.6
AAK Ala-Archa 55.30 297 *eP* **P** **17 23 02.5 +0.5**
AAK Ala-Archa 55.30 297 *d iP* **P** **17 23 02.5 +0.5**
AAK pmax pmax
comp=Z,10.0nm,0.8s
AAK Ala-Archa 55.30 297 P **P** **17 23 02.7 +0.7**
AAK IAmb IAmb 17 23 03.5
comp=Z,9.0nm,0.8s
YBH Yreka Blue Hor 55.66 64 P **P** **17 23 05.7 +1.2**
YBH pmax pmax
comp=Z,13nm,1.7s
YBH Yreka Blue Hor 55.66 64 P **P** **17 23 05.7 +1.2**
YBH IAmb IAmb 17 23 29.2
comp=Z,13nm,1.7s
EKS2 Erkin-Say 55.72 298 P **P** **17 23 05.3 +0.4**
SNR=14
ARU Arti 55.84 318 *eP* **P** **17 23 05.4 -0.1**
ARU Arti 55.84 318 *c iP* **P** **17 23 05.4 -0.1**
ARU 17 23 59.6
ARU 17 25 09.7
ARU S **S** **17 30 49.9 -1.7**
ARU SS **SS** **17 34 29.9 -6.6**
ARU pmax pmax
comp=Z,14nm,0.7s
ARU Arti 55.84 318 P **P** **17 23 05.3 -0.1**
AML Almayashu 56.08 297 P **P** **17 23 08.7 +0.9**
SNR=5.4
KSH Kashi 56.22 294 *eP* P 17 23 13.5 +4.9
PMG Port Moresby 57.13 190⇑ *eP* **P** **17 23 16.4 +1.4**
PMG pmax pmax
comp=Z,34nm,1.1s
KEV Kevo 57.35 341 P **P** **17 23 15.9 -0.1**
KEV pmax pmax
comp=Z,47nm,1.7s
KEV Kevo 57.35 341 P **P** **17 23 15.9 -0.1**
KK31 Karatay Array 57.40 300 P **P** **17 23 17.1 +0.3**
KK31 pmax pmax
comp=Z,8.0nm,1.4s
KK31 Karatay Array 57.40 300 P **P** **17 23 17.1 +0.3**
KK31 IAmb IAmb 17 23 17.9
comp=Z,8.0nm,1.4s
KKAR Karatay Array 57.40 300 P **P** **17 23 16.9 +0.1**
KKAR pmax pmax
comp=Z,8.0nm,1.4s
KKAR Karatay Array 57.40 300 P **P** **17 23 16.9 +0.1**
KKAR Karatay Array 57.40 300 P **P** **17 23 16.9 +0.1**
KKAR IAmb IAmb 17 23 17.9
comp=Z,8.0nm,1.4s
ARCES ARCESS Array B 57.85 342 P **P** **17 23 19.7 +0.2**
comp=Z,1.5nm,0.5s,baz=32,slow=7.2,SNR=14
ARCES LR LR 17 52 43.7
comp=Z,57nm,19.7s,baz=32,slow=41
ARE0 ARCESS Array S 57.85 342 P **P** **17 23 19.9 +0.3**
BTK Batken 59.06 297 P **P** **17 23 29.3 +0.8**
BTK pmax pmax
comp=Z,6.0nm,0.6s
BTK Batken 59.06 297 P **P** **17 23 29.3 +0.8**
BTK IAmb IAmb 17 23 32.6
comp=Z,6.1nm,0.6s
ABKAR Akbulak array 59.50 311 P **P** **17 23 31.5 +0.2**
NVAR Mina Array Bea 60.35 64 P **P** **17 23 38.1 +0.5**
comp=Z,0.4nm,0.5s,baz=299,slow=4.7,SNR=4.7
KLMR Klimovskoe 60.54 330 *eP* **P** **17 23 37.3 -0.9**
KLMR pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 60.54 330 *eP* **P** **17 23 37.4 -0.8**
KLMR AMP 17 23 39.2
comp=Z,9.0nm,0.8s
TPAW Teton Pass 61.48 56 P **P** **17 23 44.8 -0.5**
TPAW IAmb IAmb 17 23 57.3
comp=Z,10nm,1.6s
NIL Nilore 61.56 290 P **P** **17 23 46.6 +0.9**
NIL pmax pmax
comp=Z,23nm,1.2s
NIL Nilore 61.56 290 P **P** **17 23 46.6 +0.9**
PDAR Pinedale Array 62.73 56 P **P** **17 23 53.5 -0.2**
comp=Z,1.0nm,0.9s,baz=302,slow=3.3,SNR=6.6
PDAR Pinedale Array 62.73 56 P **P** **17 23 53.0 -0.6**
KBL Kabul 63.65 293 P **P** **17 23 59.4 -0.4**
KBL pmax pmax
comp=Z,7.0nm,0.6s
KBL Kabul 63.65 293 P **P** **17 23 59.4 -0.4**
RDMU Red Mountain 64.15 58 P **P** **17 24 03.8 +0.7**
FIA1 FINESS Array S 64.25 336 P **P** **17 24 03.0 0.0**
FINES FINESS Array B 64.25 336 P **P** **17 24 03.0 0.0**
comp=Z,4.2nm,0.5s,baz=38,slow=7.4,SNR=50
FINES LR LR 17 55 19.0
comp=Z,41nm,18.5s,baz=26,slow=39
FINES FINESS Array B 64.25 336 P **P** **17 24 03.0 0.0**
KNB Kanab 64.58 62 P **P** **17 24 06.8 +0.9**
KNB pmax pmax
comp=Z,4.0nm,1.2s
KNB Kanab 64.58 62 P **P** **17 24 06.8 +0.9**
OBN Obninsk 65.85 327 *eP* **P** **17 24 12.7 -0.8**
OBN Obninsk 65.85 327⇓ *eP* **P** **17 24 12.7 -0.8**
OBN *e* 17 24 43.1
OBN *e* 17 26 37.6
OBN *e*PPP PPP 17 28 11.5
OBN pmax pmax
comp=Z,9.0nm,0.5s
PV17 East Wray Mesa 66.03 59 P **P** **17 24 15.0 -0.3**
PV17 IAmb IAmb 17 24 16.2
comp=Z,4.7nm,1.0s
VSU Vasula 66.51 334⇑ *eP* **P** **17 24 17.9 +0.2**
VSU pmax pmax
comp=Z,18nm,0.9s
HRA Herat 67.93 297 P **P** **17 24 27.8 +0.3**
HRA IAmb IAmb 17 24 30.1
comp=Z,3.5nm,0.7s
GEYT Alibeck 67.94 302 P **P** **17 24 28.0 +0.8**
comp=Z,2.3nm,0.6s,baz=48,slow=2.2,SNR=5.8
GEYT Alibeck 67.94 302 P **P** **17 24 27.9 +0.7**
GYA0 ALIBECK ARRAY 67.94 302 P **P** **17 24 28.0 +0.8**
GYA0B ALIBECK ARRAY 67.94 302 P **P** **17 24 28.0 +0.8**
GYA0B IAmb IAmb 17 24 30.0
comp=Z,3.7nm,0.6s
NC405 NORSAR Array S 68.03 342 P **P** **17 24 27.4 +0.1**
NC204 NORSAR Array S 68.08 343 P **P** **17 24 27.9 +0.2**
NB201 NORSAR Array S 68.18 342 P **P** **17 24 28.4 +0.1**
NB2 NORSAR Subarra 68.20 342 P **P** **17 24 27.9 -0.6**
comp=Z,0.8nm,0.6s,baz=26,slow=6.5
NOA NORSAR Array B 68.20 342 P **P** **17 24 28.2 -0.3**
comp=Z,1.7nm,0.8s,baz=26,slow=6.3,SNR=6.8
NOA LR LR 17 58 12.2
comp=Z,19nm,20.3s,baz=20,slow=39
NOA NORSAR Array B 68.20 342 *eP* **P** **17 24 28.5 0.0**
NOA pmax pmax
comp=Z,2.0nm,0.8s
WB0 Warramunga Arr 69.66 202 P **P** **17 24 37.1 -0.8**
WB0 IAmb IAmb 17 24 38.4
comp=Z,14nm,1.6s
WR0 Warramunga Arr 69.81 202 P **P** **17 24 38.0 -0.8**
WR0 IAmb IAmb 17 24 38.6
comp=Z,5.6nm,1.1s
WRA Warramunga Arr 69.84 202 P **P** **17 24 38.0 -1.0**
comp=Z,1.7nm,0.8s,baz=22,slow=6.5,SNR=13
WRA Warramunga Arr 69.84 202 *eP* **P** **17 24 38.2 -0.8**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 69.84 202 IAmb IAmb 17 24 43.3
comp=Z,0.5nm,1.6s
KIV Kislovodsk 71.73 316 *eP* **P** **17 24 48.9 -1.6**
KIV Kislovodsk 71.73 316 *eP* **P** **17 24 48.9 -1.6**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,50nm,18.0s
KBZ Khabaz 71.80 315 P **P** **17 24 50.9 +0.2**
comp=Z,4.5nm,0.8s,baz=57,slow=3.7,SNR=5.3
KBZ Khabaz 71.80 315 *eP* **P** **17 24 51.4 +0.7**
KBZ Khabaz 71.80 315 *eP* **P** **17 24 51.4 +0.7**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 72.06 328 P **P** **17 24 51.2 -1.0**
comp=Z,3.5nm,0.5s,baz=32,slow=6.1,SNR=16
AKASG Malin Array Be 72.06 328 *eP* **P** **17 24 51.2 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 72.06 328 P **P** **17 24 51.2 -1.0**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 72.06 328 P **P** **17 24 51.2 -1.0**
AKBB IAmb IAmb 17 24 52.1
comp=Z,5.0nm,0.8s
AS31 Alice Springs 73.52 201 P **P** **17 25 01.1 -0.1**
ASAR Alice Springs 73.52 201 P **P** **17 25 01.2 +0.1**
comp=Z,1.8nm,0.8s,baz=15,slow=5.2,SNR=26
ASAR LR LR 17 58 35.6
comp=Z,21nm,18.7s,baz=8.0,slow=37
ASAR Alice Springs 73.52 201 P **P** **17 25 00.8 -0.3**
SORM Soroca 74.50 327⇑ P **P** **17 25 06.1 -0.6**
SORM Soroca 74.50 327⇑ P **P** **17 25 06.1 -0.6**
LPIG La Paz 75.02 71 P **P** **17 25 10.3 +0.3**
comp=Z,30nm,0.4s,baz=354,slow=5.3,SNR=3.9
KWP Kalwaria Pacla 75.23 331 P **P** **17 25 10.8 -0.1**
KWP pmax pmax
comp=Z,8.0nm,0.9s
KWP Kalwaria Pacla 75.23 331 P **P** **17 25 10.8 -0.1**
KWP IAmb IAmb 17 25 12.2
comp=Z,8.1nm,0.9s
TX31 Lajitas Ar. Si 75.42 63 P **P** **17 25 12.3 -0.1**
TX31 IAmb IAmb 17 25 13.2
comp=Z,8.4nm,0.7s
TX32 Lajitas Array 75.42 63 P **P** **17 25 12.6 +0.2**
TXAR Lajitas Array 75.42 63 P **P** **17 25 12.4 0.0**
comp=Z,3.1nm,0.7s,baz=300,slow=4.4,SNR=33
TXAR Lajitas Array 75.42 63 P **P** **17 25 12.3 -0.1**
BUR08 Bucovina Ar. S 76.07 328 P **P** **17 25 15.8 0.0**
BUR08 IAmb IAmb 17 25 16.3
comp=Z,3.9nm,0.7s
BURAR Bucovina Array 76.09 328⇑ P **P** **17 25 15.9 0.0**
BURAR Bucovina Array 76.09 328⇑ P **P** **17 25 15.9 0.0**
BURAR Bucovina Array 76.09 328 P **P** **17 25 15.8 -0.2**
GIRR Girov 76.18 327 P **P** **17 25 16.3 -0.1**
BIZ Bicaz 76.34 327⇑ P **P** **17 25 17.1 -0.1**
U40A Yellville 76.36 51 P **P** **17 25 16.5 -1.1**
U40A IAmb IAmb 17 25 17.3
comp=Z,5.2nm,1.1s
TESR Tescani 76.50 327⇑ P **P** **17 25 18.1 -0.1**
CLL Collm 76.64 337 *i* P **P** **17 25 18.4 -0.4**
comp=Z,7.0nm,1.2s
CLL pmax pmax
comp=Z,7.0nm,1.2s
KRLC Kraliky 76.70 334 *eP* **P** **17 25 19.3 0.0**
KRLC Kraliky 76.70 334 *eP* **P** **17 25 19.3 0.0**
TLCR 76.78 325 P **P** **17 25 19.7 0.0**
TLCR 76.78 325 P **P** **17 25 19.7 0.0**
CFR Carcaliu 77.05 325⇑ P **P** **17 25 21.0 -0.3**
CFR Carcaliu 77.05 325⇑ P **P** **17 25 21.0 -0.3**
TOPG Topolog 77.21 325 P **P** **17 25 22.4 +0.2**
PRU Pruhonice 77.42 336 *eP* **P** **17 25 23.3 0.0**
PRU Pruhonice 77.42 336 *eP* **P** **17 25 23.3 0.0**
VYHS Vyhne 77.47 332 *eP* **P** **17 25 24.0 +0.4**
VYHS pmax pmax
comp=Z,4.0nm,1.3s
VYHS Vyhne 77.47 332 *eP* **P** **17 25 24.0 +0.4**
HARR Harsova 77.54 325⇑ P **P** **17 25 23.4 -0.6**
HARR Harsova 77.54 325⇑ P **P** **17 25 23.4 -0.6**
TIRR Tirgusor 77.54 324⇑ P **P** **17 25 24.8 +0.8**
TIRR Tirgusor 77.54 324⇑ P **P** **17 25 24.8 +0.8**

MLR	Muntele Rosu	77.62	327	⇑P		P	17 25 25.0	+0.3
MLR	Muntele Rosu	77.62	327	⇑P		P	17 25 25.0	+0.3
VOIR		78.00	327	⇑P		P	17 25 27.1	+0.4
VOIR		78.00	327	⇑P		P	17 25 27.1	+0.4
KHC	Kasperske Hory	78.46	336	*de*P		P	17 25 29.5	+0.3
KHC	comp=Z,12nm,2.5s			pmax	pmax			
KHC	Kasperske Hory	78.46	336	*e*P		P	17 25 29.4	+0.3
KHC	Kasperske Hory	78.46	336	P		P	17 25 29.3	+0.2
GERES	GERESS Array B	78.69	336	P		P	17 25 30.4	-0.1
GERES	comp=Z,0.9nm,0.5s,baz=38,slow=5.0,SNR=11			LR		LR	18 03 36.7	
BRTR	comp=Z,41nm,19.2s,baz=344,slow=38 Keskin Array B	79.23	318	P		P	17 25 33.4	-0.3
BRTR	comp=Z,1.0nm,0.7s,baz=48,slow=5.5,SNR=5.7 Keskin Array B	79.23	318	*e*P		P	17 25 34.6	+0.9
ESDC	comp=Z,1.0nm,0.7s Sonseca Array	91.46	345	P	pmax	P	17 26 34.2	-0.6
	comp=Z,0.2nm,0.5s,baz=17,slow=3.6,SNR=3.0							

IDC ***29*** *17:31:52.2±1.3, 50°.93N×139°.10W, h0km, mb3.7/7, mb1 4.0/12, mb1mx3.8/34, mbtmp3.7/12, ML3.4/5, MS3.2/8, Ms1 3.2/8, ms1mx2.9/37, Error ellipse: s-maj=30.5km s-min=18.8km az=29.0*

NEIC ***29*** *17:31:52.7±2.7, 50°.70N±0°.09×139°.4W±0°.1, h10km±2km, mb3.9/48, Mwr4.5(OTT), Error ellipse: s-maj=15.9km s-min=11.3km az=205.0*

PGC ***29*** *17:31:55.7±2.5, 50°.90N×138°.91W, h10km, MLSn3.9/7, Mw4.5/7, 551km Wsw of Sandspit, Bc West Of Vancouver Island*

OTT ***29*** *17:31:55.7±3.1, 50°.9N±0°.1×138°.9W±0°.1, h10km±5km, Error ellipse: s-maj=0.0km s-min=0.0km az=117.0*

ISC 29 17:31:52.9±0.8, 50°.79N±0°.08×139°.11W±0°.06, h10km, n182, σ2$20/177, mb3.8/10, MS3.2/6, West of Vancouver Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H02N1	VAN INLET T-PH	4.74	56	Pn	Pn	17 33 04.5	0.0
H02N1	SNR=687			Sn	Sn	17 33 54.3	-5.3
H02N1				T	T	17 38 09.9	
VIB	Van Inlet	4.74	56	Pn	Pn	17 33 04.1	-0.4
VIB				Sn	Sn	17 33 55.0	-4.6
DIB	Dawson Inlet,	4.75	57	Pn	Pn	17 33 03.9	-0.6
DIB				Sn	Sn	17 33 55.3	-4.3
DIB	Dawson Inlet,	4.75	57	Pn	Pn	17 33 04.2	-0.4
H02S1	DAWSON INLET T	4.75	57	Pn	Pn	17 33 04.8	+0.3
H02S1	SNR=555			Sn	Sn	17 33 55.1	-4.5
H02S1				T	T	17 38 07.1	
HG1B	SNR=10 Mitchell Dam	4.83	61	Pn	Pn	17 33 05.7	+0.2
HG1B				Sn	Sn	17 33 56.9	-4.5
BNB	Barry Inlet	4.91	66	Pn	Pn	17 33 05.9	-0.8
BNB				Sn	Sn	17 33 59.2	-4.5
NDB	Naden	4.93	48	Pn	Pn	17 33 07.3	+0.4
NDB				Sn	Sn	17 34 00.8	-3.3
MOBC	Moresby Island	5.00	59	Pn	Pn	17 33 08.0	-0.1
MOBC				Sn	Sn	17 34 02.2	-3.6
MOBC	Moresby Island	5.00	59	Pn	Pn	17 33 07.6	-0.4
HG3B	Hotspring	5.09	66	Pn	Pn	17 33 08.9	-0.3
HG3B				Sn	Sn	17 34 03.4	-4.5
MASB	Masset	5.40	51	Pn	Pn	17 33 14.6	+1.1
BNAB	Bonilla	5.87	59	Pn	Pn	17 33 21.2	+1.3
BNAB				Sn	Sn	17 34 24.1	-3.0
RUBB	Prince Rupert	6.45	53	Pn	Pn	17 33 29.3	+1.5
RUBB				Sn	Sn	17 34 38.7	-2.8
SIT	Sitka	6.66	18	Pn	Pn	17 33 32.8	+2.1
WRAK	Wrangell Islan	6.92	33	Pn	Pn	17 33 38.1	+3.8
BBB	Bella Bella	7.01	74	Pn	Pn	17 33 36.7	+1.3
BBB	0.5nm,0.3s,baz=209,slow=6.2,SNR=6.0			Sn	Sn	17 34 53.1	-1.9
BBB	0.6nm,0.3s,baz=152,slow=21,SNR=5.8			LR	LR	17 35 50.3	
BBB	comp=Z,141nm,20.7s,baz=224,slow=34 Bella Bella	7.01	74	Pn	Pn	17 33 36.1	+0.7
BBB				Sn	Sn	17 34 52.6	-2.4
BBB	Bella Bella	7.01	74	Pn	Pn	17 33 37.1	+1.7
KITB	Kitimat	7.20	59	Sn	Sn	17 34 56.5	-3.2
MAYB	Maynard	7.61	88	Pn	Pn	17 33 45.4	+1.5
JIS	Juneau Island	7.98	18	Pn	Pn	17 33 52.5	+3.7
BESE	Bessie Mountai	8.18	16	Pn	Pn	17 33 55.1	+3.5
BESE	Bessie Mountai	8.18	16	Pn	Pn	17 33 55.4	+3.8
YKU2	Yakutat	8.74	358	Pn	Pn	17 33 59.8	+0.5
PLBC	Pleasant Camp	8.82	9	Pn	Pn	17 34 03.8	+3.4
PLBC				Sn	Sn	17 35 39.4	-0.3
PNL	Peninsula	8.90	359	Pn	Pn	17 34 04.6	+3.2
SKAG	Skagway	8.95	12	Pn	Pn	17 34 06.6	+4.6
BCPM	Bancas Point	9.19	358		Pn	17 34 08.3	+2.9
DLBC	Dease Lake	9.29	31	Pn	Pn	17 34 06.8	+0.1
DLBC	0.2nm,0.3s,baz=108,slow=19,SNR=1.9			Sn	Sn	17 35 51.4	+0.1
DLBC	0.2nm,0.3s,baz=310,slow=24,SNR=1.5			Pn	Pn	17 34 10.1	+3.3
DLBC	Dease Lake	9.29	31		Pn	17 34 07.3	+0.5
PCA	Pinnacle	9.35	356	Pn	Pn	17 34 10.1	+2.5
PCA	Pinnacle	9.35	356		Pn	17 34 10.1	+2.5
SAMH	Samovar Hills	9.41	355	Pn	Pn	17 34 11.1	+2.6
MESA	MESA	9.54	351	Pn	Pn	17 34 12.5	+2.1
MESA	MESA	9.54	351		Pn	17 34 12.3	+1.9
MID	Middleton Isla	9.59	337	Pn	Pn	17 34 09.7	-1.1
RKAV	Rock Avalanche	9.61	353	Pn	Pn	17 34 13.9	+2.6
KAIM	Kayak Island	9.64	344	Pn	Pn	17 34 12.4	+0.9
SUCK	Suckling Hills	9.67	346		Pn	17 34 14.0	+2.1
YAH	Yahtse	9.71	352		Pn	17 34 14.7	+2.0
TABL	Table Mountain	9.74	354	Pn	Pn	17 34 15.6	+2.5
TABL	Table Mountain	9.74	354		Pn	17 34 15.7	+2.5
YUK7	Dusty Glacier	9.78	3	Pn	Pn	17 34 17.9	+4.3
HMT	Hamilton	10.00	345		Pn	17 34 17.7	+1.3
ISLE	Juniper Island	10.00	351		Pn	17 34 18.2	+1.6
GRNC	Granite Creek	10.07	353	Pn	Pn	17 34 19.9	+2.2
HYT	Haines Junctio	10.10	4	Pn	Pn	17 34 21.9	+4.0
HYT	Haines Junctio	10.10	4	Pn	Pn	17 34 21.7	+3.8
RAGM	Ragged Mountai	10.12	344		Pn	17 34 18.7	+0.6
YUK6	Outpost Mounta	10.18	2	Pn	Pn	17 34 23.3	+4.1
TGL	Tana Glacier	10.20	350		Pn	17 34 21.3	+2.0
CRQM	Cirque	10.24	349		Pn	17 34 21.1	+1.2
CTGM	Chitina Glacie	10.27	354	Pn	Pn	17 34 22.7	+2.3
CTGM	Chitina Glacie	10.27	354	Pn	Pn	17 34 22.6	+2.3
KIAG	Kiagna River	10.32	351	Pn	Pn	17 34 23.0	+2.0
YUK5	Granite Creek	10.39	3	Pn	Pn	17 34 26.0	+4.1
BARN	Barnard Glacie	10.39	353		Pn	17 34 24.0	+2.0
BALM	Baldy	10.43	351	Pn	Pn	17 34 24.4	+2.0
BALM	Baldy	10.43	351		Pn	17 34 24.3	+1.9
EYAK	Cordova Ski Ar	10.47	342	Pn	Pn	17 34 30.5	+1.7
HIN	Hinchinbrook I	10.49	339	Pn	Pn	17 34 23.5	+0.3
KDAK	Kodiak Island	10.53	317	Pn	Pn	17 34 20.4	-3.3
KDAK	1.0nm,0.3s,baz=112,slow=5.6,SNR=24			Sn	Sn	17 36 12.1	-9.4
KDAK	0.4nm,0.3s,baz=110,slow=13,SNR=1.4 Kodiak Island	10.53	317	Pn	Pn	17 34 19.9	-3.8
OHAK	Old Harbor	10.53	313	Pn	Pn	17 34 19.5	-4.2
YUK4	Talbot Arm	10.58	1	Pn	Pn	17 34 30.3	+5.7
PTPK	Patty Peak	10.59	351	Pn	Pn	17 34 27.6	+2.9
SII	Sitkinak Islan	10.63	309	Pn	Pn	17 34 21.6	-3.6
VRDI	Verde Repeater	10.74	349		Pn	17 34 28.4	+1.7
FID	Port Fidalgo	10.80	340		Pn	17 34 28.2	+0.8
MCARA	McCarthy VSAT	10.84	350	Pn	Pn	17 34 30.1	+2.2
GLB	Gilahina Butte	10.99	348		Pn	17 34 31.5	+1.5
SEW	Seward	11.01	332	Pn	Pn	17 34 28.5	-1.7
YUK3	Moose Creek	11.04	357	Pn	Pn	17 34 35.1	+4.2
GLI	Glacier Island	11.05	339		Pn	17 34 31.1	+0.2
YUK2	White River	11.06	356	Pn	Pn	17 34 35.2	+4.1
CNPM	China Poot	11.15	326	Pn	Pn	17 34 29.3	-2.9
BRLK	Bradley Lake	11.20	328	Pn	Pn	17 34 29.6	-3.4
KLU	Klutina	11.37	343	Pn	Pn	17 34 35.7	+0.5
YUK1	Sand Pete Hill	11.42	357	Pn	Pn	17 34 40.4	+4.4
KNK	Knik Glacier	11.84	338		Pn	17 34 41.9	+0.2
SCM	Sheep Creek Mo	11.96	341	Pn	Pn	17 34 43.2	-0.1
LON	Longmire	12.10	103		Pn	17 34 48.5	+3.2
SML	Sawmill	12.15	339		Pn	17 34 46.9	+0.9
PMR	Palmer	12.16	337	Pn	Pn	17 34 46.9	+1.0
GHO	Glory Hole Cre	12.26	338		Pn	17 34 48.2	+0.7
RSO	Redoubt South	12.35	327		Pn	17 34 46.8	-2.0
RSO					Sn	17 37 03.9	-2.6
BCAR	Beaver Creek A	12.39	354		Pn	17 34 52.1	+2.9
MENT	Mentasta	12.43	350		Pn	17 34 52.8	+3.0
SUA	Susitna One	12.48	333	Pn	Pn	17 34 50.4	-0.1
PAX	Paxson	12.69	347	Pn	Pn	17 34 56.7	+3.4
PAX	Paxson	12.69	347		Pn	17 34 55.2	+2.0
CNBA	Chernabura Isl	13.02	296	Pn	Pn	17 34 51.5	-6.2
B08A	Colville Reser	13.06	93	Pn	Pn	17 35 00.9	+2.5
DHY	Denali Highway	13.10	343		Pn	17 35 00.7	+1.7
SKT	Skwentna	13.12	333		Pn	17 34 58.8	-0.4
DOT	Dot Lake	13.16	350		Pn	17 35 00.4	+0.7
RIDG	Independent Ri	13.34	349	Pn	Pn	17 35 05.0	+2.8
SDPT	Sand Point	13.61	298	Pn	Pn	17 35 01.9	-3.9
RND	Reindeer	13.69	341	Pn	Pn	17 35 08.3	+1.5
SVW2	Sparrevohn	13.80	325	Pn	Pn	17 35 04.9	-3.5
MCK	McKinley	13.99	342	Pn	Pn	17 35 12.7	+1.7
TRF	Thorofare Moun	14.03	339	Pn	Pn	17 35 11.9	+0.2
PPLA	Purkeypile	14.04	335		Pn	17 35 11.8	0.0
EGAK	Eagle	14.07	356		Pn	17 35 16.1	+4.2
HDA	Harding Lake	14.27	346		Pn	17 35 16.1	+1.3
KTH	Kantishna Hill	14.27	338	Pn	Pn	17 35 16.2	+1.3
NEW	Newport	14.49	92	P	P	17 35 26.3	+1.6
BWN	Browne	14.49	342	Pn	Pn	17 35 18.6	+0.8
WRH	Wood River Hil	14.51	344		Pn	17 35 19.1	+1.0
G08A	Pilot Rock	14.54	104	Pn	Pn	17 35 20.1	+1.4
IL31		14.60	347	Pn	Pn	17 35 20.3	+1.0
ILAR	Eielson Array	14.60	347	Pn	Pn	17 35 21.0	+1.7
ILAR	0.9nm,0.3s,baz=172,slow=13,SNR=55 Eielson Array	14.60	347		Pn	17 35 20.1	+0.8
CCB	Clear Creek Bu	14.62	345	Pn	Pn	17 35 20.3	+0.7
BPAW	Bear Paw Mtn.	14.75	339	Pn	Pn	17 35 21.8	+0.4
MDM	Murphy Dome	14.98	345		Pn	17 35 25.1	+0.6
MOD	Modoc Plateau	15.70	117	P	Pn	17 35 33.3	-0.9
BMO	Blue Mountains	15.77	104	P	Pn	17 35 38.7	+3.6
WALA	Waterton Lakes	16.30	86	P	Pn	17 35 44.3	+2.5
WALA	comp=Z,11nm,1.1s			IAmb	IAmb	17 35 49.2	
JTMT	Jette	16.46	91	P	Pn	17 35 46.0	+2.1
JTMT	comp=Z,14nm,1.3s			IAmb	IAmb	17 35 50.1	
IMAR	Indian Mountai	16.98	339	P	Pn	17 35 49.8	-0.4
MSO	Missoula	17.01	94		Pn	17 35 52.4	+1.5
COLD	Coldfoot	17.39	345	P	Pn	17 35 55.3	-0.1
COLD	comp=Z,7.6nm,1.0s			IAmb	IAmb	17 36 09.8	
MFID	Camas Ranch	17.43	106		Pn	17 35 57.9	+1.7
MFID	comp=Z,12nm,1.9s			IAmb	IAmb	17 36 00.3	
YKA	Yellowknife Ar	17.72	39	P	Pn	17 35 59.1	-0.3
INK	comp=Z,0.1nm,0.3s,baz=248,slow=17,SNR=5.5 Inuvik	17.78	7	LR	LR	17 42 28.5	
LRM	comp=Z,63nm,18.2s,baz=286,slow=36 Limekiln Ridge	18.36	95	P	P	17 36 09.4	+1.6
MCMT	McKenzie Canyo	18.56	99	P	P	17 36 10.4	+0.4
TOLK	Toolik Lake Re	18.61	348		P	17 36 11.6	+1.4
TOLK	comp=Z,13nm,1.1s			IAmb	IAmb	17 36 28.4	
SAO	San Andreas Ge	18.88	131	P	P	17 36 12.1	-1.2
SAO	comp=Z,7.4nm,1.0s			IAmb	IAmb	17 36 39.5	
RYN	Ryan	18.95	122	P	P	17 36 14.5	+0.4
BOZ	Bozeman (W)	18.98	95	P	Pn	17 36 16.8	+1.6
NVAR	Mina Array Bea	19.21	122	P	P	17 36 19.5	+2.4
NVAR	comp=Z,0.1nm,0.3s,baz=297,slow=12,SNR=4.9 Mina Array Bea	19.21	122	P	P	17 36 18.5	+1.4
YNR	Norris Junctio	19.98	97	P	P	17 36 27.6	+2.1
IMW	Indian Meadow	20.21	99	P	P	17 36 30.6	+2.5
IMW	comp=Z,5.5nm,0.9s			IAmb	IAmb	17 36 34.6	
FLWY	Flagg Ranch	20.27	98	P	P	17 36 31.0	+2.3
FLWY	comp=Z,6.4nm,1.2s			IAmb	IAmb	17 37 03.0	
FXWY	Fox Creek	20.29	100		Pn	17 36 31.9	+1.1
FXWY	comp=Z,6.6nm,1.2s			IAmb	IAmb	17 36 35.9	
TPAW	Teton Pass	20.41	100	P	P	17 36 32.2	+2.0
REDW	Red Top Meadow	20.54	100	P	P	17 36 33.7	+2.2
LOHW	Long Hollow	20.56	99	P	P	17 36 34.2	+2.4
LOHW	comp=Z,11nm,1.8s			IAmb	IAmb	17 37 04.0	
BGU	Big Grassy Mou	20.57	109	P	P	17 36 33.0	+1.1
RLMT	Red Lodge	20.69	94	P	P	17 36 35.5	+2.4
SPUT	South Promonto	20.69	107	P	P	17 36 34.3	+1.1
AHID	Auburn Hatcher	20.70	102	P	P	17 36 35.3	+2.0
AHID	comp=Z,4.5nm,0.8s			IAmb	IAmb	17 36 36.4	
R11A	Troy Canyon, C	20.76	118	P	P	17 36 34.4	+0.5
DUG	Dugway, Tooele	21.15	110	P	P	17 36 38.7	+0.6
DUG	comp=Z,3.4nm,0.9s			IAmb	IAmb	17 36 42.7	
TPNV	Topopah Spring	21.40	121	P	P	17 36 42.8	+2.0
TPNV	comp=Z,4.7nm,0.9s			IAmb	IAmb	17 36 49.8	
TCUT	Toone Canyon	21.44	106	P	P	17 36 42.9	+1.6
PSUT	Pine Spring	21.62	115	P	P	17 36 43.0	-0.3
BW06	Boulder Array	21.66	100	P	P	17 36 44.5	+0.9
BW06	comp=Z,5.1nm,1.0s			IAmb	IAmb	17 36 46.3	
PD31	Pinedale Array	21.66	100	P	P	17 36 44.2	+0.6
PD31	comp=Z,4.6nm,1.0s			IAmb	IAmb	17 36 46.3	
PDAR	Pinedale Array	21.66	100	P	P	17 36 45.6	+2.0
PDAR	comp=Z,2.5nm,0.8s,baz=308,slow=7.3,SNR=20			LR	LR	17 45 06.8	
PDAR	comp=Z,44nm,18.2s,baz=352,slow=37 Pinedale Array	21.66	100	P	P	17 36 44.1	+0.5
JLU	Jordanelle	21.72	107	P	P	17 36 45.4	+1.1
LAO	LASA Array	21.96	88	P	P	17 36 48.6	+1.9
CCUT	Cedar City	22.58	116	P	P	17 36 56.0	+2.5
MSU	Marysvale	22.61	112	P	P	17 36 55.5	+1.6
RDMU	Red Mountain	22.88	105	P	P	17 36 57.8	+1.1
MTPU	Mount Pierson	22.92	113	P	P	17 36 58.1	+0.9
Q16A	Castle Valley	22.94	110	P	P	17 36 57.8	+0.5
LCMT	Little Creek M	23.02	117	P	P	17 36 59.8	+1.7
SRU	San Rafael Swe	23.20	109	P	P	17 37 01.0	+1.0
PFO	Pinyon Flats O	23.85	127	LR	LR	17 44 18.7	
PV13	comp=Z,48nm,21.8s,baz=20,slow=31 Radium Mtn., P	24.84	109	P	P	17 37 15.7	+0.2
ULM	Lac du Bonnet	27.20	74	LR	LR	17 48 23.2	
PETK	comp=Z,62nm,18.3s,baz=55,slow=36 Lajitas Array	34.09	115	P	P	17 38 37.8	+0.2
PETK	comp=Z,0.8nm,1.0s,baz=309,slow=7.9,SNR=5.9 Petropavlovsk-	37.90	299	P	P	17 39 11.3	+1.5
N49A	comp=Z,0.6nm,0.6s,baz=87,slow=13,SNR=6.2 Columbus Grove	38.68	83	P	P	17 39 16.7	+0.1
YAK	Yakutsk	47.53	320	LR	LR	17 59 11.9	
H11N2	comp=Z,20nm,18.4s,baz=205,slow=35 WAKE ISLAND Hy	52.35	254	T	T	18 37 19.0	
H11N3	baz=40,slow=76,SNR=14 WAKE ISLAND Hy	52.36	254	T	T	18 37 18.2	
H11N1	baz=40,slow=76,SNR=11 WAKE ISLAND Hy	52.37	254	T	T	18 37 24.0	
USRK	baz=40,slow=76,SNR=10.0 Ussuriysk Ar.	56.93	301	LR	LR	18 06 34.4	
NOA	comp=Z,36nm,18.4s,baz=238,slow=37 NORSAR Array B	66.00	15	P	P	17 42 38.2	-0.9
FINES	comp=Z,0.8nm,0.8s,baz=345,slow=6.0,SNR=2.6 FINESS Array B	67.49	8	LR	LR	18 13 35.8	
GERES	comp=Z,19nm,20.4s,baz=276,slow=37 GERESS Array B	78.04	18	P	P	17 43 51.3	-0.1
AKASG	comp=Z,0.3nm,0.3s,baz=332,slow=4.5,SNR=5.0 Malin Array Be	78.40	8	P	P	17 43 52.6	-0.6
ESDC	comp=Z,0.3nm,0.3s,baz=348,slow=5.1,SNR=1.7 Sonseca Array	81.71	33	P	P	17 44 11.5	0.0
ESDC	comp=Z,0.3nm,0.5s,baz=334,slow=8.6,SNR=2.2 Sonseca Array	81.71	33	IAmb	IAmb	17 44 11.7	
	comp=Z,2.4nm,1.1s						

IDC ***29*** *17:50:18.6±1.6, 31°.98N×81°.84E, h0km, mb3.4/7, mb1 3.6/8, mb1mx3.3/47, mbtmp3.4/8, ML2.8/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/33, Error ellipse: s-maj=54.2km s-min=20.4km az=63.0*

DMN ***29*** *17:50:22.5±6.5, 32°.12N×82°.23E, h10km, Mb4.7/4, Error ellipse: s-maj=160.5km s-min=15.8km az=152.0*

ISC 29 17:50:24.3±1.0, 32°.22N±0°.10×82°.0E±0°.2, h35km, n17, σ1$29/16, mb3.2/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYUN	Piuthan	4.19	168	*e*P	Pn	17 51 26.5	+0.6
KOLN	23nm,0.5s Koldanda	4.64	162	*e*P	Pn	17 51 32.4	+0.3
GKN	41nm,0.5s Gorkha	4.78	151	*e*P	Pn	17 51 34.5	+0.5
DMN	Daman	5.32	149	*e*P	Pn	17 51 41.7	+0.2
PKI	10nm,0.3s Pulchoki	5.49	147	*e*P	Pn	17 51 44.5	+0.6
RAMN	8.0nm,0.4s Ramite	6.60	142	*e*P	Pn	17 51 59.5	+0.4
TAPN	Taplejung	6.93	133	*e*P	Pn	17 52 04.6	+0.9
ODAN	6.7nm,0.3s Odare	7.10	137	*e*P	Pn	17 52 06.2	+0.2
MKAR	12nm,0.5s Makanchi Array	14.56	1	Pn	Pn	17 53 45.4	-2.4
CMAR	0.0nm,0.3s,baz=183,slow=11,SNR=2.8 Chiang Mai Arr	20.50	128	P	P	17 54 57.6	-1.9
ZALV	0.6nm,0.4s,baz=316,slow=10,SNR=1.7 Zalesovo Beam	21.82	4	P	P	17 55 14.6	+1.3
BVAR	0.5nm,0.4s,baz=171,slow=2.9,SNR=2.3 Borovoye Array	22.43	341	P	P	17 55 21.0	+1.1
SONM	0.5nm,0.5s,baz=138,slow=9.1,SNR=2.6 Songino Array	24.19	43	P	P	17 55 40.1	+2.6
TLY	1.1nm,0.7s,baz=241,slow=11,SNR=2.2 Talaya	25.08	33	LR	LR	18 07 29.6	
FINES	comp=Z,17nm,18.9s,baz=247,slow=41 FINESS Array B	46.09	326	P	P	17 58 45.1	+0.5
WRA	2.2nm,0.9s,baz=118,slow=12,SNR=3.9 Warramunga Arr	72.10	129	P	P	18 01 44.9	-0.4
ASAR	0.2nm,0.7s,baz=324,slow=6.0,SNR=4.6 Alice Springs	74.47	132	P	P	18 01 58.6	-0.6
	0.2nm,0.7s,baz=314,slow=5.7,SNR=4.6						

NNC 29 17:50:47.6±4.1, 36°.93N×68°.83E, h30km±28km, mb3.8, mpv3.4, 1C-5D, Error ellipse: s-maj=38.1km s-min=28.3km az=93.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.30	11	Pn	Pn	17 52 19.4	+1.0
KK31	0.2nm,0.3s,baz=202,slow=15,SNR=13			⇓Pg	Pb	17 52 43.7	+7.3
KK31	4.2nm,0.8s,baz=199,slow=20,SNR=4.0			⇓Sn	Sn	17 53 30.1	+0.7
KK31	8.0nm,1.0s			⇓Lg	Lg	17 54 07.7	
AAK	12nm,0.7s,baz=193,slow=23,SNR=10.0 Ala-Archa	7.17	36	Pn	Pn	17 52 30.6	0.0
AAK	3.5nm,0.5s			⇑Lg	Lg	17 54 30.8	
TKM2	9.9nm,1.2s Tokmak 2	7.92	39	⇓Pn	Pn	17 52 40.0	-0.9
AB01	1.3nm,0.6s Akbulak array	13.91	335	⇓Pn	Pn	17 54 00.3	-2.3
	1.0nm,0.6s						

DDA ***29*** *18:14:27.2, 36°.74N×44°.05E, h5km±2km, ML2.7*

ISK 29 18:14:26.4, 36°.79N×44°.16E, h5km, ML3.0/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUKT	Cukurca	0.63	316	PG	Pb	18 14 39.6	-0.4
CUKT				SG	Sb	18 14 49.4	+0.2
CUKT	Cukurca	0.63	316	PG	Pg	18 14 38.8	+0.2
CUKT	Cukurca	0.63	316	*i* P	Pg	18 14 38.8	+0.2
CUKT				*i* S	Sg	18 14 46.8	-0.1
CUKT				IAML		18 14 51.0	
HAKT	comp=E,518nm,0.6s HAKKARI	0.84	335	*i* P	Pg	18 14 42.9	+0.3
HAKT				*i* S	Sb	18 14 55.4	-0.1
SIRT	Sirnak	1.54	298	PN	Pb	18 14 55.7	+0.2
SIRT				SN	Sg	18 15 17.7	+1.7
SIRT	Sirnak	1.54	298	PG	Pb	18 14 55.5	0.0
SIRT				SG	Sn	18 15 07.9	-7.3
SIRN	Sirnak	1.56	297	*i* P	Pb	18 14 55.8	0.0
SIRN				*i* S	Sn	18 15 15.7	+0.2
SIRN				IAML		18 15 18.0	
SIRN	comp=E,119nm,0.5s			IAML		18 15 19.0	
AKDM	comp=N,124nm,0.4s Akdamar-Van	1.80	329	PN	Pb	18 14 59.6	-0.3
AKDM				SN	Sg	18 15 23.8	-0.4
AKDM	Akdamar-Van	1.80	329	PN	Pg	18 15 01.8	+0.9
AKDM				SN	Sn	18 15 18.7	-2.8
TVAN	Van	1.83	341	*i* P	Pg	18 15 03.4	+1.9
TVAN				*i* S	Sg	18 15 28.3	+3.0
SRTM	Siirt_Merkez	2.14	305	*i* P	Pg	18 15 06.7	-0.8
SRTM				*i* S	Sg	18 15 35.4	+0.1
SRTM				IAML		18 15 44.0	
SRTM	comp=E,54nm,0.5s			IAML		18 15 45.0	
GURO	comp=N,57nm,0.5s Guroymak-BITLI	2.43	317	PN	Pn	18 15 08.8	+1.8
GURO	Guroymak-BITLI	2.43	317	PN	Pb	18 15 10.6	-0.2
GURO				SN	Sn	18 15 33.8	-3.4
BTMN	Batman	2.55	296	*i* P	Pg	18 15 15.9	+0.6
BTMN				*i* S	Sb	18 15 45.7	+1.3
SVAN	Silvan-Diyarba	2.72	301	PN	Pn	18 15 12.8	+2.0
SVAN				SN	Sb	18 15 46.6	-2.5
SVAN	Silvan-Diyarba	2.72	301	PN	Pb	18 15 14.5	-1.0
SVAN	Silvan-Diyarba	2.72	301	*i* P	Pg	18 15 18.2	-0.3
SVAN				*i* S	Sb	18 15 48.8	-0.3
MAZI	Mazidag	3.04	284	PN	Pb	18 15 19.9	-1.1
VRTB	Varto-Mus	3.19	319	PN	Pn	18 15 19.9	+2.6
VRTB	Varto-Mus	3.19

*IDC **29** 18:37:30.4±0.3,65.75N×122.49W,h0km,mb4.8/33, mb1 4.9/38,mb1mx4.9/49,mbtmp4.8/38,ML4.7/5,MS4.0/32, Ms1 4.0/32,ms1mx3.9/48,Error ellipse: s-maj=7.8km s-min=6.3km az=46.0*

*NEIC **29** 18:37:30,65.63N×122.66W,h13km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; Mrr=0.42; Mθθ=0.05; Mφφ=0.47; Mrθ=0.81; Mrφ=0.18; Mθφ=-0.49; Fault plane solution: Mo=1.07000×10^{16} NP1:φs=127.66000°, δ=79.01000°,λ=72.70000°. NP2:φs=6.18000°,δ=20.41000°, λ=146.85000°. Principal axes: T 1.1202, Plg53.0000°, Azm17.0000°; N -0.1145, Plg17.0000°, Azm131.0000°; P -1.0057, Plg32.0000°, Azm232.0000°;*

*PGC **29** 18:37:31.7,65.60N×122.63W,h10km,Mw5.0,Mw5.0, 191km east of Norman Wells, Nt Nw Territories - Nunavut, Canada*

*BGR **29** 18:37:49.8±0.0,67.47N×121.18W,h33km,mb5.3,Ms4.1*

ISC 29 18:37:30.0±0.5,65.55N±0.03×122.68W±0.03,h6km±2km, h7km:pP-P,n999,σ1s39/970,mb5.1/269,MS4.2/54, 46C-13D,Northwest Territories

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHRN	**Dharma Camp**	**1.97**	**39**	Pn	**Pn**	**18 38 03.8**	**0.0**
DHRN				Sn	**Sn**	**18 38 28.2**	**-0.6**
KUKN	**Kugluktuk,NWT**	**3.79**	**49**	Pn	**Pn**	**18 38 28.8**	**0.0**
KUKN				Sn	**Sn**	**18 39 11.7**	**-1.9**
C36M	**Paulatuk**	**3.86**	**353**	P	**Pn**	**18 38 27.1**	**-2.6**
	baz=171,SNR=164						
C36M	**Paulatuk**	**3.86**	**353**	Pn	**Pn**	**18 38 27.6**	**-2.1**
YKW3	**Yellowknife Ar**	**4.64**	**127**	Pn	**Pn**	**18 38 41.6**	**+1.1**
YKW3				Sn	**Sn**	**18 39 33.0**	**-1.6**
YKA	**Yellowknife Ar**	**4.69**	**127**	Pn	**Pn**	**18 38 41.9**	**+0.7**
	23nm,0.3s,baz=330,slow=15,SNR=188						
YKA				Pg	**Pg**	**18 39 00.3**	**+0.6**
	65nm,0.3s,baz=310,slow=16,SNR=12						
YKA				Sn	**Sn**	**18 39 36.7**	**+0.8**
	115nm,0.3s,baz=314,slow=22,SNR=5.2						
YKA				Lg	Lg	18 39 57.8	
	146nm,0.3s,baz=312,slow=29,SNR=11						
YKA				LR	LR	18 40 45.6	
	comp=Z,655nm,19.1s,baz=0.0,slow=41						
INK	**Inuvik**	**5.08**	**308**	Pn	**Pn**	**18 38 45.9**	**-0.6**
	37nm,0.3s,baz=105,slow=16,SNR=443						
INK				Pg	**Pg**	**18 39 05.0**	**-2.3**
	83nm,0.3s,baz=90,slow=11,SNR=7.7						
INK				Sn	**Sn**	**18 39 40.1**	**-5.4**
	92nm,0.3s,baz=191,slow=32,SNR=6.4						
INK				Lg	Lg	18 40 06.1	
	85nm,0.3s,baz=205,slow=28,SNR=5.7						
INK	**Inuvik**	**5.08**	**308**	Pn	**Pn**	**18 38 45.9**	**-0.6**
INK				Sn	**Sn**	**18 39 41.4**	**-4.0**
INK	**Inuvik**	**5.08**	**308**	P	**Pn**	**18 38 45.9**	**-0.6**
INK				SN	**Sn**	**18 39 36.7**	**-8.8**
NBC2	**NorthernBC 2**	**5.79**	**179**	Pn	**Pn**	**18 38 57.4**	**+1.0**
NBC2				Sn	**Sn**	**18 40 00.2**	**-2.8**
NBC3	**NorthernBC 3**	**6.00**	**170**	Pn	**Pn**	**18 38 58.5**	**-0.8**
NBC3				Sn	**Sn**	**18 40 05.3**	**-3.0**
A36M	**Sachs Harbour**	**6.54**	**353**	P	**Pn**	**18 39 02.6**	**-3.9**
	baz=170,SNR=126						
NBC6	**NorthernBC 6**	**7.02**	**174**	Pn	**Pn**	**18 39 12.2**	**-1.0**
NBC6				Sn	**Sn**	**18 40 29.5**	**-3.6**
HILA	**High Level**	**7.50**	**157**	Pn	**Pn**	**18 39 20.2**	**+0.4**
HILA				Sn	**Sn**	**18 40 40.3**	**-4.7**
HILA				Sg	**Sg**	**18 41 24.6**	**-5.8**
EGAK	**Eagle**	**7.81**	**273**	Pn	**Pn**	**18 39 22.7**	**-1.4**
DLBC	**Dease Lake**	**7.92**	**209**	Pn	**Pn**	**18 39 27.5**	**+1.9**
	11nm,0.3s,baz=19,slow=12,SNR=96						
DLBC				Sn	**Sn**	**18 40 57.6**	**+2.1**
	8.2nm,0.3s,baz=32,slow=18,SNR=2.0						
DLBC				Lg	Lg	18 41 46.2	
	8.4nm,0.3s,baz=131,slow=15,SNR=7.8						
DLBC	**Dease Lake**	**7.92**	**209**	Pn	**Pn**	**18 39 27.7**	**+2.1**
DLBC	**Dease Lake**	**7.92**	**209**	Pn	**Pn**	**18 39 27.2**	**+1.6**
NBC5	**NorthernBC 5**	**8.05**	**180**	Pn	**Pn**	**18 39 27.9**	**+0.5**
NBC5				Sn	**Sn**	**18 40 56.4**	**-2.4**
HYT	**Haines Junctio**	**8.19**	**242**	Pn	**Pn**	**18 39 30.2**	**+0.9**
HYT	**Haines Junctio**	**8.19**	**242**		**Pn**	**18 39 29.9**	**+0.5**
K27K	**Chicken**	**8.41**	**268**	P	**Pn**	**18 39 31.2**	**-1.0**
	baz=70,SNR=135						
YUK6	**Outpost Mounta**	**8.43**	**244**	Pn	**Pn**	**18 39 33.1**	**+0.3**
SKAG	**Skagway**	**8.44**	**230**	Pn	**Pn**	**18 39 34.0**	**+1.4**
YUK1	**Sand Pete Hill**	**8.57**	**255**	Pn	**Pn**	**18 39 34.5**	**-0.1**
BVCY	**Beaver Creek**	**8.57**	**257**	Pn	**Pn**	**18 39 34.5**	**0.0**
BCAR	**Beaver Creek A**	**8.65**	**262**		**Pn**	**18 39 34.0**	**-1.6**
PLBC	**Pleasant Camp**	**8.78**	**232**	Pn	**Pn**	**18 39 38.5**	**+1.2**
PLBC				Sn	**Sn**	**18 41 11.2**	**-5.2**
PLBC				Sg	**Sg**	**18 42 05.5**	**-6.0**
BESE	**Bessie Mountai**	**9.01**	**225**	Pn	**Pn**	**18 39 42.0**	**+1.4**
BESE	**Bessie Mountai**	**9.01**	**225**	Pn	**Pn**	**18 39 41.7**	**+1.2**
JIS	**Juneau Island**	**9.13**	**222**		**Pn**	**18 39 43.6**	**+1.5**
SCRK	**Sand Creek**	**9.22**	**270**	P	**Pn**	**18 39 42.9**	**-0.6**
	baz=70,SNR=171						
DOT	**Dot Lake**	**9.37**	**268**	Pn	**Pn**	**18 39 45.1**	**-0.3**
DOT	**Dot Lake**	**9.37**	**268**	Pn	**Pn**	**18 39 44.7**	**-0.7**
MENT	**Mentasta**	**9.51**	**264**		**Pn**	**18 39 46.5**	**-0.7**
CTGM	**Chitina Glacie**	**9.56**	**250**	Pn	**Pn**	**18 39 49.1**	**+1.1**
CTGM	**Chitina Glacie**	**9.56**	**250**	Pn	**Pn**	**18 39 49.2**	**+1.1**
BCPM	**Bancas Point**	**9.56**	**242**		**Pn**	**18 39 49.4**	**+1.3**
BARN	**Barnard Glacie**	**9.63**	**251**		**Pn**	**18 39 50.2**	**+1.1**
RIDG	**Independent Ri**	**9.66**	**269**		**Pn**	**18 39 48.8**	**-0.6**
PNL	**Peninsula**	**9.68**	**240**	Pn	**Pn**	**18 39 51.9**	**+2.3**
PCA	**Pinnacle**	**9.70**	**244**	Pn	**Pn**	**18 39 52.1**	**+2.1**
PCA	**Pinnacle**	**9.70**	**244**		**Pn**	**18 39 51.3**	**+1.3**
TABL	**Table Mountain**	**9.81**	**247**	Pn	**Pn**	**18 39 53.3**	**+1.8**
TABL	**Table Mountain**	**9.81**	**247**		**Pn**	**18 39 52.9**	**+1.4**
GRNC	**Granite Creek**	**9.86**	**250**	Pn	**Pn**	**18 39 54.4**	**+2.1**
PTPK	**Patty Peak**	**9.88**	**253**	Pn	**Pn**	**18 39 54.1**	**+1.6**
BALM	**Baldy**	**9.91**	**252**	P	**Pn**	**18 39 54.6**	**+1.7**
BALM	**Baldy**	**9.91**	**252**		**Pn**	**18 39 54.4**	**+1.4**
RKAV	**Rock Avalanche**	**9.98**	**247**	P	**Pn**	**18 39 55.9**	**+2.0**
KIAG	**Kiagna River**	**9.99**	**252**	P	**Pn**	**18 39 55.8**	**+1.8**
MCARA	**McCarthy VSAT**	**9.99**	**255**		**Pn**	**18 39 54.3**	**+0.4**
YAH	**Yahtse**	**10.09**	**248**		**Pn**	**18 39 56.7**	**+1.2**
ISLE	**Juniper Island**	**10.17**	**250**		**Pn**	**18 39 56.7**	**+0.2**
IL31		**10.19**	**277**	Pn	**Pn**	**18 39 54.9**	**-1.7**
ILAR	**Eielson Array**	**10.19**	**277**	Pn	**Pn**	**18 39 55.2**	**-1.4**
	5.5nm,0.3s,baz=75,slow=11,SNR=280						
ILAR				Sn	**Sn**	**18 41 48.3**	**-2.7**
	3.5nm,0.3s,baz=66,slow=24,SNR=4.6						
ILAR				Lg	Lg	18 42 54.7	
	1.6nm,0.3s,baz=149,slow=37,SNR=2.9						
ILAR				LR	LR	18 44 37.2	
	comp=Z,167nm,18.9s,baz=80,slow=42						
ILAR	**Eielson Array**	**10.19**	**277**		**Pn**	**18 39 54.5**	**-2.0**
PAX	**Paxson**	**10.22**	**266**	P	**Pn**	**18 39 57.5**	**+0.4**
PAX	**Paxson**	**10.22**	**266**	P	**Pn**	**18 39 57.0**	**-0.1**
PAX	**Paxson**	**10.22**	**266**		**Pn**	**18 39 57.0**	**-0.1**
VRDI	**Verde Repeater**	**10.25**	**255**		**Pn**	**18 39 56.7**	**-0.8**
TGL	**Tana Glacier**	**10.27**	**252**		**Pn**	**18 39 57.5**	**-0.4**
GLB	**Gilahina Butte**	**10.27**	**256**		**Pn**	**18 39 57.8**	**0.0**
WRAK	**Wrangell Islan**	**10.27**	**212**		**Pn**	**18 39 58.5**	**+0.8**
MESA	**MESA**	**10.29**	**247**	P	**Pn**	**18 40 00.4**	**+2.3**
MESA	**MESA**	**10.29**	**247**		**Pn**	**18 39 59.9**	**+1.8**
HDA	**Harding Lake**	**10.32**	**275**	P	**Pn**	**18 39 56.9**	**-1.4**
	baz=72,SNR=89						
HDA	**Harding Lake**	**10.32**	**275**		**Pn**	**18 39 56.8**	**-1.5**
POKR	**Poker Flat Res**	**10.33**	**279**	P	**Pn**	**18 39 55.3**	**-3.2**
	baz=76						
CRQM	**Cirque**	**10.39**	**252**		**Pn**	**18 40 01.1**	**+1.6**
SIT	**Sitka**	**10.44**	**221**	P	**Pn**	**18 40 02.3**	**+2.3**
SIT	**Sitka**	**10.44**	**221**	Pn	**Pn**	**18 40 02.3**	**+2.3**
COLA	**College**	**10.56**	**278**	P	**Pn**	**18 40 00.7**	**-0.9**
COLA	**College**	**10.56**	**278**		**Pn**	**18 40 00.7**	**-0.9**
TCOL	**CIGO, UAF Yank**	**10.57**	**278**	P	**Pn**	**18 40 00.4**	**-1.3**
	baz=75,SNR=12						
CCB	**Clear Creek Bu**	**10.60**	**277**	Pn	**Pn**	**18 39 59.8**	**-2.4**
MDM	**Murphy Dome**	**10.70**	**279**		**Pn**	**18 40 01.1**	**-2.4**
WRH	**Wood River Hil**	**10.77**	**276**	Pn	**Pn**	**18 40 03.0**	**-1.5**
TOLK	**Toolik Lake Re**	**10.88**	**299**	P	**Pn**	**18 40 03.5**	**-2.4**
	baz=94,SNR=20						
TOLK	**Toolik Lake Re**	**10.88**	**299**		**Pn**	**18 40 05.0**	**-1.0**
M24K	**Tolsona, Glenn**	**10.90**	**262**	P	**Pn**	**18 40 06.5**	**+0.2**
	baz=61						
DHY	**Denali Highway**	**10.97**	**268**		**Pn**	**18 40 07.5**	**+0.2**
SUCK	**Suckling Hills**	**11.06**	**250**	Pn	**Pn**	**18 40 09.1**	**+0.5**
HMT	**Hamilton**	**11.09**	**252**		**Pn**	**18 40 10.2**	**+1.3**
KLU	**Klutina**	**11.11**	**259**	Pn	**Pn**	**18 40 10.0**	**+0.8**
COLD	**Coldfoot**	**11.12**	**291**	P	**Pn**	**18 40 07.5**	**-1.8**
	baz=86,SNR=37						
COLD	**Coldfoot**	**11.12**	**291**	Pn	**Pn**	**18 40 08.6**	**-0.7**
FSB	**Fort Saint Jam**	**11.14**	**185**	P	**Pn**	**18 40 09.8**	**+0.2**
NEA2	**Nenana**	**11.14**	**277**	P	**Pn**	**18 40 07.1**	**-2.5**
	baz=73,SNR=56						
RAGM	**Ragged Mountai**	**11.22**	**253**		**Pn**	**18 40 12.9**	**+2.2**
BWN	**Browne**	**11.44**	**275**		**Pn**	**18 40 11.6**	**-2.0**
RND	**Reindeer**	**11.45**	**271**	P	**Pn**	**18 40 13.8**	**-0.1**
RND	**Reindeer**	**11.45**	**271**	Pn	**Pn**	**18 40 13.8**	**-0.1**
SCM	**Sheep Creek Mo**	**11.51**	**263**	P	**Pn**	**18 40 16.5**	**+1.8**
SCM	**Sheep Creek Mo**	**11.51**	**263**		**Pn**	**18 40 16.5**	**+1.8**
EYAK	**Cordova Ski Ar**	**11.56**	**255**	Pn	**Pn**	**18 40 15.7**	**+0.4**
FID	**Port Fidalgo**	**11.74**	**257**		**Pn**	**18 40 20.2**	**+2.5**
GLI	**Glacier Island**	**11.92**	**258**		**Pn**	**18 40 21.9**	**+1.8**
SML	**Sawmill**	**11.94**	**264**		**Pn**	**18 40 22.6**	**+2.1**
HIN	**Hinchinbrook I**	**11.95**	**256**	Pn	**Pn**	**18 40 21.3**	**+0.6**
TRF	**Thorofare Moun**	**12.03**	**273**	Pn	**Pn**	**18 40 20.9**	**-1.0**
BPAW	**Bear Paw Mtn.**	**12.09**	**276**	Pn	**Pn**	**18 40 20.1**	**-2.5**
KNK	**Knik Glacier**	**12.19**	**262**		**Pn**	**18 40 25.5**	**+1.6**
GHO	**Glory Hole Cre**	**12.20**	**264**		**Pn**	**18 40 25.7**	**+1.6**
KTH	**Kantishna Hill**	**12.26**	**274**	Pn	**Pn**	**18 40 24.4**	**-0.5**
PMR	**Palmer**	**12.38**	**264**	P	**Pn**	**18 40 26.6**	**+0.2**
PMR	**Palmer**	**12.38**	**264**	Pn	**Pn**	**18 40 26.6**	**+0.2**
IMAR	**Indian Mountai**	**12.70**	**286**		**Pn**	**18 40 27.9**	**-2.9**
RES	**Resolute Bay**	**12.99**	**33**	Pn	**Pn**	**18 40 30.4**	**-4.2**
	19nm,0.3s,baz=229,slow=12,SNR=153						
RES				Sn	Sn	18 42 46.0	-13
	20nm,0.3s,baz=127,slow=22,SNR=3.9						
RES				Lg	Lg	18 44 07.6	
	34nm,0.3s,baz=290,slow=21,SNR=5.9						
RES				LR	LR	18 45 52.4	
	comp=Z,1μm,18.1s,baz=243,slow=39						
RES	**Resolute Bay**	**12.99**	**33**	P	**Pn**	**18 40 30.3**	**-4.4**
RES				S	Sn	18 42 43.1	-16
RES	**Resolute Bay**	**12.99**	**33**	P	**Pn**	**18 40 30.3**	**-4.4**
RES	**Resolute Bay**	**12.99**	**33**	Pn	**Pn**	**18 40 30.3**	**-4.4**
PPLA	**Purkeypile**	**13.04**	**272**	Pn	**Pn**	**18 40 35.7**	**0.0**
SUA	**Susitna One**	**13.11**	**265**	Pn	**Pn**	**18 40 37.3**	**+0.7**
SKT	**Skwentna**	**13.18**	**268**		**Pn**	**18 40 37.4**	**-0.1**
MOBC	**Moresby Island**	**13.29**	**205**		**Pn**	**18 40 39.6**	**+0.7**
SEW	**Seward**	**13.32**	**258**	Pn	**Pn**	**18 40 42.5**	**+3.3**
DIB	**Dawson Inlet,**	**13.32**	**206**	P	**Pn**	**18 40 40.4**	**+1.0**
DIB	**Dawson Inlet,**	**13.32**	**206**		**Pn**	**18 40 41.6**	**+2.1**
MNB	**Monoket Dainar**	**13.57**	**169**	P	**Pn**	**18 40 40.6**	**-2.4**
A21K	**Barrow**	**13.58**	**310**	P	**Pn**	**18 40 39.5**	**-3.4**
	baz=98						
BLBC	**Blue River**	**13.66**	**171**	P	**Pn**	**18 40 42.3**	**-1.9**
BBB	**Bella Bella**	**13.69**	**194**	Pn	**Pn**	**18 40 47.1**	**+2.8**
	0.4nm,0.3s,baz=358,slow=16,SNR=1.8						
BBB				Sn	**Sn**	**18 43 21.4**	**+5.0**
	0.6nm,0.3s,baz=161,slow=8.0,SNR=1.7						
BBB				Lg	Lg	18 44 40.2	
	0.6nm,0.3s,baz=127,slow=24,SNR=1.0						
BBB				LR	LR	18 46 57.7	
	comp=Z,540nm,19.6s,baz=37,slow=41						
BBB	**Bella Bella**	**13.69**	**194**	Pn	**P**	**18 40 51.0**	**-2.3**
BRLK	**Bradley Lake**	**14.10**	**259**	Pn	**Pn**	**18 40 51.7**	**+1.6**
CNPM	**China Poot**	**14.39**	**259**		**Pn**	**18 40 55.9**	**+2.0**
RSO	**Redoubt South**	**14.47**	**263**		**Pn**	**18 40 57.1**	**+1.9**
SLEB	**Sale Mountain**	**14.61**	**169**	P	**Pn**	**18 40 54.2**	**-3.1**
TTA	**Tatalina**	**14.62**	**275**	P	**Pn**	**18 40 54.2**	**-2.9**
TTA	**Tatalina**	**14.62**	**275**	Pn	**Pn**	**18 40 54.2**	**-2.9**
FFC	**Flin Flon**	**14.87**	**127**	P	**Pn**	**18 40 57.4**	**-3.1**
FFC	**Flin Flon**	**14.87**	**127**		**Pn**	**18 40 57.4**	**-3.1**
FCC	**Fort Churchill**	**14.88**	**104**	P	**Pn**	**18 40 56.1**	**-4.4**
FCC	**Fort Churchill**	**14.88**	**104**	P	**Pn**	**18 40 57.0**	**-3.5**
FCC	**Fort Churchill**	**14.88**	**104**	Pn	**Pn**	**18 40 57.0**	**-3.5**
LLLB	**Lillooet**	**14.99**	**178**	P	**Pn**	**18 41 00.9**	**-1.2**
SVW2	**Sparrevohn**	**15.31**	**268**	Pn	**Pn**	**18 41 04.9**	**-1.4**
PRDA	**Priddis**	**15.35**	**160**	P	**Pn**	**18 41 04.3**	**-2.7**
MAYB	**Maynard**	**15.37**	**191**	P	**Pn**	**18 41 03.4**	**-3.9**
WSLR	**Whistler**	**15.46**	**181**	P	**Pn**	**18 41 08.7**	**+0.2**
CBB	**Campbell River**	**15.62**	**186**	P	**P**	**18 41 12.7**	**-2.0**
RDOG	**Red Dog Mine**	**15.84**	**297**	Pn	**Pn**	**18 41 09.4**	**-3.8**
RDOG				IAmb	IAmb	18 41 35.0	
	comp=Z,51nm,0.7s						
ILON	**Igloolik, Nuna**	**15.89**	**58**	P	**Pn**	**18 41 08.5**	**-5.3**
TXB	**Texada**	**15.92**	**184**	P	**P**	**18 41 17.8**	**-0.3**
KDAK	**Kodiak Island**	**16.04**	**255**	Pn	**Pn**	**18 41 16.7**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=41,slow=9.4,SNR=6.0						
KDAK				LR	LR	18 48 13.8	
	comp=Z,800nm,18.9s,baz=52,slow=40						
KDAK	**Kodiak Island**	**16.04**	**255**	Pn	**Pn**	**18 41 16.2**	**+0.4**
BTB	**Buttle Lake**	**16.19**	**187**	P	**P**	**18 41 20.3**	**-0.9**
HOPB	**Hope**	**16.22**	**177**	P	**Pn**	**18 41 18.8**	**+0.6**
PNT	**Penticton**	**16.36**	**173**	P	**Pn**	**18 41 18.0**	**-1.9**
MGB	**Mount Grey**	**16.63**	**185**	P	**P**	**18 41 25.0**	**-1.0**
OHAK	**Old Harbor**	**16.70**	**255**		**Pn**	**18 41 24.2**	**0.0**
OZB	**Mount Ozzard**	**16.70**	**186**	P	**P**	**18 41 26.3**	**-0.4**
YOUB	**Youbou, Lake C**	**16.71**	**184**	P	**Pn**	**18 41 25.3**	**+0.8**
B926	**Mesachie Lake**	**16.79**	**183**	P	**P**	**18 41 27.1**	**-0.6**
B928	**Bamfield**	**16.81**	**186**	P	**Pn**	**18 41 24.9**	**-0.7**
PGC	**Sidney**	**16.95**	**182**		**Pn**	**18 41 26.3**	**-1.1**
PFB	**Port Renfrew**	**17.05**	**184**	P	**Pn**	**18 41 29.5**	**+0.8**
B06A	**Marblemount**	**17.09**	**177**		**Pn**	**18 41 27.2**	**-1.9**
WALA	**Waterton Lakes**	**17.17**	**160**	P	**Pn**	**18 41 28.2**	**-2.1**
WALA	**Waterton Lakes**	**17.17**	**160**	Pn	**Pn**	**18 41 27.9**	**-2.4**
WALA				IAmb	IAmb	18 41 34.7	
	comp=Z,74nm,0.9s						
B08A	**Colville Reser**	**17.33**	**172**	Pn	**Pn**	**18 41 31.2**	**-1.0**
B05A	**Bryant**	**17.33**	**179**	P	**Pn**	**18 41 32.8**	**+0.6**
	baz=359						
EUNU	**Eureka**	**17.49**	**20**	P	**Pn**	**18 41 31.8**	**-2.3**
EUNU	**Eureka**	**17.49**	**20**		**Pn**	**18 41 31.4**	**-2.8**
EUNU				IAmb	IAmb	18 41 43.5	
	comp=Z,110nm,0.8s						
SII	**Sitkinak Islan**	**17.51**	**254**		**Pn**	**18 41 34.1**	**-0.3**
SII				IAmb	IAmb	18 41 44.0	
	comp=Z,70nm,0.7s						
NEW	**Newport**	**17.58**	**168**	P	**Pn**	**18 41 34.0**	**-1.4**
	baz=352,SNR=8.8						
NEW	**Newport**	**17.58**	**168**	P	**Pn**	**18 41 33.2**	**-2.2**
NEW				pmax	pmax		
	comp=Z,20nm,0.8s						
NEW	**Newport**	**17.58**	**168**		**Pn**	**18 41 33.2**	**-2.2**
ANM	**Nome**	**17.78**	**287**	P	**Pn**	**18 41 37.5**	**-0.3**
ANM				pmax	pmax		
	comp=Z,31nm,0.7s						
ANM	**Nome**	**17.78**	**287**	P	**Pn**	**18 41 37.5**	**-0.3**
C09A	**Chrisman Ranch**	**17.95**	**170**	Pn	**Pn**	**18 41 39.0**	**-0.9**
D03D	**Eldon**	**18.06**	**181**	P	**P**	**18 41 42.4**	**+0.7**
	baz=0.6,SNR=11						
NLWA	**Neilton Lookou**	**18.21**	**183**	P	**P**	**18 41 44.1**	**+0.6**
LTY	**Liberty**	**18.37**	**176**	P	**P**	**18 41 46.3**	**+1.1**
JTMT	**Jette**	**18.40**	**162**	P	**Pn**	**18 41 43.3**	**-2.3**
D05A	**Enumclaw**	**18.41**	**179**	P	**Pn**	**18 41 44.0**	**-1.5**
CHIR	**Chirikof Islan**	**18.60**	**254**	P	**Pn**	**18 41 49.0**	**+1.2**
CHIR				IAmb	IAmb	18 42 41.8	
	comp=Z,207nm,1.2s						
D08A	**Wollman Farm,**	**18.65**	**172**	P	**P**	**18 41 47.2**	**-0.9**
LON	**Longmire**	**18.85**	**178**	P	**P**	**18 41 49.5**	**-1.0**
LON				pmax	pmax		
	comp=Z,15nm,0.9s						
LON	**Longmire**	**18.85**	**178**	P	**P**	**18 41 49.5**	**-1.0**
EGMT	**Eagleton**	**18.87**	**152**	P	**P**	**18 41 49.2**	**-1.5**
	baz=343,SNR=16						
EGMT	**Eagleton**	**18.87**	**152**	P	**P**	**18 41 49.8**	**-0.9**
EGMT				IAmb	IAmb	18 42 23.7	
	comp=Z,105nm,0.8s						
E04D	**Cinebar**	**19.04**	**180**	P	**Pn**	**18 41 55.4**	**+2.3**
	baz=360						
E03A	**Lebam**	**19.05**	**182**	P	**P**	**18 41 52.4**	**-0.2**
E03A				IAmb	IAmb	18 42 14.1	
	comp=Z,87nm,1.3s						
E07A	**Sunnyside**	**19.10**	**174**	P	**P**	**18 41 53.4**	**+0.3**
E07A				IAmb	IAmb	18 41 57.7	
	comp=Z,47nm,0.8s						
E08A	**Dider Farm, El**	**19.20**	**172**	P	**Pn**	**18 41 55.4**	**+0.2**
E09A	**Wood Farm, Sta**	**19.24**	**170**	P	**P**	**18 41 54.8**	**+0.2**
HAWA	**Hanford**	**19.28**	**173**	P	**Pn**	**18 41 56.1**	**+0.1**
MSO	**Missoula**	**19.35**	**162**	P	**P**	**18 41 56.1**	**+0.1**
	baz=349,SNR=38						
MSO	**Missoula**	**19.35**	**162**	P	**P**	**18 41 55.7**	**-0.2**
MSO				IAmb	IAmb	18 42 03.1	
	comp=Z,59nm,0.8s						
F04D	**Rainier, OR**	**19.51**	**181**	P	**P**	**18 41 58.0**	**+0.3**
	baz=0.5						
F04A	**Amboy**	**19.66**	**179**	P	**Pn**	**18 42 00.8**	**+0.1**
F04A				IAmb	IAmb	18 42 18.4	
	comp=Z,92nm,1.1s						
F03A	**Seaside**	**19.67**	**182**	P	**P**	**18 41 59.4**	**0.0**
TULEG	**Thule**	**19.70**	**34**	P	**P**	**18 41 57.5**	**-2.0**
TULEG				IAmb	IAmb	18 42 08.2	
	comp=Z,78nm,1.0s						
DGMT	**Dagmar**	**19.71**	**141**	P	**P**	**18 42 00.1**	**+0.3**
	baz=337,SNR=38						
DGMT	**Dagmar**	**19.71**	**141**	P	**P**	**18 41 59.5**	**-0.3**
F05D	**White Salmon**	**19.72**	**177**	P	**Pn**	**18 42 03.2**	**+1.8**
	baz=359,SNR=17						
F07A	**Phinny Hill Vi**	**19.76**	**174**	P	**P**	**18 42 00.4**	**+0.1**
HRY	**Holter Researc**	**19.77**	**157**	P	**P**	**18 42 01.0**	**+0.4**
F10A	**Beach Ranch, E**	**19.84**	**169**	P	**P**	**18 42 01.9**	**+0.5**
F10A				IAmb	IAmb	18 42 09.6	
	comp=Z,49nm,0.8s						
G05D	**Wamic, OR**	**20.36**	**177**	P	Pn	18 42 09.6	+0.6
	baz=358,SNR=9.7						
G03D	**McMinnville, O**	**20.39**	**181**	P	Pn	18 42 09.1	-0.1
	baz=0.8						
G08A	**Pilot Rock**	**20.41**	**172**	P	Pn	18 42 09.0	-0.6
LRM	**Limekiln Ridge**	**20.54**	**159**		Pn	18 42 10.9	-0.4
ULM	**Lac du Bonnet**	**20.67**	**125**	P	**P**	**18 42 11.3**	**+1.1**
	comp=Z,11nm,0.7s,baz=321,slow=9.4,SNR=6.8						
ULM				LR	LR	18 49 12.1	
	comp=Z,87nm,18.4s,baz=56,slow=34						
ULM	**Lac du Bonnet**	**20.67**	**125**	P	**P**	**18 42 10.8**	**+0.7**
ULM	**Lac du Bonnet**	**20.67**	**125**	P	**P**	**18 42 10.7**	**+0.5**
ULM				pmax	pmax		
	comp=Z,44nm,1.2s						
ULM	**Lac du Bonnet**	**20.67**	**125**	P	**P**	**18 42 10.7**	**+0.5**
LAO	**LASA Array**	**20.88**	**147**	P	Pn	18 42 14.4	-0.7
	baz=341,SNR=16						
LAO	**LASA Array**	**20.88**	**147**	P	Pn	18 42 14.8	-0.3
LAO				IAmb	IAmb	18 42 20.9	
	comp=Z,58nm,0.8s						
BOZ	**Bozeman (W)**	**20.89**	**158**	P	Pn	18 42 14.2	-1.0
	baz=347,SNR=53						
BOZ	**Bozeman (W)**	**20.89**	**158**	P	Pn	18 42 14.2	-1.0
BOZ				pmax	pmax		
	comp=Z,88nm,1.5s						
BOZ	**Bozeman (W)**	**20.89**	**158**	P	Pn	18 42 14.2	-1.0
BOZ				IAmb	IAmb	18 42 19.1	
	comp=Z,88nm,1.4s						
SDPT	**Sand Point**	**20.90**	**259**	P	**P**	**18 42 13.5**	**+0.9**
CNBA	**Chernabura Isl**	**20.91**	**257**	P	**P**	**18 42 13.7**	**+1.0**
CNBA				IAmb	IAmb	18 42 24.4	
	comp=Z,52nm,0.9s						
H04A	**Detroit Lake**	**20.91**	**179**	P	Pn	18 42 14.5	-0.9
H04A				IAmb	IAmb	18 42 36.4	
	comp=Z,35nm,0.8s						
BMO	**Blue Mountains**	**20.95**	**169**	P	**P**	**18 42 14.4**	**+1.0**
BMO				pmax	pmax		
	comp=Z,24nm,0.9s						
BMO	**Blue Mountains**	**20.95**	**169**	P	**P**	**18 42 14.4**	**+1.0**
**D

MOD Modoc Plateau 23.73 176 P P 18 42 44.5 +1.8
AHID Auburn Hatcher 23.73 158 P P 18 42 43.7 +0.9
AHID IAmb IAmb 18 43 32.1
comp=Z,29nm,1.0s
M04C Macdoel 23.82 178 P P 18 42 45.3 +1.8
baz=359,SNR=9.7
RSSD Black Hills 23.82 145 P P 18 42 44.7 +1.1
baz=341
RSSD Black Hills 23.82 145 P P 18 42 44.8 +1.2
RSSD pmax pmax
comp=Z,83nm,1.4s
RSSD Black Hills 23.82 145 P P 18 42 44.8 +1.2
RSSD IAmb IAmb 18 42 50.8
comp=Z,83nm,1.4s
YBH Yreka Blue Hor 23.86 180 P P 18 42 46.9 +3.0
comp=Z,1.2nm,0.5s,baz=99,slow=6.2,SNR=2.4
YBH LR LR 18 52 16.9
comp=Z,201nm,20.4s,baz=3.5,slow=37
YBH Yreka Blue Hor 23.86 180 P P 18 42 46.1 +2.2
YBH pmax pmax
comp=Z,8.0nm,0.9s
YBH Yreka Blue Hor 23.86 180 P P 18 42 46.1 +2.2
BW06 Boulder Array 23.98 156 P P 18 42 47.1 +1.9
baz=347,SNR=36
PD31 Pinedale Array 23.98 156 IAmb IAmb 18 42 58.0
comp=Z,50nm,1.1s
PDAR Pinedale Array 23.98 156 P P 18 42 47.5 +2.2
comp=Z,16nm,0.8s,baz=14,slow=6.2,SNR=142
PDAR LR LR 18 52 40.5
comp=Z,459nm,18.1s,baz=5.5,slow=38
PDAR Pinedale Array 23.98 156 P P 18 42 46.1 +0.9
EYMN Ely 24.15 122 P P 18 42 46.4 0.0
baz=328
EYMN Ely 24.15 122 IAmb IAmb 18 43 14.4
comp=Z,28nm,0.9s
M02C Callahan 24.20 180 P P 18 42 48.3 +1.2
baz=0.2
GTO Geraldton 24.33 113 P P 18 42 48.8 +0.7
F33A 5 Mile Ranch, 24.38 131 P P 18 42 49.4 +0.8
F33A IAmb IAmb 18 43 08.6
comp=Z,49nm,1.1s
N02D Trinity Center 24.62 180 P P 18 42 52.9 +2.0
baz=0.1
K22A Casper 24.66 151 P P 18 42 52.1 +0.7
baz=344,SNR=34
HWUT Hardware Ranch 24.80 160 P P 18 42 54.2 +1.5
HWUT IAmb IAmb 18 43 29.4
comp=Z,19nm,0.9s
F36A Milaca 25.25 127 P P 18 42 58.7 +2.2
F36A IAmb IAmb 18 43 35.5
comp=Z,19nm,0.8s
TCUT Toone Canyon 25.30 160 P P 18 42 59.0 +1.8
O03E Paynes Creek 25.30 178 P P 18 42 58.7 +1.7
baz=359,SNR=11
O02D Mt. Diablo Mer 25.41 180 P P 18 43 00.2 +2.1
baz=0.1
RWWY Rawlins 25.45 152 P P 18 43 00.1 +1.4
RWWY IAmb IAmb 18 43 39.4
comp=Z,59nm,1.2s
D41A Chassel 25.95 119 P P 18 43 04.1 +1.3
DUG Dugway, Tooele 26.02 163 P P 18 43 05.9 +2.3
baz=351,SNR=9.1
DUG Dugway, Tooele 26.02 163 P P 18 43 05.3 +1.6
DUG pmax pmax
comp=Z,17nm,1.1s
DUG Dugway, Tooele 26.02 163 P P 18 43 05.3 +1.6
SPMN Marine on St. 26.06 127 IAmb IAmb 18 43 25.9
comp=Z,18nm,0.8s
RDMU Red Mountain 26.12 157 P P 18 43 05.4 +0.8
ECSD EROS Data Cent 26.18 134 P P 18 43 06.3 +1.4
baz=336,SNR=15
ECSD EROS Data Cent 26.18 134 IAmb IAmb 18 43 32.9
comp=Z,19nm,0.7s
PHWY Pilot Hill 26.18 150 P P 18 43 06.3 +1.1
N23A Red Feather La 26.47 151 P P 18 43 09.3 +1.4
baz=345
N23A Red Feather La 26.47 151 P P 18 43 08.7 +0.8
N23A IAmb IAmb 18 43 32.3
comp=Z,31nm,0.8s
LG4Q La Grande 4 26.57 93 P P 18 43 08.6 +0.3
AFDM Forest Hills D 26.66 177 P P 18 43 10.1 +0.8
O20A White River Ci 26.77 155 P P 18 43 12.6 +2.1
baz=347,SNR=22
O20A White River Ci 26.77 155 P P 18 43 12.2 +1.8
O20A IAmb IAmb 18 43 51.9
comp=Z,31nm,0.9s
RYN Ryan 27.07 173 P P 18 43 15.6 +2.5
WAKR Walker 27.15 174 P P 18 43 16.5 +2.6
NVAR Mina Array Bea 27.28 172 P P 18 43 17.3 +2.2
comp=Z,2.7nm,0.8s,baz=347,slow=6.2,SNR=10
NVAR LR LR 18 53 55.6
comp=Z,138nm,21.0s,baz=1.5,slow=36
NVAR Mina Array Bea 27.28 172 P P 18 43 15.6 +0.5
SRU San Rafael Swe 27.40 159 P P 18 43 17.3 +1.1
SRU pmax pmax
comp=Z,15nm,0.7s
SRU San Rafael Swe 27.40 159 P P 18 43 17.3 +1.1
LHV Little Huntoon 27.45 173 IAmb IAmb 18 43 54.4
comp=Z,22nm,1.1s
Q16A Castle Valley 27.49 160 P P 18 43 17.9 +0.8
R11A Troy Canyon, C 27.55 168 P P 18 43 19.1 +1.6
baz=354
SFJD Kangerlussuaq 27.57 54 LR LR 18 54 33.4
comp=Z,867nm,18.1s,baz=302,slow=37
ISCO Idaho Springs 27.59 151 P P 18 43 19.3 +1.3
baz=345,SNR=7.9
ISCO Idaho Springs 27.59 151 P P 18 43 18.3 +0.3
ISCO pmax pmax
comp=Z,11nm,1.0s
ISCO Idaho Springs 27.59 151 P P 18 43 18.3 +0.3
MSU Marysvale 27.76 162 P P 18 43 21.1 +1.7
MSU Marysvale 27.76 162 P P 18 43 21.1 +1.7
D46A Sault St. Mari 27.79 113 P P 18 43 19.0 -0.4
baz=326
MATQ Matagami 28.01 102 P P 18 43 20.8 -0.6
baz=321
PV22 Blue Mesa, Par 28.23 157 IAmb IAmb 18 43 49.7
comp=Z,13nm,0.8s
PV23 Carpenter Ridg 28.28 157 IAmb IAmb 18 44 19.6
comp=Z,36nm,1.1s
PV10 Paradox Valley 28.35 157 P P 18 43 25.5 +0.8
PV10 IAmb IAmb 18 43 57.9
comp=Z,34nm,1.0s
PV04 Paradox Valley 28.35 157 IAmb IAmb 18 44 25.9
comp=Z,26nm,1.0s
PV14 Lion Creek, Pa 28.35 157 P P 18 43 26.6 +1.9
PV14 IAmb IAmb 18 44 26.1
comp=Z,22nm,0.8s
PV20 West Nyswonger 28.39 157 P P 18 43 25.2 +0.1
PV20 IAmb IAmb 18 44 08.2
comp=Z,16nm,0.7s
SUMG Summit 28.40 39 P P 18 43 23.9 -1.2
SUMG pmax pmax
comp=Z,16nm,0.6s
SUMG Summit 28.40 39 P P 18 43 23.9 -1.2
SUMG IAmb IAmb 18 43 43.9
comp=Z,16nm,0.6s
D48A Paudash Townsh 28.42 110 P P 18 43 24.7 -0.2
baz=325
PV16 Nyswonger Mesa 28.43 157 IAmb IAmb 18 43 58.3
comp=Z,23nm,0.8s
E47A Iron Bridge 28.44 113 P P 18 43 25.3 +0.2
baz=326
PV11 David Mesa, Pa 28.45 157 P P 18 43 25.7 +0.1
PV11 IAmb IAmb 18 44 04.0
comp=Z,28nm,0.7s
PV17 East Wray Mesa 28.45 157 IAmb IAmb 18 44 10.0
comp=Z,16nm,0.9s
PV18 Skein Mesa, Pa 28.50 157 IAmb IAmb 18 44 21.6
comp=Z,16nm,0.9s
PRN Pahroc Range 28.53 167 P P 18 43 27.7 +1.5
PV13 Radium Mtn., P 28.59 157 P P 18 43 27.8 +0.9
PV13 IAmb IAmb 18 44 00.1
comp=Z,13nm,0.8s
PV01 Paradox Valley 28.66 156 IAmb IAmb 18 43 55.4
comp=Z,18nm,1.0s
SCHQ Schefferville 28.74 85 P P 18 43 28.2 +0.5
comp=Z,10nm,0.6s,baz=332,slow=2.7,SNR=9.6
SCHQ LR LR 18 55 11.5
comp=Z,432nm,20.4s,baz=304,slow=37
SCHQ Schefferville 28.74 85 P P 18 43 27.7 -0.1
SCHQ Schefferville 28.74 85 P P 18 43 27.4 -0.3
SCHQ IAmb IAmb 18 44 30.2
comp=Z,31nm,1.1s
LSQQ Lebel-sur-Quev 28.83 102 P P 18 43 28.0 -0.6
baz=322

E48A Lockeyer 28.85 111 P P 18 43 28.7 0.0
baz=326
TPNV Topopah Spring 28.89 169 P P 18 43 31.3 +1.9
baz=355,SNR=6.2
TPNV Topopah Spring 28.89 169 P P 18 43 31.0 +1.6
TPNV pmax pmax
comp=Z,9.0nm,1.1s
TPNV Topopah Spring 28.89 169 P P 18 43 31.0 +1.6
SCIA State Center 28.89 131 IAmb IAmb 18 43 36.8
comp=Z,20nm,0.8s
S22A 4UR Ranch, Cre 29.34 154 P P 18 43 35.0 +1.4
baz=347
S22A 4UR Ranch, Cre 29.34 154 P P 18 43 35.2 +1.6
SDCO Great Sand Dun 29.60 152 P P 18 43 37.3 +1.4
baz=346,SNR=12
SDCO Great Sand Dun 29.60 152 P P 18 43 36.9 +1.1
MPMC Manual Prospec 29.69 171 P P 18 43 38.0 +1.4
baz=356,SNR=6.1
CBKS Cedar Bluff 29.88 142 IAmb IAmb 18 43 46.4
comp=Z,19nm,0.8s
EEO Eldee 29.93 108 P P 18 43 38.5 +0.1
ISA Isabella, Lake 30.03 173 P P 18 43 40.8 +1.4
baz=357
LRMC Laurel Mtn Rad 30.25 172 P P 18 43 43.4 +2.0
baz=356
T25A Trinidad 30.40 150 P P 18 43 44.4 +1.5
baz=345
D54A Lac Fusel, La 30.48 104 P P 18 43 42.6 -0.6
baz=324,SNR=5.1
GSC Goldstone, Bar 30.48 170 P P 18 43 45.9 +2.5
baz=355
E53A Dumoine, Ponti 30.70 106 P P 18 43 44.8 -0.4
baz=325,SNR=5.9
WUAZ Wupatki 30.81 162 P P 18 43 47.3 +0.8
baz=351
E54A Lac Daplat, Po 30.85 106 P P 18 43 47.0 +0.5
baz=325,SNR=5.4
ALGO Algonquin Park 30.90 107 P P 18 43 47.3 +0.4
baz=326
W13A Hualapai Mount 30.93 166 P P 18 43 47.8 +0.2
HEC Hector,Ludlow 30.99 170 P P 18 43 50.4 +2.5
baz=355
D55A Sainte-Anne-du 31.07 103 P P 18 43 49.3 +0.9
baz=324,SNR=7.6
GMRC Granite Mounta 31.08 169 P P 18 43 50.9 +2.1
baz=354
GRQ Grand Remous 31.24 104 P P 18 43 51.1 +1.2
E55A Montcerf-Lytto 31.29 105 P P 18 43 50.5 +0.2
baz=325
D56A ZEC Mazanza, M 31.33 103 P P 18 43 50.2 -0.5
baz=324
G54A Lake Saint Pet 31.34 108 P P 18 43 51.2 +0.4
baz=326
P40A Paris 31.42 131 P P 18 43 52.0 +0.4
P40A IAmb IAmb 18 44 01.7
comp=Z,10.0nm,0.7s
SADO Sadowa 31.45 110 P P 18 43 52.5 +0.8
SADO Sadowa 31.45 110 IAmb IAmb 18 43 53.6
comp=Z,13nm,0.9s
I51A Listowel 31.53 113 P P 18 43 53.4 +0.9
baz=328
E56A St. Veronique 31.63 103 P P 18 43 53.4 +0.1
baz=324
F55A Otter Lake 31.68 106 P P 18 43 54.0 +0.3
baz=325
PDMCI Parker Dam,Lak 31.70 166 P P 18 43 56.4 +2.4
baz=353
D57A Chmin Vers le 31.71 102 P P 18 43 53.7 -0.4
baz=324
BELC Belle Mtn. Jos 31.84 169 P P 18 43 57.8 +2.4
baz=355,SNR=5.6
G55A Calabogie 32.01 107 P P 18 43 57.1 +0.4
baz=326
DAQ Lac Daran 32.04 98 P P 18 43 58.0 +1.0
D58A Chemin du LacG 32.06 101 P P 18 43 56.8 -0.3
baz=323
E57A Chemin Saint G 32.09 103 P P 18 43 58.2 +0.7
baz=324,SNR=7.1
GAC Glen Almond 32.13 105 P P 18 43 59.1 +1.3
ANMO Albuquerque 32.13 154 P P 18 44 00.5 +2.4
baz=348
ANMO Albuquerque 32.13 154 P P 18 44 00.4 +2.3
ANMO pmax pmax
comp=Z,11nm,1.2s
ANMO Albuquerque 32.13 154 P P 18 44 00.4 +2.3
BC3 Big Chuckawall 32.22 169 P P 18 44 00.9 +2.1
baz=354
DELO Deloro Mine 32.26 108 P P 18 43 59.9 +1.0
DELO IAmb IAmb 18 44 01.3
comp=Z,18nm,0.9s
OTT Ottawa 32.29 105 P P 18 44 00.1 +1.0
ORIO Orleans, Innes 32.33 105 P P 18 43 59.6 +0.1
baz=325
H55A Tweed 32.40 108 P P 18 44 00.3 +0.1
baz=327
E58A La Victoria 32.48 102 P P 18 44 01.0 +0.2
baz=324
I55A Frankford 32.48 109 P P 18 44 01.2 +0.3
baz=327
T35A Sooner Cattle 32.52 139 P P 18 44 02.3 +1.0
S39A Bolivar 32.71 134 IAmb IAmb 18 44 08.3
comp=Z,8.3nm,0.7s
H56A Elgin 32.73 107 P P 18 44 03.9 +0.9
baz=326,SNR=7.7
WBO Williamsburg 32.79 105 P P 18 44 04.7 +1.2
G57A Newington 32.82 105 P P 18 44 04.6 +0.8
baz=328
BNM Barren Site 32.88 155 P P 18 44 06.3 +1.6
J54A Appleton 32.90 111 P P 18 44 05.5 +1.0
baz=328
Q44A Meyer Farm, Va 32.96 127 IAmb IAmb 18 45 19.3
comp=Z,17nm,0.8s
PECO Prince Edward 32.99 108 IAmb IAmb 18 44 07.5
comp=Z,17nm,1.0s
D60A Saint Jean D'O 33.01 99 P P 18 44 05.8 +0.4
baz=323
D61A St Aubert, Com 33.08 98 P P 18 44 06.5 +0.4
baz=323
AMTX Amarillo 33.16 147 P P 18 44 08.3 +1.4
baz=344
G58A Ormstown 33.16 104 P P 18 44 07.3 +0.6
baz=325,SNR=5.1
QUOK Quay 33.17 140 P P 18 44 08.2 +1.3
QUOK IAmb IAmb 18 44 14.2
comp=Z,19nm,0.9s
H57A Richville 33.19 106 P P 18 44 07.8 +0.8
baz=325,SNR=6.3
E60A Ste Agathe de 33.23 100 P P 18 44 07.8 +0.4
baz=324
J55A Hilton 33.23 110 P P 18 44 08.2 +0.8
baz=328
F60A Warwick 33.35 101 P P 18 44 08.5 +0.1
baz=324
LONY Lake Ozonia 33.38 105 P P 18 44 07.4 -1.4
baz=326,SNR=5.0
LONY Lake Ozonia 33.38 105 IAmb IAmb 18 44 10.7
comp=Z,14nm,0.9s
I57A Carthage 33.52 107 P P 18 44 10.6 +0.7
baz=327
L54A Sinclairville 33.52 113 P P 18 44 11.3 +1.3
baz=329
U38A Gravette 33.56 136 P P 18 44 11.0 +0.6
G59A Clarenceville 33.57 103 P P 18 44 10.0 -0.3
baz=325
E61A Lac Etchemin 33.57 99 P P 18 44 11.1 +0.6
baz=324
J56A Wolcott 33.60 109 P P 18 44 11.7 +1.1
baz=328
D62A Allapoint, All 33.65 97 P P 18 44 11.3 +0.3
baz=323
D62A Allapoint, All 33.65 97 IAmb IAmb 18 44 13.5
comp=Z,30nm,1.1s
M53A WI Miller and 33.69 115 P P 18 44 12.6 +1.2
baz=330
M53A WI Miller and 33.69 115 IAmb IAmb 18 44 33.2
comp=Z,21nm,0.9s
H58A Gabriels 33.71 105 P P 18 44 11.5 -0.1
baz=326,SNR=8.1
H59A Cadyville 33.72 104 P P 18 44 11.4 -0.3
baz=326
F61A St Evariste 33.74 100 P P 18 44 11.6 -0.2
baz=324
E62A Clayton Lake 33.82 98 P P 18 44 13.0 +0.5
baz=323
J57A Williamstown 33.83 108 P P 18 44 11.3 -1.3
baz=327
HHAR Hobbs 33.84 136 P P 18 44 13.0 +0.2
HHAR IAmb IAmb 18 44 20.1
comp=Z,15nm,1.1s
P49A Miami Univ. Ec 33.88 121 P P 18 44 13.6 +0.5
baz=333
G60A Masonville 33.90 102 P P 18 44 11.8 -1.4
baz=325
K56A Middlesex 33.90 110 P P 18 44 12.5 -0.9
baz=328
L55A Hinsdale 33.91 112 P P 18 44 13.1 -0.3
baz=329
WMOK Wichita Mounta 33.99 143 P P 18 44 15.8 +1.7
baz=343,SNR=13
WMOK Wichita Mounta 33.99 143 P P 18 44 15.1 +1.0
WMOK pmax pmax
comp=Z,9.0nm,0.9s
WMOK Wichita Mounta 33.99 143 P P 18 44 15.1 +1.0
I58A Old Forge 34.00 106 P P 18 44 15.0 +0.8
baz=327,SNR=6.3
M54A Oil Creek Stat 34.02 114 P P 18 44 14.9 +0.6
baz=330,SNR=5.3
M54A Oil Creek Stat 34.02 114 IAmb IAmb 18 44 17.4
comp=Z,30nm,1.2s
TUC Tucson 34.05 162 P P 18 44 17.1 +2.4
baz=351
TUC Tucson 34.05 162 P P 18 44 17.1 +2.4
TUC pmax pmax
comp=Z,11nm,1.3s
TUC Tucson 34.05 162 P P 18 44 17.1 +2.4
D63A Stockholm 34.07 96 P P 18 44 13.6 -1.1
baz=323
G61A St-Isidore-de- 34.08 101 P P 18 44 14.2 -0.6
baz=325
U40A Yellville 34.09 134 P P 18 44 16.3 +1.3
baz=338
J58A Remsen 34.15 107 P P 18 44 15.4 0.0
baz=327
214A Organ Pipe Nat 34.16 165 P P 18 44 18.3 +2.7
baz=353
214A Organ Pipe Nat 34.16 165 P P 18 44 16.2 +0.6
N53A Lisbon 34.18 116 P P 18 44 15.9 +0.2
baz=331
K57A Scipio Center 34.19 109 P P 18 44 15.9 +0.1
baz=328
H60A Morristown 34.19 103 P P 18 44 15.6 -0.2
baz=326
F62A Pittston Farm, 34.22 99 P P 18 44 15.4 -0.6
baz=324
121A Cookes Peak, D 34.27 157 P P 18 44 19.4 +2.7
baz=349,SNR=8.6
121A Cookes Peak, D 34.27 157 P P 18 44 19.4 +2.7
L56A Greenwood 34.29 111 P P 18 44 16.5 -0.2
baz=329
L56A Greenwood 34.29 111 IAmb IAmb 18 44 49.3
comp=Z,17nm,1.1s
I59A Olmsteadville 34.35 105 P P 18 44 17.2 0.0
baz=326
J59A Piesco 34.38 106 P P 18 44 17.5 +0.1
baz=327
SEY Seymchan 34.38 306 *ce* P P 18 44 18.1 +0.9
M55A Ridgway 34.39 113 P P 18 44 17.5 0.0
baz=330
PQI Presque Isle 34.40 96 IAmb IAmb 18 44 19.4
comp=Z,17nm,0.6s
SPITS Spitsbergen Ar 34.42 14 LR LR 18 58 47.0
comp=Z,307nm,19.1s,baz=345,slow=37
E63A Oxbow 34.43 97 P P 18 44 17.4 -0.5
baz=324
PIX Pinacate 34.48 166 IAmb IAmb 18 44 22.6
comp=Z,20nm,1.4s
K58A Earlville 34.51 108 P P 18 44 18.1 -0.4
baz=328
K58A Earlville 34.51 108 P P 18 44 19.7 +1.1
K58A IAmb IAmb 18 44 21.0
comp=Z,21nm,1.0s
P51A Williamsport 34.52 119 P P 18 44 19.5 +0.9
baz=332
H61A Lyndonville 34.53 102 P P 18 44 18.8 0.0
baz=326
G62A West of Eustis 34.54 100 P P 18 44 17.4 -1.3
baz=325
I60A Shoreham 34.55 104 P P 18 44 18.2 -0.6
baz=326
M56A Emporium 34.60 112 P P 18 44 19.6 +0.2
baz=329
M56A Emporium 34.60 112 IAmb IAmb 18 44 22.1
comp=Z,18nm,1.1s
L57A Andrews Acres 34.68 110 P P 18 44 21.0 +0.9
baz=328,SNR=6.3
E64A Bridgewater 34.68 96 P P 18 44 19.7 -0.3
baz=323
P52A Corning 34.72 118 P P 18 44 20.6 +0.2
baz=332
P52A Corning 34.72 118 IAmb IAmb 18 44 25.8
comp=Z,27nm,1.1s
F63A Nahmakanta, Br 34.73 98 P P 18 44 20.1 -0.3
baz=324
F63A Nahmakanta, Br 34.73 98 P P 18 44 21.4 +0.9
F63A IAmb IAmb 18 44 22.4
comp=Z,17nm,0.7s
ACCN Adirondack Com 34.78 105 P P 18 44 22.0 +1.1
ACCN IAmb IAmb 18 44 23.4
comp=Z,28nm,1.4s
H62A Milan 34.81 101 P P 18 44 20.3 -0.8
baz=325
K59A Cooperstown 34.81 107 P P 18 44 21.1 -0.1
baz=328
BINY Binghamton 34.85 109 P P 18 44 22.1 +0.5
baz=328
LCAR Lake Charles 34.87 132 IAmb IAmb 18 44 39.9
comp=Z,18nm,1.1s
W39A Magazine 34.90 136 P P 18 44 23.3 +1.4
baz=340
W39A Magazine 34.90 136 P P 18 44 22.7 +0.8
W39A IAmb IAmb 18 44 29.7
comp=Z,14nm,1.1s
N55A Marion Center 34.90 114 P P 18 44 21.2 -0.8
baz=330,SNR=5.7
I61A Oroboro, Fairl 34.91 103 P P 18 44 22.1 +0.1
baz=326
F64A Sherman 34.91 97 P P 18 44 21.6 -0.3
baz=324
F64A Sherman 34.91 97 P P 18 44 23.0 +1.1
F64A IAmb IAmb 18 44 23.9
comp=Z,18nm,0.8s
J60A Lant Hill Farm 34.99 105 P P 18 44 22.8 +0.1
baz=327
G63A Kingsbury 35.00 99 P P 18 44 22.7 0.0
baz=325
PKME Peaks-Kenny Pk 35.01 99 P P 18 44 22.2 -0.6
baz=325
X37A Clayton 35.02 139 IAmb IAmb 18 44 34.4
comp=Z,28nm,1.6s
L58A Harry Jones Me 35.04 109 P P 18 44 22.7 -0.4
baz=328
N56A West Decatur 35.05 113 P P 18 44 23.0 -0.3
baz=330
HNH Hanover 35.07 103 IAmb IAmb 18 44 26.2
comp=Z,20nm,0.8s
P53A Whipple 35.12 117 P P 18 44 23.8 -0.1
baz=332
P53A Whipple 35.12 117 P P 18 44 24.6 +0.7
P53A IAmb IAmb 18 44 29.7
comp=Z,21nm,0.8s
319A Douglas 35.17 160 P P 18 44 25.5 +1.0
319A IAmb IAmb 18 44 32.7
comp=Z,30nm,1.4s
H63A New Sharon 35.20 100 P P 18 44 24.1 -0.3
baz=325
L59A Walton 35.23 108 P P 18 44 25.2 +0.3
baz=328
G64A Maxfield 35.24 98 P P 18 44 24.5 -0.3
baz=324
J61A Chester 35.26 104 P P 18 44 25.1 +0.2
baz=327
Q52A Bidwell 35.26 119 P P 18 44 25.8 +0.7
baz=332
W41B Gary Mavity, V 35.37 134 P P 18 44 26.8 +0.9
baz=339
M58A Price's Panora 35.37 110 P P 18 44 25.7 -0.3
baz=329
SSPA Standing Stone 35.45 112 P P 18 44 26.3 -0.4
baz=330
SSPA Standing Stone 35.45 112 P P 18 44 27.6 +0.9
SSPA IAmb IAmb 18 44 28.7
comp=Z,19nm,1.0s
N57A Milroy 35.47 112 P P 18 44 26.8 -0.1
baz=330
I63A Otisfield 35.48 101 P P 18 44 26.7 -0.1

baz=326,SNR=5.6
I63A Otisfield 35.48 101 lAmb lAmb 18 44 29.6
comp=Z,23nm,0.7s
MNTX Cornudas Mount 35.49 154 P **P** **18 44 28.8 +1.7**
baz=348,SNR=12
O56A Blue Knob Stat 35.50 113 P **P** **18 44 27.1 -0.1**
baz=330,SNR=5.4
O56A Blue Knob Stat 35.50 113 lAmb lAmb 18 44 49.0
comp=Z,44nm,1.4s
K61A Williamstown 35.54 105 P **P** **18 44 27.1 -0.3**
baz=327
H64A Troy 35.55 99 P **P** **18 44 26.4 -1.0**
baz=325
MIAR Mount Ida 35.56 136 P **P** **18 44 28.9 +1.2**
baz=340
MIAR Mount Ida 35.56 136 P **P** **18 44 28.2 +0.5**
MIAR pmax pmax
comp=Z,19nm,1.1s
MIAR Mount Ida 35.56 136 P **P** **18 44 28.2 +0.5**
MIAR lAmb lAmb 18 44 35.6
comp=Z,19nm,1.1s
Q53A Leroy 35.63 118 P **P** **18 44 29.0 +0.8**
baz=332
M59A Waymart 35.63 109 P **P** **18 44 28.5 +0.3**
baz=328
J62A Henniker 35.66 103 P **P** **18 44 28.4 0.0**
baz=327
N58A Sunbury 35.73 111 P **P** **18 44 28.7 -0.3**
baz=329
L60A Shokan 35.73 107 P **P** **18 44 28.8 -0.2**
baz=328
ABTX Abilene, Hawle 35.80 146 P **P** **18 44 29.9 +0.2**
baz=344
X40A Basin Creek Fa 35.83 135 P **P** **18 44 31.6 +1.6**
baz=339
WVT Waverly 35.88 128 P **P** **18 44 30.7 +0.4**
baz=336
WVT Waverly 35.88 128 P **P** **18 44 30.7 +0.4**
WVT pmax pmax
comp=Z,6.0nm,0.8s
WVT Waverly 35.88 128 P **P** **18 44 30.7 +0.4**
H65A Eastbrook 35.90 98 P **P** **18 44 30.1 -0.4**
baz=325
O57A Amberson 35.91 112 P **P** **18 44 31.3 +0.6**
baz=330,SNR=8.8
N59A State Game Lan 36.03 110 P **P** **18 44 31.9 +0.2**
baz=329
N59A State Game Lan 36.03 110 lAmb lAmb 18 44 45.4
comp=Z,10nm,0.7s
M60A Port Jervis 36.13 108 P **P** **18 44 32.2 -0.3**
baz=328
K63A Dunstable 36.22 104 P **P** **18 44 33.6 +0.4**
baz=327
O58A Lewisberry 36.26 112 P **P** **18 44 33.8 +0.1**
baz=330
N60A Cedar Hill Far 36.33 109 P **P** **18 44 34.8 +0.6**
baz=329
HRV Adam Dziewonsk 36.36 104 P **P** **18 44 35.5 +1.0**
baz=327
P57A Homestead Farm 36.40 114 P **P** **18 44 35.5 +0.7**
baz=331
P57A Homestead Farm 36.40 114 P **P** **18 44 35.0 +0.3**
P57A lAmb lAmb 18 44 37.5
comp=Z,16nm,0.9s
M61A Granite Spring 36.48 107 P **P** **18 44 35.3 -0.2**
baz=329
WLAR White Oak Lake 36.50 136 lAmb lAmb 18 44 44.5
comp=Z,31nm,0.9s
JMIC Jan Mayen 36.57 30 P **P** **18 44 35.4 -0.5**
comp=Z,17nm,0.5s,baz=180,slow=6.1,SNR=2.4
Q57A Strasburg 36.63 114 P **P** **18 44 36.0 -0.8**
baz=331
R55A Marlinton 36.65 117 P **P** **18 44 37.5 +0.5**
baz=332
R55A Marlinton 36.65 117 P **P** **18 44 37.8 +0.7**
R55A lAmb lAmb 18 44 53.6
comp=Z,63nm,1.6s
O60A Telford 36.68 110 P **P** **18 44 37.7 +0.5**
baz=329
PAL Palisades 36.69 108 P **P** **18 44 36.7 -0.5**
baz=329
R56A Bull Pasture M 36.81 116 P **P** **18 44 38.4 0.0**
baz=332
P59A Jarrettsville 36.89 112 P **P** **18 44 38.5 -0.5**
baz=330
WHTX Lake Whitney, 36.93 143 P **P** **18 44 40.9 +1.5**
baz=343,SNR=11
WHTX Lake Whitney, 36.93 143 P **P** **18 44 40.9 +1.5**
WHTX lAmb lAmb 18 44 46.7
comp=Z,30nm,0.8s
Q58A Fox Den Farm, 36.99 114 P **P** **18 44 38.4 -1.4**
baz=331
T54A Tazewell 37.20 120 P **P** **18 44 41.8 +0.1**
baz=333
MA2 Magadan 37.30 303 P **P** **18 44 44.0 +1.7**
comp=Z,2.8nm,0.6s,baz=186,slow=20,SNR=2.6
MA2 Magadan 37.30 303⇓ *e*P **P** **18 44 41.9 -0.4**
MA2 pmax pmax
comp=Z,16nm,2.7s
MA2 Magadan 37.30 303 lAmb lAmb 18 44 51.4
comp=Z,17nm,0.9s
TKL Tuckaleechee C 37.68 123 P **P** **18 44 46.6 +0.9**
comp=Z,1.7nm,0.6s,baz=88,slow=4.2,SNR=2.1
TKL Tuckaleechee C 37.68 123 P **P** **18 44 46.6 +0.9**
TKL pmax pmax
comp=Z,15nm,1.3s
T56A Rocky Mt 37.79 118 P **P** **18 44 46.1 -0.6**
baz=333
JCT Junction City 37.82 147 P **P** **18 44 48.1 +1.1**
baz=345
M66A Nantucket 37.98 103 P **P** **18 44 46.6 -1.6**
baz=328
S58A Poland Farm, P 38.02 115 P **P** **18 44 48.9 +0.4**
baz=332
TX31 Lajitas Ar. Si 38.11 153 P **P** **18 44 51.2 +1.7**
TX31 lAmb lAmb 18 44 56.5
comp=Z,51nm,1.5s
TXAR Lajitas Array 38.11 153 P **P** **18 44 51.4 +1.8**
comp=Z,3.8nm,0.6s,baz=353,slow=7.2,SNR=27
TXAR LR LR 19 01 31.8
comp=Z,240nm,18.1s,baz=0.0,slow=38
TXAR Lajitas Array 38.11 153 P **P** **18 44 50.1 +0.6**
BORG Borgarnes 38.17 43 P **P** **18 44 50.6 +1.1**
comp=Z,6.2nm,0.5s,baz=284,slow=11,SNR=1.4
BORG Borgarnes 38.17 43 P **P** **18 44 50.6 +1.1**
BORG pmax pmax
comp=Z,339nm,2.0s
V55A Taylorsville 38.41 120 P **P** **18 44 52.6 +0.7**
baz=334
W54A Cherokee Point 38.75 122 P **P** **18 44 55.7 +0.9**
baz=335
T59A Double "B" Far 38.77 115 P **P** **18 44 54.8 0.0**
baz=332
LRAL Lakeview Retre 38.98 129 P **P** **18 44 57.9 +1.2**
baz=338
X54A Belton 39.17 122 P **P** **18 44 59.3 +1.1**
baz=335
X55A Gracelyn & Ava 39.50 121 P **P** **18 45 01.8 +0.8**
baz=335
V59A Middlesex 39.58 117 P **P** **18 45 02.1 +0.4**
baz=333
PETK Petropavlovsk- 39.59 291 P **P** **18 45 02.8 +1.2**
comp=Z,5.7nm,0.6s,baz=72,slow=13,SNR=11
PETK Petropavlovsk- 39.59 291 P **P** **18 45 02.5 +0.9**
X56A White Oak 39.70 121 P **P** **18 45 02.6 0.0**
baz=334
Y55A Saluda 39.90 122 P **P** **18 45 03.9 -0.4**
baz=335
YAK Yakutsk 42.06 318 P **P** **18 45 22.2 +0.4**
comp=Z,23nm,0.6s,baz=97,slow=0.5,SNR=34
YAK Yakutsk 42.06 318 *e*P **P** **18 45 22.0 +0.2**
YAK *e**PP **sP** **18 45 26.7 +2.1**
YAK *e*S **S** **18 51 40.3 -0.6**
YAK pmax pmax
comp=Z,39nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK smax smax
comp=N,36nm,3.3s
YAK smax smax
comp=E,51nm,3.6s
YAK MLR MLR
comp=Z,131nm,19.0s
YAK MLR MLR
comp=N,84nm,19.0s
YAK MLR MLR
comp=E,117nm,18.0s
YAK Yakutsk 42.06 318 P **P** **18 45 21.4 -0.5**
SKR Severo-Kuril's 42.09 290 *e*P **P** **18 45 24.9 +2.7**
SKR *e*S **S** **18 51 41.3 -0.2**
SKR pmax pmax
comp=Z,27nm,0.7s
SKR pmax pmax
comp=Z,100nm,4.1s
SKR MLR MLR
comp=Z,100nm,18.0s
HAMF Hammerfest 42.13 16 *e*P **P** **18 45 21.5 -0.8**
HAMF lAmb lAmb 18 45 28.8
comp=Z,62nm,1.3s
TRO Tromso 42.48 19 *e*P **P** **18 45 24.9 -0.2**
TRO lAmb lAmb 18 45 25.8
comp=Z,9.1nm,0.8s
N2VI Vinje 43.01 22 *e*P **P** **18 45 29.1 -0.3**
LOF Lofoten 43.08 22 *e*P **P** **18 45 29.6 -0.4**
LOF *i* P **P** **18 45 29.6 -0.4**
LOF lAmb lAmb 18 45 30.7
comp=Z,102nm,0.8s
N2SV S rvŵgen 43.21 23 *e*P **P** **18 45 30.7 -0.3**
KIF Kilpisjarvi 43.32 18 *e*P **P** **18 45 30.8 -1.1**
KEV Kevo 43.34 15 P **P** **18 45 30.6 -1.5**
KEV pmax pmax
comp=Z,84nm,1.5s
KEV Kevo 43.34 15 P **P** **18 45 30.6 -1.5**
N2VA Vr_y 43.37 23 *e*P **P** **18 45 31.4 -1.0**
ARCES ARCESS Array B 43.38 16 P **P** **18 45 31.5 -1.0**
comp=Z,19nm,0.6s,baz=343,slow=7.1,SNR=129
ARCES LR LR 19 04 05.2
comp=Z,322nm,20.5s,baz=344,slow=37
ARE0 ARCESS Array S 43.39 16 *e*P **P** **18 45 31.5 -1.0**
ARE0 lAmb lAmb 18 45 32.6
comp=Z,25nm,0.8s
N2RO R_st 43.41 23 *e*P **P** **18 45 31.7 -0.9**
STEI Steigen 43.53 22 *e*P **P** **18 45 33.2 -0.4**
STEI *e*P **P** **18 45 33.3 -0.3**
STEI lAmb lAmb 18 45 41.0
comp=Z,22nm,0.8s
N2IH Innhavet 43.60 21 *e*P **P** **18 45 33.4 -0.8**
KTK1 Kautokeino 43.62 17 *e*P **P** **18 45 33.4 -1.0**
KTK1 lAmb lAmb 18 45 34.9
comp=Z,60nm,1.2s
NRIK Noril'sk 43.74 345 P **P** **18 45 35.4 0.0**
comp=Z,20nm,0.5s,baz=30,slow=6.8,SNR=22
NRIK LR LR 19 05 25.9
comp=Z,102nm,18.1s,baz=11,slow=38
N2TV TVrnvik 43.84 22 *e*P **P** **18 45 36.4 +0.3**
NBB08 Skaug oppvekst 43.93 22 *e*P **P** **18 45 36.8 0.0**
FAUS Fauske 44.04 22 *e*P **P** **18 45 37.0 -0.6**
FAUS *e*P **P** **18 45 37.1 -0.6**
FAUS lAmb lAmb 18 45 43.6
comp=Z,36nm,1.1s
NBB05 Inndyr 44.16 23 *e*P **P** **18 45 38.7 0.0**
NBB30 Finnes 44.17 23 *e*P **P** **18 45 38.2 -0.5**
KONS Konsvik 44.50 24 *e*P **P** **18 45 41.5 +0.1**
SALU Saltoluokta 44.52 20 *e*P **P** **18 45 40.7 -0.9**
MOR8 Moi Rana 45.02 23 *e*P **P** **18 45 44.5 -1.1**
MOR8 *e*P **P** **18 45 44.5 -1.1**
MOR8 lAmb lAmb 18 45 51.8
comp=Z,17nm,0.9s
NSS Namsos 46.10 25 *e*P **P** **18 45 52.8 -1.3**
NSS lAmb lAmb 18 45 59.7
comp=Z,29nm,0.9s
TYV Tymovskoe 47.01 300 *e*P **P** **18 46 01.3 -0.1**
TYV pmax pmax
comp=Z,100nm,4.0s
TYV pmax pmax
comp=Z,10.0nm,1.3s
MOL Molde 47.05 29 *e*P **P** **18 46 01.4 -0.2**
AKN Aaknes 47.29 29 *e*P **P** **18 46 03.5 -0.1**
DOMB Dombas 47.83 28 *e*P **P** **18 46 07.6 -0.2**
DOMB lAmb lAmb 18 46 08.3
comp=Z,21nm,0.8s
HYA Hoyanger 48.04 31 *e*P **P** **18 46 08.0 -1.3**
NC204 NORSAR Array S 48.87 28 P **P** **18 46 15.0 -0.8**
SKAR Skarslia 48.92 30 *e*P **P** **18 46 15.9 -0.3**
SKAR lAmb lAmb 18 46 16.9
comp=Z,20nm,0.8s
NC303 NORSAR Array S 49.03 27 P **P** **18 46 16.6 -0.4**
NB2 NORSAR Subarra 49.17 28 P **P** **18 46 17.3 -0.8**
comp=Z,16nm,0.7s,baz=334,slow=7.9
NB2 NORSAR Subarra 49.17 28 P **P** **18 46 17.3 -0.8**
baz=334,slow=7.9
NOA NORSAR Array B 49.17 28 P **P** **18 46 17.6 -0.5**
comp=Z,11nm,0.7s,baz=335,slow=7.8,SNR=33
NOA LR LR 19 08 08.4
comp=Z,292nm,18.7s,baz=325,slow=38
NB201 NORSAR Array S 49.18 28 P **P** **18 46 17.8 -0.3**
ODD1 Odda 49.27 31 *e*P **P** **18 46 22.2 +3.3**
ODD1 lAmb lAmb 18 46 23.1
comp=Z,25nm,0.7s
GRNR Gornyy 49.27 305⇓ *i*P **P** **18 46 19.7 +0.7**
GRNR pmax pmax
comp=Z,2.0nm,0.8s
GRNR MLR MLR
comp=E,30nm,15.0s
GRNR MLR MLR
comp=N,80nm,15.0s
GRNR MLR MLR
comp=Z,80nm,13.0s
NAO01 NORSAR Array S 49.29 28 *e*P **P** **18 46 18.0 -1.0**
NAO01 lAmb lAmb 18 46 18.6
comp=Z,15nm,0.9s
BLS5 Blasjo 49.67 31 *e*P **P** **18 46 22.1 +0.1**
BLS5 lAmb lAmb 18 46 30.1
comp=Z,263nm,2.3s
ZEA Zeya 49.72 313 *e*P **P** **18 46 23.1 +0.8**
ZEA pmax pmax
comp=Z,15nm,1.0s
TMCR Tamitsa 49.82 11 *e*P **P** **18 46 22.3 -0.6**
YSS Yuzh-Sakhalins 50.23 297⇓ *e*P **P** **18 46 27.3 +1.0**
YSS *e* 18 47 49.8
YSS *e*S **S** **18 53 37.4 -1.0**
YSS *e* 18 56 20.8
YSS pmax pmax
comp=Z,20nm,0.7s
YSS Yuzh-Sakhalins 50.23 297 P **P** **18 46 26.8 +0.6**
YSS lAmb lAmb 18 46 33.4
comp=Z,14nm,0.6s
SNART Snartemo 50.83 31 *e*P **P** **18 46 31.0 +0.4**
FINES FINESS Array B 51.22 19 P **P** **18 46 32.8 -0.7**
comp=Z,13nm,0.5s,baz=355,slow=8.3,SNR=77
FINES LR LR 19 08 37.5
comp=Z,256nm,19.1s,baz=350,slow=37
FINES FINESS Array B 51.22 19 P **P** **18 46 32.6 -0.9**
KLR Kul'dur 52.16 307 *ce*P **P** **18 46 41.0 +0.2**
KLR pmax pmax
comp=Z,6.0nm,0.8s
PRGR Permogore 52.83 7⇑ *i*P **P** **18 46 44.6 -0.9**
PRGR *e**SP **sP** **18 46 49.4 +1.1**
PRGR pmax pmax
comp=Z,78nm,0.7s
MUD Monsted U'grnd 52.98 31 *i* P **P** **18 46 47.7 +1.0**
comp=Z,38nm,0.9s
MUD Monsted U'grnd 52.98 31 *i* P **P** **18 46 47.7 +1.0**
MUD pmax pmax
comp=Z,39nm,0.9s
KLMR Klimovskoe 53.21 11 *e*P **P** **18 46 46.9 -1.5**
KLMR pmax pmax
comp=Z,67nm,0.6s
KLMR Klimovskoe 53.21 11 *e*P **P** **18 46 46.9 -1.5**
KLMR AMP 18 46 48.6
comp=Z,67nm,0.6s
VSU Vasula 54.19 19 *c i*P **P** **18 46 54.7 -0.8**
VSU pmax pmax
comp=Z,128nm,1.0s
CIT Chita 55.12 321 *e*P **P** **18 47 02.3 -0.1**
CIT *e* 18 47 07.4
BSEG Bad Segeberg 55.57 32 *e*P **P** **18 47 06.4 +0.9**
comp=Z,53nm,0.9s,baz=340,slow=7.0
BSEG *e*L L 19 11 02.6
comp=Z,201nm,19.6s
MTO3 Montecristo 55.83 140 P **P** **18 47 08.5 +0.4**
USA0B Ussuriysk Arra 56.46 304 lAmb lAmb 18 47 19.6
comp=Z,10.0nm,0.8s
USRK Ussuriysk Ar. 56.46 304 P **P** **18 47 12.9 +0.8**
comp=Z,7.4nm,0.8s,baz=50,slow=7.9,SNR=9.1
USRK Ussuriysk Ar. 56.46 304 P **P** **18 47 11.7 -0.4**
IBBN Ibbenburen 56.50 34 *e*P **P** **18 47 13.1 +0.8**
comp=Z,40nm,0.9s,baz=340,slow=7.0
NRDL Niedersach Rie 56.87 32 *e*P **P** **18 47 15.7 +0.9**
comp=Z,63nm,0.9s,baz=340,slow=7.0
KLNR Kaliningrad 56.88 25 *c i*P **P** **18 47 14.7 -0.2**
KLNR pmax pmax
comp=Z,42nm,0.8s
BUG Bochum--Univer 57.19 35 *e*P **P** **18 47 17.6 +0.5**
baz=340,slow=7.0
CLZ Clausthal 57.53 32 *e*P **P** **18 47 20.8 +1.1**
comp=Z,42nm,0.8s,baz=340,slow=7.0
BMRD Maredsous 57.63 37 P **P** **18 47 20.6 +0.3**
comp=Z,16nm,1.7s
MEM Membach 57.66 36 P **P** **18 47 20.9 +0.4**
comp=Z,57nm,1.0s
GTTG Gottingen 57.72 33 *e*P **P** **18 47 21.9 +1.0**
comp=Z,49nm,0.9s,baz=340,slow=7.0
DOU Dourbes 57.78 37 P **P** **18 47 21.8 +0.4**
TLY Talaya 57.82 328 *e*P **P** **18 47 21.7 0.0**
TLY *e*S **S** **18 55 23.2 +2.2**
TLY pmax pmax
comp=Z,14nm,0.6s
TLY MLR MLR
comp=Z,96nm,12.0s
TLY Talaya 57.82 328 P **P** **18 47 21.1 -0.6**
TLY lAmb lAmb 18 47 24.3
comp=Z,9.4nm,0.8s
SVE Sverdlovsk 57.92 358 *de*P **P** **18 47 22.3 0.0**
SVE pmax pmax
comp=Z,39nm,0.8s
SUW Suwalki 57.95 23 *e*P **P** **18 47 22.1 -0.3**
AHRW Bad Neuenahr-A 57.98 35 *e*P **P** **18 47 23.6 +0.9**
comp=Z,31nm,1.0s,baz=340,slow=7.0
MOS Moscow 58.12 13 *e*P **P** **18 47 22.0 -1.6**
MOS *e* 18 47 28.6
MOS pmax pmax
comp=Z,102nm,0.8s
MOS pmax pmax
comp=Z,100nm,0.8s
ARU Arti 58.34 359 *c i*P **P** **18 47 25.0 -0.2**
ARU 18 48 15.5
ARU 18 49 35.1
ARU S **S** **18 55 28.7 +1.2**
ARU SS **SS** **18 59 17.0 -1.4**
ARU pmax pmax
comp=Z,22nm,0.7s
ARU Arti 58.34 359 P **P** **18 47 24.3 -0.9**
UBBA Unterbreizbach 58.41 33 *e*P **P** **18 47 26.2 +0.6**
comp=Z,30nm,1.6s,baz=340,slow=7.0
MOY Mondy 58.41 330 *e*P **P** **18 47 27.2 +1.3**
MOY pmax pmax
comp=Z,27nm,1.9s
NEUB Neuenburg 58.44 32 *e*P **P** **18 47 26.6 +0.7**
comp=Z,57nm,1.0s,baz=340,slow=7.0
WLF Walferdange 58.56 36 P **P** **18 47 26.8 0.0**
WLF Walferdange 58.56 36 *e*P **P** **18 47 27.9 +1.0**
comp=Z,26nm,1.1s,baz=340,slow=7.0
TNS Taunus Mts 58.60 35 *e*L L 19 12 24.5
comp=Z,158nm,21.5s
CLL Collm 58.61 31⇑ *i*P **P** **18 47 27.4 +0.3**
comp=Z,41nm,0.9s
CLL Lm MLR 19 13 00.0
comp=N,200nm,18.8s
CLL Lm MLR 19 13 00.0
comp=E,100nm,18.4s
CLL Lm MLR 19 13 00.0
comp=Z,200nm,20.0s
CLL Collm 58.61 31⇑ *i*P **P** **18 47 27.4 +0.3**
CLL pmax pmax
comp=Z,41nm,0.9s
CLL Collm 58.61 31 *e*P **P** **18 47 27.6 +0.4**
comp=Z,41nm,0.9s,baz=340,slow=7.0
CLL *e*L L 19 13 06.6
comp=Z,175nm,19.9s
OBN Obninsk 58.63 14⇑ P **P** **18 47 26.8 -0.4**
OBN Obninsk 58.63 14 *c i*P **P** **18 47 26.7 -0.5**
OBN *e* 18 47 30.2
OBN *e* 18 48 16.9
OBN *e* 18 49 36.1
OBN pmax pmax
comp=Z,61nm,0.6s
OBN MLR MLR
comp=Z,135nm,16.0s
OBN Obninsk 58.63 14 P **P** **18 47 26.6 -0.6**
MOX Moxa 58.93 32 *e*P **P** **18 47 30.2 +0.8**
comp=Z,50nm,0.8s,baz=340,slow=7.0
MOX *e*L L 19 12 58.1
comp=Z,123nm,21.5s
ZAA0 Zalesovo Array 58.99 341 lAmb lAmb 18 47 30.1
comp=Z,8.3nm,0.8s
ZALV Zalesovo Beam 58.99 341 P **P** **18 47 29.2 -0.5**
comp=Z,6.7nm,0.6s,baz=359,slow=6.9,SNR=43
ZALV LR LR 19 13 42.8
comp=Z,57nm,21.6s,baz=64,slow=37
ZALV Zalesovo Beam 58.99 341 P **P** **18 47 28.7 -1.1**
CN2 Changchun 59.01 308 *e*P P **18 47 35.5 +5.5**
FBE Freiberg 59.05 31 *e*P **P** **18 47 30.9 +0.8**
comp=Z,20nm,0.8s,baz=340,slow=7.0
ZAK Zakamensk 59.12 328 *e*P **P** **18 47 29.0 -1.8**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
PLN Plauen 59.20 32 *e*P **P** **18 47 32.0 +0.7**
comp=Z,31nm,0.8s,baz=340,slow=7.0
BRG Berggiesshubel 59.22 30⇑ *i*P **P** **18 47 31.8 +0.4**
comp=Z,33nm,1.1s
BRG *e* 18 47 38.3
comp=Z,16nm,0.9s
BRG Berggiesshubel 59.22 30 *e*P **P** **18 47 32.0 +0.6**
comp=Z,34nm,1.1s,baz=340,slow=7.0
WERD Werda 59.27 32 *e*P **P** **18 47 32.4 +0.6**
comp=Z,16nm,0.7s,baz=340,slow=7.0
TANN Tannenbergstha 59.33 32 *e*P **P** **18 47 33.0 +0.7**
comp=Z,49nm,1.0s,baz=340,slow=7.0
GUNZ Gunzen 59.35 32 *e*P **P** **18 47 33.1 +0.8**
comp=Z,24nm,0.9s,baz=340,slow=7.0
WERN Wernitzgruen 59.44 32 *e*P **P** **18 47 33.8 +0.9**
comp=Z,26nm,0.8s,baz=340,slow=7.0
NKC Novy Kostel 59.50 32 *e*P **P** **18 47 34.3 +0.9**
NKC *e* 18 47 38.4
NKC Novy Kostel 59.50 32 *e*P P **18 47 34.3 +0.9**
NKC *ep*P **sP** **18 47 38.4 +2.2**
MANZ Manzenberg 59.66 32 *e*P **P** **18 47 35.0 +0.5**
comp=Z,11nm,0.9s,baz=340,slow=7.0
PVCC Panska Ves 59.68 30 *e*P **P** **18 47 35.3 +0.8**
PVCC *e* 18 47 38.4
PVCC MLR MLR
comp=Z,200nm,15.0s
PVCC Panska Ves 59.68 30 *e*P **P** **18 47 35.3 +0.8**
PVCC *ep*P **sP** **18 47 38.4 +1.0**
PVCC AMS AMS 19 16 00.0
comp=Z,200nm,15.0s
KSP Ksiaz 59.73 29 *e*P **P** **18 47 35.9 +0.9**
GRF Grafenberg Arr 59.74 33 *e*P **P** **18 47 36.1 +1.1**
comp=Z,32nm,0.8s,baz=340,slow=7.0
GRF *e*L L 19 13 34.2
comp=Z,162nm,19.7s
ROTZ Rotzenmuhle 59.89 32 *e*P **P** **18 47 36.9 +0.8**
comp=Z,20nm,1.2s,baz=340,slow=7.0
CHVC Chvalec 59.92 29 *e*P **P** **18 47 36.8 +0.5**
CHVC *ep*P **sP** **18 47 41.9 +2.8**
CHVC AMS AMS 19 13 50.0
comp=Z,300nm,18.0s
OSTC Ostas 59.99 29 *e*P **P** **18 47 37.4 +0.7**
OSTC *ex* x 18 47 40.9
OSTC AMS AMS 19 13 50.0
comp=Z,300nm,19.9s
UPC Upice 59.99 29 *e*P **P** **18 47 37.2 +0.5**
UPC *e* 18 47 41.6
UPC MLR MLR
comp=Z,300nm,18.6s
UPC Upice 59.99 29 *e*P **P** **18 47 37.2 +0.5**
UPC *ep*P **sP** **18 47 41.6 +2.0**
UPC AMS AMS 19 13 40.0
comp=Z,300nm,18.6s
PRA Prague 60.08 30 AMS AMS 19 13 40.0
comp=Z,100nm,27.3s
PRU Pruhonice 60.18 30 *e*P **P** **18 47 38.7 +0.7**
PRU *e* 18 47 42.9
PRU MLR MLR
comp=Z,200nm,16.5s
PRU Pruhonice 60.18 30 *e*P **P** **18 47 38.7 +0.7**
PRU *ex* x 18 47 42.9
PRU AMS AMS 19 15 00.0
comp=Z,200nm,16.5s
DPC Dobruska-Polom 60.20 29 *e*P **P** **18 47 39.0 +0.8**
DPC *e* 18 47 43.0
DPC MLR MLR
comp=Z,300nm,16.7s
DPC Dobruska-Polom 60.20 29 *e*P **P** **18 47 39.0 +0.8**
DPC *ep*P **sP** **18 47 43.0 +1.9**

DPC AMS AMS 19 14 00.0
comp=Z,300nm,16.7s
BFO Black Forest 60.34 35 P **P 18 47 39.4 +0.2**
BFO pmax pmax
comp=Z,23nm,0.9s
BFO Black Forest 60.34 35 *e*P **P 18 47 39.9 +0.8**
comp=Z,29nm,1.0s,baz=340,slow=7.0
BFO *e*L L 19 14 46.4
comp=Z,203nm,18.2s
BFO Black Forest 60.34 35 P **P 18 47 39.4 +0.2**
PBCC Pribram 60.35 31 *e*P **P 18 47 40.0 +0.8**
PBCC *ex* x 18 47 44.3
KRLC Kraliky 60.56 29 *e*P **P 18 47 41.3 +0.6**
KRLC *e* 18 47 45.8
KRLC MLR MLR
comp=Z,300nm,17.8s
KRLC Kraliky 60.56 29 *e*P **P 18 47 41.3 +0.6**
KRLC *e*pP **sP 18 47 45.8 +2.3**
KRLC AMS AMS 19 15 00.0
comp=Z,300nm,17.8s
ULN Ulaanbaatar 60.59 324*c i*P **P 18 47 41.3 +0.2**
ULN pmax pmax
comp=Z,13nm,1.7s
ULN Ulaanbaatar 60.59 324 P **P 18 47 41.3 +0.2**
ULN IAmb IAmb 18 47 48.2
comp=Z,24nm,1.6s
WET Wettzell 60.62 32 *e*P **P 18 47 42.1 +1.0**
comp=Z,32nm,1.3s,baz=340,slow=7.0
WET *e*L L 19 14 09.3
comp=Z,101nm,19.7s
SONM Songino Array 60.78 324 P **P 18 47 43.2 +0.9**
comp=Z,5.6nm,0.6s,baz=9.2,slow=4.0,SNR=11
SONM Songino Array 60.78 324 P **P 18 47 42.8 +0.5**
SONM pmax pmax
comp=Z,6.0nm,0.7s
SONM Songino Array 60.78 324 P **P 18 47 42.8 +0.5**
KHC Kasperske Hory 60.79 31*c i*P **P 18 47 43.1 +0.9**
KHC pmax pmax
comp=Z,65nm,1.1s
KHC Kasperske Hory 60.79 31 *e*P **P 18 47 43.5 +1.3**
KHC AMS AMS 19 15 20.0
comp=Z,200nm,15.6s
MAT Matsushiro 60.92 295 P **P 18 47 43.4 +0.1**
MAT S **S 18 56 02.8 +1.4**
MJAR Matsushiro Arr 60.92 295 P **P 18 47 46.1 +2.8**
comp=Z,3.0nm,0.9s,baz=21,slow=6.7,SNR=6.4
MORC Moravsky Berou 60.99 28 ⇑P **P 18 47 44.4 +0.7**
MORC Moravsky Berou 60.99 28 *e*P **P 18 47 43.6 0.0**
OJC Ojcow 61.00 27 *e*P **P 18 47 44.1 +0.4**
TREC Trest 61.04 30 *e*P **P 18 47 44.7 +0.8**
TREC *e* 18 47 48.6
TREC MLR MLR
comp=Z,300nm,17.3s
TREC Trest 61.04 30 *e*P **P 18 47 44.7 +0.8**
TREC *ex* x 18 47 48.6
TREC AMS AMS 19 17 30.0
comp=Z,300nm,17.3s
OKC Ostrava-Krasne 61.05 28 *e*P **P 18 47 44.4 +0.4**
OKC *e* 18 47 48.0
OKC Ostrava-Krasne 61.05 28 *e*P **P 18 47 44.4 +0.4**
OKC *e*pP **sP 18 47 48.0 +1.2**
GEC2 GERESS Array S 61.08 31 *e*P **P 18 47 45.4 +1.0**
comp=Z,40nm,0.9s,baz=340,slow=7.0
GEC2 *e*L L 19 15 48.9
comp=Z,153nm,18.2s
GEC2 GERESS Array S 61.08 31 P **P 18 47 44.4 +0.1**
GERES GERESS Array B 61.08 31 P **P 18 47 45.3 +1.0**
comp=Z,6.2nm,0.7s,baz=350,slow=5.0,SNR=42
GERES LR LR 19 16 08.2
comp=Z,137nm,18.2s,baz=290,slow=38
FUR Furstenfeldbru 61.18 33 *e*P **P 18 47 46.0 +1.1**
comp=Z,89nm,0.7s,baz=340,slow=7.0
FUR *e*L L 19 14 57.5
comp=Z,137nm,18.2s
VRAC Vranov 61.25 29 ⇑P **P 18 47 46.4 +1.1**
VRAC Vranov 61.25 29 *e*P **P 18 47 45.8 +0.5**
BRVK Borovoye 61.31 351*c i*P **P 18 47 45.0 -0.6**
BRVK pmax pmax
comp=Z,30nm,1.7s
BRVK Borovoye 61.31 351 P **P 18 47 45.1 -0.6**
BRVK IAmb IAmb 18 47 46.3
comp=Z,14nm,0.8s
BVA0 Borovoye Array 61.33 351 *i* P **P 18 47 44.2 -1.6**
LPSR Galich'ya Gora 61.34 13 *e*P **P 18 47 45.2 -0.6**
LPSR pmax pmax
comp=Z,50nm,0.6s
UBR Ueberruh 61.37 34 *e*P **P 18 47 47.4 +1.2**
comp=Z,29nm,1.1s,baz=340,slow=7.0
PGAV Gavieira, Arco 61.48 51 *e*P **P 18 47 47.4 +0.3**
comp=Z,48nm,1.6s
PGAV A A 19 13 34.4
comp=Z,201nm,18.0s
DAVA Damuels 61.68 35 *e*pP **P 18 47 49.3 +0.8**
comp=Z,16nm,0.8s,SNR=7.0
RETA Reutte 61.70 34 *e*pP **P 18 47 49.2 +0.7**
comp=Z,16nm,0.7s,SNR=7.7
NIE Niedzica 61.87 26 *e*P **P 18 47 50.5 +1.0**
JAVC Velka Javorina 61.90 29 *e*P **P 18 47 51.2 +1.4**
MOTA Moosalm 61.92 34 *e*pP **P 18 47 50.9 +0.9**
comp=Z,11nm,0.9s,SNR=6.7
SENIN Lac Senin/Sane 61.92 37 IAmb IAmb 18 47 52.2
comp=Z,12nm,1.0s
WATA Walderalm 62.03 33 *e*pP **P 18 47 51.8 +1.0**
comp=Z,16nm,0.7s,SNR=9.5
SQTA Sankt Quirin 62.06 34 *e*pP **P 18 47 52.2 +1.2**
comp=Z,16nm,0.7s,SNR=6.9
AKASG Malin Array Be 62.08 20 P **P 18 47 50.3 -0.5**
comp=Z,47nm,0.9s,baz=348,slow=6.9,SNR=92
AKASG LR LR 19 14 47.6
comp=Z,268nm,19.7s,baz=325,slow=36
AKASG Malin Array Be 62.08 20 *i* P **P 18 47 50.2 -0.7**
AKASG pmax pmax
comp=Z,47nm,0.9s
AKASG Malin Array Be 62.08 20 P **P 18 47 49.4 -1.5**
KWP Kalwaria Pacla 62.09 25 *e*P **P 18 47 51.5 +0.4**
KWP Kalwaria Pacla 62.09 25 P **P 18 47 51.0 0.0**
KWP pmax pmax
comp=Z,17nm,1.1s
KWP Kalwaria Pacla 62.09 25 P **P 18 47 51.0 0.0**
KWP IAmb IAmb 18 48 11.2
comp=Z,17nm,1.1s
PBRG Braganca 62.12 50 *e*P **P 18 47 51.5 +0.2**
comp=Z,22nm,1.6s
WTTA Wattenberg 62.12 33 *e*pP **P 18 47 52.4 +1.0**
comp=Z,25nm,0.9s,SNR=10
FETA Feichten 62.13 34 *e*pP **P 18 47 52.9 +1.4**
comp=Z,18nm,1.0s,SNR=9.7
LVV L'vov 62.14 24 *e*P **P 18 47 51.3 0.0**
MOA Molln 62.15 31 *e*pP **P 18 47 51.9 +0.4**
comp=Z,7.1nm,0.8s
SMOL Smolenice 62.18 29 *e*P **P 18 47 52.6 +1.0**
SMOL pmax pmax
comp=Z,14nm,1.0s
SMOL Smolenice 62.18 29 *e*P **P 18 47 52.6 +1.0**
MODS Modra-Piesok 62.28 29 *e*P **P 18 47 52.4 +0.1**
MODS pmax pmax
comp=Z,44nm,1.0s
MODS Modra-Piesok 62.28 29 *e*P **P 18 47 52.4 +0.1**
PVRL Vila Real 62.28 51 *e*P **P 18 47 52.8 +0.4**
comp=Z,30nm,1.6s
TUE Stuetta 62.32 35 P **P 18 47 53.5 +0.7**
FUORN Ofenpass-Fuorn 62.40 35 P **P 18 47 55.1 +1.6**
CONA Conrad Observa 62.41 30 *e*pP **P 18 47 54.2 +0.9**
comp=Z,15nm,0.7s,SNR=14
VYHS Vyhne 62.47 28 *e*P **P 18 47 54.0 +0.4**
VYHS pmax pmax
comp=Z,20nm,1.0s
VYHS Vyhne 62.47 28 *e*P **P 18 47 54.0 +0.4**
MVO Moncorvo 62.60 50 *e*P **P 18 47 54.9 +0.3**
comp=Z,24nm,1.8s
MVO A A 19 12 39.5
comp=Z,137nm,20.0s
KBA Koelnbreinsper 62.68 32 *e*pP **P 18 47 56.3 +1.2**
comp=Z,36nm,1.1s,SNR=20
KOLS Kolonicke sedl 62.69 25 *e*P **P 18 47 54.7 -0.3**
KOLS pmax pmax
comp=Z,13nm,1.1s
KOLS Kolonicke sedl 62.69 25 *e*P **P 18 47 54.7 -0.3**
PVIS Viseu 62.73 51 *e*P **P 18 47 55.9 +0.4**
comp=Z,28nm,1.3s
VSR Storozhevoye 62.73 13 *e*P **P 18 47 54.1 -1.1**
VSR pmax pmax
comp=Z,20nm,0.7s
DGZ Jazzator, Alta 62.76 339*c i*P **P 18 47 56.0 +0.3**
DGZ pmax pmax
comp=Z,5.0nm,0.9s
ABTA Abfaltersbach 62.80 33 *e*pP **P 18 47 56.7 +0.8**
comp=Z,11nm,0.8s,SNR=6.5
KURK Kurchatov 62.91 345*c i*P **P 18 47 55.7 -0.7**
KURK pmax pmax
comp=Z,49nm,1.7s
KURK Kurchatov 62.91 345 P **P 18 47 55.9 -0.6**
VRH Novokhopyorsk 62.97 11 *e*P **P 18 47 56.1 -0.7**
VRH pmax pmax
comp=Z,50nm,0.6s
BNI Bardonecchia 62.98 38 IAmb IAmb 18 48 07.6
comp=Z,27nm,1.7s
UZH Uzhgorod 62.98 25 *e*P **P 18 47 57.3 +0.4**
UZH *e* 18 47 59.6
UZH *i* 18 48 03.0
ARSA Arzberg 62.99 31 *e*pP **P 18 47 58.1 +1.1**
comp=Z,13nm,0.8s,SNR=8.8
VORD Divnogorie 62.99 13 *e*P **P 18 47 56.1 -0.8**
VORD pmax pmax
comp=Z,20nm,0.6s
SRO Srobarova 63.02 28 *e*P **P 18 47 58.3 +1.1**
SRO pmax pmax
comp=Z,15nm,1.2s
SRO Srobarova 63.02 28 *e*P **P 18 47 58.3 +1.1**
SRO2 Moca 63.09 28 *e*P **P 18 47 57.4 -0.2**
SRO2 pmax pmax
comp=Z,16nm,1.1s
SRO2 Moca 63.09 28 *e*P **P 18 47 57.4 -0.2**
ZOU Zoufplan 63.09 33 IAmb IAmb 18 48 08.2
comp=Z,11nm,0.7s
MTE Manteigas 63.13 51 *e*P **P 18 47 58.5 +0.4**
comp=Z,39nm,1.2s
MTE A A 19 14 06.3
comp=Z,176nm,16.0s
PCAS Casmilo, Conde 63.13 52 *e*P **P 18 47 58.4 +0.3**
comp=Z,62nm,1.3s
MYKA Terra Mystica 63.17 32 *e*pP **P 18 47 58.7 +0.4**
comp=Z,12nm,0.8s
CIMO Cimolais 63.20 33 IAmb IAmb 18 48 13.3
comp=Z,6.3nm,0.8s
PSZ Pieksetso 63.23 27 ⇑P **P 18 47 59.6 +0.9**
CTI Castel Tesino 63.27 34 P **P 18 47 58.4 -0.6**
CTI pmax pmax
comp=Z,16nm,0.7s
CTI Castel Tesino 63.27 34 P **P 18 47 58.4 -0.6**
PRED Cave del Predi 63.33 32 IAmb IAmb 18 48 00.3
comp=Z,11nm,0.8s
SOKA Soboth 63.43 31 *e*pP **P 18 48 00.7 +0.6**
comp=Z,12nm,0.7s,SNR=10
OBKA Obir 63.48 32 *e*pP **P 18 48 00.9 +0.5**
comp=Z,32nm,0.7s
PSBE So Bento 63.52 52 *e*P **P 18 48 01.1 +0.4**
CADS Cadrg 63.57 32 *i* P **P 18 48 00.6 -0.3**
PCBR Castelo Branco 63.66 51 *e*P **P 18 48 01.5 0.0**
KSRS Korea Array 63.86 303 P **P 18 48 04.3 +1.4**
comp=Z,4.0nm,1.0s,baz=23,slow=6.6,SNR=10
KSAR Wonju Array Be 63.88 303 P **P 18 48 03.1 +0.1**
KSAR Wonju Array Be 63.88 303 P **P 18 48 03.1 +0.1**
LJU Ljubljana 63.92 32 *i* P **P 18 48 03.3 +0.1**
PMRV Marv??o 64.06 51 *e*P **P 18 48 04.0 -0.2**
comp=Z,23nm,1.7s
PMRV A A 19 14 23.9
comp=Z,206nm,18.0s
PMTG Montargil 64.11 52 *e*P **P 18 48 04.3 -0.2**
comp=Z,19nm,1.6s
BMR Baia Mare 64.12 25 ⇓P **P 18 48 04.8 +0.4**
BRZS Berezniki 64.20 349 *e*P **P 18 48 04.5 -0.4**
comp=Z,18nm,0.9s,baz=349
BRZS Berezniki 64.20 349 *e*P **P 18 48 04.5 -0.4**
BRZS pmax pmax
comp=Z,18nm,0.9s
VISS Visnje 64.22 32 *i* P **P 18 48 04.9 -0.2**
AKTO Aktyubinsk 64.35 360 P **P 18 48 05.1 -0.9**
BUR08 Bucovina Ar. S 64.44 23 IAmb IAmb 18 48 29.7
comp=Z,10.0nm,1.2s
SORM Soroca 64.46 21 ⇑P **P 18 48 06.3 -0.3**
BURAR Bucovina Array 64.47 23 ⇑P **P 18 48 07.4 +0.5**
BURAR Bucovina Array 64.47 23 P **P 18 48 06.8 -0.1**
EVO Evora 64.67 52 *e*P **P 18 48 08.3 +0.1**
comp=Z,25nm,1.2s
ZCCA Zocca 64.71 35 P **P 18 48 09.9 +1.5**
VLC Villacollemand 64.75 36 P **P 18 48 09.2 +0.5**
ARCR ARCALIA 64.84 24 ⇑P **P 18 48 10.2 +1.0**
PNCL Nicolau / Gran 64.88 53 *e*P **P 18 48 10.3 +0.7**
ESDC Sonseca Array 64.92 48 P **P 18 48 10.0 +0.1**
comp=Z,11nm,0.8s,baz=333,slow=6.6,SNR=61
ESDC LR LR 19 15 23.4
comp=Z,124nm,18.2s,baz=320,slow=35
ESDC Sonseca Array 64.92 48 P **P 18 48 09.8 -0.1**
SIRR Siria 65.15 26 ⇑P **P 18 48 12.1 +0.8**
PBEJ Beja 65.18 52 *e*P **P 18 48 11.5 0.0**
comp=Z,27nm,1.2s
MOTC Monteria, Cord 65.27 127 *e*P **P 18 48 12.8 +0.5**
BIZ Bicaz 65.27 23 ⇑P **P 18 48 12.8 +0.8**
ZSN Zaisan 65.34 340 *e*P **P 18 48 12.5 +0.1**
comp=Z,7.6nm,0.8s,baz=340
ZSN Zaisan 65.34 340 *e*P **P 18 48 12.5 +0.1**
ZSN pmax pmax
comp=Z,8.0nm,0.8s
ABKAR Akbulak array 65.52 358 P **P 18 48 12.8 -0.7**
OSSC Osservatorio P 65.55 35 IAmb IAmb 18 48 14.8
comp=Z,11nm,0.8s
MORF Marmelete 65.57 53 *e*P **P 18 48 14.4 +0.2**
MORF AMb AMB 18 48 15.1
comp=Z,22nm,0.7s
MORF Marmelete 65.57 53 *e*P **P 18 48 14.4 +0.2**
MORF Marmelete 65.57 53 *e*P **P 18 48 14.3 +0.2**
MILM Milestii Mici 65.72 21 ⇑P **P 18 48 14.1 -0.7**
BZS Buzias 65.77 27 ⇑P **P 18 48 15.8 +0.5**
TESR Tescani 65.78 23 ⇓P **P 18 48 15.3 +0.1**
PBDV Barranco-do-Ve 65.87 53 *e*P **P 18 48 16.8 +0.8**
HHC Hu-ho-hao-te 65.93 318 *e*P **P 18 48 16.5 0.0**
HHC S **S 18 57 09.0 +5.1**
HHC SS **SS 19 01 15.5 -2.2**
HHC pmax pmax
comp=Z,24nm,1.1s
HHC pmax pmax
comp=Z,70nm,5.7s
HHC LR LR
comp=Z,210nm,16.3s
HHC LR LR
comp=Z,130nm,17.7s
HHC LR LR
comp=Z,150nm,16.4s
OZUR 66.04 23 ⇓P **P 18 48 17.6 +0.6**
MURB Monte Urbino 66.10 34 P **P 18 48 18.4 +0.9**
MK31 Makanchi Array 66.33 342 *i* P **P 18 48 17.9 -1.0**
MK31 Makanchi Array 66.33 342 IAmb IAmb 18 48 19.2
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 66.33 342 P **P 18 48 18.1 -0.8**
comp=Z,5.0nm,0.6s,baz=0.7,slow=5.9,SNR=67
MKAR LR LR 19 21 50.4
comp=Z,27nm,18.2s,baz=10,slow=40
MKAR Makanchi Array 66.33 342 P **P 18 48 17.4 -1.5**
MAKZ Makanchi 66.36 342 P **P 18 48 17.9 -1.2**
MAKZ pmax pmax
comp=Z,27nm,1.3s
MAKZ Makanchi 66.36 342 P **P 18 48 17.9 -1.2**
PLOR Plostina 66.42 23 ⇓P **P 18 48 19.8 +0.4**
VRI ⇑P **P 18 48 20.1 +0.7**
ARR Arges 66.55 25 ⇑P **P 18 48 20.0 +0.6**
VOIR 66.56 24 ⇑P **P 18 48 21.1 +0.7**
MDVR Moldovita 66.59 27 ⇑P **P 18 48 20.9 +0.5**
PMOZ Porto Moniz, M 66.61 62 A A 19 13 45.8 **P 18 48 20.8 +0.2**
comp=Z,135nm,22.0s
HERR Herculane 66.63 26 ⇑P **P 18 48 21.1 +0.3**
BISRR Bisoca 66.72 23 ⇓P **P 18 48 22.7 +1.2**
ZARC Zaragoza, Cauc 66.74 127 *e*P **P 18 48 23.1 +1.3**
DIVS Divibare 66.92 28 IAmb IAmb 18 48 23.8
comp=Z,12nm,0.9s
CFR Carcaliu 67.31 22 ⇑P **P 18 48 25.0 0.0**
TLCR 67.41 21 ⇑P **P 18 48 26.0 +0.3**
TOPG Topolog 67.64 22 ⇓P **P 18 48 27.1 0.0**
HARR Harsova 67.75 22 ⇑P **P 18 48 28.2 +0.3**
PTBC PUERTO BERRIO, 67.77 127 *e*P **P 18 48 28.3 0.0**
TLBR Topalu 67.92 22 ⇑P **P 18 48 28.8 -0.1**
TIRR Tirgusor 68.06 22 ⇓P **P 18 48 30.0 +0.2**
TIRR Tirgusor 68.06 22 P **P 18 48 29.4 -0.4**
TIRR pmax pmax
comp=Z,60nm,1.4s
TIRR Tirgusor 68.06 22 P **P 18 48 29.4 -0.4**
BARC Barichara 68.14 126 *e*P **P 18 48 30.9 -0.1**
PDG Podgorica 68.37 29 ⇑P **P 18 48 31.9 +0.1**
WMQ Urumqi 68.44 337 *e*P **P 18 48 36.3 +4.0**
WMQ pP sP 18 48 38.8 +3.6
WMQ sP pP 18 48 39.8 +5.4
WMQ PcP **PcP 18 49 00.5 +2.9**
WMQ pmax pmax
comp=Z,10.0nm,1.1s
WMQ pmax pmax
comp=Z,6.0nm,3.7s
WMQ LR LR
comp=Z,140nm,28.9s
WMQ LR LR
comp=Z,540nm,29.2s
TDK Taldyqorghan 68.58 344 *e*P **P 18 48 33.0 -0.2**
baz=344
TDK Taldyqorghan 68.58 344 *e*P **P 18 48 32.9 -0.2**
GUY2C Guyana, Caldas 68.70 128 *e*P **P 18 48 35.8 +1.1**
BTLS Baital 68.98 347 *e*P **P 18 48 35.5 -0.1**
comp=Z,8.6nm,1.4s,baz=348
BTLS Baital 68.98 347 *e*P **P 18 48 35.5 -0.1**
BTLS pmax pmax
comp=Z,9.0nm,1.4s
GOF Gofitskoye 69.18 11⇑*i*P **P 18 48 36.9 +0.1**
GOF pmax pmax
comp=Z,60nm,0.7s
SKO Skopje 69.25 28 *i* P **P 18 48 38.0 +0.7**
STIP Stip 69.66 27 *i* P **P 18 48 39.8 0.0**
CHIC Chingaza 69.80 127 *e*P **P 18 48 39.5 -1.9**
CHKK Chushkaly 69.87 345 *e*P **P 18 48 40.3 -0.8**
baz=345
CHKK Chushkaly 69.87 345 *e*P **P 18 48 40.3 -0.8**
KUU Kurty 69.90 345 *e*P **P 18 48 40.5 -0.8**
baz=346
KUU Kurty 69.90 345 *e*P **P 18 48 40.5 -0.8**
KPKS Kokpek 70.06 344 *e*P **P 18 48 42.5 +0.1**
baz=344
KPKS Kokpek 70.06 344 *e*P **P 18 48 42.4 +0.1**
PDGK Podgornoye 70.10 343 P **P 18 48 40.0 -2.7**
KIV Kislovodsk 70.24 11 ⇑P **P 18 48 43.8 +0.2**
KIV Kislovodsk 70.24 11 *e*P **P 18 48 43.7 +0.2**
KIV pmax pmax
comp=Z,60nm,1.0s
KIV MLR MLR
comp=Z,244nm,18.0s
KIV Kislovodsk 70.24 11 P **P 18 48 43.4 -0.1**
KIV IAmb IAmb 18 48 44.9
comp=Z,19nm,1.0s
SHLS Shalkode 70.27 343 *e*P **P 18 48 43.8 0.0**
comp=Z,11nm,0.7s,baz=343
SHLS *e*S **S 18 57 55.1 -0.6**
baz=343
SHLS Shalkode 70.27 343 *e*P **P 18 48 43.7 0.0**
SHLS *e*S **S 18 57 55.1 -0.6**
SHLS pmax pmax
comp=Z,11nm,0.7s
GTA Gaotai 70.30 326 *e*P **P 18 48 44.3 +0.4**
GTA pP sP 18 48 48.5 +1.7
GTA sP pP 18 48 51.5 +5.5
GTA pmax pmax
comp=Z,17nm,1.0s
GTA pmax pmax
comp=Z,77nm,8.6s
GTA LR LR
comp=Z,43nm,13.4s
GTA LR LR
comp=Z,66nm,17.5s
GTA LR LR
comp=Z,89nm,15.1s
UZB Uzynbulak 70.33 343 *e*P **P 18 48 44.2 0.0**
comp=Z,3.6nm,0.5s,baz=343
UZB Uzynbulak 70.33 343 *e*P **P 18 48 44.1 -0.1**
UZB pmax pmax
comp=Z,4.0nm,0.5s
KBZ Khabaz 70.48 11 P **P 18 48 45.6 +0.8**
comp=Z,22nm,0.8s,baz=343,slow=5.2,SNR=35
KBZ LR LR 19 21 28.6
comp=Z,122nm,18.0s,baz=4.5,slow=38
SATY Saty 70.49 344⇑*e*P **P 18 48 45.3 +0.1**
comp=Z,8.4nm,0.8s,baz=344
SATY Saty 70.49 344*ce*P **P 18 48 45.2 +0.1**
SATY pmax pmax
comp=Z,8.0nm,0.8s
SATY Saty 70.49 344*ce*P **P 18 48 45.2 +0.1**
SATY pmax pmax
comp=Z,8.0nm,0.8s
SGDS Sogindy 70.51 347 *e*P **P 18 48 45.5 +0.3**
comp=Z,9.7nm,0.8s,baz=347
SGDS Sogindy 70.51 347 *e*P **P 18 48 45.4 +0.3**
SGDS pmax pmax
comp=Z,10.0nm,0.8s
AAA Alma-Ata 70.51 345 *e*P **P 18 48 45.3 +0.2**
baz=345
AAA Alma-Ata 70.51 345 *e*P **P 18 48 45.3 +0.2**
MDOK Medeo 70.54 345 *e*P **P 18 48 45.4 -0.1**
baz=345
MDOK Medeo 70.54 345 *e*P **P 18 48 45.3 -0.1**
MTBS Maitube 70.64 345 *e*P **P 18 48 45.8 -0.2**
baz=345
MTBS Maitube 70.64 345 *e*P **P 18 48 45.7 -0.2**
TNSS Tian-Shan 70.68 345 *e*P **P 18 48 46.5 -0.1**
baz=345
TNSS Tian-Shan 70.68 345 *e*P **P 18 48 46.5 -0.1**
USP Ospenovka 70.70 347 P **P 18 48 46.8 +0.5**
SNR=15
TKM2 Tokmak 2 70.94 346 P **P 18 48 48.3 +0.4**
SNR=11
TKM2 Tokmak 2 70.94 346 P **P 18 48 48.3 +0.4**
CHMS Chumysh 70.94 347 P **P 18 48 48.4 +0.7**
SNR=11
TIP Timpagrande 70.96 32 ⇑P **P 18 48 47.8 -0.1**
KK31 Karatay Array 71.20 350 IAmb IAmb 18 48 50.3
comp=Z,13nm,0.9s
KKAR Karatay Array 71.20 350 P **P 18 48 48.9 -0.4**
KKAR Karatay Array 71.20 350 P **P 18 48 48.9 -0.4**
KKAR Karatay Array 71.20 350 IAmb IAmb 18 48 50.3
comp=Z,13nm,0.9s
AAK Ala-Archa 71.33 347 P **P 18 48 51.3 +1.1**
SNR=6.6
AAK Ala-Archa 71.33 347*ce*P **P 18 48 50.6 +0.4**
AAK pmax pmax
comp=Z,27nm,1.7s
AAK Ala-Archa 71.33 347 P **P 18 48 50.9 +0.7**
DZA Taraz 71.35 349⇑*e*P **P 18 48 50.2 0.0**
baz=349
DZA Taraz 71.35 349*ce*P **P 18 48 50.1 -0.1**
EKS2 Erkin-Say 71.37 347 P **P 18 48 51.3 +0.8**
SNR=19
ZEI Tsey 71.50 10 *e*P **P 18 48 51.2 -0.1**
ZEI pmax pmax
comp=Z,11nm,1.0s
UCH Uchtor 71.73 347 P **P 18 48 53.9 +0.8**
SNR=6.3
KZA Kyzart 71.81 346 P **P 18 48 54.1 +0.7**
SNR=6.5
NJ2 Nanjing 71.84 308 *e*P **P 18 48 52.8 -0.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
AML Almayashu 71.90 347 P **P 18 48 55.2 +1.3**
SNR=23
IUG luzhnay 72.19 350 *e*P **P 18 48 56.0 +0.7**
comp=Z,7.0nm,0.6s,baz=350
IUG luzhnay 72.19 350 *e*P **P 18 48 56.0 +0.7**
IUG pmax pmax
comp=Z,7.0nm,0.6s
KEST Kesra 72.43 39 P **P 18 48 57.7 +0.9**
comp=Z,17nm,0.9s,baz=324,slow=2.1,SNR=18
KEST LR LR 19 21 14.5
comp=Z,126nm,18.3s,baz=331,slow=36
KEST Kesra 72.43 39 P **P 18 48 57.3 +0.5**
LZH Lanzhou 72.47 322 *e*P **P 18 48 55.0 -2.2**
LZH pP pP 18 48 58.8 -0.5
LZH sP sP 18 49 00.5 +0.5
LZH PP **PP 18 51 40.5 +2.9**
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,64nm,5.4s
LZH LR LR
comp=Z,370nm,16.2s
LZH LR LR
comp=Z,370nm,16.4s
LZH LR LR
comp=Z,520nm,17.5s
AKH Akhalkalaki 72.84 11 IAmb IAmb 18 49 05.8
comp=Z,7.3nm,0.6s
XAN Xi'an 73.03 317 P **P 18 49 04.3 +3.9**
XAN pmax pmax

comp=Z,8.0nm,1.6s
XAN LR LR
comp=Z,130nm,16.2s
XAN LR LR
comp=Z,190nm,19.6s
XAN LR LR
comp=Z,270nm,14.7s
BR131 Keskin Array S 73.45 19 IAmb IAmb 18 49 09.8
comp=Z,19nm,1.3s
BRTR Keskin Array B 73.45 19 P **P** **18 49 03.4 +0.4**
comp=Z,5.5nm,0.7s,baz=353,slow=4.4,SNR=24
BRTR LR LR 19 22 39.5
comp=Z,129nm,21.7s,baz=338,slow=37
BRTR Keskin Array B 73.45 19 P **P** **18 49 03.0 +0.1**
BTK Batken 74.20 349 P **P** **18 49 07.4 +0.2**
BTK pmax pmax
comp=Z,15nm,0.9s
BTK Batken 74.20 349 P **P** **18 49 07.4 +0.2**
BTK IAmb IAmb 18 49 15.5
comp=Z,15nm,0.8s
KSH Kashi 74.27 345 P **P** **18 49 10.8 +3.1**
KSH S **S** **18 58 43.3 +1.7**
KSH pmax pmax
comp=Z,16nm,0.8s
KSH pmax pmax
comp=Z,71nm,4.4s
KSH LR LR
comp=Z,71nm,9.3s
KSH LR LR
comp=Z,100nm,8.4s
WHN Wuhan 74.67 311 ⇓P P 18 49 15.0 +5.1
ELL Elmali 75.83 22 P **P** **18 49 16.9 +0.2**
ELL pmax pmax
comp=Z,60nm,1.2s
ELL Elmali 75.83 22 P **P** **18 49 16.9 +0.2**
GAZ Gaziantep 76.42 16 IAmb IAmb 18 49 21.5
comp=Z,10.0nm,0.8s
GEYT Alibeck 76.85 359 P **P** **18 49 22.9 +0.5**
comp=Z,2.9nm,0.8s,baz=328,slow=7.0,SNR=7.4
GEYT LR LR 19 27 52.5
comp=Z,44nm,19.3s,baz=310,slow=39
GEYT Alibeck 76.85 359 P **P** **18 49 22.5 +0.1**
CD2 Chengdu 77.39 320 P **P** **18 49 25.8 +0.2**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,290nm,14.5s
CD2 LR LR
comp=Z,270nm,19.8s
KBL Kabul 79.82 350 P **P** **18 49 38.9 -0.2**
KBL pmax pmax
comp=Z,14nm,1.5s
KBL Kabul 79.82 350 P **P** **18 49 38.9 -0.2**
NIL Nilore 80.35 347 P **P** **18 49 41.5 -0.2**
NIL pmax pmax
comp=Z,16nm,1.1s
NIL Nilore 80.35 347 P **P** **18 49 41.5 -0.2**
NIL IAmb IAmb 18 49 59.6
comp=Z,16nm,1.1s
GYA Guiyang 80.80 316 *e*P **P** **18 49 44.5 +0.1**
GYA pmax pmax
comp=Z,6.0nm,0.7s
DHRM DHARAMSHALA 81.41 344 *e*P **P** **18 49 47.4 -0.3**
SMLA Simla 82.42 343 *e*P **P** **18 49 51.7 -0.9**
KMI Kunming 83.16 319⇓*e*P **P** **18 49 59.3 +2.4**
KMI pP PcP 18 50 02.3 +0.8
KMI sP sP 18 50 05.0 +5.2
KMI pmax pmax
comp=Z,5.0nm,0.5s
KMI pmax pmax
comp=Z,76nm,4.3s
KMI LR LR
comp=Z,150nm,17.1s
KMI LR LR
comp=Z,120nm,18.7s
KMI LR LR
comp=Z,120nm,17.7s
GKN Gorkha 84.39 336 *e*P **P** **18 50 02.6 -0.5**
JIRN Jiri 84.46 335 *e*P **P** **18 50 04.2 +0.5**
comp=Z,62nm,0.7s
KKN Kakani 84.49 335 *e*P **P** **18 50 04.2 +0.5**
PYUN Piuthan 84.57 337 *e*P **P** **18 50 03.4 -0.7**
comp=Z,60nm,0.9s
PKI Pulchoki 84.69 335 *e*P **P** **18 50 04.6 -0.2**
comp=Z,14nm,0.7s
DMN Daman 84.70 335 *e*P **P** **18 50 05.2 +0.4**
comp=Z,30nm,0.7s
KOLN Koldanda 84.80 337 *e*P **P** **18 50 04.7 -0.5**
comp=Z,28nm,0.8s
ODAN Odare 85.02 333 *e*P **P** **18 50 06.8 +0.4**
comp=Z,69nm,1.3s
PPT Papeete 85.33 206 P **P** **18 50 10.1 +2.6**
comp=Z,25nm,0.5s,baz=60,slow=14,SNR=1.8
PPT LR LR 19 20 37.3
comp=Z,102nm,21.0s,baz=7.5,slow=30
PPT2 Papeete2 85.35 206 *e*LR LR 19 17 05.6
comp=Z,118nm,22.8s
SAML Samuel 86.09 121 *e*P **P** **18 50 11.4 0.0**
SAML Samuel 86.09 121 P **P** **18 50 11.7 +0.3**
SAML pmax pmax
comp=Z,11nm,0.9s
SAML Samuel 86.09 121 P **P** **18 50 11.7 +0.3**
SAML IAmb IAmb 18 50 17.8
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 90.53 321 P **P** **18 50 32.5 -0.2**
comp=Z,5.0nm,0.9s,baz=357,slow=6.1,SNR=20
CMAR Chiang Mai Arr 90.53 321 *i* P **P** **18 50 33.0 +0.3**
CMAR pmax pmax
comp=Z,5.0nm,0.9s
TBI Tubuai 90.96 204 *e*LR LR 19 19 40.4
comp=Z,125nm,22.2s
LPAZ La Paz 91.24 129 P **P** **18 50 37.1 +0.6**
comp=Z,1.0nm,0.6s,baz=277,slow=2.7,SNR=4.0
LPAZ LR LR 19 35 34.5
comp=Z,46nm,18.2s,baz=312,slow=38
TORD Torodi Ar. Bea 91.34 54 P **P** **18 50 36.4 -0.1**
comp=Z,1.8nm,0.6s,baz=320,slow=5.5,SNR=9.6
TORD LR LR 19 29 30.5
comp=Z,110nm,18.4s,baz=345,slow=34
TORD Torodi Ar. Bea 91.34 54 P **P** **18 50 36.0 -0.4**
DBIC Dimbokro 95.05 62 LR LR 19 31 16.0
comp=Z,90nm,18.6s,baz=341,slow=34
BDFB Brasilia 97.91 110 LR LR 19 39 02.6
comp=Z,30nm,18.0s,baz=127,slow=38
DZM Mont Dzumac 102.31 244 *e*LR LR 19 24 54.6
comp=Z,94nm,22.1s
ASAR Alice Springs 116.84 272 PKP **PKiKP** **18 56 15.5 +0.6**
comp=Z,1.3nm,0.7s,baz=19,slow=2.4,SNR=12
ASAR Alice Springs 116.84 272 PKIKP **PKiKP** **18 56 19.2 +4.3**
ASAR Alice Springs 116.84 272 **PKiKP** **18 56 19.2 +4.3**
VNDA Vanda 149.85 205 PKPbc **PKiKP** **18 57 20.8 +1.1**
comp=Z,4.8nm,0.8s,baz=23,slow=4.4,SNR=18

*IDC **29** 18:46:55.0±1.9,6˚.99S×129˚.36E,h181km±21km, mb3.2/1, mb1 3.2/6, mb1mx3.0/39, mbtmp3.8/6, Error ellipse: s-maj=23.6km s-min=16.1km az=98.0*
ISC 29 18:46:52.2±0.9, 7˚.09S±0˚.06×129˚.6E±0˚.1, h150km, n6, σ2°92/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.39**	**15**	P	**Pn**	**18 48 26.1**	**+1.8**
	0.8nm,0.3s,baz=211,slow=22,SNR=18						
SIJI				S	**Sn**	**18 49 33.5**	**-2.9**
	3.6nm,0.3s,baz=256,slow=23,SNR=21						
BATI	**Baumata**	**6.64**	**242**	P	**Pn**	**18 48 30.1**	**+2.6**
	10nm,0.3s,baz=114,slow=3.9,SNR=15						
BATI				S	**Sn**	**18 49 41.3**	**-0.9**
	6.4nm,0.3s,baz=196,slow=23,SNR=7.4						
FITZ	**Fitzroy Crossi**	**11.61**	**199**	P	**Pn**	**18 49 35.2**	**+1.8**
	0.4nm,0.3s,baz=15,slow=11,SNR=19						
FITZ				S	**Sn**	**18 51 35.9**	**-5.9**
	0.5nm,0.3s,baz=69,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**13.58**	**161**	P	**P**	**18 50 02.1**	**-0.7**
	0.3nm,0.3s,baz=336,slow=14,SNR=18						
WRA				S	**Sn**	**18 52 28.8**	**-0.6**
	0.2nm,0.3s,baz=329,slow=22,SNR=3.4						
ASAR	**Alice Springs**	**17.00**	**166**	P	**Pn**	**18 50 43.7**	**+2.6**
	0.1nm,0.3s,baz=345,slow=10,SNR=16						
ASAR				S	**Sn**	**18 53 51.7**	**+0.4**
	0.1nm,0.3s,baz=348,slow=26,SNR=2.6						
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**	**18 57 33.8**	**-1.9**
	0.3nm,0.4s,baz=126,slow=7.3,SNR=9.4						

*IDC **29** 19:02:01.9±0.8,0˚.36S×123˚.97E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.9/34, mbtmp4.0/12, ML3.7/2, MS3.3/10, Ms1 3.3/10, ms1mx2.9/41, Error ellipse: s-maj=29.2km s-min=14.6km az=72.0*
*DJA **29** 19:02:08.5±1.7, 0˚.5±4˚×12˚4E±˚, h27km±19km, M4.3/11, mB4.8/1, mb4.3/4, MLv4.2/11, Mw(mB)4.1/1*
*NEIC **29** 19:02:10.1±2.5, 0˚.41S±0˚.08×124˚.21E±0˚.06, h65km±8km, mb4.4/20, Error ellipse: s-maj=11.3km s-min=7.9km az=161.0*
ISC 29 19:02:08.0±0.5, 0˚.37S±0˚.05×124˚.33E±0˚.06, h35km, n58, σ1°64/57, mb4.2/20, MS3.4/7, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.00**	**340**	P	**Pn**	**19 02 25.3**	**-0.3**
KMSI				S	**Sn**	**19 02 38.2**	**-0.3**
GTOI	**Gorontalo**	**1.65**	**307**	P	**Pn**	**19 02 36.5**	**+1.9**
GTOI				S	**Sn**	**19 02 57.3**	**+2.7**
LUWI	**Luwuk**	**1.69**	**247**	P	**Pn**	**19 02 36.5**	**+1.4**
LUWI				S	**Sn**	**19 02 56.7**	**+1.2**
LUWI	**Luwuk**	**1.69**	**247**		**Pn**	**19 02 35.8**	**+0.7**
SANI	**Sanana**	**2.35**	**135**	P	**Pn**	**19 02 44.3**	**+0.1**
TNTI	**Ternate**	**3.25**	**69**	Pn	**Pn**	**19 03 00.1**	**+3.7**
MPSI	**Mapaga**	**4.48**	**279**	P	**Pn**	**19 03 12.8**	**-0.7**
SPSI	**Sidrap Palu**	**5.79**	**232**	P	**Pn**	**19 03 33.6**	**+2.2**
BNSI	**Bone**	**5.81**	**226**	P	**Pn**	**19 03 33.7**	**+1.9**
	0.2nm28nm,0.6s						
BKSI	**Bulukumba**	**6.46**	**220**	P	**Pn**	**19 03 42.9**	**+2.1**
	0.1nm17nm,0.9s						
KAPI	**Kappang**	**6.49**	**225**	Pn	**Pn**	**19 03 43.5**	**+2.4**
	2.9nm,0.3s,baz=27,slow=4.5,SNR=3.4						
KAPI				Sn	**Sn**	**19 04 54.6**	**+0.7**
	4.1nm,0.3s,baz=104,slow=16,SNR=7.4						
KAPI				LR	LR	19 06 14.7	
	comp=Z,46nm,20.1s,baz=290,slow=40						
KAPI	**Kappang**	**6.49**	**225**		**Pn**	**19 03 40.0**	**-1.2**
SIJI	**Sorong**	**6.96**	**94**	Pn	**Pn**	**19 03 50.8**	**+3.2**
	1.2nm,0.3s,baz=305,slow=22,SNR=4.3						
SIJI				Sn	Sn	19 05 14.8	+9.3
	0.5nm,0.3s,baz=81,slow=19,SNR=1.1						
DAV	**Davao City (W)**	**7.50**	**10**	LR	LR	19 07 25.2	
	comp=Z,61nm,19.3s,baz=144,slow=43						
MYLDM	**Lahad Datu**	**8.02**	**314**		**Pn**	**19 04 05.5**	**+3.4**
FAKI	**Fak Fak**	**8.31**	**108**	Pn	**Pn**	**19 04 07.5**	**+1.3**
SOEI	**Soe**	**9.32**	**180**	Pn	**Pn**	**19 04 20.0**	**-0.1**
BATI	**Baumata**	**9.79**	**184**	Pn	Pn	19 04 32.7	+6.3
	1.7nm,0.3s,baz=333,slow=9.0,SNR=2.3						
BATI				LR	LR	19 08 03.8	
	comp=Z,247nm,18.9s,baz=190,slow=37						
KKM	**Kota Kinabalu**	**10.31**	**308**	Pn	**Pn**	**19 04 35.8**	**+2.2**
MTN	**Manton Dam**	**14.11**	**152**		**Pn**	**19 05 27.4**	**+1.9**
KSM	**Kuching**	**14.14**	**277**	P	**P**	**19 05 32.7**	**-0.3**
KNRA	**Kununurra**	**15.82**	**164**	P	**P**	**19 05 51.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**17.66**	**176**	P	**Pn**	**19 06 10.3**	**-1.1**
	0.2nm,0.3s,baz=15,slow=11,SNR=7.2						
XMIS	**Christmas Isla**	**21.11**	**241**	P	**P**	**19 06 48.2**	**-1.6**
XMIS				IAmb	IAmb	19 07 23.6	
	comp=Z,93nm,1.1s						
WB0	**Warramunga Arr**	**21.65**	**154**	P	**P**	**19 06 54.9**	**-0.7**
WB0				IAmb	IAmb	19 07 00.9	
	comp=Z,8.9nm,1.0s						
WRA	**Warramunga Arr**	**21.78**	**154**	P	**P**	**19 06 56.4**	**-0.7**
	comp=Z,4.3nm,0.8s,baz=333,slow=11,SNR=28						
WRA	**Warramunga Arr**	**21.78**	**154**	P	**P**	**19 06 55.6**	**-1.4**
WB2	**Warramunga Arr**	**21.79**	**154**	P	**P**	**19 06 56.4**	**-0.6**
WB2				IAmb	IAmb	19 07 01.9	
	comp=Z,10nm,1.1s						
WR0	**Warramunga Arr**	**21.89**	**153**	P	**P**	**19 06 57.1**	**-1.0**
WR0				IAmb	IAmb	19 07 03.1	
	comp=Z,8.6nm,1.1s						
COEN	**Coen**	**23.03**	**127**	P	**P**	**19 07 10.9**	**+0.7**
COEN				IAmb	IAmb	19 07 34.6	
	comp=Z,19nm,1.3s						
TPUB	**Ta-pu**	**23.80**	**352**	P	**P**	**19 07 17.3**	**-0.5**
TPUB				IAmb	IAmb	19 07 28.1	
	comp=Z,19nm,1.3s						
AS31	**Alice Springs**	**24.95**	**159**	P	**P**	**19 07 28.7**	**+0.4**
ASAR	**Alice Springs**	**24.95**	**159**	P	**P**	**19 07 28.6**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=334,slow=7.9,SNR=34						
ASAR				LR	LR	19 17 55.9	
	comp=Z,38nm,18.3s,baz=306,slow=38						
FORT	**Forrest**	**30.45**	**174**	P	**P**	**19 08 16.9**	**-0.5**
FORT				IAmb	IAmb	19 08 33.6	
	comp=Z,20nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.18**	**308**	LR	LR	19 21 58.1	
	comp=Z,20nm,19.2s,baz=100,slow=39						
JCJ	**Chichijima**	**32.27**	**31**	P	**P**	**19 08 33.0**	**-0.6**
BBOO	**Buckleboo**	**34.11**	**162**	P	**P**	**19 08 49.2**	**-0.3**
BBOO				IAmb	IAmb	19 09 23.1	
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**35.33**	**154**	P	**P**	**19 09 00.3**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=334,slow=14,SNR=3.9						
STKA	**Stephens Creek**	**35.33**	**154**	IAmb	IAmb	19 09 01.7	
	comp=Z,2.2nm,1.4s						
HNR	**Honiara**	**36.57**	**105**	LR	LR	19 25 42.0	
	comp=Z,54nm,18.2s,baz=53,slow=38						
KSRS	**Korea Array**	**37.79**	**5**	P	**P**	**19 09 20.6**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=176,slow=9.9,SNR=2.8						
MJAR	**Matsushiro Arr**	**38.93**	**18**	P	**P**	**19 09 29.6**	**-1.0**
	comp=Z,2.6nm,0.7s,baz=196,slow=9.3,SNR=9.4						
USA0B	**Ussuriysk Arra**	**44.90**	**8**	P	**P**	**19 10 19.2**	**-0.1**
USA0B				IAmb	IAmb	19 10 19.7	
	comp=Z,8.9nm,1.4s						
USRK	**Ussuriysk Ar.**	**44.90**	**8**	P	**P**	**19 10 18.1**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=199,slow=7.5,SNR=18						
ASAJ	**Asahikawa**	**47.20**	**18**	LR	LR	19 29 27.2	
	comp=Z,34nm,19.3s,baz=180,slow=35						
TARA	**Tarawa**	**48.62**	**88**	P	**P**	**19 10 49.5**	**+0.6**
MK31	**Makanchi Array**	**59.63**	**328**	P	**P**	**19 12 06.4**	**-2.2**
MK31				IAmb	IAmb	19 12 08.6	
	comp=Z,3.8nm,1.6s						
MKAR	**Makanchi Array**	**59.63**	**328**	P	**P**	**19 12 06.4**	**-2.3**
	comp=Z,0.9nm,0.4s,baz=125,slow=8.5,SNR=18						
MKAR				PcP	**PcP**	**19 12 54.0**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=140,slow=4.0,SNR=4.3						
MKAR				ScP	**ScP**	**19 16 57.2**	**+3.2**
	comp=Z,0.6nm,0.8s,baz=235,slow=4.3,SNR=4.0						
MKAR	**Makanchi Array**	**59.63**	**328**	P	**P**	**19 12 06.1**	**-2.6**
MAKZ	**Makanchi**	**59.81**	**328**	P	**P**	**19 12 07.1**	**-2.7**
MAKZ				PcP	**PcP**	**19 12 55.5**	**-0.7**
PEA0B	**Petropavlovsk-**	**60.11**	**22**	P	**P**	**19 12 12.5**	**+0.7**
PETK	**Petropavlovsk-**	**60.11**	**22**	P	**P**	**19 12 12.5**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=194,slow=2.5,SNR=10						
BKZ	**Black Stump Fm**	**61.26**	**136**	P	**P**	**19 12 20.9**	**+1.0**
ZALV	**Zalesovo Beam**	**63.20**	**335**	P	**P**	**19 12 29.6**	**-3.0**
	comp=Z,0.4nm,0.4s,baz=116,slow=6.7,SNR=2.2						
ZALV				LR	LR	19 42 39.3	
	comp=Z,39nm,19.4s,baz=78,slow=39						
ARCES	**ARCESS Array B**	**93.44**	**340**	P	**P**	**19 15 17.9**	**-1.7**
	comp=Z,1.6nm,0.9s,baz=108,slow=4.8,SNR=2.4						
FINES	**FINESS Array B**	**94.28**	**332**	LR	LR	20 02 09.4	
	comp=Z,21nm,18.1s,baz=305,slow=38						
BOSA	**Boshof**	**97.79**	**241**	LR	LR	19 54 46.3	
	comp=Z,79nm,20.4s,baz=346,slow=32						
TORD	**Torodi Ar. Bea**	**121.78**	**285**	PKP	**PKiKP**	**19 20 59.8**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=82,slow=3.0,SNR=1.6						

*IDC **29** 19:15:16.1±1.3,28˚.40N×140˚.59E,h138km±14km, mb3.4/9, mb1 3.5/13, mb1mx3.3/36, mbtmp3.7/13, Error ellipse: s-maj=29.5km s-min=11.1km az=71.0*
*JMA **29** 19:15:16.5±0.1,28˚.55N×141˚.15E, h168km, M4.0*
ISC 29 19:15:17.4±0.7, 28˚.54N±0˚.07×140˚.8E±0˚.1, h150km, n29, σ1°60/33, mb3.6/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.88**	**140**	P	**Pn**	**19 15 50.0**	**-1.1**
CBIJ				*e*S	**Sn**	**19 16 15.6**	**-1.4**
JCJ	**Chichijima**	**1.88**	**140**	P	**Pn**	**19 15 50.0**	**-1.1**
	218nm,0.3s,baz=328,slow=23,SNR=464						
JCJ				S	**Sn**	**19 16 15.1**	**-2.0**
	51nm,0.3s,baz=289,slow=22,SNR=1.9						
JHH2	**Haha-jima-NKT2**	**2.25**	**147**	P	**Pn**	**19 15 53.9**	**-1.6**
JHH2				*e*S	**Sn**	**19 16 23.3**	**-1.5**
JHJ	**Hachijo jima 2**	**4.65**	**349**	P	**Pn**	**19 16 28.8**	**+2.7**
	5.2nm,0.3s,baz=62,slow=18,SNR=1.4						
JHJ				S	**Sn**	**19 17 15.9**	**-3.7**
	32nm,0.3s,baz=61,slow=23,SNR=7.4						
JMKN	**Mikurajimanish**	**5.44**	**349**	P	**Pn**	**19 16 37.1**	**+0.6**
BSO1	**Boso 1**	**6.09**	**1**	P	**Pn**	**19 16 44.7**	**0.0**
BSO1				*e*S	**Sn**	**19 17 51.4**	**-1.9**
BSO3	**Boso 3**	**6.25**	**358**	P	**Pn**	**19 16 46.8**	**-0.2**
BSO4	**Boso 4**	**6.44**	**356**	P	**Pn**	**19 16 50.5**	**+0.7**

JOD2 Odawara 2 6.86 348 P **Pn** **19 16 57.0 +1.5**
JHU Hanno 7.40 350 P **Pn** **19 17 02.0 -0.7**
JHU *e*S **Sn** **19 18 21.5 -4.0**
JRY Ryogami san 7.63 348 P **Pn** **19 17 06.4 +0.7**
JAG Ashikaga 7.95 352 P **Pn** **19 17 08.4 -1.5**
JHO Hitachi 8.05 359 P **Pn** **19 17 10.2 -1.1**
MJAR Matsushiro Arr 8.28 345 P **Pn** **19 17 14.4 0.0**
0.1nm,0.3s,baz=172,slow=14,SNR=2.4
MJAR S **Sn** **19 18 47.8 +1.4**
0.1nm,0.3s,baz=334,slow=36,SNR=1.9
KSRS Korea Array 13.99 313 P **Pn** **19 18 29.7 +0.7**
0.2nm,0.3s,baz=125,slow=14,SNR=5.2
ASAJ Asahikawa 15.61 5 P **P** **19 18 51.4 +1.3**
0.6nm,0.3s,baz=216,slow=7.2,SNR=11
USRK Ussuriysk Ar. 17.15 338 P **Pn** **19 19 08.2 +0.4**
baz=141,slow=8.7,SNR=4.4
KLR Kul'dur 21.80 344 P **P** **19 19 57.2 -0.1**
5.0nm,0.6s,baz=140,slow=6.3,SNR=19
H11N2 WAKE ISLAND Hy 25.32 104 T T 19 46 37.5
baz=298
H11N1 WAKE ISLAND Hy 25.32 105 T T 19 46 34.5
baz=298
H11N3 WAKE ISLAND Hy 25.34 104 T T 19 46 35.7
baz=298
WRA Warramunga Arr 48.60 188 P **P** **19 23 44.5 -1.3**
0.9nm,0.4s,baz=6.3,slow=7.9,SNR=28
MKAR Makanchi Array 48.63 309 P **P** **19 23 44.9 -1.0**
0.1nm,0.4s,baz=87,slow=11,SNR=1.8
ASAR Alice Springs 52.33 188 P **P** **19 24 12.8 -1.0**
0.2nm,0.3s,baz=2.3,slow=5.1,SNR=5.7
ARCES ARCESS Array B 71.78 340 P **P** **19 26 23.7 +0.7**
0.9nm,0.6s,baz=74,slow=8.9,SNR=7.8
FINES FINESS Array B 76.12 333 P **P** **19 26 48.0 -0.3**
1.5nm,0.8s,baz=65,slow=5.1,SNR=10.0
NVAR Mina Array Bea 80.57 51 P **P** **19 27 15.5 +2.0**
0.4nm,0.5s,baz=298,slow=5.8,SNR=1.5
NOA NORSAR Array B 81.82 338 P **P** **19 27 19.8 +0.4**
0.4nm,0.7s,baz=53,slow=6.6,SNR=2.4
TXAR Lajitas Array 95.69 52 P **P** **19 28 28.3 +1.7**
0.2nm,0.7s,baz=338,slow=1.9,SNR=3.2

*IDC **29** 19:17:17.6±1.9,32˚.36N×132˚.66E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.5/36, mbtmp3.6/6, ML3.1/1, MS3.2/5, Ms1 3.3/5, ms1mx2.8/40, Error ellipse: s-maj=71.8km s-min=25.2km az=58.0*
*JMA **29** 19:17:21.6±0.1, 32˚.16N×132˚.10E, h18km±2km, M3.9*
JMA Felt I J1.
*NIED **29** 19:17:21.7, 32˚.16N×132˚.10E, h18km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.21; Mθθ-0.15; Mφφ-0.06; Mrθ0.37; Mθφ-0.51; Mφr1.28; Fault plane solution: M₀1.43000×10¹⁵ NP1:ϕs15.00000°, δ84.00000°, λ71.00000°. NP2:ϕs269.00000°, δ20.00000°, λ163.00000°.*
ISC 29 19:17:20.8±1.7, 32˚.13N±0˚.06×132˚.14E±0˚.05, h13km±9km, n25, σ0°75/25, MS3.5/3, 1C-6D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHC	**Hyugahichiya**	**0.52**	**307**	⇓P	**Pg**	**19 17 31.2**	**+0.1**
JHHC				*e*S	**Sg**	**19 17 38.1**	**0.0**
JTSN	**Tsuno**	**0.55**	**282**	⇓P	**Pg**	**19 17 31.4**	**-0.1**
JTSN				*e*S	**Sg**	**19 17 38.9**	**+0.1**
JSKE	**Saikikamae**	**0.69**	**344**	⇓P	**Pb**	**19 17 34.3**	**-0.4**
JSKE				*e*S	**Sg**	**19 17 43.5**	**+0.1**
JKIT	**Kitakata**	**0.76**	**311**	⇓P	**Pb**	**19 17 35.3**	**-0.5**
JKIT				*e*S	**Sg**	**19 17 45.2**	**-0.3**
JTO	**Tosashimizu**	**0.92**	**38**	⇓P	**Pb**	**19 17 38.0**	**-0.6**
JTZ	**Takazaki**	**0.92**	**256**	⇓P	**Pb**	**19 17 38.6**	**+0.1**
JTZ				*e*S	**Sb**	**19 17 50.1**	**-0.6**
UWA2	**Uwa jima 2**	**1.16**	**21**	P	**Pb**	**19 17 42.9**	**+0.3**
UWA2				*e*S	**Sb**	**19 17 57.5**	**0.0**
JIU3	**Izumi3**	**1.19**	**291**	⇑P	**Pn**	**19 17 42.9**	**-0.3**
JIU3				*e*S	**Sn**	**19 17 58.5**	**-0.7**
JNU	**Nakatsue**	**1.45**	**313**	Pn	**Pb**	**19 17 47.6**	**0.0**
	123nm,0.3s,baz=112,slow=3.9,SNR=549						
JNU				Sn	**Sg**	**19 18 07.3**	**-0.1**
	121nm,0.3s,baz=8.8,slow=23,SNR=17						
JNA	**Nagahama**	**1.45**	**11**	P	**Pn**	**19 17 46.3**	**-0.4**
KSRS	**Korea Array**	**6.34**	**328**	Pn	**Pn**	**19 18 55.2**	**+1.4**
	0.4nm,0.3s,baz=146,slow=14,SNR=7.7						
KSRS				Sn	**Sn**	**19 20 06.5**	**+0.4**
	0.4nm,0.3s,baz=99,slow=11,SNR=4.5						
KSRS				Lg	Lg	19 20 34.6	
	0.3nm,0.3s,baz=146,slow=30,SNR=4.3						
KSRS				LR	LR	19 21 31.8	
	comp=Z,186nm,21.1s,baz=132,slow=40						
JCJ	**Chichijima**	**10.08**	**117**	LR	LR	19 23 20.7	
	comp=Z,58nm,18.4s,baz=338,slow=37						
SONM	**Songino Array**	**25.04**	**316**	P	**P**	**19 22 45.6**	**+1.0**
	1.3nm,0.6s,baz=124,slow=7.7,SNR=2.4						
CMAR	**Chiang Mai Arr**	**32.81**	**254**	LR	LR	19 38 41.9	
	comp=Z,96nm,19.4s,baz=128,slow=39						
H11N2	**WAKE ISLAND Hy**	**33.47**	**103**	T	T	20 00 00.4	
	baz=300,slow=75,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**33.47**	**103**	T	T	20 00 02.4	
	baz=300,slow=75,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**33.48**	**103**	T	T	19 59 42.3	
	baz=300,slow=75,SNR=3.6						
H11S3	**WAKE ISLAND Hy**	**33.90**	**105**	T	T	20 00 06.6	
	baz=300,slow=74						
H11S1	**WAKE ISLAND Hy**	**33.90**	**105**	T	T	20 00 09.1	
	baz=300,slow=74						
H11S2	**WAKE ISLAND Hy**	**33.92**	**105**	T	T	20 00 13.4	
	baz=300						
MKAR	**Makanchi Array**	**40.49**	**306**	P	**P**	**19 25 00.8**	**+1.6**
	0.1nm,0.5s,baz=88,slow=13,SNR=1.9						
MKAR				LR	LR	19 42 06.7	
	comp=Z,27nm,19.5s,baz=108,slow=37						
BVAR	**Borovoye Array**	**48.36**	**315**	LR	LR	19 45 49.1	
	comp=Z,42nm,18.6s,baz=100,slow=35						
WRA	**Warramunga Arr**	**51.82**	**177**	P	**P**	**19 26 29.1**	**+0.6**
	0.4nm,0.7s,baz=352,slow=7.8,SNR=2.7						
FINES	**FINESS Array B**	**69.42**	**330**	P	**P**	**19 28 27.2**	**-0.9**
	1.9nm,1.0s,baz=79,slow=7.2,SNR=1.3						
AKASG	**Malin Array Be**	**73.27**	**320**	P	**P**	**19 28 49.9**	**-1.6**
	0.6nm,0.4s,baz=55,slow=6.5,SNR=2.8						

*IDC **29** 19:26:00.3±2.0, 7˚.58S×127˚.89E, h0km, mb3.8/2, mb1 3.7/4, mb1mx3.4/33, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=287.9km s-min=29.9km az=64.0*
*NEIC **29** 19:26:12.4±2.3, 7˚.35S±0˚.09×129˚.56E±0˚.09, h140km±5km, mb4.0/4, Error ellipse: s-maj=13.3km s-min=11.8km az=136.0*
ISC 29 19:26:13.5±0.9, 7˚.59S±0˚.07×129˚.55E±0˚.07, h150km, n22, σ1°85/29, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.78**	**103**	Pn	**Pn**	**19 26 45.4**	**-0.7**
SAUI				Sn	**Sn**	**19 27 10.4**	**-0.7**
FAKI	**Fak Fak**	**5.36**	**30**	Pn	Pn	19 27 23.7	-8.1
FAKI				Sn	Sn	19 28 18.8	-14
MTN	**

MK31				IAmb	IAmb	19 36 59.3
	comp=Z,2.8nm,1.6s					
MKAR	**Makanchi Array**	**68.47**	**327**	P	**P**	**19 36 59.4 -0.1**
	comp=Z,0.6nm,0.5s,baz=128,slow=8.3,SNR=9.1					
MKAR	**Makanchi Array**	**68.47**	**327**	P	**P**	**19 36 59.0 -0.5**
KURBB	**Kurchatov Arra**	**72.78**	**329**	P	**P**	**19 37 24.8 -0.6**
	comp=Z,0.3nm,0.5s,baz=125,slow=5.1,SNR=6.2					
KURK	**Kurchatov**	**72.79**	**329**	P	**P**	**19 37 24.8 -0.6**

KRSC 29 19:37:04.3±2.0, 54°.65N×165°.82E, h21^{km}±16^{km}, ML4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.56**	**9**	*iP*	Pb	19 37 13.9	-1.6
BKI				*eS*	Sb	19 37 19.9	-3.2
KBTR	**Krutoberegovo**	**2.32**	**314**	*eP*	Pn	19 37 41.2	+0.1
KBTR				*eS*	Sn	19 38 10.7	+1.8
KBG	**Krutoberegovo**	**2.40**	**313**	*eP*	Pb	19 37 45.2	-1.4
KBG				*eS*	Sb	19 38 14.4	-1.3
SMKR	**Semkarok**	**3.14**	**310**	*eP*	Pb	19 37 56.3	-3.0
SMKR				*eS*	Sb	19 38 33.6	-3.5
ZLN	**Zelenaya**	**3.18**	**298**	*eP*	Pn	19 37 55.6	+2.6
TUMD	**Tumrok D**	**3.18**	**282**	*eP*	Pb	19 37 56.9	-3.1
BZGR	**Bezymyannyi-Gr**	**3.20**	**296**	*eP*	Pb	19 37 57.1	-3.3
BZGR				*eS*	Sb	19 38 35.3	-3.7
KZV	**Kizimen**	**3.23**	**281**	*eP*	Pb	19 37 57.5	-3.4
KZV				*eS*	Sb	19 38 36.1	-3.6
CIRR	**Tsirk**	**3.25**	**299**	*eP*	Pb	19 37 58.7	-2.5
BDR	**Baidarnaya**	**3.25**	**308**	*eP*	Pb	19 37 58.8	-2.4
LGNR	**Loginova**	**3.26**	**298**	*eP*	Pb	19 37 58.4	-3.2
SRKR	**Sorokina**	**3.31**	**309**	*eP*	Pb	19 37 59.0	-3.3
SRKR				*eS*	Sb	19 38 38.7	-3.5
BZWR	**Bezymyannyi-We**	**3.32**	**296**	*eP*	Pb	19 37 59.0	-3.4
BZWR				*eS*	Sb	19 38 38.6	-3.7
TUMR	**Tumrok**	**3.33**	**283**	*eP*	Pb	19 37 59.1	-3.6
KLY	**Klyuchi**	**3.38**	**302**	*eP*	Pn	19 37 58.2	+2.5
KRSR	**Krestovskiy**	**3.38**	**300**	*eP*	Pb	19 38 00.9	-2.6
KMNR	**Kamenistaya**	**3.39**	**291**	*eP*	Pb	19 37 59.8	-3.8
KMNR				*eS*	Sn	19 38 39.6	+4.1
KIRR	**Kirishev**	**3.39**	**295**	*eP*	Pn	19 37 59.3	+3.2
KPT	**Kopyto**	**3.46**	**295**	*eP*	Pn	19 37 59.7	+2.8
KOZ	**Kozyrevsk**	**3.68**	**295**	*eP*	Pn	19 38 03.2	+3.4
SPN	**Mys Shipunski**	**3.77**	**248**	*eP*	Pn	19 38 05.0	+4.0
SPN				*eS*	Sn	19 38 47.5	+2.8
KII	**Karymskiy**	**3.78**	**263**	*eP*	Pb	19 38 05.9	-4.4
KII				*eS*	Sn	19 38 50.1	+5.0
SRDR	**Sredinnyy**	**3.85**	**298**	*eP*	Pn	19 38 06.6	+4.3
ESO	**Esso**	**4.27**	**290**	*eP*	Pn	19 38 11.8	+3.9
SDLR	**Sedlovina**	**4.32**	**254**	*eP*	Pb	19 38 14.2	-5.3
SDLR				*eS*	Sn	19 39 02.7	+4.2
SMAR	**Somma**	**4.37**	**254**	*eP*	Pn	19 38 14.9	+5.3
SMAR				*eS*	Sn	19 39 04.5	+4.6
UGLR	**Uglovaya**	**4.38**	**254**	*eP*	Pn	19 38 13.8	+4.2
KRER	**Koryakskii**	**4.39**	**255**	*eP*	Pn	19 38 15.1	+5.3
AVH	**Avacha**	**4.41**	**255**	*eP*	Pb	19 38 15.6	-5.3
AVH				*eS*	Sn	19 39 04.8	+4.2
KRX	**Arik**	**4.42**	**256**	*eP*	Pn	19 38 15.4	+5.2
KRX				*eS*	Sn	19 39 05.9	+4.8
KOK	**Koryaka**	**4.46**	**255**	*eP*	Pn	19 38 15.6	+5.0
DALK	**Dalny**	**4.49**	**252**	*eP*	Pn	19 38 14.0	+3.1
DALK				*eS*	Sn	19 39 05.9	+3.5
PET	**Petropavlovsk**	**4.55**	**252**	*eS*	Sn	19 39 07.2	+3.3
RUS	**Russkaya**	**4.89**	**246**	*eP*	Pn	19 38 21.9	+5.4
RUS				*eS*	Sn	19 39 16.5	+4.2
KRMR	**Karymshinskiy**	**4.92**	**251**	*eP*	Pn	19 38 22.5	+5.7
KRMR				*eS*	Sn	19 39 17.5	+4.5
MTVR	**Mutnovka**	**5.04**	**248**	*eP*	Pn	19 38 23.8	+5.1
MTVR				*eS*	Sn	19 39 19.7	+3.4
GRL	**Gorelyy**	**5.07**	**249**	*eP*	Pn	19 38 24.3	+5.2
GRL				*eS*	Sn	19 39 20.4	+3.4
ASAK	**Asacha**	**5.24**	**248**	*eP*	Pn	19 38 26.6	+5.2
ASAK				*eS*	Sn	19 39 24.9	+3.7
APC	**Apacha**	**5.42**	**255**	*eS*	Sn	19 39 31.1	+5.8
KDTR	**Khodutka, Kamc**	**5.45**	**242**	*eP*	Pn	19 38 28.5	+4.3
KDTR				*eS*	Sn	19 39 27.5	+1.3
MIPR	**Malaya Ipel'ka**	**5.91**	**250**	*eP*	Pn	19 38 36.6	+6.1

*IDC **29** 20:03:49.8±0.8, 36°.56N×141°.54E, h0^{km}, mb3.8/14, mb1 4.0/17, mb1mx3.9/37, mbtmp3.9/17, ML3.8/3, MS3.1/6, Ms1 3.1/6, ms1mx2.8/33, Error ellipse: s-maj=20.5km s-min=17.1km az=96.0*
*NEIC **29** 20:03:55.0±1.8, 36°.58N±0°.06×141°.56E±0°.09, h36^{km}±7^{km}, mb4.4/14, Error ellipse: s-maj=11.1km s-min=8.1km az=107.0*
*JMA **29** 20:03:55.1±0.1, 36°.62N×141°.36E, h42^{km}±2^{km}, M3.9 JMA Felt II J1.*
*NIED **29** 20:03:55.1, 36°.62N×141°.36E, h42^{km}, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.74; $M_{\theta\theta}$1.37; $M_{\phi\phi}$-0.63; $M_{r\theta}$-0.90; $M_{\theta\phi}$-0.35; $M_{\phi r}$3.71; Fault plane solution: M_o3.92000×10^{14} NP1: ϕ_s161.00000°, δ88.00000°, λ-76.00000°. NP2: ϕ_s260.00000°, δ14.00000°, λ-170.00000°.*
ISC 29 20:03:52.5±1.5, 36°.61N±0°.04×141°.51E±0°.06, h15^{km}±9^{km}, n66, σ1^{s}11/63, mb4.0/19, MS3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.75**	**311**	P	**Pg**	**20 04 07.9**	**+0.8**
ONAJ				S	**Sg**	**20 04 16.9**	**-0.2**
JHO	**Hitachi**	**0.76**	**270**	P	**Pg**	**20 04 07.6**	**+0.4**
JHYU	**Hitachinakayam**	**0.79**	**250**	P	**Pg**	**20 04 08.5**	**+0.6**
JHYU				S	**Sg**	**20 04 18.0**	**-0.3**
JFFD	**Fukushimafurud**	**0.90**	**302**	P	**Pg**	**20 04 09.8**	**-0.1**
JFFD				S	**Sg**	**20 04 20.0**	**-1.7**
JFK	**Kawauchi**	**0.91**	**326**	P	**Pg**	**20 04 10.5**	**+0.4**
JFK				S	**Sg**	**20 04 21.1**	**-1.0**
JYT	**Yasato**	**1.13**	**251**	P	**Pb**	**20 04 13.0**	**-0.7**
JFT	**Otama**	**1.30**	**314**	P	**Pn**	**20 04 16.9**	**+0.8**
JMM	**Marumori**	**1.38**	**336**	P	**Pn**	**20 04 17.3**	**+0.2**
JMM				*eS*	**Sn**	**20 04 33.6**	**-1.5**
JFY	**Yanaizu**	**1.65**	**299**	*eS*	**Sn**	**20 04 40.0**	**-1.8**
JAG	**Ashikaga**	**1.67**	**264**	P	**Pn**	**20 04 20.9**	**-0.2**
MJAR	**Matsushiro Arr**	**2.66**	**269**	Pn	**Pn**	**20 04 35.8**	**+1.0**
	6.0nm,0.3s,baz=120,slow=9.0,SNR=200						
MJAR				Sn	**Sn**	**20 05 07.5**	**+0.8**
	5.1nm,0.3s,baz=227,slow=52,SNR=2.9						
MJAR				LR	LR	20 05 48.1	
	comp=Z,149nm,20.7s,baz=100,slow=45						
MJAR	**Matsushiro Arr**	**2.66**	**269**		**Pn**	**20 04 34.7**	**-0.1**
MAJO	**Matsushiro**	**2.66**	**269**		**Pn**	**20 04 36.0**	**+1.3**
MAT	**Matsushiro**	**2.66**	**269**	P	**Pn**	**20 04 35.5**	**+0.7**
MAT				S	**Sn**	**20 05 05.7**	**-1.1**
JHJ2	**Mitsune**	**3.76**	**202**	Pn	**Pn**	**20 04 51.2**	**+1.3**
JHJ	**Hachijo jima 2**	**3.76**	**203**	Pn	**Pn**	**20 04 51.3**	**+1.3**
	15nm,0.3s,baz=314,slow=22,SNR=13						
JHJ				Sn	**Sn**	**20 05 32.5**	**-1.5**
	66nm,0.3s,baz=273,slow=20,SNR=6.4						
ERM	**Erimo**	**5.54**	**13**	Pn	**Pn**	**20 05 15.3**	**+0.9**
ASAJ	**Asahikawa**	**7.54**	**6**	Pn	**Pn**	**20 05 42.2**	**+0.4**
	1.2nm,0.3s,baz=203,slow=8.1,SNR=14						
ASAJ				Sn	**Sn**	**20 07 06.8**	**-0.2**
	0.7nm,0.3s,baz=310,slow=33,SNR=4.9						
ASAJ				LR	LR	20 09 09.0	
	comp=Z,31nm,18.1s,baz=340,slow=42						
JKA	**Kamikawa-asahi**	**7.54**	**6**		**Pn**	**20 05 42.7**	**+0.8**
JKA	**Kamikawa-asahi**	**7.54**	**6**		**Sn**	**20 07 06.8**	**-0.2**
JNU	**Nakatsue**	**9.40**	**251**	Pn	**Pn**	**20 06 11.2**	**+3.8**
	0.3nm,0.3s,baz=192,slow=19,SNR=2.2						
JNU	**Nakatsue**	**9.40**	**251**		**Pn**	**20 06 08.4**	**+1.0**
JCJ	**Chichijima**	**9.51**	**176**	Pn	**Pn**	**20 06 07.2**	**-1.6**
	4.9nm,0.3s,baz=331,slow=22,SNR=14						
JCJ				Sn	Sn	20 07 44.9	-10
	3.6nm,0.3s,baz=293,slow=23,SNR=1.9						
USRK	**Ussuriysk Ar.**	**10.49**	**319**	Pn	Pn	20 06 29.2	+7.0
	baz=130,slow=13,SNR=4.4						
KSRS	**Korea Array**	**10.89**	**278**	Pn	**Pn**	**20 06 31.6**	**+3.8**
	0.1nm,0.3s,baz=94,slow=13,SNR=3.5						
KSRS				LR	LR	20 10 28.7	
	comp=Z,59nm,19.1s,baz=94,slow=36						
PEA0B	**Petropavlovsk-**	**20.01**	**29**	P	**P**	**20 08 23.3**	**-1.2**
PEA0B				IAmb	IAmb	20 08 57.1	
	comp=Z,14nm,1.3s						
PETK	**Petropavlovsk-**	**20.01**	**29**	P	**P**	**20 08 24.2**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=197,slow=4.5,SNR=2.1						
SEY	**Seymchan**	**27.19**	**11**	P	**P**	**20 09 34.8**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=37,slow=20,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**27.87**	**120**	T	T	20 39 44.9	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**27.88**	**120**	T	T	20 39 15.4	
	baz=314,slow=74						
H11N3	**WAKE ISLAND Hy**	**27.89**	**120**	T	T	20 39 03.0	
	baz=314,slow=74						
SONM	**Songino Array**	**28.09**	**305**	P	**P**	**20 09 44.3**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=109,slow=9.6,SNR=5.6						
SONM	**Songino Array**	**28.09**	**305**	IAmb	IAmb	20 09 45.8	
	comp=Z,1.1nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**28.57**	**122**	T	T	20 40 04.7	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**28.57**	**122**	T	T	20 40 39.3	
	baz=314,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.58**	**122**	T	T	20 40 45.8	
	baz=314,slow=74						
ZAA0	**Zalesovo Array**	**42.26**	**313**	P	**P**	**20 11 44.5**	**-0.4**
ZAA0				IAmb	IAmb	20 11 56.2	
	comp=Z,2.7nm,0.8s						
ZALV	**Zalesovo Beam**	**42.26**	**313**	P	**P**	**20 11 44.6**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=79,slow=6.7,SNR=5.0						
MK31	**Makanchi Array**	**44.41**	**302**	P	**P**	**20 12 01.8**	**-0.6**
MKAR	**Makanchi Array**	**44.41**	**302**	P	**P**	**20 12 02.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=84,slow=10,SNR=8.0						
MAKZ	**Makanchi**	**44.62**	**303**	P	**P**	**20 12 03.2**	**-0.9**
KURK	**Kurchatov**	**46.25**	**308**	P	**P**	**20 12 16.3**	**-0.6**
KURK				IAmb	IAmb	20 12 28.6	
	comp=Z,3.6nm,0.9s						
IMAR	**Indian Mountai**	**46.98**	**30**	P	**P**	**20 12 24.4**	**+1.9**
ILAR	**Eielson Array**	**49.81**	**32**	P	**P**	**20 12 45.5**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=266,slow=7.0,SNR=6.1						
MTN	**Manton Dam**	**50.15**	**193**	P	**P**	**20 12 47.0**	**-0.4**
GSI	**Gunungsitoli**	**53.65**	**239**	P	**P**	**20 13 13.6**	**0.0**
GSI				IAmb	IAmb	20 13 25.4	
	comp=Z,7.0nm,0.8s						
WB0	**Warramunga Arr**	**56.48**	**188**	P	**P**	**20 13 33.3**	**-0.5**
WB0				IAmb	IAmb	20 13 51.7	
	comp=Z,4.2nm,1.1s						
WR0	**Warramunga Arr**	**56.65**	**188**	P	**P**	**20 13 33.7**	**-1.4**
WR0				IAmb	IAmb	20 13 59.4	
	comp=Z,8.5nm,1.2s						
WB2	**Warramunga Arr**	**56.65**	**188**	P	**P**	**20 13 33.7**	**-1.4**
WB2				IAmb	IAmb	20 14 12.3	
	comp=Z,7.4nm,1.1s						
WRA	**Warramunga Arr**	**56.65**	**188**	P	**P**	**20 13 34.6**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=4.8,slow=7.4,SNR=5.0						
ABKAR	**Akbulak array**	**58.27**	**310**	P	**P**	**20 13 45.9**	**-0.4**
ASAR	**Alice Springs**	**60.38**	**188**	P	**P**	**20 14 00.2**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=20,slow=7.4,SNR=4.9						
ARCES	**ARCESS Array B**	**64.42**	**339**	P	**P**	**20 14 27.9**	**+0.3**
	comp=Z,4nm,0.9s,baz=56,slow=8.1,SNR=3.5						
FORT	**Forrest**	**68.22**	**192**	P	**P**	**20 14 52.6**	**+0.4**
FINES	**FINESS Array B**	**69.22**	**332**	P	**P**	**20 14 58.0**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=35,slow=7.0,SNR=4.3						
NB2	**NORSAR Subarra**	**74.60**	**337**	P	**P**	**20 15 30.4**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**74.60**	**337**	P	**P**	**20 15 30.0**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=38,slow=5.8,SNR=5.4						
NOA				LR	LR	20 51 43.4	
	comp=Z,14nm,20.2s,baz=250,slow=38						
AKASG	**Malin Array Be**	**74.68**	**322**	P	**P**	**20 15 30.8**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=46,slow=6.0,SNR=3.2						
GERES	**GERESS Array B**	**83.11**	**328**	P	**P**	**20 16 17.6**	**0.0**
	comp=Z,0.1nm,0.4s,baz=48,slow=7.3,SNR=4.5						
GERES				LR	LR	20 58 46.8	
	comp=Z,25nm,19.0s,baz=300,slow=40						
GERES	**GERESS Array B**	**83.11**	**328**	P	**P**	**20 16 17.4**	**-0.2**
PPT	**Papeete**	**84.38**	**117**	LR	LR	20 49 20.8	
	comp=Z,34nm,19.5s,baz=108,slow=32						
TXAR	**Lajitas Array**	**90.32**	**52**	P	**P**	**20 16 54.0**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=270,slow=3.5,SNR=2.0						
LPAZ	**La Paz**	**146.84**	**60**	PKPbc	**PKPdf**	**20 23 33.7**	**+0.2**
	baz=289,slow=74,SNR=7.9						
H03N2	**Juan Fernandez**	**146.90**	**97**	T	T	23 08 29.1	
	baz=289,slow=74,SNR=7.9						
H03N3	**Juan Fernandez**	**146.91**	**97**	T	T	23 08 41.1	
	baz=289						
H03N1	**Juan Fernandez**	**146.92**	**97**	T	T	23 08 26.9	
	baz=289,slow=74						

*SOME **29** 20:12:36.3, 42°.62N×72°.43E, h5^{km}*
*KRNET **29** 20:12:36.5±0.1, 42°.51N×72°.42E, h14^{km}, mb2.2*
*NNC **29** 20:12:37.6±0.7, 42°.74N×72°.43E, h1^{km}±5^{km}, mb2.5, mpv2.7, Error ellipse: s-maj=16.4km s-min=2.8km az=7.0*
*KNET **29** 20:12:39.0±0.3, 42°.50N×72°.61E, h10^{km}±2^{km}, ml1.6, Error ellipse: s-maj=3.0km s-min=2.2km az=35.0*
ISC 29 20:12:36.5±1.2, 42°.52N±0°.03×72°.41E±0°.02, h1^{km}±13^{km}, n36, σ0^{s}90/64, 21C-19D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRKS	**Merke**	**0.64**	**69**	*eP*	**Pg**	**20 12 49.1**	**+0.3**
	11nm,0.1s						
MRKS				*eS*	**Sg**	**20 12 57.9**	**+0.8**
	16nm,0.2s						
MRKS	**Merke**	**0.64**	**69**	P	**Pg**	**20 12 49.1**	**+0.3**
	11nm,0.1s						
MRKS				S	**Sg**	**20 12 57.9**	**+0.8**
	16nm,0.2s						
ARK	**Arkit**	**0.80**	**205**	⇓*iP*	**Pg**	**20 12 52.0**	**+0.3**
	baz=4.0						
ARK				⇓*iS*	**Sg**	**20 13 02.8**	**+0.8**
	baz=4.0						
DZA	**Taraz**	**0.88**	**295**	*eP*	**Pg**	**20 12 52.8**	**-0.6**
	3.9nm,0.1s						
DZA				*eS*	**Sg**	**20 13 04.7**	**0.0**
	74nm,0.1s						
DZA	**Taraz**	**0.88**	**295**	P	**Pg**	**20 12 52.8**	**-0.6**
	3.9nm,0.1s						
EKS2	**Erkin-Say**	**1.02**	**82**	⇑*iP*	**Pg**	**20 12 55.7**	**-0.3**
	baz=81						
EKS2				⇑*iS*	**Sb**	**20 13 10.1**	**-0.8**
	baz=81						
EKS2	**Erkin-Say**	**1.02**	**82**	⇓P	**Pg**	**20 12 56.0**	**0.0**
	1.0nm,0.1s,SNR=8.6						
AML	**Almayashu**	**1.03**	**112**	⇑*iP*	**Pg**	**20 12 55.9**	**-0.3**
	baz=11						
AML				⇑*iS*	**Sg**	**20 13 09.8**	**+0.2**
	baz=11						
AML	**Almayashu**	**1.03**	**112**	⇑P	**Pg**	**20 12 56.0**	**-0.3**
	3.8nm,0.2s,SNR=19						
AML				⇓S	**Sg**	**20 13 09.7**	**+0.2**
	15nm,0.2s						
KK31	**Karatay Array**	**1.52**	**293**	P	**Pg**	**20 13 05.0**	**-0.5**
	0.3nm,0.3s,baz=112,slow=17,SNR=18						
KK31				S	**Sb**	**20 13 24.1**	**-1.0**
	2.0nm,0.3s,baz=104,slow=30,SNR=20						
AAK	**Ala-Archa**	**1.54**	**85**	⇑*iP*	**Pb**	**20 13 05.1**	**-0.8**
	baz=85						
AAK				⇑*iS*	**Sg**	**20 13 26.2**	**+0.2**
	baz=85						
AAK	**Ala-Archa**	**1.54**	**85**	⇓P	**Pb**	**20 13 05.0**	**-1.0**
	1.3nm,0.3s						
AAK				⇓S	**Sg**	**20 13 26.8**	**+0.8**
	1.8nm,0.6s						
ARLS	**Aral**	**1.57**	**114**	⇑*iP*	**Pb**	**20 13 05.6**	**-0.7**
	baz=14						
ARLS				⇑*iS*	**Sb**	**20 13 26.5**	**-0.2**
	baz=14						
UCH	**Uchtor**	**1.58**	**100**	⇑*iP*	**Pn**	**20 13 05.8**	**-0.3**
	baz=0.0						
UCH				⇑*iS*	**Sg**	**20 13 27.7**	**+0.3**
	baz=0.0						
UCH	**Uchtor**	**1.58**	**100**	⇑P	**Pb**	**20 13 06.1**	**-0.7**
	2.4nm,0.2s,SNR=9.7						
UCH				⇓S	**Sg**	**20 13 28.0**	**+0.6**
	4.8nm,0.2s						
FRU1	**Bishkek**	**1.66**	**79**	⇓*iP*	**Pb**	**20 13 07.0**	**-0.9**
	baz=79						
FRU1				⇓*iS*	**Sg**	**20 13 29.8**	**-0.1**
	baz=79						
USP	**Ospenovka**	**1.71**	**63**	⇑*iP*	**Pb**	**20 13 07.9**	**-0.8**
	baz=63						
USP				⇑*iS*	**Sg**	**20 13 31.2**	**-0.1**
	baz=63						
CHMS	**Chumysh**	**1.79**	**74**	⇓*iP*	**Pb**	**20 13 09.5**	**-0.5**
	baz=73						
CHMS				⇓*iS*	**Sg**	**20 13 33.9**	**0.0**
	baz=73						
CHMS	**Chumysh**	**1.79**	**74**	⇓P	**Pb**	**20 13 09.6**	**-0.4**
	1.7nm,0.1s,SNR=5.5						
CHMS				⇓S	**Sg**	**20 13 33.5**	**-0.4**
	4.8nm,0.2s						
IUG	**Iuzhnay**	**1.80**	**259**	*eP*	**Pg**	**20 13 11.1**	**+0.1**
	3.6nm,0.1s						
IUG				*eS*	**Sg**	**20 13 35.5**	**+1.1**
	22nm,0.3s						

KBK	**Karagaybulak**	**1.88**	**85**	⇑*iP*	**Pb**	**20 13 10.9 -0.8**
	baz=85					
KBK				⇑*iS*	**Sg**	**20 13 36.7 -0.1**
	baz=85					
KBK	**Karagaybulak**	**1.88**	**85**	⇑P	**Pb**	**20 13 11.4 -0.2**
	4.0nm,0.1s,SNR=6.8					
BRLS	**Borolday**	**1.96**	**286**	*eP*	**Pb**	**20 13 13.0 0.0**
	0.7nm,0.4s					
BRLS				*eS*	**Sg**	**20 13 39.6 0.0**
	5.7nm,0.3s					
OHH	**Osh**	**2.02**	**172**	⇑*iP*	**Pb**	**20 13 13.4 -0.5**
	baz=72					
OHH				⇑*iS*	**Sb**	**20 13 39.9 +0.4**
	baz=72					
KZA	**Kyzart**	**2.15**	**101**	⇓*iP*	**Pb**	**20 13 15.0 -1.5**
	baz=1.0					
KZA				⇓*iS*	**Sb**	**20 13 43.5 -0.3**
	baz=1.0					
TKM2	**Tokmak 2**	**2.38**	**79**	⇑*eP*	**Pb**	**20 13 18.1 -2.1**
	baz=79					
TKM2				⇑*iS*	**Sb**	**20 13 49.0 -1.2**
	baz=79					
TKM2	**Tokmak 2**	**2.38**	**79**	⇓Pg	**Pb**	**20 13 18.2 -2.1**
	2.5nm,0.9s					
TKM2				⇓Lg	Lg	20 13 51.2
	4.8nm,0.7s					
KRBS	**Karabastau**	**2.66**	**63**	*eP*	**Pb**	**20 13 24.4 -0.5**
	0.8nm,0.3s					
KRBS				*eS*	**Sb**	**20 13 59.1 +0.9**
	1.7nm,0.2s					
KRBS	**Karabastau**	**2.66**	**63**	Pg	**Pb**	**20 13 24.4 -0.5**
	0.8nm,0.3s					
KRBS				Lg	Lg	20 13 59.1
	1.7nm,0.2s					
KST	**Kastek**	**2.67**	**78**	*eP*	**Pb**	**20 13 25.9 +0.8**
	1.5nm,0.1s					
KST				*eS*	**Sg**	**20 14 00.5 -1.6**
	4.0nm,0.5s					
KST	**Kastek**	**2.67**	**78**	Pg	**Pb**	**20 13 26.0 +1.0**
	1.5nm,0.1s					
KST				Lg	Lg	20 14 00.5
	4.0nm,0.5s					
BTK	**Batken**	**2.74**	**207**	⇓*iP*	**Pn**	**20 13 23.4 +1.8**
	baz=7.0					
BTK				⇓*iS*	**Sb**	**20 13 57.7 -2.6**
	baz=7.0					
KUU	**Kurty**	**3.18**	**63**	*eP*	**Pb**	**20 13 33.3 -0.5**
	0.4nm,0.3s					
KUU				*eS*	**Sb**	**20 14 13.9 +0.8**
	3.6nm,0.4s					
KUU	**Kurty**	**3.18**	**63**	Pg	**Pb**	**20 13 33.3 -0.5**
	0.4nm,0.3s					
KUU				Lg	Lg	20 14 13.9
	3.6nm,0.4s					
KTBS	**Karatobe**	**3.35**	**68**	*eP*	**Pb**	**20 13 37.3 +0.7**
	0.4nm,0.3s					
KTBS				*eS*	**Sb**	**20 14 20.0 +2.2**
	3.2nm,0.4s					
KTBS	**Karatobe**	**3.35**	**68**	Pg	**Pb**	**20 13 37.3 +0.7**
	0.4nm,0.3s					
KTBS				Lg	Lg	20 14 20.0
	3.2nm,0.4s					

*IDC **29** 20:28:02.2±3.2, 33°.20S×179°.00W, h0^{km}, mb3.6/2, mb1 3.8/3, mb1mx3.6/35, mbtmp3.6/3, ML3.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/14, Error ellipse: s-maj=70.8km s-min=36.6km az=112.0*
*NEIC **29** 20:28:03.6±1.5, 33°.2S±0°.1×179°.08W±0°.08, h10^{km}±1^{km}, mb4.5/6, Error ellipse: s-maj=20.3km s-min=11.6km az=191.0*
ISC 29 20:28:08.0±0.9, 33°.4S±0°.1×178°.9W±0°.2, h48^{km}, n14, σ1^{s}51/15, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.85**	**213**	Pn	**Pn**	**20 29 31.3**	**-0.8**
	0.9nm,0.3s,baz=272,slow=5.0,SNR=9.3						
URZ				Sn	**Sn**	**20 30 40.5**	**+2.7**
	1.7nm,0.3s,baz=261,slow=18,SNR=6.1						
URZ				LR	LR	20 31 38.3	
	comp=Z,128nm,19.3s,baz=216,slow=36						
BKZ	**Black Stump Fm**	**6.87**	**212**	Pn	**Pn**	**20 29 45.3**	**-0.9**
BFZ	**Birch Farm**	**8.26**	**207**	Pn	**Pn**	**20 30 03.9**	**-1.3**
ASAR	**Alice Springs**	**42.29**	**271**	P	**P**	**20 35 57.6**	**+0.5**
	0.6nm,0.5s,baz=110,slow=7.6,SNR=10						
ASAR	**Alice Springs**	**42.29**	**271**	P	**P**	**20 35 55.9**	**-1.2**
WB2	**Warramunga Arr**	**43.54**

*TAP **29** 20:59:47.2,22.˚99N×121.˚49E,h11km,ML2.8,C*
ISC 29 20:59:46.8±0.9,**22.˚97N**±0.˚02×**121.˚54E**±0.˚03,**h15**km±6km,
n49,σ0**s55/94,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.20**	**310**	P	**Pg**	**20 59 51.6**	**+0.1**
	baz=314						
CHKT				S	**Sg**	**20 59 54.4**	**-0.2**
	baz=314						
EDH	**Donghe**	**0.21**	**271**	*e*P	**Pg**	**20 59 51.8**	**+0.2**
	baz=265						
EDH				*e*S	**Sg**	**20 59 54.7**	**-0.2**
	baz=265						
LDUT	**Ludao**	**0.30**	**192**	*e*P	**Pb**	**20 59 54.4**	**+0.6**
	baz=183						
LDUT				*e*S	**Sb**	**20 59 59.5**	**+0.9**
	baz=183						
FULB	**Fuli**	**0.32**	**316**	P	**Pg**	**20 59 53.6**	**+0.1**
	baz=318						
FULB				S	**Sb**	**20 59 58.6**	**-0.6**
	baz=318						
LONT	**Longtian**	**0.38**	**261**	*e*P	**Pb**	**20 59 55.5**	**+0.4**
	baz=256						
LONT				*e*S	**Sb**	**21 00 01.6**	**+0.7**
	baz=256						
TTN	**Taitung**	**0.42**	**239**	*e*P	**Pb**	**20 59 56.8**	**+1.0**
	baz=233						
TTN				*e*S	**Sb**	**21 00 02.5**	**+0.6**
	baz=233						
EYUL	**Yuli**	**0.43**	**332**	P	**Pb**	**20 59 56.1**	**0.0**
	baz=335						
EYUL				*e*S	**Sn**	**21 00 04.1**	**-1.9**
	baz=335						
TWF1	**Yuli**	**0.44**	**330**	P	**Pg**	**20 59 56.0**	**+0.3**
	baz=334						
TWF1				S	**Sb**	**21 00 03.4**	**+0.7**
	baz=334						
TWGBT	**Beinan**	**0.45**	**251**	*e*P	**Pb**	**20 59 56.5**	**+0.2**
	baz=246						
TWGBT				*e*S	**Sb**	**21 00 03.0**	**+0.2**
	baz=246						
TWG	**Pinlang**	**0.45**	**251**	P	**Pb**	**20 59 56.6**	**+0.2**
	baz=246						
TWG				*e*S	**Sb**	**21 00 03.2**	**+0.2**
	baz=246						
YULB	**Yu-li**	**0.48**	**333**	P	**Pb**	**20 59 56.6**	**-0.2**
	baz=335						
YULB				S	**Sb**	**21 00 04.0**	**+0.3**
	baz=335						
ELDTW	**Lidau**	**0.53**	**295**	P	**Pg**	**20 59 56.9**	**-0.3**
	baz=294						
ELDTW				*e*S	**Sg**	**21 00 03.5**	**-0.8**
	baz=294						
HGSD	**Ruisui**	**0.53**	**349**	P	**Pb**	**20 59 57.7**	**-0.1**
	baz=352						
HGSD				*e*S	**Sb**	**21 00 05.3**	**0.0**
	baz=352						
EHY	**Hungye**	**0.57**	**340**	P	**Pb**	**20 59 58.7**	**+0.2**
	baz=343						
EHY				S	**Sb**	**21 00 07.0**	**+0.5**
	baz=343						
ECL	**Taimali**	**0.65**	**236**	*e*P	**Pg**	**20 59 59.4**	**-0.1**
	baz=231						
ECL				*e*S	**Sg**	**21 00 08.3**	**+0.1**
	baz=231						
EGFH	**Guangfu**	**0.70**	**352**	*e*P	**Pb**	**21 00 01.2**	**+0.5**
	baz=354						
EGFH				*e*S	**Sb**	**21 00 11.2**	**+0.9**
	baz=354						
STYT	**Tauyuan**	**0.74**	**285**	P	**Pg**	**21 00 00.8**	**-0.5**
	baz=284						
STYT				S	**Sg**	**21 00 10.6**	**-0.5**
	baz=284						
YUS	**Yu-Shan**	**0.75**	**314**	*e*P	**Pg**	**21 00 01.2**	**-0.3**
	baz=314						
YUS				*e*S	**Sg**	**21 00 11.0**	**-0.4**
	baz=314						
SLGT	**Liugui**	**0.82**	**272**	*e*P	**Pb**	**21 00 02.5**	**-0.3**
	baz=270						
SLGT				*e*S	**Sb**	**21 00 12.5**	**-1.1**
	baz=270						
ESL	**Shilin**	**0.85**	**354**	*e*P	**Pb**	**21 00 03.2**	**0.0**
	baz=356						
ESL				*e*S	**Sg**	**21 00 14.3**	**-0.1**
	baz=356						
EAST	**Anshuo**	**0.86**	**228**	*e*P	**Pg**	**21 00 03.8**	**+0.3**
	baz=224						
EAST				*e*S	**Sb**	**21 00 14.3**	**-0.5**
	baz=224						
SSD	**Sandimen**	**0.86**	**255**	*e*P	**Pb**	**21 00 02.9**	**-0.5**
	baz=252						
TSMG	**Majia**	**0.86**	**253**	*e*P	**Pn**	**21 00 04.1**	**-0.2**
	baz=250						
ALS	**Alishan**	**0.86**	**309**	P	**Pb**	**21 00 03.4**	**-0.2**
	baz=309						
ALS				S	**Sg**	**21 00 14.9**	**-0.1**
	baz=309						
VWDT	**VWDT**	**0.86**	**335**	*e*P	**Pg**	**21 00 03.6**	**0.0**
	baz=337						
VWDT				*e*S	**Sg**	**21 00 15.0**	**+0.2**
	baz=337						
SGST	**Jiashian**	**0.88**	**278**	*e*P	**Pb**	**21 00 03.4**	**-0.4**
	baz=276						
SGST				*e*S	**Sg**	**21 00 15.8**	**+0.3**
	baz=276						
WTP	**Ta-pu**	**0.89**	**288**	*e*P	**Pg**	**21 00 04.2**	**+0.1**
	baz=287						
WTP				*e*S	**Sg**	**21 00 16.5**	**+0.7**
	baz=287						
TPUB	**Ta-pu**	**0.90**	**292**	P	**Pg**	**21 00 04.2**	**0.0**
	baz=291						
TPUB				*e*S	**Sg**	**21 00 16.3**	**+0.4**
	baz=291						
MASBT	**Mashibuluo**	**0.90**	**247**	*e*P	**Pb**	**21 00 03.6**	**-0.5**
	baz=244						
LAY	**Lan-yu**	**0.92**	**179**	*e*P	**Pb**	**21 00 03.3**	**-1.2**
	baz=176						
LAY				*e*S	**Sb**	**21 00 15.9**	**-0.7**
	baz=176						
CHN1	**Nanshi**	**0.95**	**283**	*e*P	**Pn**	**21 00 05.7**	**+0.1**
	baz=282						
CHN1				*e*S	**Sn**	**21 00 19.0**	**+0.1**
	baz=282						
WHYT	**Xinyi Township**	**0.96**	**319**	*e*P	**Pg**	**21 00 05.5**	**+0.1**
	baz=320						
WHYT				*e*S	**Sg**	**21 00 17.9**	**0.0**
	baz=320						
SSLB	**Suanglung**	**0.97**	**327**	*e*P	**Pb**	**21 00 05.1**	**-0.3**
	baz=328						
SSLB				*e*S	**Sg**	**21 00 18.4**	**0.0**
	baz=328						
SNST	**Tainan City**	**0.99**	**285**	*e*P	**Pn**	**21 00 06.0**	**-0.1**
	baz=284						
SNST				*e*S	**Sn**	**21 00 19.6**	**-0.2**
	baz=284						
CHN5	**Tsauling**	**1.01**	**309**	*e*P	**Pg**	**21 00 06.7**	**+0.4**
	baz=309						
CHN5				*e*S	**Sn**	**21 00 19.7**	**-0.6**
	baz=309						
TWK	**Hsinying**	**1.01**	**287**	*e*P	**Pg**	**21 00 07.2**	**+0.9**
	baz=286						
TWK				*e*S	**Sn**	**21 00 21.3**	**+0.9**
	baz=286						
SCZT	**Fangliau**	**1.03**	**235**	*e*P	**Pn**	**21 00 06.9**	**+0.2**
	baz=232						
SCZT				*e*S	**Sn**	**21 00 21.1**	**+0.3**
	baz=232						
SMLT	**Sun Moon Lake**	**1.08**	**328**	*e*P	**Pg**	**21 00 07.7**	**-0.1**
	baz=328						
SMLT				*e*S	**Sn**	**21 00 22.8**	**+0.5**
	baz=328						
TYC	**Yuchr**	**1.12**	**326**	*e*P	**Pg**	**21 00 09.2**	**+0.7**
	baz=327						
TYC				*e*S	**Sg**	**21 00 23.9**	**+0.8**
	baz=327						
CHGB	**Renai**	**1.14**	**343**	*e*P	**Pb**	**21 00 08.1**	**-0.1**
	baz=344						
CHGB				*e*S	**Sb**	**21 00 23.0**	**+0.1**
	baz=344						
WHF	**Hehuan Shan**	**1.20**	**348**	*e*P	**Pn**	**21 00 08.8**	**-0.5**
	baz=350						
WHF				*e*S	**Sb**	**21 00 24.2**	**-0.7**
	baz=350						
JYNG	**Yonaguni jima**	**1.96**	**41**	P	**Pn**	**21 00 20.2**	**+0.7**
JYNG				S	**Sn**	**21 00 43.9**	**0.0**
YOJ	**Yonaguni jima**	**2.01**	**42**	P	**Pn**	**21 00 20.4**	**+0.2**
YOJ				S	**Sn**	**21 00 45.5**	**+0.5**
HATJ	**Hateruma jima**	**2.35**	**62**	P	**Pn**	**21 00 24.9**	**+0.1**
HATJ				S	**Sn**	**21 00 52.5**	**-0.9**
IRIF	**Iriomote-Funau**	**2.43**	**56**	P	**Pn**	**21 00 26.6**	**+0.7**
JKRS	**Kuro-shima**	**2.60**	**60**	P	**Pn**	**21 00 28.6**	**+0.4**
JKRS				S	**Sn**	**21 00 58.4**	**-1.1**
JIJ	**Ishigaki jima**	**2.77**	**59**	P	**Pn**	**21 00 31.0**	**+0.5**
JIJ				S	**Sn**	**21 01 02.5**	**-1.2**
JISG	**Ishigakijimahi**	**3.01**	**57**	P	**Pn**	**21 00 33.9**	**0.0**
JISG				S	**Sn**	**21 01 08.8**	**-0.9**
JTJ	**Tarama**	**3.34**	**60**	P	**Pn**	**21 00 39.2**	**+0.7**
JTJ				S	**Sn**	**21 01 18.5**	**+0.5**

*BJI **29** 21:16:41.8±0.0,42.˚11S×84.˚35E,h6km,mB4.9/21,*
mb4.7/22,Ms5.0/22,Ms7 4.9/22
*NEIC **29** 21:16:44.6±2.1,41.˚83S±0.˚09×84.˚9E±0.˚1,h10km±1km,*
mb5.0/40,Ms_20 4.9/144,Mwb5.5/24,Mwc5.5(GCMT),
Error ellipse: s-maj=16.9km s-min=15.1km az=256.0
*IDC **29** 21:16:45.9±0.7,41.˚71S×85.˚35E,h0km,mb4.3/11,*
mb1 4.4/11,mb1mx4.2/22,mbtmp4.3/11,MS4.7/25,
Ms1 4.7/25,ms1mx4.6/32,Error ellipse: s-maj=24.4km
s-min=22.1km az=147.0
*NEIC **29** 21:16:47.2,41.˚87S×84.˚78E,h12km,Moment Tensor*
Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.46;
Mθθ=2.03; Mϕϕ=-1.57; Mrθ=0.30; Mrϕ=0.20; Mθϕ=0.20; Fault
plane solution: M0=1.89000×10^17^ NP1:ϕs=131.82000°,
δ=78.39000°,λ=-1.72000°. NP2:ϕs=222.17000°,δ=88.31000°,
λ=-168.39000°. Principal axes: T 2.0837, Plg=7.0000°,
Azm=356.0000°; N -0.4693, Plg=78.0000°, Azm=230.0000°;
P -1.6144, Plg=9.0000°, Azm=88.0000°;
*GCMT **29** 21:16:49.6±0.1,41.˚67S±0.˚01×84.˚89E±0.˚01,h15km,*
MW5.5/141,Moment Tensor Solution. s124,c227;
*s141,c282; Duration: 1s4 Moment tensor: Scale 10^17^*
Nm; Mrr=0.10±.02; Mθθ=2.19±.03; Mϕϕ=-2.09±.03;
Mrθ=0.21±.07; Mθϕ=-0.00±.02; Mϕr=-0.36±.07; Best double
couple: M0=2.18200×10^17^ NP1:ϕs=45.00000°,δ=79.00000°,
λ=-177.00000°. NP2:ϕs=315.00000°,δ=87.00000°,
λ=-11.00000°. Principal axes: T 2.2090, Plg=5.0000°,
Azm=0.0000°; N -0.0560, Plg=79.0000°, Azm=118.0000°; P
-2.1540, Plg=10.0000°, Azm=270.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
*NEIC **29** 21:16:52,41.˚63S×84.˚82E,h15km,Moment Tensor*
Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.05;
Mθθ=2.21; Mϕϕ=-2.16; Mrθ=0.18; Mϕθ=-0.06; Mϕr=0.27; Fault
plane solution: M0=2.21000×10^17^ NP1:ϕs=46.00000°,
δ=82.00000°,λ=-178.00000°. NP2:ϕs=316.00000°,
δ=88.00000°,λ=-8.00000°. Principal axes: T 2.2253,
Plg=5.0000°, Azm=1.0000°; N -0.0297, Plg=81.0000°,
Azm=123.0000°; P -2.1956, Plg=7.0000°, Azm=270.0000°;
ISC 29 21:16:45.0±0.4,**41.˚93S**±0.˚06×**84.˚92E**±0.˚07,**h10km,n174,**
σ1s88/87,mb4.8/33,MS4.9/102,2C-2D,Southeast Indian
Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**7.00**	**304**	Pn	**Pn**	**21 18 25.4**	**-2.0**
PAF	**Port-aux-Franc**	**12.67**	**229**	Pn	**Pn**	**21 19 43.4**	**-1.8**
H01W2	**Cape Leeuwin H**	**23.87**	**83**	T	T	21 46 36.0	
	baz=245,slow=74,SNR=435						
H01W3	**Cape Leeuwin H**	**23.88**	**83**	T	T	21 46 36.7	
	baz=245,slow=74,SNR=383						
H01W1	**Cape Leeuwin H**	**23.89**	**83**	T	T	21 46 37.4	
	baz=245,slow=74,SNR=478						
NWAO	**Narrogin (SRO)**	**27.06**	**81**	LR	LR	21 30 40.1	
	comp=Z,3μm,21.7s,baz=236,slow=31						
NWAO	**Narrogin (SRO)**	**27.06**	**81**	P	**P**	**21 22 25.3**	**-2.3**
NWAO				IAmb	IAmb	21 23 14.5	
	comp=Z,102nm,1.6s						
NWAO	**Narrogin (SRO)**	**27.06**	**81**		**P**	**21 22 25.9**	**-1.7**
NWAO				IAmb	IAmb	21 23 14.5	
	comp=Z,83nm,1.6s						
NWAO				IAMs_20	IAMs_20	21 30 39.5	
	comp=Z,2μm,21.0s						
CASY	**Casey**	**28.24**	**158**	P	**P**	**21 22 38.7**	**+1.0**
MORW	**Morawa**	**28.24**	**73**	P	**P**	**21 22 36.2**	**-2.0**
MORW				IAmb	IAmb	21 22 38.1	
	comp=Z,102nm,2.0s						
MAW	**Mawson**	**28.37**	**198**	P	P	21 22 44.0	+5.2
	comp=Z,0.4nm,0.4s,baz=29,slow=13,SNR=1.7						
MAW				LR	LR	21 31 37.5	
	comp=Z,868nm,20.9s,baz=38,slow=31						
MAW	**Mawson**	**28.37**	**198**	P	**P**	**21 22 39.8**	**+1.0**
GIRL	**Giralia**	**31.14**	**61**	IAMs_20	IAMs_20	21 32 27.8	
	comp=Z,3μm,20.0s						
COCO	**West Island**	**31.40**	**23**	IAMs_20	IAMs_20	21 31 59.4	
	comp=Z,2μm,20.0s						
RER	**Riviere de l'E**	**32.10**	**301**	P	**P**	**21 23 10.1**	**-2.4**
PSAD3	**Pilbara Seismi**	**35.54**	**66**	IAMs_20	IAMs_20	21 35 20.4	
	comp=Z,3μm,21.0s						
FOMA	**Nahampoana Res**	**35.54**	**286**	P	**P**	**21 23 40.5**	**-1.7**
FOMA				IAMs_20	IAMs_20	21 34 09.1	
	comp=Z,2μm,19.0s						
PSA00	**Pilbara Seismi**	**35.63**	**66**	IAMs_20	IAMs_20	21 35 30.9	
	comp=Z,3μm,20.0s						
PSAA3	**Pilbara Seismi**	**35.63**	**66**	IAMs_20	IAMs_20	21 35 23.0	
	comp=Z,3μm,21.0s						
PSAB2	**Pilbara Seismi**	**35.65**	**66**	IAMs_20	IAMs_20	21 35 31.5	
	comp=Z,3μm,20.0s						
PSAC2	**Pilbara Seismi**	**35.67**	**66**	IAMs_20	IAMs_20	21 35 25.1	
	comp=Z,3μm,21.0s						
PSAD1	**Pilbara Seismi**	**35.70**	**66**	IAMs_20	IAMs_20	21 35 23.7	
	comp=Z,3μm,22.0s						
MBWA	**Marble Bar**	**35.83**	**66**	IAMs_20	IAMs_20	21 35 13.3	
	comp=Z,2μm,20.0s						
H08S2	**Diego Garcia H**	**35.87**	**339**	T	T	22 01 21.9	
	baz=164,slow=76,SNR=736						
H08S1	**Diego Garcia H**	**35.88**	**339**	T	T	22 01 17.6	
	baz=164,slow=76,SNR=354						
H08S3	**Diego Garcia H**	**35.89**	**339**	T	T	22 01 29.1	
	baz=164,slow=76,SNR=921						
SYO	**Syowa Base**	**35.90**	**206**	↑*e*P	**P**	**21 23 45.0**	**+0.2**
SYO	**Syowa Base**	**35.90**	**206**	‖*e*pP	pP	21 23 49.3	+2.5
SYO	**Syowa Base**	**35.90**	**206**	↑*e*PP	PP	21 25 08.0	+1.8
DGAR	**Diego Garcia**	**36.10**	**339**	IAMs_20	IAMs_20	21 34 17.4	
	comp=Z,3μm,18.0s						
FORT	**Forrest**	**36.14**	**86**	P	**P**	**21 23 47.1**	**-0.2**
FORT				IAmb	IAmb	21 24 00.2	
	comp=Z,29nm,1.1s						
FORT				IAMs_20	IAMs_20	21 35 16.0	
	comp=Z,2μm,20.0s						
MNAI	**Manna**	**40.73**	**28**	IAMs_20	IAMs_20	21 36 47.8	
	comp=Z,2μm,20.0s						
BBOO	**Buckleboo**	**41.13**	**94**	IAMs_20	IAMs_20	21 37 58.3	
	comp=Z,2μm,20.0s						
FITZ	**Fitzroy Crossi**	**41.98**	**68**	LR	LR	21 39 58.3	
	comp=Z,2μm,19.5s,baz=239,slow=34						
FITZ	**Fitzroy Crossi**	**41.98**	**68**	IAMs_20	IAMs_20	21 39 27.0	
	comp=Z,2μm,21.0s						
JAGI	**Jajag, Banyuwa**	**42.14**	**46**	P	**P**	**21 24 36.2**	**-1.4**
PMBI	**Palembang**	**42.72**	**30**	IAMs_20	IAMs_20	21 39 17.4	
	comp=Z,2μm,20.0s						
ASAR	**Alice Springs**	**44.38**	**82**	P	**P**	**21 24 55.4**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=228,slow=7.6,SNR=16						
ASAR				LR	LR	21 41 27.5	
	comp=Z,4μm,20.1s,baz=238,slow=34						
ASAR	**Alice Springs**	**44.38**	**82**	P	**P**	**21 24 56.2**	**+0.4**
AS31	**Alice Springs**	**44.38**	**82**	P	**P**	**21 24 57.0**	**+1.2**
STKA	**Stephens Creek**	**45.69**	**97**	P	**P**	**21 25 05.7**	**-0.3**
	comp=Z,3.4nm,1.0s,baz=220,slow=7.9,SNR=4.9						
STKA				LR	LR	21 40 30.1	
	comp=Z,2μm,21.7s,baz=245,slow=31						
STKA	**Stephens Creek**	**45.69**	**97**	P	**P**	**21 25 06.7**	**+0.7**
PSI	**Prapat**	**46.30**	**20**	LR	LR	21 40 04.2	
	comp=Z,4μm,21.6s,baz=269,slow=30						
VNDA	**Vanda**	**46.65**	**163**	P	**P**	**21 25 12.5**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=273,slow=8.2,SNR=6.6						
VNDA				LR	LR	21 42 49.6	
	comp=Z,1μm,21.2s,baz=274,slow=33						
VNDA	**Vanda**	**46.65**	**163**	P	**P**	**21 25 13.0**	**0.0**
MYKOM	**Kota Tinggi**	**46.78**	**26**	IAMs_20	IAMs_20	21 40 44.0	
	comp=Z,1μm,20.0s						
WC4	**Warramunga Arr**	**46.96**	**78**	IAMs_20	IAMs_20	21 42 17.4	
	comp=Z,1μm,18.0s						
WRA	**Warramunga Arr**	**46.97**	**78**	P	**P**	**21 25 16.0**	**-0.3**
	comp=Z,5.6nm,1.0s,baz=234,slow=8.7,SNR=14						
WRA				LR	LR	21 42 42.2	
	comp=Z,858nm,21.5s,baz=230,slow=33						
WRA	**Warramunga Arr**	**46.97**	**78**	P	**P**	**21 25 16.0**	**-0.3**
WB2	**Warramunga Arr**	**46.98**	**78**	P	**P**	**21 25 17.0**	**+0.7**
WB2				IAmb	IAmb	21 25 32.4	
	comp=Z,26nm,1.5s						
WRAB	**Tennant Creek**	**46.99**	**78**	P	**P**	**21 25 16.2**	**-0.1**
WRAB				IAmb	IAmb	21 25 32.5	
	comp=Z,14nm,1.2s						
WB4	**Warramunga Arr**	**47.01**	**78**	IAMs_20	IAMs_20	21 42 42.8	
	comp=Z,1μm,19.0s						
WR6	**Warramunga Arr**	**47.05**	**78**	IAMs_20	IAMs_20	21 41 30.8	
	comp=Z,1μm,21.0s						
WR7	**Warramunga Arr**	**47.06**	**78**	IAMs_20	IAMs_20	21 42 43.2	
	comp=Z,1μm,19.0s						
WR8	**Warramunga Arr**	**47.08**	**78**	IAMs_20	IAMs_20	21 42 01.7	
	comp=Z,2μm,20.0s						
SOEI	**Soe**	**47.09**	**59**	P	**P**	**21 25 15.6**	**-1.7**
SOEI				IAMs_20	IAMs_20	21 41 34.3	
	comp=Z,2μm,22.0s						
WR0	**Warramunga Arr**	**47.11**	**78**	P	**P**	**21 25 16.4**	**-1.0**
WR0				IAmb	IAmb	21 25 27.4	
	comp=Z,7.9nm,1.0s						
WB0	**Warramunga Arr**	**47.12**	**78**	P	**P**	**21 25 17.3**	**-0.1**
WB0				IAmb	IAmb	21 25 33.5	
	comp=Z,23nm,1.4s						
QSPA	**South Pole Qui**	**48.23**	**180**	P	**P**	**21 25 24.7**	**-0.9**
	comp=Z,2.6nm,1.0s,baz=346,slow=0.5,SNR=11						
QSPA	**South Pole Qui**	**48.23**	**180**	P	**P**	**21 25 24.4**	**-1.2**
QSPA				IAmb	IAmb	21 25 57.4	
	comp=Z,24nm,1.4s						
QSPA	**South Pole Qui**	**48.23**	**180**	IAMs_20	IAMs_20	21 43 29.8	
	comp=Z,1μm,21.0s						
IPM	**Ipoh**	**48.46**	**22**	IAMs_20	IAMs_20	21 41 46.6	
	comp=Z,2μm,20.0s						
KSM	**Kuching**	**48.94**	**35**	IAMs_20	IAMs_20	21 42 46.5	
	comp=Z,1μm,20.0s						
MTN	**Manton Dam**	**49.41**	**68**	IAMs_20	IAMs_20	21 44 02.1	
	comp=Z,2μm,20.0s						
BOSA	**Boshof**	**49.57**	**265**	LR	LR	21 42 02.3	
	comp=Z,1μm,20.9s,baz=128,slow=30						
SNAA	**Sanae**	**50.15**	**204**	P	**P**	**21 25 44.0**	**+3.9**
	comp=Z,1.3nm,0.9s,baz=68,slow=6.1,SNR=4.1						
SNAA	**Sanae**	**50.15**	**204**	P	**P**	**21 25 40.6**	**+0.5**
SNAA				IAmb	IAmb	21 25 49.4	
	comp=Z,20nm,1.8s						
PBA	**Port Blair**	**53.80**	**10**	P	P	21 26 06.0	-1.8
BELA	**Belgrano 2**	**55.05**	**193**	P	**P**	**21 26 16.2**	**0.0**
KKM	**Kota Kinabalu**	**55.63**	**39**	P	**P**	**21 26 19.0**	**-2.3**
CTAO	**Charters Tower**	**55.69**	**87**	IAMs_20	IAMs_20	21 48 53.8	
	comp=Z,809nm,19.0s						
COEN	**Coen**	**57.27**	**79**	IAMs_20	IAMs_20	21 50 30.6	
	comp=Z,1μm,19.0s						
KMBO	**Kilima Mbogo**	**58.97**	**300**	LR	LR	21 46 18.9	
	comp=Z,272nm,21.4s,baz=106,slow=30						
PBKT	**Sadao Pong**	**60.06**	**18**	P	**P**	**21 26 50.9**	**-1.3**
PBKT				IAmb	IAmb	21 26 55.0	
	comp=Z,8.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**61.47**	**15**	P	**P**	**21 27 00.8**	**-0.9**
	comp=Z,4.4nm,1.0s,baz=209,slow=6.8,SNR=14						
CMAR				LR	LR	21 49 32.1	
	comp=Z,475nm,21.7s,baz=234,slow=32						
CHTO	**Chiang Mai**	**61.81**	**15**	IAMs_20	IAMs_20	21 49 49.2	
	comp=Z,677nm,19.0s						
QRZ	**Quartz Range**	**62.80**	**122**	P	**P**	**21 27 09.2**	**-1.3**
PMG	**Port Moresby**	**63.19**	**78**	IAMs_20	IAMs_20	21 51 39.6	
	comp=Z,1μm,21.0s						
JAY	**Jayapura**	**63.37**	**68**	LR	LR	21 53 58.6	
	comp=Z,1μm,19.9s,baz=224,slow=35						
SLVN	**Son La**	**65.35**	**19**	IAMs_20	IAMs_20	21 51 05.8	
	comp=Z,930nm,22.0s						
OUZ	**Omahuta**	**66.66**	**117**	P	**P**	**21 27 35.1**	**-0.7**
SHL	**Shillong**	**67.46**	**7**	P	**P**	**21 27 39.9**	**-1.1**
SHL				IAmb	IAmb	21 27 46.0	
	comp=Z,14nm,1.0s						
ODAN	**Odare**	**68.48**	**2**	*e*P	**P**	**21 27 49.1**	**+1.6**
	comp=Z,23nm,0.9s						
KMI	**Kunming**	**68.72**	**17**	‖*e*P	**P**	**21 27 53.0**	**+4.0**
KMI				pP	pwP	21 27 57.0	+1.5
KMI				sP	sP	21 28 01.5	+9.4
KMI				S	**S**	**21 36 54.5**	**+2.1**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KMI				pmax	pmax		
	comp=Z,88nm,5.0s						
KMI				LR	LR		
	comp=Z,610nm,19.6s						
KMI				LR	LR		
	comp=Z,340nm,16.1s						
KMI				LR	LR		
	comp=Z,970nm,20.5s						
KMI	**Kunming**	**68.72**	**17**	IAMs_20	IAMs_20	21 54 15.3	
	comp=Z,978nm,20.0s						
TAPN	**Taplejung**	**68.98**	**3**	*e*P	**P**	**21 27 52.2**	**+1.5**
PKI	**Pulchoki**	**69.15**	**0**	*e*P	**P**	**21 27 51.9**	**+0.1**
	comp=Z,20nm,1.2s						
DMN	**Daman**	**69.19**	**0**	*e*P	**P**	**21 27 52.2**	**+0.3**
	comp=Z,18nm,0.9s						
KOLN	**Koldanda**	**69.36**	**359**	*e*P	**P**	**21 27 52.5**	**-0.4**
HKPS	**Hong Kong Po S**	**69.37**	**29**	IAMs_20	IAMs_20	21 53 36.9	
	comp=Z,894nm,21.0s						
DZM	**Mont Dzumac**	**69.47**	**102**	*e*S	**S**	**21 37 01.3**	**-0.2**
	comp=Z,358nm,30.6s						
DZM	**Mont Dzumac**	**69.47**	**102**	*e*LR	LR	21 49 01.9	
	comp=Z,1μm,22.5s						
GKN	**Gorkha**	**69.58**	**360**	*e*P	**P**	**21 27 53.7**	**-0.5**
	comp=Z,33nm,1.1s						
PYUN	**Piuthan**	**69.70**	**358**	*e*P	**P**	**21 27 53.6**	**-1.4**
	comp=Z,35nm,0.9s						
KRVT	**Keravat (AS076**	**70.18**	**78**	LR	LR	21 57 43.0	
	comp=Z,490nm,18.2s,baz=228,slow=35						
RABL	**Rabaul**	**70.36**	**78**	IAMs_20	IAMs_20	21 57 00.4	
	comp=Z,603nm,19.0s						
LSA	**Lhasa**	**71.50**	**6**	P	**P**	**21 28 04.5**	**-1.8**
LSA				IAmb	IAmb	21 28 11.2	
	comp=Z,8.7nm,0.9s						
UOSS	**Minazif**	**71.64**	**333**	IAMs_20	IAMs_20	21 52 11.2	
	comp=Z,815nm,22.0s						
HNR	**Honiara**	**72.63**	**87**	LR	LR	21 57 05.1	
	comp=Z,380nm,21.1s,baz=227,slow=34						
KBL	**Kabul**	**77.48**	**347**	IAMs_20	IAMs_20	21 59 23.7	
	comp=Z,505nm,21.0s						
GUMO	**Guam**	**78.00**	**59**	LR	LR	22 04 35.7	
	comp=Z,70nm,

WMQ				pP	pwP	21 29 27.3	-1.6		
WMQ				sP	PcP	21 29 30.0	+4.8		
WMQ				S	**S**	**21 39 55.0**	**+2.1**		
WMQ				pmax	pmax				
	comp=Z,7.0nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,12nm,3.9s								
WMQ				LR	LR				
	comp=Z,220nm,19.9s								
WMQ				LR	LR				
	comp=Z,230nm,18.3s								
WMQ				LR	LR				
	comp=Z,220nm,21.5s								
WMQ	**Urumqi**	**85.40**	**2**	IAMs_20	IAMs_20	22 07 49.3			
	comp=Z,693nm,19.0s								
KK31	**Karatay Array**	**85.64**	**349**	P	**P**	**21 29 22.9**	**-0.4**		
KK31				IAmb	IAmb	21 29 28.7			
	comp=Z,11nm,1.1s								
KKAR	**Karatay Array**	**85.64**	**349**	P	**P**	**21 29 21.8**	**-1.6**		
KKAR	**Karatay Array**	**85.64**	**349**	P	**P**	**21 29 22.6**	**-0.7**		
KKAR				IAmb	IAmb	21 29 28.8			
	comp=Z,11nm,1.1s								
BJI	**Beijing**	**86.38**	**24**	P	**P**	**21 29 28.3**	**+1.3**		
BJI				S	**S**	**21 40 04.3**	**+1.8**		
BJI				SS	**SS**	**21 45 51.0**	**+7.7**		
BJI				LR	LR				
	comp=Z,310nm,23.0s								
BJI				LR	LR				
	comp=Z,300nm,20.8s								
BJI				LR	LR				
	comp=Z,670nm,23.5s								
INCN	**Inchon**	**87.72**	**32**	IAMs_20	IAMs_20	22 09 25.8			
	comp=Z,359nm,19.0s								
KSAR	**Wonju Array Be**	**88.19**	**33**	P	**P**	**21 29 36.1**	**+0.3**		
KS19	**Wonju Array Si**	**88.23**	**33**	P	**P**	**21 29 35.4**	**-0.7**		
MK31	**Makanchi Array**	**88.37**	**358**	P	**P**	**21 29 36.0**	**-0.5**		
MKAR	**Makanchi Array**	**88.37**	**358**	P	**P**	**21 29 37.9**	**+1.3**		
	comp=Z,2.1nm,0.9s,baz=165,slow=5.0,SNR=12								
MKAR				LR	LR	22 06 40.2			
	comp=Z,959nm,20.6s,baz=182,slow=34								
MKAR	**Makanchi Array**	**88.37**	**358**	P	**P**	**21 29 35.9**	**-0.6**		
MAKZ	**Makanchi**	**88.39**	**358**	P	**P**	**21 29 36.0**	**-0.6**		
MAKZ				IAmb	IAmb	21 29 41.4			
	comp=Z,6.0nm,1.0s								
GEVA	**Gevas**	**88.50**	**328**	IAMs_20	IAMs_20	22 05 55.5			
	comp=Z,560nm,20.0s								
KOPT	**Kop Dagi**	**90.98**	**327**	IAMs_20	IAMs_20	22 05 44.2			
	comp=Z,410nm,20.0s								
SONM	**Songino Array**	**91.38**	**14**	P	**P**	**21 29 53.2**	**+2.5**		
	comp=Z,2.3nm,0.6s,baz=202,slow=5.8,SNR=7.4								
SONM				LR	LR	22 09 52.6			
	comp=Z,342nm,19.4s,baz=195,slow=35								
KURK	**Kurchatov**	**92.43**	**356**	P	**P**	**21 29 55.6**	**+0.4**		
KURK	**Kurchatov**	**92.43**	**356**	IAMs_20	IAMs_20	22 08 38.3			
	comp=Z,555nm,20.0s								
KBZ	**Khabaz**	**93.25**	**331**	P	**P**	**21 30 03.1**	**+3.9**		
	comp=Z,2.6nm,0.8s,baz=180,slow=6.1,SNR=2.0								
KBZ				LR	LR	22 07 49.9			
	comp=Z,154nm,21.9s,baz=156,slow=33								
ABKAR	**Akbulak array**	**93.42**	**344**	P	**P**	**21 29 59.4**	**-0.6**		
BRTR	**Keskin Array B**	**93.66**	**323**	P	**P**	**21 30 05.4**	**+4.0**		
	comp=Z,2.1nm,1.0s,baz=160,slow=3.9,SNR=5.9								
BRTR				LR	LR	22 08 32.2			
	comp=Z,234nm,20.2s,baz=126,slow=33								
TOC3	**Torodi Ar. Sit**	**93.68**	**284**	IAMs_20	IAMs_20	22 08 39.8			
	comp=Z,553nm,22.0s								
TOC4	**Torodi Ar. Sit**	**93.69**	**284**	IAMs_20	IAMs_20	22 08 40.9			
	comp=Z,598nm,22.0s								
TOB3	**Torodi Ar. Sit**	**93.69**	**284**	IAMs_20	IAMs_20	22 08 41.1			
	comp=Z,549nm,22.0s								
TOC2	**Torodi Ar. Sit**	**93.69**	**284**	IAMs_20	IAMs_20	22 08 51.2			
	comp=Z,505nm,21.0s								
TOA3	**Torodi Ar. Sit**	**93.70**	**284**	IAMs_20	IAMs_20	22 08 40.4			
	comp=Z,507nm,21.0s								
TOA0	**Torodi Ar. Sit**	**93.71**	**284**	IAMs_20	IAMs_20	22 08 50.5			
	comp=Z,493nm,20.0s								
TORD	**Torodi Ar. Bea**	**93.71**	**284**	P	**P**	**21 30 05.2**	**+3.1**		
	comp=Z,1.0nm,0.8s,baz=127,slow=3.8,SNR=5.6								
TORD				LR	LR	22 09 23.2			
	comp=Z,441nm,20.0s,baz=115,slow=34								
TOC5	**Torodi Ar. Sit**	**93.71**	**284**	IAMs_20	IAMs_20	22 08 40.5			
	comp=Z,651nm,22.0s								
TOB4	**Torodi Ar. Sit**	**93.71**	**284**	IAMs_20	IAMs_20	22 08 40.5			
	comp=Z,547nm,22.0s								
TOB1	**Torodi Ar. Sit**	**93.72**	**284**	IAMs_20	IAMs_20	22 08 50.8			
	comp=Z,470nm,20.0s								
TOB5	**Torodi Ar. Sit**	**93.72**	**284**	IAMs_20	IAMs_20	22 08 41.9			
	comp=Z,551nm,22.0s								
TOC7	**Torodi Ar. Sit**	**93.73**	**284**	IAMs_20	IAMs_20	22 08 41.1			
	comp=Z,465nm,19.0s								
DBIC	**Dimbokro**	**94.24**	**275**	LR	LR	22 06 42.8			
	comp=Z,497nm,21.5s,baz=118,slow=32								
TLY	**Talaya**	**94.64**	**12**	IAMs_20	IAMs_20	22 13 11.2			
	comp=Z,420nm,19.0s								
PLCA	**Paso Flores**	**94.77**	**198**	LR	LR	22 12 20.5			
	comp=Z,388nm,20.7s,baz=170,slow=35								
MDJ	**Mudanjiang**	**94.99**	**30**	IAMs_20	IAMs_20	22 10 08.3			
	comp=Z,384nm,22.0s								
ZAA0	**Zalesovo Array**	**95.50**	**360**	IAMs_20	IAMs_20	22 10 02.7			
	comp=Z,583nm,22.0s								
ZALV	**Zalesovo Beam**	**95.50**	**360**	P	**P**	**21 30 10.0**	**+0.7**		
	comp=Z,1.1nm,0.8s,baz=160,slow=4.7,SNR=4.8								
ZALV				LR	LR	22 10 35.6			
	comp=Z,517nm,21.6s,baz=218,slow=34								
USA0B	**Ussuriysk Arra**	**95.56**	**32**	IAMs_20	IAMs_20	22 10 52.5			
	comp=Z,331nm,20.0s								
USRK	**Ussuriysk Ar.**	**95.56**	**32**	LR	LR	22 11 15.9			
	comp=Z,274nm,20.2s,baz=207,slow=34								
LC01	**Cunco**	**96.83**	**198**	IAMs_20	IAMs_20	22 11 06.2			
	comp=Z,518nm,20.0s								
TBI	**Tubuai**	**97.88**	**131**	eLR	LR	22 02 13.9			
	comp=Z,202nm,23.0s								
MLR	**Muntele Rosu**	**101.69**	**322**	IAMs_20	IAMs_20	22 21 27.8			
	comp=Z,353nm,21.0s								
PPT2	**Papeete2**	**102.33**	**127**	eLQ	LQ	21 59 52.0			
	comp=Z,2µm,30.2s								
PPT2				eLR	LR	22 04 10.8			
	comp=Z,539nm,27.8s								
ZON	**Zonda**	**102.95**	**203**	IAMs_20	IAMs_20	22 15 05.6			
	comp=Z,505nm,20.0s								
OBN	**Obninsk**	**105.07**	**334**	IAMs_20	IAMs_20	22 18 32.8			
	comp=Z,477nm,21.0s								
SALO	**Salr**	**109.47**	**314**	IAMs_20	IAMs_20	22 27 54.9			
	comp=Z,306nm,19.0s								
CLL	**Collm**	**111.89**	**320**	eSdif	Sdif	21 43 40.0	-3.0		
CLL				e**P**PS	PPS	21 46 42.0			
CLL				eSS	SS	21 51 18.0	-22		
CLL				eSSS	SSS	21 55 54.0			
CLL				eSSSS		21 59 18.0			
ES14	**SONSECA Array**	**114.34**	**302**	IAMs_20	IAMs_20	22 26 18.3			
	comp=Z,277nm,20.0s								
ES18	**SONSECA Array**	**114.34**	**302**	IAMs_20	IAMs_20	22 33 31.5			
	comp=Z,350nm,21.0s								
KONO	**Kongsberg**	**118.52**	**326**	IAMs_20	IAMs_20	22 27 07.7			
	comp=Z,416nm,21.0s								
SAML	**Samuel**	**121.53**	**218**	IAMs_20	IAMs_20	22 22 00.5			
	comp=Z,340nm,20.0s								
ILAR	**Eielson Array**	**143.06**	**34**	PKP	**PKiKP**	**21 36 21.1**	**-0.1**		
	comp=Z,0.2nm,0.6s,baz=270,slow=2.5,SNR=2.0								
ILAR	**Eielson Array**	**143.06**	**34**	PKPdf	**PKPdf**	**21 36 15.4**	**-2.5**		
OBIP	**Obispado Ponce**	**146.00**	**234**	IAMs_20	IAMs_20	22 28 38.6			
	comp=Z,256nm,21.0s								
BARN	**Barnard Glacie**	**146.22**	**39**	IAMs_20	IAMs_20	22 21 16.4			
	comp=Z,188nm,21.0s								
INK	**Inuvik**	**146.65**	**25**	PKPbc	**PKPbc**	**21 36 25.3**	**-0.4**		
	comp=Z,1.6nm,0.9s,baz=97,slow=2.6,SNR=2.1								
RES	**Resolute Bay**	**147.15**	**360**	PKPbc	**PKPab**	**21 36 28.1**	**-0.5**		
	comp=Z,9.1nm,1.0s,baz=315,slow=4.3,SNR=1.8								
ACON	**Acoyapa**	**148.92**	**199**	IAMs_20	IAMs_20	22 22 35.8			
	comp=Z,163nm,19.0s								
NVAR	**Mina Array Bea**	**161.93**	**93**	PKPab	**PKPab**	**21 37 34.4**	**+1.9**		
	comp=Z,0.2nm,0.5s,baz=255,slow=6.4,SNR=2.3								
PDAR	**Pinedale Array**	**169.25**	**81**	PKP	**PKPdf**	**21 36 55.4**	**+3.0**		
	comp=Z,0.2nm,0.4s,baz=69,slow=3.0,SNR=2.1								

WEL 29 21:26:00.4, 43°S±1°×17°3E±°, h42km±2km, M2.8/8, ML2.8/8, MLv2.8/8, Error ellipse: s-maj=0.0km s-min=0.0km az=85.3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.43**	**254**	P	Pn	21 26 11.4	+1.0
LTZ				S	Sn	21 26 18.5	+1.0
KHZ	**Kahutara**	**0.57**	**65**	P	Pn	21 26 12.7	+0.5
KHZ				S	Sn	21 26 21.2	+0.7
OXZ	**Oxford**	**0.89**	**221**	P	Pn	21 26 16.8	+0.3
OXZ				S	Sn	21 26 28.3	+0.2
THZ	**Tophouse**	**0.90**	**3**	P	Pn	21 26 17.3	+0.6
THZ				S	Sn	21 26 28.8	+0.3
INZ	**Inchbonnie**	**1.03**	**266**	P	Pn	21 26 19.6	+1.2
INZ				S	Sn	21 26 32.4	+0.8
MQZ	**McQueen's Vall**	**1.05**	**187**	P	Pn	21 26 19.0	+0.2
MQZ				S	Sn	21 26 31.5	-0.7
OKCZ	**Okains Bay**	**1.07**	**171**	P	Pn	21 26 19.3	+0.2
DSZ	**Denniston Nort**	**1.20**	**320**	P	Pn	21 26 21.6	+0.8
DSZ				S	Sn	21 26 35.9	+0.1
AKCZ	**Akaroa Harbour**	**1.21**	**178**	P	Pn	21 26 20.9	0.0
AKCZ				S	Sn	21 26 35.4	-0.7
TUWZ	**Tuamarina**	**1.48**	**34**	P	Pn	21 26 25.6	+1.0
NNZ	**Nelson**	**1.50**	**16**	P	Pn	21 26 26.3	+1.5
WVZ	**Waitaha Valley**	**1.60**	**254**	P	Pn	21 26 27.7	+1.5
WVZ				S	Sn	21 26 46.1	+0.5
RPZ	**Rata Peaks**	**1.68**	**230**	P	Pn	21 26 27.8	+0.5
RPZ				S	Sn	21 26 46.9	-0.7
TCW	**Tory Channel**	**1.80**	**37**	P	Pn	21 26 30.2	+1.2
QRZ	**Quartz Range**	**1.85**	**353**	P	Pn	21 26 30.6	+0.9
DUWZ	**D'Urville Isla**	**2.03**	**24**	P	Pn	21 26 34.5	+2.4
ODZ	**Otahua Downs**	**2.86**	**213**	P	Pn	21 26 43.1	-0.4

*IDC **29** 21:32:34.6±3.4, 9.°03S×109.°94E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/28, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=164.8km s-min=28.7km az=47.0*
*DJA **29** 21:32:41.1±1.1, 9.°S±3.°×11.°0E±.°, h17km±9km, M4.0/13, mb4.4/2, MLv3.8/13*

ISC 29 21:32:41.6±1.1, 8.°94S±0.°08×110.°23E±0.°07, h35km, n16, σ1s22/20, mb3.3/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.06**	**16**	P	**Pn**	**21 32 59.5**	**-0.5**
UGM				S	**Sn**	**21 33 12.5**	**-1.1**
YOGI	**Yogyakarta**	**1.12**	**3**	P	**Pn**	**21 33 00.8**	**0.0**
YOGI				S	**Sn**	**21 33 14.5**	**-0.5**
WOJI	**Wonogiri, Jawa**	**1.29**	**32**	P	**Pn**	**21 33 02.5**	**-0.7**
SMRI	**Semarang**	**1.89**	**6**	P	**Pn**	**21 33 13.8**	**+2.4**
SMRI				S	**Sn**	**21 33 36.3**	**+2.3**
NGJI	**Ngawi**	**1.98**	**38**	P	**Pn**	**21 33 13.2**	**+0.5**
CMJI	**Cimerak**	**2.10**	**303**	P	**Pn**	**21 33 15.1**	**+0.8**
CMJI				S	**Sn**	**21 33 39.7**	**+0.4**
CISI	**Cisompet, Garu**	**2.76**	**300**	P	**Pn**	**21 33 24.4**	**+1.0**
GMJI	**Gumukmas**	**3.25**	**78**	P	**Pn**	**21 33 30.8**	**+0.7**
CNJI	**Cibinong**	**3.47**	**298**	P	**Pn**	**21 33 34.4**	**+1.3**
JAGI	**Jajag, Banyuwa**	**3.91**	**83**	P	**Pn**	**21 33 39.8**	**+0.6**
TWSI	**Taliwang, Sumb**	**6.58**	**89**	P	**Pn**	**21 34 16.3**	**+0.4**
PLAI	**Plampang**	**7.46**	**90**	P	**Pn**	**21 34 29.9**	**+1.9**
FITZ	**Fitzroy Crossi**	**17.52**	**123**	P	**Pn**	**21 36 43.6**	**+0.4**
	0.1nm,0.3s,baz=296,slow=11,SNR=2.3						
FITZ				S	Sn	21 39 42.1	-15
	0.1nm,0.3s,baz=242,slow=15,SNR=1.2						
WRA	**Warramunga Arr**	**25.74**	**118**	P	**P**	**21 38 08.7**	**-0.5**
	0.8nm,0.7s,baz=290,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**26.97**	**126**	P	**P**	**21 38 20.2**	**0.0**
	0.5nm,0.7s,baz=308,slow=9.2,SNR=5.6						
MKAR	**Makanchi Array**	**60.82**	**338**	P	**P**	**21 42 48.4**	**-1.8**
	0.1nm,0.4s,baz=153,slow=8.0,SNR=2.1						

*NCEDC **29** 21:44:16.1±2.1, 36.°69N±0.°02×121.°32W±0.°07, h6km±6km, Md3.0/135, Error ellipse: s-maj=8.1km s-min=2.1km az=78.0*

NEIC 29 21:44:16.0±1.4, 36.°65N±0.°03×121.°34W±0.°07, h10km±5km, Error ellipse: s-maj=8.2km s-min=2.7km az=67.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLRM	**Lewis Ranch**	**0.05**	**75**		Pg	21 44 17.8	-0.2
BCGM	**Cienega Road**	**0.06**	**356**		Pg	21 44 17.4	-0.6
BHRM	**Hodges Ranch**	**0.10**	**38**		Pg	21 44 18.4	-0.1
BJCM	**Johnson Can.**	**0.11**	**202**		Pg	21 44 19.1	+0.4
BVYM	**Vineyard**	**0.11**	**328**		Pg	21 44 18.3	-0.5
BSLM	**Silva Ranch**	**0.12**	**356**		Pg	21 44 19.1	+0.2
BEHM	**Elkhorn Ranch**	**0.13**	**85**		Pg	21 44 19.6	+0.6
BVL	**Bear Valley**	**0.14**	**123**		Pg	21 44 19.5	+0.3
SAO	**San Andreas Ge**	**0.14**	**322**	Pg	Pg	21 44 18.8	-0.4
SAO				Sg	Sg	21 44 20.2	-1.3
BSRM	**Salinas Radio**	**0.15**	**276**		Pg	21 44 19.3	+0.1
FRP	**Fremont Peak**	**0.16**	**310**		Pg	21 44 19.1	-0.4
HJSM	**John Smith Roa**	**0.17**	**11**		Pg	21 44 19.6	0.0
BEMM	**Emmet**	**0.20**	**87**		Pg	21 44 20.6	+0.5
HJGM	**San Juan Grade**	**0.24**	**308**		Pg	21 44 20.6	-0.3
BPCNC	**Pine Canyon**	**0.24**	**251**		Pg	21 44 21.6	+0.6
BSGM	**Shirttail Gulc**	**0.25**	**164**		Pg	21 44 21.4	+0.4
BAVM	**Antelope Valle**	**0.25**	**91**		Pg	21 44 21.7	+0.6
BBGB	**Big Mountain B**	**0.25**	**107**		Pb	21 44 22.2	-0.6
BBGB					Sb	21 44 27.1	-0.2
HBTM	**San Juan Bauti**	**0.26**	**319**		Pg	21 44 21.3	0.0
BSMM	**Soledad Missio**	**0.28**	**195**		Pb	21 44 22.4	-0.7
HTUM	**Tustin Road**	**0.30**	**306**		Pg	21 44 21.8	-0.2
HAST	**Hastings Reser**	**0.31**	**213**		Pg	21 44 22.9	+0.6
HAST					Sb	21 44 27.9	-1.1
HERM	**Elkhorn Road**	**0.33**	**296**		Pg	21 44 22.8	+0.2
HFEM	**San Felipe**	**0.33**	**351**		Pg	21 44 22.9	+0.2
LRV	**Little Rabbit**	**0.34**	**131**		Pb	21 44 23.6	-0.7
PACP	**Pacheco Peak**	**0.36**	**7**		Pg	21 44 23.2	+0.1
PACP					Sg	21 44 28.7	+0.9
CSR	**Chase Ranch**	**0.36**	**327**		Pg	21 44 23.5	+0.3
HCOM	**Corn Cob Canyo**	**0.38**	**308**		Pg	21 44 23.4	0.0
CBC	**Chamberlain**	**0.38**	**317**		Pg	21 44 23.8	+0.3
BCWM	**Chews Ridge**	**0.39**	**208**		Pb	21 44 24.5	-0.7
HPCM	**Pacheco Lake**	**0.41**	**7**		Pg	21 44 24.2	+0.1
HPCM					Sg	21 44 30.1	+0.6
SFJWR	**San Luis Fatjo**	**0.42**	**18**		Pg	21 44 24.1	-0.1
SLD	**San Luis Dam**	**0.43**	**13**		Pg	21 44 24.4	-0.1
BMSM	**Mercy Hot Spri**	**0.44**	**89**		Pb	21 44 25.4	-0.5
BRMM	**Rolling Bench**	**0.45**	**66**		Pb	21 44 25.9	-0.2
GHS	**Gilroy Hot Spr**	**0.45**	**349**		Pg	21 44 24.9	+0.1
HLPM	**Lions Peak**	**0.45**	**329**		Pg	21 44 25.1	+0.2
HMOM	**Monterey**	**0.47**	**264**		Pg	21 44 25.4	+0.3
LRC	**Lone Oak Road**	**0.47**	**149**		Pg	21 44 25.5	+0.3
PBWM	**Bitterwater Cr**	**0.47**	**135**		Pg	21 44 25.6	+0.4
JELB	**Ellicott, Sant**	**0.48**	**305**		Pg	21 44 25.3	-0.1
HSPM	**Sheep**	**0.48**	**343**		Pg	21 44 25.7	+0.3
PHRM	**Hernandez Vall**	**0.50**	**124**		Pb	21 44 26.4	-0.6
BAPM	**Anderson Peak**	**0.54**	**207**		Pb	21 44 27.0	-0.5
BPOM	**Post Ranch**	**0.55**	**219**		Pg	21 44 27.1	+0.5
CADM	**Anderson Res.**	**0.56**	**336**		Pg	21 44 27.1	+0.2
PCCM	**Crazy Canyon**	**0.58**	**166**		Pb	21 44 28.0	-0.3
JLAB	**Laurel Hill**	**0.59**	**328**		Pg	21 44 27.8	+0.3
JHLM	**Holstrom Ranch**	**0.60**	**319**		Pg	21 44 27.5	-0.2
PMPB	**Monarch Peak**	**0.61**	**135**		Pg	21 44 28.3	+0.4
PMPB	**Monarch Peak**	**0.61**	**135**		Sb	21 44 38.6	+1.0
JRGM	**Rodeo Gulch Ro**	**0.63**	**308**		Pg	21 44 28.1	-0.1
AMC	**Almaden**	**0.65**	**321**		Pg	21 44 28.5	-0.1
CCOB	**Coe Ranch Numb**	**0.66**	**336**		Pg	21 44 29.1	+0.3
JSTM	**Santa Teresa H**	**0.66**	**327**		Pg	21 44 29.0	+0.1
MOBB	**Monterey Bay O**	**0.67**	**274**		Pb	21 44 29.3	-0.4
JUMM	**Mount Umunhum**	**0.68**	**319**		Pg	21 44 28.8	-0.3
CMPM	**Mikes Peak**	**0.70**	**1**		Pg	21 44 29.9	+0.2
ARN	**Arnold Ranch**	**0.71**	**347**		Pg	21 44 29.8	0.0
PSAM	**San Ardo**	**0.72**	**150**		Pg	21 44 30.3	+0.3
MHC	**Mount Hamilton**	**0.73**	**341**		Pg	21 44 30.2	+0.1
PAPM	**Alder Peak**	**0.74**	**181**		Pb	21 44 30.8	-0.2
JJOM	**Saint Joseph's**	**0.75**	**317**		Pg	21 44 30.0	-0.5
JBNB	**Ben Lomond Mou**	**0.81**	**306**		Pg	21 44 30.6	-1.0
CMMM	**Mount Mocho**	**0.81**	**351**		Pg	21 44 31.7	0.0
PSMM	**Smith Mountain**	**0.83**	**134**		Pb	21 44 32.5	-0.2
PDRM	**Domengine Ranc**	**0.84**	**112**		Pb	21 44 33.1	+0.3
CMLM	**Mount Lewis**	**0.86**	**343**		Pg	21 44 32.7	+0.1
PHPM	**Hope Ranch**	**0.89**	**138**		Pg	21 44 33.0	-0.2
PARM	**Anticline Ridg**	**0.90**	**116**		Pn	21 44 34.3	-0.4
PKD	**Bear Valley Ra**	**0.95**	**137**		Pg	21 44 34.1	-0.2
CMJM	**Mission San Jo**	**0.97**	**334**		Pg	21 44 34.1	-0.5
JPSM		**0.98**	**304**		Pg	21 44 34.1	-0.6
PVCM	**Vineyard Canyo**	**0.98**	**138**		Pg	21 44 34.6	-0.2
JJRM	**Joaquin Road**	**0.98**	**315**		Pg	21 44 34.2	-0.6
PPO	**Portuguese Can**	**0.98**	**143**		Pb	21 44 35.1	0.0
PHCM	**Hearst Castle**	**0.98**	**171**		Pb	21 44 35.0	-0.1
JFP	**Foothills Park**	**0.98**	**316**		Pg	21 44 34.2	-0.6
PSTM	**Stockdale Moun**	**0.98**	**137**		Pg	21 44 34.7	-0.3
JSFB	**Stanford Teles**	**1.01**	**318**		Pg	21 44 33.8	-1.6
WENL	**Wente Vineyard**	**1.02**	**341**		Pg	21 44 35.0	-0.6
MYLM	**Yosemite Lake**	**1.04**	**45**		Pg	21 44 35.2	-0.7
JRSC	**Jasper Ridge**	**1.04**	**316**		Pg	21 44 34.9	-1.1
CVLM	**Vallecito**	**1.05**	**338**		Pg	21 44 35.1	-1.1
BGH	**Bear Gulch**	**1.06**	**311**		Pg	21 44 35.1	-1.2
CNIC	**Niles Canyon**	**1.08**	**333**		Pg	21 44 35.5	-1.2
PHFM	**Heflinger Ranc**	**1.08**	**135**		Pg	21 44 36.0	-0.7
CTM	**Castle Mountai**	**1.08**	**131**		Pn	21 44 37.7	+0.3
RAMR	**Ramage Ranch**	**1.08**	**159**		Pg	21 44 36.4	-0.4
JHPM	**Huddart Park**	**1.10**	**316**		Pg	21 44 36.6	-0.6
PHAM	**Harlan Ranch**	**1.11**	**137**		Pg	21 44 37.0	-0.4
PCMM	**Cholame Hills**	**1.13**	**138**		Pb	21 44 37.3	-0.4
GHC	**Gold Hill**	**1.14**	**136**		Pb	21 44 37.3	-0.6
PCBM	**Cambria**	**1.15**	**169**		Pb	21 44 37.2	-0.8
BLDC	**Black Mountain**	**1.17**	**162**		Pb	21 44 38.1	-0.2
BLDC	**Black Mountain**	**1.17**	**162**		Pb	21 44 38.2	-0.2
PKLM	**Kerr Lake**	**1.19**	**137**		Pb	21 44 38.1	-0.6
JCHM	**Cahill Ridge**	**1.20**	**316**		Pb	21 44 37.1	-1.8
PSNM	**Stone Corral**	**1.21**	**135**		Pb	21 44 38.4	-0.6
ARDC	**Alexander Ranc**	**1.22**	**166**		Pn	21 44 38.1	-1.1
TCHL	**Shandon**	**1.23**	**141**		Pg	21 44 39.5	0.0
PMRM	**Maxey Ranch**	**1.24**	**134**		Pn	21 44 38.8	-0.7
SAC	**San Andreas**	**1.27**	**317**		Pn	21 44 38.8	-1.0
PAGB	**Antelope Grade**	**1.27**	**136**		Pn	21 44 39.6	-0.3
PAGB					Sn	21 44 57.8	+0.7
THIS	**South End of C**	**1.29**	**136**		Pn	21 44 39.5	-0.6
TRAM	**Private Proper**	**1.30**	**138**		Pn	21 44 39.6	-0.7
PTAM	**Tassajara Cree**	**1.36**	**158**		Pb	21 44 41.4	-0.2
TSCN	**Private Proper**	**1.37**	**144**		Pb	21 44 42.0	+0.2
BKS	**Berkeley--Byer**	**1.42**	**330**		Pn	21 44 41.0	-0.8
BRIB	**Briones**	**1.42**	**333**		Pn	21 44 40.3	-1.6
DPD	**Davis Peak**	**1.49**	**162**		Pn	21 44 42.4	-0.5
CMB	**Columbia Colle**	**1.57**	**29**	Pn	Pn	21 44 43.5	-0.6
CMB				Sn	Sn	21 45 02.6	-2.0
BCH	**Branch Mountai**	**1.78**	**145**		Pn	21 44 46.9	-0.1
PMLM	**Mount Lospe**	**1.85**	**161**		Pn	21 44 46.9	-0.9
HELL	**Mitchell Peak,**	**1.86**	**88**		Pn	21 44 47.8	-0.3
MDPB	**Devils Postpil**	**2.05**	**61**		Pn	21 44 52.0	+1.1
MMPM	**Mammoth Pass**	**2.08**	**62**		Pn	21 44 51.6	+0.3
MDYM	**Dry Creek**	**2.11**	**61**		Pb	21 44 54.5	-0.1
MDCM	**Deadman Creek**	**2.12**	**59**		Pn	21 44 52.9	+1.1
MLCM	**Laurel Creek C**	**2.16**	**63**		Pn	21 44 53.8	+1.4
MEMM	**East Mammoth H**	**2.17**	**61**		Pb	21 44 54.2	-1.3
MCMM	**Convict Lake**	**2.19**	**63**		Pn	21 44 53.7	+0.9
AFDM	**Forest Hills D**	**2.31**	**7**		Pn	21 44 53.5	-0.7
WAKR	**Walker**	**2.39**	**39**		Pn	21 44 56.0	+0.6
ISA	**Isabella, Lake**	**2.52**	**112**	Pn	Pn	21 44 58.0	+0.9
PNTR	**Pine Nut**	**2.79**	**29**		Pb	21 45 05.8	-0.4
YERR	**Yerington**	**2.86**	**35**		Pn	21 45 01

WRA	**Warramunga Arr**	**44.59**	**260**	P		**P**	**22 45 49.3**	**-1.4**
AS31	**Alice Springs**	**44.75**	**254**	P		**P**	**22 45 52.0**	**0.0**
ASAR	**Alice Springs**	**44.75**	**254**	P		**P**	**22 45 52.0**	**0.0**
	comp=Z,148nm,0.6s,baz=88,slow=8.5,SNR=2123							
ASAR				PcP		**PcP**	**22 47 21.4**	**-0.2**
	comp=Z,5.0nm,0.7s,baz=94,slow=4.1,SNR=5.0							
ASAR				ScP		**ScP**	**22 50 20.6**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=86,slow=4.8,SNR=4.3							
ASAR				S		**S**	**22 51 45.8**	**-1.9**
	comp=Z,1.4nm,0.8s,baz=87,slow=16,SNR=9.4							
ASAR	**Alice Springs**	**44.75**	**254**	P		**P**	**22 45 50.6**	**-1.3**
SMPI	**Sarmi**	**44.91**	**286**	P		**P**	**22 45 53.4**	**+0.2**
	comp=Z,8µmcomp=Z,29nm,0.9s							
KDU	**Kakadu**	**47.52**	**269**	P		**P**	**22 46 12.8**	**-0.1**
	baz=47,SNR=11							
GUMO	**Guam**	**47.85**	**308**	P		**P**	**22 46 15.3**	**0.0**
MTN	**Manton Dam**	**48.76**	**268**	P		**P**	**22 46 21.4**	**-0.7**
	baz=49,SNR=16							
WRKA	**Warakurna**	**49.80**	**252**	P		**P**	**22 46 29.7**	**-0.1**
	baz=50,SNR=278							
FORT	**Forrest**	**49.97**	**245**	P		**P**	**22 46 30.3**	**-0.5**
	baz=50,SNR=6.9							
KNRA	**Kununurra**	**50.45**	**264**	P		**P**	**22 46 34.2**	**-0.3**
	baz=50,SNR=18							
FAKI	**Fak Fak**	**50.54**	**281**	P		**P**	**22 46 34.0**	**-1.2**
FAKI				IAmb		IAmb	22 46 42.7	
	comp=Z,17nm,0.8s							
FITZ	**Fitzroy Crossi**	**52.99**	**261**	P		**P**	**22 46 52.7**	**-0.1**
	baz=53,SNR=31							
FITZ	**Fitzroy Crossi**	**52.99**	**261**	P		**P**	**22 46 52.5**	**-0.3**
KMBL	**Kambalda**	**55.27**	**244**	P		**P**	**22 47 07.9**	**-0.7**
	baz=55,SNR=11							
SOEI	**Soe**	**56.03**	**270**	P		**P**	**22 47 17.3**	**+3.1**
	comp=Z,101nm,0.9s							
SOEI	**Soe**	**56.03**	**270**	P		**P**	**22 47 15.2**	**+1.0**
PSA00	**Pilbara Seismi**	**57.87**	**255**	P		**P**	**22 47 26.0**	**-0.6**
PSA00				IAmb		IAmb	22 47 26.8	
	comp=Z,35nm,0.7s							
PSA00	**Pilbara Seismi**	**57.87**	**255**	P		**P**	**22 47 25.5**	**-1.1**
PSA00				IAmb		IAmb	22 47 26.0	
	comp=Z,18nm,0.8s							
MEEK	**Meekatharra**	**58.39**	**249**	P		**P**	**22 47 29.3**	**-0.8**
	baz=58,SNR=22							
KLBR	**Kellerberrin**	**58.79**	**244**	P		**P**	**22 47 31.9**	**-0.7**
	baz=59,SNR=17							
NWAO	**Narrogin (SRO)**	**59.17**	**242**	P		**P**	**22 47 34.6**	**-0.5**
	baz=59,SNR=12							
NWAO	**Narrogin (SRO)**	**59.17**	**242**	P		**P**	**22 47 34.1**	**-0.9**
NWAO				IAmb		IAmb	22 47 38.0	
	comp=Z,10nm,0.7s							
NWAO	**Narrogin (SRO)**	**59.17**	**242**	P		**P**	**22 47 34.4**	**-0.7**
NWAO				IAmb		IAmb	22 47 38.0	
	comp=Z,13nm,0.8s							
BLDU	**Ballidu**	**59.74**	**245**	P		**P**	**22 47 38.2**	**-0.7**
	baz=60,SNR=24							
MUN	**Mundaring**	**60.08**	**243**	P		**P**	**22 47 41.3**	**+0.1**
	baz=60,SNR=4.6							
GTOI	**Gorontalo**	**60.43**	**281**	P		**P**	**22 47 47.6**	**+3.9**
	comp=Z,22nm,0.9s							
VNDA	**Vanda**	**60.43**	**185**	P		**P**	**22 47 43.8**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=348,slow=7.1,SNR=12							
VNDA	**Vanda**	**60.43**	**185**	P		**P**	**22 47 43.6**	**+1.0**
MORW	**Morawa**	**60.44**	**246**	P		**P**	**22 47 43.0**	**-0.5**
	baz=60,SNR=10							
MORW	**Morawa**	**60.44**	**246**	P		**P**	**22 47 42.9**	**-0.6**
MORW				IAmb		IAmb	22 47 50.1	
	comp=Z,14nm,0.9s							
PLAI	**Plampang**	**62.45**	**269**	P		**P**	**22 47 58.5**	**+1.6**
GIRL	**Giralia**	**62.85**	**253**	P		**P**	**22 48 00.2**	**+0.9**
	baz=63,SNR=8.9							
GIRL	**Giralia**	**62.85**	**253**	P		**P**	**22 47 59.3**	**-0.1**
JAGI	**Jajag, Banyuwa**	**66.00**	**269**	P		**P**	**22 48 18.1**	**-1.3**
CASY	**Casey**	**66.11**	**205**	P		**P**	**22 48 17.1**	**-1.9**
MJAR	**Matsushiro Arr**	**67.89**	**323**	P		**P**	**22 48 30.2**	**-0.3**
	comp=Z,3.4nm,0.6s,baz=160,slow=6.5,SNR=11							
MJAR	**Matsushiro Arr**	**67.89**	**323**	P		**P**	**22 48 30.2**	**-0.3**
MAT	**Matsushiro**	**67.89**	**323**	P		**P**	**22 48 30.0**	**-0.5**
KKM	**Kota Kinabalu**	**68.71**	**284**	P		**P**	**22 48 34.6**	**-1.3**
KKM				IAmb		IAmb	22 48 52.3	
	comp=Z,28nm,1.1s							
ADK	**Adak**	**69.52**	**1**	P		**P**	**22 48 39.3**	**-0.5**
ADK				IAmb		IAmb	22 48 39.9	
	comp=Z,27nm,1.1s							
UGM	**Wanagama**	**69.61**	**268**	P		**P**	**22 48 40.9**	**-0.4**
GSTR	**Great Sitkin T**	**69.75**	**2**	P		**P**	**22 48 40.2**	**-1.1**
ATKA	**Atka Island**	**69.92**	**3**	P		**P**	**22 48 41.2**	**-1.0**
ATKA				IAmb		IAmb	22 48 50.4	
	comp=Z,30nm,1.0s							
YOJ	**Yonaguni jima**	**70.92**	**305**	P		**P**	**22 48 48.3**	**-0.5**
YULB	**Yu-li**	**71.74**	**303**	P		**P**	**22 48 52.5**	**-1.1**
UNV	**Unalaska Valle**	**72.20**	**7**	P		**P**	**22 48 54.7**	**-0.8**
UNV				IAmb		IAmb	22 49 07.4	
	comp=Z,18nm,1.2s							
SSLB	**Suanglung**	**72.21**	**303**	P		**P**	**22 48 55.2**	**-1.1**
SSLB				IAmb		IAmb	22 48 56.1	
	comp=Z,11nm,0.4s							
TPUB	**Ta-pu**	**72.23**	**302**	P		**P**	**22 48 55.5**	**-1.0**
CISI	**Cisompet, Garu**	**72.28**	**268**	P		**P**	**22 48 54.6**	**-2.4**
KSM	**Kuching**	**72.65**	**277**	P		**P**	**22 48 59.6**	**+0.6**
PEA0B	**Petropavlovsk-**	**73.68**	**345**	P		**P**	**22 49 03.8**	**-0.3**
PETK	**Petropavlovsk-**	**73.68**	**345**	P		**P**	**22 49 04.4**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=131,slow=8.1,SNR=6.6							
PETK	**Petropavlovsk-**	**73.68**	**345**	P		**P**	**22 49 04.1**	**0.0**
KSRS	**Korea Array**	**74.68**	**318**	P		**P**	**22 49 11.2**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=144,slow=6.1,SNR=6.5							
CHIR	**Chirikof Islan**	**75.95**	**13**	P		**P**	**22 49 16.6**	**0.0**
CHIR				IAmb		IAmb	22 49 22.2	
	comp=Z,34nm,1.0s							
USRK	**Ussuriysk Ar.**	**76.60**	**326**	P		**P**	**22 49 20.6**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=140,slow=5.6,SNR=3.7							
SII	**Sitkinak Islan**	**76.94**	**14**	P		**P**	**22 49 21.9**	**-0.2**
KMRM	**Mail Ridge**	**77.05**	**40**	P		**P**	**22 49 23.9**	**+0.8**
KMRM				IAmb		IAmb	22 49 25.8	
	comp=Z,19nm,0.8s							
MWC	**Mount Wilson**	**77.38**	**48**	P		**P**	**22 49 25.4**	**+0.2**
MWC				IAmb		IAmb	22 49 26.9	
	comp=Z,9.6nm,0.8s							
CBX	**Cerro Bola**	**77.38**	**50**	P		**P**	**22 49 26.1**	**+0.9**
BAR	**Barrett**	**77.56**	**50**	P		**P**	**22 49 27.1**	**+1.1**
SPX	**San Pedro Mart**	**77.62**	**52**	P		**P**	**22 49 26.9**	**+0.1**
KRMB	**Red Mountain**	**77.72**	**39**	P		**P**	**22 49 27.6**	**+0.8**
OHAK	**Old Harbor**	**77.75**	**14**	P		**P**	**22 49 25.5**	**-0.9**
NJ2	**Nanjing**	**77.92**	**309**	*e*P		**P**	**22 49 29.3**	**+1.4**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
KBO	**Bosley Butte**	**77.95**	**38**	P		**P**	**22 49 26.7**	**-1.3**
KBO				IAmb		IAmb	22 49 34.2	
	comp=Z,19nm,1.2s							
PFO	**Pinyon Flats O**	**78.19**	**49**	P		**P**	**22 49 30.3**	**+0.7**
	comp=Z,3.1nm,0.7s,baz=181,slow=4.2,SNR=5.6							
PFO	**Pinyon Flats O**	**78.19**	**49**	IAmb		IAmb	22 49 31.2	
	comp=Z,5.4nm,0.9s							
KDAK	**Kodiak Island**	**78.42**	**14**	P		**P**	**22 49 29.4**	**-0.6**
YBH	**Yreka Blue Hor**	**78.56**	**39**	P		**P**	**22 49 33.0**	**+1.7**
	comp=Z,6.9nm,0.7s,baz=259,slow=2.6,SNR=11							
YBH	**Yreka Blue Hor**	**78.56**	**39**	P		**P**	**22 49 32.0**	**+0.7**
YBH				IAmb		IAmb	22 49 33.6	
	comp=Z,8.2nm,0.8s							
SLBS	**Sierra La Lagu**	**78.60**	**60**	P		**P**	**22 49 32.6**	**+0.8**
SLBS				IAmb		IAmb	22 49 34.3	
	comp=Z,7.3nm,0.8s							
HUMO	**Hull Mountain**	**78.93**	**38**	P		**P**	**22 49 34.2**	**+1.1**
PNTR	**Pine Nut**	**78.97**	**43**	P		**P**	**22 49 34.0**	**+0.3**
PNTR				IAmb		IAmb	22 49 35.9	
	comp=Z,15nm,0.9s							
YERR	**Yerington**	**79.15**	**43**	P		**P**	**22 49 34.8**	**+0.2**
YERR				IAmb		IAmb	22 49 36.1	
	comp=Z,8.8nm,0.6s							
PAHR	**Pah Rah Range**	**79.46**	**42**	P		**P**	**22 49 37.0**	**+0.9**
NVAR	**Mina Array Bea**	**79.46**	**44**	P		**P**	**22 49 37.4**	**+1.1**
	comp=Z,5.0nm,0.7s,baz=224,slow=8.9,SNR=26							
NVAR	**Mina Array Bea**	**79.46**	**44**	P		**P**	**22 49 36.6**	**+0.3**
NV11	**Mina Array Sit**	**79.56**	**44**	P		**P**	**22 49 37.0**	**+0.3**
KVN	**Kaiserville**	**79.93**	**43**	P		**P**	**22 49 38.7**	**+0.1**
TPNV	**Topopah Spring**	**80.06**	**46**	P		**P**	**22 49 39.3**	**-0.1**
MOD	**Modoc Plateau**	**80.12**	**40**	P		**P**	**22 49 39.6**	**+0.1**
MOD				IAmb		IAmb	22 49 41.5	
	comp=Z,11nm,0.7s							
K05A	**Summer Lake**	**80.23**	**39**	P		**P**	**22 49 40.9**	**+0.8**
K05A				IAmb		IAmb	22 49 42.5	
	comp=Z,22nm,1.1s							
CNPM	**China Poot**	**80.30**	**14**	P		**P**	**22 49 40.1**	**+0.2**
SHPR	**Sheep Range**	**80.58**	**47**	P		**P**	**22 49 42.4**	**+0.3**
H04A	**Detroit Lake**	**80.62**	**37**	P		**P**	**22 49 42.2**	**+0.3**
H04A				IAmb		IAmb	22 49 43.3	
	comp=Z,10nm,0.6s							
PINE	**Pine Mountain**	**80.82**	**38**	P		**P**	**22 49 43.8**	**+0.6**
PINE				IAmb		IAmb	22 49 45.5	
	comp=Z,14nm,0.9s							
SVW2	**Sparrevohn**	**80.86**	**11**	P		**P**	**22 49 42.5**	**-0.2**
PRN	**Pahroc Range**	**81.11**	**46**	P		**P**	**22 49 45.9**	**+1.1**
PRN				IAmb		IAmb	22 49 47.3	
	comp=Z,11nm,0.9s							
R11A	**Troy Canyon, C**	**81.23**	**45**	P		**P**	**22 49 46.0**	**+0.6**
NLWA	**Neilton Lookou**	**81.34**	**34**	P		**P**	**22 49 46.0**	**+0.5**
NLWA				IAmb		IAmb	22 49 47.6	
	comp=Z,7.0nm,0.9s							
WVOR	**Wild Horse Val**	**81.44**	**40**	P		**P**	**22 49 47.1**	**+0.8**
WVOR				IAmb		IAmb	22 49 48.5	
	comp=Z,15nm,1.1s							
I07A	**Izee**	**81.84**	**39**	P		**P**	**22 49 49.1**	**+0.8**
I07A				IAmb		IAmb	22 49 50.4	
	comp=Z,9.2nm,0.8s							
LON	**Longmire**	**82.07**	**35**	P		**P**	**22 49 49.4**	**+0.1**
SUA	**Susitna One**	**82.15**	**13**	IAmb		IAmb	22 49 49.8	
	comp=Z,10.0nm,0.8s							
BELA	**Belgrano 2**	**82.16**	**173**	P		**P**	**22 49 48.9**	**-0.4**
LCMT	**Little Creek M**	**82.17**	**47**	P		**P**	**22 49 50.2**	**+0.1**
CCUT	**Cedar City**	**82.35**	**47**	P		**P**	**22 49 52.1**	**+1.0**
IPM	**Ipoh**	**82.38**	**277**	P		**P**	**22 49 51.5**	**-0.1**
IPM				IAmb		IAmb	22 49 52.6	
	comp=Z,13nm,0.6s							
319A	**Douglas**	**82.46**	**54**	P		**P**	**22 49 53.2**	**+1.4**
319A				IAmb		IAmb	22 49 54.8	
	comp=Z,12nm,0.9s							
KNB	**Kanab**	**82.46**	**47**	P		**P**	**22 49 52.6**	**+0.9**
GLI	**Glacier Island**	**82.47**	**15**	P		**P**	**22 49 50.6**	**-0.3**
GLI				IAmb		IAmb	22 49 51.5	
	comp=Z,12nm,0.7s							
PSUT	**Pine Spring**	**82.49**	**46**	P		**P**	**22 49 52.6**	**+0.7**
U15A	**North Rim**	**82.55**	**48**	P		**P**	**22 49 53.3**	**+1.0**
U15A				IAmb		IAmb	22 49 54.9	
	comp=Z,12nm,0.8s							
GHO	**Glory Hole Cre**	**82.83**	**14**	P		**P**	**22 49 52.1**	**-0.7**
GHO				IAmb		IAmb	22 49 53.1	
	comp=Z,14nm,0.7s							
G08A	**Pilot Rock**	**82.84**	**38**	P		**P**	**22 49 53.9**	**+0.6**
KULM	**Kulim**	**83.00**	**278**	P		**P**	**22 49 54.0**	**-0.6**
KULM				IAmb		IAmb	22 49 56.1	
	comp=Z,7.7nm,1.0s							
HAWA	**Hanford**	**83.14**	**37**	P		**P**	**22 49 55.2**	**+0.6**
HAWA				IAmb		IAmb	22 49 56.2	
	comp=Z,8.0nm,0.7s							
PPLA	**Purkeypile**	**83.15**	**12**	P		**P**	**22 49 53.4**	**-1.1**
PPLA				IAmb		IAmb	22 50 01.5	
	comp=Z,8.4nm,1.2s							
MTPU	**Mount Pierson**	**83.40**	**47**	P		**P**	**22 49 57.1**	**+0.5**
YAH	**Yahtse**	**83.45**	**17**	P		**P**	**22 49 55.7**	**-0.5**
YAH				IAmb		IAmb	22 50 07.8	
	comp=Z,11nm,1.0s							
TABL	**Table Mountain**	**83.69**	**18**	P		**P**	**22 49 56.9**	**-0.3**
TABL				IAmb		IAmb	22 49 58.3	
	comp=Z,7.4nm,0.7s							
VRDI	**Verde Repeater**	**83.70**	**16**	P		**P**	**22 49 56.1**	**-1.2**
GLB	**Gilahina Butte**	**83.79**	**16**	P		**P**	**22 49 57.1**	**-0.5**
GLB				IAmb		IAmb	22 49 58.3	
	comp=Z,6.9nm,0.6s							
MAW	**Mawson**	**83.84**	**200**	P		**P**	**22 49 57.8**	**0.0**
	comp=Z,2.5nm,0.4s,baz=130,slow=5.8,SNR=11							
MAW	**Mawson**	**83.84**	**200**	P		**P**	**22 49 58.1**	**+0.4**
	baz=84,SNR=6.3							
BALM	**Baldy**	**83.84**	**17**	P		**P**	**22 49 57.5**	**-0.4**
BALM				IAmb		IAmb	22 49 59.0	
	comp=Z,14nm,1.2s							
TRF	**Thorofare Moun**	**84.03**	**12**	IAmb		IAmb	22 49 58.9	
	comp=Z,13nm,0.9s							
BARN	**Barnard Glacie**	**84.05**	**17**	P		**P**	**22 49 59.1**	**+0.1**
BARN				IAmb		IAmb	22 50 00.2	
	comp=Z,9.2nm,0.9s							
CTGM	**Chitina Glacie**	**84.06**	**17**	P		**P**	**22 49 58.6**	**-0.4**
CTGM				IAmb		IAmb	22 50 00.2	
	comp=Z,8.5nm,0.9s							
RND	**Reindeer**	**84.29**	**13**	IAmb		IAmb	22 50 00.6	
	comp=Z,11nm,0.8s							
DHY	**Denali Highway**	**84.32**	**14**	P		**P**	**22 49 59.5**	**-0.7**
B08A	**Colville Reser**	**84.37**	**35**	IAmb		IAmb	22 50 01.3	
	comp=Z,5.7nm,0.7s							
HLID	**Hailey**	**84.66**	**41**	P		**P**	**22 50 03.1**	**+0.7**
GSI	**Gunungsitoli**	**84.66**	**273**	P		**P**	**22 50 02.9**	**0.0**
GSI				IAmb		IAmb	22 50 04.8	
	comp=Z,19nm,0.8s							
PAX	**Paxson**	**84.67**	**14**	P		**P**	**22 50 00.7**	**-1.2**
GYA	**Guiyang**	**85.01**	**300**	J/P		**P**	**22 50 05.0**	**+0.6**
GYA				pmax		pmax		
	comp=Z,6.0nm,1.1s							
SRU	**San Rafael Swe**	**85.05**	**46**	P		**P**	**22 50 04.8**	**+0.3**
RIDG	**Independent Ri**	**85.48**	**14**	P		**P**	**22 50 05.8**	**0.0**
RIDG				IAmb		IAmb	22 50 10.6	
	comp=Z,8.1nm,1.2s							
HWUT	**Hardware Ranch**	**85.53**	**44**	P		**P**	**22 50 07.0**	**+0.4**
NEW	**Newport**	**85.54**	**36**	P		**P**	**22 50 06.3**	**-0.1**
DOT	**Dot Lake**	**85.58**	**15**	IAmb		IAmb	22 50 06.9	
	comp=Z,6.6nm,0.8s							
CCB	**Clear Creek Bu**	**85.60**	**13**	IAmb		IAmb	22 50 05.9	
	comp=Z,3.8nm,0.6s							
MNTX	**Cornudas Mount**	**85.61**	**55**	P		**P**	**22 50 07.6**	**+0.5**
BCYI	**Bear Canyon**	**85.67**	**41**	P		**P**	**22 50 07.1**	**-0.2**
IMAR	**Indian Mountai**	**85.70**	**10**	P		**P**	**22 50 06.8**	**+0.1**
MDM	**Murphy Dome**	**85.79**	**12**	P		**P**	**22 50 05.9**	**-1.2**
IL31		**85.91**	**13**	P		**P**	**22 50 06.8**	**-0.8**
IL31				IAmb		IAmb	22 50 07.3	
	comp=Z,5.4nm,1.1s							
ILAR	**Eielson Array**	**85.91**	**13**	P		**P**	**22 50 07.0**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=225,slow=5.1,SNR=18							
ILAR	**Eielson Array**	**85.91**	**13**	P		**P**	**22 50 06.7**	**-1.0**
TX31	**Lajitas Ar. Si**	**86.03**	**58**	P		**P**	**22 50 09.8**	**+0.6**
TX32	**Lajitas Array**	**86.03**	**58**	P		**P**	**22 50 10.0**	**+0.8**
TX32				IAmb		IAmb	22 50 12.3	
	comp=Z,8.8nm,1.0s							
TXAR	**Lajitas Array**	**86.03**	**58**	P		**P**	**22 50 11.2**	**+2.0**
	comp=Z,5.3nm,0.7s,baz=219,slow=6.3,SNR=50							
ANMO	**Albuquerque**	**86.13**	**52**	P		**P**	**22 50 10.6**	**+0.9**
	comp=Z,0.2nm,1.0s,baz=41,slow=5.4,SNR=5.4							
XAN	**Xi'an**	**86.24**	**307**	P		**P**	**22 50 11.0**	**+1.0**
XAN				pmax		pmax		
	comp=Z,12nm,1.1s							
XAN				pmax		pmax		
	comp=Z,85nm,4.5s							
MCMT	**McKenzie Canyo**	**86.27**	**40**	P		**P**	**22 50 11.3**	**+1.1**
DLMT	**Dillon**	**86.69**	**40**	P		**P**	**22 50 12.4**	**+0.4**
DLMT				IAmb		IAmb	22 50 14.0	
	comp=Z,6.7nm,1.0s							
FXWY	**Fox Creek**	**86.84**	**42**	P		**P**	**22 50 13.8**	**+0.9**
IMW	**Indian Meadow**	**87.02**	**42**	P		**P**	**22 50 14.0**	**+0.2**
IMW				IAmb		IAmb	22 50 16.0	
	comp=Z,8.0nm,0.9s							
LOHW	**Long Hollow**	**87.10**	**42**	P		**P**	**22 50 14.5**	**+0.4**
HHC	**Hu-ho-hao-te**	**87.25**	**314**	*e*P		**P**	**22 50 13.0**	**-1.7**
HHC				pmax		pmax		
	comp=Z,13nm,1.1s							
HHC				pmax		pmax		
	comp=Z,41nm,6.3s							
PD31	**Pinedale Array**	**87.39**	**43**	P		**P**	**22 50 15.5**	**+0.1**
PD31				IAmb		IAmb	22 50 16.8	
	comp=Z,3.9nm,0.7s							
PDAR	**Pinedale Array**	**87.39**	**43**	P		**P**	**22 50 16.2**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=222,slow=3.4,SNR=25							
PDAR				PP		**PP**	**22 53 49.1**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=215,slow=4.7,SNR=5.1							
PDAR	**Pinedale Array**	**87.39**	**43**	P		**P**	**22 50 15.8**	**+0.4**
WALA	**Waterton Lakes**	**87.77**	**36**	P		**P**	**22 50 17.4**	**+0.5**
WALA				IAmb		IAmb	22 50 18.3	
	comp=Z,4.2nm,0.8s							
HRY	**Holter Researc**	**87.82**	**39**	P		**P**	**22 50 17.7**	**+0.4**
YNE	**Yellowstone No**	**88.13**	**41**	P		**P**	**22 50 19.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**88.85**	**290**	P		**P**	**22 50 24.1**	**+1.5**
	comp=Z,3.5nm,0.8s,baz=114,slow=3.0,SNR=16							
SNAA	**Sanae**	**90.59**	**179**	P		**P**	**22 50 29.3**	**-0.4**
SNAA	**Sanae**	**90.59**	**179**	IAmb		IAmb	22 50 31.3	
	comp=Z,3.3nm,1.1s							
VNA3	**Neumayer Olymp**	**90.73**	**176**	P		**P**	**22 50 30.2**	**0.0**
LZH	**Lanzhou**	**90.87**	**308**	*e*P		**P**	**22 50 33.3**	**+1.6**
LZH				PP		**PP**	**22 54 17.8**	**-0.7**
LZH				pmax		pmax		
	comp=Z,12nm,1.0s							
LZH				pmax		pmax		
	comp=Z,120nm,5.0s							
VNA2	**Neumayer--Watz**	**91.17**	**177**	P		**P**	**22 50 32.3**	**+0.1**
VNA1	**Neumayer--Stat**	**91.40**	**177**	P		**P**	**22 50 33.9**	**+0.6**
INK	**Inuvik**	**91.91**	**15**	P		**P**	**22 50 35.0**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=214,slow=5.7,SNR=4.7							
INK	**Inuvik**	**91.91**	**15**	IAmb		IAmb	22 50 36.0	
	comp=Z,3.3nm,0.9s							
DGMT	**Dagmar**	**93.23**	**40**	P		**P**	**22 50 41.8**	**-0.3**
SONM	**Songino Array**	**93.53**	**319**	P		**P**	**22 50 44.6**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=125,slow=4.0,SNR=2.4							
MKAR	**Makanchi Array**	**109.11**	**314**	PKiKP		**PKiKP**	**22 55 52.4**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=151,slow=0.6,SNR=14							
ARCES	**ARCESS Array B**	**126.32**	**350**	PKP		**PKPdf**	**22 56 24.9**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=26,slow=2.3,SNR=4.0							
GEYT	**Alibeck**	**127.01**	**304**	PKP		**PKPdf**	**22 56 27.7**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=90,slow=1.4,SNR=2.4							
FINES	**FINESS Array B**	**133.19**	**344**	PKP		**PKPdf**	**22 56 39.6**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=5.7,slow=1.4,SNR=4.8							
FINES				PP		**PP**	**22 59 14.4**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=48,slow=2.8,SNR=4.4							
AKASG	**Malin Array Be**	**140.55**	**332**	PKP		**PKPdf**	**22 56 51.3**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=57,slow=2.4,SNR=2.3							
SORM	**Soroca**	**142.78**	**330**	⇑P		**PKPdf**	**22 56 54.1**	**-2.7**
VASR	**Vaslui**	**144.10**	**329**	⇑P		PKPbc	22 56 59.1	+0.2
TLCR		**144.56**	**326**	⇑P		**PKPdf**	**22 57 00.3**	**+0.3**
BUR08	**Bucovina Ar. S**	**144.59**	**332**	PKPdf		**PKPab**	**22 57 01.5**	**+0.4**
BURAR	**Bucovina Array**	**144.60**	**332**	⇑P		**PKPab**	**22 57 01.6**	**+0.4**
BURAR	**Bucovina Array**	**144.60**	**332**	PKPdf		**PKPab**	**22 57 01.4**	**+0.2**
BIZ	**Bicaz**	**144.70**	**330**	⇑P		**PKPab**	**22 57 01.8**	**+0.3**
BR131	**Keskin Array S**	**144.76**	**315**	PKPdf		PKPbc	22 57 01.4	+0.1
BRTR	**Keskin Array B**	**144.76**	**315**	PKP		PKPbc	22 57 01.2	-0.1
	comp=Z,2.3nm,0.4s,baz=110,slow=3.2,SNR=22							
BRTR	**Keskin Array B**	**144.76**	**315**			**PKPdf**	**22 57 01.0**	**+0.2**
KOLS	**Kolonicke sedl**	**144.80**	**336**	*e*PKP		**PKPdf**	**22 57 00.4**	**0.0**
CFR	**Carcaliu**	**144.92**	**327**	⇑P		PKPbc	22 57 01.8	+0.4
TOPG	**Topolog**	**145.00**	**326**	⇓P		PKPbc	22 57 02.2	+0.6
HARR	**Harsova**	**145.36**	**326**	⇑P		**PKPbc**	**22 57 03.0**	**+0.3**
ARCR	**ARCALIA**	**145.39**	**332**	⇑P		**PKPab**	**22 57 03.7**	**-0.5**
OSTC	**Ostas**	**145.39**	**343**	*e*PKP		**PKPab**	**22 57 03.7**	**-0.3**
CHVC	**Chvalec**	**145.40**	**344**	*e*PKP		**PKPbc**	**22 57 02.8**	**+0.1**
OZUR		**145.46**	**330**	⇑P		**PKPbc**	**22 57 03.8**	**+0.7**
CLL	**Collm**	**145.47**	**347**	*i* PKPbc		**PKPbc**	**22 57 03.1**	**+0.3**
	comp=Z,5.0nm,1.1s							
DPC	**Dobruska-Polom**	**145.55**	**343**	*e*PKP		**PKPbc**	**22 57 03.8**	**+0.7**
KRLC	**Kraliky**	**145.67**	**343**	*e*PKP		**PKPbc**	**22 57 03.9**	**+0.4**
DOPR	**Dopca**	**145.75**	**330**	⇑P		**PKPbc**	**22 57 04.6**	**+0.7**
VOIR		**146.30**	**330**	⇑P		**PKPbc**	**22 57 05.6**	**+0.2**
VYHS	**Vyhne**	**146.41**	**339**	*e*PKP		**PKPbc**	**22 57 06.0**	**+0.4**
ARR	**Arges**	**146.55**	**330**	⇑P		**PKPbc**	**22 57 07.3**	**+1.2**
MODS	**Modra-Piesok**	**147.03

XAN smax smax
comp=N,180nm,1.2s
XAN smax smax
comp=E,170nm,1.4s
XAN LR LR
comp=Z,480nm,10.6s
XAN Xi'an 8.31 184 P **Pn** **23 07 43.7 -0.4**
XAN Xi'an 8.31 184 Pn **Pn** **23 07 43.7 -0.4**
TIA Tai'an 8.42 134 Pg Pg 23 08 20.5 -4.2
TIA Sg Sg 23 10 04.0 -10
TIA smax smax
comp=N,61nm,0.8s
TIA smax smax
comp=E,46nm,0.9s
ZAK Zakamensk 9.17 333 *e*P **Pn** **23 07 54.9 -1.1**
ZAK pmax pmax
comp=Z,6.0nm,0.3s
HIA Hailar 9.87 42 P **Pn** **23 08 04.7 -0.8**
HIA Hailar 9.87 42 Pn **Pn** **23 08 04.7 -0.8**
TLY Talaya 10.21 338 Pn **Pn** **23 08 10.3 +0.3**
comp=Z,0.0nm,0.3s,baz=92,slow=2.6,SNR=10
TLY Lg Lg 23 11 02.4
comp=Z,0.0nm,0.3s,baz=211,slow=14,SNR=4.6
TLY Talaya 10.21 338 *e*P **Pn** **23 08 11.8 +1.8**
TLY pmax pmax
comp=Z,15nm,0.7s
TLY MLR MLR
comp=Z,462nm,7.0s
TLY Talaya 10.21 338 Pn **Pn** **23 08 09.3 -0.8**
MOY Mondy 11.04 331 *e*P Pn 23 08 38.7 +17
MOY *e*S **Sn** **23 10 24.2 -0.9**
ENH Enshi 12.04 181 Pn **Pn** **23 08 33.4 -1.9**
KSAR Wonju Array Be 14.81 103 P **Pn** **23 09 13.3 +0.3**
KSAR Wonju Array Be 14.81 103 Pn **Pn** **23 09 13.3 +0.3**
KSRS Korea Array 14.84 103 Pn **Pn** **23 09 11.8 -1.5**
comp=Z,0.3nm,0.3s,baz=299,slow=13,SNR=5.4
KSRS Lg Lg 23 13 31.0
comp=Z,0.2nm,0.3s,baz=299,slow=28,SNR=5.2
KSRS LR LR 23 15 29.0
comp=Z,31nm,18.8s,baz=286,slow=40
TJN Taejon 14.92 108⇓ *e*P Pn 23 09 08.9 -5.6
WMQ Urumqi 16.12 283 *e*P **Pn** **23 09 29.8 -0.4**
ZEA Zeya 16.33 40 *e*P **P** **23 09 37.4 +1.7**
ZEA pmax pmax
comp=Z,12nm,1.0s
ZEA MLR MLR
comp=E,200nm,10.0s
ZEA MLR MLR
comp=Z,300nm,10.0s
USRK Ussuriysk Ar. 16.36 76 Lg Lg 23 14 11.2
baz=267,slow=27,SNR=2.1
USRK Ussuriysk Ar. 16.36 76 P **Pn** **23 09 34.6 +1.4**
USRK Ussuriysk Ar. 16.36 76 Pn **Pn** **23 09 34.6 +1.4**
KLR Kul'dur 16.84 58 Pn **Pn** **23 09 42.2 +2.9**
comp=Z,0.2nm,0.3s,baz=259,slow=12,SNR=10
KLR Lg Lg 23 14 27.4
comp=Z,0.1nm,0.3s,baz=163,slow=18,SNR=2.2
KLR LR LR 23 16 02.9
comp=Z,55nm,18.5s,baz=310,slow=37
DGZ Jazzator, Alta 17.07 303⇑ *e*P **Pn** **23 09 46.0 +3.7**
DGZ pmax pmax
comp=Z,2.0nm,0.5s
KMI Kunming 18.10 201⇑ *e*P **P** **23 10 00.3 +4.6**
KMI pP sP 23 10 03.5 +3.2
KMI pmax pmax
comp=Z,12nm,0.5s
KMI pmax pmax
comp=Z,67nm,3.5s
KMI LR LR
comp=Z,150nm,11.5s
KMI LR LR
comp=Z,230nm,11.0s
KMI LR LR
comp=Z,89nm,14.2s
JNU Nakatsue 19.10 112 LR LR 23 18 38.6
comp=Z,37nm,21.1s,baz=192,slow=41
KNMB Chin-men Tao 19.24 155 P **P** **23 10 03.3 -4.7**
KNMB IAmb IAmb 23 10 06.1
comp=Z,33nm,0.8s
MK31 Makanchi Array 19.96 292 P **P** **23 10 14.2 -1.6**
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 19.96 292 **P** **23 10 14.2 -1.6**
MKAR Makanchi Array 19.96 292 P **P** **23 10 15.7 -0.1**
comp=Z,3.4nm,0.7s,baz=96,slow=12,SNR=35
MKAR Lg Lg 23 16 24.5
comp=Z,0.5nm,0.6s,baz=94,slow=38,SNR=1.3
MKAR Makanchi Array 19.96 292 *ce*P **Pn** **23 10 23.2 +5.8**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 19.96 292 P **P** **23 10 13.8 -2.0**
ZAA0 Zalesovo Array 20.12 314 **P** **23 10 15.2 -2.2**
ZALV Zalesovo Beam 20.12 314 P **P** **23 10 17.8 +0.4**
comp=Z,0.7nm,0.5s,baz=117,slow=10,SNR=3.5
ZALV Lg Lg 23 16 16.6
comp=Z,0.4nm,0.4s,baz=124,slow=25,SNR=1.3
ZALV Zalesovo Beam 20.12 314 **P** **23 10 15.2 -2.2**
MAKZ Makanchi 20.17 292 P **P** **23 10 14.6 -3.5**
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 20.17 292 **P** **23 10 14.6 -3.5**
HKPS Hong Kong Po S 20.35 168 P **P** **23 10 19.4 -0.8**
HKPS IAmb IAmb 23 10 20.6
comp=Z,22nm,1.0s
YULB Yu-li 21.23 149 P **P** **23 10 30.5 +0.8**
YULB IAmb IAmb 23 10 35.4
comp=Z,16nm,1.3s
SHL Shillong 22.23 227 P **P** **23 10 38.8 -1.8**
SHL pmax pmax
comp=Z,7.0nm,0.9s
SHL Shillong 22.23 227 P **P** **23 10 38.8 -1.8**
SHL IAmb IAmb 23 10 49.7
comp=Z,6.6nm,0.9s
KURK Kurchatov 22.81 302⇑ *e*P **P** **23 10 47.2 +0.9**
KURK pmax pmax
comp=Z,9.0nm,1.3s
KURK Kurchatov 22.81 302 P **P** **23 10 44.0 -2.3**
KURBB Kurchatov Arra 22.85 302 P **P** **23 10 46.8 0.0**
comp=Z,5.3nm,0.9s,baz=97,slow=10,SNR=19
KURBB PcP **PcP** **23 14 37.8 +0.3**
comp=Z,0.8nm,0.7s,baz=85,slow=2.0,SNR=5.2
KURBB Lg Lg 23 17 45.9
comp=Z,0.4nm,0.7s,baz=91,slow=30,SNR=2.1
ASAJ Asahikawa 23.98 74 P **P** **23 10 57.9 -0.2**
comp=Z,2.4nm,0.4s,baz=282,slow=9.3,SNR=1.9
ASAJ Asahikawa 23.98 74 P **P** **23 10 57.9 -0.2**
ASAJ pmax pmax
comp=Z,8.0nm,1.1s
JKA Kamikawa-asahi 23.98 74 P **P** **23 10 57.9 -0.2**
JKA Kamikawa-asahi 23.98 74 IAmb IAmb 23 10 58.0
comp=Z,7.9nm,1.1s
CMAR Chiang Mai Arr 25.49 204 P **P** **23 11 12.7 +0.6**
comp=Z,1.6nm,0.6s,baz=12,slow=8.1,SNR=5.2
CMAR Chiang Mai Arr 25.49 204 P **P** **23 11 10.8 -1.3**
AAK Ala-Archa 25.83 283 P **P** **23 11 15.7 +0.5**
comp=Z,2.8nm,0.6s,baz=90,slow=5.1,SNR=5.9
AAK LR LR 23 21 49.2
comp=Z,88nm,18.9s,baz=80,slow=37
AAK Ala-Archa 25.83 283⇑ *e*P **P** **23 11 16.7 +1.6**
AAK pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 25.83 283 P **P** **23 11 13.6 -1.5**
AAK IAmb IAmb 23 11 19.4
comp=Z,5.4nm,0.9s
PBKT Sadao Pong 26.74 199 P **P** **23 11 21.4 -1.9**
BVAR Borovoye Array 28.18 306 P **P** **23 11 36.3 +0.3**
comp=Z,0.9nm,0.5s,baz=104,slow=9.8,SNR=7.3
BVAR PcP **PcP** **23 14 49.2 -0.3**
comp=Z,1.0nm,0.7s,baz=112,slow=3.5,SNR=5.7
BVAR LR LR 23 23 19.6
comp=Z,34nm,19.1s,baz=299,slow=38
BRVK Borovoye 28.25 306⇓ *e*P **P** **23 11 37.1 +0.5**
BRVK pmax pmax
comp=Z,2.0nm,1.2s
BRVK Borovoye 28.25 306 P P 23 11 35.0 -1.6
KK31 Karatay Array 28.60 285 P **P** **23 11 38.6 -1.3**
KK31 pmax pmax
comp=Z,2.0nm,0.9s
KK31 Karatay Array 28.60 285 P **P** **23 11 38.6 -1.3**
KKAR Karatay Array 28.60 285 P **P** **23 11 38.6 -1.3**
KKAR Karatay Array 28.60 285 P **P** **23 11 38.6 -1.3**
KKAR Karatay Array 28.60 285 P P 23 11 37.9 -1.9
KKAR IAmb IAmb 23 11 41.4
comp=Z,1.8nm,0.8s
BTK Batken 29.15 279 P **P** **23 11 43.5 -1.4**
BTK pmax pmax
comp=Z,6.0nm,1.5s
BTK Batken 29.15 279 P **P** **23 11 43.5 -1.4**
BTK IAmb IAmb 23 11 53.8
comp=Z,6.1nm,1.4s
NIL Nilore 29.79 265 P **P** **23 11 50.1 -0.5**
NIL pmax pmax
comp=Z,4.0nm,0.9s
NIL Nilore 29.79 265 P **P** **23 11 50.1 -0.5**
NIL IAmb IAmb 23 11 56.5
comp=Z,4.1nm,0.8s
SEY Seymchan 32.23 36⇑ *e*P P 23 12 06.8 -4.9
ABKAR Akbulak array 34.81 299 P P 23 12 32.5 -1.8
ARU Arti 35.25 311 P **P** **23 12 38.0 0.0**
comp=Z,0.8nm,0.6s,baz=109,slow=8.5,SNR=4.3
ARU Arti 35.25 311 *c i*P **P** **23 12 38.2 +0.2**
ARU 23 13 54.1
ARU S **S** **23 18 13.7 +2.3**
ARU SS **SnSn** **23 20 28.4 -0.3**
ARU pmax pmax
comp=Z,4.0nm,0.9s
ARU Arti 35.25 311 P P 23 12 35.2 -2.9
ARU IAmb IAmb 23 12 39.2
comp=Z,3.5nm,0.9s
AKTO Aktyubinsk 35.90 301 P **P** **23 12 44.2 +0.6**
comp=Z,1.0nm,0.6s,baz=135,slow=2.9,SNR=1.8
MYLDM Lahad Datu 37.83 166 P **P** **23 12 59.8 -0.5**
MYLDM IAmb IAmb 23 13 05.9
comp=Z,10nm,1.0s
GEYT Alibeck 39.16 281 P **P** **23 13 12.4 +1.0**
comp=Z,0.6nm,0.4s,baz=62,slow=6.9,SNR=4.5
GEYT Alibeck 39.16 281 P P 23 13 05.2 -6.3
GYA0B ALIBECK ARRAY 39.16 281 P P 23 13 05.0 -6.4
KSM Kuching 40.69 179 P P 23 13 19.3 -4.9
KLMR Klimovskoe 44.89 319 *e*P P 23 13 55.7 -2.2
KLMR pmax pmax
comp=Z,8.0nm,1.4s
KLMR Klimovskoe 44.89 319 *e*P P 23 13 55.7 -2.2
KLMR AMP 23 13 57.9
comp=Z,8.0nm,1.4s
MNAI Manna 46.88 189 P P 23 14 10.0 -4.0
KIV Kislovodsk 47.66 296 *e*P **P** **23 14 18.7 -1.3**
KIV pmax pmax
comp=Z,27nm,1.0s
KIV MLR MLR
comp=Z,95nm,16.0s
KIV Kislovodsk 47.66 296 P P 23 14 15.3 -4.7
OBN Obninsk 47.69 312 *e*P **P** **23 14 20.2 +0.2**
OBN *e* 23 16 13.0
OBN *e*PPP PPP 23 16 58.1
OBN pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 49.10 332 P **P** **23 14 30.7 0.0**
comp=Z,1.3nm,0.6s,baz=74,slow=8.8,SNR=8.8
ARCES ARCESS Array B 49.10 332 P **P** **23 14 30.1 -0.5**
FINES FINESS Array B 51.08 322 P **P** **23 14 46.2 +0.5**
comp=Z,3.1nm,0.5s,baz=72,slow=7.7,SNR=32
FINES FINESS Array B 51.08 322 P P 23 14 43.0 -2.7
AKASG Malin Array Be 53.40 309 P **P** **23 15 03.0 -0.2**
comp=Z,1.4nm,0.7s,baz=55,slow=7.6,SNR=6.4
AKASG Malin Array Be 53.40 309 *ce*P **P** **23 15 03.0 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 53.40 309 P **P** **23 15 02.2 -1.0**
AKBB pmax pmax
comp=Z,7.0nm,1.4s
AKBB Malin Array Si 53.40 309 P **P** **23 15 02.2 -1.0**
AKBB IAmb IAmb 23 15 09.5
comp=Z,7.3nm,1.4s
SOEI Soe 53.54 162 P **P** **23 15 02.5 -2.1**
GAZ Gaziantep 54.39 290 P **P** **23 15 09.1 -1.6**
GAZ IAmb IAmb 23 15 13.3
comp=Z,4.7nm,0.8s
COLD Coldfoot 55.44 28 P **P** **23 15 17.9 +0.2**
COLD IAmb IAmb 23 15 19.3
comp=Z,7.9nm,1.2s
PATS Pohnpei 55.55 115 P **P** **23 15 18.2 -1.0**
BR131 Keskin Array S 55.58 295 P **P** **23 15 17.8 -1.6**
BR131 pmax pmax
comp=Z,3.0nm,0.7s
BR131 Keskin Array S 55.58 295 P **P** **23 15 17.8 -1.6**
BR131 IAmb IAmb 23 15 21.0
comp=Z,3.1nm,0.7s
BRTR Keskin Array B 55.58 295 P **P** **23 15 20.2 +0.8**
comp=Z,3.1nm,0.7s,baz=79,slow=3.2,SNR=15
BRTR Keskin Array B 55.58 295 P P 23 15 17.1 -2.3
MDUB Mudurnu 56.84 297 P P 23 15 26.6 -1.7
KTH Kantishna Hill 56.93 32 P **P** **23 15 28.3 -0.2**
KTH IAmb IAmb 23 15 32.7
comp=Z,4.2nm,0.7s
BUR08 Bucovina Ar. S 57.13 307 P P 23 15 27.9 -2.4
BUR08 IAmb IAmb 23 15 38.6
comp=Z,4.6nm,1.5s
BURAR Bucovina Array 57.13 307 P **P** **23 15 29.7 -0.6**
COLA College 57.43 30 *i* P **P** **23 15 31.8 -0.1**
MLR Muntele Rosu 57.72 304 P **P** **23 15 33.2 -1.3**
MLR pmax pmax
comp=Z,9.0nm,1.5s
MLR Muntele Rosu 57.72 304 P **P** **23 15 33.2 -1.3**
MLR IAmb IAmb 23 15 36.3
comp=Z,9.0nm,1.5s
NB201 NORSAR Array S 57.74 325 P **P** **23 15 34.2 -0.1**
NB2 NORSAR Subarra 57.78 325 P **P** **23 15 33.8 -0.8**
comp=Z,2.4nm,0.8s,baz=60,slow=6.9
NOA NORSAR Array B 57.78 325 P **P** **23 15 34.0 -0.5**
comp=Z,1.8nm,0.7s,baz=60,slow=6.8,SNR=7.7
IL31 57.83 29 P **P** **23 15 33.8 -0.9**
IL31 IAmb IAmb 23 15 37.8
comp=Z,3.5nm,1.2s
ILAR Eielson Array 57.83 29 P **P** **23 15 35.0 +0.2**
comp=Z,0.9nm,0.8s,baz=288,slow=6.4,SNR=10
KOLS Kolonicke sedl 58.22 309 *e*P **P** **23 15 37.4 -0.4**
KOLS pmax pmax
comp=Z,3.0nm,1.4s
KOLS Kolonicke sedl 58.22 309 *e*P **P** **23 15 37.4 -0.4**
CRVS Cervenica-Dubn 58.70 309 *e*P **P** **23 15 41.5 +0.4**
CRVS pmax pmax
comp=Z,6.0nm,0.9s
CRVS Cervenica-Dubn 58.70 309 *e*P **P** **23 15 41.5 +0.4**
INK Inuvik 60.09 23 P **P** **23 15 50.6 +0.2**
INK pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 60.09 23 P **P** **23 15 50.6 +0.2**
BCAR Beaver Creek A 60.66 30 P **P** **23 15 54.7 +0.2**
CLL Collm 62.07 315 *e*P **P** **23 16 04.0 -0.1**
CLL Collm 62.07 315 *e*P **P** **23 16 04.0 -0.1**
WRAB Tennant Creek 66.02 155⇑ *e*P **P** **23 16 30.1 -0.3**
WRAB pmax pmax
comp=Z,4.0nm,1.0s
WRA Warramunga Arr 66.03 155 P **P** **23 16 29.8 -0.6**
comp=Z,2.0nm,0.7s,baz=344,slow=7.3,SNR=15
WRA Warramunga Arr 66.03 155 *i* P **P** **23 16 30.2 -0.2**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 66.03 155 IAmb IAmb 23 16 30.9
comp=Z,0.2nm,0.8s
ASAR Alice Springs 69.39 156 P **P** **23 16 51.5 -0.1**
comp=Z,1.3nm,0.6s,baz=343,slow=6.3,SNR=17
ASAR Alice Springs 69.39 156 P **P** **23 16 51.2 -0.4**
YKA Yellowknife Ar 69.64 20 P **P** **23 16 53.0 +0.3**
comp=Z,2.1nm,0.7s,baz=329,slow=6.2,SNR=3.4
YKA Yellowknife Ar 69.64 20 P **P** **23 16 53.0 +0.3**
ESDC Sonseca Array 78.62 314 P **P** **23 17 46.1 +0.5**
comp=Z,0.3nm,0.7s,baz=34,slow=5.4,SNR=9.4
ESDC Sonseca Array 78.62 314 IAmb IAmb 23 17 46.6
comp=Z,2.6nm,0.9s
STKA Stephens Creek 79.47 153 LR LR 23 55 41.4
comp=Z,44nm,19.0s,baz=35,slow=38
SCHQ Schefferville 83.16 358 P **P** **23 18 09.1 -0.4**
comp=Z,5.5nm,1.0s,baz=321,slow=3.1,SNR=3.2
SCHQ Schefferville 83.16 358 IAmb IAmb 23 18 11.4
comp=Z,22nm,1.4s
PDAR Pinedale Array 88.22 28 P **P** **23 18 34.4 -0.7**
comp=Z,0.1nm,0.3s,baz=280,slow=1.6,SNR=1.6
NVAR Mina Array Bea 88.54 36 P **P** **23 18 37.5 +0.8**
comp=Z,0.2nm,0.4s,baz=346,slow=3.1,SNR=3.8
TORD Torodi Ar. Bea 94.08 292 P **P** **23 19 02.0 -0.5**
comp=Z,2.6nm,1.0s,baz=12,slow=8.2,SNR=4.1
TORD Torodi Ar. Bea 94.08 292 P **P** **23 19 01.7 -0.9**
VNDA Vanda 123.79 168 PKP **PKPdf** **23 24 38.6 -1.6**
comp=Z,0.5nm,0.8s,baz=304,slow=6.3,SNR=3.7
BDFB Brasilia 147.20 318 PKPbc **PKPdf** **23 25 27.3 +2.0**
comp=Z,1.7nm,0.6s,baz=1.7,slow=7.4,SNR=3.8

SOME ***29*** *23:12:31.5,45.37N×87.92E,h0km*
NNC 29 23:12:35.9±7.2, 49.86N×87.85E, h0km, mb3.6, mpv3.2, 4C-4D, Error ellipse: s-maj=51.5km s-min=41.5km az=87.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.12**	**220**	*e*P	Pb	23 13 32.1	-0.3
	4.3nm,0.4s						
ZSN				*e*S	Sg	23 14 13.7	-2.5
	12nm,0.4s						
ZSN	**Zaisan**	**3.12**	**220**	Pg	Pb	23 13 32.4	0.0
	4.3nm,0.3s						
ZSN				Lg	Lg	23 14 14.3	
	8.9nm,0.4s						
MK31	**Makanchi Array**	**4.82**	**232**	⇓P	Pn	23 13 50.7	+1.0
	0.6nm,0.3s,baz=52,slow=15,SNR=53						
MK31				⇑S	Sn	23 14 50.5	+4.3
	0.6nm,0.3s,baz=53,slow=26,SNR=5.9						
MK31				⇑Lg	Lg	23 15 09.9	
	4.2nm,0.6s,baz=56,slow=27,SNR=3.5						
MAKZ	**Makanchi**	**4.97**	**234**	⇑P	Pn	23 13 52.5	+0.7
	0.7nm,0.4s						
MAKZ				⇓S	Sn	23 14 51.7	+1.7
	1.6nm,0.5s						
MAKZ				⇑Lg	Lg	23 15 14.6	
	4.3nm,0.7s						
KURK	**Kurchatov**	**5.98**	**282**	⇓S	Sn	23 15 14.6	-0.1
	3.1nm,1.0s						
KURK				⇓Lg	Lg	23 15 42.6	
	3.6nm,0.8s						
KAPS	**Kapalarasan**	**7.35**	**235**	*e*P	Pn	23 14 24.7	+0.2
	0.9nm,0.4s						
KAPS				*e*S	Sn	23 15 47.3	-1.3
	3.5nm,0.4s						
KAPS	**Kapalarasan**	**7.35**	**235**	Pg	Pn	23 14 25.1	+0.7
	1.4nm,0.3s						
KAPS				Lg	Lg	23 15 47.1	
	3.5nm,0.3s						

CRAAG ***29*** *23:23:18.7,36.51N×5.12E,Ml3.1*
MDD ***29*** *23:23:22.1±0.4,36.48N×5.34E,h30km,mb4.1/18,Error ellipse: s-maj=7.0km s-min=4.6km az=63.0,PRXIMO*
LDG ***29*** *23:23:25.2±0.3,36.93N×4.86E,h10km,Ml2.8/9,Error ellipse: s-maj=6.2km s-min=3.5km az=150.0*
ISC 29 23:23:19.4±1.0, 36.68N±0.05×5.26E±0.05, h10km, n62, σ3.911/91, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**0.49**	**167**	P	**Pg**	**23 23 28.5**	**-0.4**
SET	**Setif**	**0.49**	**167**	P	**Pg**	**23 23 28.5**	**-0.4**
DFRA	**Djebel Bou Aff**	**0.51**	**104**	P	**Pg**	**23 23 32.1**	**+2.7**
DFRA	**Djebel Bou Aff**	**0.51**	**104**	P	**Pg**	**23 23 32.1**	**+2.7**
CKHR	**Kef el Ahmar**	**0.69**	**163**	P	**Pg**	**23 23 32.3**	**-0.4**
CKHR	**Kef el Ahmar**	**0.69**	**163**	P	**Pg**	**23 23 32.3**	**-0.4**
CASM	**Ain Smara**	**1.07**	**112**	P	**Pg**	**23 23 42.8**	**+2.8**
CASM	**Ain Smara**	**1.07**	**112**	P	**Pg**	**23 23 42.8**	**+2.8**
AKET	**Djebel Ketaf**	**1.28**	**241**	P	**Pn**	**23 23 42.7**	**-0.7**
AKET	**Djebel Ketaf**	**1.28**	**241**	P	**Pn**	**23 23 42.7**	**-0.7**
CAEH	**'Ain El Ouahch**	**1.28**	**85**	P	**Pg**	**23 23 47.0**	**+3.0**
CAEH	**'Ain El Ouahch**	**1.28**	**85**	P	**Pg**	**23 23 47.0**	**+3.0**
ETOS	**Mallorca**	**3.64**	**329**	P	**Pn**	**23 24 18.5**	**+2.7**
	12nm,0.2s,SNR=36						
ETOS				S	**Sn**	**23 24 59.9**	**+1.1**
	46nm,1.2s						
EIBI	**Ibiza**	**3.89**	**308**	P	**Pn**	**23 24 21.6**	**+2.4**
	2.8nm,0.2s,SNR=6.3						
EIBI				S	**Sn**	**23 25 05.9**	**+1.0**
	20nm,0.9s						
EBEN2	**Beniarda presa**	**4.76**	**296**	P	**Pn**	**23 24 32.3**	**+1.1**
	3.3nm,0.1s,SNR=7.9						
EBEN2				S	**Sn**	**23 25 26.4**	**-0.1**
	0.4nm,0.1s,SNR=7.9						
AFON	**Font Roja**	**5.01**	**295**	P	**Pn**	**23 24 36.0**	**+1.3**
	2.6nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**5.32**	**285**	P	**Pn**	**23 24 41.0**	**+2.1**
	2.2nm,0.3s,SNR=7.7						
CFON	**Fontmartina**	**5.53**	**338**	P	**Pn**	**23 24 43.4**	**+1.5**
	2.8nm,0.2s,SNR=12						
CFON				S	**Sn**	**23 25 44.3**	**-1.3**
	8.9nm,1.1s						
EPOB	**Poblet**	**5.69**	**326**	P	**Pn**	**23 24 46.3**	**+2.2**
	2.7nm,0.2s,SNR=14						
EPOB				S	**Sn**	**23 25 47.4**	**-2.1**
	0.3nm,0.1s						
ECHE	**Chera**	**5.71**	**303**	P	**Pn**	**23 24 46.9**	**+2.7**
	3.6nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.75**	**292**	P	**Pn**	**23 24 46.8**	**+2.0**
	1.6nm,0.2s,SNR=13						
ETOB				S	**Sn**	**23 25 49.5**	**-1.3**
	0.4nm,0.4s						
ERTA	**Horta de San J**	**5.75**	**320**	P	**Pn**	**23 24 46.9**	**+2.1**
	0.4nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**5.81**	**311**	P	**Pn**	**23 24 48.0**	**+2.2**
	0.5nm,0.2s,SNR=7.9						
EMOS				S	**Sn**	**23 25 50.6**	**-2.0**
	0.2nm,0.2s,SNR=4.0						
EJON	**La Jonquera**	**6.05**	**343**	P	**Pn**	**23 24 50.6**	**+1.7**
	1.4nm,0.3s,SNR=7.9						
EJON				S	**Sn**	**23 25 56.2**	**-2.0**
	0.5nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**6.09**	**343**	P	**Pn**	**23 24 51.7**	**+2.3**
	0.2nm,0.1s,SNR=7.9						
SJAF				S	**Sn**	**23 25 58.5**	**-0.6**
	0.0nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**6.33**	**337**	P	**Pn**	**23 24 55.3**	**+2.4**
	0.5nm,0.1s,SNR=6.4						
CLLI				S	**Sn**	**23 26 03.5**	**-1.7**
	1.4nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**6.38**	**285**	P	**Pn**	**23 24 56.7**	**+3.1**
	2.1nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**23 26 07.7**	**+1.2**
	1.2nm,0.3s,SNR=7.9						
CSOR	**Sort**	**6.53**	**332**	P	**Pn**	**23 24 59.1**	**+3.5**
	1.5nm,0.2s,SNR=12						
CSOR				S	**Sn**	**23 26 08.9**	**-1.2**
	0.6nm,0.4s,SNR=7.9						
PGF	**Pioggiola**	**6.54**	**25**	*e*Pn	**Pn**	**23 24 57.8**	**+2.1**
PGF				*e*Sn	**Sn**	**23 26 06.6**	**-3.7**
	1.1nm,0.3s						
PGF	**Pioggiola**	**6.54**	**25**	P	**Pn**	**23 24 57.8**	**+2.1**
PGF				S	**Sn**	**23 26 06.6**	**-3.7**
	0.6nm,0.3s						
EBER	**Berja**	**6.54**	**274**	P	**Pn**	**23 24 56.0**	**+0.1**
	0.9nm,0.3s,SNR=7.9						
LMR	**La Mourre**	**6.72**	**8**	*e*Pn	**Pn**	**23 24 59.3**	**+1.2**
LMR				*e*Sn	**Sn**	**23 26 11.0**	**-3.6**
	1.5nm,0.2s						
LMR	**La Mourre**	**6.72**	**8**	P	**Pn**	**23 24 59.3**	**+1.2**
LMR				S	**Sn**	**23 26 11.0**	**-3.6**
	0.8nm,0.2s						
EQES	**Quesada**	**6.74**	**282**	P	**Pn**	**23 25 01.3**	**+2.8**
	1.9nm,0.2s,SNR=16						
EQES				S	**Sn**	**23 26 15.8**	**+0.4**
	2.4nm,0.6s,SNR=7.9						
FRF	**La Foret Royal**	**6.96**	**8**	*e*Pn	**Pn**	**23 25 02.3**	**+0.9**
FRF				*e*Sn	**Sn**	**23 26 16.0**	**-4.6**
	1.7nm,0.3s						
FRF	**La Foret Royal**	**6.96**	**8**	P	**Pn**	**23 25 02.3**	**+0.9**
FRF				S	**Sn**	**23 26 16.0**	**-4.6**
	0.9nm,0.3s						
MTLF	**Montolieu**	**7.05**	**342**	*e*Pn	**Pn**	**23 25 01.6**	**-1.1**
MTLF				*e*Sn	**Sn**	**23 26 14.8**	**-8.1**
	0.8nm,0.4s						
MTLF	**Montolieu**	**7.05**	**342**	P	**Pn**	**23 25 01.6**	**-1.1**
MTLF				S	**Sn**	**23 26 14.8**	**-8.1**
	0.4nm,0.4s						
SMRF	**Simiane la Rot**	**7.30**	**2**	*e*Pn	**Pn**	**23 25 06.0**	**0.0**
SMRF				*e*Sn	**Sn**	**23 26 23.3**	**-5.6**
SMRF	**Simiane la Rot**	**7.30**	**2**	P	**Pn**	**23 25 06.0**	**0.0**
SMRF				S	**Sn**	**23 26 23.3**	**-5.6**
SBF	**Sospel**	**7.37**	**12**	*e*Pn	**Pn**	**23 25 08.3**	**+1.2**
SBF				*e*Sn	**Sn**	**23 26 26.8**	**-4.0**
SBF	**Sospel**	**7.37**	**12**	P	**Pn**	**23 25 08.3**	**+1.2**
SBF				S	**Sn**	**23 26 26.8**	**-4.0**
EPF	**Esparros**	**7.39**	**331**	*e*Pn	**Pn**	**23 25 06.7**	**-0.6**
EPF	**Esparros**	**7.39**	**331**	*e*P	**Pn**	**23 25 11.1**	**+3.8**
EPF				*e*Sn	Sn	23 26 21.5	-10
	1.4nm,0.4s						
EPF	**Esparros**	**7.39**	**331**	P	**Pn**	**23 25 06.7**	**-0.6**
EPF				S	Sn	23 26 21.5	-10
	0.7nm,0.4s						
LASF	**Ste Croix**	**7.47**	**352**	*e*Pn	**Pn**	**23 25 07.9**	**-0.5**
LASF	**Ste Croix**	**7.47**	**352**	*e*P	**Pn**	**23 25 13.0**	**+4.6**

LASF				*e*Sn		**Sn**	**23 26 26.0**	**-7.2**
	1.0nm,0.4s							
LASF	**Ste Croix**	**7.47**	**352**	P		**Pn**	**23 25 07.9**	**-0.5**
LASF				S		**Sn**	**23 26 26.0**	**-7.2**
	0.5nm,0.4s							
ETSF	**Etsaut**	**7.66**	**326**	*e*P		**Pn**	**23 25 14.0**	**+2.9**
ETSF				*e*Sn		Sn	23 26 28.6	-9.3
	1.2nm,0.4s							
ETSF	**Etsaut**	**7.66**	**326**	P		**Pn**	**23 25 14.0**	**+2.9**
ETSF				S		Sn	23 26 28.6	-9.3
	0.6nm,0.4s							
MBDF	**Montbardon**	**8.12**	**8**	*e*Pn		**Pn**	**23 25 19.0**	**+1.5**
MBDF	**Montbardon**	**8.12**	**8**	P		**Pn**	**23 25 19.0**	**+1.5**
SJPF	**Ste Jean**	**8.13**	**324**	*e*P		**Pn**	**23 25 20.5**	**+3.0**
SJPF				*e*Sn		Sn	23 26 38.1	-11
SJPF	**Ste Jean**	**8.13**	**324**	P		**Pn**	**23 25 20.5**	**+3.0**
SJPF				S		Sn	23 26 38.1	-11
VIVF	**Saint-Julien-l**	**8.19**	**357**	*e*Pn		**Pn**	**23 25 19.7**	**+1.5**
VIVF				*e*Sn		**Sn**	**23 26 42.8**	**-8.0**
	0.6nm,0.3s							
VIVF	**Saint-Julien-l**	**8.19**	**357**	P		**Pn**	**23 25 19.7**	**+1.5**
VIVF				S		**Sn**	**23 26 42.8**	**-8.0**
	0.3nm,0.3s							
CAF	**Calviac**	**8.59**	**345**	*e*Pn		**Pn**	**23 25 22.9**	**-0.9**
CAF	**Calviac**	**8.59**	**345**	P		**Pn**	**23 25 22.9**	**-0.9**
LPL	**La Plagne**	**8.90**	**7**	*e*Pn		**Pn**	**23 25 29.0**	**+0.8**
LPL	**La Plagne**	**8.90**	**7**	P		**Pn**	**23 25 29.0**	**+0.8**
LFF	**La Frestale**	**8.94**	**339**	*e*P		**Pn**	**23 25 32.5**	**+4.0**
LFF	**La Frestale**	**8.94**	**339**	P		**Pn**	**23 25 32.5**	**+4.0**

*NEIC **29** 23:28:46.0±1.9, 17°.64N±0°.07×95°.15W±0°.07, h123km±10km, Error ellipse: s-maj=11.3km s-min=8.9km az=207.0*
*MEX **29** 23:28:47.3±0.6, 17°.59N×95°.21W, h127km±4km, MD4.3*
ISC 29 23:28:45.4±0.7, **17°.56N**±0°.07×**95°.20W**±0°.03, **h129**km±8km, **n82**, σ0**84**/91, **mb4.2**/17, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.56**	**147**	*i* P	**Pn**	**23 29 05.1**	**+0.4**
CMIG				*i* S	**Sn**	**23 29 18.8**	**-0.5**
CMIG	**Matias Romero**	**0.56**	**147**		**Pn**	**23 29 05.1**	**+0.4**
CMIG					**Sn**	**23 29 18.7**	**-0.5**
OXBJ	**Oaxaca**	**1.54**	**251**	*i* P	**Pn**	**23 29 14.4**	**+0.4**
OXBJ				*i* S	**Sn**	**23 29 35.3**	**-0.5**
HUIG	**Huatulco**	**1.99**	**206**	*e*P	**Pn**	**23 29 18.6**	**-0.5**
HUIG				*i* S	**Sn**	**23 29 44.8**	**-0.2**
TGBT	**Tuxtla Gutierr**	**2.16**	**111**	*e*P	**Pn**	**23 29 22.2**	**+0.8**
TGBT				*i* S	**Sn**	**23 29 48.7**	**-0.1**
PEIG	**Puerto Escondi**	**2.43**	**230**	*e*P	**Pn**	**23 29 25.3**	**+0.6**
PEIG				*i* S	**Sn**	**23 29 55.9**	**+1.0**
TXIG	**Tlaxiaco**	**2.47**	**263**	*i* P	**Pn**	**23 29 26.4**	**+1.0**
TXIG				*i* S	**Sn**	**23 29 56.6**	**+0.4**
PCIG		**2.65**	**134**	*e*P	**Pn**	**23 29 28.2**	**+0.7**
PCIG				*i* S	**Sn**	**23 30 00.9**	**+1.0**
PNIG	**Pinotepa**	**3.03**	**248**	*e*P	**Pn**	**23 29 31.3**	**-1.2**
PNIG				*i* S	**Sn**	**23 30 06.4**	**-2.3**
CCIG	**Comitan**	**3.20**	**113**	*e*P	**Pn**	**23 29 34.7**	**-0.1**
CCIG				*e*S	**Sn**	**23 30 11.5**	**-1.3**
CCIG	**Comitan**	**3.20**	**113**		**Pn**	**23 29 35.5**	**+0.8**
CCIG				Sn	**Sn**	**23 30 11.1**	**-1.7**
HMTT	**Tlapaneco**	**3.21**	**275**	*e*P	**Pn**	**23 29 36.5**	**+1.7**
HMTT				*i* S	**Sn**	**23 30 13.4**	**+0.4**
TLIG	**Tlapa**	**3.21**	**270**		**Pn**	**23 29 36.2**	**+1.3**
TLIG				Sn	**Sn**	**23 30 12.7**	**-0.4**
THIG		**3.86**	**133**	*i* S	**Sn**	**23 30 29.8**	**+1.6**
TEIG	**Tepich**	**7.07**	**67**	Pn	**Pn**	**23 30 25.0**	**-1.3**
ABTX	**Abilene, Hawle**	**15.52**	**346**	Pn	**P**	**23 32 17.9**	**-1.0**
Z41A	**Richland Creek**	**15.78**	**7**	Pn	**Pn**	**23 32 20.1**	**-0.3**
Z41A				IAmb	IAmb	23 32 24.8	
	comp=Z,7.7nm,0.8s						
MTDJ	**Mount Denham**	**16.83**	**85**	Pn	**P**	**23 32 32.9**	**-0.7**
X37A	**Clayton**	**16.96**	**360**	P	**Pn**	**23 32 35.3**	**+0.4**
MIAR	**Mount Ida**	**16.97**	**5**	P	**Pn**	**23 32 35.9**	**+0.8**
Y45A	**Yeager Farm, C**	**17.01**	**16**	P	**Pn**	**23 32 36.1**	**+0.7**
Y45A				IAmb	IAmb	23 32 43.5	
	comp=Z,9.8nm,0.6s						
LRAL	**Lakeview Retre**	**17.08**	**24**	P	**P**	**23 32 33.9**	**-2.2**
BCIP	**Isla Barro Col**	**17.11**	**117**	P	**Pn**	**23 32 38.0**	**+1.2**
BCIP				IAmb	IAmb	23 32 45.6	
	comp=Z,19nm,1.1s						
UALR	**University of**	**17.33**	**8**	P	**Pn**	**23 32 39.5**	**+0.2**
UALR				IAmb	IAmb	23 32 42.6	
	comp=Z,7.2nm,0.7s						
WMOK	**Wichita Mounta**	**17.40**	**350**	P	**Pn**	**23 32 40.2**	**0.0**
BCOK	**Bluff Creek, N**	**18.15**	**354**	P	**Pn**	**23 32 48.7**	**-0.5**
W45A	**Hickory Valley**	**18.32**	**16**	P	**Pn**	**23 32 51.0**	**-0.2**
W45A				IAmb	IAmb	23 32 57.4	
	comp=Z,12nm,0.9s						
FCAR	**Ozark Folk Cen**	**18.46**	**8**	P	**Pn**	**23 32 52.5**	**-0.3**
FCAR				IAmb	IAmb	23 32 53.5	
	comp=Z,4.3nm,0.6s						
PLAL	**Pickwick Lake**	**18.47**	**19**	P	**P**	**23 32 51.5**	**+0.2**
QUOK	**Quay**	**18.58**	**356**	P	**Pn**	**23 32 53.6**	**-0.7**
HHAR	**Hobbs**	**18.68**	**3**	P	**Pn**	**23 32 54.9**	**-0.5**
LCAR	**Lake Charles**	**18.78**	**10**	P	**P**	**23 32 55.5**	**+0.9**
LCAR				IAmb	IAmb	23 32 56.0	
	comp=Z,4.0nm,0.6s						
U38A	**Gravette**	**18.82**	**2**	P	**Pn**	**23 32 56.4**	**-0.7**
U38A				IAmb	IAmb	23 32 57.6	
	comp=Z,4.2nm,0.7s						
U40A	**Yellville**	**18.83**	**6**	P	**Pn**	**23 32 56.3**	**-0.9**
T35A	**Sooner Cattle**	**19.31**	**357**	P	**Pn**	**23 33 01.5**	**-1.3**
T35A				IAmb	IAmb	23 33 02.0	
	comp=Z,12nm,0.8s						
GLAT	**Glass**	**19.35**	**15**	P	**P**	**23 33 01.5**	**+0.6**
SWET	**Sewanee**	**19.42**	**23**	P	**P**	**23 33 02.5**	**+0.9**
KAN13	**South Haven SW**	**19.48**	**355**	P	**P**	**23 33 02.2**	**-0.1**
V48A	**Smith Brothers**	**19.57**	**21**	P	**P**	**23 33 04.3**	**+1.0**
LENM	**Lemitar**	**19.61**	**330**	P	**Pn**	**23 33 05.7**	**-0.8**
WVT	**Waverly**	**19.61**	**18**	P	**P**	**23 33 03.7**	**+0.1**
WVT				IAmb	IAmb	23 33 08.0	
	comp=Z,4.2nm,0.6s						
T42A	**Van Buren**	**19.73**	**10**	P	**P**	**23 33 05.6**	**+0.7**
T42A				IAmb	IAmb	23 33 09.5	
	comp=Z,8.4nm,0.6s						
Z56A	**Williston**	**20.02**	**36**	P	**P**	**23 33 07.7**	**-0.5**
S39A	**Bolivar**	**20.12**	**4**	P	**P**	**23 33 10.4**	**+1.3**
S39A				IAmb	IAmb	23 33 10.8	
	comp=Z,3.4nm,0.7s						
HODGE	**Hodges**	**20.24**	**32**	P	**P**	**23 33 10.0**	**-0.5**
HODGE				IAmb	IAmb	23 33 10.4	
	comp=Z,5.9nm,0.7s						
T47A	**Sharon Grove**	**20.62**	**19**	P	**P**	**23 33 14.3**	**-0.2**
U49A	**Red Boiling Sp**	**20.63**	**22**	P	**P**	**23 33 13.2**	**-1.5**
U49A				IAmb	IAmb	23 33 17.8	
	comp=Z,11nm,0.6s						
CCM	**Cathedral Cave**	**20.71**	**9**	P	**P**	**23 33 16.1**	**+0.7**
CCM				IAmb	IAmb	23 33 21.9	
	comp=Z,4.4nm,0.7s						
S44A	**Carbondale**	**20.72**	**13**	P	**P**	**23 33 16.6**	**+1.0**
FVM	**French Village**	**20.77**	**11**	P	**P**	**23 33 16.0**	**-0.1**
FVM				IAmb	IAmb	23 33 21.0	
	comp=Z,3.6nm,0.7s						
JSC	**Jenkinsville**	**20.80**	**34**	P	**P**	**23 33 16.1**	**-0.4**
R40A	**Maddies Statio**	**20.81**	**7**	P	**P**	**23 33 17.3**	**+0.8**
V52A	**Sevierville**	**20.92**	**27**	P	**P**	**23 33 16.7**	**-1.1**
V52A				IAmb	IAmb	23 33 20.4	
	comp=Z,5.9nm,0.5s						
PAULI	**Pauline**	**20.93**	**32**	P	**P**	**23 33 17.4**	**-0.5**
V53A	**Saluda**	**21.12**	**29**	P	**P**	**23 33 20.5**	**+0.4**
T50A	**Nancy**	**21.43**	**23**	P	**P**	**23 33 24.1**	**+0.8**
SLM	**Saint Louis**	**21.44**	**11**	P	**P**	**23 33 22.6**	**-0.7**
Q44A	**Meyer Farm, Va**	**21.93**	**13**	P	**P**	**23 33 28.4**	**-0.2**
OLIL	**Olney**	**21.98**	**15**	P	**P**	**23 33 29.1**	**+0.1**
OLIL				IAmb	IAmb	23 33 30.1	
	comp=Z,16nm,0.9s						
WCI	**Wyandotte Cave**	**22.02**	**19**	P	**P**	**23 33 28.8**	**-0.6**
WCI				IAmb	IAmb	23 33 31.4	
	comp=Z,10.0nm,0.8s						
W57A	**Gilead**	**22.14**	**35**	P	**P**	**23 33 30.4**	**-0.3**
W57A				IAmb	IAmb	23 33 31.6	
	comp=Z,6.9nm,0.9s						
SFX	**San Felipe**	**22.33**	**311**	P	**P**	**23 33 33.8**	**+1.2**
SFX				IAmb	IAmb	23 33 37.8	
	comp=Z,7.4nm,1.0s						
R49A	**Shelbyville**	**22.44**	**21**	P	**P**	**23 33 34.1**	**+0.4**
R49A				IAmb	IAmb	23 33 34.8	
	comp=Z,5.1nm,0.8s						
P43A	**Skaggs, Pawnee**	**22.54**	**11**	P	**P**	**23 33 34.8**	**+0.1**
P43A				IAmb	IAmb	23 33 36.6	
	comp=Z,9.4nm,0.9s						
BLO	**Bloomington**	**22.82**	**18**	P	**P**	**23 33 37.3**	**0.0**
P46A	**Rosedale**	**23.05**	**16**	IAmb	IAmb	23 33 40.2	
	comp=Z,10nm,0.8s						
V58A	**Windy Hill, Pi**	**23.10**	**35**	IAmb	IAmb	23 33 40.8	
	comp=Z,8.4nm,0.8s						
O44A	**Mansfield**	**23.25**	**13**	P	**P**	**23 33 40.7**	**-0.6**
O44A				IAmb	IAmb	23 33 41.5	
	comp=Z,13nm,1.1s						
P48A	**Milroy**	**23.41**	**19**	IAmb	IAmb	23 33 43.0	
	comp=Z,8.6nm,0.6s						
HDIL	**Hopedale**	**23.47**	**11**	P	**P**	**23 33 42.6**	**-0.8**
HDIL				IAmb	IAmb	23 33 44.1	
	comp=Z,11nm,0.8s						
R55A	**Marlinton**	**24.50**	**30**	IAmb	IAmb	23 33 54.2	
	comp=Z,5.6nm,0.6s						
L40A	**Anamosa**	**24.65**	**7**	P	**P**	**23 33 54.8**	**+0.7**
L40A				IAmb	IAmb	23 33 59.0	
	comp=Z,5.6nm,0.8s						
S57A	**Dark Hollow, R**	**24.66**	**32**	P	**P**	**23 33 54.3**	**+0.1**
ACSO	**Alum Creek Sta**	**24.94**	**23**	P	**P**	**23 33 57.5**	**+0.8**
ACSO				IAmb	IAmb	23 34 00.0	
	comp=Z,7.1nm,0.8s						
CCUT	**Cedar City**	**25.52**	**325**		**P**	**23 34 01.3**	**-0.9**
Q56A	**Snyder Ridge,**	**25.55**	**30**	P	**P**	**23 34 02.5**	**+0.3**
Q56A				IAmb	IAmb	23 34 03.2	
	comp=Z,3.2nm,0.8s						
JFWS	**Jewell Farm**	**25.62**	**8**	P	**P**	**23 34 02.8**	**0.0**
O53A	**New Philadelph**	**25.64**	**25**	P	**P**	**23 34 02.6**	**-0.4**
O53A				IAmb	IAmb	23 34 04.0	
	comp=Z,15nm,1.1s						
M50A	**Fremont**	**25.95**	**21**	P	**P**	**23 34 05.1**	**-0.7**
MWC	**Mount Wilson**	**26.32**	**313**	P	**P**	**23 34 10.1**	**+0.6**
J59A	**Piesco**	**31.20**	**30**	P	**P**	**23 34 52.0**	**-0.4**
J59A				IAmb	IAmb	23 34 58.4	
	comp=Z,2.4nm,1.1s						
PLVO	**Plevna**	**31.32**	**25**	P	**P**	**23 34 52.3**	**-1.1**

*IDC **29** 23:30:39.0±1.1, 55°.58S×29°.29W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/15, mbtmp3.9/3, Error ellipse: s-maj=47.7km s-min=35.0km az=76.0*
*NEIC **29** 23:30:39.4±2.1, 55°.72S±0°.07×29°.6W±0°.2, h10km±1km, mb4.4/15, Error ellipse: s-maj=22.7km s-min=5.3km az=63.0*
ISC 29 23:30:42.7±0.8, **55°.7S**±0°.1×**29°.8W**±0°.1, **h28**km, **n29**, σ1**24**/27, **mb4.3**/9, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.13**	**287**	Pn	**Pn**	**23 31 45.0**	**+1.2**
HOPE				Sn	**Sn**	**23 32 29.8**	**-1.3**
VNA1	**Neumayer--Stat**	**17.69**	**156**	P	**P**	**23 34 48.0**	**+0.6**
VNA3	**Neumayer Olymp**	**17.84**	**159**	P	**P**	**23 34 49.5**	**+0.5**
SNAA	**Sanae**	**19.68**	**155**	P	**P**	**23 35 09.0**	**-0.3**
SNAA	**Sanae**	**19.68**	**155**	P	**P**	**23 35 08.6**	**-0.6**
BELA	**Belgrano 2**	**22.36**	**183**	P	**P**	**23 35 34.8**	**-3.2**
GO04	**Tololo Observa**	**38.55**	**294**	P	**P**	**23 38 03.2**	**+0.1**
GO04				IAmb	IAmb	23 38 17.9	
	comp=Z,5.3nm,0.8s						
AC05	**El Transito**	**39.36**	**296**	P	**P**	**23 38 09.3**	**-0.4**
AC05				IAmb	IAmb	23 38 12.4	
	comp=Z,6.2nm,0.9s						
LCO	**Las Campanas**	**39.44**	**295**	P	**P**	**23 38 09.1**	**-1.4**
AC01	**Pan de Azucar**	**41.73**	**298**	P	**P**	**23 38 29.6**	**+0.4**
GO02	**Mina Guanaco**	**42.05**	**300**	P	**P**	**23 38 31.5**	**-0.6**
GO02				IAmb	IAmb	23 38 34.8	
	comp=Z,5.5nm,0.8s						
PB08	**IPOC Station P**	**46.11**	**304**	P	**P**	**23 39 03.6**	**-1.1**
TA01	**Diego Aracena**	**46.23**	**303**	P	**P**	**23 39 02.9**	**-2.4**
GO01	**Chusmiza**	**46.54**	**304**	P	**P**	**23 39 08.6**	**+0.3**
PB11	**IPOC Station P**	**46.67**	**304**	P	**P**	**23 39 08.8**	**-0.2**
PB11				IAmb	IAmb	23 39 11.7	
	comp=Z,5.5nm,0.9s						
VNDA	**Vanda**	**46.86**	**183**	P	**P**	**23 39 11.7**	**+2.1**
	comp=Z,0.6nm,0.8s,baz=176,slow=6.6,SNR=3.8						
MNMC	**Minye Minye**	**47.19**	**304**	P	**P**	**23 39 13.4**	**+0.2**
MNMC				IAmb	IAmb	23 39 16.3	
	comp=Z,4.3nm,0.8s						
LPAZ	**La Paz**	**49.00**	**308**	P	**P**	**23 39 29.4**	**+1.9**
	comp=Z,1.5nm,0.5s,baz=187,slow=5.9,SNR=8.1						
LPAZ	**La Paz**	**49.00**	**308**	P	**P**	**23 39 27.9**	**+0.4**
LPAZ				IAmb	IAmb	23 39 33.9	
	comp=Z,3.1nm,0.9s						
H10N1	**ASCENSION HYDR**	**49.23**	**20**	T	T	00 32 24.9	
	baz=194						
H10N3	**ASCENSION HYDR**	**49.23**	**20**	T	T	00 32 19.1	
	baz=194,slow=74						
H10N2	**ASCENSION HYDR**	**49.24**	**20**	T	T	00 32 24.6	
	baz=194,slow=74						
TOA0	**Torodi Ar. Sit**	**73.48**	**32**	P	**P**	**23 42 11.8**	**-0.6**
TOA0				IAmb	IAmb	23 42 18.7	
	comp=Z,2.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**73.48**	**32**	P	**P**	**23 42 13.0**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=193,slow=5.6,SNR=3.8						
PLWZ	**Palliser**	**80.81**	**199**	P	**P**	**23 42 54.7**	**+1.1**
BSWZ	**Blackbirch Sta**	**80.92**	**198**	P	**P**	**23 42 54.2**	**+0.2**
ILAR	**Eielson Array**	**148.80**	**313**	PKPbc	**PKPbc**	**23 50 25.8**	**-0.2**
	comp=Z,2.2nm,0.9s,baz=132,slow=1.4,SNR=14						
ILAR	**Eielson Array**	**148.80**	**313**		**PKPbc**	**23 50 25.2**	**-0.7**
SONM	**Songino Array**	**152.15**	**88**	PKPbc	**PKPbc**	**23 50 33.5**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=228,slow=3.7,SNR=2.2						

*JMA **29** 23:31:58.2±0.1, 24°.94N×122°.05E, h45km±3km, M2.4*
*TAP **29** 23:31:58.2, 24°.87N×122°.09E, h10km, ML2.6, B*
ISC 29 23:31:58.2±0.9, **24°.90N**±0°.03×**122°.12E**±0°.02, **h12**km±7km, **n49**, σ0**53**/66, **6C**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.16**	**313**	*i* P	**Pg**	**23 32 02.3**	**+0.4**
	baz=331						
TWB1				*i* S	**Sg**	**23 32 04.9**	**+0.4**
	baz=331						
EGS		**0.18**	**253**	⇑ *i* P	**Pg**	**23 32 02.0**	**-0.1**
	baz=257						
EGS				*i* S	**Sg**	**23 32 04.4**	**-0.5**
	baz=257						
NTC	**Toucheng**	**0.27**	**261**	⇑ P	**Pg**	**23 32 03.6**	**0.0**
	baz=276						
NTC				*e*S	**Sg**	**23 32 07.3**	**-0.1**
	baz=276						
TIPB	**Shuangxi**	**0.28**	**286**	⇑ *i* P	**Pg**	**23 32 04.2**	**+0.3**
	baz=294						
TIPB				S	**Sg**	**23 32 07.9**	**+0.2**
	baz=294						
NWF	**Wu-fen Shan**	**0.35**	**300**	⇑ *i* P	**Pb**	**23 32 05.9**	**-0.5**
	baz=299						
NWF				S	**Sb**	**23 32 11.3**	**-0.7**
	baz=299						
WFSB	**Wu-fen Shan**	**0.35**	**300**	⇑ P	**Pb**	**23 32 05.9**	**-0.4**
	baz=298						
WFSB				S	**Sb**	**23 32 11.4**	**-0.5**
	baz=298						
TWC	**Suao**	**0.38**	**221**	*e*P	**Pg**	**23 32 05.4**	**-0.3**
	baz=215						
TWE	**Neicheng**	**0.45**	**247**	*e*P	**Pg**	**23 32 06.6**	**-0.4**
	baz=246						
TWA	**Mucha**	**0.49**	**280**	*e*P	**Pg**	**23 32 08.1**	**+0.3**
	baz=283						
ENAH	**Nanao**	**0.53**	**212**	*e*P	**Pg**	**23 32 08.2**	**-0.3**
	baz=202						
ENTT	**Nioudou**	**0.56**	**243**	*e*P	**Pg**	**23 32 09.2**	**0.0**
	baz=242						
NWLT	**Wulai**	**0.57**	**258**	*e*P	**Pg**	**23 32 09.4**	**0.0**
	baz=260						
TATO	**Taipei**	**0.58**	**278**	*e*P	**Pb**	**23 32 10.2**	**0.0**
	baz=273						
ENA	**Nanau**	**0.58**	**216**	*e*P	**Pg**	**23 32 09.5**	**+0.1**
	baz=203						
NDT	**Datong Townshi**	**0.62**	**242**	*e*P	**Pg**	**23 32 10.4**	**+0.1**
	baz=233						
YHNB	**Yeheng**	**0.71**	**252**	*e*P	**Pg**	**23 32 11.4**	**-0.6**
	baz=261						
NSK	**Sanguang**	**0.73**	**253**	*e*P	**Pg**	**23 32 11.9**	**-0.3**
	baz=261						
PCYT	**Pengchaiyu**	**0.73**	**357**	*e*P	**Pn**	**23 32 14.0**	**-0.4**
	baz=346						
NNSB	**Datong**	**0.82**	**235**	*e*P	**Pg**	**23 32 14.1**	**+0.1**
	baz=239						
NNSH	**Datong**	**0.82**	**235**	*e*P	**Pg**	**23 32 13.9**	**-0.1**
	baz=247						
NNS	**Nan Shan**	**0.82**	**236**	*e*P	**Pg**	**23 32 13.7**	**-0.2**
	baz=234						
NACB	**Ninganchiao**	**0.86**	**214**	P	**Pg**	**23 32 14.4**	**-0.4**
	baz=201						
NACB				*e*S	**Sg**	**23 32 25.3**	**-0.8**
	baz=201						
JYNG	**Yonagunijimaku**	**0.87**	**120**	P	**Pg**	**23 32 15.3**	**+0.3**
JYNG				*e*S	**Sb**	**23 32 27.3**	**+0.4**
ETLH	**Xiulin Townshi**	**0.90**	**220**	*e*P	**Pb**	**23 32 15.7**	**0.0**
	baz=216						
YOJ	**Yonaguni jima**	**0.92**	**118**	P	**Pb**	**23 32 16.5**	**+0.4**
	baz=114						
YOJ				*e*S	**Sb**	**23 32 28.6**	**+0.3**
	baz=114						
YOJ	**Yonaguni jima**	**0.92**	**118**	P	**Pg**	**23 32 15.9**	**0.0**
YOJ				S	**Sb**	**23 32 28.5**	**+0.3**
FUSS	**Fushou**	**1.03**	**231**	*e*P	**Pg**	**23 32 17.9**	**-0.1**
	baz=218						
LIOB	**Emei**	**1.03**	**256**	*e*P	**Pn**	**23 32 19.4**	**+0.9**
	baz=256						
NSTT	**Nanjuang**	**1.05**	**256**	*e*P	**Pn**	**23 32 19.9**	**+1.1**
	baz=255						
TWT	**Tachien**	**1.07**	**233**	*e*P	**Pn**	**23 32 19.8**	**+0.6**
	baz=223						
WHF	**Hehuan Shan**	**1.08**	**226**	P	**Pg**	**23 32 18.7**	**-0.3**
	baz=221						
WHF				S	**Sg**	**23 32 32.7**	**-0.5**
	baz=221						
TDCB	**Techi**	**1.08**	**234**	*e*P	**Pb**	**23 32 18.9**	**0.0**
	baz=223						
CHGB	**Renai**	**1.20**	**226**	*e*P	**Pb**	**23 32 20.4**	**-0.5**
	baz=221						
CHGB				*e*S	**Sn**	**23 32 37.8**	**+0.5**
	baz=221						
WHP	**Taichung City**	**1.23**	**240**	*e*P	**Pg**	**23 32 23.1**	**+1.2**
	baz=245						
VWDT	**VWDT**	**1.45**	**218**	*e*P	**Pb**	**23 32 24.7**	**-0.3**
	baz=221						
VWDT				*e*S	**Sg**	**23 32 44.1**	**-0.6**
	baz=221						
SMLT	**Sun Moon Lake**	**1.50**	**228**	*e*P	**Pg**	**23 32 27.8**	**+0.8**
	baz=223						
TYC	**Yuchr**	**1.52**	**230**	*e*P	**Pb**	**23 32 26.1**	**-0.1**
	baz=215						
SSLB	**Suanglung**	**1.53**	**224**	*e*P	**Pb**	**23 32 26.6**	**+0.1**
	baz=219						
HGSD	**Ruisui**	**1.54**	**205**	*e*P	**Pb**	**23 32 26.7**	**+0.2**
	baz=214						
IRIF	**Iriomote-Funau**	**1.57**	**111**	P	**Pn**	**23 32 25.1**	**-0.7**
IRIF				S	**Sn**	**23 32 45.4**	**-0.7**
YULB	**Yu-li**	**1.68**	**207**	*e*P	**Pn**	**23 32 27.5**	**+0.2**
	baz=196						
TWF1	**Yuli**	**1.71**	**206**	*e*P	**Pn**	**23 32 28.8**	**+0.9**
	baz=212						
HATJ	**Hateruma jima**	**1.75**	**118**	P	**Pn**	**23 32 28.5**	**+0.2**
HATJ				*e*S	**Sn**	**23 32 50.5**	**0.0**
ALS	**Alishan**	**1.83**	**221**	*e*P	**Pg**	**23 32 32.8**	**-0.5**
	baz=197						
JKRS	**Kuro-shima**	**1.84**	**110**	P	**Pn**	**23 32 29.6**	**0.0**
JKRS				*e*S	**Sn**	**23 32 53.5**	**+0.7**
JIJ	**Ishigaki jima**	**1.92**	**106**	P	**Pn**	**23 32 30.9**	**+0.3**
JIJ				*e*S	**Sn**	**23 32 55.8**	**+1.1**
JISG	**Ishigakijimahi**	**2.02**	**98**	P	**Pn**	**23 32 30.7**	**-1.3**
WTP	**Ta-pu**	**2.14**	**220**	*e*P	**Pb**	**23 32 36.9**	**-0.1**
	baz=209						
TWK	**Hsinying**	**2.20**	**223**	*e*P	**Pb**	**23 32 36.8**	**-1.2**
	baz=212						

*NCEDC **29** 23:32:05.8±2.5, 36°.69N±0°.04×121°.32W±0°.06, h6km±3km, Md3.5/222, Error ellipse: s-maj=8.1km s-min=3.9km az=51.0*
*NEIC **29** 23:32:05.4±2.2, 36°.63N±0°.04×121°.46W±0°.05, h14km±4km, Error ellipse: s-maj=7.4km s-min=3.4km az=52.0*
*ANF **29** 23:32:06.8±0.7, 36°.45N×121°.19W, ML3.5/17, Error ellipse: s-maj=6.7km s-min=6.4km az=93.0*
ISC 29 23:32:05.1±0.8, **36°.65N**±0°.02×**121°.36W**±0°.02, **h12**km±5km, **n267**, σ1**90**/275, **Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	**Mount Johnson**	**0.05**	**120**		**Pg**	**23 32 09.0**	**+1.6**
BLRM	**Lewis Ranch**	**0.07**	**79**		**Pg**	**23 32 07.5**	**-0.2**
BVYM	**Vineyard**	**0.11**	**337**		**Pg**	**23 32 08.1**	**0.0**
BJCM	**Johnson Can.**	**0.11**	**193**		**Pg**	**23 32 08.8**	**+0.8**
BHRM	**Hodges Ranch**	**0.11**	**46**		**Pg**	**23 32 08.2**	**+0.1**
BSLM	**Silva Ranch**	**0.12**	**5**		**Pg**	**23 32 08.8**	**+0.6**
BSRM	**Salinas Radio**	**0.13**	**277**		**Pg**	**23 32 09.0**	**+0.7**
SAO	**San Andreas Ge**	**0.13**	**329**	Pg	**Pg**	**23 32 08.4**	**0.0**
SAO					**Sg**	**23 32 08.6**	**-2.2**
FRP	**Fremont Peak**	**0.14**	**315**		**Pg**	**23 32 08.8**	**+0.2**
BEHM	**Elkhorn Ranch**	**0.15**	**85**		**Pg**	**23 32 09.3**	**+0.6**
BVL	**Bear Valley**	**0.16**	**119**		**Pg**	**23 32 09.2**	**+0.4**
**HJSM

JRSC	Jasper Ridge	1.03	317			Pg	23 32 24.4	-0.5
BGH	Bear Gulch	1.04	312			Pb	23 32 25.0	-0.1
CVLM	Vallecito	1.04	339			Pb	23 32 25.1	0.0
MYLM	Yosemite Lake	1.05	46			Pg	23 32 24.6	-0.7
CNIC	Niles Canyon	1.07	333			Pb	23 32 25.4	-0.2
RAMR	Ramage Ranch	1.09	158			Pg	23 32 26.0	0.0
JHPM	Huddart Park	1.09	317			Pb	23 32 25.6	-0.3
CTM	Castle Mountai	1.10	131			Pn	23 32 26.9	+0.4
PHAM	Harlan Ranch	1.13	136			Pb	23 32 26.0	-0.6
CDOM	Doolan Road	1.14	341			Pb	23 32 28.1	+1.3
PCMM	Cholame Hills	1.14	137			Pb	23 32 26.9	0.0
GHC	Gold Hill	1.16	135			Pb	23 32 26.9	-0.1
PCBM	Cambria	1.16	168			Pb	23 32 26.9	-0.2
PKEM	Kettleman Hill	1.17	120			Pn	23 32 28.3	+1.0
BLDC	Black Mountain	1.18	162			Pb	23 32 27.6	+0.2
BLDC	Black Mountain	1.18	162			Pb	23 32 27.5	+0.2
PSRM	Scobie Ranch	1.18	132			Pb	23 32 27.3	-0.2
CBSNC	Byron Hot Spri	1.19	349			Pn	23 32 27.7	+0.2
JCHM	Cahill Ridge	1.19	317			Pn	23 32 26.8	-0.8
PKLM	Kerr Lake	1.21	136			Pb	23 32 27.7	-0.2
CMOB	Morgan Territo	1.21	343			Pn	23 32 27.6	-0.3
JCPM	Coyote Point	1.21	321			Pn	23 32 27.0	-0.8
PSNM	Stone Corral	1.22	135			Pb	23 32 27.7	-0.4
ARDC	Alexander Ranc	1.23	165			Pb	23 32 27.9	-0.3
CSLM	San Leandro Hi	1.23	331			Pn	23 32 27.7	-0.4
TCHL	Shandon	1.24	141			Pb	23 32 28.0	-0.4
SAC	San Andreas	1.25	318			Pn	23 32 27.7	-0.7
PMRM	Maxey Ranch	1.26	133			Pn	23 32 28.5	0.0
MHDM	Hidden Dam	1.27	68			Pn	23 32 28.0	-0.6
PAGB	Antelope Grade	1.29	135			Pn	23 32 28.9	-0.1
BGC	Bolinger Road	1.29	335			Pn	23 32 28.9	-0.1
THIS	South End of C	1.30	135			Pn	23 32 29.2	+0.1
CRHM	Round Hill Res	1.31	338			Pn	23 32 29.2	0.0
TRAM	Private Proper	1.31	137			Pn	23 32 29.3	0.0
JMGM	Milagra Ridge	1.32	318			Pn	23 32 28.6	-0.8
SMCB	Saint Mary's C	1.33	333			Pn	23 32 29.5	0.0
CRPB	Russellman Par	1.33	341			Pb	23 32 31.6	+1.6
BDM	Black Diamond	1.36	343			Pn	23 32 30.9	+1.0
PTAM	Tassajara Cree	1.36	157			Pn	23 32 30.1	0.0
TSCN	Private Proper	1.38	143			Pn	23 32 30.6	+0.4
CYBM	Yerba Buena Is	1.41	326			Pn	23 32 30.8	+0.3
BKS	Berkeley--Byer	1.41	331			Pn	23 32 30.3	-0.3
CVPM	Vollmer Peak	1.41	331			Pn	23 32 30.1	-0.5
BL67	Building 67, L	1.41	330			Pn	23 32 30.4	-0.3
BRIB	Briones	1.41	334			Pn	23 32 30.3	-0.4
VAK	Adit at Lawren	1.41	330			Pn	23 32 30.1	-0.6
BRK	Berkeley--Havi	1.42	330			Pn	23 32 30.1	-0.6
LSDC	Los Osos Digit	1.42	163			Pg	23 32 32.4	+0.1
EFD	Emergency Oper	1.43	159			Pn	23 32 30.8	-0.1
JPRM	Presidio of Sa	1.45	322			Pn	23 32 29.8	-1.3
MCUB	Copperopolis B	1.45	24			Pn	23 32 29.5	-0.7
VPDC	Valencia Peak	1.46	164			Pn	23 32 31.4	0.0
DPD	Davis Peak	1.49	161			Pn	23 32 31.8	0.0
PBPM	Bitterwater Pu	1.49	135			Pn	23 32 32.1	+0.3
DCD	Diablo Creek	1.50	163			Pb	23 32 33.3	+0.4
CPIM	Pinole Ridge	1.50	333			Pn	23 32 31.9	+0.1
MMIM	Miami Mountain	1.50	59			Pn	23 32 31.9	-0.1
CPMM	Point Molate	1.54	328			Pn	23 32 31.9	-0.5
MNHB	New Hogan Dam	1.55	16			Pn	23 32 32.0	-0.6
CMB	Columbia Colle	1.58	29	Pn		Pn	23 32 33.1	0.0
VOG	Valley Oaks Go	1.63	101	P		Pn	23 32 33.7	+0.1
	baz=284							
VOG				S		Sn	23 32 52.9	-1.6
	baz=284							
SMMC	Simmler	1.73	140	P		Pn	23 32 34.8	-0.3
	baz=322,SNR=29							
SMMC	Simmler	1.73	140			Pn	23 32 35.3	+0.1
SNT	Sears Point	1.76	331			Pn	23 32 35.3	-0.1
BCH	Branch Mountai	1.79	144			Pn	23 32 35.7	-0.3
PMLM	Mount Lospe	1.86	161			Pn	23 32 36.6	-0.2
MRHM	Rocky Hill	1.87	101			Pn	23 32 36.5	-0.5
HELL	Mitchell Peak,	1.88	88			Pn	23 32 37.1	-0.1
CVS	Carmenet Viney	1.90	333			Pn	23 32 36.5	-0.9
MCCM	Marconi Confer	1.92	321	Pg		Pn	23 32 37.7	+0.1
MCCM	Marconi Confer	1.92	321			Pn	23 32 36.7	-0.9
NAPC	Atlas Peak	1.92	339			Pn	23 32 37.4	-0.3
VES	Vestal, Richgr	2.01	113	P		Pn	23 32 39.1	+0.2
	baz=296,SNR=29							
VES				S		Sn	23 33 04.3	+0.3
	baz=296							
VES	Vestal, Richgr	2.01	113			Pn	23 32 39.5	+0.7
NTYM	Taylor	2.02	330			Pn	23 32 38.6	-0.3
MRDM	Red Cones	2.07	62			Pn	23 32 41.6	+1.6
MDPB	Devils Postpil	2.07	61			Pn	23 32 41.4	+1.4
MINS	Minaret Summit	2.09	61			Pn	23 32 41.4	+1.1
NSHM	Saint Helena R	2.11	332			Pn	23 32 39.8	-0.5
MLIM	Lincoln Peak	2.12	62			Pb	23 32 42.8	-0.8
NBPM	Berryessa Peak	2.12	342			Pn	23 32 40.9	+0.5
OMMB	Old Mammoth Mi	2.12	62			Pn	23 32 42.1	+1.5
MDYM	Dry Creek	2.13	61			Pn	23 32 42.9	-1.0
MDCM	Deadman Creek	2.13	60			Pn	23 32 42.3	+1.5
MMLB	Mammoth Lakes	2.15	61			Pb	23 32 43.3	-0.9
PKM	Mcpherson Peak	2.16	144	P		Pn	23 32 41.1	-0.1
	baz=326,SNR=24							
PKM	Mcpherson Peak	2.16	144			Pn	23 32 41.0	-0.1
MLCM	Laurel Creek C	2.18	63			Pn	23 32 43.1	+1.7
MEMM	East Mammoth H	2.18	62			Pn	23 32 43.5	+1.9
MGPM	Gravel Pit	2.19	63			Pb	23 32 44.0	-0.9
MCSM	Casa Diablo Ho	2.20	62			Pb	23 32 44.1	-1.0
MCBM	Casa Benchmark	2.21	63			Pn	23 32 43.9	+2.1
MCMM	Convict Lake	2.21	64			Pn	23 32 43.5	+1.7
GATR	Gnd/Air Tx Cnt	2.21	161			Pn	23 32 42.5	+0.8
FIGC	Figueroa Mtn.	2.22	149			Pn	23 32 42.0	+0.2
LUL	Lundy Lake	2.23	51			Pn	23 32 44.3	+2.2
MLAC	Mammoth, Mammo	2.24	63	P		Pb	23 32 44.7	-1.0
	baz=245,SNR=41							
MLAC				S		Sb	23 33 14.3	+0.8
	baz=245							
MLAC	Mammoth, Mammo	2.24	63			Pb	23 32 45.5	-0.2
MDRNC	Doe Ridge	2.25	63			Pn	23 32 44.5	+2.2
SCHCA	Scheelite	2.25	71			Pn	23 32 44.2	+1.7
RCCR	Rock Creek Can	2.27	68			Pn	23 32 44.8	+2.0
NMCNC	Mill Creek, So	2.29	328			Pn	23 32 41.7	-1.1
AFDM	Forest Hills D	2.31	8			Pn	23 32 43.3	+0.2
NMTM	Middletown	2.32	339			Pn	23 32 42.7	-0.4
BCW	Bitter Crk WRg	2.33	137			Pn	23 32 45.1	+1.8
GAXM	Alexander Vall	2.33	332			Pn	23 32 42.2	-1.1
MTUM	Tungsten Hills	2.35	72			Pn	23 32 45.8	+2.1
FTR	Fort Ross	2.35	323			Pn	23 32 43.5	-0.1
ORC	Owens River	2.38	65			Pn	23 32 46.4	+2.3
MNRC	McLaughlin Min	2.38	339			Pn	23 32 44.8	+0.7
BHPR	Bishop	2.39	73			Pn	23 32 46.4	+2.0
GBM	Boggs Mountain	2.40	335			Pn	23 32 44.0	-0.3
WAKR	Walker	2.40	39			Pn	23 32 46.6	+2.1
SYP	Santa Ynez Pea	2.40	152			Pn	23 32 44.6	+0.3
WOFM	Oak Flat	2.42	117			Pn	23 32 45.1	+0.6
MGNR	McGee Canyon	2.42	61			Pb	23 32 47.6	-1.2
GSSM	Skaggs Springs	2.43	328			Pn	23 32 44.3	-0.4
GDXM	Geysers	2.43	333			Pn	23 32 46.7	+2.0
GHCM	House Creek	2.44	324			Pn	23 32 44.3	-0.5
GSGM	Seigler Mounta	2.46	335			Pn	23 32 44.9	-0.1
BENR	Benton	2.47	64			Pn	23 32 47.9	+2.4
MFBM	Five Bridges	2.47	71			Pb	23 32 48.3	-1.3
MRCM	Red Rock Canyo	2.50	65			Pb	23 32 49.1	-1.0
MCDM	Chidago Canyon	2.50	68			Pb	23 32 48.8	-1.3
ISA	Isabella, Lake	2.54	112	P		Pn	23 32 47.1	+0.9
	baz=295,SNR=57							
ISA				S		Sn	23 33 18.5	+1.4
	baz=295							
ISA	Isabella, Lake	2.54	112			Pn	23 32 47.3	+1.1
ISA	Isabella, Lake	2.54	112			Pn	23 32 47.4	+1.2
TIN	Tinemaha, Big	2.54	80	P		Pn	23 32 48.4	+2.1
	baz=262,SNR=20							
TIN				S		Sb	23 33 21.2	-0.9
	baz=262							
TIN	Tinemaha, Big	2.54	80			Pb	23 32 48.9	-1.8
ARVC	Arvin	2.56	126	S		Sn	23 33 17.1	-0.4
	baz=308							
ARVC	Arvin	2.56	126			Pn	23 32 47.2	+0.8
POCCA	Poleta Canyon	2.57	73			Pb	23 32 49.4	-1.8
GNO	Genoa	2.57	27			Pn	23 32 48.8	+2.1
RUBR	Rubicon Trail	2.58	21	Pn		Pn	23 32 48.0	+1.1
MLNR	Milner Canyon	2.59	68			Pb	23 32 50.7	-0.9
TEJ	El Tejon	2.59	122			Pn	23 32 47.5	+0.6
SUTB	Sutter Butte	2.59	353			Pn	23 32 46.4	-0.6
HCK	Huntoon Valley	2.62	56			Pn	23 32 49.4	+2.1
BFC	Buffalo Canyon	2.63	31			Pn	23 32 49.6	+1.9
CWC	Cottonwood Cre	2.65	94	P		Pn	23 32 49.4	+1.5
	baz=276							
CWC				S		Sb	23 33 22.7	-2.6
	baz=276							
CWC	Cottonwood Cre	2.65	94			Pn	23 32 49.8	+1.9
TAHR	Tahoe	2.67	20			Pn	23 32 48.6	+0.4
OHCM	Honcut	2.68	358			Pn	23 32 48.3	+0.2
HOPS	Hopland Field	2.70	330			Pn	23 32 48.5	+0.1
HOPS	Hopland Field	2.70	330			Pn	23 32 48.3	0.0
GSNM	Snow Mountain	2.71	328			Pn	23 32 47.5	-1.0
GHLM	Highland Sprin	2.72	332			Pn	23 32 47.8	-0.9
LHV	Little Huntoon	2.78	54			Pn	23 32 50.2	+0.7
ORV	Oroville	2.90	358	Pn		Pn	23 32 51.9	+0.8
OSI	Osito Audit: C	2.96	133	Sb		Sb	23 33 33.3	-0.7
	baz=315							
OSI	Osito Audit: C	2.96	133			Pb	23 32 55.6	-2.2
VCNR	Virginia City	2.97	27			Pn	23 32 53.6	+1.4
RYN	Ryan	3.00	48			Pn	23 32 55.1	+2.6
NVAR	Mina Array Bea	3.01	53			Pb	23 32 56.6	-2.2
NV11	Mina Array Sit	3.11	54			Pn	23 32 57.4	+3.3
MPMC	Manual Prospec	3.18	100	Sb		Sb	23 33 41.4	+0.8
	baz=283							
EDW2	Edwards Air Fo	3.26	122	P		Pn	23 32 56.5	+0.4
	baz=305,SNR=9.7							
PAHR	Pah Rah Range	3.42	26			Pn	23 32 60.0	+1.5
KCPM	Cahto Peak	3.50	331	Pn		Pn	23 32 59.3	-0.2
KVN	Kaiserville	3.52	46			Pg	23 33 11.1	-1.4
PASC	Pasadena Art C	3.59	133	Pn		Pn	23 33 01.6	+1.1
MWC	Mount Wilson	3.63	131			Pn	23 33 01.7	+0.5
O03E	Paynes Creek	3.65	355	P		Pb	23 33 07.8	-1.9
	baz=174							
SNCC	San Nicolas Is	3.72	155	Pn		Pn	23 33 01.8	-0.5
KMRM	Mail Ridge	4.01	333	Pn		Pn	23 33 05.8	-0.7
WDC	Whiskeytown Da	4.03	347	Pn		Pn	23 33 07.5	+0.9
TPNV	Topopah Spring	4.11	84	P		Pn	23 33 09.6	+1.6
	baz=268							
TPNV	Topopah Spring	4.11	84	Pn		Pn	23 33 10.2	+2.3
HEC	Hector,Ludlow	4.47	112	P		Pn	23 33 13.2	+0.4
	baz=296,SNR=7.8							
TUQ	Turquoise Moun	4.57	104	P		Pn	23 33 14.9	+0.7
	baz=288							
KHMM	Horse Mountain	4.61	337	Pn		Pn	23 33 15.1	+0.4
R11A	Troy Canyon, C	4.90	68			Pb	23 33 34.5	+3.6
SHPR	Sheep Range	4.99	90	Pn		Pn	23 33 21.7	+1.7
GMRC	Granite Mounta	5.00	110	P		Pn	23 33 20.2	+0.1
	baz=294,SNR=6.3							
PFO	Pinyon Flats O	5.03	126	Pn		Pn	23 33 21.6	+1.1
PRN	Pahroc Range	5.11	80			Pg	23 33 42.0	-0.9
BAR	Barrett	5.53	134	Pn		Pn	23 33 27.9	+0.6
CBX	Cerro Bola	5.81	137	Pn		Pn	23 33 31.3	0.0
KBO	Bosley Butte	5.98	339	Pn		Pn	23 33 35.7	+2.2
WVOR	Wild Horse Val	6.15	19	Pg		Pg	23 34 03.5	+0.7
CCX	Cicese	6.16	139	Pn		Pn	23 33 38.2	+2.3
PSUT	Pine Spring	6.25	70	Pg		Pg	23 34 05.1	+0.3
W13A	Hualapai Mount	6.26	102			Pn	23 33 38.2	+0.7
ESJX	Sierra Juarez	6.45	134	Pn		Pn	23 33 40.1	+0.1
GLA	Glamis	6.46	122	Pn		Pn	23 33 39.9	-0.2
LCMT	Little Creek M	6.52	84	Pn		Pn	23 33 40.0	-1.0

BJI ***29*** *23:33:42.9±0.0,42.˚64N×144.˚23E,h65km,mB4.7/19, mb4.5/23,Ms3.7/4,Ms7 3.4/1*

MOS ***29*** *23:33:43.6±0.9,42.˚59N×144.˚12E,h59km,mb4.4/13,Error ellipse: s-maj=9.5km s-min=6.4km az=81.6*

JMA ***29*** *23:33:44.5±0.1,42.˚64N×144.˚10E,h58km±2km,M4.1 Broadband fault plane solution: P waves. NP1: ϕs267.00000°,δ22.00000°,λ155.00000°. NP2: ϕs20.00000°,δ81.00000°,λ70.00000°. Principal axes: T Plg50.0000°, Azm268.0000°; N Plg20.0000°, Azm23.0000°; P Plg33.0000°, Azm127.0000°;*

JMA Felt II J1.

NIED ***29*** *23:33:44.5, 42.˚64N×144.˚10E, h58km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.06; Mϑϑ-0.59; Mϕϕ-0.47; Mrϑ0.36; Mϑϕ-0.64; Mϕr0.82; Fault plane solution: M0 1.44000×10^15 NP1:ϕs33.00000°, δ65.00000°,λ.76.00000°. NP2:ϕs243.00000°,δ29.00000°, λ117.00000°.*

NEIC ***29*** *23:33:45.3±1.2, 42.˚62N±0.˚06×144.˚2E±0.˚1, h60km±7km, mb4.6/26 Error ellipse: s-maj=13.4km s-min=8.2km az=115.0*

SKHL ***29*** *23:33:45.1±0.3, 42.˚64N×144.˚05E, h70km±5km, mb4.7/6*

IDC ***29*** *23:33:47.1±1.9, 42.˚63N×144.˚12E, h72km±14km, mb3.7/19, mb1 3.9/24,mb1mx3.8/46,mbtmp4.0/24,MS3.0/8, Ms1 3.0/8,ms1mx2.7/47,Error ellipse: s-maj=16.5km s-min=13.5km az=95.0*

ISC 29 23:33:44.8±0.6, 42.˚62N±0.˚04×144.˚13E±0.˚03, h54km±5km, n152,σ1ş29/171, mb4.3/46, 13C-14D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOB	Onbets	0.36	323	P		Pn	23 33 54.5	-0.3
JAK	Akkeshi	0.56	47	⇑P		Pn	23 33 56.9	-0.1
JAK				eS		Sn	23 34 09.9	+0.1
JCH	Churui	0.57	270	⇓P		Pn	23 33 57.0	-0.1
JCH				eS		Sn	23 34 05.3	-0.6
JTHR	Tokachihiroo	0.70	242	⇓P		Pn	23 33 58.7	+0.1
JTHR				eS		Sn	23 34 08.9	+0.2
JAR	Ashorobuto	0.73	339	⇓P		Pn	23 33 58.9	-0.2
JAR				eS		Sn	23 34 08.9	-0.6
JKHN	Kushirohamanak	0.89	58	⇑P		Pn	23 34 01.1	0.0
JKHN				eS		Sn	23 34 13.1	0.0
JEM	Erimo	0.94	231	P		Pn	23 34 01.4	-0.4
ERM	Erimo	0.94	231	PN		Pn	23 34 01.8	0.0
ERM							23 34 15.7	
ERM	Erimo	0.94	231	Pn		Pn	23 34 01.8	0.0
ERM				Sn		Sn	23 34 15.7	+1.3
JNK	Nakash	1.06	24	⇑P		Pn	23 34 03.0	-0.4
JNK				eS		Sn	23 34 15.9	-1.2
JNBK	Urakawa-nobuka	1.08	252	⇓P		Pn	23 34 02.2	-1.4
JFR	Furan	1.26	296	⇓P		Pn	23 34 05.7	-0.3
JFR				eS		Sn	23 34 20.2	-1.7
JBT2	Biratori 2	1.31	278	⇓P		Pn	23 34 05.9	-0.9
JBT2				eS		Sn	23 34 22.2	-1.1
JTKR	Abashiri--Toko	1.36	353	⇓P		Pn	23 34 08.0	+0.6
JTKR				eS		Sn	23 34 25.1	+0.7
NMR	Nemuro--Hokkai	1.39	57	i P		Pn	23 34 06.9	-0.9
NMR				eS		Sn	23 34 23.3	-1.8
NMR	Nemuro--Hokkai	1.39	57	⇑i PN		Pn	23 34 06.9	-0.9
NMR				eS		Sn	23 34 23.3	-1.8
NEM2	Nemuro 2	1.40	57	⇑P		Pn	23 34 06.9	-1.0
NEM2				eS		Sn	23 34 23.1	-2.2
JMP	Maruseppu	1.50	338	⇓P		Pn	23 34 09.5	+0.2
JMP				eS		Sn	23 34 28.2	+0.4
JRA	Rausu	1.50	28	P		Pn	23 34 09.1	-0.3
GLVR	Golovnino	1.51	42	i P		Pn	23 34 09.0	-0.5
GLVR				AMB		AMB	23 34 10.0	
	100nm,0.2s							
GLVR				eS		Sn	23 34 27.0	-1.0
GLVR				A		A	23 34 35.0	
	670nm,0.3s							
GLVR				A		A	23 34 35.0	
	3μm,0.3s							
GLVR	Golovnino	1.51	42	i PN		Pn	23 34 09.8	+0.3
GLVR				eS		Sn	23 34 27.7	-0.3
GLVR				pmax		pmax		
	comp=Z,1μm,0.2s							
GLVR				pmax		pmax		
	comp=N,61nm,0.1s							
GLVR				smax		smax		
	comp=N,7μm,0.3s							
GLVR				smax		smax		
	comp=E,3μm,0.2s							
JKK2	Kamakawa 2	1.61	322	P		Pn	23 34 10.9	0.0
JIAM	Iburiatsuma	1.63	271	P		Pn	23 34 12.7	+1.6
GRPR	Tuman	1.82	40	eP		Pn	23 34 13.5	-0.2
GRPR				AMB		AMB	23 34 15.0	
	comp=E,460nm,0.3s							
GRPR				eS		Sn	23 34 34.9	-0.7
GRPR				A		A	23 34 38.0	
	comp=E,420nm,0.3s							
GRPR				A		A	23 34 38.0	
	comp=E,2μm,0.3s							
GRPR	Tuman	1.82	40	ePN		Pn	23 34 13.5	-0.2
GRPR				eS		Sn	23 34 34.9	-0.7
GRPR				pmax		pmax		
	comp=Z,458nm,0.3s							
GRPR				pmax		pmax		
	comp=E,109nm,0.2s							
GRPR				pmax		pmax		
	comp=N,101nm,0.1s							
GRPR				smax		smax		
	comp=N,4μm,0.3s							
GRPR				smax		smax		
	comp=E,2μm,0.3s							
JKA	Kamikawa-asahi	1.87	324	Pn		Pn	23 34 14.7	+0.3
ASAJ	Asahikawa	1.87	324	P		Pn	23 34 15.1	+0.8
	comp=E,60nm,0.3s,baz=187,slow=13,SNR=126							
ASAJ				S		Sn	23 34 40.9	+4.0
	comp=E,48nm,0.3s,baz=297,slow=29,SNR=2.7							
YUK	Yuzh-Kuril'sk	1.90	41	i P		Pn	23 34 15.3	+0.6
YUK				AMB		AMB	23 34 20.0	
	comp=E,370nm,0.4s							
YUK				AMB		AMB	23 34 20.0	
	comp=E,1μm,0.4s							
YUK				i S		Sn	23 34 38.0	+0.6
YUK				A		A	23 34 41.0	
	comp=E,360nm,0.4s							
YUK				A		A	23 34 41.0	
	comp=E,1μm,0.4s							
YUK	Yuzh-Kuril'sk	1.90	41	⇓i PN		Pn	23 34 15.3	+0.6
YUK				i S		Sn	23 34 38.0	+0.6
YUK				pmax		pmax		
	comp=Z,1μm,0.4s							
YUK				pmax		pmax		
	comp=E,366nm,0.2s							
YUK				smax		smax		
	comp=N,4μm,0.4s							
YUK				smax		smax		
	comp=E,1μm,0.1s							
KUR	Kuril'sk	3.76	45	eP		Pn	23 34 42.3	+2.2
KUR				AMB		AMB	23 34 51.0	
	comp=E,80nm,0.4s							
KUR				eS		Sn	23 35 24.3	+1.2
KUR				A		A	23 35 40.0	
	comp=E,270nm,0.4s							
KUR				A		A	23 35 40.0	
	comp=E,300nm,0.4s							
KUR	Kuril'sk	3.76	45	ePN		Pn	23 34 42.3	+2.2
KUR				S		Sn	23 35 25.5	+2.4
KUR				pmax		pmax		
	comp=Z,84nm,0.4s							
KUR				pmax		pmax		
	comp=N,47nm,0.3s							
KUR				pmax		pmax		
	comp=E,18nm,0.2s							
KUR				smax		smax		
	comp=E,272nm,0.3s							
KUR				smax		smax		
	comp=E,295nm,0.4s							
YSS	Yuzh-Sakhalins	4.45	348	eP		Pn	23 34 50.1	+0.5
YSS				AMB		AMB	23 34 51.1	
	comp=E,20nm,0.3s							
YSS				eS		Sn	23 35 39.5	-0.5
YSS				A		A	23 35 41.5	
	comp=E,40nm,0.4s							
YSS	Yuzh-Sakhalins	4.45	348	⇑ePN		Pn	23 34 50.1	+0.5
YSS				eS		Sn	23 35 39.5	-0.5
YSS				pmax		pmax		
	comp=Z,20nm,0.3s							
YSS				smax		smax		
	comp=E,40nm,0.4s							
YSS				MLR		MLR		
	comp=Z,200nm,13.0s							
YSS	Yuzh-Sakhalins	4.45	348	Pn		Pn	23 34 49.6	0.0
MAJO	Matsushiro	7.60	219	⇓ePN		Pn	23 35 33.2	+0.3
MAJO	Matsushiro	7.60	219	Pn		Pn	23 35 32.5	-0.3
MAT	Matsushiro	7.60	219	P		Pn	23 35 33.2	+0.3
MAT				eS		Sn	23 36 56.1	-1.5
MJAR	Matsushiro Arr	7.60	219	P		Pn	23 35 33.3	+0.5
	comp=Z,0.2nm,0.3s,baz=30,slow=13,SNR=17							
MJAR				LR		LR	23 38 33.2	
	comp=Z,55nm,20.7s,baz=300,slow=38							
MJAR	Matsushiro Arr	7.60	219			Pn	23 35 33.1	+0.2
USRK	Ussuriysk Ar.	8.98	284	P		Pn	23 35 54.7	+3.0
	baz=92,slow=14,SNR=2.7							
USRK				LR		LR	23 39 29.2	
	comp=Z,53nm,21.2s,baz=44,slow=38							
USRK	Ussuriysk Ar.	8.98	284			Pn	23 35 53.0	+1.3
KLR	Kul'dur	10.86	312	P		Pn	23 36 20.7	+3.3
	comp=Z,0.2nm,0.3s,baz=119,slow=13,SNR=17							
KLR				LR		LR	23 40 33.9	
	comp=Z,99nm,19.3s,baz=93,slow=38							
KLR	Kul'dur	10.86	312	eP		Pn	23 36 18.8	+1.4
KLR	Kul'dur	10.86	312	⇑ePN		Pn	23 36 18.8	+1.4
KLR				pmax		pmax		
	comp=Z,11nm,0.9s							
EKMR	Ekimchan	12.86	328	eP		Pn	23 36 42.6	-2.0
EKMR				AMB		AMB	23 36 48.5	
	comp=Z,10.0nm,0.7s							
KSRS	Korea Array	13.44	253	P		P	23 36 57.8	-2.6
	comp=Z,0.5nm,0.3s,baz=62,slow=14,SNR=5.1							
KSRS				LR		LR	23 41 30.2	
	comp=Z,38nm,21.0s,baz=40,slow=34							
PETK	Petropavlov

WMQ				LR	LR			
	comp=Z,240nm,29.3s							
IMAR	**Indian Mountai**	**40.81**	**34**	P	**P**	**23 41 20.4**	**-0.2**	
OHAK	**Old Harbor**	**41.32**	**47**	P	**P**	**23 41 24.7**	**-0.1**	
OHAK				IAmb	IAmb	23 41 25.8		
	comp=Z,13nm,1.1s							
MK31	**Makanchi Array**	**43.15**	**298**	P	**P**	**23 41 39.0**	**-1.0**	
MK31				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MK31	**Makanchi Array**	**43.15**	**298**	P	**P**	**23 41 39.0**	**-1.0**	
MKAR	**Makanchi Array**	**43.15**	**298**	P	**P**	**23 41 39.8**	**-0.1**	
	comp=Z,1.1nm,0.6s,baz=83,slow=9.5,SNR=14							
MKAR	**Makanchi Array**	**43.15**	**298**	*eP*	**P**	**23 41 39.7**	**-0.2**	
MKAR	**Makanchi Array**	**43.15**	**298**	*i P*	**P**	**23 41 39.7**	**-0.2**	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**43.15**	**298**	P	**P**	**23 41 39.2**	**-0.7**	
COLA	**College**	**43.28**	**35**	⇓*eP*	**P**	**23 41 39.9**	**-0.7**	
COLA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MAKZ	**Makanchi**	**43.35**	**298**	P	**P**	**23 41 41.0**	**-0.6**	
MAKZ				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MAKZ	**Makanchi**	**43.35**	**298**	P	**P**	**23 41 41.0**	**-0.6**	
DHY	**Denali Highway**	**43.62**	**38**	P	**P**	**23 41 43.4**	**-0.3**	
ILAR	**Eielson Array**	**43.70**	**35**	P	**P**	**23 41 44.4**	**+0.3**	
	comp=Z,1.2nm,0.8s,baz=274,slow=8.4,SNR=12							
ILAR	**Eielson Array**	**43.70**	**35**	P	**P**	**23 41 43.5**	**-0.5**	
KURK	**Kurchatov**	**44.34**	**304**	*eP*	**P**	**23 41 48.9**	**-0.4**	
KURK	**Kurchatov**	**44.34**	**304**	*c i P*	**P**	**23 41 48.9**	**-0.4**	
KURK				pmax	pmax			
	comp=Z,7.0nm,2.5s							
KURK	**Kurchatov**	**44.34**	**304**	P	**P**	**23 41 49.3**	**0.0**	
KURK				IAmb	IAmb	23 41 49.9		
	comp=Z,3.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**45.08**	**252**	P	**P**	**23 41 57.1**	**+1.5**	
	comp=Z,0.9nm,0.6s,baz=40,slow=7.6,SNR=6.4							
CMAR	**Chiang Mai Arr**	**45.08**	**252**	*ceP*	**P**	**23 41 57.7**	**+2.1**	
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BCAR	**Beaver Creek A**	**46.15**	**37**	P	**P**	**23 42 04.6**	**+1.0**	
INK	**Inuvik**	**48.48**	**29**	P	**P**	**23 42 22.2**	**+0.7**	
	comp=Z,1.3nm,0.4s,baz=346,slow=2.7,SNR=3.4							
INK				LR	LR	00 04 24.7		
	comp=Z,50nm,18.1s,baz=7.0,slow=38							
INK	**Inuvik**	**48.48**	**29**	P	**P**	**23 42 21.7**	**+0.2**	
INK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
INK	**Inuvik**	**48.48**	**29**	P	**P**	**23 42 21.7**	**+0.2**	
AAK	**Ala-Archa**	**49.85**	**295**	LR	LR	00 05 48.3		
	comp=Z,39nm,18.7s,baz=137,slow=39							
ARU	**Arti**	**53.66**	**317**	*eP*	**P**	**23 43 00.3**	**-0.2**	
ARU	**Arti**	**53.66**	**317**	*d iP*	**P**	**23 43 00.3**	**-0.2**	
ARU				*PP	**pP**	**23 43 14.0**	**-1.0**	
ARU				S	**S**	**23 50 31.3**	**+1.2**	
ARU				SS	**SS**	**23 54 12.0**	**+1.4**	
ARU				pmax	pmax			
	comp=Z,5.0nm,1.1s							
ABKAR	**Akbulak array**	**56.04**	**308**	P	**P**	**23 43 17.9**	**0.0**	
KBL	**Kabul**	**57.48**	**289**	P	**P**	**23 43 27.9**	**-0.7**	
KBL				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KBL	**Kabul**	**57.48**	**289**	P	**P**	**23 43 27.9**	**-0.7**	
KBL				IAmb	IAmb	23 43 28.3		
	comp=Z,3.3nm,0.8s							
ARCES	**ARCESS Array B**	**59.52**	**339**	P	**P**	**23 43 41.7**	**-0.3**	
	comp=Z,0.8nm,0.6s,baz=36,slow=11,SNR=1.8							
WRA	**Warramunga Arr**	**62.90**	**190**	P	**P**	**23 44 06.2**	**+0.9**	
	comp=Z,0.5nm,0.8s,baz=7.6,slow=6.8,SNR=4.8							
WRA	**Warramunga Arr**	**62.90**	**190**	*i P*	**P**	**23 44 05.5**	**+0.2**	
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
GEYT	**Alibeck**	**63.03**	**298**	P	**P**	**23 44 05.8**	**-0.4**	
	comp=Z,1.1nm,0.6s,baz=270,slow=0.3,SNR=4.8							
GEYT	**Alibeck**	**63.03**	**298**	P	**P**	**23 44 05.0**	**-1.2**	
FINES	**FINESS Array B**	**64.86**	**332**	P	**P**	**23 44 17.6**	**-0.1**	
	comp=Z,4.1nm,0.4s,baz=49,slow=7.6,SNR=57							
FINES	**FINESS Array B**	**64.86**	**332**	P	**P**	**23 44 17.5**	**-0.3**	
OBN	**Obninsk**	**64.90**	**323**	*eP*	**P**	**23 44 17.3**	**-0.8**	
OBN	**Obninsk**	**64.90**	**323**	*eP*	**P**	**23 44 17.3**	**-0.8**	
OBN				*e*		23 44 50.8		
OBN				*e*		23 46 41.8		
OBN				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ASAR	**Alice Springs**	**66.62**	**190**	P	**P**	**23 44 30.1**	**+0.6**	
	comp=Z,1.2nm,1.2s,baz=2.3,slow=6.9,SNR=1.9							
EIDS	**Eidsvold**	**67.95**	**173**	P	**P**	**23 44 37.7**	**-0.1**	
EIDS				IAmb	IAmb	23 44 44.7		
	comp=Z,7.9nm,1.1s							
LRM	**Limekiln Ridge**	**68.75**	**47**	P	**P**	**23 44 42.1**	**-1.0**	
KIV	**Kislovodsk**	**68.85**	**311**	*eP*	**P**	**23 44 44.8**	**+1.2**	
KIV	**Kislovodsk**	**68.85**	**311**	*eP*	**P**	**23 44 44.8**	**+1.2**	
KIV				pmax	pmax			
	comp=Z,29nm,1.1s							
KIV	**Kislovodsk**	**68.85**	**311**	P	**P**	**23 44 44.5**	**+0.9**	
KIV				IAmb	IAmb	23 44 45.8		
	comp=Z,6.7nm,0.7s							
KBZ	**Khabaz**	**68.87**	**310**	P	**P**	**23 44 44.9**	**+1.3**	
	comp=Z,4.3nm,0.8s,baz=85,slow=3.2,SNR=6.2							
BOZ	**Bozeman (W)**	**69.33**	**47**	P	**P**	**23 44 47.9**	**+1.3**	
BOZ				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BOZ	**Bozeman (W)**	**69.33**	**47**	P	**P**	**23 44 47.9**	**+1.3**	
NC405	**NORSAR Array S**	**69.64**	**338**	P	**P**	**23 44 47.5**	**-0.6**	
NC405				IAmb	IAmb	23 45 01.5		
	comp=Z,9.1nm,1.1s							
NC303	**NORSAR Array S**	**69.64**	**338**	P	**P**	**23 44 47.5**	**-0.6**	
NC303				IAmb	IAmb	23 44 57.1		
	comp=Z,6.1nm,0.8s							
NC204	**NORSAR Array S**	**69.77**	**338**	P	**P**	**23 44 48.5**	**-0.4**	
NB201	**NORSAR Array S**	**69.81**	**338**	P	**P**	**23 44 48.6**	**-0.5**	
NB2	**NORSAR Subarra**	**69.84**	**338**	P	**P**	**23 44 48.8**	**-0.5**	
	comp=Z,2.1nm,0.6s,baz=32,slow=6.9							
NOA	**NORSAR Array B**	**69.84**	**338**	P	**P**	**23 44 49.1**	**-0.2**	
	comp=Z,2.2nm,0.6s,baz=38,slow=5.1,SNR=14							
NOA				LR	LR	00 19 40.1		
	comp=Z,7.8nm,19.9s,baz=0.0,slow=39							
NBO00	**NORSAR Array S**	**69.97**	**338**	P	**P**	**23 44 49.9**	**-0.2**	
NBO00				IAmb	IAmb	23 44 50.5		
	comp=Z,9.2nm,0.8s							
NVAR	**Mina Array Bea**	**70.05**	**56**	P	**P**	**23 44 52.3**	**+1.1**	
	comp=Z,0.4nm,0.6s,baz=294,slow=6.8,SNR=2.9							
AKASG	**Malin Array Be**	**71.16**	**322**	P	**P**	**23 44 57.2**	**-0.3**	
	comp=Z,2.2nm,0.5s,baz=40,slow=6.3,SNR=11							
UOSS	**Minazif**	**72.11**	**288**	P	**P**	**23 45 03.7**	**0.0**	
PDAR	**Pinedale Array**	**72.31**	**48**	P	**P**	**23 45 05.8**	**+0.9**	
	comp=Z,0.3nm,0.5s,baz=284,slow=0.6,SNR=4.0							
PDAR	**Pinedale Array**	**72.31**	**48**	P	**P**	**23 45 05.3**	**+0.4**	
BRTR	**Keskin Array B**	**76.69**	**312**	P	**P**	**23 45 30.5**	**+0.3**	
	comp=Z,0.7nm,0.7s,baz=97,slow=4.4,SNR=4.8							
CLL	**Collm**	**77.27**	**331**	*i P*	**P**	**23 45 32.7**	**-0.3**	
	comp=Z,4.0nm,1.2s							
CLL	**Collm**	**77.27**	**331**	*i P*	**P**	**23 45 32.7**	**-0.3**	
CLL				pmax	pmax			
	comp=Z,4.0nm,1.2s							
PRU	**Pruhonice**	**77.78**	**329**	*eP*	**P**	**23 45 35.9**	**0.0**	
PRU	**Pruhonice**	**77.78**	**329**	*eP*	**P**	**23 45 35.9**	**0.0**	
KHC	**Kasperske Hory**	**78.84**	**329**	⇑*eP*	**P**	**23 45 43.1**	**+1.2**	
KHC				pmax	pmax			
	comp=Z,12nm,2.5s							
KHC	**Kasperske Hory**	**78.84**	**329**	*eP*	**P**	**23 45 42.0**	**+0.1**	
GERES	**GERESS Array B**	**79.03**	**329**	P	**P**	**23 45 42.8**	**-0.2**	
	comp=Z,0.3nm,0.4s,baz=3.4,slow=4.5,SNR=3.9							
GERES	**GERESS Array B**	**79.03**	**329**	P	**P**	**23 45 42.5**	**-0.5**	
FUORN	**Ofenpass-Fuorn**	**82.17**	**330**	P	**P**	**23 46 00.3**	**+0.3**	
FUORN				IAmb	IAmb	23 46 02.4		
	comp=Z,4.0nm,0.8s							
NRCA	**Norcia**	**84.22**	**326**	P	**P**	**23 46 09.7**	**-0.7**	
NRCA				IAmb	IAmb	23 46 11.7		
	comp=Z,5.0nm,0.9s							
IDI	**Anoyia**	**84.66**	**314**	P	**P**	**23 46 12.3**	**-0.5**	
ITM	**Ithomi**	**84.74**	**317**	P	**P**	**23 46 12.1**	**-0.9**	
BATG	**Bathurst New B**	**86.58**	**20**	P	**P**	**23 46 22.1**	**+0.1**	
O56A	**Blue Knob Stat**	**88.90**	**31**	P	**P**	**23 46 33.2**	**-0.1**	
O56A				IAmb	IAmb	23 46 48.7		
	comp=Z,3.5nm,0.9s							
U49A	**Red Boiling Sp**	**89.04**	**38**	P	**P**	**23 46 33.9**	**0.0**	
U49A				IAmb	IAmb	23 46 52.4		
	comp=Z,3.1nm,1.1s							
ESDC	**Sonseca Array**	**93.13**	**336**	P	**P**	**23 46 53.3**	**+0.3**	
	comp=Z,0.2nm,0.7s,baz=92,slow=3.9,SNR=1.7							
ESDC	**Sonseca Array**	**93.13**	**336**	IAmb	IAmb	23 46 56.9		
	comp=Z,0.4nm,0.8s							
H03N2	**Juan Fernandez**	**145.18**	**89**	T	T	02 35 33.1		
	baz=300							
H03N3	**Juan Fernandez**	**145.19**	**89**	T	T	02 35 15.0		
	baz=300							
H03N1	**Juan Fernandez**	**145.20**	**89**	T	T	02 35 22.5		
	baz=300							
SNAA	**Sanae**	**146.70**	**198**	PKPdf	**PKPdf**	**23 53 17.9**	**+0.3**	

UPA ***29*** *23:49:24.7±2.4, 7.62N×81.89W, h0km±6km, MW4.4*
UCR ***29*** *23:49:44.7±1.8, 8.53N×82.68W, h11km±7km, MD4.1*

ISC 29 23:49:24.7±1.3, 7.69N±0.04×81.84W±0.02, h1km±10km, n71, σ1.9s9/117, 3D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVID3	**Puerto Vidal,**	**0.42**	**33**	*eP*	**Pb**	**23 49 35.3**	**+0.3**
PVID3				*eS*	**Sb**	**23 49 43.5**	**+1.6**
REME3	**Remedios, Chir**	**0.53**	**1**	*eP*	**Pn**	**23 49 37.7**	**-1.8**
REME3				*eS*	**Sb**	**23 49 48.7**	**+3.6**
GMAL	**Guarumal, Vera**	**0.61**	**83**	⇓*iP*	**Pb**	**23 49 37.4**	**-0.7**
GMAL				*eS*	**Sn**	**23 49 50.6**	**-0.4**
MESA3	**La Mesa, Verag**	**0.79**	**55**	*eP*	**Pb**	**23 49 41.4**	**+0.1**
MESA3				*eS*	**Sn**	**23 49 54.3**	**-1.2**
MARI3	**Mariato, Verag**	**0.84**	**93**	*eP*	**Pb**	**23 49 42.2**	**0.0**
MARI3				*eS*	**Sn**	**23 49 57.6**	**+0.8**
CHIR3	**Chiriqui UPA,**	**0.85**	**325**	*eP*	**Pb**	**23 49 41.9**	**-0.5**
CHIR3				*eS*	**Sn**	**23 49 57.5**	**+0.5**
PONU3	**Ponuga, Veragu**	**0.88**	**77**	*eP*	**Pb**	**23 49 42.8**	**0.0**
PONU3				*eS*	**Sn**	**23 49 56.1**	**-1.5**
PEDE3	**Pedregal, Chir**	**0.90**	**320**	*eP*	**Pg**	**23 49 40.8**	**-1.1**
PEDE3				*eS*	**Sn**	**23 49 57.8**	**-0.4**
CNAZ3	**Canazas, Verag**	**0.91**	**44**	*i P*	**Pb**	**23 49 43.0**	**-0.2**
CNAZ3				*eS*	**Sn**	**23 49 57.8**	**-0.5**
LOCO3	**Loma Colorada,**	**0.92**	**321**	*eP*	**Pn**	**23 49 43.1**	**-1.7**
LOCO3				*eS*	**Sn**	**23 49 58.8**	**+0.2**
STIA3	**Santiago, Vera**	**0.95**	**65**	*eP*	**Pn**	**23 49 43.9**	**-1.3**
STIA3				*eS*	**Sn**	**23 50 00.0**	**+0.6**
DVD	**David**	**0.95**	**321**	*eP*	**Pb**	**23 49 43.6**	**-0.5**
DVD				*eS*	**Sn**	**23 49 59.1**	**-0.4**
SFRA3	**San Francisco,**	**1.02**	**57**	*eP*	**Pn**	**23 49 45.2**	**-1.1**
SFRA3				*eS*	**Sn**	**23 50 01.0**	**-0.3**
BAGA3	**Bagala, Chiriq**	**1.03**	**319**	*eP*	**Pn**	**23 49 45.1**	**-1.2**
BAGA3				*eS*	**Sn**	**23 50 01.7**	**+0.3**
CACAO	**El Cacao, Vera**	**1.03**	**109**	*eP*	**Pg**	**23 49 44.5**	**0.0**
CACAO				*eS*	**Sn**	**23 50 00.5**	**-0.9**
OCU3	**Ocu, Herrera**	**1.08**	**77**	*eP*	**Pn**	**23 49 46.2**	**-0.9**
OCU3				*eS*	**Sn**	**23 50 04.4**	**+1.7**
CALO3	**Calobre, Verag**	**1.17**	**58**	*eP*	**Pn**	**23 49 47.7**	**-0.6**
LESP3	**La Esperanza,**	**1.18**	**307**	*eP*	**Pn**	**23 49 48.1**	**-0.2**
LESP3				*eS*	**Sn**	**23 50 07.8**	**+2.7**
BCO2	**Palmira**	**1.23**	**326**	*eP*	**Pn**	**23 49 48.5**	**-0.7**
BCO2				*eS*	**Sn**	**23 50 08.5**	**+2.0**
PESE3	**Pese, Herrera**	**1.23**	**80**	*eP*	**Pb**	**23 49 48.4**	**-0.5**
PESE3				*eS*	**Sn**	**23 50 07.6**	**+1.1**
CHGR2	**Aguacate**	**1.27**	**346**	*eP*	**Pg**	**23 49 48.7**	**-0.5**
CHGR2				*eS*	**Sn**	**23 50 06.9**	**-0.6**
CRIS3	**El Cristo, Coc**	**1.33**	**65**	*eP*	**Pb**	**23 49 49.9**	**-0.7**
CRIS3				*eS*	**Sn**	**23 50 11.2**	**+2.3**
CDITO	**Canoas**	**1.35**	**311**	*eP*	**Pg**	**23 49 50.5**	**0.0**
BRU2	**Volcan**	**1.38**	**323**	*eP*	**Pg**	**23 49 50.7**	**-0.5**
BRU2				*eS*	**Sn**	**23 50 12.2**	**+1.8**
BRU2	**Volcan**	**1.38**	**323**	*eP*	**Pb**	**23 49 50.6**	**-0.9**
TOSI3	**Tonosi**	**1.42**	**101**	*eP*	**Pn**	**23 49 50.9**	**-0.8**
TOSI3				*eS*	**Sb**	**23 50 10.0**	**-0.5**
CHIT3	**Chitre**	**1.43**	**79**	*eP*	**Pn**	**23 49 51.4**	**-0.5**
CHIT3				*eS*	**Sg**	**23 50 12.6**	**+1.7**
MLIR3	**Monte Lirio, C**	**1.47**	**318**	*eP*	**Pg**	**23 49 53.4**	**+0.6**
MLIR3	**Monte Lirio, C**	**1.47**	**318**	*eS*	**Sg**	**23 50 15.0**	**+3.1**
AZU	**Azuero**	**1.56**	**86**	⇓*iP*	**Pn**	**23 49 53.1**	**-0.5**
AZU				*eS*	**Sg**	**23 50 15.8**	**+1.1**
AZU				*i*		23 50 20.7	
	comp=Z,3μm,0.5s						
AZU	**Azuero**	**1.56**	**86**	⇓*iP*	**Pn**	**23 49 53.2**	**-0.4**
AZU				*eS*	**Sg**	**23 50 15.8**	**+1.1**
PIRO	**Carate, Puerto**	**1.64**	**296**	*eP*	**Pn**	**23 49 53.2**	**-1.5**
PIRO				*eS*	**Sn**	**23 50 13.6**	**-2.9**
PTJ1	**Puerto Jimnez**	**1.67**	**300**	*eP*	**Pg**	**23 49 56.1**	**-0.7**
PTJ1				*eS*	**Sg**	**23 50 25.4**	**+6.9**
ACHO3	**Achotines, Los**	**1.68**	**99**	*eP*	**Pn**	**23 49 55.1**	**-0.1**
ACHO3				*eS*	**Sb**	**23 50 17.9**	**-0.1**
PNME	**Penonome**	**1.69**	**62**	*eP*	**Pb**	**23 49 55.9**	**-0.8**
PNME				*eS*	**Sg**	**23 50 21.3**	**+2.1**
PCRI3	**Pocri, Los San**	**1.71**	**91**	*eP*	**Pb**	**23 49 56.6**	**-0.3**
PCRI3				*eS*	**Sg**	**23 50 22.1**	**+2.5**
VTON	**El Valle, Cocl**	**1.94**	**62**	*eP*	**Pb**	**23 50 00.5**	**-0.4**
VTON				*eS*	**Sg**	**23 50 27.6**	**+0.5**
EDPN	**Palmar Norte**	**2.04**	**308**	*eP*	**Pn**	**23 50 00.1**	**0.0**
DRK0	**Durika**	**2.09**	**318**	*eP*	**Pn**	**23 50 00.9**	**-0.2**
DRK0				*eS*	**Sg**	**23 50 31.6**	**-0.4**
DRK0	**Durika**	**2.09**	**318**	*eP*	**Pn**	**23 50 00.8**	**-0.2**
ZANG	**Zanguenga, Cho**	**2.32**	**57**	*eP*	**Pb**	**23 50 06.2**	**-1.2**
ZANG				*eS*	**Sg**	**23 50 35.5**	**+1.1**
CHOR3	**La Chorrera**	**2.38**	**60**	*eP*	**Pb**	**23 50 07.7**	**-0.5**
CHOR3				*eS*	**Sg**	**23 50 41.9**	**+0.7**
BCIP	**Isla Barro Col**	**2.46**	**53**	*eP*	**Pb**	**23 50 08.2**	**-1.6**
BCIP				*eS*	**Sg**	**23 50 43.4**	**-0.6**
BCIP				*i*		23 50 46.0	
	comp=Z,268nm,0.5s						
BCIP	**Isla Barro Col**	**2.46**	**53**	*eP*	**Pb**	**23 50 08.2**	**-1.6**
BCIP				*eS*	**Sb**	**23 50 39.7**	**-1.0**
PEZE	**Perez Zeledon,**	**2.48**	**313**	*eP*	**Pn**	**23 50 07.2**	**+0.9**
MLIR	**Monte Lirio**	**2.50**	**52**	*eP*	**Pb**	**23 50 09.5**	**-0.9**
MLIR	**Monte Lirio**	**2.50**	**52**	*eS*	**Sg**	**23 50 43.7**	**-1.4**
ARRA3	**Arraijan, Pana**	**2.50**	**59**	*eP*	**Pb**	**23 50 09.2**	**-1.3**
ARRA3				*eS*	**Sg**	**23 50 43.5**	**-1.8**
TABO3	**Taboga, Panama**	**2.51**	**64**	*eP*	**Pb**	**23 50 09.5**	**-1.1**
TABO3				*eS*	**Sg**	**23 50 45.6**	**0.0**
EDDO	**Dominical**	**2.53**	**308**	*eP*	**Pb**	**23 50 09.9**	**-1.2**
MFS3	**Miraflores**	**2.58**	**60**	*eP*	**Pb**	**23 50 11.8**	**+0.1**
MFS3				*eS*	**Sg**	**23 50 48.4**	**+0.8**
FLAM	**Flamenco Islan**	**2.58**	**62**	*eP*	**Pb**	**23 50 10.4**	**-1.4**
FLAM				*eS*	**Sg**	**23 50 45.7**	**-2.1**
FRIJ	**El Hiral**	**2.59**	**54**	*eP*	**Pb**	**23 50 10.2**	**-1.8**
UPA	**Univ. de Panam**	**2.62**	**61**	*eP*	**Pb**	**23 50 10.0**	**-2.5**
UPA	**Univ. de Panam**	**2.62**	**61**	*eP*	**Pb**	**23 50 10.4**	**-2.0**
UPA				*eS*	**Sg**	**23 50 47.8**	**-1.1**
CDM	**Cerro de Muert**	**2.65**	**314**	*eP*	**Pb**	**23 50 10.4**	**-3.0**
RIMA	**Rio Macho**	**2.87**	**316**	*eP*	**Pn**	**23 50 13.3**	**+1.4**
LCR2	**La Lucha 2**	**2.95**	**314**	*eP*	**Pb**	**23 50 15.4**	**-2.9**
CVTR	**Volcan Turrial**	**2.99**	**321**	*eP*	**Pb**	**23 50 16.6**	**-2.5**
CHPO	**Chepo, Panama**	**3.07**	**61**	*eP*	**Pn**	**23 50 15.6**	**+1.2**
CHPO				*eS*	**Sb**	**23 50 55.2**	**-2.9**
HDC	**Heredia**	**3.21**	**316**	*eP*	**Pn**	**23 50 18.5**	**+2.0**
HDC				*eS*	**Sn**	**23 50 55.6**	**+0.1**
UPD2	**Meteti**	**3.88**	**77**	*eP*	**Pn**	**23 50 28.2**	**+2.6**
UPD2				*eS*	**Sb**	**23 51 20.0**	**-1.5**
JTS	**Las Juntas de**	**4.01**	**310**	*eP*	**Pn**	**23 50 28.9**	**+1.4**
CAP2	**Capurgana**	**4.54**	**78**	*eP*	**Pn**	**23 50 36.5**	**+1.9**
CAP2				*eS*	**Sn**	**23 51 32.2**	**+4.2**
CAPC	**Capurgana**	**4.54**	**78**	*eP*	**Pn**	**23 50 34.6**	**0.0**
MOTC	**Monteria, Cord**	**6.21**	**80**	*eP*	**Pn**	**23 50 59.7**	**+2.1**
URES	**San Jos de Ur**	**6.25**	**89**	*eP*	**Pn**	**23 50 58.9**	**+0.7**
YOTC	**Yotoco, Valle**	**6.59**	**124**	*eP*	**Pn**	**23 51 01.1**	**-1.9**
ZARC	**Zaragoza, Cauc**	**6.92**	**91**	*eP*	**Pn**	**23 51 07.4**	**0.0**
SJCC	**San Jacinto, C**	**6.94**	**71**	*eP*	**Pn**	**23 51 11.0**	**+3.3**
POPC	**Popayan, Colom**	**7.25**	**135**	*eP*	**Pn**	**23 51 10.9**	**-1.3**

BJI ***29*** *23:54:43.1±0.0, 29.81N×138.98E, h418km, mB4.5/34, mb4.8/54*
NIED ***29*** *23:54:44.4, 29.90N×139.22E, h439km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr0.14; Mθθ0.82; Mϕϕ-0.97; Mrθ0.86; Mϕθ0.37; Mϕr-0.25; Fault plane solution: M0 1.31000×10^16 NP1: ϕs125.00000°, δ82.00000°, λ40.00000°. NP2: ϕs29.00000°, δ50.00000°, λ170.00000°*
JMA ***29*** *23:54:44.4±0.2, 29.90N×139.22E, h439km±3km, M5.1*
MOS ***29*** *23:54:44.0±0.9, 29.88N×138.84E, h416km, mb4.5/66, Error ellipse: s-maj=6.9km s-min=4.3km az=102.3*
NEIC ***29*** *23:54:45.5±1.1, 29.86N±0.08×138.9E±0.1, h422km±5km, mb4.5/262, Error ellipse: s-maj=13.2km s-min=11.1km az=82.0*
IDC ***29*** *23:54:46.8±0.5, 29.92N×138.84E, h428km±5km, mb4.1/39, mb1 4.2/45, mb1mx4.1/57, mbtmp4.9/45, Error ellipse: s-maj=8.3km s-min=5.3km az=91.0*

ISC 29 23:54:45.8±0.3, 29.89N±0.03×138.93E±0.04, h425km±3km, h425km:pP-P, n670, σ1.926/722, mb4.5/203, 67C-19D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**2.67**	**15**	P	**P**	**23 55 48.9**	**+0.6**
JAOM				S	**S**	**23 56 37.7**	**-1.4**
JHCJ	**Hachijojimakas**	**3.26**	**13**	P	**P**	**23 55 52.6**	**-0.2**
JHCJ				S	**S**	**23 56 45.7**	**-1.7**
JHJ2	**Mitsune**	**3.30**	**13**	P	**P**	**23 55 53.2**	**+0.1**
JHJ2				S	**S**	**23 56 46.5**	**-1.5**
JHJ2	**Mitsune**	**3.30**	**13**	P	**P**	**23 55 52.8**	**-0.3**
JHJ2				S	**S**	**23 56 45.7**	**-2.3**
JHJ	**Hachijo jima 2**	**3.30**	**13**	P	**P**	**23 55 53.5**	**+0.4**
	157nm,0.3s,baz=288,slow=7.9,SNR=76						
JHJ				S	**S**	**23 56 45.6**	**-2.4**
	253nm,0.3s,baz=78,slow=21,SNR=16						
CBIJ	**Chichi jima**	**3.99**	**133**	P	**P**	**23 55 57.7**	**-1.6**
CBIJ				S	**S**	**23 56 55.0**	**-4.1**
JCJ	**Chichijima**	**3.99**	**133**	P	**P**	**23 55 57.9**	**-1.4**
	74nm,0.3s,baz=211,slow=6.0,SNR=110						
JCJ				S	**S**	**23 56 55.4**	**-3.8**
	1μm,0.3s,baz=294,slow=23,SNR=48						
JCJ	**Chichijima**	**3.99**	**133**	P	**P**	**23 55 57.5**	**-1.8**
JCJ				S	**S**	**23 56 55.0**	**-4.1**
JMKN	**Mikurajimanish**	**4.03**	**8**	P	**P**	**23 55 59.2**	**-0.3**
JMKN				S	**S**	**23 56 55.7**	**-3.9**
JMMH	**Miemihama**	**4.63**	**329**	P	**P**	**23 56 06.9**	**+1.8**
JIZS	**Izushimoda**	**4.82**	**360**	⇑P	**P**	**23 56 07.2**	**+0.3**
JIZS				S	**S**	**23 57 10.2**	**-3.0**
JTNC	**Tanabenakahech**	**4.83**	**325**	P	**P**	**23 56 09.0**	**+1.9**
JKKS	**Kakegawashinom**	**4.92**	**351**	P	**P**	**23 56 09.7**	**+1.9**
JKKS				S	**S**	**23 57 15.1**	**+0.1**
JAA	**Atsumi**	**4.97**	**343**	P	**P**	**23 56 10.2**	**+1.9**
HMMJ	**Hamamatsu 2**	**5.06**	**349**	P	**P**	**23 56 10.5**	**+1.2**
HMMJ				S	**S**	**23 57 16.3**	**-1.3**
BSO1	**Boso 1**	**5.06**	**20**	P	**P**	**23 56 08.5**	**-0.2**
BSO1				S	**S**	**23 57 13.9**	**-2.7**
AJI	**Ajiro2**	**5.14**	**1**	P	**P**	**23 56 10.1**	**0.0**
JYZW	**Yoshizawa**	**5.19**	**349**	P	**P**	**23 56 11.6**	**+1.0**
SHZ3	**Shizuoka 3**	**5.20**	**353**	P	**P**	**23 56 11.6**	**+0.8**
SHZ3				S	**S**	**23 57 18.3**	**-2.0**
JOD2	**Odawara 2**	**5.36**	**1**	P	**P**	**23 56 12.1**	**-0.3**
JOD2				S	**S**	**23 57 19.7**	**-3.6**
JKUC	**kamogawauchiur**	**5.37**	**11**	S	**S**	**23 57 18.5**	**-4.8**
JNY	**Yasuok**	**5.53**	**351**	⇑P	**P**	**23 56 15.0**	**+0.9**
JAO	**Obara**	**5.55**	**346**	⇑P	**P**	**23 56 15.6**	**+1.3**
JYN	**Shimob**	**5.61**	**357**	⇑P	**P**	**23 56 15.1**	**+0.2**
JSGW	**Sagamiharawaka**	**5.70**	**2**	⇑P	**P**	**23 56 14.7**	**-1.1**
JYTA	**Yamagatataniai**	**5.98**	**343**	P	**P**	**23 56 20.0**

comp=Z,15nm,0.3s,baz=307,slow=2.7,SNR=10
GUMO S **S** **00 01 17.0 -0.6**
comp=Z,3.4nm,0.3s,baz=178,slow=23,SNR=0.9
GUMO Guam 17.12 160 P **P** **23 58 19.4 -0.8**
GUMO S **S** **00 01 17.1 -0.6**
GUMO pmax pmax
comp=Z,143nm,0.9s
GUMO Guam 17.12 160 P **P** **23 58 19.4 -0.8**
SSLB Suanglung 17.15 254 P **P** **23 58 18.7 -1.8**
YSS Yuzh-Sakhalins 17.30 9α *i*P **P** **23 58 22.2 +0.5**
YSS *e*S **S** **00 01 14.7 -5.5**
YSS pmax pmax
comp=Z,300nm,2.7s
YSS pmax pmax
comp=Z,130nm,0.5s
YSS smax smax
comp=N,100nm,3.1s
YSS MLR MLR
comp=Z,100nm,16.0s
YSS Yuzh-Sakhalins 17.30 9 P **P** **23 58 21.3 -0.4**
NJ2 Nanjing 17.35 282⇑ *i*P **P** **23 58 21.5 -1.0**
NJ2 pmax pmax
comp=Z,39nm,0.7s
TWG Pinlang 17.47 250 P **P** **23 58 22.0 -1.9**
CN2 Changchun 17.55 326 *e*P **P** **23 58 25.0 +0.5**
TPUB Ta-pu 17.62 252 P **P** **23 58 24.5 -1.0**
QZH Quanzhou 18.71 260⇑ *i*P **P** **23 58 35.5 -1.1**
QZH S **S** **00 01 44.0 -1.8**
QZH pmax pmax
comp=Z,59nm,0.6s
KNMB Chin-men Tao 19.05 258 P **P** **23 58 36.9 -3.0**
KLR Kul'dur 20.08 346 P **P** **23 58 49.8 +0.7**
comp=Z,29nm,0.4s,baz=161,slow=11,SNR=108
KLR Kul'dur 20.08 346*c i*P **P** **23 58 49.4 +0.3**
GRNR Gornyy 20.94 356 *e*P **P** **23 58 54.9 -2.1**
GRNR MLR MLR
comp=E,300nm,12.0s
GRNR MLR MLR
comp=N,50nm,14.0s
GRNR MLR MLR
comp=Z,60nm,15.0s
TYV Tymovskoe 21.14 7 *e*P **P** **23 58 59.9 +1.2**
TYV pmax pmax
comp=Z,52nm,0.8s
BJT Baijiatuau 21.16 305 IAmb IAmb 23 58 59.5
comp=Z,30nm,1.1s
BJI Beijing 21.17 305 P **P** **23 58 58.5 -0.6**
BJI sP **sP** **00 00 52.5 -2.1**
BJI S **S** **00 02 28.0 +2.6**
BJI pmax pmax
comp=Z,18nm,0.7s
WHN Wuhan 21.24 278⇑ P **P** **23 59 00.5 +0.6**
TGY Tagaytay City 22.86 230 P **P** **23 59 16.5 +1.7**
comp=Z,170nm,0.3s,baz=118,slow=5.0,SNR=3.7
HIA Hailar 24.23 328⇑ *e*P **P** **23 59 27.1 +0.4**
HIA pmax pmax
comp=Z,5.0nm,0.5s
SKR Severo-Kuril's 24.45 27 *e*P **P** **23 59 28.2 -0.3**
SKR *e*S S 00 03 28.4 +11
SKR pmax pmax
comp=Z,40nm,1.1s
SKR pmax pmax
comp=Z,200nm,4.3s
SKR MLR MLR
comp=Z,100nm,18.0s
HHC Hu-ho-hao-te 24.75 304 *e*P **P** **23 59 31.5 -0.1**
HHC pmax pmax
comp=Z,26nm,1.0s
HHC pmax pmax
comp=Z,71nm,4.4s
ZEA Zeya 25.30 344 *e*P **P** **23 59 37.0 +0.9**
ZEA pmax pmax
comp=Z,51nm,0.8s
XAN Xi'an 25.75 287 P **P** **23 59 40.0 -0.4**
XAN pmax pmax
comp=Z,57nm,1.0s
PEA0B Petropavlovsk- 26.97 25 P **P** **23 59 52.2 +1.3**
PEA0B pmax pmax
comp=Z,18nm,0.8s
PEA0B Petropavlovsk- 26.97 25 P **P** **23 59 52.2 +1.3**
PEA0B IAmb IAmb 23 59 53.7
comp=Z,18nm,0.8s
PETK Petropavlovsk- 26.97 25 P **P** **23 59 52.0 +1.1**
comp=Z,4.9nm,0.7s,baz=12,slow=33,SNR=5.8
PETK ScP **ScP** **00 05 57.4 -1.4**
comp=Z,1.2nm,0.5s,baz=46,slow=13,SNR=7.1
PETK Petropavlovsk- 26.97 25 P **P** **23 59 52.0 +1.1**
PETK Petropavlovsk- 26.97 25 P **P** **23 59 52.1 +1.1**
PET Petropavlovsk 27.26 26 P **P** **23 59 53.6 +0.2**
PET pmax pmax
comp=Z,30nm,0.6s
PET Petropavlovsk 27.26 26 P **P** **23 59 53.6 +0.2**
GYA Guiyang 28.60 271⇓ P **P** **00 00 05.8 +0.1**
GYA S **S** **00 04 24.0 +1.0**
GYA pmax pmax
comp=Z,42nm,1.0s
GYA pmax pmax
comp=Z,63nm,5.2s
LZH Lanzhou 29.96 291⇑ P **P** **00 00 17.8 +0.2**
LZH pP pP 00 01 30.0 -2.4
LZH PP **pwP** **00 01 38.5 +0.4**
LZH sP sP 00 02 18.3 -3.1
LZH pmax pmax
comp=Z,26nm,1.1s
LZH pmax pmax
comp=Z,100nm,4.9s
CD2 Chengdu 30.28 281⇓ *i*P **P** **00 00 20.0 -0.3**
CD2 pmax pmax
comp=Z,180nm,4.5s
ULN Ulaanbaatar 30.33 315*d i*P **P** **00 00 21.2 +0.5**
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 30.33 315 P **P** **00 00 20.5 -0.2**
SONM Songino Array 30.72 315 P **P** **00 00 24.3 +0.3**
comp=Z,3.6nm,0.5s,baz=128,slow=8.4,SNR=18
SONM PcP **PcP** **00 03 10.1 +0.7**
comp=Z,1.7nm,0.7s,baz=143,slow=3.9,SNR=4.7
SONM ScP **ScP** **00 06 11.1 +0.1**
comp=Z,3.5nm,0.7s,baz=145,slow=4.1,SNR=14
SONM Songino Array 30.72 315 P **P** **00 00 23.5 -0.5**
SONM Songino Array 30.72 315 **ScP** **00 06 10.9 -0.1**
MA2 Magadan 30.76 12 P **P** **00 00 24.9 +0.9**
comp=Z,63nm,0.5s,baz=188,slow=8.4,SNR=50
MA2 Magadan 30.76 12*c i*P **P** **00 00 24.8 +0.8**
MA2 pmax pmax
comp=Z,54nm,0.6s
MA2 Magadan 30.76 12 P **P** **00 00 24.1 +0.2**
MYLDM Lahad Datu 31.24 222 P **P** **00 00 28.0 -0.7**
MYLDM IAmb IAmb 00 00 32.0
comp=Z,31nm,0.9s
JAY Jayapura 32.26 177 P **P** **00 00 38.9 +1.4**
comp=Z,13nm,0.8s,baz=301,slow=5.3,SNR=7.3
KMI Kunming 32.36 270⇓ *e*P **P** **00 00 34.8 -3.8**
KMI pmax pmax
comp=Z,11nm,0.9s
KMI pmax pmax
comp=Z,77nm,3.5s
KMI Kunming 32.36 270 P **P** **00 00 37.6 -1.0**
KMI pmax pmax
comp=Z,15nm,0.5s
KMI Kunming 32.36 270 P **P** **00 00 37.6 -1.0**
KMI IAmb IAmb 00 00 40.9
comp=Z,15nm,0.5s
SLVN Son La 32.61 263 P **P** **00 00 39.5 -1.1**
SLVN IAmb IAmb 00 00 42.3
comp=Z,18nm,0.6s
YAK Yakutsk 32.72 352 *i* P **P** **00 00 40.5 -0.3**
YAK pmax pmax
comp=Z,24nm,0.9s
GTA Gaotai 33.33 297 *e*P **P** **00 00 46.0 -0.6**
GTA pmax pmax
comp=Z,27nm,0.8s
ZAK Zakamensk 33.63 318 *e*P **P** **00 00 48.0 -0.9**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
TLY Talaya 33.97 320⇓ *e*P **P** **00 00 52.5 +0.8**
TLY pmax pmax
comp=Z,9.0nm,0.8s
UBPT Khong Chiam 33.99 252 P **P** **00 00 51.9 -0.4**
UBPT IAmb IAmb 00 00 53.8
comp=Z,14nm,0.9s
SEY Seymchan 34.18 11 P **P** **00 00 54.5 +1.2**
comp=Z,25nm,0.8s,baz=200,slow=6.8,SNR=66
SEY ScP **ScP** **00 06 22.3 -0.2**
comp=Z,0.6nm,0.4s,baz=6.1,slow=23,SNR=3.6
SEY Seymchan 34.18 11*c i*P **P** **00 00 54.3 +1.0**
AMKA Amchitka 36.78 43 P **P** **00 01 15.8 +0.6**
PBKT Sadao Pong 37.14 258 P **P** **00 01 18.7 0.0**
PBKT **ScP** **00 06 35.9 +1.6**
CHTO Chiang Mai 37.89 262 P **P** **00 01 24.2 -0.6**
CHTO pmax pmax
comp=Z,45nm,0.9s
CHTO Chiang Mai 37.89 262 P **P** **00 01 24.2 -0.6**
CM31 Chiang Mai Arr 38.04 262 P **P** **00 01 25.9 -0.2**
CM31 IAmb IAmb 00 01 27.6
comp=Z,18nm,0.8s
CMAR Chiang Mai Arr 38.04 262 P **P** **00 01 26.6 +0.5**
comp=Z,11nm,0.8s,baz=52,slow=7.1,SNR=61
CMAR PcP **PcP** **00 03 32.5 +1.4**
comp=Z,2.0nm,0.6s,baz=63,slow=1.1,SNR=6.2
CMAR ScP **ScP** **00 06 38.0 +0.3**
comp=Z,1.2nm,0.3s,baz=15,slow=3.9,SNR=5.2
CMAR Chiang Mai Arr 38.04 262*c e*P **P** **00 01 26.6 +0.5**
CMAR pmax pmax
comp=Z,10.0nm,0.6s
CMAR Chiang Mai Arr 38.04 262 P **P** **00 01 26.0 0.0**
KSM Kuching 39.22 229 P **P** **00 01 35.3 -0.4**
KSM IAmb IAmb 00 01 37.8
comp=Z,17nm,0.6s
KAPI Kappang 39.27 211 P **P** **00 01 36.8 +0.6**
comp=Z,4.2nm,0.4s,baz=54,slow=4.3,SNR=3.6
KAPI PcP **PcP** **00 03 36.2 +1.2**
comp=Z,8.4nm,0.5s,baz=155,slow=0.9,SNR=5.3
KAPI Kappang 39.27 211 P **P** **00 01 35.5 -0.7**
KAPI 00 03 36.2
KAPI pmax pmax
comp=Z,19nm,1.1s
KAPI Kappang 39.27 211 P **P** **00 01 35.5 -0.7**
KAPI IAmb IAmb 00 01 38.9
comp=Z,18nm,1.1s
ADK Adak 39.31 43 P **P** **00 01 34.9 -1.1**
ADK pmax pmax
comp=Z,20nm,0.6s
ADK Adak 39.31 43 P **P** **00 01 34.9 -1.1**
ADK IAmb IAmb 00 01 37.4
comp=Z,20nm,0.6s
ATKA Atka Island 40.88 43 P **P** **00 01 48.2 -0.4**
LSA Lhasa 41.22 282 P **P** **00 01 51.4 -1.0**
LSA pmax pmax
comp=Z,8.0nm,0.6s
LSA Lhasa 41.22 282 P **P** **00 01 51.4 -1.0**
MMRI Maumere 41.53 205 P **P** **00 01 53.8 -0.6**
SHL Shillong 41.64 276 P **P** **00 01 54.0 -1.4**
SHL pmax pmax
comp=Z,51nm,1.1s
SHL Shillong 41.64 276 P **P** **00 01 54.0 -1.4**
SOEI Soe 41.86 202 P **P** **00 01 56.7 -0.4**
BATI Baumata 42.49 203 P **P** **00 02 02.0 0.0**
comp=Z,50nm,0.4s,baz=78,slow=0.8,SNR=10.0
WMQ Urumqi 42.63 304 *e*P **P** **00 02 03.5 +0.6**
WMQ PcP **PcP** **00 03 46.8 +1.0**
WMQ pmax pmax
comp=Z,18nm,1.5s
WMQ pmax pmax
comp=Z,36nm,3.6s
WMQ Urumqi 42.63 304 P **P** **00 02 03.1 +0.2**
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ Urumqi 42.63 304 P **P** **00 02 03.1 +0.2**
WMQ IAmb IAmb 00 02 04.5
comp=Z,22nm,0.9s
MTN Manton Dam 43.14 191 P **P** **00 02 06.7 -0.4**
DGZ Jazzator, Alta 43.27 312*d i*P **P** **00 02 08.6 +0.6**
DGZ pmax pmax
comp=Z,17nm,0.9s
KULM Kulim 43.59 243 P **P** **00 02 10.3 -0.4**
KULM IAmb IAmb 00 02 12.6
comp=Z,34nm,1.0s
IPM Ipoh 43.81 242 P **P** **00 02 11.5 -1.0**
IPM IAmb IAmb 00 02 13.7
comp=Z,29nm,1.0s
NIKH Nikolski High 44.22 43 P **P** **00 02 14.7 -0.4**
TAPN Taplejung 44.73 280 *e*P **P** **00 02 20.4 +0.5**
comp=Z,82nm,0.4s
JAGI Jajag, Banyuwa 44.97 216 P **P** **00 02 20.8 -0.6**
ODAN Odare 45.14 279 *e*P **P** **00 02 23.5 +0.5**
ZAA0 Zalesovo Array 45.51 318 **PcP** **00 03 55.4 0.0**
ZALV Zalesovo Beam 45.51 318 P **P** **00 02 24.6 -0.5**
comp=Z,3.7nm,0.4s,baz=98,slow=7.6,SNR=28
ZALV PcP **PcP** **00 03 55.3 -0.2**
comp=Z,5.3nm,0.5s,baz=113,slow=3.3,SNR=15
ZALV ScP **ScP** **00 07 06.1 -0.9**
comp=Z,2.1nm,0.7s,baz=116,slow=4.1,SNR=6.0
ZALV S **S** **00 08 31.6 -2.7**
comp=Z,0.7nm,0.7s,baz=162,slow=16,SNR=2.2
ZALV Zalesovo Beam 45.51 318 P **P** **00 02 24.4 -0.7**
ZALV **PcP** **00 03 55.2 -0.2**
ZALV **ScP** **00 07 05.8 -1.2**
RAMN Ramite 45.79 280 *e*P **P** **00 02 28.5 +0.5**
comp=Z,161nm,0.4s
SMRI Semarang 45.80 221 P **P** **00 02 26.6 -1.3**
JIRN Jiri 45.95 281 *e*P **P** **00 02 30.4 +1.1**
comp=Z,498nm,0.4s
KNRA Kununurra 46.35 194 P **P** **00 02 31.4 -0.5**
PSI Prapat 46.49 242 P **P** **00 02 33.5 +0.2**
comp=Z,23nm,0.9s,baz=0.2,slow=4.6,SNR=20
PSI PcP **pwP** **00 04 00.6 -0.7**
comp=Z,5.3nm,0.5s,baz=180,slow=1.1,SNR=7.5
PSI Prapat 46.49 242 P **P** **00 02 33.5 +0.2**
PSI 00 04 00.3
PSI pmax pmax
comp=Z,29nm,0.9s
MK31 Makanchi Array 46.50 308 PcP **PcP** **00 03 59.2 +0.1**
MKAR Makanchi Array 46.50 308 P **P** **00 02 32.9 0.0**
comp=Z,7.3nm,0.7s,baz=92,slow=9.1,SNR=38
MKAR PcP **PcP** **00 03 59.2 +0.1**
comp=Z,4.3nm,0.5s,baz=82,slow=12,SNR=17
MKAR ScP **ScP** **00 07 10.7 -0.6**
comp=Z,2.3nm,0.7s,baz=77,slow=4.7,SNR=10
BKNI Bangkinang 46.51 238 P **P** **00 02 33.6 +0.2**
LHMI Lhok Sumawe 46.54 247 P **P** **00 02 33.8 +0.3**
RPSI Rantau Prapat 46.55 242 P **P** **00 02 33.5 -0.2**
RPSI IAmb IAmb 00 02 34.7
comp=Z,29nm,0.9s
RPSI PcP **PcP** **00 04 00.3 +0.5**
RPSI Rantau Prapat 46.55 242 **PcP** **00 04 00.6 +0.8**
PKI Pulchoki 46.64 281 *e*P **P** **00 02 34.7 +0.1**
comp=Z,37nm,0.5s
KKN Kakani 46.69 281 *e*P **P** **00 02 35.1 +0.3**
MAKZ Makanchi 46.72 308 P **P** **00 02 34.6 +0.1**
MAKZ 00 04 00.0
MAKZ pmax pmax
comp=Z,7.0nm,0.8s
MAKZ Makanchi 46.72 308 P **P** **00 02 34.6 +0.1**
MAKZ PcP **PcP** **00 04 00.0 +0.1**
DMN Daman 46.88 281 *e*P **P** **00 02 36.8 +0.4**
comp=Z,68nm,0.4s
GKN Gorkha 47.17 282 *e*P **P** **00 02 38.9 +0.4**
comp=Z,92nm,0.3s
CISI Cisompet, Garu 47.75 224 P **P** **00 02 41.6 -1.2**
KOLN Koldanda 48.12 282 *e*P **P** **00 02 46.4 +0.7**
MNAI Manna 48.44 232 P **P** **00 02 46.6 -1.3**
PYUN Piuthan 48.55 282 *e*P **P** **00 02 49.8 +0.9**
comp=Z,672nm,0.4s
ANM Nome 48.81 28 P **P** **00 02 50.6 +0.6**
ANM pmax pmax
comp=Z,26nm,0.9s
ANM Nome 48.81 28 P **P** **00 02 50.6 +0.6**
ANM IAmb IAmb 00 02 52.7
comp=Z,26nm,0.9s
KURK Kurchatov 48.99 313*d i*P **P** **00 02 51.2 -0.4**
KURK *i* *PP **PcP** **00 04 06.5 -1.5**
KURK pmax pmax
comp=Z,19nm,1.2s
KURK Kurchatov 48.99 313 P **P** **00 02 51.3 -0.3**
NRIK Noril'sk 49.01 338 P **P** **00 02 51.9 +0.5**
comp=Z,11nm,0.7s,baz=113,slow=9.0,SNR=17
NRIK ScP **ScP** **00 07 21.0 -0.5**
comp=Z,1.7nm,0.6s,baz=142,slow=4.4,SNR=4.7
NRIK S **S** **00 09 21.8 -0.9**
comp=Z,0.8nm,0.4s,baz=37,slow=23,SNR=7.3
KURBB Kurchatov Arra 49.05 313 P **P** **00 02 51.6 -0.3**
comp=Z,4.4nm,0.3s,baz=92,slow=6.7,SNR=101
KURBB PcP **PcP** **00 04 08.0 -0.3**
comp=Z,1.7nm,0.6s,baz=90,slow=4.3,SNR=5.2
KURBB ScP **ScP** **00 07 20.9 -1.1**
comp=Z,0.8nm,0.7s,baz=100,slow=4.1,SNR=4.1
KURBB S **S** **00 09 20.5 -3.2**
comp=Z,1.3nm,1.0s,baz=88,slow=12,SNR=7.5
FITZ Fitzroy Crossi 49.40 197 P **P** **00 02 55.9 +1.0**
comp=Z,24nm,0.7s,baz=24,slow=11,SNR=18
FITZ PcP **PcP** **00 04 10.8 +0.9**
comp=Z,1.9nm,0.5s,baz=8.6,slow=5.7,SNR=1.3
FITZ ScP **ScP** **00 07 24.7 +0.8**
comp=Z,1.5nm,0.7s,baz=2.0,slow=5.0,SNR=2.0
FITZ Fitzroy Crossi 49.40 197 P **P** **00 02 54.2 -0.7**
FITZ IAmb IAmb 00 02 56.9
comp=Z,27nm,0.8s
SDPT Sand Point 49.42 41 P **P** **00 02 54.9 +0.2**
PRZ Przheval'sk 49.48 302 P **P** **00 02 55.8 +0.2**
PRZ pmax pmax
comp=Z,32nm,0.6s
PRZ Przheval'sk 49.48 302 P **P** **00 02 55.8 +0.2**
WB0 Warramunga Arr 49.56 186 P **P** **00 02 55.8 -0.4**
WRAB Tennant Creek 49.73 186*d i*P **P** **00 02 57.6 +0.2**
WRAB pmax pmax
comp=Z,35nm,0.8s
WRAB Tennant Creek 49.73 186 P **P** **00 02 57.9 +0.5**
WRAB IAmb IAmb 00 02 58.7
comp=Z,32nm,0.8s
WR0 Warramunga Arr 49.74 185 IAmb IAmb 00 02 58.8
comp=Z,32nm,0.8s
WRA Warramunga Arr 49.74 186 P **P** **00 02 57.9 +0.4**
comp=Z,30nm,0.7s,baz=4.6,slow=7.8,SNR=149
WRA PcP **PcP** **00 04 12.4 +1.3**
comp=Z,6.3nm,0.4s,baz=356,slow=4.0,SNR=9.6
WRA pP **pP** **00 04 22.9 +2.5**
comp=Z,3.1nm,0.8s,baz=3.9,slow=8.8,SNR=3.8
WRA ScP **ScP** **00 07 25.8 +0.5**
comp=Z,1.5nm,0.8s,baz=359,slow=4.7,SNR=4.6
WRA S **S** **00 09 32.2 -1.6**
comp=Z,2.5nm,0.8s,baz=9.3,slow=15,SNR=7.0
WRA Warramunga Arr 49.74 186 P **P** **00 02 57.0 -0.5**
CNBA Chernabura Isl 49.89 42 P **P** **00 02 58.8 +0.7**
CNBA IAmb IAmb 00 02 59.6
comp=Z,35nm,0.9s
CTA Charters Tower 50.18 171 P **P** **00 03 00.8 +0.1**
comp=Z,2.4nm,0.4s,baz=344,slow=9.0,SNR=2.3
RDOG Red Dog Mine 50.83 24 P **P** **00 03 05.3 +0.3**
RDOG IAmb IAmb 00 03 07.0
comp=Z,23nm,0.7s
TKM2 Tokmak 2 51.48 303 P **P** **00 03 11.0 +0.6**
SNR=11
KSH Kashi 51.71 299 P **P** **00 03 15.5 +3.5**
KSH pmax pmax
comp=Z,13nm,0.7s
KZA Kyzart 51.85 302 P **P** **00 03 14.7 +1.3**
SNR=6.1
KBK Karagaybulak 51.99 303 P **P** **00 03 14.6 +0.5**
SNR=14
CHMS Chumysh 52.09 303 P **P** **00 03 14.6 0.0**
SNR=6.7
FRU1 Bishkek 52.20 303 P **P** **00 03 15.0 -0.5**
FRU1 pmax pmax
comp=Z,14nm,0.7s
FRU1 Bishkek 52.20 303 P **P** **00 03 15.0 -0.5**
FRU1 IAmb IAmb 00 03 16.8
comp=Z,14nm,0.7s
USP Ospenovka 52.24 304 P **P** **00 03 15.9 +0.2**
SNR=8.1
AAK Ala-Archa 52.33 303 P **P** **00 03 16.8 +0.4**
comp=Z,6.3nm,0.5s,baz=114,slow=3.9,SNR=11
AAK ScP **ScP** **00 07 35.1 -1.4**
comp=Z,1.2nm,0.3s,baz=135,slow=4.3,SNR=1.5
AAK Ala-Archa 52.33 303 P **P** **00 03 16.9 +0.4**
SNR=5.3
AAK Ala-Archa 52.33 303 P **P** **00 03 16.1 -0.4**
AAK pmax pmax
comp=Z,7.0nm,0.6s
AAK Ala-Archa 52.33 303 P **P** **00 03 16.1 -0.4**
UCH Uchtor 52.37 302 P **P** **00 03 18.3 +1.1**
SNR=13
TTA Tatalina 52.53 32 P **P** **00 03 18.5 +1.1**
TTA pmax pmax
comp=Z,8.0nm,0.8s
TTA Tatalina 52.53 32 P **P** **00 03 18.5 +1.1**
SVW2 Sparrevohn 52.53 34 P **P** **00 03 18.7 +1.3**
SVW2 IAmb IAmb 00 03 20.3
comp=Z,13nm,0.7s
EKS2 Erkin-Say 52.85 303 P **P** **00 03 20.2 0.0**
SNR=7.1
AML Almayashu 52.99 302 P **P** **00 03 22.6 +1.0**
SNR=6.5
AS31 Alice Springs 53.46 186 P **P** **00 03 24.6 0.0**
AS31 IAmb IAmb 00 03 26.7
comp=Z,10nm,0.5s
ASAR Alice Springs 53.46 186 P **P** **00 03 25.2 +0.6**
comp=Z,14nm,0.5s,baz=1.2,slow=6.2,SNR=176
ASAR PcP **PcP** **00 04 26.6 +1.4**
comp=Z,3.3nm,0.8s,baz=7.8,slow=3.9,SNR=4.9
ASAR ScP **ScP** **00 07 42.7 +1.3**
comp=Z,1.0nm,0.8s,baz=8.2,slow=6.0,SNR=4.2
ASAR S **S** **00 10 24.1 0.0**
comp=Z,2.4nm,0.9s,baz=20,slow=18,SNR=14
ASAR Alice Springs 53.46 186 P **P** **00 03 24.9 +0.3**
RSO Redoubt South 53.87 35 P **P** **00 03 27.9 +0.6**
IMAR Indian Mountai 53.89 28 P **P** **00 03 28.1 +1.0**
KDAK Kodiak Island 53.90 38 P **P** **00 03 28.0 +0.8**
comp=Z,20nm,0.3s,baz=240,slow=1.1,SNR=80
KDAK Kodiak Island 53.90 38 P **P** **00 03 28.3 +1.1**
KDAK pmax pmax
comp=Z,40nm,0.8s
KDAK Kodiak Island 53.90 38 P **P** **00 03 28.3 +1.1**
BVAR Borovoye Array 54.05 316 P **P** **00 03 28.5 +0.1**
comp=Z,15nm,0.4s,baz=100,slow=7.3,SNR=90
BVAR PcP **PcP** **00 04 27.4 +0.3**
comp=Z,3.9nm,0.4s,baz=72,slow=4.8,SNR=9.7
BVAR ScP **ScP** **00 07 42.9 -0.8**
comp=Z,1.2nm,0.7s,baz=87,slow=9.1,SNR=4.8
BVAR S **S** **00 10 28.6 -2.7**
comp=Z,0.6nm,0.8s,baz=87,slow=11,SNR=4.1
BRVK Borovoye 54.12 316 P **P** **00 03 29.1 +0.2**
BRVK pmax pmax
comp=Z,11nm,0.7s
BRVK Borovoye 54.12 316 P **P** **00 03 29.1 +0.2**
BRVK IAmb IAmb 00 03 29.9
comp=Z,11nm,0.7s
PPLA Purkeypile 54.27 32 P **P** **00 03 31.0 +1.0**
PPLA IAmb IAmb 00 03 32.8
comp=Z,19nm,0.7s
PSA00 Pilbara Seismi 54.36 202 P **P** **00 03 31.2 +0.2**
PSA00 Pilbara Seismi 54.36 202 P **P** **00 03 30.4 -0.5**
PSA00 IAmb IAmb 00 03 32.5
comp=Z,26nm,0.7s
SKT Skwentna 54.52 33 IAmb IAmb 00 03 33.3
comp=Z,18nm,0.5s
CNPM China Poot 54.61 36 IAmb IAmb 00 03 35.3
comp=Z,20nm,0.6s
BRLK Bradley Lake 54.79 36 P **P** **00 03 34.6 +1.0**
BRLK IAmb IAmb 00 03 36.2
comp=Z,27nm,0.7s
KTH Kantishna Hill 54.88 31 P **P** **00 03 34.4 +0.2**
BPAW Bear Paw Mtn. 54.88 30 IAmb IAmb 00 03 36.7
comp=Z,18nm,0.7s
SUA Susitna One 54.88 34 IAmb IAmb 00 03 36.3
comp=Z,20nm,0.6s
NIL Nilore 55.12 292 P **P** **00 03 37.1 +0.7**
NIL pmax pmax
comp=Z,33nm,0.8s
NIL Nilore 55.12 292 P **P** **00 03 37.1 +0.7**
NIL IAmb IAmb 00 03 38.0
comp=Z,33nm,0.8s
CUT Chulitna 55.13 32 P **P** **00 03 35.9 +0.1**
baz=268
KK31 Karatay Array 55.14 304 IAmb IAmb 00 03 37.5
comp=Z,23nm,0.8s
KKAR Karatay Array 55.14 304 P **P** **00 03 36.3 -0.1**
KKAR Karatay Array 55.14 304 P **P** **00 03 36.3 -0.1**
KKAR Karatay Array 55.14 304 IAmb IAmb 00 03 37.5
comp=Z,23nm,0.8s
TRF Thorofare Moun 55.16 31 P **P** **00 03 36.5 +0.2**
O22K Cooper Landing 55.37 35 P **P** **00 03 38.7 +1.1**
baz=270
COLD Coldfoot 55.43 27 P **P** **00 03 39.5 +1.5**
baz=265
COLD Coldfoot 55.43 27 P **P** **00 03 38.9 +1.0**
BTK Batken 55.51 300 P **P** **00 03 38.7 -0.4**
BTK pmax pmax
comp=Z,5.0nm,0.6s
BTK Batken 55.51 300 P **P** **00 03 38.7 -0.4**
SEW Seward 55.51 35 IAmb IAmb 00 03 40.0
comp=Z,23nm,0.8s
BWN Browne 55.55 30 IAmb IAmb 00 03 43.9
comp=Z,26nm,0.6s
PMR Palmer 55.66 33 IAmb IAmb 00 03 41.0
comp=Z,30nm,1.0s

NEA2 Nenana 55.73 30 P P 00 03 41.4 +1.3
baz=268,SNR=12
GHO Glory Hole Cre 55.76 33 IAmb IAmb 00 03 44.3
comp=Z,14nm,0.5s
MCK McKinley 55.77 31 IAmb IAmb 00 03 42.2
comp=Z,45nm,1.1s
TOLK Toolik Lake Re 55.79 25 P P 00 03 42.0 +1.5
baz=265
TOLK Toolik Lake Re 55.79 25 P P 00 03 41.6 +1.1
SML Sawmill 56.04 33 P P 00 03 42.8 +0.5
SML IAmb IAmb 00 03 44.1
comp=Z,32nm,0.9s
MDM Murphy Dome 56.10 29 IAmb IAmb 00 03 45.8
comp=Z,22nm,1.1s
WRH Wood River Hil 56.16 30 IAmb IAmb 00 03 45.8
comp=Z,9.1nm,0.5s
EIDS Eidsvold 56.16 167 P P 00 03 43.5 -0.1
COLA College 56.27 29‖ *eP* P 00 03 45.2 +1.4
COLA *i* *PP **pP** 00 05 07.4 -2.7
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA College 56.27 29 P P 00 03 44.4 +0.6
TAS Tashkent 56.37 302 P P 00 03 45.3 +0.3
TAS pmax pmax
comp=Z,18nm,0.6s
TAS Tashkent 56.37 302 P P 00 03 45.3 +0.3
TAS IAmb IAmb 00 03 46.1
comp=Z,18nm,0.6s
POKR Poker Plat Res 56.45 29 P P 00 03 46.1 +1.0
baz=269,SNR=9.5
DHY Denali Highway 56.47 32 IAmb IAmb 00 03 49.6
comp=Z,12nm,0.6s
SCM Sheep Creek Mo 56.51 33 P P 00 03 46.3 +0.6
SCM pmax pmax
comp=Z,42nm,1.0s
SCM Sheep Creek Mo 56.51 33 P P 00 03 46.3 +0.6
HDA Harding Lake 56.65 30 P P 00 03 46.6 +0.1
baz=270,SNR=17
HDA Harding Lake 56.65 30 P P 00 03 46.4 -0.1
HDA IAmb IAmb 00 03 47.5
comp=Z,22nm,0.8s
GLI Glacier Island 56.66 34 IAmb IAmb 00 03 47.9
comp=Z,19nm,0.6s
ILAR Eielson Array 56.68 30 P P 00 03 46.7 0.0
comp=Z,6.4nm,0.7s,baz=255,slow=4.7,SNR=80
ILAR Eielson Array 56.68 30 P P 00 03 46.2 -0.5
M24K Tolsona, Glenn 57.05 33 P P 00 03 50.8 +1.4
baz=272
KLU Klutina 57.20 33 P P 00 03 51.2 +0.8
KLU IAmb IAmb 00 03 52.5
comp=Z,13nm,0.9s
PAX Paxson 57.34 32 IAmb IAmb 00 03 53.5
comp=Z,13nm,0.9s
DOT Dot Lake 57.94 31 IAmb IAmb 00 03 57.0
comp=Z,26nm,0.9s
SCRK Sand Creek 57.96 30 P P 00 03 56.3 +0.6
baz=273,SNR=25
MENT Mentasta 58.14 32 IAmb IAmb 00 04 01.4
comp=Z,18nm,0.6s
KBL Kabul 58.24 294 P P 00 03 58.0 -0.2
KBL pmax pmax
comp=Z,12nm,1.0s
KBL Kabul 58.24 294 P P 00 03 58.0 -0.2
VRDI Verde Repeater 58.40 34 IAmb IAmb 00 04 00.3
comp=Z,8.9nm,0.6s
MCARA McCarthy VSAT 58.59 33 P P 00 04 00.9 +1.0
MCARA IAmb IAmb 00 04 02.1
comp=Z,19nm,0.6s
K27K Chicken 58.79 30 P P 00 04 02.6 +1.4
baz=275
PALK Pallekele 58.93 260 P P 00 04 03.5 +0.5
comp=Z,12nm,0.5s,baz=146,slow=6.4,SNR=11
PALK Pallekele 58.93 260 P P 00 04 02.4 -0.6
PALK pmax pmax
comp=Z,16nm,0.6s
PALK Pallekele 58.93 260 P P 00 04 02.4 -0.6
PALK IAmb IAmb 00 04 04.0
comp=Z,16nm,0.6s
BALM Baldy 58.95 34 IAmb IAmb 00 04 03.8
comp=Z,12nm,0.6s
ISLE Juniper Island 59.01 34 IAmb IAmb 00 04 05.0
comp=Z,19nm,0.9s
BCAR Beaver Creek A 59.01 31 P P 00 04 03.8 +1.0
BARN Barnard Glacie 59.28 34 P P 00 04 04.9 +0.1
BARN IAmb IAmb 00 04 06.8
comp=Z,12nm,0.6s
CTGM Chitina Glacie 59.45 34 P P 00 04 06.4 +0.6
CTGM IAmb IAmb 00 04 07.9
comp=Z,8.3nm,0.6s
POO Poona 59.75 275 *eP* P 00 04 08.0 -0.4
BCPM Bancas Point 60.43 35 P P 00 04 12.9 +0.6
BCPM IAmb IAmb 00 04 14.6
comp=Z,28nm,0.9s
ARU Arti 60.46 321 *c i* P P 00 04 12.3 -0.2
ARU 00 04 49.4
ARU 00 06 32.0
ARU S S 00 11 55.3 +1.6
ARU SS SS 00 16 00.1 +0.2
ARU pmax pmax
comp=Z,13nm,0.6s
ARU Arti 60.46 321 P P 00 04 12.1 -0.5
ARU IAmb IAmb 00 04 13.2
comp=Z,16nm,0.7s
ABKAR Akbulak array 61.10 313 P P 00 04 16.7 -0.2
FORT Forrest 61.21 191 P P 00 04 18.0 +0.2
HYT Haines Junctio 61.32 34 P P 00 04 19.2 +0.9
HYT IAmb IAmb 00 04 21.2
comp=Z,11nm,0.8s
STKA Stephens Creek 61.48 177 P P 00 04 20.5 +1.0
comp=Z,17nm,0.5s,baz=350,slow=7.2,SNR=40
STKA S S 00 11 58.7 -8.1
comp=Z,3.2nm,1.0s,baz=335,slow=19,SNR=2.3
STKA Stephens Creek 61.48 177 P P 00 04 19.7 +0.2
STKA S S 00 11 58.7 -8.1
STKA pmax pmax
comp=Z,4.0nm,0.6s
STKA Stephens Creek 61.48 177 P P 00 04 19.7 +0.2
INK Inuvik 61.70 25 P P 00 04 21.2 +0.8
comp=Z,5.5nm,0.4s,baz=288,slow=7.6,SNR=32
INK Inuvik 61.70 25 P P 00 04 20.3 -0.2
INK pmax pmax
comp=Z,11nm,0.7s
INK Inuvik 61.70 25 P P 00 04 20.3 -0.2
INK IAmb IAmb 00 04 22.1
comp=Z,11nm,0.7s
BBOO Buckleboo 62.41 183 P P 00 04 25.9 +0.3
BBOO IAmb IAmb 00 04 27.6
comp=Z,26nm,1.1s
MORW Morawa 62.56 203 P P 00 04 27.3 +0.6
SKAG Skagway 62.67 35 P P 00 04 27.7 +0.8
SKAG IAmb IAmb 00 04 29.2
comp=Z,12nm,0.6s
JIS Juneau Island 63.42 36 P P 00 04 32.1 +0.3
JIS IAmb IAmb 00 04 34.6
comp=Z,17nm,0.8s
HRA Herat 63.63 296 P P 00 04 33.3 -0.7
HRA IAmb IAmb 00 04 34.9
comp=Z,8.8nm,0.6s
A36M Sachs Harbour 63.66 20 P P 00 04 34.4 +1.3
baz=286
C36M Paulatuk 64.79 23 P P 00 04 41.2 +0.8
baz=288
C36M Paulatuk 64.79 23 P P 00 04 40.8 +0.3
GEYT Alibeck 65.60 301 P P 00 04 46.6 +0.4
comp=Z,5.6nm,0.7s,baz=51,slow=2.8,SNR=17
GEYT Alibeck 65.60 301 P P 00 04 45.2 -1.1
GYA0B ALIBECK ARRAY 65.60 301 P P 00 04 45.5 -0.8
GYA0B IAmb IAmb 00 04 51.9
comp=Z,6.7nm,0.8s
PRGR Permogore 65.69 328 *eP* P 00 04 46.2 -0.1
PRGR pmax pmax
comp=Z,11nm,0.7s
NWAO Narrogin (SRO) 65.77 200 P P 00 04 47.5 +0.4
NWAO pmax pmax
comp=Z,69nm,0.7s
NWAO Narrogin (SRO) 65.77 200 P P 00 04 47.5 +0.4
NWAO Narrogin (SRO) 65.77 200 P P 00 04 47.0 -0.1
NWAO IAmb IAmb 00 04 48.7
comp=Z,54nm,0.7s
SPA0 Spitsbergen Ar 67.12 349 *eP* P 00 04 55.7 +0.7
TOO Toolangi 67.39 174 P P 00 04 57.2 0.0
TOO pmax pmax
comp=Z,10.0nm,1.1s
TOO Toolangi 67.39 174 P P 00 04 57.2 0.0
TOO IAmb IAmb 00 05 04.9
comp=Z,10nm,1.1s
EUNU Eureka 67.54 8 P P 00 04 58.0 +0.3
EUNU IAmb IAmb 00 04 59.3
comp=Z,11nm,0.8s
HSPB Hornsund (broa 67.99 348 *eP* P 00 05 01.2 +0.8
KLMR Klimovskoe 68.73 329 *eP* P 00 05 02.9 -2.2
KLMR pmax pmax
comp=Z,6.0nm,0.7s
KLMR Klimovskoe 68.73 329 *eP* P 00 05 03.0 -2.2
KLMR AMP 00 05 05.4
comp=Z,6.0nm,0.7s
HAMF Hammerfest 69.89 341 *eP* P 00 05 12.3 +0.4
ARCES ARCESS Array B 69.96 340 P P 00 05 13.2 +0.8
comp=Z,1.6nm,0.6s,baz=71,slow=7.3,SNR=18
ARE0 ARCESS Array S 69.96 340 *eP* P 00 05 12.8 +0.4
WSAR Wadi Sarin 70.78 286 P P 00 05 18.5 +0.3
comp=Z,7.5nm,0.9s,baz=156,slow=6.5,SNR=5.7
KTK1 Kautokeino 70.92 340 *eP* P 00 05 18.5 +0.3
YKA Yellowknife Ar 71.05 28 P P 00 05 19.1 +0.1
comp=Z,6.1nm,0.7s,baz=345,slow=10.0,SNR=12
VRH Novokhopyorsk 71.53 319 *eP* P 00 05 21.5 -0.6
VRH pmax pmax
comp=Z,20nm,0.6s
TRO Tromso 71.80 341 *eP* P 00 05 24.0 +0.7
LPSR Galich'ya Gora 72.49 321 *eP* P 00 05 27.0 -0.6
LPSR pmax pmax
comp=Z,20nm,0.9s
OBN Obninsk 72.60 324‖ *eP* P 00 05 28.2 0.0
OBN *i* 00 05 44.3
OBN *i* *PP **pwP** 00 07 01.7 -3.2
OBN pmax pmax
comp=Z,21nm,1.2s
PGC Sidney 72.86 43 P P 00 05 29.6 -0.3
PGC IAmb IAmb 00 05 32.5
comp=Z,18nm,0.8s
VSR Storozhevoye 72.97 320 *eP* P 00 05 30.1 -0.4
VSR pmax pmax
comp=Z,30nm,1.2s
VORD Divnogorie 73.01 319 *eP* P 00 05 29.9 -0.8
VORD pmax pmax
comp=Z,10.0nm,0.7s
NLWA Neilton Lookou 73.16 45 P P 00 05 32.2 +0.5
NLWA IAmb IAmb 00 05 34.5
comp=Z,8.7nm,0.7s
D03D Eldon 73.57 44 P P 00 05 35.8 +1.8
baz=296
E03A Lebam 73.72 45 P P 00 05 34.8 0.0
E03A IAmb IAmb 00 05 37.8
comp=Z,13nm,1.1s
B05A Bryant 73.84 43 P P 00 05 37.3 +1.8
baz=297
STEI Steigen 73.92 341 *eP* P 00 05 36.0 +0.4
KBZ Khabaz 74.02 311 P P 00 05 37.1 +0.5
comp=Z,16nm,0.7s,baz=96,slow=4.5,SNR=26
KIV Kislovodsk 74.06 312 ⇑P P 00 05 37.7 +0.7
KIV Kislovodsk 74.06 312 *eP* P 00 05 34.7 -2.3
KIV pmax pmax
comp=Z,53nm,1.1s
KIV Kislovodsk 74.06 312 P P 00 05 37.0 0.0
KIV IAmb IAmb 00 05 39.3
comp=Z,14nm,0.9s
FIA1 FINESS Array S 74.17 333 P P 00 05 37.1 0.0
FIA1 IAmb IAmb 00 05 47.8
comp=Z,8.7nm,1.0s
FINES FINESS Array B 74.17 333 P P 00 05 37.2 0.0
comp=Z,3.4nm,0.4s,baz=65,slow=5.2,SNR=60
FINES FINESS Array B 74.17 333 P P 00 05 37.0 -0.1
FAUS Fauske 74.27 340 *eP* P 00 05 37.9 +0.3
E04D Cinebar 74.33 45 P P 00 05 40.4 +2.1
baz=297
D05A Enumclaw 74.39 44 P P 00 05 39.1 +0.4
D05A IAmb IAmb 00 05 41.4
comp=Z,6.8nm,0.7s
I02D Swisshome 74.62 48 P P 00 05 42.4 +2.4
baz=297
AKH Akhalkalaki 74.64 309 ⇑P P 00 05 41.7 +1.2
F04A Amboy 74.70 46 P P 00 05 41.0 +0.5
F04A IAmb IAmb 00 05 43.1
comp=Z,15nm,0.7s
LON Longmire 74.70 45 P P 00 05 41.3 +0.7
LON pmax pmax
comp=Z,4.0nm,1.1s
LON Longmire 74.70 45 P P 00 05 41.3 +0.7
COR Corvallis 74.75 47 P P 00 05 40.2 -0.6
COR pmax pmax
comp=Z,15nm,1.0s
COR Corvallis 74.75 47 P P 00 05 40.2 -0.6
COR IAmb IAmb 00 05 43.8
comp=Z,15nm,0.9s
KEBM Edson Butte 74.86 49 P P 00 05 42.2 +0.6
J01E Myrtle Point 74.99 49 P P 00 05 44.3 +2.1
baz=297
I03D Drain, OR 75.13 48 P P 00 05 45.4 +2.5
baz=297
H04D Lebanon 75.14 47 P P 00 05 45.0 +1.9
baz=297
LTY Liberty 75.16 44 P P 00 05 43.2 0.0
LTY IAmb IAmb 00 05 44.8
comp=Z,5.0nm,0.6s
F05D White Salmon 75.32 45 P P 00 05 45.6 +1.6
baz=298
MOR8 Moi Rana 75.33 340 *eP* P 00 05 43.1 -0.6
K02D Willamette Mer 75.38 49 P P 00 05 46.3 +1.8
baz=297
H04A Detroit Lake 75.42 47 P P 00 05 45.2 +0.6
H04A IAmb IAmb 00 05 47.2
comp=Z,7.2nm,0.8s
B08A Colville Reser 75.43 42 P P 00 05 45.1 +0.5
B08A IAmb IAmb 00 05 46.9
comp=Z,10nm,0.8s
VSU Vasula 75.56 330⇑ *eP* P 00 05 45.5 +0.5
VSU pmax pmax
comp=Z,36nm,0.9s
L02E Cave Junction 75.67 50 P P 00 05 47.9 +1.8
baz=297
I04A Tendick Farm, 75.69 48 P P 00 05 47.7 +1.6
baz=298
G05D Wamic, OR 75.70 46 P P 00 05 48.2 +2.0
baz=298
I05D Terrebonne, OR 76.12 47 P P 00 05 50.4 +1.8
baz=298
KHMM Horse Mountain 76.17 51 P P 00 05 48.8 -0.2
KHMM IAmb IAmb 00 05 51.8
comp=Z,9.6nm,0.9s
HAWA Hanford 76.26 44 P P 00 05 49.7 +0.5
D08A Wollman Farm, 76.30 43 P P 00 05 50.1 +0.7
D08A IAmb IAmb 00 05 51.7
comp=Z,9.1nm,0.7s
C09A Chrisman Ranch 76.32 43 P P 00 05 50.1 +0.5
C09A IAmb IAmb 00 05 51.5
comp=Z,9.5nm,0.7s
GEVA Gevas 76.34 306 P P 00 05 50.0 -0.1
GEVA IAmb IAmb 00 05 52.0
comp=Z,6.2nm,0.6s
YBH Yreka Blue Hor 76.45 50 P P 00 05 50.8 +0.3
YBH pmax pmax
comp=Z,4.0nm,1.0s
YBH Yreka Blue Hor 76.45 50 P P 00 05 50.8 +0.3
L04D Klamath Falls 76.49 49 P P 00 05 52.4 +1.6
baz=298
E08A Dider Farm, El 76.49 44 P P 00 05 50.9 +0.4
E08A IAmb IAmb 00 05 52.9
comp=Z,7.2nm,0.8s
M02C Callahan 76.52 50 P P 00 05 52.8 +1.9
baz=298
URZ Urewera 76.60 150 P P 00 05 51.5 +0.5
comp=Z,5.0nm,0.5s,baz=7.9,slow=6.2,SNR=1.7
URZ Urewera 76.60 150 IAmb IAmb 00 06 00.3
comp=Z,25nm,1.2s
PINE Pine Mountain 76.63 47 P P 00 05 52.8 +1.2
K04D Chiloquin, OR 76.66 48 P P 00 05 53.5 +1.9
baz=298
J05D Fort Rock, OR 76.68 48 P P 00 05 54.0 +2.2
baz=298
NEW Newport 76.76 42 P P 00 05 53.5 +1.4
baz=300
NEW Newport 76.76 42 P P 00 05 52.7 +0.6
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW Newport 76.76 42 P P 00 05 52.7 +0.6
NEW IAmb IAmb 00 05 54.3
comp=Z,7.2nm,1.0s
N02D Trinity Center 76.81 50 P P 00 05 55.0 +2.5
baz=298
M04C Macdoel 77.00 49 P P 00 05 55.4 +1.7
baz=298
E09A Wood Farm, Sta 77.03 44 P P 00 05 54.3 +0.8
E09A IAmb IAmb 00 05 56.0
comp=Z,9.2nm,1.0s
BKZ Black Stump Fm 77.10 151 P P 00 05 54.4 +0.6
BKZ IAmb IAmb 00 05 55.1
comp=Z,12nm,0.7s
WDC Whiskeytown Da 77.11 51 P P 00 05 54.4 +0.4
WDC pmax pmax
comp=Z,2.0nm,0.7s
WDC Whiskeytown Da 77.11 51 P P 00 05 54.4 +0.4
O02D Mt. Diablo Mer 77.13 51 P P 00 05 56.2 +1.9
baz=298
G08A Pilot Rock 77.14 45 P P 00 05 55.0 +0.8
K05A Summer Lake 77.17 48 P P 00 05 54.8 +0.2
K05A IAmb IAmb 00 05 57.6
comp=Z,12nm,0.9s
NSS Namsos 77.22 339 *eP* P 00 05 54.5 +0.4
I07A Izee 77.40 46 P P 00 05 55.4 -0.3
O03E Paynes Creek 77.74 51 P P 00 05 58.7 +1.1
baz=299
MOD Modoc Plateau 77.95 49 P P 00 05 58.3 -0.5
WALA Waterton Lakes 78.18 40 P P 00 06 00.7 +0.8
WALA IAmb IAmb 00 06 01.8
comp=Z,4.9nm,0.6s
ORV Oroville 78.30 51 P P 00 06 00.3 -0.2
ORV pmax pmax
comp=Z,4.0nm,0.7s
ORV Oroville 78.30 51 P P 00 06 00.3 -0.2
BMO Blue Mountains 78.38 45 P P 00 06 01.4 +0.4
BMO pmax pmax
comp=Z,5.0nm,0.7s
BMO Blue Mountains 78.38 45 P P 00 06 01.4 +0.4
J08A Circle Bar Ran 78.40 47 P P 00 06 02.2 +1.0
J08A IAmb IAmb 00 06 03.9
comp=Z,12nm,1.0s
JTMT Jette 78.67 41 P P 00 06 02.5 0.0
JTMT IAmb IAmb 00 06 04.4
comp=Z,4.8nm,0.6s
AKASG Malin Array Be 78.67 322 P P 00 06 01.9 -0.4
comp=Z,3.8nm,0.5s,baz=52,slow=5.6,SNR=16
AKASG pP **pwP** 00 07 42.3 +1.5
comp=Z,1.4nm,0.8s,baz=53,slow=5.9,SNR=1.9
AKASG Malin Array Be 78.67 322 P P 00 06 01.6 -0.7
AKBB Malin Array Si 78.67 322 P P 00 06 02.2 -0.1
AKBB pmax pmax
comp=Z,8.0nm,0.8s
AKBB Malin Array Si 78.67 322 P P 00 06 02.1 -0.1
AKBB IAmb IAmb 00 06 02.9
comp=Z,7.8nm,0.8s
WVOR Wild Horse Val 78.76 47 P P 00 06 03.8 +0.6
WVOR pmax pmax
comp=Z,6.0nm,0.9s
WVOR Wild Horse Val 78.76 47 P P 00 06 03.8 +0.6
AFDM Forest Hills D 78.95 51 P P 00 06 04.6 +0.5
MSO Missoula 79.35 42 P P 00 06 08.1 +1.9
baz=302
PAHR Pah Rah Range 79.64 50 P P 00 06 08.4 +0.4
CMB Columbia Colle 79.80 52 P P 00 06 09.1 +0.4
CMB pmax pmax
comp=Z,7.0nm,0.6s
CMB Columbia Colle 79.80 52 P P 00 06 09.1 +0.4
CMB IAmb IAmb 00 06 10.9
comp=Z,7.2nm,0.6s
PNTR Pine Nut 79.81 51 P P 00 06 09.0 +0.1
TOKA Tokat 79.84 311 P P 00 06 08.9 0.0
TOKA IAmb IAmb 00 06 11.1
comp=Z,8.3nm,0.8s
NB201 NORSAR Array S 79.91 337 P P 00 06 08.8 0.0
NB201 IAmb IAmb 00 06 11.4
comp=Z,13nm,1.1s
DOMB Dombas 79.93 338 *eP* P 00 06 09.0 +0.2
NC204 NORSAR Array S 79.93 337 P P 00 06 09.2 +0.3
NC204 IAmb IAmb 00 06 09.4
comp=Z,14nm,0.8s
NB2 NORSAR Subarra 79.95 337 P P 00 06 08.4 -0.6
comp=Z,2.4nm,0.6s,baz=47,slow=5.1
NB2 pP 00 07 48.4 +6.1
comp=Z,2.4nm,0.9s,baz=44,slow=5.9
NOA NORSAR Array B 79.95 337 P P 00 06 08.9 0.0
comp=Z,1.3nm,0.5s,baz=55,slow=6.6,SNR=24
NOA pP **pP** 00 07 48.6 +6.3
comp=Z,1.6nm,0.8s,baz=44,slow=5.5,SNR=5.6
MFID Camas Ranch 80.03 46 P P 00 06 10.1 +0.3
NC602 NORSAR Array S 80.06 337 *eP* P 00 06 09.0 -0.5
YERR Yerington 80.10 51 P P 00 06 10.8 +0.3
YERR IAmb IAmb 00 06 12.8
comp=Z,5.6nm,0.6s
WAKR Walker 80.21 51 P P 00 06 10.9 -0.1
WAKR IAmb IAmb 00 06 13.3
comp=Z,5.0nm,0.7s
SORM Soroca 80.58 321 ⇑P P 00 06 12.4 0.0
SORM Soroca 80.58 321 ⇑P P 00 06 12.4 0.0
LRM Limekiln Ridge 80.77 42 P P 00 06 15.1 +1.3
RYN Ryan 80.77 51 P P 00 06 13.8 -0.1
RYN IAmb IAmb 00 06 16.4
comp=Z,5.9nm,0.7s
HLID Hailey 80.82 45 P P 00 06 15.7 +1.6
baz=303
KVN Kaiserville 80.83 50 P P 00 06 15.1 +0.8
KVN pmax pmax
comp=Z,6.0nm,0.9s
KVN Kaiserville 80.83 50 P P 00 06 15.1 +0.8
OSL Oslo 80.91 336 *eP* P 00 06 14.4 +0.5
DLMT Dillon 80.93 43 P P 00 06 15.0 +0.4
GAZ Gaziantep 80.94 308 P P 00 06 14.7 0.0
GAZ IAmb IAmb 00 06 16.4
comp=Z,10nm,0.6s
OMMB Old Mammoth Mi 80.96 52 P P 00 06 15.3 +0.1
LHV Little Huntoon 80.97 51 P P 00 06 16.2 +1.5
LHV IAmb IAmb 00 06 17.8
comp=Z,7.4nm,0.8s
NVAR Mina Array Bea 81.02 51 P P 00 06 16.9 +1.6
comp=Z,5.2nm,0.7s,baz=293,slow=5.8,SNR=42
NVAR pP **pwP** 00 07 53.4 +0.8
comp=Z,1.0nm,0.7s,baz=266,slow=4.5,SNR=3.9
NVAR Mina Array Bea 81.02 51 P P 00 06 16.4 +1.2
BCYI Bear Canyon 81.03 44 P P 00 06 16.1 +0.8
EGMT Eagleton 81.05 39 P P 00 06 16.6 +1.5
baz=305
NV11 Mina Array Sit 81.12 51 P P 00 06 16.2 +0.5
SKAR Skarslia 81.18 338 *eP* P 00 06 15.7 +0.2
BOZ Bozeman (W) 81.37 42 P P 00 06 18.3 +1.4
baz=304,SNR=6.6
BOZ Bozeman (W) 81.37 42 P P 00 06 16.7 -0.2
BOZ pmax pmax
comp=Z,3.0nm,0.6s
BOZ Bozeman (W) 81.37 42 P P 00 06 16.7 -0.2
VASR Vaslui 81.75 320 ⇓P P 00 06 19.1 +0.5
TIN Tinemaha, Big 81.78 52 P P 00 06 21.0 +1.9
baz=301
TLCR 81.99 318 ⇑P P 00 06 20.2 +0.4
TLCR 81.99 318 ⇑P P 00 06 20.3 +0.4
BR131 Keskin Array S 82.01 311 IAmb IAmb 00 06 21.4
comp=Z,16nm,0.8s
BRTR Keskin Array B 82.01 311 P P 00 06 20.4 +0.2
comp=Z,15nm,0.9s,baz=97,slow=3.6,SNR=67
BRTR Keskin Array B 82.01 311 P P 00 06 19.8 -0.5
BIR Birlad 82.06 319 ⇑P P 00 06 21.5 +1.3
BIR Birlad 82.06 319 ⇑P P 00 06 21.5 +1.3
YHB Horse Butte 82.10 43 P P 00 06 21.4 +0.7
VARL Varlezi 82.14 319 ⇑P P 00 06 21.5 +0.9
CWC Cottonwood Cre 82.20 52 P P 00 06 22.5 +1.2
baz=302
YHH Holmes Hill 82.28 42 P P 00 06 21.9 +0.2
GIRR Girov 82.29 320 P P 00 06 21.8 +0.5
GHRR 82.30 319 P P 00 06 22.3 +0.9
CFR Carcaliu 82.39 318 ⇑P P 00 06 22.3 +0.4
CFR Carcaliu 82.39 318 ⇑P P 00 06 22.3 +0.4
TUDR 82.42 319 P P 00 06 22.7 +0.7
TOPG Topolog 82.42 318 ⇓P P 00 06 22.7 +0.7
YNR Norris Junctio 82.42 42 P P 00 06 22.8 +0.4
TESR Tescani 82.46 320 ⇑P P 00 06 22.3 0.0
BIZ Bicaz 82.52 320 ⇑P P 00 06 23.5 +0.9
BUR08 Bucovina Ar. S 82.59 321 IAmb IAmb 00 06 24.3
comp=Z,11nm,0.7s
PETR Petresti 82.59 319 ⇑P P 00 06 24.1 +1.2
BURAR Bucovina Array 82.60 321 ⇑P P 00 06 23.9 +0.9
BURAR Bucovina Array 82.60 321 ⇑P P 00 06 23.9 +0.9
BURAR Bucovina Array 82.60 321 P P 00 06 23.4 +0.3
TIRR Tirgusor 82.64 317 ⇓P P 00 06 23.4 +0.2
TIRR Tirgusor 82.64 317 P P 00 06 22.5 -0.7
TIRR pmax pmax
comp=Z,24nm,1.0s
TIRR Tirgusor 82.64 317 P P 00 06 22.5 -0.7

YNE	Yellowstone No	82.64	42	P	P	00 06 24.1	+0.5
H17A	Grant Village	82.67	43	P	P	00 06 24.6	+0.9
H17A				IAmb	IAmb	00 06 28.3	
	comp=Z,13nm,1.0s						
ODBI	Odobesti	82.67	319	⇑P	P	00 06 23.9	+0.6
IMW	Indian Meadow	82.73	43	P	P	00 06 23.8	-0.3
FLWY	Flagg Ranch	82.77	43	P	P	00 06 24.7	+0.5
HARR	Harsova	82.79	318	⇑P	P	00 06 24.1	+0.2
HARR	Harsova	82.79	318	⇑P	P	00 06 24.1	+0.2
VRI	Vrincioaia	82.80	319	⇑P	P	00 06 24.8	+0.8
VRI	Vrincioaia	82.80	319	⇑P	P	00 06 24.8	+0.8
MPMC	Manual Prospec	82.80	53	P	P	00 06 25.7	+1.2
	baz=302,SNR=7.4						
PLOR	Plostina	82.85	319	⇑P	P	00 06 24.4	+0.1
PLOR	Plostina	82.85	319	⇑P	P	00 06 24.4	+0.1
R11A	Troy Canyon, C	82.88	50	P	P	00 06 26.2	+1.5
	baz=303,SNR=9.2						
R11A	Troy Canyon, C	82.88	50	P	P	00 06 24.8	+0.1
TPAW	Teton Pass	82.96	44	P	P	00 06 25.2	0.0
LRMC	Laurel Mtn Rad	82.97	53	P	P	00 06 26.8	+1.5
	baz=302						
BISRR	Bisoca	82.99	319	⇑P	P	00 06 25.9	+0.8
RLMT	Red Lodge	83.01	41	P	P	00 06 27.0	+1.7
	baz=306,SNR=8.4						
RLMT	Red Lodge	83.01	41	P	P	00 06 25.5	+0.1
RLMT				IAmb	IAmb	00 06 27.6	
	comp=Z,5.5nm,0.6s						
FURC	Furnace Creek,	83.02	52	P	P	00 06 27.0	+1.7
	baz=302,SNR=8.2						
EDW2	Edwards Air Fo	83.07	54	P	P	00 06 26.9	+1.3
	baz=302						
LOHW	Long Hollow	83.10	43	P	P	00 06 25.9	+0.1
BGU	Big Grassy Mou	83.12	47	P	P	00 06 26.9	+1.0
MDUB	Mudurnu	83.18	313	P	P	00 06 25.6	-0.6
TPNV	Topopah Spring	83.18	51	P	P	00 06 27.7	+1.4
	baz=302,SNR=12						
TPNV	Topopah Spring	83.18	51	P	P	00 06 26.9	+0.6
TPNV				pmax	pmax		
	comp=Z,12nm,0.8s						
TPNV	Topopah Spring	83.18	51	P	P	00 06 26.9	+0.6
TPNV				IAmb	IAmb	00 06 28.7	
	comp=Z,12nm,0.8s						
OZUR		83.19	320	⇓P	P	00 06 26.6	+0.6
SPUT	South Promonto	83.28	46	P	P	00 06 26.8	+0.1
NEHR	Nehoiu	83.30	319	⇑P	P	00 06 27.0	+0.4
KOLS	Kolonicke sedl	83.35	324	*e*P	P	00 06 25.9	-0.8
KOLS				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MLR	Muntele Rosu	83.46	319	⇑P	P	00 06 27.3	-0.2
MLR	Muntele Rosu	83.46	319	⇑P	P	00 06 27.3	-0.2
DOPR	Dopca	83.49	320	⇑P	P	00 06 28.1	+0.6
HWUT	Hardware Ranch	83.66	45	P	P	00 06 28.9	+0.2
HWUT				IAmb	IAmb	00 06 31.3	
	comp=Z,8.6nm,0.8s						
DUG	Dugway, Tooele	83.67	47	P	P	00 06 30.2	+1.6
	baz=304,SNR=7.8						
DUG	Dugway, Tooele	83.67	47	P	P	00 06 29.1	+0.4
DUG				pmax	pmax		
	comp=Z,10.0nm,1.2s						
DUG	Dugway, Tooele	83.67	47	P	P	00 06 29.1	+0.4
DUG				IAmb	IAmb	00 06 31.3	
	comp=Z,10nm,1.1s						
PRN	Pahroc Range	83.74	50	P	P	00 06 29.1	+0.1
PRN				IAmb	IAmb	00 06 31.8	
	comp=Z,7.9nm,1.1s						
OJC	Ojcow	83.78	326	P	P	00 06 27.8	-1.0
OJC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OJC	Ojcow	83.78	326	P	P	00 06 27.8	-1.0
LAO	LASA Array	83.78	39	P	P	00 06 30.5	+1.5
	baz=308						
LAO	LASA Array	83.78	39	P	P	00 06 28.9	-0.1
CRVS	Cervenica-Dubn	83.79	324	*e*P	P	00 06 29.6	+0.7
PSUT	Pine Spring	83.92	49	P	P	00 06 30.5	+0.5
VOIR		84.00	320	⇓P	P	00 06 29.9	-0.2
VOIR		84.00	320	⇓P	P	00 06 29.9	-0.2
TCUT	Toone Canyon	84.03	46	P	P	00 06 30.7	+0.1
SHPR	Sheep Range	84.16	51	P	P	00 06 31.9	+0.7
BW06	Boulder Array	84.21	44	P	P	00 06 32.3	+0.9
	baz=306						
BW06	Boulder Array	84.21	44	P	P	00 06 31.5	0.0
PD31	Pinedale Array	84.21	44	P	P	00 06 31.6	+0.2
PDAR	Pinedale Array	84.21	44	P	P	00 06 32.5	+1.0
	comp=Z,1.4nm,0.8s,baz=318,sxo=2.0,SNR=11						
PDAR	Pinedale Array	84.21	44	P	P	00 06 31.8	+0.3
TUQ	Turquoise Moun	84.21	52	P	P	00 06 33.0	+1.5
	baz=303,SNR=5.5						
HEC	Hector,Ludlow	84.25	53	P	P	00 06 32.9	+1.3
	baz=303						
ARR	Arges	84.28	320	⇑P	P	00 06 32.4	+1.0
JLU	Jordanelle	84.30	46	P	P	00 06 32.5	+0.6
MURC	Murrieta	84.30	55	P	P	00 06 33.1	+1.3
	baz=302						
LOT	Lotru	84.71	320	⇓P	P	00 06 33.6	-0.1
GMRC	Granite Mounta	84.75	53	P	P	00 06 35.8	+1.7
	baz=303,SNR=5.0						
109C	Camp Elliot, M	84.75	55	P	P	00 06 33.4	-0.6
CCUT	Cedar City	84.78	49	P	P	00 06 33.9	-0.4
PFO	Pinyon Flats O	84.82	54	P	P	00 06 35.9	+1.4
	baz=303						
PFO	Pinyon Flats O	84.82	54	P	P	00 06 34.5	0.0
PFO				pmax	pmax		
	comp=Z,13nm,1.1s						
PFO	Pinyon Flats O	84.82	54	P	P	00 06 34.5	0.0
PFO				IAmb	IAmb	00 06 37.1	
	comp=Z,13nm,1.1s						
BELC	Belle Mtn. Jos	84.93	54	P	P	00 06 36.3	+1.3
	baz=303,SNR=6.3						
SZCU	Shurtz Canyon	84.94	49	P	P	00 06 35.7	+0.5
MSU	Marysvale	85.02	48	P	P	00 06 37.1	+1.6
MSU	Marysvale	85.02	48	P	P	00 06 37.1	+1.6
LCMT	Little Creek M	85.16	50	P	P	00 06 36.7	+0.6
PSZ	Piszkesteto	85.22	324	P	P	00 06 34.0	-2.1
PSZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PSZ	Piszkesteto	85.22	324	P	P	00 06 34.0	-2.1
MONP2	Monument Peak	85.23	55	P	P	00 06 37.5	+0.9
	baz=303						
OSTC	Ostas	85.27	327	*e*P	P	00 06 36.8	+0.6
MTPU	Mount Pierson	85.28	49	P	P	00 06 37.8	+0.8
KRLC	Kraliky	85.33	327	*e*P	P	00 06 36.4	-0.1
KRLC	Kraliky	85.33	327	*e*P	P	00 06 36.4	-0.1
DPC	Dobruska-Polom	85.36	327	*e*P	P	00 06 36.7	0.0
DPC	Dobruska-Polom	85.36	327	*e*P	P	00 06 36.7	0.0
VYHS	Vyhne	85.38	325	*e*P	P	00 06 37.1	+0.3
VYHS				pmax	pmax		
	comp=Z,13nm,1.7s						
P17A	Butcher Ranch,	85.39	47	P	P	00 06 38.1	+0.9
KNB	Kanab	85.44	50	P	P	00 06 39.4	+1.9
KNB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KNB	Kanab	85.44	50	P	P	00 06 39.4	+1.9
IRM	Iron Mountain	85.44	53	P	P	00 06 38.8	+1.4
	baz=303						
BC3	Big Chuckawall	85.50	54	P	P	00 06 39.3	+1.5
	baz=303						
IKP	In-Ko-Pah, Jac	85.58	55	P	P	00 06 39.7	+1.6
	baz=303						
SRU	San Rafael Swe	85.74	47	P	P	00 06 38.1	-0.8
SRU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SRU	San Rafael Swe	85.74	47	P	P	00 06 38.1	-0.8
BZS	Buzias	85.79	321	⇑P	P	00 06 38.4	-0.4
BZS	Buzias	85.79	321	⇑P	P	00 06 38.4	-0.4
HERR	Herculane	85.81	320	⇑P	P	00 06 38.0	-0.9
K22A	Casper	86.07	42	P	P	00 06 41.4	+1.0
	baz=308						
K22A	Casper	86.07	42	IAmb	IAmb	00 06 42.2	
	comp=Z,5.4nm,0.7s						
U15A	North Rim	86.12	50	P	P	00 06 40.8	-0.2
CLL	Collm	86.21	329	*i* P	P	00 06 40.9	+0.2
CLL				e*p*P	pwP	00 08 22.0	+1.1
CLL	Collm	86.21	329	*i* P	P	00 06 40.9	+0.2
RWWY	Rawlins	86.25	43	P	P	00 06 40.6	-0.8
RWWY				IAmb	IAmb	00 06 43.5	
	comp=Z,6.4nm,1.1s						
MDVR	Moldovita	86.26	321	⇑P	P	00 06 40.9	-0.2
GLA	Glamis	86.27	54	P	P	00 06 43.6	+2.1
	baz=304						
MDND	Maddock	86.50	35	P	P	00 06 42.5	+0.3
	baz=312						
O20A	White River Ci	86.56	45	P	P	00 06 44.3	+1.4
	baz=307						
RSSD	Black Hills	86.58	40	P	P	00 06 44.1	+1.1
	baz=309						
RSSD	Black Hills	86.58	40	P	P	00 06 42.9	0.0
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.8s						
RSSD	Black Hills	86.58	40	P	P	00 06 42.9	0.0
TAOE	Nuku Hiva Isla	86.58	102	P	P	00 06 42.0	-1.2
PBCC	Pribram	86.91	328	*e*P	P	00 06 43.6	-0.5
PV14	Lion Creek, Pa	87.12	47	P	P	00 06 45.0	-0.6
PV14				IAmb	IAmb	00 06 47.4	
	comp=Z,6.6nm,1.2s						
KHC	Kasperske Hory	87.49	328	*e*P	P	00 06 46.7	-0.2
KHC	Kasperske Hory	87.49	328	*e*P	P	00 06 46.7	-0.2
N23A	Red Feather La	87.49	43	P	P	00 06 49.4	+2.0
	baz=308						
N23A	Red Feather La	87.49	43	P	P	00 06 48.1	+0.7
N23A				IAmb	IAmb	00 06 50.1	
	comp=Z,5.6nm,0.9s						
GERES	GERESS Array B	87.63	327	P	P	00 06 46.9	-0.7
	comp=Z,1.2nm,0.5s,baz=42,slow=5.6,SNR=14						
GERES				pP	pwP	00 08 28.8	+0.4
	comp=Z,0.5nm,0.7s,baz=2.5,slow=6.9,SNR=2.6						
GERES	GERESS Array B	87.63	327	P	P	00 06 46.8	-0.8
ISCO	Idaho Springs	88.37	44	P	P	00 06 53.0	+1.5
	baz=308						
LIT	Litokhoron	88.77	317	IAmb	IAmb	00 06 52.5	
	comp=Z,8.3nm,0.6s						
SDCO	Great Sand Dun	89.71	46	P	P	00 06 59.2	+1.4
	baz=309						
STAL	STALIGIAL	89.94	326	IAmb	IAmb	00 06 57.3	
	comp=Z,4.5nm,0.7s						
T25A	Trinidad	90.77	46	P	P	00 07 04.2	+1.6
	baz=309						
T25A	Trinidad	90.77	46	IAmb	IAmb	00 07 05.0	
	comp=Z,5.7nm,1.0s						
ANMO	Albuquerque	90.83	48	P	P	00 07 05.0	+2.2
	baz=308						
ANMO	Albuquerque	90.83	48	⇓*e*P	P	00 07 04.9	+2.0
ANMO				pmax	pmax		
	comp=Z,16nm,3.9s						
ANMO	Albuquerque	90.83	48	P	P	00 07 05.1	+2.2
ECSD	EROS Data Cent	90.84	37	P	P	00 07 03.3	+0.8
	baz=314						
FUORN	Ofenpass-Fuorn	90.85	327	IAmb	IAmb	00 07 03.4	
	comp=Z,12nm,1.1s						
SCHQ	Schefferville	92.76	15	pP	pP	00 08 53.9	+5.8
	comp=Z,5.6nm,0.9s,baz=257,slow=4.8,SNR=3.3						
MNTX	Cornudas Mount	93.53	50	P	P	00 07 16.9	+1.7
	baz=308						
KSU1	Kansas State U	94.07	40	P	P	00 07 18.1	+0.6
	baz=314						
TXAR	Lajitas Array	96.17	51	P	P	00 07 29.2	+1.9
	comp=Z,0.4nm,0.5s,baz=304,slow=3.1,SNR=5.2						
TXAR				pP	pwP	00 09 05.2	-1.4
	comp=Z,1.5nm,0.8s,baz=336,slow=2.7,SNR=7.2						
TXAR	Lajitas Array	96.17	51	P	P	00 07 28.2	+0.9
QSPA	South Pole Qui	119.65	180		PKPdf	00 12 45.3	-0.1
TORD	Torodi Ar. Bea	120.60	310	PKP	PKPdf	00 12 48.5	-0.3
	comp=Z,1.7nm,0.6s,baz=46,slow=1.2,SNR=6.9						
TORD				SKP		00 15 43.6	
	comp=Z,0.8nm,0.7s,baz=29,slow=3.3,SNR=1.9						
TORD	Torodi Ar. Bea	120.60	310	PKPdf	PKPdf	00 12 48.2	-0.6
BOSA	Boshof	122.87	253	PKP	PKiKP	00 12 53.5	+0.3
	comp=Z,4.5nm,1.1s,baz=48,slow=1.2,SNR=7.2						
DBIC	Dimbokro	129.70	310	PKP	PKiKP	00 13 06.8	-0.2
	comp=Z,3.9nm,0.7s,baz=310,slow=3.5,SNR=5.8						
LPAZ	La Paz	151.75	67	PKP	PKPdf	00 13 46.2	+0.5
	comp=Z,0.9nm,0.8s,baz=228,slow=3.2,SNR=3.6						
LPAZ				PKPbc	PKiKP	00 13 54.1	+1.4
	comp=Z,2.9nm,0.6s,baz=256,slow=4.6,SNR=1.3						
PLCA	Paso Flores	153.74	122	PKPbc	PKiKP	00 13 56.2	+0.6
	comp=Z,2.0nm,0.7s,baz=241,slow=3.9,SNR=5.8						
PLCA				PKPab	PKPab	00 14 10.5	0.0
	comp=Z,2.2nm,0.9s,baz=118,slow=2.8,SNR=2.9						

TRN 30 00:26:29.4, 10.88N×61.47W, h3km, MD3.7, 1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	Trinidad (W)	0.24	163	*i* P	Pg	00 26 33.4	-0.7
TRN				*e*S	Sg	00 26 38.1	+1.0
TPR	Prospect	0.75	66	*e*P	Pg	00 26 44.2	+0.4
TPR				*e*S	Sb	00 26 55.2	-0.6
BOT	Bacolet	0.80	69	*e*P	Pb	00 26 45.8	0.0
TOSP	Speyside	1.01	66	*e*P	Pg	00 26 48.0	-0.8
TOSP				*e*S	Sb	00 27 03.1	-0.1
GRGR	Grenville	1.26	352	*e*P	Pn	00 26 53.9	0.0
GRGR				*e*S	Sn	00 27 12.0	+0.6
GRHS	Sauteurs	1.35	353	*e*P	Pb	00 26 56.1	+0.9
GRHS				*e*S	Sn	00 27 14.6	+1.1
GRSS	Sisters	1.42	355	*e*P	Pg	00 26 56.9	+0.3
GRSS				*e*S	Sn	00 27 16.3	+1.1
GCMP	Grenada, Carri	1.60	2	*e*P	Pn	00 26 59.0	+0.4
GCMP				*e*S	Sn	00 27 19.6	-0.1
SVB	Belmont	2.39	5	*e*P	Pn	00 27 09.6	+0.2
SVB				*e*S	Sn	00 27 39.9	+0.6
SVCV	St. Vincent, C	2.40	8	*e*P	Pn	00 27 09.3	-0.3
SVCV				*e*S	Sn	00 27 40.7	+1.1
SVV	Soufriere Volc	2.44	6	*e*P	Pn	00 27 09.9	-0.2
SVV				*e*S	Sn	00 27 40.2	-0.3
ORIV	Oritupano	2.62	227	*e*P	Pg	00 27 33.8	+14
MCLT	Moule a Chique	2.86	10	*e*P	Pn	00 27 17.1	+1.1
MCLT				*e*S	Sn	00 27 51.2	+0.2
SLB	Belfond	2.96	8	*e*P	Pn	00 27 17.5	+0.1
SLAC	Saint Lucia, A	3.05	11	*e*P	Pn	00 27 19.7	+1.1
SLBI	Saint Lucia, B	3.16	9	*e*P	Pn	00 27 20.3	+0.2
SLBI				*e*S	Sn	00 27 58.5	+0.1
BAUV	El Baul	6.75	254	*e*P	Pn	00 28 03.1	-6.4
BAUV	El Baul	6.75	254	*e*S	Sn	00 29 15.9	-11

*DDA **30** 01:13:19.7, 36.45N×28.45E, h55km±2km, ML2.5*
*ISK **30** 01:13:19.9, 36.45N×28.45E, h59km±2km, ML3.0/11*
*NIC **30** 01:13:21.2±0.0, 36.12N×28.55E, h51km±3km, MI3.4/2*
*THE **30** 01:13:21.2, 36.45N×28.46E, h53km±2km, ML2.6/2, Error ellipse: s-maj=2.9km s-min=0.7km az=185.0*

ISC 30 01:13:19.3±1.3, 36.41N±0.03×28.45E±0.03, h68km±7km, n46, σ1℘18/72, 2C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	Arkhangelos	0.32	234	P	Pn	01 13 31.1	+0.8
ARG				S	Sn	01 13 38.1	-0.3
	978nm,0.3s						
ARG	Arkhangelos	0.32	234	PG	Pn	01 13 31.1	+0.8
ARG				SG	Sn	01 13 38.7	+0.3
ARG	Arkhangelos	0.32	234	P	Pn	01 13 31.0	+0.8
ARG				S	Sn	01 13 38.6	+0.3
DALY	Dalyan (Mula)	0.44	22	PG	Pn	01 13 31.6	+0.3
DALY				SG	Sn	01 13 39.5	-0.6
DALY	Dalyan (Mula)	0.44	22	*i* P	Pn	01 13 31.7	+0.3
DALY				*i* S	Sn	01 13 38.7	-1.4
DALY				IAML		01 13 40.0	
	comp=N,442nm,0.2s						
DALY				IAML		01 13 41.0	
	comp=E,302nm,0.2s						
FETY	Fethiye	0.56	66	P	Pn	01 13 32.8	+0.3
FETY				S	Sn	01 13 41.1	-1.2
FETY	Fethiye	0.56	66	PG	Pn	01 13 32.8	+0.3
FETY				SG	Sn	01 13 41.9	-0.4
FETY	Fethiye	0.56	66	*i* P	Pn	01 13 32.7	+0.1
FETY				*i* S	Sn	01 13 41.3	-1.0
FETY				IAML		01 13 43.0	
	comp=E,182nm,0.2s						
YER	Yerkesik	0.74	350	P	Pn	01 13 35.2	+0.6
YER	Yerkesik	0.74	350	PG	Pn	01 13 35.8	+1.2
DAT	Datca	0.77	295	P	Pn	01 13 35.5	+0.6
DAT				S	Sn	01 13 46.2	-0.3
DAT	Datca	0.77	295	PG	Pn	01 13 35.5	+0.6
DAT				SG	Sn	01 13 46.7	+0.2
DAT	Datca	0.77	295	*i* P	Pn	01 13 35.4	+0.4
DAT				*i* S	Sn	01 13 45.0	-1.6
AKAS	Kas	0.95	100	*i* P	Pn	01 13 37.5	+0.4
AKAS				*i* S	Sn	01 13 48.7	-1.8
KSL	Kastellorizon	0.95	105	P	Pn	01 13 37.7	+0.7
KSL				S	Sn	01 13 50.6	+0.4
	comp=E,228nm,0.3s						
KSL	Kastellorizon	0.95	105	⇑P	Pn	01 13 37.8	+0.8
KSL				S	Sn	01 13 49.2	-1.0
BDRM	Kayabasi	1.04	310	*i* P	Pn	01 13 38.7	+0.5
BDRM				*i* S	Sn	01 13 51.2	-1.0
TAVA	DENIZLI_Tavas	1.12	19	*i* P	Pn	01 13 40.3	+1.0
TAVA				*i* S	Sn	01 13 54.1	-0.2
BODT	Bodrum	1.12	306	P	Pn	01 13 39.8	+0.6
BODT				S	Sn	01 13 54.0	-0.2
BODT	Bodrum	1.12	306	PN	Pn	01 13 39.9	+0.7
GOLH	Golhisar	1.22	47	*i* P	Pn	01 13 42.3	+1.7
GOLH				*i* S	Sn	01 13 54.7	-1.8
ELL	Elmali	1.23	73	P	Pn	01 13 42.3	+1.6
ELL				S	Sn	01 13 59.9	+3.2
AYDN	Tasoluk	1.33	340	*i* P	Pn	01 13 43.0	+0.9
AYDN				*i* S	Sn	01 13 58.0	-1.1
AYDN				IAML		01 14 01.0	
	comp=N,78nm,0.4s						
AYDN				IAML		01 14 02.0	
	comp=E,84nm,0.2s						
KARP	Karpathos	1.35	231	P	Pn	01 13 43.5	+1.4
KARP	Karpathos	1.35	231	PN	Pn	01 13 43.6	+1.4
KARP	Karpathos	1.35	231	P	Pn	01 13 43.2	+1.0
AKUM	Antalya-Kumluc	1.53	92	*i* P	Pn	01 13 45.6	+1.1
AKUM				*i* S	Sn	01 14 02.3	-1.3
AKUM				IAML		01 14 06.0	
	comp=E,52nm,0.5s						
GCAM	G?zelcaml?	1.62	323	PN	Pn	01 13 46.7	+1.0
GCAM	G?zelcaml?	1.62	323	*i* P	Pn	01 13 46.6	+1.0
GCAM				*i* S	Sn	01 14 04.5	-1.2
GCAM				IAML		01 14 07.0	
	comp=E,63nm,0.4s						
GCAM				IAML		01 14 08.0	
	comp=N,59nm,0.2s						
KORT	Korkueli	1.64	68	*i* P	Pn	01 13 48.1	+1.9
BRDR	BURDUR-Merkez	1.82	45	*i* P	Pn	01 13 49.3	+0.7
SMG	Samos	1.83	316	P	Pn	01 13 49.4	+0.8
DGB	zmir	2.06	323	*i* P	Pn	01 13 52.5	+0.8
DGB				*i* S	Sn	01 14 13.7	-2.7
BLCB	Balcova	2.27	331	PN	Pn	01 13 55.3	+0.8
KZIL	AFYON_Kizioren	2.29	36	*i* P	Pn	01 13 55.5	+0.6
KZIL				*i* S	Sn	01 14 19.2	-2.9
URLA	Izmir	2.45	323	PN	Pn	01 13 57.8	+0.9
KEPZ	Antalya-Kepez	2.59	78	*i* P	Pn	01 14 01.0	+2.2
KEPZ				*i* S	Sn	01 14 30.6	+1.4
CHOS	Chios island	2.75	317	PN	Pn	01 14 02.7	+1.7
AKMS	Akamas	3.45	112	⇓P	Pn	01 14 11.0	+0.3
AKMS				AML	AML	01 14 48.4	
	comp=N,0.2nm,0.5s						
AKMS				AML	AML	01 14 49.7	
	comp=N,0.2nm,0.2s						
ALFC	Alefka	3.60	109	P	Pn	01 14 12.5	-0.1
ALFC				AML	AML	01 14 52.6	
	comp=N,0.1nm,0.2s						
ALFC				AML	AML	01 14 54.0	
	comp=N,0.2nm,0.2s						
OSC1	CSNet OBS 1	3.71	140	P	Pn	01 14 14.1	0.0
OSC1				S	Sn	01 14 53.7	-3.0
NATA	Nata	3.73	115	P	Pn	01 14 14.9	+0.5
SZAC	Souni	3.97	113	⇑P	Pn	01 14 18.1	+0.3
CSS	Mathiatis	4.23	108	P	Pn	01 14 21.3	+0.1
ASGA	Asgata	4.23	111	P	Pn	01 14 21.3	+0.1
MVOU	Mavrovouni	4.44	107	P	Pn	01 14 24.7	+0.6

*NEIC **30** 01:26:31.0±4.1, 58.36N±0.04×132.91W±0.05, h1km±6km, Error ellipse: s-maj=6.6km s-min=3.5km az=192.0*
*OTT **30** 01:26:32.4±1.7, 58.47N±0.05×132.98W±0.07, h10km±2km, ML2.5, Error ellipse: s-maj=8.6km s-min=4.6km az=211.0*
*PGC **30** 01:26:32.4±0.1, 58.47N×132.98W, h10km, ML2.5/3, 85km east of Juneau, Ak British Columbia, Canada*

ISC 30 01:26:31.6±0.9, 58.49N±0.07×133.00W±0.03, h10km, n13, σ1℘08/18, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIS	Juneau Island	0.76	254	Pn	Pn	01 26 48.8	+0.4
BESE	Bessie Mountai	0.97	276	P	Pb	01 26 50.5	-0.2
BESE				S	Sb	01 27 03.6	0.0
BESE	Bessie Mountai	0.97	276	Pn	Pn	01 26 52.5	+1.1
SKAG	Skagway	1.55	310	Pn	Pg	01 27 01.2	-0.1
DLBC	Dease Lake	1.56	91	Pn	Pn	01 26 59.9	+0.4
DLBC				Sn	Sb	01 27 21.0	+0.5
DLBC	Dease Lake	1.56	91	Pn	Pb	01 27 00.4	-0.2
DLBC				Sn	Sg	01 27 21.1	-0.8
SIT	Sitka	1.90	222	Pn	Pn	01 27 03.5	-0.5
PLBC	Pleasant Camp	1.99	301	Pn	Pn	01 27 05.6	+0.2
PLBC				Sn	Sn	01 27 31.3	+1.0
PLBC	Pleasant Camp	1.99	301	Pn	Pn	01 27 05.6	+0.2
PLBC				Sn	Sn	01 27 31.3	+1.0
WRAK	Wrangell Islan	2.11	170	Pn	Pn	01 27 07.2	+0.3
YUK5	Granite Creek	3.61	319	Sg	Sg	01 28 25.3	-2.1
YUK5	Granite Creek	3.61	319	Sg	Sg	01 28 25.3	-2.1
MESA	MESA	4.88	294	Pn	Pn	01 27 47.0	+1.8

*IDC **30** 02:12:47.8±6.2, 16.81S×179.40W, h530km±69km, mb3.0/7, mb1 3.4/7, mb1mx3.1/30, mbtmp3.9/7, Error ellipse: s-maj=85.1km s-min=24.4km az=151.0*
*NEIC **30** 02:12:49.7±0.7, 16.75S±0.5×179.5W±0.2, h552km±11km, mb4.0/5, Error ellipse: s-maj=73.5km s-min=11.7km az=153.0*

ISC 30 02:12:49.4±0.8, 16.65S±0.4×179.6W±0.2, h550km, n17, σ0℘62/18, mb3.4/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	2.54	243	P	P	02 14 02.2	+0.3
AFI	Afiamalu	7.98	71	P	P	02 14 47.6	+0.5
STKA	Stephens Creek	38.31	239	P	P	02 19 23.4	-0.1
	2.8nm,0.9s,baz=97,slow=8.1,SNR=3.1						
STKA	Stephens Creek	38.31	239	IAmb	IAmb	02 20 30.0

*REY **30** 02:35:34.4, 64.68N×17.46W, h8km*
*IDC **30** 02:35:35.3±0.8, 64.60N×17.87W, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.6/41, mbtmp3.7/9, ML4.0/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/42, Error ellipse: s-maj=28.7km s-min=11.3km az=16.0*
*NEIC **30** 02:35:37.1±2.1, 64.55N±0.08×17.9W±0.2, h10km±1km, mb4.2/20, Error ellipse: s-maj=16.5km s-min=6.4km az=217.0*

ISC 30 02:35:36.3±0.5, **64°69N**±0.02×**17°50W**±0.02, **h10**km, **n76**, σ2§52/85, **mb3.8**/14, **Iceland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.11**	**264**	P	**Pg**	**02 35 37.1**	**-2.1**
	baz=269						
IVON				S	**Sg**	**02 35 39.6**	**-1.6**
	baz=269						
IDYN	**Dyngjuhals**	**0.12**	**28**	P	**Pg**	**02 35 37.4**	**-1.9**
	baz=20						
IDYN				S	**Sg**	**02 35 40.0**	**-1.4**
	baz=20						
IGRF	**Grimsfjall**	**0.30**	**161**	P	**Pg**	**02 35 40.0**	**-2.3**
	baz=162						
IKVE	**Kverkfjoll**	**0.35**	**91**	P	**Pg**	**02 35 41.0**	**-2.4**
	baz=89						
IBJK	**Bruarjokull**	**0.39**	**124**	P	**Pg**	**02 35 41.1**	**-2.9**
	baz=124						
IHUS	**Husbondi**	**0.40**	**190**	P	**Pg**	**02 35 42.0**	**-2.2**
	baz=192						
ISKR	**Skrokkalda**	**0.40**	**252**	P	**Pg**	**02 35 42.0**	**-2.3**
	baz=254						
IVOT	**Vottur**	**0.44**	**162**	P	**Pg**	**02 35 42.3**	**-2.6**
	baz=163						
IKRE	**Kreppuhraun**	**0.49**	**78**	P	**Pg**	**02 35 43.0**	**-2.8**
	baz=76						
IKRE				S	**Sg**	**02 35 50.0**	**-2.2**
	baz=76						
IJOK	**Jokulheimar**	**0.49**	**221**	P	**Pg**	**02 35 43.4**	**-2.4**
	baz=223						
IASK	**Askja**	**0.52**	**44**	P	**Pg**	**02 35 43.7**	**-2.6**
	baz=42						
IMKO	**Mokollar**	**0.57**	**59**	P	**Pg**	**02 35 44.7**	**-2.7**
	baz=57						
IMKO				S	**Sg**	**02 35 53.4**	**-1.6**
	baz=57						
IIEY	**Innrieyrar**	**0.65**	**205**	P	**Pg**	**02 35 46.0**	**-3.0**
	baz=207						
IIEY				S	**Sg**	**02 35 55.5**	**-2.0**
	baz=207						
ISVA	**Svartarkot**	**0.66**	**9**	P	**Pg**	**02 35 46.5**	**-2.6**
	baz=7.5						
IKSK	**Karasker**	**0.69**	**139**	P	**Pg**	**02 35 46.0**	**-3.7**
	baz=140						
IKAL	**Kalfafell**	**0.75**	**187**	P	**Pg**	**02 35 47.6**	**-3.1**
	baz=188						
IVSH	**V-Sauoahnukur**	**0.77**	**80**	P	**Pg**	**02 35 47.7**	**-3.4**
	baz=79						
IVAT	**Vatnsfell**	**0.80**	**232**	P	**Pg**	**02 35 48.8**	**-2.9**
	baz=233						
IADA	**Aoalbol**	**0.89**	**67**	P	**Pg**	**02 35 49.7**	**-3.7**
	baz=66						
IFAG	**Fagurholsmyri**	**0.89**	**155**	P	**Pg**	**02 35 49.9**	**-3.6**
	baz=156						
IHVE	**Hveravellir**	**0.91**	**283**	P	**Pg**	**02 35 50.2**	**-3.5**
	baz=283						
IMEL	**Melhnausar**	**0.96**	**21**	P	**Pg**	**02 35 51.1**	**-3.6**
	baz=20						
IREN	**Reynihlio**	**1.00**	**14**	P	**Pg**	**02 35 52.0**	**-3.5**
	baz=13						
IKVO	**Krokottuvotn**	**1.06**	**14**	P	**Pg**	**02 35 53.0**	**-3.8**
	baz=13						
ISNB	**Snabyli**	**1.08**	**208**	P	**Pg**	**02 35 53.2**	**-3.8**
	baz=209						
IGRS	**Grimsstaoir**	**1.12**	**31**	P	**Pb**	**02 35 54.0**	**-3.7**
	baz=30						
IGRS				S	**Sg**	**02 36 10.0**	**-2.2**
	baz=30						
ISLY	**Slysaalda**	**1.12**	**220**	P	**Pb**	**02 35 54.3**	**-3.4**
	baz=221						
IFED	**Fedgar**	**1.16**	**236**	P	**Pb**	**02 35 55.4**	**-3.1**
	baz=237						
IRJU	**Rjupnafell**	**1.19**	**206**	P	**Pb**	**02 35 55.3**	**-3.6**
	baz=207						
ISKI	**Skildingahlsh**	**1.21**	**9**	P	**Pb**	**02 35 55.4**	**-3.8**
	baz=8.5						
IMJO	**Mjoaskard**	**1.21**	**232**	P	**Pn**	**02 35 56.0**	**-3.4**
	baz=233						
IGHA	**Grjothals**	**1.21**	**16**	P	**Pn**	**02 35 55.3**	**-4.1**
	baz=16						
IGRA	**Granastaoir**	**1.24**	**358**	P	**Pn**	**02 35 55.9**	**-3.8**
	baz=358						
BORG	**Borgarnes**	**1.65**	**274**	Pg	**Pn**	**02 36 02.3**	**-2.9**
	26nm,0.3s,baz=98,slow=10,SNR=47						
BORG				Lg	Lg	02 36 23.6	
	17nm,0.3s,baz=12,slow=23,SNR=13						
SCO	**Scoresbysund**	**6.07**	**346**	*i* P	**Pn**	**02 37 05.3**	**-0.6**
SCO				*e*S	**Pn**	**02 37 06.6**	**+0.7**
SCO	**Scoresbysund**	**6.07**	**346**		**Pn**	**02 37 06.9**	**+1.0**
SCO	**Scoresbysund**	**6.07**	**346**	IAML		02 37 12.4	
	comp=Z,8.6nm,0.4s						
SCO				*e*P	**Pn**	**02 37 05.3**	**-0.6**
SCO				*e*S	**Pn**	**02 37 06.6**	**+0.7**
SCO	**Scoresbysund**	**6.07**	**346**	IAML		02 37 12.4	
	comp=Z,8.6nm,0.4s						
SCO				*e*P	**Pn**	**02 37 05.3**	**-0.6**
SCO				*e*S	**Pn**	**02 37 06.6**	**+0.7**
EKA	**Eskdalemuir Ar**	**11.77**	**136**	Pn	**Pn**	**02 38 24.6**	**+0.6**
	baz=323,slow=12,SNR=6.1						
HFS	**Hagfors**	**15.05**	**93**	Pn	**P**	**02 39 14.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=309,slow=9.1,SNR=3.5						
HFS				LR	LR	02 45 58.6	
	comp=Z,21nm,18.6s,baz=306,slow=41						
WLF	**Walferdange**	**19.58**	**129**	P	**Pn**	**02 40 05.3**	**-0.1**
WLF				IAmb	IAmb	02 40 12.7	
	comp=Z,16nm,1.2s						
CLL	**Collm**	**20.71**	**116**	*e*P	**P**	**02 40 17.0**	**+0.6**
BRG	**Berggiesshubel**	**21.42**	**115**	*e*(P)	**P**	**02 40 25.7**	**+1.7**
	comp=Z,3.3nm,0.9s						
BFO	**Black Forest**	**21.46**	**127**	P	**P**	**02 40 29.1**	**+4.6**
CHVC	**Chvalec**	**22.47**	**113**	*e*P	**P**	**02 40 38.8**	**+3.4**
KHC	**Kasperske Hory**	**22.68**	**118**	*e*P	**P**	**02 40 38.8**	**+1.1**
KHC	**Kasperske Hory**	**22.68**	**118**	P	**P**	**02 40 39.8**	**+2.1**
DPC	**Dobruska-Polom**	**22.77**	**113**	*e*P	**P**	**02 40 40.0**	**+1.5**
SENIN	**Lac Senin/Sane**	**22.84**	**132**	P	**P**	**02 40 41.6**	**+2.1**
SENIN				IAmb	IAmb	02 41 04.6	
	comp=Z,19nm,1.7s						
GEC2	**GERESS Array S**	**22.96**	**119**	P	**P**	**02 40 43.8**	**+3.1**
GEC2				IAmb	IAmb	02 40 50.2	
	comp=Z,11nm,1.6s						
GERES	**GERESS Array B**	**22.96**	**119**	P	**P**	**02 40 43.5**	**+2.8**
	comp=Z,0.7nm,0.8s,baz=328,slow=9.5,SNR=6.5						
GERES				LR	LR	02 49 54.7	
	comp=Z,31nm,20.2s,baz=322,slow=37						
KRLC	**Kraliky**	**23.16**	**113**	*e*P	**P**	**02 40 44.1**	**+1.4**
TUE	**Stuetta**	**23.42**	**128**	P	**P**	**02 40 47.1**	**+1.7**
MORC	**Moravsky Berou**	**23.70**	**112**	P	**P**	**02 40 49.9**	**+1.9**
MORC				IAmb	IAmb	02 40 52.7	
	comp=Z,10nm,1.5s						
OJC	**Ojcow**	**24.27**	**109**	P	**P**	**02 40 53.4**	**+0.1**
OJC				IAmb	IAmb	02 40 57.5	
	comp=Z,7.8nm,1.3s						
ZOU	**Zoufplan**	**24.61**	**123**	P	**P**	**02 41 00.1**	**+3.4**
VYHS	**Vyhne**	**25.24**	**112**	*e*P	**P**	**02 41 04.7**	**+2.6**
PSZ	**Piszkesteto**	**26.12**	**112**	P	**P**	**02 41 13.9**	**+3.8**
PSZ				IAmb	IAmb	02 41 15.9	
	comp=Z,10nm,1.4s						
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**	**02 41 11.3**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=355,slow=8.3,SNR=2.6						
AKASG	**Malin Array Be**	**27.84**	**98**	P	**P**	**02 41 28.5**	**+3.0**
	comp=Z,0.4nm,0.4s,baz=312,slow=9.9,SNR=2.2						
BRTR	**Keskin Array B**	**38.48**	**105**	P	**P**	**02 43 00.4**	**+2.1**
	comp=Z,1.2nm,0.8s,baz=353,slow=8.7,SNR=4.0						
ABKAR	**Akbulak array**	**41.98**	**73**	P	**P**	**02 43 28.0**	**+0.9**
IL31		**45.67**	**332**	P	**P**	**02 43 59.4**	**+3.0**
ILAR	**Eielson Array**	**45.67**	**332**	P	**P**	**02 43 57.6**	**+1.1**
	comp=Z,1.2nm,1.1s,baz=26,slow=7.5,SNR=7.2						
IMAR	**Indian Mountai**	**45.84**	**337**	P	**P**	**02 43 59.5**	**+1.7**
MK31	**Makanchi Array**	**52.71**	**58**	P	**P**	**02 44 52.5**	**+1.8**
MKAR	**Makanchi Array**	**52.71**	**58**	P	**P**	**02 44 50.9**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=353,slow=8.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**53.16**	**156**	P	**P**	**02 44 54.1**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=342,slow=9.2,SNR=2.2						
BW06	**Boulder Array**	**53.17**	**293**	P	**P**	**02 44 54.1**	**-0.3**
BW06				IAmb	IAmb	02 45 06.0	
	comp=Z,7.7nm,1.6s						
PD31	**Pinedale Array**	**53.17**	**293**	P	**P**	**02 44 53.8**	**-0.5**
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**02 44 53.2**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=70,slow=6.5,SNR=7.8						
PDAR	**Pinedale Array**	**53.17**	**293**	P	**P**	**02 44 54.1**	**-0.2**
CCAR	**Cane Creek**	**53.25**	**273**	P	**P**	**02 44 55.9**	**+1.2**
BTK	**Batken**	**53.95**	**72**	P	**P**	**02 45 01.7**	**+1.8**
BGU	**Big Grassy Mou**	**56.10**	**295**	P	**P**	**02 45 19.3**	**+3.7**
PV13	**Radium Mtn., P**	**56.79**	**290**	P	**P**	**02 45 21.0**	**+0.4**

*IDC **30** 02:44:41.0±1.3, 23.09S×66.58W, h200km±14km, mb3.2/4, mb1 3.3/9, mb1mx3.2/21, mbtmp3.7/9, MS2.1/1, Ms1 2.1/1, ms1mx2.0/8, Error ellipse: s-maj=22.3km s-min=15.9km az=129.0*
*NEIC **30** 02:44:42.1±3.0, 23.16S±0.08×66.9W±0.2, h227km±11km, Error ellipse: s-maj=25.0km s-min=11.8km az=93.0*
*GUC **30** 02:44:42.1±0.6, 23.01S×67.24W, h258km±10km, ML4.6*

ISC 30 02:44:41.5±1.0, **23°13S**±0.05×**66°8W**±0.1, **h219**km±11km, **n51**, σ1§09/63, **mb3.6**/6, **10C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.04**	**284**	P	**Pn**	**02 45 23.1**	**+0.9**
	20nm,0.3s,baz=89,slow=7.0,SNR=81						
LVC				S	**S**	**02 45 53.8**	**0.0**
	32nm,0.3s,baz=97,slow=6.4,SNR=6.1						
LVC				LR	LR	02 46 13.8	
	comp=Z,47nm,21.7s,baz=156,slow=42						
LVC	**Limon Verde**	**2.04**	**284**	Pn	**Pn**	**02 45 22.9**	**+0.7**
PB15	**IPOC Station P**	**2.49**	**268**	↑*i*P	**Pn**	**02 45 27.5**	**+0.8**
PB15				*e*S	**S**	**02 46 02.4**	**+0.7**
PB15	**IPOC Station P**	**2.49**	**268**	Pn	**Pn**	**02 45 27.7**	**+1.0**
PB06	**IPOC Station P**	**2.62**	**279**	↑*i*P	**Pn**	**02 45 28.5**	**+0.4**
PB06				*e*S	**S**	**02 46 04.4**	**+0.2**
PB06				IAML		02 46 06.9	
	comp=E,1μm,0.1s						
PB06	**IPOC Station P**	**2.62**	**279**	Pn	**Pn**	**02 45 28.9**	**+0.8**
PB09	**IPOC Station P**	**2.65**	**300**	↑*i*P	**Pn**	**02 45 29.4**	**+1.0**
PB09				*e*S	**S**	**02 46 05.5**	**+0.7**
PB09				IAML		02 46 07.8	
	comp=N,484nm,0.2s						
PB09	**IPOC Station P**	**2.65**	**300**	Pn	**Pn**	**02 45 29.4**	**+1.0**
PB03	**IPOC Station P**	**2.96**	**291**	↑*i*P	**Pn**	**02 45 32.3**	**+0.5**
PB03				*e*S	**S**	**02 46 10.5**	**-0.5**
PB03				IAML		02 46 12.5	
	comp=E,919nm,0.2s						
PB05	**IPOC Station P**	**3.18**	**274**	↑*i*P	**Pn**	**02 45 34.7**	**+0.4**
PB05				*e*S	**S**	**02 46 14.1**	**-1.4**
PB05				IAML		02 46 17.3	
	comp=N,444nm,0.7s						
PB07	**IPOC Station P**	**3.21**	**295**	↑*i*P	**Pn**	**02 45 35.1**	**+0.5**
PB07				*e*S	**S**	**02 46 14.7**	**-1.4**
PB07				IAML		02 46 16.8	
	comp=N,1μm,0.2s						
PB07	**IPOC Station P**	**3.21**	**295**	Pn	**Pn**	**02 45 34.8**	**+0.1**
PB04	**IPOC Station P**	**3.22**	**283**	↑*i*P	**Pn**	**02 45 35.4**	**+0.5**
PB04				*e*S	**S**	**02 46 15.8**	**-0.7**
PB04				IAML		02 46 19.3	
	comp=N,998nm,0.2s						
PB04	**IPOC Station P**	**3.22**	**283**	Pn	**Pn**	**02 45 35.2**	**+0.3**
PB01	**IPOC Station P**	**3.27**	**309**	Pn	**Pn**	**02 45 34.8**	**-0.5**
GO02	**Mina Guanaco**	**3.28**	**231**	Pn	**Pn**	**02 45 36.1**	**+0.5**
PB10	**IPOC Station P**	**3.50**	**263**	↑*i*P	**Pn**	**02 45 38.6**	**+0.6**
PB10				*e*S	**S**	**02 46 21.1**	**-1.0**
PB10				IAML		02 46 25.0	
	comp=N,328nm,0.2s						
PB10	**IPOC Station P**	**3.50**	**263**	Pn	**Pn**	**02 45 38.0**	**0.0**
PB14	**IPOC Station P**	**3.65**	**245**	Pn	**Pn**	**02 45 40.0**	**-0.1**
PB08	**IPOC Station P**	**3.71**	**323**	↑*i*P	**Pn**	**02 45 42.2**	**+1.3**
PB08				*e*S	**S**	**02 46 28.0**	**+0.8**
PB08				IAML		02 46 32.1	
	comp=E,284nm,0.4s						
PB08	**IPOC Station P**	**3.71**	**323**	Pn	**Pn**	**02 45 41.5**	**+0.7**
PATCX	**Punta Patache**	**3.89**	**305**	Pn	**Pn**	**02 45 42.5**	**-0.3**
TA01	**Diego Aracena**	**4.07**	**308**	↑*i*P	**Pn**	**02 45 45.0**	**+0.2**
TA01				*e*S	**S**	**02 46 32.3**	**-2.2**
TA01				IAML		02 46 34.2	
	comp=E,478nm,0.3s						
TA01	**Diego Aracena**	**4.07**	**308**	Pn	**Pn**	**02 45 43.5**	**-1.3**
GO01	**Chusmiza**	**4.12**	**326**	Pn	**Pn**	**02 45 46.3**	**+0.4**
AC02	**Maricunga**	**4.27**	**210**	Pn	**Pn**	**02 45 47.5**	**-0.2**
PB11	**IPOC Station P**	**4.30**	**321**	Pn	**Pn**	**02 45 46.3**	**-1.5**
AC01	**Pan de Azucar**	**4.61**	**228**	Pn	**Pn**	**02 45 50.0**	**-1.4**
PSGCX	**Pisagua**	**4.70**	**318**	Pn	**Pn**	**02 45 50.8**	**-1.9**
MNMC	**Minye Minye**	**4.77**	**326**	Pn	**Pn**	**02 45 53.4**	**-0.4**
PB16	**IPOC Station P**	**5.41**	**331**	Pn	**Pn**	**02 46 01.5**	**-0.7**
GO03	**Copiap**	**5.45**	**214**	Pn	**Pn**	**02 45 59.8**	**-2.2**
PB12	**IPOC Station P**	**5.59**	**323**		**Pn**	**02 46 02.0**	**-1.9**
AC04	**Llanos de Chal**	**6.38**	**217**	Pn	**Pn**	**02 46 11.2**	**-2.6**
AC05	**El Transito**	**6.50**	**208**	Pn	**Pn**	**02 46 13.9**	**-1.6**
LCO	**Las Campanas**	**6.85**	**210**	Pn	**Pn**	**02 46 18.4**	**-1.7**
LPAZ	**La Paz**	**6.92**	**349**	P	**Pn**	**02 46 21.6**	**+0.1**
	comp=E,0.7nm,0.3s,baz=164,slow=7.3,SNR=25						
LPAZ				S	**S**	**02 47 39.7**	**-1.3**
	comp=E,0.0nm,0.3s,baz=251,slow=18,SNR=2.6						
LPAZ	**La Paz**	**6.92**	**349**	Pn	**Pn**	**02 46 21.1**	**-0.4**
SIV	**San Ignacio**	**8.89**	**38**	P	**Pn**	**02 46 44.1**	**-2.3**
	comp=E,1.4nm,0.3s,baz=229,slow=10,SNR=37						
PLCA	**Paso Flores**	**17.84**	**189**	P	**P**	**02 48 35.2**	**+0.8**
	comp=E,0.1nm,0.3s,baz=30,slow=20,SNR=1.4						
BDFB	**Brasilia**	**19.18**	**71**	P	**P**	**02 48 48.5**	**-0.5**
	comp=E,0.4nm,0.3s,baz=240,slow=13,SNR=3.7						
PTGA	**Pitinga**	**23.22**	**17**	P	**P**	**02 49 28.8**	**-0.5**
	comp=E,0.7nm,0.4s,baz=270,slow=20,SNR=1.6						
PMSA	**Palmer Station**	**41.68**	**178**	P	**P**	**02 52 06.7**	**-1.5**
PMSA				IAmb	IAmb	02 52 32.3	
	comp=Z,14nm,1.4s						
SNAA	**Sanae**	**60.10**	**161**	P	**P**	**02 54 25.5**	**+0.1**
QSPA	**South Pole Qui**	**67.08**	**180**	P	**P**	**02 55 12.2**	**+1.1**
QSPA				IAmb	IAmb	02 55 14.0	
	comp=Z,2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.05**	**69**	P	**P**	**02 56 04.5**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=254,slow=5.1,SNR=2.3						
PDAR	**Pinedale Array**	**76.51**	**329**	P	**P**	**02 56 09.4**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=124,slow=9.2,SNR=3.6						
ESDC	**Sonseca Array**	**85.62**	**44**	P	**P**	**02 56 56.0**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=223,slow=4.9,SNR=3.0						
ASAR	**Alice Springs**	**129.34**	**205**	PKP	**PKiKP**	**03 03 25.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=143,slow=1.9,SNR=2.7						
WRA	**Warramunga Arr**	**132.50**	**207**	PKP	**PKiKP**	**03 03 31.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=154,slow=1.8,SNR=5.9						
MKAR	**Makanchi Array**	**145.71**	**39**	PKPbc	**PKPab**	**03 03 55.9**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=311,slow=3.4,SNR=14						

*VAO **30** 03:07:58.4±0.6, 11.01S×78.02W, h10km, mb4.5*
*IDC **30** 03:08:00.4±1.9, 10.58S×78.27W, h73km±16km, mb3.3/6, mb1 3.6/10, mb1mx3.4/35, mbtmp3.7/10, MS3.1/8, Ms1 3.1/8, ms1mx3.0/17, Error ellipse: s-maj=32.8km s-min=9.3km az=65.0*

ISC 30 03:07:58.1±0.8, **10°61S**±0.06×**78°37W**±0.08, **h52**km, **n51**, σ1§76/43, **mb3.5**/5, **MS3.1**/3, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.03**	**132**	P	**Pn**	**03 08 30.7**	**+0.8**
	56nm,0.3s,baz=350,slow=7.9,SNR=87						
NNA				S	**Sn**	**03 08 56.7**	**+2.5**
	130nm,0.3s,baz=238,slow=15,SNR=4.4						
NNA				LR	LR	03 09 03.1	
	comp=Z,28nm,20.1s,baz=301,slow=32						
ATAH	**Atahualpa**	**3.45**	**360**	P	**Pn**	**03 08 52.0**	**+2.3**
	28nm,0.3s,baz=195,slow=5.3,SNR=128						
ATAH				S	**Sn**	**03 09 32.2**	**+2.6**
	14nm,0.3s,baz=303,slow=16,SNR=1.6						
ATAH				LR	LR	03 10 17.6	
	comp=Z,187nm,18.6s,baz=265,slow=40						
CZSB	**Cruzeiro do Su**	**6.29**	**63**	*e*P	**Pn**	**03 09 30.0**	**+1.7**
CZSB				*e*S	**Sn**	**03 10 41.5**	**+2.7**
OTAV	**Otavalo**	**10.78**	**360**	*e*P	Pn	03 10 37.8	+7.5
PUAC	**Puerto Asis, P**	**11.23**	**9**	*e*P	**Pn**	**03 10 34.9**	**-1.2**
LPAZ	**La Paz**	**11.45**	**121**	P	**Pn**	**03 10 40.5**	**+1.0**
	0.1nm,0.3s,baz=262,slow=18,SNR=2.6						
LPAZ				LR	LR	03 15 28.7	
	comp=Z,57nm,19.6s,baz=245,slow=39						
LPAZ	**La Paz**	**11.45**	**121**	*e*P	**Pn**	**03 10 41.5**	**+2.0**
ETMB	**Extrema**	**11.99**	**87**	*e*P	**Pn**	**03 10 44.7**	**-1.8**
ETMB				*e*S	**Sn**	**03 12 57.6**	**-1.3**
FLOC	**Florencia**	**12.41**	**13**	*e*P	**Pn**	**03 10 48.7**	**-3.5**
BBAC	**Balboa, Cauca**	**12.60**	**5**	*e*P	**Pn**	**03 10 58.0**	**+3.1**
GARC	**Garzon, Huila**	**13.03**	**13**	*e*P	**Pn**	**03 11 00.9**	**+0.1**
POPC	**Popayan, Colom**	**13.17**	**7**	*e*P	**Pn**	**03 11 02.3**	**-0.5**
MACC	**Macarena, Meta**	**13.45**	**20**	*e*P	**Pn**	**03 11 05.1**	**-1.2**
YOTC	**Yotoco, Valle**	**14.64**	**8**	*e*P	**P**	**03 11 30.6**	**+3.1**
PRAC	**Prado**	**14.65**	**14**	*e*P	**P**	**03 11 26.2**	**-1.3**
ORTC	**Ortega, Tolima**	**14.76**	**12**	*e*P	**Pn**	**03 11 23.4**	**-0.5**
LVC	**Limon Verde**	**14.98**	**144**	P	**Pn**	**03 11 26.2**	**-0.7**
	0.1nm,0.3s,baz=345,slow=12,SNR=1.9						
LVC				LR	LR	03 16 42.4	
	comp=Z,33nm,21.5s,baz=298,slow=35						
SAML	**Samuel**	**15.06**	**85**	*e*P	**Pn**	**03 11 25.2**	**-2.6**
TOLC	**Tolima**	**15.40**	**12**	*e*P	**P**	**03 11 38.7**	**+2.5**
CHIC	**Chingaza**	**15.83**	**17**	*e*P	**P**	**03 11 40.6**	**-0.4**
ROSC	**El Rosal**	**15.87**	**15**	P	**P**	**03 11 39.5**	**-2.0**
	1.3nm,0.3s,baz=225,slow=17,SNR=1.8						
ROSC				LR	LR	03 18 58.0	
	comp=Z,117nm,19.9s,baz=169,slow=42						
GUY2C	**Guyana, Caldas**	**16.01**	**11**	*e*P	**P**	**03 11 45.1**	**+2.0**
CBOC	**Ciudad Bolivar**	**16.53**	**8**	*e*P	**P**	**03 11 49.5**	**+0.9**
RUSC	**La Rusia**	**17.22**	**18**	*e*P	**P**	**03 11 57.4**	**+0.9**
SIV	**San Ignacio**	**17.66**	**109**	P	**P**	**03 11 59.2**	**-1.8**
	0.3nm,0.3s,baz=295,slow=11,SNR=17						
SIV				LR	LR	03 19 18.3	
	comp=Z,57nm,19.5s,baz=300,slow=39						
VILB	**Vilhena**	**17.94**	**99**	*e*P	**P**	**03 12 05.2**	**+1.1**
MACA	**Manacapuru-AM**	**19.05**	**68**	*e*P	**Pn**	**03 12 18.4**	**+1.0**
PTLB	**Pontes e Lacer**	**19.34**	**106**	*e*P	**Pn**	**03 12 20.2**	**-0.7**
SMLC	**San Martn de**	**19.75**	**13**	*e*P	**P**	**03 12 21.3**	**-2.5**
PTGA	**Pitinga**	**20.76**	**63**	P	**P**	**03 12 33.2**	**-1.6**
	1.0nm,0.3s,baz=294,slow=22,SNR=2.1						
PTGA				LR	LR	03 21 13.6	
	comp=Z,82nm,20.5s,baz=238,slow=38						
CLDB	**Colider**	**22.18**	**93**	*e*P	**P**	**03 12 50.0**	**-0.2**
H03N2	**Juan Fernandez**	**22.73**	**181**	T	T	03 36 24.1	
	baz=1.0,slow=75,SNR=428						
H03N1	**Juan Fernandez**	**22.73**	**181**	T	T	03 36 26.4	
	baz=1.0,slow=75,SNR=429						
H03N3	**Juan Fernandez**	**22.74**	**181**	T	T	03 36 25.4	
	baz=1.0,slow=75,SNR=469						
CPUP	**Villa Florida**	**25.29**	**131**	LR	LR	03 24 34.4	
	comp=Z,40nm,19.3s,baz=306,slow=39						
RPN	**Rapa Nui**	**33.45**	**236**	LR	LR	03 24 00.1	
	comp=Z,81nm,18.3s,baz=286,slow=29						
GDU01	**Guandu, BA**	**38.02**	**99**	*e*P	**P**	**03 15 12.5**	**+0.8**
TXAR	**Lajitas Array**	**46.61**	**329**	P	**P**	**03 16 21.2**	**-0.1**
	0.5nm,0.7s,baz=151,slow=8.2,SNR=5.0						
PDAR	**Pinedale Array**	**60.29**	**334**	P	**P**	**03 18 01.7**	**+0.1**
	0.3nm,0.8s,baz=152,slow=6.0,SNR=2.5						
NVAR	**Mina Array Bea**	**61.39**	**325**	P	**P**	**03 18 09.8**	**+0.6**
	0.3nm,0.7s,baz=147,slow=4.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**82.89**	**75**	P	**P**	**03 20 16.8**	**-1.1**
	1.1nm,1.0s,baz=266,slow=4.2,SNR=2.0						
ESDC	**Sonseca Array**	**84.97**	**48**	P	**P**	**03 20 29.0**	**+0.9**
	0.2nm,0.3s,baz=251,slow=4.7,SNR=4.5						
H11N3	**WAKE ISLAND Hyl**	**16.66**	**287**	T	T	05 33 57.7	
	baz=93,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hyl**	**16.67**	**287**	T	T	05 34 06.5	
	baz=93,slow=74,SNR=26						
H11N1	**WAKE ISLAND Hyl**	**16.67**	**287**	T	T	05 34 01.7	
	baz=93,slow=74,SNR=22						
H11S2	**WAKE ISLAND Hyl**	**16.80**	**285**	T	T	05 34 01.3	
	baz=94,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hyl**	**16.80**	**285**	T	T	05 33 50.4	
	baz=94,slow=75,SNR=9.5						
H11S3	**WAKE ISLAND Hyl**	**16.81**	**285**	T	T	05 34 08.0	
	baz=94,slow=75,SNR=14						
ASAR	**Alice Springs**	**133.56**	**223**	PKP	**PKiKP**	**03 27 09.4**	**-1.6**
	0.3nm,0.7s,baz=129,slow=2.1,SNR=5.3						
WRA	**Warramunga Arr**	**135.74**	**227**	PKP	**PKiKP**	**03 27 14.0**	**-1.5**
	0.6nm,0.5s,baz=122,slow=2.2,SNR=9.5						
KSRS	**Korea Array**	**144.31**	**323**	PKP	**PKPd

comp=Z,0.8nm,0.5s,baz=334,slow=5.4,SNR=5.4
ESDC Sonseca Array 79.33 52 P **P** **03 28 34.5 -1.3**
comp=Z,1.0nm,0.9s,baz=268,slow=6.2,SNR=5.2
NOA NORSAR Array B 82.14 28 P **P** **03 28 49.7 -0.6**
comp=Z,0.7nm,0.8s,baz=294,slow=5.3,SNR=3.5
WRA Warramunga Arr 133.94 259 PKP **PKPdf** **03 35 46.5 0.0**
comp=Z,0.5nm,0.7s,baz=85,slow=2.5,SNR=6.7
ASAR Alice Springs 134.57 254 PKP **PKPdf** **03 35 47.3 -0.3**
comp=Z,0.3nm,0.8s,baz=92,slow=2.9,SNR=4.2

*IDC **30** 03:35:01.2±0.8, 7.08N×94.16E, h0km, mb4.0/13, mb1 4.1/15, mb1mx3.9/51, mbtmp3.9/15, ML3.6/1, MS3.3/2, Ms1 3.4/2, ms1mx2.9/43, Error ellipse: s-maj=31.2km s-min=17.5km az=51.0*
*NEIC **30** 03:35:03.5±1.1, 7.11N±0.08×94.2E±0.1, h13km±3km, mb4.5/23, Error ellipse: s-maj=16.8km s-min=9.5km az=59.0*
*DJA **30** 03:35:43.3±1.7, 6.7N±13°×9.7E±°, h62km±16km, M3.3/6, MLv3.3/6*
ISC 30 03:35:04.6±0.5, **7.11N**±0.08×**94.24E**±0.09, **h21km, n62,** σ0s**74/55, mb4.2/21, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.28**	**125**	P		**Pn**	**03 35 57.3**	**+2.5**
LHMI	**Lhok Sumawe**	**3.28**	**125**			**Pn**	**03 35 55.7**	**+0.9**
MLSI	**Meulaboh, Aceh**	**3.55**	**142**	P		**Pb**	**03 36 06.0**	**-0.8**
TPTI		**4.82**	**142**	P		Pb	03 36 22.1	-6.3
KCSI	**Kotacane, Aceh**	**5.01**	**135**	P		**Pn**	**03 36 19.0**	**+0.4**
PSI	**Prapat**	**6.33**	**132**	Pn		**Pn**	**03 36 36.7**	**-0.2**
	1.3nm,0.3s,baz=359,slow=6.1,SNR=2.3							
RPSI	**Rantau Prapat**	**6.41**	**133**			**Pn**	**03 36 37.6**	**-0.2**
RPSI	**Rantau Prapat**	**6.41**	**133**			**Pn**	**03 36 36.7**	**-1.1**
KULM	**Kulim**	**6.63**	**105**			**Pn**	**03 36 40.6**	**-0.3**
GSI	**Gunungsitoli**	**6.66**	**150**	Pn		**Pn**	**03 36 40.7**	**-0.6**
IPM	**Ipoh**	**7.24**	**111**			**Pn**	**03 36 48.6**	**-0.7**
BKNI	**Bangkinang**	**9.56**	**135**	Pn		**Pn**	**03 37 21.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**12.18**	**22**	Pn		**Pn**	**03 37 57.3**	**+0.3**
	baz=223,slow=14,SNR=1.1							
CMAR				LR		LR	03 42 31.0	
	comp=Z,118nm,19.1s,baz=262,slow=37							
CHTO	**Chiang Mai**	**12.51**	**21**	Pn		**Pn**	**03 38 01.0**	**-0.4**
PALK	**Pallekele**	**13.43**	**272**	LR		LR	03 42 43.3	
	comp=Z,195nm,21.9s,baz=192,slow=35							
SHL	**Shillong**	**18.49**	**353**	P		**P**	**03 39 19.8**	**+0.1**
LSA	**Lhasa**	**22.66**	**353**	P		**P**	**03 40 03.3**	**-1.8**
LSA				IAmb		IAmb	03 40 14.3	
	comp=Z,13nm,0.6s							
H08S3	**Diego Garcia H**	**26.17**	**236**	T		T	04 07 27.2	
	baz=56,slow=75,SNR=162							
H08S2	**Diego Garcia H**	**26.17**	**236**	T		T	04 07 26.4	
	baz=56,slow=75,SNR=152							
H08S1	**Diego Garcia H**	**26.19**	**236**	T		T	04 07 27.7	
	baz=56,slow=75,SNR=123							
XAN	**Xi'an**	**30.04**	**25**	P		**P**	**03 41 11.4**	**-0.9**
XAN				IAmb		IAmb	03 41 21.2	
	comp=Z,3.9nm,0.8s							
NIL	**Nilore**	**32.78**	**327**	P		**P**	**03 41 36.3**	**-0.1**
BTK	**Batken**	**38.94**	**331**	P		**P**	**03 42 29.7**	**+0.4**
BTK				IAmb		IAmb	03 42 40.7	
	comp=Z,16nm,1.3s							
MK31	**Makanchi Array**	**40.85**	**347**	P		**P**	**03 42 44.5**	**-0.4**
MKAR	**Makanchi Array**	**40.85**	**347**	P		**P**	**03 42 44.2**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=171,slow=7.7,SNR=30							
MKAR	**Makanchi Array**	**40.85**	**347**	P		**P**	**03 42 44.0**	**-1.0**
MAKZ	**Makanchi**	**40.93**	**347**	P		**P**	**03 42 45.1**	**-0.5**
MAKZ				IAmb		IAmb	03 42 45.8	
	comp=Z,2.8nm,0.6s							
KK31	**Karatay Array**	**41.48**	**334**	P		**P**	**03 42 51.8**	**+1.6**
KKAR	**Karatay Array**	**41.48**	**334**	P		**P**	**03 42 50.5**	**+0.3**
SONM	**Songino Array**	**41.89**	**12**	P		**P**	**03 42 54.1**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=191,slow=6.0,SNR=3.8							
SONM	**Songino Array**	**41.89**	**12**	IAmb		IAmb	03 43 02.3	
	comp=Z,2.0nm,1.0s							
GEYT	**Alibeck**	**44.83**	**319**	P		**P**	**03 43 18.6**	**+1.2**
	comp=Z,3.2nm,0.6s,baz=172,slow=11,SNR=6.8							
GEYT	**Alibeck**	**44.83**	**319**	P		**P**	**03 43 18.0**	**+0.6**
GYA0B	**ALIBECK ARRAY**	**44.83**	**319**	P		**P**	**03 43 18.2**	**+0.9**
KURK	**Kurchatov**	**45.37**	**346**	P		**P**	**03 43 21.5**	**+0.1**
KURK				IAmb		IAmb	03 43 28.7	
	comp=Z,5.5nm,0.8s							
ZAA0	**Zalesovo Array**	**47.32**	**352**	P		**P**	**03 43 36.2**	**-0.5**
ZALV	**Zalesovo Beam**	**47.32**	**352**	P		**P**	**03 43 36.4**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=182,slow=7.1,SNR=4.4							
WRA	**Warramunga Arr**	**47.74**	**125**	P		**P**	**03 43 40.7**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=302,slow=9.6,SNR=1.8							
AS31	**Alice Springs**	**49.36**	**130**	P		**P**	**03 43 53.1**	**+0.2**
ASAR	**Alice Springs**	**49.36**	**130**	P		**P**	**03 43 53.5**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=301,slow=8.0,SNR=2.6							
ASAR				PcP		**PcP**	**03 45 15.9**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=323,slow=2.9,SNR=1.8							
MAJO	**Matsushiro**	**49.60**	**47**	P		**P**	**03 43 54.9**	**+0.3**
ABKAR	**Akbulak array**	**50.94**	**332**	P		**P**	**03 44 05.0**	**+0.6**
ARU	**Arti**	**56.63**	**337**	P		**P**	**03 44 45.9**	**-0.1**
KMBO	**Kilima Mbogo**	**57.44**	**264**	P		**P**	**03 44 52.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=99,slow=13,SNR=1.6							
KMBO	**Kilima Mbogo**	**57.44**	**264**	IAmb		IAmb	03 44 59.3	
	comp=Z,4.2nm,1.1s							
CTAO	**Charters Tower**	**57.85**	**119**	P		**P**	**03 44 55.6**	**+0.3**
BRTR	**Keskin Array B**	**63.00**	**311**	P		**P**	**03 45 28.9**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=116,slow=11,SNR=5.9							
BURAR	**Bucovina Array**	**70.67**	**318**	P		**P**	**03 46 19.3**	**+0.3**
BUR08	**Bucovina Ar. S**	**70.69**	**318**	P		**P**	**03 46 20.1**	**+1.0**
BUR08				IAmb		IAmb	03 46 32.5	
	comp=Z,3.8nm,1.2s							
FINES	**FINESS Array B**	**73.43**	**332**	P		**P**	**03 46 35.3**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=120,slow=11,SNR=9.6							
ARCES	**ARCESS Array B**	**76.03**	**340**	P		**P**	**03 46 50.3**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=69,slow=6.6,SNR=3.7							
GERES	**GERESS Array B**	**78.46**	**318**	P		**P**	**03 47 04.5**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=91,slow=5.3,SNR=11							
GERES	**GERESS Array B**	**78.46**	**318**	P		**P**	**03 47 04.2**	**0.0**
PRED	**Cave del Predi**	**78.46**	**316**	P		**P**	**03 47 05.2**	**+1.0**
PRED				IAmb		IAmb	03 47 13.1	
	comp=Z,4.0nm,0.8s							
CIMO	**Cimolais**	**79.23**	**316**	P		**P**	**03 47 08.4**	**0.0**
CIMO				IAmb		IAmb	03 47 16.5	
	comp=Z,7.2nm,1.0s							
NB2	**NORSAR Subarra**	**80.44**	**331**	P		**P**	**03 47 14.6**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=96,slow=5.3							
NOA	**NORSAR Array B**	**80.44**	**331**	P		**P**	**03 47 13.9**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=92,slow=5.7,SNR=6.0							
ESDC	**Sonseca Array**	**91.78**	**310**	P		**P**	**03 48 11.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=46,slow=4.3,SNR=4.9							
IMAR	**Indian Mountai**	**92.30**	**22**	P		**P**	**03 48 12.8**	**-0.2**
NVAR	**Mina Array Bea**	**125.52**	**31**	PKP		**PKPdf**	**03 54 05.0**	**0.0**
	comp=Z,0.3nm,0.6s,baz=269,slow=1.8,SNR=4.0							
PDAR	**Pinedale Array**	**125.84**	**21**	PKP		**PKiKP**	**03 54 06.1**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=72,slow=4.8,SNR=4.4							
PLCA	**Paso Flores**	**143.87**	**200**	PKP		PKPbc	03 54 36.2	-0.3
	comp=Z,1.3nm,0.9s,baz=145,slow=19,SNR=1.6							

*IDC **30** 03:37:02.2±1.2, 3.51S×145.84E, h0km, mb4.1/8, mb1 4.3/10, mb1mx4.1/34, mbtmp4.1/10, ML3.8/2, MS4.1/25, Ms1 4.1/25, ms1mx4.1/31, Error ellipse: s-maj=38.9km s-min=19.5km az=109.0*
*GCMT **30** 03:37:07.7±0.2, 3.34S±0.01×145.51E±0.01, h12km, MW5.0/115, Moment Tensor Solution. s46,c48; s115,c181; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.27±.06; Mθθ0.07±.08; Mφφ-0.34±.08; Mrθ0.56±.23; Mθφ3.37±.06; Mφr0.93±.21; Best double couple: Ms3.55200×10^16 NP1:φs93.00000°, δ74.00000°, λ9.00000°. NP2:φs1.00000°, δ81.00000°, λ164.00000°. Principal axes: T 3.5690, Plg18.0000°, Azm316.0000°; N -0.0340, Plg72.0000°, Azm152.0000°; P -3.5350, Plg5.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **30** 03:37:09.7±1.9, 3.38S±0.10×145.51E±0.08, h43km±6km, mb4.5/19 Error ellipse: s-maj=14.0km s-min=11.4km az=188.0*
*DJA **30** 03:37:13.2±0.6, 4.5S±5.14×146E±°, h49km±10km, M4.5/10, mb4.5/10, mB5.2/3, MLv4.4/3, Mw(mB)4.6/3*
ISC 30 03:37:07.5±0.6, **3.36S**±0.10×**145.60E**±0.07, **h23km, n59,** σ2s**64/40, mb4.3/11, MS4.2/23, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**4.96**	**280**	Pn		**Pn**	**03 38 21.4**	**+0.7**
	0.7nm,0.3s,baz=79,slow=10,SNR=3.8							
JAY				LR		LR	03 40 07.9	
	comp=Z,3μm,18.3s,baz=52,slow=36							
JAY	**Jayapura**	**4.96**	**280**	P		**Pn**	**03 38 22.5**	**+1.9**
PMG	**Port Moresby**	**6.21**	**166**	Pn		**Pn**	**03 38 39.9**	**+2.2**
RABL	**Rabaul**	**6.60**	**97**	Pn		**Pn**	**03 38 45.5**	**+2.2**
SMPI	**Sarmi**	**7.01**	**281**	P		Pn	03 38 54.3	+5.5
	0.1nm14nm,1.3s							
SIJI	**Sorong**	**14.53**	**279**	LR		LR	03 46 16.6	
	comp=Z,136nm,19.7s,baz=13,slow=38							
SAUI	**Saumlaki**	**14.95**	**251**	Pn		**Pn**	**03 40 35.6**	**-1.9**
HNR	**Honiara**	**15.48**	**114**	LR		LR	03 45 51.2	
	comp=Z,684nm,19.6s,baz=288,slow=35							
PATS	**Pohnpei**	**16.24**	**51**			**Pn**	**03 40 54.4**	**+0.2**
MTN	**Manton Dam**	**17.13**	**236**	Pn		**Pn**	**03 41 03.9**	**-1.7**
MTN				IAmb		IAmb	03 41 22.8	
	comp=Z,42nm,1.3s							
WB0	**Warramunga Arr**	**19.64**	**213**	P		**P**	**03 41 32.3**	**-2.4**
WB0				IAmb		IAmb	03 41 41.2	
	comp=Z,22nm,0.9s							
WR0	**Warramunga Arr**	**19.72**	**212**	P		**P**	**03 41 35.1**	**-0.5**
WRAB	**Tennant Creek**	**19.80**	**213**	P		**P**	**03 41 35.5**	**-0.9**
WRAB				IAmb		IAmb	03 41 41.6	
	comp=Z,34nm,1.1s							
WB2	**Warramunga Arr**	**19.80**	**213**	P		**P**	**03 41 35.8**	**-0.7**
WB2				IAmb		IAmb	03 41 41.7	
	comp=Z,38nm,1.1s							
WRA	**Warramunga Arr**	**19.81**	**213**	P		**P**	**03 41 35.0**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=39,slow=12,SNR=28							
WRA				LR		LR	03 49 37.7	
	comp=Z,1μm,21.0s,baz=35,slow=38							
WRA	**Warramunga Arr**	**19.81**	**213**	P		**P**	**03 41 35.8**	**-0.8**
KNRA	**Kununurra**	**20.60**	**232**			**P**	**03 41 44.8**	**-0.4**
KNRA				IAmb		IAmb	03 41 51.8	
	comp=Z,31nm,0.9s							
SOEI	**Soe**	**22.11**	**252**	P		**P**	**03 42 05.5**	**+3.8**
	comp=Z,55nm,1.0s							
SOEI	**Soe**	**22.11**	**252**	P		**P**	**03 42 01.2**	**-0.5**
BATI	**Baumata**	**22.81**	**252**	LR		LR	03 53 28.5	
	comp=Z,541nm,18.0s,baz=106,slow=43							
LUWI	**Luwuk**	**22.93**	**275**	P		**P**	**03 42 13.6**	**+3.4**
	comp=Z,2μmcomp=Z,101nm,0.5s							
LUWI	**Luwuk**	**22.93**	**275**	P		**P**	**03 42 08.1**	**-2.1**
AS31	**Alice Springs**	**23.14**	**208**			**P**	**03 42 11.7**	**-0.6**
ASAR	**Alice Springs**	**23.14**	**208**	P		**P**	**03 42 10.5**	**-1.8**
	comp=Z,7.8nm,0.8s,baz=38,slow=8.1,SNR=28							
ASAR				PcP		**PcP**	**03 46 00.6**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=18,slow=3.2,SNR=2.2							
ASAR	**Alice Springs**	**23.14**	**208**			**P**	**03 42 09.8**	**-2.5**
FITZ	**Fitzroy Crossi**	**24.43**	**232**	P		**P**	**03 42 22.1**	**-2.6**
	comp=Z,10nm,1.0s,baz=42,slow=8.1,SNR=14							
FITZ				LR		LR	03 53 20.8	
	comp=Z,537nm,18.8s,baz=52,slow=40							
FITZ	**Fitzroy Crossi**	**24.43**	**232**	P		**P**	**03 42 24.4**	**-0.3**
FITZ				IAmb		IAmb	03 42 39.6	
	comp=Z,18nm,1.2s							
BNSI	**Bone**	**25.45**	**267**	P		P	03 42 46.3	+12
STKA	**Stephens Creek**	**28.62**	**187**	LR		LR	03 55 01.7	
	comp=Z,385nm,20.1s,baz=6.2,slow=38							
MJAR	**Matsushiro Arr**	**40.29**	**351**	LR		LR	03 59 47.1	
	comp=Z,176nm,21.0s,baz=210,slow=34							
KSRS	**Kowa Array**	**43.80**	**340**	P		**P**	**03 45 11.4**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=155,slow=8.5,SNR=6.9							
KSRS				LR		LR	04 01 08.6	
	comp=Z,329nm,19.8s,baz=172,slow=33							
USRK	**Ussuriysk Ar.**	**48.90**	**347**	LR		LR	04 05 05.7	
	comp=Z,148nm,18.6s,baz=173,slow=34							
CMAR	**Chiang Mai Arr**	**50.80**	**297**	P		**P**	**03 46 07.3**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=121,slow=6.4,SNR=2.1							
CMAR				LR		LR	04 09 17.1	
	comp=Z,64nm,18.5s,baz=158,slow=38							
PETK	**Petropavlovsk-**	**57.17**	**9**	LR		LR	04 06 53.2	
	comp=Z,92nm,21.8s,baz=208,slow=31							
ULN	**Ulaanbaatar**	**61.14**	**331**	P		**P**	**03 47 20.6**	**+0.4**
SONM	**Songino Array**	**61.43**	**331**	P		**P**	**03 47 23.0**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=142,slow=7.3,SNR=2.1							
SONM				LR		LR	04 13 37.1	
	comp=Z,310nm,19.4s,baz=143,slow=36							
PPT2	**Papeete2**	**65.00**	**108**	*e*LR		LR	04 07 43.8	
	comp=Z,155nm,29.8s							
TBI	**Tubuai**	**65.70**	**114**	*e*LQ		LQ	04 05 11.2	
	comp=Z,288nm,34.8s							
TBI				*e*LR		LR	04 08 03.8	
	comp=Z,284nm,39.8s							
MK31	**Makanchi Array**	**74.58**	**320**	P		**P**	**03 48 44.5**	**-0.3**
MK31				IAmb		IAmb	03 48 50.5	
	comp=Z,10.0nm,1.8s							
MKAR	**Makanchi Array**	**74.58**	**320**	P		**P**	**03 48 44.8**	**0.0**
	comp=Z,0.5nm,0.7s,baz=104,slow=6.1,SNR=3.1							
MKAR				LR		LR	04 20 16.1	
	comp=Z,76nm,21.1s,baz=72,slow=35							
VNDA	**Vanda**	**74.62**	**176**	LR		LR	04 20 50.3	
	comp=Z,153nm,18.2s,baz=350,slow=35							
MAKZ	**Makanchi**	**74.79**	**320**	P		**P**	**03 48 46.2**	**+0.2**
ZALV	**Zalesovo Beam**	**76.05**	**328**	LR		LR	04 21 32.3	
	comp=Z,355nm,20.2s,baz=74,slow=35							
KK31	**Karatay Array**	**81.46**	**314**	P		**P**	**03 49 21.3**	**-1.7**
KKAR	**Karatay Array**	**81.46**	**314**	P		**P**	**03 49 22.8**	**-0.2**
NRIK	**Noril'sk**	**82.35**	**342**	P		**P**	**03 49 26.9**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=85,slow=2.6,SNR=3.5							
NRIK				LR		LR	04 26 39.0	
	comp=Z,112nm,18.9s,baz=194,slow=36							
IL31		**83.62**	**23**	P		**P**	**03 49 33.0**	**-0.7**
ILAR	**Eielson Array**	**83.62**	**23**	P		**P**	**03 49 31.5**	**-2.3**
	comp=Z,0.9nm,0.8s,baz=248,slow=4.5,SNR=11							
ILAR				LR		LR	04 21 28.7	
	comp=Z,79nm,21.9s,baz=282,slow=32							
ILAR	**Eielson Array**	**83.62**	**23**	P		**P**	**03 49 33.0**	**-0.8**
MAW	**Mawson**	**84.14**	**202**	LR		LR	04 26 04.4	
	comp=Z,58nm,19.1s,baz=56,slow=35							
HRA	**Herat**	**86.40**	**305**	P		**P**	**03 49 45.9**	**-2.8**
GEYT	**Alibeck**	**90.05**	**308**	LR		LR	04 32 17.4	
	comp=Z,112nm,21.5s,baz=70,slow=37							
AKTO	**Aktyubinsk**	**91.02**	**320**	LR		LR	04 30 21.2	
	comp=Z,101nm,21.3s,baz=85,slow=35							
ARU	**Arti**	**91.13**	**326**	LR		LR	04 30 23.8	
	comp=Z,151nm,21.7s,baz=110,slow=35							
KIRV	**Kirov**	**96.08**	**328**	LR		LR	04 34 05.1	
	comp=Z,383nm,20.7s,baz=59,slow=36							
NVAR	**Mina Array Bea**	**96.85**	**52**	LR		LR	04 25 28.2	
	comp=Z,239nm,21.6s,baz=271,slow=30							
YKA	**Yellowknife Ar**	**97.49**	**27**	LR		LR	04 33 55.8	
	comp=Z,98nm,19.5s,baz=0.0,slow=35							
NOR	**Nord**	**101.38**	**357**	*i* P		**Pdif**	**03 51 09.0**	**+13**
ESDC	**Sonseca Array**	**134.53**	**327**	PKP		**PKPdf**	**03 56 23.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=340,slow=1.2,SNR=2.0							

*IDC **30** 04:02:29.5±0.9, 9.87S×154.42E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.1/34, mbtmp4.0/13, MS3.5/16, Ms1 3.5/16, ms1mx3.4/27, Error ellipse: s-maj=31.0km s-min=18.1km az=116.0*
*NEIC **30** 04:02:32.9±1.4, 9.95S±0.1×154.37E±0.08, h23km±3km, mb4.3/18, Error ellipse: s-maj=15.7km s-min=11.1km az=189.0*
ISC 30 04:02:32.0±0.5, **9.92S**±0.10×**154.42E**±0.09, **h18km, n44,** σ0s**88/35, mb4.1/20, MS3.5/13, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**5.47**	**85**	LR		LR	04 05 47.0	
	comp=Z,257nm,20.4s,baz=304,slow=36							
HNR	**Honiara**	**5.47**	**85**	Pn		**Pn**	**04 03 52.0**	**-0.7**
PMG	**Port Moresby**	**7.17**	**273**	LR		LR	04 06 51.2	
	comp=Z,246nm,20.2s,baz=58,slow=36							
PMG	**Port Moresby**	**7.17**	**273**	Pn		**Pn**	**04 04 14.1**	**-2.0**
EIDS	**Eidsvold**	**15.69**	**191**	Pn		**Pn**	**04 06 12.9**	**+0.5**
DZM	**Mont Dzumac**	**16.71**	**138**	Pn		**Pn**	**04 06 23.6**	**-1.8**
DZM				IAmb		IAmb	04 06 33.8	
	comp=Z,41nm,1.3s							
WR0	**Warramunga Arr**	**21.62**	**240**	P		**P**	**04 07 20.8**	**-0.6**
WR0				IAmb		IAmb	04 07 49.9	
	comp=Z,11nm,1.1s							
WB0	**Warramunga Arr**	**21.67**	**241**	P		**P**	**04 07 21.9**	**-0.1**
WB0				IAmb		IAmb	04 07 27.6	
	comp=Z,12nm,1.1s							
WB2	**Warramunga Arr**	**21.78**	**240**	P		**P**	**04 07 24.5**	**+1.5**
WB2				IAmb		IAmb	04 07 51.0	
	comp=Z,9.0nm,1.1s							
WRA	**Warramunga Arr**	**21.79**	**240**	P		**P**	**04 07 24.0**	**+0.8**
	comp=Z,4.4nm,0.7s,baz=64,slow=10.0,SNR=19							
WRA				LR		LR	04 15 25.9	
	comp=Z,181nm,19.7s,baz=45,slow=36							
AS31	**Alice Springs**	**23.88**	**233**	P		**P**	**04 07 45.8**	**+0.9**
ASAR	**Alice Springs**	**23.88**	**233**	P		**P**	**04 07 45.5**	**+0.6**
	comp=Z,7.1nm,1.0s,baz=63,slow=9.4,SNR=34							
ASAR				LR		LR	04 16 30.5	
	comp=Z,146nm,18.7s,baz=60,slow=35							
ASAR	**Alice Springs**	**23.88**	**233**	P		**P**	**04 07 44.9**	**+0.1**
STKA	**Stephens Creek**	**24.87**	**207**	P		**P**	**04 07 54.9**	**+1.1**
	comp=Z,2.8nm,0.6s,baz=24,slow=9.6,SNR=13							
STKA				LR		LR	04 17 48.4	
	comp=Z,240nm,18.9s,baz=26,slow=37							
STKA	**Stephens Creek**	**24.87**	**207**	P		**P**	**04 07 54.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**29.05**	**251**	P		**P**	**04 08 31.3**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=135,slow=7.7,SNR=5.6							
FITZ				LR		LR	04 18 24.0	
	comp=Z,65nm,19.3s,baz=85,slow=33							
FITZ	**Fitzroy Crossi**	**29.05**	**251**	IAmb		IAmb	04 08 55.8	
	comp=Z,6.7nm,1.2s							
PSA00	**Pilbara Seismi**	**35.15**	**247**	P		**P**	**04 09 25.1**	**+0.1**
JCJ	**Chichijima**	**38.66**	**342**	LR		LR	04 23 50.4	
	comp=Z,56nm,18.9s,baz=350,slow=33							
MJAR	**Matsushiro Arr**	**48.66**	**343**	LR		LR	04 29 28.4	
	comp=Z,44nm,21.4s,baz=115,slow=33							
KSRS	**Korea Array**	**53.26**	**334**	P		**P**	**04 11 50.8**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=153,slow=7.1,SNR=5.1							
KSRS				LR		LR	04 34 00.3	
	comp=Z,18nm,18.2s,baz=200,slow=36							
USRK	**Ussuriysk Ar.**	**57.58**	**341**	LR		LR	04 38 31.3	
	comp=Z,19nm,18.0s,baz=76,slow=38							
CMAR	**Chiang Mai Arr**	**61.56**	**297**	P		**P**	**04 12 49.2**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=131,slow=5.4,SNR=6.3							
CMAR				LR		LR	04 40 55.4	
	comp=Z,40nm,19.1s,baz=215,slow=38							
CMAR	**Chiang Mai Arr**	**61.56**	**297**	P		**P**	**04 12 49.7**	**+1.0**
CHTO	**Chiang Mai**	**61.70**	**298**	P		**P**	**04 12 49.0**	**-0.7**
CHTO				IAmb		IAmb	04 13 01.6	
	comp=Z,8.5nm,1.3s							
PETK	**Petropavlovsk-**	**62.84**	**2**	P		**P**	**04 12 57.0**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=166,slow=6.9,SNR=4.1							
PETK				LR		LR	04 35 54.9	
	comp=Z,34nm,21.7s,baz=194,slow=32							
SONM	**Songino Array**	**71.48**	**328**	P		**P**	**04 13 52.1**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=110,slow=7.1,SNR=3.7							
SONM	**Songino Array**	**71.48**	**328**	IAmb		IAmb	04 14 00.3	
	comp=Z,1.3nm,0.9s							
LSA	**Lhasa**	**72.47**	**305**	P		**P**	**04 13 57.1**	**-1.3**
QSPA	**South Pole Qui**	**80.08**	**180**	P		**P**	**04 14 40.6**	**0.0**
MAW	**Mawson**	**81.50**	**203**	P		**P**	**04 14 48.4**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=127,slow=11,SNR=4.0							
MAW	**Mawson**	**81.50**	**203**	IAmb		IAmb	04 14 49.5	
	comp=Z,2.8nm,1.6s							
MK31	**Makanchi Array**	**85.21**	**319**	P		**P**	**04 15 07.4**	**-0.1**
MK31				IAmb		IAmb	04 15 14.7	
	comp=Z,1.4nm,0.9s							
MKAR	**Makanchi Array**	**85.21**	**319**	P		**P**	**04 15 08.1**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=110,slow=5.8,SNR=6.5							
MKAR				LR		LR	04 52 17.8	
	comp=Z,21nm,19.4s,baz=76,slow=35							
MKAR	**Makanchi Array**	**85.21**	**319**	P		**P**	**04 15 08.0**	**+0.4**
MAKZ	**Makanchi**	**85.42**	**319**	P		**P**	**04 15 09.0**	**+0.4**
MAKZ				IAmb		IAmb	04 15 16.6	
	comp=Z,3.4nm,1.1s							
ZAA0	**Zalesovo Array**	**86.27**	**326**	P		**P**	**04 15 12.4**	**-0.2**
ZAA0				IAmb		IAmb	04 16 46.4	
	comp=Z,5.9nm,1.5s							
ZALV	**Zalesovo Beam**	**86.27**	**326**	P		**P**	**04 15 11.3**	**-1.3**
	comp=Z,0.

KHC ePG **Pb** **04 24 55.6 +1.2**
KHC eSN **Sn** **04 25 24.0 -0.9**
KHC eSG **Sg** **04 25 34.2 -0.9**
comp=Z,6.4nm,0.4s
GERES **GERESS Array B** **3.11 211** Pn **Pn** **04 24 53.0 +0.9**
comp=Z,0.4nm,0.3s,baz=27,slow=13,SNR=13
GERES Pg **Pb** **04 24 59.0 +1.0**
comp=Z,1.4nm,0.3s,baz=29,slow=17,SNR=30
GERES Sn **Sn** **04 25 29.9 -0.1**
comp=Z,1.0nm,0.3s,baz=32,slow=27,SNR=5.4
GERES Lg Lg 04 25 38.5
comp=Z,1.6nm,0.3s,baz=28,slow=29,SNR=8.6
SMOL **Smolenice** **3.15 164** ePG **Pg** **04 25 02.7 +0.6**
SMOL eSG **Sg** **04 25 42.1 -0.9**
MODS **Modra-Piesok** **3.27 166** ePG **Pg** **04 25 03.9 -0.3**
MODS eSG **Sb** **04 25 43.5 +2.7**
VYHS **Vyhne** **3.53 149** ePN **Pn** **04 24 58.0 +0.3**
VYHS ePG **Pg** **04 25 09.4 +0.2**
VYHS eSG **Sg** **04 25 55.5 +0.6**
CONA **Conrad Observa** **3.63 183** ePn **Pn** **04 25 00.2 +1.0**
comp=Z,0.7nm,0.2s
CONA Sg **Sg** **04 25 57.7 -0.4**
comp=Z,6.3nm,0.4s
MOA **Molln** **3.89 199** ePn **Pn** **04 25 03.8 +1.1**
comp=Z,0.5nm,0.2s
MOA eSg **Sg** **04 26 06.6 +0.1**
comp=Z,4.9nm,0.5s
ARSA **Arzberg** **4.32 185** ePn **Pn** **04 25 10.5 +2.0**
comp=Z,0.6nm,0.2s
ARSA Sg **Sg** **04 26 20.7 +0.4**
comp=Z,4.5nm,0.5s
HFS **Hagfors** **8.71 352** Pn **Pn** **04 26 07.3 -1.4**
comp=Z,0.1nm,0.3s,baz=172,slow=16,SNR=1.6
FINES **FINESS Array B** **11.33 25** Pn **Pn** **04 26 44.1 -0.5**
comp=Z,0.1nm,0.3s,baz=209,slow=11,SNR=4.1
EKA **Eskdalemuir Ar** **12.09 296** Pn **Pn** **04 26 54.4 -0.6**
baz=99,slow=9.1,SNR=2.0
ARCES **ARCESS Array B** **18.59 10** Pn **P** **04 28 17.4 -2.6**
comp=Z,0.1nm,0.3s,baz=195,slow=13,SNR=5.2

RSNC 30 05:04:22.5±1.1, 6°.81N×73°.13W, h150km±4km, ML3.4, Mw3.7,3C-3D, Fault plane solution: NP1:ϕs86.00000°, δ18.00000°,λ105.00000°., Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.22**	**193**	⇑*i*P	Pn	05 04 42.6	-0.5
BARC				eS	Sn	05 04 58.1	-0.7
BARC				*i*		05 05 00.3	
	comp=Z,538nm,0.3s						
BRRC	**Barranca, Sant**	**0.65**	**297**	⇑*i*P	Pn	05 04 44.5	-0.2
BRRC				eS	Sn	05 05 01.4	-0.1
BRRC				*i*		05 05 05.5	
	comp=Z,245nm,0.5s						
PAMC	**Pamplona, Colo**	**0.68**	**39**	⇑eP	Pn	05 04 45.4	-0.1
PAMC				eS	Sn	05 05 02.3	-0.5
PAMC				*i*		05 05 04.8	
	comp=Z,473nm,0.5s						
RUSC	**La Rusia**	**0.91**	**177**	⇓⇓eP	Pn	05 04 46.4	-0.6
RUSC				eS	Sn	05 05 05.0	-0.8
RUSC				*i*		05 05 06.5	
	comp=Z,188nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.34**	**259**	eP	Pn	05 04 49.2	-1.2
PTBC				eS	Sn	05 05 10.5	-1.2
PTBC				*i*		05 05 16.4	
	comp=Z,341nm,0.3s						
TAMC	**Tame, Arauca**	**1.38**	**105**	⇓⇓*i*P	Pn	05 04 50.7	-0.1
TAMC				eS	Sn	05 05 12.2	-0.3
TAMC				*i*		05 05 13.8	
	comp=Z,148nm,0.5s						
OCAC	**Ocana**	**1.44**	**353**	eP	Pn	05 04 50.6	-0.9
OCAC				eS	Sn	05 05 13.3	-0.5
OCAC				*i*		05 05 19.1	
	comp=Z,276nm,0.4s						
SPBC	**San Pablo de B**	**1.48**	**219**	eP	Pn	05 04 51.5	-0.4
SPBC				eS	Sn	05 05 14.5	0.0
SPBC				*i*		05 05 18.7	
	comp=Z,457nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	eP	Pn	05 04 55.4	-0.4
ZARC				eS	Sn	05 05 21.0	-0.3
ZARC				*i*		05 05 27.0	
	comp=Z,291nm,0.3s						
NORC	**Norcasia**	**2.12**	**235**	eP	Pn	05 04 58.5	-0.6
NORC				eS	Sn	05 05 26.4	-0.8
NORC				*i*		05 05 30.5	
	comp=Z,200nm,0.6s						
SMLC	**San Martn de**	**2.19**	**335**	eP	Pn	05 04 58.9	-0.9
SMLC				eS	Sn	05 05 28.5	-0.1
SMLC				*i*		05 05 35.5	
	comp=Z,275nm,0.3s						
CHIC	**Chingaza**	**2.24**	**195**	eP	Pn	05 05 00.4	-0.6
CHIC				eS	Sn	05 05 29.6	-0.8
CHIC				*i*		05 05 36.0	
	comp=Z,103nm,0.3s						
ROSC	**El Rosal**	**2.28**	**211**	⇓⇓eP	Pn	05 05 02.1	+0.7
ROSC				eS	Sn	05 05 33.0	+1.7
ROSC				*i*		05 05 40.6	
	comp=Z,320nm,0.3s						
HELC	**Santa Helena**	**2.46**	**256**	eP	Pn	05 05 03.4	0.0
HELC				eS	Sn	05 05 35.8	+0.8
HELC				*i*		05 05 41.3	
	comp=Z,137nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**292**	eP	Pn	05 05 02.7	-1.7
UREC				eS	Sn	05 05 33.5	-3.2
UREC				*i*		05 05 43.5	
	comp=Z,133nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.72**	**235**	eP	Pn	05 05 06.8	0.0
GUY2C				eS	Sn	05 05 44.7	+3.8
GUY2C				*i*		05 05 49.5	
	comp=Z,244nm,0.7s						
VILC	**Villavicencio,**	**2.73**	**192**	eP	Pn	05 05 05.7	-1.0
VILC				eS	Sn	05 05 40.1	-0.7
VILC				*i*		05 05 46.2	
	comp=Z,145nm,0.5s						
CBOC	**Ciudad Bolivar**	**3.01**	**252**	eP	Pn	05 05 10.1	-0.1
CBOC				eS	Sn	05 05 46.3	-0.7
CBOC				*i*		05 05 55.8	
	comp=Z,48nm,0.4s						
DBBC	**Dabeiba**	**3.06**	**274**	eP	Pn	05 05 10.1	-0.7
DBBC				eS	Sn	05 05 46.8	-1.3
MOTC	**Monteria, Cord**	**3.18**	**308**	eP	Pn	05 05 09.8	-2.5
MOTC				eS	Sn	05 05 48.3	-2.4
MOTC				*i*		05 05 51.0	
	comp=Z,52nm,0.4s						
ARGC	**Ariguani, Magd**	**3.23**	**340**	eP	Pn	05 05 12.7	-0.1
ARGC				eS	Sn	05 05 51.2	-0.5
ARGC				*i*		05 06 03.5	
	comp=Z,68nm,0.4s						
PRAC	**Prado**	**3.53**	**210**	eP	Pn	05 05 15.9	-0.9
PRAC				eS	Sn	05 05 59.1	+0.2
PRAC				*i*		05 06 04.1	
	comp=Z,164nm,0.6s						
ORTC	**Ortega, Tolima**	**3.56**	**216**	eP	Pn	05 05 16.6	-0.6
ORTC				eS	Sn	05 05 59.8	+0.3
ORTC				*i*		05 06 07.3	
	comp=Z,110nm,0.2s						
PLMC	**San Jos del P**	**3.66**	**239**	eP	Pn	05 05 18.1	-0.3
PLMC				eS	Sn	05 06 00.6	-1.1
PLMC				*i*		05 06 06.3	
	comp=Z,69nm,0.5s						
SJCC	**San Jacinto, C**	**3.68**	**327**	eP	Pn	05 05 16.4	-2.3
SJCC				eS	Sn	05 05 57.8	-4.4
SJCC				*i*		05 06 10.6	
	comp=Z,36nm,0.3s						
LCBC	**Los crdobas,**	**3.80**	**303**	eS	Sn	05 06 04.7	-0.2
LCBC				*i*		05 06 07.9	
	comp=Z,40nm,0.3s						
GUVC	**San Jose del G**	**4.26**	**173**	eP	Pn	05 05 23.4	-2.8
GUVC				eS	Sn	05 06 13.3	-2.6
GUVC				*i*		05 06 22.5	
	comp=Z,64nm,0.2s						
CAPC	**Capurgana**	**4.56**	**294**	eP	Pn	05 05 27.7	-2.4
CAPC				eS	Sn	05 06 17.6	-5.2
CAPC				*i*		05 06 19.9	
	comp=Z,23nm,0.6s						
MACC	**Macarena, Meta**	**4.69**	**189**	eP	Pn	05 05 29.2	-2.6
MACC				eS	Sn	05 06 21.1	-4.8
MACC				*i*		05 06 27.2	
	comp=Z,18nm,0.4s						
GARC	**Garzon, Huila**	**5.16**	**207**	eP	Pn	05 05 36.4	-1.9
GARC				eS	Sn	05 06 32.8	-4.6
GARC				*i*		05 06 35.5	
	comp=Z,32nm,0.2s						
FLOC	**Florencia**	**5.76**	**206**	eP	Pn	05 05 45.1	-1.1
FLOC				eS	Sn	05 06 49.2	-2.4
FLOC				*i*		05 06 53.9	
	comp=Z,5.3nm,0.6s						
BBAC	**Balboa, Cauca**	**6.28**	**221**	eP	Pn	05 05 51.8	-1.4
BBAC				eS	Sn	05 07 02.1	-2.0
BBAC				*i*		05 07 09.0	
	comp=Z,4.6nm,0.3s						

IDC ***30*** *05:14:39.4±8.0, 30°.24S×177°.52W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/24, mbtmp3.4/2, MS3.8/1, Ms1 3.8/1, ms1mx2.7/14, Error ellipse: s-maj=336.0km s-min=61.9km az=155.0*
NEIC ***30*** *05:14:43.6±0.4, 30°.16S±0°.06×177°.4W±0°.3, h30km±11km, mb4.3/8, Error ellipse: s-maj=41.5km s-min=5.1km az=80.0*
ISC 30 05:14:45.2±1.9, 30°.1S±0°.1×177°.6W±0°.4, h35km, n14, σ1s06/13, mb4.3/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.92**	**341**	Pn	**Pn**	**05 15 02.0**	**+0.2**
MSWZ	**Moikau Station**	**12.68**	**205**	Pn	**Pn**	**05 17 42.5**	**-0.6**
FOZ	**Fox Glacier**	**16.74**	**213**	P	**P**	**05 18 40.3**	**+1.4**
FOZ				IAmb	IAmb	05 18 48.0	
	comp=Z,7.5nm,0.9s						
CTA	**Charters Tower**	**34.13**	**279**	LR	LR	05 35 17.2	
	comp=Z,158nm,18.5s,baz=142,slow=36						
ASAR	**Alice Springs**	**43.50**	**266**	P	**P**	**05 22 44.6**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=106,slow=6.9,SNR=1.4						
WR0	**Warramunga Arr**	**44.28**	**272**	P	**P**	**05 22 52.1**	**+0.3**
WR0				IAmb	IAmb	05 23 09.0	
	comp=Z,6.1nm,1.2s						
WB2	**Warramunga Arr**	**44.45**	**272**	P	**P**	**05 22 53.4**	**+0.2**
WB2				IAmb	IAmb	05 22 57.0	
	comp=Z,5.8nm,1.3s						
WRAB	**Tennant Creek**	**44.46**	**272**	P	**P**	**05 22 53.5**	**+0.3**
WRAB				IAmb	IAmb	05 22 58.6	
	comp=Z,3.9nm,0.7s						
WRA	**Warramunga Arr**	**44.46**	**272**	P	**P**	**05 22 53.0**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=110,slow=8.1,SNR=10						
WRA	**Warramunga Arr**	**44.46**	**272**	P	**P**	**05 22 53.3**	**0.0**
WB0	**Warramunga Arr**	**44.48**	**272**	P	**P**	**05 22 53.4**	**0.0**
CASY	**Casey**	**55.55**	**208**	P	**P**	**05 24 15.1**	**-1.6**
CASY				IAmb	IAmb	05 24 30.6	
	comp=Z,4.8nm,1.4s						
MAW	**Mawson**	**72.69**	**200**	P	**P**	**05 26 11.0**	**+1.9**
FINES	**FINESS Array B**	**145.02**	**340**	PKPbc	**PKPdf**	**05 34 16.9**	**-1.2**
	comp=Z,1.8nm,0.9s,baz=30,slow=3.4,SNR=4.0						

TEH ***30*** *05:22:12.8, 32°.71N×47°.45E, h10km, ML2.9*
ISN ***30*** *05:22:13.3±1.3, 32°.71N×47°.48E, h16km±9km, ML3.0*
ISC 30 05:22:12.8±1.3, 32°.70N±0°.04×47°.45E±0°.04, h8km±11km, n23, σ1s51/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.15**	**263**	ePg	**Pg**	**05 22 16.2**	**+0.2**
IBDR	**Badra**	**1.35**	**288**	ePg	**Pb**	**05 22 38.0**	**-0.3**
IBDR				eSg	**Sg**	**05 22 57.0**	**+0.9**
IBDR				AML	AML	05 23 03.1	
	comp=E,197nm,0.6s						
IBDR				AML	AML	05 23 04.4	
	comp=N,72nm,0.4s						
IKOM	**Komasi**	**1.47**	**2**	ePg	**Pg**	**05 22 40.8**	**-0.3**
IKOM				*e*		05 22 43.2	
BMDN	**Meydan**	**1.50**	**49**	ePg	**Pb**	**05 22 41.2**	**+0.1**
BMDN				*e*		05 23 10.7	
KCHF	**Cheshme Sefid,**	**1.61**	**348**	ePg	**Pg**	**05 22 43.3**	**-0.4**
KCHF				*e*		05 23 09.6	
KER	**Kermanshah**	**1.70**	**351**	ePg	**Pg**	**05 22 44.9**	**-0.6**
IGHG	**Ghaleghazi**	**1.79**	**336**	ePn	**Pb**	**05 22 45.6**	**-0.3**
IGHG				*e*		05 23 23.6	
HSAM	**Samen**	**1.79**	**32**	ePg	**Pb**	**05 22 46.0**	**0.0**
HSAM				*e*		05 23 14.4	
IBZA	**Bozab**	**1.80**	**11**	ePg	**Pg**	**05 22 46.9**	**-0.4**
IBZA				*e*		05 22 50.8	
IVIS	**Veis**	**1.89**	**345**	ePn	**Pb**	**05 22 47.7**	**0.0**
IVIS				*e*		05 23 18.3	
NSR	**Nassriya**	**2.02**	**214**	ePn	**Pb**	**05 22 49.0**	**-0.8**
NSR				eSn	**Sn**	**05 23 13.0**	**+0.4**
NSR				AML	AML	05 23 13.8	
	comp=E,440nm,0.3s						
IDHR	**Dehrash**	**2.19**	**336**	ePn	**Pb**	**05 22 51.2**	**-1.5**
IDHR				*e*		05 23 31.1	
IALM	**Almabolaq**	**2.24**	**15**	ePn	**Pb**	**05 22 52.8**	**-0.8**
ILIN	**Lien**	**2.25**	**350**	ePn	**Pb**	**05 22 52.5**	**-1.4**
ILIN				*e*		05 23 29.9	
HAGD	**Aghdareh**	**2.54**	**33**	ePn	**Pb**	**05 22 56.7**	**-2.1**
HAGD				*e*		05 23 37.3	
HSRG	**Sareghieh**	**2.63**	**15**	ePn	**Pb**	**05 22 58.9**	**-1.4**
BHD	**Baghdad**	**2.65**	**283**	ePn	**Pn**	**05 22 57.0**	**+1.3**
BHD				eSn	**Sb**	**05 23 30.0**	**-3.0**
BHD				AML	AML	05 23 31.8	
	comp=E,281nm,0.3s						
JHBN	**Jahan bin**	**2.75**	**99**	ePn	**Pn**	**05 22 59.2**	**+1.6**
IPIR	**Pirpir**	**2.90**	**89**	ePn	**Pb**	**05 23 02.7**	**-2.2**
IRAZ	**Razeghan**	**3.39**	**37**	ePn	**Pn**	**05 23 09.0**	**+2.8**
IKLH	**Kolahrood**	**3.52**	**79**	ePn	**Pn**	**05 23 10.4**	**+2.4**
KLNJ	**Kolanjah**	**3.90**	**114**	ePn	**Pn**	**05 23 14.4**	**+1.0**
QSDN	**Sirdan**	**4.05**	**20**	ePn	**Pn**	**05 23 17.2**	**+1.9**

IDC ***30*** *05:26:17.4±1.4, 3°.23N×128°.27E, h58km±13km, mb4.2/20, mb1 4.3/23, mb1mx4.2/35, mbtmp4.5/23, MS3.2/12, Ms1 3.3/12, ms1mx3.1/40, Error ellipse: s-maj=18.5km s-min=8.2km az=71.0*
NEIC ***30*** *05:26:19.3±1.7, 3°.17N±0°.06×128°.23E±0°.09, h74km±6km, mb4.6/46, Error ellipse: s-maj=13.2km s-min=8.0km az=64.0*
DJA ***30*** *05:26:19.3±0.7, 3°.1N±4°×12°.8E±°, h52km±6km, M4.7/15, mb4.8/15, mB5.2/6, MLv4.8/8, Mw(mB)4.6/6*
ISC 30 05:26:21.9±0.4, 3°.16N±0°.04×128°.13E±0°.06, h100km, n122, σ2s02/124, mb4.5/46, 1C, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.49**	**198**	P	**Pn**	**05 26 58.7**	**-2.1**
TNTI	**Ternate**	**2.49**	**198**	Pn	**Pn**	**05 26 59.3**	**-1.5**
DDMP	**Don Marcelino,**	**3.79**	**321**	eP	Pn	05 27 12.3	-5.9
DDMP				eS	**Sn**	**05 28 03.9**	**+2.0**
LBMI	**Labuha**	**3.82**	**189**	P	**Pn**	**05 27 19.8**	**+1.1**
MATI	**Mati**	**4.20**	**334**	eP	**Pn**	**05 27 21.9**	**-1.9**
DAV	**Davao City (W)**	**4.64**	**327**	P	**Pn**	**05 27 25.6**	**-4.2**
	14nm,0.3s,baz=71,slow=12,SNR=1.2						
DAV				S	**Sn**	**05 28 18.9**	**-3.6**
	86nm,0.3s,baz=63,slow=6.8,SNR=1.9						
DAV				LR	LR	05 29 22.7	
	comp=Z,366nm,21.0s,baz=152,slow=40						
DAV	**Davao City (W)**	**4.64**	**327**	Pn	**Pn**	**05 27 29.2**	**-0.6**
KMSI	**Cibinong**	**4.87**	**238**	P	**Pn**	**05 27 31.5**	**-1.4**
SKMP	**Bagumbayan, Su**	**4.89**	**313**	eP	**Pn**	**05 27 30.5**	**-2.6**
SKMP				eS	**Sn**	**05 28 22.2**	**-6.3**
SIJI	**Sorong**	**5.08**	**142**	P	**Pn**	**05 27 31.6**	**-4.2**
	19nm,0.3s,baz=324,slow=19,SNR=24						
SIJI				S	**Sn**	**05 28 27.6**	**-5.7**
	11nm,0.3s,baz=323,slow=20,SNR=5.7						
SIJI				LR	LR	05 29 38.9	
	comp=Z,422nm,20.9s,baz=13,slow=40						
BUKP	**Musuan**	**5.59**	**327**	eP	**Pn**	**05 27 40.5**	**-2.2**
BUKP				eS	**Sn**	**05 28 46.2**	**+0.4**
GTOI	**Gorontalo**	**5.69**	**244**	P	**Pn**	**05 27 42.3**	**-1.7**
	0.3nm1μm82nm,0.5s						
PAGZ	**Pagadian**	**6.63**	**315**	eP	**Pn**	**05 27 52.2**	**-4.6**
LUWI	**Luwuk**	**6.79**	**232**	Pn	**Pn**	**05 27 58.0**	**-0.9**
FAKI	**Fak Fak**	**7.31**	**146**	Pn	**Pn**	**05 28 03.4**	**-2.6**
MPSI	**Mapaga**	**8.69**	**251**	P	**Pn**	**05 28 21.4**	**-3.4**
	38nm,1.3s						
MYLDM	**Lahad Datu**	**9.81**	**282**	Pn	**Pn**	**05 28 38.5**	**-1.5**
SPSI	**Sidrap Palu**	**10.94**	**230**	P	**Pn**	**05 28 53.1**	**-2.4**
	26nm,0.6s						
KAPI	**Kappang**	**11.66**	**226**	P	**Pn**	**05 29 01.7**	**-3.4**
	3.0nm,0.3s,baz=338,slow=11,SNR=4.3						
KAPI				S	**Sn**	**05 31 08.4**	**-4.9**
	1.2nm,0.3s,baz=125,slow=10,SNR=1.3						
KAPI	**Kappang**	**11.66**	**226**	Pn	**Pn**	**05 29 04.8**	**-0.2**
KKM	**Kota Kinabalu**	**12.21**	**284**	Pn	**Pn**	**05 29 12.4**	**-0.2**
JAY	**Jayapura**	**13.78**	**114**	LR	LR	05 34 08.6	
	comp=Z,91nm,21.1s,baz=157,slow=34						
MTKI	**Muara Teweh, K**	**13.84**	**253**	P	**Pn**	**05 29 34.6**	**+0.8**
SBUM	**Sibu**	**15.90**	**268**	P	**P**	**05 30 02.3**	**+0.6**
MTN	**Manton Dam**	**16.17**	**169**	P	**Pn**	**05 30 04.0**	**+0.6**
MTN				IAmb	IAmb	05 30 11.1	
	comp=Z,14nm,0.5s						
TWSI	**Taliwang, Sumb**	**16.29**	**223**	P	**P**	**05 30 07.4**	**+1.4**
	comp=Z,750nmcomp=Z,35nm,1.2s						
KSM	**Kuching**	**17.88**	**265**	P	**Pn**	**05 30 24.8**	**+0.5**
KSM				IAmb	IAmb	05 30 26.3	
	comp=Z,18nm,0.6s						
KNRA	**Kununurra**	**18.72**	**178**	P	**P**	**05 30 32.3**	**-0.5**
KNRA				IAmb	IAmb	05 30 41.4	
	comp=Z,16nm,0.7s						
YULB	**Yu-li**	**21.17**	**342**	P	**P**	**05 30 55.6**	**-3.7**
FITZ	**Fitzroy Crossi**	**21.26**	**187**	P	**P**	**05 30 58.6**	**-1.6**
	comp=Z,1.7nm,0.5s,baz=13,slow=12,SNR=3.0						
FITZ	**Fitzroy Crossi**	**21.26**	**187**	P	**P**	**05 30 59.1**	**-1.1**
SSLB	**Suanglung**	**21.65**	**342**	P	**P**	**05 31 03.4**	**-1.0**
SSLB				IAmb	IAmb	05 31 08.4	
	comp=Z,10.0nm,0.7s						
YOJ	**Yonaguni jima**	**21.75**	**347**	P	**P**	**05 31 05.0**	**-0.4**
YOJ				IAmb	IAmb	05 31 07.2	
	comp=Z,37nm,1.3s						
YHNB	**Yeheng**	**22.36**	**344**	P	**P**	**05 31 11.8**	**-0.1**
YHNB				IAmb	IAmb	05 31 13.4	
	comp=Z,13nm,0.7s						
WB0	**Warramunga Arr**	**23.60**	**165**	P	**P**	**05 31 23.6**	**-0.3**
WRAB	**Tennant Creek**	**23.75**	**165**	P	**P**	**05 31 25.6**	**+0.4**
WRAB				IAmb	IAmb	05 31 27.0	
	comp=Z,14nm,0.6s						
WRA	**Warramunga Arr**	**23.75**	**165**	P	**P**	**05 31 25.1**	**-0.1**
	comp=Z,16nm,0.5s,baz=345,slow=10,SNR=164						
WRA				ScP	**ScP**	**05 38 40.4**	**+4.4**
	comp=Z,0.5nm,1.0s,baz=340,slow=2.9,SNR=1.9						
WRA				LR	LR	05 41 41.6	
	comp=Z,102nm,19.7s,baz=355,slow=39						
WRA	**Warramunga Arr**	**23.75**	**165**	P	**P**	**05 31 25.1**	**-0.1**
WB2	**Warramunga Arr**	**23.76**	**165**	P	**P**	**05 31 25.1**	**-0.2**
WB2				IAmb	IAmb	05 31 26.6	
	comp=Z,12nm,0.7s						
WR0	**Warramunga Arr**	**23.82**	**165**	P	**P**	**05 31 25.4**	**-0.5**
WR0				IAmb	IAmb	05 31 43.7	
	comp=Z,14nm,0.8s						
KLSI		**24.64**	**252**	P	**P**	**05 31 36.5**	**+3.1**
	comp=Z,12nm,1.1s						
UBPT	**Khong Chiam**	**25.36**	**300**	P	**P**	**05 31 40.3**	**+0.4**
PSA00	**Pilbara Seismi**	**25.88**	**198**	P	**P**	**05 31 44.8**	**+0.3**
AS31	**Alice Springs**	**27.25**	**168**	P	**P**	**05 31 56.2**	**-0.6**
ASAR	**Alice Springs**	**27.25**	**168**	P	**P**	**05 31 56.7**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=356,slow=8.0,SNR=50						
ASAR				PcP	**PcP**	**05 35 15.9**	**+1.4**
	comp=Z,2.6nm,0.6s,baz=351,slow=2.3,SNR=15						
ASAR				ScP	**ScP**	**05 38 50.0**	**+4.0**
	comp=Z,0.5nm,0.9s,baz=1.9,slow=2.8,SNR=2.3						
ASAR				LR	LR	05 44 58.7	
	comp=Z,44nm,19.1s,baz=336,slow=41						
ASAR	**Alice Springs**	**27.25**	**168**	P	**P**	**05 31 56.0**	**-0.9**
JCJ	**Chichijima**	**27.34**	**28**	P	**P**	**05 31 55.4**	**-2.2**
	comp=Z,26nm,0.5s,baz=284,slow=20,SNR=7.2						
JCJ	**Chichijima**	**27.34**	**28**	P	**P**	**05 31 55.4**	**-2.2**
NJ2	**Nanjing**	**30.04**	**344**	eP	**P**	**05 32 23.5**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WHN	**Wuhan**	**30.20**	**336**	P	**P**	**05 32 24.5**	**+1.7**
WHN				pmax	pmax		
	comp=Z,32nm,0.5s						
CM31	**Chiang Mai Arr**	**32.36**	**300**	P	**P**	**05 32 43.6**	**+1.5**
CM31				IAmb	IAmb	05 32 44.5	
	comp=Z,6.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**32.36**	**300**	P	**P**	**05 32 44.0**	**+1.8**
	comp=Z,4.0nm,0.7s,baz=121,slow=7.6,SNR=23						
CMAR				LR	LR	05 47 29.6	
	comp=Z,25nm,18.1s,baz=125,slow=39						
CMAR	**Chiang Mai Arr**	**32.36**	**300**	P	**P**	**05 32 43.3**	**+1.2**
CHTO	**Chiang Mai**	**32.51**	**301**	P	**P**	**05 32 44.3**	**+0.9**
CHTO				IAmb	IAmb	05 32 45.4	
	comp=Z,9.3nm,0.6s						
KMI	**Kunming**	**32.77**	**314**	⇑P	**P**	**05 32 48.5**	**+2.6**
KMI				pmax	pmax		
	comp=Z,11nm,0.9s						
FORT	**Forrest**	**33.75**	**180**	P	**P**	**05 32 53.5**	**-0.4**
MORW	**Morawa**	**34.08**	**199**	P	**P**	**05 32 56.9**	**+0.1**
MORW				IAmb	IAmb	05 33 12.8	
	comp=Z,13nm,1.1s						
KSRS	**Korea Array**	**34.13**	**360**	P	**P**	**05 32 56.9**	**-0.3**
	comp=Z,3.1nm,0.5s,baz=178,slow=9.9,SNR=14						
KSRS				LR	LR	05 45 52.8	
	comp=Z,30nm,19.5s,baz=188,slow=34						
MJAR	**Matsushiro Arr**	**34.50**	**14**	P	**P**	**05 32 58.3**	**-2.1**
	comp=Z,9.1nm,0.7s,baz=185,slow=9.9,SNR=21						
MJAR				LR	LR	05 46 53.6	
	comp=Z,33nm,19.3s,baz=230,slow=36						
MJAR	**Matsushiro Arr**	**34.50**	**14**	P	**P**	**05 32 58.7**	**-1.8**
MAT	**Matsushiro**	**34.50**	**14**	P	**P**	**05 32 58.5**	**-1.9**
XAN	**Xi'an**	**35.56**	**332**	P	**P**	**05 33 09.5**	**-0.2**
XAN				pP	pP	05 33 30.8	-1.1
XAN				pmax	pmax		
	comp=Z,24nm,0.9s						
XAN				pmax	pmax		
	comp=Z,120nm,4.8s						
XAN				LR	LR		
	comp=N,100nm,19.3s						
XAN				LR	LR		
	comp=E,80nm,15.0s						
XAN				LR	LR		
	comp=Z,150nm,20.3s						
XAN	**Xi'an**	**35.56**	**332**	P	**P**	**05 33 09.4**	**-0.3**
BBOO	**Buckleboo**	**36.55**	**169**	P	**P**	**05 33 18.3**	**+0.3**
STKA	**Stephens Creek**	**37.12**	**161**	P	**P**	**05 33 23.3**	**+0.5**
	comp=Z,13nm,0.7s,baz=342,slow=7.4,SNR=11						
STKA				LR	LR	05 50 43.7	
	comp=Z,60nm,18.6s,baz=59,slow=40						
STKA	**Stephens Creek**	**37.12**	**161**	P	**P**	**05 33 23.1**	**+0.2**
STKA				IAmb	IAmb	05 33 27.3	
	comp=Z,2.4nm,0.7s						
NWAO	**Narrogin (SRO)

SONM	**Songino Array**	**48.29**	**340**	P		**P**	**05 34 52.5**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=156,slow=9.8,SNR=5.5							
SONM				PcP		**PcP**	**05 36 19.0**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=165,slow=6.0,SNR=1.7							
SONM	**Songino Array**	**48.29**	**340**	P		**P**	**05 34 53.1**	**+0.1**
WMQ	**Urumqi**	**53.99**	**325**	*e*P		**P**	**05 35 38.0**	**+2.2**
PEA0B	**Petropavlovsk-**	**55.45**	**21**	P		**P**	**05 35 46.8**	**+0.8**
PETK	**Petropavlovsk-**	**55.45**	**21**	P		**P**	**05 35 46.5**	**+0.6**
	comp=Z,8.4nm,0.7s,baz=187,slow=5.9,SNR=32							
PETK	**Petropavlovsk-**	**55.45**	**21**	P		**P**	**05 35 47.0**	**+1.0**
MK31	**Makanchi Array**	**58.82**	**325**	P		**P**	**05 36 10.3**	**+0.4**
MK31				IAmb		IAmb	05 36 10.9	
	comp=Z,3.9nm,0.6s							
MKAR	**Makanchi Array**	**58.82**	**325**	P		**P**	**05 36 10.5**	**+0.6**
	comp=Z,6.5nm,0.6s,baz=118,slow=8.3,SNR=60							
MKAR	**Makanchi Array**	**58.82**	**325**	P		**P**	**05 36 10.2**	**+0.3**
MAKZ	**Makanchi**	**59.01**	**325**	P		**P**	**05 36 11.5**	**+0.3**
MAKZ				IAmb		IAmb	05 36 14.4	
	comp=Z,5.4nm,0.6s							
KDJ	**Kajisay**	**59.70**	**318**	P		**P**	**05 36 17.6**	**+1.3**
TUWZ	**Tuamarina**	**60.84**	**142**	P		**P**	**05 36 25.1**	**+1.3**
ZALV	**Zalesovo Beam**	**61.73**	**333**	P		**P**	**05 36 28.7**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=124,slow=7.4,SNR=4.2							
ZALV	**Zalesovo Beam**	**61.73**	**333**	P		**P**	**05 36 29.1**	**-0.5**
KURK	**Kurchatov**	**62.97**	**327**	P		**P**	**05 36 37.8**	**-0.1**
KURK				IAmb		IAmb	05 36 43.9	
	comp=Z,7.7nm,0.8s							
BTK	**Batken**	**63.32**	**314**	P		**P**	**05 36 40.6**	**+0.1**
BTK				IAmb		IAmb	05 36 55.5	
	comp=Z,4.1nm,0.7s							
KK31	**Karatay Array**	**64.60**	**317**	P		**P**	**05 36 49.0**	**+0.2**
KKAR	**Karatay Array**	**64.60**	**317**	P		**P**	**05 36 49.0**	**+0.2**
KKAR	**Karatay Array**	**64.60**	**317**	P		**P**	**05 36 49.4**	**+0.6**
KKAR				IAmb		IAmb	05 36 50.1	
	comp=Z,2.9nm,0.9s							
BRVK	**Borovoye**	**68.63**	**327**	P		**P**	**05 37 13.7**	**-0.5**
BRVK				IAmb		IAmb	05 37 20.8	
	comp=Z,5.4nm,0.7s							
NRIK	**Noril'sk**	**71.32**	**346**	P		**P**	**05 37 29.9**	**-0.4**
	comp=Z,3.1nm,0.5s,baz=139,slow=7.8,SNR=5.4							
ABKAR	**Akbulak array**	**73.47**	**321**	P		**P**	**05 37 43.2**	**-0.4**
AKTO	**Aktyubinsk**	**74.97**	**321**	LR		LR	06 12 22.0	
	comp=Z,24nm,21.9s,baz=98,slow=37							
TTA	**Tatalina**	**80.78**	**27**	P		**P**	**05 38 25.5**	**+1.2**
TTA				IAmb		IAmb	05 38 26.4	
	comp=Z,8.0nm,1.4s							
KDAK	**Kodiak Island**	**81.63**	**32**	P		**P**	**05 38 30.2**	**+1.5**
IMAR	**Indian Mountai**	**82.30**	**24**	P		**P**	**05 38 32.5**	**+0.3**
VNDA	**Vanda**	**82.69**	**173**	P		**P**	**05 38 35.0**	**+1.1**
	comp=Z,1.3nm,0.4s,baz=316,slow=6.9,SNR=7.1							
VNDA	**Vanda**	**82.69**	**173**	P		**P**	**05 38 35.3**	**+1.4**
MAW	**Mawson**	**83.71**	**200**	P		**P**	**05 38 40.8**	**+1.5**
	comp=Z,2.0nm,0.6s,baz=93,slow=3.7,SNR=10.0							
MAW	**Mawson**	**83.71**	**200**	P		**P**	**05 38 41.2**	**+2.0**
COLD	**Coldfoot**	**83.88**	**23**	P		**P**	**05 38 41.4**	**+1.2**
COLD				IAmb		IAmb	05 38 43.2	
	comp=Z,4.4nm,0.8s							
ILAR	**Eielson Array**	**85.02**	**25**	P		**P**	**05 38 45.0**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=237,slow=5.2,SNR=5.5							
ILAR	**Eielson Array**	**85.02**	**25**	P		**P**	**05 38 45.7**	**-0.3**
ARCES	**ARCESS Array B**	**91.46**	**340**	P		**P**	**05 39 15.1**	**-1.6**
	comp=Z,1.7nm,0.7s,baz=76,slow=6.4,SNR=7.4							
ARCES	**ARCESS Array B**	**91.46**	**340**	P		**P**	**05 39 16.6**	**0.0**
FINES	**FINESS Array B**	**92.99**	**332**	P		**P**	**05 39 22.5**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=74,slow=8.1,SNR=5.1							
AKASG	**Malin Array Be**	**93.21**	**321**	P		**P**	**05 39 24.5**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=64,slow=4.7,SNR=2.1							
NOA	**NORSAR Array B**	**99.91**	**334**	LR		LR	06 29 12.3	
	comp=Z,12nm,19.2s,baz=70,slow=38							
TXAR	**Lajitas Array**	**120.84**	**53**	PKP		**PKiKP**	**05 45 04.4**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=297,slow=4.6,SNR=2.2							
TORD	**Torodi Ar. Bea**	**124.42**	**288**	PKP		**PKiKP**	**05 45 11.4**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=27,slow=2.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**124.42**	**288**	PKPdf		**PKiKP**	**05 45 11.1**	**+0.4**

*NIC **30** 06:00:35.1±0.0, 35°.47N×27°.79E, h2km±1km, Ml3.9/4*
*IDC **30** 06:00:35.4±1.0, 35°.50N×27°.78E, h0km, mb3.8/6, mb1 3.8/15, mb1mx3.6/53, mbtmp3.6/15, ML3.5/9, MS3.0/9, Ms1 2.9/9, ms1mx2.7/49, Error ellipse: s-maj=18.8km s-min=14.4km az=177.0*
*DDA **30** 06:00:35.0, 35°.47N×27°.66E, h19km±1km, MW3.9*
*ISK **30** 06:00:36.9, 35°.54N×27°.73E, h9km, ML3.7/28*
*ATH **30** 06:00:36.8, 35°.56N×27°.73E, h19km±1km, ML3.6/15, Error ellipse: s-maj=2.8km s-min=1.2km az=319.0*
*HLW **30** 06:00:37.9, 35°.53N×27°.72E, h29km±21km, Ml4.0*
*GII **30** 06:00:38.9±0.0, 35°.23N×27°.91E, h5km, MD3.6/2*
*THE **30** 06:00:38.0, 35°.59N×27°.69E, h0km±1km, ML3.4/5, Error ellipse: s-maj=3.2km s-min=0.9km az=140.0*

ISC 30 06:00:37.0±1.0, 35°.52N±0°.03×27°.76E±0°.02, h14km±7km, n137, σ1s60/177, mb3.8/6, MS2.9/4, 8C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.49**	**273**	P	**Pg**	**06 00 46.1**	**-0.5**
KARP				S	**Sb**	**06 00 54.4**	**+0.1**
	9µm,0.4s						
KARP	**Karpathos**	**0.49**	**273**	P	**Pg**	**06 00 45.8**	**-0.8**
KARP				S	**Sg**	**06 00 53.5**	**+0.3**
KARP				AML	AML	06 00 57.1	
	comp=N,20746µm,0.5s						
KARP				AML	AML	06 00 58.4	
	comp=E,14908µm,0.4s						
KARP	**Karpathos**	**0.49**	**273**	PG	**Pg**	**06 00 46.1**	**-0.5**
KARP				SG	**Sg**	**06 00 54.1**	**+1.0**
KARP	**Karpathos**	**0.49**	**273**	⇑P	**Pg**	**06 00 45.8**	**-0.8**
KARP				S	**Sb**	**06 00 54.5**	**+0.1**
KARP				AML	AML	06 00 56.9	
	comp=E,22nm,0.7s						
KARP				AML	AML	06 00 56.9	
	comp=E,22nm,0.7s						
KARP				AML	AML	06 00 58.2	
	comp=E,15nm,0.4s						
KARP				AML	AML	06 00 58.2	
	comp=E,15nm,0.4s						
ARG	**Arkhangelos**	**0.76**	**23**	P	**Pg**	**06 00 51.4**	**-0.3**
ARG				S	**Sn**	**06 01 03.1**	**-1.4**
	comp=E,2µm,0.4s						
ARG	**Arkhangelos**	**0.76**	**23**	P	**Pg**	**06 00 50.9**	**-0.8**
ARG				S	**Sb**	**06 01 01.5**	**-0.6**
ARG				AML	AML	06 01 07.7	
	comp=N,3982µm,0.6s						
ARG				AML	AML	06 01 10.8	
	comp=E,5380µm,0.3s						
ARG	**Arkhangelos**	**0.76**	**23**	PG	**Pb**	**06 00 51.8**	**-0.1**
ARG	**Arkhangelos**	**0.76**	**23**	⇑P	**Pg**	**06 00 51.2**	**-0.4**
ARG				S	**Sn**	**06 01 03.1**	**-1.4**
NISR	**Nisiros**	**1.20**	**335**	P	**Pn**	**06 00 58.6**	**-0.8**
NISR				S	**Sg**	**06 01 15.0**	**-0.9**
NISR				AML	AML	06 01 32.1	
	comp=E,6019µm,0.5s						
NISR				AML	AML	06 01 32.7	
	comp=N,4705µm,0.7s						
DAT	**Datca**	**1.22**	**353**	P	**Pn**	**06 00 59.7**	**0.0**
DAT				S	**Sn**	**06 01 16.3**	**+0.3**
DAT	**Datca**	**1.22**	**353**	PN	**Pb**	**06 00 59.5**	**-0.3**
DAT				SN	**Sn**	**06 01 17.6**	**+1.6**
DAT	**Datca**	**1.22**	**353**	*i* P	**Pb**	**06 00 59.2**	**-0.6**
DAT				*i* S	**Sn**	**06 01 16.3**	**+0.3**
DAT				IAML		06 01 22.0	
	comp=E,459nm,0.7s						
DAT				IAML		06 01 23.0	
	comp=N,383nm,0.3s						
TURN	**Turunc**	**1.31**	**17**	PN	**Pn**	**06 01 01.5**	**-2.1**
TURN	**Turunc**	**1.31**	**17**	*i* P	**Pn**	**06 01 01.2**	**-2.5**
TURN				*i* S	**Sn**	**06 01 20.3**	**-2.9**
TURN				IAML		06 01 30.0	
	comp=E,736nm,0.5s						
TURN				IAML		06 01 32.0	
	comp=N,928nm,0.4s						
ZKR	**Zakros**	**1.32**	**253**	P	**Pn**	**06 01 01.2**	**+0.2**
ZKR				S	**Sg**	**06 01 21.0**	**+1.4**
	comp=N,2µm,0.7s						
ZKR	**Zakros**	**1.32**	**253**	P	**Pn**	**06 01 01.2**	**+0.2**
ZKR				AML	AML	06 01 28.3	
	comp=N,2709µm,0.7s						
ZKR				AML	AML	06 01 35.2	
	comp=E,5648µm,0.7s						
ZKR	**Zakros**	**1.32**	**253**	PN	**Pn**	**06 01 01.6**	**+0.6**
ZKR				SN	**Sg**	**06 01 20.1**	**+0.5**
KOSK	**Kos Island**	**1.38**	**333**	P	**Pb**	**06 01 02.2**	**-0.4**
KOSK				S	**Sn**	**06 01 20.0**	**+0.1**
	comp=E,1µm,0.7s						
KOSK	**Kos Island**	**1.38**	**333**	PN	**Pb**	**06 01 02.4**	**-0.2**
STIA	**Sitia Lasithi**	**1.40**	**257**	P	**Pn**	**06 01 02.7**	**+0.6**
DALY	**Dalyan (Mula)**	**1.48**	**29**	PN	**Pb**	**06 01 04.5**	**+0.2**
DALY	**Dalyan (Mula)**	**1.48**	**29**	*i* P	**Pb**	**06 01 03.7**	**-0.7**
DALY				*i* S	**Sg**	**06 01 27.0**	**+2.2**
DALY				IAML		06 01 40.0	
	comp=N,369nm,0.4s						
DALY				IAML		06 01 40.0	
	comp=E,432nm,1.0s						
FETY	**Fethiye**	**1.55**	**44**	P	**Pb**	**06 01 05.5**	**+0.1**
FETY	**Fethiye**	**1.55**	**44**	PN	**Pb**	**06 01 05.6**	**+0.1**
FETY	**Fethiye**	**1.55**	**44**	*i* P	**Pb**	**06 01 05.2**	**-0.2**
FETY				*i* S	**Sg**	**06 01 28.9**	**+2.0**
FETY				IAML		06 01 36.0	
	comp=N,177nm,0.3s						
FETY				IAML		06 01 41.0	
	comp=E,181nm,0.5s						
BDRM	**Kayabasi**	**1.56**	**351**	*i* P	**Pn**	**06 01 04.8**	**+0.4**
BDRM				*i* S	**Sn**	**06 01 22.6**	**-1.8**
BDRM				IAML		06 01 30.0	
	comp=E,560nm,0.4s						
BODT	**Bodrum**	**1.58**	**347**	P	**Pn**	**06 01 05.0**	**+0.4**
BODT	**Bodrum**	**1.58**	**347**	PN	**Pb**	**06 01 05.3**	**-0.7**
KSL	**Kastellorizon**	**1.61**	**67**	P	**Pb**	**06 01 06.5**	**0.0**
KSL	**Kastellorizon**	**1.61**	**67**	P	**Pb**	**06 01 06.4**	**0.0**
KSL				AML	AML	06 01 44.4	
	comp=N,688µm,0.9s						
KSL				AML	AML	06 01 51.0	
	comp=E,1091µm,1.0s						
KSL	**Kastellorizon**	**1.61**	**67**	⇑P	**Pn**	**06 01 05.1**	**+0.1**
AKAS	**Kas**	**1.66**	**64**	PN	**Pb**	**06 01 07.5**	**+0.1**
AKAS	**Kas**	**1.66**	**64**	*i* P	**Pb**	**06 01 07.3**	**-0.2**
AKAS				*i* S	**Sg**	**06 01 30.8**	**+0.3**
AKAS				IAML		06 01 51.0	
	comp=N,271nm,1.4s						
YER	**Yerkesik**	**1.67**	**15**	P	**Pb**	**06 01 07.2**	**-0.3**
YER	**Yerkesik**	**1.67**	**15**	PN	**Pb**	**06 01 06.8**	**-0.7**
NPS	**Neapolis**	**1.77**	**262**	P	**Pn**	**06 01 08.5**	**+1.3**
NPS	**Neapolis**	**1.77**	**262**	P	**Pb**	**06 01 08.9**	**-0.3**
NPS				AML	AML	06 01 43.8	
	comp=N,4342µm,0.6s						
NPS				AML	AML	06 01 44.7	
	comp=E,3481µm,0.6s						
ANAF	**Anafi Island**	**1.81**	**298**	P	**Pb**	**06 01 09.2**	**-0.7**
ANAF				AML	AML	06 01 41.4	
	comp=E,8960µm,0.6s						
ANAF				AML	AML	06 01 42.2	
	comp=N,7216µm,0.4s						
LAST	**Lasithi**	**1.90**	**260**	P	**Pb**	**06 01 11.2**	**-0.2**
LAST	**Lasithi**	**1.90**	**260**	P	**Pn**	**06 01 10.6**	**+1.6**
LAST				AML	AML	06 01 50.3	
	comp=E,1882µm,0.8s						
LAST				AML	AML	06 01 53.2	
	comp=N,2435µm,1.0s						
AMGA	**Amorgos Island**	**2.00**	**312**	P	**Pn**	**06 01 10.3**	**0.0**
AMGA				AML	AML	06 01 43.4	
	comp=E,2494µm,0.8s						
AMGA				AML	AML	06 01 47.0	
	comp=N,2833µm,0.5s						
SANT	**Santorini**	**2.05**	**295**	P	**Pn**	**06 01 11.8**	**+0.7**
SANT				AML	AML	06 01 48.0	
	comp=N,994µm,0.5s						
SANT				AML	AML	06 01 48.1	
	comp=E,2006µm,0.8s						
SANT	**Santorini**	**2.05**	**295**	PN	**Pn**	**06 01 12.0**	**+0.9**
THT2	**Imerovigli**	**2.10**	**296**	PN	**Pn**	**06 01 12.9**	**+1.1**
CMBO	**Columbo, Santo**	**2.13**	**297**	P	**Pn**	**06 01 12.6**	**+0.5**
CMBO				AML	AML	06 01 47.3	
	comp=E,4096µm,0.5s						
CMBO				AML	AML	06 01 50.0	
	comp=N,4422µm,0.7s						
ELL	**Elmali**	**2.13**	**54**	PN	**Pb**	**06 01 14.4**	**-1.0**
AYDN	**Tasoluk**	**2.14**	**3**	*i* P	**Pn**	**06 01 13.4**	**+1.1**
AYDN				*i* S	**Sn**	**06 01 38.7**	**0.0**
AYDN				IAML		06 01 45.0	
	comp=N,308nm,0.5s						
AYDN				IAML		06 01 48.0	
	comp=E,173nm,0.5s						
TAVA	**DENIZLI_Tavas**	**2.15**	**25**	*i* P	**Pb**	**06 01 14.8**	**-1.1**
TAVA				*i* S	**Sb**	**06 01 41.2**	**-1.2**
TAVA				IAML		06 01 55.0	
	comp=E,283nm,0.6s						
TAVA				IAML		06 01 56.0	
	comp=N,208nm,0.7s						
HRKL	**Herakleio**	**2.18**	**265**	PN	**Pn**	**06 01 14.3**	**+1.5**
GCAM	**G?zelcaml?**	**2.22**	**349**	PN	**Pn**	**06 01 14.6**	**+1.3**
GCAM	**G?zelcaml?**	**2.22**	**349**	*i* P	**Pn**	**06 01 13.6**	**+0.3**
GCAM				*i* S	**Sn**	**06 01 39.1**	**-1.4**
GCAM				IAML		06 01 56.0	
	comp=E,145nm,0.8s						
GCAM				IAML		06 02 01.0	
	comp=N,262nm,1.0s						
AKUM	**Antalya-Kumluc**	**2.25**	**68**	*i* P	**Pb**	**06 01 15.8**	**-1.5**
GOLH	**Golhisar**	**2.25**	**40**	*i* P	**Pb**	**06 01 16.9**	**-0.6**
GOLH				*i* S	**Sb**	**06 01 43.5**	**-1.6**
GOLH				IAML		06 02 08.0	
	comp=N,252nm,1.3s						
SMG	**Samos**	**2.31**	**342**	P	**Pn**	**06 01 15.6**	**+1.0**
SMG				AML	AML	06 01 51.8	
	comp=E,732µm,0.4s						
SMG				AML	AML	06 02 01.2	
	comp=N,651µm,1.0s						
IOSP	**Ios Island**	**2.33**	**302**	P	**Pn**	**06 01 15.3**	**+0.4**
IDI	**Anoyia**	**2.35**	**265**	Pn	**Pn**	**06 01 16.9**	**+1.6**
	comp=N,10.0nm,0.3s,baz=34,slow=8.9,SNR=46						
IDI				Sn	**Sn**	**06 01 46.8**	**+2.8**
	comp=N,27nm,0.3s,baz=326,slow=19,SNR=4.0						
IDI	**Anoyia**	**2.35**	**265**	P	**Pn**	**06 01 16.4**	**+1.1**
IDI				S	**Sn**	**06 01 45.5**	**+1.5**
	comp=N,420nm,0.6s						
IDI	**Anoyia**	**2.35**	**265**	P	**Pn**	**06 01 16.7**	**+1.4**
IDI				AML	AML	06 02 08.7	
	comp=N,995µm,0.6s						
IDI				AML	AML	06 02 12.1	
	comp=E,900µm,0.7s						
IDI	**Anoyia**	**2.35**	**265**	PN	**Pn**	**06 01 16.7**	**+1.4**
APE	**Apeiranthos**	**2.37**	**311**	P	**Pn**	**06 01 15.9**	**+0.4**
APE	**Apeiranthos**	**2.37**	**311**	PN	**Pn**	**06 01 15.7**	**+0.2**
APE	**Apeiranthos**	**2.37**	**311**	⇑P	**Pn**	**06 01 15.6**	**+0.2**
APE				S	**Sb**	**06 01 48.0**	**-0.6**
SIVA	**Sivas**	**2.46**	**259**	P	**Pn**	**06 01 19.5**	**+2.8**
SIVA				AML	AML	06 02 10.3	
	comp=N,1920µm,0.8s						
SIVA				AML	AML	06 02 16.2	
	comp=E,2961µm,0.7s						
KORT	**Korkueli**	**2.56**	**54**	PN	**Pn**	**06 01 20.2**	**+2.0**
KORT	**Korkueli**	**2.56**	**54**	*i* P	**Pb**	**06 01 20.7**	**-2.1**
KORT				IAML		06 02 01.0	
	comp=N,88nm,0.5s						
KORT				IAML		06 02 09.0	
	comp=E,136nm,0.5s						
DGB	**zmir**	**2.62**	**345**	*i* P	**Pn**	**06 01 19.3**	**+0.4**
DGB				*i* S	**Sn**	**06 01 52.1**	**+1.6**
VAM	**Vamos**	**2.91**	**269**	P	**Pn**	**06 01 24.6**	**+1.8**
VAM				AML	AML	06 02 16.3	
	comp=E,817µm,1.3s						
VAM				AML	AML	06 02 17.4	
	comp=N,919µm,1.4s						
BLCB	**Balcova**	**2.92**	**349**	PN	**Pn**	**06 01 24.4**	**+1.5**
MHLO	**Agia Marina, M**	**2.96**	**294**	P	**Pn**	**06 01 25.2**	**+1.7**
URLA	**Izmir**	**2.98**	**342**	PN	**Pn**	**06 01 25.2**	**+1.3**
URLA	**Izmir**	**2.98**	**342**	*i* P	**Pn**	**06 01 24.4**	**+0.4**
URLA				*i* S	**Sb**	**06 02 03.0**	**-3.3**
URLA				IAML		06 02 27.0	
	comp=N,80nm,0.9s						
URLA				IAML		06 02 30.0	
	comp=E,77nm,1.1s						
BASM	**Basmaki-Afyon**	**3.02**	**37**	PN	**Pn**	**06 01 26.6**	**+2.1**
MANT	**Manisa**	**3.03**	**12**	*i* P	**Pn**	**06 01 25.3**	**+0.5**
MANT				IAML		06 02 22.0	
	comp=E,58nm,0.6s						
MANT				IAML		06 02 28.0	
	comp=N,68nm,1.1s						
KULA	**Kula-Manisa**	**3.08**	**13**	PN	**Pn**	**06 01 27.1**	**+1.9**
GVDS	**Gavdos**	**3.08**	**258**	PN	**Pn**	**06 01 27.6**	**+2.4**
GVD	**Gavdhos**	**3.08**	**258**	P	**Pn**	**06 01 27.8**	**+2.5**
GVD	**Gavdhos**	**3.08**	**258**	PN	**Pn**	**06 01 27.3**	**+2.1**
IMMV	**Iera Moni Meta**	**3.08**	**270**	PN	**Pn**	**06 01 27.2**	**+2.0**
CHOS	**Chios island**	**3.17**	**335**	P	**Pn**	**06 01 28.2**	**+1.6**
CHOS	**Chios island**	**3.17**	**335**	PN	**Pn**	**06 01 27.8**	**+1.3**
ISP	**Isparta**	**3.20**	**43**	PN	**Pn**	**06 01 29.1**	**+2.2**
RODP	**Rodopos**	**3.26**	**272**	PN	**Pn**	**06 01 29.2**	**+1.5**
KNDR	**Palaiochora Ch**	**3.34**	**266**	PN	**Pn**	**06 01 31.1**	**+2.4**
OSC1	**CSNet OBS 1**	**3.54**	**124**	P	**Pn**	**06 01 30.5**	**-0.9**
OSC1				S	**Sn**	**06 02 14.3**	**+1.3**
DKL	**Dikili**	**3.61**	**349**	PN	**Pn**	**06 01 34.2**	**+1.7**
ALAN	**Alanya-ANTALYA**	**3.62**	**72**	PN	**Pn**	**06 01 34.4**	**+1.8**
SIMA	**Simav-Kutahya**	**3.69**	**15**	PN	**Pn**	**06 01 35.9**	**+2.2**
AKMS	**Akamas**	**3.78**	**96**	P	**Pn**	**06 01 34.2**	**-0.6**
AKMS				S	**Sn**	**06 02 20.0**	**+0.9**
AKMS				AML	AML	06 02 22.7	
	comp=N,0.7nm,0.4s						
AKMS				AML	AML	06 02 22.7	
	comp=N,0.7nm,0.4s						
AKMS				AML	AML	06 02 24.6	
	comp=N,0.4nm,0.6s						
AKMS				AML	AML	06 02 24.6	
	comp=N,0.4nm,0.6s						
SEYD	**Seydisehir-KON**	**3.79**	**59**	PN	**Pn**	**06 01 37.6**	**+2.5**
ALFC	**Alefka**	**3.98**	**94**	⇑P	**Pn**	**06 01 37.4**	**-0.2**
ALFC				S	**Sn**	**06 02 24.8**	**+0.8**
ALFC				AML	AML	06 02 26.4	
	comp=N,0.6nm,1.0s						
ALFC				AML	AML	06 02 26.4	
	comp=N,0.6nm,1.0s						
ALFC				AML	AML	06 02 29.1	
	comp=N,0.5nm,0.6s						
ALFC				AML	AML	06 02 29.1	
	comp=N,0.5nm,0.6s						
SIGR	**SIGRI**	**3.98**	**338**	PN	**Pn**	**06 01 39.5**	**+1.9**
NATA	**Nata**	**4.01**	**99**	P	**Pn**	**06 01 37.5**	**-0.5**
BALB	**Balikesir**	**4.11**	**1**	PN	**Pn**	**06 01 41.7**	**+2.3**
TVSB	**Tavsanli**	**4.15**	**19**	PN	**Pn**	**06 01 42.5**	**+2.5**
SZAC	**Souni**	**4.27**	**99**	⇑P	**Pn**	**06 01 41.5**	**-0.1**
SZAC				AML	AML	06 02 36.9	
	comp=N,0.4nm,0.4s						
SZAC				AML	AML	06 02 38.1	
	comp=N,0.4nm,0.5s						
OSC2	**CSNet OBS 4**	**4.46**	**122**	P	**Pn**	**06 01 43.8**	**-0.3**
OSC2				S	**Sn**	**06 02 37.2**	**+1.3**
SLUM	**Salum**	**4.54**	**209**	P	**Pn**	**06 01 45.4**	**+0.1**
	baz=209						
SLUM				AMP		06 02 00.0	
	baz=209						
SLUM				S	**Sn**	**06 02 33.4**	**-4.6**
	baz=209						
ASGA	**Asgata**	**4.56**	**98**	P	**Pn**	**06 01 46.1**	**+0.5**
CSS	**Mathiatis**	**4.60**	**95**	Pn	**Pn**	**06 01 47.0**	**+0.9**
CSS				Sn	**Sn**	**06 02 40.1**	**+0.8**
CSS	**Mathiatis**	**4.60**	**95**	⇑P	**Pn**	**06 01 45.9**	**-0.2**
MVOU	**Mavrovouni**	**4.83**	**94**	⇑P	**Pn**	**06 01 48.8**	**-0.5**
BRTR	**Keskin Array B**	**6.28**	**46**	Pn	**Pn**	**06 02 11.9**	**+2.6**
	comp=N,0.1nm,0.3s,baz=215,slow=13,SNR=6.4						
BRTR				Sn	**Sn**	**06 03 23.9**	**+3.0**
	comp=N,0.2nm,0.3s,baz=212,slow=27,SNR=4.7						
BRTR				LR	LR	06 05 30.2	
	comp=N,173nm,20.9s,baz=202,slow=47						
SWA2		**6.55**	**198**	P	**Pn**	**06 02 11.9**	**-1.1**
	baz=198						
SWA2				AMP		06 03 00.0	
	baz=198						
GLL	**Jalalah**	**6.80**	**150**	P	**Pn**	**06 02 16.5**	**+0.1**
	baz=149						
GLL				S	**Sn**	**06 03 28.4**	**-5.2**
	baz=149						
MMA0B	**Mount Meron ar**	**6.80**	**109**	Pn	**Pn**	**06 02 16.3**	**-0.2**
MMAI	**Mount Meron Ar**	**6.80**	**109**	Pn	**Pn**	**06 02 15.9**	**-0.5**
	comp=N,2.2nm,0.3s,baz=304,slow=3.3,SNR=10						
MMAI				Sn	**Sn**	**06 03 35.5**	**+1.8**
	comp=N,3.2nm,0.3s,baz=294,slow=33,SNR=5.1						
MMAI				LR	LR	06 06 23.7	
	comp=N,97nm,19.8s,baz=310,slow=51						
GEM	**Giv'at Ha'Em**	**6.93**	**107**	Pn	**Pn**	**06 02 17.9**	**-0.2**
NATI	**Neve Ativ**	**6.97**	**107**	Pn	**Pn**	**06 02 19.2**	**+0.6**
MMLI	**Mount Malkishu**	**7.07**	**114**	Pn	**Pn**	**06 02 19.7**	**-0.4**
SUZ	**Suez**	**7.10**	**142**	P	**Pn**	**06 02 20.7**	**+0.2**
	baz=141						
AMAZ	**Amatzia**	**7.18**	**122**	Pn	**Pn**	**06 02 22.0**	**+0.4**
AMAZ				Sn	**Sn**	**06 03 41.4**	**-1.5**
KZIT	**Kziot**	**7.22**	**128**	Pn	**Pn**	**06 02 22.0**	**-0.1**
KZIT				Sn	**Sn**	**06 03 40.9**	**-3.0**
HMDT	**Nahal Hemdat**	**7.24**	**115**	Pn	**Pn**	**06 02 23.0**	**+0.7**
YTIR	**Yattir**	**7.42**	**122**	Pn	**Pn**	**06 02 24.9**	**0.0**
KRMI	**Paran Flat**	**7.96**	**131**	Pn	**Pn**	**06 02 31.0**	**-1.3**
KRMI				Sn	**Sn**	**06 03 59.4**	**-2.8**
PRNI	**Paran**	**7.98**	**128**	Pn	**Pn**	**06 02 32.2**	**-0.3**
PRNI				Sn	**Sn**	**06 03 59.6**	**-3.0**
ASF	**Jabal al Asfar**	**8.30**	**111**	Pn	**Pn**	**06 02 37.5**	**+0.5**
	comp=N,0.2nm,0.3s,baz=198,slow=22,SNR=1.8						
ASF				Sn	**Sn**	**06 04 19.0**	**+8.3**
	comp=N,0.3nm,0.3s,baz=155,slow=16,SNR=2.0						
**MB

*IDC **30** 06:36:29.1±1.0,86°.49N×39°.92E, h0km, mb3.6/8, mb1 3.9/11,mb1mx3.6/49, mbtmp3.7/11, ML3.4/3, MS3.0/11, Ms1 3.1/11, ms1mx2.9/42, Error ellipse: s-maj=30.2km s-min=16.1km az=91.0*

*NEIC **30** 06:36:31.1±1.2, 86°.49N±0°.08×3°.8E±°, h10km±1km, mb4.2/7, Error ellipse: s-maj=15.6km s-min=9.4km az=144.0*

ISC 30 06:36:30.9±0.7, 86°.39N±0°.06×37°.67E±0°.09, h10km, n37, σ1§81/34, mb3.7/10, MS2.9/7, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZFI2	**Zemlya Franca-**	**5.71**	**164**	*eP*	**Pn**	**06 37 53.5**	**-1.9**
ZFI2				*eS*	Sn	06 38 52.9	-7.9
	26nm,0.2s						
KBS	**Kingsbay**	**8.03**	**217**	*eP*	**Pn**	**06 38 28.4**	**+1.1**
KBS				*eS*	**Sn**	**06 39 52.3**	**-5.5**
KBS	**Kingsbay**	**8.03**	**217**	Pn	**Pn**	**06 38 28.9**	**+1.6**
SPA0	**Spitsbergen Ar**	**8.61**	**210**	*eP*	**Pn**	**06 38 36.2**	**+0.9**
SPA0				S	**Sn**	**06 40 08.9**	**-3.4**
SPA0	**Spitsbergen Ar**	**8.61**	**210**	Pn	**Pn**	**06 38 37.6**	**+2.3**
SPITS	**Spitsbergen Ar**	**8.61**	**210**	Pn	**Pn**	**06 38 36.0**	**+0.6**
	baz=52,slow=11,SNR=11						
SPITS				Sn	**Sn**	**06 40 09.7**	**-2.6**
	baz=101,slow=13,SNR=0.6						
SPITS				LR	LR	06 41 29.7	
	comp=Z,84nm,20.7s,baz=355,slow=34						
EUNU	**Eureka**	**12.42**	**318**	Pn	**Pn**	**06 39 26.9**	**-0.4**
KEV	**Kevo**	**16.81**	**193**	P	**P**	**06 40 29.7**	**+1.7**
KEV				IAmb	IAmb	06 40 30.3	
	comp=Z,9.5nm,0.9s						
SUMG	**Summit**	**17.02**	**268**	P	**P**	**06 40 31.0**	**+0.2**
ARCES	**ARCESS Array B**	**17.05**	**195**	P	**P**	**06 40 31.9**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=5.1,slow=11,SNR=5.3						
ARCES				LR	LR	06 47 01.3	
	comp=Z,61nm,19.9s,baz=333,slow=37						
ARCES	**ARCESS Array B**	**17.05**	**195**	P	**P**	**06 40 32.2**	**+1.4**
RES	**Resolute Bay**	**18.07**	**321**	P	**Pn**	**06 40 39.8**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=235,slow=8.1,SNR=1.6						
RES				LR	LR	06 47 57.5	
	comp=Z,40nm,18.9s,baz=2.5,slow=38						
RES	**Resolute Bay**	**18.07**	**321**	P	**P**	**06 40 41.1**	**-0.7**
RES				IAmb	IAmb	06 40 53.8	
	comp=Z,8.7nm,1.2s						
NRIK	**Noril'sk**	**18.64**	**122**	LR	LR	06 48 26.6	
	comp=Z,59nm,19.4s,baz=15,slow=39						
BORG	**Borgarnes**	**23.72**	**246**	P	**P**	**06 41 42.7**	**+0.3**
	comp=Z,5.3nm,0.4s,baz=73,slow=8.3,SNR=8.0						
BORG	**Borgarnes**	**23.72**	**246**	P	**P**	**06 41 43.8**	**+1.3**
BORG				IAmb	IAmb	06 41 52.2	
	comp=Z,48nm,1.4s						
FINES	**FINESS Array B**	**25.16**	**193**	P	**P**	**06 41 55.9**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=19,slow=15,SNR=2.1						
FINES				LR	LR	06 51 43.7	
	comp=Z,33nm,19.0s,baz=16,slow=36						
FINES	**FINESS Array B**	**25.16**	**193**	P	**P**	**06 41 56.4**	**+0.7**
INK	**Inuvik**	**25.43**	**352**	LR	LR	06 53 26.9	
	comp=Z,50nm,18.1s,baz=294,slow=40						
NOA	**NORSAR Array B**	**25.91**	**210**	LR	LR	06 52 32.4	
	comp=Z,22nm,18.7s,baz=15,slow=37						
HFS	**Hagfors**	**26.75**	**207**	LR	LR	06 53 10.7	
	comp=Z,32nm,18.3s,baz=336,slow=37						
ILAR	**Eielson Array**	**29.00**	**4**	P	**P**	**06 42 28.8**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=3.8,slow=5.5,SNR=4.4						
ILAR				LR	LR	06 56 08.7	
	comp=Z,25nm,18.3s,baz=313,slow=41						
ILAR	**Eielson Array**	**29.00**	**4**	P	**P**	**06 42 30.2**	**0.0**
YKA	**Yellowknife Ar**	**30.93**	**335**	LR	LR	06 54 44.2	
	comp=Z,88nm,19.6s,baz=0.0,slow=36						
MCARA	**McCarthy VSAT**	**32.41**	**1**	P	**P**	**06 42 59.5**	**-0.8**
MCARA				IAmb	IAmb	06 43 16.6	
	comp=Z,8.6nm,0.9s						
CRQM	**Cirque**	**33.04**	**1**	P	**P**	**06 43 06.5**	**+0.4**
ZALV	**Zalesovo Beam**	**33.85**	**129**	LR	LR	06 58 46.6	
	comp=Z,18nm,20.0s,baz=74,slow=40						
ABKAR	**Akbulak array**	**37.59**	**156**	P	**P**	**06 43 46.9**	**+1.9**
MAKZ	**Makanchi**	**40.84**	**133**	P	**P**	**06 44 12.5**	**+0.3**
MAKZ				IAmb	IAmb	06 44 14.2	
	comp=Z,4.2nm,1.4s						
MKAR	**Makanchi Array**	**40.87**	**132**	P	**P**	**06 44 10.4**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=356,slow=4.0,SNR=4.2						
MKAR	**Makanchi Array**	**40.87**	**132**	P	**P**	**06 44 11.3**	**-1.1**
BRTR	**Keskin Array B**	**46.84**	**184**	P	**P**	**06 45 03.0**	**+2.4**
	comp=Z,1.4nm,0.9s,baz=10,slow=7.5,SNR=4.9						
BRTR	**Keskin Array B**	**46.84**	**184**	P	**P**	**06 45 03.4**	**+2.9**
PDAR	**Pinedale Array**	**50.51**	**329**	P	**P**	**06 45 28.7**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=350,slow=4.6,SNR=3.6						
PDAR	**Pinedale Array**	**50.51**	**329**	P	**P**	**06 45 28.1**	**-0.9**
NVAR	**Mina Array Bea**	**55.09**	**337**	P	**P**	**06 46 02.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=355,slow=3.9,SNR=3.6						
TXAR	**Lajitas Array**	**63.69**	**323**	P	**P**	**06 47 01.8**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=17,slow=2.0,SNR=6.3						

IDC 30 06:42:52.8±2.2, 3°.02N×127°.99E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/35, mbtmp3.4/3, Error ellipse: s-maj=145.7km s-min=26.6km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.65**	**165**	P	P	06 48 06.2	+0.1
	0.7nm,0.4s,baz=345,slow=10,SNR=23						
ASAR	**Alice Springs**	**27.14**	**168**	P	P	06 48 37.5	-0.4
	0.2nm,0.4s,baz=349,slow=7.4,SNR=4.8						
MKAR	**Makanchi Array**	**58.86**	**325**	P	P	06 52 53.6	+0.2
	0.3nm,0.5s,baz=112,slow=8.3,SNR=4.4						

WEL 30 06:51:36.1, 38°S±4°×17°6E±°, h199km±4km, M2.8/30, MLv2.8/30, Error ellipse: s-maj=0.0km s-min=0.0km az=0.3, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.14**	**109**	P	Pn	06 52 02.1	-0.1
OPRZ				S	Sn	06 52 21.6	-0.8
KAKZ	**Kaharoa**	**0.25**	**207**	P	Pn	06 52 02.5	+0.1
OMRZ	**Omania**	**0.31**	**182**	P	Pn	06 52 02.8	+0.2
NGRZ	**Ngongotaha**	**0.34**	**207**	P	Pn	06 52 02.9	+0.2
UTU	**Utuhina**	**0.41**	**202**	P	Pn	06 52 03.1	+0.3
TARZ	**Mount Tarawera**	**0.45**	**168**	P	Pn	06 52 03.4	+0.3
RRRZ	**Republican Roa**	**0.55**	**169**	P	Pn	06 52 03.4	+0.1
PRRZ	**Plateau Road**	**0.70**	**180**	P	Pn	06 52 04.0	0.0
TOZ	**Tahuroa Road**	**0.70**	**275**	P	Pn	06 52 04.2	+0.1
TOZ				S	Sn	06 52 25.8	+0.3
URZ	**Urewera**	**0.73**	**129**	P	Pn	06 52 03.8	-0.4
URZ				S	Sn	06 52 23.9	-2.1
WPRZ	**Whakapapatarin**	**0.74**	**194**	P	Pn	06 52 04.4	+0.2
MUGZ	**Murupara**	**0.74**	**156**	P	Pn	06 52 04.0	-0.2
ALRZ	**Allen Road**	**0.76**	**183**	P	Pn	06 52 04.4	+0.1
KUTZ	**Kaahu Road**	**0.82**	**213**	P	Pn	06 52 04.8	+0.2
TLZ	**Tolley Road**	**0.85**	**231**	P	Pn	06 52 05.1	+0.2
RTZ	**Ruatahuna**	**0.94**	**150**	P	Pn	06 52 05.4	-0.1
RTZ				S	Sn	06 52 26.9	-1.5
MRHZ	**Matea Rd**	**1.03**	**179**	P	Pn	06 52 05.8	-0.2
MRHZ				S	Sn	06 52 28.3	-1.2
RUGZ	**Raukumara Rang**	**1.03**	**100**	P	Pn	06 52 05.3	-0.9
RUGZ				S	Sn	06 52 26.9	-2.6
WATZ	**Wairara**	**1.04**	**209**	P	Pn	06 52 05.5	-0.6
MWZ	**Matawai**	**1.05**	**121**	P	Pn	06 52 06.0	-0.1
HAZ	**Te Kaha**	**1.11**	**88**	P	Pn	06 52 06.0	-0.5
HAZ				S	Sn	06 52 28.4	-1.7
MTHZ	**Maungataniwha**	**1.11**	**161**	P	Pn	06 52 06.5	-0.1
MTHZ				S	Sn	06 52 28.7	-1.7
RATZ	**Rangitukua**	**1.17**	**204**	P	Pn	06 52 07.1	0.0
KUZ	**Kuaotunu**	**1.18**	**333**	P	Pn	06 52 07.0	-0.2
MKAZ	**Moumakai**	**1.20**	**305**	P	Pn	06 52 07.3	+0.1
SNGZ	**Shannon Statio**	**1.23**	**143**	P	Pn	06 52 07.9	+0.4
SNGZ				S	Sn	06 52 30.9	-1.2
RAHZ	**Arahi**	**1.24**	**154**	P	Pn	06 52 08.0	+0.4
RAHZ				S	Sn	06 52 31.4	-0.8
TKGZ	**Te Karaka**	**1.32**	**119**	P	Pn	06 52 08.6	+0.4
TKGZ				S	Sn	06 52 32.4	-0.6
NMHZ	**Naumai**	**1.34**	**166**	P	Pn	06 52 09.1	+0.6
BKZ	**Black Stump Fm**	**1.37**	**177**	P	Pn	06 52 08.2	-0.4
BKZ				S	Sn	06 52 31.8	-2.3
HIZ	**Hauiti**	**1.40**	**239**	P	Pn	06 52 09.0	+0.1
RIGZ	**Rimuhau**	**1.41**	**130**	P	Pn	06 52 09.6	+0.6
RIGZ				S	Sn	06 52 33.7	-1.0
ETAZ	**East Tamaki Re**	**1.44**	**306**	P	Pn	06 52 09.3	+0.1
ETVZ	**East Tongariro**	**1.44**	**201**	P	Pn	06 52 09.0	-0.3
WHHZ	**Waihua**	**1.44**	**153**	P	Pn	06 52 09.6	+0.4
OTVZ	**Oturere**	**1.48**	**202**	P	Pn	06 52 09.6	-0.1
PUZ	**Puketiti**	**1.50**	**101**	P	Pn	06 52 09.9	+0.1
NGZ	**Ngauruhoe**	**1.51**	**204**	P	Pn	06 52 10.2	+0.3
ARHZ	**Aropaoanui**	**1.54**	**162**	P	Pn	06 52 10.5	+0.4
MXZ	**Matakaoa Point**	**1.54**	**82**	P	Pn	06 52 10.4	+0.3
TUVZ	**Tukino**	**1.57**	**201**	P	Pn	06 52 10.3	-0.3
KNZ	**Kokohu**	**1.58**	**141**	P	Pn	06 52 10.8	+0.4
FWVZ	**Far West T-bar**	**1.59**	**204**	P	Pn	06 52 10.6	-0.3
WMGZ	**Waiomatatini S**	**1.61**	**91**	P	Pn	06 52 11.0	+0.3
WHVZ	**Whangaehu Hut**	**1.61**	**203**	P	Pn	06 52 10.6	-0.3
KWHZ	**Kaweka Forest**	**1.62**	**179**	P	Pn	06 52 10.8	-0.2
PRGZ	**Paritu Road**	**1.63**	**134**	P	Pn	06 52 11.3	+0.4
TRVZ	**Turoa**	**1.64**	**203**	P	Pn	06 52 11.0	-0.2
WNVZ	**Wahianoa**	**1.65**	**202**	P	Pn	06 52 10.8	-0.5
MCHZ	**McNeill Hill**	**1.66**	**172**	P	Pn	06 52 11.6	+0.4
MOVZ	**Moawhango**	**1.68**	**197**	P	Pn	06 52 10.6	-0.9
PKVZ	**Pokaka**	**1.70**	**208**	P	Pn	06 52 11.4	-0.2
BHHZ	**Black Hill Sta**	**1.71**	**188**	P	Pn	06 52 11.0	-0.7
MTVZ	**Mangateitei**	**1.74**	**204**	P	Pn	06 52 11.6	-0.4
VRZ	**Vera Road**	**1.84**	**224**	P	Pn	06 52 13.1	+0.2
KRHZ	**Kereru**	**1.84**	**180**	P	Pn	06 52 12.6	-0.3
CKHZ	**Cape Kidnapper**	**1.93**	**164**	P	Pn	06 52 14.2	+0.3
KAHZ	**Kahuranaki**	**2.03**	**169**	P	Pn	06 52 15.0	+0.2
PNHZ	**Pukenui**	**2.12**	**184**	P	Pn	06 52 15.0	-0.8
WAZ	**Wanganui**	**2.24**	**209**	P	Pn	06 52 16.4	-0.7
PXZ	**Pawanui**	**2.26**	**171**	P	Pn	06 52 16.8	-0.4
WPHZ	**Waipukurau**	**2.26**	**179**	P	Pn	06 52 16.7	-0.7
TSZ	**Takapari Road**	**2.28**	**188**	P	Pn	06 52 16.7	-0.8
NEZ	**North Egmont**	**2.32**	**230**	P	Pn	06 52 18.7	+0.6
PRHZ	**Porangahau**	**2.47**	**176**	P	Pn	06 52 18.8	-0.8
DVHZ	**Dannevirke**	**2.50**	**184**	P	Pn	06 52 18.8	-1.2
POWZ	**Post Office Ro**	**2.63**	**190**	P	Pn	06 52 20.1	-1.3
ANWZ	**Angora Road**	**2.66**	**179**	P	Pn	06 52 20.9	-0.7
PRWZ	**Puri Road**	**2.77**	**187**	P	Pn	06 52 21.9	-1.1
BFZ	**Birch Farm**	**2.88**	**182**	P	Pn	06 52 22.8	-1.5
MRZ	**Mangatainoka R**	**2.93**	**192**	P	Pn	06 52 23.0	-1.8
TIWZ	**Tintock**	**3.00**	**187**	P	Pn	06 52 24.2	-1.5
CPWZ	**Castlepoint**	**3.11**	**183**	P	Pn	06 52 26.1	-0.8
OGWZ	**Otaki Gorge**	**3.16**	**197**	P	Pn	06 52 25.6	-1.9
HOWZ	**Holdsworth Sta**	**3.17**	**192**	P	Pn	06 52 25.5	-2.2
KIW	**Kapiti Island**	**3.27**	**200**	P	Pn	06 52 26.3	-2.5
TMWZ	**Te Maipa**	**3.33**	**186**	P	Pn	06 52 27.6	-1.9
OUZ	**Omahuta**	**3.42**	**318**	P	Pn	06 52 24.8	-5.9
MTW	**Mount Morrison**	**3.42**	**191**	P	Pn	06 52 27.5	-3.2
CAW	**Cannon Point**	**3.46**	**197**	P	Pn	06 52 28.8	-2.4
DUWZ	**D'Urville Isla**	**3.56**	**212**	P	Pn	06 52 29.9	-2.5
TRWZ	**Traveller**	**3.63**	**188**	P	Pn	06 52 31.0	-2.3
MSWZ	**Moikau Station**	**3.72**	**193**	P	Pn	06 52 31.4	-2.9
TCW	**Tory Channel**	**3.78**	**205**	P	Pn	06 52 32.4	-2.6
PLWZ	**Palliser**	**3.87**	**193**	P	Pn	06 52 33.2	-3.0
TUWZ	**Tuamarina**	**4.09**	**207**	P	Pn	06 52 36.1	-2.7
NNZ	**Nelson**	**4.13**	**213**	P	Pn	06 52 36.3	-3.1
QRZ	**Quartz Range**	**4.25**	**224**	P	Pn	06 52 37.9	-3.1
BSWZ	**Blackbirch Sta**	**4.36**	**206**	P	Pn	06 52 39.9	-2.4
THZ	**Tophouse**	**4.78**	**213**	P	Pn	06 52 45.2	-2.4
KHZ	**Kahutara**	**5.10**	**204**	P	Pn	06 52 48.7	-3.0
DSZ	**Denniston Nort**	**5.29**	**220**	P	Pn	06 52 51.9	-2.2
GVZ	**Greta Valley S**	**5.76**	**205**	P	Pn	06 52 56.8	-3.4
LTZ	**Lake Taylor**	**5.89**	**211**	P	Pn	06 52 58.4	-3.5
INZ	**Inchbonnie**	**6.20**	**216**	P	Pn	06 53 02.2	-3.6
OXZ	**Oxford**	**6.44**	**210**	P	Pn	06 53 04.6	-4.3
MQZ	**McQueen's Vall**	**6.54**	**204**	P	Pn	06 53 05.5	-4.7
AKCZ	**Akaroa Harbour**	**6.61**	**202**	P	Pn	06 53 07.6	-3.6
ARCZ	**Arundel**	**7.30**	**211**	P	Pn	06 53 16.3	-3.8
ODZ	**Otahua Downs**	**8.42**	**209**	P	Pn	06 53 31.2	-3.5
JCZ	**Jackson Bay**	**8.50**	**220**	P	Pn	06 53 32.0	-3.9

*BJI **30** 07:03:01.4±0.0, 64°.57N×17°.65W, h5km, mB5.5/65, mb5.0/63, Ms5.4/74, Ms7 5.2/71*

*REY **30** 07:03:02.2, 64°.61N×17°.46W, h3km*

*BGS **30** 07:03:03.4±1.8, 64°.52N×17°.54W, h5km, MS5.0*

*MOS **30** 07:03:03.3±1.0, 64°.52N×17°.49W, h11km, mb5.5/74, MS4.8/59, Error ellipse: s-maj=7.2km s-min=4.6km az=95.7*

*IEPN **30** 07:03:03.0, 64°.04N×17°.15W, h10km*

*NEIC **30** 07:03:04, 64°.60N×17°.55W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=9.18; Mθθ 7.90; Mθφ 1.29; Mrφ 2.39; Mφφ -3.00; Mrr-0.20; Fault plane solution: Mo 9.43000×10^16 NP1:φ1 287.07000°, δ52.22000°, λ-94.94000°. NP2:φ2 115.09000°, δ38.06000°, λ-83.67000°. Principal axes: T 9.3398, Plg7.0000°, Azm21.0000°; N 0.1737, Plg4.0000°, Azm290.0000°; P -9.5135, Plg82.0000°, Azm172.0000°;*

*IDC **30** 07:03:04.1±0.3, 64°.50N×17°.66W, h0km, mb4.6/40, mb1 4.7/47, mb1mx4.7/50, mbtmp4.6/47, ML3.5/6, MS4.9/42, Ms1 5.0/42, ms1mx4.9/43 Error ellipse: s-maj=10.8km s-min=6.9km az=14.0*

*BGR **30** 07:03:04.9±0.0, 65°.04N×17°.01W, h10km, mb5.6, Ms4.7*

*NEIC **30** 07:03:04.1±1.8, 64°.59N±0°.08×17°.5W±0°.1, h6km±1km, mb5.3/488, Ms_20 5.0/721, Mwb5.3/43, Mww5.4, ML5.4(REY), Error ellipse: s-maj=13.2km s-min=9.3km az=184.0*

*NAO **30** 07:03:05.3±5.4, 64°.50N×16°.95W, ML5.0*

*DNK **30** 07:03:07.3±4.9, 64°.48N×17°.22W, h18km±210km, Ms5.1*

*GCMT **30** 07:03:08.1±0.1, 64°.62N±0°.01×17°.16W±0°.01, h12km, MW5.4/153, Moment Tensor Solution. s114,c184; s153,c329; Duration: 1§3 Moment tensor: Scale 10^17 Nm; Mrr-2.11±.02; Mθθ 1.29±.02; Mφφ 0.81±.01; Mrθ 0.22±.04; Mrφ-0.14±.01; Mθφ-0.71±.04; Best double couple: Mo 1.83400×10^17 NP1:φ1 102.00000°, δ38.00000°, λ-107.00000°. NP2:φ2 303.00000°, δ54.00000°, λ-77.00000°. Principal axes: T 1.3850, Plg8.0000°, Azm24.0000°; N 0.8960, Plg10.0000°, Azm115.0000°; P -2.2820, Plg77.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **30** 07:03:10, 64°.47N×17°.31W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr-1.90; Mθθ 1.22; Mrφ 0.68; Mrθ 0.58; Mθφ-0.13; Mφφ 0.01; Fault plane solution: Mo 1.77000×10^17 NP1:φ1 104.00000°, δ35.00000°, λ-85.00000°. NP2:φ2 279.00000°, δ55.00000°, λ-93.00000°. Principal axes: T 1.3500, Plg10.0000°, Azm11.0000°; N 0.6564, Plg3.0000°, Azm280.0000°; P -2.0064, Plg80.0000°, Azm176.0000°;*

ISC 30 07:03:05.0±0.2, 64°.60N±0°.02×17°.49W±0°.02, h10km, n1509, σ2§01/1175, mb5.3/378, MS5.0/474, 32C-42D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVON	**Vonarskard**	**0.14**	**302**	P	**Pg**	**07 03 05.4**	**-2.8**
	baz=296						
IVON				S	**Sg**	**07 03 08.2**	**-2.3**
	baz=296						
IDJK	**Dyngjujokull**	**0.14**	**132**	P	**Pg**	**07 03 05.2**	**-3.1**
IDYN	**Dyngjuhals**	**0.20**	**15**	P	**Pg**	**07 03 05.7**	**-3.5**
	baz=12						
IDYN				S	**Sg**	**07 03 09.2**	**-3.0**
	baz=12						
IGRF	**Grimsfjall**	**0.22**	**154**	P	**Pg**	**07 03 06.5**	**-3.0**
	baz=158						
IHUS	**Husbondi**	**0.32**	**194**	P	**Pg**	**07 03 09.0**	**-2.3**
	baz=195						
IBJK	**Bruarjokull**	**0.34**	**112**	P	**Pg**	**07 03 09.0**	**-2.9**
	baz=115						
IVOT	**Vottur**	**0.36**	**158**	P	**Pg**	**07 03 08.9**	**-3.2**
	baz=161						
IKVE	**Kverkfjoll**	**0.36**	**77**	P	**Pg**	**07 03 09.3**	**-2.8**
	baz=78						
ISKR	**Skrokkalda**	**0.39**	**264**	P	**Pg**	**07 03 09.2**	**-3.4**
	baz=263						
IJOK	**Jokulheimar**	**0.43**	**229**	P	**Pg**	**07 03 11.1**	**-2.3**
	baz=229						
IKRE	**Krepputhraun**	**0.51**	**68**	P	**Pg**	**07 03 11.3**	**-3.5**
	baz=69						
IASK	**Askja**	**0.58**	**38**	P	**Pg**	**07 03 12.7**	**-3.5**
	baz=38						
IIEY	**Innrieyrar**	**0.58**	**209**	P	**Pg**	**07 03 13.2**	**-3.0**
	baz=210						
IKSK	**Karasker**	**0.62**	**135**	P	**Pg**	**07 03 12.9**	**-4.1**
	baz=136						
IKAL	**Kalfafell**	**0.66**	**188**	P	**Pg**	**07 03 14.0**	**-3.7**
	baz=189						
ISVA	**Svartarkot**	**0.75**	**7**	P	**Pg**	**07 03 15.3**	**-4.1**
	baz=6.7						
IVSH	**V-Sauoahnukur**	**0.78**	**74**	P	**Pg**	**07 03 15.8**	**-4.3**
	baz=74						
IFAG	**Fagurholsmyri**	**0.81**	**153**	P	**Pg**	**07 03 16.9**	**-3.7**
	baz=154						
IADA	**Aoalbol**	**0.92**	**62**	P	**Pg**	**07 03 18.1**	**-4.6**
	baz=62						
IHVE	**Hveravellir**	**0.93**	**288**	P	**Pg**	**07 03 18.8**	**-4.1**
	baz=287						
ISNB	**Snabyli**	**1.00**	**211**	P	**Pg**	**07 03 20.2**	**-4.0**
	baz=211						
IMEL	**Melhnausar**	**1.03**	**19**	P	Pg	07 03 20.1	-4.8
	baz=19						
IREN	**Reynihlio**	**1.08**	**13**	P	Pg	07 03 20.6	-5.1
	baz=12						
IRJU	**Rjupnafell**	**1.12**	**208**	P	**Pb**	**07 03 22.2**	**-4.1**
	baz=209						
IFED	**Fedgar**	**1.12**	**240**	P	**Pb**	**07 03 22.4**	**-4.1**
	baz=240						
IKVO	**Krokottuvotn**	**1.15**	**13**	P	Pb	07 03 21.9	-5.0
	baz=12						
IGRS	**Grimsstaoir**	**1.19**	**28**	P	**Pb**	**07 03 23.0**	**-4.6**
	baz=28						
ISKI	**Skildingahlsh**	**1.29**	**8**	P	Pn	07 03 24.1	-5.0
	baz=8.0						
IGHA	**Grjothals**	**1.30**	**15**	P	Pn	07 03 24.4	-4.7
	baz=15						
IGRA	**Granasstaoir**	**1.32**	**358**	P	Pn	07 03 24.8	-4.7
	baz=358						
IDIM	**Dimmadalss**	**1.39**	**9**	P	**Pn**	**07 03 25.9**	**-4.5**
	baz=9.0						
IHLA	**Hella**	**1.40**	**345**	P	**Pn**	**07 03 26.6**	**-4.0**
	baz=344						
IHED	**Heoinshofoi**	**1.49**	**3**	P	**Pn**	**07 03 27.6**	**-4.2**
	baz=2.3						
IBRE	**Brettingsstaoi**	**1.54**	**354**	P	**Pn**	**07 03 28.7**	**-3.8**
	baz=359						
BORG	**Borgarnes**	**1.66**	**277**	Pg	**Pn**	**07 03 31.6**	**-2.4**
	213nm,0.3s,baz=98,slow=7.3,SNR=309						
BORG				Lg	Lg	07 03 54.8	
	155nm,0.3s,baz=275,slow=22,SNR=21						
BORG				LR	LR	07 04 19.8	
	comp=Z,29μm,20.2s,baz=127,slow=47						
BORG	**Borgarnes**	**1.66**	**277**		**Pn**	**07 03 30.3**	**-3.8**
SCO	**Scoresbysund**	**6.15**	**346**	*i P*	**Pn**	**07 04 35.7**	**0.0**
SCO	**Scoresbysund**	**6.15**	**346**	*i P*	**Pn**	**07 04 35.7**	**0.0**
SCO	**Scoresbysund**	**6.15**	**346**	Pn	**Pn**	**07 04 33.5**	**-2.2**
SCO	**Scoresbysund**	**6.15**	**346**	*i P*	**Pn**	**07 04 35.8**	**0.0**
SCO				IAMs_20	IAMs_20	07 08 29.3	
	comp=Z,27μm,6.0s						
JMIC	**Jan Mayen**	**7.25**	**24**	Pn	**Pn**	**07 04 51.7**	**+0.8**
JMIC	**Jan Mayen**	**7.25**	**24**	Pn	**Pn**	**07 04 51.9**	**+1.1**
	baz=167,slow=4.1,SNR=2.3						
JMIC				Sn	**Sn**	**07 06 19.4**	**+6.3**
	baz=155,slow=7.9,SNR=0.9						
JMIC				LR	LR	07 07 08.9	
	comp=Z,18μm,18.0s,baz=254,slow=33						
JMIC	**Jan Mayen**	**7.25**	**24**	Pn	**Pn**	**07 04 51.7**	**+0.8**
LEWI	**Lewis, Hebride**	**8.23**	**137**	*eP*	**Pn**	**07 05 02.5**	**-1.8**
LEWI				IAMs_20	IAMs_20	07 09 33.7	
	comp=Z,12μm,10.5s						
ANGG	**Ammassalik, Gr**	**8.55**	**286**	IAMs_20	IAMs_20	07 09 30.0	
	comp=Z,27μm,6.4s						
LRW	**Lerwick**	**8.79**	**113**	*eP*	**Pn**	**07 05 10.7**	**-1.2**
LRW				IAMs_20	IAMs_20	07 08 43.7	
	comp=Z,11μm,15.5s						
LRW	**Lerwick**	**8.79**	**113**	*eP*	**Pn**	**07 05 11.8**	**-0.1**
BIGH	**Upper Bighouse**	**8.90**	**127**	*eP*	**Pn**	**07 05 12.9**	**-0.6**
BIGH	**Upper Bighouse**	**8.90**	**127**	*eP*	**Pn**	**07 05 14.3**	**+0.9**
ISOG	**Isortoq, Green**	**9.11**	**286**	IAMs_20	IAMs_20	07 09 39.5	
	comp=Z,23μm,6.1s						
KAC	**Achnashellach**	**9.24**	**135**	*eP*	**Pn**	**07 05 16.3**	**-1.8**
KPL	**Plockton**	**9.27**	**136**	*eP*	**Pn**	**07 05 16.6**	**-1.9**
KPL	**Plockton**	**9.27**	**136**	*eP*	**Pn**	**07 05 16.7**	**-1.8**
KPL				*e*		07 06 59.2	
ICESG	**Greenland Ices**	**9.78**	**307**	*eP*	Pn	07 05 31.2	+5.4
ICESG				IAMs_20	IAMs_20	07 10 15.7	
	comp=Z,40μm,5.5s						
DBG	**Daneborg**	**9.80**	**356**	*eP*	Pn	07 05 30.8	+5.1
DBG				IAM

NBB08 Skaug oppvekst 13.28 64 *eP* Pn 07 06 05.0 -8.2
SNART Snartemo 13.30 107 *eP* **Pn 07 06 11.9 -1.6**
SNART IAmb IAmb 07 06 19.8
comp=Z,385nm,1.7s
SNART Snartemo 13.30 107 *i* P **Pn 07 06 12.0 -1.6**
MOR8 Moi Rana 13.32 69 *eP* **P 07 06 19.2 -4.3**
NBO00 NORSAR Array S 13.34 93 **Pn 07 06 11.9 -2.3**
N2TV TVrnvik 13.46 63 *eP* **Pn 07 06 15.4 -0.2**
NAO01 NORSAR Array S 13.48 93 Pn **Pn 07 06 13.7 -2.3**
NAO01 NORSAR Array S 13.48 93 *eP* **Pn 07 06 14.4 -1.6**
STEI Steigen 13.49 61 *eP* **Pn 07 06 15.1 -1.0**
NC303 NORSAR Array S 13.51 91 **Pn 07 06 14.2 -2.1**
NB2 NORSAR Subarra 13.53 92 Pn **Pn 07 06 16.5 -0.2**
baz=299,slow=14
NB2 NORSAR Subarra 13.53 92 Pn **Pn 07 06 14.0 -2.7**
comp=Z,125nm,2.5s,baz=297,slow=14
NB2 NORSAR Subarra 13.53 92 Pn **Pn 07 06 16.5 -0.2**
baz=299,slow=14
NOA NORSAR Array B 13.53 92 Pn **Pn 07 06 13.9 -2.7**
comp=Z,0.1nm,0.3s,baz=299,slow=13,SNR=9.4
NOA LR LR 07 11 16.8
comp=Z,3µm,20.8s,baz=295,slow=36
FAUS Fauske 13.53 64 *eP* **Pn 07 06 18.9 +2.3**
FAUS IAmb IAmb 07 06 31.9
comp=Z,26nm,1.0s
KONO Kongsberg 13.54 99*ce*P **Pn 07 06 15.6 -1.2**
KONO pmax pmax
comp=Z,106nm,2.5s
NB201 NORSAR Array S 13.55 92 **Pn 07 06 13.5 -3.6**
N2ST Straumen 13.65 64 *eP* **Pn 07 06 19.4 +1.1**
SFJD Kangerlussuaq 13.70 295 Pn **Pn 07 06 19.1 +0.2**
comp=Z,0.3nm,0.3s,baz=23,slow=20,SNR=1.9
SFJD LR LR 07 11 05.6
comp=Z,11µm,19.3s,baz=82,slow=35
SFJD Kangerlussuaq 13.70 295 Pn **Pn 07 06 19.6 +0.7**
SFJD Kangerlussuaq 13.70 295 IAms_20 IAms_20 07 12 04.1
comp=Z,1µm,6.9s
NC405 NORSAR Array S 13.71 91 Pn **Pn 07 06 19.7 +0.5**
N2IH Innhavet 13.75 61 *eP* **Pn 07 06 20.2 +0.6**
LBWR Ladybower, Pea 13.80 137 *eP* **Pn 07 06 19.3 -1.1**
LBWR IAms_20 IAms_20 07 12 29.5
comp=Z,11µm,11.8s
NC602 NORSAR Array S 13.81 93 **Pn 07 06 18.4 -2.1**
NRA0 NORESS Array S 13.81 93 Pn **Pn 07 06 18.4 -2.2**
baz=301,slow=16
NRA0 NORESS Array S 13.81 93 Pn **Pn 07 06 18.4 -2.2**
baz=301,slow=16
ILULI Ilulissat 13.84 304 IAms_20 IAms_20 07 12 50.1
comp=Z,22µm,5.7s
HOMB Homborsund 13.88 105 *eP* **Pn 07 06 20.6 -0.9**
HOMB Homborsund 13.88 105 *i* P **Pn 07 06 22.3 +0.9**
NOD Norderasen 14.14 80 *eP* **Pn 07 06 24.3 -0.7**
IVI Ivigtut 14.30 270 **Pn 07 06 25.3 -2.0**
HFS Hagfors 15.04 93 P **Pn 07 06 36.0 -1.3**
baz=311,slow=12
HFS Hagfors 15.04 93 Pn **Pn 07 06 37.4 +0.2**
comp=Z,0.4nm,0.3s,baz=322,slow=9.1,SNR=10
HFS LR LR 07 12 03.3
comp=Z,4µm,21.8s,baz=286,slow=36
HFS Hagfors 15.04 93 P **Pn 07 06 36.0 -1.3**
baz=311,slow=12
MUD Monsted U'grnd 15.34 110 *i* P **P 07 06 43.3 -2.6**
comp=Z,5µm,12.0s
MUD Monsted U'grnd 15.34 110 *i* P **P 07 06 43.3 -2.6**
MUD MLR MLR
comp=Z,5µm,12.0s
MUD Monsted U'grnd 15.34 110 *eP* **P 07 06 46.3 +0.4**
MUD Monsted U'grnd 15.34 110 *i* P **P 07 06 43.4 -2.6**
MUD IAms_20 IAms_20 07 14 35.5
comp=Z,5µm,12.5s
KIF Kilpisjarvi 15.51 57 P **P 07 06 44.6 -3.2**
KIF Kilpisjarvi 15.51 57 P **P 07 06 44.6 -3.2**
UPNV Upernavik 15.93 317 *i* P **P 07 06 54.0 +1.5**
UPNV IAms_20 IAms_20 07 12 45.0
comp=Z,8µm,10.9s
HSPB Hornsund (broa 16.13 26 P **P 07 06 54.9 +0.4**
HSPB Hornsund (broa 16.13 26 *eP* **P 07 06 56.0 +1.4**
HSPB Hornsund (broa 16.13 26*i*P **P 07 06 53.2 -1.4**
HSPB *eS* **S 07 09 58.8 -4.5**
HSPB Hornsund (broa 16.13 26 P **P 07 06 54.9 +0.4**
HAMF Hammerfest 16.50 51 P **Pn 07 06 54.5 -1.6**
HAMF Hammerfest 16.50 51 P **Pn 07 06 54.5 -1.6**
KULLO Kullorsuaq 16.65 323 IAms_20 IAms_20 07 15 35.8
comp=Z,9µm,5.7s
KBS Kingsbay 16.70 19 P **P 07 07 02.7 +1.8**
KBS Kingsbay 16.70 19 *eP* **P 07 07 00.8 -0.2**
KBS *eS* **S 07 10 12.0 -3.0**
KBS Kingsbay 16.70 19*c i*P **P 07 07 00.9 -0.1**
KBS pmax pmax
comp=Z,61nm,1.4s
KBS Kingsbay 16.70 19 P **P 07 07 04.9 +4.0**
KBS Kingsbay 16.70 19 P **P 07 07 02.7 +1.8**
KBS Kingsbay 16.70 19 *i* P **P 07 07 03.5 +2.6**
KBS IAms_20 IAms_20 07 11 10.2
comp=Z,11µm,21.8s
SPA0 Spitsbergen Ar 16.93 23 P **P 07 07 05.5 +2.0**
SPA0 Spitsbergen Ar 16.93 23 *eP* **P 07 07 05.7 +2.2**
SPA0 *i* S **S 07 10 19.6 0.0**
SPA0 Spitsbergen Ar 16.93 23 P **P 07 07 05.5 +2.0**
SPITS Spitsbergen Ar 16.93 23 P **P 07 07 04.2 +0.7**
baz=198,slow=21,SNR=6.1
SPITS LR LR 07 11 45.9
comp=Z,7µm,21.9s,baz=210,slow=31
NOR Nord 17.09 0 P **P 07 07 04.8 -0.5**
NOR Nord 17.09 0 *i* P **P 07 07 06.2 +0.9**
NOR Nord 17.09 0 *i* P **P 07 07 06.2 +0.9**
NOR Nord 17.09 0 P **P 07 07 04.8 -0.5**
NOR Nord 17.09 0 *i* P **P 07 07 06.2 +0.9**
NOR IAms_20 IAms_20 07 15 18.6
comp=Z,3µm,7.9s
ARA0 ARCESS Array S 17.15 54 P **Pn 07 07 03.4 -1.0**
baz=284,slow=12
ARA0 ARCESS Array S 17.15 54 P **Pn 07 07 03.4 -1.0**
baz=284,slow=12
ARCES ARCESS Array B 17.15 54 P **P 07 07 04.8 -1.2**
comp=Z,0.5nm,0.3s,baz=264,slow=9.6,SNR=14
ARCES LR LR 07 12 26.5
comp=Z,7µm,19.6s,baz=275,slow=33
ARCES ARCESS Array B 17.15 54 P **P 07 07 04.7 -1.4**
ARE0 ARCESS Array S 17.15 54 P **Pn 07 07 03.7 -0.7**
BSEG Bad Segeberg 17.60 114 *eP* **Pn 07 07 07.6 -2.4**
comp=Z,1µm,2.6s,baz=324,slow=10
BSEG *eL* L 07 14 06.7
comp=Z,6µm,19.5s
KEV Kevo 17.66 54 P **P 07 07 10.5 -1.0**
KEV pmax pmax
comp=Z,77nm,1.1s
KEV Kevo 17.66 54 P **P 07 07 10.5 -1.0**
HOPEN Hopen 17.89 31 *eP* **Pn 07 07 12.5 -0.9**
HOPEN *eS* **Sn 07 10 32.7 +0.2**
IBBN Ibbenburen 17.89 122 *eP* **Pn 07 07 11.6 -2.0**
comp=Z,2µm,3.2s,baz=324,slow=10
UCC Uccle 17.95 130 P **Pn 07 07 08.9 -5.4**
UCC Uccle 17.95 130 P **Pn 07 07 10.9 -3.5**
UCC pmax pmax
comp=Z,207nm,1.7s
UCC Uccle 17.95 130 P **Pn 07 07 10.9 -3.5**
SNF Seneffe 18.18 131 P **Pn 07 07 15.0 -2.1**
comp=Z,68nm,1.7s
RGN Rugen 18.36 109 *eP* **P 07 07 18.6 -0.8**
BEBN Eben Emael 18.40 128 P **Pn 07 07 16.7 -3.1**
BUG Bochum--Univer 18.42 124 *eP* **Pn 07 07 18.5 -1.6**
comp=Z,331nm,1.6s,baz=324,slow=10
BMRD Maredsous 18.51 130 P **P 07 07 19.1 -2.0**
comp=Z,100nm,2.1s
BSTI Sart Tilman 18.54 128 P **P 07 07 18.9 -2.5**
BGES Gesves 18.55 129 P **P 07 07 18.9 -2.6**
comp=Z,105nm,2.4s
LDF La Druitiere 18.56 142 *eP* **Pn 07 07 22.2 +0.3**
BCLA Clavier 18.59 129 P **P 07 07 17.2 -4.8**
NRDL Niedersach Rie 18.62 118 *eP* **P 07 07 20.0 -2.3**
comp=Z,795nm,2.3s,baz=324,slow=10
DOU Dourbes 18.63 131 P **P 07 07 20.1 -2.3**
comp=Z,69nm,2.2s
MEM Membach 18.67 127 P **P 07 07 20.8 -2.0**
BHOU Houvegnez 18.88 128 P **P 07 07 24.0 -1.2**
AHRW Bad Neuenahr-A 19.09 126 *eP* **Pn 07 07 28.3 0.0**
comp=Z,3µm,3.7s,baz=324,slow=10
ASSE Asse, Remlinge 19.13 117 *eP* **P 07 07 26.7 -1.0**
comp=Z,737nm,2.3s,baz=324,slow=10
SUF Sumiainen 19.17 76 P **Pn 07 07 28.7 -0.4**
CLZ Clausthal 19.24 118 *eP* **P 07 07 27.4 -1.7**
comp=Z,1µm,2.8s,baz=324,slow=10
GTTG Gottingen 19.32 120 *eP* **P 07 07 28.8 -1.2**
comp=Z,856nm,2.4s,baz=324,slow=10
WLF Walferdange 19.52 129 P **Pn 07 07 32.6 -0.8**
WLF Walferdange 19.52 129 P **Pn 07 07 31.9 -1.5**
WLF pmax pmax
comp=Z,350nm,2.0s
WLF Walferdange 19.52 129 *eP* **Pn 07 07 32.1 -1.3**
comp=Z,1µm,3.1s,baz=324,slow=10
WLF Walferdange 19.52 129 **Pn 07 07 31.9 -1.5**
WLF IAmb IAmb 07 07 41.0
comp=Z,350nm,2.0s
FIA0 FINESS Array S 19.71 79 P **P 07 07 33.3 -0.8**
baz=297,slow=14
FIA0 FINESS Array S 19.71 79 P **P 07 07 33.3 -0.8**
baz=297,slow=14
FIA1 FINESS Array S 19.71 79 **Pn 07 07 33.6 -2.0**
FIA1 IAmb IAmb 07 07 42.5
comp=Z,317nm,1.6s
FINES FINESS Array B 19.71 79 P **Pn 07 07 34.9 -0.7**
comp=Z,0.3nm,0.3s,baz=308,slow=9.4,SNR=15
FINES LR LR 07 14 45.9
comp=Z,4µm,20.5s,baz=302,slow=35
FINES FINESS Array B 19.71 79 P **Pn 07 07 34.5 -1.1**
CLF Chambon-Foret 19.74 138 P **P 07 07 33.6 -0.9**
TNS Taunus Mts 19.85 124 *eP* **Pn 07 07 35.3 -2.0**
comp=Z,2µm,3.3s,baz=324,slow=10
TNS *eL* L 07 14 45.7
comp=Z,1µm,21.5s
TULEG Thule 19.91 328 P **P 07 07 35.0 -1.2**
TULEG Thule 19.91 328 *i* P **Pn 07 07 39.2 +1.3**
TULEG IAms_20 IAms_20 07 15 07.2
comp=Z,11µm,11.9s
UBBA Unterbreizbach 19.92 121 *eP* **Pn 07 07 37.2 -0.8**
comp=Z,586nm,2.0s,baz=324,slow=10
RUE Ruedersdorf 20.07 112 *eP* Pn 07 07 37.9 -2.0
RUE Ruedersdorf 20.07 112 *eP* Pn 07 07 37.9 -2.0
baz=324,slow=10
SLIT Slitere, Latvi 20.14 92 *eP* **P 07 07 38.3 -0.5**
APA0 Apatity Array 20.20 59 P **P 07 07 38.9 -0.5**
APA0 Apatity Array 20.20 59 P **P 07 07 38.9 -0.5**
NEUB Neuenburg 20.28 117 *eP* Pn 07 07 40.4 -1.9
comp=Z,323nm,1.4s,baz=324,slow=10
APA Apatity 20.36 59⇓*i*P Pn 07 07 41.8 -1.4
APA *i* S **S 07 11 25.0 -3.8**
APA pmax pmax
comp=Z,40nm,1.0s
APA MLR MLR
comp=Z,6µm,18.0s
MFF Saint Martin d 20.39 144 *eP* **P 07 07 40.2 -1.5**
MFF pmax pmax
comp=Z,681nm,2.3s
MOX Moxa 20.67 119 P Pn 07 07 44.9 -2.0
MOX pmax pmax
comp=Z,124nm,2.2s
MOX Moxa 20.67 119 *eP* **P 07 07 44.4 -0.2**
comp=Z,423nm,2.0s,baz=324,slow=10
MOX *eL* L 07 16 07.8
comp=Z,4µm,20.5s
CLL Collm 20.67 116⇓*i*P **P 07 07 44.3 -0.3**
comp=Z,334nm,2.4s
CLL *i* 07 07 48.1
comp=Z,310nm,1.9s
CLL *e*Pmax 07 07 50.0
CLL *i* 07 07 54.5
CLL *e* 07 09 30.0
CLL *eS* Sn 07 11 41.0 +1.1
CLL Lmax 07 19 00.0
CLL Collm 20.67 116⇓*i*P **P 07 07 44.3 -0.3**
CLL *i* 07 07 48.1
CLL pmax pmax
comp=Z,334nm,2.4s
CLL Collm 20.67 116 *eP* **P 07 07 44.4 -0.2**
comp=Z,132nm,1.4s,baz=324,slow=10
CLL *eL* L 07 16 03.2
comp=Z,3µm,19.4s
CLL Collm 20.67 116 P **P 07 07 44.0 -0.7**
CLL IAmb IAmb 07 07 52.6
comp=Z,300nm,1.8s
ALE Alert 20.84 345 IAms_20 IAms_20 07 15 13.1
comp=Z,9µm,19.0s
GKP Gorka Klasztor 20.89 106 *eP* Pn 07 07 50.5 +1.0
PBUR Paburge 20.99 96 *eP* **P 07 07 47.6 -0.4**
PLN Plauen 21.00 118 *eP* **P 07 07 48.1 -0.1**
comp=Z,996nm,2.4s,baz=324,slow=10
WERD Werda 21.09 118 *eP* **P 07 07 48.8 -0.4**
comp=Z,244nm,2.1s,baz=324,slow=10
ECH Echery 21.11 129 P **P 07 07 49.1 -0.3**
ECH pmax pmax
comp=Z,167nm,1.6s
ECH MLR MLR
comp=Z,3µm,19.0s
ECH Echery 21.11 129 P **P 07 07 49.1 -0.3**
FBE Freiberg 21.11 116 *eP* **P 07 07 49.3 -0.1**
comp=Z,1µm,2.4s,baz=324,slow=10
GUNZ Gunzen 21.16 119 *eP* **P 07 07 49.8 -0.3**
comp=Z,1µm,2.2s,baz=324,slow=10
TANN Tannenbergstha 21.17 118 *eP* **P 07 07 50.0 -0.2**
comp=Z,1µm,2.0s,baz=324,slow=10
KLNR Kaliningrad 21.20 100 *i* P **P 07 07 49.5 -0.8**
KLNR pmax pmax
comp=Z,630nm,1.5s
KLNR MLR MLR
comp=Z,2µm,17.0s
WERN Wernitzgruen 21.24 118 *eP* **P 07 07 51.1 +0.3**
comp=Z,830nm,1.9s,baz=324,slow=10
GRA1 Grafenberg Arr 21.29 121 P **P 07 07 50.3 -1.1**
GRF Grafenberg Arr 21.29 121 P **P 07 07 50.3 -1.1**
GRF pmax pmax
comp=Z,491nm,2.0s
GRF MLR MLR
comp=Z,3µm,21.0s
GRF Grafenberg Arr 21.29 121 *eP* **P 07 07 51.6 +0.2**
comp=Z,1µm,2.7s,baz=324,slow=10
GRF *eL* L 07 16 07.5
comp=Z,3µm,21.3s
NKC Novy Kostel 21.31 118 *eP* **P 07 07 51.6 0.0**
NKC *eS* Sn 07 11 54.0 -1.4
NKC MLR MLR
comp=Z,4µm,10.6s
NKC Novy Kostel 21.31 118 *eP* **P 07 07 51.6 0.0**
NKC *eS* Sn 07 11 54.0 -1.4
NKC AMS AMS 07 18 40.0
comp=Z,4µm,10.6s
STU Stuttgart 21.33 125 *eP* **P 07 07 52.4 +0.6**
comp=Z,325nm,1.8s,baz=324,slow=10
STU Stuttgart 21.33 125 IAmb IAmb 07 08 03.8
comp=Z,130nm,1.1s
BRG Berggiesshubel 21.38 115 *i* P **P 07 07 51.8 -0.5**
comp=Z,654nm,1.9s
BRG *e* 07 08 30.3
comp=Z,103nm,1.5s
BRG S Sn 07 11 57.0 +0.1
comp=Z,5µm,16.6s
comp=N,4µm,15.3s
comp=E,1µm,15.3s
BRG Berggiesshubel 21.38 115 *eP* **P 07 07 52.3 0.0**
comp=E,655nm,1.9s,baz=324,slow=10
MANZ Manzenberg 21.39 119 *eP* **P 07 07 52.2 -0.2**
comp=E,1µm,2.6s,baz=324,slow=10
BFO Black Forest 21.41 127 P **P 07 07 52.3 -0.3**
BFO pmax pmax
comp=Z,352nm,1.8s
BFO MLR MLR
comp=Z,3µm,19.0s
BFO Black Forest 21.41 127 *eP* **P 07 07 53.1 +0.4**
comp=Z,2µm,2.7s,baz=324,slow=10
BFO *eL* L 07 15 30.2
comp=Z,2µm,21.5s
BFO Black Forest 21.41 127 P **P 07 07 52.3 -0.3**
BFO IAmb IAmb 07 08 03.6
comp=Z,352nm,1.8s
VSU Vasula 21.57 86 *eP* **P 07 07 53.8 -0.4**
VSU Vasula 21.57 86*d i*P **P 07 07 51.4 -2.8**
VSU pmax pmax
comp=Z,69nm,0.8s
ROTZ Rotzenmuhle 21.60 119 *eP* **P 07 07 54.7 0.0**
comp=Z,882nm,2.4s,baz=324,slow=10
FRB Frobisher Bay 21.78 291 P **P 07 07 57.8 +1.4**
comp=Z,20nm,0.9s,baz=71,slow=10,SNR=4.6
FRB LR LR 07 15 55.9
comp=Z,4µm,18.5s,baz=71,slow=36
PVCC Panska Ves 21.90 115 *eS* **S 07 12 01.8 +2.4**
PVCC AMS AMS 07 17 20.0
comp=Z,4µm,16.4s
SLVR Solovky 22.09 65 *eP* **P 07 07 59.0 -0.8**
comp=Z,165nm,1.1s
SLVR *eS* **S 07 12 04.1 +1.2**
PABE Paberze 22.20 95 *eP* **P 07 08 00.6 -0.5**
PRA Prague 22.21 116 *eS* Sn 07 12 10.1 -6.7
PRA AMS AMS 07 21 00.0
comp=Z,2µm,10.1s
PRU Pruhonice 22.32 116 *eP* **P 07 08 02.3 0.0**
PRU *e* 07 08 06.4
PRU *eS* **S 07 12 10.7 +3.3**
PRU MLR MLR
comp=Z,3µm,10.1s
PRU Pruhonice 22.32 116 *eP* **P 07 08 02.3 0.0**
PRU *ep*P **sP 07 08 06.4 -0.8**
PRU *eS* **S 07 12 10.7 +3.3**
PRU AMS AMS 07 20 00.0
comp=Z,3µm,10.1s
KSP Ksiaz 22.33 112 *eP* **P 07 08 02.6 0.0**
PBCC Pribram 22.35 117 *eP* **P 07 08 05.4 +2.7**
WET Wettzell 22.36 119 *eP* **P 07 08 03.0 +0.1**
comp=Z,516nm,2.4s,baz=324,slow=10
WET *eL* L 07 17 10.8
comp=Z,5µm,19.8s
PUL Pulkovo 22.37 80 *eP* **P 07 08 02.1 -0.6**
CHVC Chvalec 22.44 113 *eP* **P 07 08 03.7 0.0**
CHVC AMS AMS 07 17 00.0
comp=Z,4µm,19.7s
GOPC GO Pecny, Ondr 22.47 115 *eP* **P 07 08 03.5 -0.5**
GOPC *e* 07 08 07.7
GOPC *eS* **S 07 12 14.0 +3.6**
GOPC MLR MLR
comp=Z,3µm,10.5s
GOPC GO Pecny, Ondr 22.47 115 *eP* **P 07 08 03.5 -0.5**
GOPC *ep*P **sP 07 08 07.7 -1.2**
GOPC *eS* **S 07 12 14.0 +3.6**
GOPC AMS AMS 07 19 40.0
comp=Z,3µm,10.5s
UPC Upice 22.48 113 *eS* **S 07 12 14.0 +3.4**
UPC AMS AMS 07 17 00.0
comp=Z,4µm,18.8s
OSTC Ostas 22.52 113 *eP* **P 07 08 05.4 +0.8**
OSTC *eS* **S 07 12 14.7 +3.3**
OSTC AMS AMS 07 17 00.0
comp=Z,4µm,21.6s
UBR Ueberruh 22.58 125 *eP* **P 07 08 05.6 +0.3**
baz=324,slow=10
FUR Furstenfeldbru 22.59 123 *eP* **P 07 08 05.1 -0.2**
comp=Z,1µm,2.0s,baz=324,slow=10
FUR *eL* L 07 18 53.2
comp=Z,2µm,18.4s
KHC Kasperske Hory 22.64 118 *eP* **P 07 08 05.6 -0.2**
KHC MLR MLR
comp=Z,3µm,14.4s
KHC Kasperske Hory 22.64 118 *eP* **P 07 08 05.6 -0.2**
KHC *eS* Sn 07 12 19.4 -7.8
KHC AMS AMS 07 18 40.0
comp=Z,3µm,14.4s
KHC Kasperske Hory 22.64 118 P **P 07 08 05.2 -0.7**
DPC Dobruska-Polom 22.73 113 *eP* **P 07 08 06.2 -0.6**
DPC MLR MLR
comp=Z,4µm,18.9s
DPC Dobruska-Polom 22.73 113 *eP* **P 07 08 06.2 -0.6**
DPC *eS* Sn 07 12 21.2 -8.1
DPC AMS AMS 07 17 00.0
comp=Z,4µm,18.9s
DAVA Damuels 22.84 126 *i* P **P 07 08 08.0 -0.1**
comp=Z,76nm,1.3s,SNR=21
SUW Suwalki 22.87 98 *eP* **P 07 08 07.4 -0.8**
SUW Suwalki 22.87 98 IAmb IAmb 07 08 19.9
comp=Z,162nm,1.0s
SSB Saint Sauveur 22.90 137 IAmb IAmb 07 08 22.4
comp=Z,151nm,1.6s
SSB Saint Sauveur 22.90 137 IAms_20 IAms_20 07 17 05.6
comp=Z,5µm,18.0s
GEC2 GERESS Array S 22.92 119 *eP* **P 07 08 08.5 -0.3**
comp=Z,1µm,3.0s,baz=324,slow=10
GEC2 *eL* L 07 17 26.6
comp=Z,4µm,20.4s
GEC2 GERESS Array S 22.92 119 IAmb IAmb 07 08 21.9
comp=Z,236nm,1.5s
GERES GERESS Array B 22.92 119 P **P 07 08 08.7 -0.1**
comp=Z,5.2nm,1.0s,baz=322,slow=8.5,SNR=13
GERES LR LR 07 17 47.4
comp=Z,4µm,19.6s,baz=325,slow=38
GERES GERESS Array B 22.92 119 P **P 07 08 08.0 -0.9**
RETA Reutte 22.98 125 *i* P **P 07 08 09.6 +0.1**
comp=Z,51nm,1.2s,SNR=26
IZAR Zarasai 23.02 92 *eP* **P 07 08 09.1 -0.6**
ISAL Salakas 23.09 92 *eP* **P 07 08 09.8 -0.6**
KRLC Kraliky 23.13 113 *eP* **P 07 08 10.4 -0.6**
KRLC *e* 07 08 16.9
KRLC MLR MLR
comp=Z,3µm,18.7s
KRLC Kraliky 23.13 113 *eP* **P 07 08 10.4 -0.6**
KRLC *ex* x 07 08 16.9
KRLC *eS* **S 07 12 27.9 +5.8**
KRLC AMS AMS 07 17 20.0
comp=Z,3µm,18.7s
MOTA Moosalm 23.22 124 *i* P **P 07 08 11.7 -0.3**
comp=Z,124nm,1.4s,SNR=24
TREC Trest 23.24 115 *eP* **P 07 08 12.6 +0.5**
TREC MLR MLR
comp=Z,3µm,17.0s
TREC Trest 23.24 115 *eP* **P 07 08 12.6 +0.5**
TREC AMS AMS 07 18 20.0
comp=Z,3µm,17.0s
PGAV Gavieira, Arco 23.29 162 *eP* **P 07 08 12.5 -0.2**
comp=Z,222nm,1.9s
PGAV *eS* **S 07 12 30.3 +5.4**
PGAV *eLR* LR 07 14 30.2
comp=Z,5µm,20.0s
TUE Stuetta 23.36 128 P **P 07 08 14.0 +0.5**
FETA Feichten 23.36 125 *i* P **P 07 08 13.3 -0.2**
comp=Z,163nm,1.5s,SNR=15
SQTA Sankt Quirin 23.36 124 *i* P **P 07 08 13.3 -0.2**
comp=Z,130nm,1.7s,SNR=23
TMCR Tamitsa 23.37 66 *eP* **P 07 08 11.5 -1.6**
TMCR *eS* **S 07 12 24.4 -1.2**
TMCR Tamitsa 23.37 66 *eP* **P 07 08 11.4 -1.8**
TMCR *eS* **S 07 12 24.5 -1.2**
WATA Walderalm 23.39 124 *i* P **P 07 08 13.5 -0.2**
comp=Z,74nm,1.7s,SNR=28
BEL Belsk 23.42 105 *eP* **P 07 08 13.8 0.0**
WTTA Wattenberg 23.48 124 *i* P **P 07 08 14.5 -0.1**
comp=Z,89nm,1.6s,SNR=30
IDID Didziasalis 23.52 92 *eP* **P 07 08 14.6 -0.1**
FUORN Ofenpass-Fuorn 23.55 127 IAmb IAmb 07 09 10.1
comp=Z,266nm,1.9s
PCAB Cabril 23.57 162 *eP* **P 07 08 15.5 +0.1**
comp=Z,204nm,1.8s
PBRG Braganca 23.66 160 *eP* **P 07 08 16.2 -0.1**
comp=Z,168nm,1.8s
PBRG *eS* **S 07 12 39.4 +8.6**
VRAC Vranov 23.66 114 P **P 07 08 17.7 +1.5**
comp=Z,6.4nm,0.8s,baz=326,slow=10,SNR=31
VRAC LR LR 07 18 40.8
comp=Z,4µm,18.1s,baz=325,slow=40
VRAC Vranov 23.66 114⇑P P 07 08 08.5 -7.7
VRAC Vranov 23.66 114⇓*i*P **P 07 08 15.6 -0.7**
VRAC *eS* **S 07 12 36.6 +5.9**
MORC Moravsky Berou 23.67 112⇑P **P 07 08 10.6 -5.7**
MORC Moravsky Berou 23.67 112⇓*i*P **P 07 08 15.5 -0.8**
MORC *eS* **S 07 12 37.2 +6.3**
MORC Moravsky Berou 23.67 112 P **P 07 08 15.2 -1.1**
MORC pmax pmax
comp=Z,384nm,1.9s
MORC MLR MLR
comp=Z,3µm,20.0s
MORC Moravsky Berou 23.67 112 P **P 07 08 15.2 -1.1**
EUNU Eureka 23.73 336 P **P 07 08 17.9 +1.2**
BNI Bardonecchia 23.75 134 IAmb IAmb 07 09 01.2
comp=Z,203nm,1.6s
BNI IAMs_20 IAMs_20 07 17 27.1
comp=Z,5µm,20.0s
KRUC Moravsky 23.78 115⇓*i*P **P 07 08 16.2 -1.2**
KRUC *eS* **S 07 12 38.7 +6.1**
NACGM Naroch 23.81 93 *eP* **P 07 08 16.0 -1.6**
NACGM *ePP* **PnPn 07 08 40.0 -5.1**
NACGM *eS* **S 07 12 32.0 -0.9**
NACGM *eSS* **SnSn 07 13 10.0 -1.0**
NACGM *eLQ* LQ 07 15 22.0
NACGM *eLR* LR 07 17 28.0
NACGM LRM MLR 07 20 03.0
comp=Z,4.3nm,12.0s
MOA Molln 23.95 119 *i* P **P 07 08 18.8 -0.3**
comp=Z,82nm,1.7s,SNR=22
PVRL Vila Real 24.04 162 *eP* **P 07 08 19.8 -0.1**
comp=Z,187nm,2.0s

ABTA Abfaltersbach 24.23 123 *i* P **P 07 08 22.1 +0.4**
comp=Z,38nm,1.3s,SNR=17
OJC Ojcow 24.23 109 *e*P **P 07 08 20.6 -1.1**
OJC Ojcow 24.23 109 IAmb IAmb 07 08 50.3
comp=Z,116nm,1.6s
MVO Moncorvo 24.24 161 *e*P **P 07 08 22.0 +0.1**
comp=Z,206nm,2.0s
MVO *e*S **S 07 12 47.9 +7.7**
MVO *e*LR LR 07 14 52.8
comp=Z,3μm,18.0s
KBA Koelnbreinsper 24.25 121 *i* P **P 07 08 22.0 -0.1**
comp=Z,95nm,1.6s,SNR=19
JAVC Velka Javorina 24.45 113⇓ *i*P **P 07 08 24.0 +0.3**
CONA Conrad Observa 24.50 117 *i* P **P 07 08 23.4 -0.8**
comp=Z,23nm,0.9s,SNR=20
MICGM Minsk 24.55 93⇑ *e*P **P 07 08 24.0 -0.5**
MICGM ⇑ *e*P **P 07 08 24.0 -0.5**
MICGM PM 07 08 26.0
comp=Z,0.3nm,2.0s
MICGM PM 07 08 26.0
comp=Z,3.4nm,5.0s
MICGM *e*PP sP 07 08 52.0 +23
MICGM *e*PPP PPP 07 09 04.0
MICGM *e*S **S 07 12 45.0 +0.2**
MICGM *e*SS **SnSn 07 13 30.0 +0.8**
MICGM *e*SSS SSS 07 13 50.0
MICGM *e*LR LR 07 16 30.0
MICGM LRM MLR 07 19 50.0
comp=Z,4.3nm,14.0s
MNK Minsk 24.55 93 *e*P **P 07 08 24.0 -0.5**
MNK *e*S **S 07 12 45.0 +0.2**
MNK *e*SS **SnSn 07 13 30.0 +0.8**
MNK pmax pmax
comp=Z,310nm,2.0s
MNK MLR MLR
comp=Z,4μm,14.0s
PVIS Viseu 24.57 162 *e*P **P 07 08 25.8 +1.0**
comp=Z,175nm,1.7s
CIMO Cimolais 24.58 124 IAmb IAmb 07 08 56.0
comp=Z,175nm,1.6s
SMOL Smolenice 24.63 114 *e*P **P 07 08 25.6 +0.3**
SMOL pmax pmax
comp=Z,664nm,3.3s
SMOL Smolenice 24.63 114 *e*P **P 07 08 25.6 +0.3**
MODS Modra-Piesok 24.68 114 *e*P **P 07 08 25.4 -0.4**
MODS pmax pmax
comp=Z,1μm,3.0s
MODS Modra-Piesok 24.68 114 *e*P **P 07 08 25.4 -0.4**
MODS *e*S **S 07 12 51.2 +4.1**
MYKA Terra Mystica 24.74 122 *i* P **P 07 08 26.7 +0.3**
comp=Z,54nm,1.5s,SNR=17
MTE Manteigas 24.92 162 *e*P **P 07 08 28.3 +0.3**
comp=Z,204nm,1.4s
MTE *e*S S 07 13 06.2 +15
MTE *e*LR LR 07 15 11.0
comp=Z,5μm,20.0s
MTE Manteigas 24.92 162 P **P 07 08 28.8 +0.8**
MTE IAMs_20 IAMs_20 07 16 38.1
comp=Z,5μm,20.0s
ARSA Arzberg 24.93 118 *i* P **P 07 08 28.0 +0.1**
comp=Z,36nm,1.2s,SNR=9.7
COI Coimbra 25.00 163 P **P 07 08 30.9 +2.3**
COI pmax pmax
comp=Z,204nm,1.4s
COI MLR MLR
comp=Z,5μm,18.0s
COI Coimbra 25.00 163 *e*P **P 07 08 29.1 +0.5**
comp=Z,204nm,1.4s
COI *e*S S 07 13 07.0 +15
COI Coimbra 25.00 163 P **P 07 08 30.9 +2.3**
COI IAMs_20 IAMs_20 07 17 32.2
comp=Z,5μm,18.0s
ROBS Robic 25.02 122 *e*P **P 07 08 28.4 -0.4**
ROBS *e*S **S 07 12 57.3 +4.8**
NIE Niedzica 25.06 109 *e*P **P 07 08 29.3 +0.1**
GORS Gorjuse 25.14 122 *e*P **P 07 08 29.4 -0.6**
GORS *e*S **S 07 12 59.5 +4.9**
PCAS Casmilo, Conde 25.14 164 *e*P **P 07 08 30.4 +0.5**
comp=Z,279nm,1.7s
PCAS *e*S S 07 13 15.1 +21
OBKA Obir 25.18 121 *e*P **P 07 08 29.4 -0.9**
comp=Z,18nm,1.2s
VYHS Vyhne 25.20 112 *e*P **P 07 08 29.7 -0.7**
VYHS pmax pmax
comp=Z,1μm,3.6s
VYHS Vyhne 25.20 112 *e*P **P 07 08 29.7 -0.7**
VYHS *e*S **S 07 13 01.9 +6.5**
SOKA Soboth 25.22 120 *i* P **P 07 08 30.1 -0.5**
comp=Z,60nm,2.0s,SNR=18
PERS Pernice 25.29 120 *i* P **P 07 08 31.1 -0.2**
MSSA Maissana 25.32 130 IAmb IAmb 07 09 03.6
comp=Z,136nm,1.5s
PCBR Castelo Branco 25.48 162 *e*P **P 07 08 33.2 +0.2**
comp=Z,148nm,1.6s
SRO Srobarova 25.54 114 *e*P **P 07 08 33.5 0.0**
SRO pmax pmax
comp=Z,263nm,2.2s
SRO Srobarova 25.54 114 *e*P **P 07 08 33.5 0.0**
LJU Ljubljana 25.57 121 *e*P **P 07 08 33.2 -0.6**
LJU *e*S **S 07 13 05.5 +4.3**
TRI Trieste 25.57 123 IAmb IAmb 07 08 49.7
comp=Z,161nm,1.8s
SRO2 Moca 25.62 114 *e*P **P 07 08 33.6 -0.5**
SRO2 pmax pmax
comp=Z,83nm,1.9s
SRO2 Moca 25.62 114 *e*P **P 07 08 33.6 -0.5**
KLMR Klimovskoe 25.62 72 *e*P **P 07 08 33.0 -1.1**
comp=Z,104nm,1.5s
KLMR *e*S **S 07 13 01.5 -0.2**
KLMR Klimovskoe 25.62 72*d* *i*P **P 07 08 33.0 -1.1**
KLMR *e* 07 12 05.3
KLMR *e*S **S 07 13 02.8 +1.1**
KLMR pmax pmax
comp=Z,104nm,1.5s
KLMR MLR MLR
comp=Z,3μm,17.0s
KLMR Klimovskoe 25.62 72⇓ *i*P **P 07 08 33.1 -0.9**
KLMR *i* P **P 07 08 33.1 -0.9**
KLMR *i* P **P 07 08 33.1 -0.9**
KLMR AMP 07 08 43.7
comp=Z,104nm,1.5s
KLMR *e*PcP **PcP 07 12 05.4 +1.1**
KLMR *e*S **S 07 13 02.9 +1.2**
KLMR *e*S **S 07 13 02.9 +1.2**
KLMR LQ LQ 07 15 49.6
KLMR LQ LQ 07 15 49.6
KLMR LR LR 07 16 47.2
KLMR AMP 07 18 15.0
comp=Z,3μm,16.7s
PSBE So Bento 25.64 164 *e*P **P 07 08 35.2 +0.8**
comp=Z,186nm,2.2s
PSBE *e*S S 07 13 14.3 +12
UCM Universidad Co 25.71 154⇓ *i*P **P 07 08 33.4 -1.7**
UCM *e*S **S 07 13 07.0 +3.4**
VLC Villacollemand 25.74 129 IAmb IAmb 07 08 49.7
comp=Z,79nm,1.2s
KWP Kalwaria Pacla 25.89 106 *e*P **P 07 08 37.1 +0.5**
PMRV Marv??o 25.90 162 *e*P **P 07 08 36.4 -0.4**
comp=Z,234nm,1.9s
PMRV *e*S **S 07 13 13.1 +6.6**
PMRV *e*LR LR 07 15 44.5
comp=Z,4μm,20.0s
CRVS Cervenica-Dubn 25.94 109 *e*P **P 07 08 37.0 -0.1**
CRVS pmax pmax
comp=Z,2μm,3.5s
CRVS Cervenica-Dubn 25.94 109 *e*P **P 07 08 37.0 -0.1**
CRVS *e*S **S 07 13 10.1 +3.0**
LSH Leshukonskoye 26.00 60 *e*P **P 07 08 36.1 -1.3**
comp=Z,101nm,1.0s
LSH *e*S **S 07 13 06.5 -1.1**
SCHQ Schefferville 26.05 272 P **P 07 08 38.3 +0.3**
comp=Z,36nm,1.0s,baz=52,slow=12,SNR=12
SCHQ LR LR 07 17 17.1
comp=Z,2μm,20.9s,baz=68,slow=33
SCHQ Schefferville 26.05 272 P **P 07 08 38.4 +0.3**
PSZ Piszkesteto 26.09 112⇓ P **P 07 08 35.9 -2.6**
PSZ Piszkesteto 26.09 112⇓ P **P 07 08 35.9 -2.6**
DRLN Deer Lake 26.10 253 *i* P **P 07 08 41.5 +2.9**
GCIS Gornji Cirnik 26.12 120 *i* P **P 07 08 37.8 -1.0**
GCIS *e*S S 07 13 21.8 +12
PMAFR Mafra 26.14 165 *e*P **P 07 08 38.7 -0.2**
comp=Z,331nm,1.8s
PMAFR *e*S **S 07 13 18.7 +8.4**
PMTG Montargil 26.14 163 *e*P **P 07 08 38.5 -0.5**
comp=Z,148nm,1.8s
PMTG *e*S S 07 13 20.4 +10
ES18 SONSECA Array 26.16 156 IAMs_20 IAMs_20 07 18 55.9
comp=Z,5μm,19.0s
ES17 SONSECA Array 26.16 156 IAMs_20 IAMs_20 07 19 13.0
comp=Z,5μm,18.0s
ES16 SONSECA Array 26.17 156 IAMs_20 IAMs_20 07 18 46.2
comp=Z,4μm,19.0s
ES19 SONSECA Array 26.18 156 IAMs_20 IAMs_20 07 18 57.3
comp=Z,5μm,19.0s
ES07 SONSECA Array 26.18 156 IAMs_20 IAMs_20 07 18 44.4
comp=Z,4μm,18.0s
ESBB Sonseca Array 26.19 156 IAMs_20 IAMs_20 07 18 46.7
comp=Z,3μm,19.0s
ESDC Sonseca Array 26.19 156 P **P 07 08 39.3 -0.2**
comp=Z,8.5nm,0.9s,baz=350,slow=8.7,SNR=22
ESDC LR LR 07 18 57.3
comp=Z,4μm,18.0s,baz=340,slow=36
ESDC Sonseca Array 26.19 156 P **P 07 08 38.4 -1.1**
ES06 SONSECA Array 26.19 156 IAMs_20 IAMs_20 07 19 02.7
comp=Z,5μm,18.0s
ES15 SONSECA Array 26.19 156 IAMs_20 IAMs_20 07 19 03.8
comp=Z,4μm,18.0s
ES01 SONSECA Array 26.20 156 IAMs_20 IAMs_20 07 18 57.9
comp=Z,4μm,18.0s
ES05 SONSECA Array 26.20 156 IAMs_20 IAMs_20 07 19 03.0
comp=Z,5μm,18.0s
ES03 SONSECA Array 26.20 156 IAMs_20 IAMs_20 07 19 19.1
comp=Z,5μm,18.0s
ES14 SONSECA Array 26.21 156 IAMs_20 IAMs_20 07 19 04.2
comp=Z,4μm,18.0s
ES04 SONSECA Array 26.21 156 IAMs_20 IAMs_20 07 19 03.3
comp=Z,4μm,18.0s
ES13 SONSECA Array 26.21 156 IAMs_20 IAMs_20 07 19 04.3
comp=Z,4μm,18.0s
ES12 SONSECA Array 26.23 156 IAMs_20 IAMs_20 07 19 03.7
comp=Z,4μm,18.0s
PAB San Pablo 26.25 157 P **P 07 08 40.3 +0.3**
PAB pmax pmax
comp=Z,89nm,1.4s
PAB MLR MLR
comp=Z,3μm,18.0s
PAB San Pablo 26.25 157 P **P 07 08 40.3 +0.3**
PAB IAmb IAmb 07 08 50.5
comp=Z,89nm,1.4s
KOLS Kolonicke sedl 26.25 108 *e*P **P 07 08 39.1 -0.8**
KOLS pmax pmax
comp=Z,200nm,1.9s
KOLS Kolonicke sedl 26.25 108 *e*P **P 07 08 39.1 -0.8**
KOLS *e*S S 07 13 21.5 +10
LVV L'vov 26.29 104 *e*P **P 07 08 39.9 -0.4**
LVV *e*S **S 07 13 07.0 -5.6**
LVV pmax pmax
comp=Z,630nm,1.5s
LVV smax smax
comp=N,2μm,6.0s
LVV smax smax
comp=E,3μm,6.0s
LVV MLR MLR
comp=E,2μm,13.0s
LVV MLR MLR
comp=N,2μm,14.0s
LVV MLR MLR
comp=Z,2μm,14.0s
PGRA Graciosa 26.34 199 *e*P **P 07 08 41.6 +0.8**
comp=Z,303nm,1.4s
PGRA *e*LQ LQ 07 13 29.8
PGRA *e*LR LR 07 15 23.1
comp=Z,792nm,20.4s
LIS Lisbon 26.39 165 *e*P **P 07 08 41.8 +0.6**
LIS AMb AMB 07 08 45.5
comp=Z,170nm,1.6s
LIS *e*S **S 07 13 15.9 +1.8**
LIS Lisbon 26.39 165 *e*P **P 07 08 41.8 +0.6**
LIS *e*S **S 07 13 15.9 +1.8**
LIS Lisbon 26.39 165 *e*P **P 07 08 41.8 +0.6**
comp=Z,168nm,1.8s
UZH Uzhgorod 26.49 108 *e*P **P 07 08 40.8 -1.3**
UZH *e* 07 09 20.5
UZH *e* 07 12 10.4
UZH *i* S **S 07 13 08.5 -7.3**
H07S1 FLORES T-PHASE 26.51 204 *e*P **P 07 08 44.5 +2.1**
H07S1 *e*LQ LQ 07 13 05.9
H07S1 *e*LR LR 07 15 59.9
RES Resolute Bay 26.52 324 P **P 07 08 44.2 +2.1**
comp=Z,10nm,1.0s,baz=61,slow=12,SNR=3.7
RES LR LR 07 19 24.3
comp=Z,3μm,18.8s,baz=74,slow=37
OSSC Osservatorio P 26.59 129 IAmb IAmb 07 09 00.4
comp=Z,76nm,1.1s
ROSA Rosais 26.68 199 *e*P **P 07 08 47.1 +3.2**
comp=Z,206nm,1.5s
ROSA *e*LQ LQ 07 13 37.7
ROSA *e*LR LR 07 15 35.1
comp=Z,2μm,18.0s
EVO Evora 26.70 163 *i* P **P 07 08 42.7 -1.4**
EVO *e*S **S 07 13 27.7 +8.5**
EVO Evora 26.70 163 *e*P **P 07 08 44.5 +0.5**
comp=Z,71nm,1.7s
PNCL Nicolau / Gran 27.05 164 *e*P **P 07 08 46.7 -0.5**
comp=Z,78nm,1.9s
PNCL *e*S S 07 13 37.5 +13
PBEJ Beja 27.22 163 *e*P **P 07 08 48.9 +0.2**
comp=Z,87nm,2.0s
PSET Sete Cidades 27.26 194 *e*P **P 07 08 50.5 +1.4**
comp=Z,75nm,0.8s
CMLA Cha da Macela 27.30 194 *e*P **P 07 08 50.1 +0.7**
comp=Z,60nm,0.9s
CMLA *e*LQ LQ 07 13 33.7
CMLA *e*LR LR 07 15 46.0
comp=Z,1μm,22.4s
PCVE Castro Verde 27.59 164 *e*P **P 07 08 51.6 -0.4**
comp=Z,92nm,1.6s
PCVE *e*S **S 07 13 40.4 +7.3**
LATE Laterza 27.59 129 P **P 07 08 51.3 -0.8**
PTEO Sao Teotonio 27.59 165 *e*P **P 07 08 52.6 +0.6**
comp=Z,123nm,1.9s
PRGR Permogore 27.65 67 *e*P **P 07 08 51.8 -0.4**
comp=Z,51nm,1.4s
PRGR *e*S **S 07 13 34.0 +0.3**
PRGR Permogore 27.65 67 *e*P **P 07 08 51.9 -0.4**
PRGR pmax pmax
comp=Z,51nm,1.4s
MAHO Mahon 27.80 142⇓ *i*P **P 07 08 52.6 -1.3**
MAHO *e*S **S 07 13 40.0 +3.5**
AKASG Malin Array Be 27.83 97 P **P 07 08 55.2 +1.1**
comp=Z,4.7nm,0.7s,baz=322,slow=8.6,SNR=9.5
AKASG LR LR 07 19 39.7
comp=Z,2μm,21.4s,baz=315,slow=36
AKASG Malin Array Be 27.83 97 P **P 07 08 54.4 +0.3**
AKASG pmax pmax
comp=Z,12nm,1.2s
AKASG Malin Array Be 27.83 97 P **P 07 08 54.4 +0.3**
AKBB Malin Array Si 27.83 97 IAmb IAmb 07 09 00.2
comp=Z,138nm,1.9s
MORF Marmelete 27.84 165 *e*P **P 07 08 55.1 +0.8**
MORF AMb AMB 07 09 05.0
comp=Z,57nm,1.7s
MORF *e*S **S 07 13 38.9 +1.7**
MORF Marmelete 27.84 165 *e*P **P 07 08 55.1 +0.8**
MORF *e*S **S 07 13 38.9 +1.7**
MORF Marmelete 27.84 165 *e*P **P 07 08 53.5 -0.8**
comp=Z,57nm,1.9s
MORF *e*S S 07 13 47.0 +10
NRCA Norcia 27.84 127 IAmb IAmb 07 09 09.1
comp=Z,104nm,1.5s
OBN Obninsk 27.88 84 P **P 07 08 55.1 +0.6**
comp=Z,8.4nm,0.3s,baz=322,slow=7.5,SNR=7.8
OBN LR LR 07 19 42.1
comp=Z,303nm,21.5s,baz=333,slow=36
OBN Obninsk 27.88 84*c* *i*P **P 07 08 54.3 -0.2**
OBN *i* 07 09 39.4
OBN *i* S **S 07 13 39.4 +1.9**
OBN pmax pmax
comp=Z,74nm,1.5s
OBN MLR MLR
comp=Z,2μm,17.0s
OBN Obninsk 27.88 84 P **P 07 08 53.9 -0.5**
MOS Moscow 27.92 82 *e*P **P 07 08 51.9 -2.9**
MOS pmax pmax
comp=Z,88nm,1.6s
MOS MLR MLR
comp=Z,1μm,14.0s
PBDV Barranco-do-Ve 27.98 164 *e*P **P 07 08 56.2 +0.6**
comp=Z,77nm,1.9s
PBDV *e*S S 07 13 51.9 +12
PFVI Vila Bisbo 27.99 165 *e*P **P 07 08 54.6 -1.0**
comp=Z,113nm,1.7s
PFVI *e*S **S 07 13 48.9 +9.5**
PFVI Vila Bisbo 27.99 165 IAMs_20 IAMs_20 07 17 38.3
comp=Z,4μm,22.0s
PSMN Pico do Norte, 28.00 193 *e*P **P 07 08 56.5 +0.8**
comp=Z,68nm,1.7s
PSMN *e*LQ LQ 07 13 04.9
PSMN *e*LR LR 07 15 55.0
comp=Z,602nm,19.7s
SIRR Siria 28.13 112⇑ P **P 07 08 57.4 +0.6**
AQU L'Aquila 28.36 127 IAMs_20 IAMs_20 07 21 47.3
comp=Z,3μm,18.0s
BUR08 Bucovina Ar. S 28.47 106 IAmb IAmb 07 09 18.7
comp=Z,79nm,1.8s
BURAR Bucovina Array 28.50 106⇓ P **P 07 09 01.8 +1.6**
BURAR Bucovina Array 28.50 106⇓ P **P 07 09 01.8 +1.6**
BZS Buzias 28.65 113⇑ P **P 07 09 02.2 +0.8**
BZS Buzias 28.65 113⇑ P **P 07 09 02.2 +0.8**
CART Cartagena 28.77 152⇓ *i*P **P 07 09 01.4 -1.2**
CART *e*S S 07 14 02.0 +10
CART Cartagena 28.77 152 IAMs_20 IAMs_20 07 20 45.1
comp=Z,3μm,18.0s
INTR Introdacqua 28.84 126 IAmb IAmb 07 09 15.9
comp=Z,81nm,1.6s
EMAL Malaga-Limoner 28.95 158⇓ *i*P **P 07 09 04.1 0.0**
SFS San Fernando 28.97 161⇓ *i*P **P 07 09 03.3 -1.1**
SFS *e*S S 07 14 08.1 +13
MDVR Moldovita 29.38 113⇓ P **P 07 09 07.5 -0.5**
BIZ Bicaz 29.41 106⇓ P **P 07 09 09.5 +1.4**
HERR Herculane 29.58 112⇑ P **P 07 09 09.8 +0.1**
VSL Villasalto 29.63 135 IAMs_20 IAMs_20 07 21 38.8
comp=Z,5μm,18.0s
CEU Ceuta 29.65 160⇓ *i*P **P 07 09 10.8 +0.5**
CEU *e*S S 07 14 14.2 +8.7
PAOL Paolisi 29.94 126 P **P 07 09 12.2 -0.8**
PAOL IAmb IAmb 07 09 29.9
comp=Z,99nm,1.8s
PAOL IAMs_20 IAMs_20 07 23 09.9
comp=Z,4μm,18.0s
TESR Tescani 29.97 106⇑ P **P 07 09 14.5 +1.3**
VOIR 30.18 109⇓ P **P 07 09 15.5 +0.4**
VOIR 30.18 109⇓ P **P 07 09 15.5 +0.4**
PDG Podgorica 30.42 119⇓ P **P 07 09 17.7 +0.7**
KIS Kishinev 30.49 103 *e*P **P 07 09 16.0 -1.7**
comp=Z,450nm,4.1s
KIS Kishinev 30.49 103 *e*PP PP 07 10 12.0 -14
KIS *e*S **S 07 14 13.0 -5.7**
KIS *e*LR LR 07 21 59.0
comp=Z,780nm,12.0s
KIS Kishinev 30.49 103 *e*P **P 07 09 16.0 -1.7**
KIS *e* 07 10 12.0
KIS *e*S **S 07 14 13.0 -5.7**
KIS pmax pmax
comp=Z,450nm,4.1s
KIS MLR MLR
comp=N,780nm,12.0s
KIS MLR MLR
comp=E,450nm,12.0s
KIS MLR MLR
comp=Z,740nm,12.0s
PLOR Plostina 30.50 106⇑ P **P 07 09 18.8 +0.9**
PLOR Plostina 30.50 106⇑ P **P 07 09 18.8 +0.9**
MLR Muntele Rosu 30.50 108 P **P 07 09 20.0 +2.0**
comp=Z,6.6nm,1.0s,baz=348,slow=11,SNR=6.0
MLR LR LR 07 23 15.6
comp=Z,2μm,18.1s,baz=342,slow=40
MLR Muntele Rosu 30.50 108⇑ P **P 07 09 19.0 +1.0**
VRI Vrincioaia 30.52 106⇑ P **P 07 09 19.6 +1.5**
VRI Vrincioaia 30.52 106⇑ P **P 07 09 19.6 +1.5**
PVLZ Peæn de 30.53 158⇓ *i*P **P 07 09 15.0 -3.1**
PVLZ *e*S **S 07 14 21.9 +2.6**
LPSR Galich'ya Gora 30.63 86 *e*P **P 07 09 18.4 -0.5**
LPSR *e*S **S 07 14 17.2 -3.5**
LPSR pmax pmax
comp=Z,30nm,1.7s
LPSR smax smax
comp=N,340nm,7.9s
LPSR MLR MLR
comp=Z,970nm,13.0s
MELI Melilla 30.64 156⇓ *i*P **P 07 09 17.8 -1.2**
MELI *e*S **S 07 14 28.5 +7.5**
NEHR Nehoiu 30.70 107⇓ P **P 07 09 20.7 +1.1**
BISRR Bisoca 30.77 107⇓ P **P 07 09 21.5 +1.2**
KIRV Kirov 31.00 69 P **P 07 09 25.1 +3.0**
comp=Z,11nm,0.4s,baz=26,slow=6.8,SNR=6.1
KIRV LR LR 07 21 17.7
comp=Z,4μm,20.1s,baz=311,slow=35
MATE Matera 31.03 124⇓ P **P 07 09 23.8 +1.3**
ISR Istrita 31.05 107⇓ P **P 07 09 24.0 +1.2**
ISR Istrita 31.05 107⇓ P **P 07 09 24.0 +1.2**
BATG Bathurst New B 31.23 260 IAMs_20 IAMs_20 07 19 43.9
comp=Z,5μm,20.0s
PMPST Porto Santo, M 31.56 178 *e*P **P 07 09 27.3 +0.1**
comp=Z,162nm,1.8s
PMPS Porto Santo 31.58 178 *e*P **P 07 09 28.0 +0.6**
comp=Z,149nm,1.4s
TIR Tirane 31.58 119 IAMs_20 IAMs_20 07 23 14.3
comp=Z,3μm,19.0s
CFR Carcaliu 31.66 106⇑ P **P 07 09 29.6 +1.6**
CFR Carcaliu 31.66 106⇑ P **P 07 09 29.6 +1.6**
VSR Storozhevoye 31.73 87 *e*P **P 07 09 27.8 -0.8**
VSR *e*S **S 07 14 35.3 -2.6**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR smax smax
comp=E,900nm,10.2s
VSR MLR MLR
comp=Z,2μm,17.0s
VTS Vitosha 31.79 114 *i* P **P 07 09 28.2 -1.2**
PMOZ Porto Moniz, M 31.80 180 *e*P **P 07 09 30.2 +0.7**
comp=Z,100nm,2.0s
PMOZ *e*LR LR 07 17 35.7
comp=Z,2μm,20.0s
PMAR Madeira 31.90 179 *e*P **P 07 09 31.4 +0.9**
comp=Z,165nm,1.6s
AVE Averroes 31.94 164⇓ *i*P **P 07 09 26.1 -4.5**
AVE *e*S **S 07 14 47.2 +5.8**
IFR Ifrane 32.02 160⇓ *i*P **P 07 09 30.1 -1.4**
IFR *e*S **S 07 14 49.0 +5.8**
SZH Strazhica 32.33 110 *i* P P 07 09 42.8 +8.9
CORL Corleone 32.33 131 IAMs_20 IAMs_20 07 22 41.3
comp=Z,3μm,19.0s
TIRR Tirgusor 32.36 106 IAMs_20 IAMs_20 07 24 16.0
comp=Z,3μm,18.0s
KKB Krupnik 32.37 115 *i* P **P 07 09 33.4 -0.9**
PQI Presque Isle 32.54 261 IAMs_20 IAMs_20 07 20 35.5
comp=Z,4μm,20.0s
D62A Allapoint, All 32.66 263 P **P 07 09 37.1 +0.3**
baz=39
MDT Midelt 32.79 160 P **P 07 09 38.8 +0.6**
comp=Z,16nm,0.9s,baz=8.9,slow=8.9,SNR=28
CHGQ Chibougamau 32.79 271 P **P 07 09 37.5 -0.5**
baz=42
VRH Novokhopyorsk 32.84 85 *e*P **P 07 09 37.9 -0.4**
VRH *e*S **S 07 15 01.9 +6.7**
VRH pmax pmax
comp=Z,20nm,0.8s
VRH smax smax
comp=N,770nm,8.6s
VRH MLR MLR
comp=Z,2μm,15.0s
MMB Musomiste 32.86 114 *i* P **P 07 09 38.2 -0.4**
PRD Provadia 32.98 109 *i* P P 07 09 32.8 -6.8
KEST Kesra 33.10 138 P **P 07 09 42.2 +1.3**
comp=Z,5.3nm,1.1s,baz=289,slow=3.3,SNR=13
KEST LR LR 07 23 53.9
comp=Z,1μm,20.2s,baz=303,slow=38
KEST Kesra 33.10 138 IAMs_20 IAMs_20 07 22 59.7
comp=Z,3μm,18.0s
RZN Rozhen 33.17 113 *i* P **P 07 09 40.7 -0.8**
E62A Clayton Lake 33.22 263 IAMs_20 IAMs_20 07 20 59.6
comp=Z,3μm,20.0s
JMB Yambol 33.26 110 *i* P **P 07 09 40.4 -1.7**
F64A Sherman 33.32 261 IAMs_20 IAMs_20 07 21 10.1
comp=Z,3μm,19.0s
D60A Saint Jean D'O 33.59 264 P **P 07 09 47.3 +2.4**
baz=39
F63A Nahmakanta, Br 33.77 261 P **P 07 09 47.6 +1.1**
baz=37
F63A Nahmakanta, Br 33.77 261 P **P 07 09 47.3 +0.8**
F63A IAmb IAmb 07 09 48.4
comp=Z,60nm,1.6s
F63A IAMs_20 IAMs_20 07 21 13.0
comp=Z,4μm,20.0s

E61A Lac Etchemin 33.79 263 P P 07 09 48.0 +1.3
baz=38
EMMW East Machias 33.87 258 IAMs_20 IAMs_20 07 21 14.6
comp=Z,3μm,20.0s
G64A Maxfield 33.98 260 P P 07 09 49.2 +0.9
baz=37
F62A Pittston Farm, 33.98 262 P P 07 09 49.6 +1.3
baz=38,SNR=6.1
F62A Pittston Farm, 33.98 262 IAmb IAmb 07 09 51.1
comp=Z,74nm,1.6s
LATQ La Tuque 34.03 267 P P 07 09 50.2 +1.5
baz=39
PKME Peaks-Kenny Pk 34.20 261 P P 07 09 51.6 +1.4
baz=37
PKME Peaks-Kenny Pk 34.20 261 IAmb IAmb 07 09 52.2
comp=Z,67nm,1.5s
PKME IAMs_20 IAMs_20 07 21 37.3
comp=Z,3μm,20.0s
E60A Ste Agathe de 34.25 264 P P 07 09 52.1 +1.5
baz=38
D58A Chemin du LacG 34.30 266 P P 07 09 52.5 +1.4
baz=39
MATQ Matagami 34.31 274 P P 07 09 50.1 -1.1
baz=42
F61A St Evariste 34.36 263 P P 07 09 52.9 +1.3
baz=38
ALN Alexandroupoli 34.37 112 IAmb IAmb 07 10 05.8
comp=Z,64nm,1.4s
G63A Kingsbury 34.46 261 P P 07 09 54.3 +1.8
baz=37
AGG Agios Georgios 34.53 118 IAMs_20 IAMs_20 07 26 03.6
comp=Z,3μm,19.0s
LSQQ Lebel-sur-Quev 34.56 272 P P 07 09 53.2 -0.1
baz=41
G62A West of Eustis 34.76 262 P P 07 09 55.4 +0.3
baz=37
D57A Chemin Vers le 34.79 267 P P 07 09 55.6 +0.3
baz=39,SNR=7.0
WVL Waterville 34.91 261 IAMs_20 IAMs_20 07 22 24.3
comp=Z,3μm,18.0s
H63A New Sharon 35.00 261 P P 07 09 59.3 +2.2
baz=37
E58A La Victoria 35.03 266 P P 07 09 58.0 +0.6
baz=38
D56A ZEC Mazanza, M 35.14 268 P P 07 09 58.6 +0.2
baz=39
G61A St-Isidore-de- 35.14 263 P P 07 09 59.6 +1.3
baz=37
E57A Chemin Saint G 35.37 267 P P 07 10 00.1 -0.3
baz=38,SNR=5.4
D55A Sainte-Anne-du 35.47 269 P P 07 10 01.0 -0.1
baz=39
G60A Masonville 35.63 264 P P 07 10 02.7 +0.1
baz=37
E56A St. Veronique 35.65 268 P P 07 10 02.7 0.0
baz=39,SNR=7.5
I63A Otisfield 35.72 261 IAMs_20 IAMs_20 07 22 32.6
comp=Z,3μm,20.0s
D54A Lac Fusel, La 35.88 270 P P 07 10 04.4 -0.3
baz=39
ANN Anapa 35.90 96 *e*P P 07 10 03.7 -1.1
ANN *e**PP **pP** 07 10 06.8 -1.6
ANN *e* 07 11 18.9
ANN *e*S **S** 07 15 43.5 +1.0
ANN *e*SS **SnSn** 07 17 56.0 -9.4
ANN pmax pmax
comp=Z,36nm,0.9s
ANN MLR MLR
comp=Z,2μm,14.0s
ITM Ithomi 36.00 120 IAMs_20 IAMs_20 07 27 32.3
comp=Z,2μm,19.0s
G59A Clarenceville 36.01 265 P P 07 10 07.4 +1.7
baz=37
F57A Harrington 36.08 267 P P 07 10 08.3 +1.9
baz=38
ARU Arti 36.10 66 P P 07 10 09.4 +2.9
comp=Z,0.9nm,0.3s,baz=355,slow=11,SNR=4.8
ARU Arti 36.10 66 *c i*P P 07 10 06.1 -0.4
ARU 07 11 24.3
ARU PPP PPP 07 11 47.8
ARU S **S** 07 15 48.7 +3.2
ARU pmax pmax
comp=Z,29nm,2.1s
ARU MLR MLR
comp=Z,4μm,20.0s
ARU Arti 36.10 66 P P 07 10 06.3 -0.2
ARU IAmb IAmb 07 10 26.5
comp=Z,116nm,2.0s
E55A Montcerf-Lytto 36.16 269 P P 07 10 08.8 +1.7
baz=38
I62A Tamworth 36.19 262 P P 07 10 09.8 +2.5
baz=36
I62A Tamworth 36.19 262 IAMs_20 IAMs_20 07 22 48.9
comp=Z,2μm,20.0s
H60A Morristown 36.22 264 P P 07 10 09.5 +1.9
baz=37
G58A Ormstown 36.33 265 P P 07 10 10.3 +1.8
baz=37
FRNY Flat Rock 36.38 265 P P 07 10 09.4 +0.4
FRNY IAmb IAmb 07 10 12.1
comp=Z,97nm,1.7s
D53A Lac Vacive, Po 36.38 271 P P 07 10 10.7 +1.6
baz=39,SNR=6.2
VT1 Waterbury 36.42 263 IAMs_20 IAMs_20 07 22 47.4
comp=Z,3μm,21.0s
NRIK Noril'sk 36.51 35 P P 07 10 11.3 +1.5
comp=Z,13nm,1.0s,baz=309,slow=5.5,SNR=17
NRIK LR LR 07 27 03.1
comp=Z,2μm,18.3s,baz=349,slow=39
I61A Oroboro, Fairl 36.51 262 P P 07 10 11.1 +1.0
baz=36
H59A Cadyville 36.57 265 P P 07 10 11.7 +1.1
baz=37
FFD Franklin Falls 36.65 261 IAMs_20 IAMs_20 07 23 02.2
comp=Z,3μm,19.0s
E54A Lac Daplat, Po 36.67 270 P P 07 10 11.4 0.0
baz=38
ORIO Orleans, Innes 36.72 267 P P 07 10 12.8 +0.9
baz=38
G57A Newington 36.77 266 P P 07 10 14.0 +1.8
baz=37,SNR=7.8
MDUB Mudurnu 36.82 107 IAMs_20 IAMs_20 07 27 30.9
comp=Z,3μm,20.0s
C36M Paulatuk 36.88 325 P P 07 10 14.6 +1.6
baz=44
C36M Paulatuk 36.88 325 P P 07 10 14.8 +1.8
C36M IAmb IAmb 07 10 16.7
comp=Z,63nm,1.4s
E53A Dumoine, Ponti 36.91 270 P P 07 10 13.4 -0.2
baz=38,SNR=6.0
H58A Gabriels 36.97 265 P P 07 10 13.2 -0.8
baz=37
LONY Lake Ozonia 36.98 265 P P 07 10 14.4 +0.3
baz=37,SNR=5.8
BCX Boston College 37.37 260 IAMs_20 IAMs_20 07 23 47.2
comp=Z,2μm,19.0s
WES Weston 37.39 260 IAMs_20 IAMs_20 07 23 38.8
comp=Z,3μm,19.0s
HRV Adam Dziewonsk 37.39 260 IAMs_20 IAMs_20 07 23 56.8
comp=Z,3μm,18.0s
G55A Calabogie 37.39 268 P P 07 10 17.2 -0.4
baz=38,SNR=7.4
ALGO Algonquin Park 37.41 270 P P 07 10 18.8 +1.1
baz=38
H57A Richville 37.45 266 P P 07 10 19.1 +1.0
baz=37
K62A Royalston 37.55 261 IAMs_20 IAMs_20 07 23 39.0
comp=Z,3μm,19.0s
ACCN Adirondack Com 37.58 263 IAMs_20 IAMs_20 07 23 41.8
comp=Z,3μm,21.0s
PLVO Plevna 37.72 268 IAMs_20 IAMs_20 07 24 00.4
comp=Z,3μm,20.0s
H56A Elgin 37.72 267 P P 07 10 23.1 +2.8
baz=37
SOC Sochi 37.85 96 *d i*P P 07 10 21.4 -0.1
SOC *e* 07 11 45.7
SOC *e*S **S** 07 16 15.4 +3.0
SOC *e*SS **SS** 07 18 54.8 -3.3
SOC *e*SSS SSS 07 19 20.9
SOC pmax pmax
comp=Z,19nm,0.7s
SOC MLR MLR
comp=Z,1μm,14.0s
BRYW Bryant College 37.87 260 IAMs_20 IAMs_20 07 23 53.4
comp=Z,2μm,18.0s
G54A Lake Saint Pet 37.87 269 P P 07 10 23.2 +1.5
baz=38

J59A Piesco 37.87 264 P P 07 10 21.2 -0.5
baz=36
J59A Piesco 37.87 264 IAMs_20 IAMs_20 07 23 51.5
comp=Z,3μm,20.0s
I58A Old Forge 37.89 265 P P 07 10 22.4 +0.5
baz=36
QUA2 Belchertown 37.92 261 IAMs_20 IAMs_20 07 23 46.7
comp=Z,3μm,19.0s
I57A Carthage 37.99 266 P P 07 10 24.9 +2.2
baz=36
GOF Gofitskoye 38.11 91 *e*P P 07 10 24.7 +1.1
GOF pmax pmax
comp=Z,252nm,1.7s
TRY Troy 38.11 263 IAMs_20 IAMs_20 07 23 58.8
comp=Z,3μm,20.0s
H55A Tweed 38.15 268 P P 07 10 24.8 +0.8
baz=37
J58A Remsen 38.29 265 P P 07 10 27.0 +1.8
baz=36,SNR=5.7
J58A Remsen 38.29 265 IAMs_20 IAMs_20 07 23 42.6
comp=Z,2μm,21.0s
DELO Deloro Mine 38.37 268 IAMs_20 IAMs_20 07 24 09.6
comp=Z,3μm,22.0s
BRTR Keskin Array B 38.46 105 P P 07 10 29.0 +2.2
comp=Z,9.6nm,1.1s,baz=332,slow=7.1,SNR=12
BRTR LR LR 07 29 02.5
comp=Z,656nm,18.1s,baz=272,slow=40
BRTR Keskin Array B 38.46 105 *i* P P 07 10 27.6 +0.8
BRTR pmax pmax
comp=Z,10.0nm,1.1s
BRTR Keskin Array B 38.46 105 P P 07 10 26.6 -0.2
PECO Prince Edward 38.56 267 IAMs_20 IAMs_20 07 24 04.8
comp=Z,2μm,21.0s
K59A Cooperstown 38.58 264 P P 07 10 29.7 +2.0
baz=36,SNR=6.1
D47A Chapleau 38.73 276 P P 07 10 29.6 +0.7
baz=39
H53A Bobcaygeon 38.74 269 P P 07 10 28.2 -0.7
baz=37
SADO Sadowa 38.82 270 IAMs_20 IAMs_20 07 24 35.6
comp=Z,2μm,21.0s
M62A Hamden 38.83 261 P P 07 10 31.3 +1.6
baz=34
KIV Kislovodsk 38.83 92 *i* P P 07 10 28.3 -1.6
SNR=10
KIV Kislovodsk 38.83 92 *e*P P 07 10 29.9 0.0
KIV *e* 07 11 57.6
KIV *e*S **S** 07 16 27.8 +0.5
KIV pmax pmax
comp=Z,68nm,1.0s
KIV pmax pmax
comp=Z,565nm,4.1s
KIV MLR MLR
comp=Z,3μm,16.0s
KSCT Kent School, K 38.85 262 IAmb IAmb 07 10 32.9
comp=Z,112nm,1.9s
KSCT IAMs_20 IAMs_20 07 24 19.5
comp=Z,2μm,19.0s
K58A Earlville 38.93 265 P P 07 10 32.3 +1.7
baz=36
K58A Earlville 38.93 265 IAMs_20 IAMs_20 07 24 26.5
comp=Z,2μm,21.0s
YLE Yale 38.96 261 IAMs_20 IAMs_20 07 24 53.2
comp=Z,3μm,18.0s
KBZ Khabaz 39.11 92 P P 07 10 34.0 +2.0
comp=Z,8.6nm,0.8s,baz=314,slow=8.1,SNR=8.8
KBZ LR LR 07 26 50.7
comp=Z,2μm,21.9s,baz=332,slow=36
L59A Walton 39.14 264 IAMs_20 IAMs_20 07 24 32.0
comp=Z,2μm,21.0s
WSPT Westport, CT 39.24 261 IAMs_20 IAMs_20 07 25 11.8
comp=Z,3μm,19.0s
YKA Yellowknife Ar 39.26 313 P P 07 10 34.2 +1.1
comp=Z,8.4nm,1.0s,baz=39,slow=9.0,SNR=7.9
YKA LR LR 07 26 43.3
comp=Z,2μm,18.6s,baz=0.0,slow=36
E47A Iron Bridge 39.27 275 P P 07 10 35.0 +1.7
baz=38
F49A Sandfield 39.29 273 P P 07 10 35.8 +2.3
baz=38
KARP Karpathos 39.43 116 IAMs_20 IAMs_20 07 28 13.1
comp=Z,2μm,21.0s
J55A Hilton 39.46 267 IAMs_20 IAMs_20 07 24 42.4
comp=Z,2μm,21.0s
BINY Binghamton 39.53 264 IAMs_20 IAMs_20 07 24 54.5
comp=Z,2μm,20.0s
M60A Port Jervis 39.67 262 P P 07 10 38.4 +1.6
baz=34
K56A Middlesex 39.70 266 P P 07 10 38.8 +1.7
baz=36
E46A Sault Ste Mari 39.78 276 IAMs_20 IAMs_20 07 25 38.0
comp=Z,2μm,19.0s
J54A Appleton 39.81 268 IAMs_20 IAMs_20 07 25 05.7
comp=Z,3μm,22.0s
MEDO Medina 39.81 268 IAMs_20 IAMs_20 07 24 51.9
comp=Z,2μm,22.0s
M59A Waymart 39.84 263 P P 07 10 39.7 +1.6
baz=35
INK Inuvik 39.90 329 P P 07 10 39.3 +0.9
comp=Z,26nm,1.2s,baz=42,slow=8.9,SNR=11
INK PcP **PcP** 07 12 45.2 +1.6
comp=Z,4.5nm,0.9s,baz=357,slow=5.3,SNR=3.9
INK Inuvik 39.90 329 P P 07 10 38.9 +0.6
INK pmax pmax
comp=Z,35nm,1.2s
INK MLR MLR
comp=Z,3μm,22.0s
INK Inuvik 39.90 329 P P 07 10 38.9 +0.6
INK IAMs_20 IAMs_20 07 28 01.6
comp=Z,3μm,22.0s
K55A Perry 40.00 267 P P 07 10 42.5 +3.0
baz=36
L57A Andrews Acres 40.07 265 P P 07 10 42.5 +2.4
baz=35
BRNJ Basking Ridge 40.17 262 IAMs_20 IAMs_20 07 25 01.4
comp=Z,2μm,21.0s
N60A Cedar Hill Far 40.25 262 P P 07 10 42.9 +1.4
baz=34
L56A Greenwood 40.26 266 P P 07 10 42.7 +1.0
baz=35,SNR=5.8
L56A Greenwood 40.26 266 IAmb IAmb 07 10 45.4
comp=Z,93nm,1.6s
L56A IAMs_20 IAMs_20 07 25 16.8
comp=Z,2μm,20.0s
ZEI Tsey 40.30 92 *e*P P 07 10 44.6 +2.4
ZEI pmax pmax
comp=Z,57nm,1.9s
WVNY West Valley, N 40.49 267 IAmb IAmb 07 10 47.1
comp=Z,81nm,1.4s
WVNY IAMs_20 IAMs_20 07 25 38.8
comp=Z,2μm,21.0s
N59A State Game Lan 40.49 263 P P 07 10 43.6 0.0
baz=34
LUPA Lehigh Univers 40.59 262 IAMs_20 IAMs_20 07 25 23.4
comp=Z,3μm,20.0s
L55A Hinsdale 40.60 267 P P 07 10 46.9 +2.4
baz=35
FFC Flin Flon 40.63 298 P P 07 10 44.7 +0.1
FFC pmax pmax
comp=Z,74nm,1.7s
FFC MLR MLR
comp=Z,4μm,18.0s
FFC Flin Flon 40.63 298 P P 07 10 44.6 +0.1
M57A Sunshine Farm, 40.73 265 P P 07 10 47.4 +1.9
baz=35,SNR=5.3
GROC Groznyy 40.78 90 *e*P P 07 10 47.6 +1.7
GROC *e* 07 12 18.8
GROC *e* 07 12 49.3
GROC *e*S **S** 07 16 59.5 +3.2
GROC pmax pmax
comp=Z,59nm,0.6s
O60A Telford 40.83 262 P P 07 10 48.2 +1.9
baz=34
E43A Lone Tree Farm 40.93 278 IAMs_20 IAMs_20 07 26 15.2
comp=Z,3μm,20.0s
L54A Sinclairville 40.94 268 P P 07 10 49.7 +2.4
baz=35
N58A Sunbury 40.96 264 P P 07 10 49.5 +2.0
baz=34
N58A Sunbury 40.96 264 IAMs_20 IAMs_20 07 25 38.3
comp=Z,3μm,22.0s
D41A Chassel 41.06 280 IAmb IAmb 07 10 54.7
comp=Z,108nm,1.7s
D41A IAMs_20 IAMs_20 07 26 20.7
comp=Z,2μm,19.0s
M56A Emporium 41.06 266 P P 07 10 50.4 +2.1
baz=35,SNR=7.4
O59A Robesonia 41.17 263 P P 07 10 50.7 +1.5
baz=34
AKH Akhalkalaki 41.25 94 P P 07 10 50.3 +0.3
AKH pmax pmax
comp=Z,170nm,1.9s
AKH MLR MLR
comp=Z,2μm,22.0s
AKH Akhalkalaki 41.25 94 P P 07 10 50.3 +0.3
AKH IAmb IAmb 07 11 03.7
comp=Z,170nm,1.9s
ERPA Erie 41.32 268 IAMs_20 IAMs_20 07 25 39.8
comp=Z,2μm,20.0s
M55A Ridgway 41.33 266 P P 07 10 52.5 +2.0
baz=35
M55A Ridgway 41.33 266 IAmb IAmb 07 10 53.1
comp=Z,116nm,1.9s
N57A Milroy 41.39 265 P P 07 10 53.2 +2.2
baz=34,SNR=5.5
G45A Suttons Bay 41.41 276 IAMs_20 IAMs_20 07 27 04.1
comp=Z,2μm,18.0s
PAGS Pennsylvania G 41.47 263 IAmb IAmb 07 10 54.0
comp=Z,123nm,2.0s
TBLG Delisi 41.52 92 P P 07 10 52.6 +0.5
TBLG Delisi 41.52 92 P P 07 10 52.5 +0.5
N56A West Decatur 41.58 266 P P 07 10 54.7 +2.1
baz=34,SNR=7.2
EYMN Ely 41.60 283 P P 07 10 54.3 +1.6
baz=39
EYMN Ely 41.60 283 IAMs_20 IAMs_20 07 26 55.0
comp=Z,2μm,20.0s
ULM Lac du Bonnet 41.63 289 P P 07 10 53.4 +0.6
comp=Z,9.6nm,1.0s,baz=35,slow=8.0,SNR=5.4
ULM LR LR 07 27 02.0
comp=Z,1μm,18.9s,baz=44,slow=35
SSPA Standing Stone 41.63 265 P P 07 10 55.3 +2.3
baz=34
SSPA Standing Stone 41.63 265 P P 07 10 53.4 +0.5
O58A Lewisberry 41.64 264 P P 07 10 55.5 +2.4
baz=34
M54A Oil Creek Stat 41.68 267 P P 07 10 54.3 +0.9
baz=35,SNR=6.1
M54A Oil Creek Stat 41.68 267 IAmb IAmb 07 10 56.0
comp=Z,62nm,1.4s
M54A IAMs_20 IAMs_20 07 26 25.3
comp=Z,2μm,20.0s
MAK Makhachkala 41.71 89 *e*P P 07 10 50.2 -3.4
MAK *e* 07 12 26.4
MAK *e*S **S** 07 17 03.9 -6.2
MAK *e*SS **SS** 07 20 11.2 -4.0
MAK pmax pmax
comp=Z,303nm,1.8s
MAK MLR MLR
comp=Z,2μm,18.0s
ALLY Alegheny Colle 41.77 268 IAMs_20 IAMs_20 07 26 16.7
comp=Z,3μm,21.0s
O57A Amberson 41.88 264 P P 07 10 56.2 +1.2
baz=34,SNR=5.8
F42A Maple Grove Fa 41.90 278 IAMs_20 IAMs_20 07 26 46.0
comp=Z,3μm,21.0s
K50A Casco 41.93 271 IAMs_20 IAMs_20 07 27 06.7
comp=Z,2μm,18.0s
N55A Marion Center 41.99 266 P P 07 10 58.0 +2.1
baz=34,SNR=5.8
AB31 Akbulak array 42.01 73 P P 07 10 55.1 -0.8
ABKAR Akbulak array 42.01 73 P P 07 10 54.7 -1.2
COWI Conover 42.06 280 IAMs_20 IAMs_20 07 27 01.1
comp=Z,3μm,20.0s
GAZ Gaziantep 42.11 104 IAmb IAmb 07 11 09.6
comp=Z,63nm,1.4s
M53A WI Miller and 42.17 268 P P 07 10 59.7 +2.3
baz=35
M53A WI Miller and 42.17 268 IAmb IAmb 07 11 00.8
comp=Z,76nm,1.4s
M53A IAMs_20 IAMs_20 07 26 15.3
comp=Z,2μm,21.0s
SDMD Soldier's Deli 42.20 263 IAMs_20 IAMs_20 07 26 23.1
comp=Z,2μm,19.0s
O56A Blue Knob Stat 42.23 265 P P 07 10 58.8 +0.9
baz=34
O56A Blue Knob Stat 42.23 265 IAmb IAmb 07 11 00.6
comp=Z,132nm,2.0s
N54A Moraine State 42.27 267 P P 07 10 59.1 +0.9
baz=35,SNR=7.0
N54A Moraine State 42.27 267 IAmb IAmb 07 11 01.8
comp=Z,74nm,1.4s
N54A IAMs_20 IAMs_20 07 26 42.9
comp=Z,2μm,20.0s
P58A Pank, Wackersv 42.33 263 P P 07 11 01.3 +2.6
baz=34
M52A Chesterland 42.38 269 P P 07 11 00.8 +1.7
baz=35
M52A Chesterland 42.38 269 IAMs_20 IAMs_20 07 26 33.9
comp=Z,3μm,21.0s
CSS Mathiatis 42.40 109 P P 07 10 57.9 -1.4
I45A Fountain 42.46 275 IAMs_20 IAMs_20 07 27 06.9
comp=Z,2μm,20.0s
J47A Sumner 42.50 273 IAmb IAmb 07 11 03.5
comp=Z,153nm,2.0s
O55A Ligonier 42.60 266 P P 07 11 02.8 +1.9
baz=34,SNR=5.4
P57A Homestead Farm 42.64 264 P P 07 11 03.1 +1.9
baz=34
P57A Homestead Farm 42.64 264 IAMs_20 IAMs_20 07 26 28.8
comp=Z,3μm,21.0s
N53A Lisbon 42.76 268 P P 07 11 04.0 +1.8
baz=34
N53A Lisbon 42.76 268 IAmb IAmb 07 11 05.6
comp=Z,129nm,1.6s
N53A IAMs_20 IAMs_20 07 26 22.9
comp=Z,2μm,21.0s
H43A Windswept, Lux 42.77 277 IAMs_20 IAMs_20 07 27 10.1
comp=Z,3μm,22.0s
TOLK Toolik Lake Re 42.81 336 P P 07 11 04.7 +2.4
baz=28,SNR=38
TOLK Toolik Lake Re 42.81 336 IAMs_20 IAMs_20 07 30 29.5
comp=Z,2μm,20.0s
M51A Elyria 42.91 269 P P 07 11 04.9 +1.5
baz=35
Q58A Fox Den Farm, 42.95 263 P P 07 11 05.7 +2.0
baz=33
P56A Dayton Farm, R 42.98 265 P P 07 11 06.3 +2.3
baz=34
O54A Avella 43.08 267 P P 07 11 05.7 +0.9
baz=34
O54A Avella 43.08 267 IAMs_20 IAMs_20 07 27 18.3
comp=Z,2μm,21.0s
N52A McGinn's Farm, 43.12 269 P P 07 11 07.5 +2.3
baz=34
AGMN Agassiz Nation 43.15 287 P P 07 11 06.3 +1.1
baz=38,SNR=9.2
BRVK Borovoye 43.16 62 P P 07 11 04.8 -0.4
BRVK pmax pmax
comp=Z,64nm,1.5s
BRVK MLR MLR
comp=Z,1μm,18.0s
BRVK Borovoye 43.16 62 P P 07 11 04.8 -0.4
G40A Rib Lake 43.17 280 IAMs_20 IAMs_20 07 27 33.6
comp=Z,2μm,21.0s
Q57A Strasburg 43.19 264 P P 07 11 07.1 +1.4
baz=33,SNR=7.0
BVA0 Borovoye Array 43.22 62 P P 07 11 05.2 -0.6
BVAR Borovoye Array 43.22 62 P P 07 11 06.1 +0.4
comp=Z,8.7nm,0.9s,baz=328,slow=5.1,SNR=36
BVAR PP **PP** 07 12 48.1 +2.3
comp=Z,3.2nm,1.0s,baz=311,slow=11,SNR=3.0
M50A Fremont 43.22 270 IAmb IAmb 07 11 09.3
comp=Z,134nm,1.5s
M50A IAMs_20 IAMs_20 07 27 10.1
comp=Z,2μm,21.0s
MCWV Mont Chateau 43.28 266 P P 07 11 08.0 +1.5
baz=34
N51A Ashland 43.33 269 P P 07 11 09.4 +2.6
baz=35
N51A Ashland 43.33 269 IAmb IAmb 07 11 10.1
comp=Z,65nm,1.2s
O53A New Philadelph 43.38 268 P P 07 11 09.9 +2.6
baz=34
O53A New Philadelph 43.38 268 IAMs_20 IAMs_20 07 27 16.4
comp=Z,2μm,21.0s
P55A Reedsville 43.40 266 P P 07 11 09.9 +2.5
baz=34
CBN Corbin Frederi 43.44 262 IAMs_20 IAMs_20 07 27 00.8
comp=Z,2μm,21.0s
Q56A Snyder Ridge, 43.51 265 P P 07 11 10.6 +2.3
baz=33
Q56A Snyder Ridge, 43.51 265 IAMs_20 IAMs_20 07 27 09.8
comp=Z,2μm,21.0s
P54A Burton 43.60 266 P P 07 11 11.7 +2.6
baz=34,SNR=5.9

R58A	Rapidan baz=33,SNR=7.0	43.63	263	P	P	07 11 11.2	+2.0	L42A	Oliver, Polo comp=Z,57nm,1.4s	45.58	277	IAmb	IAmb	07 11 27.9		Y59A	Loris baz=31	47.65	261	P	P	07 11 42.2	+1.2
GEVA	Gevas comp=Z,95nm,1.9s	43.63	97	IAmb	IAmb	07 11 26.4		ILAR	Eielson Array comp=Z,26nm,1.1s,baz=24,slow=6.0,SNR=72	45.75	332	P PcP	P PcP	07 11 26.8 07 13 04.5	+1.0 +1.2	Y59A	Loris comp=Z,26nm,0.9s	47.65	261	P IAmb	P IAmb	07 11 40.4 07 11 49.0	-0.6
I42A	Draeger Farm, comp=Z,3μm,22.0s	43.73	277	IAMs_20	IAMs_20	07 27 49.4		ILAR	comp=Z,13nm,1.1s,baz=354,slow=2.9,SNR=13			LR	LR	07 33 03.0		ZAA0	Zalesovo Array comp=Z,39nm,1.6s	47.67	51	IAmb	IAmb	07 11 46.3	
O52A	Adamsville baz=34,SNR=6.2	43.76	268	P	P	07 11 12.4	+2.1	ILAR	comp=Z,2μm,19.8s,baz=32,slow=39			LR	LR	07 33 03.0		ZALV	Zalesovo Beam comp=Z,4.4nm,0.7s,baz=323,slow=9.3,SNR=13	47.67	51	P PcP	P PcP	07 11 42.0 07 13 11.8	+1.0 +1.6
O52A	comp=Z,127nm,1.6s			IAMs_20	IAMs_20	07 27 16.4		ILAR	Eielson Array U57A Blanch baz=32,SNR=7.5	45.75	332 45.77 263	P P	P P	07 11 26.3 07 11 28.1	+0.5 +1.8	ZALV	comp=Z,4.2nm,1.0s,baz=296,slow=4.8,SNR=4.6			PcP LR	PcP LR	07 13 11.8 07 34 31.9	+1.6
R57A	comp=Z,2μm,21.0s Stanardsville baz=33	43.85	264	P	P	07 11 13.1	+2.1	T55A	Pulaski baz=32,SNR=5.9	45.81	265	P	P	07 11 28.9	+2.2	ZALV	comp=Z,832nm,18.9s,baz=318,slow=40	47.67	51	P	P	07 11 40.8	-0.2
R58B	Mineral baz=33	43.85	263	P	P	07 11 13.1	+2.1	SFIN	Lafayette baz=34,SNR=5.9	45.81	273	P	P	07 11 27.4	+0.8	SKAG	Skagway comp=Z,2μm,19.0s	47.71	322	IAMs_20	IAMs_20	07 32 27.2	
R58B	Mineral comp=Z,2μm,18.0s	43.85	263	IAMs_20	IAMs_20	07 27 23.9		SFIN	Lafayette comp=Z,1μm,19.0s	45.81	273	IAMs_20	IAMs_20	07 29 29.6		KMSC	Kings Mountain baz=31,SNR=9.9	47.72	264	P	P	07 11 42.0	+0.4
Q55A	Buckhannon baz=33,SNR=6.3	43.94	266	P	P	07 11 14.0	+2.3	MDM	Murphy Dome comp=Z,1μm,20.0s	45.84	333	IAMs_20	IAMs_20	07 33 37.6		KMSC	Kings Mountain comp=Z,2μm,19.0s	47.72	264	IAMs_20	IAMs_20	07 30 00.1	
O51A	Pataskala baz=34,SNR=9.9	44.07	269	P	P	07 11 13.6	+0.9	COLA	College COLA	45.85	333	*c* P pmax	P pmax	07 11 29.0	+2.5	X57A	Johnson Farm, baz=31	47.77	262	P	P	07 11 43.5	+1.6
P53A	Whipple baz=34,SNR=15	44.09	267	P	P	07 11 13.8	+0.9	TCOL	comp=Z,56nm,1.2s CIGO, UAF Yank baz=27,SNR=14	45.85	333	P	P	07 11 28.8	+2.2	Q44A	Meyer Farm, Va comp=Z,1μm,19.0s	47.86	274	IAMs_20	IAMs_20	07 30 41.8	
P53A	Whipple comp=Z,92nm,1.4s	44.09	267	IAmb	IAmb	07 11 16.8		SCRK	Sand Creek baz=29,SNR=8.1	45.85	330	P	P	07 11 28.7	+2.0	BARN	Barnard Glacie comp=Z,2μm,20.0s	47.90	327	IAMs_20	IAMs_20	07 32 17.0	
P53A	comp=Z,2μm,21.0s			IAMs_20	IAMs_20	07 27 49.1		P48A	Milroy comp=Z,2μm,21.0s	45.87	271	IAMs_20	IAMs_20	07 28 43.7		CTGM	Chitina Glacie comp=Z,2μm,19.0s	47.90	327	IAMs_20	IAMs_20	07 32 51.2	
L46A	Eue Claire comp=Z,83nm,1.4s	44.13	274	IAmb	IAmb	07 11 16.6		V59A	Middlesex baz=32	45.87	261	P	P	07 11 28.8	+1.8	V53A	Saluda comp=Z,49nm,1.6s	47.91	266	IAmb	IAmb	07 11 45.6	
L46A	comp=Z,2μm,19.0s			IAMs_20	IAMs_20	07 28 37.0		CCB	Clear Creek Bu CCB	46.04	333	P IAmb	P IAmb	07 11 30.2 07 11 32.1	+2.1	MCARA	McCarthy VSAT comp=Z,2μm,19.0s	47.93	328	IAMs_20	IAMs_20	07 32 36.7	
R56A	Bull Pasture M baz=33,SNR=9.2	44.14	264	P	P	07 11 13.8	+0.5	HDA	comp=Z,42nm,1.3s Harding Lake baz=28,SNR=19	46.08	332	P	P	07 11 30.5	+2.1	GLB	Gilahina Butte comp=Z,48nm,1.5s	48.05	329	IAmb	IAmb	07 11 48.2	
ACSO	Alum Creek Sta baz=34	44.16	269	P	P	07 11 14.3	+0.8	HDA	Harding Lake comp=Z,2μm,21.0s	46.08	332	IAMs_20	IAMs_20	07 33 01.9		GLB	comp=Z,2μm,20.0s			IAMs_20	IAMs_20	07 32 51.1	
ACSO	Alum Creek Sta comp=Z,64nm,1.4s	44.16	269	IAmb	IAmb	07 11 16.7		DOT	Dot Lake comp=Z,2μm,20.0s	46.16	330	IAMs_20	IAMs_20	07 34 01.0		BALM	Baldy comp=Z,2μm,19.0s	48.08	328	IAMs_20	IAMs_20	07 32 42.7	
ACSO	comp=Z,3μm,22.0s			IAMs_20	IAMs_20	07 27 38.9		T54A	Tazewell baz=32,SNR=10	46.20	266	P	P	07 11 30.6	+0.8	V52A	Sevierville comp=Z,2μm,21.0s	48.10	266	IAMs_20	IAMs_20	07 30 05.1	
COLD	Coldfoot baz=27,SNR=19	44.18	336	P	P	07 11 15.4	+2.1	L40A	Anamosa comp=Z,3μm,22.0s	46.20	278	IAMs_20	IAMs_20	07 29 28.8		W54A	Cherokee Point baz=32,SNR=10	48.13	265	P	P	07 11 44.5	-0.3
COLD	Coldfoot comp=Z,2μm,21.0s	44.18	336	IAMs_20	IAMs_20	07 31 35.7		V58A	Windy Hill, Pi baz=32	46.21	262	P	P	07 11 31.7	+1.9	X56A	White Oak baz=31,SNR=10	48.14	263	P	P	07 11 46.0	+1.2
S58A	Poland Farm, P baz=32	44.22	263	P	P	07 11 14.4	+0.5	V58A	Windy Hill, Pi comp=Z,72nm,1.9s	46.21	262	IAmb	IAmb	07 11 32.2		KURK	Kurchatov comp=Z,2μm,20.0s	48.14	58	IAMs_20	IAMs_20	07 32 01.9	
S58A	Poland Farm, P comp=Z,73nm,1.8s	44.22	263	IAmb	IAmb	07 11 16.6		V58A	comp=Z,2μm,18.0s			IAMs_20	IAMs_20	07 29 34.4		VRDI	Verde Repeater comp=Z,2μm,19.0s	48.16	328	IAMs_20	IAMs_20	07 32 54.0	
S58A	comp=Z,2μm,18.0s			IAMs_20	IAMs_20	07 27 33.6		WRH	Wood River Hil WRH	46.25	333	P IAmb	P IAmb	07 11 30.9 07 11 38.7	+1.1	KURBB PAULI	Kurchatov Arra Pauline comp=Z,2μm,18.0s	48.19 48.20	58 264	P IAMs_20	P IAMs_20	07 11 44.4 07 30 26.8	-0.6
Q54A	Coxs Mills baz=33	44.27	266	P	P	07 11 15.8	+1.4	U56A	comp=Z,34nm,1.5s King baz=32,SNR=7.7	46.29	264	P	P	07 11 33.0	+2.6	Y57A	Sumter baz=31	48.27	262	P	P	07 11 47.6	+1.8
P52A	Corning baz=34,SNR=5.2	44.29	268	P	P	07 11 16.2	+1.7	U56A	King comp=Z,3μm,20.0s	46.29	264	IAMs_20	IAMs_20	07 28 50.3		TABL	Table Mountain comp=Z,2μm,19.0s	48.32	326	IAMs_20	IAMs_20	07 33 06.2	
P52A	Corning comp=Z,2μm,22.0s	44.29	268	IAMs_20	IAMs_20	07 27 33.3		NEA2	Nenana baz=26,SNR=47	46.33	334	P	P	07 11 31.9	+1.5	TKL	Tuckaleechee C comp=Z,2μm,21.0s	48.33	267	IAMs_20	IAMs_20	07 30 12.3	
SPMN	Marine on St. baz=37,SNR=7.2	44.31	282	P	P	07 11 16.1	+1.5	R50A	Paris comp=Z,2μm,22.0s	46.36	269	IAMs_20	IAMs_20	07 28 45.1		BESE	Bessie Mountai comp=Z,2μm,19.0s	48.34	321	IAMs_20	IAMs_20	07 32 26.9	
SPMN	Marine on St. comp=Z,70nm,1.7s	44.31	282	IAmb	IAmb	07 11 17.8		DGMT	Dagmar baz=36,SNR=6.5	46.38	293	P	P	07 11 33.9	+2.9	BCPM	Bancas Point comp=Z,2μm,19.0s	48.38	325	IAMs_20	IAMs_20	07 32 52.8	
K43A	Burlington comp=Z,2μm,20.0s	44.44	276	IAMs_20	IAMs_20	07 28 19.2		DGMT	Dagmar comp=Z,2μm,21.0s	46.38	293	IAMs_20	IAMs_20	07 29 53.3		PCA	Pinnacle comp=Z,2μm,20.0s	48.41	326	IAMs_20	IAMs_20	07 32 53.5	
TAM	Tamanrasset TAM	44.45	149	P pmax	P pmax	07 11 16.7	+0.6	V57A	Coltrane Farms baz=32	46.42	263	P	P	07 11 32.9	+1.5	X55A	Gracelyn & Ava baz=31,SNR=12	48.42	264	P	P	07 11 48.8	+1.8
TAM	comp=Z,50nm,1.6s			MLR	MLR			U55A	TA2, Sparta baz=32,SNR=16	46.44	265	P	P	07 11 32.4	+0.7	JSC	Jenkinsville comp=Z,53nm,1.7s	48.42	263	IAmb	IAmb	07 11 49.6	
TAM	comp=Z,2μm,20.0s Tamanrasset	44.45	149	P	P	07 11 16.7	+0.6	P46A	Rosedale comp=Z,46nm,1.3s	46.49	273	IAmb	IAmb	07 11 35.1		TGL	Tana Glacier comp=Z,2μm,19.0s	48.44	328	IAMs_20	IAMs_20	07 32 54.3	
TAM	comp=Z,2μm,20.0s			IAMs_20	IAMs_20	07 29 41.3		E28A	Huff comp=Z,29nm,1.2s	46.50	289	IAmb	IAmb	07 13 08.6		ISLE	Juniper Island comp=Z,2μm,21.0s	48.46	327	IAMs_20	IAMs_20	07 32 45.8	
S57A	Dark Hollow, R baz=33,SNR=5.1	44.48	264	P	P	07 11 18.3	+2.2	BRZS	Berezniki comp=Z,235nm,3.6s,baz=63	46.51	63	*i* P	P	07 11 31.9	-0.2	SCM	Sheep Creek Mo comp=Z,1μm,20.0s	48.47	331	IAMs_20	IAMs_20	07 33 13.0	
S57A	Dark Hollow, R comp=Z,95nm,1.9s	44.48	264	IAmb	IAmb	07 11 18.9		BRZS	baz=63			*e* PP	PP	07 13 21.0	0.0	U49A	Red Boiling Sp comp=Z,40nm,1.4s	48.47	269	IAmb	IAmb	07 11 49.5	
D32A	Dogwood Acres, comp=Z,2μm,19.0s	44.54	287	IAMs_20	IAMs_20	07 29 13.7		BRZS	baz=63			*e* S	S	07 18 20.7	+0.8	U49A	comp=Z,2μm,21.0s			IAMs_20	IAMs_20	07 30 03.0	
EGAK	Eagle comp=Z,2μm,19.0s	44.54	329	IAMs_20	IAMs_20	07 31 05.3		BRZS	comp=Z,720nm,16.8s,baz=63			LR	LR	07 29 44.1		KLU	Klutina comp=Z,31nm,1.4s	48.47	330	IAmb	IAmb	07 11 51.1	
R55A	Marlinton baz=33	44.55	265	P	P	07 11 18.4	+1.8	BRZS	Berezniki BRZS	46.51	63	*i* P *e*	P	07 11 31.8 07 13 20.9	-0.2	JIS	Juneau Island comp=Z,2μm,18.0s	48.48	321	IAMs_20	IAMs_20	07 32 38.4	
R55A	Marlinton comp=Z,101nm,1.9s	44.55	265	IAmb	IAmb	07 11 19.4		BRZS	comp=Z,235nm,3.6s			*e* S pmax	S pmax	07 18 20.7	+0.8	CRQM	Cirque comp=Z,42nm,1.2s	48.51	328	IAmb	IAmb	07 11 51.9	
R55A	comp=Z,2μm,20.0s			IAMs_20	IAMs_20	07 27 52.2		BRZS	comp=Z,720nm,17.0s			MLR	MLR			CRQM	comp=Z,2μm,19.0s			IAMs_20	IAMs_20	07 32 57.9	
T59A	Double "B" Far baz=32	44.55	262	P	P	07 11 18.2	+1.6	S51A	Beattyville comp=Z,2μm,22.0s	46.58	268	IAMs_20	IAMs_20	07 28 55.0		YAH	Yahtse comp=Z,2μm,18.0s	48.53	327	IAMs_20	IAMs_20	07 33 21.9	
T59A	Double "B" Far comp=Z,84nm,1.8s	44.55	262	IAmb	IAmb	07 11 19.0		HDIL	Hopedale baz=34	46.61	275	P	P	07 11 33.6	+0.7	BG3	Lake Jocassee comp=Z,50nm,1.7s	48.53	265	IAmb	IAmb	07 11 50.5	
Q53A	Leroy baz=33,SNR=10	44.67	267	P	P	07 11 18.8	+1.2	T53A	Wise baz=32,SNR=9.7	46.68	266	P	P	07 11 34.1	+0.6	BG3	comp=Z,2μm,21.0s			IAMs_20	IAMs_20	07 30 15.6	
L44A	Lake County Fo comp=Z,2μm,18.0s	44.69	275	IAMs_20	IAMs_20	07 29 03.8		MENT	Mentasta comp=Z,31nm,1.4s	46.71	330	IAmb	IAmb	07 11 37.4		CUT	Chulitna baz=25	48.55	333	P	P	07 11 49.2	+1.6
O49A	Covington comp=Z,38nm,1.0s	44.78	270	IAmb	IAmb	07 11 26.5		MENT	comp=Z,2μm,19.0s			IAMs_20	IAMs_20	07 32 21.5		Z58A	St. Stephen baz=30	48.61	261	P	P	07 11 49.4	+1.0
O49A	comp=Z,2μm,20.0s			IAMs_20	IAMs_20	07 28 08.3		R49A	Shelbyville comp=Z,2μm,21.0s	46.72	270	IAMs_20	IAMs_20	07 29 08.5		LAO	LASA Array baz=35,SNR=12	48.63	293	P	P	07 11 50.6	+2.0
N47A	Urbana comp=Z,55nm,1.4s	44.80	272	IAmb	IAmb	07 11 20.6		U54A	Nelsons Funny baz=32,SNR=6.0	46.76	265	P	P	07 11 35.0	+0.8	T47A	Sharon Grove comp=Z,2μm,20.0s	48.64	271	IAMs_20	IAMs_20	07 30 28.5	
P51A	Williamsport baz=34	44.81	269	P	P	07 11 19.3	+0.6	X60A	Albert Glenn T baz=31	46.77	260	P	P	07 11 36.1	+2.0	P40A	Paris comp=Z,2μm,22.0s	48.64	277	IAMs_20	IAMs_20	07 30 39.5	
P51A	Williamsport comp=Z,70nm,1.4s	44.81	269	IAmb	IAmb	07 11 21.6		BWN	Browne comp=Z,1μm,20.0s	46.79	333	IAMs_20	IAMs_20	07 34 05.8		X54A	Belton baz=31,SNR=5.8	48.67	264	P	P	07 11 49.7	+0.8
P51A	comp=Z,2μm,19.0s			IAMs_20	IAMs_20	07 28 08.2		V56A	Mocksville baz=32,SNR=11	46.79	264	P	P	07 11 35.1	+0.7	SML	Sawmill comp=Z,2μm,18.0s	48.70	331	IAMs_20	IAMs_20	07 33 29.1	
Q52A	Bidwell baz=34	44.91	268	P	P	07 11 20.2	+0.8	W58A	Raeford baz=31	46.92	262	P	P	07 11 36.9	+1.6	MESA	MESA comp=Z,2μm,19.0s	48.74	327	IAMs_20	IAMs_20	07 33 29.3	
HQIL	Hanson Quary C comp=Z,2μm,20.0s	44.97	275	IAMs_20	IAMs_20	07 28 43.3		PAX	Paxson comp=Z,1μm,18.0s	47.06	331	IAMs_20	IAMs_20	07 32 25.7		CPCT	Cooper Cave comp=Z,2μm,20.0s	48.83	267	IAMs_20	IAMs_20	07 30 36.5	
T58A	Grand View Acr baz=32	44.99	263	P	P	07 11 21.7	+1.6	V55A	Taylorsville baz=32,SNR=9.3	47.06	264	P	P	07 11 36.7	+0.2	GHO	Glory Hole Cre comp=Z,50nm,1.2s	48.85	332	IAmb	IAmb	07 11 54.1	
R54A	Victor baz=33	45.01	266	P	P	07 11 22.3	+2.0	V55A	Taylorsville comp=Z,3μm,21.0s	47.06	264	IAMs_20	IAMs_20	07 29 04.8		HODGE	Hodges comp=Z,72nm,1.6s	48.89	264	IAmb	IAmb	07 11 53.1	
MDND	Maddock baz=37,SNR=6.0	45.03	289	P	P	07 11 22.7	+2.3	ECSD	EROS Data Cent baz=35,SNR=6.9	47.12	284	P	P	07 11 37.4	+0.6	HODGE	comp=Z,2μm,20.0s			IAMs_20	IAMs_20	07 30 21.2	
MDND	Maddock comp=Z,94nm,1.6s	45.03	289	IAmb	IAmb	07 11 24.0		ECSD	EROS Data Cent ECSD EROS Data Cent comp=Z,2μm,20.0s	47.12 47.12	284 284	P IAMs_20	P IAMs_20	07 11 37.1 07 30 15.0	+0.2	EGMT	Eagleton baz=35,SNR=22	48.91	297	P	P	07 11 51.9	+1.2
V62A	Hyde County Ai comp=Z,2μm,20.0s	45.07	259	IAMs_20	IAMs_20	07 28 44.1		DLBC	Dease Lake comp=Z,1μm,19.0s	47.13	318	IAMs_20	IAMs_20	07 31 38.7		K31A	O'Neill comp=Z,29nm,0.9s	48.92	285	IAmb	IAmb	07 13 18.6	
JFWS	Jewell Farm baz=36	45.09	278	P	P	07 11 22.5	+1.6	W57A	Gilead baz=31,SNR=6.6	47.13	263	P	P	07 11 38.7	+1.7	K31A	comp=Z,2μm,20.0s			IAMs_20	IAMs_20	07 31 19.8	
JFWS	Jewell Farm comp=Z,73nm,1.8s	45.09	278	IAmb	IAmb	07 11 23.1		W57A	Gilead comp=Z,58nm,1.6s	47.13	263	IAmb	IAmb	07 11 40.2		NHSC	New Hope baz=30	48.96	261	P	P	07 11 52.2	+1.1
S55A	Lewisburg baz=33,SNR=6.5	45.14	265	P	P	07 11 22.2	+0.9	W57A	comp=Z,2μm,18.0s			IAMs_20	IAMs_20	07 30 03.7		NHSC	New Hope	48.96	261	P	P	07 11 52.4	+1.2
T57A	Hurt baz=32,SNR=7.8	45.26	263	P	P	07 11 22.9	+0.7	N41A	Harden Midland comp=Z,53nm,1.3s	47.16	277	IAmb	IAmb	07 11 40.3		Y55A	Saluda baz=31,SNR=8.9	48.97	264	P	P	07 11 52.6	+1.4
T57A	Hurt comp=Z,60nm,1.6s	45.26	263	IAmb	IAmb	07 11 25.8		N41A	comp=Z,2μm,18.0s			IAMs_20	IAMs_20	07 30 33.1		S44A	Carbondale comp=Z,2μm,19.0s	48.98	273	IAMs_20	IAMs_20	07 31 19.3	
T57A	comp=Z,2μm,20.0s			IAMs_20	IAMs_20	07 28 06.9		WCI	Wyandotte Cave baz=33	47.25	271	P	P	07 11 38.4	+0.5	ANM	Nome comp=Z,56nm,1.1s	49.01	342	IAmb	IAmb	07 11 55.8	
F33A	5 Mile Ranch, comp=Z,2μm,22.0s	45.28	285	IAMs_20	IAMs_20	07 28 56.3		WCI	Wyandotte Cave WCI	47.25	271	P pmax	P pmax	07 11 38.0	+0.1	PMR	Palmer comp=Z,47nm,1.2s	49.06	332	IAmb	IAmb	07 11 55.6	
R53A	Hurricane baz=33,SNR=7.0	45.30	267	P	P	07 11 24.7	+2.2	WCI	comp=Z,70nm,1.5s Wyandotte Cave	47.25	271	P	P	07 11 38.0	+0.1	PMR	comp=Z,1μm,20.0s			IAMs_20	IAMs_20	07 33 42.6	
Q51A	Peebles comp=Z,84nm,1.4s	45.32	269	IAmb	IAmb	07 11 25.8		Y60A	Bolivia baz=31	47.36	260	P	P	07 11 40.8	+2.1	CLTN	Cedars of Leba comp=Z,60nm,1.5s	49.06	269	IAmb	IAmb	07 11 54.2	
Q51A	comp=Z,2μm,22.0s			IAMs_20	IAMs_20	07 28 03.5		DHY	Denali Highway comp=Z,2μm,19.0s	47.36	332	IAMs_20	IAMs_20	07 32 57.7		CLTN	comp=Z,2μm,21.0s			IAMs_20	IAMs_20	07 30 20.7	
RDOG	Red Dog Mine comp=Z,66nm,1.2s	45.37	343	IAmb	IAmb	07 11 27.1		RND	Reindeer comp=Z,50nm,1.5s	47.36	333	IAmb	IAmb	07 11 44.3		N35A	Tabor comp=Z,46nm,1.4s	49.07	281	IAmb	IAmb	07 11 53.8	
M44A	Midewin, Midew comp=Z,2μm,21.0s	45.39	275	IAMs_20	IAMs_20	07 29 03.4		RND	comp=Z,1μm,20.0s			IAMs_20	IAMs_20	07 33 30.8		TTA	Tatalina comp=Z,44nm,1.4s	49.12	336	IAmb	IAmb	07 11 56.4	
K27K	Chicken baz=30	45.39	329	P	P	07 11 24.0	+1.0	X58A	Rowland baz=31	47.37	262	P	P	07 11 40.6	+1.8	TTA	comp=Z,1μm,20.0s			IAMs_20	IAMs_20	07 33 03.3	
S54A	Dingess, Beckl baz=33,SNR=5.4	45.46	266	P	P	07 11 24.4	+0.5	W56A	Indian Trail baz=31,SNR=7.4	47.40	263	P	P	07 11 39.1	0.0	SKT	Skwentna comp=Z,2μm,19.0s	49.18	333	IAMs_20	IAMs_20	07 35 30.8	
S54A	Dingess, Beckl comp=Z,58nm,1.4s	45.46	266	IAmb	IAmb	07 11 27.3		V54A	Nebo baz=32,SNR=14	47.44	265	P	P	07 11 38.9	-0.5	RAGM	Ragged Mountai comp=Z,2μm,19.0s	49.19	328	IAMs_20	IAMs_20	07 33 55.1	
S54A	comp=Z,2μm,21.0s			IAMs_20	IAMs_20	07 28 11.5		TZTN	Tazewell baz=32,SNR=6.5	47.48	267	P	P	07 11 41.5	+1.7	P38A	Dawn comp=Z,65nm,1.9s	49.20	278	IAmb	IAmb	07 11 54.4	
U58A	Oxford baz=32,SNR=5.4	45.46	262	P	P	07 11 26.1	+2.2	TZTN	Tazewell comp=Z,2μm,20.0s	47.48	267	IAMs_20	IAMs_20	07 29 44.9		FVM	French Village comp=Z,2μm,18.0s	49.24	274	IAMs_20	IAMs_20	07 31 43.3	
P49A	Miami Univ. Ec baz=34	45.49	270	P	P	07 11 24.3	+0.3	SUSD	Miller baz=35	47.52	286	P	P	07 11 40.9	+1.0	FID	Port Fidalgo comp=Z,1μm,18.0s	49.26	330	IAMs_20	IAMs_20	07 35 51.2	
P49A	Miami Univ. Ec comp=Z,79nm,1.6s	45.49	270	IAmb	IAmb	07 11 26.0		TRF	Thorofare Moun comp=Z,2μm,20.0s	47.60	333	IAMs_20	IAMs_20	07 33 04.1		GLI	Glacier Island comp=Z,1μm,19.0s	49.28	330	IAMs_20	IAMs_20	07 34 07.4	
P49A	comp=Z,2μm,20.0s			IAMs_20	IAMs_20	07 28 41.0		OLIL	Olney comp=Z,1μm,18.0s	47.61	273	IAMs_20	IAMs_20	07 30 35.1		EYAK	Cordova Ski Ar comp=Z,2μm,20.0s	49.28	329	IAMs_20	IAMs_20	07 33 26.5	
POKR	Poker Plat Res baz=28	45.55	333	P	P	07 11 27.8	+3.6	KTH	Kantishna Hill comp=Z,2μm,21.0s	47.63	334	IAMs_20	IAMs_20	07 33 13.8		Z56A	Williston baz=31	49.28	263	P	P	07 11 55.4	+1.8
T56A	Rocky Mt baz=32	45.56	264	P	P	07 11 26.6	+1.9	T50A	Nancy comp=Z,57nm,1.6s	47.64	268	IAmb	IAmb	07 11 43.4		Z56A	Williston comp=Z,67nm,1.3s	49.28	263	IAmb	IAmb	07 11 56.8	
BLA	Blacksburg baz=32	45.58	265	P	P	07 11 26.5	+1.7	T50A	comp=Z,2μm,21.0s			IAMs_20	IAMs_20	07 29 27.0		W50A	Signal Mountai comp=Z,2μm,22.0s	49.38	268	IAMs_20	IAMs_20	07 30 55.1	
BLA	Blacksburg comp=Z,74nm,1.7s	45.58	265	IAmb	IAmb	07 11 27.5										SUA	Susitna One comp=Z,36nm,1.1s	49.50	333	IAmb	IAmb	07 11 58.5	
BLA	comp=Z,2μm,19.0s			IAMs_20	IAMs_20	07 28 32.4										SUA	comp=Z,2μm,19.0s			IAMs_20	IAMs_20	07 34 46.3	

CCM Cathedral Cave 49.53 275 P **P** 07 11 55.0 -0.4
baz=33
CCM Cathedral Cave 49.53 275 P **P** 07 11 53.6 -1.9
CCM pmax pmax
comp=Z,44nm,1.7s
CCM Cathedral Cave 49.53 275 P **P** 07 11 53.6 -1.9
CCM IAmb IAmb 07 11 56.8
comp=Z,44nm,1.7s
CCM Cathedral Cave 49.53 275 IAMs_20 IAMs_20 07 32 02.9
comp=Z,1μm,19.0s
V48A Smith Brothers 49.57 269 IAMs_20 IAMs_20 07 30 46.2
comp=Z,2μm,22.0s
HIN Hinchinbrook I 49.58 330 IAMs_20 IAMs_20 07 36 00.5
comp=Z,1μm,18.0s
WALA Waterton Lakes 49.62 301 IAmb IAmb 07 12 02.2
comp=Z,63nm,1.6s
SWET Sewanee 49.63 268 IAmb IAmb 07 11 58.2
comp=Z,73nm,1.6s
SWET IAMs_20 IAMs_20 07 30 49.8
comp=Z,2μm,20.0s
BGNE Belgrade 49.68 283 IAMs_20 IAMs_20 07 31 23.7
comp=Z,2μm,20.0s
WVT Waverly 49.68 271 P **P** 07 11 56.5 -0.1
baz=32
WVT Waverly 49.68 271 P **P** 07 11 55.8 -0.8
WVT pmax pmax
comp=Z,41nm,1.7s
WVT Waverly 49.68 271 P **P** 07 11 55.8 -0.8
WVT IAMs_20 IAMs_20 07 30 59.9
comp=Z,2μm,21.0s
X51A Calhoun 49.72 267 IAmb IAmb 07 11 59.4
comp=Z,81nm,1.6s
SACV Santiago Islan 49.76 188 IAMs_20 IAMs_20 07 27 45.8
comp=Z,1μm,20.0s
R40A Maddies Statio 49.77 276 IAMs_20 IAMs_20 07 32 12.3
comp=Z,1μm,18.0s
SIT Sitka 49.79 321 IAMs_20 IAMs_20 07 33 30.1
comp=Z,2μm,19.0s
RSSD Black Hills 49.86 290 P **P** 07 11 58.6 +0.4
baz=34
RSSD Black Hills 49.86 290 P **P** 07 11 56.9 -1.3
RSSD pmax pmax
comp=Z,28nm,1.6s
RSSD Black Hills 49.86 290 P **P** 07 11 56.9 -1.3
RSSD Black Hills 49.86 290 IAMs_20 IAMs_20 07 31 38.5
comp=Z,2μm,21.0s
HENM Henderson Moun 49.89 272 IAMs_20 IAMs_20 07 31 55.6
comp=Z,1μm,19.0s
Y52A Lilburn 49.98 266 IAmb IAmb 07 12 02.1
comp=Z,41nm,1.2s
FPAL Fort Paine 50.07 267 IAmb IAmb 07 12 02.5
comp=Z,58nm,1.5s
FPAL IAMs_20 IAMs_20 07 31 04.3
comp=Z,2μm,22.0s
GOGA Godfrey 50.11 265 P **P** 07 12 00.5 +0.6
baz=31,SNR=8.5
GOGA Godfrey 50.11 265 IAmb IAmb 07 12 02.2
comp=Z,61nm,1.6s
GOGA Godfrey 50.11 265 IAMs_20 IAMs_20 07 31 01.5
comp=Z,2μm,22.0s
257A Skidaway Islan 50.30 261 IAMs_20 IAMs_20 07 31 19.5
comp=Z,1μm,19.0s
T42A Van Buren 50.33 274 IAmb IAmb 07 12 03.0
comp=Z,72nm,1.9s
T42A IAMs_20 IAMs_20 07 32 18.0
comp=Z,1μm,18.0s
GEYT Alibeck 50.43 84 P **P** 07 12 03.5 +1.2
comp=Z,3.5nm,0.7s,baz=304,slow=8.4,SNR=6.9
GEYT PP **PP** 07 14 02.4 +4.8
comp=Z,2.5nm,0.8s,baz=205,slow=6.6,SNR=4.5
GEYT LR LR 07 35 46.4
comp=Z,2μm,18.7s,baz=330,slow=39
GEYT Alibeck 50.43 84 P **P** 07 12 02.7 +0.4
GYA0 ALIBECK ARRAY 50.43 84 P **P** 07 12 02.5 +0.2
GYA0B ALIBECK ARRAY 50.43 84 IAmb IAmb 07 12 08.7
comp=Z,94nm,1.9s
GYA0B IAMs_20 IAMs_20 07 35 34.8
comp=Z,2μm,18.0s
SEW Seward 50.48 331 IAMs_20 IAMs_20 07 34 27.2
comp=Z,2μm,21.0s
HALT Halls 50.52 272 IAMs_20 IAMs_20 07 31 38.1
comp=Z,1μm,19.0s
154A Montrose 50.64 264 IAmb IAmb 07 12 07.1
comp=Z,69nm,1.3s
MGMO Mountain Grove 50.73 275 IAmb IAmb 07 12 06.2
comp=Z,47nm,1.6s
MGMO IAMs_20 IAMs_20 07 32 41.6
comp=Z,2μm,18.0s
S39A Bolivar 50.73 276 IAmb IAmb 07 12 06.0
comp=Z,73nm,1.7s
S39A IAMs_20 IAMs_20 07 31 54.6
comp=Z,2μm,21.0s
PLAL Pickwick Lake 50.76 270 IAmb IAmb 07 12 06.0
comp=Z,44nm,1.6s
PLAL IAMs_20 IAMs_20 07 31 33.5
comp=Z,2μm,21.0s
GNAR Gosnell 50.76 272 IAMs_20 IAMs_20 07 32 23.6
comp=Z,1μm,18.0s
X48A Hartselle 50.76 269 IAmb IAmb 07 12 06.2
comp=Z,79nm,1.7s
X48A IAMs_20 IAMs_20 07 31 24.7
comp=Z,2μm,21.0s
JTMT Jette 50.85 300 IAmb IAmb 07 12 10.7
comp=Z,54nm,1.9s
Z51A Franklin 50.92 266 IAmb IAmb 07 12 08.4
comp=Z,73nm,1.6s
KSU1 Kansas State U 50.95 280 P **P** 07 12 07.1 +0.9
baz=33
Y49A Blount Mountai 51.00 268 IAmb IAmb 07 12 08.5
comp=Z,62nm,1.6s
Y49A IAMs_20 IAMs_20 07 31 43.9
comp=Z,2μm,20.0s
W45A Hickory Valley 51.09 271 IAmb IAmb 07 12 11.5
comp=Z,69nm,1.5s
W45A IAMs_20 IAMs_20 07 31 53.2
comp=Z,2μm,21.0s
BTLS Baital 51.09 66 *i* P **P** 07 12 08.0 +0.7
comp=Z,114nm,3.6s,baz=66
BTLS *e*S **S** 07 19 26.1 +1.6
baz=66
BTLS LR LR 07 32 38.0
comp=Z,354nm,14.9s,baz=66
BTLS Baital 51.09 66 *i* P **P** 07 12 07.9 +0.7
BTLS *e*S **S** 07 19 26.0 +1.6
BTLS pmax pmax
comp=Z,113nm,3.6s
BTLS MLR MLR
comp=Z,354nm,15.0s
RLMT Red Lodge 51.12 295 P **P** 07 12 08.7 +1.0
baz=34,SNR=28
RLMT Red Lodge 51.12 295 IAmb IAmb 07 12 15.2
comp=Z,108nm,1.7s
LCAR Lake Charles 51.16 273 IAmb IAmb 07 12 09.4
comp=Z,71nm,1.9s
152A Waverly Hall 51.28 265 IAmb IAmb 07 12 11.1
comp=Z,52nm,1.6s
152A IAMs_20 IAMs_20 07 31 50.6
comp=Z,2μm,20.0s
KK31 Karatay Array 51.29 70 P **P** 07 12 09.8 +1.0
KK31 Karatay Array 51.29 70 IAmb IAmb 07 12 15.0
comp=Z,90nm,1.6s
KKAR Karatay Array 51.29 70 P **P** 07 12 08.4 -0.4
KKAR Karatay Array 51.29 70 P **P** 07 12 08.4 -0.4
KKAR Karatay Array 51.29 70 IAmb IAmb 07 12 15.0
comp=Z,90nm,1.6s
YAK Yakutsk 51.33 19 *i* P **P** 07 12 10.3 +1.6
YAK pmax pmax
comp=Z,16nm,1.1s
MET Memphis--Engin 51.44 272 IAMs_20 IAMs_20 07 32 24.5
comp=Z,1μm,18.0s
NEW Newport 51.46 303 P **P** 07 12 11.0 +1.0
baz=33
MSO Missoula 51.49 299 P **P** 07 12 11.2 +0.9
baz=33,SNR=10
BOZ Bozeman (W) 51.64 297 P **P** 07 12 11.8 +0.2
baz=33,SNR=51
BOZ Bozeman (W) 51.64 297 IAmb IAmb 07 12 14.7
comp=Z,60nm,1.3s
U40A Yellville 51.65 275 P **P** 07 12 12.5 +1.0
baz=32,SNR=12
U40A Yellville 51.65 275 IAmb IAmb 07 12 13.9
comp=Z,90nm,1.8s
U40A IAMs_20 IAMs_20 07 32 20.1
comp=Z,1μm,20.0s
OGNE Ogallala 51.68 286 P **P** 07 12 13.2 +1.4
baz=33
OGNE Ogallala 51.68 286 IAMs_20 IAMs_20 07 33 33.7
comp=Z,1μm,18.0s

FCAR Ozark Folk Cen 51.73 274 IAmb IAmb 07 12 13.7
comp=Z,57nm,1.8s
FCAR IAMs_20 IAMs_20 07 33 11.2
comp=Z,1μm,18.0s
OXF Oxford 51.73 271 IAMs_20 IAMs_20 07 32 23.3
comp=Z,2μm,20.0s
DZA Taraz 51.80 69 *e*P **P** 07 12 13.1 +0.4
baz=69
DZA *e*S **S** 07 19 36.0 +1.5
baz=69
DZA LR LR 07 33 30.8
comp=Z,453nm,15.2s,baz=69
DZA Taraz 51.80 69 *e*P **P** 07 12 13.0 +0.4
DZA *e*S **S** 07 19 35.9 +1.5
DZA MLR MLR
comp=Z,453nm,15.0s
456A Hilliard 51.80 262 IAMs_20 IAMs_20 07 32 17.4
comp=Z,1μm,20.0s
TIGA Tifton 51.86 264 P **P** 07 12 14.7 +1.6
baz=30
IUG luzhnay 51.90 71 *e*P **P** 07 12 14.0 +0.5
comp=Z,185nm,3.9s,baz=71
IUG LR LR 07 33 41.5
comp=Z,570nm,17.6s,baz=71
IUG luzhnay 51.90 71 *e*P **P** 07 12 13.9 +0.5
IUG pmax pmax
comp=Z,185nm,3.9s
IUG MLR MLR
comp=Z,570nm,18.0s
LRAL Lakeview Retre 51.95 268 P **P** 07 12 14.6 +0.8
baz=31,SNR=6.9
LRAL Lakeview Retre 51.95 268 IAmb IAmb 07 12 15.2
comp=Z,57nm,1.6s
LRAL IAMs_20 IAMs_20 07 32 12.2
comp=Z,1μm,20.0s
K22A Casper 52.09 291 P **P** 07 12 15.3 +0.3
baz=33,SNR=8.9
K22A Casper 52.09 291 IAmb IAmb 07 12 17.1
comp=Z,42nm,1.4s
K22A IAMs_20 IAMs_20 07 33 11.5
comp=Z,2μm,20.0s
DGZ Jazzator, Alta 52.12 53 *d i* P **P** 07 12 15.4 +0.4
DGZ pmax pmax
comp=Z,15nm,1.2s
B08A Colville Reser 52.18 304 IAMs_20 IAMs_20 07 35 50.6
comp=Z,1μm,18.0s
HHAR Hobbs 52.18 276 IAMs_20 IAMs_20 07 37 22.1
comp=Z,1μm,20.0s
DLMT Dillon 52.21 297 IAmb IAmb 07 12 24.1
comp=Z,78nm,1.9s
MOBC Moresby Island 52.23 316 IAMs_20 IAMs_20 07 34 16.7
comp=Z,1μm,19.0s
H17A Grant Village 52.24 295 P **P** 07 12 18.1 +2.0
baz=33,SNR=23
H17A Grant Village 52.24 295 IAmb IAmb 07 12 23.8
comp=Z,60nm,1.4s
TAS Tashkent 52.28 72 IAMs_20 IAMs_20 07 34 44.7
comp=Z,2μm,20.0s
WHAR Wooly Hollow 52.31 274 IAmb IAmb 07 12 19.1
comp=Z,91nm,1.7s
WHAR IAMs_20 IAMs_20 07 33 28.6
comp=Z,1μm,18.0s
Y45A Yeager Farm, C 52.34 271 IAMs_20 IAMs_20 07 32 32.4
comp=Z,2μm,19.0s
X43A Marvell 52.36 272 P **P** 07 12 17.1 +0.3
baz=31
X43A Marvell 52.36 272 IAMs_20 IAMs_20 07 33 13.9
comp=Z,1μm,18.0s
W41B Gary Mavity, V 52.39 274 P **P** 07 12 17.8 +0.8
baz=32,SNR=5.7
W41B Gary Mavity, V 52.39 274 IAmb IAmb 07 12 18.9
comp=Z,67nm,1.8s
W41B IAMs_20 IAMs_20 07 33 22.7
comp=Z,1μm,19.0s
352A Blakely 52.40 265 IAMs_20 IAMs_20 07 32 55.0
comp=Z,1μm,18.0s
R32A Long Quarter, 52.41 282 IAMs_20 IAMs_20 07 33 24.0
comp=Z,1μm,20.0s
CBKS Cedar Bluff 52.51 283 P **P** 07 12 19.2 +1.3
baz=32,SNR=6.2
CBKS Cedar Bluff 52.51 283 IAmb IAmb 07 13 30.9
comp=Z,41nm,1.2s
CBKS IAMs_20 IAMs_20 07 33 02.7
comp=Z,1μm,20.0s
SEY Seymchan 52.55 6 *i* P **P** 07 12 19.0 +1.2
MAKZ Makanchi 52.63 58 P **P** 07 12 18.0 -0.7
MAKZ pmax pmax
comp=Z,95nm,1.9s
MAKZ MLR MLR
comp=Z,1μm,22.0s
MAKZ Makanchi 52.63 58 P **P** 07 12 18.0 -0.7
MAKZ IAmb IAmb 07 12 24.1
comp=Z,95nm,1.9s
SGDS Sogindy 52.65 66 *e*P **P** 07 12 19.2 +0.3
comp=Z,182nm,3.7s,baz=66
SGDS Sogindy 52.65 66 *e*P **P** 07 12 19.2 +0.3
SGDS pmax pmax
comp=Z,182nm,3.7s
T35A Sooner Cattle 52.74 279 IAmb IAmb 07 12 21.2
comp=Z,45nm,1.4s
USP Ospenovka 52.75 67 P **P** 07 12 20.6 +0.9
SNR=5.7
MK31 Makanchi Array 52.76 58 P **P** 07 12 19.8 +0.2
MKAR Makanchi Array 52.76 58 P **P** 07 12 20.4 +0.8
comp=Z,6.8nm,1.1s,baz=335,slow=5.5,SNR=38
MKAR PP **PP** 07 14 24.6 +6.1
comp=Z,1.8nm,0.9s,baz=352,slow=7.5,SNR=3.8
MKAR LR LR 07 35 00.7
comp=Z,947nm,21.3s,baz=314,slow=36
MKAR Makanchi Array 52.76 58 *i* P **P** 07 12 20.3 +0.7
MKAR pmax pmax
comp=Z,7.0nm,1.1s
MKAR Makanchi Array 52.76 58 P **P** 07 12 19.9 +0.3
UALR University of 52.77 274 IAmb IAmb 07 12 21.6
comp=Z,93nm,1.9s
UALR IAMs_20 IAMs_20 07 33 52.8
comp=Z,2μm,19.0s
PHWY Pilot Hill 52.79 289 IAMs_20 IAMs_20 07 34 26.0
comp=Z,1μm,19.0s
TDK Taldyqorghan 52.81 62 *e*P **P** 07 12 20.7 +0.7
baz=62
TDK *e*S **S** 07 19 49.7 +1.6
baz=62
TDK LR LR 07 33 51.6
comp=Z,974nm,15.1s,baz=62
TDK Taldyqorghan 52.81 62 *e*P **P** 07 12 20.7 +0.7
TDK *e*S **S** 07 19 49.6 +1.5
TDK MLR MLR
comp=Z,975nm,15.0s
KUU Kurty 52.95 65 *e*P **P** 07 12 21.1 0.0
comp=Z,349nm,4.1s,baz=65
KUU *e*S **S** 07 19 51.1 +1.0
baz=65
KUU LR LR 07 34 03.9
comp=Z,2μm,15.8s,baz=65
KUU Kurty 52.95 65 *e*P **P** 07 12 21.0 0.0
KUU *e*S **S** 07 19 51.0 +1.0
KUU MLR MLR
comp=Z,2μm,16.0s
EKS2 Erkin-Say 52.98 67 P **P** 07 12 24.4 +2.9
SNR=10
W39A Magazine 53.03 275 P **P** 07 12 21.6 -0.2
baz=32,SNR=7.0
W39A Magazine 53.03 275 IAmb IAmb 07 12 23.3
comp=Z,47nm,1.6s
W39A IAMs_20 IAMs_20 07 33 02.7
comp=Z,1μm,19.0s
TOC1 Torodi Ar. Sit 53.06 156 IAMs_20 IAMs_20 07 34 52.3
comp=Z,1μm,18.0s
TOC7 Torodi Ar. Sit 53.06 156 IAMs_20 IAMs_20 07 34 52.4
comp=Z,1μm,18.0s
TOB1 Torodi Ar. Sit 53.06 156 IAMs_20 IAMs_20 07 34 52.5
comp=Z,1μm,18.0s
TOC2 Torodi Ar. Sit 53.07 156 IAMs_20 IAMs_20 07 34 52.8
comp=Z,1μm,18.0s
TOA0 Torodi Ar. Sit 53.08 156 P **P** 07 12 20.3 -2.0
TOA0 IAmb IAmb 07 12 23.4
comp=Z,81nm,1.6s
TOA0 IAMs_20 IAMs_20 07 34 53.9
comp=Z,1μm,18.0s
TORD Torodi Ar. Bea 53.08 156 P **P** 07 12 21.3 -0.9
comp=Z,11nm,0.9s,baz=340,slow=8.2,SNR=21
TORD LR LR 07 35 03.3
comp=Z,982nm,18.7s,baz=340,slow=36
TORD Torodi Ar. Bea 53.08 156 P **P** 07 12 20.4 -1.8
TOA2 Torodi Ar. Sit 53.08 156 IAMs_20 IAMs_20 07 34 53.9
comp=Z,1μm,18.0s

TOA3 Torodi Ar. Sit 53.08 156 IAMs_20 IAMs_20 07 34 54.0
comp=Z,1μm,18.0s
TOB4 Torodi Ar. Sit 53.09 156 IAMs_20 IAMs_20 07 34 54.1
comp=Z,1μm,18.0s
TOB3 Torodi Ar. Sit 53.09 156 IAMs_20 IAMs_20 07 34 53.2
comp=Z,1μm,18.0s
TOC3 Torodi Ar. Sit 53.09 156 IAMs_20 IAMs_20 07 34 53.3
comp=Z,1μm,18.0s
TOC5 Torodi Ar. Sit 53.09 156 IAMs_20 IAMs_20 07 34 53.3
comp=Z,1μm,18.0s
TOC4 Torodi Ar. Sit 53.10 156 IAMs_20 IAMs_20 07 34 53.6
comp=Z,1μm,19.0s
ZSN Zaisan 53.13 56 *e*P **P** 07 12 22.3 -0.1
comp=Z,172nm,3.8s,baz=56
ZSN Zaisan 53.13 56 *e*P **P** 07 12 22.2 -0.1
ZSN pmax pmax
comp=Z,172nm,3.8s
TPAW Teton Pass 53.15 295 IAMs_20 IAMs_20 07 34 11.3
comp=Z,2μm,21.0s
RWWY Rawlins 53.18 291 IAmb IAmb 07 12 30.7
comp=Z,86nm,1.8s
146A Union 53.18 269 IAmb IAmb 07 12 24.3
comp=Z,80nm,1.6s
656A Willston 53.20 261 IAMs_20 IAMs_20 07 33 14.3
comp=Z,1μm,19.0s
BW06 Boulder Array 53.21 293 P **P** 07 12 22.6 -0.7
baz=32,SNR=49
BW06 Boulder Array 53.21 293 IAmb IAmb 07 12 28.7
comp=Z,88nm,1.6s
PD31 Pinedale Array 53.21 293 IAmb IAmb 07 12 28.7
comp=Z,80nm,1.6s
PDAR Pinedale Array 53.21 293 P **P** 07 12 22.6 -0.7
comp=Z,7.5nm,0.7s,baz=54,slow=7.5,SNR=43
PDAR LR LR 07 34 11.4
comp=Z,2μm,21.2s,baz=30,slow=35
PDAR Pinedale Array 53.21 293 P **P** 07 12 21.7 -1.6
REDW Red Top Meadow 53.22 295 IAmb IAmb 07 12 27.2
comp=Z,39nm,1.4s
REDW IAMs_20 IAMs_20 07 34 14.1
comp=Z,2μm,20.0s
X40A Basin Creek Fa 53.23 274 P **P** 07 12 24.1 +0.9
baz=31
X40A Basin Creek Fa 53.23 274 IAMs_20 IAMs_20 07 33 56.8
comp=Z,1μm,19.0s
CHKK Chushkaly 53.23 64 *e*P **P** 07 12 24.1 +0.8
baz=64
CHKK Chushkaly 53.23 64 *e*P **P** 07 12 24.0 +0.8
CCAR Cane Creek 53.26 273 IAMs_20 IAMs_20 07 33 58.6
comp=Z,2μm,18.0s
KDAK Kodiak Island 53.26 332 P **P** 07 12 24.0 +0.9
comp=Z,28nm,1.2s,baz=61,slow=4.1,SNR=4.5
KDAK Kodiak Island 53.26 332 P **P** 07 12 23.4 +0.3
KDAK pmax pmax
comp=Z,77nm,1.6s
KDAK MLR MLR
comp=Z,2μm,22.0s
KDAK Kodiak Island 53.26 332 P **P** 07 12 23.4 +0.3
KDAK IAmb IAmb 07 14 00.8
comp=Z,77nm,1.6s
KDAK Kodiak Island 53.26 332 IAMs_20 IAMs_20 07 36 17.7
comp=Z,2μm,22.0s
AAK Ala-Archa 53.28 67 *i* P **P** 07 12 22.4 -1.3
SNR=17
AAK Ala-Archa 53.28 67 *de*P **P** 07 12 24.2 +0.5
AAK pmax pmax
comp=Z,33nm,1.7s
AAK Ala-Archa 53.28 67 P **P** 07 12 24.2 +0.5
AAK IAmb IAmb 07 12 30.3
comp=Z,51nm,1.4s
AAK Ala-Archa 53.28 67 IAMs_20 IAMs_20 07 34 49.0
comp=Z,2μm,20.0s
TUL1 Leonard 53.29 277 P **P** 07 12 23.7 0.0
baz=32
E09A Wood Farm, Sta 53.31 302 IAMs_20 IAMs_20 07 34 35.6
comp=Z,1μm,18.0s
N23A Red Feather La 53.33 289 P **P** 07 12 25.3 +1.1
baz=32,SNR=13
N23A Red Feather La 53.33 289 IAmb IAmb 07 12 27.6
comp=Z,57nm,1.2s
N23A IAMs_20 IAMs_20 07 34 52.3
comp=Z,1μm,20.0s
AML Almayashu 53.39 68 P **P** 07 12 27.4 +2.6
SNR=13
TKM2 Tokmak 2 53.48 66 P **P** 07 12 27.5 +2.3
SNR=8.9
TKM2 Tokmak 2 53.48 66 P **P** 07 12 25.0 -0.2
451A Vernon 53.49 265 IAMs_20 IAMs_20 07 32 43.1
comp=Z,1μm,21.0s
MIAR Mount Ida 53.50 275 P **P** 07 12 25.5 +0.3
baz=31,SNR=7.6
MIAR Mount Ida 53.50 275 IAmb IAmb 07 12 26.9
comp=Z,40nm,1.6s
MIAR IAMs_20 IAMs_20 07 34 18.0
comp=Z,2μm,18.0s
KSCO Kaye Shedlock' 53.55 285 P **P** 07 12 27.7 +1.9
baz=32,SNR=11
KSCO Kaye Shedlock' 53.55 285 IAMs_20 IAMs_20 07 34 26.2
comp=Z,2μm,20.0s
LTY Liberty 53.59 305 IAMs_20 IAMs_20 07 35 24.9
comp=Z,2μm,18.0s
MTBS Maitube 53.63 65 *e*P **P** 07 12 28.1 +1.9
baz=65
MTBS Maitube 53.63 65 *e*P **P** 07 12 28.0 +1.9
UCH Uchtor 53.63 67 P **P** 07 12 29.5 +2.8
SNR=14
AAA Alma-Ata 53.75 65 *e*P **P** 07 12 27.9 +0.8
baz=65
AAA *e*S **S** 07 20 02.9 +1.8
baz=65
AAA LR LR 07 34 18.9
comp=Z,2μm,17.0s,baz=65
AAA Alma-Ata 53.75 65 *i* P **P** 07 12 28.6 +1.6
AAA *e*S S 07 20 09.1 +8.1
AAA pmax pmax
comp=Z,400nm,3.1s
AAA smax smax
comp=N,300nm,9.4s
AAA MLR MLR
comp=Z,500nm,15.0s
AHID Auburn Hatcher 53.82 294 IAmb IAmb 07 12 35.4
comp=Z,57nm,1.7s
MDOK Medeo 53.84 65 *e*P **P** 07 12 28.3 +0.4
baz=65
MDOK LR LR 07 34 17.3
comp=Z,2μm,16.6s,baz=65
MDOK Medeo 53.84 65 *e*P **P** 07 12 28.2 +0.4
MDOK MLR MLR
comp=Z,2μm,17.0s
E07A Sunnyside 53.90 303 IAmb IAmb 07 12 40.8
comp=Z,85nm,2.0s
TNSS Tian-Shan 53.91 65 *e*P **P** 07 12 30.1 +1.4
baz=65
TNSS Tian-Shan 53.91 65 *e*P **P** 07 12 30.0 +1.4
OHAK Old Harbor 53.92 332 P **P** 07 12 28.4 +0.4
OHAK IAMs_20 IAMs_20 07 36 48.2
comp=Z,1μm,19.0s
OK029 Liberty Lake 54.09 279 IAmb IAmb 07 12 31.8
comp=Z,33nm,1.3s
ISCO Idaho Springs 54.12 288 P **P** 07 12 30.3 +0.2
baz=32,SNR=7.6
143A Socs Landing, 54.13 271 IAMs_20 IAMs_20 07 33 58.9
comp=Z,2μm,20.0s
VBMS Vicksburg 54.17 270 IAMs_20 IAMs_20 07 33 57.8
comp=Z,1μm,18.0s
KPKS Kokpek 54.22 63 *e*P **P** 07 12 30.6 0.0
comp=Z,204nm,3.4s,baz=63
KPKS LR LR 07 34 28.1
comp=Z,507nm,14.7s,baz=63
KPKS Kokpek 54.22 63 *e*P **P** 07 12 30.5 0.0
KPKS pmax pmax
comp=Z,204nm,3.4s
KPKS MLR MLR
comp=Z,507nm,15.0s
OK025 Westminster Rd 54.23 279 IAmb IAmb 07 12 32.6
comp=Z,51nm,1.4s
X37A Clayton 54.23 276 IAMs_20 IAMs_20 07 33 43.4
comp=Z,1μm,18.0s
U32A Winter Ranch, 54.26 280 IAmb IAmb 07 12 33.2
comp=Z,24nm,1.1s
Z41A Richland Creek 54.26 273 P **P** 07 12 32.2 +1.5
baz=31
Z41A Richland Creek 54.26 273 IAMs_20 IAMs_20 07 34 58.3
comp=Z,2μm,18.0s
BMO Blue Mountains 54.42 300 IAmb IAmb 07 12 37.3
comp=Z,46nm,1.6s
HLID Hailey 54.43 297 P **P** 07 12 33.0 +0.9
baz=32,SNR=13
HLID Hailey 54.43 297 IAmb IAmb 07 12 41.4

comp=Z,43nm,1.8s
346A Big Creek Wild 54.43 269 IAMs_20 IAMs_20 07 33 47.8
comp=Z,2µm,20.0s
LON Longmire 54.43 305 IAMs_20 IAMs_20 07 35 00.0
comp=Z,1µm,20.0s
SATY Saty 54.46 64 *e*P **P** **07 12 32.6 +0.3**
SATY comp=Z,102nm,3.9s,baz=64 *e*S **S** **07 20 12.2 +1.5**
SATY baz=64 LR LR 07 34 46.6
comp=Z,447nm,15.0s,baz=64
SATY Saty 54.46 64 *e*P **P** **07 12 32.5 +0.3**
SATY *e*S **S** **07 20 12.2 +1.5**
SATY pmax pmax
comp=Z,102nm,3.9s
SATY MLR MLR
comp=Z,447nm,15.0s
SATY Saty 54.46 64 *e*P **P** **07 12 32.5 +0.3**
SATY *e*S **S** **07 20 12.2 +1.5**
SATY pmax pmax
comp=Z,102nm,3.9s
SATY MLR MLR
comp=Z,447nm,15.0s
F07A Phinny Hill Vi 54.49 303 IAmb IAmb 07 12 38.3
comp=Z,89nm,1.9s
NLWA Neilton Lookou 54.60 307 IAmb IAmb 07 12 46.5
comp=Z,82nm,1.9s
NLWA IAMs_20 IAMs_20 07 35 10.4
comp=Z,1µm,20.0s
UZB Uzynbulak 54.62 63 *e*P **P** **07 12 33.6 +0.1**
comp=Z,135nm,3.8s,baz=63
UZB *e*S **S** **07 20 13.9 +0.9**
baz=63
UZB Uzynbulak 54.62 63 *e*P **P** **07 12 33.5 +0.1**
UZB *e*S **S** **07 20 13.8 +0.9**
UZB pmax pmax
comp=Z,135nm,3.8s
Q24A Divide 54.64 287 P **P** **07 12 35.3 +1.5**
baz=32
PDGK Podgornoye 54.64 63 P **P** **07 12 33.0 -0.6**
MOY Mondy 54.70 42 *e*P **P** **07 12 36.4 +2.5**
MOY pmax pmax
comp=Z,164nm,2.4s
SII Sitkinak Islan 54.72 332 IAMs_20 IAMs_20 07 38 32.4
comp=Z,2µm,20.0s
SHLS Shalkode 54.78 63 *e*P **P** **07 12 36.5 +1.9**
comp=Z,160nm,3.7s,baz=62
SHLS Shalkode 54.78 63 *e*P **P** **07 12 36.5 +1.9**
SHLS pmax pmax
comp=Z,160nm,3.7s
E04D Cinebar 54.86 305 P **P** **07 12 35.7 +0.7**
baz=30
O20A White River Ci 54.91 290 P **P** **07 12 36.1 +0.5**
baz=32,SNR=20
O20A White River Ci 54.91 290 IAmb IAmb 07 12 38.7
comp=Z,57nm,1.4s
O20A IAMs_20 IAMs_20 07 34 53.0
comp=Z,1µm,20.0s
344A Westbrook Farm 54.92 270 IAMs_20 IAMs_20 07 34 35.7
comp=Z,2µm,18.0s
HWUT Hardware Ranch 54.98 294 IAmb IAmb 07 12 39.0
comp=Z,51nm,1.2s
IRK Irkutsk 55.12 40 *e*P **P** **07 12 37.1 +0.3**
IRK *e* 07 14 43.6
IRK pmax pmax
comp=Z,100nm,2.5s
HRA Herat 55.19 82 IAmb IAmb 07 12 43.9
comp=Z,42nm,1.4s
E03A Lebam 55.22 306 P **P** **07 12 37.6 +0.1**
F04A Amboy 55.35 305 IAmb IAmb 07 12 53.5
comp=Z,44nm,1.4s
F04A IAMs_20 IAMs_20 07 36 23.4
comp=Z,1µm,20.0s
TLY Talaya 55.45 40 *d i*P **P** **07 12 39.4 +0.2**
TLY *e* 07 13 40.7
TLY *e* 07 14 45.2
TLY *e*S **S** **07 20 28.4 +4.9**
TLY *e*SS **SS** **07 24 10.8 +3.5**
TLY pmax pmax
comp=Z,36nm,0.9s
TLY MLR MLR
comp=Z,6µm,17.0s
TLY Talaya 55.45 40 P **P** **07 12 39.9 +0.7**
GRTK Grand Turk 55.46 246 IAMs_20 IAMs_20 07 31 49.5
comp=Z,2µm,20.0s
WMOK Wichita Mounta 55.56 279 P **P** **07 12 40.5 +0.3**
baz=31,SNR=28
WMOK Wichita Mounta 55.56 279 IAMs_20 IAMs_20 07 35 09.5
comp=Z,2µm,20.0s
CHIR Chirikof Islan 55.70 333 IAMs_20 IAMs_20 07 38 29.2
comp=Z,2µm,20.0s
SDCO Great Sand Dun 55.82 287 P **P** **07 12 42.7 +0.3**
baz=31,SNR=12
SDCO Great Sand Dun 55.82 287 IAmb IAmb 07 12 44.6
comp=Z,49nm,1.9s
MA2 Magadan 55.83 7 *c e*P **P** **07 12 42.5 +0.8**
MA2 pmax pmax
comp=Z,44nm,1.3s
MA2 MLR MLR
comp=Z,351nm,19.0s
MA2 Magadan 55.83 7 P **P** **07 12 40.5 -1.3**
MA2 IAmb IAmb 07 12 45.2
comp=Z,57nm,1.3s
T25A Trinidad 55.88 285 P **P** **07 12 43.9 +1.2**
baz=31,SNR=14
T25A Trinidad 55.88 285 IAmb IAmb 07 12 46.1
comp=Z,51nm,1.6s
T25A IAMs_20 IAMs_20 07 35 28.9
comp=Z,2µm,18.0s
STVI Saint Thomas 56.00 238 P **P** **07 12 42.9 -0.5**
Z35A Perchaven, San 56.11 277 IAmb IAmb 07 12 46.6
comp=Z,60nm,1.4s
Z35A IAMs_20 IAMs_20 07 35 01.2
comp=Z,1µm,22.0s
G03D McMinnville, O 56.27 305 P **P** **07 12 46.3 +1.2**
baz=30
I05D Terrebonne, OR 56.34 303 P **P** **07 12 47.1 +1.4**
baz=30
H04A Detroit Lake 56.34 304 IAmb IAmb 07 13 00.8
comp=Z,44nm,1.6s
H04A IAMs_20 IAMs_20 07 37 10.7
comp=Z,2µm,19.0s
NATX Nacogdoches 56.35 274 P **P** **07 12 47.4 +1.6**
baz=30
NATX Nacogdoches 56.35 274 IAMs_20 IAMs_20 07 36 34.5
comp=Z,1µm,19.0s
S22A 4UR Ranch, Cre 56.37 288 P **P** **07 12 46.6 +0.3**
baz=31,SNR=14
MTP Monte Pirata 56.45 238 P **P** **07 12 47.2 +0.6**
PV22 Blue Mesa, Par 56.49 290 IAmb IAmb 07 12 48.9
comp=Z,39nm,1.7s
ZAK Zakamensk 56.51 41 *e*P **P** **07 12 48.2 +1.3**
ZAK pmax pmax
comp=Z,18nm,1.2s
HUMP Col San Antoni 56.52 238 P **P** **07 12 47.4 +0.3**
HUMP IAmb IAmb 07 12 49.5
comp=Z,61nm,1.3s
PV07 Paradox Valley 56.52 290 IAmb IAmb 07 12 49.1
comp=Z,48nm,1.7s
KSH Kashi 56.52 68 P **P** **07 12 49.0 +1.9**
KSH sP sP 07 12 55.0 +2.7
KSH S **S** **07 20 38.3 0.0**
KSH pmax pmax
comp=Z,63nm,1.4s
KSH pmax pmax
comp=Z,610nm,4.3s
KSH LR LR
comp=Z,3µm,17.7s
KSH LR LR
comp=Z,1µm,14.9s
KSH LR LR
comp=Z,4µm,19.3s
PV15 Paradox Valley 56.53 290 IAmb IAmb 07 12 50.3
comp=Z,35nm,1.5s
PV21 Cone Mtn., Par 56.54 290 IAmb IAmb 07 12 52.5
comp=Z,28nm,1.1s
237A Washetta, Mont 56.63 275 IAMs_20 IAMs_20 07 36 52.0
comp=Z,2µm,18.0s
PV23 Carpenter Ridg 56.65 290 IAmb IAmb 07 12 51.0
comp=Z,28nm,1.1s
PV04 Paradox Valley 56.66 290 IAmb IAmb 07 12 55.2
comp=Z,35nm,1.3s
AMTX Amarillo 56.67 282 P **P** **07 12 49.0 +0.8**
baz=31
PINE Pine Mountain 56.67 303 IAmb IAmb 07 13 01.9
comp=Z,56nm,1.9s
PINE IAMs_20 IAMs_20 07 37 07.3
comp=Z,1µm,18.0s
DUG Dugway, Tooele 56.68 294 P **P** **07 12 49.3 +1.0**
baz=31,SNR=20
DUG Dugway, Tooele 56.68 294 IAmb IAmb 07 12 51.9
comp=Z,38nm,1.4s
DUG IAMs_20 IAMs_20 07 36 25.8
comp=Z,2µm,21.0s
H04D Lebanon 56.68 304 P **P** **07 12 48.7 +0.7**
baz=30
PV12 Saucer Basin, 56.68 290 IAmb IAmb 07 12 51.3
comp=Z,34nm,1.3s
PDPR Patillas Dam, 56.69 239 P **P** **07 12 48.6 +0.3**
PV14 Lion Creek, Pa 56.72 290 IAMs_20 IAMs_20 07 35 50.1
comp=Z,1µm,18.0s
PV11 David Mesa, Pa 56.73 290 IAMs_20 IAMs_20 07 37 04.2
comp=Z,2µm,19.0s
PV10 Paradox Valley 56.73 290 IAmb IAmb 07 12 52.2
comp=Z,38nm,1.2s
PV16 Nyswonger Mesa 56.73 290 IAmb IAmb 07 12 51.6
comp=Z,46nm,1.3s
PV01 Paradox Valley 56.74 289 IAmb IAmb 07 12 51.9
comp=Z,54nm,1.4s
PV02 Paradox Valley 56.75 290 IAmb IAmb 07 12 51.9
comp=Z,64nm,1.4s
PV03 Paradox Valley 56.76 290 IAmb IAmb 07 12 51.8
comp=Z,46nm,1.3s
PV19 Morning Glory 56.76 290 IAmb IAmb 07 12 54.2
comp=Z,64nm,1.7s
PV19 IAMs_20 IAMs_20 07 37 22.1
comp=Z,2µm,18.0s
PV17 East Wray Mesa 56.78 290 IAmb IAmb 07 12 51.9
comp=Z,36nm,1.2s
PV18 Skein Mesa, Pa 56.79 290 IAmb IAmb 07 12 52.0
comp=Z,43nm,1.3s
PV18 IAMs_20 IAMs_20 07 35 50.7
comp=Z,1µm,19.0s
MPR Mayaguez 56.93 240 P **P** **07 12 50.2 +0.1**
MPR IAmb IAmb 07 12 53.2
comp=Z,58nm,1.2s
MLPR Magueyes Islan 57.12 240 P **P** **07 12 51.6 +0.2**
I04A Tendick Farm, 57.20 304 P **P** **07 12 53.2 +1.4**
baz=30
J05D Fort Rock, OR 57.21 302 P **P** **07 12 54.4 +2.4**
baz=30,SNR=18
WMQ Urumqi 57.26 56 *e*P **P** **07 12 54.3 +2.0**
WMQ pP sP 07 12 57.3 -0.2
WMQ S **S** **07 20 54.5 +6.6**
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ pmax pmax
comp=Z,370nm,5.1s
WMQ LR LR
comp=Z,760nm,14.5s
WMQ LR LR
comp=Z,530nm,16.7s
WMQ LR LR
comp=Z,650nm,21.1s
WHTX Lake Whitney, 57.35 276 P **P** **07 12 54.6 +1.7**
baz=30,SNR=6.5
WHTX Lake Whitney, 57.35 276 IAmb IAmb 07 12 57.9
comp=Z,54nm,1.6s
WHTX IAMs_20 IAMs_20 07 35 51.0
comp=Z,1µm,20.0s
CNBA Chernabura Isl 57.40 335 P **P** **07 12 54.5 +1.5**
CNBA IAMs_20 IAMs_20 07 38 14.8
comp=Z,1µm,21.0s
MVCO Mesa Verde 57.51 289 P **P** **07 12 55.0 +0.7**
baz=31,SNR=10
MVCO Mesa Verde 57.51 289 IAmb IAmb 07 13 00.2
comp=Z,50nm,1.7s
J04D Umpqua Nationa 57.57 303 P **P** **07 12 55.9 +1.2**
baz=30
K05A Summer Lake 57.57 302 IAmb IAmb 07 13 00.0
comp=Z,43nm,1.4s
I03D Drain, OR 57.62 304 P **P** **07 12 56.0 +1.4**
baz=29
ABTX Abilene, Hawle 57.74 279 P **P** **07 12 57.2 +1.4**
baz=30,SNR=12
ABTX Abilene, Hawle 57.74 279 IAmb IAmb 07 12 58.5
comp=Z,48nm,1.4s
SDDR Presa de Saban 57.81 244 P **P** **07 12 56.0 -0.4**
KBL Kabul 57.94 76 IAMs_20 IAMs_20 07 38 30.6
comp=Z,2µm,20.0s
K04D Chiloquin, OR 57.97 302 P **P** **07 12 58.9 +1.5**
baz=30
FDF Fort de France 58.00 232 P **P** **07 12 58.2 +0.5**
FDF pmax pmax
comp=Z,84nm,1.0s
FDF Fort de France 58.00 232 P **P** **07 12 58.1 +0.5**
FDF IAMs_20 IAMs_20 07 34 15.9
comp=Z,1µm,19.0s
FALS False Pass 58.03 338 IAMs_20 IAMs_20 07 39 17.7
comp=Z,1µm,21.0s
J01E Myrtle Point 58.29 304 P **P** **07 12 59.8 +0.4**
baz=29
HUMO Hull Mountain 58.42 303 IAMs_20 IAMs_20 07 38 30.8
comp=Z,1µm,20.0s
435B Jarrell 58.45 276 P **P** **07 13 02.0 +1.3**
baz=30
435B Jarrell 58.45 276 P **P** **07 13 01.5 +0.9**
435B IAMs_20 IAMs_20 07 36 36.0
comp=Z,1µm,20.0s
GTBY Guantanamo Bay 58.47 249 IAMs_20 IAMs_20 07 33 55.2
comp=Z,2µm,21.0s
DBIC Dimbokro 58.52 165 P **P** **07 12 59.9 -1.4**
comp=Z,8.2nm,0.9s,baz=326,slow=7.0,SNR=5.9
DBIC LR LR 07 38 47.5
comp=Z,2µm,18.6s,baz=340,slow=37
DBIC Dimbokro 58.52 165 P **P** **07 12 59.4 -1.9**
DBIC pmax pmax
comp=Z,97nm,1.9s
DBIC Dimbokro 58.52 165 P **P** **07 12 59.4 -1.9**
L04D Klamath Falls 58.53 303 P **P** **07 13 02.1 +0.8**
baz=29
TIC Toumodi 58.53 165 *e*P **P** **07 12 59.2 -2.2**
K02D Willamette Mer 58.60 304 P **P** **07 13 02.1 +0.4**
baz=29
ANMO Albuquerque 58.61 286 P **P** **07 13 02.9 +0.9**
baz=30
ANMO Albuquerque 58.61 286 *d i*P **P** **07 13 02.5 +0.5**
ANMO pmax pmax
comp=Z,8.0nm,1.3s
ANMO Albuquerque 58.61 286 P **P** **07 13 02.2 +0.2**
M04C Macdoel 58.74 302 P **P** **07 13 02.9 +0.2**
baz=29
KIC Kosan Boka 58.84 165 *e*P **P** **07 13 01.7 -1.8**
comp=Z,77nm,1.2s
ZEA Zeya 58.90 24 *e*P **P** **07 12 59.0 -4.5**
ZEA *e*S **S** **07 21 15.0 +6.2**
ZEA pmax pmax
comp=Z,32nm,1.4s
ZEA pmax pmax
comp=Z,300nm,6.0s
ZEA smax smax
comp=E,400nm,8.0s
ZEA MLR MLR
comp=N,700nm,17.0s
LIC Lamto 58.95 166 *e*P **P** **07 13 02.5 -1.7**
comp=N,112nm,1.3s
L02E Cave Junction 59.05 304 P **P** **07 13 05.8 +1.0**
baz=29
AKUT Akutan 59.10 339 P **P** **07 13 02.7 -2.1**
YBH Yreka Blue Hor 59.10 303 P **P** **07 13 05.1 -0.1**
comp=N,3.0nm,1.1s,baz=76,slow=5.2,SNR=4.5
YBH Yreka Blue Hor 59.10 303 IAMs_20 IAMs_20 07 38 37.7
comp=Z,914nm,18.0s
R11A Troy Canyon, C 59.36 295 P **P** **07 13 07.4 +0.3**
baz=30,SNR=31
R11A Troy Canyon, C 59.36 295 IAmb IAmb 07 13 10.6
comp=Z,28nm,1.2s
Y22D IRIS PASSCAL I 59.56 286 P **P** **07 13 11.6 +3.1**
baz=30
Y22D IRIS PASSCAL I 59.56 286 P **P** **07 13 10.1 +1.5**
Y22D IAMs_20 IAMs_20 07 38 09.2
comp=Z,1µm,18.0s
PAHR Pah Rah Range 59.64 299 P **P** **07 13 10.2 +1.2**
PAHR IAmb IAmb 07 13 14.8
comp=Z,52nm,1.6s
JCT Junction City 59.66 278 P **P** **07 13 09.3 +0.1**
baz=30,SNR=20
SONM Songino Array 59.69 40 P **P** **07 13 10.1 +0.9**
comp=Z,3.7nm,1.0s,baz=321,slow=7.2,SNR=16
SONM PP **PP** **07 15 23.5 +3.1**
comp=Z,1.6nm,0.9s,baz=350,slow=7.5,SNR=2.8
SONM LR LR 07 41 17.4
comp=Z,2µm,20.2s,baz=337,slow=38
SONM Songino Array 59.69 40 P **P** **07 13 09.6 +0.4**
SONM pmax pmax
comp=Z,12nm,1.4s
SONM Songino Array 59.69 40 P **P** **07 13 09.6 +0.4**
KRMB Red Mountain 59.72 303 P **P** **07 13 09.8 +0.3**
KRMB IAmb IAmb 07 13 16.3
comp=Z,69nm,1.9s
U15A North Rim 59.72 291 IAmb IAmb 07 13 12.1
comp=Z,38nm,1.4s
U15A IAMs_20 IAMs_20 07 37 50.3
comp=Z,968nm,19.0s
KVN Kaiserville 59.72 298 IAmb IAmb 07 13 15.1
comp=Z,37nm,1.4s
N02D Trinity Center 59.76 302 P **P** **07 13 10.9 +1.2**
baz=29
SHME Shamm 59.77 93 P **P** **07 13 09.2 -0.8**
ULN Ulaanbaatar 59.84 40 P **P** **07 13 11.7 +1.4**
ULN pmax pmax
comp=Z,40nm,1.5s
ULN MLR MLR
comp=Z,3µm,20.0s
ULN Ulaanbaatar 59.84 40 P **P** **07 13 11.7 +1.4**
ULN IAmb IAmb 07 13 16.1
comp=Z,40nm,1.4s
BANOM Banah 59.95 93 P **P** **07 13 09.9 -1.3**
PRN Pahroc Range 59.97 294 IAmb IAmb 07 13 19.6
comp=Z,36nm,1.3s
O03E Paynes Creek 60.02 301 P **P** **07 13 12.9 +1.3**
baz=29
VCNR Virginia City 60.09 299 IAmb IAmb 07 13 17.9
comp=Z,38nm,1.6s
GDL2 Guadalupe Moun 60.11 282 P **P** **07 13 13.5 +1.2**
WUAZ Wupatki 60.14 290 P **P** **07 13 13.2 +0.7**
baz=30,SNR=19
WUAZ Wupatki 60.14 290 IAmb IAmb 07 13 15.7
comp=Z,46nm,1.1s
YERR Yerington 60.21 298 IAmb IAmb 07 13 16.4
comp=Z,34nm,1.3s
KHMM Horse Mountain 60.22 303 P **P** **07 13 13.7 +0.7**
PNTR Pine Nut 60.26 299 IAmb IAmb 07 13 28.2
comp=Z,49nm,1.6s
NVAR Mina Array Bea 60.34 297 P **P** **07 13 14.0 +0.1**
comp=Z,2.4nm,0.9s,baz=46,slow=5.8,SNR=17
NVAR LR LR 07 39 24.8
comp=Z,4µm,18.4s,baz=26,slow=36
NVAR Mina Array Bea 60.34 297 P **P** **07 13 13.4 -0.5**
MSFE Esma-Masafi 60.38 93 *i* P **P** **07 13 12.8 -1.4**
SNR=6.6
NIL Nilore 60.46 73 P **P** **07 13 14.5 -0.1**
NIL pmax pmax
comp=Z,64nm,1.3s
NIL MLR MLR
comp=Z,900nm,19.0s
NIL Nilore 60.46 73 P **P** **07 13 14.5 -0.1**
NIL Nilore 60.46 73 IAMs_20 IAMs_20 07 40 37.5
comp=Z,867nm,19.0s
NAZ Nazwa, Dubai 60.50 94 *i* P **P** **07 13 13.1 -1.8**
SNR=5.2
MDH Madha 60.50 93 P **P** **07 13 14.0 -0.9**
ORV Oroville 60.56 301 P **P** **07 13 14.9 -0.3**
ORV pmax pmax
comp=Z,38nm,1.9s
ORV MLR MLR
comp=Z,4µm,18.0s
ORV Oroville 60.56 301 P **P** **07 13 14.9 -0.3**
ORV IAmb IAmb 07 13 30.0
comp=Z,38nm,1.9s
LHV Little Huntoon 60.57 297 IAmb IAmb 07 13 22.4
comp=Z,45nm,1.6s
WAKR Walker 60.70 298 IAmb IAmb 07 13 24.8
comp=Z,33nm,1.4s
UOSS Minazif 60.77 93 *i* P **P** **07 13 15.5 -1.2**
SNR=5.7
SHPR Sheep Range 60.79 294 IAmb IAmb 07 13 20.7
comp=Z,42nm,1.4s
SHPR IAMs_20 IAMs_20 07 39 30.6
comp=Z,1µm,18.0s
TPNV Topopah Spring 60.83 295 P **P** **07 13 17.3 0.0**
baz=29,SNR=14
TPNV Topopah Spring 60.83 295 P **P** **07 13 17.2 0.0**
TPNV pmax pmax
comp=Z,44nm,1.7s
TPNV MLR MLR
comp=Z,2µm,18.0s
TPNV Topopah Spring 60.83 295 P **P** **07 13 17.2 0.0**
TPNV IAmb IAmb 07 13 32.8
comp=Z,44nm,1.6s
HATD Hatta, Dubai 60.84 93 *i* P **P** **07 13 16.4 -0.8**
SNR=6.8
ASHO Ashiyiah 60.93 94 *i* P **P** **07 13 16.4 -1.5**
SNR=5.6
MNTX Cornudas Mount 60.97 283 P **P** **07 13 17.5 -0.6**
baz=29,SNR=10
MNTX Cornudas Mount 60.97 283 P **P** **07 13 16.6 -1.4**
MNTX IAMs_20 IAMs_20 07 39 10.7
comp=Z,988nm,19.0s
MTDJ Mount Denham 60.98 250 IAMs_20 IAMs_20 07 35 44.6
comp=Z,1µm,20.0s
X16A Lo Mia Camp, P 61.12 290 IAmb IAmb 07 13 22.8
comp=Z,25nm,1.1s
GRAC Grapevine Rang 61.23 296 P **P** **07 13 21.2 +1.5**
baz=29
121A Cookes Peak, D 61.25 286 P **P** **07 13 21.2 +1.0**
baz=29,SNR=9.6
121A Cookes Peak, D 61.25 286 IAmb IAmb 07 13 23.8
comp=Z,36nm,1.4s
121A IAMs_20 IAMs_20 07 39 15.0
comp=Z,1µm,18.0s
OMMB Old Mammoth Mi 61.32 298 IAmb IAmb 07 13 27.0
comp=Z,26nm,1.4s
MDPB Devils Postpil 61.33 298 IAmb IAmb 07 13 26.9
comp=Z,28nm,1.4s
ALNE Al Ain 61.35 94 *i* P **P** **07 13 19.1 -1.6**
SNR=6.7
833A Chaparral WMA, 61.36 276 P **P** **07 13 22.3 +1.6**
baz=29,SNR=6.4
833A Chaparral WMA, 61.36 276 P **P** **07 13 21.5 +0.8**
833A IAMs_20 IAMs_20 07 39 36.1
comp=Z,1µm,18.0s
NKL Nikolayevsk 61.38 15 *e*P **P** **07 13 19.8 -0.6**
NKL *e*S **S** **07 21 42.5 +1.9**
NKL pmax pmax
comp=N,14nm,0.8s
NKL pmax pmax
comp=Z,33nm,1.3s
EPT El Paso 61.38 284 IAMs_20 IAMs_20 07 38 44.4
comp=Z,2µm,22.0s
KVTX Kingsville 61.39 274 IAMs_20 IAMs_20 07 41 52.0
comp=Z,1µm,19.0s
FURC Furnace Creek, 61.49 295 P **P** **07 13 22.0 +0.6**
baz=29
W13A Hualapai Mount 61.51 292 P **P** **07 13 20.5 -1.4**
W13A IAMs_20 IAMs_20 07 39 00.7
comp=Z,1µm,22.0s
SOHO SOHO 61.62 93 *i* P **P** **07 13 20.9 -1.6**
SNR=10
HIA Hailar 61.69 30 IAMs_20 IAMs_20 07 40 46.6
comp=Z,1µm,18.0s
SHOC Shoshone, Teco 61.76 294 P **P** **07 13 26.0 +2.7**
baz=29
CWC Cottonwood Cre 61.99 296 P **P** **07 13 27.0 +2.0**
baz=29
TUQ Turquoise Moun 62.02 294 P **P** **07 13 27.0 +1.7**
baz=29
MPMC Manual Prospec 62.09 295 P **P** **07 13 27.1 +1.2**
baz=29,SNR=6.4
TX32 Lajitas Array 62.30 280 IAmb IAmb 07 13 29.1
comp=Z,28nm,1.6s
TXAR Lajitas Array 62.30 280 P **P** **07 13 27.2 +0.1**
comp=Z,5.9nm,1.1s,baz=57,slow=4.6,SNR=27
TXAR PcP **PcP** **07 14 08.2 +1.4**
comp=Z,5.1nm,1.1s,baz=85,slow=2.9,SNR=6.6
TXAR LR LR 07 39 39.1
comp=Z,2µm,20.5s,baz=0.0,slow=35
TXAR Lajitas Array 62.30 280 P **P** **07 13 26.4 -0.8**
PDMCI Parker Dam,Lak 62.31 292 P **P** **07 13 28.0 +1.0**
baz=29,SNR=16
GMRC Granite Mounta 62.49 293 P **P** **07 13 29.3 +0.9**
baz=29,SNR=10
PEA0B Petropavlovsk- 62.57 3 P **P** **07 13 29.9 +1.4**
PEA0B pmax pmax
comp=Z,55nm,1.3s
PEA0B Petropavlovsk- 62.57 3 P **P** **07 13 29.9 +1.4**
PETK Petropavlovsk- 62.57 3 P **P** **07 13 30.1 +1.6**
comp=Z,15nm,1.1s,baz=44,slow=9.1,SNR=21
PETK Petropavlovsk- 62.57 3 P **P** **07 13 27.1 -1.4**
PET Petropavlovsk 62.67 3 *e*P **P** **07 13 30.6 +1.5**
PET *e*S **S** **07 21 56.0 -1.0**

PET MLR MLR
comp=Z,500nm,18.0s
PET MLR MLR
comp=Z,500nm,16.0s
LRMC Laurel Mtn Rad 62.68 295 P **P** **07 13 30.6 +1.0**
baz=28
TUC Tucson 62.68 288 P **P** **07 13 30.8 +1.1**
baz=29
TUC Tucson 62.68 288 P **P** **07 13 30.3 +0.6**
TUC pmax pmax
comp=Z,48nm,1.6s
TUC Tucson 62.68 288 P **P** **07 13 30.2 +0.6**
TUC IAmb IAmb 07 13 32.7
comp=Z,48nm,1.6s
TUC Tucson 62.68 288 IAMs_20 IAMs_20 07 39 55.9
comp=Z,993nm,18.0s
HEC Hector,Ludlow 62.72 294 P **P** **07 13 32.8 +2.9**
baz=29
ISA Isabella, Lake 62.82 296 P **P** **07 13 32.4 +1.9**
baz=28,SNR=9.4
ISA Isabella, Lake 62.82 296 P **P** **07 13 31.3 +0.8**
ISA pmax pmax
comp=Z,82nm,2.0s
ISA MLR MLR
comp=Z,2µm,18.0s
ISA Isabella, Lake 62.82 296 P **P** **07 13 31.3 +0.8**
IRM Iron Mountain 62.83 293 P **P** **07 13 32.7 +2.1**
baz=29,SNR=9.4
319A Douglas 62.88 286 IAMs_20 IAMs_20 07 40 49.1
comp=Z,1µm,19.0s
GRNR Gornyy 63.19 18 *e*P **P** **07 13 30.7 -2.0**
GRNR MLR MLR
comp=E,220nm,18.0s
BELC Belle Mtn. Jos 63.31 293 P **P** **07 13 36.7 +2.8**
baz=28,SNR=12
EDW2 Edwards Air Fo 63.32 295 P **P** **07 13 36.3 +2.5**
baz=28
BC3 Big Chuckawall 63.40 293 P **P** **07 13 36.9 +2.5**
baz=28,SNR=7.5
BBRC Big Bear Solar 63.45 294 P **P** **07 13 37.4 +2.5**
baz=28
113A Mohawk Valley, 63.50 291 P **P** **07 13 35.0 0.0**
113A IAmb IAmb 07 13 38.1
comp=Z,23nm,1.4s
GLA Glamis 63.67 292 P **P** **07 13 39.1 +2.9**
baz=28
GLA Glamis 63.67 292 P **P** **07 13 36.0 -0.2**
GLA pmax pmax
comp=Z,116nm,2.0s
GLA Glamis 63.67 292 P **P** **07 13 36.0 -0.2**
GLA IAMs_20 IAMs_20 07 40 14.1
comp=Z,1µm,20.0s
TEIG Tepich 63.68 262 IAMs_20 IAMs_20 07 40 03.0
comp=Z,846nm,19.0s
214A Organ Pipe Nat 63.82 289 P **P** **07 13 38.9 +1.7**
baz=28,SNR=6.4
214A Organ Pipe Nat 63.82 289 IAmb IAmb 07 13 40.4
comp=Z,39nm,1.6s
214A IAMs_20 IAMs_20 07 39 43.0
comp=Z,860nm,20.0s
TYV Tymovskoe 63.84 14 *e*P **P** **07 13 38.3 +1.4**
TYV pmax pmax
comp=Z,8.0nm,0.8s
TYV pmax pmax
comp=Z,100nm,2.0s
KLR Kul'dur 64.00 22 *ce*P **P** **07 13 38.8 +0.8**
KLR pmax pmax
comp=Z,3.0nm,1.2s
KLR MLR MLR
comp=Z,776nm,19.0s
PKM Mcpherson Peak 64.02 297 P **P** **07 13 41.5 +2.9**
baz=28
MURC Murrieta 64.14 294 P **P** **07 13 40.8 +1.6**
baz=28
SWSC Sam W. Stewart 64.16 292 P **P** **07 13 41.4 +2.1**
baz=28
PIX Pinacate 64.43 290 P **P** **07 13 40.9 -0.2**
PIX IAmb IAmb 07 13 44.2
comp=Z,20nm,1.3s
MONP2 Monument Peak 64.45 293 P **P** **07 13 43.8 +2.3**
baz=28,SNR=5.2
IKP In-Ko-Pah, Jac 64.54 293 P **P** **07 13 44.4 +2.5**
baz=28
URIC Uribia, Colomb 64.72 242 *e*P **P** **07 13 41.5 -1.6**
BAR Barrett 64.74 293 IAMs_20 IAMs_20 07 41 14.2
comp=Z,1µm,20.0s
SKR Severo-Kuril's 64.95 4 *e*P **P** **07 13 41.5 -2.6**
SKR MLR MLR
comp=Z,200nm,19.0s
ESJX Sierra Juarez 65.04 292 IAMs_20 IAMs_20 07 41 09.3
comp=Z,894nm,20.0s
GTA Gaotai 65.34 49 *e*P **P** **07 13 48.0 +0.9**
GTA pP sP 07 13 52.3 0.0
GTA sP pP 07 13 55.5 +4.6
GTA S **S** **07 22 36.5 +5.7**
GTA SS **SS** **07 26 47.8 +5.0**
GTA pmax pmax
comp=Z,14nm,1.4s
GTA pmax pmax
comp=Z,390nm,8.6s
GTA LR LR
comp=Z,850nm,18.6s
GTA LR LR
comp=Z,910nm,19.6s
GTA LR LR
comp=Z,1µm,17.9s
CCX Cicese 65.45 293 IAMs_20 IAMs_20 07 41 33.0
comp=Z,937nm,22.0s
HSIG 65.63 286 P **P** **07 13 49.1 +0.2**
HSIG IAMs_20 IAMs_20 07 44 42.0
comp=Z,766nm,19.0s
SMRC Santa Marta, M 66.07 244 *e*P **P** **07 13 49.1 -2.8**
SDV Santo Domingo 66.79 239 *e*P **P** **07 13 55.1 -1.6**
ARGC Ariguani, Magd 67.27 243 *e*P P 07 13 52.4 -7.2
BTO Baotou 67.36 41 *e*P **P** **07 13 55.5 -4.5**
BTO S S 07 22 41.5 -14
HHC Hu-ho-hao-te 67.56 40 *e*P **P** **07 14 02.3 +1.1**
HHC PP **PP** **07 16 28.3 -1.2**
HHC S **S** **07 23 02.8 +5.2**
HHC pmax pmax
comp=Z,20nm,1.2s
HHC pmax pmax
comp=Z,340nm,5.8s
HHC LR LR
comp=Z,920nm,16.3s
HHC LR LR
comp=Z,600nm,15.4s
HHC LR LR
comp=Z,940nm,17.0s
ZAIG Zacatecas 67.58 276 P **P** **07 14 02.1 +0.3**
ZAIG IAmb IAmb 07 14 05.2
comp=Z,47nm,1.7s
ZAIG IAMs_20 IAMs_20 07 42 37.0
comp=Z,821nm,22.0s
SJCC San Jacinto, C 67.59 244 *e*P **P** **07 13 58.5 -3.1**
SRIG Santa Rosalia 67.66 287 IAMs_20 IAMs_20 07 45 09.8
comp=Z,828nm,21.0s
YSS Yuzh-Sakhalins 67.71 14 *de*P **P** **07 14 02.8 +0.9**
YSS *e**SP **sP** **07 14 06.9 -0.3**
YSS *e*PPP PPP 07 18 14.8
YSS *e*S **S** **07 22 59.7 +0.7**
YSS *e*PS 07 23 17.7
YSS *e* 07 24 01.4
YSS *e*SSS SSS 07 30 26.9
YSS pmax pmax
comp=Z,30nm,1.0s
YSS pmax pmax
comp=Z,200nm,3.5s
YSS MLR MLR
comp=Z,400nm,14.0s
YSS MLR MLR
comp=N,300nm,18.0s
YSS Yuzh-Sakhalins 67.71 14 P **P** **07 14 02.6 +0.7**
YSS IAmb IAmb 07 14 05.6
comp=Z,34nm,1.1s
CN2 Changchun 68.09 28 *e*P P 07 13 50.5 -14
CN2 pP pP 07 14 05.3 -2.9
CN2 *e*S **S** **07 23 02.0 -1.6**
MDJ Mudanjiang 68.10 25 P **P** **07 14 04.5 +0.1**
MDJ S **S** **07 23 11.3 +7.6**
MDJ ScS **SKSac** **07 24 00.0 -2.6**
MDJ pmax pmax
comp=Z,10.0nm,1.4s
MDJ pmax pmax
comp=Z,320nm,5.6s
MDJ LR LR
comp=Z,760nm,17.4s
MDJ LR LR
comp=Z,110nm,12.4s
MDJ LR LR
comp=Z,1µm,17.4s
MDJ Mudanjiang 68.10 25 IAMs_20 IAMs_20 07 46 14.3
comp=Z,838nm,18.0s
SMLC San Martn de 68.17 243 *e*P **P** **07 14 03.7 -1.5**
MOTC Monteria, Cord 68.80 244 *e*P **P** **07 14 08.7 -0.5**
CCIG Comitan 68.84 263 IAMs_20 IAMs_20 07 43 05.5
comp=Z,836nm,20.0s
USA0B Ussuriysk Arra 68.92 23 P **P** **07 14 09.7 +0.1**
USA0B pmax pmax
comp=Z,30nm,1.8s
USA0B Ussuriysk Arra 68.92 23 P **P** **07 14 09.7 +0.1**
USA0B IAmb IAmb 07 14 13.6
comp=Z,30nm,1.8s
USA0B IAMs_20 IAMs_20 07 50 06.0
comp=Z,658nm,18.0s
USRK Ussuriysk Ar. 68.92 23 P **P** **07 14 10.8 +1.2**
comp=Z,3.1nm,0.9s,baz=350,slow=9.7,SNR=8.2
USRK LR LR 07 46 29.9
comp=Z,410nm,18.1s,baz=334,slow=38
USRK Ussuriysk Ar. 68.92 23 P **P** **07 14 09.6 0.0**
LCBC Los crdobas, 69.01 245 *e*P **P** **07 14 10.7 +0.3**
ESPN Las Esperanzas 69.18 254 P **P** **07 14 11.9 +0.4**
ESPN IAMs_20 IAMs_20 07 42 53.9
comp=Z,870nm,19.0s
ESTN Estel 69.23 256 P **P** **07 14 12.8 +0.8**
ESTN IAMs_20 IAMs_20 07 40 56.2
comp=Z,731nm,20.0s
MTO3 Montecristo 69.33 260 IAMs_20 IAMs_20 07 44 17.7
comp=Z,725nm,19.0s
TAMC Tame, Arauca 69.48 240 *e*P **P** **07 14 14.1 +0.7**
BJI Beijing 69.54 36 P **P** **07 14 14.8 +1.3**
BJI PP **PP** **07 16 44.3 -2.2**
BJI S **S** **07 23 24.3 +3.4**
BJI SS **SS** **07 27 50.0 +2.6**
BJI pmax pmax
comp=Z,330nm,5.0s
BJI LR LR
comp=Z,2µm,17.7s
BJI LR LR
comp=Z,940nm,17.6s
BJI LR LR
comp=Z,1µm,20.4s
BRRC Barranca, Sant 69.58 242 *e*P **P** **07 14 12.3 -1.7**
SNY Shenyang 69.59 30 ⇑P **P** **07 14 15.0 +1.3**
SNY S **S** **07 23 28.3 +6.9**
SNY pmax pmax
comp=Z,14nm,1.9s
SNY pmax pmax
comp=Z,280nm,6.0s
SNY LR LR
comp=Z,690nm,23.4s
SNY LR LR
comp=Z,260nm,16.9s
SNY LR LR
comp=Z,1µm,21.9s
CAPC Capurgana 69.59 246 *e*P **P** **07 14 10.5 -3.6**
ZARC Zaragoza, Cauc 69.67 243 *e*P **P** **07 14 13.9 -0.6**
LZH Lanzhou 69.67 48 *e*P **P** **07 14 14.0 -0.6**
LZH pP sP 07 14 19.3 -0.5
LZH PP **PP** **07 16 53.5 +5.5**
LZH S **S** **07 23 27.3 +4.4**
LZH sS sS 07 23 35.5 +6.3
LZH pmax pmax
comp=Z,28nm,1.4s
LZH pmax pmax
comp=Z,570nm,5.4s
LZH LR LR
comp=Z,890nm,15.7s
LZH LR LR
comp=Z,860nm,16.8s
LZH LR LR
comp=Z,1µm,16.3s
UREC San Jos de Ur 69.69 244 *e*P **P** **07 14 14.3 -0.4**
ACON Acoyapa 69.75 255 P **P** **07 14 14.0 -1.0**
BARC Barichara 69.86 241 *e*P **P** **07 14 11.4 -4.6**
KUR Kuril'sk 69.91 11 *e*P **P** **07 14 13.2 -2.4**
KUR *e* 07 14 36.9
KUR MLR MLR
comp=Z,272nm,17.0s
SLBS Sierra La Lagu 69.91 283 P **P** **07 14 16.9 +0.8**
SLBS IAmb IAmb 07 14 19.4
comp=Z,33nm,1.2s
SLBS IAMs_20 IAMs_20 07 43 50.5
comp=Z,1µm,21.0s
BCIP Isla Barro Col 70.10 248 P **P** **07 14 17.5 +0.3**
BCIP pmax pmax
comp=Z,123nm,1.7s
BCIP Isla Barro Col 70.10 248 P **P** **07 14 17.5 +0.3**
PTBC PUERTO BERRIO, 70.39 242 *e*P **P** **07 14 14.9 -4.1**
RUSC La Rusia 70.46 241 *e*P **P** **07 14 15.8 -4.2**
RUSC La Rusia 70.46 241 P **P** **07 14 18.6 -1.4**
TLIG Tlapa 70.47 270 P **P** **07 14 19.9 +0.3**
TLIG IAmb IAmb 07 14 22.4
comp=Z,75nm,1.9s
DBBC Dabeiba 70.62 244 *e*P **P** **07 14 18.7 -1.8**
TIY Taiyuan 70.73 40 *e*P **P** **07 14 22.0 +1.1**
TIY S **S** **07 23 41.3 +6.3**
TIY SS **SS** **07 28 04.0 -1.9**
TIY LR LR
comp=Z,500nm,12.4s
TIY LR LR
comp=Z,350nm,15.6s
TIY LR LR
comp=Z,1µm,15.4s
SPBC San Pablo de B 71.06 241 *e*P **P** **07 14 23.5 +0.4**
HDC Heredia 71.08 253 IAMs_20 IAMs_20 07 42 21.3
comp=Z,1µm,20.0s
HELC Santa Helena 71.12 243 *e*P P 07 14 17.7 -6.2
NORC Norcasia 71.44 242 *e*P **P** **07 14 23.8 -1.6**
CBOC Ciudad Bolivar 71.60 243 *e*P P 07 14 18.7 -7.9
CHIC Chingaza 71.87 241 *e*P P 07 14 23.2 -5.2
ROSC El Rosal 71.90 241 P **P** **07 14 29.9 +1.3**
comp=Z,17nm,0.7s,baz=35,slow=5.4,SNR=26
ROSC LR LR 07 42 19.1
comp=Z,997nm,22.0s,baz=354,slow=33
ROSC El Rosal 71.90 241 *e*P **P** **07 14 27.4 -1.2**
ROSC El Rosal 71.90 241 P **P** **07 14 29.6 +1.0**
ROSC IAMs_20 IAMs_20 07 41 57.0
comp=Z,1µm,21.0s
GUY2C Guyana, Caldas 71.94 243 *e*P **P** **07 14 27.1 -1.9**
DL2 Dalian 71.94 32 P **P** **07 14 28.0 -0.1**
DL2 S **S** **07 23 48.5 -0.4**
DL2 pmax pmax
comp=Z,420nm,5.7s
DL2 LR LR
comp=Z,1µm,16.9s
DL2 LR LR
comp=Z,470nm,15.7s
DL2 LR LR
comp=Z,2µm,19.2s
PTGA Pitinga 72.14 225 P **P** **07 14 28.1 -1.4**
PTGA IAmb IAmb 07 14 31.4
comp=Z,52nm,1.5s
TOLC Tolima 72.51 242 *e*P **P** **07 14 32.5 +0.4**
PLMC San Jos del P 72.59 243 *e*P **P** **07 14 30.3 -2.0**
ANIL Santa Ana 72.63 242 *e*P **P** **07 14 33.2 +0.4**
ERM Erimo 72.64 15 *ce*P **P** **07 14 34.1 +1.9**
ERM pmax pmax
comp=Z,31nm,1.7s
ORTC Ortega, Tolima 73.10 242 *e*P **P** **07 14 32.4 -3.0**
XAN Xi'an 73.13 44 P **P** **07 14 35.0 -0.4**
XAN PcP **PcP** **07 14 53.0 +1.0**
XAN S **SKiKP** **07 24 04.3 -2.7**
XAN pmax pmax
comp=Z,17nm,2.0s
XAN pmax pmax
comp=Z,410nm,4.7s
XAN LR LR
comp=Z,2µm,25.0s
XAN LR LR
comp=Z,1µm,20.1s
XAN LR LR
comp=Z,2µm,23.5s
PRAC Prado 73.15 241 *e*P **P** **07 14 32.1 -3.4**
YOTC Yotoco, Valle 73.45 243 *e*P **P** **07 14 35.9 -1.6**
MBAR Mbarara 73.86 129 IAMs_20 IAMs_20 07 50 56.6
comp=Z,683nm,18.0s
MACC Macarena, Meta 74.20 240 *e*P **P** **07 14 37.6 -4.1**
BETC Betania 74.31 242 *e*P P 07 14 35.0 -7.4
MARP Paez Belalcaza 74.35 242 *e*P **P** **07 14 40.9 -2.0**
CD2 Chengdu 74.40 50 P **P** **07 14 43.5 +0.7**
CD2 PP **PP** **07 17 27.8 -0.6**
CD2 S **S** **07 24 17.0 -0.2**
CD2 sS sS 07 24 22.0 -1.5
CD2 pmax pmax
comp=Z,30nm,1.6s
CD2 pmax pmax
comp=Z,400nm,5.6s
CD2 LR LR
comp=Z,1µm,14.9s
CD2 LR LR
comp=Z,1µm,19.6s
CD2 LR LR
comp=Z,2µm,22.8s
INCN Inchon 74.41 29 IAMs_20 IAMs_20 07 48 35.5
comp=Z,981nm,21.0s
KSRS Korea Array 74.70 28 P **P** **07 14 45.3 +0.9**
comp=Z,1.3nm,0.8s,baz=353,slow=6.1,SNR=3.5
KSRS LR LR 07 51 04.2
comp=Z,571nm,18.4s,baz=340,slow=38
GARC Garzon, Huila 74.78 241 *e*P **P** **07 14 41.4 -4.0**
PCON Cinco Dias 74.99 242 *e*P **P** **07 14 46.4 -0.7**
FLOC Florencia 75.39 241 *e*P **P** **07 14 45.0 -3.7**
TJN Taejon 75.63 29 *ce*P **P** **07 14 49.5 -0.3**
GCUF Volcan Galeras 76.37 243 *e*P **P** **07 14 53.5 -1.2**
KMBO Kilima Mbogo 76.63 123 LR LR 07 51 55.4
comp=Z,680nm,19.3s,baz=286,slow=38
KMBO Kilima Mbogo 76.63 123 IAMs_20 IAMs_20 07 52 01.7
comp=Z,803nm,18.0s
MJAR Matsushiro Arr 77.39 20 P **P** **07 15 01.7 +1.9**
comp=Z,2.0nm,0.7s,baz=340,slow=6.0,SNR=5.8
MJAR Matsushiro Arr 77.39 20 P **P** **07 14 59.2 -0.6**
MJAR pmax pmax
comp=Z,8.0nm,1.6s
MJAR Matsushiro Arr 77.39 20 P **P** **07 14 59.2 -0.6**
OTAV Otavalo 77.70 243 *e*P **P** **07 14 59.3 -3.0**
OTAV Otavalo 77.70 243 P **P** **07 15 02.9 +0.7**
OTAV pmax pmax
comp=Z,74nm,1.7s
OTAV Otavalo 77.70 243 P **P** **07 15 02.9 +0.7**
OTAV Otavalo 77.70 243 IAMs_20 IAMs_20 07 45 02.9
comp=Z,725nm,22.0s
NJ2 Nanjing 77.79 37 *e*P **P** **07 15 02.0 0.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,350nm,6.2s
NJ2 LR LR
comp=Z,1µm,18.5s
NJ2 LR LR
comp=Z,340nm,16.3s
NJ2 LR LR
comp=Z,2µm,17.3s
WHN Wuhan 77.99 41 ⇑*i*P **P** **07 15 04.0 +0.8**
WHN S **S** **07 24 54.3 -2.2**
WHN ScS **ScS** **07 25 19.5 -3.0**
WHN pmax pmax
comp=Z,560nm,4.9s
WHN LR LR
comp=Z,2µm,16.0s
WHN LR LR
comp=Z,1µm,15.6s
WHN LR LR
comp=Z,2µm,19.0s
SSE Sheshan 79.29 35 P **P** **07 15 10.8 +0.5**
SSE S **S** **07 25 14.3 +4.0**
SSE pmax pmax
comp=Z,29nm,0.7s
SSE pmax pmax
comp=Z,190nm,4.6s
SSE LR LR
comp=Z,520nm,18.9s
SSE LR LR
comp=Z,350nm,19.4s
KMI Kunming 79.39 53 ⇓P **P** **07 15 10.0 -1.2**
KMI sP PcP 07 15 17.8 -1.6
KMI PP **PP** **07 18 14.5 +3.8**
KMI S **S** **07 25 11.8 -0.3**
KMI SS **SS** **07 30 23.5 +5.3**
KMI pmax pmax
comp=Z,13nm,2.0s
KMI pmax pmax
comp=Z,340nm,3.6s
KMI LR LR
comp=Z,450nm,25.6s
KMI LR LR
comp=Z,450nm,20.7s
KMI LR LR
comp=Z,700nm,29.1s
KMI Kunming 79.39 53 IAMs_20 IAMs_20 07 55 50.9
comp=Z,717nm,18.0s
GYA Guiyang 79.47 49 ⇑P **P** **07 15 12.0 +0.5**
GYA PP **PP** **07 18 14.0 +2.8**
GYA S **S** **07 25 10.8 -1.9**
GYA sS sS 07 25 17.8 -1.2
GYA SS **SS** **07 30 26.8 +7.7**
GYA pmax pmax
comp=Z,19nm,1.0s
GYA pmax pmax
comp=Z,330nm,3.7s
GYA LR LR
comp=Z,500nm,17.5s
GYA LR LR
comp=Z,410nm,16.0s
GYA LR LR
comp=Z,600nm,20.5s
JNU Nakatsue 79.48 27 IAMs_20 IAMs_20 07 55 14.5
comp=Z,852nm,18.0s
SAML Samuel 80.90 226 IAMs_20 IAMs_20 07 45 04.9
comp=Z,954nm,22.0s
SLVN Son La 83.29 53 IAmb IAmb 07 15 36.9
comp=Z,25nm,1.6s
SLVN IAMs_20 IAMs_20 07 56 07.4
comp=Z,974nm,21.0s
BDFB Brasilia 83.33 210 P **P** **07 15 32.1 +0.3**
comp=Z,2.5nm,0.7s,baz=19,slow=5.9,SNR=3.9
BDFB LR LR 07 46 12.1
comp=Z,1µm,21.6s,baz=337,slow=31
BDFB Brasilia 83.33 210 P **P** **07 15 32.6 +0.7**
BDFB pmax pmax
comp=Z,68nm,1.9s
BDFB Brasilia 83.33 210 P **P** **07 15 32.6 +0.7**
CHTO Chiang Mai 83.84 59 P **P** **07 15 34.6 +0.1**
CHTO pmax pmax
comp=Z,23nm,1.4s
CHTO MLR MLR
comp=Z,800nm,21.0s
CHTO Chiang Mai 83.84 59 P **P** **07 15 34.6 +0.1**
CHTO IAmb IAmb 07 15 39.5
comp=Z,23nm,1.4s
CHTO Chiang Mai 83.84 59 IAMs_20 IAMs_20 07 55 16.9
comp=Z,800nm,21.0s
CMAR Chiang Mai Arr 84.16 59 P **P** **07 15 37.1 +0.8**
comp=Z,1.2nm,0.4s,baz=315,slow=5.9,SNR=14
CMAR LR LR 07 55 47.5
comp=Z,518nm,20.4s,baz=354,slow=38
CMAR Chiang Mai Arr 84.16 59 *i*P **P** **07 15 37.0 +0.8**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 84.16 59 P **P** **07 15 36.4 +0.2**
QZH Quanzhou 84.47 39 ⇓*i*P **P** **07 15 37.5 -0.2**
QZH S **S** **07 26 04.3 +0.4**
QZH pmax pmax
comp=Z,260nm,4.5s
QZH LR LR
comp=Z,1µm,19.9s
QZH LR LR
comp=Z,2µm,18.9s
SSLB Suanglung 86.20 38 IAMs_20 IAMs_20 07 58 07.9
comp=Z,730nm,20.0s
PBKT Sadao Pong 86.64 58 P **P** **07 15 48.0 -0.5**
QIZ Qiongzhong 87.42 49 P **P** **07 15 51.5 -0.9**
QIZ S **S** **07 26 28.8 -4.2**
QIZ SS **SS** **07 32 23.0 +6.3**
QIZ pmax pmax
comp=Z,19nm,2.0s
QIZ LR LR
comp=Z,630nm,17.5s
QIZ LR LR
comp=Z,570nm,20.0s
QIZ LR LR
comp=Z,840nm,17.2s
LPAZ La Paz 89.36 228 P **P** **07 16 01.6 -0.4**
comp=Z,0.9nm,0.9s,baz=10,slow=5.8,SNR=4.1
LPAZ LR LR 07 53 28.6
comp=Z,291nm,19.5s,baz=6.5,slow=34
LPAZ La Paz 89.36 228 P **P** **07 16 01.4 -0.7**

LPAZ					pmax	pmax			
	comp=Z,21nm,2.0s								
LPAZ	**La Paz**	**89.36**	**228**		P	**P**	**07 16 01.4**	**-0.7**	
UBPT	**Khong Chiam**	**89.44**	**54**		IAMs_20	IAMs_20	07 59 04.2		
	comp=Z,562nm,18.0s								
PB16	**IPOC Station P**	**91.72**	**229**		IAmb	IAmb	07 16 15.1		
	comp=Z,38nm,1.6s								
PB16					IAMs_20	IAMs_20	07 57 59.7		
	comp=Z,534nm,20.0s								
MNMC	**Minye Minye**	**92.49**	**228**		IAMs_20	IAMs_20	07 52 49.1		
	comp=Z,510nm,19.0s								
GO01	**Chusmiza**	**92.87**	**228**		IAmb	IAmb	07 18 42.5		
	comp=Z,13nm,0.9s								
DLV	**T Lat**	**93.58**	**53**		IAMs_20	IAMs_20	08 03 29.6		
	comp=Z,664nm,21.0s								
LHMI	**Lhok Sumawe**	**95.51**	**66**		IAMs_20	IAMs_20	07 57 37.5		
	comp=Z,462nm,22.0s								
KULM	**Kulim**	**96.89**	**62**		IAMs_20	IAMs_20	08 04 17.9		
	comp=Z,638nm,22.0s								
IPM	**Ipoh**	**97.77**	**62**		IAMs_20	IAMs_20	08 05 27.4		
	comp=Z,671nm,22.0s								
BOSA	**Boshof**	**98.70**	**143**		LR	LR	08 03 44.1		
	comp=Z,1μm,18.2s,baz=346,slow=37								
MYKOM	**Kota Tinggi**	**101.31**	**61**		IAMs_20	IAMs_20	08 06 37.1		
	comp=Z,638nm,20.0s								
BKNI	**Bangkinang**	**101.59**	**64**		IAMs_20	IAMs_20	08 07 44.5		
	comp=Z,624nm,22.0s								
KKM	**Kota Kinabalu**	**101.65**	**47**		IAMs_20	IAMs_20	08 04 59.6		
	comp=Z,542nm,20.0s								
DAV	**Davao City (W)**	**103.41**	**38**		IAMs_20	IAMs_20	08 07 32.7		
	comp=Z,473nm,20.0s								
TAOE	**Nuku Hiva Isla**	**111.59**	**297**	*e*LR	LR	LR	07 54 55.4		
	comp=Z,644nm,25.7s								
FAKI	**Fak Fak**	**114.69**	**34**		IAMs_20	IAMs_20	08 13 20.6		
	comp=Z,436nm,21.0s								
RKT	**Rikitea**	**122.38**	**285**	*e*LR	LR	LR	07 59 54.2		
	comp=Z,641nm,41.8s								
PPT2	**Papeete2**	**123.14**	**302**	*e*LR	LR	LR	08 00 16.9		
	comp=Z,682nm,22.0s								
TBI	**Tubuai**	**128.36**	**299**	*e*LR	LR	LR	08 02 41.0		
	comp=Z,616nm,23.5s								
WRA	**Warramunga Arr**	**131.57**	**36**		PKP	**PKPdf**	**07 22 16.6**	**-0.9**	
	comp=Z,4.4nm,1.1s,baz=321,slow=2.5,SNR=9.1								
WRA	**Warramunga Arr**	**131.57**	**36**		PKIKP	**PKiKP**	**07 22 17.4**	**-1.1**	
WRA	**Warramunga Arr**	**131.57**	**36**			**PKiKP**	**07 22 17.4**	**-1.1**	
WR5	**Warramunga Arr**	**131.60**	**36**		IAMs_20	IAMs_20	08 20 05.0		
	comp=Z,439nm,22.0s								
WR0	**Warramunga Arr**	**131.64**	**36**			**PKiKP**	**07 22 18.5**	**-0.1**	
ASAR	**Alice Springs**	**135.01**	**38**		PKP	**PKiKP**	**07 22 24.8**	**-0.6**	
	comp=Z,2.7nm,1.0s,baz=311,slow=1.4,SNR=10								
ASAR	**Alice Springs**	**135.01**	**38**		PKPdf	**PKiKP**	**07 22 24.3**	**-1.1**	
VNA3	**Neumayer Olymp**	**135.68**	**176**		PKPdf	**PKiKP**	**07 22 24.1**	**-1.1**	
SNAA	**Sanae**	**136.37**	**173**		PKPdf	**PKiKP**	**07 22 25.2**	**-1.4**	
SNAA	**Sanae**	**136.37**	**173**		PKIKP	**PKPdf**	**07 22 24.0**	**-0.9**	
SNAA	**Sanae**	**136.37**	**173**			**PKPdf**	**07 22 24.0**	**-0.9**	
DZM	**Mont Dzumac**	**137.41**	**355**	*e*LR	LR		08 06 49.5		
	comp=Z,871nm,25.5s								
SYO	**Syowa Base**	**139.21**	**152**⇑	*e*X		**PKiKP**	**07 22 31.7**	**-0.7**	
MAW	**Mawson**	**143.67**	**140**		PKIKP	**PKPdf**	**07 22 37.1**	**-1.0**	
	comp=Z,1.6nm,0.9s,baz=326,slow=4.4,SNR=2.3								
MAW	**Mawson**	**143.67**	**140**		PKIKP	**PKPdf**	**07 22 37.1**	**-1.0**	
MAW					MLR	MLR			
	comp=Z,100nm,18.0s								
MAW	**Mawson**	**143.67**	**140**			**PKPdf**	**07 22 37.1**	**-1.0**	
BBOO	**Buckleboo**	**144.26**	**40**			PKPbc	07 22 38.2	-0.4	
STKA	**Stephens Creek**	**144.78**	**32**		PKP	**PKPdf**	**07 22 41.5**	**+0.2**	
	comp=Z,8.2nm,0.8s,baz=320,slow=7.8,SNR=8.5								
STKA	**Stephens Creek**	**144.78**	**32**		PKPdf	**PKPdf**	**07 22 40.7**	**-0.6**	
TOO	**Toolangi**	**151.10**	**29**		PKIKP	**PKiKP**	**07 22 58.4**	**+0.5**	
TOO	**Toolangi**	**151.10**	**29**			**PKiKP**	**07 22 58.4**	**+0.5**	
QSPA	**South Pole Qui**	**154.52**	**180**			**PKPdf**	**07 22 54.7**	**-0.9**	

*IDC **30** 07:05:53.0±2.3, 14°.93S×66°.10E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/38, mbtmp4.0/6, Error ellipse: s-maj=71.7km s-min=30.5km az=59.0*
*NEIC **30** 07:05:54.9±1.4, 14°.8S±0°.1×66°.2E±0°.1, h10km±1km, mb4.6/6, Error ellipse: s-maj=25.5km s-min=12.3km az=228.0*
ISC 30 07:05:54.9±0.9,**14°.8S**±0°.2×**66°.2E**±0°.1,**h10**km,**n27,** σ0**64**/21,**mb4.2/8,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.45**	**42**		T	T	07 17 36.2	
	baz=220,slow=75,SNR=4553							
H08S2	**Diego Garcia H**	**9.46**	**42**		T	T	07 17 37.0	
	baz=220,slow=75,SNR=4120							
H08S3	**Diego Garcia H**	**9.47**	**41**		T	T	07 17 38.1	
	baz=220,slow=75,SNR=5927							
MSEY	**Mahe Island**	**14.59**	**313**		P	**P**	**07 09 27.7**	**-0.4**
FOMA	**Nahampoana Res**	**20.65**	**238**		P	**P**	**07 10 35.1**	**+0.3**
FOMA					IAmb	IAmb	07 10 53.7	
	comp=Z,41nm,1.2s							
CMAR	**Chiang Mai Arr**	**46.23**	**45**		P	**P**	**07 14 21.3**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=242,slow=7.8,SNR=4.1							
CMAR	**Chiang Mai Arr**	**46.23**	**45**		P	**P**	**07 14 20.6**	**0.0**
H01W3	**Cape Leeuwin H**	**47.37**	**124**		T	T	08 05 00.6	
	baz=282,slow=75,SNR=62							
H01W2	**Cape Leeuwin H**	**47.37**	**124**		T	T	08 05 01.9	
	baz=282,slow=75,SNR=61							
H01W1	**Cape Leeuwin H**	**47.38**	**124**		T	T	08 05 01.7	
	baz=282,slow=75,SNR=60							
HRA	**Herat**	**49.09**	**356**		P	**P**	**07 14 43.3**	**+0.5**
HRA					IAmb	IAmb	07 14 48.3	
	comp=Z,15nm,1.4s							
MKAR	**Makanchi Array**	**63.04**	**12**		P	**P**	**07 16 22.1**	**0.0**
	comp=Z,3.3nm,1.2s,baz=208,slow=8.1,SNR=4.5							
MKAR	**Makanchi Array**	**63.04**	**12**		P	**P**	**07 16 21.4**	**-0.7**
ABKAR	**Akbulak array**	**64.05**	**355**		P	**P**	**07 16 28.1**	**-0.6**
ASAR	**Alice Springs**	**64.05**	**109**		P	**P**	**07 16 29.1**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=269,slow=7.3,SNR=5.9							
WRA	**Warramunga Arr**	**64.87**	**105**		P	**P**	**07 16 35.0**	**+0.2**
	comp=Z,2.6nm,1.1s,baz=258,slow=6.2,SNR=11							
WRA	**Warramunga Arr**	**64.87**	**105**		P	**P**	**07 16 34.2**	**-0.6**
WR0	**Warramunga Arr**	**65.06**	**105**		P	**P**	**07 16 36.1**	**0.0**
WR0					IAmb	IAmb	07 16 54.8	
	comp=Z,2.8nm,1.0s							
ZALV	**Zalesovo Beam**	**70.34**	**12**		P	**P**	**07 17 08.3**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=241,slow=4.8,SNR=4.5							
ZALV	**Zalesovo Beam**	**70.34**	**12**		P	**P**	**07 17 07.5**	**-1.1**
SONM	**Songino Array**	**71.97**	**27**		P	**P**	**07 17 20.0**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=228,slow=5.6,SNR=4.8							
SONM	**Songino Array**	**71.97**	**27**		P	**P**	**07 17 18.9**	**+0.2**
ESDC	**Sonseca Array**	**84.73**	**313**		P	**P**	**07 18 30.4**	**+0.9**
MSO	**Missoula**	**148.11**	**0**			**PKiKP**	**07 25 42.0**	**-1.0**
TPAW	**Teton Pass**	**151.34**	**356**		PKPbc	**PKiKP**	**07 25 49.6**	**-0.3**
PDAR	**Pinedale Array**	**151.93**	**353**		PKPbc	**PKiKP**	**07 25 51.0**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=83,slow=2.8,SNR=7.3							
PDAR	**Pinedale Array**	**151.93**	**353**		PKPbc	**PKPbc**	**07 25 50.4**	**-0.4**

*GCG **30** 07:33:02.9±0.3, 14°.25N×90°.52W, h217km±64km, MD4.2*
*SNET **30** 07:33:07.8±1.2, 14°.45N×90°.50W, h164km±5km, ML3.3*
ISC 30 07:33:06.2±1.2,**14°.45N**±0°.10×**90°.52W**±0°.07,**h182**km±8km,
n49, σ1**35/58,2C-4D,Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.10**	**238**	*i*	P	**Pn**	**07 33 32.5**	**+1.9**
NBG	**Las Nubes**	**0.22**	**50**	*e*	P	**Pn**	**07 33 32.9**	**+2.1**
IXG	**Ixpaco**	**0.28**	**164**	*e*	P	**Pn**	**07 33 32.1**	**+1.2**
FUG	**Fuego 3**	**0.31**	**271**	*i*	P	**Pn**	**07 33 32.5**	**+1.6**
NUBE	**Las Nubes**	**0.90**	**127**⇑	*i*	P	**Pn**	**07 33 34.0**	**+0.4**
NUBE					IAML		07 33 34.9	
	comp=Z,149nm,0.5s							
NUBE					*e*S	**Sn**	**07 33 52.7**	**-2.1**
RTR	**El Retiro**	**1.01**	**123**	*e*	P	**Pn**	**07 33 35.0**	**+0.5**
MRL	**Marmol**	**1.03**	**52**	*i*	P	**Pn**	**07 33 36.8**	**+2.2**
UNIC	**Universidad Ca**	**1.05**	**116**	*e*	P	**Pn**	**07 33 34.6**	**0.0**
SNJE	**San Jose**	**1.06**	**123**	*e*	P	**Pn**	**07 33 35.0**	**+0.2**
SBLS	**San Blas**	**1.06**	**125**	*e*	P	**Pn**	**07 33 35.6**	**+0.7**
CEVE	**Cerro Verde**	**1.06**	**125**	*e*	P	**Pn**	**07 33 35.5**	**+0.6**
CEVE					*e*S	**Sn**	**07 33 57.7**	**+0.6**
CEVE					IAML		07 34 13.3	
	comp=Z,459nm,0.2s							
MTO3	**Montecristo**	**1.12**	**92**⇓	*i*	P	**Pn**	**07 33 35.9**	**+0.5**
MTO3					*e*S	**Sn**	**07 33 57.6**	**-0.2**
RTAL	**Retalhuleu**	**1.14**	**274**⇑	*i*	P	**Pn**	**07 33 36.1**	**+0.9**
RTAL					IAML		07 33 36.8	
	comp=Z,1μm,0.2s							
RTAL					*e*S	**Sn**	**07 33 56.7**	**-0.9**
ESQI	**Esquipulas**	**1.15**	**84**⇓	*i*	P	**Pn**	**07 33 36.4**	**+1.0**
ESQI					IAML		07 33 37.0	
	comp=Z,134nm,0.3s							
ESQI					*e*S	**Sn**	**07 33 56.8**	**-1.1**
TACO	**Tacachico**	**1.23**	**112**⇓	*i*	P	**Pn**	**07 33 36.2**	**+0.2**
TACO					*e*S	**Sn**	**07 33 57.7**	**-1.2**
UEES	**Universidad Ev**	**1.44**	**120**	*e*	P	**Pn**	**07 33 37.8**	**-0.1**
LLGN	**La Laguna**	**1.55**	**100**	*e*	P	**Pn**	**07 33 39.4**	**+0.4**
LBRS	**Las Brisas**	**1.60**	**116**	*e*	P	**Pn**	**07 33 40.0**	**+0.6**
LFRS	**El Faro**	**1.63**	**120**	*e*	P	**Pn**	**07 33 40.1**	**+0.3**
LFRS					*e*S	**Sn**	**07 34 06.2**	**+0.5**
PAVA	**Las Pavas**	**1.70**	**115**	*e*	P	**Pn**	**07 33 40.8**	**+0.4**
PAVA					IAML		07 33 41.6	
	comp=Z,151nm,0.4s							
PAVA					*e*S	**Sn**	**07 34 07.4**	**+0.4**
COEG	**Centro de Oper**	**1.79**	**117**	*e*	P	**Pn**	**07 33 41.4**	**+0.1**
COEG					IAML		07 34 29.0	
	comp=Z,108nm,0.2s							
COEB	**Comit de Eme**	**2.15**	**116**	*e*	P	**Pn**	**07 33 45.7**	**+0.6**
COEB					*e*S	**Sn**	**07 34 17.0**	**+1.6**
COEB					IAML		07 34 21.7	
	comp=Z,89nm,0.4s							
PETF	**Flores**	**2.54**	**14**⇓	*e*	P	**Pn**	**07 33 51.1**	**+1.6**
ACON	**Acoyapa**	**5.76**	**115**	*e*	P	**Pn**	**07 34 31.2**	**+1.1**
HZTE	**Horizontes, Gu**	**6.07**	**127**	*e*	P	**Pn**	**07 34 36.1**	**+1.9**
GB1A	**Borinquen Arri**	**6.16**	**125**	*e*	P	**Pn**	**07 34 37.8**	**+2.3**
ORTG	**Ortega, Santa**	**6.39**	**129**	*e*	P	**Pn**	**07 34 39.8**	**+1.2**
CUI	**Cuipilapa**	**6.44**	**125**	*e*	P	**Pn**	**07 34 40.6**	**+1.5**
DUNO	**Dulce Nombre,**	**6.55**	**131**	*e*	P	**Pn**	**07 34 42.0**	**+1.4**
GRZA	**Playa Garza**	**6.56**	**133**	*e*	P	**Pn**	**07 34 41.5**	**+0.9**
JTS	**Las Juntas de**	**6.83**	**127**	*e*	P	**Pn**	**07 34 45.0**	**+0.9**
CEDE	**Laguna Cedeo**	**6.91**	**124**	*e*	P	**Pn**	**07 34 46.8**	**+1.5**
ARE1	**Arenal 1**	**6.91**	**124**	*e*	P	**Pn**	**07 34 46.9**	**+1.7**
LAFE	**Finca La Fe, P**	**7.16**	**129**	*e*	P	**Pn**	**07 34 49.0**	**+0.5**
LCR2	**La Lucha 2**	**7.90**	**126**	*e*	P	**Pn**	**07 34 60.0**	**+1.5**
RIMA	**Rio Macho**	**8.00**	**125**	*e*	P	**Pn**	**07 35 01.0**	**+1.3**
CDM	**Cerro de Muert**	**8.20**	**126**	*e*	P	**Pn**	**07 35 04.2**	**+1.6**
PEZE	**Perez Zeledon,**	**8.37**	**126**	*e*	P	**Pn**	**07 35 05.8**	**+1.3**
DRK0	**Durika**	**8.79**	**125**	*e*	P	**Pn**	**07 35 11.3**	**+1.3**
MOTC	**Monteria, Cord**	**15.60**	**110**	*e*	P	**Pn**	**07 36 32.7**	**-4.0**
YOTC	**Yotoco, Valle**	**17.42**	**125**	*e*	P	**Pn**	**07 36 57.9**	**-0.6**
GUY2C	**Guyana, Caldas**	**17.51**	**120**	*e*	P	**Pn**	**07 36 59.3**	**-0.7**
TOLC	**Tolima**	**17.89**	**122**	*e*	P	**Pn**	**07 37 05.9**	**+1.5**
BBAC	**Balboa, Cauca**	**18.01**	**132**	*e*	P	**P**	**07 37 00.7**	**-3.0**
ORTC	**Ortega, Tolima**	**18.34**	**123**	*e*	P	**P**	**07 37 07.9**	**+0.8**
SPBC	**San Pablo de B**	**18.39**	**117**	*e*	P	**P**	**07 37 07.0**	**-0.7**
PRAC	**Prado**	**18.74**	**123**	*e*	P	**P**	**07 37 11.9**	**+0.4**
FLOC	**Florencia**	**19.47**	**130**	*e*	P	**P**	**07 37 18.5**	**-0.8**
MACC	**Macarena, Meta**	**20.51**	**125**	*e*	P	**P**	**07 37 31.5**	**+1.1**

*IDC **30** 07:38:32.6±4.1, 31°.61S×179°.90W, h294km±36km, mb3.6/5, mb1 3.7/7, mb1mx3.4/25, mbtmp4.3/7, Error ellipse: s-maj=33.7km s-min=19.6km az=43.0*
*WEL **30** 07:38:38.9±0.6, 32°.5S±1°.9W±1°.9, h328km±8km, M4.2/21, mB4.7/13, MLv4.9/21, Mw(mB)3.9/13, Error ellipse: s-maj=0.0km s-min=0.0km az=111.2*
ISC 30 07:38:36.5±0.6,**31°.81S**±0°.07×**179°.5E**±0°.1,**h300**km,**n56,** σ2**27**/77,**mb3.8/5,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.39**	**42**		P	**Pn**	**07 39 36.7**	**+0.4**
GLKZ					S	**S**	**07 40 23.9**	**-0.2**
RIZ	**Raoul Island**	**3.40**	**42**		P	**Pn**	**07 39 38.5**	**+2.2**
RIZ					S	**S**	**07 40 29.0**	**+4.8**
MXZ	**Matakaoa Point**	**5.82**	**189**		P	**Pn**	**07 40 06.8**	**+3.2**
MXZ					S	**S**	**07 41 16.1**	**+2.4**
WMGZ	**Waiomatatini S**	**6.06**	**188**		P	**Pn**	**07 40 09.2**	**+2.8**
WMGZ					S	**S**	**07 41 21.2**	**+2.3**
HAZ	**Te Kaha**	**6.10**	**193**		P	**Pn**	**07 40 09.0**	**+2.1**
HAZ					S	**S**	**07 41 22.8**	**+3.2**
RUGZ	**Raukumara Rang**	**6.32**	**193**		P	**Pn**	**07 40 12.2**	**+2.5**
RUGZ					S	**S**	**07 41 25.2**	**+0.4**
PUZ	**Puketiti**	**6.33**	**189**		P	**Pn**	**07 40 12.4**	**+2.7**
PUZ					S	**S**	**07 41 25.6**	**+0.8**
MKAZ	**Moumakai**	**6.37**	**213**		P	Pn	07 40 19.0	+8.8
OPRZ	**Ohinepanea**	**6.48**	**201**		P	Pn	07 40 17.5	+6.0
URZ	**Urewera**	**6.72**	**196**		P	**Pn**	**07 40 15.1**	**+0.7**
	4.4nm,0.3s,baz=269,slow=4.0,SNR=67							
URZ					S	**S**	**07 41 35.8**	**+2.4**
	2.2nm,0.3s,baz=46,slow=22,SNR=5.5							
URZ	**Urewera**	**6.72**	**196**		P	**Pn**	**07 40 15.5**	**+1.2**
URZ					S	**S**	**07 41 34.8**	**+1.4**
TKGZ	**Te Karaka**	**6.75**	**191**		P	**Pn**	**07 40 15.7**	**+1.0**
TKGZ					S	**S**	**07 41 35.2**	**+1.2**
RIGZ	**Rimuhau**	**7.02**	**191**		P	**Pn**	**07 40 18.6**	**+0.5**
RIGZ					S	**S**	**07 41 42.2**	**+2.0**
SNGZ	**Shannon Statio**	**7.17**	**193**		P	**Pn**	**07 40 21.0**	**+1.1**
SNGZ					S	**S**	**07 41 45.3**	**+1.7**
WHHZ	**Waihua**	**7.48**	**193**		P	**Pn**	**07 40 27.7**	**+4.2**
WHHZ					S	**S**	**07 41 52.2**	**+1.9**
HIZ	**Hauiti**	**7.68**	**208**		P	Pn	07 40 34.8	+8.8
OTVZ	**Oturere**	**7.97**	**202**		P	**Pn**	**07 40 31.2**	**+1.4**
OTVZ					S	**S**	**07 42 05.0**	**+3.5**
CKHZ	**Cape Kidnapper**	**8.07**	**193**		P	**Pn**	**07 40 34.1**	**+3.3**
CKHZ					S	**S**	**07 42 02.1**	**-1.5**
WNVZ	**Wahianoa**	**8.14**	**202**		P	**Pn**	**07 40 32.8**	**+1.0**
WNVZ					S	**S**	**07 42 07.5**	**+2.1**
KRHZ	**Kereru**	**8.21**	**197**		P	**Pn**	**07 40 33.7**	**+1.1**
KRHZ					S	**S**	**07 42 06.2**	**-0.7**
KAHZ	**Kahuranaki**	**8.24**	**194**		P	**Pn**	**07 40 34.8**	**+1.8**
VRZ	**Vera Road**	**8.25**	**206**		P	Pn	07 40 39.4	+6.4
PXZ	**Pawanui**	**8.47**	**194**		P	**Pn**	**07 40 36.2**	**+0.5**
PXZ					S	**S**	**07 42 09.4**	**-3.2**
PNHZ	**Pukenui**	**8.51**	**197**		P	**Pn**	**07 40 37.0**	**+0.8**
PNHZ					S	**S**	**07 42 11.5**	**-2.1**
WPHZ	**Waipukurau**	**8.60**	**196**		P	**Pn**	**07 40 39.4**	**+2.1**
WPHZ					S	**S**	**07 42 13.4**	**-2.0**
NEZ	**North Egmont**	**8.64**	**209**		P	**P**	**07 40 45.3**	**+2.3**
WAZ	**Wanganui**	**8.72**	**203**		P	**Pn**	**07 40 41.6**	**+2.8**
WAZ					S	**S**	**07 42 20.7**	**+2.3**
PRHZ	**Porangahau**	**8.75**	**194**		P	**Pn**	**07 40 39.5**	**+0.4**
PRHZ					S	**S**	**07 42 17.0**	**-1.8**
DVHZ	**Dannevirke**	**8.88**	**197**		P	**Pn**	**07 40 40.7**	**-0.2**
ANWZ	**Angora Road**	**8.97**	**195**		P	**Pn**	**07 40 43.6**	**+1.8**
ANWZ					S	**S**	**07 42 22.0**	**-1.8**
PRWZ	**Pori Road**	**9.18**	**197**		P	**Pn**	**07 40 46.8**	**+2.4**
PRWZ					S	**S**	**07 42 23.2**	**-5.3**
BFZ	**Birch Farm**	**9.23**	**195**		P	**Pn**	**07 40 47.0**	**+1.9**
MRZ	**Mangatainoka R**	**9.38**	**198**		P	**Pn**	**07 40 45.4**	**-1.5**
MRZ					S	**S**	**07 42 28.0**	**-5.0**
TIWZ	**Tintock**	**9.41**	**197**		P	**Pn**	**07 40 49.2**	**+1.9**
HOWZ	**Holdsworth Sta**	**9.62**	**198**		P	**Pn**	**07 40 48.4**	**-1.3**
OGWZ	**Otaki Gorge**	**9.63**	**200**		P	**Pn**	**07 40 49.5**	**-0.5**
TMWZ	**Te Maipa**	**9.72**	**196**		P	**Pn**	**07 40 50.7**	**-0.4**
KIW	**Kapiti Island**	**9.75**	**201**		P	**Pn**	**07 40 51.6**	**+0.1**
CAW	**Cannon Point**	**9.93**	**200**		P	**Pn**	**07 40 53.5**	**-0.2**
MSWZ	**Moikau Station**	**10.17**	**198**		P	**Pn**	**07 40 56.4**	**-0.2**
RPZ	**Rata Peaks**	**13.61**	**207**		P	**P**	**07 41 38.0**	**-0.1**
	0.5nm,0.3s,baz=196,slow=5.5,SNR=6.3							
STKA	**Stephens Creek**	**32.07**	**260**		P	**P**	**07 44 38.4**	**+2.4**
	1.7nm,0.4s,baz=108,slow=10,SNR=11							
ASAR	**Alice Springs**	**40.90**	**270**		P	**P**	**07 45 51.0**	**+0.8**
	1.1nm,0.3s,baz=107,slow=7.2,SNR=39							
WRA	**Warramunga Arr**	**42.02**	**275**		P	**P**	**07 45 59.9**	**+0.5**
	1.6nm,0.4s,baz=112,slow=7.9,SNR=64							
QSPA	**South Pole Qui**	**58.31**	**180**		P	**P**	**07 47 58.7**	**-1.5**
	3.2nm,0.7s,baz=305,slow=0.5,SNR=32							
SNAA	**Sanae**	**76.80**	**179**		P	**P**	**07 49 51.9**	**-3.1**
VNA3	**Neumayer Olymp**	**77.04**	**177**		P	**P**	**07 49 53.0**	**-3.2**
VNA1	**Neumayer--Stat**	**77.69**	**177**		P	**P**	**07 49 56.7**	**-3.0**
PETK	**Petropavlovsk-**	**86.66**	**347**		P	**P**	**07 50 43.1**	**-2.9**
	0.7nm,0.5s,baz=127,slow=9.2,SNR=5.1							
MKAR	**Makanchi Array**	**117.01**	**310**		PKP	**PKPdf**	**07 56 40.8**	**-4.6**
	0.1nm,0.4s,baz=102,slow=3.4,SNR=2.6							
ARCES	**ARCESS Array B**	**139.47**	**346**		PKhKP	PKPpre	07 57 16.5	
	1.5nm,0.8s,baz=126,slow=1.2,SNR=6.1							
ARCES					PKP	**PKPdf**	**07 57 25.3**	**-2.0**
	3.2nm,1.1s,baz=50,slow=2.8,SNR=2.3							
FINES	**FINESS Array B**	**145.66**	**338**		PKPbc	**PKPdf**	**07 57 35.7**	**-2.7**
	5.7nm,0.4s,baz=44,slow=4.6,SNR=72							
NB2	**NORSAR Subarra**	**149.75**	**349**		PKP	**PKPdf**	**07 57 46.4**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=15,slow=2.6							
NOA	**NORSAR Array B**	**149.75**	**349**		PKPbc	**PKPdf**	**07 57 46.5**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=16,slow=4.2,SNR=5.4							
AKASG	**Malin Array Be**	**151.02**	**319**		PKPbc	**PKPdf**	**07 57 50.0**	**+2.6**
	comp=Z,0.8nm,0.4s,baz=63,slow=1.9,SNR=1.8							
BRTR	**Keskin Array B**	**151.30**	**296**		PKPbc	**PKPdf**	**07 57 50.6**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=95,slow=5.1,SNR=2.1							

IDC 30 07:44:27.6±3.9,**28°.65S**×**177°.64W**,**h0**km,**mb3.4**/2,
mb1 3.6/2,**mb1mx3.4**/18,**mbtmp3.4**/2,**Error ellipse:**
s-maj=79.3km s-min=22.3km az=91.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.65**	**202**		Pn	Pn	07 44 44.5	+0.5
	101nm,0.3s,baz=107,slow=19,SNR=7.3							
RAO						Sn	07 44 54.6	-0.4
	248nm,0.3s,baz=102,slow=12,SNR=9.6							
ASAR	**Alice Springs**	**43.55**	**265**		P	P	07 52 35.0	+1.6
	0.3nm,0.5s,baz=97,slow=7.9,SNR=5.6							
WRA	**Warramunga Arr**	**44.38**	**270**		P	P	07 52 38.4	-1.7
	0.5nm,1.0s,baz=104,slow=8.1,SNR=5.0							
FINES	**FINESS Array B**	**143.60**	**341**		PKP	PKPbc	08 04 02.1	+1.0
	2.5nm,1.1s,baz=49,slow=4.2,SNR=6.0							

*JMA **30** 07:44:26.4±0.2, 23°.23N×121°.55E, h0km, M3.2*
*TAP **30** 07:44:29.2, 23°.26N×121°.38E, h18km, ML3.7, C*
ISC 30 07:44:28.7±0.8,**23°.23N**±0°.01×**121°.46E**±0°.02,**h18**km±3km,
n106, σ0**87**/180,**2C-10D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.16**	**214**⇓	*i*	P	**Pg**	**07 44 34.0**	**+1.0**
	baz=173							
CHKT					*e*S	**Sg**	**07 44 37.7**	**+1.7**
	baz=173							
EYUL	**Yuli**	**0.17**	**311**	⇓	P	**Pg**	**07 44 33.5**	**+0.3**
	baz=321							
EYUL					*e*S	**Sg**	**07 44 37.3**	**+1.0**
	baz=321							
TWF1	**Yuli**	**0.19**	**308**⇓	*i*	P	**Pb**	**07 44 33.5**	**+0.1**
	baz=316							
TWF1					*e*S	**Sb**	**07 44 36.4**	**0.0**
	baz=316							
YULB	**Yu-li**	**0.22**	**316**⇓	*i*	P	**Pb**	**07 44 33.8**	**-0.1**
	baz=324							
YULB					S	**Sb**	**07 44 37.4**	**-0.1**
	baz=324							
HGSD	**Ruisui**	**0.26**	**352**		P	**Pg**	**07 44 34.9**	**+0.4**
	baz=21							
HGSD					*e*S	**Sg**	**07 44 41.0**	**+2.4**
	baz=21			

WGK					*e*S		**Sn**	07 45 00.4	+0.4	
	baz=299									
NACB	**Ninganchiao**	**0.94**	**7**	*e*P			**Pb**	07 44 45.1	-1.4	
	baz=12									
NACB					*e*S		**Sb**	07 44 57.4	-1.3	
	baz=12									
CHN2	**Minshiung**	**0.95**	**288**	*e*P			**Pb**	07 44 46.7	0.0	
	baz=287									
CHN2					*e*S		**Sn**	07 45 01.4	+1.1	
	baz=287									
SCST	**Cishan**	**0.96**	**249**	*e*P			**Pn**	07 44 47.2	0.0	
	baz=245									
SCST					*e*S		**Sn**	07 45 00.9	+0.5	
	baz=245									
WNT	**Mingjian**	**0.96**	**312**	P			**Pg**	07 44 47.6	+0.2	
	baz=313									
WNT					*e*S		**Sn**	07 45 00.6	+0.1	
	baz=313									
WDLH	**Douliu**	**0.96**	**298**	*e*P			**Pb**	07 44 46.9	+0.1	
	baz=298									
WDLH					*e*S		**Sg**	07 45 00.7	+0.6	
	baz=298									
ETLH	**Xiulin Townshi**	**0.97**	**1**	*e*P			**Pb**	07 44 45.6	-1.4	
	baz=4.0									
MASBT	**Mashibuluo**	**0.98**	**231**	*e*P			**Pb**	07 44 46.0	-1.1	
	baz=232									
CHY	**Chiayi**	**0.99**	**286**	*e*P			**Pn**	07 44 47.7	+0.1	
	baz=284									
CHY					*e*S		**Sn**	07 45 01.4	+0.2	
	baz=284									
EAST	**Anshuo**	**1.02**	**214**	*e*P			**Pb**	07 44 46.1	-1.7	
	baz=209									
EAST					*e*S		**Sb**	07 45 00.9	+0.1	
	baz=209									
CHN3	**Shinhua**	**1.02**	**261**	*e*P			**Pg**	07 44 49.6	+1.1	
	baz=267									
CHN3					*e*S		**Sg**	07 45 04.7	+2.7	
	baz=267									
SGLT	**Jiouru**	**1.03**	**241**	*e*P			**Pg**	07 44 50.2	+1.6	
	baz=237									
FUSS	**Fushou**	**1.03**	**349**	*e*P			**Pb**	07 44 47.5	-0.7	
	baz=4.0									
FUSS					*e*S		**Sb**	07 45 01.8	+0.4	
	baz=4.0									
TWM1	**Shoushan**	**1.04**	**247**	*e*P			**Pb**	07 44 48.4	+0.2	
	baz=245									
TWT	**Tachien**	**1.05**	**346**	*e*P			**Pg**	07 44 50.2	+1.1	
	baz=341									
TWT					*e*S		**Sb**	07 45 01.0	-0.9	
	baz=341									
TDCB	**Techi**	**1.05**	**345**	*e*P			**Pb**	07 44 48.3	-0.1	
	baz=341									
TDCB					*e*S		**Sb**	07 44 59.9	-2.1	
	baz=341									
WTK	**Tuku**	**1.08**	**295**	*e*P			**Pn**	07 44 48.9	0.0	
	baz=294									
WTK					*e*S		**Sn**	07 45 03.7	+0.2	
	baz=294									
ICHU	**Yijhu**	**1.09**	**277**	*e*P			**Pn**	07 44 49.3	+0.2	
	baz=275									
ICHU					*e*S		**Sn**	07 45 04.4	+0.6	
	baz=275									
SSPT	**Xinbi**	**1.11**	**228**	*e*P			**Pn**	07 44 49.1	-0.3	
	baz=220									
WHP	**Taichung City**	**1.14**	**336**	*e*P			**Pg**	07 44 50.8	0.0	
	baz=345									
WHP					*e*S		**Sn**	07 45 05.5	+0.4	
	baz=345									
SNJT	**Kaohsiung City**	**1.14**	**246**	*e*P			**Pg**	07 44 50.8	0.0	
	baz=242									
SNJT					*e*S		**Sg**	07 45 09.2	+3.4	
	baz=242									
CHN8	**Yiju**	**1.16**	**276**	*e*S			**Sg**	07 45 06.8	+0.6	
	baz=273									
SCZT	**Fangliau**	**1.16**	**222**	P			**Pn**	07 44 49.8	-0.2	
	baz=213									
SCZT					*e*S		**Sb**	07 45 03.5	-1.3	
	baz=213									
WCHH	**Zhanghua**	**1.18**	**316**	*e*P			**Pb**	07 44 50.9	+0.3	
	baz=316									
SLIU	**Shizi**	**1.18**	**211**	*e*P			**Pb**	07 44 51.0	+0.4	
	baz=197									
SLIU					*e*S		**Sg**	07 45 07.0	0.0	
	baz=197									
LAY	**Lan-yu**	**1.19**	**176**	P			**Pn**	07 44 49.0	-1.5	
	baz=162									
LAY					*e*S		**Sb**	07 45 04.5	-1.4	
	baz=162									
NNSB	**Datong**	**1.19**	**357**	P			**Pn**	07 44 49.6	-1.0	
	baz=12									
NNSB					*e*S		**Sb**	07 45 03.7	-2.3	
	baz=12									
NNSH	**Datong**	**1.19**	**357**	*e*P			**Pn**	07 44 49.7	-0.9	
	baz=11									
NNSH					*e*S		**Sb**	07 45 04.8	-1.2	
	baz=11									
NNS	**Nan Shan**	**1.20**	**356**	P			**Pn**	07 44 50.6	-0.2	
	baz=12									
NNS					*e*S		**Sb**	07 45 05.0	-1.3	
	baz=12									
ENA	**Nanau**	**1.22**	**12**	*e*P			**Pn**	07 44 50.5	-0.3	
	baz=3.0									
ENAH	**Nanao**	**1.25**	**15**	*e*P			**Pn**	07 44 51.5	+0.2	
	baz=3.0									
ENAH					*e*S		**Sb**	07 45 06.3	-1.2	
	baz=3.0									
TWQ1	**Liyutan**	**1.28**	**331**	*e*P			**Pg**	07 44 53.7	+0.3	
	baz=332									
TWQ1					*e*S		**Sg**	07 45 10.7	+0.6	
	baz=332									
WLCH	**Liuqiu**	**1.33**	**229**	*e*P			**Pg**	07 44 55.2	+0.8	
	baz=228									
WLCH					*e*S		**Sg**	07 45 12.7	+0.9	
	baz=228									
NSY	**Sanyi**	**1.34**	**332**	*e*P			**Pb**	07 44 54.0	+0.7	
	baz=333									
NSY					*e*S		**Sg**	07 45 11.8	-0.3	
	baz=333									
WDJ	**Dajia District**	**1.34**	**326**	*e*P			**Pg**	07 44 54.6	0.0	
	baz=340									
WDJ					*e*S		**Sg**	07 45 13.3	+1.2	
	baz=340									
TWP	**Hsiaoliuchiu**	**1.34**	**229**	*e*P			**Pg**	07 44 54.5	-0.1	
	baz=230									
PTSB	**Yuanli**	**1.39**	**330**	*e*P			**Pg**	07 44 55.5	0.0	
	baz=330									
ENTT	**Nioudou**	**1.40**	**4**	*e*P			**Pb**	07 44 54.3	-0.1	
	baz=6.0									
ENTT					*e*S		**Sb**	07 45 12.8	+0.9	
	baz=6.0									
TWK1	**Hengchun**	**1.42**	**205**	*e*P			**Pb**	07 44 54.5	-0.2	
	baz=195									
TWKBT	**Hengchun**	**1.42**	**205**	*e*P			**Pb**	07 44 54.8	+0.2	
	baz=196									
YHNB	**Yeheng**	**1.43**	**357**	*e*P			**Pn**	07 44 53.7	-0.1	
	baz=11									
NSK	**Sanguang**	**1.44**	**356**	*e*P			**Pb**	07 44 54.5	-0.5	
	baz=13									
NSK					*e*S		**Sb**	07 45 13.3	+0.2	
	baz=13									
NSTT	**Nanjuang**	**1.45**	**343**	*e*P			**Pn**	07 44 54.4	+0.3	
	baz=343									
LIOB	**Emei**	**1.46**	**344**	*e*P			**Pn**	07 44 54.9	+0.7	
	baz=344									
TWE	**Neicheng**	**1.49**	**7**	*e*P			**Pn**	07 44 55.0	+0.4	
	baz=10.0									
TWE					*e*S		**Sn**	07 45 12.2	-1.4	
	baz=10.0									
NWLT	**Wulai**	**1.54**	**1**	*e*P			**Pn**	07 44 54.5	-0.8	
	baz=14									
WDGT	**Dungji**	**1.66**	**271**	*e*P			**Pn**	07 44 56.7	-0.1	
	baz=268									
WDGT					*e*S		**Sn**	07 45 17.6	-0.1	
	baz=268									
TWA	**Mucha**	**1.74**	**4**	*e*P			**Pn**	07 44 57.8	-0.3	
	baz=15									
PHUB	**P'eng-hu**	**1.76**	**279**	*e*P			**Pn**	07 44 57.8	-0.4	
	baz=279									
TIPB	**Shuangxi**	**1.76**	**11**	*e*P			**Pn**	07 44 59.4	+1.0	
	baz=9.0									
PNG	**Penghu**	**1.78**	**281**	*e*P			**Pn**	07 44 58.6	0.0	
	baz=279									
PNG					*e*S		**Sn**	07 45 21.8	+1.0	
	baz=279									
JYNG	**Yonagunijimaku**	**1.82**	**48**	P			**Pn**	07 44 59.7	+0.6	
JYNG					S		**Sn**	07 45 22.2	+0.5	
TWB1	**Santiao Chiao**	**1.83**	**15**	*e*P			**Pb**	07 45 00.9	-0.7	
	baz=2.0									
NWF	**Wu-fen Shan**	**1.85**	**9**	*e*P			**Pb**	07 45 01.1	-1.0	
	baz=6.0									
WFSB	**Wu-fen Shan**	**1.85**	**9**	*e*P			**Pn**	07 45 00.6	+1.0	
	baz=10.0									
WFSB					*e*S		**Sn**	07 45 20.6	-1.9	
	baz=10.0									
VCHM	**Qimei**	**1.87**	**270**	*e*P			**Pn**	07 44 59.0	-0.7	
	baz=268									
YOJ	**Yonaguni jima**	**1.87**	**49**	*e*P			**Pn**	07 44 60.0	+0.2	
	baz=48									
YOJ	**Yonaguni jima**	**1.87**	**49**	P			**Pn**	07 45 00.5	+0.7	
YOJ					S		**Sn**	07 45 23.8	+0.8	
HATJ	**Hateruma jima**	**2.30**	**69**	S			**Sn**	07 45 33.9	+0.4	
IRIF	**Iriomote-Funau**	**2.35**	**62**	P			**Pn**	07 45 07.0	+0.6	
IRIF					*e*S		**Sn**	07 45 35.8	+1.0	
JKRS	**Kuro-shima**	**2.54**	**66**	P			**Pn**	07 45 09.7	+0.7	
JKRS					*e*S		**Sn**	07 45 40.2	+0.8	
VWUC	**VWUC**	**2.54**	**314**	*e*P			**Pn**	07 45 08.5	-0.5	
	baz=301									
JIJ	**Ishigaki jima**	**2.70**	**65**	P			**Pn**	07 45 11.4	+0.2	
JIJ					S		**Sn**	07 45 42.8	-0.7	
PTMZ	**Houxiangcun**	**2.79**	**311**	*e*P			**Pn**	07 45 12.3	-0.2	
	baz=311									
JISG	**Ishigakijimahi**	**2.94**	**62**	P			**Pn**	07 45 14.6	+0.2	
JISG					*e*S		**Sn**	07 45 48.3	-0.9	
KNMB	**Chin-men Tao**	**3.07**	**294**	*e*P			**Pn**	07 45 15.9	-0.4	
	baz=295									
JTJ	**Tarama**	**3.28**	**64**	P			**Pn**	07 45 19.7	+0.5	
JTJ					S		**Sn**	07 45 58.6	+0.9	
ZPLA	**Ao Xicun**	**3.48**	**282**	*e*P			**Pn**	07 45 21.5	-0.4	
	baz=282									

*THR **30** 08:08:52.1±0.6,32°.77N×47°.60E,h14km±8km, ML3.1*
*ISN **30** 08:08:53.1±1.2,32°.69N×47°.75E,h15km±6km, ML3.1*
*TEH **30** 08:08:53.7,32°.70N×47°.74E,h14km, ML3.2*

ISC 30 08:08:53.5±1.5,**32°.68N**±0°.04×**47°.72E**±0°.03,**h4**km±13km,
n37,σ=**0°70/43**,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.37**	**271**	*e*Pg		**Pg**	**08 09 01.2**	**+0.5**
DHL1				*e*Sg		**Sb**	**08 09 08.1**	**-0.7**
SHGR	**Shooshtar-Gavs**	**1.07**	**122**	*e*Pg		**Pg**	**08 09 14.2**	**+0.1**
SHGR				*e*Sg		**Sn**	**08 09 31.2**	**+0.5**
SHGR				IAML			08 09 33.8	
	comp=N,347nm,0.3s							
SHGR				IAML			08 09 34.6	
	comp=E,359nm,0.2s							
SHGR	**Shooshtar-Gavs**	**1.07**	**122**	*e*Pg		**Pg**	**08 09 14.2**	**+0.1**
BMDN	**Meydan**	**1.36**	**43**	*e*Pg		**Pn**	**08 09 18.8**	**-0.6**
BMDN				*e*			08 09 21.8	
IKOM	**Komasi**	**1.50**	**353**	*e*Pg		**Pn**	**08 09 21.8**	**+0.4**
IKOM				*e*			08 09 24.7	
AHWZ	**Ahwaz**	**1.56**	**149**	*e*Pg		**Pb**	**08 09 23.1**	**+0.3**
IBDR	**Badra**	**1.57**	**286**	*e*Pg		**Pn**	**08 09 22.0**	**-0.1**
IBDR				*e*Sg		**Sn**	**08 09 43.0**	**+0.1**
IBDR				AML	AML		08 09 55.0	
	comp=N,144nm,0.7s							
IBDR				AML	AML		08 10 03.6	
	comp=E,186nm,0.6s							
KCHF	**Cheshme Sefid,**	**1.69**	**341**	*e*Pg		**Pn**	**08 09 24.5**	**+0.4**
KCHF				*e*			08 09 54.1	
HSAM	**Samen**	**1.70**	**25**	*e*Pg		**Pb**	**08 09 24.9**	**-0.6**
HSAM				*e*			08 09 26.2	
KER	**Kermanshah**	**1.77**	**344**	*e*Pn		**Pn**	**08 09 26.0**	**+0.9**
IBZA	**Bozab**	**1.79**	**4**	*e*Pg		**Pb**	**08 09 26.8**	**-0.3**
IBZA				*e*			08 09 56.3	
IGHG	**Ghaleghazi**	**1.91**	**330**	*e*Pn		**Pn**	**08 09 28.0**	**+0.9**
IGHG				*e*			08 10 04.5	
IVIS	**Veis**	**1.98**	**339**	*e*Pn		**Pn**	**08 09 28.2**	**+0.2**
IVIS				*e*			08 10 02.7	
NSR	**Nassriya**	**2.14**	**219**	*e*Pn		**Pn**	**08 09 30.0**	**0.0**
NSR				*e*Sn		**Sn**	**08 09 56.0**	**-0.9**
KHMZ	**Khomeyn**	**2.15**	**60**	*e*Pn		**Pn**	**08 09 30.5**	**+0.1**
KHMZ	**Khomeyn**	**2.15**	**60**	*e*Pn		**Pn**	**08 09 30.5**	**+0.1**
IALM	**Almabolaq**	**2.21**	**10**	*e*Pn		**Pn**	**08 09 32.5**	**+1.2**
IDHR	**Dehrash**	**2.30**	**332**	*e*Pn		**Pn**	**08 09 32.9**	**+0.4**
IDHR				*e*			08 09 40.3	
ILIN	**Lien**	**2.32**	**344**	*e*Pn		**Pn**	**08 09 33.0**	**+0.2**
ILIN				*e*			08 09 39.5	
HAGD	**Aghdareh**	**2.44**	**29**	*e*Pn		**Pn**	**08 09 34.1**	**-0.3**
HAGD				*e*			08 09 42.5	
JHBN	**Jahan bin**	**2.53**	**99**	*e*Pn		**Pn**	**08 09 35.8**	**+0.1**
JHBN				*e*			08 10 18.0	
HSRG	**Sareghieh**	**2.60**	**10**	*e*Pn		**Pb**	**08 09 38.8**	**-2.1**
HSRG				*e*			08 09 40.0	
IPIR	**Pirpir**	**2.67**	**89**	*e*Pn		**Pn**	**08 09 37.9**	**+0.2**
IPIR				*e*			08 10 21.9	
ASAO	**Ashtian**	**2.68**	**45**	*e*Pn		**Pn**	**08 09 37.4**	**-0.3**
ASAO				*e*Sg		**Sb**	**08 10 16.3**	**+0.8**
ASAO	**Ashtian**	**2.68**	**45**	*e*Pn		**Pn**	**08 09 37.4**	**-0.3**
ROKH	**ROKH**	**2.82**	**96**	*e*Pn		**Pn**	**08 09 39.8**	**+0.2**
ROKH				*e*			08 10 26.4	
BHD	**Baghdad**	**2.87**	**283**	*e*Pn		**Pn**	**08 09 40.0**	**0.0**
BHD				*e*Sn		**Sn**	**08 10 16.0**	**+1.0**
BHD				AML	AML		08 10 33.0	
	comp=E,243nm,0.6s							
IRAZ	**Razeghan**	**3.28**	**33**	*e*Pn		**Pn**	**08 09 47.2**	**+1.3**
IKLH	**Kolahrood**	**3.30**	**78**	*e*Pn		**Pn**	**08 09 47.6**	**+1.3**
IKLH				*e*			08 09 58.4	
QABG	**Abgarm-Qazvin**	**3.40**	**27**	*e*Pn		**Pn**	**08 09 48.0**	**+0.5**
GHVR	**GHOM**	**3.48**	**58**	*e*Pn		**Pn**	**08 09 48.0**	**-0.6**
GHVR	**GHOM**	**3.48**	**58**	*e*Pn		**Pn**	**08 09 48.0**	**-0.6**
IQOM	**Qom**	**3.53**	**51**	*e*Pn		**Pn**	**08 09 49.6**	**+0.2**
KLNJ	**Kolanjah**	**3.69**	**116**	*e*Pn		**Pn**	**08 09 51.7**	**0.0**
KLNJ				*e*			08 11 12.8	
QSDN	**Sirdan**	**4.00**	**17**	*e*Pn		**Pn**	**08 09 57.1**	**+1.2**
IVRN	**Varamin**	**4.06**	**54**	*e*Pn		**Pn**	**08 09 56.6**	**+0.1**
IDMV	**Damavand**	**4.60**	**50**	*e*Pn		**Pn**	**08 10 03.9**	**-0.2**

*NNC **30** 08:24:20.9±0.4,42°.92N×77°.25E,h5km,2km,mb3.4,*
mpv3.6,Error ellipse: s-maj=3.4km s-min=1.7km az=171.0
*KRNET **30** 08:24:20.7±0.1,42°.88N×77°.25E,h21km,mb3.2*
*SOME **30** 08:24:21.1,42°.88N×77°.23E,h20km*

ISC 30 08:24:21.2±1.0,**42°.89N**±0°.02×**77°.27E**±0°.01,**h7**km±8km,
n76,σ=**0°83/137**,**38C-41D**,**Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**0.28**	**302**	⇑*i*P		**Pg**	**08 24 26.7**	**-0.1**
	baz=5.0							
TNSS				⇑*i*S		**Sg**	**08 24 30.5**	**-0.1**
	baz=5.0							
TNSS	**Tian-Shan**	**0.28**	**302**	⇑*i*P		**Pg**	**08 24 26.7**	**-0.1**
	85nm,0.1s							
TNSS				⇑*i*S		**Sg**	**08 24 30.5**	**-0.1**
	521nm,0.1s							
TNSS	**Tian-Shan**	**0.28**	**302**	P		**Pg**	**08 24 26.7**	**-0.1**
	76nm,0.1s							
TNSS				S		**Sg**	**08 24 30.5**	**-0.1**
	425nm,0.2s							
ANVS	**Anan'yevo**	**0.31**	**110**	⇓*i*P		**Pg**	**08 24 27.5**	**+0.1**
	baz=7.0							
ANVS				⇓*i*S		**Sg**	**08 24 32.1**	**+0.5**
	baz=7.0							
MDOK	**Medeo**	**0.32**	**330**	⇑*i*P		**Pg**	**08 24 27.2**	**-0.3**
	baz=32							
MDOK				⇓*i*S		**Sg**	**08 24 31.4**	**-0.3**
	baz=32							
MDOK	**Medeo**	**0.32**	**330**	⇑*i*P		**Pg**	**08 24 27.2**	**-0.3**
	67nm,0.1s							
MDOK				⇓*i*S		**Sg**	**08 24 31.4**	**-0.3**
	607nm,0.2s							
MDOK	**Medeo**	**0.32**	**330**	Pg		**Pg**	**08 24 27.2**	**-0.3**
	67nm,0.2s							
MDOK				Lg		Lg	08 24 31.3	
	417nm,0.2s							
KOTS	**Kotyrbulak**	**0.36**	**342**	⇓*i*P		**Pg**	**08 24 28.1**	**-0.3**
	baz=43							
KOTS				⇓*i*S		**Sg**	**08 24 33.1**	**0.0**
	baz=43							
KOTS	**Kotyrbulak**	**0.36**	**342**	⇓*i*P		**Pg**	**08 24 28.1**	**-0.3**
	195nm,0.2s							
KOTS				⇓*i*S		**Sg**	**08 24 33.1**	**0.0**
	710nm,0.1s							
KOTS	**Kotyrbulak**	**0.36**	**342**	P		**Pg**	**08 24 28.1**	**-0.3**
	195nm,0.2s							
KOTS				S		**Sg**	**08 24 33.2**	**0.0**
	710nm,0.1s							
KNDC	**Almaty**	**0.40**	**326**	⇑P		**Pg**	**08 24 28.8**	**-0.1**
	20nm,0.3s							
KNDC				⇑S		**Sg**	**08 24 34.5**	**+0.3**
	168nm,0.2s							
AAA	**Alma-Ata**	**0.41**	**321**	⇓*i*P		**Pg**	**08 24 29.5**	**+0.3**
	baz=23							
AAA				⇑*i*S		**Sg**	**08 24 35.4**	**+0.7**
	baz=23							
AAA	**Alma-Ata**	**0.41**	**321**	⇓*i*P		**Pg**	**08 24 29.5**	**+0.3**
	217nm,0.1s							
AAA				⇑*i*S		**Sg**	**08 24 35.4**	**+0.7**
	1μm,0.2s							
AAA	**Alma-Ata**	**0.41**	**321**	P		**Pg**	**08 24 29.5**	**+0.3**
	217nm,0.1s							
AAA				S		**Sg**	**08 24 35.3**	**+0.7**
	1μm,0.2s							
MTBS	**Maitube**	**0.66**	**292**	⇓*i*P		**Pg**	**08 24 33.6**	**-0.3**
	baz=93							
MTBS				⇓*i*S		**Sg**	**08 24 42.2**	**-0.3**
	baz=93							
MTBS	**Maitube**	**0.66**	**292**	⇓*i*P		**Pg**	**08 24 33.6**	**-0.3**
	14nm,0.1s							
MTBS				⇓*i*S		**Sg**	**08 24 42.2**	**-0.3**
	73nm,0.2s							
MTBS	**Maitube**	**0.66**	**292**	P		**Pg**	**08 24 33.6**	**-0.3**
	14nm,0.1s							
MTBS				S		**Sg**	**08 24 42.3**	**-0.3**
	73nm,0.2s							
KDJ	**Kajisay**	**0.76**	**185**	⇓*i*P		**Pg**	**08 24 34.8**	**-1.1**
	baz=83							
KDJ				⇓*i*S		**Sg**	**08 24 44.8**	**-1.0**
	baz=83							
SATY	**Saty**	**0.85**	**78**	*e*P		**Pg**	**08 24 37.5**	**-0.1**
	16nm,0.1s							
SATY				*e*S		**Sg**	**08 24 49.2**	**+0.5**
	150nm,0.1s							
SATY	**Saty**	**0.85**	**78**	P		**Pg**	**08 24 37.5**	**-0.1**
	16nm,0.1s							
SATY				S		**Sg**	**08 24 49.2**	**+0.5**
	150nm,0.1s							
KURS	**Kuram**	**0.89**	**47**	*e*P		**Pg**	**08 24 38.0**	**-0.3**
	baz=48							
KURS				*e*S		**Sg**	**08 24 49.9**	**0.0**
	baz=48							
KURS	**Kuram**	**0.89**	**47**	*e*P		**Pg**	**08 24 38.0**	**-0.3**
	3.3nm,0.1s							
KURS				*e*S		**Sg**	**08 24 49.9**	**0.0**
	11nm,0.1s							
KURS	**Kuram**	**0.89**	**47**	P		**Pg**	**08 24 38.1**	**-0.3**
KURS				S		**Sg**	**08 24 48.8**	**-1.2**
KTBS	**Karatobe**	**0.93**	**333**	*e*P		**Pg**	**08 24 38.3**	**-0.7**
	50nm,0.2s							
KTBS				*e*S		**Sg**	**08 24 50.2**	**-0.9**
	150nm,0.3s							
KTBS	**Karatobe**	**0.93**	**333**	P		**Pg**	**08 24 38.3**	**-0.7**
	50nm,0.2s							
KTBS				S		**Sg**	**08 24 50.2**	**-0.9**
	150nm,0.3s							
PRZ	**Przheval'sk**	**0.93**	**116**	⇑*i*P		**Pg**	**08 24 38.3**	**-0.7**
	baz=15							
PRZ				⇑*i*S		**Sg**	**08 24 51.2**	**+0.1**
	baz=15							
KST	**Kastek**	**0.97**	**280**	⇑*i*P		**Pg**	**08 24 39.1**	**-0.7**
	baz=80							
KST				⇓*i*S		**Sg**	**08 24 52.2**	**-0.3**
	baz=80							
KST	**Kastek**	**0.97**	**280**	⇑*i*P		**Pg**	**08 24 39.1**	**-0.7**
	13nm,0.2s							
KST				⇓*i*S		**Sg**	**08 24 52.2**	**-0.3**
	22nm,0.1s							
KST	**Kastek**	**0.97**	**280**	P		**Pg**	**08 24 39.2**	**-0.6**
	13nm,0.2s							
KST				S		**Sg**	**08 24 52.2**	**-0.3**
	22nm,0.1s							
CHKK	**Chushkaly**	**0.99**	**348**	⇓*i*P		**Pg**	**08 24 39.3**	**-0.8**
	baz=49							
CHKK				⇓*i*S		**Sg**	**08 24 52.1**	**-0.9**
	baz=49							
CHKK	**Chushkaly**	**0.99**	**348**	⇓*i*P		**Pg**	**08 24 39.3**	**-0.8**
	92nm,0.1s							
CHKK				⇓*i*S		**Sg**	**08 24 52.1**	**-0.9**
	341nm,0.2s							
CHKK	**Chushkaly**	**0.99**	**348**	P		**Pg**	**08 24 39.3**	**-0.8**
	92nm,0.1s							
CHKK				S		**Sg**	**08 24 52.0**	**-0.9**
	341nm,0.2s							
ULHL	**Ulahol**	**0.99**	**230**	⇓*i*P		**Pg**	**08 24 39.0**	**-1.3**
	baz=30							
ULHL				⇓*i*S		**Sg**	**08 24 51.9**	**-1.3**
	baz=30							
KPKS	**Kokpek**	**1.19**	**60**	⇑*i*P		**Pg**	**08 24 43.3**	**-0.7**
	baz=61							
KPKS				⇑*e*S		**Sg**	**08 24 58.5**	**-0.9**
	baz=61							
KPKS	**Kokpek**	**1.19**	**60**	⇑*i*P		**Pg**	**08 24 43.3**	**-0.7**
	38nm,0.1s							
KPKS				*e*S		**Sg**	**08 24 58.5**	**-0.9**
	66nm,0.3s							
KUU	**Kurty**	**1.21**	**326**	⇓*i*P		**Pg**	**08 24 43.2**	**-1.2**
	baz=27							
KUU				⇓*i*S		**Sg**	**08 24 58.7**	**-1.5**
	baz=27							
KUU	**Kurty**	**1.21**	**326**	⇓*i*P		**Pg**	**08 24 43.2**	**-1.2**
	12nm,0.1s							
KUU				⇓*i*S		**Sg**	**08 24 58.7**	**-1.5**
	75nm,0.2s							
KUU	**Kurty**	**1.21**	**326**	P		**Pg**	**08 24 43.2**	**-1.2**
	12nm,0.1s							
KUU				S		**Sg**	**08 24 58.6**	**-1.5**
	75nm,0.2s							
TKM2	**Tokmak 2**	**1.23**	**272**	⇑*i*P		**Pg**	**08 24 43.6**	**-1.2**
	baz=72							
TKM2	

KZA				⇓*i*S		Sn	08 25 13.7	-0.1
	baz=42							
KBK	**Karagaybulak**	**1.72**	**263**	⇓*i*P		**Pn**	**08 24 52.2**	**+0.4**
KBK	baz=63			⇓*i*S		**Sn**	**08 25 14.6**	**+0.5**
	baz=63							
CHMS	**Chumysh**	**1.85**	**274**	⇑*i*P		**Pn**	**08 24 53.7**	**+0.3**
CHMS	baz=74			⇑*i*S		**Sn**	**08 25 17.6**	**+0.6**
	baz=74							
FRU1	**Bishkek**	**1.94**	**269**	⇓*i*P		**Pn**	**08 24 55.3**	**+0.7**
FRU1	baz=69			⇓*i*S		**Sn**	**08 25 19.8**	**+0.5**
	baz=69							
SGDS	**Sogindy**	**2.01**	**287**	Pg		**Pn**	**08 24 56.8**	**+1.2**
SGDS	5.9nm,0.3s			Lg		Lg	08 25 23.2	
	22nm,0.2s							
USP	**Ospenovka**	**2.06**	**281**	⇑*i*P		**Pn**	**08 24 57.0**	**+0.7**
USP	baz=82			⇑*i*S		**Sn**	**08 25 22.8**	**+0.5**
	baz=82							
UCH	**Uchtor**	**2.14**	**253**	⇓*i*P		**Pn**	**08 24 57.9**	**+0.2**
UCH	baz=53			⇓*i*S		**Sn**	**08 25 24.8**	**+0.1**
	baz=53							
TDK	**Taldyqorghan**	**2.27**	**21**	*e*P		**Pb**	**08 25 02.6**	**+0.1**
TDK	95nm,0.3s			*e*S		**Sb**	**08 25 31.7**	**+1.1**
	124nm,0.3s							
TDK	**Taldyqorghan**	**2.27**	**21**	Pg		**Pb**	**08 25 02.5**	**0.0**
TDK	96nm,0.5s			Lg		Lg	08 25 31.8	
	94nm,0.2s							
DJR	**Jarkent**	**2.33**	**51**	*e*P		**Pb**	**08 25 02.7**	**-0.9**
DJR	7.5nm,0.3s			*e*S		**Sb**	**08 25 33.4**	**+0.8**
	14nm,0.2s							
DJR	**Jarkent**	**2.33**	**51**	Pg		**Pb**	**08 25 02.7**	**-0.9**
DJR	7.5nm,0.3s			Lg		Lg	08 25 33.5	
	14nm,0.2s							
ARLS	**Aral**	**2.41**	**246**	⇑*i*P		**Pn**	**08 25 01.5**	**+0.3**
ARLS	baz=46			⇑*i*S		**Sn**	**08 25 30.6**	**-0.4**
	baz=46							
EKS2	**Erkin-Say**	**2.58**	**266**	⇑*i*P		**Pn**	**08 25 04.0**	**+0.5**
EKS2	baz=66			⇑*i*S		**Sn**	**08 25 35.2**	**+0.1**
	baz=66							
AML	**Almayashu**	**2.75**	**255**	⇑*i*P		**Pn**	**08 25 06.5**	**+0.5**
AML	baz=55			⇑*i*S		**Sn**	**08 25 39.5**	**-0.2**
	baz=55							
KAPS	**Kapalarasan**	**2.83**	**31**	*e*P		**Pb**	**08 25 11.0**	**-1.1**
KAPS	7.6nm,0.3s			*e*S		**Sb**	**08 25 47.3**	**+0.4**
	39nm,0.4s							
KAPS	**Kapalarasan**	**2.83**	**31**	Lg		Lg	08 25 47.7	
	39nm,0.4s							
MRKS	**Merke**	**2.98**	**269**	*e*P		**Pb**	**08 25 14.4**	**-0.2**
MRKS	2.3nm,0.2s			*e*S		**Sb**	**08 25 52.6**	**+1.4**
	14nm,0.3s							
MRKS	**Merke**	**2.98**	**269**	Pg		**Pb**	**08 25 14.4**	**-0.2**
MRKS	2.3nm,0.2s			Lg		Lg	08 25 52.7	
	14nm,0.3s							
BTLS	**Baital**	**3.17**	**314**	*e*P		**Pb**	**08 25 17.4**	**-0.3**
BTLS	1.2nm,0.2s			*e*S		**Sb**	**08 25 57.5**	**+0.9**
	6.1nm,0.2s							
BTLS	**Baital**	**3.17**	**314**	Lg		Lg	08 25 57.5	
KK31	**Karatay Array**	**4.96**	**275**	⇓Pn		**Pb**	**08 25 51.6**	**+3.3**
KK31	0.2nm,0.3s,baz=90,slow=16,SNR=4.5			⇓Lg		Lg	08 26 53.2	
	2.5nm,0.5s							
MAKZ	**Makanchi**	**5.15**	**39**	⇑Pn		**Pn**	**08 25 41.5**	**+2.8**
MAKZ	0.3nm,0.3s			⇑Lg		Lg	08 26 59.0	
	1.2nm,0.4s							
MK31	**Makanchi Array**	**5.29**	**41**	Pn		**Pn**	**08 25 42.2**	**+1.6**
MK31	0.1nm,0.2s,baz=218,slow=14,SNR=4.2			⇑Sn		**Sn**	**08 26 42.8**	**+1.0**
	1.5nm,0.7s							
MK31				⇑Lg		Lg	08 27 00.9	
	1.2nm,0.5s							

*NEIC **30** 08:43:25.2±1.6, 37.°64N±0.°06×75.°91E±0.°10, h115km±5km, mb4.3/9, Error ellipse: s-maj=11.1km s-min=8.9km az=90.0*
*BJI **30** 08:43:25.0±0.0, 37.°68N×76.°09E, h117km, mB4.3/6, mb4.2/9*
*IDC **30** 08:43:25.3±3.5, 37.°65N×75.°98E, h118km±30km, mb3.4/9, mb1 3.5/16, mb1mx3.2/59, mbtmp3.8/16, MS3.1/1, Ms1 3.1/1, ms1mx2.4/24, Error ellipse: s-maj=26.0km s-min=17.0km az=16.0*
*NNC **30** 08:43:30.0±2.3, 38.°17N×75.°44E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=24.0km s-min=14.0km az=9.0*

ISC 30 08:43:23.1±0.5, 37.°57N±0.°04×76.°07E±0.°06, h105km, n64, σ1§97/68, mb3.7/15, 1C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.95**	**358**	P		P	**Pn**	**08 43 53.8**	**-1.6**
KSH				S		S	**Sn**	**08 44 15.0**	**-5.0**
KSH				smax		smax			
	comp=N,35μm,0.3s								
KSH				smax		smax			
	comp=E,48μm,0.3s								
NIL	**Nilore**	**4.53**	**211**				**Pn**	**08 44 33.3**	**+3.7**
NIL						Sn	**Sn**	**08 45 21.3**	**+0.2**
KDJ	**Kajisay**	**4.64**	**10**			Pn	**Pn**	**08 44 32.5**	**+1.4**
BTK	**Batken**	**4.79**	**303**				**Pn**	**08 44 33.0**	**-0.2**
BTK						Sn	**Sn**	**08 45 26.6**	**-1.0**
CEP	**Cherat**	**5.04**	**223**	P			**Pn**	**08 44 39.0**	**+2.5**
THN	**Thein Dam**	**5.13**	**183**	*e*P			**Pn**	**08 44 41.0**	**+3.4**
THN				*e*S			**Sn**	**08 45 35.0**	**-0.6**
AAK	**Ala-Archa**	**5.21**	**347**	P			**Pn**	**08 44 41.1**	**+2.3**
	1.0nm,0.3s,baz=114,slow=9.2,SNR=3.0								
AAK				S			**Sn**	**08 45 37.3**	**-0.4**
	4.1nm,0.3s,baz=312,slow=21,SNR=8.9								
AAK	**Ala-Archa**	**5.21**	**347**	Pn			**Pn**	**08 44 41.3**	**+2.5**
PRZ	**Przheval'sk**	**5.23**	**19**	Pn			**Pn**	**08 44 42.1**	**+2.9**
TKM2	**Tokmak 2**	**5.36**	**356**	⇓P			**Pn**	**08 44 42.9**	**+2.0**
	5.8nm,0.4s								
MRKS	**Merke**	**5.61**	**338**	Pg			**Pn**	**08 44 47.0**	**+2.8**
MRKS	5.6nm,0.4s			Lg			Lg	08 45 46.1	
	14nm,0.6s								
THW	**Thamme Wali**	**5.93**	**218**	P			**Pn**	**08 44 50.0**	**+1.4**
KTBS	**Karatobe**	**6.16**	**4**	Pg			Pn	08 45 07.5	+16
	3.8nm,0.4s								
KTBS				Lg			Lg	08 46 20.7	
	15nm,0.9s								
KBL	**Kabul**	**6.44**	**244**	Pn			**Pn**	**08 44 56.2**	**+0.6**
IUG	**Iuzhnay**	**6.52**	**316**	Pg			**Pn**	**08 44 56.8**	**+0.3**
	12nm,0.2s								
IUG				Lg			Lg	08 46 02.9	
	50nm,0.5s								
KK31	**Karatay Array**	**6.97**	**324**	P			**Pn**	**08 45 02.8**	**+0.2**
	1.2nm,0.2s,baz=141,slow=12,SNR=22								
KK31				⇑S			**Sn**	**08 46 15.2**	**-5.1**
	7.1nm,0.3s,baz=142,slow=23								
KK31	**Karatay Array**	**6.97**	**324**	Pn			**Pn**	**08 45 03.1**	**+0.5**
KKAR	**Karatay Array**	**6.97**	**324**				**Pn**	**08 45 02.3**	**-0.3**
KKAR	**Karatay Array**	**6.97**	**324**	Pn			**Pn**	**08 45 02.8**	**+0.3**
BRLS	**Borolday**	**7.24**	**321**	Pg			**Pn**	**08 45 05.2**	**-1.1**
	4.2nm,0.1s								
MAKZ	**Makanchi**	**10.22**	**23**	Pn			**Pn**	**08 45 47.3**	**+0.6**
MK31	**Makanchi Array**	**10.31**	**25**	Pn			**Pn**	**08 45 47.9**	**0.0**
MKAR	**Makanchi Array**	**10.31**	**25**	P			**Pn**	**08 45 48.8**	**+0.9**
	0.8nm,0.3s,baz=192,slow=12,SNR=16								
MKAR	**Makanchi Array**	**10.31**	**25**	Pn			**Pn**	**08 45 48.0**	**+0.1**
WMQ	**Urumqi**	**10.81**	**51**	*e*P			**Pn**	**08 45 56.8**	**+2.0**
PYUN	**Piuthan**	**11.09**	**146**	*e*P			**Pn**	**08 45 58.7**	**0.0**
	47nm,0.3s								
PYUN				*e*S			**Sn**	**08 47 54.5**	**-6.3**
HRA	**Herat**	**11.64**	**258**	Pn			**Pn**	**08 46 04.9**	**-1.2**
KOLN	**Koldanda**	**11.64**	**145**	*e*P			**Pn**	**08 46 06.3**	**+0.1**
	12nm,0.3s								
KOLN				*e*S			**Sn**	**08 48 08.2**	**-6.1**
GKN	**Gorkha**	**11.95**	**140**	*e*P			**Pn**	**08 46 09.9**	**-0.3**
	26nm,0.2s								
DMN	**Daman**	**12.51**	**140**	*e*P			**Pn**	**08 46 17.3**	**-0.4**
	15nm,0.5s								
JIRN	**Jiri**	**13.04**	**136**	*e*P			**Pn**	**08 46 24.5**	**-0.3**
	33nm,0.4s								
KURBB	**Kurchatov Arra**	**13.17**	**7**	P			**Pn**	**08 46 24.9**	**-1.0**
	0.1nm,0.3s,baz=191,slow=12,SNR=10.0								
KURK	**Kurchatov**	**13.27**	**7**	Pn			**Pn**	**08 46 25.9**	**-1.3**
RAMN	**Ramite**	**13.82**	**137**	*e*P			**Pn**	**08 46 34.0**	**-0.8**
	12nm,0.3s								
GEYT	**Alibeck**	**14.21**	**277**	P			**P**	**08 46 41.6**	**-2.1**
	0.6nm,0.3s,baz=106,slow=9.4,SNR=4.6								
GEYT				S			Sn	08 49 05.8	-10
	0.7nm,0.3s,baz=95,slow=15,SNR=3.7								
GEYT	**Alibeck**	**14.21**	**277**	P			**P**	**08 46 43.1**	**-0.6**
BVAR	**Borovoye Array**	**15.96**	**347**	P			**P**	**08 47 03.6**	**+0.7**
	0.4nm,0.3s,baz=174,slow=20,SNR=5.6								
ZAA0	**Zalesovo Array**	**17.46**	**17**	P			**Pn**	**08 47 22.2**	**+2.4**
ZALV	**Zalesovo Beam**	**17.46**	**17**	P			**P**	**08 47 20.1**	**+0.7**
	0.6nm,0.3s,baz=209,slow=11,SNR=9.4								
ZALV				LR			LR	08 53 59.3	
	comp=Z,63nm,18.1s,baz=90,slow=36								
ZALV	**Zalesovo Beam**	**17.46**	**17**	P			**P**	**08 47 19.7**	**+0.2**
AKTO	**Aktyubinsk**	**18.21**	**321**	P			**P**	**08 47 28.4**	**+0.6**
	0.5nm,0.3s,baz=113,slow=7.5,SNR=2.8								
SONM	**Songino Array**	**24.39**	**55**	P			**P**	**08 48 33.6**	**+1.9**
	1.5nm,0.4s,baz=251,slow=10,SNR=11								
SONM	**Songino Array**	**24.39**	**55**	P			**P**	**08 48 34.1**	**+2.5**
XAN	**Xi'an**	**26.80**	**88**	P			P	08 49 06.5	+13
XAN				pP			pP	08 49 15.8	-1.3
XAN				pmax			pmax		
	comp=Z,3.0nm,1.6s								
GYA	**Guiyang**	**28.09**	**104**	*e*P			P	08 49 13.8	+8.7
GYA				pmax			pmax		
	comp=Z,7.0nm,0.5s								
WHN	**Wuhan**	**32.32**	**91**	P			P	08 49 52.8	+11
WHN				S			S	08 55 07.3	+19
BRTR	**Keskin Array B**	**32.98**	**287**	P			**P**	**08 49 47.6**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=348,slow=6.3,SNR=1.7								
FIA1	**FINESS Array S**	**38.93**	**324**	P			**P**	**08 50 38.4**	**+0.1**
FIA1				IAmb			IAmb	08 50 40.5	
	comp=Z,7.8nm,1.2s								
FINES	**FINESS Array B**	**38.93**	**324**	P			**P**	**08 50 38.7**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=111,slow=8.5,SNR=14								
FINES	**FINESS Array B**	**38.93**	**324**	P			**P**	**08 50 38.5**	**+0.2**
ARCES	**ARCESS Array B**	**41.77**	**336**	P			**P**	**08 51 02.6**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=112,slow=9.8,SNR=1.3								
NOA	**NORSAR Array B**	**46.00**	**322**	P			**P**	**08 51 34.8**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=116,slow=7.3,SNR=1.9								
TORD	**Torodi Ar. Bea**	**69.77**	**271**	P			**P**	**08 54 22.2**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=40,slow=5.8,SNR=2.0								
TORD	**Torodi Ar. Bea**	**69.77**	**271**	P			**P**	**08 54 22.7**	**+0.4**
IMAR	**Indian Mountai**	**69.88**	**19**	P			**P**	**08 54 22.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**72.38**	**131**	P			**P**	**08 54 39.4**	**+1.6**
FITZ				IAmb			IAmb	08 54 55.2	
	comp=Z,5.7nm,1.4s								
ILAR	**Eielson Array**	**72.59**	**18**	P			**P**	**08 54 38.3**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=299,slow=3.4,SNR=4.6								
PPLA	**Purkeypile**	**72.70**	**21**	P			**P**	**08 54 40.2**	**+0.8**
PPLA				IAmb			IAmb	08 54 44.2	
	comp=Z,10nm,1.5s								
WRA	**Warramunga Arr**	**79.21**	**125**	P			**P**	**08 55 17.9**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=328,slow=5.6,SNR=5.2								
WRA	**Warramunga Arr**	**79.21**	**125**	P			**P**	**08 55 18.5**	**+1.7**
WRAB	**Tennant Creek**	**79.21**	**125**	P			**P**	**08 55 16.8**	**0.0**
WR0	**Warramunga Arr**	**79.35**	**125**	P			**P**	**08 55 19.9**	**+2.4**
WR0				IAmb			IAmb	08 55 35.2	
	comp=Z,5.8nm,1.4s								
ASAR	**Alice Springs**	**81.63**	**128**	P			**P**	**08 55 30.8**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=322,slow=6.1,SNR=11								
ASAR	**Alice Springs**	**81.63**	**128**	P			**P**	**08 55 31.4**	**+1.7**

*IDC **30** 09:31:13.0±0.8, 7.°52S×108.°50E, h0km, mb4.2/9, mb1 4.2/10, mb1mx3.9/37, mbtmp4.1/10, ML4.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/34, Error ellipse: s-maj=46.7km s-min=16.3km az=48.0*
*NEIC **30** 09:31:25.4±2.0, 7.°88S±0.°06×108.°62E±0.°04, h115km±6km, mb4.2/22, Error ellipse: s-maj=9.2km s-min=5.4km az=159.0*
*DJA **30** 09:31:27.4±0.3, 8.°5S±5.°×107.°9E±°, h76km±5km, M4.3/15, mb4.5/1, MLv4.2/15*

ISC 30 09:31:25.2±0.7, 7.°92S±0.°06×108.°63E±0.°04, h110km±6km, n63, σ1§42/65, mb4.1/17, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.23**	**306**	P		P	**Pn**	**09 31 40.5**	**-0.2**
CMJI				S		S	**Sn**	**09 31 51.0**	**-1.2**
CISI	**Cisompet, Garu**	**0.89**	**294**	P		P	**Pn**	**09 31 46.1**	**+0.7**
CISI				S		S	**Sn**	**09 32 00.2**	**-0.3**
CISI	**Cisompet, Garu**	**0.89**	**294**				**Pn**	**09 31 46.0**	**+0.7**
CISI						Sn	**Sn**	**09 32 00.5**	**0.0**
LEM	**Lembang**	**1.48**	**317**	P		P	**Pn**	**09 31 53.9**	**+1.9**
CNJI	**Cibinong**	**1.61**	**292**	P		P	**Pn**	**09 31 54.9**	**+1.6**
YOGI	**Yogyakarta**	**1.65**	**87**	P		P	**Pn**	**09 31 53.9**	**+0.1**
UGM	**Wanagama**	**1.87**	**90**	P		P	**Pn**	**09 31 57.2**	**+0.6**
UGM	**Wanagama**	**1.87**	**90**				**Pn**	**09 31 57.2**	**+0.6**
UGM						Sn	**Sn**	**09 32 20.8**	**+0.3**
SMRI	**Semarang**	**1.99**	**64**	P		P	**Pn**	**09 31 58.6**	**+0.5**
SMRI	**Semarang**	**1.99**	**64**				**Pn**	**09 31 58.6**	**+0.5**
SKJI	**Sukabumi**	**2.25**	**294**	P		P	**Pn**	**09 32 04.2**	**+2.8**
DBJI	**Dramaga**	**2.31**	**306**	P		P	**Pn**	**09 32 04.3**	**+2.1**
NGJI	**Ngawi**	**2.86**	**79**	P		P	**Pn**	**09 32 10.5**	**+1.2**
XMIS	**Christmas Isla**	**3.89**	**229**				**Pn**	**09 32 23.4**	**+0.2**
XMIS						Sn	**Sn**	**09 33 07.3**	**-0.7**
GRJI	**Gresik**	**3.94**	**76**	P		P	**Pn**	**09 32 24.6**	**+0.8**
KASI	**Kota Agung**	**4.75**	**300**	P		P	**Pn**	**09 32 37.2**	**+2.5**
GMJI	**Gumukmas**	**4.78**	**95**	P		P	**Pn**	**09 32 35.4**	**+0.4**
JAGI	**Jajag, Banyuwa**	**5.49**	**96**	P		P	**Pn**	**09 32 46.4**	**+1.7**
JAGI	**Jajag, Banyuwa**	**5.49**	**96**	Pn		Pn	**Pn**	**09 32 46.4**	**+1.7**
JAGI				Sn		Sn	**Sn**	**09 33 47.1**	**+0.5**
KAPI	**Kappang**	**11.42**	**76**	LR		LR	LR	09 38 58.8	
	comp=Z,31nm,18.6s,baz=274,slow=41								
SOEI	**Soe**	**15.55**	**98**	P		P	**P**	**09 35 00.7**	**0.0**
SOEI				IAmb		IAmb	IAmb	09 35 08.9	
	comp=Z,22nm,0.6s								
GIRL	**Giralia**	**15.60**	**160**				**P**	**09 35 00.6**	**-0.3**
MBWA	**Marble Bar**	**16.97**	**142**	P		P	**P**	**09 35 16.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.39**	**123**	P		P	**Pn**	**09 35 46.2**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=298,slow=7.1,SNR=12								
FITZ	**Fitzroy Crossi**	**19.39**	**123**				**Pn**	**09 35 45.4**	**+0.4**
KNRA	**Kununurra**	**21.14**	**113**	P		P	**P**	**09 36 03.0**	**+1.3**
KNRA				IAmb		IAmb	IAmb	09 36 21.1	
	comp=Z,11nm,1.1s								
MTN	**Manton Dam**	**22.66**	**104**	P		P	**P**	**09 36 17.4**	**-0.1**
MTN				IAmb		IAmb	IAmb	09 36 31.8	
	comp=Z,26nm,1.4s								
WB0	**Warramunga Arr**	**27.59**	**118**	P		P	**P**	**09 37 02.9**	**+0.4**
WB0				IAmb		IAmb	IAmb	09 37 09.7	
	comp=Z,6.6nm,1.4s								
WRA	**Warramunga Arr**	**27.61**	**118**	P		P	**P**	**09 37 04.8**	**+2.2**
	comp=Z,0.5nm,0.4s,baz=292,slow=7.4,SNR=22								
WRA	**Warramunga Arr**	**27.61**	**118**	P		P	**P**	**09 37 03.7**	**+1.1**
WRAB	**Tennant Creek**	**27.62**	**118**	P		P	**P**	**09 37 03.5**	**+0.8**
WRAB				IAmb		IAmb	IAmb	09 37 08.1	
	comp=Z,5.5nm,1.3s								
WB2	**Warramunga Arr**	**27.62**	**118**	P		P	**P**	**09 37 04.0**	**+1.3**
WB2				IAmb		IAmb	IAmb	09 37 16.1	
	comp=Z,7.5nm,1.5s								
WR0	**Warramunga Arr**	**27.80**	**118**	P		P	**P**	**09 37 05.0**	**+0.7**
WR0				IAmb		IAmb	IAmb	09 37 30.8	
	comp=Z,7.9nm,1.4s								
ASAR	**Alice Springs**	**28.84**	**126**	P		P	**P**	**09 37 16.2**	**+2.7**
	comp=Z,1.2nm,0.6s,baz=305,slow=9.1,SNR=23								
ASAR	**Alice Springs**	**28.84**	**126**	P		P	**P**	**09 37 15.1**	**+1.6**
AS31	**Alice Springs**	**28.84**	**126**	P		P	**P**	**09 37 14.3**	**+0.8**
BBOO	**Buckleboo**	**35.48**	**138**	P		P	**P**	**09 38 12.3**	**+0.9**
H08S2	**Diego Garcia H**	**35.80**	**268**	T		T		10 15 58.8	
	baz=93,slow=76,SNR=29								
H08S3	**Diego Garcia H**	**35.81**	**268**	T		T		10 16 00.0	
	baz=93,slow=76,SNR=28								
H08S1	**Diego Carcia H**	**35.82**	**268**	T		T		10 15 59.2	
	baz=93,slow=76,SNR=14								
STKA	**Stephens Creek**	**38.83**	**132**	P		P	**P**	**09 38 42.8**	**+3.1**
	comp=Z,2.6nm,0.4s,baz=315,slow=8.2,SNR=27								
STKA	**Stephens Creek**	**38.83**	**132**	P		P	**P**	**09 38 42.1**	**+2.4**
TAU	**Tasmania Unive**	**48.63**	**142**	P		P	**P**	**09 39 55.1**	**-2.9**
SONM	**Songino Array**	**55.55**	**358**	P		P	**P**	**09 40 48.5**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=169,slow=8.2,SNR=2.4								
MK31	**Makanchi Array**	**59.31**	**339**	P		P	**P**	**09 41 15.7**	**+0.2**
MKAR	**Makanchi Array**	**59.31**	**339**	P		P	**P**	**09 41 13.4**	**-2.1**
	comp=Z,1.0nm,0.6s,baz=152,slow=7.4,SNR=11								
MKAR	**Makanchi Array**	**59.31**	**339**	P		P	**P**	**09 41 13.9**	**-1.6**
KURK	**Kurchatov**	**63.92**	**339**	P		P	**P**	**09 41 46.8**	**+0.4**
KURK				IAmb		IAmb		09 42 06.3	
	comp=Z,4.7nm,1.5s								
ABKAR	**Akbulak array**	**71.03**	**329**	P		P	**P**	**09 42 30.2**	**-1.0**
BR131	**Keskin Array S**	**83.65**	**311**	P		P	**P**	**09 43 41.0**	**-1.0**
BR131				IAmb		IAmb	IAmb	09 43 43.4	
	comp=Z,3.0nm,0.8s								
BRTR	**Keskin Array B**	**83.65**	**311**	P		P	**P**	**09 43 42.5**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=138,slow=7.0,SNR=16								
BRTR	**Keskin Array B**	**83.65**	**311**	P		P	**P**	**09 43 41.6**	**-0.4**
KARP	**Karpathos**	**87.68**	**306**	P		P	**P**	**09 44 00.1**	**-1.8**
SNAA	**Sanae**	**89.13**	**197**	P		P	**P**	**09 44 12.1**	**+4.0**
	comp=Z,1.3nm,0.7s,baz=135,slow=4.6,SNR=10								
SNAA	**Sanae**	**89.13**	**197**	P		P	**P**	**09 44 07.4**	**-0.7**
SNAA				IAmb		IAmb	IAmb	09 44 13.9	
	comp=Z,3.5nm,1.3s								
AKASG	**Malin Array Be**	**89.42**	**321**	P		P	**P**	**09 44 09.1**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=91,slow=4.4,SNR=1.9								
AKASG	**Malin Array Be**	**89.42**	**321**	P		P	**P**	**09 44 08.5**	**-1.2**
BURAR	**Bucovina Array**	**91.37**	**318**	P		P	**P**	**09 44 18.3**	**-0.7**
BUR08	**Bucovina Ar. S**	**91.39**	**318**	P		P	**P**	**09 44 17.7**	**-1.4**
BUR08				IAmb		IAmb	IAmb	09 44 36.9	
	comp=Z,4.3nm,1.4s								
ARCES	**ARCESS Array B**	**94.96**	**339**	P		P	**P**	**09 44 34.6**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=111,slow=5.1,SNR=1.6								
ARCES	**ARCESS Array B**	**94.96**	**339**	P		P	**P**	**09 44 33.0**	**-1.9**
TXAR	**Lajitas Array**	**142.92**	**51**	PKP		**PKPdf**	**09 50 46.4**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=249,slow=2.5,SNR=3.0								
TKL	**Tuckaleechee C**	**150.15**	**21**	PKPbc		**PKiKP**	**09 51 04.9**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=102,slow=2.2,SNR=5.2								

*SOME **30** 09:53:59.5, 40.°17N×70.°67E, h5km*
*KRNET **30** 09:54:00.7±0.1, 40.°03N×70.°85E, h27km, mb2.6*
*NNC **30** 09:54:03.5±8.9, 40.°14N×70.°34E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=63.3km s-min=48.6km az=18.0*

ISC 30 09:54:01.1±1.0, 40.°05N±0.°05×70.°76E±0.°05, h13km±6km, n17, σ1§60/31, 12C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.05**	**81**	⇓*i*P			**Pg**	**09 54 03.7**	**0.0**
BTK	baz=19			⇓*i*S			**Sg**	**09 54 06.1**	**+0.5**
	baz=19								
GAR	**Garm**	**1.10**	**198**	⇑*i*P			**Pg**	**09 54 21.4**	**-1.0**
	baz=2.0								
GAR				⇑*i*S			**Sg**	**09 54 36.0**	**-0.8**
	baz=2.0								
OHH	**Osh**	**1.62**	**72**	⇓*i*P			**Pn**	**09 54 29.2**	**-0.2**
	baz=71								
OHH				⇓*i*S			**Sn**	**09 54 50.0**	**-0.2**
	baz=71								
ARK	**Arkit**	**1.97**	**27**	⇑*i*P			**Pn**	**09 54 35.4**	**+1.2**
	baz=26								
ARK				⇑*i*S			**Sn**	**09 55 00.2**	**+1.3**
	baz=26								
IUG	**Iuzhnay**	**2.17**	**346**	*e*P			**Pn**	**09 54 38.6**	**+1.7**
	91nm,0.2s								
IUG				*e*S			**Sb**	**09 55 07.1**	**+0.2**
	167nm,0.4s								
IUG	**Iuzhnay**	**2.17**	**346**	Pg			**Pn**	**09 54 38.6**	**+1.7**
	91nm,0.2s								
IUG				Lg			Lg	09 55 07.1	
	167nm,0.4s								
AML	**Almayashu**	**3.04**	**46**	⇑*i*P			**Pn**	**09 54 50.4**	**+1.2**
	baz=45								
AML				⇑*i*S			**Sn**	**09 55 26.2**	**+0.6**
	baz=45								
BRLS	**Borolday**	**3.06**	**347**	*e*P			**Pn**	**09 54 49.9**	**+0.8**
	2.3nm,0.1s								
BRLS				*e*S			**Sn**	**09 55 26.3**	**+0.8**
	8.5nm,0.2s								
BRLS	**Borolday**	**3.06**	**347**	Pg			**Pn**	**09 54 49.9**	**+0.8**
	2.3nm,0.1s								
BRLS				Lg			Lg	09 55 26.3	
	8.5nm,0.2s								
KK31	**Karatay Array

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.96**	**359**	*eP*	**Pn**	**09 59 09.0**	**+0.1**
CMIG				*eS*	**Sn**	**09 59 21.9**	**+0.4**
CMIG	**Matias Romero**	**0.96**	**359**		**Pn**	**09 59 09.0**	**+0.1**
CMIG					**Sn**	**09 59 20.9**	**-0.6**
HUIG	**Huatulco**	**1.25**	**254**	⇑*iP*	**Pn**	**09 59 12.6**	**-0.1**
HUIG				*eS*	**Sn**	**09 59 29.3**	**+0.8**
HUIG	**Huatulco**	**1.25**	**254**		**Pn**	**09 59 12.6**	**-0.1**
HUIG					**Sn**	**09 59 29.3**	**+0.8**
PEIG	**Puerto Escondi**	**2.20**	**267**	⇑*iP*	**Pn**	**09 59 24.9**	**-0.8**
PEIG				*eS*	**Sn**	**09 59 49.8**	**-2.0**
CCIG	**Comitan**	**2.62**	**86**		**Pn**	**09 59 31.6**	**-0.1**
YOIG	**Yosondua**	**2.67**	**286**	*eP*	**Pn**	**09 59 33.1**	**+0.7**
YOIG				*eS*	**Sn**	**10 00 01.1**	**-2.7**
TOIG	**Toxpalan**	**2.87**	**313**	*eP*	**Pn**	**09 59 36.3**	**+1.2**
TOIG				*eS*	**Sn**	**10 00 08.7**	**+0.2**
PNIG	**Pinotepa**	**3.15**	**275**	*eP*	**Pn**	**09 59 38.2**	**-0.4**
PNIG				*eS*	**Sn**	**10 00 11.2**	**-3.9**
HUEH	**Huehuetenango**	**3.34**	**103**	Pn	**Pn**	**09 59 42.3**	**+0.8**
RTAL	**Retalhuleu**	**3.45**	**117**	Pn	**Pn**	**09 59 45.0**	**+2.2**
RTAL				Sn	**Sn**	**10 00 23.2**	**+0.7**
FTIG	**Fresnillo de T**	**3.59**	**300**	*eP*	**Pn**	**09 59 47.0**	**+2.1**
FTIG				*eS*	**Sn**	**10 00 23.5**	**-2.7**
TLIG	**Tlapa**	**3.82**	**292**		**Pn**	**09 59 49.6**	**+1.5**
PETF	**Flores**	**4.86**	**80**		**Pn**	**10 00 02.1**	**0.0**
PETF				Sn	**Sn**	**10 00 55.5**	**-1.6**
TEIG	**Tepich**	**7.47**	**56**	Pn	**Pn**	**10 00 36.4**	**-1.6**
TEIG				Sn	**Sn**	**10 01 58.4**	**-3.0**
JTS	**Las Juntas de**	**11.26**	**120**	Pn	**Pn**	**10 01 29.4**	**-0.5**
833A	**Chaparral WMA,**	**12.84**	**342**		**Pn**	**10 01 53.3**	**+1.9**
435B	**Jarrell**	**14.80**	**351**	P	**P**	**10 02 19.6**	**-3.1**
JCT	**Junction City**	**14.98**	**343**	Pn	**Pn**	**10 02 18.5**	**-1.7**
WHTX	**Lake Whitney,**	**15.97**	**352**	P	**P**	**10 02 33.6**	**-1.9**
WHTX				IAmb	IAmb	10 02 36.4	
	comp=Z,8.1nm,0.6s						
MIAR	**Mount Ida**	**18.38**	**3**	P	**Pn**	**10 03 04.5**	**+1.8**
MIAR				IAmb	IAmb	10 03 16.9	
	comp=Z,4.1nm,0.6s						
FCAR	**Ozark Folk Cen**	**19.83**	**7**	P	**Pn**	**10 03 21.4**	**+1.3**
LCAR	**Lake Charles**	**20.14**	**9**	P	Pn	10 03 22.8	-0.8
UTMT	**University of**	**20.83**	**14**	P	Pn	10 03 29.5	-2.3
CCM	**Cathedral Cave**	**22.08**	**8**	P	**P**	**10 03 45.9**	**+3.6**
CCM				IAmb	IAmb	10 03 53.2	
	comp=Z,2.8nm,0.8s						

*IDC **30** 10:18:51.2±2.6, 37°.36N×142°.22E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/41, mbtmp3.3/3, ML2.4/1, Error ellipse: s-maj=51.1km s-min=36.8km az=38.0*
*JMA **30** 10:18:55.2±0.2, 37°.33N×142°.00E, h36km±4km, M3.3*
ISC 30 10:18:53.6±2.0, 37°.35N±0'.05×141°.96E±0'.08, h12km±10km, n22, σ1$02/27, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.86**	**272**	P	**Pn**	**10 19 11.7**	**+0.2**
JFK				*eS*	**Sg**	**10 19 22.9**	**+1.3**
JMST	**Minamisoumatoc**	**0.93**	**294**	P	**Pn**	**10 19 12.5**	**+0.1**
JMST				*eS*	**Sg**	**10 19 24.2**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.96**	**256**	P	**Pn**	**10 19 12.9**	**+0.1**
ONAJ				*eS*	**Sg**	**10 19 25.0**	**+0.4**
JIKH	**Ishinomakikobu**	**1.04**	**338**	P	**Pn**	**10 19 13.9**	**0.0**
JIKH				*eS*	**Sb**	**10 19 26.9**	**-0.1**
JMM	**Marumori**	**1.06**	**300**	P	**Pg**	**10 19 14.6**	**+0.6**
JMM				*eS*	**Sb**	**10 19 26.4**	**-1.2**
JIO	**Ouri**	**1.21**	**337**	P	**Pg**	**10 19 16.5**	**-0.3**
JIO				*eS*	**Sb**	**10 19 31.0**	**-0.8**
JFT	**Otama**	**1.30**	**278**	P	**Pg**	**10 19 19.0**	**+0.4**
JFT				*eS*	**Sn**	**10 19 35.1**	**+0.2**
JHO	**Hitachi**	**1.33**	**237**	P	**Pb**	**10 19 17.8**	**-0.7**
JOU	**Okura**	**1.44**	**315**	P	**Pg**	**10 19 20.9**	**-0.4**
JOU				*eS*	**Sn**	**10 19 39.2**	**+0.9**
JMK	**Ichinoseki**	**1.70**	**340**	P	**Pb**	**10 19 24.2**	**-0.6**
JMK				*eS*	**Sn**	**10 19 45.3**	**+0.6**
JFY	**Yanaizu**	**1.80**	**273**	P	**Pb**	**10 19 25.8**	**-0.6**
JYK	**Kaneyama**	**2.01**	**322**	P	**Pb**	**10 19 28.9**	**-1.1**
MJAR	**Matsushiro Arr**	**3.11**	**256**	Pn	**Pn**	**10 19 44.2**	**+1.8**
	0.4nm,0.3s,baz=67,slow=9.3,SNR=17						
MJAR				Sn	**Sb**	**10 20 24.8**	**-1.8**
	0.3nm,0.3s,baz=48,slow=8.8,SNR=4.5						
MAT	**Matsushiro**	**3.11**	**256**	P	**Pb**	**10 19 46.1**	**-2.7**
MAT				S	**Sn**	**10 20 20.4**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**27.94**	**122**	T	T	10 54 12.4	
	baz=314,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**27.95**	**122**	T	T	10 54 00.3	
	baz=314,slow=75,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**27.96**	**122**	T	T	10 54 13.8	
	baz=314,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**28.67**	**124**	T	T	10 55 08.5	
	baz=316,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**28.67**	**124**	T	T	10 55 04.1	
	baz=316,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**28.69**	**124**	T	T	10 55 08.5	
	baz=316,slow=76,SNR=10						
MKAR	**Makanchi Array**	**44.32**	**302**	P	**P**	**10 27 04.0**	**+0.8**
	0.5nm,0.6s,baz=87,slow=9.0,SNR=4.9						
WRA	**Warramunga Arr**	**57.43**	**189**	P	**P**	**10 28 42.0**	**-0.1**
	0.2nm,0.5s,baz=6.7,slow=7.4,SNR=5.0						

*SNET **30** 10:31:34.9±1.5, 11°.13N×84°.52W, h129km±93km, ML4.3*
*IDC **30** 10:31:42.9±0.7, 11°.56N×85°.07W, h0km, mb3.9/11, mb1 4.1/14, mb1mx4.0/31, mbtmp3.9/14, ML3.2/3, MS3.7/22, Ms1 3.7/22, ms1mx3.6/34, Error ellipse: s-maj=20.4km s-min=10.2km az=68.0*
*INET **30** 10:31:43.4, 11°.55N×85°.20W, h4km, ML4.4*
*UCR **30** 10:31:43.7±1.7, 11°.50N×85°.20W, h1km±3km, ML3.6, mb4.6(NEIC)*
*NEIC **30** 10:31:44.2±1.6, 11°.52N±0'.04×85°.23W±0'.06, h5km±3km, mb4.6/86, Error ellipse: s-maj=9.8km s-min=4.0km az=60.0*
ISC 30 10:31:44.0±0.6, 11°.55N±0'.02×85°.22W±0'.03, h3km±4km, n228, σ1$35/247, mb4.5/48, MS3.7/18, 1C-8D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACON	**Acoyapa**	**0.42**	**6**	*eP*	**Pg**	**10 31 52.1**	**0.0**
ACON	**Acoyapa**	**0.42**	**6**	Pg	**Pg**	**10 31 52.2**	**+0.1**
ACON				Sg	**Sg**	**10 31 58.9**	**+1.4**
BUAI	**Buenos Aires**	**0.68**	**190**	*iP*	**Pg**	**10 31 56.9**	**-0.1**
GB1A	**Borinquen Arri**	**0.75**	**194**	*eP*	**Pg**	**10 31 57.8**	**-0.5**
BUEV	**Buena Vista**	**0.77**	**194**	*iP*	**Pg**	**10 31 58.1**	**-0.6**
BUEV				⇓*eP*	**Pg**	**10 31 58.1**	**-0.6**
GPS1	**Guardaparques**	**0.78**	**190**	*iP*	**Pg**	**10 31 58.3**	**-0.6**
GBS3	**Finca Las Img**	**0.80**	**197**	*iP*	**Pg**	**10 31 58.4**	**-0.8**
GPS2	**Hotel Rincn d**	**0.80**	**190**	*iP*	**Pg**	**10 31 58.9**	**-0.5**
GPS3	**Bodega del ICE**	**0.80**	**190**	*iP*	**Pg**	**10 31 58.9**	**-0.5**
LAPC	**Finca la Perla**	**0.81**	**195**	*iP*	**Pg**	**10 31 58.5**	**-0.9**
HORNC	**Hornillas**	**0.83**	**177**	*iP*	**Pg**	**10 31 59.1**	**-0.9**
HORNC				*iS*	**Sg**	**10 32 10.3**	**-0.4**
GUAB	**Guayabo de Bag**	**0.84**	**181**	*iP*	**Pg**	**10 31 59.2**	**-0.8**
GUAB				*iS*	**Sg**	**10 32 10.6**	**-0.3**
MICM	**Guayabo**	**0.84**	**179**	*iS*	**Sg**	**10 32 11.0**	**-0.1**
LIM1	**Limonal**	**0.85**	**182**	*iP*	**Pg**	**10 31 59.3**	**-0.9**
LIM1				*iS*	**Sg**	**10 32 11.2**	**0.0**
PTEN	**Parque Tenorio**	**0.86**	**165**	*iP*	**Pg**	**10 31 59.9**	**-0.6**
PTEN				*iS*	**Sg**	**10 32 12.2**	**+0.6**
COLC	**Colonia**	**0.88**	**179**	*iP*	**Pg**	**10 32 00.1**	**-0.7**
CUI	**Cuipilapa**	**0.89**	**177**	*iP*	**Pg**	**10 32 00.2**	**-0.7**
HZTE	**Horizontes, Gu**	**0.91**	**204**	⇓*eP*	**Pg**	**10 32 00.7**	**-0.7**
HZTE				*eS*	**Sb**	**10 32 15.0**	**+0.1**
ACAL	**Aguas Claras**	**0.93**	**169**	*iP*	**Pg**	**10 32 01.0**	**-0.7**
ACAL				*iS*	**Sg**	**10 32 14.0**	**+0.2**
BOAB	**BOACO BROADBAN**	**.00**	**334**		**Pg**	**10 32 02.2**	**-0.9**
BOAB				Sg	**Sb**	**10 32 17.1**	**-0.4**
ESPN	**Las Esperanzas**	**1.10**	**54**		**Pg**	**10 32 04.2**	**-1.0**
ESPN					**Sb**	**10 32 20.0**	**-0.5**
COVE	**Coope Vega, Sa**	**1.15**	**136**	⇑*eP*	**Pg**	**10 32 04.0**	**-2.0**
COVE				*eS*	**Sg**	**10 32 20.0**	**-0.9**
CEDE	**Laguna Cedeo**	**1.17**	**154**	*iP*	**Pg**	**10 32 05.3**	**-1.1**
CEDE				*iS*	**Sg**	**10 32 21.4**	**-0.2**
ARE1	**Arenal 1**	**1.19**	**156**	⇓*eP*	**Pg**	**10 32 05.5**	**-1.2**
ARE1				*eS*	**Sg**	**10 32 22.2**	**+0.1**
PLVR	**Palo Verde**	**1.20**	**186**	*eP*	**Pg**	**10 32 05.4**	**-1.7**
PLVR				*eS*	**Sb**	**10 32 23.9**	**+0.4**
FORC	**Fortuna**	**1.20**	**153**	*iP*	**Pg**	**10 32 05.6**	**-1.5**
ORTG	**Ortega, Santa**	**1.20**	**191**	⇓*eP*	**Pg**	**10 32 05.4**	**-1.6**
ORTG				*eS*	**Sg**	**10 32 21.8**	**-0.9**
JTS	**Las Juntas de**	**1.28**	**168**	Pg	**Pg**	**10 32 06.4**	**-2.1**
	baz=48,slow=16						
JTS				Lg	Lg	10 32 24.1	
	3µm,0.3s,baz=11,slow=21,SNR=24						
JTS	**Las Juntas de**	**1.28**	**168**	*iP*	**Pg**	**10 32 06.3**	**-2.1**
JTS				*eS*	**Sg**	**10 32 22.7**	**-2.3**
JTS	**Las Juntas de**	**1.28**	**168**	⇓*eP*	**Pg**	**10 32 06.3**	**-2.1**
JTS	**Las Juntas de**	**1.28**	**168**		**Pg**	**10 32 06.6**	**-1.9**
JTS					**Sg**	**10 32 25.0**	**-0.1**
GUAI	**GUAI**	**1.30**	**193**	*iP*	**Pg**	**10 32 07.0**	**-1.9**
GUAI				*iS*	**Sg**	**10 32 25.9**	**0.0**
DUNO	**Dulce Nombre,**	**1.49**	**191**	⇓*eP*	**Pn**	**10 32 10.0**	**-1.6**
MATN	**Matagalpa**	**1.54**	**333**		**Pn**	**10 32 11.1**	**-1.3**
MATN				Sn	**Sn**	**10 32 32.4**	**-0.6**
SRA1	**San Ramn**	**1.62**	**153**	*eP*	**Pn**	**10 32 12.3**	**-1.3**
GRZA	**Playa Garza**	**1.68**	**194**	⇓*eP*	**Pn**	**10 32 13.1**	**-1.1**
LAFE	**Finca La Fe, P**	**1.76**	**170**	⇓*eP*	**Pn**	**10 32 13.7**	**-1.6**
TRT1	**Tortuguero**	**1.76**	**122**	*eP*	**Pn**	**10 32 14.9**	**-0.6**
HDC	**Heredia**	**1.88**	**145**	*eP*	**Pn**	**10 32 16.7**	**-0.4**
HDC	**Heredia**	**1.88**	**145**		**Pn**	**10 32 16.9**	**-0.3**
HDC				Sn	**Sn**	**10 32 41.9**	**+0.4**
HDC3	**Heredia 3**	**1.88**	**145**	*eP*	**Pn**	**10 32 16.8**	**-0.4**
ESTN	**Estel**	**1.91**	**324**	Pn	**Pn**	**10 32 16.5**	**-1.1**
ESTN				Sn	**Sb**	**10 32 43.3**	**-0.6**
JACO	**JACO, Garabito**	**1.95**	**164**	*eP*	**Pn**	**10 32 17.2**	**-0.8**
SJS	**Escuela Geolog**	**1.97**	**144**	*eP*	**Pn**	**10 32 18.1**	**-0.3**
CRIN	**San Cristobal**	**2.13**	**303**	*eP*	**Pn**	**10 32 20.3**	**-0.2**
CRIN	**San Cristobal**	**2.13**	**303**		**Pn**	**10 32 20.2**	**-0.3**
LCR2	**La Lucha 2**	**2.16**	**146**	*eP*	**Pn**	**10 32 20.0**	**-1.0**
RIMA	**Rio Macho**	**2.21**	**143**	*eP*	**Pn**	**10 32 21.0**	**-0.8**
CDM	**Cerro de Muert**	**2.44**	**144**	*eP*	**Pn**	**10 32 24.0**	**-1.2**
PEZE	**Perez Zeledon,**	**2.63**	**145**	*eP*	**Pn**	**10 32 27.2**	**-0.2**
EDLM	**Las Mercedes**	**2.77**	**144**	*eP*	**Pn**	**10 32 29.1**	**-0.2**
DRK0	**Durika**	**2.99**	**139**	*eP*	**Pn**	**10 32 32.1**	**-0.3**
CNCH	**Conchagua**	**3.08**	**304**	*eP*	**Pn**	**10 32 35.0**	**+1.4**
CNCH	**Conchagua**	**3.08**	**304**	*eP*	**Pn**	**10 32 35.0**	**+1.4**
CNCH				*eS*	**Sb**	**10 33 20.3**	**+2.7**
EDPN	**Palmar Norte**	**3.10**	**146**	*eP*	**Pn**	**10 32 34.2**	**+0.3**
LCND	**La Caada**	**3.14**	**304**	*eP*	**Pn**	**10 32 35.5**	**+1.0**
LCND				IAML		10 32 47.8	
	comp=Z,578nm,0.4s						
LCND	**La Caada**	**3.14**	**304**	*eP*	**Pn**	**10 32 35.5**	**+1.0**
LCND				IAML		10 32 47.8	
	comp=Z,578nm,0.4s						
LCND				*eS*	**Sb**	**10 33 21.4**	**+2.1**
TGUH	**Tegucigalpa,Un**	**3.20**	**321**	*eP*	**Pn**	**10 32 33.9**	**-1.4**
TGUH				*eS*	**Sb**	**10 33 19.7**	**-1.3**
TGUH	**Tegucigalpa,Un**	**3.20**	**321**	*eP*	**Pn**	**10 32 34.1**	**-1.3**
TGUH				*eS*	**Sb**	**10 33 22.0**	**+0.9**
TGUH	**Tegucigalpa,Un**	**3.20**	**321**	Pn	**Pn**	**10 32 35.1**	**-0.3**
JUCU	**Jucuarn**	**3.41**	**300**	*eP*	**Pn**	**10 32 38.4**	**+0.2**
JUCU	**Jucuarn**	**3.41**	**300**	*eP*	**Pn**	**10 32 38.4**	**+0.2**
FAGO	**Alcalda de S**	**3.54**	**307**	*eP*	**Pn**	**10 32 41.0**	**+1.1**
FAGO				IAML		10 33 47.0	
	comp=Z,164nm,0.5s						
FAGO	**Alcalda de S**	**3.54**	**307**	*eP*	**Pn**	**10 32 41.0**	**+1.1**
FAGO				*eS*	**Sb**	**10 33 31.3**	**+0.7**
FAGO				IAML		10 33 47.0	
	comp=Z,164nm,0.5s						
CDITO	**Canoas**	**3.75**	**142**	*eP*	**Pn**	**10 32 42.8**	**0.0**
COEB	**Comit de Eme**	**3.77**	**301**	*eP*	**Pn**	**10 32 43.5**	**+0.3**
COEB	**Comit de Eme**	**3.77**	**301**	*eP*	**Pn**	**10 32 43.5**	**+0.3**
COEB				*eS*	**Sb**	**10 33 37.1**	**-0.4**
COEG	**Centro de Oper**	**4.13**	**300**	IAML		10 33 01.1	
	comp=Z,181nm,0.3s						
COEG	**Centro de Oper**	**4.13**	**300**	*eP*	**Pn**	**10 32 47.8**	**-0.2**
COEG				IAML		10 33 01.1	
	comp=Z,181nm,0.3s						
PRVC	**Isla de Provid**	**4.18**	**64**	*eP*	**Pn**	**10 32 48.2**	**-0.5**
PAVA	**Las Pavas**	**4.22**	**301**	*eP*	**Pn**	**10 32 49.0**	**-0.4**
LFRS	**El Faro**	**4.28**	**299**	*eP*	**Pn**	**10 32 49.5**	**-0.7**
SNET	**Serv Nac Est T**	**4.46**	**299**		**Pn**	**10 32 52.5**	**-0.1**
MTO3	**Montecristo**	**4.93**	**305**	*eP*	**Pn**	**10 32 59.7**	**+0.5**
MTO3				*eS*	**Sb**	**10 34 06.3**	**-4.8**
MTO3	**Montecristo**	**4.93**	**305**		**Pn**	**10 33 00.1**	**+0.8**
NUBE	**Las Nubes**	**5.03**	**298**	*eP*	**Pn**	**10 33 01.8**	**+1.3**
NUBE	**Las Nubes**	**5.03**	**298**	*eP*	**Pn**	**10 33 01.8**	**+1.3**
PNME	**Penonome**	**5.70**	**122**	*eP*	**Pn**	**10 33 11.8**	**+2.2**
IXG	**Ixpaco**	**5.72**	**298**	*eP*	**Pn**	**10 33 11.4**	**+1.4**
IXG	**Ixpaco**	**5.72**	**298**	*eP*	**Pn**	**10 33 11.4**	**+1.4**
BCIP	**Isla Barro Col**	**5.80**	**114**	*eP*	**Pn**	**10 33 09.1**	**-1.8**
BCIP	**Isla Barro Col**	**5.80**	**114**	*eP*	**Pn**	**10 33 08.9**	**-2.0**
BCIP	**Isla Barro Col**	**5.80**	**114**	Pn	**Pn**	**10 33 08.8**	**-2.2**
AZU	**Azuero**	**6.14**	**127**	*eP*	**Pn**	**10 33 17.3**	**+1.7**
AZU	**Azuero**	**6.14**	**127**	*eP*	**Pn**	**10 33 17.1**	**+1.5**
UPA	**Univ. de Panam**	**6.15**	**114**	*eP*	**Pn**	**10 33 14.8**	**-1.0**
APG	**El Apazote**	**6.16**	**304**	Pn	**Pn**	**10 33 17.6**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=155,slow=17,SNR=3.8						
APG				Lg	Lg	10 35 01.9	
	comp=Z,1.7nm,0.3s,baz=226,slow=21,SNR=4.8						
UPD2	**Meteti**	**7.69**	**112**	*eP*	**Pn**	**10 33 35.6**	**-1.4**
CCIG	**Comitan**	**8.20**	**306**		**Pn**	**10 33 40.3**	**-3.8**
CCIG				Sn	**Sn**	**10 35 16.9**	**-0.6**
CAPC	**Capurgana**	**8.27**	**110**	*eP*	**Pn**	**10 33 46.0**	**+1.1**
TEIG	**Tepich**	**9.12**	**342**	Pn	**Pn**	**10 33 56.8**	**+0.3**
MOTC	**Monteria, Cord**	**9.80**	**105**	*eP*	**Pn**	**10 34 04.7**	**-1.2**
DBBC	**Dabeiba**	**9.96**	**116**	*eP*	**Pn**	**10 34 07.9**	**-0.4**
SJCC	**San Jacinto, C**	**10.00**	**98**	*eP*	**Pn**	**10 34 06.8**	**-1.9**
UREC	**San Jos de Ur**	**10.27**	**111**	*eP*	**Pn**	**10 34 10.1**	**-2.2**
CBOC	**Ciudad Bolivar**	**10.71**	**121**	*eP*	**Pn**	**10 34 21.4**	**+2.9**
CMIG	**Matias Romero**	**10.87**	**302**	Pn	**Pn**	**10 34 22.6**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=119,slow=13,SNR=1.8						
CMIG				Lg	Lg	10 37 35.4	
	comp=Z,0.1nm,0.3s,baz=179,slow=21,SNR=2.1						
CMIG				LR	LR	10 38 35.7	
	comp=Z,693nm,19.9s,baz=124,slow=38						
ZARC	**Zaragoza, Cauc**	**10.98**	**111**	*eP*	**Pn**	**10 34 22.4**	**+0.3**
GUY2C	**Guyana, Caldas**	**11.59**	**122**	*eP*	**Pn**	**10 34 32.8**	**+1.9**
ROSC	**El Rosal**	**12.68**	**121**	Pn	**Pn**	**10 34 45.9**	**+0.2**
	comp=Z,3.8nm,0.3s,baz=138,slow=23,SNR=2.8						
ROSC				LR	LR	10 39 37.3	
	comp=Z,280nm,21.5s,baz=348,slow=38						
ROSC	**El Rosal**	**12.68**	**121**		**Pn**	**10 34 46.0**	**+0.4**
OTAV	**Otavalo**	**13.09**	**149**	Pn	**Pn**	**10 34 51.2**	**-0.2**
OTAV	**Otavalo**	**13.09**	**149**	*eP*	**P**	**10 35 00.1**	**-1.9**
RUSC	**La Rusia**	**13.24**	**114**		**Pn**	**10 34 51.9**	**-1.6**
FLOC	**Florencia**	**13.71**	**136**	Pn	**Pn**	**10 34 59.8**	**+0.3**
SDV	**Santo Domingo**	**14.60**	**99**	Pn	**Pn**	**10 35 09.0**	**-2.8**
	comp=Z,2.8nm,0.3s,baz=321,slow=13,SNR=1.7						
SDV	**Santo Domingo**	**14.60**	**99**	*eP*	**Pn**	**10 35 11.8**	**0.0**
MOIG	**Morelia**	**17.37**	**300**	P	**Pn**	**10 35 48.1**	**+0.3**
MOIG				IAmb	IAmb	10 36 11.3	
	comp=Z,79nm,1.5s						
PDPR	**Patillas Dam,**	**19.63**	**69**	P	**P**	**10 36 13.1**	**-0.8**
ATAH	**Atahualpa**	**19.76**	**160**	LR	LR	10 43 04.9	
	comp=Z,387nm,19.3s,baz=329,slow=35						
352A	**Blakely**	**19.84**	**1**	P	**P**	**10 36 15.8**	**-0.2**
TIGA	**Tifton**	**19.85**	**4**	P	**P**	**10 36 14.9**	**-1.3**
ZAIG	**Zacatecas**	**19.96**	**306**	P	**P**	**10 36 16.5**	**-1.2**
346A	**Big Creek Wild**	**20.13**	**349**	P	**P**	**10 36 18.8**	**-0.5**
346A				IAmb	IAmb	10 36 26.1	
	comp=Z,88nm,1.9s						
250A	**Grady**	**20.36**	**357**	P	**P**	**10 36 20.9**	**-0.7**
255A	**Hazlehurst**	**20.44**	**7**	P	Pn	10 36 24.0	-0.7
344A	**Westbrook Farm**	**20.45**	**346**		**P**	**10 36 23.0**	**+0.3**
344A				IAmb	IAmb	10 36 29.9	
	comp=Z,24nm,0.8s						
CDVI	**St. Croix**	**20.71**	**70**	P	**P**	**10 36 26.3**	**+0.6**
CDVI				IAmb	IAmb	10 36 29.3	
	comp=Z,26nm,0.8s						
342A	**Flagon Creek P**	**20.80**	**343**	P	**P**	**10 36 26.7**	**+0.3**
735A	**Kenedy**	**20.85**	**328**	P	**P**	**10 36 27.9**	**+0.8**
152A	**Waverly Hall**	**21.02**	**1**	P	**P**	**10 36 29.8**	**+0.9**
152A				IAmb	IAmb	10 36 37.8	
	comp=Z,27nm,1.2s						
154A	**Montrose**	**21.05**	**5**	P	**P**	**10 36 29.0**	**-0.3**
VBMS	**Vicksburg**	**21.14**	**347**	P	**P**	**10 36 32.0**	**+1.8**
146A	**Union**	**21.28**	**351**	P	**P**	**10 36 31.2**	**-0.5**
833A	**Chaparral WMA,**	**21.32**	**324**	P	**P**	**10 36 31.8**	**-0.3**
LRAL	**Lakeview Retre**	**21.45**	**356**		**P**	**10 36 35.3**	**+1.9**
LRAL				IAmb	IAmb	10 36 43.9	
	comp=Z,30nm,1.4s						
GOGA	**Godfrey**	**21.82**	**4**	P	**P**	**10 36 38.6**	**+1.1**
GOGA				IAmb	IAmb	10 36 43.5	
	comp=Z,29nm,1.4s						
Y49A	**Blount Mountai**	**22.23**	**357**	P	**P**	**10 36 42.7**	**+0.8**
Y49A				IAmb	IAmb	10 36 52.7	
	comp=Z,22nm,1.1s						
Y52A	**Lilburn**	**22.24**	**3**	P	**P**	**10 36 42.2**	**+0.2**
Y52A				IAmb	IAmb	10 36 49.4	
	comp=Z,27nm,1.1s						
435B	**Jarrell**	**22.31**	**331**	P	**P**	**10 36 43.9**	**+1.1**
435B				IAmb	IAmb	10 36 56.2	
	comp=Z,16nm,1.0s						
Y45A	**Yeager Farm, C**	**22.56**	**351**	P	**P**	**10 36 46.2**	**+0.8**
237A	**Washetta, Mont**	**22.58**	**336**	P	**P**	**10 36 45.5**	**-0.1**
237A				IAmb	IAmb	10 36 58.6	
	comp=Z,11nm,0.8s						
CZSB	**Cruzeiro do Su**	**22.84**	**146**	*eP*	**P**	**10 36 51.3**	**+2.7**
X48A	**Hartselle**	**22.86**	**356**	P	**P**	**10 36 48.8**	**+0.2**
X48A				IAmb	IAmb	10 36 58.6	
	comp=Z,17nm,1.2s						
JCT	**Junction City**	**23.20**	**326**	P	**P**	**10 36 50.1**	**-2.1**
JCT				IAmb	IAmb	10 36 53.7	
	comp=Z,13nm,1.1s						
WHTX	**Lake Whitney,**	**23.27**	**333**	P	**P**	**10 36 52.9**	**+0.1**
WHTX				IAmb	IAmb	10 37 05.2	
	comp=Z,14nm,1.1s						
BIRD	**Birdtown, Kers**	**23.40**	**10**	P	**P**	**10 36 53.5**	**-0.6**
BIRD				IAmb	IAmb	10 36 59.7	
	comp=Z,25nm,1.6s						
BG3	**Lake Jocassee**	**23.43**	**5**	P	**P**	**10 36 55.1**	**+0.6**
SWET	**Sewanee**	**23.57**	**359**	P	**P**	**10 36 56.7**	**+0.8**
SWET				IAmb	IAmb	10 37 01.5	
	comp=Z,52nm,1.9s						
W45A	**Hickory Valley**	**23.78**	**352**	P	**P**	**10 36 58.5**	**+0.7**
W45A				IAmb	IAmb	10 37 13.8	
	comp=Z,28nm,1.1s						
CPCT	**Cooper Cave**	**23.80**	**1**	P	**P**	**10 36 58.0**	**-0.1**
CPCT				IAmb	IAmb	10 37 05.1	
	comp=Z,19nm,1.3s						
UALR	**University of**	**24.01**	**345**	P	**P**	**10 36 59.5**	**-0.6**
UALR				IAmb	IAmb	10 37 06.1	
	comp=Z,49nm,1.9s						
TKL	**Tuckaleechee C**	**24.04**	**3**	P	**P**	**10 37 00.4**	**0.0**
	comp=Z,2.7nm,0.8s,baz=167,slow=14,SNR=3.8						
TKL	**Tuckaleechee C**	**24.04**	**3**	P	**P**	**10 36 59.7**	**-0.6**
V53A	**Saluda**	**24.11**	**5**	P	**P**	**10 37 02.3**	**+1.2**
V53A				IAmb	IAmb	10 37 38.4	
	comp=Z,15nm,1.4s						
MIAR	**Mount Ida**	**24.13**	**343**	P	**P**	**10 37 02.4**	**+1.2**
MIAR				IAmb	IAmb	10 37 07.9	
	comp=Z,38nm,1.9s						
V48A	**Smith Brothers**	**24.13**	**357**	P	**P**	**10 37 01.6**	**+0.5**
V48A				IAmb	IAmb	10 37 16.4	
	comp=Z,16nm,1.4s						
V55A	**Taylorsville**	**24.47**	**8**	P	**P**	**10 37 05.8**	**+1.5**
WHAR	**Wooly Hollow**	**24.49**	**346**	P	**P**

NVAR	**Mina Array Bea**	**39.82**	**318**	P	**P**	**10 39 19.1**	**+0.2**
DGMT	**Dagmar**	**40.07**	**340**	P	**P**	**10 39 20.4**	**-0.2**
DGMT				IAmb	IAmb	10 39 24.2	
	comp=Z,32nm,1.6s						
SCHQ	**Schefferville**	**45.55**	**15**	LR	LR	10 59 42.4	
	comp=Z,171nm,18.4s,baz=268,slow=37						
BDFB	**Brasilia**	**45.67**	**125**	LR	LR	11 00 41.4	
	comp=Z,115nm,19.0s,baz=347,slow=38						
PGC	**Sidney**	**48.75**	**327**	P	**P**	**10 40 29.9**	**0.0**
PLCA	**Paso Flores**	**53.76**	**166**	LR	LR	10 59 53.0	
	comp=Z,32nm,20.9s,baz=356,slow=32						
PTCN	**Pitcairn Islan**	**56.91**	**230**	P	**P**	**10 41 29.3**	**-1.4**
ILAR	**Eielson Array**	**67.73**	**336**	P	**P**	**10 42 43.0**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=129,slow=3.4,SNR=2.8						
ILAR				LR	LR	11 17 27.7	
	comp=Z,61nm,18.2s,baz=112,slow=40						
BWN	**Browne**	**68.57**	**335**	P	**P**	**10 42 46.8**	**-1.1**
ESDC	**Sonseca Array**	**76.03**	**52**	P	**P**	**10 43 31.5**	**-1.5**
	comp=Z,2.2nm,1.0s,baz=280,slow=6.1,SNR=9.2						
ESDC				LR	LR	11 11 47.2	
	comp=Z,34nm,20.8s,baz=270,slow=32						
ESDC	**Sonseca Array**	**76.03**	**52**	P	**P**	**10 43 32.3**	**-0.7**
NOA	**NORSAR Array B**	**83.09**	**29**	LR	LR	11 18 50.3	
	comp=Z,24nm,20.0s,baz=285,slow=34						
ARCES	**ARCESS Array B**	**86.32**	**19**	P	**P**	**10 44 27.7**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=277,slow=3.5,SNR=2.0						
ARCES				LR	LR	11 24 03.3	
	comp=Z,31nm,18.9s,baz=264,slow=36						
GERES	**GERESS Array B**	**87.19**	**41**	P	**P**	**10 44 29.4**	**-2.6**
	comp=Z,0.6nm,0.9s,baz=288,slow=4.0,SNR=1.8						
GERES				LR	LR	11 22 52.7	
	comp=Z,64nm,18.0s,baz=274,slow=35						
GERES	**GERESS Array B**	**87.19**	**41**	P	**P**	**10 44 31.4**	**-0.5**
FINES	**FINESS Array B**	**89.80**	**27**	LR	LR	11 24 23.1	
	comp=Z,19nm,18.3s,baz=346,slow=35						
PETK	**Petropavlovsk-**	**96.33**	**327**	LR	LR	11 32 02.5	
	comp=Z,22nm,18.6s,baz=78,slow=38						
NRIK	**Norilʹsk**	**99.15**	**3**	LR	LR	11 31 24.0	
	comp=Z,49nm,19.5s,baz=9.0,slow=36						

*AUST **30** 10:43:56.2±0.3,33.80S×136.48E,h0km, Error ellipse: s-maj=3.0km s-min=1.5km az=44.0*
*IDC **30** 10:44:02.2±7.1,33.09S×136.71E,h0km,mb1 3.2/3, mb1mx3.1/29,mbtmp3.0/3,ML2.9/3, Error ellipse: s-maj=76.9km s-min=26.1km az=19.0*
ISC 30 10:43:55.7±1.7,33.70S±0.1×136.40E±0.0,h10km,n11, σ2§69/17,Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBOO	**Buckleboo**	**0.93**	**342**	P	**Pn**	**10 44 16.1**	**+1.3**
	baz=1.1						
BBOO				S	**Sn**	**10 44 31.3**	**+3.1**
	baz=1.1						
AUJCS	**Jamestown Cent**	**1.92**	**76**	P	**Pn**	**10 44 29.5**	**+1.1**
	baz=1.9						
AUJCS				S	**Sn**	**10 44 55.1**	**+2.5**
	baz=1.9						
HTT	**Hallett**	**2.13**	**83**	P	**Pn**	**10 44 32.1**	**+0.8**
	baz=2.1						
HTT				S	**Sn**	**10 44 59.9**	**+2.0**
	baz=2.1						
AUMAR	**Marden Senior**	**2.21**	**123**	P	**Pn**	**10 44 32.5**	**+0.2**
	baz=2.1						
LCRK	**Leigh Creek**	**3.59**	**26**	P	**Pn**	**10 44 54.2**	**+2.7**
	baz=3.7						
LCRK				S	**Sn**	**10 45 32.9**	**-1.0**
	baz=3.7						
MULG	**Mulgathing**	**3.94**	**329**	P	**Pn**	**10 45 00.0**	**+3.7**
	baz=4.1						
STKA	**Stephens Creek**	**4.74**	**69**	Pn	**Pn**	**10 45 08.8**	**+1.5**
	0.5nm,0.3s,baz=264,slow=10,SNR=1.9						
STKA				Lg	Lg	10 46 19.8	
	1.0nm,0.3s,baz=340,slow=18,SNR=2.0						
STKA	**Stephens Creek**	**4.74**	**69**	P	**Pn**	**10 45 08.9**	**+1.6**
	baz=4.7						
ARPS	**Mount Arapiles**	**5.41**	**126**	P	**Pn**	**10 45 16.3**	**-0.1**
	baz=5.3						
ASAR	**Alice Springs**	**10.23**	**347**	Pn	**Pn**	**10 46 24.2**	**+1.5**
	0.1nm,0.3s,baz=164,slow=7.2,SNR=2.5						
ASAR				Sn	**Sn**	**10 48 17.0**	**-0.5**
	0.1nm,0.3s,baz=169,slow=22,SNR=2.3						
WRA	**Warramunga Arr**	**13.82**	**352**	Pn	**Pn**	**10 47 09.9**	**-1.9**
	0.1nm,0.3s,baz=166,slow=14,SNR=6.2						
WRA				Sn	**Sn**	**10 49 38.8**	**-6.7**
	0.0nm,0.3s,baz=168,slow=24,SNR=1.4						

*AUST **30** 10:44:21.6±2.4,34.61S×135.80E,h0km, Error ellipse: s-maj=30.5km s-min=8.2km az=59.0*
*IDC **30** 10:44:38.4±6.8,33.21S×136.54E,h0km,mb1 3.4/3, mb1mx3.2/29,mbtmp3.2/3,ML3.3/3, Error ellipse: s-maj=73.0km s-min=26.3km az=19.0*
ISC 30 10:44:11.0±4.2,34.8S±0.2×134.6E±0.3,h10km,n6, σ3§41/7,Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBOO	**Buckleboo**	**2.29**	**33**	P	**Pb**	**10 44 54.4**	**+1.9**
	baz=1.8						
AUMAR	**Marden Senior**	**3.33**	**94**	P	**Pn**	**10 45 01.1**	**-2.1**
	baz=2.3						
STKA	**Stephens Creek**	**6.53**	**66**	Pn	**Pn**	**10 45 47.4**	**+0.3**
	1.0nm,0.3s,baz=256,slow=14,SNR=3.9						
STKA				Lg	Lg	10 46 59.2	
	1.2nm,0.3s,baz=148,slow=20,SNR=3.1						
STKA	**Stephens Creek**	**6.53**	**66**	P	**Pn**	**10 45 46.8**	**-0.2**
	baz=5.6						
ASAR	**Alice Springs**	**11.06**	**357**	Pn	Pn	10 47 02.6	+13
	0.1nm,0.3s,baz=166,slow=9.5,SNR=4.9						
ASAR				Sn	**Sn**	**10 48 51.8**	**-1.4**
	0.2nm,0.3s,baz=172,slow=21,SNR=4.0						
WRA	**Warramunga Arr**	**14.76**	**359**	Pn	**P**	**10 47 48.3**	**+2.4**
	0.2nm,0.3s,baz=165,slow=14,SNR=7.3						
WRA				Sn	**Sn**	**10 50 17.9**	**-5.5**
	0.1nm,0.3s,baz=177,slow=23,SNR=1.9						

*IDC **30** 10:49:14.4±4.5,1.57S×77.76W,h156km±49km,mb3.3/7, mb1 3.5/9,mb1mx3.3/31,mbtmp3.8/9, Error ellipse: s-maj=49.2km s-min=20.2km az=42.0*
ISC 30 10:49:14.2±0.6,1.56S±0.06×78.0W±0.1,h150km,n27, σ1§34/31,mb3.5/7,4C,Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**1.84**	**346**	*i* P	**Pn**	**10 49 49.8**	**+1.8**
OTAV				eS	**Sn**	**10 50 14.0**	**+0.1**
CUSE	**Cuicocha Este**	**1.89**	**348**	*e*P	**Pn**	**10 49 48.4**	**-0.2**
PUAC	**Puerto Asis, P**	**2.53**	**34**	*i*P	**Pn**	**10 49 58.0**	**+2.2**
GCUF	**Volcan Galeras**	**2.84**	**13**	*i*P	**Pn**	**10 50 02.7**	**+2.6**
BBAC	**Balboa, Cauca**	**3.63**	**12**	*e*P	**Pn**	**10 50 11.2**	**+1.3**
FLOC	**Florencia**	**3.90**	**37**	*i*P	**Pn**	**10 50 14.4**	**+1.2**
PCON	**Cinco Dias**	**4.18**	**22**	*e*P	**Pn**	**10 50 19.5**	**+2.1**
POPC	**Popayan, Colom**	**4.28**	**18**	*e*P	**Pn**	**10 50 19.5**	**+1.1**
GARC	**Garzon, Huila**	**4.48**	**34**	*i*P	**Pn**	**10 50 22.9**	**+1.8**
MARP	**Paez Belalcaza**	**4.82**	**25**	*e*P	**Pn**	**10 50 27.1**	**+1.5**
MACC	**Macarena, Meta**	**5.54**	**48**	*e*P	**Pn**	**10 50 35.8**	**+0.9**
ATAH	**Atahualpa**	**5.55**	**184**	P	**Pn**	**10 50 36.4**	**+1.0**
	2.3nm,0.3s,baz=12,slow=4.5,SNR=25						
ATAH				S	**Sn**	**10 51 38.5**	**-0.3**
	8.6nm,0.3s,baz=132,slow=13,SNR=9.1						
YOTC	**Yotoco, Valle**	**5.75**	**17**	*e*P	**Pn**	**10 50 36.5**	**-1.1**
ORTC	**Ortega, Tolima**	**6.08**	**27**	*e*P	**Pn**	**10 50 42.0**	**-0.2**
PRAC	**Prado**	**6.09**	**31**	*e*P	**Pn**	**10 50 41.9**	**-0.3**
TOLC	**Tolima**	**6.66**	**24**	*e*P	**Pn**	**10 50 48.8**	**-1.2**
NNA	**Nana**	**10.43**	**174**	P	**Pn**	**10 51 41.5**	**+1.5**
	0.9nm,0.3s,baz=294,slow=12,SNR=1.7						
NNA				S	Sn	10 53 25.2	-10
	1.2nm,0.3s,baz=251,slow=23,SNR=1.7						
LPAZ	**La Paz**	**17.57**	**147**	P	**Pn**	**10 53 10.9**	**+0.3**
	0.1nm,0.3s,baz=301,slow=5.9,SNR=4.6						
CMIG	**Matias Romero**	**24.92**	**319**	P	**P**	**10 54 24.2**	**+0.7**
	2.2nm,0.7s,baz=121,slow=6.6,SNR=4.1						
TXAR	**Lajitas Array**	**39.33**	**323**	P	**P**	**10 56 30.0**	**+1.0**
	0.2nm,0.5s,baz=153,slow=9.0,SNR=2.5						
TXAR				PcP	**PcP**	**10 58 35.3**	**+0.6**
	0.1nm,0.4s,baz=150,slow=5.8,SNR=3.5						
PDAR	**Pinedale Array**	**52.49**	**331**	P	**P**	**10 58 12.0**	**0.0**
	0.3nm,0.6s,baz=118,slow=8.6,SNR=2.6						
NVAR	**Mina Array Bea**	**54.41**	**321**	P	**P**	**10 58 27.3**	**+1.2**
	0.3nm,0.6s,baz=117,slow=5.9,SNR=2.3						
NVAR				PcP	**PcP**	**10 59 28.1**	**0.0**
	0.2nm,0.6s,baz=146,slow=3.7,SNR=2.8						

DBIC	**Dimbokro**	**73.45**	**83**	P	**P**	**11 00 29.1**	**-1.7**
	0.8nm,0.3s,baz=242,slow=6.2,SNR=1.5							
TORD	**Torodi Ar. Bea**	**80.32**	**76**	P	**P**	**11 01 07.3**	**-2.0**
	0.5nm,0.3s,baz=282,slow=6.0,SNR=5.0							
ILAR	**Eielson Array**	**82.54**	**336**	P	**P**	**11 01 19.4**	**-0.6**
	0.5nm,0.5s,baz=140,slow=3.4,SNR=7.4							
ASAR	**Alice Springs**	**140.12**	**229**	PKhKP	PKPpre	11 08 18.1		
	0.5nm,0.8s,baz=124,slow=3.4,SNR=4.5							
ASAR				PKP	**PKPdf**	**11 08 24.6**	**-1.4**	
	0.5nm,0.8s,baz=102,slow=1.9,SNR=6.8							
WRA	**Warramunga Arr**	**141.76**	**234**	PKhKP	PKPpre	11 08 22.7		
	0.4nm,0.7s,baz=117,slow=2.4,SNR=1.8							
WRA				PKP	**PKPdf**	**11 08 27.9**	**-1.1**	
	0.4nm,0.5s,baz=114,slow=2.2,SNR=6.0							

IDC 30 10:51:26.2±10.0,5.46N×124.06E,h406km±134km, mb2.8/5,mb1 2.9/5,mb1mx2.7/38,mbtmp3.6/5,Error ellipse: s-maj=132.0km s-min=24.9km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.19**	**158**	P	P	10 56 35.9	+0.8
	0.3nm,0.8s,baz=338,slow=9.9,SNR=1.3						
ASAR	**Alice Springs**	**30.50**	**162**	P	P	10 57 03.3	-0.8
	0.2nm,0.5s,baz=338,slow=7.5,SNR=4.4						
SONM	**Songino Array**	**44.85**	**343**	P	P	10 59 02.1	-0.2
	0.5nm,0.7s,baz=152,slow=9.5,SNR=2.0						
MKAR	**Makanchi Array**	**54.64**	**326**	P	P	11 00 14.8	-0.1
	0.8nm,0.5s,baz=121,slow=8.1,SNR=15						
ARCES	**ARCESS Array B**	**87.92**	**340**	P	P	11 03 30.8	0.0
	1.3nm,0.9s,baz=66,slow=5.9,SNR=4.4						

*TRN **30** 11:01:23.7,17.93N×63.54W,h168km,MD3.7*
*NEIC **30** 11:01:26.3±1.2,17.8N±0.4×63.7W±0.1,h164km±13km, Error ellipse: s-maj=58.3km s-min=9.3km az=191.0*
*RSPR **30** 11:01:26.8,17.82N×63.75W,h168km±2km,MD3.4/6*
ISC 30 11:01:23.3±1.8,17.9N±0.1×63.56W±0.0,h180km±11km, n61,σ1§36/88,16C-4D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKI	**Saint Kitts**	**0.96**	**125**	*e*P	**Pn**	**11 01 51.5**	**+0.7**
SKI				*e*S	**Sn**	**11 02 11.4**	**-0.6**
SKI	**Saint Kitts**	**0.96**	**125**	Pn	**Pn**	**11 01 52.1**	**+1.3**
TBVI	**Tortola**	**1.13**	**297**	*i*P	**Pn**	**11 01 53.3**	**+1.3**
TBVI	**Tortola**	**1.13**	**297**	*e*S	**Sn**	**11 02 13.1**	**-1.0**
TBVI	**Tortola**	**1.13**	**297**	*i*P	**Pn**	**11 01 53.3**	**+1.3**
TBVI				*e*S	**Sn**	**11 02 13.1**	**-1.0**
TBVI	**Tortola**	**1.13**	**297**		**Pn**	**11 01 53.3**	**+1.3**
TBVI					**Sn**	**11 02 13.1**	**-1.0**
CDVI	**St. Croix**	**1.16**	**263**	*i*P	**Pn**	**11 01 52.7**	**+0.5**
CDVI	**St. Croix**	**1.16**	**263**	*e*S	**Sn**	**11 02 13.2**	**-1.3**
CDVI	**St. Croix**	**1.16**	**263**	*e*P	**Pn**	**11 01 52.4**	**+0.2**
CDVI				*e*S	**Sn**	**11 02 12.7**	**-1.9**
CDVI				*e*S		11 02 13.2	
CDVI	**St. Croix**	**1.16**	**263**		**Pn**	**11 01 53.0**	**+0.8**
CDVI					**Sn**	**11 02 12.6**	**-1.9**
STVI	**Saint Thomas**	**1.40**	**289**	*i*P	**Pn**	**11 01 56.0**	**+1.7**
STVI	**Saint Thomas**	**1.40**	**289**	*e*S	**Sn**	**11 02 17.5**	**-0.8**
STVI	**Saint Thomas**	**1.40**	**289**	*i*P	**Pn**	**11 01 56.0**	**+1.7**
STVI				*e*S	**Sn**	**11 02 17.5**	**-0.8**
STVI	**Saint Thomas**	**1.40**	**289**		**Pn**	**11 01 55.9**	**+1.6**
STVI					**Sn**	**11 02 17.4**	**-0.8**
CUPR	**Culebra, Puert**	**1.69**	**284**	*i*P	**Pn**	**11 01 58.6**	**+1.5**
CUPR	**Culebra, Puert**	**1.69**	**284**	*e*S	**Sn**	**11 02 23.0**	**-0.2**
CUPR	**Culebra, Puert**	**1.69**	**284**		**Pn**	**11 01 58.5**	**+1.4**
CUPR					**Sn**	**11 02 21.9**	**-1.3**
ANWB	**Willy Bob**	**1.71**	**97**	*e*P	**Pn**	**11 01 58.3**	**+1.0**
ANWB				*e*S	**Sn**	**11 02 21.6**	**-1.9**
ANWB	**Willy Bob**	**1.71**	**97**	Pn	**Pn**	**11 01 58.3**	**+1.0**
MLYT	**Lee's Yard**	**1.75**	**132**	*e*P	**Pn**	**11 01 58.6**	**+0.7**
MLYT				*e*S	**Sn**	**11 02 24.0**	**-0.6**
MTP	**Monte Pirata**	**1.91**	**276**	*i*P	**Pn**	**11 02 00.6**	**+1.3**
MTP	**Monte Pirata**	**1.91**	**276**	*e*S	**Sn**	**11 02 27.1**	**-0.2**
MTP	**Monte Pirata**	**1.91**	**276**	*e*P	**Pn**	**11 02 00.6**	**+1.3**
MTP				*e*S	**Sn**	**11 02 27.1**	**-0.2**
MTP	**Monte Pirata**	**1.91**	**276**		**Pn**	**11 02 00.7**	**+1.3**
MTP					**Sn**	**11 02 27.3**	**0.0**
HUMP	**Col San Antoni**	**2.19**	**277**	Pn	**Pn**	**11 02 03.5**	**+1.0**
HUMP					**Sn**	**11 02 32.4**	**-0.5**
CBYP	**Canovanas**	**2.22**	**280**	*i*P	**Pn**	**11 02 04.3**	**+1.5**
CBYP	**Canovanas**	**2.22**	**280**	*e*S	**Sn**	**11 02 33.4**	**-0.1**
CBYP	**Canovanas**	**2.22**	**280**	*i*P	**Pn**	**11 02 04.3**	**+1.5**
CBYP				*e*S	**Sn**	**11 02 33.4**	**-0.1**
CBYP	**Canovanas**	**2.22**	**280**		**Pn**	**11 02 04.0**	**+1.2**
CBYP					**Sn**	**11 02 32.5**	**-1.0**
PDPR	**Patillas Dam,**	**2.35**	**273**	*i*P	**Pn**	**11 02 05.8**	**+1.6**
PDPR	**Patillas Dam,**	**2.35**	**273**	*e*S	**Sn**	**11 02 36.0**	**0.0**
PDPR	**Patillas Dam,**	**2.35**	**273**		**Pn**	**11 02 05.3**	**+1.1**
PDPR					**Sn**	**11 02 35.3**	**-0.7**
IGPR	**InterUniversit**	**2.43**	**272**	*i*P	**Pn**	**11 02 06.4**	**+1.3**
IGPR	**InterUniversit**	**2.43**	**272**	*e*S	**Sn**	**11 02 37.5**	**-0.1**
ABD	**La Joyeuse, An**	**2.43**	**125**	*e*P	**Pn**	**11 02 05.6**	**+0.3**
ABD				*e*S	**Sn**	**11 02 35.8**	**-2.0**
GCPR	**Guaynabo City**	**2.44**	**280**	Pn	**Pn**	**11 02 06.8**	**+1.6**
GCPR					**Sn**	**11 02 36.9**	**-0.9**
CBE	**Ff, Capester**	**2.61**	**134**	*e*P	**Pn**	**11 02 08.3**	**+1.0**
CBE				*e*S	**Sn**	**11 02 40.8**	**-0.7**
TDBA	**Terre de Bas,**	**2.75**	**138**	*e*P	**Pn**	**11 02 10.4**	**+1.4**
TDBA				*e*S	**Sn**	**11 02 45.0**	**+0.5**
CELP	**Cerrillos**	**2.88**	**274**	*i*P	**Pn**	**11 02 11.9**	**+1.4**
CELP	**Cerrillos**	**2.88**	**274**	*e*S	**Sn**	**11 02 46.7**	**-0.6**
CELP	**Cerrillos**	**2.88**	**274**	*i*P	**Pn**	**11 02 11.9**	**+1.4**
CELP				*e*S	**Sn**	**11 02 46.7**	**-0.6**
CELP	**Cerrillos**	**2.88**	**274**		**Pn**	**11 02 11.9**	**+1.4**
CELP					**Sn**	**11 02 46.7**	**-0.6**
EMPR	**Esperanza - Ma**	**2.88**	**282**	*i*P	**Pn**	**11 02 12.1**	**+1.6**
EMPR	**Esperanza - Ma**	**2.88**	**282**	*e*S	**Sn**	**11 02 46.8**	**-0.5**
EMPR	**Esperanza - Ma**	**2.88**	**282**	Pn	**Pn**	**11 02 07.9**	**-2.6**
EMPR				Sn	**Sn**	**11 02 41.2**	**-6.0**
OBIP	**Obispado Ponce**	**2.90**	**273**	*i*P	**Pn**	**11 02 10.9**	**+0.2**
OBIP	**Obispado Ponce**	**2.90**	**273**	*i*P	**Pn**	**11 02 10.9**	**+0.2**
OBIP	**Obispado Ponce**	**2.90**	**273**		**Pn**	**11 02 10.9**	**+0.2**
MAGL	**Barre de l'ile**	**2.92**	**131**	*e*P	**Pn**	**11 02 11.6**	**+0.7**
MAGL				*e*S	**Sn**	**11 02 46.5**	**-1.6**
AOPR	**Arecibo Observ**	**3.07**	**279**	*i*P	**Pn**	**11 02 14.4**	**+1.5**
AOPR	**Arecibo Observ**	**3.07**	**279**	*e*S	**Sn**	**11 02 50.4**	**-1.1**
AOPR	**Arecibo Observ**	**3.07**	**279**	*e*P	**Pn**	**11 02 14.2**	**+1.4**
AOPR				*e*S	**Sn**	**11 02 49.8**	**-1.7**
AOPR	**Arecibo Observ**	**3.07**	**279**		**Pn**	**11 02 14.3**	**+1.5**
AOPR					**Sn**	**11 02 49.7**	**-1.7**
DSLB	**Salisbury**	**3.19**	**140**	*e*P	**Pn**	**11 02 16.3**	**+2.0**
MLPR	**Magueyes Islan**	**3.32**	**272**	*i*P	**Pn**	**11 02 16.5**	**+0.6**
MLPR	**Magueyes Islan**	**3.32**	**272**	*e*S	**Sn**	**11 02 55.0**	**-1.8**
MLPR	**Magueyes Islan**	**3.32**	**272**		**Pn**	**11 02 16.4**	**+0.6**
MLPR					**Sn**	**11 02 56.0**	**-0.8**
AGPR	**Aguadilla, PR**	**3.42**	**280**	*i*P	**Pn**	**11 02 18.1**	**+1.0**
AGPR	**Aguadilla, PR**	**3.42**	**280**	*e*P	**Pn**	**11 02 18.1**	**+1.0**
AGPR	**Aguadilla, PR**	**3.42**	**280**		**Pn**	**11 02 17.6**	**+0.5**
BIM	**Bigot**	**4.12**	**144**	*e*P	**Pn**	**11 02 26.5**	**+0.4**

IDC 30 11:02:27.7±9.0,41.67S×79.50E,h0km,mb4.0/5, mb1 4.1/5,mb1mx3.7/28,mbtmp4.0/5,MS3.9/14, Ms1 3.9/14,ms1mx3.7/24,Error ellipse: s-maj=249.4km s-min=27.3km az=135.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**27.52**	**194**	P	P	11 08 15.8	+0.2
	2.4nm,1.0s,baz=21,slow=14,SNR=3.4						
MAW				LR	LR	11 16 37.5	
	comp=Z,225nm,21.1s,baz=54,slow=31						
H01W2	**Cape Leeuwin H**	**27.88**	**87**	T	T	11 37 04.0	
	baz=245,slow=74,SNR=18						
H01W3	**Cape Leeuwin H**	**27.89**	**87**	T	T	11 37 04.3	
	baz=245,slow=74,SNR=17						
H01W1	**Cape Leeuwin H**	**27.89**	**87**	T	T	11 37 05.6	
	baz=245,slow=74,SNR=15						
H08S2	**Diego Garcia H**	**34.45**	**348**	T	T	11 45 50.2	
	baz=170,slow=76,SNR=5.2						
H08S1	**Diego Garcia H**	**34.45**	**348**	T	T	11 45 49.6	
	baz=170,slow=76,SNR=4.4						
H08S3	**Diego Garcia H**	**34.47**	**348**	T	T	11 45 51.7	
	baz=170,slow=76,SNR=4.1						
BOSA	**Boshof**	**45.54**	**269**	LR	LR	11 26 14.0	
	comp=Z,199nm,18.8s,baz=152,slow=31						
VNDA	**Vanda**	**48.08**	**163**	LR	LR	11 29 44.6	
	comp=Z,286nm,18.5s,baz=265,slow=34						

ASAR	**Alice Springs**	**48.37**	**86**	P	P	11 11 11.6	+0.1	
	1.2nm,0.8s,baz=226,slow=7.1,SNR=7.0							
ASAR				LR	LR	11 29 09.3		
	comp=Z,197nm,19.3s,baz=234,slow=33							
QSPA	**South Pole Qui**	**48.49**	**180**	P	P	11 11 11.7	-0.2	
	2.2nm,1.0s,baz=277,slow=3.4,SNR=12							
STKA	**Stephens Creek**	**49.73**	**100**	P	P	11 11 21.7	0.0	
	2.1nm,0.8s,baz=238,slow=8.1,SNR=3.5							
STKA				LR	LR	11 29 36.4		
	comp=Z,168nm,18.2s,baz=208,slow=33							
WRA	**Warramunga Arr**	**50.91**	**82**	P	P	11 11 30.4	-0.4	
	1.9nm,0.9s,baz=231,slow=7.2,SNR=6.6							
KMBO	**Kilima Mbogo**	**55.43**	**305**	LR	LR	11 31 02.5		
	comp=Z,72nm,20.2s,baz=90,slow=31							
CMAR	**Chiang Mai Arr**	**62.47**	**21**	LR	LR	11 35 25.8		
	comp=Z,79nm,21.6s,baz=232,slow=32							
GEYT	**Ailbeck**	**81.59**	**343**	LR	LR	11 45 34.9		
	comp=Z,42nm,21.2s,baz=165,slow=32							
TORD	**Torodi Ar. Bea**	**89.75**	**288**	LR	LR	11 52 36.3		
	comp=Z,104nm,21.5s,baz=345,slow=34							
DBIC	**Dimbokro**	**90.19**	**279**	LR	LR	11 51 46.6		
	comp=Z,73nm,18.8s,baz=125,slow=33							
BRTR	**Keskin Array B**	**91.10**	**326**	LR	LR	11 53 46.3		
	comp=Z,28nm,18.3s,baz=5.5,slow=34							
KBZ	**Khabaz**	**91.16**	**334**	LR	LR	11 52 51.9		
	comp=Z,46nm,19.6s,baz=147,slow=33							
KVAR	**Kislovodsk Arr**	**91.43**	**334**	LR	LR	11 51 09.3		
	comp=Z,79nm,21.8s,baz=110,slow=32							
AKTO	**Aktyubinsk**	**93.63**	**346**	LR	LR	11 56 38.9		
	comp=Z,35nm,18.2s,baz=187,slow=35							

*NEIC **30** 11:02:54.2±1.3,20.7S±0.1×178.6W±0.1,h599km±9km, mb4.5/51, Error ellipse: s-maj=17.3km s-min=14.8km az=127.0*
*IDC **30** 11:02:59.5±2.6,20.70S×178.84W,h654km±33km, mb3.2/13,mb1 3.5/13,mb1mx3.3/27,mbtmp4.2/13, Error ellipse: s-maj=17.5km s-min=12.6km az=153.0*
ISC 30 11:02:54.6±0.4,20.75S±0.08×178.62W±0.0,h600km, n94,σ1§14/98,mb4.4/37,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.35**	**313**		**P**	**11 04 25.4**	**+2.6**
NIUE	**Niue**	**8.34**	**80**	P	**P**	**11 04 57.9**	**+0.7**
NIUE				S	**S**	**11 06 35.1**	**-2.6**
AFI	**Afiamalu**	**9.43**	**45**	P	**P**	**11 05 07.2**	**-0.7**
AFI				S	**S**	**11 06 58.4**	**+1.2**
DZM	**Mont Dzumac**	**13.98**	**262**	P	**P**	**11 05 52.8**	**-0.6**
	0.9nm,0.3s,baz=94,slow=5.5,SNR=16						
DZM	**Mont Dzumac**	**13.98**	**262**	P	**P**	**11 05 52.5**	**-1.0**
SANVU	**Saraoutou**	**14.47**	**289**		**P**	**11 05 59.4**	**+1.3**
HAZ	**Te Kaha**	**17.23**	**190**	P	**P**	**11 06 22.9**	**-0.1**
RUGZ	**Raukumara Rang**	**17.45**	**190**	P	**P**	**11 06 25.4**	**+0.2**
TOZ	**Tahuroa Road**	**17.67**	**196**	P	**P**	**11 06 28.8**	**+1.8**
URZ	**Urewera**	**17.84**	**191**	P	**P**	**11 06 26.8**	**-1.7**
	3.1nm,0.3s,baz=283,slow=2.4,SNR=25						
URZ	**Urewera**	**17.84**	**191**	P	**P**	**11 06 27.2**	**-1.3**
URZ	**Urewera**	**17.84**	**191**	P	**P**	**11 06 27.5**	**-1.0**
MWZ	**Matawai**	**17.84**	**190**	P	**P**	**11 06 27.0**	**-1.6**
RIGZ	**Rimuhau**	**18.16**	**189**	P	**P**	**11 06 31.5**	**0.0**
SNGZ	**Shannon Statio**	**18.30**	**190**	P	**P**	**11 06 32.2**	**-0.6**
BKZ	**Black Stump Fm**	**18.83**	**192**	P	**P**	**11 06 35.8**	**-1.8**
BKZ				IAmb	IAmb	11 06 37.4	
	comp=Z,24nm,1.4s						
TMVZ	**Te Maari**	**18.95

comp=Z,13nm,0.8s
UNV Unalaska Valle 75.02 7 P **P** **11 13 35.1 -0.4**
UNV IAmb IAmb 11 13 52.2
comp=Z,26nm,1.1s
PETK Petropavlovsk- 76.37 346 P **P** **11 13 42.9 -0.2**
comp=Z,2.4nm,0.7s,baz=141,slow=9.6,SNR=4.4
KSRS Korea Array 76.69 319 P **P** **11 13 45.4 +0.3**
comp=Z,0.6nm,0.7s,baz=33,slow=36,SNR=2.7
USRK Ussuriysk Ar. 78.85 326 P **P** **11 13 57.9 +1.3**
comp=Z,1.5nm,0.6s,baz=145,slow=42,SNR=3.9
BELA Belgrano 2 79.38 173 P **P** **11 13 58.9 0.0**
ISA Isabella, Lake 79.92 46 P **P** **11 14 00.6 -1.9**
NVAR Mina Array Bea 81.60 44 P **P** **11 14 12.4 +1.1**
comp=Z,0.4nm,0.6s,baz=226,slow=7.7,SNR=4.8
SUA Susitna One 84.93 13 P **P** **11 14 27.0 -0.1**
SUA IAmb IAmb 11 14 43.2
comp=Z,14nm,1.5s
GHO Glory Hole Cre 85.60 14 P **P** **11 14 30.4 +0.1**
GHO IAmb IAmb 11 14 42.2
comp=Z,9.6nm,1.3s
SCM Sheep Creek Mo 86.02 14 P **P** **11 14 32.5 +0.2**
SCM IAmb IAmb 11 14 39.7
comp=Z,22nm,1.5s
GLB Gilahina Butte 86.54 16 P **P** **11 14 35.0 +0.4**
GLB IAmb IAmb 11 14 38.1
comp=Z,6.0nm,1.4s
TRF Thorofare Moun 86.81 12 P **P** **11 14 35.7 -0.4**
TRF IAmb IAmb 11 14 40.3
comp=Z,5.5nm,1.3s
WRH Wood River Hil 88.17 13 P **P** **11 14 41.7 -0.5**
CCB Clear Creek Bu 88.39 13 P **P** **11 14 42.4 -0.7**
IMAR Indian Mountai 88.50 10 P **P** **11 14 43.9 +0.3**
ILAR Eielson Array 88.69 13 P **P** **11 14 43.9 -0.7**
comp=Z,0.5nm,0.5s,baz=216,slow=5.4,SNR=7.3
PDAR Pinedale Array 89.54 43 P **P** **11 14 49.9 +0.5**
comp=Z,0.3nm,0.6s,baz=242,slow=3.2,SNR=4.9
CMAR Chiang Mai Arr 89.66 290 P **P** **11 14 51.0 +0.9**
comp=Z,0.6nm,0.3s,baz=125,slow=3.0,SNR=6.6
FINES FINESS Array B 135.85 343 PKP **PKiKP** **11 21 08.9 -0.4**
comp=Z,1.8nm,1.0s,baz=122,slow=3.4,SNR=5.6
AKASG Malin Array Be 142.95 330 PKP **PKPdf** **11 21 17.5 -3.2**
comp=Z,3.5nm,0.4s,baz=42,slow=4.2,SNR=16
BRTR Keskin Array B 146.58 312 PKPbc **PKPbc** **11 21 29.4 -0.8**
comp=Z,0.9nm,0.6s,baz=139,slow=5.0,SNR=4.2
CLL Collm 148.17 346 *e*PKPab **PKPab** **11 21 38.0 -1.0**
CLL Collm 148.17 346 ⇓*i*PKPbc **PKPbc** **11 21 33.4 -0.3**
comp=Z,4.0nm,0.9s
GERES GERESS Array B 150.28 343 PKPbc **PKPbc** **11 21 38.2 -0.8**
comp=Z,0.8nm,0.6s,baz=320,slow=3.5,SNR=5.4

*SKHL **30** 11:13:18.8±0.5, 43.°78N×145.°98E, h98km±3km, mb4.3/2, msh5.4/3*
*JMA **30** 11:13:18.8±0.1, 43.°55N×146.°47E, h78km±2km, M3.4*
*MOS **30** 11:13:18.2±1.4, 44.°00N×146.°01E, h91km, mb4.1/3, Error ellipse: s-maj=18.8km s-min=13.7km az=93.2*
ISC 30 11:13:16.7±1.0, **43.°65N**±0.°07×**146.°44E**±0.°06, **h90**km±6km, **n33**,σ1**s78**/50, **2C-3D**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.56**	**313**	*i* P	**Pn**	**11 13 32.9**	**+1.0**
YUK				AMB	AMB	11 13 33.0	
	40nm,0.2s						
YUK				*i* S	**Sn**	**11 13 44.0**	**+0.7**
YUK				A	A	11 13 45.0	
	140nm,0.3s						
YUK				A	A	11 13 45.0	
	850nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.56**	**313**	⇓*i* PN	**Pn**	**11 13 32.9**	**+1.0**
YUK				*i* S	**Sn**	**11 13 44.4**	**+1.1**
YUK				pmax	pmax		
	comp=Z,437nm,0.2s						
YUK				pmax	pmax		
	comp=N,163nm,0.1s						
YUK				smax	smax		
	comp=E,849nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.5s						
NEM2	**Nemuro 2**	**0.58**	**240**	P	**Pn**	**11 13 32.9**	**+0.9**
NEM2				*e*S	**Sn**	**11 13 43.5**	**0.0**
GRPR	**Tuman**	**0.59**	**305**	*i* P	**Pn**	**11 13 33.1**	**+1.0**
GRPR				*e*S	**Sn**	**11 13 43.6**	**-0.1**
GRPR				A	A	11 13 43.8	
	comp=N,830nm,0.6s						
GRPR				A	A	11 13 43.8	
	comp=N,2μm,0.6s						
GRPR	**Tuman**	**0.59**	**305**	⇑*i* PN	**Pn**	**11 13 33.1**	**+1.0**
GRPR				*e*S	**Sn**	**11 13 43.6**	**-0.1**
GRPR				smax	smax		
	comp=N,828nm,0.3s						
GRPR				smax	smax		
	comp=E,2μm,0.4s						
NMR	**Nemuro--Hokkai**	**0.59**	**241**	*i* P	**Pn**	**11 13 32.9**	**+0.8**
NMR				*i* S	**Sn**	**11 13 43.5**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.59**	**241**	*i* PN	**Pn**	**11 13 32.9**	**+0.8**
NMR				*i* S	**Sn**	**11 13 43.5**	**-0.1**
JRA	**Rausu**	**0.99**	**287**	P	**Pn**	**11 13 38.5**	**+2.3**
JRA				*e*S	**Sn**	**11 13 53.4**	**+2.5**
JNSB	**Nemuroshibetsu**	**1.04**	**277**	P	**Pn**	**11 13 39.0**	**+2.2**
JNSB				*e*S	**Sn**	**11 13 54.3**	**+2.3**
JKHN	**Kushirohamanak**	**1.09**	**239**	P	**Pn**	**11 13 38.9**	**+1.5**
JKHN				*e*S	**Sn**	**11 13 53.7**	**+0.8**
JNK	**Nakash**	**1.25**	**267**	P	**Pn**	**11 13 40.8**	**+1.5**
JNK				*e*S	**Sn**	**11 13 57.1**	**+0.8**
JAK	**Akkeshi**	**1.43**	**243**	P	**Pn**	**11 13 42.9**	**+1.4**
JAK				*e*S	**Sn**	**11 14 01.0**	**+0.8**
JTKR	**Abashiri--Toko**	**1.86**	**281**	P	**Pn**	**11 13 49.6**	**+2.7**
KUR	**Kuril'sk**	**1.88**	**32**	*i* P	**Pn**	**11 13 49.7**	**+2.4**
KUR				AMB	AMB	11 13 50.0	
	comp=E,170nm,0.5s						
KUR				*i* S	**Sn**	**11 14 12.6**	**+1.9**
KUR				A	A	11 14 13.0	
	comp=E,290nm,0.2s						
KUR				A	A	11 14 13.0	
	comp=E,170nm,0.2s						
KUR	**Kuril'sk**	**1.88**	**32**	*c i* PN	**Pn**	**11 13 49.7**	**+2.4**
KUR				*i* S	**Sn**	**11 14 12.5**	**+1.9**
KUR				pmax	pmax		
	comp=Z,148nm,0.5s						
KUR				pmax	pmax		
	comp=N,34nm,0.7s						
KUR				smax	smax		
	comp=N,287nm,0.2s						
KUR				smax	smax		
	comp=E,107nm,0.2s						
JAR	**Ashorobuto**	**1.97**	**261**	P	**Pn**	**11 13 51.0**	**+2.5**
JAR				*e*S	**Sn**	**11 14 14.8**	**+2.0**
JOB	**Onbets**	**2.04**	**249**	P	**Pn**	**11 13 51.6**	**+2.2**
JOB				*e*S	**Sn**	**11 14 15.7**	**+1.3**
JMP	**Maruseppu**	**2.25**	**280**	P	**Pn**	**11 13 55.2**	**+3.0**
JCH	**Churui**	**2.48**	**246**	P	**Pn**	**11 13 56.9**	**+1.7**
ERM	**Erimo**	**2.92**	**237**	*d i* PN	**Pn**	**11 14 04.4**	**+3.4**
YSS	**Yuzh-Sakhalins**	**4.20**	**323**	*e*P	**Pn**	**11 14 17.1**	**-1.2**
YSS	**Yuzh-Sakhalins**	**4.20**	**323**	*e*PN	Pn	11 14 12.7	-5.6
MAJO	**Matsushiro**	**9.49**	**224**	*i* PN	**Pn**	**11 15 34.3**	**+3.8**
KLR	**Kul'dur**	**11.56**	**304**	*e*P	**Pn**	**11 15 56.0**	**-2.4**
KLR	**Kul'dur**	**11.56**	**304**	*i* PN	**Pn**	**11 15 56.0**	**-2.4**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
YAK	**Yakutsk**	**20.89**	**338**	*i* P	**P**	**11 17 50.2**	**-1.0**
YAK	**Yakutsk**	**20.89**	**338**	*i* P	**P**	**11 17 50.2**	**-1.0**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TLY	**Talaya**	**29.55**	**301**	*i* P	**P**	**11 19 11.7**	**-0.9**
TLY	**Talaya**	**29.55**	**301**	*i* P	**P**	**11 19 11.7**	**-0.9**
ARU	**Arti**	**54.06**	**317**	*e*P	**P**	**11 22 31.8**	**+0.3**
ARU	**Arti**	**54.06**	**317**	*d i*P	**P**	**11 22 31.8**	**+0.3**
ARU						11 24 29.2	
ARU				S	**S**	**11 29 59.8**	**-0.8**
ARU				SS	**SKiKP**	**11 33 31.1**	**-2.9**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN	**Obninsk**	**65.08**	**323**	*i* P	**P**	**11 23 47.8**	**+0.6**
OBN	**Obninsk**	**65.08**	**323**	*i* P	**P**	**11 23 47.8**	**+0.6**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						

*KRNET **30** 11:13:50.5±0.1, 39.°53N×72.°57E, h14km, mb3.3*
*SOME **30** 11:13:52.7, 39.°65N×72.°68E, h5km*
*NNC **30** 11:13:55.7±1.5, 39.°76N×72.°71E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=12.7km s-min=6.5km az=1.0*

*IDC **30** 11:14:04.9±7.4, 40.°71N×72.°60E, h0km, mb4.0/1, mb1 3.6/3, mb1mx3.3/31, mbtmp3.5/3, ML2.0/2, MS3.3/1, Ms1 3.3/1, ms1mx2.3/39, Error ellipse: s-maj=136.4km s-min=29.1km az=163.0*
ISC 30 11:13:52.6±1.1, **39.°48N**±0.°05×**72.°55E**±0.°03, **h10**km, **n44**, σ1**s83**/70, **33C-11D**, **Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.06**	**10**	⇑*i* P	**Pg**	**11 14 10.0**	**-3.0**
	baz=9.0						
OHH				⇑*i* S	**Sg**	**11 14 23.8**	**-2.9**
	baz=9.0						
BTK	**Batken**	**1.45**	**294**	⇑*i* P	**Pn**	**11 14 17.6**	**-1.4**
	baz=92						
BTK				⇑*i* P	**Sn**	**11 14 37.6**	**-0.6**
	baz=92						
GAR	**Garm**	**1.80**	**255**	⇑*i* P	**Pn**	**11 14 24.6**	**+0.8**
	baz=54						
GAR				⇑*i* S	**Sb**	**11 14 49.3**	**+0.9**
	baz=54						
ARK	**Arkit**	**2.36**	**349**	⇑*i* P	**Pn**	**11 14 31.4**	**-0.1**
	baz=49						
ARK				⇑*i* S	**Sn**	**11 15 01.1**	**+0.5**
	baz=49						
ARLS	**Aral**	**2.73**	**29**	⇑*i* P	**Pn**	**11 14 36.4**	**-0.3**
	baz=29						
ARLS				⇑*i* S	**Sn**	**11 15 10.7**	**+0.8**
	baz=29						
CHGR	**Chuyangaron**	**2.77**	**254**	⇑*i* P	**Pn**	**11 14 38.0**	**+0.9**
	baz=53						
CHGR				⇑*i* S	**Sn**	**11 15 13.2**	**+2.6**
	baz=53						
AML	**Almayashu**	**2.79**	**18**	⇑*i* P	**Pn**	**11 14 37.9**	**+0.2**
	baz=18						
AML				⇑*i* S	**Sn**	**11 15 12.5**	**+1.0**
	baz=18						
UCH	**Uchtor**	**3.12**	**28**	⇑*i* P	**Pn**	**11 14 42.2**	**-0.1**
	baz=28						
UCH				⇑*i* S	**Sn**	**11 15 20.7**	**+0.8**
	baz=28						
IUG	**Iuzhnay**	**3.28**	**325**	*e*P	**Pb**	**11 14 52.2**	**+1.3**
	32nm,0.3s						
IUG				*e*S	**Sg**	**11 15 35.5**	**-2.4**
	109nm,0.7s						
IUG	**Iuzhnay**	**3.28**	**325**	Pg	**Pb**	**11 14 52.3**	**+1.3**
	32nm,0.3s						
IUG				Lg	Lg	11 15 35.6	
	109nm,0.7s						
MRKS	**Merke**	**3.30**	**9**	*e*P	**Pb**	**11 14 51.2**	**-0.1**
	20nm,0.5s						
MRKS				*e*S	**Sb**	**11 15 34.3**	**+2.7**
	36nm,0.4s						
MRKS	**Merke**	**3.30**	**9**	Pg	**Pb**	**11 14 51.2**	**-0.1**
	18nm,0.5s						
MRKS				Lg	Lg	11 15 33.7	
	36nm,0.4s						
KZA	**Kyzart**	**3.31**	**37**	⇓*i* P	**Pn**	**11 14 44.8**	**0.0**
	baz=38						
KZA				⇓*i* S	**Sn**	**11 15 24.6**	**+0.2**
	baz=38						
EKS2	**Erkin-Say**	**3.31**	**16**	⇑*i* P	**Pn**	**11 14 44.9**	**+0.3**
	baz=16						
EKS2				⇑*i* S	**Sn**	**11 15 25.1**	**+1.0**
	baz=16						
DZA	**Taraz**	**3.53**	**345**	Pg	**Pn**	**11 14 51.1**	**+3.6**
	99nm,0.1s						
DZA				Lg	Lg	11 15 33.3	
	145nm,0.2s						
CHM	**Chimkent**	**3.61**	**323**	*e*P	**Pb**	**11 14 59.7**	**+3.1**
	17nm,0.8s						
CHM				*e*S	**Sg**	**11 15 48.1**	**-0.4**
	288nm,0.3s						
KBK	**Karagaybulak**	**3.65**	**29**	⇑*i* P	**Pn**	**11 14 49.9**	**+0.5**
	baz=29						
KBK				⇑*i* S	**Sn**	**11 15 33.0**	**+0.4**
	baz=29						
FRU1	**Bishkek**	**3.68**	**25**	⇑*i* P	**Pn**	**11 14 49.9**	**+0.3**
	baz=25						
FRU1				⇑*i* S	**Sn**	**11 15 33.2**	**+0.1**
	baz=25						
CHMS	**Chumysh**	**3.89**	**25**	⇓*i* P	**Pn**	**11 14 52.6**	**+0.1**
	baz=25						
CHMS				⇓*i* S	**Sn**	**11 15 38.1**	**-0.1**
	baz=25						
KK31	**Karatay Array**	**3.93**	**338**	Pn	**Pn**	**11 14 55.0**	**+1.9**
	2.2nm,0.3s,baz=151,slow=12,SNR=112						
KK31				⇓Pg	**Pb**	**11 15 04.0**	**+1.9**
	2.5nm,0.3s,baz=159,slow=14,SNR=12						
KK31				⇓Lg	Lg	11 15 42.5	
	20nm,0.5s						
ULHL	**Ulahol**	**3.93**	**44**	⇓*i* P	**Pn**	**11 14 53.7**	**+0.4**
	baz=45						
ULHL				⇓*i* S	**Sn**	**11 15 39.6**	**0.0**
	baz=45						
BRLS	**Boroldav**	**4.09**	**331**	*e*P	**Pb**	**11 15 06.5**	**+1.7**
	5.7nm,0.1s						
BRLS				*e*S	**Sg**	**11 16 00.3**	**-3.8**
	22nm,0.3s						
BRLS	**Boroldav**	**4.09**	**331**	Pg	**Pb**	**11 15 06.5**	**+1.7**
	5.7nm,0.1s						
TKM2	**Tokmak 2**	**4.13**	**33**	⇓*i* P	**Pn**	**11 14 56.5**	**+0.5**
	baz=33						
TKM2				⇓*i* S	**Sn**	**11 15 44.2**	**-0.3**
	baz=33						
TKM2	**Tokmak 2**	**4.13**	**33**	⇑Pn	**Pn**	**11 14 56.8**	**+0.7**
	4.5nm,0.5s						
TKM2				⇑Lg	Lg	11 15 54.9	
	19nm,0.8s						
SGDS	**Sogindy**	**4.26**	**21**	Pg	**Pb**	**11 15 08.5**	**+0.8**
	16nm,0.5s						
SGDS				Lg	Lg	11 16 03.2	
	21nm,0.6s						
KST	**Kastek**	**4.39**	**35**	*e*P	**Pb**	**11 15 09.3**	**-0.6**
	7.1nm,0.6s						
KST				*e*S	**Sb**	**11 16 04.7**	**+1.7**
	14nm,0.7s						
KDJ	**Kajisay**	**4.40**	**52**	⇑*i* P	**Pn**	**11 15 00.5**	**+0.9**
	baz=52						
KDJ				⇑*i* S	**Sn**	**11 15 51.2**	**+0.2**
	baz=52						
TNSS	**Tian-Shan**	**4.86**	**42**	*e*P	**Pb**	**11 15 18.2**	**+0.1**
	13nm,0.6s						
TNSS				*e*S	**Sb**	**11 16 20.4**	**+3.7**
	18nm,0.7s						
TNSS	**Tian-Shan**	**4.86**	**42**	Pg	**Pb**	**11 15 19.8**	**+1.8**
	13nm,0.6s						
MDOK	**Medeo**	**5.00**	**41**	*e*P	**Pb**	**11 15 20.2**	**-0.1**
	7.9nm,0.6s						
MDOK				*e*S	**Sb**	**11 16 24.1**	**+3.5**
	13nm,1.2s						
MDOK	**Medeo**	**5.00**	**41**	Pg	**Pb**	**11 15 20.2**	**-0.1**
	7.9nm,0.6s						
MDOK				Lg	Lg	11 16 24.1	
	13nm,1.2s						
ANVS	**Anan'yevo**	**5.08**	**48**	⇑*i* P	**Pn**	**11 15 09.2**	**+0.2**
	baz=48						
ANVS				⇑*i* S	**Sn**	**11 16 07.4**	**-0.4**
	baz=48						
KTBS	**Karatobe**	**5.24**	**35**	*e*P	**Pb**	**11 15 25.4**	**+1.0**
	4.8nm,0.7s						
KTBS				*e*S	**Sb**	**11 16 33.3**	**+6.0**
	26nm,0.6s						
KTBS	**Karatobe**	**5.24**	**35**	Pg	**Pb**	**11 15 25.4**	**+1.0**
	4.8nm,0.7s						
KTBS				Lg	Lg	11 16 33.3	
	26nm,0.6s						
KUU	**Kurty**	**5.24**	**32**	*e*P	**Pb**	**11 15 25.6**	**+1.2**
	5.9nm,0.7s						
KUU				*e*S	**Sb**	**11 16 33.5**	**+6.2**
	25nm,0.7s						
KUU	**Kurty**	**5.24**	**32**	Pg	**Pb**	**11 15 25.6**	**+1.2**
	5.9nm,0.7s						
KUU				Lg	Lg	11 16 33.5	
	25nm,0.7s						
PRZ	**Przheval'sk**	**5.35**	**54**	⇑*i* P	**Pn**	**11 15 13.7**	**+1.0**
	baz=54						
PRZ				⇑*i* S	**Sn**	**11 16 13.8**	**-0.6**
	baz=54						
PDGK	**Podgornoye**	**6.48**	**51**	⇑Pn	**Pn**	**11 15 28.6**	**+0.5**
	1.9nm,0.8s						
PDGK				⇑Lg	Lg	11 17 10.1	
	28nm,1.9s						
MKAR	**Makanchi Array**	**10.20**	**41**	Pn	**Pn**	**11 16 20.5**	**+1.5**
	0.1nm,0.3s,baz=224,slow=19,SNR=2.5						
MKAR				Lg	Lg	11 19 00.7	
	0.0nm,0.3s,baz=236,slow=22,SNR=2.4						
AB01	**Akbulak array**	**13.28**	**321**	⇓S	Sn	11 19 17.0	-12
	1.2nm,0.6s						
AB31	**Akbulak array**	**13.28**	**321**	⇑P	**Pn**	**11 16 59.1**	**-2.0**
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**16.70**	**26**	Pn	**Pn**	**11 17 45.2**	**-1.3**
	0.0nm,0.3s,baz=222,slow=7.9,SNR=1.6						
FINES	**FINESS Array B**	**35.76**	**323**	P	P	11 20 57.0	+5.6
	1.6nm,0.9s,baz=101,slow=7.2,SNR=4.4						
FINES				LR	LR	11 34 29.6	
	comp=Z,43nm,18.2s,baz=6.0,slow=35						

*BGR **30** 11:59:31.0±0.0, 48.°35N×149.°94E, h33km, mb5.1*
*NIED **30** 12:00:23.0, 49.°14N×150.°32E, h536km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr=2.64; Mθθ=0.21; Mφφ=2.42; Mrθ=0.05; Mθφ=2.66; Mφr=3.02; Fault plane solution: M₀=4.72000×10¹⁶ NP1:φs=7.00000°, δ=69.00000°, λ=-119.00000°. NP2:φs=245.00000°, δ=35.00000°, λ=-38.00000°.*
*BJI **30** 12:00:24.1±0.0, 49.°67N×149.°43E, h506km, mB4.8/39, mb4.9/68*
*SKHL **30** 12:00:24.6±0.7, 49.°56N×149.°55E, h523km±6km, mb5.2/5, msh5.5/8*
*MOS **30** 12:00:25.0±0.8, 49.°71N×149.°28E, h501km, mb4.7/101, Error ellipse: s-maj=5.4km s-min=4.2km az=101.9*
*IDC **30** 12:00:26.5±0.5, 49.°80N×149.°26E, h502km±4km, mb4.1/28, mb1 4.2/37, mb1mx4.1/48, mbtmp4.9/37, Error ellipse: s-maj=8.2km s-min=6.2km az=141.0*
*NEIC **30** 12:00:26.4±1.5, 49.°74N±0.°09×149.°3E±0.°1, h502km±6km, mb4.5/391, Error ellipse: s-maj=13.5km s-min=10.6km az=144.0*
ISC 30 12:00:25.7±0.3, **49.°65N**±0.°04×**149.°35E**±0.°03, **h500**km±3km, **h499**km;**pP-P**, **n1216**, σ1**s20**/1344, **mb4.6**/352, **42C-53D**, **Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TYV	**Tymovskoe**	**4.47**	**288**	*e*P	**P**	**12 01 49.3**	**+1.5**
TYV				AMB	AMB	12 01 49.7	
	2μm,3.0s						
TYV				AMB	AMB	12 01 49.8	
	820nm,0.7s						
TYV				*e*S	**S**	**12 02 56.1**	**+1.1**
TYV				A	A	12 02 57.4	
	1μm,3.5s						
TYV				A	A	12 02 57.4	
	900nm,3.5s						
TYV				A	A	12 02 57.4	
	190nm,1.0s						
TYV	**Tymovskoe**	**4.47**	**288**	*e*P	**P**	**12 01 49.3**	**+1.5**
TYV				*e*S	**S**	**12 02 56.1**	**+1.1**
TYV				pmax	pmax		
	comp=Z,2μm,2.7s						
TYV				pmax	pmax		
	comp=Z,818nm,0.7s						
TYV				smax	smax		
	comp=N,189nm,1.0s						
TYV				smax	smax		
	comp=N,1μm,3.5s						
SKR	**Severo-Kuril's**	**4.47**	**74**	*e*P	**P**	**12 01 47.4**	**-0.5**
SKR				AMB	AMB	12 01 48.0	
	comp=N,110nm,0.6s						
SKR				*e*S	**S**	**12 02 51.6**	**-3.5**
SKR				A	A	12 02 58.0	
	comp=N,410nm,0.8s						
SKR				A	A	12 02 58.0	
	comp=N,350nm,0.8s						
SKR	**Severo-Kuril's**	**4.47**	**74**	*e*P	**P**	**12 01 47.7**	**-0.2**
SKR				*e*S	**S**	**12 02 51.6**	**-3.5**
SKR				pmax	pmax		
	comp=Z,107nm,0.6s						
SKR				smax	smax		
	comp=N,402nm,0.6s						
SKR				smax	smax		
	comp=E,352nm,0.9s						
SKR				MLR	MLR		
	comp=E,200nm,11.0s						
SKR				MLR	MLR		
	comp=Z,100nm,11.0s						
SKR				MLR	MLR		
	comp=N,200nm,10.0s						
KUR	**Kuril'sk**	**4.53**	**193**	*i* P	**P**	**12 01 48.2**	**-0.4**
KUR				AMB	AMB	12 01 49.4	
	comp=N,1μm,1.0s						
KUR				AMB	AMB	12 01 49.8	
	comp=N,60nm,0.5s						
KUR				AMB	AMB	12 01 49.8	
	comp=N,70nm,0.5s						
KUR				AMB	AMB	12 01 49.8	
	comp=N,220nm,0.5s						
KUR				*e*S	**S**	**12 02 53.5**	**-2.6**
KUR				A	A	12 02 57.1	
	comp=N,4μm,3.0s						
KUR				A	A	12 02 57.1	
	comp=N,6μm,3.0s						
KUR				A	A	12 02 58.9	
	comp=N,240nm,0.9s						
KUR				A	A	12 02 58.9	
	comp=N,170nm,0.9s						
KUR	**Kuril'sk**	**4.53**	**193**	*d i*P	**P**	**12 01 48.2**	**-0.4**
KUR				*e*S	**S**	**12 02 54.3**	**-1.8**
KUR				pmax	pmax		
	comp=Z,253nm,1.1s						
KUR				pmax	pmax		
	comp=N,60nm,0.3s						
KUR				pmax	pmax		
	comp=E,65nm,0.6s						
KUR				smax	smax		
	comp=E,6μm,3.6s						
KUR				smax	smax		
	comp=N,4μm,2.1s						
KUR				smax	smax		
	comp=E,248nm,1.4s						
KUR				smax	smax		
	comp=N,198nm,1.1s						
UGL	**Uglegorsk**	**4.80**	**266**	*i* P	**P**	**12 01 52.4**	**+1.6**
UGL				AMB	AMB	12 01 53.0	
	comp=N,2μm,3.0s						
UGL				AMB	AMB	12 01 53.5	
	comp=N,490nm,0.6s						
UGL				AMB	AMB	12 01 53.5	
	comp=N,420nm,0.6s						
UGL				AMB	AMB	12 01 53.5	
	comp=N,1μm,0.6s						
UGL				*e*S	**S**	**12 03 00.4**	**+0.1**
UGL				A	A	12 03 01.0	
	comp=N,2μm,7.0s						
UGL				A	A	12 03 01.0	
	comp=N,2μm,7.0s						
UGL				A	A	12 03 03.5	
	comp=N,430nm,0.9s						
UGL				A	A	12 03 03.5	
	comp=N,530nm,0.9s						
UGL	**Uglegorsk**	**4.80**	**266**	⇑*i* P	**P**	**12 01 52.4**	**+1.6**
UGL				*e*S	**S**	**12 02 58.7**	**-1.6**
UGL				pmax	pmax		
	comp=Z,2μm,2.9s						
UGL				pmax	pmax		
	comp=N,491nm,0.6s						
UGL				pmax	pmax		
	comp=Z,1μm,0.6s						
UGL				pmax	pmax		
	comp=E,416nm,0.3s						
UGL				smax	smax		
	comp=N,2μm,7.1s						
UGL				smax	smax		
	comp=E,2μm,2.0s						
UGL				smax	smax		
	comp=N,430nm,0.9s						
UGL				smax	smax		
	comp=E,527nm,0.8s						
PAU	**Pauzhetka**	**5.09**	**66**	*e*P	**P**	**12 01 52.9**	**-0.4**
PAU				AMB	AMB	12 01 55.1	
	comp=E,610nm,0.7s						
PAU				*e*S	**S**	**12 03 03.0**	**-2.1**
PAU				A	A	12 03 06.3	
	comp=E,460nm,0.9s						
PAU				A	A	12 03 06.3	
	comp=E,160nm,0.9s						
YSS	**Yuzh-Sakhalins**	**5.16**	**241**	*i* P	**P**	**12 01 55.7**	**+1.6**
YSS				*i* P	**P**	**12 01 55.7**	**+1.6**
YSS				AMB	AMB	12 01 56.2	
	comp=E,1μm,4.0s						
YSS				AMB	AMB	12 01 56.4	
	comp=E,470nm,0.8s						

YSS				*i*	S	**S**	**12 03 06.2**	**-0.1**
YSS					A	A	12 03 09.4	
	comp=E,310nm,1.0s								
YSS					A	A	12 03 09.4		
	comp=E,330nm,1.0s								
YSS					A	A	12 03 10.2		
	comp=E,2μm,3.0s								
YSS	**Yuzh-Sakhalins**	**5.16 241**	⇓	*eP*	**P**	**12 01 55.7**	**+1.6**	
YSS					eS	**S**	**12 03 06.2**	**-0.1**
YSS					MLR	MLR			
	comp=Z,700nm,11.0s								
YSS	**Yuzh-Sakhalins**	**5.16 241**		P	**P**	**12 01 55.7**	**+1.6**	
OKH	**Okha**	**5.59 317**		*i* P	**P**	**12 01 59.7**	**+1.9**	
OKH				AMB	AMB	12 02 01.4		
	comp=Z,400nm,7.0s								
OKH				*i*	S	**S**	**12 03 15.7**	**+2.2**
OKH					A	A	12 03 19.6		
	comp=E,2μm,8.0s								
OKH					A	A	12 03 19.6		
	comp=Z,700nm,8.0s								
OKH	**Okha**	**5.59 317**	*c*	*i* P	**P**	**12 01 59.8**	**+1.9**	
OKH				*i*	S	**S**	**12 03 15.7**	**+2.2**
OKH					pmax	pmax			
	comp=Z,400nm,7.1s								
OKH					smax	smax			
	comp=N,2μm,7.8s								
OKH					smax	smax			
	comp=E,700nm,9.6s								
YUK	**Yuzh-Kuril'sk**	**6.10 204**		*i* P	**P**	**12 02 02.2**	**-0.8**	
YUK					AMB	AMB	12 02 04.5		
	comp=E,80nm,0.2s								
YUK					AMB	AMB	12 02 04.5		
	comp=E,80nm,0.2s								
YUK					AMB	AMB	12 02 04.5		
	comp=E,500nm,0.2s								
YUK					eS	**S**	**12 03 20.0**	**-2.6**	
YUK					A	A	12 03 25.8		
	comp=E,2μm,1.0s								
YUK					A	A	12 03 25.8		
	comp=E,6μm,1.0s								
YUK	**Yuzh-Kuril'sk**	**6.10 204**		*eP*	**P**	**12 02 02.2**	**-0.8**	
YUK					eS	**S**	**12 03 19.1**	**-3.5**	
YUK					pmax	pmax			
	comp=N,77nm,0.2s								
YUK					pmax	pmax			
	comp=E,76nm,0.2s								
YUK					pmax	pmax			
	comp=Z,499nm,0.2s								
YUK					smax	smax			
	comp=E,5μm,1.3s								
YUK					smax	smax			
	comp=N,2μm,1.2s								
YUK					MLR	MLR			
	comp=Z,182nm,13.0s								
YUK					MLR	MLR			
	comp=N,184nm,8.0s								
GRPR	**Tuman**	**6.17 205**		*i* P	**P**	**12 02 02.9**	**-0.8**	
GRPR					AMB	AMB	12 02 05.4		
	comp=N,340nm,0.4s								
GRPR					AMB	AMB	12 02 05.4		
	comp=N,150nm,0.3s								
GRPR					AMB	AMB	12 02 05.4		
	comp=N,150nm,0.3s								
GRPR				*i*	S	**S**	**12 03 19.3**	**-4.4**	
GRPR					A	A	12 03 25.9		
	comp=N,2μm,1.4s								
GRPR					A	A	12 03 25.9		
	comp=N,2μm,1.4s								
GRPR	**Tuman**	**6.17 205**	⇓	*iP*	**P**	**12 02 02.9**	**-0.8**	
GRPR				*i*	S	**S**	**12 03 19.3**	**-4.4**	
GRPR					pmax	pmax			
	comp=Z,342nm,0.4s								
GRPR					pmax	pmax			
	comp=N,145nm,0.1s								
GRPR					pmax	pmax			
	comp=E,153nm,0.3s								
GRPR					smax	smax			
	comp=E,2μm,1.4s								
GRPR					smax	smax			
	comp=N,2μm,0.9s								
PEA0B	**Petropavlovsk-**	**6.27 53**		P	**P**	**12 02 04.5**	**0.0**	
PEA0B				S	**S**	**12 03 25.1**	**-0.3**	
PETK	**Petropavlovsk-**	**6.27 53**		P	**P**	**12 02 03.8**	**-0.7**	
	comp=N,4.0nm,0.3s,baz=214,slow=6.7,SNR=303								
PETK					ScP	**ScP**	**12 10 42.7**	**-0.1**	
	baz=8.7,slow=2.0,SNR=3.8								
PETK	**Petropavlovsk-**	**6.27 53**		P	**P**	**12 02 04.5**	**0.0**	
JRA	**Rausu**	**6.41 209**		P	**P**	**12 02 04.9**	**-1.1**	
JRA				eS	**S**	**12 03 25.3**	**-2.7**	
NKL	**Nikolayevsk**	**6.46 306**		*i* P	**P**	**12 02 07.3**	**+1.0**	
NKL				AMB	AMB	12 02 07.5		
	comp=N,290nm,0.4s								
NKL				eS	**S**	**12 03 29.6**	**+0.8**	
NKL	**Nikolayevsk**	**6.46 306**		*eP*	**P**	**12 02 04.2**	**-2.1**	
NKL				eS	**S**	**12 03 29.7**	**+0.9**	
NKL				pmax	pmax			
	comp=N,7.0nm,0.7s								
NKL				pmax	pmax			
	comp=Z,370nm,0.7s								
GLVR	**Golovnino**	**6.47 205**		*i* P	**P**	**12 02 05.0**	**-1.6**	
GLVR				AMB	AMB	12 02 07.8		
	comp=Z,330nm,0.4s								
GLVR				AMB	AMB	12 02 07.8		
	comp=Z,80nm,0.3s								
GLVR				AMB	AMB	12 02 07.8		
	comp=Z,80nm,0.3s								
GLVR				*i*	S	**S**	**12 03 25.5**	**-3.7**	
GLVR					A	A	12 03 33.3		
	comp=Z,2μm,0.6s								
GLVR					A	A	12 03 33.3		
	comp=Z,3μm,0.6s								
GLVR	**Golovnino**	**6.47 205**	*d*	*i* P	**P**	**12 02 05.0**	**-1.6**	
GLVR				*i*	S	**S**	**12 03 25.5**	**-3.7**	
GLVR					pmax	pmax			
	comp=Z,332nm,0.4s								
GLVR					pmax	pmax			
	comp=E,75nm,0.3s								
GLVR					pmax	pmax			
	comp=N,82nm,0.2s								
GLVR					smax	smax			
	comp=N,3μm,0.6s								
GLVR					smax	smax			
	comp=E,3μm,1.5s								
JSE	**Soyaes**	**6.57 227**		P	**P**	**12 02 08.6**	**+1.0**	
JSE				S	**S**	**12 03 32.6**	**+1.7**	
JWK2	**Keihoku**	**6.65 232**		P	**P**	**12 02 10.4**	**+2.0**	
JWK2				S	**S**	**12 03 35.4**	**+2.9**	
PET	**Petropavlovsk**	**6.74 56**		*eP*	**P**	**12 02 09.1**	**+0.1**	
PET				AMB	AMB	12 02 11.2		
	comp=E,330nm,0.8s								
PET				eS	**S**	**12 03 31.6**	**-2.2**	
PET				A	A	12 03 39.5		
	comp=E,750nm,0.7s								
PET				A	A	12 03 39.5		
	comp=E,860nm,0.7s								
PET	**Petropavlovsk**	**6.74 56**		*eP*	**P**	**12 02 09.1**	**+0.1**	
PET				eS	**S**	**12 03 31.6**	**-2.2**	
PET				pmax	pmax				
	comp=Z,334nm,0.8s								
PET				smax	smax				
	comp=E,859nm,0.7s								
PET				smax	smax				
	comp=N,748nm,0.7s								
PET				MLR	MLR				
	comp=Z,300nm,10.0s								
PET	**Petropavlovsk**	**6.74 56**		P	**P**	**12 02 09.2**	**+0.1**	
PET				S	**S**	**12 03 35.1**	**+1.3**	
NEM2	**Nemuro 2**	**6.76 203**		P	**P**	**12 02 05.9**	**-3.6**	
NEM2				S	**S**	**12 03 28.5**	**-5.9**	
NMR	**Nemuro--Hokkai**	**6.76 203**		*eP*	**P**	**12 02 06.2**	**-3.3**	
NMR				eS	**S**	**12 03 28.6**	**-5.8**	
NMR	**Nemuro--Hokkai**	**6.76 203**		*eP*	**P**	**12 02 05.9**	**-3.6**	
NMR				eS	**S**	**12 03 27.3**	**-7.1**	
JTKR	**Abashiri--Toko**	**6.79 215**		P	**P**	**12 02 09.4**	**-0.4**	
JTKR				eS	**S**	**12 03 32.9**	**-2.2**	
JMP	**Maruseppu**	**6.98 218**		P	**P**	**12 02 11.4**	**-0.3**	
JMP				eS	**S**	**12 03 37.2**	**-1.3**	
JRBN	**Rebuntou**	**7.02 236**		P	**P**	**12 02 13.0**	**+0.9**	
JRBN				S	**S**	**12 03 39.3**	**+0.1**	
JKA	**Kamikawa-asahi**	**7.21 222**		*eP*	**P**	**12 02 14.6**	**+0.6**	
JKA	**Kamikawa-asahi**	**7.21 222**		P	**P**	**12 02 14.6**	**+0.6**	
JKA				S	**S**	**12 03 43.4**	**+0.6**	
ASAJ	**Asahikawa**	**7.21 222**		P	**P**	**12 02 14.6**	**+0.6**	
	comp=Z,5.2nm,0.3s,baz=60,slow=4.3,SNR=52								
ASAJ				S	**S**	**12 03 44.1**	**+1.3**	
	comp=Z,1.4nm,0.3s,baz=324,slow=31,SNR=14								
ASAJ	**Asahikawa**	**7.21 222**		P	**P**	**12 02 14.7**	**+0.6**	
ASAJ				*eS*	**S**	**12 03 42.5**	**-0.3**	
ASAJ	**Asahikawa**	**7.21 222**		P	**P**	**12 02 14.6**	**+0.6**	
ASAJ				S	**S**	**12 03 43.4**	**+0.6**	
JAK	**Akkeshi**	**7.39 208**		P	**P**	**12 02 13.2**	**-2.7**	
JAK				S	**S**	**12 03 39.8**	**-6.3**	
JHR	**Hokuryu**	**7.89 224**		P	**P**	**12 02 21.8**	**+0.8**	
JHR				*eS*	**S**	**12 03 54.7**	**-0.9**	
JCH	**Churui**	**8.17 213**		P	**P**	**12 02 21.2**	**-2.7**	
JCH				S	**S**	**12 03 53.9**	**-6.9**	
GRNR	**Gornyy**	**8.37 283**		*eP*	**P**	**12 02 27.1**	**+1.3**	
GRNR				AMB	AMB	12 02 27.6		
	comp=Z,20nm,0.9s								
GRNR				AMB	AMB	12 02 27.6		
	comp=Z,120nm,0.9s								
GRNR				AMB	AMB	12 02 27.6		
	comp=Z,200nm,0.9s								
GRNR	**Gornyy**	**8.37 283**	⇑	*iP*	**P**	**12 02 27.1**	**+1.3**	
GRNR				*eS*	**S**	**12 04 03.8**	**-0.8**	
GRNR				pmax	pmax				
	comp=E,120nm,1.1s								
GRNR				pmax	pmax				
	comp=Z,200nm,1.1s								
GRNR				pmax	pmax				
	comp=N,20nm,0.9s								
GRNR				smax	smax				
	comp=N,40nm,1.0s								
GRNR				MLR	MLR				
	comp=N,70nm,12.0s								
GRNR				MLR	MLR				
	comp=Z,170nm,10.0s								
JEW	**Eniwo**	**8.73 222**		P	**P**	**12 02 29.4**	**-0.3**	
ERM	**Erimo**	**8.77 212**	*c*	*eP*	**P**	**12 02 29.4**	**-0.7**	
ERM				pmax	pmax				
	comp=Z,52nm,0.5s								
ERM	**Erimo**	**8.77 212**		P	**P**	**12 02 29.7**	**-0.4**	
ERM				S	**S**	**12 04 09.3**	**-3.0**	
JEM	**Erimo**	**8.77 212**		P	**P**	**12 02 29.5**	**-0.6**	
JSH	**Shimam**	**9.52 226**		P	**P**	**12 02 37.1**	**-0.9**	
JKB	**Kayabe**	**9.69 220**		P	**P**	**12 02 37.8**	**-2.0**	
JKB				*eS*	**S**	**12 04 22.0**	**-8.0**	
TEY	**Ternei**	**9.80 247**		*eP*	**P**	**12 02 40.5**	**-0.4**	
TEY				AMB	AMB	12 02 42.9		
	comp=Z,50nm,0.5s								
TEY				AMB	AMB	12 02 42.9		
	comp=Z,30nm,0.7s								
TEY				AMB	AMB	12 02 42.9		
	comp=Z,60nm,0.7s								
TEY				*eS*	**S**	**12 04 31.8**	**-0.3**	
TEY				A	A	12 04 32.2		
	comp=Z,30nm,0.9s								
TEY				A	A	12 04 32.2		
	comp=Z,20nm,0.9s								
TEY	**Ternei**	**9.80 247**	⇑	*eP*	**P**	**12 02 40.5**	**-0.4**	
TEY				*eS*	**S**	**12 04 31.8**	**-0.3**	
TEY				pmax	pmax				
	comp=Z,50nm,0.5s								
TEY				pmax	pmax				
	comp=N,30nm,0.7s								
TEY				pmax	pmax				
	comp=E,60nm,0.7s								
TEY				smax	smax				
	comp=E,20nm,0.9s								
TEY				smax	smax				
	comp=N,30nm,1.1s								
MA2	**Magadan**	**9.98 4**		P	**P**	**12 02 42.7**	**+0.1**		
	comp=N,3.7nm,0.3s,baz=189,slow=9.8,SNR=62								
MA2				S	**S**	**12 04 33.7**	**-1.5**		
	baz=158,slow=22,SNR=7.7								
MA2	**Magadan**	**9.98 4**		P	**P**	**12 02 42.5**	**0.0**		
JOT	**Ohata**	**10.11 218**		P	**P**	**12 02 41.9**	**-2.3**		
JOT				S	**S**	**12 04 31.1**	**-7.0**		
JOSM	**Okushiri--Mats**	**10.22 226**		P	**P**	**12 02 45.1**	**-0.3**		
JTM	**Tenmabayashi**	**10.61 216**		P	**P**	**12 02 48.4**	**-1.1**		
EKMR	**Ekimchan**	**10.81 295**		*i* P	**P**	**12 02 53.0**	**+1.5**		
EKMR				AMB	AMB	12 02 53.9			
	comp=N,90nm,0.5s								
KLR	**Kul'dur**	**11.47 275**		P	**P**	**12 03 00.0**	**+1.5**		
	comp=N,4.2nm,0.3s,baz=78,slow=9.3,SNR=100								
KLR				S	**S**	**12 05 05.3**	**+0.9**		
	baz=199,slow=9.8,SNR=9.5								
KLR				ScP	**ScP**	**12 10 48.8**	**+0.2**		
	comp=N,0.2nm,0.3s,baz=353,slow=4.2,SNR=8.7								
KLR	**Kul'dur**	**11.47 275**		*eP*	**P**	**12 02 59.5**	**+1.0**		
KLR	**Kul'dur**	**11.47 275**	*c*	*iP*	**P**	**12 02 59.5**	**+1.0**		
KLR				pmax	pmax				
	comp=Z,106nm,1.6s								
JOM	**Ohasama**	**11.68 212**		P	**P**	**12 03 01.5**	**+0.7**		
JMK	**Ichinoseki**	**12.17 212**		P	**P**	**12 03 06.8**	**+0.8**		
JMK				*eS*	**S**	**12 05 16.7**	**-1.5**		
JYA	**Atsumi**	**13.03 216**		P	**P**	**12 03 16.0**	**+0.8**		
JYA				*eS*	**S**	**12 05 35.1**	**+0.3**		
USA0B	**Ussuriysk Arra**	**13.05 252**		P	**P**	**12 03 14.1**	**-1.2**		
USA0B	**Ussuriysk Arra**	**13.05 252**		P	**P**	**12 03 14.1**	**-1.2**		
USRK	**Ussuriysk Ar.**	**13.05 252**		P	**P**	**12 03 14.6**	**-0.7**		
	baz=60,slow=11,SNR=31								
USRK				S	**S**	**12 05 30.4**	**-4.7**		
	baz=136,slow=40,SNR=1.5								
JMM	**Marumori**	**13.29 211**		P	**P**	**12 03 18.5**	**+0.6**		
JMM				*eS*	**S**	**12 05 41.6**	**+1.7**		
SEY	**Seymchan**	**13.42 6**		P	**P**	**12 03 19.2**	**+0.3**		
	comp=Z,2.9nm,0.3s,baz=185,slow=9.3,SNR=74								
SEY				S	**S**	**12 05 40.9**	**-0.8**		
	baz=336,slow=22,SNR=1.4								
BMKR	**Bomnak**	**13.55 300**		*i* P	**P**	**12 03 20.0**	**-0.4**		
BMKR				AMB	AMB	12 03 20.6			
	comp=Z,10.0nm,0.4s								
BMKR				AMB	AMB	12 03 20.6			
	comp=Z,20nm,0.4s								
BMKR				AMB	AMB	12 03 20.6			
	comp=Z,30nm,0.4s								
VLA	**Vladivostok**	**13.70 248**		*i* P	**P**	**12 03 21.1**	**-1.0**		
VLA	**Vladivostok**	**13.70 248**		*i* P	**P**	**12 03 21.1**	**-1.0**		
VLA				pmax	pmax				
	comp=Z,18nm,0.7s								
JSD	**Sado**	**14.08 219**		P	**P**	**12 03 26.7**	**+0.5**		
JSD				*eS*	**S**	**12 05 57.2**	**+2.1**		
ZEA	**Zeya**	**14.29 295**		*i* P	**P**	**12 03 28.1**	**-0.1**		
ZEA				AMB	AMB	12 03 29.3			
	comp=Z,10.0nm,0.6s								
ZEA				AMB	AMB	12 03 29.3			
	comp=Z,20nm,0.6s								
ZEA				AMB	AMB	12 03 29.3			
	comp=Z,40nm,0.6s								
ZEA	**Zeya**	**14.29 295**		*eP*	**P**	**12 03 27.9**	**-0.3**		
ZEA				*eS*	**S**	**12 05 57.0**	**-1.7**		
ZEA				pmax	pmax				
	comp=Z,200nm,2.0s								
ZEA				pmax	pmax				
	comp=Z,57nm,1.2s								
ZEA				smax	smax				
	comp=E,2μm,6.0s								
ZEA				MLR	MLR				
	comp=Z,200nm,10.0s								
MDJ	**Mudanjiang**	**14.35 257**		P	**P**	**12 03 27.3**	**-1.7**		
MDJ				S	**S**	**12 05 56.5**	**-3.6**		
MDJ				pmax	pmax				
	comp=Z,26nm,1.1s								
MDJ				pmax	pmax				
	comp=Z,54nm,4.0s								
MDJ	**Mudanjiang**	**14.35 257**		P	**P**	**12 03 27.4**	**-1.5**		
KROS	**Kirovskiy**	**14.56 298**		*i* P	**P**	**12 03 30.9**	**-0.1**		
KROS				AMB	AMB	12 03 31.0			
	comp=Z,10.0nm,0.6s								
KROS				AMB	AMB	12 03 31.0			
	comp=Z,20nm,0.6s								
KROS				AMB	AMB	12 03 31.0			
	comp=Z,40nm,0.6s								
MAJO	**Matsushiro**	**15.40 216**	*d*	*iP*	**P**	**12 03 40.2**	**+0.1**		
MAJO	**Matsushiro**	**15.40 216**		P	**P**	**12 03 40.2**	**+0.1**		
MAT	**Matsushiro**	**15.40 216**		P	**P**	**12 03 40.2**	**+0.1**		
MAT				S	**S**	**12 06 12.8**	**-7.6**		
MJAR	**Matsushiro Arr**	**15.40 216**		P	**P**	**12 03 40.4**	**+0.3**		
	comp=Z,0.4nm,0.3s,baz=10,slow=11,SNR=35								
MJAR				ScP	**ScP**	**12 10 55.0**	**-0.4**		
	comp=Z,0.1nm,0.3s,baz=91,slow=0.6,SNR=11								
MJAR	**Matsushiro Arr**	**15.40 216**		P	**P**	**12 03 40.1**	**0.0**		
JRY	**Ryogami san**	**15.61 213**		P	**P**	**12 03 42.5**	**+0.2**		
SMY	**Shemya**	**15.79 69**		P	**P**	**12 03 44.3**	**+0.4**		
SMY				pmax	pmax				
	comp=Z,216nm,1.4s								
SMY	**Shemya**	**15.79 69**		P	**P**	**12 03 44.3**	**+0.4**		
JGN	**Niukaw**	**16.02 218**		P	**P**	**12 03 46.8**	**+0.1**		
JOD2	**Odawara 2**	**16.22 211**		P	**P**	**12 03 48.0**	**-0.7**		
YAK	**Yakutsk**	**16.52 326**		P	**P**	**12 03 49.4**	**-1.9**		
	comp=Z,1.5nm,0.3s,baz=285,slow=0.1,SNR=61								
YAK				S	**S**	**12 06 36.4**	**-3.9**		
	comp=Z,0.4nm,0.3s,baz=143,slow=18,SNR=18								
YAK	**Yakutsk**	**16.52 326**	*d*	*iP*	**P**	**12 03 49.4**	**-1.9**		
YAK				*eS*	**S**	**12 06 37.0**	**-3.3**		
YAK				pmax	pmax				
	comp=Z,166nm,0.9s								
YAK				pmax	pmax				
	comp=N,57nm,1.2s								
YAK				pmax	pmax				
	comp=E,39nm,1.1s								
YAK				smax	smax				
	comp=E,585nm,1.8s								
YAK				smax	smax				
	comp=N,1μm,2.8s								
YAK	**Yakutsk**	**16.52 326**		P	**P**	**12 03 49.3**	**-2.0**		
JGF	**Kuroka**	**16.55 216**		P	**P**	**12 03 51.9**	**-0.3**		
CN2	**Changchun**	**17.36 259**		*eP*	**P**	**12 03 57.5**	**-2.6**		
CN2				*eS*	**S**	**12 06 53.8**	**-1.5**		
CN2				pmax	pmax				
	comp=N,10.0nm,0.6s								
JAD	**Aida**	**18.44 223**		P	**P**	**12 04 10.7**	**+0.6**		
JTNC	**Tanabenakahech**	**18.80 218**		P	**P**	**12 04 14.6**	**+1.2**		
JHS	**Saijyo**	**18.87 225**		P	**P**	**12 04 14.0**	**0.0**		
AMKA	**Amchitka**	**19.07 73**		P	**P**	**12 04 16.0**	**+0.4**		
HIA	**Hailar**	**19.20 280**		P	**P**	**12 04 15.8**	**-1.1**		
HIA				pmax	pmax				
	comp=Z,29nm,0.6s								
HIA	**Hailar**	**19.20 280**		P	**P**	**12 04 15.8**	**-1.1**		
KS19	**Wonju Array Si**	**19.66 240**		P	**P**	**12 04 22.1**	**+0.9**		
KSRS	**Korea Array**	**19.66 240**		P	**P**	**12 04 22.4**	**+1.2**		
	comp=Z,1.5nm,0.3s,baz=44,slow=9.6,SNR=62								
KSRS				PcP	**PcP**	**12 08 16.9**	**+0.8**		
	comp=Z,0.1nm,0.3s,baz=16,slow=0.8,SNR=11								
KSRS				ScP	**ScP**	**12 11 05.3**	**+1.0**		
	comp=Z,0.2nm,0.3s,baz=3.3,slow=2.0,SNR=8.2								
KSAR	**Wonju Array Be**	**19.69 240**		*eP*	**P**	**12 04 21.2**	**-0.3**		
KSAR	**Wonju Array Be**	**19.69 240**		P	**P**	**12 04 21.2**	**-0.3**		
KSAR	**Wonju Array Be**	**19.69 240**		P	**P**	**12 04 21.2**	**-0.3**		
INCN	**Inchon**	**20.37 242**		P	**P**	**12 04 28.6**	**+0.9**		
INCN				pmax	pmax				
	comp=Z,17nm,0.9s								
INCN	**Inchon**	**20.37 242**		P	**P**	**12 04 28.6**	**+0.9**		
INCN				lAmb	lAmb	12 04 29.0			
	comp=Z,17nm,0.8s								
TJN	**Taejon**	**20.75 239**	*c*	*eP*	**P**	**12 04 31.8**	**+0.8**		
JNU	**Nakatsue**	**21.46 227**		P	**P**	**12 04 38.4**	**+0.8**		
	comp=Z,12nm,0.8s,baz=36,slow=5.5,SNR=6.1								
JNU	**Nakatsue**	**21.46 227**		P	**P**	**12 04 38.7**	**+1.1**		
ADK	**Adak**	**21.49 71**		P	**P**	**12 04 37.1**	**-0.4**		
ADK				pmax	pmax				
	comp=Z,83nm,1.1s								
ADK	**Adak**	**21.49 71**		P	**P**	**12 04 37.1**	**-0.4**		
DL2	**Dalian**	**22.44 252**		P	**P**	**12 04 46.5**	**+0.2**		
DL2				sP	**sP**	**12 07 04.3**	**+2.9**		
DL2				S	**S**	**12 08 15.5**	**-1.3**		
DL2				pmax	pmax				
	comp=Z,25nm,0.6s								
JCJ	**Chichijima**	**23.18 196**		P	**P**	**12 04 53.4**	**+0.3**		
BJI	**Beijing**	**25.23 260**		P	**P**	**12 05 11.8**	**+0.8**		
BJI				S	**S**	**12 09 00.5**	**-0.1**		
BJI				pmax	pmax				
	comp=Z,6.0nm,0.4s								
BJT	**Baijiatuau**	**25.24 260**		P	**P**	**12 05 10.0**	**-1.2**		
BJT				pmax	pmax				
	comp=Z,10.0nm,0.5s								
BJT	**Baijiatuau**	**25.24 260**		P	**P**	**12 05 10.0**	**-1.2**		
BJT				lAmb	lAmb	12 05 14.5			
	comp=Z,10.0nm,0.5s								
ULN	**Ulaanbaatar**	**27.68 283**		*eP*	**P**	**12 05 32.6**	**-0.2**		
ULN	**Ulaanbaatar**	**27.68 283**		P	**P**	**12 05 32.6**	**-0.2**		
ULN				pmax	pmax				
	comp=Z,11nm,1.0s								
ULN	**Ulaanbaatar**	**27.68 283**		P	**P**	**12 05 32.6**	**-0.2**		
ULN				lAmb	lAmb	12 05 33.7			
	comp=Z,11nm,0.9s								
HHC	**Hu-ho-hao-te**	**27.77 266**		*eP*	**P**	**12 05 34.5**	**+0.9**		
HHC				sP	sP	12 07 56.0	+0.1		
HHC				PcS	**PcS**	**12 12 19.5**	**+2.9**		
HHC				ScS	ScS	12 15 22.5	+2.4		
HHC				pmax	pmax				
	comp=Z,32nm,0.8s								
HHC				pmax	pmax				
	comp=Z,180nm,4.3s								
SONM	**Songino Array**	**28.11 283**		P	**P**	**12 05 36.3**	**-0.2**		
	comp=Z,5.3nm,0.9s,baz=56,slow=10.0,SNR=17								
SONM				PcP	**PcP**	**12 08 34.8**	**+0.2**		
	comp=Z,3.6nm,0.8s,baz=113,slow=2.0,SNR=7.7								
SONM				ScP	**ScP**	**12 11 27.2**	**-0.5**		
	comp=Z,2.1nm,0.6s,baz=91,slow=3.0,SNR=8.8								
SONM	**Songino Array**	**28.11 283**		P	**P**	**12 05 36.1**	**-0.4**		
SONM				pmax	pmax				
	comp=Z,4.0nm,0.9s								
SONM	**Songino Array**	**28.11 283**		P	**P**	**12 05 36.1**	**-0.4**		
TLY	**Talaya**	**28.69 292**		P	**P**	**12 05 41.9**	**+0.5**		
	comp=Z,13nm,0.6s,baz=9.3,SNR=5.5								
TLY				ScP	**ScP**	**12 11 29.3**	**-0.1**		
	comp=Z,1.4nm,0.4s,baz=325,slow=14,SNR=3.1								
TLY	**Talaya**	**28.69 292**		*i* P	**P**	**12 05 41.7**	**+0.4**		
TLY	**Talaya**	**28.69 292**	*d*	*iP*	**P**	**12 05 41.7**	**+0.4**		
TLY				pmax	pmax				
	comp=Z,71nm,1.0s								
TLY	**Talaya**	**28.69 292**		P	**P**	**12 05 41.8**	**+0.5**		
TLY				lAmb	lAmb	12 05 42.5			
	comp=Z,19nm,0.7s								
NJ2	**Nanjing**	**28.73 244**		*eP*	**P**	**12 05 42.0**	**+0.1**		
NJ2				pmax	pmax				
	comp=Z,12nm,1.0s								
BTO	**Baotou**	**28.90 267**		*eP*	**P**	**12 05 40.5**	**-3.0**		
TIY	**Taiyuan**	**28.95 260**		*eP*	**P**	**12 05 45.0**	**+1.1**		
TIY				pmax	pmax				
	comp=Z,53nm,0.9s								
ZAK	**Zakamensk**	**29.25 289**		*eP*	**P**	**12 05 46.3**	**-0.1**		
ZAK	**Zakamensk**	**29.25 289**		*eP*	**P**	**12 05 46.3**	**-0.1**		
ZAK				pmax	pmax				
	comp=Z,14nm,1.4s								
MOY	**Mondy**	**30.28 293**		*eP*	**P**	**12 05 55.6**	**+0.3**		
MOY	**Mondy**	**30.28 293**		*eP*	**P**	**12 05 55.6**	**+0.3**		
MOY				pmax	pmax				
	comp=Z,33nm,2.5s								
SDPT

COLD Coldfoot 34.43 37 P P 12 06 31.0 +0.7
baz=270,SNR=24
COLD Coldfoot 34.43 37 P P 12 06 30.6 +0.3
COLD IAmb IAmb 12 06 33.2
comp=Z,18nm,0.8s
TRF Thorofare Moun 34.58 43 P P 12 06 32.6 +0.8
TRF IAmb IAmb 12 06 34.8
comp=Z,28nm,1.4s
SUA Susitna One 34.60 47 P P 12 06 32.2 +0.3
SUA IAmb IAmb 12 06 36.0
comp=Z,21nm,0.9s
CNPM China Poot 34.67 50 P P 12 06 32.5 +0.1
TOLK Toolik Lake Re 34.69 34 P P 12 06 32.7 +0.2
baz=269,SNR=9.7
TOLK S S 12 11 24.9 -1.1
baz=269
TOLK Toolik Lake Re 34.69 34 P P 12 06 32.7 +0.2
TOLK IAmb IAmb 12 06 34.1
comp=Z,44nm,1.4s
CUT Chulitna 34.70 45 P P 12 06 32.3 -0.3
baz=277
CUT S S 12 11 26.9 +0.7
baz=277
BRLK Bradley Lake 34.81 50 P P 12 06 33.6 +0.1
BRLK IAmb IAmb 12 06 34.6
comp=Z,19nm,0.8s
BWN Browne 34.88 42 P P 12 06 35.7 +1.6
NRIK Noril'sk 34.97 327 P P 12 06 34.2 -0.5
comp=Z,4.8nm,0.4s,baz=95,slow=6.8,SNR=9.5
NRIK PcP PcP 12 08 52.9 -0.1
comp=Z,4.1nm,0.5s,baz=27,slow=3.9,SNR=4.3
NRIK ScP ScP 12 11 49.5 -1.0
comp=Z,6.3nm,0.8s,baz=217,slow=2.3,SNR=5.2
NEA2 Nenana 35.01 41 P P 12 06 35.2 0.0
baz=275
NEA2 S S 12 11 32.3 +1.5
baz=275
MCK McKinley 35.15 43 P P 12 06 37.1 +0.7
MCK pmax pmax
comp=Z,10.0nm,0.6s
MCK McKinley 35.15 43 P P 12 06 37.1 +0.7
MCK IAmb IAmb 12 06 38.6
comp=Z,10.0nm,0.6s
RND Reindeer 35.23 43 P P 12 06 37.0 0.0
RND pmax pmax
comp=Z,30nm,1.4s
RND Reindeer 35.23 43 P P 12 06 37.0 0.0
RND IAmb IAmb 12 06 38.7
comp=Z,30nm,1.4s
O22K Cooper Landing 35.25 49 P P 12 06 37.3 +0.1
baz=280,SNR=6.1
O22K S S 12 11 35.4 +1.0
baz=280
MDM Murphy Dome 35.34 41 P P 12 06 38.3 +0.4
MDM IAmb IAmb 12 06 41.1
comp=Z,11nm,0.7s
PMR Palmer 35.35 47 P P 12 06 38.2 +0.2
PMR pmax pmax
comp=Z,7.0nm,0.5s
PMR Palmer 35.35 47 P P 12 06 38.2 +0.2
PMR IAmb IAmb 12 06 39.9
comp=Z,7.4nm,0.5s
GHO Glory Hole Cre 35.42 46 P P 12 06 39.0 +0.3
WRH Wood River Hil 35.45 42 P P 12 06 39.4 +0.6
WRH IAmb IAmb 12 06 41.5
comp=Z,22nm,1.0s
LZH Lanzhou 35.45 265 *eP* P 12 06 40.5 +1.1
LZH pP pP 12 08 10.0 +3.0
LZH sS sS 12 14 19.3 +0.1
LZH pmax pmax
comp=Z,78nm,1.0s
LZH pmax pmax
comp=Z,230nm,5.4s
SEW Seward 35.45 49 P P 12 06 39.3 +0.4
SEW IAmb IAmb 12 06 39.6
comp=Z,20nm,0.8s
TCOL CIGO, UAF Yank 35.50 41 P P 12 06 39.8 +0.6
baz=276,SNR=22
TCOL S S 12 11 39.7 +1.6
baz=276
COLA College 35.51 41 *d iP* P 12 06 40.0 +0.8
COLA pmax pmax
comp=Z,21nm,0.7s
COLA College 35.51 41 P P 12 06 39.7 +0.5
CCB Clear Creek Bu 35.55 41 P P 12 06 40.1 +0.4
ENH Enshi 35.63 252 P P 12 06 40.1 -0.8
POKR Poker Plat Res 35.66 40 P P 12 06 42.0 +1.4
baz=276,SNR=9.5
POKR S S 12 11 42.1 +1.5
baz=276
SML Sawmill 35.69 46 P P 12 06 40.9 0.0
KNK Knik Glacier 35.70 47 P P 12 06 40.0 -0.9
IL31 35.93 41 P P 12 06 42.5 -0.2
IL31 IAmb IAmb 12 06 45.0
comp=Z,14nm,0.6s
IL31 PP PP 12 08 19.4 -0.1
ILAR Eielson Array 35.93 41 P P 12 06 42.4 -0.4
comp=Z,12nm,0.7s,baz=258,slow=6.4,SNR=152
ILAR S S 12 11 42.0 -2.6
comp=Z,0.3nm,0.8s,baz=141,slow=36,SNR=3.9
ILAR ScP ScP 12 11 53.1 -1.1
comp=Z,2.0nm,0.8s,baz=284,slow=3.5,SNR=10
DHY Denali Highway 35.93 44 P P 12 06 43.1 +0.1
DHY IAmb IAmb 12 06 46.7
comp=Z,16nm,0.6s
HDA Harding Lake 35.94 42 P P 12 06 42.5 -0.4
baz=277,SNR=18
HDA S S 12 11 42.3 -2.5
baz=277
HDA Harding Lake 35.94 42 P P 12 06 43.1 +0.1
HDA IAmb IAmb 12 06 43.8
comp=Z,9.9nm,0.6s
SCM Sheep Creek Mo 36.16 46 P P 12 06 45.4 +0.6
SCM pmax pmax
comp=Z,12nm,0.8s
SCM Sheep Creek Mo 36.16 46 P P 12 06 45.4 +0.6
SCM IAmb IAmb 12 06 51.4
comp=Z,12nm,0.8s
GTA Gaotai 36.17 273 *eP* P 12 06 46.0 +0.7
GTA pmax pmax
comp=Z,29nm,0.8s
GLI Glacier Island 36.45 47 P P 12 06 47.4 +0.2
GLI IAmb IAmb 12 06 48.2
comp=Z,15nm,0.8s
M24K Tolsona, Glenn 36.64 45 P P 12 06 50.1 +1.3
baz=281
KLU Klutina 36.88 46 P P 12 06 51.6 +0.8
KLU IAmb IAmb 12 06 52.2
comp=Z,13nm,0.7s
RIDG Independent Ri 36.95 42 P P 12 06 50.9 -0.4
RIDG IAmb IAmb 12 06 53.1
comp=Z,28nm,1.3s
EYAK Cordova Ski Ar 37.16 48 P P 12 06 53.8 +0.8
EYAK IAmb IAmb 12 06 54.6
comp=Z,13nm,0.8s
SCRK Sand Creek 37.29 42 P P 12 06 53.5 -0.6
baz=280,SNR=20
SCRK S S 12 12 02.6 -2.5
baz=280
MENT Mentasta 37.60 44 P P 12 06 56.2 -0.5
MENT IAmb IAmb 12 06 58.6
comp=Z,7.4nm,0.6s
GLB Gilahina Butte 37.88 46 P P 12 06 58.7 -0.3
GLB IAmb IAmb 12 07 02.8
comp=Z,17nm,1.4s
VRDI Verde Repeater 38.10 46 P P 12 07 01.3 +0.4
VRDI IAmb IAmb 12 07 02.2
comp=Z,12nm,0.9s
K27K Chicken 38.11 42 P P 12 07 01.2 +0.5
baz=282
K27K S S 12 12 16.4 -0.5
baz=282
MCARA McCarthy VSAT 38.26 46 P P 12 07 02.0 -0.1
MCARA IAmb IAmb 12 07 07.5
comp=Z,13nm,0.6s
EGAK Eagle 38.35 40 P P 12 07 02.6 -0.1
EGAK IAmb IAmb 12 07 04.7
comp=Z,16nm,0.7s
CRQM Cirque 38.36 47 P P 12 07 04.1 +1.0
CRQM IAmb IAmb 12 07 06.8
comp=Z,18nm,0.7s
BCAR Beaver Creek A 38.44 43 P P 12 07 03.3 -0.1
BALM Baldy 38.67 46 P P 12 07 06.3 +0.9
BALM IAmb IAmb 12 07 07.3
comp=Z,13nm,0.6s
ISLE Juniper Island 38.78 47 P P 12 07 05.8 -0.6

CD2 Chengdu 38.80 259 *ij iP* P 12 07 07.3 +0.4
CD2 pmax pmax
comp=Z,60nm,0.7s
ZAA0 Zalesovo Array 38.91 302 P P 12 07 06.2 -1.1
ZALV Zalesovo Beam 38.91 302 P P 12 07 06.8 -0.6
comp=Z,24nm,0.7s,baz=66,slow=7.5,SNR=92
ZALV PcP PcP 12 09 05.2 -0.3
comp=Z,11nm,0.7s,baz=80,slow=2.6,SNR=13
ZALV ScP ScP 12 12 04.7 -1.0
comp=Z,0.8nm,0.4s,baz=72,slow=4.8,SNR=5.7
ZALV Zalesovo Beam 38.91 302 P P 12 07 06.6 -0.8
BARN Barnard Glacie 38.98 46 P P 12 07 09.1 +1.0
BARN IAmb IAmb 12 07 10.7
comp=Z,15nm,0.7s
DGZ Jazzator, Alta 39.05 295 *d iP* P 12 07 09.5 +0.7
DGZ pmax pmax
comp=Z,19nm,0.9s
YAH Yahtse 39.13 47 P P 12 07 10.3 +1.0
YAH IAmb IAmb 12 07 11.4
comp=Z,18nm,0.6s
CTGM Chitina Glacie 39.16 46 P P 12 07 09.3 -0.1
GYA Guiyang 40.09 251 *ij* P P 12 07 17.3 -0.1
GYA pP pP 12 08 49.0 +1.6
GYA S S 12 12 50.3 +3.1
GYA pmax pmax
comp=Z,28nm,0.8s
GYA pmax pmax
comp=Z,100nm,3.5s
INK Inuvik 40.60 34 P P 12 07 20.8 0.0
comp=Z,5.2nm,0.3s,baz=293,slow=9.4,SNR=93
INK ScP ScP 12 12 12.1 0.0
comp=Z,6.6nm,1.1s,baz=235,slow=4.5,SNR=3.7
INK Inuvik 40.60 34 P P 12 07 20.1 -0.6
INK pmax pmax
comp=Z,11nm,0.9s
INK Inuvik 40.60 34 P P 12 07 20.1 -0.6
INK IAmb IAmb 12 07 22.0
comp=Z,11nm,0.8s
HYT Haines Junctio 40.99 46 P P 12 07 24.0 -0.2
ZSN Zaisan 41.57 293 *eP* P 12 07 29.1 +0.3
comp=Z,10nm,0.8s,baz=293
ZSN *i* S S 12 13 08.8 +0.8
baz=293
ZSN *eS* S 12 13 08.9 +0.8
baz=293
ZSN Zaisan 41.57 293 *eP* P 12 07 29.1 +0.3
ZSN *eS* S 12 13 08.9 +0.8
ZSN pmax pmax
comp=Z,11nm,0.8s
WMQ Urumqi 41.61 286 *eP* P 12 07 29.0 -0.3
WMQ pmax pmax
comp=Z,29nm,0.9s
WMQ pmax pmax
comp=Z,130nm,3.8s
MK31 Makanchi Array 43.43 293 P P 12 07 43.5 0.0
MK31 pmax pmax
comp=Z,49nm,0.8s
MK31 Makanchi Array 43.43 293 P P 12 07 43.5 0.0
MKAR Makanchi Array 43.43 293 P P 12 07 43.3 -0.2
comp=Z,52nm,0.7s,baz=66,slow=7.9,SNR=400
MKAR PcP PcP 12 09 19.8 -0.8
comp=Z,8.8nm,0.8s,baz=63,slow=5.7,SNR=6.7
MKAR ScP ScP 12 12 22.5 -1.4
comp=Z,1.6nm,0.7s,baz=55,slow=4.6,SNR=5.9
MKAR S S 12 13 33.4 -1.4
comp=Z,4.1nm,1.2s,baz=61,slow=15,SNR=6.1
MKAR Makanchi Array 43.43 293 P P 12 07 43.6 +0.1
KMI Kunming 43.48 253 *ij* P P 12 07 44.5 +0.1
KMI pP pP 12 09 18.8 +2.4
KMI pmax pmax
comp=Z,37nm,1.1s
KMI Kunming 43.48 253 P P 12 07 44.4 +0.1
KMI pmax pmax
comp=Z,53nm,1.2s
KMI Kunming 43.48 253 P P 12 07 44.4 0.0
C36M Paulatuk 43.59 31 P P 12 07 44.0 -0.4
baz=290,SNR=5.1
C36M Paulatuk 43.59 31 P P 12 07 44.3 0.0
MAKZ Makanchi 43.61 293 P P 12 07 44.5 -0.4
MAKZ pmax pmax
comp=Z,77nm,1.4s
MAKZ Makanchi 43.61 293 P P 12 07 44.5 -0.4
KURK Kurchatov 43.70 300 *eP* P 12 07 44.6 -0.8
KURK Kurchatov 43.70 300 P P 12 07 44.6 -0.8
KURK Kurchatov 43.70 300 P P 12 07 44.6 -0.8
DLBC Dease Lake 45.41 47 P P 12 07 59.7 +1.0
DLBC IAmb IAmb 12 08 02.8
comp=Z,15nm,1.2s
SLVN Son La 45.57 248 P P 12 08 01.0 +0.6
SLVN IAmb IAmb 12 08 02.2
comp=Z,27nm,1.2s
TDK Taldyqorghan 46.68 293 *eP* P 12 08 10.4 +2.0
comp=Z,173nm,0.6s,baz=293
TDK Taldyqorghan 46.68 293 *eP* P 12 08 10.4 +2.0
PDGK Podgornoye 46.93 290 P P 12 08 10.0 -0.5
SHLS Shalkode 47.04 290 *eP* P 12 08 09.4 -2.0
comp=Z,15nm,0.5s,baz=290
SHLS Shalkode 47.04 290 *eP* P 12 08 09.3 -2.0
SHLS pmax pmax
comp=Z,15nm,0.5s
BRVK Borovoye 47.13 306 *eP* P 12 08 11.7 -0.1
BRVK Borovoye 47.13 306 P P 12 08 11.7 -0.1
BRVK pmax pmax
comp=Z,86nm,0.7s
BRVK Borovoye 47.13 306 P P 12 08 11.7 -0.1
UZB Uzynbulak 47.32 290 *ij iP* P 12 08 13.5 0.0
comp=Z,14nm,0.7s,baz=290
UZB *i* S S 12 14 30.1 +0.4
baz=290
UZB Uzynbulak 47.32 290 *d iP* P 12 08 13.4 0.0
UZB pmax pmax
comp=Z,14nm,0.7s
KPKS Kokpek 47.35 291 *ij iP* P 12 08 13.8 +0.1
comp=Z,24nm,0.9s,baz=291
KPKS Kokpek 47.35 291 *d iP* P 12 08 13.7 +0.1
KPKS pmax pmax
comp=Z,24nm,0.9s
BRZS Berezniki 47.38 301 *ij iP* P 12 08 13.5 -0.3
comp=Z,62nm,0.8s,baz=301
BRZS Berezniki 47.38 301 *d iP* P 12 08 13.4 -0.3
BRZS pmax pmax
comp=Z,62nm,0.8s
LSA Lhasa 47.73 268 P P 12 08 18.1 +0.9
LSA pmax pmax
comp=Z,24nm,0.7s
LSA Lhasa 47.73 268 P P 12 08 18.1 +0.9
LSA IAmb IAmb 12 08 19.6
comp=Z,24nm,0.7s
SATY Saty 47.74 291 *i* P P 12 08 17.1 +0.4
comp=Z,20nm,1.2s,baz=290
SATY *i* S S 12 14 36.4 +0.9
baz=290
SATY Saty 47.74 291 *i* P P 12 08 17.0 +0.4
SATY pmax pmax
comp=Z,20nm,1.2s
SATY Saty 47.74 291 *i* P P 12 08 17.0 +0.4
SATY pmax pmax
comp=Z,20nm,1.2s
PRZ Przheval'sk 48.07 290 P P 12 08 20.0 +0.9
PRZ pmax pmax
comp=Z,24nm,0.7s
PRZ Przheval'sk 48.07 290 P P 12 08 20.0 +0.9
PRZ IAmb IAmb 12 08 20.6
comp=Z,24nm,0.7s
CHKK Chushkaly 48.16 292 *eP* P 12 08 19.2 -0.4
baz=292
CHKK Chushkaly 48.16 292 *eP* P 12 08 19.2 -0.4
MDOK Medeo 48.51 291 *eP* P 12 08 22.6 +0.1
baz=291
MDOK *i* S S 12 14 46.7 +0.6
baz=291
MDOK *eS* S 12 14 46.7 +0.6
baz=291
MDOK Medeo 48.51 291 *eP* P 12 08 22.5 +0.1
MDOK *eS* S 12 14 46.7 +0.6
KUU Kurty 48.52 293 *i* P P 12 08 21.8 -0.5
comp=Z,28nm,0.6s,baz=293
KUU Kurty 48.52 293 *i* P P 12 08 21.8 -0.5
KUU pmax pmax
comp=Z,28nm,0.6s
AAA Alma-Ata 48.56 292 *eP* P 12 08 23.1 +0.3
comp=Z,20nm,0.6s,baz=292
AAA Alma-Ata 48.56 292 *eP* P 12 08 23.0 +0.3
AAA Alma-Ata 48.56 292 *eP* P 12 08 23.0 +0.3
AAA pmax pmax
comp=Z,20nm,0.6s
TNSS Tian-Shan 48.64 291 *eP* P 12 08 23.6 -0.1
baz=291
TNSS Tian-Shan 48.64 291 *eP* P 12 08 23.5 -0.1
RES Resolute Bay 48.89 19 P P 12 08 24.1 -0.4
RES pmax pmax
comp=Z,32nm,0.9s
RES Resolute Bay 48.89 19 P P 12 08 24.1 -0.4
RES IAmb IAmb 12 08 25.1
comp=Z,32nm,0.8s
MTBS Maitube 48.90 292 *eP* P 12 08 25.1 -0.1
baz=292
MTBS Maitube 48.90 292 *eP* P 12 08 25.1 -0.1
KDJ Kajisay 49.01 290 P P 12 08 26.5 +0.3
KDJ pmax pmax
comp=Z,36nm,0.9s
KDJ Kajisay 49.01 290 P P 12 08 26.5 +0.3
KBS Kingsbay 49.23 350 P P 12 08 26.9 -0.1
KBS pmax pmax
comp=Z,40nm,0.9s
KBS Kingsbay 49.23 350 P P 12 08 26.9 -0.1
KBS Kingsbay 49.23 350 *eP* P 12 08 26.5 -0.5
BTLS Baital 49.25 295 *i* P P 12 08 27.3 -0.4
comp=Z,11nm,0.9s,baz=295
BTLS Baital 49.25 295 *i* P P 12 08 27.2 -0.4
BTLS pmax pmax
comp=Z,11nm,0.9s
SPA0 Spitsbergen Ar 49.29 349 P P 12 08 26.6 -0.9
SPA0 IAmb IAmb 12 08 28.2
comp=Z,35nm,1.1s
SPA0 Spitsbergen Ar 49.29 349 *eP* P 12 08 26.5 -1.0
UBPT Khong Chiam 49.37 242 P P 12 08 29.8 +0.8
UBPT IAmb IAmb 12 08 31.1
comp=Z,28nm,1.3s
ULHL Ulahol 49.52 291 P P 12 08 30.5 +0.5
SNR=28
TKM2 Tokmak 2 49.52 292 P P 12 08 30.3 +0.3
SNR=33
TKM2 Tokmak 2 49.52 292 P P 12 08 29.7 -0.3
OPA Opana 49.75 104 P P 12 08 31.8 +0.1
OPA pmax pmax
comp=Z,77nm,1.0s
OPA Opana 49.75 104 P P 12 08 31.8 +0.1
SGDS Sogindy 49.80 293 *i* P P 12 08 32.2 +0.4
comp=Z,33nm,0.9s,baz=293
SGDS Sogindy 49.80 293 *i* P P 12 08 32.2 +0.4
SGDS pmax pmax
comp=Z,33nm,0.9s
USP Ospenovka 49.98 293 P P 12 08 33.7 +0.5
SNR=36
CHMS Chumysh 49.98 293 P P 12 08 33.4 +0.2
SNR=12
SVE Sverdlovsk 50.00 314 *i* P P 12 08 33.1 +0.1
SVE Sverdlovsk 50.00 314 *c iP* P 12 08 33.1 +0.1
SVE pmax pmax
comp=Z,105nm,0.8s
KBK Karagaybulak 50.06 292 P P 12 08 34.5 +0.5
SNR=6.1
SHL Shillong 50.07 263 P P 12 08 34.2 0.0
SHL pmax pmax
comp=Z,54nm,0.7s
SHL Shillong 50.07 263 P P 12 08 34.2 0.0
YKA Yellowknife Ar 50.11 37 P P 12 08 33.7 -0.1
comp=Z,4.1nm,0.6s,baz=304,slow=5.3,SNR=24
YKA PcP PcP 12 09 44.6 +0.3
comp=Z,0.8nm,0.6s,baz=292,slow=6.2,SNR=5.5
YKA ScP ScP 12 12 51.9 +0.2
comp=Z,3.1nm,0.7s,baz=302,slow=3.9,SNR=6.8
KZA Kyzart 50.22 291 P P 12 08 36.4 +1.0
SNR=30
AAK Ala-Archa 50.35 292 *i* P P 12 08 36.4 +0.4
SNR=25
AAK Ala-Archa 50.35 292 *eP* P 12 08 36.2 +0.2
AAK Ala-Archa 50.35 292 *de*P P 12 08 36.2 +0.2
AAK pmax pmax
comp=Z,41nm,0.7s
AAK Ala-Archa 50.35 292 P P 12 08 35.9 -0.1
CHTO Chiang Mai 50.51 251 P P 12 08 38.0 +0.7
CHTO pmax pmax
comp=Z,39nm,0.9s
CHTO Chiang Mai 50.51 251 P P 12 08 38.0 +0.7
UCH Uchtor 50.57 292 P P 12 08 38.3 +0.3
SNR=8.3
EKS2 Erkin-Say 50.76 293 P P 12 08 39.4 +0.4
SNR=41
CM31 Chiang Mai Arr 50.78 251 P P 12 08 40.2 +1.0
CM31 IAmb IAmb 12 08 41.4
comp=Z,24nm,0.9s
CMAR Chiang Mai Arr 50.78 251 P P 12 08 40.3 +1.0
comp=Z,17nm,0.9s,baz=30,slow=7.0,SNR=69
CMAR PcP PcP 12 09 48.5 +1.0
comp=Z,2.9nm,0.7s,baz=13,slow=3.1,SNR=7.7
CMAR ScP ScP 12 12 55.3 0.0
comp=Z,1.7nm,0.7s,baz=9.8,slow=3.4,SNR=6.2
PBKT Sadao Pong 50.99 247 P P 12 08 41.6 +0.8
PBKT IAmb IAmb 12 08 42.2
comp=Z,16nm,0.6s
AML Almayashu 51.12 292 P P 12 08 42.5 +0.6
SNR=20
ARU Arti 51.18 315 *i* P P 12 08 41.1 -0.5
ARU Arti 51.18 315 *d iP* P 12 08 41.1 -0.5
ARU 12 09 47.4
ARU *PP pP 12 10 17.1 -0.4
ARU 12 10 40.8
ARU S S 12 15 23.4 +1.7
ARU SS SS 12 19 02.6 -2.2
ARU pmax pmax
comp=Z,128nm,0.6s
ARU Arti 51.18 315 P P 12 08 40.8 -0.8
KSH Kashi 51.29 288 P P 12 08 47.0 +4.1
KSH S S 12 15 26.5 +2.6
KSH pmax pmax
comp=Z,40nm,1.2s
TAPN Taplejung 51.55 268 *eP* P 12 08 45.4 +0.3
DZA Taraz 52.09 294 *eP* P 12 08 48.5 0.0
baz=294
DZA *i* S S 12 15 34.9 +0.6
baz=294
DZA Taraz 52.09 294 *eP* P 12 08 48.4 0.0
GUN Gumba 52.36 270 *eP* P 12 08 51.3 +0.3
comp=Z,81nm,0.6s
HPAH Hawaii Prepara 52.43 104 P P 12 08 51.6 +0.4
HPAH IAmb IAmb 12 08 54.0
comp=Z,46nm,1.0s
HPAH PcP PcP 12 09 53.4 -0.4
KK31 Karatay Array 52.44 295 P P 12 08 50.6 -0.4
KK31 pmax pmax
comp=Z,30nm,0.8s
KK31 Karatay Array 52.44 295 P P 12 08 50.6 -0.4
KK31 IAmb IAmb 12 08 51.8
comp=Z,30nm,0.8s
KKAR Karatay Array 52.44 295 P P 12 08 50.6 -0.4
KKAR pmax pmax
comp=Z,30nm,0.8s
KKAR Karatay Array 52.44 295 P P 12 08 50.6 -0.4
KKAR IAmb IAmb 12 08 51.8
comp=Z,30nm,0.8s
KKAR Karatay Array 52.44 295 P P 12 08 50.5 -0.6
RAMN Ramite 52.54 269 *eP* P 12 08 52.6 +0.4
comp=Z,163nm,0.9s
KHLU Kahalu`u 52.63 104 P P 12 08 52.8 +0.1
POHA Pohakuloa 52.73 104 P P 12 08 54.5 +0.8
MLOA Mauna Loa Obse 52.87 104 P P 12 08 54.9 +0.1
MLOA PcP PcP 12 09 55.8 -0.2
HMH Humu'ula Sheep 52.88 104 P P 12 08 56.5 +1.7
PKI Pulchoki 52.89 270 *eP* P 12 08 55.2 +0.4
MWH Moku'aweowe 52.90 104 P P 12 08 55.8 +0.6
DMN Daman 53.06 270 *eP* P 12 08 56.7 +0.7
comp=Z,176nm,0.9s
GKN Gorkha 53.10 271 *eP* P 12 08 56.7 +0.6
comp=Z,126nm,0.6s
PRGR Permogore 53.56 325 *ij iP* P 12 08 58.4 -0.2
PRGR pmax pmax
comp=Z,164nm,0.6s
KEV Kevo 53.75 339 P P 12 08 59.4 -0.4
KEV pmax pmax
comp=Z,44nm,1.0s
KEV Kevo 53.75 339 P P 12 08 59.4 -0.4
KEV IAmb IAmb 12 09 00.2
comp=Z,44nm,1.0s
HAMF Hammerfest 53.84 340 *eP* P 12 08 59.5 -0.9
PGC Sidney 53.85 55 P P 12 09 02.1 +1.3
KOLN Koldanda 53.93 272 *eP* P 12 09 02.7 +0.6
comp=Z,138nm,0.9s
PYUN Piuthan 54.10 273 *eP* P 12 09 03.9 +0.6

BTK Batken 54.11 292 P P 12 09 03.6 +0.6
BTK pmax pmax
comp=Z,55nm,0.8s
BTK Batken 54.11 292 P P 12 09 03.6 +0.6
ARCES ARCESS Array B 54.27 339 P P 12 09 02.9 -0.6
comp=Z,36nm,0.9s,baz=44,slow=7.2,SNR=55
ARCES PcP PcP 12 09 59.5 -0.4
comp=Z,5.1nm,0.7s,baz=49,slow=5.5,SNR=5.0
ARCES ARCESS Array B 54.27 339 P P 12 09 03.0 -0.5
ARE0 ARCESS Array S 54.27 339 P P 12 09 03.0 -0.5
ARE0 ARCESS Array S 54.27 339 eP P 12 09 03.0 -0.5
NLWA Neilton Lookou 54.38 57 P P 12 09 06.3 +1.6
TMCR Tamitsa 54.58 330 eP P 12 09 04.9 -0.9
TMCR pmax pmax
comp=Z,2.0nm,0.5s
AB31 Akbulak array 54.66 307 P P 12 09 06.0 -0.6
ABKAR Akbulak array 54.66 307 P P 12 09 06.2 -0.4
D03D Eldon 54.72 56 P P 12 09 08.5 +1.5
baz=308,SNR=13
KULLO Kullorsuaq 54.78 8 *i* P P 12 09 05.7 -1.4
comp=Z,35nm,0.8s
KULLO Kullorsuaq 54.78 8 *i* P P 12 09 05.7 -1.4
KULLO pmax pmax
comp=Z,35nm,0.8s
B05A Bryant 54.80 55 P P 12 09 08.8 +1.2
baz=308,SNR=8.2
E03A Lebam 55.06 57 P P 12 09 11.1 +1.7
E03A IAmb IAmb 12 09 11.8
comp=Z,16nm,0.8s
GAR Garm 55.07 291 P P 12 09 09.6 -0.2
D04E Lakebay 55.10 56 P P 12 09 11.7 +2.0
baz=308
KTK1 Kautokeino 55.19 339 eP P 12 09 09.5 -0.5
E04D Cinebar 55.60 57 P P 12 09 14.7 +1.5
baz=308,SNR=7.1
TRO Tromso 55.65 341 eP P 12 09 12.6 -0.6
CHGR Chuyangaron 55.98 291 P P 12 09 15.7 -0.4
F04A Amboy 56.06 57 P P 12 09 17.5 +1.1
F04A IAmb IAmb 12 09 18.4
comp=Z,14nm,0.7s
LTY Liberty 56.18 55 P P 12 09 18.1 +0.7
B08A Colville Reser 56.20 53 P P 12 09 17.9 +0.4
KLMR Klimovskoe 56.31 326 eP P 12 09 15.4 -2.5
KLMR pmax pmax
comp=Z,68nm,0.7s
KLMR Klimovskoe 56.31 326 eP P 12 09 15.4 -2.5
KLMR AMP 12 09 18.3
comp=Z,68nm,0.7s
I02D Swisshome 56.41 60 P P 12 09 20.4 +1.5
baz=309,SNR=6.0
COR Corvallis 56.42 59 P P 12 09 19.7 +0.8
COR pmax pmax
comp=Z,15nm,0.8s
COR Corvallis 56.42 59 P P 12 09 19.7 +0.8
COR IAmb IAmb 12 09 21.6
comp=Z,15nm,0.8s
F05D White Salmon 56.62 57 P P 12 09 21.5 +1.2
baz=309
SBUM Sibu 56.63 226 P P 12 09 20.8 0.0
NIL Nilore 56.68 284 P P 12 09 21.1 +0.2
NIL 12 10 10.5
NIL pmax pmax
comp=Z,90nm,1.0s
NIL Nilore 56.68 284 P P 12 09 21.1 +0.2
NIL PcP PcP 12 10 10.5 +0.4
H04D Lebanon 56.77 59 P P 12 09 23.4 +2.1
baz=309,SNR=6.1
I03D Drain, OR 56.95 60 P P 12 09 24.7 +2.1
baz=310,SNR=9.9
J01E Myrtle Point 56.96 61 P P 12 09 24.0 +1.3
baz=310
H04A Detroit Lake 56.98 58 P P 12 09 24.4 +1.6
H04A IAmb IAmb 12 09 25.2
comp=Z,43nm,1.3s
E07A Sunnyside 57.06 55 P P 12 09 24.4 +1.0
G05D Wamic, OR 57.10 57 P P 12 09 25.3 +1.6
baz=310,SNR=7.2
C09A Chrisman Ranch 57.10 53 P P 12 09 24.5 +0.9
D08A Wollman Farm, 57.24 54 P P 12 09 25.3 +0.8
HAWA Hanford 57.34 55 P P 12 09 24.4 -0.8
KBO Bosley Butte 57.40 62 P P 12 09 25.8 0.0
KBO IAmb IAmb 12 09 28.3
comp=Z,18nm,1.0s
K02D Willamette Mer 57.41 61 P P 12 09 26.8 +0.9
baz=310
NEW Newport 57.41 52 P P 12 09 26.5 +0.7
baz=310,SNR=6.3
NEW Newport 57.41 52 P P 12 09 26.5 +0.7
NEW pmax pmax
comp=Z,10.0nm,1.1s
NEW Newport 57.41 52 P P 12 09 26.4 +0.7
I04A Tendick Farm, 57.41 59 P P 12 09 27.4 +1.5
baz=310,SNR=17
F07A Phinny Hill Vi 57.44 56 P P 12 09 27.0 +1.1
F07A IAmb IAmb 12 09 28.3
comp=Z,23nm,0.7s
E08A Dider Farm, El 57.52 55 P P 12 09 27.8 +1.3
N2IH Innhavet 57.65 341 eP P 12 09 26.0 -0.9
I05D Terrebonne, OR 57.66 58 P P 12 09 29.1 +1.5
baz=310,SNR=15
N2VI Vinje 57.70 342 eP P 12 09 26.2 -1.1
L02E Cave Junction 57.79 61 P P 12 09 30.3 +1.9
baz=310
STEI Steigen 57.82 341 eP P 12 09 27.2 -0.9
HUMO Hull Mountain 57.87 61 P P 12 09 30.8 +1.8
J04D Umpqua Nationa 57.94 60 P P 12 09 31.6 +1.9
baz=310,SNR=9.4
SUMG Summit 57.95 3 ⇓ *i* P P 12 09 29.7 +0.2
comp=Z,188nm,0.8s
SUMG Summit 57.95 3 ⇓ *i* P P 12 09 29.7 +0.2
SUMG pmax pmax
comp=Z,190nm,0.8s
SUMG Summit 57.95 3 P P 12 09 29.9 +0.5
E09A Wood Farm, Sta 57.99 54 P P 12 09 30.9 +1.2
E09A IAmb IAmb 12 09 31.6
comp=Z,13nm,0.7s
LOF Lofoten 58.00 342 eP P 12 09 28.3 -1.1
N2TV TYrnvik 58.15 341 eP P 12 09 29.7 -0.6
PINE Pine Mountain 58.23 58 P P 12 09 33.0 +1.3
PINE IAmb IAmb 12 09 34.7
comp=Z,21nm,0.8s
FAUS Fauske 58.27 341 eP P 12 09 30.6 -0.6
N2SV S_rVgen 58.31 342 eP P 12 09 30.6 -0.9
G08A Pilot Rock 58.35 56 P P 12 09 33.2 +0.9
J05D Fort Rock, OR 58.40 59 P P 12 09 34.7 +2.0
baz=310,SNR=18
MTKI Muara Teweh, K 58.43 222 P P 12 09 34.6 +1.5
L04D Klamath Falls 58.49 61 P P 12 09 34.9 +1.6
baz=311,SNR=18
WALA Waterton Lakes 58.52 50 P P 12 09 34.2 +0.9
WALA IAmb IAmb 12 09 34.9
comp=Z,9.7nm,0.6s
KHMM Horse Mountain 58.54 63 P P 12 09 35.8 +2.1
KHMM IAmb IAmb 12 09 36.7
comp=Z,15nm,0.9s
N2VA Vr_y 58.57 342 eP P 12 09 32.5 -0.7
YBH Yreka Blue Hor 58.57 61 P P 12 09 35.8 +2.0
YBH pmax pmax
comp=Z,10.0nm,0.9s
YBH Yreka Blue Hor 58.57 61 P P 12 09 35.8 +2.0
M02C Callahan 58.71 62 P P 12 09 36.6 +1.9
baz=311,SNR=5.7
KBL Kabul 58.72 288 P P 12 09 34.0 -1.1
KBL pmax pmax
comp=Z,32nm,0.9s
KBL Kabul 58.72 288 P P 12 09 34.0 -1.1
KBL IAmb IAmb 12 09 34.9
comp=Z,32nm,0.9s
N2RO R_st 58.81 342 eP P 12 09 34.1 -0.7
NBB05 Inndyr 58.83 341 eP P 12 09 34.2 -0.8
F10A Beach Ranch, E 58.83 54 P P 12 09 34.6 -0.8
I07A Izee 58.84 57 P P 12 09 35.9 +0.3
I07A PcP PcP 12 10 19.2 +0.6
NBB30 Finnes 58.94 341 eP P 12 09 35.0 -0.7
K05A Summer Lake 58.95 59 P P 12 09 36.9 +0.4
K05A IAmb IAmb 12 09 39.5
comp=Z,23nm,1.0s
M04C Macdoel 59.03 61 P P 12 09 38.8 +1.8
baz=311
N02D Trinity Center 59.07 62 P P 12 09 39.2 +2.1
baz=311,SNR=11
WDC Whiskeytown Da 59.42 62 P P 12 09 39.7 +0.3
WDC pmax pmax
comp=Z,8.0nm,0.9s
WDC Whiskeytown Da 59.42 62 P P 12 09 39.7 +0.3

MOR8 Moi Rana 59.48 340 eP P 12 09 37.5 -1.9
NBB40 Tonnes 59.49 341 eP P 12 09 38.5 -0.9
BMO Blue Mountains 59.52 55 P P 12 09 40.9 +0.7
BMO pmax pmax
comp=Z,5.0nm,0.8s
BMO Blue Mountains 59.52 55 P P 12 09 40.9 +0.7
O02D Mt. Diablo Mer 59.54 63 P P 12 09 42.3 +1.9
baz=311,SNR=9.7
MOD Modoc Plateau 59.82 60 P P 12 09 43.0 +0.8
J08A Circle Bar Ran 59.88 57 P P 12 09 44.5 +1.9
MSO Missoula 59.98 52 P P 12 09 44.0 +0.9
baz=312,SNR=10
MSO Missoula 59.98 52 P P 12 09 44.3 +1.1
SCO Scoresbysund 60.02 357 *i* P P 12 09 42.6 -0.2
comp=Z,37nm,1.1s
SCO Scoresbysund 60.02 357 *i* P P 12 09 42.6 -0.2
SCO pmax pmax
comp=Z,37nm,1.1s
O03E Paynes Creek 60.03 62 P P 12 09 44.4 +0.9
baz=312,SNR=13
FFC Flin Flon 60.11 39 P P 12 09 44.5 +0.7
FFC pmax pmax
comp=Z,26nm,1.4s
FFC Flin Flon 60.11 39 P P 12 09 44.5 +0.7
FFC IAmb IAmb 12 09 46.0
comp=Z,26nm,1.4s
KULM Kulim 60.21 240 P P 12 09 45.2 +0.2
KULM IAmb IAmb 12 09 47.2
comp=Z,19nm,1.1s
FIA1 FINESS Array S 60.33 332 P P 12 09 43.3 -1.8
FINES FINESS Array B 60.33 332 P P 12 09 44.2 -0.8
comp=Z,39nm,0.7s,baz=41,slow=6.8,SNR=131
FINES PcP PcP 12 10 23.5 -0.6
comp=Z,1.4nm,0.6s,baz=56,slow=4.8,SNR=4.6
FINES FINESS Array B 60.33 332 P P 12 09 44.1 -1.0
GDXM Geysers 60.44 64 P P 12 09 47.8 +1.4
GDXM IAmb IAmb 12 09 49.2
comp=Z,17nm,1.1s
ILULI Ilulissat 60.50 8 ⇓ *i* P P 12 09 45.1 -1.0
comp=Z,42nm,0.8s
ILULI Ilulissat 60.50 8 ⇓ *i* P P 12 09 45.1 -1.0
ILULI pmax pmax
comp=Z,42nm,0.8s
ILULI Ilulissat 60.50 8 P P 12 09 45.0 -1.1
MOS Moscow 60.62 323 eP P 12 09 45.3 -1.8
MOS pmax pmax
comp=Z,55nm,0.8s
IPM Ipoh 60.67 239 P P 12 09 47.9 -0.2
IPM IAmb IAmb 12 09 49.0
comp=Z,15nm,0.9s
ORV Oroville 60.69 62 P P 12 09 48.9 +1.0
ORV pmax pmax
comp=Z,10.0nm,0.6s
ORV Oroville 60.69 62 P P 12 09 48.9 +1.0
ORV IAmb IAmb 12 09 49.3
comp=Z,10nm,0.6s
HRY Holter Researc 61.13 51 P P 12 09 52.0 +1.2
EGMT Eagleton 61.26 49 P P 12 09 52.6 +1.0
baz=314,SNR=6.3
EGMT Eagleton 61.26 49 P P 12 09 52.2 +0.5
EGMT IAmb IAmb 12 09 53.2
comp=Z,8.1nm,0.6s
MFID Camas Ranch 61.27 56 P P 12 09 52.5 +0.7
AFDM Forest Hills D 61.40 63 P P 12 09 53.3 +0.7
AFDM IAmb IAmb 12 09 54.7
comp=Z,21nm,1.5s
LRM Limekiln Ridge 61.42 52 P P 12 09 52.5 -0.3
NSS Namsos 61.42 341 eP P 12 09 51.4 -0.8
OBN Obninsk 61.49 323 *i* P P 12 09 51.9 -0.9
OBN Obninsk 61.49 323 *d i* P P 12 09 51.9 -0.9
OBN *i* 12 10 23.8
OBN *i* *PP pP 12 11 32.3 -1.1
OBN *i* 12 12 15.1
OBN pmax pmax
comp=Z,52nm,0.9s
DLMT Dillon 61.66 52 P P 12 09 55.7 +1.4
DLMT IAmb IAmb 12 09 56.5
comp=Z,12nm,0.9s
PAHR Pah Rah Range 61.80 61 P P 12 09 56.9 +1.5
PAHR IAmb IAmb 12 09 57.5
comp=Z,21nm,1.1s
MCMT McKenzie Canyo 61.89 53 P P 12 09 56.3 +0.3
VCNR Virginia City 61.93 62 P P 12 09 57.2 +1.0
HLID Hailey 61.93 55 P P 12 09 57.6 +1.4
baz=313,SNR=7.5
HLID Hailey 61.93 55 P P 12 09 57.8 +1.6
BCYI Bear Canyon 61.95 54 P P 12 09 56.7 +0.3
BOZ Bozeman (W) 61.99 52 P P 12 09 57.5 +1.0
baz=314,SNR=17
BOZ Bozeman (W) 61.99 52 P P 12 09 58.0 +1.5
BOZ pmax pmax
comp=Z,7.0nm,0.7s
BOZ Bozeman (W) 61.99 52 P P 12 09 58.0 +1.5
PNTR Pine Nut 62.10 62 P P 12 09 58.3 +0.9
PNTR IAmb IAmb 12 09 59.4
comp=Z,11nm,0.8s
VRH Novokhopyorsk 62.17 317 eP P 12 09 56.0 -1.3
VRH pmax pmax
comp=Z,80nm,0.7s
CMB Columbia Colle 62.36 63 P P 12 09 59.6 +0.7
CMB Columbia Colle 62.36 63 P P 12 09 59.6 +0.7
LPSR Galich'ya Gora 62.37 320 eP P 12 09 57.8 -0.8
LPSR pmax pmax
comp=Z,90nm,0.8s
YERR Yerington 62.37 62 P P 12 09 59.8 +0.6
YERR IAmb IAmb 12 10 01.4
comp=Z,21nm,0.7s
VSU Vasula 62.46 330 *d i* P P 12 09 58.2 -0.9
VSU pmax pmax
comp=Z,112nm,0.9s
WAKR Walker 62.59 62 P P 12 09 59.9 -0.7
WAKR IAmb IAmb 12 10 03.0
comp=Z,11nm,0.7s
SFJD Kangerlussuaq 62.70 9 *i* P P 12 09 59.3 -1.2
SFJD Kangerlussuaq 62.70 9 P P 12 09 59.7 -0.8
SFJD pmax pmax
comp=Z,32nm,0.8s
SFJD Kangerlussuaq 62.70 9 P P 12 09 59.7 -0.8
YHB Horse Butte 62.80 52 P P 12 10 02.7 +0.9
YHH Holmes Hill 62.95 52 P P 12 10 04.3 +1.4
HRA Herat 62.98 292 P P 12 10 03.3 +0.1
HRA IAmb IAmb 12 10 03.7
comp=Z,12nm,0.8s
KVN Kaiserville 62.98 61 P P 12 10 04.4 +1.3
KVN pmax pmax
comp=Z,21nm,0.7s
KVN Kaiserville 62.98 61 P P 12 10 04.4 +1.3
KVN IAmb IAmb 12 10 05.4
comp=Z,21nm,0.7s
GEYT Alibeck 62.99 297 P P 12 10 03.1 +0.2
comp=Z,12nm,0.8s,baz=20,slow=4.7,SNR=20
GEYT Alibeck 62.99 297 P P 12 10 03.2 +0.2
GYA0B ALIBECK ARRAY 62.99 297 P P 12 10 03.6 +0.6
GYA0B IAmb IAmb 12 10 04.2
comp=Z,20nm,1.1s
RYN Ryan 63.03 61 P P 12 10 04.8 +1.4
RYN IAmb IAmb 12 10 05.6
comp=Z,10nm,0.7s
RYN pP 12 11 52.1 +7.3
YNR Norris Junctio 63.09 52 P P 12 10 03.0 -0.7
PSI Prapat 63.23 240 P P 12 10 05.1 +0.2
PSI pmax pmax
comp=Z,11nm,1.0s
YNE Yellowstone No 63.23 51 P P 12 10 06.0 +1.3
VSR Storozhevoye 63.27 319 eP P 12 10 03.3 -1.2
VSR pmax pmax
comp=Z,60nm,0.8s
NVAR Mina Array Bea 63.29 61 P P 12 10 06.4 +1.3
comp=Z,11nm,0.7s,baz=295,slow=6.5,SNR=19
NVAR Mina Array Bea 63.29 61 P P 12 10 06.2 +1.1
LHV Little Huntoon 63.30 62 P P 12 10 06.6 +1.8
RPSI Rantau Prapat 63.31 240 P P 12 10 05.1 -0.1
RPSI IAmb IAmb 12 10 06.4
comp=Z,11nm,1.0s
YPP Pitchstone Pla 63.33 52 P P 12 10 06.2 +0.8
H17A Grant Village 63.36 52 P P 12 10 08.4 +2.8
baz=314,SNR=6.9
H17A Grant Village 63.36 52 P P 12 10 04.7 -0.9
NV11 Mina Array Sit 63.37 61 P P 12 10 06.7 +1.1
NV11 IAmb IAmb 12 10 07.4
comp=Z,9.1nm,0.8s
MDPB Devils Postpil 63.39 63 P P 12 10 06.8 +1.0
MDPB IAmb IAmb 12 10 08.1
comp=Z,8.2nm,0.8s

VORD Divnogorie 63.40 318 eP P 12 10 04.4 -0.9
VORD pmax pmax
comp=Z,50nm,0.8s
FLWY Flagg Ranch 63.52 52 P P 12 10 06.2 -0.2
RLMT Red Lodge 63.52 51 P P 12 10 07.9 +1.4
baz=315,SNR=5.9
RLMT Red Lodge 63.52 51 P P 12 10 07.5 +1.0
IMW Indian Meadow 63.52 53 P P 12 10 07.5 +0.9
MLAC Mammoth, Mammo 63.53 62 P P 12 10 08.7 +2.0
baz=314
DGMT Dagmar 63.60 45 P P 12 10 07.4 +0.7
baz=316,SNR=5.2
DGMT Dagmar 63.60 45 P P 12 10 07.7 +1.0
FXWY Fox Creek 63.66 53 P P 12 10 08.8 +1.3
TPAW Teton Pass 63.80 53 P P 12 10 08.7 +0.3
TPAW IAmb IAmb 12 10 10.2
comp=Z,8.9nm,0.8s
LOHW Long Hollow 63.90 53 P P 12 10 10.1 +1.2
LAO LASA Array 63.91 48 P P 12 10 09.3 +0.6
LAO IAmb IAmb 12 10 11.8
comp=Z,16nm,1.4s
SNOW Snow King Moun 63.92 53 P P 12 10 10.2 +1.1
REDW Red Top Meadow 63.94 53 P P 12 10 09.5 +0.3
AHID Auburn Hatcher 64.23 54 P P 12 10 12.4 +1.4
DOMB Dombas 64.24 340 eP P 12 10 09.9 -0.6
MTN Manton Dam 64.26 200 P P 12 10 11.8 +0.6
MTN IAmb IAmb 12 10 12.6
comp=Z,13nm,0.7s
TIN Tinemaha, Big 64.28 63 P P 12 10 13.2 +1.8
baz=314
NC303 NORSAR Array S 64.45 339 P P 12 10 11.2 -0.6
SMMC Simmler 64.45 65 P P 12 10 13.6 +1.2
baz=314
NC405 NORSAR Array S 64.46 339 P P 12 10 11.3 -0.6
BGU Big Grassy Mou 64.49 56 P P 12 10 14.2 +1.6
NC204 NORSAR Array S 64.54 339 P P 12 10 12.0 -0.5
AKN Aaknes 64.56 341 eP P 12 10 12.5 -0.1
NB201 NORSAR Array S 64.62 339 P P 12 10 12.5 -0.4
VES Vestal, Richgr 64.62 64 P P 12 10 13.8 +0.4
baz=314
NB2 NORSAR Subarra 64.64 339 P P 12 10 12.2 -0.9
comp=Z,72nm,1.4s,baz=27,slow=6.5
NB2 NORSAR Subarra 64.64 339 P P 12 10 12.4 -0.7
comp=Z,22nm,0.8s,baz=29,slow=6.5
NB2 NORSAR Subarra 64.64 339 P P 12 10 12.2 -0.9
baz=27,slow=6.5
NOA NORSAR Array B 64.64 339 P P 12 10 12.7 -0.5
comp=Z,11nm,0.6s,baz=28,slow=6.6,SNR=49
NBO00 NORSAR Array S 64.75 339 P P 12 10 13.4 -0.3
CWC Cottonwood Cre 64.79 63 P P 12 10 15.5 +0.8
baz=314
HWUT Hardware Ranch 64.80 55 P P 12 10 16.1 +1.4
HWUT IAmb IAmb 12 10 16.5
comp=Z,8.9nm,0.8s
GRAC Grapevine Rang 64.81 62 P P 12 10 16.2 +1.5
baz=314,SNR=11
NC602 NORSAR Array S 64.84 339 P P 12 10 13.7 -0.6
NC602 NORSAR Array S 64.84 339 eP P 12 10 13.5 -0.8
PKM Mcpherson Peak 64.85 65 P P 12 10 16.2 +1.1
baz=314
R11A Troy Canyon, C 64.88 60 P P 12 10 16.1 +0.9
baz=315,SNR=14
R11A Troy Canyon, C 64.88 60 P P 12 10 16.2 +0.9
NAO01 NORSAR Array S 64.89 339 P P 12 10 13.9 -0.8
SDSI Sungai Dareh 64.96 235 P P 12 10 18.4 +2.7
comp=Z,10nm,1.6s
BW06 Boulder Array 65.03 53 P P 12 10 17.0 +0.9
baz=316,SNR=20
BW06 Boulder Array 65.03 53 P P 12 10 16.9 +0.7
BW06 IAmb IAmb 12 10 17.3
comp=Z,6.8nm,0.7s
PD31 Pinedale Array 65.03 53 P P 12 10 16.9 +0.7
PD31 IAmb IAmb 12 10 17.3
comp=Z,6.1nm,0.7s
PDAR Pinedale Array 65.03 53 P P 12 10 16.7 +0.5
comp=Z,6.2nm,0.4s,baz=7.4,slow=1.0,SNR=128
PDAR pP **pP** 12 11 59.4 +0.9
comp=Z,0.7nm,0.6s,baz=311,slow=4.2,SNR=3.0
PDAR Pinedale Array 65.03 53 P P 12 10 16.6 +0.4
ISA Isabella, Lake 65.10 64 P P 12 10 16.3 -0.2
baz=315,SNR=6.7
ISA Isabella, Lake 65.10 64 P P 12 10 16.7 +0.2
ISA pmax pmax
comp=Z,8.0nm,0.7s
ISA Isabella, Lake 65.10 64 P P 12 10 16.7 +0.2
ISA IAmb IAmb 12 10 17.6
comp=Z,8.4nm,0.7s
DUG Dugway, Tooele 65.12 57 P P 12 10 17.6 +0.9
baz=315,SNR=15
DUG Dugway, Tooele 65.12 57 P P 12 10 17.4 +0.7
DUG pmax pmax
comp=Z,11nm,0.8s
DUG Dugway, Tooele 65.12 57 P P 12 10 17.4 +0.7
DUG IAmb IAmb 12 10 19.0
comp=Z,11nm,0.8s
GSI Gunungsitoli 65.21 240 P P 12 10 19.9 +2.5
comp=Z,26nm,0.9s
GSI Gunungsitoli 65.21 240 P P 12 10 18.1 +0.8
GSI IAmb IAmb 12 10 19.9
comp=Z,15nm,0.7s
TCUT Toone Canyon 65.23 55 P P 12 10 18.5 +1.0
FURC Furnace Creek, 65.47 62 P P 12 10 20.1 +1.4
baz=315,SNR=32
TPNV Topopah Spring 65.49 61 P P 12 10 20.2 +1.2
baz=315,SNR=26
TPNV Topopah Spring 65.49 61 P P 12 10 20.2 +1.2
TPNV pmax pmax
comp=Z,18nm,0.7s
TPNV Topopah Spring 65.49 61 P P 12 10 20.2 +1.2
JLU Jordanelle 65.57 56 P P 12 10 21.1 +1.5
LRMC Laurel Mtn Rad 65.69 63 P P 12 10 21.3 +1.0
baz=315
PSUT Pine Spring 65.72 59 P P 12 10 21.7 +1.2
PRN Pahroc Range 65.85 60 P P 12 10 22.7 +1.4
PRN IAmb IAmb 12 10 23.2
comp=Z,7.7nm,0.7s
KRJI Kerinci 65.92 234 P P 12 10 23.4 +1.5
EDW2 Edwards Air Fo 65.93 64 P P 12 10 22.8 +1.1
baz=315,SNR=12
ULM Lac du Bonnet 65.93 40 P P 12 10 21.7 +0.3
comp=Z,3.3nm,0.5s,baz=270,slow=6.1,SNR=2.9
ULM Lac du Bonnet 65.93 40 P P 12 10 21.7 +0.3
ULM pmax pmax
comp=Z,9.0nm,1.2s
DECC Green Verdugo 66.17 65 P P 12 10 24.0 +0.8
baz=315
SHOC Shoshone, Teco 66.21 62 P P 12 10 24.7 +1.3
baz=315
KONO Kongsberg 66.25 339 *ce* P P 12 10 23.5 +0.3
KONO pmax pmax
comp=Z,48nm,1.7s
MWC Mount Wilson 66.35 65 P P 12 10 25.6 +1.1
MWC pmax pmax
comp=Z,49nm,1.5s
MWC Mount Wilson 66.35 65 P P 12 10 25.6 +1.1
SHPR Sheep Range 66.42 61 P P 12 10 26.3 +1.5
SHPR IAmb IAmb 12 10 26.8
comp=Z,8.7nm,0.8s
ASK Askoy 66.47 342 eP P 12 10 19.5 -5.0
RRX Edison Barstow 66.51 63 P P 12 10 26.8 +1.5
baz=315
BER Bergen 66.53 341 eP P 12 10 24.7 -0.1
BFSC Mount Baldy Ra 66.58 64 P P 12 10 26.8 +1.0
baz=315,SNR=8.4
RDMU Red Mountain 66.60 55 P P 12 10 27.4 +1.5
TMUT Trail Mountain 66.63 56 P P 12 10 27.8 +1.5
MSU Marysvale 66.66 58 P P 12 10 27.5 +1.1
MSU Marysvale 66.66 58 P P 12 10 27.5 +1.1
K22A Casper 66.67 51 P P 12 10 26.9 +0.6
baz=317,SNR=5.2
K22A Casper 66.67 51 P P 12 10 27.0 +0.6
K22A IAmb IAmb 12 10 27.1
comp=Z,5.5nm,0.6s
CCUT Cedar City 66.69 59 P P 12 10 28.3 +1.6
TUQ Turquoise Moun 66.74 62 P P 12 10 28.1 +1.3
baz=315,SNR=12
P17A Butcher Ranch, 66.76 56 P P 12 10 28.4 +1.5
SZCU Shurtz Canyon 66.81 59 P P 12 10 28.7 +1.4
RSSD Black Hills 66.84 49 P P 12 10 28.0 +0.6
baz=318
RSSD Black Hills 66.84 49 P P 12 10 27.6 +0.2
RSSD pmax pmax
comp=Z,6.0nm,0.7s
RSSD Black Hills 66.84 49 P P 12 10 27.6 +0.2
RSSD IAmb IAmb 12 10 28.2

	comp=Z,6.4nm,0.7s										
Q16A	**Castle Valley**	**66.92**	**57**	P		**P**			**12 10 29.1**	**+1.1**
HEC	**Hector,Ludlow**	**66.93**	**63**	P		**P**			**12 10 29.3**	**+1.4**
	baz=316,SNR=9.3										
KIV	**Kislovodsk**	**66.98**	**311**	⇑P		**P**			**12 10 28.9**	**+0.8**
KIV	**Kislovodsk**	**66.98**	**311**	*i* P		**P**			**12 10 29.9**	**+1.7**
	SNR=8.0										
KIV	**Kislovodsk**	**66.98**	**311**	*e*P		**P**			**12 10 28.4**	**+0.3**
KIV	**Kislovodsk**	**66.98**	**311**	*e*P		**P**			**12 10 28.4**	**+0.3**
KIV					pmax	pmax					
	comp=Z,184nm,1.1s										
KIV					MLR	MLR					
	comp=Z,59nm,17.0s										
KIV	**Kislovodsk**	**66.98**	**311**	P		**P**			**12 10 28.5**	**+0.4**
BBRC	**Big Bear Solar**	**66.99**	**64**	P		**P**			**12 10 29.5**	**+1.0**
	baz=316,SNR=15										
MTPU	**Mount Pierson**	**67.00**	**58**	P		**P**			**12 10 29.4**	**+0.8**
KBZ	**Khabaz**	**67.05**	**311**	P		**P**			**12 10 28.8**	**+0.5**
	comp=Z,39nm,0.8s,baz=47,slow=4.1,SNR=55										
SRU	**San Rafael Swe**	**67.14**	**56**	P		**P**			**12 10 30.5**	**+1.2**
SRU					pmax	pmax					
	comp=Z,11nm,0.8s										
SRU	**San Rafael Swe**	**67.14**	**56**	P		**P**			**12 10 30.5**	**+1.2**
LCMT	**Little Creek M**	**67.14**	**59**	P		**P**			**12 10 30.3**	**+1.0**
SUW	**Suwalki**	**67.23**	**329**	*e*P		**P**			**12 10 28.3**	**-1.0**
ZEI	**Tsey**	**67.24**	**310**	*e*P		**P**			**12 10 28.6**	**-1.3**
ZEI					pmax	pmax					
	comp=Z,24nm,0.7s										
MURC	**Murrieta**	**67.30**	**65**	P		**P**			**12 10 30.8**	**+0.6**
	baz=316,SNR=6.8										
GMRC	**Granite Mounta**	**67.35**	**63**	P		**P**			**12 10 31.4**	**+0.8**
	baz=316,SNR=7.7										
PKCU	**Pink Cliffs**	**67.35**	**59**	P		**P**			**12 10 31.6**	**+0.8**
KNB	**Kanab**	**67.37**	**59**	P		**P**			**12 10 32.2**	**+1.4**
KNB					pmax	pmax					
	comp=Z,14nm,1.2s										
KNB	**Kanab**	**67.37**	**59**	P		**P**			**12 10 32.2**	**+1.4**
TBLG	**Delisi**	**67.59**	**308**	P		**P**			**12 10 32.3**	**+0.4**
TBLG					pmax	pmax					
	comp=Z,86nm,1.2s										
TBLG	**Delisi**	**67.59**	**308**	P		**P**			**12 10 32.2**	**+0.4**
ONI	**Oni**	**67.61**	**310**	P		**P**			**12 10 33.1**	**+1.1**
O20A	**White River Ci**	**67.61**	**54**	P		**P**			**12 10 32.9**	**+0.7**
	baz=317										
O20A	**White River Ci**	**67.61**	**54**	P		**P**			**12 10 33.1**	**+0.9**
KLNR	**Kaliningrad**	**67.71**	**331**	*i* P		**P**			**12 10 30.0**	**-2.2**
KLNR					pmax	pmax					
	comp=Z,145nm,1.3s										
BELC	**Belle Mtn. Jos**	**67.72**	**63**	P		**P**			**12 10 33.2**	**+0.4**
	baz=316,SNR=7.6										
PFO	**Pinyon Flats O**	**67.72**	**64**	P		**P**			**12 10 33.5**	**+0.6**
	baz=316										
PFO	**Pinyon Flats O**	**67.72**	**64**	P		**P**			**12 10 33.9**	**+1.0**
PFO					pmax	pmax					
	comp=Z,5.0nm,1.1s										
PFO	**Pinyon Flats O**	**67.72**	**64**	P		**P**			**12 10 33.9**	**+1.0**
AKASG	**Malin Array Be**	**67.73**	**324**	P		**P**			**12 10 31.4**	**-1.0**
	comp=Z,29nm,0.7s,baz=34,slow=6.4,SNR=18										
AKASG					pP	**pP**			**12 12 17.4**	**+1.8**
	comp=Z,2.2nm,0.6s,baz=34,slow=7.5,SNR=3.0										
AKASG	**Malin Array Be**	**67.73**	**324**	P		**P**			**12 10 31.4**	**-1.0**
AKASG					pmax	pmax					
	comp=Z,14nm,1.0s										
AKASG	**Malin Array Be**	**67.73**	**324**	IAmb		IAmb			12 10 32.7		
	comp=Z,14nm,1.0s										
AKBB	**Malin Array Si**	**67.73**	**324**	P		**P**			**12 10 31.3**	**-1.2**
AKBB					pmax	pmax					
	comp=Z,40nm,0.9s										
AKBB	**Malin Array Si**	**67.73**	**324**	P		**P**			**12 10 31.2**	**-1.2**
KZRT	**Kazreti**	**68.02**	**308**	P		**P**			**12 10 34.9**	**+0.4**
U15A	**North Rim**	**68.09**	**59**	P		**P**			**12 10 37.0**	**+1.7**
U15A					IAmb	IAmb			12 10 37.2		
	comp=Z,10nm,1.1s										
IRM	**Iron Mountain**	**68.10**	**63**	P		**P**			**12 10 36.3**	**+1.3**
	baz=316,SNR=14										
W13A	**Hualapai Mount**	**68.15**	**61**	P		**P**			**12 10 36.7**	**+1.1**
W13A					IAmb	IAmb			12 10 37.6		
	comp=Z,8.3nm,0.8s										
N23A	**Red Feather La**	**68.25**	**52**	P		**P**			**12 10 37.2**	**+1.0**
	baz=318										
N23A	**Red Feather La**	**68.25**	**52**	P		**P**			**12 10 37.3**	**+1.2**
MONP2	**Monument Peak**	**68.26**	**65**	P		**P**			**12 10 37.2**	**+0.9**
	baz=316										
BC3	**Big Chuckawall**	**68.28**	**63**	P		**P**			**12 10 36.9**	**+0.6**
	baz=316,SNR=7.3										
PV21	**Cone Mtn., Par**	**68.37**	**56**	P		**P**			**12 10 38.1**	**+1.2**
PV21					IAmb	IAmb			12 10 38.7		
	comp=Z,9.4nm,0.7s										
PV23	**Carpenter Ridg**	**68.43**	**56**	P		**P**			**12 10 38.6**	**+1.3**
PV23					IAmb	IAmb			12 10 39.3		
	comp=Z,11nm,0.8s										
AKH	**Akhalkalaki**	**68.46**	**309**	⇓P		**P**			**12 10 38.4**	**+1.1**
AKH	**Akhalkalaki**	**68.46**	**309**	P		**P**			**12 10 38.6**	**+1.3**
AKH					pmax	pmax					
	comp=Z,32nm,0.9s										
AKH	**Akhalkalaki**	**68.46**	**309**	P		**P**			**12 10 38.6**	**+1.3**
PV14	**Lion Creek, Pa**	**68.48**	**56**	P		**P**			**12 10 38.8**	**+1.2**
PV14					IAmb	IAmb			12 10 39.0		
	comp=Z,9.5nm,0.8s										
PV22	**Blue Mesa, Par**	**68.49**	**56**	P		**P**			**12 10 38.8**	**+1.3**
PV22					IAmb	IAmb			12 10 39.4		
	comp=Z,10nm,0.7s										
PV04	**Paradox Valley**	**68.53**	**56**	P		**P**			**12 10 39.1**	**+1.3**
PV04					IAmb	IAmb			12 10 39.2		
	comp=Z,9.6nm,0.9s										
PV20	**West Nyswonger**	**68.53**	**56**	P		**P**			**12 10 39.0**	**+1.2**
PV20					IAmb	IAmb			12 10 39.2		
	comp=Z,9.0nm,0.9s										
PV19	**Morning Glory**	**68.55**	**56**	P		**P**			**12 10 39.2**	**+1.3**
PV19					IAmb	IAmb			12 10 39.3		
	comp=Z,8.9nm,0.8s										
PDMCI	**Parker Dam,Lak**	**68.57**	**62**	P		**P**			**12 10 38.8**	**+1.0**
	baz=316,SNR=5.3										
PV16	**Nyswonger Mesa**	**68.58**	**56**	P		**P**			**12 10 39.4**	**+1.2**
PV16					IAmb	IAmb			12 10 40.3		
	comp=Z,28nm,1.5s										
PV17	**East Wray Mesa**	**68.58**	**56**	P		**P**			**12 10 39.4**	**+1.3**
PV17					IAmb	IAmb			12 10 39.6		
	comp=Z,12nm,0.8s										
SWSC	**Sam W. Stewart**	**68.58**	**64**	P		**P**			**12 10 38.7**	**+0.7**
	baz=316										
IKP	**In-Ko-Pah, Jac**	**68.61**	**65**	P		**P**			**12 10 39.1**	**+0.8**
	baz=316										
PV11	**David Mesa, Pa**	**68.61**	**56**	P		**P**			**12 10 39.5**	**+1.2**
PV18	**Skein Mesa, Pa**	**68.63**	**56**	P		**P**			**12 10 39.7**	**+1.2**
PV18					IAmb	IAmb			12 10 39.9		
	comp=Z,7.2nm,0.8s										
PV07	**Paradox Valley**	**68.63**	**56**	P		**P**			**12 10 39.6**	**+1.1**
PV12	**Saucer Basin,**	**68.64**	**56**	P		**P**			**12 10 39.7**	**+1.2**
PV05	**Paradox Valley**	**68.65**	**56**	P		**P**			**12 10 40.0**	**+1.4**
PV05					IAmb	IAmb			12 10 40.6		
	comp=Z,13nm,0.8s										
PV03	**Paradox Valley**	**68.66**	**56**	P		**P**			**12 10 39.8**	**+1.1**
SOC	**Sochi**	**68.70**	**313**	*e*P		**P**			**12 10 38.4**	**-0.1**
SOC	**Sochi**	**68.70**	**313**	*e*P		**P**			**12 10 38.4**	**-0.1**
SOC				*e*					12 13 18.1		
SOC				*e*PPP		PPP			12 15 03.3		
SOC				*e*S		**S**			**12 19 01.7**	**+0.4**
SOC				*e*SS		**SS**			**12 23 46.4**	**+8.9**
SOC					pmax	pmax					
	comp=Z,24nm,0.7s										
PV13	**Radium Mtn., P**	**68.74**	**56**	P		**P**			**12 10 40.1**	**+1.0**
PV13					IAmb	IAmb			12 10 41.1		
	comp=Z,9.5nm,0.7s										
PV02	**Paradox Valley**	**68.75**	**56**	P		**P**			**12 10 40.4**	**+1.2**
PV15	**Paradox Valley**	**68.79**	**56**	P		**P**			**12 10 40.7**	**+1.2**
PV15					IAmb	IAmb			12 10 40.8		
	comp=Z,7.3nm,0.7s										
GLA	**Glamis**	**69.08**	**63**	P		**P**			**12 10 42.2**	**+1.2**
	baz=316										
F33A	**5 Mile Ranch,**	**69.15**	**43**	P		**P**			**12 10 41.2**	**+0.1**
ESJX	**Sierra Juarez**	**69.17**	**65**	P		**P**			**12 10 42.1**	**+0.4**
ESJX					IAmb	IAmb			12 10 42.7		
	comp=Z,9.7nm,0.8s										
ISCO	**Idaho Springs**	**69.23**	**53**	P		**P**			**12 10 43.2**	**+1.0**
	baz=318,SNR=6.3										
ISCO	**Idaho Springs**	**69.23**	**53**	P		**P**			**12 10 43.3**	**+1.1**
ISCO					pmax	pmax					
	comp=Z,5.0nm,1.2s										
ISCO	**Idaho Springs**	**69.23**	**53**	P		**P**			**12 10 43.2**	**+1.1**
WUAZ	**Wupatki**	**69.26**	**59**	P		**P**			**12 10 43.9**	**+1.6**
	baz=317,SNR=9.5										
WUAZ	**Wupatki**	**69.26**	**59**	P		**P**			**12 10 43.8**	**+1.6**
WUAZ					IAmb	IAmb			12 10 44.9		
	comp=Z,9.9nm,0.9s										
EYMN	**Ely**	**69.53**	**39**	P		**P**			**12 10 43.1**	**-0.4**
	baz=323,SNR=5.6										
EYMN	**Ely**	**69.53**	**39**	P		**P**			**12 10 43.0**	**-0.4**
EYMN					IAmb	IAmb			12 10 44.8		
	comp=Z,27nm,1.5s										
MVCO	**Mesa Verde**	**69.61**	**56**	P		**P**			**12 10 45.3**	**+0.9**
	baz=318,SNR=10										
MVCO	**Mesa Verde**	**69.61**	**56**	P		**P**			**12 10 45.3**	**+0.9**
MVCO					IAmb	IAmb			12 10 45.9		
	comp=Z,8.5nm,0.8s										
BEL	**Belsk**	**69.85**	**329**	*e*P		**P**			**12 10 45.1**	**-0.1**
113A	**Mohawk Valley,**	**69.89**	**63**	P		**P**			**12 10 47.2**	**+1.4**
BIGH	**Upper Bighouse**	**70.01**	**345**	*e*P		**P**			**12 10 45.1**	**-0.9**
X16A	**Lo Mia Camp, P**	**70.03**	**60**	P		**P**			**12 10 47.8**	**+1.0**
X16A					IAmb	IAmb			12 10 49.4		
	comp=Z,11nm,0.7s										
Q24A	**Divide**	**70.09**	**53**	P		**P**			**12 10 48.2**	**+0.8**
	baz=318,SNR=5.6										
S22A	**4UR Ranch, Cre**	**70.11**	**55**	P		**P**			**12 10 48.9**	**+1.4**
	baz=318,SNR=8.8										
S22A	**4UR Ranch, Cre**	**70.11**	**55**	P		**P**			**12 10 48.8**	**+1.3**
SORM	**Soroca**	**70.13**	**322**	⇑P		**P**			**12 10 45.7**	**-1.2**
OGNE	**Ogallala**	**70.19**	**50**	P		**P**			**12 10 48.3**	**+0.7**
	baz=319										
OGNE	**Ogallala**	**70.19**	**50**	P		**P**			**12 10 48.5**	**+0.9**
WB0	**Warramunga Arr**	**70.37**	**195**	P		**P**			**12 10 49.7**	**+1.0**
LVV	**L'vov**	**70.40**	**326**	*e*P		**P**			**12 10 48.0**	**-0.5**
WRA	**Warramunga Arr**	**70.55**	**195**	P		**P**			**12 10 50.5**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=15,slow=6.3,SNR=38										
WRA					pP	**pwP**			**12 12 36.2**	**-1.7**
	comp=Z,1.5nm,1.0s,baz=12,slow=6.5,SNR=5.1										
WRA	**Warramunga Arr**	**70.55**	**195**	P		**P**			**12 10 50.4**	**+0.7**
E38A	**The Farm, Brul**	**70.58**	**40**	P		**P**			**12 10 49.7**	**0.0**
E38A					IAmb	IAmb			12 10 51.5		
	comp=Z,19nm,1.2s										
ECSD	**EROS Data Cent**	**70.63**	**45**	P		**P**			**12 10 49.9**	**-0.2**
	baz=321,SNR=8.8										
ECSD	**EROS Data Cent**	**70.63**	**45**	P		**P**			**12 10 50.1**	**0.0**
FITZ	**Fitzroy Crossi**	**70.64**	**204**	P		**P**			**12 10 51.3**	**+1.0**
	comp=Z,4.1nm,0.9s,baz=13,slow=5.1,SNR=7.7										
FITZ	**Fitzroy Crossi**	**70.64**	**204**	IAmb		IAmb			12 10 52.4		
	comp=Z,4.6nm,0.9s										
MCD	**Coleburn Disti**	**70.77**	**345**	*e*P		**P**			**12 10 50.2**	**-0.4**
SDCO	**Great Sand Dun**	**70.82**	**54**	P		**P**			**12 10 52.6**	**+1.0**
	baz=319,SNR=10										
SDCO	**Great Sand Dun**	**70.82**	**54**	P		**P**			**12 10 52.8**	**+1.2**
MILM	**Milestii Mici**	**70.92**	**321**	⇓P		**P**			**12 10 50.7**	**-1.0**
KOPT	**Kop Dagi**	**71.01**	**310**	P		**P**			**12 10 52.4**	**-0.3**
KOPT					IAmb	IAmb			12 10 54.9		
	comp=Z,19nm,1.0s										
KWP	**Kalwaria Pacla**	**71.03**	**327**	*e*P		**P**			**12 10 52.2**	**-0.1**
214A	**Organ Pipe Nat**	**71.04**	**63**	P		**P**			**12 10 53.9**	**+1.2**
	baz=317,SNR=7.7										
214A	**Organ Pipe Nat**	**71.04**	**63**	P		**P**			**12 10 53.4**	**+0.7**
214A					IAmb	IAmb			12 10 54.9		
	comp=Z,15nm,1.1s										
MDO	**Dochfour**	**71.09**	**345**	*e*P		**P**			**12 10 51.9**	**-0.6**
SPMN	**Marine on St.**	**71.15**	**41**	P		**P**			**12 10 52.5**	**-0.6**
	baz=323										
KAC	**Achnashellach**	**71.19**	**346**	*e*P		**P**			**12 10 52.4**	**-0.7**
KPL	**Plockton**	**71.39**	**346**	*e*P		**P**			**12 10 53.5**	**-0.7**
KPL					IAmb	IAmb			12 10 54.5		
	comp=Z,44nm,0.7s										
OJC	**Ojcow**	**71.55**	**329**	*e*P		**P**			**12 10 55.1**	**-0.2**
OJC	**Ojcow**	**71.55**	**329**	P		**P**			**12 10 54.6**	**-0.7**
OJC					pmax	pmax					
	comp=Z,35nm,1.2s										
OJC	**Ojcow**	**71.55**	**329**	P		**P**			**12 10 54.6**	**-0.7**
OJC					IAmb	IAmb			12 10 56.0		
	comp=Z,35nm,1.2s										
VASR	**Vaslui**	**71.56**	**322**	⇑P		**P**			**12 10 55.0**	**-0.5**
SCHQ	**Schefferville**	**71.56**	**21**	P		**P**			**12 10 54.6**	**-0.7**
	comp=Z,5.3nm,0.4s,baz=330,slow=6.6,SNR=17										
SCHQ	**Schefferville**	**71.56**	**21**	IAmb		IAmb			12 10 55.6		
	comp=Z,18nm,1.2s										
BUR08	**Bucovina Ar. S**	**71.75**	**324**	P		**P**			**12 10 56.0**	**-0.7**
BUR08					IAmb	IAmb			12 10 57.3		
	comp=Z,24nm,0.8s										
KOLS	**Kolonicke sedl**	**71.77**	**326**	*e*P		**P**			**12 10 55.6**	**-1.1**
KOLS					pmax	pmax					
	comp=Z,20nm,1.2s										
KOLS	**Kolonicke sedl**	**71.77**	**326**	*e*P		**P**			**12 10 55.6**	**-1.1**
BURAR	**Bucovina Array**	**71.77**	**324**	⇓P		**P**			**12 10 56.3**	**-0.5**
BURAR	**Bucovina Array**	**71.77**	**324**	P		**P**			**12 10 56.3**	**-0.5**
T25A	**Trinidad**	**71.84**	**54**	P		**P**			**12 10 57.8**	**+0.2**
	baz=319										
T25A	**Trinidad**	**71.84**	**54**	P		**P**			**12 10 58.4**	**+0.8**
I37A	**Lemond, Waseca**	**71.85**	**42**	P		**P**			**12 10 57.4**	**+0.2**
I37A					IAmb	IAmb			12 10 58.5		
	comp=Z,16nm,0.6s										
ELO	**Logie Almond**	**71.91**	**345**	*e*P		**P**			**12 10 56.7**	**-0.6**
TUC	**Tucson**	**71.94**	**61**	P		**P**			**12 10 59.1**	**+1.0**
	baz=318										
TUC	**Tucson**	**71.94**	**61**	P		**P**			**12 10 59.5**	**+1.4**
TUC					pmax	pmax					
	comp=Z,5.0nm,0.9s										
TUC	**Tucson**	**71.94**	**61**	P		**P**			**12 10 59.5**	**+1.4**
BIZ	**Bicaz**	**71.98**	**323**	⇓P		**P**			**12 10 57.9**	**-0.1**
INVG	**Invergeldie, C**	**72.00**	**345**	*e*P		**P**			**12 10 56.5**	**-1.4**
INVG					IAmb	IAmb			12 10 58.2		
	comp=Z,18nm,0.7s										
UZH	**Uzhgorod**	**72.02**	**326**	⇑*i*P		**P**			**12 10 58.3**	**+0.2**
NIE	**Niedzica**	**72.06**	**328**	*e*P		**P**			**12 10 58.6**	**+0.3**
CRVS	**Cervenica-Dubn**	**72.09**	**327**	*e*P		**P**			**12 10 58.4**	**-0.1**
CRVS					pmax	pmax					
	comp=Z,22nm,1.0s										
CRVS	**Cervenica-Dubn**	**72.09**	**327**	*e*P		**P**			**12 10 58.4**	**-0.1**
L34A	**Svendsen Farm,**	**72.12**	**46**	P		**P**			**12 10 58.9**	**0.0**
TESR	**Tescani**	**72.12**	**322**	⇓P		**P**			**12 10 58.3**	**-0.5**
KSP	**Ksiaz**	**72.16**	**331**	*e*P		**P**			**12 10 58.5**	**-0.4**
ESY	**Stoneypath**	**72.24**	**344**	*e*P		**P**			**12 10 58.2**	**-1.0**
DIKM	**Dikmen**	**72.29**	**314**	⇓P		**P**			**12 11 00.0**	**+0.3**
TLCR		**72.32**	**320**	⇑P		**P**			**12 10 59.7**	**-0.2**
LAWE	**Loch Awe, Argy**	**72.39**	**346**	*e*P		**P**			**12 10 58.9**	**-1.2**
LAWE					IAmb	IAmb			12 11 00.2		
	comp=Z,39nm,0.7s										
ANMO	**Albuquerque**	**72.40**	**57**	P		**P**			**12 11 02.2**	**+1.4**
	baz=319										
ANMO	**Albuquerque**	**72.40**	**57**	*ce*P		**P**			**12 11 02.2**	**+1.4**
ANMO					pmax	pmax					
	comp=Z,11nm,1.3s										
ANMO	**Albuquerque**	**72.40**	**57**	P		**P**			**12 11 01.8**	**+1.0**
OSTC	**Ostas**	**72.44**	**331**	*e*P		**P**			**12 11 00.0**	**-0.5**
OSTC				*ex*		x			12 13 01.6		
NRDL	**Niedersach Rie**	**72.53**	**335**	*e*P		**P**			**12 11 00.4**	**-0.4**
	comp=Z,10nm,0.9s,baz=27,slow=5.7										
PETR	**Petresti**	**72.53**	**322**	⇑P		**P**			**12 11 01.9**	**+0.8**
UPC	**Upice**	**72.55**	**331**	*e*P		**P**			**12 11 00.9**	**-0.2**
UPC	**Upice**	**72.55**	**331**	*e*P		**P**			**12 11 00.9**	**-0.2**
ODBI	**Odobesti**	**72.57**	**322**	⇑P		**P**			**12 11 02.4**	**+1.0**
DPC	**Dobruska-Polom**	**72.58**	**331**	*e*P		**P**			**12 11 01.3**	**-0.1**
DPC	**Dobruska-Polom**	**72.58**	**331**	*e*P		**P**			**12 11 01.3**	**-0.1**
BANOM	**Banah**	**72.59**	**290**	P		**P**			**12 11 01.4**	**-0.4**
SHME	**Shamm**	**72.59**	**290**	P		**P**			**12 11 01.2**	**-0.7**
CFR	**Carcaliu**	**72.61**	**321**	⇓P		**P**			**12 11 00.9**	**-0.6**
JURR	**Jurilovca**	**72.63**	**320**	⇑P		**P**			**12 11 02.3**	**+0.6**
PLOR	**Plostina**	**72.66**	**322**	⇑P		**P**			**12 11 01.3**	**-0.6**
PGBU	**Glenifferbraes**	**72.67**	**345**	*e*P		**P**			**12 11 01.1**	**-0.6**
PGBU					IAmb	IAmb			12 11 02.1		
	comp=Z,53nm,0.9s										
KRLC	**Kraliky**	**72.67**	**330**	*e*P		**P**			**12 11 01.6**	**-0.3**
KRLC	**Kraliky**	**72.67**	**330**	*e*P		**P**			**12 11 01.6**	**-0.3**
MORC	**Moravsky Berou**	**72.68**	**330**	⇓P		**P**			**12 11 01.8**	**-0.2**
MORC	**Moravsky Berou**	**72.68**	**330**	⇓*i*P		**P**			**12 11 01.8**	**-0.2**
MORC	**Moravsky Berou**	**72.68**	**330**	P		**P**			**12 11 01.3**	**-0.7**
MORC					pmax	pmax					
	comp=Z,21nm,0.9s										
MORC	**Moravsky Berou**	**72.68**	**330**	P		**P**			**12 11 01.3**	**-0.7**
MORC					IAmb	IAmb			12 11 02.8		
	comp=Z,21nm,0.9s										
ASSE	**Asse, Remlinge**	**72.70**	**335**	*e*P		**P**			**12 11 01.3**	**-0.5**
	comp=Z,15nm,1.0s,baz=27,slow=5.7										
TOPG	**Topolog**	**72.75**	**320**	⇑P		**P**			**12 11 01.8**	**-0.6**
CLL	**Collm**	**72.76**	**333**	⇓*i*P		**P**			**12 11 01.5**	**-0.8**
	comp=Z,34nm,0.6s										
CLL	**Collm**	**72.76**	**333**	⇓*i*P		**P**			**12 11 01.5**	**-0.8**
CLL					pmax	pmax					
	comp=Z,34nm,0.6s										
CLL	**Collm**	**72.76**	**333**	*e*P		**P**			**12 11 01.5**	**-0.8**
	comp=Z,34nm,0.6s,baz=27,slow=5.7										
CLL	**Collm**	**72.76**	**333**	P		**P**			**12 11 01.0**	**-1.3**
KECS	**Kecovo**	**72.79**	**327**	*e*P		**P**			**12 11 02.0**	**-0.5**
KECS					pmax	pmax					
	comp=Z,12nm,1.1s										
KECS	**Kecovo**	**72.79**	**327**	*e*P		**P**			**12 11 02.0**	**-0.5**
OZUR		**72.80**	**323**	⇑P		**P**			**12 11 02.9**	**+0.2**
BRG	**Berggiesshubel**	**72.86**	**332**	*i* P		**P**			**12 11 02.4**	**-0.6**
	comp=Z,13nm,1.4s										
BRG					*e*				12 11 09.6		
	comp=Z,4.1nm,0.9s										
BRG	**Berggiesshubel**	**72.86**	**332**	*e*P		**P**			**12 11 02.2**	**-0.7**
	comp=Z,13nm,1.1s,baz=27,slow=5.7										
BISRR	**Bisoca**	**72.89**	**322**	⇑P		**P**			**12 11 04.0**	**+0.8**
BNM	**Barren Site**	**72.90**	**57**	P		**P**			**12 11 04.6**	**+0.8**
ESK	**Eskdalemuir**	**72.92**	**344**	*e*P		**P**			**12 11 02.3**	**-0.8**
ESK					IAmb	IAmb			12 11 03.3		
	comp=Z,13nm,0.7s										
PVCC	**Panska Ves**	**72.98**	**332**	*e*P		**P**			**12 11 03.2**	**-0.4**
PVCC	**Panska Ves**	**72.98**	**332**	*e*P		**P**			**12 11 03.2**	**-0.4**
FBE	**Freiberg**	**73.00**	**333**	*e*P		**P**			**12 11 03.3**	**-0.4**
	comp=Z,58nm,1.8s,baz=27,slow=5.7										
CLZ	**Clausthal**	**73.04**	**335**	*e*P		**P**			**12 11 03.9**	**-0.1**
	comp=Z,22nm,0.8s,baz=27,slow=5.7										
MDH	**Madha**	**73.05**	**289**	P		**P**			**12 11 03.4**	**-1.0**
TIRR	**Tirgusor**	**73.08**	**320**	⇑P		**P**			**12 11 03.3**	**-0.9**
TIRR	**Tirgusor**	**73.08**	**320**	P		**P**			**12 11 03.4**	**-0.9**
TIRR					pmax	pmax					
	comp=Z,69nm,1.0s										
TIRR	**Tirgusor**	**73.08**	**320**	P		**P**			**12 11 03.4**	**-0.9**
MSFE	**Esma-Masafi**	**73.09**	**289**	P		**P**			**12 11 04.2**	**-0.5**
HARR	**Harsova**	**73.09**	**320**	⇓P		**P**			**12 11 04.2**	**-0.1**
CJR	**Cluj-Napoca**	**73.14**	**324**	⇑P		**P**			**12 11 05.2**	**+0.6**
TLBR	**Topalu**	**73.16**	**320**	⇑P		**P**			**12 11 04.1**	**-0.6**
MLR	**Muntele Rosu**	**73.24**	**322**	⇑P		**P**			**12 11 05.5**	**+0.1**
MLR	**Muntele Rosu**	**73.24**	**322**	P		**P**			**12 11 05.2**	**-0.2**
MLR					pmax	pmax					
	comp=Z,38nm,0.7s										
MLR	**Muntele Rosu**	**73.24**	**322**	P		**P**			**12 11 05.2**	**-0.2**
UMQ	**Umm Al-Quwin**	**73.27**	**290**	P		**P**			**12 11 04.4**	**-1.2**
ISR	**Istrita**	**73.31**	**322**	⇑P		**P**			**12 11 06.1**	**+0.5**
D46A	**S

BRTR pmax pmax
comp=Z,12nm,0.9s
BRTR Keskin Array B 74.56 314 P P 12 11 11.8 -1.2
VLDQ Val d'Or 74.58 30 P P 12 11 11.4 -1.4
VLDQ IAmb IAmb 12 11 14.2
comp=Z,32nm,1.2s
WET Wettzell 74.72 332 eP P 12 11 13.6 +0.1
comp=Z,17nm,1.0s,baz=27,slow=5.7
GRA1 Grafenberg Arr 74.72 333 P P 12 11 13.7 +0.1
GRF Grafenberg Arr 74.72 333 P P 12 11 13.7 +0.1
GRF pmax pmax
comp=Z,27nm,0.6s
GRF Grafenberg Arr 74.72 333 eP P 12 11 13.7 +0.1
comp=Z,33nm,0.7s,baz=27,slow=5.7
GEC2 GERESS Array S 74.73 331 eP P 12 11 13.1 -0.6
comp=Z,8.5nm,0.8s,baz=27,slow=5.7
GEC2 GERESS Array S 74.73 331 P P 12 11 13.2 -0.5
GERES GERESS Array B 74.73 331 P P 12 11 13.1 -0.6
comp=Z,5.3nm,0.6s,baz=31,slow=5.1,SNR=37
BZS Buzias 74.81 325 ⇑P P 12 11 13.2 -0.9
CONA Conrad Observa 74.84 330 iP P 12 11 14.6 +0.2
comp=Z,16nm,0.7s,SNR=12
BR231 Keskin MP Arra 74.87 314 P P 12 11 15.3 +0.6
AMTX Amarillo 74.99 54 P P 12 11 16.3 +0.9
baz=321
AMTX Amarillo 74.99 54 P P 12 11 16.4 +1.0
AMTX IAmb IAmb 12 11 16.9
comp=Z,12nm,0.6s
CWF Charnwood Fore 75.00 342 eP P 12 11 14.4 -0.6
SRE Strehaia 75.01 323 ⇑P P 12 11 14.7 -0.5
TNS Taunus Mts 75.03 335 eP P 12 11 14.9 -0.4
comp=Z,20nm,0.8s,baz=27,slow=5.7
MDUB Mudurnu 75.09 316 P P 12 11 16.3 +0.4
VLAD Vladila 75.09 322 ⇑P P 12 11 15.2 -0.5
AHRW Bad Neuenahr-A 75.11 336 eP P 12 11 15.4 -0.3
comp=Z,27nm,1.2s,baz=27,slow=5.7
HERR Herculane 75.13 324 ⇑P P 12 11 15.0 -0.9
FOEL Foel Wylfa 75.23 343 eP P 12 11 15.4 -0.9
BEBN Eben Emael 75.23 337 P P 12 11 15.8 -0.5
comp=Z,43nm,0.6s
ORH Orhaniye 75.28 317 P P 12 11 17.8 +1.0
P38A Dawn 75.29 45 P P 12 11 16.4 -0.5
P38A IAmb IAmb 12 11 17.4
comp=Z,10nm,0.5s
MEM Membach 75.32 337 P P 12 11 16.3 -0.5
comp=Z,26nm,0.8s
LLW Llanuwchllyn 75.35 343 eP P 12 11 16.4 -0.6
LLW IAmb IAmb 12 11 17.4
comp=Z,17nm,0.8s
MORH Mrgy, Hungar 75.38 327 ⇓iP P 12 11 16.1 -1.1
D53A Lac Vacive, Po 75.40 31 P P 12 11 16.7 -0.7
baz=331
MOA Molln 75.43 331 iP P 12 11 17.2 -0.3
comp=Z,8.5nm,0.7s
PUNG Punghina 75.43 323 ⇑P P 12 11 16.6 -1.0
MNTX Cornudas Mount 75.44 58 P P 12 11 18.7 +0.8
baz=320,SNR=9.0
MNTX Cornudas Mount 75.44 58 P P 12 11 18.8 +1.0
BSTI Sart Tilman 75.45 337 P P 12 11 17.3 -0.3
JMB Yambol 75.47 320 iP P 12 11 16.9 -0.9
MDVR Moldovita 75.48 324 ⇑P P 12 11 17.1 -0.8
ARSA Arzberg 75.55 330 iP P 12 11 18.2 0.0
comp=Z,8.6nm,0.6s,SNR=9.1
BHOU Houvegnez 75.55 337 P P 12 11 17.9 -0.3
BCLA Clavier 75.67 337 ⇓P P 12 11 18.3 -0.5
comp=Z,19nm,0.6s
D54A Lac Fusel, La 75.68 30 P P 12 11 18.0 -0.9
baz=331
BGES Gesves 75.76 337 P P 12 11 18.6 -0.7
comp=Z,14nm,0.8s
SNF Seneffe 75.84 338 P P 12 11 18.5 -1.2
FRGS Fruska Gora 75.86 326 ⇓iP P 12 11 19.4 -0.6
BMRD Maredsous 75.91 337 P P 12 11 19.7 -0.5
comp=Z,24nm,1.1s
RJOB Jochberg 75.99 331 eP P 12 11 19.7 -1.0
comp=Z,14nm,0.9s,baz=27,slow=5.7
T35A Sooner Cattle 76.03 49 P P 12 11 21.5 +0.4
T35A IAmb IAmb 12 11 21.6
comp=Z,6.2nm,0.6s
MCH1 Michaelchurch 76.04 343 eP P 12 11 19.5 -1.3
MCH1 IAmb IAmb 12 11 21.6
comp=Z,19nm,0.8s
P40A Paris 76.05 44 P P 12 11 21.5 +0.4
P40A IAmb IAmb 12 11 22.8
comp=Z,7.7nm,0.7s
FUR Furstenfeldbru 76.07 333 eP P 12 11 21.1 -0.1
comp=Z,40nm,1.2s,baz=27,slow=5.7
STRD Stroud 76.08 342 eP P 12 11 20.2 -0.9
STRD IAmb IAmb 12 11 21.6
comp=Z,43nm,0.7s
DOU Dourbes 76.15 337 P P 12 11 21.1 -0.4
D55A Sainte-Anne-du 76.19 30 P P 12 11 20.8 -0.9
baz=332
SOKA Soboth 76.21 330 iP P 12 11 21.8 -0.2
comp=Z,22nm,0.7s,SNR=12
PERS Pernice 76.22 329 iP P 12 11 21.8 -0.2
GROS Grobnik 76.24 329 iP P 12 11 21.6 -0.6
ALGO Algonquin Park 76.26 32 P P 12 11 21.6 -0.5
baz=331
D56A ZEC Mazanza, M 76.39 29 P P 12 11 22.3 -0.6
baz=332,SNR=7.4
KBA Koelnbreinsper 76.40 331 iP P 12 11 23.2 0.0
comp=Z,40nm,0.6s,SNR=34
OK029 Liberty Lake 76.44 50 P P 12 11 24.3 +0.9
OK029 IAmb IAmb 12 11 24.6
comp=Z,13nm,0.6s
TEKS Tekeris 76.49 326 eP P 12 11 23.4 -0.1
E55A Montcerf-Lytto 76.49 30 P P 12 11 22.5 -0.9
baz=332
OBKA Obir 76.52 330 iP P 12 11 23.2 -0.5
comp=Z,12nm,0.6s,SNR=11
MOSL Moslavina 76.56 328 iP P 12 11 22.7 -1.2
WMOK Wichita Mounta 76.60 52 P P 12 11 24.7 +0.4
baz=322,SNR=6.9
WMOK Wichita Mounta 76.60 52 P P 12 11 24.0 -0.3
WMOK pmax pmax
comp=Z,4.0nm,0.9s
WMOK Wichita Mounta 76.60 52 P P 12 11 24.0 -0.3
KDZ Kurdzhali 76.63 320 iP P 12 11 24.4 +0.1
ZAG Zagreb 76.64 329 P P 12 11 22.9 -1.3
OK025 Westminster Rd 76.67 50 P P 12 11 25.5 +0.8
D57A Chemin Vers le 76.69 29 P P 12 11 23.9 -0.6
baz=333
MYKA Terra Mystica 76.70 330 iP P 12 11 24.0 -0.7
comp=Z,10nm,0.6s,SNR=8.2
DIVS Divibare 76.70 325 ⇓iP P 12 11 23.7 -1.1
DIVS Divibare 76.70 325 P P 12 11 23.7 -1.1
DIVS IAmb IAmb 12 11 24.9
comp=Z,24nm,0.7s
VTS Vitosha 76.71 322 iP P 12 11 24.8 -0.1
GCIS Gornji Cirnik 76.72 329 iP P 12 11 24.2 -0.5
WATA Walderalm 76.72 332 iP P 12 11 24.8 -0.1
comp=Z,29nm,0.6s,SNR=18
E56A St. Veronique 76.75 30 P P 12 11 24.2 -0.6
baz=332,SNR=5.2
LEGS Legarje 76.75 329 iP P 12 11 24.2 -0.7
WTTA Wattenberg 76.77 332 iP P 12 11 25.2 +0.1
comp=Z,53nm,0.6s,SNR=42
BFO Black Forest 76.78 334 P P 12 11 24.4 -0.6
BFO pmax pmax
comp=Z,23nm,1.1s
BFO Black Forest 76.78 334 eP P 12 11 24.4 -0.6
comp=Z,24nm,1.1s,baz=27,slow=5.7
BFO Black Forest 76.78 334 P P 12 11 24.4 -0.6
BFO IAmb IAmb 12 11 25.4
comp=Z,23nm,1.1s
CRES Cresnjev 76.81 329 ⇓iP P 12 11 24.4 -0.8
RETA Reutte 76.83 333 iP P 12 11 25.1 -0.3
comp=Z,12nm,0.7s,SNR=6.9
UBR Ueberruh 76.85 333 eP P 12 11 25.0 -0.5
comp=Z,8.7nm,0.7s,baz=27,slow=5.7
MOTA Moosalm 76.86 332 iP P 12 11 25.4 -0.2
comp=Z,26nm,0.7s,SNR=14
RZN Rozhen 76.89 321 iP P 12 11 25.7 -0.3
PRED Cave del Predi 76.89 330 P P 12 11 24.7 -1.1
PRED IAmb IAmb 12 11 25.1
comp=Z,16nm,0.6s
FNO Franklin 76.89 51 P P 12 11 26.7 +0.8
LJU Ljubljana 76.93 330 iP P 12 11 25.0 -0.9
D58A Chemin du LacG 76.93 28 P P 12 11 24.7 -1.2
baz=334
SQTA Sankt Quirin 76.94 332 iP P 12 11 26.0 -0.1
comp=Z,25nm,0.8s,SNR=15
R40A Maddies Statio 76.95 45 P P 12 11 25.8 -0.3
R40A IAmb IAmb 12 11 26.2
comp=Z,6.5nm,0.5s
ABTA Abfaltersbach 76.96 331 iP P 12 11 25.2 -0.9
comp=Z,16nm,1.1s,SNR=6.8
ZOU Zoufplan 76.98 331 P P 12 11 25.3 -1.1
ALN Alexandroupoli 77.00 319 P P 12 11 26.3 0.0
ALN pmax pmax
comp=Z,25nm,1.0s
ALN Alexandroupoli 77.00 319 P P 12 11 26.3 0.0
ALN IAmb IAmb 12 11 27.0
comp=Z,25nm,1.0s
VISS Visnje 77.04 329 iP P 12 11 25.5 -0.9
BBLS Lazići 77.12 325 ⇓iP P 12 11 26.6 -0.4
E57A Chemin Saint G 77.15 29 P P 12 11 26.6 -0.4
baz=333,SNR=7.3
BLY Banja Luka 77.16 327 eP P 12 11 26.3 -0.8
BOJS Bojanci 77.17 329 iP P 12 11 26.4 -0.7
TUL1 Leonard 77.18 49 P P 12 11 27.7 +0.3
baz=323,SNR=6.5
TUL1 Leonard 77.18 49 P P 12 11 27.9 +0.5
TUL1 IAmb IAmb 12 11 28.4
comp=Z,15nm,0.5s
ECH Echery 77.21 335 P P 12 11 26.1 -1.2
ECH pmax pmax
comp=Z,19nm,0.8s
ECH Echery 77.21 335 P P 12 11 26.1 -1.2
ECH IAmb IAmb 12 11 27.7
comp=Z,19nm,0.8s
JAVS Javornik 77.22 330 iP P 12 11 26.0 -1.5
CEY Cerknica 77.23 329 ⇓iP P 12 11 26.3 -1.3
FETA Feichten 77.26 332 iP P 12 11 27.7 -0.1
comp=Z,16nm,1.0s,SNR=7.0
DAVA Damuels 77.28 333 iP P 12 11 27.6 -0.3
comp=Z,18nm,0.7s,SNR=9.8
STAL STALIGIAL 77.33 331 P P 12 11 26.8 -1.3
RUDO Rudo 77.35 325 eP P 12 11 26.9 -1.3
CIMO Cimolais 77.37 331 P P 12 11 26.9 -1.3
MMB Musomiste 77.38 321 iP P 12 11 28.4 0.0
KKB Krupnik 77.41 322 iP P 12 11 28.4 -0.1
U38A Gravette 77.44 48 P P 12 11 29.0 +0.1
E58A La Victoria 77.46 29 P P 12 11 27.7 -1.0
baz=333
ISP Isparta 77.54 315 P P 12 11 28.9 -0.5
ISP pmax pmax
comp=Z,14nm,0.7s
ISP Isparta 77.54 315 P P 12 11 28.9 -0.5
ISP IAmb IAmb 12 11 30.2
comp=Z,14nm,0.7s
ORIO Orleans, Innes 77.56 31 P P 12 11 28.1 -1.1
baz=332
ORIO Orleans, Innes 77.56 31 P P 12 11 28.2 -1.0
CCM Cathedral Cave 77.61 45 P P 12 11 29.8 +0.1
baz=325
CCM Cathedral Cave 77.61 45 P P 12 11 29.8 +0.1
CCM pmax pmax
comp=Z,4.0nm,0.5s
CCM Cathedral Cave 77.61 45 P P 12 11 29.8 +0.1
D60A Saint Jean D'O 77.69 27 P P 12 11 29.2 -0.7
baz=335
DYA Yadsworthy 77.71 343 eP P 12 11 29.4 -0.6
DYA IAmb IAmb 12 11 30.2
comp=Z,63nm,1.0s
FUORN Ofenpass-Fuorn 77.76 332 P P 12 11 30.8 +0.1
FUORN IAmb IAmb 12 11 31.8
comp=Z,33nm,1.2s
HHAR Hobbs 77.78 48 P P 12 11 30.8 +0.1
H55A Tweed 77.78 32 P P 12 11 29.7 -0.8
baz=331
ABTX Abilene, Hawle 77.81 54 P P 12 11 31.5 +0.5
baz=322
ABTX Abilene, Hawle 77.81 54 P P 12 11 31.6 +0.7
UDBI Udbina 77.85 328 iP P 12 11 29.5 -1.4
CTI Castel Tesino 77.85 331 P P 12 11 29.8 -1.2
CTI pmax pmax
comp=Z,15nm,0.7s
CTI Castel Tesino 77.85 331 P P 12 11 29.8 -1.2
CTI IAmb IAmb 12 11 30.4
comp=Z,15nm,0.7s
UPM Unac-Piva 77.88 325 eP P 12 11 30.2 -1.1
STIP Stip 77.91 322 iP P 12 11 29.8 -1.4
SKO Skopje 77.97 323 iP P 12 11 31.3 -0.3
E60A Ste Agathe de 78.02 28 P P 12 11 30.8 -0.9
baz=334
G57A Newington 78.04 30 P P 12 11 31.2 -0.6
baz=333
FVM French Village 78.04 44 P P 12 11 32.0 -0.1
FVM pmax pmax
comp=Z,5.0nm,0.6s
FVM French Village 78.04 44 P P 12 11 31.9 -0.1
VAY Valadovo 78.07 322 iP P 12 11 31.9 -0.2
D62A Allapoint, All 78.07 26 P P 12 11 31.4 -0.7
baz=336
KIJV Kijevo 78.08 327 iP P 12 11 30.9 -1.3
NVLJ Novalja 78.12 329 iP P 12 11 30.6 -1.7
TUE Stuetta 78.17 333 P P 12 11 32.0 -0.9
TX31 Lajitas Ar. Si 78.19 59 P P 12 11 34.0 +0.8
TX31 IAmb IAmb 12 11 35.1
comp=Z,51nm,1.4s
TX32 Lajitas Array 78.19 59 P P 12 11 33.9 +0.8
TX32 IAmb IAmb 12 11 35.1
comp=Z,18nm,1.4s
TXAR Lajitas Array 78.19 59 P P 12 11 34.0 +0.9
comp=Z,5.0nm,0.5s,baz=288,slow=3.7,SNR=111
TXAR Lajitas Array 78.19 59 P P 12 11 33.9 +0.8
U40A Yellville 78.24 47 P P 12 11 32.9 -0.2
baz=324,SNR=29
U40A Yellville 78.24 47 P P 12 11 33.0 -0.2
E61A Lac Etchemin 78.25 27 P P 12 11 32.2 -0.9
baz=335
RICI Ricice 78.27 327 P P 12 11 31.7 -1.5
BRY Bratogost 78.27 325 eP P 12 11 31.7 -1.7
E62A Clayton Lake 78.36 26 P P 12 11 33.0 -0.6
baz=336
D63A Stockholm 78.38 25 P P 12 11 33.0 -0.7
baz=336
PDG Podgorica 78.41 325 ⇑P P 12 11 32.8 -1.1
PDG Podgorica 78.41 325 ⇓iP P 12 11 32.8 -1.1
PDG Podgorica 78.41 325 P P 12 11 33.0 -0.9
MORI Morici 78.45 328 iP P 12 11 32.7 -1.4
MAKA Makarska 78.49 327 iP P 12 11 32.8 -1.6
TREB Trebinje 78.50 325 eP P 12 11 32.8 -1.6
CSS Mathiatis 78.51 311 P P 12 11 34.3 -0.3
F61A St Evariste 78.51 27 P P 12 11 34.2 -0.2
baz=335
T42A Van Buren 78.52 45 P P 12 11 34.0 -0.5
DUGI Dugi Otok 78.56 328 iP P 12 11 33.3 -1.4
CLF Chambon-Foret 78.64 338 P P 12 11 34.5 -0.5
CLF IAmb IAmb 12 11 37.7
comp=Z,27nm,0.8s
DRME Dracevica, Mon 78.65 325 ⇓iP P 12 11 34.2 -1.0
ZIRJ Zirje 78.66 328 iP P 12 11 33.2 -1.9
HCY Herceg Novi 78.68 325 eP P 12 11 33.7 -1.7
ELL Elmali 78.69 314 P P 12 11 35.5 -0.2
ELL pmax pmax
comp=Z,61nm,0.7s
ELL Elmali 78.69 314 P P 12 11 35.5 -0.2
MOQ Mont Orford 78.73 29 P P 12 11 35.6 -0.1
HVAR Hvar 78.79 327 iP P 12 11 33.6 -2.3
S44A Carbondale 78.81 44 P P 12 11 36.1 -0.1
S44A IAmb IAmb 12 11 37.3
comp=Z,9.3nm,0.7s
SENIN Lac Senin/Sane 78.86 334 P P 12 11 36.4 -0.1
F62A Pittston Farm, 78.89 27 P P 12 11 35.9 -0.5
baz=335
F62A Pittston Farm, 78.89 27 P P 12 11 36.2 -0.2
F62A IAmb IAmb 12 11 36.8
comp=Z,12nm,0.9s
H58A Gabriels 78.91 30 P P 12 11 35.7 -0.9
baz=333
FCAR Ozark Folk Cen 78.96 47 P P 12 11 36.8 -0.2
G61A St-Isidore-de- 78.98 28 P P 12 11 36.8 -0.1
baz=334,SNR=5.0
LSTV Lastovo 78.99 326 iP P 12 11 34.6 -2.3
N51A Ashland 79.01 37 P P 12 11 36.7 -0.5
baz=329
E64A Bridgewater 79.02 25 P P 12 11 36.3 -0.8
baz=337
K55A Perry 79.07 34 P P 12 11 36.6 -0.8
baz=331
LIT Litokhoron 79.14 321 IAmb IAmb 12 11 36.9
comp=Z,13nm,0.8s
LIT P P **12 11 37.1 -0.8**
M53A WI Miller and 79.22 36 P P 12 11 38.1 -0.2
baz=330
P49A Miami Univ. Ec 79.23 40 P P 12 11 37.9 -0.5
baz=328
AKAS Kas 79.26 314 P P 12 11 38.1 -0.6
AKAS IAmb IAmb 12 11 49.6
comp=Z,14nm,0.7s
G62A West of Eustis 79.34 27 P P 12 11 38.9 +0.1
baz=335
MIAR Mount Ida 79.35 48 P P 12 11 39.6 +0.5
baz=324
WHAR Wooly Hollow 79.37 47 P P 12 11 39.5 +0.4
F64A Sherman 79.39 26 P P 12 11 38.4 -0.6
baz=336
JCT Junction City 79.41 55 P P 12 11 40.0 +0.6
baz=322
JCT Junction City 79.41 55 P P 12 11 40.1 +0.6
JCT pmax pmax
comp=Z,18nm,1.4s
JCT Junction City 79.41 55 P P 12 11 40.1 +0.6
JCT IAmb IAmb 12 11 41.8
comp=Z,18nm,1.4s
WHTX Lake Whitney, 79.45 53 P P 12 11 39.8 +0.2
baz=323
WHTX Lake Whitney, 79.45 53 P P 12 11 40.5 +0.9
WHTX IAmb IAmb 12 11 40.6
comp=Z,11nm,0.7s
J58A Remsen 79.48 31 P P 12 11 38.8 -0.9
baz=332
W41B Gary Mavity, V 79.48 47 P P 12 11 39.9 +0.1
baz=325
W41B Gary Mavity, V 79.48 47 P P 12 11 40.2 +0.4
H61A Lyndonville 79.53 29 P P 12 11 39.8 -0.1
baz=334
M54A Oil Creek Stat 79.54 35 P P 12 11 39.2 -0.8
baz=330
O51A Pataskala 79.57 38 P P 12 11 39.8 -0.4
baz=329
ZCCA Zocca 79.58 331 P P 12 11 40.7 +0.5
ZCCA IAmb IAmb 12 11 41.5
comp=Z,13nm,0.8s
WCI Wyandotte Cave 79.67 41 P P 12 11 40.5 -0.2
baz=327
WCI Wyandotte Cave 79.67 41 P P 12 11 41.1 +0.4
WCI pmax pmax
comp=Z,17nm,1.3s
WCI Wyandotte Cave 79.67 41 P P 12 11 41.1 +0.4
N53A Lisbon 79.70 36 P P 12 11 40.4 -0.4
baz=330
H62A Milan 79.73 28 P P 12 11 41.0 +0.1
baz=335,SNR=5.6
H62A Milan 79.73 28 P P 12 11 41.1 +0.2
H62A IAmb IAmb 12 11 41.3
comp=Z,11nm,0.6s
X40A Basin Creek Fa 79.76 48 P P 12 11 41.4 +0.2
baz=324
L56A Greenwood 79.77 34 P P 12 11 40.5 -0.7
baz=331
LBNH Lisbon 79.79 29 P P 12 11 41.1 -0.2
baz=334
G64A Maxfield 79.83 26 P P 12 11 41.0 -0.4
baz=336
N54A Moraine State 79.89 36 P P 12 11 41.6 -0.2
baz=330
O52A Adamsville 79.91 37 P P 12 11 41.3 -0.6
baz=329
M55A Ridgway 79.91 35 P P 12 11 41.5 -0.4
baz=331
VLC Villacollemand 79.94 331 P P 12 11 41.5 -0.5
VLC IAmb IAmb 12 11 43.0
comp=Z,19nm,0.8s
O53A New Philadelph 80.03 37 P P 12 11 42.2 -0.4
baz=330
O53A New Philadelph 80.03 37 P P 12 11 42.5 -0.1
O53A IAmb IAmb 12 11 43.5
comp=Z,29nm,1.4s
MURB Monte Urbino 80.06 330 P P 12 11 42.5 -0.2
MURB IAmb IAmb 12 11 44.2
comp=Z,31nm,0.8s
K59A Cooperstown 80.15 31 P P 12 11 42.5 -0.6
baz=333
Q51A Peebles 80.23 39 P P 12 11 43.3 -0.4
Q51A IAmb IAmb 12 11 45.3
comp=Z,15nm,1.1s
BNI Bardonecchia 80.23 334 P P 12 11 43.3 -0.4
BNI pmax pmax
comp=Z,13nm,0.7s
BNI Bardonecchia 80.23 334 P P 12 11 43.3 -0.4
BNI IAmb IAmb 12 11 46.1
comp=Z,13nm,0.7s
OSSC Osservatorio P 80.24 330 P P 12 11 43.0 -0.6
OSSC IAmb IAmb 12 11 43.5
comp=Z,20nm,0.6s
NRCA Norcia 80.25 329 P P 12 11 43.6 -0.1
H64A Troy 80.25 27 P P 12 11 43.1 -0.5
baz=336
SGRT San Giovanni R 80.29 327 P P 12 11 42.5 -1.5
T47A Sharon Grove 80.35 43 P P 12 11 44.6 +0.3
I63A Otisfield 80.38 28 P P 12 11 44.8 +0.5
baz=335
I63A Otisfield 80.38 28 P P 12 11 44.8 +0.5
I63A IAmb IAmb 12 11 45.3
comp=Z,22nm,1.1s
O54A Avella 80.42 36 P P 12 11 44.6 0.0
baz=330
N55A Marion Center 80.43 35 P P 12 11 44.2 -0.5
baz=331
H65A Eastbrook 80.48 26 P P 12 11 44.4 -0.4
baz=336
AQU L'Aquila 80.57 329 P P 12 11 46.0 +0.5
AQU pmax pmax
comp=Z,21nm,0.8s
AQU L'Aquila 80.57 329 P P 12 11 46.0 +0.5
AQU IAmb IAmb 12 11 46.8
comp=Z,21nm,0.8s
L59A Walton 80.60 32 P P 12 11 44.9 -0.7
baz=333
SSB Saint Sauveur 80.61 336 P P 12 11 45.5 -0.1
SSB pmax pmax
comp=Z,26nm,0.7s
SSB Saint Sauveur 80.61 336 P P 12 11 45.5 -0.1
P53A Whipple 80.62 37 P P 12 11 45.6 -0.1
baz=330
M57A Sunshine Farm, 80.62 34 P P 12 11 45.0 -0.7
baz=332
INTR Introdacqua 80.71 328 P P 12 11 45.3 -0.9
INTR IAmb IAmb 12 11 46.8
comp=Z,28nm,0.9s
WVT Waverly 80.74 44 P P 12 11 46.3 0.0
baz=327
WVT Waverly 80.74 44 P P 12 11 46.6 +0.2
WVT pmax pmax
comp=Z,3.0nm,0.6s
WVT Waverly 80.74 44 P P 12 11 46.6 +0.2
K61A Williamstown 80.77 30 P P 12 11 46.3 0.0
baz=334
O55A Ligonier 80.80 36 P P 12 11 46.2 -0.5
baz=331
M58A Price's Panora 80.83 33 P P 12 11 45.7 -1.0
baz=332
LATE Laterza 80.88 330 P P 12 11 46.1 -0.9
P54A Burton 80.88 37 P P 12 11 46.8 -0.2
baz=330
N57A Milroy 80.98 34 P P 12 11 47.0 -0.5
baz=332
O56A Blue Knob Stat 81.03 35 P P 12 11 47.4 -0.5
baz=331
NATX Nacogdoches 81.06 51 P P 12 11 49.2 +1.1
baz=324
NATX Nacogdoches 81.06 51 P P 12 11 49.4 +1.4
Q53A Leroy 81.11 38 P P 12 11 48.3 +0.1
baz=330,SNR=7.8
P55A Reedsville 81.21 36 P P 12 11 49.0 +0.3
baz=330
Q54A Coxs Mills 81.27 37 P P 12 11 49.1 +0.1
baz=330
Q54A Coxs Mills 81.27 37 P P 12 11 49.3 +0.3
Q54A IAmb IAmb 12 11 49.8
comp=Z,14nm,1.1s
T50A Nancy 81.30 41 P P 12 11 49.3 +0.1
OXF Oxford 81.36 46 P P 12 11 49.7 +0.1
baz=326
O57A Amberson 81.42 34 P P 12 11 49.6 -0.2
baz=332
CLTN Cedars of Leba 81.44 43 P P 12 11 51.3 +1.4
CLTN IAmb IAmb 12 11 51.4
comp=Z,15nm,1.5s
N59A State Game Lan 81.48 33 P P 12 11 49.6 -0.5
baz=332
N59A State Game Lan 81.48 33 P P 12 11 49.9 -0.2

N59A					IAmb	IAmb	12 11 50.5	
	comp=Z,13nm,1.2s							
Q55A	**Buckhannon**	**81.56**	**37**	P	**P**		**12 11 50.6**	**0.0**
	baz=330							
PLAL	**Pickwick Lake**	**81.58**	**44**	P	**P**		**12 11 50.5**	**-0.2**
P56A	**Dayton Farm, R**	**81.59**	**36**	P	**P**		**12 11 50.7**	**+0.1**
	baz=331,SNR=5.7							
O58A	**Lewisberry**	**81.76**	**34**	P	**P**		**12 11 50.9**	**-0.6**
	baz=332							
ITM	**Ithomi**	**81.85**	**320**	P	**P**		**12 11 50.7**	**-1.4**
R54A	**Victor**	**81.90**	**38**	P	**P**		**12 11 52.3**	**-0.1**
	baz=330							
R55A	**Marlinton**	**82.16**	**37**	P	**P**		**12 11 53.5**	**-0.2**
	baz=330							
R55A	**Marlinton**	**82.16**	**37**	P	**P**		**12 11 53.8**	**+0.1**
R55A					IAmb	IAmb	12 11 54.9	
	comp=Z,20nm,1.2s							
TIP	**Timpagrande**	**82.17**	**325**	⇑P	**P**		**12 11 53.0**	**-0.8**
TIP	**Timpagrande**	**82.17**	**325**	P	**P**		**12 11 52.9**	**-0.9**
TIP					IAmb	IAmb	12 11 54.2	
	comp=Z,31nm,1.2s							
IDI	**Anoyia**	**82.18**	**317**	P	**P**		**12 11 52.2**	**-1.6**
P58A	**Pank, Wackersv**	**82.18**	**35**	P	**P**		**12 11 53.1**	**-0.6**
	baz=332							
TZTN	**Tazewell**	**82.25**	**40**	P	**P**		**12 11 54.1**	**-0.1**
	baz=329							
T53A	**Wise**	**82.30**	**39**	P	**P**		**12 11 54.2**	**-0.2**
	baz=329							
SWET	**Sewanee**	**82.35**	**43**	P	**P**		**12 11 54.5**	**-0.1**
Q58A	**Fox Den Farm,**	**82.52**	**35**	P	**P**		**12 11 55.1**	**-0.3**
	baz=332							
T54A	**Tazewell**	**82.63**	**39**	P	**P**		**12 11 55.8**	**-0.3**
	baz=330							
R57A	**Stanardsville**	**82.77**	**36**	P	**P**		**12 11 57.0**	**+0.3**
	baz=331							
V52A	**Sevierville**	**82.83**	**41**	P	**P**		**12 11 56.8**	**-0.2**
S56A	**Natural Bridge**	**82.90**	**37**	P	**P**		**12 11 57.4**	**0.0**
	baz=331							
T55A	**Pulaski**	**82.90**	**38**	P	**P**		**12 11 57.5**	**0.0**
	baz=330							
TKL	**Tuckaleechee C**	**82.91**	**41**	P	**P**		**12 11 57.0**	**-0.5**
TKL					pmax	pmax		
	comp=Z,16nm,1.4s							
TKL	**Tuckaleechee C**	**82.91**	**41**	P	**P**		**12 11 57.0**	**-0.5**
TKL					IAmb	IAmb	12 11 58.5	
	comp=Z,16nm,1.4s							
BLA	**Blacksburg**	**82.97**	**38**	P	**P**		**12 11 57.1**	**-0.6**
	baz=330							
U54A	**Nelsons Funny**	**82.99**	**39**	P	**P**		**12 11 57.4**	**-0.6**
	baz=330							
Y49A	**Blount Mountai**	**83.28**	**44**	P	**P**		**12 11 58.7**	**-0.6**
Y49A					IAmb	IAmb	12 11 59.9	
	comp=Z,18nm,1.4s							
CEL	**Celeste**	**83.30**	**325**	P	**P**		**12 11 58.3**	**-1.1**
V54A	**Nebo**	**83.58**	**40**	P	**P**		**12 12 00.7**	**-0.1**
	baz=330							
T57A	**Hurt**	**83.61**	**37**	P	**P**		**12 12 00.6**	**-0.3**
	baz=331							
T57A	**Hurt**	**83.61**	**37**	P	**P**		**12 12 00.3**	**-0.6**
LRAL	**Lakeview Retre**	**83.70**	**45**	P	**P**		**12 12 01.1**	**-0.3**
	baz=327							
T58A	**Grand View Acr**	**83.94**	**37**	P	**P**		**12 12 02.3**	**-0.2**
	baz=331							
U57A	**Blanch**	**84.07**	**38**	P	**P**		**12 12 03.8**	**+0.6**
	baz=331							
W54A	**Cherokee Point**	**84.07**	**40**	P	**P**		**12 12 03.2**	**-0.1**
	baz=330							
V56A	**Mocksville**	**84.15**	**39**	P	**P**		**12 12 03.2**	**-0.4**
	baz=330							
Z51A	**Franklin**	**84.28**	**43**	P	**P**		**12 12 04.0**	**-0.3**
Z51A					IAmb	IAmb	12 12 05.3	
	comp=Z,7.0nm,0.8s							
U58A	**Oxford**	**84.42**	**37**	P	**P**		**12 12 05.0**	**+0.1**
	baz=331							
VSL	**Villasalto**	**84.48**	**330**	P	**P**		**12 12 05.0**	**-0.2**
VSL					IAmb	IAmb	12 12 05.5	
	comp=Z,24nm,1.0s							
X55A	**Gracelyn & Ava**	**84.83**	**40**	P	**P**		**12 12 07.4**	**+0.4**
	baz=330							
W57A	**Gilead**	**84.92**	**39**	P	**P**		**12 12 07.4**	**0.0**
	baz=331							
X56A	**White Oak**	**85.06**	**40**	P	**P**		**12 12 08.0**	**-0.1**
	baz=330							
V59A	**Middlesex**	**85.09**	**37**	P	**P**		**12 12 08.5**	**+0.4**
	baz=331							
JSC	**Jenkinsville**	**85.15**	**40**	P	**P**		**12 12 08.5**	**0.0**
JSC					pmax	pmax		
	comp=Z,5.0nm,1.4s							
JSC	**Jenkinsville**	**85.15**	**40**	P	**P**		**12 12 08.5**	**0.0**
Y55A	**Saluda**	**85.20**	**41**	P	**P**		**12 12 08.4**	**-0.4**
	baz=330							
PBRG	**Braganca**	**86.54**	**342**	*e*P	**P**		**12 12 13.9**	**-1.2**
	comp=Z,17nm,1.8s							
255A	**Hazlehurst**	**86.66**	**42**	P	**P**		**12 12 16.8**	**+1.1**
255A					IAmb	IAmb	12 12 19.5	
	comp=Z,18nm,1.2s							
MVO	**Moncorvo**	**87.21**	**342**	*e*P	**P**		**12 12 17.1**	**-1.2**
	comp=Z,30nm,1.6s							
PVRL	**Vila Real**	**87.24**	**343**	*e*P	**P**		**12 12 17.2**	**-1.2**
PVIS	**Viseu**	**87.81**	**343**	*e*P	**P**		**12 12 17.8**	**-3.3**
KEST	**Kesra**	**87.90**	**328**	P	**P**		**12 12 20.9**	**-0.7**
	comp=Z,23nm,0.8s,baz=298,slow=1.8,SNR=35							
KEST	**Kesra**	**87.90**	**328**	P	**P**		**12 12 21.2**	**-0.5**
ESDC	**Sonseca Array**	**88.00**	**340**	P	**P**		**12 12 20.8**	**-1.2**
	comp=Z,4.2nm,0.9s,baz=15,slow=4.2,SNR=23							
ESDC	**Sonseca Array**	**88.00**	**340**	P	**P**		**12 12 20.5**	**-1.5**
MTE	**Manteigas**	**88.05**	**343**	*e*P	**P**		**12 12 20.7**	**-1.6**
PAB	**San Pablo**	**88.21**	**340**	P	**P**		**12 12 21.1**	**-1.9**
PAB					pmax	pmax		
	comp=Z,6.0nm,1.1s							
PAB	**San Pablo**	**88.21**	**340**	P	**P**		**12 12 21.1**	**-1.9**
PAB					IAmb	IAmb	12 12 22.8	
	comp=Z,6.3nm,1.1s							
PCAS	**Casmilo, Conde**	**88.57**	**343**	*e*P	**P**		**12 12 22.9**	**-1.7**
PSBE	**So Bento**	**89.15**	**343**	*e*P	**P**		**12 12 25.6**	**-1.7**
PMAFR	**Mafra**	**89.78**	**343**	*e*P	**P**		**12 12 28.9**	**-1.3**
	comp=Z,74nm,1.6s							
PNCL	**Nicolau / Gran**	**90.46**	**343**	*e*P	**P**		**12 12 32.0**	**-1.4**
	comp=Z,23nm,1.6s							
PCVE	**Castro Verde**	**90.82**	**342**	*e*P	**P**		**12 12 36.9**	**+1.8**
TORD	**Torodi Ar. Bea**	**111.30**	**326**	PP	**PP**		**12 18 45.9**	**-5.1**
	comp=Z,2.0nm,0.8s,baz=9.4,slow=7.1,SNR=5.6							
BOSA	**Boshof**	**133.03**	**275**	SKPbc	**SKPbc**		**12 21 23.0**	**-1.5**
	comp=Z,2.2nm,0.6s,baz=357,slow=2.7,SNR=5.9							
MAW	**Mawson**	**133.36**	**212**	PKP	**PKPdf**		**12 18 43.5**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=319,slow=3.9,SNR=5.6							
MAW				SKPbc	**SKPbc**		**12 21 24.2**	**+0.1**
	comp=Z,7.8nm,0.9s,baz=15,slow=3.7,SNR=18							
LPAZ	**La Paz**	**135.01**	**56**	PKP	**PKPdf**		**12 18 47.8**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=263,slow=17,SNR=8.4							
LPAZ				SKPbc	**SKPbc**		**12 21 31.8**	**0.0**
	comp=Z,8.6nm,1.0s,baz=356,slow=5.5,SNR=21							
BDFB	**Brasilia**	**143.26**	**29**	PKP	PKPbc		12 19 01.9	+0.9
	comp=Z,2.6nm,0.5s,baz=258,slow=4.4,SNR=4.7							
BDFB				SKPbc	**SKiKP**		**12 21 54.3**	**-0.3**
	comp=Z,7.7nm,0.8s,baz=306,slow=2.9,SNR=9.0							
LCO	**Las Campanas**	**143.37**	**71**	PKIKP	**PKPdf**		**12 19 02.1**	**-0.8**
LCO	**Las Campanas**	**143.37**	**71**		PKPbc		12 19 02.1	+0.8
AC05	**El Transito**	**143.50**	**70**		**PKPdf**		**12 19 02.6**	**-0.4**
GO04	**Tololo Observa**	**144.12**	**72**		**PKPdf**		**12 19 04.6**	**+0.5**
CO01	**Juntas del Tor**	**144.42**	**71**		**PKPab**		**12 19 05.4**	**+0.5**
MT02	**Curacav**	**146.00**	**77**		**PKPbc**		**12 19 09.4**	**+0.6**
VA03	**San Esteban**	**146.04**	**75**	PKPbc	**PKPbc**		**12 19 09.2**	**+0.1**
BO02	**Sierra Bellavi**	**147.21**	**78**		**PKPbc**		**12 19 12.8**	**+0.7**
PLCA	**Paso Flores**	**150.80**	**88**	PKPbc	**PKiKP**		**12 19 21.4**	**+0.2**
	comp=Z,2.8nm,0.5s,baz=303,slow=3.1,SNR=17							
PLCA				PKPab	**PKPab**		**12 19 31.2**	**+0.9**
	comp=Z,5.2nm,0.7s,baz=287,slow=6.8,SNR=13							
SNAA	**Sanae**	**154.53**	**200**	PKP2	**PKPab**		**12 19 45.0**	**-0.2**
SNAA							13 19 19.6	
SNAA	**Sanae**	**154.53**	**200**	PKPdf	**PKPdf**		**12 19 19.6**	**+0.6**
SNAA				PKPbc	**PKPbc**		**12 19 28.3**	**+0.4**
SNAA				PKPab	**PKPab**		**12 19 45.0**	**-0.2**

*IDC **30** 12:14:41.0±1.5,37.66N×142.26E,h0km,mb3.6/4, mb1 3.6/6,mb1mx3.4/42,mbtmp3.5/6,ML2.6/2,MS3.4/1, Ms1 3.4/1,ms1mx2.4/43,Error ellipse: s-maj=34.4km s-min=21.7km az=80.0*
*JMA **30** 12:14:45.4±0.1,37.67N×142.03E,h31km±2km,M3.4*
ISC 30 12:14:42.5±2.2,37.63N±0.06×142.08E±0.07,h8km±12km, n28,σ1§21/31,mb3.6/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.83**	**325**	P	**Pb**	**12 14 59.8**	**+0.6**
JIKH				S	**Sg**	**12 15 09.7**	**+0.4**
JMST	**Minamisoumatoc**	**0.95**	**276**	P	**Pb**	**12 15 01.7**	**+0.5**
JMST				S	**Sb**	**12 15 13.5**	**-0.4**
JFK	**Kawauchi**	**0.99**	**255**	P	**Pn**	**12 15 02.6**	**-0.2**
JFK				S	**Sn**	**12 15 15.4**	**-1.6**
JIO	**Ouri**	**1.00**	**325**	P	**Pg**	**12 15 02.5**	**+0.8**
JIO				S	**Sg**	**12 15 14.2**	**-0.6**
JMM	**Marumori**	**1.04**	**283**	P	**Pb**	**12 15 03.3**	**+0.5**
JMM				*e*S	**Sb**	**12 15 16.1**	**-0.6**
ONAJ	**Iwakimizuishiy**	**1.15**	**243**	P	**Pb**	**12 15 04.8**	**+0.2**
JOU	**Okura**	**1.33**	**304**	P	**Pg**	**12 15 07.9**	**-0.2**
JOU				*e*S	**Sg**	**12 15 24.1**	**-1.3**
JFT	**Otama**	**1.39**	**266**	P	**Pb**	**12 15 09.2**	**+0.5**
JFT				*e*S	**Sn**	**12 15 26.1**	**-0.6**
JMK	**Ichinoseki**	**1.48**	**333**	P	**Pn**	**12 15 09.6**	**+0.2**
JYS	**Shirataka**	**1.69**	**291**	P	**Pn**	**12 15 13.4**	**+1.0**
JYK	**Kaneyama**	**1.86**	**314**	P	**Pn**	**12 15 15.7**	**+1.0**
JFY	**Yanaizu**	**1.90**	**264**	P	**Pb**	**12 15 16.7**	**-0.7**
JOM	**Ohasama**	**1.94**	**342**	P	**Pn**	**12 15 16.4**	**+0.6**
JRG	**Rokugo**	**2.09**	**328**	P	**Pn**	**12 15 19.2**	**+1.3**
MJAR	**Matsushiro Arr**	**3.28**	**252**	Pn	**Pn**	**12 15 36.7**	**+2.5**
	0.3nm,0.3s,baz=72,slow=15,SNR=17						
MJAR				Sn	**Sn**	**12 16 16.1**	**+2.7**
	0.2nm,0.3s,baz=84,slow=16,SNR=4.3						
MJAR				LR	LR	12 16 57.4	
	comp=Z,30nm,20.9s,baz=80,slow=40						
MAT	**Matsushiro**	**3.28**	**252**	P	**Pb**	**12 15 38.4**	**-2.6**
MAT				S	**Sb**	**12 16 19.8**	**-1.3**
ASAJ	**Asahikawa**	**6.49**	**3**	Pn	**Pn**	**12 16 18.7**	**+0.4**
	0.2nm,0.3s,baz=213,slow=17,SNR=1.2						
ASAJ				Sn	**Sn**	**12 17 30.2**	**-2.3**
	0.1nm,0.3s,baz=208,slow=30,SNR=2.3						
JCJ	**Chichijima**	**10.51**	**179**	LR	LR	12 22 20.6	
	comp=Z,236nm,21.0s,baz=148,slow=44						
SONM	**Songino Array**	**27.90**	**303**	P	**P**	**12 20 33.9**	**+0.9**
	0.4nm,0.5s,baz=79,slow=9.0,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**28.01**	**123**	T	T	12 49 55.9	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**28.02**	**123**	T	T	12 50 03.7	
	baz=316,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**28.03**	**123**	T	T	12 50 08.1	
	baz=316						
H11S1	**WAKE ISLAND Hy**	**28.75**	**125**	T	T	12 51 02.1	
	baz=317,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**28.75**	**125**	T	T	12 51 01.0	
	baz=317,slow=76,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**28.77**	**125**	T	T	12 51 00.0	
	baz=317,slow=76,SNR=21						
MKAR	**Makanchi Array**	**44.25**	**302**	P	**P**	**12 22 52.2**	**-0.2**
	0.4nm,0.7s,baz=92,slow=4.6,SNR=3.2						
WRA	**Warramunga Arr**	**57.73**	**189**	P	**P**	**12 24 33.6**	**-0.2**
	0.9nm,0.5s,baz=5.5,slow=7.3,SNR=19						
ASAR	**Alice Springs**	**61.45**	**189**	P	**P**	**12 24 59.9**	**+0.3**
	0.4nm,0.7s,baz=12,slow=6.9,SNR=7.4						

*IDC **30** 12:18:52.5±0.6,27.41N×142.89E,h0km,mb4.2/22, mb1 4.3/25,mb1mx4.3/42,mbtmp4.2/25,ML2.9/3,MS3.8/25, Ms1 3.8/25,ms1mx3.6/39,Error ellipse: s-maj=15.3km s-min=11.6km az=123.0*
*MOS **30** 12:18:54.0±0.9,27.49N×142.83E,h21km,mb4.9/38,Error ellipse: s-maj=9.7km s-min=4.9km az=115.7*
*BJI **30** 12:18:54.0±0.0,27.32N×143.02E,h39km,mB4.7/43, mb4.6/47,Ms4.2/39,Ms7 4.1/38*
*JMA **30** 12:18:55.3,27.54N×142.72E,h83km,M3.8*
*NIED **30** 12:18:55.4,27.54N×142.72E,h83km,MW4.6,Moment Tensor Solution. s1 Moment tensor: Scale 10¹⁵Nm; Mrr1.09; Mθθ-7.50; Mφφ6.42; Mrθ-3.75; Mθφ-2.42; Mφr3.23; Fault plane solution: M₀8.92000×10¹⁵ NP1: φs303.00000°,δ84.00000°,λ146.00000°. NP2: φs37.00000°,δ56.00000°,λ7.00000°.*
*NEIC **30** 12:18:56.9±1.2,27.46N±0.06×142.82E±0.09,h28km±5km, mb4.7/90 Error ellipse: s-maj=13.5km s-min=3.7km az=124.0*
ISC 30 12:18:56.3±0.4,27.41N±0.04×142.93E±0.05,h27km,n253, σ1§44/271,mb4.6/90,MS3.9/37,2C-2D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.74**	**245**	P	**Pn**	**12 19 10.8**	**-0.2**
CBIJ				S	**Sn**	**12 19 22.6**	**+1.3**
JCJ	**Chichijima**	**0.74**	**245**	Pn	**Pn**	**12 19 10.9**	**-0.1**
	191nm,0.3s,baz=328,slow=9.0,SNR=192						
JCJ				Sn	**Sn**	**12 19 21.4**	**+0.1**
	592nm,0.3s,baz=73,slow=23,SNR=13						
JCJ	**Chichijima**	**0.74**	**245**		**Pn**	**12 19 10.4**	**-0.6**
JCJ					**Sn**	**12 19 20.2**	**-1.0**
JHH2	**Haha-jima-NKT2**	**1.03**	**221**	P	**Pb**	**12 19 15.1**	**-0.4**
JHH2				S	**Sn**	**12 19 29.7**	**+1.2**
JHJ	**Hachijo jima 2**	**6.31**	**335**	LR	LR	12 22 49.1	
	comp=Z,940nm,18.2s,baz=162,slow=38						
JHJ	**Hanno**	**8.97**	**341**	P	**Pn**	**12 21 02.4**	**-1.7**
JHJ				*e*S	**Sn**	**12 22 40.0**	**-4.2**
JRY	**Ryogami san**	**9.24**	**339**	P	**Pn**	**12 21 07.4**	**-0.4**
JRY				S	**Sn**	**12 22 47.5**	**-3.4**
MJAR	**Matsushiro Arr**	**9.95**	**337**	Pn	**Pn**	**12 21 16.1**	**-1.4**
	0.1nm,0.3s,baz=160,slow=10,SNR=12						
MJAR	**Matsushiro Arr**	**9.95**	**337**		**Pn**	**12 21 15.4**	**-2.1**
MJAR				Sn	**Sn**	**12 23 07.0**	**-1.2**
MAJO	**Matsushiro**	**9.95**	**337**	P	**Pn**	**12 21 17.1**	**-0.4**
MAJO	**Matsushiro**	**9.95**	**337**	Pn	**Pn**	**12 21 17.1**	**-0.4**
JNU	**Nakatsue**	**11.87**	**302**	LR	LR	12 26 00.4	
	comp=Z,291nm,18.7s,baz=92,slow=36						
ERM	**Erimo**	**14.57**	**1**	P	**Pn**	**12 22 20.3**	**-0.3**
ERM	**Erimo**	**14.57**	**1**	Pn	**Pn**	**12 22 20.3**	**-0.3**
NMR	**Nemuro--Hokkai**	**16.08**	**7**	*e*P	**Pn**	**12 22 34.5**	**-6.0**
KSRS	**Korea Array**	**16.13**	**312**	Pn	**Pn**	**12 22 40.9**	**-0.2**
	0.1nm,0.3s,baz=122,slow=14,SNR=4.3						
KSRS				LR	LR	12 28 44.8	
	comp=Z,404nm,18.5s,baz=120,slow=37						
ASAJ	**Asahikawa**	**16.67**	**359**	Pn	**Pn**	**12 22 45.3**	**-2.7**
	0.3nm,0.3s,baz=206,slow=9.1,SNR=7.0						
ASAJ				LR	LR	12 30 23.8	
	comp=Z,202nm,20.8s,baz=192,slow=42						
ASAJ	**Asahikawa**	**16.67**	**359**	P	**Pn**	**12 22 45.3**	**-2.7**
ASAJ				pmax	pmax		
	comp=Z,12nm,1.0s						
JKA	**Kamikawa-asahi**	**16.67**	**359**		**Pn**	**12 22 45.3**	**-2.7**
KUR	**Kuril'sk**	**18.22**	**11**	P	**P**	**12 23 10.5**	**+3.3**
KUR				S	**Sn**	**12 26 29.6**	**0.0**
KUR				pmax	pmax		
	comp=Z,343nm,4.5s						
KUR				pmax	pmax		
	comp=Z,61nm,1.4s						
KUR				MLR	MLR		
	comp=Z,199nm,10.0s						
USA0B	**Ussuriysk Arra**	**18.93**	**335**	P	**P**	**12 23 14.5**	**-0.5**
USA0B				pmax	pmax		
	comp=Z,11nm,0.9s						
USA0B	**Ussuriysk Arra**	**18.93**	**335**	P	**P**	**12 23 14.5**	**-0.5**
USRK	**Ussuriysk Ar.**	**18.93**	**335**	P	**P**	**12 23 14.8**	**-0.2**
	baz=157,slow=12,SNR=9.0						
USRK	**Ussuriysk Ar.**	**18.93**	**335**	P	**P**	**12 23 14.2**	**-0.8**
NACB	**Ninganchiao**	**19.48**	**265**	P	**P**	**12 23 20.6**	**-0.6**
YSS	**Yuzh-Sakhalins**	**19.51**	**360**	*e*P	**P**	**12 23 20.8**	**-0.5**
YSS				*e*S	**S**	**12 26 55.3**	**-4.8**
YSS				MLR	MLR		
	comp=Z,200nm,16.0s						
YHNB	**Yeheng**	**19.56**	**267**	P	**P**	**12 23 20.9**	**-1.3**
YULB	**Yu-li**	**19.95**	**263**	P	**P**	**12 23 26.0**	**-0.4**
YULB				IAmb	IAmb	12 23 50.9	
	comp=Z,39nm,1.4s						
SSLB	**Suanglung**	**20.14**	**265**		Pn	12 23 29.1	-1.3
SSLB				IAmb	IAmb	12 23 34.6	
	comp=Z,37nm,1.2s						
MDJ	**Mudanjiang**	**20.23**	**332**	P	**P**	**12 23 29.8**	**+0.6**
MDJ				pP	pwP	12 23 42.3	+0.9
MDJ				S	**S**	**12 27 15.3**	**+0.4**
MDJ				PcS	**PcS**	**12 31 17.5**	**-2.6**
MDJ				pmax	pmax		
	comp=Z,12nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,160nm,4.4s						
MDJ				LR	LR		
	comp=Z,420nm,14.8s						
MDJ				LR	LR		
	comp=Z,290nm,14.4s						
MDJ				LR	LR		
	comp=Z,740nm,16.9s						
MDJ	**Mudanjiang**	**20.23**	**332**	P	**P**	**12 23 29.8**	**+0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPUB	**Ta-pu**	**20.56**	**263**	P	**P**	**12 23 32.8**	**-0.3**
TPUB				IAmb	IAmb	12 24 06.2	
	comp=Z,24nm,1.0s						
DL2	**Dalian**	**21.15**	**308**	P	**P**	**12 23 41.5**	**+2.3**
DL2				*e*S	Sn	12 27 37.3	-3.1
DL2				pmax	pmax		
	comp=Z,77nm,9.0s						
DL2				LR	LR		
	comp=Z,320nm,16.9s						
DL2				LR	LR		
	comp=Z,240nm,12.7s						
DL2				LR	LR		
	comp=Z,330nm,16.9s						
NJ2	**Nanjing**	**21.40**	**288**	*e*P	**P**	**12 23 40.5**	**-1.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
QZH	**Quanzhou**	**21.98**	**269**	*e*P	**P**	**12 23 50.0**	**+1.8**
QZH				S	**S**	**12 27 51.0**	**+1.5**
QZH				LR	LR		
	comp=Z,170nm,14.6s						
QZH				LR	LR		
	comp=Z,210nm,18.7s						
QZH				LR	LR		
	comp=Z,190nm,16.4s						
KLR	**Kul'dur**	**23.43**	**341**	P	**P**	**12 24 03.6**	**+0.4**
	comp=Z,6.5nm,1.0s,baz=156,slow=9.4,SNR=12						
KLR				LR	LR	12 33 24.5	
	comp=Z,188nm,18.6s,baz=162,slow=37						
KLR	**Kul'dur**	**23.43**	**341**	*i* P	**P**	**12 24 02.2**	**-1.0**
KLR				pmax	pmax		
	comp=Z,12nm,1.1s						
GRNR	**Gornyy**	**23.85**	**350**	⇑*i*P	**P**	**12 24 05.5**	**-1.7**
GRNR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GRNR				MLR	MLR		
	comp=E,110nm,14.0s						
WHN	**Wuhan**	**25.17**	**284**	P	**P**	**12 24 20.5**	**+1.0**
WHN				LR	LR		
	comp=E,640nm,13.6s						
WHN				LR	LR		
	comp=E,220nm,8.6s						
WHN				LR	LR		
	comp=E,490nm,15.6s						
SKR	**Severo-Kuril's**	**25.32**	**20**	*e*P	**P**	**12 24 18.9**	**-1.7**
SKR				pmax	pmax		
	comp=Z,100nm,4.5s						
SKR				MLR	MLR		
	comp=Z,100nm,17.0s						
BJT	**Baijiatuao**	**25.46**	**306**	P	**P**	**12 24 21.1**	**-0.9**
BJT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BJT	**Baijiatuao**	**25.46**	**306**	P	**P**	**12 24 21.1**	**-0.9**
BJI	**Beijing**	**25.46**	**306**	P	**P**	**12 24 22.5**	**+0.5**
BJI				S	**S**	**12 28 47.0**	**-0.5**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BJI				LR	LR		
	comp=Z,63nm,6.2s						
BJI				LR	LR		
	comp=Z,290nm,17.3s						
BJI				LR	LR		
	comp=Z,280nm,17.3s						
PETK	**Petropavlovsk-**	**27.92**	**19**	LR	LR	12 40 32.3	
	comp=Z,70nm,18.3s,baz=184,slow=46						
PETK	**Petropavlovsk-**	**27.92**	**19**	P	**P**	**12 24 42.2**	**-1.9**
PETK	**Petropavlovsk-**	**27.92**	**19**	P	**P**	**12 24 42.1**	**-1.9**
PET	**Petropavlovsk**	**28.13**	**20**	P	**P**	**12 24 45.6**	**-0.3**
PET				pmax	pmax		
	comp=Z,79nm,2.0s						
PET	**Petropavlovsk**	**28.13**	**20**	P	**P**	**12 24 45.6**	**-0.3**
HIA	**Hailar**	**28.20**	**327**	P	**P**	**12 24 47.7**	**+1.0**
HIA				pmax	pmax		
	comp=Z,40nm,1.4s						
HIA	**Hailar**	**28.20**	**327**	P	**P**	**12 24 47.7**	**+1.0**
ZEA	**Zeya**	**28.74**	**340**	*e*P	**P**	**12 24 51.8**	**+0.5**
ZEA				*e*S	**S**	**12 29 45.0**	**+6.1**
ZEA				pmax	pmax		
	comp=Z,23nm,1.0s						
ZEA				smax	smax		
	comp=E,100nm,7.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,16.0s						
HHC	**Hu-ho-hao-te**	**29.05**	**306**	*e*P	**P**	**12 24 52.0**	**-2.4**
HHC				sP	pwP	12 25 14.0	+8.3
HHC				PP	**PnPn**	**12 25 50.8**	**+3.9**
HHC				S	**S**	**12 29 47.3**	**+3.0**
HHC				PcS	**PcS**	**12 31 38.5**	**-6.6**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,43nm,4.1s						
HHC				LR	LR		
	comp=Z,170nm,13.9s						
HHC				LR	LR		
	comp=Z,330nm,12.9s						
HHC				LR	LR		
	comp=Z,370nm,14.5s						
JAY	**Jayapura**	**29.83**	**184**	LR	LR	12 36 14.7	
	comp=Z,138nm,18.2s,baz=346,slow=35						
XAN	**Xi'an**	**29.88**	**291**	P	**P**	**12 24 59.3**	**-2.5**
XAN				PP	**PnPn**	**12 25 59.5**	**+1.2**
XAN				S	**S**	**12 29 53.8**	**-3.6**
XAN				SS	ScP	12 31 34.0	-11
XAN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,50nm,4.6s						
XAN				LR	LR		
	comp=Z,120nm,16.0s						
XAN			

SONM	**Songino Array**	**34.95**	**316**	P	**P**	**12**	**25**	**45.3 -0.8**
YAK	**Yakutsk**	**35.73**	**349**	*e*P	**P**	**12**	**25**	**52.0 -0.4**
YAK				pmax	pmax			
	comp=Z,9.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.5s							
YAK				pmax	pmax			
	comp=N,9.0nm,1.3s							
YAK	**Yakutsk**	**35.73**	**349**	P	**P**	**12**	**25**	**52.1 -0.2**
YAK				IAmb	IAmb	12	25	56.6
	comp=Z,16nm,1.0s							
SLVN	**Son La**	**35.95**	**269**	P	**P**	**12**	**25**	**54.9 -0.1**
SLVN				IAmb	IAmb	12	25	55.8
	comp=Z,7.4nm,1.0s							
KMI	**Kunming**	**36.01**	**276**	⇓P	**P**	**12**	**25**	**55.5 -0.1**
KMI				pP	pwP	12	26	06.8 -0.3
KMI				sP	sP	12	26	11.8 +6.9
KMI				pmax	pmax			
	comp=Z,12nm,0.9s							
KMI	**Kunming**	**36.01**	**276**	P	**P**	**12**	**25**	**55.1 -0.4**
KMI				pmax	pmax			
	comp=Z,17nm,1.2s							
KMI	**Kunming**	**36.01**	**276**	P	**P**	**12**	**25**	**55.1 -0.4**
KMI				IAmb	IAmb	12	25	56.5
	comp=Z,17nm,1.2s							
SEY	**Seymchan**	**36.06**	**7**	P	**P**	**12**	**25**	**56.6 +1.3**
	comp=Z,1.4nm,1.0s,baz=183,slow=16,SNR=2.4							
SEY	**Seymchan**	**36.06**	**7**	*i* P	**P**	**12**	**25**	**53.6 -1.7**
PMG	**Port Moresby**	**36.83**	**173**	LR	LR	12	39	36.0
	comp=Z,73nm,21.4s,baz=230,slow=34							
ZAK	**Zakamensk**	**37.81**	**318**	*e*P	**P**	**12**	**26**	**09.8 -0.7**
ZAK				pmax	pmax			
	comp=Z,9.0nm,1.1s							
TLY	**Talaya**	**38.12**	**320**	P	**P**	**12**	**26**	**14.7 +1.8**
	comp=Z,8.8nm,0.8s,baz=120,slow=8.7,SNR=3.3							
TLY				LR	LR	12	42	30.1
	comp=Z,289nm,18.3s,baz=117,slow=37							
TLY	**Talaya**	**38.12**	**320**	*e*P	**P**	**12**	**26**	**15.1 +2.2**
TLY				*e*S	**S**	**12**	**32**	**08.6 +4.4**
TLY				*e*SS	SS	12	35	12.0 +20
TLY				pmax	pmax			
	comp=Z,35nm,0.9s							
TLY				MLR	MLR			
	comp=Z,964nm,17.0s							
TLY	**Talaya**	**38.12**	**320**	P	**P**	**12**	**26**	**14.6 +1.6**
TLY				IAmb	IAmb	12	26	15.8
	comp=Z,13nm,0.9s							
MOY	**Mondy**	**39.63**	**319**	*e*P	**P**	**12**	**26**	**27.2 +1.5**
MOY				pmax	pmax			
	comp=Z,14nm,1.6s							
PBKT	**Sadao Pong**	**40.21**	**263**	P	**P**	**12**	**26**	**31.0 +0.3**
PBKT				IAmb	IAmb	12	26	32.0
	comp=Z,11nm,0.8s							
CHTO	**Chiang Mai**	**41.18**	**268**	P	**P**	**12**	**26**	**37.7 -1.1**
CHTO				pmax	pmax			
	comp=Z,18nm,1.9s							
CHTO	**Chiang Mai**	**41.18**	**268**	P	**P**	**12**	**26**	**37.6 -1.1**
CMAR	**Chiang Mai Arr**	**41.30**	**267**	P	**P**	**12**	**26**	**38.7 -1.1**
	comp=Z,1.2nm,0.7s,baz=51,slow=9.3,SNR=8.1							
CMAR				LR	LR	12	45	51.2
	comp=Z,48nm,18.1s,baz=160,slow=39							
CMAR	**Chiang Mai Arr**	**41.30**	**267**	*i* P	**P**	**12**	**26**	**39.5 -0.3**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**41.30**	**267**	P	**P**	**12**	**26**	**38.4 -1.4**
MTN	**Manton Dam**	**41.62**	**197**	P	**P**	**12**	**26**	**42.1 -0.2**
MTN				IAmb	IAmb	12	26	42.9
	comp=Z,13nm,0.8s							
KNRA	**Kununurra**	**44.98**	**199**	P	**P**	**12**	**27**	**09.2 -0.2**
KNRA				IAmb	IAmb	12	27	13.4
	comp=Z,7.7nm,0.8s							
WMQ	**Urumqi**	**46.93**	**306**	*e*P	**P**	**12**	**27**	**24.5 -0.2**
WMQ				pmax	pmax			
	comp=Z,22nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,30nm,3.8s							
WMQ				LR	LR			
	comp=Z,200nm,28.9s							
WMQ				LR	LR			
	comp=Z,550nm,28.9s							
WMQ				LR	LR			
	comp=Z,73nm,29.2s							
DGZ	**Jazzator, Alta**	**47.53**	**313**	*i* P	**P**	**12**	**27**	**28.6 -0.8**
DGZ				pmax	pmax			
	comp=Z,17nm,1.1s							
WB0	**Warramunga Arr**	**47.62**	**191**	P	**P**	**12**	**27**	**30.6 +0.4**
WB0				IAmb	IAmb	12	27	46.4
	comp=Z,12nm,0.9s							
WR0	**Warramunga Arr**	**47.79**	**191**	P	**P**	**12**	**27**	**32.0 +0.6**
WRAB	**Tennant Creek**	**47.79**	**191**	*i* P	**P**	**12**	**27**	**32.2 +0.7**
WRAB				pmax	pmax			
	comp=Z,14nm,0.9s							
WRAB	**Tennant Creek**	**47.79**	**191**	P	**P**	**12**	**27**	**31.8 +0.3**
WB2	**Warramunga Arr**	**47.80**	**191**	P	**P**	**12**	**27**	**31.7 +0.1**
WRA	**Warramunga Arr**	**47.80**	**191**	P	**P**	**12**	**27**	**31.9 +0.3**
	comp=Z,11nm,0.7s,baz=11,slow=8.5,SNR=57							
WRA				LR	LR	12	46	55.0
	comp=Z,67nm,20.3s,baz=325,slow=35							
WRA	**Warramunga Arr**	**47.80**	**191**	P	**P**	**12**	**27**	**31.7 +0.1**
FITZ	**Fitzroy Crossi**	**48.25**	**202**	P	**P**	**12**	**27**	**35.9 +0.9**
FITZ				IAmb	IAmb	12	27	36.4
	comp=Z,7.2nm,0.8s							
PSI	**Prapat**	**48.63**	**248**	P	**P**	**12**	**27**	**38.3 0.0**
PSI				pmax	pmax			
	comp=Z,9.0nm,0.8s							
RPSI	**Rantau Prapat**	**48.69**	**247**	P	**P**	**12**	**27**	**38.3 -0.3**
RPSI				IAmb	IAmb	12	27	39.4
	comp=Z,8.5nm,0.8s							
ZAA0	**Zalesovo Array**	**49.69**	**319**	P	**P**	**12**	**27**	**45.7 0.0**
ZAA0				IAmb	IAmb	12	27	46.7
	comp=Z,16nm,1.1s							
ZALV	**Zalesovo Beam**	**49.69**	**319**	P	**P**	**12**	**27**	**45.9 +0.2**
	comp=Z,5.8nm,0.9s,baz=101,slow=6.3,SNR=20							
ZALV				LR	LR	12	49	31.4
	comp=Z,202nm,18.1s,baz=76,slow=37							
ZALV	**Zalesovo Beam**	**49.69**	**319**	P	**P**	**12**	**27**	**45.7 0.0**
GSI	**Gunungsitoli**	**50.59**	**247**	P	**P**	**12**	**27**	**52.2 -0.8**
MK31	**Makanchi Array**	**50.79**	**309**	P	**P**	**12**	**27**	**53.1 -1.1**
MK31				pmax	pmax			
	comp=Z,2.0nm,1.0s							
MK31	**Makanchi Array**	**50.79**	**309**	P	**P**	**12**	**27**	**53.1 -1.1**
MKAR	**Makanchi Array**	**50.79**	**309**	P	**P**	**12**	**27**	**53.8 -0.4**
	comp=Z,1.7nm,0.9s,baz=96,slow=8.7,SNR=9.7							
MKAR				LR	LR	12	50	16.4
	comp=Z,142nm,18.8s,baz=84,slow=37							
MKAR	**Makanchi Array**	**50.79**	**309**	*i* P	**P**	**12**	**27**	**53.7 -0.5**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
MKAR	**Makanchi Array**	**50.79**	**309**	P	**P**	**12**	**27**	**54.0 -0.3**
MAKZ	**Makanchi**	**51.00**	**309**	P	**P**	**12**	**27**	**55.3 -0.5**
MAKZ				pmax	pmax			
	comp=Z,5.0nm,1.3s							
MAKZ	**Makanchi**	**51.00**	**309**	P	**P**	**12**	**27**	**55.3 -0.5**
ASAR	**Alice Springs**	**51.52**	**191**	P	**P**	**12**	**27**	**59.7 -0.2**
	comp=Z,0.8nm,0.6s,baz=6.3,slow=5.0,SNR=19							
ASAR	**Alice Springs**	**51.52**	**191**	P	**P**	**12**	**28**	**00.2 +0.3**
ASAR	**Alice Springs**	**51.52**	**191**	P	**P**	**12**	**28**	**00.1 +0.3**
NRIK	**Noril'sk**	**52.60**	**338**	P	**P**	**12**	**28**	**07.6 +0.2**
	comp=Z,2.7nm,0.6s,baz=121,slow=5.9,SNR=2.3							
EIDS	**Eidsvold**	**53.06**	**171**	P	**P**	**12**	**28**	**12.5 +1.3**
KURK	**Kurchatov**	**53.24**	**314**	P	**P**	**12**	**28**	**11.7 -0.6**
KURK				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KURK	**Kurchatov**	**53.24**	**314**	P	**P**	**12**	**28**	**11.7 -0.6**
KURK				IAmb	IAmb	12	28	35.4
	comp=Z,6.3nm,0.8s							
UZB	**Uzynbulak**	**53.26**	**305**	*e*P	**P**	**12**	**28**	**12.3 -0.6**
	baz=305							
UZB				*e*S	**S**	**12**	**35**	**44.1 +1.4**
	baz=305							
UZB	**Uzynbulak**	**53.26**	**305**	*e*P	**P**	**12**	**28**	**12.2 -0.6**
UZB				*e*S	**S**	**12**	**35**	**44.0 +1.4**
KPKS	**Kokpek**	**53.48**	**305**	*e*P	**P**	**12**	**28**	**13.8 -0.6**
	baz=305							
KPKS	**Kokpek**	**53.48**	**305**	*e*P	**P**	**12**	**28**	**13.7 -0.6**
TDK	**Taldyqorghan**	**53.56**	**307**	*e*P	**P**	**12**	**28**	**14.7 -0.2**
	baz=307							
TDK	**Taldyqorghan**	**53.56**	**307**	*e*P	**P**	**12**	**28**	**14.6 -0.2**
SATY	**Saty**	**53.72**	**305**	*e*P	**P**	**12**	**28**	**15.6 -0.6**
	baz=305							
SATY	**Saty**	**53.72**	**305**	*e*P	**P**	**12**	**28**	**15.5 -0.6**
SATY	**Saty**	**53.72**	**305**	*e*P	**P**	**12**	**28**	**15.5 -0.6**
CHKK	**Chushkaly**	**54.67**	**306**	*e*P	**P**	**12**	**28**	**22.1 -0.9**
	baz=306							
CHKK	**Chushkaly**	**54.67**	**306**	*e*P	**P**	**12**	**28**	**22.0 -0.9**
MDOK	**Medeo**	**54.70**	**305**	*e*P	**P**	**12**	**28**	**22.8 -0.5**
	baz=305							
MDOK				LR	LR	12	52	13.7
	comp=Z,67nm,14.7s,baz=305							
MDOK	**Medeo**	**54.70**	**305**	*e*P	**P**	**12**	**28**	**22.8 -0.5**
MDOK				MLR	MLR			
	comp=Z,67nm,15.0s							
TNSS	**Tian-Shan**	**54.78**	**305**	*e*P	**P**	**12**	**28**	**24.2 -0.1**
	baz=305							
TNSS	**Tian-Shan**	**54.78**	**305**	*e*P	**P**	**12**	**28**	**24.1 -0.1**
AAA	**Alma-Ata**	**54.79**	**305**	*e*P	**P**	**12**	**28**	**23.5 -0.5**
	baz=305							
AAA	**Alma-Ata**	**54.79**	**305**	*e*P	**P**	**12**	**28**	**23.4 -0.5**
KUU	**Kurty**	**55.13**	**306**	*e*P	**P**	**12**	**28**	**25.9 -0.4**
	comp=Z,11nm,1.1s,baz=306							
KUU	**Kurty**	**55.13**	**306**	*e*P	**P**	**12**	**28**	**25.9 -0.4**
KUU				pmax	pmax			
	comp=Z,11nm,1.1s							
MDM	**Murphy Dome**	**56.56**	**28**	P	**P**	**12**	**28**	**37.6 +1.3**
BTLS	**Baital**	**56.63**	**308**	*e*P	**P**	**12**	**28**	**36.7 -0.4**
	baz=308							
BTLS	**Baital**	**56.63**	**308**	*e*P	**P**	**12**	**28**	**36.6 -0.4**
BRZS	**Berezniki**	**57.07**	**314**	*e*P	**P**	**12**	**28**	**40.1 +0.1**
	comp=Z,22nm,1.1s,baz=314							
BRZS	**Berezniki**	**57.07**	**314**	*e*P	**P**	**12**	**28**	**40.1 +0.1**
BRZS				pmax	pmax			
	comp=Z,21nm,1.1s							
IL31		**57.12**	**29**	P	**P**	**12**	**28**	**39.2 -0.8**
IL31				IAmb	IAmb	12	28	51.8
	comp=Z,8.3nm,1.2s							
ILAR	**Eielson Array**	**57.12**	**29**	P	**P**	**12**	**28**	**39.9 -0.3**
	comp=Z,1.9nm,1.0s,baz=262,slow=5.8,SNR=13							
ILAR	**Eielson Array**	**57.12**	**29**	P	**P**	**12**	**28**	**39.6 -0.5**
BRVK	**Borovoye**	**58.32**	**317**	P	**P**	**12**	**28**	**49.0 +0.2**
BRVK				pmax	pmax			
	comp=Z,24nm,1.0s							
BRVK	**Borovoye**	**58.32**	**317**	P	**P**	**12**	**28**	**49.0 +0.2**
TGL	**Tana Glacier**	**58.83**	**34**	P	**P**	**12**	**28**	**52.9 +0.5**
DZA	**Taraz**	**58.88**	**305**	*e*P	**P**	**12**	**28**	**52.8 -0.1**
	baz=306							
DZA	**Taraz**	**58.88**	**305**	*e*P	**P**	**12**	**28**	**52.8 -0.1**
STKA	**Stephens Creek**	**58.97**	**181**	P	**P**	**12**	**28**	**52.7 -0.7**
	comp=Z,1.6nm,0.6s,baz=326,slow=9.9,SNR=3.9							
STKA				LR	LR	12	54	28.5
	comp=Z,52nm,19.3s,baz=26,slow=36							
STKA	**Stephens Creek**	**58.97**	**181**	P	**P**	**12**	**28**	**53.5 +0.1**
STKA				pmax	pmax			
	comp=Z,7.0nm,2.0s							
STKA	**Stephens Creek**	**58.97**	**181**	P	**P**	**12**	**28**	**53.5 +0.1**
MESA	**MESA**	**59.28**	**34**	P	**P**	**12**	**28**	**55.9 +0.3**
BCAR	**Beaver Creek A**	**59.30**	**31**	P	**P**	**12**	**28**	**56.4 +1.0**
NIL	**Nilore**	**59.33**	**295**	P	**P**	**12**	**28**	**57.0 +0.8**
NIL				pmax	pmax			
	comp=Z,19nm,1.1s							
NIL	**Nilore**	**59.33**	**295**	P	**P**	**12**	**28**	**57.0 +0.8**
YAH	**Yahtse**	**59.38**	**34**	P	**P**	**12**	**28**	**56.5 +0.2**
KK31	**Karatay Array**	**59.44**	**306**	P	**P**	**12**	**28**	**56.6 -0.1**
KK31				pmax	pmax			
	comp=Z,11nm,1.1s							
KK31	**Karatay Array**	**59.44**	**306**	P	**P**	**12**	**28**	**56.6 -0.1**
KK31				IAmb	IAmb	12	28	57.9
	comp=Z,11nm,1.1s							
KKAR	**Karatay Array**	**59.44**	**306**	P	**P**	**12**	**28**	**57.0 +0.3**
KKAR				pmax	pmax			
	comp=Z,11nm,1.1s							
KKAR	**Karatay Array**	**59.44**	**306**	P	**P**	**12**	**28**	**57.0 +0.3**
KKAR				IAmb	IAmb	12	28	57.9
	comp=Z,11nm,1.1s							
FORT	**Forrest**	**59.58**	**195**	P	**P**	**12**	**28**	**58.0 +0.4**
BBOO	**Buckleboo**	**60.25**	**187**	P	**P**	**12**	**29**	**02.5 +0.4**
GAR	**Garm**	**60.40**	**301**	P	**P**	**12**	**29**	**03.0 -0.5**
CHGR	**Chuyangaron**	**61.35**	**301**	P	**P**	**12**	**29**	**10.1 0.0**
INK	**Inuvik**	**62.47**	**25**	P	**P**	**12**	**29**	**18.1 +1.3**
	comp=Z,3.4nm,1.0s,baz=253,slow=3.5,SNR=4.6							
INK	**Inuvik**	**62.47**	**25**	P	**P**	**12**	**29**	**16.9 +0.1**
INK				pmax	pmax			
	comp=Z,10.0nm,1.2s							
INK	**Inuvik**	**62.47**	**25**	P	**P**	**12**	**29**	**16.9 +0.1**
INK				IAmb	IAmb	12	29	30.2
	comp=Z,10nm,1.1s							
KBL	**Kabul**	**62.48**	**297**	P	**P**	**12**	**29**	**17.6 -0.2**
KBL				pmax	pmax			
	comp=Z,11nm,1.0s							
KBL	**Kabul**	**62.48**	**297**	P	**P**	**12**	**29**	**17.6 -0.2**
KBL				IAmb	IAmb	12	29	18.4
	comp=Z,11nm,1.0s							
ARU	**Arti**	**64.58**	**322**	*c i* P	**P**	**12**	**29**	**31.2 +0.2**
ARU						12	30	03.3
ARU						12	31	50.7
ARU				S	**S**	**12**	**38**	**12.5 +3.8**
ARU				SS	**SS**	**12**	**42**	**19.1 +0.1**
ARU				pmax	pmax			
	comp=Z,13nm,0.9s							
ARU	**Arti**	**64.58**	**322**	P	**P**	**12**	**29**	**30.7 -0.3**
AB31	**Akbulak array**	**65.35**	**314**	P	**P**	**12**	**29**	**35.3 -0.8**
ABKAR	**Akbulak array**	**65.35**	**314**	P	**P**	**12**	**29**	**36.4 +0.2**
HRA	**Herat**	**67.89**	**298**	P	**P**	**12**	**29**	**53.1 +0.3**
HRA				IAmb	IAmb	12	29	54.4
	comp=Z,10.0nm,1.1s							
EUNU	**Eureka**	**69.50**	**8**	P	**P**	**12**	**30**	**03.3 +1.4**
EUNU				IAmb	IAmb	12	30	33.7
	comp=Z,15nm,1.4s							
PRGR	**Permogore**	**69.61**	**330**	*e*P	**P**	**12**	**30**	**02.0 -0.8**
PRGR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
GEYT	**Alibeck**	**69.89**	**303**	P	**P**	**12**	**30**	**05.0 -0.1**
	comp=Z,1.8nm,0.7s,baz=29,slow=3.4,SNR=4.3							
GEYT				LR	LR	13	02	02.0
	comp=Z,54nm,20.0s,baz=65,slow=37							
GEYT	**Alibeck**	**69.89**	**303**	P	**P**	**12**	**30**	**04.9 -0.2**
GYA0B	**ALIBECK ARRAY**	**69.89**	**303**	P	**P**	**12**	**30**	**05.2 +0.1**
GYA0B				IAmb	IAmb	12	30	29.5
	comp=Z,5.0nm,0.9s							
KLMR	**Klimovskoe**	**72.64**	**330**	*e*P	**P**	**12**	**30**	**21.4 +0.2**
KLMR				pmax	pmax			
	comp=Z,10.0nm,1.2s							
KLMR	**Klimovskoe**	**72.64**	**330**	*e*P	**P**	**12**	**30**	**21.4 +0.2**
KLMR				AMP		12	30	40.2
	comp=Z,10.0nm,1.2s							
PINE	**Pine Mountain**	**75.69**	**48**	P	**P**	**12**	**30**	**40.6 +1.0**
PINE				IAmb	IAmb	12	31	00.9
	comp=Z,6.2nm,0.9s							
OBN	**Obninsk**	**76.65**	**325**	*i* P	**P**	**12**	**30**	**44.0 -0.5**
OBN				pmax	pmax			
	comp=Z,5.0nm,0.9s							
ORV	**Oroville**	**77.07**	**52**	P	**P**	**12**	**30**	**48.5 +1.3**
ORV				pmax	pmax			
	comp=Z,13nm,1.6s							
ORV	**Oroville**	**77.07**	**52**	P	**P**	**12**	**30**	**48.5 +1.3**
ORV				IAmb	IAmb	12	30	52.6
	comp=Z,13nm,1.6s							
BMO	**Blue Mountains**	**77.60**	**46**	P	**P**	**12**	**30**	**53.5 +3.2**
BMO				pmax	pmax			
	comp=Z,5.0nm,1.1s							
BMO	**Blue Mountains**	**77.60**	**46**	P	**P**	**12**	**30**	**53.5 +3.2**
FINES	**FINESS Array B**	**77.96**	**334**	P	**P**	**12**	**30**	**51.6 -0.2**
	comp=Z,4.1nm,0.9s,baz=69,slow=3.5,SNR=9.8							
FINES	**FINESS Array B**	**77.96**	**334**	P	**P**	**12**	**30**	**52.0 +0.2**
KBZ	**Khabaz**	**78.28**	**313**	P	**P**	**12**	**30**	**55.3 +1.4**
	comp=Z,9.5nm,0.9s,baz=118,slow=3.9,SNR=12							
KBZ				LR	LR	13	07	40.0
	comp=Z,49nm,18.4s,baz=114,slow=37							
KIV	**Kislovodsk**	**78.31**	**313**	*e*P	**P**	**12**	**30**	**54.8 +0.6**
KIV				pmax	pmax			
	comp=Z,26nm,1.0s							
KIV				MLR	MLR			
	comp=Z,254nm,19.0s							
VCNR	**Virginia City**	**78.47**	**52**	P	**P**	**12**	**30**	**54.3 -1.0**
PAHR	**Pah Rah Range**	**78.48**	**51**	P	**P**	**12**	**30**	**53.9 -1.4**
PAHR				IAmb	IAmb	12	31	00.1
	comp=Z,12nm,1.5s							
CMB	**Columbia Colle**	**78.50**	**53**	P	**P**	**12**	**30**	**56.4 +1.1**
CMB				pmax	pmax			
	comp=Z,6.0nm,1.2s							
CMB	**Columbia Colle**	**78.50**	**53**	P	**P**	**12**	**30**	**56.4 +1.1**
YERR	**Yerington**	**78.90**	**52**	P	**P**	**12**	**30**	**58.9 +1.2**
YERR				IAmb	IAmb	12	31	02.8
	comp=Z,11nm,1.4s							
MFID	**Camas Ranch**	**79.20**	**47**	P	**P**	**12**	**31**	**00.7 +1.5**
MFID				IAmb	IAmb	12	31	04.4
	comp=Z,13nm,1.4s							
RYN	**Ryan**	**79.56**	**52**	P	**P**	**12**	**31**	**02.1 +0.9**
RYN				IAmb	IAmb	12	31	06.4
	comp=Z,14nm,1.7s							
KVN	**Kaiserville**	**79.66**	**51**	P	**P**	**12**	**31**	**03.8 +2.0**
KVN				pmax	pmax			
	comp=Z,7.0nm,1.4s							
KVN	**Kaiserville**	**79.66**	**51**	P	**P**	**12**	**31**	**03.8 +2.0**
KVN				IAmb	IAmb	12	31	06.8
	comp=Z,7.5nm,1.4s							
NVAR	**Mina Array Bea**	**79.80**	**52**	P	**P**	**12**	**31**	**03.3 +0.7**
	comp=Z,2.2nm,1.1s,baz=275,slow=6.1,SNR=9.2							
NVAR				LR	LR	13	05	12.3
	comp=Z,47nm,18.3s,baz=296,slow=35							
NVAR	**Mina Array Bea**	**79.80**	**52**	P	**P**	**12**	**31**	**03.7 +1.0**
HLID	**Hailey**	**80.04**	**46**	P	**P**	**12**	**31**	**06.1 +2.3**
LRM	**Limekiln Ridge**	**80.18**	**43**	P	**P**	**12**	**31**	**06.3 +1.7**
ANN	**Anapa**	**81.23**	**316**	*e*P	**P**	**12**	**31**	**07.8 -2.0**
ANN				pmax	pmax			
	comp=Z,45nm,0.9s							
R11A	**Troy Canyon, C**	**81.73**	**51**	P	**P**	**12**	**31**	**14.4 +1.4**
TPNV	**Topopah Spring**	**81.93**	**53**	P	**P**	**12**	**31**	**14.4 +0.4**
TPNV				pmax	pmax			
	comp=Z,4.0nm,1.1s							
TPNV	**Topopah Spring**	**81.93**	**53**	P	**P**	**12**	**31**	**14.4 +0.4**
FXWY	**Fox Creek**	**82.15**	**45**	P	**P**	**12**	**31**	**16.5 +1.4**
FXWY				IAmb	IAmb	12	31	20.9
	comp=Z,9.7nm,1.6s							
DUG	**Dugway, Tooele**	**82.72**	**48**	P	**P**	**12**	**31**	**18.8 +0.8**
DUG				pmax	pmax			
	comp=Z,5.0nm,1.2s							
DUG	**Dugway, Tooele**	**82.72**	**48**	P	**P**	**12**	**31**	**18.8 +0.8**
AKASG	**Malin Array Be**	**82.75**	**324**	P	**P**	**12**	**31**	**16.8 -0.9**
	comp=Z,1.5nm,0.8s,baz=49,slow=4.9,SNR=5.6							
AKASG				LR	LR	13	10	32.9
	comp=Z,167nm,19.2s,baz=50,slow=38							
AKASG	**Malin Array Be**	**82.75**	**324**	P	**P**	**12**	**31**	**17.3 -0.4**
AKASG				pmax	pmax			
	comp=Z,2.0nm,1.0s							
AKASG	**Malin Array Be**	**82.75**	**324**	P	**P**	**12**	**31**	**17.3 -0.4**
AKBB	**Malin Array Si**	**82.75**	**324**	P	**P**	**12**	**31**	**17.6 -0.2**
AKBB				pmax	pmax			
	comp=Z,6.0nm,1.2s							
AKBB	**Malin Array Si**	**82.75**	**324**	P	**P**	**12**	**31**	**17.6 -0.2**
AKBB				IAmb	IAmb	12	31	37.9
	comp=Z,5.6nm,1.1s							
HWUT	**Hardware Ranch**	**82.83**	**47**	P	**P**	**12**	**31**	**19.3 +0.7**
HWUT				IAmb	IAmb	12	31	23.8
	comp=Z,5.2nm,1.1s							
PDAR	**Pinedale Array**	**83.52**	**45**	P	**P**	**12**	**31**	**23.8 +1.6**
	comp=Z,1.0nm,0.8s,baz=270,slow=1.5,SNR=7.0							
PDAR				LR	LR	13	07	01.8
	comp=Z,72nm,19.2s,baz=311,slow=35							
PDAR	**Pinedale Array**	**83.52**	**45**	P	**P**	**12**	**31**	**23.0 +0.8**
NB2	**NORSAR Subarra**	**83.56**	**339**	P	**P**	**12**	**31**	**21.6 -0.2**
	comp=Z,6.1nm,1.2s,baz=39,slow=5.3							
NOA	**NORSAR Array B**	**83.56**	**339**	P	**P**	**12**	**31**	**21.0 -0.8**
	comp=Z,1.9nm,0.9s,baz=42,slow=5.0,SNR=4.2							
NOA				LR	LR	13	14	30.0
	comp=Z,44nm,18.6s,baz=40,slow=40							
NOA	**NORSAR Array B**	**83.56**	**339**	P	**P**	**12**	**31**	**21.0 -0.8**
LCMT	**Little Creek M**	**84.00**	**51**	P	**P**	**12**	**31**	**24.8 +0.1**
KNB	**Kanab**	**84.29**	**51**	P	**P**	**12**	**31**	**26.6 +0.4**
KNB				pmax	pmax			
	comp=Z,19nm,1.5s							
KNB	**Kanab**	**84.29**	**51**	P	**P**	**12**	**31**	**26.6 +0.4**
Q16A	**Castle Valley**	**84.46**	**49**	P	**P**	**12**	**31**	**27.0 0.0**
PV23	**Carpenter Ridg**	**86.14**	**48**	P	**P**	**12**	**31**	**35.4 -0.1**
PV14	**Lion Creek, Pa**	**86.18**	**49**	P	**P**	**12**	**31**	**36.5 +0.8**
PV19	**Morning Glory**	**86.24**	**49**	P	**P**	**12**	**31**	**37.1 +1.1**
PV19				IAmb	IAmb	12	31	41.3
	comp=Z,7.4nm,0.9s							
PV17	**East Wray Mesa**	**86.27**	**49**	P	**P**	**12**	**31**	**35.8 -0.3**
BR131	**Keskin Array S**	**86.27**	**313**	P	**P**	**12**	**31**	**35.6 -0.4**
BR131				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BR131	**Keskin Array S**	**86.27**	**313**	P	**P**	**12**	**31**	**35.6 -0.4**
BR131				IAmb	IAmb	12	31	42.7
	comp=Z,3.2nm,0.8s							
BRTR	**Keskin Array B**	**86.27**	**313**	P	**P**	**12**	**31**	**36.1 +0.2**
	comp=Z,1.6nm,0.8s,baz=111,slow=1.7,SNR=7.2							
BRTR				LR	LR	13	13	25.8
	comp=Z,43nm,19.9s,baz=22,slow=38							
BRTR	**Keskin Array B**	**86.27**	**313**	*i* P	**P**	**12**	**31**	**36.2 +0.2**
BRTR				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BRTR	**Keskin Array B**	**86.27**

mb4.5/22, Error ellipse: s-maj=19.9km s-min=12.6km az=197.0

ISC 30 13:25:25.7±0.6, 15°85S±0.07"×168°34E±0.08, h250km, n71, σ2s00/83, mb4.5/19, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.17**	**290**		**Pn**	**13 26 04.7**	**+3.0**
DZM	**Mont Dzumac**	**6.45**	**196**	P	**Pn**	**13 27 01.4**	**+1.9**
	4.8nm,0.3s,baz=165,slow=20,SNR=66						
DZM				S	**S**	**13 28 18.9**	**+4.2**
	2.3nm,0.3s,baz=310,slow=23,SNR=2.0						
DZM	**Mont Dzumac**	**6.45**	**196**		**Pn**	**13 27 01.6**	**+2.1**
MSVF	**Nonsavu**	**9.48**	**103**	Pn	**Pn**	**13 27 40.7**	**+2.8**
EIDS	**Eidsvold**	**18.71**	**237**		**P**	**13 29 27.4**	**+1.4**
EIDS				IAmb	IAmb	13 29 42.4	
	comp=Z,18nm,0.7s						
OUZ	**Omahuta**	**19.86**	**167**	P	**Pn**	**13 29 43.6**	**+0.6**
ARMA	**Armidale**	**21.09**	**224**	P	**P**	**13 29 52.7**	**+1.4**
CTA	**Charters Tower**	**21.43**	**255**	P	**P**	**13 29 56.0**	**+1.4**
	comp=Z,5.7nm,0.4s,baz=84,slow=10,SNR=30						
CTAO	**Charters Tower**	**21.43**	**255**	P	**P**	**13 29 55.9**	**+1.4**
CTAO				IAmb	IAmb	13 29 56.2	
	comp=Z,7.3nm,0.7s						
MKAZ	**Moumakai**	**22.02**	**165**	P	**P**	**13 30 01.1**	**+1.3**
TOZ	**Tahuroa Road**	**22.70**	**165**	P	**P**	**13 30 07.4**	**+1.4**
TLZ	**Tolley Road**	**23.28**	**166**	P	**P**	**13 30 10.6**	**-0.7**
HAZ	**Te Kaha**	**23.37**	**161**	P	**P**	**13 30 13.1**	**+1.1**
RUGZ	**Raukumara Rang**	**23.53**	**161**	P	**P**	**13 30 13.7**	**0.0**
URZ	**Urewera**	**23.63**	**163**	P	**P**	**13 30 14.8**	**+0.4**
	comp=Z,5.3nm,0.3s,baz=276,slow=3.0,SNR=14						
URZ	**Urewera**	**23.63**	**163**	P	**P**	**13 30 14.9**	**+0.4**
URZ				S	**S**	**13 34 06.2**	**-3.9**
URZ	**Urewera**	**23.63**	**163**	P	**P**	**13 30 14.7**	**+0.4**
URZ				IAmb	IAmb	13 30 25.5	
	comp=Z,23nm,1.0s						
WMGZ	**Waiomatatini S**	**23.63**	**160**	P	**P**	**13 30 14.7**	**+0.3**
MUGZ	**Murupara**	**23.73**	**163**	P	**P**	**13 30 16.7**	**+1.3**
MWZ	**Matawai**	**23.82**	**162**	P	**P**	**13 30 16.4**	**+0.2**
MWZ				S	**S**	**13 34 09.4**	**-3.8**
RTZ	**Ruatahuna**	**23.92**	**163**	P	**P**	**13 30 17.7**	**+0.6**
MRHZ	**Matea Rd**	**23.98**	**164**	P	**P**	**13 30 17.8**	**+0.1**
OTVZ	**Oturere**	**24.10**	**166**	P	**P**	**13 30 21.7**	**+2.8**
MTHZ	**Maungataniwha**	**24.11**	**164**	P	**P**	**13 30 19.5**	**+0.7**
MTHZ				S	**S**	**13 34 15.1**	**-2.7**
SNGZ	**Shannon Statio**	**24.18**	**163**	P	**P**	**13 30 19.7**	**+0.3**
SNGZ				S	**S**	**13 34 17.9**	**-1.0**
RAHZ	**Arahi**	**24.23**	**163**	P	**P**	**13 30 20.5**	**+0.5**
RIGZ	**Rimuhau**	**24.23**	**162**	P	**P**	**13 30 19.9**	**0.0**
WNVZ	**Wahianoa**	**24.24**	**166**	P	**P**	**13 30 23.2**	**+3.0**
BKZ	**Black Stump Fm**	**24.31**	**164**	P	**P**	**13 30 20.9**	**+0.3**
BKZ				S	**S**	**13 34 15.7**	**-5.3**
BKZ	**Black Stump Fm**	**24.31**	**164**	P	**P**	**13 30 20.7**	**0.0**
BKZ				IAmb	IAmb	13 30 22.8	
	comp=Z,12nm,0.8s						
NMHZ	**Naumai**	**24.33**	**164**	P	**P**	**13 30 21.9**	**+1.0**
BHHZ	**Black Hill Sta**	**24.51**	**165**	P	**P**	**13 30 23.3**	**+0.9**
BHHZ				S	**S**	**13 34 20.7**	**-3.4**
ARHZ	**Aropaoanui**	**24.53**	**164**	P	**P**	**13 30 21.8**	**-0.8**
KWHZ	**Kaweka Forest**	**24.53**	**165**	P	**P**	**13 30 23.5**	**+0.8**
KWHZ				S	**S**	**13 34 20.0**	**-4.6**
MCHZ	**McNeill Hill**	**24.62**	**164**	P	**P**	**13 30 23.8**	**+0.4**
MCHZ				S	**S**	**13 34 18.5**	**-7.3**
KRHZ	**Kereru**	**24.73**	**165**	P	**P**	**13 30 24.7**	**+0.3**
KRHZ				S	**S**	**13 34 22.1**	**-5.5**
PNHZ	**Pukenui**	**24.94**	**166**	P	**P**	**13 30 26.6**	**+0.3**
KAHZ	**Kahuranaki**	**25.00**	**164**	P	**P**	**13 30 26.9**	**0.0**
PXZ	**Pawanui**	**25.22**	**165**	P	**P**	**13 30 28.5**	**-0.2**
OXZ	**Oxford**	**27.57**	**174**	P	**P**	**13 30 46.8**	**-2.9**
STKA	**Stephens Creek**	**29.09**	**232**	P	**P**	**13 31 04.4**	**+1.1**
	comp=Z,9.4nm,0.3s,baz=72,slow=10,SNR=58						
STKA	**Stephens Creek**	**29.09**	**232**	P	**P**	**13 31 04.5**	**+1.1**
JAY	**Jayapura**	**30.27**	**293**	P	**P**	**13 31 14.1**	**+0.1**
	comp=Z,3.4nm,0.3s,baz=306,slow=13,SNR=7.4						
WR0	**Warramunga Arr**	**32.39**	**258**	P	**P**	**13 31 31.8**	**-0.7**
WR0				IAmb	IAmb	13 31 32.7	
	comp=Z,10nm,1.1s						
WB0	**Warramunga Arr**	**32.52**	**258**	P	**P**	**13 31 32.6**	**-1.0**
WB0				IAmb	IAmb	13 31 34.5	
	comp=Z,11nm,0.6s						
WB2	**Warramunga Arr**	**32.57**	**258**	P	**P**	**13 31 33.3**	**-0.6**
WB2				IAmb	IAmb	13 31 34.1	
	comp=Z,8.8nm,0.9s						
WRAB	**Tennant Creek**	**32.57**	**258**	P	**P**	**13 31 33.2**	**-0.8**
WRA	**Warramunga Arr**	**32.58**	**258**	P	**P**	**13 31 33.3**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=31,slow=11,SNR=79						
WRA				ScP	**ScP**	**13 37 32.9**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=88,slow=3.5,SNR=4.8						
WRA	**Warramunga Arr**	**32.58**	**258**	P	**P**	**13 31 32.6**	**-1.5**
AS31	**Alice Springs**	**33.27**	**251**	P	**P**	**13 31 40.0**	**0.0**
ASAR	**Alice Springs**	**33.27**	**251**	P	**P**	**13 31 39.9**	**-0.2**
	comp=Z,38nm,0.5s,baz=76,slow=9.3,SNR=836						
ASAR				pP	**pP**	**13 32 30.8**	**+2.2**
	comp=Z,2.8nm,0.8s,baz=79,slow=9.3,SNR=2.2						
ASAR				S	**S**	**13 36 37.5**	**-4.1**
	comp=Z,1.1nm,1.2s,baz=81,slow=17,SNR=4.9						
ASAR				ScP	**ScP**	**13 37 34.9**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=94,slow=4.1,SNR=9.6						
ASAR	**Alice Springs**	**33.27**	**251**	P	**P**	**13 31 39.2**	**-0.8**
BBOO	**Buckleboo**	**33.74**	**234**	P	**P**	**13 31 44.5**	**+0.6**
BBOO				IAmb	IAmb	13 31 44.9	
	comp=Z,13nm,0.6s						
MTN	**Manton Dam**	**36.14**	**270**	P	**P**	**13 32 05.0**	**+0.4**
KNRA	**Kununurra**	**38.05**	**265**	P	**P**	**13 32 20.4**	**-0.2**
FORT	**Forrest**	**39.64**	**241**	P	**P**	**13 32 33.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**40.84**	**261**	P	**P**	**13 32 44.4**	**+0.8**
	comp=Z,7.8nm,0.4s,baz=93,slow=7.7,SNR=40						
FITZ	**Fitzroy Crossi**	**40.84**	**261**	P	**P**	**13 32 43.9**	**+0.3**
FITZ				IAmb	IAmb	13 32 44.9	
	comp=Z,13nm,0.8s						
PSA00	**Pilbara Seismi**	**46.14**	**255**	P	**P**	**13 33 25.5**	**-0.3**
NWAO	**Narrogin (SRO)**	**49.08**	**240**	P	**P**	**13 33 47.0**	**-1.1**
NWAO				IAmb	IAmb	13 33 48.7	
	comp=Z,16nm,0.7s						
MORW	**Morawa**	**49.73**	**245**	P	**P**	**13 33 51.5**	**-1.6**
GIRL	**Giralia**	**51.31**	**254**	P	**P**	**13 34 06.0**	**+1.1**
VNDA	**Vanda**	**61.78**	**182**	P	**P**	**13 35 17.2**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=357,slow=9.5,SNR=7.3						
NJ2	**Nanjing**	**67.19**	**316**	*eP*	**P**	**13 35 53.5**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
QSPA	**South Pole Qui**	**74.19**	**180**	P	**P**	**13 36 34.6**	**-0.3**
QSPA				IAmb	IAmb	13 36 36.1	
	comp=Z,5.4nm,1.0s						
HHC	**Hu-ho-hao-te**	**77.10**	**319**	*eP*	**P**	**13 36 49.0**	**-2.7**
HHC				ScS	S	13 46 42.5	+23
HHC				pmax	pmax		
	comp=Z,27nm,1.2s						
HHC				pmax	pmax		
	comp=Z,63nm,6.1s						
SONM	**Songino Array**	**84.00**	**323**	pP	pP	13 38 30.5	+3.4
	comp=Z,0.2nm,0.3s,baz=146,slow=46,SNR=2.0						
ILAR	**Eielson Array**	**87.27**	**18**	P	**P**	**13 37 43.0**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=229,slow=5.4,SNR=4.4						
WMQ	**Urumqi**	**94.24**	**314**	*eP*	**P**	**13 38 16.5**	**-0.1**
ARCES	**ARCESS Array B**	**121.58**	**346**	PKP	**PKPdf**	**13 43 48.4**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=64,slow=2.8,SNR=9.2						
VYHS	**Vyhne**	**138.96**	**329**	*ePP*	PP	13 47 19.8	+2.7

*TEH **30** 13:28:27.8, 32°.75N×47°.44E, h8km, ML3.2*
*ISN **30** 13:28:27.3±1.6, 32°.61N×47°.58E, h19km±28km, ML3.5*
*THR **30** 13:28:28.8±0.3, 32°.76N×47°.37E, h14km±5km, ML3.7*

ISC 30 13:28:28.2±0.9, 32°58N±0.04×47°33E±0.03, h10km, n35, σ0s81/40, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.10**	**338**	*ePg*	**Pg**	**13 28 31.1**	**+0.2**
DHL1				*eSg*	**Sg**	**13 28 34.1**	**+1.3**
SHGR	**Shooshtar-Gavs**	**1.33**	**110**	*ePg*	**Pg**	**13 28 54.1**	**+0.3**
SHGR				*eSg*	**Sg**	**13 29 12.7**	**+1.6**
SHGR	**Shooshtar-Gavs**	**1.33**	**110**	*ePg*	**Pg**	**13 28 54.1**	**+0.3**
IKOM	**Komasi**	**1.59**	**5**	*ePg*	**Pn**	**13 28 54.9**	**-1.7**
IKOM				*e*		13 29 00.1	
BMDN	**Meydan**	**1.66**	**49**	*ePg*	**Pn**	**13 28 55.9**	**-1.7**
BMDN				*e*		13 29 25.9	
AHWZ	**Ahwaz**	**1.68**	**138**	*ePg*	**Pg**	**13 29 00.5**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.70**	**352**	*ePg*	**Pn**	**13 28 57.6**	**-0.6**
KCHF				*e*		13 29 25.2	
KER	**Kermanshah**	**1.80**	**355**	*ePg*	**Pn**	**13 28 59.9**	**+0.4**
IGHG	**Ghaleghazi**	**1.85**	**340**	*ePn*	**Pn**	**13 29 00.2**	**-0.1**
IGHG				*e*		13 29 38.9	
NSR	**Nassriya**	**1.87**	**213**	*ePn*	**Pb**	**13 29 02.0**	**-0.4**
NSR				*eSn*	**Sg**	**13 29 27.0**	**-1.2**
NSR				AML	AML	13 29 38.7	
	comp=E,499nm,0.5s						
IBZA	**Bozab**	**1.93**	**13**	*ePg*	**Pn**	**13 29 01.7**	**+0.3**
IBZA				*e*		13 29 30.6	
HSAM	**Samen**	**1.94**	**33**	*ePg*	**Pn**	**13 29 00.9**	**-0.6**
HSAM				*e*		13 29 29.7	
IVIS	**Veis**	**1.98**	**348**	*ePn*	**Pn**	**13 29 02.5**	**+0.6**
IVIS				*e*		13 29 33.8	
IDHR	**Dehrash**	**2.25**	**340**	*ePn*	**Pn**	**13 29 04.9**	**-0.8**
IDHR				*e*		13 29 46.5	
ILIN	**Lien**	**2.35**	**353**	*e*		13 29 52.1	
ILIN				*ePn*	**Pn**	**13 29 07.3**	**+0.2**
KHMZ	**Khomeyn**	**2.49**	**62**	*ePn*	**Pn**	**13 29 09.6**	**+0.6**
KHMZ	**Khomeyn**	**2.49**	**62**	*ePn*	**Pn**	**13 29 09.6**	**+0.6**
BHD	**Baghdad**	**2.57**	**286**	*ePn*	**Pn**	**13 29 12.0**	**+2.1**
	baz=103						
BHD				*eSn*	**Sb**	**13 29 45.0**	**-1.1**
BHD				AML	AML	13 30 11.8	
	comp=E,356nm,0.2s						
HAGD	**Aghdareh**	**2.69**	**34**	*ePn*	**Pn**	**13 29 10.9**	**-1.0**
HAGD				*e*		13 29 54.5	
HSRG	**Sareghieh**	**2.77**	**16**	*ePn*	**Pn**	**13 29 13.4**	**+0.5**
HSRG				*e*		13 29 56.2	
JHBN	**Jahan bin**	**2.85**	**96**	*ePn*	**Pn**	**13 29 13.7**	**-0.3**
JHBN				*e*		13 30 08.6	
ASAO	**Ashtian**	**2.98**	**48**	*ePn*	**Pn**	**13 29 16.2**	**+0.4**
ASAO				*eSg*	**Sb**	**13 29 58.0**	**-0.3**
ASAO	**Ashtian**	**2.98**	**48**	*ePn*	**Pn**	**13 29 16.2**	**+0.4**
IPIR	**Pirpir**	**3.01**	**87**	*ePn*	**Pn**	**13 29 16.4**	**+0.2**
IPIR				*e*		13 29 55.3	
ROKH	**ROKH**	**3.14**	**93**	*ePn*	**Pn**	**13 29 18.3**	**+0.3**
ROKH				*e*		13 30 16.5	
IRAZ	**Razeghan**	**3.55**	**37**	*ePn*	**Pn**	**13 29 24.2**	**+0.7**
QABG	**Abgarm-Qazvin**	**3.63**	**30**	*ePn*	**Pn**	**13 29 24.6**	**-0.2**
IKLH	**Kolahrood**	**3.65**	**77**	*ePn*	**Pn**	**13 29 25.2**	**+0.2**
IKLH				*e*		13 30 28.4	
GHVR	**GHOM**	**3.81**	**59**	*ePn*	**Pn**	**13 29 27.2**	**+0.2**
GHVR	**GHOM**	**3.81**	**59**	*ePn*	**Pn**	**13 29 27.3**	**+0.2**
QSDN	**Sirdan**	**4.20**	**21**	*ePn*	**Pn**	**13 29 32.2**	**-0.3**
IZEF	**Zefreh**	**4.23**	**84**	*ePn*	**Pn**	**13 29 32.8**	**-0.1**
IRAM	**Ramesheh**	**4.35**	**99**	*ePn*	**Pn**	**13 29 35.2**	**+0.5**
QALM	**Alamut, Qazvin**	**4.72**	**35**	*ePn*	**Pn**	**13 29 39.4**	**-0.2**
ANAR	**Anarak**	**5.42**	**82**	*ePn*	**Pn**	**13 29 48.0**	**-1.2**

*IDC **30** 13:48:24.2±6.8, 6°.75N×72°.92W, h162km±45km, mb2.6/1, mb1 3.2/2, mb1mx2.9/26, mbtmp3.4/2, Error ellipse: s-maj=97.4km s-min=41.0km az=77.0*
*RSNC **30** 13:48:25.7±1.5, 6°.79N×73°.15W, h138km±6km, ML3.3, Mw3.7, Fault plane solution: NP1:φs119.00000°, δ18.00000°, λ78.00000°.*

ISC 30 13:48:23.6±1.0, 6°86N±0.03×73°14W±0.04, h152km±6km, n31, σ1s14/58, 4C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.27**	**189**	*i P*	**Pn**	**13 48 44.7**	**+0.1**
BARC				*eS*	**Sn**	**13 48 59.0**	**-1.6**
BARC				*i*		13 49 02.1	
	comp=Z,610nm,0.4s						
BRRC	**Barranca, Sant**	**0.62**	**293**	*i P*	**Pn**	**13 48 46.6**	**+0.8**
BRRC				*eS*	**Sn**	**13 49 02.3**	**-0.3**
BRRC				*i*		13 49 06.6	
	comp=Z,332nm,0.2s						
PAMC	**Pamplona, Colo**	**0.64**	**43**	*i P*	**Pn**	**13 48 47.5**	**+1.0**
PAMC				*i*		13 48 47.8	
	comp=Z,742nm,0.2s						
PAMC				*eS*	**Sn**	**13 49 03.9**	**0.0**
RUSC	**La Rusia**	**0.97**	**177**	*eP*	**Pn**	**13 48 49.0**	**+0.1**
RUSC				*eS*	**Sn**	**13 49 06.6**	**-1.5**
RUSC				*i*		13 49 08.2	
	comp=Z,430nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.35**	**256**	*eP*	**Pn**	**13 48 51.3**	**-0.5**
PTBC				*eS*	**Sn**	**13 49 11.8**	**-1.5**
PTBC				*i*		13 49 15.7	
	comp=Z,290nm,0.4s						
OCAC	**Ocana**	**1.38**	**353**	*i P*	**Pn**	**13 48 53.0**	**+0.8**
OCAC				*eS*	**Sn**	**13 49 14.7**	**+0.5**
OCAC				*i*		13 49 16.8	
	comp=Z,297nm,0.5s						
TAMC	**Tame, Arauca**	**1.40**	**108**	*i P*	**Pn**	**13 48 53.0**	**+0.7**
TAMC				*i*		13 48 53.3	
	comp=Z,334nm,0.4s						
TAMC				*eS*	**Sn**	**13 49 12.9**	**-1.4**
SPBC	**San Pablo de B**	**1.52**	**218**	*eP*	**Pn**	**13 48 53.6**	**0.0**
SPBC				*eS*	**Sn**	**13 49 15.1**	**-1.5**
SPBC				*i*		13 49 18.1	
	comp=Z,432nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.82**	**290**	*eP*	**Pn**	**13 48 57.6**	**+0.9**
ZARC				*eS*	**Sn**	**13 49 23.4**	**+1.2**
ZARC				*i*		13 49 31.5	
	comp=Z,268nm,0.5s						
SMLC	**San Martn de**	**2.14**	**334**	*eP*	**Pn**	**13 49 01.0**	**+0.5**
SMLC				*eS*	**Sn**	**13 49 28.2**	**-0.7**
SMLC				*i*		13 49 38.9	
	comp=Z,141nm,0.5s						
NORC	**Norcasia**	**2.15**	**233**	*eP*	**Pn**	**13 49 00.7**	**0.0**
NORC				*eS*	**Sn**	**13 49 28.0**	**-1.2**
NORC				*i*		13 49 39.9	
	comp=Z,135nm,0.2s						
CHIC	**Chingaza**	**2.30**	**195**	*eP*	**Pn**	**13 49 03.0**	**+0.3**
CHIC				*eS*	**Sn**	**13 49 31.4**	**-1.5**
CHIC				*i*		13 49 42.3	
	comp=Z,89nm,0.4s						
ROSC	**El Rosal**	**2.33**	**210**	P	**Pn**	**13 49 04.6**	**+1.5**
	comp=Z,42nm,0.3s,baz=31,slow=12,SNR=32						
ROSC				S	**Sn**	**13 49 36.2**	**+2.6**
	comp=Z,44nm,0.3s,baz=201,slow=22,SNR=16						
ROSC	**El Rosal**	**2.33**	**210**	*eP*	**Pn**	**13 49 04.5**	**+1.4**
ROSC				*eS*	**Sn**	**13 49 32.9**	**-0.7**
ROSC				*i*		13 49 40.8	
	comp=Z,138nm,0.4s						
HELC	**Santa Helena**	**2.47**	**254**	*eP*	**Pn**	**13 49 05.3**	**+0.6**
HELC				*eS*	**Sn**	**13 49 36.6**	**+0.2**
HELC				*i*		13 49 44.1	
	comp=Z,125nm,0.4s						
UREC	**San Jos de Ur**	**2.53**	**291**	*eP*	**Pn**	**13 49 05.3**	**0.0**
UREC				*eS*	**Sn**	**13 49 35.3**	**-2.0**
UREC				*i*		13 49 48.8	
	comp=Z,152nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.75**	**234**	*eP*	**Pn**	**13 49 09.0**	**+0.7**
GUY2C				*eS*	**Sn**	**13 49 42.2**	**-0.6**
GUY2C				*i*		13 49 49.7	
	comp=Z,101nm,0.3s						
VILC	**Villavicencio,**	**2.79**	**191**	*eP*	**Pn**	**13 49 08.4**	**-0.1**
VILC				*eS*	**Sn**	**13 49 41.9**	**-1.4**
VILC				*i*		13 49 53.7	
	comp=Z,95nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.02**	**251**	*eP*	**Pn**	**13 49 12.4**	**+0.9**
CBOC				*i*		13 49 14.1	
	comp=Z,42nm,0.2s						
CBOC				*eS*	**Sn**	**13 49 48.5**	**0.0**
DBBC	**Dabeiba**	**3.05**	**273**	*eP*	**Pn**	**13 49 12.6**	**+0.8**
TOLC	**Tolima**	**3.14**	**224**	*eP*	**Pn**	**13 49 14.1**	**+0.9**
TOLC				*eS*	**Sn**	**13 49 48.4**	**-3.0**
MOTC	**Monteria, Cord**	**3.15**	**307**	*eP*	**Pn**	**13 49 12.4**	**-0.5**
MOTC				*eS*	**Sn**	**13 49 50.3**	**-0.7**
MOTC				*i*		13 50 07.8	
	comp=Z,45nm,0.4s						
SDV	**Santo Domingo**	**3.19**	**51**	*eP*	**Pn**	**13 49 14.6**	**+0.9**
SDV				*eS*	**Sn**	**13 49 51.3**	**-1.1**
ANIL	**Santa Ana**	**3.26**	**224**	*eP*	**Pn**	**13 49 15.2**	**+0.6**
ANIL				*eS*	**Sn**	**13 49 53.7**	**-0.4**
PRAC	**Prado**	**3.58**	**209**	*eP*	**Pn**	**13 49 18.4**	**-0.2**
PRAC				*eS*	**Sn**	**13 50 00.2**	**-1.0**
PRAC				*i*		13 50 05.6	
	comp=Z,80nm,0.7s						
ORTC	**Ortega, Tolima**	**3.61**	**216**	*eP*	**Pn**	**13 49 19.1**	**+0.2**
ORTC				*eS*	**Sn**	**13 50 01.6**	**-0.2**
ORTC				*i*		13 50 06.5	
	comp=Z,57nm,0.6s						
SJCC	**San Jacinto, C**	**3.63**	**326**	*eP*	**Pn**	**13 49 18.9**	**-0.3**
SJCC				*eS*	**Sn**	**13 50 00.5**	**-1.8**
SJCC				*i*		13 50 04.6	
	comp=Z,42nm,0.6s						
SMRC	**Santa Marta, M**	**4.41**	**346**	*eP*	**Pn**	**13 49 28.9**	**-0.3**
SMRC				*eS*	**Sn**	**13 50 17.6**	**-2.8**
SMRC				*i*		13 50 22.3	
	comp=Z,16nm,0.4s						
TXAR	**Lajitas Array**	**36.42**	**312**	P	**P**	**13 55 15.5**	**+1.6**
	comp=Z,0.1nm,0.5s,baz=131,slow=9.7,SNR=2.5						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPbc**	**14 07 54.0**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=123,slow=3.2,SNR=4.4						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPbc**	**14 07 57.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=110,slow=2.6,SNR=4.2						

*IDC **30** 13:58:35.2±1.7, 7°.02S×129°.24E, h160km±21km, mb3.1/1, mb1 3.5/5, mb1mx3.1/38, mbtmp3.9/5, Error ellipse: s-maj=27.4km s-min=13.9km az=120.0*

ISC 30 13:58:33.6±0.9, 7°23S±0.06×129°44E±0.10, h139km, n6, σ2s89/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.43**	**242**	P	**Pn**	**14 00 08.6**	**+2.5**
	5.7nm,0.3s,baz=104,slow=3.4,SNR=6.7						
BATI				S	**Sn**	**14 01 17.8**	**-0.7**
	8.1nm,0.3s,baz=35,slow=21,SNR=11						
SIJI	**Sorong**	**6.58**	**16**	P	**Pn**	**14 00 08.7**	**+0.7**
	0.8nm,0.3s,baz=162,slow=21,SNR=9.2						
SIJI				S	**Sn**	**14 01 20.4**	**-1.5**
	1.3nm,0.3s,baz=226,slow=22,SNR=6.8						
FITZ	**Fitzroy Crossi**	**11.42**	**199**	P	**Pn**	**14 01 13.4**	**+0.7**
	0.6nm,0.3s,baz=28,slow=9.2,SNR=30						
FITZ				S	**Sn**	**14 03 13.8**	**-5.0**
	0.2nm,0.3s,baz=99,slow=16,SNR=2.2						
WRA	**Warramunga Arr**	**13.50**	**160**	P	**Pn**	**14 01 42.3**	**+2.6**
	0.2nm,0.3s,baz=341,slow=11,SNR=27						
WRA				S	**Sn**	**14 04 06.7**	**-2.4**
	0.5nm,0.3s,baz=329,slow=22,SNR=8.8						
ASAR	**Alice Springs**	**16.89**	**166**	P	**Pn**	**14 02 25.4**	**+3.5**
	0.4nm,0.3s,baz=342,slow=10,SNR=68						
ASAR				S	**S**	**14 05 30.8**	**+0.1**
	0.2nm,0.3s,baz=318,slow=15,SNR=6.6						
MKAR	**Makanchi Array**	**68.12**	**327**	P	**P**	**14 09 15.9**	**-2.6**
	0.2nm,0.4s,baz=111,slow=8.0,SNR=4.5						

*IDC **30** 14:04:25.7±1.4, 29°.90S×178°.69W, h345km±14km, mb2.6/2, mb1 3.0/3, mb1mx2.7/22, mbtmp3.6/3, Error ellipse: s-maj=52.0km s-min=24.5km az=109.0*
*WEL **30** 14:06:19.2, 38°.5S×57°.5×17°.8E±5°.1, h29km±43km, M2.0/7, ML2.1/6, MLv2.0/7, Error ellipse: s-maj=0.1km s-min=0.1km az=146.1*

ISC 30 14:04:25.8±1.1, 29°.8S±0.1×178°.7W±0.2, h350km, n21, σ0s95/23, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.85**	**50**	P	**Pn**	**14 05 10.4**	**-0.6**
	68nm,0.3s,baz=308,slow=19,SNR=1.6						
RAO				S	**S**	**14 05 47.2**	**0.0**
	36nm,0.3s,baz=253,slow=19,SNR=1.1						
WMGZ	**Waiomatatini S**	**8.36**	**196**	P	**P**	**14 06 28.8**	**+2.0**
HAZ	**Te Kaha**	**8.47**	**200**	P	**Pn**	**14 06 25.6**	**+0.4**
PUZ	**Puketiti**	**8.63**	**196**	P	**Pn**	**14 06 26.7**	**-0.6**
RUGZ	**Raukumara Rang**	**8.69**	**200**	P	**P**	**14 06 30.0**	**-0.6**
MWZ	**Matawai**	**9.08**	**199**	P	**Pn**	**14 06 33.9**	**+1.2**
TKGZ	**Te Karaka**	**9.09**	**198**	P	**Pn**	**14 06 31.5**	**-1.2**
URZ	**Urewera**	**9.13**	**201**	P	**Pn**	**14 06 31.8**	**-1.4**
	1.1nm,0.3s,baz=342,slow=18,SNR=33						
URZ				S	**S**	**14 08 16.1**	**-1.4**
	0.3nm,0.3s,baz=137,slow=18,SNR=1.1						
URZ	**Urewera**	**9.13**	**201**	P	**Pn**	**14 06 33.8**	**+0.6**
RIGZ	**Rimuhau**	**9.36**	**197**	P	**P**	**14 06 39.4**	**+1.4**
MUGZ	**Murupara**	**9.44**	**202**	P	**Pn**	**14 06 36.7**	**-0.2**
RTZ	**Ruatahuna**	**9.50**	**201**	P	**Pn**	**14 06 38.9**	**+1.2**
SNGZ	**Shannon Statio**	**9.55**	**199**	P	**Pn**	**14 06 38.7**	**+0.5**
RAHZ	**Arahi**	**9.74**	**200**	P	**P**	**14 06 42.3**	**+0.1**
MTHZ	**Maungataniwha**	**9.76**	**201**	P	**P**	**14 06 43.1**	**+0.7**
MRHZ	**Matea Rd**	**9.88**	**203**	P	**P**	**14 06 44.7**	**+0.8**
NMHZ	**Naumai**	**10.00**	**201**	P	**P**	**14 06 45.6**	**+0.5**
ARHZ	**Aropaoanui**	**10.09**	**200**	P	**P**	**14 06 46

KBKI	Kotabaru	6.96	309	P		Pn	14 29 13.9	+1.6		
	0.1nm368nm31nm,0.7s									
NLAI	Namlea	7.12	51	P		Pn	14 29 18.9	+4.7		
	0.8nm2µm252nm,0.8s									
SANI	Sanana	7.20	38	P		Pn	14 29 18.3	+3.1		
	0.6nm2µm168nm,1.0s									
JAGI	Jajag, Banyuwa	7.36	264	P		Pn	14 29 15.8	-1.3		
JAGI	Jajag, Banyuwa	7.36	264	Pn		Pn	14 29 14.9	-2.2		
BBKI	Banjar Baru	7.93	302	P		Pn	14 29 26.2	+2.1		
	0.5nm2µm129nm,1.1s									
GMJI	Gumukmas	8.05	266	P		Pn	14 29 25.7	+0.2		
	0.7nm2µm56nm,0.8s									
MPSI	Mapaga	8.22	348	P		Pn	14 29 29.7	+2.0		
	743nm81nm,0.8s									
GTOI	Gorontalo	8.48	10	P		Pn	14 29 40.5	+10		
MSAI	Masohi	8.56	59	P		P	14 29 35.1	-1.9		
	0.2nm515nm44nm,1.1s									
KMSI	Cibinong	8.64	16	P		P	14 29 40.0	+2.1		
BNDI	Bandanaira	8.91	69	P		P	14 29 40.0	-0.9		
	539nm,0.7s									
GRJI	Gresik	9.04	275	P		Pn	14 29 39.6	+1.9		
	1µm89nm,0.5s									
MTKI	Muara Teweh, K	9.49	315	P		Pn	14 29 44.9	+1.6		
	94nm,0.8s									
NGJI	Ngawi	10.01	272	P		P	14 29 59.5	+6.3		
TNTI	Ternate	10.28	35	P		P	14 29 55.0	-1.2		
	1µm152nm,1.1s									
TNTI	Ternate	10.28	35	Pn		Pn	14 29 54.1	+1.1		
KNRA	Kununurra	10.56	139	Pn		Pn	14 29 57.5	+1.2		
MTN	Manton Dam	10.69	119	Pn		Pn	14 29 58.4	+0.5		
UGM	Wanagama	10.93	269	P		Pn	14 30 00.7	-0.2		
FITZ	Fitzroy Crossi	11.01	159	P		P	14 30 03.0	-1.2		
	5.7nm,0.3s,baz=351,slow=8.2,SNR=268									
FITZ				S		S	14 32 06.2	+1.1		
	6.6nm,0.3s,baz=89,slow=17,SNR=5.6									
FITZ	Fitzroy Crossi	11.01	159	Pn		P	14 30 03.3	-0.9		
FAKI	Fak Fak	11.69	66	P		Pn	14 30 09.8	-0.4		
FAKI	Fak Fak	11.69	66	Pn		Pn	14 30 10.3	+0.2		
SIJI	Sorong	11.86	55	P		P	14 30 13.6	-0.3		
	32nm,0.3s,baz=248,slow=10,SNR=32									
SIJI				S		S	14 32 20.8	-3.8		
	1.0nm,0.3s,baz=294,slow=20,SNR=6.1									
CMJI	Cimerak	12.98	269	P		Pn	14 30 25.4	-0.4		
	56nm,0.7s									
CISI	Cisompet, Garu	13.62	270			P	14 30 31.6	-1.7		
SBUM	Sibu	13.78	317	P		Pn	14 30 37.0	+1.7		
PSA00	Pilbara Seismi	13.82	187			Pn	14 30 37.4	+1.6		
RKPI	Ransiki, Papua	14.03	64	P		Pn	14 30 40.9	+2.5		
	10µm228nm,0.6s									
KSM	Kuching	14.50	309			Pn	14 30 44.3	+0.4		
KSM	Kuching	14.50	309	P		Pn	14 30 45.0	+1.1		
KKM	Kota Kinabalu	14.72	339	P		Pn	14 30 48.0	+1.3		
PPBI	Pangkal Pinang	16.33	289	P		Pn	14 31 05.6	+0.2		
WB0	Warramunga Arr	17.24	135	P		Pn	14 31 15.0	-0.9		
WRA	Warramunga Arr	17.32	136	P		Pn	14 31 15.5	-1.4		
	21nm,0.3s,baz=314,slow=9.4,SNR=1656									
WRA				S		S	14 34 16.1	-2.3		
	baz=314,slow=21,SNR=11									
WRA	Warramunga Arr	17.32	136	P		P	14 31 15.0	+1.3		
WRAB	Tennant Creek	17.32	136	P		Pn	14 31 15.8	-1.1		
WB2	Warramunga Arr	17.32	136	P		Pn	14 31 15.6	-1.4		
WR0	Warramunga Arr	17.47	135	P		Pn	14 31 17.6	-1.1		
DSRI	Dabo	18.41	292	P		P	14 31 28.8	+3.3		
AS31	Alice Springs	19.75	145	P		P	14 31 41.3	+1.6		
AS31				IAmb		IAmb	14 31 49.6			
	comp=Z,20nm,0.5s									
ASAR	Alice Springs	19.75	145	P		P	14 31 41.4	+1.6		
	comp=Z,7.7nm,0.3s,baz=336,slow=14,SNR=440									
ASAR				S		S	14 35 04.8	-0.6		
	baz=320,slow=18,SNR=7.0									
ASAR				PcP		PcP	14 35 44.1	-0.1		
	comp=Z,1.0nm,0.3s,baz=354,slow=1.6,SNR=5.9									
ASAR				ScP		ScP	14 38 49.8	-1.8		
	baz=325,slow=2.8,SNR=4.0									
JAY	Jayapura	19.77	76	P		P	14 31 41.8	+1.8		
	comp=Z,1.7nm,0.3s,baz=232,slow=9.1,SNR=11									
TGY	Tagaytay City	21.74	358	P		P	14 32 00.1	+1.0		
	comp=Z,284nm,0.3s,baz=201,slow=2.9,SNR=15									
MORW	Morawa	21.81	193	P		P	14 32 00.8	+1.1		
MORW				IAmb		IAmb	14 32 02.1			
	comp=Z,53nm,1.1s									
COEN	Coen	22.09	108	P		P	14 32 03.5	+1.1		
COEN				IAmb		IAmb	14 32 05.0			
	comp=Z,36nm,0.7s									
FORT	Forrest	23.68	166	P		P	14 32 18.0	+1.4		
NWAO	Narrogin (SRO)	25.35	189	P		P	14 32 32.6	+1.0		
	comp=Z,4.2nm,0.5s,baz=7.3,slow=7.9,SNR=7.4									
BBOO	Buckleboo	28.32	154	P		P	14 32 59.3	+1.3		
STKA	Stephens Creek	30.39	145	P		P	14 33 18.1	+1.9		
	comp=Z,35nm,0.4s,baz=325,slow=8.9,SNR=204									
STKA	Stephens Creek	30.39	145	P		P	14 33 17.8	+1.6		
STKA				IAmb		IAmb	14 33 19.0			
	comp=Z,7.2nm,0.6s									
TPUB	Ta-pu	30.90	358	P		P	14 33 19.9	-0.9		
TPUB				IAmb		IAmb	14 33 21.7			
	comp=Z,11nm,0.8s									
YULB	Yu-li	30.98	360	P		P	14 33 19.2	-2.2		
YULB				IAmb		IAmb	14 33 23.3			
	comp=Z,8.6nm,0.8s									
GUMO	Guam	31.41	48	P		P	14 33 24.9	-0.4		
	comp=Z,35nm,0.6s,baz=325,slow=3.4,SNR=6.9									
GUMO	Guam	31.41	48	IAmb		IAmb	14 33 28.1			
	comp=Z,69nm,1.0s									
PBKT	Sadao Pong	31.62	320	P		P	14 33 26.8	-0.3		
YOJ	Yonaguni jima	32.07	3	P		P	14 33 30.9	0.0		
CMAR	Chiang Mai Arr	34.31	320	P		P	14 33 50.9	+0.6		
	comp=Z,2.3nm,0.8s,baz=150,slow=5.9,SNR=8.2									
CMAR				PcP		PcP	14 36 19.9	+0.8		
	comp=Z,2.4nm,0.7s,baz=181,slow=2.7,SNR=9.8									
CMAR				ScP		ScP	14 39 35.9	+0.6		
	comp=Z,0.6nm,0.6s,baz=186,slow=2.5,SNR=6.3									
CMAR	Chiang Mai Arr	34.31	320	P		P	14 33 51.5	+1.2		
CMAR				PcP		PcP	14 36 20.6	+1.5		
CHTO	Chiang Mai	34.57	320	P		P	14 33 51.6	-0.9		
GYA	Guiyang	36.97	337	eP		P	14 34 13.0	+0.2		
GYA				pmax		pmax				
	comp=Z,5.0nm,1.0s									
WHN	Wuhan	38.72	350	P		P	14 34 38.0	+11		
WHN				pmax		pmax				
	comp=Z,32nm,0.3s									
NJ2	Nanjing	39.68	356	eP		P	14 34 36.0	+1.0		
NJ2				pmax		pmax				
	comp=Z,5.0nm,0.5s									
JCJ	Chichijima	40.02	29	P		P	14 34 37.0	-0.8		
	comp=Z,32nm,0.7s,baz=279,slow=23,SNR=6.7									
JCJ	Chichijima	40.02	29	P		P	14 34 36.9	-1.0		
JCJ				IAmb		IAmb	14 34 40.5			
	comp=Z,56nm,1.1s									
CD2	Chengdu	42.08	337	P		P	14 34 54.5	0.0		
CD2				pmax		pmax				
	comp=Z,30nm,0.7s									
XAN	Xi'an	43.27	345	P		P	14 35 03.5	-0.5		
XAN				pP		pP	14 35 20.5	-44		
XAN				pmax		pmax				
	comp=Z,19nm,0.9s									
XAN				LR		LR				
	comp=N,68nm,16.7s									
XAN				LR		LR				
	comp=E,84nm,14.7s									
XAN	Xi'an	43.27	345	P		P	14 35 03.6	-0.5		
KSRS	Korea Array	45.38	7	P		P	14 35 20.2	-0.3		
	comp=E,2.7nm,0.9s,baz=182,slow=8.2,SNR=13									
MAJO	Matsushiro	46.77	18	P		P	14 35 29.8	-1.5		
MAT	Matsushiro	46.77	18	P		P	14 35 30.2	-1.1		
MJAR	Matsushiro Arr	46.77	18	P		P	14 35 30.3	-1.1		
	comp=E,14nm,0.9s,baz=197,slow=9.3,SNR=29									
MJAR	Matsushiro Arr	46.77	18	P		P	14 35 29.9	-1.5		
ODAN	Odare	47.77	317	eP		P	14 35 39.4	0.0		
	comp=E,40nm,0.7s									
BJI	Beijing	47.83	354	P		P	14 35 39.0	-0.3		
BJI				pmax		pmax				
	comp=Z,18nm,0.9s									
TAPN	Taplejung	47.88	318	eP		P	14 35 40.4	+0.1		
	comp=Z,89nm,0.8s									
RAMN	Ramite	48.36	317	eP		P	14 35 44.6	+0.7		
	comp=Z,85nm,0.6s									
JIRN	Jiri	49.10	317	eP		P	14 35 49.6	-0.1		
	comp=Z,125nm,0.7s									
HHC	Hu-ho-hao-te	49.25	350	eP		P	14 35 49.5	-0.7		
HHC				ScS		ScS	14 44 57.0	-13		
HHC				pmax		pmax				
	comp=Z,25nm,0.9s									
HHC				pmax		pmax				
	comp=Z,81nm,5.0s									
GUN	Gumba	49.47	317	eP		P	14 35 52.3	-0.1		
	comp=Z,102nm,0.7s									
PKI	Pulchoki	49.57	317	eP		P	14 35 52.6	-0.6		
	comp=Z,63nm,0.6s									
DMN	Daman	49.80	316	eP		P	14 35 54.1	-0.7		
GKN	Gorkha	50.37	316	eP		P	14 35 58.5	-0.4		
KOLN	Koldanda	50.94	315	eP		P	14 36 02.8	-0.4		
GTA	Gaotai	51.09	338	eP		P	14 36 04.0	0.0		
GTA				pmax		pmax				
	comp=Z,9.0nm,0.8s									
PYUN	Piuthan	51.57	315	eP		P	14 36 07.3	-0.6		
	comp=Z,47nm,0.6s									
USA0B	Ussuriysk Arra	52.58	9	P		P	14 36 13.2	-1.5		
USA0B				IAmb		IAmb	14 36 14.7			
	comp=Z,10.0nm,0.6s									
USRK	Ussuriysk Ar.	52.58	9	P		P	14 36 14.2	-0.5		
	comp=Z,14nm,0.7s,baz=188,slow=6.8,SNR=46									
USRK	Ussuriysk Ar.	52.58	9	P		P	14 36 13.8	-0.8		
ULN	Ulaanbaatar	56.86	348	P		P	14 36 43.9	-1.5		
ULN				IAmb		IAmb	14 36 46.0			
	comp=Z,9.9nm,0.6s									
SONM	Songino Array	56.97	348	P		P	14 36 46.1	+0.1		
	comp=Z,12nm,0.7s,baz=168,slow=8.1,SNR=48									
SONM	Songino Array	56.97	348	P		P	14 36 46.0	0.0		
YSS	Yuzh-Sakhalins	57.66	17	P		P	14 36 50.7	0.0		
WMQ	Urumqi	59.81	332	eP		P	14 37 06.5	+0.9		
WMQ				pmax		pmax				
	comp=Z,17nm,0.7s									
WMQ				pmax		pmax				
	comp=Z,43nm,3.8s									
WMQ				LR		LR				
	comp=N,82nm,6.5s									
WMQ				LR		LR				
	comp=E,11nm,7.7s									
WMQ				LR		LR				
	comp=Z,31nm,22.3s									
NIL	Nilore	61.59	315	P		P	14 37 15.8	-1.9		
NIL				IAmb		IAmb	14 37 17.3			
	comp=Z,12nm,0.7s									
KDJ	Kajisay	64.08	325	P		P	14 37 33.6	-0.5		
KDJ				IAmb		IAmb	14 37 35.2			
	comp=Z,7.6nm,0.7s									
MK31	Makanchi Array	64.56	331	P		P	14 37 37.1	+0.3		
MK31				IAmb		IAmb	14 37 37.9			
	comp=Z,13nm,0.8s									
MKAR	Makanchi Array	64.56	331	P		P	14 37 37.1	+0.2		
	comp=Z,17nm,0.6s,baz=136,slow=7.5,SNR=155									
MAKZ	Makanchi	64.72	331	P		P	14 37 37.8	-0.1		
MAKZ				IAmb		IAmb	14 37 38.8			
	comp=Z,7.5nm,0.8s									
KBL	Kabul	65.04	314	P		P	14 37 39.6	-0.8		
KBL				IAmb		IAmb	14 37 40.7			
	comp=Z,11nm,0.7s									
KZA	Kyzart	65.17	324	P		P	14 37 41.9	+0.6		
	SNR=10									
TKM2	Tokmak 2	65.49	325	P		P	14 37 43.2	+0.1		
	SNR=12									
UCH	Uchtor	65.69	323	P		P	14 37 44.6	-0.2		
	SNR=7.8									
AAK	Ala-Archa	65.95	324	P		P	14 37 45.9	-0.2		
AAK				IAmb		IAmb	14 37 47.1			
	comp=Z,12nm,0.7s									
AML	Almayashu	66.12	323	P		P	14 37 47.4	0.0		
	SNR=22									
USP	Ospenovka	66.33	324	P		P	14 37 48.2	0.0		
	SNR=7.6									
EKS2	Erkin-Say	66.39	323	P		P	14 37 49.1	+0.4		
	SNR=12									
GAR	Garm	66.47	318	P		P	14 37 49.0	-0.3		
PETK	Petropavlovsk-	67.96	23	P		P	14 37 59.1	+0.9		
	comp=Z,4.3nm,0.6s,baz=218,slow=1.9,SNR=46									
PETK	Petropavlovsk-	67.96	23	P		P	14 37 59.3	+1.2		
KK31	Karatay Array	68.60	322	P		P	14 38 01.4	-0.9		
KKAR	Karatay Array	68.60	322	P		P	14 38 01.3	-1.0		
KKAR	Karatay Array	68.60	322	P		P	14 38 01.7	-0.7		
ZAA0	Zalesovo Array	68.83	338	P		P	14 38 02.3	-1.2		
ZAA0				IAmb		IAmb	14 38 03.3			
	comp=Z,14nm,0.9s									
ZALV	Zalesovo Beam	68.83	338	P		P	14 38 02.5	-1.0		
	comp=Z,9.3nm,0.3s,baz=137,slow=4.6,SNR=57									
ZALV				pP		pP	14 39 11.2	+0.5		
	comp=Z,0.5nm,0.3s,baz=142,slow=5.1,SNR=1.0									
KURK	Kurchatov	69.05	332	P		P	14 38 04.6	-0.3		
KURK				IAmb		IAmb	14 38 05.5			
	comp=Z,18nm,1.0s									
YAK	Yakutsk	69.88	4	P		P	14 38 08.6	-1.1		
MA2	Magadan	71.06	15	P		P	14 38 16.4	-0.5		
MA2				IAmb		IAmb	14 38 18.9			
	comp=Z,17nm,0.8s									
MAW	Mawson	71.25	200	P		P	14 38 19.5	+1.7		
	comp=Z,0.4nm,0.2s,baz=50,slow=8.5,SNR=2.3									
VNDA	Vanda	72.81	172	P		P	14 38 29.6	+2.6		
	comp=Z,1.0nm,0.9s,baz=356,slow=5.2,SNR=2.6									
GEYT	Alibeck	74.44	313	P		P	14 38 36.7	-0.5		
	comp=Z,2.1nm,0.5s,baz=169,slow=2.9,SNR=6.3									
BRVK	Borovoye	74.51	331	P		P	14 38 35.8	-1.4		
ABKAR	Akbulak array	78.04	324	P		P	14 38 56.1	-0.9		
NRIK	Noril'sk	80.45	348	P		P	14 39 10.2	+0.7		
	comp=Z,2.0nm,0.4s,baz=83,slow=3.4,SNR=4.6									
BOSA	Boshof	91.81	241	P		P	14 40 06.0	-0.1		
	comp=Z,1.2nm,0.6s,baz=117,slow=4.5,SNR=0.8									
BOSA	Boshof	91.81	241	IAmb		IAmb	14 40 24.5			
	comp=Z,6.8nm,1.1s									
BRTR	Keskin Array B	93.31	309	P		P	14 40 11.2	-1.6		
	comp=Z,1.1nm,0.8s,baz=106,slow=3.1,SNR=4.0									
ILAR	Eielson Array	97.64	26	P		P	14 40 30.6	-1.1		
	comp=Z,0.2nm,0.5s,baz=227,slow=4.8,SNR=4.3									
ARCES	ARCESS Array B	99.35	339	P		Pdif	14 40 38.9	-0.3		
	comp=Z,0.3nm,0.3s,baz=90,slow=5.2,SNR=4.2									
NVAR	Mina Array Bea	118.29	50	PKP		PKiKP	14 45 44.6	+0.8		
	comp=Z,0.7nm,0.6s,baz=240,slow=2.2,SNR=7.8									
NVAR				PP		PP	14 47 04.5	+0.2		
	comp=Z,0.6nm,0.9s,baz=268,slow=8.0,SNR=3.5									
CWC	Cottonwood Cre	118.91	53	P		PKiKP	14 45 46.1	+1.2		
	baz=283									
MPMC	Manual Prospec	119.46	53	P		PKiKP	14 45 47.1	+1.0		
	baz=283									
TORD	Torodi Ar. Bea	120.73	281	PKP		PKPdf	14 45 48.0	-0.8		
	comp=Z,0.7nm,0.6s,baz=59,slow=2.4,SNR=2.2									
GMRC	Granite Mounta	121.20	54	P		PKiKP	14 45 51.0	+1.5		
	baz=283									
U15A	North Rim	123.43	51			PKiKP	14 45 55.5	+1.5		
MNTX	Cornudas Mount	130.32	55	P		PKiKP	14 46 08.4	+0.9		
	baz=288									
TXAR	Lajitas Array	132.45	57	PKP		PKiKP	14 46 12.3	+0.3		
	comp=Z,0.4nm,0.7s,baz=298,slow=1.9,SNR=2.2									
TXAR				SKPbc		SKPab	14 49 10.1	-0.7		
	comp=Z,0.4nm,0.7s,baz=270,slow=2.5,SNR=5.4									
SCHQ	Schefferville	132.59	7	PKP		PKiKP	14 46 11.8	+0.3		
	comp=Z,6.2nm,0.9s,baz=266,slow=5.8,SNR=4.2									
N56A	West Decatur	142.56	25	P		PKPdf	14 46 26.2	-2.8		
	baz=327									
P54A	Burton	142.65	29	P		PKPdf	14 46 26.2	-3.0		
	baz=322									
M57A	Sunshine Farm,	142.68	23	P		PKPdf	14 46 26.7	-2.5		
	baz=329									
Q53A	Leroy	142.72	30	P		PKPdf	14 46 26.0	-3.4		
	baz=320									
M58A	Price's Panora	142.91	23	P		PKPdf	14 46 26.6	-3.1		
	baz=330									
Q54A	Coxs Mills	142.97	30	P		PKPdf	14 46 27.2	-2.6		
	baz=322,SNR=5.4									
SSPA	Standing Stone	142.97	25	P		PKPdf	14 46 27.0	-2.7		
	baz=327									
O56A	Blue Knob Stat	142.98	26	P		PKPdf	14 46 27.2	-2.7		
	baz=326									
P55A	Reedsville	143.03	28	P		PKPbc	14 46 27.1	-0.6		
	baz=323									
S53A	Williamson	143.30	32	P		PKPbc	14 46 28.4	-0.1		
	baz=318									
Q55A	Buckhannon	143.32	29	P		PKPbc	14 46 28.4	0.0		
	baz=323,SNR=8.9									
TZTN	Tazewell	143.35	35	P		PKPbc	14 46 28.5	0.0		
	baz=316									
TZTN	Tazewell	143.35	35			PKPbc	14 46 28.8	+0.2		
Y49A	Blount Mountai	143.40	41			PKPbc	14 46 29.3	+0.5		
O57A	Amberson	143.43	25	P		PKPbc	14 46 28.5	-0.1		
	baz=327									
P56A	Dayton Farm, R	143.49	27	P		PKPbc	14 46 28.6	-0.3		
	baz=325,SNR=7.2									
R54A	Vicor	143.51	31	P		PKPab	14 46 28.2	+0.2		
	baz=321,SNR=5.2									
LRAL	Lakeview Retre	143.52	42	P		PKPbc	14 46 29.5	+0.4		
	baz=308									
LRAL	Lakeview Retre	143.52	42	PKPdf		PKPbc	14 46 29.7	+0.6		
CPCT	Cooper Cave	143.54	37	PKPdf		PKPbc	14 46 29.1	0.0		
N59A	State Game Lan	143.57	22			PKPbc	14 46 29.1	0.0		
	baz=330									
T53A	Wise	143.60	33	P		PKPbc	14 46 29.4	0.0		
	baz=317,SNR=5.2									
S54A	Dingess, Beckl	143.64	31	P		PKPbc	14 46 29.1	-0.3		
	baz=320,SNR=10									
Q56A	Snyder Ridge,	143.70	28	P		PKPbc	14 46 29.4	-0.1		
	baz=324,SNR=10									
Q56A	Snyder Ridge,	143.70	28	PKPdf		PKPbc	14 46 29.6	+0.1		
V52A	Sevierville	143.82	36			PKPbc	14 46 30.4	+0.4		
N60A	Cedar Hill Far	143.86	22	P		PKPbc	14 46 30.2	+0.4		
	baz=331									
R55A	Marlinton	143.86	30	P		PKPbc	14 46 30.2	+0.2		
	baz=322,SNR=12									
R55A	Marlinton	143.86	30	PKPdf		PKPbc	14 46 30.5	+0.5		
P57A	Homestead Farm	143.87	26	P		PKPbc	14 46 29.8	-0.2		
	baz=326									
O59A	Robesonia	143.93	23	P		PKPbc	14 46 29.9	-0.2		
	baz=329									
T54A	Tazewell	144.06	32	P		PKPbc	14 46 31.2	+0.5		
	baz=319,SNR=12									
Q57A	Strasburg	144.06	27	P		PKPbc	14 46 30.4	-0.1		
	baz=325,SNR=5.7									
S55A	Lewisburg	144.07	30	P		PKPbc	14 46 30.8	+0.1		
	baz=321									
R56A	Bull Pasture M	144.11	29	P		PKPbc	14 46 30.9	+0.1		
	baz=323,SNR=6.4									
PAL	Palisades	144.16	20	P		PKPbc	14 46 30.8	+0.1		
	baz=333									
P58A	Pank, Wackersv	144.17	25	P		PKPbc	14 46 30.8	0.0		
	baz=327									
O60A	Telford	144.22	22	P		PKPbc	14 46 30.9	0.0		
	baz=331									
U54A	Nelsons Funny	144.33	33	P		PKPbc	14 46 31.6	+0.2		
	baz=318,SNR=5.5									
U54A	Nelsons Funny	144.33	33			PKPdf	14 46 31.9	-0.4		
V53A	Saluda	144.39	35			PKPdf	14 46 32.4	-0.1		
T55A	Pulaski	144.43	31	P		PKPbc	14 46 31.8	+0.1		
	baz=320,SNR=12									
Q58A	Fox Den Farm,	144.46	26	P		PKPab	14 46 31.6	0.0		
	baz=326									
BLA	Blacksburg	144.54	31	P		PKPab	14 46 32.0	0.0		
	baz=320									
P60A	Greenville	144.57	23	P		PKPab	14 46 31.9	0.0		
	baz=330									
BRAL	Brewton	144.58	45	P		PKPdf	14 46 33.9	+1.1		
	baz=305									
S56A	Natural Bridge	144.61	30	P		PKPbc	14 46 32.3	+0.1		
	baz=322									
R57A	Stanardsville	144.61	28	P		PKPdf	14 46 32.6	0.0		
	baz=324,SNR=6.3									
U55A	TA2, Sparta	144.75	32	P		PKPab	14 46 32.9	0.0		
	baz=319,SNR=7.9									
BG3	Lake Jocassee	144.80	36			PKPdf	14 46 34.1	+1.0		
V54A	Nebo	144.80	34	P		PKPdf	14 46 33.2	+0.1		
	baz=317,SNR=7.0									
S57A	Dark Hollow, R	144.84	29	P		PKPdf	14 46 33.1	0.0		
	baz=323									
R58A	Rapidan	144.85	27	P		PKPdf	14 46 33.2	+0.1		
	baz=325									
T56A	Rocky Mt	144.88	31	P		PKPdf	14 46 33.2	0.0		
	baz=321,SNR=5.8									
Y52A	Lilburn	144.89	39			PKPab	14 46 34.4	+1.0		
V55A	Taylorsville	145.15	33	P		PKPbc	14 46 34.0	+0.1		
	baz=318,SNR=5.8									
V55A	Taylorsville	145.15	33			PKPbc	14 46 34.1	+0.2		
W54A	Cherokee Point	145.16	35	P		PKPab	14 46 34.5	+0.2		
	baz=316,SNR=6.2									
U56A	King	145.22	32	P		PKPbc	14 46 34.2	0.0		
	baz=320									
152A	Waverly Hall	145.25	41			PKPab	14 46 35.0	+0.2		
T57A	Hurt	145.30	30	P		PKPbc	14 46 34.3	0.0		
	baz=322									
S58A	Poland Farm, P	145.38	28	P		PKPbc	14 46 34.7	+0.2		
	baz=324									
X54A	Belton	145.44	36	P		PKPab	14 46 35.8	+0.4

KOTS	**Kotyrbulak**	**0.24**	**355**	⇓*i*P	**Pg**	**14 31 52.4**	**-0.3**
	819nm,0.1s							
KOTS				⇓*i*S	**Sg**	**14 31 55.9**	**-0.6**
	3μm,0.2s							
KOTS	**Kotyrbulak**	**0.24**	**355**	P	**Pg**	**14 31 52.4**	**-0.3**
	819nm,0.1s							
KOTS				S	**Sg**	**14 31 55.8**	**-0.7**
	3μm,0.2s							
KNDC	**Almaty**	**0.26**	**330**	⇑P	**Pb**	**14 31 52.9**	**-0.6**
	82nm,0.4s							
KNDC				⇑S	**Sb**	**14 31 56.8**	**-0.9**
	715nm,0.6s							
AAA	**Alma-Ata**	**0.27**	**322**	⇓*i*P	**Pb**	**14 31 53.6**	**-0.1**
	baz=17							
AAA				⇓*i*S	**Sb**	**14 31 57.9**	**-0.3**
	baz=17							
AAA	**Alma-Ata**	**0.27**	**322**	⇓*i*P	**Pb**	**14 31 53.6**	**-0.1**
	914nm,0.1s							
AAA				⇓*i*S	**Sb**	**14 31 57.8**	**-0.3**
	3μm,0.2s							
AAA	**Alma-Ata**	**0.27**	**322**	P	**Pb**	**14 31 53.6**	**-0.1**
	901nm,0.1s							
AAA				S	**Sb**	**14 31 57.8**	**-0.3**
	3μm,0.2s							
ANVS	**Anan'yevo**	**0.44**	**119**	⇑*i*P	**Pb**	**14 31 56.1**	**-0.6**
	baz=22							
ANVS				⇑*i*S	**Sb**	**14 32 02.1**	**-1.1**
	baz=22							
MTBS	**Maitube**	**0.54**	**285**	⇑*i*P	**Pb**	**14 31 58.2**	**-0.1**
	baz=82							
MTBS				⇓*i*S	**Sb**	**14 32 05.8**	**-0.1**
	baz=82							
MTBS	**Maitube**	**0.54**	**285**	⇑*i*P	**Pb**	**14 31 58.2**	**-0.1**
	82nm,0.2s							
MTBS				⇓*i*S	**Sb**	**14 32 05.8**	**-0.1**
	453nm,0.2s							
MTBS	**Maitube**	**0.54**	**285**	P	**Pb**	**14 31 58.2**	**-0.1**
	82nm,0.2s							
MTBS				S	**Sb**	**14 32 05.7**	**-0.1**
	228nm,0.3s							
KTBS	**Karatobe**	**0.79**	**335**	⇓*i*P	**Pb**	**14 32 02.2**	**-0.4**
	78nm,0.2s							
KTBS				⇓*i*S	**Sg**	**14 32 12.5**	**-0.6**
	130nm,0.3s							
KTBS	**Karatobe**	**0.79**	**335**	P	**Pb**	**14 32 02.2**	**-0.4**
	78nm,0.2s							
KTBS				S	**Sg**	**14 32 12.4**	**-0.6**
	130nm,0.3s							
CHKK	**Chushkaly**	**0.86**	**353**	⇓*i*P	**Pb**	**14 32 03.4**	**-0.5**
	baz=53							
CHKK				⇓*i*S	**Sg**	**14 32 14.5**	**-1.0**
	baz=53							
CHKK	**Chushkaly**	**0.86**	**353**	⇓*i*P	**Pb**	**14 32 03.4**	**-0.5**
	42nm,0.2s							
CHKK				⇓*i*S	**Sg**	**14 32 14.5**	**-1.0**
	410nm,0.3s							
CHKK	**Chushkaly**	**0.86**	**353**	P	**Pb**	**14 32 03.3**	**-0.5**
	42nm,0.2s							
CHKK				S	**Sg**	**14 32 14.4**	**-1.0**
	410nm,0.3s							
KST	**Kastek**	**0.86**	**274**	⇑*i*P	**Pb**	**14 32 04.0**	**+0.1**
	baz=72							
KST				⇑*e*S	**Sb**	**14 32 15.6**	**+0.2**
	baz=72							
KST	**Kastek**	**0.86**	**274**	⇑*i*P	**Pb**	**14 32 04.0**	**+0.1**
	50nm,0.2s							
KST				⇑*e*S	**Sb**	**14 32 15.5**	**+0.2**
	101nm,0.4s							
KST	**Kastek**	**0.86**	**274**	P	**Pb**	**14 32 04.0**	**+0.1**
	50nm,0.2s							
KST				S	**Sb**	**14 32 15.5**	**+0.2**
	75nm,0.3s							
KDJ	**Kajisay**	**0.87**	**178**	⇑*i*P	**Pn**	**14 32 04.3**	**-0.6**
	baz=78							
KDJ				⇑*i*S	**Sn**	**14 32 16.3**	**-1.0**
	baz=78							
KURS	**Kuram**	**0.90**	**56**	⇑*i*P	**Pb**	**14 32 03.7**	**-0.8**
	baz=58							
KURS				⇓*i*S	**Sb**	**14 32 15.9**	**-0.3**
	baz=58							
KURS	**Kuram**	**0.90**	**56**	⇑*i*P	**Pb**	**14 32 03.7**	**-0.8**
	14nm,0.4s							
KURS				⇓*i*S	**Sb**	**14 32 15.9**	**-0.3**
	20nm,0.3s							
KURS	**Kuram**	**0.90**	**56**	P	**Pb**	**14 32 03.7**	**-0.8**
	14nm,0.4s							
KURS				S	**Sb**	**14 32 15.2**	**-1.0**
	0.4nm,0.2s							
SATY	**Saty**	**0.93**	**86**	⇑*i*P	**Pb**	**14 32 04.4**	**-0.6**
	42nm,0.1s							
SATY				⇑*e*S	**Sb**	**14 32 16.1**	**-1.1**
	311nm,0.2s							
SATY	**Saty**	**0.93**	**86**	P	**Pb**	**14 32 04.4**	**-0.6**
	32nm,0.1s							
SATY				S	**Sb**	**14 32 16.1**	**-1.1**
	311nm,0.2s							
ULHL	**Ulahol**	**1.00**	**222**	⇑*i*P	**Pn**	**14 32 06.7**	**-0.1**
	baz=21							
ULHL				⇑*i*S	**Sb**	**14 32 20.2**	**+0.9**
	baz=21							
ULHL	**Ulahol**	**1.00**	**222**	⇑P	**Pn**	**14 32 07.0**	**+0.2**
	30nm,0.1s,SNR=48							
ULHL				⇓S	**Sn**	**14 32 20.7**	**0.0**
	76nm,0.2s							
PRZ	**Przheval'sk**	**1.06**	**118**	⇑*i*P	**Pn**	**14 32 08.3**	**+0.7**
	baz=20							
PRZ				⇑*i*S	**Sn**	**14 32 22.8**	**+0.7**
	baz=20							
KUU	**Kurty**	**1.07**	**327**	⇓*i*P	**Pb**	**14 32 07.1**	**-0.2**
	baz=26							
KUU				⇓*i*S	**Sg**	**14 32 20.9**	**-1.0**
	baz=26							
KUU	**Kurty**	**1.07**	**327**	⇓*i*P	**Pb**	**14 32 07.1**	**-0.2**
	19nm,0.2s							
KUU				⇑*i*S	**Sg**	**14 32 20.9**	**-1.0**
	107nm,0.2s							
KUU	**Kurty**	**1.07**	**327**	P	**Pb**	**14 32 07.1**	**-0.2**
	19nm,0.2s							
KUU				S	**Sg**	**14 32 20.8**	**-1.0**
	107nm,0.3s							
TKM2	**Tokmak 2**	**1.14**	**267**	⇑*i*P	**Pn**	**14 32 08.6**	**0.0**
	baz=65							
TKM2				⇑*i*S	**Sb**	**14 32 24.1**	**+0.9**
	baz=65							
TKM2	**Tokmak 2**	**1.14**	**267**	⇑P	**Pn**	**14 32 08.9**	**+0.2**
	15nm,0.1s,SNR=26							
TKM2				⇑S	**Sn**	**14 32 24.3**	**+0.3**
	97nm,0.1s							
TKM2	**Tokmak 2**	**1.14**	**267**	⇓P	**Pn**	**14 32 08.8**	**+0.2**
	4.8nm,0.3s							
TKM2				⇑S	**Sn**	**14 32 24.8**	**+0.8**
	36nm,0.3s							
KPKS	**Kokpek**	**1.22**	**67**	⇑*i*P	**Pn**	**14 32 09.4**	**-0.3**
	baz=69							
KPKS				⇓*e*S	**Sg**	**14 32 24.8**	**-2.0**
	baz=69							
KPKS	**Kokpek**	**1.22**	**67**	⇑*i*P	**Pn**	**14 32 09.4**	**-0.3**
	125nm,0.3s							
KPKS				⇓*e*S	**Sg**	**14 32 24.8**	**-2.0**
	109nm,0.3s							
KRBS	**Karabastau**	**1.28**	**304**	⇓*i*P	**Pg**	**14 32 11.1**	**-0.8**
	41nm,0.2s							
KRBS				⇓*i*S	**Sg**	**14 32 27.8**	**-0.7**
	91nm,0.2s							
KRBS	**Karabastau**	**1.28**	**304**	P	**Pg**	**14 32 11.1**	**-0.8**
	41nm,0.2s							
KRBS				S	**Sb**	**14 32 27.5**	**+0.4**
	21nm,0.3s							
ARXS	**Arharly**	**1.31**	**22**	⇑*i*P	**Pg**	**14 32 11.3**	**-1.3**
	14nm,0.1s							
ARXS				⇑*i*S	**Sb**	**14 32 28.0**	**-0.2**
	213nm,0.3s							
ARXS	**Arharly**	**1.31**	**22**	P	**Pg**	**14 32 11.3**	**-1.3**
	25nm,0.2s							
ARXS				S	**Sb**	**14 32 28.0**	**-0.2**
	213nm,0.3s							
UZB	**Uzynbulak**	**1.39**	**83**	⇑*i*P	**Pb**	**14 32 12.0**	**-0.8**
	40nm,0.2s							
UZB				⇑*e*S	**Sb**	**14 32 29.8**	**-0.5**
	45nm,0.1s							
UZB	**Uzynbulak**	**1.39**	**83**	P	**Pg**	**14 32 12.3**	**-1.6**
	40nm,0.2s							
UZB				S	**Sb**	**14 32 29.8**	**-0.5**
	40nm,0.1s							
MNBS	**Baschi**	**1.42**	**40**	⇓*i*P	**Pg**	**14 32 13.5**	**-1.0**
	44nm,0.1s							
MNBS				⇑*i*S	**Sg**	**14 32 32.1**	**-0.9**
	201nm,0.4s							
MNBS	**Baschi**	**1.42**	**40**	P	**Pg**	**14 32 13.5**	**-1.0**
	44nm,0.1s							
MNBS				S	**Sg**	**14 32 32.1**	**-0.9**
	201nm,0.4s							
KBK	**Karagaybulak**	**1.65**	**259**	⇓*i*P	**Pg**	**14 32 17.8**	**-1.1**
	baz=58							
KBK				⇓*i*S	**Sg**	**14 32 39.9**	**-0.4**
	baz=58							
KBK	**Karagaybulak**	**1.65**	**259**	⇑P	**Pg**	**14 32 18.3**	**-0.6**
	66nm,0.3s,SNR=25							
KBK				⇑S	**Sg**	**14 32 41.2**	**+0.9**
	119nm,0.4s							
KZA	**Kyzart**	**1.67**	**237**	⇓*i*P	**Pg**	**14 32 18.5**	**-0.9**
	baz=37							
KZA				⇓*i*S	**Sg**	**14 32 40.7**	**-0.4**
	baz=37							
KZA	**Kyzart**	**1.67**	**237**	⇑P	**Pg**	**14 32 19.1**	**-0.3**
	7.9nm,0.1s,SNR=24							
KZA				⇑S	**Sg**	**14 32 42.9**	**+1.7**
	8.6nm,0.1s							
SHLS	**Shalkode**	**1.71**	**84**	⇑*i*P	**Pg**	14 32 23.6	+3.6
	baz=85							
SHLS				⇑*e*S	**Sg**	**14 32 49.1**	**+6.8**
	baz=85							
SHLS	**Shalkode**	**1.71**	**84**	⇑*i*P	Pg	14 32 23.6	+3.6
	26nm,0.2s							
SHLS				*e*S	**Sg**	**14 32 49.1**	**+6.8**
	53nm,0.3s							
SHLS	**Shalkode**	**1.71**	**84**	Pg	Pg	14 32 23.6	+3.6
	26nm,0.2s							
SHLS				Lg	Lg	14 32 49.4		
	53nm,0.3s							
PDGK	**Podgornoye**	**1.75**	**78**	P	**Pb**	**14 32 18.4**	**-0.6**
	14nm,0.2s							
PDGK				S	**Sb**	**14 32 40.4**	**-0.4**
	27nm,0.3s							
PDGK	**Podgornoye**	**1.75**	**78**	⇓P	**Pb**	**14 32 18.3**	**-0.7**
	11nm,0.4s							
PDGK				⇑S	**Sg**	**14 32 41.5**	**-2.2**
	25nm,0.4s							
CHMS	**Chumysh**	**1.75**	**271**	⇑*i*P	**Pg**	**14 32 19.3**	**-1.6**
	baz=70							
CHMS				⇑*i*S	**Sg**	**14 32 42.3**	**-1.3**
	baz=70							
CHMS	**Chumysh**	**1.75**	**271**	⇓P	**Pg**	**14 32 19.6**	**-1.2**
	5.4nm,0.1s,SNR=17							
CHMS				⇑S	**Sg**	**14 32 43.0**	**-0.6**
	80nm,0.3s							
FRU1	**Bishkek**	**1.85**	**265**	⇑*i*P	**Pg**	**14 32 21.4**	**-1.4**
	baz=64							
FRU1				⇑*i*S	**Sg**	**14 32 45.7**	**-1.2**
	baz=64							
SGDS	**Sogindy**	**1.89**	**285**	P	**Pg**	**14 32 22.0**	**-1.5**
	14nm,0.2s							
SGDS				S	**Sg**	**14 32 46.4**	**-1.7**
	67nm,0.4s							
USP	**Ospenovka**	**1.95**	**279**	⇓*i*P	**Pb**	**14 32 22.4**	**0.0**
	baz=78							
USP				⇓*i*S	**Sb**	**14 32 47.5**	**+1.0**
	baz=78							
USP	**Ospenovka**	**1.95**	**279**	⇓P	**Pg**	**14 32 23.0**	**-1.7**
	13nm,0.2s,SNR=8.4							
USP				⇑S	**Sg**	**14 32 49.2**	**-0.8**
	76nm,0.2s							
UCH	**Uchtor**	**2.09**	**249**	⇑*i*P	**Pb**	**14 32 25.0**	**+0.1**
	baz=49							
UCH				⇑*i*S	**Sb**	**14 32 51.6**	**+0.9**
	baz=49							
UCH	**Uchtor**	**2.09**	**249**	⇑P	**Pg**	**14 32 26.0**	**-1.3**
	23nm,0.3s,SNR=39							
TDK	**Taldyqorghan**	**2.20**	**24**	*e*P	**Pb**	**14 32 26.5**	**-0.2**
	34nm,0.2s							
TDK				*e*S	**Sb**	**14 32 54.2**	**+0.5**
	167nm,0.4s							
TDK	**Taldyqorghan**	**2.20**	**24**	Pg	**Pb**	**14 32 26.5**	**-0.2**
	34nm,0.2s							
TDK				Lg	Lg	14 32 54.2		
	167nm,0.4s							
DJR	**Jarkent**	**2.34**	**54**	*e*P	**Pb**	**14 32 28.5**	**-0.6**
	13nm,0.2s							
DJR				*e*S	**Sb**	**14 32 57.7**	**-0.1**
	37nm,0.4s							
DJR	**Jarkent**	**2.34**	**54**	Pg	**Pb**	**14 32 28.4**	**-0.6**
	12nm,0.3s							
DJR				Lg	Lg	14 32 57.6		
	37nm,0.4s							
ARLS	**Aral**	**2.37**	**242**	⇓*i*P	**Pb**	**14 32 28.6**	**-1.0**
	baz=42							
ARLS				⇓*i*S	**Sb**	**14 32 57.9**	**-0.9**
	baz=42							
EKS2	**Erkin-Say**	**2.50**	**263**	⇓*i*P	**Pb**	**14 32 30.3**	**-1.4**
	baz=63							
EKS2				⇓*i*S	**Sb**	**14 33 01.0**	**-1.2**
	baz=63							
EKS2	**Erkin-Say**	**2.50**	**263**	⇑P	**Pb**	**14 32 32.0**	**+0.2**
	12nm,0.3s,SNR=20							
AML	**Almayashu**	**2.69**	**252**	⇑*i*P	**Pb**	**14 32 33.0**	**-2.1**
	baz=52							
AML				⇑*i*S	**Sb**	**14 33 06.2**	**-1.8**
	baz=52							
KAPS	**Kapalarasan**	**2.79**	**34**	*e*P	**Pb**	**14 32 36.2**	**-0.5**
	3.0nm,0.1s							
KAPS				*e*S	**Sb**	**14 33 10.9**	**+0.3**
	81nm,0.5s							
KAPS	**Kapalarasan**	**2.79**	**34**	Lg	Lg	14 33 10.9		
	81nm,0.5s							
MRKS	**Merke**	**2.89**	**266**	*e*P	**Pb**	**14 32 39.7**	**+1.3**
	9.3nm,0.3s							
MRKS				*e*S	**Sg**	**14 33 16.8**	**-3.2**
	34nm,0.3s							
MRKS	**Merke**	**2.89**	**266**	Lg	Lg	14 33 16.3		
	34nm,0.3s							
BTLS	**Baital**	**3.03**	**314**	*e*P	**Pb**	**14 32 41.5**	**+0.9**
	1.7nm,0.3s							
BTLS				*e*S	**Sb**	**14 33 19.9**	**+2.5**
	10nm,0.3s							
BTLS	**Baital**	**3.03**	**314**	Lg	Lg	14 33 19.9		
	10nm,0.3s							
ARK	**Arkit**	**4.02**	**254**	⇑*i*P	**Pn**	**14 32 51.5**	**+3.4**
	baz=54							
ARK				⇑*i*S	**Sn**	**14 33 37.5**	**+2.6**
	baz=54							
KK31	**Karatay Array**	**4.86**	**274**	⇑Pg	**Pg**	**14 33 17.0**	**-3.2**
	1.5nm,0.7s,baz=94,slow=16,SNR=7.8							
KK31				⇑Lg	Lg	14 34 17.3		
	4.1nm,0.4s							
MAKZ	**Makanchi**	**5.13**	**40**	⇑Pn	**Pn**	**14 33 05.8**	**+2.4**
	1.0nm,0.9s							
MAKZ				⇑Lg	Lg	14 34 22.2		
	1.4nm,0.5s							
MK31	**Makanchi Array**	**5.27**	**42**	⇑Pn	**Pn**	**14 33 07.8**	**+2.5**
	0.1nm,0.3s,baz=215,slow=15,SNR=3.5							
MK31				⇑Pg	**Pb**	**14 33 21.6**	**+2.6**
	0.6nm,0.6s,baz=244,slow=11,SNR=5.1							
MK31				⇓Lg	Lg	14 34 25.7		
	1.6nm,0.5s							
IUG	**Iuzhnay**	**5.32**	**263**	*e*P	**Pg**	**14 33 27.8**	**-1.2**
	5.7nm,0.5s							
IUG				*e*S	**Sg**	**14 34 39.7**	**+1.8**
	18nm,0.7s							
KURBB	**Kurchatov Arra**	**7.69**	**7**	⇑Lg	Lg	14 35 45.6		
	8.2nm,0.7s							

*SNET **30** 14:58:32.8±1.4, 13°.69N×90°.96W, h14km±10km, ML3.3*
*GCG **30** 14:58:33.0±0.3, 13°.62N×90°.95W, h3km, MD4.0*
ISC 30 14:58:29.4±2.3, 13°.4N±0°.1×91°.06W±0°.08, h29km, n16, σ0$67/20, 2C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.99**	**37**	⇑*i*P		**Pn**	**14 58 47.3**	**-0.3**
IXG	**Ixpaco**	**0.99**	**37**	*e*P		**Pb**	**14 58 48.3**	**+0.1**
FUG	**Fuego 3**	**1.09**	**11**	*e*P		**Pb**	**14 58 49.7**	**0.0**
PCG	**Pacaya**	**1.10**	**23**	*e*P		**Pb**	**14 58 49.9**	**-0.1**
RTAL	**Retalhuleu**	**1.30**	**332**	*e*P		**Pn**	**14 58 52.4**	**+0.8**
RTAL				*e*S		**Sn**	**14 59 06.8**	**-1.3**
NUBE	**Las Nubes**	**1.35**	**67**	⇓*i*P		**Pb**	**14 58 53.8**	**-0.4**
NUBE				*e*S		**Sn**	**14 59 09.3**	**-0.2**
NUBE				IAML			14 59 10.4	
	comp=Z,426nm,0.3s							
NBG	**Las Nubes**	**1.39**	**30**	*e*P		**Pb**	**14 58 54.8**	**-0.1**
NBG				*e*S		**Sn**	**14 59 10.7**	**0.0**
CEVE	**Cerro Verde**	**1.47**	**72**	*e*P		**Pb**	**14 58 56.0**	**-0.2**
CEVE				IAML			14 59 15.4	
	comp=Z,1μm,0.2s							
SBLS	**San Blas**	**1.47**	**72**	*e*P		**Pb**	**14 58 56.0**	**-0.2**
SBLS				*e*S		**Sb**	**14 59 14.3**	**-0.3**
SNJE	**San Jose**	**1.50**	**71**	*e*P		**Pb**	**14 58 56.4**	**-0.3**
TACO	**Tacachico**	**1.76**	**70**	*e*P		**Pb**	**14 59 00.1**	**-1.0**
MTO3	**Montecristo**	**1.94**	**58**	⇑*e*P		**Pn**	**14 59 01.7**	**+1.1**
LFRS	**El Faro**	**1.96**	**83**	*e*P		**Pb**	**14 59 04.5**	**0.0**
ESQI	**Esquipulas**	**2.04**	**55**	*e*P		**Pn**	**14 59 03.3**	**+1.3**
ESQI				IAML			14 59 31.0	
	comp=Z,212nm,0.5s							
COEG	**Centro de Oper**	**2.13**	**83**	*e*P		**Pb**	**14 59 06.9**	**-0.6**
MRL	**Marmol**	**2.16**	**38**	⇓*i*P		**Pn**	**14 59 04.4**	**+0.7**

IDC 30 15:07:38.9±2.8, 11°.21S×123°.15E, h0km, mb3.3/1, mb1 3.2/3, mb1mx3.1/24, mbtmp3.1/3, ML2.7/2, Error ellipse: s-maj=224.1km s-min=35.5km az=51.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.83**	**130**		Pn	Pn	15 10 54.6	-1.9
	0.0nm,0.3s,baz=308,slow=3,SNR=2.6							
WRA					Sn	Sn	15 13 21.0	-10
	0.1nm,0.3s,baz=311,slow=26,SNR=1.6							
ASAR	**Alice Springs**	**16.07**	**142**		Pn	P	15 11 28.2	-1.7
	0.0nm,0.3s,baz=315,slow=12,SNR=4.6							
MKAR	**Makanchi Array**	**68.31**	**331**		P	P	15 18 42.0	0.0
	0.2nm,0.7s,baz=137,slow=7.3,SNR=2.6							

*DDA **30** 15:25:11.5, 38°.67N×44°.71E, h7km±3km, ML1.8*
*TEH **30** 15:25:11.1, 38°.61N×44°.70E, h8km, ML2.6*
ISC 30 15:25:11.5±1.4, 38°.66N±0°.09×44°.74E±0°.05, h8km±16km, n10, σ1$18/15, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IMRD	**Marand**	**0.75**	**86**	*e*Pg		**Pg**	**15 25 26.2**	**+0.2**
IMRD				*e*			15 25 29.4	
CLDR	**Caldiran**	**0.80**	**307**	*i*P		**Pg**	**15 25 26.1**	**-1.0**
CLDR				*i*S		**Sb**	**15 25 37.6**	**-1.4**
CLDR				IAML			15 25 40.0	
	comp=E,53nm,0.4s							
CLDR				IAML			15 25 40.0	
	comp=N,37nm,0.3s							
VMUR	**Van-Muradiye**	**0.97**	**290**	*i*P		**Pb**	**15 25 30.1**	**-0.6**
VMUR				*i*S		**Sb**	**15 25 43.3**	**-0.5**
VMUR				IAML			15 25 46.0	
	comp=N,22nm,0.3s							
VMUR				IAML			15 25 48.0	
	comp=E,24nm,0.3s							
ITBZ	**Tabriz**	**1.18**	**111**	*e*Pg		**Pg**	**15 25 33.7**	**-0.5**
ITBZ				*e*			15 25 36.3	
ITBZ				*e*Sg		**Sg**	**15 25 50.4**	**+0.8**
IGDI	**IGDIR**	**1.31**	**337**	*i*P		**Pg**	**15 25 37.9**	**+1.2**
IGDI				IAML			15 26 01.0	
	comp=N,14nm,0.5s							
IGDI				IAML			15 26 01.0	
	comp=E,14nm,0.4s							
GEVA	**Gevas**	**1.37**	**256**	*i*P		Pn	15 25 30.9	-6.2
GEVA				*i*S		**Sn**	**15 25 56.7**	**+1.2**
HAKT	**HAKKARI**	**1.37**	**217**	*i*P		**Pn**	**15 25 37.2**	**0.0**
HAKT				*i*S		**Sn**	**15 25 57.3**	**+1.6**
HAKT				IAML			15 26 01.0	
	comp=N,14nm,0.2s							
HAKT				IAML			15 26 02.0	
	comp=E,13nm,0.5s							
IAZR	**Azarshahr**	**1.38**	**135**	*e*Pg		**Pn**	**15 25 36.8**	**-0.6**
IAZR				*e*			15 25 44.7	
IHRS	**Heris**	**1.84**	**100**	*e*Pn		**Pb**	**15 25 45.2**	**-0.3**
IHRS				*e*			15 25 49.8	
EATA	**Eleskirt**	**2.12**	**305**	*i*P		**Pb**	**15 25 49.0**	**-1.4**
EATA				*i*S		**Sg**	**15 26 21.4**	**+1.8**
EATA				IAML			15 26 31.0	
	comp=E,17nm,1.0s							
EATA				IAML			15 26 34.0	
	comp=N,9.3nm,0.4s							

*IDC **30** 15:26:49.5±2.1, 38°.75N×90°.96E, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.2/67, mbtmp3.4/5, ML2.8/3, Error ellipse: s-maj=77.6km s-min=25.2km az=55.0*
*BJI **30** 15:26:50.2±0.0, 38°.72N×90°.74E, h8km, ML3.5/10*
ISC 30 15:26:48.9±1.6, 38°.4N±0°.2×90°.2E±0°.2, h10km, n8, σ2$60/9, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**5.70**	**342**	*e*Pn		**Pn**	**15 28 17.8**	**+4.2**
WMQ				Sn		**Sn**	**15 29 19.0**	**-0.1**
WMQ				smax	smax			
	comp=N,72nm,0.7s							
WMQ				smax	smax			
	comp=E,65nm,0.9s							
GTA	**Gaotai**	**7.60**	**80**	*e*Pn		**Pn**	**15 28 38.0**	**-1.8**
GTA				smax	smax			
	comp=N,12nm,1.5s							
GTA				smax	smax			
	comp=E,7.0nm,1.2s							
MKAR	**Makanchi Array**	**10.17**	**328**		Pn	**Pn**	**15 29 15.2**	**+0.4**
	0.5nm,0.3s,baz=143,slow=13,SNR=37							
MKAR					Sn	**Sn**	**15 31 05.5**	**-3.4**
	0.6nm,0.3s,baz=136,slow=23,SNR=7.7							
MKAR					Lg	Lg	15 32 09.7	
	0.2nm,0.3s,baz=132,slow=27,SNR=3.7							
KURBB	**Kurchatov Arra**	**14.72**	**330**		Pn	**Pn**	**15 30 15.1**	**-1.9**
	0.0nm,0.3s,baz=136,slow=13,SNR=4.5							
KURBB					Lg	Lg	15 34 34.6	
	0.1nm,0.3s,baz=144,slow=30,SNR=2.4							
SONM	**Songino Array**	**15.11**	**46**		Lg	Lg	15 34 23.4	
	0.1nm,0.3s,baz=230,slow=26,SNR=2.0							
ZALV	**Zalesovo Beam**	**15.95**	**348**		Pn	**Pn**	**15 30 34.3**	**+1.1**
	0.1nm,0.3s,baz=158,slow=9.0,SNR=1.6							
ILAR	**Eielson Array**	**67.91**	**23**		P	**P**	**15 37 45.9**	**-1.3**
	0.5nm,0.8s,baz=307,slow=5.4,SNR=5.3							
ASAR	**Alice Springs**	**74.15**	**139**		P	**P**	**15 38 26.9**	**+1.3**
	0.2nm,0.7s,baz=331,slow=5.5,SNR=1.5							

*IGIL **30** 15:29:47.5, 43°.70N×28°.49W, h10km, MS5.1*
*BJI **30** 15:29:48.0±0.0, 43°.40N×27°.90W, h5km, mB5.4/47, mb5.1/53, Ms5.4/50, Ms7 5.2/49*
*IDC **30** 15:29:48.6±0.4, 43°.76N×28°.62W, h0km, mb4.6/43, mb1 4.7/44, mb1mx4.6/51, mbtmp4.6/44, ML4.6/1, MS5.0/41, Ms1 5.0/41, ms1mx5.0/42, Error ellipse: s-maj=11.5km s-min=9.4km az=179.0*
*MOS **30** 15:29:49.4±0.9, 43°.76N×28°.65W, h14km, mb5.4/78, MS5.0/50, Error ellipse: s-maj=8.2km s-min=4.1km az=46.4*
*NEIC **30** 15:29:50.2±2.2, 43°.73N±0°.08×28°.5W±0°.1, h10km±1km, mb5.3/365, Ms_20 5.2/377, Mwb5.4/50, Mwc5

-2.6704, Plg83.0000°, Azm185.0000°;
ISC 30 15:29:50.8s0.3,**43°62'N**0"03s**28°47'W**0"03,**h13**km0.1km,
h13km:**pP-P,n1234,**o1s**72**/1050,**mb5.2**/309,**MS5.2**/291,
52C-20D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRBC	**Serra Branca**	**4.59**	**176**	*eP*	**Pn**	**15 30 58.8**	**-1.1**
ROSA	**Rosais**	**4.90**	**178**	*eP*	**Pn**	**15 31 02.6**	**-1.5**
ROSA				*eS*	**Sn**	**15 31 56.3**	**-4.3**
ROSA				A	A	15 32 01.5	
	63nm,0.4s						
ROSA	**Rosais**	**4.90**	**178**	Pn	**Pn**	**15 31 06.2**	**+2.0**
PCED	**Cedros**	**4.99**	**182**	*eP*	**Pn**	**15 31 03.8**	**-1.6**
PMAN	**Manadas**	**4.99**	**177**	*eP*	**Pn**	**15 31 04.2**	**-1.2**
PMAN				*eS*	**Sn**	**15 31 58.6**	**-4.3**
PMAN				A	A	15 32 02.1	
	110nm,0.4s						
PSCM	**Serra do Cume**	**5.02**	**168**	*eP*	**Pn**	**15 31 04.7**	**-1.1**
PSCM				*eS*	**Sn**	**15 31 59.4**	**-4.2**
PSCM				A	A	15 32 06.6	
	268nm,0.3s						
ADH	**Angra Heroismo**	**5.04**	**169**	*eP*	**Pn**	**15 31 05.0**	**-1.1**
ADH				*eS*	**Sn**	**15 32 00.2**	**-4.1**
ADH				A	A	15 32 05.6	
	150nm,0.4s						
PSET	**Sete Cidades**	**6.15**	**159**	*eP*	**Pn**	**15 31 20.6**	**-0.8**
PCALD	**Caldeiras da R**	**6.24**	**158**	*eP*	**Pn**	**15 31 21.8**	**-0.8**
PCALD				*eS*	**Sn**	**15 32 30.0**	**-3.7**
PCALD				A	A	15 32 33.9	
	182nm,0.2s						
PDA	**Ponta Delgada**	**6.24**	**159**	*eP*	**Pn**	**15 31 22.0**	**-0.5**
PDA				*eS*	**Sn**	**15 32 29.9**	**-3.8**
PDA				A	A	15 32 35.2	
	229nm,0.3s						
GRON	**Grota Negra**	**6.25**	**158**	*eP*	**Pn**	**15 31 22.6**	**-0.2**
GRON				*eS*	**Sn**	**15 32 31.4**	**-2.8**
GRON				A	A	15 32 38.5	
	223nm,0.2s						
CMLA	**Cha da Macela**	**6.26**	**158**	*eP*	**Pn**	**15 31 22.1**	**-0.8**
CMLA				*eS*	**Sn**	**15 32 30.5**	**-3.8**
CMLA				A	A	15 32 41.4	
	527nm,0.4s						
CMLA	**Cha da Macela**	**6.26**	**158**	P	**Pn**	**15 31 22.4**	**-0.5**
CMLA				*eS*	**Sn**	**15 32 31.9**	**-2.4**
CMLA	**Cha da Macela**	**6.26**	**158**	Pn	**Pn**	**15 31 21.3**	**-1.6**
BART	**Pico Bartolome**	**6.35**	**156**	*eP*	**Pn**	**15 31 23.2**	**-1.0**
BART				*eS*	**Sn**	**15 32 33.0**	**-3.6**
BART				A	A	15 32 37.6	
	276nm,0.3s						
PSMA	**Santa Maria**	**7.09**	**158**	*eP*	**Pn**	**15 31 33.6**	**-0.6**
PSMA				*eS*	**Sn**	**15 32 50.5**	**-4.2**
PSMA				A	A	15 32 54.6	
	109nm,0.3s						
PSMN	**Pico do Norte,**	**7.10**	**157**	*eP*	**Pn**	**15 31 33.5**	**-0.9**
PSMN				*eS*	**Sn**	**15 32 50.8**	**-4.1**
PSMN				A	A	15 32 56.6	
	116nm,0.4s						
PMOZ	**Porto Moniz, M**	**13.94**	**137**	*eP*	**Pn**	**15 33 08.5**	**+0.5**
PMOZ				A	A	15 33 25.8	
	168nm,1.3s						
PMOZ				*e*LR	LR	15 36 17.6	
PMOZ				A	A	15 37 27.1	
	8µm,18.0s						
PMOZ	**Porto Moniz, M**	**13.94**	**137**		**Pn**	**15 33 08.5**	**+0.5**
PMAR	**Madeira**	**14.16**	**136**	*eP*	**Pn**	**15 33 11.5**	**+0.3**
PMAR				A	A	15 33 20.4	
	146nm,0.3s						
PMPST	**Porto Santo, M**	**14.18**	**134**	*eP*	**Pn**	**15 33 11.3**	**+0.1**
PMPST				A	A	15 33 22.6	
	229nm,1.2s						
PMPS	**Porto Santo**	**14.19**	**134**	*eP*	**Pn**	**15 33 11.5**	**+0.1**
PMPS				A	A	15 33 24.1	
	189nm,1.2s						
FUL	**Funchal**	**14.23**	**136**	*eP*	**Pn**	**15 33 12.5**	**+0.5**
FUL				A	A	15 33 15.2	
	159nm,0.3s						
VAL	**Valentia**	**14.78**	**49**	P	**P**	**15 33 24.7**	**-0.6**
PGAV	**Gavieira, Arco**	**14.93**	**89**	*eP*	**Pn**	**15 33 18.4**	**-3.1**
PGAV				A	A	15 33 35.9	
	216nm,1.4s						
PGAV				*e*LR	LR	15 36 28.1	
PGAV				A	A	15 38 01.6	
	13µm,18.0s						
PMAFR	**Mafra**	**15.15**	**101**	*eP*	**Pn**	**15 33 21.0**	**-3.5**
PMAFR				A	A	15 33 50.7	
	209nm,1.6s						
PCAB	**Cabril**	**15.16**	**90**	*eP*	**Pn**	**15 33 21.9**	**-2.7**
PCAB				A	A	15 33 34.4	
	182nm,1.6s						
PSBE	**So Bento**	**15.28**	**99**	*eP*	**Pn**	**15 33 24.5**	**-1.7**
PSBE				A	A	15 33 37.8	
	101nm,1.2s						
PCAS	**Casmilo, Conde**	**15.30**	**97**	*eP*	**Pn**	**15 33 23.8**	**-2.7**
PCAS				A	A	15 33 35.4	
	241nm,1.5s						
COI	**Coimbra**	**15.31**	**96**	P	**Pn**	**15 33 22.4**	**-4.2**
COI				pmax	pmax		
	comp=Z,109nm,1.1s						
COI	**Coimbra**	**15.31**	**96**	*eP*	**Pn**	**15 33 24.1**	**-2.5**
COI				A	A	15 33 34.6	
	comp=Z,190nm,1.5s						
COI	**Coimbra**	**15.31**	**96**	Pn	**Pn**	**15 33 22.4**	**-4.2**
COI				lAmb	lAmb	15 33 40.1	
	comp=Z,109nm,1.1s						
LIS	**Lisbon**	**15.35**	**102**	*eP*	**Pn**	**15 33 24.5**	**-2.5**
LIS				AMS	AMS	15 38 34.5	
	comp=Z,15µm,20.8s						
LIS	**Lisbon**	**15.35**	**102**	*eP*	**Pn**	**15 33 24.5**	**-2.5**
LIS	**Lisbon**	**15.35**	**102**	*eP*	**Pn**	**15 33 25.6**	**-1.4**
LIS				A	A	15 33 28.9	
	comp=Z,652nm,1.5s						
PVRL	**Vila Real**	**15.50**	**92**	*eP*	**P**	**15 33 34.6**	**+1.2**
PVRL				A	A	15 33 36.2	
	comp=Z,103nm,1.5s						
PVIS	**Viseu**	**15.53**	**94**	*eP*	**Pn**	**15 33 26.0**	**-3.4**
PVIS				A	A	15 33 38.4	
	comp=Z,46nm,1.6s						
PMTG	**Montargil**	**15.86**	**100**	*eP*	**Pn**	**15 33 31.4**	**-2.3**
PMTG				A	A	15 33 40.2	
	comp=Z,238nm,1.7s						
MTE	**Manteigas**	**15.88**	**94**	*eP*	**Pn**	**15 33 31.4**	**-2.6**
MTE				A	A	15 33 46.3	
	comp=Z,190nm,1.4s						
MTE				*e*LR	LR	15 37 01.1	
MTE				A	A	15 38 39.0	
	comp=Z,8µm,18.0s						
MVO	**Moncorvo**	**16.03**	**91**	*eP*	**Pn**	**15 33 34.4**	**-1.5**
MVO				A	A	15 33 50.1	
	comp=Z,168nm,1.4s						
MVO				*e*LR	LR	15 37 15.9	
MVO				A	A	15 38 44.3	
	comp=Z,8µm,18.0s						
PNCL	**Nicolau / Gran**	**16.05**	**103**	*eP*	**Pn**	**15 33 33.8**	**-2.3**
PNCL				A	A	15 33 42.3	
	comp=Z,239nm,1.3s						
PBRG	**Braganca**	**16.07**	**89**	*eP*	**Pn**	**15 33 37.5**	**+1.0**
PBRG				A	A	15 33 50.8	
	comp=Z,203nm,1.8s						
PCBR	**Castelo Branco**	**16.11**	**96**	*eP*	**Pn**	**15 33 35.0**	**-1.9**
PCBR				A	A	15 33 43.7	
	comp=Z,209nm,1.1s						
PTEO	**Sao Teotonio**	**16.17**	**105**	*eP*	**Pn**	**15 33 36.4**	**-1.2**
PTEO				A	A	15 33 39.7	
	comp=Z,254nm,1.5s						
EVO	**Evora**	**16.23**	**101**	*eP*	**Pn**	**15 33 32.0**	**-6.4**
EVO				*e*L	L	15 37 14.7	
EVO	**Evora**	**16.23**	**101**	*eP*	**Pn**	**15 33 36.2**	**-2.2**
EVO				A	A	15 33 50.1	
	comp=Z,85nm,1.2s						
PFVI	**Vila Bisbo**	**16.29**	**107**	*eP*	**Pn**	**15 33 36.7**	**-2.6**
PFVI				A	A	15 33 52.1	
	comp=Z,285nm,1.5s						
PFVI	**Vila Bisbo**	**16.29**	**107**	Pn	**Pn**	**15 33 37.8**	**-1.4**
PFVI				lAmb	lAmb	15 33 51.2	
	comp=Z,179nm,1.0s						
PMRV	**Marv??o**	**16.32**	**98**	*eP*	**Pn**	**15 33 36.4**	**-3.3**
PMRV				A	A	15 33 54.2	
	comp=Z,92nm,1.2s						
PMRV				*e*LR	LR	15 37 21.4	
PMRV				A	A	15 38 53.7	
	comp=Z,10µm,20.0s						
MORF	**Marmelete**	**16.33**	**106**	*eP*	**Pn**	**15 33 37.4**	**-2.4**
MORF				AMS	AMS	15 38 54.7	
	comp=Z,11µm,18.2s						
MORF	**Marmelete**	**16.33**	**106**	*eP*	**Pn**	**15 33 37.4**	**-2.4**
MORF	**Marmelete**	**16.33**	**106**	*eP*	**Pn**	**15 33 38.9**	**-0.9**
MORF				A	A	15 33 52.6	
	comp=Z,214nm,1.6s						
PBEJ	**Beja**	**16.55**	**103**	*eP*	**Pn**	**15 33 41.0**	**-1.6**
PBEJ				A	A	15 33 48.5	
	comp=Z,190nm,1.5s						
PCVE	**Castro Verde**	**16.61**	**104**	*eP*	**Pn**	**15 33 41.1**	**-2.2**
PCVE				A	A	15 33 57.7	
	comp=Z,146nm,1.6s						
PBDV	**Barranco-do-Ve**	**16.87**	**105**	*eP*	**Pn**	**15 33 46.8**	**+0.2**
PBDV				A	A	15 34 01.0	
	comp=Z,205nm,2.0s						
DSB	**Dublin**	**17.48**	**49**		**P**	**15 33 54.6**	**-0.6**
SFS	**San Fernando**	**18.45**	**105**	⇑*i*P	**P**	**15 34 05.8**	**-0.3**
SFS				*e*L	L	15 37 53.5	
PAB	**San Pablo**	**18.48**	**94**	P	**P**	**15 34 06.0**	**-0.5**
PAB				pmax	pmax		
	comp=Z,152nm,1.2s						
PAB	**San Pablo**	**18.48**	**94**		**P**	**15 34 06.0**	**-0.5**
ESBB	**Sonseca Array**	**18.71**	**94**		**Pn**	**15 34 09.7**	**+0.3**
ESDC	**Sonseca Array**	**18.71**	**94**	P	**P**	**15 34 08.1**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=290,slow=12,SNR=53						
ESDC				S	Sn	15 37 21.5	-17
	comp=Z,0.1nm,0.3s,baz=290,slow=24,SNR=3.4						
ESDC				LR	LR	15 39 41.7	
	comp=Z,6µm,21.6s,baz=295,slow=32						
ESDC	**Sonseca Array**	**18.71**	**94**	P	**P**	**15 34 08.3**	**-0.7**
UCM	**Universidad Co**	**19.03**	**91**	⇑*i*P	**P**	**15 34 12.2**	**-0.2**
UCM				*e*L	L	15 37 52.5	
CEU	**Ceuta**	**19.32**	**106**	⇑*i*P	**Pn**	**15 34 17.5**	**+0.8**
CEU				*e*L	L	15 38 17.2	
AVE	**Averroes**	**19.39**	**115**	⇑*i*P	**P**	**15 34 16.2**	**-0.3**
AVE				*e*L	L	15 38 05.9	
EMAL	**Malaga-Limoner**	**19.56**	**102**	⇑*i*P	**Pn**	**15 34 20.1**	**+0.5**
EMAL				*e*L	L	15 38 11.5	
ESK	**Eskdalemuir**	**20.04**	**45**	P	Pn	15 34 24.4	-0.7
ESK				pmax	pmax		
	comp=Z,123nm,1.1s						
ESK	**Eskdalemuir**	**20.04**	**45**		**P**	**15 34 21.5**	**-1.8**
ESK				lAmb	lAmb	15 34 34.4	
	comp=Z,151nm,1.2s						
EKA	**Eskdalemuir Ar**	**20.07**	**45**	P	**P**	**15 34 23.9**	**+0.2**
	comp=Z,43nm,1.0s,baz=241,slow=8.5,SNR=35						
EKA				LR	LR	15 40 41.6	
	comp=Z,3µm,19.1s,baz=240,slow=33						
MFF	**Saint Martin d**	**20.17**	**72**	*eP*	**P**	**15 34 25.0**	**+0.2**
MFF				pmax	pmax		
	comp=Z,267nm,1.6s						
PVLZ	**Peæn de**	**20.44**	**106**	⇑*i*P	**P**	**15 34 26.0**	**-1.8**
PVLZ				*e*L	L	15 38 32.9	
DRLN	**Deer Lake**	**20.71**	**296**	P	**P**	**15 34 28.1**	**-2.6**
DRLN				lAmb	lAmb	15 34 32.9	
	comp=Z,160nm,1.0s						
IFR	**Ifrane**	**20.79**	**111**	⇑*i*P	**P**	**15 34 31.7**	**-0.2**
IFR				*e*L	L	15 38 33.3	
LFF	**La Frestale**	**20.91**	**76**	*eP*	**P**	**15 34 32.4**	**-0.5**
LFF				pmax	pmax		
	comp=Z,188nm,1.2s						
IVI	**Ivigtut**	**21.17**	**333**	P	**P**	**15 34 34.5**	**-1.0**
IVI				lAmb	lAmb	15 34 48.2	
	comp=Z,139nm,1.3s						
MELI	**Melilla**	**21.34**	**104**	⇑*i*P	**P**	**15 34 37.6**	**+0.1**
MELI				*e*L	L	15 38 35.5	
BORG	**Borgarnes**	**21.55**	**8**	LR	LR	15 40 35.2	
	comp=Z,6µm,20.2s,baz=195,slow=30						
MDT	**Midelt**	**21.56**	**112**	P	**P**	**15 34 41.6**	**+1.6**
	comp=Z,39nm,1.1s,baz=322,slow=8.8,SNR=24						
MDT				S	**S**	**15 38 31.2**	**-7.5**
	comp=Z,2.3nm,0.7s,baz=356,slow=16,SNR=2.2						
MDT				LR	LR	15 41 16.7	
	comp=Z,3µm,20.7s,baz=348,slow=32						
CART	**Cartagena**	**21.65**	**97**	⇑*i*P	**P**	**15 34 40.7**	**-0.2**
CART				*e*L	L	15 38 38.6	
CLF	**Chambon-Foret**	**21.79**	**68**		**P**	**15 34 43.2**	**+1.0**
CAF	**Calviac**	**21.85**	**76**	*eP*	**P**	**15 34 41.8**	**-1.2**
CAF				pmax	pmax		
	comp=Z,62nm,1.1s						
SSF	**Saint Saulge**	**22.65**	**70**	*eP*	**P**	**15 34 50.5**	**-1.1**
SSF				pmax	pmax		
	comp=Z,252nm,1.2s						
SNF	**Seneffe**	**23.21**	**61**	P	**P**	**15 34 58.9**	**+1.6**
	comp=Z,162nm,1.2s						
UCC	**Uccle**	**23.29**	**60**	P	**P**	**15 34 59.3**	**+1.3**
DOU	**Dourbes**	**23.39**	**62**	P	**P**	**15 34 59.8**	**+0.8**
	comp=Z,94nm,1.5s						
BMRD	**Maredsous**	**23.51**	**62**	P	**P**	**15 35 01.4**	**+1.1**
	comp=Z,128nm,1.2s						
SSB	**Saint Sauveur**	**23.54**	**74**	P	**P**	**15 35 02.1**	**+1.4**
SSB				pmax	pmax		
	comp=Z,200nm,1.2s						
SSB				MLR	MLR		
	comp=Z,6µm,20.0s						
SSB	**Saint Sauveur**	**23.54**	**74**	P	**P**	**15 35 02.1**	**+1.4**
GBN	**Guysborough**	**23.54**	**286**	P	**P**	**15 35 00.7**	**+0.1**
GBN				lAmb	lAmb	15 35 07.7	
	comp=Z,105nm,1.1s						
BGES	**Gesves**	**23.72**	**62**	P	**P**	**15 35 03.3**	**+1.0**
	comp=Z,167nm,1.7s						
BCLA	**Clavier**	**23.86**	**62**	⇓P	**P**	**15 35 03.9**	**+0.2**
	comp=Z,158nm,1.7s						
BSTI	**Sart Tilman**	**24.04**	**61**	P	**P**	**15 35 06.6**	**+1.3**
	comp=Z,45nm,2.1s						
BEBN	**Eben Emael**	**24.12**	**61**	P	**P**	**15 35 06.2**	**+0.1**
BHOU	**Houvegnez**	**24.30**	**62**	P	**P**	**15 35 09.1**	**+1.3**
	comp=Z,137nm,1.7s						
MEM	**Membach**	**24.32**	**61**	P	**P**	**15 35 09.1**	**+1.2**
	comp=Z,95nm,1.2s						
WLF	**Walferdange**	**24.38**	**63**	P	**P**	**15 35 09.7**	**+1.3**
	comp=Z,89nm,1.8s						
WLF	**Walferdange**	**24.38**	**63**	P	**P**	**15 35 11.6**	**+3.1**
WLF	**Walferdange**	**24.38**	**63**	lAMs_20	lAMs_20	15 43 36.0	
	comp=Z,7µm,18.0s						
MAHO	**Mahon**	**24.61**	**87**	⇑*i*P	**P**	**15 35 08.7**	**-2.0**
MAHO				*e*L	L	15 39 36.0	
LPL	**La Plagne**	**25.03**	**73**	*eP*	**P**	**15 35 16.0**	**+1.3**
LPL				pmax	pmax		
	comp=Z,75nm,1.2s						
ECH	**Echery**	**25.06**	**67**	P	**P**	**15 35 14.5**	**-0.2**
ECH				pmax	pmax		
	comp=Z,125nm,1.0s						
ECH				MLR	MLR		
	comp=Z,7µm,21.0s						
ECH	**Echery**	**25.06**	**67**	P	**P**	**15 35 14.5**	**-0.2**
ECH				lAMs_20	lAMs_20	15 43 53.4	
	comp=Z,7µm,21.0s						
BNI	**Bardonecchia**	**25.07**	**74**	P	**P**	**15 35 16.6**	**+1.7**
BNI				pmax	pmax		
	comp=Z,220nm,1.3s						
BNI				MLR	MLR		
	comp=Z,6µm,20.0s						
BNI	**Bardonecchia**	**25.07**	**74**	P	**P**	**15 35 16.6**	**+1.7**
BNI				lAMs_20	lAMs_20	15 43 21.0	
	comp=Z,6µm,20.0s						
HAL	**Halifax**	**25.12**	**285**	P	**P**	**15 35 15.0**	**-0.2**
HAL				pmax	pmax		
	comp=Z,74nm,1.2s						
HAL	**Halifax**	**25.12**	**285**	P	**P**	**15 35 15.0**	**-0.2**
HAL				lAmb	lAmb	15 35 25.8	
	comp=Z,74nm,1.2s						
SENIN	**Lac Senin/Sane**	**25.31**	**71**	P	**P**	**15 35 20.0**	**+2.7**
LMN	**Caledonia Moun**	**25.77**	**288**	P	**P**	**15 35 20.6**	**-0.6**
LMN				lAmb	lAmb	15 35 30.4	
	comp=Z,86nm,1.2s						
BFO	**Black Forest**	**25.84**	**67**	*e*L	L	15 43 56.7	
	comp=Z,6µm,18.3s						
BFO	**Black Forest**	**25.84**	**67**	lAMs_20	lAMs_20	15 44 24.9	
	comp=Z,7µm,20.0s						
TNS	**Taunus Mts**	**25.87**	**62**	*e*L	L	15 44 14.6	
	comp=Z,6µm,19.1s						
SFJD	**Kangerlussuaq**	**26.30**	**340**	P	**P**	**15 35 23.4**	**-2.3**
	comp=Z,11nm,0.8s,baz=155,slow=15,SNR=2.5						
SFJD				LR	LR	15 43 29.8	
	comp=Z,7µm,18.3s,baz=144,slow=31						
SFJD	**Kangerlussuaq**	**26.30**	**340**	*i*P	**P**	**15 35 24.4**	**-1.3**
SFJD	**Kangerlussuaq**	**26.30**	**340**	P	**P**	**15 35 23.4**	**-2.3**
SFJD				pmax	pmax		
	comp=Z,102nm,1.5s						
SFJD	**Kangerlussuaq**	**26.30**	**340**	lAMs_20	lAMs_20	15 43 09.5	
	comp=Z,6µm,20.0s						
SFJD	**Kangerlussuaq**	**26.30**	**340**	lAmb	lAmb	15 35 36.4	
	comp=Z,102nm,1.4s						
STU	**Stuttgart**	**26.39**	**65**	lAMs_20	lAMs_20	15 44 14.3	
	comp=Z,7µm,19.0s						
BATG	**Bathurst New B**	**26.45**	**291**	P	**P**	**15 35 22.6**	**-4.7**
BATG				lAmb	lAmb	15 35 35.9	
	comp=Z,79nm,1.4s						
TUE	**Stuetta**	**26.71**	**71**	lAMs_20	lAMs_20	15 44 41.1	
	comp=Z,7µm,19.0s						
SET	**Setif**	**26.88**	**94**	P	**P**	**15 35 37.0**	**+5.6**
DAVA	**Damuels**	**26.97**	**69**	*i*P	**P**	**15 35 35.0**	**+2.9**
	comp=Z,45nm,1.2s,SNR=21						
NRDL	**Niedersach Rie**	**26.99**	**57**	*eP*	**P**	**15 35 33.8**	**+1.8**
	comp=Z,79nm,1.3s,baz=272,slow=8.6						
MUD	**Monsted U'grnd**	**27.00**	**48**	*i*P	**P**	**15 35 37.3**	**+5.2**
	comp=Z,46nm,1.1s						
MUD	**Monsted U'grnd**	**27.00**	**48**	*i*P	**P**	**15 35 37.3**	**+5.2**
MUD				pmax	pmax		
	comp=Z,46nm,1.1s						
DAVOX	**Davos/Dischmat**	**27.03**	**70**	LR	LR	15 45 13.0	
	comp=Z,6µm,18.2s,slow=34						
DFRA	**Djebel Bou Aff**	**27.07**	**93**	P	**P**	**15 35 39.9**	**+6.7**
UBR	**Ueberruh**	**27.08**	**68**	*eP*	**P**	**15 35 34.2**	**+1.1**
	comp=Z,109nm,1.6s,baz=272,slow=8.6						
SCHQ	**Schefferville**	**27.11**	**308**	P	**P**	**15 35 31.5**	**-1.6**
	comp=Z,36nm,0.9s,baz=110,slow=7.0,SNR=20						
SCHQ				LR	LR	15 44 26.7	
	comp=Z,7µm,19.5s,baz=99,slow=33						
SCHQ	**Schefferville**	**27.11**	**308**	P	**P**	**15 35 31.7**	**-1.4**
SCHQ				lAmb	lAmb	15 35 34.9	
	comp=Z,49nm,0.9s						
CLZ	**Clausthal**	**27.12**	**59**	*eP*	**P**	**15 35 35.3**	**+2.0**
	comp=Z,107nm,1.4s,baz=272,slow=8.6						
SCO	**Scoresbysund**	**27.14**	**5**	*i*P	**P**	**15 35 35.8**	**+2.6**
	comp=Z,53nm,1.2s						
SCO	**Scoresbysund**	**27.14**	**5**	*i*P	**P**	**15 35 35.8**	**+2.6**
SCO				pmax	pmax		
	comp=Z,53nm,1.2s						
BSEG	**Bad Segeberg**	**27.24**	**54**	*e*L	L	15 45 43.7	
	comp=Z,5µm,18.0s						
GGN	**Saint George**	**27.30**	**287**	P	**P**	**15 35 33.1**	**-1.8**
GGN				lAmb	lAmb	15 35 46.7	
	comp=Z,54nm,1.4s						
FUORN	**Ofenpass-Fuorn**	**27.31**	**70**	lAMs_20	lAMs_20	15 45 30.1	
	comp=Z,8µm,18.0s						
ASSE	**Asse, Remlinge**	**27.32**	**58**	*eP*	**P**	**15 35 36.5**	**+1.5**
	comp=Z,102nm,1.3s,baz=272,slow=8.6						
RETA	**Reutte**	**27.54**	**68**	*i*pP	pP	15 35 39.3	-1.1
	comp=Z,29nm,1.2s,SNR=6.4						
FETA	**Feichten**	**27.57**	**69**	*i*pP	pP	15 35 39.5	-1.3
	comp=Z,28nm,1.1s,SNR=18						
CASM	**Ain Smara**	**27.64**	**93**	P	**P**	**15 35 44.0**	**+5.8**
GRA1	**Grafenberg Arr**	**27.67**	**63**	lAMs_20	lAMs_20	15 45 29.1	
	comp=Z,6µm,19.0s						
GRF	**Grafenberg Arr**	**27.67**	**63**	*eP*	**P**	**15 35 39.9**	**+1.7**
	comp=Z,114nm,1.7s,baz=272,slow=8.6						
GRF				*e*L	L	15 45 28.8	
	comp=Z,6µm,19.4s						
CAEH	**'Ain El Ouahch**	**27.68**	**92**	P	**P**	**15 35 43.2**	**+4.7**
H66A	**Whiting**	**27.69**	**286**	P	**P**	**15 35 38.2**	**-0.3**
	baz=78						
CKFL	**Kef-Lekhel**	**27.75**	**93**	P	P	15 35 48.0	+8.8
E64A	**Bridgewater**	**27.77**	**290**	P	**P**	**15 35 37.9**	**-1.2**
	baz=81						
MOTA	**Moosalm**	**27.79**	**68**	*i*pP	**P**	**15 35 40.4**	**+0.9**
	comp=Z,48nm,1.4s,SNR=20						
G65A	**Princeton**	**27.79**	**287**	P	**P**	**15 35 39.8**	**+0.5**
	baz=79						
G65A	**Princeton**	**27.79**	**287**	lAMs_20	lAMs_20	15 45 05.3	
	comp=Z,8µm,22.0s						
EMMW	**East Machias**	**27.81**	**286**	P	**P**	**15 35 38.3**	**-1.3**
EMMW				lAmb	lAmb	15 35 46.3	
	comp=Z,64nm,1.4s						
FUR	**Furstenfeldbru**	**27.81**	**67**	*e*L	L	15 44 44.5	
	comp=Z,4µm,21.4s						
D63A	**Stockholm**	**27.87**	**291**	P	**P**	**15 35 40.0**	**0.0**
	baz=82						
SQTA	**Sankt Quirin**	**27.87**	**69**	*i*pP	**P**	**15 35 41.8**	**+1.5**
	comp=Z,38nm,1.3s,SNR=18						
MOX	**Moxa**	**27.89**	**61**	*e*L	L	15 45 45.4	
	comp=Z,6µm,18.4s						
KONO	**Kongsberg**	**28.05**	**42**	*i*P	**P**	**15 35 41.0**	**-0.5**
KONO				pmax	pmax		
	comp=Z,31nm,1.1s						
WATA	**Walderalm**	**28.11**	**68**	*i*pP	**P**	**15 35 43.7**	**+1.4**
	comp=Z,39nm,1.3s,SNR=16						
CMAH	**Djebel Manchou**	**28.16**	**92**	P	**P**	**15 35 43.0**	**+0.2**
WTTA	**Wattenberg**	**28.16**	**68**	*i*pP	**P**	**15 35 44.2**	**+1.4**
	comp=Z,24nm,1.3s,SNR=16						
E63A	**Oxbow**	**28.17**	**290**	P	**P**	**15 35 42.2**	**-0.6**
	baz=81						
E63A	**Oxbow**	**28.17**	**290**	P	**P**	**15 35 41.5**	**-1.3**
E63A				lAMs_20	lAMs_20	15 45 50.3	
	comp=Z,11µm,20.0s						
ILULI	**Ilulissat**	**28.18**	**343**	lAMs_20	lAMs_20	15 44 07.2	
	comp=Z,7µm,20.0s						
ZCCA	**Zocca**	**28.21**	**75**	P	**P**	**15 35 44.5**	**+1.3**
F64A	**Sherman**	**28.21**	**289**	P	**P**	**15 35 42.6**	**-0.5**
	baz=80						
F64A	**Sherman**	**28.21**	**289**	P	**P**	**15 35 41.8**	**-1.4**
F64A				lAMs_20	lAMs_20	15 45 50.4	
	comp=Z,8µm,20.0s						
PLN	**Plauen**	**28.24**	**62**	*eP*	**P**	**15 35 44.4**	**+1.0**
	comp=Z,29nm,1.2s,baz=272,slow=8.6						
CTI	**Castel Tesino**	**28.35**	**71**	P	**P**	**15 35 45.3**	**+0.8**
CTI				pmax	pmax		
	comp=Z,59nm,1.0s						
CTI	**Castel Tesino**	**28.35**	**71**	P	**P**	**15 35 45.3**	**+0.8**
CTI				lAmb	lAmb	15 35 51.7	
	comp=Z,59nm,1.0s						
GUNZ	**Gunzen**	**28.36**	**62**	*eP*	**P**	**15 35 45.7**	**+1.3**
	comp=Z,22nm,1.4s,baz=272,slow=8.6						
H65A	**Eastbrook**	**28.36**	**286**	P	**P**	**15 35 44.2**	**-0.2**
	baz=78						
**NK

H64A Troy 29.05 286 P P 15 35 49.5 -1.1
baz=77
ZOU Zoufplan 29.17 70 P P 15 35 51.3 -0.6
ZOU IAmb IAmb 15 35 59.9
comp=Z,97nm,1.3s
JMIC Jan Mayen 29.17 13 LR LR 15 44 28.0
comp=Z,2µm,21.8s,baz=231,slow=30
G63A Kingsbury 29.23 287 P P 15 35 51.6 -0.6
baz=78
KHC Kasperske Hory 29.24 64 *ce*P P 15 35 53.3 +1.0
KHC pmax pmax
comp=Z,115nm,2.5s
KHC Kasperske Hory 29.24 64 *e*P P 15 35 53.5 +1.2
KHC *ep*P **sP** 15 35 57.3 +0.6
KHC AMS AMS 15 46 20.0
comp=Z,5µm,15.5s
NB2 NORSAR Subarra 29.25 40 P P 15 35 50.9 -1.3
comp=Z,138nm,2.0s,baz=252,slow=9.3
NB2 NORSAR Subarra 29.25 40 P P 15 35 50.9 -1.3
baz=252,slow=9.3
NOA NORSAR Array B 29.25 40 P P 15 35 51.1 -1.1
comp=Z,2.8nm,1.1s,baz=253,slow=9.3,SNR=6.0
NOA LR LR 15 46 23.4
comp=Z,1µm,18.9s,baz=245,slow=34
F62A Pittston Farm, 29.32 289 P P 15 35 52.2 -0.7
baz=79
F62A Pittston Farm, 29.32 289 IAMs_20 IAMs_20 15 46 24.7
comp=Z,9µm,21.0s
KBA Koelnbreinsper 29.34 68 *i* pP P 15 35 54.6 +1.3
comp=Z,90nm,1.3s,SNR=41
GEC2 GERESS Array S 29.35 65 *e*P P 15 35 54.4 +1.1
GEC2 *e*L L 15 46 04.5
comp=Z,5µm,20.0s
GERES GERESS Array B 29.35 65 P P 15 35 53.0 -0.3
comp=Z,6.3nm,1.1s,baz=275,slow=6.6,SNR=30
GERES LR LR 15 47 03.5
comp=Z,4µm,18.1s,baz=272,slow=35
GERES GERESS Array B 29.35 65 P P 15 35 53.9 +0.6
GERES GERESS Array B 29.35 65 P P 15 35 53.9 +0.6
BRG Berggiesshubel 29.36 61 *i* P P 15 35 54.6 +1.3
comp=Z,48nm,1.6s
BRG *e* 15 36 12.6
comp=Z,34nm,1.3s
BRG PP **PnPn** 15 36 42.0 -4.7
comp=Z,5µm,14.9s
comp=N,1µm,14.5s
comp=E,4µm,14.5s
BRG Berggiesshubel 29.36 61 *e*P P 15 35 54.6 +1.3
comp=E,54nm,2.1s,baz=272,slow=8.6
WVL Waterville 29.38 286 IAMs_20 IAMs_20 15 47 10.4
comp=Z,5µm,19.0s
SUMG Summit 29.43 354 *i* P P 15 35 53.1 -1.0
SUMG Summit 29.43 354 P P 15 35 52.9 -1.2
SUMG pmax pmax
comp=Z,94nm,1.5s
SUMG Summit 29.43 354 P P 15 35 52.9 -1.2
SUMG IAmb IAmb 15 35 59.9
comp=Z,94nm,1.5s
PBCC Pribram 29.47 63 *e*P P 15 35 55.8 +1.6
PBCC *ex* x 15 35 59.8
E61A Lac Etchemin 29.58 290 P P 15 35 54.9 -0.4
baz=80
PRED Cave del Predi 29.59 70 P P 15 35 57.0 +1.6
PRED IAmb IAmb 15 36 02.5
comp=Z,75nm,1.2s
MYKA Terra Mystica 29.61 69 *i* pP P 15 35 56.5 +0.9
comp=Z,56nm,1.6s,SNR=20
PRA Prague 29.72 62 AMS AMS 15 46 30.0
comp=Z,3µm,19.0s
CADS Cadrg 29.75 70 *e*P P 15 35 57.8 +1.0
CADS *e*S S 15 40 54.0 +1.4
PVCC Panska Ves 29.77 61 AMS AMS 15 46 40.0
comp=Z,4µm,16.9s
D60A Saint Jean D'O 29.79 291 P P 15 35 56.5 -0.6
baz=80,SNR=11
PRU Pruhonice 29.80 62 *e*P P 15 35 58.3 +1.2
PRU *e* 15 36 02.8
PRU *e*S S 15 40 57.5 +4.3
PRU MLR MLR
comp=Z,7µm,19.9s
PRU Pruhonice 29.80 62 *e*P P 15 35 58.3 +1.2
PRU *ep*P **pwP** 15 36 02.8 -0.8
PRU *e*S S 15 40 57.5 +4.3
PRU AMS AMS 15 46 30.0
comp=Z,7µm,19.9s
G62A West of Eustis 29.84 288 P P 15 35 56.9 -0.7
baz=78
G62A West of Eustis 29.84 288 P P 15 35 57.8 +0.2
G62A IAMs_20 IAMs_20 15 46 38.6
comp=Z,8µm,22.0s
MOA Molln 29.84 67 *ep*P pP 15 35 59.7 -1.1
comp=Z,41nm,1.3s
KEST Kesra 29.95 92 P P 15 35 59.0 +0.3
comp=Z,20nm,0.9s,baz=288,slow=1.8,SNR=20
KEST LR LR 15 47 13.5
comp=Z,5µm,20.3s,baz=270,slow=35
KEST Kesra 29.95 92 P P 15 35 59.4 +0.6
GOPC GO Pecny, Ondr 29.96 63 *e*P P 15 36 00.9 +2.3
GOPC *e* 15 36 04.1
GOPC MLR MLR
comp=Z,7µm,16.4s
GOPC GO Pecny, Ondr 29.96 63 *e*P P 15 36 00.9 +2.3
GOPC *ep*P **sP** 15 36 04.1 +1.0
GOPC AMS AMS 15 46 50.0
comp=Z,7µm,16.4s
F61A St Evariste 30.01 290 P P 15 35 58.0 -1.0
baz=79
SKDS Skadanscina 30.07 71 *i* P P 15 36 00.6 +0.9
SKDS *e*S S 15 40 58.2 +0.6
NRCA Norcia 30.09 77 P P 15 36 00.0 +0.1
NRCA IAmb IAmb 15 36 10.7
comp=Z,35nm,1.0s
I63A Otisfield 30.14 286 P P 15 36 01.3 +1.1
baz=76
I63A Otisfield 30.14 286 P P 15 36 00.6 +0.4
I63A IAmb IAmb 15 36 12.7
comp=Z,50nm,1.2s
I63A IAMs_20 IAMs_20 15 46 44.6
comp=Z,6µm,20.0s
E60A Ste Agathe de 30.24 290 P P 15 36 00.5 -0.6
baz=79,SNR=6.3
OBKA Obir 30.25 69 *i* P P 15 36 01.3 0.0
comp=Z,50nm,0.9s,SNR=27
CEY Cerknica 30.31 71 *i* P P 15 36 02.9 +1.2
CEY Cerknica 30.31 71⇑*i*P P 15 36 01.9 +0.1
LJU Ljubljana 30.32 70 *e*P P 15 36 03.0 +1.2
LJU Ljubljana 30.32 70⇑*i*P P 15 36 02.3 +0.5
FRB Frobisher Bay 30.36 325 P P 15 36 01.1 -0.8
comp=Z,18nm,0.8s,baz=87,slow=9.1,SNR=6.8
H62A Milan 30.42 287 IAMs_20 IAMs_20 15 47 50.9
comp=Z,7µm,19.0s
AQU L'Aquila 30.43 78⇑*i*P P 15 36 04.0 +1.1
AQU L'Aquila 30.43 78 IAMs_20 IAMs_20 15 47 19.1
comp=Z,6µm,20.0s
TREC Trest 30.47 64 *e*S S 15 41 05.9 +2.0
TREC AMS AMS 15 47 00.0
comp=Z,5µm,15.9s
G61A St-Isidore-de- 30.52 288 P P 15 36 03.5 -0.1
baz=77
SOKA Soboth 30.55 69 *i* P P 15 36 03.9 0.0
comp=Z,15nm,1.1s,SNR=19
F60A Warwick 30.66 290 P P 15 36 04.8 -0.1
baz=78
UPC Upice 30.70 61 *e*P P 15 36 06.2 +1.1
UPC *e* 15 36 11.4
UPC *e*S S 15 41 09.7 +2.4
UPC MLR MLR
comp=Z,4µm,14.6s
UPC Upice 30.70 61 *e*P P 15 36 06.2 +1.1
UPC *ex* x 15 36 11.4
UPC *e*S S 15 41 09.7 +2.4
UPC AMS AMS 15 49 50.0
comp=Z,4µm,14.6s
I62A Tamworth 30.71 286 P P 15 36 05.3 0.0
baz=75
I62A Tamworth 30.71 286 IAMs_20 IAMs_20 15 47 28.8
comp=Z,6µm,19.0s
CHVC Chvalec 30.72 61 AMS AMS 15 49 40.0
comp=Z,4µm,15.9s
ARSA Arzberg 30.78 68 *i* P P 15 36 06.2 +0.3
comp=Z,39nm,1.2s,SNR=27
OSTC Ostas 30.82 61 *e*P P 15 36 07.2 +1.0
OSTC *ex* x 15 36 12.2
OSTC *e*S S 15 41 15.7 +6.4
OSTC AMS AMS 15 49 50.0
comp=Z,4µm,14.4s
KSP Ksiaz 30.85 61 *e*P P 15 36 07.6 +1.2
NVLJ Novalja 30.88 73 *i* P P 15 36 08.2 +1.5
CONA Conrad Observa 30.89 66 *i* pP P 15 36 08.0 +1.0
comp=Z,41nm,1.5s,SNR=24
DPC Dobruska-Polom 30.91 61 AMS AMS 15 47 10.0
comp=Z,5µm,17.8s
BOJS Bojanci 30.93 71 *e*P P 15 36 08.4 +1.2
BOJS *e*S S 15 41 09.2 -1.8
H61A Lyndonville 30.96 287 P P 15 36 08.0 +0.5
baz=76
CRES Cresnjev 31.00 70⇑*i*P P 15 36 08.2 +0.4
BCX Boston College 31.02 283 IAMs_20 IAMs_20 15 47 57.0
comp=Z,5µm,19.0s
LBNH Lisbon 31.03 286 P P 15 36 08.9 +0.8
baz=76
LBNH Lisbon 31.03 286 P P 15 36 07.4 -0.7
LBNH pmax pmax
comp=Z,55nm,1.4s
LBNH MLR MLR
comp=Z,7µm,21.0s
LBNH Lisbon 31.03 286 P P 15 36 07.4 -0.7
LBNH IAmb IAmb 15 36 18.3
comp=Z,54nm,1.4s
LBNH IAMs_20 IAMs_20 15 47 15.2
comp=Z,7µm,21.0s
FFD Franklin Falls 31.04 285 IAMs_20 IAMs_20 15 47 46.5
comp=Z,7µm,20.0s
OZLJ Ozalj 31.05 71 *i* P P 15 36 10.0 +1.8
D58A Chemin du LacG 31.08 292 P P 15 36 08.6 0.0
baz=80
KRUC Moravsky 31.09 64 *e*P P 15 36 09.5 +0.9
KRUC *e*S S 15 41 15.3 +1.8
WES Weston 31.11 283 IAMs_20 IAMs_20 15 47 59.4
comp=Z,5µm,18.0s
DUGI Dugi Otok 31.15 74 *i* P P 15 36 09.9 +0.8
VRAC Vranov 31.19 63 ⇑P P 15 36 10.8 +1.3
VRAC Vranov 31.19 63 *e*P P 15 36 10.2 +0.7
VRAC *e*S S 15 41 16.7 +1.6
VRAC Vranov 31.19 63 ⇑P P 15 36 10.8 +1.3
J62A Henniker 31.22 285 P P 15 36 08.5 -1.3
baz=74
KRLC Kraliky 31.23 62 *e*P P 15 36 10.9 +1.1
KRLC *e* 15 36 16.1
KRLC MLR MLR
comp=Z,6µm,18.9s
KRLC Kraliky 31.23 62 *e*P P 15 36 10.9 +1.1
KRLC *ex* x 15 36 16.1
KRLC AMS AMS 15 47 30.0
comp=Z,6µm,18.9s
HRV Adam Dziewonsk 31.24 283 IAMs_20 IAMs_20 15 48 02.9
comp=Z,4µm,20.0s
I61A Oroboro, Fairl 31.31 286 P P 15 36 10.7 +0.2
baz=75
GKP Gorka Klasztor 31.33 56 *e*P P 15 36 13.7 +3.1
PTJ Puntijarka 31.33 70 P P 15 36 12.0 +1.1
BRYW Bryant College 31.41 282 IAMs_20 IAMs_20 15 48 00.2
comp=Z,6µm,20.0s
HNH Hanover 31.42 286 IAMs_20 IAMs_20 15 48 09.5
comp=Z,5µm,19.0s
H60A Morristown 31.49 287 P P 15 36 13.5 +1.3
baz=76
UDBI Udbina 31.50 73 *i* P P 15 36 14.0 +1.6
VT1 Waterbury 31.59 287 IAMs_20 IAMs_20 15 47 32.8
comp=Z,8µm,21.0s
KALN Kalnik 31.62 70 *i* P P 15 36 15.1 +1.8
MORI Morici 31.63 74 *i* P P 15 36 13.6 +0.2
ZIRJ Zirje 31.64 74 *i* P P 15 36 13.3 -0.2
CHGQ Chibougamau 31.66 298 P P 15 36 14.4 +0.8
baz=83
K62A Royalston 31.67 284 IAMs_20 IAMs_20 15 48 23.3
comp=Z,4µm,20.0s
J61A Chester 31.70 285 P P 15 36 14.9 +0.9
baz=74
MORC Moravsky Berou 31.75 62 ⇑P P 15 36 15.9 +1.5
MORC Moravsky Berou 31.75 62 *e*P P 15 36 15.0 +0.6
MORC *e*S S 15 41 26.0 +2.1
MORC Moravsky Berou 31.75 62 ⇑P P 15 36 15.9 +1.5
MODS Modra-Piesok 31.77 65 *e*P P 15 36 15.2 +0.7
MODS pmax pmax
comp=Z,50nm,1.4s
MODS Modra-Piesok 31.77 65 *e*P P 15 36 15.2 +0.7
MODS *e*S S 15 41 27.9 +3.8
MODS *e*L L 15 46 50.7
D57A Chemin Vers le 31.77 292 P P 15 36 13.9 -0.8
baz=79
SMOL Smolenice 31.84 65 *e*P P 15 36 16.8 +1.6
SMOL pmax pmax
comp=Z,17nm,1.2s
SMOL Smolenice 31.84 65 *e*P P 15 36 16.8 +1.6
QUA2 Belchertown 31.87 283 IAMs_20 IAMs_20 15 48 31.5
comp=Z,4µm,19.0s
MOSL Moslavina 31.93 70 *i* P P 15 36 15.7 -0.4
JAVC Velka Javorina 31.95 64 *e*P P 15 36 17.4 +1.2
JAVC *e*S S 15 41 21.3 -5.8
L61B Northampton 32.05 283 P P 15 36 17.5 +0.4
baz=72
E57A Chemin Saint G 32.07 291 P P 15 36 17.7 +0.5
baz=78,SNR=5.8
KIJV Kijevo 32.08 73 *i* P P 15 36 18.4 +1.0
I60A Shoreham 32.09 286 P P 15 36 18.1 +0.7
baz=74
H59A Cadyville 32.16 288 P P 15 36 18.5 +0.5
baz=75
HVAR Hvar 32.34 75 *i* P P 15 36 20.9 +1.3
J60A Lant Hill Farm 32.34 285 P P 15 36 19.7 +0.1
baz=73
D56A ZEC Mazanza, M 32.35 293 P P 15 36 19.2 -0.6
baz=72
K61A Williamstown 32.40 284 P P 15 36 20.9 +0.7
baz=72
BLY Banja Luka 32.43 72 *e*P P 15 36 21.0 +0.6
M62A Hamden 32.52 282 P P 15 36 20.2 -0.9
baz=71
SRO Srobarova 32.54 66 *e*P P 15 36 22.7 +1.4
SRO pmax pmax
comp=Z,77nm,1.8s
SRO Srobarova 32.54 66 *e*P P 15 36 22.7 +1.4
H58A Gabriels 32.55 288 P P 15 36 21.8 +0.3
baz=75
YLE Yale 32.59 282 IAMs_20 IAMs_20 15 48 35.6
comp=Z,7µm,21.0s
E56A St. Veronique 32.64 292 P P 15 36 22.0 -0.2
baz=78,SNR=11
TRY Troy 32.66 284 IAMs_20 IAMs_20 15 48 44.4
comp=Z,5µm,21.0s
NCB Newcomb 32.70 287 P P 15 36 20.8 -2.0
NCB IAmb IAmb 15 36 28.8
comp=Z,49nm,1.5s
MAKA Makaska 32.71 75 *i* P P 15 36 23.5 +0.7
RICI Ricice 32.73 74 P P 15 36 23.5 +0.4
L61A Hillsdale 1, H 32.75 283 P P 15 36 23.2 0.0
baz=72
VYHS Vyhne 32.77 65 *e*P P 15 36 24.4 +1.0
VYHS pmax pmax
comp=Z,28nm,1.4s
VYHS Vyhne 32.77 65 *e*P P 15 36 24.4 +1.0
VYHS *e*S S 15 41 40.5 +0.8
LSTV Lastovo 32.77 75 *i* P P 15 36 24.4 +1.0
LONY Lake Ozonia 32.78 288 P P 15 36 23.8 +0.3
baz=75
LONY Lake Ozonia 32.78 288 IAMs_20 IAMs_20 15 48 21.3
comp=Z,9µm,21.0s
D55A Sainte-Anne-du 32.84 293 P P 15 36 22.7 -1.2
baz=78,SNR=7.3
WSPT Westport, CT 32.92 282 IAMs_20 IAMs_20 15 48 45.3
comp=Z,5µm,20.0s
G57A Newington 32.94 289 P P 15 36 24.3 -0.5
baz=76
RAFF Raffo Rosso 32.95 86 P P 15 36 24.2 -0.8
J59A Piesco 33.04 286 P P 15 36 24.9 -0.8
baz=73
MORH Mrgy, Hungar 33.09 69 *e*P P 15 36 25.7 -0.4
OJC Ojcow 33.14 61 *e*P P 15 36 27.6 +1.1
I58A Old Forge 33.30 287 P P 15 36 28.4 +0.4
baz=73
H57A Richville 33.38 288 P P 15 36 30.7 +2.0
baz=74
PAL Palisades 33.38 281 IAMs_20 IAMs_20 15 49 17.7
comp=Z,4µm,19.0s
LSQQ Lebel-sur-Quev 33.46 297 P P 15 36 29.5 +0.1
baz=80
K59A Cooperstown 33.48 285 P P 15 36 31.1 +1.4
baz=72
PSZ Piszkesteto 33.57 65 ⇑P P 15 36 31.2 +0.8
PSZ Piszkesteto 33.57 65 ⇑P P 15 36 31.2 +0.8
BEL Belsk 33.57 58 *e*P P 15 36 32.4 +2.1
NIE Niedzica 33.57 63 *e*P P 15 36 32.7 +2.3
D54A Lac Fusel, La 33.60 293 P P 15 36 29.9 -0.7
baz=78
DBRK Dubrovnik 33.68 75 *i* P P 15 36 31.4 0.0
F55A Otter Lake 33.69 291 P P 15 36 31.0 -0.4
baz=76
I57A Carthage 33.71 287 P P 15 36 31.5 -0.1
baz=74
MATQ Matagami 33.77 298 P P 15 36 32.5 +0.4
baz=81,SNR=5.9
L59A Walton 33.80 284 P P 15 36 34.0 +1.6
baz=71
L59A Walton 33.80 284 P P 15 36 33.2 +0.8
L59A IAmb IAmb 15 36 50.3
comp=Z,47nm,1.4s
L59A IAMs_20 IAMs_20 15 49 30.5
comp=Z,4µm,20.0s
TREB Trebinje 33.81 75 *e*P P 15 36 32.8 +0.3
KECS Kecovo 33.85 64 *e*P P 15 36 35.5 +2.7
KECS pmax pmax
comp=Z,11nm,1.0s
KECS Kecovo 33.85 64 *e*P P 15 36 35.5 +2.7
BRY Bratogost 33.89 75 *e*P P 15 36 33.6 +0.3
TIP Timpagrande 33.90 82 ⇑P P 15 36 36.4 +3.1
TIP Timpagrande 33.90 82 P P 15 36 34.5 +1.1
TIP IAmb IAmb 15 36 53.5
comp=Z,59nm,1.5s
TIP IAMs_20 IAMs_20 15 50 32.1
comp=Z,6µm,20.0s
H56A Elgin 33.94 289 P P 15 36 34.6 +1.0
baz=74
HCY Herceg Novi 33.99 75 *e*P P 15 36 35.7 +1.6
K58A Earlville 34.04 285 P P 15 36 35.3 +0.8
baz=72,SNR=6.6
K58A Earlville 34.04 285 P P 15 36 33.8 -0.7
K58A IAmb IAmb 15 36 52.4
comp=Z,50nm,1.1s
K58A IAMs_20 IAMs_20 15 50 03.9
comp=Z,5µm,18.0s
UPM Unac-Piva 34.05 74 *e*P P 15 36 36.3 +1.5
G55A Calabogie 34.09 290 P P 15 36 34.2 -0.6
baz=75,SNR=5.1
J57A Williamstown 34.09 286 P P 15 36 35.4 +0.5
baz=73
J57A Williamstown 34.09 286 IAMs_20 IAMs_20 15 48 45.2
comp=Z,4µm,21.0s
TEKS Tekeris 34.10 71 *e*P P 15 36 36.1 +1.1
E54A Lac Daplat, Po 34.12 292 P P 15 36 34.9 -0.2
baz=76
FRGS Fruska Gora 34.13 70⇑*i*P P 15 36 35.5 +0.2
BBLS Lazići 34.20 73⇑*i*P P 15 36 36.3 +0.3
N60A Cedar Hill Far 34.28 282 P P 15 36 37.3 +0.7
baz=69
M59A Waymart 34.28 283 P P 15 36 36.5 -0.1
baz=70
D53A Lac Vacive, Po 34.31 293 P P 15 36 36.3 -0.5
baz=77
D53A Lac Vacive, Po 34.31 293 P P 15 36 36.9 +0.1
D53A IAmb IAmb 15 36 54.2
comp=Z,41nm,1.4s
PLVO Plevna 34.38 290 P P 15 36 35.8 -1.7
PLVO IAmb IAmb 15 36 55.1
comp=Z,49nm,1.1s
CRVS Cervenica-Dubn 34.41 63 *e*P P 15 36 39.8 +2.1
CRVS pmax pmax
comp=Z,80nm,1.4s
CRVS Cervenica-Dubn 34.41 63 *e*P P 15 36 39.8 +2.1
CRVS *e*S S 15 42 08.4 +3.2
CRVS *e*L L 15 49 57.3
E53A Dumoine, Ponti 34.45 292 P P 15 36 37.9 0.0
baz=76,SNR=7.5
BINY Binghamton 34.46 284 P P 15 36 38.5 +0.3
baz=71
BINY Binghamton 34.46 284 IAMs_20 IAMs_20 15 49 59.0
comp=Z,5µm,20.0s
PDG Podgorica 34.53 75 ⇓P P 15 36 38.6 -0.1
PDG Podgorica 34.53 75 *e*P P 15 36 39.2 +0.5
DIVS Divibare 34.55 72⇑*i*P P 15 36 38.6 -0.3
DIVS Divibare 34.55 72 IAMs_20 IAMs_20 15 50 48.7
comp=Z,3µm,18.0s
DRME Dracevica, Mon 34.56 76 *e*P P 15 36 42.0 +3.0
H55A Tweed 34.59 289 P P 15 36 39.2 0.0
baz=74
K57A Scipio Center 34.66 286 P P 15 36 40.5 +0.6
baz=72
O60A Telford 34.69 281 P P 15 36 41.3 +1.2
baz=68
N59A State Game Lan 34.74 282 P P 15 36 41.3 +0.7
baz=69,SNR=10.0
N59A State Game Lan 34.74 282 P P 15 36 40.1 -0.5
N59A IAmb IAmb 15 36 53.6
comp=Z,49nm,1.1s
N59A IAMs_20 IAMs_20 15 50 19.5
comp=Z,4µm,19.0s
ALGO Algonquin Park 34.81 292 P P 15 36 41.5 +0.3
baz=75
SUW Suwalki 34.83 54 *e*P P 15 36 43.1 +2.0
SUW Suwalki 34.83 54 IAMs_20 IAMs_20 15 50 41.9
comp=Z,5µm,19.0s
TAM Tamanrasset 34.87 116 IAMs_20 IAMs_20 15 49 50.1
comp=Z,5µm,19.0s
KOLS Kolonicke sedl 34.93 63 *e*P P 15 36 43.5 +1.4
KOLS pmax pmax
comp=Z,67nm,2.4s
KOLS Kolonicke sedl 34.93 63 *e*P P 15 36 43.5 +1.4
KOLS *e*S S 15 42 18.4 +5.2
KOLS *e*L L 15 50 18.8
G54A Lake Saint Pet 34.98 291 P P 15 36 42.7 +0.1
baz=75
UZH Uzhgorod 35.00 64 *e*P P 15 36 44.2 +1.5
UZH *e*S S 15 42 13.0 -1.2
UZH MLR MLR
comp=Z,900nm,16.0s
I55A Frankford 35.03 288 P P 15 36 42.9 0.0
baz=73
P60A Greenville 35.04 280 IAMs_20 IAMs_20 15 49 05.6
comp=Z,4µm,22.0s
M58A Price's Panora 35.07 283 P P 15 36 43.6 +0.2
baz=70,SNR=11
KWP Kalwaria Pacla 35.09 62 *e*P P 15 36 45.7 +2.3
SIRR Siria 35.11 68 ⇓P P 15 36 44.3 +0.6
L57A Andrews Acres 35.13 284 P P 15 36 45.3 +1.4
baz=70
K56A Middlesex 35.24 286 P P 15 36 46.5 +1.6
baz=71
BZS Buzias 35.24 69 ⇓P P 15 36 44.3 -0.5
BZS Buzias 35.24 69 ⇓P P 15 36 44.3 -0.5
O59A Robesonia 35.25 281 P P 15 36 45.3 +0.3
baz=68
J55A Hilton 35.40 287 P P 15 36 46.6 +0.4
baz=72
J55A Hilton 35.40 287 IAMs_20 IAMs_20 15 49 47.8
comp=Z,5µm,21.0s
R61A Willards 35.41 278 IAMs_20 IAMs_20 15 50 37.4
comp=Z,4µm,20.0s
N58A Sunbury 35.44 283 P P 15 36 47.6 +1.1
baz=69
N58A Sunbury 35.44 283 IAmb IAmb 15 36 59.3
comp=Z,46nm,1.2s
N58A IAMs_20 IAMs_20 15 50 12.9
comp=Z,4µm,20.0s
Q60A Greensboro 35.50 279 IAMs_20 IAMs_20 15 48 44.8
comp=Z,4µm,22.0s
MDVR Moldovita 35.53 70 ⇑P P 15 36 47.1 -0.3
H53A Bobcaygeon 35.54 289 P P 15 36 47.2 -0.3
baz=73
M57A Sunshine Farm, 35.55 284 P P 15 36 48.3 +0.8
baz=69,SNR=7.4
M57A Sunshine Farm, 35.55 284 IAmb IAmb 15 36 54.6
comp=Z,81nm,1.4s
M57A IAMs_20 IAMs_20 15 50 45.0
comp=Z,6µm,20.0s
L56A Greenwood 35.59 285 P P 15 36 48.6 +0.7
baz=70
L56A Greenwood 35.59 285 IAMs_20 IAMs_20 15 50 34.7
comp=Z,4µm,19.0s
MMNY Mt. Morris Dam 35.63 286 IAmb IAmb 15 37 06.1
comp=Z,45nm,1.3s
O58A Lewisberry 35.84 281 P P 15 36 50.2 +0.1
baz=68
SADO Sadowa 35.87 290 IAmb IAmb 15 37 07.6
comp=Z,55nm,1.4s
LVV L'vov 35.90 61 *e*P P 15 36 51.7 +1.3
LVV *e* 15 39 22.8

LVV eS S 15 42 29.8 +1.9
LVV MLR MLR
comp=E,3µm,18.0s
LVV MLR MLR
comp=Z,2µm,18.0s
LVV MLR MLR
comp=N,3µm,17.0s
S61A Accomac 35.91 277 IAms_20 IAms_20 15 50 41.9
comp=Z,4µm,20.0s
J54A Appleton 35.97 287 IAms_20 IAms_20 15 49 53.8
comp=Z,7µm,22.0s
HERR Herculane 35.99 70 ⇑P P 15 36 51.5 +0.2
N57A Milroy 36.06 283 P P 15 36 52.4 +0.5
baz=69,SNR=11
L55A Hinsdale 36.19 285 P P 15 36 53.1 +0.1
baz=70
SKO Skopje 36.22 75 *i* P P 15 36 55.0 +1.8
K54A Basiliko Farm, 36.22 286 P P 15 36 53.0 -0.3
baz=71
M56A Emporium 36.25 284 P P 15 36 53.6 +0.1
baz=69
M56A Emporium 36.25 284 IAmb IAmb 15 37 11.3
comp=Z,57nm,1.3s
M56A IAMs_20 IAMs_20 15 51 16.3
comp=Z,4µm,18.0s
O57A Amberson 36.32 282 P P 15 36 55.0 +0.8
baz=68
IGT Igoumenitsa 36.32 79 P P 15 36 54.6 +0.5
SSPA Standing Stone 36.34 283 P P 15 36 55.6 +1.3
baz=68
SSPA Standing Stone 36.34 283 P P 15 36 53.0 -1.3
SSPA IAmb IAmb 15 37 07.2
comp=Z,45nm,1.1s
SSPA Standing Stone 36.34 283 IAMs_20 IAMs_20 15 50 59.8
comp=Z,4µm,20.0s
FINES FINESS Array B 36.36 41 P P 15 36 53.6 -0.6
comp=Z,8.5nm,0.9s,baz=260,slow=5.6,SNR=18
FINES LR LR 15 51 11.4
comp=Z,1µm,18.7s,baz=264,slow=35
FINES FINESS Array B 36.36 41 P P 15 36 54.2 0.0
FINES FINESS Array B 36.36 41 P P 15 36 54.2 0.0
NEST Nestorio 36.50 78 P P 15 36 56.8 +1.0
N56A West Decatur 36.53 283 P P 15 36 56.2 +0.2
baz=69
SRE Strehaia 36.59 70 ⇑P P 15 36 59.4 +3.0
SRE Strehaia 36.59 70 ⇑P P 15 36 59.4 +3.0
VSU Vasula 36.62 46 *i* P P 15 36 56.2 -0.2
VSU pmax pmax
comp=Z,109nm,1.1s
M55A Ridgway 36.66 284 P P 15 36 57.4 +0.3
baz=69
M55A Ridgway 36.66 284 IAMs_20 IAMs_20 15 51 28.2
comp=Z,3µm,18.0s
LOT Lotru 36.75 68 ⇓P P 15 36 59.5 +1.7
L54A Sinclairville 36.78 286 P P 15 36 58.6 +0.5
baz=70
STIP Stip 36.84 75 *i* P P 15 37 01.7 +3.1
LKD2 Lefkada island 36.84 80 P P 15 36 53.3 -5.3
NACGM Naroch 36.85 52 *e*P P 15 37 06.0 +7.6
NACGM *e*PP PP 15 38 27.0 +4.8
NACGM *e*S S 15 42 40.0 -2.3
NACGM *e*SS SnSn 15 44 58.0 -16
NACGM eLQ LQ 15 49 16.0
NACGM eLR LR 15 52 16.0
NACGM LRM MLR 15 54 49.0
comp=Z,4.0nm,16.0s
P57A Homestead Farm 36.86 281 P P 15 36 60.0 +1.2
baz=67
P57A Homestead Farm 36.86 281 IAMs_20 IAMs_20 15 50 44.8
comp=Z,4µm,21.0s
T60A Surry 36.91 277 IAMs_20 IAMs_20 15 51 22.2
comp=Z,3µm,20.0s
EVGI Lefkada island 36.91 81 P P 15 36 54.2 -5.0
O56A Blue Knob Stat 36.96 283 P P 15 37 01.2 +1.5
baz=68
O56A Blue Knob Stat 36.96 283 IAMs_20 IAMs_20 15 51 29.2
comp=Z,4µm,19.0s
D48A Paudash Townsh 37.02 295 P P 15 37 00.1 +0.1
baz=75,SNR=5.7
N55A Marion Center 37.06 283 P P 15 37 02.1 +1.6
baz=68,SNR=5.8
TULEG Thule 37.06 345 IAMs_20 IAMs_20 15 49 48.9
comp=Z,6µm,19.0s
BUR08 Bucovina Ar. S 37.12 65 IAmb IAmb 15 37 09.9
comp=Z,42nm,1.2s
BURAR Bucovina Array 37.14 65 ⇑P P 15 37 03.8 +2.6
BURAR Bucovina Array 37.14 65 ⇑P P 15 37 03.8 +2.6
BURAR Bucovina Array 37.14 65 P P 15 36 59.2 -1.9
VAY Valandovo 37.24 75 *i* P P 15 37 04.1 +2.1
VTS Vitosha 37.25 73 P P 15 37 03.9 +1.7
M54A Oil Creek Stat 37.28 285 IAMs_20 IAMs_20 15 51 47.6
comp=Z,3µm,19.0s
ERPA Erie 37.29 286 IAMs_20 IAMs_20 15 51 45.8
comp=Z,4µm,18.0s
Q57A Strasburg 37.32 281 P P 15 37 03.5 +0.8
baz=66,SNR=8.5
R58A Rapidan 37.33 279 P P 15 37 04.1 +1.4
baz=65
ARR Arges 37.35 68 ⇓P P 15 37 05.9 +2.9
MPEP Malo Peshtene 37.36 72 P P 15 37 04.4 +1.4
R58B Mineral 37.38 279 P P 15 37 04.1 +1.0
baz=65
R58B Mineral 37.38 279 IAMs_20 IAMs_20 15 54 01.6
comp=Z,4µm,18.0s
KKB Krupnik 37.41 74 P P 15 37 05.8 +2.4
E48A Lockeyer 37.44 294 P P 15 37 05.0 +1.4
baz=74
P56A Dayton Farm, R 37.44 281 P P 15 37 04.1 +0.4
baz=67
I51A Listowel 37.45 289 P P 15 37 03.9 +0.2
baz=71
ARCES ARCESS Array B 37.47 28 P P 15 37 02.2 -1.3
comp=Z,11nm,1.0s,baz=246,slow=7.8,SNR=11
ARCES LR LR 15 50 28.6
comp=Z,1µm,20.8s,baz=258,slow=33
ARCES ARCESS Array B 37.47 28 P P 15 37 02.8 -0.7
ARCES ARCESS Array B 37.47 28 P P 15 37 02.8 -0.7
ARE0 ARCESS Array S 37.47 28 P P 15 36 59.7 -3.8
O55A Ligonier 37.50 283 P P 15 37 04.9 +0.6
baz=67
MICGM Minsk 37.53 53 *e*P P 15 37 04.0 -0.2
MICGM *e*PP PnPn 15 38 31.0 +0.5
MICGM *e*PPP PPP 15 39 03.0
MICGM *e*S S 15 42 52.0 -0.7
MICGM *e*SS SnSn 15 45 31.0 +0.7
MICGM *e*SSS SSS 15 46 19.0
MICGM eLR LR 15 51 50.0
MICGM LRM MLR 15 53 44.0
comp=Z,3.4nm,14.0s
MNK Minsk 37.53 53 *e*P P 15 37 04.0 -0.2
MNK *e* 15 38 31.0
MNK *e*S S 15 42 52.0 -0.7
MNK *e*SS SnSn 15 45 31.0 +0.7
MNK MLR MLR
comp=Z,3µm,14.0s
T59A Double "B" Far 37.57 277 P P 15 37 06.3 +1.6
baz=64
T59A Double "B" Far 37.57 277 IAMs_20 IAMs_20 15 51 40.8
comp=Z,4µm,20.0s
VOIR 37.61 68 ⇓P P 15 37 05.7 +0.5
VOIR 37.61 68 ⇓P P 15 37 05.7 +0.5
S58A Poland Farm, P 37.65 278 P P 15 37 05.4 -0.1
baz=65
DOPR Dopca 37.69 67 ⇑P P 15 37 07.1 +1.3
R57A Stanardsville 37.70 280 P P 15 37 06.7 +0.8
baz=65,SNR=6.3
N54A Moraine State 37.70 284 P P 15 37 06.4 +0.5
baz=68
N54A Moraine State 37.70 284 IAMs_20 IAMs_20 15 52 01.9
comp=Z,4µm,19.0s
ANX Ano Chora 37.83 80 P P 15 37 08.5 +1.4
Q56A Snyder Ridge, 37.88 281 P P 15 37 08.0 +0.7
baz=66,SNR=8.2
Q56A Snyder Ridge, 37.88 281 P P 15 37 08.1 +0.7
Q56A IAmb IAmb 15 37 27.3
comp=Z,67nm,1.2s
Q56A IAMs_20 IAMs_20 15 51 05.6
comp=Z,4µm,22.0s
BIZ Bicaz 37.90 65 ⇓P P 15 37 09.5 +2.1
D47A Chapleau 37.90 295 P P 15 37 06.7 -0.8
baz=74
DRO Drossia 37.94 81 P P 15 37 07.4 -0.6
AGG Agios Georgios 37.95 79 P P 15 37 07.1 -0.9
AGG Agios Georgios 37.95 79 IAmb IAmb 15 37 15.6
comp=Z,44nm,0.9s

MMB Musomiste 37.95 75 P P 15 37 10.2 +2.1
M53A WI Miller and 38.01 285 P P 15 37 09.3 +0.8
baz=68
M53A WI Miller and 38.01 285 IAmb IAmb 15 37 14.3
comp=Z,55nm,1.4s
M53A IAMs_20 IAMs_20 15 51 58.9
comp=Z,4µm,20.0s
U59A Littleton 38.02 276 P P 15 37 10.0 +1.4
baz=63
U59A Littleton 38.02 276 IAMs_20 IAMs_20 15 50 18.6
comp=Z,3µm,21.0s
SRS Serrai 38.03 75 P P 15 37 05.3 -3.4
MCWV Mont Chateau 38.10 282 P P 15 37 10.7 +1.4
baz=67
NVR Nevrokopi 38.14 75 P P 15 37 09.1 -0.5
P55A Reedsville 38.15 282 P P 15 37 09.5 -0.2
baz=66
E47A Iron Bridge 38.18 294 P P 15 37 10.1 +0.2
baz=74,SNR=6.2
MLR Muntele Rosu 38.20 68 ⇑P P 15 37 12.2 +2.0
MLR Muntele Rosu 38.20 68 ⇑P P 15 37 12.2 +2.0
S57A Dark Hollow, R 38.24 279 P P 15 37 11.4 +0.9
baz=65,SNR=7.4
S57A Dark Hollow, R 38.24 279 P P 15 37 10.9 +0.5
O54A Avella 38.27 283 P P 15 37 11.6 +0.9
baz=67
O54A Avella 38.27 283 IAMs_20 IAMs_20 15 52 20.0
comp=Z,4µm,19.0s
AXAR Agios Charalam 38.28 79 P P 15 37 10.3 -0.5
T58A Grand View Acr 38.29 278 P P 15 37 10.7 -0.2
baz=64
R56A Bull Pasture M 38.29 280 P P 15 37 12.0 +1.1
baz=65,SNR=12
N53A Lisbon 38.36 284 P P 15 37 13.2 +1.8
baz=68
N53A Lisbon 38.36 284 IAMs_20 IAMs_20 15 52 13.2
comp=Z,4µm,19.0s
ITM Ithomi 38.43 82 IAmb IAmb 15 37 19.6
comp=Z,57nm,1.0s
PLD Plovdiv 38.45 73 P P 15 37 15.1 +2.9
M52A Chesterland 38.45 286 P P 15 37 12.2 -0.1
baz=68
M52A Chesterland 38.45 286 IAMs_20 IAMs_20 15 52 11.6
comp=Z,4µm,20.0s
Q55A Buckhannon 38.53 281 P P 15 37 13.9 +0.9
baz=66,SNR=7.2
U58A Oxford 38.54 277 P P 15 37 13.5 +0.5
baz=63
PAIG Paliouri 38.55 77 P P 15 37 11.1 -1.9
W60A Pink Hill 38.55 274 P P 15 37 14.6 +1.6
baz=62
D46A Sault St. Mari 38.56 295 P P 15 37 14.1 +1.1
baz=74,SNR=5.2
PLOR Plostina 38.56 67 ⇑P P 15 37 15.3 +2.2
PLOR Plostina 38.56 67 ⇑P P 15 37 15.3 +2.2
P54A Burton 38.57 282 P P 15 37 13.7 +0.4
baz=66
V59A Middlesex 38.60 276 P P 15 37 14.7 +1.2
baz=62
RZN Rozhen 38.61 74 P P 15 37 15.9 +2.2
VRI Vrincioaia 38.61 67 ⇓P P 15 37 15.1 +1.6
VRI ⇑P P 15 37 15.4 +1.9
VRI Vrincioaia 38.61 67 ⇑P P 15 37 15.4 +1.9
S56A Natural Bridge 38.71 279 P P 15 37 16.1 +1.6
baz=64
H05N1 Guadeloupe/Mar 38.78 236 T T 16 18 11.5
SNR=6.2
T57A Hurt 38.78 278 P P 15 37 16.1 +1.1
baz=64
T57A Hurt 38.78 278 P P 15 37 15.1 +0.1
O53A New Philadelph 38.84 284 P P 15 37 16.6 +1.2
baz=67,SNR=8.7
O53A New Philadelph 38.84 284 IAMs_20 IAMs_20 15 52 46.9
comp=Z,4µm,18.0s
SPITS Spitsbergen Ar 38.85 13 P P 15 37 10.7 -4.4
comp=Z,4.4nm,0.8s,baz=269,slow=8.2,SNR=1.8
R55A Marlinton 38.85 280 P P 15 37 17.1 +1.4
baz=65
R55A Marlinton 38.85 280 IAMs_20 IAMs_20 15 51 24.5
comp=Z,3µm,21.0s
AKASG Malin Array Be 38.98 59 P P 15 37 15.4 -1.1
comp=Z,2.6nm,0.7s,baz=279,slow=8.2,SNR=22
AKASG PP PnPn 15 38 47.0 -1.1
comp=Z,0.6nm,0.4s,baz=287,slow=10,SNR=3.3
AKASG PcP PcP 15 39 26.6 -0.1
comp=Z,3.3nm,0.9s,baz=275,slow=3.5,SNR=4.6
AKASG LR LR 15 53 04.2
comp=Z,3µm,19.4s,baz=280,slow=36
AKASG Malin Array Be 38.98 59 *ce*P P 15 37 17.1 +0.6
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 38.98 59 P P 15 37 18.2 +1.7
AKBB Malin Array Si 38.98 59 P P 15 37 16.9 +0.4
AKBB pmax pmax
comp=Z,28nm,1.2s
AKBB Malin Array Si 38.98 59 P P 15 37 16.9 +0.4
DIM Dimitrovgrad 39.05 73 P P 15 37 20.0 +2.8
SORM Soroca 39.05 63 ⇓P P 15 37 21.6 +4.5
SORM Soroca 39.05 63 ⇓P P 15 37 21.6 +4.5
Q54A Coxs Mills 39.07 282 P P 15 37 19.3 +1.8
baz=66,SNR=5.3
Q54A Coxs Mills 39.07 282 IAMs_20 IAMs_20 15 52 14.2
comp=Z,5µm,21.0s
U57A Blanch 39.09 277 P P 15 37 18.5 +0.9
baz=63,SNR=7.6
V58A Windy Hill, Pi 39.22 276 P P 15 37 19.6 +0.9
baz=62,SNR=9.6
V58A Windy Hill, Pi 39.22 276 IAMs_20 IAMs_20 15 50 53.6
comp=Z,3µm,22.0s
P53A Whipple 39.26 283 P P 15 37 19.8 +0.8
baz=68,SNR=8.6
P53A Whipple 39.26 283 P P 15 37 16.3 -2.7
P53A IAMs_20 IAMs_20 15 53 00.2
comp=Z,4µm,19.0s
T56A Rocky Mt 39.33 278 P P 15 37 21.4 +1.8
baz=64
O52A Adamsville 39.33 284 P P 15 37 21.2 +1.6
baz=67
O52A Adamsville 39.33 284 IAmb IAmb 15 37 37.8
comp=Z,73nm,1.4s
O52A IAMs_20 IAMs_20 15 53 02.9
comp=Z,4µm,18.0s
S55A Lewisburg 39.34 280 P P 15 37 20.9 +1.1
baz=64,SNR=7.2
RDO Rodhopi 39.38 74 P P 15 37 21.3 +1.3
N51A Ashland 39.40 285 P P 15 37 21.8 +1.6
baz=67
N51A Ashland 39.40 285 IAmb IAmb 15 37 38.0
comp=Z,98nm,1.4s
N51A IAMs_20 IAMs_20 15 53 01.6
comp=Z,4µm,19.0s
R54A Victor 39.52 281 P P 15 37 22.1 +0.9
baz=65,SNR=7.0
BLA Blacksburg 39.53 279 P P 15 37 22.4 +1.1
baz=64,SNR=7.3
BLA Blacksburg 39.53 279 P P 15 37 21.9 +0.6
BLA pmax pmax
comp=Z,25nm,1.0s
BLA MLR MLR
comp=Z,3µm,18.0s
BLA Blacksburg 39.53 279 P P 15 37 21.9 +0.6
BLA IAMs_20 IAMs_20 15 55 51.4
comp=Z,3µm,18.0s
Q53A Leroy 39.62 282 P P 15 37 22.2 +0.2
baz=65
JMB Yambol 39.63 72 P P 15 37 25.4 +3.4
V57A Coltrane Farms 39.66 277 P P 15 37 23.7 +1.3
baz=62,SNR=7.8
KIS Kishinev 39.66 64 *e*P P 15 37 24.0 +1.7
KIS Kishinev 39.66 64 *e*PP PP 15 38 55.0 +1.8
KIS *e*SS SS 15 46 02.0 -18
KIS eLR LR 15 51 34.0
comp=Z,470nm,20.0s
KIS Kishinev 39.66 64 *e*P P 15 37 24.0 +1.7
KIS *e* 15 38 55.0
KIS *e* 15 39 35.0
KIS *e* 15 43 27.0
KIS MLR MLR
comp=E,600nm,17.0s
W58A Raeford 39.67 275 P P 15 37 23.9 +1.5
baz=62
P52A Corning 39.73 283 P P 15 37 24.4 +1.5
baz=66,SNR=5.3
P52A Corning 39.73 283 IAMs_20 IAMs_20 15 53 41.5
comp=Z,4µm,18.0s
CFR Carcaliu 39.77 67 ⇑P P 15 37 24.6 +1.5

CFR Carcaliu 39.77 67 ⇑P P 15 37 24.6 +1.5
T55A Pulaski 39.83 279 P P 15 37 24.6 +0.8
baz=64
ALN Alexandroupoli 39.84 74 P P 15 37 23.8 +0.1
ALN Alexandroupoli 39.84 74 P P 15 37 27.5 +3.8
O51A Pataskala 39.86 284 P P 15 37 25.3 +1.3
baz=66
U56A King 39.88 278 P P 15 37 25.5 +1.2
baz=63
U56A King 39.88 278 IAMs_20 IAMs_20 15 53 20.0
comp=Z,3µm,19.0s
S54A Dingess, Beckl 39.91 280 P P 15 37 25.6 +1.1
baz=64
S54A Dingess, Beckl 39.91 280 IAMs_20 IAMs_20 15 51 43.5
comp=Z,4µm,22.0s
TOA0 Torodi Ar. Sit 39.91 130 P P 15 37 25.1 +0.5
TORD Torodi Ar. Bea 39.91 130 P P 15 37 24.9 +0.3
comp=Z,18nm,0.9s,baz=324,slow=8.6,SNR=45
TORD LR LR 15 52 37.3
comp=Z,6µm,20.4s,baz=315,slow=34
TORD Torodi Ar. Bea 39.91 130 P P 15 37 24.6 0.0
X58A Rowland 39.97 275 IAMs_20 IAMs_20 15 50 30.3
comp=Z,3µm,21.0s
APA Apatity 39.99 32 ⇓*i* P P 15 37 25.0 +0.3
APA *i* 15 39 00.0
APA *i* S S 15 43 32.0 +2.5
APA *i* SS SS 15 46 15.0 -11
APA pmax pmax
comp=Z,10.0nm,1.0s
ACSO Alum Creek Sta 40.09 285 P P 15 37 27.8 +1.9
baz=66
ACSO Alum Creek Sta 40.09 285 IAMs_20 IAMs_20 15 53 25.0
comp=Z,4µm,19.0s
Q52A Bidwell 40.10 282 P P 15 37 26.3 +0.4
baz=65,SNR=10
R53A Hurricane 40.14 281 P P 15 37 27.1 +0.8
baz=65,SNR=5.4
R53A Hurricane 40.14 281 IAMs_20 IAMs_20 15 52 26.5
comp=Z,4µm,20.0s
W57A Gilead 40.15 276 P P 15 37 25.5 -0.9
baz=62
W57A Gilead 40.15 276 IAMs_20 IAMs_20 15 52 48.3
comp=Z,3µm,21.0s
TIRR Tirgusor 40.19 68 ⇑P P 15 37 28.5 +1.9
TIRR Tirgusor 40.19 68 ⇑P P 15 37 28.5 +1.9
V56A Mocksville 40.21 277 P P 15 37 28.2 +1.3
baz=62,SNR=6.4
MTP Monte Pirata 40.24 243 P P 15 37 24.0 -3.3
MTP IAmb IAmb 15 37 35.5
comp=Z,63nm,1.3s
U55A TA2, Sparta 40.29 278 P P 15 37 28.8 +1.1
baz=63,SNR=12
T54A Tazewell 40.42 279 P P 15 37 29.1 +0.3
baz=63,SNR=8.4
P51A Williamsport 40.45 284 P P 15 37 30.1 +1.3
baz=66
P51A Williamsport 40.45 284 IAMs_20 IAMs_20 15 53 47.5
comp=Z,5µm,18.0s
ALE Alert 40.48 354 IAMs_20 IAMs_20 15 51 41.2
comp=Z,4µm,18.0s
S53A Williamson 40.54 281 P P 15 37 30.1 +0.4
baz=64
W56A Indian Trail 40.59 276 P P 15 37 31.6 +1.6
baz=62
N49A Columbus Grove 40.66 286 IAmb IAmb 15 37 40.1
comp=Z,62nm,1.5s
V55A Taylorsville 40.71 278 P P 15 37 32.2 +1.2
baz=62,SNR=7.8
V55A Taylorsville 40.71 278 IAMs_20 IAMs_20 15 53 45.9
comp=Z,3µm,19.0s
U54A Nelsons Funny 40.84 279 P P 15 37 32.8 +0.6
baz=63,SNR=8.3
Z58A St. Stephen 40.91 273 P P 15 37 34.2 +1.5
baz=60
Y57A Sumter 40.99 275 IAMs_20 IAMs_20 15 50 59.4
comp=Z,3µm,22.0s
O49A Covington 41.06 285 IAmb IAmb 15 37 51.5
comp=Z,93nm,1.5s
KMSC Kings Mountain 41.13 277 P P 15 37 36.0 +1.5
baz=61,SNR=6.1
T53A Wise 41.14 280 P P 15 37 35.1 +0.4
baz=63
X56A White Oak 41.22 276 P P 15 37 36.5 +1.3
baz=61
V54A Nebo 41.27 278 P P 15 37 36.6 +0.9
baz=62,SNR=5.1
NHSC New Hope 41.28 273 P P 15 37 37.6 +1.8
baz=60
NHSC New Hope 41.28 273 IAMs_20 IAMs_20 15 51 25.4
comp=Z,3µm,21.0s
Z57A Bowman 41.57 274 P P 15 37 39.6 +1.5
baz=60
GRTK Grand Turk 41.59 252 IAMs_20 IAMs_20 15 51 19.0
comp=Z,3µm,20.0s
P49A Miami Univ. Ec 41.59 284 IAMs_20 IAMs_20 15 54 20.7
comp=Z,4µm,20.0s
X55A Gracelyn & Ava 41.67 276 P P 15 37 40.3 +1.4
baz=61,SNR=11
W54A Cherokee Point 41.77 277 P P 15 37 40.9 +1.2
baz=61,SNR=16
TMCR Tamitsa 41.86 37 *e*P P 15 37 38.7 -1.4
EUNU Eureka 41.93 347 P P 15 37 39.4 -1.2
TZTN Tazewell 42.07 280 P P 15 37 42.5 +0.2
baz=62
TZTN Tazewell 42.07 280 P P 15 37 40.9 -1.4
TZTN IAMs_20 IAMs_20 15 54 01.6
comp=Z,3µm,20.0s
Y55A Saluda 42.09 275 P P 15 37 43.1 +0.7
baz=60,SNR=6.6
X54A Belton 42.16 276 P P 15 37 44.1 +1.1
baz=61,SNR=21
DBIC Dimbokro 42.24 144 P P 15 37 44.7 +1.0
comp=Z,17nm,1.1s,baz=308,slow=5.7,SNR=6.8
DBIC LR LR 15 54 05.9
comp=Z,2µm,19.1s,baz=318,slow=34
RES Resolute Bay 42.28 339 P P 15 37 41.6 -1.8
comp=Z,25nm,1.1s,baz=97,slow=10,SNR=5.0
RES Resolute Bay 42.28 339 P P 15 37 42.3 -1.1
RES pmax pmax
comp=Z,45nm,1.3s
RES Resolute Bay 42.28 339 P P 15 37 42.3 -1.1
OBN Obninsk 42.38 51 *c i*P P 15 37 44.5 +0.1
OBN *i* 15 39 41.2
OBN *i* S S 15 44 05.7 +0.5
OBN pmax pmax
comp=Z,65nm,1.3s
OBN MLR MLR
comp=Z,3µm,18.0s
OBN Obninsk 42.38 51 IAMs_20 IAMs_20 15 56 05.2
comp=Z,3µm,18.0s
I42A Draeger Farm, 42.78 292 P P 15 37 46.3 -1.7
I42A IAmb IAmb 15 37 57.5
comp=Z,50nm,1.2s
MOS Moscow 42.83 50 *e*P P 15 37 47.7 -0.4
MOS *e* 15 39 30.7
MOS pmax pmax
comp=Z,51nm,1.2s
MOS MLR MLR
comp=Z,3µm,17.0s
KLMR Klimovskoe 42.89 42 *e*P P 15 37 47.9 -0.6
KLMR *e* 15 39 26.6
KLMR *e*S S 15 44 12.8 +0.2
KLMR pmax pmax
comp=Z,54nm,1.5s
KLMR MLR MLR
comp=Z,592nm,12.0s
KLMR Klimovskoe 42.89 42 *e*P P 15 37 48.0 -0.6
KLMR AMP 15 37 55.4
comp=Z,54nm,1.5s
KLMR *e*PP PP 15 39 26.6 -1.3
KLMR *e*S S 15 44 12.8 +0.2
KLMR *e*S S 15 44 12.8 +0.2
KLMR LQ LQ 15 52 34.0
KLMR LQ LQ 15 52 34.0
KLMR LR LR 15 52 45.5
KLMR AMP 15 56 31.3
comp=Z,592nm,12.0s
SFIN Lafayette 42.91 287 P P 15 37 50.1 +1.1
baz=65
BLO Bloomington 43.01 285 IAmb IAmb 15 38 07.7
comp=Z,78nm,1.4s
EYMN Ely 43.08 299 P P 15 37 50.1 -0.2
baz=71,SNR=8.4
G40A Rib Lake 43.14 295 IAmb IAmb 15 38 08.5
comp=Z,80nm,1.4s
WCI Wyandotte Cave 43.26 283 P P 15 37 53.2 +1.3
baz=64

CPCT	Cooper Cave	43.28	279	P		P		15 37 52.4	+0.3
SDDR	Presa de Saban	43.42	249	P		P		15 37 54.2	+0.8
SDDR				IAmb		IAmb		15 37 57.8	
	comp=Z,34nm,1.0s								
SDDR				IAMs_20		IAMs_20		15 51 59.6	
	comp=Z,3µm,21.0s								
GOGA	Godfrey	43.51	276	P		P		15 37 54.7	+0.8
	baz=60,SNR=9.9								
GOGA	Godfrey	43.51	276	IAMs_20		IAMs_20		15 56 12.2	
	comp=Z,3µm,18.0s								
E38A	The Farm, Brul	43.56	297	IAmb		IAmb		15 38 01.4	
	comp=Z,68nm,1.3s								
I40A	Norwalk	43.93	293	IAmb		IAmb		15 38 15.2	
	comp=Z,94nm,1.5s								
O44A	Mansfield	43.95	287	IAmb		IAmb		15 38 05.2	
	comp=Z,54nm,1.2s								
W50A	Signal Mountai	43.96	279	IAmb		IAmb		15 38 00.9	
	comp=Z,28nm,0.8s								
L42A	Oliver, Polo	44.02	290	IAmb		IAmb		15 38 07.2	
	comp=Z,45nm,1.2s								
JFWS	Jewell Farm	44.05	291	P		P		15 37 59.4	+1.2
	baz=67								
JFWS	Jewell Farm	44.05	291	IAmb		IAmb		15 38 15.9	
	comp=Z,54nm,1.4s								
ISP	Isparta	44.27	76	IAMs_20		IAMs_20		15 58 14.9	
	comp=Z,2µm,18.0s								
LPSR	Galich'ya Gora	44.36	54	*eP*		P		15 38 00.7	+0.2
LPSR				pmax		pmax			
	comp=Z,110nm,1.3s								
LPSR				MLR		MLR			
	comp=Z,4µm,16.0s								
SWET	Sewanee	44.40	279	IAmb		IAmb		15 38 04.0	
	comp=Z,30nm,0.7s								
152A	Waverly Hall	44.80	276	IAmb		IAmb		15 38 07.7	
	comp=Z,19nm,0.8s								
SPMN	Marine on St.	44.87	295	P		P		15 38 04.9	+0.2
	baz=68,SNR=13								
SPMN	Marine on St.	44.87	295	IAmb		IAmb		15 38 08.2	
	comp=Z,31nm,0.8s								
DWPF	Disney Wildern	44.88	268	IAMs_20		IAMs_20		15 52 26.9	
	comp=Z,3µm,22.0s								
P43A	Skaggs, Pawnee	44.91	287	IAmb		IAmb		15 38 12.7	
	comp=Z,70nm,1.3s								
VSR	Storozhevoye	44.91	55	*eP*		P		15 38 04.5	-0.4
VSR				pmax		pmax			
	comp=Z,50nm,1.6s								
VSR				MLR		MLR			
	comp=Z,3µm,20.0s								
VORD	Divnogorie	45.06	56	*eP*		P		15 38 06.2	+0.1
VORD				pmax		pmax			
	comp=Z,40nm,1.0s								
ULM	Lac du Bonnet	45.07	303	P		P		15 38 05.1	-1.2
	comp=Z,3.8nm,0.6s,baz=90,slow=13,SNR=3.7								
ULM				LR		LR		15 55 13.8	
	comp=Z,7µm,20.2s,baz=76,slow=34								
F36A	Milaca	45.11	297	P		P		15 38 06.4	-0.2
F36A				IAmb		IAmb		15 38 14.0	
	comp=Z,50nm,1.3s								
WVT	Waverly	45.32	282	P		P		15 38 08.7	+0.3
	baz=61								
WVT	Waverly	45.32	282	P		P		15 38 07.3	-1.1
WVT				pmax		pmax			
	comp=Z,25nm,0.9s								
WVT	Waverly	45.32	282	P		P		15 38 07.2	-1.1
WVT				IAmb		IAmb		15 38 11.3	
	comp=Z,25nm,0.9s								
WVT				IAMs_20		IAMs_20		15 55 16.5	
	comp=Z,4µm,22.0s								
GTBY	Guantanamo Bay	45.41	254	IAMs_20		IAMs_20		15 52 51.0	
	comp=Z,2µm,20.0s								
352A	Blakely	45.57	274	IAmb		IAmb		15 38 14.0	
	comp=Z,43nm,0.8s								
S44A	Carbondale	45.59	284	IAmb		IAmb		15 38 12.2	
	comp=Z,30nm,1.1s								
BR131	Keskin Array S	45.61	73	P		P		15 38 08.0	-2.8
BR131				pmax		pmax			
	comp=Z,26nm,1.0s								
BR131	Keskin Array S	45.61	73	P		P		15 38 08.0	-2.8
BR131				IAmb		IAmb		15 38 18.3	
	comp=Z,26nm,1.0s								
BRTR	Keskin Array B	45.61	73	P		P		15 38 12.9	+2.1
	comp=Z,17nm,1.0s,baz=286,slow=3.5,SNR=25								
BRTR				PcP		PcP		15 39 48.8	-0.2
	comp=Z,4.3nm,0.9s,baz=259,slow=2.1,SNR=5.0								
BRTR				LR		LR		15 58 12.0	
	comp=Z,2µm,18.3s,baz=274,slow=37								
BRTR	Keskin Array B	45.61	73	P		P		15 38 11.2	+0.4
PRGR	Permogore	45.65	40	*eP*		P		15 38 11.1	+0.4
PRGR				*e*				15 39 48.0	
PRGR				pmax		pmax			
	comp=Z,64nm,1.5s								
AGMN	Agassiz Nation	45.72	301	P		P		15 38 11.4	0.0
	baz=69,SNR=6.9								
PLAL	Pickwick Lake	46.05	280	IAmb		IAmb		15 38 17.1	
	comp=Z,32nm,0.8s								
ANN	Anapa	46.07	64	*eP*		P		15 38 15.5	+1.4
ANN				*e**PP		sP		15 38 18.7	0.0
ANN				*e*				15 39 58.5	
ANN				*eS*		S		15 45 01.4	+2.3
ANN				pmax		pmax			
	comp=Z,60nm,1.0s								
ANN				MLR		MLR			
	comp=Z,4µm,19.0s								
ANN				MLR		MLR			
	comp=N,1µm,17.0s								
LRAL	Lakeview Retre	46.25	277	P		P		15 38 16.2	+0.4
	baz=59,SNR=12								
LRAL	Lakeview Retre	46.25	277	IAmb		IAmb		15 38 18.9	
	comp=Z,19nm,0.8s								
LRAL				IAMs_20		IAMs_20		15 56 47.6	
	comp=Z,3µm,20.0s								
250A	Grady	46.27	276	IAmb		IAmb		15 38 18.3	
	comp=Z,36nm,0.9s								
FVM	French Village	46.28	285	IAmb		IAmb		15 38 20.3	
	comp=Z,31nm,0.9s								
VRH	Novokhopyorsk	46.44	55	*eP*		P		15 38 17.0	0.0
VRH				pmax		pmax			
	comp=Z,60nm,1.2s								
VRH				MLR		MLR			
	comp=Z,3µm,17.0s								
CCM	Cathedral Cave	46.82	286	P		P		15 38 20.3	+0.1
	baz=62								
CCM	Cathedral Cave	46.82	286	P		P		15 38 19.7	-0.5
CCM				pmax		pmax			
	comp=Z,42nm,0.9s								
CCM				MLR		MLR			
	comp=Z,3µm,18.0s								
CCM	Cathedral Cave	46.82	286	P		P		15 38 19.7	-0.5
CCM	Cathedral Cave	46.82	286	IAMs_20		IAMs_20		15 57 38.1	
	comp=Z,3µm,18.0s								
FFC	Flin Flon	47.19	311	P		P		15 38 21.5	-1.3
FFC				pmax		pmax			
	comp=Z,39nm,1.3s								
FFC	Flin Flon	47.19	311	P		P		15 38 21.5	-1.3
FFC				IAmb		IAmb		15 38 39.5	
	comp=Z,39nm,1.3s								
FFC	Flin Flon	47.19	311	IAMs_20		IAMs_20		15 55 43.3	
	comp=Z,4µm,19.0s								
T42A	Van Buren	47.20	284	IAmb		IAmb		15 38 25.5	
	comp=Z,31nm,0.8s								
OXF	Oxford	47.23	281	P		P		15 38 23.3	-0.1
	baz=60,SNR=15								
OXF	Oxford	47.23	281	P		P		15 38 22.7	-0.7
OXF				pmax		pmax			
	comp=Z,133nm,1.2s								
OXF				MLR		MLR			
	comp=Z,2µm,20.0s								
OXF	Oxford	47.23	281	P		P		15 38 22.7	-0.7
OXF				IAMs_20		IAMs_20		15 58 17.3	
	comp=Z,2µm,20.0s								
LCAR	Lake Charles	47.70	283	IAmb		IAmb		15 38 27.8	
	comp=Z,27nm,1.2s								
ECSD	EROS Data Cent	47.97	295	P		P		15 38 28.9	-0.2
	baz=65,SNR=17								
ECSD	EROS Data Cent	47.97	295	IAMs_20		IAMs_20		15 57 13.8	
	comp=Z,3µm,20.0s								
SOC	Sochi	48.06	65	*eP*		P		15 38 31.1	+1.3
SOC				*e*				15 40 19.1	
SOC				*e*PPP		PPP		15 41 08.7	
SOC				*eS*		S		15 45 30.5	+2.8
SOC				*eSS*		SS		15 48 53.7	-2.6
SOC				pmax		pmax			
	comp=Z,20nm,1.1s								
SOC				MLR		MLR			
	comp=Z,2µm,18.0s								
MDND	Maddock	48.22	301	P		P		15 38 30.9	0.0
	baz=67								
ROSB	Rosrio	48.40	201	*eP*		P		15 38 34.5	+1.9
FCAR	Ozark Folk Cen	48.48	284	IAmb		IAmb		15 38 35.0	
	comp=Z,23nm,0.9s								
N35A	Tabor	48.57	291	IAmb		IAmb		15 38 42.1	
	comp=Z,35nm,1.2s								
MCPB	Macapa, AP	48.60	212	*eP*		P		15 38 35.1	+0.9
MCPB				*eS*		S		15 45 39.0	+3.2
U40A	Yellville	48.76	285	P		P		15 38 35.0	-0.3
	baz=60,SNR=52								
W41B	Gary Mavity, V	48.92	283	P		P		15 38 35.6	-0.9
	baz=60,SNR=24								
W41B	Gary Mavity, V	48.92	283	IAmb		IAmb		15 38 39.9	
	comp=Z,35nm,0.9s								
TMAB	Tom-Au,PA,Br	49.06	206	*eP*		P		15 38 39.0	+1.4
UALR	University of	49.19	282	IAmb		IAmb		15 38 50.5	
	comp=Z,44nm,1.4s								
VBMS	Vicksburg	49.21	279	P		P		15 38 39.7	+0.9
	baz=58								
VBMS	Vicksburg	49.21	279	IAMs_20		IAMs_20		15 57 28.8	
	comp=Z,2µm,20.0s								
HHAR	Hobbs	49.56	285	IAmb		IAmb		15 38 48.1	
	comp=Z,36nm,1.2s								
GOF	Gofitskoye	49.60	62	*eP*		P		15 38 42.4	+0.8
GOF				pmax		pmax			
	comp=Z,36nm,0.8s								
RCBR	Riachuelo	49.67	190	*eP*		P		15 38 45.4	+3.0
X40A	Basin Creek Fa	49.68	282	P		P		15 38 41.5	-0.8
	baz=59,SNR=5.7								
X40A	Basin Creek Fa	49.68	282	IAmb		IAmb		15 38 54.4	
	comp=Z,36nm,1.4s								
U38A	Gravette	49.79	285	IAmb		IAmb		15 38 45.0	
	comp=Z,22nm,0.8s								
KIV	Kislovodsk	49.84	63	*eP*		P		15 38 45.9	+2.3
KIV				*eS*		S		15 45 56.4	+3.4
KIV				pmax		pmax			
	comp=Z,29nm,1.1s								
KIV				MLR		MLR			
	comp=Z,2µm,16.0s								
W39A	Magazine	49.99	284	P		P		15 38 44.4	-0.3
	baz=59,SNR=18								
KSU1	Kansas State U	50.04	290	P		P		15 38 44.9	-0.1
	baz=61,SNR=6.2								
KSU1	Kansas State U	50.04	290	IAmb		IAmb		15 38 48.4	
	comp=Z,35nm,0.9s								
KBZ	Khabaz	50.08	64	P		P		15 38 46.4	+1.2
	comp=Z,3.3nm,0.8s,baz=296,slow=7.4,SNR=5.0								
KBZ				PcP		PcP		15 40 06.6	+1.9
	comp=Z,9.1nm,1.0s,baz=344,slow=1.1,SNR=4.3								
KBZ				LR		LR		16 00 33.3	
	comp=Z,1µm,19.4s,baz=312,slow=37								
MMAI	Mount Meron Ar	50.10	80	P		P		15 38 47.2	+1.6
	comp=Z,2.3nm,0.8s,baz=298,slow=5.3,SNR=8.4								
MIAR	Mount Ida	50.18	283	P		P		15 38 45.9	-0.2
	baz=59,SNR=50								
Z41A	Richland Creek	50.30	281	P		P		15 38 47.2	+0.2
	baz=58,SNR=10								
SDV	Santo Domingo	50.40	239	*eP*		P		15 38 47.8	-0.4
SDV	Santo Domingo	50.40	239	*eP*		P		15 38 48.5	+0.4
YKA	Yellowknife Ar	50.83	323	P		P		15 38 48.0	-2.6
	comp=Z,3.7nm,0.8s,baz=64,slow=7.9,SNR=4.9								
YKA				LR		LR		15 57 25.3	
	comp=Z,3µm,20.7s,baz=0.0,slow=33								
MALB	Monte Alegre	50.84	214	*eP*		P		15 38 52.6	+1.4
T35A	Sooner Cattle	51.04	287	IAmb		IAmb		15 38 54.3	
	comp=Z,33nm,0.8s								
TUL1	Leonard	51.04	286	P		P		15 38 51.6	-1.0
	baz=59								
TUL1	Leonard	51.04	286	IAmb		IAmb		15 38 55.7	
	comp=Z,37nm,1.0s								
ZEI	Tsey	51.16	64	*eP*		P		15 38 54.9	+1.2
ZEI				pmax		pmax			
	comp=Z,51nm,1.1s								
X37A	Clayton	51.42	284	IAmb		IAmb		15 39 02.6	
	comp=Z,38nm,1.4s								
X37A				IAMs_20		IAMs_20		15 58 19.1	
	comp=Z,4µm,22.0s								
QUOK	Quay	51.55	286	IAmb		IAmb		15 39 13.0	
	comp=Z,61nm,1.1s								
EIL	Elat	51.59	83	P		P		15 38 57.4	+0.6
	comp=Z,12nm,0.8s,baz=355,slow=7.4,SNR=4.1								
ASF	Jabal al Asfar	51.61	80	P		P		15 38 57.6	+0.6
	comp=Z,2.3nm,0.7s,baz=269,slow=2.7,SNR=12								
R32A	Long Quarter,	51.81	290	IAmb		IAmb		15 39 14.5	
	comp=Z,50nm,1.3s								
ARGC	Ariguani, Magd	51.97	244	*eP*		P		15 39 01.0	+1.2
GROC	Groznyy	52.20	63	*eP*		P		15 39 03.1	+1.9
GROC				*e*				15 40 15.7	
GROC				*eS*		S		15 46 30.2	+4.8
GROC				pmax		pmax			
	comp=Z,38nm,0.8s								
GROC				MLR		MLR			
	comp=Z,1µm,13.0s								
OK029	Liberty Lake	52.26	286	IAMs_20		IAMs_20		16 00 16.1	
	comp=Z,4µm,21.0s								
PTGA	Pitinga	52.37	221	P		P		15 39 01.8	-0.9
PTGA				IAmb		IAmb		15 39 10.8	
	comp=Z,43nm,1.3s								
PTGA	Pitinga	52.37	221	*eP*		P		15 39 03.3	+0.6
NATX	Nacogdoches	52.42	280	P		P		15 39 04.0	+1.1
	baz=57								
NATX	Nacogdoches	52.42	280	IAmb		IAmb		15 39 21.3	
	comp=Z,53nm,1.2s								
NATX				IAMs_20		IAMs_20		16 01 11.8	
	comp=Z,4µm,19.0s								
SJCC	San Jacinto, C	52.55	245	*eP*		P		15 38 59.8	-4.3
RSSD	Black Hills	52.61	299	P		P		15 39 05.1	+0.6
	baz=62								
SMLC	San Martn de	52.65	243	*eP*		P		15 39 03.5	-1.3
H10N2	ASCENSION HYDR	52.75	162	T		T		16 36 07.9	
	baz=349,slow=75,SNR=18								
H10N3	ASCENSION HYDR	52.76	163	T		T		16 36 09.7	
	baz=349,slow=75,SNR=26								
H10N1	ASCENSION HYDR	52.77	162	T		T		16 36 07.0	
	baz=349,slow=75,SNR=12								
LAO	LASA Array	52.80	302	P		P		15 39 06.4	+0.8
	baz=63,SNR=8.8								
OGNE	Ogallala	52.81	294	P		P		15 39 06.0	+0.1
	baz=61								
PAMC	Pamplona, Colo	52.88	240	*eP*		P		15 39 02.8	-4.2
PRPB	Parauapebas	53.19	207	*eP*		P		15 39 10.0	+1.2
Z35A	Perchaven, San	53.42	284	IAmb		IAmb		15 39 27.0	
	comp=Z,63nm,1.2s								
MAK	Makhachkala	53.42	62	*eP*		P		15 39 05.4	-4.7
MAK				*eS*		S		15 46 31.6	-10
MAK				*eSS*		SS		15 50 15.2	-6.3
MAK				pmax		pmax			
	comp=Z,180nm,1.2s								
MAK				MLR		MLR			
	comp=Z,1µm,15.0s								
ARU	Arti	53.67	44	P		P		15 39 11.4	-0.4
	comp=Z,2.1nm,0.7s,baz=291,slow=6.1,SNR=24								
ARU	Arti	53.67	44	*d iP*		P		15 39 11.1	-0.7
ARU								15 40 17.5	
ARU								15 41 12.0	
ARU				PPP		PPP		15 42 17.6	
ARU				S		S		15 46 46.0	+1.0
ARU				SS		SKiKP		15 50 31.4	+5.5
ARU				pmax		pmax			
	comp=Z,48nm,1.4s								
ARU				MLR		MLR			
	comp=Z,1µm,14.0s								
ARU	Arti	53.67	44	P		P		15 39 11.5	-0.3
MOTC	Monteria, Cord	53.70	244	*eP*		P		15 39 13.3	+0.8
ITTB	Itaituba	53.72	215	*eP*		P		15 39 13.9	+1.3
WMOK	Wichita Mounta	53.74	286	P		P		15 39 12.0	-0.7
	baz=58,SNR=20								
WMOK	Wichita Mounta	53.74	286	IAmb		IAmb		15 39 29.4	
	comp=Z,30nm,1.2s								
ZARC	Zaragoza, Cauc	54.14	242	*eP*		P		15 39 16.3	+0.5
KSCO	Kaye Shedlock'	54.17	292	P		P		15 39 15.4	-0.5
	baz=59								
KSCO	Kaye Shedlock'	54.17	292	IAmb		IAmb		15 39 33.7	
	comp=Z,48nm,1.4s								
RUSC	La Rusia	54.24	239	*eP*		P		15 39 12.4	-4.6
RUSC	La Rusia	54.24	239	P		P		15 39 16.5	-0.5
WHTX	Lake Whitney,	54.29	282	P		P		15 39 16.7	0.0
	baz=56,SNR=17								
EGMT	Eagleton	54.31	305	P		P		15 39 15.4	-1.3
	baz=62,SNR=7.8								
EGMT	Eagleton	54.31	305	IAmb		IAmb		15 39 23.9	
	comp=Z,52nm,1.4s								
UREC	San Jos de Ur	54.38	243	*eP*		P		15 39 19.1	+1.5
SVE	Sverdlovsk	54.52	42	*eP*		P		15 39 18.5	+0.5
SVE				*eS*		S		15 46 58.8	+2.3
SVE				pmax		pmax			
	comp=Z,64nm,1.5s								
SVE				MLR		MLR			
	comp=Z,936nm,14.0s								
PTBC	PUERTO BERRIO,	54.61	241	*eP*		P		15 39 18.5	-0.7
MACA	Manacapuru-AM	54.84	221	*eP*		P		15 39 21.6	+0.8
PHWY	Pilot Hill	54.89	296	IAmb		IAmb		15 39 30.1	
	comp=Z,32nm,1.2s								
K22A	Casper	54.90	298	P		P		15 39 20.6	-0.6
	baz=60,SNR=8.8								
SMTB	Santa Maria do	55.05	203	*eP*		P		15 39 22.7	+0.5
DBBC	Dabeiba	55.37	243	*eP*		P		15 39 25.8	+1.0
INK	Inuvik	55.39	334	P		P		15 39 20.7	-3.4
INK				pmax		pmax			
	comp=Z,24nm,1.2s								
INK	Inuvik	55.39	334	P		P		15 39 20.7	-3.4
INK				IAmb		IAmb		15 39 34.4	
	comp=Z,24nm,1.1s								
N23A	Red Feather La	55.41	296	P		P		15 39 25.2	+0.2
	baz=59,SNR=18								
RLMT	Red Lodge	55.41	302	P		P		15 39 24.5	-0.4
	baz=60								
ABTX	Abilene, Hawle	55.48	284	P		P		15 39 24.4	-1.0
	baz=56,SNR=8.7								
HELC	Santa Helena	55.56	242	*eP*		P		15 39 27.0	+0.5
NORC	Norcasia	55.62	241	*eP*		P		15 39 26.3	-0.2
CHIC	Chingaza	55.62	239	*eP*		P		15 39 25.9	-1.1
AMTX	Amarillo	55.68	288	P		P		15 39 26.9	+0.1
	baz=57								
ISCO	Idaho Springs	55.75	295	P		P		15 39 27.3	-0.3
	baz=59,SNR=17								
ISCO	Idaho Springs	55.75	295	IAmb		IAmb		15 39 36.8	
	comp=Z,44nm,1.4s								
ROSC	El Rosal	55.83	240	P		P		15 39 27.5	-0.9
	comp=Z,14nm,0.5s,baz=112,slow=11,SNR=5.9								
ROSC				LR		LR		16 02 29.4	
	comp=Z,626nm,19.9s,baz=55,slow=35								
ROSC	El Rosal	55.83	240	*eP*		P		15 39 29.0	+0.6
ROSC	El Rosal	55.83	240	IAmb		IAmb		15 39 36.6	
	comp=Z,35nm,1.1s								
RWWY	Rawlins	55.83	297	IAmb		IAmb		15 39 42.3	
	comp=Z,26nm,1.2s								
Q24A	Divide	55.88	294	P		P		15 39 28.3	-0.2
	baz=58								
NPGB	Novo Progresso	56.00	213	*eP*		P		15 39 29.1	0.0
CBOC	Ciudad Bolivar	56.12	242	*eP*		P		15 39 30.9	+0.7
AKTO	Aktyubinsk	56.16	50	P		P		15 39 29.4	-0.5
	comp=Z,7.6nm,0.8s,baz=300,slow=7.9,SNR=19								
GUY2C	Guyana, Caldas	56.19	241	*eP*		P		15 39 32.1	+1.0
T25A	Trinidad	56.34	291	P		P		15 39 31.6	-0.1
	baz=58,SNR=9.9								
T25A	Trinidad	56.34	291	IAmb		IAmb		15 39 49.8	
	comp=Z,55nm,1.4s								
BOZ	Bozeman (W)	56.62	303	P		P		15 39 33.0	-0.4
	baz=60,SNR=17								
BOZ	Bozeman (W)	56.62	303	IAmb		IAmb		15 39 50.6	
	comp=Z,46nm,1.5s								
TOLC	Tolima	56.65	241	*eP*		P		15 39 34.5	+0.3
SDCO	Great Sand Dun	56.75	293	P		P		15 39 34.8	0.0
	baz=58,SNR=6.5								
PD31	Pinedale Array	56.77	300	IAmb		IAmb		15 39 42.7	
	comp=Z,25nm,1.2s								
PDAR	Pinedale Array	56.77	300	P		P		15 39 32.9	-1.9
	comp=Z,2.7nm,0.9s,baz=63,slow=10,SNR=19								
PDAR				LR		LR		16 02 53.6	
	comp=Z,4µm,19.1s,baz=71,slow=35								
PDAR	Pinedale Array	56.77	300	P		P		15 39 33.9	-0.9
BW06	Boulder Array	56.77	300	P		P		15 39 33.1	-1.7
	baz=59,SNR=13								
ANIL	Santa Ana	56.78	241	*eP*		P		15 39 35.4	+0.3
NBCP	Cabaceiras do	56.79	193	*eP*		P		15 39 36.5	+1.8
NBCP				*epP*		sP		15 39 39.5	+0.2
JCT	Junction City	56.80	282	P		P		15 39 33.8	-1.0
	baz=55,SNR=6.9								
JCT	Junction City	56.80	282	IAmb		IAmb		15 39 41.3	
	comp=Z,25nm,1.0s								
JCT				IAMs_20		IAMs_20		16 04 17.4	
	comp=Z,3µm,19.0s								
LOHW	Long Hollow	57.00	301	IAmb		IAmb		15 39 43.4	
	comp=Z,30nm,1.3s								
PLMC	San Jos del P	57.02	242	*eP*		P		15 39 36.5	-0.1
PRAC	Prado	57.05	239	*eP*		P		15 39 35.7	-1.0
IMW	Indian Meadow	57.06	301	IAmb		IAmb		15 39 44.0	
	comp=Z,32nm,1.4s								
IMW				IAMs_20		IAMs_20		16 02 12.9	
	comp=Z,3µm,22.0s								
ESPN	Las Esperanzas	57.10	254	IAMs_20		IAMs_20		15 59 13.9	
	comp=Z,2µm,22.0s								
KVTX	Kingsville	57.12	278	IAMs_20		IAMs_20		16 06 39.3	
	comp=Z,2µm,19.0s								
ORTC	Ortega, Tolima	57.12	240	*eP*		P		15 39 36.6	-0.6
FXWY	Fox Creek	57.25	301	IAmb		IAmb		15 39 45.2	
	comp=Z,42nm,1.4s								
O20A	White River Ci	57.30	296	P		P		15 39 38.8	+0.4
	baz=58								
MSO	Missoula	57.37	306	P		P		15 39 38.4	-0.4
	baz=59								
MACC	Macarena, Meta	57.63	237	*eP*		P		15 39 38.5	-2.3
S22A	4UR Ranch, Cre	57.64	293	P		P		15 39 41.5	+0.5
	baz=57,SNR=8.9								
S22A	4UR Ranch, Cre	57.64	293	IAmb		IAmb		15 39 49.0	
	comp=Z,33nm,1.4s								
PIZC	Pizarro, Choco	57.66	243	*eP*		P		15 39 37.0	-4.0
SDBA	SAO DESIDERIO	57.74	199	*eP*		P		15 39 43.0	+1.6
833A	Chaparral WMA,	57.74	280	P		P		15 39 41.0	-0.4
	baz=54,SNR=7.9								
AHID	Auburn Hatcher	57.75	300	IAmb		IAmb		15 39 48.4	
	comp=Z,33nm,1.3s								
YOTC	Yotoco, Valle	57.76	241	*eP*		P		15 39 40.3	-1.6
AB31	Akbulak array	57.83	51	P		P		15 39 41.2	-0.5
ABKAR	Akbulak array	57.83	51	P		P		15 39 42.3	+0.

comp=Z,24nm,1.4s
CLDB Colider 59.67 211 *e*P P **15 39 54.3 -0.6**
CLDB *ep*P **pP 15 39 58.5 +0.1**
B08A Colville Reser 59.67 309 IAmb IAmb 15 40 01.1
comp=Z,24nm,1.4s
BBAC Balboa, Cauca 59.84 240 *e*P P **15 39 56.6 +0.2**
TOLK Toolik Lake Re 59.85 339 P P **15 39 54.7 -0.9**
baz=46,SNR=9.7
EGAK Eagle 59.93 333 IAmb IAmb 15 40 02.7
comp=Z,36nm,1.5s
EGAK IAMs_20 IAMs_20 16 03 02.2
comp=Z,2µm,20.0s
CCIG Comitan 59.94 264 IAmb IAmb 15 40 04.3
comp=Z,35nm,1.0s
E09A Wood Farm, Sta 60.00 307 IAmb IAmb 15 40 02.6
comp=Z,22nm,1.4s
MNTX Cornudas Mount 60.02 287 P P **15 39 56.7 -0.6**
baz=54,SNR=16
JANB Januaria 60.16 198 *e*P P **15 39 58.8 +0.5**
TX32 Lajitas Array 60.19 283 IAmb IAmb 15 40 06.0
comp=Z,45nm,1.2s
TXAR Lajitas Array 60.19 283 P P **15 39 58.4 -0.2**
comp=Z,13nm,0.7s,baz=71,slow=6.3,SNR=90
TXAR LR LR 16 06 07.3
comp=Z,3µm,18.4s,baz=0.0,slow=36
TXAR Lajitas Array 60.19 283 P P **15 39 58.2 -0.4**
DUG Dugway, Tooele 60.21 299 P P **15 39 58.2 -0.4**
baz=56,SNR=32
PUAC Puerto Asis, P 60.56 239 *e*P P **15 40 01.1 +0.1**
K27K Chicken 60.72 332 P P **15 40 01.3 -0.2**
baz=50
COLD Coldfoot 61.02 338 P P **15 40 03.2 -0.3**
baz=45,SNR=12
COLD Coldfoot 61.02 338 IAmb IAmb 15 40 15.0
comp=Z,26nm,1.2s
LTY Liberty 61.03 309 IAmb IAmb 15 40 10.2
comp=Z,41nm,1.4s
W18A Petrified Fore 61.05 292 P P **15 40 03.9 -0.5**
baz=55
SAML Samuel 61.08 220 *e*P P **15 40 04.2 -0.3**
SAML Samuel 61.08 220 P P **15 40 04.8 +0.3**
SAML pmax pmax
comp=Z,46nm,1.4s
SAML Samuel 61.08 220 P P **15 40 04.8 +0.3**
SAML IAmb IAmb 15 40 12.0
comp=Z,46nm,1.4s
SAML Samuel 61.08 220 *e*P P **15 40 04.2 -0.3**
SKAG Skagway 61.09 326 IAmb IAmb 15 40 15.8
comp=Z,27nm,1.3s
HYT Haines Junctio 61.11 328 IAmb IAmb 15 40 17.0
comp=Z,21nm,1.2s
121A Cookes Peak, D 61.20 289 P P **15 40 06.2 +0.7**
baz=54,SNR=13
121A Cookes Peak, D 61.20 289 P P **15 40 05.4 -0.1**
BRVK Borovoye 61.23 43 P P **15 40 04.5 -0.6**
BRVK pmax pmax
comp=Z,24nm,1.0s
BRVK MLR MLR
comp=Z,1µm,18.0s
BRVK Borovoye 61.23 43 P P **15 40 04.5 -0.6**
BRVK IAmb IAmb 15 40 12.8
comp=Z,24nm,1.0s
BVA0 Borovoye Array 61.30 43 *i* P P **15 40 05.2 -0.4**
BVAR Borovoye Array 61.30 43 P P **15 40 05.5 -0.1**
comp=Z,2.1nm,0.8s,baz=302,slow=2.8,SNR=16
SCRK Sand Creek 61.38 333 P P **15 40 05.7 -0.5**
baz=48,SNR=15
JIS Juneau Island 61.42 325 IAMs_20 IAMs_20 16 04 02.9
comp=Z,2µm,18.0s
BDFB Brasilia 61.63 201 P P **15 40 08.7 +0.4**
comp=Z,10.0nm,0.7s,baz=29,slow=8.5,SNR=12
BDFB LR LR 16 02 19.5
comp=Z,2µm,21.9s,baz=352,slow=32
BDFB Brasilia 61.63 201 P P **15 40 08.2 -0.1**
BDFB pmax pmax
comp=Z,11nm,0.8s
BDFB Brasilia 61.63 201 P P **15 40 08.2 -0.1**
DOT Dot Lake 61.63 333 IAmb IAmb 15 40 20.0
comp=Z,46nm,1.4s
WRAK Wrangell Islan 61.66 322 IAMs_20 IAMs_20 16 04 33.3
comp=Z,2µm,19.0s
MC01 Montes Claros 61.68 197 *e*P P **15 40 09.9 +1.4**
POKR Poker Plat Res 61.70 335 P P **15 40 07.4 -0.8**
baz=46,SNR=7.2
IL31 61.77 335 IAmb IAmb 15 40 20.7
comp=Z,36nm,1.4s
ILAR Eielson Array 61.77 335 P P **15 40 07.8 -0.9**
comp=Z,4.6nm,0.9s,baz=43,slow=6.0,SNR=22
ILAR LR LR 16 04 53.7
comp=Z,2µm,18.8s,baz=63,slow=34
ILAR PKP2bc 16 09 29.2
comp=Z,1.2nm,1.2s,baz=261,slow=3.5,SNR=4.1
ILAR Eielson Array 61.77 335 P P **15 40 07.5 -1.1**
RIDG Independent Ri 61.83 333 IAmb IAmb 15 40 24.4
comp=Z,29nm,1.2s
RIDG IAMs_20 IAMs_20 16 04 49.3
comp=Z,2µm,18.0s
WUAZ Wupatki 61.91 293 P P **15 40 10.9 +0.6**
baz=55,SNR=9.1
OTAV Otavalo 61.98 240 *e*P P **15 40 11.2 0.0**
OTAV Otavalo 61.98 240 *e*P P **15 40 11.7 +0.5**
MENT Mentasta 61.99 332 IAmb IAmb 15 40 22.4
comp=Z,32nm,1.3s
COLA College 62.00 335 *i* P P **15 40 08.9 -1.2**
COLA pmax pmax
comp=Z,21nm,1.3s
COLA College 62.00 335 IAMs_20 IAMs_20 16 04 51.9
comp=Z,2µm,19.0s
HDA Harding Lake 62.04 334 P P **15 40 09.7 -0.7**
baz=46,SNR=18
HDA Harding Lake 62.04 334 IAmb IAmb 15 40 13.8
comp=Z,24nm,1.0s
HDA IAMs_20 IAMs_20 16 04 49.0
comp=Z,2µm,18.0s
MDM Murphy Dome 62.05 335 IAmb IAmb 15 40 23.3
comp=Z,29nm,1.2s
MDM IAMs_20 IAMs_20 16 04 55.3
comp=Z,2µm,19.0s
CCB Clear Creek Bu 62.14 335 IAMs_20 IAMs_20 16 04 54.7
comp=Z,2µm,19.0s
D03D Eldon 62.23 310 P P **15 40 10.6 -1.4**
baz=55
WRH Wood River Hil 62.35 335 IAMs_20 IAMs_20 16 05 01.3
comp=Z,2µm,19.0s
BARN Barnard Glacie 62.51 330 IAMs_20 IAMs_20 16 04 44.6
comp=Z,3µm,18.0s
NEA2 Nenana 62.57 335 P P **15 40 13.2 -0.8**
baz=45,SNR=28
NLWA Neilton Lookou 62.74 310 P P **15 40 14.6 -0.9**
NLWA IAmb IAmb 15 40 30.5
comp=Z,30nm,1.2s
BALM Baldy 62.78 330 IAMs_20 IAMs_20 16 04 43.6
comp=Z,2µm,20.0s
ARAG Araguaiana, MT 62.79 205 *e*P P **15 40 15.6 -0.3**
MCARA McCarthy VSAT 62.79 331 IAMs_20 IAMs_20 16 04 24.9
comp=Z,2µm,20.0s
IMAR Indian Mountai 62.90 338 P P **15 40 15.7 -0.5**
GEYT Alibeck 62.94 62 P P **15 40 17.1 +0.2**
comp=Z,4.3nm,0.8s,baz=278,slow=10,SNR=8.7
GEYT LR LR 16 11 11.0
comp=Z,633nm,18.3s,baz=350,slow=39
GYA0B ALIBECK ARRAY 62.94 62 IAmb IAmb 15 40 37.2
comp=Z,21nm,1.2s
BWN Browne 62.99 335 IAMs_20 IAMs_20 16 05 19.7
comp=Z,2µm,20.0s
GLB Gilahina Butte 63.03 331 IAMs_20 IAMs_20 16 04 43.3
comp=Z,2µm,21.0s
R11A Troy Canyon, C 63.03 298 P P **15 40 17.0 -0.8**
baz=54,SNR=9.3
R11A Troy Canyon, C 63.03 298 P P **15 40 16.5 -1.3**
VRDI Verde Repeater 63.05 331 IAMs_20 IAMs_20 16 04 32.8
comp=Z,2µm,20.0s
ISLE Juniper Island 63.07 330 IAMs_20 IAMs_20 16 04 54.3
comp=Z,3µm,20.0s
SJMB Sao Joao De Ma 63.10 194 *e*P P **15 40 19.7 +1.7**
SJMB *ep*P **sP 15 40 22.6 0.0**
DHY Denali Highway 63.11 333 IAMs_20 IAMs_20 16 05 32.3
comp=Z,1µm,19.0s
TGL Tana Glacier 63.14 330 IAMs_20 IAMs_20 16 04 56.3
comp=Z,2µm,20.0s
PINE Pine Mountain 63.17 306 IAmb IAmb 15 40 26.8
comp=Z,32nm,1.4s
BSFB Barra de Sao F 63.17 193 *ep*P pP 15 40 22.9 +1.1
PRN Pahroc Range 63.24 297 IAmb IAmb 15 40 27.0
comp=Z,40nm,1.3s
CRQM Cirque 63.26 330 IAMs_20 IAMs_20 16 04 49.9
comp=Z,2µm,20.0s

ETMB Extrema 63.28 222 *e*P P **15 40 19.0 -0.3**
VILB Vilhena 63.31 215 *e*P P **15 40 21.3 +1.8**
VILB *ep*P **pP 15 40 23.3 +0.5**
RND Reindeer 63.35 334 IAmb IAmb 15 40 21.6
comp=Z,24nm,1.4s
RND IAMs_20 IAMs_20 16 05 30.6
comp=Z,1µm,18.0s
TUC Tucson 63.39 290 P P **15 40 20.6 +0.5**
baz=53
M24K Tolsona, Glenn 63.39 332 P P **15 40 19.1 -0.5**
baz=46
BPAW Bear Paw Mtn. 63.51 336 P P **15 40 18.4 -1.8**
BPAW IAMs_20 IAMs_20 16 05 48.6
comp=Z,2µm,19.0s
RDOG Red Dog Mine 63.52 343 IAMs_20 IAMs_20 16 05 58.9
comp=Z,2µm,21.0s
RIB01 Linhares ES 63.57 193 *e*P P **15 40 22.6 +1.6**
J05D Fort Rock, OR 63.64 306 P P **15 40 22.3 +0.7**
baz=54
KLU Klutina 63.74 332 IAmb IAmb 15 40 33.0
comp=Z,34nm,1.3s
TRF Thorofare Moun 63.77 335 IAMs_20 IAMs_20 16 05 55.6
comp=Z,2µm,19.0s
KTH Kantishna Hill 63.89 335 P P **15 40 20.1 -2.7**
KTH IAMs_20 IAMs_20 16 05 58.7
comp=Z,2µm,20.0s
IPMB Ipameri, GO 63.92 201 *e*P P **15 40 26.0 +2.5**
HMT Hamilton 63.95 330 IAMs_20 IAMs_20 16 05 11.6
comp=Z,2µm,20.0s
SCM Sheep Creek Mo 63.97 332 IAMs_20 IAMs_20 16 05 31.1
comp=Z,2µm,19.0s
RAGM Ragged Mountai 64.06 330 IAMs_20 IAMs_20 16 05 16.6
comp=Z,2µm,20.0s
J04D Umpqua Nationa 64.18 306 P P **15 40 24.2 -1.1**
baz=54
BRZS Berezniki 64.26 45 *i* P P **15 40 25.2 -0.3**
comp=Z,44nm,2.1s,baz=45
BRZS LR LR 16 08 36.2
comp=Z,511nm,15.2s,baz=45
BRZS Berezniki 64.26 45 *i* P P **15 40 25.1 -0.3**
BRZS pmax pmax
comp=Z,44nm,2.1s
BRZS MLR MLR
comp=Z,511nm,15.0s
SALV Santo Antonio 64.26 209 *e*P P **15 40 26.6 +0.9**
TPNV Topopah Spring 64.28 297 P P **15 40 25.6 -0.4**
baz=54
TPNV Topopah Spring 64.28 297 IAmb IAmb 15 40 32.6
comp=Z,27nm,1.4s
SML Sawmill 64.33 333 IAmb IAmb 15 40 28.8
comp=Z,25nm,1.1s
SML IAMs_20 IAMs_20 16 05 33.5
comp=Z,2µm,20.0s
PDMCI Parker Dam,Lak 64.47 294 P P **15 40 27.2 +0.2**
baz=53
CUT Chulitna 64.52 334 P P **15 40 25.8 -1.1**
baz=43
GHO Glory Hole Cre 64.55 333 IAmb IAmb 15 40 34.4
comp=Z,36nm,1.2s
GHO IAMs_20 IAMs_20 16 05 42.3
comp=Z,2µm,20.0s
NV11 Mina Array Sit 64.62 300 IAmb IAmb 15 40 39.1
comp=Z,30nm,1.4s
KNK Knik Glacier 64.65 333 IAMs_20 IAMs_20 16 06 23.1
comp=Z,2µm,19.0s
NVAR Mina Array Bea 64.71 300 P P **15 40 27.3 -1.5**
comp=Z,2.7nm,1.1s,baz=65,slow=3.8,SNR=11
NVAR PP **PP 15 42 48.7 -2.1**
comp=Z,1.3nm,0.9s,baz=67,slow=6.9,SNR=4.1
NVAR LR LR 16 07 47.9
comp=Z,3µm,20.4s,baz=59,slow=35
RYN Ryan 64.73 300 P P **15 40 27.0 -1.9**
RYN IAmb IAmb 15 40 37.3
comp=Z,18nm,1.2s
M04C Macdoel 64.89 304 P P **15 40 28.4 -1.4**
baz=53
L04D Klamath Falls 64.90 305 P P **15 40 29.1 -0.8**
baz=53
CZSB Cruzeiro do Su 64.92 230 *e*P P **15 40 29.2 -0.9**
LHV Little Huntoon 64.94 300 P P **15 40 29.3 -0.7**
LHV IAmb IAmb 15 40 37.6
comp=Z,39nm,1.2s
FURC Furnace Creek, 64.96 297 P P **15 40 30.7 +0.5**
baz=53
TUQ Turquoise Moun 64.97 296 P P **15 40 30.9 +0.4**
baz=53
GRAC Grapevine Rang 64.97 298 P P **15 40 30.1 -0.2**
baz=52,SNR=14
214A Organ Pipe Nat 64.98 291 P P **15 40 30.0 -0.5**
baz=53,SNR=7.3
214A Organ Pipe Nat 64.98 291 IAmb IAmb 15 40 37.7
comp=Z,35nm,1.4s
HUMO Hull Mountain 65.06 306 IAMs_20 IAMs_20 16 06 26.2
comp=Z,3µm,22.0s
PNTR Pine Nut 65.13 301 IAmb IAmb 15 40 39.9
comp=Z,31nm,1.2s
113A Mohawk Valley, 65.14 292 IAmb IAmb 15 40 38.5
comp=Z,26nm,1.4s
PTLB Pontes e Lacer 65.14 213 *e*P P **15 40 32.1 +0.7**
GMRC Granite Mounta 65.18 295 P P **15 40 31.8 -0.1**
baz=53,SNR=11
IRM Iron Mountain 65.22 294 P P **15 40 32.2 +0.2**
baz=53,SNR=6.3
SKT Skwentna 65.24 334 IAMs_20 IAMs_20 16 06 41.5
comp=Z,1µm,19.0s
J01E Myrtle Point 65.29 307 P P **15 40 31.2 -1.0**
baz=53
SUA Susitna One 65.37 333 IAMs_20 IAMs_20 16 07 10.0
comp=Z,1µm,18.0s
K02D Willamette Mer 65.42 306 P P **15 40 32.5 -0.7**
baz=52
MPMC Manual Prospec 65.61 297 P P **15 40 35.1 +0.4**
baz=53,SNR=28
GSC Goldstone, Bar 65.62 296 P P **15 40 35.2 +0.5**
baz=53
GSC Goldstone, Bar 65.62 296 IAmb IAmb 15 40 42.7
comp=Z,37nm,1.2s
OMMB Old Mammoth Mi 65.64 299 IAmb IAmb 15 40 43.1
comp=Z,26nm,1.4s
GLA Glamis 65.67 293 P P **15 40 35.0 +0.1**
baz=52
L02E Cave Junction 65.71 306 P P **15 40 35.3 +0.3**
baz=52
BC3 Big Chuckawall 65.73 294 P P **15 40 35.4 0.0**
baz=52,SNR=6.3
O03E Paynes Creek 65.76 303 P P **15 40 34.0 -1.4**
baz=52
CWC Cottonwood Cre 65.76 298 P P **15 40 35.8 +0.2**
baz=53
BELC Belle Mtn. Jos 65.88 295 P P **15 40 37.2 +0.8**
baz=52,SNR=12
BSCB Bom Sucesso 66.02 197 *e*P P **15 40 38.7 +1.6**
WDC Whiskeytown Da 66.03 304 IAMs_20 IAMs_20 16 08 05.3
comp=Z,2µm,20.0s
AFDM Forest Hills D 66.07 302 IAmb IAmb 15 40 43.5
comp=Z,21nm,1.4s
LRMC Laurel Mtn Rad 66.09 297 P P **15 40 37.3 -0.4**
baz=52
CMB Columbia Colle 66.26 300 IAmb IAmb 15 40 50.3
comp=Z,34nm,1.4s
CMB IAMs_20 IAMs_20 16 08 20.5
comp=Z,2µm,20.0s
PFO Pinyon Flats O 66.42 294 P P **15 40 39.9 +0.1**
PFO Pinyon Flats O 66.42 294 P P **15 40 37.5 -2.3**
PFO pmax pmax
comp=Z,31nm,1.3s
PFO MLR MLR
comp=Z,3µm,18.0s
PFO Pinyon Flats O 66.42 294 P P **15 40 37.5 -2.3**
PFO IAmb IAmb 15 40 47.9
comp=Z,31nm,1.2s
ISA Isabella, Lake 66.49 297 P P **15 40 41.0 +0.8**
baz=52
EDW2 Edwards Air Fo 66.65 296 P P **15 40 41.1 -0.1**
baz=52
BRLK Bradley Lake 66.68 332 IAMs_20 IAMs_20 16 07 44.1
comp=Z,2µm,18.0s
KURK Kurchatov 66.74 41 P P **15 40 41.6 +0.2**
KURK pmax pmax
comp=Z,20nm,1.0s
KURK MLR MLR
comp=Z,1µm,18.0s
KURK Kurchatov 66.74 41 P P **15 40 41.6 +0.2**
KURK IAmb IAmb 15 40 49.0
comp=Z,20nm,0.9s
KURBB Kurchatov Arra 66.76 42 P P **15 40 41.4 -0.1**
comp=Z,6.5nm,0.8s,baz=314,slow=6.9,SNR=40
KURBB Kurchatov Arra 66.76 42 P P **15 40 40.3 -1.2**
IKP In-Ko-Pah, Jac 66.78 293 P P **15 40 42.5 +0.5**
baz=52
BFSC Mount Baldy Ra 66.83 296 P P **15 40 42.3 -0.1**
baz=52
MONP2 Monument Peak 66.83 294 P P **15 40 42.0 -0.6**
baz=52
MURC Murrieta 66.91 295 P P **15 40 43.4 +0.5**
baz=52
BB19B Bebedouro 66.95 200 *e*P P **15 40 42.9 -0.2**
BB19B *ep*P **sP 15 40 47.9 +0.3**
CNPM China Poot 66.98 332 IAMs_20 IAMs_20 16 07 09.5
comp=Z,2µm,20.0s
ANM Nome 66.98 341 IAMs_20 IAMs_20 16 09 15.4
comp=Z,2µm,20.0s
VAS01 Vassouras-RJ 67.00 195 *e*P P **15 40 44.5 +1.2**
SVW2 Sparrevohn 67.17 335 IAmb IAmb 15 40 50.1
comp=Z,23nm,1.4s
SPX San Pedro Mart 67.33 292 IAmb IAmb 15 40 54.2
comp=Z,22nm,1.3s
KK31 Karatay Array 67.36 52 *i* P P **15 40 45.9 +0.4**
KKAR Karatay Array 67.36 52 P P **15 40 43.8 -1.7**
KKAR Karatay Array 67.36 52 P P **15 40 43.8 -1.7**
ZAA0 Zalesovo Array 67.37 36 P P **15 40 44.9 -0.5**
ZALV Zalesovo Beam 67.37 36 P P **15 40 44.8 -0.6**
comp=Z,2.4nm,0.8s,baz=310,slow=7.6,SNR=10
ZALV LR LR 16 09 52.6
comp=Z,763nm,21.2s,baz=308,slow=36
ZALV Zalesovo Beam 67.37 36 *i* P P **15 40 45.0 -0.4**
ZALV pmax pmax
comp=Z,2.0nm,0.8s
IUG luzhnay 67.68 53 *e*P P **15 40 48.0 +0.3**
baz=53
IUG *e*S **S 15 49 45.6 +0.9**
baz=53
IUG LR LR 16 12 29.3
comp=Z,416nm,15.8s,baz=53
IUG luzhnay 67.68 53 *e*P P **15 40 48.0 +0.3**
IUG *e*S **S 15 49 45.6 +0.9**
IUG MLR MLR
comp=Z,416nm,16.0s
SAO San Andreas Ge 67.70 300 IAMs_20 IAMs_20 16 09 35.8
comp=Z,2µm,20.0s
PKM Mcpherson Peak 67.83 297 P P **15 40 47.6 -1.2**
baz=51
DZA Taraz 67.96 51 *e*P P **15 40 49.6 +0.2**
baz=51
DZA Taraz 67.96 51 *e*P P **15 40 49.5 +0.2**
SLBS Sierra La Lagu 68.08 282 P P **15 40 50.8 +0.3**
BTLS Baital 68.09 48 *e*P P **15 40 50.3 +0.2**
baz=48
BTLS *e*S **S 15 49 50.0 +0.7**
baz=48
BTLS LR LR 16 11 00.5
comp=Z,203nm,13.1s,baz=48
BTLS Baital 68.09 48 *e*P P **15 40 50.2 +0.2**
BTLS *e*S **S 15 49 50.0 +0.7**
BTLS MLR MLR
comp=Z,203nm,13.0s
PCMB Pacaembu 68.20 203 *e*P P **15 40 52.4 +1.5**
VAO Valinhos 68.44 198 *e*P P **15 40 54.2 +1.8**
AQDB Aquidauana 68.50 207 *e*P P **15 40 54.0 +1.3**
AQDB *ep*P **pP 15 40 56.9 +0.7**
MBAR Mbarara 68.62 113 *ce*P P **15 40 56.3 +2.3**
MBAR pmax pmax
comp=Z,41nm,2.5s
KDAK Kodiak Island 68.76 332 IAMs_20 IAMs_20 16 08 53.7
comp=Z,2µm,18.0s
FRTB Fartura 69.39 201 *e*P P **15 41 00.9 +2.6**
SGDS Sogindy 69.44 49 *e*P P **15 40 58.7 +0.1**
baz=49
SGDS LR LR 16 11 39.1
comp=Z,984nm,19.5s,baz=49
SGDS Sogindy 69.44 49 *e*P P **15 40 58.7 +0.1**
SGDS MLR MLR
comp=Z,984nm,19.0s
BTK Batken 69.47 54 IAmb IAmb 15 41 10.0
comp=Z,19nm,1.2s
UOSS Minazif 69.54 75 P P **15 40 57.9 -1.6**
TRCB Terra Rica 69.72 204 *e*P P **15 41 02.1 +1.8**
PET01 Itanhaem-SP 69.75 198 *e*P P **15 41 02.7 +2.3**
LPAZ La Paz 69.80 221 P P **15 41 02.0 +0.4**
comp=Z,8.7nm,0.9s,baz=23,slow=6.8,SNR=26
LPAZ LR LR 16 08 27.2
comp=Z,530nm,20.9s,baz=22,slow=33
LPAZ La Paz 69.80 221 *e*P P **15 40 59.2 -2.4**
LPAZ La Paz 69.80 221 P P **15 41 02.0 +0.4**
LPAZ La Paz 69.80 221 *e*P P **15 41 01.5 -0.1**
AAK Ala-Archa 69.90 50 PKP2bc 16 09 04.6
comp=Z,1.1nm,0.3s,baz=166,slow=4.2,SNR=4.9
AAK Ala-Archa 69.90 50 *ce*P P **15 41 03.1 +1.5**
AAK pmax pmax
comp=Z,17nm,1.7s
KUU Kurty 70.08 48 *e*P P **15 41 02.7 +0.1**
comp=Z,39nm,1.9s,baz=48
KUU LR LR 16 11 53.3
comp=Z,579nm,14.8s,baz=48
KUU Kurty 70.08 48 *e*P P **15 41 02.6 +0.1**
KUU pmax pmax
comp=Z,39nm,1.9s
KUU MLR MLR
comp=Z,579nm,15.0s
TKM2 Tokmak 2 70.32 49 P P **15 41 04.1 -0.1**
TDK Taldyqorghan 70.44 46 *i* P P **15 41 05.1 +0.5**
baz=46
TDK LR LR 16 11 47.5
comp=Z,1µm,17.0s,baz=46
TDK Taldyqorghan 70.44 46 *i* P P **15 41 05.1 +0.5**
TDK MLR MLR
comp=Z,1µm,17.0s
CHKK Chushkaly 70.45 48 *e*P P **15 41 05.5 +0.6**
baz=48
CHKK Chushkaly 70.45 48 *e*P P **15 41 05.4 +0.6**
MTBS Maitube 70.64 49 *e*P P **15 41 06.8 +0.7**
baz=49
MTBS Maitube 70.64 49 *e*P P **15 41 06.7 +0.7**
AAA Alma-Ata 70.85 48 *e*P P **15 41 08.1 +0.9**
comp=Z,55nm,2.3s,baz=48
AAA LR LR 16 12 35.1
comp=Z,705nm,15.3s,baz=48
AAA Alma-Ata 70.85 48 *e*P P **15 41 08.1 +0.9**
AAA pmax pmax
comp=Z,55nm,2.3s
AAA MLR MLR
comp=Z,705nm,15.0s
MDOK Medeo 70.95 48 *i* P P **15 41 08.6 +0.6**
baz=48
MDOK *e*S **S 15 50 24.5 +1.0**
baz=48
MDOK LR LR 16 12 34.5
comp=Z,740nm,15.3s,baz=48
MDOK Medeo 70.95 48 *i* P P **15 41 08.6 +0.6**
MDOK *e*S **S 15 50 24.4 +1.0**
MDOK MLR MLR
comp=Z,740nm,15.0s
TNSS Tian-Shan 70.98 48 *e*P P **15 41 09.0 +0.5**
baz=48
TNSS Tian-Shan 70.98 48 *e*P P **15 41 08.9 +0.5**
MAKZ Makanchi 71.02 43 P P **15 41 06.7 -1.4**
MAKZ Makanchi 71.02 43 IAMs_20 IAMs_20 16 13 53.0
comp=Z,1µm,18.0s
TIJ01 Guaruva-PR 71.15 200 *e*P P **15 41 10.7 +1.6**
MK31 Makanchi Array 71.18 43 P P **15 41 09.5 +0.3**
MK31 Makanchi Array 71.18 43 P P **15 41 09.5 +0.3**
MKAR Makanchi Array 71.18 43 P P **15 41 08.5 -0.6**
comp=Z,3.4nm,0.8s,baz=324,slow=6.0,SNR=23
MKAR LR LR 16 14 10.6
comp=Z,1µm,18.6s,baz=296,slow=37
MKAR Makanchi Array 71.18 43 *ce*P P **15 41 09.1 -0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 71.18 43 P P **15 41 08.0 -1.1**
PTGB Pitanga 71.37 203 *e*P P **15 41 12.1 +1.7**
DGZ Jazzator, Alta 71.53 38 *i* P P **15 41 11.7 +0.3**
DGZ pmax pmax
comp=Z,28nm,1.7s
KPKS Kokpek 71.62 47 *i* P P **15 41 12.2 +0.2**
comp=Z,42nm,2.1s,baz=47
KPKS LR LR 16 12 45.4
comp=Z,410nm,14.1s,baz=47
KPKS Kokpek 71.62 47 *i* P P **15 41 12.2 +0.2**
KPKS pmax pmax
comp=Z,42nm,2.1s
KPKS MLR MLR
comp=Z,410nm,14.0s

SATY Saty 71.75 48 *e*P **P 15 41 13.0 +0.1**
comp=Z,18nm,2.4s,baz=48
SATY LR LR 16 12 19.7
comp=Z,327nm,17.7s,baz=48
SATY Saty 71.75 48 *e*P **P 15 41 12.9 +0.1**
SATY pmax pmax
comp=Z,19nm,2.4s
SATY MLR MLR
comp=Z,327nm,18.0s
SATY Saty 71.75 48 *e*P **P 15 41 12.9 +0.1**
SATY pmax pmax
comp=Z,19nm,2.4s
SATY MLR MLR
comp=Z,327nm,18.0s
ZSN Zaisan 71.97 41 *e*P **P 15 41 13.8 -0.1**
comp=Z,53nm,2.8s,baz=41
ZSN LR LR 16 12 54.5
comp=Z,268nm,15.0s,baz=41
ZSN Zaisan 71.97 41 *e*P **P 15 41 13.7 -0.1**
ZSN pmax pmax
comp=Z,53nm,2.8s
ZSN MLR MLR
comp=Z,268nm,15.0s
UZB Uzynbulak 72.02 47 *e*P **P 15 41 14.6 +0.2**
comp=Z,17nm,2.3s,baz=47
UZB *e*S **S 15 50 36.4 +0.6**
baz=47
UZB LR LR 16 12 18.3
comp=Z,278nm,14.9s,baz=47
UZB Uzynbulak 72.02 47 *e*P **P 15 41 14.6 +0.2**
UZB *e*S **S 15 50 36.4 +0.6**
UZB pmax pmax
comp=Z,17nm,2.3s
UZB MLR MLR
comp=Z,278nm,15.0s
SHLS Shalkode 72.25 47 *e*P **P 15 41 17.1 +1.3**
comp=Z,30nm,2.1s,baz=47
SHLS LR LR 16 13 34.4
comp=Z,409nm,15.8s,baz=47
SHLS Shalkode 72.25 47 *e*P **P 15 41 17.9 +2.1**
SHLS pmax pmax
comp=Z,30nm,2.1s
SHLS MLR MLR
comp=Z,409nm,16.0s
KSH Kashi 72.81 52 P **P 15 41 20.0 +0.8**
KSH sP *s*P 15 41 24.3 +0.5
KSH S **S 15 50 45.5 +0.6**
KSH pmax pmax
comp=Z,37nm,1.2s
KSH pmax pmax
comp=Z,310nm,4.1s
KSH LR LR
comp=Z,740nm,14.3s
KSH LR LR
comp=Z,520nm,13.4s
MNMC Minye Minye 72.94 221 IAmb IAmb 15 41 26.6
comp=Z,27nm,0.8s
YAK Yakutsk 73.24 11 *d* iP **P 15 41 20.0 -1.1**
YAK *e*'PP **pP 15 41 22.3 -2.2**
YAK *e* 15 44 03.4
YAK *e*S S 15 50 39.1 -10
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=N,15nm,1.3s
YAK pmax pmax
comp=Z,52nm,2.5s
YAK smax smax
comp=N,28nm,15.4s
YAK MLR MLR
comp=Z,333nm,19.0s
YAK MLR MLR
comp=N,336nm,17.0s
YAK Yakutsk 73.24 11 P **P 15 41 19.9 -1.2**
KMBO Kilima Mbogo 73.44 108 P **P 15 41 24.6 +1.3**
comp=N,2.9nm,1.0s,baz=331,slow=6.9,SNR=8.0
KMBO LR LR 16 14 59.2
comp=N,2μm,18.3s,baz=278,slow=37
KMBO Kilima Mbogo 73.44 108 *i* P **P 15 41 27.2 +3.9**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 73.44 108 IAMs_20 IAMs_20 16 14 37.6
comp=Z,2μm,18.0s
PB11 IPOC Station P 73.52 220 P **P 15 41 22.7 -0.7**
PSGCX Pisagua 73.59 221 IAmb IAmb 15 41 30.4
comp=Z,59nm,1.4s
ITAB Concordia 73.78 202 *e*P **P 15 41 25.9 +1.3**
ITAB *ep*P **pP 15 41 28.8 +0.8**
ITAB *e*S **S 15 50 58.6 +3.3**
SEY Seymchan 73.80 360 *i* P **P 15 41 23.9 -0.5**
PB01 IPOC Station P 74.54 219 IAmb IAmb 15 41 35.9
comp=Z,32nm,1.3s
PB09 IPOC Station P 75.08 219 IAMs_20 IAMs_20 16 11 25.9
comp=Z,1μm,21.0s
NIL Nilore 75.17 58 IAMs_20 IAMs_20 16 17 54.7
comp=Z,1μm,20.0s
PB07 IPOC Station P 75.32 219 IAmb IAmb 15 41 37.1
comp=Z,18nm,0.8s
CNLB Canela 75.42 200 *e*P **P 15 41 35.6 +1.5**
TSUM Tsumeb 75.43 135 P **P 15 41 35.1 +0.6**
MOY Mondy 75.50 30 *e*P **P 15 41 34.8 +0.1**
MOY pmax pmax
comp=Z,83nm,2.2s
LVC Limon Verde 75.64 218 *e*P **P 15 41 36.4 +0.5**
LVC *ep*P **pP 15 41 39.3 -0.1**
WMQ Urumqi 75.97 42 *e*P **P 15 41 38.3 +0.9**
WMQ sP pwP 15 41 45.3 +1.2
WMQ S **S 15 51 25.3 +5.3**
WMQ SS **SS 15 56 11.5 0.0**
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,120nm,3.7s
WMQ LR LR
comp=Z,1μm,17.5s
WMQ LR LR
comp=Z,490nm,20.7s
WMQ LR LR
comp=Z,360nm,17.5s
WMQ Urumqi 75.97 42 IAMs_20 IAMs_20 16 17 24.2
comp=Z,2μm,18.0s
PB06 IPOC Station P 76.02 219 IAMs_20 IAMs_20 16 11 54.8
comp=Z,1μm,21.0s
IRK Irkutsk 76.17 28 *e*P **P 15 41 36.9 -1.4**
IRK pmax pmax
comp=Z,74nm,1.8s
PB15 IPOC Station P 76.41 218 IAmb IAmb 15 41 47.5
comp=Z,28nm,1.1s
PB15 IAMs_20 IAMs_20 16 12 26.1
comp=Z,967nm,18.0s
TLY Talaya 76.43 28 LR LR 16 15 13.8
comp=Z,456nm,21.2s,baz=322,slow=36
TLY Talaya 76.43 28 *e*P **P 15 41 39.8 0.0**
TLY *e*S **S 15 51 28.5 +3.9**
TLY *e* 15 52 09.4
TLY pmax pmax
comp=Z,79nm,1.8s
MA2 Magadan 77.17 0 *i* P **P 15 41 43.2 -0.6**
MA2 pmax pmax
comp=Z,29nm,1.4s
ZAK Zakamensk 77.38 29 *e*P **P 15 41 44.8 -0.5**
ZAK pmax pmax
comp=Z,18nm,1.5s
LSZ Lusaka 78.16 125 P **P 15 41 51.6 +1.6**
LSZ pmax pmax
comp=Z,55nm,1.1s
LSZ Lusaka 78.16 125 P **P 15 41 51.6 +1.6**
PLTB Pedras Altas 78.47 202 *e*P **P 15 41 52.1 +0.9**
SONM Songino Array 80.63 29 P **P 15 42 03.0 -0.2**
comp=Z,14nm,0.9s,baz=324,slow=5.9,SNR=33
SONM LR LR 16 18 11.9
comp=Z,628nm,20.3s,baz=322,slow=36
SONM Songino Array 80.63 29 P **P 15 42 01.5 -1.7**
SONM pmax pmax
comp=Z,30nm,1.2s
SONM Songino Array 80.63 29 P **P 15 42 01.5 -1.7**
ZEA Zeya 80.81 14 *e*P **P 15 42 04.4 +0.5**
ZEA pmax pmax
comp=Z,36nm,1.2s
ZEA pmax pmax
comp=Z,400nm,8.0s
ZEA MLR MLR
comp=Z,400nm,16.0s
ZEA MLR MLR
comp=N,400nm,17.0s
ULN Ulaanbaatar 80.83 29 *de*P **P 15 42 04.3 0.0**
ULN pmax pmax
comp=Z,55nm,1.7s
ADK Adak 80.98 341 IAMs_20 IAMs_20 16 19 52.5
comp=Z,1μm,19.0s
AC05 El Transito 81.65 216 IAmb IAmb 15 42 19.0
comp=Z,31nm,1.2s
NKL Nikolayevsk 83.16 7 *e*P **P 15 42 15.9 -0.3**
NKL pmax pmax
comp=N,8.0nm,1.6s
NKL pmax pmax
comp=Z,12nm,1.8s
NKL MLR MLR
comp=N,153nm,20.0s
NKL MLR MLR
comp=Z,383nm,18.0s
PETK Petropavlovsk- 83.50 356 P **P 15 42 17.4 -0.7**
comp=Z,23nm,1.2s,baz=64,slow=3.4,SNR=7.5
PETK LR LR 16 20 33.3
comp=Z,643nm,18.2s,baz=12,slow=36
PETK Petropavlovsk- 83.50 356 P **P 15 42 17.9 -0.1**
PETK Petropavlovsk- 83.50 356 P **P 15 42 17.9 -0.1**
PET Petropavlovsk 83.54 356 *e*P **P 15 42 18.2 0.0**
PET *e*S **S 15 52 42.6 +3.2**
PET *e*PS **PnS 15 53 30.7 0.0**
PET *e*SS **SS 15 58 12.1 +8.4**
PET pmax pmax
comp=Z,200nm,12.1s
PET Petropavlovsk 83.54 356 IAMs_20 IAMs_20 16 16 06.2
comp=Z,954nm,22.0s
LBTB Lobatse 84.40 132 P **P 15 42 24.3 +1.3**
LBTB pmax pmax
comp=Z,44nm,1.2s
LBTB Lobatse 84.40 132 P **P 15 42 24.2 +1.3**
PYUN Piuthan 84.99 56 *e*P **P 15 42 26.4 +0.1**
comp=Z,224nm,1.5s
GTA Gaotai 85.06 38 *e*P **P 15 42 26.0 -0.4**
GTA pP pP 15 42 30.3 +0.5
GTA sP pwP 15 42 33.3 +0.2
GTA S **S 15 52 57.0 +1.5**
GTA sS sS 15 53 02.8 +1.6
GTA pmax pmax
comp=Z,20nm,1.4s
GTA pmax pmax
comp=Z,180nm,9.6s
GTA LR LR
comp=Z,530nm,16.8s
GTA LR LR
comp=Z,660nm,18.6s
GTA LR LR
comp=Z,940nm,22.3s
GRNR Gornyy 85.08 10 ⇓ *i* P **P 15 42 25.3 -0.8**
GRNR pmax pmax
comp=Z,3.0nm,1.3s
GRNR MLR MLR
comp=E,80nm,17.0s
GRNR MLR MLR
comp=Z,380nm,16.0s
KLR Kul'dur 85.92 13 LR LR 16 19 34.1
comp=Z,211nm,19.2s,baz=5.0,slow=35
KLR Kul'dur 85.92 13 *ce*P **P 15 42 30.3 0.0**
KLR pmax pmax
comp=Z,14nm,1.3s
GKN Gorkha 86.04 55 *e*P **P 15 42 31.3 -0.2**
comp=Z,164nm,1.3s
DMN Daman 86.61 55 *e*P **P 15 42 34.8 +0.4**
comp=Z,154nm,1.3s
TRQA Tornquist 86.79 206 *ep*P pP 15 42 39.3 +1.4
PKI Pulchoki 86.82 54 *e*P **P 15 42 35.2 -0.3**
comp=Z,134nm,1.4s
GUN Gumba 86.84 54 *e*P **P 15 42 35.8 +0.2**
comp=Z,302nm,1.2s
BOSA Boshof 87.12 135 P **P 15 42 37.2 +0.9**
comp=Z,6.0nm,1.0s,baz=319,slow=4.1,SNR=5.7
BOSA LR LR 16 20 07.4
comp=Z,2μm,19.5s,baz=325,slow=35
JIRN Jiri 87.21 54 *e*P **P 15 42 37.7 +0.2**
comp=Z,235nm,1.3s
RAMN Ramite 87.98 54 *e*P **P 15 42 41.5 +0.5**
comp=Z,188nm,1.9s
BTO Baotou 88.19 30 *e*P **P 15 42 39.5 -2.1**
BTO S **S 15 53 21.5 -4.2**
TAPN Taplejung 88.33 53 *e*P **P 15 42 43.0 +0.3**
comp=Z,160nm,1.3s
LSA Lhasa 88.48 49 IAmb IAmb 15 42 51.8
comp=Z,11nm,0.9s
LSA IAMs_20 IAMs_20 16 25 19.6
comp=Z,748nm,19.0s
ODAN Odare 88.52 54 *e*P **P 15 42 44.5 +1.0**
HHC Hu-ho-hao-te 88.53 29 *e*P **P 15 42 43.0 -0.2**
HHC SKS **SKSac 15 53 11.3 -0.8**
HHC S **ScS 15 53 34.0 -0.7**
HHC pmax pmax
comp=Z,19nm,1.3s
HHC pmax pmax
comp=Z,120nm,6.8s
HHC LR LR
comp=Z,650nm,16.7s
HHC LR LR
comp=Z,530nm,17.6s
HHC LR LR
comp=Z,660nm,17.5s
MSEY Mahe Island 88.82 98 IAMs_20 IAMs_20 16 20 43.5
comp=Z,807nm,21.0s
BI02 San Fabin de 88.87 213 IAmb IAmb 15 42 46.9
comp=Z,31nm,1.4s
YSS Yuzh-Sakhalins 89.48 6 *e*P **P 15 42 47.8 +0.4**
YSS *e* 15 46 16.4
YSS *e*S **S 15 53 32.8 -4.6**
YSS *e*PS **PS 15 54 49.2 +6.2**
YSS MLR MLR
comp=Z,800nm,16.0s
YSS MLR MLR
comp=N,400nm,18.0s
YSS Yuzh-Sakhalins 89.48 6 IAMs_20 IAMs_20 16 26 32.4
comp=Z,965nm,19.0s
LZH Lanzhou 89.59 37 *e*P **P 15 42 47.5 -0.9**
LZH pP sP 15 42 54.3 +1.2
LZH sP pwP 15 42 59.5 +4.4
LZH PP **PP 15 46 17.5 -1.7**
LZH S **S 15 53 42.0 +2.8**
LZH SS **SS 15 59 33.0 -0.7**
LZH pmax pmax
comp=Z,30nm,1.3s
LZH pmax pmax
comp=Z,240nm,5.4s
LZH LR LR
comp=Z,580nm,14.1s
LZH LR LR
comp=Z,580nm,15.2s
LZH LR LR
comp=Z,590nm,15.2s
HYB Hyderabad 89.91 66 *i* P **P 15 42 49.0 -1.0**
BJI Beijing 90.82 26 P **P 15 42 52.5 -1.2**
BJI S **S 15 53 47.5 -2.5**
BJI SS **SS 15 59 50.0 -0.7**
BJI pmax pmax
comp=Z,4.0nm,0.4s
BJI LR LR
comp=Z,770nm,16.5s
BJI LR LR
comp=Z,180nm,14.5s
BJI LR LR
comp=Z,390nm,16.3s
USRK Ussuriysk Ar. 90.84 14 P **P 15 42 52.5 -1.3**
comp=Z,2.0nm,0.9s,baz=328,slow=6.8,SNR=11
USRK LR LR 16 24 37.9
comp=Z,230nm,18.5s,baz=336,slow=36
SNY Shenyang 91.30 21 ⇑ P **P 15 42 56.0 0.0**
SNY SKS **SKSac 15 53 32.0 +4.0**
SNY S **ScS 15 54 01.5 +4.1**
SNY pmax pmax
comp=Z,91nm,10.2s
SNY LR LR
comp=Z,470nm,18.3s
SNY LR LR
comp=Z,460nm,17.3s
SNY LR LR
comp=Z,300nm,18.7s
PLCA Paso Flores 92.13 211 P **P 15 42 59.7 +0.1**
comp=Z,10nm,0.9s,baz=20,slow=6.3,SNR=14
PLCA LR LR 16 24 30.0
comp=Z,304nm,19.0s,baz=16,slow=36
PLCA Paso Flores 92.13 211 P **P 15 42 58.7 -0.9**
PLCA pmax pmax
comp=Z,20nm,1.1s
PLCA Paso Flores 92.13 211 P **P 15 42 58.7 -0.9**
PLCA IAmb IAmb 15 43 03.0
comp=Z,20nm,1.1s
PLCA Paso Flores 92.13 211 *e*P **P 15 43 00.4 +0.8**
YUK Yuzh-Kuril'sk 92.58 4 *e*P **P 15 42 57.9 -3.9**
YUK S **SKSac 15 53 28.8 -6.3**
ABPO Ambohimpanom 93.03 113 IAMs_20 IAMs_20 16 23 56.3
comp=Z,2μm,21.0s
XAN Xi'an 93.49 34 P **P 15 43 06.3 0.0**
XAN pP sP 15 43 11.8 +0.8
XAN S **S 15 54 08.0 -6.3**
XAN pmax pmax
comp=Z,11nm,1.6s
XAN pmax pmax
comp=Z,160nm,4.7s
XAN LR LR
comp=Z,900nm,20.8s
XAN LR LR
comp=Z,600nm,23.3s
XAN LR LR
comp=Z,1μm,21.1s
XAN Xi'an 93.49 34 IAmb IAmb 15 43 13.5
comp=Z,23nm,1.4s
XAN Xi'an 93.49 34 IAMs_20 IAMs_20 16 26 38.1
comp=Z,1μm,20.0s
DL2 Dalian 93.51 23 P **P 15 43 09.5 +3.3**
DL2 S **S 15 54 17.0 +2.8**
DL2 pmax pmax
comp=Z,120nm,7.4s
DL2 LR LR
comp=Z,310nm,22.3s
DL2 LR LR
comp=Z,470nm,17.9s
DL2 LR LR
comp=Z,610nm,16.7s
CD2 Chengdu 93.91 40 P **P 15 43 06.5 -1.8**
CD2 PP **PP 15 46 52.0 -1.2**
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 pmax pmax
comp=Z,160nm,8.6s
CD2 LR LR
comp=Z,990nm,21.4s
CD2 LR LR
comp=Z,740nm,19.4s
CD2 LR LR
comp=Z,1μm,21.6s
ERM Erimo 94.42 6 IAMs_20 IAMs_20 16 29 54.2
comp=Z,693nm,20.0s
KSRS Korea Array 96.51 19 P **P 15 43 19.1 -0.9**
comp=Z,1.9nm,1.0s,baz=334,slow=4.7,SNR=7.2
KSRS LR LR 16 31 00.7
comp=Z,293nm,18.2s,baz=348,slow=38
ENH Enshi 97.00 36 IAMs_20 IAMs_20 16 31 49.9
comp=Z,621nm,18.0s
KMI Kunming 98.25 44 ⇑ *e*P **P 15 43 27.5 -0.8**
KMI sP pP 15 43 32.0 +0.2
KMI PP **PP 15 47 26.3 -0.8**
KMI SS SS 16 01 38.0 +0.1
KMI pmax pmax
comp=Z,9.0nm,1.9s
KMI pmax pmax
comp=Z,70nm,4.5s
KMI LR LR
comp=Z,570nm,18.3s
KMI LR LR
comp=Z,390nm,14.2s
KMI LR LR
comp=Z,750nm,20.8s
KMI Kunming 98.25 44 IAMs_20 IAMs_20 16 33 04.1
comp=Z,792nm,20.0s
PALK Pallekele 98.64 71 LR LR 16 30 24.5
comp=Z,257nm,20.1s,baz=56,slow=37
WHN Wuhan 98.72 32 P Pdif 15 43 30.5 +0.4
WHN S S 15 54 49.5 -10
WHN LR LR
comp=Z,1μm,14.9s
WHN LR LR
comp=Z,650nm,13.6s
WHN LR LR
comp=Z,2μm,16.9s
NJ2 Nanjing 98.98 28 *e*P **P 15 43 30.3 -0.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 LR LR
comp=Z,590nm,16.1s
NJ2 LR LR
comp=Z,380nm,18.5s
NJ2 LR LR
comp=Z,790nm,18.5s
GYA Guiyang 99.02 40 ⇓ P **Pdif 15 43 36.8 +5.1**
GYA PP **PP 15 47 32.5 -0.3**
GYA S **S 15 54 55.8 -6.6**
GYA pmax pmax
comp=Z,10.0nm,1.2s
GYA pmax pmax
comp=Z,26nm,3.7s
GYA LR LR
comp=Z,470nm,19.6s
GYA LR LR
comp=Z,400nm,17.7s
GYA LR LR
comp=Z,850nm,19.2s
SSE Sheshan 100.63 26 IAMs_20 IAMs_20 16 36 21.0
comp=Z,713nm,18.0s
KNMB Chin-men Tao 105.73 31 IAMs_20 IAMs_20 16 35 28.7
comp=Z,555nm,18.0s
TATO Taipei 106.38 28 IAMs_20 IAMs_20 16 33 51.6
comp=Z,584nm,19.0s
QIZ Qiongzhong 106.88 41 Pdif **Pdif 15 44 05.8 -0.7**
QIZ PP **PP 15 48 32.0 +0.4**
QIZ S **Sdif 15 56 07.0 -0.9**
QIZ SS **SS 16 03 36.8 +0.2**
QIZ LR LR
comp=Z,330nm,16.7s
QIZ LR LR
comp=Z,320nm,17.2s
QIZ LR LR
comp=Z,550nm,15.2s
QIZ Qiongzhong 106.88 41 IAMs_20 IAMs_20 16 39 40.3
comp=Z,565nm,19.0s
NACB Ninganchiao 107.15 28 IAMs_20 IAMs_20 16 35 28.1
comp=Z,598nm,18.0s
SSLB Suanglung 107.28 29 IAMs_20 IAMs_20 16 35 20.6
comp=Z,643nm,18.0s
YULB Yu-li 107.77 29 IAMs_20 IAMs_20 16 35 37.4
comp=Z,662nm,19.0s
TWG Pinlang 108.21 29 IAMs_20 IAMs_20 16 36 19.4
comp=Z,536nm,19.0s
TAOE Nuku Hiva Isla 111.73 279 *e*LR LR 16 21 39.8
comp=Z,2μm,22.7s
SYO Syowa Base 122.92 157 ⇑ *e*PP PP 15 50 25.8 +0.8
PPT2 Papeete2 124.36 278 *e*SS SS 16 07 31.8 +4.1
comp=Z,481nm,29.8s
PPT2 Papeete2 124.36 278 *e*LR LR 16 27 32.0
comp=Z,1μm,24.0s
TBI Tubuai 127.92 273 *e*LR LR 16 29 02.7
comp=Z,816nm,28.5s
MAW Mawson 129.90 150 PKP **PKPdf 15 48 57.4 -1.3**
comp=Z,1.0nm,0.7s,baz=288,slow=6.9,SNR=2.7
QSPA South Pole Qui 133.50 180 **PKiKP 15 49 07.2 +0.3**
GENI Genyem 137.92 17 PKP **PKiKP 15 49 24.1 +6.6**
GENI PKP **sPKPdf 15 49 26.1 +5.8**
PSAC1 Pilbara Seismi 145.69 60 PKPdf **PKPab 15 49 30.7 +0.9**
PSAB1 Pilbara Seismi 145.73 60 PKPdf **PKPab 15 49 31.2 +1.3**
VNDA Vanda 145.73 184 PKPbc **PKPab 15 49 29.0 +0.7**
comp=Z,3.3nm,0.9s,baz=183,slow=3.7,SNR=12
VNDA Vanda 145.73 184 PKP2 **PKPab 15 49 29.5 +1.1**
VNDA Vanda 145.73 184 PKPdf **PKPab 15 49 29.5 +1.1**
COEN Coen 149.58 16 **PKPbc 15 49 40.3 0.0**
WB0 Warramunga Arr 152.22 37 **PKPbc 15 49 46.3 -0.1**
WRAB Tennant Creek 152.35 37 PKIKP **PKPbc 15 49 46.3 -0.4**
WRAB Tennant Creek 152.35 37 **PKPbc 15 49 46.3 -0.4**
WRA Warramunga Arr 152.35 37 PKP **PKPdf 15 49 38.6 -1.2**
comp=Z,1.4nm,1.2s,baz=316,slow=2.3,SNR=7.5
WRA PKPbc **sPKPdf 15 49 45.7 +1.1**
comp=Z,19nm,1.0s,baz=332,slow=3.1,SNR=36
WRA Warramunga Arr 152.35 37 **PKPbc 15 49 46.3 -0.4**
WB2 Warramunga Arr 152.36 37 **PKPbc 15 49 46.8 +0.1**
WR0 Warramunga Arr 152.45 36 **PKPbc 15 49 46.7 -0.2**
DZM Mont Dzumac 155.20 325 *e*LR LR 16 41 32.5
comp=Z,859nm,25.2s
ASAR Alice Springs 155.37 42 PKPbc PKPdf 15 49 52.3 +8.2
comp=Z,2.3nm,0.8s,baz=338,slow=1.9,SNR=12
ASAR PKPab **PKPab 15 50 08.6 -0.9**

comp=Z,5.5nm,0.9s,baz=341,slow=4.8,SNR=13
ASAR PP **PP** 15 53 48.3 +2.9
comp=Z,2.6nm,1.2s,baz=315,slow=5.4,SNR=5.9
ASAR Alice Springs 155.37 42 PKPdf 15 49 52.9 +8.7
STKA Stephens Creek 165.90 37 PKP **PKPdf** 15 49 54.0 -1.3
comp=Z,2.3nm,1.0s,baz=22,slow=11,SNR=2.8
STKA PKPab **PKPab** 15 50 54.0 -1.0
comp=Z,4.2nm,1.0s,baz=336,slow=11,SNR=4.1

PRU 30 15:43:41.5±0.0, 51.51°N×16.18°E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**174**	*e*Pg	Pg	15 43 54.7	+0.4
KSP				*e*Sg	Sg	15 44 03.9	+0.8
OSTC	**Ostas**	**0.95**	**179**	*e*PG	Pg	15 44 00.1	+0.3
OSTC				*e*SG	Sg	15 44 13.1	+1.0
UPC	**Upice**	**1.01**	**186**	*e*PG	Pg	15 44 00.6	-0.2
UPC				*e*SG	Sg	15 44 13.6	-0.3
	comp=Z,3.5nm,0.3s						
DPC	**Dobruska-Polom**	**1.17**	**176**	*e*PG	Pg	15 44 03.4	-0.4
DPC				*e*SG	Sg	15 44 18.3	-0.6
PVCC	**Panska Ves**	**1.42**	**227**	*e*PG	Pn	15 44 07.9	-0.6
PVCC				*e*SG	Sg	15 44 27.0	+0.1
	comp=Z,8.6nm,0.2s						
KRLC	**Kraliky**	**1.49**	**165**	*e*PG	Pn	15 44 09.4	-0.1
KRLC				*e*SG	Sg	15 44 28.7	-0.5
BRG	**Berggiesshubel**	**1.54**	**247**	PG	Pn	15 44 10.2	-0.1
BRG				SG	Sn	15 44 30.7	-0.3
	8.9nm,0.3s						
BRG	**Berggiesshubel**	**1.54**	**247**	S	Pg	15 44 10.0	-1.1
PRU	**Pruhonice**	**1.84**	**215**	*e*SG	Sg	15 44 40.3	-0.4
CLL	**Collm**	**2.00**	**265**	*e*Pg	Pb	15 44 19.0	+0.3
CLL				*e*Sg	Sg	15 44 45.0	-0.7
NKC	**Novy Kostel**	**2.69**	**243**	*e*SG	Sg	15 45 08.1	+0.3
KHC	**Kasperske Hory**	**2.91**	**216**	*e*SG	Sg	15 45 13.1	-1.7

*IDC **30** 15:55:34.2±2.1, 1.72°S×99.41°E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/40, mbtmp3.7/9, ML3.6/1, Error ellipse: s-maj=69.8km s-min=19.0km az=61.0*
*NEIC **30** 15:55:35.8±2.4, 1.85°S±0.09°×99.2°E±0.1, h18km±3km, mb3.9/3, Error ellipse: s-maj=18.7km s-min=9.0km az=55.0*
*DJA **30** 15:55:39.6±0.3, 2.2°S±2.9°×99.6°E±., h34km±5km, M4.3/22, mB5.0/4, mb4.5/6, MLv4.3/22, Mw(mB)4.3/4*
ISC 30 15:55:39.6±1.0, 1.70S±0.05×99.31E±0.05, h44km±10km, n52, σ1ᵖ34/54, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.42**	**329**	P	**Pn**	**15 55 49.8**	**+0.2**
SISI				S	**Sn**	**15 55 58.1**	**+1.5**
PPSI	**Pulau Pagai**	**1.27**	**147**	P	**Pn**	**15 56 01.1**	**+0.2**
PPSI				S	**Sn**	**15 56 17.8**	**+1.0**
PDSI	**Padang**	**1.39**	**56**	P	**Pn**	**15 56 01.2**	**-1.4**
PDSI				S	**Sn**	**15 56 19.0**	**-0.8**
PBSI	**Pulau Batu**	**1.93**	**328**	P	**Pn**	**15 56 10.5**	**+0.6**
PBSI				S	**Sn**	**15 56 33.0**	**+0.1**
KRJI	**Kerinci**	**2.19**	**100**	P	**Pn**	**15 56 14.9**	**+1.3**
KRJI				S	**Sn**	**15 56 40.2**	**+0.7**
SDSI	**Sungai Dareh**	**2.25**	**70**	P	**Pn**	**15 56 14.6**	**+0.3**
SDSI				S	**Sn**	**15 56 42.1**	**+1.2**
MNSI	**Mandailing Nat**	**2.49**	**6**	P	**Pn**	**15 56 17.8**	**+0.2**
BKNI	**Bangkinang**	**2.65**	**41**	P	**Pn**	**15 56 20.8**	**+0.9**
BKNI	**Bangkinang**	**2.65**	**41**	Pn	**Pn**	**15 56 20.6**	**+0.8**
SBSI	**Sibolga**	**3.25**	**353**	P	**Pn**	**15 56 25.7**	**-2.4**
SBSI				S	**Sn**	**15 57 01.8**	**-3.8**
MASI	**Maura Aman, Be**	**3.26**	**116**	P	**Pn**	**15 56 29.0**	**+0.7**
MASI				S	**Sn**	**15 57 05.2**	**-0.7**
GSI	**Gunungsitoli**	**3.44**	**330**	P	**Pn**	**15 56 31.1**	**+0.3**
GSI	**Gunungsitoli**	**3.44**	**330**		**Pn**	**15 56 31.1**	**+0.3**
KSI	**Kapahiang**	**3.81**	**121**	P	**Pn**	**15 56 36.2**	**+0.3**
RPSI	**Rantau Prapat**	**4.38**	**355**		**Pn**	**15 56 43.4**	**-0.1**
RPSI	**Rantau Prapat**	**4.38**	**355**		**Pn**	**15 56 43.5**	**0.0**
PSI	**Prapat**	**4.48**	**355**	Pn	**Pn**	**15 56 43.5**	**-1.6**
	3.3nm,0.3s,baz=180,slow=12,SNR=4.6						
MNAI	**Manna**	**4.50**	**126**	P	**Pn**	**15 56 45.7**	**+0.4**
MNAI	**Manna**	**4.50**	**126**	Pn	**Pn**	**15 56 45.7**	**+0.4**
MNAI					**Sn**	**15 57 33.8**	**-2.7**
LHSI	**Lahat**	**4.71**	**117**	P	**Pn**	**15 56 51.1**	**+2.9**
TPTI		**5.36**	**337**	P	**Pn**	**15 56 57.7**	**+0.6**
DSRI	**Dabo**	**5.41**	**77**	P	**Pn**	**15 56 58.5**	**+0.8**
	0.1nm576nm15nm,0.5s						
MYKOM	**Kota Tinggi**	**5.71**	**53**	Pn	**Pn**	**15 57 02.3**	**+0.4**
LWLI	**Liwa**	**5.78**	**125**	P	**Pn**	**15 57 03.8**	**+0.9**
	0.9nm96nm,0.6s						
TPRI	**Tanjung Pinang**	**5.83**	**64**	P	**Pn**	**15 57 04.4**	**+0.9**
	0.4nm2µm51nm,0.7s						
KLSI		**6.18**	**119**	P	**Pn**	**15 57 09.7**	**+1.4**
	0.1nm17nm,0.7s						
KASI	**Kota Agung**	**6.42**	**126**	P	**Pn**	**15 57 11.9**	**+0.2**
	0.4nm2µm63nm,0.6s						
MLSI	**Meulaboh, Aceh**	**6.59**	**334**	P	**Pn**	**15 57 13.2**	**-0.8**
	0.3nm24nm,0.4s						
KULM	**Kulim**	**7.07**	**11**	Pn	**Pn**	**15 57 20.6**	**+0.1**
LHMI	**Lhok Sumawe**	**7.27**	**341**	Pn	**Pn**	**15 57 23.2**	**-0.1**
CNJI	**Cibinong**	**9.59**	**126**	P	**Pn**	**15 57 53.0**	**-2.1**
CISI	**Cisompet, Garu**	**10.28**	**125**	P	**Pn**	**15 58 01.5**	**-3.2**
CISI	**Cisompet, Garu**	**10.28**	**125**	Pn	**Pn**	**15 58 01.2**	**-3.4**
XMIS	**Christmas Isla**	**10.77**	**144**	Pn	Pn	15 58 04.9	-6.3
CMAR	**Chiang Mai Arr**	**20.03**	**359**	P	**P**	**16 00 09.3**	**+0.3**
	0.5nm,0.5s,baz=180,slow=12,SNR=2.8						
H08S2	**Diego Garcia H**	**27.36**	**257**	T	T	16 29 26.1	
	baz=78,slow=76,SNR=72						
H08S3	**Diego Garcia H**	**27.36**	**257**	T	T	16 29 24.8	
	baz=78,slow=76,SNR=79						
H08S1	**Diego Carcia H**	**27.38**	**257**	T	T	16 29 26.5	
	baz=78,slow=76,SNR=78						
H01W3	**Cape Leeuwin H**	**35.80**	**159**	T	T	16 40 22.8	
	baz=334,slow=76,SNR=39						
H01W2	**Cape Leeuwin H**	**35.81**	**159**	T	T	16 40 23.7	
	baz=334,slow=76,SNR=36						
H01W1	**Cape Leeuwin H**	**35.81**	**159**	T	T	16 40 23.9	
	baz=334,slow=76,SNR=36						
WRA	**Warramunga Arr**	**38.74**	**120**	P	**P**	**16 02 59.7**	**-0.3**
	0.5nm,0.6s,baz=304,slow=9.0,SNR=7.5						
ASAR	**Alice Springs**	**39.99**	**126**	P	**P**	**16 03 10.3**	**0.0**
	0.3nm,0.5s,baz=300,slow=8.1,SNR=12						
KSRS	**Korea Array**	**47.12**	**31**	P	**P**	**16 04 07.0**	**-0.4**
	0.3nm,0.5s,baz=223,slow=8.0,SNR=2.8						
SONM	**Songino Array**	**49.71**	**6**	P	**P**	**16 04 29.3**	**+1.9**
	0.4nm,0.4s,baz=178,slow=9.5,SNR=2.5						
MK31	**Makanchi Array**	**50.55**	**345**	P	**P**	**16 04 35.0**	**+1.3**
MK31				IAmb	IAmb	16 05 07.6	
	comp=Z,1.7nm,1.2s						
MKAR	**Makanchi Array**	**50.55**	**345**	P	**P**	**16 04 34.5**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=158,slow=8.8,SNR=20						
MKAR	**Makanchi Array**	**50.55**	**345**	P	**P**	**16 04 34.1**	**+0.4**
USRK	**Ussuriysk Ar.**	**54.22**	**29**	P	**P**	**16 05 00.9**	**0.0**
	comp=Z,1.8nm,0.8s,baz=225,slow=5.1,SNR=5.9						
ZALV	**Zalesovo Beam**	**56.74**	**350**	P	**P**	**16 05 19.7**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=165,slow=6.5,SNR=5.5						
ZALV	**Zalesovo Beam**	**56.74**	**350**	P	**P**	**16 05 18.3**	**-0.5**
TXAR	**Lajitas Array**	**144.87**	**36**	PKP	**PKPdf**	**16 15 13.2**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=237,slow=0.7,SNR=17						

*IDC **30** 15:56:10.4±5.1, 24.2°S×179.36°W, h455km±25km, mb3.3/5, mb1 3.4/6, mb1mx3.1/25, mbtmp4.2/6, Error ellipse: s-maj=92.2km s-min=29.7km az=49.0*
ISC 30 15:56:13.5±2.3, 24.7S±0.2×179.8W±0.3, h450km, n7, σ1ᵖ73/9, mb3.6/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.84**	**160**	P	**P**	**15 57 36.2**	**-0.1**
	179nm,0.3s,baz=65,slow=19,SNR=3.1						
URZ	**Urewera**	**13.78**	**190**	P	**P**	**15 59 12.7**	**+1.2**
	1.9nm,0.3s,baz=6.1,slow=3.2,SNR=15						
URZ				S	**S**	**16 01 36.9**	**-1.6**
	0.8nm,0.3s,baz=66,slow=20,SNR=2.1						
RPZ	**Rata Peaks**	**20.41**	**199**	P	**P**	**16 00 20.6**	**+2.1**
	4.9nm,0.7s,baz=28,slow=7.3,SNR=2.0						
CTA	**Charters Tower**	**31.68**	**271**	P	**P**	**16 01 59.5**	**+0.8**
	2.8nm,0.3s,baz=97,slow=9.3,SNR=15						
STKA	**Stephens Creek**	**34.62**	**249**	P	**P**	**16 02 23.7**	**+0.2**
	0.5nm,0.4s,baz=101,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**42.10**	**261**	P	**P**	**16 03 24.5**	**-0.4**
	0.5nm,0.3s,baz=94,slow=7.5,SNR=7.3						
WRA	**Warramunga Arr**	**42.55**	**267**	P	**P**	**16 03 27.8**	**-0.8**
	1.6nm,0.3s,baz=103,slow=8.0,SNR=17						
WRA				ScP	**ScP**	**16 08 15.8**	**-2.8**

0.2nm,0.7s,baz=100,slow=3.9,SNR=5.7

*INET **30** 16:01:33.9, 12.49°N×87.75°W, h74km, ML3.6*
*SNET **30** 16:01:35.0±1.0, 12.51°N×87.89°W, h31km±4km, ML3.4*
ISC 30 16:01:33.9±4.5, 12.4N±0.2×87.8W±0.2, h50km, n12, σ0ᵖ45/18, 3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.83**	**356**	↓*i*P	**Pn**	**16 01 49.3**	**-0.1**
CNCH				*e*S	**Sn**	**16 02 01.7**	**+0.9**
LCND	**La Caada**	**0.86**	**353**	↓*i*P	**Pn**	**16 01 49.7**	**-0.2**
LCND				*e*S	**Sn**	**16 02 01.9**	**+0.3**
LCND				IAML		16 02 06.4	
	comp=Z,2µm,0.3s						
JUCU	**Jucuarn**	**0.92**	**331**	*e*P	**Pn**	**16 01 50.1**	**-0.6**
JUCU				*e*S	**Sn**	**16 02 02.2**	**-0.8**
JUCU				IAML		16 02 05.2	
	comp=Z,2µm,0.3s						
BLLM	**Bellamira**	**1.09**	**336**	*e*P	**Pn**	**16 01 52.9**	**0.0**
LCY	**Lacayo**	**1.09**	**333**	*e*P	**Pn**	**16 01 53.1**	**+0.1**
PACA	**Pacayal**	**1.15**	**333**	*e*P	**Pn**	**16 01 54.1**	**+0.3**
PACA				*e*S	**Sn**	**16 02 09.1**	**+0.6**
ALJI	**Alcalda de J**	**1.17**	**319**	*e*P	**Pn**	**16 01 53.9**	**0.0**
ALJI				IAML		16 02 10.6	
	comp=Z,1µm,0.1s						
TECA	**Tecapa**	**1.26**	**326**	*e*P	**Pn**	**16 01 55.4**	**+0.1**
TECA				*e*S	**Sn**	**16 02 11.2**	**0.0**
COEB	**Comit de Eme**	**1.28**	**325**	*e*P	**Pn**	**16 01 55.7**	**+0.2**
COEB				IAML		16 02 14.9	
	comp=Z,461nm,0.2s						
FAGO	**Alcalda de S**	**1.28**	**346**	↓*i*P	**Pn**	**16 01 55.1**	**-0.4**
FAGO				*e*S	**Sn**	**16 02 11.1**	**-0.5**
COEG	**Centro de Oper**	**1.58**	**318**	*e*P	**Pn**	**16 01 59.8**	**+0.1**
COEG				IAML		16 02 23.0	
	comp=Z,357nm,0.4s						
LFRS	**El Faro**	**1.71**	**313**	*e*P	**Pn**	**16 02 01.5**	**0.0**

IDC 30 16:10:07.6±1.5, 28.10N×101.81E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.1/47, mbtmp3.4/3, Error ellipse: s-maj=81.0km s-min=27.6km az=59.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.95**	**196**	Pg	Pg	16 13 09.5	
	0.0nm,0.3s,baz=10,slow=16,SNR=4.1						
MKAR	**Makanchi Array**	**24.14**	**326**	P	P	16 15 25.3	0.0
	0.5nm,0.6s,baz=131,slow=11,SNR=6.7						
WRA	**Warramunga Arr**	**57.19**	**143**	P	P	16 19 56.4	-0.2
	0.4nm,0.6s,baz=330,slow=7.9,SNR=4.9						
ASAR	**Alice Springs**	**60.05**	**146**	P	P	16 20 16.7	+0.1
	0.2nm,0.6s,baz=327,slow=6.6,SNR=2.6						

*IDC **30** 16:37:15.2±10.0, 21.59°S×179.16°W, h579km±91km, mb3.2/6, mb1 3.3/7, mb1mx3.0/42, mbtmp4.2/7, Error ellipse: s-maj=91.1km s-min=54.4km az=103.0*
ISC 30 16:37:17.2±2.2, 21.6S±0.4×179.2W±0.3, h602km, n9, σ0ᵖ74/10, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.30**	**266**	P	**P**	**16 40 08.2**	**-1.0**
	0.3nm,0.3s,baz=82,slow=17,SNR=1.9						
CTA	**Charters Tower**	**32.24**	**266**	P	**P**	**16 42 58.2**	**+0.2**
	2.4nm,0.4s,baz=90,slow=9.8,SNR=12						
STKA	**Stephens Creek**	**36.25**	**245**	P	**P**	**16 43 31.6**	**+0.3**
	1.6nm,0.6s,baz=67,slow=10,SNR=6.9						
ASAR	**Alice Springs**	**43.14**	**258**	P	**P**	**16 44 26.2**	**-0.1**
	3.7nm,0.8s,baz=95,slow=8.0,SNR=75						
ASAR				PcP	**PcP**	**16 46 02.9**	**+0.8**
	0.2nm,0.5s,baz=110,slow=3.7,SNR=4.2						
WRA	**Warramunga Arr**	**43.31**	**264**	P	**P**	**16 44 27.1**	**-0.6**
	1.0nm,0.3s,baz=96,slow=7.8,SNR=75						
JAY	**Jayapura**	**43.33**	**290**	P	**P**	**16 44 28.8**	**+0.8**
	3.2nm,0.5s,baz=146,slow=11,SNR=1.3						
FITZ	**Fitzroy Crossi**	**51.74**	**264**	P	**P**	**16 45 30.8**	**+0.2**
	0.9nm,0.3s,baz=102,slow=5.2,SNR=19						
AKASG	**Malin Array Be**	**143.43**	**329**	PKP	**PKPdf**	**16 55 43.0**	**-1.0**
	0.5nm,0.3s,baz=44,slow=4.2,SNR=7.0						
BRTR	**Keskin Array B**	**146.72**	**310**	PKPbc	**PKPbc**	**16 55 52.6**	**-0.3**
	0.3nm,0.5s,baz=124,slow=0.4,SNR=1.8						

*IDC **30** 16:49:47.6±2.7, 40.46°S×176.16°E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.6/28, mbtmp3.5/4, ML2.5/2, MS4.0/3, Ms1 4.0/3, ms1mx3.4/19, Error ellipse: s-maj=65.2km s-min=21.4km az=127.0*
*WEL **30** 16:49:51.6, 40.4S±0.7×176.1E±1.0, h14km±1km, M3.3/20, ML3.6/20, MLv3.3/20, Error ellipse: s-maj=0.0km s-min=0.0km az=65.6*
ISC 30 16:49:52.6±0.8, 40.41S±0.02×176.08E±0.02, h34km±1km, n111, σ1ᵖ18/134, MS4.1/3, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVHZ	**Dannevirke**	**0.13**	**29**	P	**Pn**	**16 49 55.6**	**-0.5**
DVHZ				S	**Sn**	**16 49 58.3**	**+2.8**
PRWZ	**Pori Road**	**0.16**	**211**	P	**Pn**	**16 49 57.3**	**+0.1**
POWZ	**Post Office Ro**	**0.24**	**275**	P	**Pn**	**16 49 57.8**	**-1.5**
POWZ				S	**Sn**	**16 50 02.6**	**+0.2**
BFZ	**Birch Farm**	**0.29**	**155**	P	**Pn**	**16 49 59.5**	**-0.9**
BFZ				S	**Sb**	**16 50 05.3**	**-0.3**
ANWZ	**Angora Road**	**0.30**	**99**	P	**Pn**	**16 49 59.4**	**-1.1**
ANWZ				S	**Sb**	**16 50 04.6**	**-1.1**
TSZ	**Takapari Road**	**0.37**	**345**	P	**Pb**	**16 49 59.2**	**-2.1**
TSZ				S	**Sn**	**16 50 04.6**	**-2.8**
TIWZ	**Tintock**	**0.39**	**203**	P	**Pb**	**16 50 01.4**	**-0.3**
TIWZ				S	**Sb**	**16 50 08.1**	**+0.1**
WPHZ	**Waipukurau**	**0.44**	**38**	P	**Pb**	**16 50 01.3**	**-1.1**
WPHZ				S	**Sb**	**16 50 08.6**	**-0.5**
PRHZ	**Porangahau**	**0.45**	**71**	P	**Pb**	**16 50 01.8**	**-0.7**
PRHZ				S	**Sn**	**16 50 10.4**	**+0.8**
MRZ	**Mangatainoka R**	**0.46**	**237**	P	**Pb**	**16 50 01.6**	**-1.0**
MRZ				S	**Sb**	**16 50 08.4**	**-1.1**
CPWZ	**Castlepoint**	**0.50**	**170**	P	**Pn**	**16 50 04.6**	**+1.1**
CPWZ				S	**Sn**	**16 50 15.2**	**+4.2**
PNHZ	**Pukenui**	**0.51**	**10**	P	**Pb**	**16 50 02.0**	**-1.4**
PNHZ				S	**Sb**	**16 50 09.3**	**-1.5**
OHWZ	**Ohakea**	**0.62**	**289**	P	**Pn**	**16 50 04.9**	**-0.1**
OHWZ				S	**Sn**	**16 50 14.5**	**+0.7**
HOWZ	**Holdsworth Sta**	**0.65**	**222**	P	**Pn**	**16 50 05.1**	**-0.3**
HOWZ				S	**Sb**	**16 50 15.4**	**+0.8**
TMWZ	**Te Maipa**	**0.71**	**192**	P	**Pb**	**16 50 07.1**	**+0.4**
TMWZ				S	**Sb**	**16 50 19.3**	**+3.1**
PXZ	**Pawanui**	**0.71**	**58**	P	**Pb**	**16 50 06.6**	**0.0**
PXZ				S	**Sb**	**16 50 19.3**	**+3.2**
KRHZ	**Kereru**	**0.80**	**16**	P	**Pn**	**16 50 07.3**	**-0.2**
KRHZ				S	**Sb**	**16 50 18.4**	**-0.3**
OGWZ	**Otaki Gorge**	**0.80**	**240**	P	**Pn**	**16 50 07.4**	**-0.1**
KAHZ	**Kahuranaki**	**0.87**	**45**	P	**Pb**	**16 50 09.4**	**+0.1**
KAHZ				S	**Sb**	**16 50 23.6**	**+2.9**
BHHZ	**Black Hill Sta**	**0.92**	**359**	P	**Pn**	**16 50 09.2**	**-0.1**
BHHZ				S	**Sn**	**16 50 20.8**	**-0.6**
KIW	**Kapiti Island**	**1.00**	**243**	P	**Pn**	**16 50 11.0**	**+0.7**
KIW				S	**Sn**	**16 50 24.5**	**+1.3**
KWHZ	**Kaweka Forest**	**1.02**	**15**	P	**Pb**	**16 50 11.3**	**-0.6**
KWHZ				S	**Sb**	**16 50 25.0**	**-0.1**
TRWZ	**Traveller**	**1.03**	**197**	P	**Pn**	**16 50 11.2**	**+0.5**
CAW	**Cannon Point**	**1.04**	**228**	P	**Pn**	**16 50 11.7**	**+0.9**
MOVZ	**Moawhango**	**1.04**	**346**	P	**Pn**	**16 50 11.3**	**+0.4**
WAZ	**Wanganui**	**1.07**	**308**	P	**Pb**	**16 50 12.9**	**+0.3**
WAZ				S	**Sb**	**16 50 28.1**	**+1.8**
CKHZ	**Cape Kidnapper**	**1.07**	**46**	P	**Pb**	**16 50 11.8**	**-0.9**
MCHZ	**McNeill Hill**	**1.08**	**26**	P	**Pb**	**16 50 12.3**	**-0.5**
PAWZ	**Paruwai Farm**	**1.09**	**207**	P	**Pn**	**16 50 12.0**	**+0.5**
PAWZ				S	**Sb**	**16 50 27.3**	**+0.4**
MTVZ	**Mangateitei**	**1.13**	**335**	P	**Pb**	**16 50 13.3**	**-0.4**
WNVZ	**Wahianoa**	**1.15**	**341**	P	**Pn**	**16 50 13.5**	**+1.0**
MSWZ	**Moikau Station**	**1.18**	**212**	P	**Pn**	**16 50 13.1**	**+0.2**
TRVZ	**Turoa**	**1.19**	**340**	P	**Pb**	**16 50 14.2**	**-0.6**
TUVZ	**Tukino**	**1.19**	**344**	P	**Pb**	**16 50 14.3**	**-0.5**
WHVZ	**Whangaehu Hut**	**1.19**	**341**	P	**Pb**	**16 50 14.3**	**-0.5**
DRZ	**Dome Shelter**	**1.21**	**340**	P	**Pb**	**16 50 15.6**	**+0.4**
FWVZ	**Far West T-bar**	**1.23**	**340**	P	**Pb**	**16 50 14.8**	**-0.7**
PKVZ	**Pokaka**	**1.26**	**333**	P	**Pb**	**16 50 15.3**	**-0.5**
BKZ	**Black Stump Fm**	**1.29**	**14**	P	**Pb**	**16 50 15.1**	**+0.8**
OTVZ	**Oturere**	**1.29**	**345**	P	**Pb**	**16 50 15.9**	**-0.6**
NGZ	**Ngauruhoe**	**1.29**	**343**	P	**Pb**	**16 50 16.0**	**-0.5**
ETVZ	**East Tongariro**	**1.31**	**347**	P	**Pb**	**16 50 16.2**	**-0.6**
PLWZ	**Palliser**	**1.31**	**208**	P	**Pn**	**16 50 14.6**	**0.0**
WEL	**Wellington**	**1.32**	**229**	P	**Pn**	**16 50 15.4**	**+0.7**
TMVZ	**Te Maari**	**1.33**	**347**	P	**Pb**	**16 50 16.5**	**-0.5**
ARHZ	**Aropaoanui**	**1.35**	**32**	P	**Pn**	**16 50 15.9**	**+0.8**
WTVZ	**West Tongariro**	**1.35**	**344**	P	**Pb**	**16 50 17.1**	**-0.3**
BHW	**Baring Head**	**1.35**	**222**	P	**Pn**	**16 50 15.5**	**+0.3**
NMHZ	**Naumai**	**1.43**	**23**	P	**Pb**	**16 50 17.3**	**-1.4**
RITZ	**Rihia Road**	**1.45**	**353**	P	**Pb**	**16 50 18.4**	**-0.6**
KATZ	**Kakaramea**	**1.47**	**348**	P	**Pb**	**16 50 19.1**	**-0.3**
RATZ	**Rangitukua**	**1.56**	**351**	P	**Pb**	**16 50 21.5**	**+0.5**
TCW	**Tory Channel**	**1.58**	**239**	P	**Pn**	**16 50 19.0**	**+0.6**
MRHZ	**Matea Rd**	**1.60**	**9**	P	**Pn**	**16 50 19.5**	**+0.9**
WHHZ	**Waihua**	**1.60**	**34**	P	**Pn**	**16 50 19.6**	**+1.1**
LREZ	**Lake Rotokare**	**1.60**	**306**	P	**Pb**	**16 50 21.8**	**+0.1**
VRZ	**Vera Road**	**1.64**	**321**	P	**Pb**	**16 50 21.5**	**-0.8**
MTHZ	**Maungataniwha**	**1.67**	**21**	P	**Pn**	**16 50 20.0**	**+0.6**
RAHZ	**Arahi**	**1.68**	**28**	P	**Pn**	**16 50 20.2**	**+0.4**
DUWZ	**D'Urville Isla**	**1.69**	**256**	P	**Pn**	**16 50 21.2**	**+1.4**
WATZ	**Wairara**	**1.73**	**351**	P	**Pb**	**16 50 22.7**	**-1.0**
WHTZ	**Whakaora**	**1.75**	**357**	P	**Pb**	**16 50 25.1**	**+0.9**
PREZ	**Palmer Road**	**1.83**	**305**	P	**Pb**	**16 50 25.4**	**0.0**
ALRZ	**Allen Road**	**1.86**	**6**	P	**Pb**	**16 50 25.0**	**-1.0**
WPRZ	**Whakapapatarin**	**1.89**	**2**	P	**Pn**	**16 50 23.2**	**+0.6**
DREZ	**Durham Road**	**1.90**	**310**	P	**Pb**	**16 50 26.6**	**0.0**
SNGZ	**Shannon Statio**	**1.90**	**31**	P	**Pn**	**16 50 22.6**	**0.0**
MHEZ	**Mangahewa**	**1.90**	**314**	P	**Pb**	**16 50 27.0**	**+0.3**
NEZ	**North Egmont**	**1.91**	**306**	P	**Pb**	**16 50 26.0**	**-0.8**
TUWZ	**Tuamarina**	**1.91**	**237**	P	**Pn**	**16 50 23.0**	**+0.2**
RTZ	**Ruatahuna**	**1.93**	**21**	P	**Pn**	**16 50 23.6**	**+0.5**
PRRZ	**Plateau Road**	**1.93**	**7**	P	**Pb**	**16 50 26.7**	**-0.4**
CMWZ	**Cape Campbell**	**1.94**	**226**	P	**Pn**	**16 50 24.6**	**+1.4**
KHEZ	**Kahui Hut**	**1.95**	**304**	P	**Pb**	**16 50 27.3**	**-0.2**
NMEZ	**Namu Road**	**1.97**	**300**	P	**Pb**	**16 50 27.4**	**-0.4**
MUGZ	**Murupara**	**2.01**	**16**	P	**Pn**	**16 50 24.2**	**0.0**
PKE	**Pukeiti**	**2.02**	**306**	P	**Pb**	**16 50 29.3**	**+0.6**
PRGZ	**Paritu Road**	**2.04**	**44**	P	**Pn**	**16 50 24.3**	**-0.3**
NBEZ	**Newall Road No**	**2.05**	**303**	P	**Pb**	**16 50 28.1**	**-1.2**
GRRZ	**Galatos Road**	**2.06**	**1**	P	**Pb**	**16 50 32.6**	**+3.2**
RRRZ	**Republican Roa**	**2.10**	**9**	P	**Pn**	**16 50 25.8**	**+0.4**
BSWZ	**Blackbirch Sta**	**2.12**	**231**	P	**Pn**	**16 50 25.7**	**+0.1**
HIZ	**Hauiti**	**2.12**	**333**	P	**Pn**	**16 50 28.3**	**+2.6**
TLZ	**Tolley Road**	**2.12**	**348**	P	**Pn**	**16 50 27.7**	**+1.9**
RIGZ	**Rimuhau**	**2.14**	**38**	P	**Pn**	**16 50 25.6**	**-0.4**
NNZ	**Nelson**	**2.20**	**248**	P	**Pn**	**16 50 27.7**	**+0.9**
URZ	**Urewera**	**2.29**	**21**	Pn	**Pn**	**16 50 27.5**	**-0.6**
	1.7nm,0.3s,baz=242,slow=5.2,SNR=13						
URZ				Sn	**Sn**	**16 50 55.7**	**+0.6**
	2.8nm,0.3s,baz=219,slow=20,SNR=5.9						
URZ	**Urewera**	**2.29**	**21**	P	**Pn**	**16 50 27.4**	**-0.6**
OMRZ	**Omania**	**2.32**	**6**	P	**Pb**	**16 50 32.5**	**-1.2**
MWZ	**Matawai**	**2.36**	**29**	P	**Pn**	**16 50 28.3**	**-0.7**
TKGZ	**Te Karaka**	**2.40**	**35**	P	**Pn**	**16 50 28.9**	**-0.6**
TOZ	**Tahuroa Road**	**2.72**	**350**	P	**Pb

M_r0.63; M_{99}-0.07; $M_{\phi\phi}$-0.56; $M_{r\theta}$6.05; $M_{\theta\phi}$-0.83; $M_{\theta r}$-0.24; Fault plane solution: M_o6.12000×10^{14} NP1:ϕ_s91.00000°, δ88.00000°, λ98.00000°. NP2:ϕ_s193.00000°, δ8.00000°, λ12.00000°.

*JMA **30** 17:45:57.7±0.2, 37°.30N×141°.86E, h38^{km}±3^{km}, M3.7*
*NEIC **30** 17:45:58.2±1.8, 37°.25N±0°.06×142°.1E±0°.1, h33^{km}±6^{km}, mb4.4/14, Error ellipse: s-maj=12.6km s-min=9.0km az=104.0*
*SKHL **30** 17:47:09.1±0.7, 42°.04N×144°.75E, h30^{km}±4^{km}, mb4.1/3*

ISC 30 17:45:54.5±1.6, 37°.28N±0°.04×141°.97E±0°.05, h8^{km}±9^{km}, n64, σ1^{s}36/73, mb4.0/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
JFK	**Kawauchi**	**0.88**	**276**	P			**Pg**	**17 46 12.5**	**+1.1**
JFK				S			**Sg**	**17 46 22.3**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.95**	**259**	P			**Pg**	**17 46 13.6**	**+0.8**
ONAJ				S			**Sg**	**17 46 24.3**	**-1.0**
JMST	**Minamisoumatoc**	**0.97**	**297**	P			**Pg**	**17 46 13.8**	**+0.7**
JMST				S			**Sg**	**17 46 24.7**	**-1.0**
JIKH	**Ishinomakibobu**	**1.10**	**339**	P			**Pb**	**17 46 16.1**	**+0.3**
JIKH				S			**Sg**	**17 46 28.7**	**-1.3**
JMM	**Marumori**	**1.10**	**302**	P			**Pb**	**17 46 15.9**	**+0.1**
JMM				S			**Sg**	**17 46 28.6**	**-1.4**
JFFD	**Fukushimafurud**	**1.14**	**261**	P			**Pb**	**17 46 16.4**	**-0.1**
JFFD				S			**Sb**	**17 46 29.1**	**-2.4**
JIO	**Ouri**	**1.27**	**337**	P			**Pn**	**17 46 18.6**	**+0.1**
JIO				S			**Sb**	**17 46 32.9**	**-2.2**
JHO	**Hitachi**	**1.31**	**240**	P			**Pn**	**17 46 18.6**	**-0.4**
JFT	**Otama**	**1.32**	**281**	P			**Pn**	**17 46 19.9**	**+0.7**
JFT				S			**Sb**	**17 46 34.9**	**-1.8**
JOU	**Okura**	**1.50**	**317**	P			**Pn**	**17 46 22.3**	**+0.7**
JOU				*e*S			**Sn**	**17 46 40.1**	**-1.2**
JMK	**Ichinoseki**	**1.77**	**341**	P			**Pn**	**17 46 26.2**	**+0.9**
JMK				*e*S			**Sn**	**17 46 47.0**	**-1.0**
JYS	**Shirataka**	**1.78**	**302**	P			**Pn**	**17 46 26.8**	**+1.3**
JFY	**Yanaizu**	**1.81**	**275**	P			**Pn**	**17 46 27.1**	**+1.1**
JFY				*e*S			**Sn**	**17 46 48.6**	**-0.5**
MJAR	**Matsushiro Arr**	**3.11**	**257**	Pn			**Pn**	**17 46 45.1**	**+1.3**
	0.4nm,0.3s,baz=85,slow=15,SNR=19								
MJAR				Sn			**Sn**	**17 47 23.7**	**+2.6**
	0.6nm,0.3s,baz=75,slow=27,SNR=4.1								
MJAR				LR			LR	17 48 02.4	
	comp=Z,46nm,21.5s,baz=80,slow=43								
MJAR	**Matsushiro Arr**	**3.11**	**257**				**Pn**	**17 46 46.8**	**+3.1**
MAJO	**Matsushiro**	**3.11**	**257**				**Pb**	**17 46 47.8**	**-2.1**
MAT	**Matsushiro**	**3.11**	**257**	P			**Pn**	**17 46 46.9**	**+3.1**
MAT				*e*S			**Sn**	**17 47 24.1**	**+3.0**
JHJ2	**Mitsune**	**4.52**	**204**	Pn			**Pn**	**17 47 04.7**	**+1.5**
JHJ	**Hachijo jima 2**	**4.53**	**204**	Pn			**Pn**	**17 47 04.5**	**+1.3**
	25nm,0.3s,baz=327,slow=23,SNR=5.2								
JHJ				Sn			**Sn**	**17 47 53.9**	**-2.1**
	16nm,0.3s,baz=49,slow=20,SNR=1.6								
ERM	**Erimo**	**4.81**	**11**	Pn			**Pn**	**17 47 08.5**	**+1.3**
NMR	**Nemuro--Hokkai**	**6.72**	**24**	*e*P			**Pn**	**17 47 33.3**	**-0.1**
NMR				*e*S			Pb	17 47 52.0	+0.5
ASAJ	**Asahikawa**	**6.84**	**4**	Pn			**Pn**	**17 47 35.9**	**+0.8**
	1.7nm,0.3s,baz=224,slow=11,SNR=22								
ASAJ				Sn			**Sn**	**17 48 50.6**	**-2.5**
	1.1nm,0.3s,baz=97,slow=18,SNR=2.2								
JKA	**Kamikawa-asahi**	**6.84**	**4**				**Pn**	**17 47 36.2**	**+1.2**
JKA							**Sn**	**17 48 52.0**	**-1.0**
GLVR	**Golovnino**	**6.99**	**22**	*e*P			**Pn**	**17 47 38.8**	**+1.7**
GLVR				*e*S			Pb	17 48 02.3	+6.2
GLVR				A			A	17 48 04.0	
	30nm,0.3s								
GLVR				A			A	17 48 04.0	
	300nm,0.3s								
GRPR	**Tuman**	**7.30**	**22**	*e*P			**Pn**	**17 47 43.4**	**+2.1**
GRPR				AMB			AMB	17 47 44.0	
	30nm,0.2s								
GRPR				*e*S			Pb	17 48 07.4	+6.1
GRPR				A			A	17 48 11.0	
	100nm,0.3s								
GRPR				A			A	17 48 11.0	
	80nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**7.36**	**22**	*e*P			**Pn**	**17 47 42.8**	**+0.6**
YUK				AMB			AMB	17 47 46.0	
	20nm,0.2s								
YUK				*e*S			Pb	17 48 07.8	+5.4
YUK				A			A	17 48 09.0	
	140nm,0.6s								
YUK				A			A	17 48 09.0	
	110nm,0.6s								
KUR	**Kuril'sk**	**9.10**	**27**	*e*P			**Pn**	**17 48 08.2**	**+2.3**
KUR				AMB			AMB	17 48 09.0	
	10.0nm,0.5s								
KUR				*e*S			Sn	17 48 52.3	-56
KUR				A			A	17 48 53.5	
	70nm,0.4s								
KUR				A			A	17 48 53.5	
	20nm,0.4s								
YSS	**Yuzh-Sakhalins**	**9.68**	**3**	Pn			**Pn**	**17 48 15.5**	**+1.5**
JCJ	**Chichijima**	**10.16**	**179**	Pn			**Pn**	**17 48 19.9**	**-0.8**
	4.9nm,0.3s,baz=77,slow=22,SNR=14								
JCJ				Sn			Sn	17 50 05.9	-8.9
	1.3nm,0.3s,baz=287,slow=19,SNR=1.8								
USA0B	**Ussuriysk Arra**	**10.25**	**315**	Pn			**Pn**	**17 48 23.5**	**+1.7**
USRK	**Ussuriysk Ar.**	**10.25**	**315**	Pn			**Pn**	**17 48 23.4**	**+1.7**
	baz=118,slow=13,SNR=1.8								
USRK				LR			LR	17 52 14.7	
	comp=Z,57nm,18.2s,baz=159,slow=37								
MA2	**Magadan**	**23.02**	**11**	P			**P**	**17 51 01.5**	**+1.9**
	1.6nm,0.5s,baz=180,slow=12,SNR=2.2								
MA2	**Magadan**	**23.02**	**11**	P			**P**	**17 50 59.5**	**-0.1**
YAK	**Yakutsk**	**25.93**	**347**	P			**P**	**17 51 25.7**	**-1.1**
YAK				IAmb			IAmb	17 51 27.9	
	comp=Z,4.0nm,0.6s								
SEY	**Seymchan**	**26.46**	**11**	P			**P**	**17 51 33.2**	**+1.6**
	comp=Z,1.7nm,0.5s,baz=200,slow=8.5,SNR=14								
H11N2	**WAKE ISLAND Hy**	**27.90**	**122**	T			T	18 21 20.5	
	baz=314,slow=75,SNR=102								
H11N1	**WAKE ISLAND Hy**	**27.90**	**122**	T			T	18 21 13.7	
	baz=314,slow=75,SNR=61								
H11N3	**WAKE ISLAND Hy**	**27.91**	**122**	T			T	18 21 14.8	
	baz=314,slow=75,SNR=69								
SONM	**Songino Array**	**28.02**	**303**	P			**P**	**17 51 45.0**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=106,slow=11,SNR=3.8								
SONM	**Songino Array**	**28.02**	**303**	P			**P**	**17 51 45.0**	**-0.9**
H11S1	**WAKE ISLAND Hy**	**28.62**	**124**	T			T	18 22 11.2	
	baz=316,slow=76,SNR=55								
H11S3	**WAKE ISLAND Hy**	**28.62**	**124**	T			T	18 22 11.3	
	baz=316,slow=76,SNR=51								
H11S2	**WAKE ISLAND Hy**	**28.64**	**124**	T			T	18 22 11.2	
	baz=316,slow=76,SNR=47								
ZALV	**Zalesovo Beam**	**42.08**	**312**	P			**P**	**17 53 46.2**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=91,slow=8.6,SNR=4.3								
ZALV	**Zalesovo Beam**	**42.08**	**312**	P			**P**	**17 53 46.8**	**+0.3**
MK31	**Makanchi Array**	**44.37**	**302**	P			**P**	**17 54 05.6**	**+0.4**
MKAR	**Makanchi Array**	**44.37**	**302**	P			**P**	**17 54 05.5**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=89,slow=8.9,SNR=12								
MKAR	**Makanchi Array**	**44.37**	**302**	P			**P**	**17 54 05.3**	**+0.2**
BKB	**Balikpapan**	**44.84**	**217**	P			**P**	**17 54 08.4**	**-0.7**
KURK	**Kurchatov**	**46.13**	**308**	P			**P**	**17 54 19.5**	**+0.5**
KURK				IAmb			IAmb	17 54 30.8	
	comp=Z,3.0nm,1.0s								
KDAK	**Kodiak Island**	**46.62**	**42**	P			**P**	**17 54 23.3**	**+0.6**
ILAR	**Eielson Array**	**49.04**	**32**	P			**P**	**17 54 43.2**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=268,slow=6.5,SNR=7.7								
BALM	**Baldy**	**51.47**	**37**	P			**P**	**17 54 59.6**	**-0.5**
BALM				IAmb			IAmb	17 55 15.3	
	comp=Z,12nm,1.2s								
KNRA	**Kununurra**	**54.13**	**196**	P			**P**	**17 55 20.5**	**+0.6**
WB0	**Warramunga Arr**	**57.19**	**188**	P			**P**	**17 55 42.5**	**+0.5**
WB0				IAmb			IAmb	17 55 42.7	
	comp=Z,4.2nm,1.3s								
FITZ	**Fitzroy Crossi**	**57.20**	**199**	P			**P**	**17 55 41.3**	**-0.7**
FITZ				IAmb			IAmb	17 56 15.1	
	comp=Z,4.0nm,1.2s								
WR0	**Warramunga Arr**	**57.37**	**188**	P			**P**	**17 55 43.5**	**+0.3**
WB2	**Warramunga Arr**	**57.37**	**189**	P			**P**	**17 55 43.7**	**+0.4**
WB2				IAmb			IAmb	17 55 48.5	
	comp=Z,12nm,1.5s								
WRA	**Warramunga Arr**	**57.37**	**189**	P			**P**	**17 55 43.5**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=6,9,slow=7.3,SNR=29								
WRA	**Warramunga Arr**	**57.37**	**189**	P			**P**	**17 55 43.2**	**0.0**
ASAR	**Alice Springs**	**61.10**	**188**	P			**P**	**17 56 09.4**	**+0.3**
	comp=Z,0.3nm,1.0s,baz=11,slow=5.7,SNR=4.7								
ASAR	**Alice Springs**	**61.10**	**188**	P			**P**	**17 56 08.7**	**-0.3**
ARCES	**ARCESS Array B**	**63.92**	**339**	P			**P**	**17 56 28.1**	**+0.8**
FINES	**FINESS Array B**	**68.80**	**332**	LR			LR	18 32 00.3	
	comp=Z,36nm,18.8s,baz=16,slow=40								

JMA 30 17:47:35.3±0.1, 43°.26N×145°.42E, h103^{km}±1^{km}, M2.1, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
NEM2	**Nemuro 2**	**0.26**	**66**	P			Pn	17 47 50.1	+0.1
NEM2				*e*S			Sn	17 48 01.0	0.0
JKHN	**Kushirohamanak**	**0.26**	**227**	P			Pn	17 47 50.3	+0.3
JKHN				*e*S			Sn	17 48 01.5	+0.5
JAK	**Akkeshi**	**0.59**	**244**	P			Pn	17 47 52.2	+0.2
JAK				*e*S			Sn	17 48 04.7	+0.1
JNSB	**Nemuroshibetsu**	**0.60**	**330**	P			Pn	17 47 52.3	+0.2
JNSB				*e*S			Sn	17 48 05.1	+0.4
JNK	**Nakash**	**0.60**	**303**	P			Pn	17 47 52.1	-0.1
JNK				*e*S			Sn	17 48 04.7	-0.2
JRA	**Rausu**	**0.71**	**342**	P			Pn	17 47 53.2	+0.1
JRA				*e*S			Sn	17 48 07.2	+0.8
JAR	**Ashorobuto**	**1.21**	**272**	P			Pn	17 47 58.4	+0.2
JAR				*e*S			Sn	17 48 15.5	0.0
JOB	**Onbets**	**1.22**	**253**	P			Pn	17 47 58.4	+0.1
JOB				*e*S			Sn	17 48 15.5	-0.2
JTKR	**Abashiri--Toko**	**1.31**	**303**	P			Pn	17 47 59.5	+0.1

SKHL 30 17:48:02.7±1.0, 42°.05N×145°.07E, h33^{km}±5^{km}, mb3.6/2, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
NMR	**Nemuro--Hokkai**	**1.41**	**20**	*e*P			Pn	17 48 26.0	0.0
NMR				*e*S			Sn	17 48 43.1	-0.2
GRPR	**Tuman**	**2.01**	**15**	*e*S			Sn	17 48 56.0	-2.2
YUK	**Yuzh-Kuril'sk**	**2.07**	**16**	*e*P			Pn	17 48 35.0	-0.1
YUK				AMB			AMB	17 48 35.8	
	10.0nm,0.4s								
YUK				*e*S			Sn	17 49 00.1	+0.4
YUK				A			A	17 49 04.0	
	60nm,0.5s								
YUK				A			A	17 49 04.0	
	90nm,0.5s								
KUR	**Kuril'sk**	**3.77**	**32**	*e*P			Pn	17 48 59.6	+1.1
KUR				AMB			AMB	17 48 59.9	
	10.0nm,0.5s								
KUR				*e*S			Sn	17 49 41.8	+0.1
KUR				A			A	17 49 46.3	
	10.0nm,0.5s								
KUR				A			A	17 49 46.3	
	20nm,0.5s								

*IDC **30** 17:55:09.1±1.7, 6°.59S×128°.48E, h277^{km}±22^{km}, mb3.0/2, mb1 3.4/7, mb1mx2.9/53, mbtmp4.0/7, Error ellipse: s-maj=31.3km s-min=17.9km az=89.0*
*NEIC **30** 17:55:09.1±1.2, 6°.58S±0°.08×128°.50E±0°.09, h281^{km}±11^{km}, mb4.5/7, Error ellipse: s-maj=14.4km s-min=10.4km az=127.0*

ISC 30 17:55:09.3±0.6, 6°.62S±0°.06×128°.50E±0°.07, h300^{km}, n29, σ1^{s}86/35, mb4.5/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SAUI	**Saumlaki**	**3.09**	**116**	Pn			**Pn**	**17 56 03.7**	**-2.3**
SOEI	**Soe**	**5.23**	**233**	Pn			**Pn**	**17 56 29.0**	**-0.7**
SOEI							**S**	**17 57 29.8**	**-4.4**
FAKI	**Fak Fak**	**5.24**	**46**	Pn			**Pn**	**17 56 30.4**	**+0.8**
BATI	**Baumata**	**5.97**	**233**	P			**Pn**	**17 56 37.8**	**-0.6**
	21nm,0.3s,baz=56,slow=2.3,SNR=25								
BATI				S			**S**	**17 57 45.9**	**-4.2**
	2.8nm,0.3s,baz=154,slow=19,SNR=2.0								
SIJI	**Sorong**	**6.34**	**26**	P			**Pn**	**17 56 42.2**	**-0.6**
	1.1nm,0.3s,baz=252,slow=23,SNR=8.0								
SIJI				S			**S**	**17 57 53.9**	**-4.4**
	1.2nm,0.3s,baz=198,slow=22,SNR=8.1								
MMRI	**Maumere**	**6.53**	**252**	Pn			**Pn**	**17 56 46.9**	**+1.9**
MTN	**Manton Dam**	**6.71**	**157**				**Pn**	**17 56 46.9**	**-0.4**
KNRA	**Kununurra**	**9.01**	**178**				**Pn**	**17 57 15.3**	**0.0**
FITZ	**Fitzroy Crossi**	**11.75**	**193**	P			**Pn**	**17 57 47.6**	**-1.3**
	0.1nm,0.3s,baz=25,slow=12,SNR=2.1								
FITZ				S			**S**	**17 59 59.6**	**-0.3**
	0.0nm,0.3s,baz=260,slow=20,SNR=1.7								
FITZ	**Fitzroy Crossi**	**11.75**	**193**	P			**P**	**17 57 51.0**	**+0.5**
DAV	**Davao City (W)**	**13.90**	**348**				**P**	**17 58 13.1**	**-1.4**
WB0	**Warramunga Arr**	**14.27**	**157**				**Pn**	**17 58 19.6**	**+0.3**
WRAB	**Tennant Creek**	**14.40**	**157**				**Pn**	**17 58 21.1**	**+0.2**
WRA	**Warramunga Arr**	**14.41**	**157**	P			**Pn**	**17 58 20.9**	**+0.1**
	0.3nm,0.3s,baz=339,slow=12,SNR=26								
WRA				S			**S**	**18 00 55.1**	**-3.3**
	0.1nm,0.3s,baz=330,slow=21,SNR=4.3								
WRA	**Warramunga Arr**	**14.41**	**157**	P			**Pn**	**17 58 20.5**	**-0.4**
WB2	**Warramunga Arr**	**14.41**	**157**				**Pn**	**17 58 21.2**	**+0.3**
WR0	**Warramunga Arr**	**14.50**	**157**				**Pn**	**17 58 22.1**	**+0.1**
COEN	**Coen**	**16.17**	**118**				**Pn**	**17 58 42.1**	**+0.6**
AS31	**Alice Springs**	**17.73**	**164**	P			**Pn**	**17 58 58.7**	**-1.1**
AS31				IAmb			IAmb	17 58 58.9	
	comp=Z,4.4nm,0.3s								
ASAR	**Alice Springs**	**17.73**	**164**	P			**Pn**	**17 58 58.4**	**-1.4**
	comp=Z,1.5nm,0.3s,baz=344,slow=11,SNR=165								
ASAR				S			**S**	**18 02 04.7**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=347,slow=20,SNR=2.0								
ASAR	**Alice Springs**	**17.73**	**164**	P			**Pn**	**17 58 58.1**	**-1.6**
FORT	**Forrest**	**24.04**	**181**	P			**P**	**17 59 59.4**	**+1.5**
FORT				IAmb			IAmb	18 00 15.5	
	comp=Z,34nm,1.4s								
MORW	**Morawa**	**25.24**	**206**	P			**P**	**18 00 10.5**	**+1.7**
MORW				IAmb			IAmb	18 00 11.4	
	comp=Z,37nm,1.6s								
BBOO	**Buckleboo**	**27.00**	**166**	P			**P**	**18 00 25.2**	**+0.9**
BBOO				IAmb			IAmb	18 00 40.9	
	comp=Z,22nm,1.3s								
PEA0B	**Petropavlovsk-**	**64.44**	**19**	P			**P**	**18 05 15.0**	**+1.1**
MKAR	**Makanchi Array**	**67.10**	**327**	P			**P**	**18 05 32.8**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=127,slow=7.9,SNR=4.2								
ZALV	**Zalesovo Beam**	**70.59**	**334**	P			**P**	**18 05 54.2**	**+2.0**
	comp=Z,0.4nm,0.4s,baz=145,slow=6.4,SNR=1.9								
ZALV	**Zalesovo Beam**	**70.59**	**334**	P			**P**	**18 05 53.9**	**+1.7**
KMBO	**Kilima Mbogo**	**91.11**	**269**	P			**P**	**18 07 43.6**	**+2.2**
KMBO				IAmb			IAmb	18 07 44.0	
	comp=Z,5.1nm,0.8s								

*IDC **30** 17:56:45.4±2.3, 34°.00N×139°.05E, h0^{km}, mb3.3/2, mb1 3.4/4, mb1mx3.1/67, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=96.9km s-min=24.4km az=71.0*
*JMA **30** 17:56:47.2±0.2, 34°.59N×140°.36E, h60^{km}±2^{km}, M2.8*

ISC 30 17:56:47.5±1.0, 34°.56N±0°.04×140°.38E±0°.05, h55^{km}±10^{km}, n27, σ1^{s}37/33, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
BSO3	**Boso 3**	**0.27**	**24**	P			**Pn**	**17 56 56.9**	**+0.4**
BSO3				*e*X				17 57 04.6	
BSO4	**Boso 4**	**0.43**	**355**	P			**Pn**	**17 56 58.5**	**+0.3**
BSO4				X				17 57 07.8	
BSO1	**Boso 1**	**0.50**	**79**	P			**Pn**	**17 56 59.1**	**+0.6**
BSO1				X				17 57 06.2	
KTR	**Katsuura**	**0.59**	**355**	P			**Pn**	**17 56 59.9**	**-0.2**
KTR				S			**Sn**	**17 57 09.0**	**-0.3**
JKUC	**kamogawauchiur**	**0.62**	**346**	P			**Pn**	**17 57 00.2**	**-0.3**
JKUC				S			**Sn**	**17 57 09.9**	**0.0**
TATJ	**Tateyama 2**	**0.62**	**320**	P			**Pn**	**17 57 00.8**	**+0.3**
TATJ				S			**Sn**	**17 57 11.0**	**+1.1**
JIM2	**Oshima 3**	**0.80**	**282**	P			**Pn**	**17 57 02.5**	**-0.2**
JIM2				S			**Sn**	**17 57 13.0**	**-0.9**
JTHY	**Toshimahigashi**	**0.90**	**268**	P			**Pn**	**17 57 04.5**	**+0.5**
JTHY				*e*S			**Sn**	**17 57 16.6**	**+0.4**
JMKN	**Mikurajimanish**	**0.93**	**225**	P			**Pn**	**17 57 05.2**	**+0.8**
JMKN				S			**Sn**	**17 57 17.8**	**+0.9**
JSMT	**Sammumatsuo**	**1.08**	**3**	S			**Sn**	**17 57 20.3**	**-0.2**
JKO	**Kozu shima**	**1.09**	**251**	P			**Pn**	**17 57 07.3**	**+0.8**
KTJ3	**Kamata3**	**1.14**	**290**	P			**Pn**	**17 57 06.8**	**-0.4**
KTJ3				S			**Sn**	**17 57 20.1**	**-1.8**
JIZS	**Izushimoda**	**1.25**	**278**	P			**Pn**	**17 57 08.6**	**0.0**
JIZS				S			**Sn**	**17 57 24.2**	**-0.2**
JOD2	**Odawara 2**	**1.27**	**304**	P			**Pn**	**17 57 08.6**	**-0.4**
JOD2				S			**Sn**	**17 57 23.6**	**-1.5**
JHJ2	**Mitsune**	**1.52**	**198**	S			**Sn**	**17 57 31.8**	**+0.9**
JFNN	**Fujinakano**	**1.53**	**295**	P			**Pn**	**17 57 12.7**	**+0.2**
MJAR	**Matsushiro Arr**	**2.66**	**319**	Pn			**Pn**	**17 57 28.5**	**+0.7**
	0.4nm,0.3s,baz=153,slow=12,SNR=36								
MJAR				Sn			**Sn**	**17 57 58.3**	**-0.6**
	0.4nm,0.3s,baz=171,slow=20,SNR=9.5								
MAT	**Matsushiro**	**2.66**	**319**	P			**Pn**	**17 57 28.8**	**+0.9**
MAT				S			**Sn**	**17 57 58.5**	**-0.4**
JCJ	**Chichijima**	**7.60**	**168**	Pn			**Pn**	**17 58 34.5**	**-1.1**
	0.8nm,0.3s,baz=284,slow=20,SNR=1.7								
JCJ				Sn			**Sn**	**17 59 54.0**	**-6.3**
	1.0nm,0.3s,baz=270,slow=20,SNR=2.2								
H11N2	**WAKE ISLAND Hy**	**27.73**	**115**	T			T	18 32 19.0	
	baz=308,slow=75,SNR=7.3								
H11N1	**WAKE ISLAND Hy**	**27.73**	**115**	T			T	18 32 21.9	
	baz=308,slow=75,SNR=7.6								
H11N3	**WAKE ISLAND Hy**	**27.75**	**115**	T			T	18 32 20.9	
	baz=308,slow=75,SNR=7.3								
H11S3	**WAKE ISLAND Hy**	**28.34**	**118**	T			T	18 32 47.4	
	baz=311								
H11S1	**WAKE ISLAND Hy**	**28.34**	**118**	T			T	18 32 54.3	
	baz=311								
H11S2	**WAKE ISLAND Hy**	**28.36**	**118**	T			T	18 32 50.9	
	baz=311								
MKAR	**Makanchi Array**	**44.76**	**304**	P			**P**	**18 04 56.0**	**+0.5**
	0.3nm,0.7s,baz=77,slow=9.6,SNR=2.9								
WRA	**Warramunga Arr**	**54.50**	**187**	P			**P**	**18 06 09.9**	**+0.2**
	0.3nm,0.8s,baz=2.1,slow=7.7,SNR=6.3								

*MOS **30** 18:03:27.4±1.4, 40°.17N×47°.69E, h11^{km}, mb4.0/4, Error ellipse: s-maj=10.0km s-min=3.9km az=112.8*
*IDC **30** 18:03:28.0±1.6, 40°.39N×47°.74E, h0^{km}, mb3.8/8, mb1 3.7/15, mb1mx3.5/50, mbtmp3.7/15, ML3.2/7, MS3.0/4, Ms1 2.9/4, ms1mx2.5/52, Error ellipse: s-maj=30.9km s-min=10.6km az=17.0*
*AZER **30** 18:03:29.9, 40°.32N×47°.58E, h36^{km}, ML3.9*
*THR **30** 18:03:29.8±0.3, 40°.30N×47°.80E, h23^{km}±2^{km}, ML3.8*
*NSSP **30** 18:03:30.8, 40°.32N×47°.55E, h20^{km}, Ms3.8*
*TIF **30** 18:03:30.1, 40°.30N×47°.55E, h38^{km}±1^{km}*
*TEH **30** 18:03:30.8, 40°.33N×47°.55E, h35^{km}, ML3.8*
*DRS **30** 18:03:33.0±0.0, 40°.45N×47°.48E, h15^{km}*

ISC 30 18:03:31.6±0.9, 40°.34N±0°.02×47°.58E±0°.02, h34^{km}±2^{km}, n152, σ1^{s}81/214, mb3.8/7, MS3.1/3, 3C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
ZRD	**Zardab**	**0.10**	**126**	P			**Pb**	**18 03 36.8**	**-0.7**
	SNR=577								
ZRD				S			**Sb**	**18 03 42.6**	**+1.2**
ZRD	**Zardab**	**0.10**	**126**	*e*Pg			**Pb**	**18 03 36.7**	**-0.7**
BRDA	**Brd**	**0.31**	**256**	P			**Pn**	**18 03 39.8**	**+0.1**
	SNR=107								
BRDA				S			**Sb**	**18 03 47.8**	**+2.8**
BRDA	**Brd**	**0.31**	**256**	*e*Pg			**Pn**	**18 03 39.8**	**+0.1**
AGDM	**Agdam**	**0.43**	**237**	P			**Pb**	**18 03 40.7**	**-0.5**
	SNR=16								
AGDM				S			**Sn**	**18 03 49.0**	**+1.0**
KDMR	**Kurdemir**	**0.47**	**85**	P			**Pb**	**18 03 40.9**	**-0.8**
	SNR=15								
KDMR				S			**Sn**	**18 03 49.7**	**+0.7**
KDMR	**Kurdemir**	**0.47**	**85**	*e*Pg			**Pb**	**18 03 40.9**	**-0.8**
MNGR	**Mingechevir, A**	**0.57**	**319**	PG			**Pb**	**18 03 43.1**	**-0.2**
MNGR	**Mingechevir, A**	**0.57**	**319**	P			**Pb**	**18 03 43.2**	**-0.2**
	SNR=15								
MNGR				S			**Sn**	**18 03 51.4**	**-0.2**
MNGR	**Mingechevir, A**	**0.57**	**319**	*e*Pg			**Pb**	**18 03 43.1**	**-0.2**
BLQ	**Beylaqan**	**0.62**	**181**	P			**Pn**	**18 03 43.0**	**-0.9**
	SNR=67								
BLQ				S			**Sn**	**18 03 52.5**	**-0.2**
BLQ	**Beylaqan**	**0.62**	**181**	*e*Pg			**Pn**	**18 03 43.0**	**-0.9**
QBL	**Gabala**	**0.64**	**18**	P			**Pn**	**18 03 43.9**	**-0.4**
	SNR=97								
QBL				S			**Sn**	**18 03

	SNR=216							
QZX				Sn	Sb	18 04 24.9	-1.9	
QZX	**Qazax, Azerbai**	**1.82**	**294**	*e*Pn	**Pn**	**18 04 01.4**	**+0.8**	
KMKR	**Kumukh**	**1.83**	**349**	*e*Pg	**Pb**	**18 04 04.0**	**-0.5**	
	83nm,0.3s							
KMKR				*e*Sg	**Sb**	**18 04 30.0**	**+2.9**	
	695nm,0.4s							
KMKR	**Kumukh**	**1.83**	**349**	*e*PN	**Pb**	**18 04 04.0**	**-0.5**	
KMKR				*e*S	**Sb**	**18 04 30.0**	**+2.9**	
KMKR				pmax	pmax			
	comp=Z,83nm,0.3s							
ORD	**Ordubad**	**1.86**	**221**	Pn	**Pn**	**18 04 02.3**	**+1.1**	
	SNR=67							
ORD				Sn	**Sb**	**18 04 26.0**	**-2.0**	
LKRN	**Lenkeran, Azer**	**1.87**	**150**	PN	**Pn**	**18 04 01.2**	**0.0**	
LKRN	**Lenkeran, Azer**	**1.87**	**150**	Pn	**Pn**	**18 04 01.3**	**0.0**	
	SNR=18							
LKRN				Sn	**Sn**	**18 04 24.6**	**+0.9**	
AHAR	**Ahar**	**1.89**	**193**	*e*Pn	**Pn**	**18 04 02.6**	**+0.9**	
AHAR				*e*		18 04 34.8		
NAX	**Nakhchivan**	**1.98**	**235**	Pg	**Pb**	**18 04 05.5**	**-1.6**	
	SNR=17							
NAX				Sg	**Sb**	**18 04 32.4**	**+1.0**	
ASTR	**Astara**	**2.01**	**152**	Pn	**Pn**	**18 04 03.4**	**+0.3**	
	SNR=12							
ASTR				Sn	**Sn**	**18 04 27.7**	**+0.6**	
IMRD	**Marand**	**2.18**	**222**	*e*		18 04 19.0		
IMRD				*e*Pn	**Pn**	**18 04 06.1**	**+0.5**	
HYR	**Heyderabad**	**2.18**	**254**	Pg	**Pb**	**18 04 09.6**	**-0.9**	
	SNR=30							
HYR				Sg	**Sb**	**18 04 39.1**	**+1.9**	
XNZR	**Khunzakh**	**2.30**	**344**	*e*PN	**Pb**	**18 04 10.8**	**-1.7**	
XNZR				*e*S	**Sn**	**18 04 36.8**	**+2.4**	
ITBZ	**Tabriz**	**2.38**	**208**	*e*Pn	**Pb**	**18 04 11.5**	**-2.4**	
ITBZ				*e*		18 04 21.0		
MAKU	**Maku**	**2.43**	**247**	*e*P	**Pb**	**18 04 12.5**	**-2.4**	
BUJR	**Buynaksk**	**2.51**	**352**	*e*PN	**Pb**	**18 04 13.1**	**-2.9**	
BUJR				*e*S	**Sb**	**18 04 43.3**	**-3.1**	
ISRB	**Sarab**	**2.51**	**178**	*e*Pn	**Pn**	**18 04 12.3**	**+2.0**	
STE	**Stepanavan**	**2.53**	**286**	*e*P	**Pn**	**18 04 12.9**	**+2.5**	
STE				*e*S	**Sb**	**18 04 49.9**	**+2.8**	
BTLR	**Botlikh**	**2.54**	**337**⇑	*e*PN	**Pb**	**18 04 15.0**	**-1.5**	
BTLR				*e*		18 04 44.6		
BTLR				pmax	pmax			
	comp=Z,63nm,0.8s							
BTLR				smax	smax			
	comp=N,79nm,1.0s							
KRNR	**Karanay**	**2.54**	**349**	*e*Pn	**Pb**	**18 04 16.0**	**-0.5**	
KRNR	**Karanay**	**2.54**	**349**	*e*PN	**Pb**	**18 04 16.0**	**-0.5**	
TBLG	**Delisi**	**2.56**	**304**	PN	**Pb**	**18 04 13.7**	**-3.1**	
TBLG	**Delisi**	**2.56**	**304**	P	**Pn**	**18 04 11.9**	**+1.2**	
TBLG				S	**Sb**	**18 04 47.4**	**-0.4**	
MAK	**Makhachkala**	**2.62**	**359**	*e*PN	**Pb**	**18 04 15.8**	**-2.0**	
MAK				*e*S	**Sb**	**18 04 46.1**	**-3.5**	
KZRT	**Kazreti**	**2.63**	**294**	PN	**Pn**	**18 04 11.0**	**-0.7**	
KZRT				S	**Sb**	**18 04 46.9**	**-3.0**	
KZRT	**Kazreti**	**2.63**	**294**	P	**Pn**	**18 04 14.5**	**+2.8**	
KZRT				S	**Sb**	**18 04 48.1**	**-1.8**	
ARUZ	**Aruch**	**2.67**	**270**	*i* P	**Pb**	**18 04 17.4**	**-1.3**	
ARUZ				*i* S	**Sb**	**18 04 51.3**	**+0.2**	
METS	**Metsamor**	**2.68**	**267**	*i* P	**Pb**	**18 04 17.3**	**-1.7**	
METS				*i* S	**Sb**	**18 04 53.4**	**+1.9**	
DBC	**Dubki**	**2.74**	**348**⇓	*e*PN	**Pn**	**18 04 16.2**	**+3.0**	
DBC				*e*		18 04 49.7		
DBC				pmax	pmax			
	comp=Z,42nm,0.5s							
DBC				smax	smax			
	comp=N,98nm,0.6s							
DMNI	**Dmanisi**	**2.75**	**292**	P	**Pb**	**18 04 16.7**	**-3.5**	
DMNI				S	**Sb**	**18 04 53.2**	**-0.3**	
VNNZ	**Vanand**	**2.88**	**267**	*i* P	**Pb**	**18 04 22.3**	**-0.1**	
VNNZ				*i* S	**Sb**	**18 05 01.0**	**+3.7**	
TRLG	**Trialeti**	**2.89**	**296**	P	**Pn**	**18 04 18.6**	**+3.2**	
TRLG				S	**Sb**	**18 04 54.8**	**-2.8**	
GROC	**Groznyy**	**3.16**	**336**	*e*PN	**Pn**	**18 04 18.2**	**-0.7**	
GROC				*e*		18 04 26.9		
GROC				*e*		18 05 16.6		
GROC				pmax	pmax			
	comp=Z,21nm,0.2s							
GROC				pmax	pmax			
	comp=Z,28nm,0.4s							
GROC				smax	smax			
	comp=N,94nm,0.6s							
GROC				MLR	MLR			
	comp=Z,203nm,3.0s							
PNSH	**Pansheti**	**3.19**	**317**	P	**Pn**	**18 04 21.1**	**+1.5**	
PNSH				S	**Sn**	**18 04 58.4**	**+1.8**	
BKRG	**Bakuriani**	**3.38**	**296**	P	**Pb**	**18 04 27.1**	**-3.8**	
BKRG				S	**Sb**	**18 05 12.1**	**+0.6**	
KMGR	**Komgaron**	**3.39**	**324**	*e*PN	**Pn**	**18 04 25.3**	**+3.1**	
KMGR				*e*S	**Sn**	**18 05 03.7**	**+2.5**	
LACR	**Lac**	**3.50**	**316**	*e*PN	**Pn**	**18 04 24.9**	**+1.2**	
LACR				*e*S	**Sn**	**18 05 07.1**	**+3.1**	
ZEI	**Tsey**	**3.69**	**313**	*e*PN	**Pn**	**18 04 28.1**	**+1.7**	
ZEI				*e*S	**Sn**	**18 05 11.1**	**+2.3**	
ARNR	**Ardon**	**3.76**	**320**	*e*PN	**Pn**	**18 04 29.3**	**+2.1**	
ZNJK	**Zanjan**	**3.77**	**166**	*e*Pn	**Pn**	**18 04 27.9**	**+0.3**	
ZNJK				Sn	**Sn**	**18 05 10.2**	**-0.6**	
ZNJK	**Zanjan**	**3.77**	**166**	*e*Pn	**Pn**	**18 04 27.9**	**+0.3**	
BTKR	**Batakoyurt**	**3.78**	**324**	*e*PN	**Pn**	**18 04 31.0**	**+3.4**	
KORR	**Kora**	**3.80**	**317**	*e*PN	**Pn**	**18 04 31.3**	**+3.5**	
ONI	**Oni**	**3.83**	**307**	*e*PN	**Pn**	**18 04 30.1**	**+1.9**	
ONI	**Oni**	**3.83**	**307**	P	**Pn**	**18 04 30.0**	**+1.9**	
DIGR	**Digorskoe uzhe**	**3.94**	**312**	*e*PN	**Pn**	**18 04 32.1**	**+2.3**	
TKB	**Tkibuli**	**3.99**	**302**	P	**Pb**	**18 04 37.4**	**-3.8**	
TKB				S	**Sb**	**18 05 28.5**	**-0.5**	
STDR	**Stavd-Durt**	**4.01**	**320**	*e*PN	**Pn**	**18 04 34.6**	**+4.0**	
STDR				*e*S	**Sn**	**18 05 20.1**	**+3.8**	
QSDN	**Sirdan**	**4.03**	**161**	*e*Pn	**Pn**	**18 04 32.7**	**+1.5**	
LSNR	**Lesken**	**4.06**	**318**	*e*PN	**Pn**	**18 04 34.5**	**+3.1**	
IGZV	**Ghazvin**	**4.46**	**151**	*e*	**Sn**	**18 05 30.9**	**+3.0**	
QALM	**Alamut, Qazvin**	**4.59**	**147**	*e*Pn	**Pn**	**18 04 37.8**	**-1.0**	
QALM				*e*		18 05 31.4		
KBZ	**Khabaz**	**4.86**	**316**	Pn	**Pn**	**18 04 46.3**	**+4.0**	
	comp=Z,0.3nm,0.3s,baz=164,slow=7.3,SNR=4.0							
KBZ				Pg	**Pb**	**18 04 58.4**	**+2.5**	
	comp=Z,0.8nm,0.3s,baz=166,slow=7.9,SNR=6.5							
KBZ				LR	LR	18 07 10.1		
	comp=Z,57nm,20.7s,baz=134,slow=45							
QABG	**Abgarm-Qazvin**	**4.89**	**160**	*e*Pn	**Pn**	**18 04 43.5**	**+0.6**	
BEYR	**Belyy Ugol+**	**5.10**	**318**	*e*PN	**Pn**	**18 04 47.7**	**+2.1**	
KVAR	**Kislovodsk Arr**	**5.12**	**316**	Pn	**Pn**	**18 04 49.0**	**+3.1**	
	baz=350,slow=17,SNR=1.6							
KVAR				Sn	**Sn**	**18 05 49.4**	**+5.4**	
	baz=253,slow=19,SNR=1.4							
KIV	**Kislovodsk**	**5.12**	**316**	*e*PN	**Pn**	**18 04 47.2**	**+1.2**	
KIV				*e*S	**Sn**	**18 05 48.9**	**+4.9**	
KIV				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KIV				MLR	MLR			
	comp=Z,27nm,7.0s							
THKV	**Tehran--Karaj**	**5.13**	**148**	IAML		18 05 20.6		
	comp=N,48nm,0.6s							
CHTH	**Charan**	**5.24**	**147**	*e*Pn	**Pn**	**18 04 47.6**	**-0.1**	
CHTH	**Charan**	**5.24**	**147**	*e*Pn	**Pn**	**18 04 47.6**	**-0.1**	
IPRN	**Peran**	**5.55**	**136**	*e*Pn	**Pn**	**18 04 51.4**	**-0.5**	
IDMV	**Damavand**	**5.92**	**142**	*e*Pn	**Pn**	**18 04 57.8**	**+0.7**	
IALA	**Alasht**	**5.92**	**134**	*e*Pn	**Pn**	**18 04 56.6**	**-0.6**	
IGLO	**Ghaloghah**	**6.23**	**126**	*e*Pn	**Pn**	**18 05 00.3**	**-1.0**	
ISHM	**Shahmirzad**	**6.39**	**133**	*e*Pn	**Pn**	**18 05 05.0**	**+1.4**	
ILAS	**Lasjerd**	**6.53**	**138**	*e*Pn	**Pn**	**18 05 07.7**	**+2.2**	
GEYT	**Alibeck**	**8.54**	**103**	Pn	**Pn**	**18 05 31.1**	**-1.7**	
	comp=N,0.8nm,0.3s,baz=281,slow=15,SNR=6.6							
GEYT				Sn	**Sn**	**18 07 01.6**	**-6.4**	
	comp=N,3.2nm,0.3s,baz=266,slow=14,SNR=5.8							
ISFR	**Sfrayin**	**8.79**	**109**	*e*Pn	**Pn**	**18 05 36.9**	**+0.4**	
AKTO	**Aktyubinsk**	**12.47**	**32**	Pn	**Pn**	**18 06 25.1**	**-1.4**	
	comp=N,0.1nm,0.3s,baz=219,slow=14,SNR=2.2							
AKASG	**Malin Array Be**	**16.47**	**315**	Pn	**Pn**	**18 07 19.4**	**-0.5**	
	comp=N,0.7nm,0.3s,baz=122,slow=11,SNR=3.8							
ARU	**Arti**	**17.64**	**20**	P	**Pn**	**18 07 34.2**	**-0.3**	
	comp=N,0.0nm,0.3s,baz=220,slow=9.6,SNR=5.3							
ARU	**Arti**	**17.64**	**20**	*d* *i* P	**P**	**18 07 35.1**	**-0.1**	
ARU				S	**Sn**	**18 10 50.9**	**+1.1**	
ARU				pmax	pmax			
	comp=Z,5.0nm,1.5s							
BRVK	**Borovoye**	**20.00**	**43**	*i* P	**P**	**18 08 01.0**	**-0.1**	
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BVAR	**Borovoye Array**	**20.04**	**43**	P	**P**	**18 08 00.8**	**-0.7**	
	comp=Z,0.5nm,0.3s,baz=226,slow=9.8,SNR=14							
AAK	**Ala-Archa**	**20.27**	**75**	P	**P**	**18 08 04.6**	**+0.3**	
	comp=Z,1.6nm,0.4s,baz=211,slow=3.9,SNR=2.0							

KLMR	**Klimovskoe**	**21.14**	**349**	*e*P	**P**	**18 08 09.8**	**-3.5**	
KLMR	**Klimovskoe**	**21.14**	**349**	*e*P	**P**	**18 08 09.8**	**-3.5**	
KLMR				AMP		18 08 27.6		
	comp=Z,10.0nm,1.3s							
PRGR	**Permogore**	**21.36**	**357**	*e*P	**P**	**18 08 11.5**	**-4.2**	
VYHS	**Vyhne**	**21.99**	**301**	*e*P	**P**	**18 08 20.7**	**-1.9**	
VYHS	**Vyhne**	**21.99**	**301**	*e*P	**P**	**18 08 20.7**	**-1.9**	
KURBB	**Kurchatov Arra**	**23.85**	**54**	P	**P**	**18 08 41.7**	**+0.1**	
	comp=Z,4.9nm,0.6s,baz=262,slow=9.0,SNR=28							
KURK	**Kurchatov**	**23.93**	**54**	P	**P**	**18 08 41.7**	**-0.6**	
FINES	**FINESS Array B**	**24.88**	**335**	P	**P**	**18 08 50.5**	**-0.4**	
	comp=Z,1.1nm,0.6s,baz=147,slow=11,SNR=6.0							
GERES	**GERESS Array B**	**25.41**	**301**	P	**P**	**18 08 58.3**	**+2.4**	
	comp=Z,0.2nm,0.5s,baz=97,slow=11,SNR=2.0							
GERES				LR	LR	18 19 23.6		
	comp=Z,22nm,20.0s,baz=195,slow=38							
MKAR	**Makanchi Array**	**25.82**	**64**	P	**P**	**18 08 59.9**	**+0.3**	
	comp=Z,4.0nm,0.7s,baz=267,slow=7.5,SNR=36							
MKAR	**Makanchi Array**	**25.82**	**64**	*i* P	**P**	**18 09 00.1**	**+0.5**	
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
VAE	**Valguarnera**	**25.88**	**274**	LR	LR	18 18 56.6		
	comp=Z,61nm,20.9s,baz=265,slow=36							
ZALV	**Zalesovo Beam**	**28.39**	**49**	P	**P**	**18 09 21.9**	**-0.6**	
	comp=Z,0.9nm,0.4s,baz=257,slow=10.0,SNR=6.6							
ZALV	**Zalesovo Beam**	**28.39**	**49**	*i* P	**P**	**18 09 21.7**	**-0.8**	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**31.49**	**345**	LR	LR	18 24 00.2		
	comp=Z,52nm,20.1s,baz=236,slow=39							
ESDC	**Sonseca Array**	**39.02**	**286**	P	**P**	**18 10 58.0**	**+3.0**	
	comp=Z,0.4nm,0.8s,baz=64,slow=8.7,SNR=2.0							
KSRS	**Korea Array**	**60.50**	**64**	P	**P**	**18 13 37.9**	**-0.3**	
	comp=Z,0.8nm,0.7s,baz=299,slow=6.7,SNR=5.0							

*IDC **30** 18:16:44.4±1.1,44.4°42N×16.0°03E,h0km,mb3.5/5, mb1 3.7/13,mb1mx3.5/40,mbtmp3.6/13,ML3.6/6,MS3.0/3, Ms1 3.0/3,ms1mx2.5/47,Error ellipse: s-maj=19.1km s-min=10.4km az=60.0*

*PDG **30** 18:16:45.3±0.4,44.4°43N×16.4°25E,h13km,MD4.5/5, ML3.8/13,Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*

*RHSSO **30** 18:16:46.2±0.3,44.4°44N±0.1°20E,h5km±2km,ML4.2/15*

*NEIC **30** 18:16:47.1±1.5,44.4°44N±0.0°04×16.3°30E±0.0°07,h18km±6km, mb4.0/2,Mwr3.9/39,ML4.2(VIE),Error ellipse: s-maj=7.5km s-min=5.8km az=94.0*

*ROM **30** 18:16:47.3±0.0,44.4°42N×16.4°28E,h10km,M4.1*

*MED_RC **30** 18:16:47.0±0.5,44.4°43N×16.4°25E,h35km±2km, MW4.2/11, Moment Tensor Solution.Mantle waves: s11,c13; Duration: 1s0 Moment tensor: Scale 10^15^Nm; Mrr=0.16±.54; Mθθ=-0.11±.44; Mϕϕ0.26±.32; Mrθ0.02±.24; Mθϕ2.11±.15; Mϕr-0.34±.18; Best double couple: M=2.15000×10^15^ NP1:ϕs267.00000°,δ81.00000°, λ-1.00000°. NP2:ϕs358.00000°,δ89.00000°, λ-171.00000°. Principal axes: T 2.2200, Plg6.0000°, Azm132.0000°; N -0.1500, Plg81.0000°, Azm5.0000°; P -2.0700, Plg7.0000°, Azm223.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

*BGR **30** 18:16:47.3±0.7,44.4°37N×16.4°43E,h10km,ML4.0/5 Error ellipse: s-maj=8.9km s-min=6.7km az=139.0*

*BEO **30** 18:16:47.0±0.4,44.5°50N×16.5°34E,h9km±3km,ML4.0/18*

*LDG **30** 18:16:47.6±0.1,44.5°54N×16.5°37E,h20km,Ml3.9/35,Error ellipse: s-maj=2.7km s-min=1.8km az=28.0*

*NEIC **30** 18:16:47.3,44.4°45N×16.4°28E,h20km,Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=1.51; Mθθ-3.01; Mϕϕ1.50; Mrθ-2.55; Mϕϕ7.53; Mθr-1.28; Fault plane solution: M=8.46000×10^14^ NP1:ϕs263.63000°, δ80.40000°, λ20.72000°. NP2:ϕs170.02000°,δ69.59000°, λ169.75000°. Principal axes: T 8.1047, Plg21.0000°, Azm128.0000°; N 0.6796, Plg67.0000°, Azm287.0000°; P -8.7842, Plg7.0000°, Azm35.0000°;*

ISC 30 18:16:46.5±0.9,44.4°44N±0.0°02×16.4°29E±0.0°02,h19km±2km, n330,σ2.2s11/479,mb3.5/4,27C-16D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDBI	**Udbina**	**0.38**	**284**	*i* Pg	**Pg**	**18 16 53.4**	**-1.3**
UDBI				Sg	**Sg**	**18 16 58.4**	**-1.7**
KIJV	**Kijevo**	**0.44**	**169**	*i* Pg	**Pg**	**18 16 54.3**	**-1.3**
KIJV				Sg	**Sg**	**18 17 00.3**	**-1.3**
MGRS	**Mrkonjic Grad**	**0.57**	**92**	*e*Sg	**Sn**	**18 17 07.6**	**-1.0**
PRIJ	**Prijedor**	**0.62**	**29**⇑	*i*Pg	**Pg**	**18 16 58.5**	**-0.4**
PRIJ				*e*Sg	**Sb**	**18 17 07.2**	**+0.3**
MORI	**Morici**	**0.71**	**216**	*i* Pg	**Pb**	**18 16 58.8**	**-1.3**
MORI				Sg	**Sg**	**18 17 09.3**	**-0.6**
BLY	**Banja Luka**	**0.71**	**64**	*e*Pg	**Pg**	**18 16 59.8**	**-0.8**
BLY				*e*Sg	**Sg**	**18 17 09.0**	**-1.1**
BLY	**Banja Luka**	**0.71**	**64**⇓	*i*Pg	**Pg**	**18 16 59.8**	**-0.8**
BLY				*e*Sg	**Sb**	**18 17 09.9**	**+0.2**
ZIRJ	**Zirje**	**0.91**	**211**	*i* Pg	**Pb**	**18 17 02.3**	**-1.4**
DUGI	**Dugi Otok**	**0.99**	**244**	*i* Pg	**Pb**	**18 17 03.6**	**-1.4**
NVLJ	**Novalja**	**1.02**	**278**	*i* Pg	**Pb**	**18 17 04.1**	**-1.4**
RICI	**Ricice**	**1.12**	**147**	*i* Pg	**Pb**	**18 17 07.0**	**-0.3**
RICI				Sg	**Sg**	**18 17 24.0**	**+0.9**
MOSL	**Moslavina**	**1.22**	**16**	*i* Pg	**Pn**	**18 17 08.8**	**+0.2**
MOSL				Sg	**Sn**	**18 17 25.3**	**+0.7**
HVAR	**Hvar**	**1.26**	**175**	*e*Pn	**Pn**	**18 17 09.8**	**+0.7**
HVAR				Sn	**Sg**	**18 17 27.2**	**-0.3**
MAKA	**Makarska**	**1.27**	**155**	*i* Pn	**Pn**	**18 17 08.2**	**-1.0**
MAKA				Sn	**Sg**	**18 17 27.2**	**-0.3**
BOJS	**Bojanci**	**1.30**	**326**	*e*Pg	**Pn**	**18 17 10.1**	**+0.5**
BOJS				*e*Sg	**Sn**	**18 17 26.6**	**+0.2**
BOJS	**Bojanci**	**1.30**	**326**	*i* Pg	**Pn**	**18 17 09.3**	**-0.3**
BOJS				*e*Sg	**Sn**	**18 17 25.2**	**-1.2**
	comp=Z,4μm,0.4s						
OZLJ	**Ozalj**	**1.31**	**334**	*i* Pg	**Pn**	**18 17 10.6**	**+0.8**
OZLJ				Sg	**Sn**	**18 17 26.0**	**-0.8**
ZAG	**Zagreb**	**1.41**	**351**	*i* Pn	**Pn**	**18 17 12.0**	**+0.9**
PTJ	**Puntijarka**	**1.49**	**351**	*i* Pn	**Pn**	**18 17 12.7**	**+0.3**
CRES	**Cresnjev**	**1.51**	**337**	*i* Pg	**Pn**	**18 17 13.3**	**+0.8**
CRES				*e*Sg	**Sn**	**18 17 32.1**	**+0.4**
	comp=Z,2μm,0.4s						
CRES	**Cresnjev**	**1.51**	**337**⇓	*i*Pg	**Pn**	**18 17 12.0**	**-0.5**
CRES				*e*Sg	**Sb**	**18 17 33.0**	**+0.3**
GBRS	**Gornja Briga**	**1.52**	**317**	*e*Pg	**Pn**	**18 17 13.6**	**+1.0**
GBRS				*e*Sg	**Sn**	**18 17 32.7**	**+0.9**
	comp=Z,665nm,0.3s						
RIY	**Rijeka**	**1.56**	**305**	*i* Pn	**Pn**	**18 17 13.9**	**+0.7**
RIY				Sn	**Sb**	**18 17 36.0**	**+2.0**
CESS	**Cesta pri Krsk**	**1.64**	**340**	*i* Pg	**Pn**	**18 17 15.4**	**+1.0**
LEGS	**Legarje**	**1.66**	**336**	*i* Pg	**Pn**	**18 17 15.5**	**+0.8**
LEGS				*i* Sg	**Sn**	**18 17 36.1**	**+0.7**
KALN	**Kalnik**	**1.70**	**4**	*i* Pn	**Pn**	**18 17 15.5**	**+0.4**
VISS	**Visnje**	**1.71**	**324**	*i* Pg	**Pn**	**18 17 16.4**	**+1.2**
VISS				*i* Sg	**Sn**	**18 17 38.1**	**+1.5**
	comp=Z,772nm,0.4s						
LSTV	**Lastovo**	**1.72**	**165**	*i* Pn	**Pb**	**18 17 17.2**	**-0.3**
LSTV				Sn	**Sb**	**18 17 39.7**	**+0.9**
CEY	**Cerknica**	**1.85**	**315**	*e*Pn	**Pn**	**18 17 18.9**	**+1.6**
CEY	**Cerknica**	**1.85**	**315**⇑	*i*Pn	**Pn**	**18 17 18.6**	**+1.3**
CEY				*e*Sn	**Sn**	**18 17 41.3**	**+1.1**
LJU	**Ljubljana**	**2.03**	**323**	*e*Pn	**Pn**	**18 17 21.0**	**+1.2**
LJU	**Ljubljana**	**2.03**	**323**	*i* Pn	**Pn**	**18 17 20.9**	**+1.2**
LJU	**Ljubljana**	**2.03**	**323**⇑	*i*Pn	**Pn**	**18 17 20.6**	**+0.9**
LJU				*e*Sn	**Sn**	**18 17 45.6**	**+1.0**
BEHE	**Becsehely**	**2.06**	**9**	*e*Sn	**Sb**	**18 17 47.8**	**-0.8**
JAVS	**Javornik**	**2.14**	**314**	*e*Pn	**Pn**	**18 17 23.0**	**+1.6**
TRI	**Trieste**	**2.19**	**306**		**Pn**	**18 17 23.1**	**+1.2**
DBRK	**Dubrovnik**	**2.23**	**142**	*i* Pn	**Pb**	**18 17 25.1**	**-1.0**
BRY	**Bratogost**	**2.24**	**132**⇑	*i*Pn	**Pb**	**18 17 25.3**	**-1.2**
BRY				*i* Sn	**Sb**	**18 17 53.1**	**-0.8**
BRY	**Bratogost**	**2.24**	**132**	*e*Pn	**Pb**	**18 17 25.2**	**-1.2**
BRY				*e*Sn	**Sb**	**18 17 53.3**	**-0.6**
UPM	**Unac-Piva**	**2.26**	**122**⇑	*i*Pn	**Pn**	**18 17 24.3**	**+1.2**
UPM				*i* Sn	**Sb**	**18 17 53.7**	**-0.8**
UPM	**Unac-Piva**	**2.26**	**122**	*e*Pn	**Pn**	**18 17 24.2**	**+1.2**
UPM				*e*Sn	**Sb**	**18 17 54.0**	**-0.5**
TREB	**Trebinje**	**2.28**	**138**	*e*Pn	**Pb**	**18 17 25.6**	**-1.5**
TREB				*e*Sn	**Sn**	**18 17 52.9**	**+2.2**
TREB	**Trebinje**	**2.28**	**138**⇑	*i*Pn	**Pb**	**18 17 25.6**	**-1.5**
TREB				*e*Sn	**Sb**	**18 17 53.5**	**-1.3**
BBLS	**Lazići**	**2.32**	**103**	*e*Pn	**Pn**	**18 17 25.0**	**+1.4**
BBLS				*e*Sn	**Sn**	**18 17 53.8**	**+2.1**
BBLS	**Lazići**	**2.32**	**103**	*e*Pn	**Pn**	**18 17 25.1**	**+1.4**
BBLS				*e*Sn	**Sb**	**18 17 54.9**	**-1.0**
TEKS	**Tekeris**	**2.32**	**86**	*e*Pn	**Pn**	**18 17 24.9**	**+1.2**
TEKS				*e*Sn	**Sn**	**18 17 52.8**	**+1.0**
TEKS	**Tekeris**	**2.32**	**86**	*e*Sn	**Sb**	**18 17 55.6**	**-0.5**
RUDO	**Rudo**	**2.37**	**109**	*e*Pn	**Pn**	**18 17 26.2**	**+1.8**
RUDO				*e*Sn	**Sb**	**18 17 56.9**	**-0.5**
OBKA	**Obir**	**2.41**	**330**	*e*Pn	**Pn**	**18 17 26.1**	**+1.2**
	SNR=381						
OBKA	**Obir**	**2.41**	**330**	*e*Pn	**Pn**	**18 17 26.2**	**+1.2**
	comp=Z,17nm,0.1s,SNR=163						
OBKA				Sn	**Sn**	**18 17 53.9**	**0.0**
	comp=Z,1μm,0.7s						
OBKA	**Obir**	**2.41**	**330**		**Pn**	**18 17 26.2**	**+1.2**
OBKA					**Sn**	**18 17 53.9**	**0.0**
SOKA	**Soboth**	**2.41**	**339**	*e*Pn	**Pn**	**18 17 25.7**	**+0.7**
	comp=Z,32nm,0.4s,SNR=86						
SOKA				Sn	**Sn**	**18 17 53.9**	**0.0**
	comp=Z,152nm,0.4s						
SOKA	**Soboth**	**2.41**	**339**		**Pn**	**18 17 25.7**	**+0.7**
SOKA					**Sn**	**18 17 54.0**	**0.0**
MORH	**Mrgy, Hungar**	**2.44**	**42**	*e*Sn	**Sb**	**18 17 58.0**	**-1.3**
PLE	**Pljevlja**	**2.50**	**115**	*e*Pn	**Pn**	**18 17 27.0**	**+0.7**
PLE				*i* Sn	**Sb**	**18 17 59.7**	**-1.6**
NKY	**Niksic**	**2.55**	**129**⇓	*i*Pn	**Pn**	**18 17 27.9**	**+1.0**
NKY				*i* Sn	**Sb**	**18 18 00.6**	**-2.1**
HCY	**Herceg Novi**	**2.56**	**140**⇑	*i*Pn	**Pn**	**18 17 28.1**	**+1.2**
HCY				*i* Sn	**Sb**	**18 18 00.9**	**-1.9**
HCY	**Herceg Novi**	**2.56**	**140**⇑	*i*Pn	**Pn**	**18 17 29.2**	**+2.3**
HCY				*e*Sn	**Sb**	**18 18 01.4**	**-1.4**
NKME	**Niksic**	**2.56**	**130**	*e*Pn	**Pn**	**18 17 27.8**	**+0.8**
NKME				*i* Sn	**Sb**	**18 18 00.6**	**-2.2**
FRGS	**Fruska Gora**	**2.61**	**73**	*e*Pn	**Pn**	**18 17 27.9**	**+0.2**
FRGS				*e*Sn	**Sn**	**18 18 00.9**	**+2.1**
FRGS	**Fruska Gora**	**2.61**	**73**	*e*Pn	**Pn**	**18 17 29.2**	**+1.5**
FRGS				*e*Sn	**Sb**	**18 18 02.5**	**-1.9**
DIVS	**Divibare**	**2.68**	**96**	*e*Pn	**Pn**	**18 17 29.5**	**+0.8**
DIVS				*e*Sn	**Sn**	**18 18 01.7**	**+1.0**
DIVS	**Divibare**	**2.68**	**96**	*e*Sn	**Sb**	**18 18 04.1**	**-2.4**
DIVS	**Divibare**	**2.68**	**96**	Pn	**Pn**	**18 17 28.9**	**+0.2**
CEME	**Cevo**	**2.69**	**134**⇓	*i*Pn	**Pn**	**18 17 29.9**	**+1.1**
CEME				*i* Sn	**Sn**	**18 18 03.9**	**+3.0**
SGRT	**San Giovanni R**	**2.71**	**189**		**Pn**	**18 17 29.6**	**+0.5**
PRED	**Cave del Predi**	**2.77**	**317**	Pn	**Pn**	**18 17 31.0**	**+1.1**
NRCA	**Norcia**	**2.81**	**236**		**Pn**	**18 17 30.7**	**+0.3**
KOME	**Kolasin**	**2.83**	**123**	*e*Pn	**Pn**	**18 17 31.9**	**+1.1**
KOME				*i* Sn	**Sn**	**18 18 07.5**	**+3.2**
BUM	**Brajici-Budva**	**2.86**	**137**⇓	*i*Pn	**Pn**	**18 17 32.1**

	comp=Z,29nm,0.2s,SNR=39								
WTTA					*e*Sn		**Sn**	18 18 41.4	+0.6
	comp=Z,71nm,0.4s								
WTTA	**Wattenberg**	**4.31**	**313**				**Pn**	18 17 53.1	+2.0
WTTA							**Sn**	18 18 41.4	+0.6
ZAGS	**Zajecar**	**4.33**	**96**	*e*Pn			**Pn**	18 17 51.9	+0.7
ZAGS				*e*Sn			**Sn**	18 18 40.5	-0.6
BARS	**Barje**	**4.33**	**110**	*e*Pn			**Pn**	18 17 53.1	+1.8
WATA	**Walderalm**	**4.38**	**313**	*e*Pn			**Pn**	18 17 54.8	+2.6
	comp=Z,14nm,0.1s,SNR=54								
WATA					*e*Sn		**Sn**	18 18 46.0	+3.2
	comp=Z,32nm,0.3s								
WATA	**Walderalm**	**4.38**	**313**				**Pn**	18 17 54.8	+2.6
WATA							**Sn**	18 18 46.0	+3.2
KOLL	**Kolacno**	**4.39**	**19**	*e*PN			**Pn**	18 17 52.9	+0.8
KOLL				*e*SN			**Sn**	18 18 41.6	-1.2
HERR	**Herculane**	**4.40**	**82**	⇑P			**Pn**	18 17 53.3	+1.1
VYHS	**Vyhne**	**4.42**	**23**	*e*PN			**Pn**	18 17 53.3	+0.7
VYHS				*e*SN			**Sn**	18 18 42.9	-0.7
SQTA	**Sankt Quirin**	**4.51**	**310**	*e*Pn			**Pn**	18 17 56.6	+2.8
	comp=Z,16nm,0.2s,SNR=27								
SQTA					*i* Sn		**Sn**	18 18 49.4	+3.6
	comp=Z,66nm,0.5s								
SQTA	**Sankt Quirin**	**4.51**	**310**				**Pn**	18 17 56.6	+2.8
SQTA							**Sn**	18 18 49.4	+3.6
JAVC	**Velka Javorina**	**4.53**	**12**	*e*Pn			**Pn**	18 17 55.1	+1.1
	SNR=65								
JAVC	**Velka Javorina**	**4.53**	**12**	*e*PN			**Pn**	18 17 54.9	+0.9
JAVC				*e*SN			**Sn**	18 18 47.3	+1.2
KRUC	**Moravsky**	**4.63**	**1**	*e*Pn			**Pn**	18 17 56.2	+0.8
	SNR=174								
KRUC	**Moravsky**	**4.63**	**1**	*e*PN			**Pn**	18 17 55.6	+0.2
KRUC				*e*SN			**Sn**	18 18 46.4	-2.1
MOTA	**Moosalm**	**4.64**	**311**	*i* Pn			**Pn**	18 17 58.0	+2.3
	comp=Z,11nm,0.3s,SNR=25								
MOTA					*i* Sn		**Sn**	18 18 50.8	+1.6
	comp=Z,48nm,0.4s								
MOTA	**Moosalm**	**4.64**	**311**				**Pn**	18 17 58.0	+2.3
MOTA							**Sn**	18 18 50.8	+1.6
SCTE	**Santa Cesarea**	**4.65**	**159**				**Pn**	18 17 56.1	+0.4
FETA	**Feichten**	**4.67**	**306**	*e*Pn			**Pn**	18 17 58.7	+2.6
	comp=Z,5.3nm,0.3s,SNR=12								
FETA					Pg		**Pb**	18 18 11.5	+3.6
	comp=Z,66nm,0.4s								
FETA					*e*Sn		**Sg**	18 19 11.8	-4.6
	comp=Z,115nm,0.8s								
FETA	**Feichten**	**4.67**	**306**				**Pn**	18 17 58.7	+2.6
FETA							**Pb**	18 18 11.5	+3.6
FETA							LR	18 19 11.8	
OHR	**Ohrid**	**4.70**	**133**	*i* Pn			**Pn**	18 17 59.6	+3.2
ZAPS	**Zavoj**	**4.74**	**102**	*e*Pn			**Pn**	18 17 58.7	+1.8
ZAPS				*e*Sn			**Sn**	18 18 50.5	-0.8
GEC2	**GERESS Array S**	**4.76**	**339**	*e*Pn			**Pn**	18 17 58.3	+1.1
	SNR=55								
GEC2				*e*Sn			**Sn**	18 18 51.1	-0.7
	SNR=8.6								
GEC2	**GERESS Array S**	**4.76**	**339**	Pn			**Pn**	18 17 58.1	+0.9
GERES	**GERESS Array B**	**4.76**	**339**	Pn			**Pn**	18 17 58.3	+1.1
	comp=Z,10nm,0.3s,baz=159,slow=19,SNR=97								
GERES					Sn		**Sn**	18 18 51.0	-0.8
	comp=Z,46nm,0.3s,baz=150,slow=24,SNR=24								
GERES					Lg		Lg	18 19 14.6	
	baz=163,slow=41,SNR=1.7								
GERES	**GERESS Array B**	**4.76**	**339**				**Pn**	18 17 57.4	+0.2
FUORN	**Ofenpass-Fuorn**	**4.76**	**299**	Pn			**Pn**	18 17 58.9	+1.4
MSSA	**Maissana**	**4.85**	**271**				**Pn**	18 17 59.9	+1.3
VRAC	**Vranov**	**4.88**	**2**	Pn			**Pn**	18 17 59.6	+0.8
	comp=Z,20nm,0.3s,baz=204,slow=13,SNR=172								
VRAC					Sn		**Sn**	18 18 51.9	-2.8
	comp=Z,9.7nm,0.3s,baz=88,slow=16,SNR=9.0								
VRAC					Lg		Lg	18 19 20.4	
	comp=Z,2.4nm,0.3s,baz=265,slow=22,SNR=1.1								
VRAC	**Vranov**	**4.88**	**2**	*e*Pn			**Pn**	18 17 59.6	+0.8
	SNR=112								
VRAC	**Vranov**	**4.88**	**2**	⇓P			**Pn**	18 17 58.8	0.0
VRAC	**Vranov**	**4.88**	**2**	*e*PN			**Pn**	18 17 59.2	+0.4
VRAC				*e*SN			**Sn**	18 18 51.7	-3.0
TREC	**Trest**	**4.89**	**354**	*e*Sn			**Sn**	18 18 53.1	-2.0
	SNR=1.8								
TREC	**Trest**	**4.89**	**354**	*e*SN			**Sn**	18 18 52.8	-2.3
BOSS	**Bosilegrad**	**4.91**	**111**	*e*Pn			**Pn**	18 18 00.3	+1.1
BOSS				*e*Sn			**Sn**	18 18 54.6	-0.9
RETA	**Reutte**	**4.91**	**310**	*e*Pn			**Pn**	18 18 02.0	+2.6
	comp=Z,7.3nm,0.2s,SNR=8.8								
RETA					*e*Sn		**Sn**	18 19 01.6	+5.9
	comp=Z,45nm,0.4s								
RETA	**Reutte**	**4.91**	**310**				**Pn**	18 18 02.0	+2.6
RETA							**Sn**	18 19 01.6	+5.9
SRE	**Strehaia**	**4.95**	**85**	⇓P			**Pn**	18 18 01.6	+1.8
SRE				⇓S			**Sn**	18 18 58.3	+1.8
KECS	**Kecovo**	**4.98**	**34**	*e*PN			**Pn**	18 18 01.9	+1.7
KECS				*e*SN			**Sn**	18 18 56.1	-1.1
KHC	**Kasperske Hory**	**5.05**	**339**	*e*Sn			**Sn**	18 18 58.0	-1.0
	SNR=7.8								
KHC	**Kasperske Hory**	**5.05**	**339**	*e*PN			**Pn**	18 18 02.0	+0.8
KHC				*e*SN			**Sn**	18 18 57.5	-1.5
KHC					AMS		AMS	18 20 00.0	
	comp=Z,300nm,7.1s								
KHC	**Kasperske Hory**	**5.05**	**339**	Pn			**Pn**	18 18 02.0	+0.8
DAVOX	**Davos/Dischmat**	**5.07**	**300**	Pn			**Pn**	18 18 03.5	+1.9
DAVOX				Sn			**Sn**	18 18 59.2	-0.5
STIP	**Stip**	**5.12**	**120**	*i* Pn			**Pn**	18 18 04.7	+2.6
WET	**Wettzell**	**5.26**	**335**	*e*Pn			**Pn**	18 18 05.4	+1.3
	SNR=27								
TIP	**Timpagrande**	**5.26**	**176**	⇑P			**Pn**	18 18 05.3	+1.1
TIP	**Timpagrande**	**5.26**	**176**	Pn			**Pn**	18 18 05.2	+1.0
TUE	**Stuetta**	**5.29**	**295**	Pn			**Pn**	18 18 06.3	+1.6
DAVA	**Damuels**	**5.30**	**305**	*e*Pn			**Pn**	18 18 07.5	+2.7
	SNR=14								
DAVA	**Damuels**	**5.30**	**305**	*i* Pn			**Pn**	18 18 07.2	+2.4
	comp=Z,2.5nm,0.2s								
DAVA	**Damuels**	**5.30**	**305**				**Pn**	18 18 07.2	+2.4
SRN	**Sarande**	**5.32**	**147**	P			**Pn**	18 18 05.8	+0.9
NEST	**Nestorio**	**5.34**	**137**	P			**Pn**	18 18 07.7	+2.4
VTS	**Vitosha**	**5.37**	**107**	P			**Pn**	18 18 07.2	+1.5
UBR	**Ueberruh**	**5.39**	**309**	*e*Pn			**Pn**	18 18 07.6	+1.7
	SNR=9.4								
KEK	**Kerkira**	**5.39**	**150**	P			**Pn**	18 18 06.6	+0.7
LOT	**Lotru**	**5.41**	**77**	⇑P			**Pn**	18 18 06.9	+0.7
MORC	**Moravsky Berou**	**5.41**	**9**	*e*Pn			**Pn**	18 18 07.4	+1.2
	SNR=37								
MORC	**Moravsky Berou**	**5.41**	**9**	⇓P			**Pn**	18 18 06.5	+0.3
MORC				⇑S			**Sn**	18 19 07.7	-0.2
MORC	**Moravsky Berou**	**5.41**	**9**	*e*PN			**Pn**	18 18 06.9	+0.7
MORC				*e*SN			**Sn**	18 19 06.7	-1.2
MORC	**Moravsky Berou**	**5.41**	**9**	Pn			**Pn**	18 18 07.0	+0.8
PBCC	**Pribram**	**5.48**	**344**	*e*PN			**Pn**	18 18 08.1	+1.0
PBCC				*e*SN			**Sn**	18 19 07.1	-2.4
MPEP	**Malo Peshtene**	**5.49**	**99**	P			**Pn**	18 18 08.9	+1.6
PLONS	**Plons/SG**	**5.49**	**301**	*e*Pn			**Pn**	18 18 09.8	+2.4
	SNR=22								
OKC	**Ostrava-Krasne**	**5.55**	**13**	*e*Pn			**Pn**	18 18 09.2	+1.2
	SNR=20								
OKC	**Ostrava-Krasne**	**5.55**	**13**	*e*PN			**Pn**	18 18 09.0	+1.0
OKC				*e*SN			**Sn**	18 19 10.1	-1.2
VAY	**Valandovo**	**5.57**	**122**	*e*Pn			**Pn**	18 18 09.9	+1.6
VAY	**Valandovo**	**5.57**	**122**	*i* Pn			**Pn**	18 18 11.1	+2.8
GOPC	**GO Pecny, Ondr**	**5.58**	**350**	*e*PN			**Pn**	18 18 09.4	+1.0
KKB	**Krupnik**	**5.60**	**115**	P			**Pn**	18 18 10.9	+2.2
PGF	**Pioggiola**	**5.63**	**253**	*e*Pn			**Pn**	18 18 09.9	+0.7
PGF				*e*Sn			**Sn**	18 19 10.8	-2.5
	comp=Z,19nm,0.7s								
KRLC	**Kraliky**	**5.65**	**3**	*e*PN			**Pn**	18 18 10.8	+1.3
KRLC				*e*SN			**Sn**	18 19 11.8	-2.0
PRU	**Pruhonice**	**5.68**	**349**	*e*PN			**Pn**	18 18 11.1	+1.3
PRU				*e*SN			**Sn**	18 19 12.2	-2.2
PRU					AMS		AMS	18 20 20.0	
	comp=Z,400nm,7.3s								
CRVS	**Cervenica-Dubn**	**5.71**	**37**	*e*PN			**Pn**	18 18 11.9	+1.6
CRVS				*e*PG			Pg	18 18 41.4	+5.6
IGT	**Igoumenitsa**	**5.75**	**147**	P			**Pn**	18 18 11.7	+0.9
PRA	**Prague**	**5.78**	**348**	*e*SN			**Sn**	18 19 14.5	-2.3
KZN	**Kozani**	**5.79**	**134**	P			**Pn**	18 18 13.0	+1.6
KPRO	**Kipourio**	**5.85**	**138**	P			**Pn**	18 18 14.7	+2.4
DPC	**Dobruska-Polom**	**5.92**	**0**	*e*Pn			**Pn**	18 18 14.0	+0.9
	SNR=10								
DPC	**Dobruska-Polom**	**5.92**	**0**	*e*PN			**Pn**	18 18 13.8	+0.7
DPC				*e*SN			**Sn**	18 19 16.2	-4.2
ROTZ	**Rotzenmuhle**	**6.01**	**334**	*e*Pn			**Pn**	18 18 14.8	+0.4
	SNR=11								
STHS	**Stebnicka Huta**	**6.03**	**33**	*e*PN			**Pn**	18 18 16.4	+1.8
UPC	**Upice**	**6.08**	**358**	*e*PN			**Pn**	18 18 16.3	+1.0
UPC				*e*SN			**Sn**	18 19 21.8	-2.4
KOLS	**Kolonicke sedl**	**6.10**	**40**	*e*PN			**Pn**	18 18 16.0	+0.4
KOLS				*e*PG			**Pg**	18 18 44.5	+1.3
KOLS				*e*SN			**Sn**	18 19 22.7	-2.1
OSTC	**Ostas**	**6.12**	**360**	*e*PN			**Pn**	18 18 17.1	+1.2
MMB	**Musomiste**	**6.15**	**115**	P			**Pn**	18 18 18.4	+2.0
CHVC	**Chvalec**	**6.16**	**359**	*e*PN			**Pn**	18 18 17.4	+1.0
MANZ	**Manzenberg**	**6.24**	**334**	*e*Pn			**Pn**	18 18 18.2	+0.7
	SNR=12								
OJC	**Ojcow**	**6.26**	**21**	*e*Pn			**Pn**	18 18 19.0	+1.3
	SNR=3.9								
OJC	**Ojcow**	**6.26**	**21**				**Pn**	18 18 17.4	-0.4
GRA1	**Grafenberg Arr**	**6.29**	**328**	Pn			**Pn**	18 18 19.7	+1.5
VOIR		**6.30**	**78**	⇓P			**Pn**	18 18 20.2	+1.8
SRS	**Serrai**	**6.32**	**119**	P			**Pn**	18 18 19.5	+0.9
LIT	**Litokhoron**	**6.32**	**131**	P			**Pn**	18 18 19.8	+1.2
LIT	**Litokhoron**	**6.32**	**131**	Pn			**Pn**	18 18 19.1	+0.4
NKC	**Novy Kostel**	**6.36**	**337**	*e*PN			**Pn**	18 18 20.5	+1.4
NKC				*e*SN			**Sn**	18 19 27.2	-4.0
SLE	**Schleitheim**	**6.36**	**304**	*e*Pn			**Pn**	18 18 20.3	+1.1
	SNR=7.5								
SBF	**Sospel**	**6.39**	**268**	*e*Pn			**Pn**	18 18 19.7	0.0
SBF				*e*Sn			**Sn**	18 19 28.4	-3.8
	comp=Z,58nm,0.5s								
KSP	**Ksiaz**	**6.41**	**0**	*e*Pn			**Pn**	18 18 20.8	+1.0
	SNR=5.1								
THL	**Klokotos Trika**	**6.47**	**137**	P			**Pn**	18 18 21.8	+1.1
TSLK	**Tsoukalades, L**	**6.49**	**148**	P			**Pn**	18 18 21.6	+0.6
LKD2	**Lefkada island**	**6.52**	**148**	P			**Pn**	18 18 21.7	+0.2
STU	**Stuttgart**	**6.53**	**314**				**Pn**	18 18 21.8	+0.3
DOPR	**Dopca**	**6.61**	**73**	⇑P			**Pn**	18 18 24.5	+1.9
SENIN	**Lac Senin/Sane**	**6.61**	**290**	Pn			**Pn**	18 18 24.1	+1.2
BRG	**Berggiesshubel**	**6.63**	**347**	*e*Pn			**Pn**	18 18 23.3	+0.5
	SNR=11								
BRG	**Berggiesshubel**	**6.63**	**347**	*i* PN			**Pn**	18 18 23.2	+0.3
	comp=Z,11nm,0.4s								
BRG					SN		**Sn**	18 19 34.4	-3.5
	comp=Z,33nm,0.5s								
BRG				*e*				18 20 05.2	
	comp=Z,30nm,0.6s								
PLG	**Polygyros**	**6.67**	**125**	P			**Pn**	18 18 25.3	+1.8
BFO	**Black Forest**	**6.74**	**308**	*e*Pn			**Pn**	18 18 25.2	+0.8
	SNR=18								
BFO	**Black Forest**	**6.74**	**308**	Pn			**Pn**	18 18 24.7	+0.3
RZN	**Rozhen**	**6.76**	**111**	P			**Pn**	18 18 27.1	+2.3
MBDF	**Montbardon**	**6.80**	**276**	*e*Pn			**Pn**	18 18 24.0	-1.4
MBDF	**Montbardon**	**6.80**	**276**	*e*P			**Pn**	18 18 27.4	+2.0
MBDF				*e*Sn			**Sn**	18 19 38.5	-3.8
	comp=Z,47nm,0.5s								
LPG	**La Plagne**	**6.85**	**282**	*e*Pn			**Pn**	18 18 25.9	-0.2
LPG				*e*Sn			**Sn**	18 19 39.3	-4.3
	comp=Z,46nm,0.5s								
LPL	**La Plagne**	**6.86**	**282**	*e*Pn			**Pn**	18 18 26.8	+0.5
LPL				*e*Sn			**Sn**	18 19 39.9	-4.0
	comp=Z,49nm,0.6s								
BNI	**Bardonecchia**	**6.87**	**279**	Pn			**Pn**	18 18 26.5	+0.2
EVR	**Evrytania**	**6.89**	**141**	P			**Pn**	18 18 28.5	+1.9
MLR	**Muntele Rosu**	**6.93**	**78**	⇑P			**Pn**	18 18 28.6	+1.4
MLR	**Muntele Rosu**	**6.93**	**78**	Pn			**Pn**	18 18 27.4	+0.2
BURAR	**Bucovina Array**	**6.98**	**60**	⇑P			**Pn**	18 18 28.9	+1.1
BURAR	**Bucovina Array**	**6.98**	**60**	Pn			**Pn**	18 18 30.9	+3.1
BUR08	**Bucovina Ar. S**	**6.98**	**60**	Pn			**Pn**	18 18 27.6	+0.8
FRF	**La Foret Royal**	**7.01**	**266**	*e*Pn			**Pn**	18 18 27.3	-0.8
FRF				*e*Sn			**Sn**	18 19 43.3	-3.9
	comp=Z,16nm,0.5s								
VLS	**Valsamata**	**7.04**	**151**	P			**Pn**	18 18 28.4	-0.2
AGG	**Agios Georgios**	**7.05**	**138**	P			**Pn**	18 18 29.4	+0.7
AGG	**Agios Georgios**	**7.05**	**138**	Pn			**Pn**	18 18 29.4	+0.7
SZH	**Strazhica**	**7.07**	**96**	P			**Pn**	18 18 31.3	+2.4
VAE	**Valguarnera**	**7.09**	**192**	Pn			**Pn**	18 18 33.9	+4.6
	comp=Z,0.3nm,0.3s,baz=332,slow=15,SNR=1.6								
PAIG	**Paliouri**	**7.10**	**127**	P			**Pn**	18 18 30.5	+1.2
VSL	**Villasalto**	**7.13**	**229**				**Pn**	18 18 30.5	+0.7
LMR	**La Mourre**	**7.15**	**265**	*e*Pn			**Pn**	18 18 29.7	-0.3
LMR				*e*Sn			**Sn**	18 19 46.5	-4.2
	comp=Z,7.2nm,0.2s								
CLL	**Collm**	**7.22**	**343**	*e*Pn			**Pn**	18 18 32.0	+1.1
CLL				*e*				18 18 35.0	
CLL				*e*Sn			**Sn**	18 19 48.0	-4.3
CLL				*e*				18 20 21.0	
CLL				*i* Sg			**Sg**	18 18 20 36.1	-1.9
CLL				*e*Lmax				18 20 48.0	
CLL	**Collm**	**7.22**	**343**	Pn			**Pn**	18 18 31.5	+0.6
EFP	**Efpalio**	**7.34**	**143**	P			**Pn**	18 18 33.7	+1.1
RAFF	**Raffo Rosso**	**7.35**	**192**	Pn			**Pn**	18 18 34.7	+1.9
ECH	**Echery**	**7.36**	**304**	Pn			**Pn**	18 18 33.3	+0.3
HINF	**Hinteralfeld**	**7.37**	**301**	*e*Pn			**Pn**	18 18 32.8	-0.3
HINF				*e*Sn			**Sn**	18 19 53.1	-3.1
	comp=Z,25nm,0.5s								
CDF	**Champ du Feu**	**7.39**	**306**	*e*Pn			**Pn**	18 18 33.1	-0.2
CDF				*e*Sg			**Sg**	18 20 38.4	-4.9
	comp=Z,59nm,1.0s								
ORIF	**Oris-en-Rattie**	**7.43**	**277**	*e*Pn			**Pn**	18 18 34.6	+0.6
ORIF				*e*Sn			**Sn**	18 19 54.2	-3.6
	comp=Z,67nm,0.6s								
TRIZ	**Trizonia**	**7.46**	**142**	P			**Pn**	18 18 35.3	+1.0
CABF	**La Chapelle**	**7.49**	**290**	*e*Pn			**Pn**	18 18 34.3	-0.4
CABF				*e*Sn			**Sn**	18 19 54.7	-4.3
	comp=Z,44nm,0.8s								
VRI	**Vrincioaia**	**7.52**	**75**	⇑P			**Pn**	18 18 36.7	+1.6
ALIK	**Aliki, Aigiali**	**7.57**	**143**	P			**Pn**	18 18 37.2	+1.5
SMRF	**Simiane la Rot**	**7.71**	**270**	*e*Pn			**Pn**	18 18 38.2	+0.5
SMRF				*e*Sn			**Sn**	18 20 00.3	-4.2
	comp=Z,4.9nm,0.4s								
HAU	**Haudompre**	**7.76**	**301**	*e*Pn			**Pn**	18 18 38.1	-0.3
HAU				*e*Sn			**Sn**	18 20 00.3	-5.4
	comp=Z,21nm,0.4s								
KLV	**Kalavryta, Ach**	**7.76**	**143**	P			**Pn**	18 18 39.2	+0.7
ALN	**Alexandroupoli**	**8.01**	**113**	Pn			**Pn**	18 18 43.8	+1.9
VIVF	**Saint-Julien-l**	**8.29**	**277**	*e*Pn			**Pn**	18 18 44.6	-1.1
VIVF				*e*Sn			**Sn**	18 20 13.7	-5.1
	comp=Z,7.6nm,0.3s								
PAGF	**Fort de Pagny**	**8.37**	**303**	*e*P			**Pn**	18 18 49.3	+2.6
	baz=126								
PAGF				*e*Sn			**Sn**	18 20 14.4	-6.2
	comp=Z,11nm,0.6s								
PAGF				*e*Sg			Sb	18 21 07.2	+17
	comp=Z,55nm,1.0s								
SSB	**Saint Sauveur**	**8.39**	**280**	Pn			**Pn**	18 18 46.1	-0.9
ITM	**Ithomi**	**8.41**	**148**	Pn			**Pn**	18 18 47.3	-0.1
SFTF	**Sexfontaines**	**8.65**	**300**	*e*P			**Pn**	18 18 53.0	+2.5
	baz=119								
SFTF				*e*Sn			**Sn**	18 20 21.0	-6.5
	comp=Z,10.0nm,0.4s								
SFTF				*e*Sg				18 21 17.3	
	comp=Z,58nm,1.2s								
WLF	**Walferdange**	**8.67**	**311**	Pn			**Pn**	18 18 52.1	+1.3
TIRR	**Tirgusor**	**8.68**	**86**	Pn			**Pn**	18 18 52.8	+1.8
MEZF	**Maizieres J'vi**	**8.75**	**302**	*e*Pn			**Pn**	18 18 51.0	-1.0
MEZF				*e*Sn			**Sn**	18 20 23.6	-6.4
	comp=Z,11nm,0.6s								
MEZF				*e*Sg				18 21 20.3	
	comp=Z,18nm,0.8s								
LASF	**Ste Croix**	**8.93**	**272**	*e*Pn			**Pn**	18 18 53.0	-1.4
LASF				*e*Sn			**Sn**	18 20 29.0	-5.5
	comp=Z,5.3nm,0.5s								
SMF	**Signal de Mont**	**9.01**	**289**	*e*Pn			**Pn**	18 18 55.1	-0.4
SMF				*e*Sn			**Sn**	18 20 30.4	-6.0
	comp=Z,33nm,0.5s								
LOR	**Lormes**	**9.12**	**292**	*e*Pn			**Pn**	18 18 56.2	-0.9
	baz=113								
LOR				*e*Sn			**Sn**	18 20 33.0	-6.2
	comp=Z,20nm,0.5s								
SSF	**Saint Saulge**	**9.31**	**291**	*e*Pn			**Pn**	18 18 59.6	-0.1
SSF				*e*Sn			**Sn**	18 20 37.4	-6.4
	comp=Z,8.6nm,0.4s								
AVF	**Avril sur Loir**	**9.37**	**289**	*e*Pn			**Pn**	18 19 00.3	-0.1
AVF				*e*Sn			**Sn**	18 20 38.9	-6.2
	comp=Z,8.5nm,0.6s								
GIVF	**Givet**	**9.63**	**310**	*e*Pn			**Pn**	18 19 03.2	-0.8
GIVF	**Givet**	**9.63**	**310**	*e*P			Pn	18 19 09.0	+5.0
BGF	**Bois d'Agland**	**9.68**	**287**	*e*Pn			**Pn**	18 19 04.6	0.0
BGF				*e*Sn			**Sn**	18 20 46.4	-6.3
	comp=Z,23nm,0.5s								
HYF	**Humbligny**	**9.94**	**291**	*e*Pn			**Pn**	18 19 07.1	-1.1
HYF				*e*Sn			**Sn**	18 20 52.4	-6.7
BAIF	**Baives**	**9.95**	**309**	*e*P			**Pn**	18 19 12.7	+4.4
TCF	**Toulx Ste Croi**	**10.08**	**286**	*e*Pn			**Pn**	18 19 09.6	-0.6
TCF				*e*Sn			**Sn**	18 20 56.0	-6.7
	comp=Z,21nm,0.7s								
CAF	**Calviac**	**10.14**	**278**	*e*Pn			**Pn**	18 19 10.1	-1.0
CAF				*e*Sn			**Sn**	18 20 57.7	-6.6
	comp=Z,2.5nm,0.4s								
KEST	**Kesra**	**10.19**	**214**	Pn			**Pn**	18 19 16.2	+4.5
	comp=Z,0.3nm,0.3s,baz=14,slow=8.3,SNR=2.0								
KEST	**Kesra**	**10.19**	**214**	Pn			**Pn**	18 19 14.3	+2.6
MTLF	**Montolieu**	**10.22**	**269**	*e*P			**Pn**	18 19 16.6	+4.5
MTLF				*e*Sn			**Sn**	18 20 59.7	-6.3
	comp=Z,0.4nm,0.2s								
CLF	**Chambon-Foret**	**10.36**	**295**	Pn			**Pn**	18 19 14.9	+0.9
RJF	**Les Rejaudoux**	**10.52**	**280**	*e*Pn			**Pn**	18 19 15.9	-0.3
RJF				*e*Sn			**Sn**	18 21 06.7	-6.8
	comp=Z,2.9nm,0.5s								
SUW	**Suwalki**	**10.59**	**23**	Pn			**Pn**	18 19 18.9	+1.8
AKASG	**Malin Array Be**	**10.75**	**50**	Pn			**Pn**	18 19 21.7	+2.5
	comp=Z,0.7nm,0.3s,baz=237,slow=13,SNR=6.8								
LFF	**La Frestale**	**11.08**	**278**	*e*Pn			**Pn**	18 19 23.1	-0.8
IDI	**Anoyia**	**11.27**	**141**	Pn			**Pn**	18 19 24.7	-1.8
	comp=Z,2.0nm,0.3s,baz=288,slow=14,SNR=13								
IDI					Sn		**Sn**	18 21 25.8	-6.2
	comp=Z,0.8nm,0.3s,baz=72,slow=20,SNR=1.9								
IDI	**Anoyia**	**11.27**	**141**	Pn			**Pn**	18 19 24.6	-2.0
MFF	**Saint Martin d**	**11.73**	**286**	*e*Pn			**Pn**	18 19 32.0	-0.7
MFF				*e*Sn			**Sn**	18 21 35.4	-7.7
	comp=Z,3.1nm,0.4s								
BRTR	**Keskin Array B**	**13.72**	**104**	Pn			**Pn**	18 20 03.8	+3.8
	baz=299,slow=10,SNR=2.1								
BRTR					LR		LR	18 25 48.8	
	comp=Z,40nm,19.2s,baz=344,slow=39								
ESDC	**Sonseca Array**	**15.77**	**259**	Pn			**Pn**	18 20 25.3	-2.1
	comp=Z,0.0nm,0.3s,baz=75,slow=15,SNR=1.8								
HFS	**Hagfors**	**15.80**	**355**	Pn			**Pn**	18 20 28.3	+0.6
	comp=Z,0.1nm,0.3s,baz=127,slow=24,SNR=1.5								
CSS	**Mathiatis**	**16.15**	**120**	P			**P**

H10N2	**ASCENSION HYDR**	**36.03**	**122**	T	T	19 32 24.3		
	baz=304,slow=75,SNR=42							
H10N1	**ASCENSION HYDR**	**36.04**	**123**	T	T	19 32 25.5		
	baz=304,slow=75,SNR=31							
H10S3	**ASCENSION HYDR**	**36.52**	**124**	T	T	19 33 00.5		
	baz=279,slow=74,SNR=17							
H10S2	**ASCENSION HYDR**	**36.53**	**124**	T	T	19 32 44.7		
	baz=301,slow=74,SNR=8.7							
LPAZ	**La Paz**	**36.88**	**220**	P	**P**	**18 54 12.0**	**+2.0**	
	comp=Z,1.7nm,0.8s,baz=12,slow=9.1,SNR=5.9							
LPAZ				LR	LR	19 08 59.5		
	comp=Z,62nm,20.9s,baz=56,slow=36							
LPAZ	**La Paz**	**36.88**	**220**	P	**P**	**18 54 12.1**	**+2.1**	
ATAH	**Atahualpa**	**38.88**	**242**	LR	LR	19 10 12.8		
	comp=Z,75nm,21.6s,baz=79,slow=36							
NNA	**Nana**	**40.22**	**234**	LR	LR	19 12 52.1		
	comp=Z,25nm,18.0s,baz=34,slow=38							
TKL	**Tuckaleechee C**	**42.23**	**310**	LR	LR	19 09 27.2		
	comp=Z,39nm,18.9s,baz=88,slow=32							
LVC	**Limon Verde**	**42.25**	**215**	LR	LR	19 13 11.7		
	comp=Z,30nm,18.8s,baz=356,slow=37							
SADO	**Sadowa**	**43.69**	**324**	LR	LR	19 10 02.4		
	comp=Z,42nm,18.6s,baz=167,slow=32							
ESDC	**Sonseca Array**	**44.85**	**45**	P	**P**	**18 55 14.4**	**-0.5**	
	comp=Z,1.1nm,0.9s,baz=250,slow=7.8,SNR=7.9							
ESDC				LR	LR	19 11 26.8		
	comp=Z,28nm,18.4s,baz=330,slow=33							
ESDC	**Sonseca Array**	**44.85**	**45**	P	**P**	**18 55 14.2**	**-0.7**	
TORD	**Torodi Ar. Bea**	**45.03**	**84**	P	**P**	**18 55 16.3**	**-0.3**	
	comp=Z,0.8nm,0.6s,baz=289,slow=9.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**45.03**	**84**	P	**P**	**18 55 16.1**	**-0.5**	
PLCA	**Paso Flores**	**58.15**	**203**	LR	LR	19 25 39.1		
	comp=Z,26nm,18.2s,baz=7.0,slow=40							
NOA	**NORSAR Array B**	**62.95**	**27**	LR	LR	19 18 29.4		
	comp=Z,20nm,21.9s,baz=300,slow=30							
YKA	**Yellowknife Ar**	**69.85**	**332**	LR	LR	19 26 31.6		
	comp=Z,33nm,19.1s,baz=0.0,slow=34							
ARCES	**ARCESS Array B**	**71.46**	**20**	P	**P**	**18 58 19.6**	**-1.0**	
	comp=Z,1.2nm,0.9s,baz=258,slow=7.3,SNR=3.7							
BRTR	**Keskin Array B**	**73.09**	**52**	P	**P**	**18 58 30.7**	**-0.5**	
	comp=Z,0.9nm,0.9s,baz=273,slow=5.6,SNR=2.7							
BRTR	**Keskin Array B**	**73.09**	**52**	P	**P**	**18 58 30.5**	**-0.6**	

*TEH **30** 18:51:54.6, 32°.67N×47°.71E, h18km, ML3.2*
*ISN **30** 18:51:54.4±1.2, 32°.63N×47°.74E, h21km±22km, ML3.2*
ISC 30 18:51:56.2±1.0**, 32°.59N**±0°.04×**47°.66E**±0°.04**, h23km, n27, σ0s97/31, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.33**	**286**	*e*Pg	**Pb**	**18 52 01.7**	**-1.9**
DHL1				*e*Sg	**Sb**	**18 52 08.0**	**-0.6**
BMDN	**Meydan**	**1.46**	**42**	*e*Pg	**Pn**	**18 52 19.9**	**-1.5**
BMDN				*e*Sg	**Sn**	**18 52 40.4**	**+0.6**
BMDN				*e*		18 52 47.2	
AHWZ	**Ahwaz**	**1.51**	**146**	*e*Pg	**Pb**	**18 52 24.1**	**+0.5**
IKOM	**Komasi**	**1.59**	**356**	*e*Pg	**Pn**	**18 52 23.3**	**+0.2**
IKOM				*e*		18 52 25.2	
KCHF	**Cheshme Sefid,**	**1.76**	**343**	*e*Pg	**Pn**	**18 52 26.0**	**+0.5**
KCHF				*e*		18 52 56.9	
HSAM	**Samen**	**1.80**	**26**	*e*Pg	**Pn**	**18 52 26.5**	**+0.3**
HSAM				*e*		18 52 28.1	
KER	**Kermanshah**	**1.84**	**346**	*e*Pg	**Pn**	**18 52 27.6**	**+1.0**
IBZA	**Bozab**	**1.88**	**5**	*e*Pg	**Pn**	**18 52 28.4**	**+1.1**
IBZA				*e*		18 53 03.4	
IGHG	**Ghaleghazi**	**1.96**	**333**	*e*Pn	**Pn**	**18 52 28.8**	**+0.5**
IGHG				*e*		18 53 12.7	
NSR	**Nassriya**	**2.04**	**220**	*e*Pn	**Pn**	**18 52 30.0**	**+0.9**
NSR				*e*Sn	**Sb**	**18 52 56.0**	**-1.4**
NSR				AML	AML	18 53 02.3	
	comp=E,134nm,0.3s						
IVIS	**Veis**	**2.05**	**341**	*e*Pn	**Pn**	**18 52 29.8**	**+0.4**
IVIS				*e*		18 53 08.1	
IALM	**Almabolaq**	**2.31**	**10**	*e*Pn	**Pn**	**18 52 33.7**	**+0.6**
IDHR	**Dehrash**	**2.36**	**334**	*e*Pn	**Pn**	**18 52 34.4**	**+0.7**
IDHR				*e*		18 53 11.6	
ILIN	**Lien**	**2.40**	**346**	*e*Pn	**Pn**	**18 52 35.1**	**+0.8**
ILIN				*e*		18 53 20.7	
HAGD	**Aghdareh**	**2.55**	**29**	*e*Pn	**Pn**	**18 52 37.0**	**+0.6**
HAGD				*e*		18 53 22.5	
JHBN	**Jahan bin**	**2.57**	**97**	*e*Pn	**Pn**	**18 52 37.3**	**+0.5**
JHBN				*e*		18 53 29.9	
HSRG	**Sareghieh**	**2.70**	**11**	*e*Pn	**Pn**	**18 52 40.2**	**+1.7**
HSRG				*e*		18 53 28.6	
IPIR	**Pirpir**	**2.73**	**87**	*e*Pn	**Pn**	**18 52 39.6**	**+0.6**
IPIR				*e*		18 53 24.8	
BHD	**Baghdad**	**2.84**	**285**	*e*Pn	**Pn**	**18 52 41.0**	**+0.9**
	baz=102						
BHD				*e*Sn	**Sn**	**18 53 15.0**	**+1.4**
BHD				AML	AML	18 53 32.1	
	comp=E,185nm,0.2s						
ROKH	**ROKH**	**2.87**	**94**	*e*Pn	**Pn**	**18 52 41.0**	**+0.2**
ROKH				*e*		18 53 37.5	
IKLH	**Kolahrood**	**3.38**	**76**	*e*Pn	**Pn**	**18 52 46.8**	**-1.0**
IKLH				*e*		18 53 50.6	
IRAZ	**Razeghan**	**3.38**	**33**	*e*Pn	**Pn**	**18 52 49.5**	**+1.6**
QABG	**Abgarm-Qazvin**	**3.50**	**27**	*e*Pn	**Pn**	**18 52 49.9**	**+0.5**
KLNJ	**Kolanjah**	**3.70**	**114**	*e*Pn	**Pn**	**18 52 52.3**	**-0.1**
KLNJ				*e*		18 54 03.7	
QSDN	**Sirdan**	**4.10**	**17**	*e*Pn	**Pn**	**18 52 58.6**	**+0.9**
QALM	**Alamut, Qazvin**	**4.56**	**32**	*e*Pn	**Pn**	**18 53 05.0**	**+1.0**
IDMV	**Damavand**	**4.70**	**49**	*e*Pn	**Pn**	**18 53 05.7**	**-0.3**

*UCR **30** 19:05:07.9±0.7, 12°.99N×87°.68W, h197km±4km, ML3.8, mb4.4(NEIC)*
*SSS **30** 19:05:07.7, 12°.95N×87°.68W, h196km, ML3.9*
*SNET **30** 19:05:07.7±0.7, 12°.95N×87°.68W, h196km±4km, ML3.9*
*IDC **30** 19:05:10.5±1.5, 13°.18N×87°.65W, h186km±18km, mb3.5/4, mb1 3.6/7, mb1mx3.2/36, mbtmp3.9/7, Error ellipse: s-maj=43.7km s-min=16.3km az=40.0*
*NEIC **30** 19:05:10.0±1.1, 13°.12N±0°.09×87°.68W±0°.07, h185km±7km, mb4.4/44, Error ellipse: s-maj=14.9km s-min=7.6km az=212.0*
*INET **30** 19:05:11.2, 12°.88N×87°.51W, h189km, ML3.8*
ISC 30 19:05:09.3±0.8**, 13°.06N**±0°.07×**87°.71W**±0°.05**, h189**km±5km**, n107, σ0s80/118, mb4.3**/19**, 16C-4D, Honduras**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.25**	**330**	↑*iP*	**Pn**	**19 05 34.2**	**-0.3**
CNCH				IAML		19 05 35.4	
	comp=Z,2μm,0.3s						
CNCH				*e*S	**Sn**	**19 05 54.9**	**+0.8**
CNCH	**Conchagua**	**0.25**	**330**	↑*iP*	**Pn**	**19 05 34.2**	**-0.3**
CNCH				IAML		19 05 35.4	
	comp=Z,2μm,0.3s						
CNCH				*e*S	**Sn**	**19 05 54.9**	**+0.8**
LCND	**La Caada**	**0.31**	**324**	*e*P	**Pn**	**19 05 34.4**	**-0.2**
LCND				*e*S	**Sn**	**19 05 55.3**	**+1.2**
LCND	**La Caada**	**0.31**	**324**	*e*P	**Pn**	**19 05 34.4**	**-0.2**
LCND				*e*S	**Sn**	**19 05 55.3**	**+1.2**
BLLM	**Bellamira**	**0.65**	**307**	↓*e*P	**Pn**	**19 05 36.0**	**+0.1**
BLLM	**Bellamira**	**0.65**	**307**	↓*e*P	**Pn**	**19 05 36.0**	**+0.1**
LCY	**Lacayo**	**0.68**	**303**	↑*iP*	**Pn**	**19 05 36.3**	**+0.2**
LCY	**Lacayo**	**0.68**	**303**	↑*iP*	**Pn**	**19 05 36.3**	**+0.2**
PACA	**Pacayal**	**0.73**	**304**	*e*P	**Pn**	**19 05 36.9**	**+0.5**
PACA	**Pacayal**	**0.73**	**304**	*e*P	**Pn**	**19 05 36.9**	**+0.5**
CRIN	**San Cristobal**	**0.73**	**119**	Pn	**Pn**	**19 05 36.7**	**+0.4**
CRIN				Sn	**Sn**	**19 05 57.2**	**+0.1**
FAGO	**Alcalda de S**	**0.75**	**328**	↑*eP*	**Pn**	**19 05 36.2**	**-0.2**
FAGO	**Alcalda de S**	**0.75**	**328**	↑*eP*	**Pn**	**19 05 36.2**	**-0.2**
ALJI	**Alcalda de J**	**0.89**	**288**	↑*iP*	**Pn**	**19 05 37.1**	**0.0**
ALJI				IAML		19 06 05.4	
	comp=Z,894nm,0.2s						
ALJI	**Alcalda de J**	**0.89**	**288**	↑*iP*	**Pn**	**19 05 37.1**	**0.0**
ALJI				IAML		19 06 05.4	
	comp=Z,894nm,0.2s						
TECA	**Tecapa**	**0.89**	**299**	*e*P	**Pn**	**19 05 37.5**	**+0.1**
TECA	**Tecapa**	**0.89**	**299**	*e*P	**Pn**	**19 05 37.5**	**+0.1**
COEB	**Comit de Eme**	**0.92**	**299**	*e*P	**Pn**	**19 05 37.8**	**+0.2**
COEB				IAML		19 05 38.8	
	comp=Z,519nm,0.3s						
COEB	**Comit de Eme**	**0.92**	**299**	*e*P	**Pn**	**19 05 37.8**	**+0.2**
COEB				IAML		19 05 38.8	
	comp=Z,519nm,0.3s						
TGUH	**Tegucigalpa,Un**	**1.08**	**23**	↓*iP*	**Pn**	**19 05 38.6**	**-0.1**
TGUH	**Tegucigalpa,Un**	**1.08**	**23**	↓*iP*	**Pn**	**19 05 38.6**	**-0.1**
TGUH	**Tegucigalpa,Un**	**1.08**	**23**	Pn	**Pn**	**19 05 38.5**	**-0.1**
TGUH				Sn	**Sn**	**19 05 59.7**	**-1.8**
COEG	**Centro de Oper**	**1.27**	**296**	*e*P	**Pn**	**19 05 40.4**	**+0.3**
COEG	**Centro de Oper**	**1.27**	**296**	*e*P	**Pn**	**19 05 40.4**	**+0.3**
ESTN	**Estel**	**1.30**	**88**		**Pn**	**19 05 40.5**	**+0.1**
ESTN				Sn	**Sn**	**19 06 04.2**	**-0.3**
PAVA	**Las Pavas**	**1.37**	**299**	↑*iP*	**Pn**	**19 05 41.2**	**+0.2**
PAVA	**Las Pavas**	**1.37**	**299**	↑*iP*	**Pn**	**19 05 41.2**	**+0.2**
LFRS	**El Faro**	**1.44**	**293**	↑*eP*	**Pn**	**19 05 41.7**	**+0.1**
LFRS	**El Faro**	**1.44**	**293**	↑*eP*	**Pn**	**19 05 41.7**	**+0.1**
LBRS	**Las Brisas**	**1.47**	**298**	*eP*	**Pn**	**19 05 42.5**	**+0.7**
LBRS	**Las Brisas**	**1.47**	**298**	*eP*	**Pn**	**19 05 42.5**	**+0.7**
LFU	**La Fuente**	**1.53**	**297**	*eP*	**Pn**	**19 05 43.1**	**+0.6**
LFU	**La Fuente**	**1.53**	**297**	*eP*	**Pn**	**19 05 43.1**	**+0.6**
SNET	**Serv Nac Est T**	**1.61**	**293**	Pn	**Pn**	**19 05 43.2**	**0.0**
LALI	**Alcalda de L**	**1.63**	**285**	*eP*	**Pn**	**19 05 43.2**	**0.0**
LALI	**Alcalda de L**	**1.63**	**285**	*eP*	**Pn**	**19 05 43.2**	**0.0**
BOQS	**Boqueron**	**1.68**	**294**	*eP*	**Pn**	**19 05 44.5**	**+0.6**
BOQS	**Boqueron**	**1.68**	**294**	*eP*	**Pn**	**19 05 44.5**	**+0.6**
MATN	**Matagalpa**	**1.74**	**94**	Pn	**Pn**	**19 05 44.6**	**+0.1**
MATN				Sn	**Sn**	**19 06 11.2**	**-0.4**
TACO	**Tacachico**	**1.84**	**300**	↑*iP*	**Pn**	**19 05 45.8**	**+0.3**
TACO	**Tacachico**	**1.84**	**300**	↑*iP*	**Pn**	**19 05 45.8**	**+0.3**
CEVE	**Cerro Verde**	**2.02**	**293**	*eP*	**Pn**	**19 05 48.1**	**+0.6**
CEVE	**Cerro Verde**	**2.02**	**293**	*eP*	**Pn**	**19 05 48.1**	**+0.6**
BOAB	**BOACO BROADBAN**	**2.08**	**107**		**Pn**	**19 05 48.6**	**+0.8**
MTO3	**Montecristo**	**2.09**	**310**	Pn	**Pn**	**19 05 48.6**	**+0.4**
ESQI	**Esquipulas**	**2.18**	**313**	Pn	**Pn**	**19 05 49.3**	**+0.2**
NUBE	**Las Nubes**	**2.19**	**293**	↑*iP*	**Pn**	**19 05 49.5**	**+0.3**
NUBE	**Las Nubes**	**2.19**	**293**	↑*iP*	**Pn**	**19 05 49.5**	**+0.3**
ACON	**Acoyapa**	**2.70**	**113**		**Pn**	**19 05 55.5**	**+0.7**
APG	**El Apazote**	**3.31**	**306**	P	**Pn**	**19 06 03.6**	**+1.2**
	comp=Z,3.7nm,0.3s,baz=115,slow=12,SNR=38						
APG				S	**Sn**	**19 06 44.1**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=316,slow=20,SNR=3.8						
ESPN	**Las Esperanzas**	**3.43**	**104**	Pn	**Pn**	**19 06 04.4**	**+0.7**
JTS	**Las Juntas de**	**3.85**	**135**	P	**Pn**	**19 06 10.5**	**+1.6**
	comp=Z,4.4nm,0.3s,baz=323,slow=5.1,SNR=8.9						
JTS				S	**Sn**	**19 06 52.4**	**-3.2**
	comp=Z,15nm,0.3s,baz=344,slow=20,SNR=12						
JTS	**Las Juntas de**	**3.85**	**135**	Pn	**Pn**	**19 06 09.4**	**+0.5**
TEIG	**Tepich**	**7.15**	**356**	Pn	**Pn**	**19 06 51.6**	**+0.1**
CMIG	**Matias Romero**	**8.01**	**301**	P	**Pn**	**19 07 03.5**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=122,slow=13,SNR=2.0						
CMIG				S	**Sn**	**19 08 28.2**	**-4.6**
	comp=Z,0.7nm,0.3s,baz=17,slow=15,SNR=5.6						
553A	**Crawfordville**	**17.32**	**10**	P	**Pn**	**19 09 00.3**	**+0.4**
344A	**Westbrook Farm**	**18.52**	**352**	P	**Pn**	**19 09 13.4**	**-0.6**
TIGA	**Tifton**	**18.68**	**11**	P	**P**	**19 09 14.3**	**+1.0**
152A	**Waverly Hall**	**19.71**	**7**	P	**P**	**19 09 25.1**	**+0.6**
152A				IAmb	IAmb	19 09 28.8	
	comp=Z,9.5nm,0.7s						
LRAL	**Lakeview Retre**	**19.90**	**2**	P	**P**	**19 09 27.1**	**+0.7**
LRAL				IAmb	IAmb	19 09 30.9	
	comp=Z,7.0nm,0.6s						
154A	**Montrose**	**19.92**	**11**	P	**P**	**19 09 28.2**	**+1.6**
Z51A	**Franklin**	**20.30**	**6**	P	**P**	**19 09 31.4**	**+0.7**
Z51A				IAmb	IAmb	19 09 34.2	
	comp=Z,9.1nm,0.7s						
GOGA	**Godfrey**	**20.63**	**10**	P	**P**	**19 09 35.2**	**+1.0**
Z41A	**Richland Creek**	**20.64**	**348**	P	**P**	**19 09 35.0**	**+0.7**
Z41A				IAmb	IAmb	19 09 37.1	
	comp=Z,11nm,0.7s						
Y49A	**Blount Mountai**	**20.74**	**3**	P	**P**	**19 09 35.9**	**+0.5**
Y52A	**Lilburn**	**20.98**	**8**	P	**P**	**19 09 38.1**	**+0.2**
Y52A				IAmb	IAmb	19 09 40.5	
	comp=Z,9.6nm,0.8s						
OXF	**Oxford**	**21.42**	**356**	P	**P**	**19 09 42.4**	**-0.1**
OXF				IAmb	IAmb	19 09 45.3	
	comp=Z,11nm,0.7s						
HODGE	**Hodges**	**21.66**	**12**	P	**P**	**19 09 45.0**	**0.0**
HODGE				IAmb	IAmb	19 09 46.8	
	comp=Z,8.9nm,0.8s						
MTP	**Monte Pirata**	**21.91**	**74**	P	**P**	**19 09 47.6**	**-0.2**
MTP				IAmb	IAmb	19 09 54.9	
	comp=Z,14nm,0.9s						
JSC	**Jenkinsville**	**21.93**	**14**	P	**P**	**19 09 48.1**	**+0.4**
TX32	**Lajitas Array**	**21.95**	**320**	P	**P**	**19 09 48.0**	**-0.2**
TXAR	**Lajitas Array**	**21.95**	**320**	P	**P**	**19 09 48.9**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=140,slow=10.0,SNR=9.6						
TXAR	**Lajitas Array**	**21.95**	**320**	P	**P**	**19 09 48.5**	**+0.3**
MIAR	**Mount Ida**	**22.05**	**347**	P	**P**	**19 09 48.7**	**-0.2**
W50A	**Signal Mountai**	**22.15**	**5**	P	**P**	**19 09 50.0**	**0.0**
W50A				IAmb	IAmb	19 09 51.4	
	comp=Z,8.6nm,0.6s						
BG3	**Lake Jocassee**	**22.27**	**10**	P	**P**	**19 09 52.1**	**+1.1**
BG3				IAmb	IAmb	19 09 52.8	
	comp=Z,5.6nm,0.6s						
PAULI	**Pauline**	**22.32**	**13**	P	**P**	**19 09 52.0**	**+0.6**
PAULI				IAmb	IAmb	19 09 53.0	
	comp=Z,8.3nm,0.8s						
ABTX	**Abilene, Hawle**	**22.33**	**333**	P	**P**	**19 09 52.5**	**+0.8**
BIRD	**Birdtown, Kers**	**22.48**	**16**	P	**P**	**19 09 53.3**	**+0.4**
BIRD				IAmb	IAmb	19 09 54.1	
	comp=Z,8.6nm,0.6s						
CPCT	**Cooper Cave**	**22.48**	**7**	P	**P**	**19 09 53.1**	**+0.1**
STVI	**Saint Thomas**	**22.52**	**74**	P	**P**	**19 09 53.3**	**-0.1**
Y60A	**Bolivia**	**22.57**	**21**	P	**P**	**19 09 54.5**	**+0.8**
TKL	**Tuckaleechee C**	**22.78**	**8**	P	**P**	**19 09 56.2**	**+0.5**
	comp=Z,7.9nm,0.8s,baz=179,slow=10.0,SNR=9.6						
TKL	**Tuckaleechee C**	**22.78**	**8**	P	**P**	**19 09 56.5**	**+0.8**
TKL				IAmb	IAmb	19 09 58.1	
	comp=Z,14nm,1.1s						
V51A	**Loudon**	**22.85**	**7**	P	**P**	**19 09 57.1**	**+0.8**
V51A				IAmb	IAmb	19 09 59.4	
	comp=Z,5.6nm,0.6s						
V53A	**Saluda**	**22.95**	**10**	P	**P**	**19 09 57.8**	**+0.6**
V53A				IAmb	IAmb	19 10 00.1	
	comp=Z,5.7nm,0.7s						
CLTN	**Cedars of Leba**	**22.97**	**3**	P	**P**	**19 09 57.0**	**-0.4**
CLTN				IAmb	IAmb	19 09 58.9	
	comp=Z,6.3nm,0.7s						
W57A	**Gilead**	**23.08**	**16**	P	**P**	**19 09 58.5**	**+0.2**
W57A				IAmb	IAmb	19 09 59.4	
	comp=Z,7.1nm,0.6s						
LCAR	**Lake Charles**	**23.12**	**353**	P	**P**	**19 09 57.9**	**-0.8**
TZTN	**Tazewell**	**23.68**	**8**	P	**P**	**19 10 04.3**	**+0.4**
FNO	**Franklin**	**23.78**	**340**	P	**P**	**19 10 05.1**	**+0.3**
WMOK	**Wichita Mounta**	**23.81**	**337**	P	**P**	**19 10 05.4**	**+0.4**
T47A	**Sharon Grove**	**23.84**	**1**	P	**P**	**19 10 05.0**	**-0.2**
T47A				IAmb	IAmb	19 10 05.9	
	comp=Z,7.9nm,0.7s						
T45A	**Paducah**	**23.88**	**358**	P	**P**	**19 10 06.8**	**+1.2**
TUL1	**Leonard**	**23.89**	**344**	P	**P**	**19 10 05.9**	**+0.1**
V58A	**Windy Hill, Pi**	**23.93**	**17**	P	**P**	**19 10 06.4**	**+0.3**
V58A				IAmb	IAmb	19 10 07.3	
	comp=Z,10.0nm,0.7s						
U54A	**Nelsons Funny**	**23.96**	**12**	P	**P**	**19 10 07.0**	**+0.6**
T42A	**Van Buren**	**24.07**	**353**	P	**P**	**19 10 06.7**	**-0.6**
T42A				IAmb	IAmb	19 10 07.2	
	comp=Z,4.4nm,0.5s						
S39A	**Bolivar**	**25.04**	**349**	P	**P**	**19 10 16.1**	**-0.1**
S39A				IAmb	IAmb	19 10 16.8	
	comp=Z,6.5nm,0.7s						
CCM	**Cathedral Cave**	**25.10**	**353**	P	**P**	**19 10 16.3**	**-0.3**
R55A	**Marlinton**	**26.02**	**14**	P	**P**	**19 10 25.6**	**+0.6**
ECSD	**EROS Data Cent**	**31.52**	**348**	P	**P**	**19 11 13.0**	**-0.6**
SADO	**Sadowa**	**32.44**	**11**	P	**P**	**19 11 21.6**	**-0.1**
	comp=Z,2.5nm,0.4s,baz=222,slow=9.3,SNR=3.6						
SADO	**Sadowa**	**32.44**	**11**	P	**P**	**19 11 21.0**	**-0.6**
SADO				IAmb	IAmb	19 11 31.4	
	comp=Z,9.0nm,1.1s						
PDAR	**Pinedale Array**	**35.12**	**332**	P	**P**	**19 11 45.8**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=139,slow=8.4,SNR=3.8						
WRA	**Warramunga Arr**	**139.19**	**255**	PKP	**PKiKP**	**19 24 15.8**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=90,slow=2.2,SNR=13						
ASAR	**Alice Springs**	**139.26**	**249**	PKP	**PKiKP**	**19 24 15.9**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=89,slow=1.8,SNR=17						

*IDC **30** 19:51:55.9±1.4, 38°.02N×73°.08E, h0km, mb3.6/6, mb1 3.6/12, mb1mx3.4/56, mbtmp3.5/12, ML3.2/6, MS3.0/4, Ms1 3.0/4, ms1mx2.4/48, Error ellipse: s-maj=23.5km s-min=20.6km az=175.0*
ISC 30 19:51:57.5±1.2**, 37°.95N**±0°.10×**72°.98E**±0°.08**, h10**km**, n17, σ2s00/18, mb3.6/6, MS2.8/3, 3C, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**4.82**	**13**	Pn	**Pn**	**19 53 12.7**	**+2.4**
	1.3nm,0.3s,baz=189,slow=10,SNR=5.8						
AAK				Sn	**Sn**	**19 54 09.6**	**+3.4**
	0.6nm,0.3s,baz=323,slow=20,SNR=1.8						
KK31	**Karatay Array**	**5.48**	**341**	Pn	**Pn**	**19 53 17.6**	**-1.5**
	3.1nm,0.5s,baz=168,slow=15,SNR=52						
KK31				↑Pg	**Pb**	**19 53 34.8**	**+1.6**
KK31				↑Sn	**Sn**	**19 54 19.5**	**-2.8**
	13nm,0.6s,baz=171,slow=25						
KK31				↑Lg	Lg	19 54 44.2	
	24nm,0.8s						
MKAR	**Makanchi Array**	**11.19**	**35**	Pn	**Pn**	**19 54 37.2**	**-0.3**
	0.0nm,0.3s,baz=233,slow=14,SNR=6.9						
MKAR				LR	LR	19 59 14.6	
	comp=Z,37nm,18.5s,baz=202,slow=40						
GEYT	**Alibeck**	**11.74**	**274**	Pn	**Pn**	**19 54 45.4**	**+0.3**
	0.3nm,0.3s,baz=101,slow=15,SNR=4.5						
GEYT				Sn	**Sn**	**19 56 59.2**	**+3.0**
	0.3nm,0.3s,baz=77,slow=20,SNR=3.1						
BVAR	**Borovoye Array**	**15.18**	**354**	Pn	**Pn**	**19 55 29.7**	**-2.2**
	0.1nm,0.3s,baz=170,slow=8.8,SNR=2.4						
AKTO	**Aktyubinsk**	**16.42**	**324**	Pn	**Pn**	**19 55 45.1**	**-2.8**
	0.3nm,0.3s,baz=282,slow=2.2,SNR=2.2						
AKTO				Sn	Sn	19 58 39.1	-11
	0.3nm,0.3s,baz=240,slow=14,SNR=2.5						
ZALV	**Zalesovo Beam**	**17.95**	**23**	P	**Pn**	**19 56 05.0**	**-2.0**
	0.2nm,0.3s,baz=212,slow=11,SNR=3.8						
KIRV	**Kirov**	**25.68**	**331**	LR	LR	20 09 13.4	
	comp=Z,25nm,18.1s,baz=298,slow=40						
SONM	**Songino Array**	**26.22**	**57**	P	**P**	**19 57 32.1**	**-0.4**
	0.2nm,0.6s,baz=245,slow=9.1,SNR=2.1						
EIL	**Elat**	**32.48**	**267**	LR	LR	20 13 41.6	
	comp=Z,22nm,20.9s,baz=62,slow=40						
FINES	**FINESS Array B**	**37.19**	**325**	P	**P**	**19 59 08.7**	**+0.3**
	0.6nm,0.6s,baz=129,slow=11,SNR=1.2						
ARCES	**ARCESS Array B**	**40.43**	**336**	P	**P**	**19 59 34.2**	**-1.3**
	1.1nm,0.6s,baz=113,slow=9.3,SNR=6.3						
HFS	**Hagfors**	**42.92**	**321**	P	**P**	**19 59 55.0**	**-1.1**
	1.1nm,0.5s,baz=92,slow=10,SNR=1.7						
KSRS	**Korea Array**	**42.93**	**73**	LR	LR	20 19 52.1	
	comp=Z,35nm,18.9s,baz=172,slow=39						
NB2	**NORSAR Subarra**	**44.19**	**322**	P	**P**	**20 00 07.4**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=92,slow=8.6						
NOA	**NORSAR Array B**	**44.19**	**322**	P	**P**	**20 00 06.9**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=109,slow=7.5,SNR=2.3						
WRA	**Warramunga Arr**	**81.44**	**123**	P	**P**	**20 04 14.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=328,slow=4.9,SNR=4.8						

*IDC **30** 19:58:32.4±2.1, 40°.48N×50°.74E, h0km, mb3.6/3, mb1 3.6/10, mb1mx3.4/50, mbtmp3.6/10, ML3.0/6, Error ellipse: s-maj=32.6km s-min=12.2km az=7.0*
*AZER **30** 19:58:38.7, 40°.43N×50°.98E, h59km, ML3.4*
*NNC **30** 19:58:46.9±7.8, 41°.17N×52°.34E, h0km, mb3.8, Error ellipse: s-maj=67.3km s-min=44.6km az=59.0*
ISC 30 19:58:38.4±0.8**, 40°.56N**±0°.04×**51°.10E**±0°.05**, h84**km±9km**, n47, σ1s83/81, mb3.5**/3**, 4C-2D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GALA	**Gala**	**0.74**	**259**	P	**Pn**	**19 58 55.2**	**+0.5**
GALA				S	**Sn**	**19 59 05.2**	**-1.6**
NDR	**Nardaran**	**0.85**	**272**	P	**Pn**	**19 58 57.1**	**+1.2**
	SNR=32						
NDR				S	**Sn

BVAR				S	S	20 06 00.6	-4.6
	0.3nm,0.3s,baz=230,slow=26,SNR=3.5						
AKASG	**Malin Array Be**	18.29	311	P	Pn	20 02 46.2	0.0
	1.6nm,0.3s,baz=120,slow=11,SNR=7.8						
MKAR	**Makanchi Array**	23.30	64	P	P	20 03 43.9	+5.1
	0.5nm,0.6s,baz=262,slow=8.7,SNR=5.6						
FINES	**FINESS Array B**	25.87	332	P	P	20 04 04.6	+2.7
	1.4nm,0.8s,baz=133,slow=11,SNR=4.3						
HFS	**Hagfors**	30.27	323	P	P	20 04 43.9	+2.8
	1.0nm,0.5s,baz=101,slow=11,SNR=1.8						

IDC ***30*** *20:09:13.9±0.9, 43˚.80N×110˚.86W, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.6/42, mbtmp3.6/6, ML2.8/3, MS3.1/3, Ms1 3.0/3, ms1mx2.6/52, Error ellipse: s-maj=17.0km s-min=7.6km az=42.0*

NEIC ***30*** *20:09:14.6, 43˚.76N×110˚.89W, h10km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=3.32; Mθθ=0.95; Mφφ=4.27; Mrθ=0.27; Mrφ=-1.34; Mθφ=1.04; Fault plane solution: M₀=4.25000×10¹⁴ NP1:φs333.27000°, δ39.71000°, λ-109.45000°. NP2:φs177.94000°, δ52.95000°, λ-74.54000°. Principal axes: T 4.7075, Plg7.0000°, Azm257.0000°; N -1.1689, Plg12.0000°, Azm348.0000°; P -3.5386, Plg76.0000°, Azm139.0000°;*

BUT ***30*** *20:09:14±2.5, 43˚.77N±0˚.04×110˚.96W±0˚.06, h7km±7km, Error ellipse: s-maj=5.8km s-min=5.3km az=103.0*

NEIC ***30*** *20:09:14.5±1.5, 43˚.76N±0˚.04×110˚.86W±0˚.06, h5km±7km, mb3.9/8, Mwr3.7/36, Md3.9(BUT), Error ellipse: s-maj=6.4km s-min=5.2km az=48.0*

ANF ***30*** *20:09:14.7±0.3, 43˚.79N×110˚.84W, h5km, ML4.2/13, Error ellipse: s-maj=3.8km s-min=2.7km az=77.0*

ISC 30 20:09:14.1±1.1, **43˚.78N**±0˚.02×**110˚.98W**±0˚.03, **h1**km±8km, **n136,** σ1**s56**/154, **mb3.8**/4, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMW	**Indian Meadow**	**0.13**	**14**	Pg	**Pg**	**20 09 17.1**	**+0.5**
IMW				Sg	**Sg**	**20 09 19.1**	**+0.8**
FXWY	**Fox Creek**	**0.14**	**193**	Pg	**Pg**	**20 09 17.3**	**+0.4**
FXWY				Sg	**Sg**	**20 09 19.7**	**+0.9**
TPAW	**Teton Pass**	**0.29**	**175**		**Pg**	**20 09 18.7**	**-0.9**
TPAW				Sg	**Sg**	**20 09 22.7**	**-0.7**
LOHW	**Long Hollow**	**0.32**	**121**		**Pg**	**20 09 19.6**	**-0.6**
LOHW				Sg	**Sg**	**20 09 23.7**	**-0.7**
SNOW	**Snow King Moun**	**0.35**	**152**		**Pg**	**20 09 21.0**	**+0.1**
FLWY	**Flagg Ranch**	**0.37**	**34**		**Pg**	**20 09 21.1**	**-0.2**
FLWY				Sg	**Sg**	**20 09 26.0**	**0.0**
REDW	**Red Top Meadow**	**0.42**	**167**		**Pg**	**20 09 22.3**	**0.0**
YPP	**Pitchstone Pla**	**0.51**	**14**	Pg	**Pg**	**20 09 24.0**	**0.0**
H17A	**Grant Village**	**0.69**	**25**	P	**Pg**	**20 09 27.1**	**-0.2**
	baz=200,SNR=420						
H17A				S	**Sg**	**20 09 35.6**	**-0.5**
	baz=200						
ECR	**Eagle Creek**	**0.78**	**202**		**Pg**	**20 09 28.9**	**-0.1**
YMR	**Madison River**	**0.89**	**1**	Pg	**Pg**	**20 09 31.0**	**-0.3**
LKWY	**Lake**	**0.89**	**28**		**Pg**	**20 09 31.0**	**-0.3**
YNR	**Norris Junctio**	**0.96**	**13**		**Pg**	**20 09 32.2**	**-0.4**
YNM	**Yellowstone No**	**0.97**	**12**	Pg	**Pg**	**20 09 32.5**	**-0.2**
YHB	**Horse Butte**	**0.99**	**351**		**Pg**	**20 09 32.5**	**-0.6**
YUF	**Upper Falls**	**1.00**	**20**		**Pg**	**20 09 33.0**	**-0.2**
AHID	**Auburn Hatcher**	**1.01**	**185**		**Pg**	**20 09 32.9**	**-0.7**
YHH	**Holmes Hill**	**1.02**	**5**	Pg	**Pg**	**20 09 32.8**	**-0.8**
QLMT	**Earthquake Lak**	**1.10**	**343**		**Pg**	**20 09 34.6**	**-0.6**
YMP	**Mirror Lake Pl**	**1.13**	**31**		**Pg**	**20 09 35.0**	**-0.9**
YNE	**Yellowstone No**	**1.42**	**29**		**Pg**	**20 09 39.0**	**-2.3**
BW06	**Boulder Array**	**1.45**	**134**	P	**Pn**	**20 09 40.5**	**-1.1**
	baz=316,SNR=560						
BW06				S	**Sb**	**20 09 59.3**	**-1.7**
	baz=316						
BW06	**Boulder Array**	**1.45**	**134**		**Pn**	**20 09 40.1**	**-1.6**
PD31	**Pinedale Array**	**1.45**	**134**		**Pn**	**20 09 40.0**	**-1.7**
PDAR	**Pinedale Array**	**1.45**	**134**	Pg	**Pn**	**20 09 40.8**	**-0.9**
	150nm,0.3s,baz=325,slow=14,SNR=2209						
PDAR				Lg	Lg	20 09 58.6	
	185nm,0.3s,baz=333,slow=30,SNR=28						
PDAR	**Pinedale Array**	**1.45**	**134**		**Pn**	**20 09 39.8**	**-1.8**
MCMT	**McKenzie Canyo**	**1.70**	**309**		**Pn**	**20 09 45.1**	**-0.1**
RLMT	**Red Lodge**	**1.82**	**42**	P	**Pn**	**20 09 45.7**	**-1.1**
	baz=221,SNR=235						
RLMT				S	**Sn**	**20 10 09.8**	**-0.9**
	baz=221						
RLMT	**Red Lodge**	**1.82**	**42**	Pn	**Pn**	**20 09 45.6**	**-1.1**
BCYI	**Bear Canyon**	**1.83**	**288**		**Pn**	**20 09 47.0**	**+0.1**
BOZ	**Bozeman (W)**	**1.88**	**346**	P	**Pn**	**20 09 47.6**	**+0.1**
	baz=164,SNR=753						
BOZ				S	**Sb**	**20 10 12.5**	**-0.9**
	baz=164						
BOZ	**Bozeman (W)**	**1.88**	**346**		**Pn**	**20 09 47.7**	**+0.1**
DLMT	**Dillon**	**1.96**	**325**		**Pb**	**20 09 49.2**	**-1.5**
HWUT	**Hardware Ranch**	**2.21**	**191**		**Pn**	**20 09 52.1**	**0.0**
GCMT	**Greycliff**	**2.22**	**24**		**Pn**	**20 09 52.5**	**+0.3**
LRM	**Limekiln Ridge**	**2.30**	**333**	Pn	**Pn**	**20 09 53.7**	**+0.3**
HVU	**Hansel Valley**	**2.39**	**214**		**Pn**	**20 09 55.0**	**+0.5**
HLID	**Hailey**	**2.50**	**266**	P	**Pn**	**20 09 56.9**	**+0.8**
	baz=84,SNR=492						
HLID				S	**Sb**	**20 10 30.8**	**-0.4**
	baz=84						
HLID	**Hailey**	**2.50**	**266**	Pn	**Pn**	**20 09 57.1**	**+1.0**
TCUT	**Toone Canyon**	**2.67**	**187**		**Pn**	**20 09 57.8**	**-0.8**
SPUT	**South Promonto**	**2.69**	**204**		**Pn**	**20 09 58.5**	**-0.2**
HRY	**Holter Researc**	**3.00**	**349**		**Pn**	**20 10 03.1**	**+0.3**
JLU	**Jordanelle**	**3.19**	**186**		**Pn**	**20 10 05.6**	**0.0**
BGU	**Big Grassy Mou**	**3.23**	**209**		**Pn**	**20 10 06.0**	**0.0**
RDMU	**Red Mountain**	**3.37**	**161**		**Pn**	**20 10 08.0**	**-0.1**
K22A	**Casper**	**3.45**	**107**	Pb	**Pb**	**20 10 12.5**	**-3.6**
	baz=291,SNR=18						
K22A	**Casper**	**3.45**	**107**		**Pn**	**20 10 07.8**	**-1.2**
RWWY	**Rawlins**	**3.47**	**126**		**Pn**	**20 10 07.7**	**-1.9**
MFID	**Camas Ranch**	**3.54**	**266**	Pn	**Pn**	**20 10 11.4**	**+1.1**
MSO	**Missoula**	**3.70**	**327**	Pn	**Pn**	**20 10 13.6**	**+1.1**
	baz=144,SNR=22						
MSO				Pb	**Pb**	**20 10 21.6**	**+1.3**
	baz=144						
MSO				Sb	**Sg**	**20 11 09.2**	**-3.7**
	baz=144						
MSO	**Missoula**	**3.70**	**327**		**Pn**	**20 10 13.7**	**+1.1**
DUG	**Dugway, Tooele**	**3.83**	**201**	P	**Pn**	**20 10 14.3**	**0.0**
	baz=21,SNR=36						
DUG				Sb	**Sg**	**20 11 15.2**	**-1.9**
	baz=21						
DUG	**Dugway, Tooele**	**3.83**	**201**		**Pn**	**20 10 14.4**	**+0.1**
NLU	**North Lily Min**	**3.90**	**192**	Pn	**Pn**	**20 10 15.1**	**-0.3**
O20A	**White River Ci**	**4.17**	**150**	P	**Pn**	**20 10 19.4**	**+0.3**
	baz=332,SNR=6.9						
O20A				Sb	**Sb**	**20 11 21.4**	**+2.0**
	baz=332						
O20A	**White River Ci**	**4.17**	**150**	Pn	**Pn**	**20 10 19.2**	**+0.1**
P17A	**Butcher Ranch,**	**4.30**	**177**		**Pn**	**20 10 19.9**	**-1.0**
EGMT	**Eagleton**	**4.33**	**11**	P	**Pn**	**20 10 22.9**	**+1.7**
	baz=191,SNR=10						
EGMT				Sb	**Sb**	**20 11 28.0**	**+4.1**
	baz=191						
EGMT	**Eagleton**	**4.33**	**11**		**Pn**	**20 10 21.7**	**+0.5**
LAO	**LASA Array**	**4.45**	**47**	Pb	**Pb**	**20 10 32.7**	**-0.3**
	baz=230						
LAO				Sb	**Sb**	**20 11 29.6**	**+2.4**
	baz=230						
LAO	**LASA Array**	**4.45**	**47**		**Pn**	**20 10 22.3**	**-0.4**
TMUT	**Trail Mountain**	**4.48**	**182**		**Pn**	**20 10 23.6**	**+0.2**
JTMT	**Jette**	**4.59**	**331**		**Pn**	**20 10 25.9**	**+1.1**
BMO	**Blue Mountains**	**4.66**	**286**		**Pn**	**20 10 26.9**	**+1.2**
SRU	**San Rafael Swe**	**4.67**	**176**		**Pn**	**20 10 26.3**	**+0.4**
N23A	**Red Feather La**	**4.71**	**126**	Sb	**Sb**	**20 11 39.2**	**+4.1**
	baz=310						
PHWY	**Pilot Hill**	**4.77**	**119**		**Pn**	**20 10 27.1**	**-0.3**
Q16A	**Castle Valley**	**4.86**	**182**		**Pn**	**20 10 27.1**	**-1.4**
F10A	**Beach Ranch, E**	**4.95**	**299**		**Pn**	**20 10 31.3**	**+1.6**
RSSD	**Black Hills**	**5.03**	**84**	Pb	**Pb**	**20 10 43.7**	**+0.7**
	baz=268						
RSSD	**Black Hills**	**5.03**	**84**	Pn	**Pn**	**20 10 31.6**	**+0.8**
MSU	**Marysvale**	**5.33**	**190**		**Pn**	**20 10 35.5**	**+0.4**
PV21	**Cone Mtn., Par**	**5.42**	**163**		**Pn**	**20 10 35.8**	**-0.6**
J08A	**Circle Bar Ran**	**5.46**	**268**	Pn	**Pn**	**20 10 39.3**	**+2.6**
PV22	**Blue Mesa, Par**	**5.49**	**162**		**Pn**	**20 10 36.3**	**-0.9**
PV23	**Carpenter Ridg**	**5.52**	**164**		**Pn**	**20 10 36.9**	**-0.8**
PV14	**Lion Creek, Pa**	**5.60**	**164**		**Pn**	**20 10 38.0**	**-0.7**
PV04	**Paradox Valley**	**5.60**	**163**		**Pn**	**20 10 37.5**	**-1.2**
PV07	**Paradox Valley**	**5.62**	**161**		**Pn**	**20 10 38.3**	**-0.6**
PV20	**West Nyswonger**	**5.64**	**164**		**Pn**	**20 10 39.0**	**-0.2**
ISCO	**Idaho Springs**	**5.65**	**133**	Pb	**Pb**	**20 10 56.6**	**+3.0**
	baz=317						
ISCO				Sb	**Sb**	**20 12 06.5**	**+4.6**
	baz=317						
PV19	**Morning Glory**	**5.67**	**164**	Pn	**Pn**	**20 10 37.6**	**-2.0**
PSUT	**Pine Spring**	**5.67**	**203**		**Pn**	**20 10 40.7**	**+1.1**
E09A	**Wood Farm, Sta**	**5.76**	**301**	Pn	**Pn**	**20 10 42.7**	**+2.1**
MTPU	**Mount Pierson**	**5.80**	**189**		**Pn**	**20 10 42.8**	**+1.2**
G08A	**Pilot Rock**	**5.90**	**288**		**Pn**	**20 10 44.8**	**+2.0**
PV01	**Paradox Valley**	**5.92**	**161**		**Pn**	**20 10 42.6**	**-0.6**
I07A	**Izee**	**6.16**	**276**	Pn	**Pn**	**20 10 48.9**	**+2.5**
NEW	**Newport**	**6.20**	**319**	P	**Pn**	**20 10 48.4**	**+1.6**
	baz=134,SNR=15						
NEW				Sb	**Sb**	**20 12 25.0**	**+7.5**
	baz=134						
NEW	**Newport**	**6.20**	**319**	Pn	**Pn**	**20 10 48.4**	**+1.6**
E08A	**Dider Farm, El**	**6.33**	**298**		**Pn**	**20 10 49.3**	**+0.9**
R11A	**Troy Canyon, C**	**6.44**	**214**	Pn	**Pn**	**20 10 51.4**	**+1.2**
D08A	**Wollman Farm,**	**6.48**	**303**		**Pn**	**20 10 52.0**	**+1.5**
C09A	**Chrisman Ranch**	**6.49**	**311**	Pn	**Pn**	**20 10 52.0**	**+1.2**
HAWA	**Hanford**	**6.59**	**296**		**Pn**	**20 10 54.0**	**+1.9**
DGMT	**Dagmar**	**6.65**	**43**	Sb	**Sb**	**20 12 34.6**	**+4.1**
	baz=227						
DGMT	**Dagmar**	**6.65**	**43**	Pn	**Pn**	**20 10 53.1**	**+0.1**
MVCO	**Mesa Verde**	**6.83**	**163**	P	**Pn**	**20 10 57.6**	**+2.1**
	baz=345						
MVCO	**Mesa Verde**	**6.83**	**163**		**Pn**	**20 10 54.9**	**-0.7**
KNB	**Kanab**	**6.90**	**192**	Pn	**Pn**	**20 10 56.8**	**+0.3**
OGNE	**Ogallala**	**7.21**	**110**	P	**Pn**	**20 11 00.7**	**0.0**
	baz=296						
OGNE	**Ogallala**	**7.21**	**110**	Pn	**Pn**	**20 10 59.8**	**-0.8**
SDCO	**Great Sand Dun**	**7.32**	**144**	Pn	**Pn**	**20 11 02.1**	**-0.3**
B08A	**Colville Reser**	**7.40**	**311**	Pn	**Pn**	**20 11 04.6**	**+1.4**
U15A	**North Rim**	**7.41**	**188**		**Pn**	**20 11 04.4**	**+0.8**
LTY	**Liberty**	**7.64**	**300**		**Pn**	**20 11 07.8**	**+1.2**
NVAR	**Mina Array Bea**	**7.68**	**228**	Pn	**Pn**	**20 11 11.0**	**+3.6**
	0.2nm,0.3s,baz=56,slow=9.9,SNR=3.6						
NVAR				Pg	**Pb**	**20 11 26.2**	**-2.0**
	0.6nm,0.3s,baz=40,slow=14,SNR=5.9						
NVAR				Lg	Lg	20 13 17.5	
	0.5nm,0.3s,baz=48,slow=39,SNR=3.0						
E28A	**Huff**	**7.79**	**65**	Pn	**Pn**	**20 11 08.9**	**+0.3**
TPNV	**Topopah Spring**	**7.91**	**212**	Pn	**Pn**	**20 11 11.0**	**+0.6**
PNTR	**Pine Nut**	**7.99**	**237**	Pn	**Pn**	**20 11 12.9**	**+1.4**
H04A	**Detroit Lake**	**8.10**	**280**		**Pn**	**20 11 13.9**	**+1.1**
LON	**Longmire**	**8.20**	**295**	Pn	**Pn**	**20 11 15.6**	**+1.4**
WUAZ	**Wupatki**	**8.25**	**182**		**Pn**	**20 11 15.7**	**+0.6**
ANMO	**Albuquerque**	**9.49**	**157**	Pn	**Pn**	**20 11 30.9**	**-1.1**
	0.0nm,0.3s,baz=246,slow=14,SNR=6.4						
ANMO				Lg	Lg	20 14 09.3	
	0.0nm,0.3s,baz=60,slow=20,SNR=2.3						
ECSD	**EROS Data Cent**	**10.40**	**85**		**Pn**	**20 11 43.6**	**-0.7**
ULM	**Lac du Bonnet**	**12.16**	**53**	Pn	**Pn**	**20 12 07.8**	**-0.6**
	0.4nm,0.3s,baz=239,slow=11,SNR=2.0						
ULM				LR	LR	20 16 39.9	
	comp=Z,52nm,18.9s,baz=14,slow=37						
F36A	**Milaca**	**12.57**	**74**		**Pn**	**20 12 11.4**	**-2.7**
SPMN	**Marine on St.**	**13.06**	**77**	Pn	**Pn**	**20 12 19.2**	**-1.5**
EYMN	**Ely**	**14.20**	**66**	Pn	**Pn**	**20 12 32.5**	**-3.7**
U38A	**Gravette**	**14.65**	**114**	Pn	**Pn**	**20 12 43.1**	**+0.7**
TXAR	**Lajitas Array**	**15.55**	**156**	Pn	**P**	**20 12 57.0**	**-2.2**
	0.0nm,0.3s,baz=340,slow=9.7,SNR=5.5						
TXAR	**Lajitas Array**	**15.55**	**156**	Pn	**Pn**	**20 12 55.1**	**+0.4**
COWI	**Conover**	**15.64**	**74**	Pn	**Pn**	**20 12 54.9**	**-0.7**
COWI				IAmb	IAmb	20 12 55.1	
	comp=Z,4.4nm,0.8s						
I42A	**Draeger Farm,**	**15.92**	**82**	Pn	**Pn**	**20 12 59.5**	**+0.2**
I42A				IAmb	IAmb	20 13 18.1	
	comp=Z,10nm,1.0s						
FCAR	**Ozark Folk Cen**	**16.46**	**112**	Pn	**Pn**	**20 13 06.2**	**-0.1**
T42A	**Van Buren**	**16.56**	**107**	P	**P**	**20 13 08.6**	**-1.6**
T42A				IAmb	IAmb	20 13 14.6	
	comp=Z,9.2nm,0.7s						
FVM	**French Village**	**16.57**	**103**	P	**P**	**20 13 08.7**	**-1.6**
WHAR	**Wooly Hollow**	**16.70**	**114**	Pn	**Pn**	**20 13 08.4**	**-0.9**
CLTN	**Cedars of Leba**	**20.35**	**104**	P	**P**	**20 13 50.0**	**-1.8**
CLTN				IAmb	IAmb	20 13 59.3	
	comp=Z,4.6nm,0.9s						
146A	**Union**	**20.44**	**116**	P	**P**	**20 13 50.5**	**-2.4**
TKL	**Tuckaleechee C**	**22.37**	**102**	P	**P**	**20 14 13.6**	**0.0**
	comp=Z,2.2nm,0.7s,baz=232,slow=4.5,SNR=4.7						
TKL				LR	LR	20 21 52.9	
	comp=Z,49nm,18.1s,baz=294,slow=34						
SADO	**Sadowa**	**22.75**	**76**	LR	LR	20 23 17.9	
	comp=Z,58nm,20.8s,baz=285,slow=37						
ILAR	**Eielson Array**	**29.03**	**329**	P	**P**	**20 15 16.7**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=120,slow=7.9,SNR=6.6						
SONM	**Songino Array**	**83.01**	**336**	P	**P**	**20 21 41.6**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=28,slow=3.4,SNR=2.9						
MKAR	**Makanchi Array**	**89.05**	**351**	P	**P**	**20 22 09.9**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=12,slow=4.3,SNR=4.5						
WRA	**Warramunga Arr**	**121.22**	**272**	PKP	**PKiKP**	**20 28 08.1**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=62,slow=1.6,SNR=4.6						

DJA ***30*** *20:34:11.8±0.5, 8˚.S±15˚×12˚.1E±˚, h150km±21km, M3.9/8, mb3.9/1, MLv3.9/8*

IDC ***30*** *20:34:13.4±1.9, 8˚.42S×120˚.95E, h198km±14km, mb3.2/3, mb1 3.3/7, mb1mx3.0/43, mbtmp3.7/7, Error ellipse: s-maj=51.4km s-min=12.5km az=57.0*

ISC 30 20:34:11.4±0.9, **8˚.57S**±0˚.08×**120˚.69E**±0˚.04, **h183**km±7km, **n16,** σ1**s34**/29, **Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.16**	**199**	P	**Pn**	**20 34 40.9**	**+0.3**
WSI				S	**Sn**	**20 35 03.3**	**-0.1**
MMRI	**Maumere**	**1.53**	**92**	P	**Pn**	**20 34 43.9**	**-0.1**
MMRI				S	**Sn**	**20 35 07.8**	**-1.3**
BASI	**Baing, Sumba**	**1.64**	**184**	P	**Pn**	**20 34 45.3**	**+0.3**
BASI				S	**Sn**	**20 35 12.3**	**+1.1**
WBSI	**Waikabubak, Su**	**1.66**	**230**	P	**Pn**	**20 34 45.1**	**-0.2**
WBSI				S	**Sn**	**20 35 09.6**	**-2.0**
PLAI	**Plampang**	**2.89**	**265**	P	**Pn**	**20 34 59.2**	**+0.3**
PLAI				S	**Sn**	**20 35 35.3**	**-0.6**
BATI	**Baumata**	**3.35**	**119**	P	**Pn**	**20 35 05.5**	**+0.9**
	8.2nm,0.3s,baz=306,slow=4.4,SNR=12						
BATI				S	**Sn**	**20 35 46.7**	**+0.5**
	17nm,0.3s,baz=228,slow=1.7,SNR=7.0						
BATI	**Baumata**	**3.35**	**119**	P	**Pn**	**20 35 05.8**	**+1.2**
BATI				S	**Sn**	**20 35 46.4**	**+0.2**
SOEI	**Soe**	**3.73**	**109**	P	**Pn**	**20 35 09.7**	**+0.4**
SOEI				S	**Sn**	**20 35 53.6**	**-0.9**
TWSI	**Taliwang, Sumb**	**3.77**	**267**	P	**Pn**	**20 35 10.3**	**+0.6**
TWSI				S	**Sn**	**20 35 55.9**	**+0.6**
JAGI	**Jajag, Banyuwa**	**6.46**	**270**	P	**Pn**	**20 35 44.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**10.62**	**154**	P	**Pn**	**20 36 40.8**	**+1.7**
	0.2nm,0.3s,baz=336,slow=12,SNR=10						
FITZ				S	**Sn**	**20 38 35.5**	**-1.8**
	0.5nm,0.3s,baz=197,slow=4.3,SNR=4.7						
WRA	**Warramunga Arr**	**17.39**	**132**	P	**P**	**20 38 02.3**	**+0.5**
	0.3nm,0.3s,baz=310,slow=12,SNR=30						
WRA				S	**S**	**20 41 09.1**	**-4.2**
	0.2nm,0.3s,baz=2.7,slow=6.9,SNR=7.7						
ASAR	**Alice Springs**	**19.63**	**141**	P	**P**	**20 38 27.6**	**+1.4**
	0.5nm,0.3s,baz=326,slow=12,SNR=44						
ASAR				S	**S**	**20 41 57.7**	**-0.2**
	0.0nm,0.3s,baz=326,slow=23,SNR=2.6						
ASAR				ScP	**ScP**	**20 45 55.0**	**-1.8**
	0.0nm,0.3s,baz=329,slow=1.9,SNR=6.1						
STKA	**Stephens Creek**	**30.25**	**143**	P	**P**	**20 40 06.5**	**+1.3**
	1.3nm,0.3s,baz=330,slow=7.5,SNR=11						
SONM	**Songino Array**	**57.57**	**349**	P	**P**	**20 43 42.8**	**+0.8**
	0.2nm,0.5s,baz=149,slow=5.9,SNR=2.8						
MKAR	**Makanchi Array**	**64.85**	**332**	P	**P**	**20 44 29.8**	**-1.1**
	0.3nm,0.5s,baz=144,slow=7.3,SNR=5.5						

MOS ***30*** *20:42:28.8±1.0, 37˚.71N×142˚.38E, h18km, mb4.6/16, Error ellipse: s-maj=9.0km s-min=5.6km az=85.0*

IDC ***30*** *20:42:28.3±0.6, 37˚.63N×142˚.27E, h0km, mb4.0/17, mb1 4.1/23, mb1mx4.0/45, mbtmp4.1/23, ML4.5/3, MS3.1/4, Ms1 3.1/4, ms1mx2.6/45, Error ellipse: s-maj=16.7km s-min=12.8km az=111.0*

NEIC ***30*** *20:42:29.4±1.5, 37˚.64N±0˚.06×142˚.3E±0˚.1, h10km±1km, mb4.5/37, Error ellipse: s-maj=14.2km s-min=9.8km az=113.0*

JMA ***30*** *20:42:32.4±0.1, 37˚.71N×142˚.11E, h34km±2km, M4.1*

JMA Felt I J1.

NIED ***30*** *20:42:32.4, 37˚.71N×142˚.11E, h34km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.06; Mθθ=0.19; Mφφ0.25; Mrθ0.83; Mθφ-0.09; Mφr-1.20; Fault plane solution: M₀1.47000×10¹⁵ NP1:*

φs325.00000°, δ88.00000°, λ-97.00000°. NP2: φs215.00000°, δ7.00000°, λ-20.00000°

ISC 30 20:42:28.9±1.7, **37˚.68N**±0˚.04×**142˚.32E**±0˚.04, **h7**km±10km, **n151,** σ1**s73**/161, **mb4.4**/45, **1C-1D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.93**	**313**	P	**Pg**	**20 42 47.2**	**+0.5**
JIKH				S	**Sg**	**20 42 57.3**	**-1.4**
JIO	**Ouri**	**1.09**	**315**	P	**Pb**	**20 42 49.8**	**-0.3**
JIO				*e*S	**Sb**	**20 43 01.8**	**-2.7**
JMST	**Minamisoumatoc**	**1.14**	**273**	P	**Pb**	**20 42 49.8**	**-1.1**
JMST				*e*S	**Sb**	**20 43 01.7**	**-4.2**
JFK	**Kawauchi**	**1.19**	**255**	P	**Pb**	**20 42 50.8**	**-1.0**
JFK				S	**Sb**	**20 43 04.0**	**-3.4**
JMM	**Marumori**	**1.23**	**279**	P	**Pn**	**20 42 51.2**	**-1.2**
JMM				S	**Sb**	**20 43 04.9**	**-3.5**
JOU	**Okura**	**1.48**	**298**	P	**Pn**	**20 42 55.6**	**-0.3**
JOU				*e*S	**Sn**	**20 43 12.6**	**-2.9**
JMK	**Ichinoseki**	**1.54**	**326**	P	**Pn**	**20 42 56.5**	**-0.2**
JMK				*e*S	**Sn**	**20 43 14.4**	**-2.5**
JFT	**Otama**	**1.59**	**265**	P	**Pn**	**20 42 57.3**	**-0.1**
JFT				*e*S	**Sn**	**20 43 15.4**	**-2.7**
JYS	**Shirataka**	**1.87**	**288**	P	**Pn**	**20 43 01.2**	**0.0**
JYS				*e*S	**Sn**	**20 43 21.8**	**-3.2**
JOM	**Ohasama**	**1.97**	**336**	P	**Pn**	**20 43 02.9**	**+0.3**
JYK	**Kaneyama**	**1.98**	**309**	P	**Pn**	**20 43 03.1**	**+0.3**
JYK				*e*S	**Sn**	**20 43 25.3**	**-2.5**
JFY	**Yanaizu**	**2.10**	**263**	P	**Pn**	**20 43 04.7**	**+0.3**
JFY				*e*S	**Sn**	**20 43 27.6**	**-3.2**
JRG	**Rokugo**	**2.17**	**323**	P	**Pn**	**20 43 06.2**	**+0.9**
JYA	**Atsumi**	**2.25**	**295**	P	**Pn**	**20 43 06.7**	**+0.2**
MJAR	**Matsushiro Arr**	**3.48**	**252**	Pn	**Pn**	**20 43 24.6**	**+1.2**
	1.5nm,0.3s,baz=64,slow=14,SNR=107						
MJAR				Sn	**Sn**	**20 44 05.8**	**+1.0**
	2.1nm,0.3s,baz=316,slow=26,SNR=6.2						
MJAR	**Matsushiro Arr**	**3.48**	**252**		**Pn**	**20 43 24.5**	**+1.1**
MAJO	**Matsushiro**	**3.48**	**252**	P	**Pn**	**20 43 24.2**	**+0.8**
MAJO	**Matsushiro**	**3.48**	**252**		**Pn**	**20 43 24.1**	**+0.8**
MAT	**Matsushiro**	**3.48**	**252**	P	**Pn**	**20 43 24.7**	**+1.3**
MAT				S	**Sn**	**20 44 07.5**	**+2.7**
ERM	**Erimo**	**4.38**	**8**	P	**Pn**	**20 43 36.2**	**+0.5**
ERM	**Erimo**	**4.38**	**8**	Pn	**Pn**	**20 43 36.2**	**+0.5**
JHJ2	**Mitsune**	**5.00**	**205**	Pn	**Pn**	**20 43 44.4**	**+0.2**
JHJ	**Hachijo jima 2**	**5.00**	**205**	Pn	**Pn**	**20 43 44.7**	**+0.5**
	64nm,0.3s,baz=359,slow=19,SNR=12						
JHJ				Sn	**Sn**	**20 44 39.8**	**-2.4**
	35nm,0.3s,baz=73,slow=20,SNR=1.5						
JHJ				LR	LR	20 45 47.9	
	comp=Z,201nm,20.2s,baz=64,slow=40						
NMR	**Nemuro--Hokkai**	**6.25**	**23**	P	**Pn**	**20 44 00.2**	**-1.2**
NMR				*e*S	**Sn**	**20 45 05.9**	**-7.1**
ASAJ	**Asahikawa**	**6.43**	**2**	Pn	**Pn**	**20 44 05.2**	**+1.2**
	8.0nm,0.3s,baz=216,slow=11,SNR=37						
ASAJ				Sn	**Sn**	**20 45 16.8**	**-0.9**
	3.0nm,0.3s,baz=127,slow=20,SNR=1.6						
JKA	**Kamikawa-asahi**	**6.43**	**2**	Pn	**Pn**	**20 44 04.9**	**+0

XAN pmax pmax
comp=Z,21nm,0.6s
XAN LR LR
comp=N,100nm,13.9s
XAN LR LR
comp=E,68nm,12.8s
XAN LR LR
comp=Z,110nm,17.1s
XAN Xi'an 27.23 273 P **P** **20 48 14.1 +0.6**
XAN pmax pmax
comp=Z,13nm,0.6s
XAN Xi'an 27.23 273 P **P** **20 48 14.1 +0.6**
ULN Ulaanbaatar 27.60 303 P **P** **20 48 17.2 +0.4**
ULN pmax pmax
comp=Z,2.0nm,0.7s
ULN Ulaanbaatar 27.60 303 P **P** **20 48 17.2 +0.4**
H11N2 WAKE ISLAND Hy 27.87 123 T T 21 17 36.8
baz=315,SNR=1115
H11N1 WAKE ISLAND Hy 27.88 123 T T 21 17 43.3
baz=315
H11N3 WAKE ISLAND Hy 27.89 123 T T 21 17 43.1
baz=315
SONM Songino Array 28.04 303 P **P** **20 48 21.1 +0.3**
comp=Z,4.0nm,0.7s,baz=101,slow=8.7,SNR=32
SONM Songino Array 28.04 303 P **P** **20 48 21.0 +0.3**
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 28.04 303 P **P** **20 48 21.0 +0.3**
ENH Enshi 28.11 265 P **P** **20 48 20.7 -0.7**
H11S1 WAKE ISLAND Hy 28.62 125 T T 21 18 33.1
baz=317
H11S3 WAKE ISLAND Hy 28.62 125 T T 21 18 37.3
baz=317,slow=74
H11S2 WAKE ISLAND Hy 28.63 125 T T 21 18 34.0
baz=317,slow=74
GYA Guiyang 32.05 260 *e*P **P** **20 48 57.5 +1.2**
GYA pP sP 20 49 01.5 +2.3
GYA pmax pmax
comp=Z,5.0nm,0.7s
CD2 Chengdu 32.40 270 P **P** **20 48 58.5 -0.8**
CD2 pmax pmax
comp=Z,20nm,0.7s
WMQ Urumqi 41.20 296 *e*P **P** **20 50 15.5 +1.4**
WMQ pmax pmax
comp=Z,7.0nm,0.6s
WMQ pmax pmax
comp=Z,58nm,4.1s
WMQ LR LR
comp=N,120nm,29.3s
WMQ LR LR
comp=E,390nm,29.0s
WMQ LR LR
comp=Z,46nm,29.2s
WMQ Urumqi 41.20 296 P **P** **20 50 15.3 +1.2**
WMQ pmax pmax
comp=Z,12nm,0.4s
WMQ Urumqi 41.20 296 **P** **20 50 15.3 +1.2**
ZALV Zalesovo Beam 42.02 312 P **P** **20 50 20.8 +0.2**
comp=Z,1.1nm,0.4s,baz=87,slow=7.8,SNR=6.7
ZALV Zalesovo Beam 42.02 312 P **P** **20 50 20.6 0.0**
CMAR Chiang Mai Arr 42.36 255 P **P** **20 50 24.4 +0.6**
comp=Z,0.4nm,0.5s,baz=60,slow=7.7,SNR=1.9
CMAR Chiang Mai Arr 42.36 255 P **P** **20 50 24.5 +0.7**
SHL Shillong 44.14 269 P **P** **20 50 38.4 +0.1**
SHL pmax pmax
comp=Z,5.0nm,0.5s
SHL Shillong 44.14 269 P **P** **20 50 38.4 +0.1**
SHL IAmb IAmb 20 50 47.2
comp=Z,5.2nm,0.5s
MK31 Makanchi Array 44.40 302 P **P** **20 50 39.9 0.0**
MK31 pmax pmax
comp=Z,1.0nm,0.8s
MK31 Makanchi Array 44.40 302 P **P** **20 50 39.9 0.0**
MKAR Makanchi Array 44.40 302 P **P** **20 50 40.0 0.0**
comp=Z,1.6nm,0.7s,baz=81,slow=8.7,SNR=18
MKAR Makanchi Array 44.40 302 P **P** **20 50 39.6 -0.3**
MKAR Makanchi Array 44.40 302 P **P** **20 50 39.6 -0.3**
SVW2 Sparrevohn 44.57 38 P **P** **20 50 41.7 +0.6**
SVW2 IAmb IAmb 20 50 43.0
comp=Z,9.6nm,1.4s
MAKZ Makanchi 44.60 302 P **P** **20 50 41.8 +0.2**
MAKZ pmax pmax
comp=Z,2.0nm,0.9s
MAKZ Makanchi 44.60 302 P **P** **20 50 41.8 +0.2**
SII Sitkinak Islan 45.34 44 P **P** **20 50 47.0 -0.3**
KURK Kurchatov 46.11 308 P **P** **20 50 53.1 -0.3**
KURK pmax pmax
comp=Z,5.0nm,0.7s
KURK Kurchatov 46.11 308 P **P** **20 50 53.1 -0.3**
KURK IAmb IAmb 20 51 00.2
comp=Z,4.9nm,0.7s
KDAK Kodiak Island 46.13 42 P **P** **20 50 54.0 +0.5**
comp=Z,3.2nm,0.6s,baz=310,slow=5.7,SNR=9.1
KDAK Kodiak Island 46.13 42 P **P** **20 50 53.7 +0.2**
KDAK pmax pmax
comp=Z,18nm,1.0s
KDAK Kodiak Island 46.13 42 P **P** **20 50 53.7 +0.2**
KURBB Kurchatov Arra 46.18 308 P **P** **20 50 53.9 -0.1**
comp=Z,2.2nm,0.4s,baz=82,slow=8.1,SNR=17
BPAW Bear Paw Mtn. 46.79 34 P **P** **20 50 58.9 +0.3**
PRZ Przheval'sk 48.12 297 P **P** **20 51 09.7 +0.2**
PRZ pmax pmax
comp=Z,4.0nm,0.8s
PRZ Przheval'sk 48.12 297 P **P** **20 51 09.7 +0.2**
PRZ IAmb IAmb 20 51 11.1
comp=Z,4.0nm,0.8s
SCM Sheep Creek Mo 48.52 37 P **P** **20 51 12.4 +0.2**
SCM pmax pmax
comp=Z,12nm,1.3s
SCM Sheep Creek Mo 48.52 37 P **P** **20 51 12.4 +0.2**
SCM IAmb IAmb 20 51 22.9
comp=Z,12nm,1.3s
IL31 48.56 33 P **P** **20 51 12.1 -0.2**
IL31 IAmb IAmb 20 51 14.1
comp=Z,1.7nm,0.8s
ILAR Eielson Array 48.56 33 P **P** **20 51 13.4 +1.0**
comp=Z,1.0nm,0.7s,baz=272,slow=6.6,SNR=13
ILAR Eielson Array 48.56 33 P **P** **20 51 13.1 +0.8**
BCAR Beaver Creek A 50.95 35 P **P** **20 51 31.8 +1.2**
KK31 Karatay Array 53.43 300 P **P** **20 51 49.0 -0.3**
KK31 pmax pmax
comp=Z,2.0nm,1.1s
KK31 Karatay Array 53.43 300 P **P** **20 51 49.0 -0.3**
KKAR Karatay Array 53.43 300 P **P** **20 51 49.0 -0.3**
KKAR Karatay Array 53.43 300 P **P** **20 51 49.0 -0.3**
GSI Gunungsitoli 54.75 240 P **P** **20 51 59.8 +0.6**
GSI IAmb IAmb 20 52 06.7
comp=Z,5.4nm,0.8s
GAR Garm 55.08 295 P **P** **20 52 01.9 +0.3**
GAR IAmb IAmb 20 52 12.6
comp=Z,4.4nm,0.6s
CHGR Chuyangaron 56.05 295 P **P** **20 52 08.4 0.0**
ARU Arti 56.36 318 P **P** **20 52 10.5 +0.2**
ARU pmax pmax
comp=Z,4.0nm,1.0s
ARU Arti 56.36 318 P **P** **20 52 10.5 +0.2**
ARU IAmb IAmb 20 52 18.3
comp=Z,3.7nm,1.0s
WB0 Warramunga Arr 57.62 189 P **P** **20 52 19.2 -0.3**
FITZ Fitzroy Crossi 57.66 199 P **P** **20 52 20.3 +0.5**
FITZ IAmb IAmb 20 52 34.0
comp=Z,5.7nm,1.4s
WB2 Warramunga Arr 57.80 189 P **P** **20 52 20.6 -0.2**
WB2 IAmb IAmb 20 52 21.6
comp=Z,3.7nm,0.6s
WRA Warramunga Arr 57.80 189 P **P** **20 52 20.9 0.0**
comp=Z,3.5nm,0.5s,baz=5.7,slow=7.3,SNR=123
WRA Warramunga Arr 57.80 189 P **P** **20 52 20.0 -0.8**
WRA Warramunga Arr 57.80 189 P **P** **20 52 20.0 -0.8**
ABKAR Akbulak array 58.08 310 P **P** **20 52 22.2 -0.4**
AS31 Alice Springs 61.53 189 P **P** **20 52 46.6 +0.1**
ASAR Alice Springs 61.53 189 P **P** **20 52 46.9 +0.4**
comp=Z,1.3nm,0.7s,baz=14,slow=7.1,SNR=23
ASAR Alice Springs 61.53 189 P **P** **20 52 46.7 +0.2**
ARCES ARCESS Array B 63.65 339 P **P** **20 53 01.9 +1.8**
comp=Z,1.2nm,0.9s,baz=15,slow=5.0,SNR=1.8
ARCES ARCESS Array B 63.65 339 P **P** **20 53 02.0 +1.8**
FIA1 FINESS Array S 68.58 332 P **P** **20 53 33.1 +1.2**
FIA1 IAmb IAmb 20 53 34.1
comp=Z,6.2nm,0.9s
FINES FINESS Array B 68.58 332 P **P** **20 53 32.2 +0.4**
comp=Z,1.6nm,0.6s,baz=51,slow=10.0,SNR=7.7
FINES FINESS Array B 68.58 332 P **P** **20 53 33.2 +1.3**
FINES FINESS Array B 68.58 332 P **P** **20 53 33.2 +1.3**
STKA Stephens Creek 69.20 181 P **P** **20 53 36.1 +0.1**
STKA pmax pmax
comp=Z,1.0nm,1.4s
STKA Stephens Creek 69.20 181 P **P** **20 53 36.0 +0.1**
NB201 NORSAR Array S 73.84 338 P **P** **20 54 05.2 +1.4**
NB2 NORSAR Subarra 73.87 338 P **P** **20 54 04.0 0.0**
comp=Z,2.7nm,1.1s,baz=40,slow=6.2
NOA NORSAR Array B 73.87 338 P **P** **20 54 04.5 +0.5**
comp=Z,0.5nm,0.6s,baz=39,slow=5.8,SNR=3.7
AKASG Malin Array Be 74.23 323 P **P** **20 54 06.3 +0.1**
comp=Z,0.4nm,0.3s,baz=46,slow=5.7,SNR=2.1
PDAR Pinedale Array 76.70 46 P **P** **20 54 21.8 +1.0**
comp=Z,0.7nm,0.6s,baz=321,slow=1.3,SNR=3.5
CLL Collm 80.90 331 *e*P **P** **20 54 45.0 +1.6**
CLL Collm 80.90 331 *e*P **P** **20 54 45.0 +1.6**
GERES GERESS Array B 82.54 329 P **P** **20 54 52.6 +0.3**
comp=Z,0.2nm,0.5s,baz=31,slow=5.9,SNR=2.7
GERES GERESS Array B 82.54 329 P **P** **20 54 52.3 0.0**
FUORN Ofenpass-Fuorn 85.72 329 P **P** **20 55 09.2 +0.5**
FUORN IAmb IAmb 20 55 21.6
comp=Z,2.3nm,0.9s
TX31 Lajitas Ar. Si 89.15 53 P **P** **20 55 25.9 +0.5**
TX31 IAmb IAmb 20 55 28.1
comp=Z,4.4nm,1.4s
TXAR Lajitas Array 89.15 53 P **P** **20 55 26.8 +1.3**
comp=Z,0.4nm,0.5s,baz=313,slow=3.1,SNR=8.6
TXAR Lajitas Array 89.15 53 P **P** **20 55 26.5 +1.1**
LPAZ La Paz 145.74 60 PKPbc **PKPab** **21 02 10.2 +0.2**
comp=Z,0.9nm,0.5s,baz=12,slow=4.4,SNR=6.3
H03N2 Juan Fernandez 146.37 95 T T 23 45 58.3
baz=294,slow=76,SNR=12
H03N3 Juan Fernandez 146.38 95 T T 23 45 59.2
baz=294,slow=76,SNR=16
H03N1 Juan Fernandez 146.38 95 T T 23 45 59.0
baz=294,slow=76,SNR=14

MOS ***30*** *20:44:27.2±1.0,37.°11N×141.°23E,h50km,mb4.8/14,Error ellipse: s-maj=7.9km s-min=5.3km az=99.9*
NIED ***30*** *20:44:28.8,37.°07N×141.°19E,h50km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.63; Mθθ-0.36; Mφφ-1.26; Mrθ0.67; Mθφ-0.45; Mφr1.53; Fault plane solution: M₀2.27000×10¹⁵ NP1:φ₁23.00000°, δ69.00000°,λ.90.00000°. NP2:φ₂202.00000°,δ21.00000°, λ.89.00000°.*
JMA ***30*** *20:44:28.8±0.1,37.°07N×141.°19E,h50km±1km,M4.2*
JMA Felt III J1.
NEIC ***30*** *20:44:29.4±1.1,37.°06N±0.°06×141.°15E±0.°09,h54km±6km, mb4.5/63,Error ellipse: s-maj=10.8km s-min=8.2km az=111.0*
IDC ***30*** *20:44:29.8±1.5,37.°06N×141.°17E,h56km±13km,mb3.9/23, mb1 4.0/30,mb1mx3.9/47,mbtmp4.2/30,MS3.1/5, Ms1 3.1/5,ms1mx2.7/42,Error ellipse: s-maj=12.3km s-min=9.2km az=110.0*
ISC 30 20:44:28.3±0.8,37.°04N±0.°04×141.°34E±0.°05,h51km±6km, n210,σ1ş47/225,mb4.5/66,6C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.44**	**279**	P		P	**Pn**	**20 44 38.0**	**-1.0**
ONAJ				S		S	**Sn**	**20 44 44.5**	**-2.1**
JFK	**Kawauchi**	**0.50**	**312**	P		P	**Pn**	**20 44 38.6**	**-1.0**
JFK				S		S	**Sn**	**20 44 45.4**	**-2.3**
JFFD	**Fukushimafurud**	**0.63**	**275**	P		P	**Pn**	**20 44 40.1**	**-1.0**
JFFD				S		S	**Sn**	**20 44 47.9**	**-2.5**
JHO	**Hitachi**	**0.75**	**236**	P		P	**Pn**	**20 44 41.7**	**-1.0**
JHO				S		S	**Sn**	**20 44 51.0**	**-2.2**
JFT	**Otama**	**0.94**	**301**	P		P	**Pn**	**20 44 44.9**	**-0.3**
JFT				S		S	**Sn**	**20 44 56.2**	**-1.4**
JMM	**Marumori**	**0.94**	**332**	P		P	**Pn**	**20 44 44.4**	**-0.8**
JMM				S		S	**Sn**	**20 44 55.6**	**-2.0**
JFY	**Yanaizu**	**1.36**	**286**	P		P	**Pn**	**20 44 50.1**	**-0.8**
JIO	**Ouri**	**1.42**	**0**	P		P	**Pn**	**20 44 51.4**	**-0.2**
JIO				S		S	**Sn**	**20 45 07.3**	**-1.8**
JOU	**Okura**	**1.43**	**338**	P		P	**Pn**	**20 44 51.5**	**-0.4**
JOU				S	*e*	S	**Sn**	**20 45 08.3**	**-1.3**
JYS	**Shirataka**	**1.56**	**320**	P		P	**Pn**	**20 44 53.4**	**-0.2**
JYS				S		S	**Sn**	**20 45 12.3**	**-0.3**
JAG	**Ashikaga**	**1.63**	**249**	P		P	**Pn**	**20 44 54.1**	**-0.5**
JAG				S		S	**Sn**	**20 45 13.1**	**-1.4**
MJAR	**Matsushiro Arr**	**2.56**	**260**	P		P	**Pn**	**20 45 07.6**	**+0.2**
	9.6nm,0.3s,baz=83,slow=15,SNR=17								
MJAR				S		S	**Sn**	**20 45 36.2**	**-1.1**
	8.6nm,0.3s,baz=150,slow=20,SNR=6.4								
MJAR	**Matsushiro Arr**	**2.56**	**260**				**Pn**	**20 45 07.0**	**-0.3**
MAJO	**Matsushiro**	**2.56**	**260**	*i* P			**Pn**	**20 45 07.8**	**+0.4**
MAJO	**Matsushiro**	**2.56**	**260**	P		n	**Pn**	**20 45 07.4**	**+0.1**
MAJO				S		n	**Sn**	**20 45 34.9**	**-2.5**
MAT	**Matsushiro**	**2.56**	**260**	P		P	**Pn**	**20 45 07.9**	**+0.5**
MAT				S		S	**Sn**	**20 45 38.2**	**+0.9**
JHJ2	**Mitsune**	**4.11**	**198**	P		n	**Pn**	**20 45 29.7**	**+1.1**
JHJ	**Hachijo jima 2**	**4.11**	**199**	P		P	**Pn**	**20 45 30.4**	**+1.8**
	105nm,0.3s,baz=63,slow=9.0,SNR=6.8								
JHJ				S		S	**Sn**	**20 46 15.3**	**-0.1**
	96nm,0.3s,baz=40,slow=21,SNR=6.1								
ERM	**Erimo**	**5.17**	**15**	P		P	**Pn**	**20 45 43.8**	**+0.8**
ERM	**Erimo**	**5.17**	**15**	P		n	**Pn**	**20 45 43.8**	**+0.8**
ASAJ	**Asahikawa**	**7.14**	**7**	P		P	**Pn**	**20 46 10.2**	**+0.2**
	7.3nm,0.3s,baz=205,slow=16,SNR=9.2								
ASAJ				S		S	**Sn**	**20 47 29.9**	**+0.3**
	1.5nm,0.3s,baz=146,slow=19,SNR=1.4								
JKA	**Kamikawa-asahi**	**7.14**	**7**	P		n	**Pn**	**20 46 10.1**	**0.0**
NMR	**Nemuro--Hokkai**	**7.16**	**27**	*e*P		P	**Pn**	**20 46 09.1**	**-1.2**
NMR				*e*S		S	**Sn**	**20 47 24.6**	**-5.6**
GLVR	**Golovnino**	**7.41**	**24**	P		P	**Pn**	**20 46 14.1**	**+0.3**
GLVR				*e*S		S	**Sn**	**20 47 32.6**	**-3.9**
YUK	**Yuzh-Kuril'sk**	**7.79**	**25**	*e*P		P	**Pn**	**20 46 19.2**	**+0.3**
YUK				*e*S		S	**Sn**	**20 47 40.4**	**-5.3**
YUK				pmax		pmax			
	comp=Z,127nm,0.4s								
YUK				pmax		pmax			
	comp=N,37nm,0.5s								
TEY	**Ternei**	**8.76**	**337**	*i*eP		Pn		20 46 26.9	-5.2
TEY				pmax		pmax			
	comp=Z,10.0nm,1.0s								
JNU	**Nakatsue**	**9.42**	**249**	P		P	**Pn**	**20 46 42.1**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=45,slow=8.6,SNR=2.0								
KUR	**Kuril'sk**	**9.55**	**29**	*e*P		P	**Pn**	**20 46 43.3**	**+0.3**
KUR				*e*S		S	**Sn**	**20 48 25.1**	**-3.7**
JCJ	**Chichijima**	**9.94**	**176**	P		P	**Pn**	**20 46 46.7**	**-1.7**
	comp=Z,6.2nm,0.3s,baz=264,slow=22,SNR=5.5								
JCJ				S		S	Sn	20 48 29.6	-9.0
	comp=Z,7.9nm,0.3s,baz=18,slow=20,SNR=3.7								
JCJ	**Chichijima**	**9.94**	**176**	P		n	**Pn**	**20 46 47.3**	**-1.1**
YSS	**Yuzh-Sakhalins**	**9.97**	**6**	*e*P		P	**Pn**	**20 46 48.8**	**+0.1**
YSS	**Yuzh-Sakhalins**	**9.97**	**6**	P		n	**Pn**	**20 46 48.7**	**+0.1**
USRK	**Ussuriysk Ar.**	**10.08**	**318**	P		P	**Pn**	**20 46 52.2**	**+1.9**
	baz=135,slow=12,SNR=21								
USRK				LR		LR		20 50 27.4	
	comp=Z,117nm,19.7s,baz=95,slow=36								
USA0B	**Ussuriysk Arra**	**10.08**	**318**	P		P	**Pn**	**20 46 52.0**	**+1.7**
USA0B	**Ussuriysk Arra**	**10.08**	**318**				**Pn**	**20 46 52.0**	**+1.7**
KSRS	**Korea Array**	**10.71**	**276**	P		P	**Pn**	**20 47 01.5**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=90,slow=14,SNR=13								
KSRS				LR		LR		20 50 27.8	
	comp=Z,134nm,20.4s,baz=74,slow=34								
KS19	**Wonju Array Si**	**10.75**	**277**	P		n	**Pn**	**20 47 01.0**	**+1.5**
MDJ	**Mudanjiang**	**11.68**	**314**	P		P	**Pn**	**20 47 11.0**	**-1.1**
MDJ				sP				20 47 30.3	
MDJ				S		S	**Sn**	**20 49 23.3**	**+2.4**
MDJ				ScP		**ScP**	**20 56 16.8**	**-10**	
MDJ				PcS		**PcS**	**20 56 26.0**	**-6.4**	
MDJ				pmax		pmax			
	comp=Z,2.0nm,1.9s								
MDJ				pmax		pmax			
	comp=Z,55nm,3.6s								
MDJ				LR		LR			
	comp=N,73nm,5.0s								
MDJ				LR		LR			
	comp=E,84nm,7.3s								
MDJ				LR		LR			
	comp=Z,180nm,17.2s								
MDJ	**Mudanjiang**	**11.68**	**314**	Pn		**Pn**	**20 47 13.9**	**+1.8**	
TYV	**Tymovskoe**	**13.86**	**3**	*e*P		**P**	**20 47 50.2**	**+1.6**	
TYV				pmax		pmax			
	comp=Z,9.0nm,1.1s								
TYV				MLR		MLR			
	comp=Z,400nm,15.0s								
KLR	**Kul'dur**	**14.04**	**333**	P		**Pn**	**20 47 44.5**	**+0.2**	
	comp=Z,0.2nm,0.3s,baz=164,slow=20,SNR=2.4								
KLR				LR		LR		20 53 03.2	
	comp=Z,86nm,18.5s,baz=130,slow=37								
KLR	**Kul'dur**	**14.04**	**333**	*i* P		**Pn**	**20 47 43.0**	**-1.3**	
KLR				pmax		pmax			
	comp=Z,3.0nm,0.6s								
NJ2	**Nanjing**	**19.17**	**262**	*e*P		**Pn**	**20 48 49.0**	**+0.2**	
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
ZEA	**Zeya**	**19.35**	**334**	*e*P		**P**	**20 48 47.8**	**-1.6**	
PEA0B	**Petropavlovsk-**	**19.71**	**30**	P		**Pn**	**20 48 56.7**	**+1.5**	
PEA0B				pmax		pmax			
	comp=Z,5.0nm,0.9s								
PEA0B	**Petropavlovsk-**	**19.71**	**30**	P		**Pn**	**20 48 56.7**	**+1.5**	
PETK	**Petropavlovsk-**	**19.71**	**30**	P		**Pn**	**20 48 55.7**	**+0.5**	
	comp=Z,0.1nm,0.3s,baz=224,slow=10.0,SNR=1.7								
BJI	**Beijing**	**19.89**	**286**	P		**P**	**20 48 54.3**	**-1.1**	
BJI				pmax		pmax			
	comp=Z,4.0nm,0.7s								
BJT	**Baijiatuan**	**19.90**	**286**	P		**P**	**20 48 54.0**	**-1.4**	
BJT				pmax		pmax			
	comp=Z,5.0nm,0.6s								
BJT	**Baijiatuan**	**19.90**	**286**	P		**P**	**20 48 54.0**	**-1.4**	
YHNB	**Yeheng**	**21.06**	**240**	P		**P**	**20 49 06.0**	**-2.2**	
NACB	**Ninganchiao**	**21.24**	**238**	P		**P**	**20 49 07.9**	**-2.1**	
WHN	**Wuhan**	**23.30**	**262**	P		**P**	**20 49 31.8**	**+0.1**	
MA2	**Magadan**	**23.36**	**12**	P		**P**	**20 49 33.1**	**+1.1**	
	comp=Z,7.3nm,0.7s,baz=196,slow=10,SNR=5.7								
MA2	**Magadan**	**23.36**	**12**	*ce*P		**P**	**20 49 33.3**	**+1.3**	
MA2				pmax		pmax			
	comp=Z,7.0nm,0.7s								
MA2	**Magadan**	**23.36**	**12**	P		**P**	**20 49 32.0**	**0.0**	
HHC	**Hu-ho-hao-te**	**23.42**	**289**	*e*P		**P**	**20 49 30.0**	**-2.8**	
HHC				pmax		pmax			
	comp=Z,17nm,0.9s								
HHC				pmax		pmax			
	comp=Z,56nm,4.2s								
HHC				LR		LR			
	comp=N,100nm,13.2s								
HHC				LR		LR			
	comp=E,100nm,10.8s								
HHC				LR		LR			
	comp=Z,76nm,13.1s								
GUMO	**Guam**		**23.56**	**171**	LR	LR		20 57 10.9	
	comp=Z,19nm,21.7s,baz=8.0,slow=32								
YAK	**Yakutsk**		**26.05**	**347**	P	**P**		**20 49 56.6**	**+0.1**
	comp=Z,5.9nm,0.4s,baz=194,slow=0.8,SNR=7.1								
YAK	**Yakutsk**		**26.05**	**347**	*e*P	**P**		**20 49 56.8**	**+0.3**
YAK				pmax		pmax			
	comp=Z,8.0nm,0.6s								
YAK	**Yakutsk**		**26.05**	**347**	P	**P**		**20 49 56.2**	**-0.3**
YAK				IAmb		IAmb		20 49 58.6	
	comp=Z,12nm,0.5s								
XAN	**Xi'an**		**26.48**	**273**	P	**P**		**20 50 01.0**	**+0.2**
XAN				pP		pP		20 50 08.0	-5.7
XAN				pmax		pmax			
	comp=Z,7.0nm,0.6s								
XAN	**Xi'an**		**26.48**	**273**	P	**P**		**20 50 00.0**	**-0.8**
XAN				pmax		pmax			
	comp=Z,5.0nm,0.5s								
XAN	**Xi'an**		**26.48**	**273**	P	**P**		**20 50 00.0**	**-0.8**
XAN				IAmb		IAmb		20 50 02.8	
	comp=Z,4.8nm,0.5s								
SEY	**Seymchan**		**26.80**	**11**	P	**P**		**20 50 03.8**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=190,slow=8.5,SNR=4.6								
SEY	**Seymchan**		**26.80**	**11**	*i* P	**P**		**20 50 04.8**	**+1.6**
ENH	**Enshi**		**27.27**	**265**	P	**P**		**20 50 06.9**	**-1.0**
ENH				IAmb		IAmb		20 50 09.7	
	comp=Z,8.6nm,1.0s								
ULN	**Ulaanbaatar**		**27.30**	**304**	*ce*P	**P**		**20 50 07.2**	**-1.0**
ULN				pmax		pmax			
	comp=Z,6.0nm,0.8s								
ULN	**Ulaanbaatar**		**27.30**	**304**	P	**P**		**20 50 06.7**	**-1.5**
ULN				IAmb		IAmb		20 50 12.0	
	comp=Z,4.9nm,0.7s								
HKPS	**Hong Kong Po S**		**27.71**	**246**	P	**P**		**20 50 12.9**	**+1.0**
HKPS				IAmb		IAmb		20 50 13.9	
	comp=Z,26nm,1.0s								
SONM	**Songino Array**		**27.74**	**304**	P	**P**		**20 50 11.3**	**-0.7**
	comp=Z,2.9nm,0.5s,baz=98,slow=8.7,SNR=14								
SONM				PcP		**PcP**		**20 53 28.8**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=126,slow=2.5,SNR=3.8								
SONM				LR		LR		21 01 14.4	
	comp=Z,42nm,19.9s,baz=84,slow=36								
SONM	**Songino Array**		**27.74**	**304**	P	**P**		**20 50 10.4**	**-1.6**
SONM				pmax		pmax			
	comp=Z,2.0nm,0.6s								
SONM	**Songino Array**		**27.74**	**304**	P	**P**		**20 50 10.4**	**-1.6**
H11N2	**WAKE ISLAND Hy**		**28.20**	**121**	T	T		21 20 28.5	
	baz=314,slow=75,SNR=6.6								
H11N1	**WAKE ISLAND Hy**		**28.21**	**121**	T	T		21 20 36.5	
	baz=314,slow=75,SNR=1176								
H11N3	**WAKE ISLAND Hy**		**28.22**	**121**	T	T		21 20 39.2	
	baz=314,slow=75,SNR=1091								
H11S1	**WAKE ISLAND Hy**		**28.91**	**123**	T	T		21 21 24.5	
	baz=316,slow=76,SNR=498								
H11S3	**WAKE ISLAND Hy**		**28.91**	**123**	T	T		21 21 28.0	
	baz=316,slow=76,SNR=6.2								
H11S2	**WAKE ISLAND Hy**		**28.93**	**123**	T	T		21 21 34.3	
	baz=316,slow=76,SNR=8.1								
TLY	**Talaya**		**30.29**	**311**	*i* P	**P**		**20 50 33.7**	**-0.7**
TLY				pmax		pmax			
	comp=Z,10.0nm,0.9s								
GTA	**Gaotai**		**32.51**	**287**	*e*P	**P**		**20 50 53.0**	**-1.3**
GTA				pP		pP		20 50 57.0	-10
GTA				sP		sP		20 51 00.3	-13
GTA				pmax		pmax			
	comp=Z,2.0nm,0.6s								
KMI	**Kunming**		**34.90**	**261**	⇓P	**P**		**20 51 14.5**	**-0.8**
KMI				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KMI	**Kunming**		**34.90**	**261**	P	**P**		**20 51 14.5**	**-0.8**
KMI				pmax		pmax			
	comp=Z,8.0nm,1.1s								
KMI	**Kunming**		**34.90**	**261**	P	**P**		**20 51 14.5**	**-0.8**
KMI				IAmb		IAmb		20 51 16.0	
	comp=Z,8.2nm,1.1s								
MYLDM	**Lahad Datu**		**37.98**	**219**	P	**P**		**20 51 42.2**	**+0.9**
DLV	**T Lat**		**38.63**	**238**	P	**P**		**20 51 47.5**	**+0.5**
DGZ	**Jazzator, Alta**		**40.34**	**306**	*i* P	**P**		**20 52 01.5**	**+0.6**
DGZ				pmax		pmax			
	comp=Z,18nm,0.7s								
WMQ	**Urumqi**		**40.79**	**297**	*e*P	**P**		**20 52 06.5**	**+1.9**
WMQ				pmax		pmax			
	comp=Z,6.0nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,15nm,3.8s								
WMQ				LR		LR			
	comp=N,57nm,28.9s								
WMQ				LR		LR			
	comp=E,210nm,29.2s								
WMQ				LR		LR			
	comp=Z,29nm,26.5s								
PBKT	**Sadao Pong**		**41.01**	**251**	P	**P**		**20 52 06.8**	**+0.2**
CMAR	**Chiang Mai Arr**		**41.44**	**255**	P	**P**		**20 52 10.1**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=48,slow=8.6,SNR=4.8								
ZAA0	**Zalesovo Array**		**41.87**	**312**	P	**P**		**20 52 13.1**	**-0.1**
ZAA0				IAmb		IAmb		20 52 14.3	
	comp=Z,9.0nm,0.7s								
ZALV	**Zalesovo Beam**		**41.87**	**312**	P	**P**		**20 52 13.1**	**-0.1**
	comp=Z,8.4nm,0.5s,baz=96,slow=7.2,SNR=26								
ZALV				PcP		**PcP**		**20 54 08.2**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=59,slow=2.2,SNR=4.4								
ZALV	**Zalesovo Beam**		**41.87**	**312**	*i* P	**P**		**20 52 13.6**	**+0.4**
ZALV				pmax		pmax			
	comp=Z,9.0nm,0.5s								
LSA	**Lhasa**		**42.15

KSM				IAmb	IAmb	20 52 46.0		
	comp=Z,4.1nm,0.7s							
SVW2	**Sparrevohn**	**45.55**	**37**	P	**P**	**20 52 44.5**	**+1.8**	
SVW2				IAmb	IAmb	20 52 46.6		
	comp=Z,5.0nm,1.0s							
KURK	**Kurchatov**	**45.88**	**308**	P	**P**	**20 52 45.3**	**-0.1**	
KURK				pmax	pmax			
	comp=Z,9.0nm,0.6s							
KURK	**Kurchatov**	**45.88**	**308**	P	**P**	**20 52 45.3**	**-0.1**	
KURBB	**Kurchatov Arra**	**45.95**	**308**	P	**P**	**20 52 45.6**	**-0.4**	
	comp=Z,4.7nm,0.4s,baz=80,slow=7.5,SNR=29							
KDAK	**Kodiak Island**	**47.14**	**42**	P	**P**	**20 52 57.1**	**+2.0**	
	comp=Z,1.8nm,0.6s,baz=287,slow=11,SNR=1.3							
KDAK	**Kodiak Island**	**47.14**	**42**	P	**P**	**20 52 57.1**	**+2.0**	
KDAK				pmax	pmax			
	comp=Z,38nm,1.5s							
KDAK	**Kodiak Island**	**47.14**	**42**	P	**P**	**20 52 57.1**	**+2.0**	
BPAW	**Bear Paw Mtn.**	**47.75**	**33**	P	**P**	**20 53 02.5**	**+2.6**	
SUA	**Susitna One**	**47.89**	**37**	P	**P**	**20 53 02.2**	**+1.2**	
SUA				IAmb	IAmb	20 53 18.0		
	comp=Z,6.9nm,1.1s							
KDJ	**Kajisay**	**48.68**	**297**	P	**P**	**20 53 07.5**	**-0.1**	
KDJ				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KDJ	**Kajisay**	**48.68**	**297**	P	**P**	**20 53 07.5**	**-0.1**	
KDJ				IAmb	IAmb	20 53 11.1		
	comp=Z,4.9nm,0.8s							
KULM	**Kulim**	**48.77**	**240**	P	**P**	**20 53 08.1**	**-0.2**	
KULM				IAmb	IAmb	20 53 22.7		
	comp=Z,7.4nm,1.1s							
IPM	**Ipoh**	**49.09**	**239**	P	**P**	**20 53 10.4**	**-0.4**	
IPM				IAmb	IAmb	20 53 11.9		
	comp=Z,3.9nm,0.7s							
IL31		**49.52**	**32**	P	**P**	**20 53 15.1**	**+1.8**	
ILAR	**Eielson Array**	**49.52**	**32**	P	**P**	**20 53 15.2**	**+1.8**	
	comp=Z,1.6nm,0.7s,baz=264,slow=6.0,SNR=11							
BRVK	**Borovoye**	**50.58**	**312**	*ceP*	**P**	**20 53 22.2**	**+0.6**	
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BRVK	**Borovoye**	**50.58**	**312**	P	**P**	**20 53 21.9**	**+0.3**	
BRVK				IAmb	IAmb	20 53 22.9		
	comp=Z,4.0nm,0.8s							
EGAK	**Eagle**	**51.97**	**32**	P	**P**	**20 53 33.5**	**+1.7**	
EGAK				IAmb	IAmb	20 53 36.3		
	comp=Z,7.8nm,1.4s							
KK31	**Karatay Array**	**53.07**	**300**	P	**P**	**20 53 39.9**	**-0.5**	
KK31				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KK31	**Karatay Array**	**53.07**	**300**	P	**P**	**20 53 39.9**	**-0.5**	
KK31				IAmb	IAmb	20 53 43.1		
	comp=Z,3.5nm,0.9s							
KKAR	**Karatay Array**	**53.07**	**300**	P	**P**	**20 53 39.7**	**-0.6**	
KKAR	**Karatay Array**	**53.07**	**300**	P	**P**	**20 53 39.7**	**-0.6**	
UGM	**Wanagama**	**53.22**	**219**	P	**P**	**20 53 42.4**	**+0.7**	
GSI	**Gunungsitoli**	**53.75**	**239**	P	**P**	**20 53 45.8**	**+0.2**	
KNRA	**Kununurra**	**53.75**	**195**	P	**P**	**20 53 46.4**	**+1.0**	
NIL	**Nilore**	**54.56**	**288**	P	**P**	**20 53 51.7**	**+0.3**	
NIL				pmax	pmax			
	comp=Z,10.0nm,0.7s							
NIL	**Nilore**	**54.56**	**288**	P	**P**	**20 53 51.7**	**+0.3**	
GAR	**Garm**	**54.65**	**295**	P	**P**	**20 53 52.0**	**0.0**	
SVE	**Sverdlovsk**	**55.11**	**319**	*eP*	**P**	**20 53 55.6**	**+0.7**	
SVE				pmax	pmax			
	comp=Z,12nm,1.0s							
CHGR	**Chuyangaron**	**55.61**	**295**	P	**P**	**20 53 59.0**	**0.0**	
ARU	**Arti**	**56.32**	**319**	*c iP*	**P**	**20 54 03.9**	**+0.3**	
ARU						20 55 00.0		
ARU						20 56 08.4		
ARU				S	**S**	**21 01 51.2**	**+1.3**	
ARU				SS	**SS**	**21 05 35.0**	**-1.7**	
ARU				pmax	pmax			
	comp=Z,16nm,1.0s							
ARU	**Arti**	**56.32**	**319**	P	**P**	**20 54 03.4**	**-0.2**	
FITZ	**Fitzroy Crossi**	**56.80**	**198**	P	**P**	**20 54 08.2**	**+0.9**	
FITZ				IAmb	IAmb	20 54 12.8		
	comp=Z,10nm,1.5s							
WB0	**Warramunga Arr**	**56.88**	**188**	P	**P**	**20 54 08.5**	**+0.6**	
WB0				IAmb	IAmb	20 54 23.8		
	comp=Z,7.1nm,1.1s							
WR0	**Warramunga Arr**	**57.05**	**188**	P	**P**	**20 54 09.5**	**+0.4**	
WR0				IAmb	IAmb	20 54 24.6		
	comp=Z,7.1nm,1.0s							
WRA	**Warramunga Arr**	**57.05**	**188**	P	**P**	**20 54 09.7**	**+0.5**	
	comp=Z,0.8nm,0.5s,baz=5.6,slow=7.4,SNR=9.4							
WRA	**Warramunga Arr**	**57.05**	**188**	P	**P**	**20 54 09.5**	**+0.3**	
WRA	**Warramunga Arr**	**57.05**	**188**	P	**P**	**20 54 09.4**	**+0.3**	
KBL	**Kabul**	**57.36**	**291**	P	**P**	**20 54 10.8**	**-0.8**	
KBL				pmax	pmax			
	comp=Z,9.0nm,1.3s							
KBL	**Kabul**	**57.36**	**291**	P	**P**	**20 54 10.8**	**-0.8**	
KBL				IAmb	IAmb	20 54 12.5		
	comp=Z,9.3nm,1.3s							
ABKAR	**Akbulak array**	**57.89**	**310**	P	**P**	**20 54 14.6**	**-0.2**	
EUNU	**Eureka**	**60.19**	**9**	P	**P**	**20 54 31.1**	**+0.7**	
EUNU				IAmb	IAmb	20 54 37.7		
	comp=Z,11nm,1.4s							
AS31	**Alice Springs**	**60.78**	**188**	P	**P**	**20 54 35.9**	**+0.9**	
ASAR	**Alice Springs**	**60.78**	**188**	P	**P**	**20 54 36.0**	**+1.0**	
	comp=Z,0.5nm,0.7s,baz=3.1,slow=6.2,SNR=5.5							
ASAR	**Alice Springs**	**60.78**	**188**	P	**P**	**20 54 35.5**	**+0.6**	
KEV	**Kevo**	**63.42**	**339**	P	**P**	**20 54 52.2**	**+0.1**	
KEV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KEV	**Kevo**	**63.42**	**339**	P	**P**	**20 54 52.2**	**+0.1**	
KEV				IAmb	IAmb	20 54 56.5		
	comp=Z,5.5nm,1.1s							
KLMR	**Klimovskoe**	**63.72**	**328**	*eP*	**P**	**20 54 51.7**	**-2.5**	
KLMR				pmax	pmax			
	comp=Z,9.0nm,1.3s							
KLMR	**Klimovskoe**	**63.72**	**328**	*eP*	**P**	**20 54 51.7**	**-2.5**	
KLMR				AMP		20 54 55.1		
	comp=Z,9.0nm,1.3s							
GEYT	**Alibeck**	**63.78**	**299**	P	**P**	**20 54 55.2**	**+0.1**	
	comp=Z,3.7nm,0.7s,baz=26,slow=3.8,SNR=8.6							
GEYT	**Alibeck**	**63.78**	**299**	P	**P**	**20 54 54.5**	**-0.6**	
ARCES	**ARCESS Array B**	**63.97**	**339**	P	**P**	**20 54 56.0**	**+0.2**	
	comp=Z,0.7nm,0.5s,baz=51,slow=8.1,SNR=11							
ARCES	**ARCESS Array B**	**63.97**	**339**	P	**P**	**20 54 55.9**	**+0.1**	
ARE0	**ARCESS Array S**	**63.97**	**339**	P	**P**	**20 54 55.7**	**0.0**	
OBN	**Obninsk**	**68.06**	**323**	*i* P	**P**	**20 55 21.3**	**-0.9**	
OBN				*i*		20 55 45.4		
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
FIA1	**FINESS Array S**	**68.78**	**332**	P	**P**	**20 55 26.9**	**+0.3**	
FIA1				IAmb	IAmb	20 55 30.9		
	comp=Z,6.5nm,1.0s							
FINES	**FINESS Array B**	**68.78**	**332**	P	**P**	**20 55 26.8**	**+0.2**	
	comp=Z,3.4nm,0.7s,baz=50,slow=6.0,SNR=9.4							
MORW	**Morawa**	**69.91**	**203**	P	**P**	**20 55 35.1**	**+1.2**	
MORW				IAmb	IAmb	20 55 50.3		
	comp=Z,11nm,1.3s							
KBZ	**Khabaz**	**70.86**	**311**	P	**P**	**20 55 39.9**	**+0.2**	
	comp=Z,3.5nm,0.8s,baz=73,slow=5.9,SNR=5.7							
KIV	**Kislovodsk**	**70.86**	**311**	*eP*	**P**	**20 55 39.5**	**-0.3**	
KIV				pmax	pmax			
	comp=Z,29nm,1.1s							
KIV	**Kislovodsk**	**70.86**	**311**	P	**P**	**20 55 39.6**	**-0.2**	
KIV				IAmb	IAmb	20 55 41.9		
	comp=Z,6.6nm,0.8s							
UOSS	**Minazif**	**71.75**	**288**	P	**P**	**20 55 45.5**	**+0.1**	
UOSS				IAmb	IAmb	20 55 46.2		
	comp=Z,6.0nm,0.8s							
NWAO	**Narrogin (SRO)**	**73.15**	**201**	P	**P**	**20 55 54.4**	**+1.1**	
NWAO				pmax	pmax			
	comp=Z,39nm,1.4s							
NWAO	**Narrogin (SRO)**	**73.15**	**201**	P	**P**	**20 55 54.4**	**+1.1**	
NC405	**NORSAR Array S**	**73.95**	**337**	P	**P**	**20 55 57.8**	**0.0**	
NB2	**NORSAR Subarra**	**74.16**	**337**	P	**P**	**20 55 59.5**	**+0.4**	
	comp=Z,1.0nm,0.7s,baz=39,slow=6.2							
NOA	**NORSAR Array B**	**74.16**	**337**	P	**P**	**20 55 59.1**	**0.0**	
	comp=Z,2.3nm,0.8s,baz=38,slow=6.0,SNR=7.1							
AKASG	**Malin Array Be**	**74.26**	**322**	P	**P**	**20 55 59.5**	**-0.2**	
	comp=Z,2.4nm,0.5s,baz=48,slow=6.1,SNR=8.5							
AKASG	**Malin Array Be**	**74.26**	**322**	*i* P	**P**	**20 55 59.5**	**-0.2**	
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.6s							
NVAR	**Mina Array Bea**	**75.03**	**53**	P	**P**	**20 56 07.2**	**+2.4**	
	comp=Z,0.4nm,0.5s,baz=270,slow=4.4,SNR=3.9							
PDAR	**Pinedale Array**	**77.71**	**45**	P	**P**	**20 56 21.4**	**+1.5**	
	comp=Z,0.4nm,0.5s,baz=219,slow=2.3,SNR=2.3							
KWP	**Kalwaria Pacla**	**78.09**	**324**	P	**P**	**20 56 21.7**	**+0.1**	
KWP				pmax	pmax			
	comp=Z,16nm,1.3s							
KWP	**Kalwaria Pacla**	**78.09**	**324**	P	**P**	**20 56 21.7**	**+0.1**	
BUR08	**Bucovina Ar. S**	**78.26**	**322**	P	**P**	**20 56 22.9**	**+0.2**	
BURAR	**Bucovina Array**	**78.27**	**322**	P	**P**	**20 56 22.9**	**+0.2**	
KOLS	**Kolonicke sedl**	**78.78**	**324**	*eP*	**P**	**20 56 24.9**	**-0.5**	
KOLS	**Kolonicke sedl**	**78.78**	**324**	*eP*	**P**	**20 56 24.9**	**-0.5**	
BR131	**Keskin Array S**	**78.81**	**312**	P	**P**	**20 56 26.1**	**+0.1**	
BR131				pmax	pmax			
	comp=Z,6.0nm,1.5s							
BR131	**Keskin Array S**	**78.81**	**312**	P	**P**	**20 56 26.1**	**+0.1**	
BR131				IAmb	IAmb	20 56 38.4		
	comp=Z,5.6nm,1.5s							
BRTR	**Keskin Array B**	**78.81**	**312**	P	**P**	**20 56 26.0**	**+0.1**	
	comp=Z,1.1nm,0.7s,baz=117,slow=2.1,SNR=5.3							
BRTR	**Keskin Array B**	**78.81**	**312**	P	**P**	**20 56 25.9**	**+0.1**	
KRLC	**Kraliky**	**80.43**	**327**	*eP*	**P**	**20 56 35.1**	**+0.7**	
KRLC	**Kraliky**	**80.43**	**327**	*eP*	**P**	**20 56 35.1**	**+0.7**	
SOCY	**Socotra**	**80.68**	**278**	P	**P**	**20 56 34.5**	**-1.8**	
VYHS	**Vyhne**	**80.69**	**325**	*eP*	**P**	**20 56 36.7**	**+0.9**	
VYHS	**Vyhne**	**80.69**	**325**	*eP*	**P**	**20 56 36.7**	**+0.9**	
CLL	**Collm**	**81.06**	**330**	*i* P	**P**	**20 56 37.9**	**+0.2**	
CLL	**Collm**	**81.06**	**330**	*i* P	**P**	**20 56 37.9**	**+0.2**	
GOPC	**GO Pecny, Ondr**	**81.40**	**328**	*eP*	**P**	**20 56 40.6**	**+1.1**	
GOPC	**GO Pecny, Ondr**	**81.40**	**328**	*eP*	**P**	**20 56 40.6**	**+1.1**	
PRU	**Pruhonice**	**81.45**	**328**	*eP*	**P**	**20 56 40.6**	**+0.9**	
PRU	**Pruhonice**	**81.45**	**328**	*eP*	**P**	**20 56 40.6**	**+0.9**	
PBCC	**Pribram**	**81.91**	**329**	*eP*	**P**	**20 56 42.5**	**+0.3**	
CSS	**Mathiatis**	**82.02**	**308**	P	**P**	**20 56 43.2**	**+0.2**	
CSS				IAmb	IAmb	20 56 53.6		
	comp=Z,4.9nm,0.9s							
KHC	**Kasperske Hory**	**82.51**	**328**	*eP*	**P**	**20 56 46.1**	**+0.7**	
KHC	**Kasperske Hory**	**82.51**	**328**	*eP*	**P**	**20 56 46.1**	**+0.7**	
GEC2	**GERESS Array S**	**82.68**	**328**	P	**P**	**20 56 46.5**	**+0.1**	
GERES	**GERESS Array B**	**82.68**	**328**	P	**P**	**20 56 46.6**	**+0.2**	
	comp=Z,0.5nm,0.4s,baz=44,slow=6.1,SNR=8.1							
FUORN	**Ofenpass-Fuorn**	**85.86**	**329**	P	**P**	**20 57 03.2**	**+0.4**	
FUORN				IAmb	IAmb	20 57 20.1		
	comp=Z,2.4nm,0.8s							
TXAR	**Lajitas Array**	**90.17**	**52**	P	**P**	**20 57 24.9**	**+1.5**	
	comp=Z,0.4nm,0.5s,baz=297,slow=2.1,SNR=6.4							
TXAR	**Lajitas Array**	**90.17**	**52**	P	**P**	**20 57 24.6**	**+1.2**	
LPAZ	**La Paz**	**146.74**	**59**	PKPbc	**PKPab**	**21 04 07.2**	**+0.2**	
	comp=Z,1.9nm,0.6s,baz=278,slow=1.9,SNR=9.4							
LPAZ	**La Paz**	**146.74**	**59**		**PKPab**	**21 04 07.1**	**0.0**	
H03N2	**Juan Fernandez**	**147.08**	**96**	T	T	23 49 03.4		
	baz=292,slow=76,SNR=17							
H03N3	**Juan Fernandez**	**147.09**	**96**	T	T	23 49 04.1		
	baz=292,slow=76,SNR=16							
H03N1	**Juan Fernandez**	**147.10**	**96**	T	T	23 49 08.0		
	baz=292,slow=76,SNR=15							

*IDC **30** 21:03:24.4±0.9, 9.23N×122.12E, h0km, mb3.9/8,*
mb1 4.1/8, mb1mx3.6/50, mbtmp3.9/8, MS2.5/2, Ms1 2.5/2,
ms1mx2.4/38, Error ellipse: s-maj=71.0km s-min=16.8km
az=60.0
*MAN **30** 21:03:25.1, 9.30N×121.86E, h18km, MS3.5*
*NEIC **30** 21:03:31.0±2.0, 9.13N±0.08×122.04E±0.07, h62km±7km,*
mb4.5/36, Error ellipse: s-maj=12.1km s-min=10.4km
az=200.0

ISC 30 21:03:28.4±0.4, **9.37N**±0.05×**121.98E**±0.05, **h37**km, **n64,**
σ2$ **13**/64, **mb4.3**/23, **2C, Sulu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAP	**San Jose, Anti**	**1.37**	**359**	*eP*	**Pn**	**21 03 52.0**	**+1.1**
GUIM	**Jordan**	**1.39**	**26**	*eP*	**Pn**	**21 03 50.0**	**-1.2**
GUIM				*eS*	**Sn**	**21 04 02.8**	**-5.4**
TBP	**Tagbilaran**	**1.89**	**80**	*eP*	**Pn**	**21 03 59.7**	**+1.6**
TBP				*eS*	**Sn**	**21 04 26.6**	**+5.9**
LLP	**Lapu-Lapu**	**2.18**	**64**	*eP*	**Pn**	**21 04 03.6**	**+1.6**
LLP				*eS*	**Sn**	**21 04 31.6**	**+3.9**
OTRP	**Odiongan**	**2.97**	**1**	*eP*	Pn	21 04 26.3	+13
DAV	**Davao City (W)**	**4.24**	**122**	LR	LR	21 06 24.0	
	comp=Z,136nm,19.6s,baz=358,slow=44						
DAV	**Davao City (W)**	**4.24**	**122**	Pn	**Pn**	**21 04 30.9**	**+0.5**
MYLDM	**Lahad Datu**	**5.40**	**220**	Pn	**Pn**	**21 04 47.9**	**+1.5**
KKM	**Kota Kinabalu**	**6.59**	**240**	Pn	**Pn**	**21 05 01.7**	**-1.2**
SBUM	**Sibu**	**11.89**	**235**		**Pn**	**21 06 18.2**	**+2.8**
SSLB	**Suanglung**	**14.37**	**356**	Pn	**P**	**21 06 54.7**	**-1.0**
HKPS	**Hong Kong Po S**	**14.88**	**331**	Pn	**P**	**21 07 00.9**	**-0.4**
HKPS				IAmb	IAmb	21 07 11.4	
	comp=Z,30nm,1.0s						
FAKI	**Fak Fak**	**15.93**	**140**	Pn	**Pn**	**21 07 08.0**	**-1.9**
FAKI				IAmb	IAmb	21 07 15.0	
	comp=Z,46nm,1.1s						
SOEI	**Soe**	**19.14**	**173**	P	**P**	**21 07 46.3**	**-2.3**
SOEI				IAmb	IAmb	21 07 54.2	
	comp=Z,19nm,1.1s						
SAUI	**Saumlaki**	**19.58**	**151**	P	**P**	**21 07 51.6**	**-1.8**
IPM	**Ipoh**	**21.35**	**258**	P	**P**	**21 08 14.0**	**+1.4**
CISI	**Cisompet, Garu**	**21.95**	**220**	P	**P**	**21 08 17.2**	**-1.9**
CISI				IAmb	IAmb	21 08 17.6	
	comp=Z,38nm,1.0s						
SRIT	**Nakonsritamara**	**22.11**	**270**	P	**P**	**21 08 20.5**	**-0.2**
GUMO	**Guam**	**22.82**	**77**	LR	LR	21 19 19.5	
	comp=Z,6.0nm,18.4s,baz=273,slow=42						
CMAR	**Chng Mai Arr**	**24.09**	**295**	P	**P**	**21 08 43.4**	**+2.7**
	comp=Z,0.5nm,0.4s,baz=119,slow=7.3,SNR=5.2						
GSI	**Gunungsitoli**	**25.56**	**253**	P	**P**	**21 08 54.9**	**+0.8**
GSI				IAmb	IAmb	21 09 08.5	
	comp=Z,11nm,0.6s						
KNRA	**Kununurra**	**25.78**	**165**	P	**P**	**21 08 54.5**	**-1.4**
KNRA				IAmb	IAmb	21 09 02.8	
	comp=Z,10nm,1.1s						
FITZ	**Fitzroy Crossi**	**27.53**	**172**	P	**P**	**21 09 10.9**	**-0.8**
MJB9	**Matsu-Tunnel**	**30.80**	**26**	P	**P**	**21 09 39.9**	**-0.8**
WB0	**Warramunga Arr**	**31.43**	**157**	P	**P**	**21 09 44.7**	**-1.7**
WRAB	**Tennant Creek**	**31.57**	**157**	P	**P**	**21 09 45.3**	**-2.2**
WRAB				IAmb	IAmb	21 09 55.4	
	comp=Z,4.6nm,1.1s						
WRA	**Warramunga Arr**	**31.57**	**157**	P	**P**	**21 09 46.7**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=334,slow=9.6,SNR=7.1						
WB2	**Warramunga Arr**	**31.57**	**157**	P	**P**	**21 09 46.1**	**-1.5**
WR0	**Warramunga Arr**	**31.66**	**157**	P	**P**	**21 09 47.2**	**-1.1**
GIRL	**Giralia**	**32.71**	**193**	P	**P**	**21 09 55.5**	**-1.9**
AS31	**Alice Springs**	**34.84**	**161**	P	**P**	**21 10 16.0**	**-0.1**
ASAR	**Alice Springs**	**34.84**	**161**	P	**P**	**21 10 15.8**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=342,slow=7.3,SNR=39						
MORW	**Morawa**	**38.64**	**188**	P	**P**	**21 10 47.9**	**-0.4**
MORW				IAmb	IAmb	21 10 49.4	
	comp=Z,4.8nm,0.8s						
FORT	**Forrest**	**40.34**	**172**	P	**P**	**21 11 01.9**	**-0.6**
FORT				IAmb	IAmb	21 11 17.9	
	comp=Z,7.0nm,0.8s						
STKA	**Stephens Creek**	**45.10**	**156**	P	**P**	**21 11 41.4**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=335,slow=8.2,SNR=5.0						
STKA	**Stephens Creek**	**45.10**	**156**	P	**P**	**21 11 39.9**	**-1.2**
MK31	**Makanchi Array**	**50.26**	**325**	P	**P**	**21 12 24.1**	**+3.1**
MK31				IAmb	IAmb	21 12 25.7	
	comp=Z,2.3nm,0.9s						
MKAR	**Makanchi Array**	**50.26**	**325**	P	**P**	**21 12 24.2**	**+3.2**
	comp=Z,1.6nm,0.7s,baz=125,slow=8.4,SNR=15						
MKAR	**Makanchi Array**	**50.26**	**325**	P	**P**	**21 12 24.1**	**+3.1**
MAKZ	**Makanchi**	**50.44**	**325**	P	**P**	**21 12 24.5**	**+2.1**
DGAR	**Diego Garcia**	**52.08**	**253**	P	**P**	**21 12 33.9**	**-1.2**
KURBB	**Kurchatov Arra**	**54.47**	**327**	P	**P**	**21 12 55.1**	**+3.0**
	comp=Z,0.8nm,0.7s,baz=129,slow=6.6,SNR=11						
KURK	**Kurchatov**	**54.48**	**328**	P	**P**	**21 12 55.1**	**+2.9**
GAR	**Garm**	**54.66**	**311**	P	**P**	**21 12 55.1**	**+1.2**
GAR				IAmb	IAmb	21 12 59.6	
	comp=Z,3.5nm,1.0s						
KK31	**Karatay Array**	**55.91**	**316**	P	**P**	**21 13 04.6**	**+1.9**
KK31				IAmb	IAmb	21 13 07.0	
	comp=Z,2.0nm,1.0s						
KKAR	**Karatay Array**	**55.91**	**316**	P	**P**	**21 13 04.5**	**+1.8**
KKAR	**Karatay Array**	**55.91**	**316**	P	**P**	**21 13 04.6**	**+1.9**
KKAR				IAmb	IAmb	21 13 07.0	
	comp=Z,2.0nm,1.0s						
KNTN	**Kanton**	**67.15**	**97**	P	**P**	**21 14 17.2**	**-1.8**
QRZ	**Quartz Range**	**68.26**	**141**	P	**P**	**21 14 21.4**	**-4.1**
RPZ	**Rata Peaks**	**69.06**	**144**	P	**P**	**21 14 28.0**	**-2.5**
RPZ				IAmb	IAmb	21 14 37.0	
	comp=Z,8.2nm,0.9s						
LTZ	**Lake Taylor**	**69.23**	**143**	P	**P**	**21 14 29.1**	**-2.4**
LTZ				IAmb	IAmb	21 14 32.2	
	comp=Z,11nm,1.1s						
TUWZ	**Tuamarina**	**69.48**	**141**	P	**P**	**21 14 31.4**	**-1.6**
CMWZ	**Cape Campbell**	**69.83**	**141**	P	**P**	**21 14 31.3**	**-3.9**
NIKH	**Nikolski High**	**70.06**	**37**	P	**P**	**21 14 35.6**	**-0.9**
CNBA	**Chernabura Isl**	**75.74**	**36**	P	**P**	**21 15 10.4**	**+0.3**
CNBA				IAmb	IAmb	21 15 23.6	
	comp=Z,25nm,1.2s						
CHIR	**Chirikof Islan**	**78.04**	**35**	P	**P**	**21 15 23.1**	**0.0**
SVW2	**Sparrevohn**	**78.20**	**29**	P	**P**	**21 15 23.5**	**-0.4**
SVW2				IAmb	IAmb	21 15 25.2	
	comp=Z,5.3nm,1.2s						
SII	**Sitkinak Islan**	**78.85**	**34**	P	**P**	**21 15 26.1**	**-1.5**
SII				IAmb	IAmb	21 15 41.8	
	comp=Z,14nm,0.8s						
KDAK	**Kodiak Island**	**79.71**	**33**	P	**P**	**21 15 32.2**	**0.0**
KAIM	**Kayak Island**	**83.77**	**30**	P	**P**	**21 15 53.8**	**+0.2**
FINES	**FINESS Array B**	**84.66**	**331**	P	**P**	**21 15 59.9**	**+1.9**
	comp=Z,1.9nm,0.9s,baz=66,slow=3.5,SNR=4.4						
FINES	**FINESS Array B**	**84.66**	**331**	P	**P**	**21 15 59.6**	**+1.6**
VNDA	**Vanda**	**89.61**	**172**	P	**P**	**21 16 23.4**	**+1.8**
	comp=Z,1.4nm,0.6s,baz=302,slow=7.7,SNR=4.2						
TXAR	**Lajitas Array**	**121.57**	**47**	PKP	**PKiKP**	**21 22 20.8**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=166,slow=0.5,SNR=4.1						

*PRE **30** 21:08:57.5±1.0, 27.01S×26.87E, h2km, ML3.7*
*NEIC **30** 21:08:59.5±1.5, 26.91S±0.04×26.87E±0.05, h5km±1km,*
mb4.7/23, Error ellipse: s-maj=8.4km s-min=6.2km
az=67.0
*IDC **30** 21:09:00.1±0.9, 26.89S×26.73E, h0km, mb4.0/8,*
mb1 4.2/14, mb1mx4.0/37, mbtmp4.2/14, ML4.0/4, MS2.8/4,
Ms1 2.7/4, ms1mx2.5/39, Error ellipse: s-maj=20.5km
s-min=11.6km az=102.0
*NAM **30** 21:09:09.5±20.0, 25.47S×26.15E, h87km±999km, MD4.1*

ISC 30 21:08:58.0±1.2, **26.98S**±0.03×**26.83E**±0.03, **h1**km±7km,
n83, σ2$ **00**/108, **mb4.4**/16, **South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.77**	**44**	*eP*	**Pg**	**21 09 11.7**	**-1.0**
WDLM				*eS*	**Sg**	**21 09 22.5**	**-0.1**
WDLM				AML	AML	21 09 25.3	
	comp=Z,3μm,0.3s						
KLOF	**Kloof**	**0.94**	**48**	*eP*	**Pg**	**21 09 15.5**	**-0.6**
KLOF				*eS*	**Sg**	**21 09 28.2**	**0.0**
KLOF				AML	AML	21 09 34.4	
	comp=Z,12μm,0.2s						
KSR	**Koster**	**1.12**	**3**	*eP*	**Pg**	**21 09 19.6**	**0.0**
KSR				*eS*	**Sb**	**21 09 35.7**	**+0.1**
KSR				AML	AML	21 09 38.3	
	comp=Z,8μm,0.4s						
SWZ	**Schweizer**	**1.35**	**261**	*eP*	**Pg**	**21 09 23.7**	**-0.3**
SWZ				*eS*	**Sn**	**21 09 43.2**	**+0.4**
SWZ				AML	AML	21 09 45.8	
	comp=Z,2μm,0.3s						
ERPM	**east rand prop**	**1.41**	**64**	*eP*	**Pn**	**21 09 24.7**	**-0.4**
ERPM				*eS*	**Sn**	**21 09 45.1**	**+0.7**
ERPM				AML	AML	21 09 49.9	
	comp=Z,949nm,0.4s						
SLR	**Silverton**	**1.80**	**47**	*eP*	**Pn**	**21 09 30.6**	**+0.3**
SLR				*eS*	**Sn**	**21 09 53.4**	**-0.5**
SLR				AML	AML	21 09 57.1	
	comp=Z,3μm,0.6s						
BOSA	**Boshof**	**2.14**	**220**	Pn	**Pb**	**21 09 37.4**	**-0.3**
	comp=Z,19nm,0.3s,baz=42,slow=13,SNR=320						
BOSA				Lg	Lg	21 10 08.2	
	comp=Z,91nm,0.3s,baz=310,slow=19,SNR=14						
BOSA				LR	LR	21 10 19.7	
	comp=Z,70nm,19.4s,baz=71,slow=37						
BOSA	**Boshof**	**2.14**	**220**	*eP*	**Pn**	**21 09 35.6**	**+0.5**
BOSA				*eS*	**Sn**	**21 10 02.5**	**+0.1**
BOSA				AML	AML	21 10 18.3	
	comp=Z,484nm,0.6s						
BOSA	**Boshof**	**2.14**	**220**		**Pb**	**21 09 37.4**	**-0.3**
BOSA				Sn	**Sg**	**21 10 06.5**	**-0.5**
LBTB	**Lobatse**

comp=Z,1.2nm,0.3s,baz=257,slow=24,SNR=4.5
LSZ Lg Lg 21 15 03.5
comp=Z,2.3nm,0.3s,baz=86,slow=23,SNR=6.4
LSZ Lusaka 11.71 6 Pn 21 11 45.2 -1.3
FOMA Nahampoana Res 18.23 88 P 21 13 13.7 +1.0
FOMA IAmb IAmb 21 13 24.7
comp=Z,48nm,1.1s
ABPO Ambohimpanom 20.36 71 P 21 13 36.9 +0.5
MBAR Mbarara 26.49 9 LR LR 21 26 23.0
comp=Z,28nm,18.5s,baz=209,slow=40
SHEL Horse Pasture 32.15 283 P **P 21 15 28.1 +0.6**
MSEY Mahe Island 35.20 56 P **P 21 15 54.2 +0.1**
MSEY IAmb IAmb 21 16 00.8
comp=Z,38nm,1.1s
TOA0 Torodi Ar. Sit 46.76 325 P **P 21 17 29.5 +0.3**
TOA0 IAmb IAmb 21 17 31.4
comp=Z,2.0nm,0.7s
TORD Torodi Ar. Bea 46.76 325 P **P 21 17 29.8 +0.6**
comp=Z,1.9nm,0.7s,baz=141,slow=6.8,SNR=7.5
TORD Torodi Ar. Bea 46.76 325 P **P 21 17 29.9 +0.7**
SNAA Sanae 47.67 192 P **P 21 17 37.1 +1.4**
SNAA IAmb IAmb 21 17 40.1
comp=Z,3.7nm,1.0s
UOSS Minazif 58.89 31 P **P 21 18 59.8 +1.1**
UOSS IAmb IAmb 21 19 12.3
comp=Z,7.9nm,1.1s
MBO M'Bour 59.15 309 P **P 21 18 59.7 -1.0**
BRTR Keskin Array B 66.66 6 P **P 21 19 52.4 +1.9**
comp=Z,0.4nm,0.7s,baz=167,slow=9.7,SNR=2.0
BRTR Keskin Array B 66.66 6 P **P**
SGRT San Giovanni R 69.15 351 P **P 21 20 04.9 -1.1**
SGRT IAmb IAmb 21 20 08.3
comp=Z,5.3nm,0.9s
CART Cartagena 69.34 337 P **P 21 20 04.8 -2.3**
BDFB Brasilia 69.78 262 P **P 21 20 12.2 +1.7**
comp=Z,3.0nm,0.7s,baz=188,slow=7.1,SNR=4.1
BDFB Brasilia 69.78 262 P **P 21 20 11.2 +0.6**
BDFB IAmb IAmb 21 20 12.9
comp=Z,5.8nm,1.1s
GEYT Alibeck 70.92 26 P **P 21 20 17.6 +0.6**
CASP Castiglione de 70.97 348 P **P 21 20 17.7 +0.7**
CASP IAmb IAmb 21 20 35.7
comp=Z,3.9nm,0.9s
ESDC Sonseca Array 72.26 335 P **P 21 20 26.4 +1.4**
comp=Z,0.3nm,0.8s,baz=155,slow=6.0,SNR=13
ESDC Sonseca Array 72.26 335 IAmb IAmb 21 20 30.6
comp=Z,2.0nm,1.0s
TRI Trieste 73.31 350 P **P 21 20 30.8 -0.2**
TRI IAmb IAmb 21 20 45.0
comp=Z,7.6nm,0.8s
BURAR Bucovina Array 74.26 359 P **P 21 20 37.8 +1.1**
AKASG Malin Array Be 77.36 2 P **P 21 20 55.6 +1.4**
comp=Z,0.4nm,0.3s,baz=183,slow=5.6,SNR=2.6
SRIT Nakonsritamara 78.79 74 P **P 21 21 02.7 -0.3**
MYKOM Kota Tinggi 79.26 82 P **P 21 21 06.6 +1.0**
MYKOM IAmb IAmb 21 21 08.8
comp=Z,11nm,1.1s
KK31 Karatay Array 80.48 31 P **P 21 21 12.3 +0.7**
KKAR Karatay Array 80.48 31 P **P 21 21 11.8 +0.3**
KKAR Karatay Array 80.48 31 P **P 21 21 12.1 +0.6**
AKTO Aktyubinsk 81.88 20 LR LR 22 02 03.7
comp=Z,17nm,19.3s,baz=209,slow=39
LPAZ La Paz 87.04 253 P **P 21 21 48.1 +1.5**
comp=Z,1.0nm,0.7s,baz=53,slow=4.9,SNR=4.5
LPAZ La Paz 87.04 253 IAmb IAmb 21 21 48.4
comp=Z,1.0nm,0.7s
FINES FINESS Array B 88.11 360 P **P 21 21 51.6 +1.9**
comp=Z,1.6nm,0.8s,baz=117,slow=6.6,SNR=6.0
FINES FINESS Array B 88.11 360 P **P 21 21 49.8 +0.1**
MK31 Makanchi Array 88.87 34 P **P 21 21 53.7 -0.1**
MKAR Makanchi Array 88.87 34 P **P 21 21 54.3 +0.5**
ASAR Alice Springs 93.45 119 P **P 21 22 18.4 +2.5**
comp=Z,0.2nm,0.6s,baz=237,slow=4.6,SNR=5.9
ASAR Alice Springs 93.45 119 P **P 21 22 16.5 +0.7**
SVB Belmont 94.23 283 P **P 21 22 17.6 -1.8**
NVAR Mina Array Bea 148.69 300 PKPbc **PKPab 21 28 50.3 -0.8**
comp=Z,1.0nm,0.6s,baz=114,slow=1.1,SNR=12
NVAR Mina Array Bea 148.69 300 PKPab 21 28 50.6 -0.5

*DDA **30** 21:30:53.3,35.˚16N×27.˚35E,h6km±2km,ML2.4*
*ATH **30** 21:30:55.1,35.˚21N×27.˚26E,h25km±1km,ML2.6/4, Error ellipse: s-maj=4.3km s-min=1.7km az=321.0*
*THE **30** 21:30:55.7,35.˚21N×27.˚20E,h0km±1km,ML2.6/2, Error ellipse: s-maj=2.8km s-min=0.9km az=143.0*
ISC 30 21:30:53.8±1.5,35.˚11N±0.˚06×27.˚33E±0.˚04,h12km±10km, n24,σ1ş51/36,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.46**	**343**	P	**Pg**	**21 31 02.7**	**-0.2**
KARP				S	**Sg**	**21 31 09.1**	**+0.2**
KARP	**Karpathos**	**0.46**	**343**	P	**Pg**	**21 31 02.6**	**-0.2**
KARP				S	**Sb**	**21 31 09.5**	**-1.1**
KARP				AML	AML	21 31 11.8	
	comp=E,2069µm,0.2s						
KARP				AML	AML	21 31 12.2	
	comp=N,2352µm,0.2s						
ZKR	**Zakros**	**0.91**	**271**	P	**Pg**	**21 31 11.2**	**-0.2**
ZKR				S	**Sb**	**21 31 24.4**	**+0.8**
	comp=N,610nm,0.7s						
ZKR	**Zakros**	**0.91**	**271**	P	**Pg**	**21 31 11.0**	**-0.4**
ZKR				S	**Sb**	**21 31 24.7**	**+1.0**
ZKR				AML	AML	21 31 30.3	
	comp=N,630µm,0.4s						
ZKR				AML	AML	21 31 30.5	
	comp=E,1728µm,0.7s						
ARG	**Arkhangelos**	**1.28**	**30**	P	**Pg**	**21 31 18.9**	**+0.4**
ARG				S	**Sn**	**21 31 36.8**	**+2.1**
	comp=E,238nm,0.7s						
ARG	**Arkhangelos**	**1.28**	**30**	P	**Pg**	**21 31 19.3**	**+0.9**
ARG				S	**Sn**	**21 31 35.4**	**+0.7**
ARG				AML	AML	21 31 40.9	
	comp=N,512µm,0.6s						
ARG				AML	AML	21 31 45.4	
	comp=E,342µm,0.5s						
NPS	**Neapolis**	**1.41**	**277**	P	**Pb**	**21 31 20.3**	**+0.1**
NPS	**Neapolis**	**1.41**	**277**	P	**Pb**	**21 31 20.2**	**+0.1**
NPS				AML	AML	21 31 46.0	
	comp=E,585µm,0.4s						
NPS				AML	AML	21 31 47.1	
	comp=N,453µm,0.5s						
LAST	**Lasithi**	**1.52**	**272**	P	**Pn**	**21 31 21.4**	**+0.5**
LAST	**Lasithi**	**1.52**	**272**	P	**Pn**	**21 31 21.7**	**+0.8**
DAT	**Datca**	**1.63**	**7**	P	**Pb**	**21 31 23.4**	**-0.5**
DAT	**Datca**	**1.63**	**7**	*i* P	**Pn**	**21 31 22.8**	**+0.4**
DAT				*i* S	**Sn**	**21 31 43.7**	**+0.2**
ANAF	**Anafi Island**	**1.77**	**315**	P	**Pn**	**21 31 25.3**	**+1.0**
ANAF				S	**Sn**	**21 31 46.1**	**-0.8**
TURN	**Turunc**	**1.82**	**24**	*i* P	**Pb**	**21 31 27.1**	**+0.1**
TURN				*i* S	**Sg**	**21 31 51.4**	**-1.0**
TURN				IAML		21 31 58.0	
	comp=E,40nm,0.5s						
TURN				IAML		21 32 00.0	
	comp=N,42nm,0.7s						
IDI	**Anoyia**	**2.00**	**276**	P	**Pb**	**21 31 29.4**	**-0.9**
DALY	**Dalyan (Mula)**	**2.02**	**32**	*i* P	**Pb**	**21 31 30.5**	**+0.1**
DALY				*i* S	**Sg**	**21 31 58.0**	**-0.7**
DALY				IAML		21 32 05.0	
	comp=E,55nm,1.0s						
DALY				IAML		21 32 06.0	
	comp=N,37nm,0.7s						
AMGA	**Amorgos Island**	**2.07**	**326**	P	**Pn**	**21 31 29.2**	**+0.7**
FETY	**Fethiye**	**2.09**	**43**	*i* P	**Pn**	**21 31 29.8**	**+1.1**
AKAS	**Kas**	**2.17**	**58**	*i* P	**Pb**	**21 31 32.3**	**-0.8**
APE	**Apeiranthos**	**2.44**	**324**	P	**Pn**	**21 31 34.0**	**+0.5**
AYDN	**Tasoluk**	**2.58**	**10**	*i* P	**Pn**	**21 31 37.5**	**+2.0**
TAVA	**DENIZLI_Tavas**	**2.68**	**28**	*i* P	**Pn**	**21 31 39.0**	**+2.1**
TAVA				*i* S	**Sb**	**21 32 12.7**	**-1.9**
TAVA				IAML		21 32 23.0	
	comp=N,16nm,0.7s						
TAVA				IAML		21 32 24.0	
	comp=E,14nm,0.7s						
GOLH	**Golhisar**	**2.79**	**40**	*i* P	**Pn**	**21 31 41.2**	**+2.8**
KEPZ	**Antalya-Kepez**	**3.90**	**61**	*i* P	**Pn**	**21 31 55.6**	**+2.0**
KEPZ				*i* S	**Sn**	**21 32 33.8**	**-5.7**
KEPZ				IAML		21 32 55.0	
	comp=E,5.3nm,1.0s						

*MAN **30** 21:36:06.9,5.˚31N×126.˚63E,h1km,MS3.9*
*IDC **30** 21:36:06.3±2.1,5.˚54N×126.˚15E,h0km,mb3.3/4, mb1 3.5/4,mb1mx3.3/34,mbtmp3.3/4, Error ellipse: s-maj=133.6km s-min=25.3km az=68.0*
ISC 30 21:36:14.1±1.2,5.˚5N±0.˚1×126.˚5E±0.˚2,h66km,n7,σ2ş44/9, mb3.2/4,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.00**	**308**	*eP*	**Pn**	**21 36 29.4**	**-3.0**
DDMP				*eS*	**Sn**	**21 36 45.2**	**-0.7**
MATI	**Mati**	**1.47**	**351**	*eP*	**Pn**	**21 36 37.2**	**-1.4**
KCP	**Kidapawan**	**2.06**	**317**	*eP*	**Pn**	**21 36 47.1**	**+0.5**
KCP				*i* S	**Sn**	**21 37 15.8**	**+4.4**
FITZ	**Fitzroy Crossi**	**23.45**	**182**	P	**P**	**21 41 17.9**	**+0.1**
	1.1nm,0.8s,baz=1.9,slow=5.6,SNR=1.7						
WRA	**Warramunga Arr**	**26.42**	**163**	P	**P**	**21 41 46.3**	**+1.5**
	0.2nm,0.6s,baz=342,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**29.86**	**166**	P	**P**	**21 42 16.7**	**+1.2**
	0.2nm,0.6s,baz=351,slow=7.1,SNR=4.4						
MKAR	**Makanchi Array**	**56.00**	**325**	P	**P**	**21 45 44.9**	**-1.1**
	0.2nm,0.3s,baz=134,slow=6.2,SNR=6.2						

KRSC 30 21:49:00.1±1.5,53.˚90N×168.˚80E,h40km±25km,ML4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**2.11**	**310**	*eP*	Pn	21 49 34.3	+1.5
BKI				*eS*	Sn	21 50 00.0	+2.3
KBTR	**Krutoberegovo**	**4.15**	**306**	*eP*	Pn	21 50 03.7	+2.9
KBG	**Krutoberegovo**	**4.23**	**306**	*eP*	Pn	21 50 05.4	+3.5
KBG				*eS*	Sn	21 50 55.2	+5.3
SMKR	**Semkarok**	**4.99**	**306**	*eP*	Pn	21 50 18.0	+5.6
TUMD	**Tumrok D**	**5.06**	**288**	*eP*	Pn	21 50 17.7	+4.2
TUMD				*eS*	Sn	21 51 14.7	+4.1
ZLN	**Zelenaya**	**5.08**	**298**	*eS*	Sn	21 51 16.7	+5.7
BDR	**Baidarnaya**	**5.10**	**305**	*eP*	Pn	21 50 19.0	+4.9
KZV	**Kizimen**	**5.11**	**287**	*eP*	Pn	21 50 17.9	+3.7
KZV				*eS*	Sn	21 51 15.4	+3.5
SRKR	**Sorokina**	**5.17**	**305**	*eP*	Pn	21 50 19.8	+4.9
TUMR	**Tumrok**	**5.22**	**289**	*eP*	Pn	21 50 20.3	+4.6
TUMR				*eS*	Sn	21 51 18.9	+4.2
KRSR	**Krestovskiy**	**5.27**	**299**	*eP*	Pn	21 50 21.2	+4.8
KMNR	**Kamenistaya**	**5.29**	**294**	*eP*	Pn	21 50 21.3	+4.7
KMNR				*eS*	Sn	21 51 21.5	+5.2
KIRR	**Kirishev**	**5.30**	**296**	*eP*	Pn	21 50 22.3	+5.5
SPN	**Mys Shipunski**	**5.30**	**265**	*eP*	Pn	21 50 20.9	+4.2
SPN				*eS*	Sn	21 51 20.0	+3.6
KPT	**Kopyto**	**5.36**	**296**	*eP*	Pn	21 50 22.6	+5.0
KII	**Karymskiy**	**5.52**	**275**	*eP*	Pn	21 50 24.8	+5.0
KII				*eS*	Sn	21 51 26.9	+4.9
KOZ	**Kozyrevsk**	**5.58**	**296**	*eP*	Pn	21 50 25.6	+5.1
SRDR	**Sredinnyy**	**5.75**	**299**	*eP*	Pn	21 50 28.3	+5.4
SDLR	**Sedlovina**	**5.94**	**268**	*eP*	Pn	21 50 30.4	+4.8
SDLR				*eS*	Sn	21 51 37.8	+5.5
UGLR	**Uglovaya**	**5.99**	**267**	*eP*	Pn	21 50 31.3	+5.1
SMAR	**Somma**	**5.99**	**268**	*eP*	Pn	21 50 31.0	+4.6
KRER	**Koryakskii**	**6.01**	**268**	*eP*	Pn	21 50 31.4	+4.7
KRER				*eS*	Sn	21 51 39.8	+5.5
AVH	**Avacha**	**6.03**	**268**	*eP*	Pn	21 50 30.5	+3.8
DALK	**Dalny**	**6.06**	**266**	*eP*	Pn	21 50 31.7	+4.6
DALK				*eS*	Sn	21 51 40.2	+5.0
KRX	**Arik**	**6.07**	**269**	*eP*	Pn	21 50 32.0	+4.7
KRX				*eS*	Sn	21 51 41.4	+5.9
KOK	**Koryaka**	**6.08**	**268**	*eP*	Pn	21 50 32.3	+4.8
PET	**Petropavlovsk**	**6.12**	**266**	*eP*	Pn	21 50 33.1	+5.1
PET				*eS*	Sn	21 51 42.2	+5.5
RUS	**Russkaya**	**6.36**	**261**	*eP*	Pn	21 50 35.9	+4.7
RUS				*eS*	Sn	21 51 46.3	+3.9
KRMR	**Karymshinskiy**	**6.48**	**265**	*eP*	Pn	21 50 38.1	+5.3
KRMR				*eS*	Sn	21 51 49.1	+3.7
MTVR	**Mutnovka**	**6.54**	**262**	*eP*	Pn	21 50 38.8	+5.0
MTVR				*eS*	Sn	21 51 51.0	+3.9
GRL	**Gorelyy**	**6.58**	**263**	*eP*	Pn	21 50 40.1	+5.7
ASAK	**Asacha**	**6.73**	**261**	*eP*	Pn	21 50 42.0	+5.6
KDTR	**Khodutka, Kamc**	**6.82**	**257**	*eP*	Pn	21 50 42.6	+5.1
KDTR				*eS*	Sn	21 51 56.9	+3.0
KMSK	**Kamenskaya**	**8.71**	**352**	*eP*	Pn	21 51 08.1	+4.8

*IDC **30** 22:06:06.7±2.2,3.˚48N×124.˚70E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.3/39,mbtmp3.5/3,MS2.5/1,Ms1 2.5/1, ms1mx2.2/19, Error ellipse: s-maj=225.5km s-min=27.9km az=64.0*
*MAN **30** 22:06:08.0,3.˚66N×124.˚37E,h1km,MS4.4*
ISC 30 22:06:08.3±1.3,3.˚66N±0.˚07×124.˚6E±0.˚2,h10km,n9, σ2ş69/12,mb3.4/3,1C,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**2.66**	**24**	*eP*	**Pn**	**22 06 53.8**	**+2.6**
DDMP				*eS*	**Sb**	**22 07 29.8**	**+1.1**
SKMP	**Bagumbayan, Su**	**2.85**	**358**	*eP*	**Pn**	**22 07 55.2**	**+1.4**
SKMP				*eS*	**Sn**	**22 07 28.8**	**+0.6**
KCP	**Kidapawan**	**3.36**	**8**	*eP*	**Pb**	**22 07 05.7**	**-2.4**
DAV	**Davao City (W)**	**3.52**	**15**	LR	LR	22 08 54.1	
	comp=Z,76nm,20.7s,baz=150,slow=46						
BUKP	**Musuan**	**4.22**	**6**	*eP*	**Pn**	**22 07 15.8**	**+3.1**
BUKP				*eS*	**Sb**	**22 08 08.6**	**-5.0**
PAGZ	**Pagadian**	**4.35**	**343**	*eP*	**Pn**	**22 07 16.1**	**+1.6**
PAGZ				*eS*	**Sn**	**22 08 07.1**	**+1.8**
WRA	**Warramunga Arr**	**25.31**	**158**	P	**P**	**22 11 32.9**	**-2.4**
	1.3nm,0.8s,baz=336,slow=10,SNR=9.5						
ASAR	**Alice Springs**	**28.62**	**162**	P	**P**	**22 12 04.2**	**-0.8**
	0.2nm,0.6s,baz=353,slow=8.8,SNR=1.7						
MKAR	**Makanchi Array**	**56.44**	**326**	P	**P**	**22 15 51.6**	**+1.3**
	0.2nm,0.5s,baz=119,slow=7.5,SNR=4.2						

*IDC **30** 22:29:51.0±0.6,44.˚43S×82.˚09W,h0km,mb4.4/13, mb1 4.6/14,mb1mx4.5/22,mbtmp4.4/14,ML4.0/1,MS4.6/21, Ms1 4.6/21,ms1mx4.5/27, Error ellipse: s-maj=24.2km s-min=15.0km az=92.0*
*BJI **30** 22:29:50.0±0.0,44.˚66S×82.˚58W,h10km,mB5.1/4, Ms5.1/9,Ms7 5.1/8*
*NEIC **30** 22:29:52.8±1.5,44.˚33S±0.˚07×82.˚0W±0.˚1,h10km±1km, mb4.8/266, Error ellipse: s-maj=17.5km s-min=12.4km az=278.0*
*GCMT **30** 22:29:53.8±0.1,44.˚38S±0.˚01×82.˚32W±0.˚01,h12km, MW5.3/147,Moment Tensor Solution. s113,c177; s147,c286; Duration: 1ş1 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.06±.01; Mθθ0.03±.01; Mϕϕ1.03±.01; Mrθ0.35±.04; Mθϕ-0.30±.01; Mϕr-0.41±.04; Best double couple: Mo1.21500×10¹⁷ NP1:ϕs175.00000°,δ34.00000°, λ-72.00000°. NP2:ϕs333.00000°,δ58.00000°, λ-102.00000°. Principal axes: T 1.2220, Plg12.0000°, Azm72.0000°; N -0.0170, Plg10.0000°, Azm340.0000°; P -1.2070, Plg74.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 22:29:52.4±0.3,44.˚35S±0.˚06×82.˚18W±0.˚06,h10km,n393, σ1ş32/359,mb4.8/124,MS4.9/37,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LL01	**San Ignacio de**	**7.39**	**78**		**Pn**	**22 31 38.9**	**-1.4**
PLCA	**Paso Flores**	**9.32**	**71**	Pn	**Pn**	**22 32 04.8**	**-2.0**
	0.3nm,0.3s,baz=240,slow=12,SNR=12						
PLCA				LR	LR	22 35 12.8	
	comp=Z,13µm,19.4s,baz=274,slow=35						
PLCA	**Paso Flores**	**9.32**	**71**	*eP*	**Pn**	**22 32 05.5**	**-1.3**
GO09	**Cerro Castillo**	**9.57**	**140**		**Pn**	**22 32 10.9**	**+0.7**
BI03	**Tigo**	**10.23**	**46**	Pn	**Pn**	**22 32 18.3**	**-0.9**
H03S1	**Juan Fernandez**	**10.80**	**15**	T	T	22 43 40.7	
	baz=191,slow=73,SNR=2529						
H03S2	**Juan Fernandez**	**10.80**	**15**	T	T	22 43 39.4	
	baz=191,slow=73,SNR=2349						
H03S3	**Juan Fernandez**	**10.81**	**15**	T	T	22 43 41.2	
	baz=191,slow=73,SNR=2806						
BI02	**San Fabin de**	**11.30**	**51**	Pn	**Pn**	**22 32 33.9**	**-0.2**
GO05	**Huala**	**12.21**	**44**		**Pn**	**22 32 44.3**	**-2.2**
BO02	**Sierra Bellavi**	**12.97**	**46**		**Pn**	**22 32 55.4**	**-1.4**
BO01	**Tunca**	**13.13**	**44**	Pn	**Pn**	**22 32 57.8**	**-1.1**
VA01	**Torpederas**	**13.97**	**40**	Pn	**Pn**	**22 33 08.6**	**-1.8**
MT02	**Curacav**	**14.02**	**42**	Pn	**Pn**	**22 33 08.7**	**-2.4**
MT05	**Renca**	**14.10**	**43**	Pn	**Pn**	**22 33 12.8**	**+0.5**
MG01	**Puerto William**	**14.14**	**144**	Pn	**Pn**	**22 33 12.8**	**+0.2**
ROC1	**El Roble**	**14.31**	**41**	Pn	**Pn**	**22 33 15.1**	**-0.1**
PEL	**Peldehue**	**14.33**	**43**	Pn	**Pn**	**22 33 16.1**	**+0.7**
VA03	**San Esteban**	**14.70**	**42**		**Pn**	**22 33 19.4**	**-1.1**
CO02	**Combarbal**	**15.80**	**38**		**Pn**	**22 33 34.0**	**-1.1**
CO03	**El Pedregal**	**16.25**	**38**	P	**Pn**	**22 33 42.4**	**+1.5**
CO03				IAmb	IAmb	22 33 47.3	
	comp=Z,79nm,1.1s						
ZON	**Zonda**	**16.61**	**44**	Pn	**Pn**	**22 33 44.5**	**-0.9**
GO04	**Tololo Observa**	**16.78**	**36**		**Pn**	**22 33 46.8**	**-1.0**
CO01	**Juntas del Tor**	**17.25**	**38**	P	**Pn**	**22 33 54.0**	**+0.3**
LCO	**Las Campanas**	**17.84**	**35**	Pn	**Pn**	**22 33 59.0**	**-2.0**
AC05	**El Transito**	**18.17**	**35**	P	**Pn**	**22 34 04.2**	**-0.7**
AC05				IAmb	IAmb	22 34 15.1	
	comp=Z,52nm,1.1s						
AC04	**Llanos de Chal**	**18.41**	**33**	P	**P**	**22 34 08.2**	**+0.5**
GO03	**Copiap**	**19.28**	**34**	P	**P**	**22 34 17.0**	**-0.3**
GO03				IAmb	IAmb	22 34 22.8	
	comp=Z,57nm,1.1s						
AC02	**Maricunga**	**20.41**	**35**	P	**P**	**22 34 31.0**	**+0.9**
AC01	**Pan de Azucar**	**20.44**	**31**	P	**P**	**22 34 30.9**	**+1.0**
AC01				IAmb	IAmb	22 34 33.4	
	comp=Z,44nm,1.1s						
LPA	**La Plata**	**20.86**	**71**	*eP*	**P**	**22 34 30.2**	**-4.2**
LPA				PP	**PnPn**	**22 34 49.5**	**-3.2**
LPA				PPP	PPP	22 35 02.0	
LPA				S	**S**	**22 38 21.8**	**-5.2**
LPA				sS	Sn	22 38 31.5	-0.9
LPA				PS	**PcP**	**22 38 36.6**	**-6.0**
LPA				PSP	PSP	22 39 41.0	
LPA				SS	**SnSn**	**22 38 46.4**	**-0.6**
LPA				PKIKP	**PKiKP**	**22 46 34.6**	**+4.5**
GO02	**Mina Guanaco**	**21.71**	**32**	P	**P**	**22 34 43.8**	**-0.2**
PB14	**IPOC Station P**	**21.90**	**30**	P	**P**	**22 34 45.5**	**-0.5**
PB14				IAmb	IAmb	22 34 52.8	
	comp=Z,56nm,1.1s						
PMSA	**Palmer Station**	**22.84**	**160**	P	**P**	**22 34 55.7**	**+0.4**
	comp=Z,4.3nm,0.9s,baz=267,slow=7.5,SNR=3.7						
PMSA				LR	LR	22 41 22.8	
	comp=Z,568nm,19.0s,baz=311,slow=30						
PMSA	**Palmer Station**	**22.84**	**160**	P	**P**	**22 34 54.1**	**-1.2**
PB10	**IPOC Station P**	**22.87**	**28**	P	**P**	**22 34 55.7**	**-0.3**
PB10				IAmb	IAmb	22 35 01.5	
	comp=Z,42nm,1.1s						
PB15	**IPOC Station P**	**23.53**	**30**	P	**P**	**22 35 02.4**	**-0.6**
PB15				IAmb	IAmb	22 35 15.3	
	comp=Z,36nm,1.1s						
PB06	**IPOC Station P**	**23.96**	**30**	P	**P**	**22 35 06.5**	**-0.6**
PB06				IAmb	IAmb	22 35 14.3	
	comp=Z,24nm,1.0s						
LVC	**Limon Verde**	**24.29**	**31**	P	**P**	**22 35 11.9**	**+1.5**
	comp=Z,24nm,0.9s,baz=203,slow=9.8,SNR=12						
LVC				LR	LR	22 42 25.3	
	comp=Z,2µm,20.6s,baz=207,slow=31						
LVC	**Limon Verde**	**24.29**	**31**	P	**P**	**22 35 10.4**	**+0.1**
LVC				IAmb	IAmb	22 35 15.0	
	comp=Z,46nm,1.1s						
LVC	**Limon Verde**	**24.29**	**31**	*eP*	**P**	**22 35 11.5**	**+1.2**
PB07	**IPOC Station P**	**24.75**	**28**	P	**P**	**22 35 16.1**	**+1.7**
PB07				IAmb	IAmb	22 35 22.1	
	comp=Z,34nm,1.1s						
PB09	**IPOC Station P**	**24.91**	**30**	P	**P**	**22 35 17.3**	**+1.5**
PATCX	**Punta Patache**	**25.51**	**27**	P	**P**	**22 35 21.0**	**-0.1**
PATCX				IAmb	IAmb	22 35 31.1	
	comp=Z,33nm,1.0s						
PB01	**IPOC Station P**	**25.52**	**28**	IAmb	IAmb	22 35 40.2	
	comp=Z,14nm,1.1s						
PLTB	**Pedras Altas**	**25.63**	**70**	*eP*	**P**	**22 35 24.5**	**+2.4**
PB08	**IPOC Station P**	**26.47**	**28**	P	**P**	**22 35 31.0**	**+0.8**
PB08				IAmb	IAmb	22 35 40.5	
	comp=Z,16nm,1.1s						
CPSB	**Cacapava Do Su**	**26.59**	**68**	*eP*	**P**	**22 35 32.7**	**+2.0**
PB11	**IPOC Station P**	**26.66**	**27**	P	**P**	**22 35 31.7**	**+0.1**
PB11				IAmb	IAmb	22 35 41.5	
	comp=Z,23nm,1.0s						
PSGCX	**Pisagua**	**26.66**	**26**	P	**P**	**22 35 28.7**	**-2.9**
PSGCX				IAmb	IAmb	22 35 39.7	
	comp=Z,23nm,1.1s						
GO01	**Chusmiza**	**26.90**	**28**	P	**P**	**22 35 33.1**	**-1.0**
GO01				IAmb	IAmb	22 35 42.4	
	comp=Z,15nm,1.1s						
MNMC	**Minye Minye**	**27.26**	**27**	IAmb	IAmb	22 35 47.3	
	comp=Z,21nm,1.0s						
PB12	**IPOC Station P**	**27.52**	**25**	P	**P**	**22 35 38.8**	**-0.5**
PB12				IAmb	IAmb	22 35 48.4	
	comp=Z,21nm,1.1s						
RPN	**Rapa Nui**	**27.76**	**299**	LR	LR	22 43 44.9	
	comp=Z,3µm,20.9s,baz=134,slow=30						
PB16	**IPOC Station P**	**28.04**	**26**	P	**P**	**22 35 44.5**	**0.0**
CNLB	**Canela**	**29.01**	**69**	*eP*	**P**	**22 35 55.6**	**+3.1**
ITAB	**Concordia**	**29.54**	**65**	*eP*	**P**	**22 35 59.7**	**+2.5**
LPAZ	**La Paz**	**30.40**	**27**	P	**P**	**22 36 06.6**	**+1.1**
LPAZ				PcP	**PcP**	**22 39 04.2**	**-1.1**
	comp=Z,7.4nm,0.9s,baz=182,slow=8.6,SNR=12						
LPAZ	**La Paz**	**30.40**	**27**	P	**P**	**22 36 06.8**	**+1.3**
LPAZ				IAmb	IAmb	22 36 25.7	
	comp=Z,1.9nm,1.0s,baz=218,slow=5.4,SNR=2.7						
LPAZ	**La Paz**	**30.40**	**27**	*eP*	**P**	**22 36 07.1**	**+1.6**
PTGB	**Pitanga**	**31.35**	**61**	*eP*	**P**	**22 36 15.3**	**+2.1**
AQDB	**Aquidauana**	**32.40**	**51**	*eP*	**P**	**22 36 24.0**	**+1.5**
TRCB	**Terra Rica**	**32.40**	**58**	*eP*	**P**	**22 36 24.7**	**+2.3**
TIJ01	**Guaruva-PR**	**32.89**	**66**	*eP*	**P**	**22 36 25.8**	**-1.0**
FRTB	**Fartura**	**33.92**	**63**	*eP*	**P**	**22 36 37.9**	**+2.2**
PCMB	**Pacaembu**	**34.13**	**58**	*eP*	**P**	**22 36 39.3**	**+1.7**
PTLB	**Pontes e Lacer**	**34.81**	**41**	*eP*	**P**	**22 36 44.7**	**+1.3**
SPB	**Sao Paulo**	**35.12**	**65**	*eP*	**P**	**22 36 48.7**	**+2.7**
VAO	**Valinhos**	**35.83**	**65**

RUSC La Rusia 50.68 12 P **P** **22 38 52.1 -0.6**
MCPB Macapa, AP 51.33 40 *e*P **P** **22 38 58.0 +1.0**
TMAB Tom-Au,PA,Br 51.52 46 *e*P **P** **22 39 01.3 +2.8**
VNDA Vanda 52.29 194 P **P** **22 39 05.0 +1.6**
comp=Z,2.2nm,0.9s,baz=142,slow=4.9,SNR=4.3
VNDA LR LR 22 58 30.7
comp=Z,790nm,18.2s,baz=123,slow=33
VNDA Vanda 52.29 194 P **P** **22 39 03.8 +0.4**
ROSB Rosrio 53.19 50 *e*P **P** **22 39 13.8 +2.9**
SDV Santo Domingo 54.01 14 *e*P **P** **22 39 17.6 +0.6**
JTS Las Juntas de 54.44 357 P **P** **22 39 21.1 +1.2**
JTS IAmb IAmb 22 39 28.1
comp=Z,17nm,1.1s
ACON Acoyapa 56.12 356 P **P** **22 39 31.1 -0.9**
ESPN Las Esperanzas 56.31 358 P **P** **22 39 34.2 +0.8**
ESPN IAmb IAmb 22 39 46.1
comp=Z,14nm,1.1s
BOAB BOACO BROADBAND 56.62 356 P **P** **22 39 34.8 -0.7**
TBI Tubuai 58.05 268 *e*S **S** **22 47 44.5 -2.0**
comp=Z,527nm,32.5s
TBI *e*LR LR 22 56 45.5
comp=Z,2µm,28.5s,baz=148
MTO3 Montecristo 58.83 352 P **P** **22 39 51.6 +0.2**
MTO3 IAmb IAmb 22 39 52.5
comp=Z,8.0nm,1.1s
ESQI Esquipulas 58.99 352 P **P** **22 39 53.1 +0.8**
RTAL Retalhuleu 59.23 349 P **P** **22 39 54.8 +0.9**
CCIG Comitan 61.02 349 P **P** **22 40 06.4 0.0**
CCIG IAmb IAmb 22 40 13.8
comp=Z,6.3nm,0.9s
TAOE Nuku Hiva Isla 61.15 287 *e*S **S** **22 48 22.7 -4.2**
comp=Z,300nm,27.1s
TAOE *e*LR LR 22 58 12.1
comp=Z,1µm,27.5s
PPT2 Papeete2 61.82 273 *e*S **S** **22 48 34.2 -1.1**
comp=Z,545nm,28.8s
PPT2 *e*LR LR 22 58 24.6
comp=Z,1µm,25.5s,baz=130
PPT Papeete 61.83 273 LR LR 22 59 48.1
comp=Z,598nm,20.7s,baz=140,slow=29
PAPH Port-au-Prince 63.22 11 P **P** **22 40 20.7 -0.1**
MLPR Magueyes Islan 63.55 16 P **P** **22 40 22.1 -0.9**
OBIP Obispado Ponce 63.70 17 P **P** **22 40 22.6 -1.5**
PDPR Patillas Dam, 63.80 17 P **P** **22 40 22.5 -2.2**
PDPR IAmb IAmb 22 40 22.6
comp=Z,12nm,1.1s
HUMP Col San Antoni 63.96 17 P **P** **22 40 24.4 -1.3**
AGPR Aguadilla, PR 64.02 16 P **P** **22 40 25.8 -0.3**
GCPR Guaynabo City 64.07 17 P **P** **22 40 27.1 +0.7**
CBYP Canovanas 64.08 17 P **P** **22 40 25.2 -1.4**
CUPR Culebra, Puert 64.24 18 P **P** **22 40 26.4 -1.2**
GTBY Guantanamo Bay 64.29 7 P **P** **22 40 27.7 -0.2**
MAW Mawson 65.28 166 P **P** **22 40 33.7 -0.2**
comp=Z,2.9nm,0.8s,baz=231,slow=4.4,SNR=10
MAW LR LR 23 08 43.5
comp=Z,368nm,19.8s,baz=235,slow=36
MAW Mawson 65.28 166 P **P** **22 40 33.6 -0.2**
RAR Rarotonga 66.77 263 LR LR 23 02 11.8
comp=Z,1µm,20.3s,baz=100,slow=29
MQZ McQueen's Vall 69.90 228 P **P** **22 41 03.5 +0.1**
HIZ Hauiti 72.19 233 P **P** **22 41 18.6 +1.2**
SLBS Sierra La Lagu 72.32 333 P **P** **22 41 18.1 -0.2**
SLBS IAmb IAmb 22 41 20.6
comp=Z,13nm,1.1s
LPIG La Paz 72.83 333 LR LR 23 05 51.3
comp=Z,258nm,20.8s,baz=170,slow=30
833A Chaparral WMA, 74.02 344 P **P** **22 41 28.5 +0.4**
833A IAmb IAmb 22 41 46.6
comp=Z,5.4nm,0.7s
352A Blakely 75.51 358 P **P** **22 41 36.3 -0.4**
352A IAmb IAmb 22 41 47.5
comp=Z,10nm,0.9s
344A Westbrook Farm 75.85 352 P **P** **22 41 39.4 +0.8**
TXAR Lajitas Array 75.92 341 P **P** **22 41 40.7 +1.5**
comp=Z,1.4nm,1.0s,baz=158,slow=8.1,SNR=11
TXAR LR LR 23 09 42.4
comp=Z,310nm,18.7s,baz=0.0,slow=32
TXAR Lajitas Array 75.92 341 P **P** **22 41 40.3 +1.1**
TX31 Lajitas Ar. Si 75.92 341 IAmb IAmb 22 41 57.9
comp=Z,9.2nm,1.1s
342A Flagon Creek P 75.93 351 P **P** **22 41 39.6 +0.6**
250A Grady 76.06 356 P **P** **22 41 40.6 +0.8**
250A IAmb IAmb 22 41 40.8
comp=Z,16nm,1.1s
435B Jarrell 76.09 346 P **P** **22 41 40.4 +0.4**
435B IAmb IAmb 22 41 58.0
comp=Z,12nm,1.1s
JCT Junction City 76.19 344 P **P** **22 41 41.7 +1.1**
NATX Nacogdoches 76.60 349 P **P** **22 41 44.3 +1.4**
146A Union 76.88 354 P **P** **22 41 45.4 +1.0**
LRAL Lakeview Retre 77.14 356 P **P** **22 41 46.6 +0.7**
LRAL IAmb IAmb 22 41 57.2
comp=Z,6.1nm,1.1s
143A Socs Landing, 77.15 352 P **P** **22 41 46.1 +0.2**
WHTX Lake Whitney, 77.25 347 P **P** **22 41 46.3 -0.2**
WHTX IAmb IAmb 22 41 47.4
comp=Z,10nm,0.9s
Z51A Franklin 77.35 357 P **P** **22 41 46.9 -0.2**
Z51A IAmb IAmb 22 41 49.9
comp=Z,5.8nm,0.8s
Z47A Carrollton 77.37 355 P **P** **22 41 46.7 -0.4**
Z47A IAmb IAmb 22 41 54.4
comp=Z,9.4nm,0.9s
GOGA Godfrey 77.41 359 IAmb IAmb 22 41 48.7
comp=Z,9.9nm,1.1s
Z41A Richland Creek 77.85 351 P **P** **22 41 51.0 +1.2**
Z41A IAmb IAmb 22 41 59.7
comp=Z,16nm,1.1s
Y52A Lilburn 77.87 358 IAmb IAmb 22 42 01.3
comp=Z,5.8nm,1.1s
BBSR BB Station 78.01 15 P **P** **22 41 49.6 -1.1**
Y45A Yeager Farm, C 78.14 354 P **P** **22 41 51.9 +0.5**
HODGE Hodges 78.21 360 P **P** **22 41 52.5 +0.7**
ABTX Abilene, Hawle 78.25 345 P **P** **22 41 50.8 -1.3**
ABTX IAmb IAmb 22 41 51.5
comp=Z,5.6nm,0.9s
WLAR White Oak Lake 78.31 351 P **P** **22 41 53.1 +0.7**
CCAR Cane Creek 78.39 352 P **P** **22 41 54.1 +1.3**
Z35A Perchaven, San 78.53 347 P **P** **22 41 54.0 +0.5**
Z35A IAmb IAmb 22 41 54.2
comp=Z,7.2nm,0.7s
X48A Hartselle 78.56 356 P **P** **22 41 54.2 +0.5**
X48A IAmb IAmb 22 42 01.5
comp=Z,9.5nm,1.1s
FPAL Fort Paine 78.58 357 P **P** **22 41 54.6 +0.7**
FPAL IAmb IAmb 22 42 01.5
comp=Z,9.8nm,1.2s
X51A Calhoun 78.58 358 P **P** **22 41 54.6 +0.8**
X51A IAmb IAmb 22 41 54.7
comp=Z,9.6nm,1.1s
MNTX Cornudas Mount 78.59 340 P **P** **22 41 53.8 -0.2**
BIRD Birdtown, Kers 78.64 1 P **P** **22 41 54.8 +0.6**
OXF Oxford 78.77 354 P **P** **22 41 54.8 -0.1**
OXF IAmb IAmb 22 42 14.6
comp=Z,8.1nm,0.7s
PAULI Pauline 78.80 0 P **P** **22 41 54.2 -0.9**
GDL2 Guadalupe Moun 78.83 341 P **P** **22 41 56.0 +0.5**
X43A Marvell 78.90 353 P **P** **22 41 55.0 -0.6**
X43A IAmb IAmb 22 41 56.1
comp=Z,16nm,1.1s
BG3 Lake Jocassee 78.98 359 P **P** **22 41 56.4 +0.4**
W52A Murphy 79.09 359 P **P** **22 41 57.4 +0.7**
W52A IAmb IAmb 22 42 03.6
comp=Z,7.4nm,1.1s
KMSC Kings Mountain 79.13 1 P **P** **22 41 56.3 -0.6**
PLAL Pickwick Lake 79.14 355 P **P** **22 41 56.8 -0.1**
W57A Gilead 79.16 2 P **P** **22 41 54.8 -2.2**
W50A Signal Mountai 79.23 357 P **P** **22 41 57.6 +0.1**
W50A IAmb IAmb 22 42 12.6
comp=Z,9.3nm,1.1s
SWET Sewanee 79.27 357 IAmb IAmb 22 41 58.3
comp=Z,9.9nm,1.1s
319A Douglas 79.32 337 P **P** **22 41 58.6 +0.5**
W45A Hickory Valley 79.39 354 P **P** **22 41 58.2 -0.1**
TKL Tuckaleechee C 79.65 359 LR LR 23 11 31.0
comp=Z,171nm,20.9s,baz=160,slow=31
TKL Tuckaleechee C 79.65 359 P **P** **22 41 58.8 -0.9**
V53A Saluda 79.65 359 P **P** **22 41 59.7 -0.1**
WHAR Wooly Hollow 79.80 352 P **P** **22 42 00.7 +0.2**
WHAR IAmb IAmb 22 42 09.1
comp=Z,13nm,1.0s
V58A Windy Hill, Pi 79.82 3 P **P** **22 42 01.2 +0.6**
V48A Smith Brothers 79.83 356 IAmb IAmb 22 42 09.5
comp=Z,7.7nm,1.1s

V55A Taylorsville 79.83 1 P **P** **22 42 01.2 +0.5**
V60A Jim Taylor Roa 79.87 4 P **P** **22 42 01.3 +0.4**
V60A IAmb IAmb 22 42 12.6
comp=Z,9.5nm,1.1s
W39A Magazine 79.88 350 P **P** **22 42 01.3 +0.4**
W39A IAmb IAmb 22 42 02.0
comp=Z,12nm,1.1s
121A Cookes Peak, D 80.00 338 P **P** **22 42 02.3 +0.4**
WMOK Wichita Mounta 80.15 346 P **P** **22 42 02.2 -0.2**
WMOK IAmb IAmb 22 42 11.2
comp=Z,12nm,1.1s
CLTN Cedars of Leba 80.16 357 P **P** **22 42 02.6 +0.2**
WVT Waverly 80.27 355 P **P** **22 42 03.0 0.0**
U56A King 80.34 1 P **P** **22 42 03.0 -0.4**
TUC Tucson 80.63 336 P **P** **22 42 05.6 +0.4**
PIX Pinacate 80.76 333 P **P** **22 42 06.8 +1.0**
PIX IAmb IAmb 22 42 15.9
comp=Z,8.4nm,1.1s
TUL1 Leonard 80.84 349 P **P** **22 42 06.6 +0.5**
TUL1 IAmb IAmb 22 42 23.6
comp=Z,12nm,1.1s
214A Organ Pipe Nat 80.92 334 P **P** **22 42 07.7 +1.0**
214A IAmb IAmb 22 42 09.3
comp=Z,6.1nm,1.0s
BOSA Boshof 81.78 122 P **P** **22 42 11.4 -0.4**
comp=Z,5.3nm,0.9s,baz=188,slow=2.6,SNR=4.9
BOSA LR LR 23 14 23.0
comp=Z,338nm,18.7s,baz=230,slow=33
ANMO Albuquerque 81.95 340 LR LR 23 12 37.2
comp=Z,18nm,21.9s,baz=326,slow=31
ANMO Albuquerque 81.95 340 P **P** **22 42 13.8 +1.5**
ANMO IAmb IAmb 22 42 22.3
comp=Z,7.2nm,1.1s
113A Mohawk Valley, 81.97 334 P **P** **22 42 13.5 +1.3**
ESJX Sierra Juarez 82.00 332 P **P** **22 42 13.2 +0.7**
ESJX IAmb IAmb 22 42 29.8
comp=Z,6.8nm,1.2s
R58B Mineral 82.03 3 P **P** **22 42 13.3 +1.0**
R58B IAmb IAmb 22 42 15.5
comp=Z,9.5nm,1.1s
R55A Marlinton 82.28 2 P **P** **22 42 13.7 -0.1**
R50A Paris 82.28 358 P **P** **22 42 12.7 -0.9**
R53A Hurricane 82.31 0 P **P** **22 42 14.5 +0.7**
R53A IAmb IAmb 22 42 27.0
comp=Z,9.3nm,1.1s
R49A Shelbyville 82.31 358 P **P** **22 42 12.5 -1.4**
R49A IAmb IAmb 22 42 22.3
comp=Z,7.1nm,1.1s
KAN10 Anthony SW Sta 82.37 347 P **P** **22 42 14.2 0.0**
CCM Cathedral Cave 82.44 353 P **P** **22 42 14.2 -0.3**
GLA Glamis 82.58 333 P **P** **22 42 16.4 +1.0**
GLA IAmb IAmb 22 42 25.8
comp=Z,8.3nm,0.9s
X16A Lo Mia Camp, P 82.80 336 IAmb IAmb 22 42 28.0
comp=Z,4.2nm,0.9s
Q44A Meyer Farm, Va 83.11 355 P **P** **22 42 17.8 -0.2**
Q44A IAmb IAmb 22 42 37.4
comp=Z,11nm,1.1s
P51A Williamsport 83.46 359 P **P** **22 42 20.2 +0.5**
P53A Whipple 83.46 1 P **P** **22 42 20.0 +0.2**
P53A IAmb IAmb 22 42 32.3
comp=Z,5.5nm,1.1s
P48A Milroy 83.48 357 P **P** **22 42 19.4 -0.5**
P48A IAmb IAmb 22 42 29.5
comp=Z,5.3nm,1.1s
P49A Miami Univ. Ec 83.54 358 P **P** **22 42 18.8 -1.3**
P49A IAmb IAmb 22 42 30.2
comp=Z,10nm,1.0s
T25A Trinidad 83.58 342 P **P** **22 42 21.2 +0.5**
T25A IAmb IAmb 22 42 40.4
comp=Z,8.5nm,1.1s
P52A Corning 83.61 0 P **P** **22 42 20.1 -0.4**
P52A IAmb IAmb 22 42 29.3
comp=Z,9.3nm,1.1s
PFO Pinyon Flats O 83.64 332 LR LR 23 11 41.7
comp=Z,162nm,21.0s,baz=165,slow=30
PFO Pinyon Flats O 83.64 332 P **P** **22 42 21.6 +0.6**
PFO IAmb IAmb 22 42 23.5
comp=Z,3.9nm,0.9s
MCWV Mont Chateau 83.66 2 P **P** **22 42 22.5 +1.8**
MCWV IAmb IAmb 22 42 29.9
comp=Z,2.2nm,0.6s
R32A Long Quarter, 83.74 347 P **P** **22 42 22.2 +1.0**
WUAZ Wupatki 83.80 336 P **P** **22 42 22.7 +0.8**
WUAZ IAmb IAmb 22 42 39.1
comp=Z,3.2nm,0.8s
KSU1 Kansas State U 84.09 349 P **P** **22 42 24.1 +1.2**
MVL Millersville 84.14 5 P **P** **22 42 23.2 +0.1**
MVL IAmb IAmb 22 42 30.2
comp=Z,12nm,1.1s
W13A Hualapai Mount 84.16 334 P **P** **22 42 24.6 +0.8**
ACSO Alum Creek Sta 84.21 359 P **P** **22 42 23.1 -0.5**
ACSO IAmb IAmb 22 42 25.2
comp=Z,9.2nm,0.9s
O53A New Philadelph 84.22 1 IAmb IAmb 22 42 26.7
comp=Z,8.6nm,1.0s
O56A Blue Knob Stat 84.30 3 P **P** **22 42 23.4 -0.7**
O44A Mansfield 84.31 355 P **P** **22 42 25.1 +1.0**
LBTB Lobatse 84.59 120 P **P** **22 42 25.6 -0.7**
LBTB IAmb IAmb 22 42 27.8
comp=Z,4.0nm,0.8s
MVCO Mesa Verde 84.61 339 P **P** **22 42 27.2 +1.2**
HDIL Hopedale 84.77 355 P **P** **22 42 27.1 +0.7**
N53A Lisbon 84.79 1 P **P** **22 42 27.0 +0.5**
N49A Columbus Grove 84.91 358 P **P** **22 42 27.1 0.0**
N49A IAmb IAmb 22 42 34.6
comp=Z,11nm,1.1s
U15A North Rim 84.92 336 P **P** **22 42 28.6 +1.0**
N58A Sunbury 84.95 4 P **P** **22 42 28.1 +0.8**
N58A IAmb IAmb 22 42 46.2
comp=Z,7.7nm,1.1s
N54A Moraine State 84.95 2 P **P** **22 42 26.1 -1.2**
N59A State Game Lan 85.08 5 P **P** **22 42 28.6 +0.5**
GSC Goldstone, Bar 85.29 332 P **P** **22 42 30.0 +0.7**
M57A Sunshine Farm, 85.43 4 P **P** **22 42 29.6 -0.1**
M57A IAmb IAmb 22 42 48.0
comp=Z,6.8nm,1.0s
Q24A Divide 85.49 342 P **P** **22 42 32.2 +1.7**
Q24A IAmb IAmb 22 42 34.2
comp=Z,5.9nm,1.1s
PV01 Paradox Valley 85.51 339 P **P** **22 42 31.5 +1.0**
PV02 Paradox Valley 85.62 339 P **P** **22 42 31.9 +0.8**
PV02 IAmb IAmb 22 42 35.4
comp=Z,6.5nm,1.1s
KNB Kanab 85.62 336 P **P** **22 42 31.9 +0.9**
DBIC Dimbokro 85.64 76 P **P** **22 42 31.2 -0.3**
comp=Z,9.2nm,1.0s,baz=219,slow=8.7,SNR=4.1
DBIC LR LR 23 13 56.8
comp=Z,335nm,21.8s,baz=200,slow=31
DBIC Dimbokro 85.64 76 IAmb IAmb 22 42 35.1
comp=Z,17nm,1.1s
PV03 Paradox Valley 85.69 339 P **P** **22 42 31.9 +0.6**
PV11 David Mesa, Pa 85.74 339 P **P** **22 42 32.5 +0.9**
PV11 IAmb IAmb 22 42 39.1
comp=Z,6.1nm,1.0s
PV12 Saucer Basin, 85.74 339 P **P** **22 42 32.6 +1.0**
PV12 IAmb IAmb 22 42 35.9
comp=Z,12nm,1.1s
PV16 Nyswonger Mesa 85.76 339 P **P** **22 42 32.7 +1.0**
PV16 IAmb IAmb 22 42 46.2
comp=Z,3.0nm,0.7s
PV04 Paradox Valley 85.84 339 P **P** **22 42 32.1 +0.1**
SHPR Sheep Range 85.86 334 IAmb IAmb 22 42 42.8
comp=Z,8.2nm,1.1s
PV22 Blue Mesa, Par 85.94 339 P **P** **22 42 32.0 -0.5**
ISA Isabella, Lake 86.19 331 P **P** **22 42 35.1 +1.4**
L56A Greenwood 86.21 3 P **P** **22 42 33.8 +0.2**
L56A IAmb IAmb 22 42 42.8
comp=Z,12nm,1.1s
SZCU Shurtz Canyon 86.23 336 P **P** **22 42 35.8 +1.7**
L42A Oliver, Polo 86.24 354 P **P** **22 42 34.9 +1.2**
CCUT Cedar City 86.27 336 P **P** **22 42 35.4 +1.2**
L44A Lake County Fo 86.30 356 P **P** **22 42 34.4 +0.4**
MTPU Mount Pierson 86.39 337 P **P** **22 42 35.1 +0.1**
ISCO Idaho Springs 86.39 342 P **P** **22 42 35.4 +0.5**
WVNY West Valley, N 86.44 3 P **P** **22 42 34.6 0.0**
WVNY IAmb IAmb 22 42 42.1
comp=Z,9.8nm,1.1s
TPNV Topopah Spring 86.61 333 P **P** **22 42 36.3 +0.4**
TPNV IAmb IAmb 22 42 38.6
comp=Z,7.2nm,1.1s
PRN Pahroc Range 86.65 334 P **P** **22 42 37.3 +1.3**
OGNE Ogallala 86.77 345 P **P** **22 42 37.3 +0.9**
MMNY Mt. Morris Dam 86.79 3 P **P** **22 42 36.4 0.0**

MSU Marysvale 86.82 337 P **P** **22 42 38.0 +1.0**
WES Weston 86.90 8 P **P** **22 42 35.2 -1.6**
WES IAmb IAmb 22 42 37.0
comp=Z,12nm,1.1s
K58A Earlville 86.93 5 P **P** **22 42 35.9 -1.2**
K58A IAmb IAmb 22 42 37.1
comp=Z,8.8nm,1.1s
SRU San Rafael Swe 86.93 338 P **P** **22 42 38.2 +0.8**
TCRU Three Creeks R 86.99 337 P **P** **22 42 38.9 +1.1**
JFWS Jewell Farm 87.18 354 P **P** **22 42 37.9 -0.4**
TMUT Trail Mountain 87.29 338 P **P** **22 42 40.7 +1.4**
O20A White River Ci 87.32 340 P **P** **22 42 40.5 +1.2**
O20A IAmb IAmb 22 42 49.1
comp=Z,5.6nm,1.1s
J55A Hilton 87.32 3 P **P** **22 42 39.3 +0.4**
P17A Butcher Ranch, 87.33 338 P **P** **22 42 40.4 +1.1**
PSUT Pine Spring 87.33 336 P **P** **22 42 40.8 +1.4**
N23A Red Feather La 87.51 342 P **P** **22 42 41.2 +0.9**
N23A IAmb IAmb 22 42 42.3
comp=Z,8.7nm,1.1s
J58A Remsen 87.55 5 P **P** **22 42 38.5 -1.6**
J58A IAmb IAmb 22 42 52.6
comp=Z,6.4nm,1.1s
J57A Williamstown 87.55 5 P **P** **22 42 37.2 -2.8**
R11A Troy Canyon, C 87.68 334 P **P** **22 42 42.1 +1.1**
R11A IAmb IAmb 22 42 43.5
comp=Z,4.0nm,1.0s
ACCN Adirondack Com 87.68 6 P **P** **22 42 40.8 +0.1**
ACCN IAmb IAmb 22 42 53.5
comp=Z,5.9nm,1.1s
PHWY Pilot Hill 87.80 343 P **P** **22 42 41.0 -0.7**
RDMU Red Mountain 88.06 339 P **P** **22 42 43.6 +0.7**
I42A Draeger Farm, 88.06 355 P **P** **22 42 41.5 -1.0**
HNH Hanover 88.12 7 P **P** **22 42 42.9 +0.1**
I40A Norwalk 88.18 354 P **P** **22 42 42.6 -0.4**
NCB Newcomb 88.23 6 P **P** **22 42 43.6 +0.4**
NCB IAmb IAmb 22 42 51.7
comp=Z,4.2nm,1.0s
LHV Little Huntoon 88.54 332 P **P** **22 42 46.6 +1.8**
LHV IAmb IAmb 22 42 55.5
comp=Z,10nm,1.2s
I37A Lemond, Waseca 88.55 352 P **P** **22 42 45.2 +0.4**
JLU Jordanelle 88.58 338 P **P** **22 42 46.0 +0.7**
NV11 Mina Array Sit 88.58 333 P **P** **22 42 45.4 +0.1**
NVAR Mina Array Bea 88.63 332 P **P** **22 42 47.1 +1.5**
comp=Z,1.1nm,0.7s,baz=179,slow=6.3,SNR=5.5
NVAR LR LR 23 16 03.8
comp=Z,88nm,19.0s,baz=97,slow=31
NVAR Mina Array Bea 88.63 332 P **P** **22 42 47.0 +1.4**
ECSD EROS Data Cent 88.64 350 IAmb IAmb 22 42 53.1
comp=Z,8.7nm,1.1s
LBNH Lisbon 88.68 7 P **P** **22 42 45.8 +0.4**
LBNH IAmb IAmb 22 42 50.1
comp=Z,8.1nm,1.1s
SADO Sadowa 88.78 2 LR LR 23 19 51.0
comp=Z,69nm,18.4s,baz=196,slow=34
SADO Sadowa 88.78 2 P **P** **22 42 44.5 -1.3**
SADO IAmb IAmb 22 42 45.0
comp=Z,10nm,1.1s
LONY Lake Ozonia 88.85 5 P **P** **22 42 45.5 -0.6**
LONY IAmb IAmb 22 43 01.7
comp=Z,2.8nm,0.8s
RYN Ryan 88.88 332 P **P** **22 42 47.4 +0.7**
RYN IAmb IAmb 22 43 01.1
comp=Z,4.5nm,0.8s
DZM Mont Dzumac 88.98 240 *e*LR LR 23 11 01.2
comp=Z,2µm,24.1s
CMB Columbia Colle 88.99 331 P **P** **22 42 47.8 +0.7**
TCUT Toone Canyon 89.05 338 P **P** **22 42 48.8 +1.3**
G45A Suttons Bay 89.06 358 P **P** **22 42 46.7 -0.5**
WAKR Walker 89.08 332 P **P** **22 42 48.2 +0.5**
WAKR IAmb IAmb 22 43 03.6
comp=Z,4.3nm,1.0s
PLVO Plevna 89.12 4 P **P** **22 42 48.8 +1.3**
PLVO IAmb IAmb 22 42 49.7
comp=Z,4.1nm,0.8s
KVN Kaiserville 89.13 333 P **P** **22 42 47.7 -0.2**
FRNY Flat Rock 89.13 6 P **P** **22 42 46.9 -0.6**
FRNY IAmb IAmb 22 42 51.0
comp=Z,7.0nm,1.1s
K22A Casper 89.32 342 P **P** **22 42 49.2 +0.5**
K22A IAmb IAmb 22 43 06.7
comp=Z,9.7nm,1.1s
SPUT South Promonto 89.50 338 P **P** **22 42 50.4 +0.8**
ORIO Orleans, Innes 89.62 5 P **P** **22 42 49.9 +0.2**
SPMN Marine on St. 89.69 353 P **P** **22 42 49.1 -1.0**
SPMN IAmb IAmb 22 42 55.6
comp=Z,5.3nm,1.1s
F42A Maple Grove Fa 89.88 356 P **P** **22 42 48.8 -2.2**
AFDM Forest Hills D 90.01 331 P **P** **22 42 53.0 +1.2**
AFDM IAmb IAmb 22 43 12.2
comp=Z,5.3nm,1.1s
GGN Saint George 90.12 11 P **P** **22 42 51.6 -0.5**
PD31 Pinedale Array 90.13 340 IAmb IAmb 22 43 10.1
comp=Z,4.0nm,1.1s
PDAR Pinedale Array 90.13 340 P **P** **22 42 53.5 +1.0**
comp=Z,1.6nm,0.9s,baz=163,slow=5.6,SNR=9.3
PDAR LR LR 23 18 09.2
comp=Z,118nm,21.1s,baz=148,slow=32
PDAR Pinedale Array 90.13 340 P **P** **22 42 52.8 +0.3**
PAHR Pah Rah Range 90.14 332 P **P** **22 42 53.8 +1.2**
PAHR IAmb IAmb 22 43 04.3
comp=Z,5.1nm,1.1s
COWI Conover 90.28 355 P **P** **22 42 53.9 +1.1**
COWI IAmb IAmb 22 42 59.4
comp=Z,7.6nm,1.1s
F36A Milaca 90.39 352 P **P** **22 42 52.8 -0.6**
F36A IAmb IAmb 22 42 52.9
comp=Z,5.4nm,1.1s
E43A Lone Tree Farm 90.44 357 P **P** **22 42 54.2 +0.6**
AHID Auburn Hatcher 90.51 339 P **P** **22 42 54.8 +0.5**
AHID IAmb IAmb 22 42 59.2
comp=Z,10nm,1.1s
ORV Oroville 90.73 331 IAmb IAmb 22 43 10.8
comp=Z,7.1nm,1.1s
TPAW Teton Pass 91.15 339 P **P** **22 42 57.3 0.0**
TPAW IAmb IAmb 22 42 58.4
comp=Z,5.5nm,1.1s
LOHW Long Hollow 91.18 340 P **P** **22 42 56.9 -0.5**
FXWY Fox Creek 91.31 339 P **P** **22 42 58.5 +0.5**
FXWY IAmb IAmb 22 43 07.8
comp=Z,4.7nm,1.1s
FLWY Flagg Ranch 91.65 340 P **P** **22 42 59.8 +0.2**
FLWY IAmb IAmb 22 43 02.0
comp=Z,7.8nm,1.1s
WDC Whiskeytown Da 92.01 330 P **P** **22 43 01.8 +0.7**
YHH Holmes Hill 92.35 340 P **P** **22 43 03.6 +0.8**
BOZ Bozeman (W) 93.30 340 P **P** **22 43 07.8 +0.8**
DLMT Dillon 93.32 339 P **P** **22 43 08.2 +1.1**
STKA Stephens Creek 94.27 216 LR LR 23 17 32.3
comp=Z,631nm,20.0s,baz=177,slow=30
TORD Torodi Ar. Bea 94.76 76 LR LR 23 20 28.6
comp=Z,334nm,21.7s,baz=235,slow=32
H11N3 WAKE ISLAND Hy 118.35 270 T T 00 57 55.4
baz=130,slow=76,SNR=10
H11N1 WAKE ISLAND Hy 118.36 270 T T 00 58 03.5
baz=130,slow=76,SNR=21
H11N2 WAKE ISLAND Hy 118.37 270 T T 00 57 57.2
baz=130,slow=76,SNR=14
ILAR Eielson Array 119.87 333 PKP **PKPdf** **22 48 41.2 -0.6**
comp=Z,1.0nm,0.8s,baz=169,slow=2.1,SNR=11
NKC Novy Kostel 124.84 51 AMS AMS 23 43 10.0
comp=Z,400nm,17.4s
GERES GERESS Array B 124.86 53 PKP **PKPdf** **22 48 51.3 -0.7**
comp=Z,0.8nm,0.8s,baz=221,slow=1.2,SNR=8.0
GERES GERESS Array B 124.86 53 **PKPdf** **22 48 50.8 -1.2**
KHC Kasperske Hory 124.93 53 AMS AMS 23 41 40.0
comp=Z,400nm,22.2s
PRA Prague 125.88 52 AMS AMS 23 44 50.0
comp=Z,300nm,18.1s
PRU Pruhonice 125.90 52 AMS AMS 23 44 50.0
comp=Z,500nm,17.7s
GOPC GO Pecny, Ondr 126.00 52 AMS AMS 23 41 40.0
comp=Z,400nm,18.5s
TREC Trest 126.11 53 AMS AMS 23 45 10.0
comp=Z,300nm,18.3s
PVCC Panska Ves 126.17 52 AMS AMS 23 44 40.0
comp=Z,500nm,17.9s
UPC Upice 126.97 52 AMS AMS 23 46 00.0
comp=Z,400nm,17.8s
CHVC Chvalec 127.04 52 AMS AMS 23 46 00.0
comp=Z,400nm,19.2s
DPC Dobruska-Polom 127.08 53 AMS AMS 23 42 40.0
comp=Z,300nm,21.4s
OSTC Ostas 127.11 52 AMS AMS 23 46 10.0

	comp=Z,300nm,15.6s						
KRLC	**Kraliky**	**127.22**	**53**	AMS	AMS	23 46 20.0	
	comp=Z,200nm,18.4s						
VYHS	**Vyhne**	**127.69**	**56**	*e*PKP	**PKPdf**	**22 48 57.0**	**-0.3**
BRTR	**Keskin Array B**	**133.19**	**72**	PKP	**PKPdf**	**22 49 07.6**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=238,slow=2.3,SNR=4.7						
PETK	**Petropavlovsk-**	**140.61**	**305**	PKP	**PKPdf**	**22 49 21.7**	**+0.4**
	comp=Z,4.5nm,0.9s,baz=120,slow=5.8,SNR=7.6						
PETK	**Petropavlovsk-**	**140.61**	**305**		**PKPdf**	**22 49 21.3**	**0.0**
SEY	**Seymchan**	**144.07**	**321**	PKP	**PKPab**	**22 49 25.1**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=262,slow=23,SNR=3.0						
MJAR	**Matsushiro Arr**	**148.54**	**270**	PKPbc	**PKPbc**	**22 49 38.4**	**-0.8**
	comp=Z,2.9nm,0.9s,baz=154,slow=3.3,SNR=6.9						
MJAR	**Matsushiro Arr**	**148.54**	**270**		**PKPbc**	**22 49 38.6**	**-0.6**
MAT	**Matsushiro**	**148.54**	**270**	PKP	**PKPbc**	**22 49 38.9**	**-0.3**
GEYT	**Alibeck**	**149.65**	**88**	PKPbc	**PKPbc**	**22 49 41.2**	**-0.8**
	comp=Z,5.7nm,0.9s,baz=286,slow=5.5,SNR=10						
CMAR	**Chiang Mai Arr**	**154.16**	**182**	PKPbc	**PKPbc**	**22 49 51.7**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=208,slow=4.0,SNR=4.2						
NJ2	**Nanjing**	**159.47**	**240**	*e*PKP	**PKPdf**	**22 49 50.8**	**-0.2**
KSH	**Kashi**	**163.06**	**99**	*e*PKP	**PKPdf**	**22 49 55.0**	**+0.2**
BJI	**Beijing**	**165.73**	**259**	PKP	**PKPdf**	**22 49 57.0**	**+0.1**
BJI				PP	**PP**	**22 54 44.5**	**+0.5**
BJI				LR	LR		
	comp=Z,92nm,23.1s						
BJI				LR	LR		
	comp=Z,220nm,22.0s						
BJI				LR	LR		
	comp=Z,440nm,26.5s						
XAN	**Xi'an**	**166.59**	**224**	PKP	**PKPdf**	**22 49 57.8**	**-0.1**
XAN				SS	SS	23 15 27.8	-2.3
XAN				AMB	AMB		
	comp=Z,120nm,16.0s						
XAN				LR	LR		
	comp=Z,110nm,21.4s						
XAN				LR	LR		
	comp=Z,190nm,26.7s						
XAN				LR	LR		
	comp=Z,250nm,30.0s						
ZALV	**Zalesovo Beam**	**167.19**	**37**	PKP	**PKPdf**	**22 49 55.8**	**-1.8**
	comp=Z,1.7nm,0.9s,baz=234,slow=1.3,SNR=5.3						
ZALV				PKPab	**PKPab**	**22 51 01.9**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=298,slow=3.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**167.19**	**37**		**PKPdf**	**22 49 55.2**	**-2.4**
ZALV					**PKPab**	**22 51 02.5**	**+0.3**
MKAR	**Makanchi Array**	**168.84**	**72**	PKP	**PKPdf**	**22 49 57.0**	**-2.0**
	comp=Z,0.1nm,0.4s,baz=153,slow=1.4,SNR=3.6						
MKAR				PKPab	**PKPab**	**22 51 08.9**	**-1.1**
	comp=Z,0.8nm,1.0s,baz=251,slow=3.7,SNR=3.9						
MKAR	**Makanchi Array**	**168.84**	**72**		**PKPdf**	**22 49 57.9**	**-1.2**
HHC	**Hu-ho-hao-te**	**169.28**	**256**	*e*PKP	**PKPdf**	**22 49 59.0**	**-0.6**
HHC				LR	LR		
	comp=Z,190nm,20.1s						
HHC				LR	LR		
	comp=Z,250nm,22.7s						
HHC				LR	LR		
	comp=Z,440nm,21.9s						
WMQ	**Urumqi**	**172.69**	**91**	*e*PKP	**PKPdf**	**22 50 02.0**	**+0.7**
SONM	**Songino Array**	**173.09**	**303**	PKP	**PKPdf**	**22 49 58.9**	**-2.5**
	comp=Z,0.8nm,1.0s,baz=232,slow=1.7,SNR=4.4						
SONM	**Songino Array**	**173.09**	**303**		**PKPdf**	**22 49 59.2**	**-2.2**
GTA	**Gaotai**	**174.84**	**197**	*e*PKP	**PKPdf**	**22 50 02.0**	**-0.3**
GTA				pPKP	sPKPdf	22 50 06.3	+0.9
GTA				sPKP		22 50 09.5	

*IDC **30** 22:55:09.7±2.4,36°.18N×57°.59E,h0km,mb3.2/3, mb1 3.3/4,mb1mx3.1/60,mbtmp3.3/4,ML3.6/1,Error ellipse: s-maj=23.0km s-min=11.2km az=11.0*
*TEH **30** 22:55:11.3,36°.27N×57°.72E,h14km,ML3.5*
*THR **30** 22:55:12.2±0.7,36°.20N×57°.70E,h14km±22km,ML3.5*
ISC 30 22:55:12.3±0.8,36°.32N±0°.04×57°.73E±0°.03,h10km,n44,
σ0s80/48,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISFR	**Sfrayin**	**0.77**	**16**	*e*Pg	**Pb**	**22 55 27.6**	**-0.4**
ISFR				*e*		22 55 28.3	
IKRD	**Kardeh**	**0.78**	**54**	*e*Pn	Pn	22 55 39.7	+10
IKRD				*e*		22 56 04.7	
IAKL	**Akhelmad**	**0.87**	**71**	*e*Pg	**Pg**	**22 55 28.6**	**-0.6**
IAKL				*e*		22 55 45.3	
IPAY	**Payeh**	**1.03**	**82**	*e*Pg	**Pg**	**22 55 31.4**	**-0.7**
IPAY				*e*Sg	**Sb**	**22 55 45.9**	**-0.1**
IPAY				*e*		22 55 50.7	
IMOG	**Moghan**	**1.31**	**99**	*e*Pg	**Pn**	**22 55 35.9**	**-1.1**
IMOG				*e*		22 56 01.0	
IEMG	**Emamgholi**	**1.32**	**34**	*e*Pg	**Pg**	**22 55 37.5**	**-0.3**
IEMG				*e*Sg	**Sn**	**22 55 55.5**	**+0.5**
IEMG				*e*		22 56 02.4	
GEYT	**Alibeck**	**1.64**	**11**	Pg	**Pg**	**22 55 43.4**	**-0.5**
	14nm,0.3s,baz=198,slow=17,SNR=96						
GEYT				Lg	Lg	22 56 06.5	
	21nm,0.3s,baz=192,slow=31,SNR=5.1						
IMYA	**Miami**	**1.91**	**88**	*e*Pn	**Pn**	**22 55 45.7**	**+0.5**
IMYA				*e*		22 56 14.8	
IMND	**Minoodasht**	**2.09**	**297**	*e*Pn	**Pn**	**22 55 47.7**	**+0.3**
IMND				*e*		22 55 56.3	
JRKH	**Jarkhoshk**	**2.16**	**100**	*e*Pn	**Pn**	**22 55 49.2**	**+0.7**
TNSJ	**Nastanj**	**2.52**	**202**	*e*Pn	**Pn**	**22 55 52.5**	**-0.9**
TNSJ				*e*		22 56 32.3	
TABS	**Tabas**	**2.71**	**191**	*e*Pn	**Pn**	**22 55 55.6**	**-0.4**
TABS				*e*Sg	**Sb**	**22 56 33.8**	**-0.4**
TABS	**Tabas**	**2.71**	**191**	*e*Pn	**Pn**	**22 55 55.6**	**-0.4**
TKDS	**Koohdasht(Taba**	**2.74**	**191**	*e*Pn	**Pn**	**22 55 55.6**	**-0.9**
TKDS				*e*		22 56 46.4	
AFRZ	**Afriz**	**3.07**	**160**	*e*Pn	**Pn**	**22 56 01.0**	**0.0**
IGLO	**Ghaloghah**	**3.15**	**275**	*e*Pn	**Pn**	**22 56 02.5**	**+0.2**
IGLO				*e*		22 57 01.4	
IANJ	**Anjilo**	**3.21**	**256**	*e*Pn	**Pn**	**22 56 03.1**	**0.0**
IANJ				*e*		22 56 59.3	
TPRV	**Parvadeh(Tabas**	**3.39**	**195**	*e*Pn	**Pn**	**22 56 04.3**	**-1.1**
TPRV				*e*		22 57 12.5	
SHRT	**Shahrakht**	**3.39**	**141**	*e*Pn	**Pn**	**22 56 06.2**	**+0.8**
SHRT				*e*Sg	**Sb**	**22 56 55.3**	**+1.4**
SHRT	**Shahrakht**	**3.39**	**141**	*e*Pn	**Pn**	**22 56 06.2**	**+0.8**
ITEG	**Tejag**	**3.51**	**166**	*e*Pn	**Pn**	**22 56 07.1**	**-0.1**
ITEG				*e*		22 57 18.0	
ISHM	**Shahmirzad**	**3.63**	**263**	*e*Pn	**Pn**	**22 56 09.2**	**+0.3**
ISHM				*e*		22 57 09.7	
IALA	**Alasht**	**3.99**	**268**	*e*Pn	**Pn**	**22 56 13.9**	**+0.1**
IALA				*e*		22 57 35.7	
ILAS	**Lasjerd**	**3.99**	**258**	*e*Pn	**Pn**	**22 56 14.1**	**+0.3**
ILAS				*e*		22 57 22.8	
IFIR	**Firoozkooh**	**4.09**	**262**	*e*Pn	**Pn**	**22 56 14.9**	**-0.3**
IPRN	**Peran**	**4.36**	**271**	*e*Pn	**Pn**	**22 56 19.1**	**+0.3**
IPRN				*e*		22 57 52.8	
BSRN	**Basiran**	**4.49**	**165**	*e*Pn	**Pn**	**22 56 20.5**	**0.0**
BSRN	**Basiran**	**4.49**	**165**	*e*Pn	**Pn**	**22 56 20.5**	**0.0**
ANAR	**Anarak**	**4.54**	**228**	*e*Pn	**Pn**	**22 56 19.3**	**-1.9**
IDMV	**Damavand**	**4.68**	**263**	*e*Pn	**Pn**	**22 56 22.7**	**-0.7**
YZKH	**Yazd**	**4.70**	**214**	*e*Pn	**Pn**	**22 56 23.7**	**+0.3**
YZKH				*e*Sg	**Sb**	**22 57 34.3**	**+2.8**
YZKH				IAML		22 57 51.0	
	comp=E,32nm,0.4s						
YZKH	**Yazd**	**4.70**	**214**	*e*Pn	**Pn**	**22 56 23.7**	**+0.3**
ICHK	**Chekchek**	**4.91**	**215**	*e*Pn	**Pn**	**22 56 25.0**	**-1.4**
IBAF	**Bafgh**	**5.04**	**202**	*e*Pn	**Pn**	**22 56 28.0**	**-0.2**
NHDN	**Nehbandan**	**5.27**	**158**	*e*Pn	**Pn**	**22 56 31.8**	**+0.5**
IMEH	**Mehriz**	**5.55**	**209**	*e*Pn	**Pn**	**22 56 34.8**	**-0.5**
IZEF	**Zefreh**	**5.61**	**234**	*e*Pn	**Pn**	**22 56 36.8**	**+0.7**
IKLH	**Kolahrood**	**5.88**	**241**	*e*Pn	**Pn**	**22 56 39.1**	**-0.6**
IRAM	**Ramesheh**	**6.32**	**226**	*e*Pn	**Pn**	**22 56 45.7**	**-0.1**
IPIR	**Pirpir**	**6.71**	**239**	*e*Pn	**Pn**	**22 56 51.7**	**+0.5**
BVAR	**Borovoye Array**	**18.93**	**24**	P	**P**	**22 59 32.8**	**-0.4**
	comp=E,0.2nm,0.3s,baz=200,slow=12,SNR=4.7						
KURBB	**Kurchatov Arra**	**20.69**	**40**	P	**P**	**22 59 53.2**	**+0.8**
	comp=E,0.5nm,0.6s,baz=237,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**21.07**	**53**	P	**P**	**22 59 57.3**	**+0.7**
	comp=E,0.1nm,0.5s,baz=263,slow=8.6,SNR=2.4						
AKASG	**Malin Array Be**	**24.99**	**314**	P	**P**	**23 00 35.1**	**-0.9**
	comp=E,0.3nm,0.4s,baz=109,slow=8.5,SNR=5.1						

*IDC **30** 23:04:16.0±0.9,60°.31N×16°.23E,h0km,mb1 3.5/4, mb1mx3.1/58,mbtmp3.4/4,ML2.6/3,Error ellipse: s-maj=12.1km s-min=5.0km az=167.0*
*NAO **30** 23:04:16.5±0.9,60°.41N×16°.16E,ML2.4*
*UPP **30** 23:04:16.1±0.0,60°.33N×16°.25E,h0km,ML2.5,Explosion*
*HEL **30** 23:04:16.8±0.1,60°.32N×16°.25E,h0km,ML2.5, ML2.5(UPP),Suspected explosion*

*DNK **30** 23:04:17.3±1.1,60°.47N×16°.51E,h31km±38km,ML2.9*
*BER **30** 23:04:17.8±2.3,60°.37N×16°.37E,h0km,ML2.3, ML2.5(DNK),Suspected explosion*
ISC 30 23:04:14.9±0.7,60°.36N±0°.02×16°.27E±0°.01,h0km,n86,
σ1s89/121,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FALU	**Falun**	**0.26**	**302**	P	**Pg**	**23 04 21.4**	**+1.6**
FALU				S	**Sg**	**23 04 24.8**	**+1.7**
FALU	**Falun**	**0.26**	**302**	*i* P	**Pg**	**23 04 21.4**	**+1.6**
FALU				*i* S	**Sg**	**23 04 24.8**	**+1.7**
FALU	**Falun**	**0.26**	**302**	P	**Pg**	**23 04 21.4**	**+1.6**
FALU				S	**Sg**	**23 04 24.8**	**+1.7**
OSTU	**Oestervaala**	**0.45**	**107**	P	**Pb**	**23 04 24.9**	**-0.8**
OSTU				S	**Sg**	**23 04 30.6**	**+1.4**
OSTU	**Oestervaala**	**0.45**	**107**	*i* P	**Pb**	**23 04 24.9**	**-0.8**
OSTU				*i* S	**Sg**	**23 04 30.6**	**+1.4**
OSTU	**Oestervaala**	**0.45**	**107**	P	**Pb**	**23 04 24.9**	**-0.8**
OSTU				S	**Sg**	**23 04 30.6**	**+1.4**
BACU	**Backbrunna**	**0.66**	**140**	P	**Pg**	**23 04 28.3**	**+0.8**
BACU	**Backbrunna**	**0.66**	**140**	*i* P	**Pg**	**23 04 28.3**	**+0.8**
BACU	**Backbrunna**	**0.66**	**140**	P	**Pg**	**23 04 28.3**	**+0.8**
FIBU	**Brunna**	**0.71**	**130**	P	**Pg**	**23 04 29.2**	**+0.8**
FIBU	**Brunna**	**0.71**	**130**	*i* P	**Pg**	**23 04 29.2**	**+0.8**
FIBU	**Brunna**	**0.71**	**130**	P	**Pg**	**23 04 29.2**	**+0.8**
IGGU	**Iggoen**	**0.73**	**44**	P	**Pb**	**23 04 30.4**	**0.0**
IGGU	**Iggoen**	**0.73**	**44**	*i* P	**Pb**	**23 04 30.4**	**0.0**
IGGU	**Iggoen**	**0.73**	**44**	P	**Pb**	**23 04 30.4**	**0.0**
FLYU	**Flymyra**	**0.84**	**105**	P	**Pg**	**23 04 31.8**	**+0.9**
FLYU	**Flymyra**	**0.84**	**105**	*i* P	**Pg**	**23 04 31.8**	**+0.9**
FLYU	**Flymyra**	**0.84**	**105**	P	**Pg**	**23 04 31.8**	**+0.9**
UPP	**Uppsala**	**0.84**	**126**	P	**Pg**	**23 04 31.6**	**+0.6**
UPP	**Uppsala**	**0.84**	**126**	*i* P	**Pg**	**23 04 31.6**	**+0.6**
FORU	**Forsmark**	**0.95**	**88**	P	**Pb**	**23 04 34.0**	**-0.1**
FORU	**Forsmark**	**0.95**	**88**	*e*P	**Pb**	**23 04 34.0**	**-0.1**
FORU	**Forsmark**	**0.95**	**88**	P	**Pb**	**23 04 34.0**	**-0.1**
NRAU	**Nora**	**1.01**	**219**	P	**Pg**	**23 04 34.3**	**+0.2**
NRAU	**Nora**	**1.01**	**219**	*e*P	**Pg**	**23 04 34.3**	**+0.2**
NRAU	**Nora**	**1.01**	**219**	P	**Pg**	**23 04 34.3**	**+0.2**
ROTU	**Roteberg**	**1.09**	**348**	P	**Pb**	**23 04 36.8**	**+0.2**
ROTU	**Roteberg**	**1.09**	**348**	*e*P	**Pb**	**23 04 36.8**	**+0.2**
ROTU	**Roteberg**	**1.09**	**348**	P	**Pb**	**23 04 36.8**	**+0.2**
GRAU	**Graesoe**	**1.13**	**90**	P	**Pg**	**23 04 37.1**	**+0.7**
GRAU	**Graesoe**	**1.13**	**90**	*e*P	**Pg**	**23 04 37.1**	**+0.7**
GRAU	**Graesoe**	**1.13**	**90**	P	**Pg**	**23 04 37.1**	**+0.7**
ESKU	**Eskilstuna**	**1.13**	**177**	P	**Pg**	**23 04 36.8**	**+0.2**
ESKU	**Eskilstuna**	**1.13**	**177**	*e*P	**Pg**	**23 04 36.8**	**+0.2**
ESKU	**Eskilstuna**	**1.13**	**177**	P	**Pg**	**23 04 36.8**	**+0.2**
HFS	**Hagfors**	**1.31**	**261**	Pg	**Pg**	**23 04 39.9**	**0.0**
	baz=74,slow=14						
HFS				Lg	Lg	23 04 56.4	
	baz=75,slow=37						
HFS	**Hagfors**	**1.31**	**261**	Pg	**Pg**	**23 04 39.8**	**-0.1**
	6.5nm,0.3s,baz=81,slow=18,SNR=265						
HFS				Lg	Lg	23 04 56.0	
	8.1nm,0.3s,baz=82,slow=31,SNR=15						
HFS	**Hagfors**	**1.31**	**261**	Pg	**Pg**	**23 04 39.9**	**0.0**
	baz=74,slow=14						
HFS				Sg	**Sg**	**23 04 56.4**	**-0.4**
	baz=75,slow=37						
UDD	**Uddeholm**	**1.36**	**260**	P	**Pg**	**23 04 40.6**	**-0.2**
UDD	**Uddeholm**	**1.36**	**260**	*e*P	**Pg**	**23 04 40.6**	**-0.2**
NRTU	**Norrtaelje**	**1.37**	**119**	P	**Pb**	**23 04 41.5**	**+0.3**
NRTU	**Norrtaelje**	**1.37**	**119**	*e*P	**Pb**	**23 04 41.5**	**+0.3**
NRTU	**Norrtaelje**	**1.37**	**119**	P	**Pb**	**23 04 41.5**	**+0.3**
ASKU	**Askersund**	**1.64**	**207**	P	**Pb**	**23 04 45.7**	**-0.3**
ASKU	**Askersund**	**1.64**	**207**	*e*P	**Pb**	**23 04 45.7**	**-0.3**
ASKU	**Askersund**	**1.64**	**207**	P	**Pb**	**23 04 45.7**	**-0.3**
AAL	**Aland**	**1.86**	**94**	*e*P	**Pb**	**23 04 49.3**	**-0.4**
AAL				*e*S	**Sb**	**23 05 13.6**	**+0.1**
NC602	**NORSAR Array S**	**2.37**	**281**	*e*P	**Pb**	**23 04 57.1**	**-1.3**
NC602				*e*S	**Sb**	**23 05 27.6**	**-0.6**
NC602				IAML		23 05 29.6	
	comp=Z,32nm,0.5s						
NRA0	**NORESS Array S**	**2.37**	**281**	Pn	**Pb**	**23 04 57.0**	**-1.4**
	baz=84,slow=16						
NRA0				Lg	Lg	23 05 28.1	
	baz=96,slow=37						
NRA0	**NORESS Array S**	**2.37**	**281**	Pn	**Pb**	**23 04 57.0**	**-1.4**
	baz=84,slow=16						
NRA0				Sg	**Sb**	**23 05 28.1**	**0.0**
	baz=96,slow=37						
HEMU	**Hemsoen**	**2.47**	**19**	*e*P	**Pb**	**23 04 59.5**	**-0.7**
HEMU				*e*S	**Sb**	**23 05 31.2**	**+0.1**
NB201	**NORSAR Array S**	**2.54**	**288**	*e*P	**Pn**	**23 04 59.4**	**+1.9**
NB201				*e*S	**Sb**	**23 05 32.5**	**-0.7**
NB201				IAML		23 05 35.7	
	comp=Z,20nm,0.3s						
NC303	**NORSAR Array S**	**2.56**	**292**	*e*P	**Pn**	**23 04 59.7**	**+2.2**
NC303				*e*S	**Sb**	**23 05 33.1**	**-0.4**
NC303				IAML		23 05 36.4	
	comp=Z,49nm,0.3s						
NB2	**NORSAR Subarra**	**2.58**	**288**	Pn	**Pn**	**23 05 00.2**	**+2.3**
	baz=103,slow=14						
NB2				Lg	Lg	23 05 32.1	
	baz=103,slow=37						
NB2	**NORSAR Subarra**	**2.58**	**288**	Pn	**Pn**	**23 05 00.2**	**+2.3**
	baz=103,slow=14						
NB2				Sg	**Sn**	**23 05 32.1**	**+2.2**
	baz=103,slow=37						
NOA	**NORSAR Array B**	**2.58**	**288**	Pn	**Pn**	**23 04 58.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=106,slow=18,SNR=48						
NOA				Pg	**Pb**	**23 05 01.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=109,slow=15,SNR=7.9						
NOA				Sn	**Sn**	**23 05 29.1**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=248,slow=7.5,SNR=3.0						
NOA				Lg	Lg	23 05 36.1	
	comp=Z,0.8nm,0.3s,baz=109,slow=19,SNR=12						
NAO01	**NORSAR Array S**	**2.70**	**283**	*e*P	**Pn**	**23 05 01.0**	**+1.5**
NAO01				*e*S	**Sb**	**23 05 35.5**	**-2.2**
NAO01				IAML		23 05 40.5	
	comp=Z,39nm,0.3s						
RAF	**Rauma**	**2.78**	**74**	*e*PB	**Pb**	**23 05 04.4**	**-1.0**
RAF				*e*SB	**Sb**	**23 05 40.7**	**+0.8**
RAF				MSG		23 05 44.3	
	comp=Z,13nm,0.2s						
NBO00	**NORSAR Array S**	**2.79**	**286**	*e*P	**Pn**	**23 05 02.3**	**+1.6**
NBO00				*e*S	**Sn**	**23 05 36.3**	**+1.3**
NBO00				IAML		23 05 45.2	
	comp=Z,23nm,0.4s						
NC204	**NORSAR Array S**	**2.85**	**291**	*e*P	**Pn**	**23 05 03.7**	**+2.1**
NC204				*e*S	**Sb**	**23 05 40.7**	**-1.4**
NC204				IAML		23 05 45.7	
	comp=Z,30nm,0.2s						
STRU	**Stroemstad**	**2.90**	**245**	*i* P	**Pn**	**23 05 03.6**	**+1.3**
STRU				*i* S	**Sn**	**23 05 38.3**	**+0.5**
BORU	**Boraas**	**3.28**	**215**	*i* P	**Pn**	**23 05 09.7**	**+2.2**
HUSU	**Husum**	**3.30**	**24**	*e*P	**Pn**	**23 05 11.0**	**+3.3**
TJOU	**Tjoern**	**3.34**	**228**	*i* P	**Pn**	**23 05 09.7**	**+1.4**
KON	**Kongsberg**	**3.43**	**261**	Pn	**Pn**	**23 05 09.3**	**-0.2**
KON				Pg	**Pb**	**23 05 16.7**	**+0.3**
KON				Sn	**Sn**	**23 05 50.2**	**-0.6**
KON				Lg	Lg	23 06 00.5	
KONO	**Kongsberg**	**3.43**	**261**	*e*P	**Pb**	**23 05 16.7**	**+0.3**
ONAU	**Onsala**	**3.73**	**219**	*e*P	**Pn**	**23 05 15.7**	**+2.0**
ONAU				*i* S	**Sn**	**23 05 50.0**	**-0.3**
MEF	**Metsahovi**	**4.05**	**88**	*e*P	**Pn**	**23 05 20.2**	**+2.3**
MEF				*e*SG	**Sg**	**23 06 22.2**	**-2.5**
MEF				MSG		23 06 25.6	
	comp=Z,12nm,0.2s						
VAF	**Ylistaro**	**4.06**	**46**	*e*P	**Pn**	**23 05 22.2**	**+4.0**
VAF				*e*S	**Sn**	**23 06 09.7**	**+3.3**
VAF				MSG		23 06 27.7	
	comp=Z,6.8nm,0.2s						
UMAU	**Umeaa**	**4.10**	**28**	*e*P	**Pn**	**23 05 22.1**	**+3.4**
UMAU				*e*S	**Sn**	**23 06 09.3**	**+2.1**
UMAU				*e*SG	**Sg**	**23 06 25.1**	**-1.2**
DEL	**Delary**	**4.10**	**199**	*i* P	**Pn**	**23 05 20.9**	**+2.2**
SLIT	**Slitere, Latvi**	**4.14**	**129**	*e*P	**Pn**	**23 05 20.6**	**+1.2**
MTSE	**Matsula**	**4.18**	**110**	*e*PG	**Pb**	**23 05 31.2**	**+2.0**
HOMB	**Homborsund**	**4.50**	**246**	*e*P	**Pn**	**23 05 26.7**	**+2.6**
HOMB	**Homborsund**	**4.50**	**246**	*e*P	**Pn**	**23 05 26.7**	**+2.6**
KEF	**Keuruu**	**4.53**	**63**	*e*P	**Pn**	**23 05 27.4**	**+2.8**
KEF				*e*SG	**Sg**	**23 06 37.5**	**-2.8**
KEF				MSG		23 06 42.5	
	comp=Z,5.6nm,0.2s						
FIA0	**FINESS Array S**	**4.91**	**73**	Pn	**Pn**	**23 05 32.7**	**+2.8**
	baz=258,slow=12						
FIA0				Sn	**Sn**	**23 06 27.6**	**+0.4**
	baz=257,slow=22						
FIA0				Lg	Lg	23 06 48.3	
	baz=264,slow=28						
FINES	**FINESS Array B**	**4.91**	**73**	Pn	**Pn**	**23 05 32.6**	**+2.8**
	comp=Z,1.1nm,0.3s,baz=260,slow=12,SNR=54						
FINES				Sn	**Sn**	**23 06 27.4**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=261,slow=23,SNR=9.1						
FINES				Lg	Lg	23 06 46.9	
	comp=Z,2.2nm,0.3s,baz=254,slow=21,SNR=11						
LUNU	**Lund**	**4.97**	**199**	*i* P	**Pn**	**23 05 31.8**	**+1.1**
LUNU				*i* S	**Sn**	**23 06 27.2**	**-1.6**
SNART	**Snartemo**	**5.06**	**250**	IAML		23 06 54.8	
	comp=Z,8.8nm,0.3s						
SNART	**Snartemo**	**5.06**	**250**	IAML		23 06 54.8	
	comp=Z,8.8nm,0.3s						
ARA0	**ARCESS Array S**	**9.99**	**19**	Pn	**Pn**	**23 06 38.4**	**-1.1**
	baz=203,slow=14						
ARA0				Sn	**Sn**	**23 08 24.6**	**-7.5**
ARA0	**ARCESS Array S**	**9.99**	**19**	Pn	**Pn**	**23 06 38.4**	**-1.1**
	baz=203,slow=14						
ARA0				Sn	**Sn**	**23 08 24.6**	**-7.5**
ARCES	**ARCESS Array B**	**9.99**	**19**	Pn	**Pn**	**23 06 38.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=203,slow=13,SNR=8.8						
ARCES				Sn	**Sn**	**23 08 24.7**	**-7.5**
	comp=Z,0.2nm,0.3s,baz=204,slow=18,SNR=1.1						
ARCES				Lg	Lg	23 09 30.8	
	comp=Z,0.4nm,0.3s,baz=207,slow=27,SNR=3.4						
SPITS	**Spitsbergen Ar**	**17.91**	**0**	P	**P**	**23 08 26.6**	**+1.0**
	baz=158,slow=12,SNR=1.3						

*NAO **30** 23:16:03.6±1.6,71°.50N×1°.86W,ML3.4*
*IDC **30** 23:16:04.8±3.6,71°.43N×1°.53W,h0km,mb3.4/2,mb1 3.7/7, mb1mx3.3/44,mbtmp3.6/7,ML3.1/5,MS3.1/5,Ms1 3.1/5, ms1mx2.8/37,Error ellipse: s-maj=55.8km s-min=26.0km az=96.0*
*BER **30** 23:16:06.6±3.7,71°.58N×2°.22W,h10km,ML3.4(NAO), Confirmed Earthquake*
ISC 30 23:16:04.9±1.3,71°.55N±0°.10×1°.9W±0°.1,h10km,n47,
σ0s70/46,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMIC	**Jan Mayen**	**2.22**	**258**	Pn	**Pn**	**23 16 41.3**	**-0.4**
JMIC	**Jan Mayen**	**2.22**	**258**	Pn	**Pn**	**23 16 41.3**	**-0.4**
LOF	**Lofoten**	**6.32**	**115**	*e*P	**Pn**	**23 17 38.1**	**+0.2**
N2SV	**S rv¥gen**	**6.33**	**118**	*e*P	**Pn**	**23 17 37.9**	**-0.1**
N2RO	**R st**	**6.35**	**123**	*e*P	**Pn**	**23 17 38.5**	**+0.2**
N2VI	**Vinje**	**6.39**	**113**	*e*P	**Pn**	**23 17 39.9**	**+1.0**
N2VA	**Vr y**	**6.40**	**120**	*e*P	**Pn**	**23 17 39.0**	**0.0**
STEI	**Steigen**	**6.95**	**113**	*e*P	**Pn**	**23 17 47.4**	**+0.9**
TRO	**Tromso**	**7.17**	**96**	*e*P	**Pn**	**23 17 49.2**	**-0.4**
NBB30	**Finnes**	**7.18**	**122**	*e*P	**Pn**	**23 17 49.9**	**+0.2**
HSPB	**Hornsund (broa**	**7.19**	**33**	Pn	**Pn**	**23 17 49.5**	**-0.3**
HSPB	**Hornsund (broa**	**7.19**	**33**	Pn	**Pn**	**23 17 49.5**	**-0.3**
FAUS	**Fauske**	**7.32**	**116**	*e*P	**Pn**	**23 17 52.3**	**+0.7**
NBB40	**Tonnes**	**7.33**	**126**	*e*P	**Pn**	**23 17 51.9**	**+0.2**
KONS	**Konsvik**	**7.37**	**126**	*e*P	**Pn**	**23 17 52.6**	**+0.3**
STOK	**Stokkvaagen**	**7.47**	**127**	*e*P	**Pn**	**23 17 54.6**	**+0.9**
MOR8	**Moi Rana**	**7.97**	**125**	*e*P	**Pn**	**23 18 02.4**	**+1.9**
KIF	**Kilpisjarvi**	**8.05**	**98**	*e*P	**Pn**	**23 18 02.2**	**+0.6**
SPA0	**Spitsbergen Ar**	**8.13**	**27**	Pn	**Pn**	**23 18 03.0**	**+0.3**
	baz=208,slow=16						
**S

KONS					IAmb	IAmb	23 25 37.0		
	comp=Z,8.4nm,0.9s								
MOR8	**Moi Rana**		**7.94**	**125**	*e*P	**Pn**	**23 25 45.7**	**+1.5**
MOR8					IAmb	IAmb	23 25 47.4		
	comp=Z,5.0nm,0.6s								
KIF	**Kilpisjarvi**		**8.02**	**98**	*e*P	**Pn**	**23 25 46.5**	**+1.1**
SPA0	**Spitsbergen Ar**		**8.13**	**27**	*e*P	**Pn**	**23 25 47.0**	**+0.3**
SPA0					IAmb	IAmb	23 25 50.1		
	comp=Z,45nm,1.4s								
SPITS	**Spitsbergen Ar**		**8.13**	**27**	Pn	**Pn**	**23 25 47.1**	**+0.3**
	baz=203,slow=17,SNR=25								
KBS	**Kingsbay**		**8.17**	**19**	*e*P	**Pn**	**23 25 46.9**	**-0.4**
HAMF	**Hammerfest**		**8.29**	**84**	*e*P	**Pn**	**23 25 49.0**	**0.0**
HAMF					IAmb	IAmb	23 25 50.6		
	comp=Z,8.2nm,0.9s								
NSS	**Namsos**		**8.70**	**137**	*e*P	**Pn**	**23 25 55.4**	**+0.9**
NSS					IAmb	IAmb	23 25 59.0		
	comp=Z,9.4nm,0.6s								
KTK1	**Kautokeino**		**8.79**	**95**	*e*P	**Pn**	**23 25 57.2**	**+1.3**
KTK1					IAmb	IAmb	23 25 59.5		
	comp=Z,7.5nm,1.0s								
ARCES	**ARCESS Array B**		**9.28**	**89**	Pn	**Pn**	**23 26 03.2**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=289,slow=12,SNR=31								
ARCES					LR	LR	23 29 13.0		
	comp=Z,82nm,21.7s,baz=219,slow=35								
ARE0	**ARCESS Array S**		**9.28**	**89**	*e*P	**Pn**	**23 26 04.1**	**+1.6**
NOA	**NORSAR Array B**		**11.73**	**147**	Pn	**Pn**	**23 26 36.3**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=333,slow=12,SNR=1.8								
HFS	**Hagfors**		**13.02**	**144**	Pn	**Pn**	**23 26 53.4**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=338,slow=11,SNR=16								
FINES	**FINESS Array B**		**14.84**	**119**	Pn	**Pn**	**23 27 18.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=330,slow=11,SNR=14								
GERES	**GERESS Array B**		**23.88**	**154**	P	**P**	**23 29 02.7**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=358,slow=9.6,SNR=4.3								
AKASG	**Malin Array Be**		**25.15**	**130**	P	**P**	**23 29 13.3**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=340,slow=9.6,SNR=4.3								

HEL ***30*** *23:39:38.4, 67.85N×20.23E, h0km, ML1.6, Explosion*
UPP 30 23:39:37.3±0.1, 67.82N×20.21E, h0km, ML1.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**20**	P	Pg	23 39 40.2	+0.2
KUA				S	Sg	23 39 42.2	+0.4
KUA	**Kurravaara**	**0.14**	**20**	*i* P	Pg	23 39 40.2	+0.2
KUA				*i* S	Sg	23 39 42.2	+0.4
RATU	**Laukkuluspa**	**0.23**	**271**	P	Pg	23 39 42.0	+0.2
RATU				S	Sg	23 39 45.2	+0.4
RATU	**Laukkuluspa**	**0.23**	**271**	*i* P	Pg	23 39 42.0	+0.2
RATU				*i* S	Sg	23 39 45.2	+0.4
KOVU	**Salmi**	**0.40**	**357**	P	Pg	23 39 45.0	0.0
KOVU				S	Sg	23 39 50.1	-0.1
KOVU	**Salmi**	**0.40**	**357**	*i* P	Pg	23 39 45.0	0.0
KOVU				*i* S	Sg	23 39 50.1	-0.1
NIKU	**Nikkaluokta**	**0.45**	**276**	P	Pg	23 39 45.8	0.0
NIKU				S	Sg	23 39 51.9	+0.2
NIKU	**Nikkaluokta**	**0.45**	**276**	*i* P	Pg	23 39 45.8	0.0
NIKU				*i* S	Sg	23 39 51.9	+0.2
LANU	**Lannavaara**	**0.71**	**70**	P	Pg	23 39 50.6	-0.2
LANU	**Lannavaara**	**0.71**	**70**	*e*P	Pg	23 39 50.7	-0.2
LANU				*e*S	Sg	23 39 59.9	-0.2
SALU	**Saltoluokta**	**0.79**	**237**	P	Pg	23 39 51.9	-0.4
SALU	**Saltoluokta**	**0.79**	**237**	*i* P	Pg	23 39 51.9	-0.4
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	23 40 00.2	-0.2
KIF				*e*S	Sg	23 40 16.1	0.0
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	23 40 00.3	-0.1
KTK1	**Kautokeino**	**1.64**	**42**	*e*P	Pn	23 40 06.8	-0.5
TOF	**Tornio**	**2.38**	**135**	*e*P	Pn	23 40 19.0	+1.5
TOF				*e*SB	Sb	23 40 52.2	-0.6
TOF				MSG		23 40 57.2	
	comp=Z,2.0nm,0.2s						
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	23 40 19.4	+1.0
RNF	**Rovaniemi**	**2.57**	**116**	*e*P	Pn	23 40 21.9	+1.9
RNF				*e*SB	Sb	23 40 55.9	-0.2
KEV	**Kevo**	**3.14**	**49**	*e*SB	Sb	23 41 11.5	-1.2
BURU	**Burvik**	**3.29**	**171**	*e*P	Pn	23 40 31.6	+1.7

UPP ***30*** *23:40:35.9±0.1, 67.82N×20.20E, h1km, ML1.6, Explosion*
HEL ***30*** *23:40:36.4, 67.81N×20.17E, h0km, ML2.0, Explosion*
ISC 30 23:40:36.0±0.9, 67.82N±0.03×20.19E±0.03, h0km, n19, σ0s75/34, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**23**	P	**Pg**	**23 40 38.8**	**0.0**
KUA				S	**Sg**	**23 40 40.8**	**+0.3**
KUA	**Kurravaara**	**0.14**	**23**	*i* P	**Pg**	**23 40 38.8**	**0.0**
KUA				*i* S	**Sg**	**23 40 40.8**	**+0.3**
RATU	**Laukkuluspa**	**0.23**	**270**	P	**Pg**	**23 40 40.4**	**0.0**
RATU				S	**Sg**	**23 40 43.0**	**-0.3**
RATU	**Laukkuluspa**	**0.23**	**270**	*i* P	**Pg**	**23 40 40.4**	**0.0**
RATU				*i* S	**Sg**	**23 40 43.0**	**-0.3**
KOVU	**Salmi**	**0.40**	**358**	P	**Pg**	**23 40 43.5**	**-0.2**
KOVU				S	**Sg**	**23 40 48.8**	**0.0**
KOVU	**Salmi**	**0.40**	**358**	*i* P	**Pg**	**23 40 43.5**	**-0.2**
KOVU				*i* S	**Sg**	**23 40 48.8**	**0.0**
NIKU	**Nikkaluokta**	**0.44**	**276**	P	**Pg**	**23 40 44.3**	**-0.1**
NIKU				S	**Sg**	**23 40 50.4**	**+0.3**
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P	**Pg**	**23 40 44.3**	**-0.1**
NIKU				*i* S	**Sg**	**23 40 50.4**	**+0.3**
LANU	**Lannavaara**	**0.72**	**71**	P	**Pg**	**23 40 49.1**	**-0.6**
LANU	**Lannavaara**	**0.72**	**71**	*e*PB	**Pg**	**23 40 50.0**	**+0.3**
LANU				*e*S	**Sg**	**23 40 58.7**	**-0.2**
KIF	**Kilpisjarvi**	**1.21**	**11**	*e*PB	**Pg**	**23 40 59.0**	**-0.2**
KIF				MSG		23 41 14.5	
	comp=Z,16nm,0.2s						
KIF				*e*SB	**Sg**	**23 41 15.4**	**+0.6**
KIF	**Kilpisjarvi**	**1.21**	**11**	*e*P	**Pg**	**23 40 58.5**	**-0.7**
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*PG	**Pn**	**23 41 03.1**	**-0.9**
ERTU				*e*SB	**Sg**	**23 41 22.8**	**-1.2**
KTK1	**Kautokeino**	**1.64**	**42**	*e*P	**Pn**	**23 41 04.9**	**-1.2**
TOF	**Tornio**	**2.39**	**135**	*e*PB	**Pn**	**23 41 17.5**	**+1.2**
TOF				MSG		23 41 46.9	
	comp=Z,7.1nm,0.2s						
TOF				*e*SG	**Sb**	**23 41 49.5**	**-0.3**
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	**Pn**	**23 41 18.9**	**+1.7**
	baz=284						
SGF				*e*SG	**Sb**	**23 41 51.6**	**0.0**
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	**Pn**	**23 41 20.6**	**+1.7**
RNF				*e*SB	**Sb**	**23 41 54.2**	**-0.9**
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*P	**Pn**	**23 41 20.2**	**+1.0**
	baz=233						
ARE0				*e*SB	**Sb**	**23 41 54.1**	**-1.6**
KU6	**Riekki**	**4.22**	**111**	*e*PG	**Pb**	**23 41 51.3**	**+0.2**

NEIC ***30*** *23:48:34.9±1.7, 20.65S±0.09×169.74E±0.08, h110km±6km, mb4.4/54, Error ellipse: s-maj=13.0km s-min=10.4km az=148.0*
IDC ***30*** *23:48:34.8±0.9, 20.73S×169.77E, h103km±6km, mb3.9/14, mb1 4.1/16, mb1mx3.9/41, mbtmp4.3/16, MS3.5/4, Ms1 3.5/4, ms1mx3.1/23, Error ellipse: s-maj=16.1km s-min=12.0km az=155.0*
ISC 30 23:48:34.2±0.4, 20.64S±0.06×169.76E±0.06, h100km, n99, σ1s22/105, mb4.2/32, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.40**	**245**	P	**Pn**	**23 49 26.3**	**+0.9**
	76nm,0.3s,baz=102,slow=18,SNR=1304						
DZM				S	**Sn**	**23 50 04.7**	**-0.3**
	238nm,0.3s,baz=81,slow=20,SNR=24						
DZM	**Mont Dzumac**	**3.40**	**245**		**Pn**	**23 49 25.7**	**+0.3**
DZM					**Sn**	**23 50 04.1**	**-0.9**
SANVU	**Saraoutou**	**5.71**	**334**		**Pn**	**23 49 56.6**	**0.0**
MSVF	**Nonsavu**	**8.35**	**71**	Pn	**Pn**	**23 50 33.9**	**+1.3**
HNR	**Honiara**	**14.62**	**318**	LR	LR	23 56 18.7	
	comp=Z,82nm,19.5s,baz=294,slow=32						
HNR	**Honiara**	**14.62**	**318**	Pn	**Pn**	**23 51 56.4**	**+0.2**
OUZ	**Omahuta**	**14.91**	**168**		**Pn**	**23 52 02.4**	**+2.6**
EIDS	**Eidsvold**	**17.82**	**251**	P	**P**	**23 52 36.2**	**+1.0**
HIZ	**Hauiti**	**18.35**	**167**		**P**	**23 52 41.6**	**+0.8**
HIZ				IAmb	IAmb	23 52 44.8	
	comp=Z,39nm,1.1s						
URZ	**Urewera**	**18.67**	**162**	P	**P**	**23 52 44.8**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=349,slow=14,SNR=2.5						
URZ	**Urewera**	**18.67**	**162**	IAmb	IAmb	23 52 50.4	
	comp=Z,35nm,1.2s						
AFI	**Afiamalu**	**18.85**	**72**	P	**P**	**23 52 46.7**	**+0.1**
ARMA	**Armidale**	**19.02**	**236**		**P**	**23 52 47.8**	**-0.6**
ARMA				IAmb	IAmb	23 53 05.4	
	comp=Z,12nm,1.1s						
BKZ	**Black Stump Fm**	**19.35**	**164**	P	**P**	**23 52 52.4**	**+0.6**
BKZ				IAmb	IAmb	23 52 53.4	
	comp=Z,18nm,0.8s						
QRZ	**Quartz Range**	**20.26**	**174**	P	**P**	**23 53 02.6**	**+1.0**
QRZ				IAmb	IAmb	23 53 08.3	
	comp=Z,32nm,1.1s						
BFZ	**Birch Farm**	**20.73**	**166**	P	**P**	**23 53 07.4**	**+0.7**
BFZ				IAmb	IAmb	23 53 13.1	
	comp=Z,12nm,0.7s						
NNZ	**Nelson**	**20.74**	**172**	P	**P**	**23 53 08.4**	**+1.6**
SNZO	**South Karori**	**21.03**	**170**	P	**P**	**23 53 09.2**	**-0.7**
THZ	**Tophouse**	**21.22**	**173**	P	**P**	**23 53 11.7**	**-0.3**
THZ				IAmb	IAmb	23 53 18.5	
	comp=Z,31nm,1.1s						
MSWZ	**Moikau Station**	**21.23**	**169**	P	**P**	**23 53 09.6**	**-2.4**
BSWZ	**Blackbirch Sta**	**21.30**	**171**	P	**P**	**23 53 13.2**	**+0.4**
PLWZ	**Palliser**	**21.38**	**169**	P	**P**	**23 53 13.5**	**-0.2**
KHZ	**Kahutara**	**21.94**	**172**	P	**P**	**23 53 19.5**	**-0.1**
CTA	**Charters Tower**	**22.04**	**267**	P	**P**	**23 53 23.0**	**+2.1**
	comp=Z,2.9nm,0.5s,baz=115,slow=12,SNR=7.6						
CTAO	**Charters Tower**	**22.04**	**267**	P	**P**	**23 53 22.1**	**+1.1**
LTZ	**Lake Taylor**	**22.18**	**175**	P	**P**	**23 53 21.8**	**-0.3**
RPZ	**Rata Peaks**	**23.03**	**178**	P	**P**	**23 53 31.5**	**+0.8**
	comp=Z,4.0nm,0.6s,baz=309,slow=6.0,SNR=1.8						
RPZ	**Rata Peaks**	**23.03**	**178**	P	**P**	**23 53 30.5**	**-0.2**
MQZ	**McQueen's Vall**	**23.13**	**175**	P	**P**	**23 53 31.2**	**-0.3**
MQZ				IAmb	IAmb	23 53 44.5	
	comp=Z,14nm,1.0s						
CAN	**Canberra**	**23.38**	**227**	P	**P**	**23 53 34.2**	**+0.1**
CAN				IAmb	IAmb	23 53 36.8	
	comp=Z,10nm,1.0s						
LBZ	**Lake Benmore**	**23.68**	**179**	P	**P**	**23 53 36.4**	**-0.3**
WKZ	**Wanaka**	**24.13**	**181**	P	**P**	**23 53 41.5**	**+0.8**
WKZ				IAmb	IAmb	23 53 53.2	
	comp=Z,10nm,1.1s						
ODZ	**Otahua Downs**	**24.35**	**178**	P	**P**	**23 53 38.9**	**-3.7**
PMG	**Port Moresby**	**24.48**	**294**	LR	LR	00 02 15.3	
	comp=Z,77nm,18.5s,baz=198,slow=33						
MLZ	**Mavora Lakes**	**24.70**	**183**	P	**P**	**23 53 45.1**	**-0.8**
DCZ	**Deep Cove**	**24.85**	**184**	P	**P**	**23 53 47.6**	**+0.4**
WHZ	**Wether Hill Ro**	**25.23**	**183**	P	**P**	**23 53 50.3**	**-0.3**
WHZ				IAmb	IAmb	23 53 51.0	
	comp=Z,5.9nm,0.8s						
COEN	**Coen**	**26.22**	**280**	P	**P**	**23 54 00.9**	**+0.9**
COEN				IAmb	IAmb	23 54 02.8	
	comp=Z,5.7nm,0.8s						
TOO	**Toolangi**	**26.98**	**226**	P	**P**	**23 54 07.1**	**+0.5**
TOO				IAmb	IAmb	23 54 13.4	
	comp=Z,8.2nm,1.0s						
STKA	**Stephens Creek**	**27.55**	**240**	P	**P**	**23 54 12.8**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=114,slow=20,SNR=3.4						
STKA				pP	**pP**	**23 54 35.5**	**+2.7**
	comp=Z,1.1nm,0.3s,baz=0.7,slow=7.9,SNR=2.5						
STKA				PcP	**PcP**	**23 57 27.0**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=76,slow=4.2,SNR=3.2						
STKA				LR	LR	00 03 48.2	
	comp=Z,60nm,20.8s,baz=33,slow=33						
STKA	**Stephens Creek**	**27.55**	**240**	P	**P**	**23 54 11.8**	**+0.1**
BBOO	**Buckleboo**	**32.31**	**241**	P	**P**	**23 54 52.8**	**-1.1**
BBOO				IAmb	IAmb	23 55 00.7	
	comp=Z,4.5nm,0.9s						
WR0	**Warramunga Arr**	**33.00**	**265**	P	**P**	**23 54 59.7**	**-0.3**
WR0				IAmb	IAmb	23 55 00.6	
	comp=Z,4.8nm,1.0s						
WB0	**Warramunga Arr**	**33.16**	**265**	P	**P**	**23 55 01.0**	**-0.4**
WB0				IAmb	IAmb	23 55 02.0	
	comp=Z,4.2nm,0.8s						
WB2	**Warramunga Arr**	**33.18**	**265**	P	**P**	**23 55 00.8**	**-0.8**
WB2				IAmb	IAmb	23 55 01.3	
	comp=Z,3.8nm,0.8s						
WRA	**Warramunga Arr**	**33.19**	**265**	P	**P**	**23 55 01.0**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=92,slow=8.4,SNR=47						
WRA				PcP	**PcP**	**23 57 41.7**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=93,slow=3.4,SNR=6.0						
WRA	**Warramunga Arr**	**33.19**	**265**	P	**P**	**23 55 00.1**	**-1.5**
AS31	**Alice Springs**	**33.29**	**258**	P	**P**	**23 55 02.4**	**-0.2**
ASAR	**Alice Springs**	**33.29**	**258**	P	**P**	**23 55 02.5**	**0.0**
	comp=Z,3.5nm,0.7s,baz=93,slow=9.1,SNR=63						
ASAR				pP	**pP**		
	comp=Z,1.8nm,0.8s,baz=83,slow=9.1,SNR=4.1						
ASAR				PcP	**PcP**	**23 57 41.9**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=105,slow=3.0,SNR=9.6						
ASAR				ScP	**ScP**	**00 01 17.3**	**-0.7**
	comp=Z,0.3nm,0.9s,baz=96,slow=3.8,SNR=4.7						
ASAR	**Alice Springs**	**33.29**	**258**	P	**P**	**23 55 01.8**	**-0.8**
JAY	**Jayapura**	**33.57**	**299**	P	**P**	**23 55 05.5**	**+0.5**
	comp=Z,6.7nm,0.6s,baz=134,slow=6.9,SNR=5.0						
MTN	**Manton Dam**	**37.72**	**276**	P	**P**	**23 55 40.6**	**+0.1**
MTN				IAmb	IAmb	23 55 47.1	
	comp=Z,8.3nm,0.9s						
FORT	**Forrest**	**38.72**	**246**	P	**P**	**23 55 46.4**	**-2.2**
FORT				IAmb	IAmb	23 55 50.6	
	comp=Z,11nm,1.1s						
KNRA	**Kununurra**	**39.19**	**270**	P	**P**	**23 55 51.1**	**-1.7**
KNRA				IAmb	IAmb	23 56 10.6	
	comp=Z,13nm,1.1s						
FAKI	**Fak Fak**	**40.56**	**291**	P	**P**	**23 56 03.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**41.61**	**266**	P	**P**	**23 56 13.5**	**+0.8**
	comp=Z,6.0nm,0.7s,baz=109,slow=7.9,SNR=22						
FITZ				pP	**pP**	**23 56 35.8**	**+0.8**
	comp=Z,3.5nm,0.8s,baz=136,slow=9.2,SNR=3.4						
FITZ	**Fitzroy Crossi**	**41.61**	**266**	P	**P**	**23 56 13.3**	**+0.6**
FITZ				IAmb	IAmb	23 56 14.2	
	comp=Z,5.4nm,0.6s						
MYLDM	**Lahad Datu**	**56.48**	**291**	P	**P**	**23 58 05.4**	**-0.8**
VNDA	**Vanda**	**57.05**	**182**	P	**P**	**23 58 08.9**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=358,slow=6.9,SNR=3.8						
VNDA	**Vanda**	**57.05**	**182**	P	**P**	**23 58 09.0**	**-0.4**
VNDA				IAmb	IAmb	23 58 09.1	
	comp=Z,1.7nm,0.8s						
CASY	**Casey**	**59.05**	**204**	P	**P**	**23 58 22.2**	**-1.1**
CASY				IAmb	IAmb	23 58 23.3	
	comp=Z,2.7nm,0.8s						
MJAR	**Matsushiro Arr**	**64.22**	**332**	P	**P**	**23 58 59.7**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=177,slow=7.3,SNR=2.1						
MJAR	**Matsushiro Arr**	**64.22**	**332**	P	**P**	**23 58 58.9**	**+0.4**
MJB9	**Matsu-Tunnel**	**64.22**	**332**	P	**P**	**23 58 58.5**	**-0.1**
QSPA	**South Pole Qui**	**69.42**	**180**	P	**P**	**23 59 30.3**	**-1.0**
	comp=Z,8.4nm,0.7s,baz=19,slow=1.4,SNR=31						
QSPA	**South Pole Qui**	**69.42**	**180**	P	**P**	**23 59 30.4**	**-0.9**
NIKH	**Nikolski High**	**75.62**	**13**	P	**P**	**00 00 07.7**	**-0.2**
MAW	**Mawson**	**77.33**	**202**	P	**P**	**00 00 17.4**	**0.0**
	comp=Z,2.7nm,0.7s,baz=129,slow=7.5,SNR=13						
MAW	**Mawson**	**77.33**	**202**	P	**P**	**00 00 17.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**79.53**	**294**	P	**P**	**00 00 32.2**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=134,slow=6.4,SNR=2.1						
BELA	**Belgrano 2**	**80.67**	**175**	P	**P**	**00 00 34.1**	**-1.5**
SII	**Sitkinak Islan**	**82.68**	**19**	P	**P**	**00 00 45.4**	**-1.0**
PAGB	**Antelope Grade**	**86.73**	**50**	P	**P**	**00 01 06.1**	**-1.1**
SNAA	**Sanae**	**87.79**	**182**	P	**P**	**00 01 10.3**	**-1.5**
SNAA	**Sanae**	**87.79**	**182**	P	**P**	**00 01 10.3**	**-1.5**
SNAA				IAmb	IAmb	00 01 10.6	
	comp=Z,3.3nm,0.6s						
VNA3	**Neumayer Olymp**	**88.36**	**180**	P	**P**	**00 01 12.8**	**-1.7**
SONM	**Songino Array**	**88.63**	**323**	P	**P**	**00 01 16.0**	**-0.1**
VNA2	**Neumayer--Watz**	**88.66**	**181**	P	**P**	**00 01 14.7**	**-1.2**
VNA1	**Neumayer--Stat**	**88.94**	**181**	P	**P**	**00 01 15.8**	**-1.3**
MOBC	**Moresby Island**	**89.03**	**31**	P	**P**	**00 01 17.4**	**-0.4**
NVAR	**Mina Array Bea**	**89.36**	**48**	P	**P**	**00 01 20.6**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=227,slow=9.2,SNR=6.0						
NV11	**Mina Array Sit**	**89.46**	**48**	P	**P**	**00 01 20.2**	**-0.1**
KVN	**Kaiserville**	**89.78**	**48**	P	**P**	**00 01 20.9**	**-0.9**
KVN				IAmb	IAmb	00 01 22.7	
	comp=Z,3.0nm,0.8s						
TPNV	**Topopah Spring**	**90.16**	**50**	P	**P**	**00 01 23.1**	**-0.5**
TPNV				IAmb	IAmb	00 01 24.7	
	comp=Z,2.4nm,0.8s						
PRN	**Pahroc Range**	**91.22**	**50**	P	**P**	**00 01 27.6**	**-0.9**
ILAR	**Eielson Array**	**91.42**	**17**	LR	LR	00 37 04.0	
	comp=Z,75nm,19.5s,baz=25,slow=32						
TXAR	**Lajitas Array**	**97.00**	**61**	P	**P**	**00 01 55.4**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=235,slow=6.4,SNR=2.6						
ARCES	**ARCESS Array B**	**126.54**	**345**	PKP	**PKPdf**	**00 07 23.8**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=60,slow=2.9,SNR=8.4						
FINES	**FINESS Array B**	**132.06**	**337**	PKP	**PKPdf**	**00 07 34.2**	**-1.4**
	comp=Z,1.5nm,0.9s,baz=104,slow=5.9,SNR=4.9						
CONA	**Conrad Observa**	**145.59**	**328**	*i* PKPab	**PKPdf**	**00 08 01.6**	**+0.8**
	comp=Z,3.5nm,1.2s						
KHC	**Kasperske Hory**	**145.80**	**332**	*e*PKP	**PKPdf**	**00 08 01.3**	**+0.2**
KHC				*ex*	x	00 08 29.3	
GERES	**GERESS Array B**	**145.95**	**331**	PKPbc	**PKPdf**	**00 08 01.9**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=37,slow=2.8,SNR=27						
GERES				pPKPbc	**pPKPdf**	**00 08 30.0**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=35,slow=3.3,SNR=4.9						
MOA	**Molln**	**146.41**	**330**	*e*PKPab	**PKPdf**	**00 08 03.4**	**+1.2**
	comp=Z,0.6nm,0.4s						
ABTA	**Abfaltersbach**	**148.03**	**330**	*e*PKPbc	**PKPdf**	**00 08 06.9**	**+1.9**
	comp=Z,1.9nm,0.6s						
WTTA	**Wattenberg**	**148.06**	**331**	*i* PKPbc	**PKPdf**	**00 08 07.7**	**+2.6**
	comp=Z,0.8nm,0.4s						
MOTA	**Moosalm**	**148.23**	**332**	*i* PKPbc	**PKPdf**	**00 08 08.0**	**+2.6**
	comp=Z,1.3nm,0.5s,SNR=4.9						
RETA	**Reutte**	**148.27**	**332**	*e*PKPbc	**PKPdf**	**00 08 08.1**	**+2.7**
	comp=Z,1.2nm,0.5s						
SQTA	**Sankt Quirin**	**148.28**	**332**	*i* PKPbc	**PKPdf**	**00 08 08.2**	**+2.8**
	comp=Z,3.4nm,0.4s,baz=345,slow=4.8						
FETA	**Feichten**	**148.64**	**332**	*e*PKPbc	**PKPdf**	**00 08 09.3**	**+3.3**
	comp=Z,2.0nm,0.5s						

BGR ***31*** *00:10:08.2±0.0, 72.60N×2.56W, h10km, mb4.7, Ms3.5*
IDC ***31*** *00:10:15.0±0.7, 71.60N×2.54W, h0km, mb3.8/20, mb1 4.0/25, mb1mx3.9/49, mbtmp3.8/25, ML3.6/5, MS3.8/40, Ms1 3.8/40, ms1mx3.8/50, Error ellipse: s-maj=17.7km s-min=12.1km az=48.0*
GCMT ***31*** *00:10:14.6±0.2, 71.66N±0.03×2.79W±0.06, h12km, MW4.8/93, Moment Tensor Solution. s19,c22; s93,c140; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~1.52±.05; Mθθ0.40±.05; Mφφ1.13±.04; Mrθ0.24±.23; Mrφ0.77±.04; Mθφ~0.59±.19; Best double couple: M☉1.69400×10^16 NP1:φs229.00000°, δ41.00000°, λ-63.00000°. NP2: φs15.00000°, δ54.00000°, λ-111.00000°. Principal axes: T 1.6620, Plg7.0000°, Azm120.0000°; N 0.0710, Plg17.0000°, Azm28.0000°; P -1.7260, Plg71.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NAO ***31*** *00:10:14.0±3.1, 71.53N×2.69W, ML4.4*
MOS ***31*** *00:10:14.2±1.6, 71.68N×2.83W, h10km, mb4.4/36, Error ellipse: s-maj=17.0km s-min=4.9km az=98.8*
BER ***31*** *00:10:16.0±3.1, 71.51N×3.27W, h10km, ML2.6, MW4.7(CSEM), Confirmed Earthquake*
NEIC ***31*** *00:10:16.6±1.7, 71.55N±0.07×3.0W±0.1, h10km±1km, mb4.2/88, Error ellipse: s-maj=11.9km s-min=6.6km az=169.0*
DNK ***31*** *00:10:19.1±3.5, 71.78N×3.73W, h15km, ML3.0*
ISC 31 00:10:16.2±0.3, 71.56N±0.05×2.86W±0.04, h10km, n344, σ1s84/327, mb4.2/91, MS3.8/48, 6C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBG	**Daneborg**	**5.79**	**306**	*e*P	Pn	00 11 37.2	-4.8
DBG				*i*		00 12 38.6	
DBG	**Daneborg**	**5.79**	**306**	*i* P	**Pn**	**00 11 37.7**	**-4.3**
DBG				*i*		00 12 38.6	
SCO	**Scoresbysund**	**6.31**	**269**	*i* P	**Pn**	**00 11 46.6**	**-2.4**
SCO	**Scoresbysund**	**6.31**	**269**	P	**Pn**	**00 11 46.7**	**-2.4**
SCO	**Scoresbysund**	**6.31**	**269**	Pn	**Pn**	**00 11 46.7**	**-2.4**
SCO	**Scoresbysund**	**6.31**	**269**	*i* P	**Pn**	**00 11 46.7**	**-2.4**
SCO	**Scoresbysund**	**6.31**	**269**	*i* P	**Pn**	**00 11 46.7**	**-2.4**
LOF	**Lofoten**	**6.62**	**113**	Pn	**Pn**	**00 11 51.5**	**-1.8**
LOF	**Lofoten**	**6.62**	**113**	*e*P	**Pn**	**00 11 51.3**	**-1.9**
LOF				IAmb	IAmb	00 11 59.7	
	comp=Z,26nm,0.8s						
N2SV	**S rv gen**	**6.62**	**116**	*e*P	**Pn**	**00 11 51.1**	**-2.2**
N2SV				IAm

NOR IAML 00 14 38.1
comp=Z,2.0nm,0.4s
DOMB Dombas 10.62 148 *e*P **Pn** **00 12 47.8 -0.4**
SUMG Summit 10.91 292 *i* P **Pn** **00 12 50.9 -1.5**
SUMG *e* 00 12 51.9
SUMG Summit 10.91 292 P **Pn** **00 12 51.3 -1.1**
SUMG Summit 10.91 292 Pn **Pn** **00 12 51.3 -1.1**
SUMG Summit 10.91 292 *i* P **Pn** **00 12 51.0 -1.5**
SUMG *e* 00 12 51.9
SUMG Summit 10.91 292 *i* P **Pn** **00 12 51.0 -1.5**
SUMG *e* 00 12 51.9
NC204 NORSAR Array S 11.63 146 Pn **Pn** **00 13 01.5 -0.5**
NC204 NORSAR Array S 11.63 146 *e*P **Pn** **00 13 01.2 -0.8**
NC303 NORSAR Array S 11.79 144 Pn **Pn** **00 13 04.0 -0.1**
NC303 NORSAR Array S 11.79 144 *e*P **Pn** **00 13 04.4 +0.3**
NBO00 NORSAR Array S 11.86 146 Pn **Pn** **00 13 05.3 +0.2**
NB2 NORSAR Subarra 11.93 145 Pn **Pn** **00 13 05.4 -0.7**
baz=332,slow=14
NB2 NORSAR Subarra 11.93 145 Pn **Pn** **00 13 05.4 -0.7**
baz=332,slow=14
NOA NORSAR Array B 11.93 145 Pn **Pn** **00 13 05.1 -1.0**
comp=Z,0.0nm,0.3s,baz=265,slow=18,SNR=6.7
NOA LR LR 00 17 31.7
comp=Z,829nm,20.7s,baz=335,slow=37
NB201 NORSAR Array S 11.94 145 Pn **Pn** **00 13 05.9 -0.3**
NC405 NORSAR Array S 11.96 144 Pn **Pn** **00 13 05.8 -0.7**
NAO01 NORSAR Array S 12.05 146 Pn **Pn** **00 13 06.6 -1.2**
NC602 NORSAR Array S 12.27 145 Pn **Pn** **00 13 10.9 +0.2**
NRA0 NORESS Array S 12.27 145 Pn **Pn** **00 13 10.8 +0.1**
baz=343,slow=16
NRA0 NORESS Array S 12.27 145 Pn **Pn** **00 13 10.8 +0.1**
baz=343,slow=16
APA0 Apatity Array 12.97 90 Pn **Pn** **00 13 17.8 -2.4**
baz=286,slow=11
APA0 Apatity Array 12.97 90 Pn **Pn** **00 13 17.8 -2.4**
baz=286,slow=11
KONO Kongsberg 12.97 151 P **Pn** **00 13 19.8 -0.4**
KONO Kongsberg 12.97 151 Pn **Pn** **00 13 19.8 -0.4**
APA Apatity 13.12 90 *i* P **P** **00 13 27.7 -4.8**
APA *i* S **Sn** **00 15 55.0 +7.0**
APA pmax pmax
comp=Z,6.0nm,1.0s
APA MLR MLR
comp=Z,600nm,20.0s
HFS Hagfors 13.24 142 Pn **Pn** **00 13 22.7 -1.2**
baz=331,slow=12
HFS Hagfors 13.24 142 Pn **Pn** **00 13 22.7 -1.2**
comp=Z,1.2nm,0.3s,baz=347,slow=12,SNR=25
HFS LR LR 00 18 12.2
comp=Z,942nm,21.3s,baz=334,slow=36
HFS Hagfors 13.24 142 Pn **Pn** **00 13 22.7 -1.2**
baz=331,slow=12
FIA0 FINESS Array S 15.15 117 Pn **Pn** **00 13 47.7 -2.2**
baz=329,slow=12
FIA0 FINESS Array S 15.15 117 Pn **Pn** **00 13 47.7 -2.2**
baz=329,slow=12
FIA1 FINESS Array S 15.15 117 Pn **Pn** **00 13 48.7 -1.2**
FINES FINESS Array B 15.15 117 Pn **Pn** **00 13 47.3 -2.6**
comp=Z,0.6nm,0.3s,baz=328,slow=10,SNR=27
FINES LR LR 00 19 06.6
comp=Z,901nm,19.4s,baz=338,slow=35
FINES FINESS Array B 15.15 117 P **Pn** **00 13 48.8 -1.1**
FINES FINESS Array B 15.15 117 Pn **Pn** **00 13 48.8 -1.1**
SLVR Solovky 15.42 96 *e*P **Pn** **00 13 48.6 -4.8**
comp=Z,13nm,0.7s
EKA Eskdalemuir Ar 16.29 181 Pn **Pn** **00 14 03.8 -0.9**
baz=50,slow=13,SNR=3.1
SFJD Kangerlussuaq 17.10 278 LR LR 00 20 00.7
comp=Z,649nm,19.0s,baz=42,slow=34
VSU Vasula 17.83 122 *i* P **Pn** **00 14 22.4 -1.6**
VSU pmax pmax
comp=Z,66nm,1.0s
BSEG Bad Segeberg 18.60 155 *e*L L 00 21 12.4
comp=Z,169nm,21.8s
LSH Leshukonskoye 18.71 86 *e*P **P** **00 14 32.1 -2.2**
comp=Z,38nm,1.3s
KLMR Klimovskoe 19.66 101 *e*P **P** **00 14 43.3 -1.4**
comp=Z,38nm,1.1s
KLMR Klimovskoe 19.66 101 *e*P **P** **00 14 43.3 -1.4**
KLMR pmax pmax
comp=Z,38nm,1.1s
KLMR Klimovskoe 19.66 101 *e*Pn **P** **00 14 43.3 -1.4**
KLMR AMP 00 14 46.1
comp=Z,38nm,1.1s
EUNU Eureka 19.99 330 **P** **00 14 47.6 -0.6**
EUNU IAmb IAmb 00 14 57.3
comp=Z,8.7nm,1.1s
ASSE Asse, Remlinge 20.41 156 *e*P Pn 00 14 55.0 0.0
comp=Z,103nm,2.0s,baz=350,slow=9.7
CLZ Clausthal 20.66 156 *e*P Pn 00 14 57.9 -0.1
comp=Z,48nm,1.8s,baz=350,slow=9.7
SUW Suwalki 20.92 133 P **P** **00 14 58.6 +0.1**
SUW pmax pmax
comp=Z,24nm,1.0s
SUW Suwalki 20.92 133 P **P** **00 14 58.6 +0.1**
PRGR Permogore 20.99 93 *e*P **P** **00 14 57.1 -2.0**
comp=Z,55nm,1.2s
PRGR Permogore 20.99 93 *e*P **P** **00 14 57.0 -2.1**
PRGR pmax pmax
comp=Z,55nm,1.3s
CLL Collm 21.54 152 *e*P **P** **00 15 05.0 -0.2**
comp=Z,23nm,1.5s
CLL *e*PP **PnPn** **00 15 26.0 +0.7**
CLL *e*PPP PPP 00 15 34.0
CLL *e*S **S** **00 19 06.0 +2.4**
CLL Collm 21.54 152 *e*P **P** **00 15 05.0 -0.2**
CLL *e* 00 15 26.0
CLL *e*S **S** **00 19 06.0 +2.4**
CLL pmax pmax
comp=Z,23nm,1.5s
CLL Collm 21.54 152 *e*P **P** **00 15 05.1 -0.1**
comp=Z,23nm,1.5s,baz=350,slow=9.7
CLL *e*L L 00 23 02.4
comp=Z,310nm,21.2s
CLL Collm 21.54 152 P **P** **00 15 04.6 -0.5**
CLL IAmb IAmb 00 15 14.3
comp=Z,7.4nm,1.0s
UBBA Unterbreizbach 21.61 157 *e*P **P** **00 15 07.5 +1.6**
comp=Z,42nm,1.8s,baz=350,slow=9.7
MOX Moxa 21.99 155 P **P** **00 15 12.1 +2.0**
MOX pmax pmax
comp=Z,18nm,1.9s
MOX Moxa 21.99 155 *e*P **P** **00 15 12.0 +2.0**
comp=Z,56nm,1.7s,baz=350,slow=9.7
MOX *e*L L 00 24 57.7
comp=Z,72nm,18.5s
TNS Taunus Mts 22.02 160 *e*L L 00 25 08.9
BRG Berggiesshubel 22.11 151 *e*P **P** **00 15 14.6 +3.4**
comp=Z,14nm,1.2s
comp=Z,370nm,16.6s
comp=N,110nm,16.6s
comp=E,300nm,16.6s
TANN Tannenbergstha 22.33 154 *e*P **P** **00 15 19.5 +5.7**
comp=E,89nm,1.7s,baz=350,slow=9.7
WLF Walferdange 22.36 164 P **P** **00 15 14.4 +0.5**
WLF pmax pmax
comp=Z,7.0nm,1.0s
WLF Walferdange 22.36 164 P **P** **00 15 14.4 +0.5**
WLF IAmb IAmb 00 15 25.9
comp=Z,6.8nm,1.0s
NKC Novy Kostel 22.51 154 *e*P **P** **00 15 18.1 +2.5**
NKC *e* 00 15 22.9
NKC MLR MLR
comp=Z,300nm,12.8s
NKC Novy Kostel 22.51 154 *e*P **P** **00 15 18.1 +2.5**
NKC *e*pP **pwP** **00 15 22.9 +2.4**
NKC AMS AMS 00 25 20.0
comp=Z,300nm,12.8s
PVCC Panska Ves 22.54 150 *e*P **P** **00 15 18.9 +3.0**
PVCC MLR MLR
comp=Z,300nm,21.9s
PVCC Panska Ves 22.54 150 *e*P **P** **00 15 18.9 +3.0**
PVCC AMS AMS 00 23 00.0
comp=Z,300nm,21.9s
CHVC Chvalec 22.73 148 *e*P **P** **00 15 19.2 +1.3**
CHVC *e*pP **pwP** **00 15 22.2 -0.6**
CHVC AMS AMS 00 25 20.0
comp=Z,400nm,16.7s
OSTC Ostas 22.78 147 *e*P **P** **00 15 22.8 +4.3**
OSTC *ex* x 00 15 25.7
UPC Upice 22.80 148 AMS AMS 00 24 50.0
comp=Z,400nm,17.4s
GRA1 Grafenberg Arr 22.87 156 P **P** **00 15 19.2 -0.2**
GRF Grafenberg Arr 22.87 156 P **P** **00 15 19.2 -0.2**
GRF pmax pmax
comp=Z,4.0nm,0.9s
GRF Grafenberg Arr 22.87 156 *e*P **P** **00 15 20.4 +1.0**
comp=Z,25nm,1.6s,baz=350,slow=9.7
GRF *e*L L 00 25 17.9
comp=Z,143nm,18.6s
PRA Prague 22.96 151 AMS AMS 00 23 20.0
comp=Z,200nm,21.7s
DPC Dobruska-Polom 23.00 147 *e*P **P** **00 15 21.6 +0.8**
DPC *e* 00 15 24.6
DPC MLR MLR
comp=Z,400nm,12.9s
DPC Dobruska-Polom 23.00 147 *e*P **P** **00 15 21.6 +0.8**
DPC *e*pP **sP** **00 15 24.6 +0.5**
DPC AMS AMS 00 25 20.0
comp=Z,400nm,12.9s
PRU Pruhonice 23.06 150 *e*P **P** **00 15 23.3 +2.0**
PRU *e* 00 15 29.0
PRU MLR MLR
comp=Z,300nm,21.7s
PRU Pruhonice 23.06 150 *e*P **P** **00 15 23.3 +2.0**
PRU *e*pP **pwP** **00 15 29.0 +2.8**
PRU AMS AMS 00 23 10.0
comp=Z,300nm,21.7s
GOPC GO Pecny, Ondr 23.17 150 *e*P **P** **00 15 26.3 +3.8**
GOPC MLR MLR
comp=Z,300nm,18.2s
GOPC GO Pecny, Ondr 23.17 150 *e*P **P** **00 15 26.3 +3.8**
GOPC AMS AMS 00 23 40.0
comp=Z,300nm,18.2s
MOS Moscow 23.26 112 *e*P **P** **00 15 21.5 -1.8**
MOS *e* 00 16 04.0
MOS MLR MLR
comp=Z,800nm,15.0s
MOS MLR MLR
comp=N,800nm,16.0s
PBCC Pribram 23.27 152 *e*P **P** **00 15 25.8 +2.3**
KRLC Kraliky 23.35 147 *e*P **P** **00 15 26.2 +1.9**
KRLC *e* 00 15 29.2
KRLC MLR MLR
comp=Z,400nm,13.7s
KRLC Kraliky 23.35 147 *e*P **P** **00 15 26.2 +1.9**
KRLC *e*pP **pwP** **00 15 29.2 0.0**
KRLC AMS AMS 00 25 30.0
comp=Z,400nm,13.7s
OBN Obninsk 23.48 114 P **P** **00 15 24.1 -1.4**
comp=Z,1.0nm,0.4s,baz=5.3,slow=12,SNR=3.4
OBN LR LR 00 24 07.0
comp=Z,175nm,19.3s,baz=356,slow=36
OBN Obninsk 23.48 114 *ce*P **P** **00 15 24.5 -1.0**
OBN *i* 00 15 29.3
OBN *i* 00 15 54.6
OBN 00 19 12.0
OBN *i* S **S** **00 19 40.5 +1.7**
OBN pmax pmax
comp=Z,34nm,1.7s
OBN MLR MLR
comp=Z,628nm,17.0s
OBN Obninsk 23.48 114 IAmb IAmb 00 15 33.6
comp=Z,14nm,0.9s
WET Wettzell 23.63 154 *e*L L 00 24 16.3
comp=Z,178nm,21.2s
CLF Chambon-Foret 23.73 171 P **P** **00 15 28.7 +0.7**
KHC Kasperske Hory 23.75 153 *i* P **P** **00 15 30.2 +2.0**
KHC pmax pmax
comp=Z,2.0nm,1.1s
KHC Kasperske Hory 23.75 153 *e*P **P** **00 15 31.9 +3.7**
KHC *e*pP **pwP** **00 15 34.0 +0.7**
KHC AMS AMS 00 25 30.0
comp=Z,300nm,16.4s
KHC Kasperske Hory 23.75 153 P **P** **00 15 29.4 +1.1**
OJC Ojcow 23.77 142 P **P** **00 15 30.0 +1.7**
OJC pmax pmax
comp=Z,5.0nm,0.8s
OJC Ojcow 23.77 142 P **P** **00 15 30.0 +1.7**
OJC IAmb IAmb 00 15 37.9
comp=Z,4.9nm,0.8s
MORC Moravsky Berou 23.77 146 *e*P **P** **00 15 29.1 +0.7**
MORC Moravsky Berou 23.77 146 P **P** **00 15 29.1 +0.7**
MORC pmax pmax
comp=Z,2.0nm,0.9s
MORC Moravsky Berou 23.77 146 P **P** **00 15 29.1 +0.7**
BFO Black Forest 23.88 161 P **P** **00 15 28.8 -0.7**
BFO pmax pmax
comp=Z,5.0nm,1.0s
BFO Black Forest 23.88 161 *e*L L 00 25 39.4
comp=Z,125nm,20.3s
BFO Black Forest 23.88 161 P **P** **00 15 28.8 -0.7**
BFO IAmb IAmb 00 15 40.5
comp=Z,5.1nm,1.0s
ECH Echery 23.88 163 P **P** **00 15 30.2 +0.7**
ECH pmax pmax
comp=Z,4.0nm,1.0s
ECH Echery 23.88 163 P **P** **00 15 30.2 +0.7**
TREC Trest 23.88 149 AMS AMS 00 26 20.0
comp=Z,400nm,13.2s
GEC2 GERESS Array S 24.05 152 *e*L L 00 24 17.0
comp=Z,242nm,21.9s
GEC2 GERESS Array S 24.05 152 P **P** **00 15 31.6 +0.5**
GERES GERESS Array B 24.05 152 P **P** **00 15 32.5 +1.3**
comp=Z,1.2nm,0.6s,baz=351,slow=7.0,SNR=16
GERES LR LR 00 24 39.4
comp=Z,252nm,21.9s,baz=360,slow=36
GERES GERESS Array B 24.05 152 P **P** **00 15 32.1 +0.9**
GERES GERESS Array B 24.05 152 P **P** **00 15 32.1 +0.9**
VRAC Vranov 24.05 148 P **P** **00 15 32.4 +1.2**
comp=Z,2.2nm,0.8s,baz=358,slow=13,SNR=5.8
VRAC LR LR 00 25 52.9
comp=Z,261nm,18.1s,baz=359,slow=39
VRAC Vranov 24.05 148 *e*P **P** **00 15 32.3 +1.2**
KRUC Moravsky 24.26 148 *e*P **P** **00 15 36.7 +3.7**
RES Resolute Bay 24.37 320 LR LR 00 24 38.0
comp=Z,517nm,20.4s,baz=46,slow=35
FUR Furstenfeldbru 24.38 157 *e*L L 00 26 49.1
comp=Z,175nm,18.0s
KIRV Kirov 24.56 95 LR LR 00 24 45.1
comp=Z,260nm,20.1s,baz=356,slow=36
FRB Frobisher Bay 24.86 285 LR LR 00 24 44.8
comp=Z,311nm,20.5s,baz=36,slow=35
KWP Kalwaria Pacla 24.92 138 P **P** **00 15 41.3 +2.3**
KWP pmax pmax
comp=Z,5.0nm,0.7s
KWP Kalwaria Pacla 24.92 138 P **P** **00 15 41.2 +2.3**
KWP IAmb IAmb 00 15 44.0
comp=Z,4.8nm,0.7s
RETA Reutte 24.98 158 *ep*P pP 00 15 43.3 +1.2
comp=Z,3.5nm,1.1s
MODS Modra-Piesok 25.07 147 *e*P **P** **00 15 43.0 +2.6**
MODS pmax pmax
comp=Z,18nm,1.7s
MODS Modra-Piesok 25.07 147 *e*P **P** **00 15 43.0 +2.6**
DAVA Damuels 25.08 159 *ep*P **P** **00 15 43.7 +3.1**
comp=Z,12nm,1.1s
MOA Molln 25.10 152 *ep*P **P** **00 15 44.1 +3.5**
comp=Z,11nm,1.6s
MOTA Moosalm 25.16 157 *ep*P **P** **00 15 43.8 +2.4**
comp=Z,11nm,1.3s
WATA Walderalm 25.23 157 *e*P **P** **00 15 44.2 +2.2**
comp=Z,13nm,1.6s
VYHS Vyhne 25.24 145 *e*P **P** **00 15 44.7 +2.8**
VYHS pmax pmax
comp=Z,13nm,1.6s
VYHS Vyhne 25.24 145 *e*P **P** **00 15 44.7 +2.8**
CONA Conrad Observa 25.27 150 *e*P **P** **00 15 44.4 +2.1**
comp=Z,7.6nm,1.0s
SQTA Sankt Quirin 25.30 157 *ep*P **P** **00 15 45.1 +2.5**
comp=Z,14nm,1.7s
WTTA Wattenberg 25.31 157 *ep*P **P** **00 15 45.2 +2.4**
comp=Z,11nm,1.2s
AKASG Malin Array Be 25.43 128 P **P** **00 15 42.3 -1.2**
comp=Z,5.0nm,0.6s,baz=338,slow=9.4,SNR=13
AKASG LR LR 00 25 28.5
comp=Z,532nm,18.4s,baz=320,slow=36
AKASG Malin Array Be 25.43 128 *i* P **P** **00 15 42.5 -1.0**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKBB Malin Array Si 25.43 128 P **P** **00 15 43.7 +0.2**
AKBB pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 25.43 128 P **P** **00 15 43.7 +0.2**
AKBB IAmb IAmb 00 15 46.1
comp=Z,6.7nm,0.7s
FETA Feichten 25.44 158 *ep*P **P** **00 15 47.1 +3.3**
comp=Z,9.6nm,1.5s
KOLS Kolonicke sedl 25.49 139 *e*P **P** **00 15 45.9 +1.8**
KOLS Kolonicke sedl 25.49 139 *e*P **P** **00 15 45.9 +1.8**
DAVOX Davos/Dischmat 25.58 159 LR LR 00 27 11.4
comp=Z,116nm,18.4s,slow=40
SENIN Lac Senin/Sane 25.73 164 P **P** **00 15 48.5 +1.9**
SENIN IAmb IAmb 00 16 03.8
comp=Z,5.8nm,0.8s
FUORN Ofenpass-Fuorn 25.78 159 P **P** **00 15 49.6 +2.5**
UZH Uzhgorod 25.78 140 *e*P **P** **00 15 44.6 -2.1**
UZH *e* 00 16 38.2
TUE Stuetta 25.82 160 P **P** **00 15 49.5 +2.1**
TUE IAmb IAmb 00 15 59.2
comp=Z,8.2nm,1.1s
SRO2 Moca 25.86 146 *e*P **P** **00 15 50.0 +2.5**
SRO2 Moca 25.86 146 *e*P **P** **00 15 50.0 +2.5**
ARSA Arzberg 25.88 151 *ep*P **P** **00 15 50.7 +3.0**
comp=Z,1.6nm,0.8s
PSZ Piszkesteto 25.99 144 P **P** **00 15 49.5 +0.7**
PSZ pmax pmax
comp=Z,3.0nm,0.9s
PSZ Piszkesteto 25.99 144 P **P** **00 15 49.5 +0.7**
PSZ IAmb IAmb 00 15 58.1
comp=Z,3.2nm,0.9s
ZOU Zoufplan 26.18 155 P **P** **00 15 51.5 +0.9**
CIMO Cimolais 26.35 156 P **P** **00 15 54.1 +2.1**
CIMO IAmb IAmb 00 16 02.0
comp=Z,4.2nm,1.1s
LPSR Galich'ya Gora 26.36 114 *e*P **P** **00 15 52.7 +0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
PRED Cave del Predi 26.37 154 P **P** **00 15 55.5 +3.2**
CTI Castel Tesino 26.51 157 P **P** **00 15 55.0 +1.5**
CTI pmax pmax
comp=Z,4.0nm,1.0s
CTI Castel Tesino 26.51 157 P **P** **00 15 55.0 +1.5**
BUR08 Bucovina Ar. S 27.34 136 P **P** **00 16 02.5 +1.6**
VSR Storozhevoye 27.66 115 *e*P **P** **00 16 03.5 -0.2**
VSR pmax pmax
comp=Z,8.0nm,0.8s
MSSA Maissana 27.97 161 P **P** **00 16 08.6 +2.0**
VLC Villacollemand 28.22 160 P **P** **00 16 10.3 +1.5**
VLC IAmb IAmb 00 16 16.7
comp=Z,7.2nm,1.0s
VRH Novokhopyorsk 28.42 112 *e*P **P** **00 16 09.7 -0.7**
VRH pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 29.21 89 LR LR 00 27 42.3
comp=Z,260nm,20.7s,baz=315,slow=36
ARU Arti 29.21 89 *c i*P **P** **00 16 17.9 +0.5**
ARU 00 17 10.3
ARU S **S** **00 21 12.6 +3.1**
ARU SS **SnSn** **00 22 33.3 -0.6**
ARU pmax pmax
comp=Z,4.0nm,1.0s
ARU MLR MLR
comp=Z,280nm,22.0s
DIVS Divibare 29.69 146 P **P** **00 16 22.9 +1.0**
NRCA Norcia 29.86 156 P **P** **00 16 25.2 +1.8**
NRCA IAmb IAmb 00 16 27.4
comp=Z,3.3nm,1.1s
SCHQ Schefferville 31.35 272 LR LR 00 28 10.8
comp=Z,332nm,19.7s,baz=67,slow=34
ESDC Sonseca Array 31.96 182 P **P** **00 16 41.6 -0.3**
comp=Z,0.3nm,0.8s,baz=15,slow=5.3,SNR=2.3
ESDC LR LR 00 28 52.6
comp=Z,119nm,20.8s,baz=10.0,slow=35
ANN Anapa 33.01 122 *e*P **P** **00 16 48.7 -2.3**
ANN pmax pmax
comp=Z,43nm,1.5s
ANN MLR MLR
comp=Z,541nm,14.0s
AKTO Aktyubinsk 34.12 95 P **P** **00 16 59.1 -1.4**
comp=Z,0.7nm,0.5s,baz=303,slow=4.3,SNR=2.2
AKTO LR LR 00 30 37.5
comp=Z,262nm,19.2s,baz=352,slow=36
CORL Corleone 34.75 157 P **P** **00 17 06.3 +0.1**
CORL IAmb IAmb 00 17 19.2
comp=Z,2.8nm,0.9s
KIV Kislovodsk 35.24 117 *e*P **P** **00 17 10.1 -0.4**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,330nm,16.0s
KBZ Khabaz 35.51 117 P **P** **00 17 13.3 +0.6**
comp=Z,1.6nm,0.7s,baz=315,slow=14,SNR=2.5
KBZ LR LR 00 32 22.6
comp=Z,136nm,19.6s,baz=14,slow=38
ABKAR Akbulak array 35.76 94 P **P** **00 17 15.4 +0.7**
BVAR Borovoye Array 35.81 81 P **P** **00 17 15.1 -0.1**
comp=Z,0.9nm,0.7s,baz=335,slow=10.0,SNR=7.8
BVAR LR LR 00 32 06.6
comp=Z,62nm,21.9s,baz=201,slow=37
KEST Kesra 36.46 163 LR LR 00 32 55.4
comp=Z,154nm,19.5s,baz=325,slow=37
BRTR Keskin Array B 36.80 130 P **P** **00 17 25.6 +1.7**
comp=Z,1.7nm,0.7s,baz=346,slow=12,SNR=2.4
BRTR LR LR 00 33 26.0
comp=Z,93nm,21.1s,baz=2.5,slow=38
MAK Makhachkala 37.55 112 *e*P P 00 17 25.1 -5.0
MAK *e*S **S** **00 23 12.0 -6.8**
MAK *e*SS **SnSn** **00 25 52.1 -4.4**
MAK pmax pmax
comp=Z,95nm,0.9s
MAK MLR MLR
comp=Z,271nm,15.0s
ISP Isparta 37.88 135 P **P** **00 17 33.3 +0.3**
ISP pmax pmax
comp=Z,5.0nm,0.6s
ISP Isparta 37.88 135 P **P** **00 17 33.3 +0.3**
ISP IAmb IAmb 00 17 48.1
comp=Z,4.7nm,0.6s
TBLG Delisi 37.88 116 P **P** **00 17 32.7 -0.2**
TBLG pmax pmax
comp=Z,4.0nm,1.0s
TBLG Delisi 37.88 116 P **P** **00 17 32.7 -0.2**
TBLG IAmb IAmb 00 17 39.5
comp=Z,4.2nm,1.0s
SANT Santorini 38.20 142 P **P** **00 17 35.3 -0.3**
YKA Yellowknife Ar 38.29 316 P **P** **00 17 37.3 +1.2**
comp=Z,1.6nm,0.9s,baz=29,slow=9.2,SNR=2.4
YKA LR LR 00 32 43.8
comp=Z,261nm,18.7s,baz=0.0,slow=35
PQI Presque Isle 38.79 266 P **P** **00 17 41.4 +1.0**
ZALV Zalesovo Beam 39.44 68 P **P** **00 17 43.7 -2.1**
comp=Z,0.3nm,0.4s,baz=325,slow=12,SNR=2.1
ZALV LR LR 00 37 16.4
comp=Z,87nm,20.6s,baz=262,slow=41
VLDQ Val d'Or 40.51 276 P **P** **00 17 53.8 -0.9**
G62A West of Eustis 40.88 267 P **P** **00 17 58.9 +1.0**
G62A IAmb IAmb 00 18 12.6
comp=Z,4.8nm,1.1s
EGAK Eagle 41.00 334 P **P** **00 17 59.7 +1.1**
WVL Waterville 41.19 266 P **P** **00 18 01.9 +1.5**
WVL IAmb IAmb 00 18 12.2
comp=Z,4.7nm,0.9s
CSS Mathiatis 41.26 133 P **P** **00 18 01.4 +0.3**
CSS IAmb IAmb 00 18 10.4
comp=Z,5.2nm,1.0s
IMAR Indian Mountai 41.31 342 P **P** **00 18 01.7 +0.6**
MDM Murphy Dome 41.72 339 P **P** **00 18 04.7 +0.1**
IL31 41.74 338 P **P** **00 18 05.5 +0.8**
ILAR Eielson Array 41.74 338 P **P** **00 18 05.0 +0.3**
comp=Z,3.3nm,1.2s,baz=4.0,slow=6.0,SNR=19
ILAR Eielson Array 41.74 338 P **P** **00 18 04.7 0.0**
ILAR Eielson Array 41.74 338 P **P** **00 18 04.7 0.0**
CCB Clear Creek Bu 41.97 338 P **P** **00 18 07.0 +0.4**
FFC Flin Flon 42.02 301 P **P** **00 18 08.2 +1.1**
FFC pmax pmax
comp=Z,8.0nm,1.2s
FFC Flin Flon 42.02 301 P **P** **00 18 08.2 +1.1**
FFC IAmb IAmb 00 18 17.6
comp=Z,8.3nm,1.1s
HDA Harding Lake 42.10 338 P **P** **00 18 08.0 +0.4**
HDA IAmb IAmb 00 18 21.5
comp=Z,3.4nm,1.1s
WRH Wood River Hil 42.18 338 P **P** **00 18 08.2 0.0**
WRH IAmb IAmb 00 18 11.8
comp=Z,4.2nm,1.2s
BCAR Beaver Creek A 42.72 334 P **P** **00 18 13.6 +0.9**
BPAW Bear Paw Mtn. 42.86 340 P **P** **00 18 13.8 -0.1**
DHY Denali Highway 43.44 337 P **P** **00 18 19.3 +0.6**
DELO Deloro Mine 43.76 274 P **P** **00 18 22.1 +0.8**
DELO IAmb IAmb 00 18 28.9
comp=Z,8.0nm,1.2s
ULM Lac du Bonnet 44.27 293 LR LR 00 36 03.7
comp=Z,181nm,20.6s,baz=2.0,slow=35

KKAR **Karatay Array** 44.59 89 P P 00 18 29.1 +1.1
KKAR **Karatay Array** 44.59 89 P P 00 18 29.1 +1.1
SEY **Seymchan** 44.70 16 P P 00 18 28.4 -0.2
comp=Z,1.7nm,0.8s,baz=6.2,slow=12,SNR=2.3
MKAR **Makanchi Array** 44.98 76 P P 00 18 30.3 -0.8
comp=Z,0.6nm,0.7s,baz=2.3,slow=6.1,SNR=5.5
MKAR LR LR 00 41 25.2
comp=Z,97nm,18.2s,baz=324,slow=42
MKAR **Makanchi Array** 44.98 76 P P 00 18 32.5 +1.4
MKAR **Makanchi Array** 44.98 76 P P 00 18 32.5 +1.4
SKT **Skwentna** 44.99 340 P P 00 18 31.5 +0.5
SKT IAmb IAmb 00 18 45.7
comp=Z,4.4nm,1.2s
GEYT **Alibeck** 45.38 104 P P 00 18 35.6 +1.2
comp=Z,0.9nm,0.5s,baz=285,slow=13,SNR=2.8
GEYT LR LR 00 39 18.0
comp=Z,223nm,18.7s,baz=340,slow=38
HIN **Hinchinbrook I** 45.92 336 P P 00 18 39.0 +0.7
N58A **Sunbury** 46.79 271 P P 00 18 45.0 -0.4
WMQ **Urumqi** 49.32 73 *eP* P 00 19 08.0 +3.0
ZEA **Zeya** 50.15 36 *eP* P 00 19 12.2 +1.1
ZEA pmax pmax
comp=Z,28nm,1.2s
SONM **Songino Array** 50.96 55 P P 00 19 18.1 +0.6
comp=Z,0.5nm,0.8s,baz=15,slow=6.0,SNR=2.0
SONM LR LR 00 43 29.9
comp=Z,73nm,18.4s,baz=350,slow=39
ULN **Ulaanbaatar** 51.10 54 *ceP* P 00 19 17.3 -1.3
ULN pmax pmax
comp=Z,5.0nm,1.7s
R49A **Shelbyville** 51.79 277 P P 00 19 25.2 +1.5
R49A IAmb IAmb 00 19 40.4
comp=Z,2.5nm,0.6s
NEW **Newport** 51.84 309 P P 00 19 24.4 +0.5
NEW pmax pmax
comp=Z,2.0nm,0.9s
NEW **Newport** 51.84 309 P P 00 19 24.4 +0.5
NEW IAmb IAmb 00 19 25.6
comp=Z,1.9nm,0.8s
U49A **Red Boiling Sp** 53.61 277 P P 00 19 37.6 +0.4
U49A IAmb IAmb 00 19 40.9
comp=Z,2.9nm,1.1s
CCM **Cathedral Cave** 53.91 282 P P 00 19 38.6 -0.7
CCM pmax pmax
comp=Z,3.0nm,1.1s
CCM **Cathedral Cave** 53.91 282 P P 00 19 38.6 -0.7
CCM IAmb IAmb 00 19 42.7
comp=Z,3.1nm,1.1s
LON **Longmire** 54.38 312 P P 00 19 42.4 -0.3
LON pmax pmax
comp=Z,2.0nm,0.8s
LON **Longmire** 54.38 312 P P 00 19 42.4 -0.3
LON IAmb IAmb 00 19 57.1
comp=Z,1.6nm,0.8s
W50A **Signal Mountai** 54.67 276 P P 00 19 45.1 +0.2
T42A **Van Buren** 54.81 282 P P 00 19 45.8 0.0
T42A IAmb IAmb 00 20 05.4
comp=Z,1.8nm,1.1s
PDAR **Pinedale Array** 54.97 301 P P 00 19 48.1 +0.9
comp=Z,0.2nm,0.4s,baz=32,slow=8.8,SNR=2.2
PDAR LR LR 00 43 02.5
comp=Z,229nm,18.7s,baz=1.5,slow=36
KLR **Kul'dur** 55.29 35 *ceP* P 00 19 49.4 +0.2
KLR pmax pmax
comp=Z,5.0nm,1.5s
RDMU **Red Mountain** 57.01 300 P P 00 20 02.1 +0.2
O20A **White River Ci** 57.05 298 P P 00 20 02.9 +0.8
X43A **Marvell** 57.06 280 P P 00 20 02.4 +0.4
BGU **Big Grassy Mou** 57.62 303 P P 00 20 06.6 +0.5
DUG **Dugway, Tooele** 58.25 302 P P 00 20 10.8 +0.3
DUG pmax pmax
comp=Z,2.0nm,1.0s
DUG **Dugway, Tooele** 58.25 302 P P 00 20 10.8 +0.3
DUG IAmb IAmb 00 20 29.4
comp=Z,1.5nm,1.0s
TORD **Torodi Ar. Bea** 58.45 175 P P 00 20 13.2 +1.3
comp=Z,0.6nm,0.8s,baz=348,slow=7.6,SNR=1.8
TORD LR LR 00 45 28.5
comp=Z,114nm,18.7s,baz=140,slow=36
TORD **Torodi Ar. Bea** 58.45 175 IAmb IAmb 00 20 21.1
comp=Z,0.9nm,0.9s
KEBM **Edson Butte** 58.63 313 P P 00 20 13.3 +0.3
TMUT **Trail Mountain** 58.65 300 P P 00 20 13.8 +0.3
HHC **Hu-ho-hao-te** 58.81 54 *eP* P 00 20 16.0 +1.7
HHC pmax pmax
comp=Z,17nm,1.1s
HHC pmax pmax
comp=Z,97nm,5.9s
Q16A **Castle Valley** 59.00 300 P P 00 20 15.9 +0.1
PV01 **Paradox Valley** 59.00 298 P P 00 20 16.2 +0.4
PV01 IAmb IAmb 00 20 25.6
comp=Z,1.7nm,0.7s
PV13 **Radium Mtn., P** 59.05 298 P P 00 20 16.3 +0.1
PV13 IAmb IAmb 00 20 18.9
comp=Z,2.2nm,1.0s
MVCO **Mesa Verde** 59.84 297 P P 00 20 22.2 +0.5
344A **Westbrook Farm** 59.84 279 P P 00 20 22.5 +1.0
PSUT **Pine Spring** 60.09 302 P P 00 20 24.7 +1.4
MTPU **Mount Pierson** 60.09 301 P P 00 20 23.7 +0.2
USA0B **Ussuriysk Arra** 60.19 36 P P 00 20 23.9 +0.3
USA0B pmax pmax
comp=Z,4.0nm,0.8s
USA0B **Ussuriysk Arra** 60.19 36 P P 00 20 23.9 +0.3
USRK **Ussuriysk Ar.** 60.19 36 P P 00 20 24.3 +0.7
USRK **Ussuriysk Ar.** 60.19 36 P P 00 20 24.2 +0.7
JCC **Jacoby Creek,** 60.51 312 P P 00 20 27.0 +1.1
PKCU **Pink Cliffs** 60.69 301 P P 00 20 28.4 +0.8
KVN **Kaiserville** 60.72 306 P P 00 20 28.1 +0.6
KVN pmax pmax
comp=Z,4.0nm,1.1s
KVN **Kaiserville** 60.72 306 P P 00 20 28.1 +0.6
KVN IAmb IAmb 00 20 32.5
comp=Z,3.9nm,1.1s
R11A **Troy Canyon, C** 60.72 304 P P 00 20 27.9 +0.3
R11A IAmb IAmb 00 20 40.6
comp=Z,1.4nm,1.1s
NVAR **Mina Array Bea** 61.35 306 LR LR 00 47 20.3
comp=Z,69nm,18.4s,baz=77,slow=36
ANMO **Albuquerque** 61.37 295 P P 00 20 32.9 +0.8
ANMO pmax pmax
comp=Z,1.0nm,1.1s
ANMO **Albuquerque** 61.37 295 P P 00 20 32.9 +0.8
PRN **Pahroc Range** 61.46 303 P P 00 20 33.8 +1.2
ABTX **Abilene, Hawle** 61.52 288 P P 00 20 33.2 +0.4
BNM **Barren Site** 62.17 294 P P 00 20 37.7 +0.2
TPNV **Topopah Spring** 62.21 304 P P 00 20 36.2 -1.5
TPNV pmax pmax
comp=Z,2.0nm,1.0s
TPNV **Topopah Spring** 62.21 304 P P 00 20 36.2 -1.5
TPNV IAmb IAmb 00 20 54.6
comp=Z,2.0nm,1.0s
WUAZ **Wupatki** 62.24 299 P P 00 20 37.1 -0.7
WUAZ IAmb IAmb 00 20 47.7
comp=Z,1.5nm,0.8s
OMMB **Old Mammoth Mi** 62.30 306 P P 00 20 39.9 +1.4
OMMB IAmb IAmb 00 20 42.1
comp=Z,1.4nm,1.0s
SHPR **Sheep Range** 62.34 303 P P 00 20 38.1 -0.4
SHPR IAmb IAmb 00 20 55.6
comp=Z,1.7nm,0.9s
MTP **Monte Pirata** 64.43 250 P P 00 20 50.8 -1.5
DBIC **Dimbokro** 64.83 182 LR LR 00 52 04.8
comp=Z,42nm,18.4s,baz=352,slow=39
TXAR **Lajitas Array** 65.80 290 P P 00 21 00.7 -0.5
comp=Z,0.9nm,1.1s,baz=42,slow=5.8,SNR=5.6
TXAR LR LR 00 49 24.9
comp=Z,119nm,21.5s,baz=0.0,slow=36
TXAR **Lajitas Array** 65.80 290 P P 00 21 01.0 -0.2
TXAR **Lajitas Array** 65.80 290 P P 00 21 01.0 -0.2
KSRS **Korea Array** 65.88 41 LR LR 00 51 46.3
comp=Z,52nm,19.0s,baz=335,slow=38
MJAR **Matsushiro Arr** 68.74 33 P P 00 21 19.9 +0.2
comp=Z,2.1nm,0.8s,baz=336,slow=5.7,SNR=7.0
CMAR **Chiang Mai Arr** 76.32 73 LR LR 00 59 39.7
comp=Z,21nm,19.9s,baz=335,slow=39
ROSC **El Rosal** 79.61 254 LR LR 00 54 05.9
comp=Z,36nm,21.0s,baz=350,slow=33
PSI **Prapat** 91.08 78 LR LR 01 08 03.5
comp=Z,47nm,21.3s,baz=280,slow=38
BDFB **Brasilia** 92.17 223 LR LR 00 57 38.0
comp=Z,37nm,21.0s,baz=129,slow=31
LPAZ **La Paz** 97.84 242 LR LR 01 05 45.8
comp=Z,17nm,18.8s,baz=16,slow=34
ASAR **Alice Springs** 126.23 51 PKP PKiKP 00 29 18.6 -0.1
comp=Z,0.2nm,0.6s,baz=357,slow=1.9,SNR=2.6

*NAO **31** 00:13:47.7±2.6, 71°.49N×2°.65W, ML3.5*
*IDC **31** 00:13:48.6±0.9, 71°.53N×2°.65W, h0km, mb3.6/11, mb1 3.8/17, mb1mx3.6/48, mbtmp3.7/17, ML3.3/6, Error ellipse: s-maj=21.3km s-min=15.7km az=70.0*
*NEIC **31** 00:13:49.7±2.1, 71°.56N±0°.07×2°.7W±0°.2, h10km±1km, mb4.1/12, Error ellipse: s-maj=12.6km s-min=12.2km az=187.0*
*BER **31** 00:13:51.2±3.6, 71°.71N×2°.85W, h10km, MS3.3, ML3.5(NAO), Confirmed Earthquake*
ISC 31 00:13:49.3±0.5, 71°.51N±0°.06×2°.66W±0°.06, h10km, n100, σ1s24/100, mb3.7/15, 1C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**1.96**	**257**	LR	LR			00 14 40.3	
	comp=Z,82nm,18.1s,baz=213,slow=26								
DBG	**Daneborg**	**5.87**	**307**	⇑*iP*		Pn		00 15 10.9	-5.2
DBG				*eS*		Sn		00 16 10.5	-13
SCO	**Scoresbysund**	**6.38**	**270**	Pn		**Pn**		**00 15 23.1**	**0.0**
LOF	**Lofoten**	**6.54**	**113**	Pn		**Pn**		**00 15 25.2**	**-0.1**
LOF	**Lofoten**	**6.54**	**113**	*eP*		**Pn**		**00 15 25.3**	**0.0**
LOF				*eP*		**Pn**		**00 15 25.4**	**0.0**
LOF				IVMs_BB	IVMs_BB			00 15 58.4	
	comp=Z,256nm,5.3s								
LOF				*eS*		**Sn**		**00 16 36.8**	**-3.0**
N2SV	**S_rv¥gen**	**6.54**	**116**	*eP*		**Pn**		**00 15 25.1**	**-0.2**
N2RO	**R_st**	**6.54**	**121**	*eP*		**Pn**		**00 15 25.5**	**+0.2**
N2VA	**Vr_y**	**6.60**	**118**	*eP*		**Pn**		**00 15 26.1**	**-0.1**
BJO1	**Bjornoya**	**6.99**	**55**	Pn		**Pn**		**00 15 31.6**	**+0.2**
BJO1	**Bjornoya**	**6.99**	**55**	*eP*		**Pn**		**00 15 31.7**	**+0.2**
STEI	**Steigen**	**7.17**	**111**	*eP*		**Pn**		**00 15 34.5**	**+0.6**
NBB08	**Skaug oppvekst**	**7.34**	**116**	*eP*		**Pn**		**00 15 36.5**	**+0.2**
N2IH	**Innhavet**	**7.35**	**110**	*eP*		**Pn**		**00 15 37.1**	**+0.7**
N2TV	**Ytrnytk**	**7.36**	**114**	*eP*		**Pn**		**00 15 37.0**	**+0.4**
HSPB	**Hornsund (broa**	**7.36**	**33**	Pn		**Pn**		**00 15 36.6**	**0.0**
HSPB	**Hornsund (broa**	**7.36**	**33**	Pn		**Pn**		**00 15 36.6**	**0.0**
NBB30	**Finnes**	**7.38**	**120**	*eP*		**Pn**		**00 15 36.9**	**+0.2**
NBB05	**Inndyr**	**7.41**	**119**	*eP*		**Pn**		**00 15 37.3**	**0.0**
TRO	**Tromso**	**7.42**	**94**	Pn		**Pn**		**00 15 36.2**	**-1.2**
TRO	**Tromso**	**7.42**	**94**	*eP*		**Pn**		**00 15 36.1**	**-1.2**
NBB40	**Tonnes**	**7.52**	**124**	*eP*		**Pn**		**00 15 40.2**	**+1.5**
FAUS	**Fauske**	**7.53**	**115**	*eP*		**Pn**		**00 15 39.4**	**+0.5**
KONS	**Konsvik**	**7.56**	**124**	*eP*		**Pn**		**00 15 39.6**	**+0.4**
MOR8	**Moi Rana**	**8.16**	**123**	*eP*		**Pn**		**00 15 48.5**	**+1.0**
SPA0	**Spitsbergen Ar**	**8.28**	**28**	Pn		**Pn**		**00 15 49.8**	**+0.6**
	baz=213,slow=16								
SPA0	**Spitsbergen Ar**	**8.28**	**28**	Pn		**Pn**		**00 15 49.7**	**+0.5**
SPA0	**Spitsbergen Ar**	**8.28**	**28**	Pn		**Pn**		**00 15 49.8**	**+0.6**
	baz=213,slow=16								
SPITS	**Spitsbergen Ar**	**8.28**	**28**	Pn		**Pn**		**00 15 49.5**	**+0.3**
	baz=191,slow=17,SNR=8.6								
KBS	**Kingsbay**	**8.29**	**20**	Pn		**Pn**		**00 15 49.5**	**+0.3**
KBS	**Kingsbay**	**8.29**	**20**	Pn		**Pn**		**00 15 48.1**	**-1.1**
KIF	**Kilpisjarvi**	**8.30**	**96**	*eP*		**Pn**		**00 15 49.2**	**-0.2**
HAMF	**Hammerfest**	**8.57**	**83**	Pn		**Pn**		**00 15 51.7**	**-1.4**
HAMF	**Hammerfest**	**8.57**	**83**	*eP*		**Pn**		**00 15 51.4**	**-1.7**
NSS	**Namsos**	**8.87**	**135**	*eP*		**Pn**		**00 15 58.3**	**+1.1**
KTK1	**Kautokeino**	**9.07**	**93**	*eP*		**Pn**		**00 16 00.1**	**+0.1**
ARA0	**ARCESS Array S**	**9.56**	**88**	Pn		**Pn**		**00 16 06.1**	**-0.6**
	baz=286,slow=11								
ARA0	**ARCESS Array S**	**9.56**	**88**	Pn		**Pn**		**00 16 06.1**	**-0.6**
	baz=286,slow=11								
ARCES	**ARCESS Array B**	**9.56**	**88**	Pn		**Pn**		**00 16 06.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=289,slow=12,SNR=7.7								
ARE0	**ARCESS Array S**	**9.56**	**88**	Pn		**Pn**		**00 16 06.4**	**-0.3**
TBLU	**Trondheim**	**9.64**	**143**	*eP*		**Pn**		**00 16 08.0**	**+0.1**
MOL	**Molde**	**9.81**	**151**	*eP*		**Pn**		**00 16 11.4**	**+1.4**
KEV	**Kevo**	**9.95**	**86**	Pn		**Pn**		**00 16 11.6**	**-0.3**
AKN	**Aaknes**	**10.10**	**153**	*eP*		**Pn**		**00 16 15.8**	**+1.7**
FOO	**Floro**	**10.41**	**159**	*eP*		**Pn**		**00 16 18.4**	**+0.1**
NOR	**Nord**	**10.59**	**349**	Pn		**Pn**		**00 16 18.3**	**-2.4**
NOR	**Nord**	**10.59**	**349**	Pn		**Pn**		**00 16 18.3**	**-2.4**
HYA	**Hoyanger**	**10.96**	**157**	*eP*		**Pn**		**00 16 27.8**	**+1.9**
SUMG	**Summit**	**10.99**	**292**	Pn		**Pn**		**00 16 25.5**	**-1.1**
ASK	**Askoy**	**11.51**	**160**	*eP*		**Pn**		**00 16 29.7**	**-3.7**
NC204	**NORSAR Array S**	**11.56**	**146**	Pn		**Pn**		**00 16 35.5**	**+1.5**
NC204	**NORSAR Array S**	**11.56**	**146**	*eP*		**Pn**		**00 16 35.4**	**+1.3**
NC303	**NORSAR Array S**	**11.71**	**145**	Pn		**Pn**		**00 16 38.0**	**+1.8**
SKAR	**Skarslia**	**11.72**	**153**	*eP*		**Pn**		**00 16 38.6**	**+2.3**
NBO00	**NORSAR Array S**	**11.79**	**146**	Pn		**Pn**		**00 16 38.4**	**+1.2**
NB2	**NORSAR Subarra**	**11.86**	**145**	Pn		**Pn**		**00 16 39.4**	**+1.2**
	baz=333,slow=14								
NB2	**NORSAR Subarra**	**11.86**	**145**	Pn		**Pn**		**00 16 39.4**	**+1.2**
	baz=333,slow=14								
NOA	**NORSAR Array B**	**11.86**	**145**	Pn		**Pn**		**00 16 39.2**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=325,slow=13,SNR=3.4								
NB201	**NORSAR Array S**	**11.86**	**145**	Pn		**Pn**		**00 16 40.7**	**+2.5**
NC405	**NORSAR Array S**	**11.88**	**144**	Pn		**Pn**		**00 16 40.3**	**+1.8**
NAO01	**NORSAR Array S**	**11.98**	**146**	Pn		**Pn**		**00 16 41.2**	**+1.4**
NRA0	**NORESS Array S**	**12.20**	**145**	Pn		**Pn**		**00 16 42.9**	**+0.1**
NRA0	**NORESS Array S**	**12.20**	**145**	Pn		**Pn**		**00 16 42.9**	**+0.1**
NC602	**NORSAR Array S**	**12.20**	**145**	Pn		**Pn**		**00 16 43.8**	**+1.0**
APA0	**Apatity Array**	**12.90**	**90**	Pn		**Pn**		**00 16 51.6**	**-0.8**
	baz=305,slow=16								
APA0	**Apatity Array**	**12.90**	**90**	Pn		**Pn**		**00 16 51.6**	**-0.8**
	baz=305,slow=16								
HFS	**Hagfors**	**13.17**	**142**	Pn		**Pn**		**00 16 56.2**	**+0.2**
	baz=339,slow=14								
HFS	**Hagfors**	**13.17**	**142**	Pn		**Pn**		**00 16 56.4**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=338,slow=12,SNR=12								
HFS	**Hagfors**	**13.17**	**142**	Pn		**Pn**		**00 16 56.2**	**+0.2**
	baz=339,slow=14								
FIA0	**FINESS Array S**	**15.08**	**117**	P		**Pn**		**00 17 21.8**	**-0.2**
	baz=331,slow=12								
FIA0	**FINESS Array S**	**15.08**	**117**	P		**Pn**		**00 17 21.8**	**-0.2**
	baz=331,slow=12								
FINES	**FINESS Array B**	**15.08**	**117**	Pn		**Pn**		**00 17 21.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=335,slow=18,SNR=4.5								
EKA	**Eskdalemuir Ar**	**16.25**	**181**	P		**Pn**		**00 17 35.6**	**-1.6**
EKA	**Eskdalemuir Ar**	**16.25**	**181**	Pn		**Pn**		**00 17 36.7**	**-0.5**
	baz=4.7,slow=11,SNR=2.8								
EKA	**Eskdalemuir Ar**	**16.25**	**181**	P		**Pn**		**00 17 35.6**	**-1.6**
ESK	**Eskdalemuir**	**16.26**	**181**	Pn		**Pn**		**00 17 38.0**	**+0.6**
ESK				IAmb	IAmb			00 17 43.3	
	comp=Z,14nm,1.1s								
NRS	**Narsarsuaq**	**19.53**	**260**	P		**P**		**00 18 16.8**	**+0.4**
NRS				IAmb	IAmb			00 18 21.8	
	comp=Z,9.9nm,0.8s								
SUW	**Suwalki**	**20.85**	**134**	P		**P**		**00 18 31.5**	**+0.8**
CLL	**Collm**	**21.47**	**152**	P		**P**		**00 18 40.4**	**+2.9**
WLF	**Walferdange**	**22.30**	**165**	P		**P**		**00 18 48.3**	**+2.0**
WLF				IAmb	IAmb			00 18 57.3	
	comp=Z,5.2nm,0.9s								
GEC2	**GERESS Array S**	**23.98**	**153**	P		**P**		**00 19 05.0**	**+1.5**
GERES	**GERESS Array B**	**23.98**	**153**	P		**P**		**00 19 05.8**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=355,slow=9.4,SNR=7.7								
GERES	**GERESS Array B**	**23.98**	**153**	P		**P**		**00 19 04.5**	**+0.9**
VRAC	**Vranov**	**23.98**	**148**	P		**P**		**00 19 04.6**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=341,slow=9.3,SNR=7.1								
AKASG	**Malin Array Be**	**25.35**	**128**	P		**P**		**00 19 16.2**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=357,slow=9.9,SNR=5.3								
AKBB	**Malin Array Si**	**25.35**	**128**	P		**P**		**00 19 16.0**	**+0.1**
AKBB				IAmb	IAmb			00 19 17.6	
	comp=Z,3.8nm,0.8s								
SENIN	**Lac Senin/Sane**	**25.67**	**164**	P		**P**		**00 19 19.9**	**+0.8**
SENIN				IAmb	IAmb			00 19 31.1	
	comp=Z,3.8nm,1.1s								
ESDC	**Sonseca Array**	**31.92**	**182**	P		**P**		**00 20 16.4**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=11,slow=8.1,SNR=2.1								
TIP	**Timpagrande**	**33.88**	**152**	P		**P**		**00 20 29.4**	**-2.5**
TIP				IAmb	IAmb			00 20 46.2	
	comp=Z,2.9nm,0.9s								
ABKAR	**Akbulak array**	**35.69**	**94**	P		**P**		**00 20 48.9**	**+1.7**
BVAR	**Borovoye Array**	**35.76**	**81**	P		**P**		**00 20 49.3**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=348,slow=6.2,SNR=3.1								
BRTR	**Keskin Array B**	**36.72**	**130**	P		**P**		**00 20 57.7**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=335,slow=4.6,SNR=4.3								
BRTR	**Keskin Array B**	**36.72**	**130**	P		**P**		**00 20 55.3**	**-1.0**
IMAR	**Indian Mountai**	**41.37**	**343**	P		**P**		**00 21 34.8**	**+0.1**
ILAR	**Eielson Array**	**41.81**	**338**	P		**P**		**00 21 39.0**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=354,slow=9.2,SNR=5.7								
BCAR	**Beaver Creek A**	**42.78**	**334**	P		**P**		**00 21 47.5**	**+1.1**
MACI	**Morro de la Ar**	**43.99**	**198**	P		**P**		**00 21 54.0**	**-2.6**
MKAR	**Makanchi Array**	**44.93**	**76**	P		**P**		**00 22 04.4**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=351,slow=6.5,SNR=3.8								
TORD	**Torodi Ar. Bea**	**58.40**	**175**	P		**P**		**00 23 45.5**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=357,slow=6.5,SNR=1.4								
TXAR	**Lajitas Array**	**65.87**	**290**	P		**P**		**00 24 34.7**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=15,slow=7.5,SNR=2.6								
MJAR	**Matsushiro Arr**	**68.74**	**33**	P		**P**		**00 24 53.5**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=338,slow=5.2,SNR=2.4								

*ISN **31** 00:16:25.8±2.2, 32°.62N×47°.79E, h5km, 26km, ML1.7*
*TEH **31** 00:16:26.6, 32°.66N×47°.70E, h10km, ML2.6*
ISC 31 00:16:28.0±1.3, 32°.58N±0°.05×47°.72E±0°.05, h23km, n13, σ2s25/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.38**	**285**	*eP*		**Pg**	**Pb**	**00 16 33.3**	**-2.9**
DHL1				*eSg*		**Sg**	**Sb**	**00 16 39.6**	**-2.2**
DHL1				*e*				00 16 40.6	
BMDN	**Meydan**	**1.43**	**40**	*ePg*		**Pb**	**Pb**	**00 16 53.2**	**-0.9**
BMDN				*e*				00 16 55.0	
IKOM	**Komasi**	**1.60**	**354**	*ePg*		**Pb**	**Pb**	**00 16 55.3**	**-1.6**
IKOM				*e*				00 16 56.4	
KCHF	**Cheshme Sefid,**	**1.78**	**342**	*ePn*		**Pb**	**Pb**	**00 16 58.8**	**-1.3**
KCHF				*e*				00 17 23.1	
HSAM	**Samen**	**1.78**	**24**	*ePg*		**Pb**	**Pb**	**00 16 59.1**	**-1.1**
HSAM				*e*				00 17 01.9	
IBZA	**Bozab**	**1.89**	**4**	*ePn*		**Pb**	**Pb**	**00 17 01.3**	**-0.6**
IBZA				*e*				00 17 29.0	
NSR	**Nassriya**	**2.07**	**221**	*ePn*		**Pb**	**Pb**	**00 17 04.0**	**-0.8**
NSR				*eSn*		**Sn**	**Sb**	**00 17 31.0**	**+1.0**
IVIS	**Veis**	**2.07**	**340**	*ePn*		**Pb**	**Pb**	**00 17 03.0**	**-2.0**
IVIS				*e*				00 17 33.2	
IALM	**Almabolaq**	**2.30**	**9**	*e*				00 17 10.6	
IALM				*ePn*		**Pb**	**Pb**	**00 17 06.6**	**-2.4**
IDHR	**Dehrash**	**2.39**	**333**	*e*				00 17 44.0	
IDHR				*ePn*		**Pb**	**Pb**	**00 17 07.6**	**-2.8**
IPIR	**Pirpir**	**2.68**	**87**	*ePn*		**Pb**	**Pb**	**00 17 12.5**	**-2.9**
IPIR				*e*				00 17 57.9	
HSRG	**Sareghieh**	**2.69**	**10**	*e*		**Pb**	**Pb**	**00 17 17.9**	**+2.2**
BHD	**Baghdad**	**2.89**	**285**	*ePn*		**Pn**	**Pn**	**00 17 14.0**	**+1.4**
	baz=102								
BHD				*eSn*		**Sn**	**Sn**	**00 17 50.0**	**+3.3**
BHD				AML	AML	AML	AML	00 18 01.1	
	comp=E,3.7nm,0.8s								

*KEA **31** 00:19:24.2±0.9, 38°.96N×123°.65E, h0km, ML2.7/5*
ISC 31 00:19:24.2±0.9, 39°.04N±0°.07×123°.74E±0°.05, h10km, n7, σ0s28/11, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SUJ	**Sinuiju**	**1.22**	**29**	Pg		**Pg**	**Pn**	**00 19 47.1**	**-0.2**
SUJ				Sg		**Sg**	**Sb**	**00 20 02.7**	**-0.3**
PYAG	**Pyongyang**	**1.57**	**89**	Pg		**Pg**	**Pg**	**00 19 54.7**	**+0.3**
PYAG				Sg		**Sg**	**Sg**	**00 20 15.1**	**+0.2**
DL2	**Dalian**	**1.65**	**266**	Pg		**Pg**	**Pb**	**00 19 55.0**	**+0.3**
DL2				Sg		**Sg**	**Sb**	**00 20 15.5**	**0.0**
DL2				smax	smax				
	comp=N,110nm,0.6s								
DL2				smax	smax				
	comp=E,45nm,0.4s								
PYS	**Pyongsong**	**1.66**	**82**	Pg		**Pg**	**Pg**	**00 19 56.4**	**+0.3**
PYS				Sg		**Sg**	**Sg**	**00 20 17.5**	**-0.1**
HJU	**Haeju**	**1.85**	**122**	Sg		**Sg**	**Sg**	**00 20 23.5**	**-0.1**
KGE	**Kanggye**	**2.92**	**48**	Sg		**Sg**	**Sg**	**00 20 58.0**	**+0.1**
NJ2	**Nanjing**	**8.02**	**211**	*eP*		**Pn**	**Pn**	**00 21 20.5**	**-0.3**
NJ2				pmax	pmax				
	comp=Z,7.0nm,0.5s								

*MEX **31** 00:20:27.2±0.3, 30°.68N×113°.98W, h17km, MD4.0*
*ECX **31** 00:20:30.9±0.9, 31°.03N×114°.35W, h10km±6km, MD2.7, ML2.9*
ISC 31 00:20:23.8±3.5, 30°.98N±0°.10×114°.1W±0°.1, h5km±13km, n9, σ0s79/16, 3C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.64**	**275**	*eP*		**Pn**	**Pn**	**00 20 39.2**	**-0.3**
SFX				*eS*		**Sg**	**Sn**	**00 20 44.5**	**+0.2**
ECBX	**El Chinero**	**0.94**	**302**	*eP*		**Pn**	**Pn**	**00 20 43.9**	**+0.1**
ECBX				*eS*		**Sg**	**Sn**	**00 20 54.5**	**+0.3**
SPX	**San Pedro Mart**	**1.16**	**273**	*eP*		**Pn**	**Pn**	**00 20 47.6**	**+0.5**
SPX				*i* S		**Sn**	**Sn**	**00 21 03.4**	**-0.2**
SPX	**San Pedro Mart**	**1.16**	**273**	*eP*		**Pn**	**Pn**	**00 20 47.6**	**+0.5**
SPX				⇑*e*				00 21 05.7	
SPX				IAML				00 21 05.7	
	comp=N,203nm,0.5s								
SPIG	**San Pedro Mart**	**1.16**	**273**	*eP*		**Pn**	**Pn**	**00 20 47.6**	**+0.5**
SPIG				*i* S		**Sn**	**Sn**	**00 21 03.5**	**-0.1**
SPIG	**San Pedro Mart**	**1.16**	**273**	*eP*		**Pn**	**Pn**	**00 20 47.5**	**+0.4**
SQX	**San Quintin**	**1.57**	**256**	*eP*		**Pg**	**Pn**	**00 20 54.4**	**+0.4**
SQX				*eS*		**Sg**	**Sg**	**00 21 14.1**	**-0.2**
SQX				IAML				00 21 16.2	
	comp=E,301nm,0.5s								
SQX				⇑*e*				00 21 16.2	
CBX	**Cerro Bola**	**2.55**	**302**	*eP*		**Pb**	**Pb**	**00 21 08.5**	**-1.6**
CBX				*eS*		**Sb**	**Sb**	**00 21 41.1**	**-0.8**
CBX	**Cerro Bola**	**2.55**	**302**	*eP*		**Pb**	**Pb**	**00 21 10.2**	**0.0**
CBX				*eS*		**Sn**	**Sn**	**00 21 39.2**	**+1.7**
CBX				⇑*e*				00 21 54.4	
CBX		

ALS	**Alishan**	**0.79**	**293**	*i* P	**Pn**	**00 21 59.8**	**0.0**
ALS	baz=297			*i* S	**Sn**	**00 22 10.7**	**-0.7**
SSLB	**Suanglung**	**0.83**	**315**	P	**Pn**	**00 22 00.0**	**-0.2**
SSLB	baz=323			S	**Sb**	**00 22 10.2**	**+0.1**
ECL	**Taimali**	**0.84**	**225**	P	**Pg**	**00 21 58.5**	**-1.0**
ECL	baz=224			S	**Sg**	**00 22 09.1**	**-1.5**
WHYT	**Xinyi Township**	**0.84**	**306**	P	**Pn**	**00 22 00.8**	**+0.5**
WHYT	baz=312			S	**Sn**	**00 22 11.8**	**-0.6**
TWD	**Chiawan**	**0.88**	**0**	*i* P	**Pn**	**00 22 00.6**	**-0.2**
TWD	baz=352			S	**Sn**	**00 22 12.9**	**-0.2**
TPUB	**Ta-pu**	**0.89**	**277**	P	**Pn**	**00 22 01.5**	**+0.5**
TPUB	baz=279			S	**Sn**	**00 22 13.3**	**-0.3**
SLGT	**Liugui**	**0.90**	**257**	*i* P	**Pn**	**00 22 01.2**	**+0.2**
SLGT	baz=262			*i* S	**Sn**	**00 22 12.8**	**-0.9**
WTP	**Ta-pu**	**0.90**	**273**	*i* P	**Pn**	**00 22 01.5**	**+0.4**
WTP	baz=270			*i* S	**Sn**	**00 22 13.5**	**-0.4**
CHN5	**Tsauling**	**0.93**	**295**	*i* P	**Pn**	**00 22 02.4**	**+0.8**
CHN5	baz=298			*i* S	**Sn**	**00 22 15.0**	**+0.4**
SMLT	**Sun Moon Lake**	**0.93**	**317**	*i* P	**Pn**	**00 22 02.1**	**+0.4**
SMLT	baz=325			S	**Sn**	**00 22 13.8**	**-1.0**
CHGB	**Renai**	**0.94**	**336**	P	**Pn**	**00 22 02.0**	**+0.1**
CHGB	baz=348			S	**Sb**	**00 22 13.9**	**+0.4**
NACB	**Ninganchiao**	**0.97**	**0**	P	**Pg**	**00 22 01.5**	**-0.5**
NACB	baz=353			S	**Sb**	**00 22 13.9**	**-0.2**
TYC	**Yuchr**	**0.98**	**316**	*i* P	**Pn**	**00 22 02.7**	**+0.6**
TYC	baz=327			*i* S	**Sn**	**00 22 16.2**	**+0.7**
CHN1	**Nanshi**	**0.98**	**269**	*i* P	**Pn**	**00 22 03.1**	**+0.8**
CHN1	baz=268			*i* S	**Sn**	**00 22 16.3**	**+0.5**
WHF	**Hehuan Shan**	**0.99**	**342**	*i* P	**Pn**	**00 22 02.4**	**-0.4**
WHF	baz=357			*i* S	**Sn**	**00 22 15.7**	**-0.9**
SSD	**Sandimen**	**0.99**	**243**	*e*P	**Pb**	**00 22 01.9**	**-0.1**
SSD	baz=243			*e*S	**Sb**	**00 22 14.7**	**-0.1**
WJS	**Zhushan**	**1.01**	**308**	*i* P	**Pn**	**00 22 03.4**	**+0.8**
WJS	baz=312			S	**Sn**	**00 22 17.3**	**+0.9**
ETLH	**Xiulin Townshi**	**1.01**	**354**	P	**Pn**	**00 22 02.6**	**-0.1**
ETLH	baz=358			S	**Sb**	**00 22 15.1**	**-0.3**
SNST	**Tainan City**	**1.01**	**271**	*i* P	**Pn**	**00 22 03.5**	**+1.0**
SNST	baz=273			*i* S	**Sn**	**00 22 17.0**	**+0.6**
MASBT	**Mashibuluo**	**1.06**	**237**	P	**Pb**	**00 22 02.8**	**-0.2**
MASBT	baz=234			S	**Sb**	**00 22 15.9**	**-0.8**
EAST	**Anshuo**	**1.06**	**220**	*i* P	**Pb**	**00 22 02.3**	**-0.9**
EAST	baz=220			S	**Sb**	**00 22 15.4**	**-1.5**
WGK	**Gukeng**	**1.07**	**297**	*e*P	**Pn**	**00 22 03.4**	**+0.1**
WGK	baz=311			S	**Sn**	**00 22 18.9**	**+1.1**
WNT	**Mingjian**	**1.08**	**309**	*e*P	**Pg**	**00 22 04.3**	**+0.3**
WNT	baz=313			*i* S	**Sn**	**00 22 18.4**	**+0.3**
WDLH	**Douliu**	**1.09**	**297**	P	**Pg**	**00 22 04.0**	**-0.2**
WDLH	baz=299			*i* S	**Sn**	**00 22 19.3**	**+1.0**
CHY	**Chiayi**	**1.12**	**286**	*e*P	**Pg**	**00 22 04.9**	**+0.2**
CHY	baz=288			S	**Sn**	**00 22 19.5**	**+0.4**
TWT	**Tachien**	**1.12**	**340**	P	**Pg**	**00 22 05.3**	**+0.5**
TWT	baz=350			S	**Sn**	**00 22 19.4**	**0.0**
TDCB	**Techi**	**1.12**	**339**	P	**Pg**	**00 22 04.9**	**0.0**
TDCB	baz=350			*e*S	**Sn**	**00 22 19.1**	**-0.3**
TWM1	**Shoushan**	**1.14**	**251**	*e*P	**Pg**	**00 22 06.5**	**+1.2**
SCZT	**Fangliau**	**1.22**	**228**	P	**Pb**	**00 22 05.6**	**-0.1**
WHP	**Taichung City**	**1.23**	**331**	*i* P	**Pg**	**00 22 07.2**	**+0.3**
WHP	baz=335			S	**Sg**	**00 22 23.1**	**+0.1**
ENA	**Nanau**	**1.23**	**6**	*i* P	**Pn**	**00 22 05.6**	**-0.1**
ENA	baz=17			*i* S	**Sb**	**00 22 21.6**	**0.0**
NNSB	**Datong**	**1.24**	**351**	P	**Pg**	**00 22 06.4**	**-0.7**
NNSB	baz=3.0			S	**Sb**	**00 22 21.5**	**-0.5**
NNSH	**Datong**	**1.24**	**351**	*i* P	**Pb**	**00 22 06.2**	**-0.1**
NNSH	baz=2.0			S	**Sb**	**00 22 21.6**	**-0.4**
NNS	**Nan Shan**	**1.25**	**351**	*i* P	**Pb**	**00 22 06.2**	**-0.2**
NNS	baz=3.0			S	**Sb**	**00 22 22.2**	**-0.2**
ENAH	**Nanao**	**1.26**	**9**	*e*S	**Sn**	**00 22 22.9**	**+0.2**
TCU	**Taichung**	**1.27**	**318**	*e*P	**Pg**	**00 22 08.4**	**+0.8**
TCU	baz=310			S	**Sg**	**00 22 24.3**	**+0.1**
WCHH	**Zhanghua**	**1.29**	**313**	S	**Sg**	**00 22 25.5**	**+0.5**
NDT	**Datong Townshi**	**1.40**	**357**	*e*P	**Pn**	**00 22 08.1**	**+0.2**
NDT				*e*S	**Sb**	**00 22 26.3**	**-0.2**
WLCH	**Liuqiu**	**1.40**	**233**	P	**Pg**	**00 22 10.0**	**-0.2**
TWC	**Suao**	**1.42**	**9**	S	**Sn**	**00 22 26.3**	**-0.4**
ENTT	**Nioudou**	**1.44**	**359**	*i* P	**Pb**	**00 22 09.2**	**-0.3**
ENTT	baz=3.0			S	**Sn**	**00 22 26.8**	**-0.2**
WDJ	**Dajia District**	**1.44**	**323**	S	**Sg**	**00 22 30.1**	**+0.4**
TWKBT	**Hengchun**	**1.45**	**210**	*e*P	**Pn**	**00 22 07.5**	**-1.0**
TWKBT	baz=199			S	**Sn**	**00 22 25.6**	**-1.6**
TWK1	**Hengchun**	**1.45**	**210**	*e*P	**Pn**	**00 22 08.0**	**-0.6**
TWK1	baz=199			S	**Sn**	**00 22 25.6**	**-1.6**
YHNB	**Yeheng**	**1.48**	**352**	P	**Pb**	**00 22 09.9**	**-0.4**
YHNB	baz=356			S	**Sb**	**00 22 28.4**	**-0.4**
NSK	**Sanguang**	**1.49**	**352**	*i* P	**Pb**	**00 22 10.3**	**-0.1**
NSK	baz=355			*i* S	**Sn**	**00 22 28.5**	**+0.2**
NSTT	**Nanjuang**	**1.53**	**339**	*e*P	**Pb**	**00 22 11.0**	**0.0**
NSTT	baz=344			S	**Sb**	**00 22 30.6**	**+0.5**
LIOB	**Emei**	**1.54**	**340**	*e*P	**Pb**	**00 22 11.4**	**+0.2**
LIOB	baz=344			*e*S	**Sb**	**00 22 30.6**	**+0.2**
NWLT	**Wulai**	**1.57**	**357**	*i* P	**Pb**	**00 22 11.1**	**-0.8**
NWLT				S	**Sn**	**00 22 29.8**	**-0.6**
EGS		**1.67**	**11**	*i* P	**Pb**	**00 22 14.0**	**+0.5**
	baz=13						
JYNG	**Yonagunijimaku**	**1.76**	**44**	P	**Pb**	**00 22 14.3**	**-0.7**
JYNG				S	**Sb**	**00 22 36.7**	**-0.1**
TIPB	**Shuangxi**	**1.78**	**7**	*i* P	**Pb**	**00 22 15.1**	**-0.3**
TIPB				S	**Sb**	**00 22 36.7**	**-0.8**
WDGT	**Dungji**	**1.78**	**272**	*i* P	**Pn**	**00 22 13.1**	**-0.1**
WDGT	baz=273			S	**Sn**	**00 22 33.3**	**-2.2**
PNG	**Penghu**	**1.91**	**282**	P	**Pn**	**00 22 14.6**	**-0.3**
PNG	baz=270			*e*S	**Sn**	**00 22 36.4**	**-2.3**
HATJ	**Hateruma jima**	**2.20**	**67**	P	**Pn**	**00 22 19.9**	**+0.9**
HATJ				S	**Sn**	**00 22 45.9**	**+0.1**
IRIF	**Iriomote-Funau**	**2.26**	**60**	P	**Pn**	**00 22 21.3**	**+1.5**
IRIF				S	**Sn**	**00 22 48.2**	**+0.9**
JKRS	**Kuro-shima**	**2.44**	**64**	P	**Pn**	**00 22 23.6**	**+1.3**
JKRS				S	**Sn**	**00 22 52.4**	**+0.6**
JIJ	**Ishigaki jima**	**2.61**	**63**	P	**Pn**	**00 22 25.3**	**+0.7**
JIJ				S	**Sn**	**00 22 56.0**	**+0.1**
VWUC	**VWUC**	**2.65**	**313**	P	**Pn**	**00 22 25.1**	**-0.1**
VWUC	baz=329			*e*S	**Sn**	**00 22 54.6**	**-2.4**
JISG	**Ishigakijimahi**	**2.84**	**60**	P	**Pn**	**00 22 28.4**	**+0.6**
JISG				S	**Sn**	**00 23 01.1**	**-0.6**
JTJ	**Tarama**	**3.19**	**63**	P	**Pn**	**00 22 33.5**	**+1.0**
JTJ				S	**Sn**	**00 23 11.1**	**+1.0**

*IDC **31** 00:30:32.0±1.9, 38°.40N×70°.11E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/31, mbtmp3.3/4, ML2.9/3, Error ellipse: s-maj=43.7km s-min=25.6km az=150.0*
*NNC **31** 00:30:36.9±5.4, 38°.81N×69°.82E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=39.2km s-min=26.6km az=10.0*

ISC 31 00:30:34.1±1.2, 38°.4N±0°.1×70°.09E±0°.07, h10km, n23, σ1§88/28, 6C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**3.76**	**359**	Pg	**Pn**	**00 31 34.6**	**+2.4**
IUG	20nm,0.2s			Lg	Lg	00 32 19.2	
BRLS	**Borolday**	**4.64**	**358**	Pg	**Pn**	**00 31 44.2**	**-0.1**
BRLS	1.5nm,0.1s			Lg	Lg	00 32 36.1	
AML	**Almayashu**	**4.65**	**35**	P	**Pn**	**00 31 45.0**	**+0.3**
	7.5nm,0.4s SNR=18						
KK31	**Karatay Array**	**4.72**	**4**	⇑Pn	**Pn**	**00 31 44.8**	**-0.6**
KK31	1.9nm,0.3s,baz=179,slow=12,SNR=20			⇓Pg	**Pb**	**00 31 57.2**	**+0.3**
KK31	1.7nm,0.3s,baz=185,slow=13,SNR=8.1			⇑Sn	**Sn**	**00 32 37.8**	**-2.5**
KK31	2.4nm,0.3s,baz=186,slow=26,SNR=3.6			⇑Lg	Lg	00 32 56.8	
MRKS	4.2nm,0.3s,baz=194,slow=29,SNR=5.2 **Merke**	**4.97**	**28**	Pg	**Pn**	**00 31 50.9**	**+2.1**
MRKS	9.6nm,0.4s			Lg	Lg	00 32 47.3	
UCH	15nm,0.3s **Uchtor**	**5.11**	**40**	P	**Pn**	**00 31 51.9**	**+0.8**
	SNR=9.2						
AAK	**Ala-Archa** SNR=6.1	**5.41**	**37**	P	**Pn**	**00 31 58.4**	**+3.4**
AAK	**Ala-Archa**	**5.41**	**37**	⇓Pn	**Pn**	**00 31 56.4**	**+1.4**
AAK	3.2nm,0.4s			⇓Sn	**Sn**	**00 32 57.7**	**+0.3**
AAK	5.7nm,0.6s			⇑Lg	Lg	00 33 22.5	
CHMS	17nm,1.0s **Chumysh**	**5.81**	**36**	P	**Pn**	**00 32 03.6**	**+3.3**
	SNR=6.2						
USP	**Ospenovka** SNR=5.6	**5.91**	**33**	P	**Pn**	**00 32 04.4**	**+2.7**
SGDS	**Sogindy**	**6.12**	**33**	Pg	**Pn**	**00 32 06.8**	**+2.3**
SGDS	8.9nm,0.5s			Lg	Lg	00 33 15.7	
TKM2	5.5nm,0.4s **Tokmak 2**	**6.17**	**41**	⇑Pn	**Pn**	**00 32 06.3**	**+0.9**
TKM2	4.6nm,0.6s			⇑Sn	**Sn**	**00 33 17.2**	**+1.1**
KST	3.5nm,0.6s **Kastek**	**6.44**	**42**	Pg	**Pn**	**00 32 10.8**	**+1.7**
KST	2.7nm,0.3s			Lg	Lg	00 33 22.2	
KRBS	4.7nm,0.3s **Karabastau**	**6.78**	**37**	Pg	**Pn**	**00 32 15.5**	**+1.9**
KRBS	1.0nm,0.2s			Lg	Lg	00 33 30.4	
TNSS	1.7nm,0.6s **Tian-Shan**	**6.98**	**46**	Pg	**Pn**	**00 32 17.7**	**+1.0**
TNSS	2.4nm,0.4s			Lg	Lg	00 33 34.3	
MDOK	4.0nm,0.6s **Medeo**	**7.12**	**46**	Pg	**Pn**	**00 32 19.5**	**+1.2**
	3.2nm,0.5s						
KUU	**Kurty** 1.0nm,0.3s	**7.25**	**39**	Pg	**Pn**	**00 32 21.8**	**+1.8**
KUU	2.2nm,0.1s			Lg	Lg	00 33 41.2	
BTLS	**Baital** 1.9nm,0.6s	**7.28**	**23**	Pg	**Pn**	**00 32 23.1**	**+2.7**
BTLS	1.7nm,0.4s			Lg	Lg	00 33 43.3	
GEYT	**Alibeck**	**9.45**	**271**	Pn	**Pn**	**00 32 49.9**	**-0.3**
GEYT	0.3nm,0.3s,baz=82,slow=12,SNR=2.2			Sn	**Sn**	**00 34 37.9**	**+1.4**
MKAR	0.4nm,0.3s,baz=90,slow=22,SNR=1.5 **Makanchi Array**	**12.29**	**43**	Pn	**Pn**	**00 33 28.3**	**-0.8**
	0.1nm,0.3s,baz=229,slow=13,SNR=4.2						
AB01	**Akbulak array** 2.0nm,0.5s	**13.09**	**329**	⇓Pn	**Pn**	**00 33 39.3**	**-0.7**
ZALV	**Zalesovo Beam**	**18.55**	**28**	P	**P**	**00 34 47.7**	**-3.0**
	0.2nm,0.3s,baz=213,slow=10.0,SNR=4.5						
WRA	**Warramunga Arr** 0.3nm,0.9s,baz=327,slow=4.5,SNR=1.5	**83.59**	**121**	P	**P**	**00 43 02.5**	**-0.3**

*ISN **31** 00:32:05.9±1.7, 32°.67N×47°.56E, h6km, mb2.2, ML2.8*
*TEH **31** 00:32:06.9, 32°.65N×47°.51E, h10km, ML2.6*

ISC 31 00:32:09.1±1.1, 32°.64N±0°.07×47°.48E±0°.05, h23km, n13, σ1§79/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.18**	**284**	*e*Pg	**Pb**	**00 32 11.3**	**-2.9**
DHL1				*e*		00 32 19.7	
BMDN	**Meydan**	**1.53**	**47**	*e*Pg	**Pb**	**00 32 35.7**	**-1.1**
BMDN				*e*		00 33 00.4	
IKOM	**Komasi**	**1.53**	**1**	*e*Pg	**Pb**	**00 32 35.6**	**-1.3**
IKOM				*e*		00 32 36.8	
KCHF	**Cheshme Sefid,**	**1.68**	**347**	*e*Pg	**Pb**	**00 32 38.4**	**-0.9**
KCHF				*e*		00 33 03.5	
HSAM	**Samen**	**1.83**	**30**	*e*Pg	**Pb**	**00 32 40.8**	**-1.2**
HSAM				*e*		00 33 08.5	
IGHG	**Ghaleghazi**	**1.85**	**336**	*e*Pn	**Pb**	**00 32 42.1**	**-0.3**
IGHG				*e*		00 33 13.3	
IBZA	**Bozab**	**1.85**	**10**	*e*Pn	**Pb**	**00 32 41.6**	**-0.9**
IBZA				*e*		00 33 12.4	
IVIS	**Veis**	**1.96**	**344**	*e*Pn	**Pb**	**00 32 42.2**	**-1.9**
IVIS				*e*		00 33 14.8	
NSR	**Nassriya**	**1.98**	**216**	*e*Pn	**Pn**	**00 32 42.0**	**+0.8**
NSR				*e*Sn	**Sb**	**00 33 09.0**	**+0.2**
NSR	comp=E,111nm,0.5s			AML	AML	00 33 11.0	
IDHR	**Dehrash**	**2.25**	**336**	*e*Pn	**Pb**	**00 32 46.7**	**-2.5**
IDHR				*e*		00 33 21.7	
IALM	**Almabolaq**	**2.29**	**14**	*e*Pn	**Pb**	**00 32 47.5**	**-2.4**
IALM				*e*		00 33 28.2	
BHD	**Baghdad** baz=102	**2.68**	**284**	*e*Pn	**Pn**	**00 32 52.0**	**+1.2**
BHD				*e*Sn	**Sn**	**00 33 25.0**	**+2.4**
BHD	comp=E,49nm,0.3s			AML	AML	00 33 28.9	
JHBN	**Jahan bin**	**2.72**	**98**	*e*Pn	**Pn**	**00 32 52.4**	**+0.7**
JHBN				*e*		00 33 42.5	

*DJA **31** 00:49:20.7±1.7, 2°.N±11°.×12°.7E±1°.0, h76km±21km, M4.3/8, mB5.0/2, mb4.5/2, MLv4.2/8, Mw(mB)4.3/2*
*IDC **31** 00:49:23.8±6.7, 1°.56N×127°.21E, h110km±59km, mb3.9/5, mb1 3.9/7, mb1mx3.4/47, mbtmp4.2/7, Error ellipse: s-maj=50.6km s-min=19.3km az=57.0*
*NEIC **31** 00:49:23.1±0.9, 1°.54N±0°.06×127°.23E±0°.10, h104km±6km, mb4.4/26, Error ellipse: s-maj=14.3km s-min=7.9km az=71.0*

ISC 31 00:49:22.3±0.6, 1°.67N±0°.05×127°.14E±0°.08, h103km, n54, σ1§51/57, mb4.4/17, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.92**	**165**	P	**Pn**	**00 49 41.3**	**-0.8**
TNTI				S	**Sn**	**00 49 57.0**	**0.0**
TNTI	**Ternate**	**0.92**	**165**		**Pn**	**00 49 41.4**	**-0.7**
LBMI	**Labuha**	**2.32**	**171**	P	**Pn**	**00 49 59.4**	**+0.2**
KMSI	**Cibinong**	**3.34**	**251**	P	**Pn**	**00 50 12.7**	**+0.1**
SANI	**Sanana**	**3.87**	**197**	P	**Pn**	**00 50 18.3**	**-1.4**
GTOI	**Gorontalo**	**4.25**	**256**	P	**Pn**	**00 50 25.5**	**+0.6**
DDMP	**Don Marcelino,**	**4.63**	**342**	*e*P	Pn	00 50 25.4	-4.6
DDMP				*e*S	Sn	00 51 13.6	-9.1
LUWI	**Luwuk**	**5.13**	**238**	P	**Pn**	**00 50 38.2**	**+1.4**
LUWI	**Luwuk**	**5.13**	**238**	Pn	**Pn**	**00 50 37.5**	**+0.7**
SKMP	**Bagumbayan, Su**	**5.47**	**332**	*e*P	**Pn**	**00 50 39.1**	**-2.3**
SKMP				*e*S	**Sn**	**00 51 37.0**	**-6.0**
DAV	**Davao City (W)**	**5.58**	**344**	Pn	**Pn**	**00 50 45.7**	**+2.7**
KCP	**Kidapawan**	**5.68**	**339**	⇓*i*P	**Pn**	**00 50 45.2**	**+0.9**
KCP				*i* S	**Sn**	**00 51 46.4**	**-2.0**
FAKI	**Fak Fak**	**6.85**	**132**	Pn	**Pn**	**00 50 57.7**	**-2.5**
MYLDM	**Lahad Datu**	**9.30**	**292**	Pn	**Pn**	**00 51 35.8**	**+2.3**
BKSI	**Bulukumba**	**9.86**	**225**	P	**Pn**	**00 51 37.9**	**-3.2**
KAPI	**Kappang**	**9.92**	**228**	P	**Pn**	**00 51 44.7**	**+2.7**
KAPI	2.5nm,0.3s,baz=27,slow=4.5,SNR=4.3			S	**Sn**	**00 53 31.2**	**-0.3**
KAPI	0.7nm,0.3s,baz=135,slow=14,SNR=1.9 **Kappang**	**9.92**	**228**		**Pn**	**00 51 41.9**	**0.0**
MTN	**Manton Dam**	**14.95**	**165**	Pn	**Pn**	**00 52 47.7**	**-0.6**
KNRA	**Kununurra**	**17.31**	**175**		**P**	**00 53 17.0**	**-0.4**
KNRA				IAmb	IAmb	00 53 18.7	
FITZ	comp=Z,8.3nm,0.6s **Fitzroy Crossi**	**19.70**	**184**	P	**P**	**00 53 42.9**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=16,slow=9.7,SNR=21						
FITZ	**Fitzroy Crossi**	**19.70**	**184**	P	**P**	**00 53 43.3**	**-0.3**
WB0	**Warramunga Arr**	**22.46**	**162**	P	**P**	**00 54 12.2**	**-0.9**
WB0				IAmb	IAmb	00 54 12.9	
WRAB	comp=Z,14nm,0.4s **Tennant Creek**	**22.61**	**162**	P	**P**	**00 54 14.0**	**-0.5**
WRAB				IAmb	IAmb	00 54 14.4	
WRA	comp=Z,12nm,0.3s **Warramunga Arr**	**22.61**	**162**	P	**P**	**00 54 13.8**	**-0.9**
	comp=Z,6.4nm,0.3s,baz=341,slow=11,SNR=116						
WRA				PcP	**PcP**	**00 58 03.5**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=336,slow=2.0,SNR=2.0						
WRA	**Warramunga Arr**	**22.61**	**162**	P	**P**	**00 54 13.9**	**-0.7**
WB2	**Warramunga Arr**	**22.61**	**162**	P	**P**	**00 54 14.0**	**-0.7**
WB2				IAmb	IAmb	00 54 14.5	
WR0	comp=Z,7.2nm,0.6s **Warramunga Arr**	**22.69**	**162**	P	**P**	**00 54 14.0**	**-1.3**
WR0				IAmb	IAmb	00 54 15.0	
PSA00	comp=Z,5.8nm,0.5s **Pilbara Seismi**	**24.17**	**197**	P	**P**	**00 54 29.2**	**0.0**
AS31	**Alice Springs**	**26.03**	**166**	P	**P**	**00 54 46.1**	**+0.1**
ASAR	**Alice Springs**	**26.03**	**166**	P	**P**	**00 54 45.6**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=349,slow=7.0,SNR=51						
ASAR	**Alice Springs**	**26.03**	**166**	P	**P**	**00 54 45.4**	**-0.6**
FORT	**Forrest**	**32.28**	**179**	P	**P**	**00 55 40.4**	**-0.9**
FORT				IAmb	IAmb	00 55 40.6	
MORW	comp=Z,9.4nm,1.1s **Morawa**	**32.36**	**198**	P	**P**	**00 55 42.1**	**+0.1**
MORW				IAmb	IAmb	00 55 46.7	
BBOO	comp=Z,4.0nm,0.9s **Buckleboo**	**35.32**	**167**	P	**P**	**00 56 07.0**	**-0.6**
BBOO				IAmb	IAmb	00 56 10.7	
NWAO	comp=Z,6.0nm,1.0s **Narrogin (SRO)**	**35.66**	**194**	P	**P**	**00 56 10.3**	**-0.2**
NWAO	**Narrogin (SRO)**	**35.66**	**194**	P	**P**	**00 56 10.9**	**+0.4**
NWAO				IAmb	IAmb	00 56 25.9	
STKA	comp=Z,12nm,1.1s **Stephens Creek**	**36.07**	**159**	P	**P**	**00 56 14.3**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=331,slow=8.5,SNR=9.4						
STKA	**Stephens Creek**	**36.07**	**159**	P	**P**	**00 56 14.2**	**+0.2**
ARMA	**Armidale**	**39.54**	**146**		**P**	**00 56 43.1**	**-0.3**
ARMA				IAmb	IAmb	00 56 45.9	
CAN	comp=Z,9.5nm,1.1s **Canberra**	**42.10**	**153**	P	**P**	**00 57 04.9**	**+0.6**
CAN				IAmb	IAmb	00 57 11.7	
USRK	comp=Z,4.2nm,1.1s **Ussuriysk Ar.**	**42.57**	**5**	P	**P**	**00 57 08.8**	**+0.9**
TOO	**Toolangi**	**42.59**	**158**	P	**P**	**00 57 06.2**	**-2.0**
TOO				IAmb	IAmb	00 57 14.7	
QRZ	comp=Z,3.4nm,1.1s **Quartz Range**	**59.08**	**141**	P	**P**	**00 59 11.6**	**-0.2**
MKAR	**Makanchi Array**	**59.47**	**326**	P	**P**	**00 59 16.0**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=119,slow=8.5,SNR=9.3						
LBZ	**Lake Benmore**	**59.76**	**145**	P	**P**	**00 59 16.6**	**+0.1**
THZ	**Tophouse**	**59.84**	**142**	P	**P**	**00 59 16.7**	**-0.4**
KHZ	**Kahutara**	**60.59**	**142**	P	**P**	**00 59 21.7**	**-0.4**
URZ	**Urewera**	**60.78**	**136**	P	**P**	**00 59 23.2**	**-0.3**
BKZ	**Black Stump Fm**	**60.80**	**137**	P	**P**	**00 59 23.1**	**-0.6**
BKZ				IAmb	IAmb	00 59 40.3	
PLWZ	comp=Z,8.6nm,1.1s **Palliser**	**61.21**	**140**	P	**P**	**00 59 23.9**	**-2.6**
KURK	**Kurchatov**	**63.69**	**328**	P	**P**	**00 59 44.7**	**+2.0**
AMKA	**Amchitka**	**66.00**	**33**	P	**P**	**00 59 60.0**	**+2.3**
MAW	**Mawson**	**81.97**	**200**	P	**P**	**01 01 31.5**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=27,slow=6.8,SNR=3.7						
MAW	**Mawson**	**81.97**	**200**	IAmb	IAmb	01 01 33.2	
	comp=Z,0.4nm,1.1s						

*IDC **31** 00:54:49.9±0.7, 71°.61N×2°.86W, h0km, mb3.8/17, mb1 4.1/22, mb1mx3.9/56, mbtmp3.9/22, ML3.6/5, MS3.7/37, Ms1 3.7/37, ms1mx3.6/46, Error ellipse: s-maj=17.5km s-min=12.7km az=38.0*
*MOS **31** 00:54:49.5±1.3, 71°.69N×2°.75W, h10km, mb4.3/29, Error ellipse: s-maj=18.1km s-min=4.7km az=99.5*
*GCMT **31** 00:54:50.4±0.3, 71°.57N±0°.04×2°.89W±0°.09, h12km, MW4.6/75, Moment Tensor Solution. s5,c5; s75,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.87±.04; $M_{\theta\theta}$0.21±.04; $M_{\phi\phi}$0.66±.04; $M_{r\theta}$-0.58±.22; $M_{\theta\phi}$0.51±.04; $M_{\phi r}$-0.25±.17; Best double couple: $M_0$1.12900×10^{16} NP1:ϕ_s194.00000°, δ33.00000°, λ-123.00000°. NP2: ϕ_s52.00000°, δ62.00000°, λ-71.00000°. Principal axes: T 1.1340, Plg15.0000°, Azm127.0000°; N -0.0110, Plg17.0000°, Azm222.0000°; P -1.1240, Plg67.0000°, Azm358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NAO **31** 00:54:50.3±2.4, 71°.54N×2°.51W, ML4.2*
*NEIC **31** 00:54:51.4±2.5, 71°.60N±0°.07×3°.1W±0°.2, h10km±1km, mb4.3/30, Error ellipse: s-maj=12.3km s-min=7.9km az=156.0*
*BGR **31** 00:54:52.7±0.0, 72°.23N×2°.63W, h10km, mb4.5, Ms3.3*
*BER **31** 00:54:54.8±2.8, 71°.69N×2°.38W, h10km, ML2.5, MW4.6(CSEM), Confirmed Earthquake*
*DNK **31** 00:54:56.4±3.2, 72°.00N×4°.01W, h15km±125km, ML3.0*

ISC 31 00:54:50.7±0.7, 71°.62N±0°.05×3°.24W±0°.05, h10km±4km, h10km:pP-P, n283, σ1§81/268, mb4.2/68, MS3.6/45, 11C-3D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNW	**Jan Mayen West**	**1.77**	**253**	*e*P	**Pn**	**00 55 20.5**	**-0.9**
JMIC	**Jan Mayen**	**1.81**	**252**	Pn	**Pn**	**00 55 23.1**	**+1.2**
JMIC	baz=69,slow=8.6,SNR=1.9			Sn	**Sn**	**00 55 40.2**	**-4.8**
DBG	baz=182,slow=22,SNR=2.3 **Daneborg**	**5.66**	**306**	*e*P	**Pn**	**00 56 12.9**	**-1.8**
DBG				*e*S	Sn	00 57 10.5	-9.1
DBG				IAML		00 57 27.3	
	comp=Z,4.9nm,0.4s						

DBG	**Daneborg**	**5.66**	**306**	*i*	P		**Pn**	**00 56 13.2**	**-1.5**
DBG				*i*	S		**Sn**	**00 57 12.3**	**-7.2**
DBG					IAML			00 57 27.3	
	comp=Z,4.9nm,0.4s								
SCO	**Scoresbysund**	**6.19**	**268**		P		**Pn**	**00 56 22.0**	**0.0**
SCO	**Scoresbysund**	**6.19**	**268**		Pn		**Pn**	**00 56 22.0**	**0.0**
DAG	**Danmarks Havn**	**6.64**	**328**	*e*			**Pn**	**00 56 26.0**	**-2.2**
	baz=126,slow=18								
DAG				*i*	P		**Pn**	**00 56 27.6**	**-0.5**
DAG				*i*	S		Sn	00 57 31.9	-12
DAG					IAML			00 57 41.3	
	comp=Z,17nm,0.4s								
DAG	**Danmarks Havn**	**6.64**	**328**	*e*			**Pn**	**00 56 26.0**	**-2.2**
	baz=126,slow=18								
DAG				*i*	P		Pb	00 56 27.6	-18
DAG				*i*	S		Sn	00 57 31.9	-12
DAG					IAML			00 57 41.3	
	comp=Z,17nm,0.4s								
LOF	**Lofoten**	**6.75**	**113**		Pn		**Pn**	**00 56 27.0**	**-2.7**
LOF	**Lofoten**	**6.75**	**113**	*eP*			**Pn**	**00 56 26.9**	**-2.8**
LOF					IAmb		IAmb	00 56 34.2	
	comp=Z,39nm,1.1s								
N2SV	**S¸rv¥gen**	**6.75**	**116**	*eP*			**Pn**	**00 56 26.9**	**-2.8**
N2SV					IAmb		IAmb	00 56 37.4	
	comp=Z,40nm,0.5s								
N2RO	**R¸st**	**6.76**	**120**	*eP*			**Pn**	**00 56 27.7**	**-2.1**
N2RO					IAmb		IAmb	00 56 28.9	
	comp=Z,26nm,0.7s								
N2VA	**Vr¸y**	**6.82**	**118**	*eP*			**Pn**	**00 56 27.8**	**-2.8**
N2VA					IAmb		IAmb	00 56 31.7	
	comp=Z,25nm,0.6s								
N2VI	**Vinje**	**6.83**	**111**	*eP*			**Pn**	**00 56 28.2**	**-2.6**
N2VI					IAmb		IAmb	00 56 30.3	
	comp=Z,116nm,0.6s								
BJO1	**Bjornoya**	**7.08**	**56**		Pn		**Pn**	**00 56 34.2**	**+0.1**
BJO1	**Bjornoya**	**7.08**	**56**		Pn		**Pn**	**00 56 34.2**	**+0.1**
HSPB	**Hornsund (broa**	**7.37**	**35**		Pn		**Pn**	**00 56 38.6**	**+0.4**
HSPB	**Hornsund (broa**	**7.37**	**35**	*eP*			**Pn**	**00 56 38.5**	**+0.4**
STEI	**Steigen**	**7.38**	**111**	*eP*			**Pn**	**00 56 36.3**	**-1.9**
STEI					IAmb		IAmb	00 56 37.6	
	comp=Z,76nm,0.5s								
STEI				*e*				00 57 52.8	
NBB08	**Skaug oppvekst**	**7.55**	**115**	*eP*			**Pn**	**00 56 38.2**	**-2.5**
NBB08					IAmb		IAmb	00 56 39.2	
	comp=Z,111nm,0.5s								
N2IH	**Innhavet**	**7.56**	**110**	*eP*			**Pn**	**00 56 39.3**	**-1.5**
N2IH					IAmb		IAmb	00 56 40.1	
	comp=Z,95nm,0.9s								
N2TV	**T¥rnvik**	**7.58**	**114**	*eP*			**Pn**	**00 56 38.7**	**-2.2**
N2TV					IAmb		IAmb	00 56 39.6	
	comp=Z,78nm,0.5s								
NBB30	**Finnes**	**7.59**	**120**	*eP*			**Pn**	**00 56 38.6**	**-2.6**
NBB30					IAmb		IAmb	00 56 43.0	
	comp=Z,77nm,0.5s								
TRO	**Tromso**	**7.61**	**95**		Pn		**Pn**	**00 56 38.1**	**-3.4**
TRO	**Tromso**	**7.61**	**95**	*eP*			**Pn**	**00 56 38.2**	**-3.2**
NBB05	**Inndyr**	**7.63**	**119**	*eP*			**Pn**	**00 56 39.4**	**-2.2**
NBB05					IAmb		IAmb	00 56 40.9	
	comp=Z,75nm,0.6s								
NBB40	**Tonnes**	**7.73**	**124**	*eP*			**Pn**	**00 56 41.3**	**-1.8**
FAUS	**Fauske**	**7.75**	**114**	*eP*			**Pn**	**00 56 40.8**	**-2.5**
FAUS					IAmb		IAmb	00 56 42.0	
	comp=Z,23nm,0.7s								
KONS	**Konsvik**	**7.77**	**123**	*eP*			**Pn**	**00 56 41.2**	**-2.5**
BRBA	**Barentsburg A**	**7.87**	**27**		Pn		**Pn**	**00 56 46.2**	**+1.2**
BRBA	**Barentsburg A**	**7.87**	**27**		Pn		**Pn**	**00 56 46.2**	**+1.2**
STOK	**Stokkvaagen**	**7.87**	**124**	*eP*			**Pn**	**00 56 42.9**	**-2.1**
KBS	**Kingsbay**	**8.25**	**21**		Pn		**Pn**	**00 56 50.9**	**+0.7**
KBS	**Kingsbay**	**8.25**	**21**		P		**Pn**	**00 56 51.5**	**+1.3**
KBS	**Kingsbay**	**8.25**	**21**		Pn		**Pn**	**00 56 51.5**	**+1.3**
KBS	**Kingsbay**	**8.25**	**21**	*eP*			**Pn**	**00 56 51.5**	**+1.3**
KBS	**Kingsbay**	**8.25**	**21**	*i*	P		**Pn**	**00 56 49.6**	**-0.5**
SPA0	**Spitsbergen Ar**	**8.27**	**29**		Pn		**Pn**	**00 56 51.8**	**+1.2**
	baz=202,slow=18								
SPA0	**Spitsbergen Ar**	**8.27**	**29**		Pn		**Pn**	**00 56 52.0**	**+1.5**
SPA0	**Spitsbergen Ar**	**8.27**	**29**		Pn		**Pn**	**00 56 51.8**	**+1.2**
	baz=202,slow=18								
SPA0					IAmb		IAmb	00 56 57.9	
	comp=Z,28nm,0.8s								
SPITS	**Spitsbergen Ar**	**8.27**	**29**		Pn		**Pn**	**00 56 51.7**	**+1.2**
	baz=197,slow=20,SNR=51								
SPITS	**Spitsbergen Ar**	**8.27**	**29**		P		**Pn**	**00 56 52.2**	**+1.7**
MOR8	**Moi Rana**	**8.37**	**122**	*eP*			**Pn**	**00 56 50.4**	**-1.5**
MOR8					IAmb		IAmb	00 56 52.3	
	comp=Z,24nm,0.7s								
KIF	**Kilpisjarvi**	**8.49**	**96**		Pn		**Pn**	**00 56 51.4**	**-2.2**
KIF	**Kilpisjarvi**	**8.49**	**96**		Pn		**Pn**	**00 56 51.4**	**-2.2**
HAMF	**Hammerfest**	**8.74**	**84**		Pn		**Pn**	**00 56 53.1**	**-3.8**
HAMF	**Hammerfest**	**8.74**	**84**	*eP*			**Pn**	**00 56 53.4**	**-3.5**
NSS	**Namsos**	**9.08**	**134**	*eP*			**Pn**	**00 56 59.8**	**-1.8**
NSS					IAmb		IAmb	00 57 04.3	
	comp=Z,29nm,0.7s								
KTK1	**Kautokeino**	**9.26**	**94**	*eP*			**Pn**	**00 57 02.3**	**-1.8**
BORG	**Borgarnes**	**9.60**	**233**		LR		LR	01 00 17.1	
	comp=Z,82nm,18.1s,baz=343,slow=34								
ARA0	**ARCESS Array S**	**9.74**	**88**		Pn		**Pn**	**00 57 08.4**	**-2.3**
	baz=293,slow=12								
ARA0	**ARCESS Array S**	**9.74**	**88**		Pn		**Pn**	**00 57 08.4**	**-2.3**
	baz=293,slow=12								
ARCES	**ARCESS Array B**	**9.74**	**88**		Pn		**Pn**	**00 57 08.4**	**-2.3**
	comp=Z,1.3nm,0.3s,baz=288,slow=12,SNR=74								
ARCES					LR		LR	01 00 29.9	
	comp=Z,356nm,19.7s,baz=316,slow=35								
ARCES	**ARCESS Array B**	**9.74**	**88**		P		**Pn**	**00 57 08.9**	**-1.8**
ARCES	**ARCESS Array B**	**9.74**	**88**				**Pn**	**00 57 08.8**	**-1.8**
ARE0	**ARCESS Array S**	**9.74**	**88**		Pn		**Pn**	**00 57 08.6**	**-2.0**
ARE0	**ARCESS Array S**	**9.74**	**88**	||	*eP*		**Pn**	**00 57 08.8**	**-1.8**
TBLU	**Trondheim**	**9.84**	**142**	*eP*			**Pn**	**00 57 09.8**	**-2.2**
MOL	**Molde**	**9.99**	**150**	*eP*			**Pn**	**00 57 13.2**	**-0.9**
MOL					IAmb		IAmb	00 57 15.5	
	comp=Z,15nm,0.7s								
KEV	**Kevo**	**10.12**	**86**		P		**Pn**	**00 57 13.7**	**-2.1**
KEV	**Kevo**	**10.12**	**86**		Pn		**Pn**	**00 57 13.7**	**-2.1**
AKN	**Aaknes**	**10.28**	**152**		Pn		**Pn**	**00 57 17.3**	**-0.8**
AKN	**Aaknes**	**10.28**	**152**	*eP*			**Pn**	**00 57 17.3**	**-0.8**
NOR	**Nord**	**10.45**	**349**		Pn		**Pn**	**00 57 19.0**	**-1.2**
NOR	**Nord**	**10.45**	**349**	*i*	P		**Pn**	**00 57 20.1**	**-0.1**
NOR	**Nord**	**10.45**	**349**	*eP*			**Pn**	**00 57 20.1**	**-0.1**
NOR	**Nord**	**10.45**	**349**	*eP*			**Pn**	**00 57 20.2**	**-0.1**
FOO	**Floro**	**10.58**	**158**	*eP*			**Pn**	**00 57 20.9**	**-1.2**
FOO				*eS*			Sn	00 59 09.4	-11
NOD	**Norderasen**	**10.68**	**131**	*eP*			**Pn**	**00 57 22.5**	**-1.0**
DOMB	**Dombas**	**10.74**	**147**	*eP*			**Pn**	**00 57 22.7**	**-1.6**
DOMB					IAmb		IAmb	00 57 24.6	
	comp=Z,11nm,0.7s								
SUMG	**Summit**	**10.77**	**292**		P		**Pn**	**00 57 26.5**	**+1.4**
SUMG	**Summit**	**10.77**	**292**		Pn		**Pn**	**00 57 26.5**	**+1.4**
SUE	**Sulen**	**11.07**	**159**	*eP*			**Pn**	**00 57 28.0**	**-0.8**
HYA	**Hoyanger**	**11.14**	**156**	*eP*			**Pn**	**00 57 29.3**	**-0.4**
HYA					IAmb		IAmb	00 57 31.6	
	comp=Z,29nm,0.9s								
LRW	**Lerwick**	**11.57**	**175**	*eP*			**Pn**	**00 57 34.9**	**-0.7**
ASK	**Askoy**	**11.68**	**159**	*eP*			Pn	00 57 31.0	-6.2
NC204	**NORSAR Array S**	**11.75**	**145**		Pn		**Pn**	**00 57 37.0**	**-1.2**
NC204	**NORSAR Array S**	**11.75**	**145**	*eP*			**Pn**	**00 57 37.0**	**-1.2**
SKAR	**Skarslia**	**11.90**	**151**	*eP*			**Pn**	**00 57 39.3**	**-0.9**
NC303	**NORSAR Array S**	**11.91**	**144**				**Pn**	**00 57 39.4**	**-1.0**
NBO00	**NORSAR Array S**	**11.98**	**145**		Pn		**Pn**	**00 57 39.7**	**-1.6**
NB2	**NORSAR Subarra**	**12.05**	**144**		Pn		**Pn**	**00 57 41.0**	**-1.3**
	baz=332,slow=14								
NB2	**NORSAR Subarra**	**12.05**	**144**		Pn		**Pn**	**00 57 41.0**	**-1.3**
	baz=332,slow=14								
NOA	**NORSAR Array B**	**12.05**	**144**		Pn		**Pn**	**00 57 40.5**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=338,slow=13,SNR=13								
NOA					LR		LR	01 02 07.6	
	comp=Z,541nm,20.7s,baz=335,slow=37								
NB201	**NORSAR Array S**	**12.06**	**144**				**Pn**	**00 57 41.9**	**-0.5**
NC405	**NORSAR Array S**	**12.08**	**143**				**Pn**	**00 57 42.1**	**-0.6**
NAO01	**NORSAR Array S**	**12.18**	**145**		Pn		**Pn**	**00 57 41.8**	**-2.2**
NC602	**NORSAR Array S**	**12.40**	**144**		Pn		**Pn**	**00 57 45.8**	**-1.2**
NRA0	**NORESS Array S**	**12.40**	**144**		Pn		**Pn**	**00 57 46.1**	**-0.9**
	baz=341,slow=16								
NRA0	**NORESS Array S**	**12.40**	**144**		Pn		**Pn**	**00 57 46.1**	**-0.9**
	baz=341,slow=16								
ODD1	**Odda**	**12.41**	**156**	*eP*			**Pn**	**00 57 49.5**	**+2.3**
ODD1					IAmb		IAmb	00 57 51.4	
	comp=Z,18nm,0.7s								
BLS5	**Blasjo**	**12.87**	**157**	*eP*			**Pn**	**00 57 52.1**	**-1.3**
BLS5					IAmb		IAmb	00 57 53.7	
	comp=Z,20nm,1.0s								
APA0	**Apatity Array**	**13.09**	**90**		Pn		**Pn**	**00 57 53.0**	**-3.4**
	baz=305,slow=10								
APA0	**Apatity Array**	**13.09**	**90**		Pn		**Pn**	**00 57 53.0**	**-3.4**
	baz=305,slow=10								
KONO	**Kongsberg**	**13.09**	**150**		P		**Pn**	**00 57 54.3**	**-2.1**
KONO	**Kongsberg**	**13.09**	**150**		Pn		**Pn**	**00 57 54.3**	**-2.1**
HFS	**Hagfors**	**13.37**	**141**		Pn		**Pn**	**00 57 58.2**	**-1.9**
	baz=320,slow=9.3								
HFS	**Hagfors**	**13.37**	**141**		Pn		**Pn**	**00 57 58.3**	**-1.9**
	comp=Z,1.7nm,0.3s,baz=345,slow=11,SNR=35								
HFS					LR		LR	01 02 48.0	
	comp=Z,617nm,21.2s,baz=336,slow=36								
HFS	**Hagfors**	**13.37**	**141**		Pn		**Pn**	**00 57 58.2**	**-1.9**
	baz=320,slow=9.3								
SUF	**Sumiainen**	**14.30**	**114**		P		**Pn**	**00 58 10.3**	**-2.6**
FIA0	**FINESS Array S**	**15.29**	**117**		P		**Pn**	**00 58 23.4**	**-2.9**
	baz=331,slow=11								
FIA0	**FINESS Array S**	**15.29**	**117**		P		**Pn**	**00 58 23.4**	**-2.9**
	baz=331,slow=11								
FIA1	**FINESS Array S**	**15.29**	**117**		Pn		**Pn**	**00 58 24.1**	**-2.2**
FIA1					IAmb		IAmb	00 58 24.9	
	comp=Z,25nm,1.0s								
FINES	**FINESS Array B**	**15.29**	**117**		Pn		**Pn**	**00 58 23.5**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=330,slow=11,SNR=27								
FINES					LR		LR	01 03 42.9	
	comp=Z,566nm,19.5s,baz=316,slow=35								
FINES	**FINESS Array B**	**15.29**	**117**		P		**Pn**	**00 58 24.3**	**-2.0**
FINES	**FINESS Array B**	**15.29**	**117**		Pn		**Pn**	**00 58 24.2**	**-2.0**
EKA	**Eskdalemuir Ar**	**16.36**	**180**		P		**Pn**	**00 58 40.3**	**+0.2**
EKA	**Eskdalemuir Ar**	**16.36**	**180**		Pn		**Pn**	**00 58 40.2**	**+0.1**
	baz=359,slow=12,SNR=5.4								
EKA	**Eskdalemuir Ar**	**16.36**	**180**		P		**Pn**	**00 58 40.3**	**+0.2**
TMCR	**Tamitsa**	**16.88**	**95**	*eP*			**Pn**	**00 58 42.5**	**-4.1**
TMCR				*e*				01 01 50.1	
TMCR					pmax		pmax		
	comp=Z,1.0nm,0.6s								
SFJD	**Kangerlussuaq**	**16.97**	**278**		LR		LR	01 04 35.6	
	comp=Z,391nm,20.4s,baz=54,slow=34								
TULEG	**Thule**	**17.70**	**315**		Pn		**Pn**	**00 58 54.2**	**-2.6**
TULEG					IAmb		IAmb	00 59 00.8	
	comp=Z,20nm,0.9s								
VSU	**Vasula**	**17.97**	**122**	*i*	P		**Pn**	**00 58 56.7**	**-3.5**
VSU					pmax		pmax		
	comp=Z,84nm,1.0s								
RGN	**Rugen**	**18.57**	**149**		P		**Pn**	**00 59 07.3**	**-0.3**
BSEG	**Bad Segeberg**	**18.71**	**154**	*eL*			L	01 07 27.8	
	comp=Z,147nm,18.1s								
LSH	**Leshukonskoye**	**18.83**	**86**	*eP*			**P**	**00 59 08.2**	**-1.9**
	comp=Z,39nm,2.1s								
KLMR	**Klimovskoe**	**19.79**	**101**	*eP*			**P**	**00 59 18.9**	**-1.7**
	comp=Z,48nm,1.1s								
KLMR	**Klimovskoe**	**19.79**	**101**	*eP*			**P**	**00 59 18.9**	**-1.7**
KLMR					pmax		pmax		
	comp=Z,49nm,1.1s								
KLMR	**Klimovskoe**	**19.79**	**101**	*eP*			**P**	**00 59 18.9**	**-1.7**
KLMR					AMP			00 59 21.2	
	comp=Z,49nm,1.1s								
CLZ	**Clausthal**	**20.77**	**156**	*eP*			**P**	**00 59 32.0**	**+0.6**
	comp=Z,29nm,1.5s,baz=339,slow=11								
SUW	**Suwalki**	**21.06**	**133**		P		**P**	**00 59 33.7**	**-0.7**
SUW					pmax		pmax		
	comp=Z,34nm,0.8s								
SUW	**Suwalki**	**21.06**	**133**		P		**P**	**00 59 33.7**	**-0.7**
PRGR	**Permogore**	**21.11**	**93**	*eP*			**P**	**00 59 31.5**	**-3.5**
	comp=Z,25nm,1.3s								
PRGR	**Permogore**	**21.11**	**93**	*eP*			**P**	**00 59 31.5**	**-3.5**
PRGR					pmax		pmax		
	comp=Z,25nm,1.3s								
CLL	**Collm**	**21.66**	**152**	*i*	P		**P**	**00 59 40.8**	**-0.1**
	comp=Z,9.0nm,1.0s								
CLL				*i*	sP		**sP**	**00 59 44.8**	**+0.5**
	comp=Z,44nm,1.8s								
CLL				*i*				00 59 48.3	
CLL				*eS*			**S**	**01 03 43.0**	**+2.6**
CLL					Lm		MLR	01 07 00.0	
	comp=Z,200nm,21.8s								
CLL	**Collm**	**21.66**	**152**	*i*	P		**P**	**00 59 40.8**	**-0.1**
CLL				*i*				00 59 44.8	
CLL				*eS*			**S**	**01 03 43.0**	**+2.6**
CLL					pmax		pmax		
	comp=Z,9.0nm,1.0s								
CLL	**Collm**	**21.66**	**152**	*eL*			L	01 07 04.8	
	comp=Z,233nm,21.8s								
CLL	**Collm**	**21.66**	**152**		P		**P**	**00 59 41.3**	**+0.3**
CLL					IAmb		IAmb	00 59 45.2	
	comp=Z,7.5nm,0.8s								
UBBA	**Unterbreizbach**	**21.72**	**157**	*eP*			**P**	**00 59 42.5**	**+1.0**
	comp=Z,22nm,1.4s,baz=339,slow=11								
MOX	**Moxa**	**22.10**	**154**		P		**P**	**00 59 46.3**	**+0.5**
MOX					pmax		pmax		
	comp=Z,10.0nm,1.7s								
MOX	**Moxa**	**22.10**	**154**	*eP*			**P**	**00 59 46.2**	**+0.4**
	comp=Z,35nm,1.8s,baz=339,slow=11								
MOX				*eL*			L	01 07 40.1	
	comp=Z,113nm,21.6s								
TNS	**Taunus Mts**	**22.13**	**160**	*eL*			L	01 10 34.5	
	comp=Z,107nm,18.1s								
BRG	**Berggiesshubel**	**22.22**	**150**	*eP*			**P**	**00 59 47.0**	**0.0**
	comp=Z,8.6nm,1.0s								
	comp=Z,300nm,24.5s								
BRG	**Berggiesshubel**	**22.22**	**150**	*eP*			**P**	**00 59 46.6**	**-0.5**
	comp=Z,8.6nm,1.0s,baz=339,slow=11								
NKC	**Novy Kostel**	**22.62**	**153**	*eP*			**P**	**00 59 52.1**	**+0.8**
NKC				*e*				00 59 56.5	
NKC					MLR		MLR		
	comp=Z,200nm,15.4s								
NKC	**Novy Kostel**	**22.62**	**153**	*eP*			**P**	**00 59 52.1**	**+0.8**
NKC				*epP*			**pwP**	**00 59 56.5**	**+0.3**
NKC					AMS		AMS	01 10 00.0	
	comp=Z,200nm,15.4s								
PVCC	**Panska Ves**	**22.66**	**150**	*eP*			**P**	**00 59 52.2**	**+0.5**
PVCC					MLR		MLR		
	comp=Z,200nm,12.9s								
PVCC	**Panska Ves**	**22.66**	**150**	*eP*			**P**	**00 59 52.2**	**+0.5**
PVCC					AMS		AMS	01 10 10.0	
	comp=Z,200nm,12.9s								
CHVC	**Chvalec**	**22.85**	**147**	*eP*			**P**	**00 59 53.8**	**+0.1**
CHVC				*ex*			x	00 59 57.2	
CHVC					AMS		AMS	01 10 00.0	
	comp=Z,300nm,15.9s								
OSTC	**Ostas**	**22.91**	**147**	*eP*			**P**	**00 59 57.7**	**+3.4**
OSTC				*ex*			x	01 00 00.8	
UPC	**Upice**	**22.92**	**147**	*eP*			**P**	**01 00 01.2**	**+6.8**
UPC				*e*				01 00 09.1	
UPC					MLR		MLR		
	comp=Z,300nm,16.5s								
UPC	**Upice**	**22.92**	**147**	*eP*			**P**	**01 00 01.2**	**+6.8**
UPC				*ex*			x	01 00 09.1	
UPC					AMS		AMS	01 09 50.0	
	comp=Z,300nm,16.5s								
GRF	**Grafenberg Arr**	**22.98**	**155**	*eP*			**P**	**01 00 01.7**	**+6.5**
	comp=Z,23nm,1.6s,baz=339,slow=11								
GRF				*eL*			L	01 08 19.0	
	comp=Z,90nm,21.7s								
PRA	**Prague**	**23.08**	**150**		AMS		AMS	01 07 40.0	
	comp=Z,100nm,17.5s								
DPC	**Dobruska-Polom**	**23.12**	**147**	*eP*			**P**	**00 59 56.7**	**+0.1**
DPC				*e*				01 00 01.8	
DPC					MLR		MLR		
	comp=Z,300nm,14.6s								
DPC	**Dobruska-Polom**	**23.12**	**147**	*eP*			**P**	**00 59 56.7**	**+0.1**
DPC				*epP*			**pwP**	**01 00 01.8**	**+0.3**
DPC					AMS		AMS	01 10 00.0	
	comp=Z,300nm,14.6s								
PRU	**Pruhonice**	**23.18**	**150**	*eP*			**P**	**00 59 59.2**	**+2.1**
PRU				*e*				01 00 04.2	
PRU					MLR		MLR		
	comp=Z,200nm,19.3s								
PRU	**Pruhonice**	**23.18**	**150**	*eP*			**P**	**00 59 59.2**	**+2.1**
PRU				*epP*			**pwP**	**01 00 04.2**	**+2.3**
PRU					AMS		AMS	01 07 40.0	
	comp=Z,200nm,19.3s								
GOPC	**GO Pecny, Ondr**	**23.29**	**150**	*eP*			**P**	**00 59 58.9**	**+0.7**
GOPC				*e*				01 00 07.2	
GOPC					MLR		MLR		
	comp=Z,200nm,12.7s								
GOPC	**GO Pecny, Ondr**	**23.29**	**150**	*eP*			**P**	**00 59 58.9**	**+0.7**
GOPC				*ex*			x	01 00 07.2	
GOPC					AMS		AMS	01 10 30.0	
	comp=Z,200nm,12.7s								
PBCC	**Pribram**	**23.39**	**151**	*eP*			**P**	**00 59 59.7**	**+0.5**
KRLC	**Kraliky**	**23.47**	**146**	*eP*			**P**	**01 00 00.3**	**+0.2**
KRLC					MLR		MLR		
	comp=Z,300nm,15.2s								
KRLC	**Kraliky**	**23.47**	**146**	*eP*			**P**	**01 00 00.3**	**+0.2**
KRLC				*ex*			x	01 00 12.3	
KRLC					AMS		AMS	01 10 10.0	
	comp=Z,300nm,15.2s								
OBN	**Obninsk**	**23.62**	**113**		LR		LR	01 08 43.3	
	comp=Z,106nm,19.8s,baz=4.0,slow=36								
OBN	**Obninsk**	**23.62**	**113**	*ce*	P		**P**	**00 59 59.0**	**-2.4**
OBN				*e*	*PP		**pP**	**01 00 01.4**	**-2.4**
OBN				*e*				01 00 06.0	
OBN				*eS*			**S**	**01 04 15.0**	**-0.5**
OBN				*e*				01 04 55.9	
OBN					pmax		pmax		
	comp=Z,19nm,0.7s								
OBN					MLR		MLR		
	comp=Z,386nm,17.0s								
OBN	**Obninsk**	**23.62**	**113**		P		**P**	**01 00 01.2**	**-0.2**
STU	**Stuttgart**	**23.64**	**159**		P		**P**	**01 00 01.3**	**-0.4**
STU					pmax		pmax		
	comp=Z,5.0nm,0.7s								
STU	**Stuttgart**	**23.64**	**159**		P		**P**	**01 00 01.3**	**-0.4**
STU					IAmb		IAmb	01 00 11.4	
	comp=Z,5.0nm,0.7s								
WET	**Wettzell**	**23.75**	**153**	*eP*			**P**	**01 00 03.4**	**+0.6**
	comp=Z,87nm,3.2s,baz=339,slow=11								
WET				*eL*			L	01 08 52.3	
	comp=Z,126nm,20.5s								
CLF	**Chambon-Foret**	**23.81**	**171**		P		**P**	**01 00 04.0**	**+0.6**
KHC	**Kasperske Hory**	**23.86**	**152**	*ce*	P		**P**	**01 00 04.6**	**+0.7**
KHC					pmax		pmax		
	comp=Z,20nm,2.5s								
KHC	**Kasperske Hory**	**23.86**	**152**	*eP*			**P**	**01 00 04.4**	**+0.5**
KHC					AMS		AMS	01 08 00.0	
	comp=Z,200nm,22.7s								
KHC	**Kasperske Hory**	**23.86**	**152**		P		**P**	**01 00 04.8**	**+0.9**
MORC	**Moravsky Berou**	**23.89**	**145**	*eP*			**P**	**01 00 04.5**	**+0.3**
MORC	**Moravsky Berou**	**23.89**	**145**		P		**P**	**01 00 04.9**	**+0.8**
MORC					pmax		pmax		
	comp=Z,3.0nm,0.9s								
MORC	**Moravsky Berou**	**23.89**	**145**		P		**P**	**01 00 04.9**	**+0.8**
OJC	**Ojcow**	**23.89**	**142**		P		**P**	**01 00 04.9**	**+0.8**
OJC					pmax		pmax		
	comp=Z,7.0nm,0.8s								
OJC	**Ojcow**	**23.89**	**142**		P		**P**	**01 00 04.9**	**+0.8**
OJC					IAmb		IAmb	01 00 10.7	
	comp=Z,6.7nm,0.8s								
OKC	**Ostrava-Krasne**	**23.94**	**144**	*eP*			**P**	**01 00 05.1**	**+0.5**
OKC	**Ostrava-Krasne**	**23.94**	**144**	*eP*			**P**	**01 00 05.1**	**+0.5**
ECH	**Echery**	**23.98**	**163**		P		**P**	**01 00 05.6**	**+0.6**
ECH					pmax		pmax		
	comp=Z,3.0nm,0.8s								
ECH	**Echery**	**23.98**	**163**		P		**P**	**01 00 05.6**	**+0.6**
BFO	**Black Forest**	**23.98**	**161**		P		**P**	**01 00 05.2**	**+0.2**
BFO					pmax		pmax		
	comp=Z,5.0nm,0.9s								
BFO	**Black Forest**	**23.98**	**161**	*eP*			**P**	**01 00 05.6**	**+0.6**
	baz=339,slow=11								
BFO				*eL*			L	01 10 33.4	
	comp=Z,74nm,18.1s								
BFO	**Black Forest**	**23.98**	**161**		P		**P**	**01 00 05.2**	**+0.2**
BFO					IAmb		IAmb	01 00 16.4	
	comp=Z,4.8nm,0.9s								
TREC	**Trest**	**24.00**	**149**	*eP*			**P**	**01 00 05.9**	**+0.7**
TREC					MLR		MLR		
	comp=Z,300nm,11.4s								
TREC	**Trest**	**24.00**	**149**	*eP*			**P**	**01 00 05.9**	**+0.7**
TREC					AMS		AMS	01 10 50.0	
	comp=Z,300nm,11.4s								
GEC2	**GERESS Array S**	**24.16**	**152**	*eP*			**P**	**01 00 07.6**	**+0.8**
	comp=Z,110nm,3.1s,baz=

BUR08	**Bucovina Ar. S**	**27.47**	**136**	P	**P**	**01 00 37.3**	**+0.6**
BURAR	**Bucovina Array**	**27.50**	**136**	⇑P	**P**	**01 00 37.0**	**0.0**
BURAR	**Bucovina Array**	**27.50**	**136**	⇑P	**P**	**01 00 37.0**	**0.0**
BURAR	**Bucovina Array**	**27.50**	**136**	P	**P**	**01 00 37.2**	**+0.3**
SORM	**Soroca**	**27.73**	**131**	⇑P	**P**	**01 00 38.4**	**-0.5**
SORM	**Soroca**	**27.73**	**131**	⇑P	**P**	**01 00 38.4**	**-0.5**
NRIK	**Noril'sk**	**27.74**	**50**	LR	LR	01 13 13.8	
	comp=Z,45nm,18.8s,baz=10.0,slow=40						
VSR	**Storozhevoye**	**27.80**	**115**	*e*P	**P**	**01 00 38.2**	**-1.2**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORD	**Divnogorie**	**28.06**	**115**	*e*P	**P**	**01 00 40.9**	**-0.8**
VORD				pmax	pmax		
	comp=Z,7.0nm,0.7s						
VLC	**Villacollemand**	**28.33**	**159**	P	**P**	**01 00 45.8**	**+1.6**
VLC				IAmb	IAmb	01 00 52.6	
	comp=Z,5.2nm,1.0s						
BIZ	**Bicaz**	**28.34**	**135**	⇑P	**P**	**01 00 44.7**	**+0.4**
VRH	**Novokhopyorsk**	**28.55**	**112**	*e*P	**P**	**01 00 45.0**	**-1.2**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BZS	**Buzias**	**28.65**	**142**	⇓P	**P**	**01 00 48.0**	**+0.9**
BZS	**Buzias**	**28.65**	**142**	⇓P	**P**	**01 00 48.0**	**+0.9**
CASP	**Castiglione de**	**29.73**	**159**	P	**P**	**01 00 57.8**	**+1.0**
CASP				IAmb	IAmb	01 00 58.6	
	comp=Z,2.7nm,0.8s						
SCHQ	**Schefferville**	**31.23**	**272**	LR	LR	01 12 25.1	
	comp=Z,272nm,22.0s,baz=66,slow=34						
ESDC	**Sonseca Array**	**32.03**	**181**	P	**P**	**01 01 17.6**	**+0.6**
	comp=Z,0.8nm,1.0s,baz=352,slow=9.6,SNR=4.8						
ESDC				LR	LR	01 12 46.3	
	comp=Z,68nm,20.7s,baz=115,slow=34						
GOF	**Gofitskoye**	**34.47**	**115**	*e*P	**P**	**01 01 39.2**	**+0.9**
KIV	**Kislovodsk**	**35.38**	**116**	*e*P	**P**	**01 01 44.8**	**-1.4**
KIV				pmax	pmax		
	comp=Z,17nm,1.1s						
KIV				MLR	MLR		
	comp=Z,234nm,16.0s						
KBZ	**Khabaz**	**35.65**	**116**	P	**P**	**01 01 49.5**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=352,slow=5.6,SNR=6.0						
KBZ				LR	LR	01 16 59.5	
	comp=Z,84nm,18.3s,baz=353,slow=37						
BRVK	**Borovoye**	**35.86**	**81**	*i* P	**P**	**01 01 49.6**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ABKAR	**Akbulak array**	**35.88**	**94**	P	**P**	**01 01 50.9**	**+0.5**
FCC	**Fort Churchill**	**36.20**	**298**	P	**P**	**01 01 54.3**	**+1.4**
FCC				pmax	pmax		
	comp=Z,24nm,1.2s						
FCC	**Fort Churchill**	**36.20**	**298**	P	**P**	**01 01 54.3**	**+1.4**
KEST	**Kesra**	**36.56**	**163**	LR	LR	01 17 21.0	
	comp=Z,110nm,18.8s,baz=351,slow=37						
BR131	**Keskin Array S**	**36.93**	**130**	P	**P**	**01 02 00.8**	**+1.2**
BR131				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BR131	**Keskin Array S**	**36.93**	**130**	P	**P**	**01 02 00.8**	**+1.2**
BR131				IAmb	IAmb	01 02 02.0	
	comp=Z,3.6nm,0.8s						
BRTR	**Keskin Array B**	**36.93**	**130**	P	**P**	**01 02 00.0**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=344,slow=7.2,SNR=13						
BRTR				LR	LR	01 17 39.9	
	comp=Z,55nm,20.5s,baz=338,slow=37						
YKA	**Yellowknife Ar**	**38.16**	**316**	LR	LR	01 17 18.1	
	comp=Z,142nm,19.7s,baz=0,slow=35						
ELL	**Elmali**	**38.90**	**136**	P	**P**	**01 02 17.3**	**+1.1**
ELL				pmax	pmax		
	comp=Z,17nm,0.9s						
ELL	**Elmali**	**38.90**	**136**	P	**P**	**01 02 17.3**	**+1.1**
ZALV	**Zalesovo Beam**	**39.53**	**68**	LR	LR	01 21 32.2	
	comp=Z,59nm,21.0s,baz=281,slow=41						
G65A	**Princeton**	**39.84**	**264**	P	**P**	**01 02 26.2**	**+2.4**
G65A				IAmb	IAmb	01 02 30.9	
	comp=Z,5.0nm,0.8s						
CSS	**Mathiatis**	**41.39**	**132**	P	**P**	**01 02 38.0**	**+1.3**
CSS				IAmb	IAmb	01 02 41.4	
	comp=Z,6.6nm,0.9s						
ILAR	**Eielson Array**	**41.64**	**338**	P	**P**	**01 02 39.1**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=11,slow=5.9,SNR=4.9						
ILAR				LR	LR	01 21 18.3	
	comp=Z,67nm,20.4s,baz=36,slow=38						
COLA	**College**	**41.65**	**338**	*i* P	**P**	**01 02 41.3**	**+2.8**
COLA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DGZ	**Jazzator, Alta**	**44.04**	**69**	*i* P	**P**	**01 02 58.6**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,4.0nm,1.6s						
ULM	**Lac du Bonnet**	**44.13**	**293**	LR	LR	01 20 37.6	
	comp=Z,105nm,19.7s,baz=360,slow=35						
SEY	**Seymchan**	**44.67**	**16**	*i* P	**P**	**01 03 04.7**	**+1.8**
KKAR	**Karatay Array**	**44.71**	**88**	P	**P**	**01 03 04.6**	**+1.1**
KKAR	**Karatay Array**	**44.71**	**88**	P	**P**	**01 03 04.6**	**+1.1**
MKAR	**Makanchi Array**	**45.08**	**75**	P	**P**	**01 03 07.4**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=1.1,slow=6.1,SNR=5.8						
MKAR				LR	LR	01 25 52.2	
	comp=Z,65nm,18.1s,baz=320,slow=41						
GEYT	**Alibeck**	**45.51**	**103**	P	**P**	**01 03 10.7**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=344,slow=9.2,SNR=2.8						
GEYT				LR	LR	01 23 54.1	
	comp=Z,161nm,18.4s,baz=195,slow=38						
GEYT	**Alibeck**	**45.51**	**103**	IAmb	IAmb	01 03 17.6	
	comp=Z,1.6nm,1.0s						
AAK	**Ala-Archa**	**46.39**	**85**	*i* P	**P**	**01 03 17.8**	**+0.8**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SONM	**Songino Array**	**51.02**	**55**	P	**P**	**01 03 52.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=328,slow=5.1,SNR=1.8						
SONM				LR	LR	01 28 04.3	
	comp=Z,46nm,19.5s,baz=328,slow=39						
SONM	**Songino Array**	**51.02**	**55**	P	**P**	**01 03 52.0**	**-0.5**
SONM	**Songino Array**	**51.02**	**55**	IAmb	IAmb	01 03 52.3	
	comp=Z,0.5nm,1.0s						
PDAR	**Pinedale Array**	**54.83**	**300**	P	**P**	**01 04 22.3**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=57,slow=6.6,SNR=1.6						
PDAR				LR	LR	01 27 46.1	
	comp=Z,162nm,18.2s,baz=16,slow=36						
PETK	**Petropavlovsk-**	**54.84**	**14**	LR	LR	01 25 25.6	
	comp=Z,40nm,21.7s,baz=35,slow=34						
KLR	**Kul'dur**	**55.31**	**34**	*i* P	**P**	**01 04 23.8**	**0.0**
KLR				pmax	pmax		
	comp=Z,5.0nm,2.2s						
TORD	**Torodi Ar. Bea**	**58.52**	**174**	P	**P**	**01 04 46.5**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=358,slow=7.4,SNR=2.3						
TORD				LR	LR	01 30 04.2	
	comp=Z,55nm,19.0s,baz=335,slow=36						
NVAR	**Mina Array Bea**	**61.22**	**306**	P	**P**	**01 05 07.8**	**+2.3**
	comp=Z,0.4nm,0.4s,baz=9.9,slow=5.8,SNR=1.7						
NVAR				LR	LR	01 31 53.3	
	comp=Z,106nm,18.0s,baz=80,slow=36						
ANMO	**Albuquerque**	**61.24**	**294**	*ce*P	**P**	**01 05 07.2**	**+1.5**
ANMO				pmax	pmax		
	comp=Z,3.0nm,2.5s						
ERM	**Erimo**	**64.18**	**27**	*ce*P	**P**	**01 05 26.0**	**+1.1**
ERM				pmax	pmax		
	comp=Z,21nm,1.2s						
DBIC	**Dimbokro**	**64.89**	**182**	LR	LR	01 35 17.2	
	comp=Z,29nm,18.2s,baz=3.5,slow=37						
TXAR	**Lajitas Array**	**65.66**	**290**	P	**P**	**01 05 36.5**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=39,slow=5.6,SNR=3.6						
TXAR				LR	LR	01 33 35.9	
	comp=Z,103nm,21.6s,baz=0.0,slow=35						
KSRS	**Korea Array**	**65.91**	**41**	LR	LR	01 36 22.7	
	comp=Z,36nm,19.0s,baz=331,slow=38						
MJAR	**Matsushiro Arr**	**68.75**	**33**	P	**P**	**01 05 54.0**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=52,slow=11,SNR=2.6						
MJAR	**Matsushiro Arr**	**68.75**	**33**	IAmb	IAmb	01 06 03.1	
	comp=Z,1.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**76.41**	**73**	LR	LR	01 48 15.5	
	comp=Z,20nm,18.7s,baz=318,slow=42						
ROSC	**El Rosal**	**79.52**	**253**	LR	LR	01 39 55.8	
	comp=Z,27nm,18.7s,baz=94,slow=34						
LPAZ	**La Paz**	**97.77**	**241**	LR	LR	01 48 37.2	
	comp=Z,16nm,19.5s,baz=14,slow=33						

*IDC **31** 01:16:15.2±1.3, 10°.93S×123°.89E, h0km, mb3.9/5, mb1 4.1/9, mb1mx3.8/38, mbtmp4.0/9, ML3.7/4, MS2.9/2, Ms1 2.9/2, ms1mx2.5/39, Error ellipse: s-maj=50.7km s-min=15.5km az=69.0*

*DJA **31** 01:16:20.2±0.3, 11°.5±2°.×12°.4E±°, h10km, M4.3/10, mB5.0/1, mb4.5/7, MLv4.2/10, Mw(mB)4.3/1*

*NEIC **31** 01:16:20.6±1.2, 10°.97S±0°.05×124°.0E±0°.1, h41km±10km, mb4.3/3, Error ellipse: s-maj=16.2km s-min=6.6km az=71.0*

ISC 31 01:16:19.6±0.7, 10°.95S±0°.05×123°.98E±0°.07, h35km, n30, σ1s97/34, mb3.9/5, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.81**	**337**	Pn	**Pn**	**Pn**	**01 16 33.1**	**-1.5**
	129nm,0.3s,baz=152,slow=15,SNR=76							
BATI				Sn	**Sn**	**Sn**	**01 16 46.7**	**+1.3**
	170nm,0.3s,baz=20,slow=23,SNR=5.2							
BATI				LR	LR	LR	01 17 06.8	
	comp=Z,381nm,19.7s,baz=140,slow=68							
BATI	**Baumata**	**0.81**	**337**	P	**Pn**	**Pn**	**01 16 32.8**	**-1.7**
BATI				S	**Sn**	**Sn**	**01 16 42.4**	**-2.9**
SOEI	**Soe**	**1.22**	**13**	P	**Pn**	**Pn**	**01 16 41.5**	**+1.1**
SOEI				S	**Sn**	**Sn**	**01 16 59.1**	**+3.4**
SOEI	**Soe**	**1.22**	**13**		**Pn**	**Pn**	**01 16 41.7**	**+1.3**
MMRI	**Maumere**	**2.88**	**323**	P	**Pn**	**Pn**	**01 17 04.9**	**+1.9**
MMRI	**Maumere**	**2.88**	**323**		**Pn**	**Pn**	**01 17 03.6**	**+0.6**
BASI	**Baing, Sumba**	**3.43**	**282**	P	**Pn**	**Pn**	**01 17 13.0**	**+2.4**
WBSI	**Waikabubak, Su**	**4.70**	**286**	P	**Pn**	**Pn**	**01 17 28.4**	**+0.2**
PLAI	**Plampang**	**6.47**	**289**	P	**Pn**	**Pn**	**01 17 52.6**	**+0.2**
	0.4nm1μm127nm,0.8s							
KNRA	**Kununurra**	**6.61**	**136**			**Pn**	**01 17 56.3**	**+1.9**
BKSI	**Bulukumba**	**6.78**	**325**	P		**Pn**	**01 17 58.4**	**+1.8**
	0.1nm19nm,0.7s							
KAPI	**Kappang**	**7.24**	**324**	LR	LR		01 21 13.7	
	comp=Z,69nm,18.8s,baz=168,slow=42							
MTN	**Manton Dam**	**7.25**	**106**			**Pn**	**01 18 05.5**	**+2.4**
FITZ	**Fitzroy Crossi**	**7.28**	**167**	Pn		**Pn**	**01 18 05.4**	**+1.8**
	0.5nm,0.3s,baz=6.7,slow=9.6,SNR=24							
FITZ				Sn		**Sn**	**01 19 26.7**	**+1.6**
	2.7nm,0.3s,baz=120,slow=20,SNR=10							
TWSI	**Taliwang, Sumb**	**7.34**	**287**	P		**Pn**	**01 18 05.5**	**+1.2**
	0.1nm34nm,0.6s							
SIJI	**Sorong**	**12.36**	**36**	Pn		**Pn**	**01 19 14.0**	**+0.8**
	1.3nm,0.3s,baz=157,slow=19,SNR=3.6							
SIJI				Sn		**Sn**	**01 21 24.2**	**-5.5**
	4.7nm,0.3s,baz=159,slow=23,SNR=5.2							
WB0	**Warramunga Arr**	**13.32**	**132**	Pn		**Pn**	**01 19 27.0**	**+0.7**
WRA	**Warramunga Ar**	**13.39**	**133**	Pn		**Pn**	**01 19 26.4**	**-0.9**
	0.3nm,0.3s,baz=288,slow=12,SNR=25							
WRA				Sn		**Sn**	**01 21 52.1**	**-2.9**
	0.7nm,0.3s,baz=290,slow=21,SNR=8.8							
WRAB	**Tennant Creek**	**13.39**	**133**			**Pn**	**01 19 28.4**	**+1.1**
WB2	**Warramunga Arr**	**13.40**	**133**			**Pn**	**01 19 27.1**	**-0.3**
AS31	**Alice Springs**	**15.79**	**144**			**Pn**	**01 19 58.3**	**-1.1**
ASAR	**Alice Springs**	**15.79**	**145**	Pn		**Pn**	**01 20 00.1**	**+0.7**
	0.5nm,0.3s,baz=320,slow=12,SNR=54							
ASAR				Sn		**Sn**	**01 22 49.6**	**-3.7**
	0.4nm,0.3s,baz=323,slow=24,SNR=13							
KSRS	**Korea Array**	**48.29**	**4**	P		**P**	**01 24 58.1**	**+0.7**
	0.3nm,0.3s,baz=250,slow=7.1,SNR=2.5							
USRK	**Ussuriysk Ar.**	**55.37**	**7**	P		**P**	**01 25 51.2**	**+1.1**
	1.1nm,0.6s,baz=192,slow=10,SNR=3.5							
SONM	**Songino Array**	**60.58**	**346**	P		**P**	**01 26 26.7**	**-0.1**
	0.4nm,0.4s,baz=149,slow=6.7,SNR=2.2							
SONM	**Songino Array**	**60.58**	**346**	IAmb	IAmb		01 26 31.6	
	comp=Z,0.8nm,0.8s							
MK31	**Makanchi Array**	**68.49**	**331**	P		**P**	**01 27 18.3**	**-0.1**
MK31				IAmb	IAmb		01 28 44.3	
	comp=Z,5.8nm,1.8s							
MKAR	**Makanchi Array**	**68.49**	**331**	P		**P**	**01 27 19.0**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=140,slow=7.9,SNR=7.5							
MMAI	**Mount Meron Ar**	**94.70**	**303**	LR	LR		02 15 13.6	
	comp=Z,8.1nm,19.4s,baz=170,slow=37							
ILAR	**Eielson Array**	**99.45**	**26**	P		**Pdif**	**01 29 58.6**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=264,slow=5.3,SNR=2.1							

IDC 31 01:20:24.4±11.0, 25°.00S×179°.10W, h411km±108km, mb3.2/3, mb1 3.4/4, mb1mx3.0/28, mbtmp4.2/4, Error ellipse: s-maj=88.6km s-min=42.8km az=43.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.60**	**193**	P	P	P	01 23 21.1	-0.1
	4.3nm,0.3s,baz=31,slow=5.9,SNR=21							
URZ				S	S	S	01 25 46.7	-0.7
	0.7nm,0.3s,baz=131,slow=10,SNR=1.5							
CTA	**Charters Tower**	**32.32**	**272**	P	P	P	01 26 18.4	+0.8
	2.7nm,0.5s,baz=90,slow=10,SNR=7.2							
ASAR	**Alice Springs**	**42.68**	**262**	P	P	P	01 27 43.1	-0.1
	0.2nm,0.3s,baz=93,slow=7.0,SNR=6.9							
WRA	**Warramunga Arr**	**43.16**	**267**	P	P	P	01 27 46.3	-0.7
	0.9nm,0.4s,baz=100,slow=7.0,SNR=28							
BRTR	**Keskin Array B**	**148.89**	**306**	PKPbc	PKPbc		01 39 24.6	-0.2
	0.3nm,0.6s,baz=72,slow=2.6,SNR=1.6							

*JMA **31** 01:26:14.1±0.2, 35°.67N×140°.11E, h71km±2km, M2.6*

*IDC **31** 01:26:18.6±3.5, 35°.08N×138°.97E, h70km±43km, mb2.9/2, mb1 3.1/2, mb1mx2.8/36, mbtmp3.2/2, Error ellipse: s-maj=74.6km s-min=33.1km az=60.0*

ISC 31 01:26:14.6±1.1, 35°.59N±0°.05×140°.08E±0°.05, h75km±7km, n17, σ0s69/25, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.19**	**150**	P	**Pn**	**Pn**	**01 26 25.7**	**-0.1**
JCN				*e*S	**Sn**	**Sn**	**01 26 34.6**	**+0.6**
TOK	**Tokyo**	**0.28**	**291**	P	**Pn**	**Pn**	**01 26 26.3**	**+0.1**
TOK				S	**Sn**	**Sn**	**01 26 35.3**	**+0.6**
JSMT	**Sammumatsuo**	**0.30**	**79**	P	**Pn**	**Pn**	**01 26 25.8**	**-0.6**
JSMT				*e*S	**Sn**	**Sn**	**01 26 35.2**	**+0.2**
BSO3	**Boso 3**	**0.86**	**156**	P	**Pn**	**Pn**	**01 26 31.3**	**-0.1**
JOD2	**Odawara 2**	**0.88**	**249**	P	**Pn**	**Pn**	**01 26 31.6**	**-0.3**
JOD2				S	**Sn**	**Sn**	**01 26 43.8**	**-1.0**
JAG	**Ashikaga**	**0.98**	**329**	P	**Pn**	**Pn**	**01 26 32.1**	**-1.1**
JIM2	**Oshima 3**	**1.02**	**212**	P	**Pn**	**Pn**	**01 26 33.2**	**-0.5**
JIM2				S	**Sn**	**Sn**	**01 26 47.1**	**-0.8**
JRY	**Ryogami san**	**1.05**	**294**	P	**Pn**	**Pn**	**01 26 34.1**	**0.0**
BSO1	**Boso 1**	**1.19**	**142**	P	**Pn**	**Pn**	**01 26 34.8**	**-0.4**
JFNN	**Fujinakano**	**1.21**	**251**	P	**Pn**	**Pn**	**01 26 36.4**	**+0.4**
JYN	**Shimob**	**1.26**	**266**	P	**Pn**	**Pn**	**01 26 36.6**	**-0.1**
JIZS	**Izushimoda**	**1.31**	**229**	P	**Pn**	**Pn**	**01 26 37.2**	**-0.2**
JIZS				S	**Sn**	**Sn**	**01 26 53.9**	**-0.5**
JKT	**Katashina**	**1.36**	**330**	P	**Pn**	**Pn**	**01 26 37.3**	**-0.7**
MJAR	**Matsushiro Arr**	**1.79**	**303**	P	**Pn**	**Pn**	**01 26 43.8**	**+0.1**
	0.8nm,0.3s,baz=155,slow=13,SNR=36							
MJAR				S	**Sn**	**Sn**	**01 27 04.0**	**-1.7**
	0.4nm,0.3s,baz=135,slow=13,SNR=7.4							
MAT	**Matsushiro**	**1.79**	**303**	P		**Pn**	**01 26 43.8**	**+0.1**
MAT				S		**Sn**	**01 27 07.0**	**+1.3**
MKAR	**Makanchi Array**	**43.99**	**303**	P		**P**	**01 34 14.8**	**+0.4**
	0.2nm,0.6s,baz=103,slow=6.4,SNR=2.1							
WRA	**Warramunga Arr**	**55.49**	**187**	P		**P**	**01 35 42.1**	**+0.3**
	0.1nm,0.5s,baz=1.1,slow=7.6,SNR=5.1							

IDC 31 01:31:40.1±2.0, 29°.10S×177°.92W, h0km, mb4.2/2, mb1 4.5/2, mb1mx3.8/29, mbtmp4.2/2, Error ellipse: s-maj=46.9km s-min=10.9km az=72.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.15**	**179**	Pn	Pg		01 31 49.7	+6.8
	1μm,0.3s,baz=37,slow=23,SNR=45							
RAO				Sn	Sg		01 31 56.0	+11
	3μm,0.3s,baz=23,slow=23,SNR=16							
ASAR	**Alice Springs**	**43.26**	**266**	P	P		01 39 43.4	-0.3
	2.2nm,0.7s,baz=99,slow=7.8,SNR=28							
WRA	**Warramunga Arr**	**44.13**	**271**	P	P		01 39 50.7	+0.1
	5.0nm,1.0s,baz=110,slow=7.9,SNR=30							
FINES	**FINESS Array B**	**143.95**	**341**	PKP	PKPbc		01 51 15.6	+1.0
	0.9nm,0.6s,baz=45,slow=3.5,SNR=7.4							

*BGR **31** 02:14:52.2±0.0, 46°.27N×151°.72E, h33km, mb5.0*

*BJI **31** 02:14:59.1±0.0, 47°.08N×152°.08E, h97km, mB4.7/34, mb5.0/63*

*MOS **31** 02:15:00.9±1.2, 46°.96N×152°.05E, h114km, mb4.8/50, Error ellipse: s-maj=6.1km s-min=5.0km az=76.2*

*SKHL **31** 02:15:00.0±0.7, 46°.67N×152°.54E, h114km±9km, mb5.7/3, msh6.0/3*

*IDC **31** 02:15:01.1±0.5, 47°.07N×151°.95E, h95km±4km, mb4.2/26, mb1 4.4/29, mb1mx4.4/32, mbtmp4.6/29, MS3.3/15, Ms1 3.3/15, ms1mx3.1/39, Error ellipse: s-maj=12.4km s-min=9.0km az=140.0*

*NEIC **31** 02:15:03.1±1.3, 47°.01N±0°.10×152°.0E±0°.1, h120km±5km, mb4.8/175, Error ellipse: s-maj=15.7km s-min=10.3km az=144.0*

*GCMT **31** 02:15:04.1±0.3, 47°.06N±0°.03×152°.36E±0°.03, h99km±6km, MW4.7/86, Moment Tensor Solution. s14,c15; s86,c106; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.65±.08; Mθθ-0.04±.13; Mφφ0.69±.12; Mrθ-0.33±.05; Mrφ0.19±.15; Mθr-1.11±.04; Best double couple: M0 1.35100×10^16 NP1: φs190.00000°, δ16.00000°, λ-96.00000°. NP2: φs16.00000°, δ75.00000°, λ-88.00000°. Principal axes: T 1.3910, Plg30.0000°, Azm105.0000°; N -0.0790, Plg2.0000°, Azm196.0000°; P -1.3110, Plg60.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NIED **31** 02:15:05.0, 46°.61N×152°.18E, h119km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr 1.23; Mθθ-1.75; Mφφ0.52; Mrθ0.26; Mφθ-0.54; Mφr-0.82; Fault plane solution: M0 1.86000×10^16 NP1: φs107.00000°, δ56.00000°, λ134.00000°. NP2: φs227.00000°, δ53.00000°, λ44.00000°.*

*KLM **31** 02:15:05.0, 46°.61N×152°.18E, h119km, mb4.9*

*JMA **31** 02:15:05.1±0.6, 45°.94N×152°.21E, h129km, M4.3*

ISC 31 02:15:00.5±0.4, 46°.80N±0°.04×152°.23E±0°.04, h101km±3km, h101km:pP-P, n610, σ1s46/613, mb4.8/193, 40C-35D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.42**	**244**	*i* P	**Pn**	**Pn**	**02 15 54.4**	**+2.6**
KUR				AMB	AMB	AMB	02 15 57.0	
	1μm,0.4s							
KUR				*i* S	**Sn**	**Sn**	**02 16 35.0**	**+3.5**
KUR				A	A	A	02 16 38.0	
	10μm,1.0s							
KUR				A	A	A	02 16 38.0	
	6μm,1.0s							
KUR				A	A	A	02 16 43.0	
	890nm,0.7s							
KUR				A	A	A	02 16 43.0	
	2μm,0.7s							
KUR	**Kuril'sk**	**3.42**	**244**	*c i* PN	**Pn**	**Pn**	**02 15 54.4**	**+2.6**
KUR				*i* S	**Sn**	**Sn**	**02 16 35.0**	**+3.5**
KUR				pmax	pmax			
	comp=Z,1μm,0.4s							
KUR				pmax	pmax			
	comp=E,159nm,0.5s							
KUR				pmax	pmax			
	comp=N,138nm,0.3s							
KUR				smax	smax			
	comp=E,2μm,0.7s							
KUR				smax	smax			
	comp=N,893nm,0.3s							
KUR				smax	smax			
	comp=N,10μm,1.1s							
KUR				smax	smax			
	comp=E,6μm,1.1s							
SKR	**Severo-Kuril's**	**4.66**	**32**	⇓ *i* P	**Pn**	**Pn**	**02 16 08.8**	**+0.3**
SKR				AMB	AMB	AMB	02 16 11.0	
	comp=E,420nm,0.6s							
SKR				*e*S	**Sn**	**Sn**	**02 16 59.9**	**-1.5**
SKR				A	A	A	02 17 05.0	
	comp=E,440nm,0.6s							
SKR				A	A	A	02 17 05.0	
	comp=E,390nm,0.6s							
SKR	**Severo-Kuril's**	**4.66**	**32**	*e* PN	**Pn**	**Pn**	**02 16 08.8**	**+0.3**
SKR				*e*S	**Sn**	**Sn**	**02 16 59.0**	**-2.4**
SKR				pmax	pmax			
	comp=Z,419nm,0.6s							
SKR				smax	smax			
	comp=N,440nm,0.5s							
SKR				smax	smax			
	comp=E,389nm,0.6s							
SKR				MLR	MLR			
	comp=Z,200nm,12.0s							
SKR				MLR	MLR			
	comp=Z,200nm,12.0s							
YUK	**Yuzh-Kuril'sk**	**5.27**	**241**	*i* P	**Pn**	**Pn**	**02 16 18.9**	**+2.1**
YUK				AMB	AMB	AMB	02 16 19.3	
	comp=Z,70nm,0.4s							
YUK				AMB	AMB	AMB	02 16 19.3	
	comp=Z,90nm,0.4s							
YUK				AMB	AMB	AMB	02 16 19.3	
	comp=Z,810nm,0.4s							
YUK				AMB	AMB	AMB	02 16 26.0	
	comp=Z,700nm,1.0s							
YUK				*i* S	**Sn**	**Sn**	**02 17 17.7**	**+1.5**
YUK				A	A	A	02 17 25.0	
	comp=Z,1μm,0.6s							
YUK				A	A	A	02 17 25.0	
	comp=Z,620nm,0.6s							
YUK				A	A	A	02 17 30.0	
	comp=Z,1μm,1.0s							
YUK				A	A	A	02 17 30.0	
	comp=Z,2μm,1.0s							
YUK	**Yuzh-Kuril'sk**	**5.27**	**241**	*d* PN	**Pn**	**Pn**	**02 16 18.9**	**+2.1**
YUK				*i* S	**Sn**	**Sn**	**02 17 17.7**	**+1.5**
YUK				pmax	pmax			
	comp=E,93nm,0.2s							
YUK				pmax	pmax			
	comp=Z,813nm,0.2s							
YUK				pmax	pmax			
	comp=N,69nm,0.1s							
YUK				pmax	pmax			
	comp=Z,688nm,1.0s							
YUK				smax	smax			
	comp=E,619nm,0.4s							
YUK				smax	smax			
	comp=N,1μm,0.6s							
YUK				smax	smax			
	comp=E,2μm,1.2s							
YUK				smax	smax			
	comp=N,1μm,

comp=N,1μm,0.4s
GLVR smax smax
comp=N,1μm,0.4s
GLVR smax smax
comp=E,2μm,1.5s
NEM2 Nemuro 2 5.73 236 P **Pn** **02 16 22.6 -0.5**
NEM2 *e*S **Sn** **02 17 22.9 -4.6**
NMR Nemuro--Hokkai 5.74 236 *i* P **Pn** **02 16 22.0 -1.2**
NMR Nemuro--Hokkai 5.74 236⇓ PN **Pn** **02 16 22.6 -0.6**
NMR *i* S **Sn** **02 17 23.4 -4.3**
JRA Rausu 5.77 243 P **Pn** **02 16 25.3 +1.7**
JNK Nakash 6.20 242 P **Pn** **02 16 30.6 +1.1**
YSS Yuzh-Sakhalins 6.50 275⇓ *i* P **Pn** **02 16 37.0 +3.5**
YSS AMB AMB 02 16 38.0
comp=E,150nm,0.8s
YSS *e*S **Sn** **02 17 50.1 +4.0**
YSS A A 02 17 54.0
comp=E,100nm,1.0s
YSS Yuzh-Sakhalins 6.50 275α *i* PN **Pn** **02 16 36.6 +3.1**
YSS pmax pmax
comp=E,150nm,0.8s
YSS MLR MLR
comp=Z,300nm,18.0s
YSS MLR MLR
comp=E,200nm,19.0s
YSS Yuzh-Sakhalins 6.50 275 Pn **Pn** **02 16 36.2 +2.7**
JTKR Abashiri--Toko 6.51 247 P **Pn** **02 16 35.8 +2.2**
JAK Akkeshi 6.56 237 P **Pn** **02 16 33.7 -0.7**
JAK *e*S **Sn** **02 17 43.4 -4.3**
JMP Maruseppu 6.84 249 P **Pn** **02 16 40.2 +2.0**
JAR Ashorobuto 6.94 243 P **Pn** **02 16 40.9 +1.4**
JSE Soyaes 6.98 258 P **Pn** **02 16 43.3 +3.3**
JOB Onbets 7.12 240 P **Pn** **02 16 42.5 +0.5**
JOB *e*S **Sn** **02 17 58.3 -3.0**
UGL Uglegorsk 7.20 292 *e*P **Pn** **02 16 46.5 +3.5**
UGL AMB AMB 02 16 48.0
comp=E,500nm,1.3s
UGL AMB AMB 02 16 49.2
comp=E,180nm,0.9s
UGL *e*S **Sn** **02 18 06.1 +3.0**
UGL A A 02 18 09.5
comp=E,110nm,0.9s
UGL A A 02 18 09.5
comp=E,110nm,0.9s
UGL Uglegorsk 7.20 292 *e*PN **Pn** **02 16 46.5 +3.5**
UGL *e*S **Sn** **02 18 06.1 +3.0**
UGL pmax pmax
comp=Z,500nm,1.3s
UGL pmax pmax
comp=Z,196nm,1.1s
UGL smax smax
comp=N,113nm,0.9s
UGL smax smax
comp=E,112nm,0.9s
PEA0B Petropavlovsk- 7.23 27 PN **Pn** **02 16 43.3 -0.1**
PEA0B Petropavlovsk- 7.23 27 Pn **Pn** **02 16 43.3 -0.1**
PETK Petropavlovsk- 7.23 27 P **Pn** **02 16 43.5 0.0**
comp=E,7.1nm,0.3s,baz=179,slow=10,SNR=78
PETK S **Sn** **02 18 09.1 +5.2**
baz=113,slow=42,SNR=0.7
PETK Petropavlovsk- 7.23 27 PN **Pn** **02 16 43.2 -0.2**
PETK Petropavlovsk- 7.23 27 **Pn** **02 16 43.2 -0.2**
JKA Kamikawa-asahi 7.28 252 *e*P **Pn** **02 16 46.5 +2.3**
JKA Kamikawa-asahi 7.28 252 Pn **Pn** **02 16 46.5 +2.3**
ASAJ Asahikawa 7.29 252 P **Pn** **02 16 47.3 +3.0**
comp=E,7.0nm,0.3s,baz=81,slow=14,SNR=95
ASAJ S **Sn** **02 18 13.8 +8.5**
comp=E,1.1nm,0.3s,baz=179,slow=8.6,SNR=1.4
ASAJ Asahikawa 7.29 252 P **Pn** **02 16 47.2 +3.0**
ASAJ Asahikawa 7.29 252 PN **Pn** **02 16 46.5 +2.3**
JKK2 Kamakawa 2 7.29 250 P **Pn** **02 16 46.7 +2.4**
JWK2 Keihoku 7.34 262 P Pn 02 16 49.6 +4.7
PET Petropavlovsk 7.48 31 *e*P **Pn** **02 16 46.8 0.0**
PET AMB AMB 02 16 47.4
comp=E,150nm,0.7s
PET *e*S **Sn** **02 18 09.2 -0.8**
PET Petropavlovsk 7.48 31 *e*PN **Pn** **02 16 49.7 +2.9**
PET *e*S **Sn** **02 18 09.2 -0.8**
PET pmax pmax
comp=Z,132nm,0.7s
PET MLR MLR
comp=Z,100nm,14.0s
PET Petropavlovsk 7.48 31 **Pn** **02 16 46.2 -0.6**
TYV Tymovskoe 7.51 306⇓ *i* P **Pn** **02 16 49.9 +2.7**
TYV AMB AMB 02 16 50.5
comp=Z,200nm,2.0s
TYV AMB AMB 02 16 50.6
comp=Z,90nm,1.0s
TYV *e*S **Sn** **02 18 14.0 +3.2**
TYV A A 02 18 16.8
comp=Z,20nm,1.0s
TYV A A 02 18 16.8
comp=Z,10.0nm,1.0s
TYV Tymovskoe 7.51 306 *e*PN **Pn** **02 16 49.9 +2.7**
TYV pmax pmax
comp=Z,200nm,2.0s
JCH Churui 7.58 240 P **Pn** **02 16 47.6 -0.5**
JCH *e*S **Sn** **02 18 08.1 -4.2**
JSS Shosan 7.66 256 P **Pn** **02 16 53.4 +4.1**
JFR Furan 7.74 245 P **Pn** **02 16 51.9 +1.5**
JAB Ashibetsu 7.80 249 P **Pn** **02 16 53.8 +2.6**
JRBN Rebuntou 7.88 264 P **Pn** **02 16 55.8 +3.5**
JHR Hokuryu 8.02 251 P **Pn** **02 16 57.2 +3.1**
JEM Erimo 8.06 237 P **Pn** **02 16 54.6 -0.2**
ERM Erimo 8.06 237*ce* PN **Pn** **02 16 55.0 +0.2**
ERM pmax pmax
comp=Z,56nm,1.0s
ERM Erimo 8.06 237 Pn **Pn** **02 16 54.5 -0.2**
JBT2 Biratori 2 8.09 244 P **Pn** **02 16 55.7 +0.6**
JBT2 *e*S **Sn** **02 18 22.4 -2.4**
JNBK Urakawa-nobuka 8.14 240 P **Pn** **02 16 55.0 -0.8**
JEW Eniwo 8.62 247 P **Pn** **02 17 03.8 +1.4**
JSK Shakotan 9.00 252 P **Pn** **02 17 09.1 +1.6**
JNB Noboribetsu 9.08 246 P **Pn** **02 17 08.4 -0.1**
JKB Kayabe 9.40 243 P **Pn** **02 17 11.6 -1.4**
JKB *e*S **Sn** **02 18 50.1 -6.7**
JSH Shimam 9.62 249 P **Pn** **02 17 16.5 +0.6**
JYM2 Yakumo 2 9.68 245 P **Pn** **02 17 16.2 -0.6**
JSR Shiriuchi 9.98 242 P **Pn** **02 17 19.3 -1.6**
JTM Tenmabayashi 10.06 237 P **Pn** **02 17 19.2 -2.7**
JTM *e*S Sn 02 19 02.8 -10
JANG Nango 10.08 234 P **Pn** **02 17 18.7 -3.5**
JANG *e*S Sn 02 19 03.2 -10
JTH Tanohata 10.19 231 P **Pn** **02 17 19.7 -4.0**
JOSM Okushiri--Mats 10.27 247 P **Pn** **02 17 23.8 -0.9**
OFUJ Ofunato 10.92 229 P **Pn** **02 17 30.0 -3.6**
TEY Ternei 11.03 267 *e*P **Pn** **02 17 36.9 +1.8**
TEY AMB AMB 02 17 37.9
comp=Z,10.0nm,0.9s
TEY AMB AMB 02 17 37.9
comp=Z,40nm,0.9s
TEY AMB AMB 02 17 37.9
comp=Z,40nm,0.9s
TEY Ternei 11.03 267⇑ *e*PN **Pn** **02 17 36.9 +1.8**
TEY pmax pmax
comp=E,40nm,0.9s
TEY pmax pmax
comp=Z,40nm,0.9s
TEY pmax pmax
comp=N,10.0nm,1.0s
JRG Rokugo 11.24 233 P **Pn** **02 17 35.2 -2.8**
JIO Ouri 11.56 228 P **Pn** **02 17 38.5 -3.6**
MA2 Magadan 12.83 357 P **Pn** **02 18 00.2 +1.3**
comp=N,1.5nm,0.3s,baz=170,slow=11,SNR=8.8
MA2 LR LR 02 22 22.0
comp=N,72nm,21.7s,baz=172,slow=35
MA2 Magadan 12.83 357 *e*P **Pn** **02 17 59.5 +0.6**
MA2 Magadan 12.83 357 PN **Pn** **02 17 59.5 +0.6**
MA2 Magadan 12.83 357 **Pn** **02 17 59.5 +0.6**
EKMR Ekimchan 13.89 304 *e*P **Pn** **02 18 13.1 +0.3**
EKMR AMB AMB 02 18 25.2
comp=N,10.0nm,0.8s
KLR Kul'dur 13.92 288 P **P** **02 18 15.3 -2.7**
comp=N,0.6nm,0.3s,baz=92,slow=13,SNR=28
KLR Kul'dur 13.92 288 *i* P **Pn** **02 18 14.5 +1.3**
KLR AMB AMB 02 18 17.1
comp=N,50nm,0.8s
KLR Kul'dur 13.92 288*d* *i* P **Pn** **02 18 14.5 +1.3**
KLR pmax pmax
comp=Z,45nm,1.6s
USA0B Ussuriysk Arra 14.43 267 P **Pn** **02 18 19.7 0.0**
USA0B Ussuriysk Arra 14.43 267 Pn **Pn** **02 18 19.7 0.0**
USRK Ussuriysk Ar. 14.43 267 P **Pn** **02 18 20.2 +0.5**
baz=77,slow=14,SNR=44
USRK LR LR 02 23 44.0
comp=Z,93nm,20.3s,baz=68,slow=37
USRK Ussuriysk Ar. 14.43 267 P **Pn** **02 18 19.7 0.0**
USRK Ussuriysk Ar. 14.43 267 **Pn** **02 18 19.7 0.0**
MAJO Matsushiro 14.63 231 P **Pn** **02 18 21.5 -0.9**
MAJO Matsushiro 14.63 231 Pn **Pn** **02 18 21.5 -0.9**
MAT Matsushiro 14.63 231 P **Pn** **02 18 21.3 -1.1**
MAT *e*S **Sn** **02 21 07.9 +4.2**
MJAR Matsushiro Arr 14.63 231 P **Pn** **02 18 21.7 -0.7**
comp=Z,0.4nm,0.3s,baz=27,slow=13,SNR=43
MJAR LR LR 02 24 36.1
comp=Z,52nm,20.2s,baz=85,slow=39
SMY Shemya 15.30 59 P **Pn** **02 18 31.2 +0.5**
SMY pmax pmax
comp=Z,67nm,0.6s
SMY Shemya 15.30 59 Pn **Pn** **02 18 31.2 +0.5**
MDJ Mudanjiang 15.96 270 P **Pn** **02 18 38.8 -0.2**
MDJ pmax pmax
comp=Z,28nm,1.2s
MDJ Mudanjiang 15.96 270 P **P** **02 18 40.1 -0.5**
MDJ IAmb IAmb 02 18 42.9
comp=Z,23nm,0.7s
SEY Seymchan 16.17 0 P **P** **02 18 42.1 -0.7**
comp=Z,0.8nm,0.3s,baz=178,slow=11,SNR=9.1
SEY Seymchan 16.17 0 *i* P **Pn** **02 18 40.7 -0.8**
SEY Seymchan 16.17 0 *i* P **Pn** **02 18 40.7 -0.8**
BMKR Bomnak 16.73 307 *e*P **P** **02 18 48.3 -0.7**
BMKR AMB AMB 02 18 53.4
comp=Z,20nm,0.7s
ZEA Zeya 17.36 303 *e*P **P** **02 18 55.2 -0.8**
ZEA AMB AMB 02 18 55.2
comp=Z,30nm,1.0s
ZEA AMB AMB 02 19 00.0
comp=Z,200nm,6.0s
ZEA Zeya 17.36 303 *e*P **Pn** **02 18 56.2 +0.1**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA pmax pmax
comp=Z,200nm,6.0s
KROS Kirovskiy 17.69 305 *i* P **Pn** **02 18 59.7 -0.4**
KROS AMB AMB 02 19 02.2
comp=Z,20nm,0.7s
CN2 Changchun 19.05 271 *e*P **P** **02 19 14.3 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
YAK Yakutsk 19.96 328 *e*P **P** **02 19 21.8 -2.4**
YAK *e*S **S** **02 22 59.1 -3.8**
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,15nm,1.5s
YAK smax smax
comp=N,34nm,1.5s
YAK smax smax
comp=E,51nm,1.6s
YAK Yakutsk 19.96 328 P **P** **02 19 24.5 +0.2**
YAK IAmb IAmb 02 20 02.4
comp=Z,50nm,1.1s
KSRS Korea Array 20.23 251 P Pn 02 19 29.1 -1.2
comp=Z,22nm,0.7s,baz=56,slow=11,SNR=48
KSRS PcP **PcP** **02 23 39.4 +2.1**
comp=Z,2.3nm,0.8s,baz=353,slow=0.9,SNR=8.2
KSRS LR LR 02 27 17.8
comp=Z,34nm,18.3s,baz=73,slow=36
KS19 Wonju Array Si 20.24 251 P **P** **02 19 28.4 +0.9**
KS19 IAmb IAmb 02 19 34.1
comp=Z,130nm,1.8s
KSAR Wonju Array Be 20.27 251 **PcP** **02 23 38.7 +1.4**
ADK Adak 20.79 64 P **P** **02 19 34.3 +1.1**
ADK pmax pmax
comp=Z,50nm,1.1s
ADK Adak 20.79 64 P **P** **02 19 34.3 +1.1**
ADK IAmb IAmb 02 19 50.5
comp=Z,50nm,1.1s
INCN Inchon 21.06 253 *e*P **P** **02 19 36.9 +0.5**
INCN Inchon 21.06 253 P **P** **02 19 36.9 +0.5**
INCN pmax pmax
comp=Z,60nm,0.9s
INCN Inchon 21.06 253 P **P** **02 19 36.9 +0.5**
INCN IAmb IAmb 02 19 41.9
comp=Z,60nm,0.9s
JCJ Chichijima 21.21 205 P **P** **02 19 40.1 +2.2**
comp=Z,15nm,0.5s,baz=78,slow=22,SNR=2.7
JNU Nakatsue 21.23 238 P **P** **02 19 39.6 +1.4**
comp=Z,23nm,0.7s,baz=28,slow=4.4,SNR=16
JNU Nakatsue 21.23 238 P **P** **02 19 39.0 +0.7**
JNU IAmb IAmb 02 19 50.7
comp=Z,37nm,0.9s
TJN Taejon 21.23 250*ce* P **P** **02 19 38.2 0.0**
HIA Hailar 21.78 288 *i* P **P** **02 19 41.8 -2.1**
HIA pmax pmax
comp=Z,18nm,1.2s
DL2 Dalian 23.67 262 P **P** **02 20 03.5 +0.8**
DL2 pmax pmax
comp=Z,19nm,0.6s
BJI Beijing 26.87 269 P **P** **02 20 34.0 +2.4**
BJI pmax pmax
comp=Z,14nm,1.0s
BJI pmax pmax
comp=Z,34nm,3.5s
BJT Baijiatuao 26.89 269 P **P** **02 20 32.1 +0.3**
BJT pmax pmax
comp=Z,22nm,1.2s
BJT Baijiatuao 26.89 269 P **P** **02 20 32.1 +0.3**
BJT IAmb IAmb 02 20 35.1
comp=Z,22nm,1.2s
TIA Tai'an 28.12 261 P **P** **02 20 43.5 +0.7**
TIA pmax pmax
comp=Z,12nm,1.4s
NJ2 Nanjing 29.43 252 *e*P **P** **02 20 56.0 +1.6**
NJ2 pmax pmax
comp=Z,16nm,0.6s
H11N2 WAKE ISLAND Hy 29.55 151 T T 02 52 29.7
baz=340,slow=76,SNR=3138
H11N1 WAKE ISLAND Hy 29.56 151 T T 02 52 26.1
baz=340,slow=76,SNR=2333
H11N3 WAKE ISLAND Hy 29.56 151 T T 02 52 26.3
baz=340,slow=76,SNR=1898
HHC Hu-ho-hao-te 29.68 273 *e*P **P** **02 20 58.0 +1.2**
HHC pmax pmax
comp=Z,34nm,1.1s
HHC pmax pmax
comp=Z,51nm,5.2s
ULN Ulaanbaatar 30.31 289 *e*P **P** **02 21 03.5 +1.2**
ULN Ulaanbaatar 30.31 289 P **P** **02 21 03.5 +1.2**
ULN pmax pmax
comp=Z,12nm,1.0s
ULN Ulaanbaatar 30.31 289 P **P** **02 21 03.5 +1.2**
ULN IAmb IAmb 02 21 07.4
comp=Z,12nm,1.0s
H11S1 WAKE ISLAND Hy 30.62 152 T T 02 53 50.4
baz=340,slow=76,SNR=1292
H11S3 WAKE ISLAND Hy 30.63 152 T T 02 53 53.0
baz=340,slow=76,SNR=826
H11S2 WAKE ISLAND Hy 30.64 152 T T 02 53 51.8
baz=340,slow=76,SNR=1118
SONM Songino Array 30.75 289 P **P** **02 21 04.3 -1.7**
comp=Z,1.7nm,0.8s,baz=64,slow=8.9,SNR=8.8
SONM pP **pP** **02 21 25.7 -2.0**
comp=Z,1.3nm,0.7s,baz=95,slow=11,SNR=3.3
SONM PcP **PcP** **02 24 01.9 +0.7**
comp=Z,2.2nm,0.6s,baz=121,slow=2.3,SNR=6.6
SONM ScP **ScP** **02 27 33.9 -0.4**
comp=Z,1.0nm,0.8s,baz=152,slow=4.5,SNR=3.6
SONM Songino Array 30.75 289 P **P** **02 21 04.6 -1.5**
SONM 02 24 00.3
SONM pmax pmax
comp=Z,10.0nm,1.3s
SONM Songino Array 30.75 289 P **P** **02 21 04.6 -1.5**
SONM **PcP** **02 24 00.3 -0.8**
TLY Talaya 31.62 297 *e*P **P** **02 21 12.4 -1.2**
TLY pmax pmax
comp=Z,17nm,0.8s
TLY MLR MLR
comp=Z,166nm,14.0s
TLY Talaya 31.62 297 P **P** **02 21 12.7 -0.9**
TLY IAmb IAmb 02 21 13.2
comp=Z,7.7nm,0.7s
ZAK Zakamensk 32.11 295 *e*P **P** **02 21 15.7 -2.3**
ZAK *e* 02 21 39.9
ZAK pmax pmax
comp=Z,6.0nm,1.1s
WHN Wuhan 33.36 254⇓ P **P** **02 21 29.5 +0.6**
WHN pmax pmax
comp=Z,80nm,1.2s
YULB Yu-li 34.08 237 P **P** **02 21 34.4 -0.8**
YULB IAmb IAmb 02 21 44.4
comp=Z,6.5nm,0.5s
IMAR Indian Mountai 34.09 36 P **P** **02 21 35.4 +0.5**
PPLA Purkeypile 34.53 42 P **P** **02 21 40.4 +1.5**
PPLA IAmb IAmb 02 22 13.9
comp=Z,34nm,1.7s
TPUB Ta-pu 34.53 238 P **P** **02 21 39.9 +0.7**
TPUB IAmb IAmb 02 21 41.4
comp=Z,18nm,0.8s
TWG Pinlang 34.65 237 P **P** **02 21 39.1 -1.0**
XAN Xi'an 34.92 264 P **P** **02 21 42.8 +0.4**
XAN pmax pmax
comp=Z,32nm,0.7s
XAN LR LR
comp=Z,100nm,15.0s
XAN LR LR
comp=Z,80nm,22.5s
XAN LR LR
comp=Z,120nm,19.3s
XAN Xi'an 34.92 264 P **P** **02 21 42.5 +0.1**
XAN pmax pmax
comp=Z,74nm,1.5s
XAN Xi'an 34.92 264 P **P** **02 21 42.5 +0.1**
KTH Kantishna Hill 35.12 41 IAmb IAmb 02 21 49.2
comp=Z,15nm,0.9s
PMR Palmer 35.99 44 P **P** **02 21 50.5 -0.7**
PMR pmax pmax
comp=Z,27nm,1.8s
PMR Palmer 35.99 44 P **P** **02 21 50.5 -0.7**
PMR IAmb IAmb 02 22 37.4
comp=Z,27nm,1.8s
MCK McKinley 36.01 40 P **P** **02 21 51.3 -0.1**
MCK pmax pmax
comp=Z,11nm,1.1s
MCK McKinley 36.01 40 P **P** **02 21 51.2 -0.1**
MCK IAmb IAmb 02 22 21.2
comp=Z,11nm,1.1s
MDM Murphy Dome 36.31 38 IAmb IAmb 02 21 56.0
comp=Z,6.8nm,0.7s
KNK Knik Glacier 36.32 44 IAmb IAmb 02 21 55.5
comp=Z,13nm,1.0s
WRH Wood River Hil 36.37 39 P **P** **02 21 55.1 +0.6**
COLA College 36.48 38 P **P** **02 21 56.2 +0.9**
COLA pmax pmax
comp=Z,17nm,0.9s
COLA College 36.48 38 P **P** **02 21 56.2 +0.9**
COLA IAmb IAmb 02 21 57.3
comp=Z,17nm,0.9s
CCB Clear Creek Bu 36.50 39 IAmb IAmb 02 21 58.1
comp=Z,4.8nm,0.4s
ENH Enshi 36.78 259 P **P** **02 21 58.0 -0.4**
HDA Harding Lake 36.87 39 IAmb IAmb 02 22 03.4
comp=Z,7.3nm,0.6s
IL31 36.89 39 P **P** **02 21 59.4 +0.6**
ILAR Eielson Array 36.89 39 P **P** **02 21 59.4 +0.6**
comp=Z,1.7nm,0.5s,baz=262,slow=8.5,SNR=32
ILAR pP **pP** **02 22 21.2 -0.4**
comp=Z,2.7nm,0.9s,baz=261,slow=6.5,SNR=5.2
ILAR LR LR 02 38 13.4
comp=Z,29nm,18.6s,baz=266,slow=38
LZH Lanzhou 37.28 271 *e*P **P** **02 22 04.0 +1.3**
LZH pP pwP 02 22 28.5 -0.2
LZH sP sP 02 22 38.8 +2.7
LZH pmax pmax
comp=Z,32nm,1.3s
LZH pmax pmax
comp=Z,110nm,4.6s
GTA Gaotai 38.36 278 *e*P **P** **02 22 12.3 +0.6**
GTA pmax pmax
comp=Z,10.0nm,1.0s
NRIK Noril'sk 38.41 329 PcP **PcP** **02 24 22.9 +0.2**
comp=Z,4.6nm,0.7s,baz=90,slow=4.3,SNR=4.4
NRIK LR LR 02 39 53.2
comp=Z,29nm,20.5s,baz=12,slow=39
BCAR Beaver Creek A 39.26 41 P **P** **02 22 19.7 +0.8**
BARN Barnard Glacie 39.63 44 IAmb IAmb 02 22 25.5
comp=Z,8.1nm,0.7s
CD2 Chengdu 40.28 264 P **P** **02 22 28.5 +0.9**
CD2 pmax pmax
comp=Z,140nm,0.7s
PCA Pinnacle 40.49 45 P **P** **02 22 28.0 -1.0**
PCA IAmb IAmb 02 22 32.5
comp=Z,17nm,0.6s
GYA Guiyang 41.13 257⇑ P **P** **02 22 35.8 +1.0**
GYA pmax pmax
comp=Z,29nm,1.0s
HYT Haines Junctio 41.66 44 IAmb IAmb 02 22 45.2
comp=Z,27nm,1.7s
DGZ Jazzator, Alta 42.05 299 *i* P **P** **02 22 41.3 -0.7**
DGZ pmax pmax
comp=Z,10.0nm,1.7s
ZAA0 Zalesovo Array 42.09 305 P **P** **02 22 39.5 -2.6**
ZAA0 PcP **PcP** **02 24 34.6 -0.2**
ZALV Zalesovo Beam 42.09 305 P **P** **02 22 40.0 -2.1**
comp=Z,2.2nm,0.4s,baz=59,slow=6.7,SNR=10
ZALV PcP **PcP** **02 24 35.4 +0.5**
comp=Z,4.6nm,0.6s,baz=71,slow=2.6,SNR=15
ZALV ScP **ScP** **02 28 15.6 -0.3**
comp=Z,0.5nm,0.3s,baz=68,slow=43,SNR=1.6
ZALV LR LR 02 41 32.3
comp=Z,75nm,18.2s,baz=68,slow=38
ZALV Zalesovo Beam 42.09 305 *i* P **P** **02 22 40.0 -2.1**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
WMQ Urumqi 44.34 291 *e*P **P** **02 23 01.5 +1.0**
KMI Kunming 44.66 259⇑ P **P** **02 23 04.8 +1.5**
KMI pP pwP 02 23 32.0 +2.3
KMI pmax pmax
comp=Z,35nm,1.0s
MK31 Makanchi Array 46.38 297 *i* P **P** **02 23 14.8 -1.6**
MK31 Makanchi Array 46.38 297 IAmb IAmb 02 23 15.8
comp=Z,7.3nm,0.6s
MKAR Makanchi Array 46.38 297 P **P** **02 23 15.0 -1.4**
comp=Z,5.5nm,0.5s,baz=68,slow=7.5,SNR=60
MKAR PcP **PcP** **02 24 50.1 +0.4**
comp=Z,2.9nm,0.5s,baz=82,slow=0.8,SNR=10.0
MKAR ScP **ScP** **02 28 34.1 +0.5**
comp=Z,0.7nm,0.7s,baz=58,slow=2.7,SNR=6.7
MKAR LR LR 02 43 59.9
comp=Z,62nm,18.2s,baz=56,slow=38
MKAR Makanchi Array 46.38 297 P **P** **02 23 14.3 -2.1**
MKAR PcP **PcP** **02 24 49.8 +0.1**
MAKZ Makanchi 46.57 297 P **P** **02 23 16.4 -1.5**
MAKZ pmax pmax
comp=Z,12nm,1.3s
MAKZ Makanchi 46.57 297 P **P** **02 23 16.4 -1.5**
KURBB Kurchatov Arra 46.92 303 P **P** **02 23 18.3 -2.3**
EUNU Eureka 49.20 11 P **P** **02 23 37.2 -0.6**
EUNU IAmb IAmb 02 23 39.1
comp=Z,12nm,0.7s
LSA Lhasa 49.67 272 P **P** **02 23 44.5 +2.1**
LSA Lhasa 49.67 272 P **P** **02 23 44.6 +2.1**
LSA Lhasa 49.67 272 *e*P **P** **02 23 42.6 +0.1**
LSA Lhasa 49.67 272 P **P** **02 23 42.6 +0.1**
LSA pmax pmax
comp=Z,30nm,0.6s
LSA Lhasa 49.67 272 P **P** **02 23 42.6 +0.1**
UBPT Khong Chiam 49.87 247 P **P** **02 23 44.1 +0.6**
BRVK Borovoye 50.40 309*ce* P **P** **02 23 45.2 -1.9**
BRVK pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 50.40 309 P **P** **02 23 45.8 -1.4**
BRVK PcP **PcP** **02 25 04.4 +0.3**
BRVK IAmb IAmb 02 25 05.3
comp=Z,8.2nm,0.8s
YKA Yellowknife Ar 51.25 36 P **P** **02 23 54.3 +1.0**
comp=Z,1.4nm,0.5s,baz=291,slow=9.9,SNR=4.6
YKA pP **pP** **02 24 17.5 +0.4**
comp=Z,0.9nm,0.6s,baz=290,slow=10,SNR=2.3
CHTO Chiang Mai 51.54 256 P **P** **02 23 56.5 +0.4**
CHTO pmax pmax
comp=Z,38nm,1.4s
CHTO Chiang Mai 51.54 256 P **P** **02 23 56.5 +0.4**
SHL Shillong 51.77 268 *i* P **P** **02 23 58.0 0.0**
SHL Shillong 51.77 268 P **P** **02 23 58.3 +0.3**
SNR=11
SHL Shillong 51.77 268 P **P** **02 23 58.0 0.0**
SHL Shillong 51.77 268 P **P** **02 23 58.0 0.0**
CM31 Chiang Mai Arr 51.79 256 P **P** **02 23 59.6 +1.6**
CM31 IAmb IAmb 02 24 03.2
comp=Z,10.0nm,0.8s
CM31 PcP **PcP** **02 25 11.4 +1.6**
CMAR Chiang Mai Arr 51.79 256 P **P** **02 23 59.0 +0.9**

comp=Z,6.1nm,0.7s,baz=33,slow=7.6,SNR=24
CMAR pP **pP** **02 24 22.3 +0.5**
comp=Z,22nm,1.4s,baz=41,slow=7.7,SNR=2.2
CMAR PcP **PcP** **02 25 12.2 +2.5**
comp=Z,3.3nm,0.6s,baz=9.9,slow=2.8,SNR=9.3
CMAR LR LR 02 47 39.4
comp=Z,12nm,18.8s,baz=55,slow=38
CMAR Chiang Mai Arr 51.79 256 *ce*P **P** **02 23 59.7 +1.7**
CMAR pmax pmax
comp=Z,6.0nm,0.7s
PBKT Sadao Pong 51.81 252 P **P** **02 23 58.6 +0.5**
PBKT IAmb IAmb 02 24 00.2
comp=Z,6.8nm,0.7s
KDJ Kajisay 51.87 294 IAmb IAmb 02 23 58.9
comp=Z,12nm,0.9s
AAK Ala-Archa 53.27 296 *e*P **P** **02 24 07.8 -1.0**
AAK Ala-Archa 53.27 296 *ce*P **P** **02 24 07.8 -1.0**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 53.27 296 P **P** **02 24 07.5 -1.4**
AAK IAmb IAmb 02 24 09.0
comp=Z,6.7nm,0.8s
SVE Sverdlovsk 53.38 317 *e*P **P** **02 24 07.9 -1.3**
SVE Sverdlovsk 53.38 317 *e*P **P** **02 24 07.9 -1.3**
SVE pmax pmax
comp=Z,10.0nm,0.8s
TAPN Taplejung 53.49 273 *e*P **P** **02 24 11.9 +1.1**
comp=Z,40nm,0.4s
ODAN Odare 54.02 272 *e*P **P** **02 24 15.8 +1.2**
comp=Z,45nm,0.4s
KSH Kashi 54.07 292 *e*P **P** **02 24 18.0 +3.3**
JIRN Jiri 54.34 274 *e*P **P** **02 24 17.9 +0.9**
comp=Z,190nm,0.6s
GUN Gumba 54.39 274 *e*P **P** **02 24 17.9 +0.5**
comp=Z,55nm,0.4s
RAMN Ramite 54.51 273 *e*P **P** **02 24 18.8 +0.7**
comp=Z,180nm,0.5s
ARU Arti 54.57 317 *d i*P **P** **02 24 15.6 -2.2**
ARU *PP **pP** **02 24 40.4 -0.9**
ARU 02 25 18.9
ARU S **S** **02 31 44.4 -4.7**
ARU SS **SKiKP** **02 35 22.7 +6.9**
ARU pmax pmax
comp=Z,8.0nm,0.6s
KKN Kakani 54.88 275 *e*P **P** **02 24 21.8 +1.0**
comp=Z,72nm,0.6s
PKI Pulchoki 54.93 274 *e*P **P** **02 24 21.7 +0.4**
comp=Z,35nm,0.4s
DMN Daman 55.11 275 *e*P **P** **02 24 23.5 +1.0**
comp=Z,92nm,0.6s
GKN Gorkha 55.19 275 *e*P **P** **02 24 23.7 +0.8**
KK31 Karatay Array 55.45 298 P **P** **02 24 23.4 -1.0**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KK31 Karatay Array 55.45 298 P **P** **02 24 23.4 -1.0**
KKAR Karatay Array 55.45 298 P **P** **02 24 23.0 -1.4**
KKAR 02 25 22.8
KKAR Karatay Array 55.45 298 P **P** **02 24 22.9 -1.4**
KKAR PcP **PcP** **02 25 22.8 -0.6**
KOLN Koldanda 56.04 276 *e*P **P** **02 24 29.9 +0.8**
comp=Z,117nm,0.8s
SBUM Sibu 56.18 231 P **P** **02 24 33.0 +3.1**
PYUN Piuthan 56.25 277 *e*P **P** **02 24 31.3 +0.7**
comp=Z,56nm,0.4s
PRGR Permogore 57.00 327 *e*P **P** **02 24 32.8 -2.3**
PRGR *e*PP **pP** **02 24 57.2 -1.5**
PRGR pmax pmax
comp=Z,13nm,0.8s
BTK Batken 57.01 295 P **P** **02 24 35.1 -0.5**
BTK pmax pmax
comp=Z,10.0nm,1.0s
BTK Batken 57.01 295 P **P** **02 24 35.1 -0.5**
BTK IAmb IAmb 02 24 35.9
comp=Z,10.0nm,0.9s
KULLO Kullorsuaq 57.31 9 *i*P **P** **02 24 36.2 -0.9**
comp=Z,34nm,0.6s
KULLO Kullorsuaq 57.31 9 *i*P **P** **02 24 36.2 -0.9**
KULLO pmax pmax
comp=Z,34nm,0.6s
ARCES ARCESS Array B 57.61 340 P **P** **02 24 38.1 -1.2**
comp=Z,2.3nm,0.6s,baz=49,slow=8.2,SNR=12
ARCES PcP **PcP** **02 25 31.8 +0.5**
comp=Z,2.0nm,0.6s,baz=62,slow=5.9,SNR=5.6
MTKI Muara Teweh, K 57.70 226 P **P** **02 24 43.8 +3.2**
AB31 Akbulak array 57.93 309 P **P** **02 24 39.6 -2.2**
ABKAR Akbulak array 57.93 309 P **P** **02 24 40.1 -1.7**
KSM Kuching 58.02 232 P **P** **02 24 44.4 +1.6**
PINE Pine Mountain 58.09 58 P **P** **02 24 44.2 +1.0**
PINE IAmb IAmb 02 25 11.5
comp=Z,10nm,0.9s
KTK1 Kautokeino 58.53 341 *e*P **P** **02 24 44.9 -0.8**
K05A Summer Lake 58.75 59 P **P** **02 24 49.4 +1.5**
TRO Tromso 58.96 343 *e*P **P** **02 24 47.9 -0.7**
NIL Nilore 59.31 288 P **P** **02 24 51.4 -0.3**
NIL pmax pmax
comp=Z,15nm,0.6s
NIL Nilore 59.31 288 P **P** **02 24 51.4 -0.3**
KLMR Klimovskoe 59.75 328 *e*P **P** **02 24 51.8 -2.4**
KLMR pmax pmax
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 59.75 328 *e*P **P** **02 24 51.9 -2.3**
KLMR AMP 02 24 53.3
comp=Z,7.0nm,1.0s
BBKI Banjar Baru 59.91 224 P P 02 25 01.2 +5.3
KULM Kulim 60.55 244 P **P** **02 25 00.4 +0.1**
SUMG Summit 60.69 4 *i*P **P** **02 25 01.0 0.0**
comp=Z,132nm,0.9s
SUMG Summit 60.69 4 *i*P **P** **02 25 01.0 0.0**
SUMG Summit 60.69 4 P **P** **02 25 00.6 -0.4**
IPM Ipoh 60.95 243 P **P** **02 25 03.5 +0.5**
IPM IAmb IAmb 02 25 04.9
comp=Z,8.7nm,0.9s
N2IH Innhavet 60.95 343 *e*P **P** **02 25 01.9 -0.4**
N2VI Vinje 61.00 343 *e*P **P** **02 25 02.4 -0.2**
STEI Steigen 61.13 343 *e*P **P** **02 25 02.8 -0.7**
LOF Lofoten 61.29 344 *e*P **P** **02 25 03.9 -0.7**
N2TV TVrnvik 61.46 343 *e*P **P** **02 25 05.5 -0.1**
KBL Kabul 61.48 291 P **P** **02 25 04.2 -2.5**
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 61.48 291 P **P** **02 25 04.2 -2.5**
KBL IAmb IAmb 02 25 08.2
comp=Z,8.3nm,0.9s
FAUS Fauske 61.58 343 *e*P **P** **02 25 05.0 -1.5**
N2SV S rvVgen 61.60 344 *e*P **P** **02 25 05.7 -0.9**
NBB08 Skaug oppvekst 61.71 343 *e*P **P** **02 25 07.2 -0.2**
N2VA Vr_y 61.86 344 *e*P **P** **02 25 07.8 -0.6**
CMB Columbia Colle 61.93 63 P **P** **02 25 10.4 +1.0**
CMB pmax pmax
comp=Z,4.0nm,1.2s
CMB Columbia Colle 61.93 63 P **P** **02 25 10.3 +1.0**
N2RO R_st 62.10 344 *e*P **P** **02 25 09.6 -0.3**
NBB05 Inndyr 62.13 343 *e*P **P** **02 25 09.0 -1.2**
BOZ Bozeman (W) 62.24 52 IAmb IAmb 02 25 39.1
comp=Z,13nm,1.4s
NBB30 Finnes 62.25 343 *e*P **P** **02 25 10.3 -0.6**
MOR8 Moi Rana 62.79 342 *e*P **P** **02 25 12.0 -2.7**
NVAR Mina Array Bea 62.95 62 P **P** **02 25 18.3 +1.9**
comp=Z,2.1nm,0.6s,baz=300,slow=7.3,SNR=13
NVAR pP **pP** **02 25 41.7 +0.8**
comp=Z,3.1nm,0.9s,baz=296,slow=7.0,SNR=5.5
NVAR Mina Array Bea 62.95 62 P **P** **02 25 18.1 +1.7**
PPBI Pangkal Pinang 63.33 234 P **P** **02 25 21.8 +2.9**
PSI Prapat 63.56 243 P **P** **02 25 20.9 +0.3**
PSI pmax pmax
comp=Z,10.0nm,0.7s
RPSI Rantau Prapat 63.64 243 P **P** **02 25 20.9 0.0**
RPSI IAmb IAmb 02 25 23.8
comp=Z,10.0nm,0.7s
FIA1 FINESS Array S 63.74 334 P **P** **02 25 19.5 -1.4**
FINES FINESS Array B 63.74 334 P **P** **02 25 19.5 -1.4**
comp=Z,11nm,0.4s,baz=35,slow=7.4,SNR=128
FINES LR LR 02 57 21.4
comp=Z,33nm,19.1s,baz=45,slow=40
NSS Namsos 64.74 342 *e*P **P** **02 25 26.8 -0.6**
OBN Obninsk 64.93 325 *e*P **P** **02 25 27.1 -1.7**
OBN Obninsk 64.93 325 *e*P **P** **02 25 27.1 -1.7**
OBN *i* 02 26 00.7
OBN *e* 02 26 07.5
OBN S S 02 33 52.0 -10
OBN *SS SKSac 02 35 02.0 -12
OBN pmax pmax
comp=Z,6.0nm,0.5s
SDSI Sungai Dareh 65.01 239 P **P** **02 25 32.1 +2.2**
comp=Z,28nm,1.2s
DUG Dugway, Tooele 65.06 57 P **P** **02 25 30.8 +0.7**
DUG pmax pmax
comp=Z,6.0nm,1.2s
DUG Dugway, Tooele 65.06 57 P **P** **02 25 30.8 +0.7**
TPNV Topopah Spring 65.15 62 P **P** **02 25 31.5 +0.7**
TPNV pmax pmax
comp=Z,13nm,1.5s
TPNV Topopah Spring 65.15 62 P **P** **02 25 31.5 +0.7**
TPNV IAmb IAmb 02 25 55.9
comp=Z,13nm,1.4s
PDAR Pinedale Array 65.21 53 P **P** **02 25 32.3 +1.2**
comp=Z,0.8nm,0.5s,baz=279,slow=0.6,SNR=12
PDAR pP **pP** **02 25 55.6 -0.1**
comp=Z,2.1nm,0.8s,baz=318,slow=2.0,SNR=6.4
PDAR LR LR 02 53 50.0
comp=Z,17nm,21.9s,baz=294,slow=36
PDAR Pinedale Array 65.21 53 P **P** **02 25 31.3 +0.2**
GSI Gunungsitoli 65.56 244 P **P** **02 25 33.9 +0.4**
KNRA Kununurra 65.67 205 P **P** **02 25 35.5 +1.6**
KNRA IAmb IAmb 02 27 54.8
comp=Z,24nm,1.2s
HRA Herat 65.88 295 P **P** **02 25 35.1 -0.5**
HRA IAmb IAmb 02 25 36.5
comp=Z,7.4nm,0.5s
GEYT Alibeck 66.06 300 P **P** **02 25 36.0 -0.4**
comp=Z,3.0nm,0.6s,baz=45,slow=4.4,SNR=9.7
GEYT LR LR 02 56 20.5
comp=Z,40nm,18.9s,baz=235,slow=38
SHPR Sheep Range 66.10 62 P **P** **02 25 37.8 +1.0**
KLSI 66.20 233 P **P** **02 25 39.1 +1.6**
comp=Z,17nm,0.9s
RSSD Black Hills 67.25 49 P **P** **02 25 43.5 -0.7**
RSSD pmax pmax
comp=Z,9.0nm,1.3s
RSSD Black Hills 67.25 49 P **P** **02 25 43.5 -0.7**
MOL Molde 67.39 343 *e*P **P** **02 25 44.6 +0.2**
DOMB Dombas 67.56 342 *e*P **P** **02 25 45.4 -0.2**
AKN Aaknes 67.86 343 *e*P **P** **02 25 47.5 +0.1**
NB2 NORSAR Subarra 67.99 341 P **P** **02 25 47.6 -0.7**
comp=Z,9.1nm,0.6s,baz=26,slow=6.5
NB2 NORSAR Subarra 67.99 341 P **P** **02 25 47.6 -0.7**
baz=26,slow=6.5
NOA NORSAR Array B 67.99 341 P **P** **02 25 47.2 -1.0**
comp=Z,7.6nm,0.5s,baz=29,slow=6.6,SNR=69
NOA LR LR 02 57 50.0
comp=Z,21nm,20.1s,baz=355,slow=38
WB0 Warramunga Arr 68.18 198 P **P** **02 25 50.5 +0.7**
NAO01 NORSAR Array S 68.23 341 *e*P **P** **02 25 49.4 -0.4**
WRAB Tennant Creek 68.35 198 *ce*P **P** **02 25 52.1 +1.2**
WRAB pmax pmax
comp=Z,16nm,2.5s
WB2 Warramunga Arr 68.36 198 P **P** **02 25 51.6 +0.7**
WRA Warramunga Arr 68.36 198 P **P** **02 25 52.3 +1.3**
comp=Z,2.9nm,0.5s,baz=14,slow=6.7,SNR=44
WRA pP **pP** **02 26 17.6 +2.1**
comp=Z,2.1nm,0.7s,baz=10,slow=5.3,SNR=4.8
WRA Warramunga Arr 68.36 198 *ce*P **P** **02 25 52.2 +1.2**
WRA pmax pmax
comp=Z,3.0nm,0.5s
FITZ Fitzroy Crossi 68.90 207 P **P** **02 25 55.8 +1.5**
FITZ IAmb IAmb 02 25 57.4
comp=Z,13nm,0.8s
OSL Oslo 69.08 340 *e*P **P** **02 25 54.7 -0.3**
ISCO Idaho Springs 69.40 54 P **P** **02 25 58.3 +0.6**
ISCO pmax pmax
comp=Z,3.0nm,0.8s
ISCO Idaho Springs 69.40 54 P **P** **02 25 58.3 +0.6**
AKT Akhty 69.50 309 *e*P **P** **02 25 57.8 -0.3**
AKT *e* 02 26 21.1
AKT pmax pmax
comp=Z,13nm,0.6s
ASK Askoy 69.77 343 *e*P P 02 25 54.3 -4.9
BER Bergen 69.83 343 *e*P **P** **02 25 60.0 +0.4**
ODD1 Odda 70.00 342 *e*P **P** **02 26 04.3 +3.6**
KIV Kislovodsk 70.33 314 JP **P** **02 26 03.5 +0.4**
KIV Kislovodsk 70.33 314 P **P** **02 26 03.3 +0.2**
KIV Kislovodsk 70.33 314 *e*P **P** **02 26 03.3 +0.2**
KIV Kislovodsk 70.33 314 *e*P **P** **02 26 03.3 +0.2**
KIV pmax pmax
comp=Z,40nm,1.0s
KIV MLR MLR
comp=Z,64nm,18.0s
KIV Kislovodsk 70.33 314 P **P** **02 26 00.9 -2.2**
KIV IAmb IAmb 02 26 07.4
comp=Z,11nm,0.6s
DDFL Dedoflistskaro 70.38 310 P **P** **02 26 06.5 +3.1**
KBZ Khabaz 70.39 313 P **P** **02 26 02.4 -0.9**
comp=Z,4.1nm,0.5s,baz=69,slow=3.1,SNR=18
KBZ LR LR 03 01 59.8
comp=Z,48nm,18.0s,baz=130,slow=40
ZEI Tsey 70.56 312 *e*P **P** **02 26 02.6 -2.1**
ZEI pmax pmax
comp=Z,5.0nm,1.1s
SUW Suwalki 70.66 331 IAmb IAmb 02 26 04.8
comp=Z,21nm,1.1s
TBLG Delisi 70.90 311 P **P** **02 26 05.4 -1.1**
TBLG pmax pmax
comp=Z,16nm,0.5s
TBLG Delisi 70.90 311 P **P** **02 26 05.4 -1.1**
AKASG Malin Array Be 71.17 326 P **P** **02 26 06.2 -1.7**
comp=Z,11nm,0.4s,baz=34,slow=6.2,SNR=43
AKASG LR LR 03 00 29.0
comp=Z,36nm,19.3s,baz=20,slow=38
AKASG Malin Array Be 71.17 326 P **P** **02 26 07.1 -0.8**
AKBB Malin Array Si 71.17 326 IAmb IAmb 02 26 07.9
comp=Z,14nm,0.6s
LRW Lerwick 71.24 346 *e*P **P** **02 26 07.9 -0.2**
ECSD EROS Data Cent 71.29 46 IAmb IAmb 02 26 35.3
comp=Z,32nm,1.7s
AS31 Alice Springs 72.06 198 P **P** **02 26 15.5 +1.9**
ASAR Alice Springs 72.06 198 P **P** **02 26 16.1 +2.6**
comp=Z,6.7nm,0.5s,baz=12,slow=5.8,SNR=139
ASAR PP **PP** **02 28 49.5 -5.8**
comp=Z,0.4nm,0.5s,baz=78,slow=9.6,SNR=5.7
ASAR Alice Springs 72.06 198 P **P** **02 26 15.2 +1.7**
ASAR Alice Springs 72.06 198 P **P** **02 26 15.2 +1.7**
I37A Lemond, Waseca 72.62 44 IAmb IAmb 02 26 43.7
comp=Z,21nm,1.1s
BIGH Upper Bighouse 73.24 347 *e*P **P** **02 26 19.5 -0.5**
BIGH IAmb IAmb 02 26 20.4
comp=Z,28nm,0.6s
SCHQ Schefferville 73.50 22 P **P** **02 26 22.0 +0.3**
comp=Z,1.7nm,0.4s,baz=353,slow=5.4,SNR=11
SORM Soroca 73.56 325 TP **P** **02 26 22.0 -0.2**
PSAC1 Pilbara Seismi 74.05 211 P **P** **02 26 27.1 +1.8**
PSAC1 IAmb IAmb 02 26 27.2
comp=Z,11nm,0.6s
PSA00 Pilbara Seismi 74.07 211 P **P** **02 26 26.4 +1.1**
PSA00 IAmb IAmb 02 26 27.7
comp=Z,38nm,1.7s
MDO Dochfour 74.32 347 *e*P **P** **02 26 26.2 -0.2**
MILM Milestii Mici 74.36 324 TP **P** **02 26 26.3 -0.5**
KAC Achnashellach 74.40 348 *e*P **P** **02 26 26.5 -0.4**
KPL Plockton 74.61 348 *e*P **P** **02 26 28.0 -0.1**
KPL IAmb IAmb 02 26 28.4
comp=Z,32nm,0.8s
OJC Ojcow 74.98 331 IAmb IAmb 02 26 31.3
comp=Z,10nm,0.7s
VASR Vaslui 74.99 324 JP **P** **02 26 31.0 +0.4**
PRAR RASCA 75.03 325 JP **P** **02 26 30.2 -0.5**
ELO Logie Almond 75.15 346 *e*P **P** **02 26 31.0 -0.3**
BUR08 Bucovina Ar. S 75.19 326 P **P** **02 26 31.0 -0.8**
KOLS Kolonicke sedl 75.21 328 *e*P **P** **02 26 30.9 -0.8**
KOLS pmax pmax
comp=Z,9.0nm,0.8s
KOLS Kolonicke sedl 75.21 328 *e*P **P** **02 26 30.9 -0.8**
BURAR Bucovina Array 75.21 326 JP **P** **02 26 31.5 -0.4**
BURAR Bucovina Array 75.21 326 P **P** **02 26 30.6 -1.3**
INVG Invergeldie, C 75.24 347 *e*P **P** **02 26 31.4 -0.4**
BIR Birlad 75.36 324 JP **P** **02 26 33.5 +0.9**
BANOM Banah 75.40 292 *i*P **P** **02 26 33.9 +0.6**
SNR=21
BANOM Banah 75.40 292 P **P** **02 26 33.4 +0.1**
SNR=5.3
SHME Shamm 75.42 292 *i*P **P** **02 26 33.6 +0.3**
SNR=12
BIZ Bicaz 75.42 325 TP **P** **02 26 33.5 +0.5**
ESY Stoneypath 75.50 346 *e*P **P** **02 26 32.9 -0.3**
EAB Aberfoyle 75.52 347 *e*P **P** **02 26 33.3 -0.1**
TESR Tescani 75.56 325 TP **P** **02 26 33.6 -0.1**
LAWE Loch Awe, Argy 75.61 347 *e*P **P** **02 26 33.6 -0.3**
EBL Broad Law 75.71 346 *e*P **P** **02 26 34.1 -0.4**
TLCR 75.75 322 TP **P** **02 26 35.1 +0.3**
MDH Madha 75.85 292 P **P** **02 26 35.2 -0.6**
OSTC Ostas 75.86 333 *e*P **P** **02 26 35.1 -0.3**
OKC Ostrava-Krasne 75.86 331 *e*P **P** **02 26 36.0 +0.6**
OKC *e* 02 26 40.7
OKC Ostrava-Krasne 75.86 331 *e*P **P** **02 26 36.0 +0.6**
OKC *ex* x 02 26 40.7
CHVC Chvalec 75.88 333 *e*P **P** **02 26 35.2 -0.4**
MSFE Esma-Masafi 75.89 292 *i*P **P** **02 26 36.1 0.0**
SNR=8.3
PGBU Glenifferbraes 75.90 347 *e*P **P** **02 26 35.3 -0.2**
PGBU IAmb IAmb 02 26 35.8
comp=Z,33nm,0.7s
PETR Petresti 75.97 324 JP **P** **02 26 36.8 +0.7**
UPC Upice 75.97 333 *e*P **P** **02 26 36.4 +0.4**
UPC Upice 75.97 333 *e*P **P** **02 26 36.4 +0.4**
ODBI Odobesti 76.00 324 JP **P** **02 26 37.4 +1.1**
DPC Dobruska-Polom 76.01 333 *e*P **P** **02 26 36.7 +0.4**
DPC Dobruska-Polom 76.01 333 *e*P **P** **02 26 36.7 +0.4**
CFR Carcaliu 76.04 323 TP **P** **02 26 36.6 +0.1**
VRI Vrincioaia 76.05 324 TP **P** **02 26 36.9 +0.3**
ASSE Asse, Remlinge 76.09 337 *e*P **P** **02 26 36.8 +0.3**
comp=Z,9.5nm,1.0s,baz=27,slow=5.5
UMQ Umm Al-Quwin 76.09 292 P **P** **02 26 38.4 +1.3**
PLOR Plostina 76.10 324 TP **P** **02 26 37.0 +0.1**
KRLC Kraliky 76.10 332 *e*P **P** **02 26 36.4 -0.4**
KRLC Kraliky 76.10 332 *e*P **P** **02 26 36.4 -0.4**
MORC Moravsky Berou 76.11 332 TP **P** **02 26 36.6 -0.3**
MORC Moravsky Berou 76.11 332 *e*P **P** **02 26 37.4 +0.5**
MORC Moravsky Berou 76.11 332 IAmb IAmb 02 26 38.0
comp=Z,9.6nm,0.8s
UOSS Minazif 76.16 292 *i*P **P** **02 26 37.5 0.0**
SNR=19
UOSS Minazif 76.16 292 P **P** **02 26 36.8 -0.7**
CLL Collm 76.17 335 *i*P **P** **02 26 36.2 -0.9**
comp=Z,15nm,0.9s
CLL Collm 76.17 335 *i*P **P** **02 26 36.2 -0.9**
CLL pmax pmax
comp=Z,15nm,0.9s
CLL Collm 76.17 335 *e*P **P** **02 26 36.7 -0.4**
comp=Z,15nm,0.8s,baz=27,slow=5.5
CLL Collm 76.17 335 IAmb IAmb 02 26 37.9
comp=Z,13nm,0.7s
ESK Eskdalemuir 76.17 346 *e*P **P** **02 26 36.8 -0.3**
TOPG Topolog 76.18 323 TP **P** **02 26 37.7 +0.4**
OZUR 76.24 325 JP **P** **02 26 37.7 0.0**
BRG Berggiesshubel 76.28 334 *i*P **P** **02 26 37.6 -0.1**
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 76.28 334 *e*P **P** **02 26 37.5 -0.3**
comp=Z,5.0nm,0.9s,baz=27,slow=5.5
HATD Hatta, Dubai 76.29 292 *i*P **P** **02 26 38.8 +0.5**
SNR=25
HATD Hatta, Dubai 76.29 292 P **P** **02 26 38.6 +0.3**
SNR=7.3
BISRR Bisoca 76.32 324 TP **P** **02 26 38.7 +0.5**
PVCC Panska Ves 76.39 334 *e*P **P** **02 26 38.5 +0.1**
PVCC Panska Ves 76.39 334 *e*P **P** **02 26 38.5 +0.1**
FBE Freiberg 76.41 335 *e*P **P** **02 26 38.4 -0.1**
comp=Z,11nm,1.0s,baz=27,slow=5.5
HOQ Hoqain 76.41 290 P **P** **02 26 39.2 +0.2**
SNR=6.5
CLZ Clausthal 76.43 337 *e*P **P** **02 26 38.8 +0.2**
comp=Z,16nm,1.0s,baz=27,slow=5.5
ASHO Ashiyiah 76.43 292 *i*P **P** **02 26 39.4 +0.2**
SNR=13
ASHO Ashiyiah 76.43 292 P **P** **02 26 39.5 +0.3**
SNR=5.1
NAZ Nazwa, Dubai 76.47 292 *i*P **P** **02 26 39.4 +0.1**
SNR=14
NAZ Nazwa, Dubai 76.47 292 P **P** **02 26 39.5 +0.1**
SNR=6.0
DOPR Dopca 76.50 325 TP **P** **02 26 39.3 +0.1**
HARR Harsova 76.52 323 TP **P** **02 26 39.6 +0.4**
SOHO SOHO 76.52 291 *i*P **P** **02 26 39.5 0.0**
SNR=18
CJR Cluj-Napoca 76.58 326 JP **P** **02 26 39.6 -0.1**
MLR Muntele Rosu 76.68 324 JP **P** **02 26 41.0 +0.7**
MLR Muntele Rosu 76.68 324 IAmb IAmb 02 26 42.1
comp=Z,14nm,0.6s
IBBN Ibbenburen 76.69 338 *e*P **P** **02 26 40.1 +0.1**
comp=Z,17nm,0.9s,baz=27,slow=5.5
ISR Istrita 76.74 324 TP **P** **02 26 41.2 +0.7**
VYHS Vyhne 76.79 330 *e*P **P** **02 26 41.3 +0.6**
VYHS pmax pmax
comp=Z,9.0nm,0.8s
VYHS Vyhne 76.79 330 *e*P **P** **02 26 41.3 +0.6**
VRAC Vranov 76.83 332 JP **P** **02 26 41.3 +0.3**
VRAC Vranov 76.83 332 *e*P **P** **02 26 41.6 +0.7**
GAL1 Galloway 76.85 347 *e*P **P** **02 26 40.0 -0.9**
KESW Keswick, Cumbr 76.85 346 *e*P **P** **02 26 41.1 +0.2**
KESW IAmb IAmb 02 26 41.7
comp=Z,43nm,1.0s
CLGH Cloghs, Cushen 76.86 347 *e*P **P** **02 26 40.8 -0.1**
ILGA Ilgaz 76.86 317 IAmb IAmb 02 26 43.9
comp=Z,12nm,0.7s
JAVC Velka Javorina 76.86 331 *e*P **P** **02 26 42.6 +1.4**
GOPC GO Pecny, Ondr 76.87 333 *e*P **P** **02 26 41.2 +0.1**
GOPC *e* 02 26 46.5
GOPC GO Pecny, Ondr 76.87 333 *e*P **P** **02 26 41.2 +0.1**
GOPC *ex* x 02 26 46.5
PRU Pruhonice 76.88 334 *e*P **P** **02 26 41.3 +0.1**
PRU *e* 02 26 46.7
PRU Pruhonice 76.88 334 *e*P **P** **02 26 41.3 +0.1**
PRU *ex* x 02 26 46.7
PSZ Piszkesteto 76.91 329 TP **P** **02 26 42.2 +0.7**
BSY Bisya 77.07 289 P **P** **02 26 43.5 +0.7**
SNR=22
ALNE Al Ain 77.08 291 *i*P **P** **02 26 42.8 +0.1**
SNR=7.3
VOIR 77.08 325 TP **P** **02 26 42.7 +0.2**
KRUC Moravsky 77.11 332 *e*P **P** **02 26 42.9 +0.4**
TANN Tannenbergstha 77.12 335 *e*P **P** **02 26 42.3 -0.3**
comp=Z,10nm,1.1s,baz=27,slow=5.5
PLN Plauen 77.15 335 *e*P **P** **02 26 42.7 0.0**
comp=Z,7.5nm,1.1s,baz=27,slow=5.5
MOX Moxa 77.16 336 *e*P **P** **02 26 42.9 +0.1**
comp=Z,9.7nm,1.0s,baz=27,slow=5.5
MOX *eL* L 03 04 15.1
comp=Z,35nm,19.4s
HPK Haverah Park 77.19 345 *e*P **P** **02 26 43.1 +0.2**
HPK IAmb IAmb 02 26 43.6
comp=Z,78nm,0.6s
TREC Trest 77.19 333 *e*P **P** **02 26 43.1 +0.1**
TREC *e* 02 26 48.2
TREC Trest 77.19 333 *e*P **P** **02 26 43.1 +0.1**
TREC *ex* x 02 26 48.2
AJN Ajban 77.20 292 P **P** **02 26 43.5 +0.2**
GUNZ Gunzen 77.20 335 *e*P **P** **02 26 43.0 0.0**
comp=Z,9.3nm,0.8s,baz=27,slow=5.5
SMOL Smolenice 77.24 331 *e*P **P** **02 26 44.1 +0.8**
SMOL pmax pmax
comp=Z,5.0nm,0.8s
SMOL Smolenice 77.24 331 *e*P **P** **02 26 44.1 +0.8**
WERN Wernitzgruen 77.26 335 *e*P **P** **02 26 43.4 0.0**
comp=Z,9.0nm,0.8s,baz=27,slow=5.5
NKC Novy Kostel 77.29 335 *e*P **P** **02 26 43.1 -0.4**
NKC *e* 02 26 47.4
NKC Novy Kostel 77.29 335 *e*P **P** **02 26 43.1 -0.4**
NKC *ex* x 02 26 47.4
ARR Arges 77.30 325 TP **P** **02 26 45.4 +1.7**
PBCC Pribram 77.31 334 *e*P **P** **02 26 43.5 -0.1**
PBCC *ex* x 02 26 48.5
MODS Modra-Piesok 77.42 331 *e*P **P** **02 26 44.0 -0.2**
MODS pmax pmax
comp=Z,12nm,1.0s
MODS Modra-Piesok 77.42 331 *e*P **P** **02 26 44.0 -0.2**
UBBA Unterbreizbach 77.45 337 *e*P **P** **02 26 44.2 0.0**
comp=Z,24nm,1.8s,baz=27,slow=5.5
SRO2 Moca 77.57 330 *e*P **P** **02 26 44.5 -0.5**
SRO2 Moca 77.57 330 *e*P **P** **02 26 44.5 -0.5**
MANZ Manzenberg 77.61 335 *e*P **P** **02 26 45.3 0.0**
comp=Z,6.1nm,1.0s,baz=27,slow=5.5
GMM Mts of Mourne 77.65 347 *e*P **P** **02 26 45.0 -0.4**
SIRR Siria 77.68 327 JP **P** **02 26 46.3 +0.6**
LBWR Ladybower, Pea 77.74 344 *e*P **P** **02 26 46.1 +0.2**
LBWR IAmb IAmb 02 26 46.6
comp=Z,54nm,0.7s
ROTZ Rotzenmuhle 77.77 335 *e*P **P** **02 26 46.3 +0.1**
comp=Z,9.6nm,1.1s,baz=27,slow=5.5
MHTO MHTO 77.82 288 P **P** **02 26 47.8 +1.0**
SNR=10
KHC Kasperske Hory 77.93 334 *ce*P **P** **02 26 47.0 -0.1**
KHC pmax pmax
comp=Z,21nm,0.6s
KHC Kasperske Hory 77.93 334 *e*P **P** **02 26 47.1 -0.1**
KHC *ex* x 02 26 52.1

BR131	**Keskin Array S**	**77.94**	**316**	P	**P**	**02 26 47.9**	**+0.4**
	SNR=11							
BRTR	**Keskin Array B**	**77.94**	**316**	P	**P**	**02 26 47.9**	**+0.4**
	comp=Z,6.1nm,0.8s,baz=72,slow=3.8,SNR=31							
BRTR	**Keskin Array B**	**77.94**	**316**	P	**P**	**02 26 47.0**	**-0.4**
TXAR	**Lajitas Array**	**78.00**	**60**	P	**P**	**02 26 49.1**	**+1.3**
	comp=Z,3.6nm,0.6s,baz=300,slow=4.3,SNR=61							
TXAR				pP	**pP**	**02 27 12.6**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=304,slow=4.6,SNR=6.4							
TXAR	**Lajitas Array**	**78.00**	**60**	P	**P**	**02 26 48.7**	**+0.8**
COPA	**Copaceanca**	**78.09**	**324**	⇑P	**P**	**02 26 48.1**	**+0.1**
GRA1	**Grafenberg Arr**	**78.13**	**335**	IAmb	IAmb	02 26 49.3		
	comp=Z,19nm,0.7s							
GRF	**Grafenberg Arr**	**78.13**	**335**	*e*P	**P**	**02 26 48.3**	**+0.2**
	comp=Z,20nm,0.7s,baz=27,slow=5.5							
GRF				*e*L	L	03 03 05.1		
	comp=Z,42nm,18.5s							
WET	**Wettzell**	**78.13**	**334**	*e*P	**P**	**02 26 48.2**	**0.0**
	comp=Z,12nm,1.0s,baz=27,slow=5.5							
GEC2	**GERESS Array S**	**78.14**	**333**	*e*P	**P**	**02 26 48.2**	**-0.2**
	comp=Z,27nm,2.0s,baz=27,slow=5.5							
GERES	**GERESS Array B**	**78.14**	**333**	P	**P**	**02 26 47.6**	**-0.7**
	comp=Z,3.9nm,0.7s,baz=35,slow=5.7,SNR=40							
GERES	**GERESS Array B**	**78.14**	**333**	P	**P**	**02 26 47.2**	**-1.2**
GERES	**GERESS Array B**	**78.14**	**333**	P	**P**	**02 26 47.2**	**-1.2**
GAZ	**Gaziantep**	**78.17**	**312**	IAmb	IAmb	02 26 50.7		
	comp=Z,8.4nm,0.7s							
BZS	**Buzias**	**78.25**	**327**	⇑P	**P**	**02 26 48.4**	**-0.4**
BR231	**Keskin MP Arra**	**78.25**	**317**	IAmb	IAmb	02 26 50.8		
	comp=Z,12nm,0.8s							
CONA	**Conrad Observa**	**78.27**	**332**	*e*P	**P**	**02 26 49.7**	**+0.7**
	comp=Z,9.8nm,0.8s,SNR=11							
CWF	**Charnwood Fore**	**78.29**	**344**	*e*P	**P**	**02 26 48.7**	**-0.2**
CWF				IAmb	IAmb	02 26 49.4		
	comp=Z,13nm,0.6s							
TNS	**Taunus Mts**	**78.41**	**337**	*e*P	**P**	**02 26 49.7**	**-0.1**
	comp=Z,16nm,0.7s,baz=27,slow=5.5							
AHRW	**Bad Neuenahr-A**	**78.48**	**338**	*e*P	**P**	**02 26 50.1**	**+0.1**
	comp=Z,25nm,1.2s,baz=27,slow=5.5							
FOEL	**Foel Wylfa**	**78.50**	**345**	*e*P	**P**	**02 26 50.1**	**0.0**
FOEL				IAmb	IAmb	02 26 50.8		
	comp=Z,35nm,0.6s							
HERR	**Herculane**	**78.57**	**326**	⇑P	**P**	**02 26 49.9**	**-0.7**
LLW	**Llanuwychllyn**	**78.62**	**345**	*e*P	**P**	**02 26 50.7**	**0.0**
MEM	**Membach**	**78.69**	**339**	P	**P**	**02 26 51.2**	**+0.1**
U40A	**Yellville**	**78.74**	**48**	IAmb	IAmb	02 27 16.5		
	comp=Z,34nm,1.9s							
BSTI	**Sart Tilman**	**78.82**	**339**	P	**P**	**02 26 52.3**	**+0.4**
MOA	**Molln**	**78.85**	**333**	*i* P	**P**	**02 26 52.6**	**+0.4**
	comp=Z,5.7nm,0.8s,SNR=6.2							
STKA	**Stephens Creek**	**78.90**	**189**	P	**P**	**02 26 54.2**	**+1.8**
	comp=Z,1.0nm,0.4s,baz=16,slow=8.2,SNR=4.0							
ARSA	**Arzberg**	**78.97**	**332**	*e*P	**P**	**02 26 53.2**	**+0.4**
	comp=Z,5.3nm,0.8s,SNR=5.6							
ORIO	**Orleans, Innes**	**78.99**	**32**	P	**P**	**02 26 50.6**	**-2.3**
BCLA	**Clavier**	**79.03**	**339**	⇓P	**P**	**02 26 53.0**	**-0.1**
	comp=Z,18nm,1.3s							
BGES	**Gesves**	**79.12**	**339**	P	**P**	**02 26 53.3**	**-0.2**
SNF	**Seneffe**	**79.20**	**340**	P	**P**	**02 26 53.8**	**-0.1**
	comp=Z,20nm,0.8s							
FRGS	**Fruska Gora**	**79.31**	**328**	⇓*i*P	**P**	**02 26 53.9**	**-0.8**
MCH1	**Michaelchurch**	**79.31**	**345**	*e*P	**P**	**02 26 54.7**	**+0.1**
MCH1				IAmb	IAmb	02 26 55.6		
	comp=Z,23nm,0.9s							
STRD	**Stroud**	**79.37**	**344**	*e*P	**P**	**02 26 54.8**	**-0.1**
STRD				IAmb	IAmb	02 26 55.6		
	comp=Z,56nm,0.9s							
RJOB	**Jochberg**	**79.41**	**333**	*e*P	**P**	**02 26 54.7**	**-0.6**
	comp=Z,9.1nm,0.9s,baz=27,slow=5.5							
FCAR	**Ozark Folk Cen**	**79.48**	**48**	IAmb	IAmb	02 27 31.4		
	comp=Z,30nm,2.0s							
FUR	**Furstenfeldbru**	**79.48**	**335**	*e*P	**P**	**02 26 55.0**	**-0.6**
	comp=Z,22nm,0.9s,baz=27,slow=5.5							
DOU	**Dourbes**	**79.51**	**339**	P	**P**	**02 26 55.2**	**-0.4**
STU	**Stuttgart**	**79.53**	**336**	*e*P	**P**	**02 26 55.9**	**+0.1**
	comp=Z,15nm,0.9s,baz=27,slow=5.5							
STU	**Stuttgart**	**79.53**	**336**	IAmb	IAmb	02 26 56.6		
	comp=Z,13nm,0.8s							
SWN1	**Swindon**	**79.55**	**344**	*e*P	**P**	**02 26 56.4**	**+0.5**
SWN1				IAmb	IAmb	02 26 56.9		
	comp=Z,67nm,0.7s							
SOKA	**Soboth**	**79.64**	**332**	*e*P	**P**	**02 26 56.7**	**+0.1**
	comp=Z,14nm,0.9s,SNR=6.7							
KALN	**Kalnik**	**79.64**	**330**	*i* P	**P**	**02 26 55.7**	**-0.8**
PERS	**Pernice**	**79.65**	**332**	*i* P	**P**	**02 26 56.5**	**-0.1**
RSBS	**Rosebush, Pemb**	**79.66**	**346**	*e*P	**P**	**02 26 56.3**	**-0.2**
RSBS				IAmb	IAmb	02 26 57.3		
	comp=Z,25nm,0.9s							
KBA	**Koelnbreinsper**	**79.82**	**333**	*i* P	**P**	**02 26 58.4**	**+0.7**
	comp=Z,20nm,0.5s,SNR=19							
OBKA	**Obir**	**79.94**	**332**	*i* P	**P**	**02 26 58.2**	**0.0**
	comp=Z,7.1nm,0.6s							
PTJ	**Puntijarka**	**80.00**	**331**	P	**P**	**02 26 58.0**	**-0.5**
GOLS	**Golise**	**80.03**	**331**	*i* P	**P**	**02 26 58.3**	**-0.3**
ZAG	**Zagreb**	**80.07**	**331**	P	**P**	**02 26 58.3**	**-0.5**
MYKA	**Terra Mystica**	**80.13**	**332**	*i* P	**P**	**02 26 58.7**	**-0.5**
	comp=Z,5.9nm,0.6s,SNR=5.6							
WATA	**Walderalm**	**80.14**	**334**	*i* P	**P**	**02 26 59.6**	**+0.3**
	comp=Z,20nm,0.5s,SNR=20							
DIVS	**Divibare**	**80.14**	**327**	⇓*i*P	**P**	**02 26 58.7**	**-0.6**
GCIS	**Gornji Cirnik**	**80.15**	**331**	*i* P	**P**	**02 26 58.9**	**-0.4**
BFO	**Black Forest**	**80.17**	**336**	P	**P**	**02 26 58.2**	**-1.1**
BFO				pmax	pmax			
	comp=Z,15nm,0.9s							
BFO	**Black Forest**	**80.17**	**336**	*e*P	**P**	**02 26 59.2**	**-0.1**
	comp=Z,17nm,0.9s,baz=27,slow=5.5							
BFO	**Black Forest**	**80.17**	**336**	P	**P**	**02 26 58.2**	**-1.1**
BFO				IAmb	IAmb	02 27 00.1		
	comp=Z,15nm,0.9s							
WTTA	**Wattenberg**	**80.18**	**334**	*i* P	**P**	**02 27 00.1**	**+0.5**
	comp=Z,32nm,0.5s,SNR=20							
RETA	**Reutte**	**80.24**	**335**	*i* P	**P**	**02 27 00.2**	**+0.4**
	comp=Z,8.4nm,0.7s,SNR=8.3							
FORT	**Forrest**	**80.24**	**201**	P	**P**	**02 27 00.6**	**+0.9**
CRES	**Cresnjev**	**80.25**	**331**	⇓*i*P	**P**	**02 26 58.5**	**-1.3**
UBR	**Ueberruh**	**80.26**	**335**	*e*P	**P**	**02 26 59.8**	**-0.1**
	comp=Z,6.4nm,0.8s,baz=27,slow=5.5							
MOTA	**Moosalm**	**80.27**	**334**	*e*P	**P**	**02 27 00.2**	**+0.1**
	comp=Z,17nm,0.7s,SNR=14							
PRED	**Cave del Predi**	**80.32**	**332**	IAmb	IAmb	02 27 00.1		
	comp=Z,14nm,0.6s							
SQTA	**Sankt Quirin**	**80.35**	**334**	*i* P	**P**	**02 27 00.7**	**+0.2**
	comp=Z,19nm,0.9s,SNR=14							
ABTA	**Abfaltersbach**	**80.38**	**333**	*i* P	**P**	**02 27 00.1**	**-0.4**
	comp=Z,11nm,1.1s,SNR=6.3							
OZLJ	**Ozalj**	**80.43**	**331**	*i* P	**P**	**02 27 00.5**	**-0.2**
HTL	**Hartland**	**80.54**	**345**	*e*P	**P**	**02 27 01.7**	**+0.6**
HTL				IAmb	IAmb	02 27 02.1		
	comp=Z,45nm,0.9s							
BBLS	**Lazići**	**80.56**	**327**	⇓*i*P	**P**	**02 27 01.2**	**-0.4**
ECH	**Echery**	**80.59**	**337**	IAmb	IAmb	02 27 02.2		
	comp=Z,18nm,0.7s							
BLY	**Banja Luka**	**80.60**	**329**	⇓*i*P	**P**	**02 27 00.7**	**-0.9**
CEY	**Cerknica**	**80.67**	**332**	⇓*i*P	**P**	**02 27 00.9**	**-1.1**
FETA	**Feichten**	**80.67**	**334**	*e*P	**P**	**02 27 02.7**	**+0.5**
	comp=Z,9.3nm,0.9s,SNR=7.0							
DAVA	**Damuels**	**80.68**	**335**	*i* P	**P**	**02 27 02.5**	**+0.3**
	comp=Z,11nm,0.7s,SNR=7.2							
MGRS	**Mrkonjic Grad**	**80.92**	**329**	*e*P	P	02 27 08.7	+5.3
ISP	**Isparta**	**80.92**	**317**	IAmb	IAmb	02 27 06.5		
	comp=Z,6.8nm,0.6s							
DYA	**Yadsworthy**	**80.98**	**345**	*e*P	**P**	**02 27 03.7**	**+0.1**
DYA				IAmb	IAmb	02 27 04.2		
	comp=Z,46nm,1.0s							
FUORN	**Ofenpass-Fuorn**	**81.17**	**335**	IAmb	IAmb	02 27 06.3		
	comp=Z,14nm,0.8s							
CTI	**Castel Tesino**	**81.27**	**333**	P	**P**	**02 27 03.8**	**-1.5**
CTI				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CTI	**Castel Tesino**	**81.27**	**333**	P	**P**	**02 27 03.8**	**-1.5**
CTI				IAmb	IAmb	02 27 05.0		
	comp=Z,9.6nm,0.7s							
UDBI	**Udbina**	**81.28**	**330**	*i* P	**P**	**02 27 04.4**	**-1.0**
MANT	**Manisa**	**81.29**	**319**	P	**P**	**02 27 04.7**	**-1.0**
UPM	**Unac-Piva**	**81.32**	**327**	*e*P	**P**	**02 27 04.8**	**-0.9**
STIP	**Stip**	**81.35**	**325**	*i* P	**P**	**02 27 04.4**	**-1.3**
SKO	**Skopje**	**81.41**	**325**	*i* P	**P**	**02 27 06.0**	**+0.1**
VAY	**Valandovo**	**81.51**	**324**	*i* P	**P**	**02 27 06.5**	**0.0**
KJJV	**Kijevo**	**81.52**	**329**	*i* P	**P**	**02 27 06.2**	**-0.3**
NVLJ	**Novalja**	**81.56**	**331**	*i* P	**P**	**02 27 04.7**	**-1.9**
RICI	**Ricice**	**81.71**	**329**	P	**P**	**02 27 06.3**	**-1.3**
BRY	**Bratogost**	**81.71**	**328**	⇓*i*P	**P**	**02 27 06.5**	**-1.3**
PDG	**Podgorica**	**81.85**	**327**	⇓P	**P**	**02 27 07.5**	**-0.8**
PDG	**Podgorica**	**81.85**	**327**	⇓*i*P	**P**	**02 27 07.5**	**-0.8**
PDG	**Podgorica**	**81.85**	**327**	IAmb	IAmb	02 27 08.4		
	comp=Z,17nm,0.7s							
MORI	**Morici**	**81.88**	**330**	*i* P	**P**	**02 27 07.3**	**-1.1**
MAKA	**Makarska**	**81.93**	**329**	*i* P	**P**	**02 27 06.9**	**-1.7**
TREB	**Trebinje**	**81.94**	**328**	⇓*i*P	**P**	**02 27 07.1**	**-1.7**
DUGI	**Dugi Otok**	**82.00**	**330**	*i* P	**P**	**02 27 07.7**	**-1.4**
DBRK	**Dubrovnik**	**82.06**	**328**	*i* P	**P**	**02 27 07.9**	**-1.5**
DRME	**Dracevica, Mon**	**82.09**	**327**	*e*P	**P**	**02 27 09.2**	**-0.4**
ZIRJ	**Zirje**	**82.09**	**330**	*i* P	**P**	**02 27 07.9**	**-1.6**
U49A	**Red Boiling Sp**	**82.11**	**44**	P	**P**	**02 27 10.3**	**+0.5**
HCY	**Herceg Novi**	**82.12**	**327**	⇓*i*P	**P**	**02 27 08.4**	**-1.3**
HVAR	**Hvar**	**82.23**	**329**	*i* P	**P**	**02 27 08.6**	**-1.6**
SENIN	**Lac Senin/Sane**	**82.25**	**336**	P	**P**	**02 27 09.7**	**-1.0**
SENIN				IAmb	IAmb	02 27 11.6		
	comp=Z,6.1nm,0.7s							
LSTV	**Lastovo**	**82.43**	**329**	*i* P	**P**	**02 27 09.7**	**-1.6**
TIR	**Tirane**	**82.55**	**326**	⇑P	**P**	**02 27 11.4**	**-0.5**
TIR	**Tirane**	**82.55**	**326**	P	**P**	**02 27 12.1**	**+0.1**
TIR				pmax	pmax			
	comp=Z,30nm,0.8s							
SSF	**Saint Saulge**	**82.60**	**339**	*e*P	**P**	**02 27 11.5**	**-0.6**
SSF				pmax	pmax			
	comp=Z,16nm,0.7s							
ZCCA	**Zocca**	**83.00**	**333**	IAmb	IAmb	02 27 30.4		
	comp=Z,10nm,0.7s							
LPL	**La Plagne**	**83.19**	**336**	*e*P	**P**	**02 27 15.4**	**-0.1**
LPL				pmax	pmax			
	comp=Z,11nm,0.5s							
VLC	**Villacollemand**	**83.36**	**333**	IAmb	IAmb	02 27 17.5		
	comp=Z,13nm,0.9s							
MSSA	**Maissana**	**83.48**	**334**	IAmb	IAmb	02 27 17.9		
	comp=Z,13nm,0.9s							
BNI	**Bardonecchia**	**83.63**	**336**	IAmb	IAmb	02 27 18.7		
	comp=Z,7.6nm,0.6s							
SGRT	**San Giovanni R**	**83.73**	**329**	IAmb	IAmb	02 27 19.1		
	comp=Z,17nm,0.8s							
MFF	**Saint Martin d**	**83.88**	**341**	*e*P	**P**	**02 27 18.5**	**-0.2**
MFF				pmax	pmax			
	comp=Z,10.0nm,0.6s							
AQU	**L'Aquila**	**84.01**	**331**	⇓*i*P	**P**	**02 27 19.4**	**-0.1**
INTR	**Introdacqua**	**84.14**	**330**	P	**P**	**02 27 19.3**	**-1.0**
INTR				IAmb	IAmb	02 27 21.3		
	comp=Z,13nm,0.6s							
MATE	**Matera**	**84.35**	**328**	⇑P	**P**	**02 27 20.5**	**-0.7**
PAOL	**Paolisi**	**84.78**	**329**	IAmb	IAmb	02 27 23.6		
	comp=Z,13nm,1.2s							
CAF	**Calviac**	**84.95**	**339**	*e*P	**P**	**02 27 24.5**	**+0.3**
CAF				pmax	pmax			
	comp=Z,14nm,0.6s							
LFF	**La Frestale**	**85.25**	**340**	*e*P	**P**	**02 27 25.0**	**-0.6**
LFF				pmax	pmax			
	comp=Z,4.0nm,0.4s							
IDI	**Anoyia**	**85.59**	**319**	⇓P	**P**	**02 27 25.8**	**-1.8**
TIP	**Timpagrande**	**85.61**	**327**	⇑P	**P**	**02 27 27.1**	**-0.5**
VSL	**Villasalto**	**87.90**	**332**	IAmb	IAmb	02 27 39.7		
	comp=Z,18nm,1.1s							
RAFF	**Raffo Rosso**	**88.23**	**328**	IAmb	IAmb	02 27 41.1		
	comp=Z,8.9nm,0.6s							
ESDC	**Sonseca Array**	**91.32**	**342**	P	**P**	**02 27 53.5**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=17,slow=4.1,SNR=11							
ESDC	**Sonseca Array**	**91.32**	**342**	P	**P**	**02 27 52.6**	**-2.1**
KEST	**Kesra**	**91.33**	**331**	P	**P**	**02 27 54.8**	**-0.1**
	comp=Z,15nm,0.9s,baz=312,slow=2.9,SNR=21							
TORD	**Torodi Ar. Bea**	**114.74**	**328**	PKP	PKPdf	02 33 29.1	-0.3	
	comp=Z,1.1nm,0.5s,baz=19,slow=1.5,SNR=10							
DBIC	**Dimbokro**	**123.01**	**333**	PKP	**PKiKP**	**02 33 45.5**	**0.0**	
	comp=Z,8.4nm,0.9s,baz=352,slow=1.2,SNR=8.9							
MAW	**Mawson**	**131.93**	**211**	PKP	**PKiKP**	**02 34 02.1**	**+0.6**	
	comp=Z,1.4nm,0.8s,baz=120,slow=18,SNR=4.1							
LPAZ	**La Paz**	**134.85**	**61**	PKP	**PKiKP**	**02 34 09.8**	**-0.1**	
	comp=Z,0.7nm,0.6s,baz=32,slow=18,SNR=2.3							
BOSA	**Boshof**	**135.19**	**275**	PKhKP	PKPpre	02 34 05.6		
	comp=Z,3.0nm,0.8s,baz=55,slow=1.9,SNR=7.7							
H03N2	**Juan Fernandez**	**139.36**	**90**	T	T	05 09 58.1		
	baz=308,slow=77,SNR=130							
H03N1	**Juan Fernandez**	**139.37**	**90**	T	T	05 09 59.4		
	baz=308,slow=77,SNR=133							
H03N3	**Juan Fernandez**	**139.37**	**90**	T	T	05 09 58.9		
	baz=308,slow=77,SNR=138							
BDFB	**Brasilia**	**144.66**	**35**	PKP	PKPbc	02 34 24.7	+0.1	
	comp=Z,2.2nm,0.7s,baz=316,slow=4.3,SNR=4.0							
BDFB				pPKP	pPKPdf	02 34 49.8	-3.1	
	comp=Z,4.1nm,0.9s,baz=138,slow=2.5,SNR=3.7							
BELA	**Belgrano 2**	**148.69**	**177**	PKPbc	**PKPbc**	**02 34 33.5**	**-0.9**	
PLCA	**Paso Flores**	**148.81**	**95**	PKP	**PKPbc**	**02 34 33.6**	**-2.2**	
	comp=Z,2.6nm,0.6s,baz=268,slow=2.7,SNR=14							
PLCA				PKPbc	**PKiKP**	**02 34 37.9**	**+0.8**	
	comp=Z,1.4nm,0.8s,baz=270,slow=8.0,SNR=3.4							
PLCA				pPKP	**pPKPdf**	**02 35 00.5**	**+1.6**	
	comp=Z,2.1nm,0.7s,baz=246,slow=7.6,SNR=3.2							
SNAA	**Sanae**	**152.43**	**197**	PKPbc	**PKiKP**	**02 34 44.1**	**+0.5**	
VNA2	**Neumayer--Watz**	**153.89**	**195**	PKiKP	**PKiKP**	**02 34 47.9**	**+1.3**	
VNA3	**Neumayer Olymp**	**154.00**	**193**	PKiKP	**PKiKP**	**02 34 47.6**	**+0.8**	
VNA1	**Neumayer--Stat**	**154.28**	**195**	PKiKP	**PKiKP**	**02 34 48.4**	**+1.1**	

REN ***31*** *02:38:36.2s 1.9, 37°.45N 0°.03× 117°.10W 0°.05, h13km ±7km, ML2.6/3, Error ellipse: s-maj=5.5km s-min=4.5km az=72.0*
NEIC ***31*** *02:38:36.0s 1.6, 37°.43N 0°.03× 117°.11W 0°.04, h7km ±10km, Error ellipse: s-maj=5.3km s-min=2.6km az=51.0*
ANF ***31*** *02:38:36.3s 0.4, 37°.42N× 117°.11W, h6km ±3km, ML2.7/12, Error ellipse: s-maj=3.2km s-min=2.5km az=144.0*

ISC 31 02:38:35.9s 1.0, 37°.45N 0°.02× 117°.08W 0°.02, h10km ±10km, n64, σ0s76/76, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GRAC	**Grapevine Rang**	**0.50**	**207**	P	**Pg**		**02 38 45.7**	**0.0**
	baz=24,SNR=41							
GRAC				S	**Sg**		**02 38 52.4**	**0.0**
	baz=24							
GRAC	**Grapevine Rang**	**0.50**	**207**		**Pg**		**02 38 45.7**	**0.0**
TPH	**Tonopah**	**0.64**	**350**		**Pg**		**02 38 48.4**	**+0.1**
TPH					**Sg**		**02 38 57.4**	**+0.6**
TMO	**Tin Mountain**	**0.69**	**202**		**Pg**		**02 38 48.9**	**-0.4**
MCA	**Marble Canyon**	**0.81**	**191**		**Pg**		**02 38 50.5**	**-1.1**
TPNV	**Topopah Spring**	**0.83**	**126**	P	**Pb**		**02 38 52.5**	**-0.1**
	baz=306,SNR=122							
TPNV				S	**Sb**		**02 39 04.2**	**+0.3**
	baz=306							
TPNV	**Topopah Spring**	**0.83**	**126**		**Pb**		**02 38 52.5**	**-0.1**
FMT	**Funeral Mounta**	**0.84**	**163**		**Pg**		**02 38 52.0**	**-0.2**
POCCA	**Poleta Canyon**	**0.96**	**265**		**Pg**		**02 38 54.0**	**-0.4**
FURC	**Furnace Creek,**	**0.99**	**170**	P	**Pb**		**02 38 55.2**	**0.0**
	baz=349,SNR=97							
FURC				S	**Sb**		**02 39 08.8**	**+0.4**
	baz=349							
TIN	**Tinemaha, Big**	**0.99**	**247**	P	**Pg**		**02 38 54.9**	**-0.2**
	baz=66,SNR=13							
TIN				S	**Sb**		**02 39 08.2**	**-0.3**
	baz=66							
MLNR	**Milner Canyon**	**1.01**	**279**		**Pg**		**02 38 55.0**	**-0.4**
CGO	**Cerro Gordo**	**1.06**	**213**		**Pg**		**02 38 56.1**	**-0.3**
BONR	**Boundary Peak**	**1.09**	**298**		**Pb**		**02 38 57.0**	**-0.1**
BENR	**Benton**	**1.21**	**283**		**Pb**		**02 38 58.8**	**-0.4**
ORC	**Owens River**	**1.26**	**279**		**Pg**		**02 39 00.1**	**-0.2**
SCHCA	**Scheelite**	**1.28**	**267**		**Pb**		**02 39 00.1**	**-0.2**
CWC	**Cottonwood Cre**	**1.28**	**219**	P	**Pg**		**02 39 00.4**	**-0.2**
	baz=37							
CWC				S	**Sn**		**02 39 17.8**	**+0.4**
	baz=37							
NV11	**Mina Array Sit**	**1.30**	**320**		**Pn**		**02 39 00.2**	**-0.1**
RCCR	**Rock Creek Can**	**1.30**	**272**		**Pg**		**02 39 00.9**	**-0.1**
NVAR	**Mina Array Bea**	**1.38**	**316**		**Pn**		**02 39 00.4**	**-1.1**
LHV	**Little Huntoon**	**1.38**	**306**		**Pg**		**02 39 02.4**	**-0.1**
MLAC	**Mammoth, Mammo**	**1.41**	**278**	P	**Pg**		**02 39 02.8**	**-0.1**
	baz=97,SNR=11							
MLAC				S	**Sg**		**02 39 23.7**	**+2.5**
	baz=97							
MLAC	**Mammoth, Mammo**	**1.41**	**278**		**Pg**		**02 39 02.9**	**-0.1**
MPMC	**Manual Prospec**	**1.42**	**193**	P	**Pb**		**02 39 02.7**	**0.0**
	baz=12,SNR=18							
MPMC				S	**Sg**		**02 39 21.3**	**-0.4**
	baz=12							
MPMC	**Manual Prospec**	**1.42**	**193**		**Pn**		**02 39 02.2**	**+0.1**
MCSM	**Casa Diablo Ho**	**1.46**	**279**		**Pg**		**02 39 03.9**	**-0.2**
R11A	**Troy Canyon, C**	**1.49**	**52**	P	**Pb**		**02 39 04.3**	**+0.5**
	baz=234,SNR=107							
R11A				S	**Sg**		**02 39 24.4**	**+0.5**
	baz=234							
R11A	**Troy Canyon, C**	**1.49**	**52**		**Pn**		**02 39 03.6**	**+0.6**
OMMB	**Old Mammoth Mi**	**1.53**	**277**		**Pb**		**02 39 04.1**	**-0.5**
MDPB	**Devils Postpil**	**1.60**	**277**		**Pb**		**02 39 05.3**	**-0.5**
PRN	**Pahroc Range**	**1.62**	**91**	Pn	**Pn**		**02 39 05.7**	**+0.9**
WLHM	**Little Horse**	**1.62**	**218**		**Pb**		**02 39 06.3**	**+0.1**
RYN	**Ryan**	**1.64**	**317**		**Pb**		**02 39 06.5**	**+0.1**
SHOC	**Shoshone, Teco**	**1.68**	**157**	P	**Pb**		**02 39 07.3**	**+0.4**
	baz=337,SNR=51							
SHOC				S	**Sg**		**02 39 29.8**	**0.0**
	baz=337							
CLC	**China Lake**	**1.68**	**194**		**Pb**		**02 39 06.2**	**-0.8**
KVN	**Kaiserville**	**1.79**	**334**	Pn	**Pb**		**02 39 08.7**	**-0.3**
SHPR	**Sheep Range**	**1.80**	**121**	Pn	**Pb**		**02 39 08.8**	**-0.4**
ISA	**Isabella, Lake**	**2.10**	**213**		**Pn**		**02 39 12.7**	**+1.1**
WAKR	**Walker**	**2.14**	**300**	Pn	**Pn**		**02 39 12.7**	**+0.8**
GSC	**Goldstone, Bar**	**2.15**	**174**	Pg	**Pg**		**02 39 16.6**	**-0.6**
	baz=354,SNR=10							
GSC				Sb	**Sg**		**02 39 44.7**	**-0.4**
	baz=354							
GSC	**Goldstone, Bar**	**2.15**	**174**	Pn	**Pn**		**02 39 12.7**	**+0.6**
TUQ	**Turquoise Moun**	**2.21**	**155**	Sg	**Sg**		**02 39 48.9**	**+1.9**
	baz=335							
YERR	**Yerington**	**2.29**	**313**		**Pn**		**02 39 13.5**	**-0.5**
BFC	**Buffalo Canyon**	**2.46**	**307**		**Pn**		**02 39 17.5**	**+1.2**
ICU	**Indian Springs**	**2.54**	**96**		**Pn**		**02 39 18.2**	**+0.9**
PNTR	**Pine Nut**	**2.57**	**310**	Pn	**Pn**		**02 39 17.4**	**-0.5**
CMB	**Columbia Colle**	**2.68**	**284**	Pn	**Pn**		**02 39 18.7**	**-0.6**
VCNR	**Virginia City**	**2.73**	**313**	Pn	**Pn**		**02 39 20.1**	**0.0**
PSUT	**Pine Spring**	**2.77**	**66**	Pn	**Pn**		**02 39 21.5**	**+0.8**
PAHR	**Pah Rah Range**	**2.89**	**322**	Pn	**Pn**		**02 39 21.3**	**-0.9**
CCUT	**Cedar City**	**2.96**	**87**	Pn	**Pn**		**02 39 25.1**	**+1.9**
LCMT	**Little Creek M**	**3.10**	**97**		**Pn**		**02 39 26.0**	**+0.9**
SZCU	**Shurtz Canyon**	**3.18**	**86**		**Pn**		**02 39 28.2**	**+1.9**
AFDM	**Forest Hills D**	**3.41**	**297**	Pn	**Pn**		**02 39 29.1**	**-0.1**
KNB	**Kanab**	**3.43**	**96**	Pn	**Pn**		**02 39 29.0**	**-0.6**
W13A	**Hualapai Mount**	**3.49**	**131**	Pn	**Pn**		**02 39 29.8**	**-0.7**
PKCU	**Pink Cliffs**	**3.80**	**89**	Pn	**Pn**		**02 39 34.4**	**-0.5**
TCRU	**Three Creeks R**	**3.84**	**71**	Pn	**Pn**		**02 39 35.2**	**-0.2**
MTPU	**Mount Pierson**	**3.93**	**80**	Pn	**Pn**		**02 39 35.6**	**-1.1**
MTPU				Lg			02 40 43.3	
U15A	**North Rim**	**3.97**	**103**		**Pn**		**02 39 36.7**	**-0.5**
MSU	**Marysvale**	**4.02**	**73**	Pn	**Pn**		**02 39 38.4**	**+0.6**
DUG	**Dugway, Tooele**	**4.32**	**49**	Pg	**Pg**		**02 39 58.4**	**-0.3**
	baz=232							
DUG				Sb	**Sg**		**02 40 52.6**	**-2

IMAR Indian Mountai 2.12 296 Pn Pn 03 07 29.8 -2.8
COLD Coldfoot 2.16 348 Pn Pn 03 07 32.5 -0.5
baz=167,SNR=1000
COLD Pg **Pg 03 07 37.7 -0.2**
baz=167
COLD Sb **Sg 03 08 04.4 -1.4**
baz=167
COLD Coldfoot 2.16 348 Pn 03 07 32.5 -0.5
CAST Castle Rocks 2.16 219 Pn 03 07 32.5 -0.6
HUR Hurricane 2.17 187 Pn 03 07 33.9 +0.6
WAT2 Susitna Watana 2.19 174 Pn 03 07 34.0 +0.4
WAT7 Susitna Watana 2.31 177 Pn 03 07 35.5 +0.3
RIDG Independent Ri 2.31 125 Pn Pn 03 07 33.5 -1.7
WAT1 Susitna Watana 2.32 174 Pn 03 07 35.6 +0.3
SCRK Sand Creek 2.49 115 Pn Pn 03 07 36.2 -1.5
baz=301,SNR=457
SCRK Pg **Pg 03 07 43.6 -0.7**
baz=301
SCRK Sb **Sb 03 08 13.4 +0.8**
baz=301
SCRK Sand Creek 2.49 115 Pn 03 07 36.6 -1.1
PPLA Purkeypile 2.62 213 Pn 03 07 39.0 -0.7
WAT6 Susitna Watana 2.63 166 Pn 03 07 39.6 0.0
DOT Dot Lake 2.64 122 Pn 03 07 38.2 -1.5
PAX Paxson 2.69 142 Pn 03 07 40.2 -0.3
CUT Chulitna 2.79 191 P Pn 03 07 42.5 +0.8
baz=11,SNR=282
CUT Sb **Sg 03 08 25.1 -0.9**
baz=11
CUT Chulitna 2.79 191 Pn 03 07 42.5 +0.8
BM03 Burnt Mountain 2.93 36 Pn 03 07 42.4 -1.3
BMAR Burnt Mountain 2.94 36 Pn 03 07 41.6 -2.3
K27K Chicken 3.22 107 P Pn 03 07 46.7 -0.9
baz=294
K27K Sb **Sg 03 08 37.2 -2.7**
baz=294
MENT Mentasta 3.23 131 Pn 03 07 47.0 -0.7
M24K Tolsona, Glenn 3.30 155 P Pn 03 07 50.4 +1.6
baz=339,SNR=804
PS04 TAPS Pump Stn4 3.31 358 Pn 03 07 49.2 +0.3
SKT Skwentna 3.34 200 Pn 03 07 49.7 +0.3
GHO Glory Hole Cre 3.37 179 Pn 03 07 49.7 -0.1
EGAK Eagle 3.39 92 Pn 03 07 49.0 -1.0
SCM Sheep Creek Mo 3.40 166 Pn 03 07 50.5 +0.3
PS11 TAPS Pump St11 3.46 151 Pn 03 07 52.6 +1.7
TOLK Toolik Lake Re 3.53 357 Pn Pn 03 07 52.9 +0.9
baz=176,SNR=487
TOLK Pg **Pg 03 08 03.4 -0.8**
baz=176
TOLK Toolik Lake Re 3.53 357 Pn Pn 03 07 50.8 -1.2
PMR Palmer 3.55 180 P Pn 03 07 52.6 +0.5
PMR Palmer 3.55 180 Pn 03 07 52.6 +0.5
KNK Knik Glacier 3.74 175 Pn 03 07 55.6 +0.8
SUA Susitna One 3.75 192 Pn 03 07 55.5 +0.4
TTA Tatalina 3.76 237 P Pn 03 07 53.7 -1.5
TTA Tatalina 3.76 237 Pn 03 07 54.4 -0.8
TT01 Tatalina 3.78 237 Pn 03 07 54.6 -0.7
BC03 3.81 120 Pn 03 07 54.0 -1.8
STLK Strandline Lak 3.85 200 Pn 03 07 56.9 +0.6
KLU Klutina 3.92 157 Pn 03 07 58.6 +1.3
FIS Fire Island 4.03 188 Pn 03 08 01.7 +2.3
SPCG Spurr Capps GI 4.07 200 Pn 03 08 00.7 +1.2
SPNN North Nagishla 4.11 205 Pn 03 08 01.0 +0.9
SPCR Spurr Chakacha 4.19 201 Pn 03 08 02.0 +0.9
VMT TAPS Tl Valdez 4.24 162 Pn 03 08 02.6 +0.9
DIV Divide 4.29 158 Pn 03 08 02.9 +0.6
PWL Port Wells 4.30 175 Pn 03 08 04.2 +1.8
GLI Glacier Island 4.36 167 Pn 03 08 04.4 +1.0
GLB Gilahina Butte 4.40 145 Pn 03 08 04.5 +0.6
CAPN Captain Cook N 4.48 193 P Pn 03 08 08.4 +3.5
baz=12,SNR=12
CAPN Captain Cook N 4.48 193 Pn 03 08 07.9 +3.0
BVCY Beaver Creek 4.55 123 Pn 03 08 04.3 -1.7
FID Port Fidalgo 4.55 164 Pn 03 08 07.0 +1.0
BMRM Bremner River 4.65 152 Pn 03 08 07.6 +0.3
MCARA McCarthy VSAT 4.65 141 Pn 03 08 08.5 +1.2
SLKM Skilak Lake 4.67 187 Pn 03 08 09.1 +1.5
VRDI Verde Repeater 4.67 144 Pn 03 08 09.5 +1.7
O22K Cooper Landing 4.67 184 P Pn 03 08 10.6 +3.0
baz=3.5
EYAK Cordova Ski Ar 4.84 160 Pn 03 08 10.5 +0.6
RDJH Redoubt Jeurge 4.86 202 Pn 03 08 11.4 +1.0
HIN Hinchinbrook I 4.90 165 Pn 03 08 11.5 +0.8
PTPK Patty Peak 4.96 140 Pn 03 08 12.6 +0.8
RDWB Redoubt West 4.96 202 Pn 03 08 13.0 +1.3
GOAT Goat Mountain 4.98 154 Pn 03 08 12.5 +0.6
YUK2 White River 4.99 128 Pn 03 08 10.5 -1.6
SVW2 Sparrevohn 5.00 219 Pn 03 08 12.3 +0.1
RED Redoubt Volcan 5.02 201 Pn 03 08 13.3 +0.9
SEW Seward 5.05 182 Pn 03 08 14.5 +1.8
BALM Baldy 5.12 140 Pn 03 08 15.0 +1.1
YUK3 Moose Creek 5.13 127 Pn 03 08 12.1 -1.9
PS01 TAPS Pump Stn 5.16 2 Pn 03 08 15.3 +1.1
CRQM Cirque 5.16 146 Pn 03 08 15.5 +1.1
KIAG Kiagna River 5.21 141 Pn 03 08 16.5 +1.3
TGL Tana Glacier 5.24 144 Pn 03 08 16.1 +0.7
BARN Barnard Glacie 5.29 137 Pn 03 08 17.1 +0.7
BERG Berg Lake 5.36 150 Pn 03 08 18.0 +1.0
NICHA Nichawak Mount 5.45 152 Pn 03 08 18.9 +0.7
BRSE Bradley Lake S 5.46 189 Pn 03 08 20.1 +1.6
CTGM Chitina Glacie 5.46 136 Pn 03 08 19.8 +1.2
ISLE Juniper Island 5.49 143 Pn 03 08 19.3 +0.4
ISLE Juniper Island 5.49 143 Pn 03 08 18.7 -0.3
ILS Iliamna Low So 5.51 201 Pn 03 08 20.2 +1.0
GRNC Granite Creek 5.54 139 Pn 03 08 20.7 +1.1
GRIN Grindle Hills 5.54 149 Pn 03 08 20.6 +1.1
HOM Homer 5.62 193 P Pn 03 08 23.5 +3.0
baz=11,SNR=10
BARK Barkley Ridge 5.62 144 Pn 03 08 21.6 +0.8
KAIM Kayak Island 5.65 155 Pn 03 08 21.5 +0.5
BAGL Bagley Icefiel 5.65 142 Pn 03 08 21.8 +0.8
KULT Kultieth River 5.71 146 Pn 03 08 22.9 +1.1
CNPM China Poot 5.71 191 Pn 03 08 23.6 +1.7
SNH Sunshine Point 5.74 147 Pn 03 08 23.1 +0.9
OPT Oil Point 5.82 201 Pn 03 08 23.8 +0.3
YAH Yahtse 5.85 141 Pn 03 08 24.8 +0.8
Q23K Middleton Isla 5.86 166 P Pn 03 08 24.8 +1.0
baz=349
MID Middleton Isla 5.86 166 Pn 03 08 24.7 +0.8
CYK Cape Yakataga 5.91 146 Pn 03 08 26.0 +1.5
TABL Table Mountain 5.95 139 Pn 03 08 25.1 -0.2
MESA MESA 5.96 143 Pn 03 08 26.5 +1.1
RKAV Rock Avalanche 6.01 140 Pn 03 08 26.5 +0.4
YUK4 Talbot Arm 6.05 124 Pn 03 08 24.5 -2.1
AUL Augustine Lava 6.11 201 Pn 03 08 29.2 +1.8
AUW Augustine West 6.13 202 Pn 03 08 28.7 +1.1
AUH Augustine H 6.13 201 Pn 03 08 28.8 +1.1
RDOG Red Dog Mine 6.24 304 Pn 03 08 29.2 +0.1
CHX Chaix Hills 6.27 140 Pn 03 08 30.6 +1.0
SAMH Samovar Hills 6.31 139 Pn 03 08 31.0 +0.9
YUK6 Outpost Mounta 6.43 126 Pn 03 08 31.6 -0.3
YUK5 Granite Creek 6.47 123 Pn 03 08 30.8 -1.7
PCA Pinnacle 6.48 137 Pn 03 08 33.1 +0.6
BCPM Bancas Point 6.78 136 Pn 03 08 36.1 -0.4
HYT Haines Junctio 6.81 124 Pn 03 08 36.6 -0.5
A21K Barrow 6.82 339 P Pn 03 08 36.9 0.0
baz=152
A21K S **Sn 03 09 52.3 -2.4**
baz=152
INK Inuvik 6.93 56 Pn Pn 03 08 37.8 -0.7
5.8nm,0.3s,baz=239,slow=14,SNR=106
INK Lg Lg 03 10 34.1
20nm,0.3s,baz=260,slow=0.7,SNR=4.0
INK Inuvik 6.93 56 P Pn 03 08 37.7 -0.9
INK Inuvik 6.93 56 Pn 03 08 37.6 -1.0
ANM Nome 6.96 273 P Pn 03 08 38.0 -1.0
ANM Nome 6.96 273 Pn 03 08 38.0 -1.0
KAHC Katmai Hardscr 7.08 206 Pn 03 08 41.6 +0.9
PNL Peninsula 7.08 136 Pn 03 08 40.5 -0.2
KAKN Katmai Knife C 7.42 205 Pn 03 08 46.8 +1.5
KABU Katmai Buttres 7.48 206 Pn 03 08 47.9 +1.7
KDAK Kodiak Island 7.56 194 Pn Pn 03 08 47.4 +0.2
4.3nm,0.3s,baz=46,slow=6.2,SNR=104
KDAK Lg Lg 03 10 53.4
7.9nm,0.3s,baz=76,slow=4.2,SNR=1.4
KDAK LR LR 03 11 24.8
comp=Z,2µm,19.3s,baz=26,slow=36
KDAK Kodiak Island 7.56 194 P Pn 03 08 46.3 -0.9
KDAK Kodiak Island 7.56 194 Pn 03 08 47.6 +0.5
PLK1 Peulik 1 8.18 210 Pn 03 08 56.9 +1.2
OHAK Old Harbor 8.19 196 Pn 03 08 55.3 -0.5
PLBC Pleasant Camp 8.20 128 Pn 03 08 54.3 -1.7

SII Sitkinak Islan 8.95 198 Pn 03 09 06.1 -0.1
CHIR Chirikof Islan 9.87 202 Pn Pn 03 09 17.7 -1.2
SIT Sitka 10.46 134 Pn 03 09 26.3 -0.5
C36M Paulatuk 10.52 55 P Pn 03 09 25.8 -1.9
baz=258
C36M Paulatuk 10.52 55 Pn 03 09 25.3 -2.4
A36M Sachs Harbour 11.02 41 P Pn 03 09 33.2 -1.3
baz=243
DLBC Dease Lake 11.20 118 Pn Pn 03 09 37.1 0.0
1.9nm,0.3s,baz=309,slow=11,SNR=21
DLBC Lg Lg 03 12 43.4
9.1nm,0.3s,baz=343,slow=8.9,SNR=9.2
DLBC LR LR 03 14 16.0
comp=Z,2µm,21.9s,baz=316,slow=39
DLBC Dease Lake 11.20 118 Pn 03 09 35.5 -1.6
CNBA Chernabura Isl 11.58 212 Pn Pn 03 09 42.4 +0.2
WRAK Wrangell Islan 11.92 129 Pn Pn 03 09 45.5 -1.3
YKA Yellowknife Ar 15.33 84 Pn Pn 03 10 28.9 -4.2
0.5nm,0.3s,baz=322,slow=15,SNR=13
YKA LR LR 03 16 05.5
comp=Z,2µm,18.6s,baz=0.0,slow=36
NIKH Nikolski High 15.77 229 Pn Pn 03 10 36.5 -2.4
BBB Bella Bella 16.83 130 Pn Pn 03 10 51.3 -1.1
0.3nm,0.3s,baz=335,slow=12,SNR=5.6
BBB Lg Lg 03 15 50.0
0.1nm,0.3s,baz=36,slow=18,SNR=2.6
BBB Bella Bella 16.83 130 IAmb IAmb 03 11 46.3
comp=Z,175nm,1.8s
ATKA Atka Island 18.21 237 Pn Pn 03 11 05.6 -4.1
GSTR Great Sitkin T 18.97 239 P P 03 11 17.4 -0.9
ADK Adak 19.37 240 P Pn 03 11 25.0 +1.3
ADK Adak 19.37 240 P P 03 11 22.3 -0.3
RES Resolute Bay 20.06 39 P P 03 11 30.1 +0.1
comp=Z,8.3nm,0.8s,baz=273,slow=7.3,SNR=7.9
RES Resolute Bay 20.06 39 P P 03 11 30.1 +0.1
RES Resolute Bay 20.06 39 P P 03 11 27.1 -2.9
AMKA Amchitka 21.28 245 P P 03 11 43.3 -0.1
PGC Sidney 21.39 128 P P 03 11 44.6 0.0
PGC **sP 03 11 47.1 -0.1**
PGC IAmb IAmb 03 11 57.2
comp=Z,42nm,1.0s
B06A Marblemount 22.17 125 IAmb IAmb 03 12 11.7
comp=Z,35nm,0.9s
B05A Bryant 22.18 127 P P 03 11 54.1 +1.0
baz=330,SNR=9.9
NLWA Neilton Lookou 22.36 130 P P 03 11 55.4 +0.4
NLWA IAmb IAmb 03 12 37.9
comp=Z,61nm,1.6s
NLWA IAMs_20 IAMs_20 03 20 50.7
comp=Z,4µm,18.0s
D03D Eldon 22.48 129 P P 03 11 59.1 +2.7
baz=331,SNR=7.2
B08A Colville Reser 23.06 122 IAmb IAmb 03 12 16.4
comp=Z,26nm,0.9s
D05A Enumclaw 23.15 128 IAmb IAmb 03 12 29.7
comp=Z,38nm,0.9s
E03A Lebam 23.20 131 IAMs_20 IAMs_20 03 21 07.1
comp=Z,2µm,19.0s
E04D Cinebar 23.51 129 P P 03 12 09.3 +2.4
baz=332
LTY Liberty 23.54 126 IAMs_20 IAMs_20 03 21 05.0
comp=Z,3µm,21.0s
LON Longmire 23.59 128 IAmb IAmb 03 12 26.0
comp=Z,24nm,0.9s
LON IAMs_20 IAMs_20 03 21 18.4
comp=Z,3µm,18.0s
C09A Chrisman Ranch 23.92 122 IAmb IAmb 03 12 13.4
comp=Z,26nm,0.7s
NEW Newport 23.95 119 P P 03 12 12.3 +1.0
baz=327,SNR=13
NEW Newport 23.95 119 P P 03 12 12.6 +1.4
NEW pmax pmax
comp=Z,24nm,0.9s
NEW Newport 23.95 119 P P 03 12 11.5 +0.2
F04A Amboy 24.11 130 IAmb IAmb 03 12 46.8
comp=Z,24nm,1.0s
D08A Wollman Farm, 24.32 123 P P 03 12 14.2 -0.5
D08A IAmb IAmb 03 12 17.1
comp=Z,20nm,0.9s
D08A IAMs_20 IAMs_20 03 22 23.5
comp=Z,3µm,18.0s
E07A Sunnyside 24.42 125 IAmb IAmb 03 12 30.4
comp=Z,26m,0.8s
G03D McMinnville, O 24.48 132 P P 03 12 18.1 +1.9
baz=334
WALA Waterton Lakes 24.51 114 IAmb IAmb 03 12 48.5
comp=Z,23nm,0.9s
HAWA Hanford 24.68 125 IAMs_20 IAMs_20 03 21 18.0
comp=Z,3µm,20.0s
E08A Dider Farm, El 24.76 124 IAmb IAmb 03 12 22.1
comp=Z,67nm,1.8s
SEY Seymchan 24.93 292 P P 03 12 20.6 +0.5
comp=Z,18nm,0.6s,baz=79,slow=7.0,SNR=44
SEY LR LR 03 22 27.3
comp=Z,2µm,18.7s,baz=56,slow=37
SEY Seymchan 24.93 292 *i* **P P 03 12 20.4 +0.3**
F07A Phinny Hill Vi 24.97 126 IAmb IAmb 03 12 36.3
comp=Z,30nm,0.8s
F07A IAMs_20 IAMs_20 03 20 45.9
comp=Z,2µm,19.0s
COR Corvallis 25.04 133 IAMs_20 IAMs_20 03 20 59.7
comp=Z,2µm,20.0s
E09A Wood Farm, Sta 25.06 123 IAmb IAmb 03 12 36.4
comp=Z,21nm,1.0s
E09A IAMs_20 IAMs_20 03 23 04.1
comp=Z,2µm,19.0s
G05D Wamic, OR 25.08 129 P P 03 12 23.1 +1.5
baz=332
FFC Flin Flon 25.16 92 IAMs_20 IAMs_20 03 22 26.1
comp=Z,3µm,18.0s
H04D Lebanon 25.27 132 P P 03 12 24.7 +1.5
baz=334
JTMT Jette 25.44 116 P P 03 12 24.9 -0.1
JTMT IAmb IAmb 03 12 27.5
comp=Z,31nm,0.8s
I03D Drain, OR 25.82 134 P P 03 12 30.6 +2.3
baz=335
G08A Pilot Rock 25.83 126 P P 03 12 28.8 +0.3
F10A Beach Ranch, E 25.85 122 IAmb IAmb 03 12 41.4
comp=Z,16nm,0.8s
F10A IAMs_20 IAMs_20 03 22 20.0
comp=Z,2µm,18.0s
I05D Terrebonne, OR 25.88 130 P P 03 12 30.1 +1.3
baz=333
I04A Tendick Farm, 26.03 132 P P 03 12 31.2 +1.0
baz=334
J01E Myrtle Point 26.14 135 P P 03 12 37.1 +6.0
baz=336
MSO Missoula 26.33 117 P P 03 12 33.6 +0.6
baz=327
MSO Missoula 26.33 117 P P 03 12 32.7 -0.3
MSO IAmb IAmb 03 12 49.7
comp=Z,25nm,1.1s
PINE Pine Mountain 26.50 130 IAmb IAmb 03 13 03.2
comp=Z,19nm,0.9s
PINE IAMs_20 IAMs_20 03 22 19.3
comp=Z,2µm,19.0s
J04D Umpqua Nationa 26.62 132 P P 03 12 38.3 +2.5
baz=335
K02D Willamette Mer 26.64 135 P P 03 12 37.5 +1.7
baz=336
I07A Izee 26.71 128 IAMs_20 IAMs_20 03 23 24.9
comp=Z,2µm,21.0s
BMO Blue Mountains 26.79 124 IAMs_20 IAMs_20 03 22 13.9
comp=Z,2µm,21.0s
J05D Fort Rock, OR 26.86 131 P P 03 12 39.3 +1.5
baz=334,SNR=18
KBO Bosley Butte 26.92 136 IAMs_20 IAMs_20 03 24 15.6
comp=Z,2µm,18.0s
EGMT Eagleton 26.97 110 P P 03 12 38.9 +0.1
baz=324
EGMT Eagleton 26.97 110 IAmb IAmb 03 13 15.7
comp=Z,20nm,0.8s
EGMT IAMs_20 IAMs_20 03 22 51.3
comp=Z,3µm,22.0s
L02E Cave Junction 27.15 135 P P 03 12 43.0 +2.7
baz=337
K05A Summer Lake 27.47 131 IAmb IAmb 03 13 21.7
comp=Z,22nm,1.2s
MA2 Magadan 27.48 287 P P 03 12 43.7 +0.6
comp=Z,13nm,0.6s,baz=56,slow=13,SNR=8.4
MA2 Magadan 27.48 287 *ce* **P P 03 12 42.9 -0.2**
MA2 pmax pmax
comp=Z,30nm,1.3s
MA2 Magadan 27.48 287 IAmb IAmb 03 12 45.0
comp=Z,22nm,0.8s
MA2 IAMs_20 IAMs_20 03 25 22.7
comp=Z,930nm,20.0s
L04D Klamath Falls 27.49 134 P P 03 12 45.5 +2.0
baz=336
J08A Circle Bar Ran 27.70 127 IAMs_20 IAMs_20 03 23 39.0
comp=Z,3µm,19.0s
YBH Yreka Blue Hor 27.81 135 LR LR 03 24 13.8
comp=Z,851nm,18.8s,baz=327,slow=37
YBH Yreka Blue Hor 27.81 135 P P 03 12 46.7 +0.4
YBH Yreka Blue Hor 27.81 135 P P 03 12 46.7 +0.4
M04C Macdoel 28.03 133 P P 03 12 50.1 +1.8
baz=336
DLMT Dillon 28.07 117 IAMs_20 IAMs_20 03 23 00.6
comp=Z,3µm,19.0s
BOZ Bozeman (W) 28.24 116 P P 03 12 51.3 +1.1
baz=327,SNR=9.5
BOZ Bozeman (W) 28.24 116 IAMs_20 IAMs_20 03 23 55.0
comp=Z,3µm,18.0s
WVOR Wild Horse Val 28.47 128 P P 03 12 54.2 +2.0
WVOR pmax pmax
comp=Z,14nm,1.3s
N02D Trinity Center 28.50 135 P P 03 12 56.2 +3.7
baz=337
PET Petropavlovsk 28.54 270 *eP* **P 03 12 52.9 +0.4**
PET *eS* **S 03 17 34.2 -6.2**
PET pmax pmax
comp=Z,100nm,14.3s
PET MLR MLR
comp=Z,800nm,13.0s
PET MLR MLR
comp=Z,900nm,16.0s
MFID Camas Ranch 28.57 123 IAMs_20 IAMs_20 03 23 58.8
comp=Z,2µm,18.0s
DGMT Dagmar 28.86 103 P P 03 12 55.8 +0.2
baz=322
DGMT Dagmar 28.86 103 P P 03 12 55.8 +0.2
DGMT IAmb IAmb 03 13 47.3
comp=Z,30nm,1.1s
PETK Petropavlovsk- 28.88 271 P P 03 12 56.0 +0.3
comp=Z,2.1nm,0.9s,baz=81,slow=9.3,SNR=3.0
PETK LR LR 03 24 29.4
comp=Z,843nm,19.8s,baz=36,slow=36
PETK Petropavlovsk- 28.88 271 P P 03 12 55.4 -0.2
PETK Petropavlovsk- 28.88 271 P P 03 12 55.4 -0.2
KMRM Mail Ridge 28.90 137 IAMs_20 IAMs_20 03 25 34.7
comp=Z,1µm,18.0s
HLID Hailey 28.94 121 P P 03 12 57.4 +0.9
baz=330,SNR=26
HLID Hailey 28.94 121 IAMs_20 IAMs_20 03 24 08.8
comp=Z,3µm,19.0s
O03E Paynes Creek 29.40 134 P P 03 13 01.4 +1.0
baz=337
LAO LASA Array 29.46 108 P P 03 13 01.8 +0.8
baz=324
LAO LASA Array 29.46 108 IAmb IAmb 03 13 08.7
comp=Z,15nm,0.9s
LAO IAMs_20 IAMs_20 03 24 22.2
comp=Z,2µm,18.0s
RLMT Red Lodge 29.55 113 P P 03 13 02.5 +0.6
baz=327
RLMT Red Lodge 29.55 113 IAMs_20 IAMs_20 03 23 25.6
comp=Z,2µm,19.0s
LKWY Lake 29.58 115 P P 03 13 01.5 -0.7
LKWY IAmb IAmb 03 13 11.9
comp=Z,13nm,0.8s
IMW Indian Meadow 29.94 117 IAmb IAmb 03 13 26.2
comp=Z,24nm,1.1s
IMW IAMs_20 IAMs_20 03 26 23.1
comp=Z,2µm,19.0s
TPAW Teton Pass 30.28 117 IAmb IAmb 03 13 45.7
comp=Z,14nm,1.1s
LOHW Long Hollow 30.31 116 IAmb IAmb 03 13 13.5
comp=Z,9.7nm,0.8s
SNOW Snow King Moun 30.38 117 IAmb IAmb 03 13 13.9
comp=Z,12nm,0.6s
SNOW IAMs_20 IAMs_20 03 25 45.7
comp=Z,2µm,18.0s
REDW Red Top Meadow 30.43 117 IAMs_20 IAMs_20 03 26 31.0
comp=Z,2µm,18.0s
VCNR Virginia City 30.98 132 IAMs_20 IAMs_20 03 24 30.9
comp=Z,2µm,22.0s
ULM Lac du Bonnet 30.98 93 P P 03 13 15.1 +0.9
comp=Z,8.9nm,0.6s,baz=314,slow=10,SNR=8.7
ULM LR LR 03 26 03.9
comp=Z,2µm,18.0s,baz=324,slow=37
ULM Lac du Bonnet 30.98 93 P P 03 13 13.2 -1.0
ULM IAmb IAmb 03 13 20.5
comp=Z,17nm,0.9s
RUBR Rubicon Trail 31.04 133 IAMs_20 IAMs_20 03 24 30.7
comp=Z,2µm,21.0s
PNTR Pine Nut 31.18 132 IAmb IAmb 03 13 20.1
comp=Z,11nm,0.7s
PNTR IAMs_20 IAMs_20 03 24 37.3
comp=Z,2µm,22.0s
SKR Severo-Kuril's 31.32 269 *eP* **P 03 13 10.6 -6.6**
SKR *eS* **S 03 18 26.7 +2.6**
SKR pmax pmax
comp=Z,11nm,0.9s
SKR MLR MLR
comp=Z,500nm,18.0s
SKR MLR MLR
comp=Z,500nm,17.0s
YERR Yerington 31.39 132 IAMs_20 IAMs_20 03 25 06.8
comp=Z,1µm,20.0s
BW06 Boulder Array 31.43 116 P P 03 13 19.9 +1.3
baz=329,SNR=17
PD31 Pinedale Array 31.43 116 IAmb IAmb 03 13 21.6
comp=Z,11nm,0.9s
PDAR Pinedale Array 31.43 116 P P 03 13 19.8 +1.3
comp=Z,8.3nm,0.8s,baz=337,slow=5.4,SNR=59
PDAR LR LR 03 27 50.4
comp=Z,543nm,18.8s,baz=8.0,slow=40
PDAR Pinedale Array 31.43 116 P P 03 13 19.1 +0.5
WAKR Walker 31.77 133 IAMs_20 IAMs_20 03 25 06.8
comp=Z,2µm,20.0s
NVAR Mina Array Bea 32.19 131 P P 03 13 27.2 +1.9
comp=Z,5.6nm,0.6s,baz=326,slow=8.0,SNR=50
NVAR LR LR 03 25 39.7
comp=Z,736nm,20.5s,baz=336,slow=35
NVAR Mina Array Bea 32.19 131 P P 03 13 26.4 +1.1
NV11 Mina Array Sit 32.24 131 IAmb IAmb 03 13 44.0
comp=Z,10nm,0.9s
LHV Little Huntoon 32.29 131 IAMs_20 IAMs_20 03 27 45.7
comp=Z,1µm,18.0s
RSSD Black Hills 32.45 108 P P 03 13 27.8 +0.3
baz=326
RSSD Black Hills 32.45 108 P P 03 13 28.1 +0.6
RSSD IAmb IAmb 03 13 34.6
comp=Z,18nm,1.4s
DUG Dugway, Tooele 32.47 122 P P 03 13 29.2 +1.6
baz=332,SNR=9.4
DUG Dugway, Tooele 32.47 122 P P 03 13 28.9 +1.3
DUG pmax pmax
comp=Z,13nm,0.9s
DUG Dugway, Tooele 32.47 122 IAmb IAmb 03 14 21.1
comp=Z,12nm,0.9s
DUG IAMs_20 IAMs_20 03 26 20.1
comp=Z,2µm,18.0s
AGMN Agassiz Nation 32.48 95 P P 03 13 27.1 -0.3
baz=321,SNR=20
MDPB Devils Postpil 32.68 133 IAMs_20 IAMs_20 03 27 33.0
comp=Z,2µm,18.0s
K22A Casper 32.70 113 P P 03 13 30.4 +0.8
baz=328,SNR=5.7
K22A Casper 32.70 113 IAmb IAmb 03 13 31.7
comp=Z,9.1nm,0.8s
OMMB Old Mammoth Mi 32.72 133 IAmb IAmb 03 14 06.1
comp=Z,10nm,1.0s
OMMB IAMs_20 IAMs_20 03 27 55.1
comp=Z,2µm,19.0s
D32A Dogwood Acres, 32.90 98 IAMs_20 IAMs_20 03 27 19.9
comp=Z,2µm,19.0s
R11A Troy Canyon, C 33.16 127 P P 03 13 35.0 +1.3
baz=335,SNR=14
R11A Troy Canyon, C 33.16 127 IAMs_20 IAMs_20 03 27 34.5
comp=Z,2µm,18.0s
RWWY Rawlins 33.25 114 IAmb IAmb 03 13 36.9
comp=Z,9.7nm,0.8s
PMPB Monarch Peak 33.47 136 IAMs_20 IAMs_20 03 27 52.9
comp=Z,1µm,19.0s
PSUT Pine Spring 33.58 125 P P 03 13 36.3 -1.1
GRAC Grapevine Rang 33.80 131 P P 03 13 43.1 +4.0
baz=337
YAK Yakutsk 33.95 303 *eP* **P 03 13 39.2 -0.9**
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,14nm,1.5s

YAK comp=E,13nm,1.3s — pmax pmax
YAK comp=Z,540nm,16.0s — MLR MLR
YAK comp=N,327nm,16.0s — MLR MLR
YAK comp=E,290nm,16.0s — MLR MLR
CWC Cottonwood Cre 34.09 132 — P **P** — 03 13 43.8 +2.0
baz=337
PRN Pahroc Range 34.19 128 — IAmb IAmb — 03 14 11.6
comp=Z,9.4nm,0.8s
PRN — IAMs_20 IAMs_20 — 03 28 06.8
comp=Z,2µm,20.0s
O20A White River Ci 34.20 117 — P **P** — 03 13 44.0 +1.3
baz=331
O20A White River Ci 34.20 117 — IAmb IAmb — 03 14 35.1
comp=Z,13nm,1.1s
O20A — IAMs_20 IAMs_20 — 03 27 12.8
comp=Z,2µm,18.0s
TPNV Topopah Spring 34.20 129 — P **P** — 03 13 44.1 +1.3
baz=336,SNR=14
TPNV Topopah Spring 34.20 129 — IAmb IAmb — 03 14 10.1
comp=Z,10nm,0.9s
TPNV — IAMs_20 IAMs_20 — 03 28 31.3
comp=Z,1µm,19.0s
F33A 5 Mile Ranch, 34.23 98 — IAmb IAmb — 03 13 50.1
comp=Z,9.5nm,0.7s
F33A — IAMs_20 IAMs_20 — 03 27 45.2
comp=Z,3µm,22.0s
PHWY Pilot Hill 34.26 113 — IAMs_20 IAMs_20 — 03 26 43.3
comp=Z,1µm,19.0s
VES Vestal, Richgr 34.33 134 — P **P** — 03 13 45.9 +2.2
baz=338
N23A Red Feather La 34.42 114 — P **P** — 03 13 45.7 +1.0
baz=329,SNR=7.9
N23A Red Feather La 34.42 114 — P **P** — 03 13 43.8 -1.0
N23A — IAmb IAmb — 03 14 39.9
comp=Z,14nm,1.1s
N23A — IAMs_20 IAMs_20 — 03 28 20.6
comp=Z,2µm,19.0s
FURC Furnace Creek, 34.45 131 — P **P** — 03 13 46.5 +1.9
baz=337
EYMN Ely 34.59 91 — P **P** — 03 13 46.4 +0.5
baz=321,SNR=38
MPMC Manual Prospec 34.62 132 — P **P** — 03 13 48.2 +1.8
baz=337
ISA Isabella, Lake 34.68 133 — P **P** — 03 13 48.1 +1.3
baz=338
SHPR Sheep Range 34.97 128 — IAMs_20 IAMs_20 — 03 28 53.5
comp=Z,2µm,18.0s
PKM Mcpherson Peak 34.99 135 — P **P** — 03 13 52.7 +3.1
baz=339
SUMG Summit 35.00 29 *i* P **P** — 03 13 50.0 +0.5
SUMG Summit 35.00 29 *i* P **P** — 03 13 50.0 +0.5
SUMG Summit 35.00 29 P **P** — 03 13 48.9 -0.7
DAG Danmarks Havn 35.05 18 *i* P **P** — 03 13 49.9 +0.4
comp=Z,17nm,0.9s
DAG Danmarks Havn 35.05 18 *i* P **P** — 03 13 49.9 +0.4
DAG — pmax pmax
comp=Z,17nm,0.9s
LRMC Laurel Mtn Rad 35.09 132 — P **P** — 03 13 52.1 +1.7
baz=338
SHOC Shoshone, Teco 35.16 130 — P **P** — 03 13 52.9 +2.1
baz=337
PV21 Cone Mtn., Par 35.30 119 — IAMs_20 IAMs_20 — 03 27 23.0
comp=Z,2µm,22.0s
PV23 Carpenter Ridg 35.38 119 — IAmb IAmb — 03 14 35.4
comp=Z,16nm,0.8s
PV22 Blue Mesa, Par 35.40 119 — IAmb IAmb — 03 13 55.5
comp=Z,8.8nm,0.8s
PV14 Lion Creek, Pa 35.45 119 — IAMs_20 IAMs_20 — 03 28 13.0
comp=Z,2µm,19.0s
PV04 Paradox Valley 35.48 119 — IAmb IAmb — 03 14 29.2
comp=Z,26nm,1.5s
PV04 — IAMs_20 IAMs_20 — 03 27 30.7
comp=Z,2µm,22.0s
ISCO Idaho Springs 35.49 114 — P **P** — 03 13 55.6 +1.6
baz=330,SNR=9.0
ISCO Idaho Springs 35.49 114 — P **P** — 03 13 55.8 +1.8
ISCO — pmax pmax
comp=Z,12nm,0.9s
PV20 West Nyswonger 35.50 119 — IAMs_20 IAMs_20 — 03 28 58.3
comp=Z,2µm,20.0s
GSC Goldstone, Bar 35.53 131 — P **P** — 03 13 55.9 +1.7
baz=337,SNR=12
GSC Goldstone, Bar 35.53 131 — IAmb IAmb — 03 13 57.4
comp=Z,13nm,0.8s
GSC — IAMs_20 IAMs_20 — 03 27 21.5
comp=Z,1µm,21.0s
PV16 Nyswonger Mesa 35.55 119 — IAMs_20 IAMs_20 — 03 27 14.5
comp=Z,2µm,18.0s
PV11 David Mesa, Pa 35.57 119 — IAmb IAmb — 03 14 38.9
comp=Z,13nm,0.9s
OSI Osito Audit: C 35.57 134 — IAMs_20 IAMs_20 — 03 27 37.7
comp=Z,989nm,18.0s
PV12 Saucer Basin, 35.58 119 — IAMs_20 IAMs_20 — 03 30 19.4
comp=Z,1µm,18.0s
PV18 Skein Mesa, Pa 35.60 119 — IAMs_20 IAMs_20 — 03 29 02.0
comp=Z,2µm,20.0s
PV03 Paradox Valley 35.62 119 — IAMs_20 IAMs_20 — 03 27 15.4
comp=Z,2µm,18.0s
PV15 Paradox Valley 35.68 119 — IAmb IAmb — 03 14 11.9
comp=Z,10nm,0.9s
PV15 — IAMs_20 IAMs_20 — 03 27 51.0
comp=Z,2µm,19.0s
TUQ Turquoise Moun 35.69 130 — P **P** — 03 13 57.8 +2.2
baz=337
ECSD EROS Data Cent 35.81 101 — P **P** — 03 13 56.2 -0.2
baz=325,SNR=8.1
ECSD EROS Data Cent 35.81 101 — P **P** — 03 13 54.9 -1.5
ECSD — IAmb IAmb — 03 14 03.0
comp=Z,8.3nm,0.8s
PV01 Paradox Valley 35.83 119 — IAmb IAmb — 03 14 13.5
comp=Z,13nm,1.0s
OGNE Ogallala 35.92 109 — IAMs_20 IAMs_20 — 03 27 03.1
comp=Z,1µm,18.0s
SPMN Marine on St. 36.19 95 — P **P** — 03 14 00.2 +0.6
baz=324,SNR=18
BFSC Mount Baldy Ra 36.25 133 — P **P** — 03 14 02.1 +1.8
baz=338,SNR=6.7
GMRC Granite Mounta 36.38 130 — P **P** — 03 14 03.1 +1.6
baz=337,SNR=9.0
Q24A Divide 36.40 114 — P **P** — 03 14 02.5 +0.7
baz=330
Q24A Divide 36.40 114 — IAMs_20 IAMs_20 — 03 28 20.9
comp=Z,1µm,19.0s
MVCO Mesa Verde 36.67 120 — P **P** — 03 14 04.6 +0.5
baz=333,SNR=7.1
W13A Hualapai Mount 36.67 128 — IAMs_20 IAMs_20 — 03 29 31.6
comp=Z,1µm,21.0s
S22A 4UR Ranch, Cre 36.82 117 — P **P** — 03 14 07.1 +1.7
baz=332,SNR=6.3
S22A 4UR Ranch, Cre 36.82 117 — IAMs_20 IAMs_20 — 03 28 14.2
comp=Z,1µm,19.0s
TYV Tymovskoe 36.85 281 *e*P **P** — 03 14 05.9 +0.8
TYV — pmax pmax
comp=Z,9.0nm,1.1s
TYV — pmax pmax
comp=Z,100nm,2.1s
BELC Belle Mtn. Jos 36.99 131 — P **P** — 03 14 08.6 +1.9
baz=338
IRM Iron Mountain 37.12 130 — P **P** — 03 14 10.0 +2.3
baz=337
WUAZ Wupatki 37.15 124 — P **P** — 03 14 09.7 +1.6
baz=335,SNR=20
WUAZ Wupatki 37.15 124 — IAmb IAmb — 03 14 11.3
comp=Z,20nm,0.8s
PFO Pinyon Flats O 37.20 132 — P **P** — 03 14 09.7 +1.3
baz=338
TPFO Pinon Flats 37.21 132 — P **P** — 03 14 09.7 +1.1
baz=338
G40A Rib Lake 37.26 93 — IAmb IAmb — 03 14 15.6
comp=Z,27nm,1.0s
G40A — IAMs_20 IAMs_20 — 03 27 24.0
comp=Z,1µm,21.0s
PDMCI Parker Dam,Lak 37.31 129 — P **P** — 03 14 10.6 +1.4
baz=337
SDCO Great Sand Dun 37.32 116 — P **P** — 03 14 11.0 +1.3
baz=331,SNR=12
SDCO Great Sand Dun 37.32 116 — IAMs_20 IAMs_20 — 03 30 28.4
comp=Z,1µm,20.0s
KSCO Kaye Shedlock' 37.34 111 — IAMs_20 IAMs_20 — 03 29 30.7
comp=Z,1µm,19.0s
L34A Svendsen Farm, 37.37 102 — IAMs_20 IAMs_20 — 03 29 26.2
comp=Z,2µm,18.0s
BC3 Big Chuckawall 37.48 131 — P **P** — 03 14 12.3 +1.5
baz=338

F42A Maple Grove Fa 37.74 91 — IAMs_20 IAMs_20 — 03 30 17.7
comp=Z,2µm,20.0s
MONP2 Monument Peak 37.88 132 — P **P** — 03 14 16.1 +1.8
baz=338,SNR=10.0
SWSC Sam W. Stewart 38.02 131 — P **P** — 03 14 16.8 +1.6
baz=338
W18A Petrified Fore 38.09 123 — P **P** — 03 14 17.4 +1.4
baz=334
X16A Lo Mia Camp, P 38.12 125 — IAMs_20 IAMs_20 — 03 30 02.9
comp=Z,1µm,18.0s
I40A Norwalk 38.19 95 — IAMs_20 IAMs_20 — 03 28 19.8
comp=Z,1µm,20.0s
IKP In-Ko-Pah, Jac 38.20 132 — P **P** — 03 14 18.7 +1.9
baz=338
GLA Glamis 38.24 130 — P **P** — 03 14 18.6 +1.5
baz=338
GLA Glamis 38.24 130 — IAMs_20 IAMs_20 — 03 28 56.1
comp=Z,1µm,20.0s
T25A Trinidad 38.27 115 — P **P** — 03 14 19.3 +1.7
baz=332
T25A Trinidad 38.27 115 — IAMs_20 IAMs_20 — 03 28 06.5
comp=Z,1µm,20.0s
D46A Sault St. Mari 38.57 86 — P **P** — 03 14 20.7 +0.9
baz=322
CBKS Cedar Bluff 38.66 108 — IAMs_20 IAMs_20 — 03 31 24.5
comp=Z,2µm,20.0s
SCIA State Center 38.73 99 — P **P** — 03 14 22.4 +1.3
baz=326
SCIA State Center 38.73 99 — IAmb IAmb — 03 14 33.8
comp=Z,14nm,0.7s
SCIA — IAMs_20 IAMs_20 — 03 30 45.2
comp=Z,1µm,18.0s
113A Mohawk Valley, 38.84 129 — IAMs_20 IAMs_20 — 03 29 40.1
comp=Z,1µm,19.0s
E46A Sault Ste Mari 38.87 87 — P **P** — 03 14 20.8 -1.5
E46A — IAMs_20 IAMs_20 — 03 30 43.6
comp=Z,2µm,19.0s
I42A Draeger Farm, 38.91 93 — IAMs_20 IAMs_20 — 03 30 37.8
comp=Z,999nm,21.0s
JFWS Jewell Farm 39.14 95 — P **P** — 03 14 24.8 +0.3
baz=325,SNR=5.2
JFWS Jewell Farm 39.14 95 — IAmb IAmb — 03 14 26.0
comp=Z,17nm,0.6s
JFWS Jewell Farm 39.14 95 — IAMs_20 IAMs_20 — 03 28 42.0
comp=Z,1µm,22.0s
E47A Iron Bridge 39.24 86 — P **P** — 03 14 25.5 +0.2
baz=322
D48A Paudash Townsh 39.29 84 — P **P** — 03 14 25.9 +0.2
baz=322
G45A Suttons Bay 39.36 89 — IAMs_20 IAMs_20 — 03 31 17.6
comp=Z,2µm,19.0s
R32A Long Quarter, 39.41 108 — IAmb IAmb — 03 14 33.8
comp=Z,26nm,0.9s
L40A Anamosa 39.44 97 — IAmb IAmb — 03 14 41.0
comp=Z,18nm,0.7s
ANMO Albuquerque 39.44 119 — P **P** — 03 14 29.0 +1.7
baz=333
ANMO Albuquerque 39.44 119 *ce*P **P** — 03 14 27.8 +0.5
ANMO — pmax pmax
comp=Z,6.0nm,0.6s
ANMO Albuquerque 39.44 119 — P **P** — 03 14 27.5 +0.1
SCHQ Schefferville 39.46 64 — P **P** — 03 14 27.8 +0.7
comp=Z,6.6nm,0.9s,baz=350,slow=11,SNR=3.9
SCHQ — LR LR — 03 31 16.4
comp=Z,719nm,19.6s,baz=332,slow=37
GRNR Gornyy 39.48 286 *e*P **P** — 03 14 27.3 0.0
GRNR — MLR MLR
comp=E,320nm,14.0s
GRNR — MLR MLR
comp=N,350nm,15.0s
GRNR — MLR MLR
comp=Z,450nm,13.0s
KSU1 Kansas State U 39.68 105 — P **P** — 03 14 29.0 -0.1
baz=328
KSU1 Kansas State U 39.68 105 — IAMs_20 IAMs_20 — 03 29 13.5
comp=Z,1µm,18.0s
E48A Lockeyer 39.69 85 — P **P** — 03 14 29.1 0.0
baz=323
YSS Yuzh-Sakhalins 39.83 277 *e*P **P** — 03 14 30.8 +0.6
YSS *e* — 03 16 13.6
YSS *e*PPP PPP — 03 16 40.0
YSS *e*S **S** — 03 20 36.3 +1.7
YSS — pmax pmax
comp=Z,20nm,0.5s
YSS — smax smax
comp=N,100nm,6.8s
YSS — smax smax
comp=E,200nm,4.2s
YSS — MLR MLR
comp=Z,1µm,15.0s
YSS — MLR MLR
comp=N,400nm,16.0s
YSS — MLR MLR
comp=E,400nm,14.0s
214A Organ Pipe Nat 39.91 128 — P **P** — 03 14 32.4 +1.3
baz=337,SNR=5.6
214A Organ Pipe Nat 39.91 128 — IAMs_20 IAMs_20 — 03 30 02.2
comp=Z,1µm,20.0s
Y22D IRIS PASSCAL I 40.04 120 — IAMs_20 IAMs_20 — 03 32 28.6
comp=Z,1µm,19.0s
PIX Pinacate 40.05 129 — P **P** — 03 14 31.9 -0.3
PIX — IAMs_20 IAMs_20 — 03 32 25.1
comp=Z,1µm,18.0s
BNM Barren Site 40.08 120 — P **P** — 03 14 31.6 -1.2
K43A Burlington 40.12 94 — IAmb IAmb — 03 14 39.5
comp=Z,26nm,0.8s
K43A — IAMs_20 IAMs_20 — 03 31 33.9
comp=Z,1µm,18.0s
NRIK Noril'sk 40.12 333 — P **P** — 03 14 33.9 +1.5
comp=Z,20nm,1.2s,baz=10,slow=4.4,SNR=6.0
NRIK — LR LR — 03 35 18.3
comp=Z,687nm,18.0s,baz=55,slow=42
L42A Oliver, Polo 40.14 95 — IAMs_20 IAMs_20 — 03 31 37.3
comp=Z,2µm,18.0s
TUC Tucson 40.27 126 — P **P** — 03 14 36.0 +1.9
baz=336
TUC Tucson 40.27 126 — P **P** — 03 14 35.9 +1.8
TUC — pmax pmax
comp=Z,6.0nm,0.9s
TUC Tucson 40.27 126 — P **P** — 03 14 32.6 -1.5
TUC Tucson 40.27 126 — IAMs_20 IAMs_20 — 03 32 13.6
comp=Z,941nm,18.0s
P38A Dawn 40.50 101 — IAmb IAmb — 03 14 37.7
comp=Z,16nm,0.7s
L44A Lake County Fo 40.73 94 — IAMs_20 IAMs_20 — 03 29 20.1
comp=Z,893nm,18.0s
ZEA Zeya 40.83 295 *e*P **P** — 03 14 38.2 -0.2
ZEA *e*S **S** — 03 20 49.0 -0.4
ZEA — pmax pmax
comp=Z,26nm,0.8s
ZEA — smax smax
comp=E,200nm,8.0s
ZEA — MLR MLR
comp=Z,2µm,17.0s
ZEA — MLR MLR
comp=E,1µm,12.0s
121A Cookes Peak, D 41.12 122 — P **P** — 03 14 43.1 +1.9
baz=335,SNR=5.6
121A Cookes Peak, D 41.12 122 — P **P** — 03 14 40.1 -1.1
121A — IAMs_20 IAMs_20 — 03 33 12.1
comp=Z,1µm,18.0s
P40A Paris 41.20 100 — IAmb IAmb — 03 14 57.3
comp=Z,20nm,0.8s
AMTX Amarillo 41.30 114 — P **P** — 03 14 44.1 +1.4
baz=332
AMTX Amarillo 41.30 114 — IAmb IAmb — 03 14 57.8
comp=Z,20nm,0.8s
AMTX — IAMs_20 IAMs_20 — 03 32 52.7
comp=Z,2µm,22.0s
M44A Midewin, Midew 41.33 94 — IAMs_20 IAMs_20 — 03 32 11.9
comp=Z,840nm,21.0s
I49A Point Hope 41.45 87 — IAMs_20 IAMs_20 — 03 30 37.7
comp=Z,839nm,19.0s
HDIL Hopedale 41.49 96 — P **P** — 03 14 44.0 -0.1
baz=327
HDIL Hopedale 41.49 96 — P **P** — 03 14 43.1 -1.0
HDIL — IAmb IAmb — 03 14 45.3
comp=Z,20nm,0.7s
HDIL — IAMs_20 IAMs_20 — 03 30 31.3
comp=Z,956nm,20.0s
L46A Eue Claire 41.55 92 — IAMs_20 IAMs_20 — 03 32 32.7
comp=Z,2µm,20.0s
T35A Sooner Cattle 41.59 106 — IAmb IAmb — 03 14 51.8
comp=Z,23nm,0.9s
319A Douglas 41.64 124 — IAmb IAmb — 03 14 48.4
comp=Z,11nm,0.7s
319A — IAMs_20 IAMs_20 — 03 32 58.9
comp=Z,1µm,19.0s

E53A Dumoine, Ponti 41.65 81 — P **P** — 03 14 45.4 +0.1
baz=323
E54A Lac Daplat, Po 41.81 80 — P **P** — 03 14 47.1 +0.5
baz=323
ALGO Algonquin Park 41.83 82 — P **P** — 03 14 46.5 -0.2
baz=323
QUOK Quay 42.15 107 — IAmb IAmb — 03 15 06.5
comp=Z,20nm,1.0s
R40A Maddies Statio 42.16 101 — IAMs_20 IAMs_20 — 03 30 53.9
comp=Z,944nm,20.0s
JKA Kamikawa-asahi 42.17 274 — IAMs_20 IAMs_20 — 03 34 38.1
comp=Z,878nm,18.0s
ASAJ Asahikawa 42.17 274 — P **P** — 03 14 48.7 -0.8
comp=Z,2.7nm,0.7s,baz=6.8,slow=9.9,SNR=4.2
ASAJ — LR LR — 03 32 10.1
comp=Z,562nm,21.0s,baz=32,slow=36
O44A Mansfield 42.18 96 — IAMs_20 IAMs_20 — 03 30 36.4
comp=Z,1µm,21.0s
S39A Bolivar 42.23 103 — IAMs_20 IAMs_20 — 03 30 16.9
comp=Z,863nm,22.0s
G54A Lake Saint Pet 42.26 82 — P **P** — 03 14 50.6 +0.2
baz=324
EPT El Paso 42.26 121 — IAMs_20 IAMs_20 — 03 32 00.4
comp=Z,1µm,19.0s
I51A Listowel 42.32 86 — P **P** — 03 14 51.6 +0.8
baz=324
D56A ZEC Mazanza, M 42.33 78 — P **P** — 03 14 50.9 +0.1
baz=323
K50A Casco 42.48 88 — IAMs_20 IAMs_20 — 03 30 52.1
comp=Z,1µm,19.0s
WMOK Wichita Mounta 42.57 110 — P **P** — 03 14 52.9 0.0
baz=331,SNR=20
WMOK Wichita Mounta 42.57 110 — P **P** — 03 14 53.6 +0.7
WMOK — pmax pmax
comp=Z,17nm,0.9s
WMOK Wichita Mounta 42.57 110 — P **P** — 03 14 51.7 -1.2
KLR Kul'dur 42.57 288 — LR LR — 03 33 13.4
comp=Z,525nm,18.4s,baz=39,slow=37
KLR Kul'dur 42.57 288 *ce*P **P** — 03 14 52.4 -0.4
KLR — pmax pmax
comp=Z,17nm,1.5s
SLM Saint Louis 42.71 99 — IAMs_20 IAMs_20 — 03 30 07.5
comp=Z,1µm,19.0s
MNTX Cornudas Mount 42.74 120 — P **P** — 03 14 55.6 +1.2
baz=335
N47A Urbana 42.74 93 — IAMs_20 IAMs_20 — 03 33 12.2
comp=Z,1µm,19.0s
TUL1 Leonard 42.75 106 — P **P** — 03 14 55.4 +1.0
baz=330
TUL1 Leonard 42.75 106 — IAmb IAmb — 03 15 09.2
comp=Z,17nm,0.8s
CCM Cathedral Cave 42.78 100 — P **P** — 03 14 54.1 -0.5
baz=328
CCM Cathedral Cave 42.78 100 — P **P** — 03 14 54.1 -0.5
CCM — pmax pmax
comp=Z,17nm,0.9s
CCM Cathedral Cave 42.78 100 — P **P** — 03 14 54.1 -0.5
CCM — IAmb IAmb — 03 15 09.7
comp=Z,13nm,0.8s
CCM Cathedral Cave 42.78 100 — IAMs_20 IAMs_20 — 03 32 46.4
comp=Z,1µm,18.0s
G55A Calabogie 42.95 81 — P **P** — 03 14 55.7 -0.2
baz=324
Q44A Meyer Farm, Va 42.99 97 — IAMs_20 IAMs_20 — 03 32 39.0
comp=Z,1µm,20.0s
MGMO Mountain Grove 43.12 102 — IAmb IAmb — 03 15 02.8
comp=Z,15nm,0.9s
P46A Rosedale 43.16 95 — IAmb IAmb — 03 15 12.1
comp=Z,16nm,0.8s
P46A — IAMs_20 IAMs_20 — 03 33 14.2
comp=Z,1µm,19.0s
DELO Deloro Mine 43.17 82 — IAMs_20 IAMs_20 — 03 32 02.2
comp=Z,1µm,20.0s
FVM French Village 43.18 100 — IAmb IAmb — 03 15 11.5
comp=Z,16nm,0.8s
FVM — IAMs_20 IAMs_20 — 03 33 03.1
comp=Z,2µm,21.0s
HHAR Hobbs 43.18 104 — IAMs_20 IAMs_20 — 03 34 37.2
comp=Z,2µm,22.0s
HSIG 43.23 128 — IAMs_20 IAMs_20 — 03 31 55.1
comp=Z,1µm,22.0s
ORIO Orleans, Innes 43.30 80 — P **P** — 03 14 58.6 0.0
baz=324
ORIO Orleans, Innes 43.30 80 — P **P** — 03 14 57.5 -1.2
H55A Tweed 43.33 82 — P **P** — 03 14 59.3 +0.4
baz=324
N49A Columbus Grove 43.35 91 — IAmb IAmb — 03 15 31.1
comp=Z,24nm,0.9s
OLIL Olney 43.52 97 — IAmb IAmb — 03 15 32.4
comp=Z,32nm,1.1s
OLIL — IAMs_20 IAMs_20 — 03 31 17.0
comp=Z,951nm,22.0s
U40A Yellville 43.56 103 — P **P** — 03 15 00.5 -0.5
baz=330,SNR=9.4
U40A Yellville 43.56 103 — IAMs_20 IAMs_20 — 03 34 15.3
comp=Z,1µm,18.0s
T42A Van Buren 43.72 101 — IAMs_20 IAMs_20 — 03 31 52.2
comp=Z,875nm,19.0s
BLO Bloomington 43.82 95 — IAMs_20 IAMs_20 — 03 31 09.7
comp=Z,1µm,18.0s
O49A Covington 43.89 92 — IAMs_20 IAMs_20 — 03 31 32.6
comp=Z,1µm,18.0s
PECO Prince Edward 43.91 82 — IAMs_20 IAMs_20 — 03 32 10.7
comp=Z,897nm,21.0s
M52A Chesterland 44.03 88 — IAMs_20 IAMs_20 — 03 30 53.1
comp=Z,1µm,19.0s
P48A Milroy 44.04 94 — IAMs_20 IAMs_20 — 03 33 53.5
comp=Z,1µm,18.0s
J55A Hilton 44.10 84 — IAMs_20 IAMs_20 — 03 31 10.0
comp=Z,1µm,18.0s
N51A Ashland 44.11 90 — P **P** — 03 15 05.4 +0.1
baz=326,SNR=7.8
ERPA Erie 44.13 87 — IAMs_20 IAMs_20 — 03 32 20.8
comp=Z,979nm,20.0s
G58A Ormstown 44.15 79 — P **P** — 03 15 05.8 +0.3
baz=324
H57A Richville 44.15 81 — P **P** — 03 15 05.8 +0.3
baz=324
L53A Girard 44.15 87 — P **P** — 03 15 05.8 +0.2
baz=326,SNR=5.2
W39A Magazine 44.18 105 — P **P** — 03 15 04.8 -1.1
baz=330
W39A Magazine 44.18 105 — IAMs_20 IAMs_20 — 03 31 49.7
comp=Z,1µm,19.0s
FCAR Ozark Folk Cen 44.27 103 — IAmb IAmb — 03 15 35.4
comp=Z,32nm,1.6s
L54A Sinclairville 44.32 86 — P **P** — 03 15 06.9 0.0
baz=326
LONY Lake Ozonia 44.35 80 — IAMs_20 IAMs_20 — 03 34 16.5
comp=Z,1µm,20.0s
SRIG Santa Rosalia 44.37 130 — IAMs_20 IAMs_20 — 03 32 51.6
comp=Z,678nm,18.0s
M53A WI Miller and 44.40 88 — P **P** — 03 15 07.9 +0.3
baz=326,SNR=10.0
M53A WI Miller and 44.40 88 — IAMs_20 IAMs_20 — 03 32 42.0
comp=Z,989nm,21.0s
ACSO Alum Creek Sta 44.43 91 — P **P** — 03 15 07.8 0.0
baz=327,SNR=12
WVNY West Valley, N 44.48 85 — IAMs_20 IAMs_20 — 03 31 26.9
comp=Z,1µm,18.0s
N52A McGinn's Farm, 44.49 89 — P **P** — 03 15 08.5 +0.2
baz=326
J56A Wolcott 44.50 83 — IAMs_20 IAMs_20 — 03 31 44.4
comp=Z,938nm,18.0s
LCAR Lake Charles 44.51 102 — IAMs_20 IAMs_20 — 03 33 01.3
comp=Z,736nm,18.0s
O51A Pataskala 44.66 90 — P **P** — 03 15 09.4 -0.3
baz=327,SNR=9.5
HENM Henderson Moun 44.66 100 — IAMs_20 IAMs_20 — 03 33 26.1
comp=Z,1µm,20.0s
H58A Gabriels 44.69 80 — P **P** — 03 15 09.0 -0.8
baz=325
WCI Wyandotte Cave 44.71 95 — P **P** — 03 15 09.6 -0.4
baz=328
WCI Wyandotte Cave 44.71 95 — P **P** — 03 15 09.7 -0.4
WCI — IAmb IAmb — 03 15 41.0
comp=Z,11nm,1.1s
WCI — IAMs_20 IAMs_20 — 03 31 49.3
comp=Z,1µm,21.0s
WHAR Wooly Hollow 44.72 103 — IAMs_20 IAMs_20 — 03 35 46.7
comp=Z,1µm,19.0s
L55A Hinsdale 44.73 85 — P **P** — 03 15 09.1 -1.2
baz=326
J57A Williamstown 44.75 82 — IAMs_20 IAMs_20 — 03 32 09.1
comp=Z,1µm,19.0s
M54A Oil Creek Stat 44.77 87 — P **P** — 03 15 10.4 -0.2
baz=326
M54A Oil Creek Stat 44.77 87 — IAmb IAmb — 03 15 17.7

	comp=Z,14nm,0.8s								
K56A	**Middlesex**	44.78	84	P	**P**	03 15 09.0	-1.6		
	baz=325								
E62A	**Clayton Lake**	44.82	74	IAMs_20	IAMs_20	03 33 19.7			
	comp=Z,1µm,19.0s								
PENMO	**Penman**	44.82	100	IAMs_20	IAMs_20	03 31 24.4			
	comp=Z,967nm,22.0s								
MIAR	**Mount Ida**	44.83	105	P	**P**	03 15 11.0	-0.1		
	baz=330								
MIAR	**Mount Ida**	44.83	105	IAmb	IAmb	03 15 26.2			
	comp=Z,9.7nm,0.6s								
MIAR				IAMs_20	IAMs_20	03 33 30.9			
	comp=Z,1µm,21.0s								
W41B	**Gary Mavity, V**	44.83	103	P	**P**	03 15 13.9	+2.8		
	baz=330								
W41B	**Gary Mavity, V**	44.83	103	IAMs_20	IAMs_20	03 35 48.8			
	comp=Z,1µm,20.0s								
N53A	**Lisbon**	44.86	88	P	**P**	03 15 11.2	-0.1		
	baz=326,SNR=8.8								
N53A	**Lisbon**	44.86	88	IAMs_20	IAMs_20	03 32 02.0			
	comp=Z,1µm,22.0s								
HICK	**Hickman**	44.91	99	IAMs_20	IAMs_20	03 33 32.8			
	comp=Z,1µm,20.0s								
I58A	**Old Forge**	44.95	81	P	**P**	03 15 11.4	-0.6		
	baz=325								
O52A	**Adamsville**	45.01	90	P	**P**	03 15 12.0	-0.5		
	baz=327,SNR=8.4								
PEBM	**Pemiscott Bayo**	45.01	100	IAMs_20	IAMs_20	03 32 41.5			
	comp=Z,1µm,18.0s								
P51A	**Williamsport**	45.02	91	IAmb	IAmb	03 15 44.2			
	comp=Z,16nm,0.9s								
D63A	**Stockholm**	45.06	73	P	**P**	03 15 13.0	+0.2		
	baz=324								
GNAR	**Gosnell**	45.07	101	IAMs_20	IAMs_20	03 33 55.1			
	comp=Z,821nm,18.0s								
N54A	**Moraine State**	45.09	87	P	**P**	03 15 12.8	-0.3		
	baz=326								
N54A	**Moraine State**	45.09	87	IAmb	IAmb	03 15 17.8			
	comp=Z,21nm,1.1s								
R49A	**Shelbyville**	45.13	94	IAMs_20	IAMs_20	03 34 41.4			
	comp=Z,1µm,18.0s								
UALR	**University of**	45.14	104	IAMs_20	IAMs_20	03 33 15.9			
	comp=Z,786nm,20.0s								
L56A	**Greenwood**	45.14	84	P	**P**	03 15 13.1	-0.5		
	baz=326								
HBAR	**Harrisburg**	45.16	102	IAMs_20	IAMs_20	03 33 46.5			
	comp=Z,1µm,20.0s								
O53A	**New Philadelph**	45.16	89	P	**P**	03 15 13.1	-0.6		
	baz=327								
LNXT	**Lenox**	45.18	100	IAMs_20	IAMs_20	03 32 03.4			
	comp=Z,855nm,22.0s								
M55A	**Ridgway**	45.18	86	P	**P**	03 15 13.6	-0.3		
	baz=326								
M55A	**Ridgway**	45.18	86	IAmb	IAmb	03 15 18.5			
	comp=Z,14nm,0.8s								
M55A				IAMs_20	IAMs_20	03 32 50.6			
	comp=Z,868nm,19.0s								
LPAR	**Lepanto**	45.27	101	IAMs_20	IAMs_20	03 32 36.3			
	comp=Z,936nm,18.0s								
P52A	**Corning**	45.29	90	P	**P**	03 15 13.8	-0.9		
	baz=327								
P52A	**Corning**	45.29	90	IAmb	IAmb	03 15 46.3			
	comp=Z,22nm,1.1s								
I59A	**Olmsteadville**	45.32	80	P	**P**	03 15 14.6	-0.3		
	baz=325								
Z38A	**Mt. Pleasant**	45.38	108	IAMs_20	IAMs_20	03 33 03.4			
	comp=Z,1µm,18.0s								
PQI	**Presque Isle**	45.39	73	IAMs_20	IAMs_20	03 34 59.7			
	comp=Z,1µm,20.0s								
M56A	**Emporium**	45.42	85	P	**P**	03 15 15.3	-0.4		
	baz=326								
M56A	**Emporium**	45.42	85	IAmb	IAmb	03 15 47.8			
	comp=Z,14nm,0.8s								
M56A				IAMs_20	IAMs_20	03 32 30.8			
	comp=Z,835nm,19.0s								
T47A	**Sharon Grove**	45.42	97	IAmb	IAmb	03 15 47.1			
	comp=Z,20nm,1.1s								
K58A	**Earlville**	45.43	82	IAMs_20	IAMs_20	03 32 17.0			
	comp=Z,956nm,19.0s								
TX32	**Lajitas Array**	45.50	119	IAmb	IAmb	03 15 48.8			
	comp=Z,15nm,1.0s								
TXAR	**Lajitas Array**	45.50	119	P	**P**	03 15 18.0	+1.4		
	comp=Z,3.8nm,0.6s,baz=329,slow=6.9,SNR=83								
TXAR	**Lajitas Array**	45.50	119	P	**P**	03 15 17.1	+0.5		
WHTX	**Lake Whitney,**	45.51	111	P	**P**	03 15 15.7	-0.8		
	baz=332								
WHTX	**Lake Whitney,**	45.51	111	IAmb	IAmb	03 15 18.0			
	comp=Z,11nm,0.6s								
ARCES	**ARCESS Array B**	45.56	3	P	**P**	03 15 18.4	+1.9		
	comp=Z,4.2nm,0.9s,baz=12,slow=6.2,SNR=8.0								
ARCES				PcP	**PcP**	03 16 53.4	-1.4		
	comp=Z,2.2nm,0.7s,baz=359,slow=5.2,SNR=3.8								
ARCES	**ARCESS Array B**	45.56	3	P	**P**	03 15 15.4	-1.0		
O54A	**Avella**	45.57	88	P	**P**	03 15 16.9	0.0		
	baz=327,SNR=22								
O54A	**Avella**	45.57	88	IAMs_20	IAMs_20	03 32 23.9			
	comp=Z,1µm,19.0s								
N55A	**Marion Center**	45.66	87	P	**P**	03 15 17.3	-0.3		
	baz=326,SNR=9.8								
BATG	**Bathurst New B**	45.68	71	IAMs_20	IAMs_20	03 33 01.5			
	comp=Z,991nm,19.0s								
P53A	**Whipple**	45.72	90	P	**P**	03 15 17.8	-0.4		
	baz=327,SNR=6.8								
P53A	**Whipple**	45.72	90	IAmb	IAmb	03 15 19.0			
	comp=Z,14nm,0.8s								
F63A	**Nahmakanta, Br**	45.73	75	IAMs_20	IAMs_20	03 33 47.9			
	comp=Z,638nm,18.0s								
BINY	**Binghamton**	45.75	83	P	**P**	03 15 17.6	-0.7		
	baz=326								
BINY	**Binghamton**	45.75	83	IAMs_20	IAMs_20	03 32 50.5			
	comp=Z,1µm,22.0s								
Q52A	**Bidwell**	45.79	91	P	**P**	03 15 18.4	-0.3		
	baz=327,SNR=7.1								
H62A	**Milan**	45.81	77	IAMs_20	IAMs_20	03 35 10.0			
	comp=Z,1µm,18.0s								
MET	**Memphis--Engin**	45.83	101	IAMs_20	IAMs_20	03 32 55.3			
	comp=Z,980nm,20.0s								
N56A	**West Decatur**	45.84	86	P	**P**	03 15 19.5	+0.4		
	baz=326								
WVT	**Waverly**	45.84	98	P	**P**	03 15 19.2	+0.1		
	baz=329								
WVT	**Waverly**	45.84	98	P	**P**	03 15 18.1	-1.0		
F64A	**Sherman**	45.91	74	IAMs_20	IAMs_20	03 35 25.5			
	comp=Z,715nm,18.0s								
JCT	**Junction City**	45.93	114	P	**P**	03 15 21.4	+1.4		
	baz=334,SNR=11								
JCT	**Junction City**	45.93	114	IAMs_20	IAMs_20	03 33 53.4			
	comp=Z,858nm,18.0s								
L58A	**Harry Jones Me**	45.93	83	P	**P**	03 15 19.6	-0.2		
	baz=326								
X43A	**Marvell**	45.96	103	IAMs_20	IAMs_20	03 35 20.7			
	comp=Z,1µm,18.0s								
M57A	**Sunshine Farm,**	45.98	85	IAMs_20	IAMs_20	03 32 31.7			
	comp=Z,1µm,19.0s								
O55A	**Ligonier**	46.00	87	P	**P**	03 15 19.9	-0.5		
	baz=327								
P54A	**Burton**	46.01	89	P	**P**	03 15 20.2	-0.2		
	baz=327,SNR=16								
W45A	**Hickory Valley**	46.11	100	IAMs_20	IAMs_20	03 33 17.7			
	comp=Z,950nm,18.0s								
L59A	**Walton**	46.15	82	IAMs_20	IAMs_20	03 33 01.2			
	comp=Z,1µm,18.0s								
Q53A	**Leroy**	46.19	90	P	**P**	03 15 21.8	-0.1		
	baz=327,SNR=7.7								
MCWV	**Mont Chateau**	46.23	88	P	**P**	03 15 22.2	0.0		
	baz=327,SNR=9.0								
MCWV	**Mont Chateau**	46.23	88	IAMs_20	IAMs_20	03 35 21.4			
	comp=Z,1µm,18.0s								
M58A	**Price's Panora**	46.23	84	P	**P**	03 15 21.4	-0.8		
	baz=326								
SSPA	**Standing Stone**	46.24	86	P	**P**	03 15 21.9	-0.3		
	baz=326								
SSPA	**Standing Stone**	46.24	86	P	**P**	03 15 21.2	-1.0		
SSPA				IAmb	IAmb	03 15 26.6			
	comp=Z,7.9nm,0.8s								
O56A	**Blue Knob Stat**	46.26	87	P	**P**	03 15 21.6	-0.8		
	baz=327,SNR=8.1								
O56A	**Blue Knob Stat**	46.26	87	IAmb	IAmb	03 15 26.8			
	comp=Z,12nm,0.8s								
O56A				IAMs_20	IAMs_20	03 32 27.8			
	comp=Z,925nm,19.0s								
Z41A	**Richland Creek**	46.27	105	IAMs_20	IAMs_20	03 33 57.9			
	comp=Z,832nm,18.0s								
TRY	**Troy**	46.28	81	IAMs_20	IAMs_20	03 35 13.5			
	comp=Z,1µm,18.0s								
T50A	**Nancy**	46.34	95	IAmb	IAmb	03 15 54.9			
	comp=Z,15nm,0.9s								
S51A	**Beattyville**	46.34	93	IAmb	IAmb	03 15 54.1			
	comp=Z,11nm,0.8s								
S51A				IAMs_20	IAMs_20	03 35 32.6			
	comp=Z,976nm,18.0s								
P55A	**Reedsville**	46.37	88	P	**P**	03 15 23.1	-0.2		
	baz=327,SNR=12								
Q54A	**Coxs Mills**	46.38	90	P	**P**	03 15 22.8	-0.5		
	baz=327								
Q54A	**Coxs Mills**	46.38	90	IAmb	IAmb	03 15 23.8			
	comp=Z,9.6nm,0.7s								
U49A	**Red Boiling Sp**	46.38	96	IAmb	IAmb	03 15 55.5			
	comp=Z,17nm,0.9s								
U49A				IAMs_20	IAMs_20	03 32 51.6			
	comp=Z,1µm,22.0s								
WVL	**Waterville**	46.44	76	IAMs_20	IAMs_20	03 35 46.4			
	comp=Z,799nm,18.0s								
R53A	**Hurricane**	46.45	91	P	**P**	03 15 23.5	-0.4		
	baz=328,SNR=6.8								
CLTN	**Cedars of Leba**	46.51	97	IAMs_20	IAMs_20	03 33 25.0			
	comp=Z,898nm,22.0s								
435B	**Jarrell**	46.52	112	IAMs_20	IAMs_20	03 33 45.0			
	comp=Z,1µm,19.0s								
USA0B	**Ussuriysk Arra**	46.53	283	IAmb	IAmb	03 15 25.3			
	comp=Z,8.1nm,0.8s								
USRK	**Ussuriysk Ar.**	46.53	283	P	**P**	03 15 24.6	+0.2		
	comp=Z,4.6nm,0.6s,baz=56,slow=9.9,SNR=9.8								
USRK				LR	LR	03 36 48.1			
	comp=Z,455nm,18.4s,baz=29,slow=38								
USRK	**Ussuriysk Ar.**	46.53	283	P	**P**	03 15 23.8	-0.6		
N58A	**Sunbury**	46.57	85	P	**P**	03 15 24.3	-0.5		
	baz=326								
N58A	**Sunbury**	46.57	85	IAmb	IAmb	03 15 29.0			
	comp=Z,14nm,0.9s								
N58A				IAMs_20	IAMs_20	03 32 49.2			
	comp=Z,1µm,18.0s								
OXF	**Oxford**	46.58	101	P	**P**	03 15 25.6	+0.7		
	baz=330								
OXF	**Oxford**	46.58	101	IAMs_20	IAMs_20	03 33 26.9			
	comp=Z,812nm,19.0s								
Q55A	**Buckhannon**	46.69	89	P	**P**	03 15 26.3	+0.5		
	baz=327								
O57A	**Amberson**	46.70	86	P	**P**	03 15 25.6	-0.3		
	baz=327,SNR=8.9								
PLAL	**Pickwick Lake**	46.73	99	IAmb	IAmb	03 15 57.8			
	comp=Z,14nm,1.0s								
PLAL				IAMs_20	IAMs_20	03 34 59.9			
	comp=Z,1µm,20.0s								
G65A	**Princeton**	46.77	74	IAMs_20	IAMs_20	03 33 50.3			
	comp=Z,809nm,21.0s								
P56A	**Dayton Farm, R**	46.79	88	P	**P**	03 15 26.1	-0.4		
	baz=327								
NATX	**Nacogdoches**	46.82	108	P	**P**	03 15 27.7	+0.9		
	baz=332								
NATX	**Nacogdoches**	46.82	108	IAMs_20	IAMs_20	03 35 36.7			
	comp=Z,1µm,18.0s								
N59A	**State Game Lan**	46.90	84	P	**P**	03 15 27.1	-0.4		
	baz=326								
N59A	**State Game Lan**	46.90	84	IAmb	IAmb	03 15 31.7			
	comp=Z,11nm,1.0s								
S53A	**Williamson**	46.93	92	P	**P**	03 15 27.8	+0.1		
	baz=328								
R54A	**Victor**	46.99	90	P	**P**	03 15 27.7	-0.4		
	baz=328								
Q56A	**Snyder Ridge,**	47.03	88	P	**P**	03 15 28.4	0.0		
	baz=27,SNR=10								
PAGS	**Pennsylvania G**	47.08	85	IAMs_20	IAMs_20	03 33 34.7			
	comp=Z,714nm,19.0s								
O58A	**Lewisberry**	47.08	85	P	**P**	03 15 28.1	-0.6		
	baz=327								
P57A	**Homestead Farm**	47.15	87	P	**P**	03 15 28.5	-0.9		
	baz=327								
P57A	**Homestead Farm**	47.15	87	IAmb	IAmb	03 15 33.3			
	comp=Z,8.8nm,0.9s								
P57A				IAMs_20	IAMs_20	03 32 39.8			
	comp=Z,1µm,19.0s								
MDJ	**Mudanjiang**	47.17	286	P	**P**	03 15 30.1	+0.7		
MDJ				IAmb	IAmb	03 15 34.5			
	comp=Z,13nm,1.1s								
MDJ				IAMs_20	IAMs_20	03 37 43.0			
	comp=Z,597nm,18.0s								
S54A	**Dingess, Beckl**	47.17	91	P	**P**	03 15 29.2	-0.4		
	baz=328,SNR=8.0								
KSCT	**Kent School, K**	47.19	81	IAMs_20	IAMs_20	03 33 33.6			
	comp=Z,1µm,20.0s								
QUA2	**Belchertown**	47.20	80	IAMs_20	IAMs_20	03 35 33.9			
	comp=Z,658nm,18.0s								
EMMW	**East Machias**	47.22	74	IAMs_20	IAMs_20	03 34 44.1			
	comp=Z,626nm,18.0s								
N60A	**Cedar Hill Far**	47.22	83	P	**P**	03 15 28.0	-1.8		
	baz=326								
HIA	**Hailar**	47.23	297	*i* P	**P**	03 15 30.0	+0.1		
HIA				pmax	pmax				
	comp=Z,23nm,1.0s								
HIA	**Hailar**	47.23	297	P	**P**	03 15 29.8	-0.1		
HIA	**Hailar**	47.23	297	IAMs_20	IAMs_20	03 34 09.3			
	comp=Z,1µm,18.0s								
R55A	**Marlinton**	47.27	90	P	**P**	03 15 31.4	+1.0		
	baz=328,SNR=5.5								
TZTN	**Tazewell**	47.29	94	P	**P**	03 15 30.4	-0.1		
	baz=329,SNR=5.2								
TZTN	**Tazewell**	47.29	94	IAmb	IAmb	03 16 02.5			
	comp=Z,15nm,1.1s								
TZTN				IAMs_20	IAMs_20	03 35 38.7			
	comp=Z,703nm,18.0s								
143A	**Socs Landing,**	47.32	104	IAMs_20	IAMs_20	03 38 24.8			
	comp=Z,925nm,18.0s								
LUPA	**Lehigh Univers**	47.34	84	IAMs_20	IAMs_20	03 34 17.5			
	comp=Z,841nm,22.0s								
T53A	**Wise**	47.35	93	P	**P**	03 15 31.0	0.0		
	baz=328,SNR=5.7								
Q57A	**Strasburg**	47.36	88	P	**P**	03 15 30.6	-0.3		
	baz=327								
SWET	**Sewanee**	47.42	97	IAmb	IAmb	03 16 03.4			
	comp=Z,13nm,0.9s								
P58A	**Pank, Wackersv**	47.45	86	P	**P**	03 15 31.4	-0.2		
	baz=327								
R56A	**Bull Pasture M**	47.47	89	P	**P**	03 15 31.9	-0.1		
	baz=328,SNR=6.0								
S55A	**Lewisburg**	47.54	90	P	**P**	03 15 32.4	-0.1		
	baz=328								
O60A	**Telford**	47.55	84	P	**P**	03 15 32.0	-0.4		
	baz=327								
V51A	**Loudon**	47.59	95	IAmb	IAmb	03 16 04.8			
	comp=Z,15nm,1.1s								
V51A				IAMs_20	IAMs_20	03 34 33.5			
	comp=Z,706nm,18.0s								
BRNJ	**Basking Ridge**	47.60	83	IAMs_20	IAMs_20	03 33 47.6			
	comp=Z,856nm,19.0s								
PAL	**Palisades**	47.61	82	IAMs_20	IAMs_20	03 33 31.7			
	comp=Z,525nm,18.0s								
X48A	**Hartselle**	47.61	99	IAMs_20	IAMs_20	03 35 50.3			
	comp=Z,1µm,18.0s								
T54A	**Tazewell**	47.69	92	P	**P**	03 15 33.6	0.0		
	baz=328								
WSPT	**Westport, CT**	47.72	82	IAMs_20	IAMs_20	03 33 46.5			
	comp=Z,1µm,20.0s								
Q58A	**Fox Den Farm,**	47.75	87	P	**P**	03 15 33.4	-0.6		
	baz=327,SNR=5.8								
YLE	**Yale**	47.76	81	IAMs_20	IAMs_20	03 36 56.6			
	comp=Z,697nm,18.0s								
CPCT	**Cooper Cave**	47.81	96	IAMs_20	IAMs_20	03 36 30.6			
	comp=Z,987nm,18.0s								
BRYW	**Bryant College**	47.84	79	IAMs_20	IAMs_20	03 36 26.8			
	comp=Z,730nm,20.0s								
PSUB	**Penn St. - Bra**	47.86	84	IAMs_20	IAMs_20	03 33 31.4			
	comp=Z,1µm,18.0s								
V52A	**Sevierville**	47.87	95	IAmb	IAmb	03 17 22.9			
	comp=Z,16nm,1.4s								
P60A	**Greenville**	47.88	85	IAMs_20	IAMs_20	03 33 39.0			
	comp=Z,1µm,22.0s								
R57A	**Stanardsville**	47.93	88	P	**P**	03 15 35.3	-0.2		
	baz=328,SNR=12								
TKL	**Tuckaleechee C**	47.95	95	IAmb	IAmb	03 16 08.0			
	comp=Z,8.1nm,0.8s								
TKL				IAMs_20	IAMs_20	03 36 34.2			
	comp=Z,1µm,18.0s								
T55A	**Pulaski**	47.97	91	P	**P**	03 15 36.1	+0.3		
	baz=328								
833A	**Chaparral WMA,**	48.02	115	IAMs_20	IAMs_20	03 34 35.6			
	comp=Z,818nm,18.0s								
U54A	**Nelsons Funny**	48.04	92	P	**P**	03 15 36.7	+0.3		
	baz=328								
U54A	**Nelsons Funny**	48.04	92	IAMs_20	IAMs_20	03 32 53.5			
	comp=Z,663nm,19.0s								
BLA	**Blacksburg**	48.05	91	P	**P**	03 15 36.5	+0.1		
	baz=328								
VBMS	**Vicksburg**	48.11	104	IAMs_20	IAMs_20	03 38 54.6			
	comp=Z,596nm,18.0s								
FPAL	**Fort Paine**	48.14	97	IAMs_20	IAMs_20	03 34 26.1			
	comp=Z,659nm,21.0s								
R58A	**Rapidan**	48.15	88	P	**P**	03 15 36.8	-0.3		
	baz=328								
735A	**Kenedy**	48.15	113	IAMs_20	IAMs_20	03 37 53.1			
	comp=Z,1µm,18.0s								
Z47A	**Carrollton**	48.27	101	IAMs_20	IAMs_20	03 36 00.7			
	comp=Z,1µm,19.0s								
146A	**Union**	48.34	102	IAMs_20	IAMs_20	03 33 55.8			
	comp=Z,1µm,18.0s								
V53A	**Saluda**	48.35	94	IAmb	IAmb	03 16 11.4			
	comp=Z,9.3nm,0.8s								
P61A	**Hammonton**	48.35	84	IAMs_20	IAMs_20	03 33 22.4			
	comp=Z,993nm,18.0s								
T56A	**Rocky Mt**	48.37	90	P	**P**	03 15 38.7	-0.1		
	baz=328								
W52A	**Murphy**	48.37	95	IAmb	IAmb	03 16 11.4			
	comp=Z,14nm,0.9s								
W52A				IAMs_20	IAMs_20	03 33 53.2			
	comp=Z,936nm,21.0s								
U55A	**TA2, Sparta**	48.38	92	P	**P**	03 15 39.1	0.0		
	baz=328,SNR=9.2								
Y49A	**Blount Mountai**	48.39	99	IAMs_20	IAMs_20	03 36 15.9			
	comp=Z,1µm,19.0s								
X51A	**Calhoun**	48.43	97	IAMs_20	IAMs_20	03 36 30.9			
	comp=Z,1µm,20.0s								
R58B	**Mineral**	48.49	88	P	**P**	03 15 39.9	+0.2		
	baz=328								
R58B	**Mineral**	48.49	88	IAmb	IAmb	03 15 44.1			
	comp=Z,22nm,1.3s								
CBN	**Corbin Frederi**	48.50	87	P	**P**	03 15 39.5	-0.3		
	baz=328								
CBN	**Corbin Frederi**	48.50	87	IAMs_20	IAMs_20	03 34 57.4			
	comp=Z,779nm,20.0s								
M65A	**Busby, Falmout**	48.51	79	IAMs_20	IAMs_20	03 36 55.4			
	comp=Z,944nm,21.0s								
V54A	**Nebo**	48.62	93	P	**P**	03 15 41.1	+0.3		
	baz=329,SNR=7.1								
344A	**Westbrook Farm**	48.69	104	IAMs_20	IAMs_20	03 36 05.0			
	comp=Z,1µm,19.0s								
S58A	**Poland Farm, P**	48.71	88	P	**P**	03 15 41.6	+0.2		
	baz=328,SNR=11								
T57A	**Hurt**	48.72	90	P	**P**	03 15 41.1	-0.4		
	baz=328								
T57A	**Hurt**	48.72	90	IAmb	IAmb	03 15 46.1			
	comp=Z,11nm,0.9s								
U56A	**King**	48.80	91	P	**P**	03 15 42.2	+0.1		
	baz=329								
HAL	**Halifax**	48.83	71	IAMs_20	IAMs_20	03 39 08.8			
	comp=Z,944nm,20.0s								
LRAL	**Lakeview Retre**	48.85	100	P	**P**	03 15 42.5	0.0		
	baz=330,SNR=6.7								
LRAL	**Lakeview Retre**	48.85	100	IAmb	IAmb	03 15 59.8			
	comp=Z,10nm,1.1s								
V55A	**Taylorsville**	48.87	92	P	**P**	03 15 42.7	0.0		
	baz=329								
V55A	**Taylorsville**	48.87	92	IAmb	IAmb	03 16 14.4			
	comp=Z,11nm,1.0s								
T58A	**Grand View Acr**	49.07	89	P	**P**	03 15 43.7	-0.5		
	baz=328								
W54A	**Cherokee Point**	49.11	94	P	**P**	03 15 44.7	+0.1		
	baz=329								
U57A	**Blanch**	49.17	90	P	**P**	03 15 45.0	+0.1		
	baz=328,SNR=10								
V56A	**Mocksville**	49.21	92	P	**P**	03 15 45.3	0.0		
	baz=329								
Z51A	**Franklin**	49.37	98	IAmb	IAmb	03 16 19.0			
	comp=Z,17nm,0.9s								
KMSC	**Kings Mountain**	49.42	93	P	**P**	03 15 46.6	-0.3		
	baz=329								
KMSC	**Kings Mountain**	49.42	93	IAmb	IAmb	03 16 17.9			
	comp=Z,10nm,1.1s								
V57A	**Coltrane Farms**	49.44	91	P	**P**	03 15 46.6	-0.5		
	baz=329								
T59A	**Double "B" Far**	49.46	88	P	**P**	03 15 47.0	-0.2		
	baz=328								
T59A	**Double "B" Far**	49.46	88	IAmb	IAmb	03 15 52.0			
	comp=Z,15nm,1.1s								
X54A	**Belton**	49.49	94	P	**P**	03 15 47.5	+0.1		
	baz=329								
PAULI	**Pauline**	49.49	94	IAmb	IAmb	03 16 20.0			
	comp=Z,15nm,0.9s								
CN2	**Changchun**	49.52	288	*e*P	**P**	03 15 47.5	0.0		
CN2				*es*P	sP	03 15 55.0	+4.8		
CN2				*eS*	**S**	03 22 51.8	-3.4		
CN2				pmax	pmax				
	comp=Z,20nm,0.8s								
CN2				LR	LR				
	comp=Z,970nm,17.0s								
CN2				LR	LR				
	comp=Z,1µm,17.0s								
CN2				LR	LR				
	comp=Z,510nm,15.0s								
U58A	**Oxford**	49.53	90	P	**P**	03 15 48.1	+0.4		
	baz=328								
S61A	**Accomac**	49.66	86	IAMs_20	IAMs_20	03 35 17.0			
	comp=Z,867nm,18.0s								
V58A	**Windy Hill, Pi**	49.80	90	P	**P**	03 15 49.3	-0.5		
	baz=329								
V58A	**Windy H

Y60A Bolivia 51.71 91 IAMs_20 IAMs_20 03 38 42.6
comp=Z,1µm,20.0s
MOY Mondy 51.74 312 *e*P **P** **03 16 06.7 +2.3**
MOY pmax pmax
comp=Z,34nm,2.2s
ZAIG Zacatecas 51.88 122 P **P** **03 16 04.6 -1.3**
ZAIG IAMs_20 IAMs_20 03 39 18.1
comp=Z,941nm,19.0s
ZAK Zakamensk 52.11 309 *e*P **P** **03 16 07.9 +0.8**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
257A Skidaway Islan 52.28 95 IAMs_20 IAMs_20 03 36 39.7
comp=Z,1µm,21.0s
553A Crawfordville 52.40 99 IAMs_20 IAMs_20 03 38 43.1
comp=Z,944nm,19.0s
JHJ Hachijo jima 2 52.59 269 LR LR 03 38 44.6
comp=Z,89nm,21.4s,baz=295,slow=36
ULN Ulaanbaatar 53.01 305*ce*P **P** **03 16 13.1 -0.8**
ULN pmax pmax
comp=Z,10.0nm,1.3s
ULN Ulaanbaatar 53.01 305 P **P** **03 16 13.5 -0.3**
ULN Ulaanbaatar 53.01 305 IAMs_20 IAMs_20 03 39 51.7
comp=Z,1µm,22.0s
PRGR Permogore 53.07 351 *e*P **P** **03 16 13.9 0.0**
PRGR pmax pmax
comp=Z,27nm,1.4s
SONM Songino Array 53.26 306 P **P** **03 16 17.1 +1.4**
comp=Z,4.9nm,0.9s,baz=30,slow=5.3,SNR=22
SONM LR LR 03 38 46.8
comp=Z,364nm,18.7s,baz=24,slow=36
SONM Songino Array 53.26 306 P **P** **03 16 16.2 +0.5**
NB2 NORSAR Subarra 53.29 12 P **P** **03 16 19.4 +3.8**
comp=Z,8.7nm,1.4s,baz=350,slow=6.9
NOA NORSAR Array B 53.29 12 P **P** **03 16 15.7 +0.1**
comp=Z,1.8nm,1.1s,baz=356,slow=7.6,SNR=3.0
FINES FINESS Array B 53.69 3 P **P** **03 16 18.7 +0.3**
comp=Z,2.3nm,0.8s,baz=7.3,slow=7.9,SNR=14
FINES FINESS Array B 53.69 3 P **P** **03 16 17.9 -0.5**
KS19 Wonju Array Si 53.84 282 P **P** **03 16 20.8 +0.9**
KS19 IAmb IAmb 03 16 47.6
comp=Z,15nm,1.1s
KSRS Korea Array 53.86 282 P **P** **03 16 21.2 +1.2**
comp=Z,3.7nm,0.7s,baz=25,slow=6.9,SNR=17
KSRS LR LR 03 39 29.4
comp=Z,214nm,18.9s,baz=35,slow=36
KLMR Klimovskoe 54.16 355 *e*P **P** **03 16 21.6 -0.3**
KLMR *e* 03 17 24.7
KLMR pmax pmax
comp=Z,28nm,1.3s
KLMR Klimovskoe 54.16 355 *e*P **P** **03 16 21.7 -0.2**
KLMR AMP 03 16 26.0
comp=Z,28nm,1.3s
KLMR *e*PcP **PcP** **03 17 24.7 -1.6**
KLMR LR LR 03 39 39.9
ZAA0 Zalesovo Array 54.29 324 P **P** **03 16 22.3 -0.6**
ZAA0 IAmb IAmb 03 16 28.8
comp=Z,18nm,1.1s
ZALV Zalesovo Beam 54.29 324 P **P** **03 16 23.2 +0.2**
comp=Z,6.2nm,0.5s,baz=12,slow=8.2,SNR=26
ZALV LR LR 03 41 29.1
comp=Z,754nm,19.6s,baz=22,slow=38
ZALV Zalesovo Beam 54.29 324 P **P** **03 16 22.1 -0.9**
TJN Taejon 55.01 282*ce*P **P** **03 16 29.0 +0.6**
MOIG Morelia 55.21 122 P **P** **03 16 29.9 -0.4**
UNM Universidad Na 56.27 120 IAMs_20 IAMs_20 03 42 03.2
comp=Z,930nm,22.0s
JNU Nakatsue 56.34 277 LR LR 03 40 14.8
comp=Z,248nm,20.8s,baz=32,slow=36
BJI Beijing 56.37 293 P **P** **03 16 36.8 -1.3**
BJI S **S** **03 24 29.3 +0.7**
BJI pmax pmax
comp=Z,3.0nm,0.4s
BJI pmax pmax
comp=Z,79nm,3.7s
BJI LR LR
comp=Z,900nm,13.7s
BJI LR LR
comp=Z,310nm,17.2s
BJT Baijiatuan 56.39 293 IAMs_20 IAMs_20 03 41 51.8
comp=Z,808nm,19.0s
VSU Vasula 56.69 3 *i*P **P** **03 16 40.8 +0.7**
VSU pmax pmax
comp=Z,25nm,1.1s
JCJ Chichijima 56.82 263 LR LR 03 40 56.9
comp=Z,34nm,19.9s,baz=358,slow=36
ARU Arti 56.95 342*c i*P **P** **03 16 42.5 +0.5**
ARU 03 17 37.6
ARU 03 18 46.4
ARU PPP PPP 03 20 04.3
ARU S **S** **03 24 38.4 +2.5**
ARU SS **SS** **03 28 20.4 -2.9**
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU MLR MLR
comp=Z,297nm,21.0s
ARU Arti 56.95 342 P **P** **03 16 42.9 +0.9**
ARU IAmb IAmb 03 17 18.5
comp=Z,20nm,1.2s
ESK Eskdalemuir 57.09 22 P **P** **03 16 43.3 +0.3**
DGZ Jazzator, Alta 57.48 320 *i*P **P** **03 16 45.9 -0.2**
DGZ pmax pmax
comp=Z,16nm,1.5s
BRVK Borovoye 58.32 333*ce*P **P** **03 16 52.2 +0.5**
BRVK pmax pmax
comp=Z,14nm,1.3s
BRVK Borovoye 58.32 333 P **P** **03 16 51.8 +0.1**
BRVK IAmb IAmb 03 16 58.2
comp=Z,12nm,1.0s
BRVK Borovoye 58.32 333 IAMs_20 IAMs_20 03 45 26.2
comp=Z,944nm,20.0s
BVAR Borovoye Array 58.33 333 LR LR 03 45 49.8
comp=Z,942nm,20.3s,baz=297,slow=40
KURK Kurchatov 58.76 327 P **P** **03 16 55.5 +0.7**
KURK Kurchatov 58.76 327 IAMs_20 IAMs_20 03 46 41.1
comp=Z,752nm,19.0s
KURBB Kurchatov Arra 58.87 327 P **P** **03 16 56.1 +0.6**
comp=Z,2.9nm,0.6s,baz=31,slow=6.8,SNR=22
MOS Moscow 59.35 356 *e*P **P** **03 17 00.6 +1.8**
OBN Obninsk 60.01 356⇓ *e*P **P** **03 17 03.5 +0.2**
OBN *e**PP **sP** **03 17 06.8 +0.8**
OBN *e*S **S** **03 25 20.7 +5.0**
OBN pmax pmax
comp=Z,25nm,1.3s
OBN MLR MLR
comp=Z,250nm,18.0s
OBN Obninsk 60.01 356 P **P** **03 17 03.8 +0.5**
BSEG Bad Segeberg 60.22 14 *e*L L 03 46 37.1
comp=Z,177nm,21.1s
MK31 Makanchi Array 61.51 322 P **P** **03 17 13.5 -0.2**
MK31 IAmb IAmb 03 17 19.4
comp=Z,7.2nm,1.1s
MKAR Makanchi Array 61.51 322 P **P** **03 17 13.3 -0.4**
comp=Z,2.2nm,0.6s,baz=50,slow=7.3,SNR=21
MKAR LR LR 03 47 07.1
comp=Z,857nm,18.4s,baz=12,slow=39
MKAR Makanchi Array 61.51 322 P **P** **03 17 12.7 -1.0**
MAKZ Makanchi 61.58 323 P **P** **03 17 13.7 -0.5**
MAKZ IAMs_20 IAMs_20 03 46 58.7
comp=Z,826nm,18.0s
CCIG Comitan 61.70 114 IAMs_20 IAMs_20 03 46 58.2
comp=Z,487nm,19.0s
PETF Flores 62.02 111 P **P** **03 17 16.3 -1.2**
NJ2 Nanjing 62.25 286 *e*P **P** **03 17 19.3 +0.4**
NJ2 pmax pmax
comp=Z,15nm,0.6s
NJ2 LR LR
comp=Z,1µm,14.1s
NJ2 LR LR
comp=Z,690nm,18.5s
LPSR Galich'ya Gora 62.44 354 *e*P **P** **03 17 20.6 +0.7**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
WMQ Urumqi 62.77 317 *e*P **P** **03 17 24.3 +2.0**
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ pmax pmax
comp=Z,67nm,4.1s
WMQ LR LR
comp=Z,470nm,17.9s
WMQ LR LR
comp=Z,350nm,17.1s
WMQ LR LR
comp=Z,220nm,19.1s
WMQ Urumqi 62.77 317 P **P** **03 17 22.3 -0.1**
WMQ Urumqi 62.77 317 IAMs_20 IAMs_20 03 49 34.7
comp=Z,714nm,19.0s

GTA Gaotai 62.93 306 *e*P **P** **03 17 25.0 +1.5**
GTA pP sP 03 17 29.5 +3.2
GTA sP pP 03 17 32.0 +6.5
GTA S **S** **03 25 54.5 +0.9**
GTA sS sS 03 26 04.8 +7.9
GTA pmax pmax
comp=Z,12nm,1.3s
GTA pmax pmax
comp=Z,49nm,8.3s
GTA LR LR
comp=Z,740nm,15.8s
GTA LR LR
comp=Z,1µm,16.5s
CLL Collm 63.08 13 *e*P **P** **03 17 24.0 -0.1**
CLL *i* pP **sP** **03 17 29.1 +2.3**
comp=Z,5.0nm,0.9s
CLL Collm 63.08 13 *e*P **P** **03 17 24.0 -0.1**
CLL *i* 03 17 29.1
CLL Collm 63.08 13 *e*L L 03 43 48.5
comp=Z,156nm,21.5s
CLL Collm 63.08 13 P **P** **03 17 23.7 -0.4**
BRG Berggiesshubel 63.59 12 *e*P **P** **03 17 30.2 +2.6**
comp=Z,11nm,1.3s
MOX Moxa 63.60 14 *e*P **P** **03 17 28.5 +0.9**
comp=Z,6.6nm,1.1s,baz=352,slow=6.0
MOX *e*L L 03 51 57.5
comp=Z,149nm,19.7s
TNS Taunus Mts 63.67 16 *e*L L 03 55 54.1
comp=Z,247nm,18.4s
ABKAR Akbulak array 63.75 339 P **P** **03 17 28.4 -0.3**
VSR Storozhevoye 63.81 354 *e*P **P** **03 17 29.6 +0.6**
VSR pmax pmax
comp=Z,20nm,1.3s
CHVC Chvalec 64.05 10 *e*P **P** **03 17 34.4 +3.8**
CHVC *ex* x 03 17 43.7
CHVC *ex* x 03 17 49.4
VORD Divnogorie 64.06 354 *e*P **P** **03 17 31.5 +0.9**
VORD pmax pmax
comp=Z,9.0nm,0.7s
DPC Dobruska-Polom 64.30 10 *e*P **P** **03 17 36.1 +3.8**
DPC *e* 03 17 42.7
DPC Dobruska-Polom 64.30 10 *e*P **P** **03 17 36.1 +3.8**
DPC *ex* x 03 17 42.7
XAN Xi'an 64.41 296 P **P** **03 17 32.8 -0.5**
XAN S **S** **03 26 06.3 -5.7**
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN LR LR
comp=Z,2µm,19.1s
XAN LR LR
comp=Z,1µm,14.9s
XAN Xi'an 64.41 296 P **P** **03 17 33.7 +0.5**
XAN IAmb IAmb 03 18 31.2
comp=Z,7.6nm,1.1s
LZH Lanzhou 64.48 301 *e*P **P** **03 17 34.5 +0.7**
LZH pP sP 03 17 39.8 +3.2
LZH sP pP 03 17 43.0 +7.2
LZH pmax pmax
comp=Z,35nm,1.2s
LZH pmax pmax
comp=Z,65nm,5.4s
LZH LR LR
comp=Z,1µm,14.6s
LZH LR LR
comp=Z,1µm,16.8s
AKASG Malin Array Be 64.50 1 P **P** **03 17 33.9 +0.4**
comp=Z,1.4nm,0.5s,baz=358,slow=6.4,SNR=14
AKASG Malin Array Be 64.50 1 P **P** **03 17 34.9 +1.4**
MTO3 Montecristo 64.50 112 IAMs_20 IAMs_20 03 48 57.1
comp=Z,483nm,19.0s
GRF Grafenberg Arr 64.50 14 *e*P **P** **03 17 36.0 +2.5**
comp=Z,13nm,1.5s,baz=352,slow=6.0
GRF *e*L L 03 47 55.1
comp=Z,157nm,21.9s
PRU Pruhonice 64.52 12 *e*P **P** **03 17 37.0 +3.3**
PRU *e* 03 17 42.7
PRU Pruhonice 64.52 12 *e*P **P** **03 17 37.0 +3.3**
PRU *ex* x 03 17 42.7
KRLC Kraliky 64.61 10 *e*P **P** **03 17 37.4 +3.1**
KRLC Kraliky 64.61 10 *e*P **P** **03 17 37.4 +3.1**
KRLC *ex* x 03 17 51.9
OJC Ojcow 64.67 8 P **P** **03 17 35.0 +0.3**
MORC Moravsky Berou 64.96 10 *e*P **P** **03 17 37.7 +1.1**
MORC Moravsky Berou 64.96 10 P **P** **03 17 36.4 -0.2**
STU Stuttgart 65.19 16 P **P** **03 17 37.9 -0.2**
STU IAmb IAmb 03 18 27.1
comp=Z,10nm,1.2s
SNET Serv Nac Est T 65.20 112 IAMs_20 IAMs_20 03 48 05.6
comp=Z,585nm,20.0s
WET Wettzell 65.21 13 *e*L L 03 52 16.3
comp=Z,168nm,19.8s
KHC Kasperske Hory 65.28 12*ce*P **P** **03 17 38.9 +0.2**
KHC pmax pmax
comp=Z,9.0nm,1.3s
KHC Kasperske Hory 65.28 12 *e*P **P** **03 17 41.8 +3.1**
KHC *ex* x 03 17 49.2
KHC Kasperske Hory 65.28 12 P **P** **03 17 37.7 -1.0**
WHN Wuhan 65.39 289⇑ P **P** **03 17 40.3 +0.7**
ECH Echery 65.49 17 P **P** **03 17 39.3 -0.8**
ECH IAmb IAmb 03 17 44.9
comp=Z,13nm,1.4s
BFO Black Forest 65.52 16 *e*L L 03 49 33.7
comp=Z,160nm,18.8s
BFO Black Forest 65.52 16 P **P** **03 17 38.2 -2.1**
BFO IAmb IAmb 03 18 17.1
comp=Z,8.7nm,1.2s
GEC2 GERESS Array S 65.58 12 *e*L L 03 54 58.8
comp=Z,158nm,21.3s
GERES GERESS Array B 65.58 12 P **P** **03 17 42.0 +1.3**
comp=Z,1.8nm,0.9s,baz=347,slow=5.5,SNR=8.9
GERES GERESS Array B 65.58 12 P **P** **03 17 40.1 -0.6**
KRUC Moravsky 65.59 10 *e*P **P** **03 17 41.1 +0.5**
TGUH Tegucigalpa,Un 65.63 110 P **P** **03 17 40.8 -0.7**
MTDJ Mount Denham 65.86 99 IAMs_20 IAMs_20 03 44 28.7
comp=Z,646nm,20.0s
JAVC Velka Javorina 65.89 10 *e*P **P** **03 17 41.6 -1.0**
FUR Furstenfeldbru 66.02 14 *e*L L 03 49 04.7
comp=Z,176nm,21.2s
KOLS Kolonicke sedl 66.08 6 *e*P **P** **03 17 46.8 +3.0**
KOLS pmax pmax
comp=Z,33nm,2.5s
KOLS Kolonicke sedl 66.08 6 *e*P **P** **03 17 46.8 +3.0**
SSF Saint Saulge 66.13 20 *e*P **P** **03 17 45.9 +1.7**
SSF pmax pmax
comp=Z,6.0nm,0.9s
VYHS Vyhne 66.33 9 *e*P **P** **03 17 46.7 +1.3**
VYHS pmax pmax
comp=Z,21nm,2.0s
VYHS Vyhne 66.33 9 *e*P **P** **03 17 46.7 +1.3**
MODS Modra-Piesok 66.34 10 *e*P **P** **03 17 46.0 +0.5**
MODS pmax pmax
comp=Z,12nm,1.5s
MODS Modra-Piesok 66.34 10 *e*P **P** **03 17 46.0 +0.5**
UZH Uzhgorod 66.38 6 *e*P **P** **03 17 42.0 -3.7**
UZH *e* 03 17 50.6
UZH *e* 03 18 13.8
MOA Molln 66.62 12 pP **P** **03 17 49.8 +2.5**
comp=Z,2.8nm,1.3s
CONA Conrad Observa 66.67 11 *ep*P **P** **03 17 49.4 +1.7**
comp=Z,4.7nm,1.0s
USP Ospenovka 66.73 327 P **P** **03 17 49.0 +0.9**
SNR=5.6
TKM2 Tokmak 2 66.80 326 P **P** **03 17 49.7 +1.0**
SNR=6.9
MOTA Moosalm 66.81 15 *ep*P **P** **03 17 49.3 +0.6**
comp=Z,5.8nm,1.4s
WATA Waderalm 66.87 14 *ep*P **P** **03 17 49.7 +0.6**
comp=Z,4.7nm,1.1s
SQTA Sankt Quirin 66.94 14 *ep*P **P** **03 17 51.2 +1.7**
comp=Z,5.9nm,1.0s
WTTA Wattenberg 66.94 14 *ep*P **P** **03 17 50.5 +0.9**
comp=Z,8.1nm,1.2s
PSZ Piszkesteto 66.97 8 P **P** **03 17 49.0 -0.5**
FETA Feichten 67.09 15 *ep*P **P** **03 17 51.6 +1.1**
comp=Z,3.2nm,1.1s
KDJ Kajisay 67.16 324 IAmb IAmb 03 17 57.3
comp=Z,8.8nm,0.9s
KDJ IAMs_20 IAMs_20 03 51 18.6
comp=Z,638nm,18.0s
KBK Karagaybulak 67.20 326 P **P** **03 17 52.7 +1.4**
SNR=5.7
KBA Koelnbreinsper 67.30 13 *ep*P **P** **03 17 53.7 +1.9**
comp=Z,5.8nm,0.7s
ARSA Arzberg 67.32 11 *ep*P **P** **03 17 53.7 +1.9**
comp=Z,4.1nm,1.4s

AAK Ala-Archa 67.33 327 LR LR 03 52 18.9
comp=Z,540nm,18.8s,baz=12,slow=40
AAK Ala-Archa 67.33 327 P P 03 17 57.9 +5.8
SNR=5.2
AAK Ala-Archa 67.33 327*ce*P **P** **03 17 52.6 +0.5**
AAK pmax pmax
comp=Z,22nm,2.5s
AAK Ala-Archa 67.33 327 P **P** **03 17 51.8 -0.3**
SENIN Lac Senin/Sane 67.33 17 P **P** **03 17 52.6 +0.5**
SENIN IAmb IAmb 03 18 04.8
comp=Z,19nm,1.6s
TATO Taipei 67.40 281 IAMs_20 IAMs_20 03 48 36.8
comp=Z,400nm,18.0s
FUORN Ofenpass-Fuorn 67.43 15 P **P** **03 17 53.5 +0.7**
FUORN IAmb IAmb 03 18 56.8
comp=Z,9.8nm,1.1s
EKS2 Erkin-Say 67.47 327 P **P** **03 17 54.1 +1.2**
SNR=12
BUR08 Bucovina Ar. S 67.48 4 P **P** **03 17 52.8 -0.1**
BUR08 IAmb IAmb 03 18 12.5
comp=Z,5.2nm,0.8s
BURAR Bucovina Array 67.51 4 P **P** **03 17 52.8 -0.3**
ENH Enshi 67.54 293 P **P** **03 17 52.8 -0.6**
ENH IAmb IAmb 03 18 33.6
comp=Z,13nm,1.0s
ENH IAMs_20 IAMs_20 03 48 55.8
comp=Z,606nm,18.0s
YHNB Yeheng 67.71 281 IAMs_20 IAMs_20 03 50 27.2
comp=Z,338nm,19.0s
BOAB BOACO BROADBA 67.73 109 P **P** **03 17 53.9 -0.8**
GUMO Guam 67.76 254 LR LR 03 46 59.2
comp=Z,155nm,19.6s,baz=43,slow=36
MYKA Terra Mystica 67.77 13 *ep*P **P** **03 17 55.8 +1.1**
comp=Z,1.2nm,0.5s
KK31 Karatay Array 67.77 330 P **P** **03 17 54.3 -0.4**
KK31 **pP** **03 17 55.1 -1.6**
KKAR Karatay Array 67.77 330 P **P** **03 17 53.8 -0.9**
KKAR **pP** **03 17 54.9 -1.8**
KKAR Karatay Array 67.77 330 P **P** **03 17 55.1 +0.4**
KKAR IAmb IAmb 03 18 01.7
comp=Z,12nm,0.9s
LFF La Frestale 67.77 23 *e*P **P** **03 17 56.3 +1.7**
LFF pmax pmax
comp=Z,19nm,1.2s
SDDR Presa de Saban 67.82 93 IAMs_20 IAMs_20 03 44 45.2
comp=Z,433nm,19.0s
PRED Cave del Predi 67.95 13 P **P** **03 17 54.7 -1.1**
PRED IAmb IAmb 03 18 47.3
comp=Z,6.8nm,1.0s
OBKA Obir 67.97 12 *ep*P pP 03 17 57.6 -0.4
comp=Z,9.4nm,1.1s
AML Almayashu 67.99 327 P **P** **03 17 57.9 +1.4**
SNR=9.9
CAF Calviac 68.00 22 *e*P **P** **03 17 58.3 +2.2**
CAF pmax pmax
comp=Z,4.0nm,0.8s
VIVF Saint-Julien-l 68.46 20 *e*P **P** **03 18 01.6 +2.6**
VIVF pmax pmax
comp=Z,39nm,2.4s
BNI Bardonecchia 68.54 18 P **P** **03 17 58.4 -1.2**
BNI IAmb IAmb 03 18 32.9
comp=Z,7.1nm,1.1s
SSLB Suanglung 68.67 280 IAMs_20 IAMs_20 03 50 19.6
comp=Z,389nm,18.0s
KNMB Chin-men Tao 69.13 283 IAMs_20 IAMs_20 03 47 09.7
comp=Z,481nm,18.0s
CD2 Chengdu 69.15 299 *e*P **P** **03 18 02.0 -1.5**
CD2 S **S** **03 27 07.0 -2.3**
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,80nm,4.9s
CD2 LR LR
comp=Z,1µm,15.7s
CD2 LR LR
comp=Z,2µm,13.5s
GOF Gofitskoye 69.75 351⇑ *e*P P 03 18 12.2 +5.3
GOF pmax pmax
comp=Z,21nm,0.6s
ZCCA Zocca 69.75 15 IAMs_20 IAMs_20 03 38 58.6
comp=Z,308nm,18.0s
KSH Kashi 69.93 324 *e*P **P** **03 18 11.3 +3.0**
KSH S **S** **03 27 18.5 0.0**
KSH pmax pmax
comp=Z,120nm,4.3s
KSH LR LR
comp=Z,900nm,14.8s
JTS Las Juntas de 69.98 110 IAMs_20 IAMs_20 03 54 02.2
comp=Z,416nm,19.0s
BTK Batken 70.62 329 IAMs_20 IAMs_20 03 54 30.6
comp=Z,580nm,19.0s
DIVS Divibare 70.78 8 P **P** **03 18 13.3 -0.1**
KIV Kislovodsk 70.87 351 *e*P **P** **03 18 14.1 +0.2**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,279nm,17.0s
KIV Kislovodsk 70.87 351 P **P** **03 18 13.4 -0.5**
MURB Monte Urbino 70.99 14 P **P** **03 18 14.6 -0.1**
MURB IAmb IAmb 03 19 05.1
comp=Z,11nm,1.0s
KBZ Khabaz 71.08 351 P **P** **03 18 16.4 +1.4**
comp=Z,3.9nm,0.9s,baz=321,slow=5.9,SNR=5.7
SOC Sochi 71.41 353 *e*P **P** **03 18 18.0 +0.9**
SOC *e* 03 20 54.8
SOC *e*S **S** **03 27 39.8 +4.5**
SOC *e*SS **SS** **03 32 06.2 -2.2**
SOC *e*SSS SSS 03 35 13.6
SOC pmax pmax
comp=Z,31nm,1.0s
SOC MLR MLR
comp=Z,223nm,20.0s
GAR Garm 71.74 329 P **P** **03 18 19.1 -0.3**
ZEI Tsey 71.94 350 *e*P **P** **03 18 25.2 +4.6**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
AQU L'Aquila 71.98 14 P **P** **03 18 18.5 -2.1**
AQU IAmb IAmb 03 19 09.0
comp=Z,7.7nm,1.0s
ESDC Sonseca Array 72.03 28 P **P** **03 18 21.9 +0.9**
comp=Z,4.1nm,1.1s,baz=340,slow=5.7,SNR=14
ESDC LR LR 03 50 01.8
comp=Z,176nm,21.9s,baz=350,slow=36
ESDC Sonseca Array 72.03 28 P **P** **03 18 21.1 +0.1**
GYA Guiyang 72.05 294⇑ P **P** **03 18 22.8 +1.5**
GYA PP **PP** **03 21 01.0 +0.2**
GYA S **S** **03 27 38.5 -4.9**
GYA SKS **SKSac** **03 28 16.5 -9.4**
GYA pmax pmax
comp=Z,12nm,1.5s
GYA LR LR
comp=Z,440nm,16.2s
GYA LR LR
comp=Z,510nm,16.2s
GYA LR LR
comp=Z,480nm,15.8s
CHGR Chuyangaron 72.32 329 P **P** **03 18 22.8 0.0**
INTR Introdacqua 72.37 13 P **P** **03 18 22.6 -0.4**
INTR IAmb IAmb 03 19 19.3
comp=Z,10nm,1.3s
SKI Saint Kitts 72.90 86 IAMs_20 IAMs_20 03 46 47.6
comp=Z,599nm,22.0s
PAOL Paolisi 73.41 13 P **P** **03 18 29.5 +0.4**
PAOL IAmb IAmb 03 18 54.0
comp=Z,9.6nm,1.2s
TIR Tirane 73.51 9 P **P** **03 18 29.6 0.0**
TIR IAmb IAmb 03 18 56.0
comp=Z,11nm,0.9s
TAOE Nuku Hiva Isla 74.08 171 *e*LR LR 03 41 31.0
comp=Z,293nm,25.8s
LSA Lhasa 74.69 308 P **P** **03 18 37.4 +0.1**
LSA IAmb IAmb 03 18 47.8
comp=Z,8.3nm,0.9s
KMI Kunming 74.75 297⇓ P P 03 18 48.5 +11
KMI pP PcP 03 18 54.5 +3.0
GEYT Alibeck 75.09 338 P **P** **03 18 40.4 +1.4**
comp=Z,1.6nm,0.6s,baz=302,slow=3.3,SNR=4.3
GEYT LR LR 03 56 49.0
comp=Z,172nm,18.7s,baz=5.0,slow=40
GEYT Alibeck 75.09 338 P **P** **03 18 38.2 -0.8**
MOTC Monteria, Cord 75.13 101 *e*P **P** **03 18 37.4 -2.0**
BR131 Keskin Array S 75.46 358 P **P** **03 18 39.5 -1.7**
BRTR Keskin Array B 75.46 358 P **P** **03 18 42.0 +0.8**
comp=Z,0.9nm,0.8s,baz=23,slow=3.8,SNR=6.6
BRTR LR LR 03 53 43.6
comp=Z,78nm,20.6s,baz=350,slow=37

BRTR	Keskin Array B	75.46	358	P		P		03 18 40.3	-1.0
SMLC	San Martn de	75.77	100	*e*P		P		03 18 42.3	-0.8
NIL	Nilore	76.17	325	P		P		03 18 44.2	-1.0
NIL						pP		03 18 46.1	-1.1
NIL	Nilore	76.17	325	IAMs_20	IAMs_20			03 57 01.8	
	comp=Z,501nm,19.0s								
KBL	Kabul	76.30	328	IAMs_20	IAMs_20			03 58 46.1	
	comp=Z,440nm,20.0s								
ZARC	Zaragoza, Cauc	76.62	101	*e*P		P		03 18 46.9	-1.1
SDV	Santo Domingo	77.13	97	IAMs_20	IAMs_20			03 50 31.3	
	comp=Z,592nm,21.0s								
RAFF	Raffo Rosso	77.16	13	IAMs_20	IAMs_20			03 56 54.6	
	comp=Z,323nm,21.0s								
ISP	Isparta	77.38	0	P		P		03 18 51.3	-0.8
ISP				IAmb	IAmb			03 18 58.3	
	comp=Z,11nm,0.8s								
BRRC	Barranca, Sant	77.45	100	*e*P		P		03 18 48.9	-3.6
QIZ	Qiongzhong	77.47	288	P		P		03 18 52.8	+0.1
QIZ				S		S		03 28 43.3	-0.6
QIZ				LR	LR				
	comp=Z,430nm,16.2s								
QIZ				LR	LR				
	comp=Z,540nm,15.7s								
QIZ	Qiongzhong	77.47	288	IAMs_20	IAMs_20			03 57 41.4	
	comp=Z,415nm,18.0s								
PTBC	PUERTO BERRIO,	77.65	101	*e*P		P		03 18 52.4	-1.3
SLVN	Son La	77.74	294	P		P		03 18 54.0	-0.2
SLVN						pP		03 18 55.4	-0.9
SLVN				IAmb	IAmb			03 19 37.7	
	comp=Z,9.8nm,1.1s								
SLVN				IAMs_20	IAMs_20			03 56 15.2	
	comp=Z,542nm,18.0s								
HRA	Herat	77.84	334	P		P		03 18 54.8	0.0
HRA				IAMs_20	IAMs_20			03 58 38.6	
	comp=Z,504nm,19.0s								
KEST	Kesra	78.06	18	P		P		03 18 56.9	+1.1
	comp=Z,2.8nm,0.7s,baz=328,slow=2.0,SNR=7.9								
KEST	Kesra	78.06	18	P		P		03 18 54.6	-1.3
KEST						sP		03 18 59.5	+0.8
KEST				IAmb	IAmb			03 19 31.1	
	comp=Z,14nm,1.1s								
BARC	Barichara	78.13	100	*e*P		P		03 18 55.9	-0.7
SHL	Shillong	78.25	306	P		P		03 18 56.1	-1.1
SHL				IAmb	IAmb			03 19 02.1	
	comp=Z,9.5nm,1.0s								
NORC	Norcasia	78.36	102	*e*P		P		03 18 56.6	-1.1
SPBC	San Pablo de B	78.61	101	*e*P		P		03 18 58.0	-1.2
RUSC	La Rusia	78.80	100	*e*P		P		03 18 58.0	-2.7
RUSC	La Rusia	78.80	100	P		P		03 18 59.1	-1.6
TOLC	Tolima	79.06	103	*e*P		P		03 19 02.1	+0.3
YOTC	Yotoco, Valle	79.18	104	*e*P		P		03 19 01.3	-1.0
ROSC	El Rosal	79.24	102	P		P		03 19 04.5	+1.6
	comp=Z,12nm,0.7s,baz=121,slow=19,SNR=5.9								
ROSC				LR	LR			03 57 36.3	
	comp=Z,283nm,18.2s,baz=1.0,slow=38								
CHIC	Chingaza	79.67	101	*e*P		P		03 19 02.5	-2.8
ORTC	Ortega, Tolima	79.70	103	*e*P		P		03 19 03.0	-2.0
CSS	Mathiatis	80.22	358	P		P		03 19 05.7	-1.9
CSS				IAmb	IAmb			03 19 22.5	
	comp=Z,8.8nm,1.0s								
POPC	Popayan, Colom	80.35	105	*e*P		P		03 19 05.4	-3.4
FLOC	Florencia	81.64	104	*e*P		P		03 19 14.1	-1.3
FLOC	Florencia	81.64	104	P		P		03 19 14.1	-1.3
OTAV	Otavalo	81.72	108	*e*P		P		03 19 15.6	-0.7
OTAV	Otavalo	81.72	108	P		P		03 19 14.5	-1.9
CHTO	Chiang Mai	81.92	297	P		P		03 19 16.1	-0.8
CHTO				IAmb	IAmb			03 19 26.8	
	comp=Z,21nm,1.9s								
PUAC	Puerto Asis, P	82.20	106	*e*P		P		03 19 17.8	-0.5
CMAR	Chiang Mai Arr	82.24	297	P		P		03 19 18.5	-0.1
	comp=Z,2.1nm,0.4s,baz=5.5,slow=5.7,SNR=15								
CMAR				LR	LR			03 59 06.8	
	comp=Z,338nm,18.5s,baz=65,slow=38								
CMAR	Chiang Mai Arr	82.24	297	*ce*P		P		03 19 19.1	+0.5
CMAR				pmax	pmax				
	comp=Z,2.0nm,0.4s								
CMAR	Chiang Mai Arr	82.24	297	P		P		03 19 17.8	-0.8
PPT	Papeete	82.44	180	LR	LR			03 49 48.9	
	comp=Z,291nm,19.6s,baz=11,slow=31								
PPT2	Papeete2	82.46	180	*e*LR	LR			03 45 21.7	
	comp=Z,339nm,21.8s								
JAY	Jayapura	84.06	251	LR	LR			03 51 39.2	
	comp=Z,118nm,22.0s,baz=344,slow=32								
DLV	T Lat	84.42	286	IAMs_20	IAMs_20			04 01 46.4	
	comp=Z,289nm,18.0s								
MYLDM	Lahad Datu	86.36	274	IAMs_20	IAMs_20			04 02 27.6	
	comp=Z,425nm,20.0s								
SIJI	Sorong	86.43	260	P		P		03 19 40.6	+0.8
	comp=Z,9.8nm,0.3s,baz=93,slow=17,SNR=2.3								
UOSS	Minazif	88.11	337	IAMs_20	IAMs_20			04 05 04.5	
	comp=Z,333nm,20.0s								
TBI	Tubuai	88.19	180	*e*LR	LR			03 48 04.0	
	comp=Z,303nm,24.0s								
PTGA	Pitinga	90.28	91	P		P		03 19 56.8	-1.4
PTGA				IAmb	IAmb			03 20 00.5	
	comp=Z,6.3nm,0.6s								
KSM	Kuching	93.13	280	P		P		03 20 11.1	-0.2
COEN	Coen	93.53	244	IAMs_20	IAMs_20			04 04 55.9	
	comp=Z,453nm,20.0s								
MYKOM	Kota Tinggi	95.50	286	IAMs_20	IAMs_20			04 03 46.3	
	comp=Z,279nm,19.0s								
SAML	Samuel	96.33	97	P		P		03 20 26.0	+0.1
SAML				IAmb	IAmb			03 22 39.2	
	comp=Z,3.5nm,1.2s								
SAML				IAMs_20	IAMs_20			04 06 35.0	
	comp=Z,309nm,19.0s								
TORD	Torodi Ar. Bea	98.90	29	LR	LR			04 11 36.0	
	comp=Z,66nm,18.0s,baz=330,slow=39								
WB7	Warramunga Arr	102.30	250	IAMs_20	IAMs_20			03 54 33.7	
	comp=Z,200nm,22.0s								
WR1	Warramunga Arr	102.41	250	IAMs_20	IAMs_20			04 08 24.9	
	comp=Z,304nm,21.0s								
MT05	Renca	115.15	115	IAMs_20	IAMs_20			04 23 53.3	
	comp=Z,230nm,21.0s								
BOSA	Boshof	143.30	8	PKhKP	PKPpre			03 26 26.9	
	comp=Z,4.0nm,0.7s,baz=340,slow=2.5,SNR=11								
VNDA	Vanda	145.51	197	PKPbc		PKPab		03 26 33.9	+0.1
	comp=Z,1.1nm,0.9s,baz=32,slow=0.7,SNR=2.7								
QSPA	South Pole Qui	154.95	180	PKPbc		PKPbc		03 26 57.0	-0.2
	comp=Z,1.4nm,0.7s,baz=225,slow=2.0,SNR=8.1								
QSPA				PKPab		PKPab		03 27 12.9	0.0
	comp=Z,2.4nm,0.7s,baz=269,slow=1.6,SNR=9.9								
QSPA	South Pole Qui	154.95	180			PKiKP		03 27 00.3	+3.1
VNA3	Neumayer Olymp	164.02	130	PKPab		PKPab		03 27 52.5	+0.3
SNAA	Sanae	166.14	133	PKPab		PKPab		03 28 01.4	-0.2
SYO	Syowa Base	174.84	217	*e*PKPdf		PKPdf		03 27 03.4	-1.9
SYO	Syowa Base	174.84	217	*ep*PKPdf		pPKPdf		03 27 08.2	+0.8

IDC ***31*** *03:07:21.7±1.4, 19°.45N×144°.85E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.6/50, mbtmp4.1/4, Error ellipse: s-maj=87.4km s-min=28.8km az=94.0*

NEIC ***31*** *03:07:26.0±1.3, 19°.4N±0°.2×144°.6E±0°.5, h27km±7km, mb4.1/5, Error ellipse: s-maj=61.9km s-min=24.8km az=99.0*

ISC 31 03:07:25.9±1.4**, 19°.4N**±0°.2×**145°.3E**±0°.5**, h35**km**, n14, σ0s84/10, mb4.1/6, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H11S3	WAKE ISLAND Hy	20.29	89	T		T	03 33 14.3	
	baz=279							
H11S1	WAKE ISLAND Hy	20.30	89	T		T	03 33 15.4	
	baz=279							
H11S2	WAKE ISLAND Hy	20.30	89	T		T	03 33 16.0	
	baz=279							
WRAB	Tennant Creek	40.53	196	P		P	03 15 00.1	-1.7
WB2	Warramunga Arr	40.54	196	P		P	03 15 02.0	+0.1
WB2				IAmb		IAmb	03 15 10.1	
	comp=Z,23nm,1.9s							
WRA	Warramunga Arr	40.54	196	P		P	03 15 02.9	+0.9
	comp=Z,1.7nm,0.4s,baz=19,slow=8.3,SNR=60							
WRA	Warramunga Arr	40.54	196	P		P	03 15 02.8	+0.9
AS31	Alice Springs	44.21	195	P		P	03 15 32.3	+0.5
AS31				IAmb		IAmb	03 15 34.8	
	comp=Z,0.9nm,0.4s							
ASAR	Alice Springs	44.22	195	P		P	03 15 32.2	+0.4
	comp=Z,0.8nm,0.5s,baz=18,slow=8.0,SNR=24							
ASAR	Alice Springs	44.22	195	P		P	03 15 31.7	-0.1
STKA	Stephens Creek	51.11	184	P		P	03 16 24.9	-0.2
	comp=Z,0.5nm,0.4s,baz=17,slow=8.4,SNR=3.6							
STKA	Stephens Creek	51.11	184	IAmb		IAmb	03 18 03.2	
	comp=Z,3.2nm,1.7s							
FINES	FINESS Array B	86.08	335	P		P	03 20 02.8	0.0
	comp=Z,0.8nm,0.4s,baz=60,slow=5.1,SNR=8.4							
LPAZ	La Paz	148.09	90	PKPbc		PKPab	03 27 12.4	+0.1
	comp=Z,0.4nm,0.4s,baz=252,slow=4.0,SNR=1.9							

IDC ***31*** *03:18:04.8±0.7, 15°.21S×167°.52E, h120km±5km, mb4.7/30, mb1 4.7/32, mb1mx4.6/45, mbtmp5.1/32, MS3.6/7, Ms1 3.6/7, ms1mx3.3/35, Error ellipse: s-maj=11.6km s-min=8.3km az=95.0*

NEIC ***31*** *03:18:04.5±1.6, 15°.25S±0°.08×167°.43E±0°.06, h121km±4km, mb4.9/87, Error ellipse: s-maj=13.5km s-min=6.5km az=209.0*

GCMT ***31*** *03:18:05.6±0.3, 15°.23S±0°.03×167°.30E±0°.02, h121km±3km, MW4.9/90, Moment Tensor Solution. s28,c29; s90,c112; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.24±.08; Mθθ0.03±.14; Mϕϕ-2.27±.12; Mrθ-0.74±.08; Mθϕ-0.30±.14; Mϕr0.41±.09; Best double couple: M₀2.42500×10¹⁶ NP1:ϕs204.00000°, δ54.00000°, λ116.00000°. NP2: ϕs350.00000°, δ52.00000°, λ67.00000°. Principal axes: T 2.5170, Plg72.0000°, Azm199.0000°; N -0.1830, Plg18.0000°, Azm5.0000°; P -2.3320, Plg4.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***31*** *03:18:06.0±0.0, 15°.20S×167°.50E, h147km, mB4.8/32, mb5.0/49*

ISC 31 03:18:06.0±0.5**, 15°.23S**±0°.05×**167°.50E**±0°.06**, h134**km±4km**, h135**km**:pP-P, n347, σ1s47/351, mb4.9/73, 16C-1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SANVU	Saraoutou	0.36	232			Pn	03 18 22.3	-2.5
DZM	Mont Dzumac	6.88	188	P		Pn	03 19 44.2	-0.3
	112nm,0.3s,baz=36,slow=16,SNR=227							
DZM				S		Sn	03 21 01.4	-0.1
	33nm,0.3s,baz=90,slow=20,SNR=3.8							
DZM	Mont Dzumac	6.88	188	Pn		Pn	03 19 43.7	-0.8
HNR	Honiara	9.35	307	P		Pn	03 20 18.0	+0.4
	27nm,0.3s,baz=122,slow=4.4,SNR=2.8							
HNR				LR	LR		03 23 46.7	
	comp=Z,169nm,21.2s,baz=80,slow=36							
HNR	Honiara	9.35	307	Pn		Pn	03 20 17.9	+0.3
MSVF	Nonsavu	10.43	105	Pn		Pn	03 20 34.4	+2.3
EIDS	Eidsvold	18.39	234	P		Pn	03 22 12.9	+0.6
	baz=18,SNR=33							
EIDS	Eidsvold	18.39	234	P		P	03 22 10.4	-0.3
EIDS				IAmb		IAmb	03 22 13.8	
	comp=Z,50nm,0.7s							
KRVT	Keravat (AS076	18.69	304	LR	LR		03 29 58.4	
	comp=Z,123nm,18.8s,baz=90,slow=38							
AFI	Afiamalu	20.11	89	P		P	03 22 30.4	+1.0
	comp=Z,21nm,0.6s,baz=262,slow=20,SNR=1.7							
AFI	Afiamalu	20.11	89	IAmb		IAmb	03 22 41.4	
	comp=Z,50nm,0.7s							
OUZ	Omahuta	20.65	166	P		P	03 22 36.0	+1.0
RMQ	Roma	20.76	234	P		P	03 22 38.1	+1.9
	baz=21,SNR=33							
CTA	Charters Tower	20.80	253	P		P	03 22 37.8	+1.0
	comp=Z,10.0nm,0.6s,baz=82,slow=14,SNR=14							
CTA				PcP		PcP	03 26 40.9	+0.4
	comp=Z,4.6nm,0.7s,baz=117,slow=6.8,SNR=1.8							
CTAO	Charters Tower	20.80	253	P		P	03 22 37.8	+1.0
CTAO				IAmb		IAmb	03 23 21.8	
	comp=Z,82nm,1.8s							
ARMA	Armidale	21.00	221	P		P	03 22 40.3	+1.4
	baz=21,SNR=29							
ARMA	Armidale	21.00	221	P		P	03 22 39.3	+0.4
ARMA				IAmb		IAmb	03 22 43.0	
	comp=Z,87nm,0.9s							
MTSU	Mount Surprise	22.39	259	P		P	03 22 54.5	+1.0
	baz=22,SNR=51							
MGCD	Mangrove Creek	23.26	217	P		P	03 23 03.0	+1.5
	baz=23,SNR=28							
COEN	Coen	23.57	270	P		P	03 23 05.3	+0.7
	baz=24,SNR=11							
COEN	Coen	23.57	270	P		P	03 23 04.5	-0.1
RIV	Riverview	23.69	216	P		P	03 23 06.9	+1.5
	baz=24,SNR=11							
HIZ	Hauiti	24.09	166	P		P	03 23 09.7	+0.7
QLP	Quilpie	24.45	239	P		P	03 23 13.4	+1.0
	baz=24,SNR=45							
URZ	Urewera	24.47	161	P		P	03 23 12.9	+0.5
	comp=Z,57nm,0.4s,baz=267,slow=2.7,SNR=71							
URZ				LR	LR		03 31 31.2	
	comp=Z,117nm,20.3s,baz=16,slow=33							
URZ	Urewera	24.47	161	P		P	03 23 12.7	+0.3
BKZ	Black Stump Fm	25.13	163	P		P	03 23 18.8	+0.4
YNG	Young	25.63	219	P		P	03 23 24.1	+1.0
	baz=26,SNR=8.0							
CMSA	Cobar Meteorol	25.69	227	P		P	03 23 24.2	+0.6
	baz=26,SNR=29							
CNB	Canberra Magne	25.78	216	P		P	03 23 25.5	+1.0
	baz=26,SNR=57							
QRZ	Quartz Range	25.88	171	P		P	03 23 25.6	+0.4
CAN	Canberra	25.99	216	P		P	03 23 26.7	+0.3
	baz=26							
CAN	Canberra	25.99	216	P		P	03 23 26.0	-0.4
CAN				IAmb		IAmb	03 23 28.3	
	comp=Z,64nm,1.5s							
BFZ	Birch Farm	26.48	165	P		P	03 23 30.0	-0.7
TUWZ	Tuamarina	26.70	169	P		P	03 23 32.0	-0.5
SNZO	South Karori	26.73	168	P		P	03 23 33.0	+0.1
QIS	Mount Isa	27.05	255	P		P	03 23 36.1	+0.2
	baz=27,SNR=10							
KHZ	Kahutara	27.59	170	P		P	03 23 40.1	-0.3
KHZ				IAmb		IAmb	03 23 41.9	
	comp=Z,38nm,0.7s							
RPZ	Rata Peaks	28.56	175	P		P	03 23 49.9	+0.8
	comp=Z,37nm,0.7s,baz=324,slow=3.0,SNR=30							
STKA	Stephens Creek	28.84	230	P		P	03 23 52.9	+1.1
	comp=Z,54nm,0.3s,baz=61,slow=9.9,SNR=198							
STKA				PcP		PcP	03 26 57.8	-0.3
	comp=Z,12nm,0.7s,baz=65,slow=3.7,SNR=9.1							
STKA				ScP		ScP	03 30 27.8	+0.5
	comp=Z,3.9nm,0.7s,baz=6.6,slow=3.7,SNR=5.2							
STKA				LR	LR		03 33 52.2	
	comp=Z,117nm,20.5s,baz=63,slow=33							
STKA	Stephens Creek	28.84	230	P		P	03 23 52.9	+1.1
	baz=29,SNR=127							
STKA	Stephens Creek	28.84	230	P		P	03 23 51.8	0.0
STKA				IAmb		IAmb	03 23 53.9	
	comp=Z,17nm,0.6s							
STKA						PcP	03 26 58.4	+0.3
LBZ	Lake Benmore	29.16	176	IAmb		IAmb	03 23 56.1	
	comp=Z,32nm,0.8s							
TOO	Toolangi	29.59	217	P		P	03 23 59.2	+0.8
	baz=30,SNR=30							
TOO	Toolangi	29.59	217	P		P	03 23 58.2	-0.1
TOO				IAmb		IAmb	03 24 00.1	
	comp=Z,44nm,0.8s							
ARPS	Mount Arapiles	31.32	222	P		P	03 24 14.5	+0.9
	baz=31,SNR=13							
HTT	Hallett	31.56	230	P		P	03 24 16.8	+0.9
	baz=32,SNR=32							
WR0	Warramunga Arr	31.73	257	P		P	03 24 16.3	-1.1
WB0	Warramunga Arr	31.86	257	P		P	03 24 17.5	-1.0
WB0				IAmb		IAmb	03 24 18.3	
	comp=Z,26nm,0.6s							
WB2	Warramunga Arr	31.91	257	P		P	03 24 17.8	-1.2
	baz=32							
WB2	Warramunga Arr	31.91	257	IAmb		IAmb	03 24 18.8	
	comp=Z,17nm,0.8s							
WRAB	Tennant Creek	31.91	257	P		P	03 24 18.1	-0.8
WRAB				IAmb		IAmb	03 24 18.6	
	comp=Z,13nm,0.7s							
WRA	Warramunga Arr	31.92	257	P		P	03 24 18.1	-1.0
	comp=Z,14nm,0.7s,baz=84,slow=8.4,SNR=127							
WRA				PcP		PcP	03 27 06.6	+0.2
	comp=Z,2.1nm,0.6s,baz=86,slow=2.7,SNR=6.0							
WRA				ScP		ScP	03 30 40.2	+2.6
	comp=Z,3.7nm,1.0s,baz=91,slow=3.8,SNR=7.3							
WRA				PKiKP		PKiKP	03 34 33.7	-1.2
	comp=Z,1.3nm,0.6s,baz=12,slow=0.3,SNR=17							
WRA				LR	LR		03 37 11.7	
	comp=Z,172nm,18.7s,baz=85,slow=36							
WRA	Warramunga Arr	31.92	257	P		P	03 24 17.5	-1.6
WRA						PcP	03 27 06.7	+0.2
MOO	Moorlands	32.26	209	P		P	03 24 22.8	+1.1
	baz=32,SNR=12							
AS31	Alice Springs	32.70	250	P		P	03 24 25.3	-0.6
ASAR	Alice Springs	32.70	250	P		P	03 24 25.5	-0.4
	comp=Z,52nm,0.5s,baz=77,slow=9.1,SNR=934							
ASAR				PcP		PcP	03 27 09.1	+0.5
	comp=Z,1.2nm,0.6s,baz=70,slow=4.3,SNR=4.1							
ASAR				ScP		ScP	03 30 42.0	+1.7
	comp=Z,4.1nm,0.9s,baz=81,slow=3.0,SNR=13							
ASAR				PKiKP		PKiKP	03 34 34.1	-1.3
	comp=Z,0.5nm,0.6s,baz=91,slow=1.6,SNR=8.7							
ASAR				LR	LR		03 37 50.8	
	comp=Z,131nm,18.2s,baz=92,slow=36							
ASAR	Alice Springs	32.70	250			ScP	03 30 42.2	+2.0
BBOO	Buckleboo	33.45	233	P		P	03 24 33.1	+0.8
	baz=34,SNR=212							
BBOO	Buckleboo	33.45	233	P		P	03 24 32.1	-0.1
KDU	Kakadu	34.06	270	P		P	03 24 37.3	-0.4
	baz=34,SNR=5.5							
MTN	Manton Dam	35.33	269	P		P	03 24 49.0	+0.4
	baz=35,SNR=6.8							
KNRA	Kununurra	37.30	264	P		P	03 25 04.8	-0.6
	baz=37,SNR=20							
KNRA	Kununurra	37.30	264	P		P	03 25 03.9	-1.4
WRKA	Warakurna	37.96	249	P		P	03 25 10.5	-0.4
	baz=38,SNR=181							
FORT	Forrest	39.23	240	P		P	03 25 21.8	+0.4
	baz=39,SNR=39							
FORT	Forrest	39.23	240	P		P	03 25 21.1	-0.3
FITZ	Fitzroy Crossi	40.14	260	P		P	03 25 28.8	-0.2
	comp=Z,30nm,0.6s,baz=92,slow=8.7,SNR=127							
FITZ				PcP		PcP	03 27 32.1	+1.2
	comp=Z,3.5nm,0.6s,baz=146,slow=5.7,SNR=2.4							
FITZ	Fitzroy Crossi	40.14	260	P		P	03 25 28.8	-0.2
	baz=40,SNR=47							
FITZ	Fitzroy Crossi	40.14	260	P		P	03 25 28.8	-0.2
BATI	Baumata	42.99	271	P		P	03 25 53.6	+1.2
	comp=Z,43nm,0.5s,baz=101,slow=2.7,SNR=5.0							
KMBL	Kambalda	44.54	241	P		P	03 26 04.5	0.0
	baz=45,SNR=32							
EDFI	Ende, Flores	45.20	273	P		P	03 26 10.2	+0.1
	comp=Z,22nm,0.8s							
PSA00	Pilbara Seismi	45.52	255	P		P	03 26 11.6	-0.8
MEEK	Meekatharra	46.80	248	P		P	03 26 22.4	+0.1
	baz=47,SNR=23							
KAPI	Kappang	47.98	277	P		P	03 26 32.4	+0.7
	comp=Z,16nm,0.5s,baz=137,slow=6.5,SNR=9.5							
KAPI	Kappang	47.98	277	P		P	03 26 32.0	+0.3
KAPI				IAmb		IAmb	03 26 33.3	
	comp=Z,28nm,0.8s							
KLBR	Kellerberrin	48.05	241	P		P	03 26 31.6	-0.4
	baz=48,SNR=27							
NWAO	Narrogin (SRO)	48.68	239	P		P	03 26 36.5	-0.2
	comp=Z,31nm,0.6s,baz=84,slow=6.0,SNR=31							
NWAO	Narrogin (SRO)	48.68	239	P		P	03 26 36.1	-0.7
	baz=49,SNR=6.2							
NWAO	Narrogin (SRO)	48.68	239	P		P	03 26 36.0	-0.7
BLDU	Ballidu	48.82	243	P		P	03 26 37.5	-0.4
	baz=49,SNR=14							
MORW	Morawa	49.25	245	P		P	03 26 41.1	-0.1
	baz=49,SNR=16							
MORW	Morawa	49.25	245	P		P	03 26 41.1	-0.1
MUN	Mundaring	49.41	241	P		P	03 26 42.3	0.0
	baz=49,SNR=8.0							
MPSI	Mapaga	49.50	284	P		P	03 26 43.6	+0.4
	comp=Z,58nm,0.8s							
TWSI	Taliwang, Sumb	49.84	271	P		P	03 26 46.0	+0.2
GIRL	Giralia	50.70	253	P		P	03 26 52.9	+0.8
	baz=51,SNR=5.3							
MYLDM	Lahad Datu	52.60	289	P		P	03 27 07.2	+0.9
KKM	Kota Kinabalu	55.02	289	P		P	03 27 23.8	-0.3
MJAR	Matsushiro Arr	58.44	332	P		P	03 27 47.0	-0.8
	comp=Z,3.1nm,0.6s,baz=171,slow=6.9,SNR=9.8							
MJAR				PcP		PcP	03 28 37.2	+0.3
	comp=Z,3.0nm,0.8s,baz=172,slow=4.2,SNR=6.7							
MJAR	Matsushiro Arr	58.44	332	P		P	03 27 47.5	-0.2
MAT	Matsushiro	58.44	332	P		P	03 27 47.1	-0.7
KSM	Kuching	58.92	281	P		P	03 27 50.6	-0.9
KSM				IAmb		IAmb	03 27 52.8	
	comp=Z,17nm,0.8s							
JNU	Nakatsue	59.45	324	P		P	03 27 54.9	+0.1
	comp=Z,10nm,0.7s,baz=283,slow=2.6,SNR=7.9							
VNDA	Vanda	62.37	181	P		P	03 28 14.3	+0.4
	comp=Z,8.9nm,0.5s,baz=357,slow=7.3,SNR=31							
VNDA	Vanda	62.37	181	P		P	03 28 13.7	-0.2
CASY	Casey	63.15	202	P		P	03 28 18.9	-0.3
CASY				IAmb		IAmb	03 28 20.4	
	comp=Z,16nm,0.7s							
JKA	Kamikawa-asahi	63.28	340	P		P	03 28 21.0	+0.7
JKA				IAmb		IAmb	03 28 22.6	
	comp=Z,21nm,1.2s							
ASAJ	Asahikawa	63.28	340	P		P	03 28 21.9	+1.6
	comp=Z,11nm,0.9s,baz=216,slow=7.4,SNR=12							
ASAJ				LR	LR		03 50 18.6	
	comp=Z,74nm,20.0s,baz=74,slow=31							
KSRS	Korea Array	64.27	326	P		P	03 28 24.4	-2.5
	comp=Z,2.6nm,0.8s,baz=145,slow=7.0,SNR=11							
KSAR	Wonju Array Be	64.28	326	P		P	03 28 26.8	-0.2
KS19	Wonju Array Si	64.33	326	P		P	03 28 26.0	-1

XAN	Xi'an	74.18	313	IAmb	IAmb	03 29 29.2			
	comp=Z,12nm,0.6s								
KMI	Kunming	74.75	302	⇑P	P	03 29 33.3	+1.4		
KMI				pP	pP	03 30 05.5	+0.4		
KMI				pmax	pmax				
	comp=Z,29nm,1.0s								
KMI				pmax	pmax				
	comp=Z,29nm,3.5s								
KMI				LR	LR				
	comp=Z,460nm,13.5s								
KMI				LR	LR				
	comp=Z,700nm,15.0s								
KMI				LR	LR				
	comp=Z,860nm,14.0s								
QSPA	South Pole Qui	74.81	180	P	P	03 29 31.6	+0.2		
	comp=Z,74nm,0.8s,baz=210,slow=0.9,SNR=121								
QSPA	South Pole Qui	74.81	180	P	P	03 29 30.9	-0.5		
CM31	Chiang Mai Arr	75.35	294	P	P	03 29 35.9	+0.7		
CM31				IAmb	IAmb	03 29 37.5			
	comp=Z,13nm,1.0s								
CMAR	Chiang Mai Arr	75.35	294	P	P	03 29 36.5	+1.4		
	comp=Z,6.2nm,0.7s,baz=131,slow=4.7,SNR=28								
CMAR				pP	pP	03 30 06.9	-1.5		
	comp=Z,2.2nm,0.8s,baz=111,slow=4.9,SNR=2.4								
CMAR	Chiang Mai Arr	75.35	294	P	P	03 29 36.4	+1.2		
CHTO	Chiang Mai	75.48	294	P	P	03 29 36.1	+0.2		
CHTO				IAmb	IAmb	03 29 37.9			
	comp=Z,36nm,1.6s								
MA2	Magadan	75.77	351	P	P	03 29 36.7	+0.1		
	comp=Z,7.4nm,0.7s,baz=130,slow=7.3,SNR=7.0								
MA2	Magadan	75.77	351	IAmb	IAmb	03 29 38.1			
	comp=Z,7.9nm,0.7s								
HHC	Hu-ho-hao-te	76.10	320	eP	P	03 29 40.8	+1.7		
HHC				pmax	pmax				
	comp=Z,20nm,1.1s								
HHC				pmax	pmax				
	comp=Z,54nm,5.5s								
CD2	Chengdu	76.48	308	eP	P	03 29 42.5	+1.1		
SEY	Seymchan	78.80	353	P	P	03 29 53.8	+0.4		
	comp=Z,6.5nm,0.6s,baz=174,slow=6.1,SNR=21								
LZH	Lanzhou	78.81	312	eP	P	03 29 55.8	+1.4		
LZH				pP	pP	03 30 29.8	+2.0		
LZH				sP	sP	03 30 45.3	+3.3		
LZH				pmax	pmax				
	comp=Z,26nm,1.1s								
LZH				pmax	pmax				
	comp=Z,94nm,4.9s								
MAW	Mawson	81.51	202	P	P	03 30 08.6	+0.5		
	comp=Z,8.7nm,0.6s,baz=137,slow=5.2,SNR=25								
MAW	Mawson	81.51	202	P	P	03 30 08.5	+0.4		
	baz=81,SNR=15								
MAW	Mawson	81.51	202	P	P	03 30 07.8	-0.3		
YAK	Yakutsk	82.56	343	P	P	03 30 13.6	+0.1		
	comp=Z,13nm,0.5s,baz=216,slow=0.4,SNR=8.1								
YAK	Yakutsk	82.56	343	P	P	03 30 14.1	+0.7		
ULN	Ulaanbaatar	82.66	324	P	P	03 30 15.2	+0.7		
ULN				IAmb	IAmb	03 30 16.4			
	comp=Z,29nm,1.1s								
SONM	Songino Array	83.02	324	P	P	03 30 16.9	+0.6		
	comp=Z,5.6nm,0.5s,baz=144,slow=6.2,SNR=40								
SONM	Songino Array	83.02	324	P	P	03 30 16.6	+0.2		
GTA	Gaotai	83.17	314	eP	P	03 30 18.5	+1.2		
GTA				pP	pP	03 30 54.0	+3.0		
GTA				sP	sP	03 31 08.5	+3.3		
GTA				pmax	pmax				
	comp=Z,18nm,1.0s								
SHL	Shillong	83.99	298	P	P	03 30 20.7	-1.2		
CUT	Chulitna	84.15	18	P	P	03 30 23.4	+1.8		
	baz=221								
O02D	Mt. Diablo Mer	84.91	46	P	P	03 30 27.2	+1.1		
	baz=245								
ORV	Oroville	85.56	47	P	P	03 30 29.4	+0.2		
CMB	Columbia Colle	85.76	49	P	P	03 30 30.4	+0.1		
HUMO	Hull Mountain	85.81	44	P	P	03 30 31.9	+1.5		
LSA	Lhasa	86.01	302	IAmb	IAmb	03 30 33.9			
	comp=Z,13nm,0.6s								
L04D	Klamath Falls	86.09	44	P	P	03 30 32.7	+0.7		
	baz=246								
BCPM	Bancas Point	86.12	24	P	P	03 30 31.8	+0.3		
ISA	Isabella, Lake	86.28	52	P	P	03 30 33.6	+0.6		
	baz=248								
ISA	Isabella, Lake	86.28	52	P	P	03 30 33.6	+0.6		
EDW2	Edwards Air Fo	86.37	53	P	P	03 30 34.1	+0.7		
	baz=249								
BFSC	Mount Baldy Ra	86.39	53	P	P	03 30 34.2	+0.6		
	baz=249								
TLY	Talaya	86.52	326	P	P	03 30 34.0	+0.3		
TLY				IAmb	IAmb	03 31 26.3			
	comp=Z,6.4nm,0.6s								
CWC	Cottonwood Cre	86.87	51	P	P	03 30 36.5	+0.6		
	baz=249								
MONP2	Monument Peak	86.89	55	P	P	03 30 36.5	+0.4		
	baz=250								
ILAR	Eielson Array	86.93	18	P	P	03 30 35.3	-0.1		
	comp=Z,2.0nm,0.6s,baz=250,slow=4.7,SNR=1.8								
PFO	Pinyon Flats O	87.11	54	P	P	03 30 37.4	+0.3		
	baz=250								
MPMC	Manual Prospec	87.17	52	P	P	03 30 38.0	+0.5		
	baz=249								
J05D	Fort Rock, OR	87.25	44	P	P	03 30 38.4	+0.8		
	baz=246								
RYN	Ryan	87.34	49	P	P	03 30 38.8	+0.6		
SWSC	Sam W. Stewart	87.40	55	P	P	03 30 39.3	+1.0		
	baz=250								
GSC	Goldstone, Bar	87.43	53	P	P	03 30 39.4	+0.8		
	baz=249								
NVAR	Mina Array Bea	87.43	49	P	P	03 30 38.9	+0.3		
	comp=Z,1.5nm,0.7s,baz=228,slow=8.2,SNR=13								
NVAR				pP	pP	03 31 09.5	-2.4		
	comp=Z,1.5nm,0.8s,baz=239,slow=7.7,SNR=4.6								
NVAR				PKKPbc	PKKPbc	03 48 28.9	-0.1		
	comp=Z,0.5nm,0.6s,baz=128,slow=2.2,SNR=6.7								
NVAR	Mina Array Bea	87.43	49	P	P	03 30 38.7	+0.1		
NV11	Mina Array Sit	87.54	49	P	P	03 30 40.0	+0.9		
BELC	Belle Mtn. Jos	87.60	54	P	P	03 30 39.9	+0.5		
	baz=250								
I05D	Terrebonne, OR	87.60	43	P	P	03 30 39.5	+0.4		
	baz=246								
FURC	Furnace Creek,	87.79	51	P	P	03 30 40.9	+0.8		
	baz=249								
D03D	Eldon	87.82	39	P	P	03 30 41.1	+1.1		
	baz=245								
SHOC	Shoshone, Teco	88.04	52	P	P	03 30 41.5	+0.1		
	baz=250								
GMRC	Granite Mounta	88.13	53	P	P	03 30 42.3	+0.4		
	baz=250								
SYO	Syowa Base	88.30	197	⇑iP	P	03 30 40.4	-1.5		
SYO	Syowa Base	88.30	197	⇑ePcP	P	03 30 42.6	+0.7		
SYO	Syowa Base	88.30	197	⇑epP	pP	03 31 14.6	-1.3		
TPNV	Topopah Spring	88.42	51	P	P	03 30 43.9	+0.6		
	baz=250								
SHPR	Sheep Range	89.09	52	P	P	03 30 46.9	+0.4		
SHPR				IAmb	IAmb	03 31 24.8			
	comp=Z,20nm,1.4s								
J08A	Circle Bar Ran	89.13	45	P	P	03 30 47.0	+0.6		
PDMCI	Parker Dam,Lak	89.15	54	P	P	03 30 47.7	+1.2		
	baz=251								
R11A	Troy Canyon, C	89.40	50	P	P	03 30 48.3	+0.4		
	baz=250								
214A	Organ Pipe Nat	89.46	57	P	P	03 30 48.9	+0.8		
	baz=252								
PRN	Pahroc Range	89.48	51	IAmb	IAmb	03 31 25.9			
	comp=Z,10nm,0.9s								
G08A	Pilot Rock	89.53	43	P	P	03 30 47.6	-0.7		
G08A				IAmb	IAmb	03 31 25.7			
	comp=Z,6.8nm,1.0s								
HSIG		90.10	60	P	P	03 30 50.8	-0.4		
HSIG				IAmb	IAmb	03 31 29.1			
	comp=Z,9.6nm,1.2s								
F10A	Beach Ranch, E	90.91	42	IAmb	IAmb	03 31 31.7			
	comp=Z,9.9nm,1.0s								
TUC	Tucson	91.21	57	P	P	03 30 57.7	+1.3		
	baz=253								
HLID	Hailey	91.97	45	P	P	03 31 00.5	+0.8		
	baz=251								
DUG	Dugway, Tooele	92.03	49	P	P	03 31 00.0	0.0		
	baz=252								
DUG	Dugway, Tooele	92.03	49	P	P	03 31 00.2	+0.2		
SNAA	Sanae	93.07	183	P	P	03 31 03.4	-0.8		
SNAA	Sanae	93.07	183	P	P	03 31 03.4	-0.8		
WMQ	Urumqi	93.23	314	eP	P	03 31 05.8	+0.4		
WMQ				pmax	pmax				
	comp=Z,12nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,66nm,4.9s								
WMQ				LR	LR				
	comp=Z,320nm,16.5s								
WMQ				LR	LR				
	comp=Z,250nm,20.1s								
WMQ				LR	LR				
	comp=Z,220nm,21.9s								
VNA3	Neumayer Olymp	93.72	181	P	P	03 31 06.1	-1.1		
VNA2	Neumayer--Watz	93.99	182	P	P	03 31 07.6	-0.8		
VNA1	Neumayer--Stat	94.29	181	P	P	03 31 08.8	-0.9		
PDAR	Pinedale Array	95.12	47	PKKPbc	PKKPbc	03 48 07.0	-2.7		
	comp=Z,0.9nm,0.8s,baz=88,slow=7.6,SNR=5.0								
TXAR	Lajitas Array	96.32	61	P	P	03 31 20.3	+0.4		
	comp=Z,0.3nm,0.8s,baz=238,slow=3.1,SNR=2.8								
TXAR				pP	pP	03 31 50.9	-2.5		
	comp=Z,0.3nm,0.7s,baz=216,slow=5.6,SNR=2.3								
TXAR				PKKPbc	PKKPdf	03 48 06.9	-0.1		
	comp=Z,0.1nm,0.5s,baz=88,slow=4.6,SNR=5.2								
MK31	Makanchi Array	97.71	316	P	P	03 31 25.4	-0.2		
MK31				IAmb	IAmb	03 31 26.9			
	comp=Z,5.9nm,0.9s								
MKAR	Makanchi Array	97.71	316	P	Pdif	03 31 26.0	+0.3		
	comp=Z,3.3nm,0.5s,baz=89,slow=6.3,SNR=38								
MKAR				pP	pP	03 31 56.8	-3.3		
	comp=Z,1.2nm,0.6s,baz=73,slow=9.0,SNR=2.6								
MKAR				PKiKP	PKiKP	03 35 58.6	-0.5		
	comp=Z,0.2nm,0.5s,baz=201,slow=1.4,SNR=5.0								
MKAR	Makanchi Array	97.71	316	P	P	03 31 25.6	-0.1		
YKA	Yellowknife Ar	97.89	27	P	P	03 31 25.4	-0.5		
	comp=Z,2.5nm,0.8s,baz=260,slow=4.6,SNR=5.6								
ZAA0	Zalesovo Array	97.92	324	P	P	03 31 25.4	-0.9		
ZALV	Zalesovo Beam	97.92	324	P	P	03 31 25.7	-0.6		
	comp=Z,6.9nm,0.7s,baz=115,slow=4.9,SNR=26								
ZALV	Zalesovo Beam	97.92	324	P	P	03 31 25.6	-0.8		
MAKZ	Makanchi	97.92	316	P	P	03 31 25.9	-0.7		
NRIK	Noril'sk	100.61	339	P	Pdif	03 31 38.4	+0.4		
	comp=Z,3.7nm,0.8s,baz=73,slow=7.7,SNR=3.9								
KURK	Kurchatov	100.92	320		Pdif	03 31 39.8	0.0		
KURBB	Kurchatov Arra	100.96	320	P	Pdif	03 31 39.8	-0.2		
	comp=Z,0.5nm,0.5s,baz=100,slow=4.3,SNR=3.1								
BVAR	Borovoye Array	106.27	321	PKiKP	PKiKP	03 36 14.4	0.0		
	comp=Z,0.6nm,0.4s,baz=247,slow=0.5,SNR=4.4								
SPA0	Spitsbergen Ar	115.45	354	epPKPdf	pPKiKP	03 37 10.6	+4.3		
LPAZ	La Paz	116.79	117	PKP	PKPdf	03 36 35.2	-1.0		
	comp=Z,0.4nm,0.5s,baz=243,slow=4.5,SNR=2.0								
HAMF	Hammerfest	120.39	347	ePKPdf	PKPdf	03 36 40.2	-0.5		
ARCES	ARCESS Array B	120.78	345	PKP	PKPdf	03 36 41.3	-0.2		
	comp=Z,8.2nm,0.5s,baz=78,slow=1.6,SNR=87								
ARE0	ARCESS Array S	120.78	345	ePKPdf	PKPdf	03 36 41.2	-0.4		
KLMR	Klimovskoe	121.22	333	ePKPdf	PKPdf	03 36 41.3	-1.3		
KLMR				AMP		03 36 43.6			
	comp=Z,10.0nm,1.1s								
KTK1	Kautokeino	121.72	346	ePKPdf	PKPdf	03 36 42.6	-0.7		
TRO	Tromso	122.20	348	ePKPdf	PKPdf	03 36 43.5	-0.7		
BOSA	Boshof	123.14	220	PKP	PKPdf	03 36 47.6	+0.1		
	comp=Z,4.7nm,0.6s,baz=107,slow=1.9,SNR=7.5								
STEI	Steigen	124.37	348	ePKPdf	PKPdf	03 36 47.5	-0.9		
LOF	Lofoten	124.53	348	ePKPdf	PKiKP	03 36 49.2	+0.1		
FAUS	Fauske	124.82	347	ePKPdf	PKiKP	03 36 49.7	0.0		
MOR8	Moi Rana	126.02	347	ePKPdf	PKPdf	03 36 50.7	-1.0		
KONS	Konsvik	126.02	348	ePKPdf	PKPdf	03 36 51.7	+0.1		
FINES	FINESS Array B	126.26	338	PKP	PKPdf	03 36 52.5	+0.2		
	comp=Z,2.3nm,0.6s,baz=20,slow=4.4,SNR=17								
NSS	Namsos	127.97	347	ePKPdf	PKPdf	03 36 55.6	+0.2		
KMBO	Kilima Mbogo	128.20	256	PKP	PKiKP	03 36 59.2	+0.8		
	comp=Z,4.5nm,0.7s,baz=57,slow=5.4,SNR=17								
DOMB	Dombas	130.79	347	ePKPdf	PKPdf	03 37 00.2	-0.8		
AKN	Aaknes	131.10	348	ePdif	Pdif	03 33 50.2	-3.7		
NB2	NORSAR Subarra	131.16	345	PKPdf	PKPpre	03 36 47.9			
	comp=Z,8.9nm,1.7s,baz=31,slow=1.9								
NB2	NORSAR Subarra	131.16	345	PKPdf	PKPpre	03 36 47.9			
	comp=Z,8.9nm,1.7s,baz=31,slow=1.9								
NOA	NORSAR Array B	131.16	345	PKP	PKPdf	03 37 01.9	+0.2		
	comp=Z,1.8nm,0.7s,baz=36,slow=2.0,SNR=11								
NOA				SKPbc	SKPab	03 40 16.4	+1.9		
	comp=Z,1.3nm,0.6s,baz=33,slow=2.9,SNR=7.2								
NC602	NORSAR Array S	131.33	345	ePKPdf	PKPdf	03 37 02.2	+0.2		
SKAR	Skarslia	132.17	346	ePKPdf	PKPdf	03 37 03.6	0.0		
ILGA	Ilgaz	132.52	312	PKPdf	PKPdf	03 37 04.9	-0.2		
BRTR	Keskin Array B	133.00	311	PKP	PKPdf	03 37 05.7	-0.2		
	comp=Z,1.0nm,0.6s,baz=136,slow=4.7,SNR=10								
SORM	Soroca	133.07	323	⇑P	PKPdf	03 37 00.1	-5.4		
ODD1	Odda	133.23	347	ePdif	Pdif	03 34 02.1	-1.3		
BDFB	Brasilia	133.41	130	PKP	PKPdf	03 37 05.8	-1.5		
	comp=Z,2.4nm,0.7s,baz=243,slow=2.3,SNR=3.6								
BR231	Keskin MP Arra	133.59	311	PKPdf	PKPdf	03 37 06.3	-0.7		
BIZ	Bicaz	134.99	323	⇑P	PKPdf	03 37 08.3	-1.0		
BURAR	Bucovina Array	135.14	324	⇑P	PKiKP	03 37 11.5	+0.4		
BURAR	Bucovina Array	135.14	324	PKPdf	PKiKP	03 37 10.5	-0.6		
KWP	Kalwaria Pacla	135.32	328	PKPdf	PKPdf	03 37 09.7	-0.1		
KOLS	Kolonicke sedl	135.98	327	ePKP	PKPdf	03 37 11.4	+0.3		
ARR	Arges	136.68	322	⇑P	PKPdf	03 37 13.3	+0.7		
PSZ	Piszkesteto	137.85	328	PKPdf	PKPdf	03 37 14.8	+0.2		
CHVC	Chvalec	137.86	333	ePKPpre	PKPpre	03 37 14.2			
CHVC				ePKPDF	PKiKP	03 37 17.9	+1.4		
SIRR	Siria	137.91	324	⇑P	PKPdf	03 37 12.3	-2.4		
VYHS	Vyhne	138.01	329	ePKP	PKPdf	03 37 15.5	+0.7		
BZS	Buzias	138.31	324	⇑P	PKPdf	03 37 13.8	-1.7		
PVCC	Panska Ves	138.55	334	ePKPDF	PKiKP	03 37 18.3	+0.4		
BRG	Berggiesshubel	138.55	335	ePKP	PKiKP	03 37 18.4	+0.5		
	comp=Z,1.1nm,0.7s								
CLL	Collm	138.59	336	ePKiKP	PKiKP	03 37 18.0	+0.1		
CLL	Collm	138.59	336	PKPdf	PKPdf	03 37 14.5	-1.3		
MDVR	Moldovita	138.74	323	⇑P	PKPdf	03 37 15.7	-0.6		
MODS	Modro-Piesok	138.86	330	ePKP	PKPdf	03 37 16.0	-0.4		
PRU	Pruhonice	138.96	333	ePKPDF	PKiKP	03 37 18.8	+0.1		
PBCC	Pribram	139.42	334	ePKPDF	PKiKP	03 37 19.7	0.0		
NKC	Novy Kostel	139.65	335	ePKPpre	PKPpre	03 37 12.3			
MOX	Moxa	139.66	336	eL	L	04 38 29.2			
	comp=Z,42nm,21.7s								
CONA	Conrad Observa	139.85	330	ePKPdf	PKPdf	03 37 18.1	-0.2		
	comp=Z,6.5nm,1.6s								
KHC	Kasperske Hory	140.02	333	ePKPpre	PKPpre	03 37 11.4			
KHC				ePKPDF	PKiKP	03 37 20.7	-0.3		
KHC	Kasperske Hory	140.02	333	PKPdf	PKPdf	03 37 17.3	-1.2		
GEC2	GERESS Array S	140.18	333	PKPdf	PKPdf	03 37 17.4	-1.5		
GERES	GERESS Array B	140.18	333	PKhKP	PKPpre	03 37 10.0			
	comp=Z,1.3nm,0.5s,baz=54,slow=3.4,SNR=15								
GERES				SKPbc	SKiKP	03 40 44.6	-0.6		
	comp=Z,0.1nm,0.4s,baz=48,slow=2.0,SNR=4.3								
GRF	Grafenberg Arr	140.57	336	eL	L	04 37 19.8			
	comp=Z,59nm,20.6s								
MOA	Molln	140.66	331	ePKPdf	PKPdf	03 37 15.7	-4.0		
	comp=Z,0.7nm,0.5s								
GRC4	Grafenberg Arr	140.92	335	ePKPdf	PKPdf	03 37 14.0	-6.1		
	baz=38,slow=1.6								
PDG	Pinedale	141.55	321	⇑P	PKPdf	03 37 16.3	-5.1		
MYKA	Terra Mystica	141.84	331	ePKPdf	PKPdf	03 37 16.7	-5.2		
	comp=Z,1.7nm,0.4s								
BCLA	Clavier	142.05	341	PKPdf	PKPdf	03 37 16.8	-5.3		
RICI	Ricice	142.15	324	P	PKPdf	03 37 17.2	-5.3		
ZOU	Zoufplan	142.21	331	PKPdf	PKPdf	03 37 20.7	-2.0		
UDBI	Udbina	142.23	326	iP	PKPdf	03 37 18.1	-4.6		
WATA	Walderalm	142.26	333	ePKPdf	PKPdf	03 37 18.8	-4.0		
	comp=Z,3.3nm,0.8s								
SNF	Seneffe	142.28	342	PKPdf	PKPdf	03 37 18.9	-3.5		
ABTA	Abfaltersbach	142.28	332	ePKPdf	PKPdf	03 37 17.7	-5.0		
	comp=Z,4.3nm,0.6s								
WTTA	Wettenberg	142.28	333	iPKPdf	PKPdf	03 37 19.0	-3.9		
	comp=Z,2.7nm,0.4s								
WLF	Walferdange	142.44	340	PKPdf	PKPdf	03 37 19.4	-3.3		
WLF	Walferdange	142.44	340	ePKPdf	PKPdf	03 37 19.5	-3.2		
	baz=38,slow=1.6								
WLF	Walferdange	142.44	340	PKPdf	PKPdf	03 37 19.6	-3.2		
MOTA	Moosalm	142.45	333	ePKPdf	PKPdf	03 37 19.5	-3.6		
	comp=Z,10nm,0.7s,SNR=12								
RETA	Reutte	142.49	334	ePKPdf	PKPdf	03 37 19.7	-3.4		
	comp=Z,2.3nm,0.6s,SNR=5.5								
SQTA	Sankt Quirin	142.50	333	ePKPdf	PKPdf	03 37 19.6	-3.5		
	comp=Z,7.3nm,0.5s,SNR=8.8								
DOU	Dourbes	142.55	342	PKPdf	PKPdf	03 37 19.4	-3.5		
UBR	Ueberruh	142.61	335	ePKPdf	PKPdf	03 37 20.6	-2.6		
	baz=38,slow=1.6								
CIMO	Cimolais	142.64	331	PKPdf	PKPdf	03 37 20.2	-3.1		
MORI	Morici	142.70	326	iP	PKPdf	03 37 18.9	-4.5		
BFO	Black Forest	142.79	337	ePKPdf	PKPdf	03 37 20.1	-3.4		
	baz=38,slow=1.6								
FETA	Feichten	142.87	333	ePKPdf	PKPdf	03 37 21.0	-2.9		
	comp=Z,15nm,0.8s,SNR=17								
ZIRJ	Zirje	142.88	325	iP	PKPdf	03 37 19.5	-4.2		
DAVA	Damuels	143.02	334	iPKPdf	PKPbc	03 37 21.5	+0.2		
	comp=Z,7.9nm,0.5s,SNR=7.5								
ECH	Echery	143.32	338	PKPdf	PKPbc	03 37 21.4	-0.4		
TUE	Stuetta	143.89	334	PKPdf	PKPdf	03 37 25.0	-0.8		
SALO	Salr	144.04	332	PKPdf	PKPab	03 37 22.9	-0.6		
MATE	Matera	144.14	321	⇑P	PKPab	03 37 23.9	0.0		
NRCA	Norcia	144.79	327		PKPbc	03 37 26.6	+0.1		
SENIN	Lac Senin/Sane	144.81	336		PKPbc	03 37 26.7	+0.1		
TIP	Timpagrande	144.96	319	⇑P	PKPdf	03 37 27.6	-0.1		
TIP	Timpagrande	144.96	319		PKPdf	03 37 27.5	-0.1		
CLF	Chambon-Foret	145.09	343		PKPdf	03 37 28.2	+0.7		
PAOL	Paolisi	145.18	323		PKPbc	03 37 27.8	0.0		
VLC	Villacollemand	145.21	331	PKPbc	PKPbc	03 37 27.5	-0.3		
OSSC	Osservatorio P	145.26	329	PKPbc	PKPbc	03 37 27.1	-0.8		
MSSA	Maissana	145.50	332		PKPdf	03 37 28.0	-0.4		
LATE	Laterza	145.64	327		PKPdf	03 37 28.3	-0.4		
CEL	Celeste	146.04	318	PKPbc	PKPab	03 37 30.9	-0.4		
RAFF	Raffo Rosso	147.63	318	PKPbc	PKiKP	03 37 36.7	-0.3		
CLTB	Caltabellotta	148.15	319	PKPbc	PKPbc	03 37 36.0	-0.5		
VSL	Villasalto	149.14	326	PKPbc	PKPbc	03 37 37.9	-1.0		
KEST	Kesra	151.73	320	PKP	PKPdf	03 37 40.1	+1.4		
	comp=Z,5.6nm,0.9s,baz=319,slow=12,SNR=4.0								
KEST				PKPbc	PKiKP	03 37 45.8	+0.3		
	comp=Z,8.5nm,0.5s,baz=174,slow=2.6,SNR=53								
PBRG	Braganca	153.05	350	ePKPab	PKPab	03 38 00.5	+0.8		
PVRL	Vila Real	153.71	352	ePKPab	PKPab	03 38 03.8	+1.3		
MVO	Moncorvo	153.72	351	ePKPab	PKPab	03 38 03.5	+0.9		
PVIS	Viseu	154.29	352	ePKPab	PKPab	03 38 06.2	+1.2		
ESDC	Sonseca Array	154.52	345	PKP	PKPdf	03 37 43.8	+1.2		
	comp=Z,0.9nm,0.9s,baz=333,slow=3.4,SNR=5.7								
ESDC				PKPab	PKPab	03 38 06.6	+0.6		
	comp=Z,3.4nm,1.0s,baz=21,slow=3.9,SNR=13								
ESDC				PP	PP	03 41 35.8	-5.0		
	comp=Z,0.9nm,1.1s,baz=33,slow=8.0,SNR=4.5								
ESDC	Sonseca Array	154.52	345		PKPdf	03 37 43.5	+0.9		
MTE	Manteigas	154.55	351	ePKPab	PKPab	03 38 07.3	+1.2		
COI	Coimbra	154.85	353	ePKPab	PKPab	03 38 08.6	+1.3		
PCAS	Casmilo, Conde	155.02	353	ePKPab	PKPab	03 38 09.2	+1.2		
PCBR	Castelo Branco	155.09	351	ePKPab	PKPab	03 38 09.3	+1.0		
PMRV	Marv??o	155.47	350	ePKPab	PKPab	03 38 10.9	+0.9		
PSBE	So Bento	155.58	353	ePKPab	PKPab	03 38 11.8	+1.3		
PMTG	Montargil	155.95	352	ePKPab	PKPab	03 38 12.9	+0.9		
PMAFR	Mafra	156.19	354	ePKPab	PKPab	03 38 14.9	+1.8		
EVO	Evora	156.45	351	ePKPab	PKPab	03 38 14.9	+0.7		
PBEJ	Beja	156.92	351	ePKPab	PKPab	03 38 17.7	+1.5		
PNCL	Nicolau / Gran	156.93	352	ePKPab	PKPab	03 38 17.9	+1.6		
PCVE	Castro Verde	157.33	351	ePKPab	PKPab	03 38 19.5	+1.5		
PBDV	Barranco-do-Ve	157.70	350	ePKPab	PKPab	03 38 21.3	+1.7		
MORF	Marmelete	157.74	352	ePKPab	PKPab	03 38 21.7	+1.8		
TOA0	Torodi Ar. Sit	166.08	263		PKPdf	03 37 55.9	-0.1		
TORD	Torodi Ar. Bea	166.08	263	PKP	PKPdf	03 37 55.6	-0.3		
	comp=Z,6.3nm,0.6s,baz=38,

	baz=306							
TWB1				S		Sn	03 33 57.4	-0.2
	baz=306							
ENA	**Nanau**	**1.03 274**	*i*	P		**Pn**	**03 33 42.7**	**-0.3**
	baz=272							
ENA			*i*	S		**Sn**	**03 33 57.6**	**0.0**
	baz=272							
JKRS	**Kuro-shima**	**1.04 96**		P		**Pn**	**03 33 43.2**	**+0.1**
JKRS				S		**Sn**	**03 33 58.3**	**+0.4**
NTC	**Toucheng**	**1.07 298**	*i*	P		**Pn**	**03 33 43.4**	**0.0**
	baz=295							
NTC			*i*	S		**Sn**	**03 33 57.4**	**-1.0**
	baz=295							
ILA	**Ilan**	**1.10 292**	*e*	P		**Pn**	**03 33 43.4**	**-0.4**
	baz=289							
ILA				S		**Sn**	**03 33 59.4**	**+0.3**
	baz=289							
TIPB	**Shuangxi**	**1.13 303**	*i*	P		**Pn**	**03 33 43.4**	**-0.9**
	baz=300							
TIPB			*i*	S		**Sn**	**03 33 58.9**	**-0.9**
	baz=300							
TWE	**Neicheng**	**1.16 288**	*i*	P		**Pn**	**03 33 44.4**	**0.0**
	baz=286							
TWE			*i*	S		**Sn**	**03 34 00.0**	**-0.3**
	baz=286							
JIJ	**Ishigaki jima**	**1.16 89**		P		**Pn**	**03 33 44.1**	**-0.4**
JIJ				S		**Sn**	**03 33 59.4**	**-1.0**
NACB	**Ninganchiao**	**1.18 261** ⇑	*i*	P		**Pn**	**03 33 44.1**	**-0.7**
	baz=259							
NACB				S		**Sn**	**03 33 59.6**	**-1.3**
	baz=259							
TWD	**Chiawan**	**1.20 257**	*i*	P		**Pn**	**03 33 44.2**	**-0.8**
	baz=247							
TWD			*i*	S		**Sn**	**03 34 00.3**	**-0.9**
	baz=247							
HWA	**Hwalien**	**1.22 252**		P		**Pn**	**03 33 45.1**	**-0.1**
	baz=250							
NWF	**Wu-fen Shan**	**1.22 306**	*i*	P		**Pn**	**03 33 45.4**	**0.0**
	baz=296							
NWF			*i*	S		**Sn**	**03 34 01.3**	**-0.6**
	baz=296							
WFSB	**Wu-fen Shan**	**1.22 306**		P		**Pn**	**03 33 45.2**	**-0.1**
	baz=296							
WFSB				S		**Sn**	**03 34 01.2**	**-0.5**
	baz=296							
ENTT	**Nioudou**	**1.22 284**	*i*	P		**Pn**	**03 33 45.4**	**0.0**
	baz=287							
ENTT			*i*	S		**Sn**	**03 34 01.8**	**0.0**
	baz=287							
NDT	**Datong Townshi**	**1.26 281**	*i*	P		**Pn**	**03 33 46.1**	**+0.3**
	baz=284							
NDT			*i*	S		**Sn**	**03 34 02.7**	**0.0**
	baz=284							
ETLH	**Xiulin Townshi**	**1.28 264**		P		**Pn**	**03 33 45.5**	**-0.6**
	baz=255							
ETLH				S		**Sn**	**03 34 02.3**	**-0.8**
	baz=255							
NWLT	**Wulai**	**1.31 289**	*i*	P		**Pn**	**03 33 46.4**	**-0.1**
	baz=286							
NWLT			*i*	S		**Sn**	**03 34 03.6**	**-0.3**
	baz=286							
TWA	**Mucha**	**1.33 298**	*i*	P		**Pn**	**03 33 46.2**	**-0.5**
	baz=295							
TWA				S		**Sn**	**03 34 03.0**	**-1.1**
	baz=295							
JISG	**Ishigakijimahi**	**1.33 80**		P		**Pn**	**03 33 46.0**	**-0.7**
JISG				*e*S		**Sn**	**03 34 03.0**	**-1.2**
NNSB	**Datong**	**1.36 273**		P		**Pn**	**03 33 46.8**	**-0.4**
	baz=271							
NNSB				S		**Sn**	**03 34 04.0**	**-1.0**
	baz=271							
NNSH	**Datong**	**1.36 273**	*i*	P		**Pn**	**03 33 46.8**	**-0.4**
	baz=271							
NNSH			*i*	S		**Sn**	**03 34 04.2**	**-0.9**
	baz=271							
NNS	**Nan Shan**	**1.37 274**	*i*	P		**Pn**	**03 33 46.9**	**-0.4**
	baz=271							
NNS			*i*	S		**Sn**	**03 34 04.3**	**-0.9**
	baz=271							
YHNB	**Yeheng**	**1.40 283**		P		**Pn**	**03 33 47.6**	**0.0**
	baz=281							
YHNB				S		**Sn**	**03 34 05.7**	**-0.2**
	baz=281							
TATO	**Taipei**	**1.40 296**		P		**Pn**	**03 33 47.1**	**-0.4**
	baz=294							
TATO				S		**Sn**	**03 34 04.6**	**-1.1**
	baz=294							
NSK	**Sanguang**	**1.42 283**	*i*	P		**Pn**	**03 33 47.8**	**0.0**
	baz=281							
NSK			*i*	S		**Sn**	**03 34 05.5**	**-0.7**
	baz=281							
ESL	**Shilin**	**1.42 248**	*i*	P		**Pn**	**03 33 47.0**	**-0.9**
	baz=241							
ESL				S		**Sn**	**03 34 05.4**	**-0.9**
	baz=241							
PCYT	**Pengchaiyu**	**1.46 330**	*i*	P		**Pn**	**03 33 48.5**	**+0.1**
	baz=327							
TWY	**Chenhua**	**1.47 309**	*e*	P		**Pn**	**03 33 48.4**	**-0.1**
	baz=298							
TWY				S		**Sn**	**03 34 07.9**	**+0.5**
	baz=298							
WHF	**Hehuan Shan**	**1.48 262** ⇑	*i*	P		**Pn**	**03 33 48.5**	**-0.5**
	baz=253							
WHF			*i*	S		**Sn**	**03 34 07.8**	**-0.5**
	baz=253							
EGFH	**Guangfu**	**1.49 243**	*i*	P		**Pn**	**03 33 48.0**	**-0.7**
	baz=242							
EGFH			*i*	S		**Sn**	**03 34 07.3**	**-0.4**
	baz=242							
TWS1	**Kuangyinshan**	**1.52 300**		P		**Pn**	**03 33 49.1**	**+0.1**
	baz=290							
TWS1				S		**Sn**	**03 34 07.9**	**-0.5**
	baz=290							
NTST	**Danshui**	**1.52 302**	*e*	P		**Pn**	**03 33 48.9**	**-0.2**
	baz=292							
NTST				S		**Sn**	**03 34 08.2**	**-0.3**
	baz=292							
TWT	**Tachien**	**1.55 266**	*i*	P		**Pn**	**03 33 50.2**	**+0.5**
	baz=264							
TWT			*i*	S		**Sn**	**03 34 09.6**	**+0.1**
	baz=264							
TDCB	**Techi**	**1.57 267**		P		**Pn**	**03 33 50.1**	**+0.2**
	baz=259							
TDCB				S		**Sn**	**03 34 09.0**	**-0.8**
	baz=259							
CHGB	**Renai**	**1.58 260**		P		**Pn**	**03 33 49.8**	**-0.2**
	baz=251							
CHGB				S		**Sn**	**03 34 09.8**	**-0.4**
	baz=251							
HGSD	**Ruisui**	**1.58 237**		P		**Pn**	**03 33 49.0**	**-0.9**
	baz=236							
HGSD				S		**Sn**	**03 34 09.5**	**-0.4**
	baz=236							
OWD	**Renai**	**1.60 256**	*i*	P		**Pn**	**03 33 50.3**	**+0.1**
	baz=254							
NCUH	**Zhongli**	**1.65 292**	*e*	S		**Sn**	**03 34 11.8**	**+0.3**
	baz=289							
EHY	**Hungye**	**1.65 239**	*e*	S		**Sn**	**03 34 11.1**	**-0.5**
	baz=247							
JTJ	**Tarama**	**1.69 80**		P		**Pn**	**03 33 50.8**	**-0.5**
JTJ				S		**Sn**	**03 34 11.7**	**-0.7**
VWDT	**VWDT**	**1.69 250**		P		**Pn**	**03 33 51.4**	**+0.1**
	baz=248							
VWDT				S		**Sn**	**03 34 11.8**	**-0.7**
	baz=248							
LIOB	**Emei**	**1.71 280**	*i*	P		**Pn**	**03 33 52.1**	**+0.5**
	baz=278							
LIOB			*i*	S		**Sn**	**03 34 13.6**	**+0.5**
	baz=278							
NSTT	**Nanjuang**	**1.73 279**	*i*	P		**Pn**	**03 33 51.9**	**+0.1**
	baz=285							
NSTT			*i*	S		**Sn**	**03 34 13.1**	**-0.2**
	baz=285							
YULB	**Yu-li**	**1.73 237**		P		**Pn**	**03 33 51.3**	**-0.6**
	baz=246							
YULB				S		**Sn**	**03 34 12.4**	**-1.0**
	baz=246							
TWF1	**Yuli**	**1.75 236**	*i*	P		**Pn**	**03 33 51.8**	**-0.4**
	baz=230							
TWF1			*i*	S		**Sn**	**03 34 13.1**	**-0.9**
	baz=230							
WHP	**Taichung City**	**1.76 268**	*i*	P		**Pn**	**03 33 53.2**	**+0.9**
	baz=262							
WHP			*i*	S		**Sn**	**03 34 14.1**	**-0.1**
	baz=262							
SSLB	**Suanglung**	**1.84 252**		P		**Pn**	**03 33 53.2**	**-0.2**
	baz=255							
SSLB				S		**Sn**	**03 34 15.5**	**-0.6**
	baz=255							
SMLT	**Sun Moon Lake**	**1.86 256**	*i*	P		**Pn**	**03 33 53.9**	**+0.2**
	baz=250							
SMLT			*i*	S		**Sn**	**03 34 16.8**	**+0.1**
	baz=250							
CHKT	**Chengkung**	**1.86 228**		P		**Pn**	**03 33 52.6**	**-1.0**
	baz=222							
CHKT			*i*	S		**Sn**	**03 34 14.3**	**-2.3**
	baz=222							
TYC	**Yuchr**	**1.90 257**	*i*	P		**Pn**	**03 33 54.3**	**+0.3**
	baz=251							
TYC				S		**Sn**	**03 34 16.9**	**-0.4**
	baz=251							
NMLH	**Miaoli**	**1.91 276**	*i*	P		**Pn**	**03 33 54.6**	**+0.4**
	baz=274							
NMLH			*i*	S		**Sn**	**03 34 17.9**	**+0.4**
	baz=274							
TWQ1	**Liyutan**	**1.91 270**	*e*	P		**Pn**	**03 33 55.8**	**+1.6**
	baz=278							
TWQ1				S		**Sn**	**03 34 18.2**	**+0.5**
	baz=278							
WHYT	**Xinyi Township**	**1.96 251**		P		**Pn**	**03 33 55.8**	**+0.9**
	baz=241							
WHYT				*e*S		**Sn**	**03 34 19.6**	**+0.8**
	baz=241							
EDH	**Donghe**	**1.99 226**		P		**Pn**	**03 33 54.1**	**-1.2**
	baz=222							
EDH				S		**Sn**	**03 34 17.3**	**-2.3**
	baz=222							
TCU	**Taichung**	**2.02 264**		P		**Pn**	**03 33 56.6**	**+1.1**
	baz=274							
TCU				*e*S		**Sn**	**03 34 21.3**	**+1.2**
	baz=274							
WJS	**Zhushan**	**2.03 255**		P		**Pn**	**03 33 57.1**	**+1.3**
	baz=251							
WJS			*i*	S		**Sn**	**03 34 23.2**	**+2.7**
	baz=251							
WDJ	**Dajia District**	**2.04 270**	*e*	P		**Pn**	**03 33 56.6**	**+0.8**
	baz=278							
WDJ				*e*S		**Sn**	**03 34 20.9**	**+0.3**
	baz=278							
WNT	**Mingjian**	**2.06 257**	*i*	P		**Pn**	**03 33 57.8**	**+1.6**
	baz=247							
WNT			*i*	S		**Sn**	**03 34 22.6**	**+1.5**
	baz=247							
ELDTW	**Lidau**	**2.06 236**	*i*	P		**Pn**	**03 33 55.6**	**-0.7**
	baz=235							
ELDTW				*e*S		**Sn**	**03 34 19.3**	**-2.1**
	baz=235							
ALS	**Alishan**	**2.07 246**	*i*	P		**Pn**	**03 33 57.3**	**+0.7**
	baz=239							
ALS				S		**Sn**	**03 34 22.4**	**+0.6**
	baz=239							
LDUT	**Ludao**	**2.11 218**		P		**Pn**	**03 33 55.7**	**-1.2**
	baz=213							
LDUT				S		**Sn**	**03 34 20.3**	**-2.1**
	baz=213							
WCHH	**Zhanghua**	**2.13 263**	*i*	P		**Pn**	**03 33 57.5**	**+0.4**
	baz=270							
WCHH			*i*	S		**Sn**	**03 34 23.6**	**+0.7**
	baz=270							
CHN5	**Tsauling**	**2.15 250**	*i*	P		**Pn**	**03 33 58.3**	**+0.9**
	baz=241							
CHN5			*i*	S		**Sn**	**03 34 24.9**	**+1.6**
	baz=241							
JIRB	**Irabujima**	**2.15 77**		P		**Pn**	**03 33 56.7**	**-0.6**
JIRB				*e*S		**Sn**	**03 34 22.0**	**-1.2**
WGK	**Gukeng**	**2.22 253**	*i*	P		**Pn**	**03 33 59.9**	**+1.6**
	baz=242							
WGK				*e*S		**Sn**	**03 34 26.7**	**+1.8**
	baz=242							
JIKM	**Ikemajima**	**2.23 75**		P		**Pn**	**03 33 58.2**	**-0.3**
JIKM				S		**Sn**	**03 34 24.5**	**-0.8**
WDLH	**Douliu**	**2.24 253**		P		**Pn**	**03 33 59.9**	**+1.4**
	baz=242							
WDLH				S		**Sn**	**03 34 27.3**	**+2.0**
	baz=242							
TTN	**Taitung**	**2.25 225**		P		**Pn**	**03 33 58.6**	**-0.1**
	baz=220							
TTN				*e*S		**Sn**	**03 34 24.7**	**-0.9**
	baz=220							
TWGBT	**Beinan**	**2.25 227**		P		**Pn**	**03 33 58.0**	**-0.7**
	baz=235							
TWGBT				S		**Sn**	**03 34 23.6**	**-2.1**
	baz=235							
JMJ	**Miyako jima 2**	**2.25 78**		P		**Pn**	**03 33 58.7**	**-0.1**
	baz=80							
JMJ				S		**Sn**	**03 34 24.9**	**-0.8**
	baz=80							
TWG	**Pinlang**	**2.25 228**	*i*	P		**Pn**	**03 33 58.0**	**-0.8**
	baz=235							
TWG			*i*	S		**Sn**	**03 34 24.4**	**-1.3**
	baz=235							
JMJ2	**Miyako jima3**	**2.27 80**		P		**Pn**	**03 33 58.8**	**-0.1**
JMJ2				*e*S		**Sn**	**03 34 26.5**	**+0.4**
STYT	**Tauyuan**	**2.27 239**	*i*	P		**Pn**	**03 34 00.0**	**+0.9**
	baz=237							
STYT				S		**Sn**	**03 34 26.7**	**+0.3**
	baz=237							
TPUB	**Ta-pu**	**2.31 243**		P		**Pn**	**03 34 00.4**	**+0.8**
	baz=242							
TPUB				S		**Sn**	**03 34 27.7**	**+0.6**
	baz=242							
CHN2	**Minshiung**	**2.34 250**	*e*	S		**Sn**	**03 34 30.1**	**+2.2**
	baz=248							
JOGS	**Gusukube**	**2.34 80**		S		**Sn**	**03 34 27.2**	**-0.7**
RLNB	**Erlin**	**2.34 259**		P		**Pn**	**03 34 00.7**	**+0.8**
	baz=257							
RLNB				S		**Sn**	**03 34 28.6**	**+0.7**
	baz=257							
WTP	**Ta-pu**	**2.35 242**	*i*	P		**Pn**	**03 34 00.9**	**+0.9**
	baz=241							
WTP			*i*	S		**Sn**	**03 34 29.7**	**+1.6**
	baz=241							
CHY	**Chiayi**	**2.40 250**		P		**Pn**	**03 34 01.6**	**+0.9**
	baz=248							
CHY				S		**Sn**	**03 34 31.5**	**+2.2**
	baz=248							
CHN1	**Nanshi**	**2.44 242**	*i*	P		**Pn**	**03 34 02.6**	**+1.2**
	baz=240							
CHN1			*i*	S		**Sn**	**03 34 32.4**	**+2.0**
	baz=240							
SLGT	**Liugui**	**2.45 237**	*i*	P		**Pn**	**03 34 02.7**	**+1.3**
	baz=235							
SLGT			*i*	S		**Sn**	**03 34 32.5**	**+1.9**
	baz=235							
SNST	**Tainan City**	**2.45 243**		P		**Pn**	**03 34 02.3**	**+0.9**
	baz=241							
SNST				S		**Sn**	**03 34 32.0**	**+1.5**
	baz=241							
ECL	**Taimali**	**2.48 226**	*i*	P		**Pn**	**03 34 00.3**	**-1.6**
	baz=231							
ECL				S		**Sn**	**03 34 29.1**	**-2.2**
	baz=231							
SSD	**Sandimen**	**2.61 232**	*i*	P		**Pn**	**03 34 04.7**	**+1.2**
	baz=230							
SSD				S		**Sn**	**03 34 36.5**	**+2.2**
	baz=230							
LAY	**Lan-yu**	**2.61 208**	*i*	P		**Pn**	**03 34 01.8**	**-1.8**
	baz=201							
LAY				*e*S		**Sn**	**03 34 31.7**	**-2.7**
	baz=201							
MASBT	**Mashibuluo**	**2.69 230**		P		**Pn**	**03 34 05.2**	**+0.5**
	baz=225							
MASBT				S		**Sn**	**03 34 38.3**	**+1.9**
	baz=225							
EAST	**Anshuo**	**2.71 224**	*i*	P		**Pn**	**03 34 03.9**	**-1.0**
	baz=228							
EAST				S		**Sn**	**03 34 35.4**	**-1.3**
	baz=228							
SSPT	**Xinbi**	**2.82 229**	*e*	P		**Pn**	**03 34 08.2**	**+1.8**
	baz=226							
SCZT	**Fangliau**	**2.86 227**	*i*	P		**Pn**	**03 34 07.8**	**+0.8**
	baz=224							
SCZT				*e*S		**Sn**	**03 34 40.3**	**-0.1**
	baz=224							
PTTC	**Pingtan**	**3.04 293**		P		**Pn**	**03 34 08.7**	**-0.6**
	baz=290							
PTTC				*e*S		**Sn**	**03 34 41.9**	**-2.8**
	baz=290							
WLCH	**Liuqiu**	**3.04 229**	*e*	P		**Pn**	**03 34 11.9**	**+2.6**
	baz=238							
TWKBT	**Hengchun**	**3.06 219**		P		**Pn**	**03 34 09.6**	**-0.1**
	baz=217							
TWKBT				S		**Sn**	**03 34 44.5**	**-0.8**
	baz=217							
TWK1	**Hengchun**	**3.06 219**	*i*	P		**Pn**	**03 34 09.3**	**-0.4**
	baz=217							
TWK1				S		**Sn**	**03 34 45.8**	**+0.4**
	baz=217							
PHUB	**P'eng-hu**	**3.13 255**		P		**Pn**	**03 34 09.8**	**-0.8**
	baz=262							
PHUB				S		**Sn**	**03 34 44.5**	**-2.5**
	baz=262							
PNG	**Penghu**	**3.13 256**		P		**Pn**	**03 34 09.9**	**-0.7**
	baz=254							
PNG				S		**Sn**	**03 34 44.5**	**-2.5**
	baz=254							
WDGT	**Dungji**	**3.14 250**		P		**Pn**	**03 34 10.6**	**-0.1**
	baz=248							
WDGT				S		**Sn**	**03 34 45.8**	**-1.4**
	baz=248							
VWUC	**VWUC**	**3.18 282**		P		**Pn**	**03 34 10.4**	**-0.8**
	baz=272							
VWUC				*e*S		**Sn**	**03 34 44.6**	**-3.5**
	baz=272							
MATB	**Ma-tsu**	**3.19 305**	*e*	P		**Pn**	**03 34 11.7**	**+0.3**
	baz=302							
MATB				*e*S		**Sn**	**03 34 46.7**	**-1.8**
	baz=302							
VCHM	**Qimei**	**3.35 251**		P		**Pn**	**03 34 13.7**	**+0.1**
	baz=248							
VCHM				S		**Sn**	**03 34 51.2**	**-1.1**
	baz=248							
PTMZ	**Houxiangcun**	**3.48 282**		P		**Pn**	**03 34 14.7**	**-0.6**
	baz=272							
PTMZ				*e*S		**Sn**	**03 34 52.5**	**-2.9**
	baz=272							
XPSS	**Dashiqiu**	**3.52 317**	*e*	S		**Sn**	**03 34 55.6**	**-0.8**
	baz=305							
LYJJ	**Jianjiangzhen**	**3.56 308**	*e*	S		**Sn**	**03 34 56.4**	**-0.9**
	baz=306							
KNM	**Kinmen**	**4.05 272**	*e*	S		**Sn**	**03 35 09.4**	**+0.2**
	baz=269							
KNMB	**Chin-men Tao**	**4.09 272**	*e*	P		**Pn**	**03 34 22.8**	**-0.8**
	baz=270							
KNMB				*e*S		**Sn**	**03 35 07.8**	**-2.4**
	baz=270							
AXDP	**Jialang**	**4.49 278**		P		**Pn**	**03 34 28.6**	**-0.5**
	baz=275							
AXDP				*e*S		**Sn**	**03 35 16.8**	**-3.3**
	baz=275							
ZPLA	**Ao Xicun**	**4.70 266**	*e*	P		**Pn**	**03 34 31.3**	**-0.6**
	baz=261							
KSRS	**Korea Array**	**13.75 17**		Pn		**Pn**	**03 36 36.2**	**+1.6**
	0.4nm,0.3s,baz=197,slow=11,SNR=6.6							
WRA	**Warramunga Arr**	**45.43 165**		P		**P**	**03 41 34.0**	**-0.2**
	1.3nm,0.7s,baz=346,slow=8.7,SNR=8.0							
ASAR	**Alice Springs**	**48.92 167**		P		**P**	**03 42 01.8**	**+0.5**
	0.4nm,0.9s,baz=350,slow=9.4,SNR=6.4							

*IDC **31** 03:33:29.2±0.8, 18°.21N×145°.42E, h581km±10km, mb3.2/19, mb1 3.4/23, mb1mx3.2/67, mbtmp4.3/23, Error ellipse: s-maj=15.3km s-min=8.3km az=88.0*
*NEIC **31** 03:33:29.9±1.4, 18°.25N±0°.08×145°.3E±0°.1, h588km±7km, mb4.4/19, Error ellipse: s-maj=19.6km s-min=11.4km az=93.0*

ISC 31 03:33:30.1±0.5, 18°.16N±0°.07×145°.3E±0°.1, h600km, n38, σ1s26/43, mb3.8/22, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.56**	**186**	P	**P**	**03 34 58.0**	**-1.8**
	27nm,0.3s,baz=40,slow=1.1,SNR=11						
GUMO				S	**S**	**03 36 08.6**	**-4.2**
	19nm,0.3s,baz=360,slow=23,SNR=5.6						
GUMO	**Guam**	**4.56**	**186**	P	**P**	**03 34 58.2**	**-1.5**
GUMO					**S**	**03 36 12.2**	**-0.5**
JCJ	**Chichijima**	**9.36**	**342**	P	**P**	**03 35 41.2**	**-1.2**
	22nm,0.3s,baz=173,slow=19,SNR=20						
JHJ2	**Mitsune**	**15.69**	**343**	P	**P**	**03 36 43.0**	**-1.5**
MJAR	**Matsushiro Arr**	**19.36**	**342**	P	**P**	**03 37 16.8**	**-1.2**
	0.2nm,0.3s,baz=164,slow=9.7,SNR=12						
MAJO	**Matsushiro**	**19.36**	**342**	P	**P**	**03 37 17.3**	**-0.7**
MAJO				IAmb	IAmb	03 37 20.8	
	comp=Z,5.8nm,0.6s						
JNU	**Nakatsue**	**19.76**	**322**	P	**P**	**03 37 21.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=159,slow=23,SNR=2.1						
SSLB	**Suanglung**	**23.43**	**288**	P	**P**	**03 37 54.5**	**-0.1**
KSRS	**Korea Array**	**24.55**	**325**	P	**P**	**03 38 04.2**	**0.0**
	comp=Z,1.9nm,0.7s,baz=148,slow=9.0,SNR=9.1						
KS19	**Wonju Array Si**	**24.62**	**325**	P	**P**	**03 38 04.7**	**-0.2**
INCN	**Inchon**	**25.29**	**323**	P	**P**	**03 38 07.6**	**-3.2**
JKA	**Kamikawa-asahi**	**25.98**	**356**	P	**P**	**03 38 17.4**	**+0.7**
JKA	**Kamikawa-asahi**	**25.98**	**356**	IAmb	IAmb	03 38 21.0	
	comp=Z,34nm,2.0s						
ASAJ	**Asahikawa**	**25.98**	**355**	P	**P**	**03 38 17.4**	**+0.6**
	comp=Z,3.0nm,0.6s,baz=205,slow=11,SNR=6.4						
USRK	**Ussuriysk Ar.**	**28.28**	**339**	P	**P**	**03 38 37.2**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=134,slow=8.1,SNR=2.6						
KLR	**Kul'dur**	**32.88**	**344**	P	**P**	**03 39 16.0**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=146,slow=5.4,SNR=11						
PETK	**Petropavlovsk-**	**36.19**	**13**	P	**P**	**03 39 43.1**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=154,slow=8.2,SNR=5.1						
WRA	**Warramunga Arr**	**39.37**	**196**	P	**P**	**03 40 11.0**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=20,slow=8.3,SNR=22						
WRA				PcP	**PcP**	**03 42 01.6**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=13,slow=3.2,SNR=2.1						
WRA				ScP	**ScP**	**03 44 56.2**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=14,slow=4.2,SNR=5.9						
MA2	**Magadan**	**41.55**	**4**	P	**P**	**03 40 26.5**	**+0.1**
	comp=Z,4.6nm,0.7s,baz=168,slow=18,SNR=2.3						
ASAR	**Alice Springs**	**43.04**	**195**	P	**P**	**03 40 39.8**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=17,slow=7.6,SNR=11						
ASAR				PcP	**PcP**	**03 42 13.8**	**-0.9**
	comp=Z,0.1nm,0.5s,baz=22,slow=5.2,SNR=1.6						
ASAR				ScP	**ScP**	**03 45 11.3**	**+1.8**
	comp=Z,0.1nm,0.4s,baz=14,slow=4.8,SNR=1.5						
SONM	**Songino Array**	**43.35**	**322**	P	**P**	**03 40 42.1**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=132,slow=7.4,SNR=8.0						
SONM	**Songino Array**	**43.35**	**322**	P	**P**	**03 40 41.4**	**+0.6**
CM31	**Chiang Mai Arr**	**43.95**	**278**	P	**P**	**03 40 46.7**	**+0.9**
CM31				IAmb	IAmb	03 40 48.6	
	comp=Z,6.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**43.95**	**278**	P	**P**	**03 40 47.5**	**+1.8**
	comp=Z,3.9nm,0.4s,baz=73,slow=6.4,SNR=14						
SEY	**Seymchan**	**45.00**	**5**	P	**P**	**03 40 53.2**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=217,slow=20,SNR=4.8						
DZM	**Mont Dzumac**	**45.00**	**152**	P	**P**	**03 40 55.4**	**+1.6**
	comp=Z,1.6nm,0.5s,baz=330,slow=5.8,SNR=5.8						
GSI	**Gunungsitoli**	**49.76**	**256**	P	**P**	**03 41 29.5**	**+0.1**
LSA	**Lhasa**	**50.45**	**294**	P	**P**	**03 41 35.2**	**+0.5**
LSA				IAmb	IAmb	03 43 35.0	
	comp=Z,7.0nm,0.5s						
ZALV	**Zalesovo Beam**	**58.23**	**323**	P	**P**	**03 42 28.4**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=116,slow=7.3,SNR=6.9						
KDAK	**Kodiak Island**	**60.00**	**33**	P	**P**	**03 42 39.5**	**-0.3**
	comp=Z,2.4nm,0.3s,baz=272,slow=1.9,SNR=15						
GLI	**Glacier Island**	**63.41**	**30**	P	**P**	**03 43 02.2**	**+0.4**
GLI				IAmb	IAmb	03 43 05.4	
	comp=Z,8.6nm,0.6s						
FID	**Port Fidalgo**	**63.68**	**31**	P	**P**	**03 43 03.7**	**+0.1**
DLBC	**Dease Lake**	**71.93**	**33**	P	**P**	**03 43 54.8**	**+1.0**
	comp=Z,3.0nm,0.7s,baz=210,slow=5.9,SNR=8.5						
YKA	**Yellowknife Ar**	**78.

HSAM				*e*			03 38 08.5		
IGHG	**Ghaleghazi**	**1.81**	**336**	*e*Pg		**Pn**	**03 37 40.7**	**+0.6**	
IGHG				*e*			03 38 17.3		
IBZA	**Bozab**	**1.81**	**10**	*e*Pg		**Pn**	**03 37 40.0**	**-0.2**	
IBZA				*e*			03 38 10.8		
IVIS	**Veis**	**1.91**	**344**	*e*Pn		**Pn**	**03 37 41.6**	**+0.2**	
IVIS				*e*			03 38 13.1		
NSR	**Nassriya**	**2.01**	**215**	*e*Pn		**Pn**	**03 37 42.0**	**-0.6**	
NSR				*e*Sn		**Sn**	**03 38 09.0**	**+0.6**	
NSR					AML	AML	03 38 18.5		
	comp=E,15nm,0.7s								
IDHR	**Dehrash**	**2.21**	**336**	*e*Pn		**Pn**	**03 37 45.4**	**-0.1**	
IDHR				*e*			03 38 22.0		
IALM	**Almabolaq**	**2.25**	**15**	*e*Pn		**Pn**	**03 37 46.4**	**+0.2**	
ILIN	**Lien**	**2.27**	**349**	*e*Pn		**Pn**	**03 37 46.5**	**0.0**	
ILIN				*e*			03 38 27.9		
SNGE	**Sanandaj**	**2.41**	**358**	*e*Pn		**Pn**	**03 37 48.4**	**+0.1**	
HAGD	**Aghdareh**	**2.55**	**33**	*e*Pn		**Pn**	**03 37 50.2**	**-0.1**	
HAGD				*e*			03 38 31.7		
HSRG	**Sareghieh**	**2.64**	**15**	*e*Pn		**Pn**	**03 37 52.5**	**+0.9**	
HSRG				*e*			03 38 34.6		
BHD	**Baghdad**	**2.66**	**284**	*e*Pn		**Pn**	**03 37 52.0**	**+0.4**	
	baz=102								
BHD				*e*Sn		**Sn**	**03 38 24.0**	**-0.4**	
BHD					AML	AML	03 38 32.6		
	comp=E,230nm,0.4s								
JHBN	**Jahan bin**	**2.74**	**99**	*e*Pn		**Pn**	**03 37 51.8**	**-1.1**	
ASAO	**Ashtian**	**2.83**	**48**	*e*Pn		**Pn**	**03 37 55.1**	**+0.9**	
IPIR	**Pirpir**	**2.89**	**89**	*e*Pn		**Pn**	**03 37 55.4**	**+0.4**	
IRAZ	**Razeghan**	**3.40**	**36**	*e*Pn		**Pn**	**03 38 01.7**	**-0.2**	
QABG	**Abgarm-Qazvin**	**3.49**	**30**	*e*Pn		**Pn**	**03 38 02.3**	**-0.9**	
IKLH	**Kolahrood**	**3.51**	**78**	*e*Pn		**Pn**	**03 38 03.5**	**0.0**	
GHVR	**GHOM**	**3.66**	**60**	*e*Pn		**Pn**	**03 38 06.2**	**+0.8**	
KLNJ	**Kolanjah**	**3.88**	**114**	*e*Pn		**Pn**	**03 38 08.7**	**0.0**	
KLNJ				*e*			03 39 30.7		
QSDN	**Sirdan**	**4.07**	**20**	*e*Pn		**Pn**	**03 38 09.5**	**-1.6**	
IZEF	**Zefreh**	**4.10**	**86**	*e*Pn		**Pn**	**03 38 11.5**	**-0.1**	

BJI ***31*** *03:39:17.8±0.0,36°.38N×70°.15E,h189km,mB4.7/5, mb4.6/10*

IDC ***31*** *03:39:21.9±2.6,36°.32N×70°.72E,h169km±24km,mb3.8/14, mb1 3.9/20,mb1mx3.5/62,mbtmp4.3/20,Error ellipse: s-maj=17.7km s-min=12.8km az=32.0*

MOS ***31*** *03:39:23.2±0.8,36°.51N×70°.77E,h190km,mb4.2/5,Error ellipse: s-maj=9.5km s-min=3.9km az=74.2*

NEIC ***31*** *03:39:24.2±2.4,36°.49N±0°.07×70°.71E±0°.10,h189km±7km, mb4.4/11,Error ellipse: s-maj=11.5km s-min=9.7km az=72.0*

NNC ***31*** *03:39:29.5±2.1,36°.99N×70°.78E,h200km±15km,mb3.8, mpv4.7,Error ellipse: s-maj=18.3km s-min=11.1km az=25.0*

ISC 31 03:39:25.0±0.5,36°.53N±0°.05×70°.66E±0°.05,h204km,n164, σ1§87/173,mb4.0/18,5C-7D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**2.38**	**214**	PN		**Pn**	**03 40 06.4**	**-1.7**
KBL	**Kabul**	**2.38**	**214**	Pn		**Pn**	**03 40 06.4**	**-1.7**
CHGR	**Chuyangaron**	**2.43**	**331**	Pn		**Pn**	**03 40 07.3**	**-1.1**
GAR	**Garm**	**2.48**	**354**	Pn		**Pn**	**03 40 08.0**	**-0.9**
CEP	**Cherat**	**2.89**	**159**	⇓P		**Pn**	**03 40 12.1**	**-1.6**
CEP				S		**S**	**03 40 47.0**	**-4.2**
BTK	**Batken**	**3.52**	**2**	PN		**Pn**	**03 40 21.0**	**-0.1**
BTK	**Batken**	**3.52**	**2**			**Pn**	**03 40 21.0**	**-0.1**
NIL	**Nilore**	**3.58**	**143**	PN		**Pn**	**03 40 20.5**	**-1.3**
NIL	**Nilore**	**3.58**	**143**	Pn		**Pn**	**03 40 20.5**	**-1.3**
THW	**Thamme Wali**	**3.83**	**166**	P		**Pn**	**03 40 23.3**	**-1.6**
SARP	**Sargodha**	**4.89**	**159**	P		**Pn**	**03 40 35.8**	**-2.3**
TAS	**Tashkent**	**4.90**	**348**	PN		**Pn**	**03 40 37.8**	**-0.4**
TAS	**Tashkent**	**4.90**	**348**	Pn		**Pn**	**03 40 37.8**	**-0.4**
KSH	**Kashi**	**5.15**	**53**	P		Pn	03 40 35.8	-5.6
KSH				S		S	03 41 29.0	-12
KSH					smax	smax		
	comp=N,300nm,0.7s							
KSH					smax	smax		
	comp=E,250nm,0.5s							
IUG	**Iuzhnay**	**5.63**	**355**	*i* P		**Pn**	**03 40 46.3**	**-1.2**
	baz=355							
IUG	**Iuzhnay**	**5.63**	**355**	*i* PN		**Pn**	**03 40 46.3**	**-1.2**
THN	**Thein Dam**	**5.84**	**133**	*ex*		**Pn**	**03 40 48.5**	**-1.8**
THN				*ex*		Sn	03 41 51.0	
AML	**Almayashu**	**6.07**	**22**	P		**Pn**	**03 40 52.3**	**-1.1**
	SNR=335							
DZA	**Taraz**	**6.37**	**4**	*e*P		**Pn**	**03 40 55.8**	**-1.3**
	55nm,0.6s,baz=3.9							
DZA	**Taraz**	**6.37**	**4**	*e*PN		**Pn**	**03 40 55.7**	**-1.3**
DZA					pmax	pmax		
	comp=Z,55nm,0.6s							
UCH	**Uchtor**	**6.42**	**27**	P		**Pn**	**03 40 56.9**	**-1.2**
	SNR=60							
KK31	**Karatay Array**	**6.56**	**359**	⇑P		**Pn**	**03 40 58.5**	**-1.0**
	comp=Z,48nm,0.6s,baz=167,slow=10,SNR=289							
KK31				S		**S**	**03 42 09.2**	**-5.1**
	comp=Z,67nm,0.5s,baz=182,slow=15,SNR=23							
KK31	**Karatay Array**	**6.56**	**359**	PN		**Pn**	**03 40 58.5**	**-1.0**
KK31	**Karatay Array**	**6.56**	**359**	Pn		**Pn**	**03 40 58.8**	**-0.7**
KKAR	**Karatay Array**	**6.56**	**359**	PN		**Pn**	**03 40 58.8**	**-0.7**
KKAR	**Karatay Array**	**6.56**	**359**	Pn		**Pn**	**03 40 58.8**	**-0.7**
KKAR	**Karatay Array**	**6.56**	**359**			**Pn**	**03 40 58.4**	**-1.1**
EKS2	**Erkin-Say**	**6.58**	**21**	P		**Pn**	**03 40 59.0**	**-0.8**
	SNR=33							
KZA	**Kyzart**	**6.58**	**31**	P		**Pn**	**03 40 58.5**	**-1.6**
	SNR=11							
AAK	**Ala-Archa**	**6.78**	**25**	P		**Pn**	**03 41 01.0**	**-1.4**
	comp=Z,6.5nm,0.3s,baz=186,slow=9.3,SNR=22							
AAK				S		**S**	**03 42 15.9**	**-3.7**
	comp=Z,8.4nm,0.3s,baz=300,slow=20,SNR=32							
AAK	**Ala-Archa**	**6.78**	**25**	PN		**Pn**	**03 41 01.8**	**-0.6**
AAK	**Ala-Archa**	**6.78**	**25**	Pn		**Pn**	**03 41 01.8**	**-0.6**
KBK	**Karagaybulak**	**6.96**	**27**	P		**Pn**	**03 41 04.3**	**-0.4**
	SNR=12							
FRU1	**Bishkek**	**6.98**	**25**	PN		**Pn**	**03 41 04.4**	**-0.5**
FRU1	**Bishkek**	**6.98**	**25**			**Pn**	**03 41 04.3**	**-0.5**
ULHL	**Ulahol**	**7.16**	**35**	P		**Pn**	**03 41 06.8**	**-0.6**
	SNR=8.6							
CHMS	**Chumysh**	**7.19**	**25**	P		**Pn**	**03 41 06.6**	**-1.0**
	SNR=6.1							
HRA	**Herat**	**7.19**	**255**	Pn		**Pn**	**03 41 08.4**	**+0.5**
USP	**Ospenovka**	**7.35**	**23**	P		**Pn**	**03 41 08.2**	**-1.4**
	SNR=12							
TKM2	**Tokmak 2**	**7.43**	**29**	P		**Pn**	**03 41 10.1**	**-0.8**
	SNR=52							
TKM2	**Tokmak 2**	**7.43**	**29**	⇓P		**Pn**	**03 41 09.6**	**-1.3**
	comp=Z,33nm,0.7s							
TKM2				⇑S		**S**	**03 42 29.3**	**-5.7**
	comp=Z,56nm,1.1s							
TKM2	**Tokmak 2**	**7.43**	**29**	PN		**Pn**	**03 41 09.6**	**-1.3**
KDJ	**Kajisay**	**7.54**	**40**	PN		**Pn**	**03 41 10.6**	**-1.6**
KDJ	**Kajisay**	**7.54**	**40**			**Pn**	**03 41 10.6**	**-1.6**
SGDS	**Sogindy**	**7.55**	**23**	*e*P		**Pn**	**03 41 10.1**	**-2.3**
	comp=Z,6.1nm,0.6s,baz=22							
SGDS	**Sogindy**	**7.55**	**23**	*e*PN		**Pn**	**03 41 10.0**	**-2.3**
SGDS					pmax	pmax		
	comp=Z,6.0nm,0.6s							
MTBS	**Maitube**	**7.95**	**32**	*e*P		**Pn**	**03 41 16.2**	**-1.2**
	baz=32							
MTBS	**Maitube**	**7.95**	**32**	*e*PN		**Pn**	**03 41 16.2**	**-1.2**
TNSS	**Tian-Shan**	**8.10**	**35**	*e*P		**Pn**	**03 41 18.1**	**-1.8**
	baz=34							
TNSS	**Tian-Shan**	**8.10**	**35**	*e*PN		**Pn**	**03 41 18.0**	**-1.8**
AAA	**Alma-Ata**	**8.22**	**34**	*e*P		**Pn**	**03 41 19.9**	**-1.2**
	baz=34							
AAA				*e*S		**S**	**03 42 52.3**	**-1.4**
	baz=34							
AAA	**Alma-Ata**	**8.22**	**34**	*e*PN		**Pn**	**03 41 19.8**	**-1.2**
AAA				*e*S		**S**	**03 42 52.3**	**-1.4**
MDOK	**Medeo**	**8.25**	**35**	*e*P		**Pn**	**03 41 20.1**	**-1.4**
	baz=34							
MDOK	**Medeo**	**8.25**	**35**	*e*PN		**Pn**	**03 41 20.0**	**-1.4**
PRZ	**Przheval'sk**	**8.43**	**43**	PN		**Pn**	**03 41 23.1**	**-0.8**
PRZ	**Przheval'sk**	**8.43**	**43**			**Pn**	**03 41 23.1**	**-0.8**
KUU	**Kurty**	**8.54**	**29**	*e*P		**Pn**	**03 41 23.6**	**-1.5**
	baz=29							
KUU	**Kurty**	**8.54**	**29**	*e*PN		**Pn**	**03 41 23.6**	**-1.5**
CHKK	**Chushkaly**	**8.77**	**32**	*e*P		**Pn**	**03 41 26.0**	**-2.1**
	baz=31							
CHKK	**Chushkaly**	**8.77**	**32**	*e*PN		**Pn**	**03 41 26.0**	**-2.1**
SATY	**Saty**	**8.83**	**40**	*e*P		**Pn**	**03 41 27.3**	**-1.7**
	baz=40							
SATY	**Saty**	**8.83**	**40**	*e*PN		**Pn**	**03 41 27.3**	**-1.7**
SATY	**Saty**	**8.83**	**40**	*e*PN		**Pn**	**03 41 27.3**	**-1.7**
BTLS	**Baital**	**8.88**	**16**	*e*P		**Pn**	**03 41 28.4**	**-1.2**
	baz=15							
BTLS	**Baital**	**8.88**	**16**	*e*PN		**Pn**	**03 41 28.3**	**-1.2**
UZB	**Uzynbulak**	**9.22**	**42**	*e*P		**Pn**	**03 41 32.4**	**-1.7**
	baz=42							
UZB	**Uzynbulak**	**9.22**	**42**	*e*P		**Pn**	**03 41 32.4**	**-1.7**
KPKS	**Kokpek**	**9.26**	**39**	*e*P		**Pn**	**03 41 32.4**	**-2.3**
	comp=Z,2.9nm,0.6s,baz=39							
KPKS	**Kokpek**	**9.26**	**39**	*e*P		**Pn**	**03 41 32.3**	**-2.3**
KPKS					pmax	pmax		
	comp=Z,3.0nm,0.6s							
SHLS	**Shalkode**	**9.46**	**43**	*e*P		**Pn**	**03 41 38.2**	**+1.0**
	comp=Z,3.1nm,0.9s,baz=44							
SHLS	**Shalkode**	**9.46**	**43**	*e*P		**Pn**	**03 41 38.2**	**+1.0**
SHLS					pmax	pmax		
	comp=Z,3.0nm,0.9s							
NDI	**New Delhi**	**9.58**	**143**	*ex*		**Pn**	**03 41 36.0**	**-2.8**
NDI				*ex*		x	03 43 15.0	
GEYT	**Alibeck**	**10.10**	**282**	P		**Pn**	**03 41 43.2**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=99,slow=18,SNR=5.3							
GEYT				S		**S**	**03 43 33.0**	**-5.6**
	comp=Z,0.7nm,0.3s,baz=85,slow=18,SNR=2.0							
GEYT	**Alibeck**	**10.10**	**282**	Pn		**Pn**	**03 41 44.1**	**-1.3**
GYA0	**ALIBECK ARRAY**	**10.10**	**282**	P		**Pn**	**03 41 44.4**	**-1.0**
GYA0B	**ALIBECK ARRAY**	**10.10**	**282**	Pn		**Pn**	**03 41 44.4**	**-1.0**
TDK	**Taldyqorghan**	**10.30**	**32**	*e*P		**Pn**	**03 41 46.6**	**-1.2**
	baz=32							
TDK	**Taldyqorghan**	**10.30**	**32**	*e*P		**Pn**	**03 41 46.6**	**-1.2**
MAKZ	**Makanchi**	**13.29**	**36**	⇓P		**Pn**	**03 42 24.2**	**-1.6**
	comp=Z,27nm,0.6s							
MAKZ	**Makanchi**	**13.29**	**36**	P		**Pn**	**03 42 24.6**	**-1.2**
MAKZ	**Makanchi**	**13.29**	**36**	Pn		**Pn**	**03 42 24.6**	**-1.2**
PYUN	**Piuthan**	**13.39**	**125**	*e*P		Pn	03 42 22.4	-5.0
MK31	**Makanchi Array**	**13.43**	**37**	P		**Pn**	**03 42 26.2**	**-1.4**
	comp=Z,15nm,0.8s,baz=221,slow=10.0,SNR=64							
MK31	**Makanchi Array**	**13.43**	**37**	P		**Pn**	**03 42 26.6**	**-0.9**
MK31	**Makanchi Array**	**13.43**	**37**			**Pn**	**03 42 26.6**	**-0.9**
MKAR	**Makanchi Array**	**13.43**	**37**	P		**Pn**	**03 42 26.9**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=218,slow=9.2,SNR=39							
MKAR	**Makanchi Array**	**13.43**	**37**	*e*P		**Pn**	**03 42 26.7**	**-0.8**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**13.43**	**37**			**Pn**	**03 42 26.5**	**-1.1**
KOLN	**Koldanda**	**14.01**	**125**	*e*P		**Pn**	**03 42 30.9**	**-4.2**
	comp=Z,27nm,0.5s							
GKN	**Gorkha**	**14.55**	**122**	*e*P		**Pn**	**03 42 39.7**	**-2.0**
	comp=Z,123nm,0.4s							
WMQ	**Urumqi**	**14.91**	**56**	*e*P		**Pn**	**03 42 46.0**	**+0.2**
WMQ					pmax	pmax		
	comp=Z,14nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,120nm,5.5s							
AB01	**Akbulak array**	**14.92**	**332**	⇓P		**Pn**	**03 42 44.6**	**-1.3**
	comp=Z,6.8nm,0.6s							
AB31	**Akbulak array**	**14.92**	**332**	⇓S		**S**	**03 45 27.4**	**-3.8**
	comp=Z,2.0nm,0.4s							
ABKAR	**Akbulak array**	**14.92**	**332**			**Pn**	**03 42 45.9**	**0.0**
DMN	**Daman**	**15.12**	**122**	*e*P		**Pn**	**03 42 46.7**	**-2.1**
	comp=Z,50nm,0.5s							
KKN	**Kakani**	**15.13**	**121**	*e*P		**Pn**	**03 42 46.8**	**-2.0**
	comp=Z,65nm,0.7s							
KURBB	**Kurchatov Arra**	**15.18**	**19**	P		**Pn**	**03 42 49.1**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=207,slow=11,SNR=32							
KURBB	**Kurchatov Arra**	**15.18**	**19**	⇑P		**Pn**	**03 42 47.6**	**-1.4**
	comp=Z,20nm,0.8s							
KURBB	**Kurchatov Arra**	**15.18**	**19**	P		**Pn**	**03 42 47.6**	**-1.4**
KURK	**Kurchatov**	**15.29**	**20**	P		**Pn**	**03 42 49.4**	**-0.9**
KURK					pmax	pmax		
	comp=Z,6.0nm,0.7s							
KURK	**Kurchatov**	**15.29**	**20**	P		**Pn**	**03 42 49.4**	**-0.9**
KURK					IAmb	IAmb	03 42 53.0	
	comp=Z,6.3nm,0.7s							
PKI	**Pulchoki**	**15.36**	**121**	*e*P		**Pn**	**03 42 49.5**	**-2.2**
	comp=Z,177nm,0.6s							
GUN	**Gumba**	**15.47**	**119**	*e*P		**Pn**	**03 42 52.4**	**-0.7**
	comp=Z,25nm,0.3s							
JIRN	**Jiri**	**15.84**	**120**	*e*P		**P**	**03 42 55.8**	**-1.5**
	comp=Z,70nm,0.6s							
BVA0	**Borovoye Array**	**16.49**	**359**	P		**Pn**	**03 43 04.8**	**0.0**
	comp=Z,6.9nm,0.7s,baz=165,slow=12,SNR=32							
BVA0				S		**S**	**03 46 02.7**	**-3.2**
	comp=Z,0.2nm,0.5s,baz=173,slow=22,SNR=6.5							
BVA0	**Borovoye Array**	**16.49**	**359**	P		**Pn**	**03 43 04.8**	**0.0**
BVA0				S		**S**	**03 46 02.7**	**-3.2**
BVAR	**Borovoye Array**	**16.49**	**359**	P		**Pn**	**03 43 04.9**	**+0.1**
	comp=Z,3.2nm,0.3s,baz=159,slow=9.6,SNR=42							
BVAR				S		**S**	**03 46 02.4**	**-3.5**
	comp=Z,0.3nm,0.3s,baz=167,slow=15,SNR=3.8							
BRVK	**Borovoye**	**16.53**	**359**	P		**Pn**	**03 43 06.0**	**+0.8**
BRVK	**Borovoye**	**16.53**	**359**	P		**Pn**	**03 43 05.4**	**+0.2**
BRVK					IAmb	IAmb	03 43 06.9	
	comp=Z,13nm,0.8s							
RAMN	**Ramite**	**16.57**	**121**	*e*P		**P**	**03 43 04.3**	**-0.9**
AKTO	**Aktyubinsk**	**16.62**	**331**	P		**Pn**	**03 43 07.4**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=140,slow=11,SNR=44							
AKTO				S		**S**	**03 46 02.0**	**-6.3**
	comp=Z,0.1nm,0.3s,baz=68,slow=19,SNR=1.1							
AKTO	**Aktyubinsk**	**16.62**	**331**	⇑P		**Pn**	**03 43 07.0**	**+0.7**
	comp=Z,26nm,0.8s							
AKTO				⇑S		**S**	**03 46 05.6**	**-2.7**
	comp=Z,6.2nm,0.8s							
AKTO	**Aktyubinsk**	**16.62**	**331**	P		**Pn**	**03 43 06.9**	**+0.7**
AKTO				S		**S**	**03 46 05.6**	**-2.7**
TAPN	**Taplejung**	**17.11**	**118**	*e*P		**P**	**03 43 11.4**	**+0.3**
ODAN	**Odare**	**17.18**	**119**	*e*P		**P**	**03 43 11.8**	**0.0**
DGZ	**Jazzator, Alta**	**17.92**	**38**	*i* P		**Pn**	**03 43 20.8**	**-1.0**
DGZ					pmax	pmax		
	comp=Z,14nm,0.5s							
ZAA0	**Zalesovo Array**	**20.00**	**25**	⇓P		**P**	**03 43 42.4**	**+0.6**
	comp=Z,5.5nm,0.7s							
ZAA0	**Zalesovo Array**	**20.00**	**25**			**P**	**03 43 42.4**	**+0.6**
ZALV	**Zalesovo Beam**	**20.00**	**25**	P		**P**	**03 43 42.7**	**+0.9**
	comp=Z,26nm,0.3s,baz=221,slow=11,SNR=118							
ZALV	**Zalesovo Beam**	**20.00**	**25**	*e*P		**P**	**03 43 42.3**	**+0.5**
ZALV					pmax	pmax		
	comp=Z,25nm,0.3s							
ZALV	**Zalesovo Beam**	**20.00**	**25**	P		**P**	**03 43 42.2**	**+0.5**
ARU	**Arti**	**21.51**	**341**	*d* P		**P**	**03 43 59.3**	**+1.6**
ARU					*PP	**pP**	**03 44 31.3**	**-1.3**
ARU					S	**S**	**03 47 47.0**	**+4.6**
ARU					pmax	pmax		
	comp=Z,11nm,0.8s							
ARU	**Arti**	**21.51**	**341**	P		**P**	**03 43 59.7**	**+2.0**
ARU					IAmb	IAmb	03 44 02.0	
	comp=Z,11nm,0.9s							
KIV	**Kislovodsk**	**22.53**	**298**	*e*P		**P**	**03 44 09.3**	**+1.6**
KIV					pmax	pmax		
	comp=Z,12nm,1.0s							
TLY	**Talaya**	**27.82**	**47**	*i* P		**P**	**03 44 58.2**	**+3.1**
TLY					pmax	pmax		
	comp=Z,4.0nm,0.7s							
SONM	**Songino Array**	**28.55**	**55**	P		**P**	**03 45 03.5**	**+1.8**
	comp=Z,0.3nm,0.4s,baz=272,slow=9.5,SNR=2.5							
SONM	**Songino Array**	**28.55**	**55**	P		**P**	**03 45 03.5**	**+1.8**
SONM					pmax	pmax		
	comp=Z,1.0nm,1.1s							
SONM	**Songino Array**	**28.55**	**55**	IAmb		IAmb	03 45 03.5	
	comp=Z,0.8nm,1.1s							
CMAR	**Chiang Mai Arr**	**30.71**	**118**	P		**P**	**03 45 21.2**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=304,slow=9.4,SNR=7.2							
XAN	**Xi'an**	**31.20**	**83**	P		P	03 45 16.5	-8.6
XAN					pP	pP	03 45 30.5	-38
XAN					pmax	pmax		
	comp=Z,5.0nm,1.2s							
HHC	**Hu-ho-hao-te**	**32.01**	**70**	*e*P		**P**	**03 45 33.5**	**+1.3**
HHC					pmax	pmax		
	comp=Z,17nm,1.1s							
HHC					pmax	pmax		
	comp=Z,140nm,5.8s							
AKASG	**Malin Array Be**	**32.71**	**309**	P		**P**	**03 45 40.0**	**+2.1**
	comp=Z,1.5nm,0.5s,baz=76,slow=7.1,SNR=6.9							
AKASG	**Malin Array Be**	**32.71**	**309**	P		**P**	**03 45 40.1**	**+2.1**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**32.71**	**309**	IAmb		IAmb	03 45 42.2	
	comp=Z,0.8nm,0.6s							
NRIK	**Noril'sk**	**34.15**	**11**	P		**P**	**03 45 52.8**	**+2.6**
	comp=Z,6.3nm,0.5s,baz=205,slow=4.1,SNR=6.5							
BUR08	**Bucovina Ar. S**	**35.05**	**303**	P		**P**	**03 45 57.4**	**-0.9**
KOLS	**Kolonicke sedl**	**37.03**	**305**	*e*P		**P**	**03 46 17.6**	**+2.6**
KOLS	**Kolonicke sedl**	**37.03**	**305**	*e*P		**P**	**03 46 17.6**	**+2.6**
FINES	**FINESS Array B**	**37.30**	**326**	P		**P**	**03 46 19.2**	**+2.2**
	comp=Z,1.9nm,0.5s,baz=121,slow=9.7,SNR=21							
VYHS	**Vyhne**	**39.31**	**304**	*e*P		**P**	**03 46 36.0**	**+2.0**
VYHS	**Vyhne**	**39.31**	**304**	*e*P		**P**	**03 46 36.0**	**+2.0**
ARCES	**ARCESS Array B**	**41.01**	**338**	P		**P**	**03 46 49.9**	**+2.3**
	comp=Z,5.5nm,0.8s,baz=111,slow=7.5,SNR=6.5							
ARE0	**ARCESS Array S**	**41.01**	**338**	*e*P		**P**	**03 46 50.1**	**+2.5**
KTK1	**Kautokeino**	**41.48**	**336**	*e*P		**P**	**03 46 53.5**	**+2.1**
HAMF	**Hammerfest**	**42.10**	**339**	*e*P		**P**	**03 46 59.1**	**+2.7**
FAUS	**Fauske**	**43.65**	**333**	*e*P		**P**	**03 47 11.1**	**+2.2**
MOR8	**Moi Rana**	**43.65**	**331**	*e*P		**P**	**03 47 10.4**	**+1.4**
STEI	**Steigen**	**43.82**	**333**	*e*P		**P**	**03 47 12.3**	**+2.1**
NC602	**NORSAR Array S**	**44.00**	**323**	*e*P		**P**	**03 47 12.8**	**+1.0**
NB2	**NORSAR Subarra**	**44.19**	**323**	P		**P**	**03 47 15.0**	**+1.6**
	comp=Z,1.0nm,0.4s,baz=98,slow=7.9							
NB2	**NORSAR Subarra**	**44.19**	**323**	P		**P**	**03 47 15.0**	**+1.6**
	baz=98,slow=7.9							
NOA	**NORSAR Array B**	**44.19**	**323**	P		**P**	**03 47 14.8**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=106,slow=7.2,SNR=15							
NOA	**NORSAR Array B**	**44.19**	**323**	*e*P		**P**	**03 47 15.0**	**+1.6**
NC204	**NORSAR Array S**	**44.43**	**323**	*e*P		**P**	**03 47 17.3**	**+2.0**
SPA0	**Spitsbergen Ar**	**47.40**	**347**	*e*P		**P**	**03 47 39.4**	**+1.3**
TORD	**Torodi Ar. Bea**	**65.44**	**268**	P		**P**	**03 49 47.1**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=54,slow=6.2,SNR=2.1							
INK	**Inuvik**	**73.92**	**9**	P		**P**	**03 50 39.1**	**+2.0**
	comp=Z,1.1nm,0.4s,baz=318,slow=5.9,SNR=11							
INK	**Inuvik**	**73.92**	**9**	P		**P**	**03 50 39.1**	**+2.0**
INK					pmax	pmax		
	comp=Z,20nm,1.6s							
INK	**Inuvik**	**73.92**	**9**	IAmb		IAmb	03 51 08.6	
	comp=Z,20nm,1.6s							
BOSA	**Boshof**	**77.59**	**220**	P		**P**	**03 50 59.5**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=0.0,slow=1.1,SNR=1.2							
BOSA	**Boshof**	**77.59**	**220**	P		**P**	**03 50 59.6**	**+1.0**
BOSA					pmax	pmax		
	comp=Z,63nm,1.9s							
YKA	**Yellowknife Ar**	**81.23**	**2**	P		**P**	**03 51 18.6**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=321,slow=7.4,SNR=4.2							
WRA	**Warramunga Arr**	**82.24**	**122**	P		**P**	**03 51 22.9**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=324,slow=5.0,SNR=21							
ASAR	**Alice Springs**	**84.50**	**125**	P		**P**	**03 51 34.5**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=308,slow=4.9,SNR=25							

BER ***31*** *04:02:10.0±1.5,71°.78N×3°.33W,h10km,ML1.8, Confirmed Earthquake*

IDC ***31*** *04:02:13.8±2.1,71°.43N×1°.35W,h0km,mb3.5/3,mb1 3.7/9, mb1mx3.5/47,mbtmp3.7/9,ML2.7/5,MS3.0/2,Ms1 3.1/2, ms1mx2.5/42,Error ellipse: s-maj=32.3km s-min=25.7km az=113.0*

ISC 31 04:02:12.2±1.9,71°.6N±0°.1×2°.5W±0°.2,h10km,n29, σ1§12/28,mb3.5/3,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DBG	**Daneborg**	**5.88**	**306**	*e*P		Pn	04 03 30.2	-9.0
DBG				*e*S		Sn	04 04 32.0	-15
LOF	**Lofoten**	**6.51**	**114**	*e*P		**Pn**	**04 03 47.5**	**-0.3**
LOF				*e*S		**Sn**	**04 05

MAN01	Angra dos Reis	31.59	339	eP	P	04 20 28.2	+0.2	
BI02	San Fabin de	31.68	286	P	P	04 20 27.7	-1.1	
BI02				IAmb	IAmb	04 20 48.1		
	comp=Z,50nm,1.9s							
SPB	Sao Paulo	31.74	333	P	P	04 20 30.0	+0.8	
SPB	Sao Paulo	31.74	333	eP	P	04 20 30.9	+1.7	
VAS01	Vassouras-RJ	32.05	340	eP	P	04 20 33.2	+1.2	
PTGB	Pitanga	32.13	325	eP	P	04 20 33.8	+1.0	
VAO	Valinhos	32.18	334	eP	P	04 20 34.3	+1.1	
FRTB	Fartura	32.59	330	eP	P	04 20 38.7	+2.0	
BO02	Sierra Bellavi	32.72	289	P	P	04 20 37.8	-0.1	
BO02				IAmb	IAmb	04 20 43.9		
	comp=Z,14nm,0.7s							
BO01	Tunca	33.19	289	P	P	04 20 41.6	-0.3	
BSCB	Bom Sucesso	33.57	339	eP	P	04 20 47.2	+1.7	
PEL	Peldehue	33.87	291	P	P	04 20 47.7	-0.3	
ZON	Zonda	33.97	295	P	P	04 20 47.9	-0.9	
ZON				IAmb	IAmb	04 20 49.1		
	comp=Z,13nm,0.6s							
MT02	Curacav	34.04	290	P	P	04 20 48.5	-0.9	
MT02				IAmb	IAmb	04 20 50.7		
	comp=Z,28nm,0.7s							
VA03	San Esteban	34.08	291	P	P	04 20 50.4	+0.5	
TRCB	Terra Rica	34.10	325	eP	P	04 20 51.2	+1.3	
ROC1	El Roble	34.18	291	P	P	04 20 51.2	+0.3	
RIB01	Linhares ES	34.43	346	eP	P	04 20 54.7	+2.0	
BB19B	Bebedouro	34.44	333	eP	P	04 20 54.8	+1.9	
PCMB	Pacaembu	34.75	328	eP	P	04 20 56.7	+1.2	
BSFB	Barra de Sao F	34.97	346	eP	P	04 20 58.8	+1.4	
SJMB	Sao Joao De Ma	35.14	345	eP	P	04 20 59.7	+0.8	
CO02	Combarbal	35.51	293	P	P	04 21 02.4	+0.2	
CO03	El Pedregal	35.61	293	P	P	04 21 03.0	0.0	
SYO	Syowa Base	35.64	144	↑pP	P	04 21 01.6	-1.1	
SYO	Syowa Base	35.64	144	↑sP	sP	04 21 04.7	-0.9	
NAN01	Guarapari, ES	35.84	347	eP	P	04 21 05.7	+0.8	
CO01	Juntas del Tor	35.95	295	P	P	04 21 06.2	+0.1	
CO01				IAmb	IAmb	04 21 07.9		
	comp=Z,35nm,1.6s							
GO04	Tololo Observa	36.18	294	P	P	04 21 09.0	+0.9	
ITRB	Iturama	36.26	330	eP	P	04 21 10.4	+1.8	
QSPA	South Pole Qui	37.03	180	P	P	04 21 16.5	+1.7	
IPMB	Ipameri, GO	37.30	335	eP	P	04 21 18.0	+0.5	
AQDB	Aquidauana	37.32	322	eP	P	04 21 17.5	-0.1	
MC01	Montes Claros	37.57	342	eP	P	04 21 20.6	+0.9	
AC02	Maricunga	37.92	299	P	P	04 21 22.8	-0.5	
JANB	Januaria	39.25	341	eP	P	04 21 34.7	+0.8	
BDFB	Brasilia	39.49	336	P	P	04 21 35.8	-0.2	
	comp=Z,18nm,0.8s,baz=146,slow=4.7,SNR=36							
BDFB				LR	LR	04 36 16.8		
	comp=Z,296nm,18.6s,baz=164,slow=34							
BDFB	Brasilia	39.49	336	P	P	04 21 37.3	+1.3	
GO02	Mina Guanaco	39.52	300	IAmb	IAmb	04 21 50.5		
	comp=Z,25nm,0.6s							
GDU01	Guandu, BA	39.84	349	eP	P	04 21 39.5	+0.8	
PB14	IPOC Station P	40.38	300	P	P	04 21 44.0	+0.4	
ARAG	Araguaiana, MT	40.47	330	eP	P	04 21 45.0	+1.1	
LVC	Limon Verde	41.28	303	P	P	04 21 49.3	-1.7	
	comp=Z,40nm,0.9s,baz=149,slow=6.1,SNR=25							
LVC	Limon Verde	41.28	303	P	P	04 21 52.2	+1.1	
LVC	Limon Verde	41.28	303	eP	P	04 21 52.2	+1.1	
SALV	Santo Antonio	41.54	325	eP	P	04 21 53.2	+0.5	
SDBA	SAO DESIDERIO	41.94	341	eP	P	04 21 57.1	+1.0	
PB09	IPOC Station P	42.13	304	P	P	04 21 58.7	+0.9	
PB09				IAmb	IAmb	04 22 00.6		
	comp=Z,86nm,1.3s							
PB01	IPOC Station P	42.89	304	IAmb	IAmb	04 22 05.9		
	comp=Z,60nm,1.1s							
PEXB	Peixe	42.97	337	eP	P	04 22 05.7	+1.2	
SUR	Sutherland	43.02	83	LR	LR	04 35 44.4		
	comp=Z,257nm,20.2s,baz=332,slow=30							
SUR	Sutherland	43.02	83	P	P	04 22 05.6	+0.7	
PTLB	Pontes e Lacer	43.21	321	eP	P	04 22 06.5	+0.1	
SIV	San Ignacio	43.48	318	P	P	04 22 08.0	-0.6	
	comp=Z,16nm,0.8s,baz=168,slow=7.5,SNR=96							
PB08	IPOC Station P	43.48	305	P	P	04 22 09.7	+0.7	
PB08				IAmb	IAmb	04 22 11.7		
	comp=Z,38nm,1.2s							
PB11	IPOC Station P	44.05	305	P	P	04 22 14.0	+0.7	
MAW	Mawson	44.17	147	P	P	04 22 13.3	-0.2	
	comp=Z,8.9nm,0.9s,baz=237,slow=9.0,SNR=20							
MAW				PcP	PcP	04 23 59.1	+1.0	
	comp=Z,4.4nm,0.8s,baz=252,slow=6.4,SNR=2.1							
MAW				LR	LR	04 37 48.2		
	comp=Z,285nm,21.8s,baz=256,slow=32							
MAW	Mawson	44.17	147	P	P	04 22 13.7	+0.2	
MNMC	Minye Minye	44.56	305	P	P	04 22 18.3	+0.8	
VILB	Vilhena	45.89	321	eP	P	04 22 28.1	+0.2	
SMTB	Santa Maria do	45.94	339	eP	P	04 22 29.4	+1.1	
CLDB	Colider	46.26	327	eP	P	04 22 30.1	-0.6	
LPAZ	La Paz	46.30	309	P	P	04 22 32.5	+0.8	
	comp=Z,52nm,0.9s,baz=136,slow=6.6,SNR=141							
LPAZ				LR	LR	04 41 14.6		
	comp=Z,225nm,22.0s,baz=150,slow=35							
LPAZ	La Paz	46.30	309	P	P	04 22 32.5	+0.8	
LPAZ	La Paz	46.30	309	eP	P	04 22 32.6	+0.9	
H10S2	ASCENSION HYDR	46.40	24	T	T	05 12 09.3		
	baz=194,slow=74,SNR=44							
H10S3	ASCENSION HYDR	46.41	24	T	T	05 12 10.4		
	baz=26,slow=74,SNR=76							
RCBR	Riachuelo	47.35	355	P	P	04 22 38.5	-0.7	
	comp=Z,8.1nm,0.8s,baz=161,slow=15,SNR=1.9							
RCBR				PcP	PcP	04 24 08.8	-1.2	
	comp=Z,8.1nm,0.7s,baz=252,slow=3.2,SNR=2.1							
RCBR	Riachuelo	47.35	355	IAmb	IAmb	04 22 53.7		
	comp=Z,35nm,1.4s							
RCBR	Riachuelo	47.35	355	eP	P	04 22 40.2	+1.0	
H10N3	ASCENSION HYDR	47.52	24	T	T	05 13 35.5		
	baz=194,slow=75,SNR=78							
H10N1	ASCENSION HYDR	47.52	24	T	T	05 13 32.8		
	baz=194,slow=75,SNR=58							
H10N2	ASCENSION HYDR	47.53	24	T	T	05 13 34.9		
	baz=194,slow=75,SNR=59							
BOSA	Boshof	48.38	83	P	P	04 22 46.5	-0.8	
	comp=Z,50nm,1.0s,baz=217,slow=6.5,SNR=40							
BOSA	Boshof	48.38	83	P	P	04 22 47.0	-0.3	
PRPB	Parauapebas	49.05	337	eP	P	04 22 53.8	+1.5	
VNDA	Vanda	49.22	184	P	P	04 22 54.3	+1.3	
	comp=Z,11nm,1.0s,baz=193,slow=5.8,SNR=17							
VNDA				LR	LR	04 41 22.7		
	comp=Z,207nm,21.5s,baz=166,slow=33							
VNDA	Vanda	49.22	184	P	P	04 22 53.9	+0.9	
NPGB	Novo Progresso	49.73	329	eP	P	04 22 57.6	+0.1	
NBMO	Morrinhos-CE	50.16	350	eP	P	04 23 01.8	+0.9	
SAML	Samuel	50.71	319	P	P	04 23 04.3	-0.7	
SAML				IAmb	IAmb	04 23 05.8		
	comp=Z,21nm,1.0s							
ROSB	Rosrio	51.11	345	eP	P	04 23 08.5	+0.5	
TSUM	Tsumeb	51.15	68	P	P	04 23 08.5	0.0	
	comp=Z,17nm,0.9s,baz=209,slow=7.6,SNR=23							
TSUM				LR	LR	04 40 09.5		
	comp=Z,273nm,18.2s,baz=231,slow=31							
TSUM	Tsumeb	51.15	68	P	P	04 23 08.5	0.0	
TSUM				IAmb	IAmb	04 23 09.2		
	comp=Z,21nm,0.9s							
ETMB	Extrema	51.16	315	eP	P	04 23 08.0	-0.4	
LBTB	Lobatse	51.26	80	P	P	04 23 08.5	-0.7	
LBTB				IAmb	IAmb	04 23 09.6		
	comp=Z,40nm,0.9s							
CRZF	Crozet Islands	51.73	119	P	P	04 23 12.3	0.0	
TMAB	Tom-Au,PA,Br	52.35	340	eP	P	04 23 18.6	+1.4	
NNA	Nana	54.25	302	P	P	04 23 32.2	+0.8	
	comp=Z,6.5nm,0.8s,baz=168,slow=6.5,SNR=4.8							
NNA	Nana	54.25	302	IAmb	IAmb	04 23 33.0		
	comp=Z,36nm,1.1s							
MALB	Monte Alegre	54.34	333	eP	P	04 23 32.8	+0.9	
MACA	Manacapuru-AM	55.11	325	eP	P	04 23 37.0	-0.5	
MCPB	Macapa, AP	55.19	336	eP	P	04 23 39.4	+1.4	
CZSB	Cruzeiro do Su	55.91	309	eP	P	04 23 43.0	-0.3	
PTGA	Pitinga	57.14	326	P	P	04 23 51.6	-0.3	
	comp=Z,6.8nm,0.8s,baz=153,slow=7.5,SNR=14							
PTGA	Pitinga	57.14	326	P	P	04 23 51.7	-0.3	
PTGA	Pitinga	57.14	326	eP	P	04 23 51.7	-0.3	
CASY	Casey	57.52	163	P	P	04 23 54.8	+0.7	
CASY				IAmb	IAmb	04 23 56.6		
	comp=Z,22nm,0.9s							
ATAH	Atahualpa	59.18	304	P	P	04 24 08.2	+1.4	
	comp=Z,29nm,1.1s,baz=143,slow=4.2,SNR=16							
LSZ	Lusaka	60.33	75	P	P	04 24 14.0	-0.4	
LSZ				IAmb	IAmb	04 24 26.5		
	comp=Z,13nm,0.8s							
MDP	Montagnes des	60.60	337	P	P	04 24 16.1	+0.1	
	comp=Z,7.2nm,0.7s,baz=127,slow=6.5,SNR=6.4							
LIC	Lamto	63.57	31	eP	P	04 24 35.5	-0.4	
	comp=Z,42nm,0.8s							
KIC	Kosan Boka	63.78	31	eP	P	04 24 36.8	-0.6	
	comp=Z,50nm,1.1s							
TIC	Toumodi	63.97	30	eP	P	04 24 37.8	-0.8	
DBIC	Dimbokro	64.04	31	P	P	04 24 37.7	-1.3	
	comp=Z,8.6nm,0.9s,baz=183,slow=6.4,SNR=7.8							
DBIC				LR	LR	04 46 47.3		
	comp=Z,126nm,18.4s,baz=184,slow=31							
MACC	Macarena, Meta	65.17	313	eP	P	04 24 45.2	-1.3	
FLOC	Florencia	65.47	311	eP	P	04 24 47.8	-0.7	
FLOC	Florencia	65.47	311	P	P	04 24 48.0	-0.5	
OTAV	Otavalo	65.59	308	eP	P	04 24 50.9	+1.2	
OTAV	Otavalo	65.59	308	P	P	04 24 51.0	+1.2	
OTAV				IAmb	IAmb	04 24 52.8		
	comp=Z,38nm,1.6s							
OTAV	Otavalo	65.59	308	eP	P	04 24 50.5	+0.8	
GARC	Garzon, Huila	65.94	312	eP	P	04 24 51.3	-0.4	
MARP	Paez Belalcaza	66.72	311	eP	P	04 24 56.6	-0.2	
POPC	Popayan, Colom	66.78	311	eP	P	04 24 56.9	-0.2	
PRAC	Prado	67.02	313	eP	P	04 24 58.1	-0.3	
CHIC	Chingaza	67.34	314	eP	P	04 24 59.4	-1.4	
ORTC	Ortega, Tolima	67.36	313	eP	P	04 24 59.8	-0.8	
ROSC	El Rosal	67.78	314	P	P	04 25 04.5	+0.9	
	comp=Z,7.5nm,0.5s,baz=166,slow=6.3,SNR=9.1							
ROSC				LR	LR	04 58 03.8		
	comp=Z,209nm,18.5s,baz=198,slow=39							
ROSC	El Rosal	67.78	314	eP	P	04 25 04.0	+0.3	
ROSC	El Rosal	67.78	314	P	P	04 25 03.3	-0.3	
ROSC				IAmb	IAmb	04 25 05.0		
	comp=Z,18nm,0.8s							
YOTC	Yotoco, Valle	67.91	312	eP	P	04 25 02.7	-1.5	
ANIL	Santa Ana	67.94	313	eP	P	04 25 06.1	+1.6	
TOLC	Tolima	67.99	313	eP	P	04 25 04.2	-0.7	
RUSC	La Rusia	68.20	316	eP	P	04 25 05.1	-1.2	
RUSC	La Rusia	68.20	316	P	P	04 25 05.1	-1.2	
SPBC	San Pablo de B	68.40	315	eP	P	04 25 05.1	-2.0	
GUY2C	Guyana, Caldas	68.58	313	eP	P	04 25 06.9	-1.8	
NORC	Norcasia	68.67	314	eP	P	04 25 06.9	-1.9	
PLMC	Sasa del P	68.70	312	eP	P	04 25 08.0	-1.0	
PTBC	PUERTO BERRIO,	69.36	315	eP	P	04 25 10.1	-2.9	
CBOC	Ciudad Bolivar	69.44	313	eP	P	04 25 11.6	-2.1	
SDV	Santo Domingo	69.91	319	P	P	04 25 16.3	-0.3	
	comp=Z,41nm,0.8s,baz=180,slow=3.5,SNR=8.6							
SDV	Santo Domingo	69.91	319	P	P	04 25 16.3	-0.3	
SDV	Santo Domingo	69.91	319	eP	P	04 25 17.2	+0.6	
ZARC	Zaragoza, Cauc	70.39	315	eP	P	04 25 17.3	-2.0	
DBBC	Dabeiba	70.55	313	eP	P	04 25 20.0	-0.4	
SMLC	San Martn de	71.23	316	eP	P	04 25 21.7	-2.7	
MOTC	Monteria, Cord	71.89	314	eP	P	04 25 27.4	-1.0	
TOA0	Torodi Ar. Sit	72.25	35	P	P	04 25 30.3	-0.2	
TOA0				IAmb	IAmb	04 25 38.0		
	comp=Z,23nm,1.2s							
TORD	Torodi Ar. Bea	72.25	35	P	P	04 25 30.4	-0.2	
	comp=Z,9.6nm,0.6s,baz=203,slow=6.4,SNR=31							
TORD				LR	LR	04 50 56.1		
	comp=Z,173nm,19.8s,baz=210,slow=31							
TORD	Torodi Ar. Bea	72.25	35	P	P	04 25 30.3	-0.2	
SJCC	San Jacinto, C	72.68	315	eP	P	04 25 31.3	-1.9	
SMRC	Santa Marta, M	73.42	317	eP	P	04 25 35.9	-1.6	
KMBO	Kilima Mbogo	76.97	74	LR	LR	04 57 41.3		
	comp=Z,352nm,18.3s,baz=218,slow=34							
JTS	Las Juntas de	77.46	307	P	P	04 26 01.4	+0.7	
	comp=Z,13nm,0.8s,baz=278,slow=1.0,SNR=14							
JTS	Las Juntas de	77.46	307	P	P	04 26 00.8	+0.1	
JTS				IAmb	IAmb	04 26 02.4		
	comp=Z,22nm,1.1s							
SDDR	Presa de Saban	79.40	323	P	P	04 26 11.4	+0.1	
SDDR				IAmb	IAmb	04 26 13.4		
	comp=Z,19nm,1.0s							
BOAB	BOACO BROADBAND	80.67	307	P	P	04 26 12.4	-0.5	
MATN	Matagalpa	80.21	307	P	P	04 26 15.7	-0.2	
RPZ	Rata Peaks	81.37	197	P	P	04 26 22.5	+0.8	
	comp=Z,17nm,0.8s,baz=165,slow=5.8,SNR=7.0							
RPZ	Rata Peaks	81.37	197	P	P	04 26 21.1	-0.7	
TAM	Tamanrasset	82.51	35	P	P	04 26 28.2	+0.2	
MTO3	Montecristo	83.14	305	IAmb	IAmb	04 26 32.4		
	comp=Z,15nm,0.8s							
MDT	Midelt	89.01	23	P	P	04 27 00.7	+0.8	
	comp=Z,1.8nm,0.7s,baz=251,slow=2.4,SNR=5.5							
TLIG	Tlapa	90.50	299	P	P	04 27 07.2	-0.1	
TLIG				IAmb	IAmb	04 27 09.6		
	comp=Z,10nm,0.9s							
STKA	Stephens Creek	95.08	175	LR	LR	05 07 48.5		
	comp=Z,389nm,20.2s,baz=195,slow=34							
KEST	Kesra	95.69	33	LR	LR	05 05 49.0		
	comp=Z,166nm,19.4s,baz=254,slow=32							
ESDC	Sonseca Array	95.73	22	P	P	04 27 31.4	+0.6	
	comp=Z,0.9nm,0.6s,baz=191,slow=4.2,SNR=13							
ESDC				LR	LR	05 05 19.5		
	comp=Z,116nm,20.7s,baz=210,slow=32							
ESDC	Sonseca Array	95.73	22	P	P	04 27 31.6	+0.8	
ASAR	Alice Springs	102.50	167	P	Pdif	04 28 00.4	-1.4	
	comp=Z,0.5nm,0.6s,baz=180,slow=3.9,SNR=10							
ASAR				PP	PP	04 32 11.8	-1.7	
	comp=Z,2.8nm,1.1s,baz=182,slow=6.9,SNR=7.4							
TXAR	Lajitas Array	102.81	302	P	Pdif	04 28 01.7	-1.2	
	comp=Z,0.2nm,0.7s,baz=133,slow=5.3,SNR=4.4							
WRA	Warramunga Arr	106.22	167	PP	PKiKP	04 32 38.7	+8.8	
	comp=Z,0.5nm,0.6s,baz=186,slow=6.9,SNR=5.2							
GERES	GERESS Array B	108.91	30	PP	PKiKP	04 32 59.0	+25	
	comp=Z,0.4nm,0.8s,baz=197,slow=8.4,SNR=5.0							
VYHS	Vyhne	110.23	34	ePP	PKiKP	04 33 16.6	+40	
FINES	FINESS Array B	123.33	29	PKP	PKPdf	04 32 59.6	-1.3	
	comp=Z,2.8nm,0.9s,baz=200,slow=1.2,SNR=13							
KLMR	Klimovskoe	127.23	36	ePP	PP	04 35 03.7	-5.1	
KLMR				AMP		04 35 21.1		
	comp=Z,9.0nm,1.5s							
ARCES	ARCESS Array B	129.45	23	PKP	PKPdf	04 33 11.8	-0.7	
	comp=Z,1.0nm,0.6s,baz=90,slow=1.2,SNR=9.9							
YKA	Yellowknife Ar	132.09	322	PKP	PKPdf	04 33 17.1	-0.5	
	comp=Z,0.8nm,0.5s,baz=116,slow=2.6,SNR=4.5							
MKAR	Makanchi Array	138.81	72	PKhKP	PKPpre	04 33 22.1		
	comp=Z,0.2nm,0.5s,baz=203,slow=0.9,SNR=3.8							
MKAR				PKP	PKPdf	04 33 30.4	-0.4	
	comp=Z,0.6nm,0.6s,baz=275,slow=3.5,SNR=4.3							
WMQ	Urumqi	140.26	79	ePKP	PKPdf	04 33 34.5	+1.0	
WMQ				LR	LR			
	comp=Z,260nm,24.3s							
WMQ				LR	LR			
	comp=Z,250nm,26.1s							
ZALV	Zalesovo Beam	143.76	63	PKhKP	PKPpre	04 33 36.0		
	comp=Z,2.8nm,0.6s,baz=219,slow=4.6,SNR=10.0							
ENH	Enshi	144.05	114		PKPbc	04 33 39.0	+0.4	
YULB	Yu-li	144.12	136		PKPab	04 33 38.4	-0.2	
GTA	Gaotai	144.85	93	ePKP	PKPdf	04 33 41.5	-0.4	
LZH	Lanzhou	145.07	102	PKPbc	PKPdf	04 33 42.0	-0.4	
LZH				pPKP	PKiKP	04 33 50.5	+4.2	
LZH				LR	LR			
	comp=Z,100nm,14.1s							
YOJ	Yonaguni jima	145.78	137	PKPdf	PKPdf	04 33 43.5	-0.2	
ILAR	Eielson Array	146.01	316	PKPbc	PKPbc	04 33 43.6	-0.2	
	comp=Z,4.6nm,0.6s,baz=107,slow=2.3,SNR=6.5							
XAN	Xi'an	146.56	109	PKPbc	PKPbc	04 33 46.5	+0.1	
XAN				pPKP	sPKPab	04 33 53.5	+2.8	
XAN				PP	PP	04 37 13.3	+3.3	
XAN				SS	SS	04 56 04.0	-4.2	
XAN				AMB	AMB			
	comp=Z,140nm,5.4s							
XAN				LR	LR			
	comp=Z,79nm,18.1s							
XAN				LR	LR			
	comp=Z,110nm,14.2s							
XAN				LR	LR			
	comp=Z,110nm,21.4s							
XAN	Xi'an	146.56	109		PKPab	04 33 46.9	-0.6	
BRLK	Bradley Lake	146.59	306		PKPbc	04 33 45.9	+0.2	
KDAK	Kodiak Island	146.84	302		PKPbc	04 33 46.6	+0.2	
OHAK	Old Harbor	147.02	301		PKPbc	04 33 47.2	+0.3	
NRIK	Norilsk	148.58	36	PKPbc	PKiKP	04 33 51.6	-0.6	
	comp=Z,1.8nm,0.4s,baz=225,slow=2.9,SNR=2.3							
NJ2	Nanjing	150.37	124	ePKPbc	PKPdf	04 33 50.8	-0.3	
HHC	Hu-ho-hao-te	152.75	102	ePKPbc	PKPdf	04 33 56.5	+1.9	
SONM	Songino Array	153.49	85	PKPbc	PKPbc	04 34 02.7	-0.4	
	comp=Z,3.1nm,0.6s,baz=228,slow=3.2,SNR=16							
SONM	Songino Array	153.49	85		PKPbc	04 34 02.5	-0.6	
MJAR	Matsushiro Arr	162.04	155	PKPab	PKPab	04 34 51.0	-1.5	
	comp=Z,2.1nm,0.9s,baz=186,slow=5.5,SNR=5.1							
CN2	Changchun	162.57	114	ePKP	PKPdf	04 34 03.0	-3.5	

*NAO **31** 04:25:07.4±5.5, 71°.43N×1°.61W, ML3.2*
*IDC **31** 04:25:07.2±3.7, 71°.39N×1°.63W, h0km, mb3.4/2, mb1 3.7/7, mb1mx3.4/53, mbtmp3.6/7, ML3.0/5, MS3.2/1, Ms1 3.2/1, ms1mx2.4/41, Error ellipse: s-maj=56.8km s-min=26.5km az=96.0*
*BER **31** 04:25:12.1±2.0, 71°.49N×1°.88W, h16km, Confirmed Earthquake*

ISC 31 04:25:06.6±2.3, 71°.5N±0°.1×2°.2W±0°.3, h10km, n36, σ0s.60/35, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOF	Lofoten	6.42	114	eP	Pn	04 26 41.5	+0.5
N2SV	S rv gen	6.42	117	eP	Pn	04 26 40.6	-0.4
N2RO	R st	6.43	122	eP	Pn	04 26 41.3	+0.1
N2VA	Vr y	6.49	119	eP	Pn	04 26 41.6	-0.3
N2VI	Vinje	6.49	112	eP	Pn	04 26 42.3	+0.3
STEI	Steigen	7.04	112	eP	Pn	04 26 50.1	+0.6
NBB08	Skaug oppvekst	7.22	117	eP	Pn	04 26 52.2	+0.2
N2IH	Innhavet	7.22	111	eP	Pn	04 26 52.8	+0.8
N2TV	T rnvik	7.24	115	eP	Pn	04 26 52.8	+0.6
NBB30	Finnes	7.26	121	eP	Pn	04 26 52.6	+0.1
TRO	Tromso	7.28	95	eP	Pn	04 26 52.0	-0.9
NBB05	Inndyr	7.29	120	eP	Pn	04 26 53.0	0.0
FAUS	Fauske	7.41	116	eP	Pn	04 26 54.8	+0.2
NBB40	Tonnes	7.41	125	eP	Pn	04 26 54.5	-0.2
KONS	Konsvik	7.45	125	eP	Pn	04 26 55.1	0.0
MOR8	Moi Rana	8.05	124	eP	Pn	04 27 04.4	+1.0
KIF	Kilpisjarvi	8.16	97	eP	Pn	04 27 04.8	0.0
SPA0	Spitsbergen Ar	8.20	27	Pn	Pn	04 27 05.7	+0.2
	baz=208,slow=16						
SPA0	Spitsbergen Ar	8.20	27	eP	Pn	04 27 06.2	+0.8
SPITS	Spitsbergen Ar	8.20	27	Pn	Pn	04 27 06.0	+0.5
	baz=202,slow=15,SNR=9.1						
HAMF	Hammerfest	8.43	84	Pn	Pn	04 27 07.0	-1.6
NSS	Namsos	8.78	136	eP	Pn	04 27 14.8	+1.4
KTK1	Kautokeino	8.93	94	eP	Pn	04 27 15.9	+0.5
ARA0	ARCESS Array S	9.42	89	Pn	Pn	04 27 22.1	0.0
	baz=286,slow=11						
ARCES	ARCESS Array B	9.42	89	Pn	Pn	04 27 22.0	-0.1
	0.5nm,0.3s,baz=293,slow=12,SNR=39						
ARE0	ARCESS Array S	9.42	89	eP	Pn	04 27 22.7	+0.5
NOA	NORSAR Array B	11.79	146	Pn	Pn	04 27 54.1	-0.6
	0.0nm,0.3s,baz=344,slow=13,SNR=1.9						
NRA0	NORESS Array S	12.13	146	Pn	Pn	04 27 58.9	-0.4
	baz=350,slow=16						
APA0	Apatity Array	12.76	91	Pn	Pn	04 28 07.3	-0.5
	baz=310,slow=12						
HFS	Hagfors	13.09	143	Pn	Pn	04 28 11.6	-0.8
	baz=350,slow=18						
HFS	Hagfors	13.09	143	Pn	Pn	04 28 12.1	-0.3
	0.4nm,0.3s,baz=336,slow=14,SNR=11						
FIA0	FINESS Array S	14.96	118	Pn	Pn	04 28 37.9	+0.1
	baz=328,slow=11						
FINES	FINESS Array B	14.96	118	Pn	Pn	04 28 37.1	-0.7
	0.1nm,0.3s,baz=326,slow=10,SNR=7.4						
SFJD	Kangerlussuaq	17.31	279	LR	LR	04 34 38.9	
	comp=Z,93nm,22.0s,baz=348,slow=33						
GERES	GERESS Array B	25.93	153	P	P	04 30 20.7	+0.2
	0.1nm,0.3s,baz=357,slow=11,SNR=2.2						
AKASG	Malin Array Be	25.25	129	P	P	04 30 32.0	-0.4
	1.2nm,0.5s,baz=336,slow=9.1,SNR=3.4						

*IDC **31** 04:25:36.3±3.7, 71°.41N×2°.26W, h0km, mb3.4/3, mb1 3.7/8, mb1mx3.5/54, mbtmp3.7/8, ML3.0/5, MS2.7/2, Ms1 2.7/2, ms1mx2.4/41, Error ellipse: s-maj=59.8km s-min=27.6km az=96.0*
*BER **31** 04:25:53.7±1.9, 71°.14N×0°.42E, h10km, Confirmed Earthquake*

**ISC 31 04:25:36.4±2.4,

ARDR Sg **Sb** **04 42 19.9 +0.9**
KZLR Kyzyl 3.00 64 Pg **Pb** **04 41 43.1 0.0**
KZLR Sg **Sb** **04 42 22.1 +2.0**
GALT Gorno-Altaysk, 3.03 301 Pg **Pb** **04 41 44.5 +1.1**
GALT Sg **Sg** **04 42 26.2 -0.1**
ERNS Erzin 3.23 91 Pg **Pn** **04 41 41.1 +0.6**
ERNS Sg **Sb** **04 42 26.5 -0.1**
LUZB Luzhba, Kemero 3.30 347 Pg **Pb** **04 41 49.4 +1.3**
LUZB Sg **Sg** **04 42 33.1 -1.9**
ABNR Abakan 3.38 13 Pg **Pb** **04 41 51.2 +1.8**
ABNR Sg **Sg** **04 42 36.8 -0.6**
UKR Ust'-Kan 3.44 280 Pg **Pb** **04 41 51.8 +1.4**
UKR Sg **Sg** **04 42 38.2 -1.2**
SHRR Shira 4.05 0 Pg **Pb** **04 42 03.8 +3.0**
SHRR Sg **Sg** **04 42 56.5 -2.4**
TDJR Todzha 4.22 60 Pn **Pn** **04 41 56.6 +2.5**
TDJR Pg **Pb** **04 42 05.7 +2.0**
TDJR Sg **Sb** **04 42 58.3 +3.3**
POMOR Pomortsevo, Ku 4.53 332 Pg **Pb** **04 42 12.7 +3.7**
POMOR Sg **Sg** **04 43 15.4 +1.0**
ZSN Zaisan 4.58 231 *e*P **Pb** **04 42 12.9 +2.9**
77nm,0.4s
ZSN *e*S **Sg** **04 43 12.6 -3.6**
436nm,0.5s
ZSN Zaisan 4.58 231 Pg **Pb** **04 42 12.9 +2.9**
77nm,0.4s
ZSN Lg Lg 04 43 12.6
436nm,0.5s
KNGR Kungurtug, Tuv 4.72 85 Pn **Pn** **04 42 01.1 +0.1**
KNGR Pg **Pb** **04 42 11.3 -1.0**
KNGR Sg **Sg** **04 43 18.9 -1.6**
ZAA0 Zalesovo Array 4.78 319 ⇓Pn **Pn** **04 42 02.8 +1.0**
0.8nm,0.3s
ZAA0 ⇓Pg **Pb** **04 42 15.3 +2.0**
4.3nm,0.6s
ZAA0 ⇑Lg Lg 04 43 16.8
90nm,0.9s
ZAA0 Zalesovo Array 4.78 319 Pn **Pn** **04 42 02.5 +0.7**
ZALV Zalesovo Beam 4.78 319 Pn **Pn** **04 42 03.0 +1.2**
2.7nm,0.3s,baz=140,slow=13,SNR=32
ZALV Lg Lg 04 43 18.1
33nm,0.3s,baz=133,slow=29,SNR=6.7
ZALV LR LR 04 44 11.7
comp=Z,199nm,20.4s,baz=134,slow=42
ZALV Zalesovo Beam 4.78 319 *i* PN **Pn** **04 42 02.7 +0.9**
ZALV pmax pmax
comp=Z,10.0nm,0.5s
ZALV Zalesovo Beam 4.78 319 **Pn** **04 42 02.5 +0.7**
SALR Pechorkino, Sa 4.80 327 Pn **Pn** **04 42 03.7 +1.7**
SALR Pg **Pb** **04 42 16.7 +3.0**
SALR Sg **Sg** **04 43 23.8 +0.6**
KEM Kemerovo 5.47 335 Pg **Pb** **04 42 28.1 +3.1**
KEM Sg **Sg** **04 43 40.4 -4.2**
KHAR Kharino, NSO, 5.76 319 Pn **Pn** **04 42 16.6 +1.4**
KHAR Pg **Pg** **04 42 37.0 -2.4**
KHAR Sg **Sg** **04 43 54.4 +0.4**
NVSII Novosibirsk 6.07 319 Pn **Pn** **04 42 20.5 +1.1**
NVSII Pg **Pg** **04 42 41.3 -4.0**
NVSII Sg **Sg** **04 44 01.5 -2.3**
BSTK Bystrovka, Nov 6.14 315 Pn Pn 04 42 25.3 +4.9
BSTK Pg **Pg** **04 42 45.6 -1.1**
BSTK Sg **Sg** **04 44 09.9 +3.7**
NHES Novosibirsk, N 6.19 318 Pg **Pg** **04 42 43.5 -4.0**
NHES Sg **Sg** **04 44 07.8 +0.3**
MK31 Makanchi Array 6.35 238 ⇑Pn **Pn** **04 42 24.3 +1.0**
comp=Z,3.8nm,0.3s,baz=57,slow=14,SNR=179
MK31 ⇑Pg **Pb** **04 42 43.2 +3.1**
comp=Z,26nm,0.8s,baz=54,slow=15,SNR=6.5
MK31 ⇑Sn **Sn** **04 43 37.0 +0.7**
comp=Z,47nm,0.7s
MK31 ⇓Lg Lg 04 44 07.2
comp=Z,131nm,0.7s
MK31 Makanchi Array 6.35 238 PN **Pn** **04 42 24.3 +1.0**
MK31 SN **Sn** **04 43 38.1 +1.8**
MK31 Makanchi Array 6.35 238 Pn **Pn** **04 42 24.5 +1.2**
MKAR Makanchi Array 6.35 238 Pn **Pn** **04 42 24.7 +1.3**
comp=Z,3.5nm,0.3s,baz=55,slow=14,SNR=94
MKAR Lg Lg 04 44 07.5
comp=Z,8.1nm,0.3s,baz=43,slow=28,SNR=8.6
MKAR LR LR 04 44 08.3
comp=Z,44nm,21.8s,baz=326,slow=31
MKAR Makanchi Array 6.35 238 Pn **Pn** **04 42 24.4 +1.0**
MKAR Pg **Pb** **04 42 44.6 +4.5**
MKAR Sg **Sg** **04 44 09.9 -3.1**
MKAR Makanchi Array 6.35 238 *i* PN **Pn** **04 42 24.5 +1.1**
MKAR pmax pmax
comp=Z,5.0nm,0.3s
MKAR Makanchi Array 6.35 238 Pn **Pn** **04 42 24.1 +0.7**
MAKZ Makanchi 6.51 239 Pn **Pn** **04 42 26.5 +1.0**
MAKZ Pg Pg 04 42 48.3 -5.5
MAKZ Sg **Sg** **04 44 19.0 +0.9**
MAKZ Makanchi 6.51 239 PN **Pn** **04 42 26.0 +0.4**
MAKZ Makanchi 6.51 239 Pn **Pn** **04 42 26.0 +0.4**
WMQ Urumqi 6.84 195 *e*Pn **Pn** **04 42 33.3 +3.2**
WMQ Sn **Sn** **04 43 49.5 +1.2**
WMQ smax smax
comp=Z,60nm,1.5s
WMQ smax smax
comp=Z,88nm,0.9s
WMQ LR LR
comp=Z,190nm,5.7s
WMQ LR LR
comp=Z,210nm,5.3s
MOY Mondy 6.96 76 Pg Pb 04 42 56.2 +5.7
MOY Sg **Sg** **04 44 29.6 -2.7**
MOY Mondy 6.96 76 *e*PN Pn 04 42 38.4 +6.6
MOY *e*S **Sn** **04 43 54.5 +3.2**
MOY *i* 04 44 39.8
KURK Kurchatov 7.33 276 P **Pn** **04 42 37.7 +1.0**
KURK 04 44 00.7
KURK Kurchatov 7.33 276 **Pn** **04 42 37.7 +1.0**
KURBB Kurchatov Arra 7.39 276 Pn **Pn** **04 42 37.1 -0.4**
comp=Z,0.4nm,0.3s,baz=88,slow=14,SNR=18
KURBB Sn **Sn** **04 44 00.7 -1.0**
comp=Z,1.2nm,0.3s,baz=83,slow=29,SNR=4.3
KURBB Lg Lg 04 44 41.0
comp=Z,1.9nm,0.3s,baz=93,slow=33,SNR=9.1
KURBB Kurchatov Arra 7.39 276 ⇓Pn **Pn** **04 42 37.7 +0.1**
comp=Z,17nm,0.8s
KURBB ⇑Pg **Pb** **04 43 01.4 +3.7**
comp=Z,26nm,0.6s
KURBB ⇑Lg Lg 04 44 37.7
comp=Z,922nm,1.2s
KURBB Kurchatov Arra 7.39 276 P **Pn** **04 42 37.9 +0.4**
TLY Talaya 8.61 77 Lg Lg 04 45 12.6
comp=Z,0.0nm,0.3s,baz=224,slow=15,SNR=3.5
TLY LR LR 04 46 25.3
comp=Z,94nm,18.6s,baz=258,slow=40
TLY Talaya 8.61 77 P **Pn** **04 42 54.8 +0.6**
TLY Talaya 8.61 77 Pn **Pn** **04 42 54.8 +0.6**
KAPS Kapalarasan 8.89 239 *e*P Pg 04 43 31.1 -8.0
comp=Z,6.7nm,0.5s
KAPS *e*S Sg 04 45 25.3 -9.0
comp=Z,26nm,0.9s
KAPS Kapalarasan 8.89 239 Pg Pg 04 43 31.1 -8.1
comp=Z,6.7nm,0.5s
KAPS Lg Lg 04 45 25.3
comp=Z,26nm,0.9s
IRK Irkutsk 9.04 73 *e*P Pn 04 43 14.2 +14
IRK pmax pmax
comp=Z,193nm,0.2s
TDK Taldygorghan 9.59 240 Pg Pn 04 43 45.7 +38
comp=Z,46nm,0.4s
TDK Lg Lg 04 45 50.1
comp=Z,180nm,1.2s
PDGK Podgornoye 10.18 230 Pg Pn 04 43 55.8 +40
comp=Z,2.3nm,0.8s
PDGK Lg Lg 04 46 06.7
comp=Z,20nm,1.0s
PDGK Podgornoye 10.18 230 ⇑Lg Lg 04 46 09.5
comp=Z,62nm,1.0s
SHLS Shalkode 10.32 229 Pg Pn 04 43 55.1 +37
comp=Z,4.0nm,0.1s
SHLS Lg Lg 04 46 05.6
comp=Z,82nm,1.0s
ARXS Arharly 10.41 238 Pg Pn 04 43 60.0 +41
comp=Z,6.5nm,0.6s
ARXS Lg Lg 04 46 13.8
comp=Z,30nm,1.3s
UZB Uzynbulak 10.54 230 Pg Pn 04 44 02.7 +42
comp=Z,4.0nm,0.5s
UZB Lg Lg 04 46 18.5
comp=Z,30nm,1.1s
KURS Kuram 10.73 234 Pg Pn 04 44 05.8 +42
comp=Z,6.1nm,0.4s
KURS Lg Lg 04 46 23.9
comp=Z,32nm,1.2s
SATY Saty 10.91 232 Pg Pn 04 44 09.3 +43
comp=Z,2.8nm,0.3s
SATY Lg Lg 04 46 30.0
comp=Z,21nm,1.1s
SONM Songino Array 10.98 98 Pn **Pn** **04 43 24.4 -2.4**
comp=Z,0.2nm,0.3s,baz=280,slow=13,SNR=7.2
SONM Pg 04 44 03.2
comp=Z,0.3nm,0.3s,baz=292,slow=20,SNR=6.5
SONM Lg Lg 04 46 30.3
comp=Z,1.5nm,0.3s,baz=277,slow=28,SNR=12
SONM Songino Array 10.98 98 P **Pn** **04 43 27.3 +0.5**
SONM Songino Array 10.98 98 **Pn** **04 43 27.3 +0.5**
CHKK Chushkaly 11.11 239 Pg Pn 04 44 12.3 +44
comp=Z,2.6nm,0.2s
CHKK Lg Lg 04 46 35.3
comp=Z,18nm,0.7s
BRZS Berezniki 11.19 274 Pg Pn 04 44 13.6 +44
comp=Z,6.1nm,0.4s
BRZS Lg Lg 04 46 37.1
comp=Z,40nm,1.4s
KTBS Karatobe 11.37 239 Pg Pn 04 44 17.7 +46
comp=Z,2.9nm,0.3s
KTBS Lg Lg 04 46 43.6
comp=Z,66nm,0.9s
ULN Ulaanbaatar 11.38 97 *i* P **Pn** **04 43 31.7 -0.7**
ULN pmax pmax
comp=Z,1.0nm,0.9s
KUU Kurty 11.44 240 Pg Pn 04 44 19.6 +47
comp=Z,2.1nm,0.4s
KUU Lg Lg 04 46 46.8
comp=Z,25nm,0.9s
MDOK Medeo 11.54 236 Pg Pn 04 44 21.0 +46
comp=Z,2.6nm,0.2s
MDOK Lg Lg 04 46 49.6
comp=Z,30nm,1.1s
TNSS Tian-Shan 11.68 236 Pg Pn 04 44 21.5 +45
comp=Z,4.5nm,0.6s
TNSS Lg Lg 04 46 50.7
comp=Z,15nm,0.9s
BTLS Baital 12.09 250 Pg Pn 04 44 29.9 +48
comp=Z,3.0nm,0.4s
BTLS Lg Lg 04 47 05.3
comp=Z,26nm,1.4s
KST Kastek 12.20 238 Pg Pn 04 44 31.8 +48
comp=Z,5.3nm,0.5s
KST Lg Lg 04 47 07.9
comp=Z,17nm,1.1s
TKM2 Tokmak 2 12.48 238 ⇓Lg Lg 04 47 20.4
comp=Z,27nm,1.1s
BVA0 Borovoye Array 12.49 289 Pn **Pn** **04 43 46.2 -1.3**
comp=Z,13nm,1.2s,baz=89,slow=14,SNR=20
BVA0 Borovoye Array 12.49 289 *i* P **Pn** **04 43 46.1 -1.3**
BVAR Borovoye Array 12.49 289 Pn **Pn** **04 43 46.3 -1.1**
comp=Z,0.5nm,0.3s,baz=89,slow=13,SNR=16
BVAR Sn **Sn** **04 46 01.9 -5.0**
comp=Z,0.8nm,0.3s,baz=86,slow=19,SNR=2.2
BVAR LR LR 04 48 49.2
comp=Z,165nm,19.1s,baz=295,slow=38
BRVK Borovoye 12.56 290 ⇑Pn **Pn** **04 43 47.1 -1.3**
comp=Z,2.9nm,0.5s
BRVK ⇓Sn **Sn** **04 46 06.5 -2.0**
BRVK comp=Z,6.8nm,0.7s
BRVK ⇓Lg Lg 04 47 22.4
comp=Z,75nm,1.5s
BRVK Borovoye 12.56 290 P **Pn** **04 43 47.6 -0.7**
BRVK SN **Sn** **04 46 06.5 -2.0**
BRVK Borovoye 12.56 290 Pn **Pn** **04 43 48.1 -0.2**
AAK Ala-Archa 13.28 240 Lg Lg 04 47 47.2
comp=Z,0.4nm,0.3s,baz=105,slow=12,SNR=4.1
AAK Ala-Archa 13.28 240 *i* P **Pn** **04 43 58.3 0.0**
AAK pmax pmax
comp=Z,1.0nm,0.3s
AAK Ala-Archa 13.28 240 Pn **Pn** **04 43 57.7 -0.6**
MRKS Merke 13.92 243 Pg P 04 45 04.4 +49
comp=Z,3.1nm,0.2s
MRKS Lg Lg 04 48 02.8
comp=Z,10nm,0.7s
KK31 Karatay Array 15.29 249 ⇓Pn **Pn** **04 44 25.8 +0.4**
comp=Z,1.6nm,0.7s,baz=53,slow=14,SNR=11
KK31 ⇑Lg Lg 04 48 49.7
comp=Z,11nm,0.8s
KK31 Karatay Array 15.29 249 P **Pn** **04 44 24.5 -0.9**
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KK31 Karatay Array 15.29 249 Pn **Pn** **04 44 24.5 -0.9**
KKAR Karatay Array 15.29 249 P **Pn** **04 44 25.3 -0.1**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 15.29 249 Pn **Pn** **04 44 25.3 -0.1**
KKAR Karatay Array 15.29 249 **Pn** **04 44 24.5 -0.9**
BRLS Borolday 15.73 250 Pg 04 45 44.2
comp=Z,2.1nm,0.2s
BRLS Lg Lg 04 49 10.6
comp=Z,16nm,1.6s
HHC Hu-ho-hao-te 17.75 115 *e*P **P** **04 44 59.0 +1.2**
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,71nm,5.6s
HHC LR LR
comp=Z,280nm,6.7s
HHC LR LR
comp=Z,310nm,7.3s
HHC LR LR
comp=Z,210nm,10.6s
GAR Garm 18.08 238 Pn **Pn** **04 44 59.3 -1.7**
GAR lAmb lAmb 04 45 07.4
comp=Z,25nm,1.1s
CHGR Chuyangaron 18.96 240 **P** **04 45 10.3 -0.9**
CHGR lAmb lAmb 04 45 21.2
comp=Z,12nm,0.8s
NRIK Noril'sk 18.99 357 P **P** **04 45 10.4 -0.7**
comp=Z,0.5nm,0.3s,baz=162,slow=9.7,SNR=6.3
AB01 Akbulak array 19.44 278 ⇑P **Pn** **04 45 17.2 -0.1**
comp=Z,3.3nm,0.7s
AB31 Akbulak array 19.44 278 P **Pn** **04 45 17.2 -0.1**
ABKAR Akbulak array 19.44 278 P **Pn** **04 45 17.1 -0.2**
ARU Arti 19.61 300 *d* P **Pn** **04 45 21.8 +2.5**
ARU pmax pmax
comp=Z,4.0nm,0.8s
ARU MLR MLR
comp=Z,146nm,16.0s
ARU Arti 19.61 300 P **P** **04 45 16.1 -1.9**
AKTO Aktyubinsk 20.37 282 P **P** **04 45 26.7 +0.4**
comp=Z,1.5nm,0.6s,baz=83,slow=13,SNR=7.1
AKTO Lg Lg 04 51 34.0
comp=Z,0.7nm,0.4s,baz=13,slow=22,SNR=4.9
AKTO LR LR 04 53 30.1
comp=Z,79nm,18.2s,baz=83,slow=37
AKTO Aktyubinsk 20.37 282 ⇑P Pn 04 45 29.6 +1.3
comp=Z,8.4nm,1.4s
AKTO Aktyubinsk 20.37 282 P Pn 04 45 29.6 +1.3
XAN Xi'an 21.41 133 P **P** **04 45 36.5 -1.3**
XAN pP sP 04 45 49.3 +8.5
XAN pmax pmax
comp=Z,10.0nm,0.9s
XAN LR LR
comp=Z,250nm,9.0s
XAN LR LR
comp=Z,160nm,9.0s
XAN LR LR
comp=Z,270nm,9.8s
XAN Xi'an 21.41 133 P **P** **04 45 36.1 -1.7**
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN Xi'an 21.41 133 P **P** **04 45 36.1 -1.7**
XAN lAmb lAmb 04 45 40.7
comp=Z,7.0nm,0.9s
YAK Yakutsk 24.42 47 *i* P **P** **04 46 08.8 +0.6**
YAK pmax pmax
comp=Z,7.0nm,0.6s
KIRV Kirov 24.65 305 LR LR 04 57 01.6
comp=Z,137nm,20.1s,baz=96,slow=39
SHL Shillong 24.89 176 P **P** **04 46 13.3 +0.4**
SHL pmax pmax
comp=Z,6.0nm,0.7s
SHL Shillong 24.89 176 P **P** **04 46 13.3 +0.4**
KLR Kul'dur 26.63 76 LR LR 04 58 28.0
comp=Z,40nm,19.2s,baz=180,slow=40
KLR Kul'dur 26.63 76 *i* P **P** **04 46 28.6 +0.3**
KLR pmax pmax
comp=Z,4.0nm,3.0s
GYA Guiyang 27.11 146 *e*P **P** **04 46 38.8 +5.8**
GYA pmax pmax
comp=Z,6.0nm,0.8s
KLMR Klimovskoe 29.64 310 *e*P **P** **04 46 53.3 -1.7**
KLMR pmax pmax
comp=Z,7.0nm,1.2s
KLMR Klimovskoe 29.64 310 *e*P **P** **04 46 53.3 -1.7**
KLMR AMP 04 46 59.4
comp=Z,7.0nm,1.2s
LPSR Galich'ya Gora 31.38 294 *e*P **P** **04 47 12.9 +2.4**
LPSR pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 31.67 291 *e*P **P** **04 47 15.8 +2.7**
VSR pmax pmax
comp=Z,4.0nm,0.5s
VORD Divnogorie 31.67 291 *e*P **P** **04 47 15.0 +1.9**
VORD pmax pmax
comp=Z,4.0nm,0.9s
OBN Obninsk 32.05 299 *i* P **P** **04 47 16.7 +0.4**
OBN pmax pmax
comp=Z,3.0nm,0.8s
APA Apatity 32.35 323 *e*P **P** **04 47 22.5 +3.6**
APA pmax pmax
comp=Z,7.0nm,1.0s
APA MLR MLR
comp=Z,200nm,13.0s
KBZ Khabaz 32.39 277 *i* P **P** **04 47 16.2 -3.3**
KBZ pmax pmax
comp=Z,2.0nm,1.0s
KIV Kislovodsk 32.42 277 *e*P **P** **04 47 20.9 +1.0**
KIV pmax pmax
comp=Z,10.0nm,0.9s
ARCES ARCESS Array B 35.29 327 P **P** **04 47 42.6 -1.8**
comp=Z,1.6nm,0.8s,baz=59,slow=14,SNR=1.9
FINES FINESS Array B 36.02 313 P **P** **04 47 50.5 -0.2**
comp=Z,1.3nm,0.7s,baz=96,slow=14,SNR=4.0
AKASG Malin Array Be 37.70 295 P **P** **04 48 05.0 -0.2**
comp=Z,3.2nm,0.4s,baz=58,slow=8.9,SNR=8.9
AKASG Malin Array Be 37.70 295 *i* P **P** **04 48 05.0 -0.2**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 37.70 295 P **P** **04 48 04.8 -0.4**
AKBB Malin Array Si 37.70 295 P **P** **04 48 05.1 -0.1**
AKBB pmax pmax
comp=Z,6.0nm,1.1s
AKBB Malin Array Si 37.70 295 P **P** **04 48 05.1 -0.1**
AKBB lAmb lAmb 04 48 05.7
comp=Z,6.1nm,1.1s
BRTR Keskin Array B 40.38 277 P **P** **04 48 28.4 +0.5**
comp=Z,0.9nm,0.8s,baz=67,slow=6.7,SNR=2.7
BUR08 Bucovina Ar. S 41.43 292 lAmb lAmb 04 48 42.7
comp=Z,4.2nm,0.7s
BURAR Bucovina Array 41.44 292 P **P** **04 48 37.0 +0.5**
KOLS Kolonicke sedl 42.52 295 *e*P **P** **04 48 45.0 -0.2**
KOLS pmax pmax
comp=Z,6.0nm,1.6s
KOLS Kolonicke sedl 42.52 295 *e*P **P** **04 48 45.0 -0.2**
NB2 NORSAR Subarra 42.98 316 P **P** **04 48 48.1 -0.7**
comp=Z,0.8nm,0.7s,baz=63,slow=7.9
NOA NORSAR Array B 42.98 316 P **P** **04 48 48.0 -0.9**
comp=Z,0.2nm,0.5s,baz=62,slow=7.4,SNR=4.2
NOA LR LR 05 08 05.5
comp=Z,66nm,18.7s,baz=215,slow=38
OJC Ojcow 43.31 298 P **P** **04 48 51.7 +0.1**
OJC pmax pmax
comp=Z,7.0nm,0.7s
OJC Ojcow 43.31 298 P **P** **04 48 51.7 +0.1**
VYHS Vyhne 44.71 296 *e*P **P** **04 49 04.3 +1.3**
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 44.71 296 *e*P **P** **04 49 04.2 +1.3**
MORC Moravsky Berou 44.80 299 P **P** **04 49 03.1 -0.5**
MORC pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 44.80 299 P **P** **04 49 03.1 -0.5**
MORC lAmb lAmb 04 49 10.5
comp=Z,3.4nm,0.8s
KRLC Kraliky 45.08 299 *e*P **P** **04 49 06.5 +0.7**
KRLC *e* 04 49 09.7
KRLC Kraliky 45.08 299 *e*P **P** **04 49 06.5 +0.7**
KRLC *ep*P **sP** **04 49 09.7 +0.9**
DPC Dobruska-Polom 45.19 300 *e*P **P** **04 49 07.8 +1.1**
DPC *e* 04 49 11.8
DPC Dobruska-Polom 45.19 300 *e*P **P** **04 49 07.8 +1.1**
DPC *ep*P **sP** **04 49 11.8 +2.0**
CHVC Chvalec 45.22 300 *e*P **P** **04 49 07.2 +0.3**
CHVC *ex* x 04 49 11.0
UPC Upice 45.28 300 *e*P **P** **04 49 07.9 +0.5**
UPC *e* 04 49 12.9
UPC Upice 45.28 300 *e*P **P** **04 49 07.9 +0.5**
UPC *ep*P **sP** **04 49 12.9 +2.5**
PRU Pruhonice 46.36 300 *e*P P 04 49 21.0 +5.1
PRU Pruhonice 46.36 300 *e*P P 04 49 21.0 +5.1
CLL Collm 46.52 303 *i* P **P** **04 49 17.1 0.0**
comp=Z,4.0nm,0.6s
CLL *i* (pP) **sP** **04 49 22.3 +2.1**
CLL Collm 46.52 303 *i* P **P** **04 49 17.1 0.0**
CLL *i* 04 49 22.3
CLL pmax pmax
comp=Z,4.0nm,0.6s
CONA Conrad Observa 46.71 297 *ep*P **P** **04 49 19.6 +0.9**
comp=Z,2.4nm,1.2s
PBCC Pribram 46.82 300 *e*P **P** **04 49 24.1 +4.6**
KHC Kasperske Hory 47.35 300 *ce*P **P** **04 49 25.7 +2.0**
KHC pmax pmax
comp=Z,5.0nm,0.8s
KHC Kasperske Hory 47.35 300 *e*P **P** **04 49 24.5 +0.8**
KHC *ep*P **sP** **04 49 29.0 +2.3**
GERES GERESS Array B 47.43 299 P **P** **04 49 24.7 +0.3**
comp=Z,0.9nm,0.8s,baz=67,slow=7.4,SNR=5.6
MOA Molln 47.65 298 *ep*P **P** **04 49 28.2 +2.1**
comp=Z,3.0nm,0.9s
OBKA Obir 48.23 296 *ep*P **P** **04 49 31.3 +0.6**
comp=Z,2.8nm,0.7s
MOTA Moosalm 49.71 299 *es*P **P** **04 49 45.2 +3.2**
comp=Z,4.5nm,1.1s
RETA Reutte 49.82 299 *ep*P **P** **04 49 43.9 +1.1**
comp=Z,1.8nm,0.8s
FETA Feichten 50.11 299 *ep*P **P** **04 49 46.1 +1.1**
comp=Z,4.0nm,1.1s
DAVA Damuels 50.43 299 *e*P **P** **04 49 45.1 -2.4**
comp=Z,3.4nm,0.7s
FUORN Ofenpass-Fuorn 50.60 299 P **P** **04 49 49.2 +0.2**
ZCCA Zocca 51.53 296 P **P** **04 49 56.4 +0.7**
BNI Bardonecchia 53.55 299 P **P** **04 50 11.3 +0.5**
BNI pmax pmax
comp=Z,3.0nm,0.7s
BNI Bardonecchia 53.55 299 P **P** **04 50 11.3 +0.5**
ESDC Sonseca Array 63.01 300 P **P** **04 51 16.7 -0.2**
comp=Z,1.0nm,0.6s,baz=43,slow=6.6,SNR=11
TORD Torodi Ar. Bea 79.00 277 P **P** **04 52 53.3 -0.9**
comp=Z,0.2nm,0.3s,baz=347,slow=20,SNR=2.9
WRA Warramunga Arr 80.20 138 P **P** **04 52 57.4 -3.1**
comp=Z,0.7nm,1.1s,baz=340,slow=6.1,SNR=3.0
AS31 Alice Springs 83.33 140 P **P** **04 53 15.8 -1.1**
AS31 lAmb lAmb 04 53 40.0
comp=Z,1.0nm,1.1s
ASAR Alice Springs 83.33 140 P **P** **04 53 13.6 -3.3**
comp=Z,0.3nm,0.9s,baz=352,slow=5.3,SNR=4.2
ASAR Alice Springs 83.33 140 P **P** **04 53 16.1 -0.8**
ASAR Alice Springs 83.33 140 P **P** **04 53 16.1 -0.8**

THR ***31*** *04:54:54.8±0.5, 33°.95N×45°.37E, h14km±7km, ML3.4*
IDC ***31*** *04:54:55.5±2.1, 33°.73N×45°.60E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/27, mbtmp3.6/5, Error ellipse: s-maj=57.0km s-min=25.2km az=162.0*
TEH ***31*** *04:54:59.5, 33°.77N×45°.79E, h18km, ML3.5*
ISN ***31*** *04:55:00.7±1.4, 33°.75N×45°.62E, h16km±17km, ML3.6*
ISC 31 04:54:58.1±0.7, 33.88N±0.04×45.61E±0.04, h10km, n37, σ1§18/41, mb3.8/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
IGHG	**Ghaleghazi**	**0.91**	**60**	*e*Pg	**Pg**		**04 55 16.0**	**+0.2**
IGHG				*e*			04 55 33.6	
IDHR	**Dehrash**	**1.04**	**38**	*e*Pg	**Pn**		**04 55 19.3**	**+0.3**
IDHR				*e*			04 55 40.2	
BHD	**Baghdad** baz=65	**1.19**	**240**	*e*Pg	**Pb**		**04 55 21.0**	**+0.2**
BHD				*e*Sg	**Sn**		**04 55 38.0**	**+0.9**
BHD				AML	AML		04 55 41.6	
	comp=E,1μm,0.4s							
IVIS	**Veis**	**1.21**	**58**	*e*Pg	**Pb**		**04 55 21.5**	**+0.3**
IVIS				*e*			04 55 42.6	
KCHF	**Cheshme Sefid,**	**1.25**	**71**	*e*Pg	**Pn**		**04 55 22.0**	**+0.1**

KCHF				*e*			04 55 44.0
KER	**Kermanshah**	**1.36**	**68**	*e*Pg		**Pb**	**04 55 24.3 +0.5**
ILIN	**Lien**	**1.52**	**47**	*e*Pg		**Pg**	**04 55 27.6 +0.2**
ILIN				*e*			04 55 51.6
IKOM	**Komasi**	**1.60**	**79**	*e*Pg		**Pn**	**04 55 27.7 +1.0**
IKOM				*e*			04 56 03.0
DHL1	**Dehloran**	**1.84**	**130**	*e*Pg		**Pn**	**04 55 30.3 +0.5**
SNGE	**Sanandaj**	**1.88**	**49**	*e*Pn		**Pn**	**04 55 30.3 -0.2**
SNGE				*e*Sg		**Sg**	**04 55 57.9 -0.7**
SNGE				IAML			04 56 02.3
	comp=N,284nm,0.4s						
SNGE	**Sanandaj**	**1.88**	**49**	*e*Pn		**Pn**	**04 55 30.3 -0.2**
IBZA	**Bozab**	**1.96**	**72**	*e*Pn		**Pn**	**04 55 32.7 +1.1**
IBZA				*e*			04 56 04.8
IALM	**Almabolaq**	**2.33**	**64**	*e*Pn		**Pn**	**04 55 38.6 +1.8**
HSAM	**Samen**	**2.51**	**82**	*e*Pn		**Pn**	**04 55 39.3 +0.1**
HSAM				*e*			04 56 21.7
HSRG	**Sareghieh**	**2.59**	**58**	*e*Pn		**Pn**	**04 55 42.5 +2.2**
HSRG				*e*			04 56 25.7
BMDN	**Meydan**	**2.69**	**94**	*e*Pn		**Pn**	**04 55 41.4 -0.2**
BMDN				*e*			04 56 32.2
MAHB	**Mahabad**	**2.88**	**2**	*e*Pn		**Pb**	**04 55 48.3 -1.4**
NSR	**Nassriya**	**2.90**	**171**	*e*Pn		**Pn**	**04 55 46.0 +1.7**
NSR				*e*Sn		**Sn**	**04 56 20.0 +0.9**
HAGD	**Aghdareh**	**3.07**	**71**	*e*Pn		**Pn**	**04 55 47.5 +0.6**
HAGD				*e*			04 55 59.3
KHMZ	**Khomeyn**	**3.62**	**91**	*e*Pn		**Pn**	**04 55 55.4 +0.9**
KHMZ	**Khomeyn**	**3.62**	**91**	*e*Pn		**Pn**	**04 55 55.4 +0.9**
ASAO	**Ashtian**	**3.72**	**78**	*e*Pn		**Pn**	**04 55 57.0 +1.2**
ASAO				*e*S		**Sn**	**04 56 42.0 +2.1**
ASAO	**Ashtian**	**3.72**	**78**	*e*Pn		**Pn**	**04 55 57.0 +1.2**
QABG	**Abgarm-Qazvin**	**3.74**	**60**	*e*Pn		**Pn**	**04 55 56.9 +0.7**
IAZR	**Azarshahr**	**3.80**	**4**	*e*Pn		**Pn**	**04 56 00.7 +3.7**
IRAZ	**Razeghan**	**3.87**	**66**	*e*Pn		**Pn**	**04 55 59.5 +1.6**
QSDN	**Sirdan**	**3.92**	**47**	*e*Pn		**Pn**	**04 56 00.0 +1.4**
QALM	**Alamut, Qazvin**	**4.85**	**57**	*e*Pn		**Pn**	**04 56 12.6 +1.2**
CHTH	**Charan**	**4.96**	**64**	*e*Pn		**Pn**	**04 56 13.4 +0.4**
CHTH	**Charan**	**4.96**	**64**	*e*Pn		**Pn**	**04 56 13.4 +0.4**
IVRN	**Varamin**	**5.18**	**76**	*e*Pn		**Pn**	**04 56 15.8 +0.1**
ANAR	**Anarak**	**6.81**	**94**	*e*Pn		**Pn**	**04 56 38.0 -0.3**
AKASG	**Malin Array Be**	**20.65**	**329**	P		**P**	**04 59 37.3 -0.4**
	comp=N,0.6nm,0.4s,baz=135,slow=10.0,SNR=6.7						
MKAR	**Makanchi Array**	**30.51**	**54**	P		**P**	**05 01 11.6 +0.3**
	comp=N,0.9nm,0.5s,baz=249,slow=9.9,SNR=5.9						
ZALV	**Zalesovo Beam**	**34.05**	**42**	P		**P**	**05 01 41.5 -0.7**
	comp=N,0.6nm,0.3s,baz=249,slow=8.9,SNR=3.4						
ESDC	**Sonseca Array**	**39.72**	**293**	P		**P**	**05 02 30.7 -0.1**
	comp=N,0.2nm,0.5s,baz=74,slow=8.8,SNR=6.0						
TORD	**Torodi Ar. Bea**	**44.83**	**253**	P		**P**	**05 03 10.4 -2.2**
	comp=N,0.6nm,0.6s,baz=62,slow=6.7,SNR=2.4						

*IDC **31** 04:58:18.2±5.3, 9.°67S×13.°59W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/29, mbtmp3.7/3, MS3.4/3, Ms1 3.4/3, ms1mx3.0/23, Error ellipse: s-maj=105.9km s-min=29.1km az=10.0*
*NEIC **31** 04:58:20.2±0.7, 9.°65S±0.°03×13.°60W±0.°06, h10km±1km, mb4.4/5, Error ellipse: s-maj=10.8km s-min=5.7km az=258.0*

ISC 31 04:58:20.1±1.4, 9.°6S±0.°1×13.°6W±0.°1, h10km, n16, σ0s51/13, mb4.2/6, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**1.23**	**303**	Pn	**Pn**	**04 58 43.1**	**0.0**
H10S3	**ASCENSION HYDR**	**1.25**	**303**	Pn	**Pg**	**04 58 44.4**	**+0.4**
ASCN	**Ascension**	**1.85**	**336**	Pn	**Pn**	**04 58 52.4**	**+0.6**
ASCN				Sg	**Sb**	**04 59 17.6**	**+0.5**
H10N1	**ASCENSION HYDR**	**1.98**	**334**	Pn	**Pn**	**04 58 53.1**	**-0.3**
	baz=43,slow=25,SNR=1.9						
H10N3	**ASCENSION HYDR**	**1.99**	**333**	Pn	**Pn**	**04 58 53.9**	**+0.4**
	baz=43,slow=25,SNR=4.4						
H10N2	**ASCENSION HYDR**	**1.99**	**334**	Pn	**Pb**	**04 58 55.3**	**-1.0**
	baz=43,slow=25,SNR=3.9						
DBIC	**Dimbokro**	**18.39**	**29**	LR	LR	05 07 56.0	
	comp=Z,120nm,19.5s,baz=170,slow=31						
TOA0	**Torodi Ar. Sit**	**27.25**	**34**	P	**P**	**05 04 05.0**	**+0.3**
TOA0				IAmb	IAmb	05 04 22.0	
	comp=Z,9.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**27.25**	**34**	P	**P**	**05 04 04.9**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=218,slow=8.8,SNR=6.0						
TORD				LR	LR	05 13 14.3	
	comp=Z,88nm,20.0s,baz=235,slow=33						
TORD	**Torodi Ar. Bea**	**27.25**	**34**	IAmb	IAmb	05 04 07.6	
	comp=Z,3.4nm,1.1s						
BOSA	**Boshof**	**41.03**	**123**	LR	LR	05 20 29.9	
	comp=Z,54nm,20.6s,baz=228,slow=32						
PTGA	**Pitinga**	**46.96**	**278**	P	**P**	**05 06 51.8**	**+0.1**
PTGA				IAmb	IAmb	05 06 57.2	
	comp=Z,4.5nm,1.2s						
GERES	**GERESS Array B**	**63.00**	**20**	P	**P**	**05 08 46.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=216,slow=8.1,SNR=2.1						
AKASG	**Malin Array Be**	**70.63**	**27**	P	**P**	**05 09 35.7**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=222,slow=5.4,SNR=4.3						
AKASG	**Malin Array Be**	**70.63**	**27**	IAmb	IAmb	05 09 37.5	
	comp=Z,1.0nm,1.0s						
AKBB	**Malin Array Si**	**70.63**	**27**	P	**P**	**05 09 36.1**	**+0.4**
AKBB				IAmb	IAmb	05 10 04.5	
	comp=Z,4.9nm,1.2s						

*DJA **31** 05:14:39.4±0.5, 2.°N±6.°×12.°7E±.°, h128km±4km, M4.2/9, mb4.2/5, mB4.5/1, MLv4.1/9, Mw(mB)3.7/1*
*NEIC **31** 05:14:40.6±1.4, 1.°39N±0.°09×127.°37E±0.°10, h142km±6km, mb4.3/21, Error ellipse: s-maj=16.0km s-min=9.5km az=50.0*
*IDC **31** 05:14:40.1±7.3, 1.°37N×127.°34E, h134km±67km, mb3.6/6, mb1 3.7/7, mb1mx3.4/33, mbtmp4.0/7, Error ellipse: s-maj=94.5km s-min=17.8km az=68.0*

ISC 31 05:14:39.7±0.7, 1.°44N±0.°07×127.°34E±0.°07, h128km, n42, σ1s23/49, mb4.2/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.67**	**177**	P	**Pn**	**05 15 00.2**	**+0.6**
TNTI				S	**Sn**	**05 15 16.9**	**+2.2**
TNTI	**Ternate**	**0.67**	**177**		**Pn**	**05 15 01.5**	**+1.8**
TNTI				Sn	**Sn**	**05 15 17.7**	**+3.0**
LBMI	**Labuha**	**2.07**	**175**	P	**Pn**	**05 15 16.8**	**+2.3**
KMSI	**Cibinong**	**3.46**	**256**	P	**Pn**	**05 15 31.1**	**-1.2**
SANI	**Sanana**	**3.72**	**201**	P	**Pn**	**05 15 34.8**	**-0.9**
GTOI	**Gorontalo**	**4.40**	**260**	P	**Pn**	**05 15 44.3**	**-0.4**
NLAI	**Namlea**	**4.66**	**183**	P	**Pn**	**05 15 49.5**	**+1.3**
LUWI	**Luwuk**	**5.19**	**242**	Pn	**Pn**	**05 15 56.9**	**+1.5**
LUWI				Sn	**Sn**	**05 16 56.6**	**+2.4**
SPSI	**Sidrap Palu**	**9.28**	**235**	P	**Pn**	**05 16 50.3**	**-0.1**
	29nm,0.5s						
MYLDM	**Lahad Datu**	**9.57**	**293**	Pn	**Pn**	**05 16 54.6**	**+0.3**
MYLDM				Sn	**Sn**	**05 18 41.3**	**+1.1**
KAPI	**Kappang**	**9.93**	**230**	Pn	**Pn**	**05 16 59.4**	**+0.2**
KAPI					**Sn**	**05 18 49.0**	**+0.2**
MTN	**Manton Dam**	**14.68**	**165**		**Pn**	**05 18 00.5**	**-0.8**
KNRA	**Kununurra**	**17.07**	**175**	P	**Pn**	**05 18 30.5**	**-0.2**
KNRA				IAmb	IAmb	05 18 33.2	
	comp=Z,18nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.49**	**185**	P	**P**	**05 18 56.1**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=3.6,slow=10,SNR=19						
FITZ	**Fitzroy Crossi**	**19.49**	**185**	P	**P**	**05 18 56.0**	**-0.9**
COEN	**Coen**	**21.92**	**135**	P	**P**	**05 19 20.9**	**-2.1**
COEN				IAmb	IAmb	05 19 28.5	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**22.19**	**162**	P	**P**	**05 19 25.0**	**-0.7**
WB0				IAmb	IAmb	05 19 32.5	
	comp=Z,13nm,0.8s						
WRAB	**Tennant Creek**	**22.33**	**162**	P	**P**	**05 19 26.2**	**-0.9**
WRA	**Warramunga Arr**	**22.33**	**162**	P	**P**	**05 19 26.5**	**-0.7**
	comp=Z,4.1nm,0.4s,baz=340,slow=11,SNR=123						
WRA				PcP	**PcP**	**05 23 17.5**	**-0.6**
	comp=Z,0.4nm,1.0s,baz=334,slow=2.2,SNR=2.0						
WRA	**Warramunga Arr**	**22.33**	**162**	P	**P**	**05 19 25.3**	**-1.9**
WB2	**Warramunga Arr**	**22.34**	**162**	P	**P**	**05 19 26.2**	**-0.9**
WB2				IAmb	IAmb	05 19 33.9	
	comp=Z,11nm,0.7s						
WR0	**Warramunga Arr**	**22.41**	**162**	P	**P**	**05 19 27.0**	**-0.9**
WR0				IAmb	IAmb	05 19 35.8	
	comp=Z,4.9nm,0.8s						
PSA00	**Pilbara Seismi**	**24.02**	**197**	P	**P**	**05 19 42.4**	**-0.4**
PSA00				IAmb	IAmb	05 19 43.1	
	comp=Z,7.0nm,0.7s						
AS31	**Alice Springs**	**25.76**	**166**	P	**P**	**05 19 57.5**	**-1.2**
ASAR	**Alice Springs**	**25.76**	**166**	P	**P**	**05 19 58.2**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=350,slow=7.4,SNR=43						
ASAR				PcP	**PcP**	**05 23 24.7**	**-0.8**
	comp=Z,0.3nm,0.9s,baz=3.8,slow=2.8,SNR=2.0						
ASAR	**Alice Springs**	**25.76**	**166**	P	**P**	**05 19 57.8**	**-0.9**
GIRL	**Giralia**	**27.14**	**207**	P	**P**	**05 20 11.2**	**+0.2**
FORT	**Forrest**	**32.05**	**179**	P	**P**	**05 20 53.2**	**-1.1**
MORW	**Morawa**	**32.21**	**199**	P	**P**	**05 20 55.4**	**-0.4**
MORW				IAmb	IAmb	05 21 10.8	
	comp=Z,6.9nm,1.1s						
BBOO	**Buckleboo**	**35.05**	**167**	P	**P**	**05 21 19.9**	**-0.4**
NWAO	**Narrogin (SRO)**	**35.49**	**195**	P	**P**	**05 21 23.5**	**-0.6**
STKA	**Stephens Creek**	**35.79**	**159**	P	**P**	**05 21 25.6**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=333,slow=8.1,SNR=6.4						
STKA	**Stephens Creek**	**35.79**	**159**	P	**P**	**05 21 25.0**	**-1.7**
ARMA	**Armidale**	**39.24**	**146**	P	**P**	**05 21 57.4**	**+1.5**
ARMA				IAmb	IAmb	05 21 57.9	
	comp=Z,5.8nm,0.7s						
CAN	**Canberra**	**41.81**	**153**	P	**P**	**05 22 18.7**	**+1.8**
CAN				IAmb	IAmb	05 22 20.8	
	comp=Z,16nm,1.5s						
SONM	**Songino Array**	**49.65**	**342**	P	**P**	**05 23 18.7**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=156,slow=5.8,SNR=2.2						
MK31	**Makanchi Array**	**59.77**	**326**	P	**P**	**05 24 32.4**	**+1.1**
MK31				IAmb	IAmb	05 24 50.0	
	comp=Z,2.8nm,1.4s						
MKAR	**Makanchi Array**	**59.77**	**326**	P	**P**	**05 24 31.4**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=117,slow=7.7,SNR=12						
MKAR	**Makanchi Array**	**59.77**	**326**	P	**P**	**05 24 31.8**	**+0.5**
KURK	**Kurchatov**	**63.98**	**328**	P	**P**	**05 25 00.9**	**+1.6**
VNDA	**Vanda**	**81.09**	**173**	P	**P**	**05 26 39.5**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=303,slow=5.3,SNR=2.0						
VNDA	**Vanda**	**81.09**	**173**	P	**P**	**05 26 39.7**	**-0.5**

*ISN **31** 05:54:08.9±1.4, 33.°85N×45.°59E, h0km±11km, ML2.1*
*TEH **31** 05:54:09.1, 33.°83N×45.°74E, h10km, ML2.6*

ISC 31 05:54:09.8±1.1, 33.°97N±0.°07×45.°68E±0.°06, h10km, n8, σ0s89/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGHG	**Ghaleghazi**	**0.82**	**64**	*e*Pg	**Pb**	**05 54 25.9**	**-0.4**
IGHG				*e*		05 54 30.7	
IDHR	**Derash**	**0.94**	**39**	*e*Pg	**Pn**	**05 54 29.2**	**0.0**
IDHR				*e*		05 54 49.8	
IVIS	**Veis**	**1.12**	**60**	*e*Pg	**Pb**	**05 54 31.2**	**-0.1**
IVIS				*e*		05 54 53.4	
KCHF	**Cheshme Sefid,**	**1.17**	**74**	*e*Pg	**Pb**	**05 54 31.6**	**-0.7**
KCHF				*e*		05 54 53.3	
BHD	**Baghdad**	**1.29**	**238**	*e*Pg	**Pn**	**05 54 34.0**	**+0.1**
	baz=60						
BHD				*e*Sg	**Sg**	**05 54 52.0**	**+0.7**
BHD				AML	AML	05 54 56.0	
	comp=E,22nm,0.6s						
ILIN	**Lien**	**1.42**	**48**	*e*Pg	**Pg**	**05 54 37.4**	**+0.2**
ILIN				*e*		05 55 01.5	
IKOM	**Komasi**	**1.53**	**82**	*e*Pg	**Pb**	**05 54 38.2**	**-0.2**
IKOM				*e*Sg	**Sg**	**05 55 00.2**	**+1.0**
IKOM				*e*		05 55 02.8	
NSR	**Nassriya**	**2.98**	**172**	*e*Pn	**Pn**	**05 54 58.0**	**+0.9**
NSR				*e*Sn	**Sn**	**05 55 31.0**	**-1.8**
NSR				AML	AML	05 55 31.5	
	comp=E,26nm,1.1s						

*IDC **31** 05:58:22.5±1.1, 2.°01N×96.°69E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.8/43, mbtmp4.0/11, ML3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/37, Error ellipse: s-maj=35.3km s-min=18.3km az=46.0*
*DJA **31** 05:58:25.8±1.0, 2.°N±4.°×9.°7E±.°, h14km±8km, M4.0/8, mB4.4/2, mb4.4/2, MLv3.8/8, Mw(mB)3.5/2*
*NEIC **31** 05:58:27.7±1.1, 2.°01N±0.°07×96.°65E±0.°09, h39km±10km, mb4.3/14, Error ellipse: s-maj=16.1km s-min=4.1km az=52.0*

ISC 31 05:58:26.6±0.7, 2.°01N±0.°05×96.°66E±0.°07, h28km, n49, σ0s80/47, mb4.2/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.15**	**128**	P	**Pn**	**05 58 47.5**	**+0.6**
GSI	**Gunungsitoli**	**1.15**	**128**		**Pn**	**05 58 47.6**	**+0.7**
GSI				Sn	**Sn**	**05 59 02.1**	**+0.3**
TPTI		**1.34**	**23**	P	**Pn**	**05 59 02.3**	**-0.2**
TPTI				S	**Sn**	**05 59 08.5**	**+2.0**
MLSI	**Meulaboh, Aceh**	**2.25**	**353**	P	**Pn**	**05 59 02.3**	**+0.2**
MLSI				S	**Sn**	**05 59 30.9**	**+1.9**
RPSI	**Rantau Prapat**	**2.36**	**73**		**Pn**	**05 59 03.9**	**+0.3**
PSI	**Prapat**	**2.39**	**71**	Pn	**Pn**	**05 59 02.2**	**-1.9**
	2.3nm,0.3s,baz=181,slow=6.1,SNR=5.6						
PBSI	**Pulau Batu**	**2.61**	**142**	P	**Pn**	**05 59 07.8**	**+0.8**
MNSI	**Mandailing Nat**	**3.16**	**112**	P	**Pn**	**05 59 15.9**	**+1.4**
LHMI	**Lhok Sumawe**	**3.21**	**5**	P	**Pn**	**05 59 16.2**	**+1.0**
LHMI	**Lhok Sumawe**	**3.21**	**5**	Pn	**Pn**	**05 59 16.0**	**+0.8**
LHMI				Sn	**Sn**	**05 59 52.3**	**-0.2**
BKNI	**Bangkinang**	**4.69**	**111**	Sn	**Sn**	**06 00 29.5**	**+0.4**
IPM	**Ipoh**	**5.00**	**61**		**Pn**	**05 59 41.3**	**+1.4**
IPM				Sn	**Sn**	**06 00 37.2**	**+0.4**
KULM	**Kulim**	**5.14**	**51**		**Pn**	**05 59 42.6**	**+0.7**
LEM	**Lembang**	**14.02**	**129**	LR	LR	06 07 31.9	
	comp=Z,71nm,19.4s,baz=164,slow=39						
CMAR	**Chiang Mai Arr**	**16.50**	**8**	Pn	**Pn**	**06 02 16.8**	**+0.6**
	0.2nm,0.3s,baz=194,slow=12,SNR=16						
SHL	**Shillong**	**23.87**	**349**	P	**P**	**06 03 37.4**	**-0.7**
SHL				IAmb	IAmb	06 03 39.5	
	comp=Z,6.1nm,0.9s						
H08S2	**Diego Garcia H**	**25.95**	**248**	T	T	06 30 40.7	
	baz=69,slow=75,SNR=737						
H08S3	**Diego Garcia H**	**25.95**	**248**	T	T	06 30 40.8	
	baz=69,slow=75,SNR=464						
H08S1	**Diego Garcia H**	**25.97**	**248**	T	T	06 30 42.0	
	baz=69,slow=75,SNR=522						
MMRI	**Maumere**	**27.60**	**113**	P	**P**	**06 04 11.7**	**-0.2**
H01W3	**Cape Leeuwin H**	**40.20**	**158**	T	T	06 48 44.3	
	baz=333,slow=75,SNR=12						
H01W2	**Cape Leeuwin H**	**40.21**	**158**	T	T	06 48 40.9	
	baz=333,slow=75,SNR=12						
H01W1	**Cape Leeuwin H**	**40.21**	**157**	T	T	06 48 44.7	
	baz=333,slow=75,SNR=14						
WB0	**Warramunga Arr**	**42.89**	**122**	P	**P**	**06 06 23.4**	**+0.3**
WB0				IAmb	IAmb	06 06 24.0	
	comp=Z,3.2nm,0.7s						
WRA	**Warramunga Arr**	**42.92**	**122**	P	**P**	**06 06 23.6**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=300,slow=9.2,SNR=24						
WRA	**Warramunga Arr**	**42.92**	**122**	P	**P**	**06 06 23.4**	**0.0**
WRAB	**Tennant Creek**	**42.93**	**122**	P	**P**	**06 06 22.9**	**-0.4**
WRAB				IAmb	IAmb	06 06 46.7	
	comp=Z,7.1nm,1.2s						
WB2	**Warramunga Arr**	**42.93**	**122**	P	**P**	**06 06 23.9**	**+0.4**
WB2				IAmb	IAmb	06 06 36.8	
	comp=Z,6.7nm,1.2s						
WR0	**Warramunga Arr**	**43.10**	**122**	P	**P**	**06 06 24.9**	**+0.2**
KDJ	**Kajisay**	**43.60**	**339**	P	**P**	**06 06 29.5**	**+0.8**
ASAR	**Alice Springs**	**44.31**	**127**	P	**P**	**06 06 34.2**	**-0.3**
	comp=Z,0.9nm,1.0s,baz=309,slow=8.0,SNR=5.9						
KSRS	**Korea Array**	**45.50**	**35**	P	**P**	**06 06 42.9**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=225,slow=9.7,SNR=5.5						
MK31	**Makanchi Array**	**46.33**	**346**	P	**P**	**06 06 50.9**	**+0.7**
MKAR	**Makanchi Array**	**46.33**	**346**	P	**P**	**06 06 50.6**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=160,slow=8.0,SNR=20						
SONM	**Songino Array**	**46.42**	**9**	P	**P**	**06 06 51.0**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=189,slow=11,SNR=7.0						
SONM	**Songino Array**	**46.42**	**9**	P	**P**	**06 06 50.5**	**-0.4**
KKAR	**Karatay Array**	**47.09**	**334**	P	**P**	**06 06 55.2**	**-1.0**
GEYT	**Alibeck**	**50.25**	**320**	P	**P**	**06 07 21.5**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=140,slow=9.1,SNR=2.1						
GEYT	**Alibeck**	**50.25**	**320**	P	**P**	**06 07 19.7**	**-0.9**
GYA0B	**ALIBECK ARRAY**	**50.25**	**320**	P	**P**	**06 07 20.6**	**0.0**
GYA0B				IAmb	IAmb	06 07 36.1	
	comp=Z,4.3nm,0.5s						
HIA	**Hailar**	**51.05**	**19**	P	**P**	**06 07 25.7**	**-0.7**
ZAA0	**Zalesovo Array**	**52.68**	**351**	P	**P**	**06 07 38.7**	**+0.4**
ZAA0				IAmb	IAmb	06 07 39.7	
	comp=Z,2.9nm,0.7s						
ZALV	**Zalesovo Beam**	**52.68**	**351**	P	**P**	**06 07 38.3**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=184,slow=5.3,SNR=11						
ZALV	**Zalesovo Beam**	**52.68**	**351**	P	**P**	**06 07 37.2**	**-1.2**
BRVK	**Borovoye**	**55.37**	**341**	P	**P**	**06 07 57.5**	**-0.6**
BRVK				IAmb	IAmb	06 08 01.6	
	comp=Z,1.6nm,0.7s						
ABKAR	**Akbulak array**	**56.55**	**332**	P	**P**	**06 08 05.9**	**-0.6**
FINES	**FINESS Array B**	**79.03**	**333**	P	**P**	**06 10 27.8**	**-0.1**
	comp=Z,1.5nm,1.0s,baz=96,slow=3.8,SNR=5.7						
ARCES	**ARCESS Array B**	**81.59**	**340**	P	**P**	**06 10 42.0**	**+0.4**
	comp=Z,2.4nm,1.0s,baz=83,slow=5.0,SNR=9.3						
GERES	**GERESS Array B**	**83.85**	**319**	P	**P**	**06 10 54.2**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=132,slow=3.8,SNR=3.5						

*UCR **31** 06:15:51.7±1.4, 13.°91N×90.°85W, h27km±35km, ML3.6*
*SNET **31** 06:15:51.6±1.2, 13.°91N×90.°85W, h27km±10km, ML3.6*
*GCG **31** 06:15:54.9±0.6, 14.°04N×90.°77W, h56km±8km, MD4.0*

ISC 31 06:15:51.5±2.2, 13.°79N±0.°07×90.°86W±0.°07, h24km±18km, n38, σ0s72/52, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.56**	**47**	⇑*i*P	**Pn**	**06 16 05.6**	**+1.4**
PCG	**Pacaya**	**0.65**	**22**	*e*P	**Pn**	**06 16 06.5**	**+1.0**
FUG	**Fuego 3**	**0.66**	**2**	*e*P	**Pn**	**06 16 06.2**	**+0.7**
NBG	**Las Nubes**	**0.94**	**32**	⇑*i*P	**Pn**	**06 16 10.4**	**+0.9**
NBG				*e*S	**Sb**	**06 16 21.1**	**-0.4**
NUBE	**Las Nubes**	**1.06**	**84**	*i* P	**Pn**	**06 16 10.9**	**-0.1**
NUBE	**Las Nubes**	**1.06**	**84**	*i* P	**Pn**	**06 16 10.9**	**-0.1**
RTAL	**Retalhuleu**	**1.09**	**312**	*e*S	**Sb**	**06 16 24.8**	**-0.7**
RTR	**El Retiro**	**1.19**	**85**	*e*P	**Pn**	**06 16 12.8**	**+0.1**
RTR	**El Retiro**	**1.19**	**85**	*e*P	**Pn**	**06 16 12.8**	**+0.1**
CEVE	**Cerro Verde**	**1.21**	**88**	*e*P	**Pn**	**06 16 13.2**	**+0.1**
CEVE				*e*S	**Sb**	**06 16 30.5**	**+1.4**
CEVE				IAML		06 16 38.0	
	comp=Z,2μm,0.5s						
CEVE	**Cerro Verde**	**1.21**	**88**	*e*P	**Pn**	**06 16 13.2**	**+0.1**
CEVE				*e*S	**Sb**	**06 16 30.5**	**+1.4**
CEVE				IAML		06 16 38.0	
	comp=Z,2μm,0.5s						
SBLS	**San Blas**	**1.21**	**87**	*e*P	**Pn**	**06 16 13.2**	**+0.1**
SBLS	**San Blas**	**1.21**	**87**	*e*P	**Pn**	**06 16 13.2**	**+0.1**
SNJE	**San Jose**	**1.23**	**86**	*e*P	**Pn**	**06 16 13.3**	**0.0**
SNJE	**San Jose**	**1.23**	**86**	*e*P	**Pn**	**06 16 13.3**	**0.0**
TACO	**Tacachico**	**1.48**	**83**	*i* P	**Pn**	**06 16 15.8**	**-0.9**
TACO				*e*S	**Sn**	**06 16 35.0**	**-0.3**
TACO	**Tacachico**	**1.48**	**83**	*i* P	**Pn**	**06 16 15.8**	**-0.9**
TACO				*e*S	**Sn**	**06 16 35.0**	**-0.3**
LALI	**Alcalda de L**	**1.53**	**101**	*e*P	**Pn**	**06 16 17.5**	**+0.2**
LALI				*e*S	**Sb**	**06 16 37.5**	**-0.6**
LALI	**Alcalda de L**	**1.53**	**101**	*e*P	**Pn**	**06 16 17.5**	**+0.2**
LALI				*e*S	**Sb**	**06 16 37.5**	**-0.6**
BOQS	**Boqueron**	**1.54**	**92**	*e*P	**Pn**	**06 16 17.5**	**-0.2**
BOQS				*e*S	**Sb**	**06 16 39.2**	**+0.5**
BOQS	**Boqueron**	**1.54**	**92**	*e*P	**Pn**	**06 16 17.5**	**-0.2**
BOQS				*e*S	**Sb**	**06 16 39.2**	**+0.5**
MTO3	**Montecristo**	**1.58**	**67**	*e*P	**Pn**	**06 16 17.0**	**-1.2**
MTO3	**Montecristo**	**1.58**	**67**	*e*P	**Pn**	**06 16 17.0**	**-1.2**
UEES	**Universidad Ev**	**1.58**	**92**	*e*P	**Pn**	**06 16 17.5**	**-0.6**
UEES				IAML		06 16 42.7	
	comp=Z,546nm,0.2s						
UEES	**Universidad Ev**	**1.58**	**92**	*e*P	**Pn**	**06 16 17.5**	**-0.6**
UEES				IAML		06 16 42.7	
	comp=Z,546nm,0.2s						
OPAM	**Oficina de Pla**	**1.62**	**92**	IAML		06 16 43.0	
	comp=Z,512nm,0.2s						
OPAM	**Oficina de Pla**	**1.62**	**92**	IAML		06 16 43.0	
	comp=Z,512nm,0.2s						
MRL	**Marmol**	**1.72**	**41**	*e*P	**Pn**	**06 16 19.9**	**-0.3**
MRL				*e*S	**Sn**	**06 16 39.7**	**-1.9**
LFRS	**El Faro**	**1.76**	**95**	*e*P	**Pn**	**06 16 20.7**	**+0.1**
LFRS

ILIN				*e*Pg		**Pb**	06 41 06.7 -0.4
NSR	**Nassriya**	**2.65**	**170**	*e*Pn		**Pn**	06 41 18.0 +0.1
NSR				*e*Sn		**Sn**	06 41 50.0 +0.1
NSR				AML		AML	06 42 02.3
	comp=E,15nm,0.5s						

GCG ***31*** *07:14:08.3±0.3, 14°.67N×91°.29W, h237km±85km, MD4.3*
NEIC ***31*** *07:14:13.4±1.1, 14°.68N±0°.06×91°.13W±0°.06, h200km±7km, mb4.3/24, Md4.2/18(MEX), Error ellipse: s-maj=10.1km s-min=7.0km az=213.0*
IDC ***31*** *07:14:14.7±0.8, 14°.82N×90°.74W, h194km±2km, mb3.3/9, mb1 3.6/11, mb1mx3.2/44, mbtmp3.9/11, Error ellipse: s-maj=27.5km s-min=12.8km az=61.0*

ISC 31 07:14:13.5±0.7, 14°.67N±0°.06×91°.12W±0°.05, h200km±6km, n62, σ1ᵎ19/74, mb4.0/15, 1C, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.34**	**129**	*e*P		**Pn**	07 14 40.5	+0.1
PCG	**Pacaya**	**0.56**	**119**	*e*P		**Pn**	07 14 41.6	+0.4
RTAL	**Retalhuleu**	**0.58**	**256**			**Pn**	07 14 40.5	-0.5
APG	**El Apazote**	**0.71**	**62**	P		**Pn**	07 14 41.5	-0.4
	31nm,0.3s,baz=254,slow=3.9,SNR=308							
APG				S		**S**	07 15 02.1	-1.7
	55nm,0.3s,baz=243,slow=20,SNR=47							
HUEH	**Huehuetenango**	**0.75**	**330**			**Pn**	07 14 41.8	-0.2
NBG	**Las Nubes**	**0.75**	**96**	*e*P		**Pn**	07 14 42.8	+0.7
IXG	**Ixpaco**	**0.82**	**127**	*e*P		**Pn**	07 14 42.7	+0.3
THIG		**1.14**	**282**			**Pn**	07 14 44.0	-0.2
THIG						**S**	07 15 08.1	+0.3
MRL	**Marmol**	**1.45**	**73**	↑P		**Pn**	07 14 47.6	+0.5
MTO3	**Montecristo**	**1.72**	**99**			**Pn**	07 14 49.1	-0.4
MTO3				Sn		**S**	07 15 17.3	+0.4
ESQI	**Esquipulas**	**1.72**	**93**			**Pn**	07 14 49.4	0.0
ESQI				Sn		**S**	07 15 16.8	0.0
CCIG	**Comitan**	**1.88**	**329**			**Pn**	07 14 51.3	+0.2
CCIG				Sn		**S**	07 15 19.6	-0.2
SNET	**Serv Nac Est T**	**2.07**	**118**	Pn		**Pn**	07 14 52.9	0.0
PCIG		**2.28**	**297**			**Pn**	07 14 54.9	-0.1
PETF	**Flores**	**2.54**	**28**			**Pn**	07 14 56.8	-1.1
PETF				Sn		**S**	07 15 32.7	+0.8
TGIG		**2.85**	**318**			**Pn**	07 15 01.0	-0.5
TGUH	**Tegucigalpa,Un**	**3.77**	**99**	Pn		**Pn**	07 15 12.3	-0.4
CMIG	**Matias Romero**	**4.35**	**304**	P		**Pn**	07 15 19.6	-0.1
	5.2nm,0.3s,baz=144,slow=9.8,SNR=158							
CMIG				S		**S**	07 16 05.3	-6.0
	16nm,0.3s,baz=156,slow=10,SNR=30							
CRIN	**San Cristobal**	**4.41**	**116**	Sn		**S**	07 16 13.3	+0.6
HUIG	**Huatulco**	**4.94**	**283**			**Pn**	07 15 26.5	-0.7
MATN	**Matagalpa**	**5.33**	**108**	Pn		**Pn**	07 15 32.9	+0.5
MATN				Sn		**S**	07 16 34.3	+0.3
BOAB	**BOACO BROADBAN**	**5.74**	**112**	Pn		**Pn**	07 15 37.6	+0.2
TEIG	**Tepich**	**6.16**	**26**	Pn		**Pn**	07 15 41.8	-1.1
ACON	**Acoyapa**	**6.38**	**114**	Pn		**Pn**	07 15 46.3	+0.6
ACON				Sn		**S**	07 16 58.4	-0.1
JTS	**Las Juntas de**	**7.43**	**125**	P		**Pn**	07 15 59.9	+0.5
	5.6nm,0.3s,baz=5.1,slow=15,SNR=23							
JTS				S		**S**	07 17 17.7	-5.8
	1.0nm,0.3s,baz=30,slow=20,SNR=1.7							
JTS	**Las Juntas de**	**7.43**	**125**	Pn		**Pn**	07 16 00.1	+0.7
JTS						**S**	07 17 23.9	+0.5
TLIG	**Tlapa**	**7.72**	**293**			**Pn**	07 16 04.1	+0.9
TLIG						**S**	07 17 30.2	-0.2
TIGA	**Tifton**	**18.06**	**21**			**Pn**	07 18 11.7	-0.5
TXAR	**Lajitas Array**	**18.64**	**324**	P		**Pn**	07 18 20.1	+0.9
	0.2nm,0.3s,baz=144,slow=11,SNR=20							
LRAL	**Lakeview Retre**	**18.67**	**11**	P		**P**	07 18 17.2	+0.7
LRAL				IAmb	IAmb		07 18 19.5	
	comp=Z,7.5nm,1.0s							
152A	**Waverly Hall**	**18.84**	**17**	P		**P**	07 18 18.9	+0.4
152A				IAmb	IAmb		07 18 20.8	
	comp=Z,7.2nm,0.7s							
WLAR	**White Oak Lake**	**19.02**	**355**	P		**P**	07 18 19.9	-0.5
154A	**Montrose**	**19.30**	**21**	P		**P**	07 18 23.8	+0.4
Z51A	**Franklin**	**19.34**	**15**	P		**P**	07 18 24.4	+0.7
Y49A	**Blount Mountai**	**19.58**	**12**	P		**P**	07 18 26.1	-0.2
Y49A				IAmb	IAmb		07 18 29.0	
	comp=Z,6.5nm,0.8s							
GOGA	**Godfrey**	**19.91**	**19**	P		**P**	07 18 29.0	-0.9
GOGA				IAmb	IAmb		07 18 33.5	
	comp=Z,7.2nm,0.6s							
MIAR	**Mount Ida**	**19.92**	**354**	P		**P**	07 18 30.0	+0.1
MIAR				IAmb	IAmb		07 18 33.6	
	comp=Z,5.2nm,0.8s							
Y52A	**Lilburn**	**20.15**	**17**	P		**P**	07 18 32.1	-0.4
Y52A				IAmb	IAmb		07 18 36.3	
	comp=Z,7.4nm,0.8s							
FPAL	**Fort Paine**	**20.40**	**13**	P		**P**	07 18 35.4	+0.2
W39A	**Magazine**	**20.58**	**354**	P		**P**	07 18 37.4	+0.3
SWET	**Sewanee**	**20.99**	**12**	P		**P**	07 18 41.2	-0.2
SWET				IAmb	IAmb		07 18 44.0	
	comp=Z,6.9nm,0.6s							
W50A	**Signal Mountai**	**21.10**	**13**	P		**P**	07 18 42.6	0.0
FCAR	**Ozark Folk Cen**	**21.15**	**358**	P		**P**	07 18 42.6	-0.5
Y57A	**Sumter**	**21.57**	**25**	P		**P**	07 18 48.1	+0.6
U40A	**Yellville**	**21.66**	**356**	P		**P**	07 18 48.5	+0.3
U40A				IAmb	IAmb		07 18 49.3	
	comp=Z,10nm,1.1s							
PAULI	**Pauline**	**21.75**	**21**	P		**P**	07 18 48.9	-0.3
PAULI				IAmb	IAmb		07 18 52.1	
	comp=Z,5.2nm,0.8s							
CLTN	**Cedars of Leba**	**21.76**	**11**	P		**P**	07 18 49.6	+0.3
CLTN				IAmb	IAmb		07 18 51.0	
	comp=Z,6.6nm,0.8s							
TKL	**Tuckaleechee C**	**21.92**	**16**	P		**P**	07 18 51.9	+1.0
	comp=Z,5.7nm,0.6s,baz=181,slow=10,SNR=17							
V53A	**Saluda**	**22.20**	**18**	P		**P**	07 18 54.2	+0.5
U49A	**Red Boiling Sp**	**22.27**	**11**	P		**P**	07 18 54.1	-0.1
U49A				IAmb	IAmb		07 18 55.6	
	comp=Z,16nm,1.4s							
WCI	**Wyandotte Cave**	**23.85**	**9**	P		**P**	07 19 08.6	+0.1
WCI				IAmb	IAmb		07 19 10.2	
	comp=Z,9.5nm,0.8s							
Q51A	**Peebles**	**25.21**	**14**	P		**P**	07 19 21.0	+0.2
Q51A				IAmb	IAmb		07 19 22.7	
	comp=Z,19nm,1.4s							
NVAR	**Mina Array Bea**	**33.70**	**320**	P		**P**	07 20 39.1	+3.1
	comp=Z,1.0nm,0.9s,baz=115,slow=6.7,SNR=5.7							
LPAZ	**La Paz**	**38.23**	**143**	P		**P**	07 21 16.3	+1.2
	comp=Z,0.8nm,0.7s,baz=317,slow=6.7,SNR=5.9							
SIV	**San Ignacio**	**42.53**	**135**	P		**P**	07 21 50.0	+0.3
	comp=Z,1.0nm,0.5s,baz=292,slow=11,SNR=8.9							
SCHQ	**Schefferville**	**44.30**	**20**	P		**P**	07 22 03.1	-0.2
	comp=Z,3.5nm,0.6s,baz=231,slow=7.0,SNR=8.2							
YKA	**Yellowknife Ar**	**50.58**	**346**	P		**P**	07 22 51.8	+0.3
	comp=Z,0.5nm,0.7s,baz=121,slow=8.3,SNR=5.0							
EKA	**Eskdalemuir Ar**	**76.93**	**36**	P		**P**	07 25 42.7	-1.0
	comp=Z,0.7nm,0.4s,baz=275,slow=5.8,SNR=10							
ESDC	**Sonseca Array**	**78.63**	**52**	P		**P**	07 25 52.6	-0.9
	comp=Z,0.3nm,0.6s,baz=279,slow=6.9,SNR=2.7							
NOA	**NORSAR Array B**	**83.15**	**29**	P		**P**	07 26 17.0	0.0
	comp=Z,0.3nm,0.6s,baz=284,slow=1.7,SNR=1.6							
WRA	**Warramunga Arr**	**136.38**	**256**	PKP		**PKiKP**	07 33 13.5	-0.5
	comp=Z,0.2nm,0.3s,baz=29,slow=0.8,SNR=9.8							
ASAR	**Alice Springs**	**136.69**	**251**	PKP		**PKiKP**	07 33 14.4	-0.1
	comp=Z,0.3nm,0.8s,baz=98,slow=2.4,SNR=4.3							

TUL ***31*** *07:20:19.8±1.4, 36°.62N±0°.01×98°.00W±0°.06, h5km±7km, ML3.4, Mwr3.4/32(NEIC), Error ellipse: s-maj=6.5km s-min=1.9km az=90.0*
NEIC ***31*** *07:20:19.8, 36°.62N×98°.00W, h3km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=0.50; Mθθ 1.32; Mφφ -0.82; Mrθ -0.13; Mrφ 0.56; Mθφ 1.10; Fault plane solution: M₀1.70000×10¹⁴ NP1:φ₁217.57000°, δ67.45000°, λ-146.39000°. NP2:φ₂113.28000°, δ59.26000°, λ-26.50000°. Principal axes: T 1.4745, Plg5.0000°, Azm344.0000°; N 0.3833, Plg50.0000°, Azm248.0000°; P -1.8578, Plg39.0000°, Azm78.0000°;*
NEIC ***31*** *07:20:20.2±1.2, 36°.60N±0°.02×97°.96W±0°.06, h2km±8km Error ellipse: s-maj=7.5km s-min=2.4km az=96.0*
ANF ***31*** *07:20:20.9±1.0, 36°.65N×97°.98W, h8km±7km, ML4.5/16, Error ellipse: s-maj=3.0km s-min=2.7km az=172.0*

ISC 31 07:20:20.7±0.8, 36°.60N±0°.02×97°.94W±0°.02, h11km±6km, n116, σ1ᵎ94/140, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CROK	**Carrier**	**0.10**	**200**			**Pg**	07 20 22.6	-0.8
CROK					Sg	**Sg**	07 20 24.6	-0.8
KAN10	**Anthony SW Sta**	**0.54**	**347**			**Pg**	07 20 30.1	-1.1
KAN10					Sg	**Sg**	07 20 37.4	-1.0
KAN13	**South Haven SW**	**0.56**	**42**			**Pg**	07 20 31.1	-0.5
KAN13					Sg	**Sg**	07 20 39.0	0.0
KAN12	**Harper NE Stat**	**0.70**	**356**			**Pg**	07 20 33.2	-1.1
U32A	**Winter Ranch,**	**0.88**	**256**			**Pg**	07 20 36.0	-1.7
U32A					Sg	**Sg**	07 20 46.7	-2.4
OK029	**Liberty Lake**	**0.89**	**154**			**Pg**	07 20 37.4	-0.4
BCOK	**Bluff Creek, N**	**0.98**	**164**			**Pg**	07 20 38.6	-0.9
BCOK					Sg	**Sg**	07 20 52.5	+0.3
ADOK	**Arcadia Dam**	**1.05**	**154**		Pg	**Pg**	07 20 39.1	-1.8
QUOK	**Quay**	**1.08**	**113**			**Pg**	07 20 41.0	-0.5
OK025	**Westminster Rd**	**1.13**	**154**			**Pg**	07 20 41.7	-0.7
T35A	**Sooner Cattle**	**1.19**	**74**	Pn		**Pg**	07 20 42.9	-0.7
OKCFA	**Oklahoma City**	**1.25**	**161**			**Pg**	07 20 43.3	-1.3
OKCSW	**OKLAHOMA CITY**	**1.26**	**161**			**Pn**	07 20 43.8	-0.4
FNO	**Franklin**	**1.41**	**162**			**Pn**	07 20 46.6	+0.4
TUL1	**Leonard**	**1.87**	**111**	P		**Pn**	07 20 53.9	+1.3
	baz=292							
TUL1				S		**Sb**	07 21 19.7	+1.5
	baz=292							
TUL1	**Leonard**	**1.87**	**111**			**Pn**	07 20 53.3	+0.7
R32A	**Long Quarter,**	**1.92**	**342**			**Pn**	07 20 53.7	+0.3
WMOK	**Wichita Mounta**	**1.98**	**200**	P		**Pn**	07 20 54.7	+0.6
	baz=19							
WMOK				S		**Sb**	07 21 21.4	+0.1
	baz=19							
WMOK	**Wichita Mounta**	**1.98**	**200**	Pn		**Pn**	07 20 54.2	+0.1
CBKS	**Cedar Bluff**	**2.63**	**328**	P		**Pn**	07 21 03.2	+0.1
	baz=148,SNR=14							
CBKS				S		**Sn**	07 21 36.4	+1.3
	baz=148							
CBKS	**Cedar Bluff**	**2.63**	**328**			**Pn**	07 21 03.2	+0.1
KSU1	**Kansas State U**	**2.71**	**22**	P		**Pn**	07 21 04.9	+0.7
	baz=204,SNR=28							
KSU1				Sb		**Sb**	07 21 43.3	+0.8
	baz=204							
KSU1	**Kansas State U**	**2.71**	**22**			**Pn**	07 21 05.0	+0.7
U38A	**Gravette**	**2.87**	**92**			**Pn**	07 21 07.6	+1.2
X37A	**Clayton**	**2.90**	**133**			**Pn**	07 21 08.0	+1.2
HHAR	**Hobbs**	**3.24**	**94**			**Pn**	07 21 12.4	+0.9
Z35A	**Perchaven, San**	**3.31**	**170**			**Pn**	07 21 13.2	+0.8
AMTX	**Amarillo**	**3.49**	**242**	Pb		**Pb**	07 21 22.4	-0.2
	baz=59							
AMTX				Sb		**Sg**	07 22 08.3	-4.4
	baz=59							
W39A	**Magazine**	**3.65**	**111**	Pn		**Pn**	07 21 18.2	+1.1
	baz=294							
W39A				Pb		**Pb**	07 21 26.4	+1.1
	baz=294,SNR=19							
W39A				Sb		**Sg**	07 22 16.7	-1.3
	baz=294							
W39A	**Magazine**	**3.65**	**111**			**Pn**	07 21 19.1	+2.0
S39A	**Bolivar**	**3.85**	**72**			**Pn**	07 21 20.5	+0.7
MIAR	**Mount Ida**	**4.11**	**119**	P		**Pn**	07 21 25.2	+1.8
	baz=301							
MIAR				Sb		**Sg**	07 22 30.3	-2.2
	baz=301							
MIAR	**Mount Ida**	**4.11**	**119**			**Pn**	07 21 24.5	+1.2
U40A	**Yellville**	**4.11**	**92**	Pn		**Pn**	07 21 24.6	+1.1
	baz=275,SNR=19							
U40A				Pb		**Pb**	07 21 33.9	+0.9
	baz=275							
U40A				S		**Sn**	07 22 12.1	+0.7
	baz=275							
U40A				Sb		**Sb**	07 22 27.7	+5.1
	baz=275							
U40A	**Yellville**	**4.11**	**92**	Pn		**Pn**	07 21 23.9	+0.5
Z38A	**Mt. Pleasant**	**4.12**	**143**	Pn		**Pn**	07 21 24.2	+0.6
ABTX	**Abilene, Hawle**	**4.20**	**200**	Sb		**Sg**	07 22 32.4	-3.3
	baz=18							
KSCO	**Kaye Shedlock'**	**4.42**	**304**	P		**Pn**	07 21 28.3	+0.4
	baz=122							
KSCO				S		**Sn**	07 22 19.7	+0.3
	baz=122							
KSCO	**Kaye Shedlock'**	**4.42**	**304**			**Pn**	07 21 28.5	+0.6
MGMO	**Mountain Grove**	**4.58**	**81**	Pn		**Pn**	07 21 31.0	+1.1
P38A	**Dawn**	**4.61**	**48**			**Pn**	07 21 31.5	+1.2
WHTX	**Lake Whitney,**	**4.61**	**175**	P		**Pn**	07 21 30.8	+0.5
	baz=355							
WHTX				Sb		**Sg**	07 22 44.1	-4.7
	baz=355							
WHTX	**Lake Whitney,**	**4.61**	**175**			**Pn**	07 21 31.0	+0.7
N35A	**Tabor**	**4.62**	**22**			**Pn**	07 21 31.3	+0.8
X40A	**Basin Creek Fa**	**4.67**	**115**	P		**Pn**	07 21 32.5	+1.4
	baz=298							
X40A				Sb		**Sg**	07 22 46.0	-4.5
	baz=298							
X40A	**Basin Creek Fa**	**4.67**	**115**			**Pn**	07 21 32.5	+1.4
FCAR	**Ozark Folk Cen**	**4.75**	**97**			**Pn**	07 21 34.8	+2.5
WHAR	**Windy Hollow**	**4.77**	**104**			**Pn**	07 21 34.2	+1.8
BGNE	**Belgrade**	**4.81**	**358**	P		**Pn**	07 21 34.0	+1.0
	baz=178							
BGNE	**Belgrade**	**4.81**	**358**			**Pn**	07 21 32.8	-0.3
R40A	**Maddies Statio**	**4.82**	**68**	Pn		**Pn**	07 21 33.7	+0.5
W41B	**Gary Mavity, V**	**4.84**	**105**	Sb		**Sb**	07 22 50.8	+7.2
	baz=289							
W41B	**Gary Mavity, V**	**4.84**	**105**			**Pn**	07 21 35.3	+1.9
UALR	**University of**	**4.91**	**110**			**Pn**	07 21 37.0	+2.6
WLAR	**White Oak Lake**	**4.91**	**125**			**Pn**	07 21 35.9	+1.5
237A	**Washetta, Mont**	**4.91**	**158**			**Pn**	07 21 34.9	+0.4
T25A	**Trinidad**	**5.21**	**278**	P		**Pn**	07 21 39.9	+1.0
	baz=94,SNR=8.8							
T25A				Sb		**Sb**	07 22 59.5	+4.8
	baz=94							
T25A	**Trinidad**	**5.21**	**278**	Pn		**Pn**	07 21 39.1	+0.3
Z41A	**Richland Creek**	**5.38**	**127**	S		**Sn**	07 22 41.5	-1.3
	baz=310							
OGNE	**Ogallala**	**5.39**	**325**	P		**Pn**	07 21 42.2	+1.1
	baz=143,SNR=7.5							
OGNE				S		**Sn**	07 22 43.9	+0.7
	baz=143							
OGNE	**Ogallala**	**5.39**	**325**	Pn		**Pn**	07 21 41.7	+0.6
P40A	**Paris**	**5.50**	**56**			**Pn**	07 21 43.6	+1.1
L34A	**Svendsen Farm,**	**5.50**	**12**	Pn		**Pn**	07 21 44.1	+1.6
LCAR	**Lake Charles**	**5.50**	**93**	Pn		**Pn**	07 21 44.3	+1.7
T42A	**Van Buren**	**5.51**	**83**			**Pn**	07 21 43.5	+0.8
CCM	**Cathedral Cave**	**5.53**	**73**	P		**Pn**	07 21 42.7	-0.2
	baz=257							
CCM	**Cathedral Cave**	**5.53**	**73**	Pn		**Pn**	07 21 43.1	+0.2
435B	**Jarrell**	**5.81**	**177**	P		**Pn**	07 21 46.7	0.0
	baz=357							
435B	**Jarrell**	**5.81**	**177**	Pn		**Pn**	07 21 46.7	0.0
K31A	**O'Neill**	**6.05**	**354**	Pn		**Pn**	07 21 51.2	+1.1
X43A	**Marvell**	**6.12**	**108**	Sb		**Sg**	07 23 32.7	-4.4
	baz=292							
SDCO	**Great Sand Dun**	**6.14**	**283**	P		**Pn**	07 21 52.9	+1.3
	baz=99							
SDCO	**Great Sand Dun**	**6.14**	**283**			**Pn**	07 21 52.6	+0.9
FVM	**French Village**	**6.15**	**75**			**Pn**	07 21 51.5	0.0
Q24A	**Divide**	**6.18**	**295**	P		**Pn**	07 21 53.3	+1.2
	baz=110							
Q24A	**Divide**	**6.18**	**295**	Pn		**Pn**	07 21 52.9	+0.7
JCT	**Junction City**	**6.30**	**195**	P		**Pn**	07 21 54.3	+0.8
	baz=13							
JCT	**Junction City**	**6.30**	**195**	Pn		**Pn**	07 21 54.4	+0.8
SCIA	**State Center**	**6.45**	**33**	P		**Pn**	07 21 56.4	+0.8
	baz=216,SNR=5.9							
SCIA				S		**Sn**	07 23 06.2	-2.9
	baz=216							
SCIA	**State Center**	**6.45**	**33**	Pn		**Pn**	07 21 56.2	+0.7
PARMO	**Parma**	**6.59**	**87**	Pn		**Pn**	07 21 59.5	+2.1
143A	**Socs Landing,**	**6.64**	**124**	Pn		**Pn**	07 21 59.9	+1.7
ISCO	**Idaho Springs**	**6.83**	**300**			**Pn**	07 22 00.8	-0.4
HICK	**Hickman**	**7.01**	**88**	Pn		**Pn**	07 22 04.5	+1.2
S44A	**Carbondale**	**7.03**	**78**	Pn		**Pn**	07 22 03.8	+0.4
ANMO	**Albuquerque**	**7.12**	**259**	Sb		**Sb**	07 23 57.5	+8.2
	baz=74							
ECSD	**EROS Data Cent**	**7.20**	**8**	P		**Pn**	07 22 05.2	-0.7
	baz=189							
ECSD	**EROS Data Cent**	**7.20**	**8**	Pn		**Pn**	07 22 06.7	+0.8
K38A	**Parkersburg**	**7.24**	**32**	Pn		**Pn**	07 22 07.7	+1.3
P43A	**Skaggs, Pawnee**	**7.30**	**63**	Pn		**Pn**	07 22 07.6	+0.4
Q44A	**Meyer Farm, Va**	**7.44**	**69**			**Pn**	07 22 09.0	-0.1
PHWY	**Pilot Hill**	**7.51**	**311**			**Pn**	07 22 10.3	0.0
L40A	**Anamosa**	**7.54**	**42**			**Pn**	07 22 10.6	0.0
N23A	**Red Feather La**	**7.58**	**307**	Pn		**Pn**	07 22 12.1	+0.8
HDIL	**Hopedale**	**7.84**	**57**	P		**Pn**	07 22 15.1	+0.4
	baz=242,SNR=17							
HDIL	**Hopedale**	**7.84**	**57**			**Pn**	07 22 15.1	+0.4
OLIL	**Olney**	**8.09**	**72**			**Pn**	07 22 18.0	-0.1
WVT	**Waverly**	**8.17**	**90**	Pn		**Pn**	07 22 19.8	+0.6
PLAL	**Pickwick Lake**	**8.18**	**98**	Pn		**Pn**	07 22 20.2	+0.9
L42A	**Oliver, Polo**	**8.38**	**47**	Pn		**Pn**	07 22 22.4	+0.3
JFWS	**Jewell Farm**	**8.65**	**41**	P		**Pn**	07 22 25.0	-0.8
	baz=226,SNR=8.0							
JFWS				S		**Sn**	07 23 58.2	-5.2
	baz=226							
JFWS	**Jewell Farm**	**8.65**	**41**	Pn		**Pn**	07 22 25.1	-0.7
T47A	**Sharon Grove**	**8.70**	**84**			**Pn**	07 22 27.1	+0.6
RSSD	**Black Hills**	**8.84**	**330**	P		**Pn**	07 22 29.5	+1.0
	baz=146							
RSSD				S		**Sn**	07 24 06.9	-1.2
	baz=146							
RSSD	**Black Hills**	**8.84**	**330**	Pn		**Pn**	07 22 29.6	+1.1
K22A	**Casper**	**8.96**	**315**	S		**Sn**	07 24 09.7	-1.5
	baz=130							
K22A	**Casper**	**8.96**	**315**			**Pn**	07 22 30.9	+0.7
P46A	**Rosedale**	**8.98**	**67**			**Pn**	07 22 30.9	+0.5
I40A	**Norwalk**	**9.19**	**35**			**Pn**	07 22 32.5	-0.6
BLO	**Bloomington**	**9.39**	**71**	Pn		**Pn**	07 22 36.3	+0.4
WCI	**Wyandotte Cave**	**9.41**	**77**	P		**Pn**	07 22 36.4	+0.2
	baz=264							
WCI	**Wyandotte Cave**	**9.41**	**77**	Pn		**Pn**	07 22 36.7	+0.5
SPMN	**Marine on St.**	**9.45**	**23**	S		**Sn**	07 24 19.1	-3.9
	baz=206							
L44A	**Lake County Fo**	**9.55**	**51**	S		**Sn**	07 24 21.1	-4.3
	baz=238							
U49A	**Red Boiling Sp**	**9.79**	**87**	Pn		**Pn**	07 22 42.5	+1.1
AGMN	**Agassiz Nation**	**11.79**	**7**	S		**Sn**	07 25 13.1	-7.3
	baz=188							

NNC 31 07:34:01.2±0.4, 50°.08N×78°.91E, h0km, mb3.5, mpv3.2, 17C-9D, Error ellipse: s-maj=10.8km s-min=2.3km az=67.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.57**	**334**	⇓P		Pg	07 34 12.1	0.0
KUR07				⇓S		Sg	07 34 20.7	+1.3
KUR14	**Kurchatov Arra**	**0.58**	**340**	⇑P		Pg	07 34 12.3	+0.1
KUR14				⇑S		Sg	07 34 21.0	+1.3
KUR06	**Kurchatov Arra**	**0.58**	**335**	⇑P		Pg	07 34 12.4	0.0
KUR06				⇑S		Sg	07 34 21.3	+1.5
KUR15	**Kurchatov Arra**	**0.59**	**338**	⇑P		Pg	07 34 12.6	+0.1
KUR15				⇑S		Sb	07 34 21.9	-1.4
KURBB	**Kurchatov Arra**	**0.60**	**336**	⇑P		Pg	07 34 12.7	+0.1
	11nm,0.3s							
KURBB				⇑S		Sg	07 34 21.5	+1.1
	44nm,0.6s							
KUR16	**Kurchatov Arra**	**0.61**	**335**	⇑P		Pg	07 34 12.8	-0.1
KUR16				⇑S		Sg	07 34 21.8	+1.0
KUR05	**Kurchatov Arra**	**0.61**	**338**	⇓P		Pg	07 34 12.8	-0.1
KUR05				⇓S		Sg	07 34 22.0	+1.0
KUR17	**Kurchatov Arra**	**0.62**	**334**	⇑P		Pg	07 34 13.0	-0.1
KUR17				⇑S		Sg	07 34 22.0	+0.8
KUR04	**Kurchatov Arra**	**0.63**	**339**	⇑P		Pg	07 34 13.2	0.0
KUR04				⇑S		Sg	07 34 22.3	+0.8
MAKZ	**Makanchi**	**3.86**	**147**	⇑Pn		Pn	07 35 02.0	+0.3
	0.6nm,0.5s							
MAKZ				⇓Pg		Pb	07 35 12.1	+2.0
MAKZ				⇓Lg		Lg	07 36 03.2	
	5.5nm,0.6s							
MK31	**Makanchi Array**	**3.98**	**144**	⇑Pn		Pn	07 35 04.0	+0.5
	0.1nm,0.1s,baz=324,slow=10,SNR=39							
MK31				⇓Pg		Pb	07 35 13.3	+1.1
	0.1nm,0.2s,baz=328,slow=13,SNR=16							
MK31				⇑Lg		Lg	07 36 07.4	
	4.1nm,0.5s,baz=329,slow=27,SNR=16							
**BR

	baz=301							
ENAH				*e*S		**Sg**	08 01 28.7	+1.4
	baz=301							
ENA	**Nanau**	**0.94**	**301**	*i* P		**Pg**	08 01 16.0	-0.2
	baz=298							
ENA				S		**Sg**	08 01 28.7	+0.2
	baz=298							
TWD	**Chiawan**	**0.95**	**278**	*e*S		**Sg**	08 01 27.9	-1.0
	baz=276							
TWC	**Suao**	**0.96**	**313**	P		**Pg**	08 01 15.9	-0.8
	baz=310							
TWC				*e*S		**Sg**	08 01 28.8	-0.6
	baz=310							
NACB	**Ninganchiao**	**0.97**	**284**	P		**Pg**	08 01 15.4	-1.3
	baz=270							
NACB				S		**Sg**	08 01 28.0	-1.5
	baz=270							
ETLH	**Xiulin Townshi**	**1.07**	**284**	P		**Pb**	08 01 17.4	-0.5
	baz=282							
ETLH				S		**Sb**	08 01 31.0	-0.5
	baz=282							
IRIF	**Iriomote-Funau**	**1.08**	**69**	P		**Pb**	08 01 17.8	-0.1
IRIF				S		**Sb**	08 01 31.8	+0.2
HATJ	**Hateruma jima**	**1.09**	**84**	P		**Pb**	08 01 18.4	+0.4
HATJ				*e*S		**Sb**	08 01 32.3	+0.5
EGFH	**Guangfu**	**1.13**	**256**	*e*P		**Pb**	08 01 18.7	0.0
	baz=254							
NTC	**Toucheng**	**1.16**	**321**	*e*P		**Pb**	08 01 19.6	+0.4
	baz=316							
ENTT	**Nioudou**	**1.19**	**306**	P		**Pn**	08 01 19.4	0.0
	baz=304							
ENTT				*e*S		**Sb**	08 01 35.8	+1.2
	baz=304							
HGSD	**Ruisui**	**1.19**	**248**	P		**Pn**	08 01 19.0	-0.4
	baz=246							
HGSD				*e*S		**Sb**	08 01 35.1	+0.4
	baz=246							
TWB1	**Santiao Chiao**	**1.20**	**331**	*e*P		**Pn**	08 01 19.4	-0.2
	baz=329							
NDT	**Datong Townshi**	**1.20**	**303**	P		**Pn**	08 01 20.0	+0.4
	baz=292							
NDT				S		**Sb**	08 01 35.1	-0.1
	baz=292							
NNSB	**Datong**	**1.23**	**293**	P		**Pn**	08 01 19.9	-0.1
	baz=291							
NNSB				*e*S		**Sb**	08 01 36.0	0.0
	baz=291							
NNSH	**Datong**	**1.23**	**293**	*i* P		**Pn**	08 01 20.0	-0.1
	baz=291							
NNSH				*e*S		**Sb**	08 01 35.3	-0.7
	baz=291							
NNS	**Nan Shan**	**1.24**	**293**	*e*S		**Sb**	08 01 36.1	-0.3
	baz=291							
TIPB	**Shuangxi**	**1.25**	**325**	P		**Pn**	08 01 19.4	-1.0
	baz=323							
TIPB				*e*S		**Sb**	08 01 35.2	-1.4
	baz=323							
WHF	**Hehuan Shan**	**1.26**	**279**	*i* P		**Pn**	08 01 20.1	-0.7
	baz=277							
WHF				S		**Sb**	08 01 36.0	-1.1
	baz=277							
EHY	**Hungye**	**1.27**	**250**	*i* P		**Pn**	08 01 19.9	-0.6
	baz=262							
EHY				S		**Sb**	08 01 36.6	-0.5
	baz=262							
JKRS	**Kuro-shima**	**1.30**	**77**	P		**Pn**	08 01 21.1	+0.2
JKRS				*e*S		**Sb**	08 01 37.3	-0.6
NWLT	**Wulai**	**1.31**	**309**	*e*P		**Pn**	08 01 20.2	-0.9
	baz=298							
NWLT				*e*S		**Sb**	08 01 36.9	-1.5
	baz=298							
CHGB	**Renai**	**1.33**	**275**	P		**Pn**	08 01 20.9	-0.7
	baz=273							
CHGB				S		**Sb**	08 01 37.5	-1.5
	baz=273							
YULB	**Yu-li**	**1.33**	**246**	P		**Pn**	08 01 21.3	-0.1
	baz=237							
YULB				S		**Sb**	08 01 38.3	-0.6
	baz=237							
YHNB	**Yeheng**	**1.34**	**302**	P		**Pn**	08 01 21.9	+0.3
	baz=290							
TWF1	**Yuli**	**1.35**	**244**	*i* P		**Pn**	08 01 22.0	+0.3
	baz=235							
TWF1				S		**Sb**	08 01 39.6	+0.1
	baz=235							
TWT	**Tachien**	**1.36**	**283**	*e*P		**Pn**	08 01 23.2	+1.4
	baz=272							
TWT				*e*S		**Sb**	08 01 38.7	-1.0
	baz=272							
NSK	**Sanguang**	**1.36**	**302**	*e*P		**Pn**	08 01 22.6	+0.7
	baz=290							
VWDT	**VWDT**	**1.37**	**262**	P		**Pn**	08 01 22.4	+0.5
	baz=261							
VWDT				S		**Sn**	08 01 39.0	-0.4
	baz=261							
TDCB	**Techi**	**1.37**	**283**	P		**Pn**	08 01 22.3	+0.2
	baz=272							
TDCB				*e*S		**Sb**	08 01 38.1	-2.0
	baz=272							
JIJ	**Ishigaki jima**	**1.45**	**73**	P		**Pn**	08 01 22.8	-0.2
JIJ				*e*S		**Sn**	08 01 40.2	-1.2
SSLB	**Suanglung**	**1.54**	**264**	P		**Pn**	08 01 23.6	-0.6
	baz=263							
SSLB				*e*S		**Sn**	08 01 43.3	-0.3
	baz=263							
EDH	**Donghe**	**1.55**	**232**	P		**Pn**	08 01 23.6	-0.8
	baz=224							
EDH				S		**Sn**	08 01 41.6	-2.3
	baz=224							
WHP	**Taichung City**	**1.57**	**282**	P		**Pn**	08 01 25.6	+0.9
	baz=281							
WHP				*e*S		**Sn**	08 01 44.6	+0.1
	baz=281							
SMLT	**Sun Moon Lake**	**1.58**	**268**	*i* P		**Pn**	08 01 25.8	+1.0
	baz=267							
SMLT				*e*S		**Sn**	08 01 45.0	+0.3
	baz=267							
TYC	**Yuchr**	**1.62**	**269**	*i* P		**Pn**	08 01 26.1	+0.8
	baz=268							
TYC				*e*S		**Sn**	08 01 45.7	+0.1
	baz=268							
LIOB	**Emei**	**1.62**	**296**	*e*P		**Pn**	08 01 26.3	+0.9
	baz=295							
LIOB				*e*S		**Sn**	08 01 46.3	+0.5
	baz=295							
NSTT	**Nanjuang**	**1.63**	**295**	*e*S		**Sn**	08 01 46.6	+0.7
	baz=294							
LDUT	**Ludao**	**1.65**	**220**	P		**Pn**	08 01 25.2	-0.6
	baz=219							
LDUT				*e*S		**Sn**	08 01 44.7	-1.8
	baz=219							
ELDTW	**Lidau**	**1.66**	**243**	*i* P		**Pn**	08 01 25.9	-0.1
	baz=242							
ELDTW				*e*S		**Sn**	08 01 46.3	-0.4
	baz=242							
JISG	**Ishigakijimahi**	**1.67**	**67**	*e*S		**Sn**	08 01 44.9	-1.9
ALS	**Alishan**	**1.72**	**256**	*i* P		**Pn**	08 01 28.0	+1.0
	baz=255							
ALS				*e*S		**Sn**	08 01 49.0	+0.4
	baz=255							
WJS	**Zhushan**	**1.74**	**266**	*e*P		**Pn**	08 01 29.0	+2.0
	baz=265							
WJS				S		**Sn**	08 01 51.6	+3.0
	baz=265							
CHN5	**Tsauling**	**1.82**	**259**	*e*S		**Sn**	08 01 51.9	+1.3
	baz=252							
WDLH	**Douliu**	**1.93**	**263**	*e*P		**Pn**	08 01 31.4	+1.9
	baz=262							
WDLH				S		**Sn**	08 01 55.6	+2.4
	baz=262							
TPUB	**Ta-pu**	**1.94**	**251**	P		**Pn**	08 01 31.0	+1.3
	baz=242							
TPUB				S		**Sn**	08 01 55.3	+1.7
	baz=242							
WTP	**Ta-pu**	**1.97**	**250**	P		**Pn**	08 01 32.3	+2.0
	baz=241							
WTP				S		**Sn**	08 01 57.0	+2.6
	baz=241							
JTJ	**Tarama**	**2.02**	**70**	P		**Pn**	08 01 31.3	+0.5
JTJ				*e*S		**Sn**	08 01 55.2	-0.3
SLGT	**Liugui**	**2.05**	**243**	P		**Pn**	08 01 31.9	+0.7
	baz=235							
SLGT				*e*S		**Sn**	08 01 57.8	+1.5
	baz=235							
CHN1	**Nanshi**	**2.07**	**249**	*i* P		**Pn**	08 01 34.1	+2.6
	baz=248							
CHN1				S		**Sn**	08 01 59.6	+2.8
	baz=248							
SNST	**Tainan City**	**2.08**	**250**	*e*P		**Pn**	08 01 32.8	+1.1
	baz=249							
SNST				*e*S		**Sn**	08 01 59.9	+2.8
	baz=249							
WDGT	**Dungji**	**2.80**	**256**	P		**Pn**	08 01 42.8	+1.2
	baz=256							
WDGT				*e*S		**Sn**	08 02 15.6	+0.8
	baz=256							

*NEIC **31** 08:10:54, 65.˚14N×148.˚98W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.28; $M_{\theta\theta}$=3.56; $M_{\phi\phi}$=3.84; $M_{r\theta}$=1.49; $M_{\theta\phi}$=-2.23; $M_{r\phi}$=0.62; Fault plane solution: M_0=4.62000×10^{14} NP1:ϕ_s301.22000°, δ74.39000°, λ-167.60000°. NP2:ϕ_s207.83000°, δ78.06000°, λ-15.96000°. Principal axes: T 4.4681, Plg3.0000°, Azm255.0000°; N 0.2854, Plg70.0000°, Azm352.0000°; P -4.7536, Plg20.0000°, Azm164.0000°;*

*NEIC **31** 08:10:55.2±1.5, 65.˚15N±0.˚03×148.˚99W±0.˚06, h18km±4km Error ellipse: s-maj=5.1km s-min=3.1km az=210.0*

AEIC 31 08:10:54.9±1.7, 65.˚14N±0.˚02×148.˚98W±0.˚05, h19km±5km, ML3.5, Mwr3.7/32(NEIC), **Error ellipse: s-maj=3.4km s-min=2.6km az=65.0, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PS07	**TAPS Pump Stn7**	**0.34**	**60**		Pg	08 11 02.0	-0.1
PS07					Sb	08 11 08.8	+1.4
MDM	**Murphy Dome**	**0.37**	**120**		Pg	08 11 02.6	-0.1
MDM				Sg	Sg	08 11 07.5	-0.4
TCOL	**CIGO, UAF Yank**	**0.55**	**119**		Pb	08 11 05.6	-0.1
TCOL					Sg	08 11 13.2	0.0
COLA	**College**	**0.55**	**119**		Pb	08 11 05.6	-0.1
COLA					Sb	08 11 12.9	-0.3
NEA2	**Nenana**	**0.56**	**184**		Pb	08 11 05.8	-0.1
POKR	**Poker Plat Res**	**0.65**	**92**		Pb	08 11 07.2	-0.4
CCB	**Clear Creek Bu**	**0.71**	**134**		Pg	08 11 08.8	+0.1
MLY	**Manley**	**0.76**	**262**		Pb	08 11 09.3	-0.1
MLY					Sg	08 11 19.9	+0.2
WRH	**Wood River Hil**	**0.78**	**150**		Pg	08 11 10.0	0.0
PS06	**TAPS Pump Stn6**	**0.78**	**336**		Pg	08 11 10.2	+0.1
IL31		**0.96**	**112**		Pb	08 11 13.0	+0.1
ILAR	**Eielson Array**	**0.96**	**112**		Pb	08 11 13.1	+0.2
BWN	**Browne**	**1.00**	**192**		Pb	08 11 13.3	-0.2
BWN					Sb	08 11 26.6	+0.4
PS08	**TAPS Pump Stn8**	**1.10**	**122**		Pn	08 11 15.1	-0.1
HDA	**Harding Lake**	**1.14**	**129**		Pn	08 11 15.4	-0.4
HDA					Sn	08 11 31.1	+0.2
BPAW	**Bear Paw Mtn.**	**1.36**	**220**		Pn	08 11 18.6	-0.2
MCK	**McKinley**	**1.42**	**179**		Pn	08 11 19.6	0.0
RND	**Reindeer**	**1.75**	**178**		Pn	08 11 24.4	+0.2
TRF	**Thorofare Moun**	**1.79**	**199**		Pn	08 11 24.9	0.0
KTH	**Kantishna Hill**	**1.81**	**209**		Pn	08 11 24.7	-0.4
PS05	**TAPS Pump Stn5**	**1.81**	**338**		Pn	08 11 25.1	+0.1
CHUM	**Lake Minchumin**	**1.92**	**230**		Pn	08 11 26.1	-0.4
COLD	**Coldfoot**	**2.15**	**347**	Pn	Pn	08 11 30.1	+0.4
IM03		**2.16**	**295**		Pn	08 11 29.8	+0.1
IMAR	**Indian Mountai**	**2.16**	**295**		Pn	08 11 29.5	-0.2
DHY	**Denali Highway**	**2.19**	**161**		Pn	08 11 31.0	+0.6
HUR	**Hurricane**	**2.19**	**188**		Pn	08 11 31.2	+1.0
WAT2	**Susitna Watana**	**2.20**	**175**		Pn	08 11 31.3	+0.9
RIDG	**Independent Ri**	**2.28**	**126**		Pn	08 11 31.2	-0.3
WAT7	**Susitna Watana**	**2.32**	**179**		Pn	08 11 33.3	+1.2
WAT1	**Susitna Watana**	**2.33**	**175**		Pn	08 11 33.1	+0.9
SCRK	**Sand Creek**	**2.45**	**116**		Pn	08 11 33.4	-0.5
DOT	**Dot Lake**	**2.61**	**123**		Pn	08 11 35.3	-0.7
PPLA	**Purkeypile**	**2.66**	**214**		Pn	08 11 36.7	-0.1
PAX	**Paxson**	**2.67**	**143**		Pn	08 11 37.6	+0.6
CUT	**Chulitna**	**2.81**	**192**		Pn	08 11 39.7	+1.0
BM03	**Burnt Mountain**	**2.89**	**36**		Pn	08 11 39.8	0.0
BMAR	**Burnt Mountain**	**2.90**	**36**		Pn	08 11 39.9	-0.1
MENT	**Mentasta**	**3.20**	**131**		Pn	08 11 45.3	+1.2
PS04	**TAPS Pump Stn4**	**3.30**	**358**		Pn	08 11 46.2	+0.7
EGAK	**Eagle**	**3.35**	**93**		Pn	08 11 46.7	+0.6
SML	**Sawmill**	**3.36**	**175**		Pn	08 11 46.6	+0.3
SKT	**Skwentna**	**3.38**	**201**		Pn	08 11 47.2	+0.7
GHO	**Glory Hole Cre**	**3.38**	**180**		Pn	08 11 47.1	+0.4
SCM	**Sheep Creek Mo**	**3.41**	**167**		Pn	08 11 47.6	+0.7
TOLK	**Toolik Lake Re**	**3.52**	**356**		Pn	08 11 50.3	+1.8
PMR	**Palmer**	**3.57**	**181**		Pn	08 11 49.9	+0.8
KNK	**Knik Glacier**	**3.75**	**176**		Pn	08 11 52.3	+0.6
SUA	**Susitna One**	**3.78**	**193**		Pn	08 11 53.4	+1.2
BC03		**3.78**	**120**		Pn	08 11 51.0	-1.0
BCAR	**Beaver Creek A**	**3.78**	**120**		Pn	08 11 51.0	-1.1
TTA	**Tatalina**	**3.81**	**238**		Pn	08 11 51.8	-0.7
STLK	**Strandline Lak**	**3.88**	**201**		Pn	08 11 54.5	+1.0
KLU	**Klutina**	**3.92**	**158**		Pn	08 11 55.5	+1.6
SPCG	**Spurr Capps Gl**	**4.11**	**201**		Pn	08 11 57.5	+0.9
SPKN	**North Nagishla**	**4.15**	**206**		Pn	08 11 58.3	+1.0
JPK	**Jack Peak**	**4.25**	**164**		Pn	08 11 59.4	+0.9
DIV	**Divide**	**4.28**	**159**		Pn	08 12 00.5	+1.5
GLI	**Glacier Island**	**4.37**	**168**		Pn	08 12 01.8	+1.7
GLB	**Gilahina Butte**	**4.39**	**146**		Pn	08 12 01.3	+0.8
BVCY	**Beaver Creek**	**4.52**	**124**		Pn	08 12 02.5	+0.2
FID	**Port Fidalgo**	**4.56**	**164**		Pn	08 12 04.2	+1.5
MCARA	**McCarthy VSAT**	**4.63**	**142**		Pn	08 12 04.8	+1.0
BMRM	**Bremner River**	**4.64**	**153**		Pn	08 12 04.5	+0.7
VRDI	**Verde Repeater**	**4.66**	**145**		Pn	08 12 04.6	+0.3
YUK1	**Sand Pete Hill**	**4.81**	**125**		Pn	08 12 05.7	-0.7
EYAK	**Cordova Ski Ar**	**4.84**	**161**		Pn	08 12 08.2	+1.6
HIN	**Hinchinbrook I**	**4.90**	**165**		Pn	08 12 09.2	+1.7
PTPK	**Patty Peak**	**4.95**	**140**		Pn	08 12 09.4	+1.2
YUK2	**White River**	**4.96**	**129**		Pn	08 12 09.2	+0.8
GOAT	**Goat Mountain**	**4.98**	**155**		Pn	08 12 09.6	+1.0
RSO	**Redoubt South**	**5.01**	**202**		Pn	08 12 10.5	+1.4
SVW2	**Sparrevohn**	**5.05**	**219**		Pn	08 12 10.3	+0.9
SEW	**Sewad**	**5.06**	**183**		Pn	08 12 11.4	+1.8
YUK3	**Moose Creek**	**5.10**	**128**		Pn	08 12 11.0	+0.7
BALM	**Baldy**	**5.11**	**141**		Pn	08 12 12.1	+1.8
CRQM	**Cirque**	**5.14**	**146**		Pn	08 12 10.8	-0.2
EPYK	**Eagle Plains**	**5.20**	**71**		Pn	08 12 12.0	+0.5
BRLK	**Bradley Lake**	**5.47**	**190**		Pn	08 12 16.8	+1.5
BRSE	**Bradley Lake S**	**5.48**	**189**		Pn	08 12 16.4	+0.9
BARK	**Barkley Ridge**	**5.61**	**145**		Pn	08 12 18.1	+0.9
CNPM	**China Poot**	**5.74**	**192**		Pn	08 12 18.4	-0.5

*NEIC **31** 08:16:18.7±2.1, 18.˚1N±0.˚3×68.˚29W±0.˚06, h93km±25km, Error ellipse: s-maj=43.7km s-min=5.7km az=188.0*
*RSPR **31** 08:16:19.4, 18.˚09N×68.˚34W, h77km±3km, MD3.4/17*
*OSPL **31** 08:16:22.7±2.0, 18.˚28N×68.˚23W, h70km, ML2.7*

ISC 31 08:16:20.6±1.3, 18.˚2N±0.˚2×68.˚25W±0.˚04, h73km±11km, n51, σ1s12/64, 16C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.33**	**338**	⇑*e*P	**Pn**	**08 16 31.6**	**-0.7**
PCDR	**Punta Cana, DR**	**0.33**	**338**	*e*S	**Sn**	**08 16 41.5**	**+0.6**
PCDR	**Punta Cana, DR**	**0.33**	**338**	*i* P	**Pn**	**08 16 31.6**	**-0.7**
PCDR				*e*S	**Sn**	**08 16 40.8**	**0.0**
PCDR				IAML		08 16 42.9	
	comp=Z,270nm,0.6s						
PCDR	**Punta Cana, DR**	**0.33**	**338**		**Pn**	**08 16 31.7**	**-0.7**
PCDR				Sn	**Sn**	**08 16 41.7**	**+0.8**
MPR	**Mayaguez**	**1.05**	**90**		**Pn**	**08 16 40.2**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.10**	**100**	⇑*e*P	**Pn**	**08 16 39.7**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.10**	**100**		**Pn**	**08 16 39.6**	**-0.8**
LSP	**Las Mesas**	**1.11**	**92**	⇑*e*P	**Pn**	**08 16 41.1**	**+0.5**
LSP	**Las Mesas**	**1.11**	**92**		**Pn**	**08 16 41.1**	**+0.5**
AGPR	**Aguadilla, PR**	**1.11**	**77**	⇑*e*P	**Pn**	**08 16 40.4**	**-0.2**
AGPR	**Aguadilla, PR**	**1.11**	**77**	*e*S	**Sn**	**08 16 56.7**	**+1.1**
AGPR	**Aguadilla, PR**	**1.11**	**77**	*i* P	**Pn**	**08 16 40.6**	**0.0**
AGPR				*e*S	**Sn**	**08 16 55.8**	**+0.2**
AGPR				IAML		08 17 03.0	
	comp=Z,150nm,0.2s						
AGPR	**Aguadilla, PR**	**1.11**	**77**		**Pn**	**08 16 40.6**	**0.0**
AGPR					**Sn**	**08 16 57.3**	**+1.7**
MLPR	**Magueyes Islan**	**1.17**	**102**	⇑*e*P	**Pn**	**08 16 40.4**	**-1.0**
MLPR	**Magueyes Islan**	**1.17**	**102**		**Pn**	**08 16 40.5**	**-1.0**
DR12	**Loma Pena Alta**	**1.22**	**298**		**Pn**	**08 16 40.8**	**-1.2**
DR12				Sn	**Sn**	**08 16 57.1**	**-1.0**
AOPR	**Arecibo Observ**	**1.43**	**84**	⇑*e*P	**Pn**	**08 16 44.8**	**+0.1**
AOPR	**Arecibo Observ**	**1.43**	**84**	*e*S	**Sn**	**08 17 04.0**	**+1.1**
AOPR	**Arecibo Observ**	**1.43**	**84**		**Pn**	**08 16 44.8**	**+0.1**
AOPR				Sn	**Sn**	**08 17 04.4**	**+1.5**
OBIP	**Obispado Ponce**	**1.57**	**96**	⇑*e*P	**Pn**	**08 16 44.7**	**-1.8**
OBIP	**Obispado Ponce**	**1.57**	**96**		**Pn**	**08 16 44.8**	**-1.8**
CELP	**Cerrillos**	**1.59**	**95**	⇑*e*P	**Pn**	**08 16 46.0**	**-0.9**
CELP	**Cerrillos**	**1.59**	**95**		**Pn**	**08 16 46.0**	**-0.9**
SDD	**Santo Domingo**	**1.60**	**279**	*i* P	**Pn**	**08 16 47.8**	**+0.8**
SDD				IAML		08 17 12.2	
	comp=Z,18nm,0.4s						
SDD	**Santo Domingo**	**1.60**	**279**	Pn	**Pn**	**08 16 47.0**	**0.0**
EMPR	**Esperanza - Ma**	**1.66**	**81**	⇑*e*P	**Pn**	**08 16 47.5**	**-0.2**
EMPR	**Esperanza - Ma**	**1.66**	**81**	*e*S	**Sn**	**08 17 09.5**	**+1.2**
EMPR	**Esperanza - Ma**	**1.66**	**81**		**Pn**	**08 16 47.7**	**0.0**
BANI	**BANI**	**2.01**	**275**	Pn	**Pn**	**08 16 54.2**	**+1.7**
IGPR	**InterUniversit**	**2.05**	**96**	⇑*e*P	**Pn**	**08 16 52.4**	**-0.6**
GCPR	**Guaynabo City**	**2.06**	**87**		**Pn**	**08 16 52.6**	**-0.6**
GCPR					**Sn**	**08 17 17.8**	**-0.2**
PDPR	**Patillas Dam,**	**2.13**	**95**	⇑*e*P	**Pn**	**08 16 53.7**	**-0.3**
PDPR	**Patillas Dam,**	**2.13**	**95**	*e*S	**Sn**	**08 17 20.7**	**+1.2**
PDPR	**Patillas Dam,**	**2.13**	**95**		**Pn**	**08 16 53.1**	**-0.9**
PDPR					**Sn**	**08 17 22.2**	**+2.6**
CBYP	**Canovanas**	**2.28**	**88**	⇑*e*P	**Pn**	**08 16 55.7**	**-0.3**
CBYP	**Canovanas**	**2.28**	**88**	*e*S	**Sn**	**08 17 22.4**	**-0.8**
CBYP	**Canovanas**	**2.28**	**88**		**Pn**	**08 16 55.8**	**-0.3**
CBYP					**Sn**	**08 17 24.3**	**+1.1**
HUMP	**Col San Antoni**	**2.28**	**91**	⇑*e*P	**Pn**	**08 16 56.2**	**+0.1**
HUMP	**Col San Antoni**	**2.28**	**91**	*e*S	**Sn**	**08 17 24.2**	**+1.0**
HUMP	**Col San Antoni**	**2.28**	**91**		**Pn**	**08 16 56.3**	**+0.1**
HUMP					**Sn**	**08 17 24.3**	**+1.0**
MTP	**Monte Pirata**	**2.57**	**92**	⇑*e*P	**Pn**	**08 17 00.6**	**+0.6**
MTP	**Monte Pirata**	**2.57**	**92**		**Pn**	**08 17 00.2**	**+0.3**
CUPR	**Culebra, Puert**	**2.82**	**88**	⇑*e*P	**Pn**	**08 17 02.1**	**-1.2**
CUPR	**Culebra, Puert**	**2.82**	**88**	*e*S	**Sn**	**08 17 35.5**	**-0.9**
CUPR	**Culebra, Puert**	**2.82**	**88**	Pn	**Pn**	**08 17 02.6**	**-0.8**
CUPR					**Sn**	**08 17 35.6**	**-0.7**
SDDR	**Presa de Saban**	**2.98**	**285**	*i* P	**Pn**	**08 17 07.9**	**+2.3**
SDDR				IAML		08 17 49.8	
	comp=Z,24nm,0.4s						
SDDR	**Presa de Saban**	**2.98**	**285**		**Pn**	**08 17 07.5**	**+1.9**
SDDR					**Sn**	**08 17 36.7**	**-3.7**
STVI	**Saint Thomas**	**3.13**	**87**	⇑*e*P	**Pn**	**08 17 06.9**	**-0.7**
STVI	**Saint Thomas**	**3.13**	**87**	*e*S	**Sn**	**08 17 42.6**	**-1.3**
STVI	**Saint Thomas**	**3.13**	**87**		**Pn**	**08 17 06.7**	**-0.9**
STVI					**Sn**	**08 17 43.0**	**-1.0**
CDVI	**St. Croix**	**3.35**	**97**	Pn	**Pn**	**08 17 09.2**	**-1.3**

*NNC **31** 08:24:09.6±2.0, 40.˚73N×74.˚26E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=15.2km s-min=7.5km az=174.0*
*SOME **31** 08:24:09.4, 40.˚75N×74.˚27E, h5km*
*KRNET **31** 08:24:12.7±0.1, 40.˚93N×74.˚31E, h6km, mb2.0*

ISC 31 08:24:12.0±1.8, 40.˚87N±0.˚07×74.˚39E±0.˚05, h11km±13km, n13, σ1s24/21, 11C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.99**	**357**	⇓*i*P	**Pg**	**08 24 30.9**	**-0.2**
	baz=1.0						
ARLS				⇓*i*S	**Sg**	**08 24 44.3**	**+0.2**
	baz=1.0						
OHH	**Osh**	**1.26**	**255**	⇑*i*P	**Pg**	**08 24 36.1**	**-0.2**
	baz=51						
OHH				⇑*i*S	**Sn**	**08 24 53.7**	**+1.0**
	baz=51						
UCH	**Uchtor**	**1.36**	**4**	⇑*i*P	**Pn**	**08 24 37.5**	**+0.1**
	baz=7.0						
UCH				⇑*i*S	**Sg**	**08 24 56.6**	**+0.7**
	baz=7.0						
AML	**Almayashu**	**1.36**	**338**	⇑*i*P	**Pn**	**08 24 36.5**	**-0.9**
	baz=39						
AML				⇑*i*S	**Sb**	**08 24 55.3**	**-0.1**
	baz=39						
KZA	**Kyzart**	**1.37**	**28**	⇑*i*P	**Pg**	**08 24 38.0**	**-0.4**
	baz=31						
KZA				⇑*i*S	**Sg**	**08 24 57.6**	**+1.4**
	baz=31						
MRKS	**Merke**	**2.06**	**336**	*e*P	**Pb**	**08 24 49.6**	**0.0**
	4.7nm,0.2s						
MRKS				*e*S	**Sg**	**08 25 19.2**	**+0.8**
	2.4nm,0.2s						
MRKS	**Merke**	**2.06**	**336**	Pg	**Pb**	**08 24 49.6**	**0.0**
	4.7nm,0.2s						
MRKS				Lg	Lg	08 25 19.2	
	2.4nm,0.2s						
TKM2	**Tokmak 2**	**2.24**	**23**	⇑Pg	**Pb**	**08 24 53.6**	**+0.9**
	1.1nm,0.9s						
TKM2				⇑Lg	Lg	08 25 24.8	
	1.8nm,0.5s						
KST	**Kastek**	**2.47**	**28**	*e*P	**Pg**	**08 24 58.0**	**-1.4**
	1.5nm,0.2s						
KST				*e*S	**Sg**	**08 25 33.5**	**+2.2**
	2.8nm,0.2s						
KST	**Kastek**	**2.47**	**28**	Pg	**Pg**	**08 24 58.0**	**-1.4**
	1.5nm,0.2s						
KST				Lg	Lg	08 25 33.5	
	2.8nm,0.2s						
TNSS	**Tian-Shan**	**2.89**	**41**	*e*P

	1.0nm,0.8s,baz=88,slow=9.8,SNR=6.2							
WRA	**Warramunga Arr**	**56.23**	**186**	P	**P**	**08 44 17.1**	**-1.2**	
	0.3nm,0.8s,baz=2.4,slow=7.4,SNR=8.3							
ASAR	**Alice Springs**	**59.96**	**186**	P	**P**	**08 44 44.8**	**+0.5**	
	0.3nm,0.9s,baz=2.9,slow=5.6,SNR=2.3							
NOA	**NORSAR Array B**	**74.36**	**337**	P	**P**	**08 46 15.0**	**-0.1**	
	0.6nm,0.8s,baz=27,slow=8.5,SNR=3.4							

IDC ***31*** *08:36:33.3±7.0, 19°.27S×176°.51W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.4/31, mbtmp3.6/2, Error ellipse: s-maj=304.4km s-min=110.8km az=153.0*

NEIC ***31*** *08:36:42.5±1.0, 19°.2S±0°.2×176°.67W±0°.05, h69km±13km, mb4.4/6, Error ellipse: s-maj=28.0km s-min=4.2km az=169.0*

ISC 31 08:36:39.3±1.0, 19°.5S±0°.1×176°.62W±0°.09, h35km, n12, σ0^{9}90/14, mb4.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.34**	**288**	Pn	**Pn**	**08 37 57.6**	**+1.0**
MSVF				Sn	**Sn**	**08 38 57.2**	**+0.2**
AFI	**Afiamalu**	**7.21**	**41**	Pn	**Pn**	**08 38 23.1**	**+0.8**
AFI				Sn	**Sn**	**08 39 42.2**	**-0.8**
WR0	**Warramunga Arr**	**45.85**	**261**	P	**P**	**08 44 57.8**	**-0.6**
WR0				IAmb	IAmb	08 45 03.1	
	comp=Z,10.0nm,1.6s						
WB0	**Warramunga Arr**	**46.02**	**261**	P	**P**	**08 44 58.9**	**-0.9**
ASAR	**Alice Springs**	**46.03**	**256**	P	**P**	**08 45 00.2**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=94,slow=8.2,SNR=11						
WB2	**Warramunga Arr**	**46.03**	**261**	P	**P**	**08 44 59.9**	**+0.1**
WRAB	**Tennant Creek**	**46.03**	**261**	P	**P**	**08 44 59.6**	**-0.3**
WRAB				IAmb	IAmb	08 45 13.9	
	comp=Z,10nm,1.6s						
WRA	**Warramunga Arr**	**46.04**	**261**	P	**P**	**08 44 60.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=96,slow=7.4,SNR=21						
WRA	**Warramunga Arr**	**46.04**	**261**	P	**P**	**08 45 00.0**	**0.0**
MBWA	**Marble Bar**	**59.35**	**256**	P	**P**	**08 46 36.6**	**-1.8**
QSPA	**South Pole Qui**	**70.61**	**180**	P	**P**	**08 47 52.1**	**+1.1**
QSPA				IAmb	IAmb	08 48 08.5	
	comp=Z,4.9nm,1.6s						
AKASG	**Malin Array Be**	**142.71**	**333**	PKP	**PKPdf**	**08 56 07.8**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=42,slow=3.6,SNR=4.2						

NEIC ***31*** *08:53:37.0±1.1, 14°.22N±0°.09×92°.65W±0°.07, h52km±13km, Error ellipse: s-maj=14.1km s-min=7.4km az=209.0*

MEX ***31*** *08:53:37.2±0.6, 14°.29N×92°.62W, h70km±21km, MD3.9*

GCG ***31*** *08:53:39.1±0.7, 15°.91N×91°.34W, h117km±151km, MD4.0*

ISC 31 08:53:35.9±1.9, 14°.20N±0°.09×92°.74W±0°.07, h43km±22km, n25, σ1^{8}28/37, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.84**	**33**	*i* P	**Pn**	**08 53 50.5**	**-0.8**
THIG				*i* S	**Sn**	**08 54 01.7**	**-0.8**
THIG		**0.84**	**33**		**Pn**	**08 53 50.7**	**-0.6**
RTAL	**Retalhuleu**	**1.06**	**72**	Pn	**Pn**	**08 53 54.6**	**+0.2**
RTAL				Sn	**Sn**	**08 54 07.3**	**-0.7**
PCIG		**1.56**	**343**	*e*P	**Pn**	**08 54 01.1**	**0.0**
PCIG				*i* S	**Sn**	**08 54 19.5**	**-0.7**
PCIG		**1.56**	**343**		**Pn**	**08 54 01.2**	**0.0**
HUEH	**Huehuetenango**	**1.63**	**47**		**Pn**	**08 54 03.7**	**+1.3**
HUEH				Sn	**Sn**	**08 54 20.9**	**-1.5**
FUG	**Fuego 3**	**1.86**	**82**	*e*P	**Pn**	**08 54 07.0**	**+1.6**
FUG				*e*S	**Sn**	**08 54 29.8**	**+2.0**
PCG	**Pacaya**	**2.08**	**85**	*e*P	**Pn**	**08 54 08.4**	**+0.9**
CCIG	**Comitan**	**2.15**	**16**	*e*P	**Pn**	**08 54 11.8**	**+2.4**
CCIG				*e*S	**Sn**	**08 54 37.2**	**+2.3**
CCIG	**Comitan**	**2.15**	**16**		**Pn**	**08 54 12.0**	**+2.6**
CCIG				Sn	**Sn**	**08 54 36.0**	**+1.1**
IXG	**Ixpaco**	**2.23**	**91**	*e*P	**Pn**	**08 54 12.9**	**+2.3**
IXG				*e*S	**Sn**	**08 54 38.3**	**+1.4**
TGIG		**2.59**	**352**	*e*P	**Pn**	**08 54 16.7**	**+1.3**
TGIG				*i* S	**Sn**	**08 54 43.8**	**-1.8**
TGIG		**2.59**	**352**		**Pn**	**08 54 16.7**	**+1.3**
TGIG					**Sn**	**08 54 45.9**	**+0.3**
MTO3	**Montecristo**	**3.28**	**86**	Pn	**Pn**	**08 54 25.3**	**+0.2**
ESQI	**Esquipulas**	**3.31**	**83**	Pn	**Pn**	**08 54 26.3**	**+0.9**
ESQI				Sn	**Sn**	**08 55 02.2**	**-1.3**
CMIG	**Matias Romero**	**3.54**	**325**	*e*P	**Pn**	**08 54 29.4**	**+1.1**
CMIG				*e*S	**Sn**	**08 55 08.9**	**0.0**
TGUH	**Tegucigalpa,Un**	**5.31**	**91**	Pn	**Pn**	**08 54 52.6**	**-0.1**
CRIN	**San Cristobal**	**5.74**	**104**	Pn	**Pn**	**08 54 57.8**	**-0.8**
TEIG	**Tepich**	**7.35**	**35**	Pn	**Pn**	**08 55 20.1**	**-0.7**
Z41A	**Richland Creek**	**18.97**	**360**	P	**Pn**	**08 57 54.2**	**-0.4**
Z41A				IAmb	IAmb	08 58 08.2	
	comp=Z,6.5nm,0.8s						
ABTX	**Abilene, Hawle**	**19.39**	**342**	P	**P**	**08 57 58.7**	**+0.5**
WLAR	**White Oak Lake**	**19.40**	**359**	P	**P**	**08 57 58.7**	**+0.4**
WLAR				IAmb	IAmb	08 58 07.0	
	comp=Z,16nm,1.4s						
LGNH	**Logne**	**19.79**	**75**	P	**P**	**08 58 01.7**	**-0.9**
LPAR	**Lepanto**	**21.42**	**5**	P	**P**	**08 58 20.0**	**-0.1**
LPAR				IAmb	IAmb	08 58 30.1	
	comp=Z,16nm,1.1s						
Z56A	**Williston**	**21.66**	**27**	P	**P**	**08 58 22.2**	**-0.6**
Z56A				IAmb	IAmb	08 58 22.9	
	comp=Z,16nm,1.1s						

ANF ***31*** *08:56:19.8±0.9, 38°.24N×122°.46W, h10km, ML3.2/8, Error ellipse: s-maj=12.6km s-min=7.7km az=59.0*

NCEDC ***31*** *08:56:20.8±1.3, 38°.236N±0°.005×122°.33W±0°.01, h10km±1km, Mwr3.2/3, Error ellipse: s-maj=1.2km s-min=0.7km az=70.0*

NEIC ***31*** *08:56:20.9, 38°.23N×122°.34W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; Mr=2.17; Mθθ=0.45; Mφφ=-1.72; Mrθ=-3.90; Mrφ=8.12; Mθφ=0.91; Fault plane solution: Mo9.27000×10^{13} NP1:φs=182.03000°, δ62.19000°, λ174.13000°. NP2:φs=274.78000°, δ84.81000°, λ27.93000°. Principal axes: T 8.0219, Plg23.0000°, Azm142.0000°; N 2.1191, Plg62.0000°, Azm284.0000°; P -10.1410, Plg15.0000°, Azm45.0000°;*

NEIC ***31*** *08:56:20.9±1.2, 38°.231N±0°.008×122°.32W±0°.01, h12km±1km Error ellipse: s-maj=1.2km s-min=1.1km az=49.0*

ISC 31 08:56:20.3±0.8, 38°.23N±0°.02×122°.33W±0°.02, h15km±5km, n238, σ1^{8}14/244, Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGVM		**0.10**	**58**		**Pg**	**08 56 23.3**	**-0.4**
NGVM					**Sg**	**08 56 25.5**	**-0.4**
SNT	**Sears Point**	**0.11**	**246**		**Pg**	**08 56 23.8**	**0.0**
CVS	**Carmenet Viney**	**0.16**	**319**		**Pg**	**08 56 24.5**	**0.0**
CVS					**Sg**	**08 56 27.3**	**+0.1**
NLHM	**Lake Herman**	**0.18**	**127**		**Pg**	**08 56 24.7**	**0.0**
NBRB	**Beebe Ranch Br**	**0.18**	**281**		**Pg**	**08 56 25.1**	**+0.4**
HERB	**Hercules**	**0.22**	**167**		**Pg**	**08 56 25.9**	**+0.6**
NAPC	**Atlas Peak**	**0.22**	**15**		**Pg**	**08 56 25.5**	**+0.1**
CPIM	**Pinole Ridge**	**0.25**	**160**		**Pg**	**08 56 26.8**	**+0.9**
CSPM	**San Pablo Ridg**	**0.27**	**178**		**Pb**	**08 56 27.3**	**+0.4**
CPMM	**Point Molate**	**0.28**	**193**		**Pg**	**08 56 27.1**	**+0.7**
RFSB	**Richmond Field**	**0.31**	**182**		**Pg**	**08 56 27.5**	**+0.7**
NTYM	**Taylor**	**0.31**	**302**		**Pg**	**08 56 27.3**	**+0.5**
CTAM	**Taylor**	**0.32**	**129**		**Pb**	**08 56 28.2**	**+0.6**
BRIB	**Briones**	**0.34**	**156**		**Pg**	**08 56 28.0**	**+0.7**
CVPM	**Vollmer Peak**	**0.35**	**167**		**Pg**	**08 56 28.5**	**+0.9**
BL88	**Building 88, L**	**0.35**	**171**		**Pg**	**08 56 28.5**	**+0.8**
VAK	**Adit at Lawren**	**0.35**	**170**		**Pg**	**08 56 28.5**	**+0.9**
BL67	**Building 67, L**	**0.36**	**171**		**Pg**	**08 56 28.5**	**+0.8**
BRK	**Berkeley--Havi**	**0.36**	**172**		**Pg**	**08 56 28.4**	**+0.7**
BKS	**Berkeley--Byer**	**0.36**	**169**		**Pg**	**08 56 28.5**	**+0.8**
NADM	**Allendale**	**0.36**	**50**		**Pb**	**08 56 29.4**	**+1.0**
NSHM	**Saint Helena R**	**0.37**	**323**		**Pg**	**08 56 28.2**	**+0.3**
NOLM	**Olema**	**0.41**	**243**		**Pg**	**08 56 29.3**	**+0.6**
CYBM	**Yerba Buena Is**	**0.42**	**184**		**Pg**	**08 56 29.5**	**+0.8**
HMR	**Hamilton Ranch**	**0.42**	**100**		**Pb**	**08 56 30.9**	**+1.5**
SMCB	**Saint Mary's C**	**0.42**	**156**		**Pg**	**08 56 29.5**	**+0.7**
MCCM	**Marconi Confer**	**0.45**	**260**		**Sg**	**08 56 29.8**	**-5.5**
MCCM	**Marconi Confer**	**0.45**	**260**	Pg	**Pg**	**08 56 29.6**	**+0.4**
JPRM	**Presidio of Sa**	**0.45**	**195**		**Pg**	**08 56 30.1**	**+0.8**
MAC	**Mark West Spri**	**0.45**	**316**		**Pg**	**08 56 29.8**	**+0.5**
CRHM	**Round Hill Res**	**0.45**	**144**		**Pb**	**08 56 30.4**	**+0.4**
NBPM	**Berryessa Peak**	**0.45**	**13**		**Pb**	**08 56 30.6**	**+0.6**
BDM	**Black Diamond**	**0.45**	**127**		**Pg**	**08 56 30.3**	**+0.9**
CRPB	**Russellman Par**	**0.46**	**133**		**Pg**	**08 56 29.6**	**+0.1**
BGC	**Bolinger Road**	**0.46**	**153**		**Pg**	**08 56 30.3**	**+0.8**
CMCM	**Mills College**	**0.46**	**165**		**Pg**	**08 56 30.2**	**+0.6**
NHSM	**Mount Saint He**	**0.48**	**332**		**Pg**	**08 56 30.3**	**+0.3**
J061	**Lakeshore Driv**	**0.51**	**195**		**Pg**	**08 56 31.4**	**+0.9**
CSLM	**San Leandro Hi**	**0.53**	**162**		**Pg**	**08 56 31.3**	**+0.5**
CMOB	**Morgan Territo**	**0.59**	**135**		**Pg**	**08 56 32.2**	**+0.3**
NMTM	**Middletown**	**0.59**	**351**		**Pg**	**08 56 32.3**	**+0.4**
NMCNC	**Mill Creek, So**	**0.59**	**308**		**Pg**	**08 56 32.1**	**+0.2**
GAXM	**Alexander Vall**	**0.59**	**325**		**Pg**	**08 56 32.1**	**+0.1**
NPRM	**Point Reyes**	**0.59**	**247**		**Pg**	**08 56 32.4**	**+0.4**
C055	**Cottonwood Ave**	**0.59**	**163**		**Pg**	**08 56 32.6**	**+0.6**
JMGM	**Milagra Ridge**	**0.60**	**191**		**Pg**	**08 56 32.8**	**+0.7**
GCRM	**Castle Rock Sp**	**0.62**	**331**		**Pg**	**08 56 32.6**	**0.0**
NDHM	**Dunnigan Hills**	**0.63**	**31**		**Pb**	**08 56 34.4**	**+1.4**
CDOM	**Doolan Road**	**0.63**	**142**		**Pb**	**08 56 33.6**	**+0.6**
JCPM	**Coyote Point**	**0.64**	**180**		**Pg**	**08 56 33.5**	**+0.7**
GBGM	**Boggs Mountain**	**0.65**	**335**		**Pg**	**08 56 33.5**	**+0.4**
MNRC	**McLaughlin Min**	**0.66**	**352**		**Pg**	**08 56 33.9**	**+0.7**
GGPM	**Geyser Peak**	**0.67**	**323**		**Pg**	**08 56 34.0**	**+0.5**
CBSNC	**Byron Hot Spri**	**0.68**	**127**		**Pg**	**08 56 34.2**	**+0.6**
CNIC	**Niles Canyon**	**0.68**	**155**		**Pg**	**08 56 34.1**	**+0.5**
CYD1	**Coyote D'meter**	**0.69**	**165**		**Pg**	**08 56 34.2**	**+0.4**
GDXM	**Geysers**	**0.69**	**328**		**Pg**	**08 56 33.9**	**+0.1**
GSGM	**Seigler Mounta**	**0.71**	**335**		**Pg**	**08 56 34.8**	**+0.6**
JCHM	**Cahill Ridge**	**0.71**	**183**		**Pg**	**08 56 34.6**	**+0.5**
CVLM	**Vallecito**	**0.71**	**147**		**Pb**	**08 56 35.3**	**+0.9**
GSSM	**Skaggs Springs**	**0.72**	**312**		**Pg**	**08 56 34.8**	**+0.4**
FTR	**Fort Ross**	**0.72**	**294**		**Pg**	**08 56 34.8**	**+0.4**
FARB	**Farallon Islan**	**0.75**	**226**		**Pg**	**08 56 35.2**	**+0.3**
WENL	**Wente Vineyard**	**0.75**	**143**		**Pb**	**08 56 36.1**	**+1.0**
GRTM	**Round Top Moun**	**0.76**	**339**		**Pg**	**08 56 35.5**	**+0.3**
GCVM	**Cloverdale**	**0.77**	**315**		**Pg**	**08 56 35.8**	**+0.5**
GACM	**Adobe Creek**	**0.77**	**327**		**Pg**	**08 56 35.9**	**+0.5**
GHCM	**House Creek**	**0.78**	**299**		**Pg**	**08 56 35.7**	**+0.1**
JHPM	**Huddart Park**	**0.78**	**179**		**Pg**	**08 56 36.0**	**+0.4**
CMJM	**Mission San Jo**	**0.79**	**153**		**Pg**	**08 56 36.1**	**+0.4**
JRSC	**Jasper Ridge**	**0.82**	**175**		**Pg**	**08 56 36.4**	**0.0**
JSFB	**Stanford Teles**	**0.83**	**172**		**Pg**	**08 56 36.9**	**+0.4**
JFP	**Foothills Park**	**0.87**	**173**		**Pg**	**08 56 37.0**	**-0.2**
BGH	**Bear Gulch**	**0.88**	**181**		**Pg**	**08 56 37.5**	**0.0**
JJRM	**Joaquin Road**	**0.89**	**174**		**Pg**	**08 56 37.9**	**+0.3**
GDCM	**Dry Creek**	**0.90**	**307**		**Pg**	**08 56 38.4**	**+0.6**
CMLM	**Mount Lewis**	**0.92**	**144**		**Pg**	**08 56 38.2**	**0.0**
GBMM	**Baldy Mountain**	**0.92**	**352**		**Pg**	**08 56 38.5**	**+0.2**
HOPS	**Hopland Field**	**0.96**	**323**		**Pb**	**08 56 39.6**	**+0.9**
HOPS	**Hopland Field**	**0.96**	**323**		**Pb**	**08 56 39.9**	**+1.2**
GHLM	**Highland Sprin**	**0.98**	**326**		**Pg**	**08 56 38.6**	**-0.6**
AASM	**Arroyo Seco**	**0.98**	**78**		**Pg**	**08 56 38.2**	**-1.1**
GSNM	**Snow Mountain**	**0.98**	**317**		**Pg**	**08 56 39.7**	**+0.3**
SCCB	**Santa Clara Co**	**1.01**	**159**		**Pg**	**08 56 39.8**	**0.0**
CMMM	**Mount Mocho**	**1.01**	**139**		**Pg**	**08 56 39.6**	**-0.3**
MHC	**Mount Hamilton**	**1.04**	**148**		**Pg**	**08 56 39.8**	**-0.6**
JJOM	**Saint Joseph's**	**1.05**	**165**		**Pg**	**08 56 39.8**	**-0.9**
ARN	**Arnold Ranch**	**1.08**	**144**		**Pg**	**08 56 40.3**	**-0.9**
SUTB	**Sutter Butte**	**1.09**	**23**		**Pg**	**08 56 38.9**	**-2.4**
CCOB	**Coe Ranch Numb**	**1.10**	**152**		**Pb**	**08 56 41.4**	**+0.4**
GFC	**Funks Creek**	**1.10**	**1**		**Pb**	**08 56 41.0**	**0.0**
GTSM	**Trough Springs**	**1.10**	**349**		**Pg**	**08 56 41.1**	**-0.6**
JBNB	**Ben Lomond Mou**	**1.11**	**173**		**Pb**	**08 56 40.5**	**-0.7**
GGUM	**Gualala**	**1.11**	**305**		**Pb**	**08 56 40.9**	**-0.4**
JUMM	**Mount Umunhum**	**1.12**	**162**		**Pb**	**08 56 41.0**	**-0.3**
AMC	**Almaden**	**1.13**	**160**		**Pb**	**08 56 41.0**	**-0.5**
JLAB	**Laurel Hill**	**1.17**	**156**		**Pb**	**08 56 41.7**	**-0.5**
CMPM	**Mikes Peak**	**1.18**	**137**		**Pb**	**08 56 42.2**	**-0.2**
JHLM	**Holstrom Ranch**	**1.18**	**161**		**Pb**	**08 56 41.5**	**-0.9**
MNHB	**New Hogan Dam**	**1.19**	**93**		**Pb**	**08 56 41.3**	**-1.3**
CADM	**Anderson Res.**	**1.20**	**152**		**Pb**	**08 56 42.9**	**+0.2**
JRRM	**Rodeo Gulch Ro**	**1.22**	**166**		**Pn**	**08 56 43.0**	**-0.8**
GWRM	**Wonder Ranch**	**1.24**	**322**		**Pg**	**08 56 45.5**	**+1.2**
GHOM	**Hamilton Openi**	**1.25**	**311**		**Pg**	**08 56 43.5**	**+0.2**
AFDM	**Forest Hills D**	**1.28**	**55**		**Pn**	**08 56 43.1**	**-0.5**
AFDM					Sn	**Sb**	**08 56 59.4**	**-1.0**
HSPM	**Sheep**	**1.28**	**150**		**Pn**	**08 56 43.4**	**-0.3**
OHCM	**Honcut**	**1.29**	**30**		**Pn**	**08 56 42.2**	**-1.5**
HLPM	**Lions Peak**	**1.30**	**155**		**Pn**	**08 56 43.7**	**-0.2**
GCK	**Clark Valley**	**1.32**	**356**		**Pn**	**08 56 44.1**	**-0.1**
GHS	**Gilroy Hot Spr**	**1.33**	**148**		**Pn**	**08 56 44.0**	**-0.4**
GHMM	**Hull Mountain**	**1.35**	**340**		**Pn**	**08 56 45.3**	**+0.5**
JELB	**Ellicott, Sant**	**1.36**	**163**		**Pn**	**08 56 44.0**	**-0.7**
MCUB	**Copperopolis B**	**1.37**	**100**		**Pn**	**08 56 44.4**	**-0.5**
CDC	**Canada Road**	**1.37**	**151**		**Pn**	**08 56 44.8**	**-0.1**
PAM	**Palermo**	**1.37**	**27**		**Pn**	**08 56 43.4**	**-1.5**
CBC	**Chamberlain**	**1.40**	**158**		**Pn**	**08 56 44.7**	**-0.5**
CSR	**Chase Ranch**	**1.40**	**155**		**Pn**	**08 56 44.5**	**-0.7**
GNAM	**Navarro Ridge**	**1.41**	**314**		**Pn**	**08 56 46.0**	**+0.6**
HCOM	**Horn Cob Canyo**	**1.42**	**160**		**Pn**	**08 56 44.9**	**-0.8**
HPCM	**Pacheco Lake**	**1.43**	**144**		**Pn**	**08 56 45.7**	**0.0**
SCKWR	**San Luis Creek**	**1.44**	**136**		**Pn**	**08 56 46.8**	**+0.9**
HFEM	**San Felipe**	**1.44**	**149**		**Pn**	**08 56 45.5**	**-0.4**
SLD	**San Luis Dam**	**1.45**	**142**		**Pn**	**08 56 46.0**	**0.0**
GASB	**Alder Springs**	**1.46**	**348**		**Pn**	**08 56 46.5**	**+0.2**
PACP	**Pacheco Peak**	**1.47**	**146**		**Pn**	**08 56 46.4**	**+0.1**
ORV	**Oroville**	**1.47**	**26**	Pn	**Pn**	**08 56 45.0**	**-1.3**
ORV					**Pn**	**08 56 45.1**	**-1.3**
ORV					Sn	**Sn**	**08 57 04.8**	**-0.5**
SFJWR	**San Luis Fatjo**	**1.49**	**142**		**Pn**	**08 56 46.7**	**+0.2**
HTUM	**Tustin Road**	**1.50**	**159**		**Pn**	**08 56 45.9**	**-0.8**
HBTM	**San Juan Bauti**	**1.51**	**156**		**Pn**	**08 56 46.4**	**-0.3**
HERM	**Elkhorn Road**	**1.51**	**161**		**Pn**	**08 56 46.3**	**-0.5**
GTC	**Three Chop Rid**	**1.52**	**321**		**Pn**	**08 56 47.5**	**+0.6**
MOBB	**Monterey Bay O**	**1.54**	**175**		**Pn**	**08 56 46.6**	**-0.4**
CMB	**Columbia Colle**	**1.54**	**97**		**Pn**	**08 56 47.3**	**0.0**
CMB	**Columbia Colle**	**1.54**	**97**		**Pn**	**08 56 47.4**	**+0.2**
HJGM	**San Juan Grade**	**1.55**	**157**		**Pn**	**08 56 46.6**	**-0.7**
GVV	**Valley View**	**1.57**	**350**		**Pn**	**08 56 47.7**	**0.0**
FRP	**Fremont Peak**	**1.61**	**155**		**Pn**	**08 56 47.5**	**-0.7**
SAO	**San Andreas Ge**	**1.62**	**154**	Pn	**Pn**	**08 56 47.7**	**-0.6**
HJSM	**John Smith Roa**	**1.63**	**150**		**Pn**	**08 56 48.5**	**+0.1**
BSLM	**Silva Ranch**	**1.64**	**152**		**Pn**	**08 56 48.9**	**+0.3**
BVYM	**Vineyard**	**1.64**	**154**		**Pn**	**08 56 48.2**	**-0.5**
KFPM	**Farley Peak**	**1.65**	**329**		**Pb**	**08 56 50.8**	**+0.4**
HMOM	**Monterey**	**1.66**	**169**		**Pn**	**08 56 48.0**	**-0.7**
BSRM	**Salinas Radio**	**1.69**	**157**		**Pn**	**08 56 48.3**	**-0.9**
BCGM	**Cienega Road**	**1.71**	**152**		**Pn**	**08 56 49.3**	**-0.1**
BHRM	**Hodges Ranch**	**1.72**	**150**		**Pn**	**08 56 49.5**	**-0.1**
MYLM	**Yosemite Lake**	**1.73**	**119**		**Pn**	**08 56 50.0**	**+0.2**
BPCNC	**Pine Canyon**	**1.74**	**161**		**Pn**	**08 56 49.9**	**0.0**
KCPM	**Cahto Peak**	**1.76**	**326**		**Pn**	**08 56 51.1**	**+0.8**
BLRM	**Lewis Ranch**	**1.77**	**151**		**Pn**	**08 56 50.3**	**0.0**
SCZ	**Santa Cruz**	**1.78**	**155**		**Pn**	**08 56 49.7**	**-0.8**
BJOM	**Mount Johnson**	**1.79**	**153**		**Pn**	**08 56 50.2**	**-0.4**
BEHM	**Elkhorn Ranch**	**1.81**	**149**		**Pn**	**08 56 51.3**	**+0.4**
BRMM	**Rolling Bench**	**1.83**	**139**		**Pn**	**08 56 51.8**	**+0.6**
BJCM	**Johnson Can.**	**1.83**	**156**		**Pn**	**08 56 50.4**	**-0.9**
BEMM	**Emmet**	**1.84**	**148**		**Pn**	**08 56 51.0**	**-0.4**
BVL	**Bear Valley**	**1.88**	**151**		**Pn**	**08 56 51.6**	**-0.3**
BAVM	**Antelope Valle**	**1.89**	**146**		**Pn**	**08 56 52.4**	**+0.4**
RUBR	**Rubicon Trail**	**1.89**	**63**		**Pn**	**08 56 53.8**	**+1.6**
DONR	**Donner Summit**	**1.93**	**54**		**Pn**	**08 56 53.7**	**+0.9**
TAHR	**Tahoe**	**1.93**	**61**		**Pn**	**08 56 54.2**	**+1.5**
HAST	**Hastings Reser**	**1.94**	**161**		**Pn**	**08 56 51.8**	**-0.8**
BBGB	**Big Mountain B**	**1.94**	**148**		**Pn**	**08 56 53.4**	**+0.7**
BPIM	**Pinnacles**	**1.96**	**152**		**Pn**	**08 56 52.4**	**-0.6**
BSMM	**Soledad Missio**	**1.97**	**158**		**Pn**	**08 56 53.3**	**+0.1**
O02D	**Mt. Diablo Mer** baz=169	**1.98**	**350**	P	**Pn**	**08 56 54.2**	**+0.9**
O02D	**Mt. Diablo Mer**	**1.98**	**350**		**Pn**	**08 56 53.6**	**+0.3**
BMSM	**Mercy Hot Spri**	**1.98**	**142**		**Pn**	**08 56 53.7**	**+0.3**
LTCM	**Tuscan Springs**	**1.98**	**4**		**Pn**	**08 56 52.6**	**-0.7**
IND	**Independence**	**1.99**	**52**		**Pn**	**08 56 55.3**	**+1.6**
BCWM	**Chews Ridge**	**2.01**	**162**		**Pn**	**08 56 53.3**	**-0.5**
LCMM	**Colby Mountain**	**2.02**	**18**		**Pn**	**08 56 53.6**	**-0.3**
GNO	**Genoa**	**2.06**	**69**		**Pn**	**08 56 56.5**	**+1.9**
LRV	**Little Rabbit**	**2.08**	**150**		**Pn**	**08 56 55.2**	**+0.6**
KBF	**Kyburz Flat**	**2.09**	**52**		**Pn**	**08 56 56.6**	**+1.7**
MPK	**Martis Peak**	**2.09**	**59**		**Pn**	**08 56 56.5**	**+1.5**
O03E	**Paynes Creek** baz=191	**2.10**	**11**	P	**Pn**	**08 56 54.3**	**-0.7**
O03E	**Paynes Creek**	**2.10**	**11**		**Pn**	**08 56 54.4**	**-0.7**
BAPM	**Anderson Peak**	**2.12**	**165**		**Pn**	**08 56 54.7**	**-0.5**
LOY	**Loyalton**	**2.17**	**48**		**Pn**	**08 56 57.7**	**+1.8**
VPK	**Verdi Peak**	**2.18**	**54**		**Pn**	**08 56 58.1**	**+1.8**
MMIM	**Miami Mountain**	**2.20**	**111**		**Pn**	**08 56 57.4**	**+1.0**
PHRM	**Hernandez Vall**	**2.21**	**147**		**Pn**	**08 56 56.8**	**+0.4**
BABR	**Babbit Peak**	**2.21**	**51**		**Pn**	**08 56 58.6**	**+2.0**
PBWM	**Bitterwater Cr**	**2.21**	**149**		**Pn**	**08 56 56.9**	**+0.5**
MHDM	**Hidden Dam**	**2.22**	**119**		**Pn**	**08 56 57.4**	**+0.8**
LRC	**Lone Oak Road**	**2.23**	**152**		**Pn**	**08 56 56.7**	**0.0**
BFC	**Buffalo Canyon**	**2.23**	**72**		**Pn**	**08 56 58.9**	**+2.0**
LDBM	**Digger Butte**	**2.24**	**11**		**Pn**	**08 56 56.6**	**-0.3**
KMRM	**Mail Ridge**	**2.26**	**332**	Pn	**Pn**	**08 56 58.8**	**+1.6**
WAKR	**Walker**	**2.29**	**82**		**Pn**	**08 56 59.8**	**+2.1**
PNTR	**Pine Nut**	**2.30**	**67**		**Pn**	**08 56 59.7**	**+1.8**
PEAR	**Peavine Mounta**	**2.30**	**52**		**Pn**	**08 56 59.6**	**+1.7**
PCCM	**Crazy Canyon**	**2.33**	**156**		**Pn**	**08 56 57.8**	**-0.2**
PMPB	**Monarch Peak**	**2.35**	**148**		**Pn**	**08 56 59.0**	**+0.7**
VCNR	**Virginia City**	**2.35**	**62**		**Pn**	**08 57 00.0**	**+1.5**
WDC	**Whiskeytown Da**	**2.36**	**356**		**Pn**	**08 56 57.1**	**-1.3**
WDC	**Whiskeytown Da**	**2.36**	**356**		**Pn**	**08 56 57.3**	**-1.2**
LMEM	**Manzanita Entr**	**2.38**	**14**		**Pn**	**08 56 59.5**	**+0.6**
PAPM	**Alder Peak**	**2.44**	**161**		**Pn**	**08 56 59.3**	**-0.3**
PDRM	**Domengine Ranc**	**2.45**	**140**		**Pn**	**08 56 59.4**	**-0.3**
BMRR	**Black Mountain**	**2.46**	**39**		**Pn**	**08 57 01.3**	**+1.3**
PSAM	**San Ardo**	**2.48**	**152**		**Pn**	**08 57 00.4**	**+0.3**
YERR	**Yerington**	**2.53**	**72**		**Pn**	**08 57 02.7**	**+1.7**
PSMM	**Smith Mountain**	**2.56**	**147**		**Pn**	**08 57 02.4**	**+1.1**
PHPM	**Hope Ranch**	**2.63**	**148**		**Pn**	**08 57 02.8**	**+0.5**
MDPB	**Devils Postpil**	**2.63**	**102**		**Pb**	**08 57 04.6**	**+2.1**
MINS	**Minaret Summit**	**2.64**	**101**		**Pn**	**08 57 05.1**	**+2.4**
MDCM	**Deadman Creek**	**2.65**	**100**		**Pn**	**08 57 05.0**	**+2.3**
MRDM	**Red Cones**	**2.66**	**103**		**Pn**	**08 57 04.8**	**+1.9**
**HAT

FORT	**Forrest**	**49.80**	**245**	P	**P**	**09 46 33.6**	**-0.4**
FORT				IAmb	IAmb	09 46 35.0	
	comp=Z,8.2nm,0.8s						
PSA00	**Pilbara Seismi**	**57.70**	**255**	P	**P**	**09 47 29.6**	**-0.3**
MORW	**Morawa**	**60.27**	**246**	P	**P**	**09 47 46.9**	**-0.1**
MORW				IAmb	IAmb	09 47 59.3	
	comp=Z,14nm,1.4s						
VNDA	**Vanda**	**60.34**	**185**	P	**P**	**09 47 47.6**	**+1.1**
QSPA	**South Pole Qui**	**72.05**	**180**	P	**P**	**09 48 59.6**	**+0.3**
QSPA				IAmb	IAmb	09 49 00.7	
	comp=Z,4.6nm,0.8s						
BELA	**Belgrano 2**	**82.10**	**173**	P	**P**	**09 49 53.4**	**-0.1**
MAW	**Mawson**	**83.71**	**200**	P	**P**	**09 50 02.5**	**+0.9**
TXAR	**Lajitas Array**	**86.20**	**58**	P	**P**	**09 50 14.1**	**-0.5**
	comp=Z,0.1nm,0.6s,baz=210,slow=4.9,SNR=3.7						
TXAR	**Lajitas Array**	**86.20**	**58**	P	**P**	**09 50 15.4**	**+0.8**
SNAA	**Sanae**	**90.51**	**179**	P	**P**	**09 50 33.3**	**-0.5**
VNA3	**Neumayer Olymp**	**90.66**	**176**	P	**P**	**09 50 34.1**	**-0.3**
VNA2	**Neumayer--Watz**	**91.09**	**177**	P	**P**	**09 50 36.1**	**-0.3**
VNA1	**Neumayer--Stat**	**91.33**	**177**	P	**P**	**09 50 38.0**	**+0.6**
CLL	**Collm**	**145.51**	**347**	*e*PKPbc	**PKPbc**	**09 57 08.0**	**+0.6**
GERES	**GERESS Array B**	**147.65**	**345**	PKPbc	**PKPbc**	**09 57 13.6**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=28,slow=4.9,SNR=2.6						
GERES	**GERESS Array B**	**147.65**	**345**	PKPbc	**PKPbc**	**09 57 14.0**	**+0.6**

*UCR **31** 10:01:34.8±1.6, 8.89N×84.10W, h5km, ML4.4, mb5.1(NEIC)*
*INET **31** 10:01:39.8, 9.04N×83.94W, h15km, ML5.0*
*IDC **31** 10:01:39.8±1.1, 9.09N×83.99W, h49km±10km, mb4.3/23, mb1 4.5/28, mb1mx4.4/35, mbtmp4.6/28, ML3.7/5, MS3.8/15, Ms1 3.8/15, ms1mx3.7/24, Error ellipse: s-maj=19.9km s-min=8.1km az=50.0*
*BGR **31** 10:01:41.6±0.0, 8.97N×82.84W, h33km, mb5.1, Ms4.2*
*NEIC **31** 10:01:41.1±2.7, 9.14N±0.06×83.97W±0.07, h55km±4km, mb4.9/441, Mwr5.1(UCR), Error ellipse: s-maj=10.7km s-min=7.5km az=50.0*
*GCMT **31** 10:01:41.2±0.2, 8.97N±0.01×84.08W±0.02, h19km, MW4.9/105, Moment Tensor Solution. s50,c69; s105,c153; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.69±.12; Mθθ-1.92±.07; Mϕϕ-0.77±.08; Mrθ 1.21±.15; Mθϕ 1.27±.05; Mϕr-1.04±.19; Best double couple: M=3.14900×10^16^ NP1:ϕ299.00000°, δ30.00000°, λ83.00000°. NP2:ϕ127.00000°, δ60.00000°, λ94.00000°. Principal axes: T 3.1310, Plg74.0000°, Azm48.0000°; N 0.0350, Plg4.0000°, Azm305.0000°; P -3.1670, Plg15.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SNET **31** 10:01:43.6±0.7, 9.21N×84.59W, h0km±203km, ML5.1*
ISC 31 10:01:38.1±0.7, **9.00N**±0.03×**84.02W**±0.03, **h32**km±4km, **n902**, σ**1$35/727**, **mb4.9**/252, **MS3.9**/14, **11C-18D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDDO	**Dominical**	**0.29**	**32**	⇓*eP*	**Pb**	**10 01 43.4**	**-2.4**
EDDO				*eS*	**Sb**	**10 01 50.7**	**-0.2**
EDLM	**Las Mercedes**	**0.51**	**57**	⇓*eP*	**Pb**	**10 01 46.9**	**-2.0**
EDLM				*eS*	**Sn**	**10 01 57.7**	**+0.8**
PEZE	**Perez Zeledon,**	**0.51**	**42**	⇓*eP*	**Pb**	**10 01 46.8**	**-2.1**
EDPN	**Palmar Norte**	**0.56**	**94**	⇓*eP*	**Pb**	**10 01 47.0**	**-2.7**
EDPN				*eS*	**Sn**	**10 01 56.9**	**-1.1**
RIOS	**Rincon, Osa**	**0.59**	**121**	⇓*eP*	**Pb**	**10 01 46.8**	**-3.3**
RIOS				*eS*	**Sb**	**10 01 56.7**	**-1.5**
CDM	**Cerro de Muert**	**0.60**	**25**	⇓*iP*	**Pb**	**10 01 48.7**	**-2.0**
LCR2	**La Lucha 2**	**0.74**	**2**	⇓*eP*	**Pb**	**10 01 51.0**	**-1.7**
LCR2				*eS*	**Sn**	**10 02 03.5**	**+0.8**
EDBA	**Buenos Aires**	**0.76**	**78**	⇓*eP*	**Pb**	**10 01 50.1**	**-2.8**
EDBA				*eS*	**Sn**	**10 02 03.3**	**+0.3**
RIMA	**Rio Macho**	**0.78**	**12**	⇓*eP*	**Pb**	**10 01 51.5**	**-1.9**
RIMA				*eS*	**Sn**	**10 02 04.4**	**+0.8**
DRK0	**Durika**	**0.81**	**71**	⇓*iP*	**Pb**	**10 01 51.7**	**-2.2**
DRK0				*eS*	**Sn**	**10 02 05.3**	**+0.8**
PTJ1	**Puerto Jimnez**	**0.85**	**123**	*eP*	**Pn**	**10 01 51.6**	**-2.3**
PTJ1				*eS*	**Sb**	**10 02 05.0**	**-0.5**
PIRO	**Carate, Puerto**	**0.90**	**131**	⇓*eP*	**Pn**	**10 01 52.0**	**-2.6**
JACO	**JACO, Garabito**	**0.91**	**316**	*eP*	**Pn**	**10 01 52.3**	**-2.4**
SJS	**Escuela Geolog**	**0.93**	**358**	⇓*eP*	**Pn**	**10 01 54.3**	**-0.8**
HDC	**Heredia**	**1.00**	**355**	⇓*iP*	**Pn**	**10 01 55.5**	**-0.5**
HDC	**Heredia**	**1.00**	**355**		**Pn**	**10 01 55.5**	**-0.5**
HDC				Sn	**Sb**	**10 02 11.8**	**+1.9**
CVTR	**Volcan Turrial**	**1.04**	**14**	⇓*iP*	**Pn**	**10 01 56.8**	**-0.1**
CVTR				*eS*	**Sb**	**10 02 13.0**	**+1.5**
EDSV	**San Vito**	**1.05**	**100**	⇓*eP*	**Pn**	**10 01 55.6**	**-1.2**
EDSV				*eS*	**Sb**	**10 02 13.4**	**+1.9**
SRA1	**San Ramn**	**1.17**	**337**	*eP*	**Pn**	**10 01 57.5**	**-0.8**
LAFE	**Finca La Fe, P**	**1.19**	**313**	⇓*eP*	**Pn**	**10 01 56.4**	**-2.0**
CDITO	**Canoas**	**1.22**	**110**	⇓*eP*	**Pn**	**10 01 57.3**	**-1.6**
BATAN	**Batan**	**1.26**	**30**	⇓*iP*	**Pb**	**10 02 00.6**	**-0.8**
BRU2	**Volcan**	**1.33**	**99**	⇓*iP*	**Pn**	**10 01 59.8**	**-0.9**
JTS	**Las Juntas de**	**1.57**	**324**	P	**Pn**	**10 02 02.4**	**-1.4**
	450nm,0.3s,baz=159,slow=6.7,SNR=1427						
JTS				S	**Sn**	**10 02 23.7**	**+0.6**
	1μm,0.3s,baz=348,slow=20,SNR=24						
JTS				LR	LR	10 02 30.7	
	comp=Z,2μm,19.4s,baz=181,slow=34						
JTS	**Las Juntas de**	**1.57**	**324**	⇑*iP*	**Pn**	**10 02 02.2**	**-1.6**
JTS				*eS*	**Sn**	**10 02 22.2**	**-0.9**
JTS	**Las Juntas de**	**1.57**	**324**	⇑*eP*	**Pn**	**10 02 02.3**	**-1.6**
FORC	**Fortuna**	**1.59**	**336**	*i* P	**Pn**	**10 02 04.0**	**0.0**
FORC				*i* S	**Sb**	**10 02 28.3**	**+1.7**
ARE1	**Arenal 1**	**1.60**	**335**	⇑*iP*	**Pn**	**10 02 04.5**	**+0.2**
TRT1	**Tortuguero**	**1.62**	**11**	⇑*eP*	**Pb**	**10 02 06.1**	**-1.3**
CEDE	**Laguna Cedeo**	**1.62**	**336**	⇑*eP*	**Pn**	**10 02 04.8**	**+0.2**
CEDE				*i* P	**Pb**	**10 02 05.0**	**-2.5**
CEDE				*i* S	**Sb**	**10 02 28.8**	**+1.2**
COVE	**Coope Vega, Sa**	**1.75**	**348**	⇑*eP*	**Pn**	**10 02 06.5**	**+0.3**
DUNO	**Dulce Nombre,**	**1.80**	**307**	*eP*	**Pn**	**10 02 06.7**	**-0.3**
GRZA	**Playa Garza**	**1.83**	**300**	*eP*	**Pn**	**10 02 06.8**	**-0.5**
ACAL	**Aguas Claras**	**1.90**	**329**	*i* P	**Pn**	**10 02 07.8**	**-0.6**
CUI	**Cuipilapa**	**1.99**	**326**	⇑*eP*	**Pn**	**10 02 09.2**	**-0.4**
GUAB	**Guayabo de Bag**	**2.07**	**325**	*i* P	**Pn**	**10 02 10.6**	**-0.1**
GUAB				*i* S	**Sn**	**10 02 38.0**	**+2.6**
BUEV	**Buena Vista**	**2.25**	**323**	*eP*	**Pn**	**10 02 12.8**	**-0.3**
GB1A	**Borinquen Arri**	**2.26**	**323**	*eP*	**Pn**	**10 02 13.0**	**-0.3**
ACON	**Acoyapa**	**3.16**	**339**		**Pn**	**10 02 25.4**	**-0.2**
ESPN	**Las Esperanzas**	**3.19**	**355**		**Pn**	**10 02 26.4**	**+0.4**
PNME	**Penonome**	**3.69**	**98**	*eP*	**Pn**	**10 02 33.7**	**+0.8**
AZU	**Azuero**	**3.90**	**108**	*eP*	**Pn**	**10 02 35.0**	**-0.8**
AZU				*eS*	**Sn**	**10 03 23.9**	**+3.4**
BCIP	**Isla Barro Col**	**4.14**	**87**	*eP*	**Pn**	**10 02 39.1**	**+0.1**
BCIP				*eS*	**Sn**	**10 03 31.6**	**+5.2**
BCIP	**Isla Barro Col**	**4.14**	**87**	Pn	**Pn**	**10 02 39.3**	**+0.2**
MATN	**Matagalpa**	**4.33**	**335**	Pn	**Pn**	**10 02 41.2**	**-0.5**
UPA	**Univ. de Panam**	**4.43**	**90**	⇑*iP*	**Pn**	**10 02 43.4**	**+0.3**
ESTN	**Estel**	**4.68**	**331**		**Pn**	**10 02 48.1**	**+1.5**
CRIN	**San Cristobal**	**4.73**	**321**		**Pn**	**10 02 49.6**	**+2.3**
PRVC	**Isla de Provid**	**5.07**	**31**	*eP*	**Pn**	**10 02 51.9**	**0.0**
CNCH	**Conchagua**	**5.66**	**319**	*eP*	**Pn**	**10 03 02.4**	**+2.3**
CNCH	**Conchagua**	**5.66**	**319**	*eP*	**Pn**	**10 03 02.4**	**+2.3**
LCND	**La Caada**	**5.72**	**319**	*eP*	**Pn**	**10 03 03.0**	**+2.2**
LCND	**La Caada**	**5.72**	**319**	*eP*	**Pn**	**10 03 03.0**	**+2.2**
JUCU	**Jucuar¡n**	**5.92**	**316**	*eS*	**Sn**	**10 04 10.6**	**+0.2**
TGUH	**Tegucigalpa,Un**	**5.95**	**328**	*eP*	**Pn**	**10 03 06.8**	**+2.7**
TGUH				*eS*	**Sb**	**10 04 29.9**	**-2.1**
TGUH	**Tegucigalpa,Un**	**5.95**	**328**	*eP*	**Pn**	**10 03 07.4**	**+3.3**
TGUH	**Tegucigalpa,Un**	**5.95**	**328**	Pn	**Pn**	**10 03 06.2**	**+2.1**
UPD2	**Meteti**	**5.96**	**94**	*eP*	**Pn**	**10 03 05.3**	**+1.2**
FAGO	**Alcalda de S**	**6.15**	**320**	*eP*	**Pn**	**10 03 09.2**	**+2.5**
COEB	**Comit de Eme**	**6.29**	**316**	*eS*	**Sn**	**10 04 19.1**	**-0.4**
CAPC	**Capurgana**	**6.60**	**93**	*eP*	**Pn**	**10 03 13.3**	**+0.3**
LFRS	**El Faro**	**6.75**	**313**	*eP*	**Pn**	**10 03 17.4**	**+2.4**
LFRS	**El Faro**	**6.75**	**313**	*eP*	**Pn**	**10 03 17.4**	**+2.4**
LFRS				*eS*	**Sn**	**10 04 30.8**	**-0.1**
SNET	**Serv Nac Est T**	**6.91**	**313**	IAML		10 03 20.9	
	comp=Z,482nm,0.4s						
SNET	**Serv Nac Est T**	**6.91**	**313**	IAML		10 03 20.9	
	comp=Z,482nm,0.4s						
SNET	**Serv Nac Est T**	**6.91**	**313**		**Pn**	**10 03 19.6**	**+2.4**
UEES	**Universidad Ev**	**6.94**	**313**	IAML		10 03 21.7	
	comp=Z,392nm,0.5s						
UEES	**Universidad Ev**	**6.94**	**313**	IAML		10 03 21.7	
	comp=Z,392nm,0.5s						
BOQS	**Boqueron**	**6.98**	**313**	*eP*	**Pn**	**10 03 21.0**	**+2.7**
SOLC	**Bahia Solano**	**7.11**	**112**	*eP*	**Pn**	**10 03 18.4**	**-1.6**
RTR	**El Retiro**	**7.35**	**312**	*eP*	**Pn**	**10 03 26.6**	**+3.2**
MTO3	**Montecristo**	**7.49**	**316**		**Pn**	**10 03 27.5**	**+2.2**
ESQI	**Esquipulas**	**7.59**	**317**	*eP*	**Pn**	**10 03 29.3**	**+2.6**
ESQI	**Esquipulas**	**7.59**	**317**		**Pn**	**10 03 29.3**	**+2.6**
DBBC	**Dabeiba**	**7.99**	**104**	*eP*	**Pn**	**10 03 34.6**	**+2.6**
MOTC	**Monteria, Cord**	**8.26**	**91**	*eP*	**Pn**	**10 03 36.7**	**+1.0**
UREC	**San Jos de Ur**	**8.49**	**98**	*eP*	**Pn**	**10 03 40.8**	**+1.8**
CBOC	**Ciudad Bolivar**	**8.53**	**111**	*eP*	**Pn**	10 03 46.1	+6.4
APG	**El Apazote**	**8.68**	**314**	P	**Pn**	**10 03 43.0**	**+1.3**
	comp=Z,4.2nm,0.3s,baz=141,slow=9.6,SNR=62						
PLMC	**San Jos del P**	**8.69**	**117**	*eP*	**Pn**	**10 03 44.8**	**+3.0**
SJCC	**San Jacinto, C**	**8.77**	**83**	*eP*	**Pn**	**10 03 43.7**	**+0.8**
HELC	**Santa Helena**	**8.87**	**108**	*eP*	**Pn**	**10 03 47.2**	**+2.7**
YOTC	**Yotoco, Valle**	**9.11**	**123**	*eP*	**Pn**	**10 03 51.9**	**+4.3**
ZARC	**Zaragoza, Cauc**	**9.20**	**99**	*eP*	**Pn**	**10 03 49.9**	**+1.3**
RTAL	**Retalhuleu**	**9.30**	**307**		**Pn**	**10 03 51.8**	**+1.7**
GUY2C	**Guyana, Caldas**	**9.38**	**113**	*eP*	**Pn**	**10 03 54.2**	**+2.7**
HUEH	**Huehuetenango**	**9.63**	**311**		**Pn**	**10 03 57.4**	**+2.6**
ANIL	**Santa Ana**	**9.66**	**117**	*eP*	Pn	10 04 00.8	+5.6
BBAC	**Balboa, Cauca**	**9.67**	**135**	*eP*	**Pn**	**10 03 56.6**	**+1.3**
ARGC	**Ariguani, Magd**	**9.68**	**84**	*eP*	**Pn**	**10 03 55.9**	**+0.6**
TOLC	**Tolima**	**9.69**	**116**	*eP*	**Pn**	**10 03 57.9**	**+2.2**
NORC	**Norcasia**	**9.70**	**110**	*eP*	**Pn**	**10 03 59.5**	**+3.9**
PETF	**Flores**	**9.71**	**325**		**Pn**	**10 03 58.9**	**+3.2**
POPC	**Popayan, Colom**	**9.73**	**131**	*eP*	**Pn**	**10 04 00.4**	**+4.3**
PTBC	**PUERTO BERRIO,**	**9.79**	**104**	*eP*	**Pn**	**10 03 59.3**	**+2.5**
SMLC	**San Martn de**	**9.84**	**90**	*eP*	**Pn**	**10 04 00.9**	**+3.5**
SMRC	**Santa Marta, M**	**9.88**	**77**	*eP*	**Pn**	**10 03 57.9**	**-0.1**
PCON	**Cinco Dias**	**10.07**	**131**	*eP*	**Pn**	**10 04 04.9**	**+3.8**
ORTC	**Ortega, Tolima**	**10.08**	**120**	*eP*	Pn	10 04 05.6	+4.8
MARP	**Paez Belalcaza**	**10.09**	**127**	*eP*	Pn	10 04 07.9	+6.8
GCUF	**Volcan Galeras**	**10.19**	**139**	*eP*	**Pn**	**10 04 04.9**	**+2.2**
OTAV	**Otavalo**	**10.32**	**147**	*eP*	**Pn**	**10 04 03.8**	**-0.7**
OTAV	**Otavalo**	**10.32**	**147**	Pn	**Pn**	**10 04 05.4**	**+0.9**
OTAV	**Otavalo**	**10.32**	**147**	*eP*	**Pn**	**10 04 05.6**	**+1.1**
BRRC	**Barranca, Sant**	**10.38**	**100**	*eP*	**Pn**	**10 04 07.9**	**+3.0**
SPBC	**San Pablo de B**	**10.42**	**108**	*eP*	**Pn**	**10 04 08.6**	**+3.1**
ROSC	**El Rosal**	**10.48**	**113**	P	**Pn**	**10 04 09.0**	**+2.4**
	comp=Z,2.7nm,0.3s,baz=300,slow=18,SNR=2.2						
ROSC				LR	LR	10 08 17.8	
	comp=Z,771nm,21.7s,baz=290,slow=38						
ROSC	**El Rosal**	**10.48**	**113**	*eP*	Pn	10 04 13.1	+6.5
ROSC	**El Rosal**	**10.48**	**113**	Pn	**Pn**	**10 04 09.1**	**+2.4**
PRAC	**Prado**	**10.49**	**119**	*eP*	**Pn**	**10 04 10.6**	**+4.2**
BETC	**Betania**	**10.60**	**126**	*eP*	**Pn**	**10 04 12.2**	**+4.3**
OCAC	**Ocana**	**10.61**	**93**	*eP*	**Pn**	**10 04 08.2**	**0.0**
CCIG	**Comitan**	**10.72**	**313**		**Pn**	**10 04 12.1**	**+2.4**
GARC	**Garzon, Huila**	**10.86**	**128**	*eP*	**Pn**	**10 04 14.7**	**+3.1**
BARC	**Barichara**	**11.01**	**102**	*eP*	**Pn**	**10 04 15.4**	**+1.8**
CHIC	**Chingaza**	**11.10**	**112**	*eP*	Pn	10 04 20.4	+5.3
FLOC	**Florencia**	**11.12**	**131**	*eP*	**Pn**	**10 04 17.1**	**+2.0**
FLOC	**Florencia**	**11.12**	**131**	Pn	**Pn**	**10 04 18.4**	**+3.4**
PUAC	**Puerto Asis, P**	**11.21**	**138**	*eP*	**Pn**	**10 04 18.5**	**+2.4**
RUSC	**La Rusia**	**11.28**	**105**	*eP*	Pn	10 04 24.6	+7.0
RUSC	**La Rusia**	**11.28**	**105**	Pn	**Pn**	**10 04 19.3**	**+1.7**
PAMC	**Pamplona, Colo**	**11.33**	**98**	*eP*	**Pn**	**10 04 19.9**	**+1.6**
VILC	**Villavicencio,**	**11.35**	**115**	*eP*	**Pn**	**10 04 19.8**	**+1.6**
TEIG	**Tepich**	**11.89**	**340**	Pn	**Pn**	**10 04 27.4**	**+1.9**
URIC	**Uribia, Colomb**	**12.14**	**76**		**Pn**	**10 04 29.0**	**+0.1**
MACC	**Macarena, Meta**	**12.20**	**123**	*eP*	**Pn**	**10 04 30.8**	**+1.0**
TAMC	**Tame, Arauca**	**12.39**	**101**	*eP*	**Pn**	**10 04 33.8**	**+1.4**
GUVC	**San Jose del G**	**13.04**	**119**	*eP*	**Pn**	**10 04 38.5**	**-2.5**
SDV	**Santo Domingo**	**13.23**	**89**	P	**Pn**	**10 04 44.8**	**+0.8**
	comp=Z,7nm,0.3s,baz=294,slow=8.0,SNR=1.7						
SDV	**Santo Domingo**	**13.23**	**89**	Pn	**Pn**	**10 04 46.9**	**+2.8**
SDV	**Santo Domingo**	**13.23**	**89**	*eP*	**Pn**	**10 04 46.8**	**+2.8**
CMIG	**Matias Romero**	**13.28**	**308**	P	**Pn**	**10 04 43.2**	**-1.4**
	comp=Z,3.8nm,0.3s,baz=122,slow=11,SNR=36						
CMIG				S	**Sn**	**10 07 09.3**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=306,slow=19,SNR=1.4						
CMIG				LR	LR	10 08 50.7	
	comp=Z,108nm,18.5s,baz=130,slow=32						
GTBY	**Guantanamo Bay**	**13.87**	**37**	P	**P**	**10 04 57.2**	**-3.1**
SDDR	**Presa de Saban**	**15.84**	**50**	P	**P**	**10 05 20.4**	**-1.9**
SDDR				IAmb	IAmb	10 05 32.4	
	comp=Z,146nm,0.9s						
TLIG	**Tlapa**	**16.50**	**303**	P	**Pn**	**10 05 28.8**	**+1.3**
TLIG				IAmb	IAmb	10 05 46.2	
	comp=Z,173nm,1.3s						
ATAH	**Atahualpa**	**16.98**	**161**	P	**Pn**	**10 05 35.0**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=328,slow=12,SNR=7.3						
PCRV	**Puerto La Cruz**	**19.15**	**85**	P	**Pn**	**10 05 60.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=277,slow=12,SNR=3.5						
OBIP	**Obispado Ponce**	**19.16**	**60**	IAmb	IAmb	10 06 11.3	
	comp=Z,48nm,0.8s						
AOPR	**Arecibo Observ**	**19.16**	**59**	IAmb	IAmb	10 06 20.4	
	comp=Z,84nm,1.1s						
PLCV	**Puerto La Cruz**	**19.20**	**85**	P	**P**	**10 05 60.0**	**+0.5**
PDPR	**Patillas Dam,**	**19.65**	**61**	IAmb	IAmb	10 06 26.7	
	comp=Z,68nm,1.2s						
MOIG	**Morelia**	**19.71**	**304**	P	**Pn**	**10 06 07.6**	**+0.7**
GCPR	**Guaynabo City**	**19.72**	**60**	IAmb	IAmb	10 06 22.0	
	comp=Z,135nm,1.3s						
HUMP	**Col San Antoni**	**19.85**	**61**	IAmb	IAmb	10 06 23.3	
	comp=Z,81nm,1.1s						
CBYP	**Canovanas**	**19.90**	**61**	IAmb	IAmb	10 06 17.6	
	comp=Z,63nm,0.8s						
CZSB	**Cruzeiro do Su**	**20.09**	**146**	*eP*	**P**	**10 06 09.8**	**+0.7**
MTP	**Monte Pirata**	**20.09**	**61**	P	**P**	**10 06 09.9**	**+0.7**
MTP				IAmb	IAmb	10 06 24.6	
	comp=Z,64nm,1.1s						
CDVI	**St. Croix**	**20.64**	**63**	P	**P**	**10 06 15.9**	**+0.8**
NNA	**Nana**	**22.04**	**161**	P	**P**	**10 06 30.6**	**+0.3**
	comp=Z,7.6nm,0.9s,baz=345,slow=16,SNR=2.4						
NNA	**Nana**	**22.04**	**161**	P	**P**	**10 06 35.1**	**+4.8**
NNA				IAmb	IAmb	10 06 36.8	
	comp=Z,44nm,1.2s						
BRAL	**Brewton**	**22.23**	**353**	P	**P**	**10 06 34.2**	**+2.1**
	baz=172,SNR=9.3						
TIGA	**Tifton**	**22.33**	**1**	P	**P**	**10 06 35.8**	**+2.6**
	baz=181						
TIGA	**Tifton**	**22.33**	**1**	IAmb	IAmb	10 06 40.7	
	comp=Z,40nm,0.9s						
352A	**Blakely**	**22.38**	**358**	IAmb	IAmb	10 06 41.5	
	comp=Z,65nm,0.9s						
154A	**Montrose**	**23.51**	**2**	IAmb	IAmb	10 06 48.8	
	comp=Z,61nm,0.9s						
152A	**Waverly Hall**	**23.56**	**359**	IAmb	IAmb	10 06 47.5	
	comp=Z,41nm,0.6s						
342A	**Flagon Creek P**	**23.56**	**342**	IAmb	IAmb	10 06 55.5	
	comp=Z,38nm,0.8s						
157A	**Early Branch**	**23.73**	**6**	P	**P**	**10 06 49.3**	**+1.9**
	baz=187						
VBMS	**Vicksburg**	**23.88**	**346**	P	**P**	**10 06 48.8**	**+0.1**
	baz=164,SNR=5.8						
VBMS	**Vicksburg**	**23.88**	**346**	P	**P**	**10 06 48.2**	**-0.5**
833A	**Chaparral WMA,**	**24.06**	**325**	P	**P**	**10 06 48.8**	**-1.8**
	baz=140,SNR=6.6						
833A	**Chaparral WMA,**	**24.06**	**325**	IAmb	IAmb	10 07 02.4	
	comp=Z,42nm,0.7s						
LRAL	**Lakeview Retre**	**24.07**	**354**	P	**P**	**10 06 51.3**	**+0.7**
	baz=172,SNR=52						
Z51A	**Franklin**	**24.22**	**358**	IAmb	IAmb	10 06 53.6	
	comp=Z,48nm,0.8s						
NHSC	**New Hope**	**24.25**	**8**	P	**P**	**10 06 53.5**	**+1.3**
	baz=189,SNR=5.7						
NHSC	**New Hope**	**24.25**	**8**	IAmb	IAmb	10 06 54.5	
	comp=Z,62nm,1.1s						
GOGA	**Godfrey**	**24.30**	**1**	P	**P**	**10 06 53.2**	**+0.5**
	baz=181,SNR=14						
GOGA	**Godfrey**	**24.30**	**1**	IAmb	IAmb	10 07 01.4	
	comp=Z,66nm,1.4s						
Z56A	**Williston**	**24.33**	**5**	P	**P**	**10 06 54.1**	**+1.2**
	baz=186						
Z56A	**Williston**	**24.33**	**5**	IAmb	IAmb	10 06 55.4	
	comp=Z,30nm,0.8s						
Z57A	**Bowman**	**24.37**	**7**	P	**P**	**10 06 54.4**	**+1.1**
	baz=188						
Z58A	**St. Stephen**	**24.53**	**9**	P	**P**	**10 06 55.7**	**+0.9**
	baz=190,SNR=14						
143A	**Socs Landing,**	**24.55**	**345**	IAmb	IAmb	10 07 04.4	
	comp=Z,58nm,1.2s						
NATX	**Nacogdoches**	**24.71**	**338**	P	**P**	**10 06 56.2**	**-0.3**
	baz=154						
NATX	**Nacogdoches**	**24.71**	**338**	IAmb	IAmb	10 06 56.7	
	comp=Z,17nm,0.7s						
Y52A	**Lilburn**	**24.74**	**360**	IAmb	IAmb	10 06 58.3	
	comp=Z,51nm,0.9s						
Y56A	**Pelion**	**24.80**	**5**	P	**P**	**10 06 58.4**	**+1.1**
	baz=186						
Y49A	**Blount Mountai**	**24.84**	**355**	IAmb	IAmb	10 07 07.2	
	comp=Z,42nm,0.9s						
Y55A	**Saluda**	**24.90**	**4**	P	**P**	**10 06 58.7**	**+0.5**
	baz=185,SNR=15						
435B	**Jarrell**	**25.09**	**332**	P	**P**	**10 07 00.5**	**+0.5**
	baz=146,SNR=12						
435B	**Jarrell**	**25.09**	**332**	IAmb	IAmb	10 07 09.8	
	comp=Z,57nm,0.8s						
Y57A	**Sumter**	**25.12**	**7**	P	**P**	**10 07 00.7**	**+0.6**
	baz=188,SNR=5.7						
Y57A	**Sumter**	**25.12**	**7**	IAmb	IAmb	10 07 01.7	
	comp=Z,27nm,0.8s						
HODGE	**Hodges**	**25.16**	**3**	IAmb	IAmb	10 07 02.0	
	comp=Z,40nm,0.8s						
Y59A	**Loris**	**25.32**	**10**	P	**P**	**10 07 02.6**	**+0.7**
	baz=192						
237A	**Washetta, Mont**	**25.37**	**336**	IAmb	IAmb	10 07 12.0	
	comp=Z,26nm,0.9s						
X55A	**Gracelyn & Ava**	**25.44**	**5**	P	**P**	**10 07 03.6**	**+0.6**
	baz=185,SNR=14						
X51A	**Calhoun**	**25.45**	**358**	IAmb	IAmb	10 07 12.6	
	comp=Z,28nm,0.9s						
FPAL	**Fort Paine**	**25.46**	**357**	P	**P**	**10 07 02.8**	**-0.5**
FPAL				IAmb	IAmb	10 07 12.2	
	comp=Z,32nm,1.1s						
Z41A	**Richland Creek**	**25.46**	**343**	P	**P**	**10 07 02.5**	**-0.8**
	baz=159,SNR=10.0						
X54A	**Belton**	**25.47**	**3**	P	**P**	**10 07 03.8**	**+0.5**
	baz=184,SNR=11						
X56A	**White Oak**	**25.52**	**6**	P	**P**	**10 07 04.2**	**+0.5**
	baz=187,SNR=8.4						
X57A	**Johnson Farm,**	**25.60**	**8**	P	**P**	**10 07 05.0**	**+0.6**
	baz=189,SNR=8.5						
BIRD	**Birdtown, Kers**	**25.73**	**7**	IAmb	IAmb	10 07 15.7	
	comp=Z,61nm,1.0s						
ETMB	**Extrema**	**25.77**	**136**	*e*P	**P**	**10 07 06.1**	**-0.1**
PAULI	**Pauline**	**25.78**	**4**	IAmb	IAmb	10 07 16.5	
	comp=Z,65nm,1.3s						
X58A	**Rowland**	**25.79**	**9**	P	**P**	**10 07 07.1**	**+0.9**
	baz=190						
CCAR	**Cane Creek**	**25.80**	**345**	P	**P**	**10 07 05.5**	**-0.8**
PTGA	**Pitinga**	**25.84**	**111**	P	**P**	**10 07 07.3**	**+0.3**
	comp=Z,20nm,0.9s,baz=298,slow=11,SNR=28						
PTGA	**Pitinga**	**25.84**	**111**	P	**P**	**10 07 08.1**	**+1.2**
PTGA				IAmb	IAmb	10 07 09.1	
	comp=Z,39nm,1.1s						
PTGA	**P

FCAR	Ozark Folk Cen comp=Z,21nm,1.0s	27.77	346	IAmb	IAmb	10 07 23.9			
U59A	Littleton baz=193	27.81	11	P	P	10 07 25.0	+0.6		
T53A	Wise baz=183,SNR=5.9	27.89	3	P	P	10 07 25.2	0.0		
T47A	Sharon Grove comp=Z,28nm,1.1s	28.00	355	IAmb	IAmb	10 07 44.1			
T54A	Tazewell baz=185,SNR=8.0	28.02	4	P	P	10 07 26.6	+0.2		
U60A	Pendleton baz=194	28.05	12	P	P	10 07 27.0	+0.5		
U61A	Possum Corner baz=196	28.07	13	P	P	10 07 27.4	+0.7		
T56A	Rocky Mt baz=188,SNR=5.5	28.14	7	P	P	10 07 28.0	+0.7		
T55A	Pulaski baz=187,SNR=8.7	28.14	5	P	P	10 07 28.1	+0.7		
T57A	Hurt baz=190,SNR=6.6	28.20	8	P	P	10 07 28.3	+0.3		
T58A	Grand View Acr baz=191	28.26	9	P	P	10 07 28.6	+0.2		
BLA	Blacksburg baz=187,SNR=5.3	28.27	6	P	P	10 07 29.2	+0.6		
BLA	Blacksburg	28.27	6	P	P	10 07 28.9	+0.3		
U40A	Yellville baz=161,SNR=15	28.39	345	P	P	10 07 29.2	-0.4		
U40A	Yellville comp=Z,17nm,0.9s	28.39	345	IAmb	IAmb	10 07 30.9			
T59A	Double "B" Far baz=193,SNR=6.5	28.46	11	P	P	10 07 30.7	+0.6		
T59A	Double "B" Far comp=Z,26nm,1.1s	28.46	11	IAmb	IAmb	10 07 37.8			
S53A	Williamson baz=184,SNR=6.6	28.60	3	P	P	10 07 31.3	-0.2		
T42A	Van Buren comp=Z,25nm,0.7s	28.63	348	IAmb	IAmb	10 07 31.0			
S54A	Dingess, Beckl baz=185	28.77	4	P	P	10 07 33.3	+0.3		
S55A	Lewisburg baz=187,SNR=9.9	28.82	6	P	P	10 07 34.2	+0.7		
S56A	Natural Bridge baz=189	28.83	7	P	P	10 07 34.1	+0.5		
TUL1	Leonard baz=155	28.86	340	P	P	10 07 33.0	-0.7		
TUL1	Leonard	28.86	340	P	P	10 07 32.4	-1.3		
S44A	Carbondale comp=Z,27nm,1.0s	28.95	351	IAmb	IAmb	10 07 34.6			
WMOK	Wichita Mounta baz=148	28.97	334	P	P	10 07 33.8	-1.0		
S58A	Poland Farm, P baz=192	28.99	10	P	P	10 07 35.0	+0.1		
S57A	Dark Hollow, R baz=190	29.00	8	P	P	10 07 35.0	+0.1		
MGMO	Mountain Grove comp=Z,32nm,1.1s	29.00	346	IAmb	IAmb	10 07 34.7			
USIN	University of comp=Z,28nm,0.9s	29.02	354	IAmb	IAmb	10 07 35.2			
R50A	Paris comp=Z,28nm,0.8s	29.15	360	IAmb	IAmb	10 07 37.3			
WCI	Wyandotte Cave baz=175	29.17	356	P	P	10 07 35.7	-0.8		
WCI	Wyandotte Cave WCI comp=Z,34nm,0.9s	29.17	356	P IAmb	P IAmb	10 07 35.3 10 07 36.9	-1.2		
R54A	Victor baz=186,SNR=7.6	29.18	5	P	P	10 07 36.9	+0.3		
R53A	Hurricane baz=184,SNR=8.3	29.26	3	P	P	10 07 37.5	+0.2		
S59A	Mechanicsville baz=194,SNR=5.4	29.27	11	P	P	10 07 37.9	+0.5		
R58B	Mineral baz=192	29.36	10	P	P	10 07 38.8	+0.6		
R55A	Marlinton baz=188,SNR=7.1	29.36	6	P	P	10 07 38.2	-0.1		
R56A	Bull Pasture M baz=189	29.57	7	P	P	10 07 40.9	+0.7		
R57A	Stanardsville baz=191,SNR=7.4	29.59	9	P	P	10 07 40.6	+0.5		
LPAZ	La Paz comp=Z,3.1nm,0.5s,baz=314,slow=9.0,SNR=20	29.64	148	P	P	10 07 42.5	+0.9		
LPAZ	comp=Z,376nm,21.8s,baz=313,slow=38			LR	LR	10 20 23.8			
LPAZ	La Paz	29.64	148	P	P	10 07 44.3	+2.7		
LPAZ	La Paz	29.64	148	eP	P	10 07 40.2	-1.4		
CCM	Cathedral Cave baz=165	29.65	348	P	P	10 07 38.9	-1.8		
CCM	Cathedral Cave	29.65	348	P	P	10 07 39.0	-1.7		
R58A	Rapidan baz=192,SNR=7.2	29.67	10	P	P	10 07 41.7	+0.8		
R59A	King George, V baz=194	29.73	11	P	P	10 07 41.3	-0.1		
Q53A	Leroy baz=185,SNR=13	29.81	4	P	P	10 07 42.5	+0.3		
OLIL	Olney comp=Z,36nm,1.0s	29.83	354	IAmb	IAmb	10 07 42.6			
Q52A	Bidwell baz=183,SNR=11	29.87	3	P	P	10 07 42.8	+0.1		
Q54A	Coxs Mills baz=186,SNR=7.4	29.99	5	P	P	10 07 44.2	+0.4		
Q54A	Coxs Mills comp=Z,16nm,0.8s	29.99	5	IAmb	IAmb	10 07 45.2			
MNTX	Cornudas Mount baz=134	30.06	322	P	P	10 07 43.9	-0.6		
MNTX	Cornudas Mount	30.06	322	P	P	10 07 43.6	-0.9		
Q55A	Buckhannon baz=188,SNR=13	30.07	6	P	P	10 07 45.6	+1.1		
R40A	Maddies Statio comp=Z,9.5nm,0.6s	30.09	347	IAmb	IAmb	10 07 45.4			
BLO	Bloomington comp=Z,28nm,0.8s	30.12	356	IAmb	IAmb	10 07 45.0			
Q56A	Snyder Ridge, baz=189,SNR=7.2	30.22	7	P	P	10 07 46.8	+1.0		
Q56A	Snyder Ridge, comp=Z,18nm,0.9s	30.22	7	IAmb	IAmb	10 07 48.2			
Q57A	Strasburg baz=191,SNR=6.0	30.33	9	P	P	10 07 47.4	+0.6		
Q58A	Fox Den Farm, baz=192	30.35	10	P	P	10 07 47.6	+0.7		
P51A	Williamsport baz=182,SNR=16	30.36	1	P	P	10 07 46.7	-0.4		
P49A	Miami Univ. Ec baz=178,SNR=13	30.41	359	P	P	10 07 46.5	-0.9		
P53A	Whipple baz=185,SNR=16	30.45	4	P	P	10 07 48.4	+0.6		
P52A	Corning baz=184,SNR=12	30.55	3	P	P	10 07 48.6	0.0		
P52A	Corning comp=Z,27nm,0.8s	30.55	3	IAmb	IAmb	10 07 49.8			
P55A	Reedsville baz=188,SNR=8.4	30.61	6	P	P	10 07 50.0	+0.7		
P46A	Rosedale comp=Z,26nm,0.8s	30.62	355	IAmb	IAmb	10 07 49.1			
P54A	Burton baz=187	30.64	5	P	P	10 07 49.4	-0.1		
PB16	IPOC Station P PB16 comp=Z,26nm,1.4s	30.71	152	P IAmb	P IAmb	10 07 52.4 10 07 57.6	+1.4		
P56A	Dayton Farm, R baz=190	30.73	8	P	P	10 07 51.2	+1.0		
MCWV	Mont Chateau baz=188,SNR=9.9	30.75	6	P	P	10 07 51.0	+0.5		
Q60A	Greensboro baz=196	30.76	13	P	P	10 07 51.7	+1.2		
Q60A	Greensboro	30.76	13	P	P	10 07 51.0	+0.4		
P57A	Homestead Farm baz=192,SNR=8.9	30.82	9	P	P	10 07 52.3	+1.2		
P57A	Homestead Farm comp=Z,34nm,1.1s	30.82	9	IAmb	IAmb	10 07 53.5			
P43A	Skaggs, Pawnee comp=Z,25nm,0.7s	30.90	352	IAmb	IAmb	10 07 51.7			
P58A	Pank, Wackersv baz=193,SNR=5.3	30.95	10	P	P	10 07 52.8	+0.6		
O51A	Pataskala baz=182,SNR=25	31.04	2	P	P	10 07 53.0	-0.1		
O52A	Adamsville baz=184,SNR=8.8	31.05	3	P	P	10 07 53.0	-0.1		
O52A	Adamsville comp=Z,27nm,0.8s	31.05	3	IAmb	IAmb	10 07 54.2			
ACSO	Alum Creek Sta baz=182,SNR=20	31.11	2	P	P	10 07 53.6	-0.1		
O53A	New Philadelph baz=185,SNR=8.6	31.22	4	P	P	10 07 54.6	+0.1		
O53A	New Philadelph comp=Z,48nm,1.2s	31.22	4	IAmb	IAmb	10 07 55.8			
O54A	Avella baz=187	31.22	5	P	P	10 07 54.6	0.0		
P59A	Jarrettsville baz=194,SNR=5.5	31.23	11	P	P	10 07 55.6	+0.9		
O44A	Mansfield comp=Z,48nm,1.3s	31.27	353	IAmb	IAmb	10 07 54.7			
O55A	Ligonier baz=189,SNR=7.7	31.36	7	P	P	10 07 56.3	+0.4		
MNMC	Minye Minye comp=Z,18nm,1.0s	31.37	153	IAmb	IAmb	10 08 02.8			
SFIN	Lafayette baz=174,SNR=19	31.37	355	P	P	10 07 54.4	-1.4		
SFIN	Lafayette	31.37	355	P	P	10 07 54.1	-1.7		
O56A	Blue Knob Stat baz=190	31.51	8	P	P	10 07 58.0	+0.8		
MALB	Monte Alegre	31.55	109	eP	P	10 07 58.6	+0.7		
P60A	Greenville baz=196	31.58	12	P	P	10 07 58.3	+0.6		
P60A	Greenville comp=Z,26nm,1.0s	31.58	12	IAmb	IAmb	10 07 59.5			
O57A	Amberson baz=192,SNR=7.0	31.59	9	P	P	10 07 58.6	+0.7		
MVL	Millersville comp=Z,29nm,1.2s	31.62	11	IAmb	IAmb	10 08 06.3			
O58A	Lewisberry baz=193,SNR=7.4	31.63	10	P	P	10 07 59.2	+1.0		
P61A	Hammonton baz=197	31.64	14	P	P	10 08 00.1	+1.8		
P38A	Dawn comp=Z,12nm,0.6s	31.66	346	IAmb	IAmb	10 07 59.5			
PSUB	Penn St. - Bra comp=Z,15nm,0.9s	31.73	13	IAmb	IAmb	10 08 00.8			
N52A	McGinn's Farm, baz=184,SNR=6.2	31.75	3	P	P	10 07 58.8	-0.4		
HDIL	Hopedale baz=170,SNR=17	31.77	352	P	P	10 07 58.0	-1.4		
HDIL	Hopedale	31.77	352	P	P	10 07 57.5	-1.9		
N47A	Urbana comp=Z,16nm,0.7s	31.78	358	IAmb	IAmb	10 07 59.3			
N53A	Lisbon baz=186	31.80	5	P	P	10 07 59.4	-0.3		
N51A	Ashland baz=183,SNR=6.2	31.82	2	P	P	10 07 59.3	-0.5		
PB11	IPOC Station P comp=Z,15nm,0.9s	31.89	154	IAmb	IAmb	10 08 09.7			
O59A	Robesonia baz=195	31.95	11	P	P	10 08 02.0	+1.0		
N55A	Marion Center baz=188,SNR=11	31.96	7	P	P	10 08 01.5	+0.3		
SSPA	Standing Stone baz=191	31.97	9	P	P	10 08 01.8	+0.6		
SSPA	Standing Stone SSPA comp=Z,18nm,0.9s	31.97	9	P IAmb	P IAmb	10 08 01.6 10 08 02.4	+0.3		
GO01	Chusmiza comp=Z,19nm,1.1s	32.02	153	IAmb	IAmb	10 08 09.1			
KSU1	Kansas State U comp=Z,7.9nm,0.6s	32.02	341	IAmb	IAmb	10 08 02.1			
N54A	Moraine State baz=187	32.03	6	P	P	10 08 01.9	+0.1		
N54A	Moraine State comp=Z,23nm,1.3s	32.03	6	IAmb	IAmb	10 08 04.0			
O61A	Allentown baz=198	32.09	14	P	P	10 08 03.3	+1.1		
O60A	Telford baz=196,SNR=5.7	32.12	12	P	P	10 08 03.3	+0.9		
121A	Cookes Peak, D baz=131,SNR=6.3	32.12	320	P	P	10 08 05.9	+3.0		
R32A	Long Quarter, comp=Z,8.9nm,0.7s	32.14	338	IAmb	IAmb	10 08 02.7			
N57A	Milroy baz=192,SNR=5.4	32.14	9	P	P	10 08 03.1	+0.4		
VILB	Vilhena	32.18	132	eP	P	10 08 03.0	-0.3		
N56A	West Decatur baz=190,SNR=7.0	32.19	8	P	P	10 08 03.7	+0.5		
M51A	Elyria baz=183	32.24	3	P	P	10 08 03.1	-0.5		
319A	Douglas comp=Z,27nm,0.9s	32.36	317	IAmb	IAmb	10 08 18.6			
N58A	Sunbury baz=193,SNR=6.8	32.36	10	P	P	10 08 05.3	+0.7		
N58A	Sunbury comp=Z,28nm,1.0s	32.36	10	IAmb	IAmb	10 08 06.5			
LUPA	Lehigh Univers comp=Z,34nm,1.3s	32.39	12	IAmb	IAmb	10 08 14.8			
M53A	WI Miller and baz=186	32.44	5	P	P	10 08 05.2	-0.1		
M53A	WI Miller and M53A comp=Z,36nm,1.1s	32.44	5	P IAmb	P IAmb	10 08 04.5 10 08 06.4	-0.8		
M44A	Midewin, Midew comp=Z,25nm,1.1s	32.45	354	IAmb	IAmb	10 08 04.3			
M52A	Chesterland baz=185	32.49	4	P	P	10 08 05.3	-0.5		
M54A	Oil Creek Stat baz=188	32.60	6	P	P	10 08 06.8	0.0		
N59A	State Game Lan baz=195,SNR=8.6	32.62	12	P	P	10 08 08.0	+1.1		
N59A	State Game Lan comp=Z,32nm,1.1s	32.62	12	IAmb	IAmb	10 08 09.0			
M55A	Ridgway baz=190,SNR=13	32.67	7	P	P	10 08 07.6	+0.3		
N60A	Cedar Hill Far baz=196	32.71	13	P	P	10 08 08.4	+0.8		
NPGB	Novo Progresso	32.72	118	eP	P	10 08 07.3	-0.7		
M56A	Emporium baz=190,SNR=8.5	32.76	8	P	P	10 08 08.3	+0.2		
M56A	Emporium comp=Z,25nm,0.9s	32.76	8	IAmb	IAmb	10 08 09.5			
M57A	Sunshine Farm, baz=192,SNR=11	32.78	10	P	P	10 08 09.0	+0.8		
N61A	South Mountain baz=198	32.78	14	P	P	10 08 09.4	+1.1		
HQIL	Hanson Quary C	32.84	355	P	P	10 08 06.7	-2.1		
M58A	Price's Panora baz=194,SNR=7.6	32.93	10	P	P	10 08 10.2	+0.6		
ANMO	Albuquerque baz=198,slow=9.6	32.99	325	P	P	10 08 09.1	-1.3		
ANMO	Albuquerque baz=136	32.99	325	P	P	10 08 10.3	-0.2		
ANMO	Albuquerque	32.99	325	P	P	10 08 09.5	-1.0		
PB01	IPOC Station P comp=Z,13nm,1.1s	33.10	155	IAmb	IAmb	10 08 16.6			
PAL	Palisades baz=198,SNR=6.4	33.11	14	P	P	10 08 11.9	+0.7		
AAM	Ann Arbor baz=180	33.17	0	P	P	10 08 11.3	-0.3		
AAM	Ann Arbor comp=Z,19nm,0.8s	33.17	0	IAmb	IAmb	10 08 11.9			
MCPB	Macapa, AP	33.17	105	eP	P	10 08 12.6	+0.5		
L44A	Lake County Fo baz=173	33.22	355	P	P	10 08 09.9	-2.2		
M60A	Port Jervis baz=197	33.25	13	P	P	10 08 13.0	+0.6		
M59A	Waymart baz=195,SNR=12	33.29	12	P	P	10 08 13.7	+0.9		
L55A	Hinsdale baz=190,SNR=9.6	33.41	8	P	P	10 08 14.0	+0.2		
M61A	Granite Spring baz=198,SNR=6.7	33.43	14	P	P	10 08 14.5	+0.5		
L57A	Andrews Acres baz=193,SNR=9.3	33.47	10	P	P	10 08 14.7	+0.4		
L56A	Greenwood baz=192	33.49	9	P	P	10 08 15.2	+0.7		
L56A	Greenwood comp=Z,18nm,1.0s	33.49	9	IAmb	IAmb	10 08 17.6			
T25A	Trinidad baz=141	33.55	330	P	P	10 08 19.1	+3.7		
WVNY	West Valley, N	33.61	7	P	P	10 08 15.2	-0.3		
L58A	Harry Jones Me baz=194,SNR=9.7	33.69	11	P	P	10 08 16.8	+0.6		
SCIA	State Center baz=163,SNR=5.9	33.76	348	P	P	10 08 15.1	-1.7		
M62A	Hasden baz=200	33.78	15	P	P	10 08 17.6	+0.6		
K54A	Basiliko Farm, baz=189	33.80	7	P	P	10 08 17.2	0.0		
BINY	Binghamton baz=194,SNR=8.2	33.81	11	P	P	10 08 17.9	+0.6		
KSCT	Kent School, K comp=Z,20nm,0.9s	33.90	14	IAmb	IAmb	10 08 19.7			
TUC	Tucson baz=127	33.94	317	P	P	10 08 19.5	+0.8		
TUC	Tucson TUC comp=Z,8.1nm,0.9s	33.94	317	P IAmb	P IAmb	10 08 19.4 10 08 21.4	+0.7		
M63A	Gales Ferry baz=201	33.97	16	P	P	10 08 19.7	+1.1		
L60A	Shokan baz=197,SNR=8.9	33.97	13	P	P	10 08 19.7	+1.0		
L59A	Walton baz=196,SNR=7.8	33.99	12	P	P	10 08 19.6	+0.7		
K55A	Perry baz=190,SNR=5.9	34.00	8	P	P	10 08 18.9	0.0		
K56A	Middlesex baz=192	34.08	9	P	P	10 08 19.9	+0.3		
J47A	Sunmer comp=Z,17nm,0.7s	34.11	359	IAmb	IAmb	10 08 18.8			
JFWS	Jewell Farm baz=169,SNR=20	34.22	352	P	P	10 08 19.0	-1.8		
K57A	Scipio Center baz=193,SNR=5.7	34.24	10	P	P	10 08 21.1	+0.2		
L61A	Hillsdale 1, H baz=198	34.32	14	P	P	10 08 22.7	+1.0		
CLDB	Colider	34.33	125	eP	P	10 08 19.9	-2.2		
M64A	Tiverton baz=203	34.34	17	P	P	10 08 22.9	+1.0		
L62A	Suffield baz=200	34.39	15	P	P	10 08 23.0	+0.8		
K58A	Earlville baz=195,SNR=5.1	34.42	11	P	P	10 08 23.1	+0.4		
K58A	Earlville comp=Z,21nm,0.9s	34.42	11	IAmb	IAmb	10 08 24.1			
J54A	Appleton baz=189	34.46	7	P	P	10 08 22.6	-0.2		
SDCO	Great Sand Dun baz=140	34.57	329	P	P	10 08 24.1	-0.2		
K59A	Cooperstown baz=196,SNR=7.3	34.59	12	P	P	10 08 24.6	+0.5		
L34A	Svendsen Farm, comp=Z,14nm,0.6s	34.59	344	IAmb	IAmb	10 08 29.0			
BGNE	Belgrade baz=155	34.61	341	P	P	10 08 24.1	-0.1		
PTLB	Pontes e Lacer	34.61	134	eP	P	10 08 24.1	-0.4		
J56A	Wolcott baz=192	34.71	9	P	P	10 08 25.1	0.0		
LVC	Limon Verde LVC comp=Z,31nm,1.2s	34.73	155	P IAmb	P IAmb	10 08 31.1 10 08 32.9	+5.2		
LVC	Limon Verde	34.73	155	eP	P	10 08 26.2	+0.3		
I51A	Listowel baz=185,SNR=5.1	34.77	4	P	P	10 08 24.5	-1.1		
L61B	Northampton baz=200	34.78	15	P	P	10 08 26.1	+0.4		
L64A	Middleborough baz=203	34.80	17	P	P	10 08 26.8	+1.0		
TRY	Troy TRY comp=Z,23nm,0.9s	34.80	13	P IAmb	P IAmb	10 08 26.9 10 08 28.1	+1.0		
K61A	Williamstown baz=199,SNR=6.3	34.84	14	P	P	10 08 27.4	+1.2		
J57A	Williamstown baz=194	34.99	10	P	P	10 08 27.3	-0.1		
J57A	Williamstown comp=Z,17nm,0.8s	34.99	10	IAmb	IAmb	10 08 28.4			
W18A	Petrified Fore baz=131	35.05	322	P	P	10 08 30.1	+1.8		
J58A	Remsen baz=195,SNR=11	35.07	11	P	P	10 08 28.6	+0.4		
K62A	Royalston baz=200	35.09	15	P	P	10 08 29.2	+0.9		
214A	Organ Pipe Nat baz=124,SNR=8.8	35.13	315	P	P	10 08 30.4	+1.5		
214A	Organ Pipe Nat comp=Z,13nm,0.8s	35.13	315	IAmb	IAmb	10 08 31.9			
S22A	4UR Ranch, Cre baz=138	35.25	328	P	P	10 08 30.0	-0.1		
K63A	Dunstable baz=202	35.30	16	P	P	10 08 31.2	+1.1		
J59A	Piesco baz=196	35.32	12	P	P	10 08 29.9	-0.4		
J59A	Piesco comp=Z,14nm,1.1s	35.32	12	IAmb	IAmb	10 08 31.6			
J60A	Lant Hill Farm baz=198,SNR=7.1	35.35	13	P	P	10 08 31.7	+1.1		
ACCN	Adirondack Com comp=Z,25nm,1.3s	35.43	13	IAmb	IAmb	10 08 38.5			
I58A	Old Forge baz=195	35.45	11	P	P	10 08 31.5	+0.1		
I55A	Frankford baz=191	35.51	8	P	P	10 08 31.7	-0.3		
I57A	Carthage baz=194,SNR=5.9	35.56	10	P	P	10 08 32.4	+0.1		
OGNE	Ogallala baz=148	35.60	336	P	P	10 08 34.4	+1.6		
OGNE	Ogallala	35.60	336	P	P	10 08 34.3	+1.4		
J61A	Chester baz=200,SNR=7.6	35.65	14	P	P	10 08 34.3	+1.1		
X16A	Lo Mia Camp, P comp=Z,13nm,0.7s	35.67	319	IAmb	IAmb	10 08 36.9			
J62A	Henniker baz=201	35.73	15	P	P	10 08 34.9	+1.1		
H53A	Bobcaygeon baz=189	35.75	7	P	P	10 08 33.5	-0.5		
MVCO	Mesa Verde baz=135	35.77	326	P	P	10 08 34.5	0.0		
I59A	Olmsteadville baz=197,SNR=12	35.77	13	P	P	10 08 34.5	+0.3		
H55A	Tweed baz=191	35.91	8	P	P	10 08 34.5	-0.8		
I60A	Shoreham baz=198,SNR=9.5	35.95	13	P	P	10 08 36.3	+0.6		
J63A	Strafford baz=202	35.97	16	P	P	10 08 36.0	+0.1		
HNH	Hanover comp=Z,20nm,0.8s	36.05	15	IAmb	IAmb	10 08 38.7			
H56A	Elgin baz=193,SNR=6.2	36.09	9	P	P	10 08 36.9	0.0		
H57A	Richville baz=194	36.11	11	P	P	10 08 37.0	-0.1		
ISCO	Idaho Springs baz=142	36.22	331	P	P	10 08 37.6	-0.9		
ISCO	Idaho Springs	36.22	331	PcP	PcP	10 11 05.4	+2.0		
113A	Mohawk Valley, comp=Z,22nm,1.3s	36.26	315	IAmb	IAmb	10 08 41.4			
I61A	Oroboro, Fairl baz=200,SNR=9.5	36.29	14	P	P	10 08 39.7	+1.1		
ECSD	EROS Data Cent baz=158,SNR=20	36.30	345	P	P	10 08 36.1	-2.7		
ECSD	EROS Data Cent ECSD comp=Z,19nm,0.8s	36.30	345	P IAmb	P IAmb	10 08 36.1 10 08 38.8	-2.7		
WUAZ	Wupatki baz=130,SNR=7.4	36.32	321	P	P	10 08 40.2	+0.9		
WUAZ	Wupatki comp=Z,13nm,1.0s	36.32	321	IAmb	IAmb	10 08 42.5			
PLVO	Plevna comp=Z,24nm,1.0s	36.40	8	IAmb	IAmb	10 08 40.2			
LONY	Lake Ozonia baz=196,SNR=5.9	36.42	11	P	P	10 08 39.6	-0.1		
LONY	Lake Ozonia comp=Z,24nm,1.1s	36.42	11	IAmb	IAmb	10 08 40.9			
I62A	Tamworth baz=201	36.46	16	P	P	10 08 40.6	+0.6		
I62A	Tamworth comp=Z,26nm,1.0s	36.46	16	IAmb	IAmb	10 08 42.3			
G40A	Rib Lake comp=Z,16nm,0.8s	36.52	353	IAmb	IAmb	10 08 39.5			
VT1	Waterbury comp=Z,26nm,1.1s	36.53	14	IAmb	IAmb	10 08 42.4			
SPX	San Pedro Mart SPX comp=Z,12nm,1.0s	36.56	311	P IAmb	P IAmb	10 08 42.6 10 08 44.5	+1.1		
PV02	Paradox Valley comp=Z,14nm,1.4s	36.61	326	IAmb	IAmb	10 08 44.7			
G54A	Lake Saint Pet baz=190	36.62	7	P	P	10 08 40.6	-0.9		
H59A	Cadyville baz=197	36.62	12	P	P	10 08 41.4	0.0		
PV13	Radium Mtn., P comp=Z,11nm,1.1s	36.62	326	IAmb	IAmb	10 08 53.1			
LBNH	Lisbon baz=200	36.65	15	P	P	10 08 42.7	+1.0		
LBNH	Lisbon comp=Z,28nm,1.1s	36.65	15	IAmb	IAmb	10 08 53.9			
G55A	Calabogie baz=192,SNR=8.6	36.66	9	P	P	10 08 41.3	-0.5		
F49A	Sandfield baz=183	36.67	2	P	P	10 08 40.2	-1.6		
PV03	Paradox Valley	36.71	326	P	P	10 08 41.5	-1.0		
F48A	Evansville baz=182	36.71	2	P	P	10 08 40.9	-1.2		
PV12	Saucer Basin, comp=Z,16nm,1.0s	36.73	327	IAmb	IAmb	10 08 53.6			
PV07	Paradox Valley comp=Z,12nm,1.1s	36.73	327	IAmb	IAmb	10 08 53.7			
PV18	Skein Mesa, Pa comp=Z,8.8nm,0.8s	36.73	326	IAmb	IAmb	10 08 50.5			
PV11	David Mesa, Pa	36.75	326	IAmb	IAmb	10 08 52.9			

comp=Z,17nm,1.2s
GO02 Mina Guanaco 36.76 158 P P 10 08 48.0 +4.9
GO02 IAmb IAmb 10 08 49.2
comp=Z,28nm,1.1s
H60A Morristown 36.76 14 P **P** **10 08 43.4 +0.8**
baz=199
PV16 Nyswonger Mesa 36.78 326 IAmb IAmb 10 08 53.8
comp=Z,10.0nm,1.1s
PV17 East Wray Mesa 36.79 326 IAmb IAmb 10 08 51.3
comp=Z,9.4nm,0.8s
G57A Newington 36.81 11 P **P** **10 08 43.0 0.0**
baz=195,SNR=5.3
I63A Otisfield 36.82 16 P **P** **10 08 44.4 +1.3**
baz=202,SNR=5.8
PV04 Paradox Valley 36.84 327 IAmb IAmb 10 08 54.4
comp=Z,12nm,1.0s
PV22 Blue Mesa, Par 36.88 327 **PcP** **10 11 07.3 +2.0**
SPMN Marine on St. 36.88 350 P **P** **10 08 41.2 -2.4**
baz=165,SNR=30
H61A Lyndonville 36.92 14 P **P** **10 08 45.0 +0.9**
baz=200
G58A Ormstown 37.03 12 P **P** **10 08 45.0 +0.1**
baz=196
ORIO Orleans, Innes 37.05 10 P **P** **10 08 44.7 -0.4**
baz=194,SNR=6.0
G59A Clarenceville 37.15 13 P **P** **10 08 46.0 +0.1**
baz=198
H62A Milan 37.16 15 P **P** **10 08 47.0 +1.0**
baz=201,SNR=5.2
GLA Glamis 37.16 315 P **P** **10 08 48.1 +1.9**
baz=123,SNR=12
ALGO Algonquin Park 37.18 7 P **P** **10 08 45.3 -0.8**
baz=190,SNR=9.1
COWI Conover 37.23 354 IAmb IAmb 10 08 45.4
comp=Z,12nm,0.7s
PRPB Parauapebas 37.28 113 *eP* **P** **10 08 46.9 -0.6**
F55A Otter Lake 37.29 9 P **P** **10 08 46.6 -0.4**
baz=192,SNR=5.2
E47A Iron Bridge 37.33 1 P **P** **10 08 46.4 -1.0**
baz=181,SNR=9.6
G60A Masonville 37.35 14 P **P** **10 08 48.1 +0.4**
baz=199
E48A Lockeyer 37.38 2 P **P** **10 08 47.0 -0.9**
baz=183,SNR=14
PDMCI Parker Dam,Lak 37.39 317 P **P** **10 08 49.4 +1.3**
baz=125,SNR=18
SALV Santo Antonio 37.41 131 *eP* **P** **10 08 47.9 -0.5**
ESJX Sierra Juarez 37.41 312 IAmb IAmb 10 08 50.3
comp=Z,11nm,0.9s
U15A North Rim 37.48 321 IAmb IAmb 10 08 52.8
comp=Z,12nm,1.3s
H63A New Sharon 37.54 16 P **P** **10 08 50.8 +1.6**
baz=203,SNR=5.3
F57A Harrington 37.55 11 P **P** **10 08 49.2 0.0**
baz=195
TMAB Tom-Au,PA,Br 37.55 106 *eP* **P** **10 08 50.5 +0.8**
SUSD Miller 37.61 342 P **P** **10 08 47.3 -2.6**
baz=155
E53A Dumoine, Ponti 37.64 7 P **P** **10 08 49.2 -0.8**
baz=190
W13A Hualapai Mount 37.68 318 IAmb IAmb 10 08 54.1
comp=Z,15nm,0.8s
G61A St-Isidore-de- 37.72 14 P **P** **10 08 51.8 +1.1**
baz=200
H64A Troy 37.75 17 P **P** **10 08 52.4 +1.4**
baz=204
D46A Sault St. Mari 37.76 360 P **P** **10 08 49.5 -1.5**
baz=180
E54A Lac Daplat, Po 37.76 8 P **P** **10 08 50.2 -0.8**
baz=191
O20A White River Ci 37.77 329 P **P** **10 08 51.0 -0.5**
baz=138
SWSC Sam W. Stewart 37.79 314 P **P** **10 08 53.4 +1.9**
baz=122
IKP In-Ko-Pah, Jac 37.86 313 P **P** **10 08 54.3 +2.0**
baz=121,SNR=6.7
G62A West of Eustis 37.92 16 P **P** **10 08 53.6 +1.2**
baz=202,SNR=11
G62A West of Eustis 37.92 16 P **P** **10 08 53.0 +0.6**
BC3 Big Chuckawall 37.92 315 P **P** **10 08 54.5 +1.7**
baz=123,SNR=11
D47A Chapleau 37.93 1 P **P** **10 08 51.0 -1.5**
baz=181,SNR=7.6
E55A Montcerf-Lytto 37.94 9 P **P** **10 08 52.3 -0.3**
baz=193
F59A Saint Guilaume 37.97 13 P **P** **10 08 52.9 +0.1**
baz=198
IRM Iron Mountain 37.99 316 P **P** **10 08 54.7 +1.5**
baz=124,SNR=8.1
E38A The Farm, Brul 38.02 352 IAmb IAmb 10 08 51.9
comp=Z,19nm,0.8s
G63A Kingsbury 38.07 17 P **P** **10 08 55.0 +1.2**
baz=203,SNR=9.3
D48A Paudash Townsh 38.09 2 P **P** **10 08 52.6 -1.3**
baz=183,SNR=16
CBX Cerro Bola 38.09 312 IAmb IAmb 10 08 57.0
comp=Z,8.9nm,1.0s
H65A Eastbrook 38.10 18 P **P** **10 08 54.5 +0.6**
baz=206
D41A Chassel 38.12 355 IAmb IAmb 10 08 53.4
comp=Z,32nm,1.2s
E56A St. Veronique 38.19 10 P **P** **10 08 54.4 -0.3**
baz=194
MONP2 Monument Peak 38.21 313 P **P** **10 08 57.3 +2.0**
baz=121
E57A Chemin Saint G 38.23 11 P **P** **10 08 54.8 -0.3**
baz=196,SNR=10.0
F60A Warwick 38.27 14 P **P** **10 08 55.2 -0.1**
baz=199,SNR=6.2
PKME Peaks-Kenny Pk 38.30 17 P **P** **10 08 56.9 +1.3**
baz=204,SNR=9.6
D53A Lac Vacive, Po 38.33 7 P **P** **10 08 55.4 -0.5**
baz=190,SNR=5.6
D53A Lac Vacive, Po 38.33 7 IAmb IAmb 10 08 56.4
comp=Z,16nm,0.8s
E58A La Victoria 38.36 12 P **P** **10 08 56.1 0.0**
baz=197,SNR=6.7
AC02 Maricunga 38.45 158 IAmb IAmb 10 09 04.7
comp=Z,28nm,1.1s
G64A Maxfield 38.45 17 P **P** **10 08 57.9 +1.0**
baz=205
H66A Whiting 38.48 19 P **P** **10 08 58.3 +1.2**
baz=207
BELC Belle Mtn. Jos 38.49 315 P **P** **10 08 59.5 +1.9**
baz=122,SNR=15
D54A Lac Fusel, La 38.53 8 P **P** **10 08 56.9 -0.7**
baz=192,SNR=12
D55A Sainte-Anne-du 38.58 9 P **P** **10 08 57.6 -0.4**
baz=194,SNR=14
TPFO Pinon Flats 38.60 314 P **P** **10 09 00.5 +2.0**
baz=122,SNR=14
PFO Pinyon Flats O 38.61 314 P **P** **10 09 00.3 +1.7**
baz=122,SNR=12
PFO Pinyon Flats O 38.61 314 P **P** **10 09 00.7 +2.1**
PFO IAmb IAmb 10 09 01.6
comp=Z,14nm,0.8s
GMRC Granite Mounta 38.69 316 P **P** **10 09 00.9 +1.7**
baz=124,SNR=8.0
F62A Pittston Farm, 38.70 16 P **P** **10 08 59.6 +0.6**
baz=202
109C Camp Elliot, M 38.70 313 P **P** **10 09 01.1 +1.9**
baz=120
109C Camp Elliot, M 38.70 313 IAmb IAmb 10 09 02.1
comp=Z,29nm,1.2s
D56A ZEC Mazanza, M 38.73 10 P **P** **10 08 58.8 -0.5**
baz=195,SNR=7.1
TMUT Trail Mountain 38.75 326 **PcP** **10 11 12.9 +1.8**
F63A Nahmakanta, Br 38.76 17 P **P** **10 09 00.3 +0.8**
baz=204,SNR=6.8
F63A Nahmakanta, Br 38.76 17 IAmb IAmb 10 09 01.4
comp=Z,31nm,1.1s
E60A Ste Agathe de 38.76 14 P **P** **10 08 59.8 +0.3**
baz=200,SNR=5.4
G65A Princeton 38.77 19 P **P** **10 09 00.8 +1.2**
baz=206
G65A Princeton 38.77 19 IAmb IAmb 10 09 01.8
comp=Z,23nm,0.8s
D57A Chemin Vers le 38.86 11 P **P** **10 09 00.1 -0.2**
baz=196,SNR=14
K22A Casper 38.90 333 P **P** **10 09 00.3 -0.6**
baz=143
E61A Lac Etchemin 39.05 15 P **P** **10 09 03.1 +1.1**
baz=201
RSSD Black Hills 39.07 337 P **P** **10 09 02.1 -0.3**
baz=147
F64A Sherman 39.12 17 P **P** **10 09 03.6 +1.1**
baz=205,SNR=12
F64A Sherman 39.12 17 P **P** **10 09 03.3 +0.8**

MURC Murrieta 39.13 314 P **P** **10 09 04.8 +1.9**
baz=121,SNR=9.6
D58A Chemin du LacG 39.13 12 P **P** **10 09 02.6 0.0**
baz=198,SNR=8.7
BBRC Big Bear Solar 39.28 315 P **P** **10 09 06.5 +2.2**
baz=122
EYMN Ely 39.33 352 P **P** **10 09 01.7 -2.5**
baz=168,SNR=7.6
EYMN Ely 39.33 352 IAmb IAmb 10 09 02.5
comp=Z,9.5nm,0.6s
SHPR Sheep Range 39.35 319 P **P** **10 09 06.1 +1.4**
VLDQ Val d'Or 39.37 7 IAmb IAmb 10 09 04.9
comp=Z,26nm,1.1s
D60A Saint Jean D'O 39.40 14 P **P** **10 09 05.1 +0.3**
baz=200,SNR=5.5
LATQ La Tuque 39.43 12 P **P** **10 09 05.1 +0.1**
baz=198,SNR=9.8
E62A Clayton Lake 39.48 16 P **P** **10 09 06.5 +0.9**
baz=203
E62A Clayton Lake 39.48 16 IAmb IAmb 10 09 07.4
comp=Z,23nm,0.8s
E63A Oxbow 39.61 17 P **P** **10 09 07.7 +1.2**
baz=204,SNR=9.3
SHOC Shoshone, Teco 39.73 317 P **P** **10 09 10.1 +2.3**
baz=124,SNR=12
GSC Goldstone, Bar 39.76 316 P **P** **10 09 09.8 +1.6**
baz=123,SNR=11
GSC Goldstone, Bar 39.76 316 IAmb IAmb 10 09 11.2
comp=Z,11nm,1.0s
E64A Bridgewater 39.78 18 P **P** **10 09 09.0 +1.1**
baz=205,SNR=5.5
BFSC Mount Baldy Ra 39.79 314 P **P** **10 09 10.0 +1.6**
baz=121
D61A St Aubert, Com 39.85 15 P **P** **10 09 09.1 +0.5**
baz=202
AC05 El Transito 39.89 161 P **P** **10 09 12.9 +3.6**
AC05 IAmb IAmb 10 09 15.6
comp=Z,42nm,1.4s
CIS Catalina Islan 39.91 313 P **P** **10 09 11.3 +1.9**
baz=119,SNR=5.6
D62A Allapoint, All 40.03 16 P **P** **10 09 10.9 +0.8**
baz=203,SNR=10
E28A Huff 40.06 342 IAmb IAmb 10 09 10.2
comp=Z,28nm,1.0s
MWC Mount Wilson 40.06 314 IAmb IAmb 10 09 19.1
comp=Z,18nm,1.3s
PASC Pasadena Art C 40.13 314 IAmb IAmb 10 09 21.7
comp=Z,25nm,1.4s
ARAG Araguaiana, MT 40.26 127 *eP* **P** **10 09 11.5 -0.8**
D63A Stockholm 40.26 17 P **P** **10 09 13.0 +1.0**
baz=205,SNR=8.4
LMN Caledonia Moun 40.26 21 P **P** **10 09 11.6 -0.4**
DECC Green Verdugo 40.27 314 P **P** **10 09 14.4 +2.1**
baz=120
TPNV Topopah Spring 40.31 319 P **P** **10 09 14.4 +1.6**
baz=125,SNR=11
EDW2 Edwards Air Fo 40.36 315 P **P** **10 09 14.5 +1.4**
baz=121
LSQQ Lebel-sur-Quev 40.36 7 P **P** **10 09 11.7 -1.1**
baz=191
SMTB Santa Maria do 40.39 115 *eP* **P** **10 09 13.6 0.0**
BW06 Boulder Array 40.40 331 P **P** **10 09 11.8 -1.7**
baz=139
BW06 Boulder Array 40.40 331 **PcP** **10 11 16.9 +0.6**
PD31 Pinedale Array 40.40 331 **PcP** **10 11 17.2 +1.0**
PDAR Pinedale Array 40.40 331 P **P** **10 09 11.1 -2.5**
comp=Z,1.0nm,0.6s,baz=131,slow=9.6,SNR=12
PDAR PcP **PcP** **10 11 15.9 -0.3**
comp=Z,3.9nm,1.1s,baz=139,slow=4.3,SNR=7.4
PDAR LR LR 10 30 33.4
comp=Z,160nm,18.8s,baz=142,slow=43
PDAR Pinedale Array 40.40 331 P **P** **10 09 11.5 -2.0**
PDAR **PcP** **10 11 16.7 +0.5**
AGMN Agassiz Nation 40.42 348 P **P** **10 09 11.2 -2.1**
baz=162,SNR=19
AQDB Aquidauana 40.43 137 *eP* **P** **10 09 13.2 -0.5**
FURC Furnace Creek, 40.44 318 P **P** **10 09 15.3 +1.7**
baz=124,SNR=19
HWUT Hardware Ranch 40.56 328 **PcP** **10 11 18.2 +1.5**
R11A Troy Canyon, C 40.72 321 P **P** **10 09 17.1 +0.9**
baz=127,SNR=11
MDND Maddock 40.90 344 P **P** **10 09 15.3 -2.0**
baz=156,SNR=8.0
MATQ Matagami 40.98 6 P **P** **10 09 16.6 -1.2**
baz=190,SNR=11
ARVC Arvin 41.07 315 P **P** **10 09 20.7 +1.8**
baz=121,SNR=8.8
ISA Isabella, Lake 41.10 316 P **P** **10 09 21.1 +1.9**
baz=122,SNR=6.0
ISA Isabella, Lake 41.10 316 P **P** **10 09 20.3 +1.1**
CWC Cottonwood Cre 41.25 317 P **P** **10 09 21.9 +1.4**
baz=123
ROSB Rosrio 41.49 105 *eP* **P** **10 09 22.2 -0.4**
CHGQ Chibougamau 41.56 9 P **P** **10 09 21.9 -0.8**
baz=194,SNR=6.0
VES Vestal, Richgr 41.62 315 P **P** **10 09 25.6 +2.3**
baz=121,SNR=14
CO03 El Pedregal 41.63 163 IAmb IAmb 10 09 29.6
comp=Z,22nm,1.2s
PKM Mcpherson Peak 41.65 314 P **P** **10 09 25.7 +1.8**
baz=119
TIN Tinemaha, Big 41.68 317 P **P** **10 09 26.4 +2.4**
baz=123
FXWY Fox Creek 41.76 330 PcP **PcP** **10 11 22.2 +1.5**
CO02 Combarbal 41.88 163 IAmb IAmb 10 09 31.6
comp=Z,26nm,1.1s
IMW Indian Meadow 41.91 331 PcP **PcP** **10 11 23.0 +1.8**
SMMC Simmler 41.99 314 P **P** **10 09 28.7 +2.2**
baz=120,SNR=7.6
LAO LASA Array 42.07 337 P **P** **10 09 25.4 -1.5**
baz=146
RLMT Red Lodge 42.07 333 P **P** **10 09 25.5 -1.6**
baz=141
ULM Lac du Bonnet 42.28 349 P **P** **10 09 25.8 -2.8**
comp=Z,24nm,0.8s,baz=162,slow=7.6,SNR=22
ULM LR LR 10 28 46.6
comp=Z,106nm,19.1s,baz=172,slow=39
ULM Lac du Bonnet 42.28 349 P **P** **10 09 24.9 -3.6**
ULM IAmb IAmb 10 09 27.2
comp=Z,23nm,0.8s
NVAR Mina Array Bea 42.50 319 P **P** **10 09 30.9 +0.1**
comp=Z,6.9nm,0.7s,baz=132,slow=7.0,SNR=51
NVAR PcP **PcP** **10 11 24.1 +0.9**
comp=Z,1.9nm,0.7s,baz=131,slow=4.0,SNR=3.6
NVAR Mina Array Bea 42.50 319 P **P** **10 09 31.3 +0.5**
LHV Little Huntoon 42.53 319 IAmb IAmb 10 09 34.3
comp=Z,10nm,0.7s
MDPB Devils Postpil 42.56 318 P **P** **10 09 31.9 +0.5**
MDPB IAmb IAmb 10 09 34.4
comp=Z,12nm,0.9s
DGMT Dagmar 42.85 340 P **P** **10 09 32.0 -1.3**
baz=150,SNR=5.3
DGMT Dagmar 42.85 340 IAmb IAmb 10 09 32.7
comp=Z,17nm,0.8s
ZON Zonda 42.91 161 IAmb IAmb 10 09 40.3
comp=Z,24nm,1.2s
BDFB Brasilia 43.26 124 P **P** **10 09 35.5 -1.6**
comp=Z,4.9nm,0.9s,baz=257,slow=7.3,SNR=5.2
BDFB Brasilia 43.26 124 P **P** **10 09 34.9 -2.2**
BDFB IAmb IAmb 10 09 49.5
comp=Z,23nm,1.4s
HLID Hailey 43.43 328 P **P** **10 09 37.5 -0.7**
baz=133,SNR=7.2
VA03 San Esteban 43.47 163 IAmb IAmb 10 09 44.1
comp=Z,31nm,1.2s
BOZ Bozeman (W) 43.51 332 P **P** **10 09 37.9 -0.8**
baz=138,SNR=7.0
ITRB Iturama 43.74 131 *eP* **P** **10 09 40.6 -0.2**
DLMT Dillon 43.79 331 P **P** **10 09 40.1 -0.9**
TRCB Terra Rica 44.09 136 *eP* **P** **10 09 43.2 -0.4**
SDBA SAO DESIDERIO 44.31 118 *eP* **P** **10 09 44.8 -0.7**
IPMB Ipameri, GO 44.38 127 *eP* **P** **10 09 45.3 -0.7**
AFDM Forest Hills D 44.53 318 P **P** **10 09 46.9 0.0**
EGMT Eagleton 44.55 335 P **P** **10 09 45.6 -1.4**
baz=142
BO01 Tunca 44.87 165 P **P** **10 09 50.6 +1.1**
BO01 IAmb IAmb 10 09 55.8
comp=Z,41nm,1.4s
WVOR Wild Horse Val 45.06 324 IAmb IAmb 10 09 53.4
comp=Z,17nm,0.8s
ORV Oroville 45.20 318 P **P** **10 09 53.5 +1.3**
ORV IAmb IAmb 10 09 57.8
comp=Z,10nm,0.9s
MSO Missoula 45.50 331 P **P** **10 09 53.5 -1.1**
baz=136
MSO Missoula 45.50 331 P **P** **10 09 53.2 -1.4**
PTGB Pitanga 45.77 138 *eP* **P** **10 09 54.9 -2.0**

O03E Paynes Creek 45.79 319 P **P** **10 09 56.7 -0.2**
baz=122
DRLN Deer Lake 45.85 24 P **P** **10 09 57.3 +0.2**
BB19B Bebedouro 45.92 131 *eP* **P** **10 09 57.5 -0.7**
JANB Januaria 46.05 121 *eP* **P** **10 09 58.7 -0.6**
O02D Mt. Diablo Mer 46.37 318 P **P** **10 10 00.7 -0.8**
baz=121
K05A Summer Lake 46.57 322 PcP **PcP** **10 11 39.6 +2.6**
FRTB Fartura 46.58 134 *eP* **P** **10 10 03.2 -0.1**
M04C Macdoel 46.62 321 P **P** **10 10 03.4 -0.2**
baz=123,SNR=6.3
BI02 San Fabin de 46.98 166 P **P** **10 10 09.1 +2.8**
BI02 IAmb IAmb 10 10 10.0
comp=Z,17nm,1.5s
KMRM Mail Ridge 46.99 318 IAmb IAmb 10 10 11.0
comp=Z,27nm,1.1s
L04D Klamath Falls 47.15 321 P **P** **10 10 07.2 -0.5**
baz=123,SNR=6.0
MC01 Montes Claros 47.16 123 *eP* **P** **10 10 07.7 -0.3**
PINE Pine Mountain 47.22 324 IAmb IAmb 10 10 10.2
comp=Z,7.5nm,0.8s
KHMM Horse Mountain 47.34 319 IAmb IAmb 10 10 13.8
comp=Z,17nm,0.9s
E09A Wood Farm, Sta 47.38 328 IAmb IAmb 10 10 14.3
comp=Z,11nm,0.9s
ITAB Concordia 47.47 140 *eP* **P** **10 10 07.9 -2.2**
J04D Umpqua Nationa 47.60 322 P **P** **10 10 11.0 -0.3**
baz=124
SCHQ Schefferville 47.72 13 P **P** **10 10 10.7 -1.0**
comp=Z,36nm,0.8s,baz=216,slow=5.7,SNR=30
SCHQ LR LR 10 31 18.9
comp=Z,230nm,18.4s,baz=226,slow=37
SCHQ Schefferville 47.72 13 P **P** **10 10 09.7 -2.0**
I05D Terrebonne, OR 47.78 324 P **P** **10 10 13.0 +0.6**
baz=126
FFC Flin Flon 47.80 346 P **P** **10 10 11.0 -1.3**
FFC IAmb IAmb 10 10 13.9
comp=Z,8.9nm,1.1s
E08A Dider Farm, El 47.84 328 IAmb IAmb 10 10 12.1
comp=Z,6.7nm,0.9s
NEW Newport 48.04 331 P **P** **10 10 12.8 -1.6**
baz=133
I04A Tendick Farm, 48.09 323 P **P** **10 10 13.8 -1.0**
baz=124
VAO Valinhos 48.24 132 *eP* **P** **10 10 15.6 -0.7**
K02D Willamette Mer 48.25 321 P **P** **10 10 16.5 +0.3**
baz=122
SPB Sao Paulo 48.26 133 *eP* **P** **10 10 15.9 -0.4**
C09A Chrisman Ranch 48.29 329 IAmb IAmb 10 10 16.8
comp=Z,4.8nm,0.5s
G05D Wamic, OR 48.30 325 P **P** **10 10 17.1 +0.7**
baz=126,SNR=7.7
E07A Sunnyside 48.31 327 IAmb IAmb 10 10 16.4
comp=Z,9.8nm,0.7s
H04A Detroit Lake 48.47 324 IAmb IAmb 10 10 33.8
comp=Z,15nm,1.3s
BSCB Bom Sucesso 48.74 128 *eP* **P** **10 10 19.6 -0.6**
F05D White Salmon 48.77 326 P **P** **10 10 20.3 +0.3**
baz=127
G03D McMinnville, O 49.40 324 P **P** **10 10 25.2 +0.4**
baz=124
GDU01 Guandu, BA 49.56 117 *eP* **P** **10 10 26.1 -0.4**
B06A Marblemount 50.40 328 IAmb IAmb 10 10 31.8
comp=Z,12nm,0.8s
MAN01 Angra dos Reis 50.41 130 *eP* **P** **10 10 32.2 -0.6**
SJMB Sao Joao De Ma 50.43 123 *eP* **P** **10 10 33.1 +0.1**
B05A Bryant 50.56 328 P **P** **10 10 31.8 -1.7**
baz=128
BSFB Barra de Sao F 50.77 123 *eP* **P** **10 10 35.6 0.0**
NAN01 Guarapari, ES 50.90 122 *eP* **P** **10 10 36.7 +0.1**
PLCA Paso Flores 51.02 167 P **P** **10 10 37.3 +0.1**
comp=Z,15nm,1.1s,baz=354,slow=8.2,SNR=14
PLCA LR LR 10 28 51.4
comp=Z,56nm,18.3s,baz=14,slow=32
PLCA Paso Flores 51.02 167 P **P** **10 10 38.6 +1.4**
PLCA IAmb IAmb 10 10 42.0
comp=Z,24nm,1.1s
PLCA Paso Flores 51.02 167 *eP* **P** **10 10 37.3 +0.1**
RIB01 Linhares ES 51.38 123 *eP* **P** **10 10 39.8 -0.3**
LL01 San Ignacio de 52.22 169 IAmb IAmb 10 10 50.4
comp=Z,22nm,1.2s
YKA Yellowknife Ar 57.82 344 P **P** **10 11 24.6 -1.6**
comp=Z,7.3nm,0.9s,baz=151,slow=5.8,SNR=20
YKA PcP **PcP** **10 12 19.1 +0.6**
comp=Z,3.2nm,0.8s,baz=145,slow=4.3,SNR=5.5
DLBC Dease Lake 60.45 334 IAmb IAmb 10 11 48.2
comp=Z,11nm,1.1s
EPYK Eagle Plains 67.44 340 P **P** **10 12 33.0 +2.6**
baz=122
INK Inuvik 67.49 342 P **P** **10 12 30.1 -0.5**
comp=Z,8.9nm,0.9s,baz=144,slow=6.3,SNR=9.1
INK Inuvik 67.49 342 P **P** **10 12 29.4 -1.2**
INK IAmb IAmb 10 12 40.5
comp=Z,29nm,1.4s
BCAR Beaver Creek A 67.77 335 P **P** **10 12 32.3 -0.2**
EGAK Eagle 68.28 337 IAmb IAmb 10 12 39.4
comp=Z,7.9nm,1.0s
K27K Chicken 68.30 336 P **P** **10 12 36.5 +0.7**
baz=115
KLU Klutina 68.92 333 IAmb IAmb 10 12 43.8
comp=Z,7.6nm,0.9s
DOT Dot Lake 68.94 336 IAmb IAmb 10 12 43.3
comp=Z,11nm,0.9s
SCRK Sand Creek 69.05 336 P **P** **10 12 40.9 +0.3**
baz=114
SUMG Summit 69.11 13⇑ *iP* **P** **10 12 40.2 -1.0**
comp=Z,94nm,0.9s
SUMG Summit 69.11 13 P **P** **10 12 39.4 -1.8**
M24K Tolsona, Glenn 69.26 334 P **P** **10 12 44.4 +2.6**
baz=111
RIDG Lakependent Ri 69.30 335 IAmb IAmb 10 12 44.1
comp=Z,10nm,0.9s
KNK Knik Glacier 70.04 333 IAmb IAmb 10 12 48.2
comp=Z,11nm,0.8s
SEW Seward 70.11 331 IAmb IAmb 10 12 55.7
comp=Z,8.8nm,0.9s
GHO Glory Hole Cre 70.37 333 IAmb IAmb 10 12 50.5
comp=Z,11nm,0.8s
HDA Harding Lake 70.41 336 P **P** **10 12 48.4 -0.5**
baz=111,SNR=11
HDA Harding Lake 70.41 336 IAmb IAmb 10 12 52.3
comp=Z,15nm,1.2s
IL31 70.52 336 IAmb IAmb 10 12 52.9
comp=Z,7.1nm,0.8s
ILAR Eielson Array 70.52 336 P **P** **10 12 49.1 -0.4**
comp=Z,4.7nm,0.9s,baz=119,slow=4.3,SNR=23
ILAR LR LR 10 48 40.4
comp=Z,78nm,18.2s,baz=131,slow=40
BMAR Burnt Mountain 70.68 339 P **P** **10 12 50.4 -0.1**
BRLK Bradley Lake 70.70 330 IAmb IAmb 10 12 52.5
comp=Z,12nm,0.8s
RND Reindeer 70.86 334 IAmb IAmb 10 13 07.1
comp=Z,24nm,1.2s
KDAK Kodiak Island 71.05 328 P **P** **10 12 52.6 -0.2**
comp=Z,8.4nm,0.7s,baz=113,slow=3.7,SNR=12
KDAK Kodiak Island 71.05 328 IAmb IAmb 10 12 54.6
comp=Z,11nm,0.8s
SUA Susitna One 71.11 332 IAmb IAmb 10 12 55.1
comp=Z,7.9nm,0.6s
OHAK Old Harbor 71.30 328 P **P** **10 12 55.2 +0.9**
OHAK IAmb IAmb 10 12 56.3
comp=Z,18nm,0.9s
NEA2 Nenana 71.33 336 P **P** **10 12 54.3 -0.2**
baz=109,SNR=6.4
SKT Skwentna 71.61 333 IAmb IAmb 10 13 05.2
comp=Z,9.9nm,1.1s
COLD Coldfoot 72.63 338 P **P** **10 13 03.0 +0.8**
baz=109
TOLK Toolik Lake Re 72.88 340 P **P** **10 13 03.8 +0.1**
baz=110
PCAS Casmilo, Conde 73.19 51 *eP* **P** **10 13 06.8 +0.7**
comp=Z,57nm,1.6s
SVW2 Sparrevohn 73.28 331 IAmb IAmb 10 13 07.0
comp=Z,6.7nm,0.7s
PCVE Castro Verde 73.47 53 *eP* **P** **10 13 08.4 +0.6**
EVO Evora 73.52 53 *eP* **P** **10 13 08.2 +0.2**
comp=Z,26nm,1.6s
IMAR Indian Mountai 73.62 336 P **P** **10 13 07.0 -1.0**
PVIS Viseu 73.68 50 *eP* **P** **10 13 09.2 +0.2**
comp=Z,30nm,1.6s
PVRL Vila Real 73.83 50 *eP* **P** **10 13 12.1 +2.2**
PCBR Castelo Branco 73.97 51 *eP* **P** **10 13 10.6 0.0**
comp=Z,22nm,1.6s
PMRV Marv??o 74.02 52 *eP* **P** **10 13 13.3 +2.3**
comp=Z,16nm,1.9s
MVO Moncorvo 74.35 50 *eP* **P** **10 13 13.1 +0.2**
comp=Z,22nm,1.1s

PBRG	**Braganca**	**74.58**	**49**	*e*P		**P**	**10 13 14.7**	**+0.5**
	comp=Z,23nm,1.5s							
PMSA	**Palmer Station**	**75.08**	**171**	LR		LR	10 43 23.0	
	comp=Z,38nm,18.6s,baz=274,slow=33							
DAG	**Danmarks Havn**	**75.75**	**12**	*i* P		**P**	**10 13 18.6**	**-1.6**
	comp=Z,13nm,0.9s							
PAB	**San Pablo**	**76.38**	**52**	P		**P**	**10 13 24.2**	**-0.4**
PAB				IAmb		IAmb	10 13 33.0	
	comp=Z,21nm,1.4s							
ESDC	**Sonseca Array**	**76.68**	**51**	P		**P**	**10 13 26.5**	**+0.3**
	comp=Z,5.2nm,0.8s,baz=279,slow=5.4,SNR=40							
ESDC				LR		LR	10 41 10.9	
	comp=Z,51nm,21.6s,baz=250,slow=31							
ESDC	**Sonseca Array**	**76.68**	**51**	P		**P**	**10 13 25.7**	**-0.5**
ESBB	**Sonseca Array**	**76.68**	**51**	IAmb		IAmb	10 13 34.5	
	comp=Z,23nm,1.4s							
ESK	**Eskdalemuir**	**77.43**	**35**	P		**P**	**10 13 29.5**	**-0.6**
TIC	**Toumodi**	**78.17**	**85**	*e*PKP1		**P**	**10 13 35.0**	**0.0**
LIC	**Lamto**	**78.22**	**85**	*e*PKP1		**P**	**10 13 34.3**	**-1.0**
	comp=Z,47nm,0.9s							
DBIC	**Dimbokro**	**78.33**	**85**	LR		LR	10 50 04.8	
	comp=Z,41nm,18.5s,baz=238,slow=37							
KIC	**Kosan Boka**	**78.48**	**85**	*e*PKP1		**P**	**10 13 35.4**	**-1.3**
	comp=Z,39nm,1.3s							
WLF	**Walferdange**	**83.33**	**41**	*e*P		**P**	**10 14 01.8**	**-0.2**
	comp=Z,20nm,1.3s,baz=279,slow=5.0							
AHRW	**Bad Neuenahr-A**	**83.82**	**40**	*e*P		**P**	**10 14 04.6**	**+0.2**
	comp=Z,25nm,1.4s,baz=279,slow=5.0							
TOA0	**Torodi Ar. Sit**	**83.86**	**78**	IAmb		IAmb	10 14 18.7	
	comp=Z,9.7nm,1.0s							
TORD	**Torodi Ar. Bea**	**83.86**	**78**	P		**P**	**10 14 04.8**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=270,slow=4.4,SNR=10							
TORD				LR		LR	10 48 02.5	
	comp=Z,28nm,21.2s,baz=250,slow=33							
TORD	**Torodi Ar. Bea**	**83.86**	**78**	P		**P**	**10 14 04.2**	**-1.1**
ECH	**Echery**	**84.15**	**42**	IAmb		IAmb	10 14 17.4	
	comp=Z,9.7nm,1.0s							
SENIN	**Lac Senin/Sane**	**84.47**	**44**	P		**P**	**10 14 08.3**	**+0.1**
SENIN				IAmb		IAmb	10 14 20.0	
	comp=Z,7.6nm,1.1s							
ADK	**Adak**	**84.63**	**322**	P		**P**	**10 14 09.7**	**+1.2**
NB2	**NORSAR Subarra**	**84.73**	**29**	P		**P**	**10 14 08.6**	**-0.3**
	comp=Z,53nm,1.7s,baz=281,slow=5.1							
NB2	**NORSAR Subarra**	**84.73**	**29**	P		**P**	**10 14 08.6**	**-0.3**
	baz=281,slow=5.1							
NOA	**NORSAR Array B**	**84.73**	**29**	P		**P**	**10 14 08.1**	**-0.7**
	comp=Z,3.3nm,0.8s,baz=277,slow=4.9,SNR=14							
TNS	**Taunus Mts**	**84.73**	**40**	*e*P		**P**	**10 14 08.9**	**-0.2**
	comp=Z,20nm,1.4s,baz=279,slow=5.0							
TNS				*e*L		L	10 51 57.7	
	comp=Z,108nm,18.6s							
NB201	**NORSAR Array S**	**84.76**	**29**	P		**P**	**10 14 08.6**	**-0.5**
BFO	**Black Forest**	**84.91**	**42**	*e*P		**P**	**10 14 09.2**	**-0.8**
	comp=Z,7.2nm,1.4s,baz=279,slow=5.0							
BFO				*e*L		L	10 44 34.7	
	comp=Z,70nm,22.0s							
NC405	**NORSAR Array S**	**84.96**	**29**			**PcP**	**10 14 18.3**	**+5.1**
BSEG	**Bad Segeberg**	**85.34**	**36**	*e*P		**P**	**10 14 12.1**	**+0.1**
	baz=279,slow=5.0							
BSEG				*e*L		L	10 45 30.2	
	comp=Z,70nm,19.8s							
STU	**Stuttgart**	**85.42**	**42**	*e*P		**P**	**10 14 12.1**	**-0.4**
	baz=279,slow=5.0							
NRDL	**Niedersach Rie**	**85.44**	**38**	*e*P		**P**	**10 14 12.4**	**-0.1**
	comp=Z,20nm,1.4s,baz=279,slow=5.0							
GTTG	**Gottingen**	**85.50**	**39**	*e*P		**P**	**10 14 12.9**	**+0.1**
	baz=279,slow=5.0							
UBBA	**Unterbreizbach**	**85.63**	**39**	*e*P		**P**	**10 14 13.2**	**-0.2**
	baz=279,slow=5.0							
CLZ	**Clausthal**	**85.70**	**38**	*e*P		**P**	**10 14 14.0**	**+0.1**
	comp=Z,30nm,1.5s,baz=279,slow=5.0							
ASSE	**Asse, Remlinge**	**85.84**	**38**	*e*P		**P**	**10 14 14.7**	**+0.3**
	baz=279,slow=5.0							
TUE	**Stuetta**	**85.86**	**44**	IAmb		IAmb	10 14 27.5	
	comp=Z,11nm,0.8s							
DAVA	**Damuels**	**86.10**	**43**	*e*PcP		**P**	**10 14 16.3**	**+0.1**
	comp=Z,25nm,1.1s							
UBR	**Ueberruh**	**86.19**	**42**	*e*P		**P**	**10 14 16.3**	**-0.2**
	baz=279,slow=5.0							
FUORN	**Ofenpass-Fuorn**	**86.46**	**44**	IAmb		IAmb	10 14 30.5	
	comp=Z,12nm,0.9s							
GRA1	**Grafenberg Arr**	**86.58**	**40**	IAmb		IAmb	10 14 30.7	
	comp=Z,12nm,0.9s							
GRF	**Grafenberg Arr**	**86.58**	**40**	*e*P		**P**	**10 14 18.0**	**-0.3**
	comp=Z,15nm,1.2s,baz=279,slow=5.0							
GRF				*e*L		L	10 53 12.6	
	comp=Z,141nm,18.1s							
RETA	**Reutte**	**86.66**	**43**	*e*P		**P**	**10 14 18.6**	**-0.2**
	comp=Z,7.7nm,1.1s							
MOX	**Moxa**	**86.67**	**39**	*e*P		**P**	**10 14 18.7**	**0.0**
	comp=Z,14nm,1.6s,baz=279,slow=5.0							
MOX				*e*L		L	10 52 43.5	
	comp=Z,77nm,20.1s							
FETA	**Feichten**	**86.71**	**43**	*e*P		**P**	**10 14 18.9**	**-0.3**
	comp=Z,17nm,1.1s							
FUR	**Furstenfeldbru**	**86.88**	**42**	*e*L		L	11 00 46.6	
	comp=Z,71nm,18.0s							
MOTA	**Moosalm**	**86.91**	**43**	*e*P		**P**	**10 14 19.7**	**-0.4**
	comp=Z,8.3nm,1.2s							
VSL	**Villasalto**	**86.95**	**51**	P		**P**	**10 14 20.8**	**+0.5**
SQTA	**Sankt Quirin**	**87.00**	**43**	*e*P		**P**	**10 14 20.3**	**-0.2**
	comp=Z,10.0nm,0.9s							
MANZ	**Manzenberg**	**87.10**	**40**	*e*P		**P**	**10 14 20.5**	**-0.3**
	baz=279,slow=5.0							
GUNZ	**Gunzen**	**87.17**	**40**	*e*P		**P**	**10 14 21.3**	**+0.1**
	comp=Z,13nm,1.4s,baz=279,slow=5.0							
ROTZ	**Rotzenmuhle**	**87.20**	**40**	*e*P		**P**	**10 14 21.3**	**0.0**
	baz=279,slow=5.0							
WERN	**Wernitzgruen**	**87.21**	**40**	*e*P		**P**	**10 14 21.6**	**+0.2**
	comp=Z,19nm,1.4s,baz=279,slow=5.0							
WATA	**Walderalm**	**87.23**	**43**	*e*P		**P**	**10 14 20.9**	**-0.7**
	comp=Z,2.4nm,0.7s							
TANN	**Tannenbergstha**	**87.24**	**40**	*e*P		**P**	**10 14 21.5**	**-0.1**
	baz=279,slow=5.0							
WTTA	**Wattenberg**	**87.28**	**43**	*e*P		**P**	**10 14 21.2**	**-0.8**
	comp=Z,4.3nm,0.9s							
CLL	**Collm**	**87.41**	**39**	*i* P		**P**	**10 14 21.8**	**-0.5**
	comp=Z,43nm,2.0s							
CLL				*i*			10 14 28.2	
CLL				*i* pP		**sP**	**10 14 37.7**	**+1.4**
CLL	**Collm**	**87.41**	**39**	*e*P		**P**	**10 14 22.2**	**-0.1**
	comp=Z,43nm,2.0s,baz=279,slow=5.0							
CLL				*e*L		L	10 51 58.8	
	comp=Z,87nm,19.1s							
CLL	**Collm**	**87.41**	**39**	IAmb		IAmb	10 14 34.0	
	comp=Z,13nm,1.1s							
CTI	**Castel Tesino**	**87.50**	**44**	IAmb		IAmb	10 14 34.3	
	comp=Z,12nm,1.3s							
KEST	**Kesra**	**87.53**	**54**	P		**P**	**10 14 22.5**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=318,slow=5.7,SNR=2.9							
WET	**Wettzell**	**87.75**	**41**	*e*P		**P**	**10 14 24.0**	**0.0**
	comp=Z,35nm,1.7s,baz=279,slow=5.0							
WET				*e*L		L	10 53 27.1	
	comp=Z,96nm,18.1s							
ABTA	**Abfaltersbach**	**87.96**	**43**	*e*PcP		**P**	**10 14 24.8**	**-0.3**
	comp=Z,8.0nm,1.3s							
RJOB	**Jochberg**	**87.97**	**42**	*e*P		**P**	**10 14 24.3**	**-0.8**
	baz=279,slow=5.0							
CIMO	**Cimolais**	**88.00**	**44**	IAmb		IAmb	10 14 37.1	
	comp=Z,14nm,1.2s							
BRG	**Berggiesshubel**	**88.08**	**39**	*e*P		**P**	**10 14 25.3**	**-0.2**
	comp=Z,24nm,1.8s							
BRG				*e*			10 14 33.4	
	comp=Z,15nm,1.2s							
BRG	**Berggiesshubel**	**88.08**	**39**	*e*P		**P**	**10 14 25.3**	**-0.2**
	comp=Z,24nm,1.8s,baz=279,slow=5.0							
STAL	**STALIGIAL**	**88.19**	**44**	IAmb		IAmb	10 14 38.1	
	comp=Z,13nm,1.0s							
KHC	**Kasperske Hory**	**88.20**	**41**	*e*P		**P**	**10 14 25.8**	**-0.4**
KHC				*ex*		x	10 14 30.2	
KHC				*ex*		x	10 14 36.9	
ARCES	**ARCESS Array B**	**88.32**	**19**	P		**P**	**10 14 24.4**	**-1.8**
	comp=Z,12nm,0.6s,baz=292,slow=4.8,SNR=5.1							
GEC2	**GERESS Array S**	**88.34**	**41**	*e*P		**P**	**10 14 26.5**	**-0.4**
	comp=Z,17nm,1.7s,baz=279,slow=5.0							
GEC2				*e*L		L	10 45 55.0	
	comp=Z,76nm,20.3s							
GEC2	**GERESS Array S**	**88.34**	**41**	IAmb		IAmb	10 14 39.3	
	comp=Z,12nm,1.3s							
GERES	**GERESS Array B**	**88.34**	**41**	P		**P**	**10 14 26.2**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=286,slow=3.2,SNR=13							
GERES				LR		LR	10 53 20.2	
	comp=Z,35nm,19.7s,baz=282,slow=35							
GERES	**GERESS Array B**	**88.34**	**41**	P		**P**	**10 14 25.5**	**-1.4**
PBCC	**Pribram**	**88.36**	**40**	*e*P		P	10 14 32.1	+5.3
PBCC				*ex*		x	10 14 38.0	
KBA	**Koelnbreinsper**	**88.46**	**43**	*e*P		**P**	**10 14 27.0**	**-0.6**
	comp=Z,12nm,1.5s							
PRU	**Pruhonice**	**88.64**	**40**	*e*P		**P**	**10 14 28.4**	**+0.3**
PRU				*ex*		x	10 14 34.7	
MYKA	**Terra Mystica**	**88.75**	**43**	*e*PcP		**P**	**10 14 29.3**	**+0.4**
	comp=Z,4.8nm,1.0s							
MOA	**Molln**	**88.91**	**42**	*e*P		**P**	**10 14 29.0**	**-0.5**
	comp=Z,1.8nm,0.9s							
DPC	**Dobruska-Polom**	**89.67**	**39**	*e*P		**P**	**10 14 34.0**	**+0.9**
ARSA	**Arzberg**	**89.88**	**42**	*e*PcP		**P**	**10 14 33.9**	**-0.2**
	comp=Z,1.1nm,0.8s							
CONA	**Conrad Observa**	**89.94**	**41**	*e*PcP		**P**	**10 14 33.9**	**-0.6**
	comp=Z,6.6nm,1.1s							
KRUC	**Moravsky**	**90.02**	**40**	*e*P		**P**	**10 14 34.0**	**-0.7**
VRAC	**Vranov**	**90.09**	**40**	*e*P		**P**	**10 14 34.8**	**-0.2**
MORC	**Moravsky Berou**	**90.58**	**39**	*e*P		**P**	**10 14 37.4**	**+0.1**
JAVC	**Velka Javorina**	**90.89**	**40**	*e*P		**P**	**10 14 39.9**	**+1.1**
FINES	**FINESS Array B**	**91.54**	**27**	P		**P**	**10 14 40.7**	**-0.7**
	comp=Z,3.6nm,0.7s,baz=274,slow=3.2,SNR=14							
FINES				LR		LR	10 53 27.8	
	comp=Z,49nm,18.1s,baz=306,slow=34							
VYHS	**Vyhne**	**91.73**	**40**	*e*P		**P**	**10 14 43.8**	**+1.2**
SEY	**Seymchan**	**96.42**	**337**	P		**P**	**10 15 03.0**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=83,slow=6.5,SNR=5.4							
AKASG	**Malin Array Be**	**97.35**	**36**	LR		LR	10 56 28.5	
	comp=Z,74nm,20.3s,baz=270,slow=34							
KLMR	**Klimovskoe**	**97.56**	**24**	*e*P		**P**	**10 15 07.8**	**-1.2**
KLMR				AMP			10 15 09.4	
	comp=Z,18nm,1.4s							
KLMR				*e*PP		**PP**	**10 19 04.0**	**-2.1**
SYO	**Syowa Base**	**110.00**	**161⇑**	*e*PKiKP		**PKiKP**	**10 20 06.8**	**+1.0**
SONM	**Songino Array**	**122.66**	**352**	PKP		**PKPdf**	**10 20 29.6**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=53,slow=0.6,SNR=5.2							
MKAR	**Makanchi Array**	**123.13**	**11**	PKP		**PKPdf**	**10 20 30.5**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=45,slow=1.9,SNR=5.4							
KSRS	**Korea Array**	**124.95**	**329**	PKP		**PKPdf**	**10 20 35.2**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=15,slow=1.5,SNR=16							
KDJ	**Kajisay**	**126.28**	**17**	PKPdf		**PKPdf**	**10 20 38.8**	**+0.7**
WMQ	**Urumqi**	**126.89**	**7**	*e*PKP		**PKPdf**	**10 20 39.8**	**+0.7**
HHC	**Hu-ho-hao-te**	**128.35**	**345**	*e*PKP		**PKPdf**	**10 20 43.0**	**+1.0**
NJ2	**Nanjing**	**133.69**	**333**	*e*PKP		**PKPdf**	**10 20 53.0**	**+0.8**
XAN	**Xi'an**	**135.47**	**345**	PKP		**PKiKP**	**10 20 58.5**	**+1.4**
XAN				sPKP			10 21 16.0	
XAN				LR		LR		
	comp=Z,140nm,16.2s							
XAN				LR		LR		
	comp=Z,86nm,15.7s							
XAN				LR		LR		
	comp=Z,160nm,16.7s							
AS31	**Alice Springs**	**140.94**	**243**	PKPpre		PKPpre	10 20 59.8	
ASAR	**Alice Springs**	**140.94**	**243**	PKhKP		PKPpre	10 20 58.5	
	comp=Z,1.0nm,0.7s,baz=116,slow=3.3,SNR=16							
ASAR				PKP		**PKPdf**	**10 21 04.7**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=102,slow=2.1,SNR=12							
ASAR	**Alice Springs**	**140.94**	**243**			PKPpre	10 20 59.2	
WR0	**Warramunga Arr**	**141.20**	**249**			PKPpre	10 21 01.2	
WC3	**Warramunga Arr**	**141.35**	**249**	PKPpre		PKPpre	10 21 01.8	
WB0	**Warramunga Arr**	**141.37**	**250**	PKPpre		PKPpre	10 21 01.8	
WB2	**Warramunga Arr**	**141.38**	**249**	PKPpre		PKPpre	10 21 01.7	
WRAB	**Tennant Creek**	**141.38**	**249**	PKPpre		PKPpre	10 21 00.7	
WRA	**Warramunga Arr**	**141.39**	**249**	PKhKP		PKPpre	10 21 00.2	
	comp=Z,1.0nm,0.8s,baz=105,slow=2.7,SNR=16							
WRA				PKP		**PKPdf**	**10 21 04.8**	**-1.9**
	comp=Z,2.0nm,0.9s,baz=103,slow=2.6,SNR=6.4							
WRA	**Warramunga Arr**	**141.39**	**249**			PKPpre	10 21 01.4	
GYA	**Guiyang**	**143.25**	**344**	*e*PKP		PKPbc	10 21 07.5	+0.5
MTN	**Manton Dam**	**145.29**	**260**			**PKPbc**	**10 21 14.4**	**+0.9**
SHL	**Shillong**	**145.41**	**7**			**PKPbc**	**10 21 13.1**	**-0.7**
KMI	**Kunming**	**145.45**	**349**	PKPbc		**PKPbc**	**10 21 14.0**	**+0.1**
KMI				pPKP		pPKPab	10 21 24.0	-0.5
KMI				sPKP			10 21 28.3	
KNRA	**Kununurra**	**147.32**	**255**			**PKPbc**	**10 21 19.7**	**+0.2**
NWAO	**Narrogin (SRO)**	**149.13**	**216**	PKPbc		**PKPbc**	**10 21 23.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**149.82**	**249**			**PKPbc**	**10 21 25.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**152.56**	**354**	PKP		**PKPdf**	**10 21 23.8**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=333,slow=1.6,SNR=7.9							
CMAR				PKPbc		**PKPbc**	**10 21 31.2**	**-1.0**
	comp=Z,4.6nm,0.9s,baz=328,slow=2.8,SNR=17							
CMAR	**Chiang Mai Arr**	**152.56**	**354**			**PKPdf**	**10 21 25.4**	**+0.1**

IDC 31 10:18:18.4±10.0, 16°.43S×69°.73W, h107km±51km, mb3.9/1, mb1 3.9/1, mb1mx3.0/25, mbtmp4.2/1, Error ellipse: s-maj=277.9km s-min=139.2km az=178.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.55**	**85**	P		Pn	10 18 46.0	-0.2
	0.3nm,0.3s,baz=263,slow=10,SNR=11							
TORD	**Torodi Ar. Bea**	**76.46**	**72**	P		P	10 29 57.1	+0.1
	1.7nm,0.7s,baz=264,slow=5.2,SNR=5.6							
ZALV	**Zalesovo Beam**	**137.64**	**22**	PKP		PKPdf	10 37 29.0	-0.7
	0.8nm,0.6s,baz=308,slow=3.5,SNR=2.1							
MKAR	**Makanchi Array**	**141.87**	**31**	PKP		PKPdf	10 37 37.2	-0.5
	0.5nm,0.6s,baz=324,slow=2.0,SNR=6.1							

*UCR **31** 10:19:17.8±1.3, 8°.91N×84°.08W, h5km, MD4.2*
*UPA **31** 10:19:17.8±1.3, 8°.95N×84°.03W, h4km±6km, MW4.5*
ISC 31 10:19:17.0±1.5, 8°.89N±0°.04×84°.08W±0°.04, h7km±12km, n49,σ1°19/68, 2C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
EDDO	**Dominical**	**0.42**	**30**	*e*P		**Pb**	**10 19 26.0**	**-0.8**
EDDO				*e*S		**Sb**	**10 19 33.1**	**-0.4**
RIOS	**Rincon, Osa**	**0.59**	**108**	*e*P		**Pb**	**10 19 29.9**	**+0.1**
RIOS				*e*S		**Sb**	**10 19 39.2**	**+1.0**
EDPN	**Palmar Norte**	**0.62**	**83**	*e*P		**Pg**	**10 19 29.7**	**+0.7**
EDPN				*e*S		**Sb**	**10 19 40.1**	**+1.0**
PEZE	**Perez Zeledon,**	**0.63**	**39**	*e*P		**Pg**	**10 19 29.5**	**+0.2**
CDM	**Cerro de Muert**	**0.73**	**25**	*e*P		**Pg**	**10 19 31.6**	**+0.5**
CDM				*e*S		**Sb**	**10 19 43.0**	**+0.2**
EDBA	**Buenos Aires**	**0.84**	**71**	*e*P		**Pg**	**10 19 33.0**	**-0.3**
EDBA				*e*S		**Sb**	**10 19 45.9**	**+0.3**
PTJ1	**Puerto Jimnez**	**0.84**	**114⇑**	*i*P		**Pg**	**10 19 34.3**	**+1.0**
PTJ1				*e*S		**Sn**	**10 19 48.1**	**+0.1**
PTJ1	**Puerto Jimnez**	**0.84**	**114**	*e*P		**Pg**	**10 19 34.2**	**+0.9**
LCR2	**La Lucha 2**	**0.85**	**5**	*e*P		**Pg**	**10 19 33.5**	**+0.1**
LCR2				*e*S		**Sb**	**10 19 46.3**	**+0.2**
PIRO	**Carate, Puerto**	**0.88**	**123**	*e*P		**Pg**	**10 19 34.6**	**+0.6**
PIRO				*e*S		**Sb**	**10 19 48.1**	**+1.5**
RIMA	**Rio Macho**	**0.90**	**14**	*e*P		**Pg**	**10 19 33.9**	**-0.4**
DRK0	**Durika**	**0.91**	**66**	*e*P		**Pg**	**10 19 34.5**	**0.0**
DRK0				*e*S		**Sb**	**10 19 48.1**	**+0.5**
DRK0	**Durika**	**0.91**	**66**	*e*P		**Pg**	**10 19 34.8**	**+0.4**
JACO	**JACO, Garabito**	**0.96**	**323**	*e*P		**Pg**	**10 19 35.1**	**-0.4**
SJS	**Escuela Geolog**	**1.04**	**1**	*e*P		**Pg**	**10 19 37.0**	**-0.1**
EDSV	**San Vito**	**1.10**	**93**	*e*P		**Pg**	**10 19 38.3**	**+0.2**
HDC	**Heredia**	**1.11**	**358**	*i*P		**Pg**	**10 19 38.1**	**-0.3**
HDC				*e*S		**Sb**	**10 19 54.0**	**+0.6**
HDC	**Heredia**	**1.11**	**358**	*e*P		**Pg**	**10 19 38.2**	**-0.2**
CVTR	**Volcan Turrial**	**1.17**	**16**	*e*P		**Pg**	**10 19 39.2**	**+0.3**
LAFE	**Finca La Fe, P**	**1.23**	**318**	*e*P		**Pg**	**10 19 39.3**	**-1.3**
SRA1	**San Ramn**	**1.25**	**342**	*e*P		**Pg**	**10 19 40.5**	**-0.6**
BRU2	**Volcan**	**1.38**	**94**	*i*P		**Pn**	**10 19 42.5**	**-0.3**
BRU2				*e*S		**Sb**	**10 20 01.7**	**+0.6**
BRU2	**Volcan**	**1.38**	**94**	*e*P		**Pn**	**10 19 42.4**	**-0.5**
BCO2	**Palmira**	**1.54**	**96**	*i*P		**Pn**	**10 19 45.2**	**+0.1**
BCO2				*e*S		**Sn**	**10 20 04.7**	**-0.8**
JTS	**Las Juntas de**	**1.64**	**328**	*e*P		**Pn**	**10 19 46.5**	**+0.1**
JTS	**Las Juntas de**	**1.64**	**328**	*e*P		**Pn**	**10 19 45.3**	**-1.1**
DVD	**David**	**1.67**	**105**	*e*P		**Pn**	**10 19 47.2**	**+0.4**
DVD				*e*S		**Sn**	**10 20 08.5**	**0.0**
FORC	**Fortuna**	**1.67**	**340**	*i*P		**Pn**	**10 19 47.3**	**+0.5**
FORC				*i*S		**Sb**	**10 20 10.2**	**+0.6**
TRT1	**Tortuguero**	**1.74**	**12**	*e*P		**Pn**	**10 19 48.8**	**+1.1**
CHIR3	**Chiriqui UPA,**	**1.80**	**106**	*e*P		**Pn**	**10 19 48.1**	**-0.4**
CHIR3				*e*S		**Sn**	**10 20 12.1**	**+0.5**
DUNO	**Dulce Nombre,**	**1.83**	**310**	*e*P		**Pn**	**10 19 49.2**	**+0.2**
COVE	**Coope Vega, Sa**	**1.85**	**350**	*e*P		**Pn**	**10 19 49.6**	**+0.3**
CHGR2	**Aguacate**	**1.91**	**88**	*e*P		**Pn**	**10 19 49.8**	**-0.4**
CHGR2				*e*S		**Sn**	**10 20 13.1**	**-1.4**
ACAL	**Aguas Claras**	**1.97**	**332**	*i*P		**Pn**	**10 19 51.4**	**+0.4**
ACAL				*i*S		**Sb**	**10 20 18.2**	**-0.1**
PTEN	**Parque Tenorio**	**2.02**	**334**	*i*P		**Pn**	**10 19 52.8**	**+1.1**
CUI	**Cuipilapa**	**2.06**	**329**	*e*P		**Pn**	**10 19 52.7**	**+0.5**
CUI				*i*S		**Sn**	**10 20 18.6**	**+0.5**
LAPC	**Finca la Perla**	**2.29**	**325**	*i*P		**Pn**	**10 19 55.9**	**+0.5**
BUEV	**Buena Vista**	**2.31**	**326**	*i*P		**Pn**	**10 19 56.3**	**+0.7**
PNME	**Penonome**	**3.73**	**96**	*e*P		**Pn**	**10 20 17.7**	**+2.5**
AZU	**Azuero**	**3.92**	**106**	*e*P		**Pb**	**10 20 22.9**	**-3.6**
AZU	**Azuero**	**3.92**	**106**	*e*P		**Pn**	**10 20 19.8**	**+2.1**
AZU				*e*S		**Sb**	**10 21 10.3**	**-3.9**
BCIP	**Isla Barro Col**	**4.20**	**86**	*e*P		**Pn**	**10 20 20.3**	**-1.3**
UPA	**Univ. de Panam**	**4.49**	**88**	*e*P		**Pn**	**10 20 25.6**	**-0.1**
PRVC	**Isla de Provid**	**5.20**	**31**	*e*P		**Pn**	**10 20 38.1**	**+2.8**
UPD2	**Meteti**	**6.00**	**93**	*e*P		**Pn**	**10 20 47.9**	**+1.5**
TGUH	**Tegucigalpa,Un**	**6.01**	**329**	*e*P		**Pb**	**10 21 04.7**	**+2.3**
URE C	**San Jos de Ur**	**8.53**	**97**	*e*P		**Pn**	**10 21 18.1**	**-3.1**
SJCC	**San Jacinto, C**	**8.84**	**83**	*e*P		**Pn**	**10 21 26.6**	**+1.2**
ZARC	**Zaragoza, Cauc**	**9.23**	**98**	*e*P		**Pn**	**10 21 32.3**	**+1.5**

*VAO **31** 10:33:51.1±0.8, 24°.27S×67°.87W, h244km±6km, mb4.0*
*IDC **31** 10:33:51.9±2.1, 24°.13S×67°.10W, h166km±24km, mb3.7/1, mb1 3.5/6, mb1mx3.2/26, mbtmp4.0/6, Error ellipse: s-maj=31.2km s-min=23.3km az=131.0*
*GUC **31** 10:33:52.9±0.7, 24°.16S×67°.68W, h203km±11km, ML4.0*
ISC 31 10:33:52.7±0.8, 24°.11S±0°.06×67°.5W±0°.1, h204km±13km, n32,σ1°04/41, 7C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.99**	**318**	P		**Pn**	**10 34 32.1**	**+0.3**
	8.4nm,0.3s,baz=142,slow=6.6,SNR=148							
LVC				S		**S**	**10 35 01.6**	**-0.1**
	20nm,0.3s,baz=346,slow=20,SNR=54							
LVC	**Limon Verde**	**1.99**	**318**	*e*P		**Pn**	**10 34 32.1**	**+0.3**
PB15	**IPOC Station P**	**2.04**	**296⇑**	*i*P		**Pn**	**10 34 32.6**	**+0.4**
PB15				*i* Sg		S	**10 35 02.3**	**+0.1**
GO02	**Mina Guanaco**	**2.20**	**241⇑**	*i*P		**Pn**	**10 34 33.0**	**-0.8**
GO02				*e*S		**S**	**10 35 04.4**	**-1.0**
GO02				IAML			10 35 07.3	
	comp=N,682nm,0.3s							
PB06	**IPOC Station P**	**2.38**	**305⇑**	*i*P		**Pn**	**10 34 36.3**	**+0.6**
PB06				*e*S		**S**	**10 35 08.7**	**+0.1**
PB06				IAML			10 35 10.7	
	comp=N,589nm,0.4s							
PB05	**IPOC Station P**	**2.80**	**296⇑**	*i*P		**Pn**	**10 34 40.7**	**+0.3**
PB05				*e*S		**S**	**10 35 16.5**	**-0.5**
PB05				IAML			10 35 18.3	
	comp=E,167nm,0.2s							
PB09	**IPOC Station P**	**2.82**	**324⇑**	*i*P		**Pn**	**10 34 41.8**	**+1.2**
PB09				*e*S		**S**	**10 35 18.8**	**+1.3**
PB09

*HEL **31** 11:00:00.3±0.1,67°.93N×25°.85E,h0km,ML1.7, ML1.6(UPP), Explosion*
*IDC **31** 11:00:00.1±4.0,67°.95N×25°.82E,h0km,Error ellipse: s-maj=27.4km s-min=20.9km az=107.0*
*UPP **31** 11:00:01.4±1.2,68°.00N×25°.57E,h0km,ML1.6,Suspected explosion*

ISC 31 10:59:58.5±0.8,**67°.93N**±0°.03×**25°.74E**±0°.03,**h0**km,**n25,** σ0§**57**/40,**Finland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGF	**Sodankyl**	**0.58**	**148**	*eP*		**Pg**	**11 00 10.1**	**+0.5**
SGF				*eS*		**Sg**	**11 00 17.8**	**+0.8**
RNF	**Rovaniemi**	**1.33**	**175**	*eP*		**Pg**	**11 00 23.9**	**-0.1**
RNF				*eSB*		**Sb**	**11 00 41.6**	**-0.3**
LANU	**Lannavaara**	**1.42**	**277**	P		**Pb**	**11 00 26.0**	**+0.1**
LANU				S		**Sn**	**11 00 45.9**	**+0.9**
LANU	**Lannavaara**	**1.42**	**277**	*eP*		**Pb**	**11 00 25.9**	**+0.1**
LANU				*eSB*		**Sn**	**11 00 45.6**	**+0.7**
KTK1	**Kautokeino**	**1.43**	**321**	*eP*		**Pb**	**11 00 26.4**	**+0.4**
VRF	**Varrio**	**1.48**	**95**	*ePG*		**Pn**	**11 00 26.3**	**-0.1**
VRF	comp=Z,3.4nm,0.2s			MSG			11 00 43.9	
VRF				*eS*		**Sg**	**11 00 44.5**	**-1.5**
ARCES	**ARCESS Array B**	**1.61**	**357**	Pg		**Pb**	**11 00 29.1**	**-0.1**
ARCES	comp=Z,1.0nm,0.3s,baz=174,slow=16,SNR=42			Lg			11 00 50.1	
	comp=Z,1.2nm,0.3s,baz=176,slow=29,SNR=17							
ARE0	**ARCESS Array S** baz=174	**1.61**	**357**	*ePG*		**Pb**	**11 00 29.1**	**-0.1**
ARE0				*eSG*		**Sb**	**11 00 49.9**	**-0.2**
ARE0	**ARCESS Array S**	**1.61**	**357**	*eP*		**Pg**	**11 00 29.4**	**0.0**
TOF	**Tornio** baz=15	**1.94**	**197**	*ePG*		**Pg**	**11 00 35.5**	**-0.2**
TOF	comp=Z,4.6nm,0.2s			MSG			11 00 58.4	
TOF				*eSG*		**Sg**	**11 01 00.6**	**-0.2**
ERTU	**Ertsjaerv**	**1.96**	**227**	*ePB*		**Pb**	**11 00 35.5**	**-0.4**
ERTU				*eSG*		**Sg**	**11 01 01.4**	**+0.2**
KUA	**Kurravaara**	**2.04**	**273**	P		**Pb**	**11 00 36.1**	**-0.3**
KUA				S		**Sg**	**11 01 03.7**	**-0.3**
KUA	**Kurravaara**	**2.04**	**273**	*eP*		**Pb**	**11 00 36.1**	**-0.3**
KUA				*eS*		**Sg**	**11 01 03.7**	**-0.3**
KOVU	**Salmi**	**2.12**	**281**	P		**Pb**	**11 00 37.6**	**-0.1**
KOVU				S		**Sg**	**11 01 06.4**	**0.0**
KOVU	**Salmi**	**2.12**	**281**	*eP*		**Pb**	**11 00 37.6**	**-0.1**
KOVU				*eS*		**Sg**	**11 01 06.4**	**0.0**
KIF	**Kilpisjarvi**	**2.12**	**303**	*ePB*		**Pb**	**11 00 38.2**	**+0.5**
KIF	comp=Z,3.4nm,0.2s			MSG			11 01 03.9	
KIF				*eSB*		**Sg**	**11 01 05.8**	**-0.7**
RATU	**Laukkuluspa**	**2.33**	**270**	P		**Pb**	**11 00 40.5**	**-0.9**
RATU	**Laukkuluspa**	**2.33**	**270**	*eP*		**Pb**	**11 00 40.5**	**-0.9**
MSF	**Maaselka** baz=327	**2.41**	**146**	*ePG*		**Pb**	**11 00 43.2**	**+0.5**
MSF				*eSG*		**Sb**	**11 01 13.3**	**+0.4**
KU6	**Riekki**	**2.52**	**138**	*ePB*		**Pb**	**11 00 43.8**	**-0.7**
KU6	comp=Z,3.4nm,0.2s			MSG			11 01 14.2	
KU6				*eSG*		**Sb**	**11 01 16.0**	**+0.1**
NIKU	**Nikkaluokta**	**2.54**	**272**	P		**Pb**	**11 00 43.6**	**-1.2**
NIKU				S		**Sb**	**11 01 17.1**	**+0.5**
NIKU	**Nikkaluokta**	**2.54**	**272**	*eP*		**Pb**	**11 00 43.6**	**-1.2**
NIKU				*eS*		**Sb**	**11 01 17.1**	**+0.5**
OUL	**Oulu**	**2.86**	**179**	*eSB*		**Sb**	**11 01 26.0**	**+0.2**
I37NO	**I37NO** baz=111,slow=305,SNR=80	**2.87**	**297**	*i*			11 18 10.0	
I43RU	**DUBNA INFRASON** baz=342,slow=324,SNR=1.1	**2.42**	**149**	*i*			12 16 00.0	

*NEIC **31** 11:06:45.8±1.1,33°.38S±0°.04×70°.58W±0°.09,h100km±1km, mb4.4/10,ML4.0(GUC),Error ellipse: s-maj=10.6km s-min=5.1km az=91.0*
*GUC **31** 11:06:45.2±0.7,33°.39S×70°.53W,h96km±2km,ML4.0*

ISC 31 11:06:46.0±0.7,**33°.38S**±0°.03×**70°.57W**±0°.06,**h99**km±4km, **n44,**σ0§**87**/67,**mb4.3**/5,**7C-4D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CLCH	**Cerro Calan**	**0.04**	**121**⇓	*eP*		**Pn**	**11 06 59.5**	**-0.3**
CLCH				*eS*		**Sn**	**11 07 09.7**	**-0.4**
CLCH	comp=E,8μm,0.4s			IAML			11 07 11.5	
FSR	**Penalolen**	**0.11**	**159**⇑	*iP*		**Pn**	**11 06 59.5**	**-0.4**
FSR				*eS*		**Sn**	**11 07 09.8**	**-0.5**
MT03	**Universidad Ad**	**0.13**	**156**⇓	*eP*		**Pn**	**11 06 59.5**	**-0.4**
MT03				*eS*		**Sn**	**11 07 10.3**	**-0.1**
MT03	comp=E,20μm,0.2s			IAML			11 07 11.1	
MT05	**Renca**	**0.14**	**264**⇑	*iP*		**Pn**	**11 06 59.6**	**-0.3**
MT05				*eS*		**Sn**	**11 07 10.5**	**+0.1**
MT05	comp=N,20μm,0.3s			IAML			11 07 11.2	
MT05	**Renca**	**0.14**	**264**			**Pn**	**11 06 59.7**	**-0.2**
MT05				Sn		**Sn**	**11 07 10.3**	**0.0**
PEL	**Peldehue**	**0.25**	**338**⇑	*iP*		**Pn**	**11 06 59.2**	**-1.1**
PEL				*eS*		**Sn**	**11 07 10.9**	**-0.1**
PEL	comp=N,14μm,0.4s			IAML			11 07 12.6	
PEL	**Peldehue**	**0.25**	**338**			**Pn**	**11 06 59.7**	**-0.6**
PEL				Sn		**Sn**	**11 07 11.1**	**+0.1**
MT02	**Curacav**	**0.49**	**284**⇑	*iP*		**Pn**	**11 07 01.6**	**0.0**
MT02				*eS*		**Sn**	**11 07 13.6**	**+0.4**
MT02	comp=E,6μm,0.4s			IAML			11 07 14.2	
MT02	**Curacav**	**0.49**	**284**			**Pn**	**11 07 01.5**	**0.0**
MT02				Sn		**Sn**	**11 07 13.4**	**+0.2**
ROC1	**El Roble**	**0.55**	**317**			**Pn**	**11 07 02.0**	**-0.3**
ROC1				Sn		**Sn**	**11 07 14.7**	**+0.3**
ROCH	**El Roble**	**0.55**	**318**⇑	*iP*		**Pn**	**11 07 02.1**	**-0.1**
ROCH				*eS*		**Sn**	**11 07 15.1**	**+0.7**
ROCH	comp=E,7μm,0.1s			IAML			11 07 16.7	
LMEL	**Las Melosas**	**0.56**	**147**⇓	*eP*		**Pn**	**11 07 01.5**	**-0.8**
LMEL				*eS*		**Sn**	**11 07 14.3**	**-0.2**
LMEL	comp=N,5μm,0.1s			IAML			11 07 20.6	
VA03	**San Esteban**	**0.61**	**2**⇓	*eP*		**Pn**	**11 07 02.6**	**-0.1**
VA03				*eS*		**Sn**	**11 07 15.6**	**+0.5**
VA03	comp=E,14μm,0.3s			IAML			11 07 16.1	
VA03	**San Esteban**	**0.61**	**2**			**Pn**	**11 07 02.5**	**-0.1**
VA03				Sn		**Sn**	**11 07 15.2**	**+0.1**
BO01	**Tunca**	**1.10**	**203**⇑	*iP*		**Pn**	**11 07 07.0**	**-0.3**
BO01				*eS*		**Sn**	**11 07 23.7**	**+0.2**
BO01	comp=E,1μm,0.2s			IAML			11 07 25.2	
BO01	**Tunca**	**1.10**	**203**			**Pn**	**11 07 07.0**	**-0.3**
BO01				Sn		**Sn**	**11 07 23.3**	**-0.2**
BO02	**Sierra Bellavi**	**1.42**	**187**⇑	*iP*		**Pn**	**11 07 11.2**	**-0.1**
BO02				*eS*		**Sn**	**11 07 31.2**	**+0.7**
BO02	**Sierra Bellavi**	**1.42**	**187**			**Pn**	**11 07 11.4**	**+0.1**
BO02				Sn		**Sn**	**11 07 30.8**	**+0.4**
GO05	**Huala**	**1.98**	**214**			**Pn**	**11 07 18.7**	**-0.4**
CO02	**Combarbal**	**2.20**	**350**			**Pn**	**11 07 20.7**	**-0.5**
CO02				Sn		**Sn**	**11 07 47.1**	**-1.0**
ZON	**Zonda**	**2.43**	**42**			**Pn**	**11 07 24.4**	**+0.2**
ZON				Sn		**Sn**	**11 07 53.3**	**-0.1**
CO03	**El Pedregal**	**2.53**	**358**			**Pn**	**11 07 25.6**	**+0.1**
CO03				Sn		**Sn**	**11 07 55.7**	**-0.2**
GO04	**Tololo Observa**	**3.20**	**356**			**Pn**	**11 07 34.3**	**-0.4**
GO04				Sn		**Sn**	**11 08 11.3**	**-0.8**
BI02	**San Fabin de**	**3.33**	**190**			**Pn**	**11 07 35.7**	**-0.4**
CO01	**Juntas del Tor**	**3.42**	**7**			**Pn**	**11 07 38.1**	**+0.6**
BI03	**Tigo**	**4.00**	**209**			**Pn**	**11 07 43.2**	**-1.8**
LCO	**Las Campanas**	**4.36**	**359**	Pn		**Pn**	**11 07 50.2**	**0.0**
AC05	**El Transito**	**4.54**	**3**			**Pn**	**11 07 52.0**	**-0.6**
AC05				Sn		**Sn**	**11 08 42.6**	**-1.6**
AC04	**Llanos de Chal**	**5.17**	**355**	Pn		**Pn**	**11 07 59.5**	**-1.6**
LC01	**Cunco**	**5.61**	**190**	Pn		**Pn**	**11 08 06.0**	**-0.9**
GO03	**Copiap**	**5.77**	**3**	Pn		**Pn**	**11 08 10.7**	**+1.4**
AC02	**Maricunga**	**6.64**	**11**	Pn		**Pn**	**11 08 25.6**	**+4.2**
MNMC	**Minye Minye**	**14.22**	**4**	P		**P**	**11 10 08.6**	**+1.2**
PMSA	**Palmer Station**	**31.68**	**175**	P		**P**	**11 12 58.0**	**-1.6**
PMSA	comp=Z,6.6nm,1.1s			IAmb		IAmb	11 12 58.2	
RUSC	**La Rusia**	**39.13**	**356**	P		**P**	**11 14 04.3**	**-0.1**
ESTN	**Estel**	**48.61**	**339**	P		**P**	**11 15 20.5**	**+0.6**
ESTN	comp=Z,7.8nm,0.5s			IAmb		IAmb	11 15 21.2	
SNAA	**Sanae**	**51.70**	**158**	P		**P**	**11 15 43.1**	**+0.6**
SDDR	**Presa de Saban**	**52.07**	**359**	P		**P**	**11 15 45.3**	**-0.5**
QSPA	**South Pole Qui**	**56.86**	**180**	P		**P**	**11 16 20.7**	**+0.6**
TXAR	**Lajitas Array**	**69.81**	**329**	P		**P**	**11 17 46.8**	**+1.0**
WVT	**Waverly**	**71.01**	**345**	P		**P**	**11 17 52.8**	**0.0**
WVT	comp=Z,4.0nm,0.7s			IAmb		IAmb	11 17 53.1	
W39A	**Magazine**	**71.60**	**340**	P		**P**	**11 17 57.3**	**+0.9**
W39A	comp=Z,5.2nm,1.1s			IAmb		IAmb	11 17 58.0	
Q60A	**Greensboro**	**72.18**	**356**	P		**P**	**11 17 58.0**	**-1.8**
R40A	**Maddies Statio**	**74.11**	**342**	P		**P**	**11 18 11.3**	**+0.1**
R40A	comp=Z,3.1nm,0.6s			IAmb		IAmb	11 18 11.6	

*IDC **31** 11:12:51.5±0.9,9°.43S×148°.69E,h0km,mb4.1/11, mb1 4.2/14,mb1mx4.1/38,mbtmp4.1/14,ML3.8/3,MS3.4/7, Ms1 3.4/7,ms1mx3.1/39,Error ellipse: s-maj=23.4km s-min=14.5km az=125.0*
*NEIC **31** 11:12:55.2±2.2,9°.50S±0°.05×148°.7E±0°.1,h23km±5km, mb4.1/19,Error ellipse: s-maj=15.4km s-min=5.8km az=104.0*
*DJA **31** 11:13:01.5±2.9,10°.5S±14°×14°.8E±1°.7,h33km±16km, M4.2/8,mb4.3/8,MLv4.2/2*

ISC 31 11:12:55.0±0.5,**9°.57S**±0°.06×**148°.64E**±0°.07,**h22**km,**n49,** σ1§**94**/50,**mb4.2**/13,**MS3.1**/3,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.47**	**276**	Pn		**Pn**	**11 13 20.7**	**+0.6**
PMG	173nm,0.3s,baz=79,slow=6.5,SNR=170			Sn		**Sb**	**11 13 42.2**	**+2.4**
PMG	317nm,0.3s,baz=181,slow=19,SNR=13			LR		LR	11 13 58.4	
PMG	**Port Moresby**	**1.47**	**276**	Pn		**Pn**	**11 13 20.5**	**+0.4**
KRVT	**Keravat (AS076**	**6.21**	**33**	Pn		**Pn**	**11 14 23.9**	**-1.6**
KRVT	7.1nm,0.3s,baz=257,slow=2.5,SNR=5.4			Sn		**Sn**	**11 15 34.1**	**-1.8**
KRVT	5.3nm,0.3s,baz=2.9,slow=23,SNR=5.6			LR		LR	11 16 37.0	
COEN	**Coen**	**6.90**	**230**	Pn		**Pn**	**11 14 34.4**	**-0.5**
JAY	**Jayapura**	**10.55**	**311**	LR		LR	11 19 37.4	
CTA	**Charters Tower**	**10.71**	**192**	Pn		**Pn**	**11 15 26.7**	**-0.4**
CTA	0.5nm,0.3s,baz=12,slow=16,SNR=5.5			Sn		**Sn**	**11 17 27.5**	**+1.0**
CTAO	**Charters Tower**	**10.71**	**192**	Pn		**Pn**	**11 15 30.1**	**+3.0**
EIDS	**Eidsvold**	**15.89**	**172**			**P**	**11 16 41.3**	**+0.4**
EIDS	comp=Z,5.4nm,0.8s			IAmb		IAmb	11 16 53.7	
WR0	**Warramunga Arr**	**17.09**	**231**	P		**P**	**11 16 54.7**	**+0.4**
WR0	comp=Z,7.6nm,1.0s			IAmb		IAmb	11 16 58.5	
WB0	**Warramunga Arr**	**17.09**	**232**	P		**P**	**11 16 54.5**	**+0.2**
WB0	comp=Z,5.8nm,0.8s			IAmb		IAmb	11 17 02.5	
WRAB	**Tennant Creek**	**17.22**	**232**	P		**Pn**	**11 16 55.0**	**+0.7**
WB2	**Warramunga Arr**	**17.23**	**232**	P		**Pn**	**11 16 55.2**	**+0.9**
WRA	**Warramunga Arr**	**17.23**	**232**	P		**Pn**	**11 16 54.8**	**+0.3**
WRA	comp=Z,0.2nm,0.3s,baz=54,slow=12,SNR=17			S		**Sn**	**11 19 58.5**	**-7.3**
	comp=Z,0.2nm,0.3s,baz=51,slow=24,SNR=5.2							
WRA	**Warramunga Arr**	**17.23**	**232**	P		**Pn**	**11 16 55.1**	**+0.7**
SIJI	**Sorong**	**19.32**	**296**	LR		LR	11 26 34.9	
AS31	**Alice Springs**	**19.87**	**223**	P		**Pn**	**11 17 27.6**	**+1.1**
ASAR	**Alice Springs**	**19.87**	**223**	P		**Pn**	**11 17 27.1**	**+0.5**
ASAR	comp=Z,4.3nm,0.7s,baz=56,slow=9.8,SNR=40			S		**S**	**11 21 01.7**	**-6.0**
ASAR	comp=Z,0.9nm,0.6s,baz=45,slow=25,SNR=5.5			LR		LR	11 24 52.7	
ASAR	**Alice Springs**	**19.87**	**223**	P		**Pn**	**11 17 26.8**	**+0.2**
KNRA	**Kununurra**	**20.31**	**251**	P		Pn	11 17 32.9	+1.1
KNRA	comp=Z,22nm,1.1s			IAmb		IAmb	11 17 35.9	
STKA	**Stephens Creek**	**23.14**	**195**	P		**P**	**11 18 00.8**	**+1.0**
STKA	comp=Z,2.3nm,0.7s,baz=2.9,slow=10,SNR=6.3			LR		LR	11 27 38.1	
	comp=Z,172nm,18.7s,baz=29,slow=38							
STKA	**Stephens Creek**	**23.14**	**195**	P		**P**	**11 18 02.5**	**+2.7**
GUMO	**Guam**	**23.31**	**351**	LR		LR	11 25 27.0	
FITZ	**Fitzroy Crossi**	**23.86**	**247**	P		**P**	**11 18 07.1**	**+0.1**
FITZ	comp=Z,3.4nm,0.6s,baz=68,slow=8.4,SNR=16			IAmb		IAmb	11 18 08.8	
FITZ	**Fitzroy Crossi**	**23.86**	**247**	P		**P**	**11 18 07.6**	**+0.5**
FITZ	comp=Z,4.7nm,0.8s			IAmb		IAmb	11 18 08.8	
EDFI	**Ende, Flores**	**26.61**	**270**	P		**P**	**11 18 31.8**	**-0.4**
YULB	**Yu-li**	**42.29**	**321**	P		**P**	**11 20 47.6**	**+0.4**
YULB	comp=Z,3.0nm,0.8s			IAmb		IAmb	11 20 52.1	
TPUB	**Ta-pu**	**42.64**	**320**	P		**P**	**11 20 49.5**	**-0.6**
SSLB	**Suanglung**	**42.79**	**321**	P		**P**	**11 20 51.1**	**-0.3**
SSLB	comp=Z,4.0nm,0.8s			IAmb		IAmb	11 20 53.6	
MJAR	**Matsushiro Arr**	**46.90**	**348**	P		**P**	**11 21 22.6**	**-1.2**
MJAR	**Matsushiro Arr**	**46.90**	**348**	P		**P**	**11 21 23.9**	**+0.1**
MAJO	**Matsushiro**	**46.90**	**348**	P		**P**	**11 21 24.2**	**+0.3**
KULM	**Kulim**	**50.04**	**285**	P		**P**	**11 21 52.3**	**+3.8**
KSRS	**Korea Array**	**50.64**	**339**	P		**P**	**11 21 52.0**	**-0.5**
KSRS	comp=Z,2.9nm,0.9s,baz=160,slow=9.2,SNR=12			LR		LR	11 39 35.1	
	comp=Z,22nm,21.6s,baz=325,slow=32							
CMAR	**Chiang Mai Arr**	**56.38**	**300**	P		**P**	**11 22 35.4**	**+0.3**
CHTO	**Chiang Mai**	**56.54**	**300**	P		**P**	**11 22 36.6**	**+0.4**
CHTO	comp=Z,3.5nm,0.9s			IAmb		IAmb	11 22 37.3	
PETK	**Petropavlovsk-**	**62.91**	**6**	P		**P**	**11 23 19.3**	**-0.1**
PETK	**Petropavlovsk-**	**62.91**	**6**	P		**P**	**11 23 19.5**	**+0.1**
SONM	**Songino Array**	**68.29**	**331**	P		**P**	**11 23 53.5**	**-0.9**
SONM	**Songino Array**	**68.29**	**331**	P		**P**	**11 23 53.9**	**-0.5**
UNV	**Unalaska Valle**	**73.67**	**26**	P		**P**	**11 24 30.4**	**+3.7**
MKAR	**Makanchi Array**	**81.26**	**320**	P		**P**	**11 25 08.4**	**-1.1**
MKAR	**Makanchi Array**	**81.26**	**320**	P		**P**	**11 25 09.5**	**0.0**
ZALV	**Zalesovo Beam**	**82.88**	**320**	P		**P**	**11 25 15.6**	**-2.1**
ILAR	**Eielson Array**	**88.11**	**23**	P		**P**	**11 25 41.9**	**-1.8**
ILAR	**Eielson Array**	**88.11**	**23**	P		**P**	**11 25 41.1**	**-2.5**
TORD	**Torodi Ar. Bea**	**147.41**	**279**	PKPbc		**PKPbc**	**11 32 37.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**147.41**	**279**	PKPbc		**PKPbc**	**11 32 37.3**	**-0.9**
BDFB	**Brasilia**	**150.01**	**146**	PKPbc		**PKiKP**	**11 32 47.2**	**+1.3**
BDFB	**Brasilia**	**150.01**	**146**	PKPbc		**PKPbc**	**11 32 43.3**	**-1.6**

*IDC **31** 11:43:12.7±0.7,36°.29S×52°.44E,h0km,mb4.4/9, mb1 4.5/10,mb1mx4.1/63,mbtmp4.4/10,ML4.6/1,MS3.6/9, Ms1 3.6/9,ms1mx3.3/52,Error ellipse: s-maj=24.1km s-min=17.4km az=17.0*
*NEIC **31** 11:43:14.7±2.0,36°.17S±0°.08×52°.4E±0°.2,h10km±1km, mb4.6/16,Error ellipse: s-maj=22.8km s-min=13.6km az=77.0*

ISC 31 11:43:15.8±0.6,**36°.18S**±0°.08×**52°.4E**±0°.1,**h18**km,**n44,** σ0§**93**/35,**mb4.5**/14,**MS3.6**/8,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**10.24**	**182**	Pn		**Pn**	**11 45 43.0**	**+1.2**
FOMA	**Nahampoana Res**	**12.11**	**336**	Pn		**Pn**	**11 46 06.0**	**-1.5**
ABPO	**Ambohimpanom**	**17.70**	**344**	P		**P**	**11 47 24.1**	**+1.6**
OPO	**Ambohidratompo** 2.1nm,0.3s,baz=172,slow=12,SNR=15	**18.14**	**344**	P		**P**	**11 47 29.4**	**+2.1**
OPO	0.3nm,0.3s,baz=68,slow=22,SNR=1.5			S		**Sn**	**11 50 50.4**	**+1.2**
OPO	comp=Z,176nm,21.3s,baz=354,slow=31			LR		LR	11 52 43.6	
BOSA	**Boshof** 5.5nm,0.9s,baz=90,slow=6.4,SNR=4.3	**24.09**	**281**	P		**P**	**11 48 30.4**	**-0.1**
BOSA	comp=Z,91nm,18.4s,baz=152,slow=33			LR		LR	11 56 18.6	
BOSA	**Boshof**	**24.09**	**281**	P		**P**	**11 48 31.2**	**+0.6**
LBTB	**Lobatse** 1.4nm,0.5s,baz=143,slow=10,SNR=1.9	**25.55**	**288**	P		**P**	**11 48 42.9**	**-0.9**
LBTB	comp=Z,150nm,18.6s,baz=124,slow=32			LR		LR	11 56 60.0	
LBTB	**Lobatse**	**25.55**	**288**	P		**P**	**11 48 43.9**	**+0.1**
LBTB	comp=Z,17nm,1.5s			IAmb		IAmb	11 48 48.7	
MATP	**Matopo** comp=Z,210nm,21.5s,baz=135,slow=32	**26.16**	**300**	LR		LR	11 57 23.2	
SUR	**Sutherland** comp=Z,105nm,19.7s,baz=109,slow=32	**26.33**	**269**	LR		LR	11 57 14.1	
MAW	**Mawson** comp=Z,179nm,21.4s,baz=52,slow=30	**32.03**	**172**	LR		LR	11 59 05.1	
H08S1	**Diego Garcia H** baz=209,slow=76	**33.80**	**38**	T		T	12 26 03.1	
H08S2	**Diego Garcia H** baz=209	**33.81**	**38**	T		T	12 26 02.0	
H08S3	**Diego Garcia H** baz=209,slow=76	**33.82**	**38**	T		T	12 26 03.3	
TSUM	**Tsumeb** comp=Z,5.2nm,1.1s	**34.94**	**290**	P		**P**	**11 50 07.6**	**+0.7**
TSUM				IAmb		IAmb	11 50 07.8	
KMBO	**Kilima Mbogo** comp=Z,183nm,21.5s,baz=90,slow=33	**37.61**	**335**	LR		LR	12 03 59.7	
SNAA	**Sanae** comp=Z,1.5nm,0.5s,baz=103,slow=7.6,SNR=5.1	**45.29**	**201**	P		**P**	**11 51 31.7**	**-0.4**
SNAA	comp=Z,44nm,20.6s,baz=131,slow=31			LR		LR	12 06 17.2	
SNAA	**Sanae**	**45.29**	**201**	P		**P**	**11 51 32.8**	**+0.7**
SNAA	comp=Z,5.7nm,1.0s			IAmb		IAmb	11 51 43.3	
H01W2	**Cape Leeuwin H** baz=249,slow=75,SNR=30	**49.47**	**108**	T		T	12 45 15.1	
H01W3	**Cape Leeuwin H** baz=249,slow=75,SNR=35	**49.48**	**108**	T		T	12 45 17.9	
H01W1	**Cape Leeuwin H** baz=249,slow=75,SNR=31	**49.49**	**108**	T		T	12 45 18.6	
QSPA	**South Pole Qui** comp=Z,3.6nm,0.9s,baz=258,slow=4.3,SNR=9.3	**54.00**	**180**	P		**P**	**11 52 37.9**	**-0.8**
QSPA	**South Pole Qui**	**54.00**	**180**	P		**P**	**11 52 39.4**	**+0.7**
QSPA	comp=Z,12nm,1.3s			IAmb		IAmb	11 52 41.4	
VNDA	**Vanda** comp=Z,64nm,21.3s,baz=199,slow=33	**58.99**	**166**	LR		LR	12 15 31.2	
IPM	**Ipoh**	**60.81**	**59**	P		**P**	**11 53 27.9**	**+0.8**
FITZ	**Fitzroy Crossi** comp=Z,5.9nm,0.9s,baz=226,slow=6.3,SNR=11	**66.20**	**96**	P		**P**	**11 54 01.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**66.20**	**96**	P		**P**	**11 54 02.5**	**-0.3**
FITZ	comp=Z,7.5nm,0.9s			IAmb		IAmb	11 54 03.4	
TORD	**Torodi Ar. Bea** comp=Z,3.6nm,0.9s,baz=128,slow=4.4,SNR=7.6	**68.53**	**306**	P		**P**	**11 54 18.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**68.53**	**306**	P		**P**	**11 54 18.0**	**+0.5**
ASAR	**Alice Springs** comp=Z,5.7nm,0.8s,baz=232,slow=6.0,SNR=77	**69.86**	**105**	P		**P**	**11 54 25.6**	**-0.2**
ASAR	**Alice Springs**	**69.86**	**105**	P		**P**	**11 54 25.5**	**-0.3**
AS31	**Alice Springs**	**69.86**	**105**	P		**P**	**11 54 26.2**	**+0.4**
WRA	**Warramunga Arr** comp=Z,6.2nm,0.8s,baz=234,slow=5.4,SNR=42	**72.17**	**102**	P		**P**	**11 54 39.6**	**-0.3**
WRA	**Warramunga Arr**	**72.17**	**102**	P		**P**	**11 54 40.1**	**+0.2**
WB2	**Warramunga Arr**	**72.18**	**102**	P		**P**	**11 54 40.1**	**+0.2**
WB2	comp=Z,8.4nm,0.8s			IAmb		IAmb	11 54 40.6	
WRAB	**Tennant Creek**	**72.18**	**102**	P		**P**	**11 54 40.1**	**+0.2**
WRAB	comp=Z,6.9nm,0.8s			IAmb		IAmb	11 54 40.6	
WB0	**Warramunga Arr**	**72.31**	**102**	P		**P**	**11 54 40.8**	**+0.1**
WR0	**Warramunga Arr**	**72.32**	**102**	P		**P**	**11 54 40.8**	**0.0**
WR0	comp=Z,3.5nm,0.8s			IAmb		IAmb	11 54 41.7	
USHA	**Ushuaia** comp=Z,51nm,0.4s,baz=100,slow=0.2,SNR=11	**76.15**	**211**	P		**P**	**11 55 01.4**	**-1.0**
TRI	**Trieste**	**88.66**	**334**	P		**P**	**11 56 06.8**	**-0.7**
CPUP	**Villa Florida** comp=Z,2.5nm,1.0s,baz=79,slow=5.2,SNR=3.5	**89.19**	**238**	P		**P**	**11 56 11.3**	**+0.6**
ILAR	**Eielson Array** comp=Z,4.5nm,0.9s,baz=305,slow=3.1,SNR=4.2	**149.13**	**16**	PKPbc		**PKPbc**	**12 03 01.6**	**-0.6**
ILAR	**Eielson Array**	**149.13**	**16**	PKPbc		**PKPbc**	**12 03 00.4**	**-1.7**
TXAR	**Lajitas Array** comp=Z,0.5nm,0.9s,baz=127,slow=2.4,SNR=4.5	**158.79**	**258**	PKP		**PKPdf**	**12 03 11.3**	**-1.4**
TXAR	comp=Z,0.5nm,0.9s,baz=114,slow=6.2,SNR=4.4			PKPab		**PKPab**	**12 03 47.1**	**-1.5**

*BGR **31** 11:48:18.4±0.0,34°.71N×71°.06E,h205km,mb5.4*
*MOS **31** 11:48:22.8±0.9,36°.56N×71°.06E,h200km,mb5.2/58,Error ellipse: s-maj=4.5km s-min=3.1km az=91.5*
*NNC **31** 11:48:23.7±1.3,36°.72N×70°.87E,h178km±12km,mb5.3, mpv6.4,Error ellipse: s-maj=11.4km s-min=8.5km az=168.0*
*BJI **31** 11:48:24.4±0.0,36°.68N×71°.13E,h201km,mB4.8/48, mb5.0/67*
*NEIC **31** 11:48:24.2±2.1,36°.56N±0°.05×70°.96E±0°.08,h200km±3km, mb5.2/236,Error ellipse: s-maj=9.2km s-min=7.4km az=91.0*
*IDC **31** 11:48:24.8±0.3,36°.50N×71°.03E,h206km±3km,mb4.7/43, mb1 4.8/49,mb1mx4.7/56,mbtmp5.3/49,Error ellipse: s-maj=6.1km s-min=5.4km az=4.0*
*KLM **31** 11:48:25.0,36°.33N×70°.93E,h197km,mb5.2*
*GCMT **31** 11:48:26.2±0.2,36°.54N±0°.01×70°.87E±0°.01,h203km±1km, MW5.3/135,Moment Tensor Solution. s68,c92; s135,c233; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr0.98±.02; Mθθ-0.88±.02; Mϕϕ-0.09±.02; Mrθ-0.51±.02; Mrϕ-0.08±.02; Mθϕ0.16±.02; Best double couple: M0 1.07300×10^17 NP1:ϕ76.00000°,δ32.00000°, λ74.00000°. NP2:ϕ274.00000°,δ60.00000°,λ100.00000°. Principal axes: T 1.1320, Plg73.0000°, Azm209.0000°; N -0.1190, Plg8.0000°,

SNR=9776
DHRM DHARAMSHALA 6.12 133 *e*P **Pn 11 49 52.5 -0.4**
DHRM *e*S **Sn 11 51 00.8 -2.5**
DHRM IAML 11 51 01.9
comp=N,13μm,0.3s
UCH Uchtor 6.30 25 P **Pn 11 49 54.7 -0.5**
SNR=5247
DZA Taraz 6.35 2 *i* P **Pn 11 49 55.3 -0.2**
baz=1.4
DZA Taraz 6.35 2 *i* PN **Pn 11 49 55.3 -0.2**
KZA Kyzart 6.44 29 P **Pn 11 49 56.0 -1.0**
SNR=226
EKS2 Erkin-Say 6.48 18 P **Pn 11 49 56.8 -0.5**
SNR=2005
KK31 Karatay Array 6.57 357 ⇑P **Pn 11 49 56.8 -1.5**
comp=N,369nm,0.3s,baz=184,slow=14,SNR=9780
KK31 ⇑S **Sn 11 51 07.7 -5.6**
comp=N,6μm,0.8s,baz=185,slow=15,SNR=22
KK31 Karatay Array 6.57 357 PN **Pn 11 49 56.8 -1.5**
KK31 Karatay Array 6.57 357 Sn **Sn 11 51 08.4 -4.9**
KKAR Karatay Array 6.57 357 PN **Pn 11 49 57.9 -0.4**
KKAR Karatay Array 6.57 357 **Pn 11 49 57.9 -0.4**
KKAR Karatay Array 6.57 357 **Pn 11 49 57.6 -0.7**
AAK Ala-Archa 6.66 23 P **Pn 11 49 59.5 -0.2**
comp=N,163nm,0.3s,baz=194,slow=9.1,SNR=976
AAK S **Sn 11 51 12.2 -3.5**
comp=N,51nm,0.3s,baz=230,slow=15,SNR=5.4
AAK Ala-Archa 6.66 23 P **Pn 11 49 59.7 0.0**
SNR=716
AAK Ala-Archa 6.66 23 *i* P **Pn 11 49 59.6 0.0**
SNR=146
AAK Ala-Archa 6.66 23 ⇓P **Pn 11 49 57.7 -2.0**
comp=N,2μm,0.9s
AAK S **Sn 11 51 11.8 -3.9**
comp=N,7μm,1.2s
AAK Ala-Archa 6.66 23 PN **Pn 11 49 59.2 -0.5**
AAK Ala-Archa 6.66 23 Pn **Pn 11 49 59.6 0.0**
KBK Karagaybulak 6.83 25 P **Pn 11 50 02.0 +0.1**
SNR=1022
FRU1 Bishkek 6.86 23 PN **Pn 11 50 02.5 +0.3**
FRU1 Bishkek 6.86 23 **Pn 11 50 02.5 +0.3**
ULHL Ulahol 6.99 34 P **Pn 11 50 03.2 -0.9**
SNR=128
CHMS Chumysh 7.07 23 P **Pn 11 50 04.3 -0.6**
SNR=642
USP Ospenovka 7.24 21 P **Pn 11 50 06.0 -1.0**
SNR=206
TKM2 Tokmak 2 7.29 28 P **Pn 11 50 07.6 -0.3**
SNR=2545
TKM2 Tokmak 2 7.29 28 ⇓P **Pn 11 50 07.5 -0.5**
comp=N,5μm,1.0s
TKM2 ⇑S **Sn 11 51 29.5 -1.1**
comp=N,2μm,1.0s
TKM2 Tokmak 2 7.29 28 PN **Pn 11 50 07.4 -0.5**
KDJ Kajisay 7.35 39 PN **Pn 11 50 07.7 -1.1**
KDJ Kajisay 7.35 39 **Pn 11 50 07.7 -1.1**
SGDS Sogindy 7.44 21 ⇓*i* P **Pn 11 50 08.7 -1.1**
comp=N,594nm,0.9s,baz=21
SGDS Sogindy 7.44 21 *d* *i* PN **Pn 11 50 08.7 -1.1**
SGDS pmax pmax
comp=Z,594nm,0.9s
SMLA Simla 7.45 135 *e*P **Pn 11 50 09.0 -0.9**
SMLA *e*S **Sn 11 51 28.8 -5.3**
SMLA IAML 11 51 32.5
comp=N,6μm,0.6s
HRA Herat 7.46 256 Pn **Pn 11 50 09.8 -0.5**
MTBS Maitube 7.79 31 ⇓*i* P **Pn 11 50 14.3 -0.1**
baz=31
MTBS Maitube 7.79 31 *d* *i* PN **Pn 11 50 14.2 -0.1**
TNSS Tian-Shan 7.94 33 ⇓*i* P **Pn 11 50 15.9 -0.7**
baz=33
TNSS Tian-Shan 7.94 33 *d* PN **Pn 11 50 15.8 -0.7**
AAA Alma-Ata 8.06 32 ⇓*i* P **Pn 11 50 18.2 +0.3**
baz=32
AAA Alma-Ata 8.06 32 *e*PN **Pn 11 50 18.2 +0.3**
AAA pmax pmax
comp=Z,6μm,1.9s
AAA MLR MLR
comp=Z,5μm,4.0s
MDOK Medeo 8.08 33 *i* P **Pn 11 50 17.7 -0.6**
baz=33
MDOK Medeo 8.08 33 *i* PN **Pn 11 50 17.6 -0.6**
KNDC Almaty 8.09 33 ⇓P **Pn 11 50 17.0 -1.2**
comp=Z,6μm,1.2s
KNDC ⇓S **Sn 11 51 46.6 -2.8**
comp=Z,2μm,1.0s
KNDC Almaty 8.09 33 PN **Pn 11 50 18.5 +0.3**
KUU Kurty 8.40 27 ⇓*i* P **Pn 11 50 20.8 -1.5**
comp=Z,552nm,1.2s,baz=27
KUU Kurty 8.40 27 *d* *i* PN **Pn 11 50 20.7 -1.5**
KUU pmax pmax
comp=Z,552nm,1.2s
DDI Dehra Dun 8.55 134 *e*P **Pn 11 50 23.4 -1.0**
DDI *ex* x 11 51 54.8
DDI *ex* x 11 51 55.0
DDI IAML 11 51 58.4
comp=E,5μm,1.5s
CHKK Chushkaly 8.62 30 ⇓*i* P **Pn 11 50 23.8 -1.3**
baz=30
CHKK Chushkaly 8.62 30 *d* *i* PN **Pn 11 50 23.7 -1.3**
SATY Saty 8.65 39 ⇓*i* P **Pn 11 50 24.5 -1.1**
comp=E,238nm,1.1s,baz=39
SATY Saty 8.65 39 *d* *i* PN **Pn 11 50 24.5 -1.1**
SATY pmax pmax
comp=Z,238nm,1.1s
SATY Saty 8.65 39 *d* *i* PN **Pn 11 50 24.5 -1.1**
SATY pmax pmax
comp=Z,238nm,1.1s
BTLS Baital 8.80 14 ⇓*i* P **Pn 11 50 26.4 -1.0**
comp=Z,131nm,0.9s,baz=14
BTLS Baital 8.80 14 *d* *i* PN **Pn 11 50 26.3 -1.0**
BTLS pmax pmax
comp=Z,131nm,0.9s
UZB Uzynbulak 9.03 41 ⇓*i* P **Pn 11 50 29.4 -1.2**
comp=Z,272nm,1.7s,baz=41
UZB Uzynbulak 9.03 41 *d* *i* PN **Pn 11 50 29.3 -1.2**
UZB pmax pmax
comp=Z,273nm,1.7s
KPKS Kokpek 9.09 38 ⇓*i* P **Pn 11 50 30.4 -0.9**
comp=Z,647nm,1.0s,baz=38
KPKS Kokpek 9.09 38 *d* *i* P **Pn 11 50 30.3 -0.9**
KPKS pmax pmax
comp=Z,647nm,1.0s
SHLS Shalkode 9.27 42 ⇓*i* P **Pn 11 50 35.6 +2.0**
comp=Z,166nm,0.9s,baz=43
SHLS Shalkode 9.27 42 *d* *i* P **Pn 11 50 35.6 +2.0**
SHLS pmax pmax
comp=Z,167nm,0.9s
PDGK Podgornoye 9.40 41 ⇓P **Pn 11 50 33.7 -1.6**
comp=Z,371nm,0.9s
PDGK ⇑S **Sn 11 52 18.5 -2.1**
comp=Z,902nm,1.2s
PDGK Podgornoye 9.40 41 P **Pn 11 50 33.7 -1.6**
NDI New Delhi 9.42 144 *ex* **Pn 11 50 34.0 -1.7**
NDI *ex* x 11 52 14.0
TDK Taldyqorghan 10.14 31 *i* P **Pn 11 50 43.4 -1.4**
comp=Z,277nm,1.0s,baz=31
TDK Taldyqorghan 10.14 31 *i* P **Pn 11 50 43.4 -1.4**
TDK pmax pmax
comp=Z,277nm,1.0s
GEYT Alibeck 10.37 282 P **Pn 11 50 46.0 -1.9**
comp=Z,21nm,0.3s,baz=112,slow=11,SNR=101
GEYT S **Sn 11 52 38.3 -5.2**
comp=Z,26nm,0.3s,baz=56,slow=48,SNR=2.3
GEYT Alibeck 10.37 282 **Pn 11 50 45.1 -2.7**
GYA0 ALIBECK ARRAY 10.37 282 P **Pn 11 50 44.8 -3.0**
GYA0B ALIBECK ARRAY 10.37 282 ⇑P **Pn 11 50 45.4 -2.5**
GYA0B ALIBECK ARRAY 10.37 282 **Pn 11 50 45.1 -2.7**
MAKZ Makanchi 13.12 35 ⇓P **Pn 11 51 21.5 -1.2**
comp=Z,638nm,0.9s
MAKZ Makanchi 13.12 35 **Pn 11 51 21.6 -1.2**
PYUN Piuthan 13.17 126 *e*P **Pn 11 51 21.3 -2.4**
PYUN Piuthan 13.17 126 *e*P **Pn 11 51 21.4 -2.3**
comp=Z,596nm,0.3s
MK31 Makanchi Array 13.26 36 P **Pn 11 51 23.6 -0.9**
comp=Z,326nm,0.9s,baz=207,slow=11,SNR=1576
MK31 Makanchi Array 13.26 36 P **Pn 11 51 23.0 -1.5**
MK31 Makanchi Array 13.26 36 **Pn 11 51 23.0 -1.5**
MKAR Makanchi Array 13.26 36 P **Pn 11 51 24.1 -0.3**
comp=Z,6.3nm,0.3s,baz=224,slow=10.0,SNR=552
MKAR Makanchi Array 13.26 36 *i* P **Pn 11 51 23.0 -1.5**
MKAR pmax pmax
comp=Z,249nm,0.9s
MKAR Makanchi Array 13.26 36 **Pn 11 51 22.9 -1.6**
BRZS Berezniki 13.49 5 ⇓*i* P **Pn 11 51 25.8 -1.6**
comp=Z,320nm,1.3s,baz=4.4
BRZS Berezniki 13.49 5 *d* *i* P **Pn 11 51 25.7 -1.6**
BRZS pmax pmax
comp=Z,320nm,1.3s
KOLN Koldanda 13.79 126 *e*P **Pn 11 51 29.5 -2.0**
KOLN Koldanda 13.79 126 *e*P **Pn 11 51 29.4 -2.0**
comp=Z,360nm,0.5s
GKN Gorkha 14.32 123 *e*P **Pn 11 51 36.6 -1.4**
GKN Gorkha 14.32 123 *e*P **Pn 11 51 36.9 -1.1**
comp=Z,536nm,0.3s
BHPL Bhopal 14.37 156 *e*P **Pn 11 51 37.1 -1.4**
BHPL *ex* x 11 54 09.2
WMQ Urumqi 14.67 55 P **Pn 11 51 42.3 +0.2**
WMQ S **S 11 54 21.3 -3.9**
WMQ pmax pmax
comp=Z,91nm,0.9s
WMQ pmax pmax
comp=Z,480nm,3.9s
WMQ LR LR
comp=Z,660nm,10.3s
WMQ LR LR
comp=Z,400nm,10.5s
WMQ LR LR
comp=Z,430nm,10.7s
DMN Daman 14.90 123 *e*P **Pn 11 51 44.6 -0.5**
DMN Daman 14.90 123 *e*P **Pn 11 51 44.0 -1.1**
comp=Z,592nm,0.6s
KKN Kakani 14.90 122 *e*P **Pn 11 51 43.5 -1.6**
KKN Kakani 14.90 122 *e*P **Pn 11 51 43.5 -1.6**
comp=Z,660nm,0.6s
ZSN Zaisan 14.98 39 ⇓*i* P **Pn 11 51 44.4 -1.4**
comp=Z,95nm,1.2s,baz=39
ZSN Zaisan 14.98 39 *d* *i* P **Pn 11 51 44.3 -1.4**
ZSN pmax pmax
comp=Z,95nm,1.2s
AB01 Akbulak array 15.05 331 ⇓P **Pn 11 51 45.0 -1.5**
comp=Z,111nm,0.5s
AB31 Akbulak array 15.05 331 ⇓S **S 11 54 29.9 -3.7**
comp=Z,80nm,0.4s
AB31 Akbulak array 15.05 331 P **Pn 11 51 44.9 -1.6**
ABKAR Akbulak array 15.05 331 P **Pn 11 51 46.0 -0.5**
ABKAR Akbulak array 15.05 331 P **Pn 11 51 44.5 -2.0**
KURBB Kurchatov Arra 15.08 19 P **Pn 11 51 45.3 -1.6**
comp=Z,2.3nm,0.3s,baz=207,slow=12,SNR=286
KURBB Kurchatov Arra 15.08 19 ⇓P **Pn 11 51 44.3 -2.6**
comp=Z,469nm,1.3s
KURBB ⇓S **S 11 54 32.2 -2.2**
comp=Z,142nm,0.9s
KURBB Kurchatov Arra 15.08 19 P **Pn 11 51 44.0 -2.9**
KURBB 11 54 34.6
PKI Pulchoki 15.13 122 *e*P **Pn 11 51 47.3 -0.7**
PKI Pulchoki 15.13 122 *e*P **Pn 11 51 47.0 -1.0**
comp=Z,1μm,0.7s
KURK Kurchatov 15.19 19 P **Pn 11 51 45.5 -2.7**
KURK pmax pmax
comp=Z,356nm,1.1s
KURK Kurchatov 15.19 19 P **Pn 11 51 45.5 -2.7**
GUN Gumba 15.24 120 *e*P **Pn 11 51 48.9 -0.5**
comp=Z,329nm,0.4s
GUN Gumba 15.24 120 *e*P **Pn 11 51 48.6 -0.8**
JBP Jabalpur 15.43 147 ⇓*e*P **Pn 11 51 49.5 -1.9**
JBP IAmb IAmb 11 51 53.6
comp=Z,48nm,0.6s
JBP *ex* x 11 54 28.8
JIRN Jiri 15.61 120 *e*P **Pn 11 51 53.7 -0.2**
JIRN *e*S **S 11 54 38.2 -9.2**
comp=Z,1μm,0.6s
JIRN Jiri 15.61 120 *e*P **Pn 11 51 53.8 -0.2**
comp=Z,726nm,0.3s
RAMN Ramite 16.34 121 *e*S **S 11 54 56.0 -7.0**
comp=Z,881nm,0.7s
RAMN Ramite 16.34 121 *e*P **P 11 52 01.5 -0.4**
BANOM Banah 16.41 234 *i* P **P 11 52 01.8 -0.6**
SNR=66
BANOM Banah 16.41 234 P **Pn 11 52 04.0 +0.7**
SNR=26
BANOM S **S 11 55 02.3 -2.0**
SHME Shamm 16.43 235 *i* P **P 11 52 02.1 -0.5**
SNR=60
BVA0 Borovoye Array 16.49 359 P **P 11 52 03.0 -0.1**
comp=Z,542nm,1.1s,baz=169,slow=9.4,SNR=1696
BVA0 ⇓S **S 11 55 03.7 -1.5**
comp=Z,9.0nm,1.1s,baz=165,slow=28,SNR=3.6
BVA0 Borovoye Array 16.49 359 P **P 11 52 02.9 -0.1**
BVA0 S **S 11 55 03.7 -1.5**
BVAR Borovoye Array 16.49 359 P **P 11 52 03.0 0.0**
comp=Z,13nm,0.3s,baz=170,slow=9.8,SNR=368
BVAR S **S 11 55 03.3 -1.9**
comp=Z,6.0nm,0.3s,baz=172,slow=20,SNR=6.5
BRVK Borovoye 16.52 358 ⇑P **P 11 52 03.2 -0.2**
comp=Z,701nm,1.1s
BRVK Borovoye 16.52 358 P **P 11 52 03.6 +0.2**
BRVK pmax pmax
comp=Z,643nm,1.0s
BRVK Borovoye 16.52 358 P **P 11 52 03.6 +0.2**
AKTO Aktyubinsk 16.75 330 P **Pn 11 52 06.8 -0.1**
baz=142,slow=14
AKTO S **S 11 55 09.7 -0.7**
comp=Z,14nm,0.3s,baz=0.9,slow=20,SNR=5.6
AKTO Aktyubinsk 16.75 330 ⇓P **P 11 52 06.0 +0.2**
comp=Z,656nm,0.9s
AKTO ⇑S **S 11 55 09.5 -0.9**
comp=Z,336nm,0.9s
AKTO Aktyubinsk 16.75 330 P **P 11 52 06.1 +0.2**
AKTO S **S 11 55 09.5 -0.9**
MDH Madha 16.85 232 *i* P **P 11 52 05.6 -1.6**
SNR=29
MDH Madha 16.85 232 P **Pn 11 52 08.1 -0.4**
SNR=20
MDH S **S 11 55 08.5 -4.4**
TAPN Taplejung 16.86 118 *e*P **Pn 11 52 09.0 +0.1**
comp=Z,458nm,0.5s
TAPN Taplejung 16.86 118 *e*P **Pn 11 52 09.0 +0.1**
comp=Z,474nm,0.5s
TAPN *e*S **S 11 55 07.0 -6.7**
comp=Z,1μm,0.9s
TAPN Taplejung 16.86 118 *e*P **Pn 11 52 08.7 -0.2**
comp=Z,458nm,0.5s
NGP Nagpur 16.87 153 *e*P **Pn 11 52 08.6 0.0**
NGP *ex* x 11 52 10.0
comp=Z,157nm,1.3s
NGP *ex* x 11 55 07.1
MSFE Esma-Masafi 16.90 233 *i* P **P 11 52 07.5 -0.3**
SNR=38
ODAN Odare 16.94 120 *e*P **Pn 11 52 09.6 -0.1**
comp=Z,503nm,0.7s
WSAR Wadi Sarin 17.03 222 P **P 11 52 08.3 -0.9**
comp=Z,4.3nm,0.3s,baz=70,slow=11,SNR=39
WSAR Wadi Sarin 17.03 222 P **Pn 11 52 11.4 +0.9**
SNR=11
WSAR S **S 11 55 17.8 +1.3**
BIDO Bidbid 17.08 224 P **Pn 11 52 13.0 +1.8**
SNR=12
UMQ Umm Al-Quwin 17.10 234 *i* P **Pn 11 52 10.7 -0.7**
SNR=6.1
UOSS Minazif 17.16 232 *i* P **P 11 52 09.8 -0.9**
SNR=44
UOSS Minazif 17.16 232 P **P 11 52 09.5 -1.2**
UOSS IAmb IAmb 11 52 12.8
comp=Z,148nm,1.0s
HATD Hatta, Dubai 17.29 232 *i* P **P 11 52 11.7 -0.4**
SNR=39
WBK Wadi Bani Khal 17.36 220 P **Pn 11 52 17.0 +2.5**
SNR=16
WBK P **Pn 11 52 17.0 +2.5**
SNR=16
ASHO Ashiyiah 17.44 231 P **Pn 11 52 15.1 -0.4**
NAZ Nazwa, Dubai 17.48 233 *i* P **P 11 52 14.0 -0.1**
SNR=18
SMDO Samad 17.49 223 P **Pn 11 52 19.0 +2.8**
SNR=10
HOQ Hoqain 17.50 226 P **Pn 11 52 18.0 +1.8**
SNR=9.9
JLN Jalan Bani Buh 17.52 218 P **Pn 11 52 18.1 +1.8**
SNR=15
JLN P **Pn 11 52 18.1 +1.8**
SNR=15
GTK Tadong 17.52 117 *e*P **Pn 11 52 16.3 -0.2**
SOHO SOHO 17.55 229 *i* P **P 11 52 13.8 -1.1**
SNR=11
SOHO SOHO 17.55 229 P **Pn 11 52 15.9 -0.8**
DGZ Jazzator, Alta 17.75 37 *d* *i* P **Pn 11 52 18.2 -0.8**
DGZ pmax pmax
comp=Z,574nm,1.0s
JMDO Jabal Madar 18.02 222 P **Pn 11 52 22.3 +0.1**
SNR=16
BOK Bokaro 18.05 131 *e*P **Pn 11 52 22.0 -0.6**
BOK *ex* x 11 52 22.3
BOK *ex* x 11 55 33.4
ALNE Al Ain 18.09 231 *i* P **P 11 52 20.1 -0.7**
SNR=29
POO Poona 18.12 171 ⇑*i* P **Pn 11 52 23.0 -0.4**
comp=Z,250nm,0.4s
POO *ex* x 11 55 58.5
POO *ex* x 11 56 11.5
POO *ix* x 11 56 26.0
ARQ Araqi 18.15 228 P **Pn 11 52 23.7 -0.1**
SNR=13
ARQ P **Pn 11 52 23.7 -0.1**
SNR=13
LSA Lhasa 18.19 106 P **Pn 11 52 25.5 +0.9**
LSA S **S 11 55 36.5 -3.9**
LSA LR LR
comp=Z,1μm,7.8s
LSA LR LR
comp=Z,940nm,7.5s
LSA LR LR
comp=Z,2μm,8.2s
LSA Lhasa 18.19 106 P **Pn 11 52 25.1 +0.4**
LSA Lhasa 18.19 106 P **Pn 11 52 24.7 +0.1**
LSA pmax pmax
comp=Z,170nm,0.9s
LSA Lhasa 18.19 106 P **Pn 11 52 24.7 +0.1**
AJN Ajban 18.21 233 *i* P **P 11 52 22.3 +0.2**
SNR=18
BSY Bisya 18.22 225 P **Pn 11 52 24.4 -0.1**
SNR=19
SRSP Sriramsagar 18.70 158 *e*P **P 11 52 28.2 +0.8**
SRSP *e*S **S 11 55 48.6 -1.3**
AKT Akhty 18.73 292 *e*P **P 11 52 28.6 +1.0**
AKT *e*S **Sn 11 55 56.6 -5.7**
AKT pmax pmax
comp=Z,67nm,0.4s
AKT smax smax
comp=N,98nm,0.6s
AKT smax smax
comp=E,78nm,0.6s
KLRI Killari 19.05 163 *e*P **P 11 52 32.0 +0.8**
KLRI *e*S **S 11 55 57.2 +0.3**
MAK Makhachkala 19.14 297 *e*P **P 11 52 32.5 +0.6**
MAK *e*S **S 11 56 01.5 +3.4**
MAK pmax pmax
comp=Z,329nm,1.2s
MAK MLR MLR
comp=Z,622nm,13.0s
MHTO MHTO 19.22 220 P **Pn 11 52 35.1 -1.3**
SNR=21
KAD Karad 19.36 171 *i* x **S 11 56 09.0 +6.0**
LGD Lagodekhi 19.88 293 P **P 11 52 41.2 +1.3**
ZAA0 Zalesovo Array 19.88 25 ⇑P **P 11 52 39.5 -0.2**
comp=Z,42nm,0.8s
ZALV Zalesovo Beam 19.88 25 P **P 11 52 40.5 +0.7**
comp=Z,20nm,0.3s,baz=223,slow=10,SNR=539
ZALV S **S 11 56 13.2 +0.8**
comp=Z,1.6nm,0.3s,baz=216,slow=16,SNR=2.3
ZALV Zalesovo Beam 19.88 25 *i* P **P 11 52 39.7 0.0**
ZALV pmax pmax
comp=Z,200nm,0.7s
ZALV Zalesovo Beam 19.88 25 P **P 11 52 39.1 -0.6**
DDFL Dedoflistskaro 19.92 292 P **Pn 11 52 43.4 -1.3**
HYBB Hyderabad (bro 20.19 159 *e*P **P 11 52 44.1 +0.7**
HYBB *e*S **S 11 56 18.7 -0.3**
HYB Hyderabad 20.19 159 *i* P **P 11 52 44.0 +0.6**
comp=Z,340nm,1.0s
HYB *e* 11 53 07.0
HYB *es*P **sP 11 53 44.0 +2.3**
HYB *e*S **S 11 56 20.0 +0.9**
DQM DQM 20.32 219 P **P 11 52 46.5 +1.6**
SNR=5.3
GROC Groznyy 20.41 297 *e*P **P 11 52 45.8 +0.2**
GROC *e**PP **pP 11 53 16.8 -2.1**
GROC *e**SP **sP 11 53 44.5 +0.3**
GROC *e*S **S 11 56 26.2 +3.2**
GROC pmax pmax
comp=Z,407nm,1.0s
SHL Shillong 20.93 116 *i* P **P 11 52 51.0 -0.4**
SHL *e*P Pn 11 52 52.0 -5.5
SHL *i* x x 11 56 32.0
TBLG Delisi 20.98 292 P **P 11 52 54.4 +2.7**
KZRT Kazreti 21.21 291 P **P 11 52 56.3 +2.2**
NJS Nagarjunasagar 21.23 158 *e*P **P 11 52 55.2 +0.8**
NJS *e*S **S 11 56 37.1 -1.1**
ZIRO ZIRO 21.32 108 *ex* **P 11 52 54.4 -1.1**
CHLP Challavanipeta 21.33 144 *e*P **P 11 52 57.0 +1.6**
CHLP *e*S **S 11 56 38.9 -1.0**
PVM Polavaram 21.39 151 *e*P **P 11 52 57.7 +1.6**
PVM *e*S **S 11 56 41.1 +0.2**
ITAN ITANAGAR 21.41 109 *e*P **P 11 52 57.7 +1.4**
ITAN *ex* x 11 56 42.6
SVE Sverdlovsk 21.45 344 *c* *i* P **P 11 52 57.2 +0.8**
SVE *e*S **S 11 56 43.6 +2.4**
SVE pmax pmax
comp=Z,174nm,1.4s
MYLAV Mylavaram 21.49 154 *e*P **P 11 52 58.3 +1.2**
MYLAV *e*S **S 11 56 42.5 +0.1**
SRLM Srisailam 21.53 159 *e*P **P 11 52 58.8 +1.1**
SRLM *e*S **S 11 56 42.0 -1.3**
ARU Arti 21.59 341 *d* *i* P **P 11 52 58.7 +0.9**
ARU *PP **pP 11 53 30.8 -1.3**
ARU S **S 11 56 46.0 +2.5**
ARU pmax pmax
comp=Z,198nm,1.0s
ARU Arti 21.59 341 P **P 11 52 58.3 +0.4**
AKH Akhalkalaki 21.89 291 ⇑P **P 11 53 03.2 +2.0**
AKH Akhalkalaki 21.89 291 P **P 11 53 03.1 +2.0**
ONI Oni 22.02 294 P **P 11 53 04.8 +2.4**
ADKI Addanki 22.10 156 *e*P **P 11 53 03.5 +0.3**
ADKI *e*S **S 11 56 51.1 -1.1**
KARS Kars 22.16 289 P **P 11 53 07.8 +4.0**
URV Uravakonda 22.22 164 *e*P **P 11 53 05.0 +0.7**
URV *e*S **S 11 56 57.2 +2.9**
KBZ Khabaz 22.58 297 P **P 11 53 07.9 +0.5**
comp=Z,10nm,0.9s,baz=116,slow=5.9,SNR=27
KBZ Khabaz 22.58 297 *ce*P **P 11 53 07.7 +0.3**
GOF Gofitskoye 22.72 301 ⇓*i* P **P 11 53 10.8 +2.1**
GOF *i* 11 53 42.6
GOF pmax pmax
comp=Z,314nm,1.0s
KVAR Kislovodsk Arr 22.76 298 P **P 11 53 10.3 +1.1**
comp=Z,5.5nm,0.3s,baz=92,slow=24,SNR=2.9
KIV Kislovodsk 22.77 298 *i* P **P 11 53 10.0 +0.8**
SNR=10
KIV Kislovodsk 22.77 298 *e*P **P 11 53 10.2 +1.0**
KIV *e*S **S 11 57 04.9 +2.0**
KIV pmax pmax
comp=Z,113nm,1.0s
KIV MLR MLR
comp=Z,675nm,14.0s
KIV Kislovodsk 22.77 298 P **P 11 53 09.7 +0.5**
KIV IAmb IAmb 11 54 06.3
comp=Z,64nm,0.8s
GTA Gaotai 22.85 74 *e*P **P 11 53 12.5 +2.4**
GTA pP pP 11 53 51.0 +4.0
GTA sP sP 11 54 16.0 +3.6
GTA S **S 11 57 05.5 +1.1**
GTA pmax pmax
comp=Z,34nm,1.0s
GTA pmax pmax
comp=Z,120nm,11.0s
GTA LR LR
comp=Z,260nm,13.4s
GTA LR LR
comp=Z,330nm,11.3s
GTA LR LR
comp=Z,400nm,13.4s
SHAO Shalim 22.90 220 *i* P **P 11 53 12.8 +2.3**
SNR=5.3
LKP Lekhapani 22.95 106 *e*P **P 11 53 13.0 +2.2**
CHVG Ch'k'valeri 23.04 294 ⇓P **P 11 53 13.6 +2.0**
BATM Batumi 23.25 292 ⇓P **P 11 53 13.9 +0.4**
BATM Batumi 23.25 292 P **P 11 53 13.8 +0.4**
DMTO DMTO 23.51 221 P **P 11 53 16.9 +0.9**
SAIH SAIHA 23.64 120 *e*P **P 11 53 18.7 +1.4**
SAIH IAmb IAmb 11 53 21.3
comp=Z,149nm,0.8s
WHFO Wadi Hawf 23.99 224 P **P 11 53 20.6 +0.2**
SKHT Srikalahasti 24.01 159 *e*P **P 11 53 21.7 +1.2**
SKHT *e*S **S 11 57 21.6 -1.3**
RBK Rabkut 24.09 223 P **P 11 53 21.5 +0.2**
KOPT Kop Dagi 24.14 288 IAmb IAmb 11 54 18.8
comp=Z,76nm,1.4s

KRAR Krasnoyarsk 24.46 30 *i* P P 11 53 23.9 -0.4
ABTO Aybut 24.71 224 P P 11 53 29.7 +2.7
SNR=9.7
MDRS Chennai 24.80 158 *e*P P 11 53 28.6 +0.9
SOC Sochi 24.85 296 *e*P P 11 53 28.0 0.0
SOC *e**PP **pP** 11 54 05.9 -1.1
SOC *e**SP **sP** 11 54 31.3 +0.3
SOC *e*S **S** 11 57 38.8 +2.9
SOC *e**SS **sS** 11 58 48.2 0.0
SOC pmax pmax
comp=Z,40nm,0.9s
VRH Novokhopyorsk 25.48 314 *e*P P 11 53 33.9 +0.4
VRH *e**PP **pP** 11 54 12.0 -1.3
VRH pmax pmax
comp=Z,30nm,0.8s
MALT Malatya 25.86 284 P P 11 53 39.6 +2.4
MOY Mondy 26.08 45 *e*P P 11 53 41.0 +1.9
MOY *e* 11 54 23.3
MOY pmax pmax
comp=Z,176nm,1.8s
KIRV Kirov 26.20 334 P P 11 53 41.1 +1.2
comp=Z,50nm,0.6s,baz=86,slow=1.2,SNR=19
KIRV pP **pP** 11 54 21.7 +1.3
comp=Z,60nm,0.6s,baz=123,slow=2.9,SNR=3.3
LZH Lanzhou 26.40 81 *e*P P 11 53 44.5 +2.3
LZH pP pP 11 54 24.5 +0.9
LZH sP sP 11 54 48.3 +1.1
LZH sS sS 11 59 15.8 +1.9
LZH pmax pmax
comp=Z,34nm,1.3s
LZH pmax pmax
comp=Z,150nm,5.0s
ANN Anapa 26.61 299 *e*P P 11 53 44.2 +0.4
ANN *e**PP **pP** 11 54 26.0 +2.1
ANN *e*S **S** 11 58 06.6 +3.0
ANN pmax pmax
comp=Z,60nm,0.9s
VORD Divnogorie 26.81 313 *e*P P 11 53 45.6 +0.1
VORD *e**PP **pP** 11 54 22.4 -3.2
VORD pmax pmax
comp=Z,70nm,1.4s
ZAK Zakamensk 26.96 49 *e*P P 11 53 48.6 +1.6
ZAK pmax pmax
comp=Z,10.0nm,1.0s
GAZ Gaziantep 26.96 282 IAmb IAmb 11 54 33.8
comp=Z,53nm,1.1s
VSR Storozhevoye 26.98 313 *e*P P 11 53 46.8 -0.1
VSR *e**PP **pP** 11 54 24.9 -2.2
VSR pmax pmax
comp=Z,90nm,1.1s
VORR Voronezh 27.11 314 *e*P P 11 53 48.0 -0.1
VORR pmax pmax
comp=Z,350nm,2.0s
TLY Talaya 27.61 46 P P 11 53 53.9 +1.3
comp=Z,3.6nm,0.7s,baz=251,slow=7.3,SNR=3.3
TLY Talaya 27.61 46 *i* P P 11 53 53.0 +0.4
TLY pmax pmax
comp=Z,5.0nm,0.8s
TLY Talaya 27.61 46 IAmb IAmb 11 54 42.1
comp=Z,56nm,1.4s
LPSR Galich'ya Gora 27.62 316 *e*P P 11 53 53.2 +0.6
LPSR *e**PP **pP** 11 54 31.7 -1.2
LPSR pmax pmax
comp=Z,70nm,1.0s
CD2 Chengdu 27.73 92 ⇓P P 11 53 56.5 +2.5
CD2 PP **PnPn** 11 54 55.0 +3.2
CD2 S **S** 11 58 22.3 +0.6
CD2 pmax pmax
comp=Z,100nm,1.0s
CD2 pmax pmax
comp=Z,130nm,6.0s
SONM Songino Array 28.31 55 P P 11 54 00.6 +1.6
comp=Z,3.9nm,0.5s,baz=257,slow=10.0,SNR=32
SONM pP **pP** 11 54 42.6 +2.1
comp=Z,18nm,0.9s,baz=256,slow=11,SNR=7.6
SONM Songino Array 28.31 55 P P 11 54 00.0 +1.0
SONM pP **pP** 11 54 43.5 +3.0
ASF Jabal al Asfar 28.40 271 P P 11 54 01.7 +1.8
comp=Z,1.9nm,0.5s,baz=186,slow=0.6,SNR=10
ULN Ulaanbaatar 28.75 55*c* *e*P P 11 54 04.4 +1.4
ULN pmax pmax
comp=Z,13nm,1.7s
ULN Ulaanbaatar 28.75 55 P P 11 54 03.8 +0.9
SIM Simferopol' 28.98 298 *e*P P 11 54 04.7 -0.1
SIM *PP **pP** 11 54 45.6 +0.2
SIM S **S** 11 58 43.0 +2.2
SIM pmax pmax
comp=Z,20nm,0.4s
BZK Bozkurt 29.00 292 ⇓P P 11 54 05.5 +0.5
ILGA Ilgaz 29.26 290 IAmb IAmb 11 54 10.6
comp=Z,46nm,1.2s
MMAI Mount Meron Ar 29.35 274 P P 11 54 09.7 +1.4
comp=Z,2.2nm,0.4s,baz=76,slow=11,SNR=5.4
MMAI PcP **PcP** 11 57 09.8 +0.4
comp=Z,24nm,1.0s,baz=51,slow=4.4,SNR=10
KMI Kunming 29.41 104 ⇑P P 11 54 10.0 +1.0
KMI pP pP 11 54 49.5 -1.3
KMI sP sP 11 55 12.8 -1.4
KMI S **S** 11 58 49.3 +0.9
KMI sS sS 12 00 00.5 -1.3
KMI pmax pmax
comp=Z,23nm,0.8s
KMI pmax pmax
comp=Z,130nm,5.3s
KMI LR LR
comp=Z,230nm,13.0s
KMI LR LR
comp=Z,120nm,9.3s
KMI LR LR
comp=Z,200nm,16.7s
BR131 Keskin Array S 29.42 288 P P 11 54 09.9 +1.0
BR131 pmax pmax
comp=Z,24nm,1.2s
BR131 Keskin Array S 29.42 288 P P 11 54 09.9 +1.0
BRTR Keskin Array B 29.42 288 P P 11 54 09.9 +1.0
comp=Z,11nm,0.8s,baz=99,slow=7.9,SNR=50
BRTR PcP **PcP** 11 57 09.1 -0.5
comp=Z,9.6nm,0.9s,baz=104,slow=5.2,SNR=4.1
BRTR Keskin Array B 29.42 288 *i* P P 11 54 10.0 +1.0
BRTR pmax pmax
comp=Z,11nm,0.9s
BRTR Keskin Array B 29.42 288 P P 11 54 09.6 +0.6
BRTR PcP **PcP** 11 57 08.6 -1.0
MOS Moscow 29.63 321 *e*P P 11 54 10.1 -0.2
MOS *e**PP **pP** 11 54 49.6 -1.4
MOS *e* 11 55 10.5
MOS *e* 11 55 15.9
MOS *e*S **S** 11 58 51.1 +0.4
MOS *e**SS **sS** 12 00 02.7 -1.4
MOS pmax pmax
comp=Z,47nm,0.7s
MOS pmax pmax
comp=Z,100nm,1.0s
MOS smax smax
comp=N,400nm,2.2s
PRGR Permogore 29.73 336 ⇑*i*P P 11 54 12.0 +0.8
PRGR *i* *PP **pP** 11 54 52.7 +0.7
PRGR pmax pmax
comp=Z,62nm,0.8s
OBN Obninsk 29.91 319 P P 11 54 13.9 +1.1
comp=Z,10nm,0.4s,baz=99,slow=2.0,SNR=19
OBN Obninsk 29.91 319 *c* *i*P P 11 54 13.7 +0.9
OBN *e**PP **pP** 11 54 55.0 +1.4
OBN *e**SP **sP** 11 55 15.2 -1.3
OBN *e* 11 55 18.1
OBN *i* S **S** 11 58 55.7 +0.7
OBN pmax pmax
comp=Z,99nm,1.3s
OBN MLR MLR
comp=Z,241nm,19.0s
OBN Obninsk 29.91 319 P P 11 54 12.4 -0.3
CHTO Chiang Mai 30.24 118 P P 11 54 17.3 +1.1
CHTO pmax pmax
comp=Z,63nm,1.5s
CHTO Chiang Mai 30.24 118 P P 11 54 17.3 +1.1
CHTO IAmb IAmb 11 54 20.0
comp=Z,63nm,1.4s
PALK Pallekele 30.45 161 P P 11 54 19.3 +1.3
comp=Z,81nm,0.9s,baz=84,slow=10,SNR=24
PALK Pallekele 30.45 161 P P 11 54 18.2 +0.2
PALK pmax pmax
comp=Z,98nm,0.9s
PALK Pallekele 30.45 161 P P 11 54 18.2 +0.2
CM31 Chiang Mai Arr 30.47 119 IAmb IAmb 11 54 21.4
comp=Z,72nm,1.0s

CMAR Chiang Mai Arr 30.47 119 P P 11 54 19.1 +0.9
comp=Z,51nm,1.0s,baz=298,slow=8.0,SNR=138
CMAR PcP **PcP** 11 57 12.8 +0.4
comp=Z,13nm,1.0s,baz=288,slow=3.8,SNR=6.5
CMAR ScP **ScP** 12 00 34.0 -2.1
comp=Z,2.1nm,0.9s,baz=292,slow=4.6,SNR=4.8
CMAR Chiang Mai Arr 30.47 119 P P 11 54 18.9 +0.7
CMAR 11 57 12.5
CMAR Chiang Mai Arr 30.47 119 P P 11 54 18.9 +0.7
CMAR PcP **PcP** 11 57 12.5 0.0
CSS Mathiatis 30.49 278 P P 11 54 19.8 +1.5
BTO Baotou 30.60 70 *e*P P 11 54 19.5 +0.2
BTO S S 11 59 02.3 -4.3
LEF Lefka 30.80 279 ⇓P P 11 54 20.7 -0.2
EIL Elat 30.84 268 P P 11 54 22.4 +1.1
comp=Z,22nm,1.0s,baz=78,slow=2.6,SNR=14
XAN Xi'an 30.92 83 P P 11 54 23.3 +1.2
XAN pP pP 11 55 02.0 -1.8
XAN S S 11 59 12.8 +1.2
XAN PcS **PcS** 12 00 56.8 -1.1
XAN SS **SnSn** 12 01 11.0 -6.4
XAN pmax pmax
comp=Z,77nm,1.1s
XAN LR LR
comp=Z,170nm,14.7s
XAN LR LR
comp=Z,260nm,10.8s
XAN LR LR
comp=Z,320nm,16.0s
XAN Xi'an 30.92 83 IAmb IAmb 11 54 24.3
comp=Z,55nm,0.9s
KLMR Klimovskoe 31.45 331 *e*P P 11 54 25.9 -0.3
KLMR *e**PP **pP** 11 55 07.3 -0.1
KLMR *e**SP **sP** 11 55 29.2 -1.3
KLMR *e*S **S** 11 59 19.7 +0.8
KLMR *e**SS **sS** 12 00 32.6 0.0
KLMR pmax pmax
comp=Z,69nm,1.2s
KLMR Klimovskoe 31.45 331 *e*P P 11 54 26.0 -0.3
KLMR AMP 11 54 30.3
comp=Z,69nm,1.2s
KLMR *e*pP **pP** 11 55 07.3 -0.1
KLMR *e*sP **sP** 11 55 29.3 -1.3
KLMR *e*S **S** 11 59 19.7 +0.8
KLMR *e*S **S** 11 59 19.7 +0.8
KLMR *e*sS **sS** 12 00 32.7 +0.1
KLMR *e*sS **sS** 12 00 32.7 +0.1
BOLV Bolvadin 31.62 286 IAmb IAmb 11 54 31.9
comp=Z,23nm,0.7s
HHC Hu-ho-hao-te 31.75 70 *e*P P 11 54 31.3 +2.0
HHC S S 11 59 25.3 +0.9
HHC sS ScP 12 00 39.8 -0.3
HHC pmax pmax
comp=Z,23nm,1.1s
HHC pmax pmax
comp=Z,87nm,5.5s
GYA Guiyang 31.87 98 ⇓P P 11 54 32.0 +1.5
GYA pP pP 11 55 12.5 -0.1
GYA PcP **PcP** 11 57 16.0 -0.3
GYA S **S** 11 59 27.8 +1.2
GYA ScP **ScP** 12 00 38.5 -2.3
GYA SS **SnSn** 12 01 33.5 -6.8
GYA pmax pmax
comp=Z,61nm,1.0s
GYA pmax pmax
comp=Z,120nm,3.5s
GYA LR LR
comp=Z,180nm,16.6s
GYA LR LR
comp=Z,140nm,13.9s
GYA LR LR
comp=Z,150nm,15.0s
ISP Isparta 32.10 285 P P 11 54 32.5 +0.1
ISP 11 57 15.7
ISP pmax pmax
comp=Z,18nm,1.1s
ISP Isparta 32.10 285 P P 11 54 32.5 +0.1
ISP PcP **PcP** 11 57 15.7 -1.1
ENH Enshi 32.58 90 IAmb IAmb 11 54 39.3
comp=Z,114nm,1.3s
TLCR 32.74 299 ⇓P P 11 54 38.8 +1.1
TIY Taiyuan 32.87 75 *e*P P 11 54 41.3 +2.3
TIY S S 11 59 45.0 +3.3
TIY pmax pmax
comp=Z,110nm,4.0s
TIY LR LR
comp=Z,170nm,5.6s
TIY LR LR
comp=Z,200nm,7.6s
TIY LR LR
comp=Z,170nm,6.1s
AKASG Malin Array Be 32.92 309 P P 11 54 39.8 +0.6
comp=Z,23nm,0.6s,baz=84,slow=7.3,SNR=99
AKASG pP **pP** 11 55 21.5 +1.4
comp=Z,9.6nm,0.5s,baz=84,slow=7.4,SNR=4.1
AKASG sP **sP** 11 55 44.5 +1.5
comp=Z,5.3nm,0.5s,baz=84,slow=8.9,SNR=2.1
AKASG ScP **ScP** 12 00 42.2 -1.6
comp=Z,1.7nm,0.6s,baz=84,slow=3.1,SNR=6.3
AKASG Malin Array Be 32.92 309 P P 11 54 39.4 +0.1
AKBB Malin Array Si 32.92 309 P P 11 54 39.5 +0.3
AKBB pmax pmax
comp=Z,95nm,1.3s
AKBB Malin Array Si 32.92 309 P P 11 54 39.5 +0.3
AKBB IAmb IAmb 11 54 40.9
comp=Z,95nm,1.2s
SHAB Shabla 32.92 296 ⇓P P 11 54 39.7 +0.4
TIRR Tirgusor 33.03 297 ⇓P P 11 54 41.3 +1.0
TIRR Tirgusor 33.03 297 P P 11 54 40.4 +0.1
TIRR pmax pmax
comp=Z,144nm,1.4s
TIRR Tirgusor 33.03 297 P P 11 54 40.4 +0.1
TOPG Topolog 33.05 298 ⇓P P 11 54 41.2 +0.8
PBKT Sadao Pong 33.17 119 P P 11 54 43.1 +1.4
PBKT IAmb IAmb 11 54 45.3
comp=Z,94nm,1.1s
SORM Soroca 33.18 304 ⇓P P 11 54 43.2 +1.7
CFR Carcaliu 33.22 299 ⇓P P 11 54 43.1 +1.3
PSN Preselentsi 33.22 296 *e*P P 11 54 54.9 +13
VARL Varlezi 33.42 300 ⇓P P 11 54 44.7 +1.0
VASR Vaslui 33.48 301 ⇑P P 11 54 45.4 +1.2
PETR Petresti 33.85 300 ⇓P P 11 54 48.9 +1.6
ODBI Odobesti 33.98 300 ⇓P P 11 54 50.0 +1.6
TMCR Tamitsa 34.01 335 *e*P P 11 54 47.6 -0.8
GRER 34.04 299 ⇓P P 11 54 50.0 +1.0
NRIK Noril'sk 34.09 10 P P 11 54 50.4 +1.3
comp=Z,47nm,0.8s,baz=202,slow=5.9,SNR=56
NRIK pP **pP** 11 55 31.8 +1.0
comp=Z,65nm,0.9s,baz=198,slow=5.6,SNR=6.9
VRI Vrincioaia 34.21 300 ⇓P P 11 54 52.5 +2.0
BISRR Bisoca 34.22 299 ⇓P P 11 54 52.1 +1.4
PLOR Plostina 34.26 300 ⇓P P 11 54 52.6 +1.6
TESR Tescani 34.27 301 ⇓P P 11 54 51.7 +0.8
ISR Istrita 34.35 298 ⇓P P 11 54 54.7 +3.0
RAZG Razgrad 34.44 296 ⇓P P 11 54 52.9 +0.4
MICGM Minsk 34.47 315 *e*P P 11 54 52.0 -0.5
MICGM *e*pP **pP** 11 55 36.0 +2.2
MICGM *e*PPP PPP 11 56 06.0
MICGM *e*PcP PcP 11 57 04.0 -19
MICGM *e*S **S** 12 00 08.0 +2.2
MICGM *e*sS **ScP** 12 00 52.0 +2.8
MICGM *e*SS **SS** 12 02 31.0 -11
MNK Minsk 34.47 315 *e*P P 11 54 52.0 -0.5
MNK *e*S **S** 12 00 08.0 +2.2
MNK *e*SS **SS** 12 02 31.0 -11
NEHR Nehoiu 34.52 299 ⇓P P 11 54 54.7 +1.6
PRAR RASCA 34.57 302 ⇓P P 11 54 54.8 +1.2
BIZ Bicaz 34.65 302 ⇓P P 11 54 55.3 +1.1
SECR 34.69 298 ⇓P P 11 54 57.4 +2.8
MLR Muntele Rosu 34.76 299 ⇓P P 11 54 58.0 +2.7
DOPR Dopca 35.14 300 ⇓P P 11 54 59.5 +1.1
NACGM Naroch 35.19 316 *e* P 11 54 58.0 -0.6
BURAR Bucovina Array 35.26 303 ⇓P P 11 55 01.2 +1.6
BURAR Bucovina Array 35.26 303 P P 11 55 00.1 +0.6
IDID Didziasalis 35.30 316 *e*P P 11 55 01.3 +1.7
BJI Beijing 35.34 70 P P 11 55 02.0 +1.8
BJI PcP **PcP** 11 57 26.5 +0.7
BJI S **S** 12 00 22.8 +3.3
BJI ScP **ScP** 12 00 51.3 -1.3
BJI PcS **PcS** 12 01 13.0 0.0
BJI ScS **ScS** 12 04 58.5 +1.1
BJI pmax pmax
comp=Z,10.0nm,1.0s

BJI pmax pmax
comp=Z,110nm,4.4s
BJI LR LR
comp=Z,110nm,13.7s
BJI LR LR
comp=Z,230nm,13.5s
BJI LR LR
comp=Z,75nm,14.7s
VOIR 35.39 299 ⇓P P 11 55 01.4 +0.7
VOIR 35.39 299 P P 11 55 01.3 +0.7
ATD Arta Tunnel 35.55 233 P P 11 55 03.6 +1.4
comp=Z,51nm,0.9s,baz=346,slow=4.8,SNR=18
ATD Arta Tunnel 35.55 233 P P 11 55 04.0 +1.7
ATD IAmb IAmb 11 55 06.3
comp=Z,96nm,1.1s
IZAR Zarasai 35.68 317 *e*P P 11 55 04.8 +2.0
ARR Arges 35.69 299 ⇓P P 11 55 05.0 +1.9
ISAL Salakas 35.70 317 *e*P P 11 55 05.0 +2.0
ARCR ARCALIA 35.84 302 ⇓P P 11 55 05.8 +1.4
LVV L'vov 36.14 307 *e*P P 11 55 07.7 +0.9
LVV *e**PP **pP** 11 55 50.9 +2.6
LVV *e*S **S** 12 00 31.9 +0.5
LVV pmax pmax
comp=Z,250nm,1.4s
LVV smax smax
comp=N,200nm,7.5s
LVV smax smax
comp=E,300nm,7.8s
APE Apeiranthos 36.14 285 ⇓P P 11 55 07.6 +0.5
VSU Vasula 36.15 322 *e*P P 11 55 07.7 +0.9
VSU Vasula 36.15 322 *i* P P 11 55 06.7 -0.1
VSU pmax pmax
comp=Z,105nm,0.9s
LOT Lotru 36.29 299 ⇓P P 11 55 09.9 +1.6
SANT Santorini 36.37 284 ⇓P P 11 55 08.2 -0.8
CJR Cluj-Napoca 36.37 301 ⇓P P 11 55 11.0 +2.1
WHN Wuhan 36.39 87 ⇑P P 11 55 11.0 +1.8
WHN sP **sP** 11 56 11.5 -3.6
WHN PcP **PcP** 11 57 29.3 +0.2
WHN S **S** 12 00 37.3 +1.7
WHN pmax pmax
comp=Z,200nm,1.2s
BMR Baia Mare 36.43 303 ⇓P P 11 55 10.4 +1.1
MPEP Malo Peshtene 36.47 296 *e*P P 11 55 11.2 +1.5
MMB Musomiste 36.69 293 *e*P P 11 55 11.9 +0.3
TIA Tai'an 36.86 76 P P 11 55 14.8 +1.7
TIA pP **pP** 11 55 57.5 +1.5
TIA sP **sP** 11 56 21.0 +1.7
TIA S **S** 12 00 45.5 +2.8
TIA pmax pmax
comp=Z,22nm,1.0s
TIA LR LR
comp=Z,110nm,5.9s
TIA LR LR
comp=Z,140nm,9.2s
TIA LR LR
comp=Z,100nm,6.7s
DEV Deva 36.88 300 ⇓P P 11 55 15.3 +2.2
PABE Paberze 36.89 316 *e*P P 11 55 14.2 +1.2
VTS Vitosha 36.92 295 *e*P P 11 55 14.3 +0.6
SUW Suwalki 37.09 314 IAmb IAmb 11 55 16.4
comp=Z,69nm,0.9s
KKB Krupnik 37.12 293 *e*P P 11 55 15.3 0.0
UZH Uzhgorod 37.24 305 *e*P P 11 55 16.6 +0.5
UZH *e* 11 55 56.0
UBPT Khong Chiam 37.25 116 P P 11 55 16.0 -0.6
UBPT IAmb IAmb 11 55 17.7
comp=Z,32nm,0.9s
KOLS Kolonicke sedl 37.25 305 *e*P P 11 55 16.7 +0.4
KOLS pmax pmax
comp=Z,23nm,1.0s
KOLS Kolonicke sedl 37.25 305 *e*P P 11 55 16.7 +0.4
HERR Herculane 37.28 298 ⇓P P 11 55 17.0 +0.4
FIA1 FINESS Array S 37.45 326 P P 11 55 17.6 -0.1
FIA1 IAmb IAmb 11 55 19.2
comp=Z,31nm,0.7s
FINES FINESS Array B 37.45 326 P P 11 55 18.3 +0.6
comp=Z,34nm,0.7s,baz=122,slow=9.4,SNR=161
FINES pP **pP** 11 56 01.9 +2.0
comp=Z,17nm,0.7s,baz=101,slow=10,SNR=4.2
FINES sP **sP** 11 56 24.4 +1.6
comp=Z,24nm,0.9s,baz=96,slow=10,SNR=2.9
FINES FINESS Array B 37.45 326 *i* P P 11 55 18.2 +0.5
FINES pmax pmax
comp=Z,34nm,0.7s
FINES FINESS Array B 37.45 326 P P 11 55 17.7 0.0
APA Apatity 37.60 337 ⇓*i*P P 11 55 20.8 +1.9
APA *i* *PP **pP** 11 56 00.5 -0.4
APA *i* 11 56 50.0
APA *i* S **S** 12 00 55.0 +2.0
APA *i* SS **SS** 12 03 40.0 -6.5
APA pmax pmax
comp=Z,12nm,0.7s
APA MLR MLR
comp=Z,1μm,21.0s
SIRR Siria 37.72 301 ⇓P P 11 55 22.6 +2.3
CRVS Cervenica-Dubn 37.79 305 *e*P P 11 55 21.7 +0.9
CRVS pmax pmax
comp=Z,116nm,2.4s
CRVS Cervenica-Dubn 37.79 305 *e*P P 11 55 21.7 +0.9
MDVR Moldovita 37.79 298 ⇓P P 11 55 22.5 +1.6
BZS Buzias 37.79 300 ⇓P P 11 55 22.5 +1.6
STIP Stip 37.81 293 *i* P P 11 55 20.4 -0.6
PBUR Paburge 38.12 317 *e*P P 11 55 24.7 +1.4
AGG Agios Georgios 38.19 289 IAmb IAmb 11 55 25.8
comp=Z,102nm,2.0s
QIZ Qiongzhong 38.23 107 P P 11 55 24.8 0.0
QIZ sP **sP** 11 56 29.0 -1.8
QIZ S **S** 12 01 01.5 -2.2
QIZ sS **sS** 12 02 17.0 -1.7
KECS Kecovo 38.44 304 *e*P P 11 55 27.6 +1.4
KECS Kecovo 38.44 304 *e*P P 11 55 27.6 +1.4
PSZ Piszkesteto 38.85 303 ⇓P P 11 55 31.6 +1.9
OJC Ojcow 38.88 307 IAmb IAmb 11 55 32.0
comp=Z,53nm,1.0s
DIVS Divibare 39.09 297 ⇑*i*P P 11 55 32.4 +0.7
DIVS Divibare 39.09 297 IAmb IAmb 11 56 40.8
comp=Z,74nm,1.5s
FRGS Fruska Gora 39.10 299 ⇑*i*P P 11 55 32.6 +0.9
NJ2 Nanjing 39.47 82 ⇑P P 11 55 36.0 +1.1
NJ2 pmax pmax
comp=Z,31nm,0.8s
VYHS Vyhne 39.53 304 *e*P P 11 55 36.5 +1.2
VYHS pmax pmax
comp=Z,39nm,1.5s
VYHS Vyhne 39.53 304 *e*P P 11 55 36.5 +1.2
VYHS *e*S **S** 12 01 22.1 -0.5
VYHS *e*SS **SS** 12 04 27.1 +1.5
BBLS Lazići 39.54 297 ⇑*i*P P 11 55 36.2 +0.8
DL2 Dalian 39.70 71 P P 11 55 38.5 +1.8
DL2 pP **pP** 11 56 21.0 +1.0
DL2 S **S** 12 01 28.0 +2.8
DL2 pmax pmax
comp=Z,32nm,0.9s
MLSI Meulaboh, Aceh 39.71 138 P P 11 55 35.3 -1.7
comp=Z,245nm,0.9s
MORH Mrgy, Hungar 39.81 301 ⇑*i*P P 11 55 38.2 +0.6
PDG Podgorica 39.85 295 ⇓P P 11 55 37.8 -0.2
PDG Podgorica 39.85 295 *e*P P 11 55 37.7 -0.2
SRO2 Moca 39.87 303 *e*P P 11 55 38.6 +0.6
SRO2 pmax pmax
comp=Z,49nm,0.9s
SRO2 Moca 39.87 303 *e*P P 11 55 38.6 +0.6
SRO Srobarova 39.92 303 *e*P P 11 55 40.6 +2.1
SRO pmax pmax
comp=Z,55nm,1.1s
SRO Srobarova 39.92 303 *e*P P 11 55 40.5 +2.1
OKC Ostrava-Krasne 39.95 307 *e*P P 11 55 40.6 +2.0
OKC Ostrava-Krasne 39.95 307 *e*P P 11 55 40.6 +2.0
DRME Dracevica, Mon 39.95 295 *e*P P 11 55 39.0 +0.3
UPM Unac-Piva 39.99 296 *e*P P 11 55 40.1 +0.8
JAVC Velka Javorina 40.29 305 ⇑*i*P P 11 55 43.6 +2.1
JAVC *e*pP **pP** 11 56 26.9 +3.0
JAVC *e*sP **sP** 11 56 49.5 +3.0
JAVC *e*SCP **ScP** 12 01 11.4 +0.1
JAVC *e*S **S** 12 01 39.0 +5.1
BRY Bratogost 40.30 296 *e*P P 11 55 41.7 -0.1
MORC Moravsky Berou 40.34 306 ⇓P P 11 55 43.6 +1.7
MORC Moravsky Berou 40.34 306 ⇑*i*P P 11 55 43.1 +1.2
MORC *e*pP **pP** 11 56 26.7 +2.6
MORC *e*sP **sP** 11 56 48.7 +1.9
MORC *e*SCP **ScP** 12 01 11.2 -0.2
MORC *e*S **S** 12 01 37.4 +2.8

MORC Moravsky Berou 40.34 306 P **P** **11 55 42.6 +0.7**
MORC pmax pmax
comp=Z,31nm,0.9s
MORC Moravsky Berou 40.34 306 P **P** **11 55 42.6 +0.7**
HCY Herceg Novi 40.41 295 *eP* **P** **11 55 42.1 -0.4**
TREB Trebinje 40.47 295 *eP* **P** **11 55 42.6 -0.4**
SMOL Smolenice 40.47 304 *eP* **P** **11 55 44.0 +1.1**
SMOL Smolenice 40.47 304 *eP* **P** **11 55 44.0 +1.1**
MODS Modra-Piesok 40.58 304 *eP* **P** **11 55 44.2 +0.3**
MODS pmax pmax
comp=Z,21nm,1.2s
MODS Modra-Piesok 40.58 304 *eP* **P** **11 55 44.2 +0.3**
MODS *eSS* SS 12 04 56.8 +11
MODS *eSS* **SnSn** **12 04 57.8 -10**
KEV Kevo 40.76 338 P **P** **11 55 45.6 +0.6**
KEV pmax pmax
comp=Z,31nm,0.8s
KEV Kevo 40.76 338 P **P** **11 55 45.6 +0.6**
KRLC Kraliky 40.82 307 *eP* **P** **11 55 46.9 +1.0**
KRLC *e* 11 56 30.2
KRLC Kraliky 40.82 307 *eP* **P** **11 55 46.9 +1.0**
KRLC *epP* **pP** **11 56 30.2 +2.1**
TPTI 40.97 138 P **P** **11 55 46.2 -1.2**
comp=Z,942nmcomp=Z,64nm,1.1s
VRAC Vranov 40.98 306 ⇓*P* **P** **11 55 48.3 +1.2**
VRAC Vranov 40.98 306 ⇑*iP* **P** **11 55 48.5 +1.4**
VRAC *epP* **pP** **11 56 32.2 +2.7**
VRAC *esP* **sP** **11 56 54.2 +2.2**
VRAC *eSCP* **ScP** **12 01 13.5 -0.4**
VRAC *eS* **S** **12 01 47.1 +3.2**
BLY Banja Luka 41.00 299 ⇑*iP* **P** **11 55 47.9 +0.6**
KCSI Kotacane, Aceh 41.08 137 P **P** **11 55 46.5 -1.8**
comp=Z,880nmcomp=Z,68nm,0.9s
BEHE Becsehely 41.08 301 ⇑*iP* **P** **11 55 50.5 +2.6**
ARCES ARCESS Array B 41.11 338 P **P** **11 55 48.8 +0.9**
comp=Z,40nm,0.7s,baz=114,slow=8.6,SNR=195
ARCES pP **pP** **11 56 32.4 +1.5**
comp=Z,33nm,0.6s,baz=116,slow=8.5,SNR=8.2
ARCES sP **sP** **11 56 54.2 +0.5**
comp=Z,17nm,0.7s,baz=112,slow=9.3,SNR=2.8
ARCES ARCESS Array B 41.11 338 P **P** **11 55 48.5 +0.7**
ARE0 ARCESS Array S 41.11 338 *eP* **P** **11 55 49.3 +1.5**
DPC Dobruska-Polom 41.11 307 *eP* **P** **11 55 49.3 +1.1**
DPC *e* 11 56 32.9
DPC *eS* **S** **12 01 46.1 +0.2**
DPC Dobruska-Polom 41.11 307 *eP* **P** **11 55 49.3 +1.1**
DPC *epP* **pP** **11 56 32.9 +2.4**
DPC *eS* **S** **12 01 46.1 +0.2**
KRUC Moravsky 41.12 305 ⇑*iP* **P** **11 55 49.4 +1.2**
KRUC *epP* **pP** **11 56 33.2 +2.5**
KRUC *esP* **sP** **11 56 55.7 +2.5**
KRUC *eSCP* **ScP** **12 01 13.8 -0.7**
KRUC *eS* **S** **12 01 49.2 +3.2**
OSTC Ostas 41.17 308 *eP* **P** **11 55 50.1 +1.4**
OSTC *ex* x 11 56 35.4
RICI Ricice 41.22 297 P **P** **11 55 49.1 -0.1**
CHVC Chvalec 41.27 308 *eP* **P** **11 55 51.2 +1.7**
UPC Upice 41.30 308 *eP* **P** **11 55 51.2 +1.5**
UPC *e* 11 56 34.8
UPC *eS* **S** **12 01 45.8 -2.9**
UPC Upice 41.30 308 *eP* **P** **11 55 51.2 +1.5**
UPC *epP* **pP** **11 56 34.8 +2.6**
UPC *eS* **S** **12 01 45.8 -2.9**
KULM Kulim 41.30 132 P **P** **11 55 50.4 +0.3**
KULM IAmb IAmb 11 55 52.2
comp=Z,69nm,1.2s
KULM Kulim 41.30 132 P **P** **11 55 51.0 +0.9**
MAKA Makarska 41.34 297 *iP* **P** **11 55 49.9 -0.2**
KOGS Kog 41.44 301 *iP* **P** **11 55 51.7 +0.8**
KOGS *iP* **pP** **11 56 35.8 +2.5**
KOGS *esP* **sP** **11 56 57.9 +1.8**
KOGS *eS* **S** **12 01 50.3 -0.5**
LSTV Lastovo 41.52 296 *iP* **P** **11 55 51.2 -0.3**
CONA Conrad Observa 41.56 304 *eP* **P** **11 55 52.8 +0.9**
comp=Z,35nm,1.1s,SNR=28
CONA *epP* **pP** **11 56 36.8 +2.4**
comp=Z,25nm,0.9s,SNR=6.2
CONA *eS* **sP** **11 56 58.6 +1.6**
comp=Z,63nm,1.4s
KTK1 Kautokeino 41.58 336 *eP* **P** **11 55 52.8 +1.1**
KTK1 *e* 11 56 36.0
CN2 Changchun 41.59 63 *eP* **P** **11 55 52.5 +0.4**
TREC Trest 41.70 306 *eP* **P** **11 55 54.7 +1.7**
TREC *e* 11 56 37.5
TREC Trest 41.70 306 *eP* **P** **11 55 54.7 +1.7**
TREC *epP* **pP** **11 56 37.5 +2.0**
ARSA Arzberg 41.85 303 *eP* **P** **11 55 54.4 +0.1**
comp=Z,11nm,1.4s,SNR=14
ARSA *eS* **sP** **11 57 03.2 +3.8**
comp=Z,15nm,1.4s
ARSA *eScP* **ScP** **12 01 16.8 -0.7**
comp=Z,6.5nm,1.1s,SNR=5.2
GCIS Gornji Cirnik 41.94 301 *iP* **P** **11 55 55.9 +0.9**
GCIS *iP* **pP** **11 56 40.0 +2.5**
GCIS *esP* **sP** **11 57 01.5 +1.3**
GCIS *ePcP* **PcP** **11 57 46.3 -0.1**
GCIS *iScP* **ScP** **12 01 16.8 -1.0**
ZEA Zeya 42.04 48 *eP* **P** **11 55 58.0 +2.4**
ZEA *e**PP **pP** **11 56 42.2 +2.8**
ZEA *eS* **S** **12 02 03.0 +3.6**
ZEA pmax pmax
comp=Z,12nm,1.0s
ZEA smax smax
comp=E,200nm,12.0s
ZEA MLR MLR
comp=Z,200nm,13.0s
CRES Cresnjev 42.06 301 ⇑*iP* **P** **11 55 56.8 +0.8**
OZLJ Ozalj 42.09 300 *iP* **P** **11 55 56.9 +0.8**
GOPC GO Pecny, Ondr 42.12 307 *eP* **P** **11 55 58.1 +1.8**
GOPC *e* 11 56 41.3
GOPC *eS* **S** **12 01 54.9 -5.8**
GOPC GO Pecny, Ondr 42.12 307 *eP* **P** **11 55 58.1 +1.8**
GOPC *epP* **pP** **11 56 41.3 +2.3**
GOPC *eS* **S** **12 01 54.9 -5.8**
IPM Ipoh 42.17 132 IAmb IAmb 11 55 58.7
comp=Z,101nm,0.9s
IPM Ipoh 42.17 132 P **P** **11 55 58.0 +0.9**
MORI Morici 42.18 298 *iP* **P** **11 55 55.8 -1.1**
HAMF Hammerfest 42.19 339 *eP* **P** **11 55 58.4 +1.9**
HAMF *e* 11 56 41.2
SOKA Soboth 42.25 302 *eP* **P** **11 55 58.6 +1.1**
comp=Z,25nm,1.9s,SNR=19
SOKA *epP* **pP** **11 56 42.5 +2.3**
comp=Z,21nm,0.8s,SNR=5.2
SOKA *eS* **sP** **11 57 04.9 +2.1**
comp=Z,29nm,1.2s
SOKA *eScP* **ScP** **12 01 18.4 -0.7**
comp=Z,8.0nm,1.3s
ZIRJ Zirje 42.26 297 *iP* **P** **11 55 56.4 -1.1**
PRU Pruhonice 42.27 307 *eP* **P** **11 55 58.6 +1.1**
PRU *e* 11 56 42.6
PRU *eS* **S** **12 02 01.0 -1.9**
PRU Pruhonice 42.27 307 *eP* **P** **11 55 58.6 +1.1**
PRU *epP* **pP** **11 56 42.6 +2.4**
PRU *eS* **S** **12 02 01.0 -1.9**
PSI Prapat 42.31 136 P **P** **11 55 58.1 -0.3**
comp=Z,83nm,0.8s,baz=360,slow=5.2,SNR=49
TIP Timpagrande 42.37 291 ⇓*P* **P** **11 55 59.2 +0.6**
RPSI Rantau Prapat 42.40 136 IAmb IAmb 11 55 59.7
comp=Z,101nm,0.9s
BRG Berggiesshubel 42.60 308 *iP* **P** **11 56 01.3 +1.1**
comp=Z,55nm,1.1s
BRG *iP* **pP** **11 56 45.5 +2.7**
comp=Z,44nm,0.9s
BRG sP **sP** **11 57 07.7 +2.3**
comp=Z,69nm,1.6s
BRG *i* 11 58 41.0
BRG SCP **ScP** **12 01 19.1 -1.2**
comp=Z,16nm,1.2s
BRG S **S** **12 02 11.0 +3.3**
BRG sS **sS** **12 03 29.0 +5.2**
comp=Z,920nm,16.7s
comp=N,780nm,11.6s
comp=E,510nm,11.6s
BRG Berggiesshubel 42.60 308 *eP* **P** **11 56 01.5 +1.3**
comp=E,55nm,1.1s,baz=86,slow=7.8
BRG *epP* **pP** **11 56 45.6 +2.7**
OBKA Obir 42.60 302 *eP* **P** **11 56 01.7 +1.3**
comp=E,27nm,1.7s,SNR=14
OBKA *epP* **pP** **11 56 45.2 +2.0**
comp=E,28nm,1.7s
OBKA *eS* **sP** **11 57 07.3 +1.7**
comp=E,38nm,1.8s
OBKA *eScP* **ScP** **12 01 19.7 -0.9**
comp=E,8.6nm,1.4s
MOA Molln 42.63 304 *eP* **P** **11 56 01.0 +0.5**
comp=E,22nm,1.4s,SNR=18
MOA *epP* **pP** **11 56 45.0 +1.8**
comp=E,13nm,0.8s,SNR=5.2
MOA *eS* **sP** **11 57 09.2 +3.5**
comp=E,23nm,1.2s
RUE Ruedersdorf 42.63 311 *eP* **P** **11 56 01.5 +1.1**
PBCC Pribram 42.64 306 *eP* **P** **11 56 01.3 +0.7**
PBCC *ex* x 11 56 45.0
NVLJ Novalja 42.66 299 *iP* **P** **11 56 00.4 -0.3**
LJU Ljubljana 42.68 301 *iP* **P** **11 56 02.1 +1.1**
LJU *ipP* **pP** **11 56 46.5 +2.8**
LJU *isP* **sP** **11 57 07.3 +1.1**
LJU *iPcP* **PcP** **11 57 49.0 +0.1**
LJU *iScP* **ScP** **12 01 19.9 -0.9**
LJU *eS* **S** **12 02 08.9 -0.1**
LJU *eSS* **SS** **12 05 31.2 +4.0**
LJU Ljubljana 42.68 301 ⇑*iP* **P** **11 56 02.0 +1.1**
CEY Cerknica 42.79 301 ⇑*iP* **P** **11 56 02.6 +0.8**
GSI Gunungsitoli 42.82 139 P **P** **11 56 03.7 +1.3**
comp=E,4µmcomp=E,410nm,0.8s
GSI Gunungsitoli 42.82 139 P **P** **11 56 03.6 +1.2**
RGN Rugen 42.89 314 *eP* **P** **11 56 03.5 +1.1**
GEC2 GERESS Array S 42.91 305 *eP* **P** **11 56 03.7 +0.9**
comp=E,44nm,1.8s,baz=86,slow=7.8
GEC2 *epP* **pP** **11 56 47.7 +2.2**
GERES GERESS Array B 42.91 305 P **P** **11 56 04.0 +1.2**
comp=E,2.3nm,0.7s,baz=93,slow=6.8,SNR=23
GERES pP **pP** **11 56 47.8 +2.3**
comp=E,4.7nm,0.7s,baz=81,slow=8.2,SNR=7.2
GERES sP **sP** **11 57 10.3 +2.2**
comp=E,2.7nm,0.7s,baz=72,slow=8.6,SNR=3.0
GERES ScP **ScP** **12 01 19.6 -2.2**
comp=E,2.6nm,0.9s,baz=70,slow=4.7,SNR=5.6
GERES GERESS Array B 42.91 305 P **P** **11 56 03.2 +0.3**
GERES **ScP** **12 01 20.7 -1.1**
KHC Kasperske Hory 42.96 306 *eP* **P** **11 56 03.8 +0.6**
KHC *e* 11 56 47.5
KHC *e* 11 57 09.0
KHC *eS* **S** **12 02 09.6 -3.5**
KHC Kasperske Hory 42.96 306 *eP* **P** **11 56 03.8 +0.6**
KHC *epP* **pP** **11 56 47.5 +1.5**
KHC *esP* **sP** **11 57 09.0 +0.5**
KHC *eS* **S** **12 02 09.6 -3.5**
KHC Kasperske Hory 42.96 306 P **P** **11 56 03.6 +0.4**
FBE Freiberg 42.97 308 *eP* **P** **11 56 04.7 +1.5**
baz=86,slow=7.8
FBE *esP* **sP** **11 57 10.9 +2.6**
CLL Collm 43.17 309 *iP* **P** **11 56 05.1 +0.4**
comp=Z,33nm,1.1s
CLL *e* 11 56 15.0
CLL *epP* **pP** **11 56 49.0 +1.5**
CLL *esP* **sP** **11 57 13.0 +3.0**
CLL *e* 11 57 24.0
CLL *ePP* **PcP** **11 57 50.0 -0.4**
CLL *e* 11 57 59.0
CLL *e* 11 58 58.0
CLL *eScP* **ScP** **12 01 22.0 -0.6**
CLL *eS* **S** **12 02 15.0 -0.9**
CLL *esS* **sS** **12 03 29.0 -3.2**
CLL *eSS* **SS** **12 05 33.0 -3.3**
CLL *esSS* 12 06 32.0
CLL *e* 12 08 19.0
CLL LmV 12 15 00.0
comp=Z,700nm,18.3s
CLL Collm 43.17 309 *iP* **P** **11 56 05.1 +0.4**
CLL *e**PP **pP** **11 56 49.0 +1.5**
CLL *eS* **S** **12 02 15.0 -0.9**
CLL *e**SS **sS** **12 03 29.0 -3.2**
CLL pmax pmax
comp=Z,33nm,1.1s
CLL Collm 43.17 309 *eP* **P** **11 56 05.4 +0.6**
comp=Z,33nm,1.1s,baz=86,slow=7.8
CADS Cadrg 43.20 301 *iP* **P** **11 56 05.5 +0.4**
CADS *ipP* **pP** **11 56 50.0 +2.1**
MYKA Terra Mystica 43.20 302 *eP* **P** **11 56 06.0 +0.8**
comp=Z,3.7nm,0.5s
TRO Tromso 43.23 336 *eP* **P** **11 56 05.9 +0.9**
KBA Koelnbreinsper 43.35 303 *eP* **P** **11 56 07.2 +0.7**
comp=Z,5.5nm,0.7s,SNR=6.3
WET Wettzell 43.42 306 *eP* **P** **11 56 07.9 +1.1**
comp=Z,20nm,1.5s,baz=86,slow=7.8
WET *epP* **pP** **11 56 51.9 +2.2**
MSEY Mahe Island 43.49 203 P **P** **11 56 08.4 +0.6**
PAOL Paolisi 43.57 294 P **P** **11 56 08.9 +0.7**
TANN Tannenbergstha 43.57 308 *eP* **P** **11 56 09.3 +1.3**
comp=Z,76nm,1.3s,baz=86,slow=7.8
NKC Novy Kostel 43.59 307 *eP* **P** **11 56 10.0 +1.8**
NKC *e* 11 56 53.5
NKC Novy Kostel 43.59 307 *eP* **P** **11 56 10.0 +1.8**
NKC *epP* **pP** **11 56 53.5 +2.3**
RJOB Jochberg 43.63 304 *eP* **P** **11 56 08.2 -0.4**
comp=Z,86nm,2.3s,baz=86,slow=7.8
WERN Wernitzgruen 43.64 307 *eP* **P** **11 56 09.9 +1.4**
comp=Z,43nm,1.6s,baz=86,slow=7.8
GUNZ Gunzen 43.66 308 *eP* **P** **11 56 10.0 +1.3**
baz=86,slow=7.8
WERD Werda 43.67 308 *eP* **P** **11 56 10.1 +1.4**
comp=Z,19nm,1.1s,baz=86,slow=7.8
N2IH Innhavet 43.70 333 *eP* **P** **11 56 09.8 +1.2**
PLN Plauen 43.76 308 *eP* **P** **11 56 10.6 +1.1**
comp=Z,30nm,1.3s,baz=86,slow=7.8
PLN *epP* **pP** **11 56 54.9 +2.5**
FAUS Fauske 43.77 332 *eP* **P** **11 56 10.2 +0.9**
MOR8 Moi Rana 43.78 331 *eP* **P** **11 56 09.3 -0.1**
ROTZ Rotzenmuhle 43.79 307 *eP* **P** **11 56 11.4 +1.6**
comp=Z,64nm,1.4s,baz=86,slow=7.8
MANZ Manzenberg 43.83 307 *eP* **P** **11 56 11.7 +1.6**
comp=Z,41nm,1.2s,baz=86,slow=7.8
MANZ *epP* **pP** **11 56 55.9 +2.8**
N2TV T*rnvik 43.88 333 *eP* **P** **11 56 11.2 +1.1**
YAK Yakutsk 43.93 35 P **P** **11 56 11.2 +0.5**
comp=Z,7.4nm,0.2s,baz=256,slow=4.2,SNR=18
YAK *epP* **pP** **11 56 55.2 +0.6**
comp=Z,26nm,0.7s,baz=274,slow=4.5,SNR=3.7
YAK Yakutsk 43.93 35 *eP* **P** **11 56 11.3 +0.7**
YAK *e**PP **pP** **11 56 54.3 -0.3**
YAK *e* 11 57 46.8
YAK *e* 11 57 56.3
YAK *ePPP* PPP 11 58 39.5
YAK *eS* **S** **12 02 27.3 +0.6**
YAK *e**SS **sS** **12 03 42.1 -1.1**
YAK *e* 12 05 40.6
YAK *eSS* **SS** **12 05 52.4 +2.7**
YAK pmax pmax
comp=E,1.0nm,0.5s
YAK pmax pmax
comp=N,1.0nm,0.6s
YAK pmax pmax
comp=Z,9.0nm,0.6s
YAK pmax pmax
comp=Z,61nm,1.6s
YAK pmax pmax
comp=N,11nm,1.6s
YAK pmax pmax
comp=E,73nm,1.8s
YAK smax smax
comp=N,152nm,1.2s
YAK smax smax
comp=E,247nm,1.4s
YAK Yakutsk 43.93 35 P **P** **11 56 11.0 +0.4**
YAK **pP** **11 56 55.6 +1.0**
YAK IAmb IAmb 11 56 58.2
comp=Z,113nm,1.1s
STEI Steigen 43.94 333 *eP* **P** **11 56 11.4 +0.9**
NEUB Neuenburg 43.94 309 *eP* **P** **11 56 12.1 +1.2**
comp=Z,70nm,1.1s,baz=86,slow=7.8
ABTA Abfaltersbach 43.96 302 *eP* **P** **11 56 11.3 0.0**
comp=Z,11nm,1.6s,SNR=6.5
ABTA *epP* **pP** **11 56 55.8 +1.7**
comp=Z,7.8nm,0.7s
ABTA *eScP* **ScP** **12 01 24.3 -1.8**
comp=Z,11nm,1.2s,SNR=5.1
CIMO Cimolais 44.07 302 IAmb IAmb 11 56 58.1
comp=Z,80nm,1.4s
MOX Moxa 44.09 308 *eP* **P** **11 56 13.3 +1.1**
comp=Z,42nm,1.3s,baz=86,slow=7.8
MOX *epP* **pP** **11 56 57.7 +2.6**
AQU L'Aquila 44.13 296 ⇑*iP* **P** **11 56 13.4 +0.8**
NBB05 Inndyr 44.15 332 *eP* **P** **11 56 13.2 +0.9**
NC602 NORSAR Array S 44.16 323 IAmb IAmb 11 56 57.3
comp=Z,78nm,1.1s
NBB30 Finnes 44.25 332 *eP* **P** **11 56 13.9 +0.9**
NC303 NORSAR Array S 44.29 323 *eP* **P** **11 56 14.1 +0.5**
MNSI Mandailing Nat 44.33 137 P **P** **11 56 15.0 +0.6**
comp=Z,2µmcomp=Z,264nm,0.9s
PBSI Pulau Batu 44.34 139 P **P** **11 56 15.7 +1.3**
comp=Z,327nm,1.3s
NB2 NORSAR Subarra 44.35 323 P **P** **11 56 13.9 -0.1**
comp=Z,33nm,0.6s,baz=98,slow=7.9
NB2 NORSAR Subarra 44.35 323 P **P** **11 56 13.9 -0.1**
baz=98,slow=7.9
NOA NORSAR Array B 44.35 323 P **P** **11 56 14.2 +0.2**
comp=Z,44nm,0.8s,baz=96,slow=7.7,SNR=163
NOA pP **pP** **11 56 58.4 +1.2**
comp=Z,28nm,0.7s,baz=97,slow=8.1,SNR=5.6
KONS Konsvik 44.38 331 *eP* **P** **11 56 15.3 +1.3**
STOK Stokkvaagen 44.38 331 *eP* **P** **11 56 15.5 +1.3**
MDJ Mudanjiang 44.38 61 P **P** **11 56 16.5 +2.0**
MDJ pP pP 11 56 57.8 -0.9
MDJ sP sP 11 57 19.8 -1.8
MDJ S **S** **12 02 33.0 -0.7**
MDJ pmax pmax
comp=Z,10.0nm,1.0s
MDJ pmax pmax
comp=Z,66nm,4.4s
N2VI Vinje 44.42 334 *eP* **P** **11 56 13.8 -0.6**
NBB40 Tonnes 44.42 331 *eP* **P** **11 56 15.4 +0.9**
GRA1 Grafenberg Arr 44.44 307 IAmb IAmb 11 57 02.7
comp=Z,177nm,1.8s
GRF Grafenberg Arr 44.44 307 *eP* **P** **11 56 16.9 +2.0**
comp=Z,125nm,1.6s,baz=86,slow=7.8
GRF *epP* **pP** **11 57 01.3 +3.3**
NSS Namsos 44.46 328 *eP* **P** **11 56 14.9 +0.1**
WTTA Wattenberg 44.47 303 *eP* **P** **11 56 15.2 -0.2**
comp=Z,32nm,1.2s,SNR=16
WTTA *epP* **pP** **11 56 59.7 +1.3**
comp=Z,28nm,1.1s
WTTA *eScP* **ScP** **12 01 26.8 -1.5**
comp=Z,18nm,1.1s
NAO01 NORSAR Array S 44.49 323 P **P** **11 56 14.9 -0.2**
NAO01 **pP** **11 56 58.5 +0.2**
NAO01 IAmb IAmb 11 57 00.6
comp=Z,130nm,1.1s
NAO01 NORSAR Array S 44.49 323 *eP* **P** **11 56 15.1 -0.1**
WATA Walderalm 44.50 303 *eP* **P** **11 56 14.5 -1.1**
comp=Z,23nm,1.4s,SNR=13
WATA *epP* **pP** **11 56 59.6 +0.9**
comp=Z,29nm,1.2s
WATA *eScP* **ScP** **12 01 27.0 -1.4**
comp=Z,14nm,1.2s
TPUB Ta-pu 44.54 93 P **P** **11 56 17.5 +1.4**
ASSE Asse, Remlinge 44.56 310 *eP* **P** **11 56 16.5 +0.8**
comp=Z,86nm,2.1s,baz=86,slow=7.8
NBO00 NORSAR Array S 44.56 323 IAmb IAmb 11 56 17.0
comp=Z,116nm,1.0s
NBO00 NORSAR Array S 44.56 323 *eP* **P** **11 56 15.9 +0.2**
NBO00 *e* 11 56 59.9
SSLB Suanglung 44.57 92 IAmb IAmb 11 56 19.6
comp=Z,83nm,1.2s
FUR Furstenfeldbru 44.59 305 *eP* **P** **11 56 17.2 +1.1**
comp=Z,119nm,1.5s,baz=86,slow=7.8
FUR *epP* **pP** **11 57 01.7 +2.5**
NC204 NORSAR Array S 44.59 323 IAmb IAmb 11 57 01.6
comp=Z,127nm,0.9s
NC204 NORSAR Array S 44.59 323 *eP* **P** **11 56 16.2 +0.2**
NC204 *e* 11 56 59.1
LOF Lofoten 44.61 333 *eP* **P** **11 56 15.6 -0.3**
BSEG Bad Segeberg 44.66 313 *eP* **P** **11 56 18.0 +1.5**
comp=Z,59nm,1.0s,baz=86,slow=7.8
BSEG *epP* **pP** **11 57 02.4 +2.7**
RAFF Raffo Rosso 44.72 289 IAmb IAmb 11 56 19.9
comp=Z,97nm,1.2s
N2SV S*rvÿgen 44.74 333 *eP* **P** **11 56 17.0 0.0**
TJN Taejon 44.76 73 *ceP* **P** **11 56 17.7 +0.1**
CLZ Clausthal 44.77 310 *eP* **P** **11 56 18.7 +1.2**
comp=Z,79nm,1.4s,baz=86,slow=7.8
SQTA Sankt Quirin 44.77 303 *eP* **P** **11 56 17.1 -0.5**
comp=Z,34nm,1.4s,SNR=12
SQTA *epP* **pP** **11 57 02.0 +1.2**
comp=Z,32nm,1.6s
SQTA *eS* **sP** **11 57 26.6 +3.3**
comp=Z,20nm,1.0s
SQTA *eScP* **ScP** **12 01 28.4 -1.1**
comp=Z,17nm,1.2s
N2VA Vr.y 44.80 333 *eP* **P** **11 56 17.4 0.0**
KS19 Wonju Array Si 44.81 71 P **P** **11 56 18.6 +0.6**
MOTA Moosalm 44.82 303 *eP* **P** **11 56 17.7 -0.4**
comp=Z,26nm,1.5s,SNR=10
MOTA *epP* **pP** **11 57 02.5 +1.2**
comp=Z,10nm,0.7s,SNR=4.9
MOTA *eScP* **ScP** **12 01 28.6 -1.2**
comp=Z,18nm,1.1s
KSAR Wonju Array Be 44.84 71 P **P** **11 56 18.1 -0.1**
KSAR Wonju Array Be 44.84 71 P **P** **11 56 18.1 -0.1**
KSRS Korea Array 44.87 71 P **P** **11 56 19.1 +0.7**
comp=Z,3.4nm,0.5s,baz=278,slow=6.5,SNR=24
KSRS pP **pP** **11 57 02.8 +0.4**
comp=Z,6.7nm,1.0s,baz=279,slow=7.0,SNR=3.2
KSRS ScP **ScP** **12 01 26.3 -3.6**
comp=Z,2.9nm,0.9s,baz=294,slow=4.8,SNR=5.8
NRDL Niedersach Rie 44.88 311 *eP* **P** **11 56 19.6 +1.4**
comp=Z,71nm,1.3s,baz=86,slow=7.8
NRDL *epP* **pP** **11 57 04.1 +2.7**
N2RO R*st 44.99 332 *eP* **P** **11 56 19.4 +0.5**
RETA Reutte 45.03 304 *eP* **P** **11 56 19.4 -0.2**
comp=Z,12nm,1.2s,SNR=8.1
YULB Yu-li 45.03 92 IAmb IAmb 11 56 23.5
comp=Z,60nm,1.1s
GTTG Gottingen 45.04 309 *eP* **P** **11 56 21.1 +1.4**
comp=Z,92nm,1.1s,baz=86,slow=7.8
GTTG *epP* **pP** **11 57 05.4 +2.6**
KONO Kongsberg 45.05 321 P **P** **11 56 20.0 +0.4**
KONO pmax pmax
comp=Z,50nm,1.1s
KONO Kongsberg 45.05 321 P **P** **11 56 20.0 +0.4**
KONO Kongsberg 45.05 321 *eP* **P** **11 56 20.0 +0.4**
UBBA Unterbreizbach 45.09 308 *eP* **P** **11 56 21.1 +1.2**
comp=Z,75nm,1.8s,baz=86,slow=7.8
KLR Kul'dur 45.12 54 *ceP* **P** **11 56 21.1 +0.8**
FETA Feichten 45.12 303 *eP* **P** **11 56 20.1 -0.4**
comp=Z,14nm,1.0s,SNR=9.2
FETA *epP* **pP** **11 57 05.1 +1.5**
comp=Z,16nm,1.1s
FETA *eScP* **ScP** **12 01 30.2 -0.8**
comp=Z,8.4nm,1.1s
SKMB Sankelmark Bun 45.14 314 *eP* **P** **11 56 22.2 +1.9**
baz=86,slow=7.8
BJO1 Bjornoya 45.23 343 *eP* **P** **11 56 22.2 +1.5**
MUD Monsted U'grnd 45.24 316 *iP* **P** **11 56 21.4 +0.4**
comp=Z,55nm,1.1s
MUD Monsted U'grnd 45.24 316 *iP* **P** **11 56 21.4 +0.4**
MUD pmax pmax
comp=Z,55nm,1.1s
UBR Ueberruh 45.44 304 *eP* **P** **11 56 23.3 +0.5**
comp=Z,70nm,1.5s,baz=86,slow=7.8
ZCCA Zocca 45.44 299 IAmb IAmb 11 58 03.3
comp=Z,94nm,1.5s
DOMB Dombas 45.46 324 *eP* **P** **11 56 23.6 +0.9**
DOMB *e* 11 57 08.2
SALO Salr 45.51 301 IAmb IAmb 11 57 09.8
comp=Z,49nm,0.8s
BKNI Bangkinang 45.53 135 P **P** **11 56 23.7 -0.2**
comp=Z,428nm,0.9s
DAVA Damuels 45.65 304 *eP* **P** **11 56 24.6 -0.1**
comp=Z,10nm,0.5s,SNR=17
DAVA *epP* **pP** **11 57 09.3 +1.3**
comp=Z,24nm,0.6s,SNR=4.2
DAVA *eScP* **ScP** **12 01 32.4 -0.7**
comp=Z,19nm,1.2s,SNR=5.4
SKAR Skarslia 45.74 322 *eP* **P** **11 56 26.2 +1.2**
SISI Saibi 45.84 139 P **P** **11 56 27.8 +1.6**
comp=Z,153nm,1.0s
STU Stuttgart 45.87 306 *eP* **P** **11 56 27.1 +1.0**
baz=86,slow=7.8
STU *epP* **pP** **11 57 11.9 +2.4**
VLC Villacollemand 45.90 299 IAmb IAmb 11 57 38.9
comp=Z,178nm,1.9s
YOJ Yonaguni jima 45.91 90 P **P** **11 56 26.4 -0.3**
YOJ pmax pmax
comp=Z,47nm,1.2s
YOJ Yonaguni jima 45.91 90 P **P** **11 56 26.4 -0.3**
MYKOM Kota Tinggi 46.00 131 IAmb IAmb 11 56 29.7
comp=Z,77nm,0.9s
MYKOM Kota Tinggi 46.00 131 P **P** **11 56 29.0 +1.5**
TNS Taunus Mts 46.15 308 *eP* **P** **11 56 29.4 +1.1**
comp=Z,29nm,1.2s,baz=86,slow=7.8
USRK Ussuriysk Ar. 46.15 61 P **P** **11 56 28.6 +0.2**

comp=Z,2.7nm,0.8s,baz=139,slow=37,SNR=5.8
USRK Ussuriysk Ar. 46.15 61 P **P** **11 56 27.8 -0.6**
USRK Ussuriysk Ar. 46.15 61 P **P** **11 56 27.8 -0.6**
MOL Molde 46.20 325 *eP* **P** **11 56 30.4 +1.9**
PDSI Padang 46.23 137 P **P** **11 56 29.0 -0.4**
comp=Z,1μmcomp=Z,139nm,1.0s
SNART Snartemo 46.27 319 *eP* **P** **11 56 30.1 +1.0**
IBBN Ibbenburen 46.33 311 *eP* **P** **11 56 30.8 +1.1**
baz=86,slow=7.8
AKN Aaknes 46.44 324 *eP* **P** **11 56 31.4 +1.0**
BFO Black Forest 46.51 305 P **P** **11 56 31.0 -0.2**
BFO *PP **pP** **11 57 15.6 +1.0**
BFO Black Forest 46.51 305 *eP* **P** **11 56 31.6 +0.4**
comp=Z,27nm,1.4s,baz=86,slow=7.8
BFO *epP **pP** **11 57 16.5 +1.9**
BFO Black Forest 46.51 305 P **P** **11 56 31.0 -0.2**
BFO **pP** **11 57 15.6 +1.0**
ODD1 Odda 46.56 321 *eP* P 11 56 36.6 +5.2
BLS5 Blasjo 46.65 321 *eP* **P** **11 56 33.7 +1.6**
BUG Bochum--Univer 46.73 310 *eP* **P** **11 56 34.0 +1.2**
baz=86,slow=7.8
SDSI Sungai Dareh 46.78 136 P **P** **11 56 32.8 -0.8**
comp=Z,30nm,0.9s
AHRW Bad Neuenahr-A 46.97 308 *eP* **P** **11 56 36.0 +1.3**
baz=86,slow=7.8
BER Bergen 47.21 322 *eP* **P** **11 56 37.3 +1.0**
KMY Karmoy 47.27 320 *eP* **P** **11 56 38.1 +1.3**
ASK Askoy 47.28 322 *eP* **P** **11 56 32.8 -4.0**
FOO Floro 47.35 324 *eP* **P** **11 56 38.5 +1.2**
SPA0 Spitsbergen Ar 47.45 347 IAmb IAmb 11 57 52.8
comp=Z,84nm,1.3s
SPA0 Spitsbergen Ar 47.45 347 *eP* **P** **11 56 37.4 -0.6**
PPSI Pulau Pagai 47.54 139 P **P** **11 56 39.5 +0.1**
comp=Z,4μmcomp=Z,318nm,1.2s
MEM Membach 47.64 309 P **P** **11 56 40.3 +0.5**
MEM pP **pP** **11 57 24.7 +1.2**
BHOU Houvegnez 47.68 308 P **P** **11 56 41.2 +1.1**
BHOU pP **pP** **11 57 25.4 +1.6**
BHOU sP **sP** **11 57 47.0 +0.9**
WLF Walferdange 47.70 307 P **P** **11 56 41.9 +1.7**
comp=Z,45nm,1.6s
WLF pP **pP** **11 57 26.5 +2.5**
WLF sP **sP** **11 57 47.8 +1.5**
WLF Walferdange 47.70 307 P **P** **11 56 40.9 +0.6**
WLF *PP **pP** **11 57 26.0 +2.0**
WLF pmax pmax
comp=Z,58nm,1.1s
WLF Walferdange 47.70 307 *eP* **P** **11 56 41.6 +1.3**
comp=Z,72nm,1.1s,baz=86,slow=7.8
WLF *epP **pP** **11 57 26.9 +2.9**
WLF Walferdange 47.70 307 P **P** **11 56 40.9 +0.6**
WLF **pP** **11 57 26.0 +2.0**
KRJI Kerinci 47.76 137 P **P** **11 56 41.7 +0.4**
comp=Z,475nm,1.0s
GRNR Gornyy 47.88 51⇑ *iP* **P** **11 56 42.9 +1.2**
GRNR MLR MLR
comp=E,130nm,17.0s
GRNR MLR MLR
comp=N,40nm,15.0s
GRNR MLR MLR
comp=Z,210nm,17.0s
BCLA Clavier 48.11 308 P **P** **11 56 42.2 -1.3**
BCLA pP **pP** **11 57 29.0 +1.8**
BCLA sP **sP** **11 57 50.2 +0.7**
BCLA PcP **PcP** **11 58 06.5 -1.3**
DSRI Dabo 48.24 132 P **P** **11 56 45.9 +1.1**
comp=Z,4μmcomp=Z,116nm,1.1s
BGES Gesves 48.25 308 P **P** **11 56 45.7 +1.2**
BGES pP **pP** **11 57 28.7 +0.4**
BNI Bardonecchia 48.28 301 P **P** **11 56 45.1 +0.1**
BNI pP **pP** **11 57 29.7 +0.9**
BMRD Maredsous 48.47 308 P **P** **11 56 47.7 +1.5**
comp=Z,30nm,1.4s
BMRD pP **pP** **11 57 32.5 +2.5**
KBS Kingsbay 48.57 347 *ceP* **P** **11 56 47.7 +1.2**
KBS pmax pmax
comp=Z,39nm,1.3s
KBS Kingsbay 48.57 347 *eP* **P** **11 56 48.3 +1.7**
JNU Nakatsue 48.58 75 P **P** **11 56 48.5 +1.2**
JNU **pP** **11 57 33.2 +0.9**
JNU IAmb IAmb 11 57 35.0
comp=Z,122nm,1.6s
DOU Dourbes 48.62 308 P **P** **11 56 48.2 +0.9**
DOU pP **pP** **11 57 33.3 +2.2**
SNF Seneffe 48.74 309 P **P** **11 56 49.5 +1.3**
comp=Z,36nm,1.4s
SNF pP **pP** **11 57 34.1 +2.0**
SNF sP **sP** **11 57 56.9 +2.6**
KMBO Kilima Mbogo 48.86 228 P **P** **11 56 52.8 +3.0**
comp=Z,38nm,0.5s,baz=35,slow=12,SNR=124
KMBO Kilima Mbogo 48.86 228 *iP* **P** **11 56 50.5 +0.7**
SNR=68
KMBO Kilima Mbogo 48.86 228 P **P** **11 56 51.1 +1.3**
KMBO pmax pmax
comp=Z,55nm,0.7s
KMBO Kilima Mbogo 48.86 228 P **P** **11 56 51.1 +1.3**
KMBO IAmb IAmb 11 56 52.6
comp=Z,55nm,0.7s
KEST Kesra 49.02 288 P **P** **11 56 51.6 +0.9**
comp=Z,14nm,0.5s,baz=339,slow=1.9,SNR=28
KEST Kesra 49.02 288 IAmb IAmb 11 56 53.2
comp=Z,79nm,1.3s
MASI Maura Aman, Be 49.06 137 P **P** **11 56 49.8 -1.3**
comp=Z,4μmcomp=Z,580nm,1.0s
TEY Ternei 49.16 59‖ *eP* **P** **11 56 50.6 -0.9**
TEY *e* 11 58 11.0
TEY pmax pmax
comp=Z,10.0nm,1.2s
KSI Kapahiang 49.68 137 P **P** **11 56 55.3 -0.5**
comp=Z,12μmcomp=Z,346nm,0.9s
TGY Tagaytay City 49.73 103 P **P** **11 56 57.0 +0.8**
comp=Z,83nm,0.4s,baz=186,slow=3.8,SNR=6.6
LHSI Lahat 50.34 136 P **P** **11 56 58.7 -2.0**
comp=Z,2μmcomp=Z,73nm,0.9s
KSM Kuching 50.35 125 P **P** **11 57 01.2 +0.4**
KSM IAmb IAmb 11 57 03.1
comp=Z,43nm,1.0s
KSM Kuching 50.35 125 P **P** **11 57 02.0 +1.2**
PPBI Pangkal Pinang 50.51 132 P **P** **11 57 02.3 +0.3**
comp=Z,122nm,1.2s
CLF Chambon-Foret 50.55 306 P **P** **11 57 02.1 +0.2**
CLF pP **pP** **11 57 47.1 +1.0**
CLF IAmb IAmb 11 57 48.9
comp=Z,89nm,1.3s
SBUM Sibu 50.92 122 P **P** **11 57 06.2 +1.1**
SBUM Sibu 50.92 122 P **P** **11 57 06.0 +0.9**
KKM Kota Kinabalu 51.23 115 P **P** **11 57 08.3 +0.8**
KKM IAmb IAmb 11 57 10.4
comp=Z,118nm,1.1s
KKM pP **pP** **11 57 53.5 +0.5**
MDSI Maura Dua 51.25 136 P **P** **11 57 04.1 -3.4**
comp=Z,34nm,1.0s
CAF Calviac 51.48 302 *eP* **P** **11 57 09.4 +0.5**
CAF pmax pmax
comp=Z,26nm,1.1s
LWLI Liwa 51.62 136 P **P** **11 57 07.4 -2.9**
comp=Z,944μmcomp=Z,9μmcomp=Z,134nm,1.0s
KLSI 51.73 135 P **P** **11 57 07.9 -3.1**
comp=Z,264nmcomp=Z,33nm,1.0s
TPI Tanjungpandan 51.90 131 P **P** **11 57 13.0 +0.7**
comp=Z,1μmcomp=Z,50nm,1.6s
KASI Kota Agung 52.28 136 P **P** **11 57 12.0 -3.1**
comp=Z,1μmcomp=Z,101nm,0.9s
ESK Eskdalemuir 52.29 316 P **P** **11 57 14.9 +0.2**
ESK pmax pmax
comp=Z,54nm,1.2s
ESK Eskdalemuir 52.29 316 **11 57 14.9 +0.2**
ESK IAmb IAmb 11 57 16.7
comp=Z,54nm,1.1s
SPMM Sapulut 52.32 116 P **P** **11 57 17.0 +1.5**
MFF Saint Martin d 52.50 305 *eP* **P** **11 57 16.0 -0.3**
MFF pmax pmax
comp=Z,39nm,1.2s
MBAR Mbarara 52.53 235 *ceP* **P** **11 57 17.8 +0.6**
MBAR pmax pmax
comp=Z,101nm,1.0s
MBAR Mbarara 52.53 235 **P** **11 57 17.2 +0.1**
YSS Yuzh-Sakhalins 52.80 55 *eP* **P** **11 57 19.8 +1.3**
YSS pmax pmax
comp=Z,33nm,1.3s
YSS Yuzh-Sakhalins 52.80 55 **P** **11 57 18.8 +0.2**
YSS IAmb IAmb 11 58 08.8
comp=Z,102nm,1.6s
MAJO Matsushiro 52.94 68 P **P** **11 57 19.5 -0.3**
MAJO pmax pmax
comp=Z,20nm,1.2s
MAJO Matsushiro 52.94 68 **P** **11 57 19.5 -0.3**
MAT Matsushiro 52.94 68 P **P** **11 57 19.3 -0.5**
MAT S **S** **12 04 34.4 +0.9**
MJAR Matsushiro Arr 52.94 68 P **P** **11 57 20.2 +0.4**
comp=Z,7.7nm,1.0s,baz=288,slow=10.0,SNR=21
MJAR Matsushiro Arr 52.94 68 P **P** **11 57 20.0 +0.2**
MJAR pmax pmax
comp=Z,8.0nm,1.2s
MJAR Matsushiro Arr 52.94 68 **P** **11 57 20.0 +0.2**
MYLDM Lahad Datu 53.48 114 P **P** **11 57 25.6 +1.7**
MYLDM IAmb IAmb 11 57 27.5
comp=Z,63nm,1.1s
NOR Nord 53.76 350 *i* P **P** **11 57 25.9 +0.8**
comp=Z,17nm,1.2s
NOR Nord 53.76 350 *i* P **P** **11 57 25.9 +0.8**
NOR pmax pmax
comp=Z,17nm,1.2s
SEY Seymchan 54.38 34 *i* P **P** **11 57 30.8 +1.0**
DAG Danmarks Havn 54.69 344⇑ *i* P **P** **11 57 33.0 +1.2**
comp=Z,30nm,0.8s
DAG *i* 11 58 17.8
DAG Danmarks Havn 54.69 344⇑ *i* P **P** **11 57 33.0 +1.2**
DAG *i* 11 58 17.8
DAG pmax pmax
comp=Z,30nm,0.8s
BBKI Banjar Baru 57.03 124 P **P** **11 57 49.6 +0.4**
comp=Z,2μmcomp=Z,82nm,1.2s
ESBB Sonseca Array 57.44 298 P **P** **11 57 51.3 -0.6**
ESBB pP **pP** **11 58 37.4 0.0**
ESDC Sonseca Array 57.44 298 P **P** **11 57 52.3 +0.4**
comp=Z,11nm,0.9s,baz=60,slow=7.3,SNR=65
ESDC pP **pP** **11 58 38.1 +0.8**
comp=Z,21nm,1.3s,baz=56,slow=7.3,SNR=4.7
ESDC Sonseca Array 57.44 298 P **P** **11 57 50.9 -1.0**
ESDC pP **pP** **11 58 36.2 -1.1**
TAM Tamanrasset 57.53 276 P **P** **11 57 52.4 -0.5**
TAM pmax pmax
comp=Z,46nm,1.4s
TAM Tamanrasset 57.53 276 P **P** **11 57 52.4 -0.5**
TAM IAmb IAmb 11 57 56.2
comp=Z,46nm,1.4s
PAB San Pablo 57.76 298 P **P** **11 57 53.9 -0.3**
PAB **pP** **11 58 39.1 -0.5**
PAB IAmb IAmb 11 58 42.4
comp=Z,65nm,1.5s
KBKI Kotabaru 57.79 123 P **P** **11 57 55.5 +0.9**
comp=Z,55nm,1.1s
MPSI Mapaga 57.80 117 P **P** **11 57 54.9 +0.3**
comp=Z,1μmcomp=Z,92nm,1.2s
MVO Moncorvo 59.01 301 *eP* **P** **11 58 03.6 +0.8**
comp=Z,40nm,1.5s
RER Riviere de l'E 59.17 197 P **P** **11 58 04.9 +0.9**
OPO Ambohidratompo 59.25 206 P **P** **11 58 05.3 +0.6**
comp=Z,34nm,1.0s,baz=11,slow=5.6,SNR=22
PCAB Cabril 59.49 301 *eP* **P** **11 58 07.8 +1.8**
comp=Z,61nm,1.6s
PGAV Gavieira, Arco 59.55 302 *eP* **P** **11 58 06.6 +0.1**
ABPO Ambohimpanom 59.65 206 P **P** **11 58 07.9 +0.5**
ABPO pmax pmax
comp=Z,52nm,0.9s
ABPO Ambohimpanom 59.65 206 P **P** **11 58 07.9 +0.5**
ABPO IAmb IAmb 11 58 09.6
comp=Z,52nm,0.9s
MTE Manteigas 59.68 300 *eP* **P** **11 58 08.5 +1.1**
comp=Z,70nm,1.7s
PVIS Viseu 59.79 300 *eP* **P** **11 58 09.4 +1.3**
comp=Z,48nm,2.1s
PCBR Castelo Branco 59.86 299 *eP* **P** **11 58 09.8 +1.3**
comp=Z,29nm,2.0s
SKR Severo-Kuril's 59.93 47 *eP* **P** **11 58 07.6 -1.2**
SKR *e* 11 58 53.9
SKR *eS* **S** **12 06 02.6 -2.3**
SKR MLR MLR
comp=Z,100nm,16.0s
PETK Petropavlovsk- 59.94 44 P **P** **11 58 08.7 -0.2**
comp=Z,1.4nm,0.7s,baz=327,slow=4.7,SNR=5.3
PETK pP **pP** **11 58 56.0 +0.5**
comp=Z,2.4nm,0.6s,baz=105,slow=1.7,SNR=4.7
PETK Petropavlovsk- 59.94 44 P **P** **11 58 08.0 -0.9**
PETK Petropavlovsk- 59.94 44 P **P** **11 58 08.0 -0.9**
PMRV Marv??o 59.97 299 *eP* **P** **11 58 09.0 -0.3**
comp=Z,35nm,1.6s
COI Coimbra 60.36 300 P **P** **11 58 12.3 +0.4**
COI pmax pmax
comp=Z,58nm,1.1s
COI Coimbra 60.36 300 *eP* **P** **11 58 13.3 +1.4**
COI Coimbra 60.36 300 P **P** **11 58 12.3 +0.4**
COI IAmb IAmb 11 59 00.8
comp=Z,58nm,1.1s
PCAS Casmilo, Conde 60.49 300 *eP* **P** **11 58 13.9 +1.1**
PMTG Montargil 60.70 299 *eP* **P** **11 58 14.6 +0.3**
comp=Z,22nm,1.8s
SPSI Sidrap Palu 60.74 121 P **P** **11 58 14.8 +0.1**
comp=Z,18nm,1.0s
SRBI Singaraja 60.74 128 P **P** **11 58 14.5 -0.2**
comp=Z,53nm,0.8s
EVO Evora 60.78 298⇑ *eP* **P** **11 58 14.7 -0.1**
comp=Z,40nm,1.6s
PBEJ Beja 60.89 298⇑ *eP* **P** **11 58 15.6 +0.1**
comp=Z,39nm,1.8s
PSBE So Bento 60.92 299 *eP* **P** **11 58 16.4 +0.7**
comp=Z,55nm,1.3s
SUMG Summit 61.02 341 *i* P **P** **11 58 18.0 +1.7**
comp=Z,156nm,1.0s
SUMG *i* 11 59 04.4
SUMG Summit 61.02 341 *i* P **P** **11 58 18.0 +1.7**
SUMG *i* 11 59 04.4
SUMG pmax pmax
comp=Z,160nm,1.0s
SUMG Summit 61.02 341 **P** **11 58 17.0 +0.6**
SUMG IAmb IAmb 11 58 20.5
comp=Z,61nm,1.0s
PCVE Castro Verde 61.18 297 *eP* **P** **11 58 17.7 +0.2**
comp=Z,30nm,1.5s
PBDV Barranco-do-Ve 61.27 297⇑ *eP* **P** **11 58 18.1 -0.1**
comp=Z,54nm,1.2s
BNSI Bone 61.28 121 P **P** **11 58 18.1 -0.3**
comp=Z,19nm,1.1s
PNCL Nicolau / Gran 61.33 298 *eP* **P** **11 58 19.0 +0.5**
comp=Z,32nm,1.6s
KAPI Kappang 61.48 122 P **P** **11 58 19.3 -0.4**
comp=Z,9.7nm,0.3s,baz=19,slow=5.4,SNR=5.9
KAPI Kappang 61.48 122 P **P** **11 58 19.4 -0.3**
KAPI Kappang 61.48 122 P **P** **11 58 19.4 -0.3**
KAPI IAmb IAmb 11 58 20.7
comp=Z,56nm,1.2s
PTEO Sao Teotonio 61.71 297 *eP* **P** **11 58 21.5 +0.5**
PFVI Vila Bisbo 61.97 297 *eP* **P** **11 58 23.7 +1.0**
comp=Z,77nm,1.6s
EUNU Eureka 62.97 356 P **P** **11 58 30.2 +1.5**
EUNU IAmb IAmb 11 59 34.2
comp=Z,31nm,1.1s
TNTI Ternate 63.00 111 P **P** **11 58 30.2 +0.3**
LSZ Lusaka 65.48 226 P **P** **11 58 46.0 0.0**
LSZ pmax pmax
comp=Z,69nm,0.9s
LSZ Lusaka 65.48 226 P **P** **11 58 46.0 0.0**
TORD Torodi Ar. Bea 65.72 269 P **P** **11 58 46.0 -1.5**
comp=Z,46nm,0.8s,baz=50,slow=6.1,SNR=145
ILULI Ilulissat 66.36 341 *i* P **P** **11 58 51.9 +1.2**
ILULI Ilulissat 66.36 341 *i* P **P** **11 58 51.9 +1.2**
BATI Baumata 67.89 122 P **P** **11 59 00.8 -0.4**
comp=Z,81nm,0.8s,baz=293,slow=1.8,SNR=13
RDOG Red Dog Mine 68.22 19 IAmb IAmb 11 59 52.6
comp=Z,109nm,1.5s
FAKI Fak Fak 69.09 110 P **P** **11 59 06.7 -2.0**
PMPST Porto Santo, M 69.30 296 *eP* **P** **11 59 11.2 +1.5**
MATP Matopo 69.44 223 P **P** **11 59 10.9 +0.2**
comp=Z,85nm,0.5s,baz=26,slow=5.5,SNR=214
PMAR Madeira 69.90 296 *eP* **P** **11 59 13.8 +0.2**
TOLK Toolik Lake Re 70.88 15 P **P** **11 59 19.7 +0.9**
baz=326,SNR=38
TOLK S **S** **12 08 19.0 +1.6**
baz=326
SAUI Saumlaki 71.73 115 P **P** **11 59 25.3 +0.7**
COLD Coldfoot 71.93 16 P **P** **11 59 26.0 +1.0**
baz=326,SNR=35
COLD S **S** **12 08 30.3 +0.9**
baz=326
COLD Coldfoot 71.93 16 IAmb IAmb 12 00 15.8
comp=Z,57nm,1.1s
IMAR Indian Mountai 72.13 18 P **P** **11 59 25.9 -0.4**
BMAR Burnt Mountain 72.90 14 P **P** **11 59 31.6 +0.8**
C36M Paulatuk 73.84 6 P **P** **11 59 36.7 +0.6**
baz=347
INK Inuvik 73.86 9 P **P** **11 59 37.2 +1.0**
comp=Z,29nm,0.5s,baz=353,slow=6.5,SNR=199
INK pP **pP** **12 00 25.2 +0.5**
comp=Z,39nm,1.1s,baz=338,slow=8.4,SNR=4.5
INK Inuvik 73.86 9 P **P** **11 59 36.7 +0.4**
INK pmax pmax
comp=Z,117nm,1.3s
INK Inuvik 73.86 9 P **P** **11 59 36.7 +0.4**
TTA Tatalina 73.98 20 IAmb IAmb 12 00 28.4
comp=Z,66nm,1.4s
MDM Murphy Dome 74.28 16 IAmb IAmb 11 59 40.9
comp=Z,63nm,1.2s
POKR Poker Plat Res 74.32 16 P **P** **11 59 40.2 +1.2**
baz=329,SNR=14
POKR S **S** **12 08 58.2 +1.8**
baz=329
BPAW Bear Paw Mtn. 74.36 18 IAmb IAmb 12 00 29.0
comp=Z,80nm,1.5s
NEA2 Nenana 74.40 17 P **P** **11 59 40.0 +0.5**
baz=328,SNR=60
TCOL CIGO, UAF Yank 74.44 16 P **P** **11 59 40.5 +0.8**
baz=328,SNR=22
TCOL S **S** **12 08 58.5 +1.0**
baz=328
COLA College 74.44 16⇑ *iP* **P** **11 59 40.5 +0.8**
COLA pmax pmax
comp=Z,64nm,1.0s
COLA College 74.44 16 P **P** **11 59 40.4 +0.7**
COLA IAmb IAmb 11 59 41.6
comp=Z,65nm,1.0s
COLA **pP** **12 00 28.5 +0.4**
CCB Clear Creek Bu 74.64 16 IAmb IAmb 12 00 31.5
comp=Z,97nm,1.8s
DBIC Dimbokro 74.70 267 P **P** **11 59 40.6 -1.4**
comp=Z,13nm,0.6s,baz=47,slow=7.0,SNR=19
DBIC Dimbokro 74.70 267 P **P** **11 59 40.7 -1.4**
DBIC pmax pmax
comp=Z,30nm,1.0s
DBIC Dimbokro 74.70 267 P **P** **11 59 40.7 -1.4**
DBIC IAmb IAmb 11 59 42.1
comp=Z,30nm,1.0s
LBTB Lobatse 74.71 222 P **P** **11 59 42.7 +0.8**
comp=Z,58nm,0.5s,baz=44,slow=4.7,SNR=90
WRH Wood River Hil 74.73 16 IAmb IAmb 12 00 30.8
comp=Z,79nm,1.9s
ILAR Eielson Array 74.74 16 P **P** **11 59 41.5 0.0**
comp=Z,18nm,1.0s,baz=316,slow=4.6,SNR=91
ILAR pP **pP** **12 00 29.8 -0.2**
comp=Z,5.3nm,0.8s,baz=322,slow=3.6,SNR=4.8
ILAR Eielson Array 74.74 16 P **P** **11 59 41.1 -0.4**
ILAR Eielson Array 74.74 16 P **P** **11 59 41.0 -0.4**
KIC Kosan Boka 74.79 267 *eP* **P** **11 59 40.6 -2.0**
comp=Z,34nm,0.6s
KTH Kantishna Hill 74.83 18 IAmb IAmb 11 59 43.7
comp=Z,73nm,1.1s
TIC Toumodi 74.85 267 *eP* **P** **11 59 41.4 -1.5**
FITZ Fitzroy Crossi 74.92 127 P **P** **11 59 43.1 0.0**
comp=Z,51nm,0.9s,baz=335,slow=5.1,SNR=77
FITZ Fitzroy Crossi 74.92 127 IAmb IAmb 11 59 44.4
comp=Z,76nm,1.1s
MTN Manton Dam 74.92 119 IAmb IAmb 11 59 44.6
comp=Z,30nm,1.0s
TSUM Tsumeb 74.94 232 P **P** **11 59 43.0 -0.4**
HDA Harding Lake 75.04 16 P **P** **11 59 42.7 -0.5**
baz=329,SNR=14
LIC Lamto 75.10 267 *eP* **P** **11 59 42.3 -2.0**
comp=Z,89nm,0.9s
EPYK Eagle Plains 75.22 11 P **P** **11 59 44.7 +0.5**
baz=337
EPYK S **S** **12 09 07.7 +1.4**
baz=337
EPYK Eagle Plains 75.22 11 IAmb IAmb 12 00 34.2
comp=Z,80nm,1.4s
EGAK Eagle 75.91 14 IAmb IAmb 12 00 38.3
comp=Z,78nm,1.6s
CUT Chulitna 75.95 18 P **P** **11 59 48.4 0.0**
baz=327
SKT Skwentna 75.98 19 P **P** **11 59 47.7 -0.9**
SKT pP **pP** **12 00 36.5 -0.7**
SCRK Sand Creek 76.06 15 P **P** **11 59 49.9 +0.8**
baz=332
RIDG Independent Ri 76.08 16 IAmb IAmb 11 59 50.5
comp=Z,47nm,1.2s
DHY Denali Highway 76.09 17 IAmb IAmb 11 59 50.6
comp=Z,25nm,0.8s
DOT Dot Lake 76.33 15 IAmb IAmb 12 00 40.5
comp=Z,94nm,1.9s
K27K Chicken 76.40 14 P **P** **11 59 52.2 +1.3**
baz=333
K27K S **S** **12 09 21.0 +1.9**
baz=333
SUA Susitna One 76.62 19 P **P** **11 59 51.9 -0.4**
SUA IAmb IAmb 12 00 42.8
comp=Z,32nm,1.2s
PAX Paxson 76.62 16 IAmb IAmb 11 59 53.9
comp=Z,86nm,1.4s
PMR Palmer 76.93 18 IAmb IAmb 12 00 44.5
comp=Z,30nm,1.0s
SCM Sheep Creek Mo 77.17 18 IAmb IAmb 12 00 46.2
comp=Z,33nm,0.8s
M24K Tolsona, Glenn 77.21 17 P **P** **11 59 56.9 +1.4**
baz=330,SNR=27
KNK Knik Glacier 77.25 18 P **P** **11 59 55.8 +0.1**
KNK IAmb IAmb 12 00 46.9
comp=Z,76nm,1.2s
BCAR Beaver Creek A 77.32 15 P **P** **11 59 57.0 +0.9**
BOSA Boshof 77.78 220 P **P** **11 59 59.1 0.0**
comp=Z,74nm,0.7s,baz=22,slow=4.0,SNR=73
BOSA Boshof 77.78 220 P **P** **11 59 58.4 -0.7**
BOSA pmax pmax
comp=Z,110nm,0.9s
BOSA Boshof 77.78 220 P **P** **11 59 58.4 -0.7**
MORW Morawa 77.78 141 P **P** **11 59 57.9 -1.1**
KLU Klutina 77.80 17 IAmb IAmb 12 00 01.0
comp=Z,42nm,1.2s
BRLK Bradley Lake 78.00 20 IAmb IAmb 12 00 00.7
comp=Z,41nm,1.2s
GLI Glacier Island 78.05 18 IAmb IAmb 12 00 01.7
comp=Z,54nm,1.2s
SEW Seward 78.11 19 IAmb IAmb 12 00 01.8
comp=Z,39nm,1.2s
FID Port Fidalgo 78.32 18 IAmb IAmb 12 00 52.9
comp=Z,110nm,1.6s
VRDI Verde Repeater 78.61 16 IAmb IAmb 12 00 05.4
comp=Z,35nm,1.1s
HIN Hinchinbrook I 78.62 18 IAmb IAmb 12 01 02.1
comp=Z,70nm,1.5s
EYAK Cordova Ski Ar 78.67 18 P **P** **12 00 04.0 +0.6**
EYAK IAmb IAmb 12 00 05.8
comp=Z,47nm,1.2s
BALM Baldy 79.03 16 IAmb IAmb 12 00 07.8
comp=Z,53nm,1.3s
BARN Barnard Glacie 79.15 16 IAmb IAmb 12 00 08.7
comp=Z,33nm,1.0s
KDAK Kodiak Island 79.16 22 P **P** **12 00 06.4 +0.2**
KDAK pP **pP** **12 00 55.8 +0.6**
CTGM Chitina Glacie 79.31 15 IAmb IAmb 12 00 59.0
comp=Z,70nm,1.4s
OHAK Old Harbor 79.41 23 IAmb IAmb 12 00 10.1
comp=Z,50nm,1.0s
ISLE Juniper Island 79.42 16 IAmb IAmb 12 00 09.6
comp=Z,40nm,1.2s
HYT Haines Junctio 80.21 14 IAmb IAmb 12 01 04.2
comp=Z,28nm,1.0s
PCA Pinnacle 80.32 15 IAmb IAmb 12 01 04.5
comp=Z,42nm,0.9s
YKA Yellowknife Ar 81.20 3 P **P** **12 00 17.6 +0.5**
comp=Z,13nm,0.4s,baz=353,slow=5.7,SNR=157
YKA pP **pP** **12 01 06.6 +0.5**
comp=Z,10nm,0.6s,baz=352,slow=5.8,SNR=5.6
SKAG Skagway 81.89 13 IAmb IAmb 12 00 23.2
comp=Z,33nm,1.1s
WRA Warramunga Arr 82.01 122 P **P** **12 00 20.9 -1.0**
comp=Z,74nm,0.9s,baz=324,slow=4.9,SNR=454
WRA pP **pP** **12 01 12.4 +1.1**
comp=Z,7.3nm,0.7s,baz=323,slow=4.9,SNR=3.0
WRA PKKPbc **PKKPbc** **12 18 50.5 +0.9**
comp=Z,2.2nm,0.8s,baz=126,slow=2.3,SNR=9.8
WRA PKPPKP **P'P'df** **12 26 53.0 -1.7**
comp=Z,1.3nm,1.0s,baz=143,slow=1.3,SNR=5.2
WRA Warramunga Arr 82.01 122 P **P** **12 00 20.0 -1.9**
WRAB Tennant Creek 82.01 122*c iP* **P** **12 00 21.3 -0.6**
WRAB pmax pmax
comp=Z,107nm,0.9s
WRAB Tennant Creek 82.01 122 P **P** **12 00 20.8 -1.1**

SCHQ	Schefferville	82.06	337	P		P		12 00 22.6	+0.9
	comp=Z,10nm,0.8s,baz=14,slow=5.0,SNR=6.7								
WR0	Warramunga Arr	82.16	122	IAmb		IAmb		12 00 22.7	
	comp=Z,73nm,1.0s								
SUR	Sutherland	83.09	221	P		P		12 00 27.7	+0.3
	comp=Z,40nm,0.9s,baz=24,slow=2.8,SNR=16								
SUR	Sutherland	83.09	221	P		P		12 00 28.1	+0.7
SUR				IAmb		IAmb		12 00 29.3	
	comp=Z,56nm,0.9s								
DLBC	Dease Lake	83.75	11	IAmb		IAmb		12 00 32.9	
	comp=Z,73nm,1.6s								
ASAR	Alice Springs	84.28	125	P		P		12 00 32.5	-0.9
	comp=Z,51nm,0.8s,baz=311,slow=4.9,SNR=552								
ASAR				PKiKP		PKiKP		12 05 46.5	-0.2
	comp=Z,0.5nm,0.5s,baz=322,slow=1.1,SNR=5.6								
ASAR				PKKPbc		PKKPbc		12 18 44.9	+0.4
	comp=Z,0.5nm,0.5s,baz=125,slow=2.8,SNR=12								
ASAR				PKPPKP		P'P'df		12 26 51.5	+1.2
	comp=Z,1.2nm,0.9s,baz=141,slow=2.6,SNR=7.5								
COEN	Coen	84.42	112	IAmb		IAmb		12 00 34.6	
	comp=Z,34nm,1.1s								
PMG	Port Moresby	84.61	106	*ce*P		P		12 00 36.3	+1.0
PMG				pmax		pmax			
	comp=Z,45nm,1.7s								
WRAK	Wrangell Islan	85.30	13	IAmb		IAmb		12 00 40.5	
	comp=Z,52nm,1.4s								
CHGQ	Chibougamau	88.64	338	P		P		12 00 55.1	+0.9
	baz=27								
FFC	Flin Flon	88.90	356	P		P		12 00 55.9	+0.5
FFC				pmax		pmax			
	comp=Z,66nm,1.2s								
FFC	Flin Flon	88.90	356	P		P		12 00 55.9	+0.5
MATQ	Matagami	89.70	340	P		P		12 00 59.6	+0.4
	baz=25								
LSQQ	Lebel-sur-Quev	90.15	340	P		P		12 01 01.5	+0.1
	baz=25								
LATQ	La Tuque	90.38	336	P		P		12 01 03.9	+1.5
	baz=28								
CTA	Charters Tower	90.56	115	P		P		12 01 03.0	-0.6
	comp=Z,37nm,0.9s,baz=326,slow=5.2,SNR=24								
CTA	Charters Tower	90.56	115	P		P		12 01 03.0	-0.6
CTAO	Charters Tower	90.56	115	P		P		12 01 02.2	-1.4
CTAO				pmax		pmax			
	comp=Z,74nm,1.2s								
CTAO	Charters Tower	90.56	115	P		P		12 01 02.2	-1.4
D57A	Chemin Vers le	91.06	337	P		P		12 01 06.2	+0.6
	baz=28								
VLDQ	Val d'Or	91.14	339	IAmb		IAmb		12 01 08.2	
	comp=Z,34nm,1.1s								
D56A	ZEC Mazanza, M	91.30	337	P		P		12 01 07.6	+0.8
	baz=27								
E58A	La Victoria	91.43	336	P		P		12 01 07.8	+0.5
	baz=28								
D55A	Sainte-Anne-du	91.55	338	P		P		12 01 08.6	+0.8
	baz=26								
E57A	Chemin Saint G	91.68	337	P		P		12 01 08.7	+0.2
	baz=27								
G61A	St-Isidore-de-	91.80	335	P		P		12 01 11.3	+2.3
	baz=29								
BBOO	Buckleboo	91.93	130	IAmb		IAmb		12 01 09.4	
	comp=Z,30nm,1.1s								
D53A	Lac Vacive, Po	92.15	339	P		P		12 01 11.1	+0.5
	baz=25								
D53A	Lac Vacive, Po	92.15	339	IAmb		IAmb		12 01 13.5	
	comp=Z,61nm,1.8s								
E55A	Montcerf-Lytto	92.23	338	P		P		12 01 11.7	+0.7
	baz=26								
E54A	Lac Daplat, Po	92.59	339	P		P		12 01 13.3	+0.7
	baz=25								
E53A	Dumoine, Ponti	92.78	339	P		P		12 01 13.2	-0.4
	baz=25								
ULM	Lac du Bonnet	92.81	352	P		P		12 01 13.4	-0.2
	comp=Z,19nm,1.0s,baz=1.2,slow=5.0,SNR=7.7								
ULM	Lac du Bonnet	92.81	352	IAmb		IAmb		12 01 14.7	
	comp=Z,33nm,1.1s								
H59A	Cadyville	93.09	336	P		P		12 01 15.3	+0.3
	baz=28								
G57A	Newington	93.11	337	P		P		12 01 16.0	+1.0
	baz=27								
D48A	Paudash Townsh	93.17	342	P		P		12 01 15.9	+0.6
	baz=22								
LONY	Lake Ozonia	93.41	336	P		P		12 01 17.2	+0.7
	baz=27								
LONY	Lake Ozonia	93.41	336	IAmb		IAmb		12 01 18.3	
	comp=Z,19nm,1.2s								
D47A	Chapleau	93.60	343	P		P		12 01 17.9	+0.6
	baz=21								
G54A	Lake Saint Pet	93.79	339	P		P		12 01 18.6	+0.4
	baz=24								
E48A	Lockeyer	93.90	342	P		P		12 01 19.7	+0.9
	baz=21								
H56A	Elgin	93.97	337	P		P		12 01 20.2	+1.2
	baz=26								
D46A	Sault St. Mari	93.97	343	P		P		12 01 19.9	+0.9
	baz=20								
E47A	Iron Bridge	94.20	342	P		P		12 01 20.9	+0.9
	baz=20								
EYMN	Ely	94.45	348	P		P		12 01 21.9	+0.7
	baz=14								
EYMN	Ely	94.45	348	IAmb		IAmb		12 01 23.3	
	comp=Z,29nm,1.1s								
WALA	Waterton Lakes	94.66	3	IAmb		IAmb		12 01 24.4	
	comp=Z,19nm,1.1s								
AGMN	Agassiz Nation	94.73	351	P		P		12 01 23.1	+0.7
	baz=11,SNR=5.9								
B05A	Bryant	94.77	9	P		P		12 01 23.6	+1.0
	baz=350,SNR=9.0								
STKA	Stephens Creek	94.81	126	P		P		12 01 21.6	-1.3
	comp=Z,4.6nm,0.8s,baz=325,slow=2.7,SNR=8.6								
B08A	Colville Reser	94.97	7	IAmb		IAmb		12 01 25.5	
	comp=Z,13nm,1.2s								
DGMT	Dagmar	95.26	357	P		P		12 01 26.6	+1.7
	baz=3.9,SNR=6.7								
NEW	Newport	95.26	5	P		P		12 01 25.9	+1.0
	baz=354,SNR=8.6								
NEW	Newport	95.26	5	IAmb		IAmb		12 01 27.0	
	comp=Z,12nm,1.1s								
D03D	Eldon	95.36	10	P		P		12 01 27.2	+1.9
	baz=349								
MDND	Maddock	95.57	354	P		P		12 01 27.2	+0.9
	baz=7.6,SNR=5.2								
C09A	Chrisman Ranch	95.63	6	IAmb		IAmb		12 01 28.6	
	comp=Z,13nm,1.1s								
E38A	The Farm, Brul	95.76	348	IAmb		IAmb		12 01 28.3	
	comp=Z,19nm,1.1s								
EGMT	Eagleton	95.81	1	P		P		12 01 29.0	+1.5
	baz=359,SNR=8.0								
D05A	Enumclaw	95.84	9	IAmb		IAmb		12 01 30.7	
	comp=Z,20nm,1.1s								
JTMT	Jette	95.96	4	IAmb		IAmb		12 01 30.2	
	comp=Z,13nm,1.3s								
F36A	Milaca	96.80	349	IAmb		IAmb		12 01 33.0	
	comp=Z,11nm,1.2s								
G40A	Rib Lake	96.81	347	IAmb		IAmb		12 01 33.4	
	comp=Z,21nm,1.2s								
E09A	Wood Farm, Sta	96.91	6	IAmb		IAmb		12 01 42.1	
	comp=Z,17nm,1.1s								
LAO	LASA Array	97.11	358	P		Pdif		12 01 35.2	+1.8
	baz=2.3,SNR=7.0								
LAO	LASA Array	97.11	358	P		Pdif		12 01 34.3	+0.9
LAO						pP		12 02 26.1	+2.7
BOZ	Bozeman (W)	98.20	2	Pdiff		Pdif		12 01 39.7	+1.3
	baz=358,SNR=5.5								
DLMT	Dillon	98.41	3	P		Pdif		12 01 40.1	+0.8
DLMT				IAmb		IAmb		12 01 42.5	
	comp=Z,17nm,1.5s								
RLMT	Red Lodge	98.71	0	Pdiff		Pdif		12 01 42.3	+1.6
	baz=360,SNR=6.0								
RLMT	Red Lodge	98.71	0	IAmb		IAmb		12 01 44.0	
	comp=Z,14nm,1.2s								
YNE	Yellowstone No	98.82	1	P		Pdif		12 01 41.7	+0.4
YNE						pP		12 02 32.5	+1.0
ECSD	EROS Data Cent	99.31	351	Pdiff		Pdif		12 01 44.0	+0.8
	baz=10								
RSSD	Black Hills	99.59	356	Pdiff		Pdif		12 01 46.1	+1.4
	baz=4.1								
PDAR	Pinedale Array	101.07	0	P		Pdif		12 01 51.9	+0.5
	comp=Z,0.5nm,0.5s,baz=66,slow=3.7,SNR=9.7								
PDAR				PKiKP		PKiKP		12 06 14.8	-0.6
	comp=Z,0.5nm,0.7s,baz=41,slow=1.9,SNR=4.6								
PDAR				PKKPbc		PKKPbc		12 18 00.7	-0.7
	comp=Z,0.6nm,0.9s,baz=250,slow=1.8,SNR=4.4								
PDAR	Pinedale Array	101.07	0	Pdif		Pdif		12 01 50.8	-0.5
NVAR	Mina Array Bea	104.91	8	Pdiff		Pdif		12 02 10.0	+1.6
	comp=Z,1.3nm,1.0s,baz=11,slow=2.2,SNR=7.5								
NVAR				PKiKP		PKiKP		12 06 22.7	+0.3
	comp=Z,0.8nm,0.8s,baz=275,slow=1.4,SNR=4.5								
NVAR				PKKPbc		PKKPbc		12 17 49.8	-0.3
	comp=Z,0.9nm,0.9s,baz=187,slow=6.0,SNR=4.6								
NVAR	Mina Array Bea	104.91	8			Pdif		12 02 09.2	+0.7
TXAR	Lajitas Array	114.28	355	PKiKP		PKiKP		12 06 39.8	-0.3
	comp=Z,0.1nm,0.5s,baz=58,slow=0.9,SNR=4.7								
TXAR				PKKPbc		PKKPbc		12 17 19.4	-0.7
	comp=Z,1.5nm,0.9s,baz=183,slow=6.4,SNR=14								
SNAA	Sanae	119.43	200	PKiKP		PKPdf		12 06 47.7	-0.8
SNAA	Sanae	119.43	200	PKiKP		PKPdf		12 06 47.8	-0.8
SNAA	Sanae	119.43	200			PKPdf		12 06 47.8	-0.8
VNA2	Neumayer--Watz	120.44	202	PKiKP		PKPdf		12 06 49.9	-0.5
VNA1	Neumayer--Stat	120.59	202	PKiKP		PKPdf		12 06 50.7	0.0
VNA3	Neumayer Olymp	121.24	202	PKiKP		PKPdf		12 06 51.4	-0.6
BDFB	Brasilia	122.36	274	PKP		PKPdf		12 06 55.4	-0.5
	comp=Z,1.8nm,0.3s,baz=114,slow=2.3,SNR=3.9								
PTGA	Pitinga	122.38	297	PKPdf		PKPdf		12 06 54.8	-1.1
SMLC	San Martn de	124.23	317	*e*P		PKPdf		12 06 58.1	-1.4
TAMC	Tame, Arauca	124.85	313	*e*P		PKPdf		12 06 59.5	-1.2
BRRC	Barranca, Sant	125.42	315	*e*P		PKiKP		12 07 02.5	+0.3
VNDA	Vanda	125.54	164	PKP		PKPdf		12 06 58.8	-1.2
	comp=Z,3.8nm,0.9s,baz=279,slow=4.6,SNR=15								
VNDA	Vanda	125.54	164	PKiKP		PKPdf		12 06 58.6	-1.4
VNDA	Vanda	125.54	164	PKPdf		PKPdf		12 06 58.6	-1.4
TGUH	Tegucigalpa,Un	125.66	334	PKPdf		PKPdf		12 07 02.4	0.0
PTBC	PUERTO BERRIO	126.30	316	*e*P		PKPdf		12 07 02.5	-1.0
QSPA	South Pole Qui	126.34	180	PKP		PKPdf		12 07 00.7	-1.2
QSPA	South Pole Qui	126.34	180	PKPdf		PKPdf		12 07 00.2	-1.7
SPBC	San Pablo de B	126.81	315	*e*P		PKPdf		12 07 03.6	-0.9
DBBC	Dabeiba	126.88	318	*e*P		PKPdf		12 07 04.5	-0.1
BCIP	Isla Barro Col	126.91	323	*e*P		PKPdf		12 07 03.6	-0.9
NORC	Norcasia	127.33	315	*e*P		PKiKP		12 07 06.2	+0.2
CHIC	Chingaza	127.44	314	*e*P		PKPdf		12 07 05.4	-0.8
ROSC	El Rosal	127.61	314	PKP		PKPdf		12 07 05.9	-0.5
	comp=Z,29nm,0.8s,baz=144,slow=4.8,SNR=12								
GUY2C	Guyana, Caldas	127.89	316	*e*P		PKPdf		12 07 07.1	0.0
TOLC	Tolima	128.39	315	*e*P		PKPdf		12 07 08.0	+0.2
ANIL	Santa Ana	128.51	315	*e*P		PKPdf		12 07 08.3	+0.3
PRAC	Prado	128.85	314	*e*P		PKPdf		12 07 07.1	-1.3
ORTC	Ortega, Tolima	128.90	315	*e*P		PKPdf		12 07 06.2	-2.2
YOTC	Yotoco, Valle	129.46	316	*e*P		PKPdf		12 07 08.0	-1.6
SAML	Samuel	130.25	292	*e*P		PKPdf		12 07 09.6	-1.3
SAML	Samuel	130.25	292	PKiKP		PKPdf		12 07 09.8	-1.1
SAML	Samuel	130.25	292	PKPdf		PKPdf		12 07 09.8	-1.1
POPC	Popayan, Colom	130.83	315	*e*P		PKPdf		12 07 12.2	-0.2
PCON	Cinco Dias	130.84	315	*e*P		PKiKP		12 07 13.6	-0.1
FLOC	Florencia	131.01	313	*e*P		PKPdf		12 07 11.8	-0.6
SIV	San Ignacio	132.95	283	PKP		PKPdf		12 07 15.2	-0.7
	comp=Z,7.9nm,1.0s,baz=53,slow=1.0,SNR=19								
OTAV	Otavalo	133.72	315	PKiKP		PKPdf		12 07 18.1	0.0
OTAV	Otavalo	133.72	315	PKPdf		PKPdf		12 07 18.1	0.0
CPUP	Villa Florida	135.21	268	PKP		PKPdf		12 07 19.0	-0.9
	comp=Z,12nm,0.8s,baz=63,slow=1.7,SNR=25								
CPUP	Villa Florida	135.21	268	PKiKP		PKPdf		12 07 18.1	-1.8
CPUP	Villa Florida	135.21	268	PKPdf		PKPdf		12 07 18.1	-1.8
LPAZ	La Paz	138.60	288	PKP		PKPdf		12 07 26.8	-0.4
	comp=Z,6.9nm,0.9s,baz=54,slow=4.9,SNR=19								
LPAZ	La Paz	138.60	288	*e*P		PKPdf		12 07 25.8	-1.4
LVC	Limon Verde	142.74	281	PKP		PKPdf		12 07 34.1	-0.1
	comp=Z,13nm,1.1s,baz=13,slow=3.8,SNR=7.6								
LVC	Limon Verde	142.74	281	PKHKP		PKPpre		12 07 29.3	
LVC	Limon Verde	142.74	281			PKPpre		12 07 29.3	
AC02	Maricunga	144.93	274			PKPbc		12 07 37.5	-0.3
MG01	Puerto William	146.40	224	PKPbc		PKPbc		12 07 40.7	0.0
CO01	Juntas del Tor	146.98	270	PKPbc		PKPdf		12 07 41.8	+0.6
LCO	Las Campanas	147.10	272	PKiKP		PKPdf		12 07 41.7	+0.3
LCO	Las Campanas	147.10	272			PKPdf		12 07 41.7	+0.3
MT02	Curacav	148.91	265	PKPbc		PKPbc		12 07 47.3	-0.8
PLCA	Paso Flores	149.84	250	PKPbc		PKPbc		12 07 50.6	+0.3
	comp=Z,85nm,1.2s,baz=121,slow=2.4,SNR=50								
PLCA	Paso Flores	149.84	250	PKPbc		PKPbc		12 07 49.9	-0.3
LC01	Cunco	150.67	254	PKPdf		PKPdf		12 07 45.1	-1.4
LC01				PKPbc		PKPbc		12 07 51.4	-0.8
LL01	San Ignacio de	151.31	247			PKPbc		12 07 51.8	-1.7

REY ***31*** *12:01:46.0,64.˙68N×17.˙42W,h5km*
BJI ***31*** *12:01:45.0±0.0,64.˙70N×17.˙40W,h5km,mB5.4/38, mb4.7/48,Ms4.8/35,Ms7 4.5/33*
MOS ***31*** *12:01:46.6±0.9,64.˙73N×17.˙46W,h10km,mb5.3/61,Error ellipse: s-maj=8.2km s-min=6.1km az=103.4*
IDC ***31*** *12:01:46.4±0.5,64.˙61N×17.˙56W,h0km,mb4.2/24, mb1 4.4/30,mb1mx4.2/62,mbtmp4.2/30,ML3.6/6,MS4.1/39, Ms1 4.1/39,ms1mx4.0/55,Error ellipse: s-maj=14.4km s-min=8.0km az=11.0*
IEPN ***31*** *12:01:46.0,64.˙50N×16.˙99W,h10km*
NEIC ***31*** *12:01:48.0±2.0,64.˙65N±0.˙08×17.˙5W±0.˙1,h11km±3km, mb5.1/263,ML5.1(REY),Error ellipse: s-maj=11.4km s-min=8.2km az=173.0*
DNK ***31*** *12:01:48.2±6.9,64.˙58N×17.˙58W,h0km±443km*
NAO ***31*** *12:01:48.6±5.5,64.˙51N×17.˙00W,ML4.4*
GCMT ***31*** *12:01:51.0±0.2,64.˙66N±0.˙01×17.˙01W±0.˙03,h12km, MW4.9/137,Moment Tensor Solution. s55,c66; s137,c199; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-3.42±.06; Mθθ2.23±.06; Mϕϕ1.19±.06; Mrθ-0.08±.22; Mθϕ-0.29±.05; Mϕr-1.80±.23; Best double couple: M☉3.19600×1016 NP1:ϕs95.00000°,δ42.00000°, λ-118.00000°. NP2:ϕs310.00000°,δ54.00000°, λ-68.00000°. Principal axes: T 2.3480, Plg6.0000°, Azm24.0000°; N 1.6960, Plg18.0000°, Azm116.0000°; P -4.0440, Plg71.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***31*** *12:02:13.8±0.0,64.˙15N×11.˙93W,h10km,mb5.1,Ms4.0*
ISC 31 12:01:47.9±0.5,64.˙69N±0.˙02×17.˙49W±0.˙02,h4km±2km, h4km:pP-P,n661,σ2°12/604,mb5.1/240,MS4.2/67, 21C-23D,Iceland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IVON	Vonarskard	0.12	264	P		Pg	12 01 49.0	-1.3
	baz=269							
IVON				S		Sg	12 01 51.6	-0.2
	baz=269							
IDYN	Dyngjuhals	0.12	26	P		Pg	12 01 48.6	-1.6
	baz=10							
IDJK	Dyngjujokull	0.21	149	P		Pg	12 01 49.8	-2.2
	baz=156							
IGRF	Grimsfjall	0.30	161	P		Pg	12 01 51.3	-2.3
	baz=167							
IKVE	Kverkfjoll	0.35	91	P		Pg	12 01 52.3	-2.3
	baz=89							
IKVE				S		Sg	12 01 56.8	-2.4
	baz=89							
IBJK	Bruarjokull	0.38	124	P		Pg	12 01 52.4	-2.9
	baz=126							
IHUS	Husbondi	0.40	191	P		Pg	12 01 53.8	-1.7
	baz=195							
ISKR	Skrokkalda	0.41	252	P		Pg	12 01 53.9	-1.8
	baz=255							
IVOT	Vottur	0.44	162	P		Pg	12 01 53.7	-2.5
	baz=166							
IKRE	Kreppuhraun	0.48	78	P		Pg	12 01 54.2	-2.9
	baz=76							
IJOK	Jokulheimar	0.49	221	P		Pg	12 01 55.2	-2.0
	baz=224							
IASK	Askja	0.51	44	P		Pg	12 01 55.2	-2.5
	baz=41							
IMKO	Mokollar	0.57	59	P		Pg	12 01 56.0	-2.8
	baz=56							
IIEY	Innrieyrar	0.65	205	P		Pg	12 01 57.9	-2.5
	baz=208							
ISVA	Svartarkot	0.66	8	P		Pg	12 01 57.8	-2.7
	baz=5.8							
IKSK	Karasker	0.69	140	P		Pg	12 01 57.1	-3.9
	baz=141							
IKAL	Kalfafell	0.75	187	P		Pg	12 01 59.0	-3.1
	baz=189							
IVSH	V-Sauoahnukur	0.76	80	P		Pg	12 01 58.8	-3.7
	baz=79							
IVAT	Vatnsfell	0.80	232	P		Pg	12 02 00.4	-2.7
	baz=234							
IADA	Aoalbol	0.88	67	P		Pg	12 02 00.8	-3.9
	baz=66							
IFAG	Fagurholsmyri	0.89	156	P		Pg	12 02 01.4	-3.6
	baz=157							
IHVE	Hveravellir	0.91	283	P		Pg	12 02 02.0	-3.2
	baz=283							
IMEL	Melhnausar	0.95	21	P		Pg	12 02 02.5	-3.6
	baz=19							
IREN	Reynihlio	1.00	14	P		Pg	12 02 03.3	-3.7
	baz=12							
IKVO	Krokottuvotn	1.06	14	P		Pg	12 02 04.4	-3.8
	baz=12							
ISNB	Snabyli	1.08	208	P		Pg	12 02 05.0	-3.5
	baz=210							
IGRS	Grimsstaoir	1.12	30	P		Pg	12 02 05.3	-3.9
	baz=29							
BORG	Borgarnes	1.65	274	Pg		Pn	12 02 14.2	-3.3
	56nm,0.3s,baz=96,slow=8.0,SNR=88							
BORG				Lg		Lg	12 02 37.9	
	42nm,0.3s,baz=143,slow=20,SNR=13							
BORG	Borgarnes	1.65	274	P		Pn	12 02 14.0	-3.6
BORG	Borgarnes	1.65	274			Pn	12 02 14.0	-3.6
SCO	Scoresbysund	6.07	346	*i* P		Pn	12 03 16.1	-2.1
SCO	Scoresbysund	6.07	346	*i* P		Pn	12 03 16.1	-2.1
SCO	Scoresbysund	6.07	346	Pn		Pn	12 03 16.7	-1.4
SCO	Scoresbysund	6.07	346	*i* P		Pn	12 03 16.1	-2.1
SCO				IAMs_20		IAMs_20	12 06 16.6	
	comp=Z,8μm,8.0s							
JMIC	Jan Mayen	7.17	24	Pn		Pn	12 03 34.0	+0.6
JMIC	Jan Mayen	7.17	24	Pn		Pn	12 03 33.3	-0.1
	baz=328,slow=7.1,SNR=2.6							
JMIC				LR		LR	12 05 53.8	
	comp=Z,1μm,20.4s,baz=259,slow=34							
JMIC	Jan Mayen	7.17	24	Pn		Pn	12 03 34.0	+0.6
LEWI	Lewis, Hebride	8.29	137	*e*P		Pn	12 03 45.7	-3.1
LEWI				IAMs_20		IAMs_20	12 08 31.4	
	comp=Z,5μm,10.2s							
ANGG	Ammassalik, Gr	8.53	285	IAMs_20		IAMs_20	12 07 34.3	
	comp=Z,14μm,7.5s							
BIGH	Upper Bighouse	8.95	128	*e*P		Pn	12 03 56.0	-1.8
ISOG	Isortoq, Green	9.09	285	IAMs_20		IAMs_20	12 07 48.1	
	comp=Z,10μm,7.5s							
KAC	Achnashellach	9.30	135	*e*P		Pn	12 03 59.7	-2.8
KPL	Plockton	9.33	137	*e*P		Pn	12 03 59.9	-3.0
DBG	Daneborg	9.71	356	*e*P		Pn	12 04 12.4	+4.3
DBG				IAMs_20		IAMs_20	12 07 49.9	
	comp=Z,2μm,9.5s							
ICESG	Greenland Ices	9.73	307	IAMs_20		IAMs_20	12 08 49.2	
	comp=Z,11μm,5.6s							
MCD	Coleburn Disti	9.88	129	*e*P		Pn	12 04 08.7	-1.8
LAWE	Loch Awe, Argy	10.32	139	*e*P		Pn	12 04 14.4	-2.2
INVG	Invergeldie, C	10.57	135	*e*P		Pn	12 04 17.8	-2.2
INVG				IAMs_20		IAMs_20	12 08 51.3	
	comp=Z,4μm,10.6s							
ELO	Logie Almond	10.64	134	*e*P		Pn	12 04 18.1	-2.8
EAB	Aberfoyle	10.69	137	*e*P		Pn	12 04 19.5	-2.0
SUMG	Summit	10.93	325	IAMs_20		IAMs_20	12 10 06.8	
	comp=Z,22μm,5.9s							
PGBU	Glenifferbraes	10.97	138	*e*P		Pn	12 04 23.1	-2.3
PGBU				IAMs_20		IAMs_20	12 09 23.2	
	comp=Z,4μm,11.0s							
AKN	Aaknes	11.22	92	Pn		Pn	12 04 25.6	-3.2
AKN	Aaknes	11.22	92	*e*P		Pn	12 04 25.8	-3.0
EDI	Edinburgh	11.26	135	*e*P		Pn	12 04 27.1	-2.2
EDI				IAMs_20		IAMs_20	12 09 13.2	
	comp=Z,3μm,10.2s							
MOL	Molde	11.30	89	*e*P		Pn	12 04 28.1	-1.8
NEWG	New Galloway	11.65	139	*e*P		Pn	12 04 32.9	-1.7
NEWG				IAMs_20		IAMs_20	12 10 06.1	
	comp=Z,2μm,10.4s							
GAL1	Galloway	11.73	141	*e*P		Pn	12 04 33.7	-2.1
EKA	Eskdalemuir Ar	11.77	136	Pn		Pn	12 04 34.0	-2.3
EKA	Eskdalemuir Ar	11.77	136	Pn		Pn	12 04 34.4	-1.9
	baz=322,slow=13,SNR=22							
EKA	Eskdalemuir Ar	11.77	136	Pn		Pn	12 04 34.0	-2.3
ESK	Eskdalemuir	11.77	136	*e*P		Pn	12 04 33.1	-3.2
ESK				IAMs_20		IAMs_20	12 09 30.9	
	comp=Z,3μm,12.0s							
ESK	Eskdalemuir	11.77	136	P		Pn	12 04 35.0	-1.3
ESK	Eskdalemuir	11.77	136	Pn		Pn	12 04 35.0	-1.3
KMY	Karmoy	11.98	107	*e*P		Pn	12 04 36.2	-2.9
DAG	Danmarks Havn	12.15	359	*i* P		Pn	12 04 45.9	+4.4
DAG	Danmarks Havn	12.15	359	*e*P		Pn	12 04 45.9	+4.4
DAG	Danmarks Havn	12.15	359	*e*P		Pn	12 04 45.9	+4.5
DAG				IAMs_20		IAMs_20	12 10 36.5	
	comp=Z,1μm,8.4s							
DOMB	Dombas	12.16	90	*e*P		Pn	12 04 38.5	-3.1
BLS5	Blasjo	12.36	104	*e*P		Pn	12 04 42.4	-1.9
SKAR	Skarslia

HOPEN **Hopen** 17.82 31 P **P** 12 05 59.8 +2.8
HOPEN **Hopen** 17.82 31 P **P** 12 05 59.8 +2.8
UCC **Uccle** 18.01 130 P **Pn** 12 05 57.2 -1.6
UCC pmax pmax
comp=Z,37nm,1.2s
UCC **Uccle** 18.01 130 P **Pn** 12 05 57.1 -1.6
SNF **Seneffe** 18.23 131 P **Pn** 12 05 58.5 -2.9
comp=Z,32nm,2.1s
RGN **Rugen** 18.39 109 *eP* **Pn** 12 06 03.1 -0.2
BEBN **Eben Emael** 18.45 128 P **P** 12 06 02.8 -1.4
BUG **Bochum-Univer** 18.47 124 *eP* **Pn** 12 06 04.6 +0.3
comp=Z,945nm,3.1s,baz=328,slow=11
BMRD **Maredsous** 18.57 130 P **P** 12 06 05.4 -0.1
comp=Z,47nm,2.3s
BSTI **Sart Tilman** 18.59 128 P **P** 12 06 04.5 -1.2
comp=Z,16nm,2.8s
BGES **Gesves** 18.60 130 P **P** 12 06 04.6 -1.3
comp=Z,65nm,2.3s
BCLA **Clavier** 18.64 129 P **P** 12 06 05.1 -1.2
comp=Z,53nm,2.5s
NRDL **Niedersach Rie** 18.66 118 *eP* **P** 12 06 04.5 -1.9
comp=Z,662nm,2.5s,baz=328,slow=11
DOU **Dourbes** 18.69 131 P **P** 12 06 05.4 -1.4
comp=Z,29nm,3.0s
MEM **Membach** 18.72 128 P **P** 12 06 06.0 -1.1
comp=Z,40nm,2.3s
BHOU **Houvegnez** 18.94 128 P **P** 12 06 08.2 -1.3
AHRW **Bad Neuenahr-A** 19.15 126 *eP* **Pn** 12 06 13.2 +0.6
comp=Z,267nm,1.8s,baz=328,slow=11
ASSE **Asse, Remlinge** 19.17 118 *eP* **P** 12 06 11.0 -0.9
comp=Z,775nm,2.7s,baz=328,slow=11
CLZ **Clausthal** 19.28 119 *eP* **P** 12 06 12.4 -0.9
comp=Z,877nm,2.9s,baz=328,slow=11
GTTG **Gottingen** 19.36 120 *eP* **P** 12 06 13.6 -0.5
comp=Z,1µm,3.0s,baz=328,slow=11
WLF **Walferdange** 19.57 129 P **P** 12 06 16.4 -0.1
WLF **Walferdange** 19.57 129 P **P** 12 06 15.8 -0.7
WLF pmax pmax
comp=Z,147nm,1.9s
WLF **Walferdange** 19.57 129 *eP* **P** 12 06 16.8 +0.3
comp=Z,173nm,2.0s,baz=328,slow=11
WLF **Walferdange** 19.57 129 **P** 12 06 15.8 -0.7
WLF IAmb IAmb 12 06 21.5
comp=Z,147nm,1.9s
FIA0 **FINESS Array S** 19.70 79 P **P** 12 06 18.1 +0.4
FIA0 **FINESS Array S** 19.70 79 P **P** 12 06 18.1 +0.4
FIA1 **FINESS Array S** 19.70 79 P **P** 12 06 16.7 -1.0
FINES **FINESS Array B** 19.70 79 P **P** 12 06 17.9 +0.2
comp=Z,0.3nm,0.3s,baz=308,slow=9.5,SNR=7.6
FINES **FINESS Array B** 19.70 79 P **P** 12 06 17.7 0.0
FINES **FINESS Array B** 19.70 79 **P** 12 06 17.7 0.0
CLF **Chambon-Foret** 19.81 138 P **P** 12 06 19.0 0.0
CLF IAmb IAmb 12 06 24.2
comp=Z,271nm,1.9s
TULEG **Thule** 19.84 327 *eP* **Pn** 12 06 23.2 +2.5
TULEG IAMs_20 IAMs_20 12 14 16.3
comp=Z,3µm,9.5s
TNS **Taunus Mts** 19.89 124 *eP* **Pn** 12 06 20.9 -0.7
comp=Z,498nm,2.8s,baz=328,slow=11
TNS *eL* L 12 14 50.5
comp=Z,442nm,18.2s
UBBA **Unterbreizbach** 19.96 121 *eP* **P** 12 06 20.7 +0.1
comp=Z,331nm,2.1s,baz=328,slow=11
RUE **Ruedersdorf** 20.11 113 *eP* **P** 12 06 22.1 -0.1
SLIT **Slitere, Latvi** 20.14 92 *eP* **P** 12 06 22.3 -0.3
APA **Apatity** 20.31 59⇓ *iP* Pn 12 06 30.6 +4.2
APA pmax pmax
comp=Z,12nm,1.1s
APA MLR MLR
comp=Z,1µm,21.0s
NEUB **Neuenburg** 20.32 118 *eP* **P** 12 06 25.1 +0.5
comp=Z,358nm,1.8s,baz=328,slow=11
MOX **Moxa** 20.71 116 *eP* **P** 12 06 28.3 -0.5
comp=Z,277nm,1.9s,baz=328,slow=11
MOX *eL* L 12 15 02.7
comp=Z,919nm,19.8s
CLL **Collm** 20.71 116 *i* P **P** 12 06 27.6 -1.2
comp=Z,169nm,1.6s
CLL *eP*max 12 06 33.0
CLL *e* 12 06 39.0
CLL *eS* **S** 12 10 16.0 -4.3
CLL LmH 12 14 00.0
comp=Z,600nm,20.1s
CLL Lmax 12 16 00.0
CLL **Collm** 20.71 116 *i* P **P** 12 06 27.6 -1.2
CLL *eS* **S** 12 10 16.0 -4.3
CLL pmax pmax
comp=Z,169nm,1.6s
CLL **Collm** 20.71 116 *eP* **P** 12 06 27.8 -1.0
comp=Z,169nm,1.6s,baz=328,slow=11
CLL *eL* L 12 15 32.9
comp=Z,728nm,18.3s
CLL **Collm** 20.71 116 P **P** 12 06 26.6 -2.2
CLL IAmb IAmb 12 06 31.1
comp=Z,126nm,1.5s
PBUR **Paburge** 20.99 96 *eP* **P** 12 06 32.0 +0.1
PLN **Plauen** 21.04 118 *eP* **P** 12 06 31.8 -0.6
comp=Z,507nm,2.2s,baz=328,slow=11
WERD **Werda** 21.13 118 *eP* **P** 12 06 33.4 0.0
comp=Z,189nm,2.1s,baz=328,slow=11
FBE **Freiberg** 21.15 116 *eP* **P** 12 06 33.1 -0.5
comp=Z,608nm,2.2s,baz=328,slow=11
ECH **Echery** 21.16 129 P **P** 12 06 33.2 -0.6
ECH pmax pmax
comp=Z,86nm,1.7s
ECH **Echery** 21.16 129 P **P** 12 06 33.2 -0.6
GUNZ **Gunzen** 21.20 118 *eP* **P** 12 06 33.8 -0.5
comp=Z,524nm,2.1s,baz=328,slow=11
KLNR **Kaliningrad** 21.21 101 *i* P **P** 12 06 34.5 +0.3
KLNR pmax pmax
comp=Z,101nm,1.1s
TANN **Tannenbergstha** 21.21 118 *eP* **P** 12 06 33.9 -0.4
comp=Z,1µm,2.3s,baz=328,slow=11
WERN **Wernitzgruen** 21.28 118 *eP* **P** 12 06 34.5 -0.5
comp=Z,678nm,2.4s,baz=328,slow=11
GRA1 **Grafenberg Arr** 21.34 121 P **P** 12 06 35.9 +0.3
GRA1 IAmb IAmb 12 06 44.2
comp=Z,144nm,1.6s
GRF **Grafenberg Arr** 21.34 121 P **P** 12 06 35.9 +0.3
GRF pmax pmax
comp=Z,144nm,1.6s
GRF **Grafenberg Arr** 21.34 121 *eP* **P** 12 06 35.6 0.0
comp=Z,2µm,3.5s,baz=328,slow=11
GRF *eL* L 12 15 55.9
comp=Z,813nm,19.6s
NKC **Novy Kostel** 21.36 118 *eP* **P** 12 06 36.9 +1.1
NKC *e* 12 06 40.3
NKC *eS* Sn 12 10 42.2 +1.8
NKC MLR MLR
comp=Z,800nm,16.7s
NKC **Novy Kostel** 21.36 118 *eP* **P** 12 06 36.9 +1.1
NKC *epP* **sP** 12 06 40.3 +2.4
NKC *eS* Sn 12 10 42.2 +1.8
NKC AMS AMS 12 15 10.0
comp=Z,800nm,16.7s
STU **Stuttgart** 21.38 125 P **P** 12 06 35.6 -0.5
STU pmax pmax
comp=Z,96nm,1.2s
STU **Stuttgart** 21.38 125 *eP* **P** 12 06 36.0 0.0
comp=Z,164nm,1.5s,baz=328,slow=11
STU **Stuttgart** 21.38 125 P **P** 12 06 35.6 -0.5
STU IAmb IAmb 12 06 39.2
comp=Z,96nm,1.2s
BRG **Berggiesshubel** 21.42 115 *i* P **P** 12 06 35.1 -1.4
comp=Z,182nm,1.7s
BRG **Berggiesshubel** 21.42 115 *eP* **P** 12 06 35.5 -1.0
comp=Z,196nm,1.7s,baz=328,slow=11
MANZ **Manzenberg** 21.43 119 *eP* **P** 12 06 35.8 -0.8
comp=Z,405nm,2.7s,baz=328,slow=11
BFO **Black Forest** 21.46 127 P **P** 12 06 36.3 -0.6
BFO pmax pmax
comp=Z,101nm,1.4s
BFO **Black Forest** 21.46 127 *eP* **P** 12 06 36.7 -0.2
comp=Z,159nm,1.6s,baz=328,slow=11
BFO *eL* L 12 15 08.9
comp=Z,520nm,18.8s
BFO **Black Forest** 21.46 127 P **P** 12 06 36.3 -0.6
BFO IAmb IAmb 12 06 39.9
comp=Z,101nm,1.4s
VSU **Vasula** 21.56 86 *eP* **P** 12 06 36.6 -1.3
VSU **Vasula** 21.56 86 *i* P **P** 12 06 35.5 -2.4
VSU pmax pmax
comp=Z,202nm,1.4s
ROTZ **Rotzenmuhle** 21.64 119 *eP* **P** 12 06 37.7 -1.2
comp=Z,202nm,1.9s,baz=328,slow=11
FRB **Frobisher Bay** 21.75 291 LR LR 12 14 37.8
comp=Z,840nm,21.5s,baz=58,slow=36
PVCC **Panska Ves** 21.93 115 *eP* **P** 12 06 42.7 +0.7
PVCC MLR MLR
comp=Z,700nm,18.4s
PVCC **Panska Ves** 21.93 115 *eP* **P** 12 06 42.7 +0.7
PVCC *eS* Sn 12 10 54.5 +0.3
PVCC AMS AMS 12 16 10.0
comp=Z,700nm,18.4s
SLVR **Solovky** 22.05 65 *eP* **P** 12 06 40.2 -2.9
comp=Z,91nm,1.1s
PABE **Paberze** 22.21 95 *eP* **P** 12 06 44.3 -0.6
PRA **Prague** 22.25 116 *eP* **P** 12 06 46.1 +0.8
PRA *eS* **S** 12 10 54.5 +4.1
PRA MLR MLR
comp=Z,400nm,15.6s
PRA **Prague** 22.25 116 *eP* **P** 12 06 46.1 +0.8
PRA *eS* **S** 12 10 54.5 +4.1
PRA AMS AMS 12 17 10.0
comp=Z,400nm,15.6s
PUL **Pulkovo** 22.35 80 *eP* **P** 12 06 45.4 -1.0
PRU **Pruhonice** 22.35 116 *eP* **P** 12 06 45.1 -1.4
PRU *eS* **S** 12 10 55.8 +3.3
PRU MLR MLR
comp=Z,800nm,23.5s
PRU **Pruhonice** 22.35 116 *eP* **P** 12 06 45.1 -1.4
PRU *eS* **S** 12 10 55.8 +3.3
PRU AMS AMS 12 14 10.0
comp=Z,800nm,23.5s
PBCC **Pribram** 22.39 117 *eP* **P** 12 06 46.6 -0.3
PBCC *ex* x 12 07 07.8
WET **Wettzell** 22.41 119 *eP* **P** 12 06 46.0 -1.1
comp=Z,294nm,2.3s,baz=328,slow=11
WET *eL* L 12 15 22.8
comp=Z,790nm,21.2s
CHVC **Chvalec** 22.47 113 *eP* **P** 12 06 50.3 +2.5
CHVC *eS* Sn 12 11 02.5 -4.6
CHVC AMS AMS 12 14 30.0
comp=Z,900nm,24.9s
GOPC **GO Pecny, Ondr** 22.51 116 *eP* **P** 12 06 47.6 -0.6
GOPC MLR MLR
comp=Z,900nm,16.5s
GOPC **GO Pecny, Ondr** 22.51 116 *eP* **P** 12 06 47.6 -0.6
GOPC *ex* x 12 06 59.6
GOPC *eS* **S** 12 11 00.6 +5.2
GOPC AMS AMS 12 16 30.0
comp=Z,900nm,16.5s
UPC **Upice** 22.52 113 *eP* **P** 12 06 49.3 +1.0
UPC *e* 12 06 53.5
UPC *eS* **S** 12 10 59.4 +3.9
UPC MLR MLR
comp=Z,800nm,20.2s
UPC **Upice** 22.52 113 *eP* **P** 12 06 49.3 +1.0
UPC *epP* **sP** 12 06 53.5 +3.1
UPC *eS* **S** 12 10 59.4 +3.9
UPC AMS AMS 12 15 30.0
comp=Z,800nm,20.2s
OSTC **Ostas** 22.56 113 *eP* **P** 12 06 50.8 +2.1
OSTC *eS* **S** 12 11 01.6 +5.2
UBR **Ueberruh** 22.63 126 *eP* **P** 12 06 50.7 +1.1
comp=Z,257nm,1.9s,baz=328,slow=11
FUR **Furstenfeldbru** 22.63 123 *eP* **P** 12 06 50.7 +1.2
comp=Z,1µm,2.4s,baz=328,slow=11
FUR *eL* L 12 16 58.9
comp=Z,640nm,19.5s
KHC **Kasperske Hory** 22.68 118 *eP* **P** 12 06 48.6 -1.4
KHC *eS* **S** 12 10 59.6 +1.0
KHC MLR MLR
comp=Z,900nm,20.5s
KHC **Kasperske Hory** 22.68 118 *eP* **P** 12 06 48.6 -1.4
KHC *ex* x 12 06 59.7
KHC *eS* **S** 12 10 59.6 +1.0
KHC AMS AMS 12 14 30.0
comp=Z,900nm,20.5s
KHC **Kasperske Hory** 22.68 118 P **P** 12 06 48.4 -1.6
DPC **Dobruska-Polom** 22.76 113 *eP* **P** 12 06 49.5 -1.4
DPC *e* 12 06 55.6
DPC MLR MLR
comp=Z,800nm,21.1s
DPC **Dobruska-Polom** 22.76 113 *eP* **P** 12 06 49.5 -1.4
DPC *epP* **sP** 12 06 55.6 +2.6
DPC *ex* x 12 07 09.2
DPC *eS* **S** 12 11 05.9 +5.8
DPC AMS AMS 12 15 30.0
comp=Z,800nm,21.1s
SENIN **Lac Senin/Sane** 22.83 132 P **P** 12 06 51.9 0.0
SENIN IAmb IAmb 12 07 00.3
comp=Z,174nm,1.9s
DAVA **Damuels** 22.89 126 *eP* **P** 12 06 52.3 -0.1
comp=Z,29nm,1.5s,SNR=11
GEC2 **GERESS Array S** 22.96 119 *eP* **P** 12 06 53.0 0.0
comp=Z,236nm,1.9s,baz=328,slow=11
GEC2 *eL* L 12 15 49.0
comp=Z,736nm,20.6s
GEC2 **GERESS Array S** 22.96 119 P **P** 12 06 51.9 -1.2
GERES **GERESS Array B** 22.96 119 P **P** 12 06 52.0 -1.0
comp=Z,4.7nm,1.0s,baz=327,slow=7.1,SNR=13
GERES LR LR 12 17 01.0
comp=Z,707nm,18.6s,baz=330,slow=40
GERES **GERESS Array B** 22.96 119 P **P** 12 06 51.1 -2.0
GERES **GERESS Array B** 22.96 119 P **P** 12 06 51.0 -2.0
SSB **Saint Sauveur** 22.96 137 P **P** 12 06 52.4 -0.6
SSB pmax pmax
comp=Z,39nm,1.4s
SSB **Saint Sauveur** 22.96 137 P **P** 12 06 52.4 -0.6
IZAR **Zarasai** 23.02 92 *eP* **P** 12 06 53.6 +0.1
RETA **Reutte** 23.02 125 *eP* **P** 12 06 53.3 -0.4
comp=Z,53nm,2.4s,SNR=15
ISAL **Salakas** 23.09 93 *eP* **P** 12 06 54.0 -0.2
KRLC **Kraliky** 23.16 113 *eP* **P** 12 06 54.1 -1.0
KRLC *e* 12 07 02.2
KRLC MLR MLR
comp=Z,700nm,17.7s
KRLC **Kraliky** 23.16 113 *eP* **P** 12 06 54.1 -1.0
KRLC *ex* x 12 07 02.2
KRLC *eS* **S** 12 11 12.6 +5.5
KRLC AMS AMS 12 16 50.0
comp=Z,700nm,17.7s
MOTA **Moosalm** 23.27 125 *eP* **P** 12 06 55.9 -0.4
comp=Z,63nm,2.0s,SNR=22
TREC **Trest** 23.28 116 *eP* **P** 12 06 55.9 -0.3
TREC MLR MLR
comp=Z,700nm,17.9s
TREC **Trest** 23.28 116 *eP* **P** 12 06 55.9 -0.3
TREC *eS* **S** 12 11 13.8 +4.9
TREC AMS AMS 12 16 40.0
comp=Z,700nm,17.9s
TMCR **Tamitsa** 23.33 66 *eP* **P** 12 06 55.3 -1.3
TMCR **Tamitsa** 23.33 66 *eP* **P** 12 06 55.3 -1.3
PGAV **Gavieira, Arco** 23.37 162 *eS* **S** 12 11 14.9 +4.3
SQTA **Sankt Quirin** 23.41 125 *eP* **P** 12 06 57.3 -0.4
comp=Z,58nm,2.0s,SNR=18
FETA **Feichten** 23.41 126 *epP* pP 12 06 58.5 -0.7
comp=Z,52nm,1.8s,SNR=11
TUE **Stuetta** 23.41 128 P **P** 12 06 57.8 0.0
TUE IAmb IAmb 12 07 21.0
comp=Z,75nm,1.4s
WATA **Walderalm** 23.44 124 *eP* **P** 12 06 56.6 -1.4
comp=Z,44nm,1.6s,SNR=21
IDID **Didziasalis** 23.52 92 *eP* **P** 12 06 58.4 -0.2
WTTA **Wattenberg** 23.52 124 *eP* **P** 12 06 56.8 -2.1
comp=Z,71nm,1.9s,SNR=23
FUORN **Ofenpass-Fuorn** 23.60 127 IAmb IAmb 12 07 31.2
comp=Z,76nm,1.8s
EUNU **Eureka** 23.65 336 P **P** 12 07 00.8 +1.1
VRAC **Vranov** 23.70 114 P **P** 12 06 59.7 -0.7
comp=Z,9.8nm,1.1s,baz=322,slow=11,SNR=29
VRAC LR LR 12 17 42.9
comp=Z,737nm,18.0s,baz=332,slow=40
VRAC **Vranov** 23.70 114 ⇑P **P** 12 06 59.9 -0.5
VRAC **Vranov** 23.70 114 ⇓*iP* **P** 12 06 58.8 -1.6
VRAC *eS* **S** 12 11 23.3 +7.6
MORC **Moravsky Berou** 23.70 112 ⇑P **P** 12 07 00.7 +0.3
MORC **Moravsky Berou** 23.70 112 ⇓*iP* **P** 12 06 59.0 -1.4
MORC *eS* **S** 12 11 24.3 +8.5
MORC **Moravsky Berou** 23.70 112 P **P** 12 06 58.8 -1.6
MORC pmax pmax
comp=Z,306nm,2.0s
MORC **Moravsky Berou** 23.70 112 P **P** 12 06 58.8 -1.6
PBRG **Braganca** 23.74 160 *eP* **P** 12 07 02.9 +2.0
comp=Z,52nm,2.0s
BNI **Bardonecchia** 23.81 134 P **P** 12 07 00.5 -1.1
BNI pmax pmax
comp=Z,133nm,2.0s
BNI **Bardonecchia** 23.81 134 P **P** 12 07 00.5 -1.1
BNI IAmb IAmb 12 07 42.5
comp=Z,133nm,2.0s
NACGM **Naroch** 23.81 93 *eP* **P** 12 07 02.0 +0.6
NACGM *eS* **S** 12 11 26.0 +8.6
NACGM *eSS* SnSn 12 12 16.0 +21
NACGM *eLQ* LQ 12 15 12.0
NACGM *eLR* LR 12 17 28.0
KRUC **Moravsky** 23.82 115⇓ *iP* **P** 12 06 59.8 -1.7
KRUC *eS* **S** 12 11 25.3 +7.7
OKC **Ostrava-Krasne** 23.89 111 *eP* **P** 12 07 03.8 +1.6
OKC **Ostrava-Krasne** 23.89 111 *eP* **P** 12 07 03.8 +1.6
MOA **Molln** 24.00 119 *epP* **P** 12 07 03.6 +0.4
comp=Z,36nm,2.0s,SNR=12
PVRL **Vila Real** 24.12 162 *eP* **P** 12 07 06.6 +2.1
comp=Z,92nm,1.8s
OJC **Ojcow** 24.26 109 IAmb IAmb 12 07 06.5
comp=Z,133nm,1.9s
ABTA **Abfaltersbach** 24.28 123 *eP* **P** 12 07 06.0 +0.1
comp=Z,34nm,1.8s,SNR=14
KBA **Koelnbreinsper** 24.30 122 *epP* pP 12 07 08.0 +0.2
comp=Z,33nm,1.8s,SNR=11
MVO **Moncorvo** 24.32 161 *eP* **P** 12 07 05.4 -1.0
comp=Z,66nm,1.9s
MVO *eS* **S** 12 11 33.0 +7.1
JAVC **Velka Javorina** 24.48 113⇓ *iP* **P** 12 07 07.4 -0.4
JAVC *eS* S 12 11 40.4 +12
CONA **Conrad Observa** 24.54 117 *eP* **P** 12 07 07.6 -0.7
comp=Z,11nm,1.0s,SNR=17
MICGM **Minsk** 24.56 93⇑ *eP* **P** 12 07 06.0 -2.3
MICGM PM 12 07 09.0
comp=Z,0.4nm,2.0s
MICGM *eS* **S** 12 11 28.0 -1.3
MICGM *eLR* LR 12 15 16.0
MNK **Minsk** 24.56 93 *eP* **P** 12 07 06.0 -2.3
MNK *eS* **S** 12 11 28.0 -1.3
MNK pmax pmax
comp=Z,370nm,2.0s
CTI **Castel Tesino** 24.57 125 IAmb IAmb 12 07 26.0
comp=Z,114nm,1.6s
CIMO **Cimolais** 24.63 124 IAmb IAmb 12 07 39.1
comp=Z,92nm,1.9s
PVIS **Viseu** 24.65 162 *eP* **P** 12 07 11.8 +2.5
comp=Z,47nm,2.3s
SMOL **Smolenice** 24.66 114 *eP* **P** 12 07 08.7 -0.7
SMOL pmax pmax
comp=Z,237nm,2.7s
SMOL **Smolenice** 24.66 114 *eP* **P** 12 07 08.7 -0.7
MODS **Modra-Piesok** 24.72 115 *eP* **P** 12 07 09.3 -0.6
MODS pmax pmax
comp=Z,206nm,2.0s
MODS **Modra-Piesok** 24.72 115 *eP* **P** 12 07 09.3 -0.6
MODS *eS* **S** 12 11 41.8 +10
MYKA **Terra Mystica** 24.79 122 *epP* **P** 12 07 11.4 +0.8
comp=Z,37nm,1.8s,SNR=15
PRED **Cave del Predi** 24.92 122 IAmb IAmb 12 07 17.6
comp=Z,89nm,1.7s
ARSA **Arzberg** 24.97 118 *eP* **P** 12 07 11.9 -0.2
comp=Z,17nm,1.4s,SNR=5.6
MTE **Manteigas** 25.00 162 *eP* **P** 12 07 13.8 +1.3
comp=Z,69nm,1.5s
MTE *eS* **S** 12 11 42.5 +5.7
MTE **Manteigas** 25.00 162 P **P** 12 07 13.0 +0.4
MTE IAmb IAmb 12 07 16.4
comp=Z,57nm,1.4s
COI **Coimbra** 25.08 163 P **P** 12 07 14.6 +1.4
COI pmax pmax
comp=Z,86nm,1.6s
COI **Coimbra** 25.08 163 *eS* S 12 11 51.0 +13
COI **Coimbra** 25.08 163 P **P** 12 07 14.6 +1.4
COI IAmb IAmb 12 07 24.4
comp=Z,86nm,1.6s
CADS **Cadrg** 25.16 122 *eP* **P** 12 07 14.2 +0.3
OBKA **Obir** 25.22 121 *epP* **P** 12 07 15.6 +1.0
comp=Z,21nm,1.4s,SNR=5.4
PCAS **Casmilo, Conde** 25.22 164 *eP* **P** 12 07 17.3 +2.8
comp=Z,65nm,1.7s
PCAS *eS* S 12 11 56.3 +16
VYHS **Vyhne** 25.24 112 *eP* **P** 12 07 13.5 -1.0
VYHS pmax pmax
comp=Z,199nm,2.1s
VYHS **Vyhne** 25.24 112 *eP* **P** 12 07 13.5 -1.0
VYHS *eS* **S** 12 11 46.1 +5.7
SOKA **Soboth** 25.26 120 *eP* **P** 12 07 13.9 -0.9
comp=Z,37nm,1.6s,SNR=14
PCBR **Castelo Branco** 25.56 162 *eP* **P** 12 07 20.2 +2.7
comp=Z,46nm,1.7s
SRO **Srobarova** 25.58 114 *eP* **P** 12 07 17.8 +0.2
SRO pmax pmax
comp=Z,139nm,2.0s
SRO **Srobarova** 25.58 114 *eP* **P** 12 07 17.8 +0.2
KLMR **Klimovskoe** 25.59 72 *eP* **P** 12 07 15.5 -2.1
comp=Z,49nm,1.4s
KLMR *eS* **S** 12 11 44.6 -1.1
KLMR **Klimovskoe** 25.59 72 *eP* **P** 12 07 15.5 -2.1
KLMR *eS* **S** 12 11 44.6 -1.1
KLMR pmax pmax
comp=Z,49nm,1.4s
KLMR **Klimovskoe** 25.59 72 *eP* **P** 12 07 15.6 -2.1
KLMR AMP 12 07 19.3
comp=Z,49nm,1.4s
KLMR *eS* **S** 12 11 44.6 -1.1
KLMR *eS* **S** 12 11 44.6 -1.1
KLMR LQ LQ 12 14 58.6
KLMR LQ LQ 12 14 58.6
KLMR LR LR 12 15 25.2
LJU **Ljubljana** 25.61 121 *eP* **P** 12 07 18.4 +0.4
SRO2 **Moca** 25.65 114 *eP* **P** 12 07 19.0 +0.7
SRO2 **Moca** 25.65 114 *eP* **P** 12 07 19.0 +0.7
PSBE **So Bento** 25.72 164 *eS* **S** 12 11 58.1 +10
VLC **Villacollemand** 25.80 129 IAmb IAmb 12 07 36.3
comp=Z,76nm,1.5s
KECS **Kecovo** 25.91 110 *eP* **P** 12 07 21.1 +0.5
KECS **Kecovo** 25.91 110 *eP* **P** 12 07 21.1 +0.5
KOGS **Kog** 25.91 119 *iP* **P** 12 07 21.2 +0.6
LSH **Leshukonskoye** 25.95 61 *eP* **P** 12 07 18.7 -2.1
comp=Z,82nm,1.6s
CRVS **Cervenica-Dubn** 25.97 109 *eP* **P** 12 07 21.3 +0.1
CRVS pmax pmax
comp=Z,164nm,1.8s
CRVS **Cervenica-Dubn** 25.97 109 *eP* **P** 12 07 21.3 +0.1
CRVS *eS* **S** 12 12 00.1 +8.2
PMRV **Marv??o** 25.98 162 *eP* **P** 12 07 23.1 +1.8
comp=Z,56nm,1.7s
PMRV *eS* **S** 12 11 57.1 +4.9
SCHQ **Schefferville** 26.04 271 P **P** 12 07 20.6 -1.2
comp=Z,9.3nm,0.9s,baz=56,slow=12,SNR=5.2
SCHQ LR LR 12 16 30.8
comp=Z,376nm,20.1s,baz=75,slow=34
SCHQ **Schefferville** 26.04 271 P **P** 12 07 19.4 -2.4
PSZ **Piszkesteto** 26.12 112 ⇑P **P** 12 07 23.7 +1.0
PSZ **Piszkesteto** 26.12 112 P **P** 12 07 21.0 -1.7
PSZ pmax pmax
comp=Z,168nm,1.6s
PSZ **Piszkesteto** 26.12 112 P **P** 12 07 20.9 -1.7
PMAFR **Mafra** 26.22 165 *eP* **P** 12 07 24.6 +1.1
comp=Z,125nm,1.8s
PMAFR *eS* **S** 12 12 01.6 +5.6
PMTG **Montargil** 26.23 164 *eS* S 12 12 07.3 +11
ESBB **Sonseca Array** 26.27 156 IAmb IAmb 12 07 27.5
comp=Z,54nm,1.8s
ESDC **Sonseca Array** 26.27 156 P **P** 12 07 22.8 -1.2
comp=Z,4.2nm,0.9s,baz=349,slow=8.5,SNR=20
ESDC LR LR 12 17 25.1
comp=Z,218nm,18.6s,baz=350,slow=36
ESDC **Sonseca Array** 26.27 156 P **P** 12 07 21.9 -2.1
KOLS **Kolonicke sedl** 26.27 108 *eP* **P** 12 07 24.5 +0.5
KOLS pmax pmax
comp=Z,76nm,1.5s
KOLS **Kolonicke sedl** 26.27 108 *eP* **P** 12 07 24.5 +0.5
KOLS *eS* S 12 12 10.3 +14
LVV **L'vov** 26.32 104 *eP* **P** 12 07 25.0 +0.7
PAB **San Pablo** 26.33 157 P **P** 12 07 21.3 -3.3
PAB pmax pmax
comp=Z,79nm,1.9s
PAB **San Pablo** 26.33 157 P **P** 12 07 21.2 -3.3
PAB IAmb IAmb 12 07 33.2
comp=Z,80nm,1.9s
RES **Resolute Bay** 26.45 324 LR LR 12 17 56.0
comp=Z,444nm,19.1s,baz=29,slow=37
UZH **Uzhgorod** 26.52 108 *eP* **P** 12 07 24.0 -2.1
UZH *e* 12 08 08.2
UZH *eS* **S** 12 11 53.0 -7.6
UZH MLR MLR
comp=Z,100nm,16.0s

OSSC Osservatorio P 26.65 129 IAmb IAmb 12 07 39.4
comp=Z,99nm,1.6s
PNCL Nicolau / Gran 27.14 164 *e*S **S** **12 12 10.7 +0.3**
MURB Monte Urbino 27.31 127 IAmb IAmb 12 08 11.1
comp=Z,74nm,1.5s
PCVE Castro Verde 27.67 164 *e*P **P** **12 07 37.7 +1.2**
comp=Z,32nm,1.8s
PCVE *e*S **S** **12 12 26.4 +7.6**
AKASG Malin Array Be 27.84 98 P **P** **12 07 36.5 -1.5**
comp=Z,1.5nm,0.6s,baz=323,slow=9.5,SNR=12
AKASG LR LR 12 19 02.8
comp=Z,241nm,18.9s,baz=325,slow=37
AKASG Malin Array Be 27.84 98 P **P** **12 07 38.5 +0.5**
AKASG pmax pmax
comp=Z,6.0nm,1.3s
AKASG Malin Array Be 27.84 98 P **P** **12 07 38.5 +0.5**
AKBB Malin Array Si 27.84 98 IAmb IAmb 12 07 39.4
comp=Z,93nm,1.9s
OBN Obninsk 27.88 84 P **P** **12 07 37.5 -0.8**
comp=Z,2.6nm,0.4s,baz=16,slow=0.9,SNR=6.1
OBN LR LR 12 19 09.8
comp=Z,99nm,18.0s,baz=341,slow=37
OBN Obninsk 27.88 84 ⇓P **P** **12 07 39.3 +1.1**
OBN Obninsk 27.88 84*d* *i*P **P** **12 07 38.1 -0.1**
OBN *e**PP **sP** **12 07 41.6 +1.2**
OBN *e**SP **pP** **12 07 44.6 +4.8**
OBN SS SS 12 13 38.0 -41
OBN pmax pmax
comp=Z,109nm,2.0s
OBN MLR MLR
comp=Z,271nm,15.0s
OBN Obninsk 27.88 84 P **P** **12 07 36.9 -1.3**
MOS Moscow 27.91 82 *e*P **P** **12 07 37.5 -1.0**
MOS pmax pmax
comp=Z,55nm,1.3s
PBDV Barranco-do-Ve 28.06 164 *e*P **P** **12 07 40.8 +0.7**
PBDV *e*S **S** **12 12 23.6 -1.6**
PFVI Vila Bisbo 28.07 165 *e*S **S** **12 12 28.7 +3.5**
SIRR Siria 28.16 112 ⇓P **P** **12 07 42.7 +1.8**
BURAR Bucovina Array 28.53 106 ⇑P **P** **12 07 45.8 +1.5**
BURAR Bucovina Array 28.53 106 P **P** **12 07 42.5 -1.8**
BZS Buzias 28.68 113 ⇓P **P** **12 07 46.8 +1.3**
MDVR Moldovita 29.41 114 ⇓P **P** **12 07 53.3 +1.2**
BIZ Bicaz 29.43 106 ⇓P **P** **12 07 54.1 +1.9**
DOPR Dopca 29.92 108 ⇑P **P** **12 07 57.2 +0.7**
PAOL Paolisi 29.99 127 IAmb IAmb 12 07 59.1
comp=Z,56nm,1.7s
TESR Tescani 30.00 106 ⇓P **P** **12 07 57.9 +0.8**
ARR Arges 30.10 109 ⇑P **P** **12 07 59.6 +1.4**
VOIR 30.21 109 ⇓P **P** **12 08 00.3 +1.2**
PDG Podgorica 30.46 119 ⇓P **P** **12 08 01.8 +0.6**
KIS Kishinev 30.51 103 ⇑*i*P **P** **12 08 01.5 -0.2**
comp=Z,240nm,4.2s
KIS Kishinev 30.51 103 *e*PP **PP** **12 09 03.0 -7.3**
KIS Kishinev 30.51 103 ⇑*i*P **P** **12 08 01.5 -0.2**
KIS *e* 12 09 03.0
KIS pmax pmax
comp=Z,240nm,4.2s
PLOR Plostina 30.53 107 ⇑P **P** **12 08 03.8 +1.9**
MLR Muntele Rosu 30.53 108 ⇑P **P** **12 08 03.2 +1.1**
MLR Muntele Rosu 30.53 108 IAmb IAmb 12 08 07.1
comp=Z,52nm,1.6s
VRI Vrincioaia 30.55 107 ⇓P **P** **12 08 03.2 +1.1**
VRI Vrincioaia 30.55 107 P **P** **12 08 03.2 +1.1**
MILM Milestii Mici 30.57 103 ⇑P **P** **12 08 02.8 +0.6**
LPSR Galich'ya Gora 30.62 86 *e*P **P** **12 08 01.0 -1.6**
LPSR pmax pmax
comp=Z,30nm,1.6s
LPSR MLR MLR
comp=Z,540nm,16.0s
BISRR Bisoca 30.80 107 ⇓P **P** **12 08 06.1 +1.8**
PETR Petresti 30.87 106 ⇓P **P** **12 08 06.6 +1.8**
KIRV Kirov 30.97 69 LR LR 12 20 01.8
comp=Z,738nm,20.5s,baz=311,slow=35
ISR Istrita 31.08 108 ⇑P **P** **12 08 08.1 +1.3**
MATE Matera 31.08 124 ⇓P **P** **12 08 07.4 +0.6**
SCHL Schela 31.30 106 ⇓P **P** **12 08 09.5 +0.9**
SULR 31.32 108 ⇑P **P** **12 08 10.4 +1.5**
CFR Carcaliu 31.69 106 ⇑P **P** **12 08 12.7 +0.7**
VSR Storozhevoye 31.73 88 *e*P **P** **12 08 11.2 -1.2**
VSR pmax pmax
comp=Z,40nm,1.8s
VSR MLR MLR
comp=Z,320nm,12.0s
VORD Divnogorie 31.96 88 *e*P **P** **12 08 13.7 -0.7**
VORD pmax pmax
comp=Z,40nm,1.8s
CLTB Caltabellotta 32.65 131 IAmb IAmb 12 08 34.8
comp=Z,26nm,1.1s
VAE Valguarnera 33.13 130 LR LR 12 22 40.7
comp=Z,344nm,18.3s,baz=52,slow=38
KEST Kesra 33.17 138 P **P** **12 08 24.1 -1.2**
comp=Z,11nm,1.4s,baz=286,slow=6.3,SNR=7.9
ANN Anapa 35.91 97 *e*P **P** **12 08 48.1 -0.6**
ANN *e*S **S** **12 14 28.2 +1.1**
ANN pmax pmax
comp=Z,55nm,1.5s
ANN MLR MLR
comp=Z,522nm,18.0s
ARU Arti 36.07 66*c* *i*P **P** **12 08 49.6 -0.4**
ARU 12 10 06.3
ARU PPP PPP 12 10 27.9
ARU 12 11 11.8
ARU S **S** **12 14 31.2 +1.8**
ARU SS **SnSn** **12 16 56.0 +2.7**
ARU pmax pmax
comp=Z,64nm,2.4s
ARU MLR MLR
comp=Z,819nm,21.0s
FRNY Flat Rock 36.39 265 P **P** **12 08 51.9 -0.9**
NRIK Noril'sk 36.44 35 P **P** **12 08 53.0 0.0**
comp=Z,9.0nm,1.0s,baz=307,slow=4.1,SNR=6.3
NRIK LR LR 12 25 57.9
comp=Z,128nm,19.0s,baz=9.5,slow=40
SOC Sochi 37.86 96 *e*P **P** **12 09 06.0 +0.6**
SOC *e* 12 10 29.7
SOC *e*S **S** **12 14 59.9 +3.0**
SOC pmax pmax
comp=Z,6.0nm,0.4s
SOC MLR MLR
comp=Z,205nm,18.0s
GOF Gofitskoye 38.11 91⇑ *e*P **P** **12 09 06.7 -0.8**
GOF pmax pmax
comp=Z,119nm,1.4s
BRTR Keskin Array B 38.48 105 P **P** **12 09 10.5 -0.3**
comp=Z,4.5nm,0.9s,baz=317,slow=7.1,SNR=15
BRTR Keskin Array B 38.48 105 *i*P **P** **12 09 12.8 +2.0**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 38.48 105 P **P** **12 09 10.0 -0.9**
KIV Kislovodsk 38.84 92 ⇓P **P** **12 09 15.8 +2.1**
KIV Kislovodsk 38.84 92 *e*P **P** **12 09 14.0 +0.3**
KIV pmax pmax
comp=Z,38nm,1.1s
KIV MLR MLR
comp=Z,669nm,16.0s
KVAR Kislovodsk Arr 38.84 92 LR LR 12 25 07.1
comp=Z,294nm,19.4s,baz=274,slow=36
KBZ Khabaz 39.11 92 P **P** **12 09 15.4 -0.4**
comp=Z,6.8nm,0.9s,baz=311,slow=11,SNR=16
KBZ LR LR 12 25 34.3
comp=Z,333nm,21.0s,baz=324,slow=36
KBZ Khabaz 39.11 92*d* *i*P **P** **12 09 15.8 0.0**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
YKA Yellowknife Ar 39.20 313 P **P** **12 09 15.7 -0.7**
comp=Z,2.3nm,1.0s,baz=42,slow=8.5,SNR=4.7
INK Inuvik 39.83 329 LR LR 12 26 57.5
comp=Z,396nm,18.4s,baz=18,slow=38
AKTO Aktyubinsk 40.28 73 LR LR 12 26 00.5
comp=Z,572nm,19.5s,baz=320,slow=36
FFC Flin Flon 40.59 297 P **P** **12 09 28.2 +0.1**
FFC pmax pmax
comp=Z,94nm,2.0s
FFC Flin Flon 40.59 297 P **P** **12 09 28.2 +0.1**
FFC IAmb IAmb 12 09 34.1
comp=Z,94nm,1.9s
GROC Groznyy 40.78 90 *e*P **P** **12 09 29.9 +0.1**
GROC *e* 12 10 59.7
GROC *e* 12 11 28.4
GROC pmax pmax
comp=Z,97nm,1.2s
D41A Chassel 41.04 280 IAmb IAmb 12 09 37.6
comp=Z,59nm,1.5s
KOPT Kop Dagi 41.12 98 P **P** **12 09 33.8 +0.8**

TBLG Delisi 41.52 93 P **P** **12 09 35.8 -0.1**
TBLG pmax pmax
comp=Z,94nm,1.9s
TBLG Delisi 41.52 93 P **P** **12 09 35.8 -0.1**
TBLG IAmb IAmb 12 09 54.1
comp=Z,94nm,1.9s
ULM Lac du Bonnet 41.60 289 LR LR 12 28 01.8
comp=Z,140nm,19.3s,baz=78,slow=38
M54A Oil Creek Stat 41.69 267 IAmb IAmb 12 09 43.1
comp=Z,48nm,1.4s
ABKAR Akbulak array 41.98 73 P **P** **12 09 38.3 -1.2**
O56A Blue Knob Stat 42.24 265 IAmb IAmb 12 09 47.7
comp=Z,48nm,1.8s
N54A Moraine State 42.27 267 IAmb IAmb 12 09 48.1
comp=Z,51nm,1.4s
ZKTA Zakatala 42.41 91 P **P** **12 09 42.8 -0.4**
N53A Lisbon 42.77 268 IAmb IAmb 12 09 51.9
comp=Z,56nm,1.4s
SEKA Sheki 43.01 91 P **P** **12 09 49.5 +1.4**
GANJ Ganja 43.09 92 P **P** **12 09 48.4 -0.4**
BRVK Borovoye 43.12 62⇑ *i*P **P** **12 09 48.9 +0.2**
BRVK pmax pmax
comp=Z,9.0nm,1.2s
BRVK Borovoye 43.12 62 P **P** **12 09 47.9 -0.8**
G40A Rib Lake 43.16 280 IAmb IAmb 12 09 55.6
comp=Z,44nm,1.6s
BVAR Borovoye Array 43.18 62 LR LR 12 27 48.4
comp=Z,192nm,19.2s,baz=108,slow=36
MNGR Mingechevir, A 43.32 91 P **P** **12 09 50.9 +0.4**
O53A New Philadelph 43.39 268 IAmb IAmb 12 09 57.2
comp=Z,46nm,1.4s
NAX Nakhchivan 43.96 94 P **P** **12 09 56.8 +1.0**
P53A Whipple 44.09 267 IAmb IAmb 12 10 03.0
comp=Z,37nm,1.2s
N49A Columbus Grove 44.11 271 IAmb IAmb 12 10 02.7
comp=Z,29nm,1.1s
ACSO Alum Creek Sta 44.16 269 IAmb IAmb 12 10 02.9
comp=Z,35nm,1.3s
Q54A Coxs Mills 44.27 266 IAmb IAmb 12 10 04.2
comp=Z,73nm,1.9s
P52A Coring 44.29 268 IAmb IAmb 12 10 03.9
comp=Z,47nm,1.5s
EGAK Eagle 44.47 329 IAmb IAmb 12 10 03.8
comp=Z,49nm,1.7s
TAM Tamanrasset 44.52 149 P **P** **12 09 59.6 -0.9**
TAM pmax pmax
comp=Z,48nm,1.9s
TAM Tamanrasset 44.52 149 P **P** **12 09 59.6 -0.9**
TAM IAmb IAmb 12 10 04.8
comp=Z,48nm,1.9s
O49A Covington 44.78 270 IAmb IAmb 12 10 07.8
comp=Z,29nm,1.1s
P51A Williamsport 44.82 269 IAmb IAmb 12 10 07.9
comp=Z,37nm,1.3s
MMAI Mount Meron Ar 44.96 109 LR LR 12 31 04.2
comp=Z,100nm,18.6s,baz=15,slow=39
S54A Dingess, Beckl 45.47 266 IAmb IAmb 12 10 13.5
comp=Z,44nm,1.5s
IL31 45.67 332 P **P** **12 10 09.2 +0.3**
IL31 IAmb IAmb 12 10 14.4
comp=Z,50nm,1.6s
ILAR Eielson Array 45.67 332 P **P** **12 10 08.8 -0.2**
comp=Z,5.1nm,1.0s,baz=25,slow=6.4,SNR=23
ILAR PcP **PcP** **12 11 46.1 -0.8**
comp=Z,1.7nm,0.9s,baz=356,slow=2.6,SNR=7.1
MDM Murphy Dome 45.77 333 IAmb IAmb 12 10 15.4
comp=Z,41nm,1.4s
COLA College 45.77 333 *i*P **P** **12 10 10.8 +1.1**
COLA pmax pmax
comp=Z,42nm,1.9s
COLA College 45.77 333 P **P** **12 10 09.5 -0.3**
P48A Milroy 45.85 271 IAmb IAmb 12 10 15.9
comp=Z,37nm,1.3s
CCB Clear Creek Bu 45.96 333 IAmb IAmb 12 10 17.4
comp=Z,46nm,1.7s
WRH Wood River Hil 46.18 333 P **P** **12 10 16.9 +3.9**
WRH IAmb IAmb 12 10 17.2
comp=Z,31nm,1.8s
U56A King 46.30 264 IAmb IAmb 12 10 20.1
comp=Z,44nm,1.6s
R50A Paris 46.36 269 IAmb IAmb 12 10 20.2
comp=Z,32nm,1.6s
BRZS Berezniki 46.47 63 *e*P **P** **12 10 14.4 -1.2**
comp=Z,122nm,2.3s,baz=63
BRZS *i* PP **PP** **12 12 03.7 -0.6**
baz=63
BRZS Berezniki 46.47 63 *e*P **P** **12 10 14.3 -1.2**
BRZS *i* 12 12 03.6
BRZS pmax pmax
comp=Z,122nm,2.3s
MENT Mentasta 46.63 330 IAmb IAmb 12 10 23.4
comp=Z,34nm,1.5s
R49A Shelbyville 46.72 270 IAmb IAmb 12 10 24.1
comp=Z,45nm,1.7s
U54A Nelsons Funny 46.77 265 IAmb IAmb 12 10 23.5
comp=Z,32nm,1.3s
DLBC Dease Lake 47.06 318 LR LR 12 29 47.4
comp=Z,204nm,19.8s,baz=38,slow=36
DLBC Dease Lake 47.06 318 IAmb IAmb 12 11 51.5
comp=Z,27nm,2.0s
WCI Wyandotte Cave 47.25 271 P **P** **12 10 21.4 -0.3**
WCI pmax pmax
comp=Z,17nm,1.0s
WCI Wyandotte Cave 47.25 271 P **P** **12 10 21.4 -0.3**
WCI IAmb IAmb 12 10 27.3
comp=Z,17nm,1.0s
TZTN Tazewell 47.49 267 P **P** **12 10 27.0 +3.4**
KTH Kantishna Hill 47.55 334 P **P** **12 10 24.9 +1.0**
KTH IAmb IAmb 12 10 31.4
comp=Z,16nm,1.3s
ZAA0 Zalesovo Array 47.62 51 IAmb IAmb 12 10 26.9
comp=Z,43nm,1.8s
ZALV Zalesovo Beam 47.62 51 P **P** **12 10 23.9 -0.4**
comp=Z,2.0nm,0.5s,baz=332,slow=8.4,SNR=9.7
ZALV LR LR 12 33 06.8
comp=Z,131nm,18.9s,baz=284,slow=39
ZALV Zalesovo Beam 47.62 51 *i*P **P** **12 10 24.0 -0.4**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 47.62 51 P **P** **12 10 23.4 -1.0**
EIL Elat 47.72 111 LR LR 12 33 03.1
comp=Z,33nm,20.6s,baz=284,slow=39
KMSC Kings Mountain 47.73 264 IAmb IAmb 12 10 31.2
comp=Z,37nm,1.4s
GLB Gilahina Butte 47.98 329 P P 12 10 32.1 +4.9
V52A Sevierville 48.10 266 IAmb IAmb 12 10 34.1
comp=Z,27nm,1.6s
V51A Loudon 48.46 267 IAmb IAmb 12 10 37.0
comp=Z,18nm,1.2s
BG3 Lake Jocassee 48.54 265 IAmb IAmb 12 10 37.5
comp=Z,20nm,1.4s
LAO LASA Array 48.59 293 IAmb IAmb 12 10 38.8
comp=Z,40nm,1.4s
GHO Glory Hole Cre 48.78 332 IAmb IAmb 12 10 38.7
comp=Z,28nm,1.4s
CPCT Cooper Cave 48.83 267 IAmb IAmb 12 10 40.0
comp=Z,25nm,1.4s
PMR Palmer 48.98 332 IAmb IAmb 12 10 40.0
comp=Z,30nm,1.5s
KNK Knik Glacier 49.01 331 IAmb IAmb 12 10 41.7
comp=Z,22nm,1.2s
SKT Skwentna 49.10 333 IAmb IAmb 12 10 40.0
comp=Z,51nm,1.7s
W50A Signal Mountai 49.38 268 IAmb IAmb 12 10 44.0
comp=Z,28nm,1.1s
V48A Smith Brothers 49.57 269 IAmb IAmb 12 10 45.1
comp=Z,51nm,1.6s
WALA Waterton Lakes 49.58 301 IAmb IAmb 12 10 43.8
comp=Z,55nm,1.9s
SWET Sewanee 49.64 268 IAmb IAmb 12 10 45.4
comp=Z,44nm,1.7s
X51A Calhoun 49.73 267 IAmb IAmb 12 10 46.6
comp=Z,46nm,1.6s
R40A Maddies Statio 49.76 276 P **P** **12 10 44.5 +3.4**
Y52A Lilburn 49.98 265 IAmb IAmb 12 10 48.4
comp=Z,25nm,1.2s
FPAL Fort Paine 50.07 267 IAmb IAmb 12 10 48.8
comp=Z,42nm,1.7s
GOGA Godfrey 50.12 265 IAmb IAmb 12 10 49.4
comp=Z,40nm,1.5s
T42A Van Buren 50.32 274 IAmb IAmb 12 10 46.9
comp=Z,37nm,1.9s
GEYT Alibeck 50.42 84 P **P** **12 10 45.6 -0.5**
comp=Z,2.3nm,0.7s,baz=311,slow=9.6,SNR=9.3
GEYT Alibeck 50.42 84 P **P** **12 10 45.9 -0.2**
GYA0B ALIBECK ARRAY 50.42 84 P **P** **12 10 45.3 -0.8**
GYA0B IAmb IAmb 12 10 51.4
comp=Z,21nm,1.2s
X48A Hartselle 50.76 269 IAmb IAmb 12 10 53.3
comp=Z,29nm,1.5s
BTLS Baital 51.05 66 *e*P **P** **12 10 50.5 -0.3**
comp=Z,49nm,2.4s,baz=66
BTLS *e*PP **PP** **12 12 47.1 +0.2**
baz=66
BTLS *e*S **S** **12 18 08.9 +0.4**
baz=66
BTLS Baital 51.05 66 *e*P **P** **12 10 50.4 -0.3**
BTLS *e* 12 12 47.1
BTLS *e*S **S** **12 18 08.8 +0.4**
BTLS pmax pmax
comp=Z,49nm,2.4s
RLMT Red Lodge 51.08 295 IAmb IAmb 12 10 57.4
comp=Z,38nm,1.8s
LCAR Lake Charles 51.16 273 pP 12 10 56.0 +2.9
YAK Yakutsk 51.25 19 *i*P **P** **12 10 50.8 -1.2**
YAK PN **sP** **12 10 55.6 +1.3**
YAK pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 51.27 70 P **P** **12 10 51.6 -0.8**
KKAR Karatay Array 51.27 70 P **P** **12 10 51.6 -0.8**
KKAR Karatay Array 51.27 70 IAmb IAmb 12 10 55.8
comp=Z,80nm,1.8s
U40A Yellville 51.64 275 IAmb IAmb 12 11 00.1
comp=Z,63nm,2.0s
DZA Taraz 51.77 69 *e*P **P** **12 10 56.1 -0.1**
baz=69
DZA Taraz 51.77 69 *e*P **P** **12 10 56.1 -0.1**
BBB Bella Bella 51.81 313 LR LR 12 31 37.8
comp=Z,148nm,19.3s,baz=27,slow=35
IUG Iuzhnay 51.87 71 *e*P **P** **12 10 56.6 -0.5**
comp=Z,63nm,1.8s,baz=71
IUG *e*PP **PP** **12 12 54.6 +0.1**
baz=71
IUG *e*S **S** **12 18 19.9 -0.1**
baz=71
IUG Iuzhnay 51.87 71 *e*P **P** **12 10 56.5 -0.5**
IUG *e* 12 12 54.5
IUG *e*S **S** **12 18 19.8 -0.1**
IUG pmax pmax
comp=Z,63nm,1.8s
LRAL Lakeview Retre 51.95 268 IAmb IAmb 12 11 03.6
comp=Z,48nm,2.0s
DGZ Jazzator, Alta 52.06 53 *i*P **P** **12 10 57.9 -0.6**
DGZ pmax pmax
comp=Z,47nm,2.4s
DLMT Dillon 52.17 297 IAmb IAmb 12 11 03.9
comp=Z,33nm,1.9s
WHAR Wooly Hollow 52.30 274 P **P** **12 10 59.3 -0.9**
MAKZ Makanchi 52.58 59 P **P** **12 11 00.6 -1.6**
MAKZ pmax pmax
comp=Z,23nm,1.5s
MAKZ Makanchi 52.58 59 P **P** **12 11 00.6 -1.6**
SGDS Sogindy 52.62 66 *i*P **P** **12 11 02.0 -0.5**
comp=Z,65nm,2.5s,baz=66
SGDS Sogindy 52.62 66 *i*P **P** **12 11 02.0 -0.5**
SGDS pmax pmax
comp=Z,65nm,2.5s
MKAR Makanchi Array 52.71 58 P **P** **12 11 02.1 -1.0**
comp=Z,4.6nm,1.0s,baz=335,slow=5.4,SNR=14
MKAR LR LR 12 33 44.4
comp=Z,170nm,20.3s,baz=268,slow=36
MKAR Makanchi Array 52.71 58 *i*P **P** **12 11 02.0 -1.1**
MKAR pmax pmax
comp=Z,5.0nm,1.0s
MKAR Makanchi Array 52.71 58 P **P** **12 11 01.8 -1.3**
TDK Taldyqorghan 52.77 62 *e*P **P** **12 11 03.3 -0.3**
comp=Z,24nm,1.5s,baz=62
TDK Taldyqorghan 52.77 62 *e*P **P** **12 11 03.3 -0.3**
TDK pmax pmax
comp=Z,24nm,1.5s
LOHW Long Hollow 52.87 295 IAmb IAmb 12 11 10.5
comp=Z,39nm,1.9s
KUU Kurty 52.91 65 *e*P **P** **12 11 04.0 -0.7**
comp=Z,24nm,1.9s,baz=65
KUU LR LR 12 32 26.5
comp=Z,436nm,18.4s,baz=65
KUU Kurty 52.91 65 *e*P **P** **12 11 03.9 -0.7**
KUU pmax pmax
comp=Z,24nm,1.9s
KUU MLR MLR
comp=Z,436nm,18.0s
ZSN Zaisan 53.08 56 *e*P **P** **12 11 05.0 -0.9**
comp=Z,64nm,2.3s,baz=56
ZSN Zaisan 53.08 56 *e*P **P** **12 11 05.0 -0.9**
ZSN pmax pmax
comp=Z,64nm,2.3s
TOA0 Torodi Ar. Sit 53.16 156 P **P** **12 11 06.7 0.0**
TOA0 IAmb IAmb 12 11 08.0
comp=Z,54nm,1.9s
TORD Torodi Ar. Bea 53.16 156 P **P** **12 11 04.8 -1.9**
comp=Z,4.5nm,0.9s,baz=344,slow=9.0,SNR=13
TORD Torodi Ar. Bea 53.16 156 IAmb IAmb 12 11 07.3
comp=Z,7.5nm,1.1s
PDAR Pinedale Array 53.17 293 P **P** **12 11 06.0 -0.9**
comp=Z,4.0nm,0.9s,baz=52,slow=5.9,SNR=24
PDAR LR LR 12 33 24.0
comp=Z,358nm,18.5s,baz=23,slow=36
PDAR Pinedale Array 53.17 293 P **P** **12 11 05.1 -1.7**
CHKK Chushkaly 53.20 64 *e*P **P** **12 11 05.8 -0.9**
baz=64
CHKK Chushkaly 53.20 64 *e*P **P** **12 11 05.8 -0.9**
AAK Ala-Archa 53.25 67*d* *i*P **P** **12 11 08.8 +1.5**
AAK pmax pmax
comp=Z,48nm,2.2s
AAK Ala-Archa 53.25 67 P **P** **12 11 07.4 +0.1**
N23A Red Feather La 53.30 289 IAmb IAmb 12 11 13.8
comp=Z,35nm,1.2s
MIAR Mount Ida 53.49 275 P **P** **12 11 09.6 +0.6**
MIAR pmax pmax
comp=Z,21nm,1.5s
MIAR Mount Ida 53.49 275 P **P** **12 11 09.6 +0.6**
MTBS Maitube 53.59 65 *e*P **P** **12 11 09.8 0.0**
baz=65
MTBS Maitube 53.59 65 *e*P **P** **12 11 09.7 0.0**
AAA Alma-Ata 53.71 65 *e*P **P** **12 11 10.8 +0.1**
baz=65
AAA *e*PP **PP** **12 13 11.8 +0.8**
baz=65
AAA LR LR 12 33 06.1
comp=Z,236nm,15.7s,baz=65
AAA Alma-Ata 53.71 65 *e*P **P** **12 11 10.7 +0.1**
AAA *e* 12 13 11.8
AAA MLR MLR
comp=Z,236nm,16.0s
MDOK Medeo 53.80 65 *e*P **P** **12 11 11.2 -0.3**
baz=65
MDOK LR LR 12 33 06.1
comp=Z,253nm,15.8s,baz=65
MDOK Medeo 53.80 65 *e*P **P** **12 11 11.1 -0.3**
MDOK MLR MLR
comp=Z,253nm,16.0s
TNSS Tian-Shan 53.87 65 *e*P **P** **12 11 12.1 -0.1**
baz=65
TNSS Tian-Shan 53.87 65 *e*P **P** **12 11 12.0 -0.1**
KPKS Kokpek 54.18 63 *e*P **P** **12 11 13.8 -0.3**
comp=Z,92nm,2.2s,baz=63
KPKS Kokpek 54.18 63 *e*P **P** **12 11 13.8 -0.3**
KPKS pmax pmax
comp=Z,92nm,2.2s
SATY Saty 54.42 64 *e*P **P** **12 11 15.2 -0.6**
comp=Z,46nm,2.4s,baz=64
SATY *e*PP **PP** **12 13 17.4 -0.1**
baz=64
SATY Saty 54.42 64 *e*P **P** **12 11 15.2 -0.6**
SATY *e* 12 13 17.4
SATY pmax pmax
comp=Z,46nm,2.4s
SATY Saty 54.42 64 *e*P **P** **12 11 15.2 -0.6**
SATY *e* 12 13 17.4
SATY pmax pmax
comp=Z,46nm,2.4s
UZB Uzynbulak 54.58 63 *e*P **P** **12 11 16.6 -0.4**
comp=Z,66nm,2.5s,baz=63
UZB Uzynbulak 54.58 63 *e*P **P** **12 11 16.6 -0.4**
UZB pmax pmax
comp=Z,66nm,2.5s
GAR Garm 54.64 73 P **P** **12 11 16.6 -0.9**
MOY Mondy 54.64 42 *e*P **P** **12 11 17.8 +0.5**
MOY pmax pmax
comp=Z,122nm,2.7s
KDJ Kajisay 54.73 65 IAmb IAmb 12 11 23.6
comp=Z,40nm,1.6s
SHLS Shalkode 54.74 63 *e*P **P** **12 11 19.3 +1.1**

	comp=Z,92nm,2.5s,baz=62							
SHLS				*e*PP		**PP**	**12 13 22.2**	**+1.8**
	baz=62							
SHLS	**Shalkode**	**54.74**	**63**	*e*P		**P**	**12 11 19.3**	**+1.1**
SHLS				*e*			12 13 22.1	
SHLS				pmax		pmax		
	comp=Z,92nm,2.5s							
O20A	**White River Ci**	**54.88**	**290**	IAmb		IAmb	12 11 24.8	
	comp=Z,44nm,1.8s							
HWUT	**Hardware Ranch**	**54.95**	**294**	IAmb		IAmb	12 11 25.2	
	comp=Z,37nm,1.5s							
IRK	**Irkutsk**	**55.05**	**40**	*e*P		**P**	**12 11 18.5**	**-1.6**
IRK				pmax		pmax		
	comp=Z,70nm,4.1s							
TLY	**Talaya**	**55.38**	**40**	*e*P		**P**	**12 11 22.1**	**-0.4**
TLY				*e*			12 13 29.1	
TLY				*e*S		**S**	**12 19 14.8**	**+7.7**
TLY				pmax		pmax		
	comp=Z,21nm,1.0s							
TLY				MLR		MLR		
	comp=Z,412nm,14.0s							
SDCO	**Great Sand Dun**	**55.79**	**287**	IAmb		IAmb	12 11 29.4	
	comp=Z,27nm,1.9s							
T25A	**Trinidad**	**55.86**	**285**	IAmb		IAmb	12 11 30.0	
	comp=Z,27nm,1.7s							
BGU	**Big Grassy Mou**	**56.10**	**295**	P		**P**	**12 11 27.9**	**-0.2**
S22A	**4UR Ranch, Cre**	**56.34**	**288**	IAmb		IAmb	12 11 33.7	
	comp=Z,30nm,1.9s							
ZAK	**Zakamensk**	**56.44**	**41**	*e*P		**P**	**12 11 30.2**	**-0.1**
ZAK				pmax		pmax		
	comp=Z,13nm,1.3s							
KSH	**Kashi**	**56.49**	**68**	P		**P**	**12 11 32.5**	**+1.7**
KSH				sP		sP	12 11 37.8	+4.7
KSH				S		**S**	**12 19 20.8**	**-1.6**
KSH				pmax		pmax		
	comp=Z,28nm,1.1s							
KSH				pmax		pmax		
	comp=Z,330nm,2.9s							
KSH				LR		LR		
	comp=Z,230nm,10.6s							
KSH				LR		LR		
	comp=Z,240nm,11.8s							
PV07	**Paradox Valley**	**56.49**	**290**	IAmb		IAmb	12 11 36.2	
	comp=Z,25nm,1.5s							
PV23	**Carpenter Ridg**	**56.62**	**290**	IAmb		IAmb	12 11 37.1	
	comp=Z,15nm,1.1s							
DUG	**Dugway, Tooele**	**56.64**	**294**	IAmb		IAmb	12 11 38.1	
	comp=Z,39nm,1.8s							
PV16	**Nyswonger Mesa**	**56.70**	**290**	IAmb		IAmb	12 11 37.8	
	comp=Z,24nm,1.4s							
PV02	**Paradox Valley**	**56.72**	**290**	IAmb		IAmb	12 11 38.1	
	comp=Z,18nm,1.2s							
PV03	**Paradox Valley**	**56.73**	**290**	IAmb		IAmb	12 11 38.0	
	comp=Z,28nm,1.4s							
PV17	**East Wray Mesa**	**56.75**	**290**	IAmb		IAmb	12 11 38.0	
	comp=Z,35nm,1.5s							
PV18	**Skein Mesa, Pa**	**56.76**	**290**	IAmb		IAmb	12 11 38.2	
	comp=Z,18nm,1.2s							
PV13	**Radium Mtn., P**	**56.80**	**290**	IAmb		IAmb	12 11 39.2	
	comp=Z,19nm,1.0s							
WMQ	**Urumqi**	**57.22**	**56**	*e*P		**P**	**12 11 38.0**	**+2.2**
WMQ				sP		sP	12 11 43.8	+5.7
WMQ				pmax		pmax		
	comp=Z,18nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,190nm,5.3s							
WMQ				LR		LR		
	comp=Z,280nm,21.9s							
WMQ				LR		LR		
	comp=Z,180nm,18.9s							
WMQ				LR		LR		
	comp=Z,200nm,21.5s							
MVCO	**Mesa Verde**	**57.48**	**289**	IAmb		IAmb	12 11 44.1	
	comp=Z,52nm,1.9s							
ANMO	**Albuquerque**	**58.59**	**286**	*ce*P		**P**	**12 11 46.7**	**+1.0**
ANMO				pmax		pmax		
	comp=Z,17nm,2.5s							
ANMO	**Albuquerque**	**58.59**	**286**	P		**P**	**12 11 45.5**	**-0.2**
DBIC	**Dimbokro**	**58.61**	**165**	LR		LR	12 38 31.6	
	comp=Z,131nm,18.0s,baz=8.0,slow=38							
YBH	**Yreka Blue Hor**	**59.05**	**303**	LR		LR	12 36 32.0	
	comp=Z,162nm,18.8s,baz=13,slow=35							
R11A	**Troy Canyon, C**	**59.32**	**295**	IAmb		IAmb	12 11 56.8	
	comp=Z,22nm,1.6s							
SONM	**Songino Array**	**59.62**	**40**	P		**P**	**12 11 51.4**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=325,slow=6.8,SNR=7.8							
SONM	**Songino Array**	**59.62**	**40**	P		**P**	**12 11 51.1**	**-1.5**
SONM				pmax		pmax		
	comp=Z,8.0nm,1.4s							
SONM	**Songino Array**	**59.62**	**40**	P		**P**	**12 11 51.1**	**-1.5**
JCT	**Junction City**	**59.65**	**278**	IAmb		IAmb	12 11 58.2	
	comp=Z,21nm,1.3s							
KVN	**Kaiserville**	**59.68**	**298**	IAmb		IAmb	12 11 58.8	
	comp=Z,20nm,1.5s							
ULN	**Ulaanbaatar**	**59.78**	**40**	*i* P		**P**	**12 11 53.5**	**-0.2**
ULN				pmax		pmax		
	comp=Z,32nm,2.1s							
PRN	**Pahroc Range**	**59.93**	**294**	P		**P**	**12 11 55.0**	**+0.1**
PRN				IAmb		IAmb	12 12 02.6	
	comp=Z,37nm,2.0s							
WUAZ	**Wupatki**	**60.11**	**290**	IAmb		IAmb	12 12 01.8	
	comp=Z,28nm,1.4s							
YERR	**Yerington**	**60.17**	**298**	IAmb		IAmb	12 12 02.5	
	comp=Z,24nm,1.5s							
NVAR	**Mina Array Bea**	**60.30**	**297**	P		**P**	**12 11 57.0**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=53,slow=5.2,SNR=5.7							
NVAR				LR		LR	12 37 46.1	
	comp=Z,552nm,19.1s,baz=21,slow=36							
NIL	**Nilore**	**60.44**	**74**	P		**P**	**12 11 56.0**	**-2.3**
NIL				pmax		pmax		
	comp=Z,41nm,1.3s							
NIL	**Nilore**	**60.44**	**74**	P		**P**	**12 11 56.0**	**-2.3**
UOSS	**Minazif**	**60.77**	**93**	P		**P**	**12 11 59.5**	**-1.1**
TPNV	**Topopah Spring**	**60.80**	**295**	IAmb		IAmb	12 12 07.6	
	comp=Z,17nm,1.4s							
X16A	**Lo Mia Camp, P**	**61.09**	**290**	IAmb		IAmb	12 12 08.9	
	comp=Z,14nm,1.2s							
121A	**Cookes Peak, D**	**61.23**	**285**	IAmb		IAmb	12 12 49.9	
	comp=Z,28nm,1.8s							
W13A	**Hualapai Mount**	**61.48**	**292**	IAmb		IAmb	12 12 09.1	
	comp=Z,25nm,2.0s							
TX31	**Lajitas Ar. Si**	**62.29**	**280**	IAmb		IAmb	12 12 13.9	
	comp=Z,32nm,1.6s							
TXAR	**Lajitas Array**	**62.29**	**280**	P		**P**	**12 12 10.2**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=50,slow=3.4,SNR=13							
TXAR				LR		LR	12 38 50.3	
	comp=Z,365nm,18.2s,baz=0.0,slow=36							
TXAR	**Lajitas Array**	**62.29**	**280**	P		**P**	**12 12 10.0**	**-0.9**
TXAR	**Lajitas Array**	**62.29**	**280**	P		**P**	**12 12 10.0**	**-0.9**
PEA0B	**Petropavlovsk-**	**62.48**	**3**	P		**P**	**12 12 10.8**	**-1.0**
PEA0B				pmax		pmax		
	comp=Z,57nm,1.7s							
PEA0B	**Petropavlovsk-**	**62.48**	**3**	P		**P**	**12 12 10.8**	**-1.0**
PETK	**Petropavlovsk-**	**62.48**	**3**	P		**P**	**12 12 11.7**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=67,slow=5.0,SNR=6.1							
PETK				LR		LR	12 39 58.2	
	comp=Z,78nm,18.6s,baz=354,slow=37							
PETK	**Petropavlovsk-**	**62.48**	**3**	P		**P**	**12 12 10.8**	**-1.0**
PETK	**Petropavlovsk-**	**62.48**	**3**	P		**P**	**12 12 10.8**	**-1.0**
TUC	**Tucson**	**62.66**	**288**	P		**P**	**12 12 12.2**	**-1.2**
TUC				pmax		pmax		
	comp=Z,27nm,1.7s							
TUC	**Tucson**	**62.66**	**288**	P		**P**	**12 12 12.2**	**-1.2**
TUC				IAmb		IAmb	12 12 19.7	
	comp=Z,27nm,1.6s							
ISA	**Isabella, Lake**	**62.79**	**296**	IAmb		IAmb	12 12 18.1	
	comp=Z,28nm,1.9s							
319A	**Douglas**	**62.85**	**286**	IAmb		IAmb	12 12 20.8	
	comp=Z,25nm,1.3s							
KLR	**Kul'dur**	**63.92**	**22**	*i* P		**P**	**12 12 22.4**	**+1.0**
KLR				pmax		pmax		
	comp=Z,12nm,2.3s							
GTA	**Gaotai**	**65.28**	**49**	*e*P		**P**	**12 12 31.3**	**+0.7**
GTA				pP		sP	12 12 35.8	+2.9
GTA				sP		pP	12 12 39.3	+7.0
GTA				pmax		pmax		
	comp=Z,14nm,1.8s							
GTA				pmax		pmax		
	comp=Z,240nm,8.9s							
GTA				LR		LR		
	comp=Z,270nm,21.0s							
GTA				LR		LR		
	comp=Z,270nm,20.3s							
GTA				LR		LR		
	comp=Z,470nm,23.0s							
HHC	**Hu-ho-hao-te**	**67.49**	**40**	*e*P		**P**	**12 12 44.0**	**-0.7**
HHC				pmax		pmax		
	comp=Z,18nm,1.1s							
HHC				pmax		pmax		
	comp=Z,190nm,5.7s							
ZAIG	**Zacatecas**	**67.58**	**276**	P		**P**	**12 12 45.6**	**-0.1**
SJCC	**San Jacinto, C**	**67.63**	**244**	*e*P		**P**	**12 12 45.7**	**-0.1**
YSS	**Yuzh-Sakhalins**	**67.63**	**15**	⇓*e*P		**P**	**12 12 45.4**	**+0.1**
YSS				pmax		pmax		
	comp=Z,10.0nm,1.2s							
YSS				pmax		pmax		
	comp=Z,300nm,5.5s							
CN2	**Changchun**	**68.02**	**28**	*e*P		**P**	**12 12 48.3**	**+0.5**
MDJ	**Mudanjiang**	**68.02**	**25**	P		**P**	**12 12 47.5**	**-0.3**
MDJ				pmax		pmax		
	comp=Z,8.0nm,1.1s							
MDJ				pmax		pmax		
	comp=Z,240nm,5.1s							
SMLC	**San Martn de**	**68.21**	**243**	*e*P		**P**	**12 12 46.7**	**-2.6**
MOTC	**Monteria, Cord**	**68.84**	**244**	*e*P		**P**	**12 12 54.1**	**+0.8**
MTO3	**Montecristo**	**69.35**	**260**	P		**P**	**12 12 55.5**	**-1.2**
MTO3				IAmb		IAmb	12 15 03.9	
	comp=Z,30nm,1.9s							
BJI	**Beijing**	**69.47**	**36**	P		**P**	**12 12 59.3**	**+2.4**
BJI				S		**S**	**12 22 06.0**	**+1.4**
BJI				pmax		pmax		
	comp=Z,13nm,1.6s							
BJI				pmax		pmax		
	comp=Z,210nm,4.8s							
BJI				LR		LR		
	comp=Z,170nm,19.0s							
BJI				LR		LR		
	comp=Z,120nm,15.1s							
BJI				LR		LR		
	comp=Z,150nm,22.5s							
LZH	**Lanzhou**	**69.61**	**48**	*e*P		**P**	**12 12 58.0**	**-0.1**
LZH				pP		sP	12 13 03.0	+2.6
LZH				sP		pP	12 13 05.8	+6.0
LZH				pmax		pmax		
	comp=Z,25nm,1.3s							
LZH				pmax		pmax		
	comp=Z,140nm,6.0s							
LZH				LR		LR		
	comp=Z,220nm,15.2s							
LZH				LR		LR		
	comp=Z,280nm,17.9s							
LZH				LR		LR		
	comp=Z,220nm,13.6s							
BRRC	**Barranca, Sant**	**69.62**	**242**	*e*P		**P**	**12 12 59.3**	**+1.2**
CAPC	**Capurgana**	**69.63**	**246**	*e*P		**P**	**12 13 01.4**	**+3.3**
ZARC	**Zaragoza, Cauc**	**69.71**	**243**	*e*P		**P**	**12 13 00.4**	**+1.7**
URCC	**San Jos de Ur**	**69.73**	**244**	*e*P		**P**	**12 12 58.3**	**-0.5**
PTBC	**PUERTO BERRIO,**	**70.43**	**242**	*e*P		**P**	**12 13 02.5**	**-0.6**
DBBC	**Dabeiba**	**70.66**	**244**	*e*P		**P**	**12 13 03.5**	**-1.1**
SPBC	**San Pablo de B**	**71.10**	**241**	*e*P		**P**	**12 13 08.8**	**+1.5**
HELC	**Santa Helena**	**71.16**	**243**	*e*P		**P**	**12 13 08.8**	**+0.8**
NORC	**Norcasia**	**71.48**	**242**	*e*P		**P**	**12 13 07.7**	**-1.8**
ROSC	**El Rosal**	**71.94**	**241**	P		**P**	**12 13 12.4**	**-0.3**
	comp=Z,14nm,0.6s,baz=97,slow=2.8,SNR=6.3							
ROSC				LR		LR	12 41 13.9	
	comp=Z,117nm,21.9s,baz=266,slow=33							
ROSC	**El Rosal**	**71.94**	**241**	*e*P		**P**	**12 13 09.8**	**-2.9**
ROSC	**El Rosal**	**71.94**	**241**	P		**P**	**12 13 11.6**	**-1.1**
GUY2C	**Guyana, Caldas**	**71.98**	**242**	*e*P		**P**	**12 13 13.0**	**-0.1**
TOLC	**Tolima**	**72.55**	**242**	*e*P		**P**	**12 13 17.2**	**+0.9**
XAN	**Xi'an**	**73.07**	**44**	P		**P**	**12 13 17.5**	**-1.4**
XAN				PP		**PP**	**12 16 03.5**	**+2.6**
XAN				S		**S**	**12 22 44.5**	**-2.1**
XAN				SS		**SS**	**12 27 23.8**	**-2.5**
XAN				pmax		pmax		
	comp=Z,16nm,2.2s							
XAN				pmax		pmax		
	comp=Z,330nm,4.0s							
XAN				LR		LR		
	comp=Z,310nm,20.6s							
XAN				LR		LR		
	comp=Z,140nm,25.0s							
XAN				LR		LR		
	comp=Z,410nm,22.1s							
PRAC	**Prado**	**73.19**	**241**	*e*P		**P**	**12 13 20.3**	**+0.6**
YOTC	**Yotoco, Valle**	**73.49**	**243**	*e*P		**P**	**12 13 20.3**	**-1.3**
KSRS	**Korea Array**	**74.63**	**28**	P		**P**	**12 13 29.1**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=331,slow=5.7,SNR=4.8							
KSRS				LR		LR	12 50 10.8	
	comp=Z,136nm,18.5s,baz=289,slow=39							
GARC	**Garzon, Huila**	**74.82**	**241**	*e*P		**P**	**12 13 30.8**	**+1.3**
FLOC	**Florencia**	**75.44**	**241**	*e*P		**P**	**12 13 29.8**	**-3.0**
KMBO	**Kilima Mbogo**	**76.67**	**123**	LR		LR	12 49 13.1	
	comp=Z,78nm,20.8s,baz=94,slow=37							
MAT	**Matsushiro**	**77.31**	**20**	P		**P**	**12 13 44.0**	**+0.8**
MAT				*e*S		**S**	**12 23 33.6**	**+0.1**
MJAR	**Matsushiro Arr**	**77.31**	**20**	P		**P**	**12 13 42.8**	**-0.4**
	comp=Z,2.2nm,1.1s,baz=325,slow=6.1,SNR=4.7							
MJAR	**Matsushiro Arr**	**77.31**	**20**	P		**P**	**12 13 43.0**	**-0.2**
MJAR				pmax		pmax		
	comp=Z,3.0nm,1.2s							
MJAR	**Matsushiro Arr**	**77.31**	**20**	P		**P**	**12 13 43.0**	**-0.2**
NJ2	**Nanjing**	**77.72**	**37**	*e*P		**P**	**12 13 47.0**	**+1.5**
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
KMI	**Kunming**	**79.34**	**53**	⇓P		**P**	**12 13 55.3**	**+0.5**
KMI				PP		**PP**	**12 16 55.8**	**+1.7**
KMI				S		**S**	**12 23 55.8**	**-0.3**
KMI				SS		**SS**	**12 29 02.5**	**+0.7**
KMI				pmax		pmax		
	comp=Z,24nm,0.5s							
KMI				pmax		pmax		
	comp=Z,190nm,3.6s							
KMI				LR		LR		
	comp=Z,220nm,12.7s							
KMI				LR		LR		
	comp=Z,170nm,14.4s							
KMI				LR		LR		
	comp=Z,210nm,17.9s							
GYA	**Guiyang**	**79.41**	**49**	⇑P		**P**	**12 13 54.3**	**-0.8**
GYA				PP		**PP**	**12 16 57.8**	**+3.3**
GYA				S		**S**	**12 23 56.5**	**-0.1**
GYA				pmax		pmax		
	comp=Z,16nm,2.0s							
GYA				pmax		pmax		
	comp=Z,230nm,5.7s							
GYA				LR		LR		
	comp=Z,80nm,21.9s							
GYA				LR		LR		
	comp=Z,95nm,19.6s							
CHTO	**Chiang Mai**	**83.79**	**59**	P		**P**	**12 14 16.5**	**-1.7**
CHTO				pmax		pmax		
	comp=Z,44nm,2.0s							
CHTO	**Chiang Mai**	**83.79**	**59**	P		**P**	**12 14 16.5**	**-1.7**
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P		**P**	**12 14 18.8**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=321,slow=6.4,SNR=10							
CMAR				LR		LR	12 54 31.5	
	comp=Z,78nm,19.4s,baz=315,slow=38							
CMAR	**Chiang Mai Arr**	**84.12**	**59**	*i* P		**P**	**12 14 17.8**	**-2.1**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**84.12**	**59**	P		**P**	**12 14 17.9**	**-1.9**
QZH	**Quanzhou**	**84.40**	**39**	P		**P**	**12 14 23.3**	**+2.1**
QZH				S		**S**	**12 24 52.5**	**+4.7**
QZH				LR		LR		
	comp=Z,120nm,14.9s							
QZH				LR		LR		
	comp=Z,160nm,18.1s							
QZH				LR		LR		
	comp=Z,230nm,16.1s							
PBKT	**Sadao Pong**	**86.59**	**58**	P		**P**	**12 14 31.4**	**-0.8**
PBKT				IAmb		IAmb	12 17 46.1	
	comp=Z,13nm,1.5s							
QIZ	**Qiongzhong**	**87.36**	**49**	P		**P**	**12 14 35.0**	**-1.0**
QIZ				S		**S**	**12 25 17.5**	**+0.5**
QIZ				SS		**SS**	**12 31 00.5**	**+0.1**
QIZ				LR		LR		
	comp=Z,150nm,17.2s							
QIZ				LR		LR		
	comp=Z,170nm,15.7s							
QIZ				LR		LR		
	comp=Z,200nm,19.6s							
BOSA	**Boshof**	**98.77**	**143**	LR		LR	13 03 07.8	
	comp=Z,88nm,19.6s,baz=352,slow=37							
WRA	**Warramunga Arr**	**131.50**	**36**	PKP		**PKPdf**	**12 20 59.1**	**-2.2**
	comp=Z,1.1nm,1.1s,baz=20,slow=2.7,SNR=3.8							
WRA	**Warramunga Arr**	**131.50**	**36**	PKIKP		**PKPdf**	**12 21 00.2**	**-1.1**
WRA	**Warramunga Arr**	**131.50**	**36**			**PKPdf**	**12 21 00.2**	**-1.1**
ASAR	**Alice Springs**	**134.95**	**38**	PKP		**PKPdf**	**12 21 06.0**	**-1.7**
	comp=Z,1.0nm,0.9s,baz=4.1,slow=2.0,SNR=6.7							
ASAR	**Alice Springs**	**134.95**	**38**	PKIKP		**PKPdf**	**12 21 05.3**	**-2.4**
ASAR	**Alice Springs**	**134.95**	**38**	PKPdf		**PKPdf**	**12 21 05.2**	**-2.4**
FORT	**Forrest**	**139.89**	**49**	PKPpre		PKPpre	12 21 02.9	
BBOO	**Buckleboo**	**144.20**	**40**	PKPdf		**PKPab**	**12 21 21.6**	**-0.4**
STKA	**Stephens Creek**	**144.70**	**32**	PKIKP		PKPbc	12 21 24.3	+0.3
STKA	**Stephens Creek**	**144.70**	**32**	PKPdf		PKPbc	12 21 24.3	+0.4
ARMA	**Armidale**	**145.04**	**17**			**PKPbc**	**12 21 22.2**	**-3.0**

SKO 31 12:07:18.9, 42°.67N×23°.55E, h25km, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STIP	**Stip**	**1.41**	**227**	*i* Pg	Pn	12 07 42.0	-0.9
STIP				*i* Sg	Sn	12 07 49.8	-11
VAY	**Valandovo**	**1.53**	**209**	*e*Pg	Pn	12 07 45.6	+1.0
VAY				*e*Lg	Lg	12 07 57.2	
	comp=E,13nm,0.4s						
VAY				*e*Lg	Lg	12 07 57.2	
	comp=N,9.1nm,0.4s						

BEO 31 12:07:37.1±0.7, 42°.26N×23°.19E, h11km±3km, ML1.4/5, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSS	**Bosilegrad**	**0.57**	**294**	*e*Pg	Pg	12 07 45.8	-2.5
BOSS				*e*Sg	Sb	12 07 57.3	-0.1
VAY	**Valandovo**	**1.05**	**206**	*e*Pg	Pb	12 07 56.6	-0.7
VAY				*e*Sg	Sg	12 08 10.9	0.0
ZAPS	**Zavoj**	**1.09**	**338**	*e*Pg	Pb	12 07 57.5	-0.5
ZAPS				*e*Sg	Sb	12 08 12.1	-0.1
BARS	**Barje**	**1.16**	**299**	*e*Pg	Pb	12 07 56.6	-2.5
BARS				*e*Sg	Sg	12 08 14.3	-0.1
ZAGS	**Zajecar**	**1.70**	**336**	*e*Pn	Pn	12 08 06.8	+0.1
ZAGS				*e*Sn	Sn	12 08 29.0	+0.6
BOVS	**Bovan**	**1.75**	**322**	*e*Pn	Pn	12 08 07.0	-0.4
BOVS				*e*Sn	Sn	12 08 30.2	+0.5
SELS	**Selova**	**1.80**	**303**	*e*Pn	Pn	12 08 07.1	-1.0
SELS				*e*Sn	Sn	12 08 31.2	+0.2
KRUC	**Moravsky**	**8.29**	**327**	*e*PG	Pg	12 10 14.1	-1.7

*NEIC **31** 12:10:01.9±1.2, 15°.6N±0°.1×146°.3E±0°.2, h35km±2km, mb4.4/18, Error ellipse: s-maj=27.1km s-min=16.0km az=120.0*

*IDC **31** 12:10:03.7±3.5, 15°.66N×146°.35E, h55km±34km, mb3.5/11, mb1 3.7/12, mb1mx3.4/72, mbtmp3.8/12, ML3.7/1, Error ellipse: s-maj=30.2km s-min=18.9km az=92.0*

ISC 31 12:10:02.3±0.6, 15°.68N±0°.10×146°.4E±0°.1, h35km, n46, σ1§06/40, mb4.3/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.56**	**216**	P	**Pn**	**12 10 43.0**	**+1.6**
	17nm,0.3s,baz=132,slow=8.1,SNR=27						
GUMO				S	**Sn**	**12 11 11.9**	**+0.7**
	18nm,0.3s,baz=25,slow=17,SNR=4.4						
GUMO	**Guam**	**2.56**	**216**		**Pn**	**12 10 42.3**	**+1.0**
PATS	**Pohnpei**	**14.60**	**126**	Pn	Pn	12 13 18.4	-8.1
H11S3	**WAKE ISLAND Hy**	**19.58**	**79**	T	T	12 35 03.7	
	baz=266,slow=75						
H11S1	**WAKE ISLAND Hy**	**19.59**	**79**	T	T	12 35 10.4	
	baz=266,slow=75						
H11S2	**WAKE ISLAND Hy**	**19.59**	**79**	T	T	12 35 14.1	
	baz=266,slow=75						
WAKE	**Wake Island**	**19.63**	**77**	P	**Pn**	**12 14 29.3**	**-0.3**
H11N1	**WAKE ISLAND Hy**	**19.91**	**75**	T	T	12 35 30.0	
	baz=263,slow=75						
H11N2	**WAKE ISLAND Hy**	**19.92**	**75**	T	T	12 35 40.0	
	baz=263,slow=75						
H11N3	**WAKE ISLAND Hy**	**19.93**	**75**	T	T	12 35 32.3	
	baz=263,slow=75						
KSRS	**Korea Array**	**27.18**	**326**	P	**P**	**12 15 42.0**	**-0.5**
	0.3nm,0.4s,baz=147,slow=7.9,SNR=1.9						
ASAJ	**Asahikawa**	**28.53**	**354**	P	**P**	**12 15 54.5**	**-0.1**
	1.0nm,0.6s,baz=204,slow=10.0,SNR=1.4						
KNRA	**Kununurra**	**35.70**	**210**	P	**P**	**12 16 56.7**	**-1.0**
WB0	**Warramunga Arr**	**37.15**	**199**	P	**P**	**12 17 08.7**	**-1.3**
WR0	**Warramunga Arr**	**37.29**	**199**	P	**P**	**12 17 10.0**	**-1.2**
WRAB	**Tennant Creek**	**37.32**	**199**	P	**P**	**12 17 10.1**	**-1.4**
WRAB				IAmb	IAmb	12 17 17.8	
	comp=Z,6.1nm,1.4s						
WB2	**Warramunga Arr**	**37.33**	**199**	P	**P**	**12 17 10.5**	**-1.1**
WRA	**Warramunga Arr**	**37.34**	**199**	P	**P**	**12 17 10.5**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=17,slow=8.9,SNR=6.5						
WRA	**Warramunga Arr**	**37.34**	**199**	P	**P**	**12 17 10.7**	**-0.9**
PEA0B	**Petropavlovsk-**	**38.39**	**11**	P	**P**	**12 17 22.1**	**+1.9**
PEA0B				IAmb	IAmb	12 17 33.4	
	comp=Z,9.6nm,1.3s						
PETK	**Petropavlovsk-**	**38.39**	**11**	P	**P**	**12 17 22.2**	**+2.0**
ASAR	**Alice Springs**	**40.97**	**198**	P	**P**	**12 17 40.3**	**-1.7**
	comp=Z,0.2nm,0.7s,baz=30,slow=9.1,SNR=2.2						
ASAR	**Alice Springs**	**40.97**	**198**	P	**P**	**12 17 40.7**	**-1.2**
MKAR	**Makanchi Array**	**61.06**	**315**	P	**P**	**12 20 12.0**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=91,slow=5.9,SNR=2.5						
MKAR	**Makanchi Array**	**61.06**	**315**	P	**P**	**12 20 11.7**	**-1.0**
RSO	**Redoubt South**	**62.23**	**29**	P	**P**	**12 20 21.5**	**+0.9**
KURK	**Kurchatov**	**63.98**	**319**	P	**P**	**12 20 31.1**	**-1.1**
KURK				IAmb	IAmb	12 20 39.5	
	comp=Z,4.8nm,1.2s						
KURBB	**Kurchatov Arra**	**64.02**	**319**	P	**P**	**12 20 31.6**	**-0.8**
	comp=Z,2.8nm,0.6s,baz=96,slow=7.3,SNR=40						
IL31		**66.05**	**26**	P	**P**	**12 20 44.2**	**-1.1**
IL31				IAmb	IAmb	12 20 44.7	
	comp=Z,2.2nm,0.6s						
ILAR	**Eielson Array**	**66.05**	**26**	P	**P**	**12 20 44.0**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=251,slow=4.5,SNR=7.4						
ILAR	**Eielson Array**	**66.05**	**26**	P	**P**	**12 20 44.1**	**-1.3**
PAX	**Paxson**	**66.24**	**28**	P	**P**	**12 20 46.8**	**0.0**
PAX				IAmb	IAmb	12

σ0.92/50, mb4.5/26, MS3.9/20, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**5.72**	**134**	Pn	**Pn**	**12 11 49.0**	**-0.9**
PALK	**Pallekele**	**16.36**	**49**	LR	LR	12 19 07.5	
	comp=Z,1μm,20.6s,baz=331,slow=32						
OPO	**Ambohidratompo**	**25.52**	**232**	LR	LR	12 23 56.5	
	comp=Z,406nm,18.5s,baz=218,slow=32						
WSAR	**Wadi Sarin**	**28.15**	**341**	LR	LR	12 25 27.2	
	comp=Z,372nm,19.9s,baz=173,slow=32						
ATD	**Arta Tunnel**	**29.35**	**301**	LR	LR	12 26 12.2	
	comp=Z,82nm,20.1s,baz=218,slow=32						
KMBO	**Kilima Mbogo**	**31.08**	**274**	LR	LR	12 26 48.4	
	comp=Z,185nm,20.8s,baz=93,slow=32						
PSI	**Prapat**	**31.26**	**79**	LR	LR	12 27 13.3	
	comp=Z,519nm,20.7s,baz=270,slow=32						
SHL	**Shillong**	**36.83**	**37**	P	**P**	**12 17 34.2**	**+0.7**
SHL				IAmb	IAmb	12 17 41.7	
	comp=Z,17nm,1.3s						
CMAR	**Chiang Mai Arr**	**37.24**	**53**	P	**P**	**12 17 37.1**	**+0.2**
	comp=Z,2.8nm,0.9s,baz=244,slow=10.0,SNR=10						
CMAR				LR	LR	12 30 56.4	
	comp=Z,192nm,21.4s,baz=282,slow=33						
CMAR	**Chiang Mai Arr**	**37.24**	**53**	P	**P**	**12 17 36.9**	**0.0**
CHTO	**Chiang Mai**	**37.44**	**53**	P	**P**	**12 17 39.2**	**+0.7**
CHTO				IAmb	IAmb	12 17 41.7	
	comp=Z,16nm,1.2s						
MBAR	**Mbarara**	**37.61**	**273**	P	**P**	**12 17 41.3**	**+1.0**
	comp=Z,2.7nm,0.2s,baz=56,slow=8.0,SNR=4.6						
MBAR	**Mbarara**	**37.61**	**273**	P	**P**	**12 17 40.4**	**+0.1**
PBKT	**Sadao Pong**	**37.95**	**57**	P	**P**	**12 17 44.9**	**+2.0**
LEM	**Lembang**	**39.32**	**97**	P	**P**	**12 17 56.4**	**+1.7**
	comp=Z,9.2nm,0.4s,baz=190,slow=9.4,SNR=6.8						
LSA	**Lhasa**	**39.59**	**32**	P	**P**	**12 17 58.5**	**+1.5**
LSA				IAmb	IAmb	12 18 05.5	
	comp=Z,37nm,1.5s						
LSZ	**Lusaka**	**41.17**	**251**	P	**P**	**12 18 10.6**	**+0.7**
	comp=Z,1.4nm,0.2s,baz=102,slow=7.9,SNR=1.9						
LSZ	**Lusaka**	**41.17**	**251**	P	**P**	**12 18 09.7**	**-0.2**
LSZ				IAmb	IAmb	12 18 11.9	
	comp=Z,24nm,1.5s						
MATP	**Matopo**	**42.24**	**243**	P	**P**	**12 18 19.1**	**+0.4**
	comp=Z,4.6nm,1.1s,baz=78,slow=5.9,SNR=4.0						
GAR	**Garm**	**42.29**	**2**	P	**P**	**12 18 18.6**	**-0.2**
GAR				IAmb	IAmb	12 18 26.7	
	comp=Z,26nm,1.3s						
BTK	**Batken**	**43.37**	**3**	P	**P**	**12 18 27.8**	**+0.3**
KDJ	**Kajisay**	**46.09**	**9**	P	**P**	**12 18 50.2**	**+0.9**
KDJ				IAmb	IAmb	12 19 05.9	
	comp=Z,11nm,1.4s						
AAK	**Ala-Archa**	**46.23**	**6**	P	**P**	**12 18 49.7**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=220,slow=8.0,SNR=4.6						
AAK	**Ala-Archa**	**46.23**	**6**	P	**P**	**12 18 49.9**	**-0.4**
KKAR	**Karatay Array**	**46.39**	**2**	P	**P**	**12 18 51.2**	**-0.2**
BOSA	**Boshof**	**47.91**	**234**	LR	LR	12 37 09.3	
	comp=Z,350nm,18.2s,baz=38,slow=34						
GAZ	**Gaziantep**	**49.69**	**327**	P	**P**	**12 19 18.3**	**+1.2**
GAZ				IAmb	IAmb	12 19 29.8	
	comp=Z,7.4nm,0.5s						
WMQ	**Urumqi**	**50.20**	**18**	P	**P**	**12 19 21.9**	**+1.0**
KAPI	**Kappang**	**51.35**	**94**	LR	LR	12 39 05.8	
	comp=Z,134nm,21.4s,baz=274,slow=34						
MKAR	**Makanchi Array**	**51.55**	**12**	P	**P**	**12 19 30.2**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=193,slow=5.0,SNR=4.2						
MKAR	**Makanchi Array**	**51.55**	**12**	P	**P**	**12 19 29.0**	**-1.9**
ENH	**Enshi**	**51.72**	**47**	P	**P**	**12 19 31.4**	**-1.1**
XAN	**Xi'an**	**53.45**	**42**	P	**P**	**12 19 44.5**	**-0.8**
XAN				IAmb	IAmb	12 19 51.4	
	comp=Z,21nm,1.4s						
KURBB	**Kurchatov Arra**	**54.59**	**8**	P	**P**	**12 19 52.3**	**-0.9**
	comp=Z,1.4nm,0.9s,baz=203,slow=7.6,SNR=10						
KURK	**Kurchatov**	**54.69**	**8**	P	**P**	**12 19 53.0**	**-0.9**
KURK				IAmb	IAmb	12 20 00.5	
	comp=Z,5.7nm,1.1s						
ZAA0	**Zalesovo Array**	**58.85**	**11**	P	**P**	**12 20 22.2**	**-1.3**
ZALV	**Zalesovo Beam**	**58.85**	**11**	P	**P**	**12 20 22.8**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=213,slow=6.9,SNR=7.0						
ZALV				LR	LR	12 45 21.0	
	comp=Z,140nm,18.9s,baz=244,slow=36						
ZALV	**Zalesovo Beam**	**58.85**	**11**	P	**P**	**12 20 21.8**	**-1.7**
SONM	**Songino Array**	**61.00**	**28**	P	**P**	**12 20 38.9**	**+0.4**
	comp=Z,3.6nm,1.0s,baz=230,slow=6.6,SNR=11						
SONM	**Songino Array**	**61.00**	**28**	P	**P**	**12 20 38.1**	**-0.5**
ULN	**Ulaanbaatar**	**61.34**	**29**	P	**P**	**12 20 41.5**	**+0.6**
TLY	**Talaya**	**62.62**	**24**	P	**P**	**12 20 50.5**	**+1.2**
TLY				IAmb	IAmb	12 20 57.5	
	comp=Z,4.6nm,0.8s						
AKASG	**Malin Array Be**	**63.47**	**333**	P	**P**	**12 20 53.6**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=133,slow=5.2,SNR=4.9						
AKASG				LR	LR	12 49 50.1	
	comp=Z,37nm,20.6s,baz=240,slow=37						
DIVS	**Divibare**	**64.08**	**323**	P	**P**	**12 20 58.0**	**-1.2**
DIVS				IAmb	IAmb	12 20 60.0	
	comp=Z,6.5nm,1.3s						
MAW	**Mawson**	**64.14**	**182**	LR	LR	12 41 53.9	
	comp=Z,284nm,21.4s,baz=46,slow=29						
ASAR	**Alice Springs**	**66.33**	**114**	P	**P**	**12 21 14.0**	**-0.2**
	comp=Z,0.7nm,1.0s,baz=287,slow=4.5,SNR=6.9						
ASAR				LR	LR	12 50 59.7	
	comp=Z,27nm,18.3s,baz=288,slow=37						
WRA	**Warramunga Arr**	**66.34**	**110**	P	**P**	**12 21 14.3**	**+0.1**
	comp=Z,2.0nm,1.0s,baz=280,slow=6.0,SNR=8.8						
WRA	**Warramunga Arr**	**66.34**	**110**	P	**P**	**12 21 13.9**	**-0.4**
WB2	**Warramunga Arr**	**66.36**	**110**	P	**P**	**12 21 14.2**	**-0.1**
TOA0	**Torodi Ar. Sit**	**68.10**	**286**	P	**P**	**12 21 26.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**68.10**	**286**	LR	LR	12 50 25.6	
	comp=Z,69nm,19.0s,baz=15,slow=35						
TORD	**Torodi Ar. Bea**	**68.10**	**286**	P	**P**	**12 21 25.1**	**-0.3**
KSRS	**Korea Array**	**68.59**	**48**	P	**P**	**12 21 27.0**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=270,slow=6.3,SNR=5.0						
HIA	**Hailar**	**68.78**	**33**	P	**P**	**12 21 28.9**	**-0.2**
FUORN	**Ofenpass-Fuorn**	**71.27**	**322**	P	**P**	**12 21 44.0**	**-0.7**
FUORN				IAmb	IAmb	12 21 51.4	
	comp=Z,8.9nm,1.4s						
FINES	**FINESS Array B**	**72.37**	**340**	LR	LR	12 55 48.5	
	comp=Z,49nm,18.6s,baz=136,slow=38						
NRIK	**Noril'sk**	**73.84**	**7**	LR	LR	12 54 57.4	
	comp=Z,92nm,19.4s,baz=195,slow=36						
JCJ	**Chichijima**	**77.33**	**61**	LR	LR	12 54 27.4	
	comp=Z,28nm,21.8s,baz=126,slow=34						
GUMO	**Guam**	**77.82**	**75**	LR	LR	12 55 07.4	
	comp=Z,36nm,20.2s,baz=308,slow=34						
ARCES	**ARCESS Array B**	**78.37**	**346**	LR	LR	12 58 35.3	
	comp=Z,64nm,20.6s,baz=160,slow=37						
ESDC	**Sonseca Array**	**78.64**	**311**	P	**P**	**12 22 27.8**	**+0.5**
	comp=Z,2.4nm,1.1s,baz=89,slow=4.8,SNR=13						
ESDC	**Sonseca Array**	**78.64**	**311**	P	**P**	**12 22 27.1**	**-0.2**
SEY	**Seymchan**	**90.37**	**27**	LR	LR	13 05 12.5	
	comp=Z,182nm,20.7s,baz=260,slow=36						
PETK	**Petropavlovsk-**	**92.40**	**37**	LR	LR	13 07 35.8	
	comp=Z,116nm,20.3s,baz=230,slow=37						
NVAR	**Mina Array Bea**	**144.68**	**9**	PKP	**PKPdf**	**12 30 02.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=25,slow=4.9,SNR=4.4						
TXAR	**Lajitas Array**	**153.15**	**344**	PKPbc	**PKPbc**	**12 30 23.6**	**-0.1**
	comp=Z,0.9nm,1.1s,baz=338,slow=1.3,SNR=4.7						
TXAR	**Lajitas Array**	**153.15**	**344**		**PKPbc**	**12 30 22.6**	**-1.1**

*DSN **31** 12:14:39.5±1.7, 27.˚53N×58.˚34E, h10km, ML4.4/8, Error ellipse: s-maj=30.2km s-min=8.5km az=158.0*
*NEIC **31** 12:14:41.7±2.9, 27.˚70N±0.˚02×57.˚70E±0.˚04, h10km±1km, mb4.4/7, mb_Lg3.9(TEH), ML3.9(THR), Error ellipse: s-maj=6.8km s-min=3.5km az=111.0*
*TEH **31** 12:14:42.6, 27.˚84N×57.˚54E, h13km, ML4.2*
*IDC **31** 12:14:45.1±2.4, 27.˚73N×57.˚48E, h42km±27km, mb3.6/16, mb1 3.7/20, mb1mx3.5/77, mbtmp3.9/20, ML4.0/4, Error ellipse: s-maj=16.3km s-min=13.3km az=66.0*
*THR **31** 12:14:46.3±0.3, 27.˚99N×57.˚40E, h18km±2km, ML3.9*
*OMAN **31** 12:14:47.3±1.6, 27.˚35N×57.˚47E, h3km±14km, mb5.3/3, ml4.0/11, ms3.0/2, Error ellipse: s-maj=15.3km s-min=5.5km az=10.0*

ISC 31 12:14:41.9±0.9, 27.71N±0.˚03×57.66E±0.˚03, h16km±6km, n110, σ1.9/134, mb3.8/19, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.24**	**9**	*e*Pg	**Pg**	**12 14 46.9**	**-0.5**
KHNJ	**Kahnooj**	**0.24**	**9**	Pg	**Pg**	**12 14 46.8**	**-0.6**
KHNJ				Sg	**Sg**	**12 14 50.3**	**-0.8**
GENO	**Geno**	**1.36**	**257**	*e*		12 15 30.9	
GENO				*e*Pg	**Pn**	**12 15 07.2**	**+0.9**
GENO	**Geno**	**1.36**	**257**		**Pn**	**12 15 07.6**	**+1.3**
BNDS	**Bandar-Abbas**	**1.36**	**257**	*e*Pg	**Pg**	**12 15 09.2**	**+1.1**
BNDS				*e*Sg	**Sg**	**12 15 09.2**	**+1.1**
BNDS				IAML		12 15 32.9	
	comp=E,2μm,0.5s						
BNDS	**Bandar-Abbas**	**1.36**	**257**	*e*Pg	**Pg**	**12 15 09.2**	**+1.1**
BNDS	**Bandar-Abbas**	**1.36**	**257**		**Pg**	**12 15 09.1**	**+1.0**
BNDS					**Sg**	**12 15 26.3**	**+0.4**
NGRK	**Negar Kerman**	**2.10**	**337**	*e*Pn	**Pn**	**12 15 16.2**	**-0.5**
NGRK				*e*		12 15 47.7	
NGRK	**Negar Kerman**	**2.10**	**337**		**Pn**	**12 15 16.4**	**-0.3**
SHME	**Shamm**	**2.14**	**220**	*e*P	**Pn**	**12 15 19.3**	**+2.4**
	SNR=143						
SHME				S	**Sg**	**12 15 50.5**	**-0.1**
BANOM	**Banah**	**2.15**	**215**	*e*P	**Pb**	**12 15 20.2**	**-0.3**
	SNR=204						
BANOM				S	**Sg**	**12 15 50.0**	**-1.1**
BANOM	**Banah**	**2.15**	**215**	P	**Pb**	**12 15 20.4**	**-0.1**
	SNR=204						
CHMN	**Cheshme madani**	**2.15**	**357**	*e*Pn	**Pn**	**12 15 18.1**	**+0.7**
CHMN				*e*		12 15 58.4	
CHMN	**Cheshme madani**	**2.15**	**357**		**Pn**	**12 15 18.1**	**+0.7**
KRBR	**Kerman**	**2.40**	**341**	*e*Pn	**Pn**	**12 15 22.4**	**+1.5**
KRBR				*e*Sg	**Sn**	**12 15 51.7**	**+1.6**
KRBR				IAML		12 15 58.9	
	comp=N,940nm,0.3s						
KRBR	**Kerman**	**2.40**	**341**	*e*Pn	**Pn**	**12 15 22.4**	**+1.5**
KRBR	**Kerman**	**2.40**	**341**	Pn	**Pn**	**12 15 22.2**	**+1.4**
KRBR					**Sn**	**12 15 51.5**	**+1.4**
TVBK	**TV Kerman**	**2.41**	**341**	*e*Pn	**Pn**	**12 15 21.5**	**+0.6**
TVBK				*e*		12 16 03.2	
TVBK	**TV Kerman**	**2.41**	**341**	Pn	**Pn**	**12 15 21.3**	**+0.4**
MDH	**Madha**	**2.69**	**207**	*e*P	**Pn**	**12 15 25.6**	**+1.0**
	SNR=9.4						
MDH	**Madha**	**2.69**	**207**	P	**Pn**	**12 15 25.7**	**+1.2**
MSFE	**Esma-Masafi**	**2.69**	**210**	*e*P	**Pn**	**12 15 25.1**	**+0.4**
	SNR=13						
KHGB	**Koh Gabri**	**2.86**	**339**	*e*Pn	**Pn**	**12 15 28.3**	**+1.3**
KHGB				*e*		12 16 15.9	
KHGB	**Koh Gabri**	**2.86**	**339**	Pn	**Pn**	**12 15 28.0**	**+1.0**
LAR1	**LAR**	**2.91**	**270**	*e*Pn	**Pn**	**12 15 27.9**	**+0.2**
UOSS	**Minazif**	**3.04**	**206**	*i* P	**Pn**	**12 15 30.7**	**+1.2**
	SNR=14						
UOSS	**Minazif**	**3.04**	**206**		**Pn**	**12 15 30.6**	**+1.2**
HATD	**Hatta, Dubai**	**3.18**	**206**	P	**Pn**	**12 15 32.1**	**+0.8**
NAZ	**Nazwa, Dubai**	**3.25**	**214**	P	**Pn**	**12 15 34.2**	**+2.0**
CHBR	**Chabahar**	**3.29**	**129**	*e*P	**Pg**	**12 15 43.9**	**-0.9**
CHBR	**Chabahar**	**3.29**	**129**		**Pg**	**12 15 43.4**	**-1.4**
ZHSF	**Zahedan**	**3.33**	**55**	*e*Pn	**Pb**	**12 15 40.3**	**-0.4**
ZHSF				*e*Sg	**Sg**	**12 16 31.5**	**+2.6**
ZHSF	**Zahedan**	**3.33**	**55**	*e*Pn	**Pb**	**12 15 40.3**	**-0.4**
ZHSF	**Zahedan**	**3.33**	**55**		**Pb**	**12 15 40.4**	**-0.3**
ZHSF					Lg	12 16 31.3	
ASHO	**Ashiyiah**	**3.33**	**206**	P	**Pn**	**12 15 35.9**	**+2.4**
JHRM	**Jahrom**	**3.69**	**283**	*e*Pn	**Pn**	**12 15 40.2**	**+1.8**
SOHO	**SOHO**	**3.70**	**196**	*i* P	**Pn**	**12 15 39.0**	**+0.6**
	SNR=8.0						
SOHO	**SOHO**	**3.70**	**196**	P	**Pn**	**12 15 39.3**	**+0.9**
LMD1	**Lamerd**	**4.01**	**266**	*e*Pn	**Pn**	**12 15 44.2**	**+1.5**
ALNE	**Al Ain**	**4.02**	**206**	P	**Pn**	**12 15 42.3**	**-0.5**
HOQ	**Hoqain**	**4.12**	**184**	P	**Pn**	**12 15 46.2**	**+2.0**
HOQ				S	**Sn**	**12 16 30.6**	**-1.4**
BIDO	**Bidbid**	**4.19**	**174**	P	**Pn**	**12 15 47.2**	**+2.0**
BIDO				S	**Sn**	**12 16 34.2**	**+0.5**
NHDN	**Nehbandan**	**4.22**	**29**	*e*Pn	**Pn**	**12 15 48.2**	**+2.5**
IBAF	**Bafgh**	**4.28**	**335**	*e*Pn	**Pn**	**12 15 47.4**	**+0.9**
BSRN	**Basiran**	**4.43**	**16**	*e*Pn	**Pn**	**12 15 52.2**	**+3.6**
BSRN	**Basiran**	**4.43**	**16**	*e*Pn	**Pn**	**12 15 52.2**	**+3.6**
BSRN	**Basiran**	**4.43**	**16**	Pn	**Pn**	**12 15 52.5**	**+3.9**
ARQ	**Araqi**	**4.47**	**194**	P	**Pn**	**12 15 53.1**	**+4.1**
	SNR=86						
ARQ				S	**Sn**	**12 16 44.0**	**+3.3**
IMEH	**Mehriz**	**4.53**	**325**	*e*Pn	**Pn**	**12 15 50.9**	**+0.8**
WSAR	**Wadi Sarin**	**4.53**	**169**	P	**Pn**	**12 15 53.0**	**+3.1**
	comp=N,12nm,0.3s,baz=359,slow=10,SNR=86						
WSAR				S	**Sn**	**12 16 44.0**	**+1.7**
	comp=N,36nm,0.3s,baz=232,slow=14,SNR=23						
WSAR	**Wadi Sarin**	**4.53**	**169**	P	**Pn**	**12 15 52.6**	**+2.7**
WSAR				S	**Sn**	**12 16 44.0**	**+1.7**
SMDO	**Samad**	**4.64**	**176**	P	**Pn**	**12 15 54.4**	**+3.0**
SMDO				S	**Sn**	**12 16 45.5**	**+0.4**
BSY	**Bisya**	**4.96**	**185**	P	**Pn**	**12 16 00.0**	**+4.3**
	SNR=25						
BSY				S	**Sn**	**12 16 58.3**	**+5.5**
WBK	**Wadi Bani Khal**	**5.21**	**167**	P	**Pn**	**12 16 02.0**	**+2.7**
	SNR=16						
WBK				S	**Sn**	**12 17 01.0**	**+2.0**
JMDO	**Jabal Madar**	**5.33**	**176**	P	**Pn**	**12 16 04.4**	**+3.6**
	SNR=7.7						
JMDO				S	**Sn**	**12 17 05.1**	**+3.2**
YZKH	**Yazd**	**5.37**	**331**	*e*Pn	**Pn**	**12 16 03.0**	**+1.5**
YZKH				*e*Sg	**Sb**	**12 17 21.6**	**+1.9**
YZKH	**Yazd**	**5.37**	**331**	*e*Pn	**Pn**	**12 16 03.1**	**+1.5**
YZKH	**Yazd**	**5.37**	**331**	Pn	**Pn**	**12 16 03.3**	**+1.5**
YZKH				Sg	**Sb**	**12 17 21.2**	**+1.4**
ISAD	**Sadrabad**	**5.43**	**321**	*e*Pn	**Pn**	**12 16 03.7**	**+1.2**
KAZ1	**Kazerun**	**5.63**	**291**	*e*Pn	**Pn**	**12 16 07.0**	**+2.0**
JLN	**Jalan Bani Buh**	**5.75**	**164**	P	**Pn**	**12 16 09.6**	**+3.0**
	SNR=11						
JLN				S	**Sn**	**12 17 11.9**	**-0.5**
AFRZ	**Afriz**	**5.82**	**11**	*e*Pn	**Pn**	**12 16 10.3**	**+2.6**
IRAM	**Ramesheh**	**6.15**	**313**	*e*Pn	**Pn**	**12 16 12.4**	**+0.1**
KLNJ	**Kolanjah**	**6.24**	**303**	*e*Pn	**Pn**	**12 16 13.9**	**+0.3**
SHRT	**Shahrakht**	**6.34**	**20**	*e*Pn	**Pn**	**12 16 18.8**	**+4.0**
SHRT	**Shahrakht**	**6.34**	**20**	*e*Pn	**Pn**	**12 16 18.8**	**+4.0**
SHRT	**Shahrakht**	**6.34**	**20**	Pn	**Pn**	**12 16 18.2**	**+3.4**
ANAR	**Anarak**	**6.43**	**329**	*e*Pn	**Pn**	**12 16 17.3**	**+1.2**
MHTO	**MHTO**	**6.70**	**178**	P	**Pn**	**12 16 22.6**	**+3.0**
MHTO				S	**Sn**	**12 17 37.8**	**+2.2**
ROKH	**ROKH**	**7.37**	**310**	*e*Pn	**Pn**	**12 16 30.0**	**-0.1**
JHBN	**Jahan bin**	**7.56**	**308**	*e*Pn	**Pn**	**12 16 32.3**	**+0.6**
IKLH	**Kolahrood**	**7.67**	**318**	*e*Pn	**Pn**	**12 16 34.1**	**+0.9**
IPIR	**Pirpir**	**7.68**	**312**	*e*Pn	**Pn**	**12 16 34.4**	**+1.1**
DQM	**DQM**	**7.74**	**181**	P	**Pn**	**12 16 36.2**	**+2.2**
DQM				S	**Sn**	**12 18 00.1**	**-1.3**
DMTO	**DMTO**	**10.25**	**195**	P	**Pn**	**12 17 08.7**	**+0.3**
DMTO				S	**Sn**	**12 19 00.2**	**-2.9**
WHFO	**Wadi Hawf**	**10.38**	**201**	P	**Pn**	**12 17 10.8**	**+0.6**
RBK	**Rabkut**	**10.64**	**198**	P	**Pn**	**12 17 13.9**	**+0.1**
ABTO	**Aybut**	**11.06**	**202**	P	**Pn**	**12 17 20.4**	**+0.8**
ABTO				P	**Pn**	**12 17 20.4**	**+0.8**
ASF	**Jabal al Asfar**	**18.53**	**289**	P	**P**	**12 18 56.1**	**-1.8**
	comp=N,0.3nm,0.3s,baz=104,slow=20,SNR=2.8						
MMAI	**Mount Meron Ar**	**19.91**	**291**	P	**P**	**12 19 10.9**	**-2.0**
	comp=N,1.0nm,0.3s,baz=96,slow=14,SNR=2.7						
EIL	**Elat**	**20.02**	**281**	P	**P**	**12 19 12.9**	**-1.2**
	comp=N,0.2nm,0.3s,baz=4.5,slow=3.9,SNR=5.6						
ABKAR	**Akbulak array**	**21.59**	**4**	P	**P**	**12 19 31.2**	**+0.3**
AKTO	**Aktyubinsk**	**22.70**	**1**	P	**P**	**12 19 43.0**	**+0.2**
	comp=N,2.2nm,0.7s,baz=171,slow=8.5,SNR=3.4						
BR131	**Keskin Array S**	**23.23**	**307**	P	**P**	**12 19 48.2**	**-0.3**
BRTR	**Keskin Array B**	**23.23**	**307**	P	**P**	**12 19 47.5**	**-1.0**
	comp=N,2.8nm,0.7s,baz=120,slow=11,SNR=15						
BRTR	**Keskin Array B**	**23.23**	**307**	P	**P**	**12 19 48.2**	**-0.3**
BVAR	**Borovoye Array**	**27.00**	**17**	P	**P**	**12 20 24.0**	**+1.1**
	comp=N,0.7nm,0.5s,baz=188,slow=7.5,SNR=6.2						
MKAR	**Makanchi Array**	**27.15**	**39**	P	**P**	**12 20 25.8**	**+1.4**
	comp=N,0.8nm,0.8s,baz=214,slow=7.9,SNR=4.0						
MKAR	**Makanchi Array**	**27.15**	**39**	P	**P**	**12 20 25.6**	**+1.1**
ZALV	**Zalesovo Beam**	**32.93**	**30**	P	**P**	**12 21 14.9**	**-0.5**
	comp=N,0.9nm,0.3s,baz=228,slow=8.9,SNR=5.6						
ZALV	**Zalesovo Beam**	**32.93**	**30**	P	**P**	**12 21 16.0**	**+0.6**
GERES	**GERESS Array B**	**39.75**	**314**	P	**P**	**12 22 12.9**	**-1.0**
	comp=N,0.2nm,0.5s,baz=104,slow=10,SNR=1.4						
FIA1	**FINESS Array S**	**39.78**	**337**	P	**P**	**12 22 13.0**	**-0.7**
FIA1				IAmb	IAmb	12 22 20.9	
	comp=Z,6.5nm,1.1s						
FINES	**FINESS Array B**	**39.78**	**337**	P	**P**	**12 22 12.7**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=142,slow=7.9,SNR=13						
TLY	**Talaya**	**41.80**	**42**	P	**P**	**12 22 30.8**	**+0.1**
	comp=Z,2.8nm,0.4s,baz=270,slow=10,SNR=2.1						
NOA	**NORSAR Array B**	**45.47**	**330**	P	**P**	**12 22 57.5**	**-2.6**
	comp=Z,0.3nm,0.7s,baz=121,slow=7.4,SNR=2.0						
ARCES	**ARCESS Array B**	**45.82**	**345**	P	**P**	**12 23 01.6**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=140,slow=7.1,SNR=1.4						
ARCES	**ARCESS Array B**	**45.82**	**345**	P	**P**	**12 23 02.2**	**-0.5**
EKA	**Eskdalemuir Ar**	**51.20**	**320**	P	**P**	**12 23 42.6**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=95,slow=7.5,SNR=1.4						
ESDC	**Sonseca Array**	**51.73**	**300**	P	**P**	**12 23 47.8**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=71,slow=7.4,SNR=9.5						
ESDC	**Sonseca Array**	**51.73**	**300**	P	**P**	**12 23 47.4**	**-1.3**
PAB	**San Pablo**	**52.05**	**300**	P	**P**	**12 23 50.4**	**-0.6**
PAB				IAmb	IAmb	12 24 10.3	
	comp=Z,8.2nm,1.5s						
TOA0	**Torodi Ar. Sit**	**53.99**	**266**	P	**P**	**12 24 04.4**	**-1.2**
TOA0				IAmb	IAmb	12 24 05.0	
	comp=Z,4.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**53.99**	**266**	P	**P**	**12 24 03.9**	**-1.7**
	comp=Z,3.6nm,0.6s,baz=60,slow=7.3,SNR=13						
TORD	**Torodi Ar. Bea**	**53.99**	**266**	P	**P**	**12 24 04.1**	**-1.4**
BOSA	**Boshof**	**64.03**	**212**	P	**P**	**12 25 14.6**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=72,slow=2.8,SNR=4.4						
BOSA	**Boshof**	**64.03**	**212**	P	**P**	**12 25 15.0**	**-0.1**
WRA	**Warramunga Arr**	**87.97**	**114**	P	**P**	**12 27 32.4**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=325,slow=3.8,SNR=2.3						
ASAR	**Alice Springs**	**89.50**	**117**	P	**P**	**12 27 38.2**	**-0.5**
	comp=Z,0.3nm,0.9s,baz=290,slow=5.8,SNR=2.5						
ASAR	**Alice Springs**	**89.50**	**117**	P	**P**	**12 27 39.4**	**+0.7**

*NEIC **31** 12:21:44.9±1.9, 15.˚7N±0.˚1×146.˚3E±0.˚2, h40km±8km, mb4.4/11, Error ellipse: s-maj=28.7km s-min=14.7km az=111.0*
*IDC **31** 12:21:45.8±4.0, 15.˚66N×146.˚34E, h54km±36km, mb3.5/7, mb1 3.7/8, mb1mx3.4/53, mbtmp3.8/8, ML3.7/1, MS2.8/3, Ms1 2.9/3, ms1mx2.6/32, Error ellipse: s-maj=40.9km s-min=20.1km az=95.0*

ISC 31 12:21:44.0±0.8, 15.7N±0.˚1×146.˚4E±0.˚2, h35km, n33, σ1.9/10/25, mb4.1/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.60**	**216**	P	**Pn**	**12 22 24.8**	**+1.2**
	15nm,0.3s,baz=106,slow=7.7,SNR=18						
GUMO				S	**Sn**	**12 22 53.8**	**-0.2**
	60nm,0.3s,baz=156,slow=21,SNR=13						
GUMO				LR	LR	12 23 23.0	
	comp=Z,33nm,21.8s,baz=25,slow=39						
GUMO	**Guam**	**2.60**	**216**		**Pn**	**12 22 24.2**	**+0.5**
PATS	**Pohnpei**	**14.60**	**126**	Pn	Pn	12 25 02.0	-6.2
JAY	**Jayapura**	**18.98**	**198**	LR	LR	12 31 34.3	
	comp=Z,36nm,21.7s,baz=320,slow=31						
H11S3	**WAKE ISLAND Hy**	**19.55**	**79**	T	T	12 46 49.8	
	baz=265,slow=75,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	**19.56**	**79**	T	T	12 46 56.0	
	baz=265,slow=75,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**19.56**	**79**	T	T	12 46 58.3	
	baz=265,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**19.88**	**75**	T	T	12 47 24.3	
	baz=263,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hy**	**19.89**	**75**	T	T	12 47 25.3	
	baz=263,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**19.90

	baz=311,SNR=1000						
HDA				Pg	**Pb**	**12 25 20.5**	**-0.1**
	baz=311						
HDA				S	**Sb**	**12 25 35.7**	**-0.2**
	baz=311						
HDA	**Harding Lake**	**1.19 130**		Pn	**Pn**	**12 25 19.4**	**-1.2**
HDA				Sn	**Sb**	**12 25 34.6**	**-1.3**
BPAW	**Bear Paw Mtn.**	**1.37 218**		Pn	**Pn**	**12 25 21.8**	**-1.4**
MCK	**McKinley**	**1.46 178**		Pn	**Pn**	**12 25 23.4**	**-0.9**
PS05	**TAPS Pump Stn5**	**1.77 339**			**Pn**	**12 25 28.6**	**0.0**
RND	**Reindeer**	**1.79 177**		Pn	**Pn**	**12 25 28.3**	**-0.6**
TRF	**Thorofare Moun**	**1.82 198**		Pn	**Pn**	**12 25 28.3**	**-1.2**
KTH	**Kantishna Hill**	**1.83 207**		Pn	**Pn**	**12 25 28.0**	**-1.5**
PS09	**TAPS Pump Stn9**	**1.89 130**			**Pn**	**12 25 29.3**	**-1.0**
COLD	**Coldfoot**	**2.11 348**		Pn	**Pn**	**12 25 33.3**	**-0.1**
	baz=167,SNR=603						
COLD				Pg	**Pg**	**12 25 38.2**	**-0.4**
	baz=167						
COLD				Sb	**Sb**	**12 26 04.3**	**+1.8**
	baz=167						
COLD	**Coldfoot**	**2.11 348**		Pn	**Pn**	**12 25 33.2**	**-0.1**
IM03		**2.12 294**			**Pn**	**12 25 32.4**	**-0.9**
IMAR	**Indian Mountai**	**2.12 294**		Pn	**Pn**	**12 25 32.5**	**-0.9**
CAST	**Castle Rocks**	**2.21 218**			**Pn**	**12 25 33.5**	**-1.3**
HUR	**Hurricane**	**2.23 187**			**Pn**	**12 25 35.1**	**+0.1**
WAT2	**Susitna Watana**	**2.24 175**			**Pn**	**12 25 35.2**	**0.0**
DHY	**Denali Highway**	**2.24 160**		Pn	**Pn**	**12 25 35.4**	**+0.1**
RIDG	**Independent Ri**	**2.33 127**		Pn	**Pn**	**12 25 34.8**	**-1.6**
WAT7	**Susitna Watana**	**2.36 178**			**Pn**	**12 25 36.7**	**-0.2**
WAT1	**Susitna Watana**	**2.37 175**			**Pn**	**12 25 36.8**	**-0.2**
SCRK	**Sand Creek**	**2.50 117**		Pn	**Pn**	**12 25 37.3**	**-1.4**
	baz=301,SNR=70						
SCRK				Pg	**Pg**	**12 25 44.7**	**-1.3**
	baz=301						
SCRK				Sb	**Sb**	**12 26 14.8**	**+1.1**
	baz=301						
SCRK	**Sand Creek**	**2.50 117**			**Pn**	**12 25 37.4**	**-1.4**
DOT	**Dot Lake**	**2.65 123**		Pn	**Pn**	**12 25 39.1**	**-1.8**
WAT6	**Susitna Watana**	**2.67 167**			**Pn**	**12 25 40.8**	**-0.4**
PPLA	**Purkeypile**	**2.68 213**		Pn	**Pn**	**12 25 39.9**	**-1.4**
PAX	**Paxson**	**2.72 143**		Pn	**Pn**	**12 25 41.5**	**-0.2**
CUT	**Chulitna**	**2.84 192**		P	**Pn**	**12 25 43.5**	**+0.2**
	baz=10,SNR=98						
CUT				Sb	**Sb**	**12 26 25.6**	**+2.1**
	baz=10						
CUT	**Chulitna**	**2.84 192**			**Pn**	**12 25 43.5**	**+0.2**
BM03	**Burnt Mountain**	**2.87 37**			**Pn**	**12 25 43.4**	**-0.5**
BMAR	**Burnt Mountain**	**2.89 37**		Pn	**Pn**	**12 25 43.4**	**-0.7**
K27K	**Chicken**	**3.22 108**		P	**Pn**	**12 25 47.8**	**-0.8**
	baz=294,SNR=58						
K27K				Sb	**Sb**	**12 26 37.0**	**+2.7**
	baz=294						
K27K	**Chicken**	**3.22 108**			**Pn**	**12 25 47.8**	**-0.8**
MENT	**Mentasta**	**3.25 131**		Pn	**Pn**	**12 25 50.0**	**+1.0**
PS04	**TAPS Pump Stn4**	**3.26 358**			**Pn**	**12 25 50.4**	**+1.3**
M24K	**Tolsona, Glenn**	**3.34 156**		P	**Pn**	**12 25 51.3**	**+1.0**
	baz=339,SNR=159						
EGAK	**Eagle**	**3.38 93**		Pn	**Pn**	**12 25 50.3**	**-0.4**
SKT	**Skwentna**	**3.40 200**		Pn	**Pn**	**12 25 51.1**	**0.0**
GHO	**Glory Hole Cre**	**3.42 179**		Pn	**Pn**	**12 25 51.2**	**-0.3**
SCM	**Sheep Creek Mo**	**3.45 166**		Pn	**Pn**	**12 25 51.6**	**-0.2**
TOLK	**Toolik Lake Re**	**3.48 357**		P	**Pn**	**12 25 53.5**	**+1.3**
	baz=176,SNR=72						
TOLK				Sb	**Sg**	**12 26 48.2**	**-1.7**
	baz=176						
TOLK	**Toolik Lake Re**	**3.48 357**		Pn	**Pn**	**12 25 53.7**	**+1.5**
PMR	**Palmer**	**3.60 181**		Pn	**Pn**	**12 25 53.8**	**0.0**
KNK	**Knik Glacier**	**3.79 176**		Pn	**Pn**	**12 25 56.8**	**+0.3**
TTA	**Tatalina**	**3.81 237**		Pn	**Pn**	**12 25 54.3**	**-2.4**
SUA	**Susitna One**	**3.81 192**		Pn	**Pn**	**12 25 56.6**	**-0.2**
TT01	**Tatalina**	**3.82 237**			**Pn**	**12 25 54.7**	**-2.2**
BC03		**3.83 120**			**Pn**	**12 25 55.0**	**-1.8**
STLK	**Strandline Lak**	**3.91 200**			**Pn**	**12 25 58.1**	**+0.1**
KLU	**Klutina**	**3.96 158**		Pn	**Pn**	**12 25 59.9**	**+1.1**
FIS	**Fire Island**	**4.09 188**			**Pn**	**12 26 00.6**	**+0.2**
SPCG	**Spurr Capps Gl**	**4.13 200**			**Pn**	**12 26 01.6**	**+0.4**
SPNN	**North Nagishla**	**4.17 205**			**Pn**	**12 26 01.9**	**+0.2**
SPCR	**Spurr Chakacha**	**4.25 201**			**Pn**	**12 26 03.0**	**+0.3**
DIV	**Divide**	**4.33 158**			**Pn**	**12 26 04.5**	**+0.6**
PWL	**Port Wells**	**4.35 175**			**Pn**	**12 26 05.5**	**+1.4**
GLI	**Glacier Island**	**4.41 168**		Pn	**Pn**	**12 26 05.2**	**+0.3**
GLB	**Gilahina Butte**	**4.43 145**		Pn	**Pn**	**12 26 06.8**	**+1.5**
CAPN	**Captain Cook N**	**4.53 193**		P	**Pn**	**12 26 09.2**	**+2.7**
	baz=11						
CAPN	**Captain Cook N**	**4.53 193**			**Pn**	**12 26 08.1**	**+1.5**
BVCY	**Beaver Creek**	**4.57 124**			**Pn**	**12 26 05.7**	**-1.4**
FID	**Port Fidalgo**	**4.60 164**		Pn	**Pn**	**12 26 08.3**	**+0.7**
MCARA	**McCarthy VSAT**	**4.68 142**		Pn	**Pn**	**12 26 10.2**	**+1.6**
BMRM	**Bremner River**	**4.69 152**			**Pn**	**12 26 08.7**	**0.0**
VRDI	**Verde Repeater**	**4.71 145**		Pn	**Pn**	**12 26 10.7**	**+1.6**
SLKM	**Skilak Lake**	**4.72 187**			**Pn**	**12 26 10.3**	**+1.0**
O22K	**Cooper Landing**	**4.73 184**		P	**Pn**	**12 26 11.5**	**+2.3**
	baz=3.5,SNR=51						
O22K	**Cooper Landing**	**4.73 184**			**Pn**	**12 26 10.4**	**+1.2**
EYAK	**Cordova Ski Ar**	**4.89 161**		Pn	**Pn**	**12 26 12.3**	**+0.8**
RDJH	**Redoubt Jeurge**	**4.92 202**			**Pn**	**12 26 12.6**	**+0.6**
HIN	**Hinchinbrook I**	**4.94 165**		Pn	**Pn**	**12 26 13.2**	**+1.0**
PTPK	**Patty Peak**	**4.99 140**			**Pn**	**12 26 13.9**	**+0.8**
YUK2	**White River**	**5.01 129**			**Pn**	**12 26 11.5**	**-1.8**
GOAT	**Goat Mountain**	**5.02 155**			**Pn**	**12 26 13.8**	**+0.4**
RDWB	**Redoubt West**	**5.02 202**			**Pn**	**12 26 14.0**	**+0.5**
RSO	**Redoubt South**	**5.03 201**		Pn	**Pn**	**12 26 12.9**	**-0.7**
SVW2	**Sparrevohn**	**5.06 219**		Pn	**Pn**	**12 26 12.5**	**-1.3**
RED	**Redoubt Volcan**	**5.08 201**			**Pn**	**12 26 13.7**	**-0.5**
SEW	**Seward**	**5.10 182**		Pn	**Pn**	**12 26 16.5**	**+2.2**
YUK3	**Moose Creek**	**5.14 128**			**Pn**	**12 26 13.3**	**-1.9**
BALM	**Baldy**	**5.15 141**		Pn	**Pn**	**12 26 16.5**	**+1.3**
EPYK	**Eagle Plains**	**5.21 71**		P	**Pn**	**12 26 15.5**	**-0.5**
	baz=262						
EPYK	**Eagle Plains**	**5.21 71**		Pn	**Pn**	**12 26 15.1**	**-0.8**
BARN	**Barnard Glacie**	**5.32 138**		Pn	**Pn**	**12 26 19.8**	**+2.2**
HMT	**Hamilton**	**5.33 154**		Pn	**Pn**	**12 26 17.9**	**+0.3**
BERG	**Berg Lake**	**5.39 151**			**Pn**	**12 26 19.1**	**+0.7**
NICHA	**Nichawak Mount**	**5.48 152**			**Pn**	**12 26 20.7**	**+1.0**
CTGM	**Chitina Glacie**	**5.49 137**		Pn	**Pn**	**12 26 21.2**	**+1.3**
BRLK	**Bradley Lake**	**5.50 190**		Pn	**Pn**	**12 26 21.2**	**+1.2**
ISLE	**Juniper Island**	**5.52 143**		Pn	**Pn**	**12 26 20.2**	**-0.1**
BARK	**Barkley Ridge**	**5.66 145**			**Pn**	**12 26 22.7**	**+0.5**
HOM	**Homer**	**5.67 193**		P	**Pn**	**12 26 24.1**	**+1.9**
	baz=11						
BAGL	**Bagley Icefiel**	**5.68 143**			**Pn**	**12 26 23.2**	**+0.9**
KAIM	**Kayak Island**	**5.69 156**		Pn	**Pn**	**12 26 22.8**	**+0.3**
KULT	**Kultieth River**	**5.74 147**			**Pn**	**12 26 23.9**	**+0.7**
CNPM	**China Poot**	**5.77 191**		Pn	**Pn**	**12 26 23.9**	**+0.4**
YAH	**Yahtse**	**5.88 142**		Pn	**Pn**	**12 26 26.2**	**+0.9**
TABL	**Table Mountain**	**5.98 139**		Pn	**Pn**	**12 26 26.6**	**0.0**
RKAV	**Rock Avalanche**	**6.04 141**			**Pn**	**12 26 27.6**	**+0.2**
YUK4	**Talbot Arm**	**6.07 125**			**Pn**	**12 26 27.3**	**-0.5**
YUK6	**Outpost Mounta**	**6.45 126**			**Pn**	**12 26 34.0**	**+0.9**
YUK5	**Granite Creek**	**6.49 124**			**Pn**	**12 26 33.4**	**-0.1**
YUK7	**Dusty Glacier**	**6.83 128**			**Pn**	**12 26 38.1**	**-0.2**
HYT	**Haines Junctio**	**6.83 124**		Pn	**Pn**	**12 26 38.1**	**-0.1**
INK	**Inuvik**	**6.89 56**		Pn	**Pn**	**12 26 38.6**	**-0.3**
	4.7nm,0.3s,baz=233,slow=16,SNR=141						
INK				Sn	**Sn**	**12 27 51.4**	**-5.7**
	2.2nm,0.3s,baz=247,slow=19,SNR=1.6						
INK				Lg	Lg	12 28 29.7	
	5.3nm,0.3s,baz=179,slow=26,SNR=2.0						
INK	**Inuvik**	**6.89 56**		Pn	**Pn**	**12 26 38.8**	**0.0**
ANM	**Nome**	**6.98 272**		Pn	**Pn**	**12 26 38.5**	**-1.6**
KAKN	**Katmai Knife C**	**7.47 205**			**Pn**	**12 26 47.6**	**+0.6**
KABU	**Katmai Buttres**	**7.54 206**			**Pn**	**12 26 48.4**	**+0.4**
KDAK	**Kodiak Island**	**7.62 194**		Pn	**Pn**	**12 26 48.5**	**-0.4**
	1.0nm,0.3s,baz=39,slow=7.9,SNR=26						
KDAK				Sn	**Sn**	**12 28 09.8**	**-5.2**
	0.7nm,0.3s,baz=305,slow=22,SNR=1.3						
KDAK	**Kodiak Island**	**7.62 194**		Pn	**Pn**	**12 26 47.9**	**-1.0**
OHAK	**Old Harbor**	**8.24 196**		Pn	**Pn**	**12 26 56.0**	**-1.5**
DLBC	**Dease Lake**	**11.21 118**		Pn	**Pn**	**12 27 37.7**	**-0.5**
	0.9nm,0.3s,baz=343,slow=14,SNR=16						
DLBC				Lg	Lg	12 30 46.8	
	0.7nm,0.3s,baz=19,slow=20,SNR=5.3						
DLBC	**Dease Lake**	**11.21 118**		Pn	**Pn**	**12 27 37.6**	**-0.6**
YKA	**Yellowknife Ar**	**15.30 84**		Pn	**Pn**	**12 28 30.8**	**-2.9**
	0.4nm,0.3s,baz=324,slow=15,SNR=9.4						
YKA				Sn	Sn	12 31 11.1	-12
	0.1nm,0.3s,baz=301,slow=24,SNR=3.2						
EUNU	**Eureka**	**22.11 24**		P	**P**	**12 29 51.6**	**-1.3**
B08A	**Colville Reser**	**23.08 123**		P	**P**	**12 30 04.7**	**+1.3**
C09A	**Chrisman Ranch**	**23.93 122**		P	**P**	**12 30 12.9**	**+1.1**
C09A				IAmb	IAmb	12 30 13.6	
	comp=Z,4.3nm,0.8s						
WALA	**Waterton Lakes**	**24.51 114**		P	**P**	**12 30 18.4**	**+1.1**
WALA				IAmb	IAmb	12 30 19.3	
	comp=Z,8.3nm,1.4s						
SEY	**Seymchan**	**24.93 292**		LR	LR	12 40 16.2	
	comp=Z,143nm,18.1s,baz=3.0,slow=37						
JTMT	**Jette**	**25.45 116**		P	**P**	**12 30 27.3**	**+1.6**
JTMT				IAmb	IAmb	12 31 04.1	
	comp=Z,7.9nm,1.0s						
F10A	**Beach Ranch, E**	**25.86 123**		P	**P**	**12 30 29.1**	**-0.4**
HRY	**Holter Researc**	**27.24 115**		P	**P**	**12 30 43.2**	**+1.3**
K05A	**Summer Lake**	**27.49 131**		P	**P**	**12 30 46.6**	**+2.3**
K05A				IAmb	IAmb	12 31 01.7	
	comp=Z,20nm,1.8s						
HLID	**Hailey**	**28.95 121**		P	**P**	**12 30 57.7**	**+0.4**
YHH	**Holmes Hill**	**29.23 116**		P	**P**	**12 31 00.7**	**+0.8**
YNE	**Yellowstone No**	**29.36 114**		P	**P**	**12 31 01.1**	**0.0**
IMW	**Indian Meadow**	**29.95 117**		P	**P**	**12 31 05.5**	**-0.7**
IMW				IAmb	IAmb	12 31 22.5	
	comp=Z,4.0nm,1.2s						
ULM	**Lac du Bonnet**	**30.96 93**		LR	LR	12 43 49.1	
	comp=Z,174nm,18.1s,baz=352,slow=37						
PD31	**Pinedale Array**	**31.44 116**		P	**P**	**12 31 19.1**	**-0.2**
PD31				IAmb	IAmb	12 31 23.1	
	comp=Z,1.8nm,0.9s						
PDAR	**Pinedale Array**	**31.44 116**		P	**P**	**12 31 20.7**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=330,slow=5.6,SNR=9.4						
PDAR	**Pinedale Array**	**31.44 116**		P	**P**	**12 31 19.4**	**0.0**
NVAR	**Mina Array Bea**	**32.21 131**		P	**P**	**12 31 27.8**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=322,slow=7.8,SNR=8.2						
NVAR	**Mina Array Bea**	**32.21 131**		P	**P**	**12 31 26.4**	**+0.3**
TXAR	**Lajitas Array**	**45.51 119**		P	**P**	**12 33 19.0**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=325,slow=8.3,SNR=9.9						
TXAR	**Lajitas Array**	**45.51 119**		P	**P**	**12 33 17.9**	**+0.5**
SONM	**Songino Array**	**53.24 306**		P	**P**	**12 34 19.3**	**+3.1**
	comp=Z,0.5nm,0.4s,baz=28,slow=6.5,SNR=2.4						
SONM	**Songino Array**	**53.24 306**		P	**P**	**12 34 16.0**	**-0.2**
FINES	**FINESS Array B**	**53.63 3**		P	**P**	**12 34 20.1**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=18,slow=9.2,SNR=1.3						
FINES	**FINESS Array B**	**53.63 3**		P	**P**	**12 34 20.8**	**+2.1**
ZALV	**Zalesovo Beam**	**54.26 324**		P	**P**	**12 34 24.4**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=44,slow=4.5,SNR=3.9						
ZALV	**Zalesovo Beam**	**54.26 324**		P	**P**	**12 34 23.4**	**0.0**
BVAR	**Borovoye Array**	**58.29 333**		P	**P**	**12 34 53.6**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=72,slow=4.7,SNR=1.7						
MKAR	**Makanchi Array**	**61.48 322**		P	**P**	**12 35 15.6**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=52,slow=5.6,SNR=3.6						
MKAR	**Makanchi Array**	**61.48 322**		P	**P**	**12 35 13.6**	**-0.6**
ESDC	**Sonseca Array**	**71.98 28**		P	**P**	**12 36 21.8**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=353,slow=4.7,SNR=1.8						
PTGA	**Pitinga**	**90.27 91**		LR	LR	13 20 09.4	
	comp=Z,78nm,20.1s,baz=104,slow=37						

TAP ***31*** *12:42:55.9,25˚.14N×122˚.17E,h171km,ML3.0,C*
JMA ***31*** *12:42:56.7±0.2,25˚.09N×122˚.17E,h160km±2km,M2.9*
ISC 31 12:42:56.6±1.9,25˚.10N±0˚.06×122˚.18E±0˚.04,
h164km±10km,n60,σ0°56/115,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TWB1	**Santiao Chiao**	**0.20**	**243**	*i* P		**Pn**	**12 43 18.6**	**+0.1**
	baz=229							
TWB1				S		**Sn**	**12 43 35.5**	**+0.1**
	baz=229							
TIPB	**Shuangxi**	**0.34**	**249**	P		**Pn**	**12 43 18.9**	**-0.1**
	baz=241							
TIPB				S		**Sn**	**12 43 35.8**	**-0.3**
	baz=241							
NWF	**Wu-fen Shan**	**0.36**	**266**	P		**Pn**	**12 43 18.8**	**-0.3**
	baz=258							
NWF				S		**Sn**	**12 43 36.4**	**+0.1**
	baz=258							
WFSB	**Wu-fen Shan**	**0.36**	**266**	P		**Pn**	**12 43 18.9**	**-0.1**
	baz=258							
WFSB				S		**Sn**	**12 43 36.2**	**+0.1**
	baz=258							
NTC	**Toucheng**	**0.40**	**233**	*e*P		**Pn**	**12 43 20.4**	**+1.3**
	baz=227							
NTC				*e*S		**Sn**	**12 43 36.5**	**+0.1**
	baz=227							
PCYT	**Pengchaiyu**	**0.54**	**349**	P		**Pn**	**12 43 20.0**	**+0.2**
	baz=350							
PCYT				S		**Sn**	**12 43 36.5**	**-1.1**
	baz=350							
TWA	**Mucha**	**0.55**	**258**	P		**Pn**	**12 43 20.0**	**+0.1**
	baz=252							
TWA				S		**Sn**	**12 43 38.6**	**+1.0**
	baz=252							
TWY	**Chenhua**	**0.56**	**289**	P		**Pn**	**12 43 19.9**	**+0.1**
	baz=284							
TWY				*e*S		**Sn**	**12 43 37.5**	**0.0**
	baz=284							
TWC	**Suao**	**0.57**	**212**	*e*P		**Pn**	**12 43 20.7**	**+0.8**
	baz=208							
TWC				S		**Sn**	**12 43 37.7**	**-0.1**
	baz=208							
TWE	**Neicheng**	**0.60**	**231**	P		**Pn**	**12 43 19.9**	**-0.1**
	baz=226							
TWE				S		**Sn**	**12 43 37.3**	**-0.7**
	baz=226							
TWS1	**Kuangyinshan**	**0.69**	**270**	P		**Pn**	**12 43 20.6**	**0.0**
	baz=266							
TWS1				*e*S		**Sn**	**12 43 39.0**	**+0.2**
	baz=266							
NWLT	**Wulai**	**0.69**	**243**	*e*P		**Pn**	**12 43 20.4**	**-0.2**
	baz=239							
NWLT				*e*S		**Sn**	**12 43 38.8**	**-0.3**
	baz=239							
ENTT	**Niouleou**	**0.72**	**231**	P		**Pn**	**12 43 20.9**	**+0.1**
	baz=227							
ENTT				S		**Sn**	**12 43 39.6**	**+0.3**
	baz=227							
ENAH	**Nanao**	**0.73**	**208**	*i* P		**Pn**	**12 43 21.3**	**+0.5**
	baz=205							
ENAH				S		**Sn**	**12 43 39.5**	**+0.1**
	baz=205							
ENA	**Nanau**	**0.78**	**211**	P		**Pn**	**12 43 21.6**	**+0.5**
	baz=208							
ENA				*i* S		**Sn**	**12 43 40.4**	**+0.4**
	baz=208							
NDT	**Datong Townshi**	**0.78**	**231**	P		**Pn**	**12 43 20.6**	**-0.6**
	baz=228							
NDT				S		**Sn**	**12 43 39.9**	**0.0**
	baz=228							
YHNB	**Yeheng**	**0.85**	**240**	P		**Pn**	**12 43 21.5**	**-0.2**
	baz=236							
YHNB				S		**Sn**	**12 43 39.9**	**-1.0**
	baz=236							
NSK	**Sanguang**	**0.86**	**241**	*i* P		**Pn**	**12 43 21.3**	**-0.4**
	baz=237							
NSK				*i* S		**Sn**	**12 43 39.9**	**-1.1**
	baz=237							
NCUH	**Zhongli**	**0.91**	**262**	*e*P		**Pn**	**12 43 22.1**	**0.0**
	baz=259							
NCUH				*e*S		**Sn**	**12 43 42.2**	**+0.6**
	baz=259							
JYNG	**Yonagunijimaku**	**0.95**	**133**	P		**Pn**	**12 43 22.3**	**0.0**
JYNG				S		**Sn**	**12 43 42.0**	**-0.1**
NNS	**Nan Shan**	**0.98**	**228**	*i* P		**Pn**	**12 43 23.1**	**+0.3**
	baz=225							
NNS				S		**Sn**	**12 43 42.3**	**-0.5**
	baz=225							
NNSB	**Datong**	**0.98**	**228**	P		**Pn**	**12 43 22.9**	**+0.2**
	baz=225							
NNSB				S		**Sn**	**12 43 42.6**	**-0.2**
	baz=225							
NNSH	**Datong**	**0.98**	**228**	*e*P		**Pn**	**12 43 22.8**	**0.0**
	baz=225							
NNSH				*e*S		**Sn**	**12 43 42.0**	**-0.8**
	baz=225							
YOJ	**Yonaguni jima**	**0.99**	**130**	P		**Pn**	**12 43 22.6**	**+0.1**
	baz=131							
YOJ				S		**Sn**	**12 43 42.6**	**+0.1**
	baz=131							
YOJ	**Yonaguni jima**	**0.99**	**130**	P		**Pn**	**12 43 22.7**	**+0.1**
YOJ				S		**Sn**	**12 43 42.7**	**+0.1**
NHW	**Xinwu Township**	**1.03**	**265**	*e*S		**Sn**	**12 43 43.7**	**+0.5**
	baz=262							
NACB	**Ninganchiao**	**1.06**	**210**	P		**Pn**	**12 43 23.2**	**0.0**
	baz=208							
NACB				S		**Sn**	**12 43 42.8**	**-1.0**
	baz=208							
ETLH	**Xiulin Townshi**	**1.09**	**216**	P		**Pn**	**12 43 23.8**	**+0.2**
	baz=213							
ETLH				S		**Sn**	**12 43 44.3**	**-0.1**
	baz=213							
TWD	**Chiawan**	**1.15**	**208**	*e*S		**Sn**	**12 43 45.2**	**+0.2**
	baz=206							
LIOB	**Emei**	**1.15**	**247**	P		**Pn**	**12 43 23.7**	**-0.3**
	baz=244							
LIOB				S		**Sn**	**12 43 44.4**	**-0.6**
	baz=244							
NSTT	**Nanjuang**	**1.17**	**247**	*i* P		**Pn**	**12 43 23.8**	**-0.3**
	baz=244							
NSTT				S		**Sn**	**12 43 44.3**	**-1.0**
	baz=244							
FUSS	**Fushou**	**1.20**	**225**	P		**Pn**	**12 43 25.6**	**+0.9**
	baz=223							
FUSS				S		**Sn**	**12 43 46.6**	**+0.3**
	baz=223							
TWT	**Tachien**	**1.24**	**228**	P		**Pn**	**12 43 25.9**	**+0.9**
	baz=225							
TWT				S		**Sn**	**12 43 47.5**	**+0.7**
	baz=225							
TDCB	**Techi**	**1.25**	**228**	P		**Pn**	**12 43 25.6**	**+0.5**
	baz=226							
TDCB				S		**Sn**	**12 43 46.6**	**-0.3**
	baz=226							
WHF	**Hehuan Shan**	**1.26**	**221**	P		**Pn**	**12 43 26.1**	**+0.6**
	baz=219							
WHF				S		**Sn**	**12 43 46.8**	**-0.8**
	baz=219							
CHGB	**Renai**	**1.38**	**222**	P		**Pn**	**12 43 27.3**	**+0.9**
	baz=220							
CHGB				*e*S		**Sn**	**12 43 49.2**	**0.0**
	baz=220							
WHP	**Taichung City**	**1.39**	**234**	P		**Pn**	**12 43 26.4**	**+0.1**
	baz=232							
WHP				*e*S		**Sn**	**12 43 48.3**	**-0.8**
	baz=232							
ESL	**Shilin**	**1.45**	**208**	S		**Sn**	**12 43 48.9**	**-1.1**
	baz=206							
TWQ1	**Liyutan**	**1.48**	**240**	*e*P		**Pn**	**12 43 27.9**	**+0.8**
	baz=238							
TWQ1				S		**Sn**	**12 43 49.9**	**-0.6**
	baz=238							
IRIF	**Iriomote-Funau**	**1.60**	**118**	P		**Pn**	**12 43 28.1**	**-0.2**
IRIF				S		**Sn**	**12 43 52.5**	**-0.2**
VWDT	**VWDT**	**1.64**	**215**	*e*P		**Pn**	**12 43 29.7**	**+1.0**
	baz=214							
VWDT				*e*S		**Sn**	**12 43 54.1**	**+0.7**
	baz=214							
SMLT	**Sun Moon Lake**	**1.68**	**224**	P		**Pn**	**12 43 28.8**	**-0.5**
	baz=222							
SMLT				*e*S		**Sn**	**12 43 54.7**	**+0.3**
	baz=222							
TYC	**Yuchr**	**1.69**	**226**	P		**Pn**	**12 43 29.5**	**+0.3**
	baz=223							
TYC				S		**Sn**	**12 43 54.1**	**-0.3**
	baz=223							
SSLB	**Suanglung**	**1.72**	**221**	P		**Pn**	**12 43 29.7**	**+0.1**
	baz=219							
SSLB				S		**Sn**	**12 43 54.9**	**-0.1**
	baz=219							
HGSD	**Ruisui**	**1.74**	**203**	*e*P		**Pn**	**12 43 30.2**	**+0.5**
	baz=202							
EHY	**Hungye**	**1.77**	**206**	*e*P		**Pn**	**12 43 30.6**	**+0.5**
	baz=205							
HATJ	**Hateruma jima**	**1.81**	**125**	P		**Pn**	**12 43 30.9**	**+0.5**
HATJ				*e*S		**Sn**	**12 43 56.9**	**+0.3**
JKRS	**Kuro-shima**	**1.87**	**117**	P		**Pn**	**12 43 31.5**	**+0.4**
JKRS				S		**Sn**	**12 43 57.8**	**0.0**
YULB	**Yu-li**	**1.88**	**206**	*e*P		**Pn**	**12 43 31.1**	**-0.2**
	baz=204							
YULB				*e*S		**Sn**	**12 43 57.5**	**-0.6**
	baz=204							
EYUL	**Yuli**	**1.91**	**204**	*e*P		**Pn**	**12 43 32.5**	**+0.8**
	baz=203							
EYUL				*e*S		**Sn**	**12 43 57.7**	**-1.0**
	baz=203							
TWF1	**Yuli**	**1.92**	**205**	*e*P		**Pn**	**12 43 31.1**	**-0.6**
	baz=203							
TWF1				*e*S		**Sn**	**12 43 57.8**	**-1.0**
	baz=203							
JIJ	**Ishigaki jima**	**1.93**	**112**	P		**Pn**	**12 43 31.6**	**-0.2**
JIJ				S		**Sn**	**12 43 57.6**	**-1.3**
JISG	**Ishigakijimahi**	**2.00**	**104**	P		**Pn**	**12 43 32.6**	**0.0**
JISG				*e*S		**Sn**	**12 43 59.7**	**-0.7**
ALS	**Alishan**	**2.02**	**219**	P		**Pn**	**12

baz=92
UCH Uchtor 1.79 82 ⇓*i*P Pg 12 43 47.7 -0.1
baz=81
UCH ⇓*i*S Sg 12 44 13.0 +1.9
baz=81
UCH Uchtor 1.79 82 P Pg 12 43 47.8 -0.1
SNR=204
AAK Ala-Archa 1.88 69 ⇑*i*P Pg 12 43 49.2 -0.2
baz=68
AAK ⇑*i*S Sg 12 44 15.2 +1.5
baz=68
AAK Ala-Archa 1.88 69 P Pg 12 43 49.6 +0.3
SNR=98
AAK Ala-Archa 1.88 69 ⇑Pn Pg 12 43 49.7 +0.3
105nm,0.6s
AAK ⇓Sn Sg 12 44 17.3 +3.6
172nm,0.6s
BRLS Borolday 1.99 302 *e*P Pb 12 43 49.0 -0.7
25nm,0.3s
BRLS *e*S Sb 12 44 14.7 +0.2
695nm,0.6s
BRLS Borolday 1.99 302 Pg Pb 12 43 49.0 -0.7
25nm,0.3s
BRLS Lg Lg 12 44 14.7
695nm,0.6s
FRU1 Bishkek 2.03 65 ⇑*i*P Pg 12 43 51.3 -1.0
baz=65
FRU1 ⇑*i*S Sg 12 44 19.2 +0.5
baz=65
BTK Batken 2.17 208 ⇑*i*P Pb 12 43 51.6 -1.1
baz=7.0
BTK ⇑*i*S Sb 12 44 19.9 +0.2
baz=7.0
BTK Batken 2.17 208 *e*P Pb 12 43 50.3 -2.4
BTK *e*S Sg 12 44 30.1 +7.1
USP Ospenovka 2.17 53 ⇑*i*P Pg 12 43 53.3 -1.7
baz=53
USP ⇑*i*S Sg 12 44 22.5 -0.6
baz=53
USP Ospenovka 2.17 53 P Pg 12 43 54.6 -0.4
SNR=90
CHMS Chumysh 2.19 62 ⇓*i*P Pg 12 43 53.7 -1.7
baz=61
CHMS ⇓*i*S Sg 12 44 23.1 -0.7
baz=61
CHMS Chumysh 2.19 62 P Pg 12 43 54.9 -0.5
SNR=66
KBK Karagaybulak 2.20 71 ⇑*i*P Pg 12 43 54.0 -1.6
baz=71
KBK ⇑*i*S Sg 12 44 23.6 -0.5
baz=71
KBK Karagaybulak 2.20 71 P Pg 12 43 56.4 +0.8
SNR=150
TAS Tashkent 2.22 254 ⇑*i*P Pb 12 43 52.2 -1.4
baz=54
TAS ⇑*i*S Sb 12 44 21.0 -0.2
baz=54
KZA Kyzart 2.33 87 ⇓*i*P Pg 12 43 55.9 -2.2
baz=86
KZA ⇓*i*S Sg 12 44 26.7 -1.6
baz=86
KZA Kyzart 2.33 87 P Pg 12 43 57.3 -0.8
SNR=235
SGDS Sogindy 2.36 51 Pg Pg 12 43 57.6 -1.0
110nm,0.5s
SGDS Lg Lg 12 44 30.4
419nm,0.3s
TKM2 Tokmak 2 2.73 69 P Pb 12 44 02.8 +0.2
SNR=97
TKM2 Tokmak 2 2.73 69 ⇓Pn Pb 12 44 02.9 +0.4
40nm,0.3s
TKM2 ⇑Lg Lg 12 44 42.1
208nm,0.5s
KST Kastek 3.03 68 *e*P Pg 12 44 10.0 -1.4
80nm,0.6s
KST *e*S Sg 12 44 51.4 +0.8
185nm,0.4s
KST Kastek 3.03 68 Pg Pg 12 44 10.0 -1.4
80nm,0.6s
KST Lg Lg 12 44 51.4
185nm,0.4s
ULHL Ulahol 3.08 84 ⇑*i*P Pb 12 44 06.1 -2.2
baz=83
ULHL ⇑*i*S Sb 12 44 44.3 -1.7
baz=83
ULHL Ulahol 3.08 84 P Pb 12 44 07.6 -0.7
SNR=30
KRBS Karabastau 3.12 56 *e*P Pg 12 44 10.8 -2.4
20nm,0.3s
KRBS *e*S Sg 12 44 52.1 -1.5
39nm,0.2s
KRBS Karabastau 3.12 56 Pg Pg 12 44 10.8 -2.4
20nm,0.3s
KRBS Lg Lg 12 44 52.1
39nm,0.2s
GAR Garm 3.29 205 ⇑*i*P Pn 12 44 07.3 +2.2
baz=5.0
GAR ⇑*i*S Sn 12 44 46.9 +2.6
baz=5.0
BTLS Baital 3.36 24 *e*P Pg 12 44 16.9 -0.8
22nm,0.3s
BTLS *e*S Sg 12 45 02.2 +1.0
19nm,0.9s
BTLS Baital 3.36 24 Pg Pg 12 44 16.9 -0.8
22nm,0.3s
BTLS Lg Lg 12 45 02.2
19nm,0.9s
MTBS Maitube 3.38 69 *e*P Pg 12 44 15.2 -2.9
32nm,0.3s
MTBS *e*S Sg 12 44 59.8 -2.1
89nm,0.5s
MTBS Maitube 3.38 69 Pg Pg 12 44 15.2 -2.9
32nm,0.3s
MTBS Lg Lg 12 44 59.8
89nm,0.5s
KUU Kurty 3.63 57 *e*P Pg 12 44 20.4 -2.6
9.6nm,0.3s
KUU *e*S Sg 12 45 08.9 -1.2
113nm,0.4s
KUU Kurty 3.63 57 Pg Pg 12 44 20.4 -2.6
9.6nm,0.3s
KUU Lg Lg 12 45 08.9
113nm,0.4s
TNSS Tian-Shan 3.72 72 *e*P Pg 12 44 21.4 -3.2
30nm,0.3s
TNSS *e*S Sg 12 45 10.9 -1.8
113nm,0.5s
TNSS Tian-Shan 3.72 72 Pg Pg 12 44 21.4 -3.2
30nm,0.3s
TNSS Lg Lg 12 45 11.0
113nm,0.5s
AAA Alma-Ata 3.74 69 *e*P Pg 12 44 23.7 -1.4
27nm,0.1s
AAA *e*S Sg 12 45 14.8 +1.2
101nm,0.3s
AAA Alma-Ata 3.74 69 Pg Pg 12 44 23.7 -1.4
27nm,0.1s
AAA Lg Lg 12 45 14.8
101nm,0.3s
KDJ Kajisay 3.77 86 ⇑*i*P Pb 12 44 15.7 -4.4
baz=86
KDJ ⇑*i*S Sb 12 45 01.2 -4.7
baz=86
KNDC Almaty 3.78 69 ⇑Pg Pg 12 44 26.0 +0.2
42nm,0.6s
KNDC ⇓Lg Lg 12 45 17.5
108nm,0.4s
MDOK Medeo 3.82 70 *e*P Pg 12 44 24.6 -2.0
26nm,0.3s
MDOK *e*S Sg 12 45 15.7 -0.4
63nm,0.6s
MDOK Medeo 3.82 70 Pg Pg 12 44 24.6 -2.0
26nm,0.3s
MDOK Lg Lg 12 45 15.7
63nm,0.6s
CHGR Chuyangaron 4.03 215 ⇑*i*P Pn 12 44 17.7 +2.5
baz=15
CHGR ⇑*i*S Sn 12 45 04.3 +1.9
baz=15
CHKK Chushkaly 4.03 61 *e*P Pg 12 44 27.9 -2.7
6.2nm,0.5s
CHKK *e*S Sg 12 45 21.2 -1.5
114nm,0.5s
CHKK Chushkaly 4.03 61 Pg Pg 12 44 27.9 -2.7
6.2nm,0.5s
CHKK Lg Lg 12 45 21.3
114nm,0.5s
KURS Kuram 4.70 69 *e*P Pg 12 44 40.4 -3.0
13nm,0.8s
KURS *e*S Sg 12 45 43.5 -0.8
54nm,1.1s
KURS Kuram 4.70 69 Pg Pg 12 44 40.4 -3.0
13nm,0.8s
KURS Lg Lg 12 45 43.4
54nm,1.1s
SATY Saty 4.76 75 *e*P Pg 12 44 42.6 -2.1
27nm,0.6s
SATY *e*S Sg 12 45 46.7 +0.4
54nm,0.7s
SATY Saty 4.76 75 Pg Pg 12 44 42.6 -2.1
27nm,0.6s
SATY Lg Lg 12 45 46.7
54nm,0.7s
KPKS Kokpek 5.05 71 *e*P Pg 12 44 47.2 -3.0
25nm,0.7s
KPKS *e*S Sg 12 45 54.4 -1.2
76nm,0.7s
UZB Uzynbulak 5.22 75 *e*P Pg 12 44 50.1 -3.4
11nm,0.7s
UZB *e*S Sg 12 46 00.2 -1.0
39nm,0.6s
UZB Uzynbulak 5.22 75 Pg Pg 12 44 50.1 -3.4
11nm,0.7s
UZB Lg Lg 12 46 00.2
39nm,0.6s
SHLS Shalkode 5.54 75 Pg Pg 12 45 03.2 +3.6
15nm,0.4s
SHLS Lg Lg 12 46 21.7
62nm,1.0s
PDGK Podgornoye 5.59 74 Pg Pg 12 44 58.1 -2.4
3.5nm,0.5s
PDGK Lg Lg 12 46 13.6
15nm,0.6s
PDGK Podgornoye 5.59 74 ⇑Pg Pg 12 44 58.6 -1.9
11nm,0.8s
PDGK ⇑Lg Lg 12 46 15.5
32nm,0.6s
KAPS Kapalarasan 6.20 55 Pg Pg 12 45 10.2 -1.8
6.9nm,0.7s
KAPS Lg Lg 12 46 34.6
34nm,0.9s
BRZS Berezniki 8.01 3 Pg Pg 12 45 43.6 -3.0
4.8nm,0.4s
BRZS Lg Lg 12 47 31.3
8.6nm,0.6s
MAKZ Makanchi 8.54 52 ⇓Pn Pn 12 45 19.6 +2.5
1.0nm,0.5s
MAKZ ⇑Sn Sn 12 46 59.3 +5.8
4.7nm,0.9s
MAKZ ⇓Lg Lg 12 47 47.5
22nm,1.1s
MK31 Makanchi Array 8.72 53 Pn Pn 12 45 23.9 +4.4
2.0nm,0.5s,baz=230,slow=12,SNR=19
MK31 ⇑Sn Sn 12 47 04.7 +6.8
3.3nm,0.5s
MK31 ⇑Lg Lg 12 47 53.9
11nm,0.7s
KURBB Kurchatov Arra 9.70 25 ⇓Lg Lg 12 48 23.6
22nm,0.6s
BVA0 Borovoye Array 11.11 355 ⇓Sn Sn 12 47 56.4 +0.1
3.0nm,0.6s,baz=153,slow=23,SNR=8.1
BVA0 ⇓Lg Lg 12 49 04.2
0.1nm,0.3s,baz=152,slow=9.4,SNR=6.5
BRVK Borovoye 11.15 354 ⇓Sn Sn 12 47 57.8 +0.5
2.8nm,0.5s
BRVK ⇓Lg Lg 12 49 05.2
7.2nm,0.7s
AB01 Akbulak array 11.20 315 ⇑Pn Pn 12 45 53.2 -0.2
1.0nm,0.5s

IDC 31 13:38:54.2±3.4, 19°.45S×175°.76W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.3/44, mbtmp3.6/2, Error ellipse: s-maj=203.1km s-min=50.8km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.81**	**255**	P	P			13 47 27.2	+1.0
	0.9nm,0.5s,baz=89,slow=7.9,SNR=40								
ASAR				PcP	PcP			13 48 58.6	-0.8
	0.3nm,0.5s,baz=105,slow=4.2,SNR=8.3								
WRA	**Warramunga Arr**	**46.84**	**261**	P	P			13 47 25.2	-1.2
	0.1nm,0.3s,baz=100,slow=8.7,SNR=11								
GERES	**GERESS Array B**	**149.70**	**348**	PKPbc	PKPbc			13 58 45.8	-0.3
	0.4nm,0.5s,baz=34,slow=4.0,SNR=4.3								

*IDC **31** 13:43:41.4±2.2, 9°.44S×111°.68E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/35, mbtmp3.7/5, MS3.1/2, Ms1 3.1/2, ms1mx2.5/45, Error ellipse: s-maj=79.5km s-min=21.6km az=54.0*
*NEIC **31** 13:43:47.0±2.8, 9°.7S±0°.1×111°.59E±0°.09, h53km±6km, mb4.2/10, Error ellipse: s-maj=19.6km s-min=9.8km az=209.0*
ISC 31 13:43:44.9±0.9, 9°.7S±0°.1×111°.57E±0°.09, h35km, n24, σ1s35/18, mb4.0/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**2.07**	**330**				**Pn**	**13 44 17.3**	**+0.1**
JAGI	**Jajag, Banyuwa**	**2.84**	**64**	Pn		**Pn**	**Pn**	**13 44 28.4**	**+0.7**
CISI	**Cisompet, Garu**	**4.29**	**300**	Pn		**Pn**	**Pn**	**13 44 48.6**	**+0.9**
LEM	**Lembang**	**4.85**	**306**	LR		LR		13 47 27.9	
	comp=Z,86nm,18.3s,baz=256,slow=47								
FITZ	**Fitzroy Crossi**	**15.99**	**123**	Pn		**Pn**	**Pn**	**13 47 25.9**	**-1.4**
	0.2nm,0.3s,baz=306,slow=9.9,SNR=2.3								
FITZ				Sn			Sn	13 50 10.2	-13
	0.1nm,0.3s,baz=58,slow=15,SNR=2.5								
FITZ	**Fitzroy Crossi**	**15.99**	**123**				**Pn**	**13 47 26.2**	**-1.0**
WB0	**Warramunga Arr**	**24.20**	**117**	P		**P**	**P**	**13 48 59.4**	**+1.0**
WB0				IAmb		IAmb	IAmb	13 49 06.5	
	comp=Z,7.6nm,1.4s								
WRA	**Warramunga Arr**	**24.21**	**117**	P		**P**	**P**	**13 48 59.9**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=293,slow=11,SNR=22								
WRA	**Warramunga Arr**	**24.21**	**117**	IAmb		IAmb	IAmb	13 49 05.6	
	comp=Z,0.1nm,0.7s								
WRAB	**Tennant Creek**	**24.22**	**117**	P		**P**	**P**	**13 49 00.2**	**+1.6**
WRAB				IAmb		IAmb	IAmb	13 49 56.2	
	comp=Z,16nm,1.9s								
WB2	**Warramunga Arr**	**24.22**	**117**	P		**P**	**P**	**13 49 00.1**	**+1.4**
WB2				IAmb		IAmb	IAmb	13 49 17.4	
	comp=Z,19nm,1.9s								
WR0	**Warramunga Arr**	**24.40**	**117**	P		**P**	**P**	**13 49 01.6**	**+1.4**
AS31	**Alice Springs**	**25.44**	**126**	P		**P**	**P**	**13 49 11.8**	**+2.1**
ASAR	**Alice Springs**	**25.44**	**126**	P		**P**	**P**	**13 49 12.2**	**+2.5**
	comp=Z,1.0nm,0.7s,baz=302,slow=9.2,SNR=24								
H08S2	**Diego Garcia H**	**38.67**	**270**	T		T	T	14 32 51.1	
	baz=94,slow=75,SNR=30								
H08S3	**Diego Garcia H**	**38.68**	**270**	T		T	T	14 32 48.8	
	baz=94,slow=75,SNR=22								
H08S1	**Diego Carcia H**	**38.69**	**270**	T		T	T	14 32 52.1	
	baz=94,slow=75,SNR=13								
ARMA	**Armidale**	**42.59**	**125**	P		**P**	**P**	**13 51 36.4**	**-1.5**
KSRS	**Korea Array**	**49.37**	**17**	P		**P**	**P**	**13 52 31.3**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=201,slow=8.4,SNR=6.9								
SONM	**Songino Array**	**57.48**	**356**	P		**P**	**P**	**13 53 30.3**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=179,slow=8.3,SNR=3.6								
SONM				LR		LR		14 22 46.1	
	comp=Z,39nm,18.6s,baz=48,slow=41								
SONM	**Songino Array**	**57.48**	**356**	IAmb		IAmb	IAmb	13 53 31.1	
	comp=Z,0.7nm,0.8s								
MK31	**Makanchi Array**	**62.03**	**338**	P		**P**	**P**	**13 54 01.5**	**-0.3**
MK31				IAmb		IAmb	IAmb	13 55 31.1	
	comp=Z,1.8nm,1.1s								
MKAR	**Makanchi Array**	**62.03**	**338**	P		**P**	**P**	**13 54 01.3**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=148,slow=7.9,SNR=6.7								
ABKAR	**Akbulak array**	**74.08**	**328**	P		**P**	**P**	**13 55 17.0**	**-0.3**

*IDC **31** 13:48:40.8±0.7, 12°.30N×87°.56W, h0km, mb4.0/12, mb1 4.3/15, mb1mx4.1/34, mbtmp4.0/15, ML3.6/3, Error ellipse: s-maj=30.2km s-min=13.1km az=50.0*
*UCR **31** 13:48:42.6±1.8, 11°.96N×88°.05W, h5km±6km, ML3.8, mb4.7(NEIC)*
*SNET **31** 13:48:42.6±1.8, 12°.02N×88°.09W, h0km±11km, ML3.8*
*GCG **31** 13:48:44.6±0.7, 13°.19N×87°.27W, h31km, MD4.6*
*INET **31** 13:48:45.7, 12°.03N×87°.93W, h15km, ML4.3*
*NEIC **31** 13:48:46.6±1.8, 12°.14N±0°.06×87°.87W±0°.06, h42km±5km, mb4.7/270, Error ellipse: s-maj=9.3km s-min=7.1km az=222.0*
ISC 31 13:48:47.4±1.0, 12°.07N±0°.05×87°.91W±0°.05, h51km±9km, n563, σ1s13/581, mb4.6/126, 2C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.04**	**53**	*e*P			**Pn**	**13 49 05.6**	**-0.2**
CRIN	**San Cristobal**	**1.04**	**53**	Pn			**Pn**	**13 49 05.6**	**-0.2**
CNCH	**Conchagua**	**1.20**	**3**	*i* P			**Pn**	**13 49 07.2**	**-0.9**
CNCH	**Conchagua**	**1.20**	**3**	*i* P			**Pn**	**13 49 07.2**	**-0.9**
JUCU	**Jucuaŗn**	**1.22**	**344**	⇑*i*P			**Pn**	**13 49 06.3**	**-2.0**
JUCU				*e*S			**Sn**	**13 49 23.8**	**0.0**
JUCU				IAML				13 49 28.9	
	comp=Z,2μm,0.3s								
JUCU	**Jucuaŗn**	**1.22**	**344**	⇑*i*P			**Pn**	**13 49 06.3**	**-2.0**
JUCU				*e*S			**Sn**	**13 49 23.8**	**0.0**
JUCU				IAML				13 49 28.9	
	comp=Z,2μm,0.3s								
LCND	**La Caada**	**1.23**	**1**	*e*P			**Pn**	**13 49 07.3**	**-1.0**
LCND				*e*S			**Sn**	**13 49 26.4**	**+2.5**
LCND				IAML				13 49 31.7	
	comp=Z,3μm,0.4s								
LCND	**La Caada**	**1.23**	**1**	*e*P			**Pn**	**13 49 07.3**	**-1.0**
LCND				*e*S			**Sn**	**13 49 26.4**	**+2.5**
LCND				IAML				13 49 31.7	
	comp=Z,3μm,0.4s								
LCY	**Lacayo**	**1.40**	**344**	*e*P			**Pn**	**13 49 09.3**	**-1.4**
LCY	**Lacayo**	**1.40**	**344**	*e*P			**Pn**	**13 49 09.3**	**-1.4**
BLLM	**Bellamira**	**1.40**	**347**	*e*P			**Pn**	**13 49 09.3**	**-1.4**
BLLM	**Bellamira**	**1.40**	**347**	*e*P			**Pn**	**13 49 09.3**	**-1.4**
ALJI	**Alcalda de J**	**1.41**	**333**	*e*P			**Pn**	**13 49 08.8**	**-1.9**
ALJI				IAML				13 49 30.5	
	comp=Z,2μm,0.4s								
ALJI	**Alcalda de J**	**1.41**	**333**	*e*P			**Pn**	**13 49 08.8**	**-1.9**
ALJI				*e*S			**Sn**	**13 49 27.4**	**-0.7**
ALJI				IAML				13 49 30.5	
	comp=Z,2μm,0.4s								
PACA	**Pacayal**	**1.45**	**344**	*e*P			**Pn**	**13 49 11.1**	**-0.3**
PACA	**Pacayal**	**1.45**	**344**	*e*P			**Pn**	**13 49 11.1**	**-0.3**
TECA	**Tecapa**	**1.53**	**338**	*e*P			**Pn**	**13 49 10.7**	**-1.8**
TECA	**Tecapa**	**1.53**	**338**	*e*P			**Pn**	**13 49 10.7**	**-1.8**
COEB	**Comit de Eme**	**1.55**	**337**	*e*P			**Pn**	**13 49 10.6**	**-2.1**
COEB				*e*S			**Sn**	**13 49 33.1**	**+1.4**
COEB				IAML				13 49 37.9	
	comp=Z,1μm,0.4s								
COEB	**Comit de Eme**	**1.55**	**337**	*e*P			**Pn**	**13 49 10.6**	**-2.1**
COEB				*e*S			**Sn**	**13 49 33.1**	**+1.4**
COEB				IAML				13 49 37.9	
	comp=Z,1μm,0.4s								
FAGO	**Alcalda de S**	**1.63**	**353**	*e*P			**Pn**	**13 49 12.8**	**-0.9**
FAGO				*e*S			**Sn**	**13 49 35.5**	**+2.0**
FAGO				IAML				13 49 41.9	
	comp=Z,697nm,0.6s								
FAGO	**Alcalda de S**	**1.63**	**353**	*e*P			**Pn**	**13 49 12.8**	**-0.9**
FAGO				*e*S			**Sn**	**13 49 35.5**	**+2.0**
FAGO				IAML				13 49 41.9	
	comp=Z,697nm,0.6s								
MASN	**Masaya**	**1.72**	**93**	*e*P			**Pn**	**13 49 15.0**	**0.0**
COEG	**Centro de Oper**	**1.81**	**328**	*e*P			**Pn**	**13 49 14.2**	**-2.0**
COEG				IAML				13 49 41.9	
	comp=Z,1μm,0.3s								
COEG	**Centro de Oper**	**1.81**	**328**	*e*P			**Pn**	**13 49 14.2**	**-2.0**
COEG				IAML				13 49 41.9	
	comp=Z,1μm,0.3s								
ESTN	**Estel**	**1.82**	**55**	*e*P			**Pn**	**13 49 15.9**	**-0.5**
ESTN	**Estel**	**1.82**	**55**				**Pn**	**13 49 15.9**	**-0.5**
LFIS	**El Faro**	**1.91**	**324**	*e*P			**Pn**	**13 49 14.9**	**-2.8**
LFRS	**El Faro**	**1.91**	**324**	*e*P			**Pn**	**13 49 14.9**	**-2.8**
PAVA	**Las Pavas**	**1.92**	**328**	*e*P			**Pn**	**13 49 16.0**	**-1.8**
PAVA				*e*S			**Sn**	**13 49 43.0**	**+2.2**
PAVA				IAML				13 49 47.1	
	comp=Z,911nm,0.4s								
PAVA	**Las Pavas**	**1.92**	**328**	*e*P			**Pn**	**13 49 16.0**	**-1.8**
PAVA				*e*S			**Sn**	**13 49 43.0**	**+2.2**
PAVA				IAML				13 49 47.1	
	comp=Z,911nm,0.4s								
LBRS	**Las Brisas**	**2.00**	**326**	*e*P			**Pn**	**13 49 17.6**	**-1.2**
LBRS	**Las Brisas**	**2.00**	**326**	*e*P			**Pn**	**13 49 17.6**	**-1.2**
LFU	**La Fuente**	**2.04**	**325**	*e*P			**Pn**	**13 49 17.4**	**-2.1**
LFU	**La Fuente**	**2.04**	**325**	*e*P			**Pn**	**13 49 17.4**	**-2.1**
SNET	**Serv Nac Est T**	**2.06**	**321**	Pn			**Pn**	**13 49 18.3**	**-1.4**
TGUH	**Tegucigalpa,Un**	**2.07**	**17**	*e*P			**Pn**	**13 49 20.0**	**+0.1**
TGUH	**Tegucigalpa,Un**	**2.07**	**17**				**Pn**	**13 49 19.6**	**-0.3**
UEES	**Universidad Ev**	**2.09**	**322**	*e*P			**Pn**	**13 49 19.2**	**-0.9**
UEES				*e*S			**Sn**	**13 49 47.0**	**+1.9**
UEES	**Universidad Ev**	**2.09**	**322**	*e*P			**Pn**	**13 49 19.2**	**-0.9**
UEES				*e*S			**Sn**	**13 49 47.0**	**+1.9**
MATN	**Matagalpa**	**2.11**	**66**	*e*P			**Pn**	**13 49 20.0**	**-0.4**
MATN	**Matagalpa**	**2.11**	**66**				**Pn**	**13 49 19.8**	**-0.6**
TACO	**Tacachico**	**2.36**	**323**	*e*P			**Pn**	**13 49 21.5**	**-2.2**
TACO				*e*S			**Sn**	**13 49 51.4**	**-0.1**
TACO				IAML				13 50 02.2	
	comp=Z,303nm,0.6s								
TACO	**Tacachico**	**2.36**	**323**	*e*P			**Pn**	**13 49 21.5**	**-2.2**
TACO				*e*S			**Sn**	**13 49 51.4**	**-0.1**
TACO				IAML				13 50 02.2	
	comp=Z,303nm,0.6s								
CEVE	**Cerro Verde**	**2.42**	**316**	*e*P			**Pn**	**13 49 22.3**	**-2.5**
CEVE				*e*S			**Sn**	**13 49 56.1**	**+2.7**
CEVE				IAML				13 50 10.6	
	comp=Z,2μm,0.5s								
CEVE	**Cerro Verde**	**2.42**	**316**	*e*P			**Pn**	**13 49 22.3**	**-2.5**
CEVE				*e*S			**Sn**	**13 49 56.1**	**+2.7**
CEVE				IAML				13 50 10.6	
	comp=Z,2μm,0.5s								
SBLS	**San Blas**	**2.43**	**317**	*e*P			**Pn**	**13 49 22.7**	**-2.2**
SBLS	**San Blas**	**2.43**	**317**	*e*P			**Pn**	**13 49 22.7**	**-2.2**
HZTE	**Horizontes, Gu**	**2.63**	**121**	*e*P			**Pn**	**13 49 26.4**	**-1.1**
ACON	**Acoyapa**	**2.67**	**92**				**Pn**	**13 49 26.2**	**-1.8**
MTO3	**Montecristo**	**2.71**	**329**				**Pn**	**13 49 26.9**	**-1.9**
GBS3	**Finca Las Img**	**2.72**	**118**	*e*P			**Pn**	**13 49 27.5**	**-1.2**
LAPC	**Finca la Perla**	**2.75**	**118**	*e*P			**Pn**	**13 49 28.8**	**-0.3**
GB1A	**Borinquen Arri**	**2.75**	**117**	*e*P			**Pn**	**13 49 28.7**	**-0.5**
BUEV	**Buena Vista**	**2.75**	**117**	*e*P			**Pn**	**13 49 28.8**	**-0.4**
GPS1	**Guardaparques**	**2.82**	**117**	*e*P			**Pn**	**13 49 30.0**	**-0.1**
ESQI	**Esquipulas**	**2.84**	**331**				**Pn**	**13 49 27.9**	**-2.5**
LIM1	**Limonal**	**2.94**	**117**	*e*P			**Pn**	**13 49 31.2**	**-0.5**
ORTG	**Ortega, Santa**	**2.94**	**125**	*e*P			**Pn**	**13 49 29.9**	**-1.9**
COLC	**Colonia**	**2.99**	**118**	*e*P			**Pn**	**13 49 31.6**	**-0.8**
HORNC	**Hornillas**	**2.99**	**116**	*e*P			**Pn**	**13 49 31.6**	**-0.9**
CUI	**Cuipilapa**	**3.03**	**117**	*e*P			**Pn**	**13 49 31.9**	**-1.1**
PLVR	**Palo Verde**	**3.03**	**124**	*e*P			**Pn**	**13 49 31.4**	**-1.7**
DUNO	**Dulce Nombre,**	**3.08**	**130**	*e*P			**Pn**	**13 49 31.3**	**-2.4**
GRZA	**Playa Garza**	**3.09**	**134**	*e*P			**Pn**	**13 49 30.8**	**-2.9**
ACAL	**Aguas Claras**	**3.15**	**117**	*e*P			**Pn**	**13 49 33.6**	**-1.1**
PTEN	**Parque Tenorio**	**3.16**	**115**	*e*P			**Pn**	**13 49 33.9**	**-0.9**
IXPC	**Ixpaco**	**3.24**	**311**	*e*P			**Pn**	**13 49 34.1**	**-1.8**
JTS	**Las Juntas de**	**3.39**	**121**	Pn			**Pn**	**13 49 34.2**	**-3.8**
	comp=Z,4.4nm,0.3s,baz=55,slow=7.1,SNR=16								
JTS				Sn			**Sn**	**13 50 16.2**	**-0.8**
	comp=Z,18nm,0.3s,baz=349,slow=18,SNR=5.7								
JTS	**Las Juntas de**	**3.39**	**121**	*e*P			**Pn**	**13 49 37.0**	**-0.9**
JTS	**Las Juntas de**	**3.39**	**121**	Pn			**Pn**	**13 49 36.7**	**-1.3**
PCG	**Pacaya**	**3.50**	**312**	*e*P			**Pn**	**13 49 37.1**	**-2.5**
ARE1	**Arenal 1**	**3.51**	**117**	*e*P			**Pn**	**13 49 39.3**	**-0.3**
CEDE	**Laguna Cedeo**	**3.51**	**116**	*e*P			**Pn**	**13 49 39.0**	**-0.6**
ESPN	**Las Esperanzas**	**3.53**	**88**	Pn			**Pn**	**13 49 38.2**	**-1.5**
COVE	**Coope Vega, Sa**	**3.69**	**111**	*e*P			**Pn**	**13 49 42.8**	**+0.9**
LAFE	**Finca La Fe, P**	**3.70**	**127**	*e*P			**Pn**	**13 49 39.9**	**-2.3**
FUG	**Fuego 3**	**3.71**	**310**	*e*P			**Pn**	**13 49 41.1**	**-1.4**
FUG				*e*S			**Sn**	**13 50 24.0**	**-1.0**
APG	**El Apazote**	**3.83**	**320**	Pn			**Pn**	**13 49 43.6**	**-0.5**
	comp=Z,2.4nm,0.3s,baz=167,slow=6.5,SNR=6.1								
JACO	**JACO, Garabito**	**3.98**	**127**	*e*P			**Pn**	**13 49 46.3**	**+0.3**
HDC	**Heredia**	**4.25**	**119**	Pn			**Pn**	**13 49 50.3**	**+0.5**
RTAL	**Retalhuleu**	**4.42**	**304**	Pn			**Pn**	**13 49 51.9**	**-0.2**
LCR2	**La Lucha 2**	**4.48**	**121**	*e*P			**Pn**	**13 49 53.4**	**+0.4**
RIMA	**Rio Macho**	**4.58**	**120**	*e*P			**Pn**	**13 49 54.3**	**-0.1**
CDM	**Cerro de Muert**	**4.78**	**121**	*e*P			**Pn**	**13 49 57.8**	**+0.5**
EDDO	**Dominical**	**4.86**	**125**	*e*P			**Pn**	**13 49 57.1**	**-0.9**
PEZE	**Perez Zeledon,**	**4.94**	**122**	*e*P			**Pn**	**13 49 59.5**	**+0.3**
PETF	**Flores**	**5.18**	**339**	Pn			**Pn**	**13 50 02.6**	**+0.2**
DRK0	**Durika**	**5.36**	**121**	*e*P			**Pn**	**13 50 04.9**	**-0.2**
RIOS	**Rincon, Osa**	**5.46**	**127**	*e*P			**Pn**	**13 50 06.9**	**+0.5**
PTJ1	**Puerto Jimnez**	**5.73**	**127**	*e*P			**Pn**	**13 50 10.4**	**+0.4**
PIRO	**Carate, Puerto**	**5.79**	**129**	*e*P			**Pn**	**13 50 11.0**	**+0.2**
CCIG	**Comitan**	**5.86**	**316**				**Pn**	**13 50 12.1**	**+0.1**
BRU2	**Volcan**	**6.07**	**122**	*e*P			**Pn**	**13 50 13.7**	**-1.2**
TEIG	**Tepich**	**8.12**	**358**	*e*P			**Pn**	**13 50 44.9**	**+2.2**
TEIG	**Tepich**	**8.12**	**358**	Pn			**Pn**	**13 50 42.5**	**-0.2**
CMIG	**Matias Romero**	**8.40**	**307**	Pn			**Pn**	**13 50 45.

TLIG Tlapa 11.66 299 Pn 13 51 31.1 -0.3
YOTC Yotoco, Valle 13.98 124 eP P 13 52 07.7 -1.9
GUY2C Guyana, Caldas 14.13 118 eP Pn 13 52 05.7 +0.2
PTBC PUERTO BERRIO, 14.36 111 eP P 13 52 13.9 +0.2
ANIL Santa Ana 14.48 120 eP P 13 52 16.6 +1.3
TOLC Tolima 14.50 120 eP P 13 52 18.3 +2.7
BBAC Balboa, Cauca 14.54 133 eP P 13 52 19.6 +3.7
POPC Popayan, Colom 14.61 130 eP P 13 52 17.7 +0.9
ORTC Ortega, Tolima 14.92 122 eP P 13 52 22.1 +2.0
061Z Ochoppi 15.23 25 P P 13 52 23.5 +0.2
BETC Betania 15.47 126 eP P 13 52 25.6 -0.5
RUSC La Rusia 15.87 111 P P 13 52 31.1 +0.1
FLOC Florencia 16.00 130 Pn 13 52 30.5 +1.2
KVTX Kingsville 18.02 330 P P 13 52 55.3 +1.1
GRTK Grand Turk 18.59 57 P P 13 52 59.2 -1.3
346A Big Creek Wild 19.28 356 P P 13 53 07.7 -0.3
346A IAmb IAmb 13 53 10.8
comp=Z,35nm,0.9s
833A Chaparral WMA, 19.41 328 P P 13 53 09.4 -0.1
baz=144,SNR=32
833A Chaparral WMA, 19.41 328 P P 13 53 09.5 -0.1
344A Westbrook Farm 19.47 353 Pn Pn 13 53 11.8 +0.2
344A IAmb IAmb 13 53 13.7
comp=Z,57nm,0.8s
352A Blakely 19.51 8 Pn Pn 13 53 12.1 0.0
352A IAmb IAmb 13 53 13.9
comp=Z,43nm,0.8s
342A Flagon Creek P 19.64 349 Pn Pn 13 53 13.4 -0.3
342A IAmb IAmb 13 53 18.8
comp=Z,28nm,0.7s
TIGA Tifton 19.68 11 P Pn 13 53 14.0 -0.2
baz=192,SNR=11
TIGA Tifton 19.68 11 Pn Pn 13 53 13.4 -0.8
250A Grady 19.87 4 P P 13 53 13.8 -0.6
VBMS Vicksburg 20.20 354 P Pn 13 53 20.2 0.0
baz=172
VBMS Vicksburg 20.20 354 Pn Pn 13 53 19.9 -0.4
255A Hazlehurst 20.39 13 Pn Pn 13 53 21.1 -1.4
255A IAmb IAmb 13 53 22.2
comp=Z,29nm,0.8s
146A Union 20.50 357 P P 13 53 21.9 +0.6
146A IAmb IAmb 13 53 25.6
comp=Z,32nm,1.0s
NATX Nacogdoches 20.56 343 P P 13 53 22.9 +0.9
baz=161
NATX Nacogdoches 20.56 343 P P 13 53 22.5 +0.5
NATX IAmb IAmb 13 53 23.6
comp=Z,37nm,0.7s
435B Jarrell 20.67 336 P P 13 53 22.5 -0.6
baz=152,SNR=13
435B Jarrell 20.67 336 P P 13 53 22.3 -0.8
435B IAmb IAmb 13 53 27.5
comp=Z,44nm,0.8s
152A Waverly Hall 20.71 8 P P 13 53 24.1 +0.6
152A IAmb IAmb 13 53 25.9
comp=Z,24nm,0.8s
143A Socs Landing, 20.79 352 P P 13 53 24.6 +0.2
143A IAmb IAmb 13 53 30.1
comp=Z,32nm,1.0s
LRAL Lakeview Retre 20.89 2 P Pn 13 53 28.1 -0.3
baz=182,SNR=13
LRAL Lakeview Retre 20.89 2 P P 13 53 25.4 0.0
LRAL IAmb IAmb 13 53 30.1
comp=Z,19nm,0.8s
154A Montrose 20.92 11 P Pn 13 53 26.4 -2.4
Z47A Carrollton 21.03 360 P P 13 53 27.3 +0.3
237A Washetta, Mont 21.13 341 P 13 53 28.5 +0.4
237A IAmb IAmb 13 53 32.7
comp=Z,40nm,0.8s
Z51A Franklin 21.30 6 P P 13 53 30.2 +0.4
Z51A IAmb IAmb 13 53 33.5
comp=Z,21nm,0.8s
JCT Junction City 21.38 331 P P 13 53 30.4 -0.4
baz=146,SNR=9.6
JCT Junction City 21.38 331 P P 13 53 29.7 -1.1
JCT IAmb IAmb 13 53 34.0
comp=Z,24nm,0.8s
Z41A Richland Creek 21.56 349 P P 13 53 33.2 +0.6
baz=167,SNR=7.4
Z41A Richland Creek 21.56 349 P P 13 53 32.4 -0.3
GOGA Godfrey 21.63 10 P P 13 53 34.1 +0.8
baz=192,SNR=19
GOGA Godfrey 21.63 10 P P 13 53 33.5 +0.2
GOGA IAmb IAmb 13 53 35.8
comp=Z,61nm,1.4s
WHTX Lake Whitney, 21.69 338 P P 13 53 33.3 -0.7
baz=154
WHTX Lake Whitney, 21.69 338 P P 13 53 33.2 -0.9
Y49A Blount Mountai 21.73 3 P P 13 53 34.4 -0.1
Y49A IAmb IAmb 13 53 35.8
comp=Z,20nm,0.7s
Y45A Yeager Farm, C 21.75 356 P P 13 53 34.2 -0.5
Y45A IAmb IAmb 13 53 37.4
comp=Z,23nm,0.8s
Y52A Lilburn 21.98 9 P P 13 53 36.6 -0.6
Y52A IAmb IAmb 13 53 40.0
comp=Z,22nm,0.8s
CCAR Cane Creek 22.03 351 P P 13 53 37.5 -0.2
CCAR IAmb IAmb 13 53 52.3
comp=Z,26nm,0.8s
WLAR White Oak Lake 22.04 348 P P 13 53 37.7 -0.1
Z38A Mt. Pleasant 22.07 344 P P 13 53 37.7 -0.4
Z38A IAmb IAmb 13 54 05.9
comp=Z,37nm,0.8s
X48A Hartselle 22.30 2 P P 13 53 39.5 -1.1
OXF Oxford 22.38 357 P P 13 53 41.0 -0.5
OXF IAmb IAmb 13 53 51.7
comp=Z,50nm,1.2s
Y55A Saluda 22.46 13 P P 13 53 42.8 +0.5
baz=196,SNR=11
FPAL Fort Paine 22.47 5 P P 13 53 41.7 -0.7
X51A Calhoun 22.57 7 P P 13 53 42.9 -0.6
TXAR Lajitas Array 22.59 322 P P 13 53 43.9 0.0
comp=Z,9.2nm,0.7s,baz=135,slow=9.8,SNR=116
TXAR Lajitas Array 22.59 322 P P 13 53 42.8 -1.1
TX31 Lajitas Ar. Si 22.59 322 P P 13 53 42.8 -1.1
TX31 IAmb IAmb 13 53 52.5
comp=Z,31nm,0.7s
TX32 Lajitas Array 22.59 322 P P 13 53 42.9 -1.0
HODGE Hodges 22.65 12 P P 13 53 44.0 -0.4
HODGE IAmb IAmb 13 53 46.2
comp=Z,20nm,0.8s
X40A Basin Creek Fa 22.76 349 P P 13 53 45.5 -0.1
baz=167
X40A Basin Creek Fa 22.76 349 P P 13 53 44.7 -0.9
PLAL Pickwick Lake 22.81 360 P P 13 53 44.8 -1.2
Z35A Perchaven, San 22.83 339 P P 13 53 45.6 -0.6
Y57A Sumter 22.90 16 P P 13 53 47.4 +0.5
baz=199
Y57A Sumter 22.90 16 P P 13 53 46.5 -0.4
Y57A IAmb IAmb 13 53 49.5
comp=Z,17nm,0.7s
PCRV Puerto La Cruz 22.91 92 P P 13 53 46.7 -0.6
comp=Z,6.2nm,0.6s,baz=171,slow=7.4,SNR=3.9
JSC Jenkinsville 22.93 14 P P 13 53 46.8 -0.4
X54A Belton 22.94 12 P P 13 53 47.6 +0.2
baz=194,SNR=20
PLCV Puerto La Cruz 22.95 92 P P 13 53 46.7 -1.0
UALR University of 22.96 351 P P 13 53 47.0 -0.5
UALR IAmb IAmb 13 53 49.3
comp=Z,19nm,0.8s
MIAR Mount Ida 22.96 348 P P 13 53 47.3 -0.3
baz=166,SNR=86
MIAR Mount Ida 22.96 348 P P 13 53 46.9 -0.7
W45A Hickory Valley 23.02 357 P P 13 53 46.4 -1.7
X55A Gracelyn & Ava 23.02 13 P P 13 53 48.3 +0.1
baz=196
CDVI St. Croix 23.05 73 P P 13 53 48.4 -0.2
SWET Sewanee 23.11 4 P P 13 53 48.1 -1.1
ABTX Abilene, Hawle 23.12 334 P P 13 53 47.6 -1.7
baz=150,SNR=22
ABTX Abilene, Hawle 23.12 334 P P 13 53 47.2 -2.0
W50A Signal Mountai 23.15 5 P P 13 53 48.5 -1.0
W50A IAmb IAmb 13 53 49.8
comp=Z,51nm,1.9s
X56A White Oak 23.18 15 P P 13 53 50.5 +0.7
baz=197
BG3 Lake Jocassee 23.26 10 P P 13 53 50.2 -0.4
BG3 IAmb IAmb 13 53 52.1
comp=Z,19nm,1.0s
PAULI Pauline 23.32 13 P P 13 53 51.2 +0.1
PAULI IAmb IAmb 13 53 53.9
comp=Z,24nm,0.9s
W41B Gary Mavity, V 23.34 351 P P 13 53 51.0 -0.2
baz=169,SNR=12
W41B Gary Mavity, V 23.34 351 P P 13 53 50.5 -0.7
W41B IAmb IAmb 13 53 51.9
comp=Z,20nm,0.8s
X37A Clayton 23.43 344 P P 13 53 51.6 -0.5
X37A IAmb IAmb 13 53 54.9
comp=Z,17nm,0.8s
WHAR Wooly Hollow 23.46 351 P P 13 53 51.6 -0.8
WHAR IAmb IAmb 13 53 52.9
comp=Z,21nm,0.9s
BIRD Birdtown, Kers 23.47 16 P P 13 53 52.4 -0.1
BIRD IAmb IAmb 13 53 53.6
comp=Z,18nm,0.7s
CPCT Cooper Cave 23.48 7 P P 13 53 52.2 -0.4
W54A Cherokee Point 23.50 12 P P 13 53 53.6 +0.8
baz=194,SNR=19
HBAR Harrisburg 23.52 354 P P 13 53 52.1 -0.8
HBAR IAmb IAmb 13 53 54.4
comp=Z,23nm,0.7s
LPAR Lepanto 23.53 355 P P 13 53 52.1 -1.0
V48A Smith Brothers 23.59 2 P P 13 53 52.7 -1.0
W39A Magazine 23.63 348 P P 13 53 54.2 +0.1
baz=165,SNR=12
W39A Magazine 23.63 348 P P 13 53 53.7 -0.4
W39A IAmb IAmb 13 53 56.3
comp=Z,46nm,1.4s
KMSC Kings Mountain 23.73 13 P P 13 53 55.5 +0.5
baz=196,SNR=7.5
KMSC Kings Mountain 23.73 13 P P 13 53 54.6 -0.4
KMSC IAmb IAmb 13 53 56.6
comp=Z,14nm,0.9s
TKL Tuckaleechee C 23.78 8 P P 13 53 55.5 +0.1
comp=Z,26nm,0.8s,baz=188,slow=10,SNR=35
TKL Tuckaleechee C 23.78 8 P P 13 53 55.0 -0.4
TKL IAmb IAmb 13 53 57.4
comp=Z,35nm,1.0s
V51A Loudon 23.85 7 P P 13 53 55.9 -0.1
GNAR Gosnell 23.87 356 P P 13 53 55.8 -0.4
GNAR IAmb IAmb 13 53 56.9
comp=Z,27nm,0.9s
W56A Indian Trail 23.91 15 P P 13 53 56.6 0.0
baz=198,SNR=5.0
V53A Saluda 23.95 10 P P 13 53 56.9 0.0
V53A IAmb IAmb 13 54 02.9
comp=Z,16nm,0.8s
X59A McDuffie Farm, 23.95 19 P P 13 53 57.3 +0.4
baz=203
WVT Waverly 23.96 0 P P 13 53 56.5 -0.5
baz=180
WVT Waverly 23.96 0 P P 13 53 56.6 -0.4
CLTN Cedars of Leba 23.96 3 P P 13 53 55.6 -1.5
V52A Sevierville 23.99 9 P P 13 53 57.0 -0.3
PEBM Pemiscott Bayo 24.00 356 P P 13 53 57.3 -0.2
FCAR Ozark Folk Cen 24.02 352 P P 13 53 56.5 -1.1
FCAR IAmb IAmb 13 53 58.7
comp=Z,12nm,0.7s
LCAR Lake Charles 24.08 354 P P 13 53 56.7 -1.4
LCAR IAmb IAmb 13 53 57.6
comp=Z,12nm,0.7s
W57A Gilead 24.08 16 P P 13 53 58.0 -0.1
baz=199
W57A Gilead 24.08 16 P P 13 53 57.5 -0.6
W57A IAmb IAmb 13 53 58.5
comp=Z,9.6nm,0.7s
X60A Albert Glenn T 24.16 20 P P 13 53 58.9 +0.1
baz=204
W58A Raeford 24.17 18 P P 13 53 58.8 -0.2
baz=201,SNR=6.5
V54A Nebo 24.21 12 P P 13 53 59.7 +0.3
baz=194,SNR=15
W35A Tecumseh 24.38 342 P P 13 53 59.9 -1.1
HICK Hickman 24.40 357 P P 13 54 00.0 -1.0
HICK IAmb IAmb 13 54 00.7
comp=Z,19nm,0.7s
U49A Red Boiling Sp 24.41 4 P P 13 53 59.8 -1.4
V55A Taylorsville 24.44 13 P P 13 54 01.8 +0.3
baz=196,SNR=5.5
V55A Taylorsville 24.44 13 P P 13 54 00.8 -0.6
PARMO Parma 24.55 356 P P 13 54 01.4 -0.9
V56A Mocksville 24.57 15 P P 13 54 02.6 0.0
baz=198,SNR=7.0
U40A Yellville 24.59 350 P P 13 54 02.3 -0.6
baz=168,SNR=27
U40A Yellville 24.59 350 P P 13 54 01.6 -1.2
U40A IAmb IAmb 13 54 03.2
comp=Z,25nm,0.9s
WMOK Wichita Mounta 24.64 338 P P 13 54 02.6 -0.7
baz=154,SNR=26
WMOK Wichita Mounta 24.64 338 P P 13 54 01.9 -1.5
WMOK IAmb IAmb 13 54 04.8
comp=Z,14nm,0.8s
FNO Franklin 24.64 341 P P 13 54 02.8 -0.5
W60A Pink Hill 24.68 20 P P 13 54 03.4 -0.3
baz=204
TZTN Tazewell 24.68 8 P P 13 54 02.8 -0.9
baz=190
TZTN Tazewell 24.68 8 P P 13 54 02.1 -1.6
HHAR Hobbs 24.71 348 P P 13 54 02.6 -1.3
HHAR IAmb IAmb 13 54 05.5
comp=Z,20nm,0.7s
TUL1 Leonard 24.79 345 P P 13 54 04.0 -0.6
baz=161,SNR=16
TUL1 Leonard 24.79 345 P P 13 54 03.6 -1.0
OKCSW OKLAHOMA CITY 24.79 341 P P 13 54 03.1 -1.5
OKCFA Oklahoma City 24.80 341 P P 13 54 03.6 -1.2
T47A Sharon Grove 24.82 2 P P 13 54 03.4 -1.6
V57A Coltrane Farms 24.83 16 P P 13 54 05.1 +0.1
baz=199,SNR=7.2
T45A Paducah 24.85 359 P P 13 54 03.9 -1.3
OK025 Westminster Rd 24.92 342 P P 13 54 04.3 -1.5
OK025 IAmb IAmb 13 54 25.6
comp=Z,21nm,0.8s
V58A Windy Hill, Pi 24.92 17 P P 13 54 05.8 -0.1
baz=201,SNR=12
V58A Windy Hill, Pi 24.92 17 P P 13 54 05.2 -0.6
V58A IAmb IAmb 13 54 06.8
comp=Z,31nm,0.9s
U54A Nelsons Funny 24.96 12 P P 13 54 06.3 +0.1
baz=194,SNR=17
U54A Nelsons Funny 24.96 12 P P 13 54 05.5 -0.7
U38A Gravette 24.96 348 P P 13 54 05.2 -0.9
U38A IAmb IAmb 13 54 07.7
comp=Z,27nm,0.8s
T50A Nancy 25.00 6 P P 13 54 05.2 -1.3
T42A Van Buren 25.02 354 P P 13 54 04.6 -2.1
T42A IAmb IAmb 13 54 06.1
comp=Z,12nm,0.7s
BCOK Bluff Creek, N 25.07 341 P P 13 54 05.7 -1.5
U55A TA2, Sparta 25.10 13 P P 13 54 07.6 +0.1
baz=196,SNR=8.2
U56A King 25.11 14 P P 13 54 07.8 +0.3
baz=197
U56A King 25.11 14 P P 13 54 07.5 0.0
U56A IAmb IAmb 13 54 10.7
comp=Z,20nm,1.1s
OK029 Liberty Lake 25.15 341 P P 13 54 06.2 -1.8
V59A Middlesex 25.16 19 P P 13 54 08.2 +0.2
baz=203,SNR=6.2
T53A Wise 25.27 10 P P 13 54 09.0 -0.1
baz=192
QUOK Quay 25.28 343 P P 13 54 07.2 -1.8
MGMO Mountain Grove 25.28 352 P P 13 54 07.5 -1.6
MNTX Cornudas Mount 25.32 323 P P 13 54 10.4 +0.9
baz=137,SNR=16
MNTX Cornudas Mount 25.32 323 P P 13 54 08.4 -1.1
U57A Blanch 25.46 16 P P 13 54 10.9 +0.2
baz=200,SNR=7.8
T54A Tazewell 25.53 12 P P 13 54 11.4 +0.1
baz=194,SNR=6.1
S44A Carbondale 25.55 358 P P 13 54 09.9 -1.5
S44A IAmb IAmb 13 54 11.3
comp=Z,16nm,0.8s
U58A Oxford 25.65 18 P P 13 54 12.0 -0.4
baz=201
T55A Pulaski 25.75 13 P P 13 54 13.7 +0.3
baz=196
S51A Beattyville 25.75 8 P P 13 54 12.3 -1.1
T56A Rocky Mt 25.84 15 P P 13 54 14.5 +0.3
baz=198
U59A Littleton 25.84 19 P P 13 54 14.6 +0.5
baz=203
U59A Littleton 25.84 19 P P 13 54 14.2 0.0
BLA Blacksburg 25.92 14 P P 13 54 15.5 +0.5
baz=197
BLA Blacksburg 25.92 14 P P 13 54 14.9 0.0
T35A Sooner Cattle 25.92 344 P P 13 54 14.2 -0.7
T35A IAmb IAmb 13 54 18.3
comp=Z,17nm,0.8s
AMTX Amarillo 25.93 333 P P 13 54 15.3 +0.2
baz=148
AMTX Amarillo 25.93 333 P P 13 54 14.5 -0.6
CROK Carrier 25.97 341 P P 13 54 14.0 -1.4
S39A Bolivar 25.97 350 P P 13 54 14.0 -1.4
T57A Hurt 26.01 16 P P 13 54 15.7 0.0
baz=200
T57A Hurt 26.01 16 P P 13 54 14.4 -1.3
S53A Williamson 26.02 10 P P 13 54 15.9 +0.1
baz=193
CCM Cathedral Cave 26.05 354 P P 13 54 14.8 -1.2
baz=172
CCM Cathedral Cave 26.05 354 P P 13 54 14.2 -1.8
CCM IAmb IAmb 13 54 15.6
comp=Z,17nm,0.8s
VWCC Virginia Weste 26.06 15 P P 13 54 15.7 -0.5
WCI Wyandotte Cave 26.09 3 P P 13 54 15.4 -1.0
baz=184
WCI Wyandotte Cave 26.09 3 P P 13 54 14.6 -1.8
WCI IAmb IAmb 13 54 16.5
comp=Z,18nm,0.8s
T58A Grand View Acr 26.16 17 P P 13 54 17.3 +0.2
baz=201
U32A Winter Ranch, 26.19 339 P P 13 54 16.9 -0.4
R49A Shelbyville 26.23 5 P P 13 54 16.1 -1.5
S54A Dingess, Beckl 26.29 12 P P 13 54 17.8 -0.5
baz=195
S54A Dingess, Beckl 26.29 12 P P 13 54 17.4 -0.9
R50A Paris 26.30 6 P P 13 54 16.2 -2.1
R40A Maddies Statio 26.40 352 P P 13 54 17.4 -1.8
T59A Double "B" Far 26.48 19 P P 13 54 20.0 +0.1
baz=203
T59A Double "B" Far 26.48 19 P P 13 54 18.7 -1.3
KAN10 Anthony SW Sta 26.57 342 P P 13 54 19.7 -1.1
R53A Hurricane 26.69 10 P P 13 54 21.2 -0.6
baz=193
KAN12 Harper NE Stat 26.70 342 P P 13 54 20.5 -1.5
R54A Victor 26.73 12 P P 13 54 22.1 0.0
baz=195
Q44A Meyer Farm, Va 26.74 358 P P 13 54 20.6 -1.6
Q44A IAmb IAmb 13 54 22.2
comp=Z,16nm,0.8s
S57A Dark Hollow, R 26.81 16 P P 13 54 22.6 -0.3
baz=200
S58A Poland Farm, P 26.92 17 P P 13 54 23.9 0.0
baz=202
R55A Marlinton 27.01 14 P P 13 54 25.0 +0.2
baz=197
R55A Marlinton 27.01 14 P P 13 54 24.6 -0.2
R55A IAmb IAmb 13 54 29.7
comp=Z,14nm,1.1s
BLO Bloomington 27.02 2 P P 13 54 23.3 -1.5
Q51A Peebles 27.15 8 P P 13 54 25.0 -0.9
Q51A IAmb IAmb 13 54 26.8
comp=Z,15nm,0.8s
Q52A Bidwell 27.25 10 P P 13 54 26.3 -0.6
baz=192
Q53A Leroy 27.28 11 P P 13 54 26.6 -0.5
baz=194
R56A Bull Pasture M 27.30 15 P P 13 54 27.9 +0.5
baz=198
121A Cookes Peak, D 27.35 321 P P 13 54 30.8 +2.8
baz=134
121A Cookes Peak, D 27.35 321 P P 13 54 29.3 +1.3
P48A Milroy 27.37 4 P P 13 54 25.9 -2.0
P48A IAmb IAmb 13 54 27.1
comp=Z,9.5nm,0.8s
R57A Stanardsville 27.43 16 P P 13 54 28.5 +0.1
baz=200,SNR=5.9
P49A Miami Univ. Ec 27.50 5 P P 13 54 27.4 -1.7
baz=187
P49A Miami Univ. Ec 27.50 5 P P 13 54 27.1 -1.9
Q54A Coxs Mills 27.53 12 P P 13 54 29.3 -0.1
baz=195,SNR=5.5
Q54A Coxs Mills 27.53 12 P P 13 54 27.9 -1.5
Q54A IAmb IAmb 13 54 30.8
comp=Z,13nm,0.8s
R58A Rapidan 27.58 17 P P 13 54 29.8 +0.1
baz=201
P40A Paris 27.60 353 P P 13 54 28.1 -1.9
Q55A Buckhannon 27.70 13 P P 13 54 30.9 0.0
baz=196
BNM Barren Site 27.82 325 P P 13 54 33.1 +0.8
P38A Dawn 27.89 351 P P 13 54 31.1 -1.4
P53A Whipple 27.91 11 P P 13 54 32.8 0.0
baz=194,SNR=7.8
P53A Whipple 27.91 11 P P 13 54 32.2 -0.6
P53A IAmb IAmb 13 54 33.6
comp=Z,17nm,0.8s
P52A Corning 27.93 10 P P 13 54 32.4 -0.5
baz=192
P52A Corning 27.93 10 P P 13 54 32.1 -0.8
P52A IAmb IAmb 13 54 33.1
comp=Z,13nm,0.8s
Q56A Snyder Ridge, 27.96 15 P P 13 54 33.8 +0.6
baz=198
Q56A Snyder Ridge, 27.96 15 P P 13 54 33.2 0.0
Q56A IAmb IAmb 13 54 42.7
comp=Z,36nm,1.8s
R32A Long Quarter, 27.96 342 P P 13 54 32.0 -1.2
R32A IAmb IAmb 13 54 35.3
comp=Z,12nm,0.8s
O44A Mansfield 27.98 359 P P 13 54 31.4 -1.9
O44A IAmb IAmb 13 54 32.7
comp=Z,12nm,0.8s
R60A Leonardtown, M 27.98 19 P P 13 54 30.8 -2.5
baz=204
KSU1 Kansas State U 28.01 345 P P 13 54 32.7 -1.0
baz=162
KSU1 Kansas State U 28.01 345 P P 13 54 32.0 -1.7
KSU1 IAmb IAmb 13 54 34.8
comp=Z,9.6nm,0.8s
LENM Lemitar 28.03 325 P P 13 54 34.4 +0.3
Q49A Covington 28.18 6 P P 13 54 33.5 -1.7
O49A IAmb IAmb 13 54 34.7
comp=Z,11nm,0.8s
P54A Burton 28.20 12 P P 13 54 35.4 +0.1
baz=195
SFIN Lafayette 28.21 1 P P 13 54 33.7 -1.6
baz=182
SFIN Lafayette 28.21 1 P P 13 54 33.9 -1.5
ANMO Albuquerque 28.32 327 P P 13 54 36.5 -0.2
comp=Z,0.0nm,0.3s,baz=319,slow=9.3,SNR=2.1
ANMO Albuquerque 28.32 327 P P 13 54 37.2 +0.4
O51A Pataskala 28.36 9 P P 13 54 36.2 -0.6
baz=191
ACSO Alum Creek Sta 28.39 8 P P 13 54 36.5 -0.4
baz=190
MCWV Mont Chateau 28.39 13 P P 13 54 37.6 +0.6
baz=197
HDIL Hopedale 28.40 358 P P 13 54 36.3 -0.7
baz=177
HDIL Hopedale 28.40 358 P P 13 54 36.1 -1.0
HDIL IAmb IAmb 13 54 37.0
comp=Z,10nm,0.8s
O52A Adamsville 28.45 10 P P 13 54 36.9 -0.6
baz=192
O52A Adamsville 28.45 10 P P 13 54 36.7 -0.8
O52A IAmb IAmb 13 54 37.7
comp=Z,9.9nm,0.8s
P56A Dayton Farm, R 28.48 15 P P 13 54 38.2 +0.4
baz=199
CBKS Cedar Bluff 28.64 340 P P 13 54 38.2 -1.1
CBKS IAmb IAmb 13 54 39.7
comp=Z,16nm,0.6s
N41A Harden Midland 28.64 355 P P 13 54 37.1 -2.2
N41A IAmb IAmb 13 54 38.2
comp=Z,12nm,0.8s
P57A Homestead Farm 28.68 16 P P 13 54 40.0 +0.5
baz=200
P57A Homestead Farm 28.68 16 P P 13 54 39.7 +0.1
P57A IAmb IAmb 13 54 41.0
comp=Z,13nm,0.8s
O53A New Philadelph 28.68 11 P P 13 54 39.4 -0.3
baz=194
O53A New Philadelph 28.68 11 P P 13 54 38.6 -1.0
O54A Avella 28.78 12 P P 13 54 40.0 -0.5
baz=195
O54A Avella 28.78 12 P P 13 54 39.4 -1.1
O54A IAmb IAmb 13 54 41.1
comp=Z,7.6nm,0.7s
P58A Pank, Wackersv 28.88 17 P P 13 54 41.7 +0.4
baz=202
N49A Columbus Grove 28.93 6 P P 13 54 40.0 -1.7

N49A					IAmb	IAmb	13 54 41.8		
	comp=Z,10nm,0.8s								
T25A	**Trinidad**	**29.03**	**332**		P	**P**	**13 54 44.3**	**+1.3**
	baz=145,SNR=6.6								
T25A	**Trinidad**	**29.03**	**332**		P	**P**	**13 54 42.8**	**-0.2**
N52A	**McGinn's Farm,**	**29.15**	**10**		P	**P**	**13 54 43.2**	**-0.5**
	baz=192								
N53A	**Lisbon**	**29.29**	**11**		P	**P**	**13 54 44.4**	**-0.6**
	baz=194								
N53A	**Lisbon**	**29.29**	**11**		P	**P**	**13 54 44.4**	**-0.6**
N53A					IAmb	IAmb	13 54 44.7		
	comp=Z,12nm,1.1s								
O57A	**Amberson**	**29.46**	**16**		P	**P**	**13 54 46.4**	**-0.1**
	baz=201								
N35A	**Tabor**	**29.48**	**348**		P	**P**	**13 54 45.2**	**-1.4**
N54A	**Moraine State**	**29.61**	**12**		P	**P**	**13 54 47.5**	**-0.3**
	baz=196								
N54A	**Moraine State**	**29.61**	**12**		P	**P**	**13 54 47.2**	**-0.6**
N54A					IAmb	IAmb	13 54 48.1		
	comp=Z,9.8nm,0.9s								
PAGS	**Pennsylvania G**	**29.73**	**17**		P	**P**	**13 54 48.8**	**-0.1**
PAGS					IAmb	IAmb	13 54 49.8		
	comp=Z,7.9nm,0.7s								
KSCO	**Kaye Shedlock'**	**29.85**	**337**		P	**P**	**13 54 50.2**	**+0.1**
KSCO					IAmb	IAmb	13 54 51.8		
	comp=Z,13nm,0.9s								
L48A	**N Adams**	**29.92**	**5**		P	**P**	**13 54 48.8**	**-1.7**
L48A					IAmb	IAmb	13 55 42.8		
	comp=Z,32nm,1.4s								
M53A	**WI Miller and**	**29.94**	**11**		P	**P**	**13 54 50.4**	**-0.3**
M53A					IAmb	IAmb	13 55 46.6		
	comp=Z,21nm,1.2s								
N56A	**West Decatur**	**29.95**	**15**		P	**P**	**13 54 50.7**	**-0.2**
	baz=199								
O59A	**Robesonia**	**29.97**	**18**		P	**P**	**13 54 51.5**	**+0.5**
	baz=203								
L40A	**Anamosa**	**30.02**	**355**		P	**P**	**13 54 49.7**	**-1.7**
L40A					IAmb	IAmb	13 54 51.1		
	comp=Z,9.6nm,0.8s								
SDCO	**Great Sand Dun**	**30.03**	**331**		P	**P**	**13 54 53.5**	**+1.6**
	baz=144,SNR=7.7								
SDCO	**Great Sand Dun**	**30.03**	**331**		P	**P**	**13 54 52.6**	**+0.6**
M54A	**Oil Creek Stat**	**30.20**	**12**		P	**P**	**13 54 52.6**	**-0.5**
	baz=196								
M54A	**Oil Creek Stat**	**30.20**	**12**		P	**P**	**13 54 52.3**	**-0.8**
BGNE	**Belgrade**	**30.57**	**345**		P	**P**	**13 54 55.8**	**-0.6**
	baz=160								
BGNE	**Belgrade**	**30.57**	**345**		P	**P**	**13 54 55.6**	**-0.8**
M57A	**Sunshine Farm,**	**30.65**	**16**		P	**P**	**13 54 57.0**	**0.0**
	baz=201								
M57A	**Sunshine Farm,**	**30.65**	**16**		P	**P**	**13 54 57.0**	**0.0**
M57A					IAmb	IAmb	13 54 58.6		
	comp=Z,9.1nm,0.8s								
N59A	**State Game Lan**	**30.65**	**18**		P	**P**	**13 54 57.5**	**+0.4**
	baz=204								
N59A	**State Game Lan**	**30.65**	**18**		P	**P**	**13 54 56.9**	**-0.2**
S22A	**4UR Ranch, Cre**	**30.67**	**330**		P	**P**	**13 54 57.6**	**+0.1**
K38A	**Parkersburg**	**30.76**	**353**		P	**P**	**13 54 56.7**	**-1.3**
K38A					IAmb	IAmb	13 55 04.7		
	comp=Z,14nm,0.9s								
JFWS	**Jewell Farm**	**30.80**	**357**		P	**P**	**13 54 56.9**	**-1.4**
	baz=175								
JFWS	**Jewell Farm**	**30.80**	**357**		P	**P**	**13 54 57.0**	**-1.3**
JFWS					IAmb	IAmb	13 56 01.0		
	comp=Z,9.5nm,1.1s								
BRNJ	**Basking Ridge**	**30.83**	**20**		P	**P**	**13 54 58.4**	**-0.2**
X16A	**Lo Mia Camp, P**	**30.88**	**320**		P	**P**	**13 55 00.1**	**+0.8**
MVCO	**Mesa Verde**	**31.11**	**327**		P	**P**	**13 55 04.2**	**+2.7**
	baz=138								
M59A	**Waymart**	**31.33**	**18**		P	**P**	**13 55 03.1**	**+0.1**
	baz=204								
L58A	**Harry Jones Me**	**31.66**	**17**		P	**P**	**13 55 06.0**	**+0.1**
	baz=203								
ISCO	**Idaho Springs**	**31.75**	**334**		P	**P**	**13 55 07.8**	**+0.7**
	baz=146								
ISCO	**Idaho Springs**	**31.75**	**334**		P	**P**	**13 55 07.2**	**+0.1**
K31A	**O'Neill**	**31.87**	**345**		P	**P**	**13 55 07.3**	**-0.4**
K56A	**Middlesex**	**31.87**	**15**		P	**P**	**13 55 07.3**	**-0.5**
	baz=200								
PV13	**Radium Mtn., P**	**31.99**	**328**		P	**P**	**13 55 08.8**	**-0.4**
L59A	**Walton**	**32.04**	**18**		P	**P**	**13 55 08.8**	**-0.4**
	baz=204								
L59A	**Walton**	**32.04**	**18**		P	**P**	**13 55 08.8**	**-0.4**
PV03	**Paradox Valley**	**32.08**	**328**		P	**P**	**13 55 09.7**	**-0.2**
PV12	**Saucer Basin,**	**32.10**	**328**		P	**P**	**13 55 09.6**	**-0.5**
PV12					IAmb	IAmb	13 55 15.9		
	comp=Z,7.3nm,0.7s								
PV18	**Skein Mesa, Pa**	**32.10**	**328**		P	**P**	**13 55 10.2**	**+0.1**
J54A	**Appleton**	**32.11**	**13**		P	**P**	**13 55 08.9**	**-0.9**
PV11	**David Mesa, Pa**	**32.12**	**328**		P	**P**	**13 55 10.7**	**+0.4**
PV11					IAmb	IAmb	13 55 17.9		
	comp=Z,5.0nm,0.7s								
PV17	**East Wray Mesa**	**32.16**	**328**		P	**P**	**13 55 10.3**	**-0.2**
PV17					IAmb	IAmb	13 55 16.0		
	comp=Z,5.9nm,0.7s								
I37A	**Lemond, Waseca**	**32.18**	**353**		P	**P**	**13 55 08.9**	**-1.5**
PV04	**Paradox Valley**	**32.21**	**328**		P	**P**	**13 55 10.9**	**-0.1**
PV04					IAmb	IAmb	13 55 16.7		
	comp=Z,5.6nm,0.8s								
SAML	**Samuel**	**32.25**	**129**		P	**P**	**13 55 10.2**	**-1.1**
SAML					IAmb	IAmb	13 55 12.5		
	comp=Z,4.8nm,0.7s								
PV14	**Lion Creek, Pa**	**32.26**	**328**		P	**P**	**13 55 11.5**	**0.0**
PV22	**Blue Mesa, Par**	**32.26**	**328**		P	**P**	**13 55 11.7**	**+0.2**
ECSD	**EROS Data Cent**	**32.44**	**348**		P	**P**	**13 55 11.1**	**-1.6**
	baz=164,SNR=12								
ECSD	**EROS Data Cent**	**32.44**	**348**		P	**P**	**13 55 10.8**	**-1.9**
ECSD					IAmb	IAmb	13 55 12.4		
	comp=Z,16nm,0.9s								
J56A	**Wolcott**	**32.53**	**15**		P	**P**	**13 55 13.2**	**-0.3**
	baz=200								
J56A	**Wolcott**	**32.53**	**15**		P	**P**	**13 55 12.3**	**-1.2**
N23A	**Red Feather La**	**32.80**	**334**		P	**P**	**13 55 16.9**	**+0.6**
	baz=146								
J57A	**Williamstown**	**32.88**	**16**		P	**P**	**13 55 14.9**	**-1.7**
J57A					IAmb	IAmb	13 55 17.7		
	comp=Z,12nm,0.9s								
PHWY	**Pilot Hill**	**32.94**	**335**		P	**P**	**13 55 17.0**	**-0.5**
PHWY					IAmb	IAmb	13 55 37.3		
	comp=Z,5.6nm,0.8s								
TRY	**Troy**	**32.96**	**19**		P	**P**	**13 55 17.6**	**+0.4**
TRY					IAmb	IAmb	13 55 18.3		
	comp=Z,18nm,1.1s								
BRYW	**Bryant College**	**32.99**	**23**		P	**P**	**13 55 17.4**	**-0.2**
G40A	**Rib Lake**	**33.14**	**357**		P	**P**	**13 55 16.9**	**-2.0**
G40A					IAmb	IAmb	13 55 18.4		
	comp=Z,9.2nm,1.0s								
O20A	**White River Ci**	**33.22**	**331**		P	**P**	**13 55 21.8**	**+2.0**
	baz=142,SNR=11								
O20A	**White River Ci**	**33.22**	**331**		P	**P**	**13 55 20.3**	**+0.5**
O20A					IAmb	IAmb	13 55 23.4		
	comp=Z,10nm,0.8s								
SPMN	**Marine on St.**	**33.31**	**354**		P	**P**	**13 55 18.5**	**-1.7**
	baz=171,SNR=5.7								
SPMN	**Marine on St.**	**33.31**	**354**		P	**P**	**13 55 18.0**	**-2.3**
H53A	**Bobcaygeon**	**33.37**	**12**		P	**P**	**13 55 19.6**	**-1.2**
	baz=197								
I58A	**Old Forge**	**33.43**	**17**		P	**P**	**13 55 20.7**	**-0.7**
	baz=203								
SADO	**Sadowa**	**33.44**	**11**		P	**P**	**13 55 20.1**	**-1.4**
SADO					IAmb	IAmb	13 55 21.7		
	comp=Z,12nm,0.8s								
DELO	**Deloro Mine**	**33.52**	**13**		P	**P**	**13 55 21.5**	**-0.6**
DELO					IAmb	IAmb	13 56 01.4		
	comp=Z,11nm,1.1s								
SRU	**San Rafael Swe**	**33.59**	**327**		P	**P**	**13 55 23.9**	**+0.8**
PFO	**Pinyon Flats O**	**33.75**	**314**		P	**P**	**13 55 25.3**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=324,slow=8.7								
I59A	**Olmsteadville**	**33.85**	**18**		P	**P**	**13 55 24.5**	**-0.6**
	baz=205								
COWI	**Conover**	**33.93**	**358**		P	**P**	**13 55 23.8**	**-2.0**
COWI					IAmb	IAmb	13 55 24.9		
	comp=Z,8.3nm,0.8s								
P17A	**Butcher Ranch,**	**33.97**	**327**		P	**P**	**13 55 25.6**	**-0.7**
RWWY	**Rawlins**	**33.99**	**334**		P	**P**	**13 55 26.8**	**+0.1**
RWWY					IAmb	IAmb	13 55 28.0		
	comp=Z,8.7nm,1.1s								
F36A	**Milaca**	**34.02**	**353**		P	**P**	**13 55 24.2**	**-2.2**
F36A					IAmb	IAmb	13 55 25.4		
	comp=Z,11nm,0.9s								
J62A	**Henniker**	**34.03**	**21**		P	**P**	**13 55 27.0**	**+0.5**
	baz=209								
PLVO	**Plevna**	**34.14**	**14**		P	**P**	**13 55 26.8**	**-0.7**
PLVO					IAmb	IAmb	13 55 27.8		
	comp=Z,11nm,1.0s								
E43A	**Lone Tree Farm**	**34.20**	**1**		P	**P**	**13 55 26.3**	**-1.7**
E43A					IAmb	IAmb	13 55 26.9		
	comp=Z,14nm,0.9s								
G54A	**Lake Saint Pet**	**34.26**	**12**		P	**P**	**13 55 27.7**	**-0.8**
	baz=197								
LPAZ	**La Paz**	**34.30**	**145**		P	**P**	**13 55 29.9**	**0.0**
	comp=Z,0.6nm,0.7s,baz=323,slow=6.4,SNR=3.6								
LPAZ	**La Paz**	**34.30**	**145**		IAmb	IAmb	13 56 17.7		
	comp=Z,13nm,2.0s								
H58A	**Gabriels**	**34.33**	**18**		P	**P**	**13 55 28.9**	**-0.3**
	baz=204								
LONY	**Lake Ozonia**	**34.39**	**17**		P	**P**	**13 55 29.1**	**-0.6**
	baz=203								
LONY	**Lake Ozonia**	**34.39**	**17**		P	**P**	**13 55 28.6**	**-1.2**
LONY					IAmb	IAmb	13 55 30.4		
	comp=Z,10.0nm,0.8s								
F33A	**5 Mile Ranch,**	**34.41**	**350**		P	**P**	**13 55 27.6**	**-2.2**
G55A	**Calabogie**	**34.42**	**14**		P	**P**	**13 55 29.3**	**-0.6**
	baz=200								
K22A	**Casper**	**34.50**	**335**		P	**P**	**13 55 31.4**	**+0.6**
	baz=146								
E38A	**The Farm, Brul**	**34.56**	**356**		P	**P**	**13 55 28.9**	**-2.2**
I62A	**Tamworth**	**34.76**	**21**		P	**P**	**13 55 33.6**	**+0.7**
	baz=209								
I62A	**Tamworth**	**34.76**	**21**		P	**P**	**13 55 33.3**	**+0.4**
ALGO	**Algonquin Park**	**34.80**	**12**		P	**P**	**13 55 31.7**	**-1.4**
	baz=197								
RSSD	**Black Hills**	**34.83**	**339**		P	**P**	**13 55 34.3**	**+0.5**
	baz=152								
RSSD	**Black Hills**	**34.83**	**339**		P	**P**	**13 55 34.0**	**+0.2**
RSSD					IAmb	IAmb	13 55 36.1		
	comp=Z,6.5nm,0.8s								
I63A	**Otisfield**	**35.19**	**22**		P	**P**	**13 55 37.0**	**+0.5**
I63A					IAmb	IAmb	13 55 37.8		
	comp=Z,15nm,0.9s								
E53A	**Dumoine, Ponti**	**35.28**	**12**		P	**P**	**13 55 36.3**	**-1.1**
	baz=197								
E54A	**Lac Daplat, Po**	**35.44**	**13**		P	**P**	**13 55 37.7**	**-1.0**
	baz=198								
EYMN	**Ely**	**35.89**	**356**		P	**P**	**13 55 40.4**	**-2.2**
	baz=174								
EYMN	**Ely**	**35.89**	**356**		P	**P**	**13 55 40.2**	**-2.4**
EYMN					IAmb	IAmb	13 55 41.1		
	comp=Z,7.7nm,0.7s								
BW06	**Boulder Array**	**35.90**	**332**		P	**P**	**13 55 43.4**	**+0.4**
	baz=142								
BW06	**Boulder Array**	**35.90**	**332**		P	**P**	**13 55 42.0**	**-1.1**
PD31	**Pinedale Array**	**35.90**	**332**		P	**P**	**13 55 42.5**	**-0.5**
PDAR	**Pinedale Array**	**35.90**	**332**		P	**P**	**13 55 42.5**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=133,slow=8.7,SNR=12								
PDAR					PcP	**PcP**	**13 58 10.1**	**+0.8**	
	comp=Z,0.7nm,0.6s,baz=145,slow=5.2,SNR=5.8								
PDAR	**Pinedale Array**	**35.90**	**332**		P	**P**	**13 55 41.5**	**-1.5**
D53A	**Lac Vacive, Po**	**35.94**	**12**		P	**P**	**13 55 42.7**	**-0.4**
	baz=197								
D53A	**Lac Vacive, Po**	**35.94**	**12**		P	**P**	**13 55 42.6**	**-0.4**
D53A					IAmb	IAmb	13 55 43.5		
	comp=Z,11nm,0.8s								
HWUT	**Hardware Ranch**	**35.97**	**329**		P	**P**	**13 55 43.0**	**-0.6**
HWUT					IAmb	IAmb	13 55 49.3		
	comp=Z,6.3nm,0.7s								
HWUT						**PcP**	**13 58 11.0**	**+1.5**	
E28A	**Huff**	**36.05**	**345**		P	**P**	**13 55 42.7**	**-1.3**
E28A					IAmb	IAmb	13 55 46.6		
	comp=Z,9.4nm,0.7s								
H64A	**Troy**	**36.20**	**23**		P	**P**	**13 55 46.2**	**+1.0**
	baz=212								
G62A	**West of Eustis**	**36.22**	**21**		P	**P**	**13 55 45.6**	**+0.1**
	baz=210								
G62A	**West of Eustis**	**36.22**	**21**		P	**P**	**13 55 44.9**	**-0.6**
D54A	**Lac Fusel, La**	**36.23**	**13**		P	**P**	**13 55 44.7**	**-0.8**
	baz=199								
E58A	**La Victoria**	**36.37**	**17**		P	**P**	**13 55 46.0**	**-0.7**
	baz=204								
D55A	**Sainte-Anne-du**	**36.38**	**14**		P	**P**	**13 55 46.2**	**-0.6**
	baz=201,SNR=6.4								
F60A	**Warwick**	**36.41**	**19**		P	**P**	**13 55 46.2**	**-0.8**
	baz=207								
AHID	**Auburn Hatcher**	**36.62**	**331**		P	**P**	**13 55 48.7**	**-0.4**
AHID					IAmb	IAmb	13 55 54.8		
	comp=Z,5.8nm,0.7s								
PKME	**Peaks-Kenny Pk**	**36.70**	**22**		P	**P**	**13 55 49.6**	**0.0**
	baz=211								
PKME	**Peaks-Kenny Pk**	**36.70**	**22**		P	**P**	**13 55 49.5**	**0.0**
AGMN	**Agassiz Nation**	**36.72**	**351**		P	**P**	**13 55 48.2**	**-1.4**
	baz=167,SNR=11								
AGMN	**Agassiz Nation**	**36.72**	**351**		P	**P**	**13 55 47.6**	**-2.0**
D57A	**Chemin Vers le**	**36.79**	**16**		P	**P**	**13 55 49.6**	**-0.6**
	baz=203								
REDW	**Red Top Meadow**	**36.96**	**332**		P	**P**	**13 55 51.6**	**-0.4**
REDW					IAmb	IAmb	13 55 57.4		
	comp=Z,11nm,0.7s								
SNOW	**Snow King Moun**	**36.99**	**332**		P	**P**	**13 55 51.5**	**-0.8**
MDND	**Maddock**	**36.99**	**347**		P	**P**	**13 55 51.2**	**-0.7**
	baz=161,SNR=10								
MDND	**Maddock**	**36.99**	**347**		P	**P**	**13 55 50.8**	**-1.1**
F62A	**Pittston Farm,**	**37.00**	**21**		P	**P**	**13 55 51.8**	**-0.3**
	baz=210								
LOHW	**Long Hollow**	**37.04**	**332**		P	**P**	**13 55 52.1**	**-0.6**
LOHW					IAmb	IAmb	13 56 04.3		
	comp=Z,32nm,1.9s								
TPAW	**Teton Pass**	**37.10**	**332**		P	**P**	**13 55 52.6**	**-0.7**
TPAW					IAmb	IAmb	13 56 04.3		
	comp=Z,16nm,1.3s								
D58A	**Chemin du LacG**	**37.14**	**17**		P	**P**	**13 55 52.8**	**-0.5**
	baz=205								
FXWY	**Fox Creek**	**37.25**	**332**		P	**P**	**13 55 55.0**	**+0.5**
E61A	**Lac Etchemin**	**37.29**	**20**		P	**P**	**13 55 55.1**	**+0.6**
	baz=209								
G65A	**Princeton**	**37.31**	**24**		P	**P**	**13 55 55.3**	**+0.6**
	baz=214								
G65A	**Princeton**	**37.31**	**24**		P	**P**	**13 55 55.0**	**+0.3**
IMW	**Indian Meadow**	**37.41**	**332**		P	**P**	**13 55 56.3**	**+0.4**
IMW						**PcP**	**13 58 15.0**	**+1.0**	
FLWY	**Flagg Ranch**	**37.45**	**333**		P	**P**	**13 55 56.2**	**0.0**
FLWY					IAmb	IAmb	13 56 07.5		
	comp=Z,7.7nm,1.1s								
F64A	**Sherman**	**37.56**	**23**		P	**P**	**13 55 56.8**	**+0.1**
	baz=212								
F64A	**Sherman**	**37.56**	**23**		P	**P**	**13 55 56.6**	**-0.2**
F64A					IAmb	IAmb	13 55 57.8		
	comp=Z,12nm,0.8s								
RLMT	**Red Lodge**	**37.66**	**335**		P	**P**	**13 55 57.6**	**-0.3**
	baz=144,SNR=5.3								
RLMT	**Red Lodge**	**37.66**	**335**		P	**P**	**13 55 57.1**	**-0.8**
RLMT					IAmb	IAmb	13 55 58.5		
	comp=Z,6.6nm,1.0s								
NVAR	**Mina Array Bea**	**37.70**	**319**		P	**P**	**13 55 59.2**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=134,slow=7.6,SNR=4.6								
NVAR					PcP	**PcP**	**13 58 16.5**	**+1.7**	
	comp=Z,1.0nm,0.8s,baz=128,slow=3.9,SNR=5.6								
NVAR	**Mina Array Bea**	**37.70**	**319**		P	**P**	**13 55 58.7**	**+0.3**
YMP	**Mirror Lake Pl**	**37.73**	**334**		P	**P**	**13 55 59.3**	**+0.7**
E62A	**Clayton Lake**	**37.78**	**21**		P	**P**	**13 55 57.7**	**-1.0**
	baz=210								
E62A	**Clayton Lake**	**37.78**	**21**		P	**P**	**13 55 58.5**	**-0.1**
E62A					IAmb	IAmb	13 55 59.2		
	comp=Z,17nm,1.1s								
LAO	**LASA Array**	**37.82**	**339**		P	**P**	**13 55 59.0**	**-0.1**
LAO					IAmb	IAmb	13 56 13.5		
	comp=Z,7.6nm,0.7s								
YNE	**Yellowstone No**	**37.88**	**334**		P	**P**	**13 55 59.0**	**-0.8**
LSQQ	**Lebel-sur-Quev**	**37.98**	**12**		P	**P**	**13 55 59.0**	**-1.2**
	baz=197								
E63A	**Oxbow**	**38.01**	**22**		P	**P**	**13 56 00.2**	**-0.3**
	baz=212								
E63A	**Oxbow**	**38.01**	**22**		P	**P**	**13 56 00.2**	**-0.3**
YHH	**Holmes Hill**	**38.07**	**333**		P	**P**	**13 56 02.0**	**+0.6**
E64A	**Bridgewater**	**38.22**	**23**		P	**P**	**13 56 02.6**	**+0.3**
	baz=213								
D62A	**Allapoint, All**	**38.34**	**21**		P	**P**	**13 56 03.0**	**-0.3**
	baz=210								
D62A	**Allapoint, All**	**38.34**	**21**		P	**P**	**13 56 02.5**	**-0.9**
PQI	**Presque Isle**	**38.37**	**22**		P	**P**	**13 56 03.3**	**-0.2**
MATQ	**Matagami**	**38.52**	**11**		P	**P**	**13 56 03.8**	**-1.0**
	baz=196,SNR=7.8								
ULM	**Lac du Bonnet**	**38.63**	**352**		P	**P**	**13 56 03.5**	**-2.2**
	comp=Z,21nm,0.8s,baz=166,slow=8.9,SNR=15								
ULM	**Lac du Bonnet**	**38.63**	**352**		P	**P**	**13 56 03.1**	**-2.6**
D63A	**Stockholm**	**38.64**	**22**		P	**P**	**13 56 05.9**	**0.0**
	baz=212								
DGMT	**Dagmar**	**38.75**	**343**		P	**P**	**13 56 06.6**	**-0.2**
	baz=154,SNR=10								
DGMT	**Dagmar**	**38.75**	**343**		P	**P**	**13 56 06.1**	**-0.7**
HLID	**Hailey**	**38.83**	**329**		P	**P**	**13 56 07.2**	**-0.6**
	baz=136								
HLID	**Hailey**	**38.83**	**329**		P	**P**	**13 56 07.1**	**-0.7**
PNTR	**Pine Nut**	**38.91**	**319**		P	**P**	**13 56 08.8**	**+0.3**
LMN	**Caledonia Moun**	**38.97**	**26**		P	**P**	**13 56 07.7**	**-1.0**
MCMT	**McKenzie Canyo**	**39.00**	**332**		P	**P**	**13 56 09.7**	**+0.4**
BOZ	**Bozeman (W)**	**39.04**	**333**		P	**P**	**13 56 09.7**	**+0.2**
	baz=141,SNR=9.4								
BOZ	**Bozeman (W)**	**39.04**	**333**		P	**P**	**13 56 09.2**	**-0.3**
DLMT	**Dillon**	**39.29**	**332**		P	**P**	**13 56 11.1**	**-0.5**
LRM	**Limekiln Ridge**	**39.58**	**333**		P	**P**	**13 56 14.0**	**0.0**
BATG	**Bathurst New B**	**39.61**	**23**		P	**P**	**13 56 13.1**	**-0.9**
HRY	**Holter Researc**	**40.00**	**334**		P	**P**	**13 56 16.6**	**-0.9**
EGMT	**Eagleton**	**40.23**	**337**		P	**P**	**13 56 19.2**	**0.0**
	baz=146,SNR=5.1								
EGMT	**Eagleton**	**40.23**	**337**		P	**P**	**13 56 18.4**	**-0.8**
EGMT					IAmb	IAmb	13 56 20.1		
	comp=Z,14nm,1.1s								
MSO	**Missoula**	**41.02**	**333**		P	**P**	**13 56 25.5**	**-0.3**
	baz=139								
MSO	**Missoula**	**41.02**	**333**		P	**P**	**13 56 25.4**	**-0.3**
BMO	**Blue Mountains**	**41.22**	**328**		P	**P**	**13 56 26.7**	**-0.7**
F10A	**Beach Ranch, E**	**41.95**	**329**		P	**P**	**13 56 34.5**	**+1.0**
PINE	**Pine Mountain**	**42.51**	**324**		P	**P**	**13 56 38.1**	**0.0**
PINE					IAmb	IAmb	13 57 58.5		
	comp=Z,20nm,2.0s								
JCC	**Jacoby Creek,**	**42.70**	**319**		P	**P**	**13 56 40.4**	**+0.9**
JCC					IAmb	IAmb	13 57 33.1		
	comp=Z,31nm,1.4s								
WALA	**Waterton Lakes**	**42.71**	**335**		P	**P**	**13 56 40.4**	**+0.8**
SCHQ	**Schefferville**	**45.77**	**17**		P	**P**	**13 57 01.9**	**-1.9**
	comp=Z,15nm,0.7s,baz=218,slow=6.8,SNR=12								
SCHQ	**Schefferville**	**45.77**	**17**		P	**P**	**13 57 01.8**	**-2.0**
BDFB	**Brasilia**	**48.13**	**124**		P	**P**	**13 57 21.3**	**-1.6**
	comp=Z,5.1nm,0.8s,baz=288,slow=10,SNR=5.7								
BDFB	**Brasilia**	**48.13**	**124**		P	**P**	**13 57 22.1**	**-0.8**
BDFB					IAmb	IAmb	13 57 32.1		
	comp=Z,15nm,1.3s								
YKA	**Yellowknife Ar**	**53.86**	**345**		P	**P**	**13 58 04.0**	**-1.1**
	comp=Z,3.3nm,0.8s,baz=141,slow=6.9,SNR=11								
PLCA	**Paso Flores**	**54.94**	**164**		P	**P**	**13 58 14.1**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=325,slow=8.2,SNR=3.0								
DLBC	**Dease Lake**	**56.06**	**335**		P	**P**	**13 58 21.8**	**+0.6**
DLBC					IAmb	IAmb	13 58 23.1		
	comp=Z,8.6nm,1.1s								
INK	**Inuvik**	**63.44**	**343**		P	**P**	**13 59 12.9**	**+1.3**
DOT	**Dot Lake**	**64.59**	**336**		P	**P**	**13 59 19.3**	**0.0**
DOT					IAmb	IAmb	14 00 39.4		
	comp=Z,9.4nm,1.6s								
HDA	**Harding Lake**	**66.07**	**336**		P	**P**	**13 59 28.3**	**-0.5**
	baz=113								
ILAR	**Eielson Array**	**66.19**	**336**		P	**P**	**13 59 28.9**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=120,slow=4.5,SNR=11								
CCB	**Clear Creek Bu**	**66.50**	**336**		P	**P**	**13 59 30.6**	**-1.0**
CCB					IAmb	IAmb	14 00 47.1		
	comp=Z,2.8nm,0.6s								
XMAS	**Kiritimati**	**69.57**	**268**		P	**P**	**13 59 53.5**	**+1.7**
ESDC	**Sonseca Array**	**77.77**	**52**		P	**P**	**14 00 38.3**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=293,slow=3.7,SNR=2.6								
PMSA	**Palmer Station**	**78.72**	**170**		P	**P**	**14 00 46.3**	**+2.3**
ADK	**Adak**	**79.87**	**321**		P	**P**	**14 00 50.9**	**+0.2**
GERES	**GERESS Array B**	**88.51**	**40**		P	**P**	**14 01 32.4**	**-2.4**
	comp=Z,0.2nm,0.7s,baz=262,slow=7.5,SNR=2.1								
KSRS	**Korea Array**	**120.35**	**327**		PKP	**PKiKP**	**14 07 35.2**	**+1.6**	
	comp=Z,0.6nm,0.6s,baz=14,slow=0.5,SNR=5.5								
GEYT	**Alibeck**	**120.95**	**31**		PKP	**PKPdf**	**14 07 34.6**	**-0.1**	
	comp=Z,1.2nm,0.5s,baz=277,slow=2.5,SNR=3.8								
ASAR	**Alice Springs**	**138.72**	**248**		PKP	**PKPdf**	**14 08 10.0**	**+1.3**	
	comp=Z,0.6nm,0.7s,baz=93,slow=2.3,SNR=9.2								
WRA	**Warramunga Arr**	**138.74**	**254**		PKP	**PKPdf**	**14 08 08.5**	**-0.3**	
	comp=Z,0.7nm,1.0s,

comp=Z,6µm,0.4s
LALI Alcalda de L 0.79 309 eP Pn 13 55 17.9 -0.8
LALI eS Sn 13 55 29.4 -1.0
LALI IAML 13 55 33.0
comp=Z,6µm,0.4s
AEIL Aeropuerto Ilo 0.81 330 eP Pn 13 55 19.1 0.0
AEIL eS Sn 13 55 31.9 +0.9
AEIL IAML 13 55 33.9
comp=Z,49µm,0.3s
AEIL Aeropuerto Ilo 0.81 330 eP Pn 13 55 19.1 0.0
AEIL eS Sn 13 55 31.9 +0.9
AEIL IAML 13 55 33.9
comp=Z,49µm,0.3s
LBRS Las Brisas 0.82 335 eP Pn 13 55 19.2 0.0
LBRS Las Brisas 0.82 335 eP Pn 13 55 19.2 0.0
CIGS Centro de Inve 0.84 326 i P Pn 13 55 19.2 -0.3
CIGS eS Sn 13 55 31.6 -0.1
CIGS IAML 13 55 32.7
comp=Z,37µm,0.3s
LCND La Caada 0.84 68 i P Pn 13 55 19.6 +0.1
LCND eS Sn 13 55 32.8 +1.2
LCND IAML 13 55 34.8
comp=Z,59µm,0.3s
LCND La Caada 0.84 68 eP Pn 13 55 19.6 +0.1
LCND i P Pn 13 55 19.6 +0.1
LCND eS Sn 13 55 32.5 +0.9
LCND eS 13 55 32.8
LCND IAML 13 55 34.8
comp=Z,59µm,0.3s
IGN Direccin Gen 0.85 327 eP Pn 13 55 19.4 -0.3
IGN eS Sn 13 55 32.6 +0.6
IGN Direccin Gen 0.85 327 eP Pn 13 55 19.4 -0.3
IGN eS Sn 13 55 32.6 +0.6
LFU La Fuente 0.86 332 ||i P Pn 13 55 19.7 0.0
LFU La Fuente 0.86 332 ||i P Pn 13 55 19.7 0.0
SNET Serv Nac Est T 0.87 323 ||i P Pn 13 55 19.4 -0.5
SNET eS Sn 13 55 31.4 -0.8
SNET IAML 13 55 33.2
comp=Z,50µm,0.3s
SNET Serv Nac Est T 0.87 323 Pn Pn 13 55 19.3 -0.5
SNET Sn Sn 13 55 32.0 -0.2
OPAM Oficina de Pla 0.87 326 eP Pn 13 55 19.7 -0.1
OPAM eS Sn 13 55 32.5 +0.2
OPAM IAML 13 55 36.4
comp=Z,36µm,0.3s
OPAM Oficina de Pla 0.87 326 eP Pn 13 55 19.7 -0.1
OPAM eS Sn 13 55 32.5 +0.2
OPAM IAML 13 55 36.4
comp=Z,36µm,0.3s
CNCH Conchagua 0.89 71 eP Pn 13 55 20.0 0.0
CNCH eS Sn 13 55 35.0 +2.3
CNCH IAML 13 55 39.9
comp=Z,84µm,0.4s
CNCH Conchagua 0.89 71 eP Pn 13 55 20.0 0.0
CNCH eS Sn 13 55 35.0 +2.3
CNCH IAML 13 55 39.9
comp=Z,84µm,0.4s
ITCA Escuela Especi 0.89 320 eP Pn 13 55 19.9 -0.2
ITCA eS Sn 13 55 32.4 -0.3
ITCA Escuela Especi 0.89 320 eP Pn 13 55 19.9 -0.2
ITCA eS Sn 13 55 32.4 -0.3
CRW Hotel Crowe Pl 0.89 323 eP Pn 13 55 19.9 -0.2
CRW eS Sn 13 55 32.6 -0.2
CRW IAML 13 55 35.9
comp=Z,22µm,0.3s
CLUB Club Campestre 0.89 322 eP Pn 13 55 19.7 -0.4
CLUB eS Sn 13 55 32.5 -0.4
CLUB IAML 13 55 36.4
comp=Z,26µm,0.3s
BOQS Boqueron 0.93 322 ||i P Pn 13 55 20.7 -0.1
BOQS Boqueron 0.93 322 ||i P Pn 13 55 20.7 -0.1
LLGN La Laguna 1.19 348 eP Pn 13 55 24.4 +0.4
LLGN eS Sn 13 55 39.9 +0.4
LLGN IAML 13 55 48.1
comp=Z,8µm,0.4s
LLGN La Laguna 1.19 348 eP Pn 13 55 24.4 +0.4
LLGN eS Sn 13 55 39.9 +0.4
LLGN IAML 13 55 48.1
comp=Z,8µm,0.4s
CEVE Cerro Verde 1.23 313 eP Pn 13 55 24.8 +0.3
CEVE eS Sn 13 55 41.9 +1.2
CEVE IAML 13 55 45.8
comp=Z,21µm,0.4s
CEVE Cerro Verde 1.23 313 eP Pn 13 55 24.8 +0.3
CEVE eS Sn 13 55 41.9 +1.2
CEVE IAML 13 55 45.8
comp=Z,21µm,0.4s
NUBE Las Nubes 1.39 311 eP Pn 13 55 26.6 0.0
NUBE eS Sn 13 55 44.5 +0.2
NUBE IAML 13 55 45.3
comp=Z,7µm,0.4s
NUBE Las Nubes 1.39 311 eP Pn 13 55 26.6 0.0
NUBE eS Sn 13 55 44.5 +0.2
NUBE IAML 13 55 45.3
comp=Z,7µm,0.4s
MTO3 Montecristo 1.54 335 ||i P Pn 13 55 29.1 +0.5
MTO3 IAML 13 55 53.4
comp=Z,1µm,0.6s
MTO3 Montecristo 1.54 335 ||i P Pn 13 55 29.1 +0.5
MTO3 Montecristo 1.54 335 Pn Pn 13 55 29.0 +0.3
CRIN San Cristobal 1.63 100 Pn Pn 13 55 29.9 +0.3
ESQI Esquipulas 1.68 338 ||i P Pn 13 55 31.4 +1.0
ESQI eS Sn 13 55 53.6 +2.4
ESQI Esquipulas 1.68 338 Pn Pn 13 55 31.3 +0.9
TGUH Tegucigalpa,Un 1.74 52 eP Pn 13 55 32.2 +0.9
TGUH Tegucigalpa,Un 1.74 52 Pn Pn 13 55 32.1 +0.9
IXG Ixpaco 2.06 305 eP Pn 13 55 36.5 +0.9
NBG Las Nubes 2.26 315 eP Pn 13 55 40.2 +1.9
ESTN Estel 2.27 87 Pn Pn 13 55 38.6 +0.3
MRL Marmol 2.29 335 eP Pn 13 55 40.7 +2.0
FUG Fuego 3 2.54 305 eP Pn 13 55 44.0 +1.9
APG El Apazote 2.64 320 P Pn 13 55 44.5 +1.0
comp=Z,17nm,0.3s,baz=132,slow=9.4,SNR=21
APG S Sn 13 56 20.4 +5.9
comp=Z,31nm,0.3s,baz=107,slow=20,SNR=1.9
APG LR LR 13 56 39.4
comp=Z,220nm,21.8s,baz=132,slow=34
MATN Matagalpa 2.70 91 Pn Pn 13 55 44.0 -0.1
RTAL Retalhuleu 3.29 298 Pn 13 55 53.8 +1.7
HUEH Huehuetenango 3.57 311 Pn 13 55 58.3 +2.1
ACON Acoyapa 3.58 106 Pn 13 55 55.5 -0.6
HZTE Horizontes, Gu 3.78 126 eP Pn 13 56 00.1 +1.2
GBS3 Finca Las Img 3.86 124 eP Pn 13 56 00.8 +0.9
GB1A Boringuen Arri 3.88 123 eP Pn 13 56 01.0 +0.7
LAPC Finca la Perla 3.88 124 eP Pn 13 56 00.6 +0.3
BUEV Buena Vista 3.89 124 eP Pn 13 56 01.6 +1.3
BUAI Buenos Aires 3.90 122 eP Pn 13 56 03.6 +3.1
GPS3 Bodega del ICE 3.94 124 eP Pn 13 56 02.4 +1.3
GPS1 Guardaparques 3.94 124 eP Pn 13 56 02.4 +1.2
GPS2 Hotel Rincn d 3.96 124 eP Pn 13 56 02.4 +1.1
PETF Flores 4.06 344 Pn 13 56 04.9 +2.2
LIM1 Limonal 4.07 124 eP Pn 13 56 04.2 +1.4
ORTG Ortega, Santa 4.11 129 eP Pn 13 56 05.4 +2.0
HORNC Hornillas 4.12 123 eP Pn 13 56 04.3 +0.8
COLC Colonia 4.12 124 eP Pn 13 56 04.7 +1.1
GUAI GUAI 4.13 131 eP Pn 13 56 04.3 +0.8
CUI Cuipilapa 4.16 123 eP Pn 13 56 05.8 +1.6
PLVR Palo Verde 4.20 128 eP Pn 13 56 07.0 +2.3
DUNO Dulce Nombre, 4.27 132 eP Pn 13 56 06.6 +1.1
PTEN Parque Tenorio 4.28 122 eP Pn 13 56 07.4 +1.7
ACAL Aguas Claras 4.28 123 eP Pn 13 56 06.5 +0.7
GRZA Playa Garza 4.28 135 eP Pn 13 56 06.2 +0.5
ESPN Las Esperanzas 4.36 100 Pn Pn 13 56 06.6 -0.2
JTS Las Juntas de 4.54 126 P Pn 13 56 10.5 +1.2
comp=Z,15nm,0.3s,baz=9.5,slow=17,SNR=12
JTS S Sn 13 56 58.8 -2.1
comp=Z,24nm,0.3s,baz=294,slow=11,SNR=3.7
JTS LR LR 13 57 46.1
comp=Z,241nm,18.9s,baz=11,slow=38
JTS Las Juntas de 4.54 126 Pn Pn 13 56 10.3 +1.0
CEDE Laguna Cedeo 4.63 122 eP Pn 13 56 12.9 +2.4
ARE1 Arenal 1 4.63 122 eP Pn 13 56 12.8 +2.2
CCIG Comitan 4.67 315 Pn 13 56 12.6 +1.5
FORC Fortuna 4.67 122 eP Pn 13 56 12.6 +1.5
LAFE Finca La Fe, P 4.88 130 eP Pn 13 56 14.5 +0.7
JACO JACO, Garabito 5.16 129 eP Pn 13 56 20.1 +2.4
HDC Heredia 5.38 123 Pn 13 56 22.0 +1.1
LCR2 La Lucha 2 5.62 125 eP Pn 13 56 26.3 +2.1
CVTR Volcan Turrial 5.67 121 eP Pn 13 56 28.4 +3.4
RIMA Rio Macho 5.72 124 eP Pn 13 56 26.8 +1.2
CDM Cerro de Muert 5.92 125 eP Pn 13 56 31.1 +2.5
PEZE Perez Zeledon, 6.09 126 eP Pn 13 56 33.0 +2.5

DRK0 Durika 6.50 124 eP Pn 13 56 38.0 +1.7
EDPN Palmar Norte 6.52 127 eP Pn 13 56 39.2 +2.9
PIRO Carate, Puerto 6.96 130 eP Pn 13 56 45.5 +3.1
PRVC Isla de Provid 7.15 86 eP Pn 13 56 45.5 +0.6
TEIG Tepich 7.21 3 eP Pn 13 56 47.4 +1.7
TEIG Tepich 7.21 3 Pn Pn 13 56 48.0 +2.3
BRU2 Volcan 7.22 125 eP Pn 13 56 48.1 +2.1
CMIG Matias Romero 7.24 305 P Pn 13 56 48.4 +2.2
comp=Z,4.7nm,0.3s,baz=142,slow=7.8,SNR=22
CMIG S Sn 13 58 04.7 -2.2
comp=Z,1.9nm,0.3s,baz=105,slow=16,SNR=1.3
BCIP Isla Barro Col 9.49 113 Pn Pn 13 57 17.8 +0.9
FSCY Frank Sound, G 9.57 48 Pn Pn 13 57 20.7 +2.7
TLIG Tlapa 10.55 297 Pn 13 57 34.0 +2.4
MTDJ Mount Denham 11.94 63 Pn Pn 13 57 52.9 +2.4
SJCC San Jacinto, C 13.60 102 eP P 13 58 19.0 -0.6
PAYG Puerto Ayora 13.67 187 P P 13 58 21.7 +1.3
UREC San Jos de Ur 13.95 111 eP P 13 58 23.4 -0.1
GTBY Guantanamo Bay 14.73 60 P P 13 58 33.8 +1.6
061Z Ochoppi 14.76 29 P P 13 58 34.1 +1.8
SMLC San Martn de 14.95 105 eP P 13 58 33.6 -1.0
YOTC Yotoco, Valle 15.13 125 eP P 13 58 36.2 -0.5
GUY2C Guyana, Caldas 15.25 119 eP P 13 58 39.7 +1.2
PTBC PUERTO BERRIO, 15.42 113 eP Pn 13 58 37.2 +0.5
BBAC Balboa, Cauca 15.72 133 eP P 13 58 46.8 +3.3
POPC Popayan, Colom 15.79 130 eP P 13 58 44.9 +0.7
060A Indiantown 16.01 28 P P 13 58 48.2 +1.9
ORTC Ortega, Tolima 16.06 123 eP P 13 58 47.1 +0.1
ROSC El Rosal 16.34 118 LR LR 14 05 28.7
comp=Z,169nm,18.1s,baz=232,slow=39
PRAC Prado 16.47 123 eP P 13 58 50.7 -0.8
RUSC La Rusia 16.93 113 P 13 58 57.3 +0.2
FLOC Florencia 17.18 130 eP P 13 59 02.1 +2.7
FLOC Florencia 17.18 130 P P 13 59 01.5 +2.1
MACC Macarena, Meta 18.22 125 eP Pn 13 59 12.2 +0.8
352A Blakely 18.73 10 Pn Pn 13 59 19.6 +2.3
TIGA Tifton 18.95 14 P Pn 13 59 22.2 +2.2
baz=195,SNR=8.3
TIGA Tifton 18.95 14 Pn Pn 13 59 22.0 +2.0
VBMS Vicksburg 19.21 355 P Pn 13 59 25.6 +2.5
baz=174
VBMS Vicksburg 19.21 355 Pn Pn 13 59 25.2 +2.1
435B Jarrell 19.52 337 P P 13 59 26.3 +1.4
baz=153
435B Jarrell 19.52 337 P P 13 59 26.0 +1.1
435B IAmb IAmb 13 59 32.4
comp=Z,19nm,0.6s
146A Union 19.56 359 P P 13 59 26.6 +1.3
146A IAmb IAmb 13 59 37.4
comp=Z,24nm,0.8s
255A Hazlehurst 19.69 16 Pn Pn 13 59 30.8 +2.0
152A Waverly Hall 19.92 10 Pn 13 59 31.8 +0.3
152A IAmb IAmb 13 59 34.2
comp=Z,24nm,0.7s
LRAL Lakeview Retre 20.01 4 P Pn 13 59 33.0 +0.5
baz=185,SNR=11
LRAL Lakeview Retre 20.01 4 Pn Pn 13 59 32.9 +0.4
Z47A Carrollton 20.12 2 P P 13 59 33.5 +2.0
Z47A IAmb IAmb 13 59 35.6
comp=Z,18nm,0.7s
154A Montrose 20.19 14 P P 13 59 32.1 0.0
154A IAmb IAmb 13 59 55.8
comp=Z,36nm,0.9s
JCT Junction City 20.21 331 P P 13 59 34.0 +1.6
baz=147
JCT Junction City 20.21 331 P P 13 59 33.3 +0.9
Y45A Yeager Farm, C 20.80 358 P P 13 59 40.6 +1.9
Y45A IAmb IAmb 14 00 18.2
comp=Z,90nm,1.8s
157A Early Branch 20.82 19 P Pn 13 59 42.8 +0.7
baz=201
Y49A Blount Mountai 20.88 5 P P 13 59 41.4 +1.8
Y49A IAmb IAmb 13 59 43.6
comp=Z,13nm,0.6s
GOGA Godfrey 20.88 12 P P 13 59 41.7 +2.1
baz=194,SNR=15
GOGA Godfrey 20.88 12 P P 13 59 41.5 +1.9
GOGA IAmb IAmb 13 59 44.2
comp=Z,17nm,0.7s
WLAR White Oak Lake 20.99 350 P 13 59 43.0 +2.2
WLAR IAmb IAmb 13 59 47.2
comp=Z,18nm,0.7s
Y52A Lilburn 21.20 11 P P 13 59 44.4 +1.3
Y52A IAmb IAmb 13 59 47.8
comp=Z,24nm,0.7s
Z56A Williston 21.32 17 P P 13 59 48.0 +3.7
baz=200,SNR=6.6
Z56A Williston 21.32 17 P P 13 59 46.7 +2.5
CRPR Cabo Rojo, PR 21.38 74 P P 13 59 46.0 +0.9
TX32 Lajitas Array 21.39 322 P P 13 59 46.8 +1.5
TXAR Lajitas Array 21.39 322 P P 13 59 47.3 +2.0
comp=Z,5.5nm,0.6s,baz=149,slow=9.3,SNR=36
TXAR PcP PcP 14 03 48.4 +1.5
comp=Z,0.5nm,0.5s,baz=134,slow=3.9,SNR=4.8
TXAR Lajitas Array 21.39 322 P P 13 59 46.5 +1.2
TX31 Lajitas Ar. Si 21.40 322 P P 13 59 46.5 +1.2
TX31 IAmb IAmb 13 59 49.9
comp=Z,19nm,0.6s
X48A Hartselle 21.42 4 P P 13 59 46.4 +1.0
NHSC New Hope 21.48 20 P P 13 59 49.6 +3.6
baz=203
NHSC New Hope 21.48 20 P P 13 59 47.7 +1.7
NHSC IAmb IAmb 13 59 50.6
comp=Z,44nm,1.1s
FPAL Fort Paine 21.64 7 P P 13 59 49.0 +1.2
FPAL IAmb IAmb 13 59 51.8
comp=Z,13nm,0.6s
X40A Basin Creek Fa 21.73 351 P P 13 59 51.0 +2.3
baz=169
X40A Basin Creek Fa 21.73 351 P P 13 59 49.8 +1.1
X40A IAmb IAmb 14 00 18.2
comp=Z,32nm,1.6s
Y55A Saluda 21.76 15 P P 13 59 50.9 +1.9
baz=198
Z58A St. Stephen 21.81 20 P P 13 59 49.4 -0.2
baz=204
PLAL Pickwick Lake 21.90 1 P P 13 59 51.1 +0.6
MIAR Mount Ida 21.91 349 P P 13 59 52.1 +1.5
baz=167,SNR=9.0
MIAR Mount Ida 21.91 349 P P 13 59 51.6 +1.0
MIAR IAmb IAmb 13 59 55.4
comp=Z,12nm,0.7s
UALR University of 21.94 352 P P 13 59 52.1 +1.2
UALR IAmb IAmb 13 59 54.5
comp=Z,16nm,0.7s
HODGE Hodges 21.94 14 P P 13 59 52.8 +1.8
ABTX Abilene, Hawle 21.96 335 P P 13 59 52.0 +0.8
baz=150,SNR=5.6
ABTX Abilene, Hawle 21.96 335 P P 13 59 51.0 -0.2
ABTX IAmb IAmb 13 59 55.3
comp=Z,12nm,0.7s
X54A Belton 22.21 14 P P 13 59 55.5 +1.6
baz=196,SNR=8.5
JSC Jenkinsville 22.25 16 P P 13 59 56.3 +2.1
Y57A Sumter 22.25 18 P P 13 59 56.5 +2.2
baz=202,SNR=6.6
Y57A Sumter 22.25 18 P P 13 59 56.0 +1.7
SWET Sewanee 22.27 6 P P 13 59 56.2 +1.7
W41B Gary Mavity, V 22.32 352 P P 13 59 56.7 +1.7
baz=171,SNR=8.8
W41B Gary Mavity, V 22.32 352 P P 13 59 55.7 +0.7
W41B IAmb IAmb 14 00 19.1
comp=Z,44nm,1.7s
X55A Gracelyn & Ava 22.32 16 P P 13 59 57.3 +2.2
baz=198,SNR=7.2
X37A Clayton 22.34 345 P P 13 59 57.3 +2.0
X37A IAmb IAmb 14 00 19.4
comp=Z,45nm,1.6s
WHAR Wooly Hollow 22.44 352 P P 13 59 57.4 +1.0
WHAR IAmb IAmb 14 00 36.8
comp=Z,27nm,1.5s
ATAH Atahualpa 22.46 152 LR LR 14 07 45.1
comp=Z,65nm,18.8s,baz=358,slow=34
X56A White Oak 22.51 17 P P 13 59 58.8 +1.7
baz=200
BG3 Lake Jocassee 22.52 12 P P 13 59 58.5 +1.3
BG3 IAmb IAmb 13 59 60.0
comp=Z,25nm,1.6s
HBAR Harrisburg 22.54 356 P P 13 59 59.0 +1.7
W39A Magazine 22.58 349 P P 13 59 59.2 +1.3
baz=167
W39A Magazine 22.58 349 P P 13 59 58.6 +0.8
W39A IAmb IAmb 14 00 29.7
comp=Z,25nm,1.5s

PAULI Pauline 22.61 15 P P 13 59 59.2 +1.0
CPCT Cooper Cave 22.68 9 P P 13 59 59.3 +0.4
CPCT IAmb IAmb 14 00 22.6
comp=Z,12nm,0.7s
V48A Smith Brothers 22.71 4 P P 13 59 60.0 +0.7
W54A Cherokee Point 22.77 14 P P 14 00 01.4 +1.6
baz=196,SNR=11
BIRD Birdtown, Kers 22.82 18 P P 14 00 01.2 +0.9
BIRD IAmb IAmb 14 00 02.9
comp=Z,12nm,0.7s
TKL Tuckaleechee C 23.00 10 P P 14 00 03.0 +0.8
comp=Z,9.0nm,0.7s,baz=183,slow=11,SNR=23
TKL Tuckaleechee C 23.00 10 P P 14 00 02.6 +0.4
TKL IAmb IAmb 14 00 26.4
comp=Z,21nm,1.1s
FCAR Ozark Folk Cen 23.01 353 P P 14 00 02.6 +0.4
FCAR IAmb IAmb 14 00 27.5
comp=Z,12nm,0.7s
KMSC Kings Mountain 23.04 16 P P 14 00 03.7 +1.2
baz=198,SNR=6.1
KMSC Kings Mountain 23.04 16 P P 14 00 03.4 +0.9
V51A Loudon 23.05 9 P P 14 00 03.0 +0.4
WVT Waverly 23.05 2 P P 14 00 03.1 +0.4
baz=182
WVT Waverly 23.05 2 P P 14 00 03.4 +0.7
WVT IAmb IAmb 14 00 25.1
comp=Z,28nm,1.6s
LCAR Lake Charles 23.09 355 P P 14 00 02.8 -0.2
X58A Rowland 23.09 20 P P 14 00 03.8 +0.8
baz=204,SNR=6.8
X58A Rowland 23.09 20 P P 14 00 03.6 +0.6
X58A IAmb IAmb 14 00 04.7
comp=Z,18nm,0.6s
CLTN Cedars of Leba 23.10 5 P P 14 00 03.0 -0.2
CUPR Culebra, Puert 23.14 74 P P 14 00 02.9 -0.9
V53A Saluda 23.20 12 P P 14 00 04.5 +0.4
V53A IAmb IAmb 14 00 29.0
comp=Z,48nm,1.5s
V52A Sevierville 23.21 11 P P 14 00 04.5 +0.3
W56A Indian Trail 23.24 17 P P 14 00 05.4 +1.0
baz=200
X59A McDuffie Farm, 23.36 21 P P 14 00 06.7 +1.1
baz=205
W57A Gilead 23.43 18 P P 14 00 06.8 +0.5
baz=202
W57A Gilead 23.43 18 P P 14 00 06.4 +0.1
STVI Saint Thomas 23.46 74 P P 14 00 05.4 -1.3
V54A Nebo 23.49 14 P P 14 00 07.8 +1.0
baz=197,SNR=7.3
WMOK Wichita Mounta 23.50 339 P P 14 00 07.4 +0.4
baz=155,SNR=7.6
WMOK Wichita Mounta 23.50 339 P P 14 00 07.2 +0.2
FNO Franklin 23.53 342 P P 14 00 08.1 +0.9
W58A Raeford 23.55 20 P P 14 00 08.2 +0.9
baz=204,SNR=8.0
U40A Yellville 23.57 352 P P 14 00 08.6 +1.1
baz=170,SNR=22
U40A Yellville 23.57 352 P P 14 00 07.8 +0.3
U49A Red Boiling Sp 23.57 6 P P 14 00 06.7 -0.8
X60A Albert Glenn T 23.59 23 P P 14 00 08.2 +0.5
baz=207
PARMO Parma 23.59 358 P P 14 00 08.4 +0.7
PARMO IAmb IAmb 14 00 32.6
comp=Z,20nm,0.7s
HHAR Hobbs 23.67 349 P P 14 00 09.6 +1.1
HHAR IAmb IAmb 14 00 11.8
comp=Z,13nm,0.6s
TUL1 Leonard 23.70 346 P P 14 00 09.5 +0.8
baz=163
TUL1 Leonard 23.70 346 P P 14 00 09.8 +1.1
PCRV Puerto La Cruz 23.73 94 P P 14 00 07.8 -1.4
comp=Z,6.2nm,0.5s,baz=230,slow=5.5,SNR=8.2
V55A Taylorsville 23.74 15 P P 14 00 10.0 +0.9
baz=198
V55A Taylorsville 23.74 15 P P 14 00 09.8 +0.8
V55A IAmb IAmb 14 00 13.0
comp=Z,7.7nm,0.5s
PLCV Puerto La Cruz 23.78 94 P P 14 00 07.8 -1.8
OK025 Westminster Rd 23.81 342 P P 14 00 09.8 +0.1
OK025 IAmb IAmb 14 00 13.1
comp=Z,18nm,0.6s
V56A Mocksville 23.89 17 P P 14 00 11.0 +0.6
baz=200
U38A Gravette 23.90 349 P P 14 00 11.0 +0.4
TZTN Tazewell 23.90 10 P P 14 00 11.0 +0.4
baz=192
TZTN Tazewell 23.90 10 P P 14 00 10.9 +0.4
GDL2 Guadalupe Moun 23.92 326 P P 14 00 12.2 +1.4
T45A Paducah 23.93 0 P P 14 00 10.7 -0.1
T47A Sharon Grove 23.94 3 P P 14 00 10.4 -0.4
T47A IAmb IAmb 14 00 11.5
comp=Z,15nm,0.7s
BCOK Bluff Creek, N 23.96 342 P P 14 00 10.8 -0.2
T42A Van Buren 24.04 355 P P 14 00 11.2 -0.5
OK029 Liberty Lake 24.04 342 P P 14 00 11.4 -0.4
W60A Pink Hill 24.11 22 P P 14 00 12.9 +0.5
baz=207
MNTX Cornudas Mount 24.12 323 P P 14 00 13.3 +0.6
baz=137,SNR=9.4
MNTX Cornudas Mount 24.12 323 P P 14 00 12.5 -0.2
V57A Coltrane Farms 24.17 18 P P 14 00 14.0 +1.0
baz=202
T50A Nancy 24.18 8 P P 14 00 12.7 -0.3
T50A IAmb IAmb 14 00 44.4
comp=Z,24nm,1.9s
QUOK Quay 24.18 344 P P 14 00 13.1 0.0
QUOK IAmb IAmb 14 00 14.3
comp=Z,19nm,0.6s
U54A Nelsons Funny 24.23 14 P P 14 00 14.6 +1.0
baz=196,SNR=9.2
U54A Nelsons Funny 24.23 14 P P 14 00 14.1 +0.6
MGMO Mountain Grove 24.27 353 P P 14 00 14.1 +0.2
MGMO IAmb IAmb 14 00 33.3
comp=Z,24nm,1.1s
V58A Windy Hill, Pi 24.29 19 P P 14 00 14.9 +0.9
baz=203,SNR=10
V58A Windy Hill, Pi 24.29 19 P P 14 00 14.3 +0.3
V58A IAmb IAmb 14 00 16.1
comp=Z,18nm,0.6s
U55A TA2, Sparta 24.40 15 P P 14 00 16.0 +0.9
baz=198
U56A King 24.43 16 P P 14 00 16.5 +1.2
baz=200
U56A King 24.43 16 P P 14 00 15.8 +0.5
T53A Wise 24.52 12 P P 14 00 16.7 +0.5
baz=194
V59A Middlesex 24.56 21 P P 14 00 16.6 +0.2
baz=205
S44A Carbondale 24.61 359 P P 14 00 16.8 -0.1
S44A IAmb IAmb 14 00 36.4
comp=Z,18nm,1.1s
AMTX Amarillo 24.77 334 P P 14 00 20.1 +1.5
baz=148
T54A Tazewell 24.80 14 P P 14 00 19.3 +0.5
baz=197
U57A Blanch 24.81 18 P P 14 00 19.6 +0.8
baz=202,SNR=6.7
T35A Sooner Cattle 24.84 345 P P 14 00 19.4 +0.3
T35A IAmb IAmb 14 00 51.8
comp=Z,9.3nm,0.7s
S39A Bolivar 24.94 351 P P 14 00 19.9 -0.1
S51A Beattyville 24.97 10 P P 14 00 20.0 -0.2
S51A pP pP 14 00 38.6 +2.3
U58A Oxford 25.02 20 P P 14 00 21.1 +0.4
baz=204
T55A Pulaski 25.05 15 P P 14 00 21.8 +0.8
baz=198
CCM Cathedral Cave 25.07 355 P P 14 00 21.5 +0.5
baz=174
CCM Cathedral Cave 25.07 355 P P 14 00 21.0 0.0
CCM IAmb IAmb 14 00 22.9
comp=Z,12nm,0.8s
KAN13 South Haven SW 25.18 343 P P 14 00 22.4 +0.2
V61A Roper 25.19 24 P P 14 00 22.0 -0.2
V61A IAmb IAmb 14 00 42.4
comp=Z,27nm,0.8s
WCI Wyandotte Cave 25.23 4 P P 14 00 22.5 0.0
baz=185
WCI Wyandotte Cave 25.23 4 P P 14 00 22.3 -0.2
WCI IAmb IAmb 14 00 23.0
comp=Z,10nm,0.6s
BLA Blacksburg 25.23 16 P P 14 00 23.0 +0.3
S53A Williamson 25.28 12 P P 14 00 23.2 +0.2
baz=195
T57A Hurt 25.36 18 P P 14 00 24.6 +0.8

baz=202
T57A Hurt 25.36 18 P P 14 00 24.0 +0.2
R49A Shelbyville 25.39 6 P P 14 00 23.8 -0.2
R40A Maddies Statio 25.40 353 P P 14 00 23.8 -0.3
T58A Grand View Acr 25.53 19 P P 14 00 25.7 +0.4
baz=203
S54A Dingess, Beckl 25.57 14 P P 14 00 25.9 +0.1
baz=197
S54A Dingess, Beckl 25.57 14 P P 14 00 25.6 -0.1
S54A IAmb IAmb 14 00 43.3
comp=Z,31nm,1.8s
S55A Lewisburg 25.74 15 P P 14 00 27.6 +0.4
baz=198
Q44A Meyer Farm, Va 25.81 359 P P 14 00 27.5 -0.3
Q44A IAmb IAmb 14 00 28.4
comp=Z,11nm,0.6s
T59A Double "B" Far 25.88 21 P P 14 00 29.1 +0.6
baz=205
T59A Double "B" Far 25.88 21 P P 14 00 28.7 +0.3
S56A Natural Bridge 25.90 17 P P 14 00 29.6 +0.9
baz=201
R53A Hurricane 25.94 12 P P 14 00 29.3 +0.3
R53A IAmb IAmb 14 01 05.1
comp=Z,50nm,1.9s
R54A Victor 26.01 14 P P 14 00 30.1 +0.5
baz=197
HSIG 26.12 311 P P 14 00 30.9 +0.2
121A Cookes Peak, D 26.15 321 P P 14 00 32.9 +1.7
baz=134
121A Cookes Peak, D 26.15 321 P P 14 00 31.8 +0.6
S58A Poland Farm, P 26.30 19 P P 14 00 32.8 +0.6
baz=204
R55A Marlinton 26.32 15 P P 14 00 33.2 +0.7
baz=199
R55A Marlinton 26.32 15 P P 14 00 33.0 +0.5
R55A IAmb IAmb 14 00 52.6
comp=Z,22nm,1.4s
Q51A Peebles 26.36 9 P P 14 00 32.6 -0.2
Q51A IAmb IAmb 14 00 54.4
comp=Z,28nm,1.4s
P48A Milroy 26.52 6 P P 14 00 33.4 -0.9
P48A IAmb IAmb 14 00 38.1
comp=Z,39nm,1.9s
P40A Paris 26.60 354 P P 14 00 34.6 -0.4
P40A pP pP 14 00 51.6 +0.5
P40A IAmb IAmb 14 00 52.3
comp=Z,13nm,0.8s
R56A Bull Pasture M 26.63 16 P P 14 00 36.6 +1.3
baz=200
BNM Barren Site 26.63 325 P P 14 00 35.3 -0.3
R57A Stanardsville 26.78 18 P P 14 00 37.3 +0.7
baz=202,SNR=5.6
Q54A Coxs Mills 26.81 14 P P 14 00 37.4 +0.6
baz=197,SNR=8.3
Q54A Coxs Mills 26.81 14 P P 14 00 37.2 +0.4
LENM Lemitar 26.84 325 P P 14 00 38.1 +0.7
P51A Williamsport 26.85 10 P P 14 00 37.3 +0.1
baz=192
P51A Williamsport 26.85 10 P P 14 00 37.1 -0.1
P51A IAmb IAmb 14 00 37.9
comp=Z,6.1nm,0.6s
P38A Dawn 26.87 352 P P 14 00 37.3 -0.1
P38A IAmb IAmb 14 00 54.9
comp=Z,10nm,0.9s
R58A Rapidan 26.94 19 P P 14 00 38.9 +0.9
baz=203
Q55A Buckhannon 27.00 15 P P 14 00 39.2 +0.6
baz=199
O44A Mansfield 27.06 0 P P 14 00 38.5 -0.6
O44A IAmb IAmb 14 01 31.1
comp=Z,9.2nm,0.5s
CBN Corbin Frederi 27.06 20 P P 14 00 39.6 +0.5
ANMO Albuquerque 27.14 327 P P 14 00 42.4 +2.4
comp=Z,0.1nm,0.6s,baz=291,slow=8.3,SNR=6.8
ANMO PcP PcP 14 03 59.5 +0.2
comp=Z,0.1nm,0.5s,baz=300,slow=5.6,SNR=4.4
ANMO Albuquerque 27.14 327 P P 14 00 42.1 +2.0
baz=139
P52A Corning 27.16 11 P P 14 00 40.0 0.0
baz=194
P52A Corning 27.16 11 P P 14 00 40.4 +0.4
P53A Whipple 27.17 12 P P 14 00 40.6 +0.6
baz=196
P53A Whipple 27.17 12 P P 14 00 40.9 +0.8
P53A IAmb IAmb 14 00 43.4
comp=Z,7.0nm,0.6s
Q56A Snyder Ridge, 27.28 16 P P 14 00 42.2 +1.1
baz=200
Q56A Snyder Ridge, 27.28 16 P P 14 00 42.1 +1.0
SFIN Lafayette 27.32 3 P P 14 00 40.7 -0.7
baz=183
SFIN Lafayette 27.32 3 P P 14 00 40.6 -0.7
SFIN IAmb IAmb 14 00 40.8
comp=Z,33nm,1.8s
O49A Covington 27.36 7 P P 14 00 40.3 -1.5
O49A IAmb IAmb 14 01 23.3
comp=Z,40nm,1.9s
NNA Nana 27.46 154 LR LR 14 09 12.1
comp=Z,64nm,21.8s,baz=328,slow=31
P54A Burton 27.48 14 P P 14 00 43.0 +0.1
baz=197
P55A Reedsville 27.55 15 P P 14 00 44.0 +0.5
baz=199
O51A Pataskala 27.58 10 P P 14 00 43.8 +0.1
baz=193
ACSO Alum Creek Sta 27.60 9 P P 14 00 43.6 -0.3
baz=192
N41A Harden Midland 27.68 356 P P 14 00 44.5 -0.1
O52A Adamsville 27.69 11 P P 14 00 44.8 +0.2
baz=194
O52A Adamsville 27.69 11 P P 14 00 44.7 0.0
O52A IAmb IAmb 14 00 45.1
comp=Z,16nm,1.1s
MCWV Mont Chateau 27.69 15 P P 14 00 45.2 +0.5
baz=199
MCWV Mont Chateau 27.69 15 P P 14 00 45.0 +0.3
T25A Trinidad 27.86 332 P P 14 00 48.6 +2.0
baz=146,SNR=7.3
T25A Trinidad 27.86 332 P P 14 00 48.4 +1.8
T25A IAmb IAmb 14 00 49.7
comp=Z,8.0nm,0.7s
O53A New Philadelph 27.94 12 P P 14 00 47.2 +0.3
baz=196
O53A New Philadelph 27.94 12 P P 14 00 46.7 -0.2
P57A Homestead Farm 28.03 18 P P 14 00 49.0 +1.3
baz=202
P57A Homestead Farm 28.03 18 P P 14 00 48.7 +1.0
P57A IAmb IAmb 14 01 08.0
comp=Z,10nm,0.9s
O54A Avella 28.06 14 P P 14 00 48.0 0.0
O54A IAmb IAmb 14 00 52.6
comp=Z,31nm,1.6s
N49A Columbus Grove 28.10 7 P P 14 00 47.5 -0.9
N49A IAmb IAmb 14 01 21.0
comp=Z,20nm,1.5s
N51A Ashland 28.37 10 P P 14 00 50.3 -0.5
baz=193
N51A Ashland 28.37 10 P P 14 00 50.1 -0.6
N51A IAmb IAmb 14 00 51.0
comp=Z,13nm,1.0s
N52A McGinn's Farm, 28.39 11 P P 14 00 51.0 0.0
baz=194
N53A Lisbon 28.55 13 P P 14 00 52.3 -0.1
baz=196
N53A Lisbon 28.55 13 P P 14 00 52.1 -0.3
N53A IAmb IAmb 14 00 53.4
comp=Z,42nm,1.7s
KSCO Kaye Shedlock' 28.71 337 P P 14 00 55.3 +1.3
baz=151
SDCO Great Sand Dun 28.86 332 P P 14 00 57.0 +1.6
baz=144,SNR=5.6
N54A Moraine State 28.89 14 P P 14 00 55.4 0.0
baz=198
N54A Moraine State 28.89 14 P P 14 00 55.1 -0.3
N54A IAmb IAmb 14 00 58.1
comp=Z,30nm,1.6s
L40A Anamosa 29.05 356 P P 14 00 56.4 -0.4
L48A N Adams 29.08 7 P P 14 00 55.5 -1.6
L48A IAmb IAmb 14 02 02.8
comp=Z,34nm,1.7s
SSPA Standing Stone 29.13 17 P P 14 00 57.7 +0.3
baz=202
N56A West Decatur 29.27 16 P P 14 00 59.1 +0.3
baz=201
O59A Robesonia 29.35 20 P P 14 01 00.2 +0.7
baz=205

M54A Oil Creek Stat 29.48 14 P P 14 01 00.8 +0.1
baz=198
M54A Oil Creek Stat 29.48 14 P P 14 01 00.8 +0.1
S22A 4UR Ranch, Cre 29.49 330 P P 14 01 02.7 +1.6
baz=142,SNR=12
S22A 4UR Ranch, Cre 29.49 330 P P 14 01 01.7 +0.6
S22A IAmb IAmb 14 01 04.6
comp=Z,5.7nm,0.7s
K43A Burlington 29.61 1 P P 14 01 01.1 -0.7
K43A IAmb IAmb 14 01 58.7
comp=Z,24nm,1.4s
M55A Ridgway 29.67 15 P P 14 01 01.8 -0.5
X16A Lo Mia Camp, P 29.68 320 P P 14 01 03.8 +1.1
M56A Emporium 29.83 16 P P 14 01 03.8 +0.1
baz=201
M56A Emporium 29.83 16 P P 14 01 03.8 +0.1
LUPA Lehigh Univers 29.89 21 P P 14 01 04.2 0.0
LUPA IAmb IAmb 14 01 05.7
comp=Z,6.2nm,0.8s
MVCO Mesa Verde 29.93 327 P P 14 01 06.5 +1.6
baz=139
N59A State Game Lan 30.04 20 P P 14 01 06.0 +0.4
baz=206
N59A State Game Lan 30.04 20 P P 14 01 06.0 +0.4
N59A IAmb IAmb 14 01 27.9
comp=Z,23nm,1.6s
M58A Price's Panora 30.23 18 P P 14 01 07.7 +0.5
baz=204
L55A Hinsdale 30.42 15 P P 14 01 08.8 -0.1
baz=200
ISCO Idaho Springs 30.59 334 P P 14 01 12.2 +1.4
baz=146
ISCO Idaho Springs 30.59 334 P P 14 01 11.7 +0.9
PV15 Paradox Valley 30.77 329 PcP 14 04 08.7 +0.2
I42A Draeger Farm, 30.79 360 P P 14 01 11.2 -0.9
I42A IAmb IAmb 14 01 47.1
comp=Z,26nm,1.4s
PV02 Paradox Valley 30.80 328 P P 14 01 14.0 +1.4
PV03 Paradox Valley 30.89 328 P P 14 01 14.2 +0.8
PV12 Saucer Basin, 30.92 328 P P 14 01 14.8 +1.1
PV12 IAmb IAmb 14 01 17.7
comp=Z,9.9nm,0.8s
PV18 Skein Mesa, Pa 30.92 328 P P 14 01 14.4 +0.8
PV18 IAmb IAmb 14 01 17.6
comp=Z,14nm,1.3s
PV11 David Mesa, Pa 30.94 328 P P 14 01 14.7 +0.9
PV11 IAmb IAmb 14 01 17.2
comp=Z,7.7nm,0.6s
PV17 East Wray Mesa 30.97 328 P P 14 01 14.9 +0.8
PV17 IAmb IAmb 14 01 17.5
comp=Z,9.9nm,0.6s
PV16 Nyswonger Mesa 30.97 328 P P 14 01 15.1 +1.0
PV19 Morning Glory 31.00 328 P P 14 01 15.6 +1.2
PV19 IAmb IAmb 14 01 18.6
comp=Z,6.2nm,0.5s
PV20 West Nyswonger 31.02 328 P P 14 01 15.5 +1.0
PV20 IAmb IAmb 14 01 17.8
comp=Z,5.6nm,0.6s
PV04 Paradox Valley 31.03 328 P P 14 01 15.6 +1.1
PV04 IAmb IAmb 14 01 18.1
comp=Z,7.5nm,0.6s
L58A Harry Jones Me 31.03 19 P P 14 01 14.8 +0.5
baz=205
PV14 Lion Creek, Pa 31.07 328 P P 14 01 15.7 +0.7
PV14 PcP 14 04 10.2 +0.9
PV22 Blue Mesa, Par 31.07 329 P P 14 01 16.1 +1.1
PV22 PcP 14 04 10.1 +0.9
BINY Binghamton 31.13 18 P P 14 01 15.8 +0.6
BINY IAmb IAmb 14 01 31.6
comp=Z,26nm,1.5s
I37A Lemond, Waseca 31.18 353 P P 14 01 15.4 -0.2
K56A Middlesex 31.20 16 P P 14 01 15.7 -0.1
baz=202
ESJX Sierra Juarez 31.35 312 P P 14 01 17.9 +0.4
ESJX IAmb IAmb 14 02 10.0
comp=Z,18nm,1.9s
H43A Windswept, Lux 31.38 1 P P 14 01 16.3 -1.0
ECSD EROS Data Cent 31.38 349 P P 14 01 16.7 -0.7
baz=165
ECSD EROS Data Cent 31.38 349 P P 14 01 16.2 -1.2
ECSD IAmb IAmb 14 02 22.0
comp=Z,9.7nm,1.4s
PTGA Pitinga 31.59 113 P P 14 01 19.4 -0.1
N23A Red Feather La 31.64 335 P P 14 01 21.4 +1.3
baz=147,SNR=5.8
N23A Red Feather La 31.64 335 P P 14 01 20.9 +0.8
N23A IAmb IAmb 14 01 22.3
comp=Z,4.8nm,0.6s
W13A Hualapai Mount 31.67 318 P P 14 01 21.1 +0.8
J56A Wolcott 31.86 16 P P 14 01 21.2 -0.3
baz=202
J56A Wolcott 31.86 16 P P 14 01 20.9 -0.6
BC3 Big Chuckawall 31.88 315 P P 14 01 24.0 +2.0
baz=124
O20A White River Ci 32.05 331 P P 14 01 26.0 +2.5
baz=142,SNR=11
O20A White River Ci 32.05 331 P P 14 01 25.4 +1.9
O20A IAmb IAmb 14 01 27.3
comp=Z,11nm,0.7s
O20A PcP PcP 14 04 12.2 +0.3
SPMN Marine on St. 32.32 355 P P 14 01 25.2 -0.3
baz=172,SNR=14
SPMN Marine on St. 32.32 355 P P 14 01 25.1 -0.5
J58A Remsen 32.40 18 P P 14 01 26.0 -0.3
SRU San Rafael Swe 32.40 327 P P 14 01 27.0 +0.3
MTPU Mount Pierson 32.55 324 P P 14 01 27.9 -0.2
H53A Bobcaygeon 32.64 13 P P 14 01 28.1 -0.3
baz=198
SADO Sadowa 32.71 13 P P 14 01 28.1 -0.9
SADO IAmb IAmb 14 01 34.4
comp=Z,22nm,1.4s
P17A Butcher Ranch, 32.78 328 P P 14 01 30.8 +0.9
I58A Old Forge 32.79 19 P P 14 01 29.7 0.0
baz=205
DELO Deloro Mine 32.82 15 P P 14 01 29.5 -0.4
RWWY Rawlins 32.83 334 P P 14 01 31.3 +0.9
RWWY IAmb IAmb 14 01 32.7
comp=Z,10nm,0.7s
MSU Marysvale 32.87 325 P P 14 01 31.1 +0.3
COWI Conover 33.00 359 P P 14 01 30.5 -1.1
COWI IAmb IAmb 14 01 31.6
comp=Z,17nm,1.4s
F36A Milaca 33.02 354 P P 14 01 31.1 -0.6
F36A IAmb IAmb 14 01 31.3
comp=Z,5.6nm,0.8s
E43A Lone Tree Farm 33.31 2 P P 14 01 32.8 -1.4
K22A Casper 33.35 336 P P 14 01 35.8 +1.0
baz=147
K22A Casper 33.35 336 P P 14 01 35.6 +0.8
K22A IAmb IAmb 14 01 36.7
comp=Z,6.6nm,0.7s
F33A 5 Mile Ranch, 33.37 350 P P 14 01 33.7 -1.0
F33A IAmb IAmb 14 01 35.1
comp=Z,7.6nm,0.6s
SAML Samuel 33.42 129 P P 14 01 34.4 -1.2
SAML IAmb IAmb 14 01 35.5
comp=Z,7.4nm,0.8s
PLVO Plevna 33.44 15 P P 14 01 34.7 -0.7
PLVO IAmb IAmb 14 02 38.6
comp=Z,18nm,1.4s
E46A Sault Ste Mari 33.47 6 P P 14 01 35.0 -0.6
RSSD Black Hills 33.70 340 P P 14 01 39.5 +1.6
baz=152
RSSD Black Hills 33.70 340 P P 14 01 38.8 +0.8
RSSD IAmb IAmb 14 01 40.9
comp=Z,5.2nm,0.7s
LONY Lake Ozonia 33.75 18 P P 14 01 37.4 -0.8
PSUT Pine Spring 33.85 323 P P 14 01 40.3 +1.0
TCUT Toone Canyon 34.34 329 P P 14 01 44.0 +0.4
E54A Lac Daplat, Po 34.72 14 P P 14 01 45.7 -0.7
baz=200
BW06 Boulder Array 34.73 333 P P 14 01 47.5 +0.6
baz=142
BW06 Boulder Array 34.73 333 P P 14 01 47.2 +0.3
PD31 Pinedale Array 34.73 333 P P 14 01 47.2 +0.4
PDAR Pinedale Array 34.73 333 P P 14 01 47.0 +0.1
comp=Z,2.4nm,0.5s,baz=128,slow=11,SNR=22
PDAR PcP PcP 14 04 19.1 -0.3
comp=Z,0.6nm,0.5s,baz=147,slow=5.3,SNR=4.6
PDAR Pinedale Array 34.73 333 P P 14 01 46.9 0.0
HWUT Hardware Ranch 34.79 329 P P 14 01 48.4 +1.1
HWUT IAmb IAmb 14 01 49.5
comp=Z,3.8nm,0.7s
EYMN Ely 34.93 357 P P 14 01 47.8 -0.4
baz=175

EYMN Ely 34.93 357 P P 14 01 47.2 -1.0
EYMN IAmb IAmb 14 01 48.3
comp=Z,5.6nm,0.5s
E28A Huff 34.97 346 P P 14 01 48.6 0.0
BGU Big Grassy Mou 35.04 327 P P 14 01 50.8 +1.2
D53A Lac Vacive, Po 35.21 13 P P 14 01 50.5 -0.2
baz=199
D53A Lac Vacive, Po 35.21 13 P P 14 01 50.3 -0.3
AHID Auburn Hatcher 35.44 331 P P 14 01 54.3 +1.3
AHID IAmb IAmb 14 01 57.2
comp=Z,5.5nm,0.6s
LPAZ La Paz 35.49 144 P P 14 01 54.8 +0.7
comp=Z,1.3nm,0.5s,baz=0.0,slow=5.1,SNR=10
LPAZ LR LR 14 16 40.0
comp=Z,52nm,19.9s,baz=326,slow=37
LPAZ La Paz 35.49 144 P P 14 01 54.5 +0.5
D54A Lac Fusel, La 35.52 14 P P 14 01 52.6 -0.8
baz=200
G62A West of Eustis 35.65 22 P P 14 01 54.7 +0.3
D55A Sainte-Anne-du 35.69 16 P P 14 01 54.2 -0.6
baz=202
AGMN Agassiz Nation 35.70 352 P P 14 01 54.2 -0.7
baz=168,SNR=8.3
AGMN Agassiz Nation 35.70 352 P P 14 01 53.9 -0.9
REDW Red Top Meadow 35.78 332 P P 14 01 56.7 +0.8
ECR Eagle Creek 35.79 331 P P 14 01 56.9 +0.9
SNOW Snow King Moun 35.82 332 P P 14 01 57.0 +0.7
LOHW Long Hollow 35.87 332 P P 14 01 57.6 +1.0
LOHW IAmb IAmb 14 01 59.6
comp=Z,7.7nm,1.1s
MDND Maddock 35.92 347 P P 14 01 56.7 -0.1
baz=162,SNR=9.9
TPAW Teton Pass 35.93 332 P P 14 01 57.0 -0.2
TPAW IAmb IAmb 14 01 59.7
comp=Z,6.5nm,0.7s
FXWY Fox Creek 36.08 332 P P 14 01 58.9 +0.5
IMW Indian Meadow 36.24 332 P P 14 02 00.7 +0.8
IMW IAmb IAmb 14 02 04.5
comp=Z,4.8nm,0.6s
IMW PcP PcP 14 04 24.2 +0.3
PB12 IPOC Station P 36.25 150 P P 14 02 00.3 +0.3
FLWY Flagg Ranch 36.28 333 P P 14 02 01.1 +1.0
FLWY IAmb IAmb 14 02 02.1
comp=Z,4.7nm,0.5s
NV11 Mina Array Sit 36.41 319 P P 14 02 02.8 +1.6
NV11 IAmb IAmb 14 02 03.5
comp=Z,16nm,2.0s
NV11 PcP 14 04 25.3 +1.0
PB16 IPOC Station P 36.43 148 P P 14 02 03.7 +1.6
H17A Grant Village 36.47 333 P P 14 02 03.5 +1.7
baz=142
H17A Grant Village 36.47 333 P P 14 02 03.1 +1.3
H17A IAmb IAmb 14 02 09.3
comp=Z,3.5nm,0.7s
NVAR Mina Array Bea 36.50 319 P P 14 02 04.2 +2.1
comp=Z,2.1nm,0.6s,baz=130,slow=7.3,SNR=24
NVAR PcP PcP 14 04 25.8 +1.1
comp=Z,2.6nm,0.6s,baz=128,slow=3.6,SNR=20
NVAR LR LR 14 18 12.8
comp=Z,176nm,18.5s,baz=140,slow=38
NVAR Mina Array Bea 36.50 319 P P 14 02 03.4 +1.3
NVAR PcP 14 04 25.3 +0.6
RLMT Red Lodge 36.50 335 P P 14 02 02.9 +0.9
baz=145,SNR=12
RLMT Red Lodge 36.50 335 P P 14 02 02.4 +0.4
LHV Little Huntoon 36.52 319 P P 14 02 03.3 +1.3
LHV IAmb IAmb 14 02 06.3
comp=Z,4.4nm,0.7s
YMP Mirror Lake Pl 36.56 334 P P 14 02 04.1 +1.4
LAO LASA Array 36.69 340 P P 14 02 05.3 +1.9
baz=151
LAO LASA Array 36.69 340 P P 14 02 05.1 +1.6
LAO IAmb IAmb 14 02 06.6
comp=Z,6.4nm,0.7s
YNE Yellowstone No 36.72 334 P P 14 02 04.3 +0.4
RYN Ryan 36.76 319 P P 14 02 05.1 +0.9
RYN IAmb IAmb 14 02 36.7
comp=Z,12nm,2.0s
YMR Madison River 36.86 333 P P 14 02 06.0 +0.9
YHH Holmes Hill 36.90 333 P P 14 02 06.3 +0.8
YHB Horse Butte 37.02 333 P P 14 02 05.8 -0.6
QLMT Earthquake Lak 37.19 333 P P 14 02 08.8 +0.9
E62A Clayton Lake 37.21 22 P P 14 02 08.3 +0.6
GCMT Greycliff 37.21 336 P P 14 02 08.3 +0.3
LSQQ Lebel-sur-Quev 37.24 13 P P 14 02 07.2 -0.7
baz=199
ULM Lac du Bonnet 37.62 352 P P 14 02 09.8 -1.2
comp=Z,9.0nm,0.6s,baz=169,slow=8.2,SNR=9.4
ULM LR LR 14 18 47.4
comp=Z,106nm,19.0s,baz=175,slow=38
ULM Lac du Bonnet 37.62 352 P P 14 02 09.5 -1.6
DGMT Dagmar 37.65 343 P P 14 02 12.1 +0.6
baz=155,SNR=12
DGMT Dagmar 37.65 343 P P 14 02 11.7 +0.2
HLID Hailey 37.65 329 P P 14 02 12.8 +1.1
baz=136,SNR=5.8
HLID Hailey 37.65 329 P P 14 02 12.1 +0.4
GO01 Chusmiza 37.71 149 P P 14 02 14.9 +2.1
GO01 IAmb IAmb 14 02 20.2
comp=Z,4.1nm,0.6s
PNTR Pine Nut 37.71 319 P P 14 02 14.8 +2.5
PNTR IAmb IAmb 14 02 15.6
comp=Z,4.7nm,0.8s
D62A Allapoint, All 37.77 22 P P 14 02 12.5 +0.1
MATQ Matagami 37.77 12 P P 14 02 11.1 -1.3
baz=198
MCMT McKenzie Canyo 37.83 332 P P 14 02 15.1 +1.8
BOZ Bozeman (W) 37.88 334 P P 14 02 14.9 +1.3
baz=142,SNR=17
BOZ Bozeman (W) 37.88 334 P P 14 02 14.9 +1.3
BOZ IAmb IAmb 14 02 17.5
comp=Z,7.7nm,0.9s
DLMT Dillon 38.12 332 P P 14 02 17.1 +1.5
DLMT IAmb IAmb 14 02 17.9
comp=Z,3.7nm,0.8s
LRM Limekiln Ridge 38.41 333 P P 14 02 19.0 +0.8
HRY Holter Researc 38.84 334 P P 14 02 22.4 +0.7
EGMT Eagleton 39.09 338 P P 14 02 24.6 +1.0
baz=146,SNR=22
EGMT Eagleton 39.09 338 P P 14 02 24.3 +0.7
PB09 IPOC Station P 39.49 151 P P 14 02 29.2 +1.9
MSO Missoula 39.85 333 P P 14 02 30.6 +0.6
baz=140
MSO Missoula 39.85 333 P P 14 02 30.4 +0.3
BMO Blue Mountains 40.03 328 P P 14 02 31.7 +0.1
M04C Macdoel 40.65 321 P P 14 02 37.7 +0.9
baz=125
I07A Izee 40.70 326 P P 14 02 37.9 +0.9
I07A IAmb IAmb 14 03 09.1
comp=Z,13nm,1.9s
JTMT Jette 40.70 333 P P 14 02 37.9 +0.8
JTMT IAmb IAmb 14 02 45.0
comp=Z,12nm,1.4s
F10A Beach Ranch, E 40.77 329 P P 14 02 37.9 +0.3
G08A Pilot Rock 41.19 327 PcP PcP 14 04 39.9 +0.7
PINE Pine Mountain 41.32 324 P P 14 02 42.2 0.0
WALA Waterton Lakes 41.56 335 P P 14 02 44.1 0.0
NEW Newport 42.36 332 P P 14 02 50.2 -0.3
baz=136
NEW Newport 42.36 332 P P 14 02 50.2 -0.3
NEW IAmb IAmb 14 03 30.6
comp=Z,17nm,2.0s
D08A Wollman Farm, 42.37 329 P P 14 02 50.3 -0.3
E07A Sunnyside 42.50 328 P P 14 02 51.7 0.0
C09A Chrisman Ranch 42.57 331 P P 14 02 52.6 +0.4
H04A Detroit Lake 42.57 324 P P 14 02 52.3 0.0
FFC Flin Flon 42.92 349 P P 14 02 54.8 -0.1
LTY Liberty 43.39 328 P P 14 02 59.2 +0.3
B08A Colville Reser 43.47 330 P P 14 02 59.5 0.0
B08A IAmb IAmb 14 04 22.0
comp=Z,21nm,1.9s
B06A Marblemount 44.63 329 P P 14 03 08.9 +0.3
RPN Rapa Nui 44.63 207 LR LR 14 17 13.3
comp=Z,63nm,19.6s,baz=288,slow=30
SCHQ Schefferville 45.12 18 P P 14 03 11.4 -1.2
comp=Z,3.5nm,0.6s,baz=209,slow=6.5,SNR=5.7
SCHQ Schefferville 45.12 18 P P 14 03 11.3 -1.2
PGC Sidney 45.71 328 P P 14 03 17.6 +0.4
FCC Fort Churchill 45.86 356 P P 14 03 17.7 -0.6
H03N2 Juan Fernandez 47.10 169 T T 14 53 47.2
baz=347,slow=76,SNR=4.4
H03N1 Juan Fernandez 47.10 169 T T 14 53 48.3
baz=347,slow=76,SNR=6.2
CO02 Combarbal 47.11 159 P P 14 03 29.3 +0.7

H03N3	**Juan Fernandez**	**47.12**	**169**	T	T	14 53 44.6			
	baz=347,slow=76,SNR=7.2								
BDFB	**Brasilia**	**49.28**	**124**	P	**P**	**14 03 44.0**	**-1.5**		
	comp=Z,4.7nm,0.6s,baz=287,slow=12,SNR=6.8								
BDFB	**Brasilia**	**49.28**	**124**	P	**P**	**14 03 44.2**	**-1.4**		
BDFB				IAmb	IAmb	14 03 45.2			
	comp=Z,5.5nm,0.7s								
YKA	**Yellowknife Ar**	**52.78**	**345**	P	**P**	**14 04 10.5**	**-0.4**		
	comp=Z,7.5nm,0.6s,baz=132,slow=9.7,SNR=57								
DLBC	**Dease Lake**	**54.90**	**335**	P	**P**	**14 04 27.5**	**+0.8**		
PTCN	**Pitcairn Islan**	**55.33**	**227**	P	**P**	**14 04 30.0**	**0.0**		
VRDI	**Verde Repeater**	**62.12**	**333**	P	**P**	**14 05 17.2**	**+0.2**		
EPYK	**Eagle Plains**	**62.15**	**340**	P	**P**	**14 05 16.6**	**-0.2**		
	baz=125								
INK	**Inuvik**	**62.33**	**343**	P	**P**	**14 05 17.8**	**-0.1**		
	comp=Z,8.6nm,0.7s,baz=122,slow=6.8,SNR=24								
INK	**Inuvik**	**62.33**	**343**	P	**P**	**14 05 17.4**	**-0.5**		
GLB	**Gilahina Butte**	**62.37**	**334**	P	**P**	**14 05 18.8**	**+0.3**		
KLU	**Klutina**	**63.31**	**333**	P	**P**	**14 05 24.9**	**+0.1**		
KLU				IAmb	IAmb	14 05 27.3			
	comp=Z,5.7nm,1.1s								
SCM	**Sheep Creek Mo**	**64.06**	**333**	P	**P**	**14 05 29.4**	**-0.3**		
GHO	**Glory Hole Cre**	**64.75**	**333**	P	**P**	**14 05 33.2**	**-1.0**		
PMR	**Palmer**	**64.78**	**333**	P	**P**	**14 05 33.7**	**-0.5**		
PMR				IAmb	IAmb	14 05 34.3			
	comp=Z,4.4nm,0.8s								
ILAR	**Eielson Array**	**65.04**	**336**	P	**P**	**14 05 35.1**	**-0.8**		
	comp=Z,2.6nm,0.8s,baz=115,slow=6.2,SNR=4.9								
ILAR	**Eielson Array**	**65.04**	**336**	P	**P**	**14 05 34.6**	**-1.2**		
CNPM	**China Poot**	**65.09**	**330**	P	**P**	**14 05 36.3**	**0.0**		
RND	**Reindeer**	**65.31**	**335**	P	**P**	**14 05 37.7**	**0.0**		
CCB	**Clear Creek Bu**	**65.35**	**336**	P	**P**	**14 05 37.0**	**-0.8**		
CCB				IAmb	IAmb	14 05 38.2			
	comp=Z,3.4nm,0.6s								
WRH	**Wood River Hil**	**65.40**	**336**	P	**P**	**14 05 37.2**	**-0.9**		
WRH				IAmb	IAmb	14 05 37.6			
	comp=Z,3.3nm,0.7s								
COLA	**College**	**65.46**	**336**	P	**P**	**14 05 38.0**	**-0.5**		
MCK	**McKinley**	**65.46**	**335**	P	**P**	**14 05 37.7**	**-1.0**		
MCK				IAmb	IAmb	14 05 38.9			
	comp=Z,5.0nm,0.7s								
SUA	**Susitna One**	**65.46**	**332**	P	**P**	**14 05 38.5**	**-0.3**		
SUA				IAmb	IAmb	14 06 03.9			
	comp=Z,6.9nm,0.9s								
MDM	**Murphy Dome**	**65.64**	**336**	P	**P**	**14 05 40.0**	**+0.2**		
MDM				IAmb	IAmb	14 06 58.4			
	comp=Z,5.7nm,0.8s								
NEA2	**Nenana**	**65.83**	**336**	P	**P**	**14 05 40.9**	**-0.1**		
	baz=112								
BWN	**Browne**	**65.84**	**335**	P	**P**	**14 05 40.4**	**-0.6**		
TRF	**Thorofare Moun**	**65.93**	**334**	P	**P**	**14 05 42.2**	**+0.4**		
TRF				IAmb	IAmb	14 05 42.7			
	comp=Z,5.8nm,0.6s								
SKT	**Skwentna**	**65.98**	**333**	P	**P**	**14 05 41.9**	**-0.1**		
SKT				IAmb	IAmb	14 05 42.1			
	comp=Z,4.0nm,0.6s								
RSO	**Redoubt South**	**66.09**	**331**	P	**P**	**14 05 42.9**	**-0.1**		
KTH	**Kantishna Hill**	**66.23**	**334**	P	**P**	**14 05 43.0**	**-0.7**		
KTH				IAmb	IAmb	14 05 43.8			
	comp=Z,5.6nm,0.8s								
BPAW	**Bear Paw Mtn.**	**66.44**	**335**	P	**P**	**14 05 43.8**	**-1.2**		
BPAW				IAmb	IAmb	14 05 44.8			
	comp=Z,6.4nm,0.7s								
EUNU	**Eureka**	**67.09**	**0**	P	**P**	**14 05 48.0**	**-0.8**		
COLD	**Coldfoot**	**67.25**	**338**	P	**P**	**14 05 50.4**	**+0.5**		
	baz=112								
COLD	**Coldfoot**	**67.25**	**338**	P	**P**	**14 05 50.0**	**0.0**		
COLD				IAmb	IAmb	14 05 51.2			
	comp=Z,4.7nm,0.7s								
TOLK	**Toolik Lake Re**	**67.57**	**340**	P	**P**	**14 05 52.1**	**0.0**		
	baz=113								
TOLK	**Toolik Lake Re**	**67.57**	**340**	P	**P**	**14 05 51.5**	**-0.6**		
TOLK				IAmb	IAmb	14 05 52.7			
	comp=Z,6.7nm,0.6s								
SVW2	**Sparrevohn**	**67.60**	**331**	P	**P**	**14 05 51.0**	**-1.4**		
SVW2				IAmb	IAmb	14 07 48.2			
	comp=Z,9.2nm,1.2s								
PMOZ	**Porto Moniz, M**	**67.61**	**60**	P	**P**	**14 05 51.2**	**-1.8**		
UNV	**Unalaska Valle**	**72.43**	**323**	P	**P**	**14 06 21.6**	**-0.4**		
EKA	**Eskdalemuir Ar**	**76.90**	**36**	P	**P**	**14 06 44.0**	**-3.8**		
	comp=Z,1.1nm,0.7s,baz=270,slow=5.7,SNR=4.4								
EKA				pP	**pP**	**14 07 04.4**	**-1.8**		
	comp=Z,1.4nm,0.7s,baz=270,slow=5.8,SNR=3.0								
ESDC	**Sonseca Array**	**77.81**	**52**	P	**P**	**14 06 50.4**	**-3.0**		
	comp=Z,0.4nm,0.9s,baz=291,slow=6.4,SNR=3.2								
ESDC				pP	**pP**	**14 07 09.9**	**-1.8**		
	comp=Z,0.6nm,0.7s,baz=287,slow=5.7,SNR=4.6								
ADK	**Adak**	**78.67**	**321**	P	**P**	**14 06 56.9**	**-0.8**		
NOA	**NORSAR Array B**	**83.48**	**29**	LR	LR	14 43 51.3			
	comp=Z,16nm,19.1s,baz=130,slow=35								
ARCES	**ARCESS Array B**	**86.07**	**19**	P	**P**	**14 07 34.3**	**-1.8**		
	comp=Z,1.3nm,0.8s,baz=283,slow=4.5,SNR=1.6								
TORD	**Torodi Ar. Bea**	**87.47**	**77**	P	**P**	**14 07 41.1**	**-2.8**		
	comp=Z,0.3nm,0.4s,baz=294,slow=5.8,SNR=1.4								
KURK	**Kurchatov**	**115.60**	**9**		**PKiKP**	**14 13 36.1**	**-1.3**		
KURBB	**Kurchatov Arra**	**115.68**	**9**	PKP	**PKiKP**	**14 13 36.1**	**-1.5**		
	comp=Z,0.3nm,0.5s,baz=356,slow=1.8,SNR=4.9								
KSRS	**Korea Array**	**119.17**	**327**	PKP	**PKiKP**	**14 13 44.6**	**-0.1**		
	comp=Z,1.5nm,0.6s,baz=11,slow=2.0,SNR=10								
KSRS				pPKP	**pPKPdf**	**14 14 03.0**	**-1.2**		
	comp=Z,1.0nm,0.7s,baz=27,slow=2.2,SNR=4.1								
MKAR	**Makanchi Array**	**119.94**	**7**	PKP	**PKPdf**	**14 13 43.8**	**-2.2**		
	comp=Z,0.1nm,0.3s,baz=314,slow=3.5,SNR=2.4								
WRA	**Warramunga Arr**	**138.25**	**255**	PKhKP	PKPpre	14 14 13.4			
	comp=Z,0.2nm,0.7s,baz=89,slow=3.1,SNR=7.1								
WRA				PKP	**PKPdf**	**14 14 22.0**	**+0.6**		
	comp=Z,1.7nm,0.7s,baz=88,slow=2.1,SNR=27								
WRA				pPKP	pPKPdf	14 14 40.4	-0.5		
	comp=Z,1.7nm,0.9s,baz=90,slow=1.5,SNR=4.1								
WRA	**Warramunga Arr**	**138.25**	**255**		**PKPdf**	**14 14 20.8**	**-0.6**		
ASAR	**Alice Springs**	**138.34**	**249**	PKhKP	PKPpre	14 14 12.2			
	comp=Z,0.3nm,0.6s,baz=110,slow=3.9,SNR=8.0								
ASAR				PKP	**PKPdf**	**14 14 22.1**	**+0.7**		
	comp=Z,0.6nm,0.7s,baz=103,slow=2.8,SNR=8.0								
CMAR	**Chiang Mai Arr**	**147.86**	**346**	PKPbc	**PKPdf**	**14 14 38.9**	**+0.6**		
	comp=Z,1.5nm,0.5s,baz=339,slow=4.1,SNR=9.3								
CMAR	**Chiang Mai Arr**	**147.86**	**346**	PKPbc	**PKPbc**	**14 14 40.4**	**-0.9**		

*WEL **31** 14:39:00.3±98.5×174.9±9.9E,h291±1km,ML4.7,Mw4.4, Moment Tensor Solution. s5 Moment tensor: Scale 10^15 Nm; Mrr=4.09; Mθθ=0.94; Mϕϕ=3.15; Mrθ=0.78; Mθϕ=2.50; Mϕr=1.13; Fault plane solution: M0=4.64000×10^15 NP1: ϕs=32.00000°, δ=36.00000°, λ=89.00000°. NP2:ϕs=214.00000°, δ=54.00000°, λ=91.00000°. Principal axes: T -498.4000, Plg=81.0000°, Azm=129.0000°; N 68.5100, Plg=1.0000°, Azm=33.0000°; P 429.8900, Plg=9.0000°, Azm=303.0000°; Hypocentre not reviewed by the ISC*

*IDC **31** 14:39:19.2±1.2,39.28S×175.42E,h229±10km, mb3.8/11,mb1 3.9/13,mb1mx3.7/34,mbtmp4.4/13 Error ellipse: s-maj=18.5km s-min=16.2km az=178.0*

*NEIC **31** 14:39:20.4±2.3,38.95S±0.07×175.1E±0.1,h226±5km, mb4.5/32, Error ellipse: s-maj=12.4km s-min=10.8km az=82.0*

ISC 31 14:39:18.5±0.4,39.01S±0.06×174.89E±0.06,h200km,n94,
σ1s67/98,mb4.3/25,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HIZ	**Hauiti**	**0.49**	**357**		**Pn**	**14 39 49.4**	**+3.8**
BKZ	**Black Stump Fm**	**1.26**	**98**		**Pn**	**14 39 53.1**	**+3.0**
URZ	**Urewera**	**1.89**	**68**	P	**Pn**	**14 39 57.3**	**+1.5**
	325nm,0.3s,baz=248,slow=3.8,SNR=2273						
URZ				S	**Sn**	**14 40 23.1**	**-1.8**
	201nm,0.3s,baz=208,slow=7.0,SNR=9.1						
BFZ	**Birch Farm**	**1.97**	**148**		**Pn**	**14 39 59.4**	**+2.7**
SNZO	**South Karori**	**2.31**	**183**		**Pn**	**14 40 03.0**	**+2.9**
BHW	**Baring Head**	**2.40**	**180**	Pn	**Pn**	**14 40 03.8**	**+2.7**
MSWZ	**Moikau Station**	**2.42**	**174**		**Pn**	**14 40 03.9**	**+2.5**
NNZ	**Nelson**	**2.49**	**207**		**Pn**	**14 40 05.3**	**+3.1**
TUWZ	**Tuamarina**	**2.53**	**196**		**Pn**	**14 40 05.7**	**+3.1**
QRZ	**Quartz Range**	**2.57**	**224**		**Pn**	**14 40 05.7**	**+2.7**
PLWZ	**Palliser**	**2.58**	**174**		**Pn**	**14 40 05.6**	**+2.4**
BSWZ	**Blackbirch Sta**	**2.81**	**196**		**Pn**	**14 40 08.8**	**+2.9**
MXZ	**Matakaoa Point**	**3.05**	**63**	Pn	**Pn**	**14 40 09.9**	**+1.3**
THZ	**Tophouse**	**3.14**	**208**	Pn	**Pn**	**14 40 12.1**	**+2.3**
KHZ	**Kahutara**	**3.56**	**196**	Pn	**Pn**	**14 40 17.2**	**+2.5**
OUZ	**Omahuta**	**3.92**	**344**	Pn	**Pn**	**14 40 21.9**	**+2.6**
LTZ	**Lake Taylor**	**4.26**	**207**	Pn	**Pn**	**14 40 24.8**	**+1.4**
OXZ	**Oxford**	**4.82**	**206**		**Pn**	**14 40 30.8**	**+0.3**
MQZ	**McQueen's Vall**	**4.99**	**199**	Pn	**Pn**	**14 40 32.8**	**+0.2**
RPZ	**Rata Peaks**	**5.52**	**210**	P	**Pn**	**14 40 39.9**	**+0.5**
	51nm,0.3s,baz=282,slow=2.5,SNR=222						
RPZ				S	**Sn**	**14 41 41.2**	**-2.2**
	111nm,0.3s,baz=18,slow=24,SNR=22						
RPZ	**Rata Peaks**	**5.52**	**210**	Pn	**Pn**	**14 40 39.7**	**+0.3**
FOZ	**Fox Glacier**	**5.92**	**219**	Pn	**Pn**	**14 40 44.1**	**-0.4**
ODZ	**Otahua Downs**	**6.81**	**206**		**Pn**	**14 40 56.7**	**+0.6**
WKZ	**Wanaka**	**7.28**	**215**	Pn	**Pn**	**14 41 00.8**	**-1.4**
MLZ	**Mavora Lakes**	**8.10**	**216**	Pn	**Pn**	**14 41 12.1**	**-0.8**
WHZ	**Wether Hill Ro**	**8.58**	**214**	Pn	**Pn**	**14 41 17.6**	**-1.5**
DCZ	**Deep Cove**	**8.63**	**219**	Pn	**Pn**	**14 41 18.7**	**-1.1**
PYZ	**Puysegur Point**	**9.37**	**218**	Pn	**Pn**	**14 41 29.9**	**+0.5**
LHI	**Lord Howe Isla**	**14.92**	**295**	P	**P**	**14 42 41.3**	**+0.9**
DZM	**Mont Dzumac**	**18.36**	**334**	P	**Pn**	**14 43 21.5**	**+0.7**
	1.0nm,0.3s,baz=182,slow=7.9,SNR=16						
DZM	**Mont Dzumac**	**18.36**	**334**	IAmb	IAmb	14 43 48.9	
	comp=Z,36nm,1.7s						
MSVF	**Nonsavu**	**21.37**	**8**	P	**P**	**14 43 49.8**	**-0.7**
AFI	**Afiamalu**	**27.63**	**29**	P	**P**	**14 44 46.1**	**-1.5**
STKA	**Stephens Creek**	**27.93**	**274**	P	**P**	**14 44 52.0**	**+1.9**
	comp=Z,2.5nm,0.8s,baz=111,slow=10,SNR=5.3						
CTA	**Charters Tower**	**31.04**	**299**	P	**P**	**14 45 20.0**	**+2.3**
	comp=Z,2.8nm,0.9s,baz=138,slow=14,SNR=2.0						
CTAO	**Charters Tower**	**31.04**	**299**	P	**P**	**14 45 18.3**	**+0.6**
CTAO				IAmb	IAmb	14 45 32.9	
	comp=Z,12nm,1.1s						
BBOO	**Buckleboo**	**31.88**	**269**	P	**P**	**14 45 25.8**	**+0.9**
HNR	**Honiara**	**32.35**	**332**	P	**P**	**14 45 30.7**	**+1.7**
	comp=Z,92nm,0.8s,baz=191,slow=16,SNR=6.0						
COEN	**Coen**	**37.46**	**303**	P	**P**	**14 46 12.4**	**-0.5**
COEN				IAmb	IAmb	14 46 50.6	
	comp=Z,24nm,1.6s						
AS31	**Alice Springs**	**37.86**	**282**	P	**P**	**14 46 17.3**	**+1.2**
ASAR	**Alice Springs**	**37.86**	**282**	P	**P**	**14 46 17.6**	**+1.4**
	comp=Z,5.5nm,0.8s,baz=120,slow=7.6,SNR=39						
ASAR				PcP	**PcP**	**14 48 26.1**	**-2.0**
	comp=Z,1.6nm,0.6s,baz=120,slow=3.9,SNR=6.4						
ASAR				ScP	**S**	**14 51 50.9**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=123,slow=3.7,SNR=4.7						
ASAR	**Alice Springs**	**37.86**	**282**	P	**P**	**14 46 16.1**	**-0.1**
FORT	**Forrest**	**38.92**	**267**	P	**P**	**14 46 26.2**	**+1.4**
FORT				IAmb	IAmb	14 46 52.1	
	comp=Z,15nm,0.9s						
WR0	**Warramunga Arr**	**39.53**	**287**	P	**P**	**14 46 31.1**	**+1.1**
WB2	**Warramunga Arr**	**39.68**	**287**	P	**P**	**14 46 32.0**	**+0.7**
WRAB	**Tennant Creek**	**39.69**	**287**	P	**P**	**14 46 32.3**	**+1.0**
WRA	**Warramunga Arr**	**39.69**	**287**	P	**P**	**14 46 32.6**	**+1.2**
	comp=Z,0.8s,baz=130,slow=7.3,SNR=15						
WRA	**Warramunga Arr**	**39.69**	**287**	P	**P**	**14 46 32.0**	**+0.6**
WB0	**Warramunga Arr**	**39.76**	**287**	P	**P**	**14 46 32.5**	**+0.6**
NWAO	**Narrogin (SRO)**	**46.39**	**259**	P	**P**	**14 47 24.9**	**0.0**
NWAO				IAmb	IAmb	14 48 22.4	
	comp=Z,57nm,1.6s						
KNRA	**Kununurra**	**46.49**	**287**	P	**P**	**14 47 26.8**	**+1.1**
KNRA				IAmb	IAmb	14 48 30.5	
	comp=Z,20nm,1.6s						
MTN	**Manton Dam**	**46.58**	**292**	P	**P**	**14 47 27.3**	**+0.8**
MTN				IAmb	IAmb	14 48 56.6	
	comp=Z,10nm,1.1s						
FITZ	**Fitzroy Crossi**	**47.37**	**282**	P	**P**	**14 47 34.0**	**+1.4**
	comp=Z,2.3nm,0.5s,baz=119,slow=7.7,SNR=9.6						
FITZ	**Fitzroy Crossi**	**47.37**	**282**	P	**P**	**14 47 33.9**	**+1.4**
MORW	**Morawa**	**49.02**	**263**	P	**P**	**14 47 46.1**	**+1.0**
MORW				IAmb	IAmb	14 48 16.4	
	comp=Z,65nm,2.0s						
QSPA	**South Pole Qui**	**51.12**	**180**	P	**P**	**14 48 02.8**	**+2.3**
QSPA				IAmb	IAmb	14 48 53.1	
	comp=Z,5.9nm,0.8s						
BELA	**Belgrano 2**	**62.01**	**173**	P	**P**	**14 49 17.3**	**+0.5**
PMSA	**Palmer Station**	**66.79**	**156**	P	**P**	**14 49 49.2**	**+1.3**
PMSA				IAmb	IAmb	14 51 52.4	
	comp=Z,18nm,1.6s						
SNAA	**Sanae**	**69.62**	**181**	P	**P**	**14 50 06.0**	**+0.6**
SNAA	**Sanae**	**69.62**	**181**	P	**P**	**14 50 06.2**	**+0.7**
SNAA				IAmb	IAmb	14 50 58.5	
	comp=Z,12nm,1.5s						
VNA3	**Neumayer Olymp**	**70.01**	**178**	P	**P**	**14 50 08.3**	**+0.4**
KKM	**Kota Kinabalu**	**70.29**	**296**	P	**P**	**14 50 10.4**	**0.0**
KKM				IAmb	IAmb	14 52 17.0	
	comp=Z,12nm,1.0s						
VNA2	**Neumayer--Watz**	**70.36**	**179**	P	**P**	**14 50 10.7**	**+0.7**
VNA1	**Neumayer--Stat**	**70.63**	**179**	P	**P**	**14 50 12.2**	**+0.7**
AIS	**Amsterdam Isla**	**72.31**	**236**	P	**P**	**14 50 21.4**	**-0.8**
JCJ	**Chichijima**	**72.51**	**330**	P	**P**	**14 50 22.4**	**-0.8**
	comp=Z,14nm,0.6s,baz=282,slow=19,SNR=2.0						
JCJ	**Chichijima**	**72.51**	**330**	P	**P**	**14 50 22.5**	**-0.8**
EFI	**East Falkland**	**78.57**	**150**	P	**P**	**14 50 56.1**	**-1.4**
YOJ	**Yonaguni jima**	**79.62**	**313**	P	**P**	**14 51 03.4**	**-0.1**
YOJ				IAmb	IAmb	14 53 12.7	
	comp=Z,12nm,1.0s						
PLCA	**Paso Flores**	**80.72**	**136**	P	P	14 51 02.7	-6.7
	comp=Z,1.2nm,1.0s,baz=279,slow=8.7,SNR=3.1						
LC01	**Cunco**	**81.25**	**133**	P	**P**	**14 51 12.3**	**+0.1**
LC01				IAmb	IAmb	14 51 13.5	
	comp=Z,5.4nm,0.7s						
MJAR	**Matsushiro Arr**	**82.44**	**331**	P	**P**	**14 51 17.5**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=166,slow=7.2,SNR=7.4						
MJAR	**Matsushiro Arr**	**82.44**	**331**	IAmb	IAmb	14 51 18.7	
	comp=Z,1.1nm,0.8s						
KSRS	**Korea Array**	**87.50**	**324**	P	**P**	**14 51 44.2**	**+1.0**
	comp=Z,4.0nm,0.8s,baz=145,slow=5.6,SNR=23						
CMAR	**Chiang Mai Arr**	**91.01**	**293**	P	**P**	**14 52 01.1**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=156,slow=3.4,SNR=8.6						
CMAR	**Chiang Mai Arr**	**91.01**	**293**	P	**P**	**14 51 59.9**	**-0.2**
USRK	**Ussuriysk Ar.**	**91.43**	**331**	P	**P**	**14 52 00.4**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=147,slow=3.4,SNR=2.7						
HHC	**Hu-ho-hao-te**	**98.22**	**317**	*e*P	**P**	**14 52 32.8**	**+0.2**
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,81nm,5.5s						
MKAR	**Makanchi Array**	**118.67**	**309**	PKP	**PKPdf**	**14 57 39.3**	**-2.8**
	comp=Z,0.4nm,0.5s,baz=227,slow=2.4,SNR=2.2						
KURK	**Kurchatov**	**122.54**	**311**		**PKPdf**	**14 57 47.0**	**-2.3**
KURBB	**Kurchatov Arra**	**122.56**	**311**	PKP	**PKPdf**	**14 57 47.0**	**-2.4**
	comp=Z,0.4nm,0.4s,baz=120,slow=1.6,SNR=5.5						
KBZ	**Khabaz**	**144.06**	**293**	PKP	**PKPab**	**14 58 26.2**	**-1.5**
	comp=Z,7.7nm,0.8s,baz=82,slow=3.6,SNR=17						
ARCES	**ARCESS Array B**	**145.35**	**342**	PKPbc	**PKPdf**	**14 58 29.9**	**-1.2**
	comp=Z,7.5nm,0.6s,baz=64,slow=2.4,SNR=63						
ARCES	**ARCESS Array B**	**145.35**	**342**		**PKPdf**	**14 58 29.5**	**-1.6**
MMAI	**Mount Meron Ar**	**146.89**	**272**	PKPbc	**PKPbc**	**14 58 37.3**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=101,slow=4.5,SNR=5.2						
BRTR	**Keskin Array B**	**150.19**	**284**	PKPbc	**PKPbc**	**14 58 43.8**	**-1.8**
	comp=Z,0.6nm,0.4s,baz=150,slow=5.3,SNR=5.0						
BRTR				PKPab	**PKPab**	**14 58 51.8**	**-0.7**
	comp=Z,4.4nm,0.7s,baz=136,slow=5.0,SNR=18						
BRTR	**Keskin Array B**	**150.19**	**284**		**PKPdf**	**14 58 43.5**	**+3.3**
BRTR					**PKPab**	**14 58 51.3**	**-1.1**
FINES	**FINESS Array B**	**150.46**	**330**	PKPbc	**PKPdf**	**14 58 43.0**	**+3.3**
	comp=Z,1.7nm,0.5s,baz=23,slow=4.3,SNR=17						
FINES				PKPab	**PKPab**	**14 58 50.2**	**-2.3**
	comp=Z,6.6nm,0.4s,baz=62,slow=4.4,SNR=33						
AKASG	**Malin Array Be**	**153.24**	**307**	PKPbc	**PKPbc**	**14 58 50.0**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=65,slow=2.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**153.55**	**195**	PKPbc	**PKPbc**	**14 58 51.1**	**-2.6**
	comp=Z,0.4nm,0.4s,baz=168,slow=2.9,SNR=2.4						
HFS	**Hagfors**	**155.76**	**337**	PKPab	**PKPab**	**14 59 13.9**	**-1.1**
	comp=Z,2.5nm,0.6s,baz=45,slow=2.7,SNR=5.9						
IDI	**Anoyia**	**155.85**	**271**	PKPab	**PKPab**	**14 59 17.0**	**+0.6**
	comp=Z,5.3nm,0.9s,baz=60,slow=8.6,SNR=3.0						
VYHS	**Vyhne**	**160.34**	**307**	*e*PKP	**PKPdf**	**14 58 51.5**	**-1.9**
VYHS				*e*		14 59 34.5	
GERES	**GERESS Array B**	**163.29**	**312**	PKPab	**PKPab**	**14 59 48.1**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=64,slow=6.1,SNR=5.1						

*PRE **31** 14:40:00.7±0.9,26.46S×27.49E,h2±2km,ML3.2*

*NEIC **31** 14:40:02.5±1.9,26.41S±0.06×27.6E±0.1,h5±1km, mb4.6/5, Error ellipse: s-maj=16.7km s-min=10.4km az=96.0*

*IDC **31** 14:40:02.3±1.3,26.38S×27.45E,h0km,mb3.9/3, mb1 4.2/9,mb1mx3.8/54,mbtmp4.2/9,ML3.5/5, Error ellipse: s-maj=32.9km s-min=19.3km az=92.0*

ISC 31 14:40:01.8±1.2,26.41S±0.04×27.48E±0.03,h8km±8km,
n37,σ1s98/52,mb4.2/5,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERPM	**east rand prop**	**0.69**	**85**	*e*P	**Pg**	**14 40 14.4**	**-0.7**
ERPM				*e*S	**Sg**	**14 40 24.6**	**+0.4**
ERPM				AML	AML	14 40 34.2	
	comp=Z,197nm,0.4s						
KSR	**Koster**	**0.76**	**317**	*e*P	**Pg**	**14 40 16.4**	**-0.1**
KSR				*e*S	**Sg**	**14 40 26.6**	**+0.2**
KSR				AML	AML	14 40 33.1	
	comp=Z,1μm,0.2s						
SLR	**Silverton**	**0.99**	**47**	*e*P	**Pg**	**14 40 20.7**	**-0.1**
SLR				*e*S	**Sb**	**14 40 34.4**	**0.0**
SLR				AML	AML	14 40 40.3	
	comp=Z,359nm,0.2s						
SWZ	**Schweizer**	**2.06**	**248**	*e*P	**Pn**	**14 40 37.0**	**+0.1**
SWZ				*e*S	**Sb**	**14 41 04.3**	**-1.1**
SWZ				AML	AML	14 41 07.5	
	comp=Z,530nm,0.4s						
LBTB	**Lobatse**	**2.19**	**309**	Pn	**Pb**	**14 40 40.9**	**-0.8**
	comp=Z,87nm,0.3s,baz=133,slow=14,SNR=806						
LBTB				Sn	**Sb**	**14 41 10.5**	**+1.4**
	comp=Z,242nm,0.3s,baz=245,slow=18,SNR=61						
LBTB	**Lobatse**	**2.19**	**309**	*e*P	**Pn**	**14 40 39.8**	**+1.2**
LBTB				*e*S	**Sb**	**14 41 07.9**	**-1.1**
LBTB				AML	AML	14 41 12.9	
	comp=Z,462nm,0.3s						
LBTB	**Lobatse**	**2.19**	**309**		**Pb**	**14 40 40.7**	**-1.0**
BOSA	**Boshof**	**2.95**	**221**	Pn	**Pn**	**14 40 50.1**	**+1.0**
	comp=Z,6.5nm,0.3s,baz=45,slow=13,SNR=145						
BOSA				Lg	Lg	14 41 32.5	
	comp=Z,17nm,0.3s,baz=320,slow=15,SNR=12						
BOSA	**Boshof**	**2.95**	**221**	*e*P	**Pn**	**14 40 49.1**	**+0.1**
BOSA				*e*S	**Sn**	**14 41 25.0**	**+0.3**
BOSA				AML	AML	14 41 40.7	
	comp=Z,90nm,0.3s						
BOSA	**Boshof**	**2.95**	**221**		**Pn**	**14 40 50.0**	**+0.9**
POGA	**Pongola**	**3.89**	**105**	*e*P	**Pn**	**14 41 02.0**	**+0.2**
POGA				*e*S	**Sn**	**14 41 46.1**	**-1.7**
POGA				AML	AML	14 42 06.0	
	comp=Z,181nm,0.5s						
HVD	**Gariep Dam**	**4.53**	**202**	*e*P	**Pn**	**14 41 10.6**	**-0.1**
HVD				*e*S	**Sn**	**14 42 01.4**	**-2.3**
HVD				AML	AML	14 42 40.0	
	comp=Z,40nm,0.7s						
MOPA	**Mopani**	**4.58**	**52**	*e*P	**Pn**	**14 41 12.5**	**+1.2**
MOPA				*e*S	**Sn**	**14 42 03.9**	**-0.8**
MOPA				AML	AML	14 42 32.2	
	comp=Z,48nm,0.5s						
MSNA	**Messina**	**4.67**	**30**	*e*P	**Pn**	**14 41 11.8**	**-0.8**
MSNA				*e*S	**Sn**	**14 42 04.6**	**-2.3**
MSNA				AML	AML	14 42 27.1	
	comp=Z,55nm,0.3s						
UPI	**Upington**	**5.87**	**249**	*e*P	**Pn**	**14 41 30.4**	**+1.3**
UPI				*e*S	**Sn**	**14 42 34.1**	**-2.4**
UPI				AML	AML	14 43 12.6	
	comp=Z,35nm,0.6s						
UPI	**Upington**	**5.87**	**249**	*i* P	**Sn**	**14 42 32.6**	**-3.9**
MATP

comp=E,69nm,0.1s
MORF Marmelete 4.23 32 P **Pn** 14 43 17.4 +1.1
MORF S **Sn** 14 44 08.3 +2.6
comp=E,38nm,0.2s
MORF Marmelete 4.23 32 *e*Pn **Pn** 14 43 17.4 +1.1
MORF *e*Sn **Sn** 14 44 08.3 +2.6
MORF A A 14 44 11.2
comp=E,38nm,0.2s
PTEO Sao Teotonio 4.40 30 P **Pn** 14 43 19.9 +1.4
PTEO S **Sn** 14 44 12.1 +2.3
comp=E,12nm,0.6s
PTEO Sao Teotonio 4.40 30 *e*Pn **Pn** 14 43 19.9 +1.4
PTEO *e*Sn **Sn** 14 44 12.1 +2.3
PTEO A A 14 44 25.4
comp=E,24nm,0.6s
PBDV Barranco-do-Ve 4.53 38 P **Pn** 14 43 22.3 +2.0
PBDV S **Sn** 14 44 14.9 +1.9
comp=E,23nm,0.3s
PBDV Barranco-do-Ve 4.53 38 *e*Pn **Pn** 14 43 22.3 +2.0
PBDV *e*Sn **Sn** 14 44 14.9 +1.9
PBDV A A 14 44 23.5
comp=E,23nm,0.3s
PMAR Madeira 4.69 259 P Pn 14 43 09.8 -13
PMAR S Sn 14 43 51.7 -26
comp=E,29nm,0.2s
PMAR Madeira 4.69 259 P Pn 14 43 11.3 -11
PMAR S Sn 14 43 56.8 -20
PMAR Madeira 4.69 259 *e*Pn Pn 14 43 09.8 -13
PMAR *e*Sn Sn 14 43 51.7 -26
PMAR A A 14 43 59.9
comp=E,58nm,0.2s
FUL Funchal 4.69 258 P Pn 14 43 09.9 -13
FUL Funchal 4.69 258 *e*Pn Pn 14 43 09.9 -13
PCVE Castro Verde 4.78 35 P **Pn** 14 43 25.5 +1.8
PCVE S **Sn** 14 44 20.8 +1.7
comp=E,17nm,0.3s
PCVE Castro Verde 4.78 35 *e*Pn **Pn** 14 43 25.5 +1.8
PCVE *e*Sn **Sn** 14 44 20.8 +1.7
PCVE A A 14 44 27.6
comp=E,17nm,0.3s
OUZM OUZ 4.87 124 P Pn 14 43 20.9 -4.2
OUZM S **Sn** 14 44 16.6 -5.0
PMOZ Porto Moniz, M 4.90 261 P Pn 14 43 11.1 -14
comp=E,24nm,0.2s,SNR=7.9
PMOZ S Sn 14 43 58.0 -24
comp=E,24nm,0.2s,SNR=7.9
PMOZ Porto Moniz, M 4.90 261 P Pn 14 43 21.3 -4.2
PMOZ S Sn 14 44 03.0 -19
PMOZ Porto Moniz, M 4.90 261 *e*Pn Pn 14 43 12.1 -13
PMOZ *e*Sn Sn 14 43 59.6 -23
PMOZ A A 14 44 05.3
comp=E,48nm,0.3s
EFAM Famara 4.93 202 P Pn 14 43 09.4 -16
comp=E,14nm,0.2s,SNR=7.9
EFAM S Sn 14 43 55.0 -28
comp=E,67nm,0.3s,SNR=7.9
PNCL Nicolau / Gran 4.97 28 P **Pn** 14 43 27.2 +0.9
PNCL S **Sn** 14 44 25.4 +1.6
comp=E,12nm,0.2s
PNCL Nicolau / Gran 4.97 28 *e*Pn **Pn** 14 43 27.2 +0.9
PNCL *e*Sn **Sn** 14 44 25.4 +1.6
PNCL A A 14 44 33.4
comp=E,12nm,0.2s
EGRO El Granado 4.98 39 ⇓P **Pn** 14 43 28.6 +2.1
comp=E,5.2nm,0.1s,SNR=18
EGRO S **Sn** 14 44 26.2 +2.1
comp=E,18nm,0.2s,SNR=5.5
PBEJ Beja 5.17 33 P **Pn** 14 43 31.2 +2.0
PBEJ S **Sn** 14 44 31.1 +2.2
comp=E,5.9nm,0.4s
PBEJ Beja 5.17 33 *e*Pn **Pn** 14 43 31.2 +2.0
PBEJ *e*Sn **Sn** 14 44 31.1 +2.2
PBEJ A A 14 44 40.5
comp=E,12nm,0.4s
CHEFC Chefchaouen 5.23 73 P **Pn** 14 43 31.7 +1.7
CHEFC S **Sn** 14 44 34.6 +4.1
IFR Ifrane 5.28 91 *i* P **Pn** 14 43 30.7 -0.1
IFR *e*S **Sn** 14 44 29.3 -2.5
CZD Col de Zad 5.41 96 P **Pn** 14 43 32.5 -0.1
CZD S **Sn** 14 44 36.8 +1.7
CEU Ceuta 5.44 65 P **Pn** 14 43 35.6 +2.8
CEU S **Sn** 14 44 36.5 +1.0
CEU Ceuta 5.44 65 *i* P **Pn** 14 43 35.6 +2.8
CEU *e*S **Sn** 14 44 36.5 +1.0
LCRM LCR 5.49 89 P **Pn** 14 43 33.4 -0.3
LCRM S **Sn** 14 44 38.2 +1.1
PMAFR Mafra 5.49 18 P **Pn** 14 43 34.0 +0.4
comp=E,6.1nm,0.1s,SNR=12
PMAFR S **Sn** 14 44 37.7 +0.9
comp=E,22nm,0.2s,SNR=5.7
PMAFR Mafra 5.49 18 *e*Pn **Pn** 14 43 34.6 +1.0
PMAFR *e*Sn **Sn** 14 44 38.2 +1.4
PMAFR A A 14 44 42.4
comp=E,37nm,0.3s
CFUE Fuerteventura 5.50 203 P Pn 14 43 16.7 -17
comp=E,11nm,0.1s,SNR=7.9
CFUE S Sn 14 44 08.2 -29
comp=E,39nm,0.2s,SNR=7.9
EVO Evora 5.53 29 P **Pn** 14 43 34.8 +0.6
EVO S **Sn** 14 44 38.5 +0.7
comp=E,18nm,0.3s
EVO Evora 5.53 29 *e*P **Pn** 14 43 34.7 +0.6
EVO *e*S **Sn** 14 44 38.6 +0.8
EVO Evora 5.53 29 *e*Pn **Pn** 14 43 34.8 +0.6
EVO *e*Sn **Sn** 14 44 38.5 +0.7
EVO A A 14 44 41.3
comp=E,18nm,0.3s
ESPR Espera 5.54 54 P **Pn** 14 43 35.5 +1.3
comp=E,47nm,0.2s,SNR=154
ESPR S **Sn** 14 44 40.2 +2.3
comp=E,13nm,0.2s,SNR=7.9
EMIN Mina Concepcio 5.59 43 ⇑P **Pn** 14 43 36.3 +1.4
comp=E,5.6nm,0.1s,SNR=18
EMIN S **Sn** 14 44 39.8 +0.7
comp=E,2.6nm,0.2s,SNR=7.4
EJIF Jimena Fronter 5.60 59 P **Pn** 14 43 37.2 +2.2
comp=E,564nm,0.2s,SNR=7.9
EJIF S **Sn** 14 44 40.8 +1.4
comp=E,115nm,0.2s,SNR=7.9
MD31 MD31 5.67 97 P **Pn** 14 43 35.6 -0.4
MD31 S **Sn** 14 44 40.8 -0.5
MDT Midelt 5.80 97 P **Pn** 14 43 37.5 -0.5
SNR=6.7
MDT S **Sn** 14 44 45.0 +0.4
GOLM Goulmima 5.84 109 P **Pn** 14 43 36.2 -2.3
GOLM S **Sn** 14 44 46.5 +1.0
PMTG Montargil 5.92 25 P **Pn** 14 43 39.8 +0.4
PMTG S **Sn** 14 44 47.8 +0.5
comp=E,10nm,0.7s
PMTG Montargil 5.92 25 *e*Pn **Pn** 14 43 39.8 +0.4
PMTG *e*Sn **Sn** 14 44 47.8 +0.5
PMTG A A 14 44 52.5
comp=E,10nm,0.7s
ZGR Zagora 6.13 124 P **Pn** 14 43 38.9 -3.5
ZGR S **Sn** 14 44 48.8 -3.9
PSBE So Bento 6.15 20 *e*Pn **Pn** 14 43 44.1 +1.5
PSBE *e*Sn **Sn** 14 44 53.8 +0.8
PSBE A A 14 44 55.2
comp=E,9.3nm,0.5s
EMIJ Mijas 6.15 61 P **Pn** 14 43 43.3 +0.6
comp=E,5.2nm,0.2s,SNR=16
EMIJ S **Sn** 14 44 55.9 +2.8
comp=E,3.0nm,0.2s,SNR=7.9
AKLM AKL 6.34 81 P **Pn** 14 43 46.1 +0.8
AKLM S **Sn** 14 44 59.2 +1.5
HORN Hornachuelos 6.49 49 P **Pn** 14 43 48.8 +1.5
HORN S **Sn** 14 45 07.5 +6.1
ECAB El Cabril 6.53 47 ⇑P **Pn** 14 43 49.4 +1.5
comp=E,2.9nm,0.1s,SNR=18
ECAB S **Sn** 14 45 03.8 +1.4
comp=E,3.3nm,0.2s,SNR=7.9
PMRV Marv??o 6.55 29 P **Pn** 14 43 48.9 +0.8
PMRV S **Sn** 14 45 03.6 +0.7
comp=E,10nm,0.2s
PMRV Marv??o 6.55 29 *e*Pn **Pn** 14 43 48.9 +0.8
PMRV *e*Sn **Sn** 14 45 03.6 +0.7
PMRV A A 14 45 06.5
comp=E,10nm,0.2s
EOSO Osorio 6.66 213 P Pn 14 43 31.2 -18
comp=E,1.0nm,0.1s,SNR=7.9
EOSO S Sn 14 44 34.4 -31
comp=E,4.0nm,0.2s,SNR=7.9
EBAJ Bajamar 6.67 220 P Pn 14 43 30.1 -20
comp=E,4.8nm,0.2s,SNR=7.9

EBAJ S **Sn** 14 44 32.4 -33
comp=E,4.7nm,0.2s,SNR=7.9
PCAS Casmilo, Conde 6.73 20 P **Pn** 14 43 51.6 +1.0
PCAS S **Sn** 14 45 06.8 -0.5
comp=E,7.5nm,0.3s
PCAS Casmilo, Conde 6.73 20 *e*Pn **Pn** 14 43 51.6 +1.0
PCAS *e*Sn **Sn** 14 45 06.8 -0.5
PCAS A A 14 45 12.0
comp=E,7.5nm,0.3s
EGOR Sierra Gorda, 6.87 59 P **Pn** 14 43 55.0 +2.3
comp=E,3.6nm,0.2s,SNR=7.9
EGOR S **Sn** 14 45 11.9 +0.9
comp=E,0.9nm,0.2s,SNR=7.9
PCBR Castelo Branco 6.87 26 P **Pn** 14 43 54.5 +2.0
PCBR S **Sn** 14 45 10.9 +0.1
comp=E,2.5nm,0.3s
PCBR Castelo Branco 6.87 26 *e*Pn **Pn** 14 43 54.5 +2.0
PCBR *e*Sn **Sn** 14 45 10.9 +0.1
PCBR A A 14 45 17.4
comp=E,4.9nm,0.3s
CGUI Guimar, Teneri 6.89 220 P Pn 14 43 33.3 -20
comp=E,5.2nm,0.1s,SNR=7.9
CGUI S Sn 14 44 39.5 -32
comp=E,58nm,0.3s,SNR=7.9
MACI Morro de la Ar 6.98 220 P Pn 14 43 34.5 -20
comp=E,0.8nm,0.1s,SNR=7.9
MACI S Sn 14 44 41.6 -32
comp=E,1.5nm,0.1s,SNR=7.9
CRAJ Montana Rajada 7.02 220 S Sn 14 44 44.0 -31
comp=E,9.2nm,0.1s,SNR=7.9
CCAN Las Canadas 7.06 220 P Pn 14 43 35.4 -20
comp=E,0.3nm,0.1s,SNR=7.9
CCAN S Sn 14 44 43.0 -33
SNR=7.9
EADA Adamuz 7.11 50 ⇑P **Pn** 14 43 57.1 +1.3
comp=E,11nm,0.2s,SNR=18
EADA S **Sn** 14 45 16.3 -0.4
SNR=7.9
ELGU Los Guajares, 7.12 62 P **Pn** 14 43 56.2 +0.3
comp=E,5.7nm,0.3s,SNR=7.9
ELGU S **Sn** 14 45 17.9 +1.0
comp=E,0.6nm,0.1s,SNR=7.9
MTE Manteigas 7.34 24 P **Pn** 14 44 00.6 +1.5
MTE S **Sn** 14 45 21.4 -1.1
MTE Manteigas 7.34 24 *e*Pn **Pn** 14 44 00.6 +1.5
MTE *e*Sn **Sn** 14 45 21.4 -1.1
EQUE Quentar 7.39 60 P **Pn** 14 44 01.7 +2.0
comp=E,5.0nm,0.3s,SNR=15
EQUE S **Sn** 14 45 26.1 +2.4
comp=E,0.5nm,0.2s,SNR=7.9
JBK JBK 7.40 83 P **Pn** 14 43 59.4 -0.5
JBK S **Sn** 14 45 24.4 +0.4
EGOM La Gomera 7.44 223 P Pn 14 43 40.0 -20
comp=E,1.8nm,0.1s,SNR=6.8
EGOM S **Sn** 14 44 49.4 -35
comp=E,8.0nm,0.2s,SNR=5.8
TBT Taburiente 7.49 229 P Pn 14 43 41.3 -20
comp=E,1.5nm,0.2s,SNR=7.9
TBT S Sn 14 44 52.2 -34
comp=E,6.0nm,0.2s,SNR=7.9
EHIG Higuera 7.50 228 S Sn 14 44 55.1 -31
comp=E,20nm,0.2s,SNR=7.9
PVIS Viseu 7.52 21 S **Sn** 14 45 26.9 +0.1
PVIS Viseu 7.52 21 *e*Sn **Sn** 14 45 26.9 +0.1
EPLA Plasencia 7.64 33 P **Pn** 14 44 04.2 +1.2
comp=E,1.8nm,0.2s,SNR=10.0
EPLA S **Sn** 14 45 30.1 +0.4
comp=E,2.8nm,0.2s,SNR=6.7
EBER Berja 7.67 63 P **Pn** 14 44 04.1 +0.5
comp=E,1.2nm,0.2s,SNR=6.5
EBER S **Sn** 14 45 30.8 0.0
comp=E,0.6nm,0.1s,SNR=7.9
GORA Gorafe 7.80 59 P **Pn** 14 44 06.0 +0.8
comp=E,5.4nm,0.1s,SNR=7.9
EQES Quesada 7.92 57 P **Pn** 14 44 08.5 +1.5
comp=E,5.1nm,0.2s,SNR=47
EQES S **Sn** 14 45 37.4 +0.6
comp=E,2.2nm,0.2s,SNR=5.4
PVRL Vila Real 8.09 20 S **Sn** 14 45 39.0 -1.7
comp=E,3.8nm,0.3s
PVRL Vila Real 8.09 20 *e*Sn **Sn** 14 45 39.0 -1.7
PVRL A A 14 45 44.3
comp=E,7.6nm,0.3s
PAB San Pablo 8.13 43 P **Pn** 14 44 10.8 +0.9
comp=E,1.1nm,0.1s,SNR=7.9
PAB S **Sn** 14 45 40.6 -1.3
comp=E,1.7nm,0.2s,SNR=7.9
MVO Moncorvo 8.20 24 P **Pn** 14 44 11.6 +0.7
comp=E,3.1nm,0.2s,SNR=13
MVO S **Sn** 14 45 42.8 -0.8
comp=E,2.1nm,0.1s,SNR=7.9
MVO Moncorvo 8.20 24 *e*Pn **Pn** 14 44 11.9 +1.1
MVO *e*Sn **Sn** 14 45 43.0 -0.6
MVO A A 14 45 47.8
comp=E,4.6nm,0.4s
CCUM Cumbre, El Hie 8.23 225 S Sn 14 45 11.2 -33
comp=E,10nm,0.1s,SNR=7.9
PCAB Cabril 8.41 18 S **Sn** 14 45 46.9 -1.7
PCAB Cabril 8.41 18 *e*Sn **Sn** 14 45 46.9 -1.7
ESDC Sonseca Arroyo 8.44 43 Pn **Pn** 14 44 15.2 +1.2
comp=E,1.0nm,0.3s,baz=232,slow=13,SNR=37
ESDC Sn **Sn** 14 45 48.2 -1.2
comp=E,0.7nm,0.3s,baz=230,slow=24,SNR=10
SESP Santiago Espad 8.44 56 P **Pn** 14 44 15.3 +1.1
comp=E,5.7nm,0.2s,SNR=7.9
SESP S **Sn** 14 45 49.0 -0.6
comp=E,3.2nm,0.2s,SNR=7.9
ELOB Lobios 8.55 17 P **Pn** 14 44 16.3 +0.8
comp=E,0.8nm,0.2s,SNR=5.5
ELOB S **Sn** 14 45 49.5 -2.6
comp=E,0.6nm,0.2s,SNR=8.7
PGAV Gavieira, Arco 8.59 16 P **Pn** 14 44 16.1 -0.1
PGAV S **Sn** 14 45 51.0 -2.1
comp=E,4.5nm,0.3s
PGAV Gavieira, Arco 8.59 16 *e*Pn **Pn** 14 44 16.1 -0.1
PGAV *e*Sn **Sn** 14 45 51.0 -2.1
PGAV A A 14 45 54.7
comp=E,4.5nm,0.3s
EZAM Zamans 8.68 14 S **Sn** 14 45 51.9 -3.3
comp=E,7.3nm,0.3s,SNR=7.9
PBRG Braganca 8.87 23 S **Sn** 14 45 58.6 -1.4
comp=E,0.9nm,0.2s
PBRG Braganca 8.87 23 *e*Sn **Sn** 14 45 58.6 -1.4
PBRG A A 14 46 04.4
comp=E,1.9nm,0.2s
ECAL Calabor 9.00 23 P **Pn** 14 44 21.8 +0.1
comp=E,1.6nm,0.2s,SNR=7.5
ECAL S **Sn** 14 46 01.9 -1.2
comp=E,1.5nm,0.2s,SNR=5.6
EMUR La Murta 9.25 61 P **Pn** 14 44 26.6 +1.4
comp=E,1.4nm,0.2s,SNR=7.0
EMUR S **Sn** 14 46 08.4 -0.8
comp=E,0.0nm,0.1s,SNR=7.9
UCM Universidad Co 9.27 43 P **Pn** 14 44 27.8 +2.3
UCM S **Sn** 14 46 09.0 -0.8
UCM Universidad Co 9.27 43 *i* P **Pn** 14 44 27.8 +2.3
UCM *e*S **Sn** 14 46 09.0 -0.8
ETOB Tobarra 9.38 56 P **Pn** 14 44 27.5 +0.6
comp=E,3.9nm,0.2s,SNR=28
ETOB S **Sn** 14 46 09.8 -2.7
comp=E,3.0nm,0.2s,SNR=12
EMAZ Mazaricos 9.40 11 P **Pn** 14 44 27.0 -0.1
comp=E,1.1nm,0.2s,SNR=7.9
EMAZ S **Sn** 14 46 08.2 -4.7
comp=E,2.6nm,0.2s,SNR=7.9
AFON Font Roja 10.09 58 P **Pn** 14 44 37.6 +0.8
comp=E,5.1nm,0.2s,SNR=14
AFON S **Sn** 14 46 28.4 -1.7
comp=E,0.7nm,0.1s,SNR=7.9
ETOR Torete 10.29 44 P **Pn** 14 44 41.4 +1.9
comp=E,12nm,0.2s,SNR=7.9
ETOR S **Sn** 14 46 34.0 -0.9
comp=E,9.7nm,0.3s,SNR=7.9
EMOS Mosqueruela 10.98 50 S **Sn** 14 46 48.1 -3.9
comp=E,1.4nm,0.5s,SNR=4.0
ESAC San Caprasio 11.79 44 P **Pn** 14 45 02.9 +3.0
comp=E,3.5nm,0.2s,SNR=7.9
SJPF Ste Jean 12.31 38 *e*P **Pn** 14 45 08.8 +1.7
SJPF *e*Sn **Sn** 14 47 18.9 -5.5
comp=E,2.3nm,0.5s
SJPF Ste Jean 12.31 38 P **Pn** 14 45 08.8 +1.7
ETSF Etsaut 12.51 40 *e*P **Pn** 14 45 11.7 +1.9
ETSF *e*Sn **Sn** 14 47 23.5 -5.7
comp=E,1.2nm,0.4s
ETSF Etsaut 12.51 40 P **Pn** 14 45 11.7 +1.9
ECHI Chisagues Biel 12.77 42 P **Pn** 14 45 15.6 +2.2
comp=E,0.8nm,0.2s,SNR=7.9

ECHI S **Sn** 14 47 33.0 -2.6
comp=E,0.1nm,0.1s,SNR=7.9
EPF Esparros 13.09 41 *e*Pn Pn 14 45 13.6 -4.1
EPF Esparros 13.09 41 *e*P **Pn** 14 45 19.5 +1.8
EPF *e*Sn **Sn** 14 47 37.3 -6.0
comp=E,1.5nm,0.3s
EPF Esparros 13.09 41 P **Pn** 14 45 19.5 +1.8
TORD Torodi Ar. Bea 23.73 147 P **P** 14 47 25.5 +1.4
comp=E,0.2nm,0.3s,baz=330,slow=10,SNR=1.7
TIRR Tirgusor 32.45 59 ⇓P **P** 14 48 39.3 -2.7
TLCR 32.80 58 ⇑P **P** 14 48 41.4 -3.7
KDZE Karadeniz Ereo 34.57 65 ⇓P **P** 14 49 00.8 +0.3
FINES FINESS Array B 36.64 29 P **P** 14 49 17.8 -0.3
comp=E,2.7nm,1.0s,baz=236,slow=9.9,SNR=3.7
ARCES ARCESS Array B 41.26 19 P **P** 14 49 56.5 -0.2
comp=E,2.4nm,1.0s,baz=229,slow=9.5,SNR=1.5
WRA Warramunga Arr 146.69 74 PKPbc **PKPdf** 15 01 50.6 -2.0
comp=E,0.3nm,0.7s,baz=313,slow=2.0,SNR=2.5
ASAR Alice Springs 148.13 81 PKPbc **PKPdf** 15 01 57.7 +2.8
comp=E,0.2nm,1.0s,baz=293,slow=2.3,SNR=1.2

THR ***31*** *14:44:32.9±0.4, 33°.81N×45°.46E, h17km±4km, ML4.8*
IDC ***31*** *14:44:32.9±0.4, 33°.66N×45°.81E, h0km, mb4.7/37, mb1 4.7/46, mb1mx4.7/60, mbtmp4.7/46, ML3.8/9, MS3.8/28, Ms1 3.8/28, ms1mx3.6/50, Error ellipse: s-maj=11.0km s-min=9.2km az=176.0*
TEH ***31*** *14:44:34.9, 33°.71N×45°.70E, h13km, ML5.0*
MOS ***31*** *14:44:34.2±1.0, 33°.53N×45°.75E, h23km, mb5.1/69, Error ellipse: s-maj=4.2km s-min=3.0km az=101.3*
NEIC ***31*** *14:44:34.1±1.4, 33°.62N±0°.07×45°.80E±0°.07, h10km±1km, mb5.0/151, mb_Lg5.0(TEH), ML4.7(THR), Error ellipse: s-maj=12.5km s-min=10.5km az=176.0*
ISN ***31*** *14:44:37.3±0.7, 33°.68N×45°.49E, h5km±4km, ML5.0*
DSN ***31*** *14:44:41.8±0.9, 33°.48N×46°.58E, h10km, mb5.7/2, Error ellipse: s-maj=13.6km s-min=7.8km az=60.0*
OMAN ***31*** *14:44:42.4, 33°.10N×45°.82E, h63km, mb5.0/20*
GII ***31*** *14:44:46.2±0.0, 33°.45N×45°.80E, h10km*
ISC 31 14:44:35.2±0.5,**33°.66N**±0°.03×**45°.76E**±0°.03,**h16**km±3km,
n750, σ1**s75**/780,**mb4.9**/180,**MS3.8**/42,**43C-23D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
IGHG	**Ghaleghazi**	**0.95**	**45**	*e*Pg		**Pg**	**14 44 53.2**	**-0.5**
IGHG				*e*Sg		**Sn**	**14 45 07.7**	**+0.2**
IGHG				*e*			14 45 11.0	
IDHR	**Dehrash**	**1.16**	**27**	*e*Pg		**Pb**	**14 44 56.2**	**-0.8**
IDHR				*e*			14 45 17.1	
BHD	**Baghdad** baz=66	**1.21**	**252**	*e*Pg		**Pg**	**14 44 59.6**	**+1.0**
BHD				*e*Sg		**Sn**	**14 45 15.2**	**+1.7**
BHD				AML		AML	14 45 21.2	
	comp=E,40μm,0.4s							
KCHF	**Cheshme Sefid,**	**1.23**	**60**	*e*Pg		**Pn**	**14 44 58.4**	**+0.4**
KCHF				*e*			14 45 21.3	
IVIS	**Veis**	**1.25**	**46**	*e*Pg		**Pb**	**14 44 58.8**	**+0.2**
IVIS				*e*			14 45 20.4	
KER	**Kermanshah**	**1.35**	**57**	P		**Pb**	**14 45 00.7**	**+0.4**
KER	**Kermanshah**	**1.35**	**57**	*e*Pg		**Pb**	**14 45 00.7**	**+0.4**
KER				*e*Sg		**Sg**	**14 45 19.9**	**+0.9**
IKOM	**Komasi**	**1.55**	**70**	*e*			14 45 30.3	
IKOM				*e*Pg		**Pb**	**14 45 04.5**	**+0.9**
ILIN	**Lien**	**1.60**	**38**	*e*			14 45 31.5	
ILIN				*e*Pg		**Pb**	**14 45 04.4**	**-0.2**
DHL1	**Dehloran**	**1.61**	**127**	*e*Pg		**Pb**	**14 45 06.4**	**+1.8**
IBZA	**Bozab**	**1.93**	**65**	*e*Pg		**Pb**	**14 45 10.4**	**+0.3**
IBZA				*e*			14 45 42.0	
SNGE	**Sanandaj**	**1.94**	**42**	*e*Pg		**Pb**	**14 45 09.6**	**-0.8**
SNGE				*e*Sg		**Sg**	**14 45 36.5**	**-1.3**
SNGE	**Sanandaj**	**1.94**	**42**	*e*Pg		**Pb**	**14 45 09.6**	**-0.8**
IALM	**Almabolaq**	**2.33**	**58**	*e*Pn		**Pb**	**14 45 15.9**	**-1.1**
HSAM	**Samen**	**2.43**	**76**	*e*Pn		**Pn**	**14 45 17.0**	**+2.5**
HSAM				*e*			14 45 58.5	
BMDN	**Meydan**	**2.56**	**89**	*e*Pn		**Pn**	**14 45 18.5**	**+2.3**
BMDN				*e*			14 46 09.1	
HSRG	**Sareghieh**	**2.61**	**52**	*e*Pn		**Pn**	**14 45 19.6**	**+2.5**
HSRG				*e*			14 46 03.5	
NSR	**Nassriya**	**2.66**	**173**	*e*Pn		**Pb**	**14 45 22.0**	**-0.5**
NSR				*e*Sn		**Sn**	**14 45 53.0**	**+3.6**
NSR				AML		AML	14 46 11.0	
	comp=E,7μm,0.6s							
SHGR	**Shooshtar-Gavs**	**3.00**	**120**	*e*Pn		**Pn**	**14 45 25.5**	**+3.5**
SHGR				*e*Sg		**Sg**	**14 46 15.3**	**+3.9**
SHGR				IAML			14 46 29.1	
	comp=N,2μm,0.6s							
SHGR	**Shooshtar-Gavs**	**3.00**	**120**	*e*Pn		**Pn**	**14 45 25.5**	**+3.5**
HAGD	**Aghdareh**	**3.03**	**67**	*e*Pn		**Pn**	**14 45 20.0**	**+2.2**
HAGD				*e*			14 46 15.7	
MAHB	**Mahabad**	**3.10**	**359**	*e*Pn		**Pn**	**14 45 25.4**	**+1.8**
MAHB				*e*			14 46 05.1	
MSL	**Mosul**	**3.49**	**322**	*e*Pn		**Pn**	**14 45 30.0**	**+1.2**
MSL				*e*Sn		**Sn**	**14 46 08.0**	**-1.8**
MSL				AML		AML	14 46 30.1	
	comp=N,8μm,0.6s							
MSL				AML		AML	14 46 34.8	
	comp=E,4μm,0.7s							
KHMZ	**Khomeyn**	**3.51**	**88**	*e*Pn		**Pn**	**14 45 32.3**	**+3.0**
KHMZ	**Khomeyn**	**3.51**	**88**	*e*Pn		**Pn**	**14 45 32.3**	**+3.0**
ASAO	**Ashtian**	**3.65**	**75**	*e*Pn		**Pn**	**14 45 33.9**	**+2.6**
ASAO				*e*Sg		**Sg**	**14 45 33.9**	**+0.5**
ASAO	**Ashtian**	**3.65**	**75**	*e*Pn		**Pn**	**14 45 33.9**	**+2.6**
QABG	**Abgarm-Qazvin**	**3.76**	**56**	*e*Pn		**Pn**	**14 45 34.3**	**+1.6**
ZNJK	**Zanjan**	**3.84**	**38**	*e*Pn		**Pn**	**14 45 34.3**	**+0.4**
ZNJK				*e*Sg		**Sg**	**14 46 33.9**	**-4.8**
ZNJK	**Zanjan**	**3.84**	**38**	*e*Pn		**Pn**	**14 45 34.3**	**+0.4**
IRAZ	**Razeghan**	**3.86**	**62**	*e*Pn		**Pn**	**14 45 36.6**	**+2.5**
QSDN	**Sirdan**	**3.99**	**44**	*e*Pn		**Pn**	**14 45 38.1**	**+2.2**
HAKT	**HAKKARI**	**4.23**	**337**	*e*Pn		**Pn**	**14 45 39.8**	**+0.6**
JHBN	**Jahan bin**	**4.37**	**108**	*e*Pn		**Pn**	**14 45 43.1**	**+1.9**
JHBN				*e*			14 47 12.0	
IPIR	**Pirpir**	**4.42**	**101**	*e*Pn		**Pn**	**14 45 43.6**	**+1.7**
ISRB	**Sarab**	**4.44**	**20**	*e*Pn		**Pn**	**14 45 43.8**	**+1.8**
IMHD	**Mahdasht**	**4.52**	**62**	*e*Pn		**Pn**	**14 45 45.1**	**+1.9**
IGZV	**Ghazvin**	**4.56**	**52**	*e*Pn		**Pn**	**14 45 46.1**	**+2.3**
ITBZ	**Tabriz**	**4.57**	**4**	*e*Pn		**Pn**	**14 45 46.6**	**+2.7**
ROKH	**ROKH**	**4.63**	**105**	*e*Pn		**Pn**	**14 45 47.2**	**+2.5**
GHVR	**GHOM**	**4.67**	**78**	*e*Pn		**Pn**	**14 45 47.4**	**+2.3**
GHVR				*e*Sg		**Sg**	**14 47 02.6**	**-2.6**
GHVR	**GHOM**	**4.67**	**78**	*e*Pn		**Pn**	**14 45 47.4**	**+2.3**
IHRS	**Heris**	**4.76**	**12**	*e*Pn		**Pn**	**14 45 48.6**	**+2.1**
QALM	**Alamut, Qazvin**	**4.87**	**54**	*e*Pn		**Pn**	**14 45 49.8**	**+1.7**
IKLH	**Kolahrood**	**4.88**	**92**	*e*Pn		**Pn**	**14 45 51.4**	**+3.2**
IHSB	**Hasanabad**	**4.89**	**67**	*e*Pn		**Pn**	**14 45 50.1**	**+1.9**
IBRJ	**Brojen**	**4.96**	**109**	*e*Pn		**Pn**	**14 45 50.6**	**+1.4**
CHTH	**Charan**	**4.96**	**62**	*e*Pn		**Pn**	**14 45 50.9**	**+1.7**
CHTH	**Charan**	**4.96**	**62**	*e*Pn		**Pn**	**14 45 50.9**	**+1.7**
TEH	**Tehran**	**5.08**	**64**	*e*Pn		**Pn**	**14 45 52.9**	**+2.1**
GEVA	**Gevas**	**5.13**	**336**	Pn		**Pn**	**14 45 53.2**	**+1.7**
GRMI	**Germi**	**5.42**	**18**	*e*Pn		**Pn**	**14 45 54.6**	**-0.9**
GRMI	**Germi**	**5.42**	**18**	*e*Pn		**Pn**	**14 45 54.6**	**-0.9**
IGAR	**Gharneh**	**5.43**	**102**	*e*Pn		**Pn**	**14 45 57.4**	**+1.7**
DAMV	**Damavand**	**5.49**	**67**	*e*Pn		**Pn**	**14 45 58.9**	**+2.4**
DAMV	**Damavand**	**5.49**	**67**	*e*Pn		**Pn**	**14 45 58.9**	**+2.4**
NAX	**Nakhchivan**	**5.50**	**358**	P		**Pn**	**14 45 59.9**	**+3.3**
IDMV	**Damavand**	**5.52**	**68**	*e*Pn		**Pn**	**14 45 58.4**	**+1.4**
IZEF	**Zefreh**	**5.56**	**96**	*e*Pn		**Pn**	**14 45 59.7**	**+2.2**
LKRN	**Lenkeran, Azer**	**5.60**	**25**	P		**Pn**	**14 46 00.9**	**+3.1**
KLNJ	**Kolanjah**	**5.60**	**117**	*e*Pn		**Pn**	**14 46 00.2**	**+2.0**
MAKU	**Maku**	**5.75**	**352**	*e*Pn		**Pn**	**14 45 57.5**	**-2.6**
IRAM	**Ramesheh**	**5.88**	**106**	*e*Pn		**Pn**	**14 46 03.1**	**+1.2**
IPRN	**Peran**	**5.99**	**63**	*e*Pn		**Pn**	**14 46 06.3**	**+3.0**
IFIR	**Firoozkooh**	**6.10**	**69**	*e*Pn		**Pn**	**14 46 06.9**	**+2.0**
ILAS	**Lasjerd**	**6.19**	**72**	*e*Pn		**Pn**	**14 46 08.2**	**+2.0**
IALA	**Alasht**	**6.28**	**65**	*e*Pn		**Pn**	**14 46 10.5**	**+3.0**
ISHM	**Shahmirzad**	**6.56**	**69**	*e*Pn		**Pn**	**14 46 13.8**	**+2.4**
ANAR	**Anarak**	**6.68**	**92**	*e*Pn		**Pn**	**14 46 14.2**	**+1.3**
AHBU	**AHRAM**	**6.73**	**134**	*e*Pn		**Pn**	**14 46 17.0**	**+3.6**
ISAD	**Sadrabad**	**6.90**	**102**	*e*Pn		**Pn**	**14 46 17.7**	**+1.7**
IANJ	**Anjilo**	**6.97**	**73**	*e*Pn		**Pn**	**14 46 18.7**	**+1.8**
GANJ	**Ganja**	**6.99**	**4**	P		**Pn**	**14 46 20.5**	**+3.6**
SHI	**Shiraz**	**7.02**	**123**	*e*Pn		**Pn**	**14 46 20.0**	**+2.5**
MNGR	**Mingechevir, A**	**7.18**	**8**	P		**Pn**	**14 46 22.9**	**+3.4**
IGLO	**Ghaloghah**	**7.20**	**65**	*e*Pn		**Pn**	**14 46 22.0**	**+2.0**
YZKH	**Yazd**	**7.53**	**97**	*e*Pn		**Pn**	**14 46 28.1**	**+3.7**
YZKH	**Yazd**	**7.53**	**97**	*e*Pn	

ASF Sn **Sn** **14 47 48.5 -2.6**
comp=E,2.1nm,0.3s,baz=212,slow=15,SNR=1.5
ASF Lg Lg 14 48 34.0
comp=E,3.1nm,0.3s,baz=41,slow=20,SNR=3.2
SEKA Sheki 7.62 8 P **Pn** **14 46 29.9 +4.3**
DDFL Dedoflistskaro 7.78 2 P Pn 14 46 33.5 +5.7
GAZ Gaziantep 7.80 299 Pn **Pn** **14 46 27.5 -0.6**
IMEH Mehriz 7.81 104 *e*Pn **Pn** **14 46 29.6 +1.1**
AKH Akhalkalaki 7.94 348 P **Pn** **14 46 32.7 +2.6**
AKH Akhalkalaki 7.94 348 **Pn** **14 46 30.9 +0.8**
ZKTA Zakatala 7.99 5 P **Pn** **14 46 34.9 +4.2**
TBLG Delisi 8.10 355 P **Pn** **14 46 32.6 +0.5**
TBLG Delisi 8.10 355 **Pn** **14 46 32.5 +0.5**
LGD Lagodekhi 8.17 3 P **Pn** **14 46 36.9 +3.8**
NATI Neve Ativ 8.38 270 Pn Pb 14 46 48.2 -12
GEM Giv'at Ha'Em 8.45 270 Pn Pb 14 46 50.1 -11
IBAF Bafgh 8.53 101 *e*Pn **Pn** **14 46 40.0 +1.8**
IMND Minoodasht 8.65 63 *e*Pn **Pn** **14 46 41.1 +1.4**
MMA0B Mount Meron ar 8.69 269 Pn Pn 14 46 54.0 +14
MMAI Mount Meron Ar 8.69 269 Pn **Pn** **14 46 39.6 -0.6**
comp=E,1.4nm,0.3s,baz=91,slow=16,SNR=5.5
MMAI Lg Lg 14 49 05.5
comp=E,4.7nm,0.3s,baz=65,slow=34,SNR=1.9
MMAI LR LR 14 50 57.0
comp=E,1µm,18.2s,baz=90,slow=44
HMDT Nahal Hemdat 8.71 264 Pn Pn 14 46 52.3 +12
GNBR Gunib 8.77 6 *i* P **Pn** **14 46 45.8 +4.5**
BLGI Bet Lehem HaGe 8.90 267 Pn Pn 14 46 54.9 +12
TNSJ Nastanj 9.04 85 *e*Pn **Pn** **14 46 46.8 +1.7**
DAMI2 DAM2 9.06 257 Pn Pn 14 46 57.3 +12
ONI Oni 9.10 349 P **Pn** **14 46 50.3 +4.4**
TPRV Parvadeh(Tabas 9.17 91 *e*Pn **Pn** **14 46 48.0 +1.1**
YTIR Yattir 9.27 259 Pn Pn 14 46 59.8 +11
DBC Dubki 9.38 5 *i* P **Pn** **14 46 53.0 +3.2**
MAK Makhachkala 9.39 8 *e*P **Pn** **14 46 46.3 -3.4**
MAK pmax pmax
comp=Z,275nm,1.5s
MAK MLR MLR
comp=Z,872nm,11.0s
TKDS Koohdasht(Taba 9.48 87 *e*Pn **Pn** **14 46 52.4 +1.2**
GROC Groznyy 9.53 0 *e*P **Pn** **14 46 52.9 +1.2**
GROC *e*S **Sn** **14 48 44.1 +5.7**
GROC pmax pmax
comp=Z,23nm,0.5s
GROC MLR MLR
comp=Z,454nm,9.0s
KZIT Kziot 10.00 257 Pn Pn 14 47 10.0 +12
EIL Elat 10.03 250 Pn **Pn** **14 46 59.6 +1.0**
comp=Z,1.1nm,0.3s,baz=168,slow=10,SNR=16
EIL Lg Lg 14 49 54.4
comp=Z,2.8nm,0.3s,baz=18,slow=10,SNR=2.7
EIL LR LR 14 51 50.7
comp=Z,1µm,18.7s,baz=66,slow=44
EIL Elat 10.03 250 Pn Pn 14 47 10.4 +12
KRBR Kerman 10.05 108 *e*Pn **Pn** **14 47 03.3 +4.0**
KRBR Kerman 10.05 108 *e*Pn **Pn** **14 47 03.3 +4.0**
SBZV Sabzevar 10.10 71 *e*Pn **Pn** **14 47 02.1 +2.4**
NGRK Negar Kerman 10.17 110 *e*Pn **Pn** **14 47 02.1 +1.1**
KBZ Khabaz 10.30 348 Pn Pn 14 47 06.8 +4.6
comp=Z,0.2nm,0.3s,baz=170,slow=9.4,SNR=18
KBZ LR LR 14 51 56.7
comp=Z,574nm,21.5s,baz=152,slow=43
KBZ Khabaz 10.30 348 *ce*P **Pn** **14 47 06.5 +4.3**
CSS Mathiatis 10.36 281 Pn **Pn** **14 47 03.6 +0.5**
ARXR Arkhyz 10.49 342 *i* P **Pn** **14 47 07.9 +2.9**
KVAR Kislovodsk Arr 10.55 348 Pn Pn 14 47 10.9 +5.1
baz=260,slow=22,SNR=3.2
KVAR LR LR 14 52 11.1
comp=Z,678nm,18.8s,baz=62,slow=43
KIV Kislovodsk 10.55 348 *e*P **Pn** **14 47 08.7 +2.9**
KIV pmax pmax
comp=Z,153nm,1.0s
KIV MLR MLR
comp=Z,507nm,10.0s
KIV Kislovodsk 10.55 348 Pn **Pn** **14 47 05.5 -0.4**
GEYT Alibeck 10.90 64 Pn **Pn** **14 47 11.5 +0.8**
comp=Z,0.5nm,0.3s,baz=245,slow=14,SNR=19
GEYT Alibeck 10.90 64 **Pn** **14 47 10.6 -0.1**
GYA0 ALIBECK ARRAY 10.90 64 P **Pn** **14 47 11.6 +1.0**
GYA0B ALIBECK ARRAY 10.90 64 Pn **Pn** **14 47 11.6 +1.0**
BNDS Bandar-Abbas 10.93 122 *e*Pn **Pn** **14 47 15.3 +4.1**
BNDS Bandar-Abbas 10.93 122 *e*Pn **Pn** **14 47 15.3 +4.1**
SOC Sochi 10.97 336 *e*P **Pn** **14 47 13.8 +2.4**
SOC *e* 14 49 20.7
SOC pmax pmax
comp=Z,8.0nm,0.5s
SOC MLR MLR
comp=Z,467nm,13.0s
AFRZ Afriz 11.07 88 *e*Pn **Pn** **14 47 14.2 +1.2**
BSRN Basiran 11.38 95 *e*Pn **Pn** **14 47 21.2 +4.0**
BSRN Basiran 11.38 95 *e*Pn **Pn** **14 47 21.2 +4.0**
BR131 Keskin Array S 11.45 305 P **Pn** **14 47 18.7 +0.6**
BR131 Keskin Array S 11.45 305 Pn **Pn** **14 47 18.7 +0.6**
BRTR Keskin Array B 11.45 305 Pn **Pn** **14 47 21.6 +3.4**
comp=Z,0.1nm,0.3s,baz=137,slow=8.4,SNR=13
BRTR Lg Lg 14 50 38.6
comp=Z,0.0nm,0.3s,baz=137,slow=18,SNR=2.1
BRTR LR LR 14 52 18.7
comp=Z,340nm,18.8s,baz=100,slow=41
BRTR Keskin Array B 11.45 305 P **Pn** **14 47 18.8 +0.6**
BRTR Keskin Array B 11.45 305 **Pn** **14 47 18.8 +0.6**
GOF Gofitskoye 11.57 350 ⇓ *i* P **Pn** **14 47 23.9 +4.2**
GOF pmax pmax
comp=Z,51nm,0.9s
SHME Shamm 11.78 127 *i* P **Pn** **14 47 21.6 -1.0**
SNR=19
SHME S **Sn** **14 49 27.3 -6.4**
BANOM Banah 11.97 127 *i* P **Pn** **14 47 23.8 -1.4**
SNR=127
BANOM S Sn 14 49 30.4 -8.0
BANOM Banah 11.97 127 P **Pn** **14 47 24.8 -0.4**
SNR=46
BANOM S Sn 14 49 31.5 -6.9
SNR=9.9
IMYA Miami 12.06 73 *e*Pn **Pn** **14 47 28.8 +2.1**
ILGA Ilgaz 12.08 311 **Pn** **14 47 26.4 -0.5**
BR231 Keskin MP Arra 12.09 304 Pn **Pn** **14 47 26.9 -0.1**
AJN Ajban 12.13 136 *i* P **Pn** **14 47 28.2 +0.8**
SNR=6.5
AJN Ajban 12.13 136 *e*Pn **Pn** **14 47 28.6 +1.2**
NAZ Nazwa, Dubai 12.22 132 P **Pn** **14 47 28.4 -0.1**
MSFE Esma-Masafi 12.26 130 *i* P **Pn** **14 47 28.4 -0.8**
SNR=29
NHDN Nehbandan 12.28 97 *e*Pn **Pn** **14 47 31.5 +2.0**
MDH Madha 12.39 129 *i* P **Pn** **14 47 30.6 -0.4**
SNR=21
MDH Madha 12.39 129 P **Pn** **14 47 30.6 -0.4**
SNR=21
MDH S **Sn** **14 49 44.1 -4.8**
SNR=7.0
UOSS Minazif 12.59 131 *i* P **Pn** **14 47 32.3 -1.3**
SNR=12
UOSS Minazif 12.59 131 Pn **Pn** **14 47 32.1 -1.6**
HATD Hatta, Dubai 12.63 132 *i* P **Pn** **14 47 33.1 -1.1**
SNR=8.5
ASHO Ashiyiah 12.68 132 P **Pn** **14 47 34.5 -0.5**
ASHO S **Sn** **14 49 49.5 -6.4**
ANN Anapa 12.85 332 *e*P Pn 14 47 45.2 +8.1
ANN pmax pmax
comp=Z,148nm,1.6s
ANN MLR MLR
comp=Z,486nm,12.0s
ALNE Al Ain 12.96 135 *i* P **Pn** **14 47 38.1 -0.8**
SNR=9.1
ISP Isparta 13.05 293 P **Pn** **14 47 42.1 +2.1**
ISP Isparta 13.05 293 Pn **Pn** **14 47 42.1 +2.1**
ELL Elmali 13.32 288 P **Pn** **14 47 47.1 +3.4**
ELL Elmali 13.32 288 **Pn** **14 47 47.1 +3.4**
SOHO SOHO 13.38 132 *i* P **Pn** **14 47 43.3 -1.2**
SNR=12
SOHO SOHO 13.38 132 P **Pn** **14 47 43.7 -0.8**
SOHO S Sn 14 50 05.1 -7.8
ZHSF Zahedan 13.42 103 *e*Pn **Pn** **14 47 49.5 +4.4**
ZHSF Zahedan 13.42 103 *e*Pn **Pn** **14 47 49.5 +4.4**
MDUB Mudurnu 13.46 305 **Pn** **14 47 46.1 +0.5**
HRA Herat 13.70 82 Pn **Pn** **14 47 46.0 -3.0**
ARQ Araqi 13.97 135 P **Pn** **14 47 51.8 -0.8**
SNR=21
ARQ S **Sn** **14 50 22.8 -4.5**
HOQ Hoqain 14.27 132 P **Pn** **14 47 55.4 -1.2**
SNR=5.7
HOQ S **Sn** **14 50 29.6 -5.0**
MANT Manisa 14.71 294 Pn **Pn** **14 48 04.6 +1.7**
BSY Bisya 14.82 134 P **Pn** **14 48 02.2 -2.0**
SNR=20
BSY S **Sn** **14 50 41.6 -6.6**
BIDO Bidbid 14.82 130 P **Pn** **14 48 02.5 -1.7**
BIDO S Sn 14 50 40.9 -7.3
SMDO Samad 15.11 131 P **Pn** **14 48 06.2 -1.9**
SNR=13
SMDO S **Sn** **14 50 47.6 -7.6**
SNR=5.6
WSAR Wadi Sarin 15.35 129 Pn **Pn** **14 48 08.8 -2.4**
comp=Z,3.4nm,0.3s,baz=325,slow=8.9,SNR=32
WSAR Sn Sn 14 50 49.6 -11
comp=Z,1.1nm,0.3s,baz=204,slow=19,SNR=1.9
WSAR Wadi Sarin 15.35 129 P **Pn** **14 48 08.9 -2.3**
SNR=24
WSAR S Sn 14 50 50.6 -10
KARP Karpathos 15.43 282 P **P** **14 48 17.3 +0.6**
KARP IAmb IAmb 14 48 25.4
comp=Z,114nm,0.9s
JMDO Jabal Madar 15.65 133 P **Pn** **14 48 14.3 -0.9**
SNR=8.4
JMDO S **Sn** **14 51 04.2 -4.1**
WBK Wadi Bani Khal 16.02 130 P **Pn** **14 48 18.5 -1.4**
SNR=11
WBK S **Sn** **14 51 13.7 -3.5**
JLN Jalan Bani Buh 16.63 130 P **Pn** **14 48 26.1 -1.6**
SNR=6.5
MHTO MHTO 16.63 136 P **Pn** **14 48 25.7 -2.0**
SNR=15
MHTO S **Sn** **14 51 25.1 -6.9**
MFTR Murfatlar 17.06 313 ⇑P **P** **14 48 35.9 +1.2**
JURR Jurilovca 17.11 315 ⇓P **P** **14 48 38.2 +3.0**
TIRR Tirgusor 17.22 314 Pn **Pn** **14 48 34.9 0.0**
TIRR IAmb IAmb 14 48 41.1
comp=Z,70nm,0.8s
DQM DQM 17.23 140 P **Pn** **14 48 34.4 -1.0**
DQM S Sn 14 51 37.9 -8.9
WHFO Wadi Hawf 17.25 153 P **Pn** **14 48 33.1 -2.4**
SNR=111
ALN Alexandroupoli 17.25 300 P **P** **14 48 36.9 +0.1**
ALN pmax pmax
comp=Z,21nm,0.9s
ALN Alexandroupoli 17.25 300 P **P** **14 48 36.9 +0.1**
IDI Anoyia 17.28 281 P **P** **14 48 39.2 +1.9**
comp=Z,1.9nm,0.3s,baz=77,slow=14,SNR=13
IDI Anoyia 17.28 281 ⇓P **P** **14 48 39.0 +1.7**
IDI Anoyia 17.28 281 P **P** **14 48 37.2 -0.1**
TOPG Topolog 17.47 315 ⇑P **P** **14 48 40.9 +1.7**
TLBR Topalu 17.48 314 ⇓P **P** **14 48 42.4 +3.0**
ABTO Aybut 17.60 156 P **Pn** **14 48 37.5 -2.4**
SNR=12
HARR Harsova 17.63 314 ⇓P **P** **14 48 42.4 +1.4**
HARR Harsova 17.63 314 ⇓P **P** **14 48 42.4 +1.4**
VRH Novokhopyorsk 17.78 352 *e*P **Pn** **14 48 40.0 -1.8**
VRH pmax pmax
comp=Z,80nm,0.8s
VRH MLR MLR
comp=Z,270nm,11.0s
CFR Carcaliu 17.78 315 ⇑P **P** **14 48 43.2 +0.6**
CFR Carcaliu 17.78 315 ⇑P **P** **14 48 43.2 +0.6**
RBK Rabkut 17.79 153 P **Pn** **14 48 40.4 -1.9**
SNR=10.0
RBK S Sn 14 51 49.4 -11
DMTO DMTO 17.89 150 P **Pn** **14 48 42.1 -1.4**
SNR=14
DMTO S Sn 14 51 53.0 -10
SHAO Shalim 17.91 148 *i* P **Pn** **14 48 43.2 -0.5**
SNR=19
SHAO Shalim 17.91 148 P **Pn** **14 48 42.4 -1.3**
SNR=20
VORD Divnogorie 17.93 347 *e*P **Pn** **14 48 43.3 -0.4**
VORD pmax pmax
comp=Z,40nm,0.7s
VSR Storozhevoye 18.19 347 *e*P **Pn** **14 48 45.4 -1.5**
VSR pmax pmax
comp=Z,70nm,0.9s
VSR MLR MLR
comp=Z,350nm,14.0s
VORR Voronezh 18.62 347 *e*P **Pn** **14 48 53.0 +0.9**
VORR pmax pmax
comp=Z,350nm,1.2s
ISR Istrita 18.70 313 ⇓P **Pn** **14 48 55.9 +2.7**
ISR Istrita 18.70 313 ⇓P **Pn** **14 48 55.9 +2.7**
AB31 Akbulak array 18.81 30 P **P** **14 48 54.0 0.0**
ABKAR Akbulak array 18.81 30 P **P** **14 48 54.5 +0.5**
VRI Vrincioaia 18.98 316 ⇓P **Pn** **14 48 56.9 +0.2**
VRI Vrincioaia 18.98 316 ⇓P **Pn** **14 48 56.9 +0.2**
NEHR Nehoiu 19.00 314 ⇑P **Pn** **14 48 58.3 +1.4**
PLOR Plostina 19.02 315 ⇓P **Pn** **14 48 57.5 +0.4**
PLOR Plostina 19.02 315 ⇓P **Pn** **14 48 57.5 +0.4**
AKTO Aktyubinsk 19.03 25 P **P** **14 48 56.6 +0.2**
comp=Z,1.3nm,0.3s,baz=209,slow=11,SNR=37
AKTO LR LR 14 58 57.3
comp=Z,179nm,18.5s,baz=205,slow=46
MLR Muntele Rosu 19.25 314 ⇑P **Pn** **14 49 04.9 +4.9**
MLR Muntele Rosu 19.25 314 P **Pn** **14 49 01.3 +1.4**
MLR pmax pmax
comp=Z,15nm,0.8s
MLR Muntele Rosu 19.25 314 **Pn** **14 49 01.3 +1.4**
KBL Kabul 19.30 81 P **P** **14 49 00.1 +0.4**
KBL pmax pmax
comp=Z,97nm,1.1s
KBL Kabul 19.30 81 P **P** **14 49 00.1 +0.4**
KBL IAmb IAmb 14 49 03.8
comp=Z,97nm,1.1s
DSF Desfina 19.36 291 P **Pn** **14 49 00.7 -0.5**
TESR Tescani 19.39 317 ⇑P **Pn** **14 49 01.1 -0.4**
GUR Goura 19.45 289 P **Pn** **14 49 02.1 -0.3**
SORM Soroca 19.48 323 ⇓P **P** **14 49 00.7 -0.6**
SORM Soroca 19.48 323 ⇓P **P** **14 49 00.7 -0.6**
CHGR Chuyangaron 19.52 69 P **P** **14 49 01.6 -0.4**
CHGR IAmb IAmb 14 49 10.2
comp=Z,73nm,0.9s
LPSR Galich'ya Gora 19.56 347 *e*P **P** **14 49 00.5 -1.6**
LPSR pmax pmax
comp=Z,310nm,0.8s
LPSR MLR MLR
comp=Z,540nm,23.0s
AGG Agios Georgios 19.59 293 P **Pn** **14 49 03.8 -0.2**
AGG Agios Georgios 19.59 293 P **Pn** **14 49 03.3 -0.7**
AGG pmax pmax
comp=Z,56nm,0.9s
AGG Agios Georgios 19.59 293 P **Pn** **14 49 03.3 -0.7**
AGG IAmb IAmb 14 49 09.5
comp=Z,56nm,0.9s
KLV Kalavryta, Ach 19.61 290 P **P** **14 49 03.3 +0.4**
OZUR 19.66 315 ⇑P **Pn** **14 49 05.0 +0.2**
LIT Litokhoron 19.66 296 P **P** **14 49 03.9 +0.5**
LIT Litokhoron 19.66 296 P **P** **14 49 03.5 +0.1**
LIT pmax pmax
comp=Z,40nm,0.8s
LIT Litokhoron 19.66 296 P **P** **14 49 03.5 +0.1**
ITM Ithomi 19.72 287 P **P** **14 49 02.5 -1.6**
ITM Ithomi 19.72 287 P **P** **14 49 03.4 -0.7**
ITM IAmb IAmb 14 49 11.2
comp=Z,38nm,0.7s
MAKR Makrakomi, Fth 19.74 292 P **P** **14 49 04.5 +0.2**
VOIR 19.77 313 ⇑P **Pn** **14 49 07.0 +0.9**
VOIR 19.77 313 ⇑P **Pn** **14 49 07.0 +0.9**
DOPR Dopca 19.83 314 ⇑P **Pn** **14 49 06.6 -0.2**
EFP Efpalio 19.84 291 P **P** **14 49 04.3 -1.1**
AMT Artemida-Makis 19.92 288 P **P** **14 49 06.6 +0.4**
THL Klokotos Trika 19.92 294 P **P** **14 49 06.1 -0.1**
BIZ Bicaz 19.94 317 ⇑P **P** **14 49 05.9 -0.5**
DRO Drossia 19.95 289 P **P** **14 49 06.8 +0.3**
ARR Arges 19.99 312 ⇓P **Pn** **14 49 09.2 +0.5**
PRAR RASCA 20.12 319 ⇑P Pn 14 49 09.3 -0.9
TAS Tashkent 20.14 61 P **P** **14 49 10.0 +1.4**
TAS Tashkent 20.14 61 P **P** **14 49 10.0 +1.4**
PVO Paravola 20.16 291 P **P** **14 49 09.4 +0.6**
STIP Stip 20.26 300 *i* P **P** **14 49 08.6 -1.3**
GAR Garm 20.47 68 P **P** **14 49 11.7 -0.6**
GAR IAmb IAmb 14 49 17.2
comp=Z,130nm,1.2s
MDB Medias 20.52 314 ⇑P Pn 14 49 16.5 +1.6
MDB Medias 20.52 314 ⇑P Pn 14 49 16.5 +1.6
LOT Lotru 20.57 311 ⇑P Pn 14 49 14.7 -0.8
NEST Nestorio 20.80 296 P Pn 14 49 17.5 -0.9
BURAR Bucovina Array 20.82 318 ⇓P **P** **14 49 17.0 +0.9**
BURAR Bucovina Array 20.82 318 ⇓P **P** **14 49 17.0 +0.9**
BURAR Bucovina Array 20.82 318 P **P** **14 49 15.6 -0.4**
EVGI Lefkada island 20.84 291 P **P** **14 49 15.0 -1.2**
BUR08 Bucovina Ar. S 20.85 318 P **P** **14 49 16.0 -0.3**
LKD2 Lefkada island 20.86 291 P **P** **14 49 14.9 -1.5**
SKO Skopje 20.87 300 *i* P Pn 14 49 20.4 +1.4
AKASG Malin Array Be 20.89 330 P **P** **14 49 15.7 -0.9**
comp=Z,15nm,0.6s,baz=138,slow=9.6,SNR=38
AKASG Malin Array Be 20.89 330 *i* P **P** **14 49 15.6 -1.0**
AKASG pmax pmax
comp=Z,23nm,0.6s
AKASG Malin Array Be 20.89 330 P **P** **14 49 14.5 -2.1**
AKBB Malin Array Si 20.89 330 P **P** **14 49 15.0 -1.7**
AKBB pmax pmax
comp=Z,45nm,1.1s
AKBB Malin Array Si 20.89 330 P **P** **14 49 15.0 -1.7**
IUG luzhnay 20.89 59 ⇑ *i* P **P** **14 49 18.0 +1.1**
comp=Z,41nm,0.9s,baz=59
IUG *i* S **S** **14 53 12.4 +3.1**
baz=59
IUG *e*S Sn 14 53 12.5 -2.6
baz=59
IUG LR LR 14 59 02.8
comp=Z,152nm,13.5s,baz=59
IUG luzhnay 20.89 59 *c i* P **P** **14 49 17.9 +1.1**
IUG *e*S **S** **14 53 12.4 +3.1**
IUG pmax pmax
comp=Z,41nm,0.9s
IUG MLR MLR
comp=Z,152nm,14.0s
BTK Batken 21.01 65 P **P** **14 49 18.1 0.0**
BTK pmax pmax
comp=Z,61nm,0.9s
BTK Batken 21.01 65 P **P** **14 49 18.1 0.0**
BTK IAmb IAmb 14 49 27.8
comp=Z,61nm,0.8s
ARCR ARCALIA 21.02 316 ⇓P 14 49 19.8
HERR Herculane 21.18 309 ⇑ **P** **14 49 21.3 +1.4**
IGT Igoumenitsa 21.20 293 P **P** **14 49 19.1 -1.0**
CJR Cluj-Napoca 21.28 314 ⇑P **P** **14 49 22.7 +1.8**
CJR Cluj-Napoca 21.28 314 ⇑P **P** **14 49 22.7 +1.8**
KK31 Karatay Array 21.51 57 P **P** **14 49 23.2 -0.2**
KK31 pmax pmax
comp=Z,50nm,0.9s
KK31 Karatay Array 21.51 57 P **P** **14 49 23.2 -0.2**
KK31 IAmb IAmb 14 49 29.6
comp=Z,50nm,0.8s
KKAR Karatay Array 21.51 57 P **P** **14 49 23.5 +0.1**
KKAR Karatay Array 21.51 57 P **P** **14 49 23.5 +0.1**
KKAR Karatay Array 21.51 57 P **P** **14 49 23.7 +0.3**
KKAR IAmb IAmb 14 49 29.6
comp=Z,50nm,0.8s
MDVR Moldovita 21.60 308 ⇓P **P** **14 49 25.4 +0.9**
KEK Kerkira 21.63 294 P **P** **14 49 23.9 -0.8**
BMR Baia Mare 21.83 316 ⇑P **P** **14 49 26.6 -0.1**
BMR Baia Mare 21.83 316 ⇑P **P** **14 49 26.6 -0.1**
TIR Tirane 21.87 298 P **P** **14 49 27.6 +0.3**
TIR pmax pmax
comp=Z,47nm,0.8s
TIR Tirane 21.87 298 P **P** **14 49 27.6 +0.3**
TIR IAmb IAmb 14 49 36.0
comp=Z,47nm,0.8s
BZS Buzias 22.00 310 ⇑P **P** **14 49 29.0 +0.4**
BZS Buzias 22.00 310 ⇑P **P** **14 49 29.0 +0.4**
DZA Taraz 22.02 58 *e*P **P** **14 49 29.7 +0.8**
comp=Z,33nm,0.9s,baz=58
DZA *i* S **S** **14 53 34.1 +2.8**
baz=58
DZA LR LR 14 59 03.9
comp=Z,95nm,12.9s,baz=58
DZA Taraz 22.02 58 *e*P **P** **14 49 29.7 +0.8**
DZA pmax pmax
comp=Z,33nm,0.9s
DZA MLR MLR
comp=Z,95nm,13.0s
SIRR Siria 22.25 312 ⇑P **P** **14 49 35.8 +4.5**
OBN Obninsk 22.39 346 P **P** **14 49 31.4 -1.3**
comp=Z,6.8nm,0.5s,baz=208,slow=3.4,SNR=14
OBN LR LR 14 59 28.4
comp=Z,110nm,19.2s,baz=170,slow=40
OBN Obninsk 22.39 346 *ce*P **P** **14 49 30.7 -2.0**
OBN *e**SP **sP** **14 49 36.9 -2.5**
OBN *e* 14 49 39.7
OBN *i* S **S** **14 53 30.1 -7.8**
OBN *e* 14 53 37.1
OBN *e*SS **SnSn** **14 54 17.2 +11**
OBN *i* SSS SSS 14 54 29.7
OBN pmax pmax
comp=Z,45nm,0.9s
OBN MLR MLR
comp=Z,384nm,18.0s
OBN Obninsk 22.39 346 P **P** **14 49 30.9 -1.8**
OBN IAmb IAmb 14 49 32.5
comp=Z,45nm,0.7s
DIVS Divibare 22.52 305 P **P** **14 49 33.9 -0.3**
PDG Podgorica 22.56 301 ⇓P **P** **14 49 36.7 +2.1**
PDG Podgorica 22.56 301 P **P** **14 49 35.1 +0.5**
SCTE Santa Cesarea 22.70 294 P **P** **14 49 35.0 -1.1**
SCTE IAmb IAmb 14 49 42.0
comp=Z,46nm,0.8s
LVV L'vov 22.75 322 *e*P **P** **14 49 36.2 -0.4**
MOS Moscow 22.79 348 *e*P **P** **14 49 34.0 -2.9**
MOS *e* 14 50 02.5
MOS *e*S **S** **14 53 37.7 -7.4**
MOS *e* 15 00 48.9
MOS pmax pmax
comp=Z,162nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.3s
NIL Nilore 22.87 82 P **P** **14 49 37.5 -0.5**
NIL pmax pmax
comp=Z,76nm,0.9s
NIL Nilore 22.87 82 P **P** **14 49 37.5 -0.5**
UZH Uzhgorod 23.02 318 *e*P **P** **14 49 39.0 -0.4**
UZH *e* 14 49 42.8
UZH *e* 14 49 49.4
UZH *e*S **S** **14 53 45.0 -4.3**
UZH *e*SS SnSn 14 54 37.4 +16
UZH MLR MLR
comp=Z,40nm,13.0s
KOLS Kolonicke sedl 23.19 318 *e*P **P** **14 49 41.6 +0.4**
KOLS pmax pmax
comp=Z,10.0nm,1.1s
KOLS Kolonicke sedl 23.19 318 *e*P **P** **14 49 41.6 +0.4**
KWP Kalwaria Pacla 23.34 320 P **P** **14 49 42.5 -0.2**
KWP pmax pmax
comp=Z,20nm,0.8s
KWP Kalwaria Pacla 23.34 320 P **P** **14 49 42.5 -0.2**
AML Almayashu 23.54 61 P **P** **14 49 46.6 +1.5**
SNR=21
CRVS Cervenica-Dubn 23.63 317 *e*P **P** **14 49 46.2 +0.7**
CRVS pmax pmax
comp=Z,19nm,1.1s
CRVS Cervenica-Dubn 23.63 317 *e*P **P** **14 49 46.2 +0.7**
EKS2 Erkin-Say 23.71 60 P **P** **14 49 49.5 +3.0**
SNR=30
KECS Kecovo 23.98 316 *e*P **P** **14 49 51.0 +2.1**
KECS pmax pmax
comp=Z,12nm,0.7s
KECS Kecovo 23.98 316 *e*P **P** **14 49 51.0 +2.1**
PSZ Piszkesteto 24.07 314 ⇓P **P** **14 49 50.4 +0.7**
PSZ Piszkesteto 24.07 314 P **P** **14 49 49.7 -0.1**
PSZ pmax pmax
comp=Z,9.0nm,0.7s
PSZ Piszkesteto 24.07 314 P **P** **14 49 49.6 -0.1**
MATE Matera 24.11 295 ⇑P **P** **14 49 49.5 -0.6**
UCH Uchtor 24.15 61 P **P** **14 49 52.8 +1.7**
SNR=19
AAK Ala-Archa 24.22 60 *i* P **P** **14 49 53.0 +1.7**
AAK pmax pmax
comp=Z,11nm,0.9s
ARU Arti 24.42 17 *c i* P **P** **14 49 53.0 +0.2**
ARU 14 50 24.5
ARU S **S** **14 54 15.0 +3.2**
ARU SS **SnSn** **14 55 00.1 +4.3**
ARU pmax pmax
comp=Z,24nm,0.8s
ARU MLR MLR
comp=Z,227nm,17.0s
CHMS Chumysh 24.48 59 P **P** **14 49 54.7 +1.1**
SNR=14
SGDS Sogindy 24.50 58 ⇑ *i* P **P** **14 49 54.6 +0.8**
comp=Z,22nm,1.1s,baz=58
SGDS Sogindy 24.50 58 *c i* P **P** **14 49 54.6 +0.8**
SGDS pmax pmax
comp=Z,22nm,1.1s
BTLS Baital 24.53 54 ⇑ *i* P **P** **14 49 55.2 +1.3**
comp=Z,27nm,0.7s,baz=54
BTLS Baital 24.53 54 *c i* P **P** **14 49 55.1 +1.2**

BTLS pmax pmax
comp=Z,27nm,0.7s
CEL Celeste 24.55 289 P **P** **14 49 54.7 +0.5**
CEL IAmb IAmb 14 49 58.3
comp=Z,65nm,1.1s
KBK Karagaybulak 24.55 60 P **P** **14 49 55.7 +1.3**
SNR=12
KZA Kyzart 24.66 61 P **P** **14 49 58.1 +2.4**
SNR=9.0
KSH Kashi 24.89 68 P **P** **14 49 55.8 -1.6**
KSH sP sP 14 50 11.8 +7.4
KSH S S 14 54 09.8 -10
KSH pmax pmax
comp=Z,32nm,0.8s
KSH pmax pmax
comp=Z,250nm,4.6s
KSH LR LR
comp=N,210nm,11.4s
KSH LR LR
comp=E,190nm,9.5s
SRO2 Moca 24.91 313 *e*P **P** **14 49 58.7 +1.4**
SRO2 Moca 24.91 313 *e*P **P** **14 49 58.7 +1.4**
VYHS Vyhne 24.96 314 *e*P **P** **14 49 59.2 +1.4**
VYHS Vyhne 24.96 314 *e*P **P** **14 49 59.2 +1.4**
SRO Srobarova 24.98 313 *e*P **P** **14 49 59.1 +1.2**
SRO pmax pmax
comp=Z,18nm,0.9s
SRO Srobarova 24.98 313 *e*P **P** **14 49 59.1 +1.2**
SGRT San Giovanni R 24.99 298 P **P** **14 49 57.7 -0.5**
SGRT IAmb IAmb 14 50 32.1
comp=Z,25nm,1.1s
KIRV Kirov 25.05 5 P **P** **14 49 58.2 -0.3**
comp=Z,34nm,0.7s,baz=195,slow=5.1,SNR=24
KIRV LR LR 15 01 43.8
comp=Z,265nm,18.0s,baz=197,slow=41
NACGM Naroch 25.05 334 *e* **P** **14 49 58.0 -0.5**
TKM2 Tokmak 2 25.07 60 P **P** **14 50 00.4 +1.3**
SNR=16
TKM2 Tokmak 2 25.07 60 P **P** **14 49 59.3 +0.2**
OJC Ojcow 25.24 319 P **P** **14 50 01.0 +0.7**
OJC pmax pmax
comp=Z,17nm,0.9s
OJC Ojcow 25.24 319 P **P** **14 50 01.0 +0.7**
SVE Sverdlovsk 25.31 19*d i*P **P** **14 50 01.6 +0.7**
SVE pmax pmax
comp=Z,91nm,1.0s
IDID Didziasalis 25.39 334 *e*P **P** **14 50 02.8 +1.2**
ULHL Ulahol 25.42 61 P **P** **14 50 04.8 +2.5**
SNR=8.3
BRZS Berezniki 25.66 42⇧ *i*P **P** **14 50 04.8 +0.7**
comp=Z,32nm,1.3s,baz=43
BRZS Berezniki 25.66 42*c i*P **P** **14 50 04.8 +0.7**
BRZS pmax pmax
comp=Z,32nm,1.3s
MTBS Maitube 25.71 59 *e*P **P** **14 50 05.6 +0.8**
baz=60
MTBS Maitube 25.71 59 *e*P **P** **14 50 05.6 +0.8**
VAE Valguarnera 25.71 288 P **P** **14 50 08.3 +3.5**
comp=Z,19nm,0.8s,baz=357,slow=22,SNR=8.8
PAOL Paolisi 25.77 296 P **P** **14 50 05.8 +0.6**
PAOL IAmb IAmb 14 50 15.9
comp=Z,38nm,1.2s
ISAL Salakas 25.81 334 *e*P **P** **14 50 05.8 +0.4**
KUU Kurty 25.81 58 *e*P **P** **14 50 06.5 +0.9**
comp=Z,55nm,1.5s,baz=58
KUU LR LR 15 01 04.7
comp=Z,291nm,13.3s,baz=58
KUU Kurty 25.81 58 *e*P **P** **14 50 06.4 +0.9**
KUU pmax pmax
comp=Z,55nm,1.5s
KUU MLR MLR
comp=Z,291nm,13.0s
SMOL Smolenice 25.81 314 *e*P **P** **14 50 06.8 +1.3**
SMOL pmax pmax
comp=Z,9.0nm,0.9s
SMOL Smolenice 25.81 314 *e*P **P** **14 50 06.8 +1.3**
JAVC Velka Javorina 25.81 314 *e*P **P** **14 50 05.7 +0.1**
MODS Modra-Piesok 25.84 313 *e*P **P** **14 50 05.6 -0.2**
MODS pmax pmax
comp=Z,18nm,1.3s
MODS Modra-Piesok 25.84 313 *e*P **P** **14 50 05.6 -0.2**
SUW Suwalki 25.86 329 P **P** **14 50 05.8 0.0**
SUW pmax pmax
comp=Z,54nm,1.0s
SUW Suwalki 25.86 329 P **P** **14 50 05.8 0.0**
SUW IAmb IAmb 14 50 12.7
comp=Z,54nm,1.0s
IZAR Zarasai 25.90 334 *e*P **P** **14 50 07.1 +0.9**
OKC Ostrava-Krasne 25.98 317 *e*P **P** **14 50 09.4 +2.4**
OKC Ostrava-Krasne 25.98 317 *e*P **P** **14 50 09.4 +2.4**
TNSS Tian-Shan 26.07 60 *e*P **P** **14 50 09.2 +0.8**
baz=60
TNSS Tian-Shan 26.07 60 *e*P **P** **14 50 09.2 +0.8**
AAA Alma-Ata 26.08 59 *e*P **P** **14 50 09.3 +1.2**
baz=60
AAA LR LR 15 01 19.8
comp=Z,180nm,11.4s,baz=60
AAA Alma-Ata 26.08 59 *e*P **P** **14 50 09.3 +1.2**
AAA MLR MLR
comp=Z,180nm,11.0s
BRVK Borovoye 26.12 35 P **P** **14 50 08.6 +0.3**
BRVK pmax pmax
comp=Z,25nm,0.9s
BRVK Borovoye 26.12 35 P **P** **14 50 08.6 +0.3**
BRVK IAmb IAmb 14 50 17.4
comp=Z,25nm,0.9s
BVAR Borovoye Array 26.15 35 P **P** **14 50 09.0 +0.5**
comp=Z,12nm,0.5s,baz=229,slow=8.6,SNR=49
BVAR PcP **PcP** **14 53 35.7 +0.3**
comp=Z,2.5nm,0.5s,baz=195,slow=4.6,SNR=6.1
BVAR ScP **ScP** **14 57 14.6 +0.2**
comp=Z,0.3nm,0.4s,baz=236,slow=1.6,SNR=4.8
BVAR LR LR 15 03 18.0
comp=Z,181nm,20.5s,baz=126,slow=43
MDOK Medeo 26.16 60 *e*P **P** **14 50 09.5 +0.5**
baz=60
MDOK *i* S **S** **14 54 42.7 +2.4**
baz=60
MDOK LR LR 15 01 19.3
comp=Z,243nm,12.7s,baz=60
MDOK Medeo 26.16 60 *e*P **P** **14 50 09.5 +0.5**
MDOK MLR MLR
comp=Z,243nm,13.0s
CHKK Chushkaly 26.26 58 *e*P **P** **14 50 10.5 +0.8**
baz=58
CHKK Chushkaly 26.26 58 *e*P **P** **14 50 10.4 +0.8**
MORC Moravsky Berou 26.29 316 *e*P **P** **14 50 09.6 -0.3**
MORC Moravsky Berou 26.29 316 P **P** **14 50 10.0 0.0**
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 26.29 316 P **P** **14 50 09.9 0.0**
INTR Introdacqua 26.38 298 P **P** **14 50 11.0 +0.1**
INTR IAmb IAmb 14 50 39.0
comp=Z,24nm,1.0s
ARSA Arzberg 26.52 310 *e*P **P** **14 50 11.8 -0.2**
comp=Z,5.5nm,0.6s
CONA Conrad Observa 26.54 311 *e*P **P** **14 50 12.1 -0.1**
comp=Z,7.6nm,0.7s
PABE Paberze 26.58 332 *e*P **P** **14 50 12.2 -0.2**
CORL Corleone 26.59 288 P **P** **14 50 13.4 +0.7**
CORL IAmb IAmb 14 50 33.8
comp=Z,38nm,0.9s
VRAC Vranov 26.64 315 P **P** **14 50 13.6 +0.5**
comp=Z,4.1nm,0.7s,baz=116,slow=8.0,SNR=9.4
VRAC LR LR 15 02 25.6
comp=Z,122nm,19.2s,baz=114,slow=40
VRAC Vranov 26.64 315 *e*P **P** **14 50 13.7 +0.6**
SOKA Soboth 26.65 308 *e*P **P** **14 50 13.9 +0.7**
comp=Z,2.1nm,0.5s
KRUC Moravsky 26.66 314 *e*P **P** **14 50 13.7 +0.5**
CLTB Caltabellotta 26.66 288 P **P** **14 50 13.6 +0.2**
CLTB IAmb IAmb 14 50 24.4
comp=Z,36nm,1.1s
AQU L'Aquila 26.80 298 P **P** **14 50 16.1 +1.5**
AQU pmax pmax
comp=Z,38nm,1.0s
AQU L'Aquila 26.80 298 P **P** **14 50 16.1 +1.5**
AQU IAmb IAmb 14 50 36.5
comp=Z,38nm,1.0s
KRLC Kraliky 26.87 316 *e*P **P** **14 50 15.6 +0.5**
KRLC *e* 14 50 25.7
KRLC Kraliky 26.87 316 *e*P **P** **14 50 15.6 +0.5**
KRLC *ex* x 14 50 25.7
OBKA Obir 26.91 308 *ep*P pP 14 50 17.2 -3.4
comp=Z,20nm,1.3s,SNR=6.2

NRCA Norcia 27.08 299 P **P** **14 50 18.0 +0.9**
NRCA IAmb IAmb 14 50 33.6
comp=Z,22nm,0.9s
SATY Saty 27.12 60 *e*P **P** **14 50 19.1 +1.4**
baz=60
SATY LR LR 15 01 44.3
comp=Z,79nm,11.9s,baz=60
SATY Saty 27.12 60 *e*P **P** **14 50 19.0 +1.4**
SATY MLR MLR
comp=Z,79nm,12.0s
SATY Saty 27.12 60 *e*P **P** **14 50 19.0 +1.4**
SATY MLR MLR
comp=Z,79nm,12.0s
DPC Dobruska-Polom 27.25 317 *e*P **P** **14 50 18.9 +0.3**
DPC *e* 14 50 22.6
DPC Dobruska-Polom 27.25 317 *e*P **P** **14 50 18.9 +0.3**
DPC *ep*P **sP** **14 50 22.6 -3.0**
TREC Trest 27.30 314 *e*P **P** **14 50 19.9 +0.9**
TREC Trest 27.30 314 *e*P **P** **14 50 19.9 +0.9**
KPKS Kokpek 27.39 59 *e*P **P** **14 50 20.8 +0.8**
baz=60
KPKS Kokpek 27.39 59 *e*P **P** **14 50 20.7 +0.8**
UPC Upice 27.50 317 *e*P **P** **14 50 21.4 +0.6**
UPC Upice 27.50 317 *e*P **P** **14 50 21.4 +0.6**
KLMR Klimovskoe 27.51 353 *e*P **P** **14 50 18.3 -2.3**
KLMR pmax pmax
comp=Z,65nm,0.9s
KLMR Klimovskoe 27.51 353 *e*P **P** **14 50 18.3 -2.3**
KLMR AMP 14 50 23.9
comp=Z,65nm,0.9s
MOA Molln 27.52 310 *e*P **P** **14 50 21.8 +0.8**
comp=Z,8.8nm,1.2s,SNR=12
PRED Cave del Predi 27.55 307 P **P** **14 50 20.8 -0.5**
MYKA Terra Mystica 27.55 308 *ep*P pP 14 50 22.9 -3.4
comp=Z,7.1nm,0.6s
MURB Monte Urbino 27.57 300 P **P** **14 50 21.7 +0.1**
MURB IAmb IAmb 14 50 27.1
comp=Z,36nm,1.2s
UZB Uzunbulak 27.58 60 *e*P **P** **14 50 22.9 +1.1**
comp=Z,8.5nm,1.2s,baz=60
UZB LR LR 15 02 33.8
comp=Z,77nm,10.4s,baz=60
UZB Uzunbulak 27.58 60 *e*P **P** **14 50 22.8 +1.1**
UZB pmax pmax
comp=Z,9.0nm,1.2s
UZB MLR MLR
comp=Z,77nm,10.0s
PBUR Paburge 27.76 331 *e*P **P** **14 50 21.1 -1.8**
VSU Vasula 27.90 339 *e*P **P** **14 50 24.6 +0.5**
VSU Vasula 27.90 339 *i* P **P** **14 50 23.3 -0.8**
VSU pmax pmax
comp=Z,39nm,0.9s
SHLS Shalkode 27.90 60 *e*P **P** **14 50 28.7 +4.1**
baz=60
SHLS LR LR 15 02 53.0
comp=Z,99nm,12.6s,baz=60
SHLS Shalkode 27.90 60 *e*P **P** **14 50 28.7 +4.1**
SHLS MLR MLR
comp=Z,99nm,13.0s
ZOU Zoufplan 27.97 307 P **P** **14 50 25.9 +0.7**
PRGR Permogore 27.99 360 *e*P **P** **14 50 22.0 -2.9**
PRGR pmax pmax
comp=Z,30nm,0.9s
LATE Laterza 28.01 299 P **P** **14 50 26.2 +0.8**
LATE IAmb IAmb 14 50 30.2
comp=Z,20nm,1.1s
STAL STALIGIAL 28.07 306 P **P** **14 50 26.6 +0.7**
GEC2 GERESS Array S 28.22 312 P **P** **14 50 26.8 -0.5**
GERES GERESS Array B 28.22 312 P **P** **14 50 27.5 +0.2**
comp=Z,0.8nm,0.5s,baz=112,slow=9.0,SNR=8.3
GERES PcP **PcP** **14 53 40.9 +0.3**
comp=Z,0.7nm,0.7s,baz=174,slow=3.6,SNR=4.5
GERES ScP **ScP** **14 57 21.2 +0.4**
comp=Z,1.2nm,0.9s,baz=180,slow=1.3,SNR=6.1
GERES LR LR 15 03 28.9
comp=Z,117nm,20.1s,baz=111,slow=40
GERES GERESS Array B 28.22 312 P **P** **14 50 27.1 -0.2**
GERES **PcP** **14 53 40.8 +0.3**
GERES **ScP** **14 57 20.9 +0.1**
CIMO Cimolais 28.26 306 P **P** **14 50 27.5 -0.2**
ABTA Abfaltersbach 28.33 307 *e*P **P** **14 50 28.7 +0.5**
comp=Z,11nm,1.3s
KHC Kasperske Hory 28.39 313 *i* P **P** **14 50 25.4 -3.4**
KHC pmax pmax
comp=Z,5.0nm,1.3s
KHC Kasperske Hory 28.39 313 *e*P **P** **14 50 29.4 +0.6**
KHC Kasperske Hory 28.39 313 P **P** **14 50 27.8 -1.0**
OSSC Osservatorio P 28.54 300 P **P** **14 50 29.8 -0.3**
CTI Castel Tesino 28.73 306 P **P** **14 50 32.2 +0.3**
CTI pmax pmax
comp=Z,9.0nm,0.7s
CTI Castel Tesino 28.73 306 P **P** **14 50 32.2 +0.3**
WTTA Wattenberg 29.05 308 *e*P **P** **14 50 35.4 +0.6**
comp=Z,3.7nm,0.5s
WTTA *e*PcP **PcP** **14 53 43.4 +0.7**
comp=Z,6.5nm,1.4s
WTTA *e*S **S** **14 55 21.8 -3.8**
comp=Z,4.9nm,0.9s
WATA Walderalm 29.10 308 *e*P **P** **14 50 35.6 +0.4**
comp=Z,7.3nm,1.1s
WATA *e*PcP **PcP** **14 53 43.5 +0.7**
comp=Z,5.5nm,1.1s
WATA *e*S **S** **14 55 23.7 -2.7**
comp=Z,4.2nm,1.0s
VLC Villacollemand 29.25 301 P **P** **14 50 36.5 +0.1**
VLC IAmb IAmb 14 50 56.6
comp=Z,25nm,1.1s
KURBB Kurchatov Arra 29.31 45 P **P** **14 50 38.0 +1.2**
comp=Z,17nm,0.7s,baz=252,slow=9.0,SNR=114
KURBB PcP **PcP** **14 53 43.6 +0.5**
comp=Z,3.0nm,0.9s,baz=247,slow=2.8,SNR=5.3
KURBB ScP **ScP** **14 57 23.8 -0.3**
comp=Z,2.3nm,1.0s,baz=250,slow=3.7,SNR=8.6
KURBB Kurchatov Arra 29.31 45 P **P** **14 50 37.2 +0.4**
SQTA Sankt Quirin 29.32 308 *e*P **P** **14 50 37.6 +0.5**
comp=Z,5.7nm,0.5s,SNR=5.6
SQTA *e*PcP **PcP** **14 53 44.4 +1.0**
comp=Z,4.3nm,0.8s
SQTA *e*S **S** **14 55 27.0 -2.7**
comp=Z,5.0nm,0.9s
KURK Kurchatov 29.40 45 P **P** **14 50 38.2 +0.6**
KURK IAmb IAmb 14 50 40.0
comp=Z,23nm,0.9s
KURK Kurchatov 29.40 45 **PcP** **14 53 43.6 +0.3**
KURK **ScP** **14 57 23.8 -0.6**
MOTA Moosalm 29.42 308 *e*P **P** **14 50 38.3 +0.3**
comp=Z,6.1nm,0.7s,SNR=8.8
MOTA *e*S **S** **14 55 26.6 -4.8**
comp=Z,2.5nm,0.7s
NKC Novy Kostel 29.48 314 *e*P **P** **14 50 38.9 +0.5**
NKC *e* 14 50 50.7
NKC Novy Kostel 29.48 314 *e*P **P** **14 50 38.9 +0.5**
NKC *ex* x 14 50 50.7
CLL Collm 29.57 317 *i* P **P** **14 50 39.4 +0.3**
comp=Z,10.0nm,1.5s
CLL *i* 14 50 54.8
CLL *e*(PP) 14 51 44.0
CLL *e*(S) S 14 55 24.0 -9.3
CLL *e*SS **SnSn** **14 57 12.0 +10**
CLL *e* 14 58 18.0
CLL LmH 15 04 00.0
comp=N,200nm,19.9s
CLL LmH 15 04 00.0
comp=E,100nm,20.0s
CLL Collm 29.57 317 *i* P **P** **14 50 39.4 +0.3**
CLL pmax pmax
comp=Z,10.0nm,1.5s
FETA Feichten 29.58 307 *e*P **P** **14 50 40.2 +0.7**
comp=Z,5.5nm,0.6s
FETA *e*PcP **PcP** **14 53 44.8 +0.7**
comp=Z,4.9nm,1.2s
VSL Villasalto 29.65 292 P **P** **14 50 40.8 +0.9**
VSL IAmb IAmb 14 50 54.7
comp=Z,41nm,1.4s
FUORN Ofenpass-Fuorn 29.80 306 P **P** **14 50 42.6 +1.0**
MSSA Maissana 29.89 302 P **P** **14 50 42.2 0.0**
MSSA IAmb IAmb 14 50 50.0
comp=Z,24nm,1.3s
KEST Kesra 29.90 284 P **P** **14 50 44.9 +2.5**
comp=Z,5.9nm,0.9s,baz=8.4,slow=5.5,SNR=5.7
KEST Kesra 29.90 284 P **P** **14 50 42.6 +0.3**
GRA1 Grafenberg Arr 30.03 313 P **P** **14 50 43.2 -0.1**
GRA1 IAmb IAmb 14 50 45.3
comp=Z,43nm,1.7s
GRF Grafenberg Arr 30.03 313 P **P** **14 50 43.2 -0.1**
GRF pmax pmax
comp=Z,43nm,1.7s
DAVA Damuels 30.21 308 *e*P **P** **14 50 44.8 -0.3**
comp=Z,6.4nm,0.5s
MAKZ Makanchi 30.33 53 P **P** **14 50 46.5 +0.5**
MAKZ pmax pmax
comp=Z,13nm,0.8s
MAKZ Makanchi 30.33 53 P **P** **14 50 46.5 +0.5**
MAKZ IAmb IAmb 14 50 48.6
comp=Z,13nm,0.8s
TUE Stuetta 30.38 306 P **P** **14 50 47.0 +0.4**
MK31 Makanchi Array 30.54 54 P **P** **14 50 48.7 +0.9**
MK31 pmax pmax
comp=Z,16nm,0.8s
MK31 Makanchi Array 30.54 54 P **P** **14 50 48.6 +0.9**
MK31 IAmb IAmb 14 50 50.8
comp=Z,16nm,0.8s
MKAR Makanchi Array 30.54 54 P **P** **14 50 49.0 +1.2**
comp=Z,17nm,0.5s,baz=250,slow=7.9,SNR=207
MKAR LR LR 15 05 40.4
comp=Z,138nm,18.9s,baz=262,slow=42
MKAR Makanchi Array 30.54 54 *i* P **P** **14 50 49.0 +1.2**
MKAR pmax pmax
comp=Z,17nm,0.5s
MKAR Makanchi Array 30.54 54 P **P** **14 50 48.6 +0.8**
FIA1 FINESS Array S 30.55 341 P **P** **14 50 47.2 -0.4**
FINES FINESS Array B 30.55 341 P **P** **14 50 47.2 -0.4**
comp=Z,7.1nm,1.0s,baz=150,slow=11,SNR=16
FINES FINESS Array B 30.55 341 *i* P **P** **14 50 47.7 +0.1**
FINES pmax pmax
comp=Z,7.0nm,1.0s
FINES FINESS Array B 30.55 341 P **P** **14 50 46.7 -0.9**
TMCR Tamitsa 30.90 353 *e*P **P** **14 50 50.7 0.0**
KLRI Killari 31.65 112 *e*P **P** **14 50 58.8 +0.9**
KLRI IVmB_BB 14 51 01.1
comp=Z,247nm,2.5s
SENIN Lac Senin/Sane 31.75 305 P **P** **14 50 58.6 -0.1**
SENIN IAmb IAmb 14 51 32.7
comp=Z,31nm,1.9s
BNI Bardonecchia 31.99 303 P **P** **14 51 00.8 0.0**
BNI pmax pmax
comp=Z,43nm,0.8s
BNI Bardonecchia 31.99 303 P **P** **14 51 00.8 0.0**
LPL La Plagne 32.02 303 *e*P **P** **14 51 01.2 +0.1**
LPL pmax pmax
comp=Z,33nm,0.9s
ECH Echery 32.21 308 P **P** **14 51 02.3 -0.2**
ECH pmax pmax
comp=Z,7.0nm,1.0s
ECH Echery 32.21 308 P **P** **14 51 02.3 -0.2**
ZSN Zaisan 32.39 53 *i* S **S** **14 56 18.8 +1.1**
baz=53
SRSP Sriramsagar 32.53 109 *e*P **P** **14 51 05.3 -0.3**
SRSP IVmBBB 14 51 07.6
comp=Z,144nm,3.3s
SSB Saint Sauveur 33.52 303 P **P** **14 51 13.0 -1.0**
SSB Saint Sauveur 33.52 303 P **P** **14 51 13.4 -0.6**
HYBB Hyderabad (bro 33.54 111 *e*P **P** **14 51 15.1 +0.6**
HYBB IVmB_BB 14 51 15.8
comp=Z,150nm,1.0s
HYB Hyderabad 33.54 111 *i* P **P** **14 51 15.0 +0.5**
GKN Gorkha 33.72 89 *e*P **P** **14 51 16.8 +0.7**
comp=Z,26nm,0.3s
HFS Hagfors 33.76 331 P **P** **14 51 15.7 -0.1**
comp=Z,6.6nm,0.4s,baz=142,slow=7.5,SNR=22
HFS LR LR 15 06 48.0
comp=Z,129nm,20.6s,baz=130,slow=40
MUD Monsted U'grnd 33.83 324 *i* P **P** **14 51 16.0 -0.5**
MUD Monsted U'grnd 33.83 324 *i* P **P** **14 51 16.0 -0.5**
WMQ Urumqi 33.93 60 *e*P **P** **14 51 19.3 +1.7**
WMQ sP sP 14 51 26.0 +1.3
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ pmax pmax
comp=Z,88nm,4.1s
WMQ LR LR
comp=E,110nm,15.1s
WMQ LR LR
comp=Z,42nm,14.7s
URV Uravakonda 34.03 115 *e*P **P** **14 51 19.4 +0.7**
URV IVmBBB 14 51 20.0
comp=Z,151nm,0.7s
ZAA0 Zalesovo Array 34.13 42 P **P** **14 51 18.7 -0.4**
ZALV Zalesovo Beam 34.13 42 P **P** **14 51 19.4 +0.3**
comp=Z,15nm,0.3s,baz=260,slow=8.6,SNR=92
ZALV LR LR 15 08 03.5
comp=Z,253nm,19.1s,baz=258,slow=41
ZALV Zalesovo Beam 34.13 42 P **P** **14 51 19.0 -0.1**
ZALV Zalesovo Beam 34.13 42 P **P** **14 51 18.9 -0.1**
DMN Daman 34.24 89 *e*P **P** **14 51 21.5 +0.8**
comp=Z,74nm,0.9s
SSF Saint Saulge 34.44 306 *e*P **P** **14 51 21.8 -0.1**
SSF pmax pmax
comp=Z,17nm,1.0s
DGZ Jazzator, Alta 34.51 50*c i*P **P** **14 51 23.7 +1.1**
DGZ pmax pmax
comp=Z,28nm,0.9s
PKI Pulchoki 34.51 89 *e*P **P** **14 51 23.7 +0.6**
comp=Z,53nm,0.8s
SRLM Srisailam 34.57 112 *e*P **P** **14 51 24.7 +1.3**
SRLM IVmB_BB 14 51 25.2
comp=Z,234nm,0.6s
NJS Nagarjunasagar 34.63 111 *e*P **P** **14 51 24.4 +0.6**
NJS IVmBBB 14 51 26.1
comp=Z,98nm,1.1s
APA Apatity 34.70 352⇧ *i*P **P** **14 51 22.8 -1.1**
APA *i* 14 52 38.0
APA pmax pmax
comp=Z,21nm,1.0s
APA MLR MLR
comp=Z,200nm,20.0s
GUN Gumba 34.79 88 *e*P **P** **14 51 26.3 +0.8**
comp=Z,180nm,1.0s
NC602 NORSAR Array S 34.98 331 P **P** **14 51 26.0 -0.3**
NC405 NORSAR Array S 35.12 332 P **P** **14 51 26.7 -1.0**
JIRN Jiri 35.13 89 *e*P **P** **14 51 29.3 +0.8**
comp=Z,115nm,0.6s
NB201 NORSAR Array S 35.26 332 P **P** **14 51 27.8 -1.1**
NB2 NORSAR Subarra 35.28 331 P **P** **14 51 28.0 -1.1**
comp=Z,7.3nm,1.0s,baz=125,slow=8.6
NOA NORSAR Array B 35.28 331 P **P** **14 51 27.9 -1.1**
comp=Z,2.3nm,0.8s,baz=125,slow=8.6,SNR=9.5
NOA LR LR 15 07 54.5
comp=Z,122nm,20.1s,baz=130,slow=40
NBO00 NORSAR Array S 35.45 331 P **P** **14 51 30.8 +0.4**
MYLAV Mylavaram 35.55 110 *e*P **P** **14 51 32.7 +0.9**
ADKI Addanki 35.56 111 *e*P **P** **14 51 32.6 +0.7**
ADKI IVmB_BB 14 51 33.3
comp=Z,290nm,2.3s
NC204 NORSAR Array S 35.60 332 P **P** **14 51 31.5 -0.3**
RAMN Ramite 35.72 90 *e*P **P** **14 51 33.6 +0.1**
comp=Z,65nm,0.7s
PVM Polavaram 36.05 108 *e*P **P** **14 51 37.0 +0.9**
LFF La Frestale 36.18 302 *e*P **P** **14 51 36.0 -0.9**
LFF pmax pmax
comp=Z,10.0nm,0.7s
TAPN Taplejung 36.50 88 *e*P **P** **14 51 41.1 +0.9**
comp=Z,176nm,1.1s
SKHT Srikalahasti 36.63 115 *e*P **P** **14 51 42.1 +1.0**
SKHT IVmB_BB 14 51 45.2
comp=Z,264nm,3.7s
TAM Tamanrasset 36.86 264 P **P** **14 51 42.8 -0.4**
TAM pmax pmax
comp=Z,8.0nm,0.8s
TAM Tamanrasset 36.86 264 P **P** **14 51 42.8 -0.4**
MBAR Mbarara 36.89 206 P **P** **14 51 43.4 -0.1**
comp=Z,18nm,0.2s,baz=40,slow=2.1,SNR=5.2
MBAR Mbarara 36.89 206 IAmb IAmb 14 51 47.2
comp=Z,45nm,0.1s
CHLP Challavanipeta 37.33 104 *e*P **P** **14 51 47.4 +0.4**
CHLP IVmB_BB 14 51 47.9
comp=Z,232nm,1.4s
KEV Kevo 37.62 349 P **P** **14 51 48.8 0.0**
KEV pmax pmax
comp=Z,21nm,1.1s
KEV Kevo 37.62 349 P **P** **14 51 48.8 0.0**
KEV IAmb IAmb 14 51 56.8
comp=Z,21nm,1.1s
ARCES ARCESS Array B 37.66 349 P **P** **14 51 49.1 -0.1**
comp=Z,14nm,0.9s,baz=160,slow=7.6,SNR=28
ARCES LR LR 15 08 41.1
comp=Z,304nm,19.0s,baz=148,slow=38
ARCES ARCESS Array B 37.66 349 P **P** **14 51 48.8 -0.4**
ARCES ARCESS Array B 37.66 349 P **P** **14 51 48.8 -0.4**
ARE0 ARCESS Array S 37.66 349 P **P** **14 51 48.8 -0.4**

LSA Lhasa 38.60 83 P P 14 51 59.3 +1.1
LSA pmax pmax
comp=Z,110nm,1.0s
LSA Lhasa 38.60 83 P P 14 51 58.7 +0.5
LSA Lhasa 38.60 83 P P 14 51 58.4 +0.3
LSA pmax pmax
comp=Z,21nm,0.9s
LSA Lhasa 38.60 83 P P 14 51 58.4 +0.3
LSA IAmb IAmb 14 52 00.3
comp=Z,21nm,0.9s
ESBB Sonseca Array 39.91 293 P P 14 52 08.8 +0.2
ESDC Sonseca Array 39.91 293 P P 14 52 09.1 +0.5
comp=Z,9.4nm,1.0s,baz=74,slow=7.4,SNR=29
ESDC PcP **PcP 14 54 14.9 +1.0**
comp=Z,1.3nm,0.9s,baz=50,slow=3.6,SNR=4.5
ESDC LR LR 15 09 50.7
comp=Z,70nm,18.1s,baz=160,slow=38
ESDC Sonseca Array 39.91 293 P P 14 52 08.4 -0.1
EKA Eskdalemuir Ar 40.01 318 P P 14 52 08.3 -0.8
comp=Z,6.2nm,0.7s,baz=106,slow=7.8,SNR=16
EKA PcP **PcP 14 54 15.1 +1.2**
comp=Z,0.6nm,0.5s,baz=116,slow=4.8,SNR=1.7
ESK Eskdalemuir 40.03 318 P P 14 52 08.1 -1.1
ESK pmax pmax
comp=Z,48nm,1.7s
ESK Eskdalemuir 40.03 318 P P 14 52 08.1 -1.1
ESK IAmb IAmb 14 52 11.7
comp=Z,48nm,1.7s
PAB San Pablo 40.23 293 P P 14 52 11.2 0.0
PAB pmax pmax
comp=Z,13nm,1.3s
PAB San Pablo 40.23 293 P P 14 52 11.2 0.0
SHL Shillong 40.63 89 P P 14 52 14.0 -0.8
SHL pmax pmax
comp=Z,33nm,0.8s
SHL Shillong 40.63 89 P P 14 52 14.0 -0.8
SHL IAmb IAmb 14 52 15.4
comp=Z,33nm,0.8s
PBRG Braganca 41.75 297 *e*P **P 14 52 24.2 +0.5**
comp=Z,21nm,0.8s
MDT Midelt 41.79 283 LR LR 15 12 23.9
comp=Z,28nm,20.9s,baz=96,slow=40
MVO Moncorvo 42.04 296 *e*P **P 14 52 26.9 +0.8**
comp=Z,32nm,1.1s
MTE Manteigas 42.54 295 *e*P **P 14 52 31.0 +0.9**
comp=Z,30nm,1.4s
MTE Manteigas 42.54 295 P P **14 52 30.7 +0.5**
MTE IAmb IAmb 14 52 38.6
comp=Z,37nm,1.3s
PVRL Vila Real 42.54 296 *e*P **P 14 52 31.0 +0.9**
comp=Z,32nm,0.8s
NRIK Noril'sk 42.57 20 P **P 14 52 31.3 +1.4**
comp=Z,37nm,0.9s,baz=226,slow=5.3,SNR=50
PCBR Castelo Branco 42.57 294 *e*P **P 14 52 31.1 +0.8**
comp=Z,22nm,0.6s
PMRV Marv??o 42.57 294 *e*P **P 14 52 31.1 +0.7**
comp=Z,19nm,1.3s
PCAB Cabril 42.72 297 *e*P **P 14 52 32.6 +1.1**
comp=Z,31nm,1.1s
PVIS Viseu 42.76 296 *e*P **P 14 52 33.5 +1.6**
comp=Z,29nm,1.3s
PGAV Gavieira, Arco 42.87 297 *e*P **P 14 52 34.0 +1.2**
comp=Z,63nm,1.2s
PBEJ Beja 43.19 292 *e*P **P 14 52 36.2 +0.8**
comp=Z,21nm,1.1s
COI Coimbra 43.22 295 P **P 14 52 36.2 +0.6**
COI pmax pmax
comp=Z,27nm,0.8s
COI Coimbra 43.22 295 P **P 14 52 36.2 +0.6**
COI IAmb IAmb 14 52 41.4
comp=Z,27nm,0.8s
PMTG Montargil 43.27 293 *e*P **P 14 52 36.6 +0.6**
GTA Gaotai 43.27 66 *e*P **P 14 52 37.5 +1.3**
GTA pP sP 14 52 42.0 -1.3
GTA sP pP 14 52 45.0 +3.7
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,90nm,5.8s
GTA LR LR
comp=N,130nm,15.1s
GTA LR LR
comp=E,140nm,18.2s
GTA LR LR
comp=Z,97nm,17.2s
MOY Mondy 43.30 48 *e*P **P 14 52 37.8 +1.6**
MOY pmax pmax
comp=Z,8.0nm,1.4s
PCAS Casmilo, Conde 43.31 295 *e*P **P 14 52 37.5 +1.2**
comp=Z,27nm,1.4s
PBDV Barranco-do-Ve 43.40 291 *e*P **P 14 52 38.6 +1.5**
comp=Z,31nm,1.5s
PCVE Castro Verde 43.40 291 *e*P **P 14 52 37.6 +0.5**
comp=Z,20nm,1.8s
PNCL Nicolau / Gran 43.68 292 *e*P **P 14 52 40.2 +0.9**
comp=Z,22nm,1.6s
PFVI Vila Bisbo 44.12 291 *e*P **P 14 52 43.6 +0.8**
comp=Z,63nm,1.7s
ZAK Zakamensk 44.72 50 *e*P **P 14 52 48.2 +0.6**
ZAK pmax pmax
comp=E,15nm,1.1s
TOA0 Torodi Ar. Sit 44.88 254 P **P 14 52 49.6 +0.5**
SNR=6.0
TOA0 Torodi Ar. Sit 44.88 254 P **P 14 52 49.7 +0.5**
TORD Torodi Ar. Bea 44.88 254 P **P 14 52 50.0 +0.8**
comp=E,8.5nm,0.9s,baz=52,slow=8.1,SNR=20
TORD LR LR 15 13 25.4
comp=E,68nm,18.8s,baz=80,slow=39
TORD Torodi Ar. Bea 44.88 254 P **P 14 52 49.7 +0.5**
TLY Talaya 44.95 48*c i*P **P 14 52 50.1 +0.8**
TLY pmax pmax
comp=Z,10.0nm,0.9s
TLY Talaya 44.95 48 P **P 14 52 50.4 +1.1**
SPA0 Spitsbergen Ar 46.39 352 P **P 14 53 00.7 +0.3**
SONM Songino Array 46.91 54 P **P 14 53 05.6 +0.7**
comp=Z,5.3nm,0.9s,baz=280,slow=12,SNR=33
SONM PcP **PcP 14 54 37.2 -0.3**
comp=Z,1.9nm,0.9s,baz=277,slow=4.9,SNR=2.6
SONM ScP **ScP 14 58 28.2 -2.4**
comp=Z,1.5nm,1.0s,baz=278,slow=4.3,SNR=6.0
SONM LR LR 15 14 18.6
comp=Z,100nm,19.1s,baz=258,slow=38
SONM Songino Array 46.91 54 P **P 14 53 05.0 0.0**
SONM 14 54 37.2
SONM pmax pmax
comp=Z,7.0nm,1.1s
SONM Songino Array 46.91 54 ScP 14 58 29.4 -1.2
SONM Songino Array 46.91 54 P **P 14 53 05.0 0.0**
JMIC Jan Mayen 47.09 339 LR LR 15 13 02.8
comp=Z,85nm,18.8s,baz=244,slow=36
ULN Ulaanbaatar 47.34 53 *i*P **P 14 53 09.2 +0.8**
ULN pmax pmax
comp=Z,34nm,1.0s
ULN Ulaanbaatar 47.34 53 P **P 14 53 08.9 +0.5**
CD2 Chengdu 48.56 76 P **P 14 53 18.0 +0.1**
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 LR LR
comp=N,180nm,14.4s
CD2 LR LR
comp=E,140nm,15.3s
CD2 LR LR
comp=Z,180nm,13.9s
CHTO Chiang Mai 49.44 93 P **P 14 53 23.9 -0.9**
CHTO pmax pmax
comp=Z,17nm,0.7s
CHTO Chiang Mai 49.44 93 P **P 14 53 23.9 -0.9**
CHTO IAmb IAmb 14 53 25.5
comp=Z,17nm,0.7s
CM31 Chiang Mai Arr 49.61 94 P **P 14 53 26.1 +0.1**
SNR=6.0
CM31 Chiang Mai Arr 49.61 94 P **P 14 53 25.5 -0.6**
CM31 IAmb IAmb 14 53 26.7
comp=Z,14nm,0.8s
CMAR Chiang Mai Arr 49.61 94 P **P 14 53 25.8 -0.2**
comp=Z,10nm,0.8s,baz=294,slow=8.3,SNR=47
CMAR PcP **PcP 14 54 48.2 +0.7**
comp=Z,2.3nm,0.8s,baz=291,slow=4.8,SNR=4.1
CMAR LR LR 15 19 32.4
comp=Z,91nm,18.0s,baz=344,slow=42
CMAR Chiang Mai Arr 49.61 94 P **P 14 53 25.3 -0.7**
CMAR Chiang Mai Arr 49.61 94 P **P 14 53 25.3 -0.7**
CMAR **PcP 14 54 48.0 +0.4**
KMI Kunming 49.84 84 ⇑P **P 14 53 27.8 -0.2**
KMI pP pP 14 53 32.8 -0.4
KMI pmax pmax
comp=Z,14nm,0.9s
BORG Borgarnes 50.38 329 LR LR 15 17 03.1
comp=Z,48nm,19.0s,baz=169,slow=39
XAN Xi'an 51.68 71 P **P 14 53 41.5 -0.1**
XAN pP sP 14 53 47.0 -1.8
XAN pmax pmax
comp=Z,41nm,0.9s
XAN pmax pmax
comp=Z,56nm,1.1s
XAN LR LR
comp=N,170nm,16.9s
XAN LR LR
comp=E,150nm,18.0s
XAN LR LR
comp=Z,180nm,14.2s
XAN Xi'an 51.68 71 P **P 14 53 40.9 -0.7**
XAN pmax pmax
comp=Z,26nm,0.8s
XAN Xi'an 51.68 71 P **P 14 53 40.9 -0.7**
XAN IAmb IAmb 14 53 42.5
comp=Z,26nm,0.8s
PMAR Madeira 51.71 287 *e*P **P 14 53 43.4 +1.4**
HHC Hu-ho-hao-te 51.78 62 *e*P **P 14 53 43.5 +1.3**
HHC pmax pmax
comp=Z,39nm,1.1s
HHC pmax pmax
comp=Z,99nm,5.4s
PBKT Sadao Pong 52.22 95 P **P 14 53 45.1 -0.5**
PBKT IAmb IAmb 14 53 46.9
comp=Z,45nm,1.4s
GYA Guiyang 52.55 81 ⇓P **P 14 53 47.8 -0.4**
GYA pmax pmax
comp=Z,10.0nm,0.8s
ENH Enshi 53.41 75 P **P 14 53 53.5 -0.9**
DBIC Dimbokro 53.89 252 P **P 14 53 58.5 +0.5**
comp=Z,7.2nm,1.0s,baz=23,slow=6.4,SNR=4.2
DBIC LR LR 15 19 59.3
comp=Z,226nm,18.0s,baz=38,slow=39
DBIC Dimbokro 53.89 252 P **P 14 53 58.5 +0.5**
DBIC pmax pmax
comp=Z,66nm,1.8s
HIA Hailar 55.42 50 *i*P **P 14 54 08.7 0.0**
HIA pmax pmax
comp=Z,15nm,1.0s
HIA Hailar 55.42 50 P **P 14 54 08.9 +0.1**
HIA IAmb IAmb 14 54 10.3
comp=Z,12nm,0.8s
SUMG Summit 56.53 339 P **P 14 54 17.0 +0.2**
SUMG pmax pmax
comp=Z,35nm,1.2s
SUMG Summit 56.53 339 P **P 14 54 17.0 +0.2**
KCSI Kotacane, Aceh 56.91 110 P **P 14 54 18.3 -1.5**
comp=Z,11nm,0.9s
YAK Yakutsk 58.12 34 *e*P **P 14 54 25.8 -1.8**
YAK *e**PP **sP 14 54 36.9 +2.0**
YAK *e* 14 55 14.5
YAK *e* 14 56 35.2
YAK *e*S **S 15 02 25.1 -2.8**
YAK *e**SS sS 15 02 45.3 +8.7
YAK *e* 15 04 19.3
YAK *e*SS **SS 15 06 19.0 +0.2**
YAK pmax pmax
comp=Z,5.0nm,1.0s
YAK pmax pmax
comp=N,1.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,30nm,3.1s
YAK pmax pmax
comp=N,29nm,3.1s
YAK pmax pmax
comp=E,26nm,2.9s
YAK smax smax
comp=N,14nm,1.9s
YAK smax smax
comp=E,6.0nm,1.8s
PSI Prapat 58.25 110 P **P 14 54 28.2 -1.2**
comp=E,3.3nm,0.4s,baz=0.4,slow=11,SNR=3.8
RPSI Rantau Prapat 58.32 110 P **P 14 54 28.2 -1.5**
QIZ Qiongzhong 58.43 87 P **P 14 54 28.5 -1.9**
QIZ S **S 15 02 34.0 +0.9**
QIZ LR LR
comp=N,120nm,21.6s
QIZ LR LR
comp=E,140nm,11.8s
QIZ LR LR
comp=Z,100nm,25.0s
ZEA Zeya 58.86 43 *e*P **P 14 54 33.4 +0.4**
ZEA pmax pmax
comp=Z,18nm,1.2s
ZEA MLR MLR
comp=Z,300nm,16.0s
DL2 Dalian 59.74 61 P **P 14 54 39.5 +0.2**
DL2 pmax pmax
comp=Z,34nm,0.7s
NJ2 Nanjing 60.18 69 *e*P **P 14 54 42.0 -0.4**
NJ2 pmax pmax
comp=Z,17nm,0.6s
CN2 Changchun 60.75 55 *e*P **P 14 54 46.5 +0.4**
LBTB Lobatse 61.42 201 P **P 14 54 51.3 +0.5**
LBTB pmax pmax
comp=Z,24nm,1.2s
LBTB Lobatse 61.42 201 P **P 14 54 51.3 +0.5**
PDSI Padang 61.77 112 P **P 14 53 53.9 +0.5**
comp=Z,10.0nm,1.0s
SDSI Sungai Dareh 62.53 111 P **P 14 54 57.5 -0.9**
comp=Z,20nm,1.1s
KLR Kul'dur 62.95 47*c i*P **P 14 54 59.9 -0.9**
KLR pmax pmax
comp=Z,5.0nm,1.0s
MDJ Mudanjiang 63.25 53 P **P 14 55 01.5 -1.4**
MDJ pmax pmax
comp=Z,6.0nm,1.0s
MDJ pmax pmax
comp=Z,69nm,3.2s
KS19 Wonju Array Si 64.82 61 P **P 14 55 12.4 -1.0**
KS19 IAmb IAmb 14 55 14.0
comp=Z,15nm,1.1s
KSRS Korea Array 64.88 61 P **P 14 55 12.9 -0.8**
comp=Z,5.8nm,0.9s,baz=281,slow=6.8,SNR=24
KSRS LR LR 15 27 18.8
comp=Z,66nm,19.5s,baz=255,slow=40
BOSA Boshof 64.91 200 P **P 14 55 15.8 +1.9**
comp=Z,4.8nm,0.6s,baz=22,slow=6.3,SNR=12
BOSA Boshof 64.91 200 P **P 14 55 14.0 0.0**
BOSA pmax pmax
comp=Z,21nm,1.1s
BOSA Boshof 64.91 200 P **P 14 55 14.0 0.0**
USA0B Ussuriysk Arra 65.00 52 P **P 14 55 12.1 -2.2**
USA0B pmax pmax
comp=Z,12nm,1.0s
USA0B Ussuriysk Arra 65.00 52 P **P 14 55 12.1 -2.2**
USA0B IAmb IAmb 14 55 20.0
comp=Z,12nm,1.0s
USRK Ussuriysk Ar. 65.00 52 P **P 14 55 13.3 -1.0**
comp=Z,6.0nm,0.7s,baz=282,slow=6.2,SNR=14
USRK Ussuriysk Ar. 65.00 52 P **P 14 55 12.0 -2.4**
USRK Ussuriysk Ar. 65.00 52 P **P 14 55 12.0 -2.4**
GRNR Gornyy 65.16 44 *e*P **P 14 55 11.8 -3.6**
GRNR MLR MLR
comp=E,100nm,20.0s
GRNR MLR MLR
comp=N,70nm,16.0s
GRNR MLR MLR
comp=Z,140nm,15.0s
YHNB Yeheng 65.33 76 P **P 14 55 17.4 +0.4**
TPUB Ta-pu 65.35 78 P **P 14 55 16.7 -0.3**
SSLB Suanglung 65.39 77 P **P 14 55 16.2 -1.1**
SSLB IAmb IAmb 14 55 26.8
comp=Z,15nm,1.0s
YULB Yu-li 65.85 77 P **P 14 55 20.6 +0.3**
YULB IAmb IAmb 14 55 29.1
comp=Z,13nm,0.9s
SEY Seymchan 67.58 28*c i*P **P 14 55 31.4 +0.8**
MA2 Magadan 68.59 32 LR LR 15 29 42.5
comp=Z,56nm,19.4s,baz=317,slow=40
JNU Nakatsue 68.93 64 P **P 14 55 39.3 -0.3**
comp=Z,2.5nm,0.5s,baz=196,slow=18
JNU Nakatsue 68.93 64 IAmb IAmb 14 56 00.0
comp=Z,22nm,1.3s
SBUM Sibu 69.14 101 P **P 14 55 40.6 -0.5**
KKM Kota Kinabalu 70.42 96 P **P 14 55 49.3 +0.2**
KKM IAmb IAmb 14 56 13.1
comp=Z,15nm,1.1s
YSS Yuzh-Sakhalins 70.59 46⇑ *e*P **P 14 55 48.9 -0.7**
YSS *e* 14 55 54.7
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS MLR MLR
comp=Z,100nm,17.0s
YSS MLR MLR
comp=E,100nm,15.0s
YSS Yuzh-Sakhalins 70.59 46 P **P 14 55 48.8 -0.7**
YSS IAmb IAmb 14 55 56.6
comp=Z,14nm,1.0s
CISI Cisompet, Garu 71.62 113 P **P 14 55 54.4 -1.9**
MAT Matsushiro 72.64 57 P **P 14 56 00.2 -2.0**
MJAR Matsushiro Arr 72.64 57 P **P 14 56 01.6 -0.6**
comp=Z,2.0nm,0.9s,baz=292,slow=7.7,SNR=6.5
MJAR Matsushiro Arr 72.64 57 IAmb IAmb 14 56 05.1
comp=Z,1.8nm,1.0s
A36M Sachs Harbour 74.45 357 P **P 14 56 10.7 -1.4**
baz=7.8
SCHQ Schefferville 74.65 326 P **P 14 56 13.8 +0.1**
comp=Z,7.9nm,0.7s,baz=125,slow=3.3,SNR=5.7
SCHQ Schefferville 74.65 326 P **P 14 56 13.6 0.0**
SCHQ IAmb IAmb 14 56 14.7
comp=Z,24nm,1.3s
PETK Petropavlovsk- 75.39 35 LR LR 15 34 55.9
comp=Z,72nm,18.9s,baz=123,slow=40
RDOG Red Dog Mine 76.34 11 P **P 14 56 24.1 +1.0**
C36M Paulatuk 77.02 356 P **P 14 56 26.7 -0.1**
baz=8.7
C36M Paulatuk 77.02 356 P **P 14 56 27.0 +0.1**
TOLK Toolik Lake Re 77.37 6 P **P 14 56 29.3 +0.4**
baz=347
TOLK Toolik Lake Re 77.37 6 P **P 14 56 29.9 +1.0**
INK Inuvik 78.34 360 P **P 14 56 34.4 +0.2**
comp=Z,9.1nm,1.1s,baz=7.3,slow=3.5
INK Inuvik 78.34 360 P **P 14 56 34.4 +0.2**
INK pmax pmax
comp=Z,16nm,1.4s
INK Inuvik 78.34 360 IAmb IAmb 14 56 41.5
comp=Z,16nm,1.4s
COLD Coldfoot 78.70 6 P **P 14 56 36.7 +0.5**
baz=346
EPYK Eagle Plains 80.27 1 P **P 14 56 45.3 +0.4**
baz=358
EPYK Eagle Plains 80.27 1 P **P 14 56 45.6 +0.7**
E64A Bridgewater 80.36 320 P **P 14 56 46.1 +0.4**
baz=51
D62A Allapoint, All 80.58 321 P **P 14 56 47.7 +0.8**
baz=50
D62A Allapoint, All 80.58 321 P **P 14 56 47.5 +0.6**
D62A IAmb IAmb 14 56 48.8
comp=Z,22nm,1.1s
POKR Poker Plat Res 81.01 6 P **P 14 56 49.7 +0.9**
baz=349
MDM Murphy Dome 81.09 6 P **P 14 56 50.3 +1.0**
COLA College 81.21 6 P **P 14 56 50.8 +1.0**
COLA pmax pmax
comp=Z,26nm,0.9s
COLA College 81.21 6 P **P 14 56 50.8 +1.0**
ILAR Eielson Array 81.39 5 P **P 14 56 51.7 +0.9**
comp=Z,6.2nm,0.8s,baz=332,slow=4.2,SNR=29
CCB Clear Creek Bu 81.44 6 P **P 14 56 50.2 -0.8**
CCB IAmb IAmb 14 59 47.8
comp=Z,9.8nm,0.4s
WRH Wood River Hil 81.59 6 P **P 14 56 51.8 -0.1**
WRH IAmb IAmb 14 59 49.8
comp=Z,6.9nm,0.6s
BPAW Bear Paw Mtn. 81.67 7 P **P 14 56 52.4 0.0**
BPAW IAmb IAmb 14 56 54.3
comp=Z,23nm,1.1s
EGAK Eagle 81.74 3 P **P 14 56 53.0 +0.4**
EGAK IAmb IAmb 14 56 54.7
comp=Z,13nm,1.0s
TTA Tatalina 82.17 10 P **P 14 56 56.1 +1.0**
TTA pmax pmax
comp=Z,19nm,1.3s
TTA Tatalina 82.17 10 P **P 14 56 56.1 +1.0**
TTA IAmb IAmb 14 56 57.4
comp=Z,19nm,1.3s
MCK McKinley 82.24 7 P **P 14 56 56.1 +0.7**
MCK pmax pmax
comp=Z,14nm,1.0s
MCK McKinley 82.24 7 P **P 14 56 56.1 +0.7**
MCK IAmb IAmb 14 56 56.9
comp=Z,14nm,1.0s
K27K Chicken 82.44 3 P **P 14 56 57.3 +0.9**
baz=353
RIDG Independent Ri 82.56 5 P **P 14 56 57.3 +0.2**
RND Reindeer 82.56 7 P **P 14 56 56.8 -0.3**
RND pmax pmax
comp=Z,11nm,0.9s
RND Reindeer 82.56 7 P **P 14 56 56.8 -0.3**
RND IAmb IAmb 14 56 58.2
comp=Z,11nm,0.9s
PPLA Purkeypile 82.70 8 P **P 14 56 58.6 +0.7**
PPLA IAmb IAmb 14 57 12.1
comp=Z,10nm,1.0s
DOT Dot Lake 82.71 4 P **P 14 56 58.5 +0.7**
DOT IAmb IAmb 14 57 00.2
comp=Z,15nm,1.0s
YKA Yellowknife Ar 82.88 351 P **P 14 56 58.8 +0.2**
comp=Z,3.2nm,0.9s,baz=2.5,slow=5.6,SNR=6.3
MATQ Matagami 82.98 327 P **P 14 56 59.8 +0.4**
baz=44
DHY Denali Highway 83.02 6 P **P 14 56 59.7 +0.1**
G61A St-Isidore-de- 83.06 321 P **P 14 57 00.1 +0.2**
baz=48
D57A Chemin Vers le 83.10 323 P **P 14 56 59.5 -0.6**
baz=47
LSQQ Lebel-sur-Quev 83.17 326 P **P 14 57 00.6 +0.2**
baz=45
PAX Paxson 83.28 5 P **P 14 57 01.0 +0.1**
PAX pmax pmax
comp=Z,6.0nm,1.0s
PAX Paxson 83.28 5 P **P 14 57 01.0 +0.1**
CUT Chulitna 83.40 7 P **P 14 57 01.5 +0.1**
baz=347
D56A ZEC Mazanza, M 83.51 324 P **P 14 57 02.0 -0.2**
baz=46
E57A Chemin Saint G 83.65 323 P **P 14 57 02.5 -0.5**
baz=47
SKT Skwentna 83.67 8 P **P 14 57 03.0 +0.2**
SKT IAmb IAmb 14 57 05.2
comp=Z,16nm,1.0s
D55A Sainte-Anne-du 83.89 324 P **P 14 57 04.9 +0.8**
baz=46
E56A St. Veronique 84.00 323 P **P 14 57 05.1 +0.4**
baz=46
M24K Tolsona, Glenn 84.08 6 P **P 14 57 05.9 +1.0**
baz=350
GHO Glory Hole Cre 84.16 7 P **P 14 57 06.0 +0.6**
SML Sawmill 84.18 7 P **P 14 57 06.0 +0.5**
SCM Sheep Creek Mo 84.25 6 P **P 14 57 06.6 +0.7**
SCM pmax pmax
comp=Z,14nm,0.9s
SCM Sheep Creek Mo 84.25 6 P **P 14 57 06.5 +0.7**
SCM IAmb IAmb 14 57 16.5
comp=Z,14nm,0.9s
SUA Susitna One 84.27 8 P **P 14 57 06.2 +0.3**
PMR Palmer 84.31 7 P **P 14 57 06.1 +0.1**
PMR pmax pmax
comp=Z,17nm,1.0s
PMR Palmer 84.31 7 P **P 14 57 06.1 +0.1**
D54A Lac Fusel, La 84.37 325 P **P 14 57 07.2 +0.5**
baz=45
KNK Knik Glacier 84.56 7 P **P 14 57 07.7 +0.4**
KLU Klutina 84.71 6 P **P 14 57 09.2 +1.0**
H58A Gabriels 85.03 321 P **P 14 57 10.2 +0.1**
baz=46
LONY Lake Ozonia 85.10 322 P **P 14 57 10.5 +0.1**
baz=46
E54A Lac Daplat, Po 85.14 324 P **P 14 57 10.4 0.0**
baz=44
I59A Olmsteadville 85.30 321 P **P 14 57 12.1 +0.7**
baz=46
O22K Cooper Landing 85.34 8 P **P 14 57 12.1 +0.9**
baz=347
M64A Tiverton 85.37 318 P **P 14 57 12.5 +0.8**
baz=48
E53A Dumoine, Ponti 85.41 325 P **P 14 57 12.6 +0.7**
baz=44
BALM Baldy 85.41 4 P **P 14 57 11.8 +0.1**
L61B Northampton 85.58 319 P **P 14 57 12.2 -0.6**
baz=47
H57A Richville 85.63 322 P **P 14 57 12.0 -1.0**
baz=46
EYAK Cordova Ski Ar 85.66 6 P **P 14 57 12.8 +0.1**

BATI	**Baumata**	**85.71**	**105**	P		**P**		**14 57 14.4**	**+0.6**
	comp=Z,33nm,0.8s,baz=329,slow=6.3,SNR=3.8								
SEW	**Seward**	**85.74**	**8**	P		**P**		**14 57 13.8**	**+0.6**
SEW				IAmb		IAmb		14 57 15.3	
	comp=Z,15nm,1.0s								
G55A	**Calabogie**	**85.74**	**323**	P		**P**		**14 57 14.3**	**+0.8**
	baz=45								
HYT	**Haines Junctio**	**85.82**	**2**	P		**P**		**14 57 14.1**	**+0.3**
HYT				IAmb		IAmb		14 57 23.0	
	comp=Z,9.9nm,0.9s								
ISLE	**Juniper Island**	**85.84**	**4**	P		**P**		**14 57 14.6**	**+0.7**
J59A	**Piesco**	**85.86**	**321**	P		**P**		**14 57 14.9**	**+0.7**
	baz=46								
ALGO	**Algonquin Park**	**85.90**	**324**	P		**P**		**14 57 14.4**	**+0.2**
	baz=44								
BRLK	**Bradley Lake**	**85.90**	**8**	P		**P**		**14 57 14.0**	**-0.1**
BRLK				IAmb		IAmb		14 57 15.7	
	comp=Z,19nm,1.0s								
I58A	**Old Forge**	**85.95**	**321**	P		**P**		**14 57 15.0**	**+0.3**
	baz=46								
TABL	**Table Mountain**	**86.07**	**3**	P		**P**		**14 57 14.1**	**-1.0**
CNPM	**China Poot**	**86.09**	**9**	P		**P**		**14 57 15.0**	**0.0**
RCBR	**Riachuelo**	**86.29**	**261**	LR		LR		15 35 27.7	
	comp=Z,65nm,20.5s,baz=59,slow=35								
G54A	**Lake Saint Pet**	**86.32**	**324**	P		**P**		**14 57 14.7**	**-1.7**
	baz=44								
J57A	**Williamstown**	**86.68**	**322**	P		**P**		**14 57 18.7**	**+0.6**
	baz=45								
K58A	**Earlville**	**86.95**	**321**	P		**P**		**14 57 19.7**	**+0.1**
	baz=45								
KDAK	**Kodiak Island**	**87.61**	**10**	P		**P**		**14 57 23.7**	**+1.4**
	comp=Z,19nm,0.9s,baz=350,slow=4.2,SNR=6.4								
KDAK	**Kodiak Island**	**87.61**	**10**	P		**P**		**14 57 23.5**	**+1.1**
KDAK				pmax		pmax			
	comp=Z,23nm,0.9s								
KDAK	**Kodiak Island**	**87.61**	**10**	P		**P**		**14 57 23.5**	**+1.1**
OHAK	**Old Harbor**	**88.05**	**10**	P		**P**		**14 57 26.1**	**+1.6**
DLBC	**Dease Lake**	**88.18**	**358**	P		**P**		**14 57 27.0**	**+1.8**
	comp=Z,3.8nm,0.9s,baz=350,slow=8.5								
E38A	**The Farm, Brul**	**91.32**	**332**	P				**14 57 39.7**	**-0.4**
E38A				IAmb		IAmb		14 57 41.7	
	comp=Z,13nm,1.1s								
FITZ	**Fitzroy Crossi**	**91.78**	**110**	P		**P**		**14 57 42.3**	**-0.2**
	comp=Z,5.6nm,0.8s,baz=295,slow=2.7,SNR=13								
FITZ	**Fitzroy Crossi**	**91.78**	**110**	P		**P**		**14 57 42.0**	**-0.5**
KNRA	**Kununurra**	**92.89**	**107**	P		**P**		**14 57 47.4**	**-0.3**
O49A	**Covington**	**93.26**	**324**	P		**P**		**14 57 48.8**	**-0.3**
WRA	**Warramunga Arr**	**99.65**	**107**	P		**Pdif**		**14 58 17.2**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=317,slow=4.0,SNR=17								
WRA	**Warramunga Arr**	**99.65**	**107**	IAmb		IAmb		14 58 25.9	
	comp=Z,0.1nm,0.9s								
ASAR	**Alice Springs**	**101.28**	**111**	P		**Pdif**		**14 58 24.9**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=307,slow=4.4,SNR=8.7								
ASAR				PKKPbc		**PKKPbc**		**15 14 36.4**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=119,slow=3.6,SNR=5.5								
LPAZ	**La Paz**	**118.56**	**269**	PKP		**PKiKP**		**15 03 24.7**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=154,slow=7.7,SNR=2.1								
PLCA	**Paso Flores**	**129.75**	**242**	PKP		**PKPdf**		**15 03 43.0**	**-0.7**
	comp=Z,1.2nm,1.0s,baz=126,slow=9.6,SNR=2.0								
PLCA	**Paso Flores**	**129.75**	**242**	PKIKP		**PKPdf**		**15 03 43.0**	**-0.7**

*IDC **31** 14:46:34.3±0.8, 1°.04N×126°.24E, h0km, mb3.9/9, mb1 3.9/10,mb1mx3.7/45,mbtmp3.8/10,ML3.4/1, Error ellipse: s-maj=48.8km s-min=14.9km az=75.0*
*DJA **31** 14:46:39.5±0.4, 1°.N±4°×12°.6E±°, h10km, M3.6/7, MLv3.6/7*
*NEIC **31** 14:46:42.2±1.2, 1°.00N±0°.10×126°.31E±0°.07, h65km±9km, mb4.2/17, Error ellipse: s-maj=14.2km s-min=10.4km az=174.0*
ISC 31 14:46:40.0±0.6, 1°.01N±0°.07×126°.31E±0°.06, h39km, n38, σ1§52/40, mb4.0/14, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.08**	**103**	P	**Pn**	**14 47 02.1**	**+3.5**
TNTI				S	Sn	14 47 23.7	+11
TNTI	**Ternate**	**1.08**	**103**		**Pn**	**14 47 01.6**	**+3.0**
KMSI	**Cibinong**	**2.37**	**260**	P	**Pn**	**14 47 15.9**	**-0.5**
KMSI				S	**Sn**	**14 47 43.4**	**-0.9**
SANI	**Sanana**	**3.05**	**186**	P	**Pn**	**14 47 25.7**	**-0.1**
GTOI	**Gorontalo**	**3.32**	**264**	P	**Pn**	**14 47 31.8**	**+2.3**
GTOI				S	**Sn**	**14 48 10.8**	**+3.0**
LUWI	**Luwuk**	**4.08**	**240**	Pn	**Pn**	**14 47 43.3**	**+3.3**
MYLDM	**Lahad Datu**	**8.83**	**298**	Pn	**Pn**	**14 48 48.4**	**+3.2**
KAPI	**Kappang**	**8.87**	**228**	Pn	**Pn**	**14 48 47.9**	**+2.2**
KNRA	**Kununurra**	**16.75**	**172**	P	**P**	**14 50 33.0**	**-0.7**
KNRA				IAmb	IAmb	14 50 36.7	
	comp=Z,11nm,1.2s						
UGM	**Wanagama**	**18.07**	**240**		**Pn**	**14 50 46.2**	**-2.0**
FITZ	**Fitzroy Crossi**	**19.00**	**182**	P	**P**	**14 50 58.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=2.9,slow=9.7,SNR=1.6						
FITZ	**Fitzroy Crossi**	**19.00**	**182**	P	**P**	**14 50 57.6**	**-0.8**
WB0	**Warramunga Arr**	**22.11**	**159**	P	**P**	**14 51 32.0**	**-0.2**
WB0				IAmb	IAmb	14 51 46.5	
	comp=Z,6.8nm,1.2s						
WRAB	**Tennant Creek**	**22.25**	**160**	P	**P**	**14 51 33.4**	**-0.3**
WRAB				IAmb	IAmb	14 51 48.2	
	comp=Z,23nm,1.8s						
WRA	**Warramunga Arr**	**22.26**	**160**	P	**P**	**14 51 33.4**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=338,slow=11,SNR=23						
WB2	**Warramunga Arr**	**22.26**	**160**	P	**P**	**14 51 33.4**	**-0.4**
WB2				IAmb	IAmb	14 51 48.3	
	comp=Z,36nm,1.9s						
WR0	**Warramunga Arr**	**22.34**	**159**	P	**P**	**14 51 34.4**	**-0.4**
AS31	**Alice Springs**	**25.61**	**164**	P	**P**	**14 52 07.6**	**+1.7**
ASAR	**Alice Springs**	**25.61**	**164**	P	**P**	**14 52 06.2**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=346,slow=12,SNR=47						
ASAR				PcP	**PcP**	**14 55 36.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=360,slow=2.2,SNR=6.9						
ASAR	**Alice Springs**	**25.61**	**164**	P	**P**	**14 52 07.5**	**+1.6**
ASAR					**PcP**	**14 55 36.2**	**-0.1**
FORT	**Forrest**	**31.65**	**177**	P	**P**	**14 52 59.4**	**-0.2**
NWAO	**Narrogin (SRO)**	**34.82**	**193**	P	**P**	**14 53 26.8**	**-0.4**
BBOO	**Buckleboo**	**34.87**	**166**	P	**P**	**14 53 27.3**	**-0.4**
STKA	**Stephens Creek**	**35.77**	**157**	P	**P**	**14 53 35.6**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=326,slow=7.3,SNR=1.8						
STKA	**Stephens Creek**	**35.77**	**157**	IAmb	IAmb	14 54 18.6	
	comp=Z,2.5nm,1.6s						
KSRS	**Korea Array**	**36.30**	**2**	P	**P**	**14 53 39.6**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=178,slow=9.6,SNR=3.1						
USRK	**Ussuriysk Ar.**	**43.30**	**6**	P	**P**	**14 54 37.5**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=180,slow=8.6,SNR=4.2						
SANVU	**Saraoutou**	**43.59**	**114**	P	**P**	**14 54 41.4**	**+0.6**
PETK	**Petropavlovsk-**	**58.09**	**22**	P	**P**	**14 56 29.1**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=236,slow=6.8,SNR=4.1						
MK31	**Makanchi Array**	**59.56**	**326**	P	**P**	**14 56 39.0**	**-0.7**
MK31				IAmb	IAmb	14 56 41.0	
	comp=Z,1.3nm,0.7s						
MKAR	**Makanchi Array**	**59.56**	**326**	P	**P**	**14 56 39.1**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=121,slow=7.1,SNR=24						
MKAR	**Makanchi Array**	**59.56**	**326**	P	**P**	**14 56 38.6**	**-1.1**
MAKZ	**Makanchi**	**59.74**	**326**	P	**P**	**14 56 40.1**	**-0.8**
KURBB	**Kurchatov Arra**	**63.81**	**328**	P	**P**	**14 57 07.5**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=128,slow=6.3,SNR=12						
KURK	**Kurchatov**	**63.81**	**328**	P	**P**	**14 57 07.5**	**-0.7**
KURK	**Kurchatov**	**63.81**	**328**	IAmb	IAmb	14 57 10.4	
	comp=Z,4.1nm,0.8s						
BVAR	**Borovoye Array**	**69.37**	**328**	P	**P**	**14 57 44.1**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=140,slow=12,SNR=2.4						
ABKAR	**Akbulak array**	**73.99**	**321**	P	**P**	**14 58 09.1**	**-2.5**

*SOME **31** 15:01:51.4, 42°.32N×84°.27E, h0km*
*NNC **31** 15:01:57.3±2.5, 41°.58N×83°.60E, h1km±13km, mb3.6, mpv3.2, Error ellipse: s-maj=19.4km s-min=14.6km az=164.0*
ISC 31 15:01:46.9±2.8, 42°.2N±0°.1×84°.40E±0°.09, h10km, n23, σ1§28/33, 3C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.76**	**286**	*e*P	**Pb**	**15 02 54.3**	**+0.9**
	7.0nm,0.5s						
SHLS				*e*S	**Sb**	**15 03 39.8**	**+0.7**
	41nm,0.4s						
SHLS	**Shalkode**	**3.76**	**286**	Pg	**Pb**	**15 02 54.3**	**+0.9**
	7.0nm,0.5s						
SHLS				Lg	Lg	15 03 39.8	
	41nm,0.4s						
PDGK	**Podgornoye**	**3.78**	**289**	Pg	**Pg**	**15 02 58.5**	**-0.9**
	1.8nm,0.3s						
PDGK				Lg	Lg	15 03 46.9	
	8.0nm,1.1s						
DJR	**Jarkent**	**3.98**	**304**	*e*P	**Pg**	**15 03 04.0**	**+0.9**
	1.2nm,0.2s						
DJR				*e*S	**Sg**	**15 03 55.9**	**+1.2**
	4.2nm,0.6s						
UZB	**Uzynbulak**	**4.07**	**285**	*e*P	**Pg**	**15 03 04.3**	**-0.6**
	2.1nm,0.3s						
UZB				*e*S	**Sg**	**15 03 57.1**	**-0.5**
	9.9nm,0.5s						
UZB	**Uzynbulak**	**4.07**	**285**	Pg	**Pg**	**15 03 04.3**	**-0.6**
	2.1nm,0.3s						
UZB				Lg	Lg	15 03 57.1	
	9.9nm,0.5s						
KPKS	**Kokpek**	**4.38**	**289**	*e*P	**Pg**	**15 03 11.0**	**+0.1**
	4.2nm,0.2s						
KPKS				*e*S	**Sg**	**15 04 08.5**	**+0.8**
	24nm,0.5s						
SATY	**Saty**	**4.50**	**283**	*e*P	**Pg**	**15 03 12.9**	**-0.2**
	2.5nm,0.3s						
SATY				*e*S	**Sg**	**15 04 11.7**	**+0.3**
	22nm,0.5s						
SATY	**Saty**	**4.50**	**283**	Pg	**Pg**	**15 03 12.9**	**-0.2**
	2.5nm,0.3s						
SATY				Lg	Lg	15 04 11.7	
	22nm,0.5s						
KURS	**Kuram**	**4.75**	**288**	*e*P	**Pg**	**15 03 16.5**	**-1.5**
	2.2nm,0.7s						
KURS				*e*S	**Sg**	**15 04 17.9**	**-1.6**
	4.9nm,0.6s						
KURS	**Kuram**	**4.75**	**288**	Pg	**Pg**	**15 03 16.5**	**-1.5**
	2.2nm,0.7s						
KURS				Lg	Lg	15 04 17.9	
	4.9nm,0.6s						
KAPS	**Kapalarasan**	**4.78**	**312**	*e*P	**Pg**	**15 03 18.2**	**-0.1**
	1.9nm,0.5s						
KAPS				*e*S	**Sg**	**15 04 21.2**	**+1.0**
	8.2nm,0.9s						
KAPS	**Kapalarasan**	**4.78**	**312**	Pg	**Pg**	**15 03 18.2**	**-0.1**
	1.9nm,0.5s						
KAPS				Lg	Lg	15 04 21.2	
	8.2nm,0.9s						
MK31	**Makanchi Array**	**4.83**	**343**	⇑Pn	**Pg**	**15 03 19.4**	**0.0**
	baz=172,slow=16,SNR=4.9						
MK31				⇓Pg	Pb	15 03 35.2	+24
	0.3nm,0.4s,baz=168,slow=15,SNR=4.3						
MK31				⇑Sn	**Sg**	**15 04 20.4**	**-1.5**
	1.8nm,0.6s,baz=161,slow=25,SNR=5.8						
MK31				⇓Lg	Lg	15 04 45.7	
	9.1nm,0.7s,baz=168,slow=28,SNR=4.6						
MAKZ	**Makanchi**	**4.92**	**340**	Pg	Pg	15 03 35.4	+14
MAKZ				Sn	**Sg**	**15 04 20.2**	**-4.5**
MAKZ				Lg	Lg	15 04 46.9	
ZSN	**Zaisan**	**5.26**	**3**	*e*P	**Pg**	**15 03 27.3**	**-0.2**
	2.0nm,0.4s						
ZSN				*e*S	**Sg**	**15 04 36.9**	**+1.2**
	4.3nm,0.6s						
ZSN	**Zaisan**	**5.26**	**3**	Pg	**Pg**	**15 03 27.3**	**-0.2**
	2.0nm,0.4s						
ZSN				Lg	Lg	15 04 36.9	
	4.3nm,0.6s						
MDOK	**Medeo**	**5.50**	**283**	*e*P	**Pg**	**15 03 31.9**	**-0.3**
	1.7nm,0.6s						
MDOK				*e*S	**Sg**	**15 04 44.6**	**+1.2**
	6.9nm,1.1s						
MDOK	**Medeo**	**5.50**	**283**	Pg	**Pg**	**15 03 31.9**	**-0.3**
	1.7nm,0.6s						
MDOK				Lg	Lg	15 04 44.7	
	6.9nm,1.1s						
TNSS	**Tian-Shan**	**5.56**	**281**	*e*P	**Pg**	**15 03 31.7**	**-1.6**
	2.2nm,0.5s						
TNSS				*e*S	**Sg**	**15 04 44.3**	**-1.1**
	5.0nm,0.4s						
TNSS	**Tian-Shan**	**5.56**	**281**	Pg	**Pg**	**15 03 31.7**	**-1.6**
	2.2nm,0.5s						
TNSS				Lg	Lg	15 04 44.3	
	5.0nm,0.4s						
KST	**Kastek**	**6.28**	**281**	Pg	**Pg**	**15 03 45.7**	**-1.4**
	3.1nm,0.7s						
KST				Lg	Lg	15 05 08.0	
	4.1nm,0.6s						
KURBB	**Kurchatov Arra**	**9.34**	**336**	⇑Lg	Lg	15 07 06.8	
	3.6nm,0.6s						

*ISN **31** 15:07:15.7±1.6, 33°.68N×45°.60E, h0km±11km, ML4.8*
*IDC **31** 15:07:17.4±0.6, 33°.64N×45°.78E, h0km, mb4.2/31, mb1 4.2/37,mb1mx4.2/53,mbtmp4.2/37,ML3.5/6,MS3.4/18, Ms1 3.4/18,ms1mx3.2/40,Error ellipse: s-maj=14.9km s-min=10.7km az=166.0*
*MOS **31** 15:07:18.7±1.2, 33°.57N×45°.74E, h23km, mb4.5/25, Error ellipse: s-maj=6.4km s-min=4.9km az=95.1*
*THR **31** 15:07:18.0±0.4, 33°.80N×45°.56E, h16km±3km, ML4.4*
*NEIC **31** 15:07:18.5±1.9, 33°.57N±0°.07×45°.77E±0°.08, h9km±4km, mb4.5/57, mb_Lg4.7(TEH),ML4.4(THR), Error ellipse: s-maj=10.8km s-min=9.2km az=164.0*
*TEH **31** 15:07:19.2, 33°.72N×45°.74E, h16km, ML4.7*
*DSN **31** 15:07:26.0±1.0, 33°.29N×46°.39E, h10km, mb4.7/1, Error ellipse: s-maj=15.5km s-min=9.5km az=49.0*
*OMAN **31** 15:07:29.1±59.0, 32°.77N×45°.88E, h43km±343km, mb4.9/18,ms3.4/3,Error ellipse: s-maj=30.8km s-min=16.2km az=244.0*
*GII **31** 15:08:06.4±0.0, 33°.63N×45°.84E, h10km*
ISC 31 15:07:19.6±0.3, 33°.60N±0°.03×45°.76E±0°.03, h19km, n336, σ2§14/345, mb4.3/80, MS3.3/14, 18C-1D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.99**	**42**	*e*Pg	**Pb**	**15 07 37.1**	**-1.2**
IGHG				*e*		15 08 06.3	
BHD	**Baghdad**	**1.20**	**255**	*e*Pg	**Pn**	**15 07 39.0**	**-2.4**
	baz=68						
BHD				*e*Sg	**Sb**	**15 07 56.0**	**-0.9**
BHD				AML	AML	15 08 04.3	
	comp=E,42μm,0.5s						
IDHR	**Dehrash**	**1.22**	**25**	*e*Pg	**Pn**	**15 07 39.8**	**-2.0**
IDHR				*e*		15 08 01.5	
KCHF	**Cheshme Sefid,**	**1.26**	**57**	*e*Pg	**Pn**	**15 07 42.4**	**0.0**
KCHF				*e*		15 08 08.3	
IVIS	**Veis**	**1.29**	**44**	*e*Pg	**Pn**	**15 07 42.1**	**-0.7**
IVIS				*e*		15 08 06.4	
KER	**Kermanshah**	**1.38**	**55**	P	**Pb**	**15 07 45.1**	**+0.1**
KER	**Kermanshah**	**1.38**	**55**	*e*Pg	**Pb**	**15 07 44.5**	**-0.5**
IKOM	**Komasi**	**1.56**	**68**	*e*Pg	**Pb**	**15 07 48.1**	**+0.1**
IKOM				*e*		15 08 14.7	
DHL1	**Dehloran**	**1.57**	**125**	*e*Pg	**Pg**	**15 07 50.5**	**+0.7**
ILIN	**Lien**	**1.65**	**37**	*e*Pg	**Pb**	**15 07 48.9**	**-0.7**
ILIN				*e*		15 07 50.3	
IBZA	**Bozab**	**1.95**	**63**	*e*Pg	**Pb**	**15 07 54.0**	**-0.7**
IBZA				*e*		15 07 57.7	
SNGE	**Sanandaj**	**1.99**	**41**	*e*Pg	**Pb**	**15 07 53.9**	**-1.4**
SNGE				*e*Sg	**Sb**	**15 08 20.1**	**+0.4**
SNGE				IAML		15 08 21.6	
	comp=N,3μm,0.4s						
SNGE	**Sanandaj**	**1.99**	**41**	*e*Pg	**Pb**	**15 07 53.9**	**-1.4**
IALM	**Almabolaq**	**2.36**	**57**	*e*Pn	**Pn**	**15 07 59.3**	**+1.7**
HSAM	**Samen**	**2.44**	**75**	*e*Pn	**Pn**	**15 08 00.7**	**+2.0**
HSAM				*e*		15 08 43.0	
BMDN	**Meydan**	**2.56**	**87**	*e*Pn	**Pb**	**15 08 02.6**	**-2.4**
BMDN				*e*		15 08 46.7	
NSR	**Nassriya**	**2.60**	**173**	*e*Pn	**Pn**	**15 08 02.0**	**+1.4**
NSR				*e*Sn	**Sn**	**15 08 34.0**	**+2.4**
NSR				AML	AML	15 08 55.9	
	comp=E,6μm,0.4s						
HSRG	**Sareghieh**	**2.65**	**51**	*e*Pn	**Pn**	**15 08 03.6**	**+2.0**
HSRG				*e*		15 08 47.2	
SHGR	**Shooshtar-Gavs**	**2.96**	**119**	*e*Pg	**Pg**	**15 08 15.4**	**-0.9**
SHGR				*e*Sg	**Sg**	**15 08 58.0**	**+3.3**
SHGR				IAML		15 09 18.2	
	comp=N,1μm,0.6s						
SHGR	**Shooshtar-Gavs**	**2.96**	**119**	*e*Pg	**Pg**	**15 08 15.4**	**-0.9**
HAGD	**Aghdareh**	**3.05**	**65**	*e*Pn	**Pn**	**15 08 09.2**	**+2.1**
HAGD				*e*		15 09 02.7	
MAHB	**Mahabad**	**3.16**	**359**	*e*Pn	**Pn**	**15 08 09.8**	**+1.3**
KHMZ	**Khomeyn**	**3.50**	**87**	*e*Pn	**Pn**	**15 08 16.3**	**+3.1**
KHMZ	**Khomeyn**	**3.50**	**87**	*e*Pn	**Pn**	**15 08 16.3**	**+3.1**
MSL	**Mosul**	**3.54**	**323**	*e*Pn	**Pn**	**15 08 12.0**	**-1.6**
MSL				*e*Sn	**Sn**	**15 08 51.0**	**-4.0**
MSL				AML	AML	15 09 11.0	
	comp=E,2μm,0.4s						
MSL				AML	AML	15 09 16.9	
	comp=N,3μm,0.6s						
ASAO	**Ashtian**	**3.66**	**74**	*e*Pn	**Pn**	**15 08 17.8**	**+2.3**
ASAO				IAML		15 09 29.9	
	comp=E,424nm,0.6s						
ASAO				IAML		15 09 33.3	
	comp=N,450nm,0.4s						
ASAO	**Ashtian**	**3.66**	**74**	*e*Pn	**Pn**	**15 08 17.8**	**+2.3**
QABG	**Abgarm-Qazvin**	**3.79**	**55**	*e*Pn	**Pn**	**15 08 17.9**	**+0.7**
IRAZ	**Razeghan**	**3.88**	**61**	*e*Pn	**Pn**	**15 08 20.6**	**+2.1**
ZNJK	**Zanjan**	**3.89**	**37**	*e*Pn	**Pn**	**15 08 18.9**	**+0.3**
ZNJK	**Zanjan**	**3.89**	**37**	*e*Pn	**Pn**	**15 08 18.9**	**+0.3**
QSDN	**Sirdan**	**4.03**	**43**	*e*Pn	**Pn**	**15 08 21.8**	**+1.3**
HAKT	**HAKKARI**	**4.29**	**338**	*e*Pn	**Pn**	**15 08 23.7**	**-0.4**
JHBN	**Jahan bin**	**4.34**	**107**	*e*Pn	**Pn**	**15 08 26.8**	**+1.9**
IPIR	**Pirpir**	**4.40**	**101**	*e*Pn	**Pn**	**15 08 27.6**	**+1.9**
ISRB	**Sarab**	**4.50**	**20**	*e*Pn	**Pn**	**15 08 28.5**	**+1.6**
IMHD	**Mahdasht**	**4.55**	**61**	*e*Pn	**Pn**	**15 08 28.9**	**+1.4**
IGZV	**Ghazvin**	**4.60**	**51**	*e*Pn	**Pn**	**15 08 29.4**	**+1.1**
ROKH	**ROKH**	**4.60**	**104**	*e*Pn	**Pn**	**15 08 30.8**	**+2.4**
GHVR	**GHOM**	**4.68**	**78**	*e*Pn	**Pn**	**15 08 31.3**	**+2.0**
GHVR				IAML		15 09 57.6	
	comp=E,286nm,0.5s						
GHVR	**GHOM**	**4.68**	**78**	*e*Pn	**Pn**	**15 08 31.3**	**+2.0**
IHRS	**Heris**	**4.83**	**12**	*e*Pn	**Pn**	**15 08 32.2**	**+0.8**
IKLH	**Kolahrood**	**4.87**	**92**	*e*Pn	**Pn**	**15 08 34.4**	**+2.3**
QALM	**Alamut, Qazvin**	**4.91**	**53**	*e*Pn	**Pn**	**15 08 33.7**	**+1.1**
IBRJ	**Brojen**	**4.93**	**108**	*e*Pn	**Pn**	**15 08 34.1**	**+1.2**
CHTH	**Charan**	**4.98**	**61**	*e*Pn	**Pn**	**15 08 35.3**	**+1.7**
CHTH	**Charan**	**4.98**	**61**	*e*Pn	**Pn**	**15 08 35.3**	**+1.7**
TEH	**Tehran**	**5.10**	**64**	*e*Pn	**Pn**	**15 08 36.9**	**+1.8**
GEVA	**Gevas**	**5.19**	**336**	Pn	**Pn**	**15 08 36.3**	**-0.1**
IGAR	**Gharneh**	**5.41**	**101**	*e*Pn	**Pn**	**15 08 41.4**	**+1.9**
GRMI	**Germi**	**5.48**	**18**	*e*Pn	**Pn**	**15 08 39.6**	**-0.7**
GRMI	**Germi**	**5.48**	**18**	*e*Pn	**Pn**	**15 08 39.6**	**-0.7**
DAMV	**Damavand**	**5.51**	**67**	*e*Pn	**Pn**	**15 08 42.9**	**+2.1**
DAMV	**Damavand**	**5.51**	**67**	*e*Pn	**Pn**	**15 08 42.9**	**+2.1**
IDMV	**Damavand**	**5.54**	**67**	*e*Pn	**Pn**	**15 08 42.3**	**+1.0**
IZEF	**Zefreh**	**5.55**	**95**	*e*Pn	**Pn**	**15 08 43.3**	**+1.9**
KLNJ	**Kolanjah**	**5.57**	**116**	*e*Pn	**Pn**	**15 08 43.9**	**+2.1**
MAKU	**Maku**	**5.81**	**352**	*e*Pn	**Pn**	**15 08 43.0**	**-1.9**
MAKU	**Maku**	**5.81**	**352**	*e*Pn	**Pn**	**15 08 43.1**	**-1.9**
IRAM	**Ramesheh**	**5.86**	**106**	*e*Pn	**Pn**	**15 08 47.6**	**+2.0**
IPRN	**Peran**	**6.01**	**62**	*e*Pn	**Pn**	**15 08 49.7**	**+2.0**
IFIR	**Firoozkooh**	**6.11**	**69**	*e*Pn	**Pn**	**15 08 51.1**	**+1.9**
ILAS	**Lasjerd**	**6.20**	**71**	*e*Pn	**Pn**	**15 08 51.7**	**+1.3**
IALA	**Alasht**	**6.30**	**65**	*e*Pn	**Pn**	**15 08 54.2**	**+2.4**
ISHM	**Shahmirzad**	**6.58**	**68**	*e*Pn	**Pn**	**15 08 56.9**	**+1.3**
ANAR	**Anarak**	**6.67**	**91**	*e*Pn	**Pn**	**15 08 57.8**	**+1.0**
ISAD	**Sadrabad**	**6.88**	**102**	*e*Pn	**Pn**	**15 09 02.3**	**+2.5**
IANJ	**Anjilo**	**6.98**	**72**	*e*Pn	**Pn**	**15 09 02.2**	**+1.1**
IGLO	**Ghologhah**	**7.22**	**64**	*e*Pn	**Pn**	**15 09 06.0**	**+1.6**
YZKH	**Yazd**	**7.51**	**97**	*e*Pn	**Pn**	**15 09 12.0**	**+3.7**
YZKH	**Yazd**	**7.51**	**97**	*e*Pn	**Pn**	**15 09 12.0**	**+3.7**
MALT	**Malatya**	**7.58**	**310**	P	**Pn**	**15 09 10.4**	**+1.2**
ASF	**Jabal al Asfar**	**7.59**	**262**	Pn	**Pn**	**15 09 08.9**	**-0.5**
	comp=E,1.2nm,0.3s,baz=34,slow=16,SNR=9.8						
ASF				Pg	Pb	15 09 45.4	+15
	comp=E,3.5nm,0.3s,baz=34,slow=2.8,SNR=11						
ASF				Sn	**Sn**	**15 10 33.0**	**-1.9**
	baz=33,slow=19,SNR=1.8						
ASF				Lg	Lg	15 11 16.8	
	comp=E,3.6nm,0.3s,baz=348,slow=11,SNR=3.6						
IMEH	**Mehriz**	**7.79**	**104**	*e*Pn	**Pn**	**15 09 13.7**	**+1.5**
GAZ	**Gaziantep**	**7.84**	**299**	Pn	**Pn**	**15 09 12.8**	**0.0**
AKH	**Akhalkalaki**	**8.01**	**348**	P	Pn	15 09 20.8	+5.7
KEMA	**Kemaliye**	**8.14**	**316**	*e*Pn	**Pn**	**15 09 17.6**	**+0.7**
GEM	**Giv'at Ha'Em**	**8.45**	**270**	Pn	Pb	15 10 10.3	+25
MMAI	**Mount Meron Ar**	**8.69**	**269**	Pn	**Pn**	**15 09 23.7**	**-0.7**
	comp=E,0.4nm,0.3s,baz=107,slow=14,SNR=2.6						
MMAI				Pg		15 09 59.4	
	comp=E,2.6nm,0.3s,baz=84,slow=16,SNR=5.1				

SMDO Samad 15.06 131 P **Pn** 15 10 50.0 -1.6
SNR=10
WSAR Wadi Sarin 15.30 129 Pn **Pn** 15 10 52.0 -2.6
comp=Z,3.2nm,0.3s,baz=328,slow=8.2,SNR=32
WSAR Sn **Sn** 15 13 34.0 -10
comp=Z,0.6nm,0.3s,baz=30,slow=20,SNR=1.8
WSAR LR LR 15 18 07.9
comp=Z,223nm,18.2s,baz=20,slow=42
WSAR Wadi Sarin 15.30 129 P **Pn** 15 10 52.7 -1.9
SNR=20
JMDO Jabal Madar 15.60 133 P **Pn** 15 10 58.0 -0.5
SNR=7.6
WBK Wadi Bani Khal 15.97 130 P **Pn** 15 11 02.5 -0.8
SNR=7.0
MHTO MHTO 16.58 136 P **Pn** 15 11 09.5 -1.5
SNR=13
MHTO P **Pn** 15 11 09.5 -1.5
SNR=13
MHTO S **Sn** 15 14 05.2 -10
MHTO S **Sn** 15 14 05.2 -10
JLN Jalan Bani Buh 16.58 130 P **Pn** 15 11 11.9 +0.7
SNR=11
MFTR Murfatlar 17.11 313 ⇑P **P** 15 11 18.6 -0.6
DQM DQM 17.18 139 P **Pn** 15 11 18.0 -0.7
WHFO Wadi Hawf 17.18 153 P **Pn** 15 11 16.9 -1.8
SNR=76
TIRR Tirgusor 17.27 314 P **P** 15 11 21.3 +0.4
TIRR pmax pmax
comp=Z,142nm,1.6s
TIRR Tirgusor 17.27 314 P **P** 15 11 21.3 +0.4
IDI Anoyia 17.30 281 P **P** 15 11 23.7 +2.2
comp=Z,1.0nm,0.3s,baz=93,slow=13,SNR=7.5
IDI Anoyia 17.30 281 ⇑P **P** 15 11 26.0 +4.5
IDI Anoyia 17.30 281 P **P** 15 11 22.1 +0.6
IDI IAmb IAmb 15 11 27.4
comp=Z,21nm,0.8s
ABTO Aybut 17.54 155 P **Pn** 15 11 20.7 -2.5
HARR Harsova 17.68 314 ⇑P **P** 15 11 25.9 +0.4
RBK Rabkut 17.73 153 P **Pn** 15 11 23.9 -1.6
SNR=10
CFR Carcaliu 17.83 316 ⇑P **Pn** 15 11 26.8 +0.3
DMTO DMTO 17.83 150 P **Pn** 15 11 25.3 -1.4
SNR=42
VRH Novokhopyorsk 17.84 352 *e*P **Pn** 15 11 25.1 -1.5
VRH pmax pmax
comp=Z,10.0nm,0.5s
SHAO Shalim 17.85 148 P **Pn** 15 11 26.0 -1.0
SNR=10
VORD Divnogorie 17.99 347 *e*P **Pn** 15 11 27.1 -1.4
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 18.25 347 *e*P **Pn** 15 11 30.3 -1.4
VSR pmax pmax
comp=Z,40nm,1.5s
AB31 Akbulak array 18.86 30 P **P** 15 11 37.9 -0.6
ABKAR Akbulak array 18.86 30 P **P** 15 11 37.4 -1.2
AKTO Aktyubinsk 19.09 25 P **P** 15 11 40.9 -0.1
comp=Z,0.6nm,0.3s,baz=215,slow=14,SNR=7.9
AKTO LR LR 15 20 22.1
comp=Z,66nm,19.2s,baz=209,slow=41
AKTO Aktyubinsk 19.09 25 P **P** 15 11 41.3 +0.3
MLR Muntele Rosu 19.30 314 ⇑P **Pn** 15 11 45.0 +0.4
MLR Muntele Rosu 19.30 314 P **Pn** 15 11 44.5 -0.1
MLR pmax pmax
comp=Z,8.0nm,1.0s
MLR Muntele Rosu 19.30 314 P **Pn** 15 11 44.5 -0.1
KBL Kabul 19.31 81 P **Pn** 15 11 44.8 -0.1
KBL pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 19.31 81 P **Pn** 15 11 44.8 -0.1
SORM Soroca 19.54 323 ⇑P **P** 15 11 46.6 +0.7
CHGR Chuyangaron 19.54 68 **Pn** 15 11 47.7 +0.2
LPSR Galich'ya Gora 19.62 348 *e*P **P** 15 11 44.9 -1.9
LPSR pmax pmax
comp=Z,60nm,0.7s
AGG Agios Georgios 19.62 293 P **Pn** 15 11 48.1 -0.3
AGG pmax pmax
comp=Z,20nm,0.9s
AGG Agios Georgios 19.62 293 P **Pn** 15 11 48.1 -0.3
AGG IAmb IAmb 15 11 53.3
comp=Z,20nm,0.9s
ITM Ithomi 19.75 287 P **P** 15 11 48.9 +0.6
ITM IAmb IAmb 15 12 03.0
comp=Z,16nm,0.7s
VOIR 19.82 313 ⇑P **Pn** 15 11 50.6 -0.1
DOPR Dopca 19.88 314 ⇑P **P** 15 11 50.3 +0.6
BIZ Bicaz 19.99 318 ⇑P **P** 15 11 51.2 +0.3
ARR Arges 20.04 312 ⇑P **P** 15 11 52.4 +0.9
TAS Tashkent 20.17 61 P Pn 15 11 54.4 -0.5
TAS pmax pmax
comp=Z,66nm,0.9s
TAS Tashkent 20.17 61 P Pn 15 11 54.4 -0.5
GAR Garm 20.49 68 P **P** 15 11 57.1 +0.6
GAR IAmb IAmb 15 12 17.1
comp=Z,16nm,0.7s
BURAR Bucovina Array 20.88 318 ⇑P **P** 15 12 00.9 +0.3
BURAR Bucovina Array 20.88 318 P **P** 15 11 58.9 -1.7
BUR08 Bucovina Ar. S 20.90 318 P **P** 15 11 59.3 -1.5
AKASG Malin Array Be 20.95 330 P **P** 15 11 58.6 -2.6
comp=Z,12nm,0.7s,baz=138,slow=9.9,SNR=29
AKASG LR LR 15 20 49.1
comp=Z,115nm,21.3s,baz=185,slow=39
AKASG Malin Array Be 20.95 330 P **P** 15 11 58.7 -2.6
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 20.95 330 P **P** 15 11 58.6 -2.6
AKBB Malin Array Si 20.95 330 P **P** 15 11 59.0 -2.3
AKBB pmax pmax
comp=Z,12nm,0.8s
AKBB Malin Array Si 20.95 330 **P** 15 11 59.0 -2.3
AKBB IAmb IAmb 15 12 00.4
comp=Z,12nm,0.8s
ARCR ARCALIA 21.07 316 ⇑P **P** 15 12 03.5 +0.9
HERR Herculane 21.23 309 ⇑P **P** 15 12 05.0 +0.6
KK31 Karatay Array 21.54 57 P **P** 15 12 07.4 -0.3
KK31 pmax pmax
comp=Z,12nm,0.8s
KK31 Karatay Array 21.54 57 P **P** 15 12 07.4 -0.3
KK31 IAmb IAmb 15 12 16.5
comp=Z,12nm,0.8s
KKAR Karatay Array 21.54 57 P **P** 15 12 07.5 -0.2
KKAR pmax pmax
comp=Z,12nm,0.8s
KKAR Karatay Array 21.54 57 P **P** 15 12 07.5 -0.2
KKAR IAmb IAmb 15 12 16.5
comp=Z,12nm,0.8s
KKAR Karatay Array 21.54 57 P **P** 15 12 07.4 -0.3
MDVR Moldovita 21.65 308 ⇑P **P** 15 12 09.2 +0.3
BZS Buzias 22.05 310 ⇑P **P** 15 12 13.7 +0.6
SIRR Siria 22.30 312 ⇑P **P** 15 12 17.8 +2.0
OBN Obninsk 22.46 346 P **P** 15 12 15.5 -1.8
comp=Z,2.6nm,0.3s,baz=145,slow=19,SNR=4.5
OBN LR LR 15 21 45.4
comp=Z,30nm,21.8s,baz=174,slow=39
OBN Obninsk 22.46 346 *de*P **P** 15 12 15.3 -2.0
OBN *e**SP **pP** 15 12 20.6 -2.2
OBN *e* 15 12 23.7
OBN *e*S **S** 15 16 15.5 -7.3
OBN *e* 15 16 23.6
OBN pmax pmax
comp=Z,16nm,0.6s
OBN MLR MLR
comp=Z,94nm,19.0s
OBN Obninsk 22.46 346 IAmb IAmb 15 12 19.3
comp=Z,18nm,0.8s
DIVS Divibare 22.56 305 P **P** 15 12 19.0 +0.3
SOCY Socotra 22.60 159 P **P** 15 12 16.6 -2.7
SCTE Santa Cesarea 22.73 294 P **P** 15 12 20.9 +0.5
MOS Moscow 22.85 348 *e*P **P** 15 12 21.4 -0.1
MOS *e*S **S** 15 16 23.1 -6.8
MOS pmax pmax
comp=Z,40nm,0.7s
NIL Nilore 22.87 82 P **P** 15 12 22.3 +0.3
NIL pmax pmax
comp=Z,12nm,0.7s
NIL Nilore 22.87 82 P **P** 15 12 22.3 +0.3
NIL IAmb IAmb 15 12 25.0
comp=Z,12nm,0.7s
KOLS Kolonicke sedl 23.24 318 *e*P **P** 15 12 25.3 -0.4
KOLS pmax pmax
comp=Z,13nm,1.7s
KOLS Kolonicke sedl 23.24 318 *e*P **P** 15 12 25.3 -0.4
CRVS Cervenica-Dubn 23.68 317 *e*P **P** 15 12 30.7 +0.7
CRVS pmax pmax
comp=Z,10.0nm,1.1s
CRVS Cervenica-Dubn 23.68 317 *e*P **P** 15 12 30.7 +0.7
PSZ Piszkesteto 24.11 314 P **P** 15 12 33.6 -0.6
PSZ pmax pmax
comp=Z,6.0nm,0.9s
PSZ Piszkesteto 24.11 314 P **P** 15 12 33.6 -0.6
AAK Ala-Archa 24.25 60 *ce*P **P** 15 12 36.1 +0.6
AAK pmax pmax
comp=Z,3.0nm,1.3s
ARU Arti 24.48 17 P **P** 15 12 38.0 +0.7
ARU PPP PPP 15 13 16.1
ARU S **S** 15 16 58.2 +1.8
KSH Kashi 24.91 68 *e*P **P** 15 12 41.0 -0.5
VYHS Vyhne 25.01 315 *e*P **P** 15 12 44.8 +2.6
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 25.01 315 *e*P **P** 15 12 44.8 +2.6
KIRV Kirov 25.11 5 P **P** 15 12 45.0 +2.0
comp=Z,16nm,0.6s,baz=329,slow=1.8,SNR=5.8
KIRV LR LR 15 23 18.0
comp=Z,72nm,20.8s,baz=181,slow=38
KIRV Kirov 25.11 5 P **P** 15 12 45.0 +2.0
OJC Ojcow 25.29 319 P **P** 15 12 45.4 +0.7
OJC pmax pmax
comp=Z,6.0nm,0.8s
OJC Ojcow 25.29 319 P **P** 15 12 45.4 +0.7
OJC IAmb IAmb 15 12 46.0
comp=Z,5.9nm,0.8s
SVE Sverdlovsk 25.37 19 *e*P **P** 15 12 47.2 +1.8
SVE pmax pmax
comp=Z,12nm,1.1s
FURI Furi 25.43 196 P **P** 15 12 45.6 -1.1
VAE Valguarnera 25.74 288 P **P** 15 12 52.8 +3.7
comp=Z,7.9nm,0.5s,baz=54,slow=8.7,SNR=2.3
SMOL Smolenice 25.86 314 *e*P **P** 15 12 51.0 +1.1
SMOL Smolenice 25.86 314 *e*P **P** 15 12 51.0 +1.1
JAVC Velka Javorina 25.86 315 *e*P **P** 15 12 52.2 +2.2
MODS Modra-Piesok 25.89 313 *e*P **P** 15 12 51.2 +1.0
MODS Modra-Piesok 25.89 313 *e*P **P** 15 12 51.2 +1.0
BRVK Borovoye 26.17 35 *i* P **P** 15 12 54.5 +1.8
BRVK pmax pmax
comp=Z,7.0nm,1.2s
BRVK Borovoye 26.17 35 P **P** 15 12 53.5 +0.8
BRVK IAmb IAmb 15 13 13.5
comp=Z,5.7nm,0.8s
BVA0 Borovoye Array 26.20 35 *i* P **P** 15 12 55.6 +2.6
BVAR Borovoye Array 26.20 35 P **P** 15 12 53.4 +0.4
comp=Z,3.3nm,0.7s,baz=227,slow=6.6,SNR=15
BVAR LR LR 15 25 28.7
comp=Z,46nm,18.6s,baz=110,slow=42
MORC Moravsky Berou 26.35 316 ⇑P **P** 15 12 56.7 +2.4
MORC Moravsky Berou 26.35 316 *e*P **P** 15 12 55.9 +1.5
ARSA Arzberg 26.57 310 *e*P **P** 15 12 55.3 -1.1
comp=Z,2.5nm,0.8s
CONA Conrad Observa 26.59 311 *ep*P **P** 15 12 59.4 +2.7
comp=Z,3.0nm,0.7s
VRAC Vranov 26.69 315 P **P** 15 12 56.5 -1.0
comp=Z,1.0nm,0.5s,baz=96,slow=5.5,SNR=4.1
VRAC Vranov 26.69 315 *e*P **P** 15 12 57.6 +0.1
SOKA Soboth 26.70 308 *ep*P **P** 15 12 59.8 +2.2
comp=Z,1.4nm,0.7s
KRUC Moravsky 26.71 314 *e*P **P** 15 12 57.6 0.0
OBKA Obir 26.96 308 *e*P **P** 15 12 60.0 0.0
comp=Z,4.4nm,0.9s
MOA Molln 27.57 311 *e*P **P** 15 13 06.4 +1.1
comp=Z,6.0nm,1.6s
KLMR Klimovskoe 27.57 353 *e*P **P** 15 13 00.7 -4.4
KLMR pmax pmax
comp=Z,13nm,0.7s
KLMR Klimovskoe 27.57 353 *e*P **P** 15 13 00.8 -4.4
KLMR AMP 15 13 07.6
comp=Z,13nm,0.7s
PRED Cave del Predi 27.59 307 P **P** 15 13 05.6 0.0
PRED IAmb IAmb 15 13 13.7
comp=Z,4.8nm,0.7s
PRGR Permogore 28.06 360 *e*P **P** 15 13 07.9 -1.6
PRGR pmax pmax
comp=Z,10.0nm,0.8s
GERES GERESS Array B 28.27 312 P **P** 15 13 14.1 +2.5
comp=Z,0.3nm,0.5s,baz=98,slow=11,SNR=3.1
KHC Kasperske Hory 28.44 313 *i* P P 15 13 20.1 +6.9
KHC pmax pmax
comp=Z,4.0nm,1.2s
WTTA Wattenberg 29.09 308 *e*P **P** 15 13 18.4 -0.7
comp=Z,1.5nm,0.5s
KURBB Kurchatov Arra 29.35 45 P **P** 15 13 22.1 +0.9
comp=Z,2.6nm,0.7s,baz=251,slow=9.0,SNR=14
KURBB ScP **ScP** 15 20 07.8 -0.1
comp=Z,0.6nm,0.8s,baz=246,slow=4.6,SNR=4.3
SQTA Sankt Quirin 29.36 308 *e*P **P** 15 13 20.4 -1.0
comp=Z,2.7nm,1.0s
KURK Kurchatov 29.44 45 P **P** 15 13 22.4 +0.5
KURK pmax pmax
KURK 15 20 07.8
comp=Z,23nm,1.9s
KURK Kurchatov 29.44 45 P **P** 15 13 22.4 +0.5
KURK IAmb IAmb 15 13 30.2
comp=Z,23nm,1.9s
MOTA Moosalm 29.46 308 *e*P **P** 15 13 21.5 -0.8
comp=Z,5.4nm,1.6s
FETA Feichten 29.63 307 *e*P **P** 15 13 23.3 -0.5
comp=Z,1.7nm,0.6s
KEST Kesra 29.92 284 P P 15 13 32.1 +5.6
comp=Z,2.0nm,0.7s,baz=97,slow=8.1,SNR=2.0
KEST Kesra 29.92 284 IAmb IAmb 15 14 30.4
comp=Z,8.8nm,1.2s
DAVA Damuels 30.25 308 *e*P **P** 15 13 28.4 -1.0
comp=Z,2.2nm,0.6s
MAKZ Makanchi 30.36 53 P **P** 15 13 31.1 +0.9
MAKZ pmax pmax
comp=Z,5.0nm,1.3s
MAKZ Makanchi 30.36 53 P **P** 15 13 31.1 +0.9
MK31 Makanchi Array 30.57 54 P **P** 15 13 32.8 +0.7
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 30.57 54 P **P** 15 13 32.8 +0.7
MK31 IAmb IAmb 15 13 42.1
comp=Z,3.9nm,0.7s
MKAR Makanchi Array 30.57 54 P **P** 15 13 33.0 +1.0
comp=Z,3.2nm,0.4s,baz=250,slow=7.7,SNR=35
MKAR LR LR 15 27 11.4
comp=Z,53nm,20.5s,baz=274,slow=39
MKAR Makanchi Array 30.57 54 P **P** 15 13 32.9 +0.8
FIA1 FINESS Array S 30.61 341 P **P** 15 13 33.0 +0.8
FINES FINESS Array B 30.61 341 P **P** 15 13 33.0 +0.8
comp=Z,0.7nm,0.4s,baz=155,slow=11,SNR=9.7
FINES LR LR 15 26 30.8
comp=Z,86nm,18.9s,baz=142,slow=38
FINES FINESS Array B 30.61 341 *i* P **P** 15 13 33.0 +0.8
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 30.61 341 P **P** 15 13 32.8 +0.7
BFO Black Forest 31.52 309 P **P** 15 13 41.1 +0.7
BFO pmax pmax
comp=Z,8.0nm,1.4s
BFO Black Forest 31.52 309 P **P** 15 13 41.1 +0.7
BFO IAmb IAmb 15 14 45.8
comp=Z,7.8nm,1.4s
SENIN Lac Senin/Sane 31.80 305 P **P** 15 13 43.8 +0.7
SENIN IAmb IAmb 15 14 18.5
comp=Z,4.2nm,1.0s
BNI Bardonecchia 32.03 303 P **P** 15 13 45.3 +0.2
BNI pmax pmax
comp=Z,10.0nm,0.8s
BNI Bardonecchia 32.03 303 P **P** 15 13 45.3 +0.2
BNI IAmb IAmb 15 13 52.7
comp=Z,9.7nm,0.8s
HFS Hagfors 33.82 331 P **P** 15 13 59.5 -0.8
comp=Z,4.7nm,0.4s,baz=123,slow=11,SNR=28
WMQ Urumqi 33.96 60 *e*P **P** 15 14 05.0 +3.2
ZAA0 Zalesovo Array 34.17 42 P **P** 15 14 03.1 -0.3
ZALV Zalesovo Beam 34.17 42 P **P** 15 14 03.3 -0.1
comp=Z,2.5nm,0.3s,baz=251,slow=9.4,SNR=17
ZALV LR LR 15 30 37.0
comp=Z,35nm,19.9s,baz=259,slow=41
ZALV Zalesovo Beam 34.17 42 *i* P **P** 15 14 03.2 -0.3
ZALV pmax pmax
comp=Z,3.0nm,0.3s
ZALV Zalesovo Beam 34.17 42 P **P** 15 14 03.1 -0.3
NB201 NORSAR Array S 35.32 332 P **P** 15 14 13.2 -0.1
NB2 NORSAR Subarra 35.34 332 P **P** 15 14 11.4 -2.1
comp=Z,0.3nm,0.5s,baz=124,slow=9.3
NOA NORSAR Array B 35.34 332 P **P** 15 14 11.5 -2.0
comp=Z,0.4nm,0.4s,baz=125,slow=8.6,SNR=5.7
NC303 NORSAR Array S 35.39 332 P **P** 15 14 14.3 +0.4
NC204 NORSAR Array S 35.66 332 P **P** 15 14 16.1 -0.1
KEV Kevo 37.68 349 P **P** 15 14 33.2 -0.1
KEV pmax pmax
comp=Z,91nm,1.9s
KEV Kevo 37.68 349 P **P** 15 14 33.2 -0.1
ARE0 ARCESS Array S 37.72 349 P **P** 15 14 34.3 +0.6
ARCES ARCESS Array B 37.72 349 P **P** 15 14 33.3 -0.4
comp=Z,1.5nm,0.6s,baz=139,slow=9.5,SNR=10
ARCES LR LR 15 31 09.5
comp=Z,60nm,20.0s,baz=138,slow=38
ARCES ARCESS Array B 37.72 349 P **P** 15 14 34.2 +0.5
ARCES ARCESS Array B 37.72 349 P **P** 15 14 34.2 +0.5
ESBB Sonseca Array 39.95 293 P **P** 15 14 53.0 +0.2
ESDC Sonseca Array 39.95 293 P **P** 15 14 52.9 +0.1
comp=Z,0.9nm,0.5s,baz=80,slow=8.1,SNR=8.9
ESDC Sonseca Array 39.95 293 P **P** 15 14 52.6 -0.2
EKA Eskdalemuir Ar 40.06 318 P **P** 15 14 52.8 -0.6
comp=Z,2.9nm,0.7s,baz=102,slow=8.8,SNR=11
ESK Eskdalemuir 40.08 318 P **P** 15 14 52.9 -0.7
ESK pmax pmax
comp=Z,60nm,2.0s
ESK Eskdalemuir 40.08 318 P **P** 15 14 52.9 -0.7
PAB San Pablo 40.26 293 P **P** 15 14 55.1 -0.3
PAB pmax pmax
comp=Z,17nm,1.7s
PAB San Pablo 40.26 293 P **P** 15 14 55.1 -0.3
PAB IAmb IAmb 15 15 48.8
comp=Z,17nm,1.6s
PBRG Braganca 41.79 297 *e*P **P** 15 15 10.3 +2.4
MDT Midelt 41.81 283 P **P** 15 15 09.3 +1.0
comp=Z,0.6nm,0.5s,baz=117,slow=2.3,SNR=2.1
MVO Moncorvo 42.08 296 *e*P **P** 15 15 13.9 +3.6
PVRL Vila Real 42.58 296 *e*P **P** 15 15 16.6 +2.2
PCBR Castelo Branco 42.60 294 *e*P **P** 15 15 15.3 +0.8
comp=Z,24nm,1.7s
NRIK Noril'sk 42.63 20 P **P** 15 15 15.5 +1.2
comp=Z,2.7nm,0.6s,baz=207,slow=2.3,SNR=2.8
PGAV Gavieira, Arco 42.90 298 *e*P **P** 15 15 17.8 +0.7
comp=Z,37nm,1.6s
PCAS Casmilo, Conde 43.35 295 *e*P **P** 15 15 24.0 +3.4
comp=Z,32nm,2.2s
ZAK Zakamensk 44.76 50 *e*P **P** 15 15 33.5 +1.6
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TOA0 Torodi Ar. Sit 44.87 254 P **P** 15 15 33.7 +0.6
TOA0 IAmb IAmb 15 15 40.8
comp=Z,12nm,1.5s
TORD Torodi Ar. Bea 44.87 254 P **P** 15 15 33.9 +0.8
comp=Z,1.6nm,0.5s,baz=65,slow=6.5,SNR=5.1
TORD LR LR 15 36 52.8
comp=Z,26nm,19.2s,baz=160,slow=40
TORD Torodi Ar. Bea 44.87 254 IAmb IAmb 15 15 40.8
comp=Z,5.8nm,1.5s
SPA0 Spitsbergen Ar 46.46 352 P **P** 15 15 46.8 +2.0
SPITS Spitsbergen Ar 46.46 352 P **P** 15 15 45.6 +0.8
comp=Z,2.1nm,0.4s,baz=168,slow=16,SNR=9.0
SONM Songino Array 46.94 53 P **P** 15 15 49.8 +0.7
comp=Z,0.4nm,0.5s,baz=292,slow=10,SNR=3.1
SONM LR LR 15 36 58.7
comp=Z,66nm,20.2s,baz=232,slow=38
SONM Songino Array 46.94 53 P **P** 15 15 49.8 +0.7
SONM pmax pmax
comp=Z,1.0nm,1.1s
ULN Ulaanbaatar 47.38 53 P **P** 15 15 52.7 +0.1
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 47.38 53 P **P** 15 15 52.7 +0.1
ULN IAmb IAmb 15 16 00.5
comp=Z,5.5nm,1.0s
CD2 Chengdu 48.57 76 *e*P **P** 15 16 03.0 +1.1
CHTO Chiang Mai 49.43 93 P **P** 15 16 08.2 -0.4
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 49.43 93 P **P** 15 16 08.2 -0.4
CHTO IAmb IAmb 15 16 14.8
comp=Z,4.2nm,0.8s
CMAR Chiang Mai Arr 49.60 94 P **P** 15 16 09.8 -0.1
comp=Z,2.2nm,0.6s,baz=292,slow=8.3,SNR=10
CMAR LR LR 15 41 19.6
comp=Z,64nm,18.9s,baz=336,slow=41
XAN Xi'an 51.70 71 P **P** 15 16 25.8 +0.2
XAN pP sP 15 16 34.8 +0.8
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN LR LR
comp=N,140nm,19.6s
XAN LR LR
comp=E,110nm,17.7s
XAN LR LR
comp=Z,100nm,15.2s
HHC Hu-ho-hao-te 51.80 62 *e*P **P** 15 16 27.5 +1.1
HHC pmax pmax
comp=Z,23nm,1.1s
HHC pmax pmax
comp=Z,82nm,5.6s
PBKT Sadao Pong 52.20 95 P **P** 15 16 29.8 +0.3
PBKT IAmb IAmb 15 16 54.1
comp=Z,6.2nm,1.3s
DBIC Dimbokro 53.87 252 P **P** 15 16 42.4 +0.6
comp=Z,2.6nm,0.9s,baz=169,slow=5.2,SNR=1.5
DBIC Dimbokro 53.87 252 P **P** 15 16 42.4 +0.6
DBIC pmax pmax
comp=Z,41nm,1.6s
NJ2 Nanjing 60.20 69 *e*P **P** 15 17 26.3 -0.1
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
KLR Kul'dur 62.99 47 P **P** 15 17 46.0 +1.0
comp=Z,0.7nm,0.3s,baz=307,slow=10,SNR=1.9
BOSA Boshof 64.85 200 P **P** 15 17 59.5 +2.0
comp=Z,4.5nm,0.9s,baz=24,slow=5.9,SNR=8.7
BOSA Boshof 64.85 200 P **P** 15 17 59.2 +1.7
BOSA pmax pmax
comp=Z,64nm,1.9s
BOSA Boshof 64.85 200 P **P** 15 17 59.2 +1.7
KSRS Korea Array 64.91 61 P **P** 15 17 57.5 -0.3
comp=Z,1.3nm,0.5s,baz=286,slow=6.7,SNR=5.6
KSRS LR LR 15 51 07.7
comp=Z,32nm,21.2s,baz=48,slow=41
USA0B Ussuriysk Arra 65.03 52 P **P** 15 17 59.7 +1.2
USA0B pmax pmax
comp=Z,5.0nm,1.0s
USA0B Ussuriysk Arra 65.03 52 P **P** 15 17 59.7 +1.2
USA0B IAmb IAmb 15 18 00.2
comp=Z,5.0nm,1.0s
USRK Ussuriysk Ar. 65.03 52 P **P** 15 17 58.2 -0.3
comp=Z,2.1nm,0.8s,baz=294,slow=5.7,SNR=7.9
USRK Ussuriysk Ar. 65.03 52 P **P** 15 17 58.9 +0.4
USRK Ussuriysk Ar. 65.03 52 P **P** 15 17 58.9 +0.4
SEY Seymchan 67.63 28 P **P** 15 18 16.2 +1.3
comp=Z,1.4nm,0.6s,baz=275,slow=12,SNR=2.7
SCHQ Schefferville 74.71 326 P **P** 15 18 58.2 +0.3
comp=Z,4.1nm,0.7s,baz=232,slow=9.0,SNR=3.8
SCHQ Schefferville 74.71 326 P **P** 15 18 58.4 +0.5
PETK Petropavlovsk- 75.44 35 LR LR 15 54 21.3
comp=Z,56nm,18.6s,baz=128,slow=38
INK Inuvik 78.41 360 P **P** 15 19 19.2 +0.8
comp=Z,2.9nm,1.1s,baz=18,slow=3.2,SNR=2.5
INK Inuvik 78.41 360 P **P** 15 19 19.3 +0.8
INK pmax pmax
comp=Z,23nm,1.7s
ILAR Eielson Array 81.45 5 P **P** 15 19 36.5 +1.4
comp=Z,0.7nm,0.7s,baz=322,slow=4.0,SNR=2.3
YKA Yellowknife Ar 82.95 351 P **P** 15 19 44.5 +1.6
comp=Z,0.9nm,0.8s,baz=13,slow=5.7,SNR=2.3
KDAK Kodiak Island 87.67 10 P **P** 15 20 08.6 +2.0
comp=Z,5.4nm,0.9s,baz=137,slow=7.9,SNR=2.5
KDAK Kodiak Island 87.67 10 P **P** 15 20 08.6 +2.0
KDAK pmax pmax
comp=Z,15nm,1.2s
WRA Warramunga Arr 99.63 107 P **Pdif** 15 21 01.1 -1.1
comp=Z,0.3nm,0.7s,baz=311,slow=4.3,SNR=5.4
ASAR Alice Springs 101.25 111 P **Pdif** 15 21 09.2 -0.1
comp=Z,0.3nm,0.8s,baz=315,slow=4.5,SNR=5.3
VNDA Vanda 128.13 166 PKP **PKiKP** 15 26 24.5 +0.6
comp=Z,0.1nm,0.3s,baz=194,slow=4.2,SNR=1.9

ISN ***31*** *15:26:25.9±1.4,33.72N×45.66E,h0km±12km,ML1.7*
TEH ***31*** *15:26:27.6,33.73N×45.66E,h10km,ML2.6*
ISC 31 15:26:28.8±1.1,33.74N±0.07×45.71E±0.06,h13km,n8,
σ1§22/11,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGHG	**Ghaleghazi**	**0.92**	**50**	*e*Pg	**Pn**	**15 26 46.7**	**-1.0**
IGHG				*e*		15 26 47.5	
IDHR	**Dehrash**	**1.11**	**30**	*e*Pg	**Pg**	**15 26 49.6**	**-0.6**

IDHR					*e*			15 27 10.3
BHD	**Baghdad**	**1.21**	**247**		*e*Pg	**Pg**	**15 26 51.0**	**-1.0**
	baz=67							
BHD					*e*Sg	**Sn**	**15 27 09.0**	**+1.5**
BHD					AML	AML	15 27 21.0	
	comp=E,19nm,0.8s							
IVIS	**Veis**	**1.23**	**50**		*e*Pg	**Pg**	**15 26 52.2**	**-0.3**
IVIS					*e*Sg	**Sg**	**15 27 10.6**	**+2.1**
IVIS					*e*		15 27 13.5	
IKOM	**Komasi**	**1.56**	**73**		*e*Pg	**Pg**	**15 26 58.6**	**-0.1**
IKOM					*e*		15 26 59.4	
ILIN	**Lien**	**1.57**	**41**		*e*Pg	**Pg**	**15 26 58.2**	**-0.7**
ILIN					*e*		15 26 59.1	
IBZA	**Bozab**	**1.93**	**67**		*e*		15 27 06.1	
IBZA					*e*Pg	**Pg**	**15 27 04.5**	**-1.3**
NSR	**Nassriya**	**2.75**	**172**		*e*Pn	**Pn**	**15 27 13.0**	**+0.4**
NSR					*e*Sn	**Sn**	**15 27 45.0**	**-0.6**

*TAP **31** 15:35:03.8,21.78N×121.34E,h81km,ML3.7,D*
*JMA **31** 15:35:04.7±0.1,21.83N×121.53E,h37km,M3.9*
ISC 31 15:35:03.0±1.6,**21.73N**±0.06×**121.37E**±0.03,**h90**km±7km,
n124,σ1s33/241,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.35**	**29**	*i* P	**Pn**	**15 35 16.5**	**-0.3**
	baz=46						
LAY				*i* S	**Sn**	**15 35 25.7**	**-1.3**
	baz=46						
TSEB	**Hengchuen, Pin**	**0.47**	**291**	P	**Pn**	**15 35 18.1**	**+0.7**
	baz=280						
TSEB				S	**Sn**	**15 35 29.2**	**+0.9**
	baz=280						
TWKBT	**Hengchun**	**0.56**	**292**	P	**Pn**	**15 35 18.7**	**+0.5**
	baz=286						
TWKBT				S	**Sn**	**15 35 29.5**	**-0.1**
	baz=286						
TWK1	**Hengchun**	**0.56**	**292**	*e*P	**Pn**	**15 35 18.7**	**+0.4**
	baz=286						
TWK1				S	**Sn**	**15 35 29.4**	**-0.3**
	baz=286						
SNW	**Nanwan**	**0.62**	**292**	*e*P	**Pn**	**15 35 20.1**	**+1.4**
	baz=279						
SNW				*e*S	**Sn**	**15 35 31.6**	**+1.1**
	baz=279						
HEN	**Hengchun**	**0.65**	**295**	*e*P	**Pn**	**15 35 19.8**	**+0.8**
	baz=293						
HEN				*e*S	**Sn**	**15 35 31.8**	**+0.8**
	baz=293						
SLIU	**Shizi**	**0.72**	**313**	*e*P	**Pn**	**15 35 19.8**	**+0.1**
	baz=319						
SLIU				*e*S	**Sn**	**15 35 31.1**	**-1.1**
	baz=319						
TAW	**Tawu**	**0.76**	**325**	*i* P	**Pn**	**15 35 19.9**	**-0.2**
	baz=325						
TAW				S	**Sn**	**15 35 31.4**	**-1.5**
	baz=325						
EAST	**Anshuo**	**0.81**	**324**	P	**Pn**	**15 35 20.3**	**-0.4**
	baz=329						
EAST				S	**Sn**	**15 35 32.6**	**-1.3**
	baz=329						
SCZT	**Fangliau**	**0.94**	**313**	*e*P	**Pn**	**15 35 22.6**	**+0.5**
	baz=320						
SCZT				S	**Sn**	**15 35 35.3**	**-1.1**
	baz=320						
ECL	**Taimali**	**0.94**	**336**	*e*P	**Pn**	**15 35 21.6**	**-0.5**
	baz=342						
ECL				S	**Sn**	**15 35 34.1**	**-2.3**
	baz=342						
LDUT	**Ludao**	**0.94**	**6**	*i* P	**Pn**	**15 35 21.4**	**-0.7**
	baz=11						
LDUT				S	**Sn**	**15 35 34.7**	**-1.7**
	baz=11						
TTN	**Taitung**	**1.04**	**349**	P	**Pn**	**15 35 23.4**	**+0.2**
	baz=342						
TTN				*e*S	**Sn**	**15 35 38.7**	**+0.4**
	baz=342						
SSPT	**Xinbi**	**1.05**	**316**	P	**Pn**	**15 35 23.9**	**+0.5**
	baz=319						
SSPT				S	**Sn**	**15 35 38.7**	**+0.1**
	baz=319						
WLCH	**Liuqiu**	**1.10**	**304**	P	**Pn**	**15 35 26.1**	**+2.2**
	baz=303						
WLCH				S	**Sn**	**15 35 42.6**	**+2.9**
	baz=303						
MASBT	**Mashibuluo**	**1.11**	**322**	P	**Pn**	**15 35 24.7**	**+0.7**
	baz=322						
MASBT				*e*S	**Sn**	**15 35 39.8**	**0.0**
	baz=322						
TWGBT	**Beinan**	**1.11**	**346**	P	**Pn**	**15 35 23.7**	**-0.4**
	baz=342						
TWGBT				S	**Sn**	**15 35 38.9**	**-1.0**
	baz=342						
TWP	**Hsiaoliuchiu**	**1.11**	**304**	*i* P	**Pn**	**15 35 26.0**	**+2.0**
	baz=302						
TWP				*i* S	**Sn**	**15 35 42.6**	**+2.7**
	baz=302						
TWG	**Pinlang**	**1.12**	**346**	P	**Pn**	**15 35 23.7**	**-0.4**
	baz=342						
TWG				S	**Sn**	**15 35 38.4**	**-1.6**
	baz=342						
TSMG	**Majia**	**1.18**	**326**	*e*P	**Pn**	**15 35 25.8**	**+0.9**
	baz=325						
TSMG				S	**Sn**	**15 35 40.5**	**-0.8**
	baz=325						
LONT	**Longtian**	**1.19**	**349**	P	**Pn**	**15 35 24.6**	**-0.4**
	baz=343						
LONT				*e*S	**Sn**	**15 35 39.2**	**-2.3**
	baz=343						
SSD	**Sandimen**	**1.22**	**326**	*e*P	**Pn**	**15 35 26.0**	**+0.7**
	baz=326						
SSD				S	**Sn**	**15 35 41.3**	**-0.8**
	baz=326						
EDH	**Donghe**	**1.24**	**357**	*e*P	**Pn**	**15 35 25.5**	**0.0**
	baz=351						
EDH				S	**Sn**	**15 35 41.4**	**-1.1**
	baz=351						
SGLT	**Jiouru**	**1.28**	**321**	P	**Pn**	**15 35 27.6**	**+1.6**
	baz=328						
SGLT				S	**Sn**	**15 35 46.0**	**+2.6**
	baz=328						
KAU	**Kaohsiung**	**1.29**	**311**	*e*P	**Pn**	**15 35 25.8**	**-0.3**
	baz=300						
KAU				S	**Sn**	**15 35 45.8**	**+2.3**
	baz=300						
CHKT	**Chengkung**	**1.36**	**360**	P	**Pn**	**15 35 26.8**	**-0.3**
	baz=354						
CHKT				*e*S	**Sn**	**15 35 45.0**	**-0.2**
	baz=354						
TWM1	**Shoushan**	**1.40**	**321**	*e*P	**Pn**	**15 35 29.4**	**+1.9**
	baz=321						
TWM1				*e*S	**Sn**	**15 35 48.4**	**+2.4**
	baz=321						
SNJT	**Kaohsiung City**	**1.40**	**317**	P	**Pn**	**15 35 28.4**	**+0.9**
	baz=316						
SNJT				S	**Sn**	**15 35 47.4**	**+1.5**
	baz=316						
SCST	**Cishan**	**1.41**	**325**	*e*P	**Pn**	**15 35 28.9**	**+1.3**
	baz=331						
SCST				S	**Sn**	**15 35 46.2**	**0.0**
	baz=331						
SLGT	**Liugui**	**1.42**	**332**	P	**Pn**	**15 35 28.6**	**+0.8**
	baz=332						
SLGT				*e*S	**Sn**	**15 35 46.4**	**-0.1**
	baz=332						
ELDTW	**Lidau**	**1.49**	**348**	*e*P	**Pn**	**15 35 28.1**	**-0.7**
	baz=351						
ELDTW				*e*S	**Sn**	**15 35 46.9**	**-1.3**
	baz=351						
SGST	**Jiashian**	**1.53**	**332**	*e*P	**Pn**	**15 35 29.2**	**0.0**
	baz=332						
SGST				S	**Sn**	**15 35 48.1**	**-0.9**
	baz=332						
STYT	**Tauyuan**	**1.53**	**339**	*e*P	**Pn**	**15 35 30.4**	**+1.1**
	baz=339						
STYT				S	**Sn**	**15 35 49.0**	**-0.1**
	baz=339						
EYUL	**Yuli**	**1.61**	**358**	*e*P	**Pn**	**15 35 31.4**	**+1.2**
	baz=351						
EYUL				*e*S	**Sn**	**15 35 50.8**	**0.0**
	baz=351						
TWF1	**Yuli**	**1.62**	**358**	*e*P	**Pn**	**15 35 30.2**	**-0.1**
	baz=351						
TWF1				*e*S	**Sn**	**15 35 50.0**	**-0.9**
	baz=351						
CHN3	**Shinhua**	**1.63**	**326**	P	**Pn**	**15 35 32.3**	**+1.9**
	baz=335						
CHN3				*i* S	**Sn**	**15 35 52.6**	**+1.4**
	baz=335						
CHN1	**Nanshi**	**1.64**	**332**	P	**Pn**	**15 35 31.1**	**+0.5**
	baz=332						
CHN1				S	**Sn**	**15 35 50.5**	**-1.1**
	baz=332						
YULB	**Yu-li**	**1.66**	**358**	*e*P	**Pn**	**15 35 29.4**	**-1.4**
	baz=352						
YULB				*e*S	**Sn**	**15 35 50.0**	**-1.9**
	baz=352						
WTP	**Ta-pu**	**1.66**	**335**	P	**Pn**	**15 35 30.8**	**-0.1**
	baz=336						
WTP				S	**Sn**	**15 35 52.2**	**+0.2**
	baz=336						
TAI1	**Yung-k'ang**	**1.68**	**321**	S	**Sn**	**15 35 52.1**	**-0.1**
	baz=310						
SNST	**Tainan City**	**1.69**	**332**	P	**Pn**	**15 35 32.6**	**+1.4**
	baz=332						
SNST				S	**Sn**	**15 35 52.2**	**-0.3**
	baz=332						
TPUB	**Ta-pu**	**1.71**	**337**	*e*P	**Pn**	**15 35 32.1**	**+0.6**
	baz=337						
TPUB				S	**Sn**	**15 35 52.4**	**-0.6**
	baz=337						
HGSD	**Ruisui**	**1.75**	**2**	*e*P	**Pn**	**15 35 31.8**	**-0.3**
	baz=9.0						
HGSD				*e*S	**Sn**	**15 35 56.3**	**+2.2**
	baz=9.0						
EHY	**Hungye**	**1.77**	**359**	P	**Pn**	**15 35 32.3**	**0.0**
	baz=354						
EHY				S	**Sn**	**15 35 53.7**	**-0.7**
	baz=354						
SCLT	**Jiali**	**1.80**	**323**	*e*P	**Pn**	**15 35 33.5**	**+0.9**
	baz=331						
SCLT				*e*S	**Sn**	**15 35 55.4**	**+0.2**
	baz=331						
ALS	**Alishan**	**1.85**	**344**	*e*P	**Pn**	**15 35 35.2**	**+1.6**
	baz=335						
ALS				S	**Sn**	**15 35 57.2**	**+0.6**
	baz=335						
ICHU	**Yijhu**	**1.91**	**328**	*e*P	**Pn**	**15 35 34.6**	**+0.6**
	baz=338						
ICHU				S	**Sn**	**15 35 56.4**	**-1.2**
	baz=338						
CHN8	**Yiju**	**1.93**	**327**	*e*P	**Pn**	**15 35 35.1**	**+0.8**
	baz=336						
CHN8				S	**Sn**	**15 35 57.6**	**-0.5**
	baz=336						
EGFH	**Guangfu**	**1.93**	**2**	*e*P	**Pn**	**15 35 35.2**	**+0.8**
	baz=355						
EGFH				*e*S	**Sn**	**15 35 57.9**	**-0.3**
	baz=355						
CHY	**Chiayi**	**1.96**	**334**	P	**Pn**	**15 35 35.2**	**+0.4**
	baz=334						
CHY				S	**Sn**	**15 35 58.8**	**-0.1**
	baz=334						
CHN5	**Tsauling**	**1.96**	**341**	*e*P	**Pn**	**15 35 35.7**	**+0.9**
	baz=341						
CHN5				*e*S	**Sn**	**15 35 58.5**	**-0.6**
	baz=341						
CHN2	**Minshiung**	**1.97**	**336**	P	**Pn**	**15 35 36.5**	**+1.6**
	baz=335						
CHN2				*e*S	**Sn**	**15 35 59.4**	**+0.2**
	baz=335						
WLGB	**Puzi**	**2.00**	**331**	*e*P	**Pn**	**15 35 36.1**	**+0.9**
	baz=330						
WLGB				*e*S	**Sn**	**15 36 00.2**	**+0.4**
	baz=330						
WHYT	**Xinyi Township**	**2.01**	**346**	*e*P	**Pn**	**15 35 37.9**	**+2.4**
	baz=338						
WHYT				S	**Sn**	**15 36 01.3**	**+1.1**
	baz=338						
VWDT	**VWDT**	**2.02**	**354**	*e*P	**Pn**	**15 35 37.1**	**+1.6**
	baz=343						
VWDT				*e*S	**Sn**	**15 36 01.0**	**+0.6**
	baz=343						
ESL	**Shilin**	**2.08**	**2**	*e*P	**Pn**	**15 35 36.8**	**+0.5**
	baz=3.0						
ESL				*e*S	**Sn**	**15 36 00.3**	**-1.3**
	baz=3.0						
SSLB	**Suanglung**	**2.08**	**350**	*e*P	**Pn**	**15 35 37.3**	**+0.9**
	baz=339						
SSLB				S	**Sn**	**15 36 02.1**	**+0.3**
	baz=339						
WGK	**Gukeng**	**2.08**	**339**	P	**Pn**	**15 35 37.4**	**+1.1**
	baz=330						
WGK				S	**Sn**	**15 36 01.6**	**-0.1**
	baz=330						
WDLH	**Douliu**	**2.10**	**339**	P	**Pn**	**15 35 37.2**	**+0.8**
	baz=339						
WDLH				S	**Sn**	**15 36 02.9**	**+0.9**
	baz=339						
WTK	**Tuku**	**2.15**	**335**	*e*P	**Pn**	**15 35 37.5**	**+0.3**
	baz=335						
WTK				S	**Sn**	**15 36 02.3**	**-1.0**
	baz=335						
WJS	**Zhushan**	**2.16**	**344**	*e*P	**Pn**	**15 35 40.8**	**+3.4**
	baz=336						
WJS				*e*S	**Sn**	**15 36 03.9**	**+0.2**
	baz=336						
WSF	**Szhu**	**2.17**	**331**	*e*P	**Pn**	**15 35 37.8**	**+0.3**
	baz=331						
WSF				S	**Sn**	**15 36 02.7**	**-1.1**
	baz=331						
SMLT	**Sun Moon Lake**	**2.19**	**349**	*e*P	**Pn**	**15 35 38.9**	**+1.1**
	baz=340						
SMLT				*e*S	**Sn**	**15 36 04.3**	**0.0**
	baz=340						
WDGT	**Dungji**	**2.19**	**314**	P	**Pn**	**15 35 37.9**	**+0.1**
	baz=314						
WDGT				S	**Sn**	**15 36 02.1**	**-2.2**
	baz=314						
TYC	**Yuchr**	**2.21**	**348**	P	**Pn**	**15 35 39.3**	**+1.3**
	baz=348						
TYC				*e*S	**Sn**	**15 36 05.2**	**+0.3**
	baz=348						
HWA	**Hwalien**	**2.25**	**6**	*e*P	**Pn**	**15 35 38.7**	**+0.2**
	baz=14						
HWA				*e*S	**Sn**	**15 36 05.3**	**-0.3**
	baz=14						
VCHM	**Qimei**	**2.32**	**310**	P	**Pn**	**15 35 39.6**	**+0.1**
	baz=309						
VCHM				S	**Sn**	**15 36 04.8**	**-2.5**
	baz=309						
CHGB	**Renai**	**2.33**	**356**	*e*P	**Pn**	**15 35 41.3**	**+1.6**
	baz=345						
CHGB				S	**Sn**	**15 36 09.2**	**+1.4**
	baz=345						
RLNB	**Erlin**	**2.34**	**337**	*e*P	**Pn**	**15 35 40.0**	**+0.3**
	baz=345						
RLNB				S	**Sn**	**15 36 08.4**	**+0.6**
	baz=345						
TWD	**Chiawan**	**2.35**	**5**	*e*P	**Pn**	**15 35 40.8**	**+1.0**
	baz=353						
TWD				S	**Sn**	**15 36 09.3**	**+1.3**
	baz=353						
WTCT	**Ta-ch'eng**	**2.35**	**335**	*e*S	**Sn**	**15 36 08.2**	**+0.2**
	baz=335						
WHF	**Hehuan Shan**	**2.41**	**358**	P	**Pn**	**15 35 42.5**	**+1.5**
	baz=4.0						
WHF				S	**Sn**	**15 36 11.4**	**+1.4**
	baz=4.0						
PHUB	**P'eng-hu**	**2.43**	**317**	*e*P	**Pn**	**15 35 40.7**	**-0.1**
	baz=312						
PHUB				S	**Sn**	**15 36 07.1**	**-2.8**
	baz=312						
NACB	**Ninganchiao**	**2.44**	**5**	*e*P	**Pn**	**15 35 42.0**	**+1.0**
	baz=355						
NACB				S	**Sn**	**15 36 10.5**	**+0.3**
	baz=355						
WCHH	**Zhanghua**	**2.46**	**342**	*e*P	**Pn**	**15 35 42.2**	**+1.0**
	baz=335						
WCHH				*e*S	**Sn**	**15 36 10.8**	**+0.3**
	baz=335						
ETLH	**Xiulin Townshi**	**2.47**	**2**	P	**Pn**	**15 35 42.4**	**+0.9**
	baz=3.0						
ETLH				S	**Sn**	**15 36 13.1**	**+2.1**
	baz=3.0						
PNG	**Penghu**	**2.48**	**318**	*e*P	**Pn**	**15 35 41.7**	**+0.2**
	baz=317						
PNG				*e*S	**Sn**	**15 36 09.9**	**-1.2**
	baz=317						
FUSS	**Fushou**	**2.51**	**357**	*e*P	**Pn**	**15 35 43.9**	**+1.7**
	baz=347						
FUSS				S	**Sn**	**15 36 13.7**	**+1.5**
	baz=347						
TDCB	**Techi**	**2.52**	**356**	*e*P	**Pn**	**15 35 44.2**	**+1.9**
	baz=346						
TDCB				*e*S	**Sn**	**15 36 13.2**	**+0.9**
	baz=346						
WHP	**Taichung City**	**2.57**	**351**	*e*P	**Pn**	**15 35 44.4**	**+1.5**
	baz=343						
WHP				S	**Sn**	**15 36 13.7**	**+0.4**
	baz=343						
TWQ1	**Liyutan**	**2.66**	**348**	P	**Pn**	**15 35 45.6**	**+1.6**
	baz=339						
TWQ1				S	**Sn**	**15 36 16.3**	**+0.7**
	baz=339						
NNSB	**Datong**	**2.69**	**0**	P	**Pn**	**15 35 46.3**	**+1.8**
	baz=5.0						
NNSB				*e*S	**Sn**	**15 36 17.1**	**+0.8**
	baz=5.0						
NNSH	**Datong**	**2.69**	**0**	*e*P	**Pn**	**15 35 46.0**	**+1.5**
	baz=4.0						
NNSH				*e*S	**Sn**	**15 36 18.4**	**+2.1**
	baz=4.0						
WDJ	**Dajia District**	**2.69**	**346**	*e*S	**Sn**	**15 36 17.2**	**+1.1**
	baz=346						
NNS	**Nan Shan**	**2.70**	**0**	P	**Pn**	**15 35 47.1**	**+2.5**
	baz=5.0						
NNS				*e*S	**Sn**	**15 36 17.1**	**+0.5**
	baz=5.0						
ENA	**Nanau**	**2.71**	**7**	*e*P	**Pn**	**15 35 45.7**	**+1.1**
	baz=355						
ENA				*e*S	**Sn**	**15 36 17.9**	**+1.3**
	baz=355						
ENAH	**Nanao**	**2.74**	**8**	*e*P	**Pn**	**15 35 46.8**	**+1.8**
	baz=358						
ENAH				S	**Sn**	**15 36 17.7**	**+0.4**
	baz=358						
NDT	**Datong Townshi**	**2.86**	**3**	*e*P	**Pn**	**15 35 48.4**	**+1.7**
	baz=8.0						
NDT				*e*S	**Sn**	**15 36 20.8**	**+0.5**
	baz=8.0						
TWC	**Suao**	**2.90**	**9**	*e*P	**Pn**	**15 35 49.0**	**+1.9**
	baz=356						
TWC				*e*S	**Sn**	**15 36 22.1**	**+0.9**
	baz=356						
ENTT	**Nioudou**	**2.90**	**4**	*e*P	**Pn**	**15 35 49.2**	**+1.9**
	baz=4.0						
ENTT				S	**Sn**	**15 36 23.4**	**+2.1**
	baz=4.0						
NSTT	**Nanjuang**	**2.91**	**353**	*e*P	**Pn**	**15 35 48.7**	**+1.4**
	baz=354						
NSTT				*e*S	**Sn**	**15 36 20.8**	**-0.6**
	baz=354						
LIOB	**Emei**	**2.92**	**354**	*e*P	**Pn**	**15 35 48.7**	**+1.2**
	baz=354						
LIOB				*e*S	**Sn**	**15 36 20.0**	**-1.7**
	baz=354						
YHNB	**Yeheng**	**2.93**	**0**	*e*P	**Pn**	**15 35 50.3**	**+2.7**
	baz=351						
YHNB				S	**Sn**	**15 36 24.2**	**+2.2**
	baz=351						
NSK	**Sanguang**	**2.93**	**360**	*e*P	**Pn**	**15 35 50.3**	**+2.6**
	baz=352						
NSK				S	**Sn**	**15 36 23.7**	**+1.6**
	baz=352						
TWE	**Neicheng**	**2.99**	**5**	*e*P	**Pn**	**15 35 50.8**	**+2.4**
	baz=6.0						
TWE				S	**Sn**	**15 36 23.9**	**+0.5**
	baz=6.0						
NWLT	**Wulai**	**3.04**	**2**	P	**Pn**	**15 35 51.8**	**+2.7**
	baz=3.0						
NWLT				S	**Sn**	**15 36 26.3**	**+1.7**
	baz=3.0						
JYNG	**Yonagunijimaku**	**3.07**	**28**	P	**Pn**	**15 35 50.4**	**+0.9**
JYNG				*e*S	**Sn**	**15 36 23.9**	**-1.5**
YOJ	**Yonaguni jima**	**3.11**	**29**	*e*P	**Pn**	**15 35 51.3**	**+1.2**
	baz=37						
YOJ				S	**Sn**	**15 36 26.3**	**-0.1**
	baz=37						
YOJ	**Yonaguni jima**	**3.11**	**29**	P	**Pn**	**15 35 51.1**	**+1.1**
YOJ				S	**Sn**	**15 36 26.2**	**-0.1**
NTC	**Toucheng**	**3.14**	**8**	*e*P	**Pn**	**15 35 51.6**	**+1.2**
	baz=356						
HATJ	**Hateruma jima**	**3.23**	**44**	P	**Pn**	**15 35 52.5**	**+0.9**
HATJ				S	**Sn**	**15 36 27.7**	**-1.4**
TIPB	**Shuangxi**	**3.25**	**7**	*e*P	**Pn**	**15 35 54.9**	**+2.9**
	baz=357						
TIPB				*e*S	**Sn**	**15 36 29.4**	**-0.5**
	baz=357						
IRIF	**Iriomote-Funau**	**3.39**	**40**	P	**Pn**	**15 35 54.8**	**+1.1**
IRIF				*e*S	**Sn**	**15 36 31.7**	**-1.2**
JKRS	**Kuro-shima**	**3.49**	**44**	P	**Pn**	**15 35 56.3**	**+1.2**
JKRS				S	**Sn**	**15 36 34.2**	**-1.2**
JIJ	**Ishigaki jima**	**3.66**	**44**	P	**Pn**	**15 35 57.9**	**+0.4**
JIJ				S	**Sn**	**15 36 37.8**	**-1.8**
VWUC	**VWUC**	**3.69**	**332**	*e*P	**Pn**	**15 35 57.7**	**-0.1**
	baz=338						
VWUC				*e*S	**Sn**	**15 36 37.2**	**-3.1**
	baz=338						
KNM	**Kinmen**	**3.80**	**315**	P	**Pn**	**15 36 00.6**	**+1.3**
	baz=313						
KNM				S	**Sn**	**15 36 42.2**	**-0.7**
	baz=313						
KNMB	**Chin-men Tao**	**3.86**	**315**	P	**Pn**	**15 36 00.7**	**+0.5**
	baz=314						
KNMB				S	**Sn**	**15 36 41.6**	**-2.9**
	baz=314						
PTMZ	**Houxiangcun**	**3.89**	**328**	P	**Pn**	**15 36 00.8**	**+0.3**
	baz=328						
PTMZ				S	**Sn**	**15 36 42.5**	**-2.6**
	baz=328						
JISG	**Ishigakijimahi**	**3.93**	**43**	P	**Pn**	**15 36 01.5**	**+0.4**
JISG				S	**Sn**	**15 36 43.9**	**-2.2**
ZPLA	**Ao Xicun**	**3.99**	**304**	*e*P	**Pn**	**15 36 03.1**	**+1.2**
	baz=302						
ZPLA				*e*S	**Sn**	**15 36 45.3**	**-2.3**
	baz=302						
PTTC	**Pingtan**	**4.03**	**339**	*e*P	**Pn**	**15 36 03.1**	**+0.6**
	baz=339						
PTTC				*e*S	**Sn**	**15 36 45.5**	**-3.0**
	baz=339						
JTJ	**Tarama**	**4.22**	**46**	P	**Pn**	**15 36 06.0**	**+1.0**
JTJ				S	**Sn**	**15 36 52.6**	**-0.6**
ZZJH	**Jiuhuzhen**	**4.39**	**309**	*e*S	**Sn**	**15 36 55.0**	**-2.3**
	baz=308						
AXDP	**Jialang**	**4.44**	**316**	*e*P	**Pn**	**15 36 08.7**	**+0.7**
	baz=315						
AXDP				*e*S	**Sn**	**15 36 55.8**	**-2.7**
	baz=315						
MATB	**Ma-tsu**	**4.59**	**344**	*e*P	**Pn**	**15 36 10.4**	**+0.3**
	baz=343						
JIRB	**Irabujima**	**4.67**	**48**	P	**Pn**	**15 36 11.8**	**+0.7**
JIRB				S	**Sn**	**15 37 02.9**	**-1.1**
JMJ2	**Miyako jima3**	**4.72**	**50**	P	**Pn**	**15 36 12.7**	**+0.9**
JMJ2				*e*S	**Sn**	**15 37 04.6**	**-0.7**
JMJ	**Miyako jima 2**	**4.74**	**49**	*e*P	**Pn**	**15 36 12.7**	**+0.7**
	baz=50						
JMJ				*e*S	**Sn**	**15 37 05.2**	**-0.6**
	baz=50						
JIKM	**Ikemajima**	**4.78**	**48**	P	**Pn**	**15 36 14.0**	**+1.4**
JIKM				S	**Sn**	**15 37 06.4**	**-0.3**
JOGS	**Gusukube**	**4.79**	**50**	P	**Pn**	**15 36 14.1**	**+1.4**
JOGS				S	**Sn**	**15 37 06.9**	**0.0**
MHZQ	**Yeshan**	**4.85**	**334**	*e*P	**Pn**	**15 36 13.4**	**-0.2**
	baz=334						
MHZQ				*e*S	**Sn**	**15 37 06.1**	**-2.3**
	baz=334						
LYJJ	**Jianjiangzhen**	**5.02**	**343**	*e*P	**Pn**	**15 36 16.3**	**+0.4**
	baz=343						
LYJJ				*e*S	**Sn**	**15 37 09.2**	**-3.4**
	baz=343						
XPSS	**Dashiqiu**	**5.29**	**349**	*e*P	**Pn**	**15 36 19.4**	**-0.2**
	baz=356						

*IDC **31** 16:11:42.4±2.7,26.45S×27.63E,h0km,mb3.7/2,*
mb1 4.0/8,mb1mx3.7/45,mbtmp4.0/8,ML3.8/4,Error
ellipse: s-maj=51.1km s-min=22.7km az=113.0
*PRE **31** 16:11:42.2±1.1,26.47S×27.51E,h2km,ML3.1*
*NEIC **31** 16:11:44.7±1.4,26.43S±0.07×27.3E±0.2,h5km±2km,*
mb4.6/5,Error ellipse: s-maj=24.5km s-min=10.9km
az=281.0
ISC 31 16:11:42.4±0.8,**26.42S**±0.03×**27.47E**±0.03,**h11**km±5km,
n37,σ2s12/55,mb4.2/4,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WDLM	**Western Deep L**	**0.04**	**266**	*e*P	**Pg**	**16 11 44.4**	**-0.4**
WDLM				*e*S	**Sg**	**16 11 45.2**	**-1.3**
WDLM				AML	AML	16 11 47.0	
	comp=Z,24μm,0.2s						

KLOF	**Kloof**	**0.14**	**61**	*eP*		**Pg**	**16 11 45.6**	**-0.4**
KLOF				*eS*		**Sg**	**16 11 48.0**	**-0.4**
KLOF				AML	AML		16 11 48.6	
	comp=Z,18μm,0.1s							
PRYS	**Parys**	**0.51**	**191**	*eP*		**Pg**	**16 11 51.5**	**-1.0**
PRYS				*eS*		**Sg**	**16 11 58.5**	**-0.8**
PRYS				AML	AML		16 12 05.7	
	comp=Z,957nm,0.6s							
ERPM	**east rand prop**	**0.70**	**84**	*eP*		**Pg**	**16 11 55.8**	**-0.1**
ERPM				*eS*		**Sg**	**16 12 04.6**	**-0.5**
ERPM				AML	AML		16 12 14.2	
	comp=Z,354nm,0.4s							
KSR	**Koster**	**0.77**	**318**	*eP*		**Pb**	**16 11 58.4**	**+0.5**
KSR				*eS*		**Sg**	**16 12 08.8**	**+1.5**
KSR				AML	AML		16 12 15.7	
	comp=Z,1μm,0.1s							
SLR	**Silverton**	**1.00**	**47**	*eP*		**Pb**	**16 12 02.1**	**+0.3**
SLR				*eS*		**Sb**	**16 12 15.4**	**+0.3**
SLR				AML	AML		16 12 21.9	
	comp=Z,329nm,0.2s							
SWZ	**Schweizer**	**2.06**	**248**	*eP*		**Pb**	**16 12 19.1**	**-0.8**
SWZ				*eS*		**Sb**	**16 12 46.1**	**+0.6**
SWZ				AML	AML		16 12 48.7	
	comp=Z,376nm,0.5s							
LBTB	**Lobatse**	**2.19**	**309**	Pn		**Pb**	**16 12 23.3**	**+1.1**
	comp=Z,42nm,0.3s,baz=128,slow=16,SNR=508							
LBTB				Lg	Lg		16 12 51.3	
	comp=Z,143nm,0.3s,baz=220,slow=18,SNR=49							
LBTB	**Lobatse**	**2.19**	**309**	*eP*		**Pb**	**16 12 21.7**	**-0.5**
LBTB				*eS*		**Sb**	**16 12 49.4**	**0.0**
LBTB				AML	AML		16 12 52.7	
	comp=Z,433nm,0.2s							
LBTB	**Lobatse**	**2.19**	**309**			**Pb**	**16 12 21.6**	**-0.5**
BOSA	**Boshof**	**2.94**	**221**	Pn		**Pn**	**16 12 31.1**	**+2.0**
	comp=Z,4.6nm,0.3s,baz=42,slow=15,SNR=161							
BOSA				Lg	Lg		16 13 14.2	
	comp=Z,17nm,0.3s,baz=325,slow=22,SNR=21							
BOSA	**Boshof**	**2.94**	**221**	*eP*		**Pn**	**16 12 31.0**	**+1.8**
BOSA				*eS*		**Sn**	**16 13 06.2**	**+1.7**
BOSA				AML	AML		16 13 25.7	
	comp=Z,56nm,0.6s							
BOSA	**Boshof**	**2.94**	**221**			**Pn**	**16 12 31.0**	**+1.8**
HAGI	**HAGI**	**3.35**	**86**	*eP*		**Pn**	**16 12 36.5**	**+1.6**
HAGI				AML	AML		16 12 47.1	
	comp=Z,56nm,0.3s							
MAGG	**Maguga Dam**	**3.42**	**85**	*eP*		**Pn**	**16 12 37.6**	**+1.8**
MAGG				AML	AML		16 12 48.7	
	comp=Z,65nm,0.3s							
POGA	**Pongola**	**3.89**	**105**	*eP*		**Pn**	**16 12 44.0**	**+1.7**
POGA				*eS*		**Sn**	**16 13 27.1**	**-0.9**
POGA				AML	AML		16 13 46.1	
	comp=Z,140nm,0.6s							
MSNA	**Messina**	**4.68**	**30**	*eP*		**Pn**	**16 12 54.1**	**+1.0**
MSNA				*eS*		**Sn**	**16 13 46.1**	**-1.2**
MSNA				AML	AML		16 14 11.8	
	comp=Z,44nm,0.4s							
UPI	**Upington**	**5.86**	**249**	*eP*		**Pn**	**16 13 11.4**	**+2.2**
UPI				*eS*		**Sn**	**16 14 15.9**	**-0.6**
UPI				AML	AML		16 14 24.0	
	comp=Z,5.0nm,0.4s							
MATP	**Matopo**	**6.04**	**9**	Pn		**Pn**	**16 13 13.7**	**+1.9**
	comp=Z,5.5nm,0.3s,baz=189,slow=13,SNR=66							
MATP				Sn		**Sn**	**16 14 20.2**	**-0.9**
	comp=Z,3.3nm,0.3s,baz=88,slow=11,SNR=7.3							
MATP				Lg	Lg		16 14 48.8	
	comp=Z,12nm,0.3s,baz=94,slow=23,SNR=17							
KEIM	**Keimoes**	**6.20**	**247**	*eP*		**Pn**	**16 13 15.2**	**+1.2**
KEIM				*eS*		**Sn**	**16 14 24.2**	**-0.8**
KEIM				AML	AML		16 15 04.8	
	comp=Z,40nm,0.6s							
SOE	**Somerset East**	**6.49**	**194**	*eP*		**Pn**	**16 13 18.9**	**+1.0**
SOE				*eS*		**Sn**	**16 14 29.4**	**-2.6**
SOE				AML	AML		16 14 57.0	
	comp=Z,7.4nm,0.6s							
GRAN	**Grantham**	**7.46**	**217**	*eP*		**Pn**	**16 13 32.3**	**+0.9**
GRAN				*eS*		**Sn**	**16 14 53.3**	**-2.7**
GRAN				AML	AML		16 15 04.6	
	comp=Z,8.0nm,0.3s							
SUR	**Sutherland**	**8.30**	**223**	Pn		**Pn**	**16 13 45.3**	**+2.3**
	comp=Z,1.4nm,0.3s,baz=52,slow=16,SNR=50							
SUR				Sn		**Sn**	**16 15 13.4**	**-3.4**
	comp=Z,0.8nm,0.3s,baz=4.0,slow=11,SNR=1.5							
SUR				Lg	Lg		16 15 59.1	
	comp=Z,2.8nm,0.3s,baz=134,slow=12,SNR=4.3							
SUR	**Sutherland**	**8.30**	**223**			**Pn**	**16 13 44.2**	**+1.3**
CVNA	**Calvinia**	**8.43**	**231**	*eP*		**Pn**	**16 13 46.4**	**+1.8**
CVNA				*eS*		**Sn**	**16 15 16.8**	**-2.9**
CVNA				AML	AML		16 16 09.2	
	comp=Z,36nm,0.6s							
KOMG	**Komaggas**	**9.44**	**247**	*eP*		**Pn**	**16 14 01.7**	**+3.4**
KOMG				*eS*		**Sn**	**16 15 41.7**	**-2.7**
KOMG				AML	AML		16 16 16.1	
	comp=Z,5.0nm,0.5s							
LSZ	**Lusaka**	**11.11**	**4**	Pn		**Pn**	**16 14 21.4**	**0.0**
	comp=Z,1.0nm,0.3s,baz=183,slow=13,SNR=6.0							
LSZ				Sn		**Sn**	**16 16 21.2**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=230,slow=22,SNR=7.3							
LSZ				Lg	Lg		16 17 26.2	
	comp=Z,0.2nm,0.3s,baz=267,slow=18,SNR=2.5							
TSUM	**Tsumeb**	**11.60**	**306**	Pn		**Pn**	**16 14 29.4**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=122,slow=11,SNR=17							
TSUM				Sn		**Sn**	**16 16 31.5**	**-6.3**
	comp=Z,0.1nm,0.3s,baz=120,slow=11,SNR=1.5							
TSUM				Lg	Lg		16 17 38.6	
	comp=Z,0.2nm,0.3s,baz=262,slow=21,SNR=2.5							
TSUM	**Tsumeb**	**11.60**	**306**			**Pn**	**16 14 28.7**	**+0.5**
KOND	**Kondoa**	**22.82**	**22**	*i* P		**P**	**16 16 40.5**	**-5.2**
KIBK	**Kibwezi**	**26.01**	**25**	*i* P		P	16 17 29.0	+13
KMBO	**Kilima Mbogo**	**26.85**	**22**	P		P	16 17 37.6	+14
LODK	**Lodwar**	**30.63**	**16**	*i* P		P	16 18 06.4	+10
TOA0	**Torodi Ar. Sit**	**46.64**	**324**	P		**P**	**16 20 13.6**	**+2.5**
TOA0				IAmb	IAmb		16 21 52.8	
	comp=Z,6.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**46.64**	**324**	P		**P**	**16 20 13.4**	**+2.4**
	comp=Z,0.6nm,0.5s,baz=152,slow=7.0,SNR=2.5							
SNAA	**Sanae**	**48.34**	**192**	P		**P**	**16 20 26.5**	**+2.9**
SNAA				IAmb	IAmb		16 20 28.3	
	comp=Z,4.1nm,1.0s							
ESDC	**Sonseca Array**	**72.00**	**335**	P		**P**	**16 23 08.8**	**+2.7**
	comp=Z,0.3nm,0.4s,baz=156,slow=5.7,SNR=4.3							

IDC ***31*** *16:12:33.6±0.4,64°.64N×17°.63W,h0km,mb4.3/25, mb1 4.4/31,mb1mx4.3/46,mbtmp4.3/31,ML3.0/4,MS3.6/26, Ms1 3.6/26,ms1mx3.4/48,Error ellipse: s-maj=14.5km s-min=8.9km az=15.0*

MOS ***31*** *16:12:33.3±1.0,64°.67N×17°.51W,h10km,mb4.7/72,Error ellipse: s-maj=8.6km s-min=5.1km az=106.9*

REY ***31*** *16:12:33.2,64°.67N×17°.51W,h6km*

BGS ***31*** *16:12:33.1±2.0,64°.65N×17°.52W,h5km,mb4.9*

NEIC ***31*** *16:12:34.9±1.2,64°.65N±0°.07×17°.5W±0°.1,h8km±3km, mb4.7/246,Error ellipse: s-maj=10.0km s-min=7.4km az=164.0*

BGR ***31*** *16:12:36.5±0.0,65°.33N×16°.37W,h10km,mb4.3,Ms3.5*

DNK ***31*** *16:12:53.1±3.6,65°.61N×18°.34W,h61km±136km,mb4.4*

ISC 31 16:12:34.3±0.5,64°.68N±0°.02×17°.53W±0°.02,h6km±3km, h6km:pP-P,n695,σ1s24/707,mb4.7/203,MS3.7/35,19C-5D, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.10**	**267**	P		**Pg**	**16 12 35.5**	**-1.0**
	baz=274							
IDYN	**Dyngjuhals**	**0.13**	**32**	P		**Pg**	**16 12 36.3**	**-0.9**
	baz=27							
IDJK	**Dyngjujokull**	**0.22**	**144**	P		**Pg**	**16 12 37.3**	**-1.3**
	baz=144							
IGRF	**Grimsfjall**	**0.29**	**157**	P		**Pg**	**16 12 38.6**	**-1.5**
	baz=158							
IKVE	**Kverkfjoll**	**0.37**	**90**	P		**Pg**	**16 12 40.0**	**-1.5**
	baz=88							
IKVE				S		**Sg**	**16 12 45.6**	**-0.7**
	baz=88							
ISKR	**Skrokkalda**	**0.39**	**253**	P		**Pg**	**16 12 40.4**	**-1.4**
	baz=254							
IHUS	**Husbondi**	**0.39**	**188**	P		**Pg**	**16 12 40.6**	**-1.2**
	baz=190							
IBJK	**Bruarjokull**	**0.40**	**122**	P		**Pg**	**16 12 40.2**	**-1.9**
	baz=121							
IVOT	**Vottur**	**0.44**	**160**	P		**Pg**	**16 12 40.8**	**-2.0**
	baz=160							
IJOK	**Jokulheimar**	**0.47**	**220**	P		**Pg**	**16 12 41.4**	**-2.0**
	baz=222							
IKRE	**Kreppuhraun**	**0.50**	**77**	P		**Pg**	**16 12 42.0**	**-2.0**
	baz=76							
IKRE				S		**Sg**	**16 12 49.1**	**-1.4**
	baz=76							
IASK	**Askja**	**0.53**	**45**	P		**Pg**	**16 12 42.7**	**-1.9**
	baz=43							
IMKO	**Mokollar**	**0.59**	**59**	P		**Pg**	**16 12 43.8**	**-1.9**
	baz=58							
IIEY	**Innrieyrar**	**0.64**	**204**	P		**Pg**	**16 12 44.4**	**-2.2**
	baz=205							
ISVA	**Svartarkot**	**0.67**	**10**	P		**Pg**	**16 12 45.3**	**-1.9**
	baz=9.2							
IKSK	**Karasker**	**0.69**	**138**	P		**Pg**	**16 12 44.8**	**-2.8**
	baz=138							
IKAL	**Kalfafell**	**0.74**	**185**	P		**Pg**	**16 12 45.9**	**-2.5**
	baz=186							
IVAT	**Vatnsfell**	**0.78**	**231**	P		**Pg**	**16 12 46.9**	**-2.3**
	baz=232							
IVSH	**V-Sauoahnukur**	**0.79**	**80**	P		**Pg**	**16 12 46.7**	**-2.7**
	baz=79							
IFAG	**Fagurholsmyri**	**0.89**	**154**	P		**Pg**	**16 12 48.7**	**-2.7**
	baz=154							
IHVE	**Hveravellir**	**0.89**	**283**	P		**Pg**	**16 12 48.7**	**-2.8**
	baz=284							
IADA	**Aoalbol**	**0.90**	**67**	P		**Pg**	**16 12 48.6**	**-3.0**
	baz=66							
IMEL	**Melhnausar**	**0.97**	**22**	P		**Pg**	**16 12 50.1**	**-2.8**
	baz=21							
IREN	**Reynihlio**	**1.01**	**15**	P		**Pg**	**16 12 50.8**	**-2.8**
	baz=14							
ISNB	**Snabyli**	**1.06**	**207**	P		**Pg**	**16 12 51.3**	**-3.3**
	baz=208							
IKVO	**Krokottuvotn**	**1.08**	**14**	P		**Pg**	**16 12 51.9**	**-3.0**
	baz=14							
IGRS	**Grimsstaoir**	**1.13**	**31**	P		**Pg**	**16 12 52.8**	**-3.2**
	baz=30							
IFED	**Fedgar**	**1.15**	**236**	P		**Pg**	**16 12 53.6**	**-2.6**
	baz=237							
IRJU	**Rjupnafell**	**1.18**	**206**	P		**Pg**	**16 12 53.8**	**-3.0**
	baz=206							
IMJO	**Mjoaskard**	**1.20**	**232**	P		**Pg**	**16 12 53.9**	**-3.3**
	baz=233							
ISKI	**Skildingahlsh**	**1.22**	**10**	P		**Pg**	**16 12 54.2**	**-3.4**
	baz=9.4							
IGHA	**Grjothals**	**1.23**	**17**	P		**Pg**	**16 12 54.2**	**-3.6**
	baz=16							
IGYG	**Gygjarholskot**	**1.23**	**252**	P		**Pb**	**16 12 54.3**	**-3.6**
	baz=253							
IGRA	**Granastaoir**	**1.25**	**359**	P		**Pb**	**16 12 54.5**	**-3.6**
	baz=359							
IHAU	**Haukadalur**	**1.28**	**237**	P		**Pn**	**16 12 55.3**	**-3.3**
	baz=238							
IHVO	**Lagu-Hvolar**	**1.29**	**207**	P		**Pn**	**16 12 55.5**	**-3.4**
	baz=208							
IDIM	**Dimmadalss**	**1.31**	**11**	P		**Pn**	**16 12 55.7**	**-3.4**
	baz=10							
IHLA	**Hella**	**1.32**	**345**	P		**Pn**	**16 12 56.1**	**-3.1**
	baz=344							
BORG	**Borgarnes**	**1.63**	**274**	Pg		**Pn**	**16 13 00.6**	**-2.9**
	90nm,0.3s,baz=97,slow=8.2,SNR=160							
BORG				Lg	Lg		16 13 25.4	
	44nm,0.3s,baz=233,slow=21,SNR=17							
BORG	**Borgarnes**	**1.63**	**274**	*P*		**Pn**	**16 13 00.4**	**-3.1**
BORG	**Borgarnes**	**1.63**	**274**			**Pn**	**16 13 00.4**	**-3.1**
SCO	**Scoresbysund**	**6.07**	**346**	*i* P		**Pn**	**16 14 04.3**	**-0.1**
SCO	**Scoresbysund**	**6.07**	**346**	*eP*		**Pn**	**16 14 04.3**	**-0.1**
SCO	**Scoresbysund**	**6.07**	**346**	Pn		**Pn**	**16 14 02.7**	**-1.7**
SCO	**Scoresbysund**	**6.07**	**346**	*e*		**Pn**	**16 14 02.8**	**-1.7**
	baz=164,slow=9.3							
SCO				*eP*		**Pn**	**16 14 04.4**	**-0.1**
JMIC	**Jan Mayen**	**7.19**	**24**	Pn		**Pn**	**16 14 20.8**	**+1.1**
	baz=158,slow=16,SNR=2.3							
JMIC				LR	LR		16 16 26.3	
	comp=Z,188nm,19.7s,baz=257,slow=32							
LEWI	**Lewis, Hebride**	**8.30**	**137**	*eP*		**Pn**	**16 14 32.9**	**-2.1**
LEWI				IAmb	IAmb		16 14 35.8	
	comp=Z,75nm,0.6s							
ANGG	**Ammassalik, Gr**	**8.51**	**285**	Pn		**Pn**	**16 14 37.0**	**-0.9**
BIGH	**Upper Bighouse**	**8.96**	**127**	*eP*		**Pn**	**16 14 43.7**	**-0.4**
KAC	**Achnashellach**	**9.31**	**135**	*eP*		**Pn**	**16 14 47.8**	**-1.1**
KPL	**Plockton**	**9.34**	**137**	*eP*		**Pn**	**16 14 47.8**	**-1.4**
KPL				IAmb	IAmb		16 14 48.8	
	comp=Z,63nm,0.6s							
ICESG	**Greenland Ices**	**9.72**	**307**	*i* P		**Pn**	**16 14 59.2**	**+4.4**
DBG	**Daneborg**	**9.72**	**356**	*eP*		Pn	16 15 05.5	+11
MCD	**Coleburn Disti**	**9.89**	**129**	*eP*		**Pn**	**16 14 55.8**	**-1.0**
INVG	**Invergeldie, C**	**10.58**	**135**	*eP*		**Pn**	**16 15 04.6**	**-1.7**
INVG				IAmb	IAmb		16 15 06.4	
	comp=Z,24nm,0.7s							
ELO	**Logie Almond**	**10.65**	**134**	*eP*		**Pn**	**16 15 06.0**	**-1.2**
EAB	**Aberfoyle**	**10.70**	**137**	*eP*		**Pn**	**16 15 07.4**	**-0.5**
SUMG	**Summit**	**10.92**	**325**	*i* P		**Pn**	**16 15 15.0**	**+3.7**
SUMG	**Summit**	**10.92**	**325**	*i* P		**Pn**	**16 15 15.0**	**+3.7**
SUMG	**Summit**	**10.92**	**325**	Pn		**Pn**	**16 15 09.7**	**-1.6**
SUMG	**Summit**	**10.92**	**325**	*i* P		**Pn**	**16 15 15.0**	**+3.7**
PGBU	**Glenifferbraes**	**10.98**	**138**	*eP*		**Pn**	**16 15 10.5**	**-1.1**
PGBU				IAmb	IAmb		16 15 11.9	
	comp=Z,83nm,0.7s							
AKN	**Aaknes**	**11.24**	**92**	*eP*		**Pn**	**16 15 13.6**	**-1.6**
EDI	**Edinburgh**	**11.27**	**134**	*eP*		**Pn**	**16 15 14.8**	**-0.9**
BER	**Bergen**	**11.37**	**102**	*eP*		**Pn**	**16 15 15.2**	**-1.8**
NEWG	**New Galloway**	**11.65**	**139**	*eP*		**Pn**	**16 15 19.8**	**-1.1**
NEWG				IAmb	IAmb		16 15 21.9	
	comp=Z,28nm,0.7s							
GAL1	**Galloway**	**11.74**	**141**	*eP*		**Pn**	**16 15 21.2**	**-0.9**
EKA	**Eskdalemuir Ar**	**11.78**	**136**	Pn		**Pn**	**16 15 22.0**	**-0.6**
	baz=322,slow=13,SNR=41							
ESK	**Eskdalemuir**	**11.78**	**136**	*eP*		**Pn**	**16 15 21.3**	**-1.4**
ESK				IAmb	IAmb		16 15 23.8	
	comp=Z,19nm,0.8s							
ESK	**Eskdalemuir**	**11.78**	**136**	P		**Pn**	**16 15 22.5**	**-0.1**
ESK	**Eskdalemuir**	**11.78**	**136**	Pn		**Pn**	**16 15 21.6**	**-1.0**
KMY	**Karmoy**	**11.99**	**107**	*eP*		**Pn**	**16 15 25.1**	**-0.4**
DAG	**Danmarks Havn**	**12.16**	**359**	*i* P		**Pn**	**16 15 31.5**	**+3.8**
DAG	**Danmarks Havn**	**12.16**	**359**	*i* P		**Pn**	**16 15 31.5**	**+3.8**
DAG	**Danmarks Havn**	**12.16**	**359**	*eP*		**Pn**	**16 15 31.2**	**+3.4**
DAG				*i* P			16 15 31.6	
DOMB	**Dombas**	**12.18**	**90**	*eP*		**Pn**	**16 15 26.1**	**-2.0**
BLS5	**Blasjo**	**12.37**	**104**	*eP*		**Pn**	**16 15 29.7**	**-1.1**
SKAR	**Skarslia**	**12.47**	**97**	*eP*		**Pn**	**16 15 31.7**	**-0.5**
NSS	**Namsos**	**12.61**	**77**	*eP*		**Pn**	**16 15 37.3**	**+3.4**
STOK	**Stokkvaagen**	**12.71**	**69**	*eP*		**Pn**	**16 15 35.3**	**0.0**
KONS	**Konsvik**	**12.74**	**68**	*eP*		**Pn**	**16 15 36.9**	**+1.3**
DSB	**Dublin**	**12.80**	**148**	Pn		**Pn**	**16 15 36.5**	**-0.1**
NC204	**NORSAR Array S**	**13.24**	**92**	Pn		**Pn**	**16 15 39.8**	**-2.9**
NBO00	**NORSAR Array S**	**13.37**	**93**	Pn		**Pn**	**16 15 41.5**	**-2.8**
STEI	**Steigen**	**13.47**	**61**	*eP*		**Pn**	**16 15 47.4**	**+1.8**
NAO01	**NORSAR Array S**	**13.50**	**93**	Pn		**Pn**	**16 15 44.7**	**-1.4**
NC303	**NORSAR Array S**	**13.53**	**91**	Pn		**Pn**	**16 15 47.4**	**+1.0**
NB2	**NORSAR Subarra**	**13.55**	**92**	Pn		**Pn**	**16 15 43.9**	**-2.8**
	comp=Z,1.8nm,0.8s,baz=297,slow=14							
NOA	**NORSAR Array B**	**13.55**	**92**	Pn		**Pn**	**16 15 44.0**	**-2.8**
	comp=Z,0.0nm,0.3s,baz=299,slow=13,SNR=6.3							
NOA				LR	LR		16 20 54.7	
	comp=Z,140nm,19.2s,baz=300,slow=37							
SFJD	**Kangerlussuaq**	**13.65**	**295**	LR	LR		16 20 34.5	
	comp=Z,583nm,20.6s,baz=92,slow=35							
NC405	**NORSAR Array S**	**13.73**	**92**	Pn		**Pn**	**16 15 46.1**	**-3.1**
FOEL	**Foel Wylfa**	**13.91**	**141**	*eP*		**Pn**	**16 15 50.2**	**-1.5**
FOEL				IAmb	IAmb		16 15 52.1	
	comp=Z,12nm,0.7s							
TRO	**Tromso**	**14.81**	**54**	*eP*		**Pn**	**16 16 02.6**	**-1.3**
HFS	**Hagfors**	**15.06**	**93**	Pn		**Pn**	**16 16 07.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=245,slow=9.4,SNR=2.0							
HFS				LR	LR		16 22 01.1	
	comp=Z,140nm,18.3s,baz=286,slow=38							
KIF	**Kilpisjarvi**	**15.48**	**57**	*eP*		**Pn**	**16 16 14.4**	**+1.6**
KTK1	**Kautokeino**	**16.36**	**57**	*eP*		**P**	**16 16 27.0**	**-0.1**
HAMF	**Hammerfest**	**16.46**	**51**	*eP*		**Pn**	**16 16 24.8**	**-0.7**
SPITS	**Spitsbergen Ar**	**16.86**	**23**	LR	LR		16 21 12.2	
	comp=Z,67nm,21.0s,baz=280,slow=31							
NOR	**Nord**	**17.02**	**0**	*i* P		**P**	**16 16 34.9**	**+0.6**
	comp=Z,34nm,1.1s							
NOR	**Nord**	**17.02**	**0**	*i* P		**P**	**16 16 34.9**	**+0.6**
NOR				pmax	pmax			
	comp=Z,34nm,1.1s							
NOR	**Nord**	**17.02**	**0**	*i* P		**P**	**16 16 35.0**	**+0.6**
NOR				IAmb	IAmb		16 16 37.4	
	comp=Z,34nm,1.1s							
ARCES	**ARCESS Array B**	**17.12**	**55**	P		**Pn**	**16 16 33.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=269,slow=11,SNR=12							
ARCES	**ARCESS Array B**	**17.12**	**55**	P		**Pn**	**16 16 33.3**	**-0.5**
ARCES	**ARCESS Array B**	**17.12**	**55**			**Pn**	**16 16 33.3**	**-0.5**
ARE0	**ARCESS Array S**	**17.12**	**55**	Pn		**Pn**	**16 16 33.6**	**-0.2**
ARE0	**ARCESS Array S**	**17.12**	**55**	*eP*		**Pn**	**16 16 33.7**	**-0.2**
KEV	**Kevo**	**17.63**	**54**	P		**P**	**16 16 41.9**	**+0.8**
KEV				pmax	pmax			
	comp=Z,22nm,0.9s							
KEV	**Kevo**	**17.63**	**54**	P		**P**	**16 16 41.9**	**+0.8**
BSEG	**Bad Segeberg**	**17.65**	**114**	*eL*		L	16 24 04.8	
	comp=Z,356nm,18.5s							
SUF	**Sumiainen**	**19.17**	**76**	P		**P**	**16 16 57.2**	**-0.9**
SUF				pmax	pmax			
	comp=Z,13nm,2.2s							
CLZ	**Clausthal**	**19.29**	**119**	*eP*		**Pn**	**16 17 00.4**	**-0.1**
	comp=Z,20nm,0.8s,baz=324,slow=9.5							
FINES	**FINESS Array B**	**19.72**	**79**	P		**P**	**16 17 03.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=264,slow=5.7,SNR=11							
FINES				LR	LR		16 24 00.8	
	comp=Z,74nm,19.7s,baz=329,slow=35							
FINES	**FINESS Array B**	**19.72**	**79**	P		**P**	**16 17 04.3**	**+0.2**
FINES	**FINESS Array B**	**19.72**	**79**	P		**P**	**16 17 04.3**	**+0.2**
FIA1	**FINESS Array S**	**19.72**	**79**	P		**P**	**16 17 04.3**	**+0.2**
CLF	**Chambon-Foret**	**19.81**	**138**	P		**P**	**16 17 04.7**	**-0.5**
CLF				IAmb	IAmb		16 17 07.7	
	comp=Z,79nm,1.7s							
TNS	**Taunus Mts**	**19.91**	**124**	*eP*		**P**	**16 17 06.5**	**+0.1**
	comp=Z,6.3nm,0.9s,baz=324,slow=9.5							
TNS				*eL*		L	16 27 44.6	
	comp=Z,145nm,18.0s							
APA	**Apatity**	**20.33**	**59**	*iP*		**P**	**16 17 11.2**	**+0.4**
APA				*i* S		**S**	**16 20 53.0**	**-5.6**
APA				pmax	pmax			
	comp=Z,12nm,0.9s							
APA				MLR	MLR			
	comp=Z,200nm,21.0s							
MFF	**Saint Martin d**	**20.47**	**144**	*eP*		Pn	16 17 15.7	+1.2
MFF				pmax	pmax			
	comp=Z,12nm,1.0s							
MOX	**Moxa**	**20.72**	**119**	*eP*		**P**	**16 17 15.5**	**+0.4**
	comp=Z,16nm,0.9s,baz=324,slow=9.5							
MOX				*eL*		L	16 26 07.6	
	comp=Z,260nm,18.8s							
CLL	**Collm**	**20.72**	**116**	*i* P		**P**	**16 17 15.2**	**+0.1**
	comp=Z,52nm,1.8s							
CLL				*eS*		**S**	**16 21 06.0**	**-0.5**
CLL	**Collm**	**20.72**	**116**	*i* P		**P**	**16 17 15.2**	**+0.1**
CLL				*eS*		**S**	**16 21 06.0**	**-0.5**
CLL				pmax	pmax			
	comp=Z,52nm,1.8s							
CLL	**Collm**	**20.72**	**116**	*eP*		**P**	**16 17 15.4**	**+0.3**
	comp=Z,52nm,1.8s,baz=324,slow=9.5							
CLL				*eL*		L	16 26 01.1	
	comp=Z,222nm,18.0s							
CLL	**Collm**	**20.72**	**116**	P		**P**	**16 17 15.0**	**-0.1**
CLL				IAmb	IAmb		16 17 17.2	
	comp=Z,70nm,1.9s							
PBUR	**Paburge**	**21.01**	**96**	*eP*		**P**	**16 17 20.4**	**+2.2**
PLN	**Plauen**	**21.05**	**118**	*eP*		**P**	**16 17 19.0**	**+0.3**
	comp=Z,20nm,0.9s,baz=324,slow=9.5							
ECH	**Echery**	**21.17**	**129**	P		**P**	**16 17 20.4**	**+0.4**
ECH				pmax	pmax			
	comp=Z,20nm,0.9s							
ECH	**Echery**	**21.17**	**129**	P		**P**	**16 17 20.4**	**+0.4**
GRA1	**Grafenberg Arr**	**21.35**	**121**	P		**P**	**16 17 22.1**	**+0.2**
GRF	**Grafenberg Arr**	**21.35**	**121**	P		**P**	**16 17 22.1**	**+0.2**
GRF				pmax	pmax			
	comp=Z,18nm,0.9s							
GRF	**Grafenberg Arr**	**21.35**	**121**	*eP*		**P**	**16 17 22.6**	**+0.7**
	comp=Z,16nm,1.2s,baz=324,slow=9.5							
GRF				*eL*		L	16 25 35.3	
	comp=Z,140nm,21.9s							
NKC	**Novy Kostel**	**21.37**	**118**	*eP*		**P**	**16 17 22.2**	**+0.1**
NKC				*e*			16 17 26.4	
NKC				MLR	MLR			
	comp=Z,300nm,16.5s							
NKC	**Novy Kostel**	**21.37**	**118**	*eP*		**P**	**16 17 22.2**	**+0.1**
NKC				*epP*		**sP**	**16 17 26.4**	**+1.1**

DPC AMS AMS 16 27 00.0
comp=Z,300nm,19.6s
SENIN Lac Senin/Sane 22.84 131 P P 16 17 38.3 +0.2
DAVA Damuels 22.90 126 *ep*P pP 16 17 40.1 -0.7
comp=Z,9.2nm,1.1s
SUW Suwalki 22.90 98 P **P 16 17 37.9 -0.5**
SUW pmax pmax
comp=Z,25nm,1.0s
SUW Suwalki 22.90 98 P **P 16 17 37.9 -0.5**
SUW IAmb IAmb 16 17 40.1
comp=Z,25nm,1.0s
SSB Saint Sauveur 22.97 137 P **P 16 17 38.9 -0.3**
SSB **pP 16 17 39.3 -2.2**
GEC2 GERESS Array S 22.97 119 *e*P **P 16 17 39.6 +0.3**
comp=Z,11nm,1.1s,baz=324,slow=9.5
GEC2 *e*L L 16 26 43.8
comp=Z,207nm,21.4s
GEC2 GERESS Array S 22.97 119 P **P 16 17 39.3 0.0**
GERES GERESS Array B 22.97 119 P **P 16 17 39.5 +0.2**
comp=Z,4.5nm,0.9s,baz=330,slow=9.3,SNR=33
GERES LR LR 16 27 35.2
comp=Z,209nm,19.1s,baz=325,slow=39
GERES GERESS Array B 22.97 119 P **P 16 17 38.9 -0.4**
GERES GERESS Array B 22.97 119 P **P 16 17 38.9 -0.4**
RETA Reutte 23.04 125 *e*P **P 16 17 40.6 +0.6**
comp=Z,3.5nm,0.7s
IZAR Zarasai 23.04 92 *e*P **P 16 17 40.5 +0.7**
ISAL Salakas 23.11 92 *e*P **P 16 17 41.7 +1.2**
KRLC Kraliky 23.18 113 *e*P **P 16 17 41.2 -0.1**
KRLC *e* 16 17 45.7
KRLC MLR MLR
comp=Z,300nm,8.8s
KRLC Kraliky 23.18 113 *e*P **P 16 17 41.2 -0.1**
KRLC *ep*P **sP 16 17 45.7 +1.3**
KRLC *e*S **S 16 21 58.5 +5.3**
KRLC AMS AMS 16 29 10.0
comp=Z,300nm,8.8s
MOTA Moosalm 23.28 124 *i* P **P 16 17 43.0 +0.5**
comp=Z,8.3nm,0.9s,SNR=6.5
TREC Trest 23.29 116 *e*P **P 16 17 42.6 +0.1**
TREC MLR MLR
comp=Z,300nm,10.6s
TREC Trest 23.29 116 *e*P **P 16 17 42.6 +0.1**
TREC AMS AMS 16 28 20.0
comp=Z,300nm,10.6s
TMCR Tamitsa 23.35 66 *e*P **P 16 17 40.7 -2.2**
SQTA Sankt Quirin 23.42 124 *e*P **P 16 17 44.6 +0.7**
comp=Z,7.5nm,0.9s
TUE Stuetta 23.42 128 P **P 16 17 44.2 +0.2**
FETA Feichten 23.42 125 *ep*P pP 16 17 46.5 +0.2
comp=Z,2.9nm,1.0s
WATA Walderalm 23.45 124 *e*P **P 16 17 44.6 +0.3**
comp=Z,11nm,0.8s,SNR=7.0
WTTA Wattenberg 23.54 124 *e*P **P 16 17 45.6 +0.4**
comp=Z,10nm,0.9s,SNR=9.7
IDID Didziasalis 23.54 92 *e*P **P 16 17 46.0 +1.1**
RJOB Jochberg 23.56 121 *e*P **P 16 17 44.8 -0.4**
comp=Z,7.1nm,0.8s,baz=324,slow=9.5
FUORN Ofenpass-Fuorn 23.61 127 P **P 16 17 46.2 +0.3**
EUNU Eureka 23.65 336 P **P 16 17 46.8 +0.9**
EUNU IAmb IAmb 16 18 11.8
comp=Z,30nm,1.2s
VRAC Vranov 23.71 114 P **P 16 17 47.0 +0.3**
comp=Z,5.4nm,0.8s,baz=323,slow=12,SNR=9.9
VRAC Vranov 23.71 114 ⇑P **P 16 17 47.2 +0.5**
VRAC Vranov 23.71 114 *e*P **P 16 17 46.9 +0.3**
VRAC Vranov 23.71 114 P **P 16 17 47.0 +0.3**
MORC Moravsky Berou 23.71 112 ⇑P **P 16 17 47.3 +0.6**
MORC Moravsky Berou 23.71 112 *e*P **P 16 17 46.9 +0.2**
MORC Moravsky Berou 23.71 112 P **P 16 17 46.8 +0.1**
MORC pmax pmax
comp=Z,25nm,1.4s
MORC Moravsky Berou 23.71 112 P **P 16 17 46.8 +0.1**
MORC IAmb IAmb 16 17 58.9
comp=Z,25nm,1.4s
BNI Bardonecchia 23.82 134 P **P 16 17 48.6 +0.7**
BNI pmax pmax
comp=Z,8.0nm,1.1s
BNI Bardonecchia 23.82 134 P **P 16 17 48.5 +0.7**
KRUC Moravsky 23.83 115 *e*P **P 16 17 47.9 +0.1**
OKC Ostrava-Krasne 23.91 111 *e*P **P 16 17 48.5 0.0**
OKC Ostrava-Krasne 23.91 111 *e*P **P 16 17 48.5 0.0**
MOA Molln 24.01 119 *e*P **P 16 17 49.6 +0.1**
comp=Z,4.1nm,1.1s
PVRL Vila Real 24.12 162 *e*P **P 16 17 51.8 +1.2**
comp=Z,26nm,1.1s
OJC Ojcow 24.28 109 P **P 16 17 51.0 -1.0**
OJC pmax pmax
comp=Z,25nm,1.8s
OJC Ojcow 24.28 109 P **P 16 17 51.0 -1.0**
ABTA Abfaltersbach 24.29 123 *e*P **P 16 17 53.3 +1.0**
comp=Z,2.3nm,0.7s
KBA Koelnbreinsper 24.31 122 *e*P **P 16 17 53.6 +1.0**
comp=Z,13nm,1.9s
JAVC Velka Javorina 24.50 113 *e*P **P 16 17 55.2 +1.2**
CONA Conrad Observa 24.55 117 *e*P **P 16 17 55.0 +0.5**
comp=Z,11nm,0.9s,SNR=8.1
CTI Castel Tesino 24.59 125 P **P 16 17 55.3 +0.4**
CTI pmax pmax
comp=Z,14nm,0.7s
CTI Castel Tesino 24.59 125 P **P 16 17 55.3 +0.4**
CTI IAmb IAmb 16 17 57.1
comp=Z,14nm,0.7s
ZOU Zoufplan 24.62 123 P **P 16 17 55.6 +0.3**
CIMO Cimolais 24.64 124 P **P 16 17 55.8 +0.5**
PVIS Viseu 24.64 162 *e*P **P 16 17 57.4 +2.0**
comp=Z,26nm,1.6s
SMOL Smolenice 24.68 114 *e*P **P 16 17 56.5 +0.9**
SMOL pmax pmax
comp=Z,8.0nm,0.9s
SMOL Smolenice 24.68 114 *e*P **P 16 17 56.5 +0.9**
MODS Modra-Piesok 24.73 115 *e*P **P 16 17 56.5 +0.4**
MODS pmax pmax
comp=Z,11nm,1.4s
MODS Modra-Piesok 24.73 115 *e*P **P 16 17 56.5 +0.4**
STAL STALIGIAL 24.78 124 P **P 16 17 56.7 +0.2**
PRED Cave del Predi 24.93 122 P **P 16 17 57.8 -0.2**
ARSA Arzberg 24.98 118 *e*P **P 16 17 59.3 +0.9**
comp=Z,7.8nm,0.8s
MTE Manteigas 25.00 162 *e*P **P 16 18 00.2 +1.5**
comp=Z,8.2nm,0.7s
MTE A A 16 18 11.1
comp=Z,25nm,1.4s
MTE Manteigas 25.00 162 P **P 16 17 59.4 +0.7**
MTE IAmb IAmb 16 18 01.3
comp=Z,16nm,0.8s
KOLL Kolacno 25.01 113 *e*P **P 16 17 58.8 +0.2**
COI Coimbra 25.08 163 P **P 16 18 00.2 +1.0**
COI pmax pmax
comp=Z,15nm,0.8s
COI Coimbra 25.08 163 *e*P **P 16 18 01.6 +2.4**
comp=Z,33nm,1.9s
COI Coimbra 25.08 163 P **P 16 18 00.2 +1.0**
COI IAmb IAmb 16 18 03.7
comp=Z,15nm,0.8s
PCAS Casmilo, Conde 25.22 164 *e*P **P 16 18 02.6 +2.0**
comp=Z,25nm,1.6s
OBKA Obir 25.24 121 *e*P **P 16 18 00.9 +0.2**
comp=Z,4.3nm,0.8s
VYHS Vyhne 25.25 112 *e*P **P 16 18 01.0 +0.2**
VYHS pmax pmax
comp=Z,9.0nm,1.1s
VYHS Vyhne 25.25 112 *e*P **P 16 18 01.0 +0.2**
SOKA Soboth 25.27 120 *e*P **P 16 18 01.5 +0.5**
comp=Z,5.1nm,0.9s,SNR=5.6
PERS Pernice 25.34 120 *i* P **P 16 18 01.7 0.0**
PCBR Castelo Branco 25.56 162 *e*P **P 16 18 06.2 +2.6**
KLMR Klimovskoe 25.61 72 *e*P **P 16 18 02.9 -1.0**
comp=Z,46nm,1.4s
KLMR Klimovskoe 25.61 72 *e*P **P 16 18 02.9 -1.0**
KLMR *e* 16 21 33.8
KLMR pmax pmax
comp=Z,46nm,1.4s
KLMR Klimovskoe 25.61 72 *e*P **P 16 18 03.0 -1.0**
KLMR AMP 16 18 05.3
comp=Z,46nm,1.4s
KLMR *e*PcP **PcP 16 21 33.8 -0.5**
TRI Trieste 25.63 123 P **P 16 18 05.0 +0.8**
TRI pmax pmax
comp=Z,6.0nm,0.8s
TRI Trieste 25.63 123 P **P 16 18 05.0 +0.8**
SRO2 Moca 25.67 114 *e*P **P 16 18 04.2 -0.3**
SRO2 Moca 25.67 114 *e*P **P 16 18 04.2 -0.3**
VLC Villacollemand 25.81 129 P **P 16 18 06.8 +0.9**
KWP Kalwaria Pacla 25.93 106 P **P 16 18 07.0 +0.1**
KWP pmax pmax
comp=Z,23nm,0.9s
KWP Kalwaria Pacla 25.93 106 P **P 16 18 07.0 +0.1**
KWP IAmb IAmb 16 18 10.5
comp=Z,23nm,0.9s
LSH Leshukonskoye 25.97 61 *e*P **P 16 18 05.2 -1.9**
comp=Z,43nm,0.8s
PMRV Marv??o 25.98 162 *e*P **P 16 18 08.0 +0.5**
comp=Z,24nm,1.7s
CRVS Cervenica-Dubn 25.98 109 *e*P **P 16 18 07.8 +0.4**
CRVS Cervenica-Dubn 25.98 109 *e*P **P 16 18 07.8 +0.4**
SCHQ Schefferville 26.02 271 P **P 16 18 07.2 -0.5**
comp=Z,13nm,0.8s,baz=48,slow=9.2,SNR=9.9
SCHQ LR LR 16 27 53.9
comp=Z,133nm,18.6s,baz=287,slow=35
SCHQ Schefferville 26.02 271 P **P 16 18 07.0 -0.8**
SCHQ IAmb IAmb 16 18 10.0
comp=Z,12nm,0.8s
PSZ Piszkesteto 26.14 112 ⇑P **P 16 18 09.9 +1.0**
PSZ Piszkesteto 26.14 112 P **P 16 18 09.4 +0.5**
PSZ pmax pmax
comp=Z,9.0nm,0.9s
PSZ Piszkesteto 26.14 112 P **P 16 18 09.4 +0.5**
PMAFR Mafra 26.21 165 *e*P **P 16 18 11.8 +2.2**
comp=Z,59nm,1.5s
ESBB Sonseca Array 26.27 156 P **P 16 18 10.2 +0.1**
ESDC Sonseca Array 26.27 156 P **P 16 18 10.4 +0.3**
comp=Z,5.1nm,0.8s,baz=348,slow=9.0,SNR=53
ESDC LR LR 16 28 19.0
comp=Z,131nm,18.3s,baz=330,slow=36
ESDC Sonseca Array 26.27 156 P **P 16 18 10.0 -0.2**
KOLS Kolonicke sedl 26.29 108 *e*P **P 16 18 09.7 -0.5**
KOLS pmax pmax
comp=Z,8.0nm,1.0s
KOLS Kolonicke sedl 26.29 108 *e*P **P 16 18 09.7 -0.5**
PAB San Pablo 26.33 157 P **P 16 18 11.0 +0.3**
PAB pmax pmax
comp=Z,7.0nm,1.2s
PAB San Pablo 26.33 157 P **P 16 18 11.0 +0.3**
LVV L'vov 26.33 104 *e*P **P 16 18 13.9 +3.4**
BOJS Bojanci 26.35 121 *i* P **P 16 18 10.3 -0.4**
RES Resolute Bay 26.45 324 LR LR 16 28 32.6
comp=Z,213nm,18.5s,baz=116,slow=36
UZH Uzhgorod 26.54 108 *e*P **P 16 18 12.2 -0.2**
UZH *e*S **S 16 22 41.2 -5.5**
UZH *e*SS **SnSn 16 23 50.4 +2.5**
UZH MLR MLR
comp=Z,20nm,13.0s
OSSC Osservatorio P 26.66 129 P **P 16 18 13.2 -0.4**
OSSC IAmb IAmb 16 18 17.4
comp=Z,17nm,0.9s
ROSA Rosais 26.75 199 P **P 16 18 13.9 -0.5**
MURB Monte Urbino 27.32 127 P **P 16 18 19.8 +0.1**
MURB IAmb IAmb 16 18 24.1
comp=Z,13nm,0.9s
PRGR Permogore 27.63 67 *e*P **P 16 18 20.2 -1.9**
comp=Z,14nm,1.1s
PRGR Permogore 27.63 67 *e*P **P 16 18 20.3 -1.9**
PRGR pmax pmax
comp=Z,14nm,1.1s
AKASG Malin Array Be 27.86 98 P **P 16 18 23.3 -0.9**
comp=Z,4.1nm,0.8s,baz=320,slow=9.5,SNR=6.0
AKASG LR LR 16 29 07.0
comp=Z,93nm,20.8s,baz=300,slow=36
AKASG Malin Array Be 27.86 98 IAmb IAmb 16 18 28.3
comp=Z,1.6nm,0.9s
AKBB Malin Array Si 27.86 98 P **P 16 18 23.4 -0.8**
AKBB pmax pmax
comp=Z,11nm,1.3s
AKBB Malin Array Si 27.86 98 P **P 16 18 23.4 -0.8**
OBN Obninsk 27.89 84 P **P 16 18 24.1 -0.4**
comp=Z,3.3nm,0.4s,baz=284,slow=23,SNR=6.4
OBN LR LR 16 30 12.2
comp=Z,18nm,19.6s,baz=203,slow=38
OBN Obninsk 27.89 84 *de*P **P 16 18 24.1 -0.4**
OBN *PP **pP 16 18 27.0 +0.3**
OBN *SP **sP 16 18 30.0 +2.3**
OBN SSS SSS 16 24 41.0
OBN pmax pmax
comp=Z,34nm,1.3s
OBN MLR MLR
comp=Z,42nm,15.0s
OBN Obninsk 27.89 84 P **P 16 18 23.7 -0.8**
BURAR Bucovina Array 28.54 106 ⇑P **P 16 18 30.6 +0.1**
BURAR Bucovina Array 28.54 106 P **P 16 18 29.2 -1.3**
BZS Buzias 28.70 113 ⇑P **P 16 18 32.7 +1.0**
DIVS Divibare 29.33 116 P **P 16 18 36.7 -0.8**
MDVR Moldovita 29.43 114 ⇑P **P 16 18 39.6 +1.3**
SORM Soroca 29.44 102 ⇑P **P 16 18 38.4 +0.1**
HERR Herculane 29.62 113 ⇑P **P 16 18 41.3 +1.3**
DOPR Dopca 29.93 108 ⇑P **P 16 18 43.2 +0.4**
ARR Arges 30.11 109 ⇑P **P 16 18 45.5 +1.1**
VOIR 30.23 109 ⇑P **P 16 18 46.1 +0.7**
PDG Podgorica 30.47 119 P **P 16 18 46.7 -0.8**
LPSR Galich'ya Gora 30.64 86 *e*P **P 16 18 47.9 -1.0**
LPSR pmax pmax
comp=Z,20nm,1.3s
CFR Carcaliu 31.70 106 ⇑P **P 16 18 57.8 -0.5**
VSR Storozhevoye 31.75 88 *e*P **P 16 18 57.8 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VORD Divnogorie 31.98 88 *e*P **P 16 18 59.4 -1.3**
VORD pmax pmax
comp=Z,8.0nm,0.9s
CORL Corleone 32.40 131 P **P 16 19 04.6 0.0**
CHGQ Chibougamau 32.77 271 P **P 16 19 07.3 -0.4**
baz=42
VRH Novokhopyorsk 32.85 85 *e*P **P 16 19 07.5 -0.8**
VRH pmax pmax
comp=Z,10.0nm,0.7s
KEST Kesra 33.18 138 P **P 16 19 13.5 +2.1**
comp=Z,3.4nm,1.0s,baz=352,slow=9.3,SNR=3.6
KEST LR LR 16 32 10.5
comp=Z,161nm,19.3s,baz=272,slow=36
KEST Kesra 33.18 138 IAmb IAmb 16 19 18.0
comp=Z,7.8nm,1.1s
E60A Ste Agathe de 34.23 264 P **P 16 19 21.2 +0.8**
baz=38
D58A Chemin du LacG 34.28 266 P **P 16 19 21.3 +0.5**
baz=39
AGG Agios Georgios 34.59 118 P **P 16 19 23.6 0.0**
AGG pmax pmax
comp=Z,17nm,1.0s
AGG Agios Georgios 34.59 118 P **P 16 19 23.6 0.0**
D57A Chemin Vers le 34.77 267 P **P 16 19 25.3 +0.2**
baz=39
D55A Sainte-Anne-du 35.45 269 P **P 16 19 31.2 +0.2**
baz=39
VLDQ Val d'Or 35.46 272 P **P 16 19 31.1 +0.1**
E56A St. Veronique 35.64 268 P **P 16 19 32.8 +0.3**
baz=38
D54A Lac Fusel, La 35.86 270 P **P 16 19 34.7 +0.2**
baz=39
ARU Arti 36.09 66 *d* *i*P **P 16 19 36.3 0.0**
ARU 16 20 55.7
ARU S **S 16 25 18.3 +2.7**
ARU SS **SnSn 16 27 41.0 +1.2**
ARU pmax pmax
comp=Z,6.0nm,0.9s
D53A Lac Vacive, Po 36.36 271 P **P 16 19 38.9 +0.1**
baz=39
D53A Lac Vacive, Po 36.36 271 P **P 16 19 39.5 +0.7**
D53A IAmb IAmb 16 20 17.2
comp=Z,31nm,1.6s
NRIK Noril'sk 36.46 35 P **P 16 19 40.5 +1.2**
comp=Z,6.5nm,0.9s,baz=333,slow=4.8,SNR=8.4
SVE Sverdlovsk 36.62 64 *e*P **P 16 19 41.4 +0.6**
SVE pmax pmax
comp=Z,12nm,1.3s
G57A Newington 36.75 266 P **P 16 19 42.7 +0.7**
baz=37
E53A Dumoine, Ponti 36.90 270 P **P 16 19 44.3 +1.0**
baz=38,SNR=5.2
G55A Calabogie 37.38 268 P **P 16 19 48.2 +0.8**
baz=37
SOC Sochi 37.88 96 *e*P **P 16 19 49.7 -2.0**
SOC *e* 16 21 19.1
SOC *e*PPP PPP 16 21 42.8
SOC *e*S **S 16 25 42.4 -0.7**
SOC *e*SSS SSS 16 28 46.7
SOC pmax pmax
comp=Z,9.0nm,0.6s
SOC MLR MLR
comp=Z,42nm,12.0s
BR131 Keskin Array S 38.50 105 P **P 16 19 58.0 +0.9**
BR131 pmax pmax
comp=Z,5.0nm,1.0s
BR131 Keskin Array S 38.50 105 P **P 16 19 58.0 +0.9**
BRTR Keskin Array B 38.50 105 P **P 16 19 58.5 +1.4**
comp=Z,2.9nm,0.8s,baz=335,slow=6.4,SNR=14
BRTR LR LR 16 37 36.9
comp=Z,31nm,18.3s,baz=306,slow=39
BRTR Keskin Array B 38.50 105 P **P 16 19 57.9 +0.8**
IDI Anoyia 38.84 118 LR LR 16 37 09.5
comp=Z,69nm,19.9s,baz=318,slow=38
KIV Kislovodsk 38.86 92 *e*P **P 16 19 59.6 -0.4**
KIV pmax pmax
comp=Z,24nm,1.1s
KIV MLR MLR
comp=Z,101nm,16.0s
KIV Kislovodsk 38.86 92 P **P 16 20 00.6 +0.6**
KBZ Khabaz 39.13 92 P **P 16 20 04.0 +1.9**
comp=Z,4.7nm,0.8s,baz=319,slow=13,SNR=9.9
KBZ LR LR 16 36 29.7
comp=Z,85nm,20.5s,baz=325,slow=37
KBZ Khabaz 39.13 92 *ce*P **P 16 20 02.8 +0.7**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
YKA Yellowknife Ar 39.19 313 P **P 16 20 02.7 +0.3**
comp=Z,5.7nm,1.1s,baz=40,slow=8.6,SNR=6.8
YKA LR LR 16 36 01.9
comp=Z,121nm,18.7s,baz=0.0,slow=36
INK Inuvik 39.82 329 P **P 16 20 08.0 +0.4**
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 39.82 329 P **P 16 20 08.0 +0.4**
AKTO Aktyubinsk 40.30 73 LR LR 16 37 58.6
comp=Z,48nm,18.1s,baz=311,slow=38
FFC Flin Flon 40.58 297 P **P 16 20 14.8 +0.7**
FFC pmax pmax
comp=Z,21nm,1.5s
FFC Flin Flon 40.58 297 P **P 16 20 14.8 +0.7**
FFC IAmb IAmb 16 20 15.5
comp=Z,21nm,1.4s
N58A Sunbury 40.95 264 P **P 16 20 18.0 +0.7**
D41A Chassel 41.03 280 P **P 16 20 18.9 +1.0**
D41A IAmb IAmb 16 20 20.1
comp=Z,20nm,1.2s
I49A Point Hope 41.05 272 P **P 16 20 17.9 -0.2**
AKH Akhalkalaki 41.27 94 P **P 16 20 23.8 +3.6**
N56A West Decatur 41.56 265 P **P 16 20 22.3 -0.1**
baz=34
ULM Lac du Bonnet 41.58 289 P **P 16 20 22.8 +0.4**
comp=Z,2.7nm,0.5s,baz=79,slow=5.2,SNR=2.0
ULM LR LR 16 37 30.2
comp=Z,105nm,18.6s,baz=356,slow=36
ULM Lac du Bonnet 41.58 289 P **P 16 20 22.8 +0.4**
ULM pmax pmax
comp=Z,19nm,1.6s
ULM Lac du Bonnet 41.58 289 IAmb IAmb 16 20 53.2
comp=Z,19nm,1.6s
M54A Oil Creek Stat 41.67 267 P **P 16 20 24.5 +1.3**
baz=35
M54A Oil Creek Stat 41.67 267 P **P 16 20 23.5 +0.3**
M54A IAmb IAmb 16 20 25.1
comp=Z,17nm,1.1s
O57A Amberson 41.87 264 P **P 16 20 26.7 +1.8**
baz=34
ABKAR Akbulak array 42.00 73 P **P 16 20 25.6 -0.2**
N54A Moraine State 42.25 267 P **P 16 20 29.4 +1.4**
baz=34
N54A Moraine State 42.25 267 P **P 16 20 28.8 +0.8**
N54A IAmb IAmb 16 20 30.6
comp=Z,20nm,1.1s
TOLK Toolik Lake Re 42.73 336 P **P 16 20 33.6 +1.9**
baz=28,SNR=9.4
TOLK Toolik Lake Re 42.73 336 P **P 16 20 33.2 +1.6**
H43A Windswept, Lux 42.74 277 P **P 16 20 33.1 +1.2**
H43A IAmb IAmb 16 20 33.2
comp=Z,15nm,0.9s
M51A Elyria 42.89 269 P **P 16 20 34.8 +1.6**
baz=35
AGMN Agassiz Nation 43.10 287 P **P 16 20 36.2 +1.4**
baz=38
BRVK Borovoye 43.14 62 *ce*P **P 16 20 34.8 -0.2**
BRVK pmax pmax
comp=Z,19nm,1.7s
BRVK Borovoye 43.14 62 P **P 16 20 35.9 +0.9**
O53A New Philadelph 43.37 268 P **P 16 20 38.3 +1.3**
baz=34
O52A Adamsville 43.75 268 P **P 16 20 41.0 +1.0**
baz=34
O51A Pataskala 44.05 269 P **P 16 20 43.6 +1.1**
baz=34,SNR=5.7
P53A Whipple 44.08 267 P **P 16 20 44.1 +1.4**
baz=34
P53A Whipple 44.08 267 P **P 16 20 43.8 +1.1**
N49A Columbus Grove 44.09 271 P **P 16 20 43.3 +0.5**
COLD Coldfoot 44.10 336 P **P 16 20 44.1 +1.5**
baz=27
COLD Coldfoot 44.10 336 P **P 16 20 43.6 +1.0**
R56A Bull Pasture M 44.12 264 P **P 16 20 44.2 +1.0**
baz=33
ACSO Alum Creek Sta 44.14 269 P **P 16 20 43.9 +0.6**
ACSO IAmb IAmb 16 20 45.0
comp=Z,10nm,0.9s
P52A Corning 44.27 268 P **P 16 20 45.2 +0.9**
baz=34
P52A Corning 44.27 268 P **P 16 20 45.0 +0.7**
P52A IAmb IAmb 16 20 45.9
comp=Z,17nm,1.1s
EGAK Eagle 44.47 329 P **P 16 20 46.0 +0.5**
T59A Double "B" Far 44.54 261 P **P 16 20 46.7 +0.2**
T59A IAmb IAmb 16 20 47.5
comp=Z,18nm,1.6s
Q53A Leroy 44.66 267 P **P 16 20 48.7 +1.3**
baz=33
O49A Covington 44.76 270 P **P 16 20 48.8 +0.6**
O49A IAmb IAmb 16 20 49.8
comp=Z,14nm,0.8s
P51A Williamsport 44.80 269 P **P 16 20 49.1 +0.6**
baz=34
P51A Williamsport 44.80 269 P **P 16 20 48.8 +0.4**
P51A IAmb IAmb 16 20 49.9
comp=Z,12nm,0.8s
T57A Hurt 45.24 263 P **P 16 20 53.1 +1.0**
baz=32
T57A Hurt 45.24 263 P **P 16 20 53.1 +1.0**
T57A IAmb IAmb 16 20 55.3
comp=Z,16nm,1.4s
R53A Hurricane 45.28 267 P **P 16 20 53.9 +1.6**
baz=33
R53A Hurricane 45.28 267 P **P 16 20 52.8 +0.4**
Q51A Peebles 45.30 269 P **P 16 20 52.8 +0.3**
Q51A IAmb IAmb 16 20 54.1
comp=Z,11nm,0.9s
K27K Chicken 45.31 329 P **P 16 20 53.8 +1.5**
baz=30
P49A Miami Univ. Ec 45.47 270 P **P 16 20 54.1 +0.3**
baz=34
P49A Miami Univ. Ec 45.47 270 P **P 16 20 53.8 0.0**
P49A IAmb IAmb 16 20 54.5
comp=Z,6.2nm,0.8s
L42A Oliver, Polo 45.55 276 P **P 16 20 54.9 +0.4**
L42A IAmb IAmb 16 20 58.0
comp=Z,11nm,1.1s
IL31 45.67 332 P **P 16 20 56.0 +0.9**
IL31 IAmb IAmb 16 20 58.3
comp=Z,9.9nm,1.1s
ILAR Eielson Array 45.67 332 P **P 16 20 56.3 +1.2**
comp=Z,5.9nm,1.1s,baz=26,slow=5.9,SNR=27
ILAR PcP **PcP 16 22 33.1 +0.2**
comp=Z,2.8nm,0.9s,baz=356,slow=3.2,SNR=16
ILAR LR LR 16 42 30.9
comp=Z,99nm,18.5s,baz=104,slow=39
ILAR Eielson Array 45.67 332 P **P 16 20 55.6 +0.5**
ILAR Eielson Array 45.67 332 P **P 16 20 55.6 +0.5**
U57A Blanch 45.76 263 P **P 16 20 57.5 +1.4**
baz=32
MDM Murphy Dome 45.77 333 P **P 16 20 56.7 +0.8**
COLA College 45.77 333 *i* P **P 16 20 56.8 +1.0**
COLA pmax pmax
comp=Z,12nm,1.1s
COLA College 45.77 333 P **P 16 20 56.9 +1.1**
SCRK Sand Creek 45.77 330 P **P 16 20 57.2 +1.1**
baz=29
T55A Pulaski 45.80 265 P **P 16 20 57.1 +0.6**
baz=32
P48A Milroy 45.83 271 P **P 16 20 56.8 +0.1**
CCB Clear Creek Bu 45.96 333 P **P 16 20 58.1 +0.8**
HDA Harding Lake 46.00 332 P **P 16 20 58.8 +1.0**

baz=28,SNR=8.0
HDA Harding Lake 46.00 332 P P 16 20 58.1 +0.4
HDA IAmb IAmb 16 21 00.1
comp=Z,18nm,1.4s
DOT Dot Lake 46.08 330 P P 16 20 59.6 +1.2
DOT IAmb IAmb 16 21 20.8
comp=Z,26nm,2.0s
RIDG Independent Ri 46.16 331 P P 16 20 59.9 +0.8
RIDG IAmb IAmb 16 21 02.0
comp=Z,11nm,1.2s
L40A Anamosa 46.17 278 P P 16 20 59.4 +0.1
WRH Wood River Hil 46.17 333 P P 16 21 00.2 +1.1
T54A Tazewell 46.19 265 P P 16 21 00.2 +0.6
baz=32
NEA2 Nenana 46.26 333 P P 16 21 00.9 +1.2
baz=26,SNR=17
R50A Paris 46.34 269 P P 16 21 01.1 +0.4
R50A IAmb IAmb 16 21 02.1
comp=Z,5.3nm,0.8s
U55A TA2, Sparta 46.43 264 P P 16 21 01.6 +0.1
baz=32
BLO Bloomington 46.54 271 P P 16 21 02.8 +0.5
BLO pmax pmax
comp=Z,10.0nm,0.8s
BLO Bloomington 46.54 271 P P 16 21 02.8 +0.5
O44A Mansfield 46.56 274 P P 16 21 03.4 +0.9
S51A Beattyville 46.56 268 P P 16 21 03.1 +0.6
S51A IAmb IAmb 16 21 04.1
comp=Z,9.6nm,1.0s
HDIL Hopedale 46.59 275 P P 16 21 03.2 +0.6
T53A Wise 46.66 266 P P 16 21 03.7 +0.4
baz=32
R49A Shelbyville 46.70 270 P P 16 21 04.0 +0.4
U54A Nelsons Funny 46.75 265 P P 16 21 04.9 +0.9
baz=32
U54A Nelsons Funny 46.75 265 P P 16 21 04.1 +0.1
U54A IAmb IAmb 16 21 05.5
comp=Z,7.5nm,1.0s
V56A Mocksville 46.78 263 P P 16 21 05.1 +0.9
baz=32
PAX Paxson 46.98 330 P P 16 21 06.8 +1.3
PAX pmax pmax
comp=Z,8.0nm,1.4s
PAX Paxson 46.98 330 P P 16 21 06.8 +1.3
PAX IAmb IAmb 16 21 08.1
comp=Z,8.4nm,1.4s
MCK McKinley 47.00 333 P P 16 21 06.6 +1.0
MCK pmax pmax
comp=Z,15nm,1.2s
MCK McKinley 47.00 333 P P 16 21 06.6 +1.0
V55A Taylorsville 47.05 264 P P 16 21 07.6 +1.3
baz=32,SNR=5.6
V55A Taylorsville 47.05 264 P P 16 21 07.3 +0.9
DLBC Dease Lake 47.06 318 P P 16 21 07.3 +1.2
DLBC IAmb IAmb 16 22 36.8
comp=Z,10nm,1.4s
BPAW Bear Paw Mtn. 47.06 334 P P 16 21 07.0 +0.9
BPAW IAmb IAmb 16 21 08.4
comp=Z,12nm,1.2s
W57A Gilead 47.12 263 P P 16 21 07.7 +0.8
baz=31
W57A Gilead 47.12 263 P P 16 21 07.2 +0.3
WCI Wyandotte Cave 47.23 271 P P 16 21 07.9 +0.3
baz=33
WCI Wyandotte Cave 47.23 271 P P 16 21 08.0 +0.3
WCI pmax pmax
comp=Z,12nm,0.8s
WCI Wyandotte Cave 47.23 271 P P 16 21 08.0 +0.4
X58A Rowland 47.36 261 P P 16 21 09.5 +0.8
W56A Indian Trail 47.39 263 P P 16 21 09.4 +0.5
baz=31
V54A Nebo 47.43 265 P P 16 21 10.4 +1.1
baz=32,SNR=6.4
T50A Nancy 47.62 268 P P 16 21 11.2 +0.5
T50A IAmb IAmb 16 22 41.3
comp=Z,17nm,1.8s
ZAA0 Zalesovo Array 47.64 51 P P 16 21 11.0 +0.4
ZALV Zalesovo Beam 47.64 51 P P 16 21 10.9 +0.3
comp=Z,2.7nm,0.7s,baz=325,slow=8.2,SNR=10
ZALV PcP **PcP 16 22 40.3 +0.3**
comp=Z,0.6nm,0.5s,baz=332,slow=5.0,SNR=3.9
ZALV Zalesovo Beam 47.64 51 P P 16 21 10.6 0.0
ZALV Zalesovo Beam 47.64 51 P P 16 21 10.6 0.0
ZALV **PcP 16 22 40.0 0.0**
KMSC Kings Mountain 47.71 264 P P 16 21 12.3 +0.9
baz=31
KMSC Kings Mountain 47.71 264 P P 16 21 12.1 +0.7
KMSC IAmb IAmb 16 21 13.2
comp=Z,14nm,1.3s
EIL Elat 47.73 111 LR LR 16 44 12.6
comp=Z,36nm,18.1s,baz=272,slow=40
BIRD Birdtown, Kers 47.76 263 P P 16 21 12.8 +1.0
W54A Cherokee Point 48.12 265 P P 16 21 15.6 +1.0
baz=31
X56A White Oak 48.13 263 P P 16 21 15.7 +1.0
baz=31
TKL Tuckaleechee C 48.31 266 P P 16 21 16.5 +0.4
TKL pmax pmax
comp=Z,11nm,1.4s
TKL Tuckaleechee C 48.31 266 P P 16 21 16.5 +0.4
TKL IAmb IAmb 16 22 39.5
comp=Z,10nm,1.4s
PPLA Purkeypile 48.39 334 P P 16 21 16.7 +0.1
SCM Sheep Creek Mo 48.39 331 P P 16 21 17.5 +1.0
SCM pmax pmax
comp=Z,37nm,1.5s
SCM Sheep Creek Mo 48.39 331 P P 16 21 17.5 +1.0
X55A Gracelyn & Ava 48.41 264 P P 16 21 18.0 +1.1
baz=31
JSC Jenkinsville 48.41 263 P P 16 21 17.7 +0.8
JSC pmax pmax
comp=Z,5.0nm,1.1s
JSC Jenkinsville 48.41 263 P P 16 21 17.7 +0.8
V51A Loudon 48.44 267 P P 16 21 17.9 +0.9
V51A IAmb IAmb 16 21 18.9
comp=Z,13nm,1.3s
U49A Red Boiling Sp 48.45 269 P P 16 21 17.5 +0.3
U49A IAmb IAmb 16 21 18.6
comp=Z,5.4nm,0.9s
BG3 Lake Jocassee 48.52 265 P P 16 21 18.5 +0.7
BG3 IAmb IAmb 16 21 19.6
comp=Z,6.3nm,1.1s
LAO LASA Array 48.58 293 P P 16 21 19.3 +1.2
T47A Sharon Grove 48.62 270 P P 16 21 18.8 +0.3
GHO Glory Hole Cre 48.77 332 P P 16 21 20.3 +0.9
GHO IAmb IAmb 16 21 21.8
comp=Z,10nm,1.2s
EGMT Eagleton 48.86 297 P P 16 21 21.5 +1.3
baz=35,SNR=10
EGMT Eagleton 48.86 297 P P 16 21 21.2 +1.0
HODGE Hodges 48.88 264 P P 16 21 21.1 +0.6
HODGE IAmb IAmb 16 21 22.1
comp=Z,8.7nm,1.1s
S44A Carbondale 48.95 273 P P 16 21 21.4 +0.4
S44A IAmb IAmb 16 22 39.7
comp=Z,5.1nm,0.7s
Y55A Saluda 48.96 263 P P 16 21 21.7 +0.7
baz=31
PMR Palmer 48.98 332 P P 16 21 22.0 +1.1
PMR pmax pmax
comp=Z,5.0nm,1.0s
PMR Palmer 48.98 332 P P 16 21 22.0 +1.1
SKT Skwentna 49.10 333 P P 16 21 21.8 0.0
SKT IAmb IAmb 16 21 23.1
comp=Z,10nm,1.2s
EYAK Cordova Ski Ar 49.20 329 P P 16 21 24.3 +1.7
FVM French Village 49.21 274 P P 16 21 22.9 -0.1
FVM pmax pmax
comp=Z,6.0nm,0.7s
FVM French Village 49.21 274 P P 16 21 22.9 -0.1
FVM IAmb IAmb 16 21 24.1
comp=Z,5.5nm,0.7s
W50A Signal Mountai 49.36 268 P P 16 21 24.8 +0.5
SUA Susitna One 49.42 333 P P 16 21 25.6 +1.1
CCM Cathedral Cave 49.50 275 P P 16 21 24.8 -0.4
baz=33
R40A Maddies Statio 49.74 276 P P 16 21 26.4 -0.6
HICK Hickman 49.91 272 P P 16 21 28.7 +0.4
Y52A Lilburn 49.97 265 P P 16 21 29.1 +0.3
Y52A IAmb IAmb 16 21 30.4
comp=Z,12nm,1.3s
FPAL Fort Paine 50.05 267 P P 16 21 29.6 +0.2
FPAL IAmb IAmb 16 22 51.3
comp=Z,8.0nm,1.1s
GOGA Godfrey 50.10 265 P P 16 21 30.1 +0.4
baz=31
GOGA Godfrey 50.10 265 P P 16 21 30.2 +0.4
GOGA Godfrey 50.10 265 P P 16 21 30.2 +0.4
GOGA IAmb IAmb 16 21 31.2
comp=Z,8.0nm,1.1s
T42A Van Buren 50.30 274 P P 16 21 31.1 -0.2
T42A IAmb IAmb 16 21 32.0
comp=Z,16nm,1.7s
GEYT Alibeck 50.44 84 P P 16 21 33.6 +1.2
comp=Z,2.6nm,0.6s,baz=307,slow=11,SNR=6.9
GEYT Alibeck 50.44 84 P P 16 21 33.0 +0.6
GYA0B ALIBECK ARRAY 50.44 84 P P 16 21 33.0 +0.6
SVW2 Sparrevohn 50.67 335 P P 16 21 34.9 +1.1
S39A Bolivar 50.70 276 P P 16 21 34.0 -0.3
HRY Holter Researc 50.74 298 P P 16 21 34.7 +0.1
PLAL Pickwick Lake 50.74 270 P P 16 21 34.0 -0.6
X48A Hartselle 50.74 269 P P 16 21 33.8 -0.9
255A Hazlehurst 50.95 263 P P 16 21 35.8 -0.4
RLMT Red Lodge 51.07 295 P P 16 21 38.5 +1.3
baz=34,SNR=7.7
RLMT Red Lodge 51.07 295 P P 16 21 38.0 +0.8
RLMT IAmb IAmb 16 21 39.3
comp=Z,17nm,1.4s
YAK Yakutsk 51.26 19 P P 16 21 37.5 -0.7
YAK pmax pmax
comp=Z,12nm,1.4s
YAK Yakutsk 51.26 19 P P 16 21 37.5 -0.7
YAK IAmb IAmb 16 21 38.6
comp=Z,12nm,1.4s
KK31 Karatay Array 51.28 70 P P 16 21 39.3 +0.6
KK31 pmax pmax
comp=Z,10.0nm,1.1s
KK31 Karatay Array 51.28 70 P P 16 21 39.2 +0.6
KK31 IAmb IAmb 16 21 40.8
comp=Z,9.5nm,1.1s
KKAR Karatay Array 51.28 70 P P 16 21 38.8 +0.1
KKAR 16 21 39.2
KKAR Karatay Array 51.28 70 P P 16 21 39.2 +0.5
KKAR IAmb IAmb 16 21 40.8
comp=Z,9.5nm,1.1s
KKAR Karatay Array 51.28 70 P P 16 21 38.8 +0.1
CNPM China Poot 51.30 332 P P 16 21 39.0 +0.5
CNPM IAmb IAmb 16 21 40.4
comp=Z,19nm,1.3s
MSO Missoula 51.44 299 P P 16 21 39.8 0.0
baz=33
MSO Missoula 51.44 299 P P 16 21 39.7 -0.2
YNE Yellowstone No 51.45 295 P P 16 21 40.5 +0.3
BOZ Bozeman (W) 51.59 297 P P 16 21 42.1 +1.1
baz=33,SNR=16
BOZ Bozeman (W) 51.59 297 P P 16 21 41.8 +0.7
BOZ pmax pmax
comp=Z,13nm,1.1s
BOZ Bozeman (W) 51.59 297 P P 16 21 41.8 +0.7
BOZ IAmb IAmb 16 21 43.0
comp=Z,13nm,1.1s
U40A Yellville 51.62 275 P P 16 21 41.1 -0.1
baz=32
LRM Limekiln Ridge 51.72 297 P P 16 21 42.1 0.0
YMP Mirror Lake Pl 51.74 295 P P 16 21 42.1 -0.2
LRAL Lakeview Retre 51.94 268 P P 16 21 43.1 -0.5
baz=31
LRAL Lakeview Retre 51.94 268 P P 16 21 43.2 -0.5
LRAL IAmb IAmb 16 22 27.8
comp=Z,20nm,1.8s
K22A Casper 52.05 291 P P 16 21 44.0 -0.5
baz=33
DGZ Jazzator, Alta 52.08 53 *i* P P 16 21 44.5 -0.2
DGZ pmax pmax
comp=Z,8.0nm,1.1s
B08A Colville Reser 52.12 304 P P 16 21 44.8 0.0
H17A Grant Village 52.19 295 P P 16 21 48.0 +2.3
baz=33
YPP Pitchstone Pla 52.38 295 P P 16 21 48.7 +1.6
SEY Seymchan 52.48 6 *i* P P 16 21 47.0 -0.2
MAKZ Makanchi 52.60 59 P P 16 21 48.7 +0.3
MAKZ pmax pmax
comp=Z,24nm,1.8s
MAKZ Makanchi 52.60 59 P P 16 21 48.7 +0.3
MAKZ IAmb IAmb 16 21 49.8
comp=Z,24nm,1.8s
MCMT McKenzie Canyo 52.70 297 P P 16 21 50.0 +0.5
T35A Sooner Cattle 52.71 279 P P 16 21 49.3 0.0
MK31 Makanchi Array 52.73 58 P P 16 21 49.3 -0.1
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 52.73 58 P P 16 21 49.3 -0.1
MKAR Makanchi Array 52.73 58 P P 16 21 49.5 +0.1
comp=Z,3.5nm,0.8s,baz=325,slow=6.1,SNR=22
MKAR Makanchi Array 52.73 58 P P 16 21 49.2 -0.2
MKAR Makanchi Array 52.73 58 P P 16 21 49.2 -0.2
PHWY Pilot Hill 52.75 289 P P 16 21 49.2 -0.7
PHWY IAmb IAmb 16 23 18.3
comp=Z,9.3nm,0.9s
IMW Indian Meadow 52.75 295 P P 16 21 50.1 +0.2
SNOW Snow King Moun 53.04 295 P P 16 21 52.1 +0.1
SNOW IAmb IAmb 16 21 55.9
comp=Z,15nm,1.4s
TPAW Teton Pass 53.10 295 P P 16 21 51.5 -1.0
TPAW IAmb IAmb 16 21 53.6
comp=Z,10nm,1.3s
TOA0 Torodi Ar. Sit 53.16 156 P P 16 21 51.8 -1.0
TORD Torodi Ar. Bea 53.16 156 P P 16 21 52.1 -0.7
comp=Z,5.4nm,0.8s,baz=342,slow=8.3,SNR=17
TORD LR LR 16 46 03.6
comp=Z,47nm,18.3s,baz=5.0,slow=38
TORD Torodi Ar. Bea 53.16 156 P P 16 21 51.5 -1.3
TORD IAmb IAmb 16 21 52.8
comp=Z,4.5nm,0.9s
BW06 Boulder Array 53.16 293 P P 16 21 52.7 -0.2
baz=32,SNR=15
BW06 Boulder Array 53.16 293 P P 16 21 52.3 -0.6
BW06 IAmb IAmb 16 21 53.7
comp=Z,10nm,0.9s
PD31 Pinedale Array 53.16 293 P P 16 21 52.2 -0.6
PD31 IAmb IAmb 16 21 53.7
comp=Z,9.3nm,0.9s
PDAR Pinedale Array 53.16 293 P P 16 21 52.7 -0.2
comp=Z,5.1nm,0.8s,baz=58,slow=6.5,SNR=48
PDAR LR LR 16 43 16.2
comp=Z,92nm,21.0s,baz=14,slow=35
PDAR Pinedale Array 53.16 293 P P 16 21 52.0 -0.9
REDW Red Top Meadow 53.17 295 P P 16 21 53.3 +0.4
REDW IAmb IAmb 16 21 55.5
comp=Z,9.2nm,1.2s
X40A Basin Creek Fa 53.20 274 P P 16 21 53.0 +0.1
baz=31
N23A Red Feather La 53.29 289 P P 16 21 55.0 +1.1
baz=32,SNR=7.2
N23A Red Feather La 53.29 289 P P 16 21 54.1 +0.2
N23A IAmb IAmb 16 21 55.9
comp=Z,12nm,1.1s
PGC Sidney 53.31 307 P P 16 21 53.7 +0.2
PGC IAmb IAmb 16 22 21.6
comp=Z,10nm,1.0s
KSCO Kaye Shedlock' 53.51 285 P P 16 21 55.6 +0.2
KSCO IAmb IAmb 16 21 56.5
comp=Z,13nm,1.1s
BTK Batken 53.97 72 P P 16 21 59.6 +0.9
BTK pmax pmax
comp=Z,20nm,0.9s
BTK Batken 53.97 72 P P 16 21 59.6 +0.9
OK025 Westminster Rd 54.20 278 P P 16 22 00.1 -0.1
OK025 IAmb IAmb 16 22 02.1
comp=Z,12nm,1.0s
BMO Blue Mountains 54.36 300 P P 16 22 00.2 -1.3
BMO pmax pmax
comp=Z,4.0nm,1.0s
BMO Blue Mountains 54.36 300 P P 16 22 00.1 -1.3
CHGR Chuyangaron 54.47 74 P P 16 22 02.2 -0.1
MOY Mondy 54.66 42 *eP* P 16 22 05.2 +1.7
MOY pmax pmax
comp=Z,29nm,1.9s
GAR Garm 54.66 73 P P 16 22 04.5 +0.7
KDJ Kajisay 54.75 65 P P 16 22 05.0 +0.6
KDJ pmax pmax
comp=Z,7.0nm,1.0s
KDJ Kajisay 54.75 65 P P 16 22 05.0 +0.6
KDJ IAmb IAmb 16 22 06.5
comp=Z,7.4nm,1.0s
O20A White River Ci 54.86 290 P P 16 22 06.0 +0.7
baz=32
O20A White River Ci 54.86 290 P P 16 22 05.8 +0.5
HWUT Hardware Ranch 54.93 294 P P 16 22 06.0 +0.2
RDMU Red Mountain 55.02 292 P P 16 22 06.7 +0.2
TCUT Toone Canyon 55.29 294 P P 16 22 08.9 +0.5
WMOK Wichita Mounta 55.53 279 P P 16 22 10.7 +0.8
baz=31,SNR=5.1
WMOK Wichita Mounta 55.53 279 P P 16 22 10.4 +0.5
WMOK pmax pmax
comp=Z,10.0nm,1.3s
WMOK Wichita Mounta 55.53 279 P P 16 22 10.4 +0.5
WMOK IAmb IAmb 16 22 12.5
comp=Z,9.9nm,1.2s
JLU Jordanelle 55.74 293 P P 16 22 11.7 0.0
BGU Big Grassy Mou 56.09 295 P P 16 22 14.0 -0.1
H04A Detroit Lake 56.28 304 P P 16 22 15.3 +0.1
H04A IAmb IAmb 16 22 16.2
comp=Z,11nm,1.4s
S22A 4UR Ranch, Cre 56.32 288 P P 16 22 16.3 +0.4
baz=31
P17A Butcher Ranch, 56.43 292 P P 16 22 16.8 +0.3
PV22 Blue Mesa, Par 56.45 290 P P 16 22 16.8 +0.1
ZAK Zakamensk 56.46 41 *eP* P 16 22 17.3 +0.8
ZAK pmax pmax
comp=Z,7.0nm,1.2s
PV21 Cone Mtn., Par 56.50 290 P P 16 22 17.4 +0.3
KSH Kashi 56.51 68 *eP* P 16 22 19.5 +2.5
KSH pmax pmax
comp=Z,14nm,0.8s
PV23 Carpenter Ridg 56.61 290 P P 16 22 18.2 +0.2
PV23 IAmb IAmb 16 22 19.2
comp=Z,7.6nm,0.8s
PV04 Paradox Valley 56.61 290 P P 16 22 17.6 -0.3
PV04 IAmb IAmb 16 22 19.2
comp=Z,7.0nm,1.0s
DUG Dugway, Tooele 56.63 294 P P 16 22 18.9 +1.0
baz=31
DUG Dugway, Tooele 56.63 294 P P 16 22 18.3 +0.4
DUG pmax pmax
comp=Z,10.0nm,1.4s
DUG Dugway, Tooele 56.63 294 P P 16 22 18.3 +0.4
DUG IAmb IAmb 16 22 20.2
comp=Z,9.8nm,1.4s
PV12 Saucer Basin, 56.64 290 P P 16 22 18.3 +0.2
PV12 IAmb IAmb 16 22 19.5
comp=Z,13nm,1.1s
SRU San Rafael Swe 56.65 292 P P 16 22 18.3 +0.2
SRU pmax pmax
comp=Z,6.0nm,1.1s
SRU San Rafael Swe 56.65 292 P P 16 22 18.2 +0.2
PV11 David Mesa, Pa 56.68 290 P P 16 22 18.7 +0.3
PV11 IAmb IAmb 16 22 19.8
comp=Z,15nm,1.3s
PV10 Paradox Valley 56.68 290 P P 16 22 19.4 +1.0
PV20 West Nyswonger 56.68 290 P P 16 22 18.7 +0.3
PV16 Nyswonger Mesa 56.69 290 P P 16 22 18.3 -0.1
PV01 Paradox Valley 56.70 289 P P 16 22 19.0 +0.5
PV02 Paradox Valley 56.70 290 P P 16 22 19.0 +0.5
PV02 IAmb IAmb 16 22 20.1
comp=Z,8.9nm,0.8s
PV03 Paradox Valley 56.71 290 P P 16 22 18.9 +0.3
PV03 IAmb IAmb 16 22 20.0
comp=Z,8.0nm,0.9s
PV17 East Wray Mesa 56.73 290 P P 16 22 18.1 -0.6
PV17 IAmb IAmb 16 22 20.1
comp=Z,8.4nm,0.9s
PV18 Skein Mesa, Pa 56.74 290 P P 16 22 19.0 +0.2
PV18 IAmb IAmb 16 22 20.2
comp=Z,12nm,1.0s
TMUT Trail Mountain 56.77 292 P P 16 22 19.6 +0.6
PV13 Radium Mtn., P 56.78 290 P P 16 22 19.4 +0.3
Q16A Castle Valley 57.08 292 P P 16 22 21.6 +0.5
MLPR Magueyes Islan 57.14 240 P P 16 22 22.3 +0.8
J05D Fort Rock, OR 57.15 302 P P 16 22 22.5 +0.9
baz=30
WMQ Urumqi 57.24 56 *eP* P 16 22 25.8 +3.7
DR12 Loma Pena Alta 57.27 242 P P 16 22 23.3 +0.8
MSU Marysvale 57.82 293 P P 16 22 27.5 +1.1
MSU Marysvale 57.82 293 P P 16 22 27.5 +1.1
TCRU Three Creeks R 57.85 293 P P 16 22 27.9 +1.3
KBL Kabul 57.94 76 P P 16 22 27.6 +0.3
KBL pmax pmax
comp=Z,8.0nm,1.2s
KBL Kabul 57.94 76 P P 16 22 27.6 +0.3
KBL IAmb IAmb 16 22 28.7
comp=Z,8.0nm,1.1s
MTPU Mount Pierson 58.23 292 P P 16 22 30.7 +1.2
PSUT Pine Spring 58.47 294 P P 16 22 31.1 +0.2
ANMO Albuquerque 58.57 286 P P 16 22 32.7 +1.0
baz=30
ANMO Albuquerque 58.57 286 P P 16 22 31.4 -0.3
ANMO pmax pmax
comp=Z,5.0nm,1.4s
ANMO Albuquerque 58.57 286 P P 16 22 31.4 -0.3
DBIC Dimbokro 58.60 165 P P 16 22 31.2 -0.6
comp=Z,5.5nm,0.8s,baz=328,slow=9.6,SNR=4.9
DBIC Dimbokro 58.60 165 P P 16 22 31.0 -0.8
DBIC pmax pmax
comp=Z,54nm,1.8s
DBIC Dimbokro 58.60 165 P P 16 22 31.0 -0.8
TIC Toumodi 58.61 165 *eP* P 16 22 30.9 -1.0
PKCU Pink Cliffs 58.80 292 P P 16 22 34.2 +0.8
KIC Kosan Boka 58.92 165 *eP* P 16 22 33.2 -0.8
comp=Z,29nm,0.9s
SZCU Shurtz Canyon 58.98 293 P P 16 22 35.5 +1.0
LIC Lamto 59.03 165 *eP* P 16 22 33.9 -0.8
comp=Z,79nm,1.1s
CCUT Cedar City 59.12 293 P P 16 22 36.3 +0.8
R11A Troy Canyon, C 59.31 295 P P 16 22 37.7 +1.0
baz=30,SNR=9.1
R11A Troy Canyon, C 59.31 295 P P 16 22 37.0 +0.3
R11A IAmb IAmb 16 22 38.9
comp=Z,6.1nm,1.2s
BNM Barren Site 59.33 285 P P 16 22 37.3 +0.3
KNB Kanab 59.37 292 P P 16 22 37.3 +0.1
KNB pmax pmax
comp=Z,7.0nm,1.3s
KNB Kanab 59.37 292 P P 16 22 37.3 +0.1
LCMT Little Creek M 59.54 292 P P 16 22 38.2 -0.2
PAHR Pah Rah Range 59.58 299 P P 16 22 39.1 +0.5
PAHR IAmb IAmb 16 22 40.5
comp=Z,17nm,1.7s
JCT Junction City 59.63 277 P P 16 22 38.9 0.0
baz=30,SNR=5.7
JCT Junction City 59.63 277 P P 16 22 39.1 +0.2
JCT pmax pmax
comp=Z,9.0nm,0.9s
JCT Junction City 59.63 277 P P 16 22 39.1 +0.2
JCT IAmb IAmb 16 22 40.3
comp=Z,8.8nm,0.9s
SONM Songino Array 59.64 40 P P 16 22 39.5 +0.7
comp=Z,1.9nm,0.9s,baz=333,slow=7.8,SNR=12
SONM Songino Array 59.64 40 P P 16 22 38.8 0.0
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 59.64 40 P P 16 22 38.8 0.0
KVN Kaiserville 59.66 298 P P 16 22 38.7 -0.5
KVN pmax pmax
comp=Z,8.0nm,1.2s
KVN Kaiserville 59.66 298 P P 16 22 38.7 -0.5
KVN IAmb IAmb 16 22 40.8
comp=Z,7.9nm,1.2s
U15A North Rim 59.67 291 P P 16 22 39.2 -0.2
U15A IAmb IAmb 16 22 40.4
comp=Z,8.3nm,1.1s
ULN Ulaanbaatar 59.80 40 *ceP* P 16 22 40.4 +0.5
ULN pmax pmax
comp=Z,14nm,2.5s
ULN Ulaanbaatar 59.80 40 P P 16 22 40.7 +0.7
ULN IAmb IAmb 16 22 41.8
comp=Z,8.1nm,1.2s
PRN Pahroc Range 59.91 294 P P 16 22 42.1 +1.2
PRN IAmb IAmb 16 22 47.2
comp=Z,5.9nm,1.3s
WUAZ Wupatki 60.09 290 P P 16 22 42.7 +0.6
baz=30
WUAZ Wupatki 60.09 290 P P 16 22 41.9 -0.3
YERR Yerington 60.16 298 P P 16 22 43.4 +0.8
YERR IAmb IAmb 16 22 45.2
comp=Z,7.2nm,0.9s
NVAR Mina Array Bea 60.28 297 P P 16 22 44.0 +0.5
comp=Z,1.1nm,0.8s,baz=52,slow=6.1,SNR=7.8
NVAR LR LR 16 49 01.9
comp=Z,237nm,18.6s,baz=308,slow=36
NVAR Mina Array Bea 60.28 297 P P 16 22 43.5 0.0
NIL Nilore 60.46 73 P P 16 22 44.7 +0.1
NIL pmax pmax
comp=Z,22nm,1.1s

NIL	**Nilore**	**60.46**	**73**	P		**P**	**16 22 44.7**	**+0.1**
ORV	**Oroville**	**60.50**	**300**	P		**P**	**16 22 44.7**	**0.0**
ORV				pmax		pmax		
	comp=Z,15nm,2.0s							
ORV	**Oroville**	**60.50**	**300**	P		**P**	**16 22 44.7**	**0.0**
ORV				IAmb		IAmb	16 22 58.6	
	comp=Z,15nm,2.0s							
KMRM	**Mail Ridge**	**60.73**	**303**	P		**P**	**16 22 47.1**	**+0.8**
SHPR	**Sheep Range**	**60.74**	**294**	P		**P**	**16 22 47.5**	**+0.9**
SHPR				IAmb		IAmb	16 22 49.0	
	comp=Z,7.9nm,1.2s							
TPNV	**Topopah Spring**	**60.78**	**295**	P		**P**	**16 22 47.2**	**+0.3**
TPNV				pmax		pmax		
	comp=Z,3.0nm,1.1s							
TPNV	**Topopah Spring**	**60.78**	**295**	P		**P**	**16 22 47.2**	**+0.3**
MNTX	**Cornudas Mount**	**60.93**	**283**	P		**P**	**16 22 47.7**	**-0.1**
	baz=29							
MNTX	**Cornudas Mount**	**60.93**	**283**	P		**P**	**16 22 48.1**	**+0.4**
X16A	**Lo Mia Camp, P**	**61.07**	**290**	P		**P**	**16 22 49.7**	**+0.8**
X16A				IAmb		IAmb	16 22 51.0	
	comp=Z,6.4nm,1.1s							
121A	**Cookes Peak, D**	**61.21**	**285**	P		**P**	**16 22 50.7**	**+0.9**
	baz=29							
121A	**Cookes Peak, D**	**61.21**	**285**	P		**P**	**16 22 49.6**	**-0.2**
121A				IAmb		IAmb	16 23 34.3	
	comp=Z,7.5nm,1.1s							
OMMB	**Old Mammoth Mi**	**61.26**	**297**	P		**P**	**16 22 50.9**	**+0.6**
OMMB				IAmb		IAmb	16 22 52.7	
	comp=Z,8.1nm,1.4s							
MPMC	**Manual Prospec**	**62.04**	**295**	P		**P**	**16 22 56.2**	**+0.7**
	baz=29							
TX31	**Lajitas Ar. Si**	**62.27**	**280**	P		**P**	**16 22 56.8**	**-0.1**
TX32	**Lajitas Array**	**62.27**	**280**	P		**P**	**16 22 56.8**	**-0.1**
TX32				IAmb		IAmb	16 22 57.5	
	comp=Z,6.1nm,1.4s							
TXAR	**Lajitas Array**	**62.27**	**280**	P		**P**	**16 22 57.1**	**+0.2**
	comp=Z,1.8nm,1.0s,baz=60,slow=4.4,SNR=13							
TXAR				PcP		**PcP**	**16 23 37.0**	**+0.2**
	comp=Z,1.4nm,1.0s,baz=72,slow=4.1,SNR=5.6							
TXAR				LR		LR	16 49 17.4	
	comp=Z,137nm,19.2s,baz=0.0,slow=35							
TXAR	**Lajitas Array**	**62.27**	**280**	P		**P**	**16 22 56.5**	**-0.4**
TXAR	**Lajitas Array**	**62.27**	**280**	P		**P**	**16 22 56.5**	**-0.4**
TXAR						**PcP**	**16 23 36.3**	**-0.4**
GMRC	**Granite Mounta**	**62.44**	**293**	P		**P**	**16 22 57.8**	**-0.2**
	baz=29							
LRMC	**Laurel Mtn Rad**	**62.62**	**295**	P		**P**	**16 23 00.1**	**+0.8**
	baz=28							
TUC	**Tucson**	**62.64**	**288**	P		**P**	**16 23 00.5**	**+1.1**
	baz=29							
TUC	**Tucson**	**62.64**	**288**	P		**P**	**16 23 00.3**	**+1.0**
TUC				pmax		pmax		
	comp=Z,9.0nm,1.4s							
TUC	**Tucson**	**62.64**	**288**	P		**P**	**16 23 00.3**	**+1.0**
TUC				IAmb		IAmb	16 23 01.7	
	comp=Z,9.0nm,1.4s							
IRM	**Iron Mountain**	**62.79**	**292**	P		**P**	**16 22 59.9**	**-0.3**
	baz=29							
319A	**Douglas**	**62.84**	**286**	P		**P**	**16 23 01.8**	**+1.0**
BELC	**Belle Mtn. Jos**	**63.26**	**293**	P		**P**	**16 23 05.0**	**+1.5**
	baz=28							
GLA	**Glamis**	**63.63**	**292**	P		**P**	**16 23 06.2**	**+0.4**
GLA				pmax		pmax		
	comp=Z,8.0nm,1.0s							
GLA	**Glamis**	**63.63**	**292**	P		**P**	**16 23 06.2**	**+0.4**
GLA				IAmb		IAmb	16 24 31.5	
	comp=Z,8.5nm,1.0s							
KLR	**Kul'dur**	**63.93**	**22**	*ce*P		**P**	**16 23 07.1**	**-0.5**
KLR				pmax		pmax		
	comp=Z,1.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**67.51**	**40**	*e*P		**P**	**16 23 34.0**	**+3.1**
HHC				pmax		pmax		
	comp=Z,25nm,1.0s							
HHC				pmax		pmax		
	comp=Z,91nm,5.7s							
YSS	**Yuzh-Sakhalins**	**67.64**	**14**	*e*P		**P**	**16 23 31.7**	**+0.2**
YSS				pmax		pmax		
	comp=Z,10.0nm,1.2s							
YSS	**Yuzh-Sakhalins**	**67.64**	**14**	P		**P**	**16 23 32.1**	**+0.6**
XAN	**Xi'an**	**73.09**	**44**	P		**P**	**16 24 05.3**	**+0.2**
XAN				pP		PcP	16 24 16.0	-5.8
XAN				pmax		pmax		
	comp=Z,8.0nm,1.3s							
XAN				LR		LR		
	comp=N,100nm,19.1s							
XAN				LR		LR		
	comp=E,120nm,19.1s							
XAN				LR		LR		
	comp=Z,200nm,26.5s							
XAN	**Xi'an**	**73.09**	**44**	P		**P**	**16 24 05.2**	**+0.2**
XAN				pmax		pmax		
	comp=Z,9.0nm,1.2s							
XAN	**Xi'an**	**73.09**	**44**	P		**P**	**16 24 05.2**	**+0.1**
XAN				IAmb		IAmb	16 24 06.8	
	comp=Z,9.0nm,1.2s							
SHL	**Shillong**	**75.03**	**62**	P		**P**	**16 24 16.1**	**-0.6**
SHL				pmax		pmax		
	comp=Z,15nm,1.4s							
SHL	**Shillong**	**75.03**	**62**	P		**P**	**16 24 16.1**	**-0.6**
SHL				IAmb		IAmb	16 24 17.3	
	comp=Z,15nm,1.4s							
FLOC	**Florencia**	**75.42**	**241**	P		**P**	**16 24 18.2**	**-0.5**
ENH	**Enshi**	**76.77**	**45**	P		**P**	**16 24 26.3**	**0.0**
ENH				IAmb		IAmb	16 24 27.4	
	comp=Z,14nm,1.4s							
MJAR	**Matsushiro Arr**	**77.32**	**20**	P		**P**	**16 24 28.9**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=349,slow=5.8,SNR=5.1							
NJ2	**Nanjing**	**77.74**	**37**	*e*P		**P**	**16 24 32.5**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,5.0nm,0.6s							
GYA	**Guiyang**	**79.43**	**49**	*e*P		**P**	**16 24 42.0**	**+0.7**
GYA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
SAML	**Samuel**	**80.94**	**226**	P		**P**	**16 24 48.6**	**-0.7**
SAML				pmax		pmax		
	comp=Z,4.0nm,1.2s							
SAML	**Samuel**	**80.94**	**226**	P		**P**	**16 24 48.6**	**-0.7**
CHTO	**Chiang Mai**	**83.81**	**59**	P		**P**	**16 25 03.8**	**-0.6**
CHTO				pmax		pmax		
	comp=Z,7.0nm,1.0s							
CHTO	**Chiang Mai**	**83.81**	**59**	P		**P**	**16 25 03.8**	**-0.6**
CHTO				IAmb		IAmb	16 25 05.2	
	comp=Z,6.6nm,1.0s							
CMAR	**Chiang Mai Arr**	**84.14**	**59**	P		**P**	**16 25 06.0**	**0.0**
	comp=Z,2.4nm,0.8s,baz=318,slow=6.6,SNR=13							
CMAR	**Chiang Mai Arr**	**84.14**	**59**	P		**P**	**16 25 05.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**84.14**	**59**	P		**P**	**16 25 05.4**	**-0.6**
PBKT	**Sadao Pong**	**86.61**	**58**	P		**P**	**16 25 18.5**	**+0.2**
PBKT				IAmb		IAmb	16 25 19.9	
	comp=Z,3.9nm,0.9s							
CTA	**Charters Tower**	**134.14**	**21**	PKP		**PKPdf**	**16 31 50.5**	**-1.8**
	comp=Z,5.5nm,1.1s,baz=48,slow=11,SNR=2.2							
ASAR	**Alice Springs**	**134.97**	**38**	PKP		**PKPdf**	**16 31 54.0**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=321,slow=2.4,SNR=5.5							
ASAR	**Alice Springs**	**134.97**	**38**	PKIKP		**PKPdf**	**16 31 53.5**	**-0.3**
ASAR	**Alice Springs**	**134.97**	**38**			**PKPdf**	**16 31 53.5**	**-0.3**
STKA	**Stephens Creek**	**144.72**	**32**	PKP		**PKPab**	**16 32 09.5**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=312,slow=8.5,SNR=7.8							
STKA	**Stephens Creek**	**144.72**	**32**	PKIKP		**PKPab**	**16 32 09.9**	**-0.1**
STKA	**Stephens Creek**	**144.72**	**32**			**PKPab**	**16 32 09.9**	**-0.1**
QSPA	**South Pole Qui**	**154.60**	**180**	PKPbc		**PKiKP**	**16 32 35.0**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=273,slow=22,SNR=16							

*IDC **31** 16:15:48.9±0.7,62.64S×165.47E,h0km,mb4.7/11, mb1 4.7/13,mb1mx4.5/35,mbtmp4.7/13,ML4.7/2,MS4.4/16, Ms1 4.4/16,ms1mx4.3/20,Error ellipse: s-maj=27.2km s-min=14.4km az=77.0*

*NEIC **31** 16:15:49.6±1.4,62.69S±0.04×165.4E±0.3,h10km±1km, mb4.9/36,Error ellipse: s-maj=24.5km s-min=6.6km az=98.0*

*GCMT **31** 16:15:52.6±0.2,62.58S±0.01×165.71E±0.03,h17km±1km, MW5.2/116,Moment Tensor Solution. s72,cy67; s116,c190; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.07±.02; Mθθ=0.74±.01; Mϕϕ=-0.66±.01; Mrθ=0.34±.04; Mrϕ=-0.11±.01; Mθϕ=0.05±.04; Best double couple: M=0.77400×10^17 NP1:ϕ=228.00000°,δ75.00000°, λ167.00000°. NP2:ϕ=321.00000°,δ78.00000°,λ16.00000°. Principal axes: T 0.8730, Plg20.0000°, Azm185.0000°; N -0.1980, Plg70.0000°, Azm358.0000°; P -0.6740, Plg2.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

Triangular moment-rate function

ISC 31 16:15:50.0±0.4,62.64S±0.06×165.6E±0.1,h10km,n110, σ1=16/77,mb4.8/19,MS4.3/16,4C,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.00**	**183**	Pn	**Pn**	**16 19 21.9**	**+0.2**
	6.9nm,0.3s,baz=358,slow=14,SNR=337						
VNDA				LR	LR	16 24 16.8	
	comp=Z,3μm,18.1s,baz=12,slow=34						
VNDA	**Vanda**	**15.00**	**183**	Pn	**Pn**	**16 19 20.7**	**-1.0**
WHZ	**Wether Hill Ro**	**16.84**	**6**	Pn	**Pn**	**16 19 45.4**	**-0.2**
DCZ	**Deep Cove**	**17.24**	**4**	Pn	**P**	**16 19 50.9**	**-1.2**
MLZ	**Mavora Lakes**	**17.37**	**6**		**P**	**16 19 52.7**	**-1.0**
MLZ				IAmb	IAmb	16 20 02.6	
	comp=Z,119nm,1.4s						
ODZ	**Otahua Downs**	**17.87**	**12**		**Pn**	**16 19 58.4**	**-0.1**
ODZ				IAmb	IAmb	16 20 01.1	
	comp=Z,154nm,1.6s						
WKZ	**Wanaka**	**17.96**	**8**	P	**P**	**16 20 00.4**	**+0.2**
RPZ	**Rata Peaks**	**19.23**	**12**	P	**Pn**	**16 20 15.1**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=218,slow=10,SNR=8.8						
RPZ				LR	LR	16 26 30.9	
	comp=Z,3μm,20.3s,baz=208,slow=33						
RPZ	**Rata Peaks**	**19.23**	**12**	P	**Pn**	**16 20 14.8**	**-0.2**
RPZ				IAmb	IAmb	16 20 17.1	
	comp=Z,155nm,1.6s						
FOZ	**Fox Glacier**	**19.30**	**9**	P	**Pn**	**16 20 15.4**	**-0.5**
MQZ	**McQueen's Vall**	**19.41**	**16**	P	**Pn**	**16 20 16.9**	**-0.3**
MQZ				IAmb	IAmb	16 20 20.9	
	comp=Z,164nm,1.7s						
OXZ	**Oxford**	**19.72**	**14**	Pn	**Pn**	**16 20 21.4**	**+0.5**
OXZ				IAmb	IAmb	16 20 24.8	
	comp=Z,133nm,1.6s						
LTZ	**Lake Taylor**	**20.28**	**14**		Pn	16 20 28.0	+0.4
KHZ	**Kahutara**	**20.80**	**17**	P	**P**	**16 20 31.4**	**+0.3**
THZ	**Tophouse**	**21.36**	**15**	P	**P**	**16 20 37.5**	**+0.2**
THZ				IAmb	IAmb	16 20 41.7	
	comp=Z,54nm,1.1s						
BSWZ	**Blackbirch Sta**	**21.53**	**17**	P	**P**	**16 20 39.1**	**+0.1**
CMWZ	**Cape Campbell**	**21.55**	**18**	P	**P**	**16 20 40.4**	**+1.2**
TUWZ	**Tuamarina**	**21.82**	**17**	P	**P**	**16 20 42.0**	**-0.1**
NNZ	**Nelson**	**21.96**	**16**	P	**P**	**16 20 44.2**	**+0.6**
BHW	**Baring Head**	**21.97**	**19**	P	**P**	**16 20 43.9**	**+0.1**
MSWZ	**Moikau Station**	**22.02**	**20**	P	**P**	**16 20 44.6**	**+0.2**
QRZ	**Quartz Range**	**22.24**	**14**	P	**P**	**16 20 47.5**	**+0.8**
URZ	**Urewera**	**25.41**	**21**	P	**P**	**16 21 18.0**	**+0.6**
	comp=Z,64nm,1.2s,baz=2.0,slow=7.7,SNR=4.4						
URZ				LR	LR	16 29 45.1	
	comp=Z,2μm,20.5s,baz=194,slow=33						
URZ	**Urewera**	**25.41**	**21**	P	**P**	**16 21 17.0**	**-0.4**
QSPA	**South Pole Qui**	**27.45**	**180**	P	**P**	**16 21 36.3**	**+0.4**
	comp=Z,15nm,1.0s,baz=15,slow=2.6,SNR=52						
QSPA				LR	LR	16 31 28.2	
	comp=Z,2μm,18.1s,baz=44,slow=34						
QSPA	**South Pole Qui**	**27.45**	**180**	P	**P**	**16 21 35.7**	**-0.1**
TOO	**Toolangi**	**27.97**	**324**	P	**P**	**16 21 39.9**	**-0.6**
TOO				IAmb	IAmb	16 21 42.2	
	comp=Z,31nm,1.5s						
STKA	**Stephens Creek**	**34.40**	**322**	P	**P**	**16 22 38.2**	**+1.1**
	comp=Z,7.1nm,0.9s,baz=151,slow=9.8,SNR=11						
STKA	**Stephens Creek**	**34.40**	**322**	P	**P**	**16 22 36.4**	**-0.7**
EIDS	**Eidsvold**	**38.51**	**339**	P	**P**	**16 23 11.9**	**-0.3**
MAW	**Mawson**	**38.72**	**217**	P	**P**	**16 23 15.3**	**+1.7**
	comp=Z,2.2nm,0.8s,baz=134,slow=6.2,SNR=5.5						
MAW				LR	LR	16 39 17.6	
	comp=Z,2μm,18.4s,baz=124,slow=36						
BELA	**Belgrano 2**	**39.18**	**173**	P	**P**	**16 23 17.1**	**-0.3**
FORT	**Forrest**	**39.93**	**305**	P	**P**	**16 23 23.9**	**-0.2**
FORT				IAmb	IAmb	16 23 31.2	
	comp=Z,19nm,0.9s						
DZM	**Mont Dzumac**	**40.55**	**1**	*e*S	**S**	**16 29 38.3**	**-0.2**
	comp=Z,301nm,27.1s						
DZM				*e*LQ	LQ	16 32 53.9	
	comp=Z,394nm,25.5s						
DZM				*e*LR	LR	16 34 37.7	
	comp=Z,506nm,30.4s						
DZM	**Mont Dzumac**	**40.55**	**1**	P	**P**	**16 23 29.2**	**-0.2**
DZM				IAmb	IAmb	16 23 30.3	
	comp=Z,24nm,1.1s						
H01W1	**Cape Leeuwin H**	**42.12**	**287**	T	T	17 08 54.5	
	baz=147,slow=75,SNR=309						
H01W2	**Cape Leeuwin H**	**42.12**	**287**	T	T	17 08 54.8	
	baz=147,slow=75,SNR=289						
H01W3	**Cape Leeuwin H**	**42.14**	**287**	T	T	17 08 55.7	
	baz=147,slow=75,SNR=377						
SYO	**Syowa Base**	**43.16**	**205↑**	*e*P	**P**	**16 23 48.6**	**-1.5**
SYO	**Syowa Base**	**43.16**	**205↑**	*e*pP	**P**	**16 23 50.2**	**+0.1**
SYO	**Syowa Base**	**43.16**	**205↑**	*e*PP	PP	16 25 34.4	+4.5
ASAR	**Alice Springs**	**44.41**	**316**	P	**P**	**16 24 00.3**	**-0.3**
	comp=Z,9.2nm,0.9s,baz=161,slow=7.8,SNR=84						
ASAR				LR	LR	16 41 10.5	
	comp=Z,224nm,18.4s,baz=162,slow=34						
ASAR	**Alice Springs**	**44.41**	**316**	P	**P**	**16 23 59.5**	**-1.2**
AS31	**Alice Springs**	**44.41**	**316**	P	**P**	**16 23 59.4**	**-1.3**
CTA	**Charters Tower**	**44.56**	**334**	P	**P**	**16 24 02.4**	**+0.5**
	comp=Z,14nm,1.1s,baz=177,slow=11,SNR=7.4						
CTAO	**Charters Tower**	**44.56**	**334**	P	**P**	**16 24 01.5**	**-0.4**
SNAA	**Sanae**	**45.72**	**185**	P	**P**	**16 24 10.3**	**-0.3**
SNAA	**Sanae**	**45.72**	**185**	LR	LR	16 42 36.4	
	comp=Z,938nm,18.5s,baz=166,slow=35						
SNAA	**Sanae**	**45.72**	**185**	P	**P**	**16 24 10.0**	**-0.6**
VNA3	**Neumayer Olymp**	**46.35**	**182**	P	**P**	**16 24 15.1**	**-0.4**
VNA2	**Neumayer--Watz**	**46.62**	**183**	P	**P**	**16 24 17.0**	**-0.7**
VNA1	**Neumayer--Stat**	**46.91**	**183**	P	**P**	**16 24 19.5**	**-0.4**
WR0	**Warramunga Arr**	**47.68**	**319**	P	**P**	**16 24 25.2**	**-1.3**
WB2	**Warramunga Arr**	**47.76**	**319**	P	**P**	**16 24 25.3**	**-1.7**
WB2				IAmb	IAmb	16 24 27.0	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**47.76**	**319**	P	**P**	**16 24 25.6**	**-1.5**
	comp=Z,7.3nm,1.2s,baz=158,slow=7.1,SNR=13						
WRA				PcP	**PcP**	**16 25 54.7**	**-1.4**
	comp=Z,1.7nm,1.0s,baz=155,slow=3.0,SNR=5.2						
WRA				LR	LR	16 42 25.8	
	comp=Z,316nm,18.7s,baz=145,slow=34						
WRA	**Warramunga Arr**	**47.76**	**319**	P	**P**	**16 24 25.2**	**-1.9**
WRAB	**Tennant Creek**	**47.77**	**319**	P	**P**	**16 24 25.5**	**-1.6**
WRAB				IAmb	IAmb	16 24 27.1	
	comp=Z,17nm,1.4s						
WB0	**Warramunga Arr**	**47.91**	**319**	P	**P**	**16 24 26.7**	**-1.6**
WB0				IAmb	IAmb	16 24 28.8	
	comp=Z,18nm,1.4s						
TBI	**Tubuai**	**49.45**	**59**	*e*LQ	LQ	16 36 04.6	
	comp=Z,1μm,27.0s						
TBI				*e*LR	LR	16 38 32.5	
	comp=Z,473nm,28.0s						
TBI	**Tubuai**	**49.45**	**59**	*e*T	T	17 17 25.9	
	comp=Z,40nm,0.3s						
COEN	**Coen**	**51.16**	**332**	P	**P**	**16 24 52.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**52.36**	**310**	P	**P**	**16 25 01.8**	**-0.2**
	comp=Z,4.9nm,1.1s,baz=177,slow=9.0,SNR=5.1						
FITZ				LR	LR	16 44 31.3	
	comp=Z,204nm,19.7s,baz=159,slow=33						
FITZ	**Fitzroy Crossi**	**52.36**	**310**	P	**P**	**16 25 01.9**	**-0.2**
KNRA	**Kununurra**	**53.53**	**314**	P	**P**	**16 25 10.1**	**-0.6**
PAE	**Paea**	**54.56**	**56**	*e*T	T	17 23 49.2	
	comp=Z,9.9nm,0.3s						
TVO	**Taravao**	**54.57**	**56**	*e*T	T	17 23 50.5	
	comp=Z,5.6nm,0.3s						
PPT2	**Papeete2**	**54.63**	**56**	*e*T	T	17 23 54.5	
	comp=Z,17nm,0.3s						
PPT	**Papeete**	**54.65**	**56**	LR	LR	16 46 22.9	
	comp=Z,194nm,18.2s,baz=110,slow=34						
TIAR	**Tiarei**	**54.74**	**56**	*e*T	T	17 23 55.3	
	comp=Z,4.6nm,0.3s						
PMG	**Port Moresby**	**54.80**	**338**	P	**P**	**16 25 20.8**	**+0.9**
	comp=Z,16nm,0.9s,baz=148,slow=19,SNR=3.3						
PMG				LR	LR	16 44 52.1	
	comp=Z,352nm,19.6s,baz=164,slow=32						
PMG	**Port Moresby**	**54.80**	**338**	IAmb	IAmb	16 25 21.3	
	comp=Z,29nm,1.0s						
USHA	**Ushuaia**	**55.50**	**145**	P	**P**	**16 25 24.5**	**0.0**
	comp=Z,8.5nm,0.5s,baz=355,slow=8.9,SNR=2.0						
VAH	**Vaihoa**	**57.52**	**56**	*e*T	T	17 27 31.0	
	comp=Z,342nm,0.3s						
PMOR	**Pomariorio Ree**	**57.63**	**56**	*e*T	T	17 27 37.5	
	comp=Z,4.6nm,0.3s						
KRVT	**Keravat (AS076**	**59.07**	**344**	LR	LR	16 45 43.7	
	comp=Z,72nm,21.3s,baz=158,slow=30						
H03S2	**Juan Fernandez**	**70.96**	**127**	T	T	17 45 19.7	
	baz=204,slow=74,SNR=341						
H03S1	**Juan Fernandez**	**70.97**	**127**	T	T	17 45 21.0	
	baz=204,slow=74,SNR=342						
H03S3	**Juan Fernandez**	**70.98**	**127**	T	T	17 45 15.2	
	baz=204,slow=74,SNR=397						
H03N3	**Juan Fernandez**	**71.31**	**127**	T	T	17 45 43.7	
	baz=85,slow=74,SNR=20						
H03N2	**Juan Fernandez**	**71.32**	**127**	T	T	17 45 45.1	
	baz=85,slow=74,SNR=71						
H03N1	**Juan Fernandez**	**71.32**	**127**	T	T	17 45 42.0	
	baz=85,slow=74,SNR=18						
BO02	**Sierra Bellavi**	**72.95**	**134**	P	**P**	**16 27 18.9**	**-0.4**
BO02				IAmb	IAmb	16 27 26.8	
	comp=Z,11nm,0.8s						
GUMO	**Guam**	**77.70**	**339**	LR	LR	16 57 52.6	
	comp=Z,42nm,19.2s,baz=178,slow=32						
BOSA	**Boshof**	**83.69**	**214**	LR	LR	17 03 21.8	
	comp=Z,245nm,19.0s,baz=164,slow=34						
H08S2	**Diego Garcia H**	**84.70**	**264**	T	T	18 02 24.5	
	baz=152,slow=76,SNR=290						
H08S1	**Diego Carcia H**	**84.71**	**264**	T	T	18 02 25.2	
	baz=152,slow=76,SNR=239						
H08S3	**Diego Garcia H**	**84.72**	**264**	T	T	18 02 25.9	
	baz=152,slow=76,SNR=281						
LPAZ	**La Paz**	**90.88**	**129**	P	**P**	**16 28 54.5**	**+0.1**
	comp=Z,2.6nm,1.1s,baz=64,slow=0.6,SNR=6.7						
LPAZ	**La Paz**	**90.88**	**129**	P	**P**	**16 28 53.2**	**-1.2**
LPAZ				IAmb	IAmb	16 28 56.0	
	comp=Z,6.4nm,1.2s						
CMAR	**Chiang Mai Arr**	**96.05**	**299**	LR	LR	17 10 05.2	
	comp=Z,90nm,19.6s,baz=202,slow=34						
BDFB	**Brasilia**	**97.64**	**147**	LR	LR	17 13 03.6	
	comp=Z,80nm,18.0s,baz=164,slow=35						
KMI	**Kunming**	**100.57**	**305**	⇑P	**Pdif**	**16 29 42.0**	**+4.3**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NJ2	**Nanjing**	**101.51**	**321**	*e*P	**Pdif**	**16 29 43.3**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
H06S1	**SOCORRO T**	**103.48**	**76**	T	T	18 25 15.9	
	SNR=16						
H06E1	**SOCORRO T-PHAS**	**103.54**	**76**	T	T	18 25 26.4	
	SNR=72						
HHC	**Hu-ho-hao-te**	**111.84**	**319**	*e*PKP	**PKiKP**	**16 34 25.8**	**+1.5**
WMQ	**Urumqi**	**122.81**	**303**	*e*PKP	**PKiKP**	**16 34 46.3**	**+0.9**
PDAR	**Pinedale Array**	**124.71**	**63**	PKP	**PKiKP**	**16 34 50.5**	**+1.1**
	comp=Z,0.6nm,1.0s,baz=197,slow=1.5,SNR=4.4						
H02S1	**DAWSON INLET T**	**125.29**	**41**	T	T	18 52 25.5	
	SNR=12						
H02N1	**VAN INLET T-PH**	**125.31**	**40**	T	T	18 52 35.9	
MKAR	**Makanchi Array**	**127.40**	**301**	PKhKP	PKPpre	16 34 47.4	
	comp=Z,0.2nm,0.6s,baz=188,slow=2.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**129.26**	**200**	PKP	**PKiKP**	**16 34 59.6**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=143,slow=0.4,SNR=2.6						
ILAR	**Eielson Array**	**131.88**	**25**	PKP	**PKiKP**	**16 35 05.1**	**+2.4**
	comp=Z,0.6nm,0.8s,baz=275,slow=2.3,SNR=1.6						
BRTR	**Keskin Array B**	**143.40**	**254**	PKhKP	PKPpre	16 35 19.6	
	comp=Z,0.9nm,1.0s,baz=90,slow=4.3,SNR=2.4						
BRTR				PKP	pPKPdf	16 35 25.0	-1.2
	comp=Z,0.9nm,0.8s,baz=150,slow=7.4,SNR=5.1						
KEST	**Kesra**	**149.28**	**220**	PKPbc	**PKPbc**	**16 35 36.8**	**-1.4**
	comp=Z,2.4nm,0.9s,baz=130,slow=7.9,SNR=2.1						
KIRV	**Kirov**	**149.57**	**292**	PKP	**PKPdf**	**16 35 32.4**	**-1.0**
	comp=Z,2.8nm,0.5s,baz=0.0,slow=0.0,SNR=1.6						
KIRV				PKPbc	**PKiKP**	**16 35 38.1**	**-1.0**
	comp=Z,2.5nm,0.5s,baz=298,slow=1.7,SNR=3.9						
AKASG	**Malin Array Be**	**153.78**	**263**	PKPbc	**PKiKP**	**16 35 52.1**	**+4.0**
	comp=Z,0.5nm,0.4s,baz=269,slow=38,SNR=2.1						
AKASG				PKPab	**PKPab**	**16 36 01.3**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=109,slow=2.5,SNR=2.1						
ESDC	**Sonseca Array**	**156.15**	**200**	PKPab	**PKPab**	**16 36 12.5**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=159,slow=2.8,SNR=4.2						
VRAC	**Vranov**	**158.39**	**246**	PKPab	**PKPab**	**16 36 19.2**	**-1.7**
	comp=Z,1.7nm,0.5s,baz=77,slow=14,SNR=3.6						
GERES	**GERESS Array B**	**159.23**	**241**	PKPab	**PKPab**	**16 36 23.6**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=127,slow=6.3,SNR=1.8						

*ISN **31** 16:35:49.9±1.4,33.72N×45.66E,h0km±12km,ML1.8*
*TEH **31** 16:35:51.4,33.75N×45.69E,h10km,ML2.7*

ISC 31 16:35:52.1±1.0,33.76N±0.06×45.72E±0.06,h10km,n8, σ0=68/11,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.91**	**51**	*e*Pg	**Pb**	**16 36 10.3**	**+0.2**
IGHG				*e*		16 36 14.1	
IDHR	**Dehrash**	**1.09**	**30**	*

GIRL	**Giralia**	**67.03**	**252**	P	**P**	**16**	**59**	**29.2** **+0.7**
NVAR	**Mina Array Bea**	**75.16**	**43**	P	**P**	**17**	**00**	**14.9** **-2.6**
	comp=Z,0.3nm,0.7s,baz=236,slow=9.6,SNR=2.6							
NVAR	**Mina Array Bea**	**75.16**	**43**	P	**P**	**17**	**00**	**14.9** **-2.6**
CLL	**Collm**	**143.62**	**352**	*i* PKPdf	**PKPdf**	**17**	**08**	**10.0** **+0.5**
	comp=Z,6.0nm,0.9s							
CLL				*i* pPKPdf	**pPKPdf**	**17**	**08**	**20.3** **+0.1**

*IDC **31** 17:27:11.5±0.9, 31°.46S×67°.95W, h27km±4km, mb3.6/4, mb1 3.8/6, mb1mx3.6/26, mbtmp3.8/6, ML3.3/2, Error ellipse: s-maj=37.4km s-min=28.1km az=96.0*

ISC 31 17:27:11.4±0.9, 31°.4S±0'.1×67°.9W±0'.2, h28km, n10, σ0°62/14, mb3.8/4, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
LVC	**Limon Verde**	**8.84**	**354**	Pn	**Pn**	**17**	**29**	**17.1** **-0.6**
	0.5nm,0.3s,baz=176,slow=8.4,SNR=2.0							
LPAZ	**La Paz**	**15.09**	**359**	Pn	**Pn**	**17**	**30**	**44.5** **+1.1**
	0.0nm,0.3s,baz=207,slow=16,SNR=1.2							
VNDA	**Vanda**	**67.26**	**190**	P	**P**	**17**	**38**	**03.0** **+0.2**
	0.3nm,0.6s,baz=154,slow=7.2,SNR=3.4							
TXAR	**Lajitas Array**	**69.34**	**327**	P	**P**	**17**	**38**	**16.7** **+0.2**
	0.2nm,0.6s,baz=115,slow=5.7,SNR=3.7							
DBIC	**Dimbokro**	**71.06**	**69**	P	**P**	**17**	**38**	**27.1** **-0.3**
	4.9nm,0.9s,baz=216,slow=7.2,SNR=4.3							
TORD	**Torodi Ar. Bea**	**80.07**	**68**	P	**P**	**17**	**39**	**19.3** **+0.4**
	1.2nm,0.6s,baz=270,slow=5.6,SNR=3.9							
TORD				pP	**pP**	**17**	**39**	**27.9** **-0.9**
	1.3nm,0.7s,baz=266,slow=4.4,SNR=3.5							
TORD				sP	**sP**	**17**	**39**	**32.0** **+0.3**
	1.0nm,0.6s,baz=256,slow=4.7,SNR=2.9							
ASAR	**Alice Springs**	**121.35**	**204**	PKP	**PKPdf**	**17**	**46**	**01.9** **-0.7**
	0.8nm,1.3s,baz=151,slow=2.4,SNR=0.9							
WRA	**Warramunga Arr**	**124.62**	**206**	PKP	**PKPdf**	**17**	**46**	**08.5** **-0.4**
	0.2nm,0.4s,baz=169,slow=1.5,SNR=14							
ZALV	**Zalesovo Beam**	**150.21**	**33**	PKPbc	**PKPbc**	**17**	**46**	**59.8** **+0.5**
	1.5nm,0.4s,baz=320,slow=4.5,SNR=9.9							
ZALV				pPKPbc	**sPKPdf**	**17**	**47**	**08.1** **+0.5**
	1.6nm,0.6s,baz=303,slow=3.4,SNR=5.2							
MKAR	**Makanchi Array**	**152.49**	**48**	PKPbc	**PKiKP**	**17**	**47**	**05.2** **+0.2**
	1.1nm,0.6s,baz=285,slow=2.3,SNR=9.7							
MKAR				pPKPbc	**pPKPbc**	**17**	**47**	**13.8** **-0.6**
	1.0nm,0.6s,baz=296,slow=1.5,SNR=7.9							

*ISN **31** 17:43:39.1±0.9, 33°.72N×45°.58E, h0km±7km, ML1.7*
*TEH **31** 17:43:40.1, 33°.71N×45°.55E, h25km, ML2.8*

ISC 31 17:43:40.6±1.0, 33°.66N±0'.06×45°.68E±0'.06, h13km, n9, σ1°44/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
IGHG	**Ghaleghazi**	**0.99**	**47**	*e*Pg	**Pn**	**17**	**43**	**59.9** **-0.6**
IGHG				*e*		17	44	03.0
BHD	**Baghdad**	**1.16**	**251**	*e*Pg	**Pg**	**17**	**44**	**03.0** **+0.1**
	baz=66							
BHD				*e*Sg	**Sn**	**17**	**44**	**20.0** **+1.8**
BHD				AML	AML	17	44	26.0
	comp=E,18nm,0.7s							
IDHR	**Dehrash**	**1.19**	**29**	*e*Sg	**Sn**	**17**	**44**	**19.6** **+0.3**
IDHR				*e*Pg	**Pn**	**17**	**44**	**02.2** **-1.0**
IDHR				*e*		17	44	23.4
KCHF	**Cheshme Sefid,**	**1.28**	**61**	*e*		17	44	26.7
KCHF				*e*Pg	**Pb**	**17**	**44**	**05.1** **+0.3**
IVIS	**Veis**	**1.30**	**48**	*e*		17	44	26.7
IVIS				*e*Pg	**Pg**	**17**	**44**	**05.4** **-0.2**
IKOM	**Komasi**	**1.60**	**71**	*e*Pg	**Pb**	**17**	**44**	**11.0** **+0.8**
IKOM				*e*		17	44	37.2
ILIN	**Lien**	**1.64**	**40**	*e*Pg	**Pg**	**17**	**44**	**11.1** **-1.1**
ILIN				*e*		17	44	35.0
IBZA	**Bozab**	**1.98**	**65**	*e*Pn	**Pn**	**17**	**44**	**14.9** **+0.8**
IBZA				*e*		17	44	18.3
NSR	**Nassriya**	**2.67**	**172**	*e*Pn	**Pb**	**17**	**44**	**26.0** **-2.3**
NSR				*e*Sn	**Sn**	**17**	**44**	**58.0** **+2.5**

ISC 31 17:46:55.5±1.0, 45°.28N±0'.04×14°.53E±0'.04, h14km±6km, n11, σ1°10/17, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
RIY	**Rijeka**	**0.06**	**328**	*i* Pg	**Pg**	**17**	**46**	**57.7** **-0.6**
RIY				Sg	**Sg**	**17**	**46**	**59.8** **-0.3**
KNDS	**Knezji Dol**	**0.27**	**338**	*i* Pg	**Pb**	**17**	**47**	**01.6** **-0.7**
KNDS				*i* Sg	**Sg**	**17**	**47**	**07.3** **+2.0**
GBRS	**Gornja Briga**	**0.33**	**38**	*i* Pg	**Pg**	**17**	**47**	**02.3** **+0.1**
GBRS				*i* Sg	**Sg**	**17**	**47**	**07.8** **+1.1**
SKDS	**Skadanscina**	**0.45**	**307**	*i* Pg	**Pg**	**17**	**47**	**04.5** **-0.1**
SKDS				*e*Sg	**Sb**	**17**	**47**	**12.3** **+0.3**
BOJS	**Bojanci**	**0.56**	**66**	*i* Sg	**Sb**	**17**	**47**	**14.2** **-0.7**
	comp=Z,1.0nm,0.1s							
VISS	**Visnje**	**0.57**	**22**	*i* Pg	**Pb**	**17**	**47**	**06.5** **-0.8**
VISS				*i* Sg	**Sg**	**17**	**47**	**16.0** **+1.6**
JAVS	**Javornik**	**0.70**	**332**	*e*Sg	**Sn**	**17**	**47**	**21.4** **-0.4**
	comp=Z,1.0nm,0.1s							
OZLJ	**Ozalj**	**0.74**	**62**	Sg	**Sb**	**17**	**47**	**19.9** **-0.3**
NVLJ	**Novalja**	**0.75**	**161**	Sg	**Sb**	**17**	**47**	**18.4** **-2.0**
UDBI	**Udbina**	**1.15**	**130**	Sg	**Sn**	**17**	**47**	**32.9** **0.0**
DUGI	**Dugi Otok**	**1.34**	**163**	*i* Pg	**Pb**	**17**	**47**	**20.7** **+0.4**
DUGI				Sg	**Sb**	**17**	**47**	**38.5** **+1.2**

*TAP **31** 17:53:48.0,24°.88N×122°.22E, h10km, ML2.8, C*
*JMA **31** 17:53:48.0±0.1,24°.88N×122°.27E, h45km±3km, M2.3*

ISC 31 17:53:47.1±1.0, 24°.91N±0'.02×122°.28E±0'.02, h15km±8km, n80, σ0°63/148, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
TWB1	**Santiao Chiao**	**0.28**	**291**	*i* P	**Pb**	**17**	**53**	**53.5** **-0.3**
	baz=302							
TWB1				*i* S	**Sg**	**17**	**53**	**57.1** **0.0**
	baz=302							
NTC	**Toucheng**	**0.41**	**263**	*i* P	**Pb**	**17**	**53**	**55.8** **-0.2**
	baz=268							
NTC				*e*S	**Sb**	**17**	**54**	**01.8** **-0.3**
	baz=268							
TIPB	**Shuangxi**	**0.41**	**279**	P	**Pb**	**17**	**53**	**56.0** **-0.1**
	baz=285							
TIPB				S	**Sg**	**17**	**54**	**00.8** **-0.4**
	baz=285							
NWF	**Wu-fen Shan**	**0.48**	**290**	*e*P	**Pb**	**17**	**53**	**57.6** **+0.3**
	baz=295							
NWF				*e*S	**Sb**	**17**	**54**	**03.6** **-0.5**
	baz=295							
WFSB	**Wu-fen Shan**	**0.48**	**290**	P	**Pb**	**17**	**53**	**57.6** **+0.4**
	baz=295							
WFSB				*e*S	**Sb**	**17**	**54**	**03.5** **-0.6**
	baz=295							
TWC	**Suao**	**0.49**	**233**	P	**Pg**	**17**	**53**	**56.7** **-0.1**
	baz=234							
TWC				*e*S	**Sg**	**17**	**54**	**02.0** **-1.3**
	baz=234							
ILA	**Ilan**	**0.50**	**254**	*e*P	**Pb**	**17**	**53**	**57.4** **-0.2**
	baz=248							
ILA				*e*S	**Sb**	**17**	**54**	**04.5** **-0.2**
	baz=248							
TWE	**Neicheng**	**0.58**	**252**	P	**Pg**	**17**	**53**	**58.6** **+0.1**
	baz=247							
TWE				S	**Sg**	**17**	**54**	**06.1** **-0.2**
	baz=247							
ENAH	**Nanao**	**0.62**	**223**	*e*P	**Pg**	**17**	**53**	**59.5** **+0.2**
	baz=226							
ENAH				*e*S	**Sg**	**17**	**54**	**06.9** **-0.6**
	baz=226							
TWA	**Mucha**	**0.63**	**277**	*e*P	**Pn**	**17**	**54**	**00.7** **-0.9**
	baz=275							
TWA				S	**Sb**	**17**	**54**	**09.0** **+0.4**
	baz=275							
ENA	**Nanau**	**0.68**	**226**	P	**Pg**	**17**	**54**	**00.4** **0.0**
	baz=216							
ENA				S	**Sg**	**17**	**54**	**08.6** **-0.9**
	baz=216							
TAP1	**Taipei**	**0.70**	**281**	*e*P	**Pn**	**17**	**54**	**01.9** **-0.5**
	baz=284							
TAP1				*e*S	**Sn**	**17**	**54**	**12.0** **-0.9**
	baz=284							
ENTT	**Nioudou**	**0.70**	**248**	*i* P	**Pg**	**17**	**54**	**00.8** **0.0**
	baz=250							
ENTT				S	**Sg**	**17**	**54**	**10.2** **+0.2**
	baz=250							
TAP	**Taipei**	**0.71**	**281**	*e*P	**Pb**	**17**	**54**	**01.6** **+0.4**
	baz=284							
TAP				S	**Sn**	**17**	**54**	**12.6** **-0.7**
	baz=284							
NWLT	**Wulai**	**0.71**	**260**	*i* P	**Pb**	**17**	**54**	**01.4** **+0.1**
	baz=256							
NWLT				S	**Sb**	**17**	**54**	**11.2** **+0.3**
	baz=256							
TWY	**Chenhua**	**0.72**	**301**	P	**Pn**	**17**	**54**	**02.5** **-0.2**
	baz=304							
TWY				S	**Sn**	**17**	**54**	**13.2** **-0.3**
	baz=304							
TATO	**Taipei**	**0.72**	**276**	P	**Pn**	**17**	**54**	**02.2** **-0.5**
	baz=272							
TATO				S	**Sb**	**17**	**54**	**11.8** **+0.8**
	baz=272							
ANP	**Anpu**	**0.74**	**292**	P	**Pn**	**17**	**54**	**02.5** **-0.6**
	baz=295							
ANP				*e*S	**Sn**	**17**	**54**	**12.9** **-1.3**
	baz=295							
PCYT	**Pengchaiyu**	**0.74**	**346**	P	**Pn**	**17**	**54**	**02.6** **-0.5**
	baz=339							
PCYT				S	**Sn**	**17**	**54**	**15.8** **+1.6**
	baz=339							
NDT	**Datong Townshi**	**0.76**	**247**	P	**Pg**	**17**	**54**	**01.8** **-0.1**
	baz=249							
NDT				*e*S	**Sb**	**17**	**54**	**12.3** **+0.2**
	baz=249							
JYNG	**Yonagunijimaku**	**0.76**	**127**	P	**Pg**	**17**	**54**	**02.3** **+0.4**
JYNG				*e*S	**Sb**	**17**	**54**	**12.7** **+0.6**
NTST	**Danshui**	**0.79**	**289**	*e*P	**Pn**	**17**	**54**	**03.9** **+0.2**
	baz=292							
NTST				*e*S	**Sn**	**17**	**54**	**14.7** **-0.6**
	baz=292							
YOJ	**Yonaguni jima**	**0.80**	**123**	*e*P	**Pn**	**17**	**54**	**03.9** **0.0**
	baz=121							
YOJ	**Yonaguni jima**	**0.80**	**123**	P	**Pb**	**17**	**54**	**02.8** **+0.1**
YOJ				S	**Sg**	**17**	**54**	**13.9** **+0.7**
TWS1	**Kuangyinshan**	**0.80**	**284**	*e*P	**Pn**	**17**	**54**	**03.7** **-0.2**
	baz=298							
TWS1				S	**Sn**	**17**	**54**	**15.0** **-0.6**
	baz=298							
YHNB	**Yeheng**	**0.85**	**254**	P	**Pb**	**17**	**54**	**03.5** **-0.2**
	baz=251							
YHNB				*e*S	**Sb**	**17**	**54**	**14.1** **-0.8**
	baz=251							
NSK	**Sanguang**	**0.87**	**255**	P	**Pg**	**17**	**54**	**04.1** **+0.2**
	baz=252							
NSK				S	**Sg**	**17**	**54**	**15.6** **+0.3**
	baz=252							
NNSB	**Datong**	**0.94**	**240**	P	**Pb**	**17**	**54**	**05.0** **-0.2**
	baz=247							
NNSB				S	**Sg**	**17**	**54**	**17.9** **+0.2**
	baz=247							
NNSH	**Datong**	**0.94**	**240**	P	**Pb**	**17**	**54**	**04.8** **-0.4**
	baz=248							
NNSH				S	**Sb**	**17**	**54**	**17.3** **-0.3**
	baz=248							
NNS	**Nan Shan**	**0.94**	**241**	P	**Pb**	**17**	**54**	**05.3** **0.0**
	baz=248							
NNS				S	**Sg**	**17**	**54**	**17.9** **+0.1**
	baz=248							
NACB	**Ninganchiao**	**0.96**	**221**	P	**Pb**	**17**	**54**	**05.2** **-0.2**
	baz=222							
NACB				S	**Sb**	**17**	**54**	**16.9** **-1.0**
	baz=222							
ETLH	**Xiulin Townshi**	**1.00**	**226**	P	**Pb**	**17**	**54**	**06.3** **+0.1**
	baz=220							
ETLH				S	**Sb**	**17**	**54**	**19.1** **-0.3**
	baz=220							
TWD	**Chiawan**	**1.03**	**217**	P	**Pb**	**17**	**54**	**06.7** **+0.1**
	baz=219							
TWD				S	**Sb**	**17**	**54**	**20.1** **+0.2**
	baz=219							
FUSS	**Fushou**	**1.15**	**235**	P	**Pn**	**17**	**54**	**09.0** **+0.1**
	baz=238							
FUSS				*e*S	**Sn**	**17**	**54**	**24.2** **-0.2**
	baz=238							
LIOB	**Emei**	**1.18**	**258**	*e*P	**Pg**	**17**	**54**	**09.7** **0.0**
	baz=260							
LIOB				*e*S	**Sg**	**17**	**54**	**25.4** **+0.3**
	baz=260							
SBCB	**Hsinchu**	**1.18**	**265**	*e*P	**Pg**	**17**	**54**	**10.2** **+0.3**
	baz=284							
SBCB				*e*S	**Sg**	**17**	**54**	**26.0** **+0.8**
	baz=284							
NSTT	**Nanjuang**	**1.19**	**257**	*e*P	**Pg**	**17**	**54**	**11.2** **+1.1**
	baz=259							
NSTT				S	**Sg**	**17**	**54**	**26.1** **+0.5**
	baz=259							
WHF	**Hehuan Shan**	**1.19**	**231**	*e*P	**Pn**	**17**	**54**	**09.4** **-0.2**
	baz=233							
WHF				*e*S	**Sb**	**17**	**54**	**25.5** **+0.4**
	baz=233							
TWT	**Tachien**	**1.19**	**237**	P	**Pg**	**17**	**54**	**10.6** **+0.5**
	baz=232							
TWT				*e*S	**Sg**	**17**	**54**	**25.9** **+0.1**
	baz=232							
TDCB	**Techi**	**1.21**	**238**	*e*P	**Pg**	**17**	**54**	**10.5** **+0.1**
	baz=233							
TDCB				*e*S	**Sn**	**17**	**54**	**25.9** **+0.1**
	baz=233							
CHGB	**Renai**	**1.31**	**230**	*e*P	**Pb**	**17**	**54**	**11.9** **+0.4**
	baz=233							
CHGB				S	**Sn**	**17**	**54**	**29.0** **+0.6**
	baz=233							
ESL	**Shilin**	**1.33**	**215**	P	**Pb**	**17**	**54**	**12.2** **+0.4**
	baz=225							
ESL				*e*S	**Sb**	**17**	**54**	**29.0** **+0.3**
	baz=225							
WHP	**Taichung City**	**1.36**	**243**	P	**Pb**	**17**	**54**	**12.9** **+0.5**
	baz=246							
WHP				S	**Sb**	**17**	**54**	**29.9** **+0.2**
	baz=246							
NMLH	**Miaoli**	**1.40**	**255**	*e*P	**Pg**	**17**	**54**	**14.9** **+0.8**
	baz=257							
NMLH				*e*S	**Sg**	**17**	**54**	**32.5** **+0.2**
	baz=257							
IRIF	**Iriomote-Funau**	**1.44**	**113**	P	**Pn**	**17**	**54**	**11.9** **-0.7**
EGFH	**Guangfu**	**1.46**	**212**	P	**Pn**	**17**	**54**	**13.5** **+0.6**
	baz=232							
EGFH				*e*S	**Sb**	**17**	**54**	**32.8** **+0.5**
	baz=232							
TWQ1	**Liyutan**	**1.48**	**248**	*e*P	**Pg**	**17**	**54**	**15.2** **-0.4**
	baz=242							
TWQ1				*e*S	**Sg**	**17**	**54**	**34.6** **-0.2**
	baz=242							
VWDT	**VWDT**	**1.55**	**222**	*e*P	**Pb**	**17**	**54**	**15.9** **+0.5**
	baz=220							
VWDT				S	**Sb**	**17**	**54**	**35.3** **+0.5**
	baz=220							
WDJ	**Dajia District**	**1.59**	**250**	*e*P	**Pb**	**17**	**54**	**16.8** **+0.6**
	baz=252							
WDJ				*e*S	**Sg**	**17**	**54**	**38.9** **+0.6**
	baz=252							
HGSD	**Ruisui**	**1.61**	**209**	*e*P	**Pb**	**17**	**54**	**16.1** **-0.5**
	baz=198							
HGSD				*e*S	**Sb**	**17**	**54**	**37.3** **+0.7**
	baz=198							
SMLT	**Sun Moon Lake**	**1.62**	**231**	*e*P	**Pg**	**17**	**54**	**18.0** **-0.2**
	baz=234							
SMLT				*e*S	**Sb**	**17**	**54**	**37.6** **+0.6**
	baz=234							
HATJ	**Hateruma jima**	**1.63**	**121**	P	**Pn**	**17**	**54**	**15.1** **-0.1**
HATJ				*e*S	**Sn**	**17**	**54**	**35.0** **-1.0**
TYC	**Yuchr**	**1.63**	**233**	*e*P	**Pb**	**17**	**54**	**17.3** **+0.3**
	baz=236							
TYC				*e*S	**Sb**	**17**	**54**	**38.5** **+1.1**
	baz=236							
SSLB	**Suanglung**	**1.64**	**228**	P	**Pg**	**17**	**54**	**18.2** **-0.4**
	baz=231							
SSLB				*e*S	**Sb**	**17**	**54**	**37.5** **-0.1**
	baz=231							
EHY	**Hungye**	**1.64**	**212**	*e*P	**Pn**	**17**	**54**	**15.9** **+0.4**
	baz=214							
EHY				*e*S	**Sb**	**17**	**54**	**37.3** **-0.4**
	baz=214							
JKRS	**Kuro-shima**	**1.71**	**113**	P	**Pn**	**17**	**54**	**16.1** **-0.3**
YULB	**Yu-li**	**1.75**	**211**	*e*P	**Pn**	**17**	**54**	**16.8** **-0.2**
	baz=213							
YULB				*e*S	**Sn**	**17**	**54**	**39.4** **+0.3**
	baz=213							
WHYT	**Xinyi Township**	**1.77**	**227**	*e*S	**Sg**	**17**	**54**	**43.5** **-0.7**
	baz=225							
WNT	**Mingjian**	**1.78**	**235**	*e*S	**Sg**	**17**	**54**	**44.7** **+0.3**
	baz=237							
WJS	**Zhushan**	**1.78**	**233**	*e*P	**Pg**	**17**	**54**	**21.9** **+0.7**
	baz=235							
WJS				*e*S	**Sg**	**17**	**54**	**45.6** **+1.2**
	baz=235							
EYUL	**Yuli**	**1.78**	**210**	*e*P	**Pn**	**17**	**54**	**18.3** **+0.9**
	baz=209							
JIJ	**Ishigaki jima**	**1.78**	**107**	P	**Pn**	**17**	**54**	**16.7** **-0.7**
TWF1	**Yuli**	**1.79**	**210**	*e*P	**Pn**	**17**	**54**	**17.7** **+0.3**
	baz=212							
TWF1				*e*S	**Sb**	**17**	**54**	**41.4** **-0.5**
	baz=212							
JISG	**Ishigakijimahi**	**1.88**	**99**	P	**Pn**	**17**	**54**	**18.3** **-0.4**
ALS	**Alishan**	**1.93**	**224**	P	**Pb**	**17**	**54**	**22.4** **+0.2**
	baz=213							
ALS				*e*S	**Sb**	**17**	**54**	**47.5** **+1.2**
	baz=213							
CHN5	**Tsauling**	**1.96**	**229**	*e*P	**Pb**	**17**	**54**	**22.8** **+0.3**
	baz=230							
CHN5				*e*S	**Sb**	**17**	**54**	**48.3** **+1.5**
	baz=230							
CHKT	**Chengkung**	**1.98**	**205**	*e*S	**Sn**	**17**	**54**	**44.4** **-0.3**
	baz=195							
WDLH	**Douliu**	**2.00**	**233**	*e*P	**Pb**	**17**	**54**	**23.1** **0.0**
	baz=234							
WDLH				*e*S	**Sb**	**17**	**54**	**49.2** **+1.4**
	baz=234							
ELDTW	**Lidau**	**2.06**	**214**	*e*P	**Pn**	**17**	**54**	**22.7** **+1.4**
	baz=203							
ELDTW				*e*S	**Sb**	**17**	**54**	**48.6** **-1.2**
	baz=203							
EDH	**Donghe**	**2.12**	**205**	*e*P	**Pn**	**17**	**54**	**21.3** **-0.7**
	baz=197							
EDH				*e*S	**Sn**	**17**	**54**	**47.5** **-0.6**
	baz=197							
TPUB	**Ta-pu**	**2.19**	**224**	P	**Pb**	**17**	**54**	**25.2** **-1.3**
	baz=210							
TPUB				*e*S	**Sb**	**17**	**54**	**54.4** **+0.9**
	baz=210							
STYT	**Tauyuan**	**2.22**	**219**	*e*P	**Pb**	**17**	**54**	**26.3** **-0.7**
	baz=221							
STYT				*e*S	**Sb**	**17**	**54**	**55.2** **+0.8**
	baz=221							
WTP	**Ta-pu**	**2.25**	**223**	*e*P	**Pb**	**17**	**54**	**26.3** **-1.1**
	baz=208							
WTP				*e*S	**Sb**	**17**	**54**	**55.2** **+0.2**
	baz=208							
SNST	**Tainan City**	**2.34**	**224**	*e*P	**Pb**	**17**	**54**	**29.6** **+0.7**
	baz=209							
SNST				*e*S	**Sb**	**17**	**54**	**59.0** **+1.3**
	baz=209							
LDUT	**Ludao**	**2.34**	**199**	*e*S	**Sn**	**17**	**54**	**52.3** **-1.2**
	baz=203							
CHN1	**Nanshi**	**2.34**	**223**	*e*P	**Pb**	**17**	**54**	**28.2** **-0.8**
	baz=225							
CHN1				*e*S	**Sb**	**17**	**54**	**58.8** **+1.0**
	baz=225							
TWGBT	**Beinan**	**2.35**	**208**	*e*S	**Sn**	**17**	**54**	**54.0** **+0.2**
	baz=200							
TWG	**Pinlang**	**2.35**	**208**	*e*S	**Sn**	**17**	**54**	**54.1** **+0.3**
	baz=200							
SGST	**Jiashian**	**2.39**	**221**	*e*P	**Pb**	**17**	**54**	**28.2** **-1.5**
	baz=207							
SGST				S	**Sb**	**17**	**54**	**59.3** **+0.2**
	baz=207							
SLGT	**Liugui**	**2.42**	**218**	*e*P	**Pb**	**17**	**54**	**29.8** **-0.6**
	baz=220							
SLGT				*e*S	**Sb**	**17**	**54**	**59.6** **-0.4**
	baz=220							

*IDC **31** 17:54:37.0±0.6, 11°.88S×166°.69E, h107km±4km, mb4.2/19, mb1 4.3/22, mb1mx4.1/48, mbtmp4.6/22, MS3.3/2, Ms1 3.3/2, ms1mx2.8/42, Error ellipse: s-maj=12.6km s-min=11.9km az=77.0*
*BJI **31** 17:54:38.0±0.0, 11°.86S×166°.70E, h119km, mB4.8/15, mb4.5/16*
*NEIC **31** 17:54:38.5±1.2, 11°.86S±0°.05×166°.64E±0°.09, h123km±5km, mb5.0/50, Error ellipse: s-maj=14.2km s-min=2.6km az=119.0*

ISC 31 17:54:36.2±0.4, 11°.92S±0'.06×166°.71E±0'.07, h100km, n105, σ1°18/113, mb4.8/45, 1C-2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
SANVU	**Saraoutou**	**3.54**	**172**	Pn	**Pn**	**17**	**55**	**32.9** **+3.6**
HNR	**Honiara**	**7.10**	**290**	P	**Pn**	**17**	**56**	**18.4** **+0.9**
	23nm,0.3s,baz=163,slow=8.6,SNR=12							
HNR				S	**Sn**	**17**	**57**	**37.8** **+1.2**
	20nm,0.3s,baz=207,slow=18,SNR=1.5							
HNR	**Honiara**	**7.10**	**290**	Pn	**Pn**	**17**	**56**	**18.8** **+1.3**
DZM	**Mont Dzumac**	**10.10**	**181**	P	**Pn**	**17**	**57**	**01.6** **+3.2**
	11nm,0.3s,baz=321,slow=12,SNR=109							
DZM				S	**Sn**	**17**	**58**	**47.4** **-2.4**
	1.0nm,0.3s,baz=138,slow=23,SNR=1.3							
DZM				LR	LR	18	00	29.8
	comp=Z,176nm,19.2s,baz=14,slow=35							
DZM	**Mont Dzumac**	**10.10**	**181**	Pn	**Pn**	**17**	**57**	**01.1** **+2.7**
KRVT	**Keravat (AS076**	**16.38**	**296**	P	**P**	**17**	**58**	**21.0** **-0.5**
	0.8nm,0.3s,baz=229,slow=18,SNR=2.0							
KRVT				LR	LR	18	04	29.2
	comp=Z,82nm,18.6s,baz=101,slow=36							
EIDS	**Eidsvold**	**19.93**	**226**	P	**Pn**	**17**	**59**	**02.3** **-0.5**
EIDS				IAmb	IAmb	17	59	03.7
	comp=Z,37nm,0.8s							
CTA	**Charters Tower**	**21.26**	**245**	P	**P**	**17**	**59**	**14.2** **-0.4**
	comp=Z,7.8nm,0.7s,baz=74,slow=11,SNR=10							
CTAO	**Charters Tower**	**21.26**	**245**	P	**P**	**17**	**59**	**14.4** **-0.2**
ARMA	**Armidale**	**23.12**	**215**	P	**P**	**17**	**59**	**34.7** **+0.8**
ARMA				IAmb	IAmb	17	59	37.4
	comp=Z,102nm,1.4s							
OUZ	**Omahuta**	**24.02**	**166**	P	**P**	**17**	**59**	**43.9** **+2.0**
HIZ	**Hauiti**	**27.46**	**166**	P	**P**	**18**	**00**	**14.2** **+1.4**
URZ	**Urewera**	**27.82**	**162**	P	**P**	**18**	**00**	**17.3** **+1.2**
	comp=Z,9.0nm,0.7s,baz=73,slow=0.7,SNR=8.4							
URZ	**Urewera**	**27.82**	**162**	P	**P**	**18**	**00**	**17.3** **+1.2**
CAN	**Canberra**	**28.29**	**212**	P	**P**	**18**	**00**	**20.6** **+0.2**
CAN				IAmb	IAmb	18	00	39.0
	comp=Z,40nm,1.5s							
BKZ	**Black Stump Fm**	**28.49**	**164**	P	**P**	**18**	**00**	**22.9** **+0.8**
QRZ	**Quartz Range**	**29.24**	**171**	P

	comp=Z,25nm,1.6s						
WB2	**Warramunga Arr**	**32.08 251**	P	**P**	**18 00 52.6**	**-1.4**
WRAB	**Tennant Creek**	**32.08 251**	P	**P**	**18 00 52.4**	**-1.6**
MQZ	**McQueen's Vall**	**32.08 172**	P	**P**	**18 00 54.5**	**+0.9**
MQZ			IAmb	IAmb	18 00 55.8	
	comp=Z,72nm,1.5s						
WRA	**Warramunga Arr**	**32.09 251**	P	**P**	**18 00 53.2**	**-0.9**
	comp=Z,2.3nm,0.7s,baz=83,slow=8.6,SNR=35						
WRA			PcP	**PcP**	**18 03 41.6**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=80,slow=3.2,SNR=10						
WRA	**Warramunga Arr**	**32.09 251**	P	**P**	**18 00 53.0**	**-1.1**
WRA				**PcP**	**18 03 41.5**	**+0.1**
LBZ	**Lake Benmore**	**32.49 175**	P	**P**	**18 00 57.7**	**+0.5**
ODZ	**Otahua Downs**	**33.18 175**	P	**P**	**18 01 03.4**	**+0.2**
ODZ			IAmb	IAmb	18 01 48.5	
	comp=Z,53nm,1.4s						
AS31	**Alice Springs**	**33.26 245**	P	**P**	**18 01 03.1**	**-1.2**
ASAR	**Alice Springs**	**33.27 245**	P	**P**	**18 01 03.4**	**-1.0**
	comp=Z,5.9nm,0.6s,baz=70,slow=9.6,SNR=133						
ASAR			pP	**pwP**	**18 01 29.6**	**-2.1**
	comp=Z,2.6nm,0.6s,baz=70,slow=9.6,SNR=5.2						
ASAR			PcP	**PcP**	**18 03 44.4**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=73,slow=2.3,SNR=17						
ASAR			ScP	**ScP**	**18 07 18.8**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=76,slow=3.9,SNR=3.4						
ASAR	**Alice Springs**	**33.27 245**	P	**P**	**18 01 02.7**	**-1.7**
ASAR				**PcP**	**18 03 43.4**	**-1.2**
MLZ	**Mavora Lakes**	**33.35 178**	P	**P**	**18 01 05.5**	**+0.7**
MLZ			IAmb	IAmb	18 01 12.2	
	comp=Z,78nm,1.8s						
DCZ	**Deep Cove**	**33.43 179**	P	**P**	**18 01 06.0**	**+0.6**
DCZ			IAmb	IAmb	18 01 07.6	
	comp=Z,35nm,1.2s						
WHZ	**Wether Hill Ro**	**33.87 178**	P	**P**	**18 01 09.7**	**+0.4**
MTN	**Manton Dam**	**34.75 265**	P	**P**	**18 01 17.4**	**+0.2**
BBOO	**Buckleboo**	**34.95 229**	P	**P**	**18 01 19.0**	**+0.3**
BBOO			IAmb	IAmb	18 01 20.0	
	comp=Z,24nm,0.6s						
TAU	**Tasmania Unive**	**35.16 205**	P	**P**	**18 01 21.3**	**+0.9**
KNRA	**Kununurra**	**37.01 260**	P	**P**	**18 01 36.2**	**-0.4**
KNRA			IAmb	IAmb	18 01 37.5	
	comp=Z,17nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.08 256**	P	**P**	**18 02 02.1**	**-0.1**
FITZ			IAmb	IAmb	18 02 03.1	
	comp=Z,11nm,0.9s						
FORT	**Forrest**	**40.33 236**	P	**P**	**18 02 04.4**	**+0.3**
BATI	**Baumata**	**42.26 268**	P	**P**	**18 02 20.7**	**+0.5**
	comp=Z,24nm,0.8s,baz=129,slow=2.5,SNR=5.1						
PSA00	**Pilbara Seismi**	**45.75 252**	P	**P**	**18 02 47.8**	**-0.1**
PSA00			IAmb	IAmb	18 02 48.7	
	comp=Z,15nm,0.5s						
MORW	**Morawa**	**50.05 242**	P	**P**	**18 03 20.8**	**-0.2**
MORW			IAmb	IAmb	18 03 21.9	
	comp=Z,30nm,1.4s						
LEM	**Lembang**	**58.44 269**	P	**P**	**18 04 22.3**	**0.0**
	comp=Z,2.7nm,0.5s,baz=319,slow=19,SNR=4.4						
NJ2	**Nanjing**	**63.31 315**	*e*P	**P**	**18 04 55.5**	**+0.8**
NJ2			pmax	pmax		
	comp=Z,7.0nm,0.6s						
VNDA	**Vanda**	**65.64 181**	P	**P**	**18 05 09.5**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=352,slow=6.1,SNR=23						
VNDA	**Vanda**	**65.64 181**	P	**P**	**18 05 09.2**	**0.0**
CASY	**Casey**	**65.92 202**	P	**P**	**18 05 11.1**	**-0.1**
CASY			IAmb	IAmb	18 05 11.7	
	comp=Z,26nm,1.1s						
CN2	**Changchun**	**66.98 329**	*e*P	**P**	**18 05 20.8**	**+2.5**
RPSI	**Rantau Prapat**	**68.90 278**	P	**P**	**18 05 30.1**	**-0.8**
GSI	**Gunungsitoli**	**69.89 276**	P	**P**	**18 05 36.3**	**-0.8**
GSI			IAmb	IAmb	18 05 37.8	
	comp=Z,11nm,0.6s						
KMI	**Kunming**	**72.39 301**	⇓P	**P**	**18 05 53.0**	**+0.8**
KMI			pP	pP	18 06 20.8	+3.5
KMI			pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**73.11 319**	*e*P	**P**	**18 05 55.8**	**-0.2**
HHC			pmax	pmax		
	comp=Z,16nm,1.1s						
HHC			pmax	pmax		
	comp=Z,59nm,5.8s						
CMAR	**Chiang Mai Arr**	**73.33 293**	P	**P**	**18 05 57.5**	**-0.2**
	comp=Z,4.6nm,0.8s,baz=126,slow=4.9,SNR=23						
CMAR			pP	**pwP**	**18 06 24.8**	**+2.0**
	comp=Z,2.7nm,0.9s,baz=116,slow=4.4,SNR=3.8						
CMAR	**Chiang Mai Arr**	**73.33 293**	P	**P**	**18 05 58.8**	**+1.1**
QSPA	**South Pole Qui**	**78.09 180**	P	**P**	**18 06 24.6**	**+0.5**
	comp=Z,4.8nm,0.5s,baz=224,slow=0.6,SNR=84						
QSPA	**South Pole Qui**	**78.09 180**	P	**P**	**18 06 24.3**	**+0.2**
QSPA			IAmb	IAmb	18 06 25.7	
	comp=Z,42nm,1.6s						
CNPM	**China Poot**	**78.82 20**	P	**P**	**18 06 26.6**	**-1.3**
CNPM			IAmb	IAmb	18 08 26.9	
	comp=Z,21nm,1.4s						
SONM	**Songino Array**	**79.93 324**	P	**P**	**18 06 34.3**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=142,slow=5.6,SNR=6.2						
SONM			pP	**pP**	**18 07 00.5**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=140,slow=6.7,SNR=5.0						
ILAR	**Eielson Array**	**84.04 18**	P	**P**	**18 06 55.1**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=221,slow=6.2,SNR=13						
ILAR			pP	**pP**	**18 07 24.2**	**+2.9**
	comp=Z,2.6nm,0.9s,baz=232,slow=5.9,SNR=9.4						
MAW	**Mawson**	**84.27 202**	P	**P**	**18 06 55.1**	**-1.4**
	comp=Z,3.2nm,0.6s,baz=135,slow=4.4,SNR=11						
MAW	**Mawson**	**84.27 202**	P	**P**	**18 06 55.9**	**-0.7**
NVAR	**Mina Array Bea**	**85.86 50**	P	**P**	**18 07 06.0**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=240,slow=7.2,SNR=3.5						
NVAR			pP	**pP**	**18 07 32.0**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=235,slow=8.3,SNR=12						
BELA	**Belgrano 2**	**89.55 176**	P	**P**	**18 07 21.2**	**-0.8**
WMQ	**Urumqi**	**90.38 315**	*e*P	**P**	**18 07 25.0**	**-1.5**
WMQ			pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ			pmax	pmax		
	comp=Z,66nm,5.1s						
SYO	**Syowa Base**	**91.22 197**⇑	*e*P	**P**	**18 07 27.4**	**-2.5**
SYO	**Syowa Base**	**91.22 197**⇓	*e*PcP	**P**	**18 07 30.0**	**+0.1**
GCMT	**Greycliff**	**94.04 44**	P	**P**	**18 07 42.7**	**-0.8**
MK31	**Makanchi Array**	**94.81 317**	P	**P**	**18 07 46.2**	**-0.7**
MKAR	**Makanchi Array**	**94.81 317**	P	**P**	**18 07 46.5**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=90,slow=6.4,SNR=26						
MKAR			pP	**pP**	**18 08 13.0**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=101,slow=6.4,SNR=7.9						
MKAR	**Makanchi Array**	**94.81 317**	P	**P**	**18 07 46.0**	**-0.8**
YKA	**Yellowknife Ar**	**95.31 27**	P	**P**	**18 07 47.6**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=262,slow=4.7,SNR=4.6						
TXAR	**Lajitas Array**	**95.41 61**	P	**P**	**18 07 50.5**	**+0.4**
	comp=Z,0.1nm,0.6s,baz=193,slow=5.1,SNR=4.2						
SNAA	**Sanae**	**96.31 183**	P	**P**	**18 07 51.5**	**-1.8**
SNAA	**Sanae**	**96.31 183**	P	**P**	**18 07 53.4**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=209,slow=11,SNR=9.1						
VNA3	**Neumayer Olymp**	**97.00 181**	P	**P**	**18 07 53.8**	**-2.5**
VNA2	**Neumayer--Watz**	**97.25 182**	P	**P**	**18 07 56.6**	**-0.9**
ARCES	**ARCESS Array B**	**117.41 346**	PKP	**PKPdf**	**18 13 08.7**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=79,slow=2.3,SNR=8.8						
BOSA	**Boshof**	**125.12 222**	PKP	**PKPdf**	**18 13 24.9**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=135,slow=1.4,SNR=1.9						
AKASG	**Malin Array Be**	**128.11 327**	PKP	**PKPdf**	**18 13 29.9**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=54,slow=4.6,SNR=2.3						
KEST	**Kesra**	**148.68 323**	PKPbc	**PKPbc**	**18 14 11.5**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=98,slow=5.0,SNR=4.9						
ESDC	**Sonseca Array**	**151.15 345**	PKPbc	**PKPbc**	**18 14 17.9**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=339,slow=7.9,SNR=4.2						
ESDC			PKPab	**PKPab**	**18 14 25.9**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=10,slow=4.0,SNR=6.4						
TORD	**Torodi Ar. Bea**	**165.32 276**	PKPab	**PKPab**	**18 15 26.6**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=66,slow=3.5,SNR=3.5						
DBIC	**Dimbokro**	**170.18 239**	PKPab	**PKPab**	**18 15 49.1**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=144,slow=12,SNR=1.7						

*IDC **31** 17:56:27.5±3.3,3˚.29N×96˚.28E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/55, mbtmp3.4/6, ML4.2/1, MS2.3/1, Ms1 2.5/1, ms1mx2.3/33, Error ellipse: s-maj=128.0km s-min=24.4km az=62.0*
*DJA **31** 17:56:34.8±0.7,3˚N±3˚×9˚7E±˚, h14km±4km, M3.6/9, MLv3.6/9*
*NEIC **31** 17:56:36.4±1.4,3˚.37N±0˚.05×96˚.5E±0˚.1, h65km±12km, mb4.1/6, Error ellipse: s-maj=19.5km s-min=6.0km az=78.0*
ISC 31 17:56:32.1±0.9,**3˚.30N**±0˚.05×**96˚.40E**±0˚.07,**h25**km,**n26,**
σ1≤**54**/26,**mb3.6**/7,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**0.78**	**93**	P	**Pn**	**17 56 48.1**	**+0.7**
TPTI				S	**Sb**	**17 56 57.0**	**-0.1**
MLSI	**Meulaboh, Aceh**	**0.96**	**0**	P	**Pn**	**17 56 52.5**	**+2.5**
MLSI				S	**Sn**	**17 57 05.3**	**+2.4**
KCSI	**Kotacane, Aceh**	**1.38**	**81**	P	**Pb**	**17 56 57.6**	**+0.3**
KCSI				S	**Sb**	**17 57 14.9**	**+0.3**
LHMI	**Lhok Sumawe**	**1.99**	**16**	P	**Pb**	**17 57 06.8**	**-0.9**
LHMI				S	**Sb**	**17 57 30.9**	**-1.2**
LHMI	**Lhok Sumawe**	**1.99**	**16**	Pn	**Pb**	**17 57 07.0**	**-0.7**
GSI	**Gunungsitoli**	**2.30**	**149**	P	**Pb**	**17 57 11.7**	**-1.2**
GSI	**Gunungsitoli**	**2.30**	**149**		**Pb**	**17 57 11.9**	**-1.0**
RPSI	**Rantau Prapat**	**2.59**	**103**		**Pb**	**17 57 16.1**	**-1.7**
MNSI	**Mandailing Nat**	**4.03**	**128**	P	**Pn**	**17 57 35.8**	**+3.5**
KULM	**Kulim**	**4.67**	**65**		**Pn**	**17 57 42.5**	**+1.4**
IPM	**Ipoh**	**4.76**	**76**		**Pn**	**17 57 43.4**	**+1.1**
MNAI	**Manna**	**10.04**	**139**	Pn	**Pn**	**17 58 57.4**	**+2.6**
CMAR	**Chiang Mai Arr**	**15.27**	**9**	Pn	**Pn**	**18 00 05.1**	**-1.1**
	0.3nm,0.3s,baz=194,slow=11,SNR=1.5						
CMAR				LR	LR	18 05 29.9	
	comp=Z,12nm,19.2s,baz=175,slow=36						
H08S2	**Diego Garcia H**	**26.22**	**245**	T	T	18 28 32.0	
	baz=66,slow=74						
H08S3	**Diego Garcia H**	**26.22**	**245**	T	T	18 28 47.1	
	baz=66						
H08S1	**Diego Garcia H**	**26.23**	**245**	T	T	18 28 43.5	
	baz=66,slow=74						
WRA	**Warramunga Arr**	**43.83**	**123**	P	**P**	**18 04 36.5**	**0.0**
	0.5nm,0.7s,baz=302,slow=9.1,SNR=4.1						
WRA	**Warramunga Arr**	**43.83**	**123**	IAmb	IAmb	18 04 41.0	
	comp=Z,0.1nm,1.1s						
WRAB	**Tennant Creek**	**43.84**	**123**	P	**P**	**18 04 36.3**	**-0.3**
WRAB				IAmb	IAmb	18 04 44.9	
	comp=Z,2.6nm,1.1s						
WB2	**Warramunga Arr**	**43.84**	**123**	P	**P**	**18 04 35.4**	**-1.2**
WR0	**Warramunga Arr**	**44.01**	**123**	P	**P**	**18 04 35.4**	**-2.5**
WR0				IAmb	IAmb	18 04 38.6	
	comp=Z,4.9nm,1.1s						
MKAR	**Makanchi Array**	**45.03**	**346**	P	**P**	**18 04 44.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=157,slow=7.4,SNR=2.9						
SONM	**Songino Array**	**45.20**	**9**	P	**P**	**18 04 46.4**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=196,slow=9.0,SNR=2.9						
ASAR	**Alice Springs**	**45.30**	**128**	P	**P**	**18 04 48.1**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=303,slow=8.2,SNR=2.5						
AS31	**Alice Springs**	**45.30**	**128**	P	**P**	**18 04 48.7**	**+0.5**
ZALV	**Zalesovo Beam**	**51.38**	**351**	P	**P**	**18 05 34.0**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=167,slow=6.3,SNR=2.8						

*IDC **31** 18:00:39.8±0.7,27˚.44N×142˚.94E, h0km, mb4.1/23, mb1 4.2/28, mb1mx4.2/55, mbtmp4.1/28, ML3.4/5, MS3.3/4, Ms1 3.3/4, ms1mx2.8/5, Error ellipse: s-maj=17.3km s-min=11.9km az=130.0*
*MOS **31** 18:00:42.0±1.3,27˚.56N×142˚.94E, h27km, mb4.8/13, Error ellipse: s-maj=13.9km s-min=5.8km az=104.4*
*JMA **31** 18:00:42.8,27˚.49N×142˚.97E, h62km±4km, M4.1*
*NIED **31** 18:00:42.8,27˚.49N×142˚.97E, h62km, MW4.2, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr1.59; Mθθ-0.18; Mφφ-1.41; Mrθ 0.07; Mθφ-0.03; Mφr 1.45; Fault plane solution: M₀2.09000×10¹⁵ NP1:φ≡2.00000°, δ67.00000°, λ,91.00000°. NP2:φ≡181.00000°, δ23.00000°, λ,89.00000°.*
*NEIC **31** 18:00:46.1±2.0,27˚.48N±0˚.10×142˚.7E±0˚.1, h45km±10km, mb4.6/15 Error ellipse: s-maj=18.9km s-min=11.5km az=121.0*
ISC 31 18:00:43.8±0.6,**27˚.51N**±0˚.05×**142˚.93E**±0˚.08,**h27**km,**n105,**
σ1≤**54**/107,**mb4.4**/45,**10C**,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.78**	**238**	P	**Pb**	**18 00 58.6**	**-0.2**
CBIJ				*e*S	**Sn**	**18 01 10.1**	**+0.2**
JCJ	**Chichijima**	**0.78**	**238**	Pn	**Pb**	**18 00 58.6**	**-0.2**
	881nm,0.3s,baz=284,slow=23,SNR=2073						
JCJ				Sn	**Sn**	**18 01 11.5**	**+1.6**
	807nm,0.3s,baz=261,slow=24,SNR=8.4						
JCJ	**Chichijima**	**0.78**	**238**		**Pb**	**18 00 58.5**	**-0.4**
JHH2	**Haha-jima-NKT2**	**1.11**	**218**	P	**Pn**	**18 01 02.5**	**-1.0**
JHJ	**Hachijo jima 2**	**6.21**	**335**	Pn	**Pn**	**18 02 14.2**	**+0.4**
	5.3nm,0.3s,baz=143,slow=20,SNR=0.9						
JHJ				Sn	**Sn**	**18 03 25.0**	**+1.1**
	5.9nm,0.3s,baz=214,slow=23,SNR=1.5						
JHJ				LR	LR	18 04 37.6	
	comp=Z,199nm,18.8s,baz=327,slow=38						
BSO3	**Boso 3**	**7.56**	**345**	P	**Pn**	**18 02 32.8**	**+0.9**
BSO4	**Boso 4**	**7.78**	**344**	P	**Pn**	**18 02 36.7**	**+1.6**
JOD2	**Odawara 2**	**8.39**	**338**	P	**Pn**	**18 02 44.0**	**+0.3**
JHU	**Hanno**	**8.88**	**340**	P	**Pn**	**18 02 50.2**	**-0.1**
JHU				S	**Sn**	**18 04 27.2**	**-2.2**
JRY	**Ryogami san**	**9.14**	**339**	P	**Pn**	**18 02 55.1**	**+1.1**
JAG	**Ashikaga**	**9.36**	**342**	P	**Pn**	**18 02 56.8**	**-0.2**
JAG				S	**Sn**	**18 04 39.3**	**-2.0**
MJAR	**Matsushiro Arr**	**9.85**	**337**	Pn	**Pn**	**18 03 03.7**	**0.0**
	0.3nm,0.3s,baz=168,slow=11,SNR=28						
MJAR				Sn	**Sn**	**18 04 51.2**	**-2.2**
	0.0nm,0.3s,baz=148,slow=11,SNR=1.7						
MJAR	**Matsushiro Arr**	**9.85**	**337**	P	**Pn**	**18 03 03.3**	**-0.4**
MJAR	**Matsushiro Arr**	**9.85**	**337**		**Pn**	**18 03 03.2**	**-0.4**
MAJO	**Matsushiro**	**9.85**	**337**	P	**Pn**	**18 03 04.4**	**+0.7**
MAJO	**Matsushiro**	**9.85**	**337**	Pn	**Pn**	**18 03 04.3**	**+0.7**
JMK	**Ichinoseki**	**11.50**	**353**	S	**Sn**	**18 05 25.5**	**-8.1**
JNU	**Nakatsue**	**11.81**	**301**	LR	LR	18 07 37.2	
	comp=Z,86nm,18.7s,baz=80,slow=35						
ERM	**Erimo**	**14.47**	**7**	*i* P	**Pn**	**18 04 05.5**	**-1.2**
NMR	**Nemuro--Hokkai**	**15.98**	**7**	*e*P	**Pn**	**18 04 25.5**	**-1.2**
KSRS	**Korea Array**	**16.06**	**312**	Pn	**Pn**	**18 04 27.6**	**-0.2**
	0.1nm,0.3s,baz=121,slow=11,SNR=4.5						
KSRS				LR	LR	18 10 32.6	
	comp=Z,86nm,18.3s,baz=130,slow=37						
ASAJ	**Asahikawa**	**16.57**	**359**	Pn	**Pn**	**18 04 32.5**	**-1.7**
	0.3nm,0.3s,baz=182,slow=8.3,SNR=6.5						
GRPR	**Tuman**	**16.60**	**7**	P	**Pn**	**18 04 33.1**	**-1.5**
KUR	**Kuril'sk**	**18.12**	**11**	*e*P	**Pn**	**18 04 51.0**	**-2.4**
KUR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KUR				pmax	pmax		
	comp=N,5.0nm,0.2s						
KUR				pmax	pmax		
	comp=E,10.0nm,0.1s						
USRK	**Ussuriysk Ar.**	**18.84**	**335**	P	**P**	**18 05 01.9**	**+0.4**
	baz=148,slow=12,SNR=5.2						
YSS	**Yuzh-Sakhalins**	**19.41**	**360**	*e*P	**P**	**18 05 05.4**	**-2.3**
YHNB	**Yeheng**	**19.57**	**267**		**P**	**18 05 09.6**	**-0.1**
YHNB				IAmb	IAmb	18 05 10.9	
	comp=Z,17nm,0.8s						
YULB	**Yu-li**	**19.96**	**263**		**P**	**18 05 11.8**	**-2.1**
MDJ	**Mudanjiang**	**20.14**	**331**	P	Pn	18 05 17.3	-0.4
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,60nm,3.1s						
SSLB	**Suanglung**	**20.15**	**264**		**P**	**18 05 15.8**	**-0.3**
NJ2	**Nanjing**	**21.37**	**288**	*e*P	**P**	**18 05 27.5**	**-1.6**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**23.26**	**104**	T	T	18 30 27.4	
	baz=297,slow=74,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**23.26**	**104**	T	T	18 30 17.7	
	baz=297,slow=74,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**23.27**	**104**	T	T	18 30 20.2	
	baz=297,slow=74,SNR=7.2						
KLR	**Kul'dur**	**23.34**	**341**	P	**P**	**18 05 50.7**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=146,slow=8.8,SNR=11						
KLR	**Kul'dur**	**23.34**	**341**	*e*P	**P**	**18 05 51.0**	**+1.2**
KLR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GRNR	**Gornyy**	**23.75**	**350**	⇑P	**P**	**18 05 49.9**	**-3.8**
GRNR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GRNR				MLR	MLR		
	comp=N,150nm,20.0s						
GRNR				MLR	MLR		
	comp=Z,60nm,12.0s						
ZEA	**Zeya**	**28.64**	**340**	*e*P	P	18 06 33.2	-4.8
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC	**Hu-ho-hao-te**	**28.99**	**305**	*e*P	**P**	**18 06 42.0**	**+0.6**
HHC				pmax	pmax		
	comp=Z,21nm,1.0s						
HHC				pmax	pmax		
	comp=Z,79nm,5.8s						
XAN	**Xi'an**	**29.84**	**291**	P	**P**	**18 06 47.8**	**-1.1**
XAN				pP	pwP	18 07 01.5	+1.1
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,89nm,5.3s						
XAN				LR	LR		
	comp=N,86nm,21.2s						
XAN				LR	LR		
	comp=E,140nm,18.0s						
XAN				LR	LR		
	comp=Z,140nm,13.9s						
ULN	**Ulaanbaatar**	**34.48 316**	*i* P	**P**	**18 07 28.9**	**-0.7**
ULN			pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**34.88 315**	P	**P**	**18 07 33.0**	**0.0**
	comp=Z,1.8nm,0.6s,baz=127,slow=8.6,SNR=7.0						
SONM	**Songino Array**	**34.88 315**	P	**P**	**18 07 32.0**	**-1.0**
SONM			pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**34.88 315**	P	**P**	**18 07 32.0**	**-1.0**
SONM			IAmb	IAmb	18 07 40.4	
	comp=Z,1.3nm,0.7s						
YAK	**Yakutsk**	**35.63 349**	*e*P	**P**	**18 07 39.4**	**+0.4**
YAK			pmax	pmax		
	comp=Z,5.0nm,1.0s						
KMI	**Kunming**	**36.00 276**	⇑P	**P**	**18 07 42.5**	**-0.5**
KMI			pmax	pmax		
	comp=Z,7.0nm,1.2s						
ZAK	**Zakamensk**	**37.74 318**	*e*P	**P**	**18 07 58.3**	**+1.0**
ZAK			pmax	pmax		
	comp=Z,4.0nm,1.1s						
PBKT	**Sadao Pong**	**40.22 263**	P	**P**	**18 08 16.2**	**-2.1**
PBKT			IAmb	IAmb	18 08 19.5	
	comp=Z,6.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**41.31 267**	P	**P**	**18 08 27.2**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=74,slow=6.7,SNR=5.1						
CMAR	**Chiang Mai Arr**	**41.31 267**	*ce*P	**P**	**18 08 26.7**	**-0.7**
WMQ	**Urumqi**	**46.87 305**	*e*P	**P**	**18 09 12.3**	**+0.6**
DGZ	**Jazzator, Alta**	**47.46 313**	*i* P	**P**	**18 09 16.5**	**+0.2**
DGZ			pmax	pmax		
	comp=Z,7.0nm,1.0s						
WB0	**Warramunga Arr**	**47.72 191**	P	**P**	**18 09 17.5**	**-0.9**
WB0			IAmb	IAmb	18 09 19.4	
	comp=Z,5.7nm,0.8s						
WR0	**Warramunga Arr**	**47.89 191**	P	**P**	**18 09 19.3**	**-0.4**
WR0			IAmb	IAmb	18 09 34.0	
	comp=Z,6.2nm,1.1s						
WRAB	**Tennant Creek**	**47.89 191**	*ce*P	**P**	**18 09 19.1**	**-0.6**
WRAB			pmax	pmax		
	comp=Z,24nm,2.5s						
WRAB	**Tennant Creek**	**47.89 191**	P	**P**	**18 09 19.3**	**-0.4**
WRAB			IAmb	IAmb	18 09 26.7	
	comp=Z,6.4nm,0.7s						
WB2	**Warramunga Arr**	**47.90 191**	P	**P**	**18 09 19.4**	**-0.4**
WRA	**Warramunga Arr**	**47.90 191**	P	**P**	**18 09 19.2**	**-0.6**
	comp=Z,4.4nm,0.4s,baz=11,slow=8.5,SNR=75						
WRA			LR	LR	18 28 43.6	
	comp=Z,58nm,20.7s,baz=285,slow=35						
WRA	**Warramunga Arr**	**47.90 191**	P	**P**	**18 09 18.4**	**-1.4**
PSI	**Prapat**	**48.67 248**	P	**P**	**18 09 25.5**	**-0.6**
	comp=Z,4.8nm,0.5s,baz=360,slow=2.4,SNR=6.7						
ZALV	**Zalesovo Beam**	**49.61 319**	P	**P**	**18 09 33.1**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=101,slow=8.0,SNR=11						
ZALV			PcP	**PcP**	**18 10 53.7**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=128,slow=4.2,SNR=2.2						
ZALV	**Zalesovo Beam**	**49.61 319**	P	**P**	**18 09 30.7**	**-1.9**
ZALV	**Zalesovo Beam**	**49.61 319**	P	**P**	**18 09 30.7**	**-1.9**
MKAR	**Makanchi Array**	**50.72 309**	P	**P**	**18 09 41.5**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=83,slow=11,SNR=22						
AS31	**Alice Springs**	**51.62 191**	P	**P**	**18 09 45.8**	**-2.3**
ASAR	**Alice Springs**	**51.62 191**	PcP	**PcP**	**18 11 01.5**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=5.7,slow=1.9,SNR=1.9						
ASAR	**Alice Springs**	**51.62 191**	P	**P**	**18 09 44.5**	**-3.6**
ASAR	**Alice Springs**	**51.62 191**	P	**P**	**18 09 44.5**	**-3.6**
NRIK	**Noril'sk**	**52.50 338**	P	**P**	**18 09 54.9**	**+0.8**
	comp=Z,3.6nm,0.7s,baz=96,slow=6.8,SNR=1.8						
MDM	**Murphy Dome**	**56.48 28**	P	**P**	**18 10 25.8**	**+2.7**
ILAR	**Eielson Array**	**57.03 29**	P	**P**	**18 10 27.6**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=244,slow=5.8,SNR=5.5						
BRVK	**Borovoye**	**58.25 317**	*ce*P	**P**	**18 10 36.3**	**+0.6**
BRVK			pmax	pmax		
	comp=Z,20nm,1.3s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.36**	**333**	P	**Pn**	**18 06 13.3**	**+0.6**
BASI				S	**Sn**	**18 06 27.7**	**-1.9**
WSI	**Waingapu**	**1.97**	**333**	P	**Pn**	**18 06 21.7**	**+0.6**
WBSI	**Waikabubak, Su**	**2.52**	**315**	P	**Pn**	**18 06 29.6**	**+0.8**
WBSI				S	**Sn**	**18 06 56.6**	**-1.9**
BATI	**Baumata**	**2.70**	**63**	Pn	**Pn**	**18 06 32.8**	**+1.6**
	14nm,0.3s,baz=90,slow=1.2,SNR=18						
BATI				Sn	**Sn**	**18 07 03.5**	**+0.7**
	13nm,0.3s,baz=42,slow=24,SNR=3.9						
BATI	**Baumata**	**2.70**	**63**	P	**Pn**	**18 06 33.1**	**+1.9**
BATI				S	**Sn**	**18 07 04.2**	**+1.4**
EDFI	**Ende, Flores**	**2.71**	**10**	P	**Pn**	**18 06 29.6**	**-1.8**
MMRI	**Maumere**	**2.96**	**20**	P	**Pn**	**18 06 33.8**	**-0.9**
MMRI				S	**Sn**	**18 07 06.2**	**-2.9**
SOEI	**Soe**	**3.44**	**61**	P	**Pn**	**18 06 43.6**	**+2.2**
PLAI	**Plampang**	**4.26**	**307**	P	**Pn**	**18 06 53.9**	**+1.3**
PLAI				S	**Sn**	**18 07 39.3**	**-1.9**
TWSI	**Taliwang, Sumb**	**5.03**	**302**	P	**Pn**	**18 07 04.2**	**+1.0**
BKSI	**Bulukumba**	**6.17**	**350**	P	**Pn**	**18 07 19.3**	**+0.5**
	0.1nm14nm,0.7s						
KAPI	**Kappang**	**6.54**	**347**	LR	LR	18 10 37.2	
	comp=Z,36nm,20.6s,baz=176,slow=46						
JAGI	**Jajag, Banyuwa**	**7.55**	**292**	P	**Pn**	**18 07 37.9**	**+0.1**
	0.2nm15nm,0.7s						
FITZ	**Fitzroy Crossi**	**7.89**	**148**	P	**Pn**	**18 07 45.1**	**+2.7**
	1.3nm,0.3s,baz=330,slow=12,SNR=63						
FITZ				Sn	**Sn**	**18 09 08.6**	**-2.0**
	3.7nm,0.3s,baz=216,slow=23,SNR=18						
WRA	**Warramunga Arr**	**15.20**	**125**	Sn	Sn	18 12 00.9	-8.9
	0.4nm,0.3s,baz=293,slow=23,SNR=5.9						
ASAR	**Alice Springs**	**17.14**	**137**	P	**P**	**18 09 48.8**	**+0.2**
	0.4nm,0.3s,baz=315,slow=12,SNR=30						
ASAR				S	**Sn**	**18 12 50.6**	**-6.4**
	0.1nm,0.3s,baz=310,slow=22,SNR=11						
PSI	**Prapat**	**26.29**	**301**	LR	LR	18 23 41.8	
	comp=Z,38nm,21.2s,baz=269,slow=41						
H08S2	**Diego Garcia H**	**48.15**	**270**	T	T	19 06 08.7	
	baz=98,slow=75,SNR=20						
H08S3	**Diego Garcia H**	**48.16**	**270**	T	T	19 06 11.2	
	baz=98,slow=75,SNR=18						
H08S1	**Diego Carcia H**	**48.17**	**270**	T	T	19 06 09.6	
	baz=98,slow=75,SNR=14						
MJAR	**Matsushiro Arr**	**50.34**	**18**	P	**P**	**18 14 42.9**	**-0.9**
	2.0nm,0.7s,baz=196,slow=9.4,SNR=8.2						
USRK	**Ussuriysk Ar.**	**56.23**	**9**	P	**P**	**18 15 27.1**	**+0.1**
	0.4nm,0.3s,baz=196,slow=6.9,SNR=7.6						
SONM	**Songino Array**	**60.46**	**349**	P	**P**	**18 15 56.9**	**+0.3**
	0.5nm,0.6s,baz=178,slow=5.3,SNR=2.7						
MKAR	**Makanchi Array**	**67.61**	**332**	P	**P**	**18 16 44.7**	**+1.2**
	0.8nm,0.7s,baz=141,slow=7.0,SNR=7.4						
ZALV	**Zalesovo Beam**	**72.08**	**338**	P	**P**	**18 17 10.8**	**0.0**
	0.6nm,0.4s,baz=156,slow=6.3,SNR=3.4						
BRTR	**Keskin Array B**	**95.36**	**309**	LR	LR	19 07 15.7	
	comp=Z,64nm,19.2s,baz=175,slow=39						

*NEIC **31** 18:07:41.6±2.4, 57.8S±0.1×8.8W±0.2, h10km±1km, mb4.7/10, Error ellipse: s-maj=22.9km s-min=14.9km az=344.0*

*IDC **31** 18:07:41.9±0.8, 57.78S×9.21W, h0km, mb4.1/7, mb1 4.1/7, mb1mx3.9/26, mbtmp4.0/7, ML5.2/1, MS4.4/20, Ms1 4.4/20, ms1mx4.3/27, Error ellipse: s-maj=31.2km s-min=22.4km az=50.0*

*GCMT **31** 18:07:50.6±0.1, 58.24S±0.01×9.64W±0.01, h20km, MW5.4/143, Moment Tensor Solution. s108,c186; s143,c264; Duration: 1ś2 Moment tensor: Scale 10^17 Nm; Mrr=0.07±.02; Mθθ=0.35±.02; Mϕϕ=0.42±.02; Mrθ=0.10±.04; Mϕθ=1.52±.02; Mϕr=0.44±.04; Best double couple: M=1.62900×10^17 NP1:ϕ=263.00000°, δ=75.00000°, λ=4.00000°. NP2:ϕ=172.00000°, δ=86.00000°, λ=165.00000°. Principal axes: T 1.6990, Plg=13.0000°, Azm=127.0000°; N -0.1390, Plg=75.0000°, Azm=338.0000°; P -1.5600, Plg=7.0000°, Azm=219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 18:07:43.1±0.7, 57.89S±0.10×9.3W±0.1, h10km, n42, σ1ś18/26, mb4.2/9, MS4.5/19, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.82**	**178**	P	**Pn**	**18 10 44.5**	**-0.6**
VNA2	**Neumayer--Watz**	**13.12**	**177**	P	**Pn**	**18 10 47.5**	**-1.6**
VNA3	**Neumayer Olymp**	**13.41**	**181**	P	**Pn**	**18 10 51.5**	**-1.7**
SNAA	**Sanae**	**14.10**	**172**	P	**Pn**	**18 11 01.3**	**-1.3**
SNAA	**Sanae**	**14.10**	**172**	Pn	**Pn**	**18 11 02.8**	**+0.2**
	10nm,0.3s,baz=18,slow=17,SNR=315						
SNAA				Sn	Sn	18 13 20.6	-18
	0.9nm,0.3s,baz=173,slow=18,SNR=1.1						
SNAA				LR	LR	18 15 57.0	
	comp=Z,592nm,18.2s,baz=348,slow=35						
SNAA	**Sanae**	**14.10**	**172**		**Pn**	**18 11 01.7**	**-0.9**
HOPE	**Hope Point**	**15.55**	**272**	Pn	**P**	**18 11 24.5**	**-2.0**
HOPE				IAmb	IAmb	18 11 41.4	
	comp=Z,89nm,1.2s						
BELA	**Belgrano 2**	**21.82**	**194**	P	**P**	**18 12 34.2**	**-0.8**
PMSA	**Palmer Station**	**26.37**	**232**	LR	LR	18 22 14.7	
	comp=Z,1μm,19.8s,baz=80,slow=33						
QSPA	**South Pole Qui**	**32.35**	**180**	P	**P**	**18 14 13.0**	**+0.6**
QSPA				IAmb	IAmb	18 14 16.8	
	comp=Z,10nm,0.9s						
MAW	**Mawson**	**32.48**	**137**	P	**P**	**18 14 14.4**	**+1.2**
	comp=Z,5.1nm,0.9s,baz=258,slow=12,SNR=6.3						
MAW				LR	LR	18 25 22.7	
	comp=Z,860nm,21.8s,baz=250,slow=33						
MAW	**Mawson**	**32.48**	**137**	P	P	18 14 09.1	-4.1
SUR	**Sutherland**	**32.70**	**52**	P	**P**	**18 14 15.0**	**-0.7**
	comp=Z,11nm,1.0s,baz=239,slow=5.9,SNR=2.9						
SUR	**Sutherland**	**32.70**	**52**	P	**P**	**18 14 13.9**	**-1.8**
SUR				IAmb	IAmb	18 14 16.4	
	comp=Z,16nm,1.1s						
BOSA	**Boshof**	**37.86**	**54**	LR	LR	18 27 15.8	
	comp=Z,640nm,21.4s,baz=207,slow=31						
BOSA	**Boshof**	**37.86**	**54**	P	P	18 14 53.9	-6.1
BOSA				IAmb	IAmb	18 15 02.2	
	comp=Z,12nm,1.3s						
PLCA	**Paso Flores**	**41.86**	**267**	P	**P**	**18 15 33.9**	**+0.8**
	comp=Z,1.1nm,1.0s,baz=154,slow=8.5,SNR=2.0						
PLCA				LR	LR	18 30 09.9	
	comp=Z,341nm,19.9s,baz=138,slow=32						
VNDA	**Vanda**	**44.74**	**177**	P	**P**	**18 15 57.3**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=205,slow=8.1,SNR=18						
VNDA				LR	LR	18 33 51.6	
	comp=Z,688nm,19.4s,baz=182,slow=35						
VNDA	**Vanda**	**44.74**	**177**	P	**P**	**18 15 57.5**	**+1.7**
VNDA				IAmb	IAmb	18 16 05.5	
	comp=Z,7.5nm,1.2s						
AC05	**El Transito**	**50.73**	**278**	P	**P**	**18 16 43.5**	**+0.4**
BDFB	**Brasilia**	**51.09**	**309**	P	**P**	**18 16 47.1**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=180,slow=4.0,SNR=1.5						
BDFB				LR	LR	18 34 34.3	
	comp=Z,669nm,19.8s,baz=137,slow=32						
LPAZ	**La Paz**	**59.92**	**288**	LR	LR	18 42 10.9	
	comp=Z,336nm,21.0s,baz=133,slow=34						
LPAZ	**La Paz**	**59.92**	**288**	P	P	18 17 45.3	-4.7
DBIC	**Dimbokro**	**64.44**	**5**	LR	LR	18 40 08.8	
	comp=Z,121nm,18.6s,baz=166,slow=30						
KMBO	**Kilima Mbogo**	**67.43**	**52**	LR	LR	18 44 52.6	
	comp=Z,638nm,19.8s,baz=100,slow=33						
TORD	**Torodi Ar. Bea**	**71.36**	**11**	LR	LR	18 42 54.1	
	comp=Z,120nm,21.5s,baz=225,slow=30						
NWAO	**Narrogin (SRO)**	**79.05**	**137**	LR	LR	18 48 23.1	
	comp=Z,181nm,20.3s,baz=195,slow=31						
ROSC	**El Rosal**	**81.14**	**294**	LR	LR	18 55 53.3	
	comp=Z,399nm,19.1s,baz=143,slow=36						
STKA	**Stephens Creek**	**87.29**	**156**	LR	LR	18 57 37.6	
	comp=Z,162nm,19.1s,baz=189,slow=34						
MDT	**Midelt**	**90.44**	**4**	LR	LR	18 55 32.4	
	comp=Z,178nm,18.1s,baz=186,slow=32						
ASAR	**Alice Springs**	**93.14**	**147**	P	**P**	**18 20 57.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=195,slow=4.3,SNR=8.2						
ASAR				LR	LR	18 56 49.2	
	comp=Z,180nm,21.8s,baz=183,slow=32						
AS31	**Alice Springs**	**93.14**	**147**	P	**P**	**18 20 55.1**	**-2.2**
FITZ	**Fitzroy Crossi**	**95.61**	**137**	LR	LR	18 58 27.9	
	comp=Z,236nm,20.4s,baz=204,slow=32						
WRA	**Warramunga Arr**	**96.78**	**146**	P	**P**	**18 21 13.9**	**-0.1**
	comp=Z,0.3nm,1.0s,baz=202,slow=4.5,SNR=1.6						
WRA				LR	LR	18 58 52.7	
	comp=Z,162nm,21.0s,baz=225,slow=32						
ESDC	**Sonseca Array**	**97.30**	**4**	LR	LR	19 01 40.9	
	comp=Z,118nm,19.1s,baz=150,slow=33						
LEM	**Lembang**	**98.06**	**117**	LR	LR	18 57 44.6	
	comp=Z,119nm,20.3s,baz=193,slow=31						
SONM	**Songino Array**	**141.33**	**76**	PKP	**PKPdf**	**18 27 13.6**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=236,slow=1.6,SNR=1.0						
YKA	**Yellowknife Ar**	**144.51**	**310**	PKP	**PKPab**	**18 27 16.9**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=107,slow=3.7,SNR=2.6						
KSRS	**Korea Array**	**145.48**	**107**	PKPbc	**PKPdf**	**18 27 20.6**	**0.0**
	comp=Z,1.5nm,1.1s,baz=219,slow=2.8,SNR=2.3						
DLBC	**Dease Lake**	**149.60**	**297**	PKPbc	**PKPbc**	**18 27 30.9**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=146,slow=3.6,SNR=1.1						
MJAR	**Matsushiro Arr**	**149.77**	**121**	PKPbc	**PKPbc**	**18 27 32.8**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=187,slow=2.0,SNR=2.7						
ILAR	**Eielson Array**	**158.88**	**307**	PKPab	**PKPab**	**18 28 15.2**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=89,slow=3.4,SNR=1.6						

*IDC **31** 18:25:50.3±0.9, 6.98S×150.01E, h0km, mb3.9/6, mb1 4.2/10, mb1mx3.8/39, mbtmp4.0/10, ML4.2/3, MS3.6/2, Ms1 3.6/2, ms1mx2.7/47, Error ellipse: s-maj=35.6km s-min=16.4km az=131.0*

*NEIC **31** 18:25:52.0±1.5, 7.0S±0.2×150.3E±0.2, h35km±2km, mb4.1/9, Error ellipse: s-maj=42.3km s-min=6.8km az=321.0*

ISC 31 18:25:55.0±0.7, 7.0S±0.1×150.0E±0.2, h34km, n24, σ1ś20/24, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.34**	**37**	Pn	**Pn**	**18 26 44.9**	**+0.1**
	11nm,0.3s,baz=91,slow=1.9,SNR=28						
KRVT				Sn	**Sn**	**18 27 24.9**	**+1.6**
	5.7nm,0.3s,baz=2.1,slow=15,SNR=3.8						
PMG	**Port Moresby**	**3.71**	**230**	Pn	**Pn**	**18 26 50.7**	**+0.7**
	14nm,0.3s,baz=45,slow=5.2,SNR=42						
PMG				Sn	**Sn**	**18 27 34.0**	**+1.4**
	34nm,0.3s,baz=142,slow=23,SNR=3.8						
PMG	**Port Moresby**	**3.71**	**230**	Pn	**Pn**	**18 26 51.9**	**+1.9**
SIJI	**Sorong**	**19.68**	**287**	P	**P**	**18 30 21.5**	**0.0**
	1.3nm,0.3s,baz=135,slow=19,SNR=2.8						
WB0	**Warramunga Arr**	**19.78**	**229**	Pn	**Pn**	**18 30 23.0**	**-1.3**
WB0				IAmb	IAmb	18 30 23.7	
	comp=Z,6.6nm,0.8s						
WR0	**Warramunga Arr**	**19.79**	**228**	Pn	**Pn**	**18 30 23.4**	**-0.9**
WR0				IAmb	IAmb	18 30 35.9	
	comp=Z,11nm,1.2s						
WRAB	**Tennant Creek**	**19.92**	**228**	P	**P**	**18 30 23.7**	**-0.3**
WRAB				IAmb	IAmb	18 30 25.1	
	comp=Z,8.1nm,0.7s						
WB2	**Warramunga Arr**	**19.92**	**228**		**P**	**18 30 23.6**	**-0.4**
WRA	**Warramunga Arr**	**19.93**	**228**	P	**Pn**	**18 30 24.6**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=52,slow=11,SNR=76						
WRA	**Warramunga Arr**	**19.93**	**228**	P	**P**	**18 30 23.1**	**-1.1**
KNRA	**Kununurra**	**22.55**	**246**	P	**P**	**18 30 50.7**	**-1.6**
AS31	**Alice Springs**	**22.68**	**221**	P	**P**	**18 30 53.6**	**-0.2**
ASAR	**Alice Springs**	**22.68**	**221**	P	**P**	**18 30 53.7**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=57,slow=9.1,SNR=36						
ASAR	**Alice Springs**	**22.68**	**221**	P	**P**	**18 30 53.5**	**-0.3**
STKA	**Stephens Creek**	**25.97**	**197**	P	**P**	**18 31 24.1**	**-0.4**
	comp=Z,5.4nm,1.1s,baz=43,slow=11,SNR=2.4						
STKA	**Stephens Creek**	**25.97**	**197**	P	**P**	**18 31 21.6**	**-2.9**
FITZ	**Fitzroy Crossi**	**26.20**	**243**	P	**P**	**18 31 26.5**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=56,slow=8.0,SNR=20						
FITZ	**Fitzroy Crossi**	**26.20**	**243**	P	**P**	**18 31 26.3**	**-0.5**
FITZ				IAmb	IAmb	18 32 05.0	
	comp=Z,5.3nm,0.9s						
KSRS	**Korea Array**	**48.82**	**337**	LR	LR	18 51 49.1	
	comp=Z,29nm,21.4s,baz=154,slow=32						
PSI	**Prapat**	**51.93**	**279**	LR	LR	18 59 44.3	
	comp=Z,142nm,18.7s,baz=266,slow=39						
VNDA	**Vanda**	**70.75**	**177**	P	**P**	**18 37 08.4**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=32,slow=10,SNR=7.3						
ILAR	**Eielson Array**	**85.23**	**23**	P	**P**	**18 38 27.0**	**-0.8**
	comp=Z,0.2nm,0.8s,baz=236,slow=5.3,SNR=1.8						
NVAR	**Mina Array Bea**	**95.60**	**52**	P	**P**	**18 39 18.8**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=260,slow=5.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**148.26**	**284**	PKPbc	**PKPbc**	**18 45 38.7**	**0.0**
	comp=Z,1.3nm,0.6s,baz=65,slow=3.3,SNR=5.9						

*IDC **31** 18:39:26.7±1.8, 38.38N×22.33E, h0km, mb3.4/4, mb1 3.4/6, mb1mx3.2/55, mbtmp3.4/6, ML2.7/2, MS4.2/2, Ms1 4.2/2, ms1mx2.8/33, Error ellipse: s-maj=42.5km s-min=27.4km az=179.0*

*ATH **31** 18:39:26.9, 38.22N×22.16E, h19km±1km, ML2.9/26, Error ellipse: s-maj=1.2km s-min=0.5km az=275.0*

*THE **31** 18:39:27.5, 38.22N×22.15E, h1km, ML2.9/12, Error ellipse: s-maj=0.9km s-min=0.2km az=3.0*

ISC 31 18:39:27.1±0.8, 38.22N±0.01×22.15E±0.01, h14km±4km, n87, σ1ś02/139, mb3.6/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIK	**Aliki, Aigiali**	**0.05**	**318**	P	**Pg**	**18 39 29.2**	**-0.5**
TRIZ	**Trizonia**	**0.16**	**336**	P	**Pg**	**18 39 30.8**	**-0.2**
TRIZ				S	**Sg**	**18 39 33.3**	**-0.3**
	7μm,0.5s						
TRIZ	**Trizonia**	**0.16**	**336**	P	**Pg**	**18 39 30.9**	**-0.2**
TRIZ				S	**Sg**	**18 39 33.7**	**+0.1**
KLV	**Kalavryta, Ach**	**0.18**	**181**	P	**Pg**	**18 39 31.2**	**-0.2**
KLV				S	**Sg**	**18 39 33.5**	**-0.7**
	4μm,0.2s						
KLV	**Kalavryta, Ach**	**0.18**	**181**	P	**Pg**	**18 39 31.2**	**-0.2**
KLV				S	**Sg**	**18 39 34.3**	**0.0**
KLV				AML	AML	18 39 34.4	
	comp=N,6422μm,0.2s						
KLV				AML	AML	18 39 34.6	
	comp=E,8840μm,0.2s						
EFP	**Efpalio**	**0.28**	**316**	P	**Pg**	**18 39 32.8**	**-0.2**
EFP				S	**Sg**	**18 39 37.3**	**+0.2**
	comp=E,3μm,0.3s						
EFP	**Efpalio**	**0.28**	**316**	P	**Pg**	**18 39 32.9**	**-0.2**
EFP				S	**Sg**	**18 39 37.5**	**+0.4**
EFP				AML	AML	18 39 38.0	
	comp=E,7507μm,0.4s						
EFP				AML	AML	18 39 39.9	
	comp=N,5171μm,0.2s						
GUR	**Goura**	**0.32**	**153**	P	**Pg**	**18 39 33.7**	**-0.1**
GUR				S	**Sg**	**18 39 38.6**	**+0.3**
GUR	**Goura**	**0.32**	**153**	P	**Pg**	**18 39 33.8**	**0.0**
GUR				S	**Sb**	**18 39 39.3**	**-0.6**
GUR				AML	AML	18 39 40.5	
	comp=N,22448μm,0.4s						
GUR				AML	AML	18 39 43.0	
	comp=E,11447μm,0.4s						
DSF	**Desfina**	**0.35**	**57**	P	**Pg**	**18 39 34.4**	**+0.2**
DSF	**Desfina**	**0.35**	**57**	P	**Pg**	**18 39 34.5**	**+0.2**
DSF				S	**Sb**	**18 39 40.2**	**-0.5**
DSF				AML	AML	18 39 40.7	
	comp=E,2149μm,0.3s						
DSF				AML	AML	18 39 41.6	
	comp=N,2794μm,0.1s						
DLFA	**Delphi**	**0.37**	**46**	P	**Pg**	**18 39 34.8**	**+0.2**
DLFA				S	**Sg**	**18 39 40.3**	**+0.5**
DLFA				AML	AML	18 39 40.7	
	comp=E,2656μm,0.5s						
DLFA				AML	AML	18 39 43.3	
	comp=N,1992μm,0.4s						
DRO	**Drossia**	**0.44**	**233**	P	**Pg**	**18 39 35.8**	**-0.1**
DRO				S	**Sg**	**18 39 42.6**	**+0.7**
	comp=N,3μm,0.2s						
DRO	**Drossia**	**0.44**	**233**	P	**Pg**	**18 39 35.8**	**-0.1**
DRO				S	**Sg**	**18 39 42.5**	**+0.6**
DRO				AML	AML	18 39 44.5	
	comp=E,5970μm,0.3s						
DRO				AML	AML	18 39 45.0	
	comp=N,6666μm,0.2s						
RLS	**Riolos of Patr**	**0.57**	**253**	P	**Pg**	**18 39 37.8**	**-0.5**
RLS				S	**Sb**	**18 39 46.8**	**0.0**
	comp=N,1μm,0.3s						
RLS	**Riolos of Patr**	**0.57**	**253**	P	**Pg**	**18 39 38.1**	**-0.2**
RLS				S	**Sg**	**18 39 46.3**	**+0.5**
RLS				AML	AML	18 39 49.4	
	comp=E,2406μm,0.3s						
RLS				AML	AML	18 39 49.6	
	comp=N,1852μm,0.2s						
PVO	**Paravola**	**0.63**	**309**	P	**Pg**	**18 39 39.4**	**-0.1**
PVO	**Paravola**	**0.63**	**309**	P	**Pg**	**18 39 39.3**	**-0.1**
PVO				S	**Sg**	**18 39 48.5**	**+0.7**
PVO				AML	AML	18 39 53.6	
	comp=E,1720μm,0.4s						
PVO				AML	AML	18 39 55.3	
	comp=N,1302μm,0.3s						
LTK	**Loutraki**	**0.67**	**107**	P	**Pb**	**18 39 40.5**	**-0.2**
LTK				S	**Sb**	**18 39 50.0**	**+0.1**
LTK	**Loutraki**	**0.67**	**107**	P	**Pb**	**18 39 40.6**	**0.0**
LTK				S	**Sb**	**18 39 50.3**	**+0.5**
LTK				AML	AML	18 39 52.0	
	comp=N,1859μm,0.3s						
LTK				AML	AML	18 39 52.2	
	comp=E,1632μm,0.4s						
TRIP	**Tripoli**	**0.70**	**172**	P	**Pg**	**18 39 40.5**	**-0.3**
TRIP				S	**Sb**	**18 39 50.9**	**+0.2**
	comp=E,900nm,0.6s						
TRIP	**Tripoli**	**0.70**	**172**	P	**Pg**	**18 39 40.6**	**-0.3**
TRIP				S	**Sb**	**18 39 50.6**	**-0.1**
TRIP				AML	AML	18 39 55.7	
	comp=N,1483μm,0.7s						
TRIP				AML	AML	18 39 55.7	
	comp=E,2162μm,0.5s						
EVR	**Evrytania**	**0.74**	**339**	P	**Pg**	**18 39 41.4**	**-0.2**
EVR				S	**Sb**	**18 39 52.6**	**+0.5**
	comp=E,538nm,0.2s						
EVR	**Evrytania**	**0.74**	**339**	P	**Pg**	**18 39 41.5**	**-0.1**
EVR				S	**Sb**	**18 39 52.5**	**+0.4**
EVR				AML	AML	18 39 55.7	
	comp=N,1105μm,0.2s						
EVR				AML	AML	18 39 56.9	
	comp=E,1035μm,0.3s						
AMT	**Artemida-Makis**	**0.77**	**207**	P	**Pg**	**18 39 42.1**	**-0.1**
AMT				S	**Sb**	**18 39 53.4**	**+0.6**
	comp=E,2μm,0.2s						
AMT	**Artemida-Makis**	**0.77**	**207**	P	**Pg**	**18 39 41.9**	**-0.3**
AMT				AML	AML	18 39 56.0	
	comp=N,4011μm,0.2s						
AMT				AML	AML	18 39 56.8	
	comp=E,1994μm,0.2s						
LKR	**Lokris**	**0.79**	**57**	P	**Pg**	**18 39 42.2**	**-0.3**
LKR	**Lokris**	**0.79**	**57**	P	**Pg**	**18 39 42.0**	**-0.5**
LKR				S	**Sb**	**18 39 53.5**	**+0.2**
LKR				AML	AML	18 39 58.2	
	comp=E,1206μm,0.3s						
LKR				AML	AML	18 40 00.6	
	comp=N,1469μm,0.7s						
MAKR	**Makrakomi, Fth**	**0.79**	**359**	P	**Pb**	**18 39 42.9**	**+0.2**
MAKR				S	**Sb**	**18 39 54.3**	**+1.0**
	comp=N,1μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.79**	**359**	P	**Pb**	**18 39 43.0**	**+0.2**
MAKR				S	**Sb**	**18 39 54.1**	**+0.8**
MAKR				AML	AML	18 39 56.7	
	comp=N,2628μm,0.3s						
MAKR				AML	AML	18 39 57.4	
	comp=E,3572μm,0.3s						
AGG	**Agios Georgios**	**0.81**	**10**	P	**Pg**	**18 39 42.7**	**-0.2**
AGG	**Agios Georgios**	**0.81**	**10**	P	**Pg**	**18 39 42.6**	**-0.3**
AGG				S	**Sb**	**18 39 54.2**	**+0.3**
AGG				AML	AML	18 39 56.5	
	comp=E,1474μm,0.2s						
AGG				AML	AML	18 39 56.6	
	comp=N,1126μm,0.3s						
VTN	**Vitineika**	**0.82**	**249**	P	**Pb**	**18 39 43.7**	**+0.5**
VTN				S	**Sg**	**18 39 54.3**	**+0.4**
VLX	**Vlachokerasia**	**0.87**	**168**	P	**Pg**	**18 39 43.5**	**-0.5**
VLX				S	**Sb**	**18 39 56.1**	**+0.4**
	comp=N,1μm,0.5s						
VLX	**Vlachokerasia**	**0.87**	**168**	P	**Pg**	**18 39 43.5**	**-0.5**
VLX				S	**Sb**	**18 39 56.4**	**+0.7**
VLX				AML	AML	18 39 57.8	
	comp=E,2055μm,0.5s						
VLX				AML	AML	18 40 01.4	
	comp=N,3220μm,0.5s						
VIL2	**Platees**	**0.88**	**90**	P	**Pn**	**18 39 45.2**	**+0.1**
VIL2				S	**Sb**	**18 39 57.4**	**+1.5**
VIL2				AML	AML	18 40 01.3	
	comp=N,3681μm,0.3s						
VIL2				AML	AML	18 40 04.4	
	comp=E,3830μm,0.7s						
VILL	**Villia**	**0.91**	**93**	P	**Pb**	**18 39 45.2**	**+0.4**
VILL				S	**Sb**	**18 39 58.5**	**+1.6**
ITM	**Ithomi**	**1.06**	**190**	P	**Pg**	**18 39 46.7**	**-0.9**
ITM	**Ithomi**	**1.06**	**190**	P	**Pg**	**18 39 46.6**	**-0.9**
ITM				S	**Sb**	**18 40 02.0**	**+1.1**
ITM				AML	AML	18 40 06.5	
	comp=E,694μm,0.3s						
ITM				AML	AML	18 40 06.7	
	comp=N,494μm,0.4s						
DID	**Didima**	**1.12**	**130**	P	**Pg**	**18 39 48.5**	**-0.2**
DID				S	**Sn**	**18 40 04.4**	**+0.8**
	comp=N,1μm,0.5s						
DID	**Didima**	**1.12**	**130**	P	**Pg**	**18 39 48.5**	**-0.2**
DID				S	**Sb**	**18 40 03.6**	**+0.9**
DID				AML	AML	18 40 06.3	
	comp=N,2734μm,0.5s						
DID				AML	AML	18 40 07.3	
	comp=E,2103μm,0.4s						
VLMS	**Volimes, Zakyn**	**1.23**	**254**	P	**Pg**	**18 39 49.8**	**-1.0**
VLMS				S	**Sb**	**18 40 07.2**	**+1.3**
VLMS				AML	AML	18 40 11.0	
	comp=N,1480μm,0.5s						
VLMS				AML	AML	18 40 14.5	
	comp=E,1208μm,0.4s						
EVGI	**Lefkada island**	**1.24**	**289**	P	**Pb**	**18 39 50.5**	**+0.1**
ATH	**Athens Observa**	**1.26**	**101**	P	**Pg**	**18 39 51.1**	**-0.3**
ATH				S	**Sg**	**18 40 07.3**	**-0.4**
ATH				AML	AML	18 40 10.3	
	comp=E,1529μm,0.5s						
ATH				AML	AML	18 40 12.0	
	comp=N,714

KTHA	**Kythira Island**	**2.09**	**159**	P		**Pn**	**18 40 03.5**	**+1.6**
KEK	**Kerkira**	**2.36**	**310**	P		**Pb**	**18 40 08.2**	**-1.3**
ANKY	**Antikythira Is**	**2.52**	**158**	P		**Pn**	**18 40 09.9**	**+2.1**
CHOS	**Chios island**	**3.07**	**86**	P		**Pn**	**18 40 17.1**	**+1.7**
IDI	**Anoyia**	**3.66**	**142**	Pn		**Pn**	**18 40 25.4**	**+1.9**
	comp=N,0.4nm,0.3s,baz=328,slow=13,SNR=1.4							
IDI				Sn		**Sn**	**18 41 00.0**	**-6.5**
	comp=N,0.5nm,0.3s,baz=179,slow=20,SNR=1.8							
LSTV	**Lastovo**	**6.06**	**320**	*e*Pn		**Pn**	**18 40 57.2**	**+0.9**
LSTV				Sn		**Sn**	**18 42 03.7**	**-1.8**
RICI	**Ricice**	**6.50**	**326**	*i* Pn		**Pn**	**18 41 03.5**	**+1.2**
RICI				Sn		**Sn**	**18 42 16.4**	**+0.1**
KIJV	**Kijevo**	**7.22**	**325**	*e*Pn		**Pn**	**18 41 13.5**	**+1.1**
KIJV				Sn		**Sn**	**18 42 34.7**	**+0.6**
ZIRJ	**Zirje**	**7.33**	**320**	*e*Pn		**Pn**	**18 41 15.6**	**+1.8**
ZIRJ				Sn		**Sn**	**18 42 35.8**	**-0.9**
DUGI	**Dugi Otok**	**7.87**	**319**	*i* Pn		**Pn**	**18 41 23.8**	**+2.6**
DUGI				Sn		**Sn**	**18 42 49.5**	**-0.4**
BRTR	**Keskin Array B**	**9.07**	**77**	Pn		**Pn**	**18 41 38.2**	**+0.4**
	comp=N,0.2nm,0.3s,baz=258,slow=12,SNR=7.0							
ESDC	**Sonseca Array**	**20.35**	**282**	P		Pn	18 44 05.5	+0.3
	comp=N,0.6nm,0.8s,baz=74,slow=11,SNR=7.6							
KURBB	**Kurchatov Arra**	**41.17**	**54**	P		**P**	**18 47 10.1**	**-0.8**
	comp=N,0.3nm,0.6s,baz=279,slow=8.6,SNR=3.8							
MKAR	**Makanchi Array**	**44.18**	**59**	P		**P**	**18 47 36.1**	**+0.5**
	comp=N,0.6nm,0.6s,baz=284,slow=7.3,SNR=6.9							
ZALV	**Zalesovo Beam**	**44.70**	**48**	P		**P**	**18 47 39.9**	**+0.3**
	comp=N,0.6nm,0.5s,baz=278,slow=9.1,SNR=3.6							
SFJD	**Kangerlussuaq**	**48.84**	**330**	LR		LR	19 10 47.2	
	comp=N,234nm,18.5s,baz=44,slow=39							
YKA	**Yellowknife Ar**	**73.78**	**341**	LR		LR	19 25 21.2	
	comp=N,138nm,19.8s,baz=0.0,slow=37							

IDC ***31*** *18:42:10.1±1.6,0˚.84N×125˚.79E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.4/54,mbtmp3.8/4,Error ellipse: s-maj=171.4km s-min=22.3km az=65.0*

DJA ***31*** *18:42:14.2±1.6,1˚.6N±6˚×12˚.6E±˚,h21km±16km,M3.7/7, mb3.9/1,MLv3.7/7*

NEIC ***31*** *18:42:16.5±2.1,0˚.8N±0˚.2×126˚.27E±0˚.07,h35km±2km, mb4.1/7,Error ellipse: s-maj=27.9km s-min=11.8km az=3.0*

ISC 31 18:42:15.6±1.0,1˚.0N±0˚.1×126˚.21E±0˚.05,h44km,n20, σ1°26/22,mb4.0/8,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.17**	**99**	P		**Pn**	**18 42 36.1**	**+0.5**
TNTI				S		**Sn**	**18 42 52.8**	**+2.4**
TNTI	**Ternate**	**1.17**	**99**			**Pn**	**18 42 35.3**	**-0.3**
KMSI	**Cibinong**	**2.26**	**260**	P		**Pn**	**18 42 50.6**	**+0.1**
KMSI				S		**Sn**	**18 43 17.6**	**+0.4**
SANI	**Sanana**	**3.00**	**184**	P		**Pn**	**18 43 01.1**	**+0.4**
GTOI	**Gorontalo**	**3.22**	**264**	P		**Pn**	**18 43 05.6**	**+2.0**
LUWI	**Luwuk**	**3.97**	**240**	P		**Pn**	**18 43 12.7**	**-1.4**
LUWI	**Luwuk**	**3.97**	**240**			**Pn**	**18 43 15.9**	**+1.8**
SOEI	**Soe**	**10.82**	**190**	Pn		**Pn**	**18 44 50.0**	**+1.8**
WB0	**Warramunga Arr**	**22.11**	**159**	P		**P**	**18 47 07.6**	**+0.1**
WB0				IAmb		IAmb	18 47 13.1	
	comp=Z,5.9nm,0.9s							
WRAB	**Tennant Creek**	**22.25**	**159**	P		**P**	**18 47 07.8**	**-1.1**
WRAB				IAmb		IAmb	18 47 14.3	
	comp=Z,4.9nm,0.8s							
WRA	**Warramunga Arr**	**22.25**	**159**	P		**P**	**18 47 09.1**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=337,slow=12,SNR=16							
WRA	**Warramunga Arr**	**22.25**	**159**	P		**P**	**18 47 07.3**	**-1.7**
WB2	**Warramunga Arr**	**22.26**	**159**	P		**P**	**18 47 09.1**	**+0.1**
WB2				IAmb		IAmb	18 47 14.8	
	comp=Z,11nm,1.2s							
COEN	**Coen**	**22.41**	**132**	P		**P**	**18 47 09.8**	**-0.9**
COEN				IAmb		IAmb	18 47 49.5	
	comp=Z,24nm,1.4s							
AS31	**Alice Springs**	**25.60**	**163**	P		**P**	**18 47 41.0**	**0.0**
ASAR	**Alice Springs**	**25.60**	**163**	P		**P**	**18 47 41.6**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=336,slow=9.3,SNR=4.2							
ASAR	**Alice Springs**	**25.60**	**163**	P		**P**	**18 47 42.6**	**+1.6**
MORW	**Morawa**	**31.41**	**197**	P		**P**	**18 48 30.8**	**-1.8**
MKAR	**Makanchi Array**	**59.54**	**326**	P		**P**	**18 52 14.5**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=124,slow=7.2,SNR=2.9							
KURBB	**Kurchatov Arra**	**63.79**	**328**	P		**P**	**18 52 43.2**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=125,slow=6.4,SNR=7.7							

IDC ***31*** *18:51:40.0±0.5, 18˚.71S×173˚.86W,h0km,mb4.6/20, mb1 4.7/22,mb1mx4.6/40,mbtmp4.6/22,ML4.3/2,MS3.9/11, Ms1 3.9/11,ms1mx3.5/46,Error ellipse: s-maj=20.1km s-min=12.2km az=133.0*

NEIC ***31*** *18:51:43.3±1.7, 19˚.3S±0˚.2×173˚.6W±0˚.1,h35km±2km, mb4.9/36,Error ellipse: s-maj=28.2km s-min=15.4km az=169.0*

BJI ***31*** *18:51:44.0±0.0, 18˚.90S×173˚.70W,h40km,mB5.2/11, mb4.7/17,Ms4.7/2,Ms7 4.7/2*

BGR ***31*** *18:51:47.3±0.0, 18˚.59S×173˚.65W,h33km,Ms4.3*

ISC 31 18:51:45.1±0.4, 18˚.72S±0˚.08×173˚.96W±0˚.09,h35km, n205,σ1°11/182,mb4.8/43,MS3.9/11,12C-11D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**3.83**	**96**	Pn		Pn	18 52 33.7	-8.0
NIUE				Sn		Sn	18 53 12.3	-13
AFI	**Afiamalu**	**5.22**	**24**	Pn		**Pn**	**18 52 59.1**	**-1.7**
	7.8nm,0.3s,baz=7.6,slow=6.7,SNR=8.9							
AFI				Sn		Sn	18 53 49.3	-11
	65nm,0.3s,baz=245,slow=20,SNR=6.0							
AFI				LR		LR	18 54 05.9	
	comp=Z,149nm,20.3s,baz=195,slow=28							
MSVF	**Nonsavu**	**7.66**	**276**			Pn	18 53 46.0	+12
RAR	**Rarotonga**	**13.56**	**103**	Pn		Pn	18 54 46.5	-8.6
	11nm,0.3s,baz=277,slow=7.7,SNR=15							
RAR				Sn		Sn	18 57 03.2	-21
	1.8nm,0.3s,baz=65,slow=23,SNR=1.5							
DZM	**Mont Dzumac**	**18.67**	**256**	*e*P		**Pn**	**18 56 04.9**	**+3.9**
	98nm,1.1s							
DZM				*e*LR		LR	19 00 20.8	
	comp=Z,826nm,24.7s							
DZM	**Mont Dzumac**	**18.67**	**256**	P		**Pn**	**18 56 01.8**	**+0.9**
	1.5nm,0.3s,baz=82,slow=15,SNR=30							
DZM				LR		LR	19 02 09.5	
	comp=Z,520nm,21.0s,baz=138,slow=34							
DZM	**Mont Dzumac**	**18.67**	**256**			**Pn**	**18 56 05.2**	**+4.2**
OUZ	**Omahuta**	**19.80**	**211**	P		**P**	**18 56 07.3**	**-5.2**
OUZ				IAmb		IAmb	18 56 09.7	
	comp=Z,72nm,1.4s							
URZ	**Urewera**	**20.97**	**200**	P		**P**	**18 56 25.5**	**+0.3**
	comp=Z,48nm,0.5s,baz=359,slow=3.4,SNR=28							
URZ				S		S	19 00 02.4	-15
	comp=Z,15nm,0.9s,baz=347,slow=23,SNR=2.0							
URZ	**Urewera**	**20.97**	**200**	P		**P**	**18 56 25.8**	**+0.6**
PAE	**Paea**	**23.18**	**91**	*e*T		T	19 20 36.5	
	comp=Z,11nm,0.2s							
PPT2	**Papeete2**	**23.19**	**91**	*e*LR		LR	19 01 58.7	
	comp=Z,659nm,28.8s							
PPT2	**Papeete2**	**23.19**	**91**	*e*T		T	19 20 38.0	
	comp=Z,9.5nm,0.3s							
PPT	**Papeete**	**23.19**	**91**	LR		LR	19 04 53.4	
	comp=Z,427nm,18.4s,baz=284,slow=34							
TBI	**Tubuai**	**23.31**	**106**	*e*LR		LR	19 02 07.8	
	comp=Z,480nm,28.8s							
TBI	**Tubuai**	**23.31**	**106**	*e*T		T	19 20 52.1	
	comp=Z,18nm,0.3s							
TIAR	**Tiarei**	**23.41**	**91**	*e*T		T	19 20 50.9	
	comp=Z,2.5nm,0.2s							
TVO	**Taravao**	**23.48**	**92**	*e*T		T	19 20 58.0	
	comp=Z,5.0nm,0.4s							
PMOR	**Pomariorio Ree**	**25.20**	**86**	*e*T		T	19 23 05.6	
	comp=Z,2.5nm,0.3s							
RPZ	**Rata Peaks**	**27.93**	**204**	P		**P**	**18 57 33.4**	**+1.3**
	comp=Z,20nm,0.5s,baz=327,slow=1.1,SNR=9.5							
RPZ	**Rata Peaks**	**27.93**	**204**	P		**P**	**18 57 34.0**	**+2.0**
RPZ				IAmb		IAmb	18 57 37.9	
	comp=Z,24nm,0.6s							
EIDS	**Eidsvold**	**33.01**	**252**	P		**P**	**18 58 16.6**	**-0.5**
EIDS				IAmb		IAmb	18 58 19.6	
	comp=Z,17nm,1.4s							
ARMA	**Armidale**	**33.27**	**243**	P		**P**	**18 58 20.0**	**+0.4**
TAOE	**Nuku Hiva Isla**	**34.21**	**78**	*e*T		T	19 34 16.6	
	comp=Z,37nm,0.2s							
KRVT	**Keravat (AS076**	**36.18**	**289**	LR		LR	19 12 36.6	
	comp=Z,125nm,18.5s,baz=153,slow=35							
CTA	**Charters Tower**	**37.49**	**261**	P		**P**	**18 58 56.5**	**+0.6**
	comp=Z,14nm,0.6s,baz=89,slow=10,SNR=29							
CTAO	**Charters Tower**	**37.49**	**261**	P		**P**	**18 58 56.8**	**+0.9**
CTAO				IAmb		IAmb	18 58 57.6	
	comp=Z,18nm,0.8s							
TOO	**Toolangi**	**40.02**	**233**	P		**P**	**18 59 15.1**	**-1.7**
TOO				IAmb		IAmb	18 59 30.3	
	comp=Z,19nm,1.4s							
TAU	**Tasmania Unive**	**40.57**	**225**	P		**P**	**18 59 21.6**	**+0.3**
TAU				IAmb		IAmb	18 59 21.7	
	comp=Z,44nm,1.2s							
STKA	**Stephens Creek**	**41.99**	**243**	P		**P**	**18 59 33.3**	**+0.2**
	comp=Z,5.9nm,0.8s,baz=95,slow=10,SNR=13							
STKA				LR		LR	19 16 26.9	
	comp=Z,198nm,18.1s,baz=39,slow=35							
STKA	**Stephens Creek**	**41.99**	**243**	P		**P**	**18 59 32.4**	**-0.7**
BBOO	**Buckleboo**	**46.75**	**242**	P		**P**	**19 00 09.2**	**-1.9**
BBOO				IAmb		IAmb	19 00 11.7	
	comp=Z,9.6nm,0.8s							
GENI	**Genyem**	**47.66**	**284**	P		**P**	**19 00 18.9**	**+0.4**
	comp=Z,23nm,1.5s							
WR0	**Warramunga Arr**	**48.46**	**260**	P		**P**	**19 00 22.8**	**-1.8**
WB0	**Warramunga Arr**	**48.62**	**260**	P		**P**	**19 00 25.6**	**-0.3**
WB0				IAmb		IAmb	19 00 26.1	
	comp=Z,7.2nm,0.8s							
WB2	**Warramunga Arr**	**48.63**	**260**	P		**P**	**19 00 25.6**	**-0.4**
WB2				IAmb		IAmb	19 00 26.3	
	comp=Z,5.6nm,0.8s							
WRAB	**Tennant Creek**	**48.64**	**260**	P		**P**	**19 00 25.5**	**-0.5**
WRAB				IAmb		IAmb	19 00 26.3	
	comp=Z,5.5nm,0.8s							
WRA	**Warramunga Arr**	**48.65**	**260**	P		**P**	**19 00 25.4**	**-0.7**
	comp=Z,5.3nm,0.8s,baz=97,slow=8.2,SNR=46							
WRA				S		**S**	**19 07 23.1**	**-3.1**
	comp=Z,1.1nm,0.8s,baz=97,slow=14,SNR=5.4							
WRA	**Warramunga Arr**	**48.65**	**260**	P		**P**	**19 00 22.9**	**-3.1**
AS31	**Alice Springs**	**48.65**	**255**	P		**P**	**19 00 26.2**	**+0.1**
ASAR	**Alice Springs**	**48.65**	**255**	P		**P**	**19 00 25.9**	**-0.2**
	comp=Z,12nm,0.6s,baz=92,slow=8.0,SNR=135							
ASAR				S		**S**	**19 07 22.0**	**-4.2**
	comp=Z,1.5nm,0.8s,baz=96,slow=16,SNR=13							
ASAR				LR		LR	19 19 58.5	
	comp=Z,110nm,20.0s,baz=94,slow=35							
SMPI	**Sarmi**	**49.24**	**284**	P		**P**	**19 00 27.6**	**-3.0**
	comp=Z,5.4nm,1.0s							
GUMO	**Guam**	**51.74**	**305**	LR		LR	19 18 35.1	
	comp=Z,75nm,19.8s,baz=182,slow=31							
MTN	**Manton Dam**	**53.00**	**268**	P		**P**	**19 00 59.5**	**+0.6**
MTN				IAmb		IAmb	19 00 59.6	
	comp=Z,11nm,0.8s							
RKPI	**Ransiki, Papua**	**53.60**	**282**	P		**P**	**19 01 01.3**	**-2.0**
	comp=Z,159nm,1.1s							
KNRA	**Kununurra**	**54.61**	**264**	P		**P**	**19 01 11.2**	**+0.5**
KNRA				IAmb		IAmb	19 01 23.4	
	comp=Z,7.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**57.06**	**260**	P		**P**	**19 01 28.6**	**+0.4**
NLAI	**Namlea**	**59.60**	**277**	P		**P**	**19 01 46.2**	**+0.2**
	comp=Z,19nm,1.1s							
VNDA	**Vanda**	**60.04**	**186**	P		**P**	**19 01 48.6**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=1.8,slow=6.8,SNR=12							
VNDA	**Vanda**	**60.04**	**186**	P		**P**	**19 01 50.0**	**+2.0**
SOEI	**Soe**	**60.30**	**269**	P		**P**	**19 01 50.4**	**-0.5**
	comp=Z,30nm,0.8s							
SOEI				S		**P**	**19 01 53.0**	**+2.1**
	comp=Z,30nm,0.8s							
BATI	**Baumata**	**60.75**	**269**	LR		LR	19 29 26.5	
	comp=Z,96nm,18.4s,baz=177,slow=37							
MJAR	**Matsushiro Arr**	**71.14**	**321**	P		**P**	**19 03 01.0**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=167,slow=7.0,SNR=2.8							
MJAR	**Matsushiro Arr**	**71.14**	**321**	IAmb		IAmb	19 03 02.9	
	comp=Z,2.2nm,1.4s							
QSPA	**South Pole Qui**	**71.34**	**180**	LR		LR	19 29 00.7	
	comp=Z,101nm,19.9s,baz=204,slow=31							
QSPA	**South Pole Qui**	**71.34**	**180**	P		**P**	**19 03 01.5**	**+0.3**
QSPA				IAmb		IAmb	19 03 04.9	
	comp=Z,14nm,0.9s							
UNV	**Unalaska Valle**	**72.55**	**5**	P		**P**	**19 03 06.8**	**-1.5**
UNV				IAmb		IAmb	19 03 08.8	
	comp=Z,15nm,0.8s							
PETK	**Petropavlovsk-**	**75.62**	**343**	P		**P**	**19 03 27.0**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=118,slow=8.8,SNR=7.5							
YBH	**Yreka Blue Hor**	**76.56**	**37**	P		**P**	**19 03 31.8**	**-0.2**
	comp=Z,7.6nm,0.8s,baz=104,slow=0.5,SNR=26							
HUMO	**Hull Mountain**	**76.99**	**36**			**P**	**19 03 34.8**	**+0.5**
HUMO				IAmb		IAmb	19 03 36.4	
	comp=Z,9.4nm,1.2s							
NVAR	**Mina Array Bea**	**77.14**	**42**	P		**P**	**19 03 35.4**	**-0.1**
	comp=Z,4.6nm,0.8s,baz=225,slow=9.6,SNR=34							
KSRS	**Korea Array**	**78.16**	**316**	P		**P**	**19 03 43.1**	**+2.2**
	comp=Z,1.4nm,0.9s,baz=132,slow=6.1,SNR=5.4							
USRK	**Ussuriysk Ar.**	**79.72**	**324**	LR		LR	19 35 30.4	
	comp=Z,96nm,19.1s,baz=131,slow=33							
BELA	**Belaya Array 2**	**80.80**	**172**	P		**P**	**19 03 54.4**	**-0.4**
BBB	**Bella Bella**	**81.08**	**27**	P		**P**	**19 03 56.4**	**0.0**
	comp=Z,12nm,1.0s,baz=181,slow=1.9,SNR=2.4							
BBB	**Bella Bella**	**81.08**	**27**	IAmb		IAmb	19 03 58.7	
	comp=Z,39nm,1.3s							
NJ2	**Nanjing**	**81.75**	**308**	*e*P		**P**	**19 04 03.8**	**+3.4**
NJ2				pmax		pmax		
	comp=Z,4.0nm,0.8s							
TTA	**Tatalina**	**82.60**	**8**	P		**P**	**19 04 05.0**	**+0.7**
TXAR	**Lajitas Array**	**82.90**	**56**	P		**P**	**19 04 06.8**	**+0.1**
	comp=Z,4.2nm,1.1s,baz=217,slow=6.0,SNR=24							
SCM	**Shop Creek Mo**	**83.04**	**12**	P		**P**	**19 04 07.4**	**+0.8**
ANMO	**Albuquerque**	**83.33**	**50**	P		**P**	**19 04 09.2**	**+0.2**
	comp=Z,0.2nm,0.9s,baz=13,slow=4.2,SNR=11							
H03S2	**Juan Fernandez**	**83.82**	**123**	T		T	20 36 52.3	
	baz=249,slow=75,SNR=250							
H03S1	**Juan Fernandez**	**83.83**	**124**	T		T	20 36 50.5	
	baz=249,slow=75,SNR=205							
H03S3	**Juan Fernandez**	**83.84**	**123**	T		T	20 36 52.1	
	baz=249,slow=75,SNR=202							
H03N2	**Juan Fernandez**	**83.94**	**123**	T		T	20 36 58.4	
	baz=257,slow=72,SNR=38							
H03N3	**Juan Fernandez**	**83.94**	**123**	T		T	20 36 49.3	
	baz=257,slow=72,SNR=14							
H03N1	**Juan Fernandez**	**83.95**	**123**	T		T	20 36 55.0	
	baz=257,slow=72,SNR=32							
TRF	**Thorofare Moun**	**83.97**	**10**	P		**P**	**19 04 11.4**	**0.0**
MCMT	**McKenzie Canyo**	**84.16**	**39**	P		**P**	**19 04 13.2**	**+0.2**
MAW	**Mawson**	**84.50**	**199**	P		**P**	**19 04 14.9**	**+0.8**
	comp=Z,1.4nm,0.4s,baz=170,slow=7.2,SNR=7.3							
DLMT	**Dillon**	**84.61**	**38**	P		**P**	**19 04 15.3**	**+0.2**
DLMT				IAmb		IAmb	19 04 26.4	
	comp=Z,6.6nm,1.0s							
DLBC	**Dease Lake**	**84.97**	**21**	P		**P**	**19 04 17.3**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=232,slow=7.2,SNR=3.7							
PDAR	**Pinedale Array**	**85.08**	**42**	P		**P**	**19 04 17.2**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=197,slow=3.1,SNR=10							
PDAR	**Pinedale Array**	**85.08**	**42**	P		**P**	**19 04 16.7**	**-1.0**
WRH	**Wood River Hil**	**85.29**	**11**	P		**P**	**19 04 18.6**	**+0.7**
BCAR	**Beaver Creek A**	**85.33**	**14**	P		**P**	**19 04 19.2**	**+1.0**
DOT	**Dot Lake**	**85.34**	**13**	P		**P**	**19 04 17.3**	**-0.9**
DOT				IAmb		IAmb	19 04 20.0	
	comp=Z,10nm,0.9s							
HDA	**Harding Lake**	**85.45**	**11**	P		**P**	**19 04 18.9**	**+0.2**
CCB	**Clear Creek Bu**	**85.51**	**11**	P		**P**	**19 04 18.6**	**-0.3**
MDM	**Murphy Dome**	**85.72**	**11**	P		**P**	**19 04 19.5**	**-0.5**
ILAR	**Eielson Array**	**85.79**	**11**	P		**P**	**19 04 20.6**	**+0.3**
	comp=Z,4.2nm,0.7s,baz=233,slow=6.4,SNR=46							
ILAR	**Eielson Array**	**85.79**	**11**	P		**P**	**19 04 19.2**	**-1.2**
IMAR	**Indian Mountai**	**85.82**	**8**	P		**P**	**19 04 21.6**	**+1.1**
PLCA	**Paso Flores**	**87.69**	**132**	P		**P**	**19 04 30.6**	**0.0**
	comp=Z,1.2nm,0.7s,baz=243,slow=7.7,SNR=4.0							
BMAR	**Burnt Mountain**	**88.59**	**11**	P		**P**	**19 04 34.5**	**+0.5**
SYO	**Syowa Base**	**89.26**	**191**	*i* PcP		**P**	**19 04 36.4**	**-0.8**
VNA3	**Neumayer Olymp**	**89.61**	**175**	P		**P**	**19 04 39.0**	**+0.1**
SNAA	**Neumayer--Watz**	**89.64**	**177**	P		**P**	**19 04 39.1**	**0.0**
VNA2	**Neumayer--Watz**	**90.10**	**176**	P		**P**	**19 04 41.5**	**+0.3**
XAN	**Xi'an**	**90.14**	**306**	P		**P**	**19 04 42.5**	**+0.5**
XAN				pP		sP	19 05 00.3	+3.2
XAN				pmax		pmax		
	comp=Z,4.0nm,1.0s							
VNA1	**Neumayer--Stat**	**90.31**	**175**	P		**P**	**19 04 42.6**	**+0.5**
HHC	**Hu-ho-hao-te**	**90.89**	**313**	*e*P		**P**	**19 04 48.0**	**+2.6**
HHC				pmax		pmax		
	comp=Z,11nm,1.2s							
HHC				pmax		pmax		
	comp=Z,68nm,5.5s							
CMAR	**Chiang Mai Arr**	**93.15**	**288**	P		**P**	**19 04 57.2**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=125,slow=4.2,SNR=4.6							
LZH	**Lanzhou**	**94.75**	**306**	*e*P		**P**	**19 05 05.5**	**+2.1**
LZH				pP		sP	19 05 17.0	-1.6
LZH				sP		pP	19 05 21.5	+6.9
LZH				pmax		pmax		
	comp=Z,23nm,1.1s							
ULM	**Lac du Bonnet**	**96.83**	**39**	LR		LR	19 41 22.5	
	comp=Z,81nm,21.7s,baz=232,slow=31							
ARCES	**ARCESS Array B**	**127.80**	**351**	PKP		**PKPdf**	**19 10 45.5**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=79,slow=1.9,SNR=5.3							
BOSA	**Boshof**	**129.41**	**202**	PKP		**PKiKP**	**19 10 51.6**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=0.0,slow=0.0,SNR=2.4							
GEYT	**Alibeck**	**130.99**	**304**	PKP		**PKPdf**	**19 10 54.0**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=222,slow=1.9,SNR=2.9							
FINES	**FINESS Array B**	**135.04**	**347**	PKhKP		PKPpre	19 10 55.7	
	comp=Z,1.0nm,0.8s,baz=48,slow=2.3,SNR=1.6							
AKASG	**Malin Array Be**	**143.15**	**335**	PKhKP		PKPpre	19 11 12.1	
	comp=Z,0.9nm,0.5s,baz=38,slow=3.9,SNR=6.0							
KMBO	**Kilima Mbogo**	**143.53**	**241**	PKP		**PKPdf**	**19 11 17.1**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=99,slow=12,SNR=3.3							
SORM	**Soroca**	**145.51**	**333**	⇑P		**PKPab**	**19 11 20.3**	**+0.5**
RUE	**Ruedersdorf**	**145.77**	**352**	*e*PKPbc		**PKPab**	**19 11 21.6**	**+0.9**
	baz=8.9,slow=2.7							
NRDL	**Niedersach Rie**	**146.15**	**356**	*e*PKPbc		**PKPab**	**19 11 22.9**	**+0.9**
	baz=8.9,slow=2.7							
IBBN	**Ibbenburen**	**146.46**	**358**	*e*PKPbc		**PKPab**	**19 11 24.0**	**+0.7**
	baz=8.9,slow=2.7							
ASSE	**Asse, Remlinge**	**146.46**	**355**	*e*PKPbc		**PKPab**	**19 11 23.9**	**+0.7**
	baz=8.9,slow=2.7							
CLZ	**Clausthal**	**146.77**	**355**	*e*PKPbc		**PKPab**	**19 11 25.0**	**+0.4**
	baz=8.9,slow=2.7							
CLL	**Collm**	**147.02**	**352**	⇑*i*PKPbc		**PKPab**	**19 11 25.6**	**+0.1**
	comp=Z,27nm,1.0s							
CLL				*i* PKPab		**PKiKP**	**19 11 28.2**	**+1.7**
	comp=Z,14nm,0.9s							
CLL				*e*pPKPdf		**pPKPdf**	**19 11 33.0**	**-0.4**
CLL	**Collm**	**147.02**	**352**	*e*PKPbc		**PKPab**	**19 11 25.6**	**+0.1**
	baz=8.9,slow=2.7							
GTTG	**Gottingen**	**147.10**	**355**	*e*PKPbc		**PKPab**	**19 11 25.8**	**0.0**
	baz=8.9,slow=2.7							
BURAR	**Bucovina Array**	**147.20**	**336**	⇑P		**PKiKP**	**19 11 27.1**	**-0.1**
OSTC	**Ostas**	**147.22**	**348**	*e*PKP		**PKPab**	**19 11 26.5**	**+0.1**
OSTC				*ex*		x	19 11 28.5	
CHVC	**Chvalec**	**147.22**	**348**	*e*PKP		**PKPab**	**19 11 26.2**	**-0.2**
CHVC				*ex*		x	19 11 30.0	
NEUB	**Neuenburg**	**147.27**	**353**	*e*PKPbc		**PKPab**	**19 11 26.4**	**-0.1**
	baz=8.9,slow=2.7							
UPC	**Upice**	**147.30**	**348**	*e*PKP		**PKPab**	**19 11 26.3**	**-0.4**
BRG	**Berggiesshubel**	**147.31**	**351**	*i* PKP		**PKPab**	**19 11 26.3**	**-0.4**
	comp=Z,20nm,1.3s							
BRG	**Berggiesshubel**	**147.31**	**351**	*e*PKPbc		**PKPab**	**19 11 26.5**	**-0.2**
	baz=8.9,slow=2.7							
BUG	**Bochum--Univer**	**147.34**	**359**	*e*PKPbc		**PKPab**	**19 11 26.2**	**-0.5**
	baz=8.9,slow=2.7							
FBE	**Freiberg**	**147.35**	**351**	*e*PKPbc		**PKPab**	**19 11 26.9**	**+0.1**
	baz=8.9,slow=2.7							
BIZ	**Bicaz**	**147.39**	**334**	⇑P		**PKPab**	**19 11 27.3**	**+0.1**
DPC	**Dobruska-Polom**	**147.39**	**348**	*e*PKP		**PKPab**	**19 11 27.2**	**+0.1**
DPC				*ex*		x	19 11 29.1	
OKC	**Ostrava-Krasne**	**147.47**	**345**	*e*PKP		**PKPab**	**19 11 27.2**	**-0.2**
TESR	**Tescani**	**147.50**	**333**	⇓P

FETA	**Feichten**	**151.51**	**353**	*e*PKiKP	**PKiKP**	**19 11 36.9**	**+0.7**
	comp=Z,13nm,0.9s,SNR=7.3							
ABTA	**Abfaltersbach**	**151.54**	**351**	*e*PKiKP	**PKiKP**	**19 11 36.3**	**+0.1**
	comp=Z,15nm,0.7s,SNR=11							
TORD	**Torodi Ar. Bea**	**173.06**	**142**	PKPab	**PKPab**	**19 13 17.2**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=225,slow=1.4,SNR=2.4							

*SJA **31** 18:53:38.3±0.7, 20.°54S×70.°29W, h21km±2km, ML4.0, MW3.9*
*GUC **31** 18:53:41.7±0.8, 20.°52S×70.°10W, h48km±1km, ML4.0*
ISC 31 18:53:42.1±1.2, 20.°49S±0.°02×70.°24W±0.°06, h34km±2km, n35, σ1°76/60, 7C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TA01	**Diego Aracena**	**0.09**	**142**	*i*P	**Pb**	**18 53 49.7**	**+1.7**
TA01				*i* S	**Sb**	**18 53 54.6**	**+2.7**
TA01				IAML		18 53 55.4	
	comp=N,28μm,0.3s						
PATCX	**Punta Patache**	**0.34**	**166**	*i*P	**Pb**	**18 53 51.0**	**+0.5**
PATCX				*i* S	**Sn**	**18 53 57.3**	**+1.3**
PATCX				IAML		18 53 57.9	
	comp=N,9μm,0.3s						
PATCX	**Punta Patache**	**0.34**	**166**	*e*S	**Sb**	**18 53 50.8**	**-5.5**
PATCX				*e*P	**Pb**	**18 53 50.9**	**+0.3**
PB02	**IPOC Station P**	**0.88**	**159**	*i*P	**Pn**	**18 53 57.3**	**-1.0**
PB02				*i* S	**Sn**	**18 54 09.2**	**-0.8**
PB02				IAML		18 54 16.2	
	comp=E,7μm,0.3s						
PB02	**IPOC Station P**	**0.88**	**159**	*e*P	**Pn**	**18 53 57.3**	**-1.0**
PB02				*e*S	**Sn**	**18 54 08.1**	**-1.9**
PB02				IAML		18 54 11.8	
	comp=Z,6μm,0.2s						
PB01	**IPOC Station P**	**0.89**	**128**	*i*P	**Pn**	**18 53 57.2**	**-1.2**
PB01				*i* S	**Sn**	**18 54 08.1**	**-2.1**
PB01				IAML		18 54 09.0	
	comp=N,19μm,0.1s						
PSGC	**Pisagua**	**0.90**	**7**	*i*P	**Pn**	**18 53 59.1**	**+0.6**
PSGC				*i* S	**Sn**	**18 54 11.5**	**+1.2**
PSGC				IAML		18 54 12.9	
	comp=E,11μm,0.3s						
PSGCX	**Pisagua**	**0.90**	**7**	*e*P	**Pn**	**18 53 55.3**	**-3.2**
PSGCX				*e*P		18 53 59.1	
PB11	**IPOC Station P**	**0.91**	**37**	*i*P	**Pn**	**18 53 58.4**	**-0.4**
PB11				*i* S	**Sn**	**18 54 11.0**	**+0.2**
PB11				IAML		18 54 13.8	
	comp=N,7μm,0.3s						
PB11	**IPOC Station P**	**0.91**	**37**	*e*P	**Pn**	**18 53 58.3**	**-0.4**
PB11				*e*S	**Sn**	**18 54 11.3**	**+0.5**
PB11				IAML		18 54 13.0	
	comp=Z,3μm,0.1s						
PB08	**IPOC Station P**	**1.08**	**71**	*i*P	**Pn**	**18 54 00.4**	**-0.9**
PB08				*i* S	**Sn**	**18 54 13.8**	**-1.4**
PB08	**IPOC Station P**	**1.08**	**71**	*e*P	**Pn**	**18 54 00.1**	**-1.1**
PB08				*e*S	**Sn**	**18 54 14.6**	**-0.7**
PB07	**IPOC Station P**	**1.27**	**165**	*i*P	**Pn**	**18 54 03.2**	**-0.5**
PB07				*i* S	**Sn**	**18 54 18.9**	**-0.8**
PB07				IAML		18 54 22.7	
	comp=E,4μm,0.3s						
PB07	**IPOC Station P**	**1.27**	**165**	*e*P	**Pn**	**18 54 03.2**	**-0.5**
PB07				*e*S	**Sn**	**18 54 19.2**	**-0.5**
PB07				IAML		18 54 20.1	
	comp=Z,3μm,0.3s						
GO01	**Chusmiza**	**1.28**	**50**	*e*P	**Pn**	**18 54 03.8**	**-0.4**
GO01				*i* S	**Sn**	**18 54 20.2**	**-0.2**
GO01				IAML		18 54 21.7	
	comp=N,11μm,0.2s						
MNMC	**Minye Minye**	**1.48**	**24**	*i*P	**Pn**	**18 54 07.2**	**+0.5**
MNMC				*i* S	**Sn**	**18 54 26.4**	**+1.3**
MNMCX	**Minye Minye**	**1.48**	**24**	*e*P	**Pn**	**18 54 07.1**	**+0.3**
MNMCX				*e*P	**Pb**	**18 54 07.3**	**-2.1**
MNMCX				*e*P	**Pb**	**18 54 07.3**	**-2.1**
PB09	**IPOC Station P**	**1.60**	**144**	*e*P	**Pn**	**18 54 08.6**	**+0.4**
PB09				*e*S	**Sn**	**18 54 29.2**	**+1.4**
PB09				IAML		18 54 31.9	
	comp=Z,4μm,0.3s						
PB03	**IPOC Station P**	**1.61**	**164**	*i*P	**Pn**	**18 54 08.2**	**-0.2**
PB03				*i* S	**Sn**	**18 54 27.9**	**-0.2**
PB03				IAML		18 54 32.9	
	comp=E,2μm,0.3s						
PB03	**IPOC Station P**	**1.61**	**164**	*e*P	**Pn**	**18 54 08.2**	**-0.2**
PB03				*e*S	**Sn**	**18 54 28.8**	**+0.7**
PB03				IAML		18 54 32.9	
	comp=Z,2μm,0.3s						
PB04	**IPOC Station P**	**1.83**	**177**	*e*P	**Pn**	**18 54 10.5**	**-1.0**
PB04				*i* S	**Sn**	**18 54 33.5**	**-0.1**
PB04				IAML		18 54 40.5	
	comp=N,2μm,0.1s						
PB04	**IPOC Station P**	**1.83**	**177**	*e*P	**Pn**	**18 54 10.5**	**-1.0**
PB04				*e*S	**Sn**	**18 54 35.7**	**+2.1**
PB04				IAML		18 54 39.2	
	comp=Z,2μm,0.7s						
PB12	**IPOC Station P**	**1.87**	**357**	*e*P	**Pn**	**18 54 13.0**	**+1.1**
PB12				IAML		18 54 42.8	
	comp=Z,825nm,0.2s						
PB16	**IPOC Station P**	**2.26**	**18**	*e*P	**Pn**	**18 54 18.6**	**+1.0**
PB16				*i* S	**Sn**	**18 54 46.3**	**+1.8**
PB16	**IPOC Station P**	**2.26**	**18**	*e*P	Pn	18 54 09.6	-8.0
PB16				*e*S	**Sb**	**18 54 50.1**	**-0.2**
PB16				IAML		18 55 00.2	
	comp=Z,479nm,0.9s						
PB06	**IPOC Station P**	**2.29**	**164**	IAML		18 54 53.5	
	comp=E,933nm,0.4s						
PB06	**IPOC Station P**	**2.29**	**164**	*e*P	**Pn**	**18 54 16.8**	**-0.9**
PB06				*e*S	**Sn**	**18 54 47.7**	**+2.9**
PB06				IAML		18 54 55.2	
	comp=Z,612nm,0.4s						
LVC	**Limon Verde**	**2.44**	**150**	*e*P	Pn	18 54 09.1	-11
LVC				*e*S	**Sn**	**18 54 50.3**	**+1.4**
PB15	**IPOC Station P**	**2.79**	**165**	*e*P	**Pn**	**18 54 24.1**	**-0.6**
PB15				*e*S	**Sb**	**18 55 02.2**	**-3.3**
PB15				IAML		18 55 10.7	
	comp=Z,1μm,0.3s						
PB10	**IPOC Station P**	**3.02**	**185**	*e*P	**Pn**	**18 54 25.8**	**-1.9**
PB10				*e*S	**Sb**	**18 55 15.8**	**+4.1**
PB14	**IPOC Station P**	**4.12**	**182**	*e*P	**Pn**	**18 54 40.9**	**-2.0**
PB14				IAML		18 55 48.0	
	comp=Z,144nm,0.4s						
YJA	**Yavi**	**4.71**	**112**	*e*P	**Pn**	**18 54 54.0**	**+2.7**
HJA	**Humahuaca**	**5.24**	**122**	*e*P	**Pn**	**18 55 02.3**	**+3.9**
AZAP	**Zapla**	**6.06**	**129**	*e*P	**Pn**	**18 55 11.7**	**+2.1**
ASTB	**Santa Barbara**	**6.37**	**124**	*e*P	**Pn**	**18 55 15.2**	**+1.4**

*IDC **31** 19:05:59.2±1.5, 9.°50N×93.°79E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/51, mbtmp3.6/7, ML3.2/1, Error ellipse: s-maj=52.3km s-min=21.7km az=58.0*
ISC 31 19:06:02.5±1.4, 9.°5N±0.°2×93.°8E±0.°2, h22km, n10, σ0°47/7, mb3.5/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.19**	**29**	Pn	**Pn**	**19 08 27.5**	**-0.1**
	0.1nm,0.3s,baz=217,slow=15,SNR=2.4						
H08S3	**Diego Garcia H**	**27.23**	**232**	T	T	19 38 59.9	
	baz=50						
H08S2	**Diego Garcia H**	**27.23**	**232**	T	T	19 38 55.9	
	baz=50						
H08S1	**Diego Garcia H**	**27.25**	**232**	T	T	19 38 59.9	
	baz=50						
MKAR	**Makanchi Array**	**38.42**	**347**	P	**P**	**19 13 22.3**	**-0.2**
	0.6nm,0.7s,baz=186,slow=9.8,SNR=5.5						
SONM	**Songino Array**	**39.65**	**13**	P	**P**	**19 13 32.8**	**0.0**
	0.2nm,0.4s,baz=193,slow=5.8,SNR=2.6						
GEYT	**Alibeck**	**42.78**	**317**	P	**P**	**19 13 58.7**	**+0.1**
	1.5nm,0.6s,baz=140,slow=9.5,SNR=4.8						
ZALV	**Zalesovo Beam**	**44.90**	**352**	P	**P**	**19 14 15.6**	**+0.3**
	0.5nm,0.3s,baz=170,slow=9.5,SNR=1.1						
WRA	**Warramunga Arr**	**49.48**	**126**	P	**P**	**19 14 52.2**	**+0.6**
	0.4nm,0.6s,baz=306,slow=8.6,SNR=7.9						
ASAR	**Alice Springs**	**51.22**	**131**	P	**P**	**19 15 04.1**	**-0.6**
	0.3nm,0.8s,baz=311,slow=8.4,SNR=3.1						

*IDC **31** 19:06:46.0±1.4, 52.°64N×169.°19W, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.4/59, mbtmp3.4/6, ML2.8/2, Error ellipse: s-maj=62.4km s-min=23.7km az=143.0*
*AEIC **31** 19:06:47.4±1.9, 52.°77N±0.°09×169.°68W±0.°09, h5km±5km, ML3.2, Error ellipse: s-maj=14.8km s-min=1.3km az=147.0*
*NEIC **31** 19:06:48.8±2.3, 52.°7N±0.°1×169.°7W±0.°1, h19km±3km, Error ellipse: s-maj=18.3km s-min=2.8km az=150.0*

ISC 31 19:06:46.8±1.9, 52.°7N±0.°1×169.°65W±0.°07, h9km±13km, n39, σ1°12/38, mb3.4/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.55**	**62**		**Pb**	**19 06 58.5**	**-0.1**
NIKH					**Sb**	**19 07 06.8**	**+0.2**
OKSP	**Okmok Steeple**	**0.98**	**56**		**Pg**	**19 07 05.8**	**+0.2**
OKSP					**Sb**	**19 07 19.4**	**+0.3**
OKCE	**Okmok Cone E**	**1.15**	**51**		**Pb**	**19 07 09.0**	**+0.2**
OKCE					**Sn**	**19 07 26.4**	**+1.5**
OKNC	**Okmok New Cone**	**1.18**	**50**		**Pb**	**19 07 09.2**	**-0.3**
MAPS	**Pakushin South**	**1.96**	**55**		**Pn**	**19 07 20.9**	**+0.6**
MAPS					**Sb**	**19 07 46.6**	**-0.7**
MGOD	**Makushin Gods**	**1.99**	**56**		**Pn**	**19 07 21.8**	**+1.2**
MGOD					**Sb**	**19 07 48.2**	**+0.1**
MREP	**Makushin Rep't**	**2.06**	**57**		**Pn**	**19 07 22.9**	**+1.2**
MSW	**Makushin Switc**	**2.10**	**54**		**Pn**	**19 07 22.9**	**+0.7**
MSW					**Sb**	**19 07 50.2**	**-0.9**
MNAT	**Makushin Natee**	**2.13**	**55**		**Pn**	**19 07 23.6**	**+1.0**
MNAT					**Sb**	**19 07 51.0**	**-1.1**
UNV	**Unalaska Valle**	**2.20**	**58**		**Pn**	**19 07 24.3**	**+0.8**
UNV					**Sn**	**19 07 52.2**	**+1.4**
ZRO	**Akutan Zero**	**2.59**	**56**		**Pn**	**19 07 30.2**	**+1.3**
AKBBA	**Akutan Broad B**	**2.62**	**57**		**Pn**	**19 07 30.8**	**+1.4**
AKGG	**Akutan Green G**	**2.64**	**54**		**Pn**	**19 07 31.1**	**+1.5**
AKUT	**Akutan**	**2.72**	**57**		**Pn**	**19 07 32.3**	**+1.6**
ATKA	**Atka Island**	**2.83**	**261**		**Pn**	**19 07 32.2**	**0.0**
GSTR	**Great Sitkin T**	**3.98**	**264**	Pn	**Pn**	**19 07 48.2**	**+0.3**
GSMY	**Great Sitkin M**	**3.98**	**263**		**Pn**	**19 07 48.3**	**+0.3**
GSTD	**Great Sitkin T**	**4.03**	**263**		**Pn**	**19 07 49.2**	**+0.4**
ADAG	**Mount Adagdak**	**4.33**	**263**		**Pn**	**19 07 54.3**	**+1.6**
ADK	**Adak**	**4.40**	**262**	Pn	**Pn**	**19 07 54.2**	**+0.5**
SPIA	**Saint Paul Isl**	**4.49**	**356**		**Pn**	**19 07 55.5**	**+0.6**
AMKA	**Amchitka**	**6.95**	**263**	Pn	**Pn**	**19 08 30.7**	**+2.0**
KDAK	**Kodiak Island**	**10.97**	**56**	Pn	**Pn**	**19 09 23.2**	**-0.6**
	0.1nm,0.3s,baz=236,slow=6.1,SNR=2.1						
HIN	**Hinchinbrook I**	**14.84**	**50**	Pn	**Pn**	**19 10 17.2**	**+0.6**
BPAW	**Bear Paw Mtn.**	**14.95**	**33**	P	**P**	**19 10 22.6**	**-1.1**
ILAR	**Eielson Array**	**16.76**	**35**	Pn	**Pn**	**19 10 39.2**	**-2.4**
	0.0nm,0.3s,baz=224,slow=12,SNR=1.6						
H11N2	**WAKE ISLAND Hy**	**37.62**	**218**	T	T	19 53 50.2	
	baz=24,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy**	**37.63**	**218**	T	T	19 53 49.3	
	baz=24,slow=76,SNR=36						
H11N1	**WAKE ISLAND Hy**	**37.64**	**218**	T	T	19 53 53.7	
	baz=24,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**38.81**	**217**	T	T	19 55 15.5	
	baz=23,slow=76,SNR=122						
H11S2	**WAKE ISLAND Hy**	**38.83**	**217**	T	T	19 55 18.9	
	baz=23,slow=76,SNR=118						
H11S3	**WAKE ISLAND Hy**	**38.83**	**217**	T	T	19 55 22.7	
	baz=23,slow=76,SNR=83						
PDAR	**Pinedale Array**	**40.51**	**79**	P	**P**	**19 14 25.3**	**-0.8**
	0.1nm,0.3s,baz=322,slow=5.7,SNR=1.3						
TXAR	**Lajitas Array**	**52.91**	**89**	P	**P**	**19 16 01.6**	**-1.7**
	0.2nm,0.6s,baz=297,slow=5.5,SNR=4.6						
WRA	**Warramunga Arr**	**87.09**	**231**	P	**P**	**19 19 33.8**	**+1.0**
	0.4nm,1.0s,baz=40,slow=5.4,SNR=2.3						
ASAR	**Alice Springs**	**90.49**	**230**	P	**P**	**19 19 50.4**	**+1.6**
	0.4nm,0.8s,baz=28,slow=4.2,SNR=4.8						
H03N2	**Juan Fernandez**	**116.21**	**111**	T	T	21 32 23.8	
	baz=314,slow=80						
H03N1	**Juan Fernandez**	**116.22**	**111**	T	T	21 32 24.8	
	baz=314,slow=80						
H03N3	**Juan Fernandez**	**116.23**	**111**	T	T	21 32 21.1	
	baz=314,slow=80						

*IDC **31** 19:10:18.5±0.7, 57.°83S×9.°51W, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.0/31, mbtmp4.0/10, ML5.0/1, MS3.9/5, Ms1 3.8/5, ms1mx3.6/17, Error ellipse: s-maj=25.6km s-min=18.5km az=78.0*
*NEIC **31** 19:10:19.3±2.4, 57.°84S±0.°05×9.°4W±0.°2, h10km±1km, mb4.6/10, Error ellipse: s-maj=20.5km s-min=8.8km az=87.0*
*GCMT **31** 19:10:25.3±0.3, 58.°22S±0.°01×9.°60W±0.°03, h18km±1km, MW5.0/99, Moment Tensor Solution. s39,c44; s99,c128; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.57±.14; Mθθ-1.30±.13; Mφφ 1.87±.12; Mrθ 0.61±.30; Mθφ 2.91±.09; Mφr-0.56±.26; Best double couple: Mo3.44100×10^16 NP1:φs255.00000°, δ76.00000°, λ-10.00000°. NP2: φs347.00000°, δ80.00000°, λ-166.00000°. Principal axes: T 3.6060, Plg2.0000°, Azm120.0000°; N -0.3310, Plg73.0000°, Azm23.0000°; P -3.2760, Plg17.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 31 19:10:19.2±0.6, 57.°86S±0.°08×9.°6W±0.°1, h10km, n38, σ1°52/35, mb4.3/11, MS3.9/4, 1C-1D, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.86**	**178**	P	**Pn**	**19 13 21.1**	**-0.6**
VNA2	**Neumayer--Watz**	**13.16**	**177**	P	**Pn**	**19 13 24.3**	**-1.5**
VNA3	**Neumayer Olymp**	**13.44**	**180**	P	**Pn**	**19 13 28.6**	**-1.1**
SNAA	**Sanae**	**14.15**	**171**	P	**Pn**	**19 13 37.7**	**-1.7**
SNAA	**Sanae**	**14.15**	**171**	Pn	**Pn**	**19 13 38.9**	**-0.5**
	6.3nm,0.3s,baz=25,slow=10,SNR=374						
SNAA				Sn	Sn	19 15 57.0	-19
	1.3nm,0.3s,baz=208,slow=19,SNR=2.2						
SNAA				LR	LR	19 17 57.1	
	comp=Z,175nm,18.6s,baz=336,slow=32						
SNAA	**Sanae**	**14.15**	**171**		**Pn**	**19 13 38.3**	**-1.2**
HOPE	**Hope Point**	**15.36**	**272**	Pn	**Pn**	**19 13 56.5**	**+0.7**
BELA	**Belgrano 2**	**21.80**	**194**	P	**P**	**19 15 10.4**	**-0.5**
SYO	**Syowa Base**	**23.92**	**138**	*i*P	**P**	**19 15 31.5**	**-1.2**
SYO	**Syowa Base**	**23.92**	**138**	*e*P	**P**	**19 15 37.9**	**+5.2**
PMSA	**Palmer Station**	**26.24**	**232**	LR	LR	19 25 01.1	
	comp=Z,182nm,19.1s,baz=70,slow=34						
QSPA	**South Pole Qui**	**32.38**	**180**	P	**P**	**19 16 49.7**	**+1.0**
	2.7nm,0.6s,baz=248,slow=1.3,SNR=28						
QSPA	**South Pole Qui**	**32.38**	**180**	P	**P**	**19 16 49.5**	**+0.8**
QSPA				IAmb	IAmb	19 17 04.6	
	comp=Z,7.1nm,0.8s						
MAW	**Mawson**	**32.63**	**137**	P	**P**	**19 16 51.9**	**+1.4**
	comp=Z,9.6nm,0.9s,baz=271,slow=11,SNR=22						
MAW				LR	LR	19 29 05.4	
	comp=Z,128nm,18.5s,baz=244,slow=35						
MAW	**Mawson**	**32.63**	**137**	P	**P**	**19 16 49.5**	**-1.0**
BOSA	**Boshof**	**37.99**	**55**	LR	LR	19 29 14.3	
	comp=Z,309nm,21.0s,baz=206,slow=30						
BOSA	**Boshof**	**37.99**	**55**	P	**P**	**19 17 36.4**	**-0.8**
BOSA				IAmb	IAmb	19 17 48.9	
	comp=Z,13nm,1.2s						
LBTB	**Lobatse**	**41.28**	**53**	P	**P**	**19 18 04.1**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=212,slow=16,SNR=4.0						
LBTB	**Lobatse**	**41.28**	**53**	P	**P**	**19 18 03.7**	**-0.8**
LBTB				IAmb	IAmb	19 18 20.0	
	comp=Z,11nm,1.1s						
TSUM	**Tsumeb**	**43.49**	**39**	P	**P**	**19 18 22.7**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=174,slow=17,SNR=1.9						
TSUM	**Tsumeb**	**43.49**	**39**	P	**P**	**19 18 22.6**	**-0.1**
LC01	**Cunco**	**43.71**	**268**	P	**P**	**19 18 21.0**	**-3.1**
VNDA	**Vanda**	**44.78**	**177**	P	**P**	**19 18 33.5**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=210,slow=7.7,SNR=14						
VNDA	**Vanda**	**44.78**	**177**	P	**P**	**19 18 33.6**	**+1.4**
SIV	**San Ignacio**	**56.50**	**296**	P	**P**	**19 20 02.3**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=230,slow=12,SNR=2.4						
LPAZ	**La Paz**	**59.74**	**289**	P	**P**	**19 20 26.1**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=180,slow=4.4,SNR=4.0						
LPAZ	**La Paz**	**59.74**	**289**	P	**P**	**19 20 27.0**	**+2.3**
LPAZ				IAmb	IAmb	19 20 33.6	
	comp=Z,9.6nm,1.4s						
KMBO	**Kilima Mbogo**	**67.56**	**52**	LR	LR	19 47 44.9	
	comp=Z,206nm,19.5s,baz=93,slow=33						
TORD	**Torodi Ar. Bea**	**71.36**	**12**	P	**P**	**19 21 40.3**	**+1.3**
	comp=Z,0.8nm,1.0s,baz=188,slow=6.3,SNR=1.7						
TORD	**Torodi Ar. Bea**	**71.36**	**12**	P	**P**	**19 21 37.4**	**-1.6**
ASAR	**Alice Springs**	**93.26**	**147**	P	**P**	**19 23 34.0**	**0.0**
	comp=Z,1.1nm,0.9s,baz=193,slow=4.3,SNR=8.8						
ASAR	**Alice Springs**	**93.26**	**147**	P	**P**	**19 23 32.5**	**-1.5**
WRA	**Warramunga Arr**	**96.91**	**146**	P	**P**	**19 23 49.9**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=199,slow=4.3,SNR=2.2						
KURBB	**Kurchatov Arra**	**129.84**	**56**	PKP	**PKPdf**	**19 29 27.3**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=234,slow=3.1,SNR=1.4						
YKA	**Yellowknife Ar**	**144.35**	**310**	PKP	**PKPdf**	**19 29 53.6**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=106,slow=4.6,SNR=2.4						
KSRS	**Korea Array**	**145.66**	**108**	PKPbc	**PKPab**	**19 29 58.0**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=226,slow=3.1,SNR=9.3						
MJAR	**Matsushiro Arr**	**149.94**	**121**	PKPbc	**PKiKP**	**19 30 10.1**	**+0.2**
	comp=Z,2.6nm,1.0s,baz=217,slow=3.2,SNR=6.5						
ILAR	**Eielson Array**	**158.72**	**307**	PKPab	**PKPab**	**19 30 52.5**	**+1.3**
	comp=Z,0.2nm,0.8s,baz=93,slow=3.2,SNR=2.0						

*BER **31** 19:13:00.6±2.2, 80.°90N×3.°39W, h22km±33km, ML2.0, ML2.8(DNK)*
*DNK **31** 19:13:01.2±3.5, 80.°90N×3.°01W, h40km±59km, ML2.8*
*IEPN **31** 19:13:03.0, 80.°63N×2.°42W, h15km*
ISC 31 19:12:55.0±1.0, 80.°83N±0.°07×3.°57W±0.°04, h10km, n19, σ3°04/32, 1D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**2.16**	**298**	*i*P	**Pn**	**19 13 33.4**	**+2.5**
NOR	**Nord**	**2.16**	**298**	*i*P	**Pn**	**19 13 33.4**	**+2.5**
NOR	**Nord**	**2.16**	**298**	*i*P	**Pn**	**19 13 33.4**	**+2.5**
KBS	**Kingsbay**	**3.33**	**117**	*e*P	**Pn**	**19 13 49.2**	**+2.2**
KBS				*e*S	**Sn**	**19 14 24.1**	**-2.4**
KBS	**Kingsbay**	**3.33**	**117**	*e*P	**Pn**	**19 13 49.4**	**+2.4**
KBS				*e*S	**Sn**	**19 14 23.9**	**-2.6**
KBS				IAML		19 14 25.0	
	comp=Z,4.3nm,0.2s						
KBS	**Kingsbay**	**3.33**	**117**	*i*P	**Pn**	**19 13 49.5**	**+2.6**
KBS				*i* S	**Sn**	**19 14 23.6**	**-2.9**
SPA0	**Spitsbergen Ar**	**4.49**	**116**	*i*P	**Pn**	**19 14 05.9**	**+3.0**
SPA0				*e*S	**Sn**	**19 14 52.5**	**-2.6**
SPA0	**Spitsbergen Ar**	**4.49**	**116**	*e*P	**Pn**	**19 14 05.9**	**+3.0**
SPA0				*e*S	**Sn**	**19 14 53.4**	**-1.7**
DAG	**Danmarks Havn**	**5.00**	**223**	*i*P	**Pn**	**19 14 13.4**	**+3.5**
DAG				*i* S	**Sn**	**19 15 04.7**	**-2.9**
DAG	**Danmarks Havn**	**5.00**	**223**	*e*	**Pn**	**19 14 13.0**	**+3.1**
	baz=38,slow=16						
DAG				*i* P	Pb	19 14 13.4	-9.0
DAG				*i* S	**Sn**	**19 15 04.8**	**-2.9**
DAG				IAML		19 15 10.4	
	comp=Z,7.2nm,0.4s						
DAG	**Danmarks Havn**	**5.00**	**223**	*e*	**Pn**	**19 14 13.0**	**+3.1**
	baz=38,slow=16						
DAG				*i* P	Pb	19 14 13.4	-9.0
DAG				*i* S	**Sn**	**19 15 04.8**	**-2.9**
DAG				IAML		19 15 10.4	
	comp=Z,7.2nm,0.4s						
HSPB	**Hornsund (broa**	**5.29**	**126**	*e*P	**Pn**	**19 14 17.0**	**+3.2**
HSPB				*e*S	**Sn**	**19 15 13.1**	**-1.6**
HSPB	**Hornsund (broa**	**5.29**	**126**	*e*P	**Pn**	**19 14 17.8**	**+3.9**
HSPB				*e*S	**Sn**	**19 15 14.7**	**0.0**
DBG	**Daneborg**	**7.42**	**217**	*i*P	**Pn**	**19 14 44.7**	**+1.6**
DBG				*i* S	**Sn**	**19 16 03.4**	**-3.7**
DBG				IAML		19 16 08.8	
	comp=Z,2.6nm,0.3s						
DBG	**Daneborg**	**7.42**	**217**	*i*P	**Pn**	**19 14 44.7**	**+1.6**
DBG				*i* S	**Sn**	**19 16 03.4**	**-3.7**
DBG				IAML		19 16 08.8	
	comp=Z,2.6nm,0.3s						
ZFI2	**Zemlya Franca-**	**7.96**	**65**	*e*P	**Pn**	**19 14 52.0**	**+1.5**
ZFI2				*e*S	**Sn**	**19 16 13.3**	**-7.2**
	comp=Z,5.1nm,0.8s						
SUMG	**Summit**	**11.23**	**242**	*i*P	**Pn**	**19 15 37.6**	**+2.0**
SUMG	**Summit**	**11.23**	**242**	*i*P	**Pn**	**19 15 37.6**	**+2.0**
SUMG	**Summit**	**11.23**	**242**	*i*P	**Pn**	**19 15 37.6**	**+2.0**

*NEIC **31** 19:16:10.9±1.8, 42.°7S±0.°1×82.°7W±0.°1, h10km±2km, mb4.5/15, Error ellipse: s-maj=23.2km s-min=9.6km az=318.0*
*IDC **31** 19:16:10.8±0.8, 43.°09S×82.°45W, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.1/25, mbtmp4.1/13, ML4.2/1, MS4.0/9, Ms1 3.9/9, ms1mx3.7/19, Error ellipse: s-maj=24.3km s-min=19.0km az=96.0*
ISC 31 19:16:12.2±0.7, 42.°86S±0.°10×82.°5W±0.°1, h10km, n54, σ1°75/47, mb4.4/15, MS4.0/8, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LL01	**San Ignacio de**	**7.47**	**90**	Pn	**Pn**	**19 18 01.3**	**+0.2**
PLCA	**Paso Flores**	**9.19**	**81**	Pn	**Pn**	**19 18 25.7**	**+0.9**
	0.6nm,0.3s,baz=261,slow=10,SNR=24						
PLCA				Sn	**Sn**	**19 20 10.8**	**+2.6**
	baz=13,slow=18,SNR=2.3						
PLCA				LR	LR	19 21 29.5	
	comp=Z,748nm,18.7s,baz=228,slow=35						
PLCA	**Paso Flores**	**9.19**	**81**	Pn	**Pn**	**19 18 27.2**	**+2.4**
BI03	**Tigo**	**9.45**	**54**	Pn

DBIC	**Dimbokro**	**85.53**	**77**	IAmb	IAmb	19 28 53.9	
	comp=Z,19nm,1.4s						
NVAR	**Mina Array Bea**	**87.20**	**333**	P	**P**	**19 29 00.1**	**+1.5**
	comp=Z,0.8nm,0.9s,baz=150,slow=6.2,SNR=4.8						
PDAR	**Pinedale Array**	**88.64**	**340**	P	**P**	**19 29 06.8**	**+1.5**
	comp=Z,0.5nm,0.9s,baz=132,slow=5.0,SNR=2.3						
H11S2	**WAKE ISLAND Hyl**	**17.47**	**270**	T	T	21 43 06.1	
	baz=130,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hyl**	**17.48**	**270**	T	T	21 43 01.2	
	baz=130,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hyl**	**17.48**	**270**	T	T	21 42 55.0	
	baz=130,slow=76,SNR=13						
GERES	**GERESS Array B**	**124.15**	**53**	PKP	**PKiKP**	**19 35 10.6**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=256,slow=5.4,SNR=3.9						
VYHS	**Vyhne**	**127.04**	**55**	*e*PKP	**PKiKP**	**19 35 17.0**	**+0.7**
MJAR	**Matsushiro Arr**	**148.27**	**272**	PKPbc	**PKPbc**	**19 35 57.9**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=134,slow=3.5,SNR=4.1						
GEYT	**Alibeck**	**149.81**	**86**	PKPbc	**PKiKP**	**19 36 02.3**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=235,slow=5.1,SNR=3.1						

ISC 31 19:22:03.9±1.1, **45.25N**±0.03×**14.58E**±0.04, **h7**km±9km, **n12**, σ0**.96**/21, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIY	**Rijeka**	**0.10**	**319**	*e*Pg	**Pg**	**19 22 06.0**	**-0.3**
RIY				Sg	**Sg**	**19 22 07.8**	**0.0**
KNDS	**Knezji Dol**	**0.31**	**334**	*i* Pg	**Pg**	**19 22 09.8**	**-0.3**
KNDS				*i* Sg	**Sg**	**19 22 15.5**	**+1.3**
GBRS	**Gornja Briga**	**0.33**	**30**	*i* Pg	**Pg**	**19 22 10.5**	**+0.1**
GBRS				*e*Sg	**Sg**	**19 22 16.0**	**+1.3**
SKDS	**Skadanscina**	**0.49**	**307**	*i* Pg	**Pg**	**19 22 12.5**	**-1.0**
SKDS				*i* Sg	**Sg**	**19 22 20.6**	**+0.6**
CEY	**Cerknica**	**0.50**	**348**	*e*Pg	**Pg**	**19 22 13.5**	**-0.1**
CEY				*e*Sg	**Sb**	**19 22 22.4**	**-0.2**
BOJS	**Bojanci**	**0.54**	**62**	*e*Sg	**Sg**	**19 22 22.3**	**+0.9**
	comp=Z,1.0nm,0.1s						
VISS	**Visnje**	**0.58**	**18**	*e*Pg	**Pg**	**19 22 14.7**	**-0.6**
VISS				*i* Sg	**Sg**	**19 22 24.1**	**+1.2**
GBAS	**Gorenja Brezov**	**0.69**	**352**	*i* Pg	**Pg**	**19 22 16.8**	**-0.4**
GBAS				*i* Sg	**Sb**	**19 22 28.2**	**+0.1**
NVLJ	**Novalja**	**0.72**	**163**	Sg	**Sg**	**19 22 26.8**	**-0.3**
OZLJ	**Ozalj**	**0.73**	**59**	Sg	**Sg**	**19 22 24.6**	**-2.7**
JAVS	**Javornik**	**0.74**	**331**	*e*Pg	**Pg**	**19 22 17.4**	**-0.7**
JAVS				*i* Sg	**Sb**	**19 22 29.7**	**+0.2**
DUGI	**Dugi Otok**	**1.30**	**165**	*e*Pg	**Pg**	**19 22 29.4**	**+0.4**
DUGI				Sg	**Sn**	**19 22 46.4**	**+0.1**

*ISN **31** 19:31:58.7±1.6, 32.64N×47.71E, h11km±22km, ML2.2*
*TEH **31** 19:32:01.6, 32.71N×47.65E, h15km, ML3.0*
ISC 31 19:32:01.9±1.0, **32.57N**±0.04×**47.58E**±0.04, **h10**km, **n28**, σ0**.83**/31, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHL1	**Dehloran**	**0.27**	**294**	*e*Sg	**Sb**	**19 32 13.5**	**-0.1**
DHL1				*e*Pg	**Pg**	**19 32 07.6**	**+0.2**
SHGR	**Shooshtar-Gavs**	**1.14**	**114**	*e*Pg	**Pn**	**19 32 24.3**	**+0.5**
BMDN	**Meydan**	**1.52**	**43**	*e*Pg	**Pn**	**19 32 26.8**	**-2.5**
BMDN				*e*		19 32 54.4	
AHWZ	**Ahwaz**	**1.53**	**143**	*e*Pg	**Pg**	**19 32 31.7**	**+0.4**
IKOM	**Komasi**	**1.60**	**358**	*e*Pg	**Pn**	**19 32 29.5**	**-0.9**
IKOM				*e*		19 32 58.6	
KCHF	**Cheshme Sefid,**	**1.76**	**345**	*e*Pg	**Pn**	**19 32 32.5**	**-0.1**
KCHF				*e*		19 33 00.2	
HSAM	**Samen**	**1.85**	**27**	*e*Pg	**Pn**	**19 32 33.2**	**-0.7**
HSAM				*e*		19 33 01.4	
IBZA	**Bozab**	**1.91**	**7**	*e*Pg	**Pn**	**19 32 35.4**	**+0.6**
IBZA				*e*		19 33 02.6	
IGHG	**Ghaleghazi**	**1.95**	**335**	*e*Pn	**Pn**	**19 32 35.2**	**0.0**
IGHG				*e*		19 33 11.8	
NSR	**Nassriya**	**1.98**	**219**	*e*Pn	**Pn**	**19 32 35.0**	**-0.4**
NSR				*e*Sn	**Sb**	**19 33 02.0**	**-0.6**
IVIS	**Veis**	**2.04**	**343**	*e*Pn	**Pn**	**19 32 37.1**	**+0.6**
IVIS				*e*		19 33 13.5	
KHMZ	**Khomeyn**	**2.31**	**59**	*e*Pn	**Pn**	**19 32 40.1**	**-0.2**
IALM	**Almabolaq**	**2.34**	**12**	*e*Pn	**Pn**	**19 32 39.8**	**-0.9**
IDHR	**Dehrash**	**2.34**	**335**	*e*Pn	**Pn**	**19 32 41.5**	**+0.8**
IDHR				*e*		19 33 19.3	
ILIN	**Lien**	**2.40**	**348**	*e*Pn	**Pn**	**19 32 41.3**	**-0.2**
ILIN				*e*		19 33 22.5	
SNGE	**Sanandaj**	**2.52**	**356**	*e*Pn	**Pn**	**19 32 41.5**	**-1.7**
HAGD	**Aghdareh**	**2.60**	**30**	*e*	**Pg**	**19 32 53.0**	**+1.3**
JHBN	**Jahan bin**	**2.64**	**97**	*e*Pn	**Pn**	**19 32 44.2**	**-0.6**
JHBN				*e*		19 33 28.6	
HSRG	**Sareghieh**	**2.73**	**12**	*e*Pn	**Pn**	**19 32 46.1**	**+0.1**
HSRG				*e*		19 33 26.5	
BHD	**Baghdad**	**2.78**	**285**	*e*Pn	**Pn**	**19 32 46.0**	**-0.4**
	baz=102						
BHD				*e*Sn	**Sn**	**19 33 20.0**	**0.0**
BHD				AML	AML	19 33 43.4	
	comp=E,14nm,0.8s						
IPIR	**Pirpir**	**2.80**	**87**	*e*Pn	**Pn**	**19 32 46.3**	**-0.8**
IPIR				*e*		19 33 35.4	
ASAO	**Ashtian**	**2.84**	**45**	*e*Pn	**Pn**	**19 32 47.2**	**-0.4**
ROKH	**ROKH**	**2.93**	**93**	*e*Pn	**Pn**	**19 32 49.2**	**+0.4**
ROKH				*e*		19 33 40.6	
IRAZ	**Razeghan**	**3.44**	**34**	*e*Pn	**Pn**	**19 32 54.6**	**-1.1**
IKLH	**Kolahrood**	**3.45**	**76**	*e*Pn	**Pn**	**19 32 56.1**	**+0.2**
QABG	**Abgarm-Qazvin**	**3.55**	**27**	*e*Pn	**Pn**	**19 32 56.2**	**-1.0**
GHVR	**GHOM**	**3.65**	**57**	*e*Pn	**Pn**	**19 32 58.0**	**-0.4**
QSDN	**Sirdan**	**4.14**	**18**	*e*Pn	**Pn**	**19 33 05.0**	**-0.4**

*IDC **31** 20:14:05.7±0.8, 31.02N×8.78W, h0km, mb3.8/15, mb1 4.0/17, mb1mx3.8/41, mbtmp3.8/17, ML4.8/2, MS3.5/7, Ms1 3.5/7, ms1mx3.1/43, Error ellipse: s-maj=22.3km s-min=16.3km az=89.0*
*NEIC **31** 20:14:07.0±2.0, 31.06N±0.08×8.77W±0.09, h10km±1km, mb4.8/8, Error ellipse: s-maj=14.8km s-min=11.2km az=145.0*
*LDG **31** 20:14:07.3±0.2, 31.22N×8.69W, h10km, Ml4.0/15, Error ellipse: s-maj=6.0km s-min=3.4km az=131.0*
*CNRM **31** 20:14:09.3±1.0, 31.01N×8.70W, h13km±6km, Error ellipse: s-maj=10.7km s-min=4.6km az=22.0*
*INMG **31** 20:14:09.6±2.7, 31.10N×9.01W, h20km±30km, ML4.1, Error ellipse: s-maj=26.7km s-min=15.7km az=134.0*
*IGIL **31** 20:14:11.8, 31.07N×8.99W, h26km*
ISC 31 20:14:08.9±0.5, **31.06N**±0.05×**8.74W**±0.05, **h19**km±4km, **n190**, σ1**.77**/229, **mb3.7**/25, **MS3.3**/7, **4C-9D, Morocco**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUK	**Oukaimeden**	**0.77**	**79**	P	**Pg**	**20 14 24.0**	**0.0**
OUK				S	**Sb**	**20 14 34.0**	**0.0**
EAH	**EAH**	**0.93**	**309**	P	**Pg**	**20 14 28.4**	**+1.3**
EAH				S	**Sn**	**20 14 42.0**	**+2.2**
SRHM	**Skhour des Reh**	**1.58**	**27**	P	**Pb**	**20 14 37.0**	**-0.6**
OUZM	**OUZ**	**1.71**	**95**	P	**Pn**	**20 14 37.7**	**-0.1**
OUZM				S	**Sn**	**20 14 58.3**	**-1.0**
AVE	**Averroes**	**2.50**	**26**	P	**Pn**	**20 14 49.6**	**+1.0**
	SNR=72						
AVE	**Averroes**	**2.50**	**26**	*i*P	**Pn**	**20 14 49.5**	**+0.9**
AVE				*e*S	**Sn**	**20 15 17.6**	**-0.9**
TZRR	**Tazzarine**	**2.74**	**95**	P	**Pn**	**20 14 52.5**	**+0.5**
TZRR				S	**Sb**	**20 15 28.8**	**-1.9**
ZGR	**Zagora**	**2.85**	**108**	P	**Pn**	**20 14 52.9**	**-0.6**
ZHG	**ZHG**	**2.97**	**36**	P	**Pn**	**20 14 55.3**	**+0.2**
GOLM	**Goulmima**	**3.31**	**78**	P	**Pn**	**20 15 01.7**	**+1.9**
RTC	**Rabat Centre**	**3.33**	**28**	P	**Pn**	**20 15 00.6**	**+0.6**
	SNR=14						
RTC	**Rabat Centre**	**3.33**	**28**	Pn	**Pn**	**20 15 00.5**	**+0.6**
CZD	**Col de Zad**	**3.71**	**57**	P	**Pn**	**20 15 06.2**	**+0.7**
MD31	**MD31**	**3.83**	**61**	P	**Pn**	**20 15 07.7**	**+0.7**
ARF	**Arif**	**3.89**	**83**	P	**Pn**	**20 15 08.5**	**+0.7**
IFR	**Ifrane**	**3.92**	**50**	*i*P	**Pn**	**20 15 08.3**	**0.0**
IFR				*e*S	**Sn**	**20 15 51.0**	**-2.9**
MDT	**Midelt**	**3.93**	**62**	Pn	**Pn**	**20 15 09.2**	**+0.9**
	9.3nm,0.3s,baz=126,slow=5.6,SNR=175						
MDT				Lg	Lg	20 16 08.9	
	74nm,0.3s,baz=54,slow=22,SNR=5.3						
MDT	**Midelt**	**3.93**	**62**	P	**Pn**	**20 15 09.1**	**+0.8**
	SNR=31						
SICH	**Sidi Chahed**	**4.19**	**43**	P	**Pn**	**20 15 12.3**	**+0.5**
LCRM	**LCR**	**4.20**	**50**	P	**Pn**	**20 15 12.0**	**-0.2**
RSA	**Sarsar**	**4.54**	**32**	P	**Pn**	**20 15 17.9**	**+1.3**
CHEFC	**Chefchaouen**	**4.94**	**34**	P	**Pn**	**20 15 23.7**	**+1.4**
CFUE	**Fuerteventura**	**5.11**	**243**		**Pn**	**20 15 23.0**	**-1.5**
CPS	**Cap Spartel**	**5.28**	**26**	P	**Pn**	**20 15 29.1**	**+2.4**
AKLM	**AKL**	**5.36**	**49**	P	**Pn**	**20 15 28.1**	**+0.1**
SMIR	**Smir Dam**	**5.40**	**30**	P	**Pn**	**20 15 29.4**	**+1.0**
PVLZ	**Peæn de**	**5.54**	**41**	*i*P	**Pn**	**20 15 31.7**	**+1.4**
PVLZ				*e*S	**Sn**	**20 16 32.4**	**-1.2**
ECEU	**Ceuta**	**5.58**	**29**	P	**Pn**	**20 15 29.7**	**-1.3**
CEU	**Ceuta**	**5.59**	**29**	*i*P	**Pn**	**20 15 32.2**	**+1.2**
CEU				*e*S	**Sn**	**20 16 35.4**	**+0.7**
CNIL	**Conil**	**5.75**	**22**	*i* P	**Pn**	**20 15 34.0**	**+0.8**
CNIL				*e*S	**Sn**	**20 16 39.0**	**+0.3**
PALE	**Palemas**	**5.78**	**43**	P	**Pn**	**20 15 34.9**	**+1.2**
SFS	**San Fernando**	**5.79**	**21**	*i* P	**Pn**	**20 15 35.4**	**+1.7**
SFS				*e*S	**Sn**	**20 16 41.1**	**+1.4**
SFS	**San Fernando**	**5.79**	**21**	Pn	**Pn**	**20 15 35.5**	**+1.7**
ALJ	**Aljibe**	**6.03**	**24**	*i* P	**Pn**	**20 15 38.8**	**+1.6**
ALJ				*e*S	**Sn**	**20 16 46.0**	**+0.3**
PFVI	**Vila Bisbo**	**6.06**	**359**	*e*Pn	**Pn**	**20 15 37.8**	**+0.3**
PFVI				*e*Sn	**Sn**	**20 16 42.4**	**-3.9**
PFVI				A	A	20 17 13.3	
	100nm,0.6s						
PFVI	**Vila Bisbo**	**6.06**	**359**	Pn	**Pn**	**20 15 37.7**	**+0.2**
JBK	**JBK**	**6.14**	**56**	P	**Pn**	**20 15 39.0**	**+0.1**
REAL	**Reales**	**6.16**	**28**	*i* P	**Pn**	**20 15 40.0**	**+1.0**
REAL				*e*S	**Sn**	**20 16 50.0**	**+1.0**
PBDV	**Barranco-do-Ve**	**6.20**	**6**	*e*Pn	**Pn**	**20 15 39.7**	**+0.2**
PBDV				*e*Sn	**Sn**	**20 16 47.7**	**-2.2**
PBDV				A	A	20 17 14.3	
	98nm,0.6s						
MORF	**Marmelete**	**6.23**	**1**	*e*P	**Pn**	**20 15 40.0**	**+0.1**
MORF	**Marmelete**	**6.23**	**1**	*e*Pn	**Pn**	**20 15 40.0**	**+0.1**
MORF				*e*Sn	**Sn**	**20 16 47.3**	**-3.3**
MORF				A	A	20 17 13.2	
	112nm,0.2s						
GOG	**Mont Gurugu**	**6.36**	**48**	P	**Pn**	**20 15 41.3**	**-0.4**
EMIJ	**Mijas**	**6.41**	**30**		**Pn**	**20 15 41.6**	**-0.7**
PTEO	**Sao Teotonio**	**6.47**	**0**	*e*Pn	**Pn**	**20 15 43.4**	**+0.3**
PTEO				*e*Sn	**Sn**	**20 16 52.8**	**-3.6**
PTEO				A	A	20 17 15.7	
	89nm,0.4s						
TAF	**Taforalt**	**6.50**	**53**	P	**Pn**	**20 15 44.0**	**+0.3**
EGRO	**El Granado**	**6.54**	**9**		**Pn**	**20 15 44.2**	**+0.1**
PCVE	**Castro Verde**	**6.58**	**5**	*e*Pn	**Pn**	**20 15 45.3**	**+0.6**
PCVE				*e*Sn	**Sn**	**20 16 55.8**	**-3.4**
PCVE				A	A	20 17 12.1	
	98nm,0.4s						
EOSO	**Osorio**	**6.64**	**245**		**Pn**	**20 15 44.1**	**-1.4**
EMAL	**Malaga-Limoner**	**6.72**	**31**	*e*P	**Pn**	**20 15 46.5**	**-0.1**
EMAL				*e*S	**Sn**	**20 17 02.5**	**-0.1**
PMPS	**Porto Santo**	**6.74**	**289**	*e*Pn	**Pn**	**20 15 47.3**	**+0.4**
PMPS				A	A	20 17 12.8	
	47nm,0.3s						
PMPST	**Porto Santo, M**	**6.75**	**289**	*i*Pn	**Pn**	**20 15 47.5**	**+0.5**
PMPST				A	A	20 17 13.4	
	66nm,0.5s						
EALB	**Alboran**	**6.81**	**43**		**Pn**	**20 15 46.6**	**-1.2**
EMIN	**Mina Concepcio**	**6.91**	**14**		**Pn**	**20 15 48.9**	**-0.2**
PBEJ	**Beja**	**6.99**	**6**	*e*Pn	**Pn**	**20 15 50.7**	**+0.5**
PBEJ				*e*Sn	**Sn**	**20 17 05.7**	**-3.5**
PBEJ				A	A	20 17 27.8	
	59nm,0.4s						
PNCL	**Nicolau / Gran**	**7.04**	**1**	*e*Pn	**Pn**	**20 15 51.2**	**+0.3**
PNCL				*e*Sn	**Sn**	**20 17 06.5**	**-3.9**
PNCL				A	A	20 17 37.1	
	55nm,0.5s						
PMAR	**Madeira**	**7.14**	**286**	*e*Pn	**Pn**	**20 15 52.8**	**+0.2**
PMAR				*e*Sn	**Sn**	**20 17 14.8**	**+1.5**
PMAR				A	A	20 17 26.1	
	105nm,0.5s						
EGOR	**Sierra Gorda,**	**7.15**	**31**		**Pn**	**20 15 53.0**	**+0.4**
ELGU	**Los Guajares,**	**7.18**	**35**		**Pn**	**20 15 51.1**	**-1.9**
PBAR	**Barrancos**	**7.24**	**11**	*e*Pn	**Pn**	**20 15 53.9**	**+0.3**
PBAR				*e*Sn	**Sn**	**20 17 10.6**	**-4.7**
PBAR				A	A	20 17 24.5	
	93nm,0.4s						
PMOZ	**Porto Moniz, M**	**7.40**	**286**	*e*Pn	**Pn**	**20 15 57.0**	**+1.0**
PMOZ				*e*Sn	**Sn**	**20 17 21.2**	**+1.8**
PMOZ	**Porto Moniz, M**	**7.40**	**286**	Pn	**Pn**	**20 15 58.6**	**+2.6**
EVO	**Evora**	**7.48**	**4**	*e*P	**Pn**	**20 15 57.1**	**+0.1**
EVO				*e*S	**Sn**	**20 17 17.5**	**-3.7**
EVO	**Evora**	**7.48**	**4**	*e*Pn	**Pn**	**20 15 57.1**	**+0.1**
EVO				*e*Sn	**Sn**	**20 17 16.3**	**-5.0**
EVO				A	A	20 17 36.3	
	75nm,0.4s						
ECAB	**El Cabril**	**7.51**	**20**		**Pn**	**20 15 56.8**	**-0.7**
EBER	**Berja**	**7.58**	**38**		**Pn**	**20 15 57.5**	**-1.1**
LIS	**Lisbon**	**7.65**	**358**	*e*Pn	**Pn**	**20 16 01.1**	**+1.8**
LIS				*e*Sn	**Sn**	**20 17 32.8**	**+7.5**
LIS				A	A	20 17 37.3	
	151nm,0.6s						
EADA	**Adamuz**	**7.88**	**25**		**Pn**	**20 16 02.2**	**-0.3**
PMAFR	**Mafra**	**7.89**	**357**	*i*Pn	**Pn**	**20 16 02.7**	**+0.1**
PMAFR				*e*Sn	**Sn**	**20 17 26.6**	**-4.8**
PMAFR				A	A	20 17 47.6	
	127nm,0.7s						
PMAFR	**Mafra**	**7.89**	**357**		**Pn**	**20 16 02.5**	**-0.1**
EGOM	**La Gomera**	**7.92**	**251**		**Pn**	**20 16 01.8**	**-1.2**
PMTG	**Montargil**	**8.00**	**3**	*i*Pn	**Pn**	**20 16 04.3**	**+0.1**
PMTG				*e*Sn	**Sn**	**20 17 32.5**	**-1.6**
PMTG				A	A	20 18 05.0	
	56nm,0.5s						
ENIJ	**Nijar**	**8.01**	**41**		**Pn**	**20 16 04.1**	**-0.2**
EQES	**Quesada**	**8.20**	**33**		**Pn**	**20 16 07.0**	**+0.1**
PMRV	**Marv??o**	**8.42**	**7**	*e*Pn	**Pn**	**20 16 10.1**	**+0.2**
PMRV				*e*Sn	**Sn**	**20 17 39.6**	**-4.9**
PMRV				A	A	20 17 56.9	
	48nm,0.7s						
PSBE	**So Bento**	**8.44**	**360**	*e*Pn	**Pn**	**20 16 10.2**	**+0.1**
PSBE				*e*Sn	**Sn**	**20 17 41.0**	**-3.8**
PSBE				A	A	20 18 08.5	
	57nm,0.5s						
SESP	**Santiago Espad**	**8.70**	**34**		**Pn**	**20 16 13.8**	**-0.1**
PCBR	**Castelo Branco**	**8.82**	**6**	*e*Pn	**Pn**	**20 16 15.6**	**+0.2**
PCBR				*e*Sn	**Sn**	**20 17 51.5**	**-2.8**
PCBR				A	A	20 18 12.0	
	29nm,0.4s						
PCAS	**Casmilo, Conde**	**8.97**	**1**	*e*Pn	**Pn**	**20 16 17.6**	**+0.1**
PCAS				*e*Sn	**Sn**	**20 17 53.6**	**-4.5**
PCAS				A	A	20 18 38.1	
	37nm,0.6s						
CART	**Cartagena**	**9.13**	**42**	*e*P	**Pn**	**20 16 17.4**	**-2.1**
COI	**Coimbra**	**9.13**	**2**	*e*Pn	**Pn**	**20 16 20.1**	**+0.5**
COI				*e*Sn	**Sn**	**20 16 20.8**	**+0.2**
EMUR	**La Murta**	**9.17**	**40**		**Pn**	**20 16 20.8**	**+0.5**
PAB	**San Pablo**	**9.20**	**22**		**Pn**	**20 16 19.8**	**-0.8**
EPLA	**Plasencia**	**9.24**	**13**		**Pn**	**20 16 20.4**	**-0.8**
MTE	**Manteigas**	**9.37**	**6**	*e*Pn	**Pn**	**20 16 23.2**	**+0.2**
MTE				*e*Sn	**Sn**	**20 18 04.4**	**-3.5**
MTE				A	A	20 18 43.8	
	74nm,0.7s						
MTE	**Manteigas**	**9.37**	**6**	Pn	**Pn**	**20 16 23.4**	**+0.4**
ESDC	**Sonseca Array**	**9.44**	**23**	Pn	**Pn**	**20 16 22.9**	**-1.1**
	5.5nm,0.3s,baz=210,slow=13,SNR=378						
ESDC					Sn	20 17 59.5	-10
	2.0nm,0.3s,baz=207,slow=16,SNR=1.8						
ESDC	**Sonseca Array**	**9.44**	**23**	Pn	**Pn**	**20 16 23.0**	**-0.9**
ESBB	**Sonseca Array**	**9.44**	**23**	Pn	**Pn**	**20 16 23.2**	**-0.7**
ETOB	**Tobarra**	**9.60**	**36**		**Pn**	**20 16 25.6**	**-0.5**
PVIS	**Viseu**	**9.66**	**4**	*e*Pn	**Pn**	**20 16 26.9**	**0.0**
PVIS				*e*Sn	**Sn**	**20 18 11.0**	**-3.9**
PVIS				A	A	20 18 58.7	
	25nm,0.6s						
PTO	**Porto**	**10.06**	**1**	*e*Pn	**Pn**	**20 16 33.4**	**+1.1**
PTO				*e*Sn	**Sn**	**20 18 21.6**	**-3.0**
MVO	**Moncorvo**	**10.18**	**7**	*e*Pn	**Pn**	**20 16 33.8**	**-0.3**
MVO				*e*Sn	**Sn**	**20 18 21.9**	**-5.8**
MVO				A	A	20 18 35.6	
	35nm,0.4s						
MVO	**Moncorvo**	**10.18**	**7**		**Pn**	**20 16 33.3**	**-0.7**
PVRL	**Vila Real**	**10.23**	**4**	*e*Pn	**Pn**	**20 16 34.5**	**-0.2**
PVRL				*e*Sn	**Sn**	**20 18 24.7**	**-4.2**
PVRL				A	A	20 19 05.2	
	22nm,0.6s						
UCM	**Universidad Co**	**10.25**	**24**	*i*P	**Pn**	**20 16 34.4**	**-0.6**
UCM				*e*S	**Sn**	**20 18 22.8**	**-6.6**
GUD	**Guadarrama**	**10.26**	**20**		**Pn**	**20 16 34.9**	**-0.4**
EBEN2	**Beniarda presa**	**10.34**	**40**		**Pn**	**20 16 37.9**	**+1.6**
ECHE	**Chera**	**10.61**	**35**		**Pn**	**20 16 38.9**	**-1.1**
PCAB	**Cabril**	**10.64**	**3**	*e*Pn	**Pn**	**20 16 41.1**	**+0.7**
PCAB				A	A	20 19 00.6	
	19nm,0.5s						
ELOB	**Lobios**	**10.80**	**3**		**Pn**	**20 16 41.9**	**-0.7**
PBRG	**Braganca**	**10.84**	**8**	*e*Pn	**Pn**	**20 16 43.3**	**+0.2**
PBRG				*e*Sn	**Sn**	**20 18 38.6**	**-5.4**
PBRG				A	A	20 18 51.8	
	14nm,0.4s						
PGAV	**Gavieira, Arco**	**10.89**	**2**	*e*Pn	**Pn**	**20 16 43.3**	**-0.5**
PGAV				*e*Sn	**Sn**	**20 18 41.2**	**-4.0**
PGAV				A	A	20 19 07.7	
	17nm,0.5s						
ECAL	**Calabor**	**10.98**	**8**		**Pn**	**20 16 44.7**	**-0.3**
EZAM	**Zamans**	**11.07**	**0**		**Pn**	**20 16 45.7**	**-0.5**
EMOS	**Mosqueruela**	**11.46**	**34**		**Pn**	**20 16 50.9**	**-0.7**
EAGO	**Agolada(Pontev**	**11.73**	**2**		**Pn**	**20 16 54.5**	**-0.8**
EMAZ	**Mazaricos**	**11.87**	**359**		**Pn**	**20 16 55.9**	**-1.2**
ERTA	**Horta de San J**	**12.30**	**34**		**Pn**	**20 17 03.0**	**-0.1**
ESAC	**San Caprasio**	**12.55**	**30**		**Pn**	**20 17 06.6**	**+0.2**
ETOS	**Mallorca**	**12.81**	**44**		**Pn**	**20 17 11.7**	**+1.7**
EPOB	**Poblet**	**12.97**	**35**		**Pn**	**20 17 11.1**	**-1.1**
EARA	**Aranguren**	**13.01**	**24**		**Pn**	**20 17 13.9**	**+1.1**
EORO	**Oroz-Betelu**	**13.21**	**25**		**Pn**	**20 17 15.5**	**0.0**
SJPF	**Ste Jean**	**13.44**	**24**	*e*P	**Pn**	**20 17 18.2**	**-0.3**
SJPF				*e*Sn	Sn	20 19 33.3	-14
	18nm,0.5s						
ETSF	**Etsaut**	**13.50**	**27**	*e*P	**Pn**	**20 17 19.1**	**-0.3**
ETSF				*e*Sn	Sn	20 19 35.1	-14
	10nm,0.5s						
ATE	**Arette**	**13.60**	**26**		**Pn**	**20 17 20.9**	**+0.1**
ECHI	**Chisagues Biel**	**13.60**	**29**		**Pn**	**20 17 20.7**	**-0.2**
PYLO	**Lourdes**	**13.86**	**28**		**Pn**	**20 17 25.0**	**+0.6**
EPF	**Esparros**	**13.96**	**29**	*e*P	**Pn**	**20 17 25.5**	**-0.3**
EPF				*e*Sn	Sn	20 19 45.7	-15
	6.5nm,0.3s						
MLS	**Moulis**	**14.23**	**31**		**Pn**	**20 17 28.9**	**-0.4**
MTLF	**Montolieu**	**15.03**	**32**	*e*P	**Pn**	**20 17 39.9**	**-0.4**
MTLF				*e*Sn	Sn	20 20 11.5	-15
	1.1nm,0.4s						
LFF	**La Frestale**	**15.73**	**26**	*e*P	**Pn**	**20 17 49.1**	**-0.2**
LFF				*e*Sn	Sn	20 20 27.2	-16
	8.1nm,0.5s						
KEST	**Kesra**	**15.81**	**68**	Pn	**Pn**	**20 17 50.3**	**-0.3**
	0.1nm,0.3s,baz=260,slow=6.1,SNR=1.5						
CAF	**Calviac**	**16.23**	**28**	*e*P	**Pn**	**20 17 55.2**	**-0.7**
CAF				*e*Sn	Sn	20 20 38.9	-16
	3.8nm,0.4s						
RJF	**Les Rejaudoux**	**16.33**	**27**	*e*P	**Pn**	**20 17 57.3**	**+0.2**
RJF				*e*Sn	Sn	20 20 41.4	-16
	6.6nm,0.7s						
LASF	**Ste Croix**	**16.36**	**34**	*e*P	**Pn**	**20 17 56.7**	**-0.8**
MFF	**Saint Martin d**	**16.89**	**21**	*e*P	**Pn**	**20 18 03.9**	**-0.2**
MFF				*e*Sn	Sn	20 20 54.5	-17
	1.8nm,0.4s						
QUIF	**Quistinic**	**17.37**	**13**	*e*P	**Pn**	**20 18 09.3**	**-0.8**
QUIF				*e*Sn	Sn	20 21 07.9	-15
	3.7nm,0.8s						
TCF	**Toulx Ste Croi**	**17.42**	**26**	*e*P	**Pn**	**20 18 11.3**	**+0.5**
TCF				*e*Sn	Sn	20 21 08.3	-16
	1.2nm,0.5s						
ROSF	**Rostrenen**	**17.75**	**12**	*e*P	**P**	**20 18 15.8**	**+0.2**
ROSF				*e*Sn	Sn	20 21 15.7	-16
	2.2nm,0.4s						
SGMF	**Saint Gilles**	**17.81**	**14**	*e*P	**Pn**	**20 18 15.6**	**0.0**
SGMF				*e*Sn	Sn	20 21 17.4	-16
	4.3nm,0.4s						
BGF	**Bois d'Agland**	**17.89**	**27**	*e*P	**P**	**20 18 17.6**	**+0.5**
BGF				*e*Sn	Sn	20 21 18.1	-17
	14nm,0.6s

PDAR					LR	LR	20 57 40.4			
	comp=Z,69nm,19.1s,baz=180,slow=34									
ILAR	**Eielson Array**	**79.05**	**343**	P	**P**		**20 26 11.6**	**+0.1**		
	comp=Z,0.3nm,0.4s,baz=20,slow=6.6,SNR=5.8									
TXAR	**Lajitas Array**	**79.28**	**298**	P	**P**		**20 26 13.0**	**-0.5**		
	comp=Z,0.1nm,0.6s,baz=70,slow=5.8,SNR=1.6									
SONM	**Songino Array**	**82.31**	**38**	P	**P**		**20 26 30.0**	**+0.5**		
	comp=Z,0.4nm,0.8s,baz=298,slow=6.4,SNR=4.4									
WRA	**Warramunga Arr**	**145.04**	**80**	PKPbc	**PKPbc**		**20 33 44.4**	**-0.5**		
	comp=Z,1.3nm,0.8s,baz=314,slow=2.6,SNR=22									
WRA	**Warramunga Arr**	**145.04**	**80**		**PKPbc**		**20 33 44.7**	**-0.3**		
ASAR	**Alice Springs**	**146.14**	**87**	PKPbc	**PKPbc**		**20 33 48.0**	**-0.4**		
	comp=Z,0.7nm,0.5s,baz=298,slow=2.4,SNR=14									
ASAR	**Alice Springs**	**146.14**	**87**		**PKPbc**		**20 33 48.1**	**-0.2**		

IDC 31 20:24:37.0±2.0, 10.76S×165.83E, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.5/46, mbtmp3.7/5, ML3.9/1, MS3.5/3, Ms1 3.4/3, ms1mx2.8/33, Error ellipse: s-maj=51.4km s-min=34.6km az=128.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.94**	**282**	LR	LR	20 28 25.8	
	comp=Z,268nm,20.7s,baz=66,slow=38						
DZM	**Mont Dzumac**	**11.27**	**177**	Pn	Pn	20 27 20.0	+0.5
	0.8nm,0.3s,baz=350,slow=18,SNR=16						
DZM				Sn	Sn	20 29 18.5	-7.8
	baz=329,slow=22,SNR=1.3						
H11N1	**WAKE ISLAND Hy**	**30.29**	**2**	T	T	21 02 26.3	
	baz=182,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**30.30**	**2**	T	T	21 02 26.9	
	baz=182,slow=76,SNR=18						
H11N2	**WAKE ISLAND Hy**	**30.31**	**2**	T	T	21 02 27.8	
	baz=182,slow=76,SNR=20						
STKA	**Stephens Creek**	**30.71**	**223**	LR	LR	20 41 59.3	
	comp=Z,53nm,18.6s,baz=24,slow=34						
WRA	**Warramunga Arr**	**31.66**	**249**	P	P	20 31 02.4	0.0
	0.7nm,0.9s,baz=82,slow=9.0,SNR=6.4						
ASAR	**Alice Springs**	**33.00**	**243**	P	P	20 31 13.9	-0.1
	0.3nm,0.7s,baz=66,slow=9.3,SNR=2.8						
FITZ	**Fitzroy Crossi**	**39.54**	**255**	P	P	20 32 09.8	-0.2
	1.0nm,0.9s,baz=83,slow=8.1,SNR=1.4						
PETK	**Petropavlovsk-**	**63.99**	**355**	LR	LR	20 59 29.3	
	comp=Z,70nm,19.7s,baz=98,slow=33						
ILAR	**Eielson Array**	**83.21**	**18**	P	P	20 37 04.8	-0.1
	0.3nm,0.6s,baz=231,slow=5.7,SNR=1.1						

*IDC **31** 20:33:16.8±0.7, 32.80S×71.87W, h0km, mb4.4/11, mb1 4.5/15, mb1mx4.4/26, mbtmp4.4/15, ML4.2/4, MS3.7/5, Ms1 3.6/5, ms1mx3.4/18, Error ellipse: s-maj=25.6km s-min=15.8km az=91.0*

*NEIC **31** 20:33:17, 32.81S×72.24W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}4.66; $M_{\theta\theta}$-0.52; $M_{\phi\phi}$-4.14; $M_{r\theta}$-0.15; $M_{\theta\phi}$-0.23; $M_{\phi r}$0.57; Fault plane solution: M_o4.47000×10^{15} NP1:ϕ_s185.58000°, δ41.41000°, λ93.04000°. NP2:ϕ_s1.54000°, δ48.67000°, λ87.33000°. Principal axes: T 4.7034, Plg86.0000°, Azm244.0000°; N -0.5142, Plg2.0000°, Azm3.0000°; P -4.1892, Plg4.0000°, Azm93.0000°;*

*NEIC **31** 20:33:17.7±2.3, 32.79S±0.04×72.22W±0.06, h14km±1km Error ellipse: s-maj=8.4km s-min=6.5km az=228.0*

*GUC **31** 20:33:19.1±0.8, 32.79S×72.04W, h20km±14km, ML4.5*

*SJA **31** 20:33:20.4±0.6, 32.76S×72.04W, h12km, ML4.5, MW4.6*

ISC 31 20:33:16.1±0.8, 32.76S±0.03×72.20W±0.04, h3km±4km, n120, σ1§16/116, mb4.7/22, 4C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**1.02**	**103**		**Pb**	**20 33 36.6**	**0.0**
ROC1	**El Roble**	**1.02**	**103**	*e*P	**Pb**	**20 33 36.8**	**+0.2**
ROC1				*e*S	**Sb**	**20 33 50.8**	**+0.3**
MT02	**Curacav**	**1.02**	**119**	⇓*i*P	**Pb**	**20 33 36.0**	**-0.4**
MT02				*i* S	**Sg**	**20 33 48.8**	**-0.2**
MT02	**Curacav**	**1.02**	**119**		**Pb**	**20 33 36.1**	**-0.4**
MT02				Sg	**Sb**	**20 33 50.0**	**-0.3**
ROCH	**El Roble**	**1.02**	**102**	⇓*i*P	**Pb**	**20 33 36.6**	**0.0**
ROCH				*i* S	**Sb**	**20 33 49.8**	**-0.8**
ROCH				IAML		20 33 53.0	
	comp=E,30μm,0.6s						
PEL	**Peldehue**	**1.33**	**107**	⇓*i*P	**Pb**	**20 33 41.7**	**-0.1**
PEL				*i* S	**Sb**	**20 33 58.8**	**-0.4**
PEL				IAML		20 34 00.9	
	comp=N,12μm,0.2s						
PEL	**Peldehue**	**1.33**	**107**	Pn	**Pb**	**20 33 41.6**	**-0.1**
PEL					**Sn**	**20 34 00.6**	**+0.7**
PEL	**Peldehue**	**1.33**	**107**	*e*P	**Pb**	**20 33 41.9**	**+0.1**
PEL				*e*S	**Sn**	**20 34 00.5**	**+0.7**
MT05	**Renca**	**1.38**	**118**	*e*P	**Pb**	**20 33 42.5**	**-0.2**
MT05				*i* S	**Sg**	**20 33 59.9**	**-0.6**
MT05				IAML		20 34 06.2	
	comp=E,17μm,0.4s						
MT05	**Renca**	**1.38**	**118**		**Pb**	**20 33 42.4**	**-0.2**
MT05				Sg	**Sn**	**20 34 02.3**	**+1.2**
VA03	**San Esteban**	**1.39**	**91**	⇓*i*P	**Pg**	**20 33 42.4**	**-0.3**
VA03				*i* S	**Sg**	**20 34 00.1**	**-0.7**
VA03				IAML		20 34 03.2	
	comp=E,15μm,0.6s						
VA03	**San Esteban**	**1.39**	**91**		**Pg**	**20 33 42.5**	**-0.3**
CLCH	**Cerro Calan**	**1.53**	**115**	⇓*i*P	**Pb**	**20 33 45.0**	**-0.2**
CLCH				*i* S	**Sb**	**20 34 04.8**	**-0.3**
MT03	**Universidad Ad**	**1.60**	**118**	⇓*i*P	**Pb**	**20 33 46.0**	**-0.4**
MT03				*i* S	**Sb**	**20 34 06.4**	**-0.6**
MT03				IAML		20 34 12.7	
	comp=N,16μm,0.3s						
CO02	**Combarbal**	**1.86**	**34**		**Pb**	**20 33 50.1**	**-0.7**
BO01	**Tunca**	**1.88**	**151**	⇑*i*P	**Pn**	**20 33 48.6**	**-0.5**
BO01				*i* S	**Sn**	**20 34 11.2**	**-2.1**
BO01	**Tunca**	**1.88**	**151**	Pn	**Pn**	**20 33 48.6**	**-0.5**
LMEL	**Las Melosas**	**1.99**	**124**	⇑*i*P	**Pb**	**20 33 51.9**	**-1.2**
LMEL				*i* S	**Sb**	**20 34 17.7**	**-0.8**
LMEL				IAML		20 34 26.1	
	comp=N,8μm,0.7s						
GO05	**Huala**	**2.25**	**174**	IAML		20 34 46.0	
	comp=E,3μm,0.9s						
GO05	**Huala**	**2.25**	**174**		**Pn**	**20 33 53.4**	**-0.9**
GO05	**Huala**	**2.25**	**174**	*e*P	**Pn**	**20 33 53.7**	**-0.7**
GO05				*e*S	**Sg**	**20 34 29.1**	**+0.5**
CO03	**El Pedregal**	**2.31**	**34**		**Pb**	**20 33 56.7**	**-1.7**
BO02	**Sierra Bellavi**	**2.35**	**150**		**Pn**	**20 33 56.1**	**+0.4**
AUSP	**Uspallata**	**2.44**	**78**	*e*P	**Pb**	**20 34 00.9**	**+0.1**
AUSP				*e*S	**Sb**	**20 34 31.6**	**+0.2**
RTLS	**Leoncito**	**2.64**	**69**	*e*P	**Pb**	**20 34 04.3**	**+0.1**
RTLS				IAML		20 34 57.9	
	comp=Z,1μm,0.8s						
ASAL	**Salagasta**	**2.84**	**88**	*e*P	**Pb**	**20 34 06.7**	**-0.9**
ASAL				IAML		20 34 49.8	
	comp=Z,1μm,0.9s						
GO04	**Tololo Observa**	**2.84**	**25**		**Pn**	**20 34 03.8**	**+1.2**
AAGR	**Agrelo**	**2.85**	**97**	*e*P	**Pb**	**20 34 06.9**	**-0.9**
AAGR				*e*S	**Sg**	**20 34 49.6**	**+1.7**
AAGR				IAML		20 35 01.1	
	comp=Z,1μm,1.0s						
COIS	**El Sosneado**	**3.19**	**138**	*e*P	**Pb**	**20 34 11.5**	**-1.9**
ZON	**Zonda**	**3.22**	**69**	*e*P	**Pb**	**20 34 12.3**	**-1.7**
ZON				IAML		20 35 05.6	
	comp=Z,690nm,0.8s						
RTCV	**Cerro Valdivia**	**3.23**	**75**	*e*P	**Pb**	**20 34 11.8**	**-2.3**
RTCV				IAML		20 35 06.2	
	comp=Z,1μm,1.2s						
LAMA	**Las Malvinas**	**3.30**	**132**	*e*P	**Pb**	**20 34 13.2**	**-2.1**
ACCO	**Cerro Coronel**	**3.44**	**52**	*e*P	**Pb**	**20 34 15.9**	**-2.0**
ACCO				IAML		20 35 14.7	
	comp=Z,1μm,1.1s						
RTLL	**Cerro Villicun**	**3.47**	**67**	*e*P	**Pb**	**20 34 15.9**	**-2.4**
RTLL				IAML		20 35 14.1	
	comp=Z,700nm,0.6s						
AROD	**Rodeo**	**3.48**	**43**	*e*P	**Pb**	**20 34 16.8**	**-1.8**
ACDV	**Cuesta del Vie**	**3.69**	**46**	*e*P	**Pb**	**20 34 19.3**	**-2.7**
ACDV				IAML		20 35 18.4	
	comp=Z,701nm,1.2s						
RFA	**San Rafael**	**3.70**	**124**	*e*P	**Pb**	**20 34 18.6**	**-3.6**
RFA				IAML		20 35 17.3	
	comp=Z,605nm,1.2s						
LCO	**Las Campanas**	**3.95**	**19**	Pn	**Pn**	**20 34 18.8**	**+0.9**
BI02	**San Fabin de**	**3.97**	**169**	Pn	**Pn**	**20 34 18.1**	**+0.1**
BI03	**Tigo**	**4.13**	**189**	Pn	**Pn**	**20 34 19.4**	**-0.7**
AC05	**El Transito**	**4.25**	**23**		**Pn**	**20 34 23.6**	**+1.8**
AGUA	**GUANDACOL**	**4.56**	**45**	*e*P	Pb	20 34 31.4	-5.4
AGUA				IAML		20 35 50.6	
	comp=Z,881nm,1.7s						
AC04	**Llanos de Chal**	**4.64**	**12**	Pn	**Pn**	**20 34 27.2**	**0.0**
APLL	**PUNTA DE LOS L**	**5.38**	**66**	*e*P	Pn	20 34 42.7	+5.3
GO03	**Copiap**	**5.42**	**19**		**Pn**	**20 34 38.5**	**+0.5**
GO03	**Copiap**	**5.42**	**19**	*e*P	**Pn**	**20 34 38.6**	**+0.7**
ACLC	**CERRO LA CRUZ**	**5.59**	**55**	*e*P	Pn	20 34 45.9	+5.5
ACLC				IAML		20 36 14.3	
	comp=Z,447nm,1.0s						
H03N1	**Juan Fernandez**	**5.67**	**261**	T	T	20 40 30.8	
	baz=89,slow=74						
H03N3	**Juan Fernandez**	**5.69**	**261**	T	T	20 40 56.0	
	baz=89,slow=74						
H03N2	**Juan Fernandez**	**5.69**	**261**	T	T	20 40 31.8	
	baz=89						
H03S1	**Juan Fernandez**	**5.72**	**257**	T	T	20 41 10.4	
	baz=84,slow=74,SNR=21						
H03S3	**Juan Fernandez**	**5.72**	**257**	T	T	20 41 12.7	
	baz=84,slow=74,SNR=17						
H03S2	**Juan Fernandez**	**5.73**	**257**	T	T	20 41 12.2	
	baz=84,slow=74,SNR=130						
LC01	**Cunco**	**6.13**	**178**		**Pn**	**20 34 46.7**	**-0.9**
SUCO	**SUCO**	**6.17**	**97**	*e*P	Pb	20 34 58.6	-5.7
SUCO				IAML		20 36 23.6	
	comp=Z,278nm,0.5s						
AC01	**Pan de Azucar**	**6.74**	**12**	Pn	**Pn**	**20 34 54.3**	**-1.6**
CYA	**Choya**	**7.00**	**54**	*e*P	Pn	20 35 05.0	+5.5
CYA				IAML		20 37 00.5	
	comp=Z,167nm,1.2s						
GO02	**Mina Guanaco**	**7.91**	**17**		**Pn**	**20 35 11.1**	**-1.2**
PLCA	**Paso Flores**	**8.07**	**171**	Pn	**Pn**	**20 35 14.7**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=328,slow=12,SNR=60						
PLCA	**Paso Flores**	**8.07**	**171**	Pn	**Pn**	**20 35 14.9**	**+0.7**
LVC	**Limon Verde**	**10.52**	**17**	Pn	**Pn**	**20 35 49.3**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=198,slow=12,SNR=14						
LVC				LR	LR	20 40 00.9	
	comp=Z,395nm,21.3s,baz=203,slow=39						
LVC	**Limon Verde**	**10.52**	**17**	Pn	**Pn**	**20 35 50.4**	**+2.1**
MNMC	**Minye Minye**	**13.77**	**10**	Pn	**P**	**20 36 38.8**	**-2.6**
PB16	**IPOC Station P**	**14.57**	**10**	P	**P**	**20 36 48.3**	**-2.2**
LPAZ	**La Paz**	**16.81**	**14**	Pn	**P**	**20 37 14.7**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=179,slow=7.7,SNR=44						
LPAZ	**La Paz**	**16.81**	**14**	P	**P**	**20 37 15.1**	**-0.4**
SIV	**San Ignacio**	**19.51**	**34**	P	**P**	**20 37 43.7**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=219,slow=11,SNR=26						
SIV				LR	LR	20 46 31.0	
	comp=Z,173nm,18.8s,baz=262,slow=41						
EFI	**East Falkland**	**21.54**	**156**	P	**P**	**20 38 06.1**	**-0.2**
EFI				IAmb	IAmb	20 38 10.9	
	comp=Z,37nm,1.0s						
SPB	**Sao Paulo**	**23.62**	**74**	P	**P**	**20 38 28.9**	**+0.5**
SAML	**Samuel**	**25.12**	**21**	P	**P**	**20 38 40.6**	**-1.8**
ATAH	**Atahualpa**	**26.14**	**346**	LR	LR	20 47 42.7	
	comp=Z,67nm,20.0s,baz=233,slow=33						
BDFB	**Brasilia**	**27.77**	**58**	P	**P**	**20 39 04.9**	**-1.5**
BDFB				LR	LR	20 52 27.1	
	comp=Z,203nm,18.6s,baz=201,slow=42						
BDFB	**Brasilia**	**27.77**	**58**	P	**P**	**20 39 05.1**	**-1.3**
BDFB				IAmb	IAmb	20 39 07.4	
	comp=Z,18nm,1.1s						
PMSA	**Palmer Station**	**32.43**	**173**	P	**P**	**20 39 47.0**	**0.0**
	comp=Z,1.8nm,0.6s,baz=21,slow=11,SNR=2.8						
PTGA	**Pitinga**	**33.88**	**22**	P	**P**	**20 40 00.5**	**+0.3**
PTGA				IAmb	IAmb	20 40 01.7	
	comp=Z,11nm,0.8s						
BELA	**Belgrano 2**	**48.12**	**170**	P	**P**	**20 41 54.3**	**-2.5**
BELA					**sP**	**20 41 58.0**	**+0.9**
VNA3	**Neumayer Olymp**	**50.56**	**158**	P	**P**	**20 42 16.1**	**+0.6**
VNA1	**Neumayer--Stat**	**50.87**	**157**	P	**P**	**20 42 19.1**	**+1.3**
VNA2	**Neumayer--Watz**	**51.21**	**158**	P	**P**	**20 42 21.1**	**+0.7**
SNAA	**Sanae**	**52.78**	**158**	P	**P**	**20 42 32.7**	**+0.5**
SNAA	**Sanae**	**52.78**	**158**	P	**P**	**20 42 32.8**	**+0.6**
SNAA				IAmb	IAmb	20 42 33.8	
	comp=Z,12nm,1.1s						
TEIG	**Tepich**	**54.88**	**341**	P	**P**	**20 42 49.4**	**+1.4**
QSPA	**South Pole Qui**	**57.47**	**180**	P	**P**	**20 43 07.2**	**+1.0**
QSPA				IAmb	IAmb	20 43 08.4	
	comp=Z,9.7nm,0.8s						
VNDA	**Vanda**	**65.29**	**191**	P	**P**	**20 44 00.5**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=122,slow=5.5,SNR=7.0						
SYO	**Syowa Base**	**67.07**	**159**	⇑*e*P	P	20 44 04.8	-5.4
SYO	**Syowa Base**	**67.07**	**159**	⇑*i*P	**P**	**20 44 09.2**	**-1.0**
TXAR	**Lajitas Array**	**68.59**	**331**	P	**P**	**20 44 22.6**	**+2.2**
	comp=Z,1.5nm,0.6s,baz=150,slow=8.8,SNR=11						
TX31	**Lajitas Ar. Si**	**68.59**	**331**	P	**P**	**20 44 21.2**	**+0.7**
TX31				IAmb	IAmb	20 44 38.9	
	comp=Z,9.1nm,0.9s						
TX32	**Lajitas Array**	**68.59**	**331**	P	**P**	**20 44 21.0**	**+0.6**
W50A	**Signal Mountai**	**68.72**	**348**	P	**P**	**20 44 19.9**	**-1.1**
V55A	**Taylorsville**	**68.78**	**352**	P	**P**	**20 44 22.0**	**+0.7**
V55A				IAmb	IAmb	20 44 23.7	
	comp=Z,4.3nm,0.8s						
V53A	**Saluda**	**68.80**	**351**	P	**P**	**20 44 21.9**	**+0.3**
V53A				IAmb	IAmb	20 44 23.1	
	comp=Z,14nm,1.4s						
CPCT	**Cooper Cave**	**68.83**	**349**	P	**P**	**20 44 20.4**	**-1.2**
SWET	**Sewanee**	**68.84**	**348**	P	**P**	**20 44 21.7**	**0.0**
SWET				IAmb	IAmb	20 44 23.2	
	comp=Z,7.0nm,0.7s						
WVT	**Waverly**	**70.08**	**347**	P	**P**	**20 44 29.5**	**+0.2**
MNTX	**Cornudas Mount**	**71.37**	**331**	P	**P**	**20 44 38.3**	**+0.9**
MNTX				IAmb	IAmb	20 44 39.5	
	comp=Z,13nm,1.4s						
MAW	**Mawson**	**74.40**	**164**	P	**P**	**20 44 55.2**	**+0.2**
	comp=Z,4.5nm,0.9s,baz=211,slow=7.4,SNR=9.4						
MAW				LR	LR	21 17 12.7	
	comp=Z,76nm,18.7s,baz=234,slow=36						
MAW	**Mawson**	**74.40**	**164**	P	**P**	**20 44 55.1**	**+0.2**
DBIC	**Dimbokro**	**74.92**	**72**	P	**P**	**20 44 58.6**	**-0.2**
	comp=Z,4.0nm,0.6s,baz=191,slow=6.9,SNR=6.8						
SUR	**Sutherland**	**75.55**	**119**	P	**P**	**20 45 02.8**	**+0.4**
	comp=Z,8.0nm,0.8s,baz=238,slow=10,SNR=6.1						
SUR	**Sutherland**	**75.55**	**119**	IAmb	IAmb	20 45 04.6	
	comp=Z,11nm,0.9s						
ECSD	**EROS Data Cent**	**79.33**	**342**	P	**P**	**20 45 22.8**	**-0.1**
ECSD				IAmb	IAmb	20 45 25.5	
	comp=Z,15nm,1.4s						
BOSA	**Boshof**	**80.77**	**118**	P	**P**	**20 45 30.9**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=274,slow=0.8,SNR=7.6						
BOSA	**Boshof**	**80.77**	**118**	IAmb	IAmb	20 45 40.6	
	comp=Z,13nm,1.1s						
NVAR	**Mina Aray Bea**	**82.79**	**325**	P	**P**	**20 45 44.2**	**+2.5**
	comp=Z,1.3nm,0.7s,baz=143,slow=5.8,SNR=9.7						
KVN	**Kaiserville**	**83.19**	**326**	P	**P**	**20 45 41.8**	**-1.9**
KVN				IAmb	IAmb	20 45 46.7	
	comp=Z,8.4nm,1.3s						
TORD	**Torodi Ar. Bea**	**83.92**	**70**	P	**P**	**20 45 48.4**	**+0.6**
	comp=Z,6.4nm,0.8s,baz=267,slow=4.4,SNR=18						
TORD	**Torodi Ar. Bea**	**83.92**	**70**	P	**P**	**20 45 47.2**	**-0.6**
ESDC	**Sonseca Array**	**95.82**	**46**	P	**P**	**20 46 44.4**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=266,slow=5.1,SNR=4.6						
ESDC	**Sonseca Array**	**95.82**	**46**	IAmb	IAmb	20 46 44.8	
	comp=Z,4.0nm,1.3s						
YKA	**Yellowknife Ar**	**100.84**	**341**	P	**Pdif**	**20 47 05.9**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=139,slow=4.6,SNR=2.3						
H11S2	**WAKE ISLAND Hyl**	**25.64**	**270**	T	T	23 11 24.5	
	baz=118,slow=74,SNR=4.0						
H11S1	**WAKE ISLAND Hyl**	**25.66**	**270**	T	T	23 11 27.2	
	baz=118,slow=74,SNR=4.6						
H11S3	**WAKE ISLAND Hyl**	**25.66**	**270**	T	T	23 11 28.2	
	baz=118,slow=74,SNR=3.7						
H11N3	**WAKE ISLAND Hyl**	**26.03**	**272**	T	T	23 11 52.6	
	baz=117						
H11N1	**WAKE ISLAND Hyl**	**26.04**	**272**	T	T	23 11 54.5	
	baz=117						
H11N2	**WAKE ISLAND Hyl**	**26.04**	**272**	T	T	23 12 00.7	
	baz=117						
ZALV	**Zalesovo Beam**	**153.24**	**31**	PKP	**PKPdf**	**20 53 07.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=308,slow=7.2,SNR=3.9						
ZALV				PKPbc	**sPKPbc**	**20 53 15.6**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=297,slow=3.1,SNR=17						
MKAR	**Makanchi Array**	**156.03**	**47**	PKPab	**PKPab**	**20 53 39.6**	**+0.6**
	comp=Z,3.8nm,0.7s,baz=293,slow=4.4,SNR=22						
SONM	**Songino Array**	**164.90**	**4**	PKPab	**PKPab**	**20 54 18.7**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=318,slow=2.0,SNR=6.3						

IDC 31 20:46:20.6±2.8, 6.75S×129.78E, h131km±36km, mb4.0/1, mb1 3.7/5, mb1mx3.2/37, mbtmp4.1/5, Error ellipse: s-maj=67.7km s-min=20.3km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.03**	**14**	P	Pn	20 47 47.8	+0.2
	1.0nm,0.3s,baz=33,slow=24,SNR=20						
SIJI				S	Sn	20 48 49.9	-5.6
	4.6nm,0.3s,baz=189,slow=22,SNR=13						
FITZ	**Fitzroy Crossi**	**11.98**	**199**	P	Pn	20 49 07.5	+0.3
	0.5nm,0.3s,baz=29,slow=12,SNR=17						
FITZ				S	Sn	20 51 11.6	-7.8
	1.1nm,0.3s,baz=46,slow=8.2,SNR=4.7						
WRA	**Warramunga Arr**	**13.84**	**162**	P	Pn	20 49 29.8	-1.5
	0.5nm,0.3s,baz=344,slow=12,SNR=36						
WRA				S	Sn	20 51 56.5	-7.8
	1.6nm,0.3s,baz=351,slow=19,SNR=9.4						
ASAR	**Alice Springs**	**17.28**	**167**	P	Pn	20 50 14.4	+0.4
	0.4nm,0.3s,baz=341,slow=9.2,SNR=23						
ASAR				S	S	20 53 21.4	-5.5
	0.4nm,0.3s,baz=354,slow=24,SNR=6.3						
MKAR	**Makanchi Array**	**67.90**	**327**	P	P	20 57 05.1	0.0
	2.3nm,0.6s,baz=120,slow=8.2,SNR=22						

*NEIC **31** 20:53:35.2±1.4, 0.20N±0.08×122.42E±0.07, h139km±7km, mb4.0/18, Error ellipse: s-maj=12.7km s-min=7.2km az=217.0*

*DJA **31** 20:53:35.3±0.2, 0.0N±3.3×12.2E±, h120km±3km, M4.5/13, mb4.4/13, mB5.2/6, MLv4.5/10, Mw(mB)4.5/6*

*IDC **31** 20:53:36.9±3.0, 0.21N×122.45E, h153km±27km, mb3.6/6, mb1 3.8/9, mb1mx3.4/37, mbtmp4.1/9, Error ellipse: s-maj=42.0km s-min=12.6km az=60.0*

ISC 31 20:53:35.8±0.6, 0.22N±0.06×122.43E±0.05, h150km, n49, σ1§42/55, mb4.1/17, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.71**	**55**	P	**Pn**	**20 53 55.4**	**-2.9**
GTOI				S	**Sn**	**20 54 10.3**	**-5.2**
LUWI	**Luwuk**	**1.30**	**165**	P	**Pn**	**20 54 01.4**	**-1.9**
LUWI				S	**Sn**	**20 54 21.4**	**-3.1**
LUWI	**Luwuk**	**1.30**	**165**	Pn	**Pn**	**20 54 01.6**	**-1.8**
KMSI	**Cibinong**	**1.59**	**77**	P	**Pn**	**20 54 05.3**	**-1.0**
KMSI				S	**Sn**	**20 54 30.2**	**+0.5**
MPSI	**Mapaga**	**2.53**	**273**	P	**Pn**	**20 54 14.9**	**-2.3**
MPSI				S	**Sn**	**20 54 46.4**	**-2.8**
SANI	**Sanana**	**4.22**	**122**	P	**Pn**	**20 54 36.5**	**-2.4**
TNTI	**Ternate**	**4.97**	**84**	Pn	**Pn**	**20 54 47.4**	**-1.5**
BKB	**Balikpapan**	**5.72**	**255**	Pn	**Pn**	**20 54 57.8**	**-1.0**
NLAI	**Namlea**	**5.80**	**126**	P	**Pn**	**20 55 00.1**	**+0.2**
NLAI				S	**Sn**	**20 56 04.1**	**-1.5**
KAPI	**Kappang**	**5.85**	**207**	P	**Pn**	**20 55 01.0**	**+0.5**
	1.6nm,0.3s,baz=134,slow=18,SNR=2.5						
KAPI	**Kappang**	**5.85**	**207**		**Pn**	**20 54 59.1**	**-1.4**
BKSI	**Bulukumba**	**5.97**	**203**	P	**Pn**	**20 55 01.4**	**-0.7**
	0.1nm13nm,0.7s						
MYLDM	**Lahad Datu**	**6.29**	**322**		**Pn**	**20 55 06.9**	**+0.5**
KBKI	**Kotabaru**	**7.17**	**241**	P	**Pn**	**20 55 16.8**	**-1.3**
	0.1nm16nm,0.6s						
KKM	**Kota Kinabalu**	**8.48**	**313**		**Pn**	**20 55 35.8**	**+0.2**
FAKI	**Fak Fak**	**10.30**	**108**	Pn	**Pn**	**20 56 00.2**	**+0.3**
MTN	**Manton Dam**	**15.59**	**147**	P	**P**	**20 57 09.6**	**+0.9**
LEM	**Lembang**	**16.35**	**244**	P	**P**	**20 57 17.7**	**+0.5**
	3.6nm,0.3s,baz=319,slow=22,SNR=4.7						
CBJI	**Citeko**	**16.89**	**247**	P	**Pn**	**20 57 23.7**	**+0.3**
	3μm66nm,0.8s						
KNRA	**Kununurra**	**16.99**	**159**		**Pn**	**20 57 25.8**	**+1.2**
KLSI		**18.34**	**254**	P	**Pn**	**20 57 40.1**	**-0.6**
	196nm17nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.48**	**170**	P	**Pn**	**20 57 41.5**	**-0.8**
	1.6nm,0.3s,baz=348,slow=9.6,SNR=26						
FITZ	**Fitzroy Crossi**	**18.48**	**170**		**Pn**	**20 57 41.9**	**-0.4**
MDSI	**Maura Dua**	**18.82**	**255**	P	**P**	**20 57 45.1**	**+1.0**
	602nm69nm,0.8s						
SDSI	**Sungai Dareh**	**21.03**	**267**	P	**P**	**20 58 08.7**	**+0.8**
	4.9nm,0.8s						
KRJI	**Kerinci**	**21.

	82nm,0.5s								
DZA					*e*S		Sg	21 57 33.2	+0.2
	716nm,0.4s								
DZA	**Taraz**	**1.89**	**348**		P		**Pg**	**21 57 08.1**	**-0.4**
	82nm,0.5s								
DZA					S		**Sg**	**21 57 33.2**	**+0.2**
	716nm,0.4s								
MRKS	**Merke**	**1.98**	**30**		*e*P		**Pg**	**21 57 11.3**	**+1.0**
	66nm,0.4s								
MRKS					*e*S		**Sg**	**21 57 38.4**	**+2.6**
	226nm,0.4s								
MRKS	**Merke**	**1.98**	**30**		Pg		**Pg**	**21 57 11.3**	**+1.0**
	66nm,0.4s								
MRKS					Lg		Lg	21 57 38.4	
	226nm,0.4s								
ARLS	**Aral**	**2.01**	**65**	⇑	*i*P		**Pb**	**21 57 10.5**	**+1.4**
	baz=66								
ARLS				⇑	*i*S		**Sg**	**21 57 38.6**	**+1.5**
	baz=66								
CHM	**Chimkent**	**2.12**	**308**		*e*P		**Pg**	**21 57 13.4**	**+0.4**
	8.1nm,0.2s								
CHM					*e*S		**Sg**	**21 57 42.0**	**+1.5**
	1µm,0.6s								
EKS2	**Erkin-Say**	**2.15**	**41**	⇑	*e*P		**Pg**	**21 57 13.1**	**-0.5**
	baz=42								
EKS2				⇑	*i*S		**Sg**	**21 57 42.0**	**+0.5**
	baz=42								
EKS2	**Erkin-Say**	**2.15**	**41**		P		**Pg**	**21 57 13.9**	**+0.4**
	SNR=15								
KK31	**Karatay Array**	**2.29**	**334**		Pn		**Pb**	**21 57 13.1**	**-0.6**
	5.0nm,0.3s,baz=122,slow=2.0,SNR=135								
KK31					Sn		**Sb**	**21 57 43.9**	**+1.8**
	56nm,0.4s,baz=147,slow=23,SNR=16								
UCH	**Uchtor**	**2.31**	**58**	⇑	*i*P		**Pb**	**21 57 15.1**	**+0.9**
	baz=59								
UCH				⇑	*i*S		**Sg**	**21 57 46.2**	**-0.2**
	baz=59								
UCH	**Uchtor**	**2.31**	**58**		P		**Pb**	**21 57 14.6**	**+0.4**
	SNR=12								
GAR	**Garm**	**2.37**	**211**	⇓	*i*P		**Pb**	**21 57 14.5**	**-0.6**
	baz=9.0								
GAR				⇓	*i*S		**Sb**	**21 57 45.1**	**+0.8**
	baz=9.0								
BRLS	**Borolday**	**2.50**	**323**		*e*P		**Pb**	**21 57 15.9**	**-1.4**
	19nm,0.4s								
BRLS					*e*S		**Sb**	**21 57 46.4**	**-1.6**
	250nm,0.3s								
BRLS	**Borolday**	**2.50**	**323**		Pg		**Pb**	**21 57 15.9**	**-1.4**
	19nm,0.4s								
BRLS					Lg		Lg	21 57 46.4	
	250nm,0.3s								
AAK	**Ala-Archa**	**2.52**	**50**	⇑	*i*P		**Pb**	**21 57 17.9**	**+0.1**
	baz=51								
AAK				⇑	*i*S		**Sb**	**21 57 51.1**	**+2.2**
	baz=51								
AAK	**Ala-Archa**	**2.52**	**50**		P		**Pg**	**21 57 20.5**	**-0.2**
	SNR=6.5								
AAK	**Ala-Archa**	**2.52**	**50**	⇑	Pg		**Pg**	**21 57 21.3**	**+0.6**
	6.2nm,0.4s								
AAK				⇑	Lg		Lg	21 57 54.6	
	58nm,0.8s								
FRU1	**Bishkek**	**2.71**	**48**	⇑	*i*P		**Pb**	**21 57 20.6**	**-0.3**
	baz=49								
FRU1				⇑	*i*S		**Sb**	**21 57 54.5**	**+0.3**
	baz=49								
KZA	**Kyzart**	**2.74**	**67**	⇑	*i*P		**Pb**	**21 57 21.0**	**-0.5**
	baz=67								
KZA				⇑	*i*S		**Sb**	**21 57 56.4**	**+1.2**
	baz=67								
KZA	**Kyzart**	**2.74**	**67**		P		**Pb**	**21 57 21.3**	**-0.2**
	SNR=19								
KBK	**Karagaybulak**	**2.81**	**54**	⇑	*i*P		**Pb**	**21 57 22.1**	**-0.5**
	baz=55								
KBK				⇑	*i*S		**Sb**	**21 57 57.5**	**+0.5**
	baz=55								
KBK	**Karagaybulak**	**2.81**	**54**		P		**Pb**	**21 57 23.9**	**+1.3**
	SNR=6.8								
CHMS	**Chumysh**	**2.90**	**47**	⇑	*i*P		**Pb**	**21 57 23.1**	**-1.0**
	baz=48								
CHMS				⇑	*i*S		**Sb**	**21 57 59.6**	**0.0**
	baz=48								
USP	**Ospenovka**	**2.96**	**40**	⇑	*i*P		**Pb**	**21 57 24.2**	**-0.9**
	baz=41								
USP				⇑	*i*S		**Sb**	**21 58 01.1**	**-0.1**
	baz=41								
USP	**Ospenovka**	**2.96**	**40**		P		**Pb**	**21 57 23.3**	**-1.8**
	SNR=5.6								
SGDS	**Sogindy**	**3.16**	**39**		Pg		**Pg**	**21 57 31.8**	**-1.0**
	3.5nm,0.5s								
SGDS					Lg		Lg	21 58 13.7	
	26nm,0.4s								
TKM2	**Tokmak 2**	**3.35**	**55**	⇑	*i*P		**Pb**	**21 57 29.7**	**-2.2**
	baz=55								
TKM2				⇑	*i*S		**Sb**	**21 58 10.8**	**-1.9**
	baz=55								
TKM2	**Tokmak 2**	**3.35**	**55**	⇓	Pn		**Pb**	**21 57 29.5**	**-2.3**
	0.6nm,0.5s								
TKM2				⇓	Pg		**Pg**	**21 57 36.0**	**-0.5**
	4.2nm,0.4s								
TKM2				⇑	Lg		Lg	21 58 19.8	
	28nm,0.8s								
KST	**Kastek**	**3.64**	**55**		*e*P		**Pg**	**21 57 40.1**	**-2.0**
	2.6nm,0.3s								
KST					*e*S		**Sg**	**21 58 28.2**	**-1.1**
	18nm,0.7s								
KST	**Kastek**	**3.64**	**55**		Pg		**Pg**	**21 57 40.1**	**-2.0**
	2.6nm,0.3s								
KST					Lg		Lg	21 58 28.2	
	18nm,0.7s								
KRBS	**Karabastau**	**3.87**	**46**		*e*P		**Pg**	**21 57 47.1**	**+0.7**
	2.9nm,0.4s								
KRBS					*e*S		**Sg**	**21 58 39.8**	**+3.4**
	12nm,0.7s								
KRBS	**Karabastau**	**3.87**	**46**		Pg		**Pg**	**21 57 47.1**	**+0.7**
	2.9nm,0.4s								
KRBS					Lg		Lg	21 58 39.8	
	12nm,0.7s								
MTBS	**Maitube**	**3.98**	**57**		*e*P		**Pg**	**21 57 47.4**	**-1.1**
	3.5nm,0.2s								
MTBS					*e*S		**Sg**	**21 58 40.2**	**+0.1**
	16nm,0.7s								
MTBS	**Maitube**	**3.98**	**57**		Pg		**Pg**	**21 57 47.4**	**-1.1**
	3.5nm,0.2s								
MTBS					Lg		Lg	21 58 40.2	
	16nm,0.7s								
TNSS	**Tian-Shan**	**4.27**	**61**		*e*P		**Pg**	**21 57 52.9**	**-1.2**
	6.9nm,0.4s								
TNSS					*e*S		**Sg**	**21 58 49.9**	**+0.4**
	20nm,0.6s								
TNSS	**Tian-Shan**	**4.27**	**61**		Pg		**Pg**	**21 57 52.9**	**-1.2**
	6.9nm,0.4s								
TNSS					Lg		Lg	21 58 49.9	
	20nm,0.6s								
BTLS	**Baital**	**4.30**	**21**		*e*P		**Pg**	**21 57 53.3**	**-1.4**
	3.6nm,0.4s								
BTLS					*e*S		**Sg**	**21 58 50.0**	**-0.3**
	25nm,0.5s								
BTLS	**Baital**	**4.30**	**21**		Pg		**Pg**	**21 57 53.3**	**-1.4**
	3.6nm,0.4s								
BTLS					Lg		Lg	21 58 50.0	
	25nm,0.5s								
KUU	**Kurty**	**4.36**	**48**		*e*P		**Pg**	**21 57 53.5**	**-2.3**
	1.7nm,0.8s								
KUU					*e*S		**Sg**	**21 58 51.0**	**-1.3**
	17nm,0.6s								
KUU	**Kurty**	**4.36**	**48**		Pg		**Pg**	**21 57 53.5**	**-2.3**
	1.7nm,0.8s								
KUU					Lg		Lg	21 58 51.0	
	17nm,0.6s								
MDOK	**Medeo**	**4.39**	**59**		*e*P		**Pg**	**21 57 55.8**	**-0.7**
	7.5nm,0.5s								
MDOK					*e*S		**Sg**	**21 58 54.9**	**+1.6**
	21nm,0.8s								
MDOK	**Medeo**	**4.39**	**59**		Pg		**Pg**	**21 57 55.8**	**-0.7**
	7.5nm,0.5s								
MDOK					Lg		Lg	21 58 54.9	
	21nm,0.8s								
SATY	**Saty**	**5.26**	**65**		*e*P		**Pg**	**21 58 11.7**	**-1.4**
	1.2nm,0.2s								
SATY					*e*S		**Sg**	**21 59 21.8**	**+0.5**
	14nm,0.8s								
SATY	**Saty**	**5.26**	**65**		Pg		**Pg**	**21 58 11.7**	**-1.4**
	1.2nm,0.2s								
SATY					Lg		Lg	21 59 21.8	
	14nm,0.8s								
KURS	**Kuram**	**5.27**	**60**		*e*P		**Pg**	**21 58 11.7**	**-1.5**
	1.2nm,0.6s								
KURS					*e*S		**Sg**	**21 59 21.7**	**+0.2**
	6.5nm,0.6s								
KURS	**Kuram**	**5.27**	**60**		Pg		**Pg**	**21 58 11.7**	**-1.5**
	1.2nm,0.6s								
KURS					Lg		Lg	21 59 21.7	
	6.5nm,0.6s								
UZB	**Uzunbulak**	**5.72**	**66**		*e*P		**Pg**	**21 58 18.7**	**-3.1**
	1.0nm,0.2s								
UZB					*e*S		**Sg**	**21 59 33.7**	**-2.1**
	4.9nm,0.5s								
UZB	**Uzunbulak**	**5.72**	**66**		Pg		**Pg**	**21 58 18.7**	**-3.1**
	1.0nm,0.2s								
UZB					Lg		Lg	21 59 33.7	
	4.9nm,0.5s								
PDGK	**Podgornoye**	**6.10**	**66**	⇑	Pg		**Pg**	**21 58 27.5**	**-1.6**
	1.8nm,0.8s								
PDGK				⇓	Lg		Lg	21 59 49.7	
	9.2nm,0.9s								
KURBB	**Kurchatov Arra**	**10.64**	**24**	⇑	Lg		Lg	22 02 12.1	
	10.0nm,0.7s								

*NEIC **31** 21:58:19.8,65°.11N×149°.04W,h16km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.91; $M_{\theta\theta}$-4.32; $M_{\phi\phi}$6.24; $M_{r\theta}$2.96; $M_{r\phi}$-5.47; $M_{\theta\phi}$2.46; Fault plane solution: M_o8.68000×10^{14} NP1:ϕ_s295.57000°, δ65.09000°,λ-163.31000°. NP2:ϕ_s198.38000°, δ74.90000°,λ-25.86000°. Principal axes: T 8.6888, Plg7.0000°, Azm249.0000°; N -0.0120, Plg60.0000°, Azm350.0000°; P -8.6768, Plg29.0000°, Azm155.0000°;*
*AEIC **31** 21:58:19±2.1,65°.16N±0°.04×149°.10W±0°.06,h16km±6km, ML3.9,Mwr3.9/51(NEIC) Error ellipse: s-maj=6.6km s-min=2.3km az=208.0*
*ANF **31** 21:58:19.4±0.5,65°.14N×149°.00W,h13km±4km,ML4.6/11, Error ellipse: s-maj=3.8km s-min=3.3km az=109.0*
*IDC **31** 21:58:19.9±3.0,65°.13N×149°.00W,h0km,mb3.6/1, mb1 4.0/2,mb1mx3.3/28,mbtmp3.5/2,ML3.4/1,MS3.1/1, Ms1 3.2/1,ms1mx2.6/36,Error ellipse: s-maj=22.4km s-min=12.4km az=110.0*

ISC 31 21:58:19.3±1.0, 65°.15N±0°.02×149°.01W±0°.02, h11km±9km, n120,σ1s16/124, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PS07	**TAPS Pump Stn7**	**0.35**	**62**				**Pg**	**21 58 26.7**	**+0.5**
PS07							**Sb**	**21 58 34.2**	**+1.2**
MDM	**Murphy Dome**	**0.38**	**120**				**Pb**	**21 58 27.5**	**-0.6**
MDM	**Murphy Dome**	**0.38**	**120**			Sg	**Sg**	**21 58 32.6**	**+0.7**
NEA2	**Nenana**	**0.56**	**183**			P	**Pg**	**21 58 30.4**	**+0.3**
	baz=359,SNR=1000								
NEA2						S	**Sg**	**21 58 37.6**	**+0.2**
	baz=359								
NEA2	**Nenana**	**0.56**	**183**				**Pg**	**21 58 30.4**	**+0.3**
NEA2							**Sg**	**21 58 37.7**	**+0.2**
TCOL	**CIGO, UAF Yank**	**0.56**	**119**		P		**Pb**	**21 58 30.8**	**-0.3**
	baz=299,SNR=1000								
TCOL					S		**Sb**	**21 58 38.6**	**-0.4**
	baz=299								
TCOL	**CIGO, UAF Yank**	**0.56**	**119**				**Pb**	**21 58 30.8**	**-0.3**
TCOL							**Sb**	**21 58 38.9**	**-0.2**
COLA	**College**	**0.56**	**119**				**Pb**	**21 58 31.1**	**0.0**
COLA	**College**	**0.56**	**119**				**Sb**	**21 58 38.5**	**-0.6**
POKR	**Poker Plat Res**	**0.67**	**92**		P		**Pg**	**21 58 32.4**	**+0.2**
	baz=274,SNR=534								
POKR					S		**Sg**	**21 58 41.1**	**+0.2**
	baz=274								
POKR	**Poker Plat Res**	**0.67**	**92**				**Pg**	**21 58 32.3**	**+0.2**
POKR							**Sb**	**21 58 42.1**	**0.0**
CCB	**Clear Creek Bu**	**0.72**	**134**				**Pb**	**21 58 33.9**	**+0.1**
CCB	**Clear Creek Bu**	**0.72**	**134**				**Sb**	**21 58 43.2**	**-0.5**
MLY	**Manley**	**0.74**	**262**				**Pg**	**21 58 32.8**	**-0.9**
MLY	**Manley**	**0.74**	**262**				**Sg**	**21 58 42.6**	**-0.7**
PS06	**TAPS Pump Stn6**	**0.77**	**337**				**Pg**	**21 58 34.0**	**-0.2**
PS06							**Sg**	**21 58 43.8**	**-0.5**
WRH	**Wood River Hil**	**0.79**	**150**		Pg		**Pb**	**21 58 34.8**	**-0.1**
IL31		**0.98**	**112**				**Pn**	**21 58 38.5**	**-0.4**
ILAR	**Eielson Array**	**0.98**	**112**		Pg		**Pn**	**21 58 38.9**	**0.0**
	185nm,0.3s,baz=294,slow=17,SNR=372								
ILAR					Lg		Lg	21 58 51.4	
	2µm,0.3s,baz=293,slow=28,SNR=72								
ILAR	**Eielson Array**	**0.98**	**112**				**Pb**	**21 58 38.2**	**0.0**
BWN	**Browne**	**1.00**	**192**				**Pg**	**21 58 37.9**	**-0.6**
PS08	**TAPS Pump Stn8**	**1.12**	**122**				**Pn**	**21 58 40.9**	**+0.1**
HDA	**Harding Lake**	**1.15**	**129**		P		**Pb**	**21 58 40.2**	**-1.0**
	baz=310,SNR=490								
HDA					S		**Sn**	**21 58 56.5**	**-0.6**
	baz=310								
HDA	**Harding Lake**	**1.15**	**129**		Pn		**Pb**	**21 58 40.5**	**-0.7**
BPAW	**Bear Paw Mtn.**	**1.35**	**220**		Pn		**Pn**	**21 58 43.0**	**-1.1**
MCK	**McKinley**	**1.42**	**179**				**Pn**	**21 58 44.2**	**-0.8**
RND	**Reindeer**	**1.75**	**178**				**Pn**	**21 58 48.7**	**-0.9**
TRF	**Thorofare Moun**	**1.79**	**199**		Pn		**Pn**	**21 58 49.7**	**-0.6**
KTH	**Kantishna Hill**	**1.81**	**208**				**Pn**	**21 58 49.5**	**-0.9**
IM03		**2.14**	**295**				**Pn**	**21 58 53.1**	**-1.7**
IMAR	**Indian Mountai**	**2.14**	**295**				**Pn**	**21 58 53.2**	**-1.7**
COLD	**Coldfoot**	**2.14**	**347**		Pn		**Pn**	**21 58 54.2**	**-0.7**
	baz=167,SNR=373								
COLD					Pb		**Pb**	**21 58 59.1**	**+1.0**
	baz=167								
COLD					Sb		**Sb**	**21 59 25.5**	**+0.9**
	baz=167								
COLD	**Coldfoot**	**2.14**	**347**				**Pn**	**21 58 54.2**	**-0.7**
CAST	**Castle Rocks**	**2.19**	**219**				Lg	21 58 55.5	
HUR	**Hurricane**	**2.20**	**187**				Lg	21 58 56.0	
DHY	**Denali Highway**	**2.20**	**160**				**Pn**	**21 58 56.4**	**+0.5**
WAT2	**Susitna Watana**	**2.20**	**175**				Lg	21 58 56.0	
RIDG	**Independent Ri**	**2.29**	**126**		Pn		**Pn**	**21 58 55.6**	**-1.5**
WAT7	**Susitna Watana**	**2.33**	**178**				Lg	21 58 57.6	
WAT1	**Susitna Watana**	**2.34**	**175**				Lg	21 58 58.0	
SCRK	**Sand Creek**	**2.47**	**116**		Pn		**Pn**	**21 58 58.3**	**-1.2**
	baz=301,SNR=15								
SCRK					Pg		**Pg**	**21 59 05.8**	**-0.7**
	baz=301								
SCRK					Sb		**Sb**	**21 59 35.7**	**+1.7**
	baz=301								
SCRK	**Sand Creek**	**2.47**	**116**				**Pn**	**21 58 58.6**	**-0.9**
DOT	**Dot Lake**	**2.62**	**123**				**Pn**	**21 59 00.1**	**-1.5**
WAT6	**Susitna Watana**	**2.64**	**167**				Lg	21 59 01.7	
PPLA	**Purkeypile**	**2.66**	**213**		Pn		**Pn**	**21 59 00.6**	**-1.5**
PAX	**Paxson**	**2.68**	**143**				**Pn**	**21 59 02.5**	**0.0**
CUT	**Chulitna**	**2.81**	**192**		P		**Pn**	**21 59 04.3**	**+0.2**
	baz=10.0,SNR=8.6								
CUT					Sb		**Sb**	**21 59 46.3**	**+2.5**
	baz=10.0								
CUT	**Chulitna**	**2.81**	**192**				**Pn**	**21 59 04.4**	**+0.2**
BM03	**Burnt Mountain**	**2.89**	**36**				**Pn**	**21 59 04.3**	**-1.0**
BMAR	**Burnt Mountain**	**2.91**	**36**				**Pn**	**21 59 04.2**	**-1.2**
K27K	**Chicken**	**3.19**	**107**		Pn		**Pn**	**21 59 08.9**	**-0.4**
	baz=294								
K27K					Pg		**Pg**	**21 59 20.0**	**-0.4**
	baz=294								
K27K					Sb		**Sg**	**21 59 58.2**	**-3.5**
	baz=294								
K27K	**Chicken**	**3.19**	**107**				**Pn**	**21 59 09.6**	**+0.2**
MENT	**Mentasta**	**3.21**	**131**				**Pn**	**21 59 09.5**	**-0.2**
PS04	**TAPS Pump Stn4**	**3.29**	**358**				**Pn**	**21 59 10.4**	**-0.4**
M24K	**Tolsona, Glenn**	**3.31**	**156**		P		**Pn**	**21 59 12.5**	**+1.6**
	baz=338,SNR=20								
M24K	**Tolsona, Glenn**	**3.31**	**156**				Lg	21 59 12.2	
EGAK	**Eagle**	**3.36**	**93**				**Pn**	**21 59 11.2**	**-0.5**
SML	**Sawmill**	**3.37**	**175**				**Pn**	**21 59 11.6**	**-0.2**
SKT	**Skwentna**	**3.38**	**201**				**Pn**	**21 59 12.2**	**+0.3**
GHO	**Glory Hole Cre**	**3.39**	**179**				**Pn**	**21 59 11.9**	**-0.2**
SCM	**Sheep Creek Mo**	**3.41**	**166**		Pn		**Pn**	**21 59 12.5**	**+0.1**
PS11	**TAPS Pump St11**	**3.46**	**151**				**Pn**	**21 59 15.2**	**+2.1**
TOLK	**Toolik Lake Re**	**3.52**	**357**		P		**Pn**	**21 59 14.8**	**+1.0**
	baz=177,SNR=30								
TOLK					Sb		**Sb**	**22 00 08.0**	**+3.9**
	baz=177								
TOLK	**Toolik Lake Re**	**3.52**	**357**				**Pn**	**21 59 14.8**	**+1.0**
PMR	**Palmer**	**3.57**	**181**				**Pn**	**21 59 14.6**	**+0.1**
KNK	**Knik Glacier**	**3.76**	**176**				**Pn**	**21 59 17.8**	**+0.6**
SUA	**Susitna One**	**3.78**	**193**				**Pn**	**21 59 17.5**	**-0.1**
BC03		**3.80**	**120**				**Pn**	**21 59 16.0**	**-1.6**
BCAR	**Beaver Creek A**	**3.80**	**120**				**Pn**	**21 59 15.6**	**-2.1**
TTA	**Tatalina**	**3.80**	**237**		Pn		**Pn**	**21 59 15.7**	**-2.1**
TT01	**Tatalina**	**3.82**	**237**				**Pn**	**21 59 15.8**	**-2.1**
STLK	**Strandline Lak**	**3.88**	**200**				**Pn**	**21 59 19.1**	**+0.3**
KLU	**Klutina**	**3.92**	**158**				Lg	21 59 21.1	
RC01	**Rabbit Creek A**	**4.09**	**185**				**Pn**	**21 59 22.8**	**+1.2**
SPCG	**Spurr Capps Gl**	**4.11**	**201**				**Pn**	**21 59 22.5**	**+0.5**
SPNN	**North Nagishla**	**4.15**	**205**				**Pn**	**21 59 23.0**	**+0.4**
SPCP	**Crater Peak Br**	**4.15**	**201**				**Pn**	**21 59 23.2**	**+0.6**
SPCN	**Chakachatna No**	**4.19**	**202**				**Pn**	**21 59 24.2**	**+1.1**
DIV	**Divide**	**4.29**	**159**				Lg	21 59 25.5	
PWL	**Port Wells**	**4.32**	**176**				**Pn**	**21 59 26.2**	**+1.4**
GLI	**Glacier Island**	**4.37**	**168**				**Pn**	**21 59 26.4**	**+0.8**
GLB	**Gilahina Butte**	**4.40**	**145**				**Pn**	**21 59 27.5**	**+1.5**
BVCY	**Beaver Creek**	**4.54**	**123**				**Pn**	**21 59 27.9**	**0.0**
FID	**Port Fidalgo**	**4.56**	**164**				**Pn**	**21 59 29.3**	**+1.2**
MCARA	**McCarthy VSAT**	**4.64**	**142**				**Pn**	**21 59 30.8**	**+1.5**
BMRM	**Bremner River**	**4.65**	**152**				Lg	21 59 30.1	
VRDI	**Verde Repeater**	**4.67**	**145**				**Pn**	**21 59 31.6**	**+1.8**
SLKM	**Skilak Lake**	**4.69**	**187**				**Pn**	**21 59 30.8**	**+0.8**
O22K	**Cooper Landing**	**4.70**	**184**		P		**Pn**	**21 59 34.0**	**+4.1**
	baz=3.2								
EYAK	**Cordova Ski Ar**	**4.85**	**161**				Lg	21 59 33.6	
HIN	**Hinchinbrook I**	**4.91**	**165**				**Pn**	**21 59 34.5**	**+1.6**
PTPK	**Patty Peak**	**4.96**	**140**				**Pn**	**21 59 35.1**	**+1.4**
YUK2	**White River**	**4.98**	**129**				**Pn**	**21 59 34.3**	**+0.4**
GOAT	**Goat Mountain**	**4.99**	**155**				Lg	21 59 34.7	
RDWB	**Redoubt West**	**5.00**	**202**				**Pn**	**21 59 35.7**	**+1.4**
SVW2	**Sparrevohn**	**5.04**	**219**		Pn		**Pn**	**21 59 34.2**	**-0.6**
SEW	**Seward**	**5.07**	**183**				**Pn**	**21 59 36.7**	**+1.6**
YUK3	**Moose Creek**	**5.11**	**128**				**Pn**	**21 59 36.0**	**+0.1**
BALM	**Baldy**	**5.12**	**141**				**Pn**	**21 59 37.6**	**+1.8**
KIAG	**Kiagna River**	**5.21**	**141**				**Pn**	**21 59 38.8**	**+1.6**
EPYK	**Eagle Plains**	**5.21**	**71**				**Pn**	**21 59 36.5**	**-0.5**
BARN	**Barnard Glacie**	**5.29**	**138**				**Pn**	**21 59 39.5**	**+1.2**
HMT	**Hamilton**	**5.30**	**154**				**Pn**	**21 59 37.6**	**-0.6**
CTGM	**Chitina Glacie**	**5.46**	**137**				**Pn**	**21 59 41.4**	**+0.9**
BRLK	**Bradley Lake**	**5.47**	**190**				**Pn**	**21 59 42.3**	**+1.6**
BRSE	**Bradley Lake S**	**5.49**	**189**				**Pn**	**21 59 42.4**	**+1.5**
ISLE	**Juniper Island**	**5.49**	**143**				**Pn**	**21 59 40.3**	**-0.6**
BARK	**Barkley Ridge**	**5.62**	**145**				**Pn**	**21 59 43.8**	**+1.0**
CNPM	**China Poot**	**5.74**	**191**				**Pn**	**21 59 45.6**	**+1.2**
YAH	**Yahtse**	**5.84**	**142**		Pn		**Pn**	**21 59 46.7**	**+0.8**
TABL	**Table Mountain**	**5.94**	**139**		Pn		**Pn**	**21 59 49.0**	**+1.7**
YUK5	**Granite Creek**	**6.46**	**123**				**Pn**	**21 59 54.0**	**-0.3**
INK	**Inuvik**	**6.90**	**56**				**Pn**	**22 00 00.7**	**+0.6**
KAKN	**Katmai Knife C**	**7.45**	**205**				**Pn**	**22 00 08.5**	**+0.7**
KABU	**Katmai Buttres**	**7.51**	**206**				**Pn**	**22 00 10.0**	**+1.3**
KDAK	**Kodiak Island**	**7.59**	**195**				**Pn**	**22 00 08.8**	**-0.9**
YKA	**Yellowknife Ar**	**15.29**	**84**		Pn		**Pn**	**22 01 54.4**	**-0.4**
	0.2nm,0.3s,baz=295,slow=12,SNR=1.7								
YKA					Lg		Lg	22 06 24.6	
	baz=301,slow=29,SNR=1.8								
PDAR	**Pinedale Array**	**31.41**	**116**		P		**P**	**22 04 41.2**	**+1.0**
	0.9nm,0.9s,baz=334,slow=6.0,SNR=7.1								
PDAR	**Pinedale Array**	**31.41**	**116**		P		**P**	**22 04 39.5**	**-0.8**
NOA	**NORSAR Array B**	**53.26**	**12**		LR		LR	22 29 47.8	
	comp=Z,19nm,19.9s,baz=325,slow=35								

*IDC **31** 22:08:45.6±4.4,32°.81N×47°.51E,h0km,mb3.7/5, mb1 3.7/5,mb1mx3.4/40,mbtmp3.7/5,Error ellipse: s-maj=97.5km s-min=32.1km az=175.0*
*ISN **31** 22:08:45.5±1.2,32°.80N×47°.63E,h5km±14km,ML3.3*
*THR **31** 22:08:46.3±0.7,32°.74N×47°.49E,h14km±9km,ML3.2*
*TEH **31** 22:08:46.8,32°.73N×47°.60E,h12km,ML3.4*

ISC 31 22:08:47.6±1.3, 32°.72N±0°.04×47°.59E±0°.04, h10km±9km, n41,σ1s33/46, mb3.8/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.27**	**261**			*e*Pg	**Pg**	**22 08 52.7**	**-0.3**
SHGR	**Shooshtar-Gavs**	**1.19**	**121**			*e*Pg	**Pn**	**22 09 09.6**	**-0.8**
SHGR						*e*Sg	**Sb**	**22 09 27.2**	**+1.3**
SHGR						IAML		22 09 38.0	
	comp=N,343nm,0.7s								
SHGR	**Shooshtar-Gavs**	**1.19**	**121**			*e*Pg	**Pn**	**22 09 09.6**	**-0.8**
BMDN	**Meydan**	**1.40**	**47**			*e*Pg	**Pn**	**22 09 13.1**	**-0.3**
BMDN						*e*Sg	**Sg**	**22 09 34.7**	**+1.9**
BMDN						*e*		22 09 40.1	
IKOM	**Komasi**	**1.45**	**357**			*e*Pg	**Pn**	**22 09 14.9**	**+0.8**
IKOM						*e*		22 09 44.9	
KCHF	**

STKA	Stephens Creek	42.20	239	P		P	22 24 05.6	+0.7
WRA	Warramunga Arr	47.52	256	P		P	22 24 46.8	+0.1
	1.2nm,0.4s,baz=92,slow=6.2,SNR=29							
WRA				PcP		PcP	22 26 11.8	+0.2
	0.6nm,0.6s,baz=97,slow=3.3,SNR=2.9							
WRA	Warramunga Arr	47.52	256	P		P	22 24 46.8	+0.1
WRA						PcP	22 26 11.3	-0.3
AS31	Alice Springs	47.91	251	P		P	22 24 50.0	+0.3
ASAR	Alice Springs	47.91	251	P		P	22 24 50.5	+0.8
	11nm,0.4s,baz=85,slow=8.2,SNR=219							
ASAR				PcP		PcP	22 26 13.1	0.0
	0.6nm,0.5s,baz=94,slow=3.7,SNR=2.6							
ASAR	Alice Springs	47.91	251	P		P	22 24 49.9	+0.3
ASAR						PcP	22 26 12.6	-0.4
PETK	Petropavlovsk-	71.18	344	P		P	22 27 27.9	+1.0
	3.2nm,0.8s,baz=142,slow=11,SNR=4.2							
PETK	Petropavlovsk-	71.18	344	P		P	22 27 27.7	+0.7
CMB	Columbia Colle	73.94	43	P		P	22 27 43.4	-0.2
CMB				IAmb		IAmb	22 27 45.1	
	comp=Z,3.9nm,0.9s							
YBH	Yreka Blue Hor	74.60	39	P		P	22 27 47.0	-0.3
YBH				IAmb		IAmb	22 27 49.1	
	comp=Z,5.8nm,0.8s							
KDAK	Kodiak Island	74.75	13	P		P	22 27 47.4	-0.2
	comp=Z,4.7nm,0.8s,baz=270,slow=5.7,SNR=5.8							
KDAK	Kodiak Island	74.75	13	P		P	22 27 48.2	+0.6
LHV	Little Huntoon	75.30	43	P		P	22 27 50.7	-0.5
LHV				IAmb		IAmb	22 27 52.9	
	comp=Z,7.6nm,1.1s							
NVAR	Mina Array Bea	75.53	43	P		P	22 27 53.3	+0.5
	comp=Z,3.0nm,0.9s,baz=230,slow=10.0,SNR=16							
NVAR	Mina Array Bea	75.53	43	P		P	22 27 52.1	-0.8
NV11	Mina Array Sit	75.63	43	P		P	22 27 52.2	-1.1
NV11				IAmb		IAmb	22 27 54.6	
	comp=Z,8.0nm,1.1s							
KVN	Kaiserville	76.00	43	P		P	22 27 54.6	-0.8
MOD	Modoc Plateau	76.16	39	P		P	22 27 53.2	-3.1
MOD				IAmb		IAmb	22 27 57.5	
	comp=Z,4.0nm,0.8s							
PINE	Pine Mountain	76.86	38	P		P	22 27 59.6	-0.6
I07A	Izee	77.88	38	P		P	22 28 05.5	-0.2
TUC	Tucson	77.94	52	P		P	22 28 05.5	-0.7
TUC				IAmb		IAmb	22 28 07.8	
	comp=Z,3.2nm,0.8s							
X16A	Lo Mia Camp, P	78.38	50	P		P	22 28 08.1	-0.7
X16A				IAmb		IAmb	22 28 10.3	
	comp=Z,3.2nm,0.8s							
SUA	Susitna One	78.50	12	P		P	22 28 09.1	+0.5
G08A	Pilot Rock	78.88	37	P		P	22 28 11.0	-0.1
TTA	Tatalina	78.92	9	P		P	22 28 11.5	+0.6
TTA				IAmb		IAmb	22 28 13.6	
	comp=Z,5.7nm,1.2s							
BMO	Blue Mountains	79.61	38	P		P	22 28 14.2	-0.9
BMO				IAmb		IAmb	22 28 27.0	
	comp=Z,4.2nm,1.1s							
MFID	Camas Ranch	79.75	40	IAmb		IAmb	22 28 16.9	
	comp=Z,2.9nm,0.8s							
F10A	Beach Ranch, E	80.27	37	IAmb		IAmb	22 28 19.0	
	comp=Z,4.4nm,0.8s							
HLID	Hailey	80.71	40	P		P	22 28 20.7	-0.3
HLID				IAmb		IAmb	22 28 22.4	
	comp=Z,2.9nm,0.8s							
MNTX	Cornudas Mount	81.87	54	P		P	22 28 26.4	-0.7
MNTX				IAmb		IAmb	22 28 28.5	
	comp=Z,4.7nm,1.1s							
HDA	Harding Lake	81.92	12	P		P	22 28 27.4	+0.8
IMAR	Indian Mountai	82.13	9	P		P	22 28 28.4	+0.7
IL31		82.25	12			P	22 28 29.0	+0.8
ILAR	Eielson Array	82.25	12	P		P	22 28 28.1	-0.1
	comp=Z,2.1nm,0.5s,baz=218,slow=5.4,SNR=13							
ANMO	Albuquerque	82.32	51	P		P	22 28 28.9	-0.7
ANMO				IAmb		IAmb	22 28 30.8	
	comp=Z,4.2nm,1.1s							
TXAR	Lajitas Array	82.35	57	P		P	22 28 30.1	+0.3
	comp=Z,2.0nm,1.0s,baz=231,slow=4.2,SNR=14							
TXAR	Lajitas Array	82.35	57	P		P	22 28 28.9	-0.8
TPAW	Teton Pass	82.88	42	IAmb		IAmb	22 28 32.6	
	comp=Z,5.3nm,1.1s							
REDW	Red Top Meadow	82.88	42	IAmb		IAmb	22 28 33.6	
	comp=Z,3.2nm,0.8s							
IMW	Indian Meadow	83.08	41	IAmb		IAmb	22 28 34.6	
	comp=Z,3.3nm,0.8s							
S22A	4UR Ranch, Cre	83.18	48	IAmb		IAmb	22 28 35.3	
	comp=Z,3.6nm,0.8s							
PDAR	Pinedale Array	83.46	43	P		P	22 28 34.8	-0.5
	comp=Z,1.8nm,0.8s,baz=208,slow=3.7,SNR=12							
EGAK	Eagle	83.53	14	IAmb		IAmb	22 28 35.7	
	comp=Z,4.3nm,0.8s							
BMAR	Burnt Mountain	85.04	12	P		P	22 28 43.1	+0.7
MAW	Mawson	87.65	199	P		P	22 28 54.0	-1.0
	comp=Z,0.8nm,0.5s,baz=146,slow=3.6,SNR=3.7							
MAW	Mawson	87.65	199	P		P	22 28 55.1	+0.1
CMAR	Chiang Mai Arr	89.95	289	P		P	22 29 08.6	+1.8
	comp=Z,0.5nm,0.4s,baz=110,slow=2.3,SNR=4.6							
CMAR	Chiang Mai Arr	89.95	289	P		P	22 29 06.8	0.0
YKA	Yellowknife Ar	90.47	24	P		P	22 29 08.0	-0.1
	comp=Z,0.9nm,0.8s,baz=248,slow=4.3,SNR=3.3							
SONM	Songino Array	92.60	319	P		P	22 29 18.9	+0.3
	comp=Z,0.5nm,0.7s,baz=108,slow=4.7,SNR=3.4							
SONM	Songino Array	92.60	319	P		P	22 29 19.1	+0.5
MKAR	Makanchi Array	108.49	315	PKiKP		PKiKP	22 34 32.8	-1.0
	comp=Z,0.3nm,0.7s,baz=77,slow=2.1,SNR=2.3							
ARCES	ARCESS Array B	123.52	351	PKP		PKPdf	22 35 00.8	-1.0
	comp=Z,1.0nm,0.5s,baz=9.4,slow=1.5,SNR=14							
FINES	FINESS Array B	130.65	346	PKP		PKPdf	22 35 14.6	-1.0
	comp=Z,1.0nm,0.8s,baz=8.5,slow=3.9,SNR=7.1							
FINES	FINESS Array B	130.65	346			PKiKP	22 35 16.0	-0.5
MORC	Moravsky Berou	143.27	345	ePKP		PKPbc	22 35 36.9	-0.3
VRAC	Vranov	143.93	346	ePKP		PKPbc	22 35 39.2	+0.1
BR131	Keskin Array S	143.96	320			PKPdf	22 35 40.2	-0.7
BRTR	Keskin Array B	143.96	320	PKP		PKPbc	22 35 39.5	-0.1
	comp=Z,9.7nm,0.8s,baz=88,slow=2.8,SNR=54							
BRTR	Keskin Array B	143.96	320			PKPdf	22 35 40.1	-0.8
JAVC	Velka Javorina	144.09	345	ePKP		PKPdf	22 35 40.8	+0.1
KRUC	Moravsky	144.21	346	ePKP		PKPdf	22 35 40.0	-0.9
KHC	Kasperske Hory	144.74	349	ePKP		PKPdf	22 35 41.4	-0.4
KHC	Kasperske Hory	144.74	349			PKPdf	22 35 41.8	-0.1
GERES	GERESS Array B	144.99	349	PKPbc		PKPbc	22 35 42.1	-0.3
	comp=Z,1.3nm,0.8s,baz=34,slow=5.0,SNR=10							
GERES	GERESS Array B	144.99	349			PKPab	22 35 42.6	-0.1
CONA	Conrad Observa	145.40	346	ePKPab		PKPab	22 35 44.5	+0.2
	comp=Z,3.6nm,0.8s							
MOA	Molln	145.83	348	ePKPab		PKPab	22 35 45.0	-0.8
	comp=Z,1.4nm,0.5s							
WTTA	Wattenberg	146.88	350	ePKPab		PKPbc	22 35 48.2	+0.1
	comp=Z,5.3nm,0.7s							
MOTA	Moosalm	146.88	351	ePKPab		PKPbc	22 35 48.4	+0.3
	comp=Z,3.1nm,0.9s							
OBKA	Obir	147.04	346	ePKPbc		PKPbc	22 35 47.9	-0.5
	comp=Z,6.3nm,1.2s							
MYKA	Terra Mystica	147.12	348	*i* PKPbc		PKPbc	22 35 48.0	-0.6
	comp=Z,6.9nm,1.0s							
FUORN	Ofenpass-Fuorn	147.71	352			PKPbc	22 35 50.0	-0.4
BNI	Bardonecchia	149.63	356			PKPbc	22 35 54.8	-0.3

*ISN **31** 22:43:33.3±1.4, 32.°64N×47.°68E, h30km±24km, ML2.9*
*TEH **31** 22:43:34.3, 32.°65N×47.°46E, h18km, ML3.0*
ISC 31 22:43:34.7±1.1, **32.°60N**±0.°04×**47.°34E**±0.°04, **h17**km±9km, **n27**, σ0°**83**/29, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	Dehloran	0.09	326	*e*Pg	Pg	22 43 38.4	+0.1
SHGR	Shooshtar-Gavs	1.33	111	*e*Pg	Pb	22 43 59.6	+0.4
IKOM	Komasi	1.57	5	*e*		22 44 06.1	
IKOM				*e*Pg	Pb	22 44 02.8	-0.7
BMDN	Meydan	1.64	49	*e*Pg	Pn	22 44 02.1	-0.8
BMDN				*e*		22 44 26.6	
AHWZ	Ahwaz	1.68	139	*e*Pg	Pb	22 44 04.8	-0.4
KCHF	Cheshme Sefid,	1.69	351	*e*		22 44 30.7	
KCHF				*e*Pg	Pb	22 44 05.2	-0.2
KER	Kermanshah	1.79	354	*e*Pg	Pb	22 44 07.6	+0.5
IGHG	Ghaleghazi	1.84	340	*e*		22 44 45.8	
IGHG				*e*Pn	Pb	22 44 07.2	-0.8
NSR	Nassriya	1.89	213	*e*Pn	Pn	22 44 07.0	+0.9
NSR				*e*Sn	Sb	22 44 33.0	+1.0
NSR				AML	AML	22 44 45.4	
	comp=E,126nm,0.5s						
IBZA	Bozab	1.91	13	*e*		22 44 42.9	
IBZA				*e*Pg	Pn	22 44 07.7	+1.0
HSAM	Samen	1.92	33	*e*Pg	Pn	22 44 07.5	+0.7
IVIS	Veis	1.96	348	*e*		22 44 42.0	
IVIS				*e*Pn	Pb	22 44 09.4	-0.6
IDHR	Dehrash	2.24	339	*e*Pn	Pn	22 44 11.5	+0.3
IDHR				*e*		22 44 53.2	
ILIN	Lien	2.33	352	*e*Pn	Pn	22 44 14.5	+2.0
ILIN				*e*		22 44 53.4	
IALM	Almabolaq	2.35	17	*e*Pn	Pn	22 44 13.9	+1.1
KHMZ	Khomeyn	2.47	62	*e*Pn	Pn	22 44 15.0	+0.7
SNGE	Sanandaj	2.48	0	*e*Pn	Pn	22 44 15.6	+1.1
BHD	Baghdad	2.58	286	*e*Pn	Pb	22 44 19.0	-1.5
	baz=102						
BHD				*e*Sn	Sb	22 44 51.0	-0.9
BHD				AML	AML	22 45 19.7	
	comp=E,80nm,0.1s						
HAGD	Aghdareh	2.67	34	*e*Pn	Pn	22 44 17.2	0.0
HAGD				*e*		22 45 04.7	
HSRG	Sareghieh	2.75	16	*e*Pn	Pn	22 44 18.1	-0.1
JHBN	Jahan bin	2.83	97	*e*Pn	Pn	22 44 18.8	-0.7
JHBN				*e*		22 45 08.9	
ASAO	Ashtian	2.96	48	*e*Pn	Pn	22 44 22.0	+0.8
IPIR	Pirpir	3.00	88	*e*Pn	Pn	22 44 21.4	-0.3
IPIR				*e*		22 45 03.0	
QABG	Abgarm-Qazvin	3.61	30	*e*Pn	Pn	22 44 29.7	-0.4
IKLH	Kolahrood	3.63	78	*e*Pn	Pn	22 44 30.3	-0.1
IKLH				*e*		22 51 56.5	
GHVR	GHOM	3.79	59	*e*Pn	Pn	22 44 32.6	+0.2
KLNJ	Kolanjah	3.95	113	*e*Pn	Pn	22 44 34.6	-0.2
KLNJ				*e*		22 46 01.9	

IDC 31 22:45:35.5±4.0, **17.°38S**×**175.°16W**, **h174**km±35km, **mb3.8/3, mb1 3.8/4, mb1mx3.3/30, mbtmp4.2/4, Error ellipse: s-maj=170.9km s-min=27.8km az=143.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	4.74	44	P	Pn	22 46 46.2	0.0
	5.2nm,0.3s,baz=75,slow=23,SNR=1.7						
AFI				S	Sn	22 47 37.1	-4.3
	23nm,0.3s,baz=202,slow=21,SNR=8.3						
STKA	Stephens Creek	41.60	241	P	P	22 53 06.3	-0.3
	1.8nm,0.9s,baz=102,slow=14,SNR=2.8						
WRA	Warramunga Arr	47.77	259	P	P	22 53 55.5	-0.2
	0.6nm,0.3s,baz=94,slow=6.6,SNR=33						
ASAR	Alice Springs	47.91	254	P	P	22 53 56.7	0.0
	9.1nm,0.6s,baz=88,slow=8.7,SNR=117						
BRTR	Keskin Array B	146.54	318	PKPbc	PKPdf	23 04 56.0	+0.8
	0.4nm,0.7s,baz=66,slow=3.5,SNR=2.8						
GERES	GERESS Array B	147.79	349	PKPbc	PKPbc	23 04 59.4	-0.6
	0.2nm,0.5s,baz=351,slow=2.5,SNR=1.6						

*IDC **31** 23:00:53.2±1.3, 9.°46S×113.°68E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/33, mbtmp3.9/7, ML4.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/40, Error ellipse: s-maj=53.4km s-min=18.7km az=52.0*
*NEIC **31** 23:00:59.9±1.7, 9.°53S±0.°07×114.°00E±0.°07, h58km±9km, mb4.0/13, Error ellipse: s-maj=11.2km s-min=9.0km az=61.0*
*DJA **31** 23:01:00.7±0.8, 9.°3S±3.°×11.°4E±.°, h20km±7km, M4.3/11, mB5.1/1, mb4.5/2, MLv4.3/11, Mw(mB)4.5/1*
ISC 31 23:00:58.4±0.6, **9.°54S**±0.°06×**113.°98E**±0.°05, **h31**km, **n44, σ1°89/44, mb4.0/10, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	Jajag, Banyuwa	1.08	9	P	Pn	23 01 18.2	+0.8
JAGI				S	Sn	23 01 32.1	+0.8
JAGI	Jajag, Banyuwa	1.08	9	Pn	Pn	23 01 18.2	+0.8
GMJI	Gumukmas	1.37	337	P	Pn	23 01 22.8	+1.5
GMJI				S	Sn	23 01 39.1	+0.7
KMMI	Kalianget	2.48	360	P	Pn	23 01 40.1	+3.5
KMMI				S	Sn	23 02 09.0	+3.2
TWSI	Taliwang, Sumb	2.98	75	P	Pn	23 01 46.0	+2.5
TWSI				S	Sn	23 02 21.4	+3.2
GRJI	Gresik	3.00	330	P	Pn	23 01 46.9	+3.1
GRJI				S	Sn	23 02 21.4	+2.6
UGM	Wanagama	3.78	295	P	Pn	23 01 57.2	+2.6
UGM	Wanagama	3.78	295	Pn	Pn	23 01 56.9	+2.3
PLAI	Plampang	3.82	80	P	Pn	23 01 58.2	+3.1
SMRI	Semarang	4.29	305	Pn	Pn	23 02 02.1	+0.6
CMJI	Cimerak	5.74	287	P	Pn	23 02 24.7	+3.2
	0.2nm34nm,1.2s						
WSI	Waingapu	6.24	92	P	Pn	23 02 17.9	-10
CISI	Cisompet, Garu	6.41	287	P	Pn	23 02 33.7	+3.0
CISI	Cisompet, Garu	6.41	287	Pn	Pn	23 02 31.6	+0.9
KAPI	Kappang	7.28	52	Pn	Pn	23 02 43.6	+0.9
	3.7nm,0.3s,baz=127,slow=18,SNR=4.5						
KAPI				Sn	Sn	23 04 03.1	-1.4
	2.4nm,0.3s,baz=107,slow=19,SNR=1.7						
XMIS	Christmas Isla	8.25	263	Pn	Pn	23 02 57.0	+0.9
SOEI	Soe	10.15	92	Pn	Pn	23 03 23.0	+0.8
KSM	Kuching	11.54	341	Pn	Pn	23 03 40.8	-0.3
MNAI	Manna	12.09	294	Pn	Pn	23 03 49.6	+1.0
GIRL	Giralia	13.03	179	Pn	Pn	23 04 01.3	-0.1
PSA00	Pilbara Seismi	13.23	155	Pn	Pn	23 04 04.3	+0.1
KNRA	Kununurra	15.66	114	Pn	Pn	23 04 36.3	-0.7
KNRA				IAmb	IAmb	23 04 46.7	
	comp=Z,6.8nm,0.9s						
FAKI	Fak Fak	19.31	71	P	P	23 05 19.7	-1.4
MORW	Morawa	19.52	175	P	P	23 05 23.9	+0.7
MORW				IAmb	IAmb	23 05 26.8	
	comp=Z,25nm,1.5s						
KULM	Kulim	19.84	317	P	P	23 05 26.2	-0.6
KULM				IAmb	IAmb	23 05 34.5	
	comp=Z,6.7nm,1.0s						
DAV	Davao City (W)	20.15	35	LR	LR	23 13 02.8	
	comp=Z,20nm,20.3s,baz=338,slow=36						
WB0	Warramunga Arr	22.19	120	P	P	23 05 53.5	+1.3
WB0				IAmb	IAmb	23 06 12.5	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	22.21	120	P	P	23 05 55.1	+2.6
	comp=Z,0.4nm,0.5s,baz=296,slow=12,SNR=10						
WB2	Warramunga Arr	22.23	120	P	P	23 05 54.4	+1.7
WB2				IAmb	IAmb	23 06 13.6	
	comp=Z,3.0nm,0.9s						
WR0	Warramunga Arr	22.39	120	P	P	23 05 55.3	+0.8
ASAR	Alice Springs	23.66	129	P	P	23 06 08.9	+1.6
	comp=Z,1.0nm,0.5s,baz=301,slow=9.1,SNR=20						
ASAR				PcP	PcP	23 09 52.2	+0.7
	comp=Z,0.2nm,0.3s,baz=310,slow=1.9,SNR=2.5						
COEN	Coen	28.91	102	P	P	23 06 49.1	-5.8
COEN				IAmb	IAmb	23 07 02.8	
	comp=Z,3.5nm,0.8s						
STKA	Stephens Creek	33.89	135	P	P	23 07 40.0	+1.5
	comp=Z,1.4nm,0.6s,baz=307,slow=11,SNR=3.1						
STKA	Stephens Creek	33.89	135	P	P	23 07 37.2	-1.4
H08S2	Diego Garcia H	41.04	269	T	T	23 52 08.6	
	baz=94,slow=76						
H08S3	Diego Garcia H	41.05	269	T	T	23 52 10.8	
	baz=94						
H08S1	Diego Garcia H	41.06	269	T	T	23 52 10.6	
	baz=94,slow=76						
SONM	Songino Array	57.52	354	P	P	23 10 43.5	-1.4
	comp=Z,0.7nm,0.5s,baz=179,slow=7.7,SNR=7.0						
SONM	Songino Array	57.52	354	IAmb	IAmb	23 10 45.6	
	comp=Z,0.8nm,1.0s						
MK31	Makanchi Array	62.81	336	P	P	23 11 19.9	-1.1
MK31				IAmb	IAmb	23 11 21.4	
	comp=Z,1.7nm,1.0s						
MKAR	Makanchi Array	62.81	336	P	P	23 11 19.7	-1.3
	comp=Z,0.9nm,0.5s,baz=150,slow=7.6,SNR=17						
ZALV	Zalesovo Beam	67.90	342	P	P	23 11 51.4	-2.3
	comp=Z,0.4nm,0.3s,baz=136,slow=4.8,SNR=2.1						
ABKAR	Akbulak array	75.22	327	P	P	23 12 36.9	-1.1
BOSA	Boshof	84.39	242	P	P	23 13 26.2	-2.2

*ISN **31** 23:03:51.6±0.3, 33.°63N×45.°46E, h0km, ML2.6*
*TEH **31** 23:03:52.2, 33.°66N×45.°49E, h10km, ML2.7*
ISC 31 23:03:53.2±1.2, **33.°6N**±0.°2×**45.°5E**±0.°1, **h13**km, **n7**, σ0°**55**/9, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHD	Baghdad	1.02	249	*e*Pg	Pn	23 04 13.0	-0.3
	baz=68						
BHD				*e*Sg	Sn	23 04 28.0	+0.5
BHD				AML	AML	23 04 39.0	
	comp=E,179nm,0.5s						
IGHG	Ghaleghazi	1.11	51	*e*Pg	Pb	23 04 14.0	-0.4
IGHG				*e*		23 04 17.3	
IDHR	Dehrash	1.28	34	*e*Pg	Pn	23 04 16.7	-0.3
IDHR				*e*Sg	Sg	23 04 35.5	+0.9
IDHR				*e*		23 04 37.6	
KCHF	Cheshme Sefid,	1.41	63	*e*Pg	Pb	23 04 19.7	+0.2
KCHF				*e*		23 04 41.4	
IVIS	Veis	1.41	51	*e*Pg	Pb	23 04 19.3	-0.2
IVIS				*e*		23 04 41.0	
KER	Kermanshah	1.53	60	*e*Pg	Pg	23 04 22.3	-0.3
KER				*e*		23 04 43.5	
IKOM	Komasi	1.74	71	*e*Pg	Pb	23 04 25.4	+0.3
IKOM				*e*		23 04 51.5	

*ISN **31** 23:08:07.2±1.6, 32.°78N×47.°47E, h26km±33km, ML2.8*
*TEH **31** 23:08:08.2, 32.°65N×47.°54E, h8km, ML2.9*
ISC 31 23:08:09.0±1.2, **32.°63N**±0.°04×**47.°44E**±0.°04, **h17**km±9km, **n24**, σ1°**97**/26, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHL1	Dehloran	0.14	291	*e*Pg	Pg	23 08 12.9	-0.1
IKOM	Komasi	1.54	2	*e*Pg	Pb	23 08 37.6	+0.4
IKOM				*e*		23 09 08.6	
BMDN	Meydan	1.56	48	*e*Pg	Pn	23 08 36.3	+0.1
BMDN				*e*		23 09 01.1	
AHWZ	Ahwaz	1.66	141	*e*Pg	Pb	23 08 39.3	+0.2
KCHF	Cheshme Sefid,	1.67	349	*e*Pn	Pb	23 08 39.1	-0.4
KCHF				*e*		23 09 05.2	
KER	Kermanshah	1.77	352	*e*Pg	Pg	23 08 41.9	-1.2
IGHG	Ghaleghazi	1.84	337	*e*Pn	Pb	23 08 42.8	+0.4
IGHG				*e*		23 09 20.1	
HSAM	Samen	1.85	31	*e*Pg	Pb	23 08 41.5	-1.2
IBZA	Bozab	1.87	11	*e*Pg	Pb	23 08 42.1	-0.8
IBZA				*e*		23 09 17.6	
IVIS	Veis	1.95	346	*e*Pn	Pb	23 08 44.5	+0.3
IVIS				*e*		23 09 16.3	
NSR	Nassriya	1.96	215	*e*Pg	Pb	23 08 44.0	-0.2
NSR				*e*Sg	Sb	23 09 09.0	+0.7
IDHR	Dehrash	2.24	337	*e*Pn	Pn	23 08 47.5	+1.9
IDHR				*e*		23 09 23.8	
IALM	Almabolaq	2.31	15	*e*Pn	Pn	23 08 48.0	+1.5
KHMZ	Khomeyn	2.39	62	*e*Pn	Pn	23 08 49.0	+1.4
SNGE	Sanandaj	2.46	358	*e*Pn	Pn	23 08 49.2	+0.7
HAGD	Aghdareh	2.61	33	*e*Pn	Pn	23 08 52.2	+1.6
HAGD				*e*		23 09 32.8	
BHD	Baghdad	2.65	285	*e*Pn	Pn	23 08 51.0	+0.1
	baz=100						
BHD				*e*Sn	Sn	23 09 21.0	-1.6
BHD				AML	AML	23 09 54.4	
	comp=E,61nm,0.4s						
HSRG	Sareghieh	2.70	15	*e*Pn	Pn	23 08 53.6	+1.7
HSRG				*e*		23 09 40.5	
JHBN	Jahan bin	2.76	97	*e*Pn	Pn	23 08 53.4	+0.6
JHBN				*e*		23 09 43.8	
ASAO	Ashtian	2.89	48	*e*Pn	Pn	23 08 55.9	+1.4
IPIR	Pirpir	2.92	88	*e*Pn	Pn	23 08 55.9	+0.9
IPIR				*e*		23 09 36.4	
ROKH	ROKH	3.06	94	*e*Pn	Pn	23 08 56.9	+0.1
IKLH	Kolahrood	3.55	78	*e*Pn	Pn	23 09 04.7	+1.1
IKLH				*e*		23 10 05.2	
KLNJ	Kolanjah	3.89	113	*e*Pn	Pn	23 09 08.9	+0.5
KLNJ				*e*		23 10 45.3	

TRN 31 23:32:52.5, 16.°38N×**61.°69W, h139**km, **MD3.6, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABD	La Joyeuse, An	0.22	65	*e*P	Pn	23 33 12.7	+1.2
ABD				*e*S	Sn	23 33 27.3	+1.3
CBE	Ff, Capester	0.32	165	*e*P	Pn	23 33 13.0	+1.0
CBE				*e*S	Sn	23 33 28.2	+1.5
TBG	Guadaloupe-3	0.53	175	*e*P	Pn	23 33 14.3	+1.4
TBG				*e*S	Sn	23 33 30.5	+2.2
TDBA	Terre de Bas,	0.53	174	*e*P	Pn	23 33 15.0	+2.1
TDBA				*e*S	Sn	23 33 29.4	+1.0
MAGL	Barre de l'ile	0.58	137	*e*P	Pn	23 33 14.6	+1.4
MAGL				*e*S	Sn	23 33 29.7	+0.8
MLYT	Lee's Yard	0.58	305	*e*S	Sn	23 33 29.0	+0.1
DSLB	Salisbury	0.97	164	*e*P	Pn	23 33 16.9	+0.8
ANWB	Willy Bob	1.28	356	*e*P	Pn	23 33 20.7	+1.7
ANWB				*e*S	Sn	23 33 40.6	+1.3
MPOM	Morne Pois Mar	2.09	157	*e*P	Pn	23 33 28.3	+0.2
MPOM				*e*S	Sn	23 33 55.3	-0.1

*IDC **31** 23:36:38.5±0.9, 50.°37N×174.°43W, h0km, mb4.0/20, mb1 4.3/21, mb1mx4.1/56, mbtmp4.1/21, ML3.7/1, MS3.3/4, Ms1 3.3/4, ms1mx2.7/47, Error ellipse: s-maj=26.6km s-min=13.6km az=4.0*
*MOS **31** 23:36:40.1±1.0, 50.°36N×174.°41W, h23km, mb4.6/16, Error ell

PETK **Petropavlovsk-** 17.41 290 P **P** 23 40 44.5 -0.1
PETK **Petropavlovsk-** 17.41 290 P **P** 23 40 44.5 -0.1
KNK **Knik Glacier** 18.13 43 **Pn** 23 40 51.4 -0.7
KTH **Kantishna Hill** 18.23 35 **P** 23 40 53.2 -0.4
KTH IAmb IAmb 23 40 57.3
comp=Z,17nm,1.1s
BPAW **Bear Paw Mtn.** 18.53 33 P **Pn** 23 40 56.5 -0.5
HIN **Hinchinbrook I** 18.61 47 P **P** 23 40 56.2 -1.6
HIN IAmb IAmb 23 41 06.9
comp=Z,28nm,1.2s
IMAR **Indian Mountai** 18.89 27 P **Pn** 23 41 00.9 -0.4
KLU **Klutina** 19.27 44 P **P** 23 41 04.7 -0.4
KAIM **Kayak Island** 19.46 49 P **Pn** 23 41 09.3 +1.1
RAGM **Ragged Mountai** 19.47 48 P **Pn** 23 41 08.6 +0.3
RAGM IAmb IAmb 23 41 11.9
comp=Z,22nm,1.0s
HMT **Hamilton** 19.65 48 P **Pn** 23 41 10.0 -0.5
WRH **Wood River Hil** 19.78 35 P **Pn** 23 41 10.9 -1.1
MDM **Murphy Dome** 20.00 33 P **Pn** 23 41 14.1 -0.5
HDA **Harding Lake** 20.17 36 P Pn 23 41 15.8 -0.8
GLB **Gilahina Butte** 20.20 45 P **P** 23 41 15.2 0.0
VRDI **Verde Repeater** 20.30 46 P **P** 23 41 16.8 +0.4
ILAR **Eielson Array** 20.38 35 P **P** 23 41 14.8 -2.2
comp=Z,2.0nm,0.5s,baz=234,slow=10,SNR=9.2
ILAR LR LR 23 48 42.0
comp=Z,36nm,19.6s,baz=228,slow=36
ILAR **Eielson Array** 20.38 35 P **P** 23 41 17.4 +0.4
ILAR **Eielson Array** 20.38 35 P **P** 23 41 17.4 +0.4
ISLE **Juniper Island** 20.64 48 P Pn 23 41 21.7 -0.6
ISLE IAmb IAmb 23 41 30.7
comp=Z,22nm,1.2s
COLD **Coldfoot** 20.78 27 P Pn 23 41 22.4 -1.4
DOT **Dot Lake** 20.93 39 P Pn 23 41 24.1 -1.5
DOT IAmb IAmb 23 41 28.1
comp=Z,16nm,0.7s
BARN **Barnard Glacie** 21.08 47 P **P** 23 41 25.2 +0.4
BARN IAmb IAmb 23 41 29.6
comp=Z,7.4nm,0.8s
TABL **Table Mountain** 21.17 49 P **P** 23 41 25.8 0.0
TABL IAmb IAmb 23 41 29.8
comp=Z,20nm,1.0s
CTGM **Chitina Glacie** 21.21 47 P **P** 23 41 27.4 +1.2
CTGM IAmb IAmb 23 41 39.7
comp=Z,11nm,0.9s
BCAR **Beaver Creek A** 21.65 42 P **P** 23 41 32.4 +1.6
BCPM **Bancas Point** 21.81 51 P **P** 23 41 33.4 +0.9
SEY **Seymchan** 21.82 318 P **P** 23 41 32.9 +0.4
comp=Z,4.5nm,0.7s,baz=93,slow=8.8,SNR=6.6
SEY LR LR 23 51 19.5
comp=Z,56nm,18.4s,baz=135,slow=40
SEY **Seymchan** 21.82 318 *i* P **P** 23 41 30.9 -1.6
TOLK **Toolik Lake Re** 21.92 24 P **P** 23 41 32.9 -0.8
TOLK IAmb IAmb 23 41 34.4
comp=Z,16nm,1.1s
EGAK **Eagle** 22.55 38 P **P** 23 41 39.8 -0.6
EGAK IAmb IAmb 23 41 55.8
comp=Z,9.5nm,0.8s
BMAR **Burnt Mountain** 22.62 30 P **P** 23 41 42.9 +1.8
HYT **Haines Junctio** 23.01 49 P **P** 23 41 45.4 +0.1
HYT IAmb IAmb 23 41 47.5
comp=Z,9.0nm,0.8s
SKAG **Skagway** 23.91 53 P **P** 23 41 54.4 +0.3
DLBC **Dease Lake** 26.63 55 P **P** 23 42 19.0 +0.1
comp=Z,1.2nm,0.6s,baz=333,slow=12,SNR=5.6
DLBC **Dease Lake** 26.63 55 P **P** 23 42 20.1 +1.1
DLBC IAmb IAmb 23 42 24.3
comp=Z,5.3nm,0.9s
INK **Inuvik** 26.73 33 P **P** 23 42 20.0 +0.3
comp=Z,2.4nm,0.7s,baz=193,slow=4.9,SNR=7.0
YKA **Yellowknife Ar** 33.92 46 P **P** 23 43 24.3 +1.0
comp=Z,1.9nm,0.9s,baz=284,slow=9.1,SNR=6.0
YKA LR LR 23 58 29.3
comp=Z,64nm,18.2s,baz=0.0,slow=39
KLR **Kul'dur** 34.10 289 *ce* P **P** 23 43 23.9 -1.1
KLR pmax pmax
comp=Z,3.0nm,1.1s
ZEA **Zeya** 35.13 299 *e* P **P** 23 43 33.2 -0.6
ZEA pmax pmax
comp=Z,17nm,1.0s
PINE **Pine Mountain** 36.34 79 P **P** 23 43 44.5 -0.1
PINE IAmb IAmb 23 43 46.7
comp=Z,6.4nm,1.1s
K05A **Summer Lake** 36.91 81 P **P** 23 43 49.7 +0.2
K05A IAmb IAmb 23 43 51.5
comp=Z,6.8nm,0.9s
F10A **Beach Ranch, E** 37.59 74 IAmb IAmb 23 43 52.5
comp=Z,7.9nm,1.1s
MOD **Modoc Plateau** 37.71 82 P **P** 23 43 54.5 -1.7
MOD IAmb IAmb 23 43 57.9
comp=Z,2.9nm,0.8s
GDXM **Geysers** 37.83 87 P **P** 23 43 56.3 -0.9
GDXM IAmb IAmb 23 44 02.2
comp=Z,8.5nm,1.1s
J08A **Circle Bar Ran** 38.10 78 P **P** 23 43 58.6 -0.9
J08A IAmb IAmb 23 44 00.3
comp=Z,3.5nm,0.9s
WVOR **Wild Horse Val** 38.48 80 P **P** 23 44 02.4 -0.3
WVOR pmax pmax
comp=Z,4.0nm,0.8s
WVOR **Wild Horse Val** 38.48 80 P **P** 23 44 02.4 -0.3
WVOR IAmb IAmb 23 44 04.0
comp=Z,4.0nm,0.8s
PAHR **Pah Rah Range** 39.50 84 P **P** 23 44 10.8 -0.5
PAHR IAmb IAmb 23 44 12.5
comp=Z,5.7nm,1.0s
PNTR **Pine Nut** 39.71 85 P **P** 23 44 11.7 -1.4
PNTR IAmb IAmb 23 44 29.3
comp=Z,6.2nm,0.8s
MFID **Camas Ranch** 39.73 77 P **P** 23 44 12.1 -1.0
WAKR **Walker** 40.15 85 P **P** 23 44 16.7 -0.1
WAKR IAmb IAmb 23 44 18.8
comp=Z,5.8nm,1.1s
HLID **Hailey** 40.53 76 P **P** 23 44 20.1 +0.2
RYN **Ryan** 40.66 85 P **P** 23 44 20.5 -0.4
KVN **Kaiserville** 40.69 84 P **P** 23 44 20.7 -0.5
KVN pmax pmax
comp=Z,3.0nm,1.0s
KVN **Kaiserville** 40.69 84 P **P** 23 44 20.7 -0.5
MCMT **McKenzie Canyo** 40.84 73 P **P** 23 44 22.0 -0.5
NVAR **Mina Array Bea** 40.92 85 P **P** 23 44 23.2 +0.1
comp=Z,1.9nm,0.9s,baz=290,slow=9.2,SNR=8.4
NVAR **Mina Array Bea** 40.92 85 P **P** 23 44 22.4 -0.7
OMMB **Old Mammoth Mi** 40.95 86 P **P** 23 44 23.3 -0.2
OMMB IAmb IAmb 23 44 25.7
comp=Z,4.6nm,1.1s
NV11 **Mina Array Sit** 41.01 85 P **P** 23 44 22.3 -1.5
HIA **Hailar** 41.20 295 *i* P **P** 23 44 22.9 -2.2
HIA pmax pmax
comp=Z,6.0nm,0.9s
KSRS **Korea Array** 42.44 275 P **P** 23 44 35.9 +0.7
comp=Z,0.7nm,0.5s,baz=57,slow=8.6,SNR=2.1
R11A **Troy Canyon, C** 42.69 83 P **P** 23 44 37.7 +0.1
BGU **Big Grassy Mou** 42.83 78 P **P** 23 44 38.4 -0.2
AHID **Auburn Hatcher** 43.01 75 P **P** 23 44 40.4 +0.3
AHID IAmb IAmb 23 44 40.9
comp=Z,5.5nm,1.1s
TPNV **Topopah Spring** 43.11 85 P **P** 23 44 40.4 -0.5
TPNV pmax pmax
comp=Z,4.0nm,0.9s
TPNV **Topopah Spring** 43.11 85 P **P** 23 44 40.4 -0.5
TPNV IAmb IAmb 23 44 43.9
comp=Z,4.0nm,0.9s
HWUT **Hardware Ranch** 43.36 76 P **P** 23 44 41.9 -1.0
DUG **Dugway, Tooele** 43.38 79 P **P** 23 44 42.1 -1.0
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG **Dugway, Tooele** 43.38 79 P **P** 23 44 42.1 -1.0
DUG IAmb IAmb 23 44 44.6
comp=Z,4.0nm,0.9s
PRN **Pahroc Range** 43.59 84 P **P** 23 44 44.6 -0.2
PSUT **Pine Spring** 43.68 82 P **P** 23 44 45.7 0.0
PDAR **Pinedale Array** 43.96 74 P **P** 23 44 47.1 -0.7
comp=Z,1.4nm,0.8s,baz=312,slow=4.1,SNR=12
PDAR **Pinedale Array** 43.96 74 P **P** 23 44 46.9 -0.9
JLU **Jordanelle** 44.00 78 P **P** 23 44 47.2 -0.9
MSU **Marysvale** 44.76 80 P **P** 23 44 53.6 -0.6
MSU **Marysvale** 44.76 80 P **P** 23 44 53.6 -0.6
LCMT **Little Creek M** 44.98 83 P **P** 23 44 54.6 -1.4
PFO **Pinyon Flats O** 45.05 89 P **P** 23 44 53.9 -2.6
PFO pmax pmax
comp=Z,3.0nm,0.8s
PFO **Pinyon Flats O** 45.05 89 P **P** 23 44 53.9 -2.6
PFO IAmb IAmb 23 44 56.7
comp=Z,2.6nm,0.8s

Q16A **Castle Valley** 45.15 79 P **P** 23 44 56.9 -0.5
RDMU **Red Mountain** 45.19 76 P **P** 23 44 57.2 -0.5
SRU **San Rafael Swe** 45.44 79 P **P** 23 44 59.9 +0.3
SRU pmax pmax
comp=Z,4.0nm,0.7s
SRU **San Rafael Swe** 45.44 79 P **P** 23 44 59.9 +0.3
U15A **North Rim** 45.94 83 P **P** 23 45 03.6 -0.2
U15A IAmb IAmb 23 45 04.8
comp=Z,4.0nm,0.8s
NRIK **Noril'sk** 46.62 331 P **P** 23 45 07.3 -1.0
comp=Z,1.7nm,0.6s,baz=67,slow=7.6,SNR=4.2
NRIK **Noril'sk** 46.62 331 *i* P **P** 23 45 06.9 -1.4
NRIK pmax pmax
comp=Z,3.0nm,1.0s
PV23 **Carpenter Ridg** 46.78 78 P **P** 23 45 09.6 -0.8
PV23 IAmb IAmb 23 45 10.1
comp=Z,3.7nm,0.8s
PV22 **Blue Mesa, Par** 46.87 78 P **P** 23 45 09.8 -1.1
PV22 IAmb IAmb 23 45 11.1
comp=Z,3.2nm,0.8s
PV04 **Paradox Valley** 46.89 78 P **P** 23 45 10.1 -0.9
PV16 **Nyswonger Mesa** 46.93 79 P **P** 23 45 09.3 -2.1
PV16 IAmb IAmb 23 45 11.6
comp=Z,3.9nm,0.9s
PV11 **David Mesa, Pa** 46.96 79 P **P** 23 45 10.2 -1.4
PV18 **Skein Mesa, Pa** 46.97 79 P **P** 23 45 10.9 -0.8
PV03 **Paradox Valley** 47.01 79 P **P** 23 45 10.6 -1.4
PV07 **Paradox Valley** 47.02 78 P **P** 23 45 09.3 -2.8
PV13 **Radium Mtn., P** 47.08 79 P **P** 23 45 11.8 -0.8
WUAZ **Wupatki** 47.09 83 P **P** 23 45 10.4 -2.2
WUAZ IAmb IAmb 23 45 13.5
comp=Z,3.2nm,0.8s
PV02 **Paradox Valley** 47.10 79 P **P** 23 45 12.1 -0.7
PV01 **Paradox Valley** 47.25 79 P **P** 23 45 13.1 -0.8
MVCO **Mesa Verde** 47.86 79 P **P** 23 45 18.3 -0.4
MVCO IAmb IAmb 23 45 22.8
comp=Z,3.6nm,0.9s
S22A **4UR Ranch, Cre** 48.58 78 P **P** 23 45 25.0 +0.7
S22A IAmb IAmb 23 45 25.5
comp=Z,2.8nm,0.9s
ULN **Ulaanbaatar** 49.16 299 *ce* P **P** 23 45 28.9 +0.5
ULN pmax pmax
comp=Z,4.0nm,1.3s
SONM **Songino Array** 49.54 300 P **P** 23 45 31.8 +0.4
comp=Z,1.5nm,0.8s,baz=44,slow=8.9,SNR=10
SONM **Songino Array** 49.54 300 P **P** 23 45 32.0 +0.7
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM **Songino Array** 49.54 300 P **P** 23 45 32.0 +0.7
ZAK **Zakamensk** 49.80 304 *e* P **P** 23 45 33.8 +0.5
ZAK pmax pmax
comp=Z,6.0nm,1.2s
T25A **Trinidad** 50.47 77 P **P** 23 45 38.6 0.0
ANMO **Albuquerque** 50.57 80 *ce* P **P** 23 45 37.3 -2.1
ANMO pmax pmax
comp=Z,2.0nm,1.3s
HHC **Hu-ho-hao-te** 50.61 289 *e* P **P** 23 45 39.8 +0.3
HHC pmax pmax
comp=Z,14nm,1.2s
HHC pmax pmax
comp=Z,58nm,6.0s
MNTX **Cornudas Mount** 53.37 83 P **P** 23 45 59.5 -0.5
MNTX IAmb IAmb 23 46 00.1
comp=Z,2.1nm,0.9s
TX31 **Lajitas Ar. Si** 56.05 84 P **P** 23 46 17.9 -1.8
TX32 **Lajitas Array** 56.05 84 P **P** 23 46 18.0 -1.6
TX32 IAmb IAmb 23 46 19.8
comp=Z,2.6nm,0.9s
TXAR **Lajitas Array** 56.05 84 P **P** 23 46 18.4 -1.2
comp=Z,1.6nm,0.8s,baz=295,slow=4.7,SNR=23
TXAR PcP **PcP** 23 47 16.8 -1.1
comp=Z,0.5nm,0.9s,baz=326,slow=4.4,SNR=1.9
TXAR **Lajitas Array** 56.05 84 P **P** 23 46 18.2 -1.4
TXAR **Lajitas Array** 56.05 84 P **P** 23 46 18.2 -1.4
ZALV **Zalesovo Beam** 56.68 316 P **P** 23 46 22.9 -0.7
comp=Z,0.8nm,0.5s,baz=38,slow=7.5,SNR=5.5
ZALV **Zalesovo Beam** 56.68 316 *i* P **P** 23 46 23.3 -0.3
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV **Zalesovo Beam** 56.68 316 P **P** 23 46 23.4 -0.2
DGZ **Jazzator, Alta** 58.28 311 *i* P **P** 23 46 34.0 -1.3
DGZ pmax pmax
comp=Z,4.0nm,1.1s
ARCES **ARCESS Array B** 59.49 352 P **P** 23 46 42.8 -0.4
comp=Z,1.9nm,0.6s,baz=18,slow=7.0,SNR=13
ORIO **Orleans, Innes** 61.59 52 P **P** 23 47 00.9 +3.1
ORIO IAmb IAmb 23 47 01.8
comp=Z,1.9nm,1.0s
KURK **Kurchatov** 61.66 316 P **P** 23 46 58.4 +0.2
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURK **Kurchatov** 61.66 316 P **P** 23 46 58.4 +0.2
WMQ **Urumqi** 62.17 306 *e* P **P** 23 47 02.8 +1.0
MK31 **Makanchi Array** 62.78 311 P **P** 23 47 05.5 -0.3
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MK31 **Makanchi Array** 62.78 311 P **P** 23 47 05.5 -0.3
MK31 IAmb IAmb 23 47 06.4
comp=Z,1.6nm,0.8s
MKAR **Makanchi Array** 62.78 311 P **P** 23 47 05.5 -0.3
comp=Z,1.1nm,0.6s,baz=53,slow=6.9,SNR=10
MKAR **Makanchi Array** 62.78 311 P **P** 23 47 05.3 -0.5
MAKZ **Makanchi** 62.92 311 P **P** 23 47 05.0 -1.7
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
MAKZ **Makanchi** 62.92 311 P **P** 23 47 05.0 -1.7
BRVK **Borovoye** 63.40 322 *ce* P **P** 23 47 09.6 -0.2
BRVK pmax pmax
comp=Z,11nm,1.7s
BRVK **Borovoye** 63.40 322 P **P** 23 47 10.4 +0.7
PRGR **Permogore** 63.81 340 *e* P **P** 23 47 11.7 -0.6
PRGR pmax pmax
comp=Z,16nm,0.8s
SVE **Sverdlovsk** 63.86 330 *e* P **P** 23 47 14.1 +1.3
SVE pmax pmax
comp=Z,11nm,1.4s
ARU **Arti** 64.85 331 *d i* P **P** 23 47 18.8 -0.4
ARU *PP **pwP** 23 47 28.7 +0.6
ARU 23 47 50.1
ARU 23 49 46.8
ARU S **S** 23 56 01.3 +1.2
ARU SS **SS** 00 00 18.4 +8.0
ARU pmax pmax
comp=Z,8.0nm,0.8s
KLMR **Klimovskoe** 65.78 343 *e* P **P** 23 47 24.3 -0.9
KLMR pmax pmax
comp=Z,13nm,1.3s
KLMR **Klimovskoe** 65.78 343 *e* P **P** 23 47 24.3 -0.9
KLMR AMP 23 47 25.9
comp=Z,13nm,1.3s
FINES **FINESS Array B** 67.30 349 P **P** 23 47 34.7 -0.2
comp=Z,3.0nm,0.7s,baz=30,slow=12,SNR=12
NB2 **NORSAR Subarra** 68.82 357 P **P** 23 47 45.1 +0.6
comp=Z,1.4nm,0.7s,baz=4.0,slow=6.5
NOA **NORSAR Array B** 68.82 357 P **P** 23 47 44.8 +0.3
comp=Z,3.2nm,0.8s,baz=3.0,slow=6.3,SNR=10
USP **Ospennovka** 69.09 313 P **P** 23 47 47.5 +0.9
SNR=11
KZA **Kyzart** 69.65 312 P **P** 23 47 50.1 -0.3
SNR=10
UCH **Uchtor** 69.89 312 P **P** 23 47 52.9 +0.9
SNR=6.6
EKS2 **Erkin-Say** 69.90 313 P **P** 23 47 52.6 +1.0
SNR=6.9
KONO **Kongsberg** 70.26 358 *ce* P **P** 23 47 53.8 +0.5
KONO pmax pmax
comp=Z,42nm,2.5s
ABKAR **Akbulak array** 70.34 326 P **P** 23 47 54.4 +0.3
AML **Almayashu** 70.35 313 P **P** 23 47 55.1 +0.4
SNR=13
KK31 **Karatay Array** 71.05 315 P **P** 23 47 58.9 +0.4
KK31 pmax pmax
comp=Z,3.0nm,1.0s
KK31 **Karatay Array** 71.05 315 P **P** 23 47 58.9 +0.4
KK31 IAmb IAmb 23 47 59.7
comp=Z,3.4nm,1.0s
KKAR **Karatay Array** 71.05 315 P **P** 23 47 58.5 0.0
KKAR **Karatay Array** 71.05 315 P **P** 23 47 58.5 0.0
KKAR **Karatay Array** 71.05 315 P **P** 23 47 58.6 +0.1
KKAR IAmb IAmb 23 47 59.7
comp=Z,3.4nm,1.0s
OBN **Obninsk** 71.71 342 ⇑ *i* P **P** 23 48 01.5 -0.7
OBN *PP **pwP** 23 48 12.0 +0.9
OBN 23 48 19.0
OBN pmax pmax
comp=Z,18nm,2.5s
OBN MLR MLR
comp=Z,58nm,17.0s
CMAR **Chiang Mai Arr** 73.88 279 P **P** 23 48 15.2 -0.5
comp=Z,0.6nm,0.4s,baz=23,slow=6.9,SNR=5.4
CMAR **Chiang Mai Arr** 73.88 279 *i* P **P** 23 48 15.1 -0.6
CMAR pmax pmax
comp=Z,1.0nm,0.7s
AKASG **Malin Array Be** 77.27 345 P **P** 23 48 33.9 -0.8
comp=Z,0.7nm,0.4s,baz=14,slow=5.8,SNR=6.4
AKASG **Malin Array Be** 77.27 345 *i* P **P** 23 48 34.2 -0.4
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KHC **Kasperske Hory** 80.61 355 *ce* P **P** 23 48 52.9 -0.1
KHC pmax pmax
comp=Z,10.0nm,1.7s
BURAR **Bucovina Array** 80.90 347 P **P** 23 48 55.1 +0.4
BNI **Bardonecchia** 84.92 359 P **P** 23 49 16.9 +1.2
BNI pmax pmax
comp=Z,7.0nm,0.9s
BNI **Bardonecchia** 84.92 359 P **P** 23 49 16.9 +1.2
BRTR **Keskin Array B** 86.92 339 P **P** 23 49 25.1 -0.6
comp=Z,1.0nm,0.8s,baz=70,slow=2.4,SNR=5.7
ESDC **Sonseca Array** 89.91 7 P **P** 23 49 39.1 -0.6
comp=Z,0.4nm,0.8s,baz=355,slow=3.2,SNR=6.6
ESDC **Sonseca Array** 89.91 7 IAmb IAmb 23 49 40.1
comp=Z,1.0nm,0.7s
STKA **Stephens Creek** 90.68 216 LR LR 00 23 27.5
comp=Z,29nm,20.1s,baz=26,slow=31
MAW **Mawson** 147.37 217 PKPbc **PKPdf** 23 56 21.5 +1.1
comp=Z,4.1nm,1.0s,baz=68,slow=3.6,SNR=6.4
MAW **Mawson** 147.37 217 PKP2 **PKPbc** 23 56 22.4 -0.6
MAW **Mawson** 147.37 217 **PKPbc** 23 56 22.4 -0.6

*DJA **31** 23:37:08.5±0.3, 10°S±2°×11°E±°, h16km±2km, M4.8/42, mb4.9/42, mB5.3/14, MLv5.0/18, Mw(mB)4.7/14*
*NEIC **31** 23:37:09.5±2.1, 9°81S±0.05°×119°13E±0.05, h38km±7km, mb4.6/57, Error ellipse: s-maj=8.3km s-min=5.9km az=131.0*
*KLM **31** 23:37:11.0, 9°98S×119°11E, h43km, mb4.5*
*IDC **31** 23:37:12.0±1.9, 9°70S×119°24E, h57km±18km, mb4.1/20, mb1 4.2/23, mb1mx4.1/38, mbtmp4.4/23, ML4.7/4, MS3.6/16, Ms1 3.6/16, ms1mx3.3/45, Error ellipse: s-maj=14.9km s-min=9.5km az=61.0*

ISC 31 23:37:09.6±0.4, 9°84S±0°04×119°19E±0°03, h35km±2km, n161, σ1°58/162, mb4.6/49, MS3.6/11, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.28**	**45**	P	**Pn**	**23 37 16.6**	**-1.0**
WBSI				S	**Sn**	**23 37 21.0**	**-2.7**
WSI	**Waingapu**	**1.11**	**81**	P	**Pn**	**23 37 28.7**	**+0.1**
WSI				S	**Sn**	**23 37 43.4**	**+0.8**
BASI	**Baing, Sumba**	**1.42**	**105**	P	**Pn**	**23 37 33.5**	**+0.6**
BASI				S	**Sn**	**23 37 52.3**	**+2.0**
PLAI	**Plampang**	**1.72**	**306**	P	**Pn**	**23 37 37.8**	**+0.8**
PLAI				S	**Sn**	**23 38 00.1**	**+2.3**
TWSI	**Taliwang, Sumb**	**2.53**	**296**	P	**Pn**	**23 37 49.4**	**+1.3**
TWSI				S	**Sn**	**23 38 22.6**	**+4.9**
EDFI	**Ende, Flores**	**2.70**	**66**	P	**Pn**	**23 37 51.0**	**+0.4**
EDFI				S	**Sn**	**23 38 24.7**	**+2.6**
MMRI	**Maumere**	**3.24**	**69**	P	**Pn**	**23 38 00.4**	**+2.4**
MMRI				S	**Sn**	**23 38 38.5**	**+3.1**
MMRI	**Maumere**	**3.24**	**69**		**Pn**	**23 37 59.5**	**+1.5**
BATI	**Baumata**	**4.42**	**95**	P	**Pn**	**23 38 16.9**	**+2.6**
	104nm,0.3s,baz=286,slow=2.1,SNR=86						
BATI				S	**Sn**	**23 39 07.1**	**+2.5**
	72nm,0.3s,baz=351,slow=22,SNR=7.3						
BATI	**Baumata**	**4.42**	**95**	P	**Pn**	**23 38 16.9**	**+2.6**
BATI				S	**Sn**	**23 39 07.2**	**+2.6**
BKSI	**Bulukumba**	**4.59**	**12**	P	**Pn**	**23 38 18.0**	**+1.5**
KAPI	**Kappang**	**4.83**	**7**	P	**Pn**	**23 38 21.3**	**+1.4**
	18nm,0.3s,baz=167,slow=7.5,SNR=19						
KAPI				S	**Sn**	**23 39 13.2**	**-1.4**
	19nm,0.3s,baz=201,slow=22,SNR=3.6						
KAPI				LR	LR	23 40 30.6	
	comp=Z,812nm,19.7s,baz=178,slow=42						
SOEI	**Soe**	**5.01**	**89**	P	**Pn**	**23 38 25.2**	**+2.8**
	1.3nm3μm413nm,0.8s						
SOEI				S	**Sn**	**23 39 21.7**	**+2.6**
	1.3nm3μm413nm,0.8s						
SOEI	**Soe**	**5.01**	**89**	Pn	**Pn**	**23 38 25.0**	**+2.6**
JAGI	**Jajag, Banyuwa**	**5.16**	**285**	P	**Pn**	**23 38 24.6**	**+0.3**
	2.5nm5μm291nm,0.4s						
JAGI				S	**Sn**	**23 39 25.0**	**+2.4**
	2.5nm5μm291nm,0.4s						
JAGI	**Jajag, Banyuwa**	**5.16**	**285**	Pn	**Pn**	**23 38 24.6**	**+0.3**
BNSI	**Bone**	**5.49**	**10**	P	**Pn**	**23 38 32.1**	**+3.3**
	1.5nm3μm339nm,0.8s						
BNSI				S	**Sn**	**23 39 34.8**	**+4.1**
	1.5nm3μm339nm,0.8s						
SPSI	**Sidrap Palu**	**5.87**	**6**	P	**Pn**	**23 38 36.3**	**+2.2**
	0.6nm3μm145nm,0.7s						
GMJI	**Gumukmas**	**5.88**	**285**	P	**Pn**	**23 38 34.8**	**+0.5**
	1.3nm2μm132nm,0.8s						
KBKI	**Kotabaru**	**7.16**	**335**	P	**Pn**	**23 38 55.3**	**+3.4**
	0.1nm25nm,0.8s						
GRJI	**Gresik**	**7.25**	**293**	P	**Pn**	**23 38 55.0**	**+2.0**
	0.3nm74nm,0.6s						
BBKI	**Banjar Baru**	**7.67**	**325**	P	**Pn**	**23 39 01.8**	**+2.9**
	0.4nm140nm,0.9s						
UGM	**Wanagama**	**8.77**	**282**	P	**Pn**	**23 39 15.9**	**+1.8**
UGM	**Wanagama**	**8.77**	**282**	Pn	**Pn**	**23 39 15.1**	**+1.0**
MTKI	**Muara Teweh, K**	**9.82**	**334**	P	Pn	23 39 35.3	+6.9
MPSI	**Mapaga**	**10.14**	**4**	P	**Pn**	**23 39 34.8**	**+2.1**
	451nm16nm,0.9s						
PBKI	**Pangkalan Bun**	**10.30**	**313**	P	Pn	23 39 45.1	+10
FITZ	**Fitzroy Crossi**	**10.32**	**143**	P	**Pn**	**23 39 35.1**	**-0.1**
	3.8nm,0.3s,baz=337,slow=8.4,SNR=103						
FITZ				S	Sn	23 41 21.6	-8.0
	13nm,0.3s,baz=168,slow=22,SNR=12						
FITZ				LR	LR	23 43 54.3	
	comp=Z,552nm,20.4s,baz=322,slow=39						
FITZ	**Fitzroy Crossi**	**10.32**	**143**	Pn	**Pn**	**23 39 35.4**	**+0.2**
KNRA	**Kununurra**	**10.99**	**123**	Pn	**Pn**	**23 39 44.8**	**+0.4**
CISI	**Cisompet, Garu**	**11.47**	**281**	Pn	**Pn**	**23 39 48.1**	**-2.9**
PSA00	**Pilbara Seismi**	**11.68**	**177**	Pn	**Pn**	**23 39 53.5**	**-0.3**
PSA00	**Pilbara Seismi**	**11.68**	**177**		**Pn**	**23 39 52.2**	**-1.6**
LEM	**Lembang**	**11.83**	**284**	P	**Pn**	**23 39 58.5**	**+2.4**
	4.8nm,0.3s,baz=327,slow=23,SNR=2.3						
LEM				LR	LR	23 45 51.0	
	comp=Z,189nm,18.8s,baz=102,slow=44						
MTN	**Manton Dam**	**12.09**	**105**	Pn	**Pn**	**23 39 57.8**	**-1.6**
GIRL	**Giralia**	**13.58**	**200**	Pn	**Pn**	**23 40 19.9**	**+0.1**
KSM	**Kuching**	**14.30**	**321**	Pn	**Pn**	**23 40 28.1**	**-1.6**
MYLDM	**Lahad Datu**	**14.94**	**357**	Pn	**Pn**	**23 40 38.3**	**0.0**
KASI	**Kota Agung**	**15.18**	**285**	P	**P**	**23 40 42.8**	**-3.3**
	71nm,1.0s						
KLSI		**15.22**	**289**	P	**P**	**23 40 44.3**	**-2.3**
	10nm,0.8s						
LWLI	**Liwa**	**15.75**	**287**	P	**P**	**23 40 50.8**	**-1.8**
	110nm,0.5s						
MDSI	**Maura Dua**	**15.81**	**289**	P	**Pn**	**23 40 50.0**	**+0.3**
	16nm,0.9s						
KKM	**Kota Kinabalu**	**16.06**	**349**	Pn	**Pn**	**23 40 51.9**	**-1.0**
LHSI	**Lahat**	**16.66**	**290**	P	**P**	**23 41 01.0**	**-1.5**
	2μm70nm,0.9s						
MNAI	**Manna**	**17.00**	**288**	Pn	**Pn**	**23 41 03.6**	**-1.1**
DSRI	**Dabo**	**17.26**	**302**	P	**P**	**23 41 08.7**	**-0.5**
	33nm,0.9s						
KSI	**Kapahiang**	**17.58**	**289**	P	**P**	**23 41 12.9**	**0.0**
	159nm,0.4s						
WB0	**Warramunga Arr**	**17.69**	**126**		**Pn**	**23 41 13.0**	**-0.3**
WRA	**Warramunga Arr**	**17.74**	**126**	P	**Pn**	**23 41 13.0**	**-1.0**
	2.4nm,0.3s,baz=301,slow=13,SNR=143						
WRA				S	Sn	23 44 17.0	-14
	0.7nm,0.3s,baz=293,slow=18,SNR=4.2						
WRA	**Warramunga Arr**	**17.74**	**126**	P	**Pn**	**23 41 13.3**	**-0.6**
WRAB	**Tennant Creek**	**17.74**	**126**	P	**Pn**	**23 41 13.7**	**-0.2**
WRAB				IAmb	IAmb	23 41 16.2	
	comp=Z,32nm,0.7s						
WB2	**Warramunga Arr**	**17.75**	**126**	P	**Pn**	**23 41 13.4**	**-0.6**
WB2				IAmb	IAmb	23 41 16.2	
	comp=Z,28nm,0.7s						
WR0	**Warramunga Arr**	**17.91**	**126**		**Pn**	**23 41 16.1**	**+0.1**
WR0				IAmb	IAmb	23 41 19.3	
	comp=Z,40nm,0.9s						
DAV	**Davao City (W)**	**17.97**	**21**	LR	LR	23 47 57.9	
	comp=Z,55nm,20.6s,baz=162,slow=36						
KRJI	**Kerinci**	**19.23**	**292**	P	**Pn**	**23 41 33.2**	**+1.0**
	comp=Z,254nm,0.7s						
MORW	**Morawa**	**19.35**	**188**	P	**Pn**	**23 41 33.4**	**-0.1**
AS31	**Alice Springs**	**19.66**	**136**	P	**Pn**	**23 41 36.9**	**-0.3**

ASAR	**Alice Springs**	**19.66**	**136**	P		**Pn**	**23 41 37.1**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=326,slow=13,SNR=95							
ASAR				S		S	23 45 04.7	-11
	comp=Z,0.7nm,0.3s,baz=312,slow=24,SNR=10							
ASAR				LR		LR	23 50 19.1	
	comp=Z,255nm,18.1s,baz=305,slow=40							
SDSI	**Sungai Dareh**	**19.76**	**296**	P		**Pn**	**23 41 36.9**	**-1.5**
	comp=Z,38nm,0.8s							
PDSI	**Padang**	**20.63**	**294**	P		**P**	**23 41 44.6**	**-1.6**
BKNI	**Bangkinang**	**20.70**	**298**	P		Pn	23 41 48.0	-1.4
	comp=Z,2µmcomp=Z,95nm,1.0s							
BKNI	**Bangkinang**	**20.70**	**298**	P		**P**	**23 41 45.9**	**-1.0**
MNSI	**Mandailing Nat**	**22.20**	**297**	P		**P**	**23 42 03.4**	**+0.4**
	comp=Z,14nm,0.7s							
FORT	**Forrest**	**22.41**	**160**	P		**P**	**23 42 06.9**	**+1.7**
JAY	**Jayapura**	**22.58**	**73**	P		**P**	**23 42 06.3**	**-0.9**
	comp=Z,3.4nm,0.6s,baz=249,slow=17,SNR=1.6							
IPM	**Ipoh**	**23.02**	**307**	P		**P**	**23 42 11.1**	**-0.7**
IPM	**Ipoh**	**23.02**	**307**	P		**P**	**23 42 13.0**	**+1.2**
NWAO	**Narrogin (SRO)**	**23.04**	**184**	P		**P**	**23 42 12.4**	**+0.6**
	comp=Z,24nm,0.8s,baz=4.7,slow=9.7,SNR=17							
NWAO				S		**S**	**23 46 16.9**	**-3.3**
	comp=Z,14nm,0.6s,baz=319,slow=0.4,SNR=6.3							
NWAO				LR		LR	23 51 18.8	
	comp=Z,142nm,19.1s,baz=319,slow=36							
NWAO	**Narrogin (SRO)**	**23.04**	**184**	P		**P**	**23 42 12.9**	**+1.1**
NWAO				IAmb		IAmb	23 42 14.0	
	comp=Z,30nm,0.8s							
NWAO	**Narrogin (SRO)**	**23.04**	**184**	P		**P**	**23 42 12.9**	**+1.1**
NWAO				IAmb		IAmb	23 42 14.0	
	comp=Z,24nm,0.8s							
PSI	**Prapat**	**23.77**	**301**	P		**P**	**23 42 18.1**	**-1.1**
	comp=Z,32nm,0.9s,baz=180,slow=7.6,SNR=23							
PSI				LR		LR	23 52 49.2	
	comp=Z,151nm,18.1s,baz=91,slow=40							
KULM	**Kulim**	**23.82**	**308**	P		**P**	**23 42 19.0**	**-0.5**
KULM	**Kulim**	**23.82**	**308**	P		**P**	**23 42 20.0**	**+0.5**
COEN	**Coen**	**23.82**	**102**	P		**P**	**23 42 20.1**	**+0.5**
COEN				IAmb		IAmb	23 42 21.0	
	comp=Z,34nm,1.1s							
TGY	**Tagaytay City**	**23.85**	**4**	P		**P**	**23 42 20.6**	**+0.8**
	comp=Z,153nm,0.4s,baz=202,slow=6.9,SNR=6.8							
GSI	**Gunungsitoli**	**24.20**	**296**	P		**P**	**23 42 21.8**	**-1.3**
TSI	**Tuntungan**	**24.45**	**302**	P		**P**	**23 42 26.1**	**+0.7**
	comp=Z,146nm,0.8s							
KCSI	**Kotacane, Aceh**	**25.13**	**301**	P		**P**	**23 42 30.7**	**-0.8**
	comp=Z,17nm,1.1s							
TPTI		**25.50**	**300**	P		**P**	**23 42 35.2**	**+0.3**
	comp=Z,32nm,0.8s							
MLSI	**Meulaboh, Aceh**	**26.68**	**301**	P		**P**	**23 42 44.3**	**-1.3**
PMG	**Port Moresby**	**27.58**	**91**	LR		LR	23 55 19.1	
	comp=Z,96nm,21.5s,baz=247,slow=40							
BBOO	**Buckleboo**	**27.65**	**148**	P		**P**	**23 42 55.7**	**+1.6**
BBOO				IAmb		IAmb	23 42 58.5	
	comp=Z,14nm,1.1s							
CTA	**Charters Tower**	**28.02**	**114**	P		**P**	**23 42 57.3**	**-0.2**
	comp=Z,6.1nm,0.8s,baz=248,slow=13,SNR=4.0							
CTAO	**Charters Tower**	**28.02**	**114**	P		**P**	**23 42 56.9**	**-0.7**
UBPT	**Khong Chiam**	**28.42**	**331**	P		**P**	**23 42 59.9**	**-1.2**
STKA	**Stephens Creek**	**30.19**	**140**	P		**P**	**23 43 17.6**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=326,slow=8.8,SNR=7.9							
STKA	**Stephens Creek**	**30.19**	**140**	P		**P**	**23 43 17.5**	**+0.9**
PBKT	**Sadao Pong**	**31.84**	**325**	P		**P**	**23 43 29.7**	**-1.6**
PBKT				IAmb		IAmb	23 43 32.6	
	comp=Z,7.9nm,0.9s							
YOJ	**Yonaguni jima**	**34.30**	**6**	P		**P**	**23 43 53.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**34.50**	**325**	P		**P**	**23 43 55.3**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=152,slow=7.0,SNR=11							
CMAR				LR		LR	23 59 08.8	
	comp=Z,179nm,20.0s,baz=196,slow=38							
CMAR	**Chiang Mai Arr**	**34.50**	**325**	P		**P**	**23 43 53.6**	**-1.0**
CHTO	**Chiang Mai**	**34.78**	**325**	P		**P**	**23 43 55.3**	**-1.7**
CHTO				IAmb		IAmb	23 44 00.7	
	comp=Z,5.9nm,1.1s							
ARMA	**Armidale**	**36.49**	**129**	P		**P**	**23 44 11.4**	**-0.3**
ARMA				IAmb		IAmb	23 44 16.1	
	comp=Z,4.8nm,0.8s							
ENH	**Enshi**	**40.96**	**347**	P		**P**	**23 44 48.5**	**-0.6**
ENH				IAmb		IAmb	23 44 50.7	
	comp=Z,7.5nm,0.6s							
CD2	**Chengdu**	**43.14**	**340**	*e*P		**P**	**23 45 07.0**	**+0.1**
CD2				pmax		pmax		
	comp=Z,50nm,0.6s							
SHL	**Shillong**	**44.11**	**323**	P		**P**	**23 45 13.1**	**-1.9**
SHL				IAmb		IAmb	23 45 21.9	
	comp=Z,13nm,0.9s							
XAN	**Xi'an**	**44.72**	**348**	P		**P**	**23 45 19.8**	**+0.3**
XAN				pP		pP	23 45 29.3	-0.6
XAN				pmax		pmax		
	comp=Z,6.0nm,0.9s							
XAN				pmax		pmax		
	comp=Z,46nm,6.9s							
H08S2	**Diego Garcia H**	**46.18**	**269**	T		T	00 34 38.4	
	baz=96,slow=75,SNR=119							
H08S3	**Diego Garcia H**	**46.19**	**269**	T		T	00 34 39.2	
	baz=96,slow=75,SNR=159							
H08S1	**Diego Carcia H**	**46.20**	**269**	T		T	00 34 39.8	
	baz=96,slow=75,SNR=122							
LSA	**Lhasa**	**47.70**	**326**	P		**P**	**23 45 43.0**	**-0.4**
KSRS	**Korea Array**	**47.76**	**9**	P		**P**	**23 45 41.9**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=193,slow=8.3,SNR=5.3							
ODAN	**Odare**	**47.79**	**321**	*e*P		**P**	**23 45 43.3**	**-0.7**
TAPN	**Taplejung**	**47.94**	**321**	*e*P		**P**	**23 45 45.0**	**-0.2**
RAMN	**Ramite**	**48.35**	**320**	*e*P		**P**	**23 45 46.5**	**-1.8**
JIRN	**Jiri**	**49.10**	**320**	*e*P		**P**	**23 45 53.5**	**-0.8**
	comp=Z,36nm,0.5s							
MAJO	**Matsushiro**	**49.49**	**20**	P		**P**	**23 45 55.6**	**-1.0**
MAJO				IAmb		IAmb	23 46 09.3	
	comp=Z,6.9nm,0.8s							
MJAR	**Matsushiro Arr**	**49.49**	**20**	P		**P**	**23 45 54.7**	**-1.9**
	comp=Z,2.6nm,0.7s,baz=286,slow=21,SNR=6.3							
PKI	**Pulchoki**	**49.54**	**320**	*e*P		**P**	**23 45 56.0**	**-1.5**
	comp=Z,11nm,0.5s							
DMN	**Daman**	**49.76**	**319**	*e*P		**P**	**23 45 57.9**	**-1.2**
	comp=Z,33nm,1.0s							
GKN	**Gorkha**	**50.33**	**319**	*e*P		**P**	**23 46 02.2**	**-1.2**
	comp=Z,14nm,0.5s							
KOLN	**Koldanda**	**50.85**	**318**	*e*P		**P**	**23 46 06.0**	**-1.3**
	comp=Z,23nm,0.7s							
GTA	**Gaotai**	**52.21**	**341**	*e*P		**P**	**23 46 18.5**	**+1.3**
GTA				pP		pP	23 46 22.5	-5.3
GTA				sP		sP	23 46 25.8	-6.2
GTA				pmax		pmax		
	comp=Z,12nm,0.8s							
MDJ	**Mudanjiang**	**55.02**	**9**	P		**P**	**23 46 36.3**	**-1.2**
USA0B	**Ussuriysk Arra**	**55.03**	**11**	P		**P**	**23 46 36.5**	**-1.0**
USA0B				IAmb		IAmb	23 46 38.7	
	comp=Z,4.1nm,0.8s							
USRK	**Ussuriysk Ar.**	**55.03**	**11**	P		**P**	**23 46 34.6**	**-2.9**
	comp=Z,4.4nm,0.7s,baz=191,slow=6.9,SNR=12							
USRK	**Ussuriysk Ar.**	**55.03**	**11**	P		**P**	**23 46 36.6**	**-1.0**
ULN	**Ulaanbaatar**	**58.45**	**350**	P		**P**	**23 47 02.4**	**+0.4**
ULN				IAmb		IAmb	23 47 11.9	
	comp=Z,6.3nm,1.1s							
SONM	**Songino Array**	**58.54**	**350**	P		**P**	**23 47 01.5**	**-1.1**
	comp=Z,6.8nm,0.7s,baz=168,slow=7.9,SNR=29							
SONM				LR		LR	00 14 42.6	
	comp=Z,32nm,18.5s,baz=156,slow=38							
SONM	**Songino Array**	**58.54**	**350**	P		**P**	**23 47 02.5**	**-0.1**
TLY	**Talaya**	**62.73**	**349**	P		**P**	**23 47 31.1**	**+0.2**
TLY				IAmb		IAmb	23 47 33.6	
	comp=Z,4.9nm,0.7s							
MSEY	**Mahe Island**	**63.33**	**270**	P		**P**	**23 47 34.8**	**-1.0**
KSH	**Kashi**	**63.39**	**324**	*e*P		**P**	**23 47 34.0**	**-1.8**
KSH				pmax		pmax		
	comp=Z,8.0nm,0.6s							
KDJ	**Kajisay**	**64.46**	**327**	P		**P**	**23 47 41.1**	**-1.6**
KDJ				IAmb		IAmb	23 47 48.3	
	comp=Z,3.2nm,0.7s							
KBL	**Kabul**	**64.82**	**316**	P		**P**	**23 47 44.3**	**-1.0**
MK31	**Makanchi Array**	**65.29**	**333**	IAmb		IAmb	23 47 50.3	
	comp=Z,3.5nm,0.9s							
MKAR	**Makanchi Array**	**65.29**	**333**	P		**P**	**23 47 47.4**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=150,slow=6.3,SNR=16							
MKAR				LR		LR	00 20 00.0	
	comp=Z,36nm,18.2s,baz=106,slow=39							
MKAR	**Makanchi Array**	**65.29**	**333**	P		**P**	**23 47 47.6**	**-0.3**
AAK	**Ala-Archa**	**66.28**	**325**	P		**P**	**23 47 50.8**	**-3.7**
AAK				IAmb		IAmb	23 47 57.6	
	comp=Z,4.9nm,0.8s							
BTK	**Batken**	**66.82**	**321**	IAmb		IAmb	23 47 59.9	
	comp=Z,4.8nm,0.8s							
CHGR	**Chuyangaron**	**67.05**	**319**	P		**P**	**23 47 58.5**	**-0.9**
WSAR	**Wadi Sarin**	**67.73**	**300**	P		**P**	**23 48 03.8**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=151,slow=6.5,SNR=4.8							
SOCY	**Socotra**	**68.38**	**287**	P		**P**	**23 48 07.3**	**-0.9**
MAW	**Mawson**	**68.51**	**200**	P		**P**	**23 48 09.1**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=24,slow=8.8,SNR=4.3							
MAW				LR		LR	00 17 24.3	
	comp=Z,49nm,18.1s,baz=70,slow=35							
KURK	**Kurchatov**	**69.83**	**334**	P		**P**	**23 48 16.3**	**-0.2**
ZAA0	**Zalesovo Array**	**69.89**	**339**	IAmb		IAmb	23 48 22.7	
	comp=Z,8.0nm,1.1s							
ZALV	**Zalesovo Beam**	**69.89**	**339**	P		**P**	**23 48 15.8**	**-1.0**
	comp=Z,3.8nm,0.6s,baz=145,slow=5.4,SNR=16							
ZALV	**Zalesovo Beam**	**69.89**	**339**	P		**P**	**23 48 15.4**	**-1.3**
UOSS	**Minazif**	**70.42**	**301**	P		**P**	**23 48 19.5**	**-1.1**
UOSS				IAmb		IAmb	23 48 24.6	
	comp=Z,4.1nm,0.8s							
PETK	**Petropavlovsk-**	**70.77**	**23**	P		**P**	**23 48 21.8**	**-0.4**
	comp=Z,6.0nm,1.1s,baz=163,slow=5.7,SNR=4.5							
VNDA	**Vanda**	**71.13**	**171**	P		**P**	**23 48 25.4**	**+1.4**
	comp=Z,1.9nm,1.0s,baz=294,slow=3.9,SNR=8.7							
VNDA				LR		LR	00 19 05.6	
	comp=Z,45nm,18.1s,baz=34,slow=35							
VNDA	**Vanda**	**71.13**	**171**	P		**P**	**23 48 24.6**	**+0.6**
GEYT	**Alibeck**	**74.16**	**314**	P		**P**	**23 48 42.8**	**0.0**
	comp=Z,1.4nm,0.6s,baz=259,slow=27,SNR=5.3							
GEYT	**Alibeck**	**74.16**	**314**	P		**P**	**23 48 41.7**	**-1.1**
BVAR	**Borovoye Array**	**75.12**	**332**	LR		LR	00 25 26.3	
	comp=Z,54nm,18.0s,baz=282,slow=39							
BRVK	**Borovoye**	**75.19**	**332**	P		**P**	**23 48 47.7**	**-0.6**
SEY	**Seymchan**	**76.93**	**15**	P		**P**	**23 48 57.7**	**-0.3**
	comp=Z,5.9nm,0.8s,baz=222,slow=5.8,SNR=8.9							
ABKAR	**Akbulak array**	**78.35**	**325**	P		**P**	**23 49 05.5**	**-0.7**
AKTO	**Aktyubinsk**	**80.02**	**325**	LR		LR	00 28 49.8	
	comp=Z,51nm,19.7s,baz=108,slow=39							
QSPA	**South Pole Qui**	**80.16**	**180**	P		**P**	**23 49 16.8**	**+0.7**
QSPA				IAmb		IAmb	23 49 22.2	
	comp=Z,6.4nm,0.9s							
TBLG	**Delisi**	**85.12**	**314**	P		**P**	**23 49 41.8**	**-0.3**
GEVA	**Gevas**	**85.36**	**310**	P		**P**	**23 49 43.4**	**-0.2**
AKH	**Akhalkalaki**	**85.92**	**313**	P		**P**	**23 49 45.2**	**-1.1**
AKH				IAmb		IAmb	23 49 58.4	
	comp=Z,3.1nm,0.8s							
KBZ	**Khabaz**	**87.00**	**315**	P		**P**	**23 49 49.8**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=120,slow=8.1,SNR=2.2							
SNAA	**Sanae**	**90.24**	**196**	P		**P**	**23 50 09.1**	**+2.7**
SNAA	**Sanae**	**90.24**	**196**	P		**P**	**23 50 08.2**	**+1.8**
SNAA				IAmb		IAmb	23 50 09.3	
	comp=Z,2.0nm,0.8s							
BELA	**Belgrano 2**	**91.20**	**185**	P		**P**	**23 50 12.2**	**+1.6**
VNA2	**Neumayer--Watz**	**91.87**	**195**	P		**P**	**23 50 16.5**	**+2.6**
VNA3	**Neumayer Olymp**	**92.25**	**195**	P		**P**	**23 50 17.9**	**+2.3**
BRTR	**Keskin Array B**	**92.82**	**310**	P		**P**	**23 50 18.2**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=130,slow=6.3,SNR=5.9							
BRTR				LR		LR	00 34 55.4	
	comp=Z,17nm,20.8s,baz=344,slow=37							
ESDC	**Sonseca Array**	**121.60**	**311**	PKP		**PKiKP**	**23 56 01.2**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=11,slow=2.1,SNR=2.8							

*NEIC **31** 23:40:19.0±2.1, 7.°14S±0.°05×131.°04E±0.°07, h130km±13km, mb4.7/3, Error ellipse: s-maj=11.1km s-min=5.0km az=125.0*

*IDC **31** 23:40:18.7±2.6, 7.°20S×131.°20E, h56km±32km, mb3.7/1, mb1 4.6/6, mb1mx3.7/37, mbtmp4.6/6, ML4.6/5, Error ellipse: s-maj=46.1km s-min=24.7km az=91.0*

ISC 31 23:40:18.9±0.8, 7.°11S±0.°05×131.°05E±0.°07, h150km, n22, σ2s49/28, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.90**	**164**			Pn	**Pn**	**23 40 41.1**	**-1.8**
FAKI	**Fak Fak**	**4.33**	**16**				**Pn**	**23 41 24.6**	**+1.1**
FAKI							**Sn**	**23 42 11.5**	**-2.3**
MTN	**Manten Dam**	**5.70**	**179**	Pn		Pn	**Pn**	**23 41 42.2**	**+0.5**
MTN				Sn			**Sn**	**23 42 45.2**	**-1.1**
SIJI	**Sorong**	**6.20**	**2**	P		Pn	**Pn**	**23 41 48.6**	**+0.2**
	17nm,0.3s,baz=176,slow=14,SNR=23								
SIJI				S			**Sn**	**23 42 53.8**	**-4.6**
	27nm,0.3s,baz=190,slow=22,SNR=21								
SOEI	**Soe**	**7.21**	**248**	Pn		Pn	**Pn**	**23 42 04.1**	**+2.2**
SOEI							**Sn**	**23 43 20.8**	**-1.9**
BATI	**Baumata**	**7.93**	**247**	P		Pn	**Pn**	**23 42 14.1**	**+2.7**
	7.9nm,0.3s,baz=51,slow=13,SNR=1.8								
BATI				S			**Sn**	**23 43 36.5**	**-3.3**
	8.8nm,0.3s,baz=327,slow=14,SNR=2.5								
KNRA	**Kununurra**	**8.81**	**195**	Pn		Pn	**Pn**	**23 42 22.5**	**-0.6**
KNRA				Sn			**Sn**	**23 43 57.2**	**-3.7**
MMRI	**Maumere**	**8.86**	**260**	Pn		Pn	**Pn**	**23 42 25.5**	**+1.7**
FITZ	**Fitzroy Crossi**	**12.13**	**205**	P		Pn	**Pn**	**23 43 08.1**	**+1.2**
	7.4nm,0.3s,baz=31,slow=12,SNR=2.6								
FITZ				S		Sn		23 45 11.0	-10
	7.7nm,0.3s,baz=237,slow=14,SNR=6.1								
FITZ	**Fitzroy Crossi**	**12.13**	**205**				**Pn**	**23 43 07.6**	**+0.7**
WB0	**Warramunga Arr**	**12.99**	**166**	Pn		Pn	**Pn**	**23 43 18.4**	**+0.2**
WRAB	**Tennant Creek**	**13.14**	**166**	Pn		Pn	**Pn**	**23 43 19.8**	**-0.3**
WRA	**Warramunga Arr**	**13.15**	**166**	P		Pn	**Pn**	**23 43 20.6**	**+0.5**
	2.1nm,0.3s,baz=347,slow=13,SNR=13								
WRA				S		Sn		23 45 36.1	-10
	2.5nm,0.3s,baz=333,slow=23,SNR=5.3								
WB2	**Warramunga Arr**	**13.15**	**166**	Pn		Pn	**Pn**	**23 43 20.6**	**+0.4**
WR0	**Warramunga Arr**	**13.22**	**165**	Pn		Pn	**Pn**	**23 43 20.5**	**-0.4**
COEN	**Coen**	**13.72**	**121**	Pn		Pn	**Pn**	**23 43 28.1**	**+0.7**
AS31	**Alice Springs**	**16.69**	**171**				**Pn**	**23 44 06.7**	**+2.6**
AS31						IAmb	IAmb	23 44 10.0	
	comp=Z,8.4nm,0.4s								
ASAR	**Alice Springs**	**16.69**	**171**	P		Pn	**Pn**	**23 44 07.9**	**+3.7**
	comp=Z,2.5nm,0.3s,baz=348,slow=11,SNR=15								
ASAR				S			**S**	**23 47 03.0**	**-6.8**
	comp=Z,0.6nm,0.3s,baz=353,slow=22,SNR=2.9								
ASAR	**Alice Springs**	**16.69**	**171**	P		Pn	**Pn**	**23 44 05.6**	**+1.4**
BBOO	**Buckleboo**	**25.99**	**170**	P			**P**	**23 45 40.1**	**+2.3**
BBOO				IAmb		IAmb	IAmb	23 45 47.2	
	comp=Z,35nm,1.6s								
ARMA	**Armidale**	**30.17**	**143**	P			**P**	**23 46 16.8**	**+1.6**
ARMA				IAmb		IAmb	IAmb	23 46 39.3	
	comp=Z,39nm,1.4s								
MKAR	**Makanchi Array**	**68.89**	**326**	P		P	P	23 51 18.7	+11
	comp=Z,1.0nm,0.7s,baz=116,slow=7.5,SNR=5.3								

*IDC **31** 23:59:08.0±1.9, 45.°04N×153.°24E, h0km, mb3.6/6, mb1 3.9/9, mb1mx3.6/36, mbtmp3.8/9, ML3.6/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/47, Error ellipse: s-maj=50.0km s-min=23.7km az=162.0*

*NEIC **31** 23:59:10.5±2.2, 45.°2N±0.°1×152.°9E±0.°2, h10km±2km, mb4.5/5, Error ellipse: s-maj=25.4km s-min=13.6km az=143.0*

*MOS **31** 23:59:12.2±1.0, 45.°27N×152.°84E, h43km, mb4.3/3, Error ellipse: s-maj=14.3km s-min=9.2km az=164.0*

*JMA **31** 23:59:12.9±0.6, 45.°56N×152.°75E, h30km, M4.6*

*SKHL **31** 23:59:12.6±0.6, 45.°21N×153.°03E, h46km±5km, mb4.7/5*

ISC 31 23:59:10.0±0.8, 44.°93N±0.°09×153.°06E±0.°07, h22km, n72, σ2s14/87, mb4.2/9, 1C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.69**	**277**	*i* P		P	**Pn**	**00 00 07.5**	**+1.9**
KUR				AMB		AMB	AMB	00 00 08.0	
	120nm,0.3s								
KUR				*i* S			**Sn**	**00 00 48.3**	**-0.1**
KUR				A		A	A	00 00 50.7	
	230nm,0.3s								
KUR				A		A	A	00 00 50.7	
	210nm,0.3s								
KUR	**Kuril'sk**	**3.69**	**277**	*d* iPN		P	**Pn**	**00 00 07.5**	**+1.9**
KUR				*i* S			**Sn**	**00 00 48.3**	**-0.1**
KUR				pmax		pmax			
	comp=N,337nm,0.3s								
KUR				pmax		pmax			
	comp=Z,1µm,0.3s								
KUR				pmax		pmax			
	comp=E,207nm,0.2s								
KUR				smax		smax			
	comp=N,261nm,0.2s								
KUR				smax		smax			
	comp=E,205nm,0.1s								
YUK	**Yuzh-Kuril'sk**	**5.23**	**263**	*e*P		P	**Pn**	**00 00 29.2**	**+2.4**
YUK				AMB		AMB	AMB	00 00 29.8	
	comp=E,40nm,0.3s								
YUK				*e*S			**Sn**	**00 01 26.6**	**+0.3**
YUK				A		A	A	00 01 28.0	
	comp=E,180nm,0.5s								
YUK				A		A	A	00 01 28.0	
	comp=E,330nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**5.23**	**263**	*e*PN		P	**Pn**	**00 00 29.2**	**+2.4**
YUK				*e*S			**Sn**	**00 01 26.6**	**+0.3**
YUK				pmax		pmax			
	comp=N,50nm,0.2s								
YUK				pmax		pmax			
	comp=Z,378nm,0.2s								
YUK				pmax		pmax			
	comp=E,94nm,0.1s								
YUK				smax		smax			
	comp=E,327nm,0.6s								
YUK				smax		smax			
	comp=N,179nm,0.3s								
GRPR	**Tuman**	**5.30**	**262**	*i* P		P	**Pn**	**00 00 29.3**	**+1.5**
GRPR				AMB		AMB	AMB	00 00 36.0	
	comp=N,20nm,0.3s								
GRPR				*e*S			**Sn**	**00 01 27.3**	**-0.8**
GRPR				A		A	A	00 01 36.0	
	comp=N,190nm,0.5s								
GRPR				A		A	A	00 01 36.0	
	comp=N,120nm,0.5s								
GRPR	**Tuman**	**5.30**	**262**	*i* PN		P	**Pn**	**00 00 29.3**	**+1.5**
GRPR				pmax		pmax			
	comp=Z,161nm,0.3s								
GRPR				pmax		pmax			
	comp=N,157nm,0.2s								
GRPR				pmax		pmax			
	comp=E,116nm,0.2s								
NEM2	**Nemuro 2**	**5.49**	**256**	P		P	**Pn**	**00 00 31.6**	**+1.2**
NEM2				*e*S			**Sn**	**00 01 29.7**	**-3.1**
NMR	**Nemuro--Hokkai**	**5.50**	**256**	*i* P		P	**Pn**	**00 00 31.6**	**+1.1**
NMR				*i* S			**Sn**	**00 01 32.1**	**-1.0**
NMR	**Nemuro--Hokkai**	**5.50**	**256**	*i* iPN		P	**Pn**	**00 00 31.6**	**+1.1**
GLVR	**Golovnino**	**5.54**	**260**	*e*P		P	**Pn**	**00 00 32.8**	**+1.8**
GLVR				*e*S			**Sn**	**00 01 33.5**	**-0.5**
GLVR				A		A	A	00 01 35.0	
	comp=E,240nm,0.5s								
GLVR				A		A	A	00 01 35.0	
	comp=E,210nm,0.5s								
GLVR	**Golovnino**	**5.54**	**260**	PN		Pn	**Pn**	**00 00 32.8**	**+1.8**
RUSJ	**Misakicho**	**5.65**	**264**	PN		Pn	**Pn**	**00 00 34.9**	**+2.4**
RUSJ				*e*S			**Sn**	**00 01 36.9**	**+0.3**
JRA	**Rausu**	**5.77**	**263**	P		P	**Pn**	**00 00 37.0**	**+2.8**
SKR	**Severo-Kuril's**	**6.11**	**19**	*e*P		P	**Pn**	**00 00 38.1**	**-0.8**
SKR				AMB		AMB	AMB	00 00 40.4	
	comp=E,40nm,0.5s								
SKR				*e*S			**Sn**	**00 01 41.5**	**-6.5**
SKR				A		A	A	00 01 45.7	
	comp=E,40nm,0.4s								
SKR				A		A	A	00 01 45.7	
	comp=E,30nm,0.4s								
JNK	**Nakash**	**6.14**	**260**	P		P	**Pn**	**00 00 41.6**	**+2.3**
JNK				*e*S			**Sn**	**00 01 46.8**	**-2.0**
JAK	**Akkeshi**	**6.34**	**255**	P		Pn	**Pn**	**00 00 43.4**	**+1.4**
JAK				*e*S			**Sn**	**00 01 50.0**	**-3.7**
JTKR	**Abashiri--Toko**	**6.62**	**265**	P		Pn	**Pn**	**00 00 48.4**	**+2.5**
JAR	**Ashorobuto**	**6.88**	**260**	P		Pn	**Pn**	**00 00 52.0**	**+2.5**
JAR				*e*S			**Sn**	**00 02 05.6**	**-1.5**
JOB	**Onbets**	**6.96**	**256**	P		Pn	**Pn**	**00 00 52.7**	**+2.1**
JOB				*e*S			**Sn**	**00 02 06.1**	**-3.0**
JCH	**Churui**	**7.39**	**255**	P		Pn	**Pn**	**00 00 58.1**	**+1.6**
JCH				*e*S			**Sn**	**00 02 16.1**	**-3.5**
JKK2	**Kamakawa 2**	**7.46**	**265**	P		Pn	**Pn**	**00 01 00.6**	**+3.1**
YSS	**Yuzh-Sakhalins**	**7.46**	**289**	*e*P		Pn	**Pn**	**00 00 59.1**	**+1.7**
YSS				AMB		AMB	AMB	00 01 00.2	
	comp=E,10.0nm,0.3s								
YSS	**Yuzh-Sakhalins**	**7.46**	**289**	PN		Pn	**Pn**	**00 00 56.0**	**-1.4**
YSS	**Yuzh-Sakhalins**	**7.46**	**289**	Pn		Pn	**Pn**	**00 00 56.0**	**-1.4**
JKA	**Kamikawa-asahi**	**7.52**	**267**	*e*P		Pn	**Pn**	**00 00 58.9**	**+0.6**
JKA	**Kamikawa-asahi**	**7.52**	**267**				**Pn**	**00 00 58.9**	**+0.6**
ASAJ	**Asahikawa**	**7.52**	**267**	Pn		Pn	**Pn**	**00 01 01.0**	**+2.7**
	comp=E,3.

ISC Computed Locations for August 2014

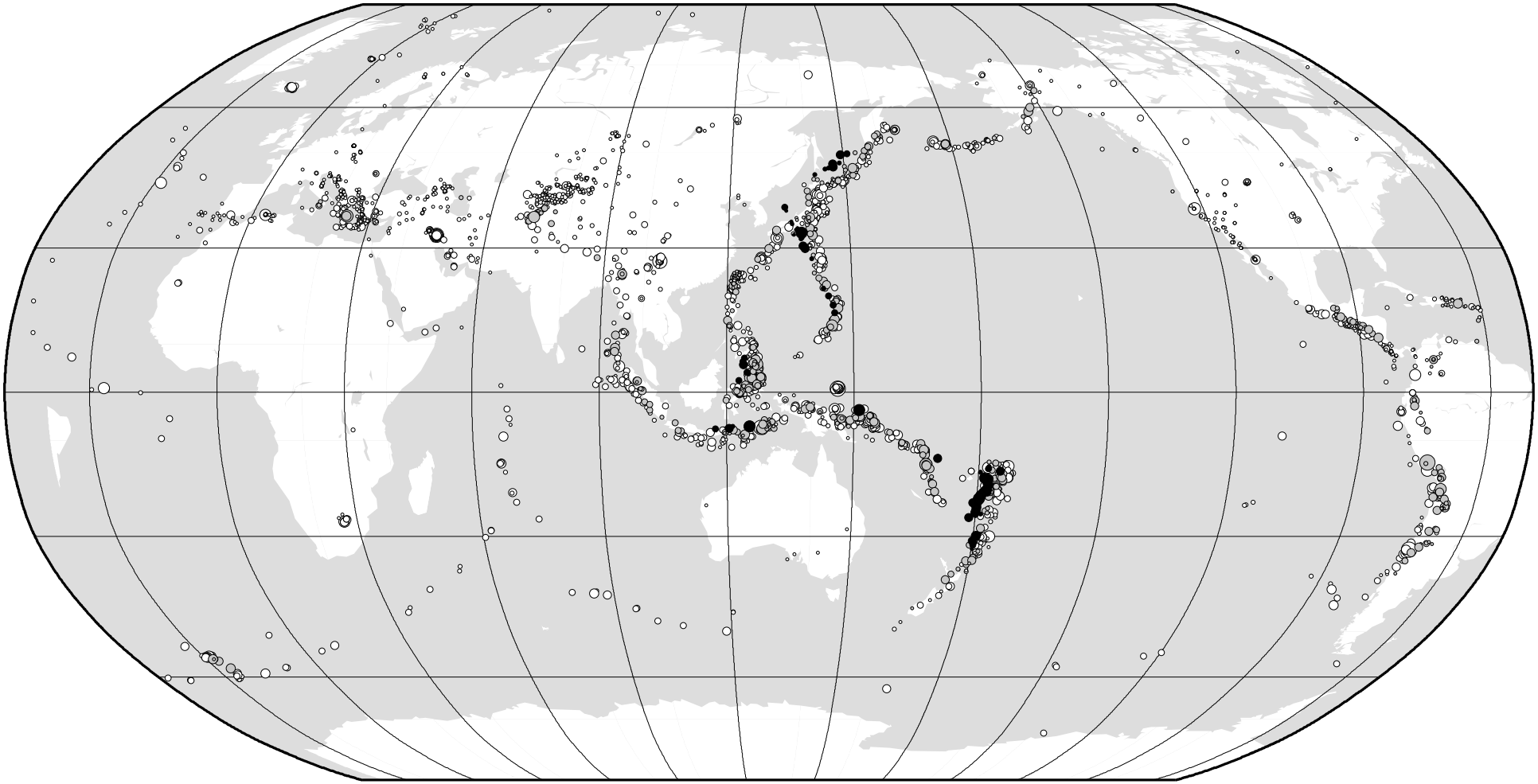

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3268 Events